ISSN 0020-8671

ACKNOWLEDGEMENTS

The Centre gratefully acknowledges the financial support of the following agencies:

MEMBERS

The National Science Foundation of the United States. (Grant No. EAR-0949072).
The Royal Society of London.
The Geological Survey of Canada, Dept. of Natural Resources.
The University of Bergen, Norway.
National Defence Research Establishment, Sweden.
The Royal Netherlands Meteorological Institute.
The Seismological Institute, National Observatory of Athens, Greece.
Russian Academy of Sciences.
Institute of Geological and Nuclear Sciences Ltd., New Zealand.
Geological Survey of Denmark and Greenland (GEUS)
India Meteorological Department.
Geophysical Institute of Israel.
The Institute for Meteorology, Portugal.
The Swiss Academy of Sciences.
GeoForschungsZentrum Potsdam, Germany.
The Japan Meteorological Agency.
Institut National des Sciences de l'Univers, France.
Geoscience Australia.
Bundesanstalt fur Geowissenschaften und Rohstoffe, Germany.
The University of Helsinki, Finland.
Academy of Sciences of the Czech Republic.
Bundesministerium fur Bildung, Wissenschaft und Kultur, Austria.
The Hungarian Academy of Sciences.
Council for Geoscience, South Africa.
Instituto Geografico Nacional, Spain.
The Icelandic Meteorological Office.
China Earthquake Administration.
NTNF/NORSAR, Norway.
Dublin Institute for Advanced Studies, Ireland.
Environmental Agency of Slovenia.
Observatoire Royal de Belgique.
Natural Resources Authority, Jordan.
Incorporated Research Institutions for Seismology, U.S.A.
Institute of Geophysics, National University of Mexico.
National Earthquake Information Center, U.S. Geological Survey, U.S.A.
Geological Survey Department, Cyprus.
National Institute for Earth Physics, Romania.
Istituto Nazionale di Geofisica e Vulcanologia, Italy.
Seismology Research Centre, Australia.
British Geological Survey, U.K.
University of Texas at Austin, U.S.A.
LDG, Bruyeres-le-Chatel, France.
Korea Meteorological Administration.
Institute of Earth Sciences, Academia Sinica, Chinese Taipei.
Kandilli Observatory and Earthquake Research Institute, Turkey.
OGS, Trieste, Italy.
NRIAG, Cairo, Egypt.
University of the West Indies, Jamaica.
Institute of Geophysics, Polish Academy of Sciences.
Uppsala Universitet, Sweden.
AWE Blacknest
University of West Indies, Trinidad and Tobago
Iraqi Meteorological Organization and Seismology
Japan Agency for Marine-Earth Science and Technology, Japan.
Earthquake Research Institute, University of Tokyo, Japan.
Puerto Rico Seismic Network, University of Puerto Rico, U.S.A.
Soreq Nuclear Research Center, Israel.
Disaster and Emergency Management Presidency, Turkey.
CRAAG, Algeria.
University of Melbourne, Australia.
INPRES, Argentina.
Centre of Geophysical Monitoring, Belarus.

SPONSORS

REF TEK, Texas, U.S.A.

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

©2013 INTERNATIONAL SEISMOLOGICAL CENTRE
Pipers Lane, Thatcham, Berkshire, RG19 4NS, United Kingdom

Addendum I

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

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

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

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

The following example illustrates the changes :-

September 2002

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

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

Epicentral Estimates

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

Observational Data

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

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

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

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

Addendum II

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

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

Addendum III

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

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

*ISCJB **01** 00:02:47.5±0.8,31.83N±0.03×114.99W±0.05,h29km±6km, Error ellipse: s-maj=7.8km s-min=5.3km az=179.7*
*ECX **01** 00:02:48.5±0.5,31.83N×115.03W,h14km,MD3.1,ML3.3*
*MEX **01** 00:02:50.7±0.4,31.78N×115.16W,h5km,MD3.7*

ISC 01 00:02:46.3±1.4,31.84N±0.03×115.05W±0.05,h18km±7km, n17,σ0957/28,3C,Baja California

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CPBX	**Cerro Prieto**	**0.62**	**340**	*eP*	**Pn**	**00 03 00.2**	**0.0**
CPBX				*eS*	**Sb**	**00 03 08.1**	**+1.1**
CPBX				*i S*	**Sb**	**00 03 08.1**	**+1.1**
CPBX	comp=N,4μm,0.2s			IAML		00 03 12.8	
CPBX				*e*		00 03 12.8	
SPIG	**San Pedro Mart**	**0.86**	**204**↑	*eP*	**Pn**	**00 03 03.8**	**-0.1**
SPIG				*eS*	**Sn**	**00 03 15.6**	**-0.7**
SPIG	**San Pedro Mart**	**0.86**	**204**	*eP*	**Pn**	**00 03 04.2**	**+0.3**
SPIG				*i S*	**Sn**	**00 03 15.7**	**-0.6**
SPX	**San Pedro Mart**	**0.86**	**204**↑	*eP*	**Pn**	**00 03 03.9**	**-0.1**
SPX				*eS*	**Sn**	**00 03 16.0**	**-0.3**
SPX	comp=E,611nm,0.2s			IAML		00 03 17.1	
EMSC	**East Mesa**	**0.90**	**3**	*eP*	**Pn**	**00 03 04.5**	**+0.4**
COA	**Coachella**	**1.03**	**356**	*eP*	**Pg**	**00 03 06.4**	**+0.1**
ZAX	**El Zacaton**	**1.09**	**253**↑	*eP*	**Pg**	**00 03 07.9**	**+0.4**
ZAX				*eS*	**Sg**	**00 03 22.7**	**+0.9**
RMX	**La Rumorosa**	**1.16**	**311**	*eP*	**Pg**	**00 03 08.7**	**-0.1**
RMX				*eS*	**Sg**	**00 03 24.1**	**+0.1**
IKP	**In-Ko-Pah, Jac**	**1.21**	**312**	P	**Pn**	**00 03 08.2**	**-0.3**
IKP	baz=136			S	**Sg**	**00 03 26.0**	**+0.4**
IKP	**In-Ko-Pah, Jac**	**1.21**	**312**	*eP*	**Pn**	**00 03 08.2**	**-0.3**
GLA	**Glamis**	**1.23**	**9**	P	**Pg**	**00 03 09.4**	**-0.6**
	baz=189						
ECNX	**Esteban Cantu**	**1.33**	**263**	*eP*	**Pn**	**00 03 10.3**	**+0.2**
CBX	**Cerro Bola**	**1.45**	**290**	IAML		00 03 37.8	
CBX	comp=N,474nm,0.4s			*e*		00 03 37.8	
TJIG	**Tijuana**	**1.50**	**294**	*i* P	**Pb**	**00 03 13.6**	**-0.1**
TJIG				*i* S	**Sn**	**00 03 31.3**	**-0.3**
TJIG				*eS*	**Sb**	**00 03 31.9**	**-0.5**
MONP	**Monument Peak,**	**1.57**	**313**	P	**Pn**	**00 03 13.7**	**+0.2**
MONP	baz=135			S	**Sg**	**00 03 37.0**	**0.0**
	baz=135						
214A	**Organ Pipe Nat**	**1.91**	**86**	P	**Pn**	**00 03 18.2**	**+0.2**
	baz=264						
109C	**Camp Elliot, M**	**2.03**	**302**	P	**Pn**	**00 03 20.1**	**+0.4**
	baz=123						
109C				Sb	**Sg**	**00 03 50.5**	**-1.3**
	baz=123						

IDC 01 00:26:39.4±27.0,19.22S×173.89W,h0km,mb4.3/4, mb1 4.4/4,mb1mx3.9/25,mbtmp4.3/4,Error ellipse: s-maj=507.7km s-min=157.5km az=76.0,Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CTA	**Charters Tower**	**37.48**	**262**	P	P	00 33 56.4	+1.3
	6.5nm,0.9s,baz=96,slow=10,SNR=2.7						
STKA	**Stephens Creek**	**41.82**	**243**	P	P	00 34 30.3	-0.8
	2.4nm,0.7s,baz=88,slow=10,SNR=4.5						
ASAR	**Alice Springs**	**48.58**	**255**	P	P	00 35 24.8	-0.2
	4.8nm,0.8s,baz=88,slow=8.2,SNR=40						
WRA	**Warramunga Arr**	**48.62**	**260**	P	P	00 35 24.9	-0.4
	1.0nm,0.3s,baz=96,slow=7.8,SNR=42						

IDC 01 00:32:16.9±31.0,22.55S×174.26W,h0km,mb4.0/4, mb1 4.1/4,mb1mx3.8/23,mbtmp4.0/4,Error ellipse: s-maj=573.6km s-min=161.0km az=79.0,Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CTA	**Charters Tower**	**36.80**	**266**	P	P	00 39 28.0	+1.2
	1.9nm,0.3s,baz=104,slow=8.3,SNR=2.3						
STKA	**Stephens Creek**	**40.11**	**247**	P	P	00 39 53.4	-1.1
	0.9nm,0.5s,baz=71,slow=7.5,SNR=3.8						
ASAR	**Alice Springs**	**47.47**	**258**	P	P	00 40 53.1	-0.8
	0.2nm,0.3s,baz=88,slow=8.8,SNR=4.9						
WRA	**Warramunga Arr**	**47.79**	**263**	P	P	00 40 56.6	+0.2
	1.3nm,0.5s,baz=98,slow=8.3,SNR=14						

MEX 01 00:36:39.0±0.4,14.52N×92.21W,h73km±11km,MD3.8, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CCIG	**Comitan**	**1.75**	**2**	*i* P	Pn	00 37 06.3	-1.3
CCIG				*i* S	Sn	00 37 27.1	-2.2
TGIG		**2.41**	**339**	*i* P	Pn	00 37 15.6	-0.7
TGIG				*i* S	Sn	00 37 43.6	-1.2

*ISCJB **01** 01:19:13.2±0.6,30.49S±0.05×179.9W±0.1,h321km, mb3.6/5,Error ellipse: s-maj=13.0km s-min=6.7km az=11.6*
*IDC **01** 01:19:14.0±1.3,30.64S×179.44W,h353km±13km,mb3.5/5, mb1 3.7/7,mb1mx3.3/31,mbtmp4.3/7,Error ellipse: s-maj=25.5km s-min=20.3km az=105.0*

ISC 01 01:19:12.8±0.9,30.56S±0.08×179.7W±0.1,h321km,n38, σ1997/44,mb3.6/5,Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**2.04**	**51**	P	**Pn**	**01 20 05.1**	**+3.2**
	60nm,0.3s,baz=195,slow=23,SNR=7.0						
RAO				S	**S**	**01 20 41.5**	**+0.5**
	131nm,0.3s,baz=75,slow=22,SNR=4.4						
MXZ	**Matakaoa Point**	**7.17**	**193**	PN	**Pn**	**01 20 57.4**	**+0.9**
WMGZ	**Waiomatatini S**	**7.40**	**191**	*e*PN	**Pn**	**01 21 01.0**	**+1.7**
WMGZ				SN	**S**	**01 22 27.1**	**+1.5**
HAZ	**Te Kaha**	**7.46**	**195**	*e*PN	**Pn**	**01 21 01.9**	**+1.9**
PKGZ	**Pakihiroa**	**7.53**	**193**	PN	**Pn**	**01 21 02.7**	**+1.8**
PUZ	**Puketiti**	**7.67**	**192**	SN	**S**	**01 22 30.1**	**-1.6**
RUGZ	**Raukumara Rang**	**7.69**	**196**	*e*PN	**Pn**	**01 21 05.0**	**+2.2**
TWGZ	**Tauwhareparae**	**7.83**	**193**	PN	**Pn**	**01 21 06.6**	**+2.1**
MWZ	**Matawai**	**8.08**	**196**	PN	**Pn**	**01 21 09.3**	**+1.9**
TKGZ	**Te Karaka**	**8.11**	**194**	PN	**Pn**	**01 21 09.2**	**+1.4**
URZ	**Urewera**	**8.11**	**198**	P	**Pn**	**01 21 09.8**	**+2.0**
	6.9nm,0.3s,baz=273,slow=3.8,SNR=47						
URZ				S	**S**	**01 22 41.5**	**+0.2**
	6.4nm,0.3s,baz=43,slow=23,SNR=8.9						
URZ	**Urewera**	**8.11**	**198**	*e*PN	**Pn**	**01 21 09.2**	**+1.5**
RAGZ	**Rawiri**	**8.26**	**196**	PN	**Pn**	**01 21 11.2**	**+1.5**
RIGZ	**Rimuhau**	**8.38**	**194**	PN	**Pn**	**01 21 12.2**	**+1.1**
MUGZ	**Murupara**	**8.41**	**199**	PN	**Pn**	**01 21 13.1**	**+1.7**
MUGZ				SN	**S**	**01 22 50.6**	**+2.7**
SNGZ	**Shannon Statio**	**8.55**	**196**	PN	**Pn**	**01 21 14.5**	**+1.4**
KNZ	**Kokohu**	**8.70**	**193**	PN	**Pn**	**01 21 15.0**	**0.0**
MHGZ	**Mahia Peninsul**	**8.79**	**192**	*e*PN	**P**	**01 21 19.9**	**-0.1**
NMHZ	**Naumai**	**8.98**	**198**	PN	**Pn**	**01 21 19.5**	**+1.1**
BKZ	**Black Stump Fm**	**9.12**	**199**	*e*PN	**Pn**	**01 21 20.5**	**+0.3**
KWHZ	**Kaweka Forest**	**9.39**	**199**	PN	**P**	**01 21 25.6**	**-1.1**
CKHZ	**Cape Kidnapper**	**9.44**	**195**	PN	**Pn**	**01 21 25.0**	**+1.0**
FWVZ	**Far West T-bar**	**9.50**	**203**	PN	**Pn**	**01 21 26.5**	**+1.6**
WNVZ	**Wahianoa**	**9.55**	**202**	*e*PN	**Pn**	**01 21 26.5**	**+1.1**
BHHZ	**Black Hill Sta**	**9.55**	**200**	PN	**Pn**	**01 21 26.6**	**+1.3**
MOVZ	**Moawhango**	**9.57**	**202**	*e*PN	**P**	**01 21 27.7**	**-1.0**
KRHZ	**Kereru**	**9.61**	**198**	*e*PN	**Pn**	**01 21 26.5**	**+0.6**
KAHZ	**Kahuranaki**	**9.62**	**196**	*e*PN	**Pn**	**01 21 26.3**	**+0.1**
PXZ	**Pawanui**	**9.85**	**195**	PN	**Pn**	**01 21 28.8**	**-0.1**
PNHZ	**Pukenui**	**9.90**	**199**	PN	**Pn**	**01 21 29.8**	**+0.2**
RPZ	**Rata Peaks**	**15.03**	**207**	P	**P**	**01 22 30.2**	**+1.2**
	0.7nm,0.3s,baz=342,slow=3.2,SNR=3.6						
RPZ				S	**S**	**01 25 06.0**	**-5.8**
	0.4nm,0.3s,baz=9.5,slow=19,SNR=3.9						
CTA	**Charters Tower**	**32.36**	**281**	P	**P**	**01 25 15.4**	**+2.1**
	6.6nm,0.4s,baz=100,slow=11,SNR=11						
STKA	**Stephens Creek**	**32.99**	**258**	P	**P**	**01 25 20.2**	**+1.6**
	1.5nm,0.6s,baz=112,slow=9.6,SNR=6.1						
ASAR	**Alice Springs**	**41.61**	**268**	P	**P**	**01 26 30.2**	**-0.4**
	1.6nm,0.7s,baz=104,slow=7.6,SNR=17						
ASAR				ScP	**ScP**	**01 31 34.8**	**-5.1**
	0.7nm,0.8s,baz=122,slow=4.0,SNR=5.9						
WRA	**Warramunga Arr**	**42.62**	**273**	P	**P**	**01 26 38.3**	**-0.4**
	2.6nm,0.5s,baz=112,slow=7.7,SNR=19						
FITZ	**Fitzroy Crossi**	**50.87**	**271**	P	**P**	**01 27 41.6**	**-0.5**
	2.4nm,0.8s,baz=82,slow=7.1,SNR=5.3						

FINES FINESS Array B 144.77 339 PKP **PKPdf 01 38 07.3 -3.6**
1.1nm,0.5s,baz=40,slow=4.9,SNR=12
TORD Torodi Ar. Bea 162.62 185 PKPab **PKPab 01 39 24.9 -2.3**
1.0nm,1.1s,baz=199,slow=4.1,SNR=5.8

IDC 01 01:26:49.0±4.4,26.50N×96.34E,h119km±45km,mb3.3/5, mb1 3.4/6,mb1mx3.1/50,mbtmp3.7/6,Error ellipse: s-maj=69.7km s-min=18.6km az=58.0,Myanmar

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CMAR	**Chiang Mai Arr**	**8.35**	**163**	P	Pn	01 28 47.5	+0.1
	0.4nm,0.6s,baz=150,slow=8.9,SNR=4.8						
KURBB	**Kurchatov Arra**	**27.68**	**335**	P	P	01 32 25.6	-0.1
	0.4nm,0.6s,baz=162,slow=8.1,SNR=2.3						
ZALV	**Zalesovo Beam**	**28.72**	**346**	P	P	01 32 34.9	0.0
	0.7nm,0.4s,baz=162,slow=8.1,SNR=2.3						
BRTR	**Keskin Array B**	**53.17**	**301**	P	P	01 35 55.1	+0.1
	0.2nm,0.6s,baz=99,slow=6.4,SNR=1.8						
WRA	**Warramunga Arr**	**59.08**	**138**	P	P	01 36 37.3	+0.3
	0.9nm,0.7s,baz=327,slow=7.5,SNR=4.8						
ASAR	**Alice Springs**	**61.70**	**141**	P	P	01 36 54.4	-0.5
	0.3nm,0.3s,baz=318,slow=6.9,SNR=3.2						

*ISCJB **01** 01:37:07.8±0.8,40.48N±0.05×52.22E±0.07, h120km±12km,Error ellipse: s-maj=9.1km s-min=8.5km az=32.6*
*CSEM **01** 01:37:08.1±0.3,40.53N×52.40E,h80km,mb3.5,Error ellipse: s-maj=9.4km s-min=5.5km az=150.0*
*AZER **01** 01:37:09.4±0.0,40.44N×52.15E,h57km±5km,Error ellipse: s-maj=7.0km s-min=2.7km az=253.0*

ISC 01 01:37:05.8±1.2,40.50N±0.06×52.44E±0.07,h113km±19km, n53,σ1968/97,27C-23D,Turkmenistan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GALA	**Gala**	**1.75**	**268**	↑S	**Sn**	**01 37 57.5**	**-1.1**
GALA	**Gala**	**1.75**	**268**	S	**Sn**	**01 37 57.5**	**-1.1**
NDR	**Nardaran**	**1.87**	**273**	↑P	**Pn**	**01 37 38.2**	**+1.0**
NDR				↑S	**Sn**	**01 37 59.0**	**-2.3**
NDR	**Nardaran**	**1.87**	**273**	P	**Pn**	**01 37 38.2**	**+1.0**
NDR				S	**Sn**	**01 37 59.0**	**-2.3**
GOBA	**Gobu**	**2.07**	**268**	↓P	**Pn**	**01 37 40.5**	**+0.7**
GOBA				↓S	**Sn**	**01 38 04.3**	**-1.4**
GOBA	**Gobu**	**2.07**	**268**	P	**Pn**	**01 37 40.5**	**+0.7**
GOBA				S	**Sn**	**01 38 04.3**	**-1.4**
GBS	**Qobustan**	**2.67**	**272**	↓P	**Pn**	**01 37 49.4**	**+1.9**
GBS				↓S	**Sn**	**01 38 20.2**	**+0.5**
GBS	**Qobustan**	**2.67**	**272**	P	**Pn**	**01 37 49.4**	**+1.9**
GBS				S	**Sn**	**01 38 20.2**	**+0.5**
ALIB	**Äli-Bayra**	**2.69**	**259**	↑P	**Pn**	**01 37 49.0**	**+1.3**
ALIB				↑S	**Sn**	**01 38 18.7**	**-1.2**
ALIB	**Äli-Bayra**	**2.69**	**259**	P	**Pn**	**01 37 49.0**	**+1.3**
ALIB				S	**Sn**	**01 38 18.7**	**-1.2**
ATGJ	**Altiaghaj**	**2.69**	**279**	↓P	**Pn**	**01 37 49.2**	**+1.4**
ATGJ				↓S	**Sn**	**01 38 19.7**	**-0.5**
ATGJ	**Altiaghaj**	**2.69**	**279**	P	**Pn**	**01 37 49.2**	**+1.4**
ATGJ				S	**Sn**	**01 38 19.7**	**-0.5**
SIZA	**Siyzn**	**2.75**	**283**	↑P	**Pn**	**01 37 51.5**	**+2.9**
SIZA	**Siyzn**	**2.75**	**283**	P	**Pn**	**01 37 51.5**	**+2.9**
PQL	**Pirkuli**	**2.94**	**277**	↑P	**Pn**	**01 37 52.9**	**+1.7**
PQL				↓S	**Sn**	**01 38 27.3**	**+1.1**
PQL	**Pirkuli**	**2.94**	**277**	P	**Pn**	**01 37 52.9**	**+1.7**
PQL				S	**Sn**	**01 38 27.3**	**+1.1**
QUBA	**Quba, Azerbaij**	**3.11**	**287**	↑P	**Pn**	**01 37 55.0**	**+1.7**
QUBA				↓S	**Sn**	**01 38 30.5**	**+0.5**
QUBA	**Quba, Azerbaij**	**3.11**	**287**	P	**Pn**	**01 37 55.0**	**+1.7**
QUBA				S	**Sn**	**01 38 30.5**	**+0.5**
SAAT	**Saatly**	**3.14**	**260**	↑S	**Sn**	**01 38 28.8**	**-1.9**
SAAT	**Saatly**	**3.14**	**260**	S	**Sn**	**01 38 28.8**	**-1.9**
IML	**Ismayilli**	**3.25**	**277**	↓P	**Pn**	**01 37 56.2**	**+1.0**
IML				↑S	**Sn**	**01 38 32.8**	**-0.7**
IML	**Ismayilli**	**3.25**	**277**	P	**Pn**	**01 37 56.2**	**+1.0**
IML				S	**Sn**	**01 38 32.8**	**-0.7**
QSAR	**Qusar**	**3.32**	**289**	↑P	**Pn**	**01 37 58.2**	**+2.1**
QSAR				↓S	**Sn**	**01 38 34.9**	**-0.1**
QSAR	**Qusar**	**3.32**	**289**	P	**Pn**	**01 37 58.2**	**+2.1**
QSAR				S	**Sn**	**01 38 34.9**	**-0.1**
XNQ	**Khinaliq**	**3.33**	**283**	↑P	**Pn**	**01 37 58.3**	**+1.9**
XNQ				↑S	**Sn**	**01 38 33.9**	**-1.6**
XNQ	**Khinaliq**	**3.33**	**283**	P	**Pn**	**01 37 58.3**	**+1.9**
XNQ				S	**Sn**	**01 38 33.9**	**-1.6**
LKRN	**Lenkeran, Azer**	**3.35**	**239**	↑P	**Pn**	**01 37 58.7**	**+2.3**
LKRN				↑S	**Sn**	**01 38 34.4**	**-1.1**
LKRN	**Lenkeran, Azer**	**3.35**	**239**	P	**Pn**	**01 37 58.7**	**+2.3**
LKRN				S	**Sn**	**01 38 34.4**	**-1.1**
GLBA	**Clilabad**	**3.36**	**249**	↑P	**Pn**	**01 37 58.5**	**+1.9**
GLBA				↑S	**Sn**	**01 38 35.0**	**-0.8**
GLBA	**Clilabad**	**3.36**	**249**	P	**Pn**	**01 37 58.5**	**+1.9**
GLBA				S	**Sn**	**01 38 35.0**	**-0.8**
ASTR	**Astara**	**3.42**	**237**	↓P	**Pn**	**01 37 59.0**	**+1.5**
ASTR				↓S	**Sn**	**01 38 36.4**	**-1.0**
ASTR	**Astara**	**3.42**	**237**	P	**Pn**	**01 37 59.0**	**+1.5**
ASTR				S	**Sn**	**01 38 36.4**	**-1.0**
QBL	**Gabala**	**3.53**	**279**	↓P	**Pn**	**01 37 59.9**	**+1.1**
QBL				↑S	**Sn**	**01 38 38.5**	**-1.4**
QBL	**Gabala**	**3.53**	**279**	P	**Pn**	**01 37 59.9**	**+1.1**
QBL				S	**Sn**	**01 38 38.5**	**-1.4**
ZRD	**Zardab**	**3.64**	**268**	↓S	**Sn**	**01 38 42.8**	**+0.3**
ZRD	**Zardab**	**3.64**	**268**	S	**Sn**	**01 38 42.8**	**+0.3**
LRK	**Lerik**	**3.67**	**241**	↑P	**Pn**	**01 38 02.6**	**+1.7**
LRK				↑S	**Sn**	**01 38 41.3**	**-2.3**
LRK	**Lerik**	**3.67**	**241**	P	**Pn**	**01 38 02.6**	**+1.7**
LRK				S	**Sn**	**01 38 41.3**	**-2.3**
BRDA	**Brd**	**4.03**	**268**	↑P	**Pn**	**01 38 06.7**	**+1.2**
BRDA				↑S	**Sn**	**01 38 51.9**	**+0.1**
BRDA	**Brd**	**4.03**	**268**	P	**Pn**	**01 38 06.7**	**+1.2**
BRDA				S	**Sn**	**01 38 51.9**	**+0.1**
SEKA	**Sheki**	**4.04**	**282**	↓P	**Pn**	**01 38 07.1**	**+1.4**
SEKA				↓S	**Sn**	**01 38 52.8**	**+0.6**
SEKA	**Sheki**	**4.04**	**282**	P	**Pn**	**01 38 07.1**	**+1.4**
SEKA				S	**Sn**	**01 38 52.8**	**+0.6**
ZKTA	**Zakatala**	**4.54**	**286**	↓P	**Pn**	**01 38 15.0**	**+2.5**
ZKTA				↑S	**Sn**	**01 39 03.9**	**-0.4**
GANJ	**Ganja**	**4.66**	**274**	↑P	**Pn**	**01 38 14.8**	**+0.7**
GANJ				↓S	**Sn**	**01 39 04.4**	**-2.7**
GANJ	**Ganja**	**4.66**	**274**	P	**Pn**	**01 38 14.8**	**+0.7**
GANJ				S	**Sn**	**01 39 04.4**	**-2.7**
GDB	**GEDABAY**	**5.09**	**275**	↑P	**Pn**	**01 38 21.1**	**+1.1**
GDB				↓S	**Sn**	**01 39 14.6**	**-3.2**
GDB	**GEDABAY**	**5.09**	**275**	P	**Pn**	**01 38 21.1**	**+1.1**
GDB				S	**Sn**	**01 39 14.6**	**-3.2**
QZX	**Qazax, Azerbai**	**5.40**	**278**	↓P	**Pn**	**01 38 25.2**	**+1.2**
QZX				↓S	**Sn**	**01 39 23.0**	**-1.8**
QZX	**Qazax, Azerbai**	**5.40**	**278**	P	**Pn**	**01 38 25.2**	**+1.2**
QZX				S	**Sn**	**01 39 23.0**	**-1.8**
AB31	**Akbulak array**	**10.24**	**29**	↓Pn	**Pn**	**01 39 31.0**	**+1.6**
	0.2nm,0.3s,baz=204,slow=13,SNR=4.4						
AB31				↑Sn	**Sn**	**01 41 20.4**	**-1.8**
	0.8nm,0.4s,baz=202,slow=21,SNR=5.2						
AB31	**Akbulak array**	**10.24**	**29**	Pn	**Pn**	**01 39 31.0**	**+1.6**
	0.2nm,0.3s,SNR=4.4						
AB31				Sn	**Sn**	**01 41 20.4**	**-1.8**
	0.8nm,0.4s,SNR=5.2						
AKTO	**Aktyubinsk**	**10.67**	**20**	↑Pn	**Pn**	**01 39 36.7**	**+1.4**
	1.0nm,0.6s						
AKTO				↓Sn	**Sn**	**01 41 27.0**	**-5.7**
	0.8nm,0.2s						
AKTO	**Aktyubinsk**	**10.67**	**20**	Pn	**Pn**	**01 39 36.7**	**+1.4**
	1.0nm,0.6s						

*NEIC **01** 01:38:02.7±0.0,15.31N×94.62W,h16km,MD4.0(MEX), After MEX.*

MEX 01 01:38:02.7±0.8,15.31N×94.62W,h16km±9km,MD4.0, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HUIG	**Huatulco**	**1.50**	**288**	*i* P	Pn	01 38 25.8	-3.2
HUIG				*i* S	Sn	01 38 42.2	-6.1
HUIG	**Huatulco**	**1.50**	**288**	*i* P	Pn	01 38 25.8	-3.2
HUIG				*i* S	Sn	01 38 42.2	-6.1
TGIG		**2.05**	**44**	*e*P	Pn	01 38 33.6	-3.0
TGIG				*i* S	Sn	01 38 57.0	-4.9
TGIG		**2.05**	**44**	*e*P	Pn	01 38 33.6	-3.0
TGIG				*i* S	Sn	01 38 57.0	-4.9
CCIG	**Comitan**	**2.58**	**68**	Pn	Pn	01 38 43.8	-0.2
CCIG				*i* S	Sn	01 39 10.3	-4.8
CCIG	**Comitan**	**2.58**	**68**	*e*P	Pn	01 38 41.7	-2.3
CCIG				*i* S	Sn	01 39 10.3	-4.8
PNIG	**Pinotepa**	**3.54**	**288**	*e*P	Pn	01 38 54.5	-2.5
PNIG				*i* S	Sn	01 39 34.8	-3.9
PNIG	**Pinotepa**	**3.54**	**288**	*e*P	Pn	01 38 54.5	-2.5
PNIG				*i* S	Sn	01 39 34.8	-3.9

TAP 01 01:50:34.1,21.46N×121.68E,h127km,ML3.6,1C,C, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LAY	**Lan-yu**	**0.59**	**348**	*eP*	Pn	01 50 53.4	-0.1
	baz=349						
LAY				*eS*	Sn	01 51 07.3	-0.8
	baz=349						
TSEB	**Hengchuen, Pin**	**0.85**	**301**	*eP*	Pn	01 50 56.4	+1.1
	baz=295						
TSEB				*eS*	Sn	01 51 12.8	+1.3
	baz=295						
TWK1	**Hengchun**	**0.95**	**301**	P	Pn	01 50 56.9	+0.6
	baz=298						
TWK1				*eS*	Sn	01 51 13.2	+0.2
	baz=298						
HEN	**Hengchun**	**1.03**	**302**	*eP*	Pn	01 50 57.1	+0.1
	baz=293						
HEN				*eS*	Sn	01 51 15.3	+0.9
	baz=293						
TAW	**Tawu**	**1.16**	**321**	*eP*	Pn	01 50 58.3	+0.1
	baz=324						
EAST	**Anshuo**	**1.20**	**320**	↑P	Pn	01 50 59.0	+0.1
	baz=320						
EAST				*eS*	Sn	01 51 17.2	-0.4
	baz=320						
SCZT	**Fangliau**	**1.34**	**313**	*i* P	Pn	01 51 00.8	+0.5
	baz=319						
SCZT				*eS*	Sn	01 51 20.2	+0.1
	baz=319						
TWM1	**Shoushan**	**1.79**	**320**	*eP*	Pn	01 51 06.8	+1.4
	baz=320						
ELDTW	**Lidau**	**1.83**	**340**	*eP*	Pn	01 51 07.0	+1.0
	baz=341						
ELDTW				*eS*	Sn	01 51 30.0	-0.3
	baz=341						
STYT	**Tauyuan**	**1.90**	**333**	*eP*	Pn	01 51 07.2	+0.4
	baz=334						
STYT				*eS*	Sn	01 51 31.8	-0.1
	baz=334						
SGST	**Jiashian**	**1.91**	**328**	*eP*	Pn	01 51 07.7	+0.8
	baz=328						
SGST				*eS*	Sn	01 51 32.4	+0.5
	baz=328						
TWF1	**Yuli**	**1.92**	**349**	*eP*	Pn	01 51 05.6	-1.4
	baz=344						
CHN1	**Nanshi**	**2.02**	**328**	*eP*	Pn	01 51 08.8	+0.6
	baz=328						
CHN1				*eS*	Sn	01 51 34.4	0.0
	baz=328						
EHY	**Hungye**	**2.07**	**351**	*eP*	Pn	01 51 07.2	-1.5
	baz=346						
TWK	**Hsinying**	**2.11**	**329**	*eP*	Pn	01 51 09.9	+0.5
	baz=329						
TWK				*eS*	Sn	01 51 36.3	-0.1
	baz=329						
YUS	**Yu-Shan**	**2.13**	**342**	*eP*	Pn	01 51 11.1	+1.1
	baz=334						
YUS				*eS*	Sn	01 51 37.5	-0.1
	baz=334						
CHN4	**Tsaushan**	**2.14**	**332**	P	Pn	01 51 09.9	+0.3
	baz=332						
CHN4				*eS*	Sn	01 51 36.4	-0.4
	baz=332						
SCLT	**Jiali**	**2.20**	**321**	*eP*	Pn	01 51 10.6	+0.3
	baz=328						
SCLT				*eS*	Sn	01 51 38.3	+0.2
	baz=328						
ALS	**Alishan**	**2.20**	**339**	*eP*	Pn	01 51 11.2	+0.5
	baz=331						
ALS				*eS*	Sn	01 51 38.7	0.0
	baz=331						
CHN5	**Tsauling**	**2.32**	**337**	*eP*	Pn	01 51 12.4	+0.4
	baz=330						
CHN5				*eS*	Sn	01 51 41.1	-0.1
	baz=330						
WDT	**Danda**	**2.34**	**348**	*eP*	Pn	01 51 13.4	+0.9
	baz=353						
WDT				*eS*	Sn	01 51 41.8	-0.2
	baz=353						
SMLT	**Sun Moon Lake**	**2.52**	**343**	*eP*	Pn	01 51 15.0	+0.4
	baz=344						
TYC	**Yuchr**	**2.55**	**343**	*eP*	Pn	01 51 15.2	+0.4
	baz=343						
TYC				*eS*	Sn	01 51 46.1	-0.1
	baz=343						
WSF	**Szhu**	**2.56**	**328**	*eP*	Pn	01 51 14.8	-0.1
	baz=328						
WSF				*eS*	Sn	01 51 46.0	-0.3
	baz=328						
WHF	**Hehuan Shan**	**2.70**	**352**	*eP*	Pn	01 51 17.8	+0.6
	baz=352						
WHF				*eS*	Sn	01 51 50.5	+0.2
	baz=352						
PNG	**Penghu**	**2.88**	**317**	*eP*	Pn	01 51 19.1	0.0
	baz=317						
PNG				*eS*	Sn	01 51 51.8	-1.8
	baz=317						

*ISCJB **

MUN	**Mundaring**	**14.52**	**205**	P		**Pn**	**02 00 13.7**	**-1.8**
	baz=15							
NWAO	**Narrogin (SRO)**	**15.00**	**200**	Pn		**Pn**	**02 00 19.4**	**-2.6**
	1.3nm,0.3s,baz=259,slow=9.6,SNR=3.1							
NWAO				Sn		Sn	02 02 55.5	-13
	1.4nm,0.3s,baz=165,slow=22,SNR=2.1							
NWAO	**Narrogin (SRO)**	**15.00**	**200**	P		**Pn**	**02 00 19.9**	**-2.1**
	baz=15,SNR=7.6							
NWAO				P		**Pn**	**02 00 19.9**	**-2.1**
	baz=15,SNR=7.6							
QIS	**Mount Isa**	**15.33**	**99**	P		**Pn**	**02 00 25.2**	**-1.3**
	baz=15,SNR=3.9							
RKGY	**Rocky Gully**	**16.63**	**199**	P		**Pn**	**02 00 41.2**	**-1.9**
	baz=17,SNR=7.7							
BBOO	**Buckleboo**	**17.87**	**143**	P		**Pn**	**02 00 59.8**	**+1.1**
	baz=18,SNR=7.7							
STKA	**Stephens Creek**	**20.83**	**132**	P		**P**	**02 01 33.6**	**+1.8**
	3.0nm,0.4s,baz=308,slow=10,SNR=6.1							
STKA				S		S	02 05 16.2	-8.0
	1.9nm,0.7s,baz=201,slow=8.6,SNR=2.4							
PMG	**Port Moresby**	**24.86**	**71**	LR		LR	02 12 05.7	
	comp=Z,43nm,19.9s,baz=200,slow=37							
SONM	**Songino Array**	**68.20**	**348**	P		**P**	**02 07 50.3**	**-0.2**
	0.3nm,0.4s,baz=194,slow=5.3,SNR=3.1							
KURBB	**Kurchatov Arra**	**79.72**	**333**	P		**P**	**02 08 59.5**	**+1.8**
	0.4nm,0.5s,baz=150,slow=5.4,SNR=2.2							

KRNET ***01*** *01:56:54.8±0.1, 40.°98N×74.°94E, h22km, mb4.1*
NNC ***01*** *01:56:56.7±2.0, 41.°05N×74.°95E, h0km, mb4.3, mpv4.0, Error ellipse: s-maj=16.1km s-min=10.1km az=171.0*
SOME ***01*** *01:56:56.7, 41.°07N×74.°93E, h10km, MS3.3*
ISC 01 01:56:57.6±1.3, 41.°11N±0.°03×74.°93E±0.°03, h4km±12km, n34, σ1°46/51, 18C-13D, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARSB	**Arslanbob**	**1.48**	**279**	⇑*iP*	**Pn**	**01 57 23.8**	**-1.4**
	baz=284						
ARSB				⇑*iS*	**Sn**	**01 57 44.8**	**-0.4**
	baz=284						
AAK	**Ala-Archa**	**1.56**	**348**	⇑Pg	**Pn**	**01 57 25.7**	**-0.7**
	135nm,0.4s						
AAK				⇑Lg	Lg	01 57 51.2	
	431nm,0.6s						
BOOM	**Boomskoye usch**	**1.58**	**28**	⇓*iP*	**Pn**	**01 57 25.4**	**-1.2**
	baz=26						
BOOM				⇓*iS*	**Sg**	**01 57 49.4**	**+1.1**
	baz=26						
FRU1	**Bishkek**	**1.72**	**353**	⇓*iP*	**Pb**	**01 57 29.2**	**-0.6**
	baz=353						
FRU1				⇓*iS*	**Sg**	**01 57 53.8**	**+1.0**
	baz=353						
KSH	**Kashi**	**1.78**	**153**	Pg	**Pg**	**01 57 31.6**	**-0.1**
KSH				pP	Pb	01 57 34.2	+3.4
KSH				Sg	**Sg**	**01 57 58.0**	**+3.3**
KSH				pmax	pmax		
	comp=Z,220nm,0.3s						
KSH				smax	smax		
	comp=N,950nm,0.7s						
KSH				smax	smax		
	comp=E,730nm,0.8s						
TKM2	**Tokmak 2**	**1.88**	**15**	⇑Pg	**Pn**	**01 57 30.9**	**+0.1**
	comp=E,40nm,0.3s						
TKM2				⇑Lg	Lg	01 57 58.7	
	comp=E,227nm,0.5s						
MRKS	**Merke**	**2.07**	**323**	*eP*	**Pb**	**01 57 35.3**	**-0.6**
	comp=E,216nm,0.3s						
MRKS				*eS*	**Sb**	**01 58 02.6**	**+0.5**
	comp=E,468nm,0.3s						
KST	**Kastek**	**2.08**	**21**	*eP*	**Pb**	**01 57 35.5**	**-0.6**
	comp=E,26nm,0.2s						
KST				*eS*	**Sb**	**01 58 03.1**	**+0.7**
	comp=E,459nm,0.4s						
DGS	**Degeres**	**2.23**	**16**	*eP*	**Pb**	**01 57 38.0**	**-0.5**
	comp=E,248nm,0.4s						
DGS				*eS*	**Sb**	**01 58 07.5**	**+1.1**
	comp=E,377nm,0.4s						
MNAS	**Manas**	**2.28**	**308**	⇓*iP*	**Pn**	**01 57 37.0**	**+0.8**
	baz=310						
MNAS				⇓*iS*	**Sb**	**01 58 07.3**	**-0.7**
	baz=310						
MNAS	**Manas**	**2.28**	**308**	⇓Pn	**Pn**	**01 57 37.4**	**+1.2**
	comp=E,48nm,0.4s						
MNAS				⇑Lg	Lg	01 58 09.5	
	comp=E,68nm,0.4s						
IZV	**Izvestkoviy**	**2.30**	**32**	*eP*	**Pb**	**01 57 38.7**	**-1.1**
	comp=E,65nm,0.2s						
IZV				*eS*	**Sb**	**01 58 08.7**	**0.0**
	comp=E,430nm,0.7s						
MTBS	**Maitube**	**2.31**	**28**	*eP*	**Pg**	**01 57 41.1**	**-0.8**
	comp=E,69nm,0.2s						
MTBS				*eS*	**Sg**	**01 58 12.2**	**+0.3**
	comp=E,298nm,0.3s						
ARK	**Arkit**	**2.33**	**288**	⇑*iP*	**Pn**	**01 57 37.0**	**+0.1**
	baz=291						
ARK				⇑*iS*	**Sn**	**01 58 07.2**	**+1.1**
	baz=291						
TNSS	**Tian-Shan**	**2.45**	**37**	*eP*	**Pb**	**01 57 41.9**	**-0.5**
	comp=E,114nm,0.3s						
TNSS				*eS*	**Sb**	**01 58 13.9**	**+0.8**
	comp=E,298nm,0.6s						
MDOK	**Medeo**	**2.59**	**37**	⇓Pn	**Pb**	**01 57 43.3**	**-1.4**
MDOK				⇑Lg	Lg	01 58 19.3	
MDOK	**Medeo**	**2.59**	**37**	*eP*	**Pb**	**01 57 45.0**	**+0.3**
	comp=E,83nm,0.4s						
MDOK				*eS*	**Sg**	**01 58 19.7**	**-1.2**
	comp=E,153nm,0.6s						
KNDC	**Almaty**	**2.60**	**35**	⇑Pg	**Pb**	**01 57 44.2**	**-0.6**
	comp=E,78nm,0.3s						
KNDC				⇑Lg	Lg	01 58 19.7	
	comp=E,368nm,0.6s						
ANVS	**Anan'yevo**	**2.64**	**50**	⇓*iP*	**Pn**	**01 57 41.7**	**+0.5**
	baz=48						
ANVS				⇓*iS*	**Sn**	**01 58 15.6**	**+1.7**
	baz=48						
KTBS	**Karatobe**	**2.91**	**26**	*eP*	**Pb**	**01 57 50.4**	**+0.2**
KTBS				*eS*	**Sb**	**01 58 28.3**	**+2.2**
KUU	**Kurty**	**2.98**	**20**	*eP*	**Pb**	**01 57 51.6**	**+0.4**
	comp=E,142nm,0.3s						
KUU				*eS*	**Sb**	**01 58 30.4**	**+2.5**
	comp=E,202nm,0.4s						
CHKK	**Chushkaly**	**3.14**	**28**	*eP*	**Pb**	**01 57 53.9**	**-0.1**
	comp=E,47nm,0.4s						
CHKK				*eS*	**Sb**	**01 58 34.5**	**+1.8**
	comp=E,423nm,0.4s						
KURS	**Kuram**	**3.38**	**44**	*eP*	**Pb**	**01 57 56.6**	**-1.6**
KURS				*eS*	**Sb**	**01 58 39.0**	**-0.8**
ARXS	**Arharly**	**3.77**	**34**	*eP*	**Pb**	**01 58 05.2**	**+0.4**
	comp=E,36nm,0.5s						
ARXS				*eS*	**Sb**	**01 58 54.0**	**+3.1**
	comp=E,89nm,0.4s						
IUG	**Iuzhnay**	**3.81**	**287**	*eP*	**Pb**	**01 58 06.5**	**+1.0**
	comp=E,28nm,0.4s						
IUG				*eS*	**Sb**	**01 58 56.0**	**+3.8**
	comp=E,123nm,0.3s						
KK31	**Karatay Array**	**3.84**	**303**	⇑Pg	**Pb**	**01 58 05.9**	**-0.1**
	comp=E,2.9nm,0.2s,baz=122,slow=14,SNR=86						
KK31				⇓Lg	Lg	01 58 56.0	
	comp=E,17nm,0.3s,baz=123,slow=29,SNR=12						
PDGK	**Podgornoye**	**4.05**	**55**	⇓Pn	**Pn**	**01 58 01.0**	**+0.4**
	comp=E,12nm,0.5s						
PDGK				⇑Lg	Lg	01 59 01.9	
	comp=E,57nm,0.7s						
CHCP	**Chirah Chowk**	**7.55**	**191**	P	**Pn**	**01 58 48.5**	**0.0**
MAKZ	**Makanchi**	**7.64**	**39**	⇑Lg	Lg	02 01 01.9	
	comp=E,5.4nm,0.8s						
CEP	**Cherat**	**7.65**	**199**	P	**Pn**	**01 58 49.6**	**-0.4**
MK31	**Makanchi Array**	**7.78**	**41**	⇑Pg	**Pb**	**01 59 16.3**	**+3.3**
	comp=E,1.4nm,0.5s,baz=226,slow=14,SNR=3.0						
MK31				⇑Lg	Lg	02 01 01.2	
	comp=E,2.8nm,0.6s						
SARP	**Sargodha**	**9.34**	**192**	P	**Pn**	**01 59 09.5**	**-3.6**
KURBB	**Kurchatov Arra**	**9.84**	**14**	⇓Lg	Lg	02 02 08.9	
	comp=E,41nm,0.8s						
KURK	**Kurchatov**	**9.95**	**14**	⇑Lg	Lg	02 02 10.3	
	comp=E,35nm,1.1s						

ISCJB ***01*** *02:04:27.8±0.8, 5.°0S±0.°1×151.°0E±0.°1, h155km, mb3.9/8, Error ellipse: s-maj=21.9km s-min=11.5km az=33.7*
IDC ***01*** *02:04:29.7±3.7, 5.°08S×151.°04E, h161km±32km, mb3.7/8, mb1 3.9/8, mb1mx3.6/38, mbtmp4.1/8, Error ellipse: s-maj=29.3km s-min=21.4km az=110.0*
ISC 01 02:04:29.0±0.9, 5.°1S±0.°1×151.°1E±0.°2, h155km, n10, σ1°07/11, mb4.0/8, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.80**	**222**	S	**Sn**	**02 06 59.2**	**+0.2**
	7.6nm,0.3s,baz=340,slow=20,SNR=3.5						
WRA	**Warramunga Arr**	**22.00**	**226**	P	**P**	**02 09 10.3**	**-0.6**
	6.0nm,0.4s,baz=50,slow=10,SNR=45						
WRA				ScP	**ScP**	**02 16 25.6**	**-0.8**
	0.6nm,0.8s,baz=55,slow=2.7,SNR=3.0						
DZM	**Mont Dzumac**	**22.53**	**140**	P	**P**	**02 09 16.6**	**+0.5**
	3.2nm,0.6s,baz=2.8,slow=20,SNR=2.2						
ASAR	**Alice Springs**	**24.82**	**220**	P	**P**	**02 09 37.1**	**+0.1**
	6.4nm,0.3s,baz=54,slow=8.7,SNR=42						
FITZ	**Fitzroy Crossi**	**28.03**	**240**	P	**P**	**02 10 05.4**	**-0.4**
	3.9nm,0.5s,baz=52,slow=8.5,SNR=7.7						
STKA	**Stephens Creek**	**28.12**	**197**	P	**P**	**02 10 07.0**	**+0.6**
	1.5nm,0.5s,baz=30,slow=13,SNR=1.8						
SONM	**Songino Array**	**65.63**	**329**	P	**P**	**02 14 58.6**	**+2.0**
	0.4nm,0.5s,baz=134,slow=6.2,SNR=2.3						
ZALV	**Zalesovo Beam**	**80.42**	**327**	P	**P**	**02 16 22.8**	**-0.4**
	0.4nm,0.3s,baz=132,slow=8.0,SNR=2.0						
ILAR	**Eielson Array**	**83.05**	**22**	P	**P**	**02 16 36.1**	**-0.6**
	0.2nm,0.6s,baz=251,slow=4.1,SNR=2.5						
TORD	**Torodi Ar. Bea**	**148.74**	**287**	PKPbc	**PKPbc**	**02 23 57.4**	**-1.7**
	0.6nm,0.6s,baz=85,slow=2.5,SNR=5.3						

ISCJB ***01*** *02:06:21.4±0.7, 43.°56N±0.°04×127.°34W±0.°07, h15km, mb4.2/8, MS3.7/17, Error ellipse: s-maj=7.7km s-min=5.2km az=152.5*
NEIC ***01*** *02:06:23.3±1.2, 43.°56N×127.°27W, h10km, mb4.2/9, Error ellipse: s-maj=16.4km s-min=7.7km az=50.0*
IDC ***01*** *02:06:23.3±2.3, 43.°67N×126.°96W, h0km, mb3.8/4, mb1 4.1/9, mb1mx3.8/44, mbtmp3.9/9, ML3.8/5, MS3.7/22, Ms1 3.7/22, ms1mx3.5/48, Error ellipse: s-maj=35.6km s-min=17.2km az=44.0*
GCMT ***01*** *02:06:23.3±0.6, 43.°34N×127.°73W, h24km±2km, MW4.8/74, Moment Tensor Solution. s13,c13; s74,c89; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr=0.19±.15; Mθθ=-1.96±.13; Mφφ=1.77±.11; Mrθ=-0.72±.18; Mrφ=-0.90±.09; Mθφ=0.12±.14; Best double couple: M=2.17400×10^16 NP1:φs123.00000°, δ80.00000°, λ-168.00000°. NP2: φs31.00000°, δ78.00000°, λ-10.00000°. Principal axes: T 1.9770, Plg2.0000°, Azm257.0000°; N 0.3980, Plg74.0000°, Azm161.0000°; P -2.3720, Plg16.0000°, Azm347.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
ISC 01 02:06:22.8±1.2, 43.°48N±0.°06×127.°42W±0.°10, h15km, n78, σ1°66/65, mb4.2/8, MS3.8/17, Off coast of Oregon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KEBM	**Edson Butte**	**2.34**	**104**	P	Pn	02 06 56.8	-4.0
I03D	**Drain, OR**	**2.97**	**84**	P	**Pn**	**02 07 06.3**	**-3.0**
	baz=264,SNR=255						
MPOR	**Mary's Peak**	**2.98**	**69**	P	**Pn**	**02 07 07.2**	**-2.3**
L02D	**Cave Junction,**	**3.11**	**114**	S	**Sn**	**02 07 44.1**	**-4.0**
	baz=295						
HSO	**Harness Mounta**	**3.15**	**88**	P	**Pn**	**02 07 09.6**	**-2.4**
COR	**Corvallis**	**3.17**	**68**	*e*Pn	**Pn**	**02 07 09.4**	**-2.7**
COR				*e*S	**Sn**	**02 07 48.9**	**-0.7**
HUMO	**Hull Mountain**	**3.39**	**103**	*e*Pn	**Pn**	**02 07 12.4**	**-2.7**
HUMO				*e*S	**Sn**	**02 07 53.2**	**-1.8**
G03D	**McMinnville, O**	**3.45**	**58**	P	**Pn**	**02 07 13.8**	**-2.1**
	baz=238,SNR=93						
G03D				S	**Sn**	**02 07 57.1**	**+0.6**
	baz=238						
I04A	**Tendick Farm,**	**3.65**	**83**	P	**Pn**	**02 07 16.8**	**-2.0**
	baz=264,SNR=38						
IRO	**Indian Ridge**	**3.78**	**80**	P	**Pn**	**02 07 18.8**	**-1.9**
G04A	**Mulino**	**3.94**	**62**	P	**Pn**	**02 07 21.7**	**-1.0**
F04D	**Rainier, OR**	**4.08**	**49**	P	**Pn**	**02 07 23.5**	**-1.1**
	baz=229,SNR=11						
F04D				S	**Sn**	**02 08 14.1**	**+2.1**
	baz=229						
F04A	**Amboy**	**4.33**	**54**	P	**Pn**	**02 07 27.1**	**-0.9**
I05D	**Terrebonne, OR**	**4.48**	**77**	P	**Pn**	**02 07 28.6**	**-1.6**
	baz=259,SNR=16						
MTMW	**Mount Mitchell**	**4.50**	**54**	P	**Pn**	**02 07 29.6**	**-0.8**
B201	**Coldwater, Mou**	**4.62**	**51**	P	**Pn**	**02 07 31.3**	**-0.8**
NLWA	**Neilton Lookou**	**4.64**	**31**	*e*Pn	**Pn**	**02 07 31.4**	**-1.0**
NLWA				*e*S	**Sn**	**02 08 24.3**	**-1.6**
G05D	**Wamic, OR**	**4.72**	**66**	P	**Pn**	**02 07 32.6**	**-0.8**
	baz=248,SNR=12						
MOD	**Modoc Plateau**	**5.48**	**104**	*e*Pn	**Pn**	**02 07 46.0**	**+2.0**
	13nm,1.3s						
PGC	**Sidney**	**5.86**	**27**	*e*Pn	**Pn**	**02 07 48.2**	**-0.8**
	28nm,0.3s						
PGC				*e*S	**Sn**	**02 08 52.8**	**-3.1**
B05A	**Bryant**	**6.06**	**36**	P	**Pn**	**02 07 51.2**	**-0.5**
	baz=218,SNR=6.9						
B05A				S	**Sn**	**02 09 01.0**	**+0.3**
	baz=218						
HAWA	**Hanford**	**6.31**	**60**	*e*Pn	**Pn**	**02 07 54.8**	**-0.4**
	27nm,0.6s						
HAWA				*e*S	**Sn**	**02 09 09.5**	**+2.5**
WVOR	**Wild Horse Val**	**6.53**	**96**	*e*Pn	**Pn**	**02 07 55.0**	**-3.3**
BMO	**Blue Mountains**	**7.40**	**76**	*e*Pn	**Pn**	**02 08 08.9**	**-1.4**
	8.2nm,0.8s						
CMB	**Columbia Colle**	**7.62**	**133**	*e*Pn	**Pn**	**02 08 15.2**	**+1.9**
	186nm,1.4s						
CMB				*e*S	**Sb**	**02 10 07.5**	**+2.2**
NEW	**Newport**	**8.63**	**53**	Pn	**Pn**	**02 08 26.2**	**-0.8**
	0.9nm,0.3s,baz=250,slow=13,SNR=9.5						
NEW				LR	LR	02 11 46.3	
	comp=Z,832nm,20.5s,baz=246,slow=39						
NEW	**Newport**	**8.63**	**53**	*e*Pn	**Pn**	**02 08 25.9**	**-1.2**
	12nm,0.9s						
BBB	**Bella Bella**	**8.72**	**357**	Pn	**Pn**	**02 08 29.4**	**+1.2**
	1.0nm,0.3s,baz=182,slow=4.8,SNR=14						
HLID	**Hailey**	**9.45**	**85**	*e*Pn	**Pn**	**02 08 39.6**	**+1.0**
	5.1nm,1.1s						
DLMT	**Dillon**	**10.77**	**75**	*e*Pn	**Pn**	**02 08 56.7**	**+0.2**
	11nm,1.1s						
WALA	**Waterton Lakes**	**10.88**	**54**	*e*Pn	**Pn**	**02 08 58.3**	**+0.3**
	14nm,0.8s						
BOZ	**Bozeman (W)**	**11.47**	**74**	*e*Pn	**Pn**	**02 09 05.7**	**-0.4**
	6.3nm,1.1s						
IMW	**Indian Meadow**	**11.95**	**82**	*e*Pn	**Pn**	**02 09 14.9**	**+2.2**
	2.2nm,1.2s						
AHID	**Auburn Hatcher**	**11.95**	**88**	*e*Pn	**Pn**	**02 09 14.4**	**+1.7**
	12nm,1.0s						
TPAW	**Teton Pass**	**11.97**	**84**	*e*Pn	**Pn**	**02 09 14.8**	**+1.8**
	17nm,1.1s						
REDW	**Red Top Meadow**	**12.05**	**85**	*e*Pn	**Pn**	**02 09 13.9**	**-0.2**
	13nm,1.1s						
FLWY	**Flagg Ranch**	**12.11**	**81**	*e*Pn	**Pn**	**02 09 16.0**	**+1.2**
	8.1nm,1.1s						
H17A	**Grant Village**	**12.18**	**80**	*e*Pn	**Pn**	**02 09 17.8**	**+1.9**
	27nm,1.3s						
PFO	**Pinyon Flats O**	**13.05**	**135**	LR	LR	02 14 20.0	
	comp=Z,401nm,18.1s,baz=300,slow=37						
BW06	**Boulder Array**	**13.07**	**87**	*e*Pn	**Pn**	**02 09 29.0**	**+0.9**
	5.2nm,1.1s						
PDAR	**Pinedale Array**	**13.07**	**87**	Pn	**Pn**	**02 09 28.6**	**+0.6**
	0.1nm,0.3s,baz=277,slow=12,SNR=15						
PDAR				LR	LR	02 14 39.0	
	comp=Z,480nm,21.3s,baz=279,slow=39						
WRAK	**Wrangell Islan**	**13.33**	**348**	*e*Pn	**Pn**	**02 09 29.2**	**-2.0**
	7.4nm,0.6s						
DLBC	**Dease Lake**	**15.06**	**355**	Pn	**Pn**	**02 09 56.9**	**+1.9**
	0.3nm,0.3s,baz=174,slow=9.1,SNR=8.4						
DLBC				LR	LR	02 14 54.5	
	comp=Z,322nm,18.4s,baz=174,slow=34						
DLBC	**Dease Lake**	**15.06**	**355**	*e*Pn	**Pn**	**02 09 57.3**	**+2.4**
	4.4nm,0.7s						
ISCO	**Idaho Springs**	**16.70**	**95**	*e*Pn	**Pn**	**02 10 15.8**	**-0.7**
	12nm,1.2s						
RSSD	**Black Hills**	**16.89**	**80**	*e*Pn	**Pn**	**02 10 18.4**	**-0.4**
	6.0nm,1.0s						
SDCO	**Great Sand Dun**	**17.58**	**102**	*e*Pn	**Pn**	**02 10 27.3**	**-0.2**
	10.0nm,1.4s						
ANMO	**Albuquerque**	**18.31**	**111**	P	**Pn**	**02 10 37.7**	**+1.3**
	0.1nm,0.3s,baz=322,slow=13,SNR=3.3						
ANMO				LR	LR	02 17 12.2	
	comp=Z,170nm,18.9s,baz=295,slow=36						
FFC	**Flin Flon**	**19.98**	**47**	*e*P	**P**	**02 10 54.5**	**+0.2**
	20nm,1.0s						
YKA	**Yellowknife Ar**	**20.47**	**17**	P	**P**	**02 10 59.8**	**+0.1**
	1.7nm,0.8s,baz=202,slow=10.0,SNR=4.2						
DAWY	**Dawson**	**21.73**	**346**	*e*P	**P**	**02 11 13.0**	**-0.2**
	5.6nm,1.0s						
ECSD	**EROS Data Cent**	**22.25**	**79**	*e*P	**P**	**02 11 18.6**	**-0.3**
	26nm,1.3s						
AGMN	**Agassiz Nation**	**22.39**	**67**	*e*P	**P**	**02 11 18.9**	**-1.6**
	34nm,1.4s						
ULM	**Lac du Bonnet**	**22.49**	**61**	P	**P**	**02 11 20.6**	**-0.9**
	8.0nm,1.0s,baz=280,slow=9.2,SNR=7.2						
ULM				LR	LR	02 20 29.2	
	comp=Z,339nm,18.2s,baz=292,slow=38						
TXAR	**Lajitas Array**	**23.66**	**119**	P	**P**	**02 11 35.8**	**+2.1**
	2.4nm,1.1s,baz=303,slow=6.9,SNR=11						
TXAR				LR	LR	02 21 32.6	
	comp=Z,83nm,18.9s,baz=0.0,slow=39						
WMOK	**Wichita Mounta**	**23.79**	**102**	*e*P	**P**	**02 11 35.0**	**+0.2**
	14nm,1.3s						
ILAR	**Eielson Array**	**23.98**	**339**	P	**P**	**02 11 36.6**	**+0.3**
	3.2nm,0.7s,baz=150,slow=9.0,SNR=43						
ILAR				LR	LR	02 19 23.3	
	comp=Z,199nm,21.6s,baz=149,slow=33						
SPMN	**Marine on St.**	**24.71**	**74**	*e*P	**P**	**02 11 43.7**	**+0.5**
	12nm,0.9s						
INK	**Inuvik**	**25.09**	**355**	LR	LR	02 21 08.3	
	comp=Z,168nm,18.8s,baz=151,slow=36						
TKL	**Tuckaleechee C**	**34.22**	**88**	LR	LR	02 27 48.3	
	comp=Z,200nm,19.4s,baz=299,slow=38						
SADO	**Sadowa**	**34.28**	**71**	LR	LR	02 26 29.6	
	comp=Z,206nm,21.1s,baz=298,slow=36						
SCHQ	**Schefferville**	**40.00**	**52**	LR	LR	02 30 36.0	
	comp=Z,235nm,21.5s,baz=22,slow=37						
H11N3	**WAKE ISLAND Hy**	**59.17**	**269**	T	T	03 20 16.8	
	baz=50,slow=75,SNR=141						
H11N2	**WAKE ISLAND Hy**	**59.17**	**269**	T	T	03 20 12.9	
	baz=50,slow=75,SNR=81						
H11N1	**WAKE ISLAND Hy**	**59.19**	**269**	T	T	03 20 18.4	
	baz=50,slow=75,SNR=85						
H11S1	**WAKE ISLAND Hy**	**60.09**	**268**	T	T	03 21 24.6	
	baz=50,slow=75,SNR=302						
H11S2	**WAKE ISLAND Hy**	**60.10**	**268**	T	T	03 21 25.7	
	baz=50,slow=75,SNR=306						
H11S3	**WAKE ISLAND Hy**	**60.11**	**268**	T	T	03 21 25.9	
	baz=50,slow=75,SNR=278						
NRIK	**Noril'sk**	**64.57**	**347**	LR	LR	02 45 44.4	
	comp=Z,48nm,20.9s,baz=48,slow=37						
NOA	**NORSAR Array B**	**70.54**	**20**	LR	LR	02 47 32.6	
	comp=Z,17nm,21.2s,baz=335,slow=35						
SONM	**Songino Array**	**77.46**	**326**	LR	LR	02 51 28.3	
	comp=Z,66nm,21.4s,baz=28,slow=35						
ZALV	**Zalesovo Beam**	**79.10**	**341**	LR	LR	02 54 21.8	
	comp=Z,31nm,21.5s,baz=70,slow=36						
ARU	**Arti**	**80.33**	**357**	LR	LR	02 55 42.2	
	comp=Z,30nm,20.5s,baz=42,slow=37						
OBN	**Obninsk**	**80.84**	**9**	LR	LR	02 55 08.9	
	comp=Z,45nm,18.8s,baz=274,slow=36						
GERES	**GERESS Array B**	**81.93**	**25**	LR	LR	02 58 21.9	
	comp=Z,40nm,18.6s,baz=312,slow=38						
AKASG	**Malin Array Be**	**84.02**	**15**	LR	LR	02 56 59.8	
	comp=Z,42nm,18.7s,baz=285,slow=36						
KEST	**Kesra**	**91.88**	**34**	LR	LR	03 00 18.6	
	comp=Z,64nm,18.6s,baz=244,slow=35						
GEYT	**Alibeck**	**98.81**	**356**	LR	LR	03 09 50.4	
	comp=Z,40nm,18.2s,baz=55,slow=39						

ISCJB ***01*** *02:24:07.7±1.1, 32.°77N±0.°06×35.°62E±0.°09, h19km±8km, Error ellipse: s-maj=14.6km s-min=7.3km az=29.6*
NSSC ***01*** *02:24:07.8±1.3, 32.°85N×35.°69E, h0km±8km, MD0.4, ML1.1*
JSO ***01*** *02:24:07.9±0.3, 32.°79N×35.°64E, h18km±9km, MD2.9*
CSEM ***01*** *02:24:07.7±0.2, 32.°79N×35.°66E, h16km±1km, ML1.1, Error ellipse: s-maj=6.2km s-min=3.8km az=116.0*
ISC 01 02:24:07.8±1.3, 32.°79N±0.°04×35.°66E±0.°06, h18km±4km, n12, σ0°74/21, Dead Sea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHMJ	**Saham**	**0.11**	**125**	*e*P	**Pg**	**02 24 11.9**	**+0.2**
SHMJ				*e*S	**Sg**	**02 24 15.0**	**+0.8**
TCHB	**Talchebab**	**0.29**	**114**	*e*P	**Pg**	**02 24 14.4**	**+0.2**
TCHB				*e*S	**Sb**	**02 24 19.4**	**+0.5**
TCHB				AML	AML	02 24 19.8	
	comp=E,51nm,0.3s						
TCHB				AML	AML	02 24 19.8	
	comp=N,55nm,0.2s						
TCHB	**Talchebab**	**0.29**	**114**	*e*P	**Pg**	**02 24 14.4**	**+0.2**
	SNR=91						
TCHB				*e*S	**Sb**	**02 24 19.4**	**+0.5**
	comp=N,55nm,0.2s,SNR=59						
QRNJ	**Al-Qirein**	**0.46**	**189**	*e*P	**Pg**	**02 24 16.9**	**-0.3**
AJLJ	**Ajlon**	**0.47**	**173**	*e*P	**Pb**	**02 24 17.3**	**-0.3**
TOTH	**TOTAH**	**0.86**	**48**	*e*P	**Pg**	**02 24 23.8**	**-0.9**
TOTH				*e*S	**Sg**	**02 24 35.5**	**-0.6**
TOTH				AML	AML	02 24 40.1	
	comp=E,6.3nm,0.2s						
TOTH				AML	AML	02 24 41.2	
	comp=N,4.7nm,0.4s						
TOTH	**TOTAH**	**0.86**	**48**	*e*P	**Pg**	**02 24 23.8**	**-0.9**
	SNR=75						
TOTH				*e*S	**Sg**	**02 24 35.5**	**-0.6**
	comp=N,4.7nm,0.4s,SNR=59						
SALA	**Sala**	**0.91**	**95**	*e*P	**Pg**	**02 24 24.9**	**-0.7**
SALA				*e*S	**Sg**	**02 24 37.5**	**-0.2**
SALA				AML	AML	02 24 38.6	
	comp=E,1.4nm,0.4s						
SALA				AML	AML	02 24

326nm,0.5s
AAK Ala-Archa 4.61 4 P Pn 02 32 42.1 +1.3
12nm,0.3s,baz=143,slow=6.7,SNR=78
AAK S Sn 02 33 32.9 -1.1
6.5nm,0.3s,baz=143,slow=23,SNR=9.9
AAK Ala-Archa 4.61 4 P Pn 02 32 42.0 +1.3
47nm,0.7s
AAK ⇓S Sn 02 33 32.7 -1.4
113nm,0.7s
BOOM Boomskoye usch 4.68 17⇑*iP* Pn 02 32 42.8 +1.1
baz=20
BOOM ⇑*iS* Sn 02 33 33.8 -1.9
baz=20
MRKS Merke 4.74 353 *eP* Pn 02 32 43.8 +1.3
140nm,0.4s
MRKS *eS* Sn 02 33 34.3 -2.9
625nm,0.4s
FRU1 Bishkek 4.79 5⇓*iP* Pn 02 32 44.9 +1.8
baz=6.0
FRU1 ⇓*iS* Sn 02 33 35.5 -2.7
baz=6.0
TKM2 Tokmak 2 5.02 13 ⇑P Pn 02 32 47.3 +1.0
113nm,0.5s
TKM2 ⇑S Sn 02 33 42.4 -1.5
89nm,0.7s
IUG Iuzhnay 5.13 324 *eP* Pn 02 32 49.2 +1.6
618nm,0.3s
IUG *eS* Sn 02 33 43.6 -2.7
2µm,0.5s
KST Kastek 5.21 16 *eP* Pn 02 32 50.0 +1.3
44nm,0.5s
KST *eS* Sn 02 33 44.8 -3.4
137nm,0.5s
DGS Degeres 5.36 14 *eP* Pn 02 32 52.5 +1.8
IZV Izvestkoviy 5.36 21 *eP* Pn 02 32 52.7 +1.9
MTBS Maitube 5.40 19 *eP* Pn 02 32 52.3 +1.1
54nm,0.3s
MTBS *eS* Sn 02 33 48.9 -3.8
30nm,0.4s
TNSS Tian-Shan 5.46 23 *eP* Pn 02 32 54.0 +1.7
THW Thamme Wali 5.56 200 P Pn 02 32 56.2 +2.8
MDOK Medeo 5.61 23 ⇓P Pn 02 32 54.4 +0.4
MDOK Medeo 5.61 23 *eP* Pn 02 32 54.6 +0.6
31nm,0.6s
MDOK *eS* Sn 02 33 52.9 -4.8
29nm,0.7s
KK31 Karatay Array 5.73 333 P Pn 02 32 56.0 +0.5
baz=139,slow=13
KK31 S Sn 02 33 56.2 -4.2
185nm,0.6s,baz=154,slow=26,SNR=19
THN Thein Dam 5.76 166 *eP* Pn 02 32 55.6 -0.4
THN *eS* Sn 02 33 56.4 -4.8
KTBS Karatobe 6.01 19 *eP* Pn 02 33 00.6 +1.3
KUU Kurty 6.10 16 *eP* Pn 02 33 00.2 -0.2
41nm,0.5s
KUU *eS* Sn 02 34 02.9 -6.4
18nm,0.8s
SARP Sargodha 6.21 191 P Pn 02 33 03.9 +2.0
CHKK Chushkaly 6.22 20 *eP* Pn 02 33 03.1 +1.1
KURS Kuram 6.28 29 *eP* Pn 02 33 04.8 +2.0
JWA Jwalamukhi 6.44 162 *eP* Pn 02 33 06.0 +1.0
JWA *eS* Sn 02 34 13.0 -4.5
PDGK Podgornoye 6.71 36 ⇑P Pn 02 33 08.2 -0.4
28nm,0.6s
SDNR Sundarnagar 6.95 159 *eP* Pn 02 33 13.0 +1.1
SDNR *eS* Sn 02 34 24.0 -6.0
SMLA Simla 7.36 159 *eP* Pn 02 33 19.3 +2.0
SMLA *eS* Sn 02 34 34.4 -5.2
SMLA IAML 02 34 39.7
comp=N,496nm,0.2s
SMLA IAML 02 34 40.2
comp=Z,209nm,0.2s
DDI Dehra Dun 8.38 155 *eP* Pn 02 33 32.0 +1.0
DDI *eS* Sn 02 34 58.9 -5.5
NDI New Delhi 9.70 163 *eP* Pn 02 33 41.0 -7.5
NDI *eS* Sn 02 35 21.0 -15
KHET Khetri 10.05 171 *eP* Pn 02 33 52.4 -0.7
KHET *eS* Sn 02 35 33.8 -11
KHET IAML 02 35 42.0
comp=N,66nm,0.7s
KHET IAML 02 35 43.5
comp=E,86nm,0.3s
KUDL Kundal 10.08 168 *eP* Pn 02 33 52.8 -0.7
KUDL *eS* Sn 02 35 37.3 -7.8
KUDL IAML 02 35 44.3
comp=N,83nm,0.6s
KUDL IAML 02 35 45.4
comp=E,86nm,0.8s
SONA Sohna 10.09 165 *eS* Sn 02 35 38.3 -7.1
SONA IAML 02 35 45.6
comp=N,110nm,0.3s
SONA IAML 02 35 45.7
comp=E,134nm,0.4s
MK31 Makanchi Array 10.66 32 ⇓P Pn 02 34 00.1 -0.8
comp=E,19nm,0.8s,baz=208,slow=13,SNR=65
PYUN Piuthan 12.42 140 *eP* Pn 02 34 23.4 -1.0
comp=E,129nm,0.3s
GEYT Alibeck 12.57 274 P Pn 02 34 24.7 -1.3
comp=E,4.2nm,0.3s,baz=98,slow=11,SNR=23
GEYT S Sn 02 36 37.9 -7.1
comp=E,6.5nm,0.3s,baz=92,slow=22,SNR=8.2
KURBB Kurchatov Arra 12.98 13 P Pn 02 34 28.6 -2.5
comp=E,0.1nm,0.3s,baz=201,slow=12,SNR=9.1
KURBB Kurchatov Arra 12.98 13 ⇓P Pn 02 34 28.2 -2.9
comp=E,5.2nm,0.9s
KOLN Koldanda 13.00 139 *eP* Pn 02 34 31.1 -0.7
comp=E,124nm,0.4s
KURK Kurchatov 13.09 13 ⇓P Pn 02 34 29.0 -3.4
comp=E,5.6nm,0.9s
GKN Gorkha 13.38 135 *eP* Pn 02 34 35.7 -0.8
comp=E,254nm,0.4s
KKN Kakani 13.90 134 *eP* Pn 02 34 41.8 -1.4
comp=E,88nm,0.5s
DMN Daman 13.94 135 *eP* Pn 02 34 42.8 -1.0
comp=E,55nm,0.3s
PKIN Phulchoki 14.13 134 *eP* Pn 02 34 45.6 -0.6
comp=E,39nm,0.3s
PKI Pulchoki 14.14 134 *eP* Pn 02 34 45.5 -0.9
comp=E,80nm,0.3s
GUN Gumba 14.15 132 *eP* Pn 02 34 45.4 -1.2
comp=E,77nm,0.4s
JIRN Jiri 14.52 132 *eP* Pn 02 34 50.2 -1.0
comp=E,711nm,0.3s
BHPL Bhopal 15.03 168 *eP* P 02 35 00.2 +1.2
BHPL *ex* x 02 37 33.4
AB31 Akbulak array 15.13 322 ⇓P Pn 02 34 56.8 -1.4
comp=E,4.4nm,0.5s,baz=128,slow=13,SNR=137
AB31 ⇑S Sn 02 37 34.8 -12
comp=E,5.7nm,0.6s,baz=137,slow=24,SNR=3.8
BVAR Borovoye Array 15.20 352 P Pn 02 34 58.1 -0.9
comp=E,0.4nm,0.3s,baz=159,slow=8.7,SNR=11
RAMN Ramite 15.30 133 *eP* Pn 02 35 00.1 -0.6
comp=E,244nm,0.6s
TAPN Taplejung 15.66 129 *eP* Pn 02 35 04.1 -1.2
comp=E,63nm,0.4s
JBP Jabalpur 15.68 159⇓*iP* P 02 35 09.9 +3.9
JBP AMB AMB 02 35 10.1
comp=Z,13nm,0.7s
JBP *ex* x 02 37 47.8
ODAN Odare 15.83 131 *eP* Pn 02 35 06.4 -0.8
comp=Z,140nm,0.5s
LSA Lhasa 16.45 115 P P 02 35 18.1 +3.1
LSA pmax pmax
comp=Z,5.0nm,0.8s
AKTO Aktyubinsk 16.85 322 P P 02 35 19.2 +0.5
comp=Z,1.0nm,0.3s,baz=116,slow=16,SNR=10
AKTO S S 02 38 18.9 -7.4
comp=Z,0.6nm,0.3s,baz=162,slow=23,SNR=6.7
AKTO Aktyubinsk 16.85 322 ⇓P P 02 35 17.9 -0.8
comp=Z,3.9nm,0.6s
AKTO ⇑S S 02 38 19.3 -6.9
ZALV Zalesovo Beam 17.55 22 P P 02 35 26.8 +0.4
comp=Z,1.7nm,0.3s,baz=217,slow=11,SNR=36
ZALV pP pP 02 35 57.1 +4.7
comp=Z,0.5nm,0.3s,baz=217,slow=11,SNR=2.7
SHL Shillong 19.57 124 *ex* P 02 35 49.0 +0.2
WSAR Wadi Sarin 19.80 226 P Pn 02 35 54.6 +0.4
comp=Z,1.9nm,0.3s,baz=66,slow=6.8,SNR=24
GTA Gaotai 20.14 78 ⇑P P 02 35 55.2 +0.4
GTA pmax pmax
comp=Z,11nm,1.8s
SONM Songino Array 25.46 57 P P 02 36 46.5 +0.1
comp=Z,1.4nm,0.6s,baz=254,slow=10,SNR=9.4
SONM pP pP 02 37 24.1 +6.1
comp=Z,2.8nm,0.9s,baz=257,slow=11,SNR=5.0
ASF Jabal al Asfar 30.80 270 LR LR 02 52 17.1
comp=Z,53nm,20.1s,baz=326,slow=40

BRTR Keskin Array B 31.31 286 P P 02 37 40.5 +2.2
comp=Z,1.8nm,0.8s,baz=96,slow=8.4,SNR=12
FINES FINESS Array B 37.61 324 P P 02 38 32.7 +0.7
comp=Z,0.8nm,0.3s,baz=118,slow=9.9,SNR=12
ARCES ARCESS Array B 40.68 336 P P 02 38 58.3 +0.8
comp=E,1.6nm,0.5s,baz=109,slow=9.1,SNR=10
KLR Kul'dur 42.27 55 P P 02 39 10.6 -0.1
comp=Z,1.4nm,0.3s,baz=293,slow=6.5,SNR=8.0
GERES GERESS Array B 44.05 304 P P 02 39 26.1 +1.1
comp=Z,0.2nm,0.4s,baz=60,slow=8.1,SNR=4.3
NB2 NORSAR Subarra 44.64 322 P P 02 39 29.7 +0.2
comp=Z,0.8nm,0.6s,baz=92,slow=8.6
NOA NORSAR Array B 44.64 322 P P 02 39 29.9 +0.5
comp=Z,1.2nm,0.6s,baz=91,slow=7.9,SNR=4.7
JNU Nakatsue 45.88 78 P P 02 39 38.6 -1.0
comp=Z,8.0nm,0.8s,baz=214,slow=11,SNR=4.4
KEST Kesra 50.85 288 P P 02 40 19.4 +1.7
comp=Z,1.9nm,0.6s,baz=256,slow=1.5,SNR=7.3
ESDC Sonseca Array 58.88 298 P P 02 41 16.1 +0.8
comp=Z,0.5nm,0.5s,baz=57,slow=7.0,SNR=7.7
TORD Torodi Ar. Bea 68.17 270 P P 02 42 16.6 +0.1
comp=Z,6.3nm,0.5s,baz=48,slow=5.5,SNR=162
ILAR Eielson Array 72.62 17 P P 02 42 42.7 -0.1
comp=Z,0.4nm,0.8s,baz=266,slow=1.8,SNR=4.1
ILAR pP **pP 02 43 25.3 +5.6**
comp=Z,0.4nm,0.7s,baz=318,slow=4.3,SNR=3.0
DBIC Dimbokro 77.19 268 P P 02 43 10.3 +0.6
comp=Z,2.2nm,0.6s,baz=24,slow=8.0,SNR=7.3
KIC Kosan Boka 77.28 268 *eP* P 02 43 11.0 +0.7
comp=Z,74nm,1.6s
TIC Toumodi 77.33 269 *eP* P 02 43 11.1 +0.5
LIC Lamto 77.59 268 *eP* P 02 43 12.5 +0.5
comp=Z,79nm,1.8s
BOSA Boshof 80.50 222 P P 02 43 28.1 +0.4
comp=Z,3.3nm,1.1s,baz=334,slow=3.1,SNR=4.2
WRA Warramunga Arr 80.79 124 P P 02 43 28.8 -0.5
comp=Z,0.9nm,0.7s,baz=326,slow=5.1,SNR=10
ASAR Alice Springs 83.19 127 P P 02 43 41.5 -0.2
comp=Z,0.3nm,0.6s,baz=331,slow=5.4,SNR=3.8

*CSEM **01** 02:50:29.6±0.1,46.31N×8.54E,h5km,ML2.8/35,Error ellipse: s-maj=2.0km s-min=1.4km az=150.0*
*ISCJB **01** 02:50:29.0±0.2,46.34N±0.01×8.54E±0.02,h9km±3km, Error ellipse: s-maj=2.3km s-min=1.7km az=155.9*
*ROM **01** 02:50:30.2±0.1,46.34N×8.53E,h11km±1km,Md2.6/14, Ml2.1/15,Error ellipse: s-maj=2.3km s-min=0.9km az=131.0*
*GEN **01** 02:50:30.2,46.34N×8.52E,h7km,ML2.1*
*LDG **01** 02:50:30.4±0.1,46.32N×8.56E,h9km,Md2.7/2,Ml2.6/20, Error ellipse: s-maj=1.7km s-min=1.2km az=147.0*
*STR **01** 02:50:32.1±0.4,46.41N×8.48E,h10km,Ml2.4,Error ellipse: s-maj=0.0km s-min=0.0km az=0.0*

ISC 01 02:50:30.5±0.8, 46.33N±0.01×8.53E±0.01, h15km±5km, n131,σ1§18/216, 14C-9D, Switzerland

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
FUSIO	**Fusio**	**0.15**	**37**	Pg		**Pg**	**Pg**	**02 50 34.1**	**-0.5**
FUSIO				Sg		**Sg**	**Sg**	**02 50 36.4**	**-0.9**
	731nm,0.2s								
FUSIO	**Fusio**	**0.15**	**37**	Pg		**Pg**	**Pg**	**02 50 34.1**	**-0.5**
FUSIO				Sg		**Sg**	**Sg**	**02 50 36.4**	**-0.9**
	731nm,0.2s								
RITOM	**Lago Ritom (SB**	**0.23**	**27**	⇑*iPg*		**Pg**		**02 50 35.3**	**-0.4**
	2µm,0.1s								
RITOM				*i* Sg		**Sg**		**02 50 38.4**	**-0.9**
	2µm,0.1s								
TONGO	**Tortengo (Faid**	**0.24**	**49**	⇑*iPg*		**Pg**		**02 50 35.4**	**-0.4**
	1µm,0.1s								
TONGO				*e*Sg		**Sg**		**02 50 38.7**	**-0.7**
	1µm,0.1s								
FIESA	**Fiescheralp**	**0.31**	**290**	⇓*iPg*		**Pg**		**02 50 37.1**	**0.0**
	280nm,0.2s								
CURA	**Stauanlage Cun**	**0.33**	**22**	⇑*iPg*		**Pb**		**02 50 38.5**	**+0.4**
	805nm,0.1s								
SIMPL	**Simplonpass**	**0.37**	**255**	⇓*iPg*		**Pg**		**02 50 37.9**	**-0.1**
	1µm,0.2s								
SIMPL				*i* Sg		**Sg**		**02 50 42.7**	**-0.5**
	1µm,0.2s								
CUNA	**Curaglia**	**0.40**	**33**	⇑*iPg*		**Pg**		**02 50 37.1**	**-1.6**
	1µm,0.3s								
MMK	**Mattmark**	**0.48**	**234**	Pg		**Pg**		**02 50 39.8**	**-0.4**
MMK				Sg		**Sg**		**02 50 46.3**	**-0.4**
	113nm,0.3s								
MMK	**Mattmark**	**0.48**	**234**	Pg		**Pg**		**02 50 39.8**	**-0.4**
MMK				Sg		**Sg**		**02 50 46.3**	**-0.4**
	113nm,0.3s								
HASLI	**Hasliberg/Brie**	**0.50**	**329**	⇓*iPg*		**Pg**		**02 50 39.8**	**-0.6**
	616nm,0.2s								
LAUCH	**Lauchernalp**	**0.53**	**279**	⇓*iPg*		**Pg**		**02 50 41.0**	**-0.1**
	1µm,0.2s								
LAUCH				*e*Sg		**Sg**		**02 50 48.2**	**0.0**
	1µm,0.2s								
BNALP	**Bannalp**	**0.54**	**352**	Pg		**Pb**		**02 50 41.3**	**-0.5**
BNALP				Sg		**Sg**		**02 50 48.1**	**-0.4**
	131nm,0.3s								
BNALP	**Bannalp**	**0.54**	**352**	⇓*iPg*		**Pg**		**02 50 41.0**	**-0.3**
	531nm,0.4s								
BNALP				Sg		**Sg**		**02 50 48.1**	**-0.4**
	131nm,0.3s								
MUGIO	**Muggio**	**0.54**	**139**	Pg		**Pg**		**02 50 41.1**	**-0.2**
MUGIO				Sg		**Sg**		**02 50 48.3**	**-0.2**
	131nm,0.4s								
MUGIO	**Muggio**	**0.54**	**139**	⇓*iPg*		**Pg**		**02 50 41.0**	**-0.2**
	446nm,0.3s								
MUGIO				*e*Sg		**Sg**		**02 50 47.9**	**-0.6**
	446nm,0.3s								
TUE	**Stuetta**	**0.58**	**76**	Pg		**Pg**		**02 50 41.7**	**-0.3**
TUE				Sg		**Sg**		**02 50 48.8**	**-1.0**
	238nm,0.2s								
TUE	**Stuetta**	**0.58**	**76**	⇑*iPg*		**Pg**		**02 50 41.7**	**-0.3**
	964nm,0.3s								
TUE				Sg		**Sg**		**02 50 48.8**	**-1.0**
	238nm,0.2s								
LKBD2	**Leukerbad 2**	**0.61**	**274**	⇓*iPg*		**Pg**		**02 50 42.5**	**-0.1**
LKBD	**Leukerbad**	**0.63**	**275**	⇓*iPg*		**Pb**		**02 50 42.9**	**-0.3**
	170nm,0.4s								
PANIX	**Pigniu (Panix)**	**0.64**	**39**	⇑*iPg*		**Pg**		**02 50 42.5**	**-0.5**
	56nm,0.1s								
MUO	**Muotathal**	**0.64**	**7**	⇑*iPg*		**Pg**		**02 50 42.7**	**-0.4**
	250nm,0.6s								
MUO				*e*Sg		**Sg**		**02 50 50.6**	**-1.0**
	250nm,0.6s								
SATI	**Passo dei Sala**	**0.65**	**225**	Pg		**Pg**		**02 50 42.9**	**-0.4**
	71nm,0.3s								
SATI	**Passo dei Sala**	**0.65**	**225**	P		**Pg**		**02 50 42.9**	**-0.4**
SATI				S		**Sg**		**02 50 51.5**	**-0.4**
VANNI	**Vissoie, Val d**	**0.66**	**260**	⇑*iPg*		**Pg**		**02 50 43.2**	**-0.2**
	322nm,0.3s								
VANNI				*e*Sg		**Sg**		**02 50 51.5**	**-0.6**
	322nm,0.3s								
WIMIS	**Wimmis**	**0.71**	**298**	⇓*iPg*		**Pb**		**02 50 44.4**	**-0.1**
	129nm,0.2s								
DIX	**Grande Dixence**	**0.82**	**252**	Pg		**Pg**		**02 50 45.9**	**-0.5**
DIX				Sg		**Sg**		**02 50 56.3**	**-0.9**
DIX	**Grande Dixence**	**0.82**	**252**	Pg		**Pg**		**02 50 45.9**	**-0.5**
DIX				Sg		**Sg**		**02 50 56.3**	**-0.9**
PLONS	**Plons/SG**	**0.93**	**39**	Pg		**Pg**		**02 50 47.9**	**-0.5**
PLONS				Sg		**Sg**		**02 50 59.8**	**-0.8**
	27nm,0.3s								
PLONS	**Plons/SG**	**0.93**	**39**	⇑*iPg*		**Pg**		**02 50 47.7**	**-0.7**
	147nm,0.2s								
TRAV	**Traversella**	**0.99**	**214**	Pg		**Pg**		**02 50 47.9**	**-1.6**
	72nm,0.2s								
TRAV	**Traversella**	**0.99**	**214**	P		**Pg**		**02 50 47.6**	**-1.9**
TRAV	**Traversella**	**0.99**	**214**	Pg		**Pg**		**02 50 47.9**	**-1.6**
	72nm,0.2s								
GRYON	**Gryon**	**0.99**	**266**	⇑*iPg*		**Pg**		**02 50 49.3**	**-0.3**
	22nm,0.7s								
DAVOX	**Davos/Dischmat**	**1.03**	**64**	Pg		**Pg**		**02 50 49.6**	**-0.9**
DAVOX				Sg		**Sg**		**02 51 02.6**	**-1.4**
	21nm,0.4s								
DAVOX	**Davos/Dischmat**	**1.03**	**64**	⇑*iPg*		**Pg**		**02 50 49.6**	**-0.9**
	89nm,0.4s								
DAVOX				Sg		**Sg**		**02 51 02.6**	**-1.4**
	21nm,0.4s								
BERNI	**Berninapass**	**1.04**	**85**	Pg		**Pg**		**02 50 49.7**	**-0.8**
BERNI				Sg		**Sg**		**02 51 03.1**	**-1.0**
	32nm,0.3s								
BERNI	**Berninapass**	**1.04**	**85**	*e*Pg		**Pg**		**02 50 49.6**	**-0.9**
	129nm,0.2s								
BERNI				Sg		**Sg**		**02 51 03.1**	**-1.0**
	32nm,0.3s								
ZUR	**Degenried**	**1.04**	**2**	⇑*iPg*		**Pn**		**02 50 50.6**	**+0.1**

280nm,0.4s
WILA Wila 1.11 13⇑*iPg* Pn 02 50 52.0 +0.5
308nm,0.5s
MRGE Morge 1.17 242 Pg Pg 02 50 52.0 -1.0
25nm,0.5s
MRGE Morge 1.17 242 Pg Pg 02 50 52.0 -1.0
25nm,0.5s
LIENZ Kamor/St.Gall 1.17 34⇑*iPg* Pb 02 50 52.6 +0.2
98nm,0.4s
FUORN Ofenpass-Fuorn 1.23 76 Pg Pb 02 50 53.3 -0.3
FUORN Sg **Sg 02 51 09.1 -1.2**
25nm,0.6s
FUORN Ofenpass-Fuorn 1.23 76 Pg Pb 02 50 53.3 -0.3
FUORN Sg **Sg 02 51 09.1 -1.2**
25nm,0.6s
BRMO Bormio 1.28 83 Pg Pn 02 50 54.3 +0.4
BRMO Sg **Sb 02 51 09.9 -0.8**
13nm,0.3s
BRMO Bormio 1.28 83 Pg Pn 02 50 54.3 +0.4
BRMO Sg **Sb 02 51 09.9 -0.8**
13nm,0.3s
LSD Lago del Serru 1.31 229 Pg Pn 02 50 54.6 +0.2
21nm,0.4s
LSD Lago del Serru 1.31 229 P Pn 02 50 54.4 0.0
DAVA Damuels 1.33 44 *ePg* Pg 02 50 55.5 -0.6
2.3nm,0.1s
DAVA *eSg* Sn 02 51 13.6 +1.5
15nm,0.3s
DAVA Damuels 1.33 44 Pg Pg 02 50 55.5 -0.6
2.3nm,0.1s
DAVA Sg Sn 02 51 13.6 +1.5
15nm,0.3s
MABI Malga Bissina 1.41 101 Pg Pb 02 50 56.6 +0.1
MABI Sg **Sb 02 51 13.9 -0.4**
24nm,0.6s
MABI Malga Bissina 1.41 101 Pg Pb 02 50 56.6 +0.1
MABI Sg **Sb 02 51 13.9 -0.4**
24nm,0.6s
RSP Reno Superiore 1.48 217 P Pn 02 50 56.3 -0.3
LPG La Plagne 1.50 237 *eP* Pn 02 50 57.8 +0.8
LPG La Plagne 1.50 237 *ePg* Pg 02 50 58.8 -0.5
LPG *eSg* **Sg 02 51 18.4 -0.3**
7.4nm,0.2s
LPG La Plagne 1.50 237 *eP* Pn 02 50 57.8 +0.8
LPG La Plagne 1.50 237 *ePg* Pg 02 50 58.8 -0.5
LPG *eSg* **Sg 02 51 18.4 -0.3**
3.7nm,0.2s
LPL La Plagne 1.50 238 *eP* Pn 02 50 57.6 +0.7
LPL La Plagne 1.50 238 *ePg* Pg 02 50 58.9 -0.4
LPL *eSg* **Sg 02 51 18.6 -0.1**
18nm,0.4s
LPL La Plagne 1.50 238 *eP* Pn 02 50 57.6 +0.7
LPL La Plagne 1.50 238 *ePg* Pg 02 50 58.9 -0.4
LPL *eSg* **Sg 02 51 18.6 -0.1**
8.9nm,0.4s
LOMF Lomont 1.55 312 Pg Pb 02 50 59.3 +0.4
LOMF Sg **Sg 02 51 20.6 +0.2**
LOMF Lomont 1.55 312 Pg Pb 02 50 59.3 +0.4
LOMF Sg **Sg 02 51 20.6 +0.2**
FELD Feldberg im Sc 1.58 347 Pg Pg 02 51 00.8 -0.1
FELD Sg **Sg 02 51 21.5 -0.1**
FETA Feichten 1.66 65 Pg Pb 02 51 01.2 +0.3
1.6nm,0.2s
FETA Sg **Sb 02 51 22.3 +0.6**
1.8nm,0.2s
FETA Feichten 1.66 65 Pg Pb 02 51 01.2 +0.3
1.6nm,0.2s
FETA Sg **Sb 02 51 22.3 +0.6**
1.8nm,0.2s
CABF La Chapelle 1.71 280 *ePg* Pg 02 51 02.8 -0.5
CABF *eSg* **Sg 02 51 25.7 +0.2**
23nm,0.4s
CABF La Chapelle 1.71 280 *ePg* Pg 02 51 02.8 -0.5
CABF *eSg* **Sg 02 51 25.7 +0.2**
11nm,0.4s
SPAK Spaichingen-Ko 1.78 6 Pg Pg 02 51 04.1 -0.5
SPAK Sg **Sg 02 51 27.8 +0.1**
PCP Piancastagn 1.79 180 P Pn 02 51 00.3 -0.5
PCP S **Sn 02 51 21.5 -1.8**
MOF Molkenrain 1.79 328 Pg Pg 02 51 04.8 -0.1
MOF Sg **Sg 02 51 27.6 -0.6**
MOF Molkenrain 1.79 328 Pg Pg 02 51 04.8 -0.1
MOF Sg **Sg 02 51 27.6 -0.6**
RRL Rocca Remolon 1.87 221 P Pn 02 51 03.6 +1.6
RRL S **Sn 02 51 25.8 +0.4**
HINF Hinteralfeld 1.88 323 *eP* Pn 02 51 03.1 +1.1
HINF Hinteralfeld 1.88 323 *ePg* Pg 02 51 06.2 -0.2
HINF *eSn* **Sn 02 51 24.4 -1.0**
HINF *eSg* **Sg 02 51 30.3 -0.5**
12nm,0.2s
HINF Hinteralfeld 1.88 323 *eP* Pn 02 51 03.1 +1.1
HINF Hinteralfeld 1.88 323 *ePg* Pg 02 51 06.2 -0.2
HINF *eSn* **Sn 02 51 24.4 -1.0**
HINF *eSg* **Sg 02 51 30.3 -0.5**
6.1nm,0.2s
RETA Reutte 1.92 52 *ePg* Pg 02 51 06.6 -0.6
1.5nm,0.3s
RETA *eSg* **Sb 02 51 30.2 +1.3**
5.8nm,0.4s
RETA Reutte 1.92 52 Pg Pg 02 51 06.6 -0.6
1.5nm,0.3s
RETA Sg **Sb 02 51 30.2 +1.3**
5.8nm,0.4s
MOTA Moosalm 2.04 59 Pg Pg 02 51 08.9 -0.6
0.7nm,0.1s
MOTA Moosalm 2.04 59 Pg Pg 02 51 08.9 -0.6
0.7nm,0.1s
ECH Echery 2.10 334 Pg Pg 02 51 09.7 -1.1
ECH Sg **Sg 02 51 38.0 -0.1**
ECH Echery 2.10 334 Pg Pg 02 51 09.7 -1.1
ECH Sg **Sg 02 51 38.0 -0.1**
HAU Haudompre 2.24 319 *eP* Pn 02 51 08.4 +1.4
HAU Haudompre 2.24 319 *ePg* Pg 02 51 12.3 -1.1
HAU *eSn* **Sn 02 51 34.3 0.0**
HAU *eSg* **Sg 02 51 41.5 -0.9**
12nm,0.3s
HAU Haudompre 2.24 319 *eP* Pn 02 51 08.4 +1.4
HAU Haudompre 2.24 319 *ePg* Pg 02 51 12.3 -1.1
HAU *eSn* **Sn 02 51 34.3 0.0**
HAU *eSg* **Sg 02 51 41.5 -0.9**
6.1nm,0.3s
CDF Champ du Feu 2.25 338 *ePn* Pn 02 51 07.9 +0.8
CDF Champ du Feu 2.25 338 *ePg* Pg 02 51 13.1 -0.5
CDF *eSg* **Sg 02 51 42.0 -0.7**
6.0nm,0.3s
CDF Champ du Feu 2.25 338 *ePn* Pn 02 51 07.9 +0.8
CDF Champ du Feu 2.25 338 *ePg* Pg 02 51 13.1 -0.5
CDF *eSg* **Sg 02 51 42.0 -0.7**
3.0nm,0.3s
ORIF Oris-en-Rattie 2.34 234 *ePg* Pb 02 51 13.5 +1.2
ORIF *eSg* **Sg 02 51 44.1 -1.4**
8.8nm,0.6s
ORIF Oris-en-Rattie 2.34 234 *ePg* Pb 02 51 13.5 +1.2
ORIF *eSg* **Sg 02 51 44.1 -1.4**
4.4nm,0.6s
THEF They Montfort 2.57 319 Pg Pg 02 51 18.9 -0.7
THEF They Montfort 2.57 319 Pg Pg 02 51 18.9 -0.7
SBF Sospel 2.59 198 *ePg* Pb 02 51 17.7 +1.1
SBF *eSg* **Sb 02 51 51.0 +2.8**
6.3nm,0.5s
SBF Sospel 2.59 198 *ePg* Pb 02 51 17.7 +1.1
SBF *eSg* **Sb 02 51 51.0 +2.8**
3.2nm,0.5s
ABTA Abfaltersbach 2.78 80 Pg Pb 02 51 20.8 +1.0
0.9nm,0.4s
ABTA Sg **Sg 02 51 59.9 +0.1**
0.9nm,0.3s
ABTA Abfaltersbach 2.78 80 Pg Pb 02 51 20.8 +1.0
0.9nm,0.4s
ABTA Sg **Sg 02 51 59.9 +0.1**
0.9nm,0.3s
PAGF Fort de Pagny 2.93 320 *eP* Pn 02 51 18.3 +1.9
PAGF Fort de Pagny 2.93 320 *ePg* Pg 02 51 25.2 -1.3
PAGF *eSg* **Sg 02 52 03.1 -1.3**
0.8nm,0.3s
PAGF Fort de Pagny 2.93 320 *eP* Pn 02 51 18.3 +1.9
PAGF Fort de Pagny 2.93 320 *ePg* Pg 02 51 25.2 -1.3
PAGF *eSg* **Sg 02 52 03.1 -1.3**
0.4nm,0.3s
SFTF Sexfontaines 3.03 310 *eP* Pn 02 51 19.9 +2.1
SFTF Sexfontaines 3.03 310 *eP* Pn 02 51 19.9 +2.1
FRF La Foret Royal 3.08 206 *ePn* Pb 02 51 27.1 +2.3
FRF *eSg* **Sg 02 52 06.8 -2.5**
1.8nm,0.3s
VIVF Saint-Julien-l 3.08 243 *eP* Pn 02 51 20.9 +2.3

VIVF	**Saint-Julien-l**	**3.08**	**243**	*e*Pg	**Pg**	**02 51 28.6**	**-0.9**
VIVF				*e*Sg	**Sg**	**02 52 07.9**	**-1.6**
	3.2nm,0.3s						
VIVF	**Saint-Julien-l**	**3.08**	**243**	*e*P	**Pn**	**02 51 20.9**	**+2.3**
VIVF	**Saint-Julien-l**	**3.08**	**243**	*e*Pg	**Pg**	**02 51 28.6**	**-0.9**
VIVF				*e*Sg	**Sg**	**02 52 07.9**	**-1.6**
	1.6nm,0.3s						
MEZF	**Maizieres J'vi**	**3.21**	**314**	*e*Sg	**Sg**	**02 52 12.8**	**-0.6**
	4.0nm,0.3s						
MEZF	**Maizieres J'vi**	**3.21**	**314**	*e*Sg	**Sg**	**02 52 12.8**	**-0.6**
	2.0nm,0.3s						
SMF	**Signal de Mont**	**3.25**	**277**	*e*Pn	**Pn**	**02 51 20.9**	**0.0**
SMF	**Signal de Mont**	**3.25**	**277**	*e*Pg	**Pg**	**02 51 31.3**	**-1.5**
SMF				*e*Sg	**Sg**	**02 52 12.8**	**-2.1**
	3.7nm,0.2s						
SMF	**Signal de Mont**	**3.25**	**277**	*e*Pn	**Pn**	**02 51 20.9**	**0.0**
SMF	**Signal de Mont**	**3.25**	**277**	*e*Pg	**Pg**	**02 51 31.3**	**-1.5**
SMF				*e*Sg	**Sg**	**02 52 12.8**	**-2.1**
	1.9nm,0.2s						
LOR	**Lormes**	**3.34**	**288**	*e*Pn	**Pn**	**02 51 22.3**	**+0.2**
LOR	**Lormes**	**3.34**	**288**	*e*Pg	**Pg**	**02 51 33.1**	**-1.4**
LOR				*e*Sg	**Sg**	**02 52 14.5**	**-3.2**
	3.8nm,0.2s						
LOR	**Lormes**	**3.34**	**288**	*e*Pn	**Pn**	**02 51 22.3**	**+0.2**
LOR	**Lormes**	**3.34**	**288**	*e*Pg	**Pg**	**02 51 33.1**	**-1.4**
LOR				*e*Sg	**Sg**	**02 52 14.5**	**-3.2**
	1.9nm,0.2s						
SSF	**Saint Saulge**	**3.53**	**284**	*e*Pg	**Pg**	**02 51 36.5**	**-1.6**
SSF				*e*Sg	**Sg**	**02 52 21.2**	**-2.7**
	4.3nm,0.2s						
SSF	**Saint Saulge**	**3.53**	**284**	*e*Pg	**Pg**	**02 51 36.5**	**-1.6**
SSF				*e*Sg	**Sg**	**02 52 21.2**	**-2.7**
	2.2nm,0.2s						
AVF	**Avril sur Loir**	**3.60**	**279**	*e*Pn	**Pn**	**02 51 27.4**	**+1.8**
AVF				*e*Sg	**Sg**	**02 52 23.2**	**-2.8**
	1.1nm,0.3s						
AVF	**Avril sur Loir**	**3.60**	**279**	*e*Pn	**Pn**	**02 51 27.4**	**+1.8**
AVF				*e*Sg	**Sg**	**02 52 23.2**	**-2.8**
	0.6nm,0.3s						
BGF	**Bois d'Agland**	**3.94**	**275**	*e*P	**Pn**	**02 51 32.7**	**+2.4**
BGF	**Bois d'Agland**	**3.94**	**275**	*e*Pg	**Pg**	**02 51 43.5**	**-2.3**
BGF				*e*Sg	**Sg**	**02 52 34.2**	**-2.6**
	6.2nm,0.4s						
BGF	**Bois d'Agland**	**3.94**	**275**	*e*P	**Pn**	**02 51 32.7**	**+2.4**
BGF	**Bois d'Agland**	**3.94**	**275**	*e*Pg	**Pg**	**02 51 43.5**	**-2.3**
BGF				*e*Sg	**Sg**	**02 52 34.2**	**-2.6**
	3.1nm,0.4s						
TCF	**Toulx Ste Croi**	**4.38**	**272**	*e*Pn	**Pn**	**02 51 35.7**	**-0.7**
TCF				*e*Sg	**Sg**	**02 52 48.5**	**-2.5**
	1.4nm,0.3s						
TCF	**Toulx Ste Croi**	**4.38**	**272**	*e*Pn	**Pn**	**02 51 35.7**	**-0.7**
TCF				*e*Sg	**Sg**	**02 52 48.5**	**-2.5**
	0.7nm,0.3s						

SJA ***01*** *02:50:34.9±0.7,32°.21S×69°.41W,h115km±6km,ML3.8, MW4.1*

ISCJB ***01*** *02:50:35.5±1.1,32°.17S±0°.08×69°.41W±0°.08, h115km±13km,Error ellipse: s-maj=15.6km s-min=6.2km az=141.8*

GUC ***01*** *02:50:35.4±0.5,31°.97S×69°.54W,h101km±23km,ML3.6*

ISC 01 02:50:36.3±1.9,32°.18S±0°.07×69°.41W±0°.07, h111km±16km,n17,σ0°55/23,1D,Mendoza Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AUSP	**Uspallata**	**0.04**	**159**	*e*P	**Pn**	**02 50 51.9**	**-0.1**
ASAL	**Salagasta**	**0.63**	**130**	*e*P	**Pn**	**02 50 54.2**	**-0.1**
ASAL				⇓*e*S	**Sn**	**02 51 07.6**	**-0.3**
ARCO	**CERRO ARCO**	**0.77**	**149**	*e*P	**Pn**	**02 50 55.4**	**-0.2**
ARCO				IAML		02 51 11.8	
	comp=Z,5μm,0.2s						
RTCV	**Cerro Valdivia**	**0.80**	**67**	*e*P	**Pn**	**02 50 55.4**	**-0.3**
SJA	**San Juan**	**0.97**	**48**	*e*P	**Pn**	**02 50 57.3**	**-0.1**
SJA				IAML		02 51 18.4	
	comp=Z,761nm,0.2s						
AAGR	**Agrelo**	**1.02**	**152**	*e*P	**Pn**	**02 50 57.7**	**-0.2**
RTLL	**Cerro Villicun**	**1.16**	**43**	*e*P	**Pn**	**02 50 59.3**	**-0.1**
FCH	**Farellones**	**1.36**	**213**	*i*P	**Pn**	**02 51 02.3**	**+0.4**
FCH				*i*S	**Sn**	**02 51 22.8**	**+1.5**
FCH				IAML		02 51 23.4	
	comp=E,932nm,0.3s						
PEL	**Peldehue**	**1.44**	**228**	*i*P	**Pn**	**02 51 02.1**	**-0.5**
PEL				*i*S	**Sn**	**02 51 22.3**	**-0.2**
PEL				IAML		02 51 23.1	
	comp=N,834nm,0.4s						
AMOG	**MOGNA**	**1.47**	**32**	*e*P	**Pn**	**02 51 03.0**	**+0.1**
CLCH	**Cerro Calan**	**1.54**	**218**	*i*P	**Pn**	**02 51 03.7**	**-0.1**
CLCH				*i*S	**Sn**	**02 51 24.8**	**+0.3**
CLCH				IAML		02 51 26.6	
	comp=E,751nm,0.7s						
ROCH	**El Roble**	**1.57**	**239**	*i*P	**Pn**	**02 51 03.5**	**-0.7**
ROCH				*i*S	**Sn**	**02 51 24.7**	**-0.7**
ROCH				IAML		02 51 27.6	
	comp=N,973nm,0.3s						
ROC1	**El Roble**	**1.57**	**239**	*e*P	**Pn**	**02 51 03.6**	**-0.7**
ANTU	**Antumapu**	**1.73**	**216**	*i*P	**Pn**	**02 51 05.9**	**0.0**
ANTU				*i*S	**Sn**	**02 51 29.5**	**+0.9**
ANTU				IAML		02 51 30.6	
	comp=E,750nm,0.5s						
ACAN	**Cantantal**	**1.88**	**93**	*e*P	**Pn**	**02 51 07.3**	**-0.6**
AGUA	**GUANDACOL**	**2.80**	**17**	*e*P	**Pn**	**02 51 20.1**	**+0.2**
VCA	**Vinchina**	**3.59**	**17**	*e*P	**Pn**	**02 51 30.3**	**-0.1**
VCA				IAML		02 52 16.0	
	comp=Z,121nm,0.5s						

NIED ***01*** *02:50:00,36°.40N×140°.90E,h5km,Mw3.6 Best double couple: M₀2.75000×10¹⁴ NP1:φs299.00000°,δ57.00000°, λ-171.00000°. NP2:φs203.00000°,δ82.00000°, λ-34.00000°.*

ISCJB ***01*** *02:50:44.1±1.0,36°.37N±0°.03×140°.89E±0°.05,h11km±5km, mb3.8/7,MS2.8/1,Error ellipse: s-maj=7.1km s-min=5.0km az=16.1*

IDC ***01*** *02:50:44.6±1.0,36°.36N×140°.60E,h0km,mb3.7/7, mb1 3.9/8,mb1mx3.6/47,mbtmp3.8/8,ML3.5/1,MS2.9/1, Ms1 2.9/1,ms1mx2.5/32,Error ellipse: s-maj=26.4km s-min=19.2km az=97.0*

JMA ***01*** *02:50:45.3,36°.41N×140°.85E,h16km±1km,M3.9*

JMA Felt III J1.

ISC 01 02:50:46.0±1.4,36°.44N±0°.04×140°.79E±0°.05,h13km±8km, n25,σ1°05/27,mb3.7/7,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHO	**Hitachi**	**0.25**	**314**	P	**Pb**	**02 50 51.5**	**-0.8**
JHO				S	**Sg**	**02 50 55.9**	**+1.1**
JYT	**Yasato**	**0.53**	**247**	P	**Pg**	**02 50 56.1**	**-0.2**
JYT				S	**Sg**	**02 51 03.7**	**+0.4**
ONAJ	**Iwakimizuishiy**	**0.66**	**0**	P	**Pb**	**02 50 58.3**	**-1.1**
ONAJ				S	**Sb**	**02 51 08.2**	**-0.3**
JSB	**Shiboa**	**0.88**	**307**	P	**Pb**	**02 51 03.0**	**-0.1**
JSB				S	**Sn**	**02 51 15.6**	**-1.1**
JFK	**Kawauchi**	**0.93**	**4**	P	**Pb**	**02 51 02.3**	**-1.6**
JFK				S	**Sb**	**02 51 16.0**	**-0.2**
JAG	**Ashikaga**	**1.08**	**270**	P	**Pb**	**02 51 05.3**	**-1.2**
JAG				S	**Sb**	**02 51 20.4**	**-0.1**
JFT	**Otama**	**1.14**	**341**	P	**Pb**	**02 51 07.1**	**-0.4**
JFT				S	**Sg**	**02 51 22.9**	**+0.2**
MJAR	**Matsushiro Arr**	**2.08**	**274**	Pn	**Pn**	**02 51 20.1**	**-0.5**
	14nm,0.3s,baz=83,slow=10,SNR=14						
MJAR				Sn	**Sn**	**02 51 46.9**	**+0.5**
	20nm,0.3s,baz=237,slow=34,SNR=3.2						
MAT	**Matsushiro**	**2.09**	**274**	P	**Pn**	**02 51 20.9**	**+0.3**
MAT				S	**Sb**	**02 51 49.7**	**+0.2**
JHJ	**Hachijo jima 2**	**3.41**	**194**	Pn	**Pn**	**02 51 38.9**	**0.0**
	13nm,0.3s,baz=51,slow=18,SNR=2.2						
JHJ				Sn	**Sn**	**02 52 18.9**	**-0.4**
	13nm,0.3s,baz=74,slow=18,SNR=1.1						
USRK	**Ussuriysk Ar.**	**10.26**	**322**	Pn	Pn	02 53 19.3	+6.6
	0.2nm,0.3s,baz=127,slow=15,SNR=3.5						
MA2	**Magadan**	**24.04**	**12**	LR	LR	03 05 29.4	
	comp=Z,29nm,19.2s,baz=130,slow=37						
H11N2	**WAKE ISLAND Hy**	**28.28**	**119**	T	T	03 26 11.2	
	baz=312,slow=75,SNR=12						
H11N1	**WAKE ISLAND Hy**	**28.29**	**119**	T	T	03 26 05.4	
	baz=312,slow=75,SNR=22						
H11N3	**WAKE ISLAND Hy**	**28.30**	**119**	T	T	03 26 12.5	
	baz=312,slow=75,SNR=8.9						
H11S1	**WAKE ISLAND Hy**	**28.97**	**121**	T	T	03 26 55.8	
	baz=314,slow=76,SNR=21						
H11S3	**WAKE ISLAND Hy**	**28.97**	**121**	T	T	03 26 50.1	
	baz=314,slow=76,SNR=20						
H11S2	**WAKE ISLAND Hy**	**28.98**	**121**	T	T	03 26 53.3	
	baz=314,slow=76,SNR=21						
ZALV	**Zalesovo Beam**	**41.95**	**313**	P	**P**	**02 58 35.4**	**-0.9**
	1.4nm,0.5s,baz=104,slow=7.7,SNR=2.5						
KURBB	**Kurchatov Arra**	**45.98**	**308**	P	**P**	**02 59 07.7**	**-0.9**
	1.4nm,0.4s,baz=85,slow=8.0,SNR=4.0						
ILAR	**Eielson Array**	**50.26**	**32**	P	**P**	**02 59 43.8**	**+2.2**
	0.5nm,0.7s,baz=262,slow=5.8,SNR=5.4						
BVAR	**Borovoye Array**	**50.60**	**313**	P	**P**	**02 59 44.9**	**+0.6**
	0.2nm,0.4s,baz=93,slow=6.3,SNR=1.8						
INK	**Inuvik**	**55.14**	**27**	P	**P**	**03 00 19.7**	**+2.2**
	1.2nm,0.5s,baz=306,slow=5.1,SNR=3.3						
WRA	**Warramunga Arr**	**56.41**	**187**	P	**P**	**03 00 25.3**	**-1.9**
	0.3nm,0.4s,baz=3.6,slow=7.3,SNR=2.8						
ASAR	**Alice Springs**	**60.13**	**187**	P	**P**	**03 00 54.0**	**+0.8**
	0.2nm,0.5s,baz=11,slow=6.8,SNR=2.3						

ISCJB ***01*** *03:07:55.6±0.3,24°.34N±0°.02×122°.10E±0°.02,h21km±5km, Error ellipse: s-maj=4.3km s-min=2.6km az=152.3*

JMA ***01*** *03:07:55.2,24°.27N×122°.02E,h39km±2km,M2.7*

TAP ***01*** *03:07:55.3,24°.36N×122°.04E,h25km,ML3.4,C*

ISC 01 03:07:55.3±1.0,24°.33N±0°.02×122°.08E±0°.02,h18km±6km, n38,σ0°62/67,1C,Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ENA	**Nanau**	**0.33**	**287**	⇑*i*P	**Pg**	**03 08 02.2**	**0.0**
	baz=284						
ENA				*e*S	**Sg**	**03 08 07.0**	**0.0**
	baz=284						
TWC	**Suao**	**0.35**	**323**	*i*P	**Pg**	**03 08 02.4**	**-0.2**
	baz=331						
TWC				*i*S	**Sg**	**03 08 07.3**	**-0.4**
	baz=331						
TWD	**Chiawan**	**0.51**	**241**	P	**Pg**	**03 08 05.7**	**+0.1**
	baz=236						
TWD				*e*S	**Sb**	**03 08 13.7**	**+0.9**
	baz=236						
ILA	**Ilan**	**0.53**	**325**	P	**Pg**	**03 08 05.7**	**-0.2**
	baz=329						
ILA				S	**Sb**	**03 08 13.1**	**-0.3**
	baz=329						
EGS		**0.53**	**345**	*e*P	**Pg**	**03 08 05.8**	**-0.1**
	baz=352						
EGS				S	**Sg**	**03 08 12.8**	**-0.3**
	baz=352						
TWE	**Neicheng**	**0.54**	**316**	P	**Pg**	**03 08 05.8**	**-0.3**
	baz=322						
TWE				*e*S	**Sg**	**03 08 12.8**	**-0.6**
	baz=322						
HWA	**Hwalien**	**0.56**	**231**	*e*P	**Pg**	**03 08 06.8**	**+0.4**
	baz=225						
ENTT	**Nioudou**	**0.56**	**303**	*e*P	**Pg**	**03 08 06.3**	**-0.2**
	baz=304						
NNS	**Nan Shan**	**0.66**	**280**	P	**Pb**	**03 08 08.1**	**-0.2**
	baz=282						
NNS				S	**Sb**	**03 08 17.0**	**-0.2**
	baz=282						
TWB1	**Santiao Chiao**	**0.68**	**353**	P	**Pb**	**03 08 08.6**	**0.0**
	baz=352						
TWB1				S	**Sg**	**03 08 18.0**	**+0.2**
	baz=352						
NSK	**Sanguang**	**0.74**	**298**	*i*P	**Pb**	**03 08 09.4**	**-0.4**
	baz=297						
NSK				S	**Sb**	**03 08 18.3**	**-1.4**
	baz=297						
WHF	**Hehuan Shan**	**0.77**	**256**	P	**Pb**	**03 08 10.1**	**-0.4**
	baz=252						
WHF				S	**Sb**	**03 08 20.8**	**0.0**
	baz=252						
ESL	**Shilin**	**0.79**	**229**	P	**Pb**	**03 08 10.0**	**-0.4**
	baz=222						
ESL				*e*S	**Sg**	**03 08 21.8**	**+0.7**
	baz=222						
NWF	**Wu-fen Shan**	**0.79**	**340**	P	**Pb**	**03 08 10.7**	**+0.2**
	baz=336						
NWF				*i*S	**Sg**	**03 08 21.5**	**+0.3**
	baz=336						
TWA	**Mucha**	**0.79**	**325**	*e*P	**Pb**	**03 08 10.7**	**+0.1**
	baz=318						
JYNG	**Yonagunijimaku**	**0.80**	**81**	P	**Pb**	**03 08 11.2**	**+0.6**
JYNG				S	**Sb**	**03 08 21.8**	**+0.7**
TWT	**Tachien**	**0.83**	**265**	*e*P	**Pb**	**03 08 11.3**	**0.0**
	baz=261						
TWT				*e*S	**Sg**	**03 08 22.9**	**+0.3**
	baz=261						
YOJ	**Yonaguni jima**	**0.86**	**81**	P	**Pb**	**03 08 12.0**	**+0.3**
YOJ				S	**Sg**	**03 08 24.1**	**+0.8**
TAP1	**Taipei**	**0.87**	**324**	*e*P	**Pn**	**03 08 12.7**	**0.0**
	baz=326						
TWS1	**Kuangyinshan**	**0.98**	**322**	P	**Pb**	**03 08 13.9**	**+0.2**
	baz=337						
TWS1				*e*S	**Sn**	**03 08 28.6**	**+1.0**
	baz=337						
NSTT	**Nanjuang**	**1.03**	**287**	P	**Pb**	**03 08 14.5**	**-0.1**
	baz=286						
NSTT				S	**Sb**	**03 08 28.2**	**+0.4**
	baz=286						
TWY	**Chenhua**	**1.04**	**335**	*e*P	**Pn**	**03 08 15.4**	**+0.4**
	baz=339						
TWY				*e*S	**Sn**	**03 08 29.6**	**+0.5**
	baz=339						
WDT	**Danda**	**1.04**	**237**	*e*P	**Pb**	**03 08 14.3**	**-0.7**
	baz=231						
WDT				*e*S	**Sb**	**03 08 28.1**	**-0.3**
	baz=231						
SMLT	**Sun Moon Lake**	**1.17**	**248**	*e*P	**Pn**	**03 08 16.9**	**0.0**
	baz=231						
SMLT				*e*S	**Sb**	**03 08 32.2**	**+0.3**
	baz=231						
TYC	**Yuchr**	**1.20**	**249**	*e*P	**Pn**	**03 08 17.2**	**+0.1**
	baz=233						
TYC				*e*S	**Sg**	**03 08 34.5**	**+0.3**
	baz=233						
NSY	**Sanyi**	**1.21**	**274**	P	**Pb**	**03 08 18.3**	**+0.7**
	baz=273						
NSY				*e*S	**Sg**	**03 08 34.8**	**+0.3**
	baz=273						
TWF1	**Yuli**	**1.21**	**217**	*e*P	**Pn**	**03 08 15.3**	**-2.1**
	baz=228						
TCU	**Taichung**	**1.30**	**262**	*e*P	**Pb**	**03 08 19.5**	**+0.3**
	baz=259						
TCU				*e*S	**Sg**	**03 08 38.4**	**+1.1**
	baz=259						
YUS	**Yu-Shan**	**1.33**	**231**	*e*P	**Pn**	**03 08 18.7**	**-0.8**
	baz=225						
YUS				*e*S	**Sn**	**03 08 35.7**	**-1.3**
	baz=225						
ALS	**Alishan**	**1.43**	**235**	*e*P	**Pn**	**03 08 20.8**	**+0.2**
	baz=231						
CHN5	**Tsauling**	**1.48**	**241**	*e*P	**Pn**	**03 08 22.2**	**+1.1**
	baz=221						
CHN5				*e*S	**Sb**	**03 08 41.6**	**+0.8**
	baz=221						
IRIF	**Iriomote-Funau**	**1.50**	**90**	P	**Pn**	**03 08 20.9**	**-0.5**
IRIF				S	**Sn**	**03 08 40.4**	**-0.1**
CHN4	**Tsaushan**	**1.68**	**235**	*e*P	**Pn**	**03 08 24.7**	**+1.0**
	baz=230						
CHN4				*e*S	**Sb**	**03 08 46.2**	**-0.3**
	baz=230						
JKRS	**Kuro-shima**	**1.76**	**93**	S	**Sn**	**03 08 46.5**	**-0.4**
CHN1	**Nanshi**	**1.82**	**232**	*e*P	**Pn**	**03 08 26.9**	**+1.0**
	baz=226						
CHN1				*e*S	**Sb**	**03 08 50.6**	**-0.2**
	baz=226						
JIJ	**Ishigaki jima**	**1.88**	**89**	*e*S	**Sn**	**03 08 48.7**	**-1.2**
JISG	**Ishigakijimahi**	**2.05**	**82**	P	**Pn**	**03 08 28.2**	**-0.7**
JISG				S	**Sn**	**03 08 53.3**	**-0.7**
JTJ	**Tarama**	**2.41**	**82**	*e*S	**Sn**	**03 09 03.3**	**+0.4**

ATH ***01*** *03:35:31.9,38°.20N×25°.54E,h24km±2km,ML2.1/5,Error ellipse: s-maj=3.0km s-min=0.9km az=83.0*

CSEM ***01*** *03:35:33.1±0.1,38°.21N×25°.58E,h20km,ML2.2,Error ellipse: s-maj=3.5km s-min=2.2km az=154.0*

THE ***01*** *03:35:33.0,38°.21N×25°.56E,h19km±3km,ML2.2/5,Error ellipse: s-maj=3.4km s-min=1.4km az=314.0*

DDA ***01*** *03:36:24.5,38°.29N×25°.84E,h7km,Md2.7*

ISC 01 03:35:33.2±1.3,38°.20N±0°.03×25°.56E±0°.02,h21km±4km, n31,σ1°11/60,Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHOS	**Chios island**	**0.43**	**64**	P	**Pb**	**03 35 41.8**	**-0.3**
CHOS				S	**Sb**	**03 35 48.0**	**-0.2**
CHOS	**Chios island**	**0.43**	**64**	P	**Pb**	**03 35 41.8**	**-0.3**
CHOS				S	**Sb**	**03 35 47.8**	**-0.4**
CHOS	**Chios island**	**0.43**	**64**	P	**Pb**	**03 35 42.4**	**+0.3**
CHOS				S	**Sb**	**03 35 47.6**	**-0.5**
CHOS				AML	AML	03 35 49.2	
	comp=E,1285μm,0.4s						
CHOS				AML	AML	03 35 49.7	
	comp=N,1053μm,0.3s						
ZEY	**ˇzmir**	**0.74**	**86**	*i*P	**Pb**	**03 35 47.2**	**-0.2**
ZEY				*i*S	**Sn**	**03 35 58.4**	**-0.7**
URLA	**Izmir**	**0.83**	**78**	*i*P	**Pb**	**03 35 49.1**	**+0.2**
URLA				*i*S	**Sn**	**03 36 00.7**	**-0.6**
URLA	**Izmir**	**0.83**	**78**	P	**Pb**	**03 35 49.1**	**+0.2**
URLA				S	**Sn**	**03 36 00.7**	**-0.6**
KARY	**Karystos**	**0.90**	**260**	P	**Pb**	**03 35 49.9**	**-0.2**
KARY				S	**Sb**	**03 36 01.0**	**-0.6**
KARY	**Karystos**	**0.90**	**260**	P	**Pb**	**03 35 49.9**	**-0.2**
KARY				S	**Sb**	**03 36 01.3**	**-0.3**
KARY	**Karystos**	**0.90**	**260**	P	**Pb**	**03 35 49.0**	**-1.1**
KARY				S	**Sb**	**03 36 01.1**	**-0.6**
KARY				AML	AML	03 36 02.9	
	comp=E,261μm,0.2s						
KARY				AML	AML	03 36 02.9	
	comp=N,342μm,0.2s						
SIGR	**SIGRI**	**1.04**	**13**	P	**Pb**	**03 35 51.8**	**-0.7**
SIGR				S	**Sn**	**03 36 06.2**	**-0.2**
SIGR	**SIGRI**	**1.04**	**13**	P	**Pb**	**03 35 51.7**	**-0.7**
SIGR				S	**Sb**	**03 36 05.7**	**0.0**
SIGR	**SIGRI**	**1.04**	**13**	P	**Pb**	**03 35 51.7**	**-0.7**
SIGR				S	**Sb**	**03 36 05.0**	**-0.6**
SIGR				AML	AML	03 36 09.5	
	comp=N,136μm,0.3s						
SIGR				AML	AML	03 36 11.1	
	comp=E,191μm,0.5s						
DGB	**ˇzmir**	**1.05**	**97**	*i*P	**Pb**	**03 35 52.6**	**-0.1**
DGB				*i*S	**Sn**	**03 36 07.2**	**+0.5**
SMG	**Samos**	**1.12**	**115**	P	**Pb**	**03 35 53.1**	**-0.5**
SMG				S	**Sb**	**03 36 07.2**	**-0.7**
SMG	**Samos**	**1.12**	**115**	P	**Pn**	**03 35 53.6**	**0.0**
SMG				S	**Sb**	**03 36 07.2**	**-0.7**
SMG	**Samos**	**1.12**	**115**	P	**Pn**	**03 35 53.5**	**-0.1**
SMG				S	**Sn**	**03 36 08.6**	**+0.2**
APE	**Apeiranthos**	**1.12**	**181**	P	**Pn**	**03 35 52.7**	**-1.0**
APE				S	**Sn**	**03 36 09.3**	**+0.8**
APE	**Apeiranthos**	**1.12**	**181**	P	**Pn**	**03 35 53.3**	**-0.4**
APE				S	**Sn**	**03 36 09.3**	**+0.8**
APE	**Apeiranthos**	**1.12**	**181**	P	**Pn**	**03 35 53.1**	**-0.6**
APE				AML	AML	03 36 09.2	
	comp=E,82μm,0.5s						
APE				S	**Sn**	**03 36 09.4**	**+0.9**
APE				AML	AML	03 36 10.9	
	comp=N,97μm,0.2s						
PRK	**Paraskevi**	**1.19**	**28**	P	**Pn**	**03 35 53.9**	**-0.6**
PRK				S	**Sb**	**03 36 08.3**	**-1.6**
PRK	**Paraskevi**	**1.19**	**28**	P	**Pn**	**03 35 53.9**	**-0.6**
PRK				S	**Sb**	**03 36 08.3**	**-1.6**
EREA	**Eretria**	**1.30**	**280**	P	**Pb**	**03 35 57.0**	**+0.1**
EREA				S	**Sb**	**03 36 13.3**	**+0.1**
EREA	**Eretria**	**1.30**	**280**	P	**Pb**	**03 35 58.0**	**+1.1**
EREA				S	**Sn**	**03 36 12.9**	**0.0**
SERI	**Serifos**	**1.34**	**220**	P	**Pn**	**03 35 56.9**	**+0.3**
SERI				S	**Sb**	**03 36 14.6**	**+0.3**
SERI	**Serifos**	**1.34**	**220**	P	**Pn**	**03 35 56.8**	**+0.1**
SERI				S	**Sn**	**03 36 13.9**	**+0.1**
SERI				AML	AML	03 36 16.4	
	comp=E,112μm,0.2s						
SERI				AML	AML	03 36 17.3	
	comp=N,138μm,0.2s						
VLY	**Voula,Athens**	**1.44**	**257**	P	**Pb**	**03 35 58.9**	**-0.3**
VLY				S	**Sb**	**03 36 17.4**	**+0.4**
VLY	**Voula,Athens**	**1.44**	**257**	P	**Pb**	**03 35 59.6**	**+0.4**
VLY				S	**Sb**	**03 36 17.3**	**+0.3**
BOZC	**Bozcaada**	**1.69**	**13**	*i*P	**Pb**	**03 36 03.4**	**-0.1**
BOZC				*i*S	**Sb**	**03 36 27.3**	**+3.0**
DID	**Didima**	**1.96**	**250**	P	**Pn**	**03 36 05.3**	**+0.1**
DID	**Didima**	**1.96**	**250**	P	**Pn**	**03 36 04.9**	**-0.4**
BALY	**Balya**	**2.23**	**45**	*i*P	**Pb**	**03 36 13.5**	**+0.8**
BALY				*i*S	**Sb**	**03 36 46.2**	**+6.4**

IDC ***01*** *03:44:48.8±0.6,49°.17N×156°.32E,h0km,mb4.4/21, mb1 4.5/25,mb1mx4.3/41,mbtmp4.4/25,ML3.7/4,MS4.0/17, Ms1 4.0/17,ms1mx3.7/42,Error ellipse: s-maj=17.7km s-min=12.7km az=146.0*

BJI ***01*** *03:44:50.9,49°.33N×156°.47E,h34km,mb4.7/38,mB4.9/28, Ms4.6/30,Ms7 4.4/30*

ISCJB ***01*** *03:44:52.2±0.8,49°.23N±0°.03×156°.19E±0°.04,h26km±5km, mb4.7/157,MS4.3/28,Error ellipse: s-maj=5.6km s-min=2.8km az=143.6*

KRSC ***01*** *03:44:52.8±2.1,49°.17N×157°.35E,h38km±37km,ML4.9*

SKHL ***01*** *03:44:52.6±0.2,49°.00N×156°.65E,h46km±6km,mb4.7/6, Ms4.4/2*

MOS ***01*** *03:44:53.4±1.1,49°.25N×156°.19E,h36km,mb4.9/72, MS4.2/17,Error ellipse: s-maj=6.9km s-min=3.0km az=84.4*

NEIC ***01*** *03:44:55.4±0.7,49°.28N×156°.14E,h39km±6km,mb4.7/87, Error ellipse: s-maj=7.2km s-min=3.9km az=153.0*

ISC 01 03:44:54.9±0.7,49°.23N±0°.05×156°.22E±0°.04,h35km±3km, n477,σ1°35/507,mb4.8/157,MS4.3/30,18C-26D,Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**1.46**	**357**	*e*PN	**Pn**	**03 45 19.4**	**+0.8**
SKR				*e*S	**Sb**	**03 45 40.7**	**+1.1**
SKR				pmax	pmax		
	comp=Z,114nm,0.6s						
SKR	**Severo-Kuril's**	**1.46**	**357**	*e*P	**Pn**	**03 45 19.8**	**+1.2**
SKR				AMB	AMB	03 45 21.0	
	comp=Z,970nm,0.9s						
SKR				*e*S	**Sb**	**03 45 40.4**	**+0.8**
SKR				A	A	03 45 41.8	
	comp=Z,350nm,0.6s						
SKR				A	A	03 45 41.8	
	comp=Z,2μm,0.6s						
SKR	**Severo-Kuril's**	**1.46**	**357**	*e*P	**Pn**	**03 45 19.4**	**+0.8**
SKR				*e*S

PET Petropavlovsk 4.09 21 *e*P **Pn 03 45 54.5 -0.4**
PET *e*S **Sn 03 46 40.5 -1.0**
PET Petropavlovsk 4.09 21 *e*Pn **Pn 03 45 55.0 +0.1**
PET *e*Sn **Sn 03 46 41.9 +0.3**
DALK Dalny 4.12 22 PN **Pn 03 45 55.1 -0.2**
DALK S **Sn 03 46 42.5 +0.2**
DALK Dalny 4.12 22 *e*P **Pn 03 45 55.1 -0.2**
DALK *e*S **Sn 03 46 42.5 +0.2**
UGLR Uglovaya 4.31 21 PN **Pn 03 45 58.4 +0.5**
UGLR Uglovaya 4.31 21 *e*P **Pn 03 45 58.4 +0.5**
AVH Avacha 4.34 20 PN **Pn 03 45 59.8 +1.5**
AVH Avacha 4.34 20 *e*P **Pn 03 45 59.8 +1.5**
AVH Avacha 4.34 20 *e*P **Pn 03 45 59.8 +1.5**
KOK Koryaka 4.34 20 PN **Pn 03 45 59.4 +1.0**
KOK Koryaka 4.34 20 *e*P **Pn 03 45 59.4 +1.0**
SMAR Somma 4.35 21 PN **Pn 03 45 59.3 +0.7**
SMAR Somma 4.35 21 *e*P **Pn 03 45 59.3 +0.7**
KRER Koryakskii 4.38 20 PN **Pn 03 45 59.7 +0.7**
KRER Koryakskii 4.38 20 *e*P **Pn 03 45 59.7 +0.7**
SDLR Sedlovina 4.38 21 PN **Pn 03 45 58.7 -0.3**
SDLR Sedlovina 4.38 21 *e*P **Pn 03 45 58.7 -0.3**
KRX Arik 4.41 19 PN **Pn 03 46 00.3 +1.0**
KRX Arik 4.41 19 *e*P **Pn 03 46 00.3 +1.0**
SPN Mys Shipunski 4.55 30 PN **Pn 03 46 00.0 -1.2**
SPN Mys Shipunski 4.55 30 *e*P **Pn 03 46 00.0 -1.2**
SPN Mys Shipunski 4.55 30 *e*P **Pn 03 46 00.0 -1.2**
SPN *e*S **Sn 03 46 49.9 -2.9**
GNL Ganaly 4.60 13 PN **Pn 03 46 03.6 +1.7**
GNL Ganaly 4.60 13 *e*P **Pn 03 46 03.6 +1.7**
MKZ Mys Kozlova 6.33 30 PN **Pn 03 46 23.4 -2.1**
MKZ Mys Kozlova 6.33 30 *e*P **Pn 03 46 23.4 -2.1**
KUR Kuril'sk 6.95 238 *e*PN **Pn 03 46 35.4 +1.2**
KUR pmax pmax
comp=E,64nm,0.7s
KUR pmax pmax
comp=Z,89nm,0.7s
KUR pmax pmax
comp=N,35nm,1.1s
KUR MLR MLR
comp=Z,2µm,9.0s
KUR MLR MLR
comp=N,931nm,14.0s
KUR MLR MLR
comp=E,2µm,7.0s
KUR Kuril'sk 6.95 238 *e*P **Pn 03 46 35.4 +1.2**
KUR AMB AMB 03 46 45.7
comp=E,40nm,0.9s
KUR AMB AMB 03 46 45.7
comp=E,50nm,0.9s
KUR *e*S **Sn 03 47 48.7 -3.2**
KUR A A 03 48 09.8
comp=E,150nm,0.9s
KUR AMS AMS 03 50 21.0
comp=E,900nm,10.0s
KUR AMS AMS 03 50 21.0
comp=E,2µm,10.0s
KMNR Kamenistaya 6.98 19 PN **Pn 03 46 35.8 +1.2**
KMNR Kamenistaya 6.98 19 *e*P **Pn 03 46 35.8 +1.2**
KPT Kopyto 7.17 18 PN **Pn 03 46 39.4 +2.2**
KPT Kopyto 7.17 18 *e*P **Pn 03 46 39.4 +2.2**
KIRR Kirishev 7.18 19 PN **Pn 03 46 38.3 +0.8**
KIRR Kirishev 7.18 19 *e*P **Pn 03 46 38.3 +0.8**
BZMR Bezymyannaya 7.20 20 PN **Pn 03 46 37.7 0.0**
BZMR Bezymyannaya 7.20 20 *e*P **Pn 03 46 37.7 0.0**
ZLN Zelenaya 7.34 21 PN **Pn 03 46 40.5 +0.9**
ZLN Zelenaya 7.34 21 *e*P **Pn 03 46 40.5 +0.9**
LGNR Loginova 7.38 20 PN **Pn 03 46 40.6 +0.3**
LGNR Loginova 7.38 20 *e*P **Pn 03 46 40.6 +0.3**
CIRR Tsirk 7.42 20 PN **Pn 03 46 41.9 +1.2**
CIRR Tsirk 7.42 20 *e*P **Pn 03 46 41.9 +1.2**
KRSR Krestovskiy 7.48 19 PN **Pn 03 46 42.5 +1.1**
KRSR Krestovskiy 7.48 19 *e*P **Pn 03 46 42.5 +1.1**
SRKR Sorokina 8.01 20 PN **Pn 03 46 48.2 -0.5**
SRKR Sorokina 8.01 20 *e*P **Pn 03 46 48.2 -0.5**
SMKR Semkarok 8.02 21 PN **Pn 03 46 48.8 0.0**
SMKR Semkarok 8.02 21 *e*P **Pn 03 46 48.8 0.0**
SHO Shikotan 8.40 234 *e*PN **Pn 03 46 51.7 -2.3**
SHO pmax pmax
comp=E,29nm,1.0s
SHO pmax pmax
comp=Z,60nm,1.0s
SHO pmax pmax
comp=N,56nm,0.8s
BKI Bering 8.46 41 PN **Pn 03 46 52.6 -2.1**
BKI Bering 8.46 41 *e*P **Pn 03 46 52.6 -2.1**
BKI *e*S Sn 03 48 17.8 -11
UGL Uglegorsk 9.28 274 PN **Pn 03 47 05.5 -0.6**
UGL Uglegorsk 9.28 274 *e*P Pn 03 47 11.0 +4.9
YSS Yuzh-Sakhalins 9.30 261⇓ *e*PN **Pn 03 47 06.7 +0.4**
YSS pmax pmax
comp=Z,20nm,0.4s
YSS MLR MLR
comp=Z,700nm,17.0s
YSS Yuzh-Sakhalins 9.30 261 *e*P **Pn 03 47 06.7 +0.4**
YSS AMB AMB 03 47 07.6
comp=Z,20nm,0.4s
YSS *e*S **Sn 03 48 49.0 -0.6**
YSS AMS AMS 03 50 53.0
comp=Z,700nm,17.0s
YSS Yuzh-Sakhalins 9.30 261 *e*Pn **Pn 03 47 04.8 -1.5**
NKL Nikolayevsk 10.51 298 AMS AMS 03 52 34.0
comp=Z,1µm,16.0s
NKL AMS AMS 03 52 34.0
comp=Z,1µm,16.0s
ASAJ Asahikawa 10.66 246 *e*Pn **Pn 03 47 26.0 +1.0**
MA2 Magadan 10.84 345 Pn **Pn 03 47 26.5 -0.8**
comp=Z,1.8nm,0.3s,baz=142,slow=6.9,SNR=7.1
MA2 LR LR 03 52 32.0
comp=Z,680nm,18.1s,baz=144,slow=42
MA2 Magadan 10.84 345 *e*Pn **Pn 03 47 24.3 -3.0**
ERM Erimo 11.64 237 *e*PN **Pn 03 47 41.3 +2.9**
ERM Erimo 11.64 237 *e*P **Pn 03 47 41.3 +2.9**
ERM Erimo 11.64 237 *e*Pn **Pn 03 47 41.2 +2.9**
GRNR Gornyy 12.83 284 *e*P **Pn 03 47 57.5 +2.9**
GRNR AMB AMB 03 48 05.2
comp=Z,10.0nm,0.6s
SEY Seymchan 13.90 353 Pn **Pn 03 48 07.9 -1.1**
comp=Z,0.1nm,0.3s,baz=187,slow=15,SNR=3.8
SEY Seymchan 13.90 353 *e*P **Pn 03 48 09.8 +0.7**
SEY Seymchan 13.90 353 *e*P **Pn 03 48 09.8 +0.7**
HABR Khabarovsk 13.96 275 *e*P **Pn 03 48 09.0 -1.0**
HABR *e*S **Sn 03 50 44.1 +0.6**
HABR pmax pmax
comp=N,30nm,0.9s
HABR pmax pmax
comp=E,60nm,0.9s
HABR pmax pmax
comp=Z,70nm,0.9s
HABR MLR MLR
comp=Z,1µm,15.0s
HABR Khabarovsk 13.96 275 *e*P **Pn 03 48 09.0 -1.0**
EKMR Ekimchan 15.08 294 *e*P **Pn 03 48 24.5 -0.6**
EKMR AMB AMB 03 48 34.1
comp=Z,10.0nm,0.7s
KLR Kul'dur 15.97 279 Pn **Pn 03 48 36.6 -0.1**
comp=Z,0.1nm,0.3s,baz=76,slow=13,SNR=3.5
KLR LR LR 03 55 27.8
comp=Z,1µm,18.5s,baz=85,slow=40
USRK Ussuriysk Ar. 17.33 262 P **Pn 03 48 52.8 -1.0**
comp=Z,0.4nm,0.3s,baz=57,slow=14,SNR=8.9
BMKR Bomnak 17.67 298 *e*P **P 03 48 59.4 +0.7**
BMKR AMB AMB 03 49 02.8
comp=Z,10.0nm,0.6s
MJB9 Matsu-Tunnel 18.25 233 *e*P **Pn 03 49 05.3 +0.2**
MJB9 *e*pP **pP 03 49 12.6 -1.7**
MAJO Matsushiro 18.25 233 *e*P **P 03 49 04.4 -0.7**
MAJO pmax pmax
comp=Z,16nm,0.8s
MAJO Matsushiro 18.25 233 *e*P **P 03 49 04.4 -0.7**
MAJO Matsushiro 18.25 233 *e*P **P 03 49 04.4 -0.7**
comp=Z,16nm,0.8s
MAT Matsushiro 18.25 233 P **P 03 49 04.9 -0.2**
MJAR Matsushiro Arr 18.25 233 P **P 03 49 02.2 -3.0**
comp=Z,0.4nm,0.3s,baz=26,slow=12,SNR=15
MDJ Mudanjiang 18.72 266 P **P 03 49 08.8 -1.5**
MDJ pP pP 03 49 17.1 -2.3
MDJ sP sP 03 49 21.2 -2.6
MDJ S **Sn 03 52 34.5 -4.6**
MDJ sS sS 03 52 52.0 -3.9
MDJ ScP **ScP 03 57 11.5 +1.9**
MDJ pmax pmax
comp=Z,9.0nm,1.0s
MDJ pmax pmax
comp=Z,59nm,5.0s
MDJ LR LR
comp=Z,300nm,15.3s
MDJ LR LR
comp=Z,270nm,15.1s
MDJ LR LR
comp=Z,420nm,14.7s
KROS Kirovskiy 18.73 297 *e*P **P 03 49 10.0 -0.3**
KROS AMB AMB 03 49 12.4
comp=Z,3.0nm,0.6s
ATKA Atka Island 18.90 70 *e*P **Pn 03 49 16.2 +3.2**
comp=Z,51nm,1.1s
YAK Yakutsk 19.53 321 P **P 03 49 18.5 -0.4**
comp=Z,0.0nm,0.3s,baz=95,slow=2.5,SNR=5.7
YAK LR LR 03 57 21.6
comp=Z,354nm,18.3s,baz=99,slow=38
YAK Yakutsk 19.53 321 *e*P **P 03 49 18.7 -0.3**
YAK pmax pmax
comp=Z,44nm,1.0s
YAK pmax pmax
comp=E,27nm,1.2s
YAK pmax pmax
comp=N,12nm,1.2s
YAK Yakutsk 19.53 321 *e*P **P 03 49 18.6 -0.3**
comp=N,43nm,0.9s
YAK *e*S **S 03 52 50.8 -6.6**
CLNS Chul'man 20.18 304 *e*P **P 03 49 27.1 +1.0**
CLNS pmax pmax
comp=N,7.0nm,0.9s
CLNS pmax pmax
comp=E,15nm,0.9s
CLNS pmax pmax
comp=Z,17nm,0.8s
CLNS MLR MLR
comp=Z,837nm,15.0s
KSRS Korea Array 23.56 251 P **P 03 50 02.4 +0.4**
comp=Z,11nm,0.8s,baz=49,slow=9.9,SNR=42
KSRS LR LR 03 58 47.1
comp=Z,274nm,18.9s,baz=60,slow=36
KS01 Wonju Array Si 23.57 251 *e*P **P 03 50 01.1 -0.9**
KS15 Wonju Array Si 23.59 251 *e*P **P 03 50 02.4 +0.1**
KSAR Wonju Array Be 23.59 251 P **P 03 50 02.4 +0.1**
KSAR Wonju Array Be 23.59 251 P **P 03 50 02.4 +0.1**
INCN Inchon 24.35 252 *e*P **P 03 50 10.1 +0.7**
comp=Z,45nm,1.3s
JNU Nakatsue 24.79 239 P **P 03 50 13.2 -0.3**
comp=Z,19nm,1.1s,baz=167,slow=4.2,SNR=5.3
JNU Nakatsue 24.79 239 *e*P **P 03 50 13.8 +0.4**
comp=Z,19nm,1.0s
TIXI Tiksi 25.75 340 *e*P **P 03 50 19.3 -2.4**
TIXI pmax pmax
comp=Z,16nm,0.8s
TIXI Tiksi 25.75 340 *e*P **P 03 50 19.3 -2.4**
comp=Z,16nm,0.8s
BOD Bodaibo 26.14 305 *e*P **P 03 50 25.6 +0.2**
BOD pmax pmax
comp=Z,9.0nm,1.3s
TT01 Tatalina 29.17 44 *e*P **P 03 50 54.9 +2.4**
H11N2 WAKE ISLAND Hy 30.65 160 T T 04 24 06.3
H11N1 WAKE ISLAND Hy 30.67 160 T T 04 24 06.3
H11N3 WAKE ISLAND Hy 30.67 160 T T 04 24 05.9
SNR=47
H11S1 WAKE ISLAND Hy 31.79 161 T T 04 25 20.1
baz=347,slow=76,SNR=239
H11S3 WAKE ISLAND Hy 31.80 161 T T 04 25 27.8
baz=347,slow=76,SNR=334
H11S2 WAKE ISLAND Hy 31.81 161 T T 04 25 27.7
baz=347,slow=76,SNR=179
COLD Coldfoot 32.10 36 *e*P **P 03 51 17.7 -0.5**
comp=Z,2.7nm,0.8s
HHC Hu-ho-hao-te 32.25 272 *e*P **P 03 51 21.3 +1.4**
HHC S **S 03 56 37.5 +6.6**
HHC pmax pmax
comp=Z,33nm,0.9s
HHC pmax pmax
comp=Z,98nm,5.7s
HHC LR LR
comp=Z,260nm,15.5s
HHC LR LR
comp=Z,420nm,14.2s
HHC LR LR
comp=Z,380nm,14.6s
MCK McKinley 32.41 43 *e*P **P 03 51 22.6 +1.6**
MCK pmax pmax
comp=Z,5.0nm,0.7s
MCK McKinley 32.41 43 *e*P **P 03 51 22.6 +1.6**
MCK McKinley 32.41 43 *e*P **P 03 51 22.6 +1.6**
comp=Z,4.7nm,0.7s
SONM Songino Array 32.55 287 LR LR 04 05 56.3
comp=Z,487nm,18.3s,baz=67,slow=39
SML Sawmill 32.74 46 *e*P **P 03 51 23.0 -0.9**
SML pmax pmax
comp=Z,16nm,0.8s
SML Sawmill 32.74 46 *e*P **P 03 51 23.0 -0.9**
comp=Z,16nm,0.8s
COLA College 32.89 41 *e*P **P 03 51 24.6 -0.6**
COLA pmax pmax
comp=Z,4.0nm,1.0s
COLA College 32.89 41 *e*P **P 03 51 24.6 -0.6**
COLA College 32.89 41 *e*P **P 03 51 23.7 -1.4**
comp=Z,12nm,1.1s
CCB Clear Creek Bu 32.91 41 *e*P **P 03 51 26.9 +1.6**
comp=Z,6.2nm,1.1s
TLY Talaya 32.97 295 P **P 03 51 25.2 -0.9**
comp=Z,8.3nm,0.8s,baz=37,slow=8.9,SNR=3.3
TLY LR LR 04 05 58.1
comp=Z,229nm,18.4s,baz=60,slow=38
TLY Talaya 32.97 295 *e*P **P 03 51 26.0 -0.1**
TLY pmax pmax
comp=Z,13nm,0.9s
TLY MLR MLR
comp=Z,357nm,15.0s
TLY Talaya 32.97 295 *e*P **P 03 51 25.8 -0.3**
ILAR Eielson Array 33.30 41 P **P 03 51 27.4 -1.4**
comp=Z,0.7nm,0.7s,baz=245,slow=8.4,SNR=13
ZAK Zakamensk 33.59 293 *e*P **P 03 51 30.9 -0.7**
ZAK pmax pmax
comp=Z,6.0nm,0.9s
FYU Fort Yukon 34.01 38 *e*P **P 03 51 35.0 +0.1**
comp=Z,15nm,1.1s
RAGM Ragged Mountai 34.65 49 *e*P **P 03 51 41.5 +1.0**
comp=Z,209nm,0.5s
EGAK Eagle 35.76 41 *e*P **P 03 51 48.2 -1.7**
comp=Z,5.5nm,0.9s
WHN Wuhan 36.58 255⇑ *i*P **P 03 51 57.0 -0.4**
WHN pP **pP 03 52 06.2 -1.3**
WHN pmax pmax
comp=Z,42nm,0.8s
WHN LR LR
comp=Z,620nm,22.9s
NRIK Noril'sk 37.75 327 P **P 03 52 05.7 -1.2**
comp=Z,3.4nm,0.8s,baz=124,slow=6.1,SNR=3.7
NRIK LR LR 04 09 51.9
comp=Z,332nm,18.6s,baz=44,slow=40
INK Inuvik 38.43 34 P **P 03 52 11.8 -0.8**
comp=Z,4.9nm,0.7s,baz=318,slow=6.2,SNR=9.8
INK Inuvik 38.43 34 *e*P **P 03 52 12.6 +0.1**
comp=Z,7.8nm,0.9s
LZH Lanzhou 39.92 271 *e*P **P 03 52 26.5 +0.9**
LZH pP pP 03 52 33.8 -2.0
LZH sP sP 03 52 37.7 -2.2
LZH pmax pmax
comp=Z,32nm,1.0s
LZH pmax pmax
comp=Z,120nm,5.6s
GTA Gaotai 40.67 278⇑ P **P 03 52 31.6 -0.2**
GTA pP pP 03 52 39.0 -2.9
GTA sP sP 03 52 42.4 -3.7
GTA S **S 03 58 39.8 +0.4**
GTA sS pS 03 58 51.8 +0.8
GTA SS **SS 04 01 35.3 -4.9**
GTA pmax pmax
comp=Z,5.0nm,1.0s
GTA pmax pmax
comp=Z,26nm,5.2s
GTA LR LR
comp=Z,320nm,14.3s
GTA LR LR
comp=Z,530nm,15.2s
GTA LR LR
comp=Z,540nm,15.2s
ZAA0 Zalesovo Array 42.89 305 *e*P **P 03 52 48.3 -1.3**
ZAA0 *e*PcP **PcP 03 54 40.1 +0.3**
ZALV Zalesovo Beam 42.89 305 P **P 03 52 48.4 -1.2**
comp=Z,3.2nm,0.7s,baz=55,slow=7.7,SNR=10
ZALV PcP **PcP 03 54 39.5 -0.3**
comp=Z,2.4nm,0.9s,baz=25,slow=4.9,SNR=4.3
ZALV LR LR 04 11 44.2
comp=Z,98nm,18.9s,baz=68,slow=38
CD2 Chengdu 43.17 265 P **P 03 52 52.1 -0.1**
CD2 sP sP 03 53 05.5 -1.1
CD2 PP **PP 03 54 32.6 -0.1**
CD2 S **S 03 59 21.6 +5.2**
CD2 pmax pmax
comp=Z,30nm,0.9s
CD2 LR LR
comp=Z,330nm,10.7s
CD2 LR LR
comp=Z,420nm,13.1s
GYA Guiyang 44.29 258⇑ *i*P **P 03 53 01.0 -0.3**
GYA pP pP 03 53 12.4 +0.9
GYA PP **PcP 03 54 47.2 +2.0**
GYA S **S 03 59 32.8 -0.1**
GYA sS sS 03 59 50.6 +0.8
GYA SS SS 04 02 41.0 -11
GYA pmax pmax
comp=Z,20nm,0.8s
GYA pmax pmax
comp=Z,120nm,5.2s
GYA LR LR
comp=Z,460nm,18.2s
GYA LR LR
comp=Z,420nm,18.8s
GYA LR LR
comp=Z,450nm,19.0s
WMQ Urumqi 45.99 291 P **P 03 53 14.7 +0.1**
WMQ sP sP 03 53 30.8 +1.8
WMQ S **S 03 59 55.0 -2.1**
WMQ pmax pmax
comp=Z,4.0nm,0.7s
WMQ pmax pmax
comp=Z,45nm,4.3s
WMQ LR LR
comp=Z,54nm,12.9s
MK31 Makanchi Array 47.67 297 *e*P **P 03 53 26.9 -0.7**
MK31 Makanchi Array 47.67 297 *e*P **P 03 53 26.9 -0.7**
MKAR Makanchi Array 47.67 297 *e*P **P 03 53 26.9 -0.7**
MKAR pmax pmax
comp=Z,42nm,0.9s
MKAR Makanchi Array 47.67 297 *e*P **P 03 53 26.9 -0.7**
comp=Z,42nm,0.9s
MK01 Makanchi Array 47.68 297 *e*P **P 03 53 26.5 -1.1**
YKA Yellowknife Ar 47.68 39 P **P 03 53 25.9 -1.5**
comp=Z,1.5nm,0.8s,baz=295,slow=6.8,SNR=3.8
KMI Kunming 47.74 260 P **P 03 53 29.7 +1.1**
KMI pmax pmax
comp=Z,15nm,0.5s
KURK Kurchatov 47.75 303 *c i*P **P 03 53 27.1 -1.0**
KURK pmax pmax
comp=Z,60nm,0.8s
KURK Kurchatov 47.75 303 *e*P **P 03 53 27.1 -1.0**
comp=Z,16nm,0.8s
BRVK Borovoye 50.94 309 *c i*P **P 03 53 51.8 -0.6**
BRVK pmax pmax
comp=Z,34nm,1.3s
BRVK Borovoye 50.94 309 *e*P **P 03 53 51.5 -0.9**
comp=Z,12nm,0.9s
B08A Colville Reser 52.77 56 *e*P **P 03 54 10.2 +4.0**
comp=Z,7.7nm,1.3s
SHL Shillong 54.51 269 *ex* **P 03 54 20.0 +0.6**
ARU Arti 54.59 318 *c i*P **P 03 54 18.3 -1.1**
ARU *PP **pP 03 54 30.6 +0.8**
ARU 03 55 23.1
ARU 03 56 17.7
ARU S **S 04 01 56.9 +0.7**
ARU SS **SS 04 05 32.7 -5.7**
ARU pmax pmax
comp=Z,29nm,0.8s
ARU MLR MLR
comp=Z,142nm,16.0s
ARU Arti 54.59 318 *e*P **P 03 54 18.3 -1.1**
comp=Z,31nm,0.9s
AAK Ala-Archa 54.60 296 *e*P **P 03 54 18.1 -1.7**
AAK pmax pmax
comp=Z,9.0nm,1.0s
AAK Ala-Archa 54.60 296 *e*P **P 03 54 18.1 -1.7**
comp=Z,3.6nm,0.8s
KKM Kota Kinabalu 54.67 232 *e*P **P 03 54 21.8 +1.4**
comp=Z,15nm,1.1s
CHTO Chiang Mai 54.71 258 *e*P **P 03 54 21.2 +0.5**
CHTO pmax pmax
comp=Z,12nm,0.9s
CHTO Chiang Mai 54.71 258 *e*P **P 03 54 21.2 +0.5**
comp=Z,12nm,0.9s
CMAR Chiang Mai Arr 54.97 257 P **P 03 54 22.3 -0.2**
comp=Z,5.7nm,0.8s,baz=31,slow=7.6,SNR=19
CMAR Chiang Mai Arr 54.97 257 *i* P **P 03 54 23.6 +1.0**
CMAR pmax pmax
comp=Z,6.0nm,0.8s
CMAR Chiang Mai Arr 54.97 257 *e*P **P 03 54 23.6 +1.0**
CM01 Chiang Mai Arr 54.99 257 *e*P **P 03 54 23.4 +0.7**
K05A Summer Lake 55.23 63 *e*P **P 03 54 27.4 +3.0**
comp=Z,12nm,0.9s
KSH Kashi 55.63 293 *e*P **P 03 54 31.0 +3.7**
KSH *e*pP sP 03 54 41.6 -0.3
KSH *e*sP pP 03 54 45.3 +7.5
KSH *e*PP **PP 03 56 37.4 +6.0**
KSH PcS **PcS 03 59 28.4 +1.6**
KSH S **S 04 02 12.0 +1.2**
KSH ScS **ScS 04 04 14.1 +0.4**
KSH pmax pmax
comp=Z,18nm,2.9s
KSH LR LR
comp=Z,150nm,8.8s
KSH LR LR
comp=Z,150nm,12.6s
KSH LR LR
comp=Z,240nm,15.4s
BMO Blue Mountains 55.98 59 *e*P **P 03 54 30.6 +0.9**
BMO pmax pmax
comp=Z,3.0nm,1.0s
BMO Blue Mountains 55.98 59 *e*P **P 03 54 30.6 +0.9**
comp=Z,3.2nm,1.0s
MOD Modoc Plateau 56.08 63 *e*P **P 03 54 30.7 +0.2**
comp=Z,32nm,1.8s
ARCES ARCESS Array B 56.18 341 LR LR 04 23 41.3
comp=Z,183nm,18.3s,baz=38,slow=42
ODAN Odare 56.58 274 *e*P **P 03 54 35.9 +1.6**
MSO Missoula 56.61 55 *e*P **P 03 54 33.9 -0.3**
comp=Z,6.4nm,1.1s
WVOR Wild Horse Val 56.72 62 *e*P **P 03 54 35.6 +0.6**
WVOR pmax pmax
comp=Z,7.0nm,0.9s
WVOR Wild Horse Val 56.72 62 *e*P **P 03 54 35.6 +0.6**
comp=Z,6.7nm,0.9s
JIRN Jiri 56.82 275 *e*P **P 03 54 36.7 +0.5**
GUN Gumba 56.85 276 *e*P **P 03 54 37.8 +1.4**
RAMN Ramite 57.03 274 *e*P **P 03 54 38.6 +1.1**
comp=Z,34nm,0.7s
KKN Kakani 57.33 276 *e*P **P 03 54 40.2 +0.6**
PKI Pulchoki 57.39 276 *e*P **P 03 54 41.3 +1.1**
PKIN Phulchoki 57.39 276 *e*P **P 03 54 41.0 +0.9**
FFC Flin Flon 57.49 42 *e*P **P 03 54 40.1 0.0**
FFC pmax pmax
comp=Z,4.0nm,0.9s
FFC Flin Flon 57.49 42 *e*P **P 03 54 40.1 0.0**
FFC Flin Flon 57.49 42 *e*P **P 03 54 40.1 0.0**
comp=Z,3.8nm,0.9s
DMN Daman 57.56 276 *e*P **P 03 54 42.2 +0.9**
GKN Gorkha 57.60 276 *e*P **P 03 54 41.8 +0.4**
MFID Camas Ranch 57.71 59 *e*P **P 03 54 42.9 +1.0**
comp=Z,3.2nm,0.9s
MFID *e*S **S 04 02 39.9 +1.7**
FCC Fort Churchill 58.03 35 *e*P **P 03 54 42.1 -1.7**
FCC pmax pmax
comp=Z,17nm,1.0s
FCC Fort Churchill 58.03 35 *e*P **P 03 54 42.1 -1.7**
comp=Z,17nm,1.0s
LRM Limekiln Ridge 58.05 55 *e*P **P 03 54 48.1 +3.6**
SUMG Summit 58.06 5 *i* P **P 03 54 44.4 +0.1**
comp=Z,18nm,1.0s
SUMG Summit 58.06 5 *i* P **P 03 54 44.4 +0.1**
SUMG pmax pmax
comp=Z,18nm,1.0s
SUMG Summit 58.06 5 *e*P **P 03 54 43.5 -0.8**
comp=Z,15nm,0.9s
HLID Hailey 58.41 59 *e*P **P 03 54 47.4 +0.5**
comp=Z,9.2nm,1.4s
ABKAR Akbulak array 58.43 310 *e*P **P 03 54 46.1 -0.6**
comp=Z,60nm,0.6s
ABKAR *e*PcP **PcP 03 55 40.2 +3.0**

KOLN Koldanda 58.43 277 *e*P **P 03 54 47.9 +0.6**
comp=Z,14nm,0.9s
PYUN Piuthan 58.61 278 *e*P **P 03 54 49.4 +0.9**
comp=Z,60nm,1.0s
BOZ Bozeman (W) 58.63 55 *e*P **P 03 54 48.0 -0.4**
BOZ pmax pmax
comp=Z,6.0nm,1.0s
BOZ Bozeman (W) 58.63 55 *e*P **P 03 54 48.0 -0.4**
comp=Z,6.4nm,1.0s
KLMR Klimovskoe 59.05 329 *e*P **P 03 54 49.0 -1.8**
KLMR pmax pmax
comp=Z,14nm,1.2s
YHH Holmes Hill 59.58 56 *e*P **P 03 54 55.7 +0.6**
comp=Z,3.3nm,0.8s
IMW Indian Meadow 60.11 56 *e*P **P 03 54 57.7 -1.2**
comp=Z,5.2nm,1.0s
FLWY Flagg Ranch 60.12 56 *e*P **P 03 54 59.5 +0.8**
comp=Z,6.3nm,1.0s
RLMT Red Lodge 60.21 54 *e*P **P 03 54 59.3 -0.1**
comp=Z,8.0nm,1.3s
TPAW Teton Pass 60.37 57 *e*P **P 03 55 01.7 +1.2**
comp=Z,11nm,1.3s
LOHW Long Hollow 60.48 56 *e*P **P 03 55 00.6 -0.7**
comp=Z,4.8nm,1.1s
REDW Red Top Meadow 60.51 57 *e*P **P 03 55 01.4 -0.1**
comp=Z,10nm,1.1s
LAO LASA Array 60.76 51 *e*P **P 03 54 59.4 -3.6**
comp=Z,8.1nm,0.8s
DUG Dugway, Tooele 61.51 61 *e*P **P 03 55 09.9 +1.7**
DUG pmax pmax
comp=Z,8.0nm,1.1s
DUG Dugway, Tooele 61.51 61 *e*P **P 03 55 09.9 +1.7**
comp=Z,8.2nm,1.1s
BW06 Boulder Array 61.62 57 *e*P **P 03 55 09.8 +0.8**
comp=Z,8.2nm,1.4s
PD31 Pinedale Array 61.62 57 *e*P **P 03 55 08.5 -0.5**
PDAR Pinedale Array 61.62 57 P **P 03 55 08.2 -0.7**
comp=Z,1.7nm,0.9s,baz=221,slow=1.4,SNR=7.6
FINES FINESS Array B 62.66 336 P **P 03 55 14.9 -0.4**
comp=Z,4.0nm,0.8s,baz=46,slow=8.2,SNR=8.3
FINES LR LR 04 25 21.1
comp=Z,157nm,18.6s,baz=18,slow=39
FINES FINESS Array B 62.66 336 *i* P **P 03 55 14.8 -0.6**
FINES pmax pmax
comp=Z,4.0nm,0.9s
FINES FINESS Array B 62.66 336 *e*P **P 03 55 14.8 -0.6**
TMUT Trail Mountain 63.03 60 *e*P **P 03 55 20.6 +2.0**
comp=Z,3.7nm,0.8s
KBL Kabul 63.07 292 *e*P **P 03 55 17.6 -1.2**
KBL pmax pmax
comp=Z,8.0nm,1.1s
KBL Kabul 63.07 292 *e*P **P 03 55 17.6 -1.2**
comp=Z,7.7nm,1.1s
LCMT Little Creek M 63.40 64 *e*P **P 03 55 23.9 +3.0**
comp=Z,4.1nm,0.8s
SRU San Rafael Swe 63.54 60 *e*P **P 03 55 22.3 +0.4**
SRU pmax pmax
comp=Z,7.0nm,0.8s
SRU San Rafael Swe 63.54 60 *e*P **P 03 55 22.3 +0.4**
comp=Z,7.4nm,0.8s
RSSD Black Hills 63.64 52 *e*P **P 03 55 22.3 -0.1**
RSSD pmax pmax
comp=Z,9.0nm,1.1s
RSSD Black Hills 63.64 52 *e*P **P 03 55 22.3 -0.1**
comp=Z,9.3nm,1.1s
KNB Kanab 63.64 63 *e*P **P 03 55 23.9 +1.4**
KNB pmax pmax
comp=Z,10.0nm,1.2s
KNB Kanab 63.64 63 *e*P **P 03 55 23.9 +1.4**
comp=Z,9.9nm,1.2s
OBN Obninsk 64.42 326 *e*P **P 03 55 25.1 -1.9**
OBN pmax pmax
comp=Z,5.0nm,0.9s
OBN Obninsk 64.42 326 *e*P **P 03 55 25.5 -1.5**
PV05 Paradox Valley 65.06 60 *e*P **P 03 55 32.3 +0.4**
LPSR Galich'ya Gora 65.47 323 *e*P **P 03 55 33.0 -1.0**
LPSR pmax pmax
comp=Z,10.0nm,0.6s
WUAZ Wupatki 65.52 64 *e*P **P 03 55 36.3 +1.5**
comp=Z,6.5nm,1.3s
ISCO Idaho Springs 65.81 57 *e*P **P 03 55 37.5 +0.7**
ISCO pmax pmax
comp=Z,4.0nm,0.8s
ISCO Idaho Springs 65.81 57 *e*P **P 03 55 37.5 +0.7**
comp=Z,4.3nm,0.8s
NC204 NORSAR Array S 66.40 343 *e*P **P 03 55 39.8 -0.1**
VSR Storozhevoye 66.45 322 *e*P **P 03 55 38.7 -1.5**
VSR pmax pmax
comp=Z,8.0nm,0.6s
NB2 NORSAR Subarra 66.53 342 P **P 03 55 40.1 -0.6**
comp=Z,3.8nm,0.8s,baz=25,slow=6.5
NOA NORSAR Array B 66.53 342 P **P 03 55 40.6 0.0**
comp=Z,3.6nm,0.8s,baz=24,slow=6.3,SNR=14
NOA LR LR 04 29 24.2
comp=Z,118nm,19.1s,baz=50,slow=40
S22A 4UR Ranch, Cre 66.58 59 *e*P P 03 55 46.4 +4.7
comp=Z,12nm,1.4s
GEYT Alibeck 67.10 302 P **P 03 55 44.9 +0.2**
comp=Z,3.9nm,0.7s,baz=345,slow=5.2,SNR=4.6
SDCO Great Sand Dun 67.32 58 *e*P **P 03 55 46.8 +0.4**
comp=Z,7.7nm,1.6s
ECSD EROS Data Cent 67.67 48 *e*P **P 03 55 46.3 -1.8**
comp=Z,3.8nm,1.0s
T25A Trinidad 68.36 58 *e*P **P 03 55 56.6 +3.7**
comp=Z,14nm,1.6s
LAZ Ladron 68.77 62 *e*P **P 03 56 00.0 +4.6**
ANMO Albuquerque 68.78 61 *e*P **P 03 55 52.8 -2.7**
ANMO pmax pmax
comp=Z,2.0nm,1.1s
ANMO Albuquerque 68.78 61 *e*P **P 03 55 54.3 -1.2**
comp=Z,2.9nm,1.2s
KIV Kislovodsk 70.53 315 *e*P **P 03 56 06.5 +0.5**
KIV pmax pmax
comp=Z,11nm,0.9s
KIV Kislovodsk 70.53 315 *e*P **P 03 56 06.5 +0.5**
KIV Kislovodsk 70.53 315 *e*P **P 03 56 04.7 -1.4**
comp=Z,9.9nm,0.6s
KBZ Khabaz 70.61 315 P **P 03 56 06.2 -0.1**
comp=Z,6.8nm,0.8s,baz=61,slow=2.3,SNR=12
KBZ LR LR 04 31 22.3
comp=Z,102nm,18.3s,baz=26,slow=40
AKASG Malin Array Be 70.61 327 P **P 03 56 04.8 -1.5**
AKASG LR LR 04 29 34.9
comp=Z,1.2nm,0.4s,baz=29,slow=5.6,SNR=6.0
comp=Z,142nm,19.9s,baz=315,slow=38
KIEV Kiev 70.62 327 *e*P **P 03 56 04.2 -2.1**
KIEV pmax pmax
comp=Z,3.0nm,1.1s
KIEV Kiev 70.62 327 *e*P **P 03 56 04.9 -1.4**
ZEI Tsey 70.86 314 *e*P **P 03 56 08.4 +0.2**
ZEI pmax pmax
comp=Z,26nm,1.2s
WRAB Tennant Creek 71.56 202 *i* P **P 03 56 09.8 -2.4**
WRAB pmax pmax
comp=Z,37nm,2.5s
WRAB Tennant Creek 71.56 202 *e*P **P 03 56 09.9 -2.3**
comp=Z,5.1nm,0.9s
WB2 Warramunga Arr 71.56 202 *e*P **P 03 56 10.4 -1.9**
WRA Warramunga Arr 71.57 202 P **P 03 56 10.4 -1.9**
comp=Z,3.8nm,0.9s,baz=19,slow=6.5,SNR=13
WRA Warramunga Arr 71.57 202 *i* P **P 03 56 10.3 -2.0**
WRA pmax pmax
comp=Z,4.0nm,0.9s
MSTX Muleshoe 71.58 59 *e*P **P 03 56 16.4 +3.9**
comp=Z,6.3nm,1.0s
MNTX Cornudas Mount 71.74 63 *e*P **P 03 56 16.8 +3.3**
comp=Z,10nm,1.6s
ANN Anapa 72.21 319 *e*P P 03 56 07.9 -8.1
ANN *e*PP pP 03 56 25.5 -1.2
ANN pmax pmax
comp=Z,58nm,1.9s
GNI Garni 72.48 312 P **P 03 56 19.8 +1.8**
GNI Garni 72.48 312 *c i*P **P 03 56 19.5 +1.6**
GNI pmax pmax
comp=Z,34nm,1.0s
GNI Garni 72.48 312 *e*P **P 03 56 19.1 +1.2**
comp=Z,72nm,0.9s
MDO Dochfour 72.49 349 *e*P **P 03 56 17.0 -0.5**
KPL Plockton 72.74 350 *e*P **P 03 56 18.4 -0.5**
ARTV Artvin 73.03 314 *e*P **P 03 56 22.7 +1.5**
comp=Z,4.1nm,0.9s
SORM Soroca 73.07 326 ⇓*i*P **P 03 56 20.8 -0.2**
SORM Soroca 73.07 326 ⇓P **P 03 56 20.8 -0.2**
LVV L'vov 73.13 330 *e*P **P 03 56 22.2 +0.8**
EDU Dundee 73.18 348 *e*P **P 03 56 21.0 -0.5**
WMOK Wichita Mounta 73.22 56 *e*P **P 03 56 21.6 -0.7**
WMOK pmax pmax
comp=Z,2.0nm,0.8s
WMOK Wichita Mounta 73.22 56 *e*P **P 03 56 21.6 -0.7**
comp=Z,2.1nm,0.8s
EAB Aberfoyle 73.71 349 *e*P **P 03 56 24.5 -0.1**
KWP Kalwaria Pacla 73.72 331 *e*P **P 03 56 25.2 +0.3**
KWP Kalwaria Pacla 73.72 331 *e*P **P 03 56 25.2 +0.3**
ESY Stoneypath 73.74 348 *e*P **P 03 56 24.7 -0.2**
EDI Edinburgh 73.81 348 *e*P **P 03 56 25.1 -0.1**
EDI AMB AMB 03 56 25.2
comp=Z,35nm,1.7s
KIS Kishinev 73.86 326 *e* P 03 56 19.0 -6.7
KIS LRM MLR 04 31 28.0
comp=Z,300nm,16.0s
PGBU Glenifferbraes 74.09 349 *e*P **P 03 56 26.9 0.0**
OJC Ojcow 74.12 333 *e*P **P 03 56 27.4 +0.2**
OJC Ojcow 74.12 333 *e*P **P 03 56 27.1 -0.1**
OJC pmax pmax
comp=Z,15nm,0.9s
OJC Ojcow 74.12 333 *e*P **P 03 56 27.1 -0.1**
comp=Z,14nm,0.9s
STHS Stebnicka Huta 74.38 331 *e*P **P 03 56 29.8 +1.1**
STHS pmax pmax
comp=Z,10.0nm,0.9s
STHS Stebnicka Huta 74.38 331 *e*P **P 03 56 29.8 +1.1**
ESK Eskdalemuir 74.41 348 *e*P **P 03 56 28.7 -0.1**
ESK AMB AMB 03 56 29.7
comp=Z,12nm,0.9s
ESK Eskdalemuir 74.41 348 *e*P **P 03 56 28.6 -0.1**
ESK pmax pmax
comp=Z,10.0nm,0.7s
ESK Eskdalemuir 74.41 348 *e*P **P 03 56 28.6 -0.2**
comp=Z,9.8nm,0.7s
TX31 Lajitas Ar. Si 74.48 63 *e*P **P 03 56 29.1 -0.6**
TXAR Lajitas Array 74.48 63 P **P 03 56 28.7 -1.0**
comp=Z,1.2nm,0.7s,baz=303,slow=4.3,SNR=20
KSP Ksiaz 74.58 335 *e*P **P 03 56 30.0 +0.2**
KSP Ksiaz 74.58 335 *e*P **P 03 56 30.0 +0.2**
BUR08 Bucovina Ar. S 74.61 328 *e*P **P 03 56 29.9 -0.4**
BURAR Bucovina Array 74.63 328 ⇑*i*P **P 03 56 30.5 +0.2**
BURAR Bucovina Array 74.63 328 ⇑P **P 03 56 30.5 +0.2**
SADO Sadowa 74.65 37 LR LR 04 31 46.5
comp=Z,88nm,18.8s,baz=344,slow=38
NIE Niedzica 74.67 332 *e*P **P 03 56 31.0 +0.5**
NIE Niedzica 74.67 332 *e*P **P 03 56 31.0 +0.5**
GMK Mull of Kintyr 74.69 349 *e*P **P 03 56 30.0 -0.4**
UZH Uzhgorod 74.73 330 *e*P **P 03 56 28.0 -2.7**
UZH *e* 03 56 40.8
CRVS Cervenica-Dubn 74.76 331 *e*P **P 03 56 31.1 +0.1**
CRVS Cervenica-Dubn 74.76 331 *e*P **P 03 56 31.1 +0.1**
OKC Ostrava-Krasne 74.95 333 *e*P **P 03 56 32.7 +0.7**
OKC AMS AMS 04 32 30.0
comp=Z,200nm,18.8s
OKC Ostrava-Krasne 74.95 333 *e*P **P 03 56 32.7 +0.7**
OKC MLR MLR
comp=Z,200nm,18.8s
UPC Upice 74.96 335 *e*P **P 03 56 32.7 +0.7**
UPC AMS AMS 04 33 20.0
comp=Z,300nm,16.4s
UPC Upice 74.96 335 *e*P **P 03 56 32.7 +0.7**
UPC MLR MLR
comp=Z,300nm,16.4s
DPC Dobruska-Polom 75.01 335 *e*P **P 03 56 32.6 +0.2**
DPC AMS AMS 04 33 10.0
comp=Z,200nm,15.5s
DPC Dobruska-Polom 75.01 335 *e*P **P 03 56 32.6 +0.2**
DPC MLR MLR
comp=Z,200nm,15.5s
GCL Cushendall 75.01 350 *e*P **P 03 56 32.3 0.0**
CLL Collm 75.03 337 *e*P **P 03 56 32.3 -0.1**
CLL pmax pmax
comp=Z,19nm,0.9s
CLL Collm 75.03 337 *e*P **P 03 56 32.3 -0.1**
CLL Collm 75.03 337 *i* P **P 03 56 32.0 -0.4**
comp=Z,23nm,1.0s
CLL *i* 03 56 39.9
CLL *e*(pP) **PcP 03 56 45.0 -1.0**
CLL LmV 04 33 00.0
comp=Z,100nm,18.5s
CLL Collm 75.03 337 *e*P **P 03 56 32.3 -0.1**
comp=Z,19nm,0.9s
GAL1 Galloway 75.05 349 *e*P **P 03 56 32.4 0.0**
GAL1 AMB AMB 03 56 34.0
comp=Z,12nm,1.1s
KESW Keswick, Cumbr 75.10 348 *e*P **P 03 56 32.6 -0.1**
LANS Liptovska Anna 75.16 332 *e*P **P 03 56 34.6 +1.3**
LANS Liptovska Anna 75.16 332 *e*P **P 03 56 34.6 +1.3**
MORC Moravsky Berou 75.18 334 ⇓*i*P **P 03 56 34.3 +0.9**
MORC Moravsky Berou 75.18 334 *e*P **P 03 56 33.6 +0.2**
MORC Moravsky Berou 75.18 334 *e*P **P 03 56 33.6 +0.2**
comp=Z,88nm,0.9s
BRG Berggiesshubel 75.18 336 *i* P **P 03 56 33.2 -0.1**
comp=Z,11nm,1.2s
comp=N,198nm,22.9s
comp=E,103nm,14.9s
comp=Z,212nm,16.0s
BRG Berggiesshubel 75.18 336 *i* P **P 03 56 33.2 -0.1**
BRG pmax pmax
comp=Z,11nm,1.2s
BRG MLR MLR
comp=N,198nm,22.9s
BRG MLR MLR
comp=E,103nm,14.9s
BRG MLR MLR
comp=Z,212nm,16.0s
ASAR Alice Springs 75.25 201 P **P 03 56 33.1 -0.8**
comp=Z,1.0nm,0.7s,baz=11,slow=4.9,SNR=8.4
PVCC Panska Ves 75.33 336 *e*P **P 03 56 34.6 +0.4**
PVCC AMS AMS 04 33 20.0
comp=Z,300nm,18.1s
PVCC Panska Ves 75.33 336 *e*P **P 03 56 34.6 +0.4**
PVCC MLR MLR
comp=Z,300nm,18.1s
KECS Kecovo 75.44 331 *e*P **P 03 56 35.4 +0.6**
KECS pmax pmax
comp=Z,4.0nm,0.9s
KECS Kecovo 75.44 331 *e*P **P 03 56 35.4 +0.6**
VRI Vrincioaia 75.59 326 ⇑*i*P **P 03 56 38.4 +2.6**
VRI Vrincioaia 75.59 326 ⇑P **P 03 56 38.4 +2.6**
PLOR Plostina 75.63 326 ⇓*i*P **P 03 56 36.0 0.0**
PLOR Plostina 75.63 326 ⇓P **P 03 56 36.0 0.0**
CFR Carcaliu 75.65 325 ⇓*i*P **P 03 56 35.8 -0.3**
CFR Carcaliu 75.65 325 ⇓P **P 03 56 35.8 -0.3**
WIM Isle of Man 75.74 349 *e*P **P 03 56 36.4 -0.1**
PRA Prague 75.78 336 *e*P **P 03 56 37.6 +0.8**
PRA Prague 75.78 336 *e*P **P 03 56 37.6 +0.8**
GMM Mts of Mourne 75.81 349 *e*P **P 03 56 36.6 -0.3**
PRU Pruhonice 75.83 336 *e*P **P 03 56 37.8 +0.8**
PRU AMS AMS 04 33 40.0
comp=Z,200nm,21.3s
PRU Pruhonice 75.83 336 *e*P **P 03 56 37.8 +0.8**
PRU MLR MLR
comp=Z,200nm,21.3s
GOPC GO Pecny, Ondr 75.83 335 *e*P **P 03 56 37.1 0.0**
GOPC AMS AMS 04 33 50.0
comp=Z,200nm,15.9s
GOPC GO Pecny, Ondr 75.83 335 *e*P **P 03 56 37.1 0.0**
GOPC MLR MLR
comp=Z,200nm,15.9s
WTSB Winterswijk 75.87 341 *e*P **P 03 56 37.6 +0.4**
comp=Z,22nm,0.8s
VRAC Vranov 75.87 334 ⇓*i*P **P 03 56 38.5 +1.2**
VRAC Vranov 75.87 334 ⇓P **P 03 56 38.5 +1.2**
VYHS Vyhne 75.94 332 *e*P **P 03 56 37.7 0.0**
VYHS pmax pmax
comp=Z,9.0nm,1.2s
VYHS Vyhne 75.94 332 *e*P **P 03 56 37.7 0.0**
CJR Cluj-Napoca 75.96 329 ⇓*i*P **P 03 56 38.8 +0.8**
CJR Cluj-Napoca 75.96 329 ⇓P **P 03 56 38.8 +0.8**
MOX Moxa 75.99 338 P **P 03 56 38.5 +0.5**
MOX pmax pmax
comp=Z,16nm,1.0s
PBMO Poplar Bluff 76.02 49 *e*P **P 03 56 38.0 -0.3**
comp=Z,19nm,1.7s
PSZ Piszkesteto 76.12 331 *e*P **P 03 56 38.7 -0.2**
PSZ pmax pmax
comp=Z,7.0nm,1.0s
PSZ Piszkesteto 76.12 331 *e*P **P 03 56 38.7 -0.2**
comp=Z,7.3nm,1.0s
MIAR Mount Ida 76.15 53 *e*P **P 03 56 37.4 -1.8**
MIAR pmax pmax
comp=Z,4.0nm,0.8s
MIAR Mount Ida 76.15 53 *e*P **P 03 56 37.4 -1.8**
comp=Z,4.0nm,0.8s
TIRR Tirgusor 76.15 324 ⇓*i*P **P 03 56 39.6 +0.6**
TIRR Tirgusor 76.15 324 *e*P **P 03 56 39.0 0.0**
TIRR pmax pmax
comp=Z,12nm,0.9s
TIRR Tirgusor 76.15 324 *e*P **P 03 56 39.0 0.0**
comp=Z,12nm,0.9s
NKC Novy Kostel 76.16 337 *e*P **P 03 56 39.4 +0.4**
NKC Novy Kostel 76.16 337 *e*P **P 03 56 39.4 +0.4**
TLB Topalu 76.19 325 ⇓*i*P **P 03 56 39.5 +0.4**
TLB Topalu 76.19 325 ⇓P **P 03 56 39.5 +0.4**
MLR Muntele Rosu 76.19 326 ⇓*i*P **P 03 56 40.0 +0.6**
MLR Muntele Rosu 76.19 326 *e*P **P 03 56 39.7 +0.3**
MLR pmax pmax
comp=Z,14nm,0.8s
MLR Muntele Rosu 76.19 326 *e*P **P 03 56 39.7 +0.3**
comp=Z,14nm,0.8s
DRGR 76.20 329 ⇑*i*P **P 03 56 39.5 +0.2**
DRGR 76.20 329 ⇑P **P 03 56 39.5 +0.2**
ISR Istrita 76.29 326 ⇓*i*P **P 03 56 41.0 +1.1**
ISR Istrita 76.29 326 ⇓P **P 03 56 41.0 +1.1**
SMOL Smolenice 76.34 333 *e*P **P 03 56 41.0 +1.0**
SMOL Smolenice 76.34 333 *e*P **P 03 56 41.0 +1.0**
VOIR 76.56 327 ⇓*i*P **P 03 56 42.2 +0.8**
VOIR 76.56 327 ⇓P **P 03 56 42.2 +0.8**
MARD Mardin 76.63 312 *e*P **P 03 56 43.6 +1.6**
comp=Z,27nm,0.9s
CWF Charnwood Fore 76.63 346 *e*P **P 03 56 41.5 0.0**
FOEL Foel Wylfa 76.77 347 *e*P **P 03 56 42.3 0.0**
FOEL AMB AMB 03 56 43.6
comp=Z,14nm,1.1s
ARR Arges 76.77 327 ⇑*i*P **P 03 56 43.7 +1.1**
ILGA Ilgaz 76.84 319 *e*P **P 03 56 45.0 +1.7**
comp=Z,31nm,0.8s
KHC Kasperske Hory 76.87 336 *e*P **P 03 56 43.7 +0.7**
KHC AMS AMS 04 34 30.0
comp=Z,300nm,19.6s
KHC Kasperske Hory 76.87 336 *e*P **P 03 56 43.7 +0.7**
KHC MLR MLR
comp=Z,300nm,19.6s
KHC Kasperske Hory 76.87 336 *e*P **P 03 56 43.7 +0.7**
comp=Z,6.3nm,0.8s
BANOM Banah 76.90 294 *i* P **P 03 56 43.8 +0.2**
SNR=16
MALT Malatya 76.95 314 ⇑*i*P **P 03 56 45.4 +1.6**
MALT Malatya 76.95 314 ⇑P **P 03 56 45.4 +1.6**
GRFO Grafenberg 76.97 338 *e*P **P 03 56 44.0 +0.5**
GRFO pmax pmax
comp=Z,30nm,1.0s
GRFO Grafenberg 76.97 338 *e*P **P 03 56 44.0 +0.5**
comp=Z,30nm,1.0s
LOT Lotru 77.00 328 ⇓*i*P **P 03 56 43.6 -0.3**
GEC2 GERESS Array S 77.10 336 *e*P **P 03 56 44.7 +0.3**
GEC2 pmax pmax
comp=Z,7.0nm,0.9s
GEC2 GERESS Array S 77.10 336 *e*P **P 03 56 44.7 +0.3**
comp=Z,6.9nm,0.9s
GERES GERESS Array B 77.10 336 P **P 03 56 44.4 0.0**
comp=Z,4.4nm,0.7s,baz=25,slow=4.4,SNR=34
GEA0 GERESS Array S 77.11 336 *e*P **P 03 56 44.3 -0.1**
HGN Heimansgroeve 77.19 341 *e*P **P 03 56 44.9 +0.2**
comp=Z,20nm,0.9s
BEBN Eben Emael 77.21 341 P **P 03 56 45.6 +0.8**
comp=Z,7.4nm,1.0s
MEM Membach 77.32 341 P **P 03 56 45.9 +0.5**
comp=Z,18nm,1.0s
MEM Membach 77.32 341 P **P 03 56 46.1 +0.7**
MEM pmax pmax
comp=Z,39nm,0.9s
CONA Conrad Observa 77.33 334 *e*P **P 03 56 46.3 +0.6**
comp=Z,13nm,0.8s,SNR=13
SOP Sopron 77.35 333 P **P 03 56 47.1 +1.4**
GZR Gura Zlata 77.39 328 ⇑*i*P **P 03 56 46.1 0.0**
GZR Gura Zlata 77.39 328 ⇑P **P 03 56 46.1 0.0**
WSAR Wadi Sarin 77.49 291 LR LR 04 35 33.0
comp=Z,150nm,19.6s,baz=66,slow=39
BZS Buzias 77.59 329 ⇓*i*P **P 03 56 47.1 0.0**
BZS Buzias 77.59 329 ⇓P **P 03 56 47.1 0.0**
BCLA Clavier 77.64 341 P **P 03 56 47.6 +0.3**
UOSS Minazif 77.69 294 *e*P **P 03 56 47.6 -0.3**
comp=Z,29nm,1.0s
HATD Hatta, Dubai 77.82 294 *i* P **P 03 56 49.0 +0.3**
SNR=11
MOA Molln 77.85 335 *e*P **P 03 56 48.9 +0.4**
comp=Z,6.9nm,0.8s
BR131 Keskin Array S 77.97 318 *e*P **P 03 56 50.1 +0.6**
BRTR Keskin Array B 77.97 318 P **P 03 56 49.8 +0.3**
comp=Z,11nm,0.9s,baz=60,slow=3.3,SNR=54
BRTR LR LR 04 34 00.9
comp=Z,32nm,20.4s,baz=355,slow=38
ASHO Ashiyiah 77.97 294 *i* P **P 03 56 49.6 0.0**
SNR=8.0
NAZ Nazwa, Dubai 77.98 294 *i* P **P 03 56 49.6 +0.1**
SNR=7.0
ARSA Arzberg 78.04 334 *e*P **P 03 56 50.5 +0.9**
comp=Z,15nm,1.2s,SNR=7.8
GIVF Givet 78.05 342 *e*P **P 03 56 49.4 -0.1**
GIVF pmax pmax
comp=Z,12nm,1.0s
DOU Dourbes 78.10 342 P **P 03 56 50.3 +0.5**
comp=Z,8.8nm,1.5s
DOU AP **pP 03 57 02.0 +1.3**
BAIF Baives 78.21 342 *e*P **P 03 56 50.4 0.0**
BAIF pmax pmax
comp=Z,8.0nm,0.8s
ANTO Ankara 78.22 319 *e*P **P 03 56 51.3 +0.5**
ANTO pmax pmax
comp=Z,14nm,0.9s
ANTO Ankara 78.22 319 *e*P **P 03 56 51.3 +0.5**
comp=Z,14nm,0.9s
BR231 Keskin MP Arra 78.25 319 *e*P **P 03 56 50.6 -0.3**
MDVR Moldovita 78.30 329 ⇓*i*P **P 03 56 50.9 -0.2**
SOKA Soboth 78.70 334 *e*P **P 03 56 53.8 +0.5**
comp=Z,22nm,1.1s,SNR=13
PERS Pernice 78.71 334 *e*P **P 03 56 53.8 +0.4**
KBA Koelnbreinsper 78.81 335 *e*P **P 03 56 55.0 +1.0**
comp=Z,30nm,0.8s,SNR=25
KBA Koelnbreinsper 78.81 335 P **P 03 56 55.1 +1.0**
BFO Black Forest 78.94 339 *e*P **P 03 56 54.6 +0.1**
BFO pmax pmax
comp=Z,11nm,0.9s
BFO Black Forest 78.94 339 *e*P **P 03 56 54.5 +0.1**
comp=Z,11nm,0.9s
OBKA Obir 78.99 334 *i* P **P 03 56 55.3 +0.3**
comp=Z,7.4nm,0.8s,SNR=5.6
WATA Walderalm 79.05 336 *e*P **P 03 56 56.2 +0.9**
comp=Z,17nm,1.0s
CDF Champ du Feu 79.11 340 *e*P **P 03 56 55.4 -0.1**
CDF pmax pmax
comp=Z,15nm,1.0s
RETA Reutte 79.12 337 *i* P **P 03 56 56.5 +0.9**
comp=Z,9.5nm,0.9s,SNR=5.0
MOTA Moosalm 79.17 337 *e*P **P 03 56 56.5 +0.6**
comp=Z,17nm,0.8s,SNR=17
ABTA Abfaltersbach 79.34 336 *e*P **P 03 56 56.9 +0.1**
comp=Z,15nm,1.0s,SNR=5.5
CRES Cresnjev 79.35 333 *i* P **P 03 56 56.7 -0.1**
DAVA Damuels 79.53 337 *e*P **P 03 56 58.1 +0.2**
comp=Z,15nm,0.9s,SNR=5.9
FETA Feichten 79.56 337 *e*P **P 03 56 58.9 +0.7**
comp=Z,16nm,1.1s,SNR=7.9
VTS Vitosha 79.69 327 ⇓*i*P **P 03 56 59.2 +0.3**
VTS Vitosha 79.69 327 *e*P **P 03 56 58.7 -0.2**
VTS pmax pmax
comp=Z,18nm,0.9s
VTS Vitosha 79.69 327 *e*P **P 03 56 58.7 -0.2**
comp=Z,18nm,0.9s
BOJS Bojanci 79.70 333 *i* P **P 03 56 58.6 0.0**
HINF Hinteralfeld 79.76 340 *e*P **P 03 56 58.6 -0.4**
HINF pmax pmax
comp=Z,12nm,1.4s
FUORN Ofenpass-Fuorn 80.05 337 *e*P **P 03 57 01.6 +0.7**
comp=Z,12nm,0.9s
PLE Pljevlja 80.36 330 P **P 03 57 02.5 +0.1**
TUE Stuetta 80.42 337 *e*P **P 03 57 02.9 +0.1**
comp=Z,14nm,0.8s
CABF La Chapelle 81.07 340 *e*P **P 03 57 06.5 +0.3**
CABF pmax pmax
comp=Z,25nm,1.4s
PDG Podgorica 81.20 329 ⇓*i*P P 03 56 59.9 -6.9
AVF Avril sur Loir 81.50 342 *e*P **P 03 57 08.5 +0.2**
AVF pmax pmax
comp=Z,15nm,1.4s
LPL La Plagne 81.96 339 *e*P **P 03 57 11.7 +0.7**
LPL pmax pmax
comp=Z,9.0nm,1.2s

LPG	**La Plagne**	**81.97**	**339**	*e*P		**P**	**03 57 11.9**	**+0.7**
LPG				pmax		pmax			
	comp=Z,7.0nm,1.0s								
BNI	**Bardonecchia**	**82.41**	**339**	*e*P		**P**	**03 57 13.1**	**-0.2**
BNI				pmax		pmax			
	comp=Z,4.0nm,0.8s								
BNI	**Bardonecchia**	**82.41**	**339**	*e*P		**P**	**03 57 13.1**	**-0.2**
	comp=Z,3.7nm,0.8s								
SSB	**Saint Sauveur**	**82.68**	**340**	*e*P		**P**	**03 57 14.4**	**-0.2**
SSB				pmax		pmax			
	comp=Z,5.0nm,0.9s								
SSB	**Saint Sauveur**	**82.68**	**340**	*e*P		**P**	**03 57 14.4**	**-0.2**
	comp=Z,5.1nm,0.9s								
ORIF	**Oris-en-Rattie**	**82.72**	**339**	*e*P		**P**	**03 57 15.7**	**+0.8**
ORIF				pmax		pmax			
	comp=Z,7.0nm,1.0s								
AQU	**L'Aquila**	**83.12**	**333**	*e*P		**P**	**03 57 17.5**	**+0.6**
AQU				pmax		pmax			
	comp=Z,13nm,0.9s								
AQU	**L'Aquila**	**83.12**	**333**	*e*P		**P**	**03 57 17.5**	**+0.6**
	comp=Z,13nm,0.9s								
CAF	**Calviac**	**83.55**	**342**	*e*P		**P**	**03 57 20.7**	**+1.6**
CAF				pmax		pmax			
	comp=Z,15nm,1.5s								
TIP	**Timpagrande**	**84.96**	**330**	*e*P		**P**	**03 57 25.9**	**-0.4**
	comp=Z,9.2nm,1.2s								
ES19	**SONSECA Array**	**89.72**	**345**	*e*P		**P**	**03 57 48.3**	**-1.1**
KEST	**Kesra**	**90.44**	**334**	P		**P**	**03 57 54.0**	**+1.3**
	comp=Z,2.0nm,0.7s,baz=138,slow=0.8,SNR=5.6								
LSZ	**Lusaka**	**125.98**	**290**	*e*PKIKP		**PKPdf**	**04 03 53.8**	**+0.4**
LSZ	**Lusaka**	**125.98**	**290**	*e*PKPdf		**PKPdf**	**04 03 53.8**	**+0.4**
SAML	**Samuel**	**128.11**	**53**	*e*PKPdf		**PKPdf**	**04 04 00.7**	**+3.3**
CPUP	**Villa Florida**	**145.43**	**61**	PKPbc		**PKPbc**	**04 04 27.8**	**-1.2**
	comp=Z,2.4nm,0.8s,baz=239,slow=1.5,SNR=3.7								
PLCA	**Paso Flores**	**146.31**	**93**	PKPbc		**PKPbc**	**04 04 31.0**	**-0.4**
	comp=Z,1.8nm,0.8s,baz=358,slow=1.9,SNR=3.0								
PLCA	**Paso Flores**	**146.31**	**93**	PKP2		**PKPbc**	**04 04 31.0**	**-0.4**
PLCA				pmax		pmax			
	comp=Z,2.0nm,0.8s								

*ISCJB **01** 03:52:35.4±0.9,51°.36N±0°.04×16°.13E±0°.05,h0km, Error ellipse: s-maj=6.1km s-min=3.4km az=28.7*
*CSEM **01** 03:52:35.6±0.5,51°.43N×16°.12E,h2km,ML2.5/7, Error ellipse: s-maj=7.4km s-min=4.4km az=21.0*
*WAR **01** 03:52:36.4,51°.44N×16°.16E,h1km,Mw2.2*
ISC 01 03:52:36.9±1.4, 51°.39N±0°.06×16°.10E±0°.03, h0km, n33, σ0s60/56, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.56**	**168**	*e*Pg	**Pg**	**03 52 47.8**	**+0.1**
KSP				*e*Sg	**Sg**	**03 52 55.4**	**+0.5**
KSP	**Ksiaz**	**0.56**	**168**	*e*Pg	**Pg**	**03 52 47.8**	**+0.1**
KSP				*e*Sg	**Sg**	**03 52 55.4**	**+0.5**
KSP	**Ksiaz**	**0.56**	**168**	*e*Pg	**Pg**	**03 52 47.8**	**+0.1**
KSP				*e*Sg	**Sg**	**03 52 55.4**	**+0.5**
UPC	**Upice**	**0.89**	**184**	*e*PG	**Pg**	**03 52 53.9**	**0.0**
UPC				*e*SG	**Sb**	**03 53 06.9**	**-0.6**
	comp=Z,19nm,0.4s						
UPC	**Upice**	**0.89**	**184**	Pg	**Pg**	**03 52 53.9**	**0.0**
UPC				Sg	**Sb**	**03 53 06.9**	**-0.6**
	19nm,0.4s						
DPC	**Dobruska-Polom**	**1.05**	**172**	*e*PG	**Pg**	**03 52 56.7**	**-0.3**
DPC				*e*SG	**Sg**	**03 53 10.7**	**+0.1**
	comp=Z,11nm,0.6s						
DPC	**Dobruska-Polom**	**1.05**	**172**	Pg	**Pg**	**03 52 56.7**	**-0.3**
DPC				Sg	**Sg**	**03 53 10.7**	**+0.1**
	11nm,0.6s						
PVCC	**Panska Ves**	**1.30**	**229**	*e*PG	**Pg**	**03 53 01.7**	**-0.1**
PVCC				*e*SG	**Sn**	**03 53 20.4**	**0.0**
PVCC	**Panska Ves**	**1.30**	**229**	Pg	**Pg**	**03 53 01.7**	**-0.1**
PVCC				Sg	**Sn**	**03 53 20.4**	**0.0**
KRLC	**Kraliky**	**1.39**	**162**	*e*PG	**Pg**	**03 53 02.8**	**-0.7**
KRLC	**Kraliky**	**1.39**	**162**	Pg	**Pg**	**03 53 02.8**	**-0.7**
BRG	**Berggiesshubel**	**1.46**	**250**	PG	**Pn**	**03 53 04.3**	**-0.1**
BRG				SG	**Sn**	**03 53 24.7**	**+0.4**
	15nm,0.4s						
GOPC	**GO Pecny, Ondr**	**1.70**	**210**	*e*PG	**Pb**	**03 53 08.8**	**-0.2**
GOPC				*e*SG	**Sg**	**03 53 31.9**	**+0.4**
GOPC	**GO Pecny, Ondr**	**1.70**	**210**	Pg	**Pb**	**03 53 08.8**	**-0.2**
GOPC				Sg	**Sg**	**03 53 31.9**	**+0.4**
PRU	**Pruhonice**	**1.72**	**216**	*e*PG	**Pn**	**03 53 08.5**	**+0.4**
PRU				*e*SG	**Sg**	**03 53 32.3**	**+0.2**
	comp=Z,4.5nm,0.3s						
PRU	**Pruhonice**	**1.72**	**216**	Pg	**Pn**	**03 53 08.5**	**+0.4**
PRU				Sg	**Sg**	**03 53 32.3**	**+0.2**
	4.5nm,0.3s						
MORC	**Moravsky Berou**	**1.86**	**150**	*e*Pn	**Pn**	**03 53 08.6**	**-1.5**
MORC				*e*Sg	**Sn**	**03 53 33.4**	**-0.8**
CLL	**Collm**	**1.95**	**269**	*i* Pn	**Pn**	**03 53 11.6**	**+0.4**
CLL				*i* Pg	**Pg**	**03 53 13.9**	**-0.3**
CLL				*e*		03 53 17.0	
CLL				*e*Sg	**Sg**	**03 53 40.0**	**+0.6**
	comp=Z,4.0nm,0.6s						
OKC	**Ostrava-Krasne**	**2.03**	**139**	*e*SG	**Sb**	**03 53 40.4**	**0.0**
	comp=Z,7.3nm,0.8s						
OKC	**Ostrava-Krasne**	**2.03**	**139**	Sg	**Sb**	**03 53 40.4**	**0.0**
	comp=Z,7.3nm,0.8s						
VRAC	**Vranov**	**2.11**	**171**	*e*Sg	**Sg**	**03 53 43.8**	**-0.8**
NKC	**Novy Kostel**	**2.59**	**245**	*e*PN	**Pn**	**03 53 19.8**	**-0.3**
NKC				*e*PG	**Pg**	**03 53 25.6**	**-1.0**
NKC	**Novy Kostel**	**2.59**	**245**	Pn	**Pn**	**03 53 19.8**	**-0.3**
NKC	**Novy Kostel**	**2.59**	**245**	Pg	**Pg**	**03 53 25.6**	**-1.0**
KHC	**Kasperske Hory**	**2.78**	**217**	*e*PN	**Pn**	**03 53 22.7**	**-0.1**
KHC				*e*PG	**Pb**	**03 53 28.5**	**+1.0**
KHC				*e*SG	**Sg**	**03 54 05.2**	**-1.1**
	comp=Z,2.8nm,0.6s						
KHC	**Kasperske Hory**	**2.78**	**217**	Pn	**Pn**	**03 53 22.7**	**-0.1**
KHC	**Kasperske Hory**	**2.78**	**217**	Pg	**Pb**	**03 53 28.5**	**+1.0**
KHC				Sg	**Sg**	**03 54 05.2**	**-1.1**
	comp=Z,2.8nm,0.6s						
SMOL	**Smolenice**	**3.00**	**163**	*e*Sg	**Sb**	**03 54 08.8**	**+0.3**
SMOL	**Smolenice**	**3.00**	**163**	*e*SG	**Sb**	**03 54 08.8**	**+0.3**
LANS	**Liptovska Anna**	**3.11**	**135**	*e*Sg	**Sg**	**03 54 17.3**	**+0.4**
LANS	**Liptovska Anna**	**3.11**	**135**	*e*SG	**Sg**	**03 54 17.3**	**+0.4**
CONA	**Conrad Observa**	**3.47**	**183**	*i* Pn	**Pb**	**03 53 41.1**	**+1.8**
	comp=Z,0.4nm,0.3s						
CONA				Sg	**Sg**	**03 54 29.3**	**+1.0**
	comp=Z,2.8nm,0.4s						
MOA	**Molln**	**3.74**	**199**	*e*Pn	**Pb**	**03 53 43.9**	**0.0**
	comp=Z,0.1nm,0.1s						
MOA				Sg	**Sg**	**03 54 37.4**	**+0.4**
	comp=Z,1.4nm,0.3s						

*ISCJB **01** 03:57:55.8±0.3,12°.14S±0°.03×117°.35E±0°.03,h10km, mb4.5/17,MS3.8/4, Error ellipse: s-maj=5.9km s-min=3.6km az=42.5*
*IDC **01** 03:57:56.3±0.9,11°.95S×117°.45E,h0km,mb4.3/7, mb1 4.5/10,mb1mx4.1/30,mbtmp4.3/10,ML4.4/3,MS3.4/5, Ms1 3.3/5,ms1mx3.0/26, Error ellipse: s-maj=35.8km s-min=18.5km az=65.0*
*NEIC **01** 03:57:57.8±0.4,12°.06S×117°.38E,h10km,mb4.6/11, Error ellipse: s-maj=10.5km s-min=6.7km az=50.0*
*DJA **01** 03:57:58.1±1.0,12°.S±8°×11°.7E±°,h14km±12km,M5.1/14, mb5.1/7,mB5.3/4,MLv5.2/14,Mw(mB)4.8/4*
ISC 01 03:57:57.8±0.5, 12°.07S±0°.05×117°.32E±0°.05, h10km, n66, σ2s70/84, mb4.6/17, MS3.5/4, South of Sumbawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLAI	**Plampang**	**3.25**	**8**	P	**Pn**	**03 58 49.3**	**+0.4**
PLAI				S	**Sn**	**03 59 22.5**	**-5.2**
TWSI	**Taliwang, Sumb**	**3.34**	**353**	P	**Pn**	**03 58 50.3**	**+0.3**
TWSI				S	**Sn**	**03 59 31.7**	**+2.0**
BASI	**Baing, Sumba**	**3.69**	**60**	P	**Pn**	**03 58 54.6**	**-0.3**
BASI				S	**Sn**	**03 59 39.7**	**+1.2**
WSI	**Waingapu**	**3.78**	**51**	P	Pg	03 59 19.9	+10
IGBI	**Denpasar**	**3.87**	**326**	P	**Pn**	**03 58 57.8**	**+0.4**
DNP	**Denpasar**	**3.95**	**328**	P	**Pn**	**03 58 59.8**	**+1.3**
DNP				S	**Sn**	**03 59 47.0**	**+2.0**
SRBI	**Singaraja**	**4.47**	**332**	P	**Pn**	**03 59 07.1**	**+1.5**
JAGI	**Jajag, Banyuwa**	**4.74**	**319**	P	**Pn**	**03 59 08.5**	**-0.9**
JAGI				S	**Sn**	**03 59 59.1**	**-5.3**
JAGI	**Jajag, Banyuwa**	**4.74**	**319**	*e*Pn	**Pn**	**03 59 08.4**	**-0.9**
JAGI				*e*Sn	**Sn**	**03 59 58.6**	**-5.8**
ABJI	**Asem Bagus**	**5.22**	**324**	P	**Pn**	**03 59 16.9**	**+1.0**
	270nm,0.8s,2.4nm						
ABJI				S	**Sn**	**04 00 13.3**	**-2.9**
	270nm,0.8s,2.4nm						
GMJI	**Gumukmas**	**5.36**	**314**	P	**Pn**	**03 59 17.1**	**-0.8**
	112nm,1.0s,3μm1.1nm						
GMJI				S	**Sn**	**04 00 16.5**	**-3.2**
	112nm,1.0s,3μm1.1nm						
BLJI	**Banyuglugur**	**5.65**	**319**	P	**Pn**	**03 59 22.1**	**+0.3**
	169nm,0.6s,5μm2.3nm						
BLJI				S	**Sn**	**04 00 23.9**	**-2.9**
	169nm,0.6s,5μm2.3nm						
MMRI	**Maumere**	**5.92**	**55**	*e*Pn	**Pn**	**03 59 24.8**	**-0.8**
MMRI				*e*Sn	**Sn**	**04 00 28.9**	**-4.7**
BSSI	**Bau Bau, Buton**	**6.67**	**28**	P	**Pn**	**03 59 36.8**	**+0.9**
BSSI				S	**Sn**	**04 00 46.5**	**-5.5**
PWJI	**Pagerwojo**	**6.75**	**306**	P	**Pn**	**03 59 36.8**	**-0.2**
	71nm,0.5s,2μm1.3nm						
PWJI				S	**Sn**	**04 00 47.4**	**-6.7**
	71nm,0.5s,2μm1.3nm						
PCJI	**Pacitan**	**7.16**	**302**	P	**Pn**	**03 59 43.0**	**+0.3**
	72nm,0.7s,0.8nm						
PCJI				S	**Sn**	**04 00 57.9**	**-6.3**
	72nm,0.7s,0.8nm						
SOEI	**Soe**	**7.20**	**72**	P	**Pn**	**03 59 43.7**	**+0.3**
	125nm,0.6s,2μm0.9nm						
SOEI				S	**Sn**	**04 01 04.5**	**-0.9**
	125nm,0.6s,2μm0.9nm						
SOEI	**Soe**	**7.20**	**72**	*e*Pn	**Pn**	**03 59 43.6**	**+0.3**
SOEI				*e*Sn	**Sn**	**04 00 56.8**	**-8.6**
KAPI	**Kappang**	**7.41**	**19**	*e*Pn	**Pn**	**03 59 47.3**	**+1.3**
KAPI				*e*Sn	**Sn**	**04 01 02.9**	**-7.4**
NGJI	**Ngawi**	**7.42**	**308**	P	**Pn**	**03 59 47.4**	**+1.2**
NGJI				S	**Sn**	**04 01 07.2**	**-3.4**
UGM	**Wanagama**	**7.86**	**301**	P	**Pn**	**03 59 52.4**	**+0.1**
UGM	**Wanagama**	**7.86**	**301**	*e*Pn	**Pn**	**03 59 54.8**	**+2.5**
UGM				*e*Sn	**Sn**	**04 01 17.7**	**-3.7**
BBKI	**Banjar Baru**	**8.89**	**344**	P	Pn	04 00 14.6	+8.2
MBWA	**Marble Bar**	**9.33**	**166**	*e*Pn	**Pn**	**04 00 09.7**	**-2.7**
MBWA				*e*Sn	Sn	04 01 44.2	-13
KPJI	**Karang Pucung**	**9.51**	**299**	P	**Pn**	**04 00 19.1**	**+4.2**
FITZ	**Fitzroy Crossi**	**10.03**	**128**	Pn	**Pn**	**04 00 19.9**	**-2.1**
	5.4nm,0.3s,baz=306,slow=6.9,SNR=33						
FITZ				Sn	Sn	04 02 02.3	-12
	4.7nm,0.3s,baz=178,slow=15,SNR=4.0						
FITZ				LR	LR	04 04 09.7	
	comp=Z,114nm,20.7s,baz=308,slow=37						
FITZ	**Fitzroy Crossi**	**10.03**	**128**	*e*Pn	**Pn**	**04 00 19.1**	**-2.9**
FITZ				Sn	Sn	04 02 02.3	-12
MTKI	**Muara Teweh, K**	**11.31**	**348**	P	**Pn**	**04 00 42.8**	**+3.2**
STKI	**Sintang**	**13.38**	**334**	P	**Pn**	**04 01 11.3**	**+3.5**
MTN	**Manton Dam**	**13.52**	**95**	*e*Pn	**Pn**	**04 01 09.2**	**-0.6**
SBUM	**Sibu**	**15.29**	**340**	*e*Pn	**P**	**04 01 40.3**	**+1.6**
	20nm,1.4s						
FAKI	**Fak Fak**	**17.36**	**60**	*e*Pn	**Pn**	**04 01 58.8**	**-1.6**
KKM	**Kota Kinabalu**	**18.03**	**356**	*e*Pn	**Pn**	**04 02 08.5**	**-0.2**
WRA	**Warramunga Arr**	**18.13**	**118**	Pn	**Pn**	**04 02 07.3**	**-2.6**
	1.1nm,0.3s,baz=286,slow=14,SNR=23						
WRA				Sn	Sn	04 05 13.6	-19
	1.8nm,0.3s,baz=291,slow=24,SNR=12						
WRA				LR	LR	04 08 47.6	
	comp=Z,104nm,22.0s,baz=25,slow=36						
WRAB	**Tennant Creek**	**18.14**	**118**	*e*Pn	**Pn**	**04 02 08.8**	**-1.2**
	8.0nm,0.6s						
WRAB				*e*Sn	Sn	04 05 13.8	-19
WB2	**Warramunga Arr**	**18.14**	**118**	*e*Pn	**Pn**	**04 02 09.7**	**-0.4**
	7.1nm,0.6s						
AS31	**Alice Springs**	**19.53**	**128**	*e*P	**P**	**04 02 26.7**	**+1.1**
	4.9nm,0.4s						
ASAR	**Alice Springs**	**19.53**	**128**	P	**P**	**04 02 25.7**	**+0.1**
	0.6nm,0.3s,baz=299,slow=12,SNR=21						
ASAR				S	Sn	04 05 51.6	-15
	1.3nm,0.3s,baz=306,slow=26,SNR=12						
ASAR				LR	LR	04 09 44.5	
	comp=Z,79nm,20.4s,baz=299,slow=36						
AS01	**Alice Springs**	**19.57**	**128**	*e*P	**Pn**	**04 02 28.5**	**+1.2**
AS01				*e*Sn	S	04 05 52.8	-14
PPI	**Padang Panjang**	**20.37**	**303**	P	Pn	04 02 36.5	-0.3
NWAO	**Narrogin (SRO)**	**20.76**	**180**	P	**P**	**04 02 39.6**	**+0.8**
	35nm,0.4s,baz=244,slow=11,SNR=9.6						
NWAO				S	S	04 06 13.3	-17
	12nm,0.3s,baz=179,slow=7.1,SNR=4.7						
NWAO	**Narrogin (SRO)**	**20.76**	**180**	*e*P	**P**	**04 02 40.0**	**+1.2**
	42nm,0.5s						
NWAO				S	S	04 06 13.3	-17
FORT	**Forrest**	**21.11**	**154**	*e*P	**P**	**04 02 42.8**	**+0.2**
KULM	**Kulim**	**23.92**	**315**	*e*P	**P**	**04 03 12.2**	**+0.1**
	11nm,0.7s						
BBOO	**Buckleboo**	**26.86**	**143**	*e*P	**P**	**04 03 37.1**	**-1.6**
	67nm,1.8s						
CTAO	**Charters Tower**	**28.89**	**110**	*e*P	**P**	**04 03 57.5**	**+0.4**
	38nm,1.6s						
STKA	**Stephens Creek**	**29.80**	**135**	P	**P**	**04 04 05.7**	**+0.7**
	2.4nm,0.5s,baz=314,slow=12,SNR=5.0						
STKA				LR	LR	04 17 45.5	
	comp=Z,78nm,18.2s,baz=13,slow=40						
STKA	**Stephens Creek**	**29.80**	**135**	*e*P	**P**	**04 04 05.3**	**+0.3**
	1.6nm,1.0s						
KMI	**Kunming**	**39.60**	**339**	P	**P**	**04 05 32.7**	**+2.8**
KMI				pmax	pmax		
	comp=Z,9.0nm,0.5s						
NJ2	**Nanjing**	**43.89**	**2**	*e*P	**P**	**04 06 06.4**	**+1.8**
NJ2				sP	**sP**	**04 06 09.1**	**+0.1**
NJ2				S	**S**	**04 12 40.3**	**+4.3**
NJ2				pmax	pmax		
	comp=Z,9.0nm,0.5s						
NJ2				LR	LR		
	comp=N,2μm,27.3s						
NJ2				LR	LR		
	comp=E,3μm,26.6s						
NJ2				LR	LR		
	comp=Z,2μm,25.5s						
LZH	**Lanzhou**	**49.55**	**346**	*e*P	**P**	**04 06 48.1**	**-1.1**
LZH				pP	pP	04 06 51.3	-1.0
LZH				sP	sP	04 06 53.9	+0.4
LZH				pmax	pmax		
	comp=Z,16nm,1.0s						
HHC	**Hu-ho-hao-te**	**52.92**	**355**	*e*P	**P**	**04 07 16.9**	**+2.6**
HHC				pmax	pmax		
	comp=Z,37nm,0.9s						
HHC				pmax	pmax		
	comp=Z,87nm,7.4s						
GTA	**Gaotai**	**53.74**	**343**	*e*P	**P**	**04 07 22.1**	**+1.7**
GTA				pP	sP	04 07 26.3	+1.5
GTA				sP	pP	04 07 29.1	+5.5
GTA				pmax	pmax		
	comp=Z,2.0nm,1.2s						
USRK	**Ussuriysk Ar.**	**57.57**	**12**	P	**P**	**04 07 48.0**	**+0.3**
	comp=Z,0.8nm,0.4s,baz=160,slow=4.6,SNR=1.5						
SONM	**Songino Array**	**60.42**	**352**	P	**P**	**04 08 06.7**	**-0.9**
	comp=Z,1.6nm,0.7s,baz=169,slow=8.3,SNR=5.8						
WMQ	**Urumqi**	**61.82**	**336**	P	**P**	**04 08 18.3**	**+1.2**
WMQ				pP	sP	04 08 22.9	+1.4
WMQ				sP	pP	04 08 25.3	+5.0
WMQ				pmax	pmax		
	comp=Z,3.0nm,0.7s						
WMQ				pmax	pmax		
	comp=Z,71nm,3.9s						
WMQ				LR	LR		
	comp=N,54nm,5.7s						
WMQ				LR	LR		
	comp=E,83nm,5.7s						
WMQ				LR	LR		
	comp=Z,15nm,20.3s						
KSH	**Kashi**	**64.12**	**325**	*e*P	**P**	**04 08 32.9**	**+0.4**
KSH				*e*pP	sP	04 08 37.2	+0.2
KSH				*e*PcP	**PcP**	**04 09 08.3**	**+0.7**
KSH				S	**S**	**04 17 06.8**	**-2.9**
KSH				ScS	**SKSac**	**04 18 22.7**	**-4.1**
KSH	**Kashi**	**64.12**	**325**	SS	SS	04 21 17.1	-2.1
KSH				pmax	pmax		
	comp=Z,48nm,3.2s						
KSH				LR	LR		
	comp=N,58nm,5.6s						
KSH				LR	LR		
	comp=E,87nm,6.9s						
KSH				LR	LR		
	comp=Z,79nm,6.6s						
MK01	**Makanchi Array**	**66.43**	**335**	*e*P	**P**	**04 08 47.1**	**-0.2**
AAK	**Ala-Archa**	**67.09**	**327**	LR	LR	04 41 07.8	
	comp=Z,42nm,18.5s,baz=20,slow=39						
VNDA	**Vanda**	**69.24**	**171**	P	**P**	**04 09 06.0**	**+1.5**
	comp=Z,1.0nm,0.8s,baz=297,slow=10.0,SNR=4.0						
KURK	**Kurchatov**	**71.03**	**335**	*e*P	**P**	**04 09 15.5**	**-0.3**
	comp=Z,10nm,0.7s						
ZALV	**Zalesovo Beam**	**71.33**	**340**	P	**P**	**04 09 16.4**	**-1.1**
	comp=Z,0.9nm,0.3s,baz=141,slow=7.1,SNR=1.7						
ABKAR	**Akbulak array**	**79.13**	**326**	*e*P	**P**	**04 10 02.8**	**+0.3**
	comp=Z,16nm,0.7s						
BOSA	**Boshof**	**86.10**	**242**	P	**P**	**04 10 40.9**	**+1.2**
	comp=Z,3.9nm,1.1s,baz=11,slow=5.2,SNR=2.8						
TORD	**Torodi Ar. Bea**	**117.32**	**279**	PKP	**PKPdf**	**04 16 44.6**	**0.0**
	comp=Z,0.2nm,0.6s,baz=73,slow=2.4,SNR=2.2						

*CSEM **01** 04:11:20.9±0.1,39°.13N×29°.01E,h2km,MD3.0, Error ellipse: s-maj=1.8km s-min=1.5km az=139.0*
*DDA **01** 04:11:20.5,39°.12N×28°.98E,h17km,Md3.0*
*ISK **01** 04:11:20.4,39°.12N×29°.02E,h5km,ML2.5*
ISC 01 04:11:20.9±1.0, 39°.13N±0°.02×29°.00E±0°.02, h8km±8km, n53, σ0s33/70, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DEMI	**Demirci**	**0.24**	**250**	*i* P	**Pg**	**04 11 25.5**	**-0.2**
DEMI				*i* S	**Sg**	**04 11 29.4**	**+0.5**
DEMI	**Demirci**	**0.24**	**250**	P	**Pg**	**04 11 25.5**	**-0.2**
DEMI				S	**Sg**	**04 11 29.4**	**+0.5**
GEDZ	**Gediz**	**0.33**	**104**	*e*PG	**Pg**	**04 11 27.6**	**+0.1**
GEDZ				*e*SG	**Sg**	**04 11 31.8**	**0.0**
GEDZ	**Gediz**	**0.33**	**104**	*e*Pg	**Pg**	**04 11 27.6**	**+0.1**
GEDZ				*e*Sg	**Sg**	**04 11 31.8**	**0.0**
TVSB	**Tavsanli**	**0.48**	**48**	PG	**Pg**	**04 11 30.3**	**0.0**
TVSB				SG	**Sg**	**04 11 36.8**	**+0.1**
TVSB	**Tavsanli**	**0.48**	**48**	*i* Pg	**Pg**	**04 11 30.3**	**0.0**
TVSB				*i* Sg	**Sg**	**04 11 36.8**	**+0.1**
KULA	**Kula-Manisa**	**0.67**	**204**	PG	**Pg**	**04 11 33.6**	**-0.2**
KULA				SG	**Sg**	**04 11 42.5**	**+0.1**
KULA	**Kula-Manisa**	**0.67**	**204**	*i* Pg	**Pg**	**04 11 33.6**	**-0.2**
KULA				*i* Sg	**Sg**	**04 11 42.5**	**+0.1**
KHL	**Karahalli**	**0.90**	**153**	*e*PG	**Pb**	**04 11 38.4**	**-0.5**
KHL	**Karahalli**	**0.90**	**153**	*e*Pg	**Pb**	**04 11 38.4**	**-0.5**
ORLT	**Orhaneli**	**0.92**	**355**	*e*PG	**Pg**	**04 11 38.1**	**-0.6**
ORLT	**Orhaneli**	**0.92**	**355**	*e*Pg	**Pg**	**04 11 38.1**	**-0.6**
AKHS	**Akhisar**	**0.96**	**255**	*i* P	**Pg**	**04 11 39.3**	**0.0**
AKHS				*i* S	**Sb**	**04 11 52.2**	**-0.5**
AKHS	**Akhisar**	**0.96**	**255**	P	**Pg**	**04 11 39.3**	**0.0**
AKHS				S	**Sb**	**04 11 52.2**	**-0.5**
AKS	**Akhisar**	**0.96**	**255**	*e*PG	**Pb**	**04 11 39.6**	**-0.2**
AKS	**Akhisar**	**0.96**	**255**	*e*Pg	**Pb**	**04 11 39.6**	**-0.2**
BALB	**Balikesir**	**1.01**	**301**	*e*PG	**Pn**	**04 11 41.4**	**0.0**
BALB	**Balikesir**	**1.01**	**301**	*e*Pg	**Pn**	**04 11 41.4**	**0.0**
IGD	**Bursa**	**1.15**	**8**	*i* P	**Pg**	**04 11 42.5**	**-0.5**
IGD				*i* S	**Sb**	**04 11 58.1**	**0.0**
BALY	**Balya**	**1.23**	**300**	*i* P	**Pb**	**04 11 44.5**	**-0.1**
BALY				*i* S	**Sb**	**04 12 00.8**	**+0.2**
BALY	**Balya**	**1.23**	**300**	P	**Pb**	**04 11 44.5**	**-0.1**
BALY				S	**Sb**	**04 12 00.8**	**+0.2**
KCTX	**Karacabey (Bur**	**1.24**	**337**	*e*PN	**Pb**	**04 11 44.6**	**-0.1**
KCTX	**Karacabey (Bur**	**1.24**	**337**	*e*Pn	**Pb**	**04 11 44.6**	**-0.1**
MDNY	**Mudanya-Bursa**	**1.25**	**356**	*e*PN	**Pn**	**04 11 44.8**	**+0.1**
MDNY	**Mudanya-Bursa**	**1.25**	**356**	*e*Pn	**Pn**	**04 11 44.8**	**+0.1**
GEMT	**Gemlik**	**1.32**	**6**	*e*PN	**Pg**	**04 11 46.3**	**+0.1**
GEMT	**Gemlik**	**1.32**	**6**	*e*Pn	**Pg**	**04 11 46.3**	**+0.1**
SHUT	**Suhut-Afyon**	**1.34**	**115**	*e*PN	**Pb**	**04 11 46.5**	**+0.1**
SHUT	**Suhut-Afyon**	**1.34**	**115**	*e*Pn	**Pb**	**04 11 46.5**	**+0.1**
BORA	**Eskisehir**	**1.35**	**56**	*i* P	**Pn**	**04 11 46.2**	**-0.1**
BORA				*i* S	**Sn**	**04 12 04.8**	**+0.3**
BORA	**Eskisehir**	**1.35**	**56**	P	**Pn**	**04 11 46.2**	**-0.1**
BORA				S	**Sn**	**04 12 04.8**	**+0.3**
ADVT	**Abdulvahap**	**1.43**	**23**	*e*PN	**Pb**	**04 11 47.6**	**-0.2**
ADVT	**Abdulvahap**	**1.43**	**23**	*e*Pn	**Pb**	**04 11 47.6**	**-0.2**
DNZL	**Cakiroluk**	**1.43**	**179**	*i* P	**Pn**	**04 11 47.3**	**-0.2**
DNZL				*i* S	**Sn**	**04 12 07.3**	**+0.7**
DNZL	**Cakiroluk**	**1.43**	**179**	P	**Pn**	**04 11 47.3**	**-0.2**
DNZL				S	**Sn**	**04 12 07.3**	**+0.7**
ARMT	**Armutlu**	**1.44**	**356**	*e*PN	**Pg**	**04 11 48.2**	**-0.4**
ARMT	**Armutlu**	**1.44**	**356**	*e*Pn	**Pg**	**04 11 48.2**	**-0.4**
AYDB	**Zeytinkoy-Aydi**	**1.46**	**217**	*e*PN	**Pg**	**04 11 48.5**	**-0.5**
AYDB	**Zeytinkoy-Aydi**	**1.46**	**217**	*e*Pn	**Pg**	**04 11 48.5**	**-0.5**
ESKT	**Eskisehir**	**1.49**	**74**	*e*PN	**Pg**	**04 11 48.9**	**-0.6**
ESKT	**Eskis

MULD					Sg		**Sg**	**04 45 04.9**	**-0.1**
WERD	**Werda**	**0.25**	**332**	*i* Pg			**Pg**	**04 45 03.4**	**+0.4**
WERD				*i* Sg			**Sg**	**04 45 06.3**	**-0.2**
WERD				AML			AML	04 45 06.9	
	comp=E,155nm,0.3s								
WERD	**Werda**	**0.25**	**332**	*e*Pg			**Pg**	**04 45 03.4**	**+0.4**
WERD				*e*Sg			**Sg**	**04 45 06.4**	**-0.2**
WERD	**Werda**	**0.25**	**332**	Pg			**Pg**	**04 45 03.4**	**+0.4**
WERD				Sg			**Sg**	**04 45 06.4**	**-0.2**
TRIB	**Obertriebel**	**0.26**	**299**	*i* Pg			**Pg**	**04 45 03.4**	**+0.3**
TRIB				*i* Sg			**Sg**	**04 45 06.5**	**-0.3**
TRIB				AML			AML	04 45 07.1	
	comp=E,80nm,0.1s								
TRIB	**Obertriebel**	**0.26**	**299**	*e*Pg			**Pg**	**04 45 03.4**	**+0.3**
TRIB	**Obertriebel**	**0.26**	**299**	Pg			**Pg**	**04 45 03.4**	**+0.3**
PLN	**Plauen**	**0.33**	**321**	*i* Pg			**Pg**	**04 45 04.8**	**+0.4**
PLN				*i* Sg			**Sg**	**04 45 08.9**	**-0.1**
PLN				AML			AML	04 45 09.1	
	comp=E,120nm,0.1s								
PLN	**Plauen**	**0.33**	**321**	*e*Pg			**Pg**	**04 45 04.8**	**+0.4**
PLN				*e*Sg			**Sg**	**04 45 08.9**	**-0.1**
PLN	**Plauen**	**0.33**	**321**	Pg			**Pg**	**04 45 04.8**	**+0.4**
PLN				Sg			**Sg**	**04 45 08.9**	**-0.1**
MANZ	**Manzenberg**	**0.34**	**225**	*e*Pg			**Pb**	**04 45 05.3**	**-0.4**
MANZ				*e*Sg			**Sg**	**04 45 09.8**	**+0.3**
MANZ	**Manzenberg**	**0.34**	**225**	Pg			**Pb**	**04 45 05.3**	**-0.4**
MANZ				Sg			**Sg**	**04 45 09.8**	**+0.3**
SCHF	**Schoenfels**	**0.45**	**353**	*i* Pg			**Pg**	**04 45 07.2**	**+0.6**
SCHF				*i* Sg			**Sg**	**04 45 13.0**	**+0.3**
SCHF				AML			AML	04 45 13.5	
	comp=E,125nm,0.3s								
SCHF	**Schoenfels**	**0.45**	**353**	*e*Pg			**Pg**	**04 45 07.2**	**+0.6**
SCHF	**Schoenfels**	**0.45**	**353**	Pg			**Pg**	**04 45 07.2**	**+0.6**
MLFH	**Mildenfurth**	**0.62**	**335**	*i* Pg			**Pg**	**04 45 10.2**	**+0.4**
MLFH				*i* Sg			**Sg**	**04 45 17.9**	**0.0**
MOX	**Moxa**	**0.69**	**307**	*e*Pg			**Pg**	**04 45 11.5**	**+0.3**
MOX	**Moxa**	**0.69**	**307**	Pg			**Pg**	**04 45 11.5**	**+0.3**
GRA1	**Grafenberg Arr**	**0.98**	**237**	Pg			**Pn**	**04 45 17.2**	**+0.1**
GRF	**Grafenberg Arr**	**0.98**	**237**	*e*Pg			**Pn**	**04 45 17.2**	**+0.1**
WET	**Wettzell**	**1.12**	**167**	*e*Pg			**Pn**	**04 45 18.7**	**-0.3**
WET	**Wettzell**	**1.12**	**167**	Pg			**Pn**	**04 45 18.7**	**-0.3**
CLL	**Collm**	**1.13**	**17**	*e*Pg			**Pg**	**04 45 19.7**	**+0.3**
CLL	**Collm**	**1.13**	**17**	Pg			**Pg**	**04 45 19.7**	**+0.3**
CLL	**Collm**	**1.13**	**17**	*i* Pg			**Pg**	**04 45 19.6**	**+0.3**
CLL				*i*				04 45 21.9	
CLL				*i*				04 45 23.3	
CLL				*i* Sg			**Sn**	**04 45 34.8**	**+0.4**
	comp=Z,12nm,0.4s								
BRG	**Berggiesshubel**	**1.13**	**55**	PG			**Pg**	**04 45 20.1**	**+0.7**
BRG				SG			**Sn**	**04 45 34.4**	**-0.1**
	comp=Z,36nm,0.3s								
BRG	**Berggiesshubel**	**1.13**	**55**	*e*Pg			**Pg**	**04 45 20.2**	**+0.7**
BRG	**Berggiesshubel**	**1.13**	**55**	Pg			**Pg**	**04 45 20.2**	**+0.7**
KHC	**Kasperske Hory**	**1.31**	**147**	*e*PG			**Pg**	**04 45 23.3**	**+0.5**
KHC				*e*SG			**Sg**	**04 45 39.9**	**0.0**
	comp=Z,9.9nm,0.3s								
KHC	**Kasperske Hory**	**1.31**	**147**	Pg			**Pg**	**04 45 23.3**	**+0.5**
KHC				Sg			**Sg**	**04 45 39.9**	**0.0**
	comp=Z,9.9nm,0.3s								
PRU	**Pruhonice**	**1.34**	**100**⇈	*e*PG			**Pg**	**04 45 23.4**	**-0.1**
PRU				*e*SG			**Sg**	**04 45 41.9**	**+0.9**
	comp=Z,6.7nm,0.2s								
PRU	**Pruhonice**	**1.34**	**100**	Pg			**Pg**	**04 45 23.4**	**-0.1**
PRU				Sg			**Sg**	**04 45 41.9**	**+0.9**
	comp=Z,6.7nm,0.2s								
PVCC	**Panska Ves**	**1.37**	**77**⇈	*e*SG			**Sg**	**04 45 42.6**	**+0.9**
	comp=Z,34nm,0.2s								
PVCC	**Panska Ves**	**1.37**	**77**	Sg			**Sg**	**04 45 42.6**	**+0.9**
	comp=Z,34nm,0.2s								
GOPC	**GO Pecny, Ondr**	**1.52**	**101**	*e*SG			**Sg**	**04 45 47.3**	**+0.8**
	comp=Z,6.1nm,0.4s								
GOPC	**GO Pecny, Ondr**	**1.52**	**101**	Sg			**Sg**	**04 45 47.3**	**+0.8**
	comp=Z,6.1nm,0.4s								
UPC	**Upice**	**2.27**	**82**⇈	*e*SG			**Sg**	**04 46 10.0**	**-0.7**
	comp=Z,4.5nm,0.4s								
UPC	**Upice**	**2.27**	**82**	Sg			**Sg**	**04 46 10.0**	**-0.7**
	comp=Z,4.5nm,0.4s								
DPC	**Dobruska-Polom**	**2.46**	**86**	*e*SG			**Sg**	**04 46 15.3**	**-1.5**
	comp=Z,2.5nm,0.2s								
DPC	**Dobruska-Polom**	**2.46**	**86**	Sg			**Sg**	**04 46 15.3**	**-1.5**
	comp=Z,2.5nm,0.2s								
MOA	**Molln**	**2.66**	**153**	Sg			**Sg**	**04 46 21.9**	**-1.0**
	comp=Z,1.2nm,0.2s								
MOA	**Molln**	**2.66**	**153**	Sg			**Sg**	**04 46 21.9**	**-1.0**
	comp=Z,1.2nm,0.2s								
CONA	**Conrad Observa**	**3.20**	**135**	Sg			**Sg**	**04 46 38.7**	**-1.7**
	comp=Z,1.7nm,0.2s								
CONA	**Conrad Observa**	**3.20**	**135**	Sg			**Sg**	**04 46 38.7**	**-1.7**
	comp=Z,1.7nm,0.2s								
KBA	**Koelnbreinsper**	**3.21**	**169**	*e*Sg			**Sg**	**04 46 42.6**	**+2.0**
	comp=Z,1.4nm,0.3s								
KBA	**Koelnbreinsper**	**3.21**	**169**	Sg			**Sg**	**04 46 42.6**	**+2.0**
	comp=Z,1.4nm,0.3s								

*ISCJB **01** 04:46:17.2±0.6,50°.22N×0°.02×12°.53E±0°.04, h15km±6km, Error ellipse: s-maj=4.0km s-min=3.4km az=178.0*
*VIE **01** 04:46:18.0±0.9,50°.18N×12°.40E, h12km, ML2.0/2, Error ellipse: s-maj=21.2km s-min=2.9km az=55.0*
*CSEM **01** 04:46:18.4±0.1,50°.23N×12°.50E, h10km, ML2.6/8, Error ellipse: s-maj=1.5km s-min=1.3km az=31.0*
*BGR **01** 04:46:18.7±0.3,50°.24N×12°.45E, h11km±2km, ML2.0/6, Error ellipse: s-maj=3.3km s-min=2.2km az=98.0*
*PRU **01** 04:46:19.3,50°.25N×12°.51E, h3km, West Bohemia Swarm*

ISC 01 04:46:18.4±0.8, 50°.24N±0°.02×12°.48E±0°.02, h12km±4km, n49, σ0§48/72, 4C, Germany

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NKC	**Novy Kostel**	**0.02**	**264**⇈	*i* PG	**Pg**	**04 46 20.8**	**+0.2**
NKC				*e*SG	**Sg**	**04 46 21.9**	**-0.3**
	comp=Z,189nm,0.2s						
NKC	**Novy Kostel**	**0.02**	**264**	*e*Pg	**Pg**	**04 46 20.9**	**+0.2**
NKC				*e*Sg	**Sg**	**04 46 22.1**	**-0.1**
NKC	**Novy Kostel**	**0.02**	**264**	Pg	**Pg**	**04 46 20.8**	**+0.2**
NKC				Sg	**Sg**	**04 46 22.1**	**-0.1**
WERN	**Wernitzgruen**	**0.08**	**309**	*e*Pg	**Pg**	**04 46 21.3**	**+0.1**
WERN				*e*Sg	**Sg**	**04 46 22.7**	**-0.4**
WERN	**Wernitzgruen**	**0.08**	**309**	Pg	**Pg**	**04 46 21.3**	**+0.1**
WERN				Sg	**Sg**	**04 46 22.7**	**-0.4**
ROHR	**Rohrbach**	**0.10**	**270**	*e*Pg	**Pg**	**04 46 21.4**	**0.0**
ROHR				*e*Sg	**Sg**	**04 46 23.0**	**-0.5**
ROHR	**Rohrbach**	**0.10**	**270**	Pg	**Pg**	**04 46 21.4**	**0.0**
ROHR				Sg	**Sg**	**04 46 23.0**	**-0.5**
GUNZ	**Gunzen**	**0.16**	**324**	*e*Pg	**Pg**	**04 46 22.3**	**+0.1**
GUNZ				*e*Sg	**Sg**	**04 46 24.4**	**-0.4**
GUNZ	**Gunzen**	**0.16**	**324**	Pg	**Pg**	**04 46 22.3**	**+0.1**
GUNZ				Sg	**Sg**	**04 46 24.4**	**-0.4**
MULD	**Muldenberg**	**0.18**	**346**	*e*Pg	**Pg**	**04 46 22.7**	**+0.1**
MULD				*e*Sg	**Sg**	**04 46 25.1**	**-0.4**
MULD	**Muldenberg**	**0.18**	**346**	Pg	**Pg**	**04 46 22.7**	**+0.1**
MULD				Sg	**Sg**	**04 46 25.1**	**-0.4**
WERD	**Werda**	**0.24**	**333**	*e*Sg	**Sg**	**04 46 26.6**	**-0.4**
WERD	**Werda**	**0.24**	**333**	Sg	**Sg**	**04 46 26.6**	**-0.4**
TRIB	**Obertriebel**	**0.25**	**298**	*e*Pg	**Pg**	**04 46 23.6**	**0.0**
TRIB				*e*Sg	**Sg**	**04 46 26.7**	**-0.4**
TRIB	**Obertriebel**	**0.25**	**298**	Pg	**Pg**	**04 46 23.6**	**0.0**
TRIB				Sg	**Sg**	**04 46 26.7**	**-0.4**
PLN	**Plauen**	**0.32**	**321**	*e*Sg	**Sg**	**04 46 29.1**	**-0.3**
PLN	**Plauen**	**0.32**	**321**	Sg	**Sg**	**04 46 29.1**	**-0.3**
MANZ	**Manzenberg**	**0.34**	**224**	*e*Pg	**Pg**	**04 46 25.6**	**+0.2**
MANZ				*e*Sg	**Sg**	**04 46 30.0**	**0.0**
MANZ	**Manzenberg**	**0.34**	**224**	Pg	**Pg**	**04 46 25.6**	**+0.2**
MANZ				Sg	**Sg**	**04 46 30.0**	**0.0**
SCHF	**Schoenfels**	**0.45**	**354**	*e*Pg	**Pg**	**04 46 27.4**	**+0.2**
SCHF				*e*Sg	**Sg**	**04 46 33.2**	**0.0**
SCHF	**Schoenfels**	**0.45**	**354**	Pg	**Pg**	**04 46 27.4**	**+0.2**
SCHF				Sg	**Sg**	**04 46 33.2**	**0.0**
ROTZ	**Rotzenmuhle**	**0.50**	**200**	*e*Pg	**Pg**	**04 46 28.7**	**+0.5**
ROTZ	**Rotzenmuhle**	**0.50**	**200**	Pg	**Pg**	**04 46 28.7**	**+0.5**
MOX	**Moxa**	**0.69**	**307**	*e*Pg	**Pg**	**04 46 31.7**	**0.0**
MOX	**Moxa**	**0.69**	**307**	Pg	**Pg**	**04 46 31.7**	**0.0**
GRA1	**Grafenberg Arr**	**0.97**	**237**	Pg	**Pg**	**04 46 37.1**	**-0.1**
GRF	**Grafenberg Arr**	**0.97**	**237**	*e*Pg	**Pg**	**04 46 37.1**	**-0.1**
WET	**Wettzell**	**1.12**	**166**	*e*Sg	**Sb**	**04 46 54.7**	**+0.4**
WET	**Wettzell**	**1.12**	**166**	Sg	**Sb**	**04 46 54.7**	**+0.4**
CLL	**Collm**	**1.12**	**17**	*e*Pg	**Pb**	**04 46 39.9**	**+0.1**
CLL	**Collm**	**1.12**	**17**	Pg	**Pb**	**04 46 39.9**	**+0.1**
CLL	**Collm**	**1.12**	**17**	*i* Pg	**Pb**	**04 46 39.9**	**+0.1**
CLL				*i*		04 46 42.1	
CLL				*i*		04 46 43.5	
CLL				*i* Sg	**Sg**	**04 46 54.9**	**+0.2**
	comp=Z,8.0nm,0.4s						
BRG	**Berggiesshubel**	**1.13**	**55**	PG	**Pn**	**04 46 40.4**	**+0.3**
BRG				SG	**Sn**	**04 46 55.2**	**-0.4**
	comp=Z,32nm,0.2s						
BRG	**Berggiesshubel**	**1.13**	**55**	*e*Pg	**Pn**	**04 46 40.4**	**+0.3**
BRG				*e*Sg	**Sg**	**04 46 54.8**	**-0.2**
BRG	**Berggiesshubel**	**1.13**	**55**	Pg	**Pn**	**04 46 40.4**	**+0.3**
BRG				Sg	**Sg**	**04 46 54.8**	**-0.2**
KHC	**Kasperske Hory**	**1.32**	**147**	*e*SG	**Sb**	**04 47 00.2**	**+0.2**
	comp=Z,10.0nm,0.2s						
KHC	**Kasperske Hory**	**1.32**	**147**	Sg	**Sb**	**04 47 00.2**	**+0.2**
	comp=Z,10.0nm,0.2s						
PRU	**Pruhonice**	**1.35**	**100**⇈	*e*PG	**Pb**	**04 46 43.7**	**0.0**
PRU				*e*SG	**Sg**	**04 47 02.1**	**+0.1**
	comp=Z,4.5nm,0.1s						
PRU	**Pruhonice**	**1.35**	**100**	Pg	**Pb**	**04 46 43.7**	**0.0**
PRU				Sg	**Sg**	**04 47 02.1**	**+0.1**
	comp=Z,4.5nm,0.1s						
PVCC	**Panska Ves**	**1.37**	**77**⇈	*e*SG	**Sg**	**04 47 02.9**	**+0.3**
	comp=Z,23nm,0.2s						
PVCC	**Panska Ves**	**1.37**	**77**	Sg	**Sg**	**04 47 02.9**	**+0.3**
	comp=Z,23nm,0.2s						
GOPC	**GO Pecny, Ondr**	**1.52**	**101**	*e*SG	**Sg**	**04 47 07.6**	**+0.2**
	comp=Z,3.2nm,0.1s						
GOPC	**GO Pecny, Ondr**	**1.52**	**101**	Sg	**Sg**	**04 47 07.6**	**+0.2**
	comp=Z,3.2nm,0.1s						
UPC	**Upice**	**2.28**	**82**⇈	*e*SG	**Sg**	**04 47 30.4**	**-1.3**
	comp=Z,4.6nm,0.5s						
UPC	**Upice**	**2.28**	**82**	Sg	**Sg**	**04 47 30.4**	**-1.3**
	comp=Z,4.6nm,0.5s						
DPC	**Dobruska-Polom**	**2.47**	**86**	*e*SG	**Sg**	**04 47 36.3**	**-1.5**
	comp=Z,2.2nm,0.4s						
DPC	**Dobruska-Polom**	**2.47**	**86**	Sg	**Sg**	**04 47 36.3**	**-1.5**
	comp=Z,2.2nm,0.4s						
MOA	**Molln**	**2.66**	**153**	Sg	**Sg**	**04 47 42.0**	**-1.9**
	comp=Z,0.2nm,0.1s						
KBA	**Koelnbreinsper**	**3.21**	**169**	Sg	**Sg**	**04 48 01.2**	**-0.3**
	comp=Z,1.6nm,0.6s						

MAN 01 05:00:00, 11°.29N×124°.77E, h33km, mb4.3, ML3.1, MS2.8, Leyte

*DDA **01** 05:05:44.4, 38°.90N×27°.42E, h22km, Md3.5*
*CSEM **01** 05:05:45.4±0.1, 38°.86N×27°.42E, h5km, MD3.1, Error ellipse: s-maj=2.1km s-min=1.9km az=16.0*
*ISCJB **01** 05:05:45.2±0.5, 38°.88N±0°.02×27°.43E±0°.02, h5km±4km, Error ellipse: s-maj=2.8km s-min=2.7km az=151.0*
*ISK **01** 05:05:45.0, 38°.86N×27°.43E, h9km, MD3.1*
*ATH **01** 05:05:45.1, 38°.91N×27°.50E, h29km±7km, ML2.9/4, Error ellipse: s-maj=7.6km s-min=2.3km az=70.0*
*THE **01** 05:05:46.8, 38°.89N×27°.50E, h14km±3km, ML2.8/6, Error ellipse: s-maj=4.0km s-min=1.1km az=77.0*

ISC 01 05:05:45.4±1.0, 38°.89N±0°.02×27°.44E±0°.01, h12km±8km, n130, σ1§10/172, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AKS	**Akhisar**	**0.29**	**93**	*e*PG	**Pg**	**05 05 51.2**	**-0.2**
AKS				*e*SG	**Sb**	**05 05 56.5**	**-1.0**
AKS	**Akhisar**	**0.29**	**93**	*e*Pg	**Pg**	**05 05 51.2**	**-0.2**
AKS				*e*Sg	**Sb**	**05 05 56.5**	**-1.0**
DKL	**Dikili**	**0.45**	**293**	*e*PG	**Pg**	**05 05 54.2**	**-0.1**
DKL	**Dikili**	**0.45**	**293**	*e*Pg	**Pg**	**05 05 54.2**	**-0.1**
AYVA	**Ayvalik**	**0.72**	**306**	*i* P	**Pg**	**05 05 59.0**	**-0.3**
AYVA				*i* S	**Sb**	**05 06 09.3**	**-0.3**
AYVA	**Ayvalik**	**0.72**	**306**	P	**Pg**	**05 05 59.0**	**-0.3**
AYVA				S	**Sb**	**05 06 09.4**	**-0.3**
BALB	**Balikesir**	**0.82**	**24**	*e*PG	**Pn**	**05 06 01.8**	**-1.0**
BALB				*e*SG	**Sn**	**05 06 15.0**	**+0.1**
BALB	**Balikesir**	**0.82**	**24**	*e*Pg	**Pn**	**05 06 01.8**	**-1.0**
BALB				*e*Sg	**Sn**	**05 06 15.0**	**+0.1**
URLA	**Izmir**	**0.85**	**231**	*e*PG	**Pb**	**05 06 01.6**	**-0.5**
URLA	**Izmir**	**0.85**	**231**	*i* P	**Pg**	**05 06 01.1**	**-0.7**
URLA				*i* S	**Sb**	**05 06 12.8**	**-0.7**
URLA	**Izmir**	**0.85**	**231**	P	**Pg**	**05 06 01.1**	**-0.7**
URLA	**Izmir**	**0.85**	**231**	*e*Pg	**Pb**	**05 06 01.6**	**-0.5**
URLA				S	**Sb**	**05 06 12.8**	**-0.7**
BALY	**Balya**	**0.86**	**9**	*i* P	**Pg**	**05 06 01.8**	**-0.2**
BALY				*i* S	**Sb**	**05 06 13.4**	**-0.4**
BALY	**Balya**	**0.86**	**9**	P	**Pg**	**05 06 01.8**	**-0.2**
BALY				S	**Sb**	**05 06 13.4**	**-0.4**
DGB	**˙zmir**	**0.95**	**208**	*i* P	**Pb**	**05 06 02.9**	**-0.9**
DGB				*i* S	**Sg**	**05 06 15.9**	**-0.1**
PRK	**Paraskevi**	**0.97**	**292**	P	**Pn**	**05 06 04.8**	**-0.2**
PRK				S	**Sn**	**05 06 19.8**	**+1.1**
PRK	**Paraskevi**	**0.97**	**292**	P	**Pn**	**05 06 04.8**	**-0.2**
PRK				S	**Sn**	**05 06 19.8**	**+1.1**
PRK	**Paraskevi**	**0.97**	**292**	P	**Pn**	**05 06 05.1**	**+0.1**
PRK				S	**Sn**	**05 06 20.6**	**+1.9**
PRK				AML	AML	05 06 22.4	
	comp=E,3084μm,0.5s						
PRK				AML	AML	05 06 22.6	
	comp=N,2179μm,0.9s						
ZEY	**˙zmir**	**0.98**	**229**	*i* P	**Pb**	**05 06 03.2**	**-1.1**
ZEY				*i* S	**Sn**	**05 06 18.4**	**-0.5**
DEMI	**Demirci**	**1.01**	**81**	*i* P	**Pn**	**05 06 05.6**	**+0.1**
DEMI				*i* S	**Sn**	**05 06 18.7**	**-0.9**
DEMI	**Demirci**	**1.01**	**81**	P	**Pn**	**05 06 05.6**	**+0.1**
DEMI				S	**Sn**	**05 06 18.7**	**-0.9**
AYDB	**Zeytinkoy-Aydi**	**1.01**	**159**	*e*PG	**Pb**	**05 06 04.0**	**-0.9**
AYDB	**Zeytinkoy-Aydi**	**1.01**	**159**	*e*Pg	**Pb**	**05 06 04.0**	**-0.9**
KULA	**Kula-Manisa**	**1.03**	**111**	*e*PG	**Pb**	**05 06 03.8**	**-1.4**
KULA	**Kula-Manisa**	**1.03**	**111**	P	**Pg**	**05 06 05.1**	**-0.1**
KULA				S	**Sb**	**05 06 17.9**	**-0.8**
KULA	**Kula-Manisa**	**1.03**	**111**	*e*Pg	**Pb**	**05 06 03.8**	**-1.4**
KULA	**Kula-Manisa**	**1.03**	**111**	P	**Pg**	**05 06 05.1**	**-0.1**
KULA				S	**Sb**	**05 06 17.9**	**-0.8**
CHOS	**Chios island**	**1.20**	**245**	*e*PN	**Pg**	**05 06 07.8**	**-0.6**
CHOS	**Chios island**	**1.20**	**245**	P	**Pg**	**05 06 08.2**	**-0.2**
CHOS				S	**Sg**	**05 06 24.5**	**+0.5**
CHOS	**Chios island**	**1.20**	**245**	*e*Pn	**Pg**	**05 06 07.8**	**-0.6**
CHOS	**Chios island**	**1.20**	**245**	P	**Pg**	**05 06 08.2**	**-0.2**
CHOS				S	**Sg**	**05 06 24.5**	**+0.5**
CHOS	**Chios island**	**1.20**	**245**	P	**Pg**	**05 06 08.6**	**+0.2**
CHOS				S	**Sg**	**05 06 25.5**	**+1.5**
CHOS				AML	AML	05 06 27.2	
	comp=E,1010μm,0.3s						
CHOS				AML	AML	05 06 28.5	
	comp=N,970μm,0.5s						
EZN	**Ezine**	**1.27**	**317**	*e*PN	**Pg**	**05 06 09.6**	**-0.2**
EZN	**Ezine**	**1.27**	**317**	*e*Pn	**Pg**	**05 06 09.6**	**-0.2**
SIGR	**SIGRI**	**1.27**	**285**	*e*PN	**Pg**	**05 06 09.8**	**-0.1**
SIGR	**SIGRI**	**1.27**	**285**	P	**Pb**	**05 06 08.7**	**-0.7**
SIGR				S	**Sg**	**05 06 27.5**	**+1.1**
SIGR	**SIGRI**	**1.27**	**285**	P	**Pb**	**05 06 08.7**	**-0.7**
SIGR	**SIGRI**	**1.27**	**285**	*e*Pn	**Pg**	**05 06 09.8**	**-0.1**
SIGR				S	**Sg**	**05 06 27.3**	**+0.8**
SIGR	**SIGRI**	**1.27**	**285**	P	**Pn**	**05 06 07.9**	**-1.2**
SIGR				S	**Sg**	**05 06 27.3**	**+0.8**
SIGR				AML	AML	05 06 29.0	
	comp=E,362μm,0.3s						
SIGR				AML	AML	05 06 31.1	
	comp=N,384μm,0.5s						
SMG	**Samos**	**1.27**	**202**	P	**Pb**	**05 06 09.0**	**-0.4**
SMG				S	**Sg**	**05 06 27.4**	**+1.0**
SMG	**Samos**	**1.27**	**202**	P	**Pb**	**05 06 09.1**	**-0.4**
SMG				S	**Sg**	**05 06 27.4**	**+1.0**
SMG	**Samos**	**1.27**	**202**	P	**Pb**	**05 06 08.9**	**-0.4**
SMG				S	**Sg**	**05 06 28.9**	**+2.5**
SMG				AML	AML	05 06 29.7	
	comp=N,781μm,0.3s						
SMG				AML	AML	05 06 34.6	
	comp=E,540μm,0.7s						
KNL	**Bal˘kesir**	**1.38**	**3**	*i* P	**Pb**	**05 06 11.0**	**-0.2**
KNL				*i* S	**Sg**	**05 06 30.2**	**+0.4**
BOZC	**Bozcaada**	**1.43**	**312**	*e*PN	**Pg**	**05 06 12.2**	**-0.7**
BOZC	**Bozcaada**	**1.43**	**312**	*i* P	**Pb**	**05 06 11.6**	**-0.5**
BOZC				*i* S	**Sb**	**05 06 30.2**	**-0.1**
BOZC	**Bozcaada**	**1.43**	**312**	*e*Pn	**Pg**	**05 06 12.2**	**-0.7**
EDC	**Edincik**	**1.49**	**13**	*e*PN	**Pb**	**05 06 12.8**	**-0.2**
EDC	**Edincik**	**1.49**	**13**	*e*Pn	**Pb**	**05 06 12.8**	**-0.2**
KRBG	**Karabiga-Canak**	**1.50**	**356**	*e*PN	**Pb**	**05 06 13.3**	**+0.1**
KRBG	**Karabiga-Canak**	**1.50**	**356**	*e*Pn	**Pb**	**05 06 13.3**	**+0.1**
KCTX	**Karacabey (Bur**	**1.54**	**27**	*e*PN	**Pb**	**05 06 12.8**	**-1.1**
KCTX	**Karacabey (Bur**	**1.54**	**27**	*e*Pn	**Pb**	**05 06 12.9**	**-1.1**
LPK	**Lapseki**	**1.57**	**341**	*e*PN	**Pb**	**05 06 13.8**	**-0.6**
LPK	**Lapseki**	**1.57**	**341**	*e*Pn	**Pb**	**05 06 13.8**	**-0.6**
ORLT	**Orhaneli**	**1.61**	**44**	*e*PN	**Pb**	**05 06 14.5**	**-0.7**
ORLT	**Orhaneli**	**1.61**	**44**	*e*Pn	**Pb**	**05 06 14.5**	**-0.7**
MLSB	**Milas**	**1.62**	**170**	*e*PN	**Pb**	**05 06 13.9**	**-1.3**
MLSB	**Milas**	**1.62**	**170**	*e*Pn	**Pb**	**05 06 13.9**	**-1.3**
TVSB	**Tavsanli**	**1.67**	**70**	*e*PN	**Pb**	**05 06 15.2**	**-0.9**
TVSB	**Tavsanli**	**1.67**	**70**	*e*Pn	**Pb**	**05 06 15.2**	**-0.9**
DENT	**Denizli**	**1.69**	**132**	*e*PN	**Pn**	**05 06 14.8**	**0.0**
DENT	**Denizli**	**1.69**	**132**	*e*Pn	**Pn**	**05 06 14.8**	**0.0**
KHL	**Karahalli**	**1.73**	**109**	*e*PN	**Pb**	**05 06 16.9**	**-0.2**
KHL	**Karahalli**	**1.73**	**109**	*e*Pn	**Pb**	**05 06 16.9**	**-0.2**
DNZL	**Cakiroluk**	**1.74**	**133**	*i* P	**Pn**	**05 06 15.6**	**-0.1**
DNZL				*i* S	**Sg**	**05 06 41.5**	**0.0**
DNZL	**Cakiroluk**	**1.74**	**133**	P	**Pn**	**05 06 15.6**	**-0.1**
DNZL				S	**Sg**	**05 06 41.5**	**0.0**
GADA	**Gvkgeada**	**1.76**	**318**	*e*PN	**Pb**	**05 06 16.6**	**-1.0**
GADA	**Gvkgeada**	**1.76**	**318**	*e*Pn	**Pb**	**05 06 16.6**	**-1.0**
RKY	**Sarkoy-Tekirda**	**1.80**	**354**	*e*PN	**Pb**	**05 06 17.8**	**-0.6**
RKY	**Sarkoy-Tekirda**	**1.80**	**354**	*e*Pn	**Pb**	**05 06 17.8**	**-0.6**
SART	**Tekirdag**	**1.81**	**354**	*i* P	**Pn**	**05 06 16.6**	**+0.2**
SART				*i* S	**Sb**	**05 06 41.4**	**+0.3**
SART	**Tekirdag**	**1.81**	**354**	P	**Pn**	**05 06 16.6**	**+0.2**
SART				S	**Sb**	**05 06 41.4**	**+0.3**
ERIK	**Erikli-Kesan**	**1.91**	**338**	*e*PN	**Pb**	**05 06 18.5**	**-1.7**
ERIK	**Erikli-Kesan**	**1.91**	**338**	*e*Pn	**Pb**	**05 06 18.5**	**-1.7**
IGD	**Bursa**	**1.93**	**44**	*i* P	**Pn**	**05 06 17.7**	**-0.4**
IGD				*i* S	**Sn**	**05 06 42.5**	**+0.1**
ARMT	**Armutlu**	**2.00**	**33**	*e*PN	**Pb**	**05 06 20.0**	**-1.7**
ARMT	**Armutlu**	**2.00**	**33**	*e*Pn	**Pb**	**05 06 20.0**	**-1.7**
KESN	**Edirne-Kesan**	**2.02**	**343**	*i* P	**Pn**	**05 06 18.5**	**-1.1**
KESN				*i* S	**Sb**	**05 06 45.7**	**-1.8**
KESN	**Edirne-Kesan**	**2.02**	**343**	P	**Pn**	**05 06 18.5**	**-1.1**
KESN				S	**Sb**	**05 06 45.7**	**-1.8**
SBT3	**Marmara-Eregli**	**2.03**	**12**	*e*PN	**Pb**	**05 06 21.3**	**-0.9**
SBT3	**Marmara-Eregli**	**2.03**	**12**	*e*Pn	**Pb**	**05 06 21.3**	**-0.9**
GEMT	**Gemlik**	**2.05**	**41**	*e*PN	**Pn**	**05 06 20.0**	**+0.3**
GEMT	**Gemlik**	**2.05**	**41**	*e*Pn	**Pn**	**05 06 20.0**	**+0.3**
SBT5	**Esenkoy-Cinarc**	**2.06**	**32**	*e*PN	**Pb**	**05 06 21.7**	**-1.0**
SBT5	**Esenkoy-Cinarc**	**2.06**	**32**	*e*Pn	**Pb**	**05 06 21.7**	**-1.0**
ENEZ	**Enez**	**2.09**	**332**	*e*PN	**Pb**	**05 06 21.3**	**-2.0**
ENEZ	**Enez**	**2.09**	**332**	*e*Pn	**Pb**	**05 06 21.3**	**-2.0**
SBT2	**Guzelce-Avcila**	**2.15**	**22**	*e*PN	**Pb**	**05 06 22.7**	**-1

ISC 01 05:43:00.1±1.6, 29°10N±0°04×130°79E±0°07, h13km±9km, n40, σ1°04/46, mb3.9/13, MS3.8/3, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JZK	**Kikaishima**	**1.06**	**223**	P	**Pn**	**05 43 22.0**	**+1.3**
JZK				*e*S	**Sn**	**05 43 36.6**	**+1.2**
JNN	**Nakanoshima**	**1.09**	**313**	P	**Pn**	**05 43 21.6**	**+0.5**
JNN				*e*S	**Sn**	**05 43 37.3**	**+1.3**
JYAK	**Yakushimahirau**	**1.16**	**348**	P	**Pg**	**05 43 23.0**	**+0.5**
JYAK				*e*S	**Sn**	**05 43 38.6**	**+0.8**
JAM	**Amami Oshima**	**1.25**	**237**	P	**Pg**	**05 43 24.0**	**-0.1**
JAM				*e*S	**Sg**	**05 43 40.8**	**+0.4**
JTAJ	**Takarajima**	**1.39**	**273**	P	**Pg**	**05 43 26.5**	**-0.3**
JKC	**Kuchinoerabu**	**1.45**	**339**	P	**Pb**	**05 43 26.7**	**-0.3**
JTN	**Tanegashima 3**	**1.56**	**6**	P	**Pb**	**05 43 28.9**	**+0.1**
JTN				*e*S	**Sb**	**05 43 48.9**	**+0.4**
JAMN	**Amaminishikomi**	**1.66**	**239**	P	**Pb**	**05 43 30.0**	**-0.5**
JAMN				*e*S	**Sb**	**05 43 51.1**	**-0.2**
JTSR	**Tashiro 2**	**2.06**	**3**	P	**Pb**	**05 43 36.4**	**-1.1**
JTK	**Tokunoshima**	**2.08**	**231**	P	**Pn**	**05 43 36.2**	**+1.4**
JSU	**Suzuyama**	**2.41**	**353**	P	**Pn**	**05 43 40.2**	**+0.8**
JNAR	**Kushima--Naru**	**2.45**	**10**	P	**Pb**	**05 43 42.2**	**-1.9**
JOW	**Kunigami**	**3.17**	**225**	Pn	**Pn**	**05 43 50.7**	**+1.0**
	5.1nm,0.3s,baz=125,slow=26,SNR=9.8						
JOW				Sn	**Sn**	**05 44 26.1**	**-1.3**
	12nm,0.3s,baz=315,slow=20,SNR=2.8						
JNU	**Nakatsue**	**4.01**	**1**	Pn	**Pn**	**05 44 01.8**	**+0.4**
	4.7nm,0.3s,baz=169,slow=8.4,SNR=20						
JNU				Sn	**Sn**	**05 44 47.3**	**-0.9**
	1.3nm,0.3s,baz=203,slow=16,SNR=4.6						
KSRS	**Korea Array**	**8.67**	**345**	Pn	**Pn**	**05 45 07.0**	**+1.8**
	baz=174,slow=14,SNR=5.0						
KSRS				LR	LR	05 48 49.9	
	comp=Z,136nm,19.0s,baz=163,slow=40						
MJAR	**Matsushiro Arr**	**9.69**	**38**	Pn	**Pn**	**05 45 19.6**	**+0.3**
	0.2nm,0.3s,baz=236,slow=13,SNR=2.4						
USRK	**Ussuriysk Ar.**	**15.10**	**3**	Pn	**P**	**05 46 36.6**	**-1.7**
	0.0nm,0.3s,baz=182,slow=10,SNR=2.0						
KLR	**Kul'dur**	**20.11**	**2**	P	**P**	**05 47 33.8**	**+0.1**
	3.0nm,0.7s,baz=166,slow=6.9,SNR=9.1						
SONM	**Songino Array**	**26.55**	**321**	P	**P**	**05 48 37.3**	**-0.5**
	0.3nm,0.5s,baz=113,slow=11,SNR=2.0						
CMAR	**Chiang Mai Arr**	**30.92**	**257**	P	**P**	**05 49 18.1**	**+1.3**
	1.0nm,0.3s,baz=81,slow=7.4,SNR=3.0						
CMAR				LR	LR	06 02 44.3	
	comp=Z,77nm,18.6s,baz=77,slow=38						
GUN	**Gumba**	**39.30**	**279**	*e*P	**P**	**05 50 29.4**	**0.0**
PKI	**Pulchoki**	**39.78**	**279**	*e*P	**P**	**05 50 31.5**	**-1.9**
PKIN	**Phulchoki**	**39.80**	**279**	*e*P	**P**	**05 50 31.4**	**-2.0**
KKN	**Kakani**	**39.85**	**279**	*e*P	**P**	**05 50 33.6**	**-0.2**
GKN	**Gorkha**	**40.35**	**280**	*e*P	**P**	**05 50 37.5**	**-0.4**
KOLN	**Koldanda**	**41.30**	**280**	*e*P	**P**	**05 50 45.1**	**-0.7**
ZALV	**Zalesovo Beam**	**41.42**	**320**	P	**P**	**05 50 44.6**	**-1.6**
	0.5nm,0.5s,baz=94,slow=9.1,SNR=2.3						
PYUN	**Piuthan**	**41.75**	**281**	*e*P	**P**	**05 50 49.3**	**-0.2**
KURBB	**Kurchatov Arra**	**44.42**	**314**	P	**P**	**05 51 09.6**	**-0.9**
	1.2nm,0.3s,baz=102,slow=8.7,SNR=10						
WRA	**Warramunga Arr**	**48.88**	**176**	P	**P**	**05 51 46.0**	**+0.3**
	0.8nm,0.8s,baz=352,slow=8.4,SNR=4.5						
ASAR	**Alice Springs**	**52.55**	**176**	P	**P**	**05 52 14.5**	**+1.1**
	0.3nm,0.3s,baz=6.5,slow=11,SNR=4.6						
ARU	**Arti**	**56.58**	**321**	LR	LR	06 19 35.1	
	comp=Z,83nm,18.2s,baz=52,slow=39						
AKTO	**Aktyubinsk**	**57.47**	**314**	LR	LR	06 19 21.1	
	comp=Z,68nm,19.8s,slow=38						
ILAR	**Eielson Array**	**60.84**	**29**	P	**P**	**05 53 12.2**	**+0.4**
	0.3nm,0.7s,baz=282,slow=7.3,SNR=6.5						
KBZ	**Khabaz**	**69.11**	**309**	P	**P**	**05 54 06.0**	**0.0**
	6.2nm,0.9s,baz=53,slow=17,SNR=11						
FINES	**FINESS Array B**	**71.48**	**331**	P	**P**	**05 54 19.4**	**-0.8**
	7.1nm,1.2s,baz=45,slow=3.0,SNR=5.3						
AKASG	**Malin Array Be**	**74.82**	**320**	P	**P**	**05 54 39.0**	**-1.1**
	0.9nm,0.4s,baz=59,slow=6.1,SNR=4.4						
BRTR	**Keskin Array B**	**77.06**	**308**	P	**P**	**05 54 53.6**	**+0.3**
	1.5nm,0.8s,baz=107,slow=5.7,SNR=11						
NOA	**NORSAR Array B**	**77.73**	**334**	P	**P**	**05 54 56.0**	**-0.6**
	0.6nm,0.5s,baz=52,slow=5.6,SNR=2.4						
PDAR	**Pinedale Array**	**89.51**	**40**	P	**P**	**05 55 59.5**	**+1.9**
	0.4nm,0.7s,baz=96,slow=1.5,SNR=4.2						

NNC 01 05:47:44.0±3.5, 37°49N×71°33E, h197km±58km, mb2.7, mpv3.8, 4C-5D, Error ellipse: s-maj=49.8km s-min=19.9km az=131.0, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZET	**Dzherino**	**2.37**	**304**	⇑P	Pn	05 48 26.1	-0.2
	3.3nm,0.2s						
DZET				⇑S	Sn	05 49 00.0	+0.6
	16nm,0.2s						
MNAS	**Manas**	**5.07**	**10**	⇑P	Pn	05 48 59.5	+0.2
	18nm,0.3s						
MNAS				⇓S	Sn	05 49 57.8	-1.0
	34nm,0.6s						
KK31	**Karatay Array**	**5.64**	**354**	P	Pn	05 49 08.3	+1.7
	2.9nm,0.3s,baz=172,slow=12,SNR=39						
KK31				⇓S	Sn	05 50 12.3	+0.5
	6.8nm,0.3s,baz=171,slow=23,SNR=16						
AAK	**Ala-Archa**	**5.68**	**24**	⇑P	Pn	05 49 06.7	-0.5
	3.9nm,0.2s						
AAK				⇓S	Sn	05 50 12.4	-0.6
	5.2nm,0.4s						
TKM2	**Tokmak 2**	**6.33**	**30**	⇓P	Pn	05 49 14.0	-1.6
	3.4nm,0.5s						
TKM2				⇓S	Sn	05 50 32.0	+3.9
	2.2nm,0.8s						

*ISN **01** 05:50:47.3±0.3, 36°28N×45°29E, h0km, ML2.9*
*CSEM **01** 05:50:51.1±0.8, 36°31N×45°19E, h2km, ML2.9, Error ellipse: s-maj=25.8km s-min=11.7km az=100.0*
TEH 01 05:50:51.7, 36°37N×45°28E, h2km, ML2.9, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IBST	**Bostanabad**	**1.85**	**44**	*e*Pn	Pn	05 51 24.0	-0.7
IBST				*e*AMB	AMB	05 51 50.1	
	comp=Z,1μm,0.2s						
IBST	**Bostanabad**	**1.85**	**44**	*e*Pn	Pn	05 51 24.0	-0.7
IDHR	**Dehrash**	**1.90**	**151**	*e*Pn	Pn	05 51 24.2	-1.1
IDHR				*e*AMB	AMB	05 51 54.2	
	comp=Z,2μm,0.3s						
IDHR	**Dehrash**	**1.90**	**151**	*e*Pn	Pn	05 51 24.2	-1.1
ISHB	**Shabestar**	**1.93**	**8**	*e*Pn	Pn	05 51 25.6	-0.2
ISHB				*e*AMB	AMB	05 51 58.3	
	comp=Z,518nm,0.1s						
ILIN	**Lien**	**1.99**	**136**	*e*Pn	Pn	05 51 26.4	-0.3
ILIN				*e*AMB	AMB	05 51 57.5	
	comp=Z,820nm,0.2s						
ILIN	**Lien**	**1.99**	**136**	*e*Pn	Pn	05 51 26.4	-0.3
IVIS	**Veis**	**2.24**	**145**	*e*Pn	Pn	05 51 30.0	0.0
IVIS				*e*Sg	Sb	05 52 01.6	+0.3
IVIS				*e*AMB	AMB	05 52 03.9	
	comp=Z,575nm,0.2s						
IVIS	**Veis**	**2.24**	**145**	*e*Pn	Pn	05 51 30.0	0.0
IVIS				*e*Sg	Sb	05 52 01.6	+0.3
IGHG	**Ghaleghazi**	**2.29**	**152**	*e*Pn	Pn	05 51 31.0	+0.2
IGHG				*e*AMB	AMB	05 52 12.2	
	comp=Z,1μm,0.4s						
IGHG	**Ghaleghazi**	**2.29**	**152**	*e*Pn	Pn	05 51 31.0	+0.2
ISRB	**Sarab**	**2.40**	**52**	*e*Pn	Pn	05 51 32.2	0.0
ISRB				*e*AMB	AMB	05 52 11.0	
	comp=Z,624nm,0.2s						
ISRB	**Sarab**	**2.40**	**52**	*e*Pn	Pn	05 51 32.2	0.0
IHRS	**Heris**	**2.40**	**35**	*e*Pn	Pb	05 51 34.6	-1.1
IHRS				*e*AMB	AMB	05 52 11.1	
	comp=Z,309nm,0.2s						
IHRS	**Heris**	**2.40**	**35**	*e*Pn	Pb	05 51 34.6	-1.1

*CSEM **01** 05:56:14.6±0.3, 50°21N×12°43E, h15km, ML2.4/5, Error ellipse: s-maj=4.8km s-min=4.3km az=28.0*
PRU 01 05:56:15.9, 50°21N×12°43E, h5km, West Bohemia Swarm, Germany

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NKC	**Novy Kostel**	**0.03**	**26**	*e*PG	Pg	05 56 17.6	+0.6
NKC				*e*SG	Sg	05 56 18.7	+0.9
	comp=Z,148nm,0.2s						
NKC	**Novy Kostel**	**0.03**	**26**	Pg	Pg	05 56 17.6	+0.6
NKC				Sg	Sg	05 56 18.7	+0.9
	148nm,0.2s						
CLL	**Collm**	**1.16**	**18**	*i* Pg	Pg	05 56 36.8	-1.3
CLL				*i* Sg	Sg	05 56 52.1	-1.0
	comp=Z,8.0nm,0.5s						
CLL	**Collm**	**1.16**	**18**	*i* Pg	Pn	05 56 39.8	+1.0
CLL				*i*		05 56 42.0	
CLL				*e*		05 56 43.0	
CLL				*i* Sg	Sn	05 56 55.2	+0.2
	comp=Z,19nm,0.5s						
PRA	**Prague**	**1.30**	**95**	*e*SG	Sb	05 56 57.6	-0.1
PRA	**Prague**	**1.30**	**95**	Sg	Sb	05 56 57.6	-0.1
KHC	**Kasperske Hory**	**1.31**	**145**	*e*SG	Sg	05 56 57.9	-0.1
KHC	**Kasperske Hory**	**1.31**	**145**	Sg	Sg	05 56 57.9	-0.1
PRU	**Pruhonice**	**1.38**	**98**	*e*SG	Sb	05 56 59.2	-0.8
	comp=Z,7.5nm,0.2s						
PRU	**Pruhonice**	**1.38**	**98**	Sg	Sb	05 56 59.2	-0.8
	comp=Z,7.5nm,0.2s						
PVCC	**Panska Ves**	**1.41**	**76**	*e*SG	Sb	05 57 00.5	-0.3
PVCC	**Panska Ves**	**1.41**	**76**	Sg	Sb	05 57 00.5	-0.3
GOPC	**GO Pecny, Ondr**	**1.55**	**100**	*e*SG	Sn	05 57 04.2	-0.4
	comp=Z,3.8nm,0.3s						
GOPC	**GO Pecny, Ondr**	**1.55**	**100**	Sg	Sn	05 57 04.2	-0.4
	comp=Z,3.8nm,0.3s						

*PRU **01** 05:56:19.5, 50°28N×12°51E, h1km, West Bohemia Swarm*
*CLL **01** 05:56:19.4±0.3, 50°3N±0°9×1°2E±°, h8km±1km, ml2.0*
*CSEM **01** 05:56:19.9±0.4, 50°21N×12°51E, h2km, ML2.7/7, Error ellipse: s-maj=6.2km s-min=4.3km az=165.0*
ISC 01 05:56:19.3±1.0, 50°25N±0°02×12°45E±0°04, h9km±4km, n31, σ1°02/42, Germany

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NKC	**Novy Kostel**	**0.02**	**181**	*e*SG	**Sg**	**05 56 21.8**	**-0.3**
	comp=Z,332nm,0.2s						
NKC	**Novy Kostel**	**0.02**	**181**	*i* Pg	**Pg**	**05 56 20.8**	**-0.1**
NKC				*i* Sg	**Sg**	**05 56 22.0**	**-0.2**
NKC	**Novy Kostel**	**0.02**	**181**	Sg	**Sg**	**05 56 21.8**	**-0.3**
	332nm,0.2s						
WERN	**Wernitzgruen**	**0.06**	**307**	*i* Pg	**Pg**	**05 56 21.2**	**-0.1**
WERN				*i* Sg	**Sg**	**05 56 22.6**	**-0.1**
WERN				AML	AML	05 56 22.8	
	comp=E,2μm,0.2s						
ROHR	**Rohrbach**	**0.09**	**258**	*e*Pg	**Pg**	**05 56 21.3**	**-0.4**
ROHR				*i* Sg	**Sg**	**05 56 22.9**	**-0.4**
ROHR				AML	AML	05 56 23.0	
	comp=E,2μm,0.1s						
GUNZ	**Gunzen**	**0.13**	**326**	*i* Pg	**Pg**	**05 56 22.2**	**-0.1**
GUNZ				*i* Sg	**Sg**	**05 56 24.3**	**-0.2**
GUNZ				AML	AML	05 56 24.6	
	comp=N,285nm,0.2s						
MULD	**Muldenberg**	**0.16**	**350**	*i* Pg	**Pg**	**05 56 22.6**	**-0.2**
MULD				*i* Sg	**Sg**	**05 56 24.9**	**-0.3**
MULD				AML	AML	05 56 25.1	
	comp=E,450nm,0.1s						
TANN	**Tannenbergstha**	**0.16**	**3**	*e*Sg	**Sg**	**05 56 24.9**	**-0.4**
TANN				AML	AML	05 56 25.1	
	comp=N,651nm,0.2s						
WERD	**Werda**	**0.22**	**335**	*i* Pg	**Pg**	**05 56 23.5**	**-0.2**
WERD				*i* Sg	**Sg**	**05 56 26.4**	**-0.4**
WERD				AML	AML	05 56 26.5	
	comp=E,92nm,0.1s						
TRIB	**Obertriebel**	**0.22**	**297**	*i* Pg	**Pg**	**05 56 23.6**	**-0.3**
TRIB				*i* Sg	**Sg**	**05 56 26.5**	**-0.5**
TRIB				AML	AML	05 56 27.1	
	comp=E,66nm,0.1s						
PLN	**Plauen**	**0.30**	**322**	*i* Pg	**Pg**	**05 56 25.0**	**-0.2**
PLN				*i* Sg	**Sg**	**05 56 29.0**	**-0.2**
PLN				AML	AML	05 56 29.1	
	comp=E,112nm,0.1s						
SCHF	**Schoenfels**	**0.43**	**356**	*i* Pg	**Pg**	**05 56 27.3**	**-0.4**
SCHF				*i* Sg	**Sg**	**05 56 33.1**	**-0.2**
SCHF				AML	AML	05 56 33.3	
	comp=E,148nm,0.2s						
MLFH	**Mildenfurth**	**0.59**	**337**	*i* Sg	**Sg**	**05 56 38.0**	**-0.4**
PRU	**Pruhonice**	**1.37**	**100**	*e*SG	**Sn**	**05 57 02.3**	**-0.6**
	comp=E,12nm,0.2s						
PRU	**Pruhonice**	**1.37**	**100**	Sg	**Sn**	**05 57 02.3**	**-0.6**
	comp=E,12nm,0.2s						
GOPC	**GO Pecny, Ondr**	**1.54**	**102**	*e*SG	**Sb**	**05 57 07.2**	**-0.5**
	comp=E,9.1nm,0.2s						
GOPC	**GO Pecny, Ondr**	**1.54**	**102**	Sg	**Sb**	**05 57 07.2**	**-0.5**
	comp=E,9.1nm,0.2s						
MOA	**Molln**	**2.69**	**153**	Pg	**Pg**	**05 57 10.8**	**+0.1**
	comp=E,0.7nm,0.2s						
MOA				*e*Sg	**Sg**	**05 57 43.9**	**-1.6**
	comp=E,2.3nm,0.2s						
MOA	**Molln**	**2.69**	**153**	Pg	**Pg**	**05 57 10.8**	**+0.1**
	comp=E,0.7nm,0.2s						
MOA				Sg	**Sg**	**05 57 43.9**	**-1.6**
	comp=E,2.3nm,0.2s						
VRAC	**Vranov**	**2.85**	**108**	*e*Sg	**Sb**	**05 57 46.2**	**+1.0**
RETA	**Reutte**	**2.98**	**203**	Sg	**Sg**	**05 57 54.6**	**-0.4**
	comp=E,2.9nm,0.4s						
RETA	**Reutte**	**2.98**	**203**	Sg	**Sg**	**05 57 54.6**	**-0.4**
	comp=E,2.9nm,0.4s						
CONA	**Conrad Observa**	**3.23**	**135**	Sg	**Sg**	**05 58 02.2**	**-0.8**
	comp=E,6.9nm,0.5s						
CONA	**Conrad Observa**	**3.23**	**135**	Sg	**Sg**	**05 58 02.2**	**-0.8**
	comp=E,6.9nm,0.5s						
KBA	**Koelnbreinsper**	**3.23**	**169**	Sg	**Sb**	**05 57 56.4**	**0.0**
	comp=E,1.0nm,0.3s						
KBA	**Koelnbreinsper**	**3.23**	**169**	Sg	**Sb**	**05 57 56.4**	**0.0**
	comp=E,1.0nm,0.3s						
MORC	**Moravsky Berou**	**3.32**	**96**	*e*Sg	**Sb**	**05 58 01.3**	**+2.5**
FETA	**Feichten**	**3.43**	**200**	Sg	**Sg**	**05 58 09.0**	**-0.4**
	comp=E,0.8nm,0.3s						
FETA	**Feichten**	**3.43**	**200**	Sg	**Sg**	**05 58 09.0**	**-0.4**
	comp=E,0.8nm,0.3s						
ARSA	**Arzberg**	**3.63**	**145**	Sg	**Sb**	**05 58 11.0**	**+3.3**
	comp=E,1.5nm,0.3s						
ARSA	**Arzberg**	**3.63**	**145**	Sg	**Sb**	**05 58 11.0**	**+3.3**
	comp=E,1.5nm,0.3s						

*IASPEI **01** 06:04:29.9±0.8, 50°24N±0°02×12°47E±0°02, h13km±3km, Error ellipse: s-maj=3.2km s-min=2.8km az=84.7, GT5 selection from ISC bulletin GT5 identified by Bondˇjr and McLaughlin (2009) selection criteria Bondˇjr and McLaughlin, A new ground truth data set for seismic studies, Seism. Res. Let., 80, 465-472, 2009*
*BGR **01** 06:04:30.7±0.3, 50°25N×12°43E, h10km±2km, ML2.7/6, Error ellipse: s-maj=3.3km s-min=2.2km az=95.0*
*CSEM **01** 06:04:30.2±0.1, 50°22N×12°52E, h5km, ML3.2/14, Error ellipse: s-maj=2.1km s-min=1.7km az=49.0*
*PRU **01** 06:04:31.1, 50°26N×12°51E, h3km, West Bohemia Swarm*
*CLL **01** 06:04:31.2±0.3, 50°3N±0°8×1°2E±°, h8km±1km, ml2.7*
ISC 01 06:04:30.0±0.8, 50°24N±0°01×12°47E±0°02, h13km±3km, n82, σ0°88/131, 7C, Germany

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NKC	**Novy Kostel**	**0.02**	**247**	⇑*i*PG	**Pg**	**06 04 32.6**	**+0.2**
NKC				*e*SG	**Sg**	**06 04 33.7**	**-0.4**
	comp=Z,2μm,0.2s						
NKC	**Novy Kostel**	**0.02**	**247**	⇑*i*Pg	**Pg**	**06 04 32.6**	**+0.2**
NKC				*i* Sg	**Sg**	**06 04 33.7**	**-0.4**
NKC	**Novy Kostel**	**0.02**	**247**	*e*Pg	**Pg**	**06 04 32.6**	**+0.2**
NKC				*e*Sg	**Sg**	**06 04 33.7**	**-0.4**
NKC	**Novy Kostel**	**0.02**	**247**	Pg	**Pg**	**06 04 32.6**	**+0.2**
NKC				Sg	**Sg**	**06 04 33.7**	**-0.4**
	2μm,0.2s						
WERN	**Wernitzgruen**	**0.08**	**307**	*i* Pg	**Pg**	**06 04 33.0**	**+0.1**
WERN				*i* Sg	**Sg**	**06 04 34.5**	**-0.4**
WERN				AML	AML	06 04 34.6	
	comp=E,7μm,0.2s						
WERN	**Wernitzgruen**	**0.08**	**307**	*e*Pg	**Pg**	**06 04 33.0**	**+0.1**
WERN				*e*Sg	**Sg**	**06 04 34.5**	**-0.4**
WERN	**Wernitzgruen**	**0.08**	**307**	Pg	**Pg**	**06 04 33.0**	**+0.1**
WERN				Sg	**Sg**	**06 04 34.5**	**-0.4**
ROHR	**Rohrbach**	**0.10**	**267**	*i* Pg	**Pg**	**06 04 33.1**	**0.0**
ROHR				*i* Sg	**Sg**	**06 04 34.7**	**-0.6**
ROHR				AML	AML	06 04 34.9	
	comp=E,6μm,0.1s						
ROHR	**Rohrbach**	**0.10**	**267**	*e*Pg	**Pg**	**06 04 33.2**	**0.0**
ROHR				*e*Sg	**Sg**	**06 04 34.7**	**-0.6**
ROHR	**Rohrbach**	**0.10**	**267**	Pg	**Pg**	**06 04 33.2**	**0.0**
ROHR				Sg	**Sg**	**06 04 34.7**	**-0.6**
GUNZ	**Gunzen**	**0.15**	**324**	*i* Pg	**Pb**	**06 04 34.1**	**-0.7**
GUNZ				*i* Sg	Sg	06 04 36.5	
	comp=N,1μm,0.2s						
GUNZ	**Gunzen**	**0.15**	**324**	*e*Pg	**Pb**	**06 04 34.1**	**-0.7**
GUNZ				*e*Sg	**Sg**	**06 04 36.1**	**-0.4**
GUNZ	**Gunzen**	**0.15**	**324**	Pg	**Pb**	**06 04 34.1**	**-0.7**
GUNZ				Sg	**Sg**	**06 04 36.1**	**-0.4**
TANN	**Tannenbergstha**	**0.17**	**358**	*i* Pg	**Pg**	**06 04 34.4**	**+0.2**
TANN				*i* Sg	**Sg**	**06 04 36.8**	**-0.3**
TANN				AML	AML	06 04 37.3	
	comp=N,2μm,0.2s						
MULD	**Muldenberg**	**0.18**	**346**	*i* Pg	**Pg**	**06 04 34.4**	**+0.2**
MULD				*i* Sg	**Sg**	**06 04 36.8**	**-0.3**
MULD				AML	AML	06 04 37.0	
	comp=E,2μm,0.1s						
MULD	**Muldenberg**	**0.18**	**346**	*e*Pg	**Pg**	**06 04 34.4**	**+0.2**
MULD				*e*Sg	**Sg**	**06 04 36.8**	**-0.3**
MULD	**Muldenberg**	**0.18**	**346**	Pg	**Pg**	**06 04 34.4**	**+0.2**
MULD				Sg	**Sg**	**06 04 36.8**	**-0.3**
WERD	**Werda**	**0.23**	**333**	*i* Pg	**Pb**	**06 04 35.4**	**-0.8**
WERD				*i* Sg	**Sg**	**06 04 38.2**	**-0.3**
WERD				AML	AML	06 04 38.8	
	comp=E,631nm,0.3s						
WERD	**Werda**	**0.23**	**333**	*e*Pg	**Pb**	**06 04 35.4**	**-0.8**
WERD				*e*Sg	**Sg**	**06 04 38.3**	**-0.3**
WERD	**Werda**	**0.23**	**333**	Pg	**Pb**	**06 04 35.4**	**-0.8**
WERD				Sg	**Sg**	**06 04 38.3**	**-0.3**
TRIB	**Obertriebel**	**0.24**	**298**	*i* Pg	**Pg**	**06 04 35.4**	**+0.1**
TRIB				*i* Sg	**Sg**	**06 04 38.5**	**-0.3**
TRIB				AML	AML	06 04 38.9	
	comp=E,386nm,0.1s						
TRIB	**Obertriebel**	**0.24**	**298**	*e*Pg	**Pg**	**06 04 35.4**	**+0.1**
TRIB				*e*Sg	**Sg**	**06 04 38.5**	**-0.3**
TRIB	**Obertriebel**	**0.24**	**298**	Pg	**Pg**	**06 04 35.4**	**+0.1**
TRIB				Sg	**Sg**	**06 04 38.5**	**-0.3**
PLN	**Plauen**	**0.32**	**321**	*i* Pg	**Pb**	**06 04 36.8**	**-0.8**
PLN				*i* Sg	**Sg**	**06 04 40.9**	**-0.1**
PLN				AML	AML	06 04 41.0	
	comp=E,490nm,0.1s						
PLN	**Plauen**	**0.32**	**321**	*e*Pg	**Pb**	**06 04 36.8**	**-0.8**
PLN				*e*Sg	**Sg**	**06 04 40.9**	**-0.1**
PLN	**Plauen**	**0.32**	**321**	Pg	**Pb**	**06 04 36.8**	**-0.8**
PLN				Sg	**Sg**	**06 04 40.9**	**-0.1**
MANZ	**Manzenberg**	**0.35**	**223**	*e*Pg	**Pb**	**06 04 37.4**	**-0.7**
MANZ				*e*Sg	**Sg**	**06 04 41.8**	**0.0**
MANZ	**Manzenberg**	**0.35**	**223**	Pg	**Pb**	**06 04 37.4**	**-0.7**
MANZ				Sg	**Sg**	**06 04 41.8**	**0.0**
SCHF	**Schoenfels**	**0.44**	**354**	*i* Pg	**Pb**	**06 04 39.1**	**-0.5**
SCHF				*i* Sg	**Sg**	**06 04 45.0**	**+0.2**
SCHF				AML	AML	06 04 45.5	
	comp=E,580nm,0.3s						
SCHF	**Schoenfels**	**0.44**	**354**	*e*Pg	**Pb**	**06 04 39.1**	**-0.5**
SCHF				*e*Sg	**Sg**	**06 04 44.9**	**+0.2**
SCHF	**Schoenfels**	**0.44**	**354**	Pg	**Pb**	**06 04 39.1**	**-0.5**
SCHF				Sg	**Sg**	**06 04 44.9**	**+0.2**
ROTZ	**Rotzenmuhle**	**0.50**	**200**	*e*Pg	**Pb**	**06 04 40.5**	**-0.2**
ROTZ	**Rotzenmuhle**	**0.50**	**200**	Pg	**Pb**	**06 04 40.5**	**-0.2**
MLFH	**Mildenfurth**	**0.60**	**336**	*i* Pg	**Pb**	**06 04 42.0**	**-0.5**
MLFH				*i* Sg	**Sg**	**06 04 49.8**	**-0.1**
MOX	**Moxa**	**0.68**	**307**	*e*Pg	**Pb**	**06 04 43.4**	**-0.3**
MOX	**Moxa**	**0.68**	**307**	Pg	**Pb**	**06 04 43.4**	**-0.3**
FBE	**Freiberg**	**0.88**	**39**	*e*Pg	**Pn**	**06 04 47.6**	**-0.5**
FBE	**Freiberg**	**0.88**	**39**	Pg	**Pn**	**06 04 47.6**	**-0.5**
GRA1	**Grafenberg Arr**	**0.98**	**236**	Pg	**Pn**	**06 04 49.0**	**-0.4**
GRF	**Grafenberg Arr**	**0.98**	**236**	*e*Pg	**Pn**	**06 04 49.0**	**-0.4**
CLL	**Collm**	**1.12**	**17**	*e*Pg	**Pg**	**06 04 51.6**	**0.0**
CLL	**Collm**	**1.12**	**17**	Pg	**Pg**	**06 04 51.6**	**0.0**
CLL	**Collm**	**1.12**	**17**	*i* Pg	**Pg**	**06 04 51.6**	**0.0**
CLL				*i*		06 04 53.8	
CLL				*i*		06 04 55.3	
CLL				*i* Sg	**Sn**	**06 05 06.9**	**+0.3**
	comp=Z,36nm,0.4s						
CLL				*i*		06 05 10.3	
WET	**Wettzell**	**1.13**	**166**	⇑*e*PG	**Pg**	**06 04 51.8**	**+0.1**
WET	**Wettzell**	**1.13**	**166**	*e*Pg	**Pg**	**06 04 51.8**	**+0.1**
WET	**Wettzell**	**1.13**	**166**	Pg	**Pg**	**06 04 51.8**	**+0.1**
BRG	**Berggiesshubel**	**1.13**	**55**	PG	**Pg**	**06 04 52.1**	**+0.4**
BRG				SG	**Sg**	**06 05 07.0**	**+0.4**
	comp=Z,123nm,0.4s						
BRG	**Berggiesshubel**	**1.13**	**55**	*e*Pg	**Pg**	**06 04 52.1**	**+0.4**
BRG	**Berggiesshubel**	**1.13**	**55**	Pg	**Pg**	**06 04 52.2**	**+0.4**
PRA	**Prague**	**1.27**	**97**

LANS	**Liptovska Anka**	**4.67**	**101**	*e*SG	**Sg**	**06**	**07**	**02.5**	**+2.7**

CSEM ***01*** *06:11:15.1, 43˙.37N×45˙.92E, h18km, mb3.9*
TIF ***01*** *06:11:15.2, 43˙.35N×45˙.93E, h12km±1km*
MOS ***01*** *06:11:15.9±0.7, 43˙.37N×45˙.92E, h18km, mb3.9/1, Error ellipse: s-maj=7.8km s-min=5.9km az=29.2*
ISCJB ***01*** *06:11:16.3±0.6, 43˙.45N±0˙.04×46˙.01E±0˙.03, h20km±5km, Error ellipse: s-maj=6.5km s-min=2.9km az=20.1*

ISC 01 06:11:16.5±0.9, 43˙.36N±0˙.03×45˙.95E±0˙.02, h12km±5km, **n63**, σ**1**%**26**/110, **4C-5D, Eastern Caucasus**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GROC	**Groznyy**	**0.19**	**215**	⇓*i*PG	**Pg**	**06 11 20.1**	**-0.7**
GROC				*i* S	**Sb**	**06 11 26.1**	**+2.4**
GROC	**Groznyy**	**0.19**	**215**	*i* Pg	**Pg**	**06 11 20.1**	**-0.7**
GROC				*i* Sg	**Sb**	**06 11 26.1**	**+2.4**
DBC	**Dubki**	**0.73**	**117**	⇓*i*PG	**Sg**	**06 11 40.7**	**+0.5**
DBC	comp=Z,8.0nm,0.1s			pmax	pmax		
DBC	**Dubki**	**0.73**	**117**	*i* Pg	**Sg**	**06 11 40.7**	**+0.5**
	comp=Z,8.0nm,0.1s						
KMGR	**Komgaron**	**0.85**	**249**	*e*PG	**Pb**	**06 11 32.2**	**-1.0**
KMGR				*e*S	**Sg**	**06 11 45.7**	**+1.7**
KMGR	**Komgaron**	**0.85**	**249**	*e*Pg	**Pb**	**06 11 32.2**	**-1.0**
KMGR				*e*Sg	**Sg**	**06 11 45.7**	**+1.7**
KRNR	**Karanay**	**0.88**	**127**	*e*PG	**Pb**	**06 11 32.0**	**-1.8**
KRNR				*i* S	**Sb**	**06 11 44.2**	**-1.4**
KRNR	comp=Z,26nm,0.2s			pmax	pmax		
KRNR	**Karanay**	**0.88**	**127**	*e*Pg	**Pb**	**06 11 32.0**	**-1.8**
	comp=Z,26nm,0.2s						
KRNR				*i* Sg	**Sb**	**06 11 44.2**	**-1.4**
TRKR	**Terskaya**	**0.96**	**293**	*e*PG	**Pb**	**06 11 35.8**	**+0.8**
TRKR				*i* S	**Sn**	**06 11 50.2**	**+0.9**
TRKR	**Terskaya**	**0.96**	**293**	*e*Pg	**Pb**	**06 11 35.8**	**+0.8**
TRKR				*i* Sg	**Sn**	**06 11 50.2**	**+0.9**
VLKR	**Vladikavkaz**	**0.98**	**252**	*e*PG	**Pb**	**06 11 34.8**	**-0.7**
VLKR				*e*S	**Sn**	**06 11 50.7**	**+0.7**
VLKR	**Vladikavkaz**	**0.98**	**252**	*e*Pg	**Pb**	**06 11 34.8**	**-0.7**
VLKR				*e*Sg	**Sn**	**06 11 50.7**	**+0.7**
XNZR	**Khunzakh**	**0.99**	**146**	PG	**Pb**	**06 11 35.0**	**-0.7**
XNZR				*i* S	**Sb**	**06 11 49.3**	**+0.6**
XNZR	**Khunzakh**	**0.99**	**146**	Pg	**Pb**	**06 11 35.0**	**-0.7**
XNZR				*i* Sg	**Sb**	**06 11 49.3**	**+0.6**
BUJR	**Buynaksk**	**1.00**	**122**	PG	**Pb**	**06 11 35.5**	**-0.3**
BUJR				*i* S	**Sg**	**06 11 50.2**	**+1.3**
BUJR	comp=Z,69nm,0.3s			pmax	pmax		
BUJR	**Buynaksk**	**1.00**	**122**	Pg	**Pb**	**06 11 35.5**	**-0.3**
	comp=Z,69nm,0.3s						
BUJR				*i* Sg	**Sg**	**06 11 50.2**	**+1.3**
BTKR	**Batakoyurt**	**1.03**	**271**	⇓*i*PG	**Pb**	**06 11 34.2**	**-2.0**
BTKR				*e*S	**Sb**	**06 11 49.9**	**+0.2**
BTKR	**Batakoyurt**	**1.03**	**271**	*i* Pg	**Pb**	**06 11 34.2**	**-2.0**
BTKR				*e*Sg	**Sb**	**06 11 49.9**	**+0.2**
ARKR	**Arakani**	**1.08**	**134**	PG	**Pb**	**06 11 36.0**	**-1.1**
ARKR				*e*S	**Sb**	**06 11 51.0**	**-0.2**
ARKR	**Arakani**	**1.08**	**134**	Pg	**Pb**	**06 11 36.0**	**-1.1**
ARKR				*e*Sg	**Sb**	**06 11 51.0**	**-0.2**
GNBR	**Gunib**	**1.22**	**142**	⇑*i*PG	**Pn**	**06 11 38.5**	**-1.0**
GNBR				*e*		06 11 57.7	
GNBR	comp=Z,25nm,0.9s			pmax	pmax		
GNBR	comp=E,143nm,0.5s			smax	smax		
GNBR	comp=E,146nm,0.5s			smax	smax		
GNBR	comp=N,105nm,0.6s			smax	smax		
GNBR	**Gunib**	**1.22**	**142**	*i* Pg	**Pn**	**06 11 38.5**	**-1.0**
	comp=N,25nm,0.9s						
GNBR				*e*Sg	**Sg**	**06 11 57.7**	**+1.7**
	comp=N,105nm,0.6s						
ARNR	**Ardon**	**1.23**	**262**	*e*PG	**Pn**	**06 11 39.4**	**-0.1**
ARNR				*e*S	**Sg**	**06 11 57.9**	**+1.8**
ARNR	**Ardon**	**1.23**	**262**	*e*Pg	**Pn**	**06 11 39.4**	**-0.1**
ARNR				*e*Sg	**Sg**	**06 11 57.9**	**+1.8**
PRTR	**Priterechnaya**	**1.27**	**288**	*e*PG	**Pn**	**06 11 39.1**	**-1.0**
PRTR				*e*S	**Sb**	**06 11 57.2**	**+0.5**
PRTR	**Priterechnaya**	**1.27**	**288**	*e*Pg	**Pn**	**06 11 39.1**	**-1.0**
PRTR				*e*Sg	**Sb**	**06 11 57.2**	**+0.5**
LACR	**Lac**	**1.32**	**247**	⇓*i*PG	**Pn**	**06 11 39.1**	**-1.8**
LACR				*i* S	**Sn**	**06 11 58.3**	**-0.2**
LACR	**Lac**	**1.32**	**247**	*i* Pg	**Pn**	**06 11 39.1**	**-1.8**
LACR				*i* Sg	**Sn**	**06 11 58.3**	**-0.2**
STDR	**Stavd-Durt**	**1.38**	**271**	*e*PG	**Pn**	**06 11 40.4**	**-1.1**
STDR				*e*S	**Sb**	**06 12 01.2**	**+1.5**
STDR	**Stavd-Durt**	**1.38**	**271**	*e*Pg	**Pn**	**06 11 40.4**	**-1.1**
STDR				*e*Sg	**Sb**	**06 12 01.2**	**+1.5**
KORR	**Kora**	**1.40**	**259**	*e*PG	**Pn**	**06 11 41.5**	**-0.4**
KORR				*e*S	**Sb**	**06 12 01.9**	**+1.4**
KORR	**Kora**	**1.40**	**259**	*e*Pg	**Pn**	**06 11 41.5**	**-0.4**
KORR				*e*Sg	**Sb**	**06 12 01.9**	**+1.4**
GUDG	**Gudauri**	**1.40**	**231**	P	**Pn**	**06 11 41.6**	**-0.5**
GUDG				S	**Sn**	**06 12 00.7**	**0.0**
KMKR	**Kumukh**	**1.49**	**145**	*e*PG	**Pn**	**06 11 43.0**	**-0.3**
KMKR				*e*S	**Sb**	**06 12 04.3**	**+1.0**
KMKR	comp=Z,28nm,0.3s			pmax	pmax		
KMKR	**Kumukh**	**1.49**	**145**	*e*Pg	**Pn**	**06 11 43.0**	**-0.3**
	comp=Z,28nm,0.3s						
KMKR				*e*Sg	**Sb**	**06 12 04.3**	**+1.0**
LSNR	**Lesken**	**1.55**	**268**	*e*PG	**Pn**	**06 11 42.3**	**-1.7**
LSNR				*e*S	**Sn**	**06 12 04.6**	**+0.5**
LSNR	**Lesken**	**1.55**	**268**	*e*Pg	**Pn**	**06 11 42.3**	**-1.7**
LSNR				*e*Sg	**Sn**	**06 12 04.6**	**+0.5**
DUS	**Dusheti**	**1.57**	**216**	P	**Sg**	**06 12 06.3**	**-0.6**
ZEI	**Tsey**	**1.60**	**250**	*e*PG	**Pn**	**06 11 42.6**	**-2.3**
ZEI				*e*S	**Sn**	**06 12 06.1**	**+0.5**
ZEI	**Tsey**	**1.60**	**250**	*e*Pg	**Pn**	**06 11 42.6**	**-2.3**
ZEI				*e*Sg	**Sn**	**06 12 06.1**	**+0.5**
DIGR	**Digorskoe uzhe**	**1.79**	**256**	*e*PN	**Pn**	**06 11 44.9**	**-2.6**
DIGR				*e*S	**Sn**	**06 12 10.8**	**+0.5**
DIGR	**Digorskoe uzhe**	**1.79**	**256**	*e*Pn	**Pn**	**06 11 44.9**	**-2.6**
DIGR				*e*Sg	**Sn**	**06 12 10.8**	**+0.5**
TBLG	**Delisi**	**1.86**	**209**	P	**Sg**	**06 12 14.4**	**-1.9**
PYA1	**Pyatigorsk**	**2.19**	**290**	*e*PN	**Pn**	**06 11 52.2**	**-0.5**
PYA1				*i* S	**Sn**	**06 12 20.8**	**+1.1**
PYA1	**Pyatigorsk**	**2.19**	**290**	*e*Pn	**Pn**	**06 11 52.2**	**-0.5**
PYA1				*i* Sn	**Sn**	**06 12 20.8**	**+1.1**
AKT	**Akhty**	**2.29**	**144**	*e*PN	**Pn**	**06 11 55.4**	**+1.1**
AKT				*e*S	**Sb**	**06 12 26.6**	**+0.3**
AKT	comp=Z,18nm,0.6s			pmax	pmax		
AKT	**Akhty**	**2.29**	**144**	*e*Pn	**Pn**	**06 11 55.4**	**+1.1**
	comp=Z,18nm,0.6s						
AKT				*e*Sn	**Sb**	**06 12 26.6**	**+0.3**
NEY	**Neytrino**	**2.36**	**268**	⇑*i*PN	**Pn**	**06 11 55.3**	**+0.1**
NEY	**Neytrino**	**2.36**	**268**	*i* Pn	**Pn**	**06 11 55.3**	**+0.1**
SHA1	**Shidzhatmaz**	**2.42**	**280**	*e*PN	**Pn**	**06 11 55.0**	**-1.1**
SHA1				*e*S	**Sn**	**06 12 27.3**	**+1.5**
SHA1	**Shidzhatmaz**	**2.42**	**280**	*e*Pn	**Pn**	**06 11 55.0**	**-1.1**
SHA1				*e*Sn	**Sn**	**06 12 27.3**	**+1.5**
KIV	**Kislovodsk**	**2.44**	**285**	*i* PN	**Pn**	**06 11 56.2**	**-0.1**
KIV	**Kislovodsk**	**2.44**	**285**	*i* Pn	**Pn**	**06 11 56.2**	**-0.1**
GOF	**Gofitskoye**	**2.69**	**310**	⇑*e*PN	**Pn**	**06 12 00.7**	**+1.1**
GOF				*e*S	**Sb**	**06 12 38.2**	**+0.6**
GOF				*e*S	**Sg**	**06 12 38.4**	**-4.6**
GOF	comp=N,86nm,0.6s			smax	smax		
GOF	comp=E,56nm,0.6s			smax	smax		
GOF	**Gofitskoye**	**2.69**	**310**	*e*Pn	**Pn**	**06 12 00.7**	**+1.1**
	comp=E,86nm,0.6s						
GOF				*e*Sn	**Sb**	**06 12 38.2**	**+0.6**
GNI	**Garni**	**3.33**	**196**	*i* PN	**Pn**	**06 12 10.8**	**+2.2**
GNI	**Garni**	**3.33**	**196**	*i* Pn	**Pn**	**06 12 10.8**	**+2.2**
OBN	**Obninsk**	**13.25**	**336**	⇑P	**Pn**	**06 14 24.0**	**-0.2**
OBN	comp=Z,8.0nm,0.4s			pmax	pmax		
OBN	**Obninsk**	**13.25**	**336**	P	**Pn**	**06 14 24.0**	**-0.2**
	comp=Z,8.0nm,0.4s						
KIEV	**Kiev**	**13.55**	**309**	⇓P	**Pn**	**06 14 27.9**	**-0.5**
KIEV	comp=Z,1.0nm,0.6s			pmax	pmax		
KIEV	**Kiev**	**13.55**	**309**	P	**Pn**	**06 14 27.9**	**-0.5**
	comp=Z,1.0nm,0.6s						
BRVK	**Borovoye**	**18.81**	**50**	*i* P	**Pn**	**06**	**15**	**36.8**	**+0.5**
BRVK	comp=Z,1.0nm,0.9s			pmax	pmax				

BJI ***01*** *06:14:36.7, 12˙.50S×166˙.60E, h35km, mb6.1/85, mB6.1/70, Ms5.8/88, Ms7 5.6/82*
GCMT ***01*** *06:14:38.8±0.1, 12˙.56S×166˙.32E, h52km, MW6.0/141, Moment Tensor Solution. s141,c306; s141,c449; Duration: 25 Moment tensor: Scale 10¹⁸Nm; Mrr1.26±.01; Mθθ-0.02±.01; Mϕϕ-1.24±.01; Mrθ-0.12±.01; Mθϕ0.24±.01; Mrϕ0.45±.01; Best double couple: M₀1.35500×10¹⁸ NP1:ϕs348.00000°, δ55.00000°, λ88.00000°. NP2:ϕs171.00000°, δ35.00000°, λ92.00000°. Principal axes: T 1.3430, Plg80.0000°, Azm251.0000°; N 0.0250, Plg1.0000°, Azm349.0000°; P -1.3680, Plg10.0000°, Azm79.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*
NEIC ***01*** *06:14:38.9±0.1, 12˙.36S×166˙.66E, h41km, mb5.7/155, ME6.3, MS5.6/162, MW6.1, MW6.0 Error ellipse: s-maj=4.4km s-min=4.0km az=136.0, Moment Tensor Solution. s65 Moment tensor: Scale 10¹⁸Nm; Mrr1.55; Mθθ-0.60; Mϕϕ-0.95; Mrθ0.18; Mθϕ0.10; Mrϕ0.55; Best double couple: M₀1.50000×10¹⁸ NP1:ϕs164.00000°, δ34.00000°, λ79.00000°. NP2:ϕs358.00000°, δ57.00000°, λ98.00000°. Principal axes: T 1.6800, Plg77.0000°, Azm292.0000°; N -0.6100, Plg6.0000°, Azm173.0000°; P -1.0700, Plg11.0000°, Azm82.0000°; Broadband fault plane solution: P waves. NP1:ϕs321.00000°, δ46.00000°, λ80.00000°. NP2:ϕs155.00000°, δ45.00000°, λ100.00000°. Principal axes: T Plg83.0000°, Azm151.0000°; N Plg0.0000°, Azm0.0000°; P Plg0.0000°, Azm58.0000°; Depth from synthetics of broadband displacement seismograms. Energy computed from BB mechanism.*
NEIC Felt at Luganville, Vanuatu.
IDC ***01*** *06:14:39.6±1.5, 12˙.43S×166˙.73E, h47km±13km, mb5.4/29, mb1 5.5/32, mb1mx5.4/33, mbtmp5.6/32, ML2.8/1, MS5.4/28, Ms1 5.4/28, ms1mx5.4/30 Error ellipse: s-maj=10.8km s-min=9.6km az=121.0*
NEIC ***01*** *06:14:39.0±0.0, 12˙.57S×166˙.40E, h50km, Moment Tensor Solution. s44 Moment tensor: Scale 10¹⁸Nm; Mrr1.21; Mθθ-0.07; Mϕϕ-1.14; Mrθ0.00; Mθϕ0.18; Mrϕ0.37; Best double couple: M₀1.20000×10¹⁸ NP1:ϕs353.00000°, δ53.00000°, λ93.00000°. NP2:ϕs168.00000°, δ37.00000°, λ85.00000°. Principal axes: T 1.2700, Plg81.0000°, Azm278.0000°; N -0.0400, Plg2.0000°, Azm171.0000°; P -1.2300, Plg8.0000°, Azm81.0000°;*
ISCJB ***01*** *06:14:40.2±0.8, 12˙.48S±0˙.02×166˙.59E±0˙.02, h64km±7km, mb5.9/267 Error ellipse: s-maj=3.3km s-min=2.9km az=21.5*
MOS ***01*** *06:14:40.5±1.0, 12˙.32S×166˙.53E, h61km, mb5.9/35, MS5.6/64, Error ellipse: s-maj=6.7km s-min=5.8km az=129.0*

ISC 01 06:14:39.9±0.3, 12˙.46S±0˙.03×166˙.68E±0˙.03, h52km±2km, **h52**km:**pP-P, n1360,** σ**1**%**66**/1499, **mb5.9**/279, **MS5.6**/243, **74C-25D, Santa Cruz Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**7.26**	**294**	P	**Pn**	**06 16 23.8**	**+0.3**
HNR	401nm,0.3s,baz=150,slow=4.6,SNR=37			S	**Sn**	**06 17 42.3**	**-2.4**
HNR	baz=180,slow=19,SNR=2.3			LR	LR	06 19 26.8	
HNR	comp=Z,58μm,21.1s,baz=124,slow=39 **Honiara**	**7.26**	**294**	*e*P	Pn	06 16 14.0	-9.5
HNR				*e*S	**Sn**	**06 17 38.0**	**-6.7**
HNR	**Honiara**	**7.26**	**294**	*e*P	**Pn**	**06 16 25.0**	**+1.5**
HNR				*e*		06 17 45.5	
HNR	**Honiara**	**7.26**	**294**	*e*Pn	**Pn**	**06 16 24.9**	**+1.5**
HNR				*e*Sn	**Sn**	**06 17 45.5**	**+0.9**
DZM	**Mont Dzumac**	**9.57**	**181**	P	**Pn**	**06 16 56.9**	**+1.8**
DZM	14nm,0.3s,baz=342,slow=11,SNR=83			S	**Sn**	**06 18 42.1**	**+0.9**
DZM	baz=338,slow=19,SNR=1.8			LR	LR	06 19 02.9	
DZM	**Mont Dzumac**	**9.57**	**181**	*e*Pn	**Pn**	**06 16 57.2**	**+2.1**
DZM	204nm,0.2s			*e*Sn	**Sn**	**06 18 36.3**	**-5.0**
DZM	258nm,0.3s **Mont Dzumac**	**9.57**	**181**	*e*Pn	**Pn**	**06 16 57.0**	**+1.8**
DZM				*e*Sn	**Sn**	**06 18 43.0**	**+1.8**
MSVF	**Nonsavu**	**12.16**	**117**	*e*P	**P**	**06 17 37.1**	**-4.7**
MSVF	**Nonsavu**	**12.16**	**117**	*e*Pn	**P**	**06 17 37.1**	**-4.7**
MSVF				*e*Sn	**S**	**06 20 06.0**	**-5.2**
FUNA	**Funafuti**	**12.91**	**74**	Pn	**Pn**	**06 17 40.9**	**+0.1**
TARA	**Tarawa**	**15.05**	**25**	*e*P	**P**	**06 18 14.3**	**+0.5**
TARA	1μm,0.7s			*e*Sn	**Sn**	**06 20 50.1**	**-5.2**
RABL	**Rabaul**	**16.54**	**299**	*e*Pn	**P**	**06 18 33.2**	**+2.8**
PMG	272nm,0.6s **Port Moresby**	**19.41**	**277**	P	**Pn**	**06 19 03.4**	**-0.1**
PMG	0.8nm,0.3s,baz=83,slow=7.4,SNR=15			LR	LR	06 25 59.0	
PMG	comp=Z,19μm,20.7s,baz=122,slow=35 **Port Moresby**	**19.41**	**277**	*ce*P	**Pn**	**06 19 02.9**	**-0.6**
PMG				pmax	pmax		
PMG	comp=Z,960nm,1.7s **Port Moresby**	**19.41**	**277**	*e*P	**P**	**06 19 01.8**	**-0.1**
PMG	comp=Z,326nm,0.9s			*e*S	**S**	**06 22 35.2**	**-3.5**
EIDS	**Eidsvold**	**19.54**	**227**	P	**Pn**	**06 19 05.7**	**+0.8**
EIDS	baz=20,SNR=72 **Eidsvold**	**19.54**	**227**	P	**Pn**	**06 19 04.9**	**0.0**
EIDS	comp=Z,331nm,0.8s			*e*S	**S**	**06 22 42.2**	**+0.9**
LHI	**Lord Howe Isla**	**20.23**	**199**	P	Pn	06 19 13.5	+0.4
LHI	baz=20,SNR=7.6 **Lord Howe Isla**	**20.23**	**199**	*e*P	Pn	06 19 12.7	-0.3
PATS	comp=Z,1μm,1.8s **Pohnpei**	**20.89**	**336**	P	**P**	**06 19 19.1**	**+1.0**
PATS	baz=21,SNR=32 **Pohnpei**	**20.89**	**336**	*e*P	**P**	**06 19 19.2**	**+1.2**
CTA	comp=Z,433nm,0.9s **Charters Tower**	**21.01**	**246**	P	**P**	**06 19 20.3**	**+0.9**
CTA	comp=Z,52nm,0.8s,baz=73,slow=13,SNR=20			S	**S**	**06 23 12.5**	**+1.9**
CTA	comp=Z,10nm,0.8s,baz=323,slow=20,SNR=2.8			LR	LR	06 26 23.3	
CTAO	comp=Z,23μm,21.6s,baz=89,slow=33 **Charters Tower**	**21.01**	**246**	*e*P	**P**	**06 19 20.5**	**+1.1**
CTAO				*e*S	**S**	**06 23 13.3**	**+2.6**
CTAO	comp=Z,175nm,1.0s			pmax	pmax		
CTAO	comp=Z,37μm,22.0s			MLR	MLR		
CTAO	**Charters Tower**	**21.01**	**246**	*e*P	**P**	**06 19 20.5**	**+1.1**
CTAO	comp=Z,175nm,1.0s			*e*S	**S**	**06 23 13.3**	**+2.6**
CTAO	comp=Z,37μm,22.0s			LR	LR		
AFI	**Afiamalu**	**21.02**	**96**	P	**P**	**06 19 22.8**	**+3.2**
AFI	comp=Z,413nm,0.9s,baz=241,slow=4.0,SNR=27			LR	LR	06 26 19.7	
AFI	comp=Z,13μm,18.6s,baz=260,slow=33						
AFI	**Afiamalu**	**21.02**	**96**	*e*P	**P**	**06 19 23.5**	**+4.0**
AFI				*e*S	**S**	**06 23 06.8**	**-4.2**
AFI	comp=Z,774nm,1.1s			pmax	pmax		
AFI	**Afiamalu**	**21.02**	**96**	*e*P	**P**	**06 19 23.5**	**+4.0**
AFI	comp=Z,774nm,1.1s			*e*S	**S**	**06 23 06.8**	**-4.2**
MANU	**Manus Island**	**21.75**	**297**	*e*P	**P**	**06 19 28.4**	**+1.1**
RMQ	comp=Z,2μm,1.4s **Roma**	**21.88**	**228**	P	**P**	**06 19 30.8**	**+2.2**
RAO	baz=22,SNR=203 **Raoul Island**	**22.01**	**142**	P	**P**	**06 19 32.6**	**+2.7**
RAO	comp=Z,119nm,0.4s,baz=107,slow=19,SNR=1.8			LR	LR	06 25 13.3	
RAO	comp=Z,4μm,20.4s,baz=323,slow=29 **Raoul Island**	**22.01**	**142**	P	**P**	**06 19 32.6**	**+2.7**
RAO	comp=Z,6μm,22.0s			MLR	MLR		
RAO	**Raoul Island**	**22.01**	**142**	P	**P**	**06 19 32.6**	**+2.7**
RAO	comp=Z,6μm,22.0s			LR	LR		
MTSU	**Mount Surprise**	**22.29**	**253**	P	**P**	**06 19 34.0**	**+0.9**
ARMA	baz=22,SNR=26 **Armidale**	**22.67**	**216**	P	**P**	**06 19 38.3**	**+1.3**
	baz=23,SNR=108						
ARMA	**Armidale**	**22.67**	**216**	*e*P	**P**	**06 19 38.4**	**+1.3**
ARMA	comp=Z,1μm,1.2s			*e*S	**S**	**06 23 43.8**	**+2.1**
COEN	**Coen**	**22.93**	**264**	P	**P**	**06 19 40.2**	**+0.3**
COEN	baz=23,SNR=32 **Coen**	**22.93**	**264**	*e*P	**P**	**06 19 40.3**	**+0.5**
COEN	comp=Z,237nm,1.0s			*e*S	**S**	**06 23 46.6**	**+0.3**
OUZ	**Omahuta**	**23.51**	**166**	*e*P	**P**	**06 19 48.6**	**+3.3**
WCZ	comp=Z,112nm,1.1s **Waipu Caves**	**24.38**	**165**	PN	**P**	**06 19 56.4**	**+3.1**
WCZ				PcP	**PcP**	**06 23 32.9**	**+1.3**
MGCD	**Mangrove Creek**	**25.09**	**212**	P	**P**	**06 20 01.7**	**+2.0**
QLP	baz=25,SNR=53 **Quilpie**	**25.34**	**233**	P	**P**	**06 20 03.2**	**+1.1**
MKAZ	baz=25,SNR=42 **Moumakai**	**25.70**	**164**	*e*PN	**P**	**06 20 05.3**	**+0.1**
HAZ	**Te Kaha**	**27.08**	**160**	PN	**P**	**06 20 18.1**	**+0.4**
HAZ				*e*SN	**S**	**06 24 54.8**	**+2.8**
MXZ	**Matakaoa Point**	**27.08**	**159**	*e*P	**P**	**06 20 20.0**	**+2.3**
CMSA	comp=Z,150nm,0.5s **Cobar Meteorol**	**27.10**	**222**	P	**P**	**06 20 18.8**	**+0.9**
QIS	baz=27,SNR=49 **Mount Isa**	**27.15**	**249**	P	**P**	**06 20 19.4**	**+0.8**
RUGZ	baz=27,SNR=15 **Raukumara Rang**	**27.24**	**161**	PN	**P**	**06 20 19.4**	**+0.2**
URZ	**Urewera**	**27.33**	**162**	P	**P**	**06 20 20.0**	**+0.1**
URZ	comp=Z,34nm,0.5s,baz=351,slow=2.0,SNR=33			S	**S**	**06 24 55.0**	**-1.0**
URZ	comp=Z,5.6nm,0.9s,baz=37,slow=20,SNR=3.5			LR	LR	06 29 27.0	
URZ	comp=Z,15μm,21.7s,baz=320,slow=32 **Urewera**	**27.33**	**162**	*e*P	**P**	**06 20 21.7**	**+1.8**
URZ	comp=Z,71nm,0.6s			S	**S**	**06 24 55.0**	**-1.0**
URZ	**Urewera**	**27.33**	**162**	PN	**P**	**06 20 19.8**	**-0.1**
URZ				*e*SN	**S**	**06 24 55.0**	**-1.0**
WMGZ	**Waiomatatini S**	**27.35**	**159**	PN	**P**	**06 20 19.6**	**-0.5**
YNG	**Young**	**27.38**	**214**	P	**P**	**06 20 23.7**	**+3.3**
PUZ	baz=27,SNR=19 **Puketiti**	**27.52**	**160**	PN	**P**	**06 20 20.8**	**-0.9**
PUZ				*e*SN	**S**	**06 24 59.3**	**+0.2**
MWZ	**Matawai**	**27.53**	**161**	PN	**P**	**06 20 21.0**	**-0.7**
MWZ				PcP	**PcP**	**06 23 38.1**	**-0.7**
MWZ				*e*SN	**S**	**06 24 58.5**	**-0.7**
JAY	**Jayapura**	**27.55**	**289**	P	**P**	**06 20 21.7**	**-0.5**
JAY	comp=Z,6.9nm,0.9s,baz=105,slow=23,SNR=6.7			LR	LR	06 31 36.2	
JAY	comp=Z,226nm,21.1s,baz=141,slow=37 **Jayapura**	**27.55**	**289**	P	**P**	**06 20 21.4**	**-0.8**
RTZ	comp=Z,103nm,1.1s,comp=Z,1μm **Ruatahuna**	**27.62**	**162**	PN	**P**	**06 20 22.4**	**-0.2**
CNB	**Canberra Magne**	**27.64**	**212**	P	**P**	**06 20 24.4**	**+1.6**
CAN	baz=28,SNR=54 **Canberra**	**27.83**	**212**	*e*P	**P**	**06 20 25.7**	**+1.2**
CAN	comp=Z,156nm,1.1s			pmax	pmax		
CAN	comp=Z,9μm,21.0s			MLR	MLR		
CAN	**Canberra**	**27.83**	**212**	*e*P	**P**	**06 20 25.7**	**+1.2**
CAN	comp=Z,156nm,1.1s			LR	LR		
RIGZ	comp=Z,9μm,21.0s **Rimuhau**	**27.94**	**161**	PN	**P**	**06 20 25.1**	**-0.3**
BKZ	**Black Stump Fm**	**27.99**	**164**	*e*P	**P**	**06 20 27.1**	**+1.2**
BKZ	comp=Z,87nm,0.5s			*e*S	**S**	**06 25 05.8**	**-0.8**
BKZ	**Black Stump Fm**	**27.99**	**164**	*e*PN	**P**	**06 20 25.5**	**-0.4**
NMHZ	**Naumai**	**28.02**	**163**	PN	**P**	**06 20 26.7**	**+0.6**
GENI	**Genyem**	**28.02**	**288**	P	**P**	**06 20 25.9**	**-0.5**
BHHZ	comp=Z,170nm,1.0s,comp=Z,5μm **Black Hill Sta**	**28.18**	**165**	PN	**P**	**06 20 27.5**	**0.0**
KWHZ	**Kaweka Forest**	**28.21**	**164**	PN	**P**	**06 20 28.0**	**+0.1**
QRZ	**Quartz Range**	**28.72**	**171**	PN	**P**	**06 20 33.7**	**+1.4**
PXZ	**Pawanui**	**28.90**	**164**	PN	**P**	**06 20 33.1**	**-0.7**
MILA	**Mila**	**29.11**	**210**	P	**P**	**06 20 38.0**	**+2.2**
MRZ	baz=29,SNR=12 **Mangatainoka R**	**29.16**	**166**	PN	**P**	**06 20 35.5**	**-0.7**
MRZ				PcP	**PcP**	**06 23 42.0**	**-0.8**
MRZ				*e*SN	**S**	**06 25 23.9**	**-1.0**
ANWZ	**Angora Road**	**29.20**	**165**	PN	**P**	**06 20 36.1**	**-0.4**
BFZ	**Birch Farm**	**29.35**	**165**	*e*P	**P**	**06 20 38.0**	**+0.1**
BFZ	comp=Z,89nm,0.6s **Birch Farm**	**29.35**	**165**	PN	**P**	**06 20 36.6**	**-1.2**
BFZ				*e*SN	**S**	**06 25 25.0**	**-2.8**
CAW	**Cannon Point**	**29.48**	**167**	PN	**P**	**06 20 38.6**	**-0.3**
SNZO	**South Karori**	**29.59**	**168**	*e*P	**P**	**06 20 41.4**	**+1.4**
SNZO	comp=Z,78nm,0.7s			LR	LR		
SMPI	comp=Z,9μm,20.0s **Sarmi**	**29.59**	**288**	P	**P**	**06 20 40.7**	**+0.4**
THZ	comp=Z,605nm,1.7s,comp=Z,9μm **Tophouse**	**29.70**	**171**	*e*P	**P**	**06 20 42.1**	**+1.0**
THZ	comp=Z,81nm,0.7s **Tophouse**	**29.70**	**171**	PN	**P**	**06 20 41.8**	**+0.8**
MSWZ	**Moikau Station**	**29.81**	**167**	PN	**P**	**06 20 41.9**	**0.0**
PAWZ	**Paruwai Farm**	**29.82**	**167**	*e*PN	**P**	**06 20 41.6**	**+0.4**
TRWZ	**Traveller**	**29.89**	**166**	PN	**P**	**06 20 42.9**	**+0.2**
PLWZ	**Palliser**	**29.96**	**167**	PN	**P**	**06 20 43.3**	**0.0**
STKA	**Stephens Creek**	**30.09**	**226**	P	**P**	**06 20 45.9**	**+1.4**
STKA	comp=Z,108nm,0.6s,baz=44,slow=8.3,SNR=134			LR	LR	06 32 01.1	
STKA	comp=Z,20μm,21.3s,baz=59,slow=35 **Stephens Creek**	**30.09**	**226**	P	**P**	**06 20 45.9**	**+1.4**
STKA	baz=30,SNR=193 **Stephens Creek**	**30.09**	**226**	*e*P	**P**	**06 20 46.0**	**+1.4**
STKA	**Stephens Creek**	**30.09**	**226**	*e*P	**P**	**06 20 46.0**	**+1.4**
INZ	comp=Z,153nm,1.7s **Inchbonnie**	**30.44**	**173**	PN	**P**	**06 20 48.0**	**+0.5**
KHZ	**Kahutara**	**30.44**	**170**	*e*P	**P**	**06 20 48.6**	**+1.2**
KHZ	comp=Z,54nm,0.7s **Kahutara**	**30.44**	**170**	PN	**P**	**06 20 47.2**	**-0.2**
LTZ	**Lake Taylor**	**

WRA S **S** **06 26 04.7 -3.6**
comp=Z,4.2nm,1.1s,baz=85,slow=14,SNR=4.8
WRA ScP **ScP** **06 27 30.3 +0.7**
comp=Z,17nm,1.2s,baz=77,slow=3.4,SNR=6.4
WRA LR LR 06 32 36.1
comp=Z,10μm,20.5s,baz=75,slow=34
WRA P3KPbc 06 52 33.5
comp=Z,0.6nm,0.8s,baz=250,slow=1.9,SNR=5.6
LBZ **Lake Benmore** **31.96 175** *eP* **P** **06 21 02.2 +1.4**
comp=Z,66nm,0.7s
LBZ **Lake Benmore** **31.96 175** PN **P** **06 21 01.1 +0.3**
LBZ PcP **PcP** **06 23 50.6 +0.5**
H11N1 **WAKE ISLAND Hy** **31.97 0** T T 06 53 27.0
baz=182,slow=76,SNR=179
H11N3 **WAKE ISLAND Hy** **31.97 0** T T 06 53 27.3
baz=182,slow=76,SNR=34
H11N2 **WAKE ISLAND Hy** **31.98 0** T T 06 53 28.3
baz=182,slow=76,SNR=33
WKZ **Wanaka** **32.32 177** *eP* **P** **06 21 05.1 +1.1**
comp=Z,475nm,1.8s
WKZ **Wanaka** **32.32 177** PN **P** **06 21 05.9 +1.8**
ODZ **Otahua Downs** **32.65 175** *eP* **P** **06 21 07.0 0.0**
comp=Z,94nm,1.4s
EAZ **Earnscleugh** **32.74 177** PN **P** **06 21 08.3 +0.6**
MLZ **Mavora Lakes** **32.82 178** *eP* **P** **06 21 09.2 +0.8**
comp=Z,139nm,1.4s
HTT **Hallett** **32.83 226** P **P** **06 21 10.1 +1.4**
baz=33,SNR=74
DCZ **Deep Cove** **32.90 179** *eP* **P** **06 21 10.4 +1.4**
comp=Z,288nm,1.2s
ARPS **Mount Arapiles** **32.92 218** P **P** **06 21 10.7 +1.3**
baz=33,SNR=37
AS01 **Alice Springs** **32.97 246** *eP* **P** **06 21 09.2 -0.9**
AS31 **Alice Springs** **33.01 246** *eP* **P** **06 21 09.7 -0.7**
comp=Z,24nm,0.7s
ASAR **Alice Springs** **33.02 246** P **P** **06 21 09.8 -0.7**
comp=Z,66nm,0.7s,baz=72,slow=9.4,SNR=333
ASAR ScP **ScP** **06 27 34.1 +0.6**
comp=Z,15nm,1.1s,baz=82,slow=3.1,SNR=9.7
ASAR LR LR 06 33 41.5
comp=Z,17μm,21.4s,baz=80,slow=34
ASAR P3KPbc 06 52 28.9
comp=Z,1.6nm,0.8s,baz=261,slow=4.4,SNR=11
RAR **Rarotonga** **33.21 110** P **P** **06 21 14.8 +2.7**
comp=Z,60nm,0.8s,baz=252,slow=6.0,SNR=14
RAR LR LR 06 32 17.9
comp=Z,5μm,19.9s,baz=272,slow=32
RAR **Rarotonga** **33.21 110** *eP* **P** **06 21 15.3 +3.2**
RAR pmax pmax
comp=Z,448nm,1.9s
RAR **Rarotonga** **33.21 110** *eP* **P** **06 21 15.3 +3.2**
comp=Z,448nm,1.9s
WHZ **Wether Hill Ro** **33.34 178** *eP* **P** **06 21 13.9 +0.9**
comp=Z,375nm,1.9s
KDU **Kakadu** **33.38 266** P **P** **06 21 13.8 +0.2**
baz=33,SNR=6.3
TUZ **Tuapeka** **33.48 176** PN **P** **06 21 15.5 +1.4**
GUMO **Guam** **33.72 319** LR LR 06 34 31.6
comp=Z,7μm,21.6s,baz=142,slow=35
GUMO **Guam** **33.72 319** *eP* **P** **06 21 16.2 -0.3**
GUMO pmax pmax
comp=Z,602nm,0.7s
GUMO **Guam** **33.72 319** *eP* **P** **06 21 16.2 -0.3**
comp=Z,602nm,0.7s
MOO **Moorlands** **34.34 206** P **P** **06 21 23.8 +2.1**
baz=34,SNR=18
BBOO **Buckleboo** **34.57 229** P **P** **06 21 24.5 +0.6**
baz=34,SNR=76
BBOO **Buckleboo** **34.57 229** *eP* **P** **06 21 24.6 +0.8**
comp=Z,193nm,0.9s
MTN **Manton Dam** **34.67 265** P **P** **06 21 25.0 +0.2**
baz=34,SNR=13
MTN **Manton Dam** **34.67 265** *eP* **P** **06 21 25.1 +0.2**
comp=Z,130nm,0.9s
TAU **Tasmania Unive** **34.67 205** *eP* **P** **06 21 25.9 +1.4**
TAU pmax pmax
comp=Z,782nm,1.4s
TAU MLR MLR
comp=Z,6μm,22.0s
TAU **Tasmania Unive** **34.67 205** *eP* **P** **06 21 25.9 +1.4**
comp=Z,782nm,1.4s
TAU LR LR
comp=Z,6μm,22.0s
FAKI **Fak Fak** **35.37 283** P **P** **06 21 31.2 +0.3**
comp=Z,204nm,1.4s,comp=Z,5μm
FAKI **Fak Fak** **35.37 283** *eP* **P** **06 21 30.4 -0.5**
comp=Z,644nm,1.7s
KNRA **Kununurra** **36.89 260** P **P** **06 21 44.1 +0.3**
baz=37,SNR=21
SWI **Sorong** **36.96 285** P **P** **06 21 44.6 +0.2**
comp=Z,418nm,1.0s,comp=Z,5μm
BNDI **Bandanaira** **37.18 279** P **P** **06 21 46.3 0.0**
JOHN **Johnston Islan** **37.34 40** PFAKE 06 22 00.0 +12
JOHN LR LR
comp=Z,630nm,21.0s
WRKA **Warakurna** **38.30 245** P **P** **06 21 55.5 -0.3**
baz=38,SNR=80
MSAI **Masohi** **38.43 280** P **P** **06 21 56.2 -0.7**
XMAS **Kiritimati** **38.43 70** *eP* **P** **06 21 59.2 +2.3**
comp=Z,411nm,1.4s
XMAS LR LR
comp=Z,6.0nm,21.0s
AAI **Ambon** **39.04 280** P **P** **06 22 01.7 -0.3**
FITZ **Fitzroy Crossi** **39.93 257** P **P** **06 22 09.5 +0.2**
comp=Z,202nm,1.1s,baz=85,slow=11,SNR=122
FITZ LR LR 06 37 50.6
comp=Z,10μm,21.0s,baz=82,slow=35
FITZ **Fitzroy Crossi** **39.93 257** P **P** **06 22 09.5 +0.2**
baz=40,SNR=38
FITZ **Fitzroy Crossi** **39.93 257** *eP* **P** **06 22 09.6 +0.2**
comp=Z,587nm,1.4s
FORT **Forrest** **40.01 237** P **P** **06 22 10.5 +0.6**
baz=40,SNR=80
FORT **Forrest** **40.01 237** *eP* **P** **06 22 10.5 +0.6**
comp=Z,4μm,1.1s
NLAI **Namlea** **40.21 280** P **P** **06 22 13.1 +1.3**
comp=Z,892nm,1.7s,comp=Z,16μm
SANI **Sanana** **41.60 281** P **P** **06 22 23.6 +0.3**
comp=Z,371nm,1.7s,comp=Z,9μm
SOEI **Soe** **41.68 269** P **P** **06 22 24.5 +0.5**
comp=Z,135nm,1.1s,comp=Z,5μmcomp=Z,14μm
SOEI **Soe** **41.68 269** *eP* **P** **06 22 24.9 +0.9**
comp=Z,205nm,1.2s
BATI **Baumata** **42.21 268** P **P** **06 22 28.6 +0.4**
PAE **Paea** **42.48 103** *eP* **P** **06 22 32.9 +2.6**
comp=Z,9.5nm,0.8s
PAE *ep*P **pP** **06 22 44.9 +0.8**
comp=Z,38nm,1.2s
PPT **Papeete** **42.48 102** P **P** **06 22 32.1 +1.7**
comp=Z,60nm,0.7s,baz=57,slow=5.3,SNR=12
PPT LR LR 06 36 31.7
comp=Z,8μm,21.1s,baz=254,slow=31
PPT **Papeete** **42.48 102** *eP* **P** **06 22 33.3 +2.9**
PPT *e**PP **sP** **06 22 48.5 -1.7**
PPT **Papeete** **42.48 102** *eP* **P** **06 22 33.3 +2.9**
PPT *ep*P **sP** **06 22 48.5 -1.7**
PPT2 **Papeete2** **42.48 102** *eP* **P** **06 22 33.3 +2.8**
comp=Z,64nm,0.9s
PPT2 *ep*P **pP** **06 22 45.1 +0.9**
comp=Z,130nm,1.2s
PPT2 *e*S **S** **06 28 47.6 -1.6**
comp=Z,3μm,29.8s
PPT2 *e*LQ LQ 06 32 35.3
comp=Z,14μm,30.5s
PPT2 *e*LR LR 06 34 21.3
comp=Z,47μm,29.2s
TIAR **Tiarei** **42.70 102** *eP* **P** **06 22 34.5 +2.3**
comp=Z,17nm,0.7s
TIAR *ep*P **pP** **06 22 46.8 +0.9**
comp=Z,46nm,1.1s
TVO **Taravao** **42.80 103** *eP* **P** **06 22 35.7 +2.7**
comp=Z,30nm,0.8s
TBI **Tubuai** **42.97 111** *eP* **P** **06 22 36.9 +2.7**
comp=Z,186nm,1.0s
TBI *ep*P **pP** **06 22 48.9 +1.0**
comp=Z,214nm,1.0s
TBI *e*S **S** **06 28 55.2 -0.8**
comp=Z,2μm,29.5s
TBI *e*LQ LQ 06 32 41.5
comp=Z,12μm,31.2s
TBI *e*LR LR 06 34 33.6
comp=Z,23μm,32.0s
MIDW **Midway** **43.28 21** PFAKE 06 22 50.0 +13
MIDW LR LR
comp=Z,9μm,21.0s
MMRI **Maumere** **43.82 270** *eP* **P** **06 22 41.0 -0.2**
KMSI **Cibinong** **44.30 284** P **P** **06 22 46.3 +1.2**
comp=Z,2μm,1.2s,comp=Z,14μm
VAH **Vaihoa** **44.39 99** *eP* **P** **06 22 48.8 +3.1**
comp=Z,74nm,0.9s
VAH *ep*P **pP** **06 23 00.4 +0.9**
comp=Z,524nm,1.1s
LUWI **Luwuk** **44.97 281** P **P** **06 22 51.1 +0.7**
comp=Z,469nm,1.5s,comp=Z,9μm
LUWI **Luwuk** **44.97 281** *eP* **P** **06 22 51.4 +0.9**
comp=Z,1μm,1.5s
BASI **Baing, Sumba** **45.22 268** P **P** **06 22 52.8 +0.4**
comp=Z,395nm,1.2s,comp=Z,10μm
DAV **Davao City (W)** **45.23 293**⇑ *iP* **P** **06 22 51.4 -1.0**
DAV **Davao City (W)** **45.23 293** PFAKE 06 23 00.0 +7.6
DAV LR LR
comp=Z,2μm,21.0s
MBWA **Marble Bar** **45.63 253** *eP* **P** **06 22 56.4 +0.8**
comp=Z,516nm,1.0s
MBWA LR LR
comp=Z,6μm,22.0s
MBWA **Marble Bar** **45.63 253** P **P** **06 22 56.6 +1.0**
SNR=81
MBWA P **P** **06 22 56.6 +1.0**
SNR=81
MBWA **Marble Bar** **45.63 253** P **P** **06 22 56.6 +1.0**
SNR=81
BSSI **Bau Bau, Buton** **45.96 273** P **P** **06 22 58.6 +0.3**
comp=Z,352nm,1.8s,comp=Z,7μm
MRSI **Marisa** **46.21 283** P **P** **06 22 59.4 -0.8**
comp=Z,98nm,1.2s,comp=Z,7μm
BNSI **Bone** **46.70 276** P **P** **06 23 04.5 +0.4**
KAPI **Kappang** **46.91 275** *eP* **P** **06 23 06.5 +0.8**
comp=Z,1μm,1.8s
KAPI LR LR
comp=Z,3μm,21.0s
KAPI **Kappang** **46.91 275** P **P** **06 23 06.7 +1.0**
SNR=32
KAPI P **P** **06 23 06.7 +1.0**
SNR=32
KAPI **Kappang** **46.91 275** P **P** **06 23 06.7 +1.0**
SNR=32
SPSI **Sidrap Palu** **47.13 276** P **P** **06 23 07.2 -0.2**
comp=Z,155nm,1.2s,comp=Z,3μm
MEEK **Meekatharra** **47.17 245** P **P** **06 23 08.6 +1.0**
baz=47,SNR=242
TTSI **Tana Toraja** **47.29 277** P **P** **06 23 09.2 +0.5**
comp=Z,117nm,1.3s,comp=Z,4μm
KEKH **Kekaha** **47.52 44** *eP* **P** **06 23 14.1 +3.9**
comp=Z,207nm,0.9s
PAGZ **Pagadian** **47.53 293** *eP* **P** **06 23 10.8 +0.3**
PCI **Palu** **47.83 280** P **P** **06 23 13.4 +0.5**
PLAI **Plampang** **48.15 269** P **P** **06 23 15.1 -0.2**
comp=Z,613nm,1.1s,comp=Z,11μmcomp=Z,12μm
KIP **Kipapa** **48.33 46**⇑ *iP* **P** **06 23 19.7 +3.2**
KIP pmax pmax
comp=Z,984nm,1.7s
KIP **Kipapa** **48.33 46** *eP* **P** **06 23 18.8 +2.3**
comp=Z,151nm,1.1s
KIP LR LR
comp=Z,7μm,19.0s
OPA **Opana** **48.50 46** *eP* **P** **06 23 21.4 +3.5**
OPA pmax pmax
comp=Z,423nm,0.9s
OPA **Opana** **48.50 46** *eP* **P** **06 23 21.4 +3.5**
comp=Z,423nm,0.9s
KLBR **Kellerberrin** **48.75 239** P **P** **06 23 19.9 +0.1**
baz=49,SNR=86
MLOA **Mauna Loa Obse** **48.91 50** *eP* **P** **06 23 24.9 +3.3**
MLOA *ep*P **pP** **06 23 32.7 -2.8**
TWSI **Taliwang, Sumb** **49.04 269** P **P** **06 23 22.6 +0.5**
comp=Z,425nm,2.0s,comp=Z,8μm
POHA **Pohakuloa** **49.08 50** *eP* **P** **06 23 26.0 +3.4**
comp=Z,215nm,1.0s
POHA LR LR
comp=Z,9μm,22.0s
HPAH **Hawaii Prepara** **49.12 49** *eP* **P** **06 23 25.8 +3.0**
comp=Z,306nm,0.9s
HLK **Haleakala** **49.17 48** *eP* **P** **06 23 27.1 +3.8**
comp=Z,380nm,0.9s
BLDU **Ballidu** **49.45 240** P **P** **06 23 25.6 +0.6**
baz=49,SNR=43
NWAO **Narrogin (SRO)** **49.46 237** P **P** **06 23 25.5 +0.4**
comp=Z,216nm,0.9s,baz=312,slow=6.3,SNR=79
NWAO **Narrogin (SRO)** **49.46 237** P **P** **06 23 25.5 +0.4**
baz=49,SNR=62
NWAO P **P** **06 23 25.5 +0.4**
baz=49,SNR=62
NWAO **Narrogin (SRO)** **49.46 237** *eP* **P** **06 23 25.5 +0.4**
NWAO pmax pmax
comp=Z,2μm,1.8s
NWAO MLR MLR
comp=Z,14μm,20.0s
NWAO **Narrogin (SRO)** **49.46 237** *eP* **P** **06 23 25.5 +0.4**
comp=Z,2μm,1.8s
NWAO LR LR
comp=Z,14μm,20.0s
NWAO **Narrogin (SRO)** **49.46 237** P **P** **06 23 25.7 +0.5**
SNR=26
NWAO P **P** **06 23 25.7 +0.5**
SNR=26
NWAO **Narrogin (SRO)** **49.46 237** P **P** **06 23 25.7 +0.5**
SNR=26
PVCP **Virac** **49.47 300** *eP* **P** **06 23 26.6 +1.3**
PVCP *e*S **PP** **06 25 14.4 -5.6**
RCP **Roxas** **49.71 297**⇓ *eP* **P** **06 23 28.2 +1.0**
MORW **Morawa** **49.77 242** P **P** **06 23 28.3 +0.7**
baz=33,SNR=148
RKGY **Rocky Gully** **50.04 235** P **P** **06 23 31.0 +1.4**
baz=50,SNR=30
BKB **Balikpapan** **50.57 279** P **P** **06 23 34.5 +0.7**
AUQP **San Andres** **50.59 299** *eP* **P** **06 23 36.3 +2.4**
DNP **Denpasar** **50.68 269** P **P** **06 23 35.5 +0.9**
comp=Z,1μm,1.2s,comp=Z,44μm
IGBI **Denpasar** **50.72 269** P **P** **06 23 35.5 +0.6**
comp=Z,1μm,1.2s,comp=Z,16μmcomp=Z,7μm
SRBI **Singaraja** **50.77 270** P **P** **06 23 35.7 +0.4**
comp=Z,549nm,1.8s,comp=Z,11μm
GIRL **Giralia** **50.80 251** P **P** **06 23 36.8 +1.4**
baz=51,SNR=10.0
MYLDM **Lahad Datu** **50.99 287** *eP* **P** **06 23 39.1 +2.2**
comp=Z,657nm,1.2s
TSM **Tawau** **51.28 286** ⇓P **P** **06 23 40.6 +1.5**
BOAC **Boac** **51.37 299** *eP* **P** **06 23 40.8 +1.1**
JAGI **Jajag, Banyuwa** **51.74 269** P **P** **06 23 42.1 -0.5**
comp=Z,688nm,1.3s,comp=Z,1μm
JAGI **Jajag, Banyuwa** **51.74 269** *eP* **P** **06 23 42.0 -0.7**
comp=Z,1μm,1.3s
ABJI **Asn Bagus** **51.77 270** P **P** **06 23 43.5 +0.7**
comp=Z,785nm,1.4s,comp=Z,13μm
BBKI **Banjar Baru** **52.03 275** P **P** **06 23 46.2 +1.4**
comp=Z,638nm,1.7s,comp=Z,13μm
JHJ **Hachijo jima 2** **52.09 331** LR LR 06 43 58.9
comp=Z,3μm,21.6s,baz=134,slow=34
KMMI **Kalianget** **52.16 271** P **P** **06 23 47.6 +1.9**
comp=Z,378nm,1.6s,comp=Z,8μm
TAOE **Nuku Hiva Isla** **52.31 92** *eLR* LR 06 38 49.0
comp=Z,20μm,27.1s
SDKM **Sandakan** **52.37 287** ⇓P **P** **06 23 47.7 +0.4**
BLJI **Banyuglugur** **52.41 270** P **P** **06 23 48.4 +0.9**
comp=Z,619nm,1.3s,comp=Z,10μm
TGY **Tagaytay City** **52.45 299** LR LR 06 43 22.3
comp=Z,2μm,21.5s,baz=132,slow=33
GMJI **Gumukmas** **52.47 269** P **P** **06 23 48.4 +0.4**
MTKI **Muara Teweh, K** **52.58 278** P **P** **06 23 49.3 +0.5**
LUBP **Lubang** **52.87 298** *eP* **P** **06 23 49.2 -1.7**
BATP **Bataraza** **52.96 291** *eP* **P** **06 23 52.7 +1.1**
CAUP **Cauayan** **53.09 302** *eP* **P** **06 23 53.9 +1.5**
KDM **Kudat** **53.15 289** ⇑P **P** **06 23 53.3 +0.3**
KKM **Kota Kinabalu** **53.42 287** *eP* **P** **06 23 56.0 +0.8**
comp=Z,981nm,1.1s
KKM LR LR
comp=Z,3μm,22.0s
KKM **Kota Kinabalu** **53.42 287** ⇑P **P** **06 23 55.4 +0.3**
JOW **Kunigami** **54.00 317** P **P** **06 24 00.6 +1.6**
baz=162,slow=7.3
JOW **Kunigami** **54.00 317** *eP* **P** **06 24 00.6 +1.6**
comp=Z,2μm,1.6s
PWJI **Pagerwojo** **54.11 269** P **P** **06 24 00.4 +0.3**
SCZP **Santa Cruz** **54.11 300** *eP* **P** **06 24 00.5 +0.5**
BOLP **Bolinao** **54.40 301** *eP* **P** **06 24 01.8 -0.2**
NGJI **Ngawi** **54.55 270** P **P** **06 24 04.2 +0.9**
PCJI **Pacitan** **54.69 269** P **P** **06 24 05.1 +0.8**
comp=Z,1μm,1.2s,comp=Z,14μm
WOJI **Wonogiri, Jawa** **55.00 269** P **P** **06 24 07.8 +1.3**
comp=Z,543nm,1.7s,comp=Z,11μm
PBKI **Pangkalan Bun** **55.28 275** P **P** **06 24 09.9 +1.3**
comp=Z,427nm,1.0s,comp=Z,8μm
UGM **Wanagama** **55.38 269** P **P** **06 24 10.5 +1.2**
comp=Z,502nm,1.2s,comp=Z,10μm
UGM **Wanagama** **55.38 269** *eP* **P** **06 24 10.5 +1.2**
comp=Z,735nm,1.2s
BTM **Bintulu** **55.47 283** ⇓P **P** **06 24 10.2 +0.3**
SMRI **Semarang** **55.61 270** P **P** **06 24 12.3 +1.4**
SMRI **Semarang** **55.61 270** *eP* **P** **06 24 12.1 +1.2**
comp=Z,514nm,1.2s
MJAR **Matsushiro Arr** **55.64 332** P **P** **06 24 10.2 -0.5**
comp=Z,69nm,1.2s,baz=161,slow=6.6,SNR=42
MAJO **Matsushiro** **55.64 332**⇑ *iP* **P** **06 24 10.6 -0.1**
MAJO pmax pmax
comp=Z,371nm,1.0s
MAJO MLR MLR
comp=Z,6μm,19.0s
MAJO **Matsushiro** **55.64 332** *eP* **P** **06 24 10.5 -0.2**
comp=Z,48nm,0.8s
MAJO LR LR
comp=Z,4μm,21.0s
MAT **Matsushiro** **55.64 332** P **P** **06 24 10.3 -0.4**
MAT S **S** **06 31 56.4 +3.3**
MJB9 **Matsu-Tunnel** **55.64 332** *eP* **P** **06 24 10.6 -0.2**
comp=Z,12nm,0.8s
SBUM **Sibu** **56.07 282** *eP* **P** **06 24 15.3 +1.0**
comp=Z,235nm,1.3s
STKI **Sintang** **56.14 279** P **P** **06 24 15.4 +0.7**
RKT **Rikitea** **56.25 110** *eS* **S** **06 31 59.8 -1.9**
comp=Z,3μm,27.0s
RKT *e*LQ LQ 06 38 22.6
comp=Z,3μm,30.5s
RKT *e*LR LR 06 40 43.0
comp=Z,17μm,29.8s
YOJ **Yonaguni jima** **56.25 311** *eP* **P** **06 24 16.0 +0.7**
YOJ pmax pmax
comp=Z,778nm,1.2s
YOJ **Yonaguni jima** **56.25 311** *eP* **P** **06 24 16.0 +0.7**
comp=Z,778nm,1.2s
JNU **Nakatsue** **56.75 324** P **P** **06 24 19.5 +0.8**
comp=Z,166nm,0.8s,baz=101,slow=3.9,SNR=10
JNU LR LR 06 45 11.1
comp=Z,13nm,19.3s,baz=163,slow=32
JNU **Nakatsue** **56.75 324** *eP* **P** **06 24 19.4 +0.6**
comp=Z,180nm,0.8s
TWG **Pinlang** **56.78 308** *eP* **P** **06 24 18.6 -0.5**
comp=Z,697nm,1.1s
YULB **Yu-li** **56.93 309** *eP* **P** **06 24 19.8 -0.3**
comp=Z,261nm,1.0s
KPJI **Karang Pucung** **57.03 269** P **P** **06 24 21.6 +0.5**
comp=Z,227nm,0.9s,comp=Z,6μm
NACB **Ninganchiao** **57.14 310** *eP* **P** **06 24 21.9 +0.3**
comp=Z,2μm,1.9s
TPUB **Ta-pu** **57.39 308** *eP* **P** **06 24 23.2 -0.1**
comp=Z,715nm,1.0s
SSLB **Suanglung** **57.41 309** *eP* **P** **06 24 23.4 -0.2**
comp=Z,205nm,1.1s
CMJI **Cimerak** **57.43 269** P **P** **06 24 23.9 +0.1**
comp=Z,300nm,1.8s,comp=Z,6μm
YHNB **Yeheng** **57.58 310** *eP* **P** **06 24 25.1 +0.3**
comp=Z,560nm,0.9s
YHNB LR LR
comp=Z,7μm,21.0s
KSM **Kuching** **57.64 280** *eP* **P** **06 24 25.6 +0.3**
comp=Z,344nm,1.3s
KSM *e*PP **PP** **06 26 33.0 -0.7**
KSM *e*S **S** **06 32 14.7 -5.6**
KSM LR LR
comp=Z,1μm,22.0s
TATO **Taipei** **57.67 310** *eP* **P** **06 24 25.7 +0.4**
comp=Z,532nm,1.2s
TATO LR LR
comp=Z,7μm,22.0s
JCJI **Jatiwangi** **57.83 270** P **P** **06 24 27.4 +0.7**
comp=Z,1μm,1.4s,comp=Z,18μm
CISI **Cisompet, Garu** **58.08 269** P **P** **06 24 28.4 -0.1**
comp=Z,651nm,1.4s,comp=Z,11μmcomp=Z,10μm
CISI **Cisompet, Garu** **58.08 269** *eP* **P** **06 24 27.6 -0.9**
comp=Z,809nm,1.2s
ERM **Erimo** **58.37 340**⇓ *iP* **P** **06 24 31.0 +1.2**
ERM pmax pmax
comp=Z,26nm,0.8s
ERM MLR MLR
comp=Z,2μm,19.0s
ERM **Erimo** **58.37 340** *eP* **P** **06 24 31.2 +1.4**
comp=Z,37nm,0.7s
ERM LR LR
comp=Z,5μm,20.0s
LEM **Lembang** **58.40 270** P **P** **06 24 31.6 +0.7**
CNJI **Cibinong** **58.80 269** P **P** **06 24 33.1 -0.3**
comp=Z,721nm,1.2s,comp=Z,9μm
CBJI **Citeko** **59.23 270** P **P** **06 24 36.6 +0.2**
comp=Z,493nm,1.7s,comp=Z,10μm
DBJI **Dramaga** **59.30 270** P **P** **06 24 37.9 +0.9**
comp=Z,659nm,1.4s,comp=Z,12μm
SKJI **Sukabumi** **59.41 269** P **P** **06 24 38.2 +0.5**
comp=Z,839nm,1.1s,comp=Z,10μm
XMIS **Christmas Isla** **59.73 265** *eP* **P** **06 24 41.1 +1.2**
comp=Z,535nm,1.1s
QZH **Quanzhou** **59.84 309**⇑ *iP* **P** **06 24 40.6 +0.2**
QZH pP **pP** **06 24 54.7 0.0**
QZH pmax pmax
comp=Z,1μm,1.2s
QZH LR LR
comp=Z,5μm,19.3s
QZH LR LR
comp=Z,9μm,24.6s
QZH LR LR
comp=Z,6μm,21.3s
KUR **Kuril'sk** **59.89 345** *eP* **P** **06 24 43.9 +3.6**
KUR *e*S **S** **06 32 53.4 +5.1**
CGJI **Cibinong** **60.32 269** P **P** **06 24 43.8 -0.1**
comp=Z,1μm,1.2s,comp=Z,15μm
ASAJ **Asahikawa** **60.42 340** *eP* **P** **06 24 44.8 +0.8**
comp=Z,91nm,1.1s
PPBI **Pangkal Pinang** **60.79 275** P **P** **06 24 48.7 +1.5**
SSE **Sheshan** **61.50 316** P **P** **06 24 51.8 +0.3**
SSE sP **pP** **06 25 04.8 -1.1**
SSE PP **PP** **06 27 06.1 -1.5**
SSE S **S** **06 33 11.5 +2.1**
SSE pmax pmax
comp=Z,430nm,1.2s
SSE pmax pmax
comp=Z,1μm,6.4s
SSE LR LR
comp=Z,2μm,27.9s
SSE LR LR
comp=Z,1μm,27.8s
SSE LR LR
comp=Z,3μm,28.3s
KSRS **Korea Array** **61.55 325** P **P** **06 24 52.6 +0.8**
comp=Z,49nm,0.8s,baz=138,slow=7.1,SNR=146
KSRS LR LR 06 48 48.5
comp=Z,504nm,21.2s,baz=140,slow=33
KSRS PKP2bc 06 54 10.7
comp=Z,0.9nm,0.7s,baz=280,slow=3.6,SNR=4.2
KSAR **Wonju Array Be** **61.56 325** P **P** **06 24 52.6 +0.7**
KSAR **Wonju Array Be** **61.56 325** P **P** **06 24 52.6 +0.7**
KSAR ⇑*e* 06 54 10.7
KASI **Kota Agung** **61.69 270** P **P** **06 24 53.1 -0.2**
comp=Z,601nm,1.1s,comp=Z,6μm
MDSI **Maura Dua** **62.21 271** P **P** **06 24 57.2 +0.5**
LWLI **Liwa** **62.22 271** P **P** **06 24 56.9 0.0**
INCN **Inchon** **62.29 325** *eP* **P** **06 24 57.8 +1.0**
comp=Z,407nm,1.7s
INCN LR LR
comp=Z,66nm,21.0s
YSS **Yuzh-Sakhalins** **62.90 342**α *iP* **P** **06 25 01.6 +1.0**
YSS *e*S **S** **06 33 24.9 -1.6**
YSS pmax pmax
comp=Z,60nm,1.0s
YSS pmax pmax
comp=N,40nm,0.6s
YSS pmax pmax
comp=Z,700nm,4.5s
YSS pmax pmax
comp=N,600nm,4.1s
YSS MLR MLR
comp=Z,2μm,18.0s
YSS MLR MLR
comp=N,3μm,19.0s
YSS **Yuzh-Sakhalins** **62.90 342** *eP* **P** **06 25 01.8 +1.2**
comp=N,60nm,0.9s
YSS LR LR
comp=Z,2μm,20.0s
GZH **Guangzhou** **63.03 304** P **P** **06 25 03.8 +1.8**
GZH S **S** **06 33 32.6 +3.6**
GZH pmax pmax
comp=Z,4μm,5.4s
MNAI **Manna** **63.43 271** *eP* **P** **06 25 04.7 -0.2**

SKR Severo-Kuril's 63.54 353 *i* P P 06 25 04.5 -0.3
SKR *e*S S 06 33 40.1 +5.8
SKR *e*PS PnS 06 34 12.1 +15
SKR pmax pmax
comp=Z,80nm,1.9s
SKR pmax pmax
comp=Z,1μm,15.9s
SKR MLR MLR
comp=Z,1μm,18.0s
SKR MLR MLR
comp=Z,1μm,17.0s
NJ2 Nanjing 63.66 315 *e*P P 06 25 07.2 +1.2
NJ2 pP pP 06 25 20.2 -0.2
NJ2 sP sP 06 25 24.0 -2.3
NJ2 pmax pmax
comp=Z,560nm,0.8s
NJ2 LR LR
comp=Z,2μm,21.7s
NJ2 LR LR
comp=Z,2μm,20.6s
NJ2 LR LR
comp=Z,4μm,23.5s
VLA Vladivostok 63.81 332*c i*P P 06 25 07.5 +0.8
VLA pmax pmax
comp=Z,218nm,1.7s
VLA MLR MLR
comp=Z,835nm,18.0s
MYKOM Kota Tinggi 63.95 278 *e*P P 06 25 08.9 +0.6
QIZ Qiongzhong 64.15 298 P P 06 25 11.2 +1.7
QIZ PP PP 06 27 32.1 +0.9
QIZ S S 06 33 47.2 +4.1
QIZ sS pS 06 34 03.2 +2.8
QIZ SS SS 06 37 56.9 +3.5
QIZ pmax pmax
comp=Z,290nm,1.1s
QIZ pmax pmax
comp=Z,2μm,8.2s
QIZ LR LR
comp=Z,2μm,23.9s
QIZ LR LR
comp=Z,4μm,25.7s
QIZ Qiongzhong 64.15 298 *e*P P 06 25 10.9 +1.4
comp=Z,342nm,1.0s
QIZ LR LR
comp=Z,2μm,22.0s
USRK Ussuriysk Ar. 64.61 333 P P 06 25 12.9 +1.0
comp=Z,104nm,1.1s,baz=144,slow=6.6,SNR=68
USRK LR LR 06 50 29.7
comp=Z,2μm,21.8s,baz=133,slow=33
VNDA Vanda 65.11 181 P P 06 25 15.4 +0.6
comp=Z,36nm,0.8s,baz=356,slow=6.9,SNR=141
VNDA LR LR 06 50 33.2
comp=Z,3μm,20.2s,baz=4.0,slow=33
SBA Scott Base 65.40 180 *e*P P 06 25 18.3 +1.7
SBA MLR MLR
comp=Z,2μm,20.0s
SBA Scott Base 65.40 180 *e*P P 06 25 18.3 +1.7
SBA LR LR
comp=Z,2μm,20.0s
PET Petropavlovsk 65.58 355*c i*P P 06 25 17.2 -0.8
PET *i* S S 06 33 59.4 +0.1
PET *e*PS PnS 06 34 24.8 -0.4
PET pmax pmax
comp=Z,1μm,15.2s
PET pmax pmax
comp=Z,800nm,13.3s
PET MLR MLR
comp=Z,2μm,18.0s
PET MLR MLR
comp=Z,2μm,16.0s
PET Petropavlovsk 65.58 355 PFAKE 06 25 30.0 +12
PET LR LR
comp=Z,2μm,19.0s
PEA0 Petropavlovsk- 65.75 354 *e*P P 06 25 19.4 +0.2
PEA0B Petropavlovsk- 65.75 354 *e*P P 06 25 19.9 +0.8
PETK Petropavlovsk- 65.75 354 P P 06 25 19.5 +0.4
comp=Z,28nm,0.8s,baz=148,slow=7.9,SNR=20
PETK LR LR 06 48 58.2
comp=Z,2μm,21.9s,baz=167,slow=31
WHN Wuhan 66.01 312⇑*i*P P 06 25 21.9 +0.6
WHN pP pP 06 25 35.4 -0.4
WHN pmax pmax
comp=Z,400nm,0.8s
WHN pmax pmax
comp=Z,4μm,4.6s
WHN LR LR
comp=Z,5μm,18.3s
WHN LR LR
comp=Z,6μm,19.5s
WHN LR LR
comp=Z,12μm,21.7s
MDJ Mudanjiang 66.02 332 P P 06 25 22.0 +0.9
MDJ pP pP 06 25 31.4 -4.2
MDJ sP sP 06 25 35.2 -6.3
MDJ S S 06 34 07.0 +1.9
MDJ sS pS 06 34 22.7 +0.2
MDJ SS SS 06 38 18.8 -2.8
MDJ pmax pmax
comp=Z,100nm,1.3s
MDJ pmax pmax
comp=Z,2μm,5.6s
MDJ LR LR
comp=Z,2μm,29.3s
MDJ LR LR
comp=Z,2μm,27.1s
MDJ LR LR
comp=Z,4μm,29.6s
DL2 Dalian 66.15 323⇑*i*P P 06 25 22.8 +0.8
DL2 S S 06 34 07.8 +0.9
DL2 pmax pmax
comp=Z,450nm,0.7s
DL2 pmax pmax
comp=Z,2μm,5.1s
DL2 LR LR
comp=Z,1μm,20.0s
DL2 LR LR
comp=Z,1μm,21.6s
DL2 LR LR
comp=Z,3μm,39.2s
BKNI Bangkinang 66.32 276 *e*P P 06 25 24.8 +1.1
UBPT Khong Chiam 66.56 293 P P 06 25 26.1 +1.0
comp=Z,288nm,1.1s,comp=Z,5μm
HABR Khabarovsk 66.83 338*ce*P P 06 25 24.8 -1.3
HABR *e**SP pP 06 25 39.2 -1.5
HABR *e* 06 25 53.5
HABR *e* 06 27 51.9
HABR PPP PPP 06 29 27.9
HABR *e*S S 06 34 14.9 +0.2
HABR *e**SS pS 06 34 32.4 +0.2
HABR *e* 06 35 19.3
HABR *e*SS SS 06 38 33.9 -0.1
HABR pmax pmax
comp=Z,236nm,1.6s
HABR pmax pmax
comp=Z,2μm,4.6s
HABR MLR MLR
comp=Z,1μm,21.0s
SNY Shenyang 67.01 326 ⇑P P 06 25 27.9 +0.5
SNY S S 06 34 08.0 -9.1
SNY pmax pmax
comp=Z,97nm,2.5s
SNY pmax pmax
comp=Z,2μm,12.0s
SNY LR LR
comp=Z,2μm,20.4s
SNY LR LR
comp=Z,1μm,23.3s
SNY LR LR
comp=Z,4μm,23.7s
TIA Tai'an 67.27 318 ⇑P P 06 25 29.4 +0.1
TIA S S 06 34 18.9 -1.7
TIA pmax pmax
comp=Z,250nm,1.1s
TIA pmax pmax
comp=Z,2μm,4.5s
TIA LR LR
comp=Z,3μm,23.6s
TIA LR LR
comp=Z,3μm,24.4s
TIA LR LR
comp=Z,6μm,24.5s
CN2 Changchun 67.42 329 ⇑P P 06 25 30.8 +0.8
CN2 *e*pP pP 06 25 41.1 -3.5
CN2 *e*sP sP 06 25 45.2 -5.2
CN2 PP PP 06 28 01.9 +2.6
CN2 *e*S S 06 34 21.7 -0.3
CN2 SS SS 06 38 46.6 +3.3
CN2 pmax pmax
comp=Z,20nm,0.8s
CN2 pmax pmax
comp=Z,200nm,4.0s
CN2 LR LR
comp=Z,2μm,24.0s
CN2 LR LR
comp=Z,2μm,24.0s
CN2 LR LR
comp=Z,3μm,25.0s
KULM Kulim 67.94 281 *e*P P 06 25 33.6 -0.3
KULM LR LR
comp=Z,3μm,22.0s
COCO West Island 68.04 262 *e*P P 06 25 36.9 +2.4
COCO MLR MLR
comp=Z,4μm,20.0s
COCO West Island 68.04 262 *e*P P 06 25 36.9 +2.4
COCO LR LR
comp=Z,4μm,20.0s
COCO West Island 68.04 262 P P 06 25 36.5 +2.0
SNR=5.3
COCO P P 06 25 36.5 +2.0
SNR=5.3
COCO West Island 68.04 262 P P 06 25 36.5 +2.0
SNR=5.3
NIKH Nikolski High 68.47 16 *e*P P 06 25 36.5 +0.1
SKLT Songkhla 68.49 283 P P 06 25 38.2 +0.9
comp=Z,268nm,1.5s,comp=Z,5μm
SKNT Sakolnakorn 68.50 294 P P 06 25 37.9 +0.6
comp=Z,1μm,1.1s,comp=Z,10μm
CHBT CHBT 68.56 289 P P 06 25 39.0 +1.2
comp=Z,310nm,1.7s,comp=Z,6μm
KLR Kul'dur 68.71 336⇑*i*P P 06 25 39.2 +1.2
PSI Prapat 68.97 278 *e*P P 06 25 39.8 -0.7
PSI Prapat 68.97 278 *e*P P 06 25 39.8 -0.7
NKL Nikolayevsk 69.04 344 *i* P P 06 25 41.0 +1.1
NKL *e* 06 34 42.0
NKL pmax pmax
comp=Z,60nm,1.0s
NKL pmax pmax
comp=N,500nm,10.0s
NKL pmax pmax
comp=Z,2μm,10.0s
SRAK Srakaew 69.24 290 P P 06 25 39.7 -2.2
comp=Z,219nm,0.8s,comp=Z,2μm
ENH Enshi 69.49 309 *e*P P 06 25 43.6 +0.3
comp=Z,923nm,0.9s
ENH LR LR
comp=Z,2μm,21.0s
NONG Nongkai 69.63 295 P P 06 25 44.9 +0.6
comp=Z,472nm,1.0s,comp=Z,6μm
UNV Unalaska Valle 69.89 17 *e*P P 06 25 45.1 -0.1
GSI Gunungsitoli 69.92 276 *e*P P 06 25 45.8 -0.4
GYA Guiyang 69.96 304⇑*i*P P 06 25 47.1 +0.7
GYA pP pP 06 26 00.3 -0.8
GYA PP PP 06 28 26.0 +4.1
GYA S S 06 34 47.9 -5.3
GYA sS pS 06 35 13.8 +2.8
GYA SKS ScS 06 35 45.0 +0.2
GYA SS SS 06 39 27.7 +4.1
GYA pmax pmax
comp=Z,340nm,1.0s
GYA pmax pmax
comp=Z,2μm,9.0s
GYA LR LR
comp=Z,1μm,22.3s
GYA LR LR
comp=Z,1μm,22.7s
GYA LR LR
comp=Z,2μm,20.9s
BJT Baijiatuau 70.14 321 *e*P P 06 25 47.7 +0.7
BJT pmax pmax
comp=Z,241nm,1.0s
BJT MLR MLR
comp=Z,6μm,22.0s
BJT Baijiatuau 70.14 321 *e*P P 06 25 47.7 +0.7
comp=Z,241nm,1.0s
BJT *e*PP PP 06 28 16.4 -6.5
BJT LR LR
comp=Z,6μm,22.0s
BJI Beijing 70.15 321 P P 06 25 48.1 +1.1
BJI S S 06 34 55.1 +0.6
BJI SS SS 06 39 29.4 +3.8
BJI pmax pmax
comp=Z,220nm,1.0s
BJI pmax pmax
comp=Z,3μm,3.8s
BJI LR LR
comp=Z,3μm,26.9s
BJI LR LR
comp=Z,8μm,28.9s
SURT Suratani 70.72 284 P P 06 25 52.4 +1.3
comp=Z,146nm,1.4s,comp=Z,2μm
TIY Taiyuan 71.21 317 *e*P P 06 25 55.0 +1.3
TIY pP pP 06 26 07.0 -1.4
TIY S S 06 35 07.3 +0.1
TIY pmax pmax
comp=Z,350nm,0.9s
TIY pmax pmax
comp=Z,2μm,4.2s
TIY LR LR
comp=Z,2μm,19.2s
TIY LR LR
comp=Z,2μm,19.1s
TIY LR LR
comp=Z,4μm,22.7s
LHMI Lhok Sumawe 71.49 280 *e*P P 06 25 57.0 +1.2
XAN Xi'an 71.74 312 P P 06 25 57.7 +0.7
XAN pP pP 06 26 08.5 -3.2
XAN sP PcP 06 26 12.7 -3.0
XAN PP PP 06 28 39.1 +2.1
XAN S S 06 35 12.8 -0.6
XAN sS pS 06 35 30.7 -0.7
XAN SS SS 06 39 50.9 +0.4
XAN pmax pmax
comp=Z,550nm,1.0s
XAN pmax pmax
comp=Z,2μm,10.9s
XAN LR LR
comp=Z,1μm,21.8s
XAN LR LR
comp=Z,2μm,20.3s
XAN LR LR
comp=Z,4μm,21.8s
UTTA Uttaradit 71.83 293 P P 06 25 59.0 +1.3
comp=Z,66nm,1.0s,comp=Z,579nm
SRDT SRDT 72.03 290 P P 06 26 00.4 +1.5
comp=Z,768nm,1.4s,comp=Z,13μm
NANT Nan 72.06 295 P P 06 26 00.1 +1.0
comp=Z,98nm,1.1s,comp=Z,999nm
MIR Mirnyy 72.16 204⇓*i*P P 06 26 00.0 +1.2
MIR *i* 06 26 18.0
MIR *i* S S 06 35 16.0 -1.1
MIR pmax pmax
comp=Z,2μm,8.0s
MIR smax smax
comp=E,1μm,7.0s
KMI Kunming 72.63 301 P P 06 26 04.6 +1.9
KMI pP pP 06 26 15.3 -2.1
KMI sP PcP 06 26 19.7 -0.3
KMI S S 06 35 26.3 +2.0
KMI sS pS 06 35 44.5 +2.2
KMI SS SS 06 40 10.3 +5.5
KMI pmax pmax
comp=E,770nm,1.2s
KMI pmax pmax
comp=E,3μm,3.1s
KMI LR LR
comp=E,890nm,19.5s
KMI LR LR
comp=E,1μm,21.8s
KMI LR LR
comp=E,3μm,25.3s
UMPA Umpang Tak 72.85 291 P P 06 26 05.0 +1.1
comp=E,58nm,1.0s,comp=E,636nm
LAMP Lampang 72.92 294 P P 06 26 05.8 +1.6
comp=E,234nm,0.8s,comp=E,2μm
MA2 Magadan 72.93 352 P P 06 26 02.9 -0.5
comp=E,12nm,0.7s,baz=170,slow=13,SNR=2.6
MA2 Magadan 72.93 352 P P 06 26 02.9 -0.5
MA2 MLR MLR
comp=Z,3μm,22.0s
MA2 Magadan 72.93 352 P P 06 26 02.9 -0.5
MA2 LR LR
comp=Z,3μm,22.0s
SDPT Sand Point 72.97 19 *e*P P 06 26 04.3 +0.6
comp=Z,74nm,1.3s
HHC Hu-ho-hao-te 73.49 320 *e*P P 06 26 08.6 +1.3
HHC S SKiKP 06 35 36.8 +3.2
HHC SS SS 06 40 17.0 -0.1
HHC pmax pmax
comp=Z,170nm,0.9s
HHC pmax pmax
comp=Z,2μm,7.4s
HHC LR LR
comp=Z,3μm,25.3s
HHC LR LR
comp=Z,4μm,23.9s
HHC LR LR
comp=Z,7μm,24.7s
CMAR Chiang Mai Arr 73.51 294 P P 06 26 09.3 +1.6
comp=Z,216nm,0.8s,baz=121,slow=4.5,SNR=454
CMAR LR LR 07 00 19.9
comp=Z,531nm,19.3s,baz=132,slow=37
CMAR Chiang Mai Arr 73.51 294 *i* P P 06 26 09.3 +1.6
CMAR pmax pmax
comp=Z,224nm,0.8s
CMMT Chiang Mai 73.63 294 P P 06 26 09.2 +0.8
comp=Z,371nm,1.4s,comp=Z,6μm
CHTO Chiang Mai 73.63 294 P P 06 26 09.3 +0.9
comp=Z,2μm,1.4s,comp=Z,26μm
CHTO Chiang Mai 73.63 294 *e*P P 06 26 09.7 +1.3
CHTO MLR MLR
comp=Z,845nm,21.0s
CHTO Chiang Mai 73.63 294 *e*P P 06 26 09.7 +1.3
CHTO LR LR
comp=Z,845nm,21.0s
CHTO Chiang Mai 73.63 294 P P 06 26 09.7 +1.3
SNR=131
CHTO Chiang Mai 73.63 294 P P 06 26 09.7 +1.3
SNR=131
HIA Hailar 74.04 330 *e*P P 06 26 10.9 +0.7
HIA pmax pmax
comp=Z,182nm,1.3s
HIA MLR MLR
comp=Z,2μm,20.0s
HIA Hailar 74.04 330 *e*P P 06 26 10.9 +0.7
comp=Z,182nm,1.3s
HIA LR LR
comp=Z,2μm,20.0s
CD2 Chengdu 74.18 307⇑*i*P P 06 26 12.7 +1.2
CD2 pP pP 06 26 21.7 -4.5
CD2 sP PcP 06 26 27.2 +0.9
CD2 PP PP 06 28 54.5 -3.4
CD2 S S 06 35 40.2 -1.1
CD2 sS sS 06 36 02.8 -3.3
CD2 SS SS 06 40 30.6 +2.7
CD2 pmax pmax
comp=Z,680nm,1.1s
CD2 pmax pmax
comp=Z,3μm,7.7s
CD2 LR LR
comp=Z,2μm,27.7s
CD2 LR LR
comp=Z,2μm,23.8s
BTO Baotou 74.35 319 *e*P P 06 26 13.5 +1.2
CMBY CAMPBELL BAY 74.84 281 *e*P P 06 26 13.5 -2.1
SEY Seymchan 75.97 353 P P 06 26 21.1 +0.1
comp=Z,26nm,0.8s,baz=163,slow=5.2,SNR=47
SEY Seymchan 75.97 353*c i*P P 06 26 21.3 +0.3
LZH Lanzhou 76.38 312 ⇑P P 06 26 26.2 +2.1
LZH pP pP 06 26 37.2 -1.7
LZH sP sP 06 26 41.2 -3.6
LZH PP PP 06 29 18.0 +1.5
LZH S S 06 36 07.5 +1.8
LZH sS pS 06 36 26.0 +2.0
LZH pmax pmax
comp=Z,720nm,1.0s
LZH pmax pmax
comp=Z,3μm,4.0s
LZH LR LR
comp=Z,3μm,17.8s
LZH LR LR
comp=Z,4μm,18.2s
LZH LR LR
comp=Z,4μm,17.5s
OHAK Old Harbor 76.88 21 *e*P P 06 26 28.1 +1.9
CLNS Chul'man 77.22 338 *e*P P 06 26 28.6 +0.4
CLNS *e* 06 26 38.1
CLNS *e**PP sP 06 26 53.8 +4.9
CLNS *e* 06 29 22.3
CLNS *e*PPP PPP 06 31 08.2
CLNS *e*S S 06 36 10.6 -3.1
CLNS *e* 06 36 50.0
CLNS *e**SS ScS 06 37 22.6 +41
CLNS pmax pmax
comp=Z,44nm,1.0s
CLNS pmax pmax
comp=E,9.0nm,0.9s
CLNS pmax pmax
comp=N,28nm,1.2s
CLNS pmax pmax
comp=Z,5.0nm,1.0s
CLNS pmax pmax
comp=N,7.0nm,0.8s
CLNS pmax pmax
comp=E,5.0nm,0.9s
CLNS smax smax
comp=E,1μm,11.7s
CLNS smax smax
comp=N,287nm,10.0s
DGPR DIGLIPUR 77.43 287 *e*P P 06 26 29.6 -0.6
KDAK Kodiak Island 77.55 21 *e*P P 06 26 29.7 -0.3
KDAK pmax pmax
comp=Z,38nm,0.9s
KDAK MLR MLR
comp=Z,3μm,20.0s
KDAK Kodiak Island 77.55 21 *e*P P 06 26 29.7 -0.3
comp=Z,38nm,0.9s
KDAK LR LR
comp=Z,3μm,20.0s
QSPA South Pole Qui 77.56 180 *e*P P 06 26 30.5 +0.3
comp=Z,1000nm,1.0s
QSPA LR LR
comp=Z,3μm,22.0s
GAMB Gambell 77.79 10 *e*P P 06 26 31.4 +0.2
comp=Z,30nm,0.8s
SVW2 Sparrevohn 79.17 18 *e*P P 06 26 39.5 +0.6
BRLK Bradley Lake 79.63 20 *e*P P 06 26 41.7 +0.2
YAK Yakutsk 79.70 343 P P 06 26 41.7 0.0
comp=Z,56nm,0.6s,baz=16,slow=0.4,SNR=5.7
YAK Yakutsk 79.70 343*c i*P P 06 26 41.5 -0.2
YAK *e* 06 26 48.6
YAK *e**PP pP 06 26 53.2 -3.4
YAK *e* 06 29 41.0
YAK *e*S S 06 36 43.8 +3.9
YAK *e**SS ScS 06 37 00.7 -0.4
YAK *e*SS SS 06 41 51.7 +1.9
YAK pmax pmax
comp=Z,93nm,1.1s
YAK pmax pmax
comp=E,19nm,1.2s
YAK pmax pmax
comp=N,24nm,1.2s
YAK pmax pmax
comp=Z,273nm,4.3s
YAK smax smax
comp=N,344nm,6.4s
YAK smax smax
comp=E,872nm,9.6s
YAK MLR MLR
comp=Z,2μm,19.0s
YAK MLR MLR
comp=E,653nm,17.0s
YAK MLR MLR
comp=N,2μm,22.0s
YAK Yakutsk 79.70 343 *e*P P 06 26 41.6 -0.1
comp=N,72nm,0.8s
YAK LR LR
comp=Z,3μm,20.0s
ULN Ulaanbaatar 79.97 324*c i*P P 06 26 45.1 +1.3
ULN pmax pmax
comp=Z,182nm,0.7s
ULN MLR MLR
comp=Z,773nm,19.0s
ULN Ulaanbaatar 79.97 324 *e*P P 06 26 44.6 +0.9
comp=Z,193nm,0.8s
ULN *e*PP PP 06 29 44.1 -2.1
ULN LR LR
comp=Z,2μm,22.0s
ULN Ulaanbaatar 79.97 324 P P 06 26 44.8 +1.1

SNR=74
ULN P P 06 26 44.8 +1.1
SNR=74
ULN Ulaanbaatar 79.97 324 P P 06 26 44.8 +1.1
SNR=74
IMP Imphal 79.98 298⇓ *i*P P 06 26 43.5 -0.7
IMP *i* x x 06 26 59.5
SONM Songino Array 80.34 324 P P 06 26 46.4 +0.7
comp=Z,61nm,0.7s,baz=147,slow=6.8,SNR=177
SONM PP PP 06 29 48.6 -0.7
comp=Z,10nm,1.1s,baz=133,slow=8.3,SNR=3.9
SONM PKKPbc **PKKPbc 06 45 28.9 -1.3**
comp=Z,1.0nm,0.6s,baz=304,slow=3.4,SNR=4.4
SONM LR LR 07 00 13.9
comp=Z,3μm,21.9s,baz=130,slow=34
SEW Seward 80.37 21 *e*P P 06 26 41.6 -3.7
comp=Z,24nm,0.8s
TTA Tatalina 80.51 16 *e*P P 06 26 45.8 -0.4
TTA Tatalina 80.51 16 *e*P P 06 26 45.8 -0.4
GTA Gaotai 80.69 314⇑P P 06 26 49.1 +1.3
GTA pP pP 06 26 58.9 -3.8
GTA sP sP 06 27 02.9 -5.6
GTA PP PP 06 29 55.6 +3.2
GTA S S 06 36 53.7 +2.1
GTA SKS SKSac 06 37 01.0 -1.1
GTA sS ScS 06 37 11.0 +0.4
GTA SS SS 06 42 09.6 +3.7
GTA pmax pmax
comp=Z,270nm,1.2s
GTA pmax pmax
comp=Z,2μm,7.4s
GTA LR LR
comp=Z,1μm,22.8s
GTA LR LR
comp=Z,3μm,22.3s
GTA LR LR
comp=Z,4μm,23.8s
RC01 Rabbit Creek A 80.99 20 *e*P P 06 26 47.1 -1.7
comp=Z,19nm,0.6s
PMR Palmer 81.56 20 *e*P P 06 26 51.8 +0.1
PMR Palmer 81.56 20 *e*P P 06 26 51.8 +0.1
PPLA Purkeypile 81.58 18 *e*P P 06 26 49.2 -2.7
comp=Z,40nm,1.3s
SML Sawmill 81.98 20 *e*P P 06 26 53.8 -0.2
SML pmax pmax
comp=Z,13nm,1.2s
SML Sawmill 81.98 20 *e*P P 06 26 53.8 -0.2
comp=Z,13nm,1.2s
SHL Shillong 81.99 298⇑ *i*P P 06 26 56.0 +1.0
SHL *ex* x 06 37 10.0
BOD Bodaibo 82.19 335 *e*P P 06 26 54.6 -0.5
BOD pmax pmax
comp=Z,67nm,1.7s
DIV Divide 82.38 21 *e*P P 06 26 56.2 +0.1
comp=Z,42nm,0.9s
KTH Kantishna Hill 82.45 18 *e*P P 06 26 55.1 -1.3
comp=Z,32nm,0.9s
TRF Thorofare Moun 82.56 18 *e*P P 06 26 56.1 -1.1
comp=Z,25nm,0.8s
BMRM Bremner River 82.69 22 *e*P P 06 26 55.2 -2.5
comp=Z,149nm,1.6s
HOPS Hopland Field 82.94 48 *e*P P 06 27 01.3 +1.9
KMRM Mail Ridge 82.95 46 *e*P P 06 27 01.4 +1.8
MCK McKinley 83.18 18 *e*P P 06 26 59.1 -1.1
MCK pmax pmax
comp=Z,41nm,1.1s
MCK McKinley 83.18 18 *e*P P 06 26 59.1 -1.1
comp=Z,41nm,1.1s
KHMM Horse Mountain 83.19 46 *e*P P 06 27 04.2 +3.3
SAO San Andreas Ge 83.32 50 *e*P P 06 27 04.2 +2.7
SAO San Andreas Ge 83.32 50 *e*P P 06 27 04.2 +2.7
ZAK Zakamensk 83.38 325 *e*P P 06 27 01.0 -0.6
ZAK pmax pmax
comp=Z,117nm,1.2s
SNCC San Nicolas Is 83.60 54 P P 06 27 03.7 +0.7
baz=251
PMPB Monarch Peak 83.61 51 *e*P P 06 27 06.1 +3.0
IRK Irkutsk 83.73 327 *e*P P 06 27 02.7 -0.5
IRK pmax pmax
comp=Z,233nm,4.1s
PAX Paxson 83.75 20 *e*P P 06 27 02.4 -0.8
PAX pmax pmax
comp=Z,41nm,1.3s
PAX Paxson 83.75 20 *e*P P 06 27 02.4 -0.8
comp=Z,41nm,1.3s
BSC Santa Cruz Isl 83.76 53 P P 06 27 04.2 +0.4
baz=251
MAW Mawson 83.77 202 P P 06 27 03.8 +0.6
comp=Z,71nm,0.8s,baz=104,slow=6.4,SNR=62
MAW LR LR 07 00 49.7
comp=Z,1μm,19.7s,baz=96,slow=33
MAW Mawson 83.77 202 P P 06 27 03.9 +0.6
baz=84,SNR=27
L02D Cave Junction, 83.77 45 P P 06 27 05.0 +1.4
baz=247
TLY Talaya 83.80 326 *c i*P P 06 27 03.9 +0.2
TLY *e* 06 27 17.1
TLY *e* 06 30 16.6
TLY *e*S S 06 37 17.9 -4.8
TLY *e*SS SS 06 42 54.7 +3.4
TLY pmax pmax
comp=Z,177nm,1.0s
TLY MLR MLR
comp=Z,1μm,17.0s
TLY Talaya 83.80 326 *e*P P 06 27 03.8 +0.2
comp=Z,160nm,1.0s
TLY PP PP 06 30 16.8 -0.8
TLY LR LR
comp=Z,2μm,22.0s
TLY Talaya 83.80 326 P P 06 27 03.8 +0.2
SNR=43
TLY P P 06 27 03.8 +0.2
SNR=43
TLY Talaya 83.80 326 P P 06 27 03.8 +0.2
SNR=43
SBC Santa Barbara 83.84 53 P P 06 27 04.6 +0.4
baz=250
PAGB Antelope Grade 83.87 52 *e*P P 06 27 07.3 +2.9
LSA Lhasa 83.88 302 P P 06 27 06.4 +1.3
LSA S S 06 37 19.9 -5.5
LSA pmax pmax
comp=Z,190nm,1.0s
LSA LR LR
comp=Z,1μm,24.9s
LSA LR LR
comp=Z,420nm,26.0s
LSA LR LR
comp=Z,2μm,22.5s
LSA Lhasa 83.88 302 *e*P P 06 27 06.3 +1.2
LSA pmax pmax
comp=Z,136nm,0.6s
LSA MLR MLR
comp=Z,3μm,22.0s
LSA Lhasa 83.88 302 *e*P P 06 27 06.3 +1.2
comp=Z,136nm,0.6s
LSA LR LR
comp=Z,3μm,22.0s
PKM Mcpherson Peak 83.92 52 P P 06 27 05.7 +0.9
baz=250
SMMC Simmler 83.92 52 P P 06 27 05.6 +1.0
baz=250
N02D Trinity Center 83.94 46 P P 06 27 05.7 +1.1
baz=248,SNR=15
M02C Callahan 84.00 45 P P 06 27 05.9 +1.0
baz=248,SNR=16
BLG Laguna Peak, P 84.24 53 P P 06 27 06.9 +0.7
baz=251
ORV Oroville 84.28 48 *e*P P 06 27 06.8 +0.5
ORV Oroville 84.28 48 *e*P P 06 27 06.8 +0.5
SCI San Clemente I 84.29 55 P P 06 27 07.1 +0.7
baz=251
O03D Paynes Creek 84.33 47 P P 06 27 07.2 +0.5
baz=249,SNR=25
COLA College 84.34 18 *e*P P 06 27 04.4 -1.6
COLA pmax pmax
comp=Z,58nm,1.0s
COLA MLR MLR
comp=Z,3μm,20.0s
COLA College 84.34 18 *e*P P 06 27 04.4 -1.6
comp=Z,58nm,1.0s
COLA LR LR
comp=Z,3μm,20.0s
HUMO Hull Mountain 84.39 44 *e*P P 06 27 07.6 +0.8
comp=Z,239nm,0.9s
CIS Catalina Islan 84.53 54 P P 06 27 08.5 +0.8
baz=251
I03D Drain, OR 84.54 43 P P 06 27 08.5 +1.0
baz=247,SNR=5.4
CMB Columbia Colle 84.55 49 *e*P P 06 27 08.4 +0.6
CMB Columbia Colle 84.55 49 *e*P P 06 27 08.4 +0.6
ILAR Eielson Array 84.55 18 P P 06 27 06.8 -0.4
comp=Z,27nm,0.6s,baz=233,slow=5.8,SNR=227
ILAR PKiKP **PKiKP** 06 32 19.5 -0.8
comp=Z,0.5nm,0.5s,baz=267,slow=2.7,SNR=4.7
ILAR PKKP **PKKPdf** 06 45 12.8 -0.3
comp=Z,0.7nm,0.5s,baz=355,slow=2.2,SNR=8.9
ILAR LR LR 06 58 49.2
comp=Z,4μm,21.8s,baz=235,slow=31
OSI Osito Audit: C 84.67 53 P P 06 27 09.2 +0.7
baz=251
DOT Dot Lake 84.68 20 *e*P P 06 27 07.6 -0.2
comp=Z,202nm,1.2s
FMP Fort Macarthur 84.72 54 P P 06 27 09.5 +0.8
baz=251
ARVC Arvin 84.76 52 P P 06 27 09.8 +1.0
baz=251
VES Vestal, Richgr 84.80 52 P P 06 27 08.9 -0.1
baz=251,SNR=9.4
PAF Port-aux-Franc 84.83 221 PFAKE 06 27 20.0 +11
PAF LR LR
comp=Z,6μm,20.0s
RCTC Rector, Farmer 84.83 51 P P 06 27 09.1 0.0
baz=251
M04C Macdoel 84.85 45 P P 06 27 10.1 +0.8
baz=248,SNR=22
DECC Green Verdugo 84.86 53 P P 06 27 09.9 +0.5
baz=251
PASC Pasadena Art C 84.95 54 *e*P P 06 27 11.6 +1.7
comp=Z,24nm,0.8s
WRAK Wrangell Islan 85.11 29 *e*P P 06 27 09.3 -0.7
comp=Z,90nm,1.6s
WRAK LR LR
comp=Z,2μm,21.0s
G03D McMinnville, O 85.18 42 P P 06 27 11.7 +1.0
baz=247
J04D Umpqua Nationa 85.20 44 P P 06 27 11.8 +0.6
baz=248,SNR=23
I04A Tendick Farm, 85.20 43 P P 06 27 11.3 +0.4
baz=248,SNR=14
ISA Isabella, Lake 85.21 52 P P 06 27 11.9 +0.7
baz=251,SNR=16
K04D Chiloquin, OR 85.22 45 P P 06 27 11.8 +0.7
baz=248
MOY Mondy 85.25 325 *e*P P 06 27 11.5 +0.4
MOY pmax pmax
comp=Z,255nm,3.5s
EDW2 Edwards Air Fo 85.33 53 P P 06 27 12.5 +0.7
baz=252,SNR=41
BFSC Mount Baldy Ra 85.39 54 P P 06 27 12.5 +0.3
baz=252,SNR=16
COLD Coldfoot 85.40 15 *e*P P 06 27 11.9 +0.6
comp=Z,25nm,0.9s
SKAG Skagway 85.40 26 *e*P P 06 27 11.1 -0.4
comp=Z,9.6nm,0.9s
109C Camp Elliot, M 85.41 55 P P 06 27 13.0 +0.9
baz=252
MURC Murrieta 85.56 54 P P 06 27 13.5 +0.6
baz=252,SNR=6.7
MLAC Mammoth, Mammo 85.57 50 P P 06 27 13.9 +0.7
baz=251,SNR=5.6
NLWA Neilton Lookou 85.66 40 *e*P P 06 27 13.7 +0.7
comp=Z,89nm,1.6s
NLWA LR LR
comp=Z,3μm,20.0s
F04D Rainier, OR 85.69 41 P P 06 27 14.3 +1.1
baz=247
CWC Cottonwood Cre 85.76 51 P P 06 27 14.5 +0.5
baz=251
LRMC Laurel Mtn Rad 85.76 52 P P 06 27 14.6 +0.6
baz=252,SNR=6.6
J05D Fort Rock, OR 85.81 44 P P 06 27 14.9 +0.8
baz=249,SNR=43
TIN Tinemaha, Big 85.84 51 P P 06 27 15.1 +0.8
baz=251,SNR=12
BWNR Bhubaneshwar 85.90 292 *e*P P 06 27 15.9 +1.1
MONP Monument Peak, 85.96 55 P P 06 27 15.6 +0.4
baz=252,SNR=18
MOD Modoc Plateau 85.96 46 *e*P P 06 27 15.3 +0.4
comp=Z,40nm,0.8s
BBRC Big Bear Solar 85.98 54 P P 06 27 15.5 +0.3
baz=252,SNR=6.5
DAC Darwin (Calif) 86.08 52 *e*P P 06 27 14.4 -1.2
DAC pmax pmax
comp=Z,35nm,0.9s
DAC Darwin (Calif) 86.08 52 *e*P P 06 27 14.4 -1.2
comp=Z,35nm,0.9s
TAPN Taplejung 86.09 299 *e*P P 06 27 16.6 +0.6
comp=Z,800nm,1.2s
MPMC Manual Prospec 86.09 52 P P 06 27 16.3 +0.6
baz=252,SNR=49
I05D Terrebonne, OR 86.12 43 P P 06 27 15.8 +0.3
baz=249,SNR=15
IKP In-Ko-Pah, Jac 86.14 56 P P 06 27 16.8 +1.0
baz=253,SNR=7.1
PFO Pinyon Flats O 86.14 55 P P 06 27 16.4 +0.5
baz=252,SNR=10
PFO Pinyon Flats O 86.14 55 *e*P P 06 27 15.7 -0.2
PFO pmax pmax
comp=Z,22nm,0.8s
PFO MLR MLR
comp=Z,5μm,21.0s
PFO Pinyon Flats O 86.14 55 *e*P P 06 27 15.7 -0.2
comp=Z,22nm,0.8s
PFO LR LR
comp=Z,5μm,21.0s
TPFO Pinon Flats 86.15 55 P P 06 27 16.2 +0.2
baz=252,SNR=12
ODAN Odare 86.22 298 *e*P P 06 27 17.4 +0.8
comp=Z,1μm,0.9s
TDL Tradedollar La 86.30 41 P P 06 27 17.1 +0.7
EGAK Eagle 86.38 20 *e*P P 06 27 16.3 +0.1
EGAK LR LR
comp=Z,3μm,21.0s
GSC Goldstone, Bar 86.39 53 P P 06 27 17.4 +0.3
baz=252,SNR=14
PGC Sidney 86.41 39 *e*P P 06 27 18.2 +1.5
comp=Z,34nm,1.1s
G05D Wamic, OR 86.47 42 P P 06 27 17.6 +0.5
baz=249,SNR=5.6
SWSC Sam W. Stewart 86.47 55 P P 06 27 18.1 +0.7
baz=253,SNR=10
GRAC Grapevine Rang 86.48 51 P P 06 27 18.1 +0.7
baz=252,SNR=33
DAWY Dawson 86.53 21 *e*P P 06 27 12.4 -4.6
comp=Z,15nm,1.0s
CROR Criterion Ridg 86.59 43 P P 06 27 18.0 +0.2
HEC Hector,Ludlow 86.61 53 P P 06 27 18.5 +0.3
baz=252,SNR=33
TOLK Toolik Lake Re 86.61 15 P P 06 27 17.7 +0.3
baz=223
BELC Belle Mtn. Jos 86.63 54 P P 06 27 19.1 +0.7
baz=253,SNR=33
FURC Furnace Creek, 86.70 52 P P 06 27 19.1 +0.7
baz=252,SNR=55
BOK Bokaro 86.72 295 *e*P P 06 27 19.1 +0.3
BOK IAmb IAmb 06 27 21.4
comp=Z,103nm,1.4s
A04D Lummi Island 86.89 39 P P 06 27 19.9 +0.9
baz=247
RAMN Ramite 86.93 298 *e*P P 06 27 20.8 +0.7
comp=Z,362nm,0.8s
BC3 Big Chuckawall 86.96 55 P P 06 27 20.7 +0.8
baz=253,SNR=19
SHOC Shoshone, Teco 86.98 52 P P 06 27 20.1 +0.3
baz=252,SNR=9.6
CHLP Challavanipeta 87.06 290 *e*P P 06 27 20.7 +0.2
CHLP IAmb IAmb 06 27 22.1
comp=Z,128nm,1.0s
CHLP *es*P pP 06 27 36.1 +0.5
B05A Bryant 87.10 39 P P 06 27 20.7 +0.7
baz=248,SNR=10
TUQ Turquoise Moun 87.11 53 P P 06 27 21.2 +0.6
baz=253,SNR=16
GMRC Granite Mounta 87.13 54 P P 06 27 21.5 +0.7
baz=253,SNR=36
DLBC Dease Lake 87.21 28 *e*P P 06 27 20.0 -0.5
comp=Z,13nm,1.0s
GLA Glamis 87.29 55 P P 06 27 22.6 +1.2
baz=253,SNR=20
WVOR Wild Horse Val 87.31 46 *e*P P 06 27 21.8 +0.4
WVOR *e* 06 30 45.3
WVOR pmax pmax
comp=Z,36nm,1.0s
WVOR MLR MLR
comp=Z,19.0s
WVOR Wild Horse Val 87.31 46 *e*P P 06 27 21.8 +0.4
comp=Z,36nm,1.0s
WVOR *e*PP PP 06 30 45.3 -1.0
WVOR LR LR
comp=Z,2μm,19.0s
TPNV Topopah Spring 87.31 51 P P 06 27 22.0 +0.3
baz=252,SNR=34
IRM Iron Mountain 87.35 54 P P 06 27 22.6 +0.9
baz=253,SNR=34
JIRN Jiri 87.47 299 *e*P P 06 27 23.5 +0.7
VIS Vishakhapatnam 87.54 289 *e*P P 06 27 21.8 -1.1
TIXI Tiksi 87.64 349 *e*P P 06 27 21.6 -0.6
TIXI pmax pmax
comp=Z,51nm,1.4s
TIXI MLR MLR
comp=Z,2μm,21.0s
TIXI Tiksi 87.64 349 *e*P P 06 27 21.6 -0.6
comp=Z,51nm,1.4s
TIXI LR LR
comp=Z,2μm,21.0s
PALK Pallekele 87.65 278 P P 06 27 25.0 +1.4
comp=Z,172nm,1.0s,baz=116,slow=4.4,SNR=34
PALK Pallekele 87.65 278 *i* P P 06 27 23.8 +0.2
SNR=19
PALK Pallekele 87.65 278 *e*P P 06 27 24.7 +1.1
PALK pmax pmax
comp=Z,272nm,1.2s
PALK Pallekele 87.65 278 *e*P P 06 27 24.7 +1.1
comp=Z,272nm,1.2s
PALK Pallekele 87.65 278 P P 06 27 25.1 +1.5
SNR=6.6
PALK Pallekele 87.65 278 PcP P 06 27 25.1 +1.5
SNR=6.6
BMN Battle Mountai 87.67 48 *e*P P 06 27 23.6 +0.3
BMN pmax pmax
comp=Z,15nm,0.7s
BMN Battle Mountai 87.67 48 *e*P P 06 27 23.6 +0.3
comp=Z,15nm,0.7s
C06D Leavenworth 87.72 40 P P 06 27 23.4 +0.3
baz=249
Y12C Blythe 87.73 55 P P 06 27 24.6 +1.1
baz=254,SNR=25
GUN Gumba 87.80 299 *e*P P 06 27 24.9 +0.5
comp=Z,561nm,0.8s
NEE2 Needles Airpor 87.94 54 P P 06 27 25.6 +1.1
baz=253,SNR=10
HAWA Hanford 88.05 42 *e*P P 06 27 25.1 +0.4
comp=Z,29nm,1.0s
HAWA LR LR
comp=Z,2μm,21.0s
PKI Pulchoki 88.11 299 *e*P P 06 27 26.2 +0.3
comp=Z,1μm,1.0s
PKIN Phulchoki 88.13 299 *e*P P 06 27 26.6 +0.8
comp=Z,494nm,0.7s
PDMCI Parker Dam,Lak 88.19 54 P P 06 27 26.5 +0.9
baz=254,SNR=40
WTV Waterville 88.23 40 P P 06 27 25.3 -0.3
R11A Troy Canyon, C 88.24 50 P P 06 27 26.6 +0.5
baz=253,SNR=44
R11A Troy Canyon, C 88.24 50 *e*P P 06 27 26.3 +0.3
comp=Z,20nm,1.0s
KKN Kakani 88.28 299 *e*P P 06 27 26.9 +0.4
comp=Z,650nm,0.8s
DMN Daman 88.38 299 *e*P P 06 27 27.7 +0.6
comp=Z,2μm,0.8s
214A Organ Pipe Nat 88.62 57 P P 06 27 29.2 +1.4
baz=254
214A Organ Pipe Nat 88.62 57 *e*P P 06 27 28.8 +1.0
comp=Z,140nm,1.1s
GKN Gorkha 88.89 299 *e*P P 06 27 29.2 -0.1
comp=Z,1μm,0.8s
BMO Blue Mountains 89.01 44 *e*P P 06 27 29.7 +0.3
BMO pmax pmax
comp=Z,32nm,1.2s
BMO MLR MLR
comp=Z,3μm,21.0s
BMO Blue Mountains 89.01 44 *e*P P 06 27 29.6 +0.3
comp=Z,32nm,1.2s
BMO LR LR
comp=Z,3μm,21.0s
PVM Polavaram 89.01 288 *e*P P 06 27 29.0 -0.8
PVM IAmb IAmb 06 27 31.0
comp=Z,53nm,0.8s
PVM *es*P pP 06 27 44.9 -0.1
MDRS Chennai 89.37 283 *e*P P 06 27 31.1 -0.5
MFID Camas Ranch 89.58 45 *e*P P 06 27 32.4 +0.3
comp=Z,36nm,0.8s
KOLN Koldanda 89.72 298 *e*P P 06 27 32.9 -0.3
comp=Z,398nm,0.8s
SKHT Srikalahasti 90.03 284 *e*P P 06 27 32.5 -2.2
NEW Newport 90.21 40 P P 06 27 35.2 +0.3
baz=252
NEW Newport 90.21 40 *e*P P 06 27 34.7 -0.2
NEW *e**SP pP 06 27 50.8 +0.8
NEW pmax pmax
comp=Z,32nm,1.3s
NEW MLR MLR
comp=Z,2μm,21.0s
NEW Newport 90.21 40 *e*P P 06 27 34.7 -0.2
comp=Z,32nm,1.3s
NEW *ep*P pP 06 27 47.0 -3.0
NEW *es*P pP 06 27 50.8 +0.8
NEW LR LR
comp=Z,2μm,21.0s
ADKI Addanki 90.24 286 *e*P P 06 27 35.7 0.0
ADKI IAmb IAmb 06 27 36.6
comp=Z,50nm,1.0s
PYUN Piuthan 90.32 299 *e*P P 06 27 35.5 -0.6
comp=Z,648nm,0.9s
TUC Tucson 90.37 57 P P 06 27 37.2 +1.2
baz=256
TUC Tucson 90.37 57 *e*P P 06 27 36.8 +0.7
TUC pmax pmax
comp=Z,24nm,0.8s
TUC MLR MLR
comp=Z,7μm,21.0s
TUC Tucson 90.37 57 *e*P P 06 27 36.8 +0.7
comp=Z,24nm,0.8s
TUC LR LR
comp=Z,7μm,21.0s
HLID Hailey 90.60 46 P P 06 27 37.8 +0.8
baz=254,SNR=78
HLID Hailey 90.60 46 *e*P P 06 27 37.6 +0.6
comp=Z,34nm,0.8s
HLID LR LR
comp=Z,2μm,22.0s
WUAZ Wupatki 90.70 54 P P 06 27 38.5 +0.9
baz=255
WUAZ Wupatki 90.70 54 *e*P P 06 27 38.6 +0.9
comp=Z,30nm,0.8s
WUAZ LR LR
comp=Z,4μm,22.0s
SYO Syowa Base 90.71 197⇓ *i*P P 06 27 35.0 -1.8
SYO Syowa Base 90.71 197⇓ *i*PcP PcP 06 27 38.0 +0.2
WMQ Urumqi 90.73 315 P P 06 27 38.0 +0.6
WMQ pP pP 06 27 49.3 -3.3
WMQ sP sP 06 27 53.6 -4.7
WMQ PP PP 06 31 10.3 -3.3
WMQ SKS SKSac 06 38 03.3 -1.7
WMQ S S 06 38 27.5 -2.3
WMQ SS SS 06 44 39.0 +5.8
WMQ pmax pmax
comp=Z,110nm,0.9s
WMQ pmax pmax
comp=Z,740nm,5.3s
WMQ LR LR
comp=Z,660nm,20.9s
WMQ LR LR
comp=Z,490nm,25.9s
WMQ LR LR
comp=Z,800nm,28.3s
DUG Dugway, Tooele 90.82 49 P P 06 27 38.1 +0.1
baz=254
DUG Dugway, Tooele 90.82 49 *e*P P 06 27 38.3 +0.3
DUG pmax pmax
comp=Z,22nm,0.8s
DUG MLR MLR
comp=Z,4μm,19.0s
DUG Dugway, Tooele 90.82 49 *e*P P 06 27 38.3 +0.3
comp=Z,22nm,0.8s
DUG LR LR
comp=Z,4μm,19.0s
INK Inuvik 90.93 19 PKiKP **PKiKP 06 32 31.4 +0.6**
comp=Z,2.1nm,0.6s,baz=183,slow=5.3,SNR=3.6
NJS Nagarjunasagar 91.02 287 *e*P P 06 27 38.8 -0.4
NJS IAmb IAmb 06 27 40.6

NJS comp=Z,409nm,1.3s esP pP 06 27 54.3 -0.1
RCLA Racherla 91.11 285 eP P 06 27 39.2 -0.5
RCLA IAmb IAmb 06 27 40.4
comp=Z,62nm,0.9s
RCLA esP pP 06 27 54.7 -0.1
SRLM Srisailam 91.31 286 eP P 06 27 40.1 -0.5
SRLM IAmb IAmb 06 27 42.1
comp=Z,410nm,1.2s
SRLM esP pP 06 27 55.5 -0.3
RPR Rampur 91.53 289 eP P 06 27 40.6 -1.0
RPR IAmb IAmb 06 27 42.6
comp=Z,428nm,0.8s
RPR esP pP 06 27 56.2 -0.5
JBP Jabalpur 91.84 293⇑ eP P 06 27 42.5 -0.4
JBP ex x 06 38 30.8
MSO Missoula 91.84 42 P P 06 27 42.3 -0.3
baz=254
W18A Petrified Fore 91.90 55 P P 06 27 43.7 +0.5
baz=256
HYB Hyderabad 91.91 287 *i* P P 06 27 42.0 -1.4
HYB esP pP 06 27 58.0 -0.6
HYB eSKS SKSac 06 38 10.0 -2.6
HYB eScS S 06 38 36.0 -5.5
HYB Hyderabad 91.91 287 eP P 06 27 42.9 -0.5
HYBB Hyderabad (bro 91.91 287 eP P 06 27 42.8 -0.6
HYBB IAmb IAmb 06 27 44.4
comp=Z,202nm,1.0s
HYBB esP pP 06 27 57.9 -0.7
HWUT Hardware Ranch 92.10 48 eP P 06 27 43.8 -0.2
comp=Z,19nm,1.0s
HWUT LR LR
comp=Z,2µm,20.0s
NGP Nagpur 92.25 291 eP P 06 27 44.2 -0.6
DLMT Dillon 92.35 44 eP P 06 27 45.3 +0.3
comp=Z,27nm,0.9s
SRSP Sriramsagar 92.42 289 eP P 06 27 44.9 -0.8
SRSP IAmb IAmb 06 27 46.6
comp=Z,409nm,1.0s
SRSP esP pP 06 28 00.1 -0.7
WALA Waterton Lakes 92.48 40 eP P 06 27 46.0 +0.5
comp=Z,31nm,1.3s
DGAR Diego Garcia 92.52 262 PFAKE 06 28 00.0 +14
DGAR LR LR
comp=Z,2µm,20.0s
URV Uravakonda 92.60 285 eP P 06 27 46.1 -0.5
URV IAmb IAmb 06 27 47.4
comp=Z,129nm,0.9s
URV esP pP 06 28 01.8 0.0
AHID Auburn Hatcher 92.73 47 eP P 06 27 47.2 +0.3
comp=Z,16nm,1.1s
AHID LR LR
comp=Z,3µm,20.0s
121A Cookes Peak, D 92.89 57 P P 06 27 48.8 +1.0
baz=257
121A Cookes Peak, D 92.89 57 eP P 06 27 48.5 +0.6
comp=Z,19nm,0.8s
TPAW Teton Pass 93.01 46 eP P 06 27 48.5 +0.3
comp=Z,7.0nm,0.7s
REDW Red Top Meadow 93.05 46 eP P 06 27 48.5 +0.1
comp=Z,68nm,1.5s
REDW ePP PP 06 31 33.4 +1.3
BOZ Bozeman (W) 93.06 44 P P 06 27 48.7 +0.4
baz=256,SNR=18
BOZ Bozeman (W) 93.06 44 eP P 06 27 48.6 +0.3
BOZ pmax pmax
comp=Z,30nm,1.4s
BOZ MLR MLR
comp=Z,2µm,21.0s
BOZ Bozeman (W) 93.06 44 eP P 06 27 48.6 +0.3
comp=Z,30nm,1.4s
BOZ LR LR
comp=Z,2µm,21.0s
IMW Indian Meadow 93.12 46 eP P 06 27 48.8 0.0
comp=Z,10nm,0.8s
SNOW Snow King Moun 93.14 46 eP P 06 27 49.1 +0.2
comp=Z,70nm,1.8s
SNOW ePP PP 06 31 30.9 -1.9
MOOW Moose Ponds 93.22 46 eP P 06 27 49.4 +0.2
comp=Z,5.6nm,0.8s
LOHW Long Hollow 93.29 46 eP P 06 27 49.4 -0.1
comp=Z,21nm,1.4s
PV04 Paradox Valley 93.31 52 eP P 06 27 49.8 +0.1
FLWY Flagg Ranch 93.33 46 eP P 06 27 50.1 +0.4
comp=Z,14nm,0.8s
MVCO Mesa Verde 93.36 53 P P 06 27 50.6 +0.6
baz=257
MVCO Mesa Verde 93.36 53 eP P 06 27 50.4 +0.4
comp=Z,9.5nm,0.8s
MVCO LR LR
comp=Z,3µm,22.0s
H17A Grant Village 93.49 45 P P 06 27 51.6 +1.1
baz=256,SNR=9.0
H17A Grant Village 93.49 45 eP P 06 27 51.8 +1.3
comp=Z,17nm,0.8s
PV01 Paradox Valley 93.51 52 eP P 06 27 50.8 +0.1
comp=Z,1µm,0.8s
ZSN Zaisan 93.61 318 *i* P P 06 27 49.1 -1.5
comp=Z,177nm,1.4s
ZSN *i* PP PP 06 31 34.8 -1.4
ZSN eS SKSac 06 38 17.9 -3.0
LKWY Lake 93.66 45 PFAKE 06 28 00.0 +8.8
LKWY LR LR
comp=Z,3µm,20.0s
BW06 Boulder Array 93.83 47 P P 06 27 52.2 +0.2
baz=257,SNR=8.9
BW06 Boulder Array 93.83 47 eP P 06 27 51.7 -0.3
comp=Z,6.8nm,0.9s
BW06 LR LR
comp=Z,2µm,20.0s
PDAR Pinedale Array 93.83 47 P P 06 27 52.9 +0.8
comp=Z,4.8nm,0.8s,baz=195,slow=2.3,SNR=24
PDAR PKKP PKKPdf 06 44 54.0 -2.3
comp=Z,0.7nm,0.9s,baz=98,slow=3.0,SNR=3.9
PDAR LR LR 07 03 48.6
comp=Z,2µm,20.3s,baz=260,slow=31
KLRI Killari 93.87 288 eP P 06 27 51.8 -0.7
KLRI IAmb IAmb 06 27 52.5
comp=Z,125nm,0.9s
KLRI esP pP 06 28 06.5 -1.1
Y22D IRIS PASSCAL I 93.93 56 P P 06 27 53.0 +0.4
baz=258
EDM Edmonton 93.95 36 eP P 06 27 51.1 -1.0
EDM pmax pmax
comp=Z,31nm,1.4s
EDM Edmonton 93.95 36 eP P 06 27 51.1 -1.0
comp=Z,31nm,1.4s
PMSA Palmer Station 94.09 161 PFAKE 06 28 00.0 +7.5
PMSA LR LR
comp=Z,2µm,22.0s
BHPL Bhopal 94.15 293 eP P 06 27 52.8 -0.9
BHPL IAmb IAmb 06 27 54.0
O20A White River Ci 94.20 50 P P 06 27 54.0 +0.2
baz=257,SNR=11
O20A White River Ci 94.20 50 eP P 06 27 53.1 -0.6
comp=Z,14nm,0.6s
ANMO Albuquerque 94.49 55 P P 06 27 55.7 +0.5
baz=258
ANMO Albuquerque 94.49 55⇑ eP P 06 27 55.7 +0.5
ANMO pmax pmax
comp=Z,9.0nm,0.9s
ANMO Albuquerque 94.49 55 eP P 06 27 54.9 -0.2
comp=Z,10.0nm,0.9s
ANMO LR LR
comp=Z,4µm,20.0s
RLMT Red Lodge 94.57 45 P P 06 27 55.8 +0.4
baz=257
RLMT Red Lodge 94.57 45 eP P 06 27 54.9 -0.4
comp=Z,13nm,1.3s
RLMT LR LR
comp=Z,2µm,20.0s
MNTX Cornudas Mount 94.71 59 P P 06 27 56.3 +0.3
baz=258,SNR=13
MNTX Cornudas Mount 94.71 59 eP P 06 27 56.0 0.0
comp=Z,5.5nm,0.8s
MNTX LR LR
comp=Z,3µm,20.0s
S22A 4UR Ranch, Cre 94.77 53 P P 06 27 57.1 +0.5
baz=258,SNR=29
EGMT Eagleton 94.89 42 P P 06 27 56.8 +0.2
baz=257
EGMT Eagleton 94.89 42 eP P 06 27 56.6 0.0
comp=Z,31nm,1.2s
EGMT LR LR
comp=Z,1µm,20.0s
SMCO Snowmass 94.96 51 eP P 06 27 57.2 -0.2
comp=Z,8.6nm,0.9s
DDI Dehra Dun 95.01 300 eP P 06 27 57.3 -0.2
MK31 Makanchi Array 95.17 317 *i* P P 06 27 57.7 -0.1
NVL N'lazarevskaya 95.21 188 eP P 06 27 58.3 +0.8
NVL eS SKSac 06 38 31.1 +2.4
NVL ePS PS 06 40 43.5 +12
ZALV Zalesovo Beam 95.23 324 P P 06 27 56.9 -0.9
comp=Z,43nm,0.8s,baz=117,slow=4.4,SNR=139
ZALV PP PP 06 31 44.5 -4.0
comp=Z,3.4nm,0.8s,baz=104,slow=9.8,SNR=3.9
ZALV PKKP PKKPbc 06 44 51.4 -2.1
comp=Z,1.3nm,0.3s,baz=272,slow=1.8,SNR=3.7
ZALV LR LR 07 11 17.8
comp=Z,728nm,19.9s,baz=72,slow=36
NDI New Delhi 95.41 298 ex P 06 27 49.0 -10
TXAR Lajitas Array 95.70 61 P P 06 28 01.2 +0.5
comp=Z,9.2nm,0.8s,baz=229,slow=4.8,SNR=94
TXAR PKKP PKKPbc 06 44 51.1 -0.2
comp=Z,0.2nm,0.4s,baz=100,slow=4.9,SNR=7.5
TXAR LR LR 07 02 07.1
comp=Z,3µm,22.0s,baz=0.0,slow=30
SNAA Sanae 95.77 183 P P 06 27 59.3 -0.8
SNAA Sanae 95.77 183 *c* *i*P P 06 28 00.0 -0.2
SNAA Sanae 95.77 183 eP P 06 27 59.0 -1.2
comp=Z,1µm,1.0s
SNAA ePP PP 06 31 49.3 -2.4
YKA Yellowknife Ar 95.80 27 P P 06 27 58.6 -1.6
comp=Z,2.3nm,0.5s,baz=258,slow=4.7,SNR=24
YKA PKiKP PKiKP 06 32 38.6 -0.7
comp=Z,0.6nm,0.4s,baz=259,slow=1.4,SNR=12
SDCO Great Sand Dun 95.81 53 P P 06 28 01.3 0.0
baz=259,SNR=6.3
SDCO Great Sand Dun 95.81 53 eP P 06 28 00.9 -0.4
comp=Z,2.3nm,0.8s
SDCO LR LR
comp=Z,4µm,22.0s
SMLA Simla 95.92 300 eP P 06 28 01.0 -0.5
K22A Casper 95.99 48 P P 06 28 01.3 -0.5
baz=259
N23A Red Feather La 96.08 50 P P 06 28 02.8 +0.4
baz=259,SNR=13
ISCO Idaho Springs 96.11 51 P P 06 28 02.9 +0.3
baz=259,SNR=13
ISCO Idaho Springs 96.11 51 eP P 06 28 04.3 +1.7
ISCO pmax pmax
comp=Z,7.0nm,0.8s
ISCO MLR MLR
comp=Z,5µm,20.0s
ISCO Idaho Springs 96.11 51 eP P 06 28 04.3 +1.7
comp=Z,6.5nm,0.8s
ISCO LR LR
comp=Z,5µm,20.0s
Q24A Divide 96.31 52 P P 06 28 04.0 +0.5
baz=259,SNR=8.9
NVS Novosibirsk 96.33 325 eP P 06 28 02.7 -0.1
NVS pmax pmax
comp=N,11nm,1.4s
NVS pmax pmax
comp=E,21nm,1.4s
NVS pmax pmax
comp=Z,54nm,1.4s
SHLS Shalkode 96.39 313 *i* P P 06 28 00.1 -3.5
comp=Z,397nm,1.3s
SHLS *i* PP PP 06 31 52.6 -5.5
PDGK Podgornoye 96.41 313 P P 06 28 02.9 -0.7
PDGK pmax pmax
comp=Z,42nm,1.0s
VNA3 Neumayer Olymp 96.46 181 P P 06 28 02.5 -0.7
POO Poona 96.52 287 eP P 06 28 03.8 -0.7
T25A Trinidad 96.54 54 P P 06 28 05.0 +0.5
baz=260
UZB Uzynbulak 96.71 313 *i* P P 06 28 02.8 -2.2
comp=Z,267nm,1.4s
UZB *i* PP PP 06 31 57.3 -3.2
UZB eS SKSac 06 38 34.1 -3.7
DHRM DHARAMSHALA 96.85 301 eP P 06 28 05.3 -0.7
LAO LASA Array 96.97 44 P P 06 28 06.1 +0.1
baz=259
LAO LASA Array 96.97 44 PFAKE 06 28 20.0 +14
LAO LR LR
comp=Z,2µm,20.0s
KPKS Kokpek 97.01 313 *i* P P 06 28 03.9 -2.5
comp=Z,488nm,1.5s
KPKS *i* PP PP 06 31 59.8 -2.9
KPKS eS SKSac 06 38 35.3 -4.0
KPKS LRM MLR 07 10 15.0
comp=Z,976nm,23.9s
VNA1 Neumayer--Stat 97.02 182 P P 06 28 05.5 -0.3
SATY Saty 97.14 312 *i* P P 06 28 04.8 -2.2
comp=Z,304nm,1.4s
SATY eS SKSac 06 38 36.2 -3.7
SEM Semipalatinsk 97.23 320 *i* P P 06 28 04.4 -2.9
comp=Z,312nm,1.0s
SEM *i* PP PP 06 32 00.6 -3.7
SEM eS SKSac 06 38 35.8 -4.5
SEM eSS SS 06 46 00.1 -5.6
SEM LR LR 07 13 02.6
comp=Z,618nm,19.1s
MSTX Muleshoe 97.29 57 P P 06 28 07.3 -0.6
baz=260,SNR=7.4
MSTX Muleshoe 97.29 57 eP P 06 28 07.7 -0.2
comp=Z,9.8nm,0.9s
THN Thein Dam 97.37 302 eP P 06 28 07.4 -0.6
NRIK Noril'sk 97.76 339 P P 06 28 08.4 -0.6
comp=Z,11nm,1.0s,baz=108,slow=5.3,SNR=13
NRIK LR LR 07 09 43.5
comp=Z,3µm,21.9s,baz=102,slow=34
RSSD Black Hills 98.04 47 P P 06 28 10.7 -0.4
baz=261
RSSD Black Hills 98.04 47 eP Pdif 06 28 12.1 +1.0
RSSD pmax pmax
comp=Z,3.0nm,0.7s
RSSD Black Hills 98.04 47 eP Pdif 06 28 12.1 +1.0
comp=Z,2.5nm,0.7s
MDOK Medeo 98.14 312 eP P 06 28 09.2 -2.3
comp=Z,78nm,1.6s
MDOK *i* PP PP 06 32 08.4 -3.0
MDOK eS SKSac 06 38 41.2 -3.9
MDOK eSS SS 06 46 14.6 -4.2
MDOK LRM MLR 07 11 04.1
comp=Z,452nm,23.5s
KSCO Kaye Shedlock' **98.25 52** Pdiff Pdif 06 28 13.2 +1.1
baz=261
KURK Kurchatov 98.30 320⇑ *i*P P 06 28 11.0 -0.8
KURK pmax pmax
comp=Z,103nm,1.3s
KURK MLR MLR
comp=Z,5µm,18.0s
KURK Kurchatov 98.30 320 eP P 06 28 10.8 -1.0
comp=Z,76nm,0.7s
KURK ePP PP 06 32 08.3 -3.9
KURK LR LR
comp=Z,5µm,22.0s
KURK Kurchatov 98.30 320 P P 06 28 11.0 -0.8
SNR=13
KURK Kurchatov 98.30 320 PcP P 06 28 11.0 -0.8
SNR=13
AMTX Amarillo 98.33 56 Pdiff Pdif 06 28 14.1 +1.6
baz=261
KSH Kashi 98.35 309 P Pdif 06 28 14.1 +1.6
KSH epP pP 06 28 24.9 -2.8
KSH esP sP 06 28 29.1 -4.3
KSH ePP PP 06 32 16.0 +2.9
KSH SKS SKSac 06 38 48.2 +1.9
KSH S S 06 39 34.5 -2.3
KSH SS SS 06 46 21.6 -0.3
KSH pmax pmax
comp=Z,14nm,1.1s
KSH pmax pmax
comp=Z,400nm,5.2s
KSH LR LR
comp=Z,640nm,17.4s
KSH LR LR
comp=Z,2µm,22.3s
KSH LR LR
comp=Z,2µm,21.5s
DGMT Dagmar 98.63 42 Pdiff Pdif 06 28 15.4 +2.0
baz=261
DGMT Dagmar 98.63 42 PFAKE 06 28 20.0 +6.6
DGMT LR LR
comp=Z,1µm,20.0s
832A Faith Ranch, C 98.70 63 Pdiff Pdif 06 28 16.0 +1.9
baz=261
KUU Kurty 98.76 313 *i* P P 06 28 11.9 -2.1
comp=Z,344nm,1.3s
KUU eS SKSac 06 38 44.3 -3.7
KUU LRM MLR 07 13 12.8
comp=Z,575nm,18.6s
OGNE Ogallala 99.00 50 Pdiff Pdif 06 28 16.5 +1.2
baz=261
OGNE Ogallala 99.00 50 PFAKE 06 28 30.0 +15
OGNE LR LR
comp=Z,6µm,20.0s
BMNS Besmoynak 99.12 312 eP Pdif 06 28 13.7 -2.2
comp=Z,255nm,1.2s
BMNS *i* PP PP 06 32 15.9 -3.1
BMNS LR LR 07 14 40.0
comp=Z,567nm,22.5s
JCT Junction City 99.20 61 Pdiff Pdif 06 28 17.2 +0.8
baz=261
JCT Junction City 99.20 61 eP Pdif 06 28 16.0 -0.4
JCT pmax pmax
comp=Z,14nm,0.8s
JCT MLR MLR
comp=Z,4µm,22.0s
JCT Junction City 99.20 61 eP Pdif 06 28 16.0 -0.4
comp=Z,14nm,0.8s
JCT LR LR
comp=Z,4µm,22.0s
933A Laredo 99.20 64 Pdiff Pdif 06 28 17.5 +1.1
baz=261
833A Chaparral WMA, 99.21 63 Pdiff Pdif 06 28 17.1 +0.7
baz=261
733A Divot King Ran 99.36 63 Pdiff Pdif 06 28 18.2 +1.1
baz=261
633A Saathoff Ranch 99.58 62 Pdiff Pdif 06 28 19.2 +1.1
baz=261
034A Hebbronville 99.64 64 Pdiff Pdif 06 28 19.6 +1.3
baz=261
ABTX Abilene, Hawle 99.66 59 Pdiff Pdif 06 28 19.6 +1.2
baz=262
533A Kerrville 99.79 61 Pdiff Pdif 06 28 20.6 +1.6
baz=261
433A Art 99.85 61 Pdiff Pdif 06 28 19.8 +0.6
baz=261
FRU Bishkek 99.85 312 eP Pdif 06 28 18.0 -1.0
FRU *e* 06 28 33.0
FRU *e* 06 32 20.0
FRU pmax pmax
comp=Z,50nm,2.0s
AAK Ala-Archa 99.91 312 P Pdif 06 28 18.6 -0.8
comp=Z,5.8nm,0.7s,baz=134,slow=3.3,SNR=4.7
AAK Ala-Archa 99.91 312⇑ *i*P Pdif 06 28 19.4 0.0
AAK pmax pmax
comp=Z,26nm,1.0s
AAK MLR MLR
comp=Z,3µm,20.0s
AAK Ala-Archa 99.91 312 ePdif Pdif 06 28 19.1 -0.3
comp=Z,5.8nm,0.6s
AAK LR LR
comp=Z,1µm,22.0s
AAK Ala-Archa 99.91 312 P Pdif 06 28 19.5 +0.1
SNR=5.3
AAK P Pdif 06 28 19.5 +0.1
SNR=5.3
AAK Ala-Archa 99.91 312 Pdiff Pdif 06 28 19.5 +0.1
SNR=5.3
333A Richland Sprin 100.02 60 Pdiff Pdif 06 28 21.2 +1.2
baz=262
233A Rising Star 100.19 59 Pdiff Pdif 06 28 21.8 +1.0
baz=262
X32A Elmer 100.22 57 Pdiff Pdif 06 28 21.9 +1.1
baz=262
133A Hamilton Ranch 100.27 59 Pdiff Pdif 06 28 22.4 +1.3
baz=262
534A Blanco 100.27 61 Pdiff Pdif 06 28 22.2 +1.1
baz=262
W32A Sentinel 100.35 56 Pdiff Pdif 06 28 22.7 +1.4
baz=262
KVTX Kingsville 100.40 64 PFAKE 06 28 30.0 +8.3
KVTX LR LR
comp=Z,2µm,19.0s
CBKS Cedar Bluff 100.45 52 PFAKE 06 28 30.0 +8.2
CBKS LR LR
comp=Z,2µm,21.0s
Z33A Whitaker Ranch 100.49 58 Pdiff Pdif 06 28 23.1 +1.1
baz=262
434A Burnet 100.56 61 Pdiff Pdif 06 28 23.7 +1.3
baz=262
334A Lometa 100.66 60 Pdiff Pdif 06 28 23.8 +1.0
baz=262
WMOK Wichita Mounta 100.67 57 Pdiff Pdif 06 28 24.2 +1.4
baz=262
WMOK Wichita Mounta 100.67 57 PFAKE 06 28 30.0 +7.2
WMOK LR LR
comp=Z,4µm,20.0s
FFC Flin Flon 100.83 36 PFAKE 06 28 30.0 +7.0
FFC LR LR
comp=Z,4µm,20.0s
X33A Lawton 100.88 57 Pdiff Pdif 06 28 24.8 +1.1
baz=262
Z34A Collier Ranch, 101.20 58 Pdiff Pdif 06 28 26.7 +1.5
baz=262
MNAS Manas 101.35 311 P Pdif 06 28 25.1 -0.7
MNAS pmax pmax
comp=Z,20nm,1.2s
Y34A Reagan Ranch, 101.41 58 Pdiff Pdif 06 28 27.0 +0.9
baz=263
X34A Smith Ranch, M 101.43 57 Pdiff Pdif 06 28 27.7 +1.5
baz=263
X35A Drake 102.11 57 Pdiff Pdif 06 28 30.9 +1.7
baz=263
PAYG Puerto Ayora 102.58 94 PFAKE 06 28 40.0 +8.2
PAYG LR LR
comp=Z,3µm,21.0s
D31A Mcclaflin, Tow 102.80 44 Pdiff Pdif 06 28 34.1 +2.2
baz=266
KK31 Karatay Array 102.87 312 P Pdif 06 28 31.8 -0.6
KK31 pmax pmax
comp=Z,10.0nm,1.0s
KKAR Karatay Array 102.87 312 eP Pdif 06 28 31.8 -0.6
KKAR pmax pmax
comp=Z,15nm,1.1s
KKAR Karatay Array 102.87 312 ePdif Pdif 06 28 31.8 -0.6
comp=Z,15nm,1.1s
KSU1 Kansas State U 102.91 52 PFAKE 06 28 40.0 +7.4
KSU1 LR LR
comp=Z,3µm,20.0s
S35A Otter Creek Ra 103.00 54 Pdiff Pdif 06 28 35.1 +2.0
baz=264
IUG luzhnay 103.14 311 eP Pdif 06 28 31.7 -2.1
comp=Z,118nm,1.1s
N34A Lincoln 103.15 51 Pdiff Pdif 06 28 35.5 +1.8
baz=265
T36A Boggs Farm, Ca 103.28 55 Pdiff Pdif 06 28 35.6 +1.3
baz=264
ECSD EROS Data Cent 103.31 48 Pdiff Pdif 06 28 35.7 +1.4
baz=266
ECSD EROS Data Cent 103.31 48 PFAKE 06 28 40.0 +5.7
ECSD LR LR
comp=Z,2µm,21.0s
X37A Clayton 103.44 57 Pdiff Pdif 06 28 37.2 +2.1
baz=264
BVA0 Borovoye Array 103.62 322 P Pdif 06 28 34.2 -1.2
BVA0 pmax pmax
comp=Z,18nm,1.2s
BRVK Borovoye 103.68 322 eP Pdif 06 28 34.5 -1.2
BRVK pmax pmax
comp=Z,16nm,0.8s
BRVK MLR MLR
comp=Z,2µm,22.0s
BRVK Borovoye 103.68 322 ePdif Pdif 06 28 34.5 -1.2
comp=Z,16nm,0.8s
BRVK LR LR
comp=Z,2µm,22.0s
BRVK Borovoye 103.68 322 P Pdif 06 28 35.4 -0.4
SNR=5.7
BRVK Borovoye 103.68 322 Pdiff Pdif 06 28 35.4 -0.4
SNR=5.7
NATX Nacogdoches 103.74 60 PFAKE 06 28 50.0 +14
NATX LR LR
comp=Z,2µm,21.0s
AGMN Agassiz Nation 104.13 43 PFAKE 06 28 50.0 +12
AGMN LR LR
comp=Z,2µm,20.0s
ULM Lac du Bonnet 104.21 41 PKiKP **PKiKP** 06 32 53.3 -1.5
comp=Z,3.3nm,0.6s,baz=270,slow=1.4,SNR=6.5
RER Riviere de l'E 104.41 244 PFAKE 06 28 50.0 +10
RER LR LR
comp=Z,5µm,20.0s
MIAR Mount Ida 104.92 57 PFAKE 06 28 50.0 +8.3
MIAR LR LR
comp=Z,4µm,21.0s

J36A	**Seneca 1, Swea**	**104.94**	**48**	PKiKP	**PKiKP**	**06 32 57.3**	**+1.0**	
	baz=267							
B34A	**Aery, Baudette**	**104.95**	**43**	PKiKP	**PKiKP**	**06 32 57.2**	**+1.0**	
	baz=268							
M37A	**Trindle Farm,**	**105.04**	**50**	PKiKP	**PKiKP**	**06 32 58.0**	**+1.4**	
	baz=267							
H36A	**Jessenland, He**	**105.30**	**47**	PKiKP	**PKiKP**	**06 32 58.9**	**+1.9**	
	baz=268							
EFI	**East Falkland**	**105.33**	**153**	PFAKE		06 33 10.0		
EFI				LR	LR			
	comp=Z,2μm,20.0s							
S39A	**Bolivar**	**105.36**	**54**	PKiKP	**PKiKP**	**06 32 58.3**	**+0.9**	
	baz=266							
K37A	**Belmond**	**105.42**	**49**	PKiKP	**PKiKP**	**06 32 58.1**	**+0.8**	
	baz=267							
J37A	**Redenius Farm,**	**105.51**	**48**	PKiKP	**PKiKP**	**06 32 58.4**	**+1.0**	
	baz=268							
F36A	**Milaca**	**105.63**	**46**	PKiKP	**PKiKP**	**06 32 58.0**	**+0.5**	
	baz=268							
R39A	**Chumby, Stover**	**105.63**	**53**	PKiKP	**PKiKP**	**06 32 58.9**	**+1.1**	
	baz=266							
SCIA	**State Center**	**105.69**	**50**	PFAKE		06 33 10.0		
SCIA				LR	LR			
	comp=Z,6μm,22.0s							
SPMN	**Marine on St.**	**106.12**	**46**	PKiKP	**PKiKP**	**06 32 59.8**	**+1.3**	
	baz=269							
SPMN	**Marine on St.**	**106.12**	**46**	*e*PKPdf	**PKiKP**	**06 32 59.3**	**+0.9**	
C36A	**Pine Crest Far**	**106.14**	**44**	PKiKP	**PKiKP**	**06 32 59.2**	**+0.8**	
	baz=269							
Q40A	**Laux Farm, Aus**	**106.42**	**53**	PKiKP	**PKiKP**	**06 33 00.8**	**+1.6**	
	baz=267							
F38A	**Pierce - Schro**	**106.78**	**46**	PKiKP	**PKiKP**	**06 33 00.9**	**+1.2**	
	baz=269							
G38A	**Ridgeland**	**106.78**	**46**	PKiKP	**PKiKP**	**06 33 00.7**	**+1.0**	
	baz=269							
V42A	**Cord**	**106.79**	**56**	PKiKP	**PKiKP**	**06 33 01.1**	**+1.1**	
	baz=267							
J39A	**Decorah**	**106.86**	**48**	PKiKP	**PKiKP**	**06 33 00.9**	**+1.0**	
	baz=269							
M40A	**Post Highland**	**106.95**	**50**	PKiKP	**PKiKP**	**06 33 01.1**	**+0.9**	
	baz=268							
EYMN	**Ely**	**107.05**	**43**	PFAKE		06 33 10.0		
EYMN				LR	LR			
	comp=Z,2μm,22.0s							
H39A	**Augusta**	**107.19**	**47**	PKiKP	**PKiKP**	**06 33 01.5**	**+1.0**	
	baz=270							
K40A	**Colesburg**	**107.26**	**49**	PKiKP	**PKiKP**	**06 33 01.5**	**+0.8**	
	baz=269							
G39A	**Holcombe**	**107.27**	**46**	PKiKP	**PKiKP**	**06 33 01.2**	**+0.6**	
	baz=270							
W43A	**Forest City**	**107.31**	**57**	PKiKP	**PKiKP**	**06 33 02.0**	**+1.1**	
	baz=267							
JFWS	**Jewell Farm**	**107.92**	**49**	PFAKE		06 33 10.0		
JFWS				LR	LR			
	comp=Z,2μm,21.0s							
G40A	**Rib Lake**	**107.95**	**46**	PKiKP	**PKiKP**	**06 33 02.9**	**+1.0**	
	baz=270							
C39A	**Grand Marais**	**107.97**	**44**	PKiKP	**PKiKP**	**06 33 03.5**	**+1.7**	
	baz=271							
J41A	**Loganville**	**108.09**	**48**	PKiKP	**PKiKP**	**06 33 03.0**	**+0.8**	
	baz=270							
HDIL	**Hopedale**	**108.61**	**51**	PFAKE		06 33 10.0		
HDIL				LR	LR			
	comp=Z,2μm,19.0s							
348A	**Jackson**	**109.46**	**61**	PKiKP	**PKiKP**	**06 33 06.0**	**+0.9**	
	baz=267							
MSEY	**Mahe Island**	**109.56**	**260**	PFAKE		06 33 20.0		
MSEY				LR	LR			
	comp=Z,3μm,20.0s							
Z48A	**Northport**	**109.84**	**59**	PKiKP	**PKiKP**	**06 33 07.0**	**+1.2**	
	baz=268							
JTS	**JuntasAbangare**	**109.93**	**83**	PFAKE		06 33 20.0		
JTS				LR	LR			
	comp=Z,46nm,19.0s							
BRAL	**Brewton**	**110.18**	**61**	PFAKE		06 33 20.0		
BRAL				LR	LR			
	comp=Z,1μm,20.0s							
ABKAR	**Akbulak array**	**110.25**	**318**	*e*PKPdf	**PKiKP**	**06 33 00.5**	**-5.5**	
ARU	**Arti**	**110.30**	**326**	*i* PKiKP	**PKiKP**	**06 33 04.7**	**-1.2**	
ARU				PPP	PPP	06 35 58.2		
ARU						06 40 14.0		
ARU				SP	SP	06 43 00.2	-4.3	
ARU				PS	**PS**	**06 43 08.2**	**-3.3**	
ARU				SS	**SS**	**06 48 57.6**	**-6.8**	
ARU				MLR	MLR			
	comp=Z,2μm,24.0s							
ARU	**Arti**	**110.30**	**326**	*e*PKPdf	**PKiKP**	**06 33 04.6**	**-1.4**	
ARU				LR	LR			
	comp=Z,2μm,20.0s							
HOPE	**Hope Point**	**110.67**	**166**	PFAKE		06 33 20.0		
HOPE				LR	LR			
	comp=Z,790nm,20.0s							
SOKR	**Solikamsk**	**110.70**	**329**	*i* PKiKP	**PKiKP**	**06 32 59.8**	**-6.7**	
SOKR				SP	SP	06 43 11.4	+3.4	
SOKR				pmax	pmax			
	comp=Z,7.0nm,0.9s							
LCO	**Las Campanas**	**110.96**	**128**	PFAKE		06 33 20.0		
LCO				LR	LR			
	comp=Z,2μm,20.0s							
GEYT	**Alibeck**	**112.15**	**306**	PKiKP	**PKiKP**	**06 33 10.7**	**+0.6**	
	comp=Z,9.5nm,0.8s,baz=253,slow=1.5,SNR=11							
TRQA	**Tornquist**	**112.19**	**140**	PFAKE		06 33 20.0		
TRQA				LR	LR			
	comp=Z,2μm,20.0s							
KBS	**Kingsbay**	**112.40**	**355**	*e*Pdif	**Pdif**	**06 29 14.9**	**+0.9**	
KBS				*e*PP	**PP**	**06 33 56.9**	**+1.4**	
KBS	**Kingsbay**	**112.40**	**355**	PFAKE		06 33 20.0		
KBS				LR	LR			
	comp=Z,2μm,22.0s							
NNA	**Nana**	**112.45**	**109**	PFAKE		06 33 20.0		
NNA				LR	LR			
	comp=Z,2μm,22.0s							
SPA0	**Spitsbergen Ar**	**112.62**	**354**	*e*PP	PP	06 33 56.9	-0.3	
SPA0				*e*SP	SP	06 43 29.1	+4.3	
SPA0				IAMs_20	IAMs_20	07 19 33.6		
	comp=Z,1μm,22.0s							
SPITS	**Spitsbergen Ar**	**112.62**	**354**	PKiKP	**PKiKP**	**06 33 09.7**	**-0.1**	
	comp=Z,3.1nm,0.5s,baz=100,slow=8.8,SNR=7.3							
ABPO	**Ambohimpanom**	**112.64**	**243**	PFAKE		06 33 20.0		
ABPO				LR	LR			
	comp=Z,764nm,22.0s							
AAM	**Ann Arbor**	**112.80**	**49**	PFAKE		06 33 20.0		
AAM				LR	LR			
	comp=Z,4μm,20.0s							
GOGA	**Godfrey**	**113.26**	**59**	PFAKE		06 33 20.0		
GOGA				LR	LR			
	comp=Z,2μm,22.0s							
ACSO	**Alum Creek Sta**	**113.44**	**51**	PFAKE		06 33 20.0		
ACSO				LR	LR			
	comp=Z,4μm,20.0s							
BANOM	**Banah**	**113.55**	**293**	P	**PKiKP**	**06 33 13.5**	**+0.4**	
HATD	**Hatta, Dubai**	**113.64**	**292**	*i* P	**PKiKP**	**06 33 12.7**	**-0.6**	
	SNR=5.9							
ASHO	**Ashiyiah**	**113.70**	**292**	*i* P	**PKiKP**	**06 33 12.7**	**-0.7**	
	SNR=7.1							
HSPB	**Hornsund (broa**	**113.73**	**353**	*e*PP	PP	06 34 05.3	+0.3	
HSPB				IAMs_20	IAMs_20	07 17 36.7		
	comp=Z,1μm,19.7s							
FAQ	**Al Faqa, Dubai**	**114.13**	**292**	P	PKPdf	06 33 14.1	-0.1	
LVC	**Limon Verde**	**115.35**	**122**	PFAKE		06 33 30.0	+13	
LVC				LR	LR			
	comp=Z,2μm,22.0s							
BLA	**Blacksburg**	**115.62**	**55**	PFAKE		06 33 30.0	+13	
BLA				LR	LR			
	comp=Z,4μm,20.0s							
N54A	**Moraine State**	**115.65**	**50**	PKiKP	**PKiKP**	**06 33 17.8**	**+1.1**	
	baz=276							
M54A	**Oil Creek Stat**	**115.84**	**50**	PKiKP	**PKiKP**	**06 33 18.0**	**+1.0**	
	baz=276							
NHSC	**New Hope**	**116.02**	**59**	PFAKE		06 33 30.0	+12	
NHSC				LR	LR			
	comp=Z,1μm,20.0s							
LVZ	**Lovozero**	**116.48**	**342**	⇑*i* PKiKP	**PKPdf**	**06 33 17.5**	**0.0**	
LVZ				pmax	pmax			
	comp=Z,26nm,1.7s							
LVZ	**Lovozero**	**116.48**	**342**	PFAKE		06 33 30.0	+13	
LVZ				LR	LR			
	comp=Z,2μm,22.0s							
O56A	**Blue Knob Stat**	**116.80**	**51**	PKiKP	**PKiKP**	**06 33 20.1**	**+1.1**	
	baz=276							
APA	**Apatity**	**117.06**	**342**	⇑*i* PKIKP	**PKPdf**	**06 33 17.0**	**-1.5**	
APA				*i*		06 34 27.0		
APA				*i*		06 40 06.0		
APA				*i* PS	**PS**	**06 44 05.0**	**-7.9**	
APA				pmax	pmax			
	comp=Z,16nm,0.9s							
SSPA	**Standing Stone**	**117.27**	**51**	*e*PKPdf	**PKPdf**	**06 33 18.8**	**-1.0**	
KEV	**Kevo**	**117.39**	**345**	*e*PKIKP	**PKPdf**	**06 33 19.0**	**-0.1**	
KEV				MLR	MLR			
	comp=Z,2μm,22.0s							
KEV	**Kevo**	**117.39**	**345**	*e*PKPdf	**PKPdf**	**06 33 19.0**	**-0.1**	
KEV				LR	LR			
	comp=Z,2μm,22.0s							
HAMF	**Hammerfest**	**117.53**	**347**	*e*PKPdf	**PKPdf**	**06 33 18.8**	**-0.5**	
HAMF				*e*PP	**PP**	**06 34 31.8**	**0.0**	
HAMF				*e*SP	SP	06 44 13.9	+4.4	
CNNC	**Cliffs of the**	**117.80**	**57**	PFAKE		06 33 30.0	+9.1	
CNNC				LR	LR			
	comp=Z,3μm,22.0s							
ARCES	**ARCESS Array B**	**117.92**	**346**	PKP	**PKPdf**	**06 33 20.0**	**-0.2**	
	comp=Z,19nm,0.5s,baz=74,slow=2.0,SNR=63							
ARCES				PKKPbc	**PKKPbc**	**06 43 39.7**	**-3.4**	
	comp=Z,7.3nm,0.6s,baz=220,slow=3.2,SNR=22							
ARCES	**ARCESS Array B**	**117.92**	**346**	PKIKP	**PKPdf**	**06 33 20.0**	**-0.2**	
ARE0	**ARCESS Array S**	**117.92**	**346**	*e*PKPdf	**PKPdf**	**06 33 19.9**	**-0.2**	
ARE0				*e*PP	**PP**	**06 34 34.1**	**-0.4**	
ARE0				*e*SP	SP	06 44 16.1	+3.0	
CBN	**Corbin Frederi**	**117.95**	**53**	PFAKE		06 33 30.0	+8.9	
CBN				LR	LR			
	comp=Z,5μm,22.0s							
MTDJ	**Mount Denham**	**118.06**	**76**	PFAKE		06 33 30.0	+8.0	
MTDJ				LR	LR			
	comp=Z,1μm,22.0s							
SUMG	**Summit**	**118.08**	**8**	*e*PKIKP	**PKPdf**	**06 33 20.7**	**-0.2**	
SUMG	**Summit**	**118.08**	**8**	*e*PKPdf	**PKPdf**	**06 33 20.7**	**-0.2**	
SUMG				*e*SKPdf	**SKPdf**	**06 36 50.9**	**-1.4**	
KLMR	**Klimovskoe**	**118.41**	**334**	*e*PKIKP	**PKPdf**	**06 33 19.7**	**-1.6**	
KLMR				*e*		06 34 43.9		
KLMR				pmax	pmax			
	comp=Z,35nm,1.3s							
KLMR				MLR	MLR			
	comp=Z,996nm,19.0s							
ILULI	**Ilulissat**	**118.41**	**14**	⇑*i* P	**PKPdf**	**06 33 20.5**	**-0.6**	
	comp=Z,25nm,0.7s							
ILULI	**Ilulissat**	**118.41**	**14**	⇑*i* PKIKP	**PKPdf**	**06 33 20.5**	**-0.6**	
ILULI				pmax	pmax			
	comp=Z,25nm,0.7s							
BINY	**Binghamton**	**118.47**	**49**	*e*PKPdf	**PKPdf**	**06 33 21.6**	**-0.5**	
BINY				LR	LR			
	comp=Z,4μm,21.0s							
LPAZ	**La Paz**	**118.74**	**116**	PKP	**PKPdf**	**06 33 23.6**	**-0.4**	
	comp=Z,2.6nm,0.6s,baz=35,slow=4.8,SNR=16							
KTK1	**Kautokeino**	**118.85**	**346**	*e*PKPdf	**PKPdf**	**06 33 20.9**	**-1.0**	
LONY	**Lake Ozonia**	**119.04**	**46**	PFAKE		06 33 30.0	+6.9	
LONY				LR	LR			
	comp=Z,2μm,20.0s							
TRO	**Tromso**	**119.34**	**348**	*e*PKPdf	**PKPdf**	**06 33 23.8**	**+1.0**	
TRO				*e*PP	**PP**	**06 34 45.7**	**+1.5**	
TRO				*e*SP	SP	06 44 31.5	+5.7	
TRO				*e*SS	**SS**	**06 51 08.7**	**+6.8**	
SFJD	**Kangerlussuaq**	**120.16**	**16**	PKP	**PKPdf**	**06 33 23.0**	**-1.5**	
	comp=Z,20nm,0.9s,baz=316,slow=1.8,SNR=5.7							
SFJD	**Kangerlussuaq**	**120.16**	**16**	*i* P	**PKPdf**	**06 33 22.8**	**-1.7**	
	comp=Z,20nm,1.0s							
	comp=Z,2μm,17.0s							
SFJD	**Kangerlussuaq**	**120.16**	**16**	*i* PKIKP	**PKPdf**	**06 33 22.8**	**-1.7**	
SFJD				pmax	pmax			
	comp=Z,20nm,1.0s							
SFJD				MLR	MLR			
	comp=Z,2μm,17.0s							
SFJD	**Kangerlussuaq**	**120.16**	**16**	PKP	**PKPdf**	**06 33 23.0**	**-1.5**	
SFJD				LR	LR			
	comp=Z,2μm,21.0s							
GTBY	**Guantanamo Bay**	**120.46**	**74**	PFAKE		06 33 40.0	+14	
GTBY				LR	LR			
	comp=Z,737nm,21.0s							
SCHQ	**Schefferville**	**120.72**	**33**	PKP	**PKPdf**	**06 33 25.2**	**-0.8**	
	comp=Z,19nm,0.8s,baz=12,slow=0.5,SNR=20							
SCHQ				PKKPbc	**PKKPbc**	**06 43 32.2**	**-0.3**	
	comp=Z,3.8nm,0.5s,baz=138,slow=5.0,SNR=8.0							
QUA2	**Belchertown**	**121.11**	**48**	*e*PKPdf	**PKPdf**	**06 33 26.5**	**-0.5**	
LMQ	**La Malbaie**	**121.19**	**42**	*e*PKPdf	**PKPdf**	**06 33 25.9**	**-1.2**	
JMIC	**Jan Mayen**	**121.43**	**358**	*e*PP	PP	06 34 59.7	+1.2	
JMIC				IAMs_20	IAMs_20	07 20 39.7		
	comp=Z,1μm,21.2s							
STEI	**Steigen**	**121.51**	**348**	*e*PKPdf	**PKPdf**	**06 33 26.8**	**-0.3**	
STEI				*ep*PKPdf	**pPKPdf**	**06 33 40.3**	**-2.4**	
HRV	**Adam Dziewonsk**	**121.63**	**48**	*e*PKIKP	**PKPdf**	**06 33 27.7**	**-0.4**	
HRV	**Adam Dziewonsk**	**121.63**	**48**	*e*PKPdf	**PKPdf**	**06 33 27.7**	**-0.4**	
MOS	**Moscow**	**121.66**	**329**	*i* PKIKP	**PKPdf**	**06 33 25.6**	**-2.1**	
MOS				*e*		06 33 44.0		
MOS				*e*		06 34 58.8		
MOS				pmax	pmax			
	comp=Z,55nm,1.2s							
MOS				MLR	MLR			
	comp=Z,2μm,23.0s							
LOF	**Lofoten**	**121.68**	**349**	*e*PKPdf	**PKPdf**	**06 33 28.8**	**+1.4**	
LOF				*e*PP	**PP**	**06 35 00.6**	**+0.4**	
LOF				*e*SP	SP	06 44 49.7	+3.0	
SCO	**Scoresbysund**	**121.76**	**3**	*i* P	**PKPdf**	**06 33 27.7**	**+0.2**	
	comp=Z,2μm,19.0s							
SCO	**Scoresbysund**	**121.76**	**3**	*i* PKIKP	**PKPdf**	**06 33 27.7**	**+0.2**	
SCO				MLR	MLR			
	comp=Z,2μm,19.0s							
BRYW	**Bryant College**	**121.77**	**48**	*e*PKPdf	**PKPdf**	**06 33 27.8**	**-0.6**	
WES	**Weston**	**121.83**	**48**	*e*PKIKP	**PKPdf**	**06 33 27.9**	**-0.5**	
WES	**Weston**	**121.83**	**48**	*e*PKPdf	**PKPdf**	**06 33 27.9**	**-0.5**	
TBLG	**Delisi**	**121.93**	**312**	P	**PKPdf**	**06 33 29.5**	**+0.8**	
TBLG	**Delisi**	**121.93**	**312**	PKIKP	**PKPdf**	**06 33 29.5**	**+0.8**	
GNI	**Garni**	**122.26**	**310**	*i* P	**PKPdf**	**06 33 30.4**	**+0.7**	
	SNR=7.6							
GNI	**Garni**	**122.26**	**310**	⇑*i* PKIKP	**PKPdf**	**06 33 30.5**	**+0.9**	
GNI				pmax	pmax			
	comp=Z,184nm,0.8s							
GNI	**Garni**	**122.26**	**310**	*e*PKPdf	**PKPdf**	**06 33 30.1**	**+0.5**	
GNI				*e*PP	**PP**	**06 35 05.6**	**0.0**	
GNI				LR	LR			
	comp=Z,1μm,22.0s							
GNI	**Garni**	**122.26**	**310**	P	**PKPdf**	**06 33 30.3**	**+0.7**	
	SNR=9.8							
GNI	**Garni**	**122.26**	**310**	PKiKP	**PKPdf**	**06 33 30.3**	**+0.7**	
	SNR=9.8							
ZEI	**Tsey**	**122.30**	**313**	*i* PKIKP	**PKPdf**	**06 33 29.4**	**-0.3**	
ZEI				pmax	pmax			
	comp=Z,85nm,1.1s							
LPSR	**Galich'ya Gora**	**122.32**	**325**	*e*PKIKP	**PKPdf**	**06 33 29.3**	**+0.2**	
LPSR				pmax	pmax			
	comp=Z,70nm,1.0s							
CPUP	**Villa Florida**	**122.41**	**132**	PKP	**PKPdf**	**06 33 28.8**	**-1.3**	
	comp=Z,6.9nm,0.7s,baz=323,slow=0.9,SNR=14							
CPUP				PKKPbc	**PKKPbc**	**06 43 25.1**	**-0.4**	
	comp=Z,8.0nm,0.9s,baz=96,slow=2.9,SNR=9.4							
WVL	**Waterville**	**122.47**	**45**	*e*PKPdf	**PKPdf**	**06 33 28.7**	**-0.9**	
OBN	**Obninsk**	**122.48**	**329**	⇓*i* PKIKP	**PKPdf**	**06 33 29.7**	**+0.4**	
OBN				*i*		06 33 46.4		
OBN				*i*		06 35 08.6		
OBN				*i* PS	**PS**	**06 45 02.4**	**+0.6**	
OBN				pmax	pmax			
	comp=Z,62nm,1.2s							
OBN	**Obninsk**	**122.48**	**329**	PFAKE		06 33 40.0	+11	
OBN				LR	LR			
	comp=Z,2μm,20.0s							
PKME	**Peaks-Kenny Pk**	**122.53**	**44**	*e*PKPdf	**PKPdf**	**06 33 29.5**	**-0.2**	
PKME				LR	LR			
	comp=Z,1μm,19.0s							
VSR	**Storozhevoye**	**122.73**	**324**	*e*PKIKP	**PKPdf**	**06 33 28.9**	**-1.0**	
VSR				pmax	pmax			
	comp=Z,60nm,0.8s							
KBZ	**Khabaz**	**122.78**	**314**	PKP	**PKPdf**	**06 33 30.1**	**-0.2**	
	comp=Z,17nm,0.9s,baz=136,slow=3.0,SNR=20							
KIV	**Kislovodsk**	**122.86**	**315**	*i* P	**PKPdf**	**06 33 30.6**	**0.0**	
	SNR=5.7							
KIV	**Kislovodsk**	**122.86**	**315**	*i* P	**Pdif**	**06 30 00.5**	**-0.9**	
KIV				*i*		06 33 30.8		
KIV				*e*		06 35 07.5		
KIV				*e*		06 40 27.9		
KIV				*e*PS	**PS**	**06 45 04.1**	**-2.0**	
KIV				*e*SS	SS	06 51 49.8	+0.7	
KIV				pmax	pmax			
	comp=Z,42nm,1.1s							
KIV	**Kislovodsk**	**122.86**	**315**	*e*PKPdf	**PKPdf**	**06 33 30.7**	**+0.2**	
KIV				LR	LR			
	comp=Z,2μm,21.0s							
KIV	**Kislovodsk**	**122.86**	**315**	P	**PKPdf**	**06 33 30.7**	**+0.2**	
	SNR=7.4							
KIV	**Kislovodsk**	**122.86**	**315**	PKPdf	**PKPdf**	**06 33 30.7**	**+0.2**	
	SNR=7.4							
AKH	**Akhalkalaki**	**122.92**	**311**	P	**PKPdf**	**06 33 24.4**	**-6.4**	
AKH	**Akhalkalaki**	**122.92**	**311**	⇑*i* P	**PKPdf**	**06 33 31.9**	**+1.1**	
AKH	**Akhalkalaki**	**122.92**	**311**	PKIKP	**PKPdf**	**06 33 24.4**	**-6.4**	
PQI	**Presque Isle**	**122.96**	**42**	*e*PKPdf	**PKPdf**	**06 33 28.9**	**-1.6**	
MOR8	**Moi Rana**	**123.16**	**347**	*e*PKPdf	**PKPdf**	**06 33 29.1**	**-1.2**	
MOR8				*e*PP	**PP**	**06 35 07.5**	**-2.8**	
KONS	**Konsvik**	**123.17**	**348**	*e*PKPdf	**PKPdf**	**06 33 29.9**	**-0.3**	
STOK	**Stokkvaagen**	**123.33**	**348**	*e*PKPdf	**PKPdf**	**06 33 30.2**	**-0.4**	
FINES	**FINESS Array B**	**123.41**	**339**	PKP	**PKPdf**	**06 33 30.5**	**-0.4**	
	comp=Z,29nm,0.9s,baz=90,slow=4.4,SNR=41							
FINES				PKKPbc	**PKKPab**	**06 43 20.3**	**+0.7**	
	comp=Z,4.0nm,0.8s,baz=122,slow=2.5,SNR=11							
SDV	**Santo Domingo**	**123.65**	**88**	PFAKE		06 33 40.0	+7.0	
SDV				LR	LR			
	comp=Z,751nm,22.0s							
DAMY	**Dhamar**	**123.97**	**279**	*e*PKPdf	**PKPdf**	**06 33 35.7**	**+2.0**	
SDDR	**Presa de Saban**	**124.02**	**75**	PFAKE		06 33 40.0	+6.6	
SDDR				LR	LR			
	comp=Z,1μm,22.0s							
GRTK	**Grand Turk**	**124.24**	**72**	PFAKE		06 33 40.0	+6.3	
GRTK				LR	LR			
	comp=Z,1μm,21.0s							
BOSA	**Boshof**	**124.70**	**222**	PKP	**PKPdf**	**06 33 33.9**	**-0.8**	
	comp=Z,9.0nm,0.7s,baz=142,slow=2.0,SNR=13							
SUR	**Sutherland**	**124.75**	**215**	PFAKE		06 33 50.0	+15	
SUR				LR	LR			
	comp=Z,4μm,22.0s							
SOC	**Sochi**	**125.03**	**315**	*c i* PKIKP	**PKPdf**	**06 33 34.3**	**-0.3**	
SOC				*e*		06 35 20.3		
SOC				*e*PPP	PPP	06 38 00.9		
SOC				*e*PS	**PS**	**06 45 13.9**	**-11**	
SOC				*e*SS	SS	06 52 14.6	-1.6	
SOC				pmax	pmax			
	comp=Z,61nm,1.1s							
VSU	**Vasula**	**125.12**	**336**	⇑*i* PKIKP	**PKPdf**	**06 33 34.2**	**-0.1**	
NRS	**Narsarsuaq**	**126.06**	**19**	*i* P	**PKPdf**	**06 33 35.8**	**-0.2**	
	comp=Z,85nm,0.7s							
	comp=Z,6μm,23.0s							
NRS	**Narsarsuaq**	**126.06**	**19**	*i* PKIKP	**PKPdf**	**06 33 35.8**	**-0.2**	
NRS				pmax	pmax			
	comp=Z,85nm,0.7s							
NRS				MLR	MLR			
	comp=Z,6μm,23.0s							
SAML	**Samuel**	**126.08**	**111**	*e*PKPdf	**PKPdf**	**06 33 35.5**	**-2.0**	
SAML				LR	LR			
	comp=Z,1μm,21.0s							
IZAR	**Zarasai**	**127.05**	**333**	*e*P	**PKPdf**	**06 33 38.4**	**+0.3**	
MICGM	**Minsk**	**127.06**	**331**	*e*P	**PKPdf**	**06 33 38.0**	**-0.1**	
MICGM				*e*		06 35 34.0		
MICGM				*e*LR	LR	07 22 16.0		
MNK	**Minsk**	**127.06**	**331**	*e*PKIKP	**PKPdf**	**06 33 38.0**	**-0.1**	
MNK				*e*		06 35 34.0		
IDID	**Didziasalis**	**127.10**	**333**	*e*P	**PKPdf**	**06 33 38.6**	**+0.4**	
IDID				IAmb	IAmb	06 33 39.9		
	comp=Z,27nm,1.0s							
ISAL	**Salakas**	**127.21**	**333**	*e*P	**PKPdf**	**06 33 38.6**	**+0.3**	
ISAL				IAmb	IAmb	06 33 40.2		
	comp=Z,18nm,1.0s							
IIGN	**Ignalina**	**127.31**	**333**	*e*P	**PKPdf**	**06 33 38.6**	**+0.1**	
IIGN				IAmb	IAmb	06 33 40.0		
	comp=Z,31nm,1.0s							
NACGM	**Naroch**	**127.33**	**332**	*e*	**PKPdf**	**06 33 38.0**	**-0.6**	
NACGM				*e*LR	LR	07 18 12.0		
NACGM				LRM	MLR	07 27 40.0		
	comp=Z,2.2nm,23.0s							
MALT	**Malatya**	**127.45**	**309**	⇑*i* P	**PKPdf**	**06 33 39.9**	**+0.4**	
MALT	**Malatya**	**127.45**	**309**	⇑PKIKP	**PKPdf**	**06 33 39.9**	**+0.4**	
BORG	**Borgarnes**	**127.48**	**4**	PFAKE		06 33 50.0	+11	
BORG				LR	LR			
	comp=Z,2μm,19.0s							
MOL	**Molde**	**127.78**	**348**	*e*PKPdf	**PKPdf**	**06 33 40.2**	**+1.0**	
DOMB	**Dombas**	**127.93**	**347**	*e*PKPdf	**PKPdf**	**06 33 40.2**	**+0.6**	
DOMB				*e*PP	**PP**	**06 35 44.5**	**+2.5**	
KMBO	**Kilima Mbogo**	**128.03**	**259**	PKP	**PKPdf**	**06 33 41.9**	**+0.4**	
	comp=Z,3.5nm,0.9s,baz=18,slow=5.8,SNR=5.3							
KMBO	**Kilima Mbogo**	**128.03**	**259**	*e*PKIKP	**PKPdf**	**06 33 41.9**	**+0.4**	
KMBO				MLR	MLR			
	comp=Z,2μm,20.0s							
KMBO	**Kilima Mbogo**	**128.03**	**259**	*e*PKPdf	**PKPdf**	**06 33 41.9**	**+0.4**	
KMBO				*e*PP	**PP**	**06 35 39.2**	**-5.8**	
KMBO				LR	LR			
	comp=Z,2μm,20.0s							
AKN	**Aaknes**	**128.24**	**348**	*e*PKPdf	**PKPdf**	**06 33 41.0**	**+0.8**	
AKN				*e*PP	**PP**	**06 35 47.5**	**+3.5**	
AKN				*e*SS	SS	06 52 59.9	+5.4	
NB2	**NORSAR Subarra**	**128.29**	**345**	PKPdf	**PKPdf**	**06 33 39.7**	**-0.7**	
	baz=27,slow=1.8							
NB2	**NORSAR Subarra**	**128.29**	**345**	PKPdf	**PKPdf**	**06 33 39.7**	**-0.7**	
	comp

comp=Z,1µm,21.0s
KIS MLR MLR
comp=N,1µm,22.0s
KIS MLR MLR
comp=Z,1µm,24.0s
BLS5 Blasjo 130.85 347 *e*PKPdf **PKPdf 06 33 46.3 +1.1**
BLS5 *e*PP **PP 06 36 03.9 +2.8**
SPB Sao Paulo 131.04 137 PFAKE 06 34 00.0 +13
SPB LR LR
comp=Z,1µm,21.0s
MMAI Mount Meron Ar 131.12 303 SKPbc **SKPab 06 37 10.5 +3.1**
comp=Z,33nm,1.2s,baz=51,slow=6.6,SNR=9.8
ANTO Ankara 131.15 313 *e*PKIKP **PKPdf 06 33 46.6 +0.2**
ANTO MLR MLR
comp=Z,1µm,22.0s
ANTO Ankara 131.15 313 *e*PKPdf **PKPdf 06 33 46.6 +0.2**
ANTO LR LR
comp=Z,1µm,22.0s
ANTO Ankara 131.15 313 P **PKPdf 06 33 46.7 +0.2**
SNR=16
ANTO Ankara 131.15 313 PKPdf **PKPdf 06 33 46.7 +0.2**
SNR=16
KMY Karmoy 131.31 347 *e*PKPdf **PKPdf 06 33 47.0 +1.0**
HOMB Homborsund 131.39 345 *e*PKPdf **PKPdf 06 33 46.4 +0.2**
HOMB *e*PP **PP 06 36 06.5 +2.0**
STAV Stavanger 131.46 347 *e*PKPdf **PKPdf 06 33 47.7 +1.4**
STAV *e*PP **PP 06 36 07.2 +2.3**
STAV IAMs_20 IAMs_20 07 30 02.9
comp=Z,2µm,20.0s
TLCR 131.59 321 ⇑ *i*P **PKPdf 06 33 47.9 +0.9**
TLCR 131.59 321 ⇑ PKIKP **PKPdf 06 33 47.9 +0.9**
SNART Snartemo 131.65 346 *e*PKPdf **PKPdf 06 33 47.7 +1.0**
LVV L'vov 131.78 328 *e*PKIKP **PKPdf 06 33 47.2 0.0**
LVV *i* 06 34 07.0
LVV *e* 06 36 04.6
LVV MLR MLR
comp=E,2µm,22.0s
LVV MLR MLR
comp=N,1µm,23.0s
LVV MLR MLR
comp=Z,2µm,23.0s
PTGA Pitinga 131.89 102 PFAKE 06 34 00.0 +11
PTGA LR LR
comp=Z,33µm,21.0s
CFR Carcaliu 132.01 321 ⇓ *i*P **PKPdf 06 33 48.2 +0.4**
CFR Carcaliu 132.01 321 ⇓ PKIKP **PKPdf 06 33 48.2 +0.4**
BSD Bornholm Skovb 132.05 339 *i* P **PKPdf 06 33 47.4 -0.2**
comp=Z,35nm,0.9s
BSD *i* 06 36 07.8
comp=Z,3µm,25.0s
BSD Bornholm Skovb 132.05 339 *i* PKIKP **PKPdf 06 33 47.4 -0.2**
BSD *i* 06 36 07.8
BSD pmax pmax
comp=Z,35nm,0.9s
BSD MLR MLR
comp=Z,3µm,25.0s
TIRR Tirgusor 132.19 320 ⇑ *i*P **PKPdf 06 33 48.5 +0.3**
TIRR Tirgusor 132.19 320 ⇑ PKIKP **PKPdf 06 33 48.5 +0.3**
CSS Mathiatis 132.30 306 P **PKPdf 06 33 47.6 -1.1**
CSS Mathiatis 132.30 306 *e*PKPdf **PKPdf 06 33 48.6 -0.1**
CSS *e*PP **PP 06 36 11.2 -0.6**
CSS *e*SKPbc **SKPab 06 37 13.4 +1.1**
CSS LR LR
comp=Z,286nm,21.0s
TLB Topalu 132.36 320 ⇑ *i*P **PKPdf 06 33 48.8 +0.3**
TLB Topalu 132.36 320 ⇑ PKIKP **PKPdf 06 33 48.8 +0.3**
BURAR Bucovina Array 132.43 325 ⇑ *i*P **PKPdf 06 33 50.1 +1.4**
BURAR Bucovina Array 132.43 325 ⇑ PKIKP **PKPdf 06 33 50.1 +1.4**
PLOR Plostina 132.57 322 ⇑ *i*P **PKPdf 06 33 48.5 -0.4**
PLOR Plostina 132.57 322 ⇑ PKIKP **PKPdf 06 33 48.5 -0.4**
MUD Monsted U'grnd 132.79 343 *i* P **PKPdf 06 33 48.4 -0.5**
comp=Z,60nm,1.2s
comp=Z,3µm,23.0s
MUD Monsted U'grnd 132.79 343 *i* PKIKP **PKPdf 06 33 48.4 -0.5**
MUD pmax pmax
comp=Z,60nm,1.2s
MUD MLR MLR
comp=Z,3µm,23.0s
GRGR Grenville 132.82 85 PFAKE 06 34 00.0 +10
GRGR LR LR
comp=Z,853nm,21.0s
ANWB Willy Bob 133.01 77 PFAKE 06 34 00.0 +10
ANWB LR LR
comp=Z,1µm,20.0s
ISR Istrita 133.01 322 ⇓ *i*P **PKPdf 06 33 50.1 +0.3**
ISR Istrita 133.01 322 ⇓ PKIKP **PKPdf 06 33 50.1 +0.3**
MLR Muntele Rosu 133.18 322 ⇑ *i*P **PKPdf 06 33 50.1 -0.1**
MLR Muntele Rosu 133.18 322 ⇑ PKIKP **PKPdf 06 33 50.1 -0.1**
ISK Istanbul-Kandi 133.30 316 P **PKPdf 06 33 48.6 -1.8**
ISK Istanbul-Kandi 133.30 316 PKIKP **PKPdf 06 33 48.6 -1.8**
ISK Istanbul-Kandi 133.30 316 P **PKPdf 06 33 48.6 -1.8**
BMR Baia Mare 133.35 326 ⇓ *i*P **PKPdf 06 33 52.9 +2.6**
BMR Baia Mare 133.35 326 ⇓ PKIKP **PKPdf 06 33 52.9 +2.6**
UZH Uzhgorod 133.41 328 *e*PKIKP **PKPdf 06 33 51.6 +1.3**
UZH *e* 06 36 19.6
STHS Stebnicka Huta 133.44 329 *e*PKIKP **PKPdf 06 33 51.4 +1.0**
STHS Stebnicka Huta 133.44 329 *e*PKP **PKPdf 06 33 51.4 +1.0**
STHS *e* 07 04 50.0
STHS *e* 07 04 50.1
FDF Fort de France 133.52 81 PFAKE 06 34 00.0 +8.4
FDF LR LR
comp=Z,1µm,22.0s
TRPA Tarpa 133.59 327 ⇑ *ex* **PKPdf 06 33 50.5 -0.2**
TRPA *ex* x 06 36 17.1
OJC Ojcow 133.61 331 *e*PKP **PKPdf 06 33 51.2 +0.5**
OJC Ojcow 133.61 331 *e*PKIKP **PKPdf 06 33 51.2 +0.5**
CRVS Cervenica-Dubn 133.66 329 *e*PKIKP **PKPdf 06 33 50.9 0.0**
CRVS *e* 06 54 01.1
CRVS Cervenica-Dubn 133.66 329 *e*PKP **PKPdf 06 33 50.9 0.0**
CRVS *e* 06 36 15.2
CRVS *e* 06 37 18.9
CRVS *e* 06 54 01.1
VOIR 133.74 323 ⇑ *i*P **PKPdf 06 33 52.8 +1.6**
VOIR 133.74 323 ⇑ PKIKP **PKPdf 06 33 52.8 +1.6**
NIE Niedzica 133.91 330 *e*PKP **PKPdf 06 33 52.2 +0.9**
NIE Niedzica 133.91 330 *e*PKIKP **PKPdf 06 33 52.2 +0.9**
ARR Arges 134.02 323 ⇑ *i*P **PKPdf 06 33 52.4 +0.7**
DRGR 134.30 326 ⇓ *i*P **PKPdf 06 33 53.0 +0.8**
DRGR 134.30 326 ⇓ PKIKP **PKPdf 06 33 53.0 +0.8**
SZH Strazhica 134.34 320 P **PKPdf 06 33 51.7 -0.6**
KECS Kecovo 134.43 329 *e*PKIKP **PKPdf 06 33 53.3 +1.0**
KECS Kecovo 134.43 329 *e*PKP **PKPdf 06 33 53.3 +1.0**
KECS *e* 06 37 20.8
RAC Raciborz 134.46 332 *e*PKHKP PKPpre 06 33 42.8
LANS Liptovska Anna 134.49 330 *e*PKIKP **PKPdf 06 33 53.9 +1.5**
LANS *e* 06 34 10.9
LANS Liptovska Anna 134.49 330 *e*PKP **PKPdf 06 33 53.9 +1.5**
LANS *e* 06 34 10.9
LANS *e* 06 37 19.2
LANS *e* 07 04 41.8
EDRB Edirne 134.50 318 P **PKPdf 06 33 51.9 -0.7**
EDRB Edirne 134.50 318 P **PKPdf 06 33 51.9 -0.7**
KULA Kula-Manisa 134.63 312 P **PKPdf 06 33 52.7 -0.4**
KULA Kula-Manisa 134.63 312 P **PKPdf 06 33 52.7 -0.4**
OKC Ostrava-Krasne 134.65 332 *e*PKPdf **PKPdf 06 33 52.9 +0.3**
OKC *es*PKP 06 34 11.1
OKC *e*PP **PP 06 36 24.5 -1.2**
OKC *ex* x 06 48 52.2
OKC AMS AMS 07 29 20.0
comp=Z,2µm,24.7s
OKC Ostrava-Krasne 134.65 332 *e*PKIKP **PKPdf 06 33 52.9 +0.3**
OKC *e* 06 34 11.1
OKC *e* 06 36 24.5
OKC MLR MLR
comp=Z,2µm,24.7s
KSP Ksiaz 134.76 334 *e*PKP **PKPdf 06 33 54.0 +1.2**
KSP Ksiaz 134.76 334 *e*PKIKP **PKPdf 06 33 54.0 +1.2**
BBGH Gun Hill 134.95 84 PFAKE 06 34 00.0 +5.8
BBGH LR LR
comp=Z,3µm,22.0s
MORC Moravsky Berou 134.97 332 ⇑ *i*P **PKPdf 06 33 53.8 +0.5**
MORC Moravsky Berou 134.97 332 *e*PKIKP **PKPdf 06 33 54.0 +0.7**
MORC *e* 06 36 25.4
MORC Moravsky Berou 134.97 332 *e*PKPdf **PKPdf 06 33 54.0 +0.7**
MORC *e*PP **PP 06 36 25.4 -2.5**
MORC *e*SKPbc **SKPbc 06 37 19.4 -0.2**
GZR Gura Zlata 135.09 324 ⇑ *i*P **PKPdf 06 33 53.4 -0.3**
GZR Gura Zlata 135.09 324 ⇑ PKIKP **PKPdf 06 33 53.4 -0.3**
PSZ Piszkesteto 135.09 329 ⇓ *i*P **PKPdf 06 33 53.9 +0.2**
PSZ Piszkesteto 135.09 329 *e*PKIKP **PKPdf 06 33 53.6 -0.1**
PSZ *e* 06 36 28.1
PSZ MLR MLR
comp=Z,1µm,19.0s
PSZ Piszkesteto 135.09 329 ⇑ *ex* **PKPdf 06 33 53.6 -0.1**
PSZ *ex* x 06 36 28.2
PSZ Piszkesteto 135.09 329 *e*PKPdf **PKPdf 06 33 53.6 -0.1**
PSZ *e*PP **PP 06 36 28.1 -0.7**
PSZ LR LR
comp=Z,1µm,19.0s
KRLC Kraliky 135.10 333 *e*PKPdf **PKPdf 06 33 54.2 +0.6**
KRLC Kraliky 135.10 333 *e*PKIKP **PKPdf 06 33 54.2 +0.6**
DPC Dobruska-Polom 135.11 333 *e*PKPpre PKPpre 06 33 42.4
DPC *e*PKPdf **PKPdf 06 33 54.0 +0.4**
DPC *ep*PKP pPKPdf 06 34 10.0 +0.8
DPC *es*PKP 06 34 12.2
DPC *e*PP **PP 06 36 28.1 -0.6**
DPC AMS AMS 07 32 30.0
comp=Z,3µm,22.6s
DPC Dobruska-Polom 135.11 333 *e*PKHKP PKPpre 06 33 42.4
DPC *e* 06 33 54.0
DPC *e* 06 34 10.0
DPC *e* 06 34 12.2
DPC *e* 06 36 28.1
DPC MLR MLR
comp=Z,3µm,22.6s
UPC Upice 135.13 334 *e*PKPdf **PKPdf 06 33 54.3 +0.8**
UPC *ex* x 06 34 12.1
UPC *e*PP **PP 06 36 27.9 -0.8**
UPC AMS AMS 07 32 40.0
comp=Z,3µm,21.8s
UPC Upice 135.13 334 *e*PKIKP **PKPdf 06 33 54.3 +0.8**
UPC *e* 06 34 12.1
UPC *e* 06 36 27.9
UPC MLR MLR
comp=Z,3µm,21.8s
SIRR Siria 135.20 326 ⇓ *i*P **PKPdf 06 33 54.2 +0.4**
VYHS Vyhne 135.24 330 *e*PKIKP **PKPdf 06 33 53.7 -0.1**
VYHS *e* 06 34 10.8
VYHS *e* 06 36 30.5
VYHS *e* 06 54 25.1
VYHS Vyhne 135.24 330 *e*PKP **PKPdf 06 33 53.7 -0.1**
VYHS *e* 06 34 10.8
VYHS *e* 06 36 30.5
VYHS *e* 06 37 23.7
VYHS *e* 06 54 25.1
ALN Alexandroupoli 135.42 317 P **PKPdf 06 33 51.1 -3.2**
ALN Alexandroupoli 135.42 317 PKIKP **PKPdf 06 33 51.1 -3.2**
ALN Alexandroupoli 135.42 317 P **PKPdf 06 33 51.1 -3.2**
KDZ Kurdzhali 135.47 318 P **PKPdf 06 33 53.9 -0.6**
BZS Buzias 135.62 325 ⇓ *i*P **PKPdf 06 33 55.0 +0.4**
BZS Buzias 135.62 325 ⇓ PKIKP **PKPdf 06 33 55.0 +0.4**
RDO Rodhopi 135.64 317 P **PKPdf 06 33 54.2 -0.5**
RDO Rodhopi 135.64 317 P **PKPdf 06 33 54.2 -0.5**
MPEP Malo Peshtene 135.66 321 P **PKPdf 06 33 54.7 -0.1**
BRG Berggiesshubel 135.72 335 *i* PKP **PKPdf 06 33 54.5 -0.1**
comp=Z,21nm,1.2s
BRG *i* 06 34 09.9
comp=Z,29nm,1.2s
BRG PP **PP 06 36 27.0 -5.4**
BRG *i* PKS **PKSdf 06 37 24.9 -5.8**
comp=Z,32nm,1.3s
BRG SS SS 06 54 49.0 +23
comp=N,1µm,24.8s
comp=E,904nm,24.2s
comp=Z,2µm,21.6s
BRG Berggiesshubel 135.72 335 *i* PKIKP **PKPdf 06 33 54.5 -0.1**
BRG *i* 06 34 09.9
BRG SS SS 06 54 49.0 +23
BRG pmax pmax
comp=Z,21nm,1.2s
BRG MLR MLR
comp=N,1µm,24.8s
BRG MLR MLR
comp=E,904nm,24.2s
BRG MLR MLR
comp=Z,2µm,21.6s
PVCC Panska Ves 135.72 335 *e*PKPdf **PKPdf 06 33 55.2 +0.6**
PVCC *es*PKP 06 34 13.1
PVCC AMS AMS 07 30 40.0
comp=Z,2µm,24.3s
PVCC Panska Ves 135.72 335 *e*PKIKP **PKPdf 06 33 55.2 +0.6**
PVCC *e* 06 34 13.1
PVCC MLR MLR
comp=Z,2µm,24.3s
VRAC Vranov 135.74 332 ⇑ *i*P **PKPdf 06 33 55.1 +0.4**
VRAC Vranov 135.74 332 ⇑ PKIKP **PKPdf 06 33 55.1 +0.4**
CLL Collm 135.75 336 *i* PKIKP **PKPdf 06 33 54.8 +0.1**
CLL MLR MLR
comp=Z,2µm,20.8s
CLL Collm 135.75 336 *i* PKPdf **PKPdf 06 33 54.8 +0.1**
CLL *e*PKiKP **PKiKP 06 33 57.0 +0.7**
comp=Z,29nm,0.9s
CLL *e*PP **PP 06 36 35.0 +2.4**
CLL *e*PPlp 06 36 38.0
comp=Z,500nm,29.2s
CLL *i* sPP 06 36 48.0
CLL *i* SKPbc **SKPab 06 37 24.9 -1.8**
comp=Z,31nm,1.4s
CLL *i* PKSbc **PKSbc 06 37 27.8 +0.5**
CLL *e*SS SS 06 55 00.0 +34
CLL L L 07 37 00.0
comp=Z,2µm,20.8s
BUD Budapest 135.82 329 *e*PP PP 06 36 34.1 +0.8
SMOL Smolenice 135.91 331 *e*PKIKP **PKPdf 06 33 55.4 +0.3**
SMOL Smolenice 135.91 331 *e*PKP **PKPdf 06 33 55.4 +0.3**
SMTH Samothraki Isl 135.96 316 P **PKPdf 06 33 53.4 -2.0**
SMTH Samothraki Isl 135.96 316 P **PKPdf 06 33 53.4 -2.0**
PRK Paraskevi 136.01 315 P **PKPdf 06 33 54.4 -1.1**
PRK Paraskevi 136.01 315 PKIKP **PKPdf 06 33 54.4 -1.1**
PRK Paraskevi 136.01 315 P **PKPdf 06 33 54.4 -1.1**
MDVR Moldovita 136.06 324 ⇑ *i*P **PKPdf 06 33 55.6 +0.1**
GOPC GO Pecny, Ondr 136.09 334 *e*PKPdf **PKPdf 06 33 56.0 +0.6**
GOPC *es*PKP 06 34 13.9
GOPC *e*PP **PP 06 36 34.3 -0.5**
GOPC AMS AMS 07 30 40.0
comp=Z,2µm,24.2s
GOPC GO Pecny, Ondr 136.09 334 *e*PKIKP **PKPdf 06 33 56.0 +0.6**
GOPC *e* 06 34 13.9
GOPC *e* 06 36 34.3
GOPC MLR MLR
comp=Z,2µm,24.2s
PRA Prague 136.13 334 *e*PKPdf **PKPdf 06 33 56.3 +0.9**
PRA AMS AMS 07 31 10.0
comp=Z,3µm,23.9s
PRA Prague 136.13 334 *e*PKIKP **PKPdf 06 33 56.3 +0.9**
PRA MLR MLR
comp=Z,3µm,23.9s
PRU Pruhonice 136.14 334 *e*PKPdf **PKPdf 06 33 55.8 +0.4**
PRU *ep*PKP **pPKPdf 06 34 09.9 -1.2**
PRU *e*PP **PP 06 36 34.7 -0.4**
PRU *ex* x 06 48 51.1
PRU AMS AMS 07 30 40.0
comp=Z,3µm,23.9s
PRU Pruhonice 136.14 334 *e*PKIKP **PKPdf 06 33 55.8 +0.4**
PRU *e* 06 34 09.9
PRU *e* 06 36 34.7
PRU *e* 06 48 51.1
PRU MLR MLR
comp=Z,3µm,23.9s
TSUM Tsumeb 136.22 225 PFAKE 06 34 10.0 +13
TSUM LR LR
comp=Z,3µm,20.0s
SIGR SIGRI 136.32 315 P **PKPdf 06 33 55.4 -0.7**
SIGR SIGRI 136.32 315 P **PKPdf 06 33 55.4 -0.7**
KAVA Kavala 136.38 318 P **PKPdf 06 33 55.0 -1.2**
KAVA Kavala 136.38 318 P **PKPdf 06 33 55.0 -1.2**
VTS Vitosha 136.40 320 P **PKPdf 06 33 54.6 -1.8**
VTS Vitosha 136.40 320 PKIKP **PKPdf 06 33 54.6 -1.8**
VTS Vitosha 136.40 320 P **PKPdf 06 33 56.4 0.0**
VTS Vitosha 136.40 320 P **PKPdf 06 33 54.6 -1.8**
LIA Limnos Island 136.47 316 P **PKPdf 06 33 55.6 -0.7**
LIA Limnos Island 136.47 316 P **PKPdf 06 33 55.6 -0.7**
ESK Eskdalemuir 136.51 352 PFAKE 06 34 10.0 +14
ESK LR LR
comp=Z,1µm,22.0s
CHOS Chios island 136.54 314 P **PKPdf 06 33 56.3 -0.4**
CHOS Chios island 136.54 314 P **PKPdf 06 33 56.3 -0.4**
MMB Musomiste 136.59 319 P **PKPdf 06 33 56.0 -0.6**
NVR Nevrokopi 136.63 319 P **PKPdf 06 33 54.4 -2.3**
NVR Nevrokopi 136.63 319 P **PKPdf 06 33 54.4 -2.3**
NKC Novy Kostel 136.82 336 *e*PKPdf **PKPdf 06 33 56.9 +0.2**
NKC *e*PP **PP 06 36 38.8 -0.5**
NKC AMS AMS 07 38 20.0
comp=Z,2µm,21.0s
NKC Novy Kostel 136.82 336 *e*PKIKP **PKPdf 06 33 56.9 +0.2**
NKC *e* 06 36 38.8
NKC MLR MLR
comp=Z,2µm,21.0s
KKB Krupnik 136.86 320 P **PKPdf 06 33 56.0 -1.1**
KARP Karpathos 136.88 309 P **PKPdf 06 33 55.2 -2.1**
KARP Karpathos 136.88 309 P **PKPdf 06 33 55.2 -2.1**
SOP Sopron 136.91 330 ⇑ *ex* **PKPdf 06 33 56.8 -0.1**
SOP *ex* x 06 36 41.3
SRS Serrai 136.93 318 P **PKPdf 06 33 55.6 -1.6**
SRS Serrai 136.93 318 PKIKP **PKPdf 06 33 55.6 -1.6**
SRS Serrai 136.93 318 P **PKPdf 06 33 55.6 -1.6**
OUR Ouranopolis 137.06 317 P **PKPdf 06 33 55.6 -1.8**
OUR Ouranopolis 137.06 317 PKIKP **PKPdf 06 33 55.6 -1.8**
OUR Ouranopolis 137.06 317 P **PKPdf 06 33 55.6 -1.8**
CONA Conrad Observa 137.07 331 *i* PKPdf PKPpre 06 33 49.5
comp=Z,3.6nm,0.8s
CONA *i* PKiKP **PKPdf 06 33 57.8 +0.5**
comp=Z,32nm,1.1s,SNR=11
CONA *i* pPKiKP pPKiKP 06 34 16.3 +1.5
comp=Z,28nm,1.2s
CONA *i* PP **PP 06 36 40.7 -0.4**
comp=Z,13nm,1.1s
CONA *i* SKPdf **SKiKP 06 37 30.3 -0.8**
comp=Z,36nm,1.3s
KHC Kasperske Hory 137.20 334 *e*PKPpre PKPpre 06 33 48.1
KHC *e*PKPdf **PKPdf 06 33 57.9 +0.4**
KHC *ex* x 06 34 14.1
KHC *e*PP **PP 06 36 41.3 -0.5**
KHC *ex* x 06 48 56.1
KHC AMS AMS 07 31 50.0
comp=Z,3µm,23.2s
KHC Kasperske Hory 137.20 334 *e*PKIKP **PKPdf 06 33 58.1 +0.6**
KHC Kasperske Hory 137.20 334 *e*PKPdf **PKPdf 06 33 58.1 +0.6**
SOH Sokhos 137.23 318 P **PKPdf 06 33 56.0 -1.8**
SOH Sokhos 137.23 318 PKIKP **PKPdf 06 33 56.0 -1.8**
SOH Sokhos 137.23 318 P **PKPdf 06 33 56.0 -1.8**
KNT Kendrikon 137.35 319 P **PKPdf 06 33 56.4 -1.6**
KNT Kendrikon 137.35 319 PKIKP **PKPdf 06 33 56.4 -1.6**
KNT Kendrikon 137.35 319 P **PKPdf 06 33 56.4 -1.6**
GERES GERESS Array B 137.37 334 PKhKP PKPpre 06 33 47.9
comp=Z,1.0nm,0.3s,baz=45,slow=2.3,SNR=14
GERES PKP **PKPdf 06 33 58.2 +0.4**
comp=Z,8.9nm,0.8s,baz=90,slow=2.7,SNR=6.2
GERES SKPab **SKiKP 06 37 30.2 -1.5**
comp=Z,4.9nm,0.7s,baz=45,slow=2.1,SNR=8.2
WTSB Winterswijk 137.38 342 *e*PKPdf **PKPdf 06 33 57.9 +0.2**
DIVS Divibare 137.45 324 P **PKPdf 06 33 58.1 -0.1**
HORT Hortiatis 137.51 318 P **PKPdf 06 33 57.0 -1.4**
HORT Hortiatis 137.51 318 P **PKPdf 06 33 57.0 -1.4**
THE Thessaloniki 137.58 318 P **PKPdf 06 33 56.6 -1.8**
THE Thessaloniki 137.58 318 PKIKP **PKPdf 06 33 56.6 -1.8**
THE Thessaloniki 137.58 318 P **PKPdf 06 33 56.6 -1.8**
BEHE Becsehely 137.64 329 ⇑ *e*PKPdf **PKPdf 06 33 58.2 -0.1**
BEHE *e*PP **PP 06 36 45.8 +1.2**
ARSA Arzberg 137.71 331 *i* PKPdf **PKPdf 06 33 58.0 -0.4**
comp=Z,7.3nm,1.0s
SANT Santorini 137.83 311 *e*PKPdf **PKPdf 06 33 59.8 +0.8**
SANT *e*PP **PP 06 36 43.5 -3.1**
SANT LR LR
comp=Z,616nm,21.0s
SKO Skopje 137.83 321 P **PKPdf 06 33 58.1 -0.7**
SKO Skopje 137.83 321 ⇑ *i*P **PP 06 36 45.9 -0.3**
SKO Skopje 137.83 321 PKIKP **PKPdf 06 33 58.1 -0.7**
SKO Skopje 137.83 321 P **PKPdf 06 33 58.1 -0.7**
MOA Molln 137.86 332 *i* PKPdf **PKPdf 06 33 52.7 -6.0**
comp=Z,1.1nm,0.5s
MOA *i* PKPdf **PKiKP 06 33 58.6 -2.2**
comp=Z,9.0nm,0.9s
MOA *i* pPKiKP **pPKiKP 06 34 17.0 +0.6**
comp=Z,16nm,1.1s
MOA *i* PP **PP 06 36 44.6 -1.3**
comp=Z,8.4nm,1.2s
KOGS Kog 137.92 329 *i* PKPdf **PKPdf 06 33 58.5 -0.3**
KOGS *e*PP **PP 06 36 45.5 -0.8**
KOGS *e*SKPbc **SKiKP 06 37 33.2 +0.4**
SKIA Skiathos 137.98 316 P **PKPdf 06 33 58.1 -1.1**
EREA Eretria 138.02 315 P **PKPdf 06 33 58.5 -0.8**
XOR Xorichti 138.07 316 P **PKPdf 06 33 56.8 -2.6**
XOR Xorichti 138.07 316 P **PKPdf 06 33 56.8 -2.6**
LIT Litokhoron 138.17 318 P **PKPdf 06 33 58.5 -1.0**
LIT Litokhoron 138.17 318 PKIKP **PKPdf 06 33 58.5 -1.0**
LIT Litokhoron 138.17 318 P **PKPdf 06 33 58.5 -1.0**
FYTO Fytoko, Volos 138.22 317 P **PKPdf 06 33 59.3 -0.3**
FYTO Fytoko, Volos 138.22 317 P **PKPdf 06 33 59.3 -0.3**
PTL Penteli 138.24 314 P **PKPdf 06 33 58.1 -1.6**
PTL Penteli 138.24 314 P **PKPdf 06 33 58.1 -1.6**
KTI Kastanea 138.26 318 P **PKPdf 06 33 58.1 -1.7**
LAST Lasithi 138.30 309 P **PKPdf 06 33 59.5 -0.5**
LAST Lasithi 138.30 309 P **PKPdf 06 33 59.5 -0.5**
SOKA Soboth 138.35 331 *i* PKPdf PKPpre 06 33 52.3
comp=Z,3.9nm,0.7s
SOKA *i* PKPdf **PKPdf 06 33 59.9 +0.2**
comp=Z,29nm,1.2s
VLY Voula,Athens 138.38 314 P **PKPdf 06 33 58.5 -1.5**
VLY Voula,Athens 138.38 314 P **PKPdf 06 33 58.5 -1.5**
MHLO Agia Marina, M 138.46 312 P **PKPdf 06 33 58.1 -2.0**
FNA Florina 138.53 319 P **PKPdf 06 33 59.3 -0.9**
FNA Florina 138.53 319 PKIKP **PKPdf 06 33 59.3 -0.9**
FNA Florina 138.53 319 P **PKPdf 06 33 59.3 -0.9**
KZN Kozani 138.53 318 P **PKPdf 06 33 59.1 -1.2**
KZN Kozani 138.53 318 PKIKP **PKPdf 06 33 59.1 -1.2**
KZN Kozani 138.53 318 P **PKPdf 06 33 59.1 -1.2**
LKR Lokris 138.55 316 P **PKPdf 06 33 58.7 -1.5**
LKR Lokris 138.55 316 P **PKPdf 06 33 58.7 -1.5**
VILL Villia 138.57 315 P **PKPdf 06 33 58.3 -2.1**
IDI Anoyia 138.69 310 P **PKPdf 06 33 59.9 -0.8**
IDI Anoyia 138.69 310 *e*PKPdf **PKPdf 06 34 00.4 -0.3**
IDI *e*PP **PP 06 36 49.9 -2.1**
HGN Heimansgroeve 138.69 342 *e*PKPdf **PKPdf 06 33 59.7 -0.4**
OBKA Obir 138.71 331 *i* PKiKP **PKPdf 06 34 01.2 +0.8**
comp=Z,6.3nm,0.9s
OBKA *i* PP **PP 06 36 52.7 +1.4**
comp=Z,22nm,1.5s
THL Klokotos Trika 138.76 317 P **PKPdf 06 33 57.9 -2.7**
MEM Membach 138.80 341 PKP **PKPdf 06 34 00.9 +0.6**
AGG Agios Georgios 138.82 316 P **PKPdf 06 33 59.1 -1.7**
AGG Agios Georgios 138.82 316 PKIKP **PKPdf 06 33 59.1 -1.7**
AGG Agios Georgios 138.82 316 P **PKPdf 06 33 59.1 -1.7**
KBA Koelnbreinsper 138.85 332 *i* PKPdf PKPpre 06 33 55.5
comp=Z,5.2nm,0.8s
KBA *i* S **SKiKP 06 37 36.7 +1.8**
comp=Z,15nm,1.0s
SIVA Sivas 138.86 310 P **PKPdf 06 34 00.3 -0.6**
SIVA Sivas 138.86 310 P **PKPdf 06 34 00.3 -0.6**
LTK Loutraki 138.88 315 P **PKPdf 06 33 58.9 -2.0**
LTK Loutraki 138.88 315 P **PKPdf 06 33 58.9 -2.0**
PDG Podgorica 138.89 323 ⇓ *i*P **PKPdf 06 34 00.5 -0.2**
DID Didima 138.93 314 P **PKPdf 06 33 58.5 -2.5**
DID Didima 138.93 314 P **PKPdf 06 33 58.5 -2.5**
KPRO Kipourio 138.98 318 P **PKPdf 06 33 59.9 -1.2**
DSF Desfina 138.99 315 P **PKPdf 06 33 59.7 -1.4**
DSF Desfina 138.99 315 P **PKPdf 06 33 59.7 -1.4**
MYKA Terra Mystica 139.05 332 *i* PKPdf PKPpre 06 33 52.9
comp=Z,3.1nm,0.5s
LJU Ljubljana 139.05 330 *e*PKPdf **PKPdf 06 34 01.0 0.0**
LJU *e*PP **PP 06 36 51.8 -1.6**
LJU *e*SKPbc **SKiKP 06 37 36.3 +1.2**
VISS Visnje 139.07 330 *i* PKPdf **PKPdf 06 34 01.0 0.0**
THAL Thalero 139.08 315 P **PKPdf 06 34 00.3 -0.9**
VAM Vamos 139.16 310 P **PKPdf 06 34 01.6 +0.1**
VAM Vamos 139.16 310 PKIKP **PKPdf 06 34 01.6 +0.1**
VAM Vamos 139.16 310 P **PKPdf 06 34 01.6 +0.1**
TIR Tirane 139.16 321 PFAKE 06 34 10.0 +8.7
TIR LR LR
comp=Z,2µm,22.0s
BCLA Clavier 139.19 342 PKP **PKPdf 06 34 01.6 +0.5**
EVR Evrytania 139.23 317 P **PKPdf 06 34 00.3 -1.3**
EVR Evrytania 139.23 317 P **PKPdf 06 34 00.3 -1.3**
STU Stuttgart 139.26 337 *e*PKIKP **PKPdf 06 34 01.6 +0.4**
STU Stuttgart 139.26 337 *e*PKPdf **PKPdf 06 34 01.6 +0.4**
STU *e*SKPbc **SKiKP 06 37 35.2 -0.3**
KALE Kalithea 139.26 316 P **PKPdf 06 34 00.5 -1.1**
KALE Kalithea 139.26 316 P **PKPdf 06 34 00.5 -1.1**
IMMV Iera Moni Meta 139.29 311 P **PKPdf 06 34 01.1 -0.6**
CADS Cadrg 139.30 331 *i* PKPdf **PKPdf 06 34 00.8 -0.6**
CADS *e*PP **PP 06 36 53.3 -1.6**
SERG Sergoula 139.31 316 P **PKPdf 06 34 01.6 -0.1**
ANX Ano Chora 139.31 316 P PKPpre 06 33 54.2
KLV Kalavryta, Ach 139.43 315 P **PKPdf 06 34 00.5 -1.5**
KLV Kalavryta, Ach 139.43 315 P **PKPdf 06 34 00.5 -1.5**
WATA Walderalm 139.44 334 *i* PKiKP **PKPdf 06 34 02.4 +0.6**
comp=Z,6.9nm,0.5s

LAKA	**Lakka**	**139.45 316**	P		PKPpre	06 33 52.1		
LAKA	**Lakka**	**139.45 316**	P		PKPpre	06 33 52.1		
JAN	**Janina**	**139.47 318**	P		**PKPdf**	**06 34 02.6**	**+0.7**	
JAN	**Janina**	**139.47 318**	PKIKP		**PKPdf**	**06 34 02.6**	**+0.7**	
JAN	**Janina**	**139.47 318**	P		**PKPdf**	**06 34 02.6**	**+0.7**	
ABTA	**Abfaltersbach**	**139.48 333**	*i* PKPdf		PKPdf	06 33 53.1	-8.7	
	comp=Z,6.6nm,0.6s							
ABTA			*i* PKPdf		**PKiKP**	**06 34 01.0**	**-3.2**	
	comp=Z,24nm,0.9s							
VLI	**Veliai**	**139.50 313**	P		**PKPdf**	**06 33 59.7**	**-2.3**	
VLI	**Veliai**	**139.50 313**	P		**PKPdf**	**06 33 59.7**	**-2.3**	
PVO	**Paravola**	**139.57 316**	P		**PKPdf**	**06 34 01.8**	**-0.3**	
WLF	**Walferdange**	**139.58 340**	PKP		**PKPdf**	**06 34 02.1**	**+0.3**	
WLF	**Walferdange**	**139.58 340**	*e*PKIKP		**PKPdf**	**06 34 02.0**	**+0.3**	
WLF			*e*			06 36 56.7		
WLF			MLR	MLR				
	comp=Z,3µm,22.0s							
WLF	**Walferdange**	**139.58 340**	*e*PKPdf		**PKPdf**	**06 34 02.0**	**+0.3**	
WLF			*e*PP		**PP**	**06 36 56.7**	**+0.5**	
WLF			LR	LR				
	comp=Z,3µm,22.0s							
VLX	**Vlachokerasia**	**139.59 314**	P		**PKPdf**	**06 34 01.1**	**-1.2**	
VLX	**Vlachokerasia**	**139.59 314**	P		**PKPdf**	**06 34 01.1**	**-1.2**	
ANKY	**Antikythira Is**	**139.62 312**	P		PKPpre	06 33 54.0		
ANKY	**Antikythira Is**	**139.62 312**	P		PKPpre	06 33 54.0		
KYTH	**Kithira**	**139.63 312**	P		PKPpre	06 33 54.2		
KYTH	**Kithira**	**139.63 312**	P		PKPpre	06 33 54.2		
MOTA	**Moosalm**	**139.63 334**	*i* PKPdf		PKPpre	06 33 53.9		
	comp=Z,6.4nm,0.6s							
TRI	**Trieste**	**139.66 330**	*e*PKIKP		**PKPdf**	**06 34 01.3**	**-0.8**	
TRI			*e*			06 36 56.7		
TRI	**Trieste**	**139.66 330**	*e*PKPdf		**PKPdf**	**06 34 01.3**	**-0.8**	
TRI			*e*PP		**PP**	**06 36 56.7**	**-0.4**	
DOU	**Dourbes**	**139.69 342**	PKP		**PKPdf**	**06 34 02.7**	**+0.7**	
DRO	**Drossia**	**139.78 315**	P		**PKPdf**	**06 34 02.0**	**-0.5**	
PDO	**Prodromos**	**139.81 317**	P		PKPpre	06 33 53.4		
IGT	**Igoumenitsa**	**139.88 318**	P		**PKPdf**	**06 34 00.9**	**-1.8**	
IGT	**Igoumenitsa**	**139.88 318**	PKIKP		**PKPdf**	**06 34 00.9**	**-1.8**	
IGT	**Igoumenitsa**	**139.88 318**	P		**PKPdf**	**06 34 00.9**	**-1.8**	
SGD	**Sagiada**	**139.90 318**	P		**PKPdf**	**06 34 02.2**	**-0.5**	
BFO	**Black Forest**	**139.95 338**	*e*PKIKP		**PKPdf**	**06 34 02.3**	**-0.3**	
BFO			*e*			06 36 57.2		
BFO			MLR	MLR				
	comp=Z,1µm,20.0s							
BFO	**Black Forest**	**139.95 338**	*e*PKPdf		**PKPdf**	**06 34 02.2**	**-0.3**	
BFO			*e*PP		**PP**	**06 36 57.2**	**-1.4**	
BFO			LR	LR				
	comp=Z,1µm,20.0s							
ITM	**Ithomi**	**140.00 314**	P		PKPpre	06 33 52.3		
ITM	**Ithomi**	**140.00 314**	P		PKPpre	06 33 52.3		
FETA	**Feichten**	**140.05 334**	*i* PKPdf		PKPpre	06 33 55.5		
	comp=Z,8.4nm,0.8s							
LKD2	**Lefkada island**	**140.06 317**	P		**PKPdf**	**06 34 01.4**	**-1.6**	
LKD2	**Lefkada island**	**140.06 317**	P		**PKPdf**	**06 34 01.4**	**-1.6**	
KEK	**Kerkira**	**140.12 319**	P		**PKPdf**	**06 34 02.4**	**-0.7**	
KEK	**Kerkira**	**140.12 319**	P		**PKPdf**	**06 34 02.4**	**-0.7**	
DAVA	**Damuels**	**140.19 335**	*i* PKPdf		PKPpre	06 33 56.5		
	comp=Z,3.1nm,0.6s							
DAVA			*i* PKiKP		**PKPdf**	**06 34 03.7**	**+0.6**	
	comp=Z,17nm,1.2s							
MOF	**Molkenrain**	**140.79 338**	PKP		**PKPdf**	**06 34 01.2**	**-3.0**	
THEF	**They Montfort**	**140.87 339**	PKP		**PKPdf**	**06 34 04.0**	**-0.2**	
TUE	**Stuetta**	**141.06 335**	*e*PKPdf		**PKPdf**	**06 34 05.3**	**+0.5**	
TUE			*e*PP		**PP**	**06 37 06.0**	**+0.3**	
TUE			LR	LR				
	comp=Z,2µm,21.0s							
LOMF	**Lomont**	**141.32 338**	PKP		PKPpre	06 33 59.4		
AQU	**L'Aquila**	**142.24 327**	*e*PKHKP		PKPpre	06 34 01.1		
AQU			*e*			06 37 14.2		
AQU			MLR	MLR				
	comp=Z,1µm,21.0s							
AQU	**L'Aquila**	**142.24 327**	*e*PKPdf		PKPpre	06 34 01.1		
AQU			*e*PP		**PP**	**06 37 14.2**	**+1.2**	
AQU			LR	LR				
	comp=Z,1µm,21.0s							
TIP	**Timpagrande**	**142.35 320**	P		PKPpre	06 34 00.1		
TIP	**Timpagrande**	**142.35 320**	*e*PKPdf		PKPpre	06 34 01.0		
TIP			*e*PP		**PP**	**06 37 13.3**	**-0.6**	
TIP			LR	LR				
	comp=Z,2µm,22.0s							
VLC	**Villacollemand**	**142.42 332**	PFAKE			06 34 20.0	+13	
VLC			LR	LR				
	comp=Z,1µm,22.0s							
CUC	**Castrocucco**	**142.43 322**	*e*PKPpre		PKPpre	06 34 01.6		
CUC			*e*PP		**PP**	**06 37 15.2**	**+0.9**	
CUC			LR	LR				
	comp=Z,974nm,22.0s							
BNI	**Bardonecchia**	**143.30 336**	*e*PKIKP		PKPbc	06 34 06.5	+0.6	
BNI			MLR	MLR				
	comp=Z,1µm,21.0s							
BNI	**Bardonecchia**	**143.30 336**	*e*PKPdf		PKPbc	06 34 06.5	+0.5	
BNI			LR	LR				
	comp=Z,2µm,21.0s							
GDM	**Grand'Maison**	**143.39 337**	PKP		PKPbc	06 34 06.6	+0.4	
CEL	**Celeste**	**143.45 320**	*e*PKPdf		PKPab	06 34 05.4	0.0	
CEL			LR	LR				
	comp=Z,925nm,22.0s							
GRN	**Grenoble**	**143.50 337**	PKP		PKPbc	06 34 07.1	+0.7	
PLDF	**La Plantade**	**143.63 340**	PKP		**PKPdf**	**06 34 08.4**	**-0.9**	
AGO	**Saint Agoulin**	**143.72 341**	PKP		**PKPdf**	**06 34 08.6**	**-0.8**	
SSB	**Saint Sauveur**	**143.92 338**	*e*PKIKP		PKPbc	06 34 08.2	+0.6	
SSB			MLR	MLR				
	comp=Z,1µm,21.0s							
SSB	**Saint Sauveur**	**143.92 338**	*e*PKPdf		PKPbc	06 34 08.2	+0.6	
SSB			LR	LR				
	comp=Z,1µm,21.0s							
PYM	**Petit Puy Mans**	**144.03 340**	PKP		**PKPdf**	**06 34 09.5**	**-0.5**	
LBL	**Lubilhac**	**144.41 340**	PKP		**PKPdf**	**06 34 11.2**	**+0.6**	
CLTB	**Caltabellotta**	**145.53 321**	*e*PKPdf		**PKPdf**	**06 34 12.0**	**-0.8**	
CLTB			LR	LR				
	comp=Z,710nm,21.0s							
WDD	**Wied Dalam**	**145.76 318**	*e*PKPdf		**PKPdf**	**06 34 12.8**	**-0.3**	
WDD			*e*PP		**PP**	**06 37 34.5**	**+0.2**	
WDD			LR	LR				
	comp=Z,827nm,21.0s							
VSL	**Villasalto**	**146.41 327**	*e*PKPdf		**PKPdf**	**06 34 13.4**	**-0.8**	
VSL			LR	LR				
	comp=Z,766nm,21.0s							
LRDF	**Laroque-de-Fa**	**146.66 339**	PKP		**PKPdf**	**06 34 15.1**	**+0.6**	
FILF	**Fillols**	**146.99 338**	PKP		**PKPbc**	**06 34 17.5**	**+0.4**	
CARF	**Carcanieres**	**147.01 339**	PKP		**PKPbc**	**06 34 17.4**	**+0.1**	
VALF	**Valcebollere**	**147.32 339**	PKP		**PKPbc**	**06 34 18.4**	**+0.2**	
MELF	**Melles**	**147.33 341**	PKP		**PKPbc**	**06 34 17.1**	**-1.0**	
LABF	**Labassere**	**147.39 342**	PKP		**PKPbc**	**06 34 17.4**	**-0.8**	
REYF	**Montagne du Re**	**147.51 342**	PKP		**PKPbc**	**06 34 18.7**	**+0.1**	
RESF	**Ens**	**147.52 341**	PKP		**PKPbc**	**06 34 19.5**	**+0.8**	
ORDF	**Ordiarp**	**147.53 343**	PKP		**PKPbc**	**06 34 18.4**	**-0.1**	
VIEF	**Viey**	**147.55 342**	PKP		**PKPbc**	**06 34 19.2**	**+0.5**	
ATE	**Arette**	**147.58 343**	PKP		**PKPbc**	**06 34 19.1**	**+0.4**	
OSSF	**Osses**	**147.59 343**	PKP		**PKPbc**	**06 34 18.6**	**-0.1**	
LARF	**Larrau**	**147.71 343**	PKP		**PKPdf**	**06 34 17.4**	**+1.1**	
H07N1	**FLORES T-PHASE**	**148.64 27**	*e*PKPdf		**PKPbc**	**06 34 22.8**	**+1.2**	
KEST	**Kesra**	**149.09 322**	PKPbc		**PKPbc**	**06 34 23.6**	**+0.7**	
	comp=Z,166nm,0.8s,baz=347,slow=0.5,SNR=165							
CMAH	**Djebel Manchou**	**149.56 326**	P		**PKPbc**	**06 34 24.3**	**+0.2**	
CAEH	**'Ain El Ouahch**	**149.75 327**	P		**PKPbc**	**06 34 24.5**	**0.0**	
ABSA	**Djebel Ababsia**	**149.78 325**	P		**PKPbc**	**06 34 25.5**	**+0.8**	
CKFL	**Kef-Lekhel**	**150.11 326**	P		**PKPbc**	**06 34 25.9**	**+0.4**	
PBRG	**Braganca**	**150.20 350**	*e*PKPdf		**PKPdf**	**06 34 22.4**	**+2.1**	
PGAV	**Gavieira, Arco**	**150.27 352**	*e*PKPdf		**PKPdf**	**06 34 22.4**	**+1.9**	
PGAV	**Gavieira, Arco**	**150.27 352**	*e*LR		LR	07 25 43.3		
	comp=Z,2µm,20.0s							
CASM	**Ain Smara**	**150.34 326**	P		**PKPbc**	**06 34 26.5**	**+0.5**	
DFRA	**Djebel Bou Aff**	**150.45 328**	P		**PKPbc**	**06 34 27.5**	**+1.2**	
PCAB	**Cabril**	**150.49 352**	*e*PKPdf		**PKPbc**	**06 34 25.1**	**-1.0**	
PGRA	**Graciosa**	**150.51 24**	*e*PKPdf		**PKPbc**	**06 34 28.7**	**+2.5**	
CTEI	**Djebel Teioual**	**150.53 326**	P		**PKPbc**	**06 34 26.9**	**+0.4**	
PCED	**Cedros**	**150.56 25**	*e*PKPdf		**PKPbc**	**06 34 26.7**	**+0.4**	
ROSA	**Rosais**	**150.67 24**	*e*PKPdf		**PKPbc**	**06 34 27.2**	**+0.6**	
PICO	**Pico**	**150.78 25**	*e*PKPdf		**PKPbc**	**06 34 29.1**	**+2.1**	
POLO	**Lamas de Olo**	**150.79 351**	*e*PKPdf		**PKPbc**	**06 34 26.5**	**-0.4**	
PCAN	**Candelaria**	**150.79 25**	*e*PKPdf		**PKPbc**	**06 34 28.8**	**+1.9**	
SHEL	**Horse Pasture**	**150.79 195**	*i* PKIKP		**PKPbc**	**06 34 29.1**	**+1.5**	
SHEL	**Horse Pasture**	**150.79 195**	PFAKE			06 34 30.0	+2.4	
SHEL			LR	LR				
	comp=Z,608nm,19.0s							
PMAN	**Manadas**	**150.81 24**	*e*PKPdf		**PKPbc**	**06 34 27.5**	**+0.6**	
PVRL	**Vila Real**	**150.87 351**	*e*PKPdf		**PKPbc**	**06 34 27.6**	**+0.5**	
MVO	**Moncorvo**	**150.87 350**	*e*PKPdf		**PKPdf**	**06 34 21.6**	**+0.2**	
MVO	**Moncorvo**	**150.87 350**	*e*LR		LR	07 25 50.6		
	comp=Z,2µm,20.0s							
CKHR	**Kef el Ahmar**	**151.04 327**	P		**PKPbc**	**06 34 28.5**	**+0.8**	

ADH	**Angra Heroismo**	**151.12 23**	*e*PKPdf		**PKPbc**	**06 34 29.3**	**+1.7**	
RCBR	**Riachuelo**	**151.12 128**	PKPbc		**PKPbc**	**06 34 27.9**	**-0.6**	
	comp=Z,41nm,0.8s,baz=219,slow=3.7,SNR=8.8							
RCBR	**Riachuelo**	**151.12 128**	*e*PKPdf		**PKPdf**	**06 34 20.6**	**-2.0**	
RCBR			*e*PKPbc		**PKPbc**	**06 34 27.6**	**-0.9**	
RCBR			*e*PKPab		**PKPab**	**06 34 36.4**	**+0.2**	
RCBR			LR	LR				
	comp=Z,1µm,20.0s							
PVIS	**Viseu**	**151.45 351**	*e*PKPdf		**PKPbc**	**06 34 28.6**	**+0.2**	
ESDC	**Sonseca Array**	**151.65 345**	PKP		**PKPdf**	**06 34 21.9**	**-0.7**	
	comp=Z,1.6nm,0.5s,baz=0.1,slow=2.4,SNR=15							
ESDC			PKPbc		**PKPbc**	**06 34 28.9**	**0.0**	
	comp=Z,28nm,0.8s,baz=13,slow=2.1,SNR=64							
ESDC			PKPab		**pPKPdf**	**06 34 38.0**	**-0.3**	
	comp=Z,15nm,0.6s,baz=17,slow=3.8,SNR=21							
MTE	**Manteigas**	**151.70 351**	*e*PKPdf		**PKPdf**	**06 34 20.6**	**-2.1**	
MTE	**Manteigas**	**151.70 351**	*e*LR		LR	07 26 10.2		
	comp=Z,2µm,22.0s							
MTE	**Manteigas**	**151.70 351**	*e*PKPdf		**PKPdf**	**06 34 23.1**	**+0.3**	
MTE			*e*PKPbc		**PKPbc**	**06 34 29.0**	**-0.1**	
MTE			LR	LR				
	comp=Z,2µm,22.0s							
PAB	**San Pablo**	**151.87 345**	*e*PKIKP		**PKPdf**	**06 34 23.0**	**0.0**	
PAB			MLR	MLR				
	comp=Z,2µm,21.0s							
PAB	**San Pablo**	**151.87 345**	*e*PKPdf		**PKPdf**	**06 34 23.0**	**0.0**	
PAB			LR	LR				
	comp=Z,2µm,21.0s							
PCAS	**Casmilo, Conde**	**152.18 352**	*e*PKPdf		**PKPdf**	**06 34 23.3**	**-0.1**	
PCBR	**Castelo Branco**	**152.24 350**	*e*PKPdf		**PKPdf**	**06 34 23.6**	**+0.2**	
PSET	**Sete Cidades**	**152.41 22**	*e*PKPdf		**PKPdf**	**06 34 26.0**	**+2.2**	
PDA	**Ponta Delgada**	**152.50 22**	*e*PKPdf		**PKPdf**	**06 34 24.0**	**+0.1**	
CMLA	**Cha da Macela**	**152.54 21**	*e*PKPdf		**PKPbc**	**06 34 34.2**	**+3.3**	
CMLA	**Cha da Macela**	**152.54 21**	PFAKE			06 34 30.0	-0.9	
CMLA			LR	LR				
	comp=Z,2µm,19.0s							
PTOM	**Tomar**	**152.60 352**	*e*PKPdf		**PKPbc**	**06 34 31.2**	**+0.2**	
PMRV	**Marv??o**	**152.63 350**	*e*PKPdf		**PKPdf**	**06 34 24.4**	**+0.3**	
PMRV	**Marv??o**	**152.63 350**	*e*LR		LR	07 26 51.4		
	comp=Z,1µm,22.0s							
PESTR	**Estremoz**	**153.21 350**	*e*PKPdf		**PKPdf**	**06 34 24.9**	**0.0**	
PSMA	**Santa Maria**	**153.36 21**	*e*PKPdf		**PKPdf**	**06 34 25.4**	**+0.2**	
PMAFR	**Mafra**	**153.36 353**	*e*PKPdf		**PKPdf**	**06 34 24.9**	**-0.2**	
PSMN	**Pico do Norte,**	**153.38 21**	*e*PKPdf		**PKPdf**	**06 34 27.8**	**+2.6**	
PMST	**Lisbon--Monsan**	**153.57 353**	*e*PKPdf		**PKPdf**	**06 34 24.7**	**-0.7**	
LIS	**Lisbon**	**153.58 353**	*e*P		**PKPdf**	**06 34 25.8**	**+0.4**	
LIS			*e*PP		**PP**	**06 38 20.8**	**+2.2**	
LIS			AMS	AMS		07 45 04.0		
	comp=Z,2µm,19.4s							
LIS	**Lisbon**	**153.58 353**	*e*PKIKP		**PKPdf**	**06 34 25.8**	**+0.4**	
LIS			*e*			06 38 20.8		
EVO	**Evora**	**153.60 351**	*e*PKPdf		**PKPdf**	**06 34 24.3**	**-1.2**	
PBAR	**Barrancos**	**153.78 349**	*e*PKPdf		**PKPdf**	**06 34 25.7**	**0.0**	
PBEJ	**Beja**	**154.07 350**	*e*PKPdf		**PKPdf**	**06 34 26.1**	**-0.1**	
PNCL	**Nicolau / Gran**	**154.09 351**	*e*PKPdf		**PKPdf**	**06 34 26.7**	**+0.5**	
MESJ	**Messejana**	**154.31 351**	*e*P		**PKPdf**	**06 34 26.6**	**+0.1**	
MESJ			*e*PP		**PP**	**06 38 24.9**	**+2.2**	
MESJ			AMS	AMS		07 48 14.3		
	comp=Z,2µm,20.0s							
MESJ	**Messejana**	**154.31 351**	*e*PKPdf		**PKPdf**	**06 34 26.6**	**+0.1**	
MESJ	**Messejana**	**154.31 351**	*e*PKIKP		**PKPdf**	**06 34 26.6**	**+0.1**	
MESJ			*e*			06 38 24.8		
PCVE	**Castro Verde**	**154.49 350**	*e*PKPdf		**PKPdf**	**06 34 25.4**	**-1.4**	
PVAQ	**Vaqueiros**	**154.65 350**	*e*PKPdf		**PKPdf**	**06 34 27.5**	**+0.5**	
PVAQ	**Vaqueiros**	**154.65 350**	*e*LR		LR	07 29 25.6		
	comp=Z,2µm,22.0s							
PBDV	**Barranco-do-Ve**	**154.85 350**	*e*PKPdf		**PKPdf**	**06 34 28.7**	**+1.4**	
MORF	**Marmelete**	**154.90 351**	*e*P		**PKPdf**	**06 34 27.6**	**+0.2**	
MORF			*e*PP		**PP**	**06 38 28.9**	**+2.8**	
MORF			AMS	AMS		07 51 58.6		
	comp=Z,1µm,23.1s							
MORF	**Marmelete**	**154.90 351**	*e*PKPdf		**PKPdf**	**06 34 27.3**	**-0.1**	
MORF	**Marmelete**	**154.90 351**	*e*PKIKP		**PKPdf**	**06 34 27.6**	**+0.2**	
MORF			*e*			06 38 28.9		
PFVI	**Vila Bisbo**	**155.10 351**	*e*PKPdf		**PKPdf**	**06 34 28.1**	**+0.5**	
RTC	**Rabat Centre**	**157.77 346**	PFAKE			06 34 40.0	+8.8	
RTC			LR	LR				
	comp=Z,6µm,21.0s							
MDT	**Midelt**	**158.22 340**	PKP		**PKPdf**	**06 34 31.0**	**-0.9**	
	comp=Z,6.9nm,1.1s,baz=43,slow=2.9,SNR=9.9							
MDT			PKPab		**PKPab**	**06 35 06.7**	**+0.8**	
	comp=Z,16nm,0.9s,baz=20,slow=2.8,SNR=15							
TAM	**Tamanrasset**	**159.33 302**	*e*PKIKP		**PKPdf**	**06 34 33.9**	**+0.3**	
TAM			*e*			06 38 52.3		
TAM			MLR	MLR				
	comp=Z,2µm,22.0s							
TAM	**Tamanrasset**	**159.33 302**	*e*PKPdf		**PKPdf**	**06 34 33.9**	**+0.3**	
TAM			*e*PKPab		**PKPab**	**06 35 12.1**	**+1.0**	
TAM			*e*PP		**PP**	**06 38 52.3**	**0.0**	
TAM			LR	LR				
	comp=Z,2µm,22.0s							
PMOZ	**Porto Moniz, M**	**159.42 9**	*e*LR		LR	07 29 36.2		
	comp=Z,1µm,20.0s							
ASCN	**Ascension**	**159.72 177**	PFAKE			06 34 40.0	+5.9	
ASCN			LR	LR				
	comp=Z,2µm,22.0s							
TORD	**Torodi Ar. Bea**	**165.34 274**	PKP		**PKPdf**	**06 34 38.8**	**-0.8**	
	comp=Z,3.7nm,0.9s,baz=68,slow=0.6,SNR=15							
TORD			PKPab		**PKPab**	**06 35 37.9**	**+0.3**	
	comp=Z,117nm,1.0s,baz=83,slow=4.7,SNR=82							
TORD			PP		**PP**	**06 39 28.4**	**+3.6**	
	comp=Z,10.0nm,0.9s,baz=88,slow=3.1,SNR=8.3							
KIC	**Kosan Boka**	**169.60 235**	*e*PKP2		**PKPab**	**06 35 56.3**	**0.0**	
	comp=Z,324nm,1.5s							
SACV	**Santiago Islan**	**169.69 75**	PFAKE			06 34 50.0	+7.3	
SACV			LR	LR				
	comp=Z,841nm,22.0s							
LIC	**Lamto**	**169.74 234**	*e*PKP2		**PKPab**	**06 35 57.0**	**+0.1**	
	comp=Z,179nm,1.5s							
DBIC	**Dimbokro**	**169.87 236**	PKP		**PKPdf**	**06 34 41.3**	**-1.6**	
	comp=Z,9.2nm,1.0s,baz=273,slow=6.4,SNR=3.6							
DBIC			PKPab		**PKPab**	**06 35 58.0**	**+0.5**	
	comp=Z,24nm,0.9s,baz=112,slow=4.9,SNR=10							
TIC	**Toumodi**	**169.99 236**	*e*PKP2		**PKPab**	**06 35 57.8**	**-0.3**	

IDC 01 06:15:01.9±2.8,30°10S×138°76E,h0km,mb1 3.1/3, mb1mx3.1/36,mbtmp2.8/3,ML2.3/3,Error ellipse: s-maj=80.9km s-min=14.7km az=46.0,South Australia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**3.01**	**127**	Pn	Pn	06 15 50.2	-0.7
	0.1nm,0.3s,baz=305,slow=12,SNR=3.2						
STKA				Pg	Pb	06 15 57.5	+1.1
	0.5nm,0.3s,baz=300,slow=13,SNR=3.7						
STKA				Sn	Sn	06 16 28.1	+0.4
	0.5nm,0.3s,baz=290,slow=17,SNR=3.7						
STKA				Lg	Lg	06 16 37.6	
	1.2nm,0.3s,baz=278,slow=7.2,SNR=7.1						
ASAR	**Alice Springs**	**7.73**	**325**	Pn	Pn	06 16 55.0	-0.7
	0.3nm,0.3s,baz=151,slow=14,SNR=4.4						
ASAR				Sn	Sn	06 18 24.5	+0.4
	0.2nm,0.3s,baz=149,slow=22,SNR=2.9						
WRA	**Warramunga Arr**	**10.87**	**337**	Pn	Pn	06 17 40.1	+1.3
	0.0nm,0.3s,baz=155,slow=13,SNR=3.4						
WRA				Sn	Sn	06 19 42.0	+0.7
	0.1nm,0.3s,baz=154,slow=19,SNR=3.7						

*ISCJB **01** 06:15:54.9±0.6,50°20N±0°02×12°58E±0°03,h14km±7km, Error ellipse: s-maj=3.8km s-min=3.0km az=154.3*
*CSEM **01** 06:15:56.5±0.1,50°22N×12°53E,h10km,ML2.9/10,Error ellipse: s-maj=2.0km s-min=1.5km az=38.0*
*BGR **01** 06:15:57.3±0.3,50°25N×12°44E,h10km±2km,ML2.5/6, Error ellipse: s-maj=4.4km s-min=2.2km az=100.0*
*VIE **01** 06:15:57.2±1.1,50°22N×12°58E,h4km,mb1.9/1,ML2.8/1, Error ellipse: s-maj=13.6km s-min=5.0km az=53.0*
*PRU **01** 06:15:57.6,50°26N×12°55E,h0km,West Bohemia Swarm*
*CLL **01** 06:15:57.8±0.3,50°3N±0°7×1°2E±°,h8km±1km,ml2.4*

ISC 01 06:15:56.2±0.8,50°23N±0°02×12°50E±0°02,h14km±4km, n52,σ0§55/71,Germany

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
NKC	**Novy Kostel**	**0.04**	**276**	*e*PG	**Pg**	**06 15 59.4**	**+0.6**
NKC				*e*SG	**Sg**	**06 16 00.3**	**-0.2**
	comp=Z,988nm,0.2s						
NKC	**Novy Kostel**	**0.04**	**276**	*i* Pg	**Pg**	**06 15 59.2**	**+0.5**
NKC				*i* Sg	**Sg**	**06 16 00.4**	**-0.2**
NKC	**Novy Kostel**	**0.04**	**276**	Pg	**Pg**	**06 15 59.4**	**+0.6**
NKC				Sg	**Sg**	**06 16 00.3**	**-0.2**
	988nm,0.2s						
WERN	**Wernitzgruen**	**0.10**	**306**	*i* Pg	**Pg**	**06 15 59.7**	**+0.3**
WERN				*i* Sg	**Sg**	**06 16 01.1**	**-0.4**
WERN				AML	AML	06 16 01.3	
	comp=E,3µm,0.2s						
ROHR	**Rohrbach**	**0.12**	**273**	*i* Pg	**Pb**	**06 15 59.8**	**-0.5**
ROHR				*i* Sg	**Sg**	**06 16 01.4**	**-0.5**
ROHR				AML	AML	06 16 01.5	
	comp=E,2µm,0.1s						
GUNZ	**Gunzen**	**0.17**	**321**	*i* Pg	**Pb**	**06 16 00.7**	**-0.5**
GUNZ				*i* Sg	**Sg**	**06 16 02.9**	**-0.3**
GUNZ				AML	AML	06 16 03.5	
	comp=E,716nm,0.3s						
TANN	**Tannenbergstha**	**0.19**	**352**	*e*Pg	**Pb**	**06 16 01.4**	**-0.1**
TANN				*i* Sg	**Sg**	**06 16 03.5**	**-0.1**
TANN				AML	AML	06 16 04.0	
	comp=N,846nm,0.2s						
MULD	**Muldenberg**	**0.19**	**341**	*i* Pg	**Pb**	**06 16 01.1**	**-0.5**
MULD				*i* Sg	**Sg**	**06 16 03.5**	**-0.2**
MULD				AML	AML	06 16 03.7	
	comp=E,842nm,0.2s						
WERD	**Werda**	**0.25**	**330**	*i* Pg	**Pb**	**06 16 02.0**	**-0.6**
WERD				*i* Sg	**Sg**	**06 16 04.9**	**-0.4**
WERD				AML	AML	06 16 05.5	
	comp=E,346nm,0.3s						
TRIB	**Obertriebel**	**0.27**	**298**	*i* Pg	**Pg**	**06 16 02.0**	**+0.2**
TRIB				*i* Sg	**Sg**	**06 16 05.1**	**-0.5**
TRIB				AML	AML	06 16 05.3	
	comp=N,199nm,0.2s						
TRIB	**Obertriebel**	**0.27**	**298**	*e*Pg	**Pg**	**06 16 02.0**	**+0.2**
TRIB	**Obertriebel**	**0.27**	**298**	Pg	**Pg**	**06 16 02.0**	**+0.2**
PLN	**Plauen**	**0.34**	**319**	*i* Pg	**Pb**	**06 16 03.4**	**-0.6**
PLN				*i* Sg	**Sg**	**06 16 07.6**	**-0.3**
PLN				AML	AML	06 16 07.7	
	comp=E,231nm,0.1s						
PLN	**Plauen**	**0.34**	**319**	*e*Pg	**Pb**	**06 16 03.4**	**-0.6**
PLN	**Plauen**	**0.34**	**319**	Pg	**Pb**	**06 16 03.4**	**-0.6**
MANZ	**Manzenberg**	**0.35**	**226**	*e*Pg	**Pb**	**06 16 04.0**	**-0.3**
MANZ				*e*Sg	**Sg**	**06 16 08.4**	**+0.2**
MANZ	**Manzenberg**	**0.35**	**226**	Pg	**Pb**	**06 16 04.0**	**-0.3**
MANZ				Sg	**Sg**	**06 16 08.4**	**+0.2**
SCHF	**Schoenfels**	**0.45**	**352**	*i* Pg	**Pb**	**06 16 05.8**	**-0.2**
SCHF				*i* Sg	**Sg**	**06 16 11.6**	**+0.3**
SCHF				AML	AML	06 16 12.1	
	comp=E,249nm,0.3s						
SCHF	**Schoenfels**	**0.45**	**352**	*e*Pg	**Pb**	**06 16 05.8**	**-0.2**
SCHF	**Schoenfels**	**0.45**	**352**	Pg	**Pb**	**06 16 05.8**	**-0.2**
MLFH	**Mildenfurth**	**0.62**	**335**	*i* Pg	**Pb**	**06 16 08.8**	**0.0**
MLFH				*i* Sg	**Sg**	**06 16 16.5**	**-0.1**
MOX	**Moxa**	**0.70**	**307**	*e*Pg	**Pb**	**06 16 10.0**	**-0.3

BOLV	**Bolvadin**	**1.48**	**39**	P	**Pg**	**06 23 37.1**	**-0.5**
AYDB	**Zeytinkoy-Aydi**	**1.52**	**285**	*e*PN	**Pn**	**06 23 36.8**	**-0.2**
AYDB	**Zeytinkoy-Aydi**	**1.52**	**285**	*e*Pn	**Pn**	**06 23 36.8**	**-0.2**
TVSB	**Tavsanli**	**1.88**	**353**	*e*PN	**Pn**	**06 23 41.7**	**-0.4**
TVSB	**Tavsanli**	**1.88**	**353**	*e*Pn	**Pn**	**06 23 41.7**	**-0.4**

MOS ***01*** *06:27:47.9±0.3,53°.43N×158°.99E,h156km,mb4.2/1,Error ellipse: s-maj=40.3km s-min=10.9km az=71.1*

KRSC 01 06:27:46.1±1.2,53°.50N×158°.83E,h167km±9km,ML4.0, 2C-1D,Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRX	**Arik**	**0.17**	**218**	PN	Pn	06 28 09.7	+1.2
KRX	**Arik**	**0.17**	**218**	*e*P	Pn	06 28 09.7	+1.2
KRER	**Koryakskii**	**0.20**	**194**	PN	Pn	06 28 09.9	+1.2
KRER				S	Sn	06 28 27.7	+1.9
KRER	**Koryakskii**	**0.20**	**194**	*e*P	Pn	06 28 09.9	+1.2
KRER				*e*S	Sn	06 28 27.7	+1.9
SDLR	**Sedlovina**	**0.22**	**171**	PN	Pn	06 28 09.8	+1.2
SDLR	**Sedlovina**	**0.22**	**171**	*e*P	Pn	06 28 09.8	+1.2
KOK	**Koryaka**	**0.23**	**209**	PN	Pn	06 28 10.3	+1.7
KOK	**Koryaka**	**0.23**	**209**	*e*P	Pn	06 28 10.3	+1.7
SMAR	**Somma**	**0.23**	**184**	PN	Pn	06 28 10.0	+1.2
SMAR	**Somma**	**0.23**	**184**	*e*P	Pn	06 28 10.0	+1.2
AVH	**Avacha**	**0.24**	**193**	PN	Pn	06 28 10.0	+1.4
AVH	**Avacha**	**0.24**	**193**	*e*P	Pn	06 28 10.0	+1.4
UGLR	**Uglovaya**	**0.29**	**181**	PN	Pn	06 28 10.2	+1.4
UGLR	**Uglovaya**	**0.29**	**181**	*e*P	Pn	06 28 10.2	+1.4
NLC	**Nalytchevo**	**0.45**	**136**	*e*S	Sn	06 28 28.6	+2.0
DALK	**Dalny**	**0.47**	**186**	PN	Pn	06 28 10.4	+1.2
DALK				S	Sn	06 28 28.1	+1.3
DALK	**Dalny**	**0.47**	**186**	*e*P	Pn	06 28 10.4	+1.2
DALK				*e*S	Sn	06 28 28.1	+1.3
PET	**Petropavlovsk**	**0.48**	**193**	*i* PN	Pn	06 28 10.5	+1.2
PET				*i* S	Sn	06 28 28.2	+1.3
PET	comp=Z,703nm,0.4s			pmax	pmax		
PET	comp=N,398nm,0.7s			smax	smax		
PET	comp=E,384nm,0.5s			smax	smax		
PET	**Petropavlovsk**	**0.48**	**193**	*e*P	Pn	06 28 10.4	+1.1
PET				*e*S	Sn	06 28 28.4	+1.5
GNL	**Ganaly**	**0.56**	**291**	PN	Pn	06 28 10.3	+0.5
GNL				S	Sn	06 28 28.1	+0.2
GNL	**Ganaly**	**0.56**	**291**	*e*P	Pn	06 28 10.3	+0.5
GNL				*e*S	Sn	06 28 28.1	+0.2
KRMR	**Karymshinskiy**	**0.79**	**212**	PN	Pn	06 28 12.0	+1.1
KRMR				S	Sn	06 28 31.0	+1.1
KRMR	**Karymshinskiy**	**0.79**	**212**	*e*P	Pn	06 28 12.0	+1.1
KRMR				*e*S	Sn	06 28 31.0	+1.1
SPN	**Mys Shipunski**	**0.82**	**119**	PN	Pn	06 28 12.1	+1.0
SPN				S	Sn	06 28 30.7	+0.4
SPN	**Mys Shipunski**	**0.82**	**119**	*e*P	Pn	06 28 12.1	+1.0
SPN				*e*S	Sn	06 28 30.7	+0.4
RUS	**Russkaya**	**1.08**	**190**	PN	Pn	06 28 13.9	+0.8
RUS				S	Sn	06 28 33.6	-0.2
RUS	**Russkaya**	**1.08**	**190**	*e*P	Pn	06 28 13.9	+0.8
RUS				*e*S	Sn	06 28 33.6	-0.2
ASAK	**Asacha**	**1.25**	**207**	PN	Pn	06 28 16.3	+1.6
ASAK				S	Sn	06 28 38.0	+1.4
ASAK	**Asacha**	**1.25**	**207**	*e*P	Pn	06 28 16.3	+1.6
ASAK				*e*S	Sn	06 28 38.0	+1.4
MKZ	**Mys Kozlova**	**2.01**	**57**	PN	Pn	06 28 23.8	+1.5
MKZ				S	Sn	06 28 50.5	+0.1
MKZ	**Mys Kozlova**	**2.01**	**57**	*e*P	Pn	06 28 23.8	+1.5
MKZ				*e*S	Sn	06 28 50.5	+0.1
BZMR	**Bezymyannaya**	**2.63**	**21**	PN	Pn	06 28 32.0	+2.4
BZMR				S	Sn	06 29 05.5	+2.0
BZMR	**Bezymyannaya**	**2.63**	**21**	*e*P	Pn	06 28 32.0	+2.4
BZMR				*e*S	Sn	06 29 05.5	+2.0
ZLN	**Zelenaya**	**2.77**	**24**	PN	Pn	06 28 34.8	+3.5
ZLN	**Zelenaya**	**2.77**	**24**	*e*P	Pn	06 28 34.8	+3.5
LGNR	**Loginova**	**2.81**	**22**	PN	Pn	06 28 34.0	+2.1
LGNR	**Loginova**	**2.81**	**22**	*e*P	Pn	06 28 34.0	+2.1
SKR	**Severo-Kuril's**	**3.28**	**212**	*e*S	Sn	06 29 19.5	+2.0
KBG	**Krutoberegovo**	**3.56**	**37**	*e*S	Sn	06 29 25.0	+1.2
BKI	**Bering**	**4.52**	**65**	PN	Pn	06 28 54.2	+0.9
BKI				S	Sn	06 29 43.3	-2.6
BKI	**Bering**	**4.52**	**65**	*e*P	Pn	06 28 54.2	+0.9
BKI				*e*S	Sn	06 29 43.3	-2.6
MA2	**Magadan**	**7.54**	**327**	*e*PN	Pn	06 29 40.8	+7.6
SEY	**Seymchan**	**10.05**	**343**	*e*PN	P	06 30 17.1	+1.4

IDC 01 06:34:02.1±2.6,6°.58S×129°.52E,h170km±64km,mb3.4/1, mb1 3.5/5,mb1mx3.2/36,mbtmp4.0/5,Error ellipse: s-maj=93.0km s-min=29.6km az=109.0,Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIJI	**Sorong**	**5.94**	**17**	P	Pn	06 35 28.4	+0.1
	16nm,0.3s,baz=358,slow=7.7,SNR=1.9						
SIJI				S	Sn	06 36 31.4	-4.6
	27nm,0.3s,baz=16,slow=7.4,SNR=4.3						
FITZ	**Fitzroy Crossi**	**12.06**	**198**	P	Pn	06 36 47.8	-0.8
	0.1nm,0.3s,baz=22,slow=18,SNR=3.4						
FITZ				S	Sn	06 38 56.0	-6.5
	0.3nm,0.3s,baz=267,slow=19,SNR=4.6						
WRA	**Warramunga Arr**	**14.08**	**161**	P	Pn	06 37 14.2	-0.2
	0.8nm,0.3s,baz=345,slow=12,SNR=25						
WRA				S	Sn	06 39 40.7	-10
	0.4nm,0.3s,baz=338,slow=22,SNR=7.3						
ASAR	**Alice Springs**	**17.50**	**167**	P	Pn	06 37 56.5	+0.4
	0.4nm,0.3s,baz=346,slow=11,SNR=19						
ASAR				S	S	06 41 06.3	-1.9
	0.1nm,0.3s,baz=350,slow=21,SNR=2.8						
STKA	**Stephens Creek**	**27.58**	**157**	P	P	06 39 33.0	-0.5
	0.5nm,0.3s,baz=318,slow=15,SNR=3.5						

BUG ***01*** *06:38:06.9,51°.54N×6°.58E,h1km,ML2.2*

ISCJB ***01*** *06:38:06.3±0.4,51°.49N±0°.02×6°.50E±0°.03,h0km,Error ellipse: s-maj=3.2km s-min=2.3km az=41.9*

BGR ***01*** *06:38:06.7±1.1,51°.49N×6°.46E,h1km,ML2.4/4,Error ellipse: s-maj=18.9km s-min=6.7km az=120.0*

CSEM ***01*** *06:38:07.0±0.2,51°.50N×6°.52E,h1km,ML3.0/16,Error ellipse: s-maj=3.8km s-min=3.1km az=132.0*

LDG ***01*** *06:38:07.6±0.2,51°.54N×6°.64E,h1km,Ml2.9/9,Error ellipse: s-maj=2.5km s-min=1.6km az=4.0,Suspected Mining induced.*

BNS ***01*** *06:38:08.5±0.8,51°.48N×6°.62E,h1km,ML2.2*

ISC 01 06:38:06.3±0.8,51°.50N±0°.02×6°.55E±0°.02,h0km,n71, σ1s02/125,1D,Germany

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BRHE	**Rheinberg**	**0.03**	**35**	Pg	**Pg**	**06 38 08.0**	**+1.2**
BRHE				Sg	**Sg**	**06 38 09.0**	**+1.9**
BRHE	**Rheinberg**	**0.03**	**35**	P*g*	**Pg**	**06 38 08.0**	**+1.2**
BRHE				S*g*	**Sg**	**06 38 09.0**	**+1.9**
LAUG	**Laupendahl**	**0.29**	**120**	*e*Pg	**Pg**	**06 38 12.9**	**+1.1**
LAUG				*e*Sg	**Sg**	**06 38 16.8**	**+1.3**
LAUG	**Laupendahl**	**0.29**	**120**	P*g*	**Pg**	**06 38 12.9**	**+1.1**
LAUG				S*g*	**Sg**	**06 38 16.8**	**+1.3**
HES	**Velbert-Hesper**	**0.34**	**112**	*e*Pg	**Pg**	**06 38 13.1**	**+0.4**
HES	**Velbert-Hesper**	**0.34**	**112**	Pg	**Pg**	**06 38 13.1**	**+0.4**
BUG	**Bochum--Univer**	**0.45**	**97**	*i* Pg	**Pg**	**06 38 16.1**	**+1.1**
BUG				Sg	**Sg**	**06 38 22.8**	**+1.9**
RWB	**Wassenberg**	**0.47**	**212**	*e*Sg	**Sg**	**06 38 22.5**	**+1.3**
	148nm,0.2s						
RWB	**Wassenberg**	**0.47**	**212**	Sg	**Sg**	**06 38 22.5**	**+1.3**
	148nm,0.2s						
WTSB	**Winterswijk**	**0.50**	**18**	*e*Pg	**Pb**	**06 38 17.5**	**-0.4**
WTSB				*e*Sg	**Sb**	**06 38 24.1**	**-1.6**
WTSB	**Winterswijk**	**0.50**	**18**	*e*Pg	**Pb**	**06 38 17.5**	**-0.4**
WTSB				*e*Sg	**Sb**	**06 38 24.1**	**-1.6**
PLH	**Pulheim**	**0.52**	**161**	*e*Pg	**Pg**	**06 38 17.1**	**+0.9**
PLH				*e*Sg	**Sg**	**06 38 24.7**	**+1.7**
	145nm,0.3s						
PLH	**Pulheim**	**0.52**	**161**	Pg	**Pg**	**06 38 17.1**	**+0.9**
PLH				Sg	**Sg**	**06 38 24.7**	**+1.7**
	145nm,0.3s						
BNS	**Bensberg**	**0.66**	**143**	*e*Pg	**Pb**	**06 38 20.6**	**-0.1**
BNS				*e*Sg	**Sg**	**06 38 28.8**	**+1.3**
BNS	**Bensberg**	**0.66**	**143**	Pg	**Pb**	**06 38 20.6**	**-0.1**
BNS				Sg	**Sg**	**06 38 28.8**	**+1.3**
HOBG	**Hohbusch**	**0.71**	**136**	*e*Pg	**Pb**	**06 38 21.1**	**-0.5**
HOBG				*e*Sg	**Sb**	**06 38 31.0**	**-0.9**
HOBG	**Hohbusch**	**0.71**	**136**	Pg	**Pb**	**06 38 21.1**	**-0.5**
HOBG				Sg	**Sb**	**06 38 31.0**	**-0.9**
GSH	**Grosshau**	**0.77**	**188**	*e*Pg	**Pb**	**06 38 21.9**	**-0.6**
GSH				*e*Sg	**Sg**	**06 38 32.4**	**+1.5**
	64nm,0.1s						
GSH	**Grosshau**	**0.77**	**188**	Pg	**Pb**	**06 38 21.9**	**-0.6**
GSH				Sg	**Sg**	**06 38 32.4**	**+1.5**
	64nm,0.1s						
HGN	**Heimansgroeve**	**0.83**	**208**	*e*Pn	**Pb**	**06 38 23.8**	**+0.3**
HGN	**Heimansgroeve**	**0.83**	**208**	*e*Pg	**Pn**	**06 38 24.7**	**-0.5**
HGN				*e*Sn	**Sb**	**06 38 34.6**	**-0.6**
HGN				*e*Sg	**Sn**	**06 38 36.7**	**-1.4**
HGN	**Heimansgroeve**	**0.83**	**208**	*e*Pn	**Pb**	**06 38 23.8**	**+0.2**
HGN				*e*Pg	**Pn**	**06 38 24.7**	**-0.5**
HGN				*e*Sn	**Sb**	**06 38 34.6**	**-0.7**
HGN				*e*Sg	**Sn**	**06 38 36.7**	**-1.4**
WBS	**Wahnbachtalspe**	**0.83**	**146**	*e*Pg	**Pg**	**06 38 22.9**	**+0.7**
WBS				*e*Sg	**Sg**	**06 38 34.3**	**+1.4**
	37nm,0.2s						
WBS	**Wahnbachtalspe**	**0.83**	**146**	Pg	**Pg**	**06 38 22.9**	**+0.7**
WBS				Sg	**Sg**	**06 38 34.3**	**+1.4**
	37nm,0.2s						
DREG	**Dreilaegerbach**	**0.86**	**194**	*e*Pg	**Pb**	**06 38 24.4**	**+0.4**
DREG				*e*Sg	**Sb**	**06 38 36.7**	**+0.6**
	97nm,1.1s						
DREG	**Dreilaegerbach**	**0.86**	**194**	Pg	**Pb**	**06 38 24.4**	**+0.4**
DREG				Sg	**Sb**	**06 38 36.7**	**+0.6**
	97nm,1.1s						
KLL	**Kalltalsperre**	**0.86**	**190**	*e*Pg	**Pb**	**06 38 24.8**	**+0.7**
KLL				*e*Sg	**Sb**	**06 38 37.0**	**+0.8**
	84nm,0.7s						
KLL	**Kalltalsperre**	**0.86**	**190**	Pg	**Pb**	**06 38 24.8**	**+0.7**
KLL				Sg	**Sb**	**06 38 37.0**	**+0.8**
	84nm,0.7s						
STB	**Steinbach**	**0.92**	**168**	*e*Pg	**Pb**	**06 38 25.7**	**+0.6**
STB				*e*Sg	**Sb**	**06 38 37.7**	**-0.2**
	84nm,0.6s						
STB	**Steinbach**	**0.92**	**168**	Pg	**Pb**	**06 38 25.7**	**+0.6**
STB				Sg	**Sb**	**06 38 37.7**	**-0.2**
	84nm,0.6s						
MEM	**Membach**	**0.95**	**201**	P	**Pn**	**06 38 26.5**	**-0.4**
TDN	**Todenfeld**	**0.95**	**165**	*e*Pg	**Pg**	**06 38 25.3**	**+0.8**
TDN				*e*Sg	**Sb**	**06 38 38.6**	**-0.3**
	20nm,0.1s						
TDN	**Todenfeld**	**0.95**	**165**	Pg	**Pg**	**06 38 25.3**	**+0.8**
TDN				Sg	**Sb**	**06 38 38.6**	**-0.3**
	20nm,0.1s						
OLFT	**Oleftalsperre**	**1.01**	**185**	*e*Sg	**Sb**	**06 38 40.0**	**-0.4**
OLFT	**Oleftalsperre**	**1.01**	**185**	Sg	**Sb**	**06 38 40.0**	**-0.4**
AHRW	**Bad Neuenahr-A**	**1.01**	**161**	*e*Pg	**Pn**	**06 38 27.9**	**+0.2**
AHRW	**Bad Neuenahr-A**	**1.01**	**161**	Pg	**Pn**	**06 38 27.9**	**+0.2**
IBBN	**Ibbenburen**	**1.10**	**42**	*e*Sg	**Sb**	**06 38 42.9**	**-0.3**
IBBN	**Ibbenburen**	**1.10**	**42**	Sg	**Sb**	**06 38 42.9**	**-0.3**
HILG	**Hillesheim**	**1.21**	**176**	*e*Pg	**Pn**	**06 38 31.0**	**+0.6**
HILG				*e*Sg	**Sb**	**06 38 46.5**	**+0.3**
HILG	**Hillesheim**	**1.21**	**176**	Pg	**Pn**	**06 38 31.0**	**+0.6**
HILG				Sg	**Sb**	**06 38 46.5**	**+0.3**
KOE	**Koeppel**	**1.31**	**145**	*e*Pg	**Pg**	**06 38 31.5**	**+0.2**
KOE				*e*Sg	**Sb**	**06 38 49.3**	**+0.3**
KOE	**Koeppel**	**1.31**	**145**	Pg	**Pg**	**06 38 31.5**	**+0.2**
KOE				Sg	**Sb**	**06 38 49.3**	**+0.3**
BCLA	**Clavier**	**1.33**	**217**	P	**Pb**	**06 38 32.9**	**+0.7**
BGG	**Burgeitz**	**1.39**	**159**	*e*Pg	**Pg**	**06 38 33.0**	**+0.2**
BGG				*e*Sg	**Sg**	**06 38 51.2**	**+0.5**
	22nm,0.1s						
BGG	**Burgeitz**	**1.39**	**159**	Pg	**Pg**	**06 38 33.0**	**+0.2**
BGG				Sg	**Sg**	**06 38 51.2**	**+0.5**
	22nm,0.1s						
TNS	**Taunus Mts**	**1.75**	**136**	*e*Pg	**Pb**	**06 38 39.4**	**0.0**
TNS	**Taunus Mts**	**1.75**	**136**	Pg	**Pb**	**06 38 39.4**	**0.0**
GIVF	**Givet**	**1.77**	**219**	*e*Pn	**Pn**	**06 38 38.8**	**+0.6**
GIVF				*e*Sn	**Sn**	**06 39 00.6**	**-0.8**
GIVF				*e*Sg	**Sg**	**06 39 05.6**	**+2.4**
	16nm,0.2s						
GIVF	**Givet**	**1.77**	**219**	*e*Pn	**Pn**	**06 38 38.8**	**+0.6**
GIVF				*e*Sn	**Sn**	**06 39 00.6**	**-0.8**
GIVF				*e*Sg	**Sg**	**06 39 05.6**	**+2.4**
	8.2nm,0.2s						
WLF	**Walferdange**	**1.85**	**188**	*e*Sg	**Sb**	**06 39 04.3**	**-0.3**
WLF	**Walferdange**	**1.85**	**188**	Sg	**Sb**	**06 39 04.3**	**-0.3**
DOU	**Dourbes**	**1.87**	**222**	P	**Pn**	**06 38 39.1**	**-0.5**
DOU	**Dourbes**	**1.87**	**222**	P	**Pn**	**06 38 39.0**	**-0.5**
BAIF	**Baives**	**2.07**	**227**	*e*Pg	**Pg**	**06 38 46.9**	**+1.0**
BAIF				*e*Sn	**Sn**	**06 39 08.2**	**-0.5**
BAIF				*e*Sg	**Sg**	**06 39 14.5**	**+1.8**
	9.6nm,0.3s						
BAIF	**Baives**	**2.07**	**227**	*e*Pg	**Pg**	**06 38 46.9**	**+1.0**
BAIF				*e*Sn	**Sn**	**06 39 08.2**	**-0.5**
BAIF				*e*Sg	**Sg**	**06 39 14.5**	**+1.8**
	4.8nm,0.3s						
PAGF	**Fort de Pagny**	**2.99**	**191**	*e*Pg	**Pg**	**06 39 03.9**	**+0.3**
PAGF				*e*Sg	**Sg**	**06 39 43.0**	**+0.7**
	7.1nm,0.7s,baz=18						
PAGF	**Fort de Pagny**	**2.99**	**191**	*e*Pg	**Pg**	**06 39 03.9**	**+0.3**
PAGF				*e*Sg	**Sg**	**06 39 43.0**	**+0.7**
	3.5nm,0.7s						
MEZF	**Maizieres J'vi**	**3.15**	**198**	*e*Sg	**Sg**	**06 39 48.1**	**+0.7**
	12nm,0.4s						
MEZF	**Maizieres J'vi**	**3.15**	**198**	*e*Sg	**Sg**	**06 39 48.1**	**+0.7**
	6.2nm,0.4s						
HAU	**Haudompre**	**3.50**	**182**	*e*Sg	**Sg**	**06 39 58.6**	**+0.1**
	8.7nm,0.4s						
HAU	**Haudompre**	**3.50**	**182**	*e*Sg	**Sg**	**06 39 58.6**	**+0.1**
	4.3nm,0.4s						
LOR	**Lormes**	**4.58**	**204**	*e*Pn	**Pn**	**06 39 16.8**	**0.0**
	baz=22						
LOR				*e*Sn	**Sn**	**06 40 08.1**	**-2.6**
	baz=27						
LOR				*e*Sg	**Sg**	**06 40 32.8**	**-0.6**
	5.2nm,0.4s,baz=16						
LOR	**Lormes**	**4.58**	**204**	*e*Pn	**Pn**	**06 39 16.8**	**0.0**
LOR				*e*Sn	**Sn**	**06 40 08.1**	**-2.6**
LOR				*e*Sg	**Sg**	**06 40 32.8**	**-0.6**
	2.6nm,0.4s						
SSF	**Saint Saulge**	**4.86**	**205**	*e*Pn	**Pn**	**06 39 20.7**	**0.0**
SSF				*e*Sn	**Sn**	**06 40 15.7**	**-2.0**
SSF				*e*Sg	**Sg**	**06 40 41.9**	**-0.5**
	6.8nm,0.4s						
SSF	**Saint Saulge**	**4.86**	**205**	*e*Pn	**Pn**	**06 39 20.7**	**0.0**
SSF				*e*Sn	**Sn**	**06 40 15.7**	**-2.0**
SSF				*e*Sg	**Sg**	**06 40 41.9**	**-0.5**
	3.4nm,0.4s						
AVF	**Avril sur Loir**	**5.15**	**205**	*e*Pn	**Pn**	**06 39 24.3**	**-0.3**
AVF	**Avril sur Loir**	**5.15**	**205**	*e*Pn	**Pn**	**06 39 24.3**	**-0.3**
FLN	**La Foliniere**	**5.28**	**242**	*e*Pn	**Pn**	**06 39 26.8**	**+0.4**
FLN	**La Foliniere**	**5.28**	**242**	*e*Pn	**Pn**	**06 39 26.8**	**+0.4**
GRR	**Gorron**	**5.70**	**240**	*e*Sn	**Sn**	**06 40 34.9**	**-3.4**
	5.1nm,0.3s						

ISCJB ***01*** *07:03:46.5±0.3,51°.48N±0°.02×16°.22E±0°.03,h0km,Error ellipse: s-maj=2.6km s-min=2.2km az=149.7*

CSEM ***01*** *07:03:48.6±0.1,51°.47N×16°.17E,h2km,ML3.6/13,Error ellipse: s-maj=3.3km s-min=2.4km az=83.0*

IDC ***01*** *07:03:49.8±0.8,51°.49N×16°.05E,h0km,mb1 3.4/5, mb1mx3.2/27,mbtmp3.2/5,ML3.3/5,Error ellipse: s-maj=11.7km s-min=7.5km az=118.0*

BGR ***01*** *07:03:50.6±0.7,51°.39N×16°.17E,h1km,ML3.0/9,Error ellipse: s-maj=10.0km s-min=3.3km az=16.0*

UPP ***01*** *07:03:55.2±3.3,51°.87N×15°.65E,h0km,ML2.2,Suspected explosion*

ISC 01 07:03:47.4±0.7,51°.49N±0°.03×16°.17E±0°.02,h0km,n97, σ1s71/158,Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.66**	**173**	*i* Pg	**Pg**	**07 04 01.1**	**+1.2**
KSP				*e*Sg	**Sg**	**07 04 09.3**	**+0.9**
KSP	**Ksiaz**	**0.66**	**173**	*e*Pg	**Pg**	**07 04 01.1**	**+1.2**
KSP				*e*Sg	**Sg**	**07 04 08.5**	**+0.1**
KSP	**Ksiaz**	**0.66**	**173**	*i* Pg	**Pg**	**07 04 01.1**	**+1.2**
KSP				*e*Sg	**Sg**	**07 04 09.3**	**+0.9**
UPC	**Upice**	**0.99**	**186**	*e*PG	**Pb**	**07 04 07.4**	**0.0**
UPC				*e*SG	**Sg**	**07 04 19.3**	**+0.1**
	comp=Z,173nm,0.3s						
UPC	**Upice**	**0.99**	**186**	Pg	**Pb**	**07 04 07.4**	**0.0**
UPC				Sg	**Sg**	**07 04 19.3**	**+0.1**
	173nm,0.3s						
DPC	**Dobruska-Polom**	**1.15**	**175**	*e*PG	**Pg**	**07 04 10.0**	**+0.6**
DPC				*e*SG	**Sg**	**07 04 24.4**	**+0.2**
	comp=Z,89nm,0.4s						
DPC	**Dobruska-Polom**	**1.15**	**175**	*e*Pg	**Pg**	**07 04 09.9**	**+0.6**
DPC				Sg	**Sg**	**07 04 24.4**	**+0.2**
	89nm,0.4s						
PVCC	**Panska Ves**	**1.40**	**227**	*e*PG	**Pb**	**07 04 15.4**	**+1.0**
PVCC				*e*SG	**Sn**	**07 04 34.1**	**+0.8**
	comp=Z,396nm,0.3s						
PVCC	**Panska Ves**	**1.40**	**227**	Pg	**Pb**	**07 04 15.4**	**+1.0**
PVCC				Sg	**Sn**	**07 04 34.1**	**+0.8**
	396nm,0.3s						
KRLC	**Kraliky**	**1.47**	**165**	*e*PG	**Pb**	**07 04 16.1**	**+0.5**
KRLC				*e*SG	**Sg**	**07 04 34.7**	**+0.1**
KRLC	**Kraliky**	**1.47**	**165**	Pg	**Pb**	**07 04 16.1**	**+0.5**
KRLC				Sg	**Sg**	**07 04 34.7**	**+0.1**
BRG	**Berggiesshubel**	**1.53**	**247**	PN	**Pb**	**07 04 16.7**	**0.0**
BRG				PG	**Pg**	**07 04 18.2**	**+1.4**
BRG				SG	**Sg**	**07 04 38.8**	**+2.1**
	111nm,0.4s						
BRG	**Berggiesshubel**	**1.53**	**247**	*e*Pn	**Pg**	**07 04 17.7**	**+1.0**
BRG				*e*Sg	**Sg**	**07 04 37.6**	**+1.0**
BRG	**Berggiesshubel**	**1.53**	**247**	Pn	**Pg**	**07 04 17.7**	**+1.0**
BRG				Sg	**Sg**	**07 04 37.6**	**+1.0**
PRA	**Prague**	**1.80**	**218**	*e*PN	**Pb**	**07 04 21.0**	**-0.2**
PRA				*e*PG	**Pg**	**07 04 22.9**	**+1.0**
PRA				*e*SG	**Sg**	**07 04 46.2**	**+1.0**
	comp=Z,47nm,0.4s						
PRA	**Prague**	**1.80**	**218**	Pn	**Pb**	**07 04 21.0**	**-0.2**
PRA	**Prague**	**1.80**	**218**	Pg	**Pg**	**07 04 22.9**	**+1.0**
PRA				Sg	**Sg**	**07 04 46.2**	**+1.0**
	47nm,0.4s						
GOPC	**GO Pecny, Ondr**	**1.81**	**210**	*e*PN	**Pn**	**07 04 20.9**	**+1.1**
GOPC				*e*PG	**Pg**	**07 04 22.8**	**+0.8**
GOPC	**GO Pecny, Ondr**	**1.81**	**210**	Pn	**Pn**	**07 04 20.9**	**+1.1**
GOPC	**GO Pecny, Ondr**	**1.81**	**210**	Pg	**Pg**	**07 04 22.8**	**+0.8**
PRU	**Pruhonice**	**1.83**	**215**	*e*PN	**Pn**	**07 04 21.0**	**+1.0**
PRU				*e*PG	**Pg**	**07 04 22.6**	**+0.2**
PRU				*e*SG	**Sg**	**07 04 46.8**	**+0.7**
	comp=Z,70nm,0.4s						
PRU	**Pruhonice**	**1.83**	**215**	Pn	**Pn**	**07 04 21.0**	**+1.0**
PRU	**Pruhonice**	**1.83**	**215**	Pg	**Pg**	**07 04 22.6**	**+0.2**
PRU				Sg	**Sg**	**07 04 46.8**	**+0.7**
	70nm,0.4s						
FBE	**Freiberg**	**1.86**	**253**	*e*Sg	**Sg**	**07 04 49.1**	**+2.0**
FBE	**Freiberg**	**1.86**	**253**	Sg	**Sg**	**07 04 49.1**	**+2.0**
MORC	**Moravsky Berou**	**1.93**	**153**	*e*Pn	**Pn**	**07 04 21.7**	**+0.3**
MORC	**Moravsky Berou**	**1.93**	**153**	*e*Pn	**Pn**	**07 04 21.7**	**+0.3**
MORC				*e*Sg	**Sb**	**07 04 48.7**	**+0.7**
CLL	**Collm**	**1.99**	**266**	*e*Sg	**Sg**	**07 04 53.5**	**+2.1**
CLL	**Collm**	**1.99**	**266**	Sg	**Sg**	**07 04 53.5**	**+2.1**
CLL	**Collm**	**1.99**	**266**	*i* Pn	**Pn**	**07 04 23.5**	**+1.2**
CLL				*i* Pg	**Pg**	**07 04 26.1**	**+0.5**
CLL				*i*		07 04 29.8	
CLL				*i* Sg	**Sg**	**07 04 54.5**	**+3.1**
	comp=Z,45nm,0.4s						
OKC	**Ostrava-Krasne**	**2.08**	**142**	*e*PG	**Pg**	**07 04 27.2**	**0.0**
OKC				*e*SG	**Sb**	**07 04 52.9**	**+0.6**
	comp=Z,57nm,0.6s						
OKC	**Ostrava-Krasne**	**2.08**	**142**	Pg	**Pg**	**07 04 27.2**	**0.0**
OKC				Sg	**Sb**	**07 04 52.9**	**+0.6**
	comp=Z,57nm,0.6s						
VRAC	**Vranov**	**2.21**	**173**	*e*Pn	**Pn**	**07 04 26.9**	**+1.7**
VRAC				*e*Sg	**Sb**	**07 04 57.0**	**+1.1**
OJC	**Ojcow**	**2.63**	**118**	*e*Pg	**Pg**	**07 04 38.2**	**+0.5**
OJC				*e*Sg	**Sg**	**07 05 13.3**	**+1.5**
OJC	**Ojcow**	**2.63**	**118**	*e*Pg	**Pg**	**07 05 12.9**	**+1.2**
OJC	**Ojcow**	**2.63**	**118**	*e*Pg	**Pg**	**07 04 38.2**	**+0.5**
OJC				*e*Sg	**Sg**	**07 05 13.3**	**+1.5**
OJC	**Ojcow**	**2.63**	**118**	*e*Pg	**Pg**	**07 04 38.2**	**+0.5**
OJC				*e*Sg	**Sg**	**07 05 13.3**	**+1.5**
NKC	**Novy Kostel**	**2.67**	**243**	*e*PN	**Pn**	**07 04 33.6**	**+1.9**
NKC				*e*PG	**Pg**

VXJU	Vaexsjoe	5.49	353	P		Pn	07 05 11.4	+1.2
VXJU	Vaexsjoe	5.49	353	P		Pn	07 05 11.4	+1.2
OSKU	Oskarshamn	5.71	360	P		Pn	07 05 15.4	+2.0
OSKU	Oskarshamn	5.71	360	P		Pn	07 05 15.4	+2.0
BYXU	Byxelkrok	5.83	4	P		Pn	07 05 17.1	+2.2
BYXU	Byxelkrok	5.83	4	P		Pn	07 05 17.1	+2.2
FABU	Falkenberg	5.88	341	P		Pn	07 05 15.9	+0.3
FABU	Falkenberg	5.88	341	P		Pn	07 05 15.9	+0.3
ASPU	Aespoe	5.94	2	P		Pn	07 05 18.3	+1.8
ASPU	Aespoe	5.94	2	P		Pn	07 05 18.3	+1.8
GNOU	Gnosjoe	5.98	347	P		Pn	07 05 18.0	+1.0
GNOU	Gnosjoe	5.98	347	P		Pn	07 05 18.0	+1.0
EKSU	Eksjoe	6.11	356	P		Pn	07 05 20.1	+1.2
EKSU	Eksjoe	6.11	356	P		Pn	07 05 20.1	+1.2
AKASG	**Malin Array Be**	8.26	90	Pn		Pn	07 05 48.7	+0.4
	comp=Z,0.8nm,0.3s,baz=283,slow=12,SNR=3.5							
AKASG				Sn		Sn	07 07 16.6	-5.6
	comp=Z,0.7nm,0.3s,baz=278,slow=27,SNR=3.1							
NOA	**NORSAR Array B**	9.96	346	Pn		Pn	07 06 12.4	+0.8
	comp=Z,0.2nm,0.3s,baz=168,slow=13,SNR=4.1							
NOA				Sn		Sn	07 07 57.8	-6.1
	comp=Z,0.1nm,0.3s,baz=173,slow=19,SNR=3.0							
FINES	**FINESS Array B**	11.36	25	Pn		Pn	07 06 28.5	-2.2
	comp=Z,0.3nm,0.3s,baz=214,slow=11,SNR=7.3							
FINES				Sn		Sn	07 08 31.8	-6.4
	comp=Z,0.2nm,0.3s,baz=217,slow=21,SNR=3.9							
ARCES	**ARCESS Array B**	18.63	10	Pn		P	07 08 05.4	-0.8
	comp=Z,0.3nm,0.3s,baz=196,slow=13,SNR=5.1							

TAP 01 07:20:35.4, 25.18N×122.59E, h160km, ML3.5, C, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TWB1	**Santiao Chiao**	**0.57**	**253**	P	Pn	07 20 58.6	+0.3
	baz=257						
TWB1				*e*S	Sn	07 21 15.2	-0.5
	baz=257						
NWF	**Wu-fen Shan**	**0.74**	**262**	*e*P	Pn	07 20 59.9	+0.5
	baz=264						
TWC	**Suao**	**0.88**	**230**	*e*P	Pn	07 21 01.1	+0.8
	baz=220						
TWC				*e*S	Sn	07 21 18.2	-1.0
	baz=220						
TWE	**Neicheng**	**0.95**	**242**	*e*P	Pn	07 21 00.6	-0.2
	baz=241						
ENTT	**Nioudou**	**1.07**	**240**	*e*P	Pn	07 21 02.2	+0.4
	baz=238						
ENTT				*e*S	Sn	07 21 21.8	-0.2
	baz=238						
NSK	**Sanguang**	**1.23**	**246**	P	Pn	07 21 03.2	0.0
	baz=236						
NSK				*e*S	Sn	07 21 23.4	-1.1
	baz=236						
NNS	**Nan Shan**	**1.33**	**237**	P	Pn	07 21 04.4	+0.2
	baz=235						
NNS				*e*S	Sn	07 21 25.7	-0.6
	baz=235						
TWD	**Chiawan**	**1.42**	**220**	*e*P	Pn	07 21 03.9	-1.0
	baz=215						
TWD				*e*S	Sn	07 21 25.9	-1.7
	baz=215						
NSTT	**Nanjuang**	**1.54**	**250**	*e*P	Pn	07 21 05.9	-0.3
	baz=241						
NSTT				*e*S	Sn	07 21 29.0	-0.9
	baz=241						
TWT	**Tachien**	**1.58**	**235**	*e*P	Pn	07 21 07.1	+0.3
	baz=233						
TWT				S	Sn	07 21 30.7	-0.2
	baz=233						
WHF	**Hehuan Shan**	**1.59**	**230**	*i* P	Pn	07 21 07.1	0.0
	baz=233						
WHF				*e*S	Sn	07 21 30.7	-0.8
	baz=233						
WDT	**Danda**	**1.94**	**223**	*e*P	Pn	07 21 09.9	-0.9
	baz=217						
WDT				*e*S	Sn	07 21 35.7	-2.4
	baz=217						
SMLT	**Sun Moon Lake**	**2.01**	**230**	*e*P	Pn	07 21 10.4	-1.0
	baz=229						
SMLT				*e*S	Sn	07 21 37.5	-1.6
	baz=229						
TYC	**Yuchr**	**2.03**	**232**	*e*P	Pn	07 21 09.8	-1.7
	baz=230						
TYC				*e*S	Sn	07 21 38.2	-1.1
	baz=230						
TWF1	**Yuli**	**2.17**	**213**	*e*P	Pn	07 21 11.6	-1.6
	baz=218						
YUS	**Yu-Shan**	**2.25**	**222**	*e*P	Pn	07 21 14.8	+0.2
	baz=215						
YUS				*e*S	Sn	07 21 43.7	-1.1
	baz=215						
ALS	**Alishan**	**2.33**	**225**	*e*P	Pn	07 21 15.2	-0.1
	baz=217						
ALS				*e*S	Sn	07 21 45.2	-0.8
	baz=217						
CHN5	**Tsauling**	**2.35**	**228**	*e*P	Pn	07 21 16.0	+0.6
	baz=234						
CHN5				*e*S	Sn	07 21 45.1	-1.1
	baz=234						
CHN4	**Tsaushan**	**2.58**	**225**	*e*P	Pn	07 21 17.8	-0.2
	baz=224						
CHN4				*e*S	Sn	07 21 49.9	-1.1
	baz=224						
CHN1	**Nanshi**	**2.74**	**224**	*e*P	Pn	07 21 19.1	-0.9
	baz=228						
CHN1				*e*S	Sn	07 21 53.5	-0.9
	baz=228						

*ISCJB **01** 07:30:38.3±0.5, 20.45S±0.10×178.02W±0.10, h534km, mb3.8/15, Error ellipse: s-maj=15.7km s-min=8.4km az=137.3*
*IDC **01** 07:30:38.9±1.8, 20.37S×178.16W, h520km±20km, mb3.4/15, mb1 3.6/17, mb1mx3.6/23, mbtmp4.3/17, Error ellipse: s-maj=16.2km s-min=11.6km az=135.0*

ISC 01 07:30:39.4±0.6, 20.4S±0.1×178.1W±0.1, h534km, n24, σ1°41/29, mb3.8/15, 1C-1D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**8.80**	**44**	P	P	07 32 43.8	-1.1
	7.4nm,0.3s,baz=266,slow=1.6,SNR=10						
AFI				S	S	07 34 24.0	-4.0
	4.8nm,0.3s,baz=35,slow=20,SNR=4.3						
DZM	**Mont Dzumac**	**14.55**	**261**	P	P	07 33 44.0	-0.6
	0.1nm,0.3s,baz=101,slow=19,SNR=1.9						
URZ	**Urewera**	**18.30**	**192**	P	P	07 34 18.2	-2.4
	1.8nm,0.3s,baz=346,slow=2.8,SNR=14						
RPZ	**Rata Peaks**	**24.98**	**199**	P	P	07 35 20.1	-0.5
	5.8nm,0.5s,baz=15,slow=9.0,SNR=4.1						
STKA	**Stephens Creek**	**37.79**	**244**	P	P	07 37 09.7	-0.5
	0.8nm,0.4s,baz=84,slow=11,SNR=7.4						
JAY	**Jayapura**	**43.95**	**288**	P	P	07 37 59.5	0.0
	1.4nm,0.8s,baz=271,slow=24,SNR=4.3						
ASAR	**Alice Springs**	**44.49**	**257**	P	P	07 38 03.2	-0.3
	2.3nm,0.5s,baz=97,slow=7.5,SNR=34						
ASAR				PcP	PcP	07 39 34.8	-0.7
	1.0nm,0.8s,baz=105,slow=3.6,SNR=5.9						
ASAR				S	S	07 43 56.9	-3.2
	1.3nm,0.9s,baz=96,slow=16,SNR=8.1						
WRA	**Warramunga Arr**	**44.56**	**262**	P	P	07 38 03.1	-1.0
	1.3nm,0.3s,baz=96,slow=8.4,SNR=8.5						
WRA				PcP	PcP	07 39 35.9	+0.1
	0.8nm,0.7s,baz=91,slow=3.4,SNR=4.4						
WRA				S	S	07 44 01.4	+0.3
	0.5nm,0.8s,baz=94,slow=14,SNR=3.3						
VNDA	**Vanda**	**58.02**	**185**	P	P	07 39 41.7	+1.1
	1.2nm,0.7s,baz=356,slow=8.0,SNR=18						
MJAR	**Matsushiro Arr**	**70.08**	**324**	P	P	07 40 57.4	-0.5
	1.0nm,0.5s,baz=134,slow=6.6,SNR=4.6						
PETK	**Petropavlovsk-**	**76.14**	**345**	P	P	07 41 32.7	+0.5
	4.3nm,0.6s,baz=133,slow=4.9,SNR=5.3						
KSRS	**Korea Array**	**76.76**	**319**	P	P	07 41 37.1	+1.2
	1.0nm,0.4s,baz=120,slow=5.5,SNR=3.6						
USRK	**Ussuriysk Ar.**	**78.84**	**326**	P	P	07 41 48.7	+1.7
	2.9nm,0.7s,baz=158,slow=4.8,SNR=6.7						
TXAR	**Lajitas Array**	**87.04**	**57**	P	P	07 42 30.7	+2.1
	1.3nm,0.8s,baz=214,slow=7.0,SNR=16						
ILAR	**Eielson Array**	**88.21**	**13**	P	P	07 42 33.0	-0.1
	1.2nm,0.4s,baz=214,slow=5.4,SNR=24						
PDAR	**Pinedale Array**	**88.92**	**43**	P	P	07 42 38.5	+1.3
	1.4nm,0.6s,baz=200,slow=3.5,SNR=16						
CMAR	**Chiang Mai Arr**	**90.02**	**290**	P	P	07 42 43.8	+1.2
	1.0nm,0.4s,baz=111,slow=2.3,SNR=9.0						
SONM	**Songino Array**	**95.63**	**319**	P	P	07 43 08.7	+0.9
	0.3nm,0.4s,baz=37,slow=25,SNR=3.0						
FINES	**FINESS Array B**	**135.65**	**344**	PKhKP	PKPpre	07 48 54.8	
	1.8nm,0.9s,baz=69,slow=4.6,SNR=2.9						
AKASG	**Malin Array Be**	**142.88**	**331**	PKhKP	PKPpre	07 49 07.3	
	5.4nm,0.6s,baz=42,slow=4.4,SNR=14						
BRTR	**Keskin Array B**	**146.72**	**312**	PKPbc	**PKPbc**	**07 49 21.4**	**-0.4**
	2.3nm,0.7s,baz=136,slow=4.8,SNR=16						
CLL	**Collm**	**147.94**	**347**	⇑*i* PKPbc	**PKPbc**	**07 49 24.9**	**+0.5**
	comp=Z,11nm,1.0s						
CLL				⇑*i* PKPab	**PKPab**	**07 49 29.1**	**+0.2**
	comp=Z,6.0nm,0.8s						
BRG	**Berggiesshubel**	**148.13**	**346**	*e*P	**PKPbc**	**07 49 25.6**	**+0.7**
	comp=Z,3.6nm,0.7s						
BRG				*e*		07 49 30.1	
	comp=Z,4.4nm,0.7s						
GERES	**GERESS Array B**	**150.07**	**344**	PKPbc	**PKPbc**	**07 49 28.9**	**-1.0**
	comp=Z,1.4nm,0.6s,baz=64,slow=3.1,SNR=12						
GERES				PKPab	**PKPab**	**07 49 37.4**	**-0.6**
	comp=Z,0.3nm,0.3s,baz=14,slow=5.9,SNR=4.9						

MEX 01 07:40:00.1±0.9, 16.07N×99.68W, h16km±17km, MD3.8, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAIG	**El Cayaco**	**1.13**	**330**	*i* P	Pn	07 40 18.2	-3.1
CAIG				*i* S	Sb	07 40 30.3	-5.4
PNIG	**Pinotepa**	**1.52**	**77**	*i* P	Pn	07 40 23.1	-3.5
PNIG				*i* S	Sn	07 40 41.0	-5.2
TLIG	**Tlapa**	**1.83**	**35**	*e*P	Pn	07 40 26.9	-4.1
TLIG				*i* S	Sn	07 40 49.4	-4.6
ARIG	**Puente Sto Nin**	**2.29**	**344**	*i* P	Pn	07 40 34.9	-2.5
ARIG				*i* S	Sn	07 41 01.5	-3.8
PLIG	**Platanillo**	**2.32**	**4**	*i* P	Pn	07 40 34.5	-3.2
PLIG				*i* S	Sn	07 41 02.5	-3.5

MEX 01 07:47:10.0±0.6, 15.40N×93.12W, h111km±18km, MD3.7, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CCIG	**Comitan**	**1.29**	**47**	*i* P	Pn	07 47 33.8	-0.8
CCIG				*e*S	Sn	07 47 51.1	-2.0
TGIG		**1.37**	**360**	*i* P	Pn	07 47 33.7	-1.7
TGIG				*i* S	Sn	07 47 53.1	-1.6

*DDA **01** 08:08:07.7, 39.12N×29.02E, h7km, Md3.3*
*IASPEI **01** 08:08:08.6±0.9, 39.12N±0.02×29.03E±0.02, h8km±7km, Error ellipse: s-maj=3.5km s-min=3.1km az=159.0, GT5 selection from ISC bulletin GT5 identified by Bond¨jr and McLaughlin (2009) selection criteria Bond¨jr and McLaughlin, A new ground truth data set for seismic studies, Seism. Res. Let., 80, 465-472, 2009*
*CSEM **01** 08:08:08.6±0.1, 39.10N×29.04E, h2km, MD3.2, Error ellipse: s-maj=2.0km s-min=2.0km az=80.0*
*ISK **01** 08:08:08.2, 39.10N×29.04E, h5km, MD3.2*

ISC 01 08:08:08.7±0.8, 39.11N±0.02×29.02E±0.02, h8km±6km, n83, σ0.80/104, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIMA	**Simav-Kutahya**	**0.04**	**231**	PG	**Pg**	**08 08 10.3**	**0.0**
SIMA	**Simav-Kutahya**	**0.04**	**231**	*i* Pg	**Pg**	**08 08 10.3**	**0.0**
DEMI	**Demirci**	**0.25**	**255**	*i* P	**Pg**	**08 08 13.6**	**0.0**
DEMI				*i* S	**Sg**	**08 08 16.9**	**0.0**
DEMI	**Demirci**	**0.25**	**255**	P	**Pg**	**08 08 13.6**	**0.0**
DEMI				S	**Sg**	**08 08 17.0**	**0.0**
GEDZ	**Gediz**	**0.31**	**102**	*e*PG	**Pg**	**08 08 14.4**	**-0.4**
GEDZ				*e*SG	**Sg**	**08 08 19.4**	**+0.6**
GEDZ	**Gediz**	**0.31**	**102**	*e*Pg	**Pg**	**08 08 14.4**	**-0.4**
GEDZ				*e*Sg	**Sg**	**08 08 19.4**	**+0.6**
TVSB	**Tavsanli**	**0.48**	**45**	*e*PG	**Pg**	**08 08 17.4**	**-0.6**
TVSB				*e*SG	**Sg**	**08 08 23.8**	**-0.5**
TVSB	**Tavsanli**	**0.48**	**45**	*e*Pg	**Pg**	**08 08 17.4**	**-0.6**
TVSB				*e*Sg	**Sg**	**08 08 23.8**	**-0.5**
KULA	**Kula-Manisa**	**0.66**	**206**	*e*PG	**Pg**	**08 08 21.2**	**-0.2**
KULA				*e*SG	**Sg**	**08 08 29.9**	**0.0**
KULA	**Kula-Manisa**	**0.66**	**206**	*e*Pg	**Pg**	**08 08 21.2**	**-0.2**
KULA				*e*Sg	**Sg**	**08 08 29.9**	**0.0**
KHL	**Karahalli**	**0.88**	**153**	*e*PG	**Pb**	**08 08 25.5**	**-0.7**
KHL				*e*SG	**Sb**	**08 08 37.0**	**-1.1**
KHL	**Karahalli**	**0.88**	**153**	*e*Pg	**Pb**	**08 08 25.5**	**-0.7**
KHL				*e*Sg	**Sb**	**08 08 37.0**	**-1.1**
ORLT	**Orhaneli**	**0.94**	**354**	*e*PG	**Pg**	**08 08 26.4**	**-0.3**
ORLT				*e*SG	**Sb**	**08 08 40.1**	**+0.1**
ORLT	**Orhaneli**	**0.94**	**354**	*e*Pg	**Pg**	**08 08 26.5**	**-0.3**
ORLT				*e*Sg	**Sb**	**08 08 40.1**	**+0.1**
AKS	**Akhisar**	**0.97**	**257**	*e*PG	**Pb**	**08 08 27.4**	**-0.4**
AKS	**Akhisar**	**0.97**	**257**	*e*Pg	**Pb**	**08 08 27.4**	**-0.4**
BALB	**Balikesir**	**1.03**	**301**	*e*PG	**Pn**	**08 08 29.0**	**-0.1**
BALB	**Balikesir**	**1.03**	**301**	*e*Pg	**Pn**	**08 08 29.4**	**-0.1**
IGD	**Bursa**	**1.16**	**7**	*i* P	**Pg**	**08 08 29.5**	**-1.5**
IGD				*i* S	**Sb**	**08 08 46.2**	**0.0**
BALY	**Balya**	**1.26**	**301**	*i* P	**Pg**	**08 08 32.0**	**-0.8**
BALY				*i* S	**Sg**	**08 08 47.5**	**-1.6**
BALY	**Balya**	**1.26**	**301**	P	**Pg**	**08 08 32.0**	**-0.8**
BALY				S	**Sg**	**08 08 47.5**	**-1.6**
MDNY	**Mudanya-Bursa**	**1.26**	**355**	*e*PN	**Pg**	**08 08 32.2**	**-0.7**
MDNY	**Mudanya-Bursa**	**1.26**	**355**	*e*Pn	**Pg**	**08 08 32.2**	**-0.7**
KCTX	**Karacabey (Bur**	**1.27**	**336**	*e*PN	**Pb**	**08 08 32.9**	**+0.1**
KCTX	**Karacabey (Bur**	**1.27**	**336**	*e*Pn	**Pb**	**08 08 32.9**	**+0.1**
SHUT	**Suhut-Afyon**	**1.32**	**114**	*e*PN	**Pb**	**08 08 33.9**	**+0.2**
SHUT	**Suhut-Afyon**	**1.32**	**114**	*e*Pn	**Pb**	**08 08 33.9**	**+0.2**
GEMT	**Gemlik**	**1.33**	**5**	*e*PN	**Pg**	**08 08 33.9**	**-0.3**
GEMT	**Gemlik**	**1.33**	**5**	*e*Pn	**Pg**	**08 08 33.9**	**-0.3**
BORA	**Eskisehir**	**1.35**	**55**	*i* P	**Pn**	**08 08 33.3**	**-0.6**
BORA				*i* S	**Sg**	**08 08 51.4**	**-0.7**
BORA	**Eskisehir**	**1.35**	**55**	P	**Pn**	**08 08 33.3**	**-0.6**
BORA				S	**Sg**	**08 08 51.3**	**-0.7**
DENT	**Denizli**	**1.35**	**180**	*e*PN	**Pg**	**08 08 34.0**	**-0.6**
DENT	**Denizli**	**1.35**	**180**	*e*Pn	**Pg**	**08 08 34.0**	**-0.6**
DNZL	**Cakiroluk**	**1.42**	**179**	*i* P	**Pn**	**08 08 34.3**	**-0.6**
DNZL				*i* S	**Sn**	**08 08 55.2**	**+1.3**
DNZL	**Cakiroluk**	**1.42**	**179**	P	**Pn**	**08 08 34.3**	**-0.6**
DNZL				S	**Sn**	**08 08 55.2**	**+1.3**
ADVT	**Abdulvahap**	**1.43**	**22**	*e*PN	**Pg**	**08 08 35.6**	**-0.5**
ADVT	**Abdulvahap**	**1.43**	**22**	*e*Pn	**Pg**	**08 08 35.7**	**-0.5**
ARMT	**Armutlu**	**1.46**	**355**	*e*PN	**Pb**	**08 08 36.1**	**0.0**
ARMT	**Armutlu**	**1.46**	**355**	*e*Pn	**Pb**	**08 08 36.1**	**0.0**
AYDB	**Zeytinkoy-Aydi**	**1.46**	**218**	*e*PN	**Pb**	**08 08 35.7**	**-0.5**
AYDB	**Zeytinkoy-Aydi**	**1.46**	**218**	*e*Pn	**Pb**	**08 08 35.7**	**-0.5**
ESKT	**Eskisehir**	**1.48**	**73**	*e*PN	**Pb**	**08 08 36.1**	**-0.3**
ESKT	**Eskisehir**	**1.48**	**73**	*e*Pn	**Pb**	**08 08 36.1**	**-0.3**
SBT5	**Esenkoy-Cinarc**	**1.52**	**356**	*e*PN	**Pb**	**08 08 37.3**	**+0.2**
SBT5	**Esenkoy-Cinarc**	**1.52**	**356**	*e*Pn	**Pb**	**08 08 37.3**	**+0.2**
EDC	**Edincik**	**1.53**	**324**	*e*PN	**Pb**	**08 08 37.0**	**-0.2**
EDC	**Edincik**	**1.53**	**324**	*e*Pn	**Pb**	**08 08 37.0**	**-0.2**
BOLV	**Bolvadin**	**1.55**	**104**	*i* P	**Pb**	**08 08 37.0**	**-0.8**
BOLV				*i* S	**Sg**	**08 08 59.2**	**+0.6**
BOLV	**Bolvadin**	**1.55**	**104**	P	**Pb**	**08 08 37.0**	**-0.8**
BOLV				S	**Sg**	**08 08 59.2**	**+0.6**
DKL	**Dikili**	**1.65**	**269**	*e*PN	**Pb**	**08 08 38.8**	**-0.5**
DKL	**Dikili**	**1.65**	**269**	*e*Pn	**Pb**	**08 08 38.8**	**-0.5**
GULT	**Gulveren**	**1.75**	**41**	*e*PN	**Pb**	**08 08 40.6**	**-0.5**
GULT	**Gulveren**	**1.75**	**41**	*e*Pn	**Pb**	**08 08 40.6**	**-0.5**
HRT	**Hereke**	**1.78**	**16**	*e*PN	**Pn**	**08 08 39.8**	**0.0**
HRT	**Hereke**	**1.78**	**16**	*e*Pn	**Pn**	**08 08 39.8**	**0.0**
SBT2	**Guzelce-Avcila**	**1.81**	**348**	*e*PN	**Pb**	**08 08 41.2**	**-0.8**
SBT2	**Guzelce-Avcila**	**1.81**	**348**	*e*Pn	**Pb**	**08 08 41.2**	**-0.8**
KRBG	**Karabiga-Canak**	**1.85**	**315**	*e*PN	**Pb**	**08 08 41.7**	**-1.0**
KRBG	**Karabiga-Canak**	**1.85**	**315**	*e*Pn	**Pb**	**08 08 41.7**	**-1.0**
SPNC	**Sapanca-Adapaz**	**1.86**	**32**	*e*PN	**Pn**	**08 08 41.7**	**+0.9**
SPNC	**Sapanca-Adapaz**	**1.86**	**32**	*e*Pn	**Pn**	**08 08 41.7**	**+0.9**
SVRH	**Sivrihisar-ESK**	**1.97**	**79**	*e*PN	**Pn**	**08 08 43.0**	**+0.6**
SVRH	**Sivrihisar-ESK**	**1.97**	**79**	*e*Pn	**Pn**	**08 08 43.0**	**+0.6**
URLA	**Izmir**	**2.04**	**249**	*e*PN	**Pn**	**08 08 44.3**	**+1.0**
URLA	**Izmir**	**2.04**	**249**	*e*Pn	**Pn**	**08 08 44.3**	**+1.0**
SILT	**Sile**	**2.10**	**13**	*e*PN	**Pn**	**08 08 45.4**	**+1.3**
SILT	**Sile**	**2.10**	**13**	*e*Pn	**Pn**	**08 08 45.4**	**+1.3**
KLYT	**Kilyos**	**2.14**	**0**	*e*PN	**Pn**	**08 08 46.0**	**+1.3**
KLYT	**Kilyos**	**2.14**	**0**	*e*Pn	**Pn**	**08 08 46.0**	**+1.3**
LPK	**Lapseki**	**2.15**	**307**	*e*PN	**Pn**	**08 08 46.3**	**+1.4**
LPK	**Lapseki**	**2.15**	**307**	*e*Pn	**Pn**	**08 08 46.3**	**+1.4**
MDUB	**Mudurnu**	**2.16**	**50**	*e*PN	**Pn**	**08 08 46.1**	**+1.1**
MDUB	**Mudurnu**	**2.16**	**50**	*e*Pn	**Pn**	**08 08 46.1**	**+1.1**
CTKS	**Kestanelik-??a**	**2.16**	**350**	*e*PN	**Pn**	**08 08 46.3**	**+1.3**
CTKS	**Kestanelik-??a**	**2.16**	**350**	*e*Pn	**Pn**	**08 08 46.3**	**+1.3**
KIZT	**Kizilcal**	**2.24**	**95**	*e*PN	**Pn**	**08 08 47.2**	**+1.1**
KIZT	**Kizilcal**	**2.24**	**95**	*e*Pn	**Pn**	**08 08 47.3**	**+1.1**
CTYL	**Yalikoy Yolu**	**2.43**	**347**	*e*PN	**Pn**	**08 08 50.0**	**+1.4**
CTYL	**Yalikoy Yolu**	**2.43**	**347**	*e*Pn	**Pn**	**08 08 50.0**	**+1.4**
ERIK	**Erikli-Kesan**	**2.48**	**310**	*e*PN	**Pn**	**08 08 50.7**	**+1.3**
ERIK	**Erikli-Kesan**	**2.48**	**310**	*e*Pn	**Pn**	**08 08 50.7**	**+1.3**
ENEZ	**Enez**	**2.74**	**307**	*e*PN	**Pn**	**08 08 54.4**	**+1.5**
ENEZ	**Enez**	**2.74**	**307**	*e*Pn	**Pn**	**08 08 54.4**	**+1.5**

DDA 01 08:08:11.2, 40.46N×27.58E, h7km, Md2.5, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SART	**Tekirdag**	**0.38**	**307**	*i* P	Pb	08 08 19.6	-0.7
SART				*i* S	Sb	08 08 25.1	-1.4

BUC 01 08:10:51.1±0.1, 44.24N×28.31E, h10km, MD2.1/2, 6C-2D, Error ellipse: s-maj=1.1km s-min=0.4km az=3.0, Romania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TIRR	**Tirgusor**	**0.23**	**19**	⇑*i* P	Pg	08 10 56.0	+0.2
TIRR	**Tirgusor**	**0.23**	**19**	*i* S	Sg	08 10 59.6	+0.7
TIRR	**Tirgusor**	**0.23**	**19**	⇑*i* P	Pg	08 10 56.0	+0.2
TIRR				*i* S	Sg	08 10 59.6	+0.7
TLB	**Topalu**	**0.39**	**331**	⇑*i* P	Pg	08 10 59.2	+0.4
TLB	**Topalu**	**0.39**	**331**	⇑*i* P	Pg	08 10 59.2	+0.4
TLB				*i* S	Sb	08 11 05.2	-1.1
HARR	**Harsova**	**0.52**	**329**	⇓*i* P	Pg	08 11 01.8	+0.5
HARR	**Harsova**	**0.52**	**329**	⇓*i* P	Pg	08 11 01.8	+0.5
CFR	**Carcaliu**	**0.94**	**352**	⇑*i* P	Pb	08 11 09.7	+0.1
CFR				S	Sb	08 11 22.3	+0.2
CFR	**Carcaliu**	**0.94**	**352**	⇑*i* P	Pb	08 11 09.7	+0.1
CFR				*i* S	Sb	08 11 22.3	+0.2

*GUC **01** 08:12:27.3±0.6, 34.09S×70.19W, h19km±3km, ML3.0*
*ISCJB **01** 08:12:28.0±0.9, 34.11S±0.03×70.27W±0.05, h2km±7km, Error ellipse: s-maj=7.1km s-min=4.9km az=12.4*
*SJA **01** 08:12:32.3±0.7, 33.75S×70.16W, h10km±8km, ML3.3*

ISC 01 08:12:26.8±1.5, 34.05S±0.03×70.26W±0.05, h2km±12km, n20, σ1.13/29, 2C-1D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YECH	**El Yeso**	**0.41**	**21**	⇓*i* P	**Pb**	**08 12 37.5**	**+0.6**
YECH				*i* S	**Sb**	**08 12 44.8**	**+1.1**
ANTU	**Antumapu**	**0.57**	**327**	*e*P	**Pb**	**08 12 40.6**	**+1.0**
ANTU				*i* S	**Sn**	**08 12 50.1**	**-1.8**
FSR	**Penalolen**	**0.61**	**338**	*i* P	**Pb**	**08 12 40.9**	**+0.7**
FSR				*i* S	**Sn**	**08 12 50.7**	**-2.3**
CLCH	**Cerro Calan**	**0.69**	**340**	*i* P	**Pb**	**08 12 42.3**	**+0.7**
CLCH				*i* S	**Sn**	**08 12 53.6**	**-1.3**
CLCH				IAML		08 12 55.6	
	comp=E,2μm,0.3s						
FCH	**Farellones**	**0.72**	**358**	*e*P	**Pb**	**08 12 42.3**	**0.0**
FCH				*i* S	**Sn**	**08 12 54.5**	**-1.5**
FCH				IAML		08 12 57.0	
	comp=E,1μm,0.2s						
RCDM	**Rinconada Maip**	**0.72**	**321**	*e*P	**Pg**	**08 12 38.9**	**-1.7**
RCDM				*i* S	**Sg**	**08 12 50.9**	**+1.0**
PEL	**Peldehue**	**0.97**	**338**	*e*P	**Pb**	**08 12 46.8**	**+0.5**
PEL				*i* S	**Sn**	**08 13 01.7**	**-0.1**
PEL				IAML		08 13 03.6	
	comp=E,555nm,0.2s						
ROC1	**El Roble**	**1.24**	**329**	*e*P	**Pn**	**08 12 52.8**	**+1.3**
ROC1				*e*S	**Sb**	**08 13 07.4**	**-0.3**
ROCH	**El Roble**	**1.24**	**329**	*e*P	**Pn**	**08 12 52.2**	**+0.8**
ROCH				*i* S	**Sn**	**08 13 10.6**	**+1.8**
ROCH				IAML		08 13 13.1	
	comp=E,502nm,0.4s						
NICH	**Los Niches**	**1.25**	**220**	⇑*i* P	**Pn**	**08 12 50.4**	**-0.9**
NICH				*i* S	**Sb**	**08 13 07.6**	**0.0**
AAGR	**Agrelo**	**1.53**	**52**	*e*P	**Pg**	**08 12 56.3**

ellipse: s-maj=5.3km s-min=3.4km az=119.0
*BGR **01** 08:48:27.9±0.4, 51°.50N×6°.52E, h1km, ML2.3/8, Error ellipse: s-maj=6.7km s-min=3.3km az=120.0*
*LDG **01** 08:48:27.9±0.5, 51°.46N×6°.61E, h1km, Ml2.7/7, Error ellipse: s-maj=10.7km s-min=7.5km az=126.0, Suspected Mining induced.*
*BUG **01** 08:48:27.1, 51°.45N×6°.53E, h1km, ML2.2*
BUG Felt IV EMS.

ISC 01 08:48:24.6±0.8, **51°.57N**±0°.03×**6°.31E**±0°.03, **h0**km, **n49,** σ1§**27**/82, **Germany**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WTSB	**Winterswijk**	**0.50**	**37**	*e*Pg	**Pb**	**08 48 37.0**	**+0.8**
WTSB				*e*Sg	**Sb**	**08 48 44.0**	**0.0**
WTSB	**Winterswijk**	**0.50**	**37**	*e*Pg	**Pb**	**08 48 37.2**	**+1.0**
WTSB				*e*Sg	**Sb**	**08 48 43.5**	**-0.5**
WTSB	**Winterswijk**	**0.50**	**37**	Pg	**Pb**	**08 48 37.2**	**+1.0**
WTSB				Sg	**Sb**	**08 48 43.5**	**-0.5**
HES	**Velbert-Hesper**	**0.50**	**114**	*e*Pg	**Pg**	**08 48 33.7**	**-0.5**
HES	**Velbert-Hesper**	**0.50**	**114**	Pg	**Pg**	**08 48 33.7**	**-0.5**
BUG	**Bochum--Univer**	**0.61**	**102**	*e*Pg	**Pg**	**08 48 36.8**	**+0.4**
BUG				Sg	**Sg**	**08 48 43.8**	**-0.5**
PLH	**Pulheim**	**0.65**	**151**	*e*Sg	**Sg**	**08 48 45.9**	**+0.3**
PLH	**Pulheim**	**0.65**	**151**	Sg	**Sg**	**08 48 45.9**	**+0.3**
GSH	**Grosshau**	**0.84**	**177**	*e*Pg	**Pg**	**08 48 41.5**	**+0.8**
GSH				*e*Sg	**Sg**	**08 48 53.0**	**+1.4**
	20nm,0.1s						
GSH	**Grosshau**	**0.84**	**177**	Pg	**Pg**	**08 48 41.5**	**+0.8**
GSH				Sg	**Sg**	**08 48 53.0**	**+1.4**
	20nm,0.1s						
HGN	**Heimansgroeve**	**0.84**	**197**	*e*Pn	**Pb**	**08 48 42.9**	**+0.8**
HGN				*e*Pg	**Pn**	**08 48 44.4**	**+0.6**
HGN				*e*Sn	**Sb**	**08 48 54.0**	**0.0**
HGN				*e*Sg	**Sn**	**08 48 55.8**	**-1.1**
HGN	**Heimansgroeve**	**0.84**	**197**	*e*Pg	**Pb**	**08 48 43.0**	**+0.8**
HGN				*e*Sg	**Sb**	**08 48 54.4**	**+0.4**
HGN	**Heimansgroeve**	**0.84**	**197**	Pg	**Pb**	**08 48 43.0**	**+0.8**
HGN				*e*Sn	**Sb**	**08 48 54.0**	**0.0**
WBS	**Wahnbachtalspe**	**0.98**	**141**	*e*Sg	**Sg**	**08 48 55.4**	**-0.7**
	21nm,0.1s						
WBS	**Wahnbachtalspe**	**0.98**	**141**	Sg	**Sg**	**08 48 55.4**	**-0.7**
	21nm,0.1s						
MEM	**Membach**	**0.98**	**191**	*e*Pg	**Pb**	**08 48 45.3**	**+0.8**
MEM				*e*Sg	**Sb**	**08 48 58.6**	**+0.5**
MEM	**Membach**	**0.98**	**191**	Pg	**Pb**	**08 48 45.3**	**+0.8**
MEM				Sg	**Sb**	**08 48 58.6**	**+0.5**
TDN	**Todenfeld**	**1.08**	**158**	*e*Pg	**Pg**	**08 48 46.0**	**+0.8**
TDN				*e*Sg	**Sg**	**08 48 59.6**	**+0.4**
	6.1nm,0.1s						
TDN	**Todenfeld**	**1.08**	**158**	Pg	**Pg**	**08 48 46.0**	**+0.8**
TDN				Sg	**Sg**	**08 48 59.6**	**+0.4**
	6.1nm,0.1s						
OLFT	**Oleftalsperre**	**1.08**	**176**	*e*Pg	**Pb**	**08 48 46.3**	**+0.1**
OLFT				*e*Sg	**Sg**	**08 49 00.2**	**+0.8**
OLFT	**Oleftalsperre**	**1.08**	**176**	Pg	**Pb**	**08 48 46.3**	**+0.1**
OLFT				Sg	**Sg**	**08 49 00.2**	**+0.8**
AHRW	**Bad Neuenahr-A**	**1.14**	**155**	*e*Pg	**Pb**	**08 48 48.1**	**+0.3**
AHRW				*e*Sg	**Sb**	**08 49 02.8**	**+0.3**
AHRW	**Bad Neuenahr-A**	**1.14**	**155**	Pg	**Pn**	**08 48 48.1**	**+0.3**
AHRW				Sg	**Sb**	**08 49 02.8**	**+0.3**
IBBN	**Ibbenburen**	**1.16**	**50**	*e*Sg	**Sn**	**08 49 04.5**	**-0.1**
IBBN	**Ibbenburen**	**1.16**	**50**	Sg	**Sn**	**08 49 04.5**	**-0.1**
GIVF	**Givet**	**1.75**	**213**	*e*Pn	**Pb**	**08 48 57.8**	**+0.2**
GIVF				*e*Sn	**Sn**	**08 49 20.0**	**+0.8**
	18nm,0.3s						
GIVF	**Givet**	**1.75**	**213**	*e*Pn	**Pb**	**08 48 57.8**	**+0.2**
GIVF				*e*Sn	**Sn**	**08 49 20.0**	**+0.8**
	9.1nm,0.3s						
TNS	**Taunus Mts**	**1.91**	**134**	*e*Pn	**Pn**	**08 48 59.1**	**+0.6**
TNS				*e*Pg	**Pb**	**08 49 00.6**	**+0.2**
TNS				*e*Sg	**Sn**	**08 49 22.7**	**-0.6**
TNS	**Taunus Mts**	**1.91**	**134**	Pn	**Pn**	**08 48 59.1**	**+0.6**
WLF	**Walferdange**	**1.91**	**183**	*e*Pg	**Pg**	**08 49 02.0**	**+0.7**
WLF				*e*Sg	**Sb**	**08 49 25.5**	**+0.7**
WLF	**Walferdange**	**1.91**	**183**	Pg	**Pg**	**08 49 02.0**	**+0.7**
WLF				Sg	**Sb**	**08 49 25.5**	**+0.7**
BAIF	**Baives**	**2.02**	**222**	*e*Sn	**Sb**	**08 49 28.1**	**+0.2**
BAIF				*e*Sg	**Sg**	**08 49 33.6**	**+4.1**
	9.5nm,0.3s						
BAIF	**Baives**	**2.02**	**222**	*e*Sn	**Sb**	**08 49 28.1**	**+0.2**
CLZ	**Clausthal**	**2.54**	**82**	*e*Sg	**Sb**	**08 49 42.9**	**0.0**
PAGF	**Fort de Pagny**	**3.05**	**187**	*e*Sg	**Sg**	**08 50 02.9**	**+0.5**
	1.4nm,0.4s						
PAGF	**Fort de Pagny**	**3.05**	**187**	*e*Sg	**Sg**	**08 50 02.9**	**+0.5**
	0.7nm,0.4s						
LOR	**Lormes**	**4.60**	**201**	*e*Pn	**Pn**	**08 49 36.3**	**+0.9**
LOR				*e*Sn	**Sn**	**08 50 26.2**	**-3.3**
LOR				*e*Sg	**Sg**	**08 50 50.3**	**-1.9**
	3.2nm,0.4s						
LOR	**Lormes**	**4.60**	**201**	*e*Pn	**Pn**	**08 49 36.3**	**+0.9**
LOR				*e*Sn	**Sn**	**08 50 26.2**	**-3.3**
LOR				*e*Sg	**Sg**	**08 50 50.3**	**-1.9**
	1.6nm,0.4s						
SSF	**Saint Saulge**	**4.88**	**203**	*e*Pn	**Pn**	**08 49 40.0**	**+0.8**
SSF	**Saint Saulge**	**4.88**	**203**	*e*Pn	**Pn**	**08 49 40.0**	**+0.8**
AVF	**Avril sur Loir**	**5.17**	**203**	*e*Pn	**Pn**	**08 49 43.7**	**+0.6**
AVF	**Avril sur Loir**	**5.17**	**203**	*e*Pn	**Pn**	**08 49 43.7**	**+0.6**
SMF	**Signal de Mont**	**5.19**	**199**	*e*Pn	**Pn**	**08 49 44.2**	**+0.7**
SMF				*e*Sg	**Sg**	**08 51 08.6**	**-2.7**
	2.5nm,0.4s						
SMF	**Signal de Mont**	**5.19**	**199**	*e*Pn	**Pn**	**08 49 44.2**	**+0.7**
SMF				*e*Sg	**Sg**	**08 51 08.6**	**-2.7**
	1.2nm,0.4s						
BGF	**Bois d'Agland**	**5.51**	**206**	*e*Pn	**Pn**	**08 49 48.6**	**+0.7**
BGF	**Bois d'Agland**	**5.51**	**206**	*e*Pn	**Pn**	**08 49 48.6**	**+0.7**
GRR	**Gorron**	**5.62**	**238**	*e*Pn	**Pn**	**08 49 47.2**	**-2.1**
TCF	**Toulx Ste Croi**	**5.94**	**209**	*e*Pn	**Pn**	**08 49 54.3**	**+0.5**
TCF				*e*Sn	**Sn**	**08 50 56.9**	**-5.6**
	1.0nm,0.3s						
TCF	**Toulx Ste Croi**	**5.94**	**209**	*e*Pn	**Pn**	**08 49 54.3**	**+0.5**

IDC 01 09:18:25.6±5.0, **18°.39S**×**174°.78W**, **h174**km±40km, **mb4.0**/3, **mb1 4.0**/4, **mb1mx3.4**/32, **mbtmp4.4**/4, **Error ellipse: s-maj=130.0km s-min=31.6km az=142.0, Tonga Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**5.31**	**33**	P	Pn	09 19 43.5	-0.1
	2.7nm,0.3s,baz=118,slow=8.6,SNR=4.7						
AFI				S	Sn	09 20 38.0	-6.8
	20nm,0.3s,baz=48,slow=23,SNR=13						
STKA	**Stephens Creek**	**41.45**	**242**	P	P	09 25 56.1	+0.7
	0.6nm,0.4s,baz=84,slow=12,SNR=5.2						
WRA	**Warramunga Arr**	**47.94**	**259**	P	P	09 26 46.4	-0.5
	2.3nm,0.3s,baz=98,slow=7.0,SNR=105						
ASAR	**Alice Springs**	**47.98**	**254**	P	P	09 26 47.0	-0.3
	12nm,0.6s,baz=90,slow=8.2,SNR=253						
ASAR				PcP	PcP	09 28 11.7	-1.0
	0.2nm,0.5s,baz=88,slow=3.2,SNR=3.0						
BRTR	**Keskin Array B**	**147.53**	**317**	PKPbc	PKPbc	09 37 49.6	0.0
	0.7nm,0.8s,baz=72,slow=4.0,SNR=4.1						

IDC 01 09:25:15.0±13.0, **19°.07S**×**167°.66E**, **h0**km, **mb3.7**/3, **mb1 3.8**/4, **mb1mx3.5**/26, **mbtmp3.6**/4, **ML3.0**/1, **Error ellipse: s-maj=220.1km s-min=40.1km az=80.0, Vanuatu Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**3.20**	**201**	Pn	Pn	09 26 05.5	-1.2
	1.8nm,0.3s,baz=100,slow=21,SNR=17						
DZM				Sn	Sn	09 26 44.8	-0.8
	6.1nm,0.3s,baz=186,slow=18,SNR=7.0						
STKA	**Stephens Creek**	**26.68**	**236**	P	P	09 30 57.5	+1.6
	0.6nm,0.4s,baz=66,slow=12,SNR=4.4						
WRA	**Warramunga Arr**	**31.39**	**263**	P	P	09 31 36.8	-1.1
	0.2nm,0.3s,baz=88,slow=8.1,SNR=2.3						
ASAR	**Alice Springs**	**31.72**	**256**	P	P	09 31 41.1	+0.3
	0.8nm,0.5s,baz=82,slow=8.5,SNR=17						

*IDC **01** 10:16:03.4±15.0, 0°.52N×126°.83E, h0km, mb3.8/3, mb1 4.0/3, mb1mx3.6/38, mbtmp3.8/3, Error ellipse: s-maj=235.8km s-min=151.9km az=161.0*
*DJA **01** 10:16:03.4±0.3, 1°.N×3°×12°.7E×, h10km, M4.2/4, MLv4.2/4*
ISC 01 10:16:04.7±2.2, **1°.2N**±0°.2×**127°.5E**±0°.1, **h35**km, **n7,** σ0§**94**/9, **mb3.8**/3, **Halmahera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LBMI	**Labuha**	**1.81**	**180**	P	**Pn**	**10 16 33.1**	**-0.4**
LBMI				S	**Sn**	**10 16 56.2**	**+1.0**
SANI	**Sanana**	**3.56**	**205**	P	**Pn**	**10 16 57.0**	**-0.4**
KMSI	**Cibinong**	**3.58**	**260**	P	**Pn**	**10 16 56.8**	**-0.9**
KMSI				S	**Sn**	**10 17 38.6**	**-0.1**
GTOI	**Gorontalo**	**4.53**	**263**	P	**Pn**	**10 17 11.7**	**+0.9**
WRA	**Warramunga Arr**	**22.04**	**163**	P	**P**	**10 20 55.8**	**-0.7**
	2.1nm,0.5s,baz=340,slow=11,SNR=23						
ASAR	**Alice Springs**	**25.48**	**166**	P	**P**	**10 21 28.6**	**-1.1**
	1.1nm,0.7s,baz=343,slow=12,SNR=20						
STKA	**Stephens Creek**	**35.49**	**159**	P	**P**	**10 22 59.0**	**+0.8**
	1.1nm,0.7s,baz=323,slow=10,SNR=3.8						

*DDA **01** 10:38:00.8, 37°.07N×28°.07E, h7km, Md2.7, Suspected Mining explosion.*
*ISCJB **01** 10:38:01.8±0.6, 37°.05N±0°.04×28°.22E±0°.04, h0km, Error ellipse: s-maj=5.2km s-min=4.1km az=3.8*
*CSEM **01** 10:38:01.6±0.3, 37°.10N×28°.24E, h2km, MD1.9, Error ellipse: s-maj=8.2km s-min=5.9km az=12.0, Suspected Mining explosion.*
*ISK **01** 10:38:01.6, 37°.09N×28°.15E, h5km, MD1.9, ML2.0*
ISC 01 10:38:00.1±0.8, **37°.12N**±0°.04×**28°.19E**±0°.03, **h0**km, **n15,** σ0§**54**/26, **Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MLSB	**Milas**	**0.37**	**298**	*e*PG	**Pb**	**10 38 09.3**	**-0.3**
MLSB	**Milas**	**0.37**	**298**	*e*Pg	**Pb**	**10 38 09.3**	**-0.3**
TURN	**Turunc**	**0.41**	**126**	*i* P	**Pg**	**10 38 07.4**	**-0.6**
TURN				*i* S	**Sg**	**10 38 12.9**	**-0.5**
TURN	**Turunc**	**0.41**	**126**	P	**Pg**	**10 38 07.4**	**-0.6**
TURN				S	**Sg**	**10 38 12.9**	**-0.5**
DALY	**Dalyan (Mu¨la**	**0.48**	**129**	*e*PG	**Pb**	**10 38 11.4**	**-0.1**
DALY				*e*SG	**Sb**	**10 38 20.7**	**+1.7**
DALY	**Dalyan (Mu¨la**	**0.48**	**129**	*i* P	**Pb**	**10 38 11.3**	**-0.1**
DALY				*i* S	**Sb**	**10 38 19.4**	**+0.4**
DALY	**Dalyan (Mu¨la**	**0.48**	**129**	P	**Pb**	**10 38 11.3**	**-0.1**
DALY				S	**Sb**	**10 38 19.4**	**+0.4**
DAT	**Datca**	**0.62**	**232**	*e*PG	**Pb**	**10 38 13.8**	**-0.1**
DAT				*e*SG	**Sb**	**10 38 23.9**	**+0.7**
DAT	**Datca**	**0.62**	**232**	*e*Pg	**Pb**	**10 38 13.8**	**-0.1**
DAT				*e*Sg	**Sb**	**10 38 24.0**	**+0.7**
BODT	**Bodrum**	**0.70**	**266**	*e*PG	**Pb**	**10 38 15.4**	**+0.2**
BODT				*e*SG	**Sb**	**10 38 25.8**	**+0.3**
BODT	**Bodrum**	**0.70**	**266**	*e*Pg	**Pb**	**10 38 15.4**	**+0.2**
BODT				*e*Sg	**Sb**	**10 38 25.8**	**+0.3**
AYDB	**Zeytinkoy-Aydi**	**0.86**	**344**	*e*PG	**Pn**	**10 38 19.5**	**-0.1**
AYDB				*e*SG	**Sn**	**10 38 33.6**	**+0.7**
AYDB	**Zeytinkoy-Aydi**	**0.86**	**344**	*e*Pg	**Pn**	**10 38 19.5**	**-0.1**
DNZL	**Cakiroluk**	**0.89**	**50**	*i* P	**Pn**	**10 38 18.5**	**-0.1**
DNZL				*i* S	**Sn**	**10 38 34.4**	**+0.6**
DNZL	**Cakiroluk**	**0.89**	**50**	P	**Pb**	**10 38 18.5**	**-0.1**

*ISK **01** 10:56:50.6, 38°.87N×26°.76E, h15km, MD2.3*
*ISCJB **01** 10:56:51.1±0.5, 38°.85N±0°.03×26°.77E±0°.06, h10km±4km, Error ellipse: s-maj=8.1km s-min=4.2km az=8.6*
*CSEM **01** 10:56:51.2±0.1, 38°.86N×26°.76E, h15km, MD2.3, Error ellipse: s-maj=4.2km s-min=2.7km az=93.0*
*DDA **01** 10:56:51.1, 38°.84N×26°.79E, h7km, Md2.6*
ISC 01 10:56:51.0±0.9, **38°.85N**±0°.03×**26°.76E**±0°.04, **h12**km±6km, **n26,** σ0§**40**/38, **Aegean Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAND	**Candarli**	**0.11**	**20**	*e*PG	**Pg**	**10 56 55.8**	**-0.2**
CAND				*e*SG	**Sg**	**10 56 56.4**	**+0.2**
DKL	**Dikili**	**0.25**	**28**	*e*PG	**Pg**	**10 56 56.3**	**+0.1**
DKL				*e*SG	**Sg**	**10 57 00.1**	**+0.4**
DKL	**Dikili**	**0.25**	**28**	*e*Pg	**Pg**	**10 56 56.3**	**+0.1**
DKL				*e*Sg	**Sg**	**10 57 00.1**	**+0.4**
URLA	**Izmir**	**0.51**	**194**	*e*PG	**Pg**	**10 57 01.2**	**+0.3**
URLA				*e*SG	**Sb**	**10 57 09.3**	**+0.1**
URLA	**Izmir**	**0.51**	**194**	*i* P	**Pg**	**10 57 01.1**	**+0.1**
URLA				*i* S	**Sb**	**10 57 09.6**	**+0.4**
URLA	**Izmir**	**0.51**	**194**	P	**Pg**	**10 57 01.1**	**+0.1**
URLA				*e*Sg	**Sb**	**10 57 09.3**	**+0.1**
ZEY	**¨zmir**	**0.64**	**198**	*i* P	**Pg**	**10 57 03.0**	**-0.5**
ZEY				*i* S	**Sb**	**10 57 13.3**	**+0.2**
AKS	**Akhisar**	**0.82**	**88**	*e*PG	**Pg**	**10 57 06.9**	**-0.1**
AKS	**Akhisar**	**0.82**	**88**	*e*Pg	**Pg**	**10 57 06.9**	**-0.1**
EZN	**Ezine**	**1.03**	**341**	*e*PG	**Pg**	**10 57 10.8**	**0.0**
EZN				*e*SG	**Sn**	**10 57 25.0**	**-0.6**
EZN	**Ezine**	**1.03**	**341**	*e*Pg	**Pg**	**10 57 10.8**	**0.0**
EZN				*e*Sg	**Sn**	**10 57 25.0**	**-0.6**
BALY	**Balya**	**1.11**	**37**	*i* P	**Pn**	**10 57 12.1**	**-0.3**
BALY				*i* S	**Sn**	**10 57 28.3**	**+0.6**
BALY	**Balya**	**1.11**	**37**	P	**Pn**	**10 57 12.1**	**-0.3**
BALY				S	**Sn**	**10 57 28.3**	**+0.6**
BOZC	**Bozcaada**	**1.13**	**331**	*e*PN	**Pb**	**10 57 12.0**	**-0.5**
BOZC	**Bozcaada**	**1.13**	**331**	*i* P	**Pg**	**10 57 13.4**	**+0.6**
BOZC				*i* S	**Sn**	**10 57 29.2**	**+1.1**
BOZC	**Bozcaada**	**1.13**	**331**	*e*Pn	**Pb**	**10 57 12.0**	**-0.5**
BALB	**Balikesir**	**1.18**	**48**	*e*PN	**Pn**	**10 57 12.8**	**-0.4**
BALB	**Balikesir**	**1.18**	**48**	*e*Pn	**Pn**	**10 57 12.8**	**-0.4**
AYDB	**Zeytinkoy-Aydi**	**1.27**	**135**	*e*PN	**Pb**	**10 57 14.8**	**-0.1**
AYDB	**Zeytinkoy-Aydi**	**1.27**	**135**	*e*Pn	**Pb**	**10 57 14.8**	**-0.1**
GADA	**Gvkgeada**	**1.49**	**334**	*e*PN	**Pn**	**10 57 17.4**	**-0.2**
GADA	**Gvkgeada**	**1.49**	**334**	*e*Pn	**Pn**	**10 57 17.4**	**-0.2**
KRBG	**Karabiga-Canak**	**1.59**	**15**	*e*PN	**Pn**	**10 57 18.8**	**-0.2**
KRBG	**Karabiga-Canak**	**1.59**	**15**	*e*Pn	**Pn**	**10 57 18.8**	**-0.2**
RKY	**Sarkoy-Tekirda**	**1.86**	**10**	*e*PN	**Pn**	**10 57 22.6**	**-0.2**
RKY	**Sarkoy-Tekirda**	**1.86**	**10**	*e*Pn	**Pn**	**10 57 22.6**	**-0.2**

*NIED **01** 11:06:00, 38°.20N×143°.70E, h8km, Mw3.9 Best double couple: M0 7.64000×10^14 NP1:φs 339.00000°, δ54.00000°, λ-177.00000°. NP2:φs 247.00000°, δ88.00000°, λ-36.00000°.*
*IDC **01** 11:06:54.5±1.1, 38°.12N×143°.81E, h0km, mb3.7/5, mb1 3.9/11, mb1mx3.7/39, mbtmp3.8/11, ML3.4/6, MS3.2/3, Ms1 3.2/3, ms1mx2.7/54, Error ellipse: s-maj=25.5km s-min=18.7km az=88.0*
*ISCJB **01** 11:06:55.7±0.6, 38°.20N±0°.03×143°.71E±0°.05, h19km, mb3.7/5, MS3.9/1, Error ellipse: s-maj=6.1km s-min=4.4km az=23.7*
*JMA **01** 11:06:57.6±0.2, 38°.21N×143°.65E, h37km, M4.0*
ISC 01 11:06:57.7±1.1, **38°.18N**±0°.05×**143°.65E**±0°.09, **h19**km, **n39,** σ1§**54**/45, **mb3.7**/5, **Off east coast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OFUJ	**Ofunato**	**1.79**	**301**	P	**Pn**	**11 07 27.0**	**-0.6**
OFUJ				S	**Sn**	**11 07 49.1**	**-0.7**
JIO	**Ouri**	**1.83**	**279**	P	**Pn**	**11 07 27.7**	**-0.4**
JIO				*e*S	**Sn**	**11 07 49.0**	**-1.8**
MIYJ	**Miyakonagasawa**	**2.00**	**315**	P	**Pn**	**11 07 29.5**	**-0.9**
MIYJ				S	**Sn**	**11 07 53.3**	**-1.5**
JMK	**Ichinoseki**	**2.06**	**293**	P	**Pn**	**11 07 31.2**	**0.0**
JMK				S	**Sn**	**11 07 56.5**	**+0.2**
JOM	**Ohasama**	**2.25**	**306**	P	**Pn**	**11 07 33.7**	**-0.2**
JOM				S	**Sn**	**11 08 01.2**	**+0.1**
JOU	**Okura**	**2.36**	**275**	P	**Pn**	**11 07 35.6**	**+0.2**
JOU				S	**Sn**	**11 08 04.2**	**+0.4**
JRG	**Rokugo**	**2.65**	**298**	P	**Pn**	**11 07 39.6**	**+0.2**
JYK	**Kaneyama**	**2.68**	**287**	P	**Pn**	**11 07 40.1**	**+0.2**
JFT	**Otama**	**2.71**	**257**	P	**Pn**	**11 07 40.7**	**+0.5**
JFT				S	**Sn**	**11 08 11.6**	**-0.8**
JANG	**Nango**	**2.74**	**323**	P	**Pn**	**11 07 39.9**	**-0.8**
JANG				*e*S	**Sn**	**11 08 12.1**	**-1.2**
JAH	**Hinai**	**3.08**	**311**	P	**Pn**	**11 07 46.6**	**+1.3**
JTM	**Tenmabayashi**	**3.28**	**323**	P	**Pn**	**11 07 49.1**	**+1.1**
JAW	**Awa shima**	**3.47**	**276**	P	**Pn**	**11 07 51.4**	**+0.7**
JOT	**Ohata**	**3.77**	**329**	*e*S	**Sn**	**11 08 36.6**	**-2.0**
JAG	**Ashikaga**	**3.78**	**244**	P	**Pn**	**11 07 54.5**	**-0.4**
JNBK	**Urakawa-nobuka**	**4.15**	**351**	P	**Pn**	**11 08 00.3**	**+0.3**
JNBK				S	**Sn**	**11 08 46.4**	**-1.5**
JKB	**Kayabe**	**4.21**	**332**	P	**Pn**	**11 08 02.7**	**+1.9**
JRY	**Ryogami san**	**4.37**	**242**	P	**Pn**	**11 08 02.8**	**-0.3**
JCH	**Churui**	**4.43**	**357**	P	**Pn**	**11 08 03.0**	**-0.8**
JCH				*e*S	**Sn**	**11 08 51.2**	**-3.7**
MJAR	**Matsushiro Arr**	**4.64**	**251**	Pn	**Pn**	**11 08 07.8**	**+1.1**
	2.9nm,0.3s,baz=84,slow=18,SNR=20						
MJAR				Sn	**Sn**	**11 09 02.0**	**+2.0**
	1.3nm,0.3s,baz=84,slow=29,SNR=3.6						
MAT	**Matsushiro**	**4.64**	**251**	P	**Pn**	**11 08 08.1**	**+1.4**
MAT				S	**Sn**	**11 09 01.2**	**+1.2**
JHJ	**Hachijo jima 2**	**5.96**	**213**	Pn	**Pn**	**11 08 23.4**	**-1.5**
	31nm,0.3s,baz=59,slow=19,SNR=3.6						
JHJ				Sn	**Sn**	**11 09 25.9**	**-6.5**
	24nm,0.3s,baz=253,slow=20,SNR=2.9						
ASAJ	**Asahikawa**	**5.98**	**353**	Pn	**Pn**	**11 08 25.5**	**+0.4**
	1.3nm,0.3s,baz=193,slow=5.8,SNR=16						
ASAJ				Sn	**Sn**	**11 09 33.4**	**+0.4**
	1.2nm,0.3s,baz=233,slow=20,SNR=3.4						
USRK	**Ussuriysk Ar.**	**10.64**	**308**	Pn	**Pn**	**11 09 31.0**	**+2.0**
	0.4nm,0.3s,baz=116,slow=13,SNR=6.4						
KSRS	**Korea Array**	**12.46**	**271**	Pn	**Pn**	**11 09 55.5**	**+1.5**
	0.1nm,0.3s,baz=102,slow=16,SNR=4.7						
KSRS				LR	LR	11 14 43.9	
	comp=Z,65nm,18.8s,baz=70,slow=37						
KLR	**Kul'dur**	**13.98**	**326**	Pn	**Pn**	**11 10 14.4**	**-0.2**
	0.1nm,0.3s,baz=130,slow=16,SNR=2.8						
PETK	**Petropavlovsk-**	**17.81**	**29**	LR	LR	11 18 22.3	
	comp=Z,34nm,19.9s,baz=224,slow=39						
H11N2	**WAKE ISLAND Hy**	**27.29**	**126**	T	T	11 41 13.0	
	baz=318,slow=74,SNR=13						
H11N1	**WAKE ISLAND Hy**	**27.30**	**126**	T	T	11 41 15.6	
	baz=318,slow=74,SNR=9.0						
H11N3	**WAKE ISLAND Hy**	**27.31**	**126**	T	T	11 41 17.8	
	baz=318,slow=74,SNR=10.0						
H11S1	**WAKE ISLAND Hy**	**28.07**	**128**	T	T	11 42 13.4	
	baz=319,slow=75,SNR=4.4						
H11S3	**WAKE ISLAND Hy**	**28.08**	**128**	T	T	11 42 19.9	
	baz=319,slow=75,SNR=3.9						
H11S2	**WAKE ISLAND Hy**	**28.09**	**128**	T	T	11 42 16.5	
	baz=319,slow=75,SNR=3.3						
SONM	**Songino Array**	**28.66**	**302**	P	**P**	**11 12 54.2**	**+1.0**
	0.7nm,0.5s,baz=92,slow=9.7,SNR=4.7						
ZALV	**Zalesovo Beam**	**42.47**	**311**	P	**P**	**11 14 51.6**	**+0.4**
	0.6nm,0.3s,baz=79,slow=7.7,SNR=3.8						
ILAR	**Eielson Array**	**47.57**	**33**	P	**P**	**11 15 31.2**	**-0.4**
	0.4nm,0.7s,baz=251,slow=5.9,SNR=4.2						
WRA	**Warramunga Arr**	**58.48**	**190**	P	**P**	**11 16 51.9**	**-0.6**
	1.4nm,0.7s,baz=10.0,slow=7.2,SNR=15						
ASAR	**Alice Springs**	**62.20**	**190**	P	**P**	**11 17 17.8**	**-0.1**
	0.3nm,0.6s,baz=6.8,slow=7.3,SNR=6.7						
SFJD	**Kangerlussuaq**	**74.58**	**6**	LR	LR	11 51 50.0	
	comp=Z,63nm,18.5s,baz=285,slow=36						

*DDA **01** 11:14:09.6, 41°.32N×44°.23E, h7km, Md3.0*
*ISCJB **01** 11:14:09.9±0.5, 41°.29N±0°.02×44°.25E±0°.03, h0km±3km, mb3.9/2, Error ellipse: s-maj=4.9km s-min=2.6km az=35.8*
*TIF **01** 11:14:10.0, 41°.34N×44°.26E, h17km*
*ISK **01** 11:14:09.6, 41°.29N×44°.28E, h5km, MD2.8*
*CSEM **01** 11:14:10.3±0.2, 41°.30N×44°.26E, h2km, ML2.9, Error ellipse: s-maj=4.9km s-min=3.0km az=120.0*
*MOS **01** 11:14:10.4±1.4, 41°.27N×44°.29E, h12km, mb4.1/2, Error ellipse: s-maj=13.4km s-min=5.5km az=92.3*
ISC 01 11:14:10.8±0.9, **41°.31N**±0°.02×**44°.24E**±0°.02, **h9**km±7km, **n66,** σ1§**05**/116, **2C-3D, Western Caucasus**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KZR	**Kazreti**	**0.15**	**61**	P	**Pg**	**11 14 14.3**	**+0.3**
KZR				S	**Sg**	**11 14 16.8**	**+0.6**
KZR	**Kazreti**	**0.15**	**61**	P	**Pg**	**11 14 14.3**	**+0.3**
KZR				S	**Sg**	**11 14 16.8**	**+0.6**
BGD	**Bogdanovka**	**0.49**	**265**	P	**Pg**	**11 14 20.4**	**+0.1**
BGD				S	**Sg**	**11 14 27.4**	**+0.8**
BGD	**Bogdanovka**	**0.49**	**265**	P	**Pg**	**11 14 20.4**	**+0.1**
BGD				S	**Sg**	**11 14 27.5**	**+0.8**
TBLG	**Delisi**	**0.56**	**41**	*e*PG	**Pg**	**11 14 21.0**	**-0.7**
TBLG				*e*SG	**Sg**	**11 14 28.9**	**-0.1**
TBLG	**Delisi**	**0.56**	**41**	P	**Pg**	**11 14 29.0**

CHVG	**Ch'k'valeri**	**2.14**	**312**	P		**Pn**	**11 14 47.7**	**+1.0**
CHVG				S		**Sb**	**11 15 15.3**	**-1.0**
NEY	**Neytrino**	**2.24**	**330**	*e*Pn		**Pb**	**11 14 50.4**	**-1.2**
NEY				*e*S		**Sb**	**11 15 18.8**	**-0.8**
NEY	**Neytrino**	**2.24**	**330**	*e*Pn		**Pb**	**11 14 50.4**	**-1.2**
NEY				*e*Sn		**Sb**	**11 15 18.8**	**-0.8**
ANN	**Anapa**	**6.09**	**307**	*e*P		**Pn**	**11 15 43.8**	**+2.9**
ANN				*e*S		**Sn**	**11 16 55.3**	**+4.6**
ANN				pmax	pmax			
	comp=Z,16nm,0.4s							
ANN	**Anapa**	**6.09**	**307**	*e*P		**Pn**	**11 15 43.8**	**+2.9**
	comp=Z,16nm,0.4s							
KIEV	**Kiev**	**14.02**	**317**	⇑P		**Pn**	**11 17 30.3**	**+0.8**
KIEV				pmax	pmax			
	comp=Z,1.0nm,0.5s							
KIEV	**Kiev**	**14.02**	**317**	P		**Pn**	**11 17 30.3**	**+0.8**
	comp=Z,1.0nm,0.5s							
BRVK	**Borovoye**	**21.11**	**47**	*i* P		**P**	**11 18 54.7**	**-0.9**
BRVK				pmax	pmax			
	comp=Z,2.0nm,1.0s							
BRVK	**Borovoye**	**21.11**	**47**	*i* P		**P**	**11 18 54.7**	**-0.9**
	comp=Z,2.0nm,1.0s							
KURK	**Kurchatov**	**25.46**	**57**	⇓*e*P		**P**	**11 19 40.9**	**+2.0**
KURK				pmax	pmax			
	comp=Z,2.0nm,0.3s							
KURK	**Kurchatov**	**25.46**	**57**	*e*P		**P**	**11 19 40.9**	**+2.0**
	comp=Z,2.0nm,0.3s							

MEX 01 11:36:18.5±0.6, 17.05N×100.10W, h3km±12km, MD3.8, Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAIG	**El Cayaco**	**0.16**	**269**	*i* P	Pg	11 36 21.1	-0.6
CAIG				*i* S	Sg	11 36 24.0	+0.2
MEIG	**Mezcala**	**0.98**	**28**	*i* P	Pg	11 36 35.2	-2.2
MEIG				*e*S	Sg	11 36 47.9	-2.2
ARIG	**Puente Sto Nin**	**1.25**	**349**	*e*P	Pg	11 36 39.7	-2.7
ARIG				*e*S	Sg	11 36 54.7	-3.9
PLIG	**Platanillo**	**1.45**	**23**	*i* P	Pn	11 36 42.3	-3.5
PLIG				*e*S	Sb	11 37 00.1	-5.0
TLIG	**Tlapa**	**1.55**	**71**	*i* P	Pn	11 36 43.4	-3.7
TLIG				*i* S	Sn	11 37 02.9	-4.9
PNIG	**Pinotepa**	**2.00**	**109**	*i* P	Pn	11 36 49.9	-3.3
PNIG				*i* S	Sn	11 37 14.7	-4.1

IDC 01 11:37:39.3±11.0, 1.36N×125.95E, h0km, mb3.9/3, mb1 4.1/3, mb1mx3.6/51, mbtmp3.9/3, Error ellipse: s-maj=179.8km s-min=174.8km az=161.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**22.71**	**159**	P	P	11 42 42.2	-0.7
	2.4nm,0.6s,baz=337,slow=11,SNR=25						
ASAR	**Alice Springs**	**26.05**	**163**	P	P	11 43 15.3	+0.7
	0.7nm,0.4s,baz=343,slow=8.0,SNR=20						
STKA	**Stephens Creek**	**36.23**	**157**	P	P	11 44 43.7	-0.5
	1.9nm,0.7s,baz=330,slow=8.1,SNR=3.6						

*IDC **01** 11:41:56.3±2.5, 35.58N×71.92E, h0km, mb4.0/11, mb1 4.1/14, mb1mx3.8/61, mbtmp4.1/14, ML4.5/3, MS3.6/2, Ms1 3.6/2, ms1mx2.7/50, Error ellipse: s-maj=47.4km s-min=20.5km az=142.0*

*ISCJB **01** 11:42:12.8±0.4, 36.28N±0.03×71.67E±0.06, h119km, mb3.8/10, Error ellipse: s-maj=7.2km s-min=3.3km az=153.1*

*NNC **01** 11:42:17.2±2.9, 36.64N×70.99E, h138km±29km, mb3.9, mpv4.8, Error ellipse: s-maj=28.6km s-min=16.3km az=153.0*

ISC 01 11:42:13.6±0.6, 36.28N±0.05×71.70E±0.07, h119km, n51, σ2.524/64, mb3.8/10, 7C-8D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CEP	**Cherat**	**2.46**	**176**	⇓P	**Pn**	**11 42 54.8**	**+1.8**
CEP				S	**Sn**	**11 43 27.0**	**+3.8**
CHCP	**Chirah Chowk**	**2.92**	**153**	P	**Pn**	**11 43 02.2**	**+3.4**
DZET	**Dzherino**	**3.40**	**319**	⇑P	Pn	11 43 01.0	-4.2
	21nm,0.2s						
DZET				⇑S	Sn	11 43 35.9	-9.2
	465nm,0.5s						
THW	**Thamme Wali**	**3.48**	**179**	P	**Pn**	**11 43 07.4**	**+1.1**
SARP	**Sargodha**	**4.43**	**169**	⇓P	**Pn**	**11 43 19.5**	**+0.7**
THN	**Thein Dam**	**5.08**	**138**	*e*P	**Pn**	**11 43 29.0**	**+1.5**
THN				*e*S	**Sn**	**11 44 26.0**	**+0.9**
DHRM	**DHARAMSHALA**	**5.54**	**135**	*e*P	**Pn**	**11 43 37.1**	**+3.1**
DHRM				*e*S	**Sn**	**11 44 38.2**	**+1.7**
JWA	**Jwalamukhi**	**5.85**	**138**	*e*P	**Pn**	**11 43 39.0**	**+1.1**
JWA				*e*S	**Sn**	**11 44 45.0**	**+1.3**
MNAS	**Manas**	**6.22**	**5**	⇓P	**Pn**	**11 43 42.8**	**-0.3**
	71nm,0.8s						
MNAS				⇑S	**Sn**	**11 44 49.3**	**-3.7**
	94nm,0.5s						
SDNR	**Sundarnagar**	**6.48**	**136**	*e*P	**Pn**	**11 43 48.0**	**+1.5**
SDNR				*e*S	**Sn**	**11 44 58.0**	**-1.0**
AAK	**Ala-Archa**	**6.70**	**18**	Pn	**Pn**	**11 43 50.8**	**+1.2**
	24nm,0.3s,baz=190,slow=7.7,SNR=144						
AAK				Sn	**Sn**	**11 45 05.1**	**+0.5**
	3.7nm,0.3s,baz=25,slow=16,SNR=8.2						
AAK				LR	LR	11 46 20.3	
	comp=Z,47nm,18.8s,baz=246,slow=36						
AAK	**Ala-Archa**	**6.70**	**18**	⇓P	**Pn**	**11 43 50.9**	**+1.3**
	47nm,0.5s						
AAK				⇑S	**Sn**	**11 45 05.7**	**+1.1**
	38nm,0.7s						
SMLA	**Simla**	**6.87**	**137**	*e*P	**Pn**	**11 43 53.6**	**+1.9**
SMLA				*e*S	**Sn**	**11 45 08.4**	**0.0**
SMLA				IAML		11 45 12.0	
	comp=N,237nm,1.1s						
SMLA				IAML		11 45 12.4	
	comp=E,240nm,0.4s						
KK31	**Karatay Array**	**6.87**	**353**	⇓P	**Pn**	**11 43 50.2**	**-1.5**
	comp=E,37nm,0.4s,baz=183,slow=12,SNR=444						
KK31				⇑S	**Sn**	**11 45 04.7**	**-3.7**
	comp=E,16nm,0.4s,baz=180,slow=23,SNR=5.3						
TKM2	**Tokmak 2**	**7.28**	**23**	⇑P	**Pn**	**11 43 59.0**	**+1.6**
	comp=E,43nm,0.5s						
TKM2				⇓S	**Sn**	**11 45 21.6**	**+3.1**
	comp=E,17nm,0.8s						
KHET	**Khetri**	**8.89**	**156**	*e*P	**Pn**	**11 44 18.4**	**-0.8**
KHET				*e*P	**Pn**	**11 44 18.4**	**-0.8**
KHET				*e*S	**Sn**	**11 45 52.5**	**-5.2**
KHET				IAML		11 45 55.6	
	comp=E,56nm,0.4s						
KHET				IAML		11 45 55.8	
	comp=N,62nm,0.5s						
NDI	**New Delhi**	**8.89**	**147**	*e*P	Pn	11 44 13.0	-6.1
NDI				*e*S	Sn	11 45 47.0	-11
KALG	**Kalgarh**	**8.99**	**137**	*e*P	**Pn**	**11 44 18.7**	**-1.7**
KALG				*e*S	**Sn**	**11 45 53.3**	**-4.6**
KUDL	**Kundal**	**9.07**	**152**	*e*P	**Pn**	**11 44 21.4**	**-0.1**
KUDL				*e*S	**Sn**	**11 45 57.6**	**-4.3**
KUDL				IAML		11 45 59.8	
	comp=N,21nm,0.4s						
KUDL				IAML		11 46 02.6	
	comp=E,42nm,0.4s						
SONA	**Sohna**	**9.21**	**149**	*e*S	**Sn**	**11 46 02.6**	**-2.7**
SONA				IAML		11 46 08.7	
	comp=N,27nm,0.4s						
SONA				IAML		11 46 09.6	
	comp=E,52nm,0.4s						
GEYT	**Alibeck**	**10.97**	**283**	Pn	Pn	11 44 39.8	-7.4
	comp=E,1.7nm,0.3s,baz=114,slow=10,SNR=6.3						
GEYT				Sn	Sn	11 46 32.9	-15
	comp=E,11nm,0.3s,baz=123,slow=16,SNR=13						
PYUN	**Piuthan**	**12.56**	**127**	*e*P	**Pn**	**11 45 07.8**	**-0.5**
	comp=E,104nm,0.5s						
PYUN				*e*S	**Sn**	**11 47 20.9**	**-5.9**
KOLN	**Koldanda**	**13.18**	**127**	*e*P	**Pn**	**11 45 16.1**	**-0.3**
	comp=E,43nm,0.4s						
GKN	**Gorkha**	**13.71**	**123**	*e*P	**Pn**	**11 45 23.4**	**+0.2**
	comp=E,52nm,0.4s						
GKN				*e*S	**Sn**	**11 47 47.9**	**-6.6**
DMN	**Daman**	**14.28**	**123**	*e*P	**Pn**	**11 45 30.7**	**+0.1**
	comp=E,28nm,0.4s						
KKN	**Kakani**	**14.28**	**123**	*e*P	**Pn**	**11 45 30.7**	**+0.1**
	comp=E,32nm,0.5s						
PKIN	**Phulchoki**	**14.50**	**123**	*e*P	**Pn**	**11 45 33.5**	**+0.1**
	comp=E,18nm,0.5s						
PKI	**Pulchoki**	**14.51**	**123**	*e*P	**Pn**	**11 45 33.7**	**+0.1**
	comp=E,31nm,0.6s						
GUN	**Gumba**	**14.62**	**121**	*e*P	**Pn**	**11 45 35.3**	**+0.3**
	comp=E,24nm,0.4s						
JBP	**Jabalpur**	**14.91**	**149**	⇑*i*P	**P**	**11 45 43.3**	**+2.4**
JBP				*ex*	x	11 48 16.4	
JIRN	**Jiri**	**14.99**	**121**	*e*P	**Pn**	**11 45 39.8**	**+0.1**
	comp=E,81nm,0.5s						
KURBB	**Kurchatov Arra**	**15.15**	**17**	Pn	**Pn**	**11 45 38.0**	**-3.2**
	comp=E,0.1nm,0.3s,baz=208,slow=10,SNR=10.0						
AB31	**Akbulak array**	**15.55**	**330**	⇓P	**Pn**	**11 45 42.5**	**-3.6**
	comp=E,1.6nm,0.3s,baz=140,slow=12,SNR=86						
AB31				S	Sn	11 48 21.7	-17
	comp=E,6.4nm,0.7s,baz=151,slow=23,SNR=4.9						
RAMN	**Ramite**	**15.72**	**122**	*e*P	**Pn**	**11 45 49.6**	**+0.9**
	comp=E,33nm,0.4s						
TAPN	**Taplejung**	**16.25**	**119**	*e*P	**P**	**11 45 56.2**	**+0.1**
	comp=E,22nm,0.4s						
ODAN	**Odare**	**16.32**	**121**	*e*P	**P**	**11 45 56.9**	**0.0**
	comp=E,22nm,0.6s						
BVAR	**Borovoye Array**	**16.76**	**357**	P	**Pn**	**11 45 59.4**	**-1.6**
	comp=E,0.9nm,0.3s,baz=167,slow=13,SNR=13						
ZAA0	**Zalesovo Array**	**19.88**	**23**	⇓P	**Pn**	**11 46 37.0**	**-1.0**
	comp=E,2.2nm,0.9s						
ZALV	**Zalesovo Beam**	**19.88**	**23**	P	**P**	**11 46 36.2**	**+0.9**
	comp=E,6.7nm,0.4s,baz=218,slow=10,SNR=38						
GNI	**Garni**	**21.50**	**289**	P	**P**	**11 46 52.3**	**-0.6**
	comp=E,9.3nm,0.6s,baz=54,slow=14,SNR=3.2						
ARU	**Arti**	**22.02**	**340**	P	**P**	**11 46 59.1**	**+0.9**
	comp=E,2.1nm,0.3s,baz=136,slow=5.9,SNR=9.6						
KBZ	**Khabaz**	**23.20**	**298**	P	**P**	**11 47 10.5**	**+0.6**
	comp=E,3.8nm,0.9s,baz=103,slow=7.4,SNR=6.5						
AKASG	**Malin Array Be**	**33.52**	**309**	P	**P**	**11 48 42.4**	**+0.9**
	comp=E,0.7nm,0.4s,baz=83,slow=6.8,SNR=4.5						
MLR	**Muntele Rosu**	**35.38**	**300**	P	**P**	**11 48 58.6**	**+0.7**
	comp=E,1.2nm,0.8s,baz=106,slow=4.4,SNR=6.5						
FINES	**FINESS Array B**	**37.98**	**326**	P	**P**	**11 49 20.7**	**+1.3**
	comp=E,0.7nm,0.4s,baz=119,slow=9.2,SNR=13						
ARCES	**ARCESS Array B**	**41.56**	**338**	P	**P**	**11 49 50.2**	**+1.2**
	comp=E,1.5nm,0.5s,baz=115,slow=8.1,SNR=8.7						
NB2	**NORSAR Subarra**	**44.89**	**323**	P	**P**	**11 50 17.0**	**+1.1**
	comp=Z,1.1nm,0.6s,baz=96,slow=7.9						
NOA	**NORSAR Array B**	**44.89**	**323**	P	**P**	**11 50 17.1**	**+1.1**
	comp=Z,1.2nm,0.6s,baz=97,slow=7.9,SNR=8.0						
JNU	**Nakatsue**	**48.10**	**76**	LR	LR	12 11 41.4	
	comp=Z,543nm,21.8s,baz=99,slow=37						
TORD	**Torodi Ar. Bea**	**66.28**	**269**	P	**P**	**11 52 47.8**	**-1.6**
	comp=Z,1.1nm,0.7s,baz=50,slow=4.6,SNR=11						
YKA	**Yellowknife Ar**	**81.43**	**3**	P	**P**	**11 54 18.2**	**+1.3**
	comp=Z,0.5nm,0.7s,baz=348,slow=6.1,SNR=3.4						

*IDC **01** 11:47:36.3±1.4, 10.77S×164.15E, h0km, mb4.1/6, mb1 4.3/9, mb1mx4.0/39, mbtmp4.2/9, ML4.0/3, MS3.2/6, Ms1 3.2/6, ms1mx3.1/25, Error ellipse: s-maj=36.3km s-min=21.2km az=116.0*

*ISCJB **01** 11:47:38.1±0.9, 11.05S±0.08×164.30E±0.10, h29km, mb4.0/6, MS3.3/3, Error ellipse: s-maj=15.8km s-min=8.0km az=144.5*

ISC 01 11:47:40.0±1.1, 10.93S±0.10×164.3E±0.1, h29km, n18, σ1.977/13, mb4.0/6, MS3.3/3, Santa Cruz Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**4.55**	**289**	Pn	**Pn**	**11 48 43.2**	**-3.7**
	12nm,0.3s,baz=159,slow=8.6,SNR=2.7						
HNR				Sn	**Sn**	**11 49 41.1**	**+2.2**
	baz=180,slow=20,SNR=1.7						
HNR				LR	LR	11 50 41.7	
	comp=Z,179nm,19.4s,baz=155,slow=43						
HNR	**Honiara**	**4.55**	**289**	*e*P	**Pn**	**11 48 48.0**	**+1.0**
HNR				*e*S	**Sn**	**11 49 39.0**	**0.0**
DZM	**Mont Dzumac**	**11.27**	**170**	Pn	**Pn**	**11 50 20.2**	**+1.0**
	2.1nm,0.3s,baz=128,slow=16,SNR=7.1						
DZM				Sn	**Sn**	**11 52 22.5**	**-1.7**
	0.2nm,0.3s,baz=139,slow=20,SNR=2.0						
DZM				LR	LR	11 53 26.6	
	comp=Z,69nm,21.8s,baz=30,slow=31						
PMG	**Port Moresby**	**16.96**	**274**	LR	LR	11 57 28.8	
	comp=Z,110nm,18.4s,baz=98,slow=35						
CTA	**Charters Tower**	**19.63**	**240**	P	**P**	**11 52 05.5**	**-0.9**
	0.2nm,0.3s,baz=62,slow=15,SNR=2.4						
H11S2	**WAKE ISLAND Hy**	**29.33**	**5**	T	T	12 24 47.4	
	baz=183,slow=74						
H11S3	**WAKE ISLAND Hy**	**29.33**	**5**	T	T	12 24 39.8	
	baz=183						
H11S1	**WAKE ISLAND Hy**	**29.34**	**5**	T	T	12 24 32.9	
	baz=183,slow=74						
STKA	**Stephens Creek**	**29.58**	**222**	P	**P**	**11 53 44.5**	**+1.9**
	1.6nm,0.9s,baz=33,slow=11,SNR=2.5						
STKA				LR	LR	12 04 57.5	
	comp=Z,57nm,18.1s,baz=26,slow=35						
WRA	**Warramunga Arr**	**30.21**	**249**	P	**P**	**11 53 47.8**	**-0.5**
	4.0nm,1.0s,baz=79,slow=9.1,SNR=12						
H11N1	**WAKE ISLAND Hy**	**30.55**	**5**	T	T	12 26 17.3	
	baz=184,slow=76,SNR=5.7						
H11N3	**WAKE ISLAND Hy**	**30.56**	**5**	T	T	12 25 57.0	
	baz=184,slow=76,SNR=6.3						
H11N2	**WAKE ISLAND Hy**	**30.57**	**5**	T	T	12 25 58.4	
	baz=184,slow=76,SNR=5.3						
ASAR	**Alice Springs**	**31.60**	**242**	P	**P**	**11 53 59.9**	**-0.6**
	1.0nm,0.7s,baz=63,slow=10,SNR=15						
ASAR				LR	LR	12 06 32.6	
	comp=Z,55nm,18.6s,baz=52,slow=36						
FITZ	**Fitzroy Crossi**	**38.06**	**255**	LR	LR	12 08 50.2	
	comp=Z,56nm,19.3s,baz=58,slow=34						
USRK	**Ussuriysk Ar.**	**62.22**	**334**	P	**P**	**11 57 57.8**	**-1.1**
	2.5nm,1.0s,baz=122,slow=11,SNR=3.3						
SONM	**Songino Array**	**77.75**	**324**	P	**P**	**11 59 35.5**	**+1.1**
	0.5nm,0.5s,baz=149,slow=6.7,SNR=4.0						
ILAR	**Eielson Array**	**83.85**	**19**	P	**P**	**12 00 06.7**	**+0.1**
	2.1nm,0.9s,baz=226,slow=5.5,SNR=9.4						

JMA 01 11:58:55.5±0.1, 35.49N×138.98E, h20km±1km, M2.6, Eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JOD2	**Odawara 2**	**0.24**	**159**	P	Pb	11 59 01.0	-0.3
JOD2				S	Sb	11 59 05.1	-0.1
JYN	**Shimob**	**0.36**	**271**	P	Pb	11 59 02.8	-0.4
JYN				S	Sb	11 59 08.5	+0.1
JRY	**Ryogami san**	**0.53**	**353**	P	Pb	11 59 05.7	-0.5
JRY				S	Sb	11 59 12.9	-0.5
SHZ3	**Shizuoka 3**	**0.76**	**236**	P	Pb	11 59 10.1	0.0
SHZ3				S	Sb	11 59 20.9	+0.9
JIZS	**Izushimoda**	**0.78**	**186**	P	Pb	11 59 09.4	-0.9
JIZS				S	Sb	11 59 19.6	-0.8
MAT	**Matsushiro**	**1.22**	**329**	P	Pn	11 59 17.6	+0.1
MAT				S	Sb	11 59 33.4	+0.1

*ISCJB **01** 12:04:55.3±0.5, 57.80N±0.04×21.60E±0.05, h0km, Error ellipse: s-maj=5.3km s-min=3.6km az=159.3*

*CSEM **01** 12:04:55.7±0.2, 57.69N×21.61E, h1km, ML2.3, Error ellipse: s-maj=6.8km s-min=3.6km az=156.0, Mining explosion.*

*IDC **01** 12:04:55.4±2.9, 57.68N×21.75E, h0km, mb1 3.3/3, mb1mx3.1/46, mbtmp3.1/3, ML2.9/3, Error ellipse: s-maj=28.9km s-min=11.6km az=165.0*

*HEL **01** 12:04:56.0±0.2, 57.67N×21.58E, h0km, ML2.3, ML2.4(UPP), Explosion*

*UPP **01** 12:04:59.3±1.3, 57.76N×21.09E, h0km, ML2.4, Suspected explosion*

ISC 01 12:04:54.8±1.1, 57.68N±0.06×21.54E±0.04, h0km, n72, σ1.949/100, 2C, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SLIT	**Slitere, Latvi**	**0.41**	**97**	*e*P	**Pg**	**12 05 03.2**	**+0.6**
	SNR=90						
SLIT				*e*S	**Sg**	**12 05 08.7**	**+0.9**
	651nm,0.7s,SNR=90						
MTSE	**Matsula**	**1.59**	**48**	*e*P	**Pn**	**12 05 24.0**	**-0.1**
MTSE				*e*S	**Sn**	**12 05 45.1**	**-0.2**
MTSE	**Matsula**	**1.59**	**48**	*e*P	**Pn**	**12 05 24.0**	**-0.1**
	SNR=90						
MTSE				S	**Sn**	**12 05 45.1**	**-0.2**
GOTU	**Gotland**	**1.59**	**271**	P	**Pn**	**12 05 24.2**	**0.0**
GOTU	**Gotland**	**1.59**	**271**	*e*P	**Pn**	**12 05 24.2**	**0.0**
GOTU	**Gotland**	**1.59**	**271**	P	**Pn**	**12 05 24.2**	**0.0**
NYNU	**Nynaeshamn**	**2.29**	**307**	P	**Pn**	**12 05 35.1**	**+1.4**
NYNU	**Nynaeshamn**	**2.29**	**307**	P	**Pn**	**12 05 35.1**	**+1.4**
BYXU	**Byxelkrok**	**2.48**	**263**	P	**Pn**	**12 05 37.9**	**+1.6**
BYXU	**Byxelkrok**	**2.48**	**263**	*e*P	**Pn**	**12 05 37.9**	**+1.6**
BYXU	**Byxelkrok**	**2.48**	**263**	P	**Pn**	**12 05 37.8**	**+1.6**
NRTU	**Norrtaelje**	**2.51**	**324**	P	**Pn**	**12 05 38.2**	**+1.5**
NRTU	**Norrtaelje**	**2.51**	**324**	*e*P	**Pn**	**12 05 38.2**	**+1.5**
NRTU	**Norrtaelje**	**2.51**	**324**	P	**Pn**	**12 05 38.2**	**+1.5**
ASPU	**Aespoe**	**2.67**	**266**	P	**Pn**	**12 05 40.8**	**+1.8**
ASPU	**Aespoe**	**2.67**	**266**	*e*P	**Pn**	**12 05 40.8**	**+1.8**
ASPU	**Aespoe**	**2.67**	**266**	P	**Pn**	**12 05 40.8**	**+1.8**
VIKU	**Vikbolandet**	**2.70**	**290**	P	**Pn**	**12 05 41.1**	**+1.7**
VIKU	**Vikbolandet**	**2.70**	**290**	*e*P	**Pn**	**12 05 41.1**	**+1.7**
VIKU	**Vikbolandet**	**2.70**	**290**	P	**Pn**	**12 05 41.0**	**+1.7**
MEF	**Metsahovi**	**2.94**	**29**	*e*P	**Pn**	**12 05 44.7**	**+2.0**
MEF				*e*S	**Sn**	**12 06 19.6**	**+0.9**
MEF				MSG		12 06 28.4	
	comp=Z,13nm,0.1s						
MEF	**Metsahovi**	**2.94**	**29**	P	**Pn**	**12 05 44.6**	**+2.0**
MEF				S	**Sn**	**12 06 19.5**	**+0.9**
OSKU	**Oskarshamn**	**2.98**	**263**	P	**Pn**	**12 05 44.4**	**+1.2**
OSKU	**Oskarshamn**	**2.98**	**263**	*e*P	**Pn**	**12 05 44.4**	**+1.2**
OSKU	**Oskarshamn**	**2.98**	**263**	P	**Pn**	**12 05 44.4**	**+1.2**
UPP	**Uppsala**	**2.98**	**319**	P	**Pn**	**12 05 45.0**	**+1.7**
UPP	**Uppsala**	**2.98**	**319**	*e*P	**Pn**	**12 05 45.0**	**+1.7**
UPP	**Uppsala**	**2.98**	**319**	P	**Pn**	**12 05 45.0**	**+1.7**
GRAU	**Graesoe**	**3.08**	**331**	P	**Pn**	**12 05 46.9**	**+2.4**
GRAU	**Graesoe**	**3.08**	**331**	*e*P	**Pn**	**12 05 46.9**	**+2.4**
GRAU	**Graesoe**	**3.08**	**331**	P	**Pn**	**12 05 46.9**	**+2.4**
FLYU	**Flymyra**	**3.10**	**324**	P	**Pn**	**12 05 46.3**	**+1.5**
FLYU	**Flymyra**	**3.10**	**324**	*e*P	**Pn**	**12 05 46.3**	**+1.5**
FLYU	**Flymyra**	**3.10**	**324**	P	**Pn**	**12 05 46.3**	**+1.5**
FIBU	**Brunna**	**3.11**	**317**	P	**Pn**	**12 05 46.9**	**+1.9**
ESKU	**Eskilstuna**	**3.12**	**302**	P	**Pn**	**12 05 46.8**	**+1.7**
ESKU	**Eskilstuna**	**3.12**	**302**	*e*P	**Pn**	**12 05 46.8**	**+1.7**
ESKU	**Eskilstuna**	**3.12**	**302**	P	**Pn**	**12 05 46.8**	**+1.7**
BACU	**Backbrunna**	**3.17**	**315**	P	**Pn**	**12 05 47.6**	**+1.7**
BACU	**Backbrunna**	**3.17**	**315**	*e*P	**Pn**	**12 05 47.6**	**+1.7**
BACU	**Backbrunna**	**3.17**	**315**	P	**Pn**	**12 05 47.5**	**+1.7**
LNKU	**Linkoeping**	**3.26**	**282**	P	**Pn**	**12 05 48.7**	**+1.6**
LNKU	**Linkoeping**	**3.26**	**282**	*e*P	**Pn**	**12 05 48.7**	**+1.6**
LNKU	**Linkoeping**	**3.26**	**282**	P	**Pn**	**12 05 48.7**	**+1.6**
RAF	**Rauma**	**3.35**	**2**	*e*P	**Pn**	**12 05 49.5**	**+1.1**
RAF				*e*S	**Sn**	**12 06 28.8**	**0.0**
RAF				MSG		12 06 45.6	
	comp=Z,5.8nm,0.1s						
RAF	**Rauma**	**3.35**	**2**	P	**Pn**	**12 05 49.4**	**+1.1**
RAF				*e*S	**Sn**	**12 06 29.2**	**+0.4**
	comp=Z,8.4nm,0.4s,SNR=46						
PVF	**Pernaja**	**3.63**	**36**	*e*P	**Pn**	**12 05 54.1**	**+1.9**
PVF				*e*S	**Sn**	**12 06 36.0**	**+0.2**
PVF	**Pernaja**	**3.63**	**36**	P	**Pn**	**12 05 54.1**	**+1.9**
PVF				S	**Sn**	**12 06 35.9**	**+0.2**
VJF	**Virojoki**	**4.22**	**45**	*e*P	**Pn**	**12 06 00.8**	**+0.6**
VJF				*e*S	**Sn**	**12 06 49.7**	**-0.5**
VJF	**Virojoki**	**4.22**	**45**	P	**Pn**	**12 06 00.8**	**+0.6**
VJF				S	**Sn**	**12 06 49.7**	**-0.5**
FIA0	**FINESS Array S**	**4.42**	**30**	*e*P	**Pn**	**12 06 04.0**	**+0.9**
FIA0				*e*S	**Sn**	**12 06 55.5**	**+0.3**
FIA0	**FINESS Array S**	**4.42**	**30**	P	**Pn**	**12 06 03.9**	**+0.9**
FIA0				S	**Sn**	**12 06 55.4**	**+0.3**
FINES	**FINESS Array B**	**4.42**	**30**	Pn	**Pn**	**12 06 03.3**	**+0.3**
	comp=Z,0.4nm,0.3s,baz=217,slow=12,SNR=19						
FINES				Sn	**Sn**	**12 06 55.8**	**+0.6**
	comp=Z,0.7nm,0.3s,baz=216,slow=20,SNR=5.8						
FINES				Lg	Lg	12 07 13.0	
	comp=Z,1.5nm,0.3s,baz=224,slow=25,SNR=11						
BSD	**Bornholm Skovb**	**4.49**	**238**	⇑*i*P	**Pn**	**12 06 03.6**	**-0.3**
BSD				*i* S	**Sn**	**12 06 54.5**	**-2.3**
BSD	**Bornholm Skovb**	**4.49**	**238**	⇑*i*P	**Pn**	**12 06 03.7**	**-0.2**
	SNR=49						
BSD				*i* S	**Sn**	**12 06 54.5**	**-2.3**
KEF	**Keuruu**	**4.80**	**19**	*e*P	**Pn**	**12 06 10.0**	**+1.8**
KEF				*e*S	**Sn**	**12 07 03.1**	**-1.3**
KEF	**Keuruu**	**4.80**	**19**	P	**Pn**	**12 06 10.0**	**+1.8**
KEF				S	**Sn**	**12 07 03.1**	**-1.3**
KAF	**Kangasniemi**	**5.05**	**26**	*e*P	**Pn**	**12 06 12.7**	**+1.0**
KAF				*e*S	**Sn**	**12 07 09.1**	**-1.6**
KAF	**Kangasniemi**	**5.05**	**26**	P	**Pn**	**12 06 12.6**	**+1.0**
KAF				S	**Sn**	**12 07 09.0**	**-1.6**
VAF	**Ylistaro**	**5.41**	**5**	*e*P	**Pn**	**12 06 16.9**	**+0.4**
VAF				*e*S	**Sn**	**12 07 17.4**	**-1.9**
VAF	**Ylistaro**	**5.41**	**5**	P	**Pn**	**12 06 16.9**	**+0.4**
SUF	**Sumiainen**	**5.55**	**23**	*e*P	**Pn**	**12 06 19.6**	**+1.0**
SUF				*e*S	**Sn**	**12 07 20.9**

TRQA	**Tornquist**	**23.55**	**336**	*e*P		**P**	**12 12 17.1**	**+1.7**
	136nm,1.4s								
LCO	**Las Campanas**	**34.29**	**327**	*e*P		**P**	**12 13 52.3**	**+0.6**
	87nm,1.8s								
CPUP	**Villa Florida**	**34.34**	**348**	LR		LR	12 27 23.2		
	comp=Z,349nm,21.7s,baz=172,slow=36								
SYO	**Syowa Base**	**35.86**	**142**‖	*e*P		**P**	**12 14 03.4**	**-1.0**
LVC	**Limon Verde**	**39.95**	**332**	P		**P**	**12 14 39.8**	**-0.1**
	21nm,0.8s,baz=200,slow=5.2,SNR=7.7								
LVC	**Limon Verde**	**39.95**	**332**	*e*P		**P**	**12 14 41.6**	**+1.7**
	9.8nm,1.0s								
SBA	**Scott Base**	**40.27**	**191**	*e*P		**P**	**12 14 43.4**	**+1.8**
	37nm,1.4s								
VNDA	**Vanda**	**41.02**	**190**	P		**P**	**12 14 48.3**	**+0.5**
	3.9nm,1.1s,baz=163,slow=4.9,SNR=7.3								
VNDA				LR		LR	12 33 52.0		
	comp=Z,209nm,18.1s,baz=161,slow=39								
VNDA	**Vanda**	**41.02**	**190**	*e*P		**P**	**12 14 49.3**	**+1.5**
	17nm,1.4s								
PB01	**IPOC Station P**	**41.60**	**332**	*e*P		**P**	**12 14 54.0**	**+0.9**
	35nm,1.0s								
MAW	**Mawson**	**43.35**	**149**	P		**P**	**12 15 06.9**	**+0.1**
	6.5nm,0.9s,baz=245,slow=10.0,SNR=7.1								
MAW	**Mawson**	**43.35**	**149**	*e*P		**P**	**12 15 08.4**	**+1.5**
	4.5nm,1.1s								
SIV	**San Ignacio**	**44.99**	**345**	P		**P**	**12 15 20.5**	**0.0**
	8.0nm,0.8s,baz=177,slow=7.6,SNR=13								
LPAZ	**La Paz**	**45.90**	**335**	P		**P**	**12 15 28.5**	**+0.1**
	2.9nm,0.7s,baz=152,slow=4.5,SNR=9.4								
LPAZ				LR		LR	12 36 30.5		
	comp=Z,443nm,21.7s,baz=180,slow=38								
LPAZ	**La Paz**	**45.90**	**335**	*e*P		**P**	**12 15 29.1**	**+0.7**
	12nm,1.0s								
SAML	**Samuel**	**52.21**	**343**	*e*P		**P**	**12 16 17.2**	**+1.2**
	58nm,1.6s								
H10S2	**ASCENSION HYDR**	**57.61**	**43**	T		T	13 20 05.2		
	baz=199,slow=75,SNR=61								
H10S3	**ASCENSION HYDR**	**57.61**	**42**	T		T	13 19 59.7		
	baz=199,slow=75,SNR=66								
H10S1	**ASCENSION HYDR**	**57.63**	**43**	T		T	13 20 01.3		
	baz=199,slow=75,SNR=59								
H10N3	**ASCENSION HYDR**	**58.70**	**42**	T		T	13 21 02.9		
	baz=199,slow=75,SNR=35								
H10N1	**ASCENSION HYDR**	**58.71**	**42**	T		T	13 21 22.1		
	baz=199,slow=75,SNR=20								
H10N2	**ASCENSION HYDR**	**58.72**	**42**	T		T	13 21 04.9		
	baz=199,slow=75,SNR=38								
PTGA	**Pitinga**	**59.92**	**348**	*e*P		**P**	**12 17 11.7**	**+0.6**
	24nm,0.7s								
LBTB	**Lobatse**	**61.47**	**91**	P		**P**	**12 17 21.0**	**-0.9**
	3.3nm,0.6s,baz=221,slow=9.8,SNR=5.9								
LBTB	**Lobatse**	**61.47**	**91**	*e*P		P	12 17 25.4	+3.5
	14nm,1.0s								
PRAC	**Prado**	**66.76**	**333**	*e*P		**P**	**12 17 57.3**	**+0.8**
	18nm,0.9s								
MATP	**Matopo**	**66.76**	**91**	P		**P**	**12 17 55.8**	**-0.9**
	7.4nm,0.8s,baz=221,slow=7.1,SNR=20								
ROSC	**El Rosal**	**67.72**	**334**	LR		LR	12 50 16.8		
	comp=Z,133nm,18.6s,baz=238,slow=38								
RKT	**Rikitea**	**67.78**	**262**	*e*LR		LR	12 38 31.6		
	310nm,29.2s								
HELC	**Santa Helena**	**69.30**	**333**	*e*P		**P**	**12 18 11.8**	**-1.1**
	21nm,0.7s								
SDV	**Santo Domingo**	**70.91**	**338**	*e*P		**P**	**12 18 23.0**	**+0.5**
	7.2nm,0.8s								
LSZ	**Lusaka**	**70.97**	**87**	P		**P**	**12 18 22.5**	**-0.4**
	5.8nm,0.7s,baz=174,slow=3.8,SNR=12								
LSZ	**Lusaka**	**70.97**	**87**	*e*P		**P**	**12 18 23.0**	**0.0**
	19nm,0.9s								
TBI	**Tubuai**	**74.57**	**250**	*e*LR		LR	12 41 39.4		
	178nm,26.0s								
DBIC	**Dimbokro**	**75.57**	**47**	P		**P**	**12 18 49.9**	**+0.1**
	5.3nm,0.8s,baz=223,slow=8.3,SNR=4.3								
DBIC	**Dimbokro**	**75.57**	**47**	*e*P		**P**	**12 18 50.7**	**+0.9**
	43nm,1.4s								
JTS	**JuntasAbangare**	**75.68**	**324**	*e*P		**P**	**12 18 51.1**	**+0.6**
	17nm,1.0s								
MPR	**Mayaguez**	**79.48**	**343**	*e*P		**P**	**12 19 14.7**	**+3.2**
	51nm,1.2s								
PPT2	**Papeete2**	**79.58**	**253**	*e*LR		LR	12 43 53.3		
	306nm,28.0s								
TAOE	**Nuku Hiva Isla**	**82.49**	**265**	*e*LR		LR	12 45 16.5		
	258nm,26.8s								
TOA0	**Torodi Ar. Sit**	**83.97**	**50**	*e*P		**P**	**12 19 35.5**	**+0.2**
TOA0				*e*P		**pP**	**12 19 35.7**	**-3.0**
TORD	**Torodi Ar. Bea**	**83.97**	**50**	P		**P**	**12 19 35.8**	**+0.5**
	6.6nm,0.9s,baz=218,slow=4.8,SNR=28								
DZM	**Mont Dzumac**	**92.74**	**213**	LR		LR	13 00 02.4		
	comp=Z,199nm,18.0s,baz=35,slow=34								
DZM	**Mont Dzumac**	**92.74**	**213**	*e*LR		LR	12 50 13.3		
	314nm,27.6s								
ASAR	**Alice Springs**	**96.28**	**184**	P		**P**	**12 20 31.6**	**-2.1**
	0.7nm,0.7s,baz=173,slow=4.0,SNR=6.8								
ASAR				PP		**PP**	**12 24 26.4**	**+0.5**
	1.7nm,1.0s,baz=182,slow=6.2,SNR=6.0								
TXAR	**Lajitas Array**	**99.53**	**314**	LR		LR	13 00 02.1		
	comp=Z,192nm,20.1s,baz=0.0,slow=32								
TKL	**Tuckaleechee C**	**99.59**	**333**	LR		LR	13 07 16.4		
	comp=Z,95nm,21.8s,baz=160,slow=36								
WRA	**Warramunga Arr**	**99.96**	**184**	P		**Pdif**	**12 20 47.6**	**-2.6**
	0.7nm,0.7s,baz=175,slow=3.7,SNR=7.7								
WRA				PP		**PP**	**12 24 57.1**	**+2.8**
	2.3nm,1.1s,baz=186,slow=6.2,SNR=5.3								
GERES	**GERESS Array B**	**120.33**	**43**	PKP		**PKPdf**	**12 25 53.5**	**-1.9**
	0.6nm,0.5s,baz=243,slow=2.7,SNR=5.3								
BRTR	**Keskin Array B**	**120.60**	**63**	PKP		**PKPdf**	**12 25 54.0**	**-2.4**
	1.0nm,0.9s,baz=188,slow=3.7,SNR=5.2								
AKASG	**Malin Array Be**	**127.57**	**52**	PP		PP	12 28 13.6	+2.5
	0.9nm,0.5s,baz=219,slow=5.9,SNR=8.0								
KBZ	**Khabaz**	**127.97**	**67**	PKP		**PKPdf**	**12 26 08.4**	**-1.7**
	1.4nm,0.5s,baz=220,slow=6.1,SNR=3.3								
NOA	**NORSAR Array B**	**129.84**	**34**	PKP		**PKPdf**	**12 26 12.7**	**-0.5**
	1.5nm,0.9s,baz=217,slow=1.7,SNR=3.2								
YKA	**Yellowknife Ar**	**132.01**	**326**	PKP		**PKPdf**	**12 26 16.4**	**-0.7**
	1.2nm,0.8s,baz=138,slow=3.2,SNR=4.8								
CMAR	**Chiang Mai Arr**	**132.65**	**138**	PKP		**PKPdf**	**12 26 18.4**	**-1.5**
	1.7nm,0.8s,baz=234,slow=2.9,SNR=7.2								
FINES	**FINESS Array B**	**134.65**	**41**	PKP		**PKPdf**	**12 26 19.9**	**-2.2**
	3.9nm,0.9s,baz=122,slow=2.5,SNR=4.5								
KMI	**Kunming**	**140.10**	**140**	PKP		**PKPdf**	**12 26 36.7**	**+3.0**
ARCES	**ARCESS Array B**	**140.16**	**32**	PKhKP		PKPpre	12 26 23.0		
	1.6nm,0.6s,baz=222,slow=3.3,SNR=4.9								
ARCES				PKP		**PKPdf**	**12 26 31.3**	**-0.9**
	3.8nm,0.8s,baz=204,slow=2.0,SNR=7.3								
KSH	**Kashi**	**140.85**	**97**	*e*PKP		**PKPdf**	**12 26 31.6**	**-2.9**
KSH				PKS		**PKSdf**	**12 30 06.4**	**-4.1**
KSH				SKS		**SKSdf**	**12 33 40.7**	**-3.7**
KSH				AMB		AMB			
	comp=Z,150nm,4.5s								
KSH				LR		LR			
	comp=E,110nm,5.9s								
KSH				LR		LR			
	comp=Z,100nm,6.8s								
AAK	**Ala-Archa**	**142.47**	**92**	PKP		**PKPdf**	**12 26 34.9**	**-2.4**
	1.6nm,0.4s,baz=189,slow=5.1,SNR=3.8								
GYA	**Guiyang**	**142.55**	**144**	PKP		**PKPdf**	**12 26 39.2**	**+1.2**
GYA				PP		**PP**	**12 29 50.4**	**+4.9**
GYA				AMB		AMB			
	comp=Z,120nm,8.2s								
ILAR	**Eielson Array**	**144.04**	**314**	PKP		PKPbc	12 26 37.1	-0.1
	7.2nm,0.9s,baz=162,slow=1.7,SNR=50								
CD2	**Chengdu**	**145.78**	**137**	PKPbc		**PKPdf**	**12 26 42.3**	**-1.1**
WHN	**Wuhan**	**148.43**	**153**	PKPbc		**PKPab**	**12 26 57.2**	**+2.7**
WMQ	**Urumqi**	**149.84**	**104**	PKPbc		**PKPbc**	**12 26 53.5**	**-1.0**
WMQ				PKS		**PKSdf**	**12 30 24.1**	**-0.4**
WMQ				SKS		**SKSdf**	**12 33 51.2**	**-6.1**
KURBB	**Kurchatov Arra**	**149.98**	**85**	PKP		**PKPdf**	**12 26 47.3**	**-2.3**
	7.5nm,0.9s,baz=234,slow=2.9,SNR=18								
KURBB				PKPbc		**PKPbc**	**12 26 53.5**	**-1.0**
	6.9nm,0.8s,baz=235,slow=3.1,SNR=26								
KURBB				PKPab		**PKPab**	**12 26 59.8**	**-0.5**
	14nm,0.9s,baz=238,slow=3.0,SNR=24								
KURK	**Kurchatov**	**150.08**	**85**	PKP		**PKPdf**	**12 26 47.2**	**-2.4**
KURK				PKPbc		**PKPbc**	**12 26 53.5**	**-1.2**
KURK				PKPab		**PKPab**	**12 26 59.8**	**-0.9**
XAN	**Xi'an**	**150.32**	**143**	PKPbc		**PKPbc**	**12 26 53.9**	**-2.0**
LZH	**Lanzhou**	**150.50**	**133**	*e*PKPbc		**PKPbc**	**12 26 58.1**	**+1.6**
LZH				PKPab		PKPab	12 27 10.3	+7.2
LZH				PP		PP	12 30 40.0	+7.4
LZH				AMB		AMB			
	comp=Z,110nm,7.3s								
NJ2	**Nanjing**	**150.78**	**160**	*e*PKPbc		**PKPbc**	**12 26 55.7**	**-1.3**
GTA	**Gaotai**	**151.83**	**124**	‖PKPbc		**PKPbc**	**12 26 58.0**	**-1.4**
GTA				PKPab		PKPab	12 27 15.3	+6.8
GTA				PP		PP	12 30 48.0	+7.7
GTA				SKS		**SKSdf**	**12 34 04.0**	**+3.8**
GTA				SS		**SS**	**12 50 13.1**	**+6.6**
GTA				AMB		AMB			
	comp=Z,90nm,7.8s								
GTA				LR		LR			
	comp=N,77nm,16.6s								
GTA				LR		LR			
	comp=E,120nm,16.6s								
GTA				LR		LR			
	comp=Z,120nm,17.6s								
HHC	**Hu-ho-hao-te**	**157.40**	**141**	*e*PKP		**PKPdf**	**12 27 03.8**	**+3.2**
SONM	**Songino Array**	**161.46**	**122**	PKP		**PKPdf**	**12 27 01.7**	**-3.3**
	0.2nm,0.6s,baz=208,slow=4.2,SNR=3.0								
SONM				PKPab		**PKPab**	**12 27 47.7**	**-1.9**
	0.6nm,0.6s,baz=209,slow=4.1,SNR=3.0								

*ISCJB **01** 12:09:20.5±0.7, 60.4°S±0.1°×50.1°W±0.2, h10km, mb4.3/9, Error ellipse: s-maj=19.1km s-min=16.2km az=137.2*
*IDC **01** 12:09:20.5±1.2, 60.38°S×50.10°W, h0km, mb4.2/6, mb1 4.3/7, mb1mx4.0/25, mbtmp4.2/7, ML5.3/1, Error ellipse: s-maj=42.6km s-min=28.7km az=142.0*
*NEIC **01** 12:09:25.4±0.5, 60.34°S×50.16°W, h35km, mb4.3/1, Error ellipse: s-maj=15.1km s-min=13.2km az=134.0*
ISC 01 12:09:22.1±0.8, 60.3°S±0.1°×50.1°W±0.1, h10km, n23, σ0 8.5/85/16, mb4.3/8, Scotia Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PMSA	**Palmer Station**	**7.86**	**229**			Pn	**Pn**	**12 11 16.9**	**+0.7**
	4.1nm,0.3s,baz=67,slow=12,SNR=8.0								
SNAA	**Sanae**	**21.62**	**141**	P		P	**P**	**12 14 11.9**	**0.0**
	12nm,1.1s,baz=296,slow=11,SNR=3.9								
SNAA	**Sanae**	**21.62**	**141**	P		P	**P**	**12 14 11.9**	**0.0**
SNAA				P		P	**P**	**12 14 13.1**	**+1.1**
TRQA	**Tornquist**	**23.51**	**336**	*e*P		P	**P**	**12 14 31.8**	**-0.2**
	14nm,1.3s								
H10S2	**ASCENSION HYDR**	**57.65**	**43**	T		T	T	13 22 17.9	
	baz=200								
H10S3	**ASCENSION HYDR**	**57.65**	**43**	T		T	T	13 22 25.4	
	baz=200								
H10S1	**ASCENSION HYDR**	**57.66**	**43**	T		T	T	13 22 25.7	
	baz=200								
H10N3	**ASCENSION HYDR**	**58.74**	**42**	T		T	T	13 23 33.7	
	baz=199								
H10N1	**ASCENSION HYDR**	**58.74**	**42**	T		T	T	13 23 45.6	
	baz=199								
H10N2	**ASCENSION HYDR**	**58.76**	**42**	T		T	T	13 23 52.1	
	baz=199								
MATP	**Matopo**	**66.83**	**91**	P		P	**P**	**12 20 13.9**	**-0.1**
	1.6nm,0.7s,baz=215,slow=7.7,SNR=3.0								
LSZ	**Lusaka**	**71.04**	**88**	P		P	**P**	**12 20 40.4**	**+0.2**
	1.2nm,0.5s,baz=252,slow=9.6,SNR=3.3								
LIC	**Lamto**	**75.14**	**47**	*e*P		P	P	12 21 13.5	+9.2
	90nm,1.4s								
KIC	**Kosan Boka**	**75.37**	**47**	*e*P		P	P	12 21 14.7	+9.1
	12nm,0.6s								
TIC	**Toumodi**	**75.53**	**47**	*e*P		P	P	12 21 15.6	+9.1
TORD	**Torodi Ar. Bea**	**84.02**	**50**	P		P	**P**	**12 21 53.5**	**+1.0**
	1.1nm,0.6s,baz=209,slow=4.7,SNR=4.6								
ASAR	**Alice Springs**	**96.28**	**184**	P		P	**P**	**12 22 49.5**	**-1.2**
	0.3nm,0.6s,baz=164,slow=4.4,SNR=4.0								
WRA	**Warramunga Arr**	**99.97**	**184**	P		**Pdif**	**12 23 05.5**	**-1.8**
	0.4nm,0.7s,baz=178,slow=4.0,SNR=5.0								
FINES	**FINESS Array B**	**134.69**	**41**	PKP		**PKPdf**	**12 28 39.2**	**+0.1**
	1.4nm,0.8s,baz=337,slow=2.4,SNR=2.7								
ARCES	**ARCESS Array B**	**140.19**	**32**	PKhKP		PKPpre	12 28 41.4		
	0.8nm,0.5s,baz=247,slow=2.5,SNR=5.7								
ARCES				PKP		**PKPdf**	**12 28 49.1**	**0.0**
	1.8nm,0.7s,baz=228,slow=1.5,SNR=3.6								
ILAR	**Eielson Array**	**143.98**	**314**	PKP		PKPbc	12 28 55.0	+1.0
	1.6nm,0.6s,baz=159,slow=2.1,SNR=11								
KURBB	**Kurchatov Arra**	**150.04**	**85**	PKPbc		**PKPbc**	**12 29 10.7**	**-0.8**
	1.1nm,0.6s,baz=229,slow=3.1,SNR=4.6								
KURBB				PKPab		**PKPab**	**12 29 18.1**	**+0.6**
	5.5nm,0.9s,baz=233,slow=3.0,SNR=7.6								
KURK	**Kurchatov**	**150.15**	**85**	PKPbc		**PKPbc**	**12 29 10.7**	**-1.1**
KURK				PKPab		**PKPab**	**12 29 18.1**	**+0.2**

*BJI **01** 12:13:52.8, 12.80N×50.74E, h34km, mb4.7/28, mB4.8/17, Ms4.6/13, Ms7 4.3/10*
*IDC **01** 12:13:53.3±0.6, 13.17N×51.14E, h0km, mb4.3/21, mb1 4.4/24, mb1mx4.2/48, mbtmp4.3/24, ML4.2/3, MS3.9/22, Ms1 3.9/22, ms1mx3.8/37, Error ellipse: s-maj=16.1km s-min=13.4km az=128.0*
*MOS **01** 12:13:53.7±1.0, 13.20N×51.16E, h10km, mb4.8/24, Error ellipse: s-maj=11.0km s-min=6.2km az=79.7*
*ISCJB **01** 12:13:54.2±0.3, 13.17N±0.05×51.11E±0.03, h16km, mb4.6/65, MS3.9/24, Error ellipse: s-maj=7.0km s-min=4.8km az=169.9*
*CSEM **01** 12:13:55.4±0.1, 13.18N×51.13E, h10km, mb4.6/33, Error ellipse: s-maj=7.0km s-min=5.2km az=157.0*
*NEIC **01** 12:13:55.7±3.5, 13.14N×51.17E, h15km±21km, mb4.8/17, Error ellipse: s-maj=8.1km s-min=5.9km az=149.0*
ISC 01 12:13:55.9±0.4, 13.24N±0.06×51.14E±0.05, h16km, n192, σ1 9.46/194, mb4.6/65, MS3.9/24, 10C-3D, Eastern Gulf of Aden

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
BDHA	**Al Bayda'**	**5.46**	**278**‖	*e*P		P	**Pn**	**12 15 15.8**	**-1.1**
BDHA	**Al Bayda'**	**5.46**	**278**‖	*e*P		P	**Pn**	**12 15 15.9**	**-1.1**
DAMY	**Dhamar**	**6.68**	**282**	*e*Pn		Pn	**Pn**	**12 15 35.5**	**+1.8**
DAMY	**Dhamar**	**6.68**	**282**	*e*Pn		Pn	**Pn**	**12 15 35.5**	**+1.8**
ATD	**Arta Tunnel**	**8.27**	**259**	Pn		Pn	**Pn**	**12 15 54.6**	**-0.8**
	8.2nm,0.3s,baz=34,slow=1.9,SNR=17								
ATD				Sn		**Sn**	**12 17 26.6**	**-2.0**
	2.0nm,0.3s,baz=90,slow=20,SNR=3.1								
ATD				LR		LR	12 18 17.2		
	comp=Z,2μm,18.2s,baz=88,slow=32								
WSAR	**Wadi Sarin**	**12.23**	**35**	Pn		Pn	**Pn**	**12 16 49.9**	**+0.3**
	0.8nm,0.3s,baz=246,slow=8.5,SNR=10								
WSAR				LR		LR	12 21 16.4		
	comp=Z,1μm,20.7s,baz=236,slow=36								
UOSS	**Minazif**	**12.59**	**22**	*e*Pn		Pn	**Pn**	**12 16 54.6**	**+0.1**
UOSS	**Minazif**	**12.59**	**22**	*e*Pn		Pn	**Pn**	**12 16 54.6**	**+0.1**
KMBO	**Kilima Mbogo**	**19.83**	**225**	P		P	**P**	**12 18 24.6**	**-1.8**
	0.3nm,0.3s,baz=49,slow=15,SNR=4.9								
KMBO				LR		LR	12 25 44.8		
	comp=Z,583nm,20.2s,baz=76,slow=36								
KMBO	**Kilima Mbogo**	**19.83**	**225**	*c*e	P	Pn	**Pn**	**12 18 28.2**	**+0.2**
KMBO				pmax		pmax			
	comp=Z,4.0nm,0.8s								
KMBO	**Kilima Mbogo**	**19.83**	**225**	*e*P		P	**P**	**12 18 26.7**	**+0.3**
	comp=Z,13nm,1.2s								
KMBO	**Kilima Mbogo**	**19.83**	**225**	*e*P		P	**P**	**12 18 26.7**	**+0.3**
	comp=Z,13nm,1.2s								
EIL	**Elat**	**22.19**	**320**	LR		LR	12 26 53.3		
	comp=Z,222nm,18.1s,baz=59,slow=35								
ASF	**Jabal al Asfar**	**22.93**	**328**	P		P	**P**	**12 19 01.4**	**+1.9**
	comp=Z,2.1nm,0.8s,baz=56,slow=7.3,SNR=2.7								
MMAI	**Mount Meron Ar**	**24.37**	**326**	LR		LR	12 28 51.6		
	comp=Z,121nm,20.7s,baz=120,slow=37								
GEYT	**Alibeck**	**25.37**	**13**	P		P	**P**	**12 19 23.1**	**+0.6**
	comp=Z,13nm,0.8s,baz=198,slow=8.9,SNR=18								
GEYT				LR		LR	12 31 16.1		
	comp=Z,889nm,18.7s,baz=190,slow=41								
MARD	**Mardin**	**25.70**	**341**	*e*P		P	**P**	**12 19 26.9**	**+1.3**
	comp=Z,16nm,0.6s								
MARD	**Mardin**	**25.70**	**341**	*e*P		P	**P**	**12 19 26.9**	**+1.3**
	comp=Z,16nm,0.6s								
KBL	**Kabul**	**26.71**	**34**	*e*P		P	**P**	**12 19 37.0**	**+2.2**
KBL				pmax		pmax			
	comp=Z,15nm,1.1s								
KBL	**Kabul**	**26.71**	**34**	*e*P		P	**P**	**12 19 37.0**	**+2.2**
	comp=Z,15nm,1.1s								
KBL	**Kabul**	**26.71**	**34**	*e*P		P	**P**	**12 19 37.0**	**+2.2**
	comp=Z,15nm,1.1s								
GNI	**Garni**	**27.39**	**349**	LR		LR	12 32 53.6		
	comp=Z,556nm,18.2s,baz=170,slow=42								
MALT	**Malatya**	**27.41**	**338**	P		P	**P**	**12 19 43.9**	**+2.9**
MALT				pmax		pmax			
	comp=Z,5.0nm,1.0s								
MALT	**Malatya**	**27.41**	**338**	P		P	**P**	**12 19 43.9**	**+2.9**
	comp=Z,5.0nm,1.0s								
H08N2	**Diego Garcia H**	**27.70**	**133**	T		T	T	12 49 02.0	
	baz=313,slow=76,SNR=26								
H08N3	**Diego Garcia H**	**27.70**	**133**	T		T	T	12 49 02.7	
	baz=313,slow=76,SNR=8.3								
H08N1	**Diego Carcia H**	**27.72**	**133**	T		T	T	12 49 03.6	
	baz=313,slow=76,SNR=6.2								
MDRS	**Chennai**	**28.34**	**87**	*ex*		P	**P**	**12 19 51.8**	**+2.4**
MDRS				*ex*		S	**S**	**12 24 37.8**	**+2.1**
MDRS				*ex*		x	x	12 29 07.8	
MDRS				*ex*		x	x	12 58 54.8	
MDRS				*ex*		x	x	13 07 18.8	
MDRS				*ex*		x	x	13 13 30.8	
MDRS				*ex*		x	x	13 21 19.8	
PALK	**Pallekele**	**29.68**	**99**	LR		LR	LR	12 29 30.0	
	comp=Z,90nm,18.2s,baz=296,slow=32								
BRTR	**Keskin Array B**	**30.56**	**333**	P		P	**P**	**12 20 10.5**	**+1.5**
	comp=Z,0.7nm,0.7s,baz=160,slow=8.7,SNR=6.9								
BRTR				LR		LR	12 32 46.7		
	comp=Z,86nm,20.2s,baz=125,slow=37								
BRTR	**Keskin Array B**	**30.56**	**333**	*c*e	P	P	**P**	**12 20 10.8**	**+1.8**
BRTR				pmax		pmax			
	comp=Z,1.0nm,0.7s								
BR231	**Keskin MP Arra**	**31.04**	**332**	*e*P		P	**P**	**12 20 14.5**	**+1.2**
BR231	**Keskin MP Arra**	**31.04**	**332**	*e*P		P	**P**	**12 20 11.7**	**-1.6**
BR231				*e*P		P	**P**	**12 20 14.5**	**+1.2**
ANTO	**Ankara**	**31.06**	**332**	*e*P		P	**P**	**12 20 15.7**	**+2.4**
ANTO				pmax		pmax			
	comp=Z,15nm,0.9s								
ANTO	**Ankara**	**31.06**	**332**	*e*P		P	**P**	**12 20 15.7**	**+2.4**
	comp=Z,15nm,0.9s								
ANTO	**Ankara**	**31.06**	**332**	*e*P		P	**P**	**12 20 15.7**	**+2.4**
	comp=Z,15nm,0.9s								
KBZ	**Khabaz**	**31.20**	**348**	P		P	**P**	**12 20 15.6**	**+1.2**
	comp=Z,2.8nm,0.7s,baz=175,slow=8.1,SNR=5.2								
KBZ				LR		LR	12 34 58.6		
	comp=Z,463nm,20.9s,baz=158,slow=40								
KIV	**Kislovodsk**	**31.46**	**348**	*e*P		P	**P**	**12 20 16.1**	**-0.7**
KIV				*e*S		S	**S**	**12 25 22.7**	**-1.5**
KIV				pmax		pmax			
	comp=Z,7.0nm,1.1s								
KIV				MLR		MLR			
	comp=Z,243nm,15.0s								
KIV	**Kislovodsk**	**31.46**	**348**	*e*P		P	**P**	**12 20 16.1**	**-0.7**
	comp=Z,7.0nm,1.1s								
GOF	**Gofitskoye**	**32.45**	**349**‖	*e*P		P	P	12 20 34.6	+9.2
GOF				pmax		pmax			
	comp=Z,50nm,1.4s								
PYUN	**Piuthan**	**33.14**	**59**	*e*P		P	**P**	**12 20 33.3**	**+1.3**
	comp=Z,28nm,0.8s								
KOLN	**Koldanda**	**33.54**	**59**	*e*P		P	**P**	**12 20 36.5**	**+1.0**
	comp=Z,21nm,0.8s								
KSH	**Kashi**	**34.13**	**35**	*e*P		P	**P**	**12 20 36.2**	**-4.1**
KSH				*e*pP		sP		12 20 46.8	-0.4
KSH				*e*sP		pP		12 20 50.1	+4.9
KSH				*e*PP		**PnPn**		**12 21 48.4**	**-5.7**
KSH				*e*PcP		**PcP**		**12 23 17.9**	**+0.4**
KSH				S		S		12 25 54.0	-12
KSH				PcS		**PcS**		**12 27 01.9**	**-1.8**
KSH				pmax		pmax			
	comp=Z,43nm,2.4s								
KSH				LR		LR			
	comp=Z,130nm,4.6s								
KSH				LR		LR			
	comp=Z,110nm,6.3s								
KSH				LR		LR			
	comp=Z,180nm,5.5s								
KKAR	**Karatay Array**	**34.13**	**26**	*e*P		P	**P**	**12 20 42.0**	**+1.8**
KKAR				pmax		pmax			
	comp=Z,40nm,0.8s								
KKAR	**Karatay Array**	**34.13**	**26**	*e*P		P	**P**	**12 20 42.0**	**+1.8**
	comp=Z,40nm,0.8s								
KKAR	**Karatay Array**	**34.13**	**26**	*e*P		P	**P**	**12 20 42.0**	**+1.8**
	comp=Z,40nm,0.8s								
GKN	**Gorkha**	**34.49**	**60**	*e*P		P	**P**	**12 20 44.2**	**+0.6**
MNAS	**Manas**	**34.52**	**28**	*i* P		P	**P**	**12 20 45.0**	**+1.3**
MNAS				pmax		pmax			
	comp=Z,6.0nm,0.9s								
MNAS	**Manas**	**34.52**	**28**	*i* P		P	**P**

ARU					SS	**SS**	**12 31 35.0**	**-5.6**
ARU					pmax	pmax		
	comp=Z,7.0nm,1.7s							
ARU	**Arti**	**43.48**	**6**	*i* P		**P**	**12 21 59.3**	**+1.1**
	comp=Z,7.0nm,1.7s							
ARU					S	**S**	**12 28 26.4**	**+0.3**
KURK	**Kurchatov**	**43.55**	**25**	*e*P		**P**	**12 21 59.9**	**+1.0**
KURK					pmax	pmax		
	comp=Z,18nm,1.4s							
KURK	**Kurchatov**	**43.55**	**25**	*e*P		**P**	**12 21 59.9**	**+1.0**
	comp=Z,18nm,1.4s							
KURK	**Kurchatov**	**43.55**	**25**	*e*P		**P**	**12 21 59.9**	**+1.0**
	comp=Z,18nm,1.4s							
WMQ	**Urumqi**	**43.69**	**39**	P		**P**	**12 22 02.2**	**+2.0**
WMQ				pP		sP	12 22 11.5	+4.3
WMQ				PP		**PcP**	**12 23 46.0**	**-1.2**
WMQ				PcS		**PcS**	**12 27 40.2**	**+0.2**
WMQ				S		**S**	**12 28 31.7**	**+2.0**
WMQ				pmax	pmax			
	comp=Z,10.0nm,1.1s							
WMQ				pmax	pmax			
	comp=Z,32nm,4.7s							
WMQ				LR	LR			
	comp=Z,75nm,6.1s							
WMQ				LR	LR			
	comp=Z,58nm,5.5s							
KEST	**Kesra**	**43.70**	**308**	LR		LR	12 39 53.5	
	comp=Z,65nm,20.8s,baz=282,slow=36							
VYHS	**Vyhne**	**44.16**	**329**	*e*P		P	12 22 10.9	+7.0
VYHS	**Vyhne**	**44.16**	**329**	*e*P		P	12 22 10.9	+7.0
TAM	**Tamanrasset**	**44.25**	**289**	*e*P		**P**	**12 22 05.0**	**-0.2**
TAM				pmax	pmax			
	comp=Z,7.0nm,1.0s							
TAM	**Tamanrasset**	**44.25**	**289**	*e*P		**P**	**12 22 05.0**	**-0.2**
	comp=Z,7.0nm,1.0s							
TAM	**Tamanrasset**	**44.25**	**289**	*e*P		**P**	**12 22 05.0**	**-0.2**
	comp=Z,7.0nm,1.0s							
LBTB	**Lobatse**	**45.45**	**213**	P		**P**	**12 22 14.3**	**-0.2**
	comp=Z,3.5nm,0.8s,baz=64,slow=11,SNR=4.8							
CM31	**Chiang Mai Arr**	**46.18**	**77**	*e*P		**P**	**12 22 20.7**	**+0.3**
CM31	**Chiang Mai Arr**	**46.18**	**77**	*e*P		**P**	**12 22 20.7**	**+0.3**
CMAR	**Chiang Mai Arr**	**46.18**	**77**	P		**P**	**12 22 20.6**	**+0.2**
	comp=Z,15nm,0.7s,baz=275,slow=8.8,SNR=92							
CMAR				LR		LR	12 39 31.0	
	comp=Z,39nm,21.0s,baz=204,slow=33							
CM01	**Chiang Mai Arr**	**46.20**	**77**	*e*P		**P**	**12 22 19.9**	**-0.6**
CM01	**Chiang Mai Arr**	**46.20**	**77**	*e*P		**P**	**12 22 19.9**	**-0.6**
TOA0	**Torodi Ar. Sit**	**48.07**	**276**	*e*P		**P**	**12 22 35.2**	**0.0**
	comp=Z,7.4nm,0.8s							
TOA0	**Torodi Ar. Sit**	**48.07**	**276**	*e*P		**P**	**12 22 35.2**	**0.0**
	comp=Z,7.4nm,0.8s							
TORD	**Torodi Ar. Bea**	**48.07**	**276**	P		**P**	**12 22 34.8**	**-0.4**
	comp=Z,5.5nm,0.7s,baz=89,slow=7.7,SNR=17							
KLMR	**Klimovskoe**	**48.29**	**352**	*e*P		**P**	**12 22 35.4**	**-0.8**
KLMR				pmax	pmax			
	comp=Z,20nm,1.3s							
KLMR	**Klimovskoe**	**48.29**	**352**	*e*P		**P**	**12 22 35.4**	**-0.8**
	comp=Z,20nm,1.3s							
NVS	**Novosibirsk**	**48.49**	**24**	*e*P		**P**	**12 22 38.6**	**+0.8**
NVS	**Novosibirsk**	**48.49**	**24**	*e*P		**P**	**12 22 38.6**	**+0.8**
ZAA0	**Zalesovo Array**	**48.51**	**26**	*e*P		**P**	**12 22 37.7**	**-0.3**
ZAA0	**Zalesovo Array**	**48.51**	**26**	*e*P		**P**	**12 22 37.0**	**-0.9**
ZAA0				*e*P		**P**	**12 22 37.6**	**-0.3**
ZALV	**Zalesovo Beam**	**48.51**	**26**	P		**P**	**12 22 37.5**	**-0.5**
	comp=Z,5.0nm,0.6s,baz=231,slow=8.1,SNR=19							
ZALV				LR		LR	12 45 40.3	
	comp=Z,78nm,18.1s,baz=250,slow=39							
VSU	**Vasula**	**48.73**	**343**	⇓*i* P		**P**	**12 22 42.0**	**+2.5**
VSU				pmax	pmax			
	comp=Z,46nm,0.6s							
VSU	**Vasula**	**48.73**	**343**	*i* P		**P**	**12 22 42.0**	**+2.5**
	comp=Z,46nm,0.6s							
KMI	**Kunming**	**49.89**	**68**	P		**P**	**12 22 48.3**	**-1.0**
KMI				pmax	pmax			
	comp=Z,34nm,0.5s							
GTA	**Gaotai**	**50.06**	**49**	*e*P		P	12 22 43.3	-7.0
GTA				pP		pP	12 22 47.8	-7.5
GTA				sP		sP	12 22 50.4	-6.9
GTA				S		S	12 29 49.8	-11
GTA				sS		pS	12 29 58.6	-8.5
GTA	**Gaotai**	**50.06**	**49**	SS		SS	12 33 18.8	-15
GTA				pmax	pmax			
	comp=Z,2.0nm,1.2s							
GTA				pmax	pmax			
	comp=Z,82nm,5.7s							
GTA				LR	LR			
	comp=N,92nm,15.7s							
GTA				LR	LR			
	comp=E,140nm,15.7s							
GTA				LR	LR			
	comp=Z,180nm,16.9s							
FIA1	**FINESS Array S**	**51.44**	**345**	*e*P		**P**	**12 23 01.0**	**+1.0**
FIA1	**FINESS Array S**	**51.44**	**345**	*e*P		**P**	**12 23 01.0**	**+1.0**
FIA1				*e*P		**pP**	**12 23 02.8**	**-2.4**
FINES	**FINESS Array B**	**51.44**	**345**	LR		LR	12 48 28.2	
	comp=Z,89nm,18.1s,baz=142,slow=40							
SUF	**Sumiainen**	**52.51**	**346**	P		**P**	**12 23 08.5**	**+0.5**
SUF				pmax	pmax			
	comp=Z,16nm,1.1s							
SUF	**Sumiainen**	**52.51**	**346**	P		**P**	**12 23 08.5**	**+0.5**
	comp=Z,16nm,1.1s							
GYA	**Guiyang**	**53.49**	**67**	P		**P**	**12 23 17.8**	**+1.7**
GYA				pP		sP	12 23 28.4	+5.2
GYA				PP		**PP**	**12 25 20.0**	**+3.3**
GYA				S		**S**	**12 30 46.8**	**-1.9**
GYA				sS		sS	12 31 03.2	+6.1
GYA				SS		**SS**	**12 34 26.4**	**-2.6**
GYA				pmax	pmax			
	comp=Z,20nm,1.0s							
GYA				pmax	pmax			
	comp=Z,120nm,5.4s							
GYA				LR	LR			
	comp=Z,460nm,18.8s							
GYA				LR	LR			
	comp=Z,410nm,19.2s							
GYA				LR	LR			
	comp=Z,470nm,18.4s							
MNAI	**Manna**	**54.34**	**105**	*e*P		**P**	**12 23 19.0**	**-3.3**
	comp=Z,955nm,0.4s							
OUL	**Oulu**	**54.60**	**347**	P		**P**	**12 23 23.1**	**-0.2**
OUL				pmax	pmax			
	comp=Z,12nm,1.1s							
OUL	**Oulu**	**54.60**	**347**	P		**P**	**12 23 23.1**	**-0.2**
	comp=Z,12nm,1.1s							
MSF	**Maaselka**	**54.70**	**349**	P		**P**	**12 23 28.6**	**+4.5**
MSF				pmax	pmax			
	comp=Z,10.0nm,1.6s							
ES19	**SONSECA Array**	**54.88**	**309**	*e*P		**P**	**12 23 26.8**	**+0.9**
ES19	**SONSECA Array**	**54.88**	**309**	*e*P		**P**	**12 23 26.8**	**+0.9**
ESDC	**Sonseca Array**	**54.92**	**309**	P		**P**	**12 23 26.0**	**-0.2**
	comp=Z,10nm,1.0s,baz=90,slow=6.5,SNR=25							
ESLA	**Sonseca Array**	**54.92**	**309**	*e*P		**P**	**12 23 27.1**	**+0.9**
	comp=Z,14nm,1.0s							
ESLA	**Sonseca Array**	**54.92**	**309**	*e*P		**P**	**12 23 27.1**	**+0.9**
	comp=Z,14nm,1.0s							
PAB	**San Pablo**	**55.19**	**309**	*e*P		**P**	**12 23 29.4**	**+1.2**
PAB				pmax	pmax			
	comp=Z,18nm,1.3s							
PAB	**San Pablo**	**55.19**	**309**	*e*P		**P**	**12 23 29.4**	**+1.2**
	comp=Z,18nm,1.3s							
PAB	**San Pablo**	**55.19**	**309**	*e*P		**P**	**12 23 29.4**	**+1.2**
	comp=Z,18nm,1.3s							
MOY	**Mondy**	**55.32**	**35**	*e*P		**P**	**12 23 30.1**	**+1.1**
MOY	**Mondy**	**55.32**	**35**	*e*P		**P**	**12 23 30.1**	**+1.1**
NB2	**NORSAR Subarra**	**55.79**	**338**	P		**P**	**12 23 31.4**	**-0.7**
	comp=Z,4.8nm,1.0s,SNR=5.8							
NB2	**NORSAR Subarra**	**55.79**	**338**	P		**P**	**12 23 31.4**	**-0.7**
	comp=Z,4.8nm,1.0s,baz=133,slow=7.4							
NOA	**NORSAR Array B**	**55.79**	**338**	P		**P**	**12 23 31.1**	**-0.9**
	comp=Z,1.8nm,0.9s,baz=123,slow=7.9,SNR=3.5							
NOA				LR		LR	12 51 21.2	
	comp=Z,69nm,18.3s,baz=120,slow=40							
ZAK	**Zakamensk**	**56.13**	**38**	*e*P		**P**	**12 23 34.8**	**0.0**
ZAK				pmax	pmax			
	comp=Z,3.0nm,1.6s							
ZAK	**Zakamensk**	**56.13**	**38**	*e*P		**P**	**12 23 34.8**	**0.0**
	comp=Z,3.0nm,1.6s							
QIZ	**Qiongzhong**	**56.48**	**76**	P		**P**	**12 23 37.8**	**+0.1**
QIZ				S		**S**	**12 31 26.0**	**-2.7**
SONM	**Songino Array**	**57.18**	**41**	P		**P**	**12 23 43.7**	**+1.3**
	comp=Z,4.5nm,1.0s,baz=247,slow=8.1,SNR=16							
SONM				LR		LR	12 51 33.2	
	comp=Z,98nm,18.6s,baz=271,slow=40							
SONA1	**Songino Array**	**57.19**	**41**	*e*P		**P**	**12 23 43.4**	**+1.0**
SONA1	**Songino Array**	**57.19**	**41**	*e*P		**P**	**12 23 43.4**	**+1.0**
ULN	**Ulaanbaatar**	**57.61**	**41**	*e*P		**P**	**12 23 46.5**	**+1.1**
ULN				pmax	pmax			
	comp=Z,4.0nm,1.0s							
ULN	**Ulaanbaatar**	**57.61**	**41**	*e*P		**P**	**12 23 46.5**	**+1.1**
	comp=Z,4.0nm,1.0s							
ARCES	**ARCESS Array B**	**58.55**	**350**	P		**P**	**12 23 51.4**	**-0.1**
	comp=Z,3.1nm,0.8s,baz=151,slow=7.7,SNR=9.8							
ARCES				LR		LR	12 52 15.7	
	comp=Z,178nm,19.3s,baz=142,slow=39							
HHC	**Hu-ho-hao-te**	**59.15**	**50**	*e*P		**P**	**12 23 57.5**	**+1.3**
WHN	**Wuhan**	**60.42**	**62**	P		P	12 24 16.6	+12
NRIK	**Noril'sk**	**60.61**	**14**	P		**P**	**12 24 04.8**	**-0.7**
	comp=Z,4.5nm,0.8s,baz=212,slow=4.5,SNR=7.7							
NRIK				LR		LR	12 55 13.0	
	comp=Z,193nm,18.2s,baz=233,slow=41							
NJ2	**Nanjing**	**64.30**	**61**	*e*P		**P**	**12 24 30.7**	**-0.2**
NJ2				S		**S**	**12 33 07.7**	**-0.9**
NJ2				pmax	pmax			
	comp=Z,12nm,0.7s							
NJ2				LR	LR			
	comp=Z,720nm,30.9s							
NJ2				LR	LR			
	comp=Z,700nm,28.8s							
KSAR	**Wonju Array Be**	**71.62**	**55**	P		**P**	**12 25 16.4**	**-0.5**
KSAR	**Wonju Array Be**	**71.62**	**55**	P		**P**	**12 25 16.4**	**-0.5**
KSAR	**Wonju Array Be**	**71.62**	**55**	P		**P**	**12 25 16.4**	**-0.5**
KSRS	**Korea Array**	**71.65**	**55**	P		**P**	**12 25 16.4**	**-0.7**
	comp=Z,1.3nm,0.7s,baz=266,slow=6.9,SNR=6.1							
MDJ	**Mudanjiang**	**72.64**	**47**	P		**P**	**12 25 21.7**	**-1.2**
MDJ				pP		sP	12 25 30.5	+0.4
MDJ				sP		PcP	12 25 34.9	-5.5
MDJ				S		**S**	**12 34 43.1**	**-4.3**
MDJ				pmax	pmax			
	comp=Z,7.0nm,1.5s							
MDJ				pmax	pmax			
	comp=Z,55nm,4.4s							
MDJ				LR	LR			
	comp=Z,48nm,25.6s							
MDJ				LR	LR			
	comp=Z,39nm,21.7s							
YAK	**Yakutsk**	**73.03**	**29**	*e*P		**P**	**12 25 24.8**	**-0.1**
YAK				pmax	pmax			
	comp=Z,12nm,0.8s							
YAK	**Yakutsk**	**73.03**	**29**	*e*P		**P**	**12 25 24.8**	**-0.1**
	comp=Z,12nm,0.8s							
KLR	**Kul'dur**	**73.98**	**42**	⇑*i* P		**P**	**12 25 31.0**	**+0.3**
KLR	**Kul'dur**	**73.98**	**42**	*i* P		**P**	**12 25 31.0**	**+0.3**
FITZ	**Fitzroy Crossi**	**79.80**	**111**	*e*P		**P**	**12 26 03.8**	**-0.2**
	comp=Z,4.4nm,0.9s							
FITZ	**Fitzroy Crossi**	**79.80**	**111**	*e*P		**P**	**12 26 03.9**	**-0.2**
	comp=Z,4.4nm,0.9s							
MJAR	**Matsushiro Arr**	**79.93**	**55**	P		**P**	**12 26 04.6**	**+0.1**
	comp=Z,1.0nm,0.6s,baz=290,slow=3.3,SNR=4.3							
MJAR				LR		LR	13 01 42.4	
	comp=Z,77nm,21.1s,baz=205,slow=36							
WRA	**Warramunga Arr**	**88.21**	**111**	P		**P**	**12 26 46.8**	**-0.2**
	comp=Z,2.1nm,0.6s,baz=299,slow=3.9,SNR=39							
WRAB	**Tennant Creek**	**88.22**	**111**	*e*P		**P**	**12 26 47.0**	**0.0**
WRAB	**Tennant Creek**	**88.22**	**111**	*e*P		**P**	**12 26 47.0**	**0.0**
WRAB	**Tennant Creek**	**88.22**	**111**	*e*P		**P**	**12 26 47.2**	**+0.2**
	comp=Z,28nm,1.5s							
WB2	**Warramunga Arr**	**88.22**	**111**	*e*P		**P**	**12 26 46.9**	**-0.1**
	comp=Z,25nm,1.5s							
WB2	**Warramunga Arr**	**88.22**	**111**	*e*P		**P**	**12 26 46.9**	**-0.1**
	comp=Z,25nm,1.5s							
ASAR	**Alice Springs**	**88.77**	**115**	P		**P**	**12 26 49.4**	**-0.2**
	comp=Z,0.7nm,0.4s,baz=287,slow=4.9,SNR=12							
AS01	**Alice Springs**	**88.81**	**115**	*e*P		**P**	**12 26 49.5**	**-0.2**
AS01	**Alice Springs**	**88.81**	**115**	*e*P		**P**	**12 26 49.5**	**-0.2**
PETK	**Petropavlovsk-**	**89.19**	**35**	LR		LR	13 10 28.5	
	comp=Z,47nm,20.2s,baz=138,slow=38							
SNAA	**Sanae**	**91.98**	**195**	⇓*e*P		**P**	**12 27 04.3**	**+0.8**
SNAA	**Sanae**	**91.98**	**195**	*e*P		**P**	**12 27 04.3**	**+0.8**
SCHQ	**Schefferville**	**94.51**	**329**	LR		LR	13 12 51.4	
	comp=Z,65nm,18.9s,baz=200,slow=37							
PDAR	**Pinedale Array**	**121.52**	**343**	PKP		**PKPdf**	**12 32 49.5**	**+0.1**
	comp=Z,0.1nm,0.4s,baz=64,slow=2.1,SNR=2.3							
TXAR	**Lajitas Array**	**131.18**	**330**	PKP		**PKPdf**	**12 33 08.8**	**+0.7**
	comp=Z,0.4nm,0.8s,baz=90,slow=2.5,SNR=3.9							

WEL 01 12:22:58.0±0.7, 36.00S×177.76E, h165km±17km, ML3.5/5, 1C-2D, Error ellipse: s-maj=13.5km s-min=11.0km az=90.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**1.62**	**164**	PN	Pn	12 23 30.0	+0.1
MXZ				SN	Sn	12 23 55.2	+0.6
HAZ	**Te Kaha**	**1.75**	**179**	PN	Pn	12 23 31.3	+0.1
HAZ				SN	Sn	12 23 57.7	+0.5
WMGZ	**Waiomatatini S**	**1.89**	**164**	PN	Pn	12 23 32.9	+0.1
WMGZ				SN	Sn	12 23 60.0	+0.1
WMGZ				AML	AML	12 24 03.0	
PKGZ	**Pakihiroa**	**1.90**	**172**	PN	Pn	12 23 33.2	+0.2
PKGZ				SN	Sn	12 24 00.1	-0.1
RUGZ	**Raukumara Rang**	**1.96**	**182**	PN	Pn	12 23 33.2	-0.6
RUGZ				SN	Sn	12 24 01.6	+0.2
PUZ	**Puketiti**	**2.11**	**169**	PN	Pn	12 23 34.7	-0.5
PUZ				SN	Sn	12 24 03.6	-0.6
TWGZ	**Tauwhareparae**	**2.18**	**175**	PN	Pn	12 23 36.6	+0.5
TWGZ				SN	Sn	12 24 05.3	-0.5
TWGZ				AML	AML	12 24 09.5	
URZ	**Urewera**	**2.31**	**193**	⇓PN	Pn	12 23 37.9	+0.3
URZ				SN	Sn	12 24 09.6	+1.2
MWZ	**Matawai**	**2.34**	**184**	PN	Pn	12 23 37.6	-0.3
MWZ				SN	Sn	12 24 09.5	+0.5
TKGZ	**Te Karaka**	**2.44**	**178**	⇓PN	Pn	12 23 38.6	-0.4
TKGZ				SN	Sn	12 24 10.9	-0.1
TKGZ				AML	AML	12 24 12.6	
RAGZ	**Rawiri**	**2.51**	**186**	PN	Pn	12 23 40.0	+0.1
RAGZ				SN	Sn	12 24 14.0	+1.3
MUGZ	**Murupara**	**2.60**	**197**	PN	Pn	12 23 41.0	+0.1
RTZ	**Ruatahuna**	**2.69**	**193**	PN	Pn	12 23 41.5	-0.6
RIGZ	**Rimuhau**	**2.70**	**180**	PN	Pn	12 23 41.4	-0.9
RIGZ				AML	AML	12 24 17.4	
RIGZ				AML	AML	12 24 18.6	
SNGZ	**Shannon Statio**	**2.80**	**187**	PN	Pn	12 23 42.8	-0.7
KNZ	**Kokohu**	**3.02**	**181**	PN	Pn	12 23 44.5	-1.6
MRHZ	**Matea Rd**	**3.02**	**200**	PN	Pn	12 23 45.7	-0.5
WHHZ	**Waihua**	**3.10**	**188**	PN	Pn	12 23 46.2	-0.9
MHGZ	**Mahia Peninsul**	**3.15**	**178**	PN	Pn	12 23 45.5	-2.3
NMHZ	**Naumai**	**3.18**	**193**	PN	Pn	12 23 47.8	-0.5
ARHZ	**Aropaoanui**	**3.31**	**190**	PN	Pn	12 23 48.7	-1.1
BKZ	**Black Stump Fm**	**3.32**	**197**	PN	Pn	12 23 48.8	-1.2
MCHZ	**McNeill Hill**	**3.54**	**193**	PN	Pn	12 23 51.4	-1.3
CKHZ	**Cape Kidnapper**	**3.69**	**188**	PN	Pn	12 23 52.6	-2.0
BHHZ	**Black Hill Sta**	**3.73**	**201**	PN	Pn	12 23 53.6	-1.6
KRHZ	**Kereru**	**3.80**	**196**	PN	Pn	12 23 53.7	-2.3
KAHZ	**Kahuranaki**	**3.85**	**190**	PN	Pn	12 23 54.7	-2.0
PXZ	**Pawanui**	**4.09**	**190**	⇑PN	Pn	12 23 56.9	-2.8
PNHZ	**Pukenui**	**4.10**	**197**	PN	Pn	12 23 57.3	-2.6
TSZ	**Takapari Road**	**4.29**	**199**	PN	Pn	12 23 59.3	-3.1
PRHZ	**Porangahau**	**4.35**	**191**	PN	Pn	12 24 00.2	-2.9
DVHZ	**Dannevirke**	**4.47**	**196**	PN	Pn	12 24 01.4	-3.3
PRWZ	**Pori Road**	**4.76**	**197**	PN	Pn	12 24 05.4	-3.1
BFZ	**Birch Farm**	**4.82**	**194**	PN	Pn	12 24 05.6	-3.7
MRZ	**Mangatainoka R**	**4.96**	**200**	PN	Pn	12 24 07.1	-3.9

*IDC **01** 12:29:54.0±0.8, 18°.20S×167°.35E, h0km, mb4.6/13, mb1 4.8/15, mb1mx4.6/29, mbtmp4.7/15, ML4.5/2, MS4.0/12, Ms1 4.0/12, ms1mx3.7/25, Error ellipse: s-maj=21.6km s-min=18.1km az=112.0*

*ISCJB **01** 12:29:56.2±3.7, 18°.16S±0°.05×167°.18E±0°.04, h15km±22km, mb5.0/87, MS4.0/15, Error ellipse: s-maj=8.7km s-min=6.5km az=163.7*

*BJI **01** 12:29:58.3, 18°.30S×167°.20E, h40km, mb4.9/37, mB5.2/28, Ms5.2/13, Ms7 4.9/9*

*MOS **01** 12:29:58.3±1.3, 18°.09S×167°.19E, h33km, mb5.1/27, Error ellipse: s-maj=10.7km s-min=9.4km az=175.1*

*GCMT **01** 12:30:01.1±0.4, 18°.06S×167°.27E, h19km±1km, MW4.9/66, Moment Tensor Solution. s13,c14; s66,c91; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-2.53±.24; $M_{\theta\theta}$-0.07±.14; $M_{\phi\phi}$2.60±.16; $M_{r\theta}$1.69±.42; $M_{\theta\phi}$-0.16±.10; $M_{\phi r}$-0.63±.28; Best double couple: Mo3.08100×10^{16} NP1:ϕ_s330.00000°, δ59.00000°, λ-119.00000°. NP2: ϕ_s198.00000°, δ42.00000°, λ-51.00000°. Principal axes: T 2.7330, Plg10.0000°, Azm81.0000°; N 0.6950, Plg25.0000°, Azm346.0000°; P -3.4300, Plg63.0000°,*

Azm190.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.

*NEIC **01** 12:30:01.1±1.1, 18°.17S×167°.16E, h44km±10km, mb5.0/57 Error ellipse: s-maj=7.8km s-min=5.3km az=160.0*

ISC 01 12:29:59.1±0.5, 18°.28S±0°.05×167°.23E±0°.06, h31km±2km, h31km:pP-P, n235, σ1♀40/251, mb5.0/87, MS4.0/15, 7C-6D, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**3.84**	**191**	Pn	**Pn**	**12 30 54.7**	**-1.6**
	15nm,0.3s,baz=93,slow=8.1,SNR=199						
DZM				Sn	**Sn**	**12 31 37.6**	**-2.9**
	9.3nm,0.3s,baz=318,slow=21,SNR=14						
DZM	**Mont Dzumac**	**3.84**	**191**	*e*LR	LR	12 31 42.6	
	778nm,27.6s						
DZM	**Mont Dzumac**	**3.84**	**191**	*e*Pn	**Pn**	**12 30 53.6**	**-2.7**
DZM				Sn	**Sn**	**12 31 37.6**	**-2.9**
MSVF	**Nonsavu**	**10.31**	**89**	*e*P	**Pn**	**12 32 27.3**	**+2.2**
MSVF	**Nonsavu**	**10.31**	**89**	*e*Pn	**Pn**	**12 32 27.3**	**+2.2**
HNR	**Honiara**	**11.28**	**320**	Pn	**Pn**	**12 32 37.0**	**-1.3**
	6.4nm,0.3s,baz=234,slow=18,SNR=3.0						
HNR				LR	LR	12 36 04.4	
	comp=Z,586nm,20.6s,baz=148,slow=33						
HNR	**Honiara**	**11.28**	**320**	*e*P	**Pn**	**12 32 35.0**	**-3.3**
HNR	**Honiara**	**11.28**	**320**	P	**Pn**	**12 32 37.0**	**-1.3**
HNR				pmax	pmax		
	comp=Z,6.0nm,0.3s						
HNR				MLR	MLR		
	comp=Z,586nm,20.6s						
EIDS	**Eidsvold**	**16.56**	**242**	P	**P**	**12 33 52.2**	**+0.7**
	baz=17,SNR=6.0						
EIDS	**Eidsvold**	**16.56**	**242**	*e*Pn	**P**	**12 33 52.6**	**+1.2**
	comp=Z,18nm,1.0s						
RAO	**Raoul Island**	**17.42**	**132**	LR	LR	12 39 42.3	
	comp=Z,283nm,18.1s,baz=310,slow=34						
ARMA	**Armidale**	**18.63**	**227**	P	**Pn**	**12 34 17.2**	**+2.3**
	baz=19,SNR=3.7						
RMQ	**Roma**	**18.92**	**241**	P	**Pn**	**12 34 20.2**	**+1.9**
	baz=19,SNR=14						
CTA	**Charters Tower**	**19.89**	**261**	P	**Pn**	**12 34 30.2**	**+0.2**
	comp=Z,39nm,0.9s,baz=85,slow=13,SNR=22						
CTAO	**Charters Tower**	**19.89**	**261**	*e*P	**Pn**	**12 34 30.9**	**+0.9**
CTAO				pmax	pmax		
	comp=Z,67nm,1.0s						
CTAO	**Charters Tower**	**19.89**	**261**	*e*P	**Pn**	**12 34 30.9**	**+0.9**
	comp=Z,67nm,1.0s						
AFI	**Afiamalu**	**20.63**	**81**	LR	LR	12 41 34.2	
	comp=Z,152nm,18.6s,baz=286,slow=34						
PMG	**Port Moresby**	**21.37**	**292**	P	**P**	**12 34 43.3**	**-0.9**
	comp=Z,18nm,0.9s,baz=69,slow=5.7,SNR=3.3						
PMG				LR	LR	12 41 29.2	
	comp=Z,510nm,19.2s,baz=118,slow=32						
PMG	**Port Moresby**	**21.37**	**292**	⇑*i*P	**P**	**12 34 45.7**	**+1.5**
PMG				*i* *PP	**sP**	**12 34 55.4**	**-1.0**
PMG				pmax	pmax		
	comp=Z,159nm,1.3s						
PMG	**Port Moresby**	**21.37**	**292**	P	**P**	**12 34 43.3**	**-0.9**
PMG				*e*pP	**sP**	**12 34 55.7**	**-0.7**
URZ	**Urewera**	**21.70**	**159**	P	**P**	**12 34 47.9**	**+0.4**
	comp=Z,6.8nm,0.7s,baz=34,slow=3.6,SNR=3.9						
URZ				LR	LR	12 42 37.2	
	comp=Z,287nm,18.3s,baz=5.0,slow=35						
MTSU	**Mount Surprise**	**21.77**	**267**	P	**P**	**12 34 50.3**	**+1.8**
	baz=22,SNR=18						
QLP	**Quilpie**	**22.78**	**245**	P	**P**	**12 35 00.6**	**+1.3**
	baz=23,SNR=20						
CNB	**Canberra Magne**	**23.22**	**220**	P	**P**	**12 35 06.3**	**+2.5**
	baz=23,SNR=7.6						
CAN	**Canberra**	**23.45**	**220**	*e*P	**P**	**12 35 08.0**	**+2.0**
CAN				pmax	pmax		
	comp=Z,37nm,1.3s						
CAN	**Canberra**	**23.45**	**220**	*e*P	**P**	**12 35 08.0**	**+2.0**
	comp=Z,37nm,1.3s						
COEN	**Coen**	**23.50**	**277**	*e*P	**P**	**12 35 07.7**	**+1.1**
	comp=Z,84nm,1.6s						
CMSA	**Cobar Meteorol**	**23.52**	**232**	P	**P**	**12 35 07.9**	**+1.3**
	baz=24,SNR=15						
RPZ	**Rata Peaks**	**25.56**	**174**	LR	LR	12 45 26.4	
	comp=Z,256nm,18.4s,baz=354,slow=36						
QIS	**Mount Isa**	**26.14**	**260**	P	**P**	**12 35 31.0**	**+0.2**
	baz=26,SNR=6.4						
PATS	**Pohnpei**	**26.46**	**340**	P	**P**	**12 35 33.5**	**-0.1**
	baz=26,SNR=5.0						
PATS	**Pohnpei**	**26.46**	**340**	*e*P	**P**	**12 35 33.2**	**-0.5**
	comp=Z,126nm,1.2s						
STKA	**Stephens Creek**	**26.79**	**235**	P	**P**	**12 35 38.0**	**+1.4**
	comp=Z,32nm,0.9s,baz=60,slow=8.3,SN

comp=Z,3.7nm,1.0s
SBA Scott Base 59.61 180 *e*P **P 12 40 00.2 +0.6**
SBA pmax pmax
comp=Z,12nm,1.0s
SBA Scott Base 59.61 180 *e*P **P 12 40 00.2 +0.6**
comp=Z,12nm,1.0s
MJA0 Matsu Arr-Jizo 61.02 334 *e*P **P 12 40 08.3 -1.5**
MJA0 pmax pmax
comp=Z,6.0nm,1.0s
MJAR Matsushiro Arr 61.03 333 P **P 12 40 08.3 -1.6**
comp=Z,5.5nm,1.0s,baz=167,slow=7.3,SNR=8.3
MAJO Matsushiro 61.03 333 ⇑*i*P **P 12 40 09.3 -0.6**
MAJO *i* *PP **pP 12 40 19.1 -0.3**
MAJO pmax pmax
comp=Z,53nm,1.1s
KSRS Korea Array 66.65 327 P **P 12 40 47.1 +0.2**
comp=Z,0.9nm,0.8s,baz=161,slow=5.5,SNR=4.0
KSAR Wonju Array Be 66.66 327 P **P 12 40 47.1 +0.1**
KSAR Wonju Array Be 66.66 327 P **P 12 40 47.1 +0.1**
KS01 Wonju Array Si 66.68 327 *e*P **P 12 40 46.5 -0.5**
QIZ Qiongzhong 67.45 300 P **P 12 40 56.0 +3.6**
QIZ S **S 12 49 52.1 +5.3**
NJ2 Nanjing 68.20 317 *e*P **P 12 40 56.7 -0.1**
NJ2 S **S 12 49 54.1 -1.2**
NJ2 pmax pmax
comp=Z,11nm,0.5s
NJ2 LR LR
comp=Z,870nm,21.7s
NJ2 LR LR
comp=Z,850nm,18.4s
NJ2 LR LR
comp=Z,1μm,20.6s
USRK Ussuriysk Ar. 70.03 334 P **P 12 41 08.4 +0.5**
comp=Z,6.6nm,0.9s,baz=146,slow=3.1,SNR=8.8
WHN Wuhan 70.30 313 P **P 12 41 10.0 +0.2**
WHN pP **pP 12 41 19.0 -0.5**
PSI Prapat 70.38 280 *e*P **P 12 41 09.6 -1.3**
PSI pmax pmax
comp=Z,16nm,1.1s
PSI Prapat 70.38 280 *e*P **P 12 41 09.6 -1.3**
comp=Z,16nm,1.1s
MDJ Mudanjiang 71.39 333 P **P 12 41 15.3 -0.8**
MDJ pP pP 12 41 25.5 -0.3
MDJ sP sP 12 41 32.0 +2.6
MDJ S **S 12 50 35.3 +3.1**
MDJ pmax pmax
comp=Z,13nm,1.0s
MDJ pmax pmax
comp=Z,46nm,4.7s
SKNT Sakolnakorn 71.41 296 P **P 12 41 18.2 +1.4**
comp=Z,26nm,1.3s
QSPA South Pole Qui 71.77 180 *e*P **P 12 41 18.8 +0.4**
comp=Z,80nm,0.9s
NONG Nongkai 72.60 296 P **P 12 41 25.9 +1.9**
comp=Z,29nm,1.3s
ENH Enshi 73.60 310 *e*P **P 12 41 29.5 -0.2**
comp=Z,14nm,0.8s
GYA Guiyang 73.71 306 P **P 12 41 33.2 +2.6**
GYA pP PcP 12 41 45.8 -0.4
GYA PP **PP 12 44 20.6 +5.2**
GYA S **S 12 51 01.2 +1.4**
GYA sS sS 12 51 21.0 +5.2
GYA SKS **SKSac 12 51 32.7 -2.9**
GYA pmax pmax
comp=Z,20nm,1.0s
GYA pmax pmax
comp=Z,120nm,5.8s
GYA LR LR
comp=Z,480nm,18.8s
GYA LR LR
comp=Z,440nm,19.2s
GYA LR LR
comp=Z,460nm,18.4s
PBKT Sadao Pong 73.83 294 P P 12 41 41.7 +10
KLR Kul'dur 74.23 337 *c*P **P 12 41 32.0 -0.9**
KLR *i* *PP **pP 12 41 42.3 -0.3**
NANT Nan 75.01 296 P **P 12 41 40.3 +2.2**
comp=Z,4.0nm,1.1s
XAN Xi'an 76.06 313 P **P 12 41 44.2 +0.3**
XAN pmax pmax
comp=Z,15nm,1.1s
KMI Kunming 76.15 303 P **P 12 41 46.7 +1.9**
KMI pP PcP 12 41 56.2 -0.7
KMI pmax pmax
comp=Z,32nm,1.3s
CM01 Chiang Mai Arr 76.34 295 *e*P **P 12 41 46.3 +0.6**
CMAR Chiang Mai Arr 76.37 295 P **P 12 41 47.3 +1.4**
comp=Z,2.7nm,0.8s,baz=128,slow=4.2,SNR=17
CMAR LR LR 13 17 12.8
comp=Z,69nm,18.3s,baz=176,slow=37
CMAR Chiang Mai Arr 76.37 295 *e*P **P 12 41 47.7 +1.8**
CMAR pmax pmax
comp=Z,3.0nm,0.9s
CMMT Chiang Mai 76.52 295 P **P 12 41 48.6 +1.8**
comp=Z,10nm,1.5s,comp=Z,294nm
CHTO Chiang Mai 76.52 295 P **P 12 41 48.7 +1.9**
comp=Z,45nm,1.5s
CD2 Chengdu 78.14 308 ⇑*i*P **P 12 41 56.1 +0.4**
CD2 PcP **pP 12 42 06.2 +0.8**
CD2 sP sP 12 42 11.2 +2.2
CD2 S **S 12 51 47.8 -0.5**
CD2 pmax pmax
comp=Z,20nm,1.3s
CD2 pmax pmax
comp=Z,250nm,8.3s
HHC Hu-ho-hao-te 78.26 320 *e*P **P 12 41 58.1 +1.9**
HHC pmax pmax
comp=Z,14nm,1.0s
HHC pmax pmax
comp=Z,110nm,8.6s
LZH Lanzhou 80.68 313 *e*P **P 12 42 11.6 +2.1**
LZH pP pP 12 42 20.9 +1.6
LZH sP sP 12 42 25.3 +2.4
LZH pmax pmax
comp=Z,25nm,1.0s
LZH pmax pmax
comp=Z,83nm,5.4s
SVW2 Sparrevohn 84.53 17 *e*P **P 12 42 27.7 -1.1**
comp=Z,26nm,1.2s
CNPM China Poot 84.59 20 *e*P **P 12 42 29.8 +0.6**
comp=Z,59nm,1.2s
RSO Redoubt South 84.85 19 *e*P **P 12 42 30.4 -0.3**
ULN Ulaanbaatar 84.97 324 ⇑*i*P **P 12 42 31.4 -0.1**
ULN *i* *PP **pP 12 42 41.1 -0.2**
ULN pmax pmax
comp=Z,7.0nm,1.0s
ULN Ulaanbaatar 84.97 324 *e*P **P 12 42 31.8 +0.3**
comp=Z,8.5nm,1.0s
GTA Gaotai 85.09 314 ⇓P **P 12 42 33.1 +0.8**
GTA pP pP 12 42 41.3 -0.8
GTA sP sP 12 42 45.7 0.0
GTA SKS **SKSac 12 52 52.1 -2.9**
GTA S **SKKSac 12 53 01.4 +0.1**
GTA sS sS 12 53 14.7 -1.5
GTA pmax pmax
comp=Z,13nm,1.2s
GTA pmax pmax
comp=Z,120nm,5.5s
GTA LR LR
comp=Z,100nm,15.2s
GTA LR LR
comp=Z,110nm,15.9s
SYO Syowa Base 85.31 197 ⇓*e*P **P 12 42 32.0 -0.8**
SYO Syowa Base 85.31 197 ⇓*e*PcP **PcP 12 42 35.8 0.0**
SONM Songino Array 85.32 324 P **P 12 42 33.1 -0.1**
comp=Z,4.3nm,1.0s,baz=134,slow=5.0,SNR=17
SONM Songino Array 85.32 324 *e*P **P 12 42 33.5 +0.3**
SONM pmax pmax
comp=Z,5.0nm,1.0s
YAK Yakutsk 85.40 343 ⇑*e*P **P 12 42 33.4 +0.3**
YAK pmax pmax
comp=Z,25nm,1.2s
TT01 Tatalina 85.90 16 *e*P **P 12 42 36.3 +0.7**
TTA Tatalina 85.92 16 *e*P **P 12 42 36.3 +0.5**
TTA pmax pmax
comp=Z,25nm,1.1s
TTA Tatalina 85.92 16 *e*P **P 12 42 36.3 +0.5**
comp=Z,25nm,1.1s
CAST Castle Rocks 87.38 17 *e*P **P 12 42 41.2 -1.6**
comp=Z,15nm,1.0s
KTH Kantishna Hill 87.81 17 *e*P **P 12 42 43.6 -1.4**
comp=Z,9.3nm,0.9s
TRF Thorofare Moun 87.91 18 *e*P **P 12 42 44.9 -0.7**
comp=Z,17nm,1.1s
AFDM Forest Hills D 87.92 48 *e*P **P 12 42 46.7 +0.6**
AFDM *e*pP **pP 12 42 56.2 +0.3**
CMB Columbia Colle 87.95 49 *e*P **P 12 42 47.2 +1.0**
CMB pmax pmax
comp=Z,7.0nm,1.0s
CMB Columbia Colle 87.95 49 *e*P **P 12 42 47.2 +1.0**
comp=Z,6.6nm,1.0s
RND Reindeer 88.30 18 *e*P **P 12 42 46.1 -1.2**
RND pmax pmax
comp=Z,14nm,1.2s
RND Reindeer 88.30 18 *e*P **P 12 42 46.1 -1.2**
comp=Z,14nm,1.2s
ZAK Zakamensk 88.41 325 *e*P **P 12 42 46.1 -2.1**
ZAK pmax pmax
comp=Z,4.0nm,1.5s
BFSC Mount Baldy Ra 88.42 53 P **P 12 42 48.9 +0.2**
baz=247
M04C Macdoel 88.56 45 P **P 12 42 49.2 0.0**
baz=244
WAKR Walker 88.82 49 *e*P **P 12 42 51.5 +1.0**
comp=Z,35nm,1.9s
TVH3 East Aurora ar 89.20 49 *e*P **P 12 42 53.7 +1.3**
comp=Z,11nm,1.6s
MPMC Manual Prospec 89.26 52 P **P 12 42 52.9 +0.3**
baz=247
TVH2 Borealis Mine 89.26 49 *e*P **P 12 42 53.3 +0.7**
comp=Z,12nm,1.7s
TVH1 TV Hill, Hawth 89.28 49 *e*P **P 12 42 53.0 +0.1**
comp=Z,28nm,1.7s
WRH Wood River Hil 89.32 18 *e*P **P 12 42 50.7 -1.3**
comp=Z,9.8nm,1.2s
PAHR Pah Rah Range 89.36 48 *e*P **P 12 42 52.9 0.0**
comp=Z,7.6nm,1.0s
PAHR *e*pP **pP 12 43 03.2 +0.4**
CCB Clear Creek Bu 89.54 18 *e*P **P 12 42 51.3 -1.7**
comp=Z,5.0nm,1.0s
K05A Summer Lake 89.60 44 *e*P **P 12 42 55.1 +1.1**
comp=Z,32nm,1.7s
HDA Harding Lake 89.61 18 *e*P **P 12 42 52.7 -0.7**
comp=Z,58nm,1.8s
J05D Fort Rock, OR 89.61 44 P **P 12 42 54.6 +0.5**
baz=244
MDM Murphy Dome 89.65 17 *e*P **P 12 42 52.0 -1.5**
comp=Z,11nm,1.1s
HEC Hector,Ludlow 89.65 53 P **P 12 42 54.8 +0.5**
baz=248
COLA College 89.69 18 *e*P **P 12 42 52.4 -1.3**
COLA pmax pmax
comp=Z,26nm,1.3s
COLA College 89.69 18 *e*P **P 12 42 52.4 -1.3**
comp=Z,26nm,1.3s
IL1 Eielson Array 89.90 18 *e*P **P 12 42 52.5 -2.1**
ILAR Eielson Array 89.90 18 P **P 12 42 53.0 -1.7**
comp=Z,4.0nm,0.9s,baz=232,slow=5.8,SNR=35
ILB Eielson Array 89.90 18 *e*P **P 12 42 53.1 -1.5**
I05D Terrebonne, OR 90.00 43 P **P 12 42 56.1 +0.4**
baz=244
SNAA Sanae 90.02 183 P **P 12 42 55.7 +0.2**
SNAA Sanae 90.02 183 *e*P **P 12 42 55.6 +0.2**
SNAA pmax pmax
comp=Z,10.0nm,1.1s
SNAA Sanae 90.02 183 *e*P **P 12 42 55.6 +0.1**
comp=Z,9.5nm,1.1s
SHOC Shoshone, Teco 90.11 52 P **P 12 42 56.7 +0.4**
baz=248
GMRC Granite Mounta 90.15 53 P **P 12 42 56.7 0.0**
baz=248
TUQ Turquoise Moun 90.19 53 P **P 12 42 57.2 +0.2**
baz=248
IRM Iron Mountain 90.31 54 P **P 12 42 57.7 +0.3**
baz=248
TPNV Topopah Spring 90.53 51 P **P 12 42 58.9 +0.4**
baz=248
TPNV Topopah Spring 90.53 51 *e*P **P 12 42 59.1 +0.6**
TPNV pmax pmax
comp=Z,10.0nm,1.4s
TPNV Topopah Spring 90.53 51 *e*P **P 12 42 59.1 +0.6**
comp=Z,10nm,1.4s
Y12C Blythe 90.64 55 *e*P **P 12 42 59.7 +0.8**
comp=Z,16nm,1.5s
LDFC Landfair 90.68 53 *e*P **P 12 43 00.3 +1.1**
comp=Z,16nm,1.1s
VNA3 Neumayer Olymp 90.69 181 P **P 12 42 58.4 -0.1**
COLD Coldfoot 90.84 15 *e*P **P 12 42 59.6 +0.5**
comp=Z,10nm,1.2s
113A Mohawk Valley, 90.87 56 *e*P **P 12 43 00.7 +0.7**
113A *e*pP **pP 12 43 09.8 -0.1**
PDMCI Parker Dam,Lak 91.14 54 P **P 12 43 01.7 +0.5**
baz=249
BMN Battle Mountai 91.17 48 *e*P **P 12 43 01.7 +0.3**
BMN pmax pmax
comp=Z,6.0nm,1.0s
BMN Battle Mountai 91.17 48 *e*P **P 12 43 01.7 +0.3**
comp=Z,6.3nm,1.0s
SHPR Sheep Range 91.17 52 *e*P **P 12 43 01.9 +0.4**
comp=Z,12nm,1.6s
B05A Bryant 91.25 39 P **P 12 43 02.1 +0.7**
baz=244
R11A Troy Canyon, C 91.54 50 *e*P **P 12 43 03.4 +0.2**
comp=Z,10nm,1.9s
W13A Hualapai Mount 91.62 54 *e*P **P 12 43 04.5 +0.8**
comp=Z,4.4nm,0.9s
EGAK Eagle 91.65 20 *e*P **P 12 43 02.4 -0.4**
comp=Z,8.9nm,1.0s
DAWY Dawson 91.76 21 *e*P **P 12 43 03.0 -0.4**
comp=Z,20nm,1.6s
Y14A Wickenburg 91.89 55 *e*P **P 12 43 05.4 +0.6**
HAWA Hanford 92.03 42 *e*P **P 12 43 05.5 +0.4**
comp=Z,6.2nm,1.0s
LCMT Little Creek M 92.79 52 *e*P **P 12 43 09.6 +0.7**
comp=Z,5.2nm,1.1s
CCUT Cedar City 92.89 51 *e*P **P 12 43 10.4 +0.9**
comp=Z,8.5nm,1.6s
B08A Colville Reser 92.96 40 *e*P **P 12 43 09.5 +0.2**
comp=Z,6.5nm,1.4s
TUC Tucson 93.08 57 P **P 12 43 10.9 +0.6**
baz=250
TUC Tucson 93.08 57 *e*P **P 12 43 11.3 +1.0**
TUC pmax pmax
comp=Z,19nm,1.9s
TUC Tucson 93.08 57 *e*P **P 12 43 11.3 +1.0**
comp=Z,19nm,1.9s
KNB Kanab 93.10 52 *e*P **P 12 43 12.0 +1.5**
KNB *e**PP **pP 12 43 20.4 0.0**
KNB Kanab 93.10 52 *e*P **P 12 43 12.0 +1.5**
KNB *e*pP **pP 12 43 20.4 0.0**
X16A Lo Mia Camp, P 93.27 55 *e*P **P 12 43 12.2 +0.9**
U15A North Rim 93.30 53 *e*P **P 12 43 12.4 +0.9**
TIXI Tiksi 93.42 349 ⇑*e*P **P 12 43 09.7 -1.1**
TIXI pmax pmax
comp=Z,4.0nm,1.1s
WUAZ Wupatki 93.69 54 P **P 12 43 13.4 +0.3**
baz=250
WUAZ Wupatki 93.69 54 *e*P **P 12 43 13.9 +0.8**
comp=Z,6.6nm,1.3s
319A Douglas 93.98 58 *e*P **P 12 43 16.1 +1.5**
WMQ Urumqi 95.17 314 P **P 12 43 20.4 +0.7**
WMQ PP **PP 12 47 07.0 -3.0**
WMQ SKS **SKSac 12 53 51.5 -1.8**
WMQ S **S 12 54 29.4 -3.5**
WMQ SS **SS 13 00 55.2 -4.9**
WMQ pmax pmax
comp=Z,15nm,0.7s
WMQ pmax pmax
comp=Z,63nm,7.1s
DLMT Dillon 96.13 44 *e*P **P 12 43 25.7 +1.6**
comp=Z,4.0nm,1.2s
ANMO Albuquerque 97.33 56 ⇓*i*P **P 12 43 29.7 -0.2**
ANMO pmax pmax
comp=Z,1.0nm,1.0s
TXAR Lajitas Array 97.99 62 P **P 12 43 32.0 -0.8**
comp=Z,0.6nm,0.8s,baz=207,slow=5.3,SNR=6.6
TXAR LR LR 13 19 29.4
comp=Z,92nm,20.7s,baz=0.0,slow=30
YKA Yellowknife Ar 100.70 28 P **Pdif 12 43 42.3 -1.6**
comp=Z,0.9nm,0.8s,baz=255,slow=4.3,SNR=4.2
KSH Kashi 102.34 308 *e*P **Pdif 12 43 54.4 +2.4**
KSH *e*PP **PKiKP 12 48 10.4 -3.4**
KSH SKS **SKSac 12 54 28.3 -1.4**
KSH S **Sdif 12 55 31.8 -2.1**
KSH sS sS 12 55 52.4 +1.6
KSH SS **SS 13 02 44.3 +3.4**
KSH pmax pmax
comp=Z,71nm,4.4s
KSH LR LR
comp=Z,100nm,6.3s
KSH LR LR
comp=Z,110nm,5.9s
KSH LR LR
comp=Z,120nm,6.5s
ARU Arti 115.35 324 *i* PKIKP **PKPdf 12 48 36.7 -0.7**
ARU 12 49 40.6
ARU 12 55 46.1
ARU SS SS 13 05 28.7 -6.1
KLMR Klimovskoe 123.80 332 *e*PKIKP **PKPdf 12 48 51.0 -2.5**
KLMR pmax pmax
comp=Z,10.0nm,1.2s
ZEI Tsey 126.53 310 *i* PKIKP **PKPdf 12 48 59.3 -0.3**
KIV Kislovodsk 127.21 312 *i* PKIKP **PKPdf 12 49 00.0 -0.7**
KIV pmax pmax
comp=Z,15nm,1.1s
KIV MLR MLR
comp=Z,51nm,21.0s
NEY Neytrino 127.31 311 ⇓*e*PKIKP **PKPdf 12 49 02.4 +1.3**
OBN Obninsk 127.65 327 *i* PKIKP **PKPdf 12 48 59.7 -1.3**
OBN *e* 12 49 09.9
OBN pmax pmax
comp=Z,10.0nm,0.4s
AKASG Malin Array Be 133.60 324 PKP **PKPdf 12 49 11.8 -0.7**
comp=Z,1.0nm,0.3s,baz=51,slow=1.3,SNR=4.2
AKASG Malin Array Be 133.60 324 *e*PKIKP **PKPdf 12 49 11.1 -1.4**
AKASG pmax pmax
comp=Z,1.0nm,0.3s
BRTR Keskin Array B 134.72 308 PKP **PKPdf 12 49 13.6 -1.6**
comp=Z,1.3nm,0.9s,baz=119,slow=1.5,SNR=5.9
BRTR Keskin Array B 134.72 308 *e*PKIKP **PKPdf 12 49 16.5 +1.3**
BRTR pmax pmax
comp=Z,1.0nm,0.9s
CRVS Cervenica-Dubn 138.81 326 *e*PKIKP **PKPdf 12 49 22.9 +0.6**
CRVS Cervenica-Dubn 138.81 326 *e*PKP **PKPdf 12 49 22.9 +0.6**
VYHS Vyhne 140.45 327 *e*PKIKP **PKPdf 12 49 22.3 -3.0**
VYHS Vyhne 140.45 327 *e*PKP **PKPdf 12 49 22.3 -3.0**
CONA Conrad Observa 142.33 328 *i* PKPdf **PKPdf 12 49 26.3 -2.5**
comp=Z,0.7nm,0.3s
GERES GERESS Array B 142.74 331 PKP **PKPdf 12 49 26.8 -2.7**
comp=Z,1.0nm,0.8s,baz=57,slow=4.9,SNR=9.5
SOKA Soboth 143.59 327 *i* PKPdf PKPbc 12 49 29.0 +0.6
comp=Z,7.2nm,1.2s
OBKA Obir 143.95 327 *i* PKPdf PKPbc 12 49 29.6 +0.1
comp=Z,3.3nm,0.7s
KBA Koelnbreinsper 144.16 329 *i* PKPdf PKPbc 12 49 30.4 +0.1
comp=Z,14nm,1.3s,SNR=7.1
KBA *i* pPKiKP pPKiKP 12 49 47.6 +1.7
comp=Z,12nm,1.1s
BOJS Bojanci 144.24 326 *e*PKPbc PKPbc 12 49 31.0 +0.7
LJU Ljubljana 144.27 327 *e*PKPbc PKPbc 12 49 30.7 +0.3
MYKA Terra Mystica 144.32 328 *i* PKPdf PKPbc 12 49 30.8 +0.1
comp=Z,12nm,1.3s
MEM Membach 144.43 339 PKP PKPbc 12 49 31.2 +0.5
ABTA Abfaltersbach 144.80 329 *i* PKPab **PKPab 12 49 31.3 -0.8**
comp=Z,24nm,1.0s,SNR=13
WATA Walderalm 144.82 331 *i* PKPdf **PKPdf 12 49 33.4 +0.2**
comp=Z,5.8nm,0.8s
BCLA Clavier 144.83 340 PKP PKPbc 12 49 32.5 +0.5
WTTA Wattenberg 144.84 331 *i* PKPdf **PKPdf 12 49 33.3 0.0**
comp=Z,19nm,1.2s
MOTA Moosalm 145.03 331 *i* PKPdf **PKPab 12 49 33.3 +0.4**
comp=Z,34nm,1.2s,SNR=7.2
RETA Reutte 145.07 332 *i* PKPdf **PKPdf 12 49 33.7 +0.1**
comp=Z,19nm,1.2s,SNR=7.2
WLF Walferdange 145.18 338 PKP **PKPdf 12 49 34.5 +0.9**
WLF APKP pPKPab 12 49 43.4 +0.2
DOU Dourbes 145.34 340 PKP **PKPdf 12 49 34.3 +0.4**
FETA Feichten 145.44 331 *i* PKPdf **PKPab 12 49 34.6 +0.1**
comp=Z,30nm,1.0s,SNR=24
DAVA Damuels 145.62 332 *i* PKPab **PKPab 12 49 35.6 +0.4**
comp=Z,39nm,1.1s,SNR=14
DAVA *i* pPKPbc **pPKPdf 12 49 44.0 -0.8**
comp=Z,37nm,1.1s
DAVOX Davos/Dischmat 146.00 332 PKPbc **PKPab 12 49 36.7 0.0**
comp=Z,20nm,0.9s,baz=201,slow=0.8,SNR=30
ECH Echery 146.01 336 PKP **PKPdf 12 49 35.6 +0.5**
MOF Molkenrain 146.32 336 PKP **PKPbc 12 49 36.9 0.0**
THEF They Montfort 146.45 337 PKP **PKPab 12 49 37.8 -0.3**
LOMF Lomont 146.85 335 PKP **PKPbc 12 49 38.4 -0.1**
PLDF La Plantade 149.22 337 PKP **PKPbc 12 49 45.8 +1.0**
AGO Saint Agoulin 149.33 338 PKP **PKPbc 12 49 45.3 +0.3**
LBL Lubilhac 149.99 337 PKP **PKPbc 12 49 47.8 +1.1**
KEST Kesra 153.82 316 PKPbc **PKPbc 12 49 55.0 -0.8**
comp=Z,6.2nm,0.9s,baz=301,slow=5.4,SNR=6.6
TORD Torodi Ar. Bea 165.17 252 PKP **PKPdf 12 50 00.6 -0.7**
comp=Z,1.9nm,1.0s,baz=101,slow=2.0,SNR=7.0
TORD PKPab **PKPab 12 50 57.5 -1.0**
comp=Z,2.2nm,0.9s,baz=105,slow=4.5,SNR=7.4

NNC 01 12:39:42.7±1.8, 48°99N×68°66E, h0km, mb3.5, mpv3.1, 4C-3D, Error ellipse: s-maj=16.6km s-min=11.7km az=90.0, Suspected Mining explosion., Central Kazakhstan

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
BVA0	**Borovoye Array**	**4.19**	**14**	⇑Pg		Pb		12 40 58.5	+1.3
	1.9nm,0.5s,baz=181,slow=14,SNR=11								
BVA0				⇓Lg		Lg		12 41 56.3	
	5.1nm,0.6s,baz=192,slow=36,SNR=5.1								
AB31	**Akbulak array**	**5.73**	**276**	⇑Lg		Lg		12 42 43.8	
	0.9nm,0.5s,baz=90,slow=27,SNR=4.3								
KK31	**Karatay Array**	**6.03**	**167**	Sn		Sn		12 42 22.0	-0.7
	0.8nm,0.4s,baz=347,slow=20,SNR=10								
KK31				⇑Lg		Lg		12 43 01.0	
	1.0nm,0.5s								
KURBB	**Kurchatov Arra**	**6.59**	**72**	⇓Lg		Lg		12 43 14.3	
	7.7nm,0.7s								
KURK	**Kurchatov**	**6.67**	**71**	⇑Lg		Lg		12 43 13.2	
	3.1nm,0.6s								
AKTO	**Aktyubinsk**	**7.05**	**286**	⇓Lg		Lg		12 43 29.8	
	2.8nm,0.9s								
MK31	**Makanchi Array**	**9.42**	**98**	Lg		Lg		12 44 44.3	
	1.6nm,0.7s,baz=300,slow=28,SNR=3.5								

*IDC **01** 12:43:31.3±1.1, 60°.75S×50°.54W, h0km, mb3.9/4, mb1 4.0/4, mb1mx3.8/15, mbtmp3.8/4, MS3.5/3, Ms1 3.4/3, ms1mx3.2/20, Error ellipse: s-maj=54.5km s-min=35.3km az=75.0*

ISC 01 12:43:33.0±1.0, 60°.6S±0°.2×51°.2W±0°.3, h10km, n18, σ1s84/10, mb3.7/3, MS3.1/3, 1C, Scotia Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
VNA3	**Neumayer Olymp**	**19.54**	**140**	P		P		**12 48 00.9**	**-0.7**
SNAA	**Sanae**	**21.77**	**140**	P		P		**12 48 25.1**	**+0.8**
PLCA	**Paso Flores**	**23.18**	**320**	LR		LR		12 57 49.4	
	comp=Z,64nm,18.6s,baz=162,slow=36								
CPUP	**Villa Florida**	**34.50**	**350**	LR		LR		13 03 42.5	
	comp=Z,38nm,20.6s,baz=164,slow=35								
SYO	**Syowa Base**	**36.03**	**142**	⇑*e*P		P		**12 50 36.6**	**+2.9**
MAW	**Mawson**	**43.44**	**149**	LR		LR		13 08 41.1	
	comp=Z,147nm,19.8s,baz=252,slow=35								
LPAZ	**La Paz**	**45.89**	**337**	P		P		**12 51 58.1**	**+2.0**
	0.4nm,0.5s,baz=193,slow=14,SNR=2.3								
H10S2	**ASCENSION HYDR**	**58.26**	**44**	T		T		13 56 36.8	
	baz=200								
H10S3	**ASCENSION HYDR**	**58.26**	**44**	T		T		13 56 35.4	
	baz=200								
H10S1	**ASCENSION HYDR**	**58.27**	**44**	T		T		13 56 37.8	
	baz=200								
H10N3	**ASCENSION HYDR**	**59.35**	**44**	T		T		13 57 49.7	
	baz=199								
H10N1	**ASCENSION HYDR**	**59.35**	**44**	T		T		13 57 57.3	
	baz=199								
H10N2	**ASCENSION HYDR**	**59.36**	**44**	T		T		13 57 53.6	
	baz=199								
TORD	**Torodi Ar. Bea**	**84.65**	**51**	P		P		**12 56 05.2**	**-1.4**
	0.7nm,0.7s,baz=204,slow=5.0,SNR=4.8								
ASAR	**Alice Springs**	**95.95**	**185**	P		P		**12 56 57.7**	**-2.3**
	0.2nm,0.9s,baz=191,slow=4.7,SNR=2.8								
WRA	**Warramunga Arr**	**99.63**	**185**	P		**Pdif**		**12 57 17.5**	**+0.9**
	0.3nm,0.8s,baz=201,slow=4.5,SNR=3.0								
ILAR	**Eielson Array**	**143.76**	**314**	PKP		**PKPdf**		**13 03 06.3**	**-0.2**
	0.8nm,0.8s,baz=150,slow=2.0,SNR=8.9								
KURBB	**Kurchatov Arra**	**150.64**	**87**	PKPbc		**PKPbc**		**13 03 23.0**	**-0.9**
	0.9nm,0.7s,baz=229,slow=2.8,SNR=5.9								
KURBB				PKPab		**PKPab**		**13 03 29.6**	**-1.2**
	2.4nm,0.8s,baz=235,slow=2.9,SNR=13								

IDC 01 12:55:43.4±545.0, 51°08N×111°31E, h0km, Error ellipse: s-maj=202.9km s-min=95.6km az=47.0, Lake Baykal region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I34MN	**SONGINO INFRAS**	**4.58**	**226**	*i*		13 26 10.0	
	baz=42,slow=322,SNR=2.5						
I45RU	**USSURIYSK INFR**	**15.51**	**108**	*i*		14 29 30.0	
	baz=303,slow=315,SNR=0.9						
I46RU	**ZALESOVO INFRA**	**16.34**	**290**	*i*		14 36 30.0	
	baz=92,slow=332,SNR=0.7						

*ISCJB **01** 13:02:30.5±0.3, 18°.71S×177°.98W±0°.06, h450km, mb4.6/42, Error ellipse: s-maj=8.8km s-min=6.0km az=39.4*

*IDC **01** 13:02:31.4±1.6, 18°.49S×178°.09W, h435km±18km, mb3.9/16, mb1 4.1/18, mb1mx4.0/28, mbtmp4.7/18, Error ellipse: s-maj=15.2km s-min=10.1km az=142.0*

*NEIC **01** 13:02:33.7±0.8, 18°.63S×178°.01W, h472km±9km, mb4.9/27, Error ellipse: s-maj=11.0km s-min=8.1km az=134.0*

ISC 01 13:02:31.6±0.4, 18°.66S±0°.06×177°.99W±0°.06, h450km, n80, σ2s18/90, mb4.7/42, 2C-1D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**3.88**	**283**	*eP*	P	13 03 52.4	+6.5
MSVF				*eS*	**S**	**13 04 49.2**	**+3.1**
AFI	**Afiamalu**	**7.61**	**53**	P	**P**	**13 04 22.6**	**-0.4**
	9.5nm,0.3s,baz=270,slow=9.1,SNR=17						
AFI				S	**S**	**13 05 52.2**	**-2.0**
	5.1nm,0.3s,baz=227,slow=18,SNR=3.0						
AFI	**Afiamalu**	**7.61**	**53**	*eP*	**P**	**13 04 22.7**	**-0.4**
AFI				*eS*	**S**	**13 05 50.9**	**-3.4**
AFI				S	S	13 05 52.2	-2.0
FUNA	**Funafuti**	**10.44**	**344**	*eP*	**P**	**13 04 55.5**	**+1.8**
RAO	**Raoul Island**	**10.54**	**180**	S	**S**	**13 06 55.0**	**+2.7**
	35nm,0.3s,baz=272,slow=23,SNR=2.4						
DZM	**Mont Dzumac**	**14.99**	**254**	P	**P**	**13 05 42.6**	**-0.2**
	3.5nm,0.3s,baz=81,slow=18,SNR=32						
DZM	**Mont Dzumac**	**14.99**	**254**	*eP*	**P**	**13 05 43.2**	**+0.3**
	32nm,0.7s						
OUZ	**Omahuta**	**18.10**	**203**	*eP*	**P**	**13 06 18.3**	**+3.0**
	33nm,0.9s						
URZ	**Urewera**	**19.99**	**191**	P	**P**	**13 06 31.7**	**-1.1**
	40nm,0.5s,baz=7.3,slow=6.2,SNR=55						
URZ				S	**S**	**13 09 43.7**	**-5.6**
	5.4nm,0.7s,baz=30,slow=20,SNR=6.1						
URZ	**Urewera**	**19.99**	**191**	*eP*	**P**	**13 06 30.1**	**-2.7**
	55nm,0.8s						
URZ				S	**S**	**13 09 43.7**	**-5.6**
BKZ	**Black Stump Fm**	**20.98**	**192**	*eP*	**P**	**13 06 39.4**	**-2.5**
	13nm,0.7s						
BFZ	**Birch Farm**	**22.50**	**192**	*eP*	**P**	**13 06 55.0**	**-0.5**
	104nm,1.6s						
THZ	**Tophouse**	**24.30**	**197**	*eP*	**P**	**13 07 12.1**	**+0.3**
	30nm,1.1s						
OXZ	**Oxford**	**25.99**	**197**	*eP*	**P**	**13 07 26.3**	**-0.4**
	26nm,0.8s						
RPZ	**Rata Peaks**	**26.63**	**198**	P	**P**	**13 07 33.9**	**+1.6**
	10.0nm,0.6s,baz=220,slow=4.0,SNR=3.8						
ARMA	**Armidale**	**29.92**	**241**	*eP*	**P**	**13 08 02.8**	**+1.3**
	36nm,0.7s						
CTA	**Charters Tower**	**33.73**	**262**	P	**P**	**13 08 34.8**	**+0.5**
	52nm,0.6s,baz=96,slow=11,SNR=15						
CTAO	**Charters Tower**	**33.73**	**262**	*eP*	**P**	**13 08 34.8**	**+0.5**
	56nm,0.6s						
PMG	**Port Moresby**	**34.98**	**280**	*eP*	**P**	**13 08 45.3**	**+0.4**
	50nm,0.9s						
COEN	**Coen**	**37.52**	**271**	*eP*	**P**	**13 09 06.1**	**+0.1**
	35nm,0.9s						
MANU	**Manus Island**	**37.75**	**292**	*eP*	**P**	**13 09 08.8**	**+0.9**
	111nm,0.8s						
STKA	**Stephens Creek**	**38.63**	**242**	P	**P**	**13 09 16.1**	**+1.2**
	29nm,0.5s,baz=88,slow=10.0,SNR=129						
STKA	**Stephens Creek**	**38.63**	**242**	*eP*	**P**	**13 09 16.5**	**+1.6**
	13nm,1.0s						
BBOO	**Buckleboo**	**43.40**	**242**	*eP*	**P**	**13 09 54.0**	**+0.9**
	39nm,0.8s						
WB2	**Warramunga Arr**	**44.88**	**260**	*eP*	**P**	**13 10 04.1**	**-0.8**
	36nm,0.6s						
WRAB	**Tennant Creek**	**44.89**	**260**	*eP*	**P**	**13 10 04.0**	**-0.9**
	31nm,0.6s						
WRA	**Warramunga Arr**	**44.90**	**260**	P	**P**	**13 10 04.5**	**-0.4**
	24nm,0.5s,baz=96,slow=6.6,SNR=280						
WRA				S	**S**	**13 16 04.0**	**-5.2**
	1.3nm,1.1s,baz=97,slow=16,SNR=4.4						
AS01	**Alice Springs**	**44.94**	**255**	*eP*	**P**	**13 10 05.3**	**+0.1**
AS31	**Alice Springs**	**44.98**	**255**	*eP*	**P**	**13 10 06.0**	**+0.4**
	48nm,0.6s						
ASAR	**Alice Springs**	**44.98**	**255**	P	**P**	**13 10 06.0**	**+0.3**
	132nm,0.5s,baz=90,slow=8.8,SNR=5108						
ASAR				S	**S**	**13 16 06.4**	**-3.9**
	1.7nm,0.7s,baz=94,slow=16,SNR=9.2						
MTN	**Manton Dam**	**49.18**	**269**	*eP*	**P**	**13 10 37.2**	**-0.4**
	63nm,0.8s						
FORT	**Forrest**	**50.05**	**245**	*eP*	**P**	**13 10 43.8**	**+0.1**
	541nm,0.7s						
FITZ	**Fitzroy Crossi**	**53.30**	**261**	P	**P**	**13 11 08.1**	**+0.5**
	14nm,0.5s,baz=86,slow=9.5,SNR=98						
FITZ	**Fitzroy Crossi**	**53.30**	**261**	*eP*	**P**	**13 11 07.6**	**0.0**
	16nm,0.6s						
SOEI	**Soe**	**56.48**	**271**	*eP*	**P**	**13 11 31.2**	**+1.0**
	81nm,0.7s						
MBWA	**Marble Bar**	**58.28**	**256**	*eP*	**P**	**13 11 42.0**	**-0.4**
	19nm,0.8s						
NWAO	**Narrogin (SRO)**	**59.21**	**242**	P	**P**	**13 11 48.9**	**+0.4**
	8.6nm,0.7s,baz=59,slow=5.8						
SBA	**Scott Base**	**59.70**	**184**	*eP*	**P**	**13 11 54.7**	**+3.8**
	15nm,1.1s						
VNDA	**Vanda**	**59.73**	**185**	P	**P**	**13 11 53.5**	**+2.4**
	3.0nm,0.8s,baz=355,slow=6.3,SNR=27						
VNDA	**Vanda**	**59.73**	**185**	*eP*	**P**	**13 11 52.9**	**+1.8**
	8.7nm,1.4s						
LUWI	**Luwuk**	**60.62**	**280**	*eP*	**P**	**13 11 56.3**	**-1.9**
	47nm,1.0s						
MJAR	**Matsushiro Arr**	**68.75**	**323**	P	**P**	**13 12 48.9**	**-0.4**
	2.9nm,0.7s,baz=162,slow=0.0,SNR=7.5						
QSPA	**South Pole Qui**	**71.39**	**180**	*eP*	**P**	**13 13 04.3**	**-0.6**
	63nm,0.9s						
SBUM	**Sibu**	**71.72**	**279**	*eP*	**P**	**13 13 08.0**	**+0.4**
KSM	**Kuching**	**73.18**	**277**	*eP*	**P**	**13 13 14.1**	**-2.0**
	28nm,0.8s						
PETK	**Petropavlovsk-**	**74.51**	**345**	P	**P**	**13 13 22.8**	**+0.1**
	3.1nm,0.6s,baz=109,slow=7.6,SNR=7.7						
KSRS	**Korea Array**	**75.53**	**318**	P	**P**	**13 13 29.5**	**+0.6**
	0.9nm,0.6s,baz=127,slow=6.6,SNR=5.4						
KSAR	**Wonju Array Be**	**75.55**	**318**	P	**P**	**13 13 29.5**	**+0.5**
EMT	**Emmet**	**76.86**	**44**	*eP*	**P**	**13 13 34.8**	**-1.5**
SLD	**San Luis Dam**	**77.02**	**43**	*eP*	**P**	**13 13 35.9**	**-1.3**
MDJ	**Mudanjiang**	**79.03**	**325**	P	**P**	**13 13 49.2**	**+1.3**
MDJ				pmax	pmax		
	comp=Z,7.0nm,0.5s						
MDJ				pmax	pmax		
	comp=Z,70nm,5.4s						
WHN	**Wuhan**	**81.37**	**306**	⇑P	**P**	**13 13 59.4**	**-1.1**
TRF	**Thorofare Moun**	**84.66**	**12**	*eP*	**P**	**13 14 15.8**	**-0.7**
	comp=Z,11nm,0.7s						
GYA	**Guiyang**	**85.76**	**300**	*eP*	**P**	**13 14 23.0**	**+0.3**
GYA				pP	pP	13 16 07.2	+3.4
GYA				sP	sP	13 16 53.8	+3.7
GYA				PP	**PP**	**13 17 51.4**	**+1.4**
GYA				SKS	**SKSac**	**13 24 02.0**	**-3.1**
GYA				S	**SKKSac**	**13 24 15.2**	**+1.4**
GYA	**Guiyang**	**85.76**	**300**	sS	sS	13 27 20.8	+3.3
GYA				pmax	pmax		
	comp=Z,10.0nm,1.0s						
TXAR	**Lajitas Array**	**86.06**	**57**	P	**P**	**13 14 26.3**	**+2.2**
	comp=Z,4.4nm,0.8s,baz=218,slow=6.8,SNR=39						
ILAR	**Eielson Array**	**86.53**	**13**	P	**P**	**13 14 25.1**	**-0.2**
	comp=Z,1.0nm,0.4s,baz=220,slow=5.0,SNR=21						
PDAR	**Pinedale Array**	**87.62**	**43**	P	**P**	**13 14 32.5**	**+1.2**
	comp=Z,0.8nm,0.7s,baz=238,slow=2.8,SNR=6.9						
HHC	**Hu-ho-hao-te**	**88.08**	**314**	*eP*	**P**	**13 14 31.7**	**-1.7**
HHC				pmax	pmax		
	comp=Z,11nm,1.0s						
HHC				pmax	pmax		
	comp=Z,73nm,8.6s						
SYO	**Syowa Base**	**88.51**	**193**	⇓*eP*	**P**	**13 14 33.2**	**-1.5**
SYO	**Syowa Base**	**88.51**	**193**	⇑*e*PcP	**P**	**13 14 35.9**	**+1.2**
KMI	**Kunming**	**88.53**	**297**	P	**P**	**13 14 36.4**	**+0.5**
KMI				pmax	pmax		
	comp=Z,18nm,0.5s						
CMAR	**Chiang Mai Arr**	**89.52**	**290**	P	**P**	**13 14 41.8**	**+1.4**
	comp=Z,1.2nm,0.4s,baz=113,slow=3.7,SNR=8.6						
PLCA	**Paso Flores**	**90.52**	**134**	P	**P**	**13 14 46.8**	**+2.0**
	comp=Z,4.3nm,0.6s,baz=249,slow=5.2,SNR=14						
LZH	**Lanzhou**	**91.67**	**308**	*eP*	P	13 14 41.8	-8.4
LZH				pP	pP	13 16 28.0	-4.4
LZH				sP	sP	13 17 15.0	-3.4
LZH				pmax	pmax		
	comp=Z,17nm,1.0s						
LZH				pmax	pmax		
	comp=Z,120nm,4.2s						
YKA	**Yellowknife Ar**	**94.85**	**25**	P	**P**	**13 15 04.4**	**+0.6**
	comp=Z,0.6nm,0.6s,baz=230,slow=5.1,SNR=3.6						
KSH	**Kashi**	**113.84**	**306**	*e*PKP	**PKiKP**	**13 20 16.0**	**-2.7**
KSH				*e*PP	**PP**	**13 21 24.6**	**+4.2**
KSH				*e*sPKP		13 22 56.1	
KSH				PKS	**PKSdf**	**13 23 51.8**	**-3.7**
KSH				SKS	**SKSdf**	**13 26 42.1**	**-5.6**
KSH				SKKS	**SKKSac**	**13 27 26.5**	**-8.1**
KSH	**Kashi**	**113.84**	**306**	SS	SS	13 36 34.4	-0.2
KSH				AMB	AMB		
	comp=Z,49nm,5.7s						
ARCES	**ARCESS Array B**	**127.12**	**350**	PKP	**PKPdf**	**13 20 43.1**	**0.0**
	comp=Z,0.7nm,0.4s,baz=346,slow=0.5,SNR=5.1						
BRTR	**Keskin Array B**	**145.59**	**314**	PKPbc	**PKPdf**	**13 21 18.9**	**+0.8**
	comp=Z,1.4nm,0.8s,baz=98,slow=2.8,SNR=8.4						
CLL	**Collm**	**146.28**	**348**	*e*PKPbc	**PKPdf**	**13 21 21.0**	**+2.3**
	comp=Z,10.0nm,0.7s						
UPC	**Upice**	**146.32**	**344**	*e*PKP	**PKPbc**	**13 21 22.0**	**+1.1**
DPC	**Dobruska-Polom**	**146.38**	**343**	*e*PKP	**PKPbc**	**13 21 22.1**	**+1.0**
BRG	**Berggiesshubel**	**146.49**	**346**	*e*PKP	**PKPdf**	**13 21 21.7**	**+2.6**
	comp=Z,6.3nm,0.9s						
KRLC	**Kraliky**	**146.50**	**343**	*e*PKP	**PKPdf**	**13 21 22.1**	**+2.9**
VYHS	**Vyhne**	**147.26**	**339**	*e*PKP	**PKPbc**	**13 21 24.1**	**+0.6**
KHC	**Kasperske Hory**	**148.20**	**346**	*e*PKP	**PKPbc**	**13 21 27.0**	**+1.0**
GERES	**GERESS Array B**	**148.44**	**345**	PKPbc	**PKPbc**	**13 21 26.9**	**+0.2**
	comp=Z,2.0nm,0.7s,baz=29,slow=3.0,SNR=15						
DAVOX	**Davos/Dischmat**	**151.22**	**349**	PKPbc	**PKPbc**	**13 21 34.2**	**+0.7**
	comp=Z,2.6nm,0.4s,baz=342,slow=4.2,SNR=5.0						
TORD	**Torodi Ar. Bea**	**174.51**	**177**	PKPab	**PKPab**	**13 23 26.0**	**+0.5**
	comp=Z,0.8nm,0.8s,baz=200,slow=5.3,SNR=4.1						

IDC 01 13:11:37.2±5.8, 10°.21S×161°.29E, h61km±44km, mb3.6/5, mb1 3.8/5, mb1mx3.4/40, mbtmp3.9/5, Error ellipse: s-maj=44.6km s-min=25.1km az=119.0, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**1.53**	**300**	P	Pn	13 12 01.9	-0.5
	40nm,0.3s,baz=155,slow=1.9,SNR=8.4						
HNR				S	Sn	13 12 21.4	0.0
	359nm,0.3s,baz=200,slow=10,SNR=20						
HNR	**Honiara**	**1.53**	**300**	*eP*	Pn	13 12 01.0	-1.4
HNR				*eS*	Sn	13 12 19.0	-2.4
WRA	**Warramunga Arr**	**27.73**	**246**	P	P	13 17 20.6	+0.4
	1.1nm,0.5s,baz=74,slow=9.3,SNR=7.4						
ASAR	**Alice Springs**	**29.35**	**239**	P	P	13 17 34.5	-0.1
	0.5nm,0.4s,baz=63,slow=10,SNR=8.0						
FITZ	**Fitzroy Crossi**	**35.40**	**253**	P	P	13 18 27.2	-0.4
	1.1nm,0.5s,baz=82,slow=7.4,SNR=7.2						
SONM	**Songino Array**	**75.45**	**325**	P	P	13 23 14.8	0.0
	0.8nm,0.5s,baz=137,slow=5.1,SNR=5.9						
ILAR	**Eielson Array**	**84.16**	**20**	P	P	13 24 01.6	+0.1
	0.4nm,1.0s,baz=225,slow=5.0,SNR=3.3						

*IDC **01** 13:13:05.3±1.1, 18°.26S×167°.38E, h0km, mb4.5/9, mb1 4.7/10, mb1mx4.2/41, mbtmp4.5/10, ML3.9/1, MS3.6/9, Ms1 3.5/9, ms1mx3.3/29, Error ellipse: s-maj=33.4km s-min=21.8km az=130.0*

*ISCJB **01** 13:13:07.5±1.1, 18°.36S±0°.08×167°.3E±0°.2, h25km, mb4.4/9, MS3.6/9, Error ellipse: s-maj=22.7km s-min=11.1km az=2.3*

*NEIC **01** 13:13:10.1±0.8, 18°.45S×167°.45E, h35km, mb4.1/1, Error ellipse: s-maj=22.0km s-min=15.2km az=112.0*

ISC 01 13:13:08.9±0.9, 18°.40S±0°.08×167°.4E±0°.2, h25km, n34, σ1s53/26, mb4.3/9, MS3.5/9, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**3.76**	**193**	Pn	**Pn**	**13 14 06.3**	**+0.9**
	9.3nm,0.3s,baz=336,slow=8.0,SNR=89						
DZM				Sn	**Sn**	**13 14 49.4**	**+0.5**
	11nm,0.3s,baz=139,slow=20,SNR=9.9						
DZM				LR	LR	13 15 16.6	
	comp=Z,160nm,20.1s,baz=326,slow=34						
DZM	**Mont Dzumac**	**3.76**	**193**	*e*Pn	**Pn**	**13 14 05.0**	**-0.4**
	34nm,0.3s						
DZM				*e*Sn	**Sn**	**13 14 44.7**	**-4.2**
	99nm,0.2s						
DZM				*e*LR	LR	13 14 59.0	
	272nm,26.1s						
DZM	**Mont Dzumac**	**3.76**	**193**	*e*Pn	**Pn**	**13 14 03.9**	**-1.5**
DZM				Sn	**Sn**	**13 14 49.4**	**+0.5**
DZM				*e*Sn	**Sn**	**13 14 51.3**	**+2.4**
HNR	**Honiara**	**11.46**	**320**	LR	LR	13 19 15.3	
	comp=Z,202nm,19.9s,baz=149,slow=33						
CTA	**Charters Tower**	**20.02**	**262**	P	**P**	**13 17 41.2**	**+1.2**
	18nm,0.8s,baz=88,slow=12,SNR=11						
AFI	**Afiamalu**	**20.51**	**80**	LR	LR	13 23 45.3	
	comp=Z,187nm,18.9s,baz=240,slow=31						
URZ	**Urewera**	**21.54**	**159**	LR	LR	13 25 06.8	
	comp=Z,74nm,19.8s,baz=347,slow=33						
PMG	**Port Moresby**	**21.55**	**292**	LR	LR	13 25 11.5	
	comp=Z,125nm,18.5s,baz=140,slow=34						
STKA	**Stephens Creek**	**26.84**	**235**	P	**P**	**13 18 49.3**	**+1.8**
	10nm,0.8s,baz=61,slow=8.3,SNR=18						
STKA				LR	LR	13 28 59.7	
	comp=Z,85nm,18.4s,baz=22,slow=35						
JAY	**Jayapura**	**30.53**	**298**	LR	LR	13 31 12.8	
	comp=Z,4.8nm,20.2s,baz=164,slow=36						
WRAB	**Tennant Creek**	**31.21**	**262**	*eP*	**P**	**13 19 22.5**	**-4.0**
	2.8nm,0.9s						
WRA	**Warramunga Arr**	**31.22**	**262**	P	**P**	**13 19 25.6**	**-1.0**
	3.9nm,1.0s,baz=96,slow=9.5,SNR=14						
ASAR	**Alice Springs**	**31.63**	**255**	P	**P**	**13 19 29.9**	**-0.4**
	13nm,0.8s,baz=80,slow=8.9,SNR=92						
ASAR				LR	LR	13 31 53.3	
	comp=Z,213nm,19.2s,baz=89,slow=36						
FITZ	**Fitzroy Crossi**	**39.58**	**264**	P	**P**	**13 20 38.4**	**-0.1**
	34nm,0.8s,baz=113,slow=8.4,SNR=80						
TBI	**Tubuai**	**40.52**	**105**	*e*LR	LR	13 32 30.9	
	152nm,29.0s						
PPT2	**Papeete2**	**40.88**	**96**	*e*LR	LR	13 32 45.4	
	300nm,28.5s						
TAOE	**Nuku Hiva Isla**	**51.72**	**87**	*e*LR	LR	13 37 46.7	
	191nm,24.4s						
TGY	**Tagaytay City**	**56.02**	**302**	LR	LR	13 46 49.0	
	comp=Z,753nm,18.1s,baz=314,slow=36						
PSI	**Prapat**	**70.55**	**280**	LR	LR	13 57 31.8	
	comp=Z,135nm,18.1s,slow=38						
CMAR	**Chiang Mai Arr**	**76.55**	**295**	P	**P**	**13 24 58.4**	**+0.8**
	0.7nm,0.3s,baz=138,slow=5.4,SNR=6.7						
SONM	**Songino Array**	**85.53**	**324**	P	**P**	**13 25 44.6**	**-0.2**
	2.0nm,1.0s,baz=130,slow=4.5,SNR=7.6						
PALK	**Pallekele**	**89.13**	**278**	LR	LR	14 05 53.0	
	comp=Z,30nm,18.2s,baz=108,slow=36						
SNAA	**Sanae**	**89.91**	**183**	P	**P**	**13 26 06.6**	**+1.0**
	3.4nm,1.1s,baz=214,slow=5.7						
ILAR	**Eielson Array**	**89.97**	**18**	P	**P**	**13 26 04.4**	**-1.2**
	1.2nm,0.7s,baz=232,slow=4.4,SNR=19						
MYKA	**Terra Mystica**	**144.50**	**328**	*i* PKPdf	PKPbc	13 32 42.1	+0.2
	3.9nm,0.9s						
ABTA	**Abfaltersbach**	**144.97**	**329**	*i* PKPdf	**PKPab**	**13 32 43.6**	**+0.2**
	12nm,1.0s,SNR=5.9						
WTTA	**Wattenberg**	**145.02**	**331**	*i* PKPdf	**PKPdf**	**13 32 44.7**	**+0.4**
	3.7nm,0.5s						
MOTA	**Moosalm**	**145.20**	**331**	*i* PKPdf	**PKPdf**	**13 32 44.8**	**+0.3**
	5.7nm,0.8s						
RETA	**Reutte**	**145.25**	**332**	*i* PKPdf	**PKPdf**	**13 32 45.1**	**+0.5**
	8.2nm,1.0s						
FETA	**Feichten**	**145.61**	**331**	*i* PKiKP	**PKPab**	**13 32 46.7**	**+0.9**
	14nm,0.9s,SNR=5.4						
DAVA	**Damuels**	**145.79**	**332**	*i* PKPab	**PKPab**	**13 32 47.2**	**+0.7**
	12nm,0.8s,SNR=5.2						
DAVOX	**Davos/Dischmat**	**146.18**	**332**	PKPbc	**PKPab**	**13 32 48.0**	**0.0**
	10.0nm,0.9s,baz=90,slow=2.0,SNR=13						
ESDC	**Sonseca Array**	**157.51**	**342**	PKPab	**PKPab**	**13 33 34.7**	**-0.3**
	0.2nm,0.3s,baz=7.3,slow=4.3,SNR=4.1						
TORD	**Torodi Ar. Bea**	**165.27**	**251**	PKPab	**PKPab**	**13 34 09.7**	**+0.1**
	1.1nm,0.9s,baz=84,slow=4.2,SNR=5.4						

WEL 01 13:19:59.7±0.2, 45°.06S×167°.49E, h67km±1km, ML3.8/19, 5C-5D, Error ellipse: s-maj=1.7km s-min=1.1km az=90.0, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DCZ	**Deep Cove**	**0.47**	**210**	⇓PN	Pn	13 20 11.6	-0.3
DCZ				SN	Sn	13 20 21.1	+0.3
DCZ				AML	AML	13 20 22.1	
DCZ				AML	AML	13 20 24.1	
DCZ				AML	AML	13 20 24.2	
MSZ	**Milford Sound**	**0.50**	**39**	PN	Pn	13 20 11.6	-0.6
MSZ				SN	Sn	13 20 21.7	+0.3
MSZ				AML	AML	13 20 22.6	
MSZ				AML	AML	13 20 22.8	
MSZ				AML	AML	13 20 22.8	
MLZ	**Mavora Lakes**	**0.54**	**125**	⇑PN	Pn	13 20 12.3	-0.4
MLZ				SN	Sn	13 20 21.6	-0.6
MLZ				AML	AML	13 20 22.3	
WHZ	**Wether Hill Ro**	**0.89**	**159**	⇓PN	Pn	13 20 16.6	-0.1
WHZ				SN	Sn	13 20 29.2	-0.1
WHZ				AML	AML	13 20 31.0	
WKZ	**Wanaka**	**1.11**	**78**	PN	Pn	13 20 19.3	-0.2
WKZ				SN	Sn	13 20 34.0	-0.3
WKZ				AML	AML	13 20 35.8	
WKZ				AML	AML	13 20 35.8	
WKZ				AML	AML	13 20 36.0	
PYZ	**Puysegur Point**	**1.24**	**207**	PN	Pn	13 20 22.0	+0.9
PYZ				AML	AML	13 20 43.6	
PYZ				AML	AML	13 20 43.7	
PYZ				AML	AML	13 20 43.9	
PYZ				AML	AML	13 20 43.9	
EAZ	**Earnscleugh**	**1.30**	**98**	⇑PN	Pn	13 20 21.8	-0.1
EAZ				AML	AML	13 20 37.3	
EAZ				AML	AML	13 20 38.4	
EAZ				AML	AML	13 20 38.4	
EAZ				AML	AML	13 20 39.1	
JCZ	**Jackson Bay**	**1.36**	**44**	PN	Pn	13 20 22.1	-0.7
JCZ				AML	AML	13 20 43.0	
JCZ				AML	AML	13 20 43.2	
TUZ	**Tuapeka**	**1.75**	**121**	⇓PN	Pn	13 20 27.5	-0.4
TUZ				AML	AML	13 20 48.5	
TUZ				AML	AML	13 20 48.6	
TUZ				AML	AML	13 20 49.1	
TUZ				AML	AML	13 20 49.1	
APZ	**The Paps**	**1.80**	**169**	PN	Pn	13 20 28.6	-0.1
APZ				AML	AML	13 20 58.1	
APZ				AML	AML	13 20 58.6	
LBZ	**Lake Benmore**	**2.04**	**72**	⇑PN	Pn	13 20 30.4	-1.4
LBZ				AML	AML	13 20 56.7	
LBZ				AML	AML	13 20 56.8	
LBZ				AML	AML	13 21 17.3	
ODZ	**Otahua Downs**	**2.24**	**91**	⇑PN	Pn	13 20 33.4	-1.1
ODZ				AML	AML	13 20 58.4	
ODZ				AML	AML	13 20 58.8	
ODZ				AML	AML	13 20 58.8	
ODZ				AML	AML	13 20 59.1	
FOZ	**Fox Glacier**	**2.27**	**48**	PN	Pn	13 20 33.3	-1.6
FOZ				AML	AML	13 21 09.9	
FOZ				AML	AML	13 21 10.0	
FOZ				AML	AML	13 21 12.4	
FOZ				AML	AML	13 21 12.4	
HHSZ	**Highcliff Hill**	**2.34**	**112**	⇓PN	Pn	13 20 35.7	-0.2
HHSZ				AML	AML	13 21 02.5	
HHSZ				AML	AML	13 21 02.5	
RPZ	**Rata Peaks**	**2.89**	**63**	⇑PN	Pn	13 20 41.1	-2.3
RPZ				AML	AML	13 21 14.8	
RPZ				AML	AML	13 21 20.7	
WVZ	**Waitaha Valley**	**3.07**	**51**	PN	Pn	13 20 44.2	-1.6
WVZ				AML	AML	13 21 23.7	
WVZ				AML	AML	13 21 24.0	
INZ	**Inchbonnie**	**3.69**	**52**	PN	Pn	13 20 51.9	-2.4
OXZ	**Oxford**	**3.71**	**64**	⇓PN	Pn	13 20 51.0	-3.5
MQZ	**McQueen's Vall**	**3.94**	**72**	PN	Pn	13 20 54.4	-2.9
CRLZ	**Canterbury Las**	**3.97**	**70**	PN	Pn	13 20 55.2	-2.9
LTZ	**Lake Taylor**	**4.14**	**58**	PN	Pn	13 20 55.9	-4.5
LTZ				AML	AML	13 21 54.0	
DSZ	**Denniston Nort**	**4.57**	**45**	PN	Pn	13 21 03.9	-2.5
DSZ				AML	AML	13 21 56.5	
DSZ				AML	AML	13 21 56.6	
DSZ				AML	AML	13 21 58.6	
DSZ				AML	AML	13 21 58.6	
THZ	**Tophouse**	**5.14**	**52**	PN	Pn	13 21 10.8	-3.4
THZ				AML	AML	13 22 14.7	
QRZ	**Quartz Range**	**5.62**	**43**	PN	Pn	13 21 19.0	-1.7

*IDC **01** 13:25:29.1±0.7, 20°.49N×123°.07E, h0km, mb4.1/18, mb1 4.3/21, mb1mx4.2/39, mbtmp4.2/21, ML4.4/3, MS3.4/3, Ms1 3.4/3, ms1mx2.9/38, Error ellipse: s-maj=20.3km s-min=16.6km az=85.0*

*NEIC **01** 13:25:31.2±3.9, 20°.54N×123°.11E, h14km±23km, mb4.3/2, Error ellipse: s-maj=12.3km s-min=10.0km az=178.0*

*ISCJB **01** 13:25:32.8±0.3, 20°.67N±0°.02×123°.16E±0°.04, h33km, mb4.0/19, MS3.3/2, Error ellipse: s-maj=5.2km s-min=3.1km az=14.4*

*JMA **01** 13:25:35.5±0.5, 20°.81N×123°.01E, h43km, M5.1*

*MAN **01** 13:25:35, 20°.38N×122°.89E, h16km, mb4.7, ML3.5, MS4.1*

**ISC 01 13:25:34.9±0.6, 20°.68N±0°.05×123°.12E±0°.05, h35km, n63, σ1s79/85

0.6nm,0.3s,baz=207,slow=11,SNR=5.3
KSAR Wonju Array Be 17.21 13 P Pn 13 29 34.6 +2.1
KSRS Korea Array 17.23 13 P Pn 13 29 34.7 +1.9
0.3nm,0.3s,baz=188,slow=13,SNR=25
KSRS LR LR 13 36 54.6
comp=Z,94nm,18.2s,baz=190,slow=39
MAJO Matsushiro 20.58 37 *eP* **P 13 30 08.4 -2.4**
14nm,0.9s
MJAR Matsushiro Arr 20.58 37 P Pn 13 30 20.3 +7.1
9.0nm,0.7s,baz=232,slow=9.7,SNR=29
CMAR Chiang Mai Arr 22.88 269 P **P 13 30 35.9 +0.3**
3.7nm,0.8s,baz=70,slow=8.4,SNR=23
CMAR LR LR 13 39 24.5
comp=Z,56nm,18.6s,baz=112,slow=37
KLR Kul'dur 29.31 12 P **P 13 31 36.1 +2.0**
1.0nm,0.5s,baz=282,slow=8.5,SNR=4.6
SONM Songino Array 30.28 337 P **P 13 31 43.6 +0.9**
0.3nm,0.4s,baz=159,slow=9.1,SNR=3.3
H11S3 WAKE ISLAND Hy 41.02 85 T T 14 17 25.5
baz=281,slow=75,SNR=7.4
H11S1 WAKE ISLAND Hy 41.03 85 T T 14 17 27.2
baz=281,slow=75,SNR=5.0
H11S2 WAKE ISLAND Hy 41.04 85 T T 14 17 28.8
baz=281,slow=75,SNR=6.6
WRA Warramunga Arr 41.84 164 P **P 13 33 19.4 -2.2**
2.1nm,0.9s,baz=346,slow=8.7,SNR=8.1
PETK Petropavlovsk- 41.85 31 P **P 13 33 23.3 +1.9**
2.6nm,0.7s,baz=218,slow=9.0,SNR=2.8
ZALV Zalesovo Beam 44.15 328 P **P 13 33 40.4 +0.5**
3.1nm,0.7s,baz=114,slow=7.3,SNR=10
ASAR Alice Springs 45.31 166 P **P 13 33 47.9 -1.7**
0.5nm,0.6s,baz=345,slow=7.0,SNR=14
KURK Kurchatov 45.93 322 P **P 13 33 54.9 +0.8**
KURBB Kurchatov Arra 45.94 322 P **P 13 33 54.9 +0.6**
2.6nm,0.3s,baz=117,slow=7.9,SNR=18
ABKAR Akbulak array 57.17 316 *eP* **P 13 35 17.4 -0.9**
1.9nm,0.6s
GEYT Alibeck 58.14 302 P **P 13 35 26.4 +1.0**
2.4nm,0.7s,baz=99,slow=4.7,SNR=5.7
GEYT LR LR 14 03 31.1
comp=Z,45nm,20.2s,baz=100,slow=39
KBZ Khabaz 69.08 310 P **P 13 36 37.5 +0.2**
3.6nm,0.8s,baz=82,slow=8.7,SNR=7.2
ILAR Eielson Array 71.51 27 P **P 13 36 52.8 +0.9**
0.4nm,0.8s,baz=288,slow=7.3,SNR=5.8
ARCES ARCESS Array B 73.44 339 P **P 13 37 03.9 +0.6**
1.6nm,0.8s,baz=71,slow=5.3,SNR=4.7
FINES FINESS Array B 75.36 330 P **P 13 37 14.5 0.0**
2.7nm,0.7s,baz=88,slow=5.9,SNR=11
AKASG Malin Array Be 76.67 319 P **P 13 37 21.1 -1.1**
1.3nm,0.7s,baz=59,slow=5.6,SNR=4.4
BRTR Keskin Array B 76.70 308 P **P 13 37 22.1 -0.7**
1.1nm,0.8s,baz=101,slow=6.7,SNR=6.4
NB2 NORSAR Subarra 82.14 333 P **P 13 37 51.4 -0.5**
comp=Z,0.9nm,0.8s,baz=62,slow=5.6
NOA NORSAR Array B 82.14 333 P **P 13 37 51.4 -0.5**
comp=Z,0.8nm,0.8s,baz=59,slow=5.6,SNR=4.0
YKA Yellowknife Ar 85.48 23 P **P 13 38 09.2 +0.3**
comp=Z,1.3nm,0.6s,baz=303,slow=4.8,SNR=6.8
GERES GERESS Array B 86.68 321 P **P 13 38 15.2 0.0**
comp=Z,0.5nm,0.5s,baz=46,slow=3.9,SNR=5.0

*ATH **01** 13:36:27.7, 38.38N×21.81E, h15km±2km, ML2.1/6, Error ellipse: s-maj=2.9km s-min=0.8km az=119.0*
*CSEM **01** 13:36:27.9±0.1, 38.39N×21.80E, h8km, ML2.1, Error ellipse: s-maj=2.3km s-min=1.7km az=168.0*
*ISCJB **01** 13:36:28.2±0.3, 38.38N±0.02×21.80E±0.02, h6km±4km, Error ellipse: s-maj=3.4km s-min=2.9km az=168.8*
*THE **01** 13:36:28.2, 38.38N×21.80E, h12km, ML2.1/11, Error ellipse: s-maj=0.8km s-min=0.3km az=123.0*
ISC 01 13:36:27.9±0.8, 38.38N±0.02×21.80E±0.02, h14km±5km, n46, σ0s43/89, Greece

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
UPR	**University Cam**	**0.10**	**186**	P		**Pg**	**13 36 30.9**	**-0.1**
UPR				S		**Sg**	**13 36 33.2**	**+0.1**
UPR	**University Cam**	**0.10**	**186**	P		**Pg**	**13 36 30.7**	**-0.3**
UPR				S		**Sg**	**13 36 32.8**	**-0.3**
UPR	**University Cam**	**0.10**	**186**	P		**Pg**	**13 36 30.5**	**-0.5**
UPR				S		**Sg**	**13 36 32.5**	**-0.6**
LAKA	**Lakka**	**0.20**	**135**	P		**Pg**	**13 36 32.3**	**-0.2**
LAKA				S		**Sg**	**13 36 36.1**	**+0.6**
LAKA	**Lakka**	**0.20**	**135**	P		**Pg**	**13 36 32.3**	**-0.2**
LAKA				S		**Sg**	**13 36 35.9**	**+0.4**
LAKA	**Lakka**	**0.20**	**135**	P		**Pg**	**13 36 32.5**	**0.0**
LAKA				S		**Sg**	**13 36 36.4**	**+0.8**
ANX	**Ano Chora**	**0.23**	**24**	P		**Pg**	**13 36 33.0**	**-0.1**
ANX				S		**Sg**	**13 36 37.0**	**+0.4**
ANX	**Ano Chora**	**0.23**	**24**	P		**Pg**	**13 36 33.0**	**-0.1**
ANX				S		**Sg**	**13 36 36.5**	**-0.1**
ANX	**Ano Chora**	**0.23**	**24**	P		**Pg**	**13 36 33.1**	**0.0**
ANX				S		**Sg**	**13 36 36.4**	**-0.1**
ANX				AML	AML		13 36 37.0	
	comp=E,1949μm,0.3s							
ANX				AML	AML		13 36 37.2	
	comp=N,1663μm,0.3s							
KALE	**Kalithea**	**0.27**	**88**	P		**Pg**	**13 36 33.4**	**-0.2**
KALE				S		**Sg**	**13 36 37.6**	**+0.1**
KALE	**Kalithea**	**0.27**	**88**	P		**Pg**	**13 36 33.5**	**-0.2**
KALE				S		**Sg**	**13 36 37.5**	**+0.1**
KALE	**Kalithea**	**0.27**	**88**	P		**Pg**	**13 36 33.6**	**0.0**
KALE				S		**Sg**	**13 36 37.3**	**-0.2**
KALE				AML	AML		13 36 39.7	
	comp=N,789μm,0.3s							
KALE				AML	AML		13 36 40.0	
	comp=E,663μm,0.2s							
PVO	**Paravola**	**0.32**	**318**	P		**Pg**	**13 36 34.4**	**-0.1**
PVO				S		**Sg**	**13 36 39.5**	**+0.5**
PVO	**Paravola**	**0.32**	**318**	P		**Pg**	**13 36 34.4**	**-0.1**
PVO				S		**Sg**	**13 36 39.5**	**+0.5**
PVO	**Paravola**	**0.32**	**318**	P		**Pg**	**13 36 34.6**	**+0.1**
PVO				S		**Sb**	**13 36 39.8**	**-0.7**
PVO				AML	AML		13 36 40.9	
	comp=E,1153μm,0.3s							
PVO				AML	AML		13 36 42.9	
	comp=N,924μm,0.3s							
AXS	**Araxos**	**0.38**	**241**	P		**Pg**	**13 36 35.2**	**-0.4**
AXS				S		**Sb**	**13 36 41.8**	**-0.4**
AXS	**Araxos**	**0.38**	**241**	P		**Pg**	**13 36 35.3**	**-0.4**
AXS				S		**Sb**	**13 36 41.8**	**-0.4**
AXS	**Araxos**	**0.38**	**241**	P		**Pg**	**13 36 35.2**	**-0.4**
RLS	**Riolos of Patr**	**0.41**	**219**	P		**Pg**	**13 36 36.6**	**+0.4**
RLS				S		**Sb**	**13 36 42.8**	**-0.4**
RLS	**Riolos of Patr**	**0.41**	**219**	P		**Pg**	**13 36 36.6**	**+0.4**
RLS				S		**Sg**	**13 36 42.6**	**+0.7**
RLS	**Riolos of Patr**	**0.41**	**219**	S		**Sb**	**13 36 42.9**	**-0.2**
RLS				AML	AML		13 36 45.1	
	comp=N,467μm,0.3s							
RLS				AML	AML		13 36 45.3	
	comp=E,682μm,0.2s							
DRO	**Drossia**	**0.43**	**189**	P		**Pg**	**13 36 36.6**	**0.0**
DRO				S		**Sb**	**13 36 43.7**	**0.0**
DRO	**Drossia**	**0.43**	**189**	P		**Pg**	**13 36 36.4**	**-0.2**
DRO				S		**Sg**	**13 36 42.4**	**0.0**
DRO	**Drossia**	**0.43**	**189**	P		**Pg**	**13 36 36.4**	**-0.2**
DRO				S		**Sg**	**13 36 42.2**	**-0.3**
DRO				AML	AML		13 36 44.7	
	comp=N,600μm,0.2s							
DRO				AML	AML		13 36 44.7	
	comp=E,1408μm,0.2s							
KLV	**Kalavryta, Ach**	**0.43**	**141**	P		**Pg**	**13 36 36.4**	**-0.2**
KLV				S		**Sb**	**13 36 43.3**	**-0.5**
KLV	**Kalavryta, Ach**	**0.43**	**141**	P		**Pg**	**13 36 36.4**	**-0.2**
KLV				S		**Sg**	**13 36 42.2**	**-0.3**
KLV	**Kalavryta, Ach**	**0.43**	**141**	P		**Pg**	**13 36 36.4**	**-0.2**
KLV				S		**Sg**	**13 36 41.9**	**-0.6**
PDO	**Prodromos**	**0.53**	**294**	P		**Pg**	**13 36 37.8**	**-0.6**
PDO				S		**Sg**	**13 36 45.6**	**+0.1**
PDO	**Prodromos**	**0.53**	**294**	P		**Pg**	**13 36 37.8**	**-0.6**
PDO				S		**Sg**	**13 36 45.6**	**+0.1**
PDO	**Prodromos**	**0.53**	**294**	P		**Pg**	**13 36 37.3**	**-1.1**
PDO				S		**Sg**	**13 36 45.5**	**+0.1**
EVR	**Evrytania**	**0.54**	**1**	P		**Pg**	**13 36 38.4**	**-0.1**
EVR				S		**Sb**	**13 36 46.7**	**-0.1**
EVR	**Evrytania**	**0.54**	**1**	P		**Pg**	**13 36 38.3**	**-0.2**
EVR				S		**Sb**	**13 36 46.7**	**-0.1**
EVR	**Evrytania**	**0.54**	**1**	P		**Pg**	**13 36 38.4**	**-0.1**
DSF	**Desfina**	**0.57**	**87**	P		**Pg**	**13 36 38.6**	**-0.6**
DSF				S		**Sb**	**13 36 47.8**	**0.0**
DSF	**Desfina**	**0.57**	**87**	P		**Pg**	**13 36 38.6**	**-0.6**
DSF				S		**Sg**	**13 36 47.0**	**+0.2**
DSF	**Desfina**	**0.57**	**87**	P		**Pg**	**13 36 37.8**	**-1.4**
DSF				S		**Sg**	**13 36 47.1**	**+0.3**
DSF				AML	AML		13 36 49.7	
	comp=N,341μm,0.2s							
DSF				AML	AML		13 36 51.2	
	comp=E,249μm,0.1s							
KFL	**Anninata**	**0.84**	**252**	P		**Pg**	**13 36 44.1**	**-0.1**
KFL				S		**Sb**	**13 36 56.5**	**+1.0**
KFL	**Anninata**	**0.84**	**252**	P		**Pg**	**13 36 44.1**	**-0.1**
KFL				S		**Sb**	**13 36 56.5**	**+1.0**
VLS	**Valsamata**	**0.97**	**258**	P		**Pg**	**13 36 45.9**	**-0.8**
VLS				S		**Sn**	**13 37 00.9**	**+0.1**
VLS	**Valsamata**	**0.97**	**258**	P		**Pg**	**13 36 45.9**	**-0.8**
VLS				S		**Sn**	**13 37 00.9**	**+0.1**
LKR	**Lokris**	**0.98**	**74**	P		**Pb**	**13 36 47.0**	**+0.3**
LKR				S		**Sn**	**13 37 01.2**	**+0.3**
LKR	**Lokris**	**0.98**	**74**	P		**Pb**	**13 36 47.0**	**+0.3**
LKR				S		**Sn**	**13 37 01.2**	**+0.3**
LTK	**Loutraki**	**0.99**	**111**	P		**Pb**	**13 36 47.1**	**+0.3**
LTK				S		**Sn**	**13 37 01.1**	**0.0**
LTK	**Loutraki**	**0.99**	**111**	P		**Pb**	**13 36 47.1**	**+0.3**
LTK				S		**Sn**	**13 37 01.1**	**0.0**
ZKS	**Zakynthos**	**1.05**	**230**	P		**Pb**	**13 36 47.8**	**-0.1**
ZKS				S		**Sg**	**13 37 02.5**	**+0.5**
ZKS	**Zakynthos**	**1.05**	**230**	P		**Pb**	**13 36 47.8**	**-0.1**
ZKS				S		**Sg**	**13 37 02.5**	**+0.5**

*DDA **01** 13:52:41.2, 40.71N×32.85E, h7km, Md2.9*
*ISCJB **01** 13:52:42.3±0.7, 40.72N±0.03×32.83E±0.04, h2km±7km, Error ellipse: s-maj=5.7km s-min=4.9km az=153.5*
*ISK **01** 13:52:42.4, 40.74N×32.73E, h11km, ML2.6*
*CSEM **01** 13:52:42.4±0.3, 40.71N×32.79E, h5km, MD2.9, Error ellipse: s-maj=6.0km s-min=5.4km az=51.0*
ISC 01 13:52:42.7±1.1, 40.71N±0.03×32.77E±0.03, h7km±10km, n20, σ0s85/35, Turkey

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
CMDR	**Camlidere-ANKA**	**0.31**	**227**	*i* P		**Pg**	**13 52 47.8**	**-1.1**
CMDR				*i* S		**Sg**	**13 52 53.9**	**+0.9**
CMDR	**Camlidere-ANKA**	**0.31**	**227**	P		**Pg**	**13 52 47.8**	**-1.1**
CMDR				S		**Sg**	**13 52 53.9**	**+0.9**
SAFT	**Safranbolu**	**0.54**	**353**	*e*PG		**Pg**	**13 52 52.3**	**-0.8**
SAFT				*e*SG		**Sg**	**13 53 00.6**	**+0.4**
SAFT	**Safranbolu**	**0.54**	**353**	*e*Pg		**Pg**	**13 52 52.3**	**-0.8**
SAFT				*e*Sg		**Sg**	**13 53 00.6**	**+0.4**
BCAM	**Yenicaga**	**0.55**	**282**	*i* P		**Pg**	**13 52 53.1**	**-0.3**
BCAM				*i* S		**Sb**	**13 53 02.4**	**-0.4**
BCAM	**Yenicaga**	**0.55**	**282**	P		**Pg**	**13 52 53.1**	**-0.3**
BCAM				S		**Sb**	**13 53 02.4**	**-0.4**
LOD	**Lodumlu**	**0.81**	**181**	*e*PG		**Pb**	**13 52 59.1**	**-0.1**
LOD				*e*SG		**Sb**	**13 53 11.4**	**+1.0**
LOD	**Lodumlu**	**0.81**	**181**	*e*Pg		**Pb**	**13 52 59.1**	**-0.1**
LOD				*e*Sg		**Sb**	**13 53 11.4**	**+1.0**
TOS	**Tosya**	**1.00**	**70**	*e*PG		**Pb**	**13 53 02.7**	**+0.2**
TOS	**Tosya**	**1.00**	**70**	*e*Pg		**Pb**	**13 53 02.7**	**+0.3**
BBAL	**Bala**	**1.19**	**167**	*i* P		**Pg**	**13 53 04.7**	**-0.9**
BBAL				*i* S		**Sn**	**13 53 22.4**	**+0.1**
BBAL	**Bala**	**1.19**	**167**	P		**Pg**	**13 53 04.7**	**-0.9**
BBAL				S		**Sn**	**13 53 22.4**	**+0.1**
MDUB	**Mudurnu**	**1.22**	**260**	*e*PN		**Pg**	**13 53 05.8**	**-0.4**
MDUB	**Mudurnu**	**1.22**	**260**	*e*Pn		**Pg**	**13 53 05.8**	**-0.4**
SAHE	**Sakarya_HENDEK**	**1.47**	**276**	*i* P		**Pg**	**13 53 10.1**	**-0.2**
SAHE				*i* S		**Sg**	**13 53 31.0**	**+1.9**
SAHE	**Sakarya_HENDEK**	**1.47**	**276**	P		**Pb**	**13 53 10.1**	**-0.2**
SAHE				S		**Sg**	**13 53 31.7**	**+1.9**
CDAG	**Cicekdag**	**1.63**	**131**	*i* P		**Pn**	**13 53 11.1**	**-0.8**
CDAG				*i* S		**Sn**	**13 53 33.1**	**0.0**
CDAG	**Cicekdag**	**1.63**	**131**	P		**Pn**	**13 53 11.1**	**-0.8**
CDAG				S		**Sn**	**13 53 33.2**	**0.0**
BOYT	**Boyabat**	**1.76**	**65**	*i* P		**Pn**	**13 53 13.4**	**-0.3**
BOYT				*i* S		**Sg**	**13 53 41.3**	**+2.0**
BOYT	**Boyabat**	**1.76**	**65**	P		**Pn**	**13 53 13.4**	**-0.3**

MAN 01 14:01:59.9±0.66N×122.50E±0.24, h24km, mb4.3, ML3.1, MS2.9, 3C-1D, Negros

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
SNPH	**Sibulan**	**0.79**	**113**	*i* P		Pb	14 02 13.5	-0.6
SNPH				*i* S		Sb	14 02 23.0	-1.4
GUIM	**Jordan**	**0.97**	**5**	*e*P		Pn	14 02 17.0	-0.1
GUIM				*e*S		Sn	14 02 30.0	-0.1
TBP	**Tagbilaran**	**1.34**	**88**	*i* P		Pb	14 02 26.2	+2.8
TBP				*i* S		Sb	14 02 44.8	+4.6
DCPH	**Dipolog City**	**1.36**	**142**	*e*P		Pn	14 02 22.2	-0.2
DCPH				*e*S		Sb	14 02 40.3	-0.3
LLP	**Lapu-Lapu**	**1.58**	**65**	*e*P		Pn	14 02 25.9	+0.3
LLP				*e*S		Sn	14 02 44.4	-0.9

MEX 01 14:02:27.0±0.4, 15.95N×93.54W, h72km±15km, MD3.7, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
TGIG		**0.91**	**26**	*i* P		Pn	14 02 43.2	-1.4
TGIG				*i* S		Sn	14 02 56.0	-1.7
CCIG	**Comitan**	**1.38**	**76**	*e*P		Pn	14 02 49.1	-1.6
CCIG				*e*S		Sn	14 03 06.9	-1.6
HUIG	**Huatulco**	**2.48**	**266**	*e*P		Pn	14 02 60.0	-5.3

*ISCJB **01** 14:10:49.5±0.7, 12.80N±0.09×144.4E±0.1, h54km, mb3.9/9, Error ellipse: s-maj=21.0km s-min=9.2km az=25.7*
*IDC **01** 14:10:50.8±1.4, 12.84N×144.44E, h47km±16km, mb3.6/9, mb1 3.8/9, mb1mx3.6/43, mbtmp3.9/9, Error ellipse: s-maj=27.8km s-min=14.5km az=96.0*
ISC 01 14:10:51.3±0.8, 12.8N±0.1×144.5E±0.2, h54km, n16, σ0s91/13, mb4.0/9, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**0.84**	**27**	P		**Pn**	**14 11 06.5**	**-0.5**
	baz=180,slow=11							
GUMO				S		**Sn**	**14 11 18.9**	**+0.4**
	2μm,0.3s,baz=330,slow=20,SNR=39							
H11S3	**WAKE ISLAND Hy 22.10**	**72**		T		T	14 38 47.3	
	baz=258,slow=75,SNR=316							
H11S1	**WAKE ISLAND Hy 22.11**	**72**		T		T	14 38 44.8	
	baz=258,slow=75,SNR=236							
H11S2	**WAKE ISLAND Hy 22.11**	**72**		T		T	14 38 44.6	
	baz=258,slow=75,SNR=357							
H11N1	**WAKE ISLAND Hy 22.55**	**69**		T		T	14 39 18.7	
	baz=255,slow=75,SNR=825							
H11N2	**WAKE ISLAND Hy 22.56**	**69**		T		T	14 39 17.3	
	baz=255,slow=75,SNR=735							
H11N3	**WAKE ISLAND Hy 22.57**	**69**		T		T	14 39 20.1	
	baz=255,slow=75,SNR=778							
KSRS	**Korea Array**	**28.64**	**332**	P		**P**	**14 16 42.9**	**+0.1**
	1.0nm,0.7s,baz=137,slow=9.3,SNR=4.4							
WRA	**Warramunga Arr**	**34.07**	**197**	P		**P**	**14 17 30.2**	**-0.5**
	2.8nm,0.8s,baz=18,slow=9.5,SNR=22							
WRA				PcP		**PcP**	**14 20 08.8**	**+1.3**
	0.6nm,0.9s,baz=17,slow=4.1,SNR=3.1							
ASAR	**Alice Springs**	**37.73**	**196**	P		**P**	**14 18 01.7**	**-0.3**
	1.7nm,0.5s,baz=20,slow=12,SNR=43							
ASAR				PcP		**PcP**	**14 20 19.9**	**+1.6**
	0.2nm,0.5s,baz=27,slow=1.7,SNR=4.5							
CMAR	**Chiang Mai Arr**	**44.12**	**283**	P		**P**	**14 18 55.0**	**+0.2**
	1.4nm,0.4s,baz=80,slow=7.4,SNR=8.0							
STKA	**Stephens Creek**	**44.54**	**184**	P		**P**	**14 18 57.5**	**-0.4**
	1.2nm,0.4s,baz=354,slow=8.5,SNR=7.6							
SONM	**Songino Array**	**47.13**	**325**	P		**P**	**14 19 18.4**	**+0.1**
	0.8nm,0.6s,baz=134,slow=8.3,SNR=4.8							
KURBB	**Kurchatov Arra**	**64.96**	**320**	P		**P**	**14 21 24.8**	**-0.6**
	1.0nm,0.7s,baz=103,slow=6.5,SNR=9.0							
ILAR	**Eielson Array**	**69.40**	**25**	P		**P**	**14 21 52.2**	**-1.2**
	0.2nm,0.4s,baz=250,slow=5.5,SNR=7.3							
YKA	**Yellowknife Ar**	**83.70**	**27**	P		**P**	**14 23 15.4**	**+1.2**
	0.2nm,0.4s,baz=283,slow=5.3,SNR=2.5							

*ISCJB **01** 14:11:19.7±0.4, 47.33N±0.06×151.22E±0.09, h200km, mb3.3/14, Error ellipse: s-maj=10.9km s-min=3.7km az=42.4*
*MOS **01** 14:11:19.1±1.4, 47.89N×150.81E, h68km, mb4.0/5, Error ellipse: s-maj=22.8km s-min=11.6km az=68.2*

*SKHL **01** 14:11:21.4±1.2, 47.38N×151.17E, h185km±13km, mb4.8/4, msh5.4/4*
*IDC **01** 14:11:23.9±1.8, 47.64N×150.96E, h209km±18km, mb3.2/12, mb1 3.4/18, mb1mx3.3/43, mbtmp3.8/18, Error ellipse: s-maj=18.0km s-min=10.4km az=142.0*
*JMA **01** 14:11:25.4±0.5, 46.27N×151.44E, h228km, M4.1*
ISC 01 14:11:20.9±0.6, 47.30N±0.08×151.21E±0.08, h200km, n61, σ2s42/73, mb3.5/14, 1C-2D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**3.10**	**230**	*d* iPN		**Pn**	**14 12 13.3**	**+1.6**
KUR				*e*S		**Sn**	**14 12 54.9**	**+3.6**
KUR				pmax	pmax			
	comp=E,26nm,0.3s							
KUR				pmax	pmax			
	comp=Z,74nm,0.3s							
KUR				pmax	pmax			
	comp=N,23nm,0.2s							
KUR				smax	smax			
	comp=N,112nm,0.8s							
KUR				smax	smax			
	comp=E,75nm,0.4s							
KUR	**Kuril'sk**	**3.10**	**230**	*i* P		**Pn**	**14 12 13.3**	**+1.6**
KUR				AMB	AMB		14 12 16.0	
	comp=E,20nm,0.4s							
KUR				AMB	AMB		14 12 16.0	
	comp=E,30nm,0.4s							
KUR				AMB	AMB		14 12 16.0	
	comp=E,70nm,0.4s							
KUR				*e*S		**Sn**	**14 12 54.7**	**+3.4**
KUR				A	A		14 13 05.4	
	comp=E,110nm,0.4s							
KUR				A	A		14 13 05.4	
	comp=E,80nm,0.4s							
SHO	**Shikotan**	**4.60**	**223**	*c* iPN		**Pn**	**14 12 29.3**	**-0.9**
SHO				pmax	pmax			
	comp=E,67nm,0.4s							
SHO				pmax	pmax			
	comp=Z,123nm,0.4s							
SHO				pmax	pmax			
	comp=N,32nm,0.2s							
SHO	**Shikotan**	**4.60**	**223**	*e*P		**Pn**	**14 12 29.3**	**-0.9**
SHO				AMB	AMB		14 12 33.1	
	comp=N,70nm,0.7s							
SHO				*e*S		**Sn**	**14 13 25.0**	**+0.3**
SHO				A	A		14 13 32.7	
	comp=N,90nm,0.3s							
SHO				A	A		14 13 32.7	
	comp=N,130nm,0.3s							
SKR	**Severo-Kuril's**	**4.68**	**42**	*e*PN		**Pn**	**14 12 29.5**	**-1.5**
SKR				*e*S		**Sn**	**14 13 21.0**	**-5.5**
SKR				smax	smax			
	comp=N,140nm,0.6s							
SKR				smax	smax			
	comp=E,90nm,0.6s							
SKR	**Severo-Kuril's**	**4.68**	**42**	*e*P		**Pn**	**14 12 29.6**	**-1.5**
SKR				AMB	AMB		14 12 32.3	
	comp=E,60nm,0.5s							
SKR				*e*S		**Sn**	**14 13 25.2**	**-1.3**
SKR				A	A		14 13 29.4	
	comp=E,80nm,0.8s							
SKR				A	A		14 13 29.4	
	comp=E,110nm,0.8s							
SKR				AMS	AMS		14 14 46.0	
	comp=E,500nm,16.0s							
YUK	**Yuzh-Kuril'sk**	**4.97**	**231**	*d* iPN		**Pn**	**14 12 36.0**	**+1.2**
YUK				*i* S		**Sn**	**14 13 33.2**	**+0.2**
YUK				pmax	pmax			
	comp=Z,210nm,0.4s							
YUK				pmax	pmax			
	comp=N,73nm,0.1s							
YUK				pmax	pmax			
	comp=E,88nm,0.1s							
YUK				smax	smax			
	comp=E,90nm,0.3s							
YUK				smax	smax			
	comp=N,202nm,0.4s							
YUK	**Yuzh-Kuril'sk**	**4.97**	**231**	*i* P		**Pn**	**14 12 36.0**	**+1.2**
YUK				AMB	AMB		14 12 37.4	
	comp=N,70nm,0.3s							
YUK				AMB	AMB		14 12 37.4	
	comp=N,90nm,0.3s							
YUK				AMB	AMB		14 12 37.4	
	comp=N,20nm,0.3s							
YUK				*i* S		**Sn**	**14 13 33.2**	**+0.2**
YUK				A	A		14 13 38.8	
	comp=N,20nm,0.4s							
YUK				A	A		14 13 38.8	
	comp=N,90nm,0.4s							
JRA	**Rausu**	**5.43**	**234**	P		**Pn**	**14 12 41.9**	**+1.2**
NEM2	**Nemuro 2**	**5.50**	**226**	P		**Pn**	**14 12 40.2**	**-1.5**
NEM2				*e*S		**Sn**	**14 13 39.3**	**-6.1**
YSS	**Yuzh-Sakhalins**	**5.78**	**270**	*e*PN		**Pn**	**14 12 47.1**	**+2.0**
YSS				pmax	pmax			
	comp=Z,2.0nm,0.8s							
YSS	**Yuzh-Sakhalins**	**5.78**	**270**	*e*P		**Pn**	**14 12 47.1**	**+2.0**
JNK	**Nakash**	**5.88**	**233**	P		**Pn**	**14 12 46.9**	**+0.3**
JTKR	**Abashiri--Toko**	**6.10**	**240**	P		**Pn**	**14 12 50.8**	**+1.4**
JAK	**Akkeshi**	**6.30**	**229**	P		**Pn**	**14 12 50.8**	**-1.1**
JMP	**Maruseppu**	**6.41**	**242**	P		**Pn**	**14 12 55.1**	**+1.7**
JAR	**Ashorobuto**	**6.59**	**235**	P		**Pn**	**14 12 56.9**	**+1.1**
ASAJ	**Asahikawa**	**6.81**	**245**	P		**Pn**	**14 13 01.6**	**+2.9**
	baz=90,slow=20							
ASAJ	**Asahikawa**	**6.81**	**245**	P		**Pn**	**14 13 01.4**	**+2.8**
JOB	**Onbets**	**6.82**	**233**	P		**Pn**	**14 12 58.7**	**0.0**
JOB				*e*S		**Sn**	**14 14 12.4**	**-3.8**
JKK2	**Kamakawa 2**	**6.85**	**243**	P		**Pn**	**14 13 01.2**	**+2.1**
HRK	**Horoka**	**6.86**	**239**	*e*P		**Pn**	**14 13 00.6**	**+1.4**
PETK	**Petropavlovsk-**	**7.15**	**33**	P		**Pn**	**14 13 02.0**	**-0.9**
	comp=Z,3.0nm,0.3s,baz=195,slow=9.1,SNR=18							
PETK	**Petropavlovsk-**	**7.15**	**33**	PN		**Pn**	**14 13 02.0**	**-0.9**
PETK				pmax	pmax			
	comp=Z,3.0nm,0.3s							
JCH	**Churui**	**7.27**	**233**	P		**Pn**	**14 13 03.6**	**-0.9**
JCH				*e*S		**Sn**	**14 14 20.2**	**-6.7**
PET	**Petropavlovsk**	**7.46**	**37**	*e*PN		**Pn**	**14 13 06.4**	**-0.5**
PET				*e*S		**Sn**	**14 14 27.7**	**-3.6**
PET				smax	smax			
	comp=E,330nm,1.3s							
PET	**Petropavlovsk**	**7.46**	**37**	*e*P		**Pn**	**14 13 06.4**	**-0.5**
JBT2

BVAR	**Borovoye Array**	**49.50**	**308**	P		**P**	**14 19 50.5**	**-0.2**	
	baz=46,slow=8.3								
CMAR	**Chiang Mai Arr**	**51.25**	**254**	P		**P**	**14 20 06.7**	**+2.5**	
	comp=Z,1.2nm,0.6s,baz=39,slow=7.9,SNR=5.3								
YKA	**Yellowknife Ar**	**51.26**	**36**	P		**P**	**14 20 04.6**	**+1.0**	
	comp=Z,0.4nm,0.6s,baz=298,slow=6.3,SNR=2.7								
FINES	**FINESS Array B**	**62.98**	**334**	P		**P**	**14 21 24.9**	**-0.9**	
	comp=Z,0.7nm,0.4s,baz=31,slow=8.9,SNR=5.9								
PDAR	**Pinedale Array**	**65.47**	**53**	P		**P**	**14 21 44.4**	**+1.9**	
	comp=Z,0.1nm,0.3s,baz=270,slow=2.7,SNR=2.2								
NOA	**NORSAR Array B**	**67.28**	**340**	P		**P**	**14 21 52.9**	**-0.5**	
	comp=Z,0.4nm,0.4s,baz=28,slow=6.5,SNR=2.8								
WRA	**Warramunga Arr**	**68.63**	**197**	P		**P**	**14 22 05.1**	**+2.9**	
	comp=Z,0.4nm,0.9s,baz=26,slow=6.7,SNR=3.5								
AKASG	**Malin Array Be**	**70.36**	**325**	P		**P**	**14 22 11.3**	**-1.3**	
	comp=Z,0.2nm,0.3s,baz=35,slow=5.6,SNR=4.3								
ASAR	**Alice Springs**	**72.34**	**197**	P		**P**	**14 22 28.1**	**+3.5**	
	comp=Z,0.4nm,0.7s,baz=5.8,slow=5.1,SNR=5.9								
EKA	**Eskdalemuir Ar**	**75.49**	**345**	P		**P**	**14 22 42.3**	**-0.2**	
	baz=19,slow=4.7								

*CSEM **01** 14:16:35.7, 37˚.23N×21˚.99E, h8km, ML1.4/6*
ATH 01 14:16:35.7, 37˚.23N±21˚.99E, h8km±3km, ML1.4/6, Error ellipse: s-maj=3.8km s-min=1.0km az=229.0, Southern Greece

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op	ISC		h m s	ISC
ITM	**Ithomi**	**0.07**	**228**	P	Pg		14 16 37.7	0.0
ITM				S	Sg		14 16 39.2	0.0
ITM	**Ithomi**	**0.07**	**228**	P	Pg		14 16 37.6	-0.1
ITM				AML	AML		14 16 39.2	
	comp=N,936μm,0.1s							
ITM				S	S		14 16 39.2	0.0
ITM				AML	AML		14 16 40.5	
	comp=E,1562μm,0.4s							
VLX	**Vlachokerasia**	**0.34**	**65**	P	Pg		14 16 42.5	0.0
VLX				S	Sg		14 16 47.7	+0.7
VLX	**Vlachokerasia**	**0.34**	**65**	P	Pg		14 16 42.6	+0.1
VLX				S	Sg		14 16 48.0	+0.9
VLX				AML	AML		14 16 48.2	
	comp=N,157μm,0.4s							
VLX				AML	AML		14 16 49.0	
	comp=E,191μm,0.5s							
AMT	**Artemida-Makis**	**0.38**	**324**	P	Pg		14 16 43.4	+0.2
AMT				S	Sg		14 16 48.0	-0.2
AMT	**Artemida-Makis**	**0.38**	**324**	P	Pg		14 16 43.7	+0.5
AMT				S	Sg		14 16 47.4	-0.9
AMT				AML	AML		14 16 51.6	
	comp=N,416μm,0.2s							
AMT				AML	AML		14 16 52.7	
	comp=E,219μm,0.3s							
PYL	**PYLOS**	**0.39**	**211**	P	Pg		14 16 43.3	0.0
PYL				S	Sg		14 16 49.1	+0.7
PYL	**PYLOS**	**0.39**	**211**	P	Pg		14 16 43.3	0.0
PYL				S	Sg		14 16 49.3	+1.0
PYL				AML	AML		14 16 51.4	
	comp=E,170μm,0.3s							
PYL				AML	AML		14 16 54.0	
	comp=N,89μm,0.4s							
DRO	**Drossia**	**0.76**	**343**	P	Pg		14 16 49.9	-0.5
DRO				S	Sb		14 17 01.3	-0.4
DRO	**Drossia**	**0.76**	**343**	P	Pg		14 16 49.0	-0.7
DRO				S	Sb		14 17 01.9	+0.2
DRO				AML	AML		14 17 07.3	
	comp=N,54μm,0.2s							
DRO				AML	AML		14 17 08.8	
	comp=E,99μm,0.3s							
KLV	**Kalavryta, Ach**	**0.83**	**9**	P	Pg		14 16 51.1	-0.5
KLV				S	Sb		14 17 03.2	-0.5
KLV	**Kalavryta, Ach**	**0.83**	**9**	P	Pg		14 16 50.7	-0.9
KLV				S	Sb		14 17 03.6	-0.1
KLV				AML	AML		14 17 06.4	
	comp=E,28μm,0.2s							
KLV				AML	AML		14 17 08.9	
	comp=N,15μm,0.3s							
KLV	**Kalavryta, Ach**	**0.83**	**9**	P	Pg		14 16 50.8	-0.8
KLV	**Kalavryta, Ach**	**0.83**	**9**	P	Pg		14 16 50.7	-0.9
VLI	**Veliai**	**0.91**	**124**	P	Pg		14 16 53.1	-0.1
VLI	**Veliai**	**0.91**	**124**	P	Pg		14 16 53.0	-0.3
DID	**Didima**	**1.03**	**74**	P	Pg		14 16 55.3	-0.2
DID				S	Sg		14 17 08.7	-0.2
DID	**Didima**	**1.03**	**74**	P	Pg		14 16 55.4	-0.2
DID				S	Sg		14 17 07.9	-1.1

*CSEM **01** 14:16:41.7, 38˚.40N×21˚.83E, h23km, ML0.8/6*
ATH 01 14:16:41.7, 38˚.40N±21˚.83E, h23km±3km, ML0.8/6, Error ellipse: s-maj=4.0km s-min=1.0km az=50.0, Greece

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op	ISC		h m s	ISC
TRIZ	**Trizonia**	**0.19**	**99**	S	Sb		14 16 51.6	+0.8
TRIZ	**Trizonia**	**0.19**	**99**	S	Sb		14 16 52.2	+1.4
LAKA	**Lakka**	**0.20**	**143**	P	Pb		14 16 47.2	0.0
LAKA				S	Sb		14 16 50.5	-0.4
LAKA	**Lakka**	**0.20**	**143**	P	Pb		14 16 47.1	-0.1
LAKA				S	Sb		14 16 49.9	-0.9
LAKA				AML	AML		14 16 50.4	
	comp=N,29μm,0.4s							
LAKA				AML	AML		14 16 56.0	
	comp=E,14μm,0.3s							
ANX	**Ano Chora**	**0.21**	**20**	S	Sb		14 16 51.2	-0.1
ANX	**Ano Chora**	**0.21**	**20**	S	Sb		14 16 51.0	-0.3
ANX				AML	AML		14 16 51.7	
	comp=N,74μm,0.3s							
ANX				AML	AML		14 16 52.0	
	comp=E,78μm,0.2s							
KALE	**Kalithea**	**0.24**	**91**	P	Pb		14 16 47.9	0.0
KALE				S	Sb		14 16 52.6	+0.6
KALE	**Kalithea**	**0.24**	**91**	P	Pb		14 16 48.1	+0.2
KALE				S	Sb		14 16 52.9	+0.9
KALE				AML	AML		14 16 55.4	
	comp=N,30μm,0.3s							
KALE				AML	AML		14 16 56.9	
	comp=E,26μm,0.3s							
PVO	**Paravola**	**0.32**	**313**	P	Pb		14 16 48.9	-0.1
PVO				S	Sb		14 16 54.6	+0.7
PVO	**Paravola**	**0.32**	**313**	P	Pb		14 16 48.7	-0.3
PVO				S	Sb		14 16 54.8	+0.8
PVO				AML	AML		14 16 56.4	
	comp=E,56μm,0.3s							
PVO				AML	AML		14 16 57.3	
	comp=N,59μm,0.6s							
KLV	**Kalavryta, Ach**	**0.43**	**144**	S	Sb		14 16 57.6	+0.6
KLV	**Kalavryta, Ach**	**0.43**	**144**	S	Sb		14 16 57.8	+0.8
KLV				AML	AML		14 17 07.5	
	comp=N,14μm,0.2s							
DRO	**Drossia**	**0.45**	**192**	P	Pb		14 16 51.2	+0.1
DRO				S	Sb		14 16 58.2	+0.7
DRO	**Drossia**	**0.45**	**192**	P	Pb		14 16 51.2	+0.1
DRO				S	Sb		14 16 58.4	+0.9
DRO				AML	AML		14 17 06.5	
	comp=N,71μm,0.3s							

*GUC **01** 14:18:10.5±0.6, 33˚.92S×72˚.11W, h41km±5km, ML3.6*
*SJA **01** 14:18:12.5±1.3, 33˚.54S×72˚.16W, h10km±28km, ML3.5, MW3.6*
ISC 01 14:18:09.5±1.8, 33˚.89S±0˚.06×72˚.05W±0˚.10, h2km±13km, n22, σ1§66/25, 2C-2D, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op	ISC		h m s	ISC
CHPI	**Pichilemu**	**0.50**	**176**	*e*P	**Pg**		**14 18 19.2**	**+0.1**
CHPI				*i* S	**Sg**		**14 18 25.9**	**+0.3**
ANTU	**Antumapu**	**1.22**	**75**	*e*P	**Pg**		**14 18 33.6**	**+0.7**
ANTU				*i* S	**Sn**		**14 18 50.1**	**-0.7**
ANTU				IAML			14 18 51.5	
	comp=E,2μm,0.5s							
ROC1	**El Roble**	**1.26**	**44**	*e*P	**Pg**		**14 18 34.0**	**+0.4**
ROC1				*e*S	**Sg**		**14 18 49.6**	**-0.3**
ROCH	**El Roble**	**1.26**	**44**	⇓*i*P	**Pg**		**14 18 33.9**	**+0.2**
ROCH				*i* S	**Sn**		**14 18 52.0**	**-0.1**
ROCH				IAML			14 18 58.1	
	comp=E,1μm,0.9s							
CLCH	**Cerro Calan**	**1.35**	**69**	⇑*i*P	**Pg**		**14 18 35.4**	**0.0**
CLCH				*i* S	**Sg**		**14 18 53.9**	**+1.0**
CLCH				IAML			14 18 58.9	
	comp=N,1μm,0.6s							
PEL	**Peldehue**	**1.36**	**57**	⇓*i*P	**Pg**		**14 18 35.3**	**-0.3**
PEL				*i* S	**Sg**		**14 18 54.2**	**+1.0**
PEL				IAML			14 19 01.3	
	comp=E,2μm,0.3s							
FCH	**Farellones**	**1.57**	**69**	⇑*i*P	**Pb**		**14 18 38.8**	**-0.7**
FCH				*i* S	**Sg**		**14 19 00.7**	**+0.7**
FCH				IAML			14 19 06.1	
	comp=E,1μm,0.7s							
AUSP	**Uspallata**	**2.79**	**54**	*e*P	**Pb**		**14 18 58.8**	**-1.4**
AAGR	**Agrelo**	**2.81**	**74**	*e*P	**Pb**		**14 18 59.3**	**-1.1**
ARCO	**CERRO ARCO**	**2.81**	**69**	*e*P	**Pb**		**14 19 00.2**	**-0.3**
ARCO				IAML			14 19 07.2	
	comp=Z,199nm,0.5s							
ASAL	**Salagasta**	**2.99**	**65**	*e*P	**Pb**		**14 19 02.2**	**-1.4**
RTLS	**Leoncito**	**3.12**	**49**	*e*P	**Pb**		**14 19 03.2**	**-2.7**
RTLS				IAML			14 19 11.1	
	comp=Z,82nm,0.3s							
RTCV	**Cerro Valdivia**	**3.58**	**56**	*e*P	**Pb**		**14 19 10.7**	**-2.9**
ACCO	**Cerro Coronel**	**4.15**	**38**	*e*P	**Pn**		**14 19 16.7**	**+2.4**
AMOG	**MOGNA**	**4.21**	**47**	*e*P	**Pn**		**14 19 16.1**	**+1.3**
ACAN	**Cantantal**	**4.38**	**70**	*e*P	**Pb**		**14 19 23.0**	**-4.3**
ACDV	**Cuesta del Vie**	**4.47**	**35**	*e*P	**Pn**		**14 19 20.5**	**+2.0**
AVFE	**Valle Fertil**	**5.05**	**52**	IAML			14 20 54.1	
	comp=Z,28nm,0.5s							
ACHE	**Chepes**	**5.30**	**61**	*e*P	Pn		14 19 34.4	+4.5
AGUA	**GUANDACOL**	**5.33**	**36**	*e*P	**Pn**		**14 19 31.7**	**+1.3**
VCA	**Vinchina**	**6.10**	**34**	IAML			14 21 20.1	
	comp=Z,30nm,0.5s							
TCA	**Tanti**	**6.78**	**70**	IAML			14 21 51.0	
	comp=Z,14nm,0.5s							

*CSEM **01** 14:22:03.4±0.2, 44˚.41N×21˚.94E, h1km, ML1.4, Error ellipse: s-maj=4.7km s-min=2.9km az=92.0, Mining explosion.*
BEO 01 14:22:04.3±0.3, 44˚.42N×21˚.94E, h0km, M1.4/6, 1C-8D, Mining explosion., Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op	ISC		h m s	ISC
KUBS	**Kucevo**	**0.19**	**268**	*e*Pg	Pg		14 22 06.1	-1.8
KUBS	**Kucevo**	**0.19**	**268**	*e*Pg	Pg		14 22 06.1	-1.8
MDVR	**Moldovita**	**0.40**	**336**	⇓*i*P	Pg		14 22 11.7	-0.2
MDVR				S	Sg		14 22 17.8	+0.8
MDVR	**Moldovita**	**0.40**	**336**	⇓*i*P	Pg		14 22 11.7	-0.2
MDVR				S	Sg		14 22 17.8	+0.8
BOLS	**Boljevac**	**0.59**	**179**	*e*Pg	Pg		14 22 13.6	-2.0
BOLS				*e*Sg	Sg		14 22 22.4	-0.8
BOLS	**Boljevac**	**0.59**	**179**	*e*Pg	Pg		14 22 13.6	-2.0
BOLS				*e*Sg	Sg		14 22 22.4	-0.8
ZAGS	**Zajecar**	**0.64**	**161**	*e*Pg	Pg		14 22 15.9	-0.7
ZAGS				*e*Sg	Sg		14 22 23.9	-1.0
ZAGS	**Zajecar**	**0.64**	**161**	*e*Pg	Pg		14 22 15.9	-0.7
ZAGS				*e*Sg	Sg		14 22 23.9	-1.0
BOVS	**Bovan**	**0.80**	**192**	*e*Pg	Pg		14 22 19.3	-0.4
BOVS				*e*Sg	Sg		14 22 30.5	+0.4
BOVS	**Bovan**	**0.80**	**192**	*e*Pg	Pg		14 22 19.3	-0.4
BOVS				*e*Sg	Sg		14 22 30.5	+0.4
GRUS	**Gruza**	**1.03**	**239**	*e*Pg	Pg		14 22 24.0	0.0
GRUS				*e*Sg	Sg		14 22 38.1	+0.8
GRUS	**Gruza**	**1.03**	**239**	*e*Pg	Pg		14 22 24.0	0.0
GRUS				*e*Sg	Sg		14 22 38.1	+0.8
TRUS	**Trudelj**	**1.12**	**260**	*e*Pg	Pg		14 22 25.4	-0.3
TRUS	**Trudelj**	**1.12**	**260**	*e*Pg	Pg		14 22 25.4	-0.3
GZR	**Gura Zlata**	**1.14**	**31**	⇓*i*P	Pg		14 22 25.8	-0.4
GZR	**Gura Zlata**	**1.14**	**31**	⇓*i*P	Pg		14 22 25.8	-0.4
GZR				S	Sn		14 22 43.2	-0.8
BZS	**Buzias**	**1.22**	**349**	*e*Pg	Pg		14 22 26.7	-1.0
BZS				*e*Sg	Sg		14 22 42.6	-0.9
BZS	**Buzias**	**1.22**	**349**	⇓*i*P	Pg		14 22 27.0	-0.7
BZS	**Buzias**	**1.22**	**349**	P	Sn		14 22 47.4	+1.6
BZS	**Buzias**	**1.22**	**349**	*e*Pg	Pg		14 22 26.7	-1.0
BZS	**Buzias**	**1.22**	**349**	⇓*i*P	Pg		14 22 27.0	-0.7
BZS				*e*Sg	Sg		14 22 42.6	-0.9
BZS				S	Sb		14 22 44.0	-0.5
ZAPS	**Zavoj**	**1.25**	**156**	*e*Pg	Pg		14 22 28.2	-0.1
ZAPS				*e*Sg	Sg		14 22 43.3	-1.2
SELS	**Selova**	**1.34**	**207**	*e*Pg	Pg		14 22 28.0	-1.9
SELS				*e*Sg	Sg		14 22 46.0	-1.3
DIVS	**Divibare**	**1.44**	**258**	*e*Pg	Pn		14 22 31.0	-0.7
DIVS				*e*Sg	Sg		14 22 49.6	-0.8
DIVS	**Divibare**	**1.44**	**258**	*e*Pg	Pn		14 22 31.0	-0.7
DIVS				*e*Sg	Sg		14 22 49.6	-0.8
IVAS	**Ivanjica**	**1.54**	**237**	*e*Pg	Pn		14 22 33.0	-0.1
IVAS				*e*Sg	Sg		14 22 53.1	-0.7
IVAS	**Ivanjica**	**1.54**	**237**	*e*Pg	Pn		14 22 33.0	-0.1
IVAS				*e*Sg	Sg		14 22 53.1	-0.7
BARS	**Barje**	**1.61**	**183**	*e*Pg	Pn		14 22 32.7	-1.2
BARS				*e*Sg	Sn		14 22 54.7	-0.6
BARS	**Barje**	**1.61**	**183**	*e*Pg	Pn		14 22 32.7	-1.2
BARS				*e*Sg	Sn		14 22 54.7	-0.6
DRGR		**2.43**	**13**	⇓*i*P	Pn		14 22 42.8	-2.6
DRGR		**2.43**	**13**	⇑P	Pn		14 22 42.8	-2.6
DRGR		**2.43**	**13**	⇓*i*P	Pn		14 22 42.8	-2.6
DRGR				S	Sn		14 23 14.2	-1.7

*ISCJB **01** 14:29:19.8±0.4, 42˚.69S±0˚.05×82˚.84W±0˚.06, h10km, mb4.7/19, MS4.7/17, Error ellipse: s-maj=7.1km s-min=6.5km az=139.7*
*IDC **01** 14:29:20.2±0.8, 42˚.65S×82˚.97W, h0km, mb4.6/14, mb1 4.7/15, mb1mx4.5/37, mbtmp4.6/15, ML5.3/2, MS4.7/18, Ms1 4.7/18, ms1mx4.7/21, Error ellipse: s-maj=24.4km s-min=18.8km az=88.0*
*NEIC **01** 14:29:21.6±0.4, 42.64S×82.90W, h10km, mb5.0/11, Error ellipse: s-maj=10.4km s-min=8.3km az=84.0*
*GCMT **01** 14:29:21.6±0.1, 43.03S×82.89W, h16km, MW5.4/117, Moment Tensor Solution. s92,c147; s117,c220; Duration: 1§3 Moment tensor: Scale 10¹⁷Nm; Mrr-0.01±.02; Mθθ0.47±.02; Mϕϕ-0.46±.02; Mrθ0.42±.06; Mθϕ-1.60±.02; Mϕr0.22±.06; Best double couple: M₀1.73000×10¹⁷ NP1:φs262.00000°, δ85.00000°, λ-165.00000°. NP2:φs171.00000°, δ75.00000°, λ-5.00000°. Principal axes: T 1.6940, Plg7.0000°, Azm36.0000°; N 0.0720, Plg75.0000°, Azm280.0000°; P -1.7670, Plg14.0000°, Azm128.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
ISC 01 14:29:21.6±0.4, 42˚.63S±0˚.07×82˚.87W±0˚.06, h10km, n106, σ1§94/109, mb4.8/19, MS4.7/17, 1C-2D, West Chile Rise

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op	ISC		h m s	ISC
COYC	**Coyhaique**	**8.30**	**114**	*e*P	**Pn**		**14 31 21.5**	**-0.5**
CHRN	**Cochrane**	**8.63**	**126**	*e*P	**Pn**		**14 31 24.3**	**-2.2**
CHRN	**Cochrane**	**8.63**	**126**	*e*Pn	**Pn**		**14 31 24.2**	**-2.2**
GO08	**Villa O'Higgin**	**9.29**	**132**	*e*P	**Pn**		**14 31 32.3**	**-3.2**
PLCA	**Paso Flores**	**9.41**	**83**	Pn	**Pn**		**14 31 37.9**	**+0.7**
	4.0nm,0.3s,baz=280,slow=10,SNR=62							
PLCA				Sn	**Sn**		**14 33 22.6**	**-0.5**
	baz=255,slow=16,SNR=2.5							
PLCA				LR	LR		14 34 40.4	
	comp=Z,8μm,18.8s,baz=281,slow=34							
PLCA	**Paso Flores**	**9.41**	**83**	*e*P	**Pn**		**14 31 37.8**	**+0.5**
COCH	**Cobquecura**	**10.14**	**54**	*e*P	**Pn**		**14 31 45.4**	**-1.8**
COCH				IAMs_20	IAMs_20		14 34 43.2	
	comp=Z,19μm,16.0s							
ROC1	**El Roble**	**13.43**	**48**	*e*P	**Pn**		**14 32 30.8**	**-1.6**
ROC1	**El Roble**	**13.43**	**48**	*e*Pn	**Pn**		**14 32 30.1**	**-2.2**
AAGR	**Agrelo**	**14.61**	**54**	*e*P	**Pn**		**14 32 46.7**	**-1.6**
AUSP	**Uspallata**	**14.90**	**50**	*e*P	**Pn**		**14 32 51.6**	**-0.9**
ASAL	**Salagasta**	**14.95**	**53**	*e*P	**Pn**		**14 32 53.0**	**-0.1**
RTLS	**Leoncito**	**15.27**	**49**	*e*P	**Pn**		**14 32 56.7**	**-0.8**
USHA	**Ushuaia**	**15.45**	**147**	Pn	**Pn**		**14 32 59.6**	**+0.3**
	comp=Z,29nm,0.3s,baz=302,slow=8.1,SNR=9.6							
USHA				LR	LR		14 38 06.5	
	comp=Z,14μm,19.1s,baz=289,slow=34							
RTCV	**Cerro Valdivia**	**15.65**	**51**	*e*P	**Pn**		**14 33 02.0**	**-0.2**
ACCO	**Cerro Coronel**	**16.32**	**47**	*e*P	**Pn**		**14 33 11.4**	**+0.3**
AMOG	**MOGNA**	**16.37**	**49**	*e*P	**Pn**		**14 33 12.8**	**+1.3**
TRQA	**Tornquist**	**16.56**	**81**	*e*Pn	**P**		**14 33 15.6**	**-0.8**
	comp=Z,107nm,1.4s							
ACDV	**Cuesta del Vie**	**16.62**	**46**	*e*P	**P**		**14 33 16.7**	**-0.5**
LCO	**Las Campanas**	**16.77**	**40**	*e*Pn	**P**		**14 33 18.1**	**-0.9**
	comp=Z,101nm,0.9s							
AVFE	**Valle Fertil**	**17.16**	**51**	*e*P	**Pn**		**14 33 21.9**	**+0.3**
AGUA	**GUANDACOL**	**17.49**	**46**	*e*P	**P**		**14 33 30.0**	**+3.2**
ACLC	**CERRO LA CRUZ**	**18.38**	**49**	⇓*e*P	**P**		**14 33 39.2**	**+2.5**
TCA	**Tanti**	**18.40**	**58**	*e*P	**Pn**		**14 33 37.1**	**+0.2**
AHML	**Horco Molle**	**21.33**	**48**	⇑*e*P	**P**		**14 34 09.1**	**+0.4**
PB10	**IPOC Station P**	**21.63**	**32**	*e*P	**P**		**14 34 14.0**	**+2.1**
	comp=Z,203nm,1.5s							

LVC	**Limon Verde**	**23.11**	**35**	P		**P**	**14 34 28.6**	**+0.6**
	comp=Z,65nm,0.9s,baz=194,slow=11,SNR=12							
LVC				LR	LR		14 41 25.8	
	comp=Z,14μm,20.5s,baz=189,slow=31							
LVC	**Limon Verde**	**23.11**	**35**	*e*P		**P**	**14 34 28.0**	**0.0**
PB01	**IPOC Station P**	**24.28**	**32**	*e*P		**P**	**14 34 39.3**	**+0.2**
	comp=Z,35nm,0.7s							
YJA	**Yavi**	**25.02**	**41**	*e*P		**P**	**14 34 47.6**	**+1.4**
PB11	**IPOC Station P**	**25.38**	**30**	*e*P		**P**	**14 34 49.2**	**0.0**
	comp=Z,49nm,1.1s							
CPUP	**Villa Florida**	**26.46**	**60**	P		**P**	**14 34 59.3**	**+0.6**
	comp=Z,7.5nm,0.7s,baz=229,slow=7.9,SNR=8.1							
CPUP				LR	LR		14 45 26.3	
	comp=Z,6μm,18.8s,baz=234,slow=36							
CPUP	**Villa Florida**	**26.46**	**60**	*e*P		**P**	**14 34 57.0**	**-1.7**
RPN	**Rapa Nui**	**26.51**	**297**	LR	LR		14 41 46.3	
	comp=Z,276nm,20.4s,baz=142,slow=28							
LPAZ	**La Paz**	**29.13**	**30**	P		**P**	**14 35 24.1**	**+0.7**
	comp=Z,8.1nm,0.9s,baz=197,slow=5.6,SNR=11							
LPAZ				LR	LR		14 45 48.2	
	comp=Z,796nm,18.9s,baz=172,slow=34							
LPAZ	**La Paz**	**29.13**	**30**	*e*P		**P**	**14 35 24.8**	**+1.4**
	comp=Z,24nm,1.1s							
NNA	**Nana**	**30.98**	**12**	P		**P**	**14 35 39.4**	**+0.4**
	comp=Z,17nm,0.8s,baz=224,slow=10.0,SNR=2.2							
NNA				LR	LR		14 44 50.2	
	comp=Z,2μm,20.2s,baz=189,slow=30							
SIV	**San Ignacio**	**32.46**	**42**	P		**P**	**14 35 53.9**	**+1.8**
	comp=Z,4.8nm,0.6s,baz=221,slow=9.0,SNR=3.8							
SIV				LR	LR		14 48 26.3	
	comp=Z,3μm,21.9s,baz=234,slow=35							
VNA3	**Neumayer Olymp**	**44.97**	**154**	P		**P**	**14 37 37.0**	**+0.6**
VNA1	**Neumayer--Stat**	**45.45**	**153**	P		**P**	**14 37 41.0**	**+0.8**
SJAC	**San Juan de Ar**	**46.40**	**12**	*e*P		**P**	**14 37 49.3**	**+1.0**
PTGA	**Pitinga**	**46.50**	**32**	P		**P**	**14 37 49.0**	**-0.1**
	comp=Z,19nm,1.0s,baz=215,slow=8.6,SNR=18							
PTGA				LR	LR		14 57 01.9	
	comp=Z,2μm,20.6s,baz=187,slow=36							
PTGA	**Pitinga**	**46.50**	**32**	*e*P		**P**	**14 37 47.1**	**-2.0**
	comp=Z,14nm,0.8s							
RKT	**Rikitea**	**47.09**	**277**	*e*S		**S**	**14 44 41.8**	**-4.0**
	comp=Z,216nm,28.8s							
RKT				*e*LQ	LQ		14 49 06.1	
	comp=Z,1μm,32.8s							
RKT				*e*LR	LR		14 51 10.4	
	comp=Z,743nm,32.8s,baz=138							
RKT	**Rikitea**	**47.09**	**277**	*e*T		T	15 27 57.4	
	comp=Z,1.4nm,0.3s							
SNAA	**Sanae**	**47.12**	**155**	P		**P**	**14 37 53.7**	**+0.3**
SNAA	**Sanae**	**47.12**	**155**	P		**P**	**14 37 52.9**	**-0.4**
	comp=Z,12nm,0.9s,baz=258,slow=8.4,SNR=31							
SNAA	**Sanae**	**47.12**	**155**	*e*P		**P**	**14 37 53.0**	**-0.3**
	comp=Z,23nm,1.1s							
ROSC	**El Rosal**	**47.88**	**12**	*e*P		**P**	**14 37 57.7**	**-2.6**
NORC	**Norcasia**	**48.51**	**11**	*e*P		**P**	**14 38 03.3**	**-1.4**
RUSC	**La Rusia**	**49.10**	**13**	*e*P		**P**	**14 38 08.0**	**-1.8**
RUSC	**La Rusia**	**49.10**	**13**	*e*P		**P**	**14 38 10.7**	**+1.0**
	comp=Z,17nm,0.8s							
BARC	**Barichara**	**49.77**	**13**	*e*P		**P**	**14 38 14.0**	**-0.7**
ZARC	**Zaragoza, Cauc**	**50.41**	**10**	*e*P		**P**	**14 38 20.4**	**+1.3**
SDV	**Santo Domingo**	**52.47**	**15**	P		**P**	**14 38 34.7**	**-0.1**
	comp=Z,8.3nm,0.9s,baz=259,slow=4.1,SNR=6.6							
SDV	**Santo Domingo**	**52.47**	**15**	*e*P		**P**	**14 38 34.5**	**-0.3**
	comp=Z,17nm,0.8s							
JTS	**JuntasAbangare**	**52.69**	**357**	LR	LR		14 55 16.7	
	comp=Z,786nm,21.2s,baz=241,slow=30							
VNDA	**Vanda**	**53.84**	**194**	LR	LR		14 57 13.0	
	comp=Z,882nm,21.0s,baz=124,slow=31							
VNDA	**Vanda**	**53.84**	**194**	*e*P		**P**	**14 38 43.5**	**-0.5**
	comp=Z,13nm,1.6s							
PCRV	**Puerto La Cruz**	**55.14**	**22**	P		**P**	**14 38 55.1**	**+1.0**
	comp=Z,22nm,0.9s,baz=213,slow=2.3,SNR=6.7							
TBI	**Tubuai**	**57.63**	**267**	*e*S		**S**	**14 47 06.0**	**-4.2**
	comp=Z,340nm,30.0s							
TBI				*e*LQ	LQ		14 53 39.6	
	comp=Z,1μm,33.0s							
TBI				*e*LR	LR		14 55 58.4	
	comp=Z,224nm,26.8s							
TAOE	**Nuku Hiva Isla**	**60.17**	**287**	*e*S		**S**	**14 47 43.5**	**0.0**
	com

comp=Z,130nm,9.0s
KSH LR LR
comp=Z,130nm,5.5s
KSH LR LR
comp=Z,92nm,6.4s
BJI Beijing 165.46 266 PKP **PKPdf** **14 49 26.8 +0.9**
BJI SS SS 15 14 51.6 +2.6
BJI LR LR
comp=Z,140nm,39.2s
BJI LR LR
comp=Z,140nm,34.1s
BJI LR LR
comp=Z,200nm,34.5s
ZALV Zalesovo Beam 166.05 32 PKP **PKPdf** **14 49 25.4 -0.5**
comp=Z,1.4nm,0.3s,baz=320,slow=3.8,SNR=3.5
ZALV PKPab **PKPab** **14 50 28.0 +1.7**
comp=Z,1.5nm,0.3s,baz=298,slow=3.1,SNR=2.8
HHC Hu-ho-hao-te 169.06 266 *e*PKP **PKPdf** **14 49 30.1 +1.4**
SONM Songino Array 171.64 312 PKP **PKPdf** **14 49 30.7 +0.8**
comp=Z,0.3nm,0.4s,baz=67,slow=3.7,SNR=3.3
SONM PKPab **PKPab** **14 50 52.4 +0.9**
comp=Z,0.3nm,0.5s,baz=72,slow=4.7,SNR=4.4
LZH Lanzhou 171.65 221 *e*PKP **PKPdf** **14 49 27.8 -2.5**
LZH pPKP pPKPdf 14 49 30.7 -3.1
LZH sPKP 14 49 32.3
WMQ Urumqi 173.01 77 PKP **PKPdf** **14 49 30.4 -0.2**
WMQ PKS **PKSdf** **14 53 01.2 -1.6**
WMQ PP **PP** **14 54 49.0 -1.0**
WMQ SKS **SKSdf** **14 56 31.0 -2.7**
WMQ SKKS **SKKSac** **15 01 36.8 +0.8**
WMQ SS **SS** **15 16 03.3 -1.1**
WMQ LR LR
comp=Z,130nm,26.5s
WMQ LR LR
comp=Z,77nm,21.1s
WMQ LR LR
comp=Z,100nm,24.7s
GTA Gaotai 176.20 213 *e*PKP **PKPdf** **14 49 34.5 +2.7**
GTA PP **PP** **14 55 10.7 +6.2**
GTA SKS **SKSdf** **14 56 37.0 +2.2**
GTA SKKS **SKKSac** **15 01 55.5 +4.5**
GTA SS **SS** **15 16 36.0 +2.5**
GTA AMB AMB
comp=Z,71nm,8.1s
GTA LR LR
comp=Z,120nm,16.9s
GTA LR LR
comp=Z,120nm,18.3s
GTA LR LR
comp=Z,140nm,17.6s

*ISCJB **01** 14:29:40.4±0.9, 24°.90N±0°.06×122°.46E±0°.03, h11km±7km, Error ellipse: s-maj=9.6km s-min=4.0km az=15.5*
*JMA **01** 14:29:40.2±0.3, 24°.86N×122°.43E, h1km±4km, M2.5*
*TAP **01** 14:29:40.5, 24°.95N×122°.43E, h22km, ML2.7, C*
ISC 01 14:29:40.1±1.3, 24°.91N±0°.06×122°.44E±0°.03, h11km±11km, n15, σ0s38/28, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
TWB1	**Santiao Chiao**	**0.42**	**284**	*i* P		**Pb**	**14 29 49.3**	**-0.2**
TWB1	baz=278			*i* S		**Sb**	**14 29 55.4**	**-0.5**
EGS	baz=278	**0.46**	**262**	*e*P		**Pb**	**14 29 50.4**	**+0.2**
TWC	**Suao**	**0.61**	**241**	P		**Pg**	**14 29 52.3**	**+0.3**
TWC	baz=236			*e*S		**Sb**	**14 30 01.4**	**-0.1**
NWF	**Wu-fen Shan**	**0.61**	**285**	P		**Pb**	**14 29 53.4**	**+0.4**
NWF	baz=281			*i* S		**Sb**	**14 30 01.6**	**-0.1**
JYNG	**Yonagunijimaku**	**0.65**	**134**	P		**Pg**	**14 29 52.7**	**0.0**
JYNG				*e*S		**Sg**	**14 30 01.5**	**+0.2**
YOJ	**Yonaguni jima**	**0.69**	**130**	P		**Pg**	**14 29 53.3**	**-0.1**
YOJ				S		**Sg**	**14 30 02.1**	**-0.4**
TWE	**Neicheng**	**0.72**	**255**	P		**Pg**	**14 29 54.5**	**+0.4**
TWE	baz=251			*e*S		**Sb**	**14 30 05.1**	**+0.5**
ENA	baz=251 **Nanau**	**0.79**	**233**	*e*P		**Pg**	**14 29 55.4**	**0.0**
ENA	baz=230			*e*S		**Sg**	**14 30 06.2**	**+0.4**
ENTT	baz=230 **Nioudou**	**0.83**	**251**	*e*P		**Pb**	**14 29 56.6**	**-0.1**
ENTT	baz=238			*e*S		**Sb**	**14 30 08.5**	**+0.6**
TWY	baz=238 **Chenhua**	**0.84**	**296**	*e*P		**Pb**	**14 29 56.9**	**+0.1**
TWY	baz=292			*e*S		**Sb**	**14 30 08.3**	**+0.2**
NSK	baz=292 **Sanguang**	**1.01**	**257**	*e*P		**Pg**	**14 29 58.6**	**-0.9**
NSK	baz=266			*e*S		**Sg**	**14 30 12.2**	**-0.4**
NNS	baz=266 **Nan Shan**	**1.07**	**244**	*e*P		**Pb**	**14 30 00.5**	**-0.3**
NNS	baz=242			*e*S		**Sb**	**14 30 15.1**	**+0.2**
IRIF	baz=242 **Iriomote-Funau**	**1.31**	**116**	P		**Pg**	**14 30 05.3**	**0.0**
WHF	**Hehuan Shan**	**1.31**	**235**	*e*P		**Pn**	**14 30 05.0**	**+0.2**
WHF	baz=233			*e*S		**Sn**	**14 30 22.3**	**-0.2**
TWT	baz=233 **Tachien**	**1.32**	**241**	*e*P		**Pn**	**14 30 04.9**	**+0.2**
TWT	baz=239			*e*S		**Sb**	**14 30 21.5**	**-0.6**
	baz=239							

*IDC **01** 14:29:49.8±2.5, 7°.24N×73°.48W, h150km±25km, mb1 3.4/2, mb1mx2.9/40, mbtmp3.9/2, Error ellipse: s-maj=81.8km s-min=8.1km az=131.0*
*ISCJB **01** 14:29:50.6±0.6, 6°.88N±0°.04×73°.05W±0°.04, h161km±6km, Error ellipse: s-maj=7.8km s-min=4.6km az=44.3*
*FUNV **01** 14:29:50.8, 6°.79N×73°.16W, h176km, MW3.0*
*RSNC **01** 14:29:52.9±1.0, 6°.81N×73°.10W, h147km±6km, ML3.3*
ISC 01 14:29:50.3±1.1, 6°.86N±0°.04×73°.05W±0°.04, h165km±7km, n28, σ1s50/47, 2C, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
BARC	**Barichara**	**0.29**	**206**	*i* P		**Pn**	**14 30 12.7**	**-0.2**
BARC				*e*S		**Sn**	**14 30 27.6**	**-2.7**
BARC	comp=Z,407nm,0.4s			*i*			14 30 29.6	
PAMC	**Pamplona, Colo**	**0.60**	**36**	*e*P		**Pn**	**14 30 15.5**	**+1.1**
BRRC	**Barranca, Saint**	**0.70**	**291**	⇑*i*P		**Pn**	**14 30 14.6**	**+0.2**
BRRC	comp=Z,723nm,0.2s			*i*			14 30 14.9	
BRRC				*e*S		**Sn**	**14 30 31.9**	**-0.9**
RUSC	**La Rusia**	**0.96**	**182**	*e*P		**Pn**	**14 30 16.6**	**-0.2**
RUSC				*e*S		**Sn**	**14 30 35.2**	**-1.9**
RUSC	comp=Z,206nm,0.3s			*i*			14 30 36.6	
CAPV	**Capacho**	**1.24**	**36**	⇑*i*P		**Pn**	**14 30 20.6**	**+1.7**
CAPV				*e*S		**Sn**	**14 30 42.3**	**+1.5**
OCAC	**Ocana**	**1.40**	**349**	*e*P		**Pn**	**14 30 21.3**	**+1.0**
OCAC				*e*S		**Sn**	**14 30 43.2**	**-0.1**
OCAC	comp=Z,184nm,0.3s			*i*			14 30 49.2	
ZARC	**Zaragoza, Cauc**	**1.90**	**290**	*e*P		**Pn**	**14 30 25.5**	**+0.3**
ZARC				*e*S		**Sn**	**14 30 51.4**	**-0.8**
ZARC	comp=Z,229nm,0.3s			*i*			14 30 57.9	
NORC	**Norcasia**	**2.21**	**235**	*e*P		**Pn**	**14 30 28.7**	**-0.2**
ROSC	**El Rosal**	**2.37**	**212**	P		**Pn**	**14 30 32.5**	**+1.5**
ROSC	comp=Z,21nm,0.3s,baz=307,slow=20,SNR=26			S		**Sn**	**14 31 04.2**	**+1.8**
ROSC	comp=Z,22nm,0.3s,baz=16,slow=21,SNR=16 **El Rosal**	**2.37**	**212**	*e*P		**Pn**	**14 30 32.0**	**+1.0**
ROSC				*i*			14 31 10.4	
HELC	comp=Z,183nm,0.5s **Santa Helena**	**2.55**	**255**	*e*P		**Pn**	**14 30 34.2**	**+1.1**
HELC				*i*			14 31 11.1	
VIGV	comp=Z,111nm,0.3s **El Vigia**	**2.59**	**40**	*e*P		**Pn**	**14 30 34.9**	**+1.6**
VIGV				*e*S		**Sn**	**14 31 07.8**	**+1.2**
SOCV	**Socops**	**2.60**	**57**	*e*P		**Pn**	**14 30 34.9**	**+1.4**
SOCV				*e*S		**Sn**	**14 31 07.4**	**+0.5**

CODC	**Agust`›n Codaz**	**3.08**	**353**	*e*P		**Pn**	**14 30 40.6**	**+1.2**
CODC	comp=Z,104nm,0.8s			*i*			14 31 26.8	
SDV	**Santo Domingo**	**3.13**	**50**	P		**Pn**	**14 30 42.1**	**+1.9**
SDV	comp=Z,8.9nm,0.3s,baz=237,slow=11,SNR=26			S		**Sn**	**14 31 19.9**	**+1.0**
SDV	comp=Z,15nm,0.3s,baz=62,slow=24,SNR=28 **Santo Domingo**	**3.13**	**50**	*e*P		**Pn**	**14 30 42.1**	**+1.9**
SDV				*e*S		**Sn**	**14 31 19.3**	**+0.4**
ELOV	**Elorza**	**3.55**	**87**	*e*P		**Pn**	**14 30 46.2**	**+1.0**
ELOV				*e*S		**Sn**	**14 31 27.5**	**-0.4**
PRAC	**Prado**	**3.61**	**210**	*e*P		**Pn**	**14 30 46.3**	**+0.2**
VIRV	**Villa del Rosa**	**3.68**	**10**	*e*P		**Pn**	**14 30 47.5**	**+0.6**
VIRV				*e*S		**Sn**	**14 31 29.6**	**-1.5**
QARV	**Quebrada Arrib**	**4.17**	**37**	*e*P		**Pn**	**14 30 54.3**	**+1.1**
QARV				*e*S		**Sn**	**14 31 40.7**	**-1.6**
CURV	**Curarigua**	**4.38**	**44**	*e*P		**Pn**	**14 30 57.4**	**+1.3**
CURV				*e*S		**Sn**	**14 31 46.0**	**-1.3**
DABV	**Dabajuro**	**4.70**	**30**	*e*P		**Pn**	**14 31 00.9**	**+0.9**
DABV				*e*S		**Sn**	**14 31 52.6**	**-2.0**
SIQV	**Siquisique**	**4.95**	**40**	*e*P		**Pn**	**14 31 03.6**	**+0.2**
BAUV	**El Baul**	**5.38**	**67**	*e*P		**Pn**	**14 31 08.8**	**-0.3**
BAUV				*e*S		**Sn**	**14 32 07.5**	**-3.2**
MAPV	**Macapo**	**5.42**	**57**	*e*P		**Pn**	**14 31 10.2**	**+0.5**
MAPV				*e*S		**Sn**	**14 32 09.1**	**-2.7**
MONV	**Montecano**	**5.91**	**31**	*e*P		**Pn**	**14 31 16.3**	**+0.3**
MONV				*e*S		**Sn**	**14 32 18.9**	**-4.4**
ASAR	**Alice Springs**	**149.18**	**234**	PKPbc		**PKPbc**	**14 49 20.6**	**+0.3**
	comp=Z,0.4nm,0.5s,baz=118,slow=3.4,SNR=10							
WRA	**Warramunga Arr**	**150.41**	**241**	PKPbc		**PKPbc**	**14 49 23.7**	**+0.4**
	comp=Z,0.3nm,0.4s,baz=107,slow=2.8,SNR=7.6							

*CSEM **01** 14:33:04.9, 40°.78N×28°.12E, h29km, MD2.4*
ISK 01 14:33:04.9, 40°.78N×28°.12E, h29km, MD2.4, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
SBT3	**Marmara-Eregli**	**0.15**	**312**	*e*PG		**Pn**	**14 33 11.1**	**-0.1**
SBT3	**Marmara-Eregli**	**0.15**	**312**	*e*Pg		**Pn**	**14 33 11.1**	**0.0**
SBT2	**Guzelce-Avcila**	**0.31**	**72**	*e*PG		**Pn**	**14 33 12.9**	**-0.5**
SBT2	**Guzelce-Avcila**	**0.31**	**72**	*e*Pg		**Pn**	**14 33 12.9**	**-0.5**
CTKS	**Kestanelik-??a**	**0.54**	**33**	*e*PG		**Pn**	**14 33 17.1**	**+0.5**
CTKS				*e*SG		**Sn**	**14 33 24.2**	**-0.5**
CTKS	**Kestanelik-??a**	**0.54**	**33**	*e*Pg		**Pn**	**14 33 17.1**	**+0.5**
CTKS				*e*Sg		**Sn**	**14 33 24.2**	**-0.5**
KCTX	**Karacabey (Bur**	**0.55**	**161**	*e*PG		**Pn**	**14 33 16.8**	**0.0**
KCTX				*e*SG		**Sn**	**14 33 25.1**	**+0.2**
KCTX	**Karacabey (Bur**	**0.55**	**161**	*e*Pg		**Pn**	**14 33 16.8**	**0.0**
KCTX				*e*Sg		**Sn**	**14 33 25.1**	**+0.1**
SBT5	**Esenkoy-Cinarc**	**0.59**	**105**	*e*PG		**Pn**	**14 33 18.2**	**+0.9**
SBT5				*e*SG		**Sn**	**14 33 27.0**	**+1.0**
SBT5	**Esenkoy-Cinarc**	**0.59**	**105**	*e*Pg		**Pn**	**14 33 18.2**	**+0.9**
SBT5				*e*Sg		**Sn**	**14 33 27.0**	**+1.0**
ARMT	**Armutlu**	**0.60**	**111**	*e*PG		**Pn**	**14 33 17.7**	**+0.2**
ARMT				*e*SG		**Sn**	**14 33 26.7**	**+0.4**
ARMT	**Armutlu**	**0.60**	**111**	*e*Pg		**Pn**	**14 33 17.7**	**+0.2**
ARMT				*e*Sg		**Sn**	**14 33 26.7**	**+0.4**
RKY	**Sarkoy-Tekirda**	**0.73**	**263**	*e*PG		**Pn**	**14 33 19.3**	**0.0**
RKY	**Sarkoy-Tekirda**	**0.73**	**263**	*e*Pg		**Pn**	**14 33 19.3**	**+0.1**
KRBG	**Karabiga-Canak**	**0.74**	**238**	*e*PG		**Pb**	**14 33 18.9**	**-0.4**
KRBG	**Karabiga-Canak**	**0.74**	**238**	*e*Pg		**Pb**	**14 33 18.9**	**-0.3**

GUC 01 14:38:56.3±0.6, 36°.37S×71°.64W, h100km±4km, ML3.7, 4C-1D, Central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
CCHI	**Chillan**	**0.42**	**236**	⇑*i*P		**Pn**	**14 39 11.5**	**0.0**
CCHI				*i* S		Sn	14 39 22.3	-0.7
CCHI	comp=E,9μm,0.3s			IAML			14 39 23.4	
COCH	**Cobquecura**	**0.96**	**284**	⇑*i*P		**Pn**	**14 39 16.1**	**-0.1**
COCH				*i* S		Sn	14 39 30.6	-0.7
COCH	comp=E,3μm,0.4s			IAML			14 39 31.7	
TALC	**Talca**	**0.96**	**0**	⇑*i*P		**Pn**	**14 39 16.4**	**0.0**
TALC				*i* S		Sn	14 39 30.8	-0.6
CLCH	**Cerro Calan**	**3.10**	**17**	⇑*i*P		**Pn**	**14 39 43.5**	**+0.1**
CLCH				*i* S		Sn	14 40 19.0	-0.8
FCH	**Farellones**	**3.23**	**21**	*e*P		**Pn**	**14 39 45.8**	**+0.4**
FCH				*i* S		Sn	14 40 23.1	-0.1
PEL	**Peldehue**	**3.31**	**14**	⇓*i*P		**Pn**	**14 39 46.1**	**-0.2**
PEL				*i* S		Sn	14 40 23.8	-1.0
ROCH	**El Roble**	**3.42**	**9**	*e*P		**Pn**	**14 39 47.7**	**-0.2**
ROCH				*i* S		Sn	14 40 27.4	-0.4

*ISCJB **01** 14:45:13.1±0.5, 10°.72S±0°.06×73°.83W±0°.06, h105km, mb3.9/5, Error ellipse: s-maj=9.0km s-min=7.9km az=141.2*
*IDC **01** 14:45:14.8±1.7, 10°.78S×73°.87W, h115km±18km, mb3.7/5, mb1 3.9/10, mb1mx3.6/31, mbtmp4.2/10, Error ellipse: s-maj=19.3km s-min=13.9km az=8.0*
ISC 01 14:45:14.5±0.6, 10°.81S±0°.08×73°.82W±0°.08, h105km, n19, σ1s77/25, mb4.0/5, Central Peru

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
NNA	**Nana**	**3.19**	**248**	P		**Pn**	**14 46 03.7**	**+0.7**
NNA	45nm,0.3s,baz=85,slow=9.2,SNR=40			S		**Sn**	**14 46 40.4**	**0.0**
LPAZ	91nm,0.3s,baz=143,slow=23,SNR=20 **La Paz**	**7.76**	**135**	P		**Pn**	**14 47 07.3**	**+2.0**
SIV	0.8nm,0.3s,baz=332,slow=11,SNR=20 **San Ignacio**	**13.42**	**114**	P		**Pn**	**14 48 21.7**	**+0.8**
PTGA	0.8nm,0.3s,baz=301,slow=13,SNR=8.4 **Pitinga**	**17.02**	**55**	P		**P**	**14 49 05.9**	**-0.4**
BARC	2.1nm,0.3s,baz=239,slow=16,SNR=22 **Barichara**	**17.29**	**2**	*e*P		**Pn**	**14 49 12.5**	**+2.7**
BARC	comp=Z,6.4nm,0.6s			*i*		**P**	**14 49 14.1**	**+4.5**
BARC				*e*S		**pP**	**14 49 29.0**	**0.0**
GIRC	**Giron, Santand**	**17.78**	**2**	*e*P		**Pn**	**14 49 16.3**	**+0.8**
BRRC	**Barranca, Sant**	**17.79**	**0**	*e*P		**P**	**14 49 14.1**	**-0.8**
BRRC	comp=Z,8.8nm,0.5s			*i*		**Pn**	**14 49 19.4**	**+3.8**
BRRC				*e*S		**pP**	**14 49 32.0**	**-2.3**
ZARC	**Zaragoza, Cauc**	**18.21**	**357**	*e*P		**Pn**	**14 49 20.1**	**-0.5**
OCAC	**Ocana**	**18.93**	**2**	*e*P		**P**	**14 49 26.6**	**-0.9**
SDV	**Santo Domingo**	**19.82**	**9**	P		**P**	**14 49 36.8**	**-0.4**
CPUP	comp=Z,1.4nm,0.3s,baz=223,slow=14,SNR=9.6 **Villa Florida**	**21.93**	**137**	P		**P**	**14 49 59.9**	**+0.4**
PLCA	comp=Z,9.1nm,1.1s,baz=336,slow=10,SNR=6.6 **Paso Flores**	**29.95**	**175**	P		**P**	**14 51 12.7**	**-0.2**
TXAR	comp=Z,1.8nm,0.8s,baz=358,slow=8.7,SNR=3.2 **Lajitas Array**	**49.21**	**325**	P		**P**	**14 53 51.6**	**-0.9**
TXAR	comp=Z,0.2nm,0.6s,baz=152,slow=7.9,SNR=3.4			pP		**pP**	**14 54 19.5**	**+2.1**
DBIC	comp=Z,1.4nm,0.7s,baz=149,slow=8.6,SNR=14 **Dimbokro**	**70.80**	**79**	P		**P**	**14 56 19.2**	**-1.1**
TORD	comp=Z,3.1nm,0.5s,baz=229,slow=7.6,SNR=8.3 **Torodi Ar. Bea**	**78.62**	**74**	P		**P**	**14 57 04.5**	**-0.9**
ASAR	comp=Z,2.0nm,0.7s,baz=267,slow=5.3,SNR=14 **Alice Springs**	**136.31**	**218**	PKP		**PKPdf**	**15 04 23.5**	**-1.3**
WRA	comp=Z,0.5nm,0.9s,baz=123,slow=1.9,SNR=6.2 **Warramunga Arr**	**138.75**	**222**	PKP		**PKPdf**	**15 04 28.1**	**-1.2**
FITZ	comp=Z,0.8nm,0.8s,baz=127,slow=2.0,SNR=7.7 **Fitzroy Crossi**	**145.45**	**214**	PKPbc		**PKPdf**	**15 04 39.9**	**-1.3**
KSRS	comp=Z,2.6nm,0.8s,baz=171,slow=4.7,SNR=5.3 **Korea Array**	**147.04**	**327**	PKPbc		**PKPbc**	**15 04 44.3**	**-1.2**
	comp=Z,0.9nm,0.7s,baz=44,slow=3.7,SNR=4.4							

*NIED **01** 14:55:00, 38°.30N×141°.90E, h56km, Mw3.6 Best double couple: M0 2.74000×10^14 NP1:φs=167.00000°, δ26.00000°, λ68.00000°. NP2:φs=12.00000°, δ66.00000°, λ101.00000°.*
*IDC **01** 14:55:07.6±1.8, 38°.23N×142°.42E, h0km, mb3.4/2, mb1 3.5/5, mb1mx3.3/40, mbtmp3.4/5, ML2.9/3, Error ellipse: s-maj=37.8km s-min=28.0km az=88.0*
*JMA **01** 14:55:14.3±0.1, 38°.33N×141°.87E, h48km±1km, M3.5*
ISC 01 14:55:10.3±2.0, 38°.27N±0°.05×142°.06E±0°.08, h14km±13km, n24, σ1s30/27, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
JIO	**Ouri**	**0.59**	**289**	P		**Pn**	**14 55 24.6**	**+0.4**
JIO				S		**Sb**	**14 55 31.5**	**+1.0**
OFUJ	**Ofunato**	**0.87**	**340**	P		**Pn**	**14 55 28.9**	**+0.9**
OFUJ				S		**Sg**	**14 55 39.0**	**+0.5**
JMK	**Ichinoseki**	**0.95**	**316**	P		**Pn**	**14 55 29.7**	**+0.6**
JMK				S		**Sb**	**14 55 40.5**	**-0.3**

JMM	**Marumori**	**1.07**	**248**	P		**Pn**	**14 55 31.1**	**+0.2**
JMM				S		**Sb**	**14 55 42.3**	**-2.2**
JOU	**Okura**	**1.10**	**275**	P		**Pb**	**14 55 31.6**	**+0.5**
JOU				S		**Sb**	**14 55 44.1**	**-1.2**
JFK	**Kawauchi**	**1.30**	**226**	P		**Pb**	**14 55 34.9**	**+0.4**
JFK				S		**Sn**	**14 55 49.9**	**-1.3**
JOM	**Ohasama**	**1.34**	**334**	P		**Pg**	**14 55 35.6**	**-0.6**
JYK	**Kaneyama**	**1.48**	**297**	P		**Pn**	**14 55 36.8**	**+0.3**
JFT	**Otama**	**1.55**	**242**	P		**Pn**	**14 55 38.4**	**+0.9**
JFT				*e*S		**Sn**	**14 55 56.2**	**-1.2**
JYS	**Shirataka**	**1.57**	**269**	P		**Pn**	**14 55 38.1**	**+0.4**
JRG	**Rokugo**	**1.58**	**316**	P		**Pb**	**14 55 38.6**	**-0.7**
JYA	**Atsumi**	**1.87**	**281**	P		**Pn**	**14 55 42.4**	**+0.6**
MJAR	**Matsushiro Arr**	**3.52**	**242**	Pn		**Pn**	**14 56 06.8**	**+2.3**
MJAR	1.7nm,0.3s,baz=52,slow=10,SNR=24			Sn		**Sb**	**14 56 53.3**	**-1.5**
MAT	0.7nm,0.3s,baz=90,slow=13,SNR=3.0 **Matsushiro**	**3.52**	**242**	P		**Pn**	**14 56 07.0**	**+2.5**
MAT				*e*S		**Sn**	**14 56 48.7**	**+2.8**
ASAJ	**Asahikawa**	**5.86**	**4**	Pn		**Pn**	**14 56 36.8**	**+0.1**
USRK	0.5nm,0.3s,baz=250,slow=26,SNR=6.1 **Ussuriysk Ar.**	**9.62**	**311**	Pn		**Pn**	**14 57 29.6**	**+1.4**
H11N2	0.3nm,0.3s,baz=120,slow=14,SNR=4.8 **WAKE ISLAND Hy**	**28.37**	**124**	T		T	15 31 19.0	
H11N1	baz=316,slow=76,SNR=33 **WAKE ISLAND Hy**	**28.38**	**124**	T		T	15 31 17.6	
H11N3	baz=316,slow=76,SNR=63 **WAKE ISLAND Hy**	**28.39**	**124**	T		T	15 31 19.2	
H11S1	baz=316,slow=76,SNR=40 **WAKE ISLAND Hy**	**29.13**	**126**	T		T	15 32 18.4	
H11S3	baz=318,slow=76,SNR=49 **WAKE ISLAND Hy**	**29.13**	**126**	T		T	15 32 18.5	
H11S2	baz=318,slow=76,SNR=47 **WAKE ISLAND Hy**	**29.15**	**126**	T		T	15 32 19.6	
WRA	baz=318,slow=76,SNR=51 **Warramunga Arr**	**58.35**	**189**	P		**P**	**15 05 04.4**	**-0.6**
ASAR	0.4nm,0.5s,baz=5.6,slow=6.9,SNR=7.5 **Alice Springs**	**62.08**	**188**	P		**P**	**15 05 30.1**	**-0.4**
	0.2nm,0.6s,baz=16,slow=11,SNR=5.0							

MEX 01 14:55:53.8±0.4, 14°.55N×92°.37W, h60km±12km, MD3.5, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
CCIG	**Comitan**	**1.74**	**7**	*i* P		**Pn**	**14 56 21.2**	**-0.8**
CCIG				*i* S		Sn	14 56 41.2	-1.9
TGIG		**2.33**	**342**	*i* P		**Pn**	**14 56 29.2**	**-0.7**
TGIG				*i* S		Sn	14 56 55.3	-2.1

MEX 01 15:14:59.5±0.6, 14°.33N×92°.17W, h26km±34km, MD3.8, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
CCIG	**Comitan**	**1.94**	**1**	*e*P		**Pn**	**15 15 29.1**	**-1.9**
CCIG				*i* S		Sn	15 15 51.3	-3.3
TGIG		**2.60**	**339**	*i* P		**Pn**	**15 15 37.3**	**-2.7**
TGIG				*i* S		Sn	15 16 08.0	-2.9

*CSEM **01** 15:27:39.3±0.8, 39°.23N×40°.66E, h10km, MD2.7, Error ellipse: s-maj=17.1km s-min=6.6km az=40.0*
*ISCJB **01** 15:27:43.8±0.6, 38°.99N±0°.06×40°.46E±0°.05, h29km±5km, Error ellipse: s-maj=10.8km s-min=5.1km az=22.8*
*DDA **01** 15:27:43.7, 38°.85N×40°.42E, h7km, Md2.8*
*ISK **01** 15:27:43.3, 38°.85N×40°.43E, h10km, MD2.7*
ISC 01 15:27:43.8±0.9, 38°.93N±0°.04×40°.43E±0°.03, h26km±6km, n16, σ1s35/32, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
BINT	**Bingol**	**0.07**	**137**	*e*Pg		**Pb**	**15 27 48.5**	**0.0**
BINT				*e*Sg		**Sb**	**15 27 52.9**	**+1.2**
BNGB	**Bing`¶l**	**0.21**	**71**	*e*PG		**Pb**	**15 27 48.5**	**-1.2**
BNGB				*e*SG		**Sb**	**15 27 52.9**	**-0.9**
BNGL	**BINGOL**	**0.56**	**87**	*i* P		**Pb**	**15 27 55.5**	**+0.2**
BNGL				*i* S		**Sb**	**15 28 05.0**	**+2.0**
TNCL	**Tunceli-Merkez**	**0.72**	**286**	*i* P		**Pb**	**15 27 57.3**	**-0.4**
TNCL				*i* S		**Sb**	**15 28 08.0**	**+0.8**
TNCL	**Tunceli-Merkez**	**0.72**	**286**	P		**Pb**	**15 27 57.3**	**-0.4**
TNCL				S		**Sb**	**15 28 08.0**	**+0.8**
PTK	**Pertek**	**0.81**	**268**	*e*PG		**Pb**	**15 27 58.6**	**-0.7**
PTK				*e*SG		**Sn**	**15 28 11.6**	**+0.6**
PTK	**Pertek**	**0.81**	**268**	*e*Pg		**Pb**	**15 27 58.6**	**-0.7**
PTK				*e*Sg		**Sn**	**15 28 11.6**	**+0.6**
ERZN	**Erzincan**	**0.86**	**320**	*e*PG		**Pn**	**15 28 01.6**	**+1.3**
ERZN				*e*SG		**Sn**	**15 28 14.3**	**+2.2**
SVAN	**Silvan-Diyarba**	**0.98**	**142**	*e*PG		**Pn**	**15 28 01.6**	**-0.4**
SVAN				*e*SG		**Sn**	**15 28 14.9**	**-0.1**
SVAN	**Silvan-Diyarba**	**0.98**	**142**	*i* P		**Pn**	**15 28 01.5**	**-0.4**
SVAN				*i* S		**Sb**	**15 28 14.3**	**-0.4**
SVAN	**Silvan-Diyarba**	**0.98**	**142**	*e*Pg		**Pn**	**15 28 01.6**	**-0.4**
SVAN				S		**Sb**	**15 28 14.3**	**-0.4**
SVAN				*e*Sg		**Sn**	**15 28 15.0**	**-0.1**
EZC	**Erzincan**	**1.17**	**315**	*e*Pg		Pn	15 28 01.6	-3.1
EZC				*e*Sg		**Sn**	**15 28 14.4**	**-5.5**
BTMN	**Batman**	**1.23**	**147**	*i* P		**Pb**	**15 28 06.3**	**0.0**
BTMN				*i* S		**Sb**	**15 28 22.7**	**+0.9**
BTMN	**Batman**	**1.23**	**147**	P		**Pb**	**15 28 06.3**	**0.0**
BTMN				S		**Sb**	**15 28 22.7**	**+0.9**
MAZI	**Mazidag**	**1.46**	**179**	*e*PN		**Pn**	**15 28 08.9**	**+0.2**
MAZI				*e*SN		**Sb**	**15 28 28.6**	**0.0**
MAZI	**Mazidag**	**1.46**	**179**	*e*Pn		**Pn**	**15 28 08.9**	**+0.2**
MAZI				*e*Sn		**Sb**	**15 28 28.6**	**0.0**

*ISCJB **01** 15:29:47.3±0.6, 43°.67S±0°.03×173°.04E±0°.04, h7km±4km, mb4.4/9, MS3.9/8, Error ellipse: s-maj=7.1km s-min=2.5km az=142.4*
*NEIC **01** 15:29:49.2±1.1, 43°.58S×172°.97E, h6km±6km, mb4.5/5, ML5.0(WEL), Error ellipse: s-maj=11.1km s-min=4.2km az=135.0*
NEIC Felt [IV] at Christchurch. Also felt at Lincoln, Oxford and Rangiora.
*IDC **01** 15:29:50.1±1.3, 43°.37S×172°.78E, h0km, mb4.3/4, mb1 4.4/5, mb1mx4.1/23, mbtmp4.3/5, ML4.0/1, MS3.9/9, Ms1 3.9/9

	1µm,0.3s,baz=43,slow=19,SNR=21								
RPZ	**Rata Peaks**	**1.39**	**263**	*e*Pn	**Pn**	**15 30 14.2**	**-1.3**		
RPZ				*e*Sn	**Sb**	**15 30 32.8**	**-1.1**		
RPZ	**Rata Peaks**	**1.39**	**263**	PN	**Pn**	**15 30 14.2**	**-1.3**		
RPZ				AML	AML	15 30 37.4			
WVZ	**Waitaha Valley**	**1.69**	**286**	PN	**Pn**	**15 30 18.8**	**-0.8**		
WVZ				AML	AML	15 30 46.8			
WVZ				AML	AML	15 30 52.1			
THZ	**Tophouse**	**1.80**	**359**	*e*Pn	**Pn**	**15 30 21.2**	**+0.1**		
THZ	**Tophouse**	**1.80**	**359**	⇓PN	**Pn**	**15 30 21.0**	**-0.1**		
THZ				AML	AML	15 30 55.6			
THZ				AML	AML	15 31 00.0			
BSWZ	**Blackbirch Sta**	**1.96**	**21**	PN	**Pn**	**15 30 24.0**	**+0.7**		
BSWZ				AML	AML	15 31 10.9			
BSWZ				AML	AML	15 31 15.2			
DSZ	**Denniston Nort**	**2.00**	**335**	PN	**Pn**	**15 30 23.8**	**-0.2**		
DSZ				AML	AML	15 30 57.8			
DSZ				AML	AML	15 30 57.8			
DSZ				AML	AML	15 30 58.1			
DSZ				AML	AML	15 30 58.2			
CMWZ	**Cape Campbell**	**2.03**	**28**	AML	AML	15 31 12.8			
CMWZ				AML	AML	15 31 27.4			
LBZ	**Lake Benmore**	**2.17**	**247**	*e*Pn	**Pn**	**15 30 25.7**	**-0.4**		
LBZ				*e*Pg	**Pg**	**15 30 31.1**	**0.0**		
LBZ				*e*Sn	**Sb**	**15 30 55.7**	**-0.6**		
LBZ	**Lake Benmore**	**2.17**	**247**	PN	**Pn**	**15 30 25.4**	**-0.7**		
LBZ				AML	AML	15 31 04.9			
LBZ				AML	AML	15 31 04.9			
LBZ				AML	AML	15 31 06.5			
LBZ				AML	AML	15 31 06.5			
ODZ	**Otahua Downs**	**2.23**	**227**	*e*Pn	**Pn**	**15 30 26.1**	**-0.9**		
ODZ				*e*Pg	**Pg**	**15 30 32.2**	**-0.1**		
ODZ				*e*Sn	**Sb**	**15 30 57.4**	**-0.6**		
ODZ	**Otahua Downs**	**2.23**	**227**	PN	**Pn**	**15 30 25.8**	**-1.2**		
ODZ				AML	AML	15 31 11.0			
ODZ				AML	AML	15 31 11.0			
ODZ				AML	AML	15 31 14.4			
ODZ				AML	AML	15 31 14.4			
TUWZ	**Tuamarina**	**2.25**	**19**	PN	**Pn**	**15 30 27.6**	**+0.3**		
TUWZ				AML	AML	15 31 29.2			
TUWZ				AML	AML	15 31 36.2			
FOZ	**Fox Glacier**	**2.28**	**270**	*e*Pn	**Pn**	**15 30 28.1**	**+0.3**		
FOZ				*e*Sn	**Sb**	**15 30 53.2**	**-2.9**		
FOZ				*e*Lg	Lg	15 31 05.6			
FOZ	**Fox Glacier**	**2.28**	**270**	PN	**Pn**	**15 30 28.1**	**+0.3**		
FOZ				AML	AML	15 31 08.8			
FOZ				AML	AML	15 31 08.8			
FOZ				AML	AML	15 31 11.4			
FOZ				AML	AML	15 31 11.4			
NNZ	**Nelson**	**2.36**	**8**	PN	**Pn**	**15 30 29.3**	**+0.4**		
NNZ				AML	AML	15 31 23.0			
NNZ				AML	AML	15 31 23.0			
NNZ				AML	AML	15 31 24.7			
NNZ				AML	AML	15 31 24.8			
TCW	**Tory Channel**	**2.54**	**23**	PN	**Pn**	**15 30 31.3**	**0.0**		
TCW				AML	AML	15 31 27.6			
TCW				AML	AML	15 31 30.8			
BHW	**Baring Head**	**2.58**	**34**	PN	**Pn**	**15 30 31.8**	**+0.1**		
BHW				AML	AML	15 31 47.0			
BHW				AML	AML	15 31 55.5			
SNZO	**South Karori**	**2.59**	**31**	*e*Pn	**Pn**	**15 30 32.2**	**+0.3**		
PLWZ	**Palliser**	**2.62**	**41**	PN	**Pn**	**15 30 32.5**	**+0.2**		
PLWZ				AML	AML	15 31 53.3			
PLWZ				AML	AML	15 31 57.1			
WEL	**Wellington**	**2.64**	**31**	PN	**Pn**	**15 30 32.1**	**+0.2**		
WEL				AML	AML	15 31 08.0			
WEL				AML	AML	15 31 08.1			
WEL				AML	AML	15 31 09.1			
WEL				AML	AML	15 31 09.2			
MSWZ	**Moikau Station**	**2.73**	**39**	PN	**Pn**	**15 30 33.8**	**-0.1**		
MSWZ				AML	AML	15 31 06.4			
MSWZ				AML	AML	15 31 20.3			
QRZ	**Quartz Range**	**2.75**	**353**	PN	**Pn**	**15 30 34.3**	**+0.1**		
QRZ				AML	AML	15 31 22.2			
QRZ				AML	AML	15 31 22.3			
QRZ				AML	AML	15 31 26.7			
QRZ				AML	AML	15 31 31.9			
PAWZ	**Paruwai Farm**	**2.84**	**41**	PN	**Pn**	**15 30 35.2**	**-0.2**		
PAWZ				AML	AML	15 31 23.6			
PAWZ				AML	AML	15 32 05.2			
HHSZ	**Highcliff Hill**	**2.87**	**215**	PN	**Pn**	**15 30 35.1**	**-0.7**		
HHSZ				AML	AML	15 31 28.6			
HHSZ				AML	AML	15 31 37.4			
CAW	**Cannon Point**	**2.91**	**33**	PN	**Pn**	**15 30 35.3**	**-0.1**		
CAW				AML	AML	15 31 25.3			
CAW				AML	AML	15 31 48.1			
TRWZ	**Traveller**	**2.96**	**44**	PN	**Pn**	**15 30 37.1**	**+0.1**		
TRWZ				AML	AML	15 31 48.6			
TRWZ				AML	AML	15 32 16.9			
MTW	**Mount Morrison**	**3.05**	**39**	PN	**Pn**	**15 30 37.9**	**-0.5**		
MTW				AML	AML	15 31 17.7			
MTW				AML	AML	15 31 26.5			
JCZ	**Jackson Bay**	**3.06**	**259**	PN	**Pn**	**15 30 37.8**	**-0.7**		
JCZ				AML	AML	15 31 32.0			
JCZ				AML	AML	15 31 34.3			
KIW	**Kapiti Island**	**3.06**	**29**	PN	**Pn**	**15 30 38.7**	**+0.2**		
KIW				AML	AML	15 31 15.0			
KIW				AML	AML	15 31 52.1			
EAZ	**Earnscleugh**	**3.10**	**236**	PN	**Pn**	**15 30 38.1**	**-1.0**		
EAZ				AML	AML	15 31 31.9			
EAZ				AML	AML	15 31 31.9			
EAZ				AML	AML	15 31 32.0			
EAZ				AML	AML	15 31 32.0			
WKZ	**Wanaka**	**3.10**	**245**	*e*Pn	**Pn**	**15 30 38.3**	**-0.7**		
WKZ				*e*Sg	**Sg**	**15 31 26.8**	**-2.5**		
WKZ	**Wanaka**	**3.10**	**245**	PN	**Pn**	**15 30 38.3**	**-0.7**		
WKZ				AML	AML	15 31 33.0			
WKZ				AML	AML	15 31 33.1			
WKZ				AML	AML	15 31 34.2			
WKZ				AML	AML	15 31 34.2			
OGWZ	**Otaki Gorge**	**3.20**	**32**	PN	**Pn**	**15 30 40.3**	**0.0**		
OGWZ				AML	AML	15 31 19.6			
OGWZ				AML	AML	15 31 22.5			
HOWZ	**Holdsworth Sta**	**3.27**	**36**	PN	**Pn**	**15 30 41.0**	**-0.3**		
HOWZ				AML	AML	15 31 23.4			
HOWZ				AML	AML	15 31 27.2			
TMWZ	**Te Maipa**	**3.28**	**43**	PN	**Pn**	**15 30 43.3**	**+1.9**		
TMWZ				AML	AML	15 31 22.6			
TMWZ				AML	AML	15 31 28.8			
TUZ	**Tuapeka**	**3.37**	**224**	⇑PN	**Pn**	**15 30 41.8**	**-0.9**		
TUZ				AML	AML	15 31 41.4			
TUZ				AML	AML	15 31 41.4			
TUZ				AML	AML	15 31 45.8			
TUZ				AML	AML	15 31 45.9			
MRZ	**Mangatainoka R**	**3.49**	**35**	PN	**Pn**	**15 30 43.7**	**-0.7**		
MRZ				AML	AML	15 31 32.0			
MRZ				AML	AML	15 32 22.1			
TIWZ	**Tintock**	**3.53**	**39**	PN	**Pn**	**15 30 44.4**	**-0.6**		
TIWZ				AML	AML	15 31 33.6			
TIWZ				AML	AML	15 31 35.5			
CPWZ	**Castlepoint**	**3.58**	**43**	PN	**Pn**	**15 30 48.0**	**+2.4**		
CPWZ				AML	AML	15 31 31.9			
CPWZ				AML	AML	15 31 46.0			
PRWZ	**Pori Road**	**3.75**	**38**	⇓PN	**Pn**	**15 30 47.5**	**-0.5**		
PRWZ				AML	AML	15 31 36.5			
PRWZ				AML	AML	15 32 23.7			
BFZ	**Birch Farm**	**3.78**	**42**	*e*Pn	**Pn**	**15 30 47.7**	**-0.6**		
BFZ	**Birch Farm**	**3.78**	**42**	PN	**Pn**	**15 30 47.5**	**-0.7**		
BFZ				AML	AML	15 31 34.6			
BFZ				AML	AML	15 31 34.6			
BFZ				AML	AML	15 31 36.6			
BFZ				AML	AML	15 31 36.6			
MSZ	**Milford Sound**	**3.79**	**251**	PN	**Pn**	**15 30 47.3**	**-1.1**		
MSZ				AML	AML	15 31 57.6			
MSZ				AML	AML	15 31 57.6			
MSZ				AML	AML	15 32 00.4			
MSZ				AML	AML	15 32 00.4			
POWZ	**Post Office Ro**	**3.80**	**34**	PN	**Pn**	**15 30 50.8**	**+2.2**		
POWZ				AML	AML	15 32 16.2			
POWZ				AML	AML	15 32 18.4			
MLZ	**Mavora Lakes**	**3.91**	**241**	*e*Pn	**Pn**	**15 30 49.0**	**-1.1**		
MLZ				*e*Sg	**Sg**	**15 31 56.5**	**+1.5**		
MLZ	**Mavora Lakes**	**3.91**	**241**	PN	**Pn**	**15 30 48.8**	**-1.3**		
MLZ				AML	AML	15 32 06.8			
MLZ				AML	AML	15 32 16.4			
ANWZ	**Angora Road**	**4.06**	**41**	PN	**Pn**	**15 30 51.4**	**-0.7**		
ANWZ				AML	AML	15 31 46.9			
ANWZ				AML	AML	15 31 49.4			
WAZ	**Wanganui**	**4.09**	**22**	PN	**Pn**	**15 30 54.6**	**+1.9**		
WAZ				AML	AML	15 32 36.7			
WAZ				AML	AML	15 32 47.8			
TSZ	**Takapari Road**	**4.16**	**34**	⇑PN	**Pn**	**15 30 52.7**	**-0.8**		
TSZ				AML	AML	15 32 29.2			
TSZ				AML	AML	15 32 36.5			
NMEZ	**Namu Road**	**4.20**	**10**	PN	**Pn**	**15 30 56.3**	**+2.2**		
LREZ	**Lake Rotokare**	**4.24**	**15**	PN	**Pn**	**15 30 57.1**	**+2.5**		
LREZ				AML	AML	15 33 00.0			
LREZ				AML	AML	15 33 07.7			
WHZ	**Wether Hill Ro**	**4.26**	**235**	*e*Pn	**Pn**	**15 30 53.5**	**-1.5**		
WHZ				*e*Sg	**Sg**	**15 32 06.5**	**0.0**		
WHZ	**Wether Hill Ro**	**4.26**	**235**	PN	**Pn**	**15 30 53.4**	**-1.5**		
WHZ				AML	AML	15 32 19.1			
WHZ				AML	AML	15 32 20.9			
PRHZ	**Porangahau**	**4.29**	**41**	PN	**Pn**	**15 30 55.8**	**+0.6**		
PRHZ				AML	AML	15 31 49.9			
PRHZ				AML	AML	15 31 52.1			
PREZ	**Palmer Road**	**4.31**	**13**	PN	**Pn**	**15 30 57.9**	**+2.2**		
PREZ				AML	AML	15 31 59.4			
PREZ				AML	AML	15 32 01.3			
KHEZ	**Kahui Hut**	**4.34**	**11**	PN	**Pn**	**15 30 57.9**	**+1.8**		
WPHZ	**Waipukurau**	**4.36**	**38**	PN	**Pn**	**15 30 57.3**	**+1.1**		
WPHZ				AML	AML	15 31 54.4			
WPHZ				AML	AML	15 31 55.5			
NEZ	**North Egmont**	**4.37**	**12**	PN	**Pn**	**15 30 58.2**	**+1.7**		
PNHZ	**Pukenui**	**4.38**	**35**	PN	**Pn**	**15 30 55.6**	**-1.0**		
PNHZ				AML	AML	15 31 49.0			
PNHZ				AML	AML	15 31 56.2			
PKE	**Pukeiti**	**4.43**	**10**	PN	**Pn**	**15 30 59.4**	**+2.1**		
PKE				AML	AML	15 31 58.9			
PKE				AML	AML	15 32 00.7			
DRZ	**Durham Road**	**4.47**	**13**	PN	**Pn**	**15 30 59.5**	**+1.7**		
DCZ	**Deep Cove**	**4.57**	**243**	*e*Pn	**Pn**	**15 30 58.3**	**-0.8**		
DCZ				*e*Sg	**Sg**	**15 32 19.2**	**+3.1**		
DCZ	**Deep Cove**	**4.57**	**243**	AML	AML	15 32 21.1			
DCZ				AML	AML	15 32 21.1			
DCZ				AML	AML	15 32 26.7			
DCZ				AML	AML	15 32 26.7			
PXZ	**Pawanui**	**4.58**	**41**	PN	**Pn**	**15 30 59.0**	**-0.3**		
PXZ				AML	AML	15 31 54.0			
PXZ				AML	AML	15 32 00.9			
MTVZ	**Mangateitei**	**4.58**	**25**	PN	**Pn**	**15 31 00.9**	**+1.6**		
MTVZ				AML	AML	15 32 01.3			
MTVZ				AML	AML	15 32 12.3			
MHEZ	**Mangahewa**	**4.60**	**13**	PN	**Pn**	**15 31 01.7**	**+2.2**		
PKVZ	**Pokaka**	**4.63**	**24**	PN	**Pn**	**15 31 01.1**	**+1.0**		
PKVZ				AML	AML	15 32 47.5			
PKVZ				AML	AML	15 32 49.7			
VRZ	**Vera Road**	**4.63**	**18**	PN	**Pn**	**15 31 01.4**	**+1.3**		
VRZ				AML	AML	15 32 02.8			
VRZ				AML	AML	15 32 03.9			
MOVZ	**Moawhango**	**4.65**	**28**	PN	**Pn**	**15 31 00.7**	**+0.3**		
MOVZ				AML	AML	15 31 57.8			
MOVZ				AML	AML	15 31 57.8			
WNVZ	**Wahianoa**	**4.67**	**26**	⇑PN	**Pn**	**15 31 01.6**	**+0.8**		
KRHZ	**Kereru**	**4.68**	**34**	PN	**Pn**	**15 30 59.6**	**-1.1**		
KRHZ				AML	AML	15 31 58.0			
KRHZ				AML	AML	15 31 58.3			
BHHZ	**Black Hill Sta**	**4.69**	**31**	PN	**Pn**	**15 31 01.1**	**+0.3**		
BHHZ				AML	AML	15 31 58.1			
BHHZ				AML	AML	15 31 58.3			
WHVZ	**Whangaehu Hut**	**4.71**	**26**	⇑PN	**Pn**	**15 31 03.0**	**+1.7**		
WHVZ				AML	AML	15 31 59.0			
WHVZ				AML	AML	15 32 06.8			
FWVZ	**Far West T-bar**	**4.72**	**25**	PN	**Pn**	**15 31 02.7**	**+1.2**		
FWVZ				AML	AML	15 32 10.0			
FWVZ				AML	AML	15 32 06.1			
TUVZ	**Tukino**	**4.74**	**26**	PN	**Pn**	**15 31 02.2**	**+0.5**		
TUVZ				AML	AML	15 31 59.7			
TUVZ				AML	AML	15 32 10.0			
KAHZ	**Kahuranaki**	**4.77**	**39**	PN	**Pn**	**15 31 01.8**	**-0.2**		
KAHZ				AML	AML	15 32 01.4			
KAHZ				AML	AML	15 32 04.0			
APZ	**The Paps**	**4.80**	**225**	PN	**Pn**	**15 31 01.6**	**-0.7**		
APZ				AML	AML	15 32 39.0			
APZ				AML	AML	15 32 48.3			
NGZ	**Ngauruhoe**	**4.81**	**25**	PN	**Pn**	**15 31 03.6**	**+0.9**		
NGZ				AML	AML	15 32 05.4			
NGZ				AML	AML	15 32 44.9			
OTVZ	**Oturere**	**4.84**	**26**	PN	**Pn**	**15 31 03.7**	**+0.7**		
OTVZ				AML	AML	15 32 51.7			
OTVZ				AML	AML	15 32 55.2			
TWVZ	**Taurewa**	**4.86**	**23**	PN	**Pn**	**15 31 03.5**	**+0.2**		
TWVZ				AML	AML	15 32 58.0			
TWVZ				AML	AML	15 33 04.2			
WTVZ	**West Tongariro**	**4.86**	**25**	PN	**Pn**	**15 31 03.6**	**+0.3**		
WTVZ				AML	AML	15 32 31.3			
WTVZ				AML	AML	15 32 57.7			
KRVZ	**Karewarewa**	**4.90**	**25**	PN	**Pn**	**15 31 05.0**	**+1.2**		
KRVZ				AML	AML	15 31 29.8			
KRVZ				AML	AML	15 32 02.0			
CKHZ	**Cape Kidnapper**	**4.97**	**40**	AML	AML	15 32 05.2			
CKHZ				AML	AML	15 32 26.3			
MCHZ	**McNeill Hill**	**4.98**	**36**	PN	**Pn**	**15 31 05.2**	**+0.4**		
MCHZ				AML	AML	15 33 01.8			
MCHZ				AML	AML	15 33 21.1			
BKZ	**Black Stump Fm**	**5.13**	**32**	*e*Pn	**Pn**	**15 31 05.4**	**-1.6**		
BKZ	**Black Stump Fm**	**5.13**	**32**	PN	**Pn**	**15 31 05.8**	**-1.2**		
BKZ				AML	AML	15 32 52.9			
BKZ				AML	AML	15 33 04.5			
RATZ	**Rangitukua**	**5.15**	**25**	AML	AML	15 33 22.2			
PYZ	**Puysegur Point**	**5.17**	**238**	*e*Pn	**Pn**	**15 31 06.9**	**-0.5**		
HIZ	**Hauiti**	**5.24**	**17**	*e*Pn	**Pn**	**15 31 09.4**	**+0.6**		
ARHZ	**Aropaoanui**	**5.26**	**37**	PN	**Pn**	**15 31 08.7**	**0.0**		
ARHZ				AML	AML	15 32 12.0			
ARHZ				AML	AML	15 32 13.9			
NMHZ	**Naumai**	**5.32**	**34**	PN	**Pn**	**15 31 09.3**	**-0.3**		
NMHZ				AML	AML	15 32 19.6			
NMHZ				AML	AML	15 32 21.2			
MRHZ	**Matea Rd**	**5.39**	**30**	PN	**Pn**	**15 31 09.1**	**-1.5**		
MRHZ				AML	AML	15 32 16.7			
MRHZ				AML	AML	15 32 21.4			
TLZ	**Tolley Road**	**5.58**	**21**	PN	**Pn**	**15 31 13.5**	**+0.4**		
TLZ				AML	AML	15 32 27.3			
TLZ				AML	AML	15 32 43.3			
PRRZ	**Plateau Road**	**5.68**	**28**	PN	**Pn**	**15 31 14.1**	**-0.4**		
PRRZ				AML	AML	15 32 19.8			
PRRZ				AML	AML	15 32 19.9			
KNZ	**Kokohu**	**5.76**	**40**	PN	**Pn**	**15 31 14.4**	**-1.1**		
KNZ				AML	AML	15 35 25.1			
KNZ				AML	AML	15 34 07.2			
MHGZ	**Mahia Peninsul**	**5.77**	**42**	PN	**Pn**	**15 31 15.6**	**0.0**		
MHGZ				AML	AML	15 32 38.8			
MHGZ				AML	AML	15 32 44.3			
RTZ	**Ruatahuna**	**5.80**	**33**	PN	**Pn**	**15 31 16.2**	**+0.1**		
SNGZ	**Shannon Statio**	**5.81**	**36**	PN	**Pn**	**15 31 15.7**	**-0.6**		
SNGZ				AML	AML	15 32 26.1			
SNGZ				AML	AML	15 32 32.6			
MUGZ	**Murupara**	**5.84**	**31**	PN	**Pn**	**15 31 16.1**	**-0.6**		
PRGZ	**Paritu Road**	**5.94**	**40**	PN	**Pn**	**15 31 17.0**	**-1.0**		
PRGZ				AML	AML	15 32 32.2			
PRGZ				AML	AML	15 32 32.8			
RIGZ	**Rimuhau**	**6.05**	**38**	PN	**Pn**	**15 31 18.3**	**-1.3**		
RIGZ				AML	AML	15 32 37.9			
RIGZ				AML	AML	15 32 48.1			
RAGZ	**Rawiri**	**6.08**	**35**	PN	**Pn**	**15 31 18.4**	**-1.6**		
RAGZ				AML	AML	15 32 30.5			
RAGZ				AML	AML	15 32 31.0			
TOZ	**Tahuroa Road**	**6.14**	**19**	PN	**Pn**	**15 31 20.6**	**-0.1**		
TOZ				AML	AML	15 32 31.5			
TOZ				AML	AML	15 32 49.0			
URZ	**Urewera**	**6.16**	**32**	Pn	**Pn**	**15 31 19.9**	**-1.1**		
	3.5nm,0.3s,baz=208,slow=9.2,SNR=43								
URZ				Sn	**Sn**	**15 32 27.7**	**-4.0**		
	17nm,0.3s,baz=270,slow=20,SNR=8.3								
URZ	**Urewera**	**6.16**	**32**	PN	**Pn**	**15 31 19.3**	**-1.7**		
URZ				AML	AML	15 32 30.5			
URZ				AML	AML	15 32 38.9			
MWZ	**Matawai**	**6.26**	**35**	PN	**Pn**	**15 31 20.9**	**-1.5**		
MWZ				AML	AML	15 32 32.7			
MWZ				AML	AML	15 32 35.7			
TKGZ	**Te Karaka**	**6.31**	**38**	AML	AML	15 32 35.7			
TKGZ				AML	AML	15 32 40.6			
CNGZ	**Carnagh Statio**	**6.44**	**40**	PN	**Pn**	**15 31 25.2**	**+0.4**		
TWGZ	**Tauwhareparae**	**6.59**	**37**	AML	AML	15 32 45.9			
TWGZ				AML	AML	15 32 47.1			
AWAZ	**Awhitu Peninsu**	**6.62**	**12**	PN	**Pn**	**15 31 28.3**	**+1.0**		
KBAZ	**Karaka Road Bo**	**6.62**	**14**	PN	**Pn**	**15 31 28.5**	**+1.1**		
RUGZ	**Raukumara Rang**	**6.64**	**34**	PN	**Pn**	**15 31 26.7**	**-1.0**		
MKAZ	**Moumakai**	**6.67**	**15**	PN	**Pn**	**15 31 28.0**	**+0.1**		
MKAZ				AML	AML	15 33 52.5			
MKAZ				AML	AML	15 34 23.5			
WTAZ	**Waiatarua**	**6.73**	**11**	PN	**Pn**	**15 31 30.2**	**+1.3**		
ETAZ	**East Tamaki Re**	**6.77**	**14**	⇑PN	**Pn**	**15 31 30.1**	**+0.8**		
PUZ	**Puketiti**	**6.80**	**38**	PN	**Pn**	**15 31 27.5**	**-2.3**		
PUZ				AML	AML	15 32 50.1			
PUZ				AML	AML	15 32 52.1			
HAZ	**Te Kaha**	**6.86**	**34**	PN	**Pn**	**15 31 29.6**	**-1.0**		
HAZ				AML	AML	15 32 49.7			
HAZ				AML	AML	15 32 59.6			
PKGZ	**Pakihiroa**	**6.87**	**36**	PN	**Pn**	**15 31 29.3**	**-1.5**		
WIAZ	**Waiheke Island**	**6.96**	**15**	PN	**Pn**	**15 31 32.7**	**+0.6**		
WIAZ				AML	AML	15 31 45.8			
WIAZ				AML	AML	15 33 14.7			
WMGZ	**Waiomatatini S**	**7.08**	**38**	PN	**Pn**	**15 31 31.7**	**-1.9**		
WMGZ				AML	AML	15 32 54.9			
WMGZ				AML	AML	15 32 55.0			
ABAZ	**Army Bay**	**7.10**	**12**	PN	**Pn**	**15 31 34.7**	**+0.8**		
KUZ	**Kuaotunu**	**7.13**	**18**	PN	**Pn**	**15 31 34.1**	**-0.2**		
KUZ				AML	AML	15 34 14.5			
KUZ				AML	AML	15 34 16.3			
MXZ	**Matakaoa Point**	**7.24**	**36**	*e*Pn	**Pn**	**15 31 34.8**	**-1.1**		
MXZ	**Matakaoa Point**	**7.24**	**36**	PN	**Pn**	**15 31 34.9**	**-1.0**		
MXZ				AML	AML	15 33 06.2			
MXZ				AML	AML	15 33 07.1			
WCZ	**Waipu Caves**	**7.69**	**8**	PN	**Pn**	**15 31 43.4**	**+1.5**		
OUZ	**Omahuta**	**8.34**	**4**	*e*Pn	**Pn**	**15 31 52.0**	**+1.0**		
OUZ	**Omahuta**	**8.34**	**4**	PN	**Pn**	**15 31 52.2**	**+1.3**		
RAO	**Raoul Island**	**16.04**	**30**	LR	LR	15 39 39.2			
	comp=Z,460nm,21.5s,baz=184,slow=37								
DZM	**Mont Dzumac**	**22.10**	**344**	LR	LR	15 42 48.4			
	comp=Z,392nm,18.4s,baz=172,slow=36								
STKA	**Stephens Creek**	**27.25**	**285**	P	**P**	**15 35 34.6**	**+0.1**		
	3.0nm,0.9s,baz=119,slow=10,SNR=2.7								
STKA				LR	LR	15 44 30.2			
	comp=Z,191nm,21.3s,baz=147,slow=32								
VNDA	**Vanda**	**34.37**	**184**	LR	LR	15 48 07.6			
	comp=Z,107nm,21.3s,baz=15,slow=32								
AS01	**Alice Springs**	**37.62**	**289**	*e*P	**P**	**15 37 05.8**	**+0.5**		
AS31	**Alice Springs**	**37.66**	**289**	*e*P	**P**	**15 37 05.2**	**-0.3**		
	2.2nm,0.9s								
ASAR	**Alice Springs**	**37.66**	**289**	P	**P**	**15 37 05.4**	**-0.1**		
	6.4nm,1.0s,baz=129,slow=7.8,SNR=30								
ASAR				LR	LR	15 51 40.5			
	comp=Z,188nm,19.8s,baz=136,slow=35								
WB2	**Warramunga Arr**	**39.89**	**294**	*e*P	**P**	**15 37 24.6**	**+0.4**		
	19nm,1.4s								
WRAB	**Tennant Creek**	**39.90**	**294**	*e*P	**P**	**15 37 24.2**	**-0.1**		
	21nm,1.4s								
WRA	**Warramunga Arr**	**39.90**	**294**	P	**P**	**15 37 24.1**	**-0.2**		
	5.7nm,1.1s,baz=134,slow=7.8,SNR=25								
FITZ	**Fitzroy Crossi**	**47.09**	**287**	P	**P**	**15 38 23.2**	**+0.9**		
	2.6nm,1.0s,baz=124,slow=8.7,SNR=4.8								
FITZ	**Fitzroy Crossi**	**47.09**	**287**	*e*P	**P**	**15 38 22.9**	**+0.6**		
	3.9nm,1.0s								
MTN	**Manton Dam**	**47.16**	**297**	*e*P	**P**	**15 38 24.3**	**+1.5**		
	21nm,1.4s								
MANU	**Manus Island**	**47.19**	**324**	*e*P	**P**	**15 38 20.6**	**-2.4**		
	42nm,0.6s								
MAW	**Mawson**	**57.41**	**205**	LR	LR	16 03 12.1			
	comp=Z,97nm,20.9s,baz=75,slow=35								
PLCA	**Paso Flores**	**78.47**	**136**	LR	LR	16 08 48.6			
	comp=Z,68nm,18.8s,baz=286,slow=30								
CMAR	**Chiang Mai Arr**	**91.49**	**294**	LR	LR	16 28 59.4			
	comp=Z,49nm,18.5s,baz=344,slow=39								
CPUP	**Villa Florida**	**96.54**	**136**	LR	LR	16 19 08.0			
	comp=Z,44nm,19.4s,baz=311,slow=31								
HHC	**Hu-ho-tao-te**	**100.57**	**317**	*e*P	**Pdif**	**15 43 40.5**	**+2.7**		
KSH	**Kashi**	**120.24**	**297**	*e*PKP	**PKPdf**	**15 48 45.6**	**+4.4**		
TORD	**Torodi Ar. Bea**	**148.77**	**197**	PKPbc	**PKPbc**	**15 49 40.1**	**+1.9**		
	1.3nm,0.6s,baz=174,slow=2.2,SNR=8.0								
ARCES	**ARCESS Array B**	**149.13**	**338**	PKPbc	**PKPbc**	**15 49 38.3**	**+0.8**		
	2.3nm,0.8s,baz=56,slow=1.6,SNR=6.0								
BRTR	**Keskin Array B**	**149.57**	**277**	PKPbc	**PKPbc**	**15 49 40.2**	**+0.5**		
	1

DNP				S	Sn	16 30 00.4	+1.8
SRBI	**Singaraja**	**2.17**	**315**	P	Pn	16 29 42.3	+0.7
JAGI	**Jajag, Banyuwa**	**2.83**	**294**	P	Pn	16 29 49.6	-1.0
ABJI	**Asem Bagus**	**3.09**	**306**	P	Pn	16 29 54.7	+0.5
WSI	**Waingapu**	**3.48**	**91**	P	Pn	16 29 58.4	-1.1
GMJI	**Gumukmas**	**3.55**	**292**	P	Pn	16 29 59.2	-1.2
BLJI	**Banyuglugur**	**3.65**	**300**	P	Pn	16 30 01.8	-0.1

MEX 01 16:33:59.4±0.4, 16°39N×96°04W, h60km±7km, MD3.8, Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HUIG	**Huatulco**	**0.62**	**186**	*eP*	Pn	16 34 11.3	-1.5
HUIG				*i* S	Sn	16 34 20.7	-1.7
PANG	**Puerto Angel**	**0.83**	**210**	*i* P	Pn	16 34 13.6	-1.7
PANG				*i* S	Sn	16 34 24.9	-2.0
OXBJ	**Oaxaca**	**0.94**	**316**	*i* P	Pn	16 34 14.5	-2.4
OXBJ				*i* S	Sn	16 34 27.2	-2.5
VHO	**Vista Hermosa**	**0.95**	**316**	*eP*	Pn	16 34 15.2	-1.8
VHO				*i* S	Sn	16 34 28.4	-1.6
PNIG	**Pinotepa**	**2.00**	**270**	*i* P	Pn	16 34 29.6	-1.4
PNIG				*eS*	Sn	16 34 53.0	-2.0

JMA 01 16:43:00.2±0.2, 38°43N×142°23E, h36km±3km, M3.6, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIO	**Ouri**	**0.69**	**272**	P	Pn	16 43 13.4	-0.1
JIO				S	Sn	16 43 22.5	-0.5
OFUJ	**Ofunato**	**0.78**	**326**	P	Pn	16 43 14.9	+0.2
OFUJ				S	Sn	16 43 25.1	-0.1
JMK	**Ichinoseki**	**0.95**	**304**	P	Pn	16 43 17.4	+0.5
JOU	**Okura**	**1.23**	**267**	P	Pn	16 43 21.6	+0.7
JMM	**Marumori**	**1.27**	**244**	*eS*	Sn	16 43 36.8	-0.2
JOM	**Ohasama**	**1.27**	**325**	P	Pn	16 43 22.4	+1.0
JFK	**Kawauchi**	**1.51**	**226**	P	Pn	16 43 24.3	-0.4
JYK	**Kaneyama**	**1.54**	**289**	P	Pn	16 43 26.2	+1.1
JYS	**Shirataka**	**1.71**	**264**	P	Pn	16 43 28.3	+0.8

*NNC **01** 16:45:02.4±2.3, 42°15N×73°27E, h0km, mb3.4, mpv3.3, Error ellipse: s-maj=24.8km s-min=7.0km az=0.0*
*SOME **01** 16:45:02.2, 42°12N×73°32E, h10km*
*KRNET **01** 16:45:02.1±0.1, 42°15N×73°28E, h5km, mb2.9*
ISC 01 16:45:01.5±1.2, 42°10N±0°04×73°27E±0°02, h4km±11km, n27, σ0s89/41, 18C-13D, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MRKS	**Merke** 160nm,0.1s	**0.65**	**357**	⇓*iP*	**Pg**	**16 45 14.1**	**+0.1**
MRKS				⇑*iS*	**Sg**	**16 45 22.3**	**-0.1**
MNAS	**Manas** baz=301	**0.69**	**305**	⇑*iP*	**Pg**	**16 45 15.5**	**+0.8**
MNAS				⇑*iS*	**Sb**	**16 45 25.0**	**-1.1**
MNAS	**Manas** 15nm,0.2s	**0.69**	**305**	⇓P	**Pg**	**16 45 15.4**	**+0.8**
MNAS				⇑S	**Sb**	**16 45 24.8**	**-1.3**
ARSB	**Arslanbob** baz=196	**0.80**	**195**	⇑*iP*	**Pb**	**16 45 18.9**	**+0.9**
ARSB				⇑*iS*	**Sn**	**16 45 31.1**	**-1.0**
ARK	**Arkit** baz=250	**1.01**	**253**	⇑*iP*	**Pn**	**16 45 22.4**	**-0.3**
ARK				⇑*iS*	**Sn**	**16 45 37.1**	**-0.4**
AAK	**Ala-Archa** 12nm,0.4s	**1.06**	**59**	⇓P	**Pg**	**16 45 21.3**	**-0.5**
AAK				⇑S	**Sg**	**16 45 35.0**	**-0.5**
FRU1	**Bishkek** baz=56	**1.24**	**54**	⇑*iP*	**Pg**	**16 45 25.3**	**+0.1**
FRU1				⇑*iS*	**Sn**	**16 45 42.6**	**-0.3**
TKM2	**Tokmak 2** 11nm,0.4s	**1.91**	**64**	⇓Pg	**Pb**	**16 45 36.8**	**-0.2**
TKM2				⇓Lg	Lg	16 46 03.9	
BOOM	**Boomskoye usch** baz=79	**2.02**	**78**	⇓*iP*	**Pb**	**16 45 39.2**	**+0.3**
BOOM				⇓*iS*	**Sg**	**16 46 06.2**	**-0.3**
NRN	**Naryn** baz=109	**2.15**	**107**	⇑*iP*	**Pb**	**16 45 41.6**	**+0.4**
NRN				⇑*iS*	**Sg**	**16 46 09.8**	**-0.7**
DGS	**Degeres** 26nm,0.4s	**2.18**	**57**	*eP*	**Pb**	**16 45 41.6**	**+0.1**
DGS				*eS*	**Sb**	**16 46 09.5**	**+0.6**
KST	**Kastek** 9.4nm,0.3s	**2.21**	**64**	*eP*	**Pb**	**16 45 42.4**	**+0.3**
KST				*eS*	**Sg**	**16 46 11.0**	**-1.4**
KK31	**Karatay Array** 3.5nm,0.4s,baz=115,slow=16,SNR=57	**2.27**	**297**	⇑Pg	**Pb**	**16 45 43.6**	**+0.6**
KK31	9.4nm,0.3s,baz=118,slow=29,SNR=14			⇑Lg	Lg	16 46 15.2	
IUG	**Iuzhnay** 60nm,0.2s	**2.41**	**272**	*eP*	**Pg**	**16 45 47.5**	**0.0**
IUG	105nm,0.6s			*eS*	**Sg**	**16 46 19.5**	**+0.8**
MTBS	**Maitube** 18nm,0.3s	**2.56**	**65**	*eP*	**Pb**	**16 45 48.4**	**+0.5**
MTBS	30nm,0.3s			*eS*	**Sb**	**16 46 20.9**	**+1.1**
IZV	**Izvestkoviy** 45nm,0.3s	**2.65**	**68**	*eP*	**Pb**	**16 45 49.5**	**-0.1**
IZV	39nm,0.2s			*eS*	**Sb**	**16 46 23.4**	**+0.9**
BTK	**Batken** baz=223	**2.75**	**223**	⇓*iP*	**Pb**	**16 45 50.8**	**-0.5**
BTK				⇓*iS*	**Sb**	**16 46 26.0**	**+0.6**
TNSS	**Tian-Shan** 17nm,0.5s	**2.88**	**70**	*eP*	**Pb**	**16 45 53.9**	**+0.3**
TNSS	22nm,0.4s			*eS*	**Sb**	**16 46 31.1**	**+1.7**
KUU	**Kurty** 9.8nm,0.3s	**2.88**	**50**	*eP*	**Pb**	**16 45 53.2**	**-0.3**
KUU	34nm,0.4s			*eS*	**Sb**	**16 46 30.3**	**+1.1**
AAA	**Alma-Ata** 37nm,0.2s	**2.91**	**66**	*eP*	**Pb**	**16 45 55.4**	**+1.3**
AAA	94nm,0.1s			*eS*	**Sg**	**16 46 32.9**	**-2.2**
KNDC	**Almaty** 8.4nm,0.2s	**2.95**	**66**	⇑Pn	**Pb**	**16 45 56.0**	**+1.3**
KNDC	22nm,0.5s			⇑Lg	Lg	16 46 34.7	
MDOK	**Medeo**	**2.99**	**68**	⇑Lg	Lg	16 46 35.4	
CHKK	**Chushkaly** 7.1nm,0.3s	**3.25**	**56**	*eP*	**Pb**	**16 46 00.4**	**+0.6**
CHKK	61nm,0.4s			*eS*	**Sb**	**16 46 41.1**	**+1.4**
PDGK	**Podgornoye** 4.2nm,0.6s	**4.75**	**73**	⇓Lg	Lg	16 47 32.7	
MK31	**Makanchi Array** 2.6nm,0.7s	**7.98**	**51**	⇓Lg	Lg	16 49 14.8	
KURBB	**Kurchatov Arra** 6.3nm,0.6s	**9.27**	**21**	⇓Lg	Lg	16 49 54.0	
KURK	**Kurchatov** 4.6nm,0.8s	**9.38**	**21**	⇓Lg	Lg	16 49 54.7	

*CSEM **01** 17:00:35.6±0.4, 37°66N×36°02E, h15km, ML2.7, Error ellipse: s-maj=8.8km s-min=6.0km az=129.0*
*DDA **01** 17:00:36.7, 37°56N×36°21E, h26km, Ml2.7*
*ISK **01** 17:00:37.6, 37°44N×36°07E, h3km, MD2.8*
ISC 01 17:00:37.6±0.9, 37°50N±0°04×36°11E±0°02, h10km±7km, n19, σ0s56/29, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ANDN	**Andirin**	**0.20**	**65**	*i* P	**Pg**	**17 00 41.5**	**-0.4**
ANDN				*i* S	**Sg**	**17 00 45.4**	**+0.6**
ANDN	**Andirin**	**0.20**	**65**	P	**Pg**	**17 00 41.5**	**-0.4**
ANDN				S	**Sg**	**17 00 45.4**	**+0.6**
KOZT	**Kozan**	**0.23**	**266**	*ePG*	**Pg**	**17 00 41.9**	**-0.5**
KOZT				*eSG*	**Sg**	**17 00 45.8**	**+0.3**
KOZT	**Kozan**	**0.23**	**266**	*ePg*	**Pg**	**17 00 41.9**	**-0.5**
KOZT				*eSg*	**Sg**	**17 00 45.8**	**+0.3**
AKO	**Adana**	**0.53**	**267**	*i* P	**Pb**	**17 00 49.3**	**+0.1**
KAMA	**Osmaniye**	**0.54**	**125**	*i* P	**Pg**	**17 00 47.2**	**-0.9**
KAMA				*i* S	**Sg**	**17 00 55.8**	**+0.5**
CEYT	**Ceyhan**	**0.57**	**211**	*ePG*	**Pg**	**17 00 48.5**	**-0.1**
CEYT	**Ceyhan**	**0.57**	**211**	*ePg*	**Pg**	**17 00 48.5**	**-0.1**
KMRS	**Kahramanmaras**	**0.62**	**89**	*ePG*	**Pb**	**17 00 50.6**	**-0.1**
KMRS	**Kahramanmaras**	**0.62**	**89**	*ePg*	**Pb**	**17 00 50.6**	**-0.1**
YAHY	**KAYSERI_Yahyal**	**0.84**	**315**	*i* S	**Sn**	**17 01 07.4**	**-0.9**
YAHY	**KAYSERI_Yahyal**	**0.84**	**315**	S	**Sn**	**17 01 07.4**	**-0.9**
GAZ	**Gaziantep**	**0.93**	**110**	*ePG*	**Pn**	**17 00 57.1**	**+0.1**
GAZ				*eSG*	**Sn**	**17 01 09.8**	**-0.6**
GAZ	**Gaziantep**	**0.93**	**110**	*ePg*	**Pn**	**17 00 57.1**	**+0.1**
GAZ				*eSg*	**Sn**	**17 01 09.8**	**-0.6**
SARI	**SarD1z-Kayseri**	**0.94**	**15**	*ePG*	**Pn**	**17 00 57.6**	**+0.5**
SARI				*eSG*	**Sn**	**17 01 12.1**	**+1.3**
KUZU	**Kuzuini**	**1.05**	**133**	*i* P	**Pn**	**17 00 58.5**	**-0.1**
KUZU				*i* S	**Sn**	**17 01 13.9**	**+0.5**
KUZU	**Kuzuini**	**1.05**	**133**	P	**Pn**	**17 00 58.5**	**-0.1**
KUZU				S	**Sn**	**17 01 13.9**	**+0.5**
TAHT	**Tahtakopru-Hat**	**1.12**	**177**	*ePG*	**Pg**	**17 00 59.0**	**-0.1**
TAHT	**Tahtakopru-Hat**	**1.12**	**177**	*ePg*	**Pg**	**17 00 59.0**	**-0.1**

*NIED **01** 17:10:00, 38°40N×142°20E, h59km, Mw4.1 Best double couple: M0 1.43000×10^15 NP1:φs 105.00000°, δ45.00000°, λ57.00000°. NP2:φs 328.00000°, δ53.00000°, λ118.00000°.*
*IDC **01** 17:10:47.9±9.0, 38°59N×142°74E, h0km, mb3.6/2, mb1 3.7/3, mb1mx3.3/36, mbtmp3.4/3, ML2.8/1, Error ellipse: s-maj=195.6km s-min=44.3km az=174.0*
*ISCJB **01** 17:10:51.8±1.6, 38°42N±0°05×142°28E±0°09, h30km±8km, mb3.7/2, Error ellipse: s-maj=12.4km s-min=7.9km az=7.4*
*JMA **01** 17:10:53.3±0.2, 38°45N×142°22E, h31km±3km, M3.8*
ISC 01 17:10:53.1±3.4, 38°45N±0°06×142°2E±0°1, h26km±21km, n16, σ1s38/16, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIO	**Ouri**	**0.68**	**271**	P	**Pn**	**17 11 06.3**	**-0.6**
JIO				*eS*	**Sb**	**17 11 15.2**	**-0.1**
OFUJ	**Ofunato**	**0.76**	**326**	*eS*	**Sn**	**17 11 17.7**	**-1.0**
JMK	**Ichinoseki**	**0.92**	**303**	P	**Pn**	**17 11 10.3**	**0.0**
JMK				*eS*	**Sn**	**17 11 22.6**	**-0.1**
MIYJ	**Miyakonagasawa**	**1.17**	**345**	*eS*	**Sn**	**17 11 28.1**	**-0.7**
JOU	**Okura**	**1.22**	**267**	P	**Pn**	**17 11 14.8**	**+0.4**
JOU				*eS*	**Sn**	**17 11 30.5**	**+0.5**
JMM	**Marumori**	**1.26**	**243**	P	**Pn**	**17 11 14.4**	**-0.5**
JMM				*eS*	**Sn**	**17 11 30.3**	**-0.7**
JFK	**Kawauchi**	**1.51**	**225**	P	**Pn**	**17 11 17.6**	**-0.9**
JFK				*eS*	**Sn**	**17 11 35.2**	**-2.1**
MJAR	**Matsushiro Arr** 0.6nm,0.3s,baz=58,slow=11,SNR=5.7	**3.71**	**240**	Pn	**Pn**	**17 11 52.4**	**+3.8**
MJAR	0.5nm,0.3s,baz=126,slow=17,SNR=3.1			Sn	**Sb**	**17 12 41.7**	**-0.6**
H11N2	**WAKE ISLAND Hy** baz=317,slow=75	**28.37**	**124**	T	T	17 46 30.1	
H11N1	**WAKE ISLAND Hy** baz=317	**28.38**	**124**	T	T	17 46 30.6	
H11N3	**WAKE ISLAND Hy** baz=317,slow=75	**28.39**	**124**	T	T	17 46 34.9	
H11S1	**WAKE ISLAND Hy** baz=319	**29.14**	**126**	T	T	17 47 28.4	
H11S3	**WAKE ISLAND Hy** baz=318	**29.14**	**126**	T	T	17 47 27.9	
H11S2	**WAKE ISLAND Hy** baz=318	**29.16**	**126**	T	T	17 47 29.9	
WRA	**Warramunga Arr** 0.7nm,0.8s,baz=6.8,slow=7.1,SNR=6.8	**58.55**	**189**	P	**P**	**17 20 47.3**	**-0.1**
ASAR	**Alice Springs** 0.4nm,0.7s,baz=10,slow=6.0,SNR=7.4	**62.28**	**189**	P	**P**	**17 21 13.3**	**+0.5**

JMA 01 17:10:54.3±0.1, 38°93N×142°50E, h42km±2km, M3.2, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OFUJ	**Ofunato**	**0.67**	**283**	*eS*	Sn	17 11 16.8	+0.2
MIYJ	**Miyakonagasawa**	**0.83**	**321**	P	Pn	17 11 09.6	0.0
JTH	**Tanohata**	**1.12**	**334**	P	Pn	17 11 14.0	+0.5
JKZ	**Kuzumaki**	**1.39**	**320**	P	Pn	17 11 18.1	+0.8

*NIED **01** 17:26:00, 37°30N×142°40E, h11km, Mw3.6 Best double couple: M0 3.30000×10^14 NP1:φs 235.00000°, δ55.00000°, λ-43.00000°. NP2:φs 353.00000°, δ56.00000°, λ-136.00000°.*
*IDC **01** 17:26:10.4±1.1, 37°05N×142°59E, h0km, mb3.6/5, mb1 3.8/6, mb1mx3.6/30, mbtmp3.5/6, ML3.3/1, MS3.0/2, Ms1 3.0/2, ms1mx2.6/35, Error ellipse: s-maj=32.4km s-min=25.7km az=114.0*
*JMA **01** 17:26:11.9±0.2, 37°26N×142°35E, h9km±3km, M3.8*
ISC 01 17:26:10.8±2.4, 37°11N±0°07×142°24E±0°08, h5km±13km, n21, σ1s12/21, mb3.6/5, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JFK	**Kawauchi**	**1.12**	**284**	P	**Pn**	**17 26 34.1**	**+0.9**
JFK				*eS*	**Sn**	**17 26 49.6**	**+0.7**
JMM	**Marumori**	**1.38**	**304**	P	**Pb**	**17 26 37.1**	**+0.1**
JMM				*eS*	**Sg**	**17 26 54.8**	**-0.3**
JIO	**Ouri**	**1.52**	**332**	P	**Pn**	**17 26 37.8**	**-0.8**
JIO				*eS*	**Sn**	**17 26 56.3**	**-2.4**
JFT	**Otama**	**1.57**	**286**	P	**Pg**	**17 26 41.4**	**+0.4**
JFT				*eS*	**Sg**	**17 27 02.4**	**+1.0**
JOU	**Okura**	**1.77**	**316**	P	**Pb**	**17 26 43.0**	**-0.7**
JOU				*eS*	**Sn**	**17 27 04.6**	**-0.4**
JYS	**Shirataka**	**2.05**	**303**	P	**Pb**	**17 26 48.1**	**-0.4**
JYK	**Kaneyama**	**2.34**	**321**	P	**Pn**	**17 26 50.7**	**+0.8**
MJAR	**Matsushiro Arr** 2.8nm,0.3s,baz=84,slow=15,SNR=24	**3.29**	**261**	Pn	**Pb**	**17 27 08.0**	**-1.6**
MJAR	3.6nm,0.3s,baz=199,slow=26,SNR=5.3			Sn	**Sg**	**17 27 55.7**	**-0.7**
MAT	**Matsushiro**	**3.29**	**261**	P	**Pb**	**17 27 08.0**	**-1.6**
MAT				*eS*	**Sb**	**17 27 48.7**	**-1.2**
YAK	**Yakutsk** comp=Z,21nm,21.2s,baz=353,slow=39	**26.14**	**347**	LR	LR	17 43 21.1	
H11N2	**WAKE ISLAND Hy** baz=315,slow=75,SNR=15	**27.62**	**122**	T	T	18 00 51.5	
H11N1	**WAKE ISLAND Hy** baz=315,slow=75,SNR=9.7	**27.63**	**122**	T	T	18 00 49.8	
H11N3	**WAKE ISLAND Hy** baz=315,slow=75,SNR=10.0	**27.64**	**122**	T	T	18 00 53.6	
SONM	**Songino Array** 0.6nm,0.7s,baz=95,slow=9.1,SNR=3.7	**28.29**	**304**	P	**P**	**17 32 07.1**	**+1.9**
H11S1	**WAKE ISLAND Hy** baz=317,slow=76,SNR=8.9	**28.35**	**124**	T	T	18 01 46.3	
H11S3	**WAKE ISLAND Hy** baz=317,slow=76,SNR=8.1	**28.35**	**124**	T	T	18 01 44.8	
H11S2	**WAKE ISLAND Hy** baz=317,slow=76,SNR=9.9	**28.36**	**124**	T	T	18 01 46.0	
ILAR	**Eielson Array** 0.4nm,0.8s,baz=266,slow=7.1,SNR=4.2	**49.08**	**32**	P	**P**	**17 34 58.3**	**-0.2**
WRA	**Warramunga Arr** 0.5nm,0.9s,baz=5.9,slow=7.2,SNR=7.8	**57.23**	**189**	P	**P**	**17 35 58.8**	**-0.3**
ASAR	**Alice Springs** 0.5nm,0.8s,baz=3.8,slow=6.6,SNR=7.4	**60.96**	**189**	P	**P**	**17 36 25.4**	**+0.6**
ASAR	comp=Z,21nm,22.0s,baz=45,slow=34			LR	LR	18 01 00.9	
TXAR	**Lajitas Array** 0.2nm,0.6s,baz=318,slow=3.9,SNR=4.1	**89.55**	**53**	P	**P**	**17 39 09.4**	**-0.2**

*IDC **01** 17:36:55.9±7.7, 1°32S×77°50W, h301km±74km, mb3.3/2, mb1 3.2/4, mb1mx3.0/28, mbtmp3.8/4, Error ellipse: s-maj=46.2km s-min=40.2km az=131.0*
ISC 01 17:36:44.4±1.2, 1°4S±0°1×77°6W±0°1, h181km, n10, σ2s98/10, Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TUMC	**Tumaco**	**3.34**	**341**	*eP*	**Pn**	**17 37 40.7**	**+3.4**
GRGC	**Isla de Gorgon**	**4.36**	**353**	*eP*	**Pn**	**17 37 52.5**	**+2.4**
SJAC	**San Juan de Ar**	**5.87**	**39**	*eP*	**Pn**	**17 38 12.3**	**+2.5**
NORC	**Norcasia**	**7.39**	**22**	*eP*	**Pn**	**17 38 29.0**	**-0.8**
ZARC	**Zaragoza, Cauc**	**9.20**	**17**	*eP*	**Pn**	**17 38 53.2**	**-0.3**
LPAZ	**La Paz** 0.1nm,0.3s,baz=334,slow=12,SNR=2.5	**17.54**	**148**	P	**Pn**	**17 40 41.5**	**+2.8**
PTGA	**Pitinga** 0.3nm,0.3s,baz=270,slow=19,SNR=3.9	**17.65**	**88**	P	**P**	**17 40 39.7**	**+1.9**
TORD	**Torodi Ar. Bea** 0.5nm,0.4s,baz=279,slow=6.0,SNR=12	**79.90**	**76**	P	**P**	**17 48 32.1**	**-1.6**
ILAR	**Eielson Array** 0.7nm,0.5s,baz=100,slow=5.0,SNR=4.3	**82.50**	**336**	P	**P**	**17 48 45.5**	**-1.0**
WRA	**Warramunga Arr** 0.4nm,0.6s,baz=125,slow=2.8,SNR=4.1	**142.20**	**234**	PKP	**PKPdf**	**17 55 51.3**	**-4.8**

*JMA **01** 17:43:39.8±0.1, 24°95N×121°81E, h141km±1km, M3.5*
*TAP **01** 17:43:39.9, 25°03N×121°84E, h144km, ML4.2, B*
*ISCJB **01** 17:43:40.0±0.5, 25°00N±0°03×121°87E±0°02, h139km±3km, Error ellipse: s-maj=5.5km s-min=2.6km az=154.4*
ISC 01 17:43:39.7±1.5, 25°02N±0°06×121°85E±0°03, h146km±7km, n71, σ0s58/132, 15D, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NWF	**Wu-fen Shan** baz=313	**0.08**	**308**	⇓*iP*	**Pn**	**17 43 59.4**	**0.0**
NWF	baz=313			*eS*	**Sn**	**17 44 14.0**	**-0.3**
TWB1	**Santiao Chiao** baz=115	**0.13**	**96**	⇓*iP*	**Pn**	**17 43 59.6**	**+0.3**
TWB1	baz=115			S	**Sn**	**17 44 13.7**	**-0.4**
EGS	baz=138	**0.19**	**157**	P	**Pn**	**17 43 59.5**	**+0.1**
EGS	baz=138			*eS*	**Sn**	**17 44 14.8**	**+0.4**
TWA	**Mucha** baz=267	**0.24**	**260**	P	**Pn**	**17 43 59.8**	**+0.3**
TWA	baz=267			S	**Sn**	**17 44 14.3**	**-0.3**
ILA	**Ilan** baz=187	**0.27**	**200**	P	**Pn**	**17 44 00.1**	**+0.5**
ILA	baz=187			*eS*	**Sn**	**17 44 15.3**	**+0.6**
TAP1	**Taipei** baz=266	**0.30**	**273**	⇓*iP*	**Pn**	**17 43 59.8**	**+0.2**
TAP1	baz=266			S	**Sn**	**17 44 14.4**	**-0.3**
TAP	**Taipei** baz=266	**0.31**	**273**	P	**Pn**	**17 43 59.8**	**+0.1**
TAP	baz=266			*eS*	**Sn**	**17 44 14.1**	**-0.8**
TWY	**Chenhua** baz=329	**0.34**	**318**	⇓*iP*	**Pn**	**17 43 60.0**	**+0.2**
TWY	baz=329			S	**Sn**	**17 44 14.7**	**-0.4**
TWE	**Neicheng** baz=200	**0.34**	**209**	⇓*iP*	**Pn**	**17 44 00.2**	**+0.4**
TWE	baz=200			*eS*	**Sn**	**17 44 14.9**	**-0.2**
TWS1	**Kuangyinshan** baz=278	**0.40**	**281**	⇓P	**Pn**	**17 44 00.4**	**+0.4**
TWS1	baz=278			S	**Sn**	**17 44 15.3**	**-0.2**
TWC	**Suao** baz=165	**0.41**	**180**	⇓*iP*	**Pn**	**17 44 00.6**	**+0.5**
TWC	baz=165			*eS*	**Sn**	**17 44 15.8**	**+0.1**
ENTT	**Nioudou** baz=217	**0.46**	**214**	⇓*iP*	**Pn**	**17 44 00.6**	**+0.3**
ENTT	baz=217			S	**Sn**	**17 44 15.7**	**-0.3**
NSK	**Sanguang** baz=220	**0.56**	**233**	⇓*iP*	**Pn**	**17 44 00.9**	**-0.1**
NSK	baz=220			S	**Sn**	**17 44 15.8**	**-1.3**
ENA	**Nanau** baz=175	**0.60**	**190**	*eP*	**Pn**	**17 44 01.5**	**+0.4**
ENA	baz=175			*eS*	**Sn**	**17 44 18.0**	**+0.7**
NCU	**National Centr** baz=261	**0.60**	**265**	*i* P	**Pn**	**17 44 01.4**	**+0.3**
NCU	baz=261			S	**Sn**	**17 44 17.2**	**-0.2**
EHP	**Heping Village** baz=179	**0.71**	**188**	*eP*	**Pn**	**17 44 03.3**	**+1.5**
NNS	**Nan Shan** baz=211	**0.72**	**217**	*eP*	**Pn**	**17 44 02.4**	**+0.3**
NNS	baz=211			*eS*	**Sn**	**17 44 18.6**	**-0.4**
HSN	**Hsinchu** baz=245	**0.83**	**255**	*eP*	**Pn**	**17 44 02.5**	**-0.1**
HSN	baz=245			*eS*	**Sn**	**17 44 19.4**	**-0.6**
NSTT	**Nanjuang** baz=239	**0.86**	**243**	⇓*iP*	**Pn**	**17 44 03.1**	**+0.2**
NSTT	baz=239			S	**Sn**	**17 44 19.8**	**-0.7**
TWD	**Chiawan** baz=199	**0.97**	**194**	*eP*	**Pn**	**17 44 03.3**	**-0.4**
TWD	baz=199			*eS*	**Sn**	**17 44 21.1**	**-0.9**
TWT	**Tachien** baz=221	**0.98**	**219**	*eP*	**Pn**	**17 44 04.7**	**+0.6**
TWT	baz=221			*eS*	**Sn**	**17 44 22.6**	**0.0**
WHF	**Hehuan Shan** baz=204	**1.02**	**212**	P	**Pn**	**17 44 05.4**	**+0.7**
WHF	baz=204			*eS*	**Sn**	**17 44 23.5**	**-0.2**
HWA	**Hwalien** baz=197	**1.06**	**192**	P	**Pn**	**17 44 04.5**	**-0.1**
HWA	baz=197			S	**Sn**	**17 44 23.5**	**-0.1**
JYNG	**Yonagunijimaku**	**1.15**	**119**	P	**Pn**	**17 44 05.4**	**+0.1**
JYNG				*eS*	**Sn**	**17 44 24.5**	**-0.4**
NSY	**Sanyi** baz=240	**1.16**	**239**	P	**Pn**	**17 44 06.1**	**+0.6**
NSY	baz=240			*eS*	**Sn**	**17 44 25.0**	**-0.1**
YOJ	**Yonaguni jima**	**1.19**	**118**	P	**Pn**	**17 44 05.9**	**+0.1**
YOJ				*eS*	**Sn**	**17 44 25.7**	**0.0**
ESL	**Shilin** baz=192	**1.26**	**198**	*eP*	**Pn**	**17 44 05.5**	**-1.0**
TEGC	**Jichi Village** baz=190	**1.34**	**192**	*eP*	**Pn**	**17 44 07.7**	**+0.5**
TCU	**Taichung** baz=223	**1.38**	**231**	*eP*	**Pn**	**17 44 08.4**	**+0.8**
TCU	baz=223			*eS*	**Sn**	**17 44 28.9**	**-0.1**
SMLT	**Sun Moon Lake** baz=215	**1.43**	**218**	⇓P	**Pn**	**17 44 08.8**	**+0.5**
SMLT	baz=215			*eS*	**Sn**	**17 44 30.2**	**+0.1**
TYC	**Yuchr** baz=224	**1.43**	**219**	⇓P	**Pn**	**17 44 08.7**	**+0.5**
TYC	baz=224			S	**Sn**	**17 44 29.9**	**0.0**
WNT	**Mingjian** baz=221	**1.56**	**223**	P	**Pn**	**17 44 10.2**	**+0.7**
WNT	baz=221			*i* S	**Sn**	**17 44 32.4**	**+0.1**
EHY	**Hungye** baz=188	**1.58**	**198**	*eP*	**Pn**	**17 44 09.3**	**-0.5**
EHY	baz=188			*eS*	**Sn**	**17 44 31.8**	**-1.1**
YUS	**Yu-Shan** baz=214	**1.73**	**208**	⇓*eP*	**Pn**	**17 44 12.8**	**+0.8**
YUS	baz=214			*eS*	**Sn**	**17 44 36.6**	**0.0**
TWF1	**Yuli** baz=189	**1.74**	**197**	*eP*	**Pn**	**17 44 11.0**	**-0.6**
WGK	**Gukeng** baz=219	**1.77**	**222**	*eP*	**Pn**	**17 44 12.6**	**+0.7**
WGK	baz=219			*eS*	**Sn**	**17 44 36.4**	**-0.2**
CHN5	**Tsauling** baz=222	**1.78**	**217**	P	**Pn**	**17 44 12.7**	**+0.6**
CHN5	baz=222			S	**Sn**	**17 44 36.6**	**-0.3**
ALS	**Alishan** baz=211	**1.78**	**213**	⇓P	**Pn**	**17 44 13.0**	**+0.6**
ALS	baz=211			*eS*	**Sn**	**17 44 37.4**	**0.0**
IRIF	**Iriomote-Funau**	**1.84**	**111**	P	**Pn**	**17 44 12.6**	**-0.1**
IRIF				*eS*	**Sn**	**17 44 37.8**	**-0.1**
CHN2	**Minshiung** baz=218	**1.94**	**221**	*eP*	**Pn**	**17 44 14.3**	**+0.5**
CHN2	baz=218			*eS*	**Sn**	**17 44 40.2**	**+0.1**
CHKT	**Chengkung** baz=185	**1.96**	**193**	*eP*	**Pn**	**17 44 14.1**	**0.0**
CHKT				*eS*	**Sn**	**17 44 39.1**	**-1.4**

baz=185
ELDTW Lidau 1.98 203 *e*P **Pn** 17 44 15.0 **+0.6**
baz=201
ELDTW *e*S **Sn** 17 44 41.0 **-0.1**
baz=201
CHY Chiayi 2.00 221 *e*P **Pn** 17 44 15.1 **+0.6**
baz=219
CHY *e*S **Sn** 17 44 41.3 **+0.1**
baz=219
CHN4 Tsaushan 2.02 215 P **Pn** 17 44 15.2 **+0.4**
baz=213
CHN4 S **Sn** 17 44 41.5 **-0.2**
baz=213
HATJ Hateruma jima 2.02 118 P **Pn** 17 44 15.5 **+0.7**
HATJ *e*S **Sn** 17 44 41.8 **+0.1**
WSF Szhu 2.03 227 P **Pn** 17 44 15.3 **+0.5**
baz=218
WSF *e*S **Sn** 17 44 41.9 **+0.1**
baz=218
STYT Tauyuan 2.10 209 P **Pn** 17 44 16.5 **+0.7**
baz=207
STYT *e*S **Sn** 17 44 43.4 **-0.2**
baz=207
JKRS Kuro-shima 2.11 111 P **Pn** 17 44 16.2 **+0.3**
JKRS S **Sn** 17 44 43.7 **+0.1**
TWK Hsinying 2.15 216 P **Pn** 17 44 16.6 **+0.3**
baz=214
TWK *e*S **Sn** 17 44 44.1 **-0.4**
baz=214
JIJ Ishigaki jima 2.19 107 P **Pn** 17 44 16.9 **+0.2**
JIJ S **Sn** 17 44 44.2 **-1.0**
CHN1 Nanshi 2.19 214 ⇓P **Pn** 17 44 17.1 **+0.3**
baz=212
CHN1 *e*S **Sn** 17 44 44.8 **-0.6**
baz=212
CHN8 Yiju 2.24 222 *e*P **Pn** 17 44 17.8 **+0.4**
baz=220
CHN8 *e*S **Sn** 17 44 46.3 **-0.1**
baz=220
SGST Jiashian 2.25 211 P **Pn** 17 44 18.3 **+0.7**
baz=214
SGST S **Sn** 17 44 46.5 **-0.2**
baz=214
JISG Ishigakijimahi 2.28 100 P **Pn** 17 44 18.2 **+0.4**
JISG S **Sn** 17 44 46.4 **-0.8**
TWG Pinlang 2.30 198 *e*P **Pn** 17 44 17.9 **-0.3**
baz=190
TWG *e*S **Sn** 17 44 46.0 **-1.8**
baz=190
CHN3 Shinhua 2.37 215 *e*P **Pn** 17 44 20.6 **+1.6**
baz=214
CHN3 *e*S **Sn** 17 44 49.7 **+0.6**
baz=214
SCLT Jiali 2.38 220 *e*P **Pn** 17 44 18.5 **-0.6**
baz=211
SCLT *e*S **Sn** 17 44 49.9 **+0.5**
baz=211
SSD Sandimen 2.52 206 P **Pn** 17 44 21.5 **+0.6**
baz=205
SSD *e*S **Sn** 17 44 52.1 **-0.6**
baz=205
PNG Penghu 2.55 236 P **Pn** 17 44 21.0 **-0.1**
baz=228
PNG *e*S **Sn** 17 44 51.9 **-1.2**
baz=228
ECL Taimali 2.55 199 *e*P **Pn** 17 44 21.5 **+0.3**
baz=192
TWM1 Shoushan 2.55 211 *e*P **Pn** 17 44 21.4 **+0.2**
baz=209
JTJ Tarama 2.62 98 P **Pn** 17 44 22.4 **+0.4**
JTJ S **Sn** 17 44 54.1 **-0.6**
EAST Anshuo 2.78 199 *e*P **Pn** 17 44 24.4 **+0.2**
baz=199
EAST *e*S **Sn** 17 44 59.0 **+0.4**
baz=199
SCZT Fangliau 2.87 203 *e*P **Pn** 17 44 25.6 **+0.4**
baz=203
SCZT *e*S **Sn** 17 45 00.1 **-0.3**
baz=203
JIRB Irabujima 3.02 93 P **Pn** 17 44 27.7 **+0.6**
JIRB S **Sn** 17 45 03.1 **-0.7**
JIKM Ikemajima 3.08 91 P **Pn** 17 44 29.0 **+1.1**
JIKM *e*S **Sn** 17 45 06.0 **+0.8**
JMJ Miyako jima 2 3.13 93 P **Pn** 17 44 30.1 **+1.6**
JOGS Gusukube 3.24 94 P **Pn** 17 44 30.9 **+1.0**
JOGS S **Sn** 17 45 08.5 **-0.3**
JKE Kume jima 2 4.64 73 P **Pn** 17 44 48.7 **+0.5**
JJT2 Tamagusuku 2 5.44 77 P **Pn** 17 44 58.6 **-0.2**
JNTH Nagotoyohara 5.76 74 P **Pn** 17 45 02.2 **-0.9**

---

*ISCJB **01** 17:54:24.1±0.6,29°.26S±0°.05×178°.7W±0°.1, h150km, mb3.7/6, Error ellipse: s-maj=14.8km s-min=6.5km az=15.1*

*IDC **01** 17:54:25.2±6.2,29°.07S×178°.63W, h151km±52km, mb3.6/6, mb1 3.8/7, mb1mx3.5/27, mbtmp4.0/7, Error ellipse: s-maj=36.7km s-min=22.5km az=56.0*

ISC 01 17:54:24.8±0.8, 29°.26S±0°.08×178°.7W±0°.1, h150km, n28, σ1s40/32, mb3.7/6, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
RAO	**Raoul Island**	**0.66**	**90**	P		**Pn**	**17 54 45.4**	**-1.6**
	58nm,0.3s,baz=76,slow=18,SNR=5.7							
RAO				S		**Sn**	**17 55 04.8**	**+0.8**
	107nm,0.3s,baz=64,slow=23,SNR=5.6							
MXZ	**Matakaoa Point**	**8.66**	**196**	*e*PN		**Pn**	**17 56 28.7**	**+1.8**
MXZ				*e*SN		**Sn**	**17 58 03.5**	**+0.4**
WMGZ	**Waiomatatini S**	**8.88**	**195**	*e*PN		**Pn**	**17 56 31.7**	**+1.9**
HAZ	**Te Kaha**	**8.98**	**198**	*e*PN		**Pn**	**17 56 33.3**	**+2.2**
HAZ				*e*SN		**Sn**	**17 58 09.9**	**-0.8**
PKGZ	**Pakihiroa**	**9.02**	**197**	*e*PN		**Pn**	**17 56 33.0**	**+1.2**
PUZ	**Puketiti**	**9.15**	**195**	PN		**Pn**	**17 56 34.4**	**+0.9**
PUZ				*e*SN		**Sn**	**17 58 13.5**	**-1.6**
MWZ	**Matawai**	**9.59**	**198**	PN		**Pn**	**17 56 39.5**	**+0.2**
URZ	**Urewera**	**9.64**	**200**	P		**Pn**	**17 56 41.4**	**+1.5**
	0.6nm,0.3s,baz=104,slow=14,SNR=5.7							
URZ				S		**Sn**	**17 58 25.7**	**-0.9**
	4.7nm,0.3s,baz=45,slow=22,SNR=13							
URZ	**Urewera**	**9.64**	**200**	*e*PN		**Pn**	**17 56 41.2**	**+1.3**
URZ				SN		**Sn**	**17 58 25.4**	**-1.2**
RIGZ	**Rimuhau**	**9.88**	**196**	PN		**Pn**	**17 56 44.4**	**+1.3**
BHHZ	**Black Hill Sta**	**11.09**	**202**	PN		**Pn**	**17 56 59.6**	**+0.4**
KAHZ	**Kahuranaki**	**11.13**	**198**	PN		**Pn**	**17 56 58.2**	**-1.5**
PXZ	**Pawanui**	**11.36**	**198**	PN		**Pn**	**17 57 00.9**	**-1.7**
PXZ				SN		Sn	17 58 58.3	-10
TSZ	**Takapari Road**	**11.64**	**201**	*e*PN		**Pn**	**17 57 05.6**	**-0.7**
MRZ	**Mangatainoka R**	**12.31**	**201**	PN		Pn	17 57 11.8	-3.2
MRZ				*e*SN		Sn	17 59 19.7	-11
THZ	**Tophouse**	**14.23**	**206**	*e*PN		**Pn**	**17 57 37.6**	**-2.0**
THZ				*e*SN		Sn	18 00 07.8	-9.4
RPZ	**Rata Peaks**	**16.61**	**207**	P		**P**	**17 58 06.6**	**-2.0**
	0.4nm,0.3s,baz=67,slow=6.0,SNR=2.6							
RPZ				S		S	18 01 00.8	-12
	1.3nm,0.3s,baz=117,slow=21,SNR=10							
STKA	**Stephens Creek**	**34.18**	**255**	P		**P**	**18 00 57.3**	**+1.4**
	1.9nm,0.8s,baz=76,slow=8.6,SNR=5.4							
ASAR	**Alice Springs**	**42.59**	**266**	P		**P**	**18 02 06.8**	**+0.5**
	1.1nm,0.6s,baz=103,slow=6.7,SNR=42							
WRA	**Warramunga Arr**	**43.48**	**271**	P		**P**	**18 02 13.7**	**+0.4**
	0.5nm,0.3s,baz=109,slow=6.1,SNR=6.7							
VNDA	**Vanda**	**49.17**	**185**	P		**P**	**18 02 59.8**	**+2.8**
	0.6nm,0.5s,baz=7.2,slow=7.2,SNR=14							
MJAR	**Matsushiro Arr**	**76.97**	**326**	P		**P**	**18 06 00.6**	**-0.2**
	1.7nm,0.8s,baz=169,slow=4.9,SNR=4.3							
PETK	**Petropavlovsk-**	**84.56**	**346**	P		**P**	**18 06 41.1**	**+0.4**
	1.7nm,0.7s,baz=102,slow=7.1,SNR=5.2							
FINES	**FINESS Array B**	**143.87**	**340**	PKP		PKPab	18 13 38.4	-0.6
	2.9nm,0.5s,baz=57,slow=3.3,SNR=29							
NOA	**NORSAR Array B**	**147.53**	**351**	PKPbc		**PKPbc**	**18 13 50.5**	**-0.2**
	0.7nm,0.7s,baz=19,slow=2.9,SNR=4.7							
AKASG	**Malin Array Be**	**150.04**	**323**	PKPbc		**PKPbc**	**18 13 56.1**	**-1.1**
	1.0nm,0.6s,baz=46,slow=1.9,SNR=3.2							
BRTR	**Keskin Array B**	**151.53**	**300**	PKPbc		**PKPbc**	**18 13 59.6**	**-1.7**
	0.3nm,0.7s,baz=32,slow=39,SNR=2.5							
TORD	**Torodi Ar. Bea**	**163.97**	**181**	PKPab		**PKPab**	**18 15 03.9**	**-0.3**
	1.7nm,0.6s,baz=177,slow=3.2,SNR=16							

---

*NIED **01** 17:56:00,37°.00N×140°.50E, h5km, Mw3.8 Best double couple: M0 5.96000×10^14 NP1:φs312.00000°, δ30.00000°, λ-94.00000°. NP2:φs137.00000°, δ60.00000°, λ-88.00000°.*

*IDC **01** 17:56:16.7±0.9,37°.01N×140°.58E, h0km, mb3.8/9, mb1 4.0/9, mb1mx3.7/42, mbtmp3.8/9, MS3.1/1, Ms1 3.1/1, ms1mx2.5/33, Error ellipse: s-maj=23.6km s-min=20.7km az=87.0*

*ISCJB **01** 17:56:18.3±0.5,36°.99N±0°.03×140°.58E±0°.04, h18km±4km, mb3.7/9, MS2.9/1, Error ellipse: s-maj=5.9km s-min=4.2km az=25.5*

*JMA **01** 17:56:18.4,36°.99N×140°.51E, h5km±1km, M3.6 Broadband fault plane solution: P waves. NP1: φs310.00000°, δ52.00000°, λ-99.00000°. NP2: φs145.00000°, δ39.00000°, λ-78.00000°. Principal axes: T Plg7.0000°, Azm47.0000°; N Plg7.0000°, Azm316.0000°; P Plg80.0000°, Azm178.0000°;*

JMA Felt II J1.

ISC 01 17:56:18.8±1.0, 36°.99N±0°.03×140°.54E±0°.03, h10km±7km, n27, σ0s93/30, mb3.8/9, 8C, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
ONAJ	**Iwakimizuishiy**	**0.24**	**62**	⇑P		**Pg**	**17 56 23.7**	**0.0**
ONAJ				*e*S		**Sg**	**17 56 27.6**	**+0.6**
JHO	**Hitachi**	**0.38**	**176**	⇑P		**Pg**	**17 56 25.8**	**-0.5**
JHO				*e*S		**Sg**	**17 56 31.6**	**+0.3**
JFK	**Kawauchi**	**0.46**	**36**	⇑P		**Pg**	**17 56 27.5**	**-0.4**
JFK				*e*S		**Sg**	**17 56 34.0**	**0.0**
JSB	**Shiboa**	**0.49**	**268**	⇑P		**Pg**	**17 56 28.3**	**-0.1**
JSB				S		**Sg**	**17 56 35.2**	**+0.3**
JFT	**Otama**	**0.55**	**343**	⇑P		**Pg**	**17 56 29.0**	**-0.5**
JFT				*e*S		**Sg**	**17 56 36.4**	**-0.4**
JFY	**Yanaizu**	**0.78**	**302**	⇑P		**Pg**	**17 56 33.1**	**-0.8**
JFY				*e*S		**Sg**	**17 56 43.1**	**-1.0**
JYT	**Yasato**	**0.81**	**200**	⇑P		**Pg**	**17 56 33.3**	**-1.1**
JYT				*e*S		**Sg**	**17 56 44.3**	**-0.6**
JMM	**Marumori**	**0.90**	**13**	⇑P		**Pg**	**17 56 35.0**	**-1.1**
JMM				*e*S		**Sg**	**17 56 46.7**	**-1.1**
MJAR	**Matsushiro Arr**	**1.92**	**257**	Pn		**Pn**	**17 56 51.9**	**+0.4**
	22nm,0.3s,baz=78,slow=14,SNR=101							
MJAR				Sn		**Sn**	**17 57 17.2**	**+1.4**
	16nm,0.3s,baz=80,slow=28,SNR=15							
MJAR				LR		LR	17 57 40.7	
	comp=Z,140nm,19.6s,baz=95,slow=44							
MAT	**Matsushiro**	**1.92**	**257**	P		**Pn**	**17 56 52.0**	**+0.4**
MAT				S		**Sb**	**17 57 18.1**	**+0.1**
USRK	**Ussuriysk Ar.**	**9.70**	**321**	Pn		**Pn**	**17 58 41.2**	**+3.0**
	0.1nm,0.3s,baz=142,slow=13,SNR=6.6							
PETK	**Petropavlovsk-**	**20.08**	**31**	LR		LR	18 08 00.8	
	comp=Z,56nm,19.9s,baz=90,slow=35							
SONM	**Songino Array**	**27.23**	**304**	P		**P**	**18 02 02.2**	**-0.7**
	1.5nm,0.8s,baz=104,slow=8.3,SNR=8.5							
H11N2	**WAKE ISLAND Hy**	**28.73**	**120**	T		T	18 32 03.9	
	baz=313,slow=75,SNR=36							
H11N1	**WAKE ISLAND Hy**	**28.74**	**120**	T		T	18 32 04.0	
	baz=313,slow=75,SNR=36							
H11N3	**WAKE ISLAND Hy**	**28.75**	**120**	T		T	18 32 11.2	
	baz=313,slow=75,SNR=33							
H11S1	**WAKE ISLAND Hy**	**29.43**	**122**	T		T	18 32 57.6	
	baz=314,slow=76,SNR=31							
H11S3	**WAKE ISLAND Hy**	**29.43**	**122**	T		T	18 32 58.9	
	baz=314,slow=76,SNR=32							
H11S2	**WAKE ISLAND Hy**	**29.45**	**122**	T		T	18 33 00.5	
	baz=314,slow=76,SNR=22							
ZALV	**Zalesovo Beam**	**41.42**	**312**	P		**P**	**18 04 04.9**	**-0.3**
	0.7nm,0.5s,baz=94,slow=6.7,SNR=3.7							
WRA	**Warramunga Arr**	**56.93**	**187**	P		**P**	**18 06 03.3**	**-0.8**
	1.6nm,0.8s,baz=6.0,slow=7.5,SNR=13							
ASAR	**Alice Springs**	**60.65**	**187**	P		**P**	**18 06 29.6**	**-0.4**
	0.7nm,0.8s,baz=9.1,slow=5.9,SNR=6.3							
FINES	**FINESS Array B**	**68.52**	**332**	P		**P**	**18 07 20.1**	**-0.9**
	3.8nm,1.1s,baz=19,slow=5.9,SNR=4.5							
NOA	**NORSAR Array B**	**73.95**	**337**	P		**P**	**18 07 52.8**	**-1.2**
	0.9nm,0.9s,baz=66,slow=8.8,SNR=3.7							
PDAR	**Pinedale Array**	**78.20**	**45**	P		**P**	**18 08 19.1**	**+0.3**
	0.2nm,0.4s,baz=296,slow=6.9,SNR=2.7							
BRTR	**Keskin Array B**	**78.35**	**311**	P		**P**	**18 08 19.9**	**+0.3**
	0.3nm,0.5s,baz=64,slow=5.0,SNR=3.4							
GERES	**GERESS Array B**	**82.38**	**328**	P		**P**	**18 08 40.4**	**-0.5**
	0.2nm,0.3s,baz=68,slow=6.5,SNR=3.0							

---

*ISCJB **01** 18:49:32.0±0.8,30°.68S±0°.09×179°.2W±0°.1, h100km, mb4.3/4, Error ellipse: s-maj=21.0km s-min=7.7km az=32.9*

*IDC **01** 18:49:32.9±1.2,30°.75S×178°.76W, h123km±14km, mb4.0/3, mb1 4.1/4, mb1mx3.6/23, mbtmp4.3/4, Error ellipse: s-maj=33.2km s-min=14.8km az=115.0*

*NEIC **01** 18:49:32.4±1.2,30°.83S×178°.74W, h123km±14km, mb4.1/1, Error ellipse: s-maj=33.1km s-min=17.2km az=113.0*

ISC 01 18:49:32.4±0.9, 30°.7S±0°.1×179°.1W±0°.2, h100km, n8, σ2s08/10, mb4.3/4, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
RAO	**Raoul Island**	**1.75**	**35**	P		**Pn**	**18 50 03.1**	**+1.3**
	142nm,0.3s,baz=75,slow=20,SNR=14							
RAO				S		**Sn**	**18 50 25.1**	**+1.0**
	229nm,0.3s,baz=232,slow=23,SNR=6.1							
URZ	**Urewera**	**8.18**	**202**	P		**Pn**	**18 51 27.3**	**-0.8**
	0.5nm,0.3s,baz=345,slow=20,SNR=3.5							
URZ				S		**Sn**	**18 53 01.2**	**+2.4**
	2.4nm,0.3s,baz=348,slow=23,SNR=12							
STKA	**Stephens Creek**	**33.52**	**258**	P		**P**	**18 56 04.3**	**+1.9**
	3.0nm,0.4s,baz=102,slow=12,SNR=18							
ASAR	**Alice Springs**	**42.18**	**268**	P		**P**	**18 57 15.2**	**-0.2**
	1.2nm,0.3s,baz=105,slow=7.3,SNR=55							
WRAB	**Tennant Creek**	**43.19**	**273**	*e*P		**P**	**18 57 23.2**	**-0.4**
	1.5nm,0.4s							
WRA	**Warramunga Arr**	**43.20**	**273**	P		**P**	**18 57 23.3**	**-0.4**
	2.4nm,0.3s,baz=110,slow=8.1,SNR=51							
FINES	**FINESS Array B**	**145.11**	**339**	PKPbc		**PKPbc**	**19 08 53.4**	**-3.6**
	0.5nm,0.3s,baz=58,slow=4.5,SNR=8.2							
TORD	**Torodi Ar. Bea**	**162.52**	**182**	PKPab		**PKPab**	**19 10 09.2**	**-2.0**
	0.4nm,0.4s,baz=167,slow=5.3,SNR=6.9							

---

*ISCJB **01** 18:58:26.5±0.5,37°.74S±0°.04×179°.92E±0°.04, h33km, mb4.8/12, MS3.8/7, Error ellipse: s-maj=5.2km s-min=5.0km az=11.1*

*WEL **01** 18:58:28.9±0.2,37°.46S×179°.80E, h33km, ML5.1/105, Error ellipse: s-maj=1.7km s-min=1.7km az=0.0*

WEL Felt between Bay of Plenty and Gisborne, maximum reported intensity MM4.

*NEIC **01** 18:58:29.2±0.0,37°.50S×179°.77E, h33km, mb5.1/4, ML5.0(WEL), After WEL.*

*GCMT **01** 18:58:29.2±0.6,37°.44S×179°.99E, h28km±1km, MW5.0/48, Moment Tensor Solution. s33,c39; s48,c64; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr=3.48±.26; Mθθ 1.94±.17; Mφφ 1.54±.15; Mtt 0.99±.29; Mrθ 1.11±.08; Mrφ -1.09±.29; Best double couple: M0 3.41100×10^16 NP1:φs247.00000°, δ48.00000°, λ-66.00000°. NP2: φs33.00000°, δ47.00000°, λ-115.00000°. Principal axes: T 2.8690, Plg1.0000°, Azm321.0000°; N 1.0850, Plg18.0000°, Azm51.0000°; P -3.9530, Plg72.0000°, Azm229.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

*IDC **01** 18:58:33.9±1.4,37°.45S×179°.39E, h65km±11km, mb4.5/10, mb1 4.6/11, mb1mx4.3/28, mbtmp4.8/11, MS3.8/8, Ms1 3.8/8, ms1mx3.5/25 Error ellipse: s-maj=17.7km s-min=10.4km az=170.0*

ISC 01 18:58:31.9±1.3, 37°.76S±0°.05×179°.62E±0°.08, h57km±9km, n277, σ2s08/270, mb4.7/12, MS3.7/7, 10C-22D, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
WMGZ	**Waiomatatini S**	**0.95**	**266**	Pn		**Pn**	**18 58 48.1**	**-1.1**
WMGZ	**Waiomatatini S**	**0.95**	**266**	⇓PN		**Pn**	**18 58 48.1**	**-1.1**
WMGZ				SN		**Sn**	**18 59 02.6**	**+0.6**
WMGZ				AML	AML		18 59 04.8	
MXZ	**Matakaoa Point**	**1.06**	**280**	Pn		**Pn**	**18 58 48.7**	**-1.9**
MXZ				Sn		**Sn**	**18 59 02.9**	**-1.5**
MXZ	**Matakaoa Point**	**1.06**	**280**	⇓PN		**Pn**	**18 58 48.7**	**-1.9**
MXZ				SN		**Sn**	**18 59 02.9**	**-1.5**
MXZ				AML	AML		18 59 04.6	
PUZ	**Puketiti**	**1.12**	**253**	Pn		**Pn**	**18 58 50.8**	**-0.7**
PUZ				Sn		**Sn**	**18 59 07.5**	**+1.5**
PUZ	**Puketiti**	**1.12**	**253**	⇑PN		**Pn**	**18 58 50.8**	**-0.7**
PUZ				SN		**Sn**	**18 59 07.5**	**+1.5**
PUZ				AML	AML		18 59 13.6	
PKGZ	**Pakihiroa**	**1.22**	**264**	PN		**Pn**	**18 58 51.8**	**-1.1**
PKGZ				SN		**Sn**	**18 59 09.4**	**+0.8**
CNGZ	**Carnagh Statio**	**1.32**	**236**	Pn		**Pn**	**18 58 54.5**	**+0.3**
CNGZ	**Carnagh Statio**	**1.32**	**236**	⇓PN		**Pn**	**18 58 54.5**	**+0.3**
CNGZ				AML	AML		18 59 19.7	
CNGZ				AML	AML		18 59 19.8	
TWGZ	**Tauwhareparae**	**1.36**	**252**	Pn		**Pn**	**18 58 54.4**	**-0.3**
TWGZ	**Tauwhareparae**	**1.36**	**252**	⇓PN		**Pn**	**18 58 54.4**	**-0.3**
TWGZ				SN		**Sn**	**18 59 14.5**	**+2.8**
TWGZ				AML	AML		18 59 15.0	
HAZ	**Te Kaha**	**1.45**	**270**	PN		**Pn**	**18 58 54.9**	**-1.0**
HAZ				AML	AML		18 59 16.5	
HAZ				AML	AML		18 59 16.6	
HAZ				AML	AML		18 59 19.0	
HAZ				AML	AML		18 59 20.5	
RUGZ	**Raukumara Rang**	**1.55**	**262**	PN		**Pn**	**18 58 56.4**	**-0.9**
RUGZ				SN		**Sn**	**18 59 18.1**	**+1.7**
TKGZ	**Te Karaka**	**1.55**	**243**	Pn		**Pn**	**18 58 57.1**	**-0.1**
TKGZ	**Te Karaka**	**1.55**	**243**	⇓PN		**Pn**	**18 58 57.1**	**-0.1**
TKGZ				SN		**Sn**	**18 59 18.9**	**+2.6**
TKGZ				AML	AML		18 59 20.3	
RIGZ	**Rimuhau**	**1.74**	**237**	⇓PN		**Pn**	**18 58 59.8**	**0.0**
RIGZ				SN		**Sn**	**18 59 24.2**	**+3.2**
RIGZ				AML	AML		18 59 26.5	
MWZ	**Matawai**	**1.74**	**250**	Pn		**Pn**	**18 58 58.7**	**-1.2**
MWZ	**Matawai**	**1.74**	**250**	PN		**Pn**	**18 58 58.7**	**-1.2**
MWZ				SN		**Sn**	**18 59 22.6**	**+1.5**
MWZ				AML	AML		18 59 23.5	
RAGZ	**Rawiri**	**1.88**	**246**	Pn		**Pn**	**18 59 01.4**	**-0.4**
RAGZ	**Rawiri**	**1.88**	**246**	⇓PN		**Pn**	**18 59 01.4**	**-0.4**
RAGZ				AML	AML		18 59 33.7	
RAGZ				AML	AML		18 59 34.1	
MHGZ	**Mahia Peninsul**	**1.93**	**223**	Pn		**Pn**	**18 59 02.3**	**-0.1**
MHGZ	**Mahia Peninsul**	**1.93**	**223**	⇓PN		**Pn**	**18 59 02.3**	**-0.1**
MHGZ				AML	AML		18 59 30.6	
MHGZ				AML	AML		18 59 36.3	
WIZ	**White Island**	**1.94**	**276**	Pn		**Pn**	**18 59 01.2**	**-1.2**
WIZ	**White Island**	**1.94**	**276**	PN		**Pn**	**18 59 01.2**	**-1.2**
WIZ				AML	AML		18 59 33.6	
WIZ				AML	AML		18 59 40.2	
KNZ	**Kokohu**	**1.98**	**230**	Pn		**Pn**	**18 59 02.6**	**-0.4**
KNZ	**Kokohu**	**1.98**	**230**	PN		**Pn**	**18 59 02.6**	**-0.4**
KNZ				AML	AML		18 59 29.6	
KNZ				AML	AML		18 59 34.0	
URZ	**Urewera**	**2.04**	**255**	P		**Pn**	**18 59 04.1**	**+0.2**
	183nm,0.3s,baz=70,slow=5.6,SNR=1007							
URZ				S		**Sn**	**18 59 29.5**	**+1.3**
	445nm,0.3s,baz=32,slow=19,SNR=7.8							
URZ	**Urewera**	**2.04**	**255**	Pn		**Pn**	**18 59 03.3**	**-0.6**
URZ				S		**Sn**	**18 59 29.5**	**+1.3**
URZ	**Urewera**	**2.04**	**255**	PN		**Pn**	**18 59 03.7**	**-0.2**
URZ				AML	AML		18 59 30.9	
URZ				AML	AML		18 59 32.0	
SNGZ	**Shannon Statio**	**2.06**	**240**	Pn		**Pn**	**18 59 03.9**	**-0.3**
SNGZ	**Shannon Statio**	**2.06**	**240**	⇓PN		**Pn**	**18 59 03.9**	**-0.3**
SNGZ				AML	AML		18 59 34.2	
SNGZ				AML	AML		18 59 37.7	
WHRZ	**Whale Island**	**2.09**	**267**	PN		**Pn**	**18 59 04.1**	**-0.5**
RTZ	**Ruatahuna**	**2.24**	**247**	PN		**Pn**	**18 59 06.6**	**-0.1**
WHHZ	**Waihua**	**2.29**	**234**	⇓PN		**Pn**	**18 59 07.0**	**-0.2**
WHHZ				AML	AML		18 59 38.1	
WHHZ				AML	AML		18 59 39.0	
EDRZ	**Edgecumbe**	**2.30**	**260**	Pn		**Pn**	**18 59 07.1**	**-0.4**
EDRZ	**Edgecumbe**	**2.30**	**260**	PN		**Pn**	**18 59 07.1**	**-0.4**
EDRZ				AML	AML		18 59 39.1	
EDRZ				AML	AML		18 59 40.9	
MARZ	**Manawahe**	**2.34**	**264**	Pn		**Pn**	**18 59 06.8**	**-1.1**
MARZ	**Manawahe**	**2.34**	**264**	PN		**Pn**	**18 59 06.8**	**-1.1**
MARZ				AML	AML		18 59 36.1	
MARZ				AML	AML		18 59 39.2	
MUGZ	**Murupara**	**2.35**	**251**	PN		**Pn**	**18 59 07.7**	**-0.5**
OPRZ	**Ohinepanea**	**2.42**	**267**	Pn		**Pn**	**18 59 07.8**	**-1.3**
OPRZ	**Ohinepanea**	**2.42**	**267**	PN		**Pn**	**18 59 07.8**	**-1.3**
OPRZ				AML	AML		18 59 38.6	
OPRZ				AML	AML		18 59 38.7	
TARZ	**Mount Tarawera**	**2.50**	**258**	Pn		**Pn**	**18 59 09.7**	**-0.6**
TARZ	**Mount Tarawera**	**2.50**	**258**	PN		**Pn**	**18 59 09.7**	**-0.6**
TARZ				AML	AML		18 59 41.9	
TARZ				AML	AML		18 59 44.5	
RRRZ	**Republican Roa**	**2.52**	**256**	Pn		**Pn**	**18 59 10.4**	**0.0**
RRRZ	**Republican Roa**	**2.52**	**256**	PN		**Pn**	**18 59 10.4**	**0.0**
RRRZ				AML	AML		18 59 43.1	
RRRZ				AML	AML		18 59 45.5	
ARHZ	**Aropaoanui**	**2.54**	**233**	Pn		**Pn**	**18 59 10.7**	**0.0**
ARHZ	**Aropaoanui**	**2.54**	**233**	AML	AML		18 59 45.5	
ARHZ				AML	AML		18 59 46.2	
NMHZ	**Naumai**	**2.58**	**238**	Pn		**Pn**	**18 59 11.3**	**0.0**
NMHZ	**Naumai**	**2.58**	**238**	PN		**Pn**	**18 59 11.3**	**0.0**
NMHZ				AML	AML		18 59 46.3	
NMHZ				AML	AML		18 59 46.9	
OMRZ	**Omania**	**2.59**	**261**	Pn		**Pn**	**18 59 10.8**	**-0.6**
OMRZ	**Omania**	**2.59**	**261**	PN		**Pn**	**18 59 10.8**	**-0.6**
OMRZ				AML	AML		18 59 55.0	
OMRZ				AML	AML		19 00 00.9	
HLRZ	**Highlands Stat**	**2.62**	**258**	PN		**Pn**	**18 59 11.5**	**-0.4**
HLRZ				AML	AML		18 59 56.4	
HLRZ				AML	AML		18 59 59.8	
PRRZ	**Plateau Road**	**2.65**	**253**	Pn		**Pn**	**18 59 11.7**	**-0.4**
PRRZ	**Plateau Road**	**2.65**	**253**	PN		**Pn**	**18 59 11.7**	**-0.4**
PRRZ				AML	AML		18 59 44.0	
PRRZ				AML	AML		18 59 45.3	
TGRZ	**Tauranga**	**2.66**	**270**	Pn		**Pn**	**18 59 11.0**	**-1.3**
TGRZ	**Tauranga**	**2.66**	**270**	PN		**Pn**	**18 59 11.0**	**-1.3**
TGRZ				AML	AML		18 59 48.7	
TGRZ				AML	AML		18 59 51.2	
KARZ	**Kaharoa**	**2.68**	**263**	Pn		**Pn**	**18 59 11.7**	**-1.0**
KARZ	**Kaharoa**	**2.68**	**263**	PN		**Pn**	**18 59 11.7**	**-1.0**
KARZ				AML	AML		18 59 47.7	
KARZ				AML	AML		18 59 52.7	
ALRZ	**Allen Road**	**2.70**	**252**	Pn		**Pn**	**18 59 12.5**	**-0.4**
ALRZ	**Allen Road**	**2

RATZ				AML	AML	19 00 13.3	
RATZ				AML	AML	19 00 16.7	
TOZ	**Tahuroa Road**	**3.26 269**	Pn	**Pn**	**18 59 19.1**	**-1.5**
TOZ	**Tahuroa Road**	**3.26 269**	PN	**Pn**	**18 59 19.1**	**-1.5**
TOZ				AML	AML	18 59 57.2	
TOZ				AML	AML	18 59 57.9	
KUZ	**Kuaotunu**	**3.27 287**	Pn	**Pn**	**18 59 18.0**	**-2.7**
KUZ	**Kuaotunu**	**3.27 287**	PN	**Pn**	**18 59 18.0**	**-2.7**
KUZ				AML	AML	18 59 55.6	
KUZ				AML	AML	18 59 56.6	
KUZ				AML	AML	18 59 56.6	
TLZ	**Tolley Road**	**3.27 259**	Pn	**Pn**	**18 59 19.8**	**-0.9**
TLZ	**Tolley Road**	**3.27 259**	PN	**Pn**	**18 59 19.8**	**-0.9**
TLZ				AML	AML	18 59 44.6	
TLZ				AML	AML	18 59 59.7	
BHHZ	**Black Hill Sta**	**3.27 237**	Pn	**Pn**	**18 59 20.1**	**-0.7**
BHHZ	**Black Hill Sta**	**3.27 237**	⇓PN	**Pn**	**18 59 20.1**	**-0.7**
BHHZ				AML	AML	19 00 01.2	
BHHZ				AML	AML	19 00 02.4	
WPHZ	**Waipukurau**	**3.38 226**	Pn	**Pn**	**18 59 20.9**	**-1.3**
WPHZ	**Waipukurau**	**3.38 226**	PN	**Pn**	**18 59 20.9**	**-1.3**
WPHZ				AML	AML	19 00 03.6	
WPHZ				AML	AML	19 00 09.8	
KRVZ	**Karewarewa**	**3.39 246**	Pn	**Pn**	**18 59 21.8**	**-0.7**
KRVZ	**Karewarewa**	**3.39 246**	PN	**Pn**	**18 59 21.8**	**-0.7**
KRVZ				AML	AML	19 00 03.0	
KRVZ				AML	AML	19 00 09.7	
PRHZ	**Porangahau**	**3.41 222**	Pn	**Pn**	**18 59 21.4**	**-1.3**
PRHZ	**Porangahau**	**3.41 222**	AML	AML	19 00 04.8	
PRHZ				AML	AML	19 00 05.6	
PNHZ	**Pukenui**	**3.42 230**	Pn	**Pn**	**18 59 21.4**	**-1.5**
PNHZ	**Pukenui**	**3.42 230**	PN	**Pn**	**18 59 21.4**	**-1.5**
PNHZ				AML	AML	19 00 07.8	
PNHZ				AML	AML	19 00 08.7	
WTVZ	**West Tongariro**	**3.44 246**	AML	AML	19 00 07.2		
WTVZ				AML	AML	19 00 07.8	
MOVZ	**Moawhango**	**3.44 240**	Pn	**Pn**	**18 59 22.2**	**-0.9**
MOVZ	**Moawhango**	**3.44 240**	⇓PN	**Pn**	**18 59 22.2**	**-0.9**
MOVZ				AML	AML	19 00 04.8	
MOVZ				AML	AML	19 00 05.0	
TUVZ	**Tukino**	**3.45 243**	Pn	**Pn**	**18 59 22.6**	**-0.7**
TUVZ	**Tukino**	**3.45 243**	PN	**Pn**	**18 59 22.6**	**-0.7**
TUVZ				AML	AML	19 00 13.2	
TUVZ				AML	AML	19 00 14.4	
NGZ	**Ngauruhoe**	**3.45 245**	Pn	**Pn**	**18 59 22.6**	**-0.8**
NGZ	**Ngauruhoe**	**3.45 245**	⇓PN	**Pn**	**18 59 22.6**	**-0.8**
NGZ				AML	AML	19 00 04.7	
NGZ				AML	AML	19 00 14.4	
WHVZ	**Whangaehu Hut**	**3.50 243**	Pn	**Pn**	**18 59 23.3**	**-0.8**
WHVZ	**Whangaehu Hut**	**3.50 243**	⇓PN	**Pn**	**18 59 23.3**	**-0.8**
WHVZ				AML	AML	19 00 06.4	
WHVZ				AML	AML	19 00 06.5	
WNVZ	**Wahianoa**	**3.52 242**	Pn	**Pn**	**18 59 23.4**	**-0.8**
WNVZ	**Wahianoa**	**3.52 242**	⇓PN	**Pn**	**18 59 23.4**	**-0.8**
FWVZ	**Far West T-bar**	**3.52 244**	Pn	**Pn**	**18 59 23.4**	**-0.9**
FWVZ	**Far West T-bar**	**3.52 244**	⇓PN	**Pn**	**18 59 23.4**	**-0.9**
FWVZ				AML	AML	19 00 05.5	
FWVZ				AML	AML	19 00 11.9	
TWVZ	**Taurewa**	**3.53 247**	Pn	**Pn**	**18 59 23.5**	**-0.8**
TWVZ	**Taurewa**	**3.53 247**	PN	**Pn**	**18 59 23.5**	**-0.8**
TWVZ				AML	AML	19 00 06.2	
TWVZ				AML	AML	19 00 07.4	
TRVZ	**Turoa**	**3.54 243**	Pn	**Pn**	**18 59 23.7**	**-0.9**
TRVZ	**Turoa**	**3.54 243**	AML	AML	19 00 07.5		
TRVZ				AML	AML	19 00 12.7	
MKAZ	**Moumakai**	**3.60 279**	Pn	**Pn**	**18 59 23.4**	**-1.8**
MKAZ	**Moumakai**	**3.60 279**	PN	**Pn**	**18 59 23.7**	**-1.5**
MKAZ				AML	AML	19 00 06.0	
MKAZ				AML	AML	19 00 06.5	
MTVZ	**Mangateitei**	**3.63 242**	Pn	**Pn**	**18 59 25.0**	**-0.7**
MTVZ	**Mangateitei**	**3.63 242**	⇑PN	**Pn**	**18 59 25.0**	**-0.7**
MTVZ				AML	AML	19 00 12.9	
MTVZ				AML	AML	19 00 16.4	
ANWZ	**Angora Road**	**3.64 221**	PN	**Pn**	**18 59 23.7**	**-2.0**
ANWZ				AML	AML	19 00 12.1	
ANWZ				AML	AML	19 00 14.9	
GRZ	**Great Barrier**	**3.65 293**	⇓PN	**Pn**	**18 59 23.4**	**-2.5**
GRZ				AML	AML	18 59 35.1	
GRZ				AML	AML	19 00 27.0	
TSZ	**Takapari Road**	**3.66 230**	Pn	**Pn**	**18 59 24.1**	**-1.9**
TSZ	**Takapari Road**	**3.66 230**	PN	**Pn**	**18 59 24.1**	**-1.9**
TSZ				AML	AML	19 00 09.8	
TSZ				AML	AML	19 00 10.5	
PKVZ	**Pokaka**	**3.68 244**	Pn	**Pn**	**18 59 25.9**	**-0.5**
PKVZ	**Pokaka**	**3.68 244**	PN	**Pn**	**18 59 25.9**	**-0.5**
PKVZ				AML	AML	19 00 17.8	
PKVZ				AML	AML	19 00 31.4	
DVHZ	**Dannevirke**	**3.69 226**	Pn	**Pn**	**18 59 24.6**	**-2.0**
DVHZ	**Dannevirke**	**3.69 226**	⇓PN	**Pn**	**18 59 24.5**	**-2.0**
DVHZ				AML	AML	19 00 10.7	
DVHZ				AML	AML	19 00 11.1	
WIAZ	**Waiheke Island**	**3.70 284**	PN	**Pn**	**18 59 24.7**	**-1.9**
WIAZ				AML	AML	18 59 34.6	
WIAZ				AML	AML	19 00 08.6	
ETAZ	**East Tamaki Re**	**3.82 281**	Pn	**Pn**	**18 59 26.6**	**-1.6**
ETAZ	**East Tamaki Re**	**3.82 281**	PN	**Pn**	**18 59 26.6**	**-1.6**
KBAZ	**Karaka Road Bo**	**3.82 279**	Pn	**Pn**	**18 59 26.9**	**-1.3**
HIZ	**Hauiti**	**3.83 257**	AML	AML	19 00 14.2		
HIZ				AML	AML	19 00 14.8	
BFZ	**Birch Farm**	**3.92 221**	Pn	**Pn**	**18 59 27.3**	**-2.2**
BFZ	**Birch Farm**	**3.92 221**	PN	**Pn**	**18 59 27.3**	**-2.2**
BFZ				AML	AML	19 00 14.3	
BFZ				AML	AML	19 00 15.0	
BFZ				AML	AML	19 00 15.4	
BFZ				AML	AML	19 00 15.4	
PRWZ	**Pori Road**	**3.98 224**	Pn	**Pn**	**18 59 28.6**	**-1.8**
PRWZ	**Pori Road**	**3.98 224**	PN	**Pn**	**18 59 28.6**	**-1.8**
PRWZ				AML	AML	19 00 17.9	
PRWZ				AML	AML	19 00 19.0	
POWZ	**Post Office Ro**	**3.98 228**	Pn	**Pn**	**18 59 29.0**	**-1.4**
POWZ	**Post Office Ro**	**3.98 228**	⇑PN	**Pn**	**18 59 29.0**	**-1.4**
POWZ				AML	AML	19 00 18.0	
POWZ				AML	AML	19 00 24.1	
ABAZ	**Army Bay**	**3.99 285**	Pn	**Pn**	**18 59 29.1**	**-1.4**
ABAZ	**Army Bay**	**3.99 285**	PN	**Pn**	**18 59 29.1**	**-1.4**
AWAZ	**Awhitu Peninsu**	**4.02 278**	PN	**Pn**	**18 59 30.0**	**-0.9**
VRZ	**Vera Road**	**4.05 249**	Pn	**Pn**	**18 59 31.0**	**-0.3**
VRZ	**Vera Road**	**4.05 249**	PN	**Pn**	**18 59 31.0**	**-0.3**
VRZ				AML	AML	19 00 21.3	
VRZ				AML	AML	19 00 22.5	
WTAZ	**Waiatarua**	**4.10 280**	Pn	**Pn**	**18 59 31.3**	**-0.8**
WTAZ	**Waiatarua**	**4.10 280**	PN	**Pn**	**18 59 31.3**	**-0.8**
CPWZ	**Castlepoint**	**4.11 219**	Pn	**Pn**	**18 59 29.8**	**-2.4**
CPWZ	**Castlepoint**	**4.11 219**	PN	**Pn**	**18 59 29.8**	**-2.4**
CPWZ				AML	AML	19 00 19.6	
CPWZ				AML	AML	19 00 21.0	
WAZ	**Wanganui**	**4.13 240**	Pn	**Pn**	**18 59 32.0**	**-0.4**
WAZ	**Wanganui**	**4.13 240**	PN	**Pn**	**18 59 32.0**	**-0.4**
WAZ				AML	AML	19 00 24.5	
WAZ				AML	AML	19 00 24.6	
RVAZ	**Riverhead Bore**	**4.14 282**	Pn	**Pn**	**18 59 31.6**	**-1.0**
RVAZ	**Riverhead Bore**	**4.14 282**	PN	**Pn**	**18 59 31.5**	**-1.0**
OHWZ	**Ohakea**	**4.15 233**	PN	**Pn**	**18 59 31.6**	**-1.0**
TIWZ	**Tintock**	**4.18 223**	Pn	**Pn**	**18 59 30.8**	**-2.3**
TIWZ	**Tintock**	**4.18 223**	PN	**Pn**	**18 59 30.8**	**-2.3**
TIWZ				AML	AML	19 00 23.3	
TIWZ				AML	AML	19 00 24.5	
MRZ	**Mangatainoka R**	**4.27 226**	Pn	**Pn**	**18 59 32.1**	**-2.3**
MRZ	**Mangatainoka R**	**4.27 226**	PN	**Pn**	**18 59 32.3**	**-2.1**
MRZ				AML	AML	19 00 23.5	
MRZ				AML	AML	19 00 23.7	
MHEZ	**Mangahewa**	**4.36 251**	Pn	**Pn**	**18 59 36.4**	**+0.8**
MHEZ	**Mangahewa**	**4.36 251**	PN	**Pn**	**18 59 36.4**	**+0.8**
TMWZ	**Te Maipa**	**4.41 220**	Pn	**Pn**	**18 59 33.1**	**-3.3**
TMWZ	**Te Maipa**	**4.41 220**	PN	**Pn**	**18 59 33.1**	**-3.3**
TMWZ				AML	AML	19 00 27.7	
TMWZ				AML	AML	19 00 29.2	
HOWZ	**Holdsworth Sta**	**4.46 224**	Pn	**Pn**	**18 59 34.4**	**-2.7**
HOWZ	**Holdsworth Sta**	**4.46 224**	PN	**Pn**	**18 59 34.4**	**-2.7**
HOWZ				AML	AML	19 00 27.7	
HOWZ				AML	AML	19 00 27.8	
NEZ	**North Egmont**	**4.58 249**	Pn	**Pn**	**18 59 39.4**	**+0.6**
WCZ	**Waipu Caves**	**4.60 292**	Pn	**Pn**	**18 59 37.2**	**-1.7**
WCZ	**Waipu Caves**	**4.60 292**	⇓PN	**Pn**	**18 59 37.2**	**-1.7**
WCZ				AML	AML	18 59 37.9	
WCZ				AML	AML	19 00 37.3	
OGWZ	**Otaki Gorge**	**4.61 227**	Pn	**Pn**	**18 59 36.6**	**-2.3**
OGWZ	**Otaki Gorge**	**4.61 227**	PN	**Pn**	**18 59 36.6**	**-2.3**
OGWZ				AML	AML	19 00 31.7	
OGWZ				AML	AML	19 00 35.2	
KHEZ	**Kahui Hut**	**4.65 249**	Pn	**Pn**	**18 59 40.6**	**+0.9**
KHEZ	**Kahui Hut**	**4.65 249**	PN	**Pn**	**18 59 40.6**	**+0.9**
MTWZ	**Mount Morrison**	**4.65 222**	Pn	**Pn**	**18 59 36.3**	**-3.3**
MTWZ	**Mount Morrison**	**4.65 222**	⇑PN	**Pn**	**18 59 36.3**	**-3.3**
MTWZ				AML	AML	19 00 32.1	
MTWZ				AML	AML	19 00 33.1	
TRWZ	**Traveller**	**4.73 219**	Pn	**Pn**	**18 59 36.9**	**-3.9**
TRWZ	**Traveller**	**4.73 219**	PN	**Pn**	**18 59 36.9**	**-3.9**
TRWZ				AML	AML	19 00 34.9	
TRWZ				AML	AML	19 00 36.2	
KIWZ	**Kapiti Island**	**4.79 228**	Pn	**Pn**	**18 59 39.0**	**-2.5**
KIWZ	**Kapiti Island**	**4.79 228**	PN	**Pn**	**18 59 39.0**	**-2.5**
KIWZ				AML	AML	19 00 36.2	
KIWZ				AML	AML	19 00 36.3	
PAWZ	**Paruwai Farm**	**4.85 221**	AML	AML	19 00 36.3		
PAWZ				AML	AML	19 00 36.7	
CAWZ	**Cannon Point**	**4.86 225**	Pn	**Pn**	**18 59 39.6**	**-2.8**
CAWZ	**Cannon Point**	**4.86 225**	PN	**Pn**	**18 59 39.6**	**-2.8**
CAWZ				AML	AML	19 00 38.1	
CAWZ				AML	AML	19 00 43.1	
MSWZ	**Moikau Station**	**4.97 221**	Pn	**Pn**	**18 59 40.2**	**-3.8**
MSWZ	**Moikau Station**	**4.97 221**	⇑PN	**Pn**	**18 59 40.2**	**-3.8**
MSWZ				AML	AML	19 00 39.1	
MSWZ				AML	AML	19 00 42.7	
PLWZ	**Palliser**	**5.08 220**	Pn	**Pn**	**18 59 41.5**	**-3.9**
PLWZ	**Palliser**	**5.08 220**	PN	**Pn**	**18 59 41.5**	**-3.9**
PLWZ				AML	AML	19 00 41.8	
PLWZ				AML	AML	19 00 42.7	
WELZ	**Wellington**	**5.14 225**	Pn	**Pn**	**18 59 43.5**	**-2.8**
WELZ	**Wellington**	**5.14 225**	AML	AML	19 00 45.6		
WELZ				AML	AML	19 00 45.6	
WELZ				AML	AML	19 00 45.8	
WELZ				AML	AML	19 00 45.8	
BHWZ	**Baring Head**	**5.17 224**	Pn	**Pn**	**18 59 43.2**	**-3.4**
BHWZ	**Baring Head**	**5.17 224**	PN	**Pn**	**18 59 43.2**	**-3.4**
BHWZ				AML	AML	19 00 44.3	
BHWZ				AML	AML	19 00 49.0	
SNZO	**South Karori**	**5.19 225**	*e*Pn	**Pn**	**18 59 43.6**	**-3.4**
TCWZ	**Tory Channel**	**5.38 228**	Pn	**Pn**	**18 59 46.4**	**-3.2**
TCWZ	**Tory Channel**	**5.38 228**	PN	**Pn**	**18 59 46.4**	**-3.2**
TCWZ				AML	AML	19 00 50.0	
TCWZ				AML	AML	19 00 53.1	
OUZ	**Omahuta**	**5.47 296**	Pn	**Pn**	**18 59 48.9**	**-1.9**
OUZ	**Omahuta**	**5.47 296**	PN	**Pn**	**18 59 48.9**	**-1.9**
OUZ				AML	AML	18 59 49.7	
OUZ				AML	AML	18 59 56.8	
TUWZ	**Tuamarina**	**5.71 228**	Pn	**Pn**	**18 59 50.2**	**-3.9**
TUWZ	**Tuamarina**	**5.71 228**	PN	**Pn**	**18 59 50.2**	**-3.9**
TUWZ				AML	AML	19 00 59.9	
TUWZ				AML	AML	19 01 00.2	
BSWZ	**Blackbirch Sta**	**5.93 226**	Pn	**Pn**	**18 59 53.7**	**-3.4**
BSWZ	**Blackbirch Sta**	**5.93 226**	PN	**Pn**	**18 59 53.7**	**-3.4**
BSWZ				AML	AML	19 01 04.6	
BSWZ				AML	AML	19 01 05.6	
NNZ	**Nelson**	**5.93 232**	Pn	**Pn**	**18 59 54.1**	**-3.0**
NNZ	**Nelson**	**5.93 232**	PN	**Pn**	**18 59 54.1**	**-3.0**
NNZ				AML	AML	19 01 06.0	
NNZ				AML	AML	19 01 06.0	
NNZ				AML	AML	19 01 13.1	
NNZ				AML	AML	19 01 13.1	
QRZ	**Quartz Range**	**6.29 239**	Pn	**Pn**	**18 59 58.5**	**-3.5**
QRZ	**Quartz Range**	**6.29 239**	PN	**Pn**	**18 59 58.5**	**-3.5**
QRZ				AML	AML	19 01 11.0	
QRZ				AML	AML	19 01 12.1	
QRZ				AML	AML	19 01 18.2	
QRZ				AML	AML	19 01 18.2	
THZ	**Tophouse**	**6.53 230**	Pn	**Pn**	**19 00 01.8**	**-3.7**
THZ	**Tophouse**	**6.53 230**	⇑PN	**Pn**	**19 00 01.8**	**-3.7**
THZ				AML	AML	19 01 17.8	
THZ				AML	AML	19 01 21.7	
KHZ	**Kahutara**	**6.58 223**	AML	AML	19 01 15.6		
KHZ				AML	AML	19 01 15.6	
KHZ				AML	AML	19 01 20.7	
KHZ				AML	AML	19 01 20.9	
CTZ	**Chatham Island**	**6.62 156**	Pn	**Pn**	**19 00 05.4**	**-1.1**
CTZ	**Chatham Island**	**6.62 156**	⇓PN	**Pn**	**19 00 05.4**	**-1.1**
DSZ	**Denniston Nort**	**7.21 234**	AML	AML	19 01 36.1		
DSZ				AML	AML	19 01 36.4	
LTZ	**Lake Taylor**	**7.53 226**	Pn	Pn	19 00 11.4	-7.6	
LTZ	**Lake Taylor**	**7.53 226**	*e*Pn	Pn	19 00 14.1	-4.9	
LTZ				AML	AML	19 01 43.5	
CRLZ	**Canterbury Las**	**7.87 220**	Pn	**Pn**	**19 00 20.6**	**-3.0**
MQZ	**McQueen's Vall**	**7.95 219**	Pn	**Pn**	**19 00 20.1**	**-4.6**
MQZ	**McQueen's Vall**	**7.95 219**	PN	**Pn**	**19 00 20.1**	**-4.6**
MQZ				AML	AML	19 01 48.7	
MQZ				AML	AML	19 01 51.3	
INZ	**Inchbonnie**	**7.97 229**	*e*PN	**Pn**	**19 00 20.4**	**-4.7**
OXZ	**Oxford**	**8.01 224**	Pn	**Pn**	**19 00 20.8**	**-4.8**
OXZ	**Oxford**	**8.01 224**	PN	**Pn**	**19 00 20.8**	**-4.8**
OXZ				AML	AML	19 01 55.5	
OXZ				AML	AML	19 01 55.6	
OXZ				AML	AML	19 01 58.2	
OXZ				AML	AML	19 01 58.2	
RAO	**Raoul Island**	**8.73 14**	LR	LR	19 03 36.8		
comp=Z,515nm,21.3s,baz=219,slow=36							
RPZ	**Rata Peaks**	**8.81 225**	P	**Pn**	**19 00 33.6**	**-2.9**
6.7nm,0.3s,baz=90,slow=1.9,SNR=17							
RPZ			S	**Sn**	**19 02 06.3**	**-7.9**	
13nm,0.3s,baz=316,slow=22,SNR=19							
RPZ	**Rata Peaks**	**8.81 225**	PN	**Pn**	**19 00 33.6**	**-2.9**
RPZ				AML	AML	19 02 12.6	
RPZ				AML	AML	19 02 14.3	
FOZ	**Fox Glacier**	**9.41 229**	Pn	**Pn**	**19 00 41.2**	**-3.5**
FOZ	**Fox Glacier**	**9.41 229**	PN	**Pn**	**19 00 41.2**	**-3.5**
FOZ				AML	AML	19 02 26.1	
FOZ				AML	AML	19 02 26.7	
LBZ	**Lake Benmore**	**9.72 224**	Pn	**Pn**	**19 00 44.9**	**-4.0**
LBZ	**Lake Benmore**	**9.72 224**	⇑PN	**Pn**	**19 00 44.9**	**-4.0**
LBZ				AML	AML	19 02 33.2	
LBZ				AML	AML	19 02 33.9	
ODZ	**Otahua Downs**	**9.91 220**	Pn	**Pn**	**19 00 47.3**	**-4.2**
ODZ	**Otahua Downs**	**9.91 220**	PN	**Pn**	**19 00 47.3**	**-4.2**
ODZ				AML	AML	19 02 40.3	
ODZ				AML	AML	19 03 19.2	
DZM	**Mont Dzumac**	**19.32 320**	P	**P**	**19 02 48.4**	**-4.2**
0.8nm,0.3s,baz=144,slow=19,SNR=8.3							
DZM	**Mont Dzumac**	**19.32 320**	*e*P	**P**	**19 02 50.0**	**-2.6**
63nm,0.9s							
DZM				*e*LR	LR	19 07 11.0	
630nm,22.9s							
MSVF	**Nonsavu**	**20.00 356**	*e*P	**P**	**19 02 55.7**	**-4.2**
16nm,0.8s							
AFI	**Afiamalu**	**24.96 20**	P	**P**	**19 03 49.6**	**-0.6**
71nm,0.8s,baz=166,slow=4.2,SNR=6.1							
AFI	**Afiamalu**	**24.96 20**	*e*P	**P**	**19 03 48.8**	**-1.4**
131nm,1.1s							
TBI	**Tubuai**	**30.10 70**	*e*LR	LR	19 12 10.8		
229nm,24.0s,baz=234							
TBI	**Tubuai**	**30.10 70**	*e*T	T	19 35 54.1		
27nm,0.2s							
STKA	**Stephens Creek**	**31.61 269**	P	**P**	**19 04 50.1**	**+0.8**
8.7nm,0.8s,baz=109,slow=9.3,SNR=14							
STKA				PcP	**PcP**	**19 07 41.0**	**+0.5**
4.6nm,0.9s,baz=58,slow=5.2,SNR=5.0							
STKA				LR	LR	19 17 36.4	
comp=Z,274nm,18.8s,baz=78,slow=36							
HNR	**Honiara**	**33.32 323**	LR	LR	19 16 09.2		
comp=Z,116nm,20.1s,baz=133,slow=32							
PAE	**Paea**	**33.60 62**	*e*T	T	19 40 13.7		
3.5nm,0.3s							
PPT2	**Papeete2**	**33.65 62**	*e*LR	LR	19 13 44.6		
245nm,24.5s,baz=233							
PPT	**Papeete**	**33.66 62**	LR	LR	19 14 36.6		
comp=Z,152nm,21.7s,baz=245,slow=29							
TVO	**Taravao**	**33.75 62**	*e*T	T	19 40 25.8		
1.5nm,0.3s							
VAH	**Vaihoa**	**36.62 61**	*e*T	T	19 43 59.8		
7.3nm,0.3s							
VNDA	**Vanda**	**40.59 186**	LR	LR	19 20 59.5		
comp=Z,108nm,18.5s,baz=35,slow=33							
ASAR	**Alice Springs**	**41.34 276**	P	**P**	**19 06 11.8**	**-0.5**
17nm,0.6s,baz=123,slow=8.3,SNR=430							
ASAR				PcP	**PcP**	**19 08 09.7**	**-0.1**
2.0nm,0.6s,baz=120,slow=3.6,SNR=4.4							
ASAR				ScP	**ScP**	**19 11 53.2**	**-1.6**
0.8nm,1.0s,baz=128,slow=2.6,SNR=2.5							
ASAR				S	**S**	**19 12 19.2**	**-3.6**
0.5nm,0.7s,baz=125,slow=15,SNR=5.5							
RKT	**Rikitea**	**41.38 83**	*e*LR	LR	19 17 32.0		
229nm,26.2s,baz=246							
WRAB	**Tennant Creek**	**42.99 281**	*e*P	**P**	**19 06 24.8**	**-0.9**
12nm,0.6s							
WRA	**Warramunga Arr**	**42.99 281**	P	**P**	**19 06 25.0**	**-0.7**
8.3nm,0.5s,baz=122,slow=7.6,SNR=58							
WRA				PcP	**PcP**	**19 08 15.8**	**+0.5**
4.8nm,0.9s,baz=117,slow=3.4,SNR=8.4							
WRA				ScP	**ScP**	**19 12 00.5**	**-0.9**
1.9nm,1.1s,baz=127,slow=4.3,SNR=2.5							
WRA				S	**S**	**19 12 45.5**	**-1.7**
0.8nm,0.9s,baz=127,slow=11,SNR=4.2							
NWAO	**Narrogin (SRO)**	**50.29 256**	LR	LR	19 25 48.4		
comp=Z,120nm,21.2s,baz=293,slow=33							
FITZ	**Fitzroy Crossi**	**50.83 277**	LR	LR	19 29 57.9		
comp=Z,165nm,18.1s,baz=116,slow=37							
QSPA	**South Pole Qui**	**52.37 180**	*e*P	P	19 07 42.3	+4.4	
56nm,0.8s							
MAW	**Mawson**	**64.75 202**	P	**P**	**19 09 05.9**	**+2.2**
6.8nm,0.9s,baz=146,slow=7.3,SNR=6.0							
SYO	**Syowa Base**	**69.51 194**	⇑*e*P	P	19 09 24.7	-9.2	
SYO	**Syowa Base**	**69.51 194**	⇓*e*P	**P**	**19 09 35.2**	**+1.3**
SNAA	**Sanae**	**70.86 179**	P	**P**	**19 09 44.7**	**+2.4**
SNAA	**Sanae**	**70.86 179**	*e*P	**P**	**19 09 44.3**	**+2.1**
VNA3	**Neumayer Olymp**	**71.10 177**	P	**P**	**19 09 46.2**	**+2.5**
PLCA	**Paso Flores**	**78.93 133**	P	**P**	**19 10 31.1**	**+1.7**
7.4nm,0.9s,baz=219,slow=2.9,SNR=6.5							
PLCA				LR	LR	19 40 14.5	
comp=Z,36nm,18.6s,baz=158,slow=32							
KSRS	**Korea Array**	**88.75 321**	P	**P**	**19 11 19.9**	**+0.9**
2.2nm,0.8s,baz=142,slow=5.3,SNR=6.4							
KSAR	**Wonju Array Be**	**88.76 321**	P	**P**	**19 11 19.9**	**+0.8**
PETK	**Petropavlovsk-**	**92.48 347**	P	**P**	**19 11 36.1**	**+0.1**
3.4nm,0.8s,baz=142,slow=6.5,SNR=2.6							
CMAR	**Chiang Mai Arr**	**94.01 290**	P	**P**	**19 11 44.7**	**+0.7**
2.5nm,0.8s,baz=147,slow=3.9,SNR=13							
LPAZ	**La Paz**	**96.79 116**	P	**P**	**19 11 59.8**	**+2.2**
1.2nm,0.7s,baz=194,slow=3.2,SNR=6.0							
ZALV	**Zalesovo Beam**	**122.07 316**	PKP	**PKPdf**	**19 17 18.6**	**-0.7**
0.4nm,0.3s,baz=112,slow=1.6,SNR=4.0							
NRIK	**Noril'sk**	**125.46 334**	PKP	**PKPdf**	**19 17 24.6**	**-0.7**
2.7nm,0.8s,baz=125,slow=3.8,SNR=4.0							
GEYT	**Alibeck**	**134.48 289**	PKP	**PKPdf**	**19 17 43.8**	**+0.3**
1.7nm,0.9s,baz=150,slow=3.2,SNR=4.2							
ARCES	**ARCESS Array B**	**145.24 344**	PKP	**PKPdf**	**19 18 01.9**	**0.0**
12nm,0.7s,baz=34,slow=2.6,SNR=43							
KBZ	**Khabaz**	**146.96 294**	PKPbc	**PKPbc**	**19 18 07.1**	**-0.6**
7.9nm,0.8s,baz=161,slow=2.5,SNR=16							
LIC	**Lamto**	**148.33 171**	*e*PKP1	**PKPab**	**19 18 13.8**	**-1.6**
36nm,0.7s							
KIC	**Kosan Boka**	**148.49 172**	*e*PKP1	**PKPab**	**19 18 14.1**	**-2.0**
48nm,1.0s							
TIC	**Toumodi**	**148.74 171**	*e*PKP1	**PKPab**	**19 18 14.9**	**-2.2**
DBIC	**Dimbokro**	**148.79 171**	PKPbc	**PKPab**	**19 18 15.2**	**-2.1**
8.2nm,0.8s,baz=170,slow=4.3,SNR=9.2							
FINES	**FINESS Array B**	**151.13 334**	PKP	**PKPdf**	**19 18 12.1**	**+0.4**
1.7nm,0.8s,baz=238,slow=3.6,SNR=3.2							
FINES				PKPbc	**PKiKP**	**19 18 17.7**	**-0.5**
15nm,0.8s,baz=21,slow=4.0,SNR=44							
FINES				PKPab	**PKPab**	**19 18 24.2**	**-1.4**
11nm,0.7s,baz=41,slow=4.8,SNR=19							
BRTR	**Keskin Array B**	**153.48 285**	PKPbc	**PKPbc**	**19 18 24.1**	**+0.2**
4.0nm,0.9s,baz=147,slow=3.3,SNR=18							
AKASG	**Malin Array Be**	**155.34 311**	PKPbc	PKPdf	19 18 26.2	+8.0	
1.6nm,0.6s,baz=62,slow=1.9,SNR=3.2							
TORD	**Torodi Ar. Bea**	**155.42 185**	PKP	**PKPdf**	**19 18 21.0**	**+1.6**
1.4nm,0.9s,baz=176,slow=0.3,SNR=6.8							
TORD				PKPbc	PKPbc	19 18 30.1	
1.0nm,0.6s,baz=150,slow=2.8,SNR=9.3							
TORD				PKPab	**PKPab**	**19 18 45.5**	**+0.6**
8.7nm,1.0s,baz=174,slow=4.0,SNR=19							
NOA	**NORSAR Array B**	**155.58 346**	PKPbc	PKPbc	19 18 27.8		

HOWZ	**Holdsworth Sta**	**9.91**	**207**	PN	**Pn**	**19 36 31.3**	**-2.9**
TMWZ	**Te Maipa**	**9.96**	**205**	*e*PN	**Pn**	**19 36 32.9**	**-1.8**
KIW	**Kapiti Island**	**10.13**	**209**	*e*PN	**Pn**	**19 36 34.3**	**-2.8**
MTW	**Mount Morrison**	**10.14**	**206**	PN	**Pn**	**19 36 34.0**	**-3.3**
CAW	**Cannon Point**	**10.27**	**208**	PN	**Pn**	**19 36 35.5**	**-3.6**
TCW	**Tory Channel**	**10.69**	**211**	PN	**Pn**	**19 36 41.0**	**-3.7**
TUWZ	**Tuamarina**	**11.01**	**211**	PN	**Pn**	**19 36 45.4**	**-3.8**
NNZ	**Nelson**	**11.10**	**213**	SN	**Sn**	**19 38 48.5**	**-4.5**
BSWZ	**Blackbirch Sta**	**11.27**	**210**	*e*PN	**Pn**	**19 36 49.1**	**-3.6**
THZ	**Tophouse**	**11.74**	**213**	*e*PN	**Pn**	**19 36 54.5**	**-4.7**
KHZ	**Kahutara**	**11.99**	**209**	SN	**Sn**	**19 39 07.4**	**-7.3**
RPZ	**Rata Peaks**	**14.12**	**212**	P	**Pn**	**19 37 28.6**	**-3.0**
	1.5nm,0.3s,baz=30,slow=20,SNR=3.2						
RPZ				S	Sn	19 39 54.1	-13
	0.8nm,0.3s,baz=58,slow=15,SNR=5.3						
RPZ				LR	LR	19 42 12.5	
	comp=Z,80nm,18.6s,baz=68,slow=34						
CTAO	**Charters Tower**	**33.68**	**282**	*e*P	**P**	**19 40 54.4**	**+3.2**
	27nm,0.8s						
ASAR	**Alice Springs**	**42.59**	**269**	P	**P**	**19 42 07.6**	**+1.4**
	2.6nm,0.7s,baz=104,slow=7.6,SNR=28						
WRAB	**Tennant Creek**	**43.73**	**274**	*e*P	**P**	**19 42 16.7**	**+1.3**
	2.9nm,0.4s						
WRA	**Warramunga Arr**	**43.74**	**274**	P	**P**	**19 42 16.9**	**+1.4**
	4.0nm,0.5s,baz=113,slow=7.9,SNR=44						
SYO	**Syowa Base**	**75.27**	**193**	⇑*e*PP	PP	19 48 38.0	-2.4
MA2	**Magadan**	**94.89**	**345**	LR	LR	20 25 32.8	
	comp=Z,21nm,19.6s,baz=82,slow=32						
KURK	**Kurchatov**	**121.94**	**313**	*e*PKPdf	**PKPdf**	**19 53 02.7**	**-0.5**
FINES	**FINESS Array B**	**146.65**	**339**	PKPbc	**PKPbc**	**19 53 50.4**	**+0.1**
	5.8nm,0.5s,baz=41,slow=3.8,SNR=48						
NOA	**NORSAR Array B**	**150.44**	**350**	PKPbc	**PKPbc**	**19 53 58.3**	**-2.0**
	0.8nm,0.7s,baz=15,slow=4.1,SNR=9.7						
AKASG	**Malin Array Be**	**152.41**	**320**	PKPbc	**PKPbc**	**19 54 04.8**	**-0.2**
	0.5nm,0.4s,baz=56,slow=1.7,SNR=3.1						
BRTR	**Keskin Array B**	**153.00**	**295**	PKPbc	**PKPbc**	**19 54 06.7**	**-0.2**
	0.7nm,0.6s,baz=108,slow=3.2,SNR=5.7						
TORD	**Torodi Ar. Bea**	**161.04**	**181**	PKPab	**PKPab**	**19 54 54.8**	**+1.6**
	0.7nm,0.6s,baz=179,slow=4.2,SNR=9.3						

*IDC **01** 19:56:35.6±2.1, 18˚.32S×167˚.83E, h0km, mb4.0/5, mb1 4.2/6, mb1mx3.8/26, mbtmp4.0/6, ML3.7/1, MS2.8/1, Ms1 2.8/1, ms1mx2.5/33, Error ellipse: s-maj=53.9km s-min=32.0km az=131.0*

*ISCJB **01** 19:56:38.6±1.6, 18˚.47S±0˚.09×167˚.7E±0˚.2, h29km, mb4.0/6, Error ellipse: s-maj=29.8km s-min=12.0km az=5.2*

*NEIC **01** 19:56:40.7±1.4, 18˚.44S×167˚.85E, h35km, mb4.4/3, Error ellipse: s-maj=25.6km s-min=19.7km az=108.0*

ISC 01 19:56:40.1±1.8, 18˚.5S±0˚.1×167˚.8E±0˚.2, h29km, n9, σ0s97/9, mb4.0/6, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
DZM	**Mont Dzumac**	**3.80**	**200**	Pn		**Pn**	**19 57 37.2**	**+0.3**
	5.3nm,0.3s,baz=260,slow=2.8,SNR=25							
DZM				Sn		**Sn**	**19 58 19.8**	**-0.9**
	3.9nm,0.3s,baz=100,slow=23,SNR=6.8							
DZM				LR		LR	19 58 58.1	
	comp=Z,131nm,21.6s,baz=4.0,slow=36							
CTA	**Charters Tower**	**20.43**	**262**	P		Pn	20 01 16.7	-0.8
	6.1nm,0.8s,baz=72,slow=9.6,SNR=5.7							
CTAO	**Charters Tower**	**20.43**	**262**	*e*P		**P**	**20 01 15.3**	**0.0**
	27nm,0.8s							
STKA	**Stephens Creek**	**27.15**	**236**	P		**P**	**20 02 22.5**	**+1.5**
	4.6nm,0.9s,baz=61,slow=10,SNR=6.1							
WRAB	**Tennant Creek**	**31.62**	**262**	*e*P		**P**	**20 03 00.1**	**-0.8**
	0.7nm,0.5s							
WRA	**Warramunga Arr**	**31.64**	**262**	P		**P**	**20 02 59.6**	**-1.3**
	0.6nm,0.4s,baz=91,slow=9.2,SNR=11							
ASAR	**Alice Springs**	**32.03**	**255**	P		**P**	**20 03 04.0**	**-0.4**
	2.4nm,0.6s,baz=83,slow=8.6,SNR=56							
FITZ	**Fitzroy Crossi**	**40.00**	**264**	*e*P		**P**	**20 04 12.4**	**-0.2**
	9.9nm,1.0s							
ILAR	**Eielson Array**	**89.91**	**18**	P		**P**	**20 09 35.7**	**-0.3**
	0.4nm,0.7s,baz=212,slow=3.2,SNR=4.2							

IDC 01 19:58:37.5±55.0, 17˚.85S×176˚.62W, h0km, mb4.1/3, mb1 4.3/3, mb1mx3.7/26, mbtmp4.1/3, Error ellipse: s-maj=1016.0km s-min=158.9km az=80.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
STKA	**Stephens Creek**	**40.15**	**242**	P		P	20 06 16.1	+0.5
	1.0nm,0.3s,baz=68,slow=8.3,SNR=6.7							
WRA	**Warramunga Arr**	**46.32**	**259**	P		P	20 07 05.4	-0.1
	1.3nm,0.4s,baz=96,slow=8.1,SNR=31							
ASAR	**Alice Springs**	**46.45**	**254**	P		P	20 07 05.9	-0.7
	2.4nm,0.7s,baz=88,slow=7.9,SNR=27							

JMA 01 20:06:30.1±0.1, 39˚.57N×142˚.73E, h24km±1km, M3.5, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
MIYJ	**Miyakonagasawa**	**0.70**	**271**	P		Pb	20 06 43.5	-0.2
MIYJ				S		Sb	20 06 53.0	0.0
JTH	**Tanohata**	**0.76**	**299**	P		Pb	20 06 44.6	-0.1
JTH				S		Sb	20 06 55.0	+0.3
OFUJ	**Ofunato**	**0.96**	**240**	P		Pb	20 06 47.5	-0.5
OFUJ				*e*S		Sb	20 06 59.9	-0.3
JOM	**Ohasama**	**1.12**	**265**	P		Pn	20 06 50.3	+0.1
JOM				S		Sb	20 07 04.8	0.0
JKZ	**Kuzumaki**	**1.16**	**291**	P		Pn	20 06 50.9	+0.1
JKZ				S		Sb	20 07 06.4	+0.4
JANG	**Nango**	**1.23**	**311**	P		Pn	20 06 51.3	-0.5
JMK	**Ichinoseki**	**1.32**	**243**	P		Pn	20 06 53.5	+0.4
JMK				S		Sn	20 07 10.3	+0.3
JIO	**Ouri**	**1.55**	**224**	P		Pn	20 06 56.7	+0.5

*DDA **01** 20:06:47.8, 38˚.89N×31˚.38E, h7km, Md2.8*

*ISK **01** 20:06:47.8, 38˚.93N×31˚.38E, h6km, MD2.9*

*CSEM **01** 20:06:48.0±0.1, 38˚.91N×31˚.38E, h5km, MD2.8, Error ellipse: s-maj=3.8km s-min=2.7km az=31.0*

ISC 01 20:06:47.9±1.1, 38˚.91N±0˚.02×31˚.37E±0˚.02, h6km±9km, n32, σ0s57/51, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
BOLV	**Bolvadin**	**0.38**	**240**	*i* P		**Pg**	**20 06 55.5**	**+0.1**
BOLV				*i* S		**Sg**	**20 07 01.0**	**+0.7**
BOLV	**Bolvadin**	**0.38**	**240**	P		**Pg**	**20 06 55.5**	**+0.1**
BOLV				S		**Sg**	**20 07 01.0**	**+0.7**
KIZT	**Kizilcal**	**0.40**	**94**	*e*PG		**Pg**	**20 06 55.7**	**0.0**
KIZT	**Kizilcal**	**0.40**	**94**	*e*Pg		**Pg**	**20 06 55.7**	**0.0**
SVRH	**Sivrihisar-ESK**	**0.55**	**13**	*e*PG		**Pg**	**20 06 58.5**	**0.0**
SVRH	**Sivrihisar-ESK**	**0.55**	**13**	*e*Pg		**Pg**	**20 06 58.5**	**0.0**
KDHN	**Kadinhani**	**0.70**	**124**	*i* P		**Pg**	**20 07 01.1**	**-0.3**
KDHN				*i* S		**Sg**	**20 07 10.4**	**-0.1**
KDHN	**Kadinhani**	**0.70**	**124**	P		**Pg**	**20 07 01.1**	**-0.3**
KDHN				S		**Sg**	**20 07 10.4**	**-0.1**
ESKT	**Eskisehir**	**0.73**	**327**	*i* P		**Pg**	**20 07 01.7**	**-0.3**
ESKT				*i* S		**Sb**	**20 07 12.7**	**-0.8**
SEYT	**Eskypehyr**	**0.73**	**327**	P		**Pg**	**20 07 01.7**	**-0.3**
SEYT				S		**Sb**	**20 07 12.7**	**-0.7**
SHUT	**Suhut-Afyon**	**0.73**	**241**	*e*PG		**Pg**	**20 07 02.4**	**+0.4**
SHUT				*e*SG		**Sb**	**20 07 13.7**	**+0.2**
SHUT	**Suhut-Afyon**	**0.73**	**241**	*e*Pg		**Pg**	**20 07 02.4**	**+0.4**
SHUT				*e*Sg		**Sb**	**20 07 13.7**	**+0.2**
BAGO	**Egridir - ISPA**	**1.03**	**207**	*i* P		**Pn**	**20 07 08.6**	**-0.4**
BAGO				*i* S		**Sb**	**20 07 22.4**	**+0.5**
LADK	**Ladik-KONYA**	**1.05**	**132**	*e*PG		**Pn**	**20 07 08.8**	**-0.6**
LADK				*e*SG		**Sb**	**20 07 23.2**	**+0.4**
LADK	**Ladik-KONYA**	**1.05**	**132**	*e*Pg		**Pn**	**20 07 08.8**	**-0.6**
LADK				*e*Sg		**Sb**	**20 07 23.2**	**+0.4**
BORA	**Eskisehir**	**1.20**	**324**	*i* P		**Pg**	**20 07 10.4**	**-0.6**
BORA				*i* S		**Sn**	**20 07 28.3**	**+0.3**
BORA	**Eskisehir**	**1.20**	**324**	P		**Pg**	**20 07 10.4**	**-0.6**
BORA				S		**Sn**	**20 07 28.3**	**+0.3**
CHBY	**Cihanbeyli**	**1.23**	**105**	*e*PN		**Pb**	**20 07 11.4**	**-0.3**
CHBY	**Cihanbeyli**	**1.23**	**105**	*e*Pn		**Pb**	**20 07 11.4**	**-0.3**
KKUL	**Konya-Kulu**	**1.23**	**77**	*i* P		**Pn**	**20 07 12.2**	**+0.4**
KKUL				*i* S		**Sn**	**20 07 30.1**	**+1.2**
KKUL	**Konya-Kulu**	**1.23**	**77**	P		**Pn**	**20 07 12.2**	**+0.4**
KONT	**Konya--Tatoy**	**1.24**	**141**	*e*PN		**Pg**	**20 07 11.3**	**-0.4**
KONT				*e*SN		**Sn**	**20 07 29.9**	**+1.0**
KONT	**Konya--Tatoy**	**1.24**	**141**	*i* P		**Pg**	**20 07 10.4**	**-1.2**
KONT				*i* S		**Sn**	**20 07 28.4**	**-0.5**
KONT	**Konya--Tatoy**	**1.24**	**141**	*e*Pn		**Pg**	**20 07 11.3**	**-0.4**
KONT				*e*Sn		**Sn**	**20 07 29.9**	**+1.0**
KULU	**Kulu**	**1.28**	**84**	*e*PN		**Pb**	**20 07 13.1**	**+0.6**
KULU	**Kulu**	**1.28**	**84**	*e*Pn		**Pb**	**20 07 13.1**	**+0.6**
KMER	**Konya-Meram**	**1.39**	**145**	*i* P		**Pn**	**20 07 12.7**	**-1.2**
KMER				*i* S		**Sn**	**20 07 33.0**	**+0.4**
KMER	**Konya-Meram**	**1.39**	**145**	P		**Pn**	**20 07 12.7**	**-1.2**
KMER				S		**Sn**	**20 07 33.0**	**+0.4**
SUTC	**Sutluce-Ispart**	**1.46**	**192**	*e*PN		**Pb**	**20 07 15.4**	**-0.2**
SUTC	**Sutluce-Ispart**	**1.46**	**192**	*e*Pn		**Pb**	**20 07 15.4**	**-0.2**
TVSB	**Tavsanli**	**1.58**	**291**	*e*PN		**Pb**	**20 07 17.4**	**-0.2**
TVSB	**Tavsanli**	**1.58**	**291**	*e*Pn		**Pb**	**20 07 17.4**	**-0.2**

*GCMT **01** 20:08:51.3±0.1, 18˚.41S×168˚.17E, h51km, MW5.3/113, Moment Tensor Solution. s113,c185; s103,c178; Duration: 1s2 Moment tensor: Scale 10^17Nm; Mrr1.30±.02; Mθθ-0.07±.02; Mϕϕ-1.24±.01; Mrθ0.05±.01; Mθϕ0.35±.01; Mϕr0.02±.01; Best double couple: M0 1.32000×10^17 NP1:ϕs347.00000°, δ45.00000°, λ94.00000°. NP2:ϕs162.00000°, δ45.00000°, λ86.00000°. Principal axes: T 1.3030, Plg87.0000°, Azm340.0000°; N 0.0300, Plg3.0000°, Azm165.0000°; P -1.3380, Plg0.0000°, Azm75.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

*NEIC **01** 20:08:51.3±0.1, 18˚.35S×168˚.40E, h35km, mb5.3/121 Error ellipse: s-maj=5.5km s-min=4.3km az=150.0*

NEIC Felt [IV] at Port-Vila.

*ISCJB **01** 20:08:51.8±1.1, 18˚.38S±0˚.03×168˚.38E±0˚.03, h52km±10km, mb5.3/161, MS4.5/45, Error ellipse: s-maj=5.8km s-min=4.4km az=175.3*

*IDC **01** 20:08:52.0±1.5, 18˚.40S×168˚.54E, h48km±13km, mb4.7/23, mb1 4.8/26, mb1mx4.8/37, mbtmp5.0/26, ML5.4/3, MS4.4/26, Ms1 4.4/26, ms1mx4.3/38, Error ellipse: s-maj=15.1km s-min=11.4km az=86.0*

*MOS **01** 20:08:53.5±1.2, 18˚.32S×168˚.34E, h66km, mb5.4/39, MS4.6/16, Error ellipse: s-maj=8.9km s-min=8.0km az=4.9*

*BJI **01** 20:08:56.0, 18˚.40S×168˚.40E, h96km, mb5.1/61, mB5.3/39*

ISC 01 20:08:54.4±0.7, 18˚.46S±0˚.04×168˚.37E±0˚.05, h67km±5km, n605, σ1s33/577, mb5.2/161, 47C-12D, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
DZM	**Mont Dzumac**	**4.03**	**206**	P		**Pn**	**20 09 51.8**	**-1.9**
	104nm,0.3s,baz=39,slow=17,SNR=274							
DZM				S		**Sn**	**20 10 36.6**	**-3.1**
	77nm,0.3s,baz=143,slow=24,SNR=3.9							
DZM	**Mont Dzumac**	**4.03**	**206**	*e*Pn		**Pn**	**20 09 50.3**	**-3.4**
	378nm,0.3s							
DZM				*e*Sn		**Sn**	**20 10 34.8**	**-4.9**
	985nm,0.2s							
DZM				*e*LR		LR	20 10 56.9	
	16μm,25.6s							
MSVF	**Nonsavu**	**9.23**	**87**	*e*P		**Pn**	**20 11 07.3**	**+2.3**
MSVF	**Nonsavu**	**9.23**	**87**	*e*Pn		**Pn**	**20 11 07.3**	**+2.3**
NFK	**Norfolk Island**	**10.55**	**182**	P		**Pn**	**20 11 24.0**	**+1.2**
	baz=11,SNR=4.6							
HNR	**Honiara**	**12.13**	**317**	P		**Pn**	**20 11 43.7**	**-0.8**
	52nm,0.3s,baz=183,slow=2.0,SNR=23							
HNR				S		**Sn**	**20 13 54.5**	**-3.6**
	8.3nm,0.3s,baz=10,slow=19,SNR=3.9							
HNR				LR		LR	20 15 40.3	
	comp=Z,2μm,19.2s,baz=161,slow=34							
HNR	**Honiara**	**12.13**	**317**	*e*P		**Pn**	**20 11 43.0**	**-1.5**
HNR				*e*S		Sn	20 13 40.0	-18
HNR	**Honiara**	**12.13**	**317**	*e*Pn		**Pn**	**20 11 44.9**	**+0.4**
HNR				S		**Sn**	**20 13 54.5**	**-3.6**
RAO	**Raoul Island**	**16.50**	**133**	LR		LR	20 16 34.2	
	comp=Z,545nm,21.9s,baz=315,slow=28							
OUZ	**Omahuta**	**17.33**	**166**	*e*P		**P**	**20 12 53.8**	**+1.4**
	71nm,1.1s							
EIDS	**Eidsvold**	**17.45**	**244**	P		**P**	**20 12 57.0**	**+3.3**
	baz=18,SNR=12							
EIDS	**Eidsvold**	**17.45**	**244**	*e*P		**P**	**20 12 57.1**	**+3.3**
	252nm,1.5s							
ARMA	**Armidale**	**19.31**	**229**	P		**Pn**	**20 13 17.9**	**+1.9**
	baz=20,SNR=7.3							
ARMA	**Armidale**	**19.31**	**229**	*e*P		**Pn**	**20 13 18.6**	**+2.7**
	47nm,0.8s							
AFI	**Afiamalu**	**19.59**	**80**	P		**P**	**20 13 15.8**	**-1.7**
	7.6nm,0.3s,baz=234,slow=9.5,SNR=12							
AFI				LR		LR	20 18 24.8	
	comp=Z,429nm,22.0s,baz=255,slow=30							
AFI	**Afiamalu**	**19.59**	**80**	*e*P		**Pn**	**20 13 18.9**	**-0.4**
AFI				pmax		pmax		
	comp=Z,236nm,1.1s							
AFI	**Afiamalu**	**19.59**	**80**	*e*P		**Pn**	**20 13 18.9**	**-0.4**
	comp=Z,236nm,1.1s							
RMQ	**Roma**	**19.79**	**243**	P		**Pn**	**20 13 22.0**	**+0.5**
	baz=20,SNR=6.9							
TARA	**Tarawa**	**20.19**	**13**	*e*P		**P**	**20 13 24.2**	**+0.4**
	comp=Z,326nm,1.0s							
CTA	**Charters Tower**	**20.94**	**262**	P		Pn	20 13 34.2	-0.9
	comp=Z,40nm,1.0s,baz=92,slow=13,SNR=18							
CTA				LR		LR	20 20 48.6	
	comp=Z,3μm,20.5s,baz=102,slow=34							
CTAO	**Charters Tower**	**20.94**	**262**	*e*P		Pn	20 13 34.7	-0.4
CTAO				pmax		pmax		
	comp=Z,56nm,0.9s							
CTAO	**Charters Tower**	**20.94**	**262**	*e*P		Pn	20 13 34.7	-0.5
	comp=Z,56nm,0.9s							
URZ	**Urewera**	**21.16**	**161**	P		**P**	**20 13 33.2**	**-0.9**
	comp=Z,13nm,0.8s,baz=274,slow=8.4,SNR=2.8							
URZ				LR		LR	20 20 31.4	
	comp=Z,1μm,21.7s,baz=356,slow=33							
URZ	**Urewera**	**21.16**	**161**	*e*P		**P**	**20 13 35.4**	**+1.3**
	comp=Z,57nm,0.9s							
RABL	**Rabaul**	**21.26**	**310**	*e*P		**P**	**20 13 39.9**	**+4.4**
	comp=Z,288nm,1.4s							
BKZ	**Black Stump Fm**	**21.81**	**163**	*e*P		**P**	**20 13 42.6**	**+1.5**
	comp=Z,54nm,1.1s							
PMG	**Port Moresby**	**22.44**	**291**	P		**P**	**20 13 48.3**	**+0.2**
	comp=Z,64nm,0.9s,baz=138,slow=6.7,SNR=8.6							
PMG	**Port Moresby**	**22.44**	**291**	⇑*i*P		**P**	**20 13 49.1**	**+1.0**
PMG				pmax		pmax		
	comp=Z,360nm,1.3s							
PMG	**Port Moresby**	**22.44**	**291**	*e*P		**P**	**20 13 47.6**	**-0.5**
	comp=Z,79nm,1.0s							
MTSU	**Mount Surprise**	**22.84**	**267**	P		**P**	**20 13 53.1**	**+0.8**
	baz=23,SNR=20							
THZ	**Tophouse**	**23.55**	**171**	*e*P		**P**	**20 14 00.6**	**+1.7**
	comp=Z,44nm,0.7s							
QLP	**Quilpie**	**23.69**	**246**	P		**P**	**20 14 01.2**	**+1.0**
	baz=24,SNR=23							
YNG	**Young**	**23.79**	**225**	P		**P**	**20 14 04.0**	**+2.9**
	baz=24,SNR=12							
CNB	**Canberra Magne**	**23.79**	**221**	P		**P**	**20 14 02.7**	**+1.5**
	baz=24,SNR=12							
CAN	**Canberra**	**24.02**	**222**	*e*P		**P**	**20 14 03.9**	**+0.6**
CAN				pmax		pmax		
	comp=Z,42nm,1.0s							
CAN	**Canberra**	**24.02**	**222**	*e*P		**P**	**20 14 03.9**	**+0.6**
	comp=Z,42nm,1.0s							
CMSA	**Cobar Meteorol**	**24.27**	**233**	P		**P**	**20 14 06.5**	**+1.1**
	baz=24,SNR=80							
LTZ	**Lake Taylor**	**24.48**	**173**	*e*P		**P**	**20 14 08.4**	**+1.2**
	comp=Z,48nm,1.0s							
COEN	**Coen**	**24.59**	**277**	P		**P**	**20 14 09.8**	**+1.3**
	baz=25,SNR=5.6							
COEN	**Coen**	**24.59**	**277**	*e*P		**P**	**20 14 10.1**	**+1.6**
	comp=Z,54nm,1.3s							
OXZ	**Oxford**	**24.99**	**174**	*e*P		**P**	**20 14 12.8**	**+1.0**
	comp=Z,134nm,1.5s							
RPZ	**Rata Peaks**	**25.28**	**175**	P		**P**	**20 14 15.1**	**+0.6**
	comp=Z,23nm,0.8s,baz=312,slow=3.2,SNR=8.6							
RPZ				LR		LR	20 24 20.7	
	comp=Z,1μm,18.0s,baz=10,slow=37							
MANU	**Manus Island**	**26.27**	**306**	*e*P		**P**	**20 14 22.6**	**-1.2**
	comp=Z,46nm,1.1s							
DCZ	**Deep Cove**	**26.95**	**182**	*e*P		**P**	**20 14 30.9**	**+1.4**
	comp=Z,63nm,1.2s							
PATS	**Pohnpei**	**27.02**	**338**	P		**P**	**20 14 30.0**	**-0.4**
	baz=27,SNR=6.7							
PATS	**Pohnpei**	**27.02**	**338**	*e*P		**P**	**20 14 28.9**	**-1.5**
	comp=Z,78nm,1.0s							
QIS	**Mount Isa**	**27.18**	**261**	P		**P**	**20 14 33.1**	**+1.2**
	baz=27,SNR=7.3							
STKA	**Stephens Creek**	**27.58**	**236**	P		**P**	**20 14 36.7**	**+1.4**
	comp=Z,24nm,0.6s,baz=70,slow=8.3,SNR=76							
STKA				PcP		**PcP**	**20 17 52.0**	**+0.3**
	comp=Z,12nm,0.9s,baz=83,slow=4.1,SNR=3.5							
STKA				LR		LR	20 25 09.7	
	comp=Z,936nm,21.6s,baz=95,slow=35							
STKA	**Stephens Creek**	**27.58**	**236**	P		**P**	**20 14 36.8**	**+1.4**
	baz=28,SNR=63							
STKA	**Stephens Creek**	**27.58**	**236**	*e*P		**P**	**20 14 36.8**	**+1.4**
STKA							20 17 52.1	
STKA				pmax		pmax		
	comp=Z,36nm,1.5s							
STKA	**Stephens Creek**	**27.58**	**236**	*e*P		**P**	**20 14 36.8**	**+1.4**
	comp=Z,36nm,1.5s							
STKA				PcP		**PcP**	**20 17 52.0**	**+0.3**
ARPS	**Mount Arapiles**	**29.60**	**227**	P		**P**	**20 14 54.4**	**+1.1**
	baz=30,SNR=6.6							
RAR	**Rarotonga**	**30.07**	**101**	LR		LR	20 24 40.7	
	comp=Z,439nm,21.3s,baz=254,slow=32							
HTT	**Hallett**	**30.26**	**235**	P		**P**	**20 15 00.7**	**+1.5**
	baz=30,SNR=4.6							
JAY	**Jayapura**	**31.39**	**297**	LR		LR	20 27 38.6	
	comp=Z,45nm,20.6s,baz=152,slow=36							
JAY	**Jayapura**	**31.39**	**297**	P		**P**	**20 15 08.9**	**-0.5**
GENI	**Genyem**	**31.81**	**296**	P		**P**	**20 15 14.0**	**+1.0**
WB2	**Warramunga Arr**	**32.13**	**262**	*e*P		**P**	**20 15 14.9**	**-0.9**
WRAB	**Tennant Creek**	**32.13**	**262**	*c i*P		**P**	**20 15 15.2**	**-0.6**
WRAB				pmax		pmax		
	comp=Z,39nm,2.5s							
WRAB	**Tennant Creek**	**32.13**	**262**	*e*P		**P**	**20 15 14.7**	**-1.1**
	comp=Z,13nm,0.8s							
WRA	**Warramunga Arr**	**32.14**	**262**	P		**P**	**20 15 15.2**	**-0.8**
	comp=Z,2.8nm,0.5s,baz=87,slow=8.4,SNR=62							
WRA				PcP		**PcP**	**20 18 03.3**	**-0.4**
	comp=Z,8.7nm,0.9s,baz=96,slow=2.7,SNR=8.7							
WRA				ScP		**ScP**	**20 21 44.6**	**+3.0**
	comp=Z,1.4nm,1.1s,baz=84,slow=3.7,SNR=3.0							
WRA				PKiKP		**PKiKP**	**20 25 30.0**	**-1.9**
	comp=Z,0.9nm,0.6s,baz=1.5,slow=0.3,SNR=14							
WRA				LR		LR	20 27 18.7	
	comp=Z,1μm,22.0s,baz=100,slow=34							
WRA				P3KPbc			20 46 44.7	
	comp=Z,1.9nm,0.9s,baz=290,slow=2.7,SNR=9.3							
BBOO	**Buckleboo**	**32.30**	**237**	P		**P**	**20 15 18.1**	**+1.0**
	baz=32,SNR=40							
BBOO	**Buckleboo**	**32.30**	**237**	*e*P		**P**	**20 15 18.0**	**+0.8**
	comp=Z,40nm,0.8s							
AS01	**Alice Springs**	**32.48**	**255**	*e*P		**P**	**20 15 18.6**	**-0.3**
AS31	**Alice Springs**	**32.52**	**255**	*e*P		**P**	**20 15 19.3**	**0.0**
	comp=Z,24nm,0.6s							
ASAR	**Alice Springs**	**32.53**	**255**	P		**P**	**20 15 19.6**	**+0.3**
	comp=Z,31nm,0.7s,baz=84,slow=8.4,SNR=334							
ASAR				PcP		**PcP**	**20 18 04.7**	**-0.1**
	comp=Z,6.2nm,0.9s,baz=94,slow=3.2,SNR=6.7							
ASAR				S		**S**	**20 20 30.1**	**+0.2**
	comp=Z,1.4nm,1.1s,baz=97,slow=22,SNR=4.0							
ASAR				ScP		**ScP**	**20 21 45.5**	**+2.5**
	comp=Z,0.5nm,0.8s,baz=70,slow=5.3,SNR=2.5							
ASAR				PKiKP		**PKiKP**	**20 25 30.1**	**-1.9**
	comp=Z,0.7nm,0.6s,baz=100,slow=1.1,SNR=12							
ASAR				LR		LR	20 27 59.5	
	comp=Z,2μm,20.8s,baz=92,slow=35							
SMPI	**Sarmi**	**33.36**	**296**	P		**P**	**20 15 27.3**	**+0.7**
MTN	**Manton Dam**	**36.24**	**273**	P		**P**	**20 15 51.8**	**+0.3**
	baz=36,SNR=7.7							
MTN	**Manton Dam**	**36.24**	**273**	*e*P		**P**	**20 15 51.9**	**+0.5**
	comp=Z,27nm,0.8s							
WRKA	**Warakurna**	**37.69**	**253**	P		**P**	**20 16 03.9**	**+0.2**
	baz=38,SNR=36							
FORT	**Forrest**	**38.45**	**244**	P		**P**	**20 16 10.5**	**+0.5**
	baz=39,SNR=35							
FORT	**Forrest**	**38.45**	**244**	*e*P		**P**	**20 16 10.5**	**+0.5**
	comp=Z,571nm,0.6s							
FAKI	**Fak Fak**	**38.59**	**289**	P		**P**	**20 16 11.3**	**0.0**
FAKI	**Fak Fak**	**38.59**	**289**	*e*P		**P**	**20 16 11.6**	**+0.3**
	comp=Z,140nm,1.4s							
GUMO	**Guam**	**39.38**	**322**	LR		LR	20 30 29.4	
	comp=Z,893nm,20.

SSE PcP **PcP** **20 20 08.0 -0.1**
SSE pmax pmax
comp=Z,57nm,0.7s
SSE pmax pmax
comp=Z,240nm,5.9s
SSE LR LR
comp=Z,150nm,33.5s
SSE LR LR
comp=Z,170nm,33.5s
SSE LR LR
comp=Z,170nm,25.0s
KSRS Korea Array 67.40 326 P **P** **20 19 43.1 +0.3**
comp=Z,11nm,1.0s,baz=140,slow=6.5,SNR=23
KSRS LR LR 20 47 44.7
comp=Z,146nm,20.6s,baz=121,slow=35
KSAR Wonju Array Be 67.41 326 P **P** **20 19 43.1 +0.2**
KSAR Wonju Array Be 67.41 326 P **P** **20 19 43.1 +0.2**
KS01 Wonju Array Si 67.43 326 *eP* **P** **20 19 43.1 +0.1**
INCN Inchon 68.11 325 *eP* **P** **20 19 48.3 +0.9**
comp=Z,61nm,1.0s
KTGM Kuala Trenggan 68.47 284 ⇓P **P** **20 19 51.9 +1.8**
QIZ Qiongzhong 68.48 300 P **P** **20 19 51.4 +1.4**
QIZ PP **PP** **20 22 26.0 +3.9**
QIZ S **S** **20 28 46.8 -0.4**
QIZ SS **SS** **20 33 12.6 +0.1**
QIZ pmax pmax
comp=Z,170nm,7.3s
QIZ LR LR
comp=Z,200nm,31.0s
BKNI Bangkinang 68.65 278 *eP* **P** **20 19 51.8 +0.6**
comp=Z,167nm,1.0s
NJ2 Nanjing 69.08 316 *eP* **P** **20 19 54.0 +0.6**
NJ2 pmax pmax
comp=Z,12nm,0.5s
YSS Yuzhi-Sakhalins 69.08 342⇑ *eP* **P** **20 19 53.7 +0.6**
YSS *eS* **S** **20 28 56.3 +3.2**
YSS pmax pmax
comp=Z,60nm,0.9s
YSS pmax pmax
comp=N,50nm,1.3s
YSS pmax pmax
comp=Z,200nm,2.2s
YSS MLR MLR
comp=Z,400nm,19.0s
YSS MLR MLR
comp=N,300nm,18.0s
YSS Yuzh-Sakhalins 69.08 342 *eP* **P** **20 19 53.9 +0.8**
comp=N,98nm,1.2s
FRIM Kepong 69.11 281⇑P **P** **20 19 54.7 +0.6**
MSHR Mys Shultsa 69.74 332⇓ *eP* **P** **20 19 58.5 +1.2**
USRK Ussuriysk Ar. 70.67 333 P **P** **20 20 03.6 +0.7**
comp=N,15nm,0.8s,baz=137,slow=5.4,SNR=38
USRK LR LR 20 48 27.3
comp=N,125nm,20.3s,baz=141,slow=34
KULM Kulim 70.76 283 *eP* **P** **20 20 04.6 +0.4**
comp=N,24nm,1.0s
WHN Wuhan 71.22 312⇓ *i*P **P** **20 20 07.6 +1.0**
SKLT Songkhla 71.48 284 P **P** **20 20 09.4 +0.9**
comp=N,47nm,1.1s,comp=N,636nm
PSI Prapat 71.48 279 *eP* **P** **20 20 08.0 -0.7**
PSI pmax pmax
comp=Z,51nm,1.0s
PSI Prapat 71.48 279 *eP* **P** **20 20 08.0 -0.7**
comp=Z,50nm,1.0s
QSPA South Pole Qui 71.59 180 *eP* **P** **20 20 08.4 -0.2**
comp=Z,368nm,1.0s
PET Petropavlovsk 71.68 354 *eP* **P** **20 20 10.6 +1.8**
PET *eS* **S** **20 29 27.3 +4.1**
PEA0 Petropavlovsk- 71.86 353 *eP* **P** **20 20 10.3 +0.4**
PETK Petropavlovsk- 71.86 353 P **P** **20 20 09.5 -0.4**
comp=Z,5.9nm,0.8s,baz=145,slow=7.9,SNR=4.5
PETK LR LR 20 47 08.9
comp=Z,353nm,20.6s,baz=166,slow=32
PETK Petropavlovsk- 71.86 353 P **P** **20 20 09.5 -0.4**
PETK pmax pmax
comp=Z,5.0nm,0.8s
PETK MLR MLR
comp=Z,353nm,20.6s
DL2 Dalian 71.90 323 P **P** **20 20 09.3 -1.2**
DL2 pmax pmax
comp=Z,110nm,0.8s
MDJ Mudanjiang 72.05 332 P **P** **20 20 11.7 +0.4**
MDJ pP sP 20 20 34.3 -2.3
MDJ S **S** **20 29 26.9 -0.9**
MDJ sS SKSac 20 30 06.2 -3.3
MDJ ScS **SKKSac** **20 30 08.8 -0.8**
MDJ SS **SS** **20 34 05.7 -0.9**
MDJ pmax pmax
comp=Z,39nm,1.2s
MDJ pmax pmax
comp=Z,220nm,5.4s
MDJ LR LR
comp=Z,170nm,28.5s
MDJ LR LR
comp=Z,130nm,25.4s
MDJ LR LR
comp=Z,280nm,27.9s
SKNT Sakolnakorn 72.46 295 P **P** **20 20 15.5 +1.2**
comp=Z,95nm,1.2s
TIA Tai'an 72.81 319 *eP* **P** **20 20 16.0 0.0**
TIA pmax pmax
comp=Z,40nm,1.0s
HABR Khabarovsk 72.96 338 *ceP* **P** **20 20 15.9 -0.7**
HABR *e**SP **PcP** **20 20 30.3 -2.9**
HABR *e* 20 20 32.5
HABR *e* 20 22 58.3
HABR *e*PPP PPP 20 24 43.2
HABR *e*S **SKiKP** **20 29 40.9 -2.6**
HABR *e* 20 30 21.0
HABR SS **SS** **20 34 23.0 +2.6**
HABR pmax pmax
comp=E,30nm,1.2s
HABR pmax pmax
comp=Z,32nm,1.9s
HABR pmax pmax
comp=N,57nm,1.9s
HABR MLR MLR
comp=Z,210nm,23.0s
CN2 Changchun 73.36 329 *eP* **P** **20 20 18.7 -0.4**
CN2 pmax pmax
comp=Z,10.0nm,0.5s
NONG Nongkai 73.65 296 P **P** **20 20 22.6 +1.3**
comp=Z,38nm,1.6s
SLVN Son La 74.47 299 *eP* **P** **20 20 27.2 +1.0**
comp=Z,7.7nm,0.8s
ENH Enshi 74.54 310 *eP* **P** **20 20 26.8 +0.4**
comp=Z,17nm,0.6s
PHET Kaeng Krachan 74.59 290 P **P** **20 20 30.1 +3.2**
comp=Z,9.1nm,0.9s
GYA Guiyang 74.70 305 P **P** **20 20 29.0 +1.6**
GYA pP sP 20 20 53.4 +0.6
GYA PP **PP** **20 23 19.2 +3.7**
GYA S **S** **20 29 57.0 -1.8**
GYA SKS **SKSac** **20 30 24.8 -5.7**
GYA sS ScS 20 30 39.6 +5.8
GYA pmax pmax
comp=Z,20nm,1.0s
GYA pmax pmax
comp=Z,120nm,6.2s
KLR Kul'dur 74.82 336 P **P** **20 20 27.6 +0.1**
comp=Z,18nm,1.1s,baz=128,slow=3.4,SNR=24
SRDT SRDT 75.61 291 P **P** **20 20 35.6 +2.9**
comp=Z,203nm,1.2s,comp=Z,3µm
UTTA Uttaradit 75.74 294 P **P** **20 20 36.0 +2.6**
comp=Z,7.6nm,1.0s
BJT Baijiatuau 75.80 321 P **P** **20 20 33.4 +0.1**
BJT pmax pmax
comp=Z,32nm,1.0s
BJT Baijiatuau 75.80 321 P **P** **20 20 33.4 +0.1**
comp=Z,32nm,1.0s
BJI Beijing 75.81 321 P **P** **20 20 33.4 +0.1**
BJI S **S** **20 30 10.9 +0.6**
BJI SS **SS** **20 35 05.9 +1.8**
BJI pmax pmax
comp=Z,35nm,1.2s
BJI pmax pmax
comp=Z,260nm,4.0s
BJI LR LR
comp=Z,250nm,32.1s
BJI LR LR
comp=Z,240nm,36.0s
BJI LR LR
comp=Z,390nm,36.0s
SUKH Sukhothai 76.43 294 P **P** **20 20 39.5 +2.1**
comp=Z,9.5nm,0.9s,comp=Z,101nm
UMPA Umpang Tak 76.59 292 P **P** **20 20 40.8 +2.5**
comp=Z,13nm,1.0s
LAMP Lampang 76.86 295 P **P** **20 20 42.0 +2.2**
comp=Z,19nm,0.9s
XAN Xi'an 76.98 313 P **P** **20 20 40.7 +0.5**
XAN pmax pmax
comp=Z,32nm,1.2s
XAN pmax pmax
comp=Z,270nm,5.8s
KMI Kunming 77.16 302 P **P** **20 20 43.2 +1.6**
KMI pP sP 20 21 07.6 +0.5
KMI sP pP 20 21 17.9 +18
KMI S **S** **20 30 26.4 +0.2**
KMI pmax pmax
comp=Z,33nm,1.5s
KMI pmax pmax
comp=Z,390nm,4.2s
KMI LR LR
comp=Z,120nm,4.8s
KMI LR LR
comp=Z,150nm,6.7s
KMI LR LR
comp=Z,120nm,8.7s
CM01 Chiang Mai Arr 77.40 294 *eP* **P** **20 20 44.5 +1.6**
CM31 Chiang Mai Arr 77.43 294 *eP* **P** **20 20 45.3 +2.3**
CMAR Chiang Mai Arr 77.43 294 P **P** **20 20 44.6 +1.6**
comp=Z,22nm,0.9s,baz=131,slow=4.3,SNR=78
CMAR Chiang Mai Arr 77.43 294 *ceP* **P** **20 20 44.9 +1.9**
CMAR pmax pmax
comp=Z,23nm,0.9s
SPIA Saint Paul Isl 77.44 12 *eP* **P** **20 20 45.8 +3.7**
comp=Z,1µm,1.8s
CMMT Chiang Mai 77.57 295 P **P** **20 20 45.3 +1.5**
comp=Z,51nm,1.3s,comp=Z,755nm
CHTO Chiang Mai 77.58 295 P **P** **20 20 45.4 +1.7**
comp=Z,228nm,1.3s,comp=Z,3µm
CHTO Chiang Mai 77.58 295 *eP* **P** **20 20 45.5 +1.7**
CHTO pmax pmax
comp=Z,35nm,0.9s
CHTO Chiang Mai 77.58 295 *eP* **P** **20 20 45.5 +1.7**
comp=Z,36nm,0.9s
MAW Mawson 78.85 202 P **P** **20 20 51.0 +1.1**
comp=Z,25nm,1.0s,baz=115,slow=7.3,SNR=13
MAW LR LR 20 50 32.2
comp=Z,463nm,21.4s,baz=72,slow=32
MAW Mawson 78.85 202 P **P** **20 20 51.3 +1.4**
baz=79,SNR=5.1
MAW Mawson 78.85 202 P **P** **20 20 51.0 +1.1**
MAW pmax pmax
comp=Z,25nm,1.0s
MAW MLR MLR
comp=Z,463nm,21.4s
MAW Mawson 78.85 202 *eP* **P** **20 20 51.4 +1.4**
comp=Z,7.8nm,1.1s
HHC Hu-ho-hao-te 79.09 320 *eP* **P** **20 20 52.9 +1.1**
HHC S **S** **20 30 43.8 -2.3**
HHC pmax pmax
comp=Z,31nm,0.9s
HHC pmax pmax
comp=Z,150nm,6.8s
HHC LR LR
comp=Z,260nm,14.8s
HHC LR LR
comp=Z,230nm,16.0s
HHC LR LR
comp=Z,240nm,16.0s
CD2 Chengdu 79.11 308⇑ *i*P **P** **20 20 52.8 +0.7**
CD2 PcP **PcP** **20 21 01.2 +0.9**
CD2 S **S** **20 30 43.5 -3.0**
CD2 SS **SS** **20 35 50.4 -3.9**
CD2 pmax pmax
comp=Z,40nm,1.1s
CD2 pmax pmax
comp=Z,470nm,7.1s
CD2 LR LR
comp=Z,360nm,17.8s
CD2 LR LR
comp=Z,590nm,17.8s
LZH Lanzhou 81.59 312 *eP* **P** **20 21 07.4 +2.0**
LZH pP sP 20 21 32.8 +1.8
LZH sP pP 20 21 44.6 +21
LZH PP **PP** **20 24 15.0 +2.0**
LZH *e*S **S** **20 31 14.3 +1.7**
LZH SS **SS** **20 36 30.0 -1.5**
LZH pmax pmax
comp=Z,130nm,1.6s
LZH pmax pmax
comp=Z,430nm,4.5s
LZH LR LR
comp=Z,330nm,19.6s
SEY Seymchan 82.09 353 P **P** **20 21 06.7 -0.5**
comp=Z,10nm,0.9s,baz=161,slow=5.8,SNR=6.9
KDAK Kodiak Island 82.58 20 LR LR 20 52 07.4
comp=Z,1µm,19.2s,baz=219,slow=32
CLNS Chul'man 83.36 338 *eP* **P** **20 21 12.1 -1.9**
CLNS pmax pmax
comp=Z,26nm,1.2s
CLNS pmax pmax
comp=N,18nm,1.1s
CLNS pmax pmax
comp=E,9.0nm,1.0s
SYO Syowa Base 85.45 196⇓ *e*P **P** **20 21 23.0 -1.4**
SYO Syowa Base 85.45 196⇓ *e*PcP **PcP** **20 21 26.4 -1.0**
ULN Ulaanbaatar 85.75 324 *ci*P **P** **20 21 26.6 +0.2**
ULN pmax pmax
comp=Z,69nm,1.7s
ULN Ulaanbaatar 85.75 324 *eP* **P** **20 21 26.4 0.0**
comp=Z,33nm,0.9s
KCPM Cahto Peak 85.78 46 *eP* **P** **20 21 29.2 +2.5**
comp=Z,67nm,0.9s
TT01 Tatalina 85.78 16 *eP* **P** **20 21 28.0 +2.0**
TTA Tatalina 85.80 15 *eP* **P** **20 21 26.6 +0.4**
TTA pmax pmax
comp=Z,13nm,1.1s
TTA Tatalina 85.80 15 *eP* **P** **20 21 26.6 +0.4**
comp=Z,13nm,1.1s
SNCC San Nicolas Is 85.83 53 P **P** **20 21 26.8 -0.2**
baz=245
YAK Yakutsk 85.88 343 P **P** **20 21 26.2 -0.3**
comp=Z,15nm,0.3s,baz=104,slow=2.4,SNR=23
YAK LR LR 20 55 00.2
comp=Z,344nm,21.7s,baz=110,slow=32
YAK Yakutsk 85.88 343 *eP* **P** **20 21 26.4 -0.1**
YAK pmax pmax
comp=Z,75nm,1.0s
YAK pmax pmax
comp=E,15nm,1.1s
YAK pmax pmax
comp=N,22nm,1.3s
YAK Yakutsk 85.88 343 *eP* **P** **20 21 26.4 -0.1**
comp=N,104nm,1.1s
GTA Gaotai 85.99 314⇓P **P** **20 21 27.9 +0.1**
GTA S **S** **20 31 56.1 -0.5**
GTA SS **SS** **20 37 38.6 +2.3**
GTA pmax pmax
comp=N,25nm,1.4s
GTA pmax pmax
comp=N,210nm,5.7s
GTA LR LR
comp=N,220nm,20.0s
GTA LR LR
comp=N,160nm,20.4s
GTA LR LR
comp=N,190nm,20.0s
SONM Songino Array 86.10 323 P **P** **20 21 28.2 +0.1**
comp=N,19nm,0.9s,baz=144,slow=5.5,SNR=99
SONM PKKPbc **PKKPbc** **20 39 27.2 -2.1**
comp=N,0.2nm,0.5s,baz=230,slow=3.1,SNR=3.5
SONM LR LR 21 01 35.2
comp=N,61nm,18.5s,baz=118,slow=37
SONA1 Songino Array 86.10 323 *eP* **P** **20 21 27.6 -0.6**
KHMM Horse Mountain 86.23 45 *eP* **P** **20 21 31.6 +2.6**
comp=N,58nm,0.9s
PKM Mcpherson Peak 86.31 52 P **P** **20 21 29.3 -0.2**
baz=245
KRMB Red Mountain 86.42 44 *eP* **P** **20 21 32.0 +2.2**
comp=N,35nm,1.0s
WDC Whiskeytown Da 86.90 45 *eP* **P** **20 21 32.4 +0.4**
WDC pmax pmax
comp=Z,32nm,1.0s
WDC Whiskeytown Da 86.90 45 *eP* **P** **20 21 32.4 +0.4**
comp=Z,32nm,1.0s
L02D Cave Junction, 86.92 44 P **P** **20 21 31.8 -0.4**
baz=242
N02D Trinity Center 86.97 45 P **P** **20 21 32.6 +0.2**
baz=242,SNR=18
M02C Callahan 87.06 45 P **P** **20 21 32.9 0.0**
baz=242,SNR=13
CAST Castle Rocks 87.23 17 *eP* **P** **20 21 33.1 0.0**
comp=Z,6.3nm,0.8s
AFDM Forest Hills D 87.24 47 *eP* **P** **20 21 33.8 0.0**
comp=Z,29nm,1.0s
CMB Columbia Colle 87.25 48 *eP* **P** **20 21 33.8 -0.1**
CMB pmax pmax
comp=Z,107nm,0.9s
CMB Columbia Colle 87.25 48 *eP* **P** **20 21 33.8 -0.1**
comp=Z,107nm,0.9s
VES Vestal, Richgr 87.25 51 P **P** **20 21 33.2 -0.7**
baz=245
O03D Paynes Creek 87.27 46 P **P** **20 21 33.3 -0.6**
baz=243
MWC Mount Wilson 87.35 53 *eP* **P** **20 21 36.2 +1.6**
MWC pmax pmax
comp=Z,13nm,0.8s
MWC Mount Wilson 87.35 53 *eP* **P** **20 21 36.2 +1.6**
comp=Z,13nm,0.8s
109C Camp Elliot, M 87.53 54 P **P** **20 21 35.0 -0.2**
baz=246
HUMO Hull Mountain 87.56 43 *eP* **P** **20 21 37.0 +1.8**
comp=Z,31nm,0.9s
ISA Isabella, Lake 87.63 51 P **P** **20 21 35.5 -0.2**
baz=245
ISA Isabella, Lake 87.63 51 *eP* **P** **20 21 35.6 -0.2**
ISA pmax pmax
comp=Z,10.0nm,0.9s
ISA Isabella, Lake 87.63 51 *eP* **P** **20 21 35.6 -0.2**
comp=Z,10nm,0.9s
BFSC Mount Baldy Ra 87.66 53 P **P** **20 21 35.9 -0.1**
baz=246
KTH Kantishna Hill 87.66 17 *eP* **P** **20 21 35.4 +0.2**
comp=Z,16nm,1.4s
EDW2 Edwards Air Fo 87.67 52 P **P** **20 21 35.6 -0.3**
baz=246
MURC Murrieta 87.75 54 P **P** **20 21 36.0 -0.3**
baz=246
TRF Thorofare Moun 87.76 17 *eP* **P** **20 21 37.2 +1.3**
comp=Z,29nm,1.7s
I03D Drain, OR 87.81 42 P **P** **20 21 36.1 -0.2**
baz=242
M04C Macdoel 87.92 45 P **P** **20 21 36.4 -0.6**
baz=243,SNR=8.8
MONP Monument Peak, 88.06 54 P **P** **20 21 37.2 -0.9**
baz=247
WAKR Walker 88.13 48 *eP* **P** **20 21 38.7 +0.4**
comp=Z,42nm,1.5s
LRMC Laurel Mtn Rad 88.14 52 P **P** **20 21 38.0 -0.3**
baz=246
IKP In-Ko-Pah, Jac 88.21 55 P **P** **20 21 38.4 -0.2**
baz=247
CWC Cottonwood Cre 88.24 51 P **P** **20 21 38.2 -0.5**
baz=246
PNTR Pine Nut 88.26 48 *eP* **P** **20 21 39.7 +0.8**
comp=Z,18nm,0.9s
BOD Bodaibo 88.27 334 *eP* **P** **20 21 36.7 -1.5**
BOD pmax pmax
comp=Z,30nm,1.7s
PFO Pinyon Flats O 88.32 54 P **P** **20 21 38.7 -0.5**
baz=247
TPFO Pinon Flats 88.32 54 P **P** **20 21 38.6 -0.6**
baz=247
K04D Chiloquin, OR 88.35 44 P **P** **20 21 38.9 -0.3**
baz=243
J04D Umpqua Nationa 88.40 43 P **P** **20 21 38.9 -0.5**
baz=243
LSA Lhasa 88.42 302 P **P** **20 21 40.4 +0.2**
LSA pmax pmax
comp=Z,6.0nm,1.2s
LSA Lhasa 88.42 302 *eP* **P** **20 21 41.1 +1.0**
LSA pmax pmax
comp=Z,40nm,1.9s
LSA Lhasa 88.42 302 *eP* **P** **20 21 41.1 +1.0**
comp=Z,40nm,1.9s
I04A Tendick Farm, 88.46 43 P **P** **20 21 39.1 -0.4**
baz=243,SNR=6.0
YERR Yerington 88.47 48 *eP* **P** **20 21 40.1 +0.3**
comp=Z,28nm,1.5s
TVH3 East Aurora ar 88.50 49 *eP* **P** **20 21 41.1 +1.0**
comp=Z,19nm,1.5s
MPMC Manual Prospec 88.52 51 P **P** **20 21 39.7 -0.5**
baz=246
TVH2 Borealis Mine 88.56 49 *eP* **P** **20 21 40.6 +0.3**
comp=Z,35nm,2.0s
SWSC Sam W. Stewart 88.56 55 P **P** **20 21 40.2 +0.1**
baz=247
G03D McMinnville, O 88.58 41 P **P** **20 21 39.2 -0.7**
baz=242
TVH1 TV Hill, Hawth 88.59 49 *eP* **P** **20 21 41.5 +0.8**
comp=Z,64nm,1.9s
PAHR Pah Rah Range 88.68 47 *eP* **P** **20 21 40.8 +0.1**
comp=Z,28nm,1.2s
BELC Belle Mtn. Jos 88.82 54 P **P** **20 21 41.1 -0.5**
baz=247
HEC Hector,Ludlow 88.89 53 P **P** **20 21 41.1 -0.6**
baz=247
K05A Summer Lake 88.97 44 *eP* **P** **20 21 42.4 +0.3**
comp=Z,33nm,0.9s
J05D Fort Rock, OR 88.99 43 P **P** **20 21 41.1 -1.0**
baz=243,SNR=9.3
GRAC Grapevine Rang 88.99 50 P **P** **20 21 41.7 -0.5**
baz=246
MOD Modoc Plateau 89.00 45 *eP* **P** **20 21 42.2 0.0**
comp=Z,31nm,1.0s
E03A Lebam 89.03 40 *eP* **P** **20 21 43.7 +1.7**
comp=Z,45nm,1.0s
BC3 Big Chuckawall 89.11 54 P **P** **20 21 42.0 -0.9**
baz=247
WRH Wood River Hil 89.17 17 *eP* **P** **20 21 41.9 -0.3**
comp=Z,6.6nm,1.1s
NLWA Neilton Lookou 89.24 39 *eP* **P** **20 21 44.9 +1.9**
comp=Z,17nm,1.0s
GLA Glamis 89.36 55 P **P** **20 21 43.5 -0.4**
baz=248
GLA Glamis 89.36 55 *eP* **P** **20 21 45.2 +1.2**
GLA pmax pmax
comp=Z,10.0nm,0.9s
GLA Glamis 89.36 55 *eP* **P** **20 21 45.2 +1.2**
comp=Z,10.0nm,0.9s
CCB Clear Creek Bu 89.38 17 *eP* **P** **20 21 42.2 -1.0**
comp=Z,4.6nm,1.1s
GMRC Granite Mounta 89.39 53 P **P** **20 21 43.5 -0.6**
baz=247
I05D Terrebonne, OR 89.40 42 P **P** **20 21 43.5 -0.4**
baz=243,SNR=9.4
F04A Amboy 89.44 41 *eP* **P** **20 21 45.2 +1.3**
comp=Z,24nm,0.8s
TUQ Turquoise Moun 89.44 52 P **P** **20 21 43.9 -0.5**
baz=247
HDA Harding Lake 89.44 18 *eP* **P** **20 21 43.5 -0.1**
comp=Z,131nm,1.9s
MDM Murphy Dome 89.50 17 *eP* **P** **20 21 43.3 -0.6**
comp=Z,10nm,1.2s
NVL N'lazarevskaya 89.52 188 *eP* **P** **20 21 45.1 +1.1**
IRM Iron Mountain 89.54 54 P **P** **20 21 44.3 -0.5**
baz=247
TLY Talaya 89.65 326 *eP* **P** **20 21 44.7 -0.1**
TLY pmax pmax
comp=Z,13nm,0.9s
TLY MLR MLR
comp=Z,107nm,19.0s
TLY Talaya 89.65 326 *eP* **P** **20 21 44.6 -0.2**
comp=Z,10nm,0.8s
ILAR Eielson Array 89.73 18 P **P** **20 21 42.5 -2.3**
comp=Z,2.8nm,0.8s,baz=239,slow=5.5,SNR=14
ILAR LR LR 20 55 39.2
comp=Z,368nm,21.6s,baz=225,slow=31
ILB Eielson Array 89.73 18 *eP* **P** **20 21 44.9 0.0**
IL1 Eielson Array 89.73 18 *eP* **P** **20 21 43.4 -1.5**
TPNV Topopah Spring 89.79 51 P **P** **20 21 45.3 -0.7**
baz=247
TPNV Topopah Spring 89.79 51 *eP* **P** **20 21 46.0 -0.1**
TPNV pmax pmax
comp=Z,9.0nm,0.8s
TPNV Topopah Spring 89.79 51 *eP* **P** **20 21 46.0 -0.1**
comp=Z,8.6nm,0.8s
G05D Wamic, OR 89.82 42 P **P** **20 21 45.7 -0.1**
baz=243,SNR=5.4
Y12C Blythe 89.86 54 P **P** **20 21 45.9 -0.3**
baz=248
Y12C Blythe 89.86 54 *eP* **P** **20 21 46.7 +0.5**
comp=Z,16nm,1.2s
SNAA Sanae 89.90 183 P **P** **20 21 45.2 -0.7**
SNAA Sanae 89.90 183 P **P** **20 21 44.9 -1.0**
comp=Z,11nm,0.8s,baz=211,slow=10.0,SNR=47
SNAA Sanae 89.90 183 *ci*P **P** **20 21 45.2 -0.7**
SNNA Sanae 89.90 183 *eP* **P** **20 21 45.1 -0.7**
comp=Z,15nm,0.9s

PGC	Sidney	90.09	38	*e*P		P	20 21 48.0	+1.1
	comp=Z,36nm,0.9s							
D05A	Enumclaw	90.28	40	*e*P		P	20 21 46.7	-1.2
	comp=Z,104nm,1.3s							
WVOR	Wild Horse Val	90.34	45	*e*P		P	20 21 47.7	-0.8
WVOR					pmax	pmax		
	comp=Z,36nm,1.1s							
WVOR	Wild Horse Val	90.34	45	*e*P		P	20 21 47.7	-0.8
	comp=Z,36nm,1.1s							
PDMCI	Parker Dam,Lak	90.36	54	P		P	20 21 48.0	-0.6
	baz=248							
SHPR	Sheep Range	90.43	52	*e*P		P	20 21 49.5	+0.4
	comp=Z,20nm,1.5s							
BMN	Battle Mountai	90.49	47	*e*P		P	20 21 48.1	-1.1
BMN					pmax	pmax		
	comp=Z,15nm,0.9s							
BMN	Battle Mountai	90.49	47	*e*P		P	20 21 48.1	-1.1
	comp=Z,15nm,0.9s							
VNA3	Neumayer Olymp	90.53	181	P		P	20 21 47.8	-0.9
214A	Organ Pipe Nat	90.53	57	P		P	20 21 49.0	-0.5
	baz=249							
214A	Organ Pipe Nat	90.53	57	*e*P		P	20 21 49.2	-0.2
	comp=Z,41nm,1.1s							
A04D	Lummi Island	90.56	38	P		P	20 21 49.0	0.0
	baz=242							
B05A	Bryant	90.71	39	P		P	20 21 49.8	+0.1
	baz=243,SNR=10							
COLD	Coldfoot	90.73	15	*e*P		P	20 21 48.5	-1.0
	comp=Z,5.4nm,1.1s							
R11A	Troy Canyon, C	90.83	50	P		P	20 21 50.1	-0.8
	baz=247							
R11A	Troy Canyon, C	90.83	50	*e*P		P	20 21 50.4	-0.5
	comp=Z,3.3nm,0.9s							
W13A	Hualapai Mount	90.85	53	*e*P		P	20 21 51.2	+0.1
	comp=Z,9.2nm,0.9s							
MOY	Mondy	91.08	325	*e*P		P	20 21 51.8	+0.2
VNA1	Neumayer--Stat	91.10	181	P		P	20 21 51.2	-0.1
Y14A	Wickenburg	91.10	55	*e*P		P	20 21 53.0	+0.9
	comp=Z,24nm,1.0s							
C06D	Leavenworth	91.27	39	P		P	20 21 52.3	-0.2
	baz=244							
HAWA	Hanford	91.44	41	*e*P		P	20 21 53.5	+0.2
	comp=Z,37nm,0.9s							
EGAK	Eagle	91.46	19	*e*P		P	20 21 53.9	+1.0
	comp=Z,9.2nm,1.3s							
LLLB	Lillooet	91.90	37	*e*P		P	20 21 55.9	+0.5
	comp=Z,19nm,0.9s							
TOLK	Toolik Lake Re	91.98	14	P		P	20 21 55.6	+0.3
	baz=220							
LCMT	Little Creek M	92.04	52	*e*P		P	20 21 56.6	+0.1
	comp=Z,12nm,0.9s							
D08A	Wollman Farm,	92.11	41	*e*P		P	20 21 55.6	-0.7
	comp=Z,12nm,0.9s							
CCUT	Cedar City	92.15	51	*e*P		P	20 21 57.7	+0.6
	comp=Z,9.1nm,1.1s							
BMO	Blue Mountains	92.22	43	*e*P		P	20 21 56.5	-0.5
BMO					pmax	pmax		
	comp=Z,8.0nm,1.1s							
BMO	Blue Mountains	92.22	43	*e*P		P	20 21 56.5	-0.5
	comp=Z,7.6nm,1.1s							
TUC	Tucson	92.26	57	P		P	20 21 56.8	-0.7
	baz=250							
TUC	Tucson	92.26	57	*e*P		P	20 21 57.3	-0.2
TUC					pmax	pmax		
	comp=Z,8.0nm,1.0s							
TUC	Tucson	92.26	57	*e*P		P	20 21 57.3	-0.2
	comp=Z,8.5nm,1.0s							
KNB	Kanab	92.36	52	*e*P		P	20 21 58.4	+0.4
KNB					pmax	pmax		
	comp=Z,32nm,1.4s							
KNB	Kanab	92.36	52	*e*P		P	20 21 58.4	+0.4
	comp=Z,32nm,1.4s							
E09A	Wood Farm, Sta	92.36	42	*e*P		P	20 21 57.2	-0.3
	comp=Z,16nm,1.3s							
B08A	Colville Reser	92.40	39	*e*P		P	20 21 57.1	-0.6
	comp=Z,14nm,1.0s							
X16A	Lo Mia Camp, P	92.48	55	*e*P		P	20 21 59.0	+0.3
	comp=Z,15nm,0.9s							
U15A	North Rim	92.55	53	*e*P		P	20 21 59.3	+0.3
	comp=Z,15nm,0.8s							
MFID	Camas Ranch	92.63	45	*e*P		P	20 21 57.9	-1.1
	comp=Z,11nm,1.4s							
F10A	Beach Ranch, E	92.72	42	*e*P		P	20 21 59.6	+0.2
	comp=Z,8.1nm,0.8s							
WUAZ	Wupatki	92.92	54	P		P	20 22 00.2	-0.4
	baz=250							
WUAZ	Wupatki	92.92	54	*e*P		P	20 22 01.5	+0.9
	comp=Z,9.3nm,0.9s							
319A	Douglas	93.15	58	*e*P		P	20 22 01.8	+0.1
	comp=Z,17nm,0.9s							
MTPU	Mount Pierson	93.20	51	*e*P		P	20 22 04.8	+2.7
	comp=Z,5.3nm,0.8s							
DUG	Dugway, Tooele	93.51	49	P		P	20 22 03.1	-0.1
	baz=249							
HLID	Hailey	93.64	45	P		P	20 22 03.4	-0.4
	baz=248							
HLID	Hailey	93.64	45	*e*P		P	20 22 03.7	0.0
	comp=Z,5.0nm,0.9s							
NEW	Newport	93.71	40	P		P	20 22 03.7	0.0
	baz=246							
NEW	Newport	93.71	40	*e*P		P	20 22 05.7	+1.9
NEW					pmax	pmax		
	comp=Z,7.0nm,1.1s							
NEW	Newport	93.71	40	*e*P		P	20 22 05.7	+1.9
	comp=Z,6.5nm,1.1s							
W18A	Petrified Fore	94.04	54	P		P	20 22 04.6	-1.2
	baz=250							
HVU	Hansel Valley	94.11	47	*e*P		P	20 22 05.1	-0.8
HVU					pmax	pmax		
	comp=Z,7.0nm,0.9s							
HVU	Hansel Valley	94.11	47	*e*P		P	20 22 05.1	-0.8
	comp=Z,6.6nm,0.9s							
TMUT	Trail Mountain	94.36	50	*e*P		P	20 22 08.6	+1.3
	comp=Z,5.2nm,0.9s							
121A	Cookes Peak, D	94.73	57	P		P	20 22 08.6	-0.4
	baz=251							
BSMT	Bassoo Peak	95.00	41	*e*P		P	20 22 11.4	+1.6
MSO	Missoula	95.15	42	P		P	20 22 10.3	-0.2
	baz=249							
FXWY	Fox Creek	95.96	46	*e*P		P	20 22 14.6	+0.2
	comp=Z,2.7nm,1.0s							
WMQ	Urumqi	96.07	314	P		P	20 22 15.3	+0.6
WMQ				pP		sP	20 22 38.8	-1.7
WMQ				PP		PP	20 26 12.0	+3.5
WMQ				SKS		SKSac	20 32 40.0	-5.4
WMQ				S		S	20 33 22.2	-6.1
WMQ				sS		sS	20 34 07.4	+7.2
WMQ				pmax	pmax			
	comp=Z,10.0nm,1.1s							
WMQ				pmax	pmax			
	comp=Z,78nm,4.5s							
WMQ				LR	LR			
	comp=Z,150nm,10.3s							
WMQ				LR	LR			
	comp=Z,120nm,14.5s							
WMQ				LR	LR			
	comp=Z,140nm,24.3s							
BOZ	Bozeman (W)	96.22	44	P		P	20 22 15.5	0.0
	baz=250							
BOZ	Bozeman (W)	96.22	44	*e*P		P	20 22 14.5	-0.9
BOZ					pmax	pmax		
	comp=Z,7.0nm,0.8s							
BOZ	Bozeman (W)	96.22	44	*e*P		P	20 22 14.5	-0.9
	comp=Z,6.6nm,0.8s							
MNTX	Cornudas Mount	96.41	59	P		P	20 22 16.4	-0.1
	baz=252							
ANMO	Albuquerque	96.53	55	P		P	20 22 16.6	-0.6
	baz=252							
ANMO	Albuquerque	96.53	55	||*i*P		P	20 22 18.7	+1.5
ANMO					pmax	pmax		
	comp=Z,2.0nm,0.9s							
BW06	Boulder Array	96.69	47	*e*P		P	20 22 16.7	-1.1
PDAR	Pinedale Array	96.69	47	P		P	20 22 17.0	-0.8
	comp=Z,1.3nm,0.8s,baz=241,slow=1.5,SNR=6.2							
PDAR				LR		LR	21 01 14.6	
	comp=Z,133nm,18.8s,baz=275,slow=33							
TX31	Lajitas Ar. Si	97.12	62	*e*P		P	20 22 19.0	-0.8
TXAR	Lajitas Array	97.12	62	P		P	20 22 19.1	-0.7
	comp=Z,1.9nm,0.9s,baz=228,slow=3.8,SNR=14							
TXAR				LR		LR	20 57 10.6	
	comp=Z,247nm,21.7s,baz=0.0,slow=30							
SDCO	Great Sand Dun	98.11	53	Pdiff		P	20 22 23.9	-0.5
	baz=253							
MSTX	Muleshoe	99.17	57	Pdiff		Pdif	20 22 28.7	-0.3
	baz=254							
EFI	East Falkland	99.27	153	*e*P		Pdif	20 22 27.4	-1.6
EFI					pmax	pmax		
	comp=Z,46nm,1.0s							
PLCA	Paso Flores	99.66	139	LR		LR	20 59 45.7	
	comp=Z,89nm,20.8s,baz=301,slow=31							
933A	Laredo	100.35	64	Pdiff		Pdif	20 22 33.9	-0.4
	baz=255							
YKA	Yellowknife Ar	100.35	27	P		Pdif	20 22 31.4	-1.9
	comp=Z,1.5nm,0.8s,baz=260,slow=4.9,SNR=4.4							
MK01	Makanchi Array	100.59	316	*e*Pdif		Pdif	20 22 34.7	-0.2
ZAA0	Zalesovo Array	101.00	323	*e*Pdif		Pdif	20 22 35.4	-1.1
ZALV	Zalesovo Beam	101.00	323	P		Pdif	20 22 35.4	-1.0
	comp=Z,1.3nm,0.6s,baz=117,slow=2.7,SNR=6.9							
NRIK	Noril'sk	103.91	339	Pdiff		Pdif	20 22 47.8	-1.2
	comp=Z,1.2nm,0.5s,baz=76,slow=5.1,SNR=5.6							
KURBB	Kurchatov Arra	103.94	319	PKKPbc		PKKPbc	20 38 38.3	-2.8
	comp=Z,0.7nm,0.6s,baz=280,slow=3.7,SNR=9.6							
KURBB				PKKP		PKKPdf	20 38 49.2	-1.0
	comp=Z,0.4nm,0.6s,baz=284,slow=3.7,SNR=2.9							
S34A	Willow Spring	104.53	55	Pdiff		Pdif	20 22 53.1	+0.5
	baz=256							
SUSD	Miller	104.55	48	Pdiff		Pdif	20 22 53.0	+0.4
	baz=258							
140A	Cam and Jess,	106.33	61	PKiKP		PKiKP	20 27 11.1	-0.7
	baz=258							
M35A	Neola	106.34	51	PKiKP		PKiKP	20 27 11.4	-0.3
	baz=260							
BVAR	Borovoye Array	109.29	321	PKKPbc		PKKPbc	20 38 22.2	-2.4
	comp=Z,1.0nm,0.5s,baz=269,slow=2.9,SNR=12							
BVAR				PKKPab		PKKPab	20 38 33.6	-0.3
	comp=Z,0.4nm,0.4s,baz=278,slow=2.6,SNR=4.4							
C38A	Sawbill Land.	110.32	45	PKiKP		PKiKP	20 27 18.6	-0.3
	baz=265							
SFIN	Lafayette	112.64	53	*e*PKiKP		PKiKP	20 27 20.1	-3.4
ARU	Arti	116.12	324	*i* PKIKP		PKPdf	20 27 28.6	-1.1
ARU							20 28 31.6	
ARU							20 34 38.1	
ARU	Arti	116.12	324	*e*PKPdf		PKPdf	20 27 28.7	-0.9
ARA0	ARCESS Array S	124.10	345	*e*PKPdf		PKPdf	20 27 43.6	-1.0
ARCES	ARCESS Array B	124.10	345	PKP		PKPdf	20 27 43.7	-1.0
	comp=Z,3.3nm,0.6s,baz=86,slow=2.4,SNR=33							
ARCES				PKKPab		PKKPab	20 37 28.6	+0.1
	comp=Z,1.2nm,0.7s,baz=193,slow=2.8,SNR=3.6							
KLMR	Klimovskoe	124.46	332	*e*PKIKP		PKPdf	20 27 43.1	-2.4
KLMR				*e*			20 29 30.0	
KLMR				pmax	pmax			
	comp=Z,25nm,1.3s							
ZEI	Tsey	127.47	310	*i* PKIKP		PKPdf	20 27 50.6	-1.6
ZEI				pmax	pmax			
	comp=Z,29nm,0.9s							
AKH	Akhalkalaki	128.00	308	⇑*i*P		PKPdf	20 27 53.4	+0.2
KBZ	Ibabaz	128.03	311	PKP		PKPdf	20 27 53.2	+0.4
	comp=Z,3.7nm,1.0s,baz=162,slow=3.1,SNR=5.7							
LPSR	Galich'ya Gora	128.11	323	*e*PKIKP		PKPdf	20 27 52.7	-0.1
LPSR				pmax	pmax			
	comp=Z,30nm,1.0s							
KIV	Kislovodsk	128.13	312	*i* PKIKP		PKPdf	20 27 52.9	-0.3
KIV				pmax	pmax			
	comp=Z,12nm,1.1s							
KIV	Kislovodsk	128.13	312	*e*PKPdf		PKPdf	20 27 52.7	-0.5
KMBO	Kilima Mbogo	128.16	253	PKP		PKPdf	20 27 55.1	+0.7
	comp=Z,1.5nm,0.4s,baz=138,slow=3.8,SNR=4.9							
NEY	Neytrino	128.25	311	*e*PKIKP		PKPdf	20 27 55.7	+2.1
OBN	Obninsk	128.39	327	*d i* PKIKP		PKPdf	20 27 53.2	0.0
OBN				*e*			20 28 22.4	
OBN				*e*			20 30 07.1	
OBN				pmax	pmax			
	comp=Z,12nm,0.7s							
OBN				MLR	MLR			
	comp=Z,173nm,21.0s							
LSZ	Lusaka	128.41	232	*e*PKIKP		PKPdf	20 27 55.4	+0.8
LSZ	Lusaka	128.41	232	*e*PKPdf		PKPdf	20 27 55.4	+0.8
VSR	Storozhevoye	128.46	322	*e*PKIKP		PKPdf	20 27 52.3	-1.2
VSR				pmax	pmax			
	comp=Z,20nm,1.2s							
ARTV	Artvin	129.19	308	*e*PKPdf		PKPdf	20 27 57.2	+1.7
FIA1	FINESS Array S	129.55	338	*e*PKPdf		PKPdf	20 27 54.6	-0.6
FINES	FINESS Array B	129.55	338	PKP		PKPdf	20 27 55.2	0.0
	comp=Z,4.2nm,0.9s,baz=30,slow=3.9,SNR=9.2							
AKASG	Malin Array Be	134.38	324	PKP		PKPdf	20 28 03.7	-1.0
	comp=Z,0.4nm,0.3s,baz=63,slow=2.1,SNR=4.9							
AKASG				SKP			20 31 35.1	
	comp=Z,0.4nm,0.3s,baz=45,slow=3.5,SNR=4.4							
AK11	Malin Array Si	134.42	324	*e*PKPdf		PKPdf	20 28 04.6	-0.2
NB2	NORSAR Subarra	134.47	345	PKPdf		PKPdf	20 28 04.2	-0.5
	comp=Z,5.6nm,1.2s,baz=31,slow=1.9							
NOA	NORSAR Array B	134.47	345	PKP		PKPdf	20 28 04.2	-0.5
	comp=Z,1.5nm,0.8s,baz=37,slow=2.0,SNR=6.0							
BR131	Keskin Array S	135.68	308	*e*PKPdf		PKPdf	20 28 08.1	+0.4
BRTR	Keskin Array B	135.68	308	PKhKP		PKPpre	20 27 59.9	
	comp=Z,0.8nm,0.4s,baz=126,slow=4.6,SNR=5.1							
BRTR				PKP		PKPdf	20 28 07.7	0.0
	comp=Z,3.1nm,0.9s,baz=140,slow=4.3,SNR=15							
CFR	Carcaliu	137.60	318	⇑*i*P		PKPdf	20 28 11.3	+0.4
CFR	Carcaliu	137.60	318	⇑PKIKP		PKPdf	20 28 11.3	+0.4
LVV	L'vov	137.67	326	*e*PKIKP		PKPdf	20 28 11.0	+0.1
TLB	Topalu	137.92	317	⇑*i*P		PKPdf	20 28 11.0	-0.5
TLB	Topalu	137.92	317	⇑PKIKP		PKPdf	20 28 11.0	-0.5
BUR08	Bucovina Ar. S	138.21	323	*e*PKPdf		PKPdf	20 28 12.2	+0.1
BURAR	Bucovina Array	138.21	322	⇑*i*P		PKPpre	20 28 04.9	
BURAR	Bucovina Array	138.21	322	⇑PKHKP		PKPpre	20 28 04.9	
PLOR	Plostina	138.23	319	⇑*i*P		PKPdf	20 28 24.7	+13
PLOR	Plostina	138.23	319	⇑PKIKP		PKPdf	20 28 24.7	+13
MLR	Muntele Rosu	138.84	319	⇑*i*P		PKPpre	20 28 05.4	
MLR	Muntele Rosu	138.84	319	*e*PKIKP		PKPdf	20 28 12.8	-0.5
MLR	Muntele Rosu	138.84	319	*e*PKPdf		PKPdf	20 28 12.8	-0.5
UZH	Uzhgorod	139.28	325	*e*PKIKP		PKPdf	20 28 11.6	-2.2
STHS	Stebnicka Huta	139.37	327	*e*PKIKP		PKPdf	20 28 14.7	+0.7
STHS	Stebnicka Huta	139.37	327	*e*		PKPdf	20 28 14.7	+0.7
CRVS	Cervenica-Dubn	139.57	326	*e*PKIKP		PKPpre	20 28 08.8	
CRVS	Cervenica-Dubn	139.57	326	*e*PKP		PKPpre	20 28 08.8	
ARR	Arges	139.70	320	⇑*i*P		PKPpre	20 28 08.2	
HUMR	Humele	139.90	319	⇑*i*P		PKPpre	20 28 09.3	
DRGR		140.10	323	⇑*i*P		PKPpre	20 28 07.7	
DRGR		140.10	323	⇑PKHKP		PKPpre	20 28 07.7	
OKC	Ostrava-Krasne	140.65	330	AMS		AMS	21 27 50.0	
	comp=Z,300nm,23.4s							
GZR	Gura Zlata	140.81	321	⇑*i*P		PKPpre	20 28 11.2	
GZR	Gura Zlata	140.81	321	⇑PKHKP		PKPpre	20 28 11.2	
MORC	Moravsky Berou	140.97	330	⇑*i*P		PKPpre	20 28 11.8	
MORC	Moravsky Berou	140.97	330	*e*PKHKP		PKPpre	20 28 10.9	
MORC	Moravsky Berou	140.97	330	*e*PKPpre		PKPpre	20 28 10.9	
SIRR	Siria	140.99	323	⇑*i*P		PKPpre	20 28 10.1	
DPC	Dobruska-Polom	141.15	331	*e*PKP		PKPpre	20 28 12.8	
DPC				*ex*		x	20 28 17.1	
DPC				AMS		AMS	21 31 20.0	
	comp=Z,300nm,21.2s							
DPC	Dobruska-Polom	141.15	331	*e*PKIKP		PKPpre	20 28 12.8	
DPC				MLR		MLR		
	comp=Z,300nm,21.2s							
UPC	Upice	141.18	332	AMS		AMS	21 30 50.0	
	comp=Z,300nm,23.0s							
VYHS	Vyhne	141.18	327	*e*PKHKP		PKPpre	20 28 10.8	
VYHS	Vyhne	141.18	327	*e*PKP		PKPpre	20 28 10.8	
BZS	Buzias	141.38	322	⇑*i*P		PKPpre	20 28 13.1	
BZS	Buzias	141.38	322	⇑PKIKP		PKPpre	20 28 13.1	
MDVR	Moldovita	141.78	321	⇑*i*P		PKPdf	20 28 14.1	-4.5
PVCC	Panska Ves	141.80	333	*e*PKP		PKPdf	20 28 16.4	-1.9
PVCC				AMS		AMS	21 28 20.0	
	comp=Z,200nm,22.0s							
PVCC	Panska Ves	141.80	333	*e*PKIKP		PKPdf	20 28 16.4	-1.9
PVCC				MLR		MLR		
	comp=Z,200nm,22.0s							
BRG	Berggiesshubel	141.81	334	*e*PKP		PKPpre	20 28 12.6	
	comp=Z,4.2nm,0.9s							
BRG				*e*			20 28 16.1	
	comp=Z,6.3nm,0.7s							
	comp=N,176nm,25.8s							
	comp=E,143nm,23.5s							
	comp=Z,228nm,23.1s							
BRG	Berggiesshubel	141.81	334	*e*PKHKP		PKPpre	20 28 12.6	
BRG				*e*			20 28 16.1	
BRG				pmax	pmax			
	comp=Z,4.0nm,0.9s							
BRG				pmax	pmax			
	comp=Z,6.0nm,0.7s							
BRG				MLR	MLR			
	comp=N,176nm,25.8s							
BRG				MLR	MLR			
	comp=E,143nm,23.5s							
BRG				MLR	MLR			
	comp=Z,228nm,23.1s							
CLL	Collm	141.86	335	*e*PKIKP		PKPdf	20 28 17.0	-1.4
CLL				pmax	pmax			
	comp=Z,8.0nm,1.0s							
CLL	Collm	141.86	335	*e*PKPpre		PKPpre	20 28 13.0	
CLL				*e*PKPdf		PKiKP	20 28 20.0	-1.3
	comp=Z,8.0nm,1.0s							
CLL				*e*PP		PP	20 31 18.0	-5.3
VTS	Vitosha	141.95	317	⇑*i*P		PKPpre	20 28 14.9	
VTS	Vitosha	141.95	317	*e*PKIKP		PKPpre	20 28 14.6	
VTS	Vitosha	141.95	317	*e*PKPpre		PKPpre	20 28 14.6	
GOPC	GO Pecny, Ondr	142.15	332	AMS		AMS	21 26 30.0	
	comp=Z,400nm,24.9s							
PRU	Pruhonice	142.20	332	*e*PKP		PKPpre	20 28 14.7	
PRU				*ex*		x	20 28 21.0	
PRU				AMS		AMS	21 28 30.0	
	comp=Z,300nm,20.5s							
PRU	Pruhonice	142.20	332	*e*PKIKP		PKPpre	20 28 14.7	
PRU				MLR		MLR		
	comp=Z,300nm,20.5s							
KNT	Kendrikon	142.82	315	P		PKPpre	20 28 16.6	
NKC	Novy Kostel	142.91	334	*e*PKP		PKPpre	20 28 16.7	
NKC	Novy Kostel	142.91	334	*e*PKIKP		PKPpre	20 28 16.7	
CONA	Conrad Observa	143.05	329	*i* PKPdf		PKPbc	20 28 17.5	-0.2
	comp=Z,18nm,1.0s,SNR=15							
DIVS	Divibare	143.18	321	P		PKPab	20 28 17.2	+0.3
KHC	Kasperske Hory	143.26	332	*e*PKP		PKPbc	20 28 17.7	-0.5
KHC				*ex*		x	20 28 23.9	
KHC				AMS		AMS	21 31 10.0	
	comp=Z,300nm,21.3s							
KHC	Kasperske Hory	143.26	332	*e*PKIKP		PKPbc	20 28 17.7	-0.5
KHC				MLR		MLR		
	comp=Z,300nm,21.3s							
KHC	Kasperske Hory	143.26	332	*e*PKPpre		PKPpre	20 28 17.8	
SKO	Skopje	143.40	317	*i* P		PKPbc	20 28 18.9	0.0
XOR	Xorichti	143.40	312	P		PKPab	20 28 16.8	-1.0
GEC2	GERESS Array S	143.41	332	*e*PKIKP		PKPpre	20 28 18.7	
GEC2	GERESS Array S	143.41	332	*e*PKPpre		PKPpre	20 28 18.7	
GERES	GERESS Array B	143.41	332	PKhKP		PKPpre	20 28 17.7	
	comp=Z,2.9nm,0.7s,baz=36,slow=2.5,SNR=32							
WTSB	Winterswijk	143.55	341	*e*PKPdf		PKPbc	20 28 19.8	+1.0
LIT	Litchoron	143.57	314	P		PKPab	20 28 17.8	-0.7
ARSA	Arzberg	143.68	328	*i* PKPdf		PKPbc	20 28 20.3	+0.9
	comp=Z,15nm,1.1s,SNR=9.7							
GRFO	Grafenberg	143.84	335	*e*PKIKP		PKPbc	20 28 19.6	-0.2
GRFO	Grafenberg	143.84	335	*e*PKPdf		PKPbc	20 28 19.6	-0.3
KOGS	Kog	143.85	327	*e*PKPbc		PKPab	20 28 19.1	-0.2
MOA	Molln	143.87	330	*i* PKPdf		PKPbc	20 28 19.9	-0.1
	comp=Z,15nm,0.6s,SNR=14							
IVA	Berane	143.91	319	⇑*i*P		PKPab	20 28 20.0	+0.2
PLE	Pljevlja	143.97	320	⇑*i*P		PKPab	20 28 19.9	-0.1
PVY	Plav	144.02	319	⇑*i*P		PKPab	20 28 20.1	-0.1
DID	Didima	144.11	309	P		PKPab	20 28 18.6	-2.0
VAM	Vamos	144.11	305	P		PKPbc	20 28 21.1	0.0
THL	Klokotos Trika	144.14	313	P		PKPab	20 28 19.4	-1.2
OHR	Ohrid	144.24	316	*i* P		PKPab	20 28 21.1	+0.1
IMMV	Iera Moni Meta	144.26	306	P		PKPbc	20 28 21.6	0.0
DSF	Desfina	144.27	311	P		PKPab	20 28 19.5	-1.7
SOKA	Soboth	144.32	328	*i* PKPdf		PKPab	20 28 21.2	+0.1
	comp=Z,42nm,1.1s,SNR=31							
UPM	Unac-Piva	144.34	320	⇑*i*P		PKPab	20 28 21.1	-0.4
KPRO	Kipourio	144.41	314	P		PKPab	20 28 21.0	-0.7
SISC	Sisak	144.42	325	P		PKPbc	20 28 21.9	+0.2
NKY	Niksic	144.50	320	*e*P		PKPab	20 28 22.0	0.0
PDG	Podgorica	144.55	319	⇑*i*P		PKPbc	20 28 22.3	+0.1
TTG	Podgorica	144.55	319	⇑*i*P		PKPab	20 28 22.0	0.0
NKME	Niksic	144.55	320	⇑*i*P		PKPab	20 28 21.9	-0.2
KALE	Kalithea	144.55	311	P		PKPab	20 28 21.2	-1.1
EVR	Evrytania	144.56	312	P		PKPab	20 28 22.0	-0.4
SERG	Sergoula	144.60	311	P		PKPdf	20 28 25.0	+1.3
VLI	Velia	144.62	308	P		PKPab	20 28 20.5	-2.0
ANX	Ano Chora	144.62	312	P		PKPab	20 28 22.4	-0.2
ANKY	Antikythira Is	144.65	307	P		PKPbc	20 28 23.1	+0.3
OBKA	Obir	144.67	328	*i* PKPab		PKPab	20 28 22.2	-0.3
	comp=Z,34nm,0.9s,SNR=22							
KLV	Kalavryta, Ach	144.69	311	P		PKPab	20 28 22.1	-0.7
CEME	Cevo	144.69	319	⇑*i*P		PKPab	20 28 22.3	-0.4
KYTH	Kithira	144.70	307	P		PKPab	20 28 22.6	-0.3
DRME	Dracevica, Mon	144.72	319	⇑*i*P		PKPab	20 28 22.7	0.0
BRY	Bratogost	144.73	320	⇑*i*P		PKPab	20 28 22.6	-0.3
LAKA	Lakka	144.73	311	P		PKPab	20 28 22.8	-0.1
TIR	Tirane	144.73

PLDF	**La Plantade**	**149.79**	**339**	PKP	**PKPbc**	**20 28 37.9**	**+0.9**
AGO	**Saint Agoulin**	**149.89**	**339**	PKP	**PKPbc**	**20 28 38.1**	**+0.9**
SSB	**Saint Sauveur**	**150.05**	**337**	PKP	**PKPbc**	**20 28 37.6**	**-0.1**
SSB	**Saint Sauveur**	**150.05**	**337**	*e*PKP2	**PKPbc**	**20 28 37.5**	**-0.1**
SSB	**Saint Sauveur**	**150.05**	**337**	*e*PKPbc	**PKPbc**	**20 28 37.5**	**-0.1**
PYM	**Petit Puy Mans**	**150.19**	**339**	PKP	**PKPbc**	**20 28 38.8**	**+0.8**
VERF	**Verneugheol**	**150.37**	**340**	PKP	**PKPbc**	**20 28 38.1**	**-0.3**
LBL	**Lubilhac**	**150.56**	**338**	PKP	**PKPbc**	**20 28 40.0**	**+1.1**
CLTB	**Caltabellotta**	**151.09**	**316**	*e*PKPbc	**PKPbc**	**20 28 40.0**	**-0.4**
VSL	**Villasalto**	**152.25**	**323**	*e*PKPbc	**PKPbc**	**20 28 42.8**	**0.0**
KEST	**Kesra**	**154.69**	**317**	*e*PKPbc	**PKPbc**	**20 28 49.3**	**+0.9**
KEST				*e*PKPab	**PKPab**	**20 29 03.1**	**-0.3**
POLO	**Lamas de Olo**	**156.92**	**353**	*e*PKPab	**PKPab**	**20 29 12.3**	**-0.4**
PVRL	**Vila Real**	**157.01**	**352**	*e*PKPab	**PKPab**	**20 29 12.8**	**-0.2**
MVO	**Moncorvo**	**157.02**	**351**	*e*PKPab	**PKPab**	**20 29 13.0**	**-0.1**
ES19	**SONSECA Array**	**157.80**	**344**	*e*PKPab	**PKPab**	**20 29 15.9**	**-0.5**
ESDC	**Sonseca Array**	**157.84**	**344**	PKPab	**PKPab**	**20 29 15.0**	**-1.6**
	comp=Z,1.7nm,0.8s,baz=21,slow=3.8,SNR=8.6						
MTE	**Manteigas**	**157.85**	**352**	*e*PKPdf	**PKPdf**	**20 28 43.5**	**-0.3**
MTE	**Manteigas**	**157.85**	**352**	*e*PKPab	**PKPab**	**20 29 16.8**	**+0.1**
PCAS	**Casmilo, Conde**	**158.31**	**353**	*e*PKPab	**PKPab**	**20 29 18.7**	**+0.1**
PCBR	**Castelo Branco**	**158.39**	**351**	*e*PKPdf	**PKPdf**	**20 28 44.2**	**-0.1**
PMAFR	**Mafra**	**159.47**	**355**	*e*PKPab	**PKPab**	**20 29 23.7**	**+0.1**
PBAR	**Barrancos**	**159.95**	**349**	*e*PKPab	**PKPab**	**20 29 26.0**	**+0.3**
PBEJ	**Beja**	**160.22**	**351**	*e*PKPab	**PKPab**	**20 29 26.5**	**-0.4**
PNCL	**Nicolau / Gran**	**160.23**	**353**	*e*PKPab	**PKPab**	**20 29 25.9**	**-1.0**
PCVE	**Castro Verde**	**160.64**	**351**	*e*PKPab	**PKPab**	**20 29 28.7**	**0.0**
TAM	**Tamanrasset**	**163.38**	**288**	*e*PKIKP	**PKPdf**	**20 28 50.1**	**-0.3**
TAM				*e*		20 29 41.8	
TAM	**Tamanrasset**	**163.38**	**288**	*e*PKPdf	**PKPdf**	**20 28 50.1**	**-0.3**
TAM				*e*PKPab	**PKPab**	**20 29 41.8**	**+0.2**
TOA0	**Torodi Ar. Sit**	**166.14**	**250**	*e*PKPdf	**PKPdf**	**20 28 51.9**	**-1.0**
TOA0				*e*PKPdf	**PKPdf**	**20 28 52.0**	**-0.8**
TOA0				*e*PKPab	**PKPab**	**20 29 52.8**	**-1.0**
TOA0				*e*PKPab	**PKPab**	**20 29 54.3**	**+0.6**
TORD	**Torodi Ar. Bea**	**166.14**	**250**	PKP	**PKPdf**	**20 28 51.9**	**-0.9**
	comp=Z,13nm,0.9s,baz=48,slow=0.8,SNR=56						
TORD				PKPab	**PKPab**	**20 29 51.7**	**-2.0**
	comp=Z,5.3nm,0.9s,baz=104,slow=4.3,SNR=8.9						
DBIC	**Dimbokro**	**166.55**	**210**	PKP	**PKPdf**	**20 28 52.1**	**-1.1**
	comp=Z,6.8nm,0.9s,baz=7.6,slow=5.5,SNR=5.0						
DBIC	**Dimbokro**	**166.55**	**210**	PKIKP	**PKPdf**	**20 28 52.1**	**-1.1**
DBIC				pmax	pmax		
	comp=Z,10.0nm,1.0s						

IDC 01 20:25:22.1±2.7, 24.°10N×142.°85E, h0km, mb3.8/4, mb1 3.9/4, mb1mx3.4/55, mbtmp3.8/4, Error ellipse: s-maj=147.9km s-min=30.7km az=81.0, Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**44.55**	**191**	P	P	20 33 36.0	+0.2
	0.4nm,0.4s,baz=12,slow=8.6,SNR=7.0						
BVAR	**Borovoye Array**	**60.67**	**319**	P	P	20 35 35.3	+0.3
	0.4nm,0.4s,baz=95,slow=7.2,SNR=4.7						
FINES	**FINESS Array B**	**80.89**	**334**	P	P	20 37 38.4	+0.5
	0.4nm,0.3s,baz=76,slow=7.3,SNR=8.9						
BRTR	**Keskin Array B**	**88.48**	**313**	P	P	20 38 16.2	-0.7
	0.5nm,0.8s,baz=92,slow=3.5,SNR=3.1						
TORD	**Torodi Ar. Bea**	**126.98**	**310**	PKP	PKPdf	20 44 27.9	-1.1
	0.1nm,0.4s,baz=50,slow=1.1,SNR=6.0						

*ISCJB **01** 20:28:55.0±0.7, 38.°93N±0.°03×27.°14E±0.°04, h6km±6km, Error ellipse: s-maj=6.1km s-min=5.1km az=145.3*
*ISK **01** 20:28:54.6, 38.°95N×27.°05E, h16km, MD2.7*
*DDA **01** 20:28:54.8, 38.°97N×27.°16E, h7km, Ml2.6*
*CSEM **01** 20:28:55.1±0.1, 38.°94N×27.°07E, h15km, MD2.7, Error ellipse: s-maj=3.8km s-min=3.6km az=41.0*

ISC 01 20:28:54.8±1.0, 38.°93N±0.°04×27.°11E±0.°04, h11km±9km, n18, σ0°43/30, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DKL	**Dikili**	**0.21**	**311**	*e*PG	**Pg**	**20 28 59.1**	**-0.1**
DKL				*e*SG	**Sg**	**20 29 02.2**	**0.0**
DKL	**Dikili**	**0.21**	**311**	*e*Pg	**Pg**	**20 28 59.1**	**-0.1**
DKL				*e*Sg	**Sg**	**20 29 02.3**	**0.0**
URLA	**Izmir**	**0.70**	**215**	*e*PG	**Pb**	**20 29 09.0**	**0.0**
URLA	**Izmir**	**0.70**	**215**	*i* P	**Pb**	**20 29 09.0**	**0.0**
URLA				*i* S	**Sn**	**20 29 21.1**	**-0.3**
URLA	**Izmir**	**0.70**	**215**	P	**Pb**	**20 29 09.0**	**0.0**
URLA				S	**Sn**	**20 29 21.1**	**-0.3**
ZEY	**¯zmir**	**0.84**	**215**	*i* P	**Pn**	**20 29 12.0**	**-0.5**
DGB	**¯zmir**	**0.90**	**191**	*i* P	**Pb**	**20 29 12.6**	**+0.3**
DGB				*i* S	**Sb**	**20 29 25.0**	**+0.7**
BALB	**Balikesir**	**0.93**	**40**	*e*PG	**Pn**	**20 29 13.4**	**-0.3**
BALB				*e*SG	**Sn**	**20 29 27.2**	**+0.2**
BALB	**Balikesir**	**0.93**	**40**	*e*Pg	**Pn**	**20 29 13.4**	**-0.3**
BALB				*e*Sg	**Sn**	**20 29 27.2**	**+0.2**
AYDB	**Zeytinkoy-Aydi**	**1.16**	**148**	*e*PN	**Pb**	**20 29 17.1**	**+0.2**
AYDB				*e*SN	**Sn**	**20 29 33.1**	**+0.1**
AYDB	**Zeytinkoy-Aydi**	**1.16**	**148**	*e*Pn	**Pb**	**20 29 17.1**	**+0.2**
AYDB				*e*Sn	**Sn**	**20 29 33.1**	**+0.1**
BOZC	**Bozcaada**	**1.22**	**318**	*e*PN	**Pn**	**20 29 17.3**	**-0.5**
BOZC	**Bozcaada**	**1.22**	**318**	*i* P	**Pg**	**20 29 18.4**	**+0.2**
BOZC				*i* S	**Sg**	**20 29 35.4**	**+1.2**
BOZC	**Bozcaada**	**1.22**	**318**	*e*Pn	**Pn**	**20 29 17.3**	**-0.5**
DEMI	**Demirci**	**1.26**	**85**	*i* S	**Sb**	**20 29 34.1**	**-0.7**
DEMI	**Demirci**	**1.26**	**85**	S	**Sb**	**20 29 34.1**	**-0.7**
KULA	**Kula-Manisa**	**1.28**	**109**	*e*PN	**Pb**	**20 29 19.2**	**+0.2**
KULA				*e*SN	**Sn**	**20 29 36.2**	**+0.3**
KULA	**Kula-Manisa**	**1.28**	**109**	*e*Pn	**Pb**	**20 29 19.2**	**+0.2**
KULA				*e*Sn	**Sn**	**20 29 36.3**	**+0.3**

JMA 01 20:36:34.1±0.2, 35.°80N×140.°97E, h13km±1km, M3.6, 2C, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CHOJ	**Chosi**	**0.13**	**223**	⇑P	Pg	20 36 37.5	0.0
CHOJ				S	Sg	20 36 39.9	0.0
JCN	**Nagara**	**0.73**	**239**	⇑P	Pb	20 36 49.3	+0.6
JYT	**Yasato**	**0.76**	**304**	P	Pg	20 36 48.1	-0.8
JYT				S	Sg	20 36 58.5	-0.3
JHO	**Hitachi**	**0.87**	**338**	P	Pg	20 36 49.9	-1.1
MAT	**Matsushiro**	**2.35**	**289**	P	Pn	20 37 11.9	-0.6
MAT				*e*S	Sn	20 37 41.2	-0.1

*MOS **01** 20:41:32.8±1.5, 42.°11N×48.°34E, h20km, mb4.5/27, Error ellipse: s-maj=4.5km s-min=3.5km az=134.9*
MOS Felt (IV) at Dagestanskiye Ogni, Derbent; (III-IV) at Izberbash; (II-III) at Makhachkala.
*CSEM **01** 20:41:33.6±0.1, 42.°10N×48.°27E, h15km, mb4.3/19, Ms3.1, Error ellipse: s-maj=3.3km s-min=2.6km az=53.0*
*ISCJB **01** 20:41:33.1±0.3, 42.°13N±0.°01×48.°38E±0.°02, h22km±2km, mb4.2/49, MS3.3/1, Error ellipse: s-maj=2.6km s-min=2.0km az=145.6*
*AZER **01** 20:41:34.5±2.1, 41.°89N×48.°06E, h16km, Error ellipse: s-maj=3.1km s-min=1.6km az=4.0*
*IDC **01** 20:41:34.8±2.5, 42.°01N×48.°20E, h26km±18km, mb4.1/24, mb1 4.2/37, mb1mx4.1/53, mbtmp4.2/37, ML4.0/9, MS3.2/5, Ms1 3.2/5, ms1mx2.8/43, Error ellipse: s-maj=9.3km s-min=6.2km az=164.0*
*NEIC **01** 20:41:37.4±0.8, 42.°15N×48.°21E, h48km±8km, mb4.3/10, Error ellipse: s-maj=9.1km s-min=5.4km az=167.0*
*NNC **01** 20:41:38.4±3.9, 42.°42N×48.°96E, h0km, mb4.3, Error ellipse: s-maj=33.7km s-min=27.9km az=71.0*
*DDA **01** 20:42:28.1, 40.°55N×43.°06E, h7km, Ml2.8*

ISC 01 20:41:33.4±0.3, 42.°02N±0.°02×48.°22E±0.°02, h20km±3km, n423, σ2°33/520, mb4.3/49, 95C-44D, Caspian Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DRN	**Derbent**	**0.08**	**81**	*e*PG	**Pb**	**20 41 38.1**	**+0.9**
DRN				*e*S	**Sb**	**20 41 40.7**	**+0.9**
DRN				pmax	pmax		
	comp=Z,3μm,0.3s						
DRN	**Derbent**	**0.08**	**81**	*e*Pg	**Pb**	**20 41 38.1**	**+0.9**
	comp=Z,3μm,0.3s						
DRN				*e*Sg	**Sb**	**20 41 40.7**	**+0.9**
KSMR	**Kasumkent**	**0.42**	**190**	*i* PG	**Pb**	**20 41 43.0**	**+0.9**
KSMR				*i* S	**Sb**	**20 41 49.0**	**+1.0**
KSMR	**Kasumkent**	**0.42**	**190**	*i* Pg	**Pb**	**20 41 43.0**	**+0.9**
KSMR				*i* Sg	**Sb**	**20 41 49.0**	**+1.0**
URKR	**Urkarakh**	**0.46**	**289**	⇑*i* PG	**Pb**	**20 41 43.5**	**+0.6**
URKR				*e*S	**Sb**	**20 41 50.0**	**+0.6**
URKR	**Urkarakh**	**0.46**	**289**	*i* Pg	**Pb**	**20 41 43.5**	**+0.6**
URKR				*e*Sg	**Sb**	**20 41 50.0**	**+0.6**
QSAR	**Qusar**	**0.50**	**177**	⇓P	**Pb**	**20 41 44.2**	**+0.7**
QSAR				⇓S	**Sb**	**20 41 51.5**	**+1.1**
QSAR	**Qusar**	**0.50**	**177**	P	**Pb**	**20 41 44.2**	**+0.7**
	SNR=1000						
QSAR				S	**Sb**	**20 41 51.5**	**+1.1**
SGKR	**Sergokala**	**0.61**	**317**	*i* PG	**Pn**	**20 41 46.5**	**-0.4**
SGKR				*e*S	**Sn**	**20 41 55.5**	**-0.7**
SGKR				pmax	pmax		
	comp=Z,6μm,0.1s						
SGKR	**Sergokala**	**0.61**	**317**	*i* Pg	**Pn**	**20 41 46.5**	**-0.4**
	comp=Z,6μm,0.1s						
SGKR				*e*Sg	**Sn**	**20 41 55.5**	**-0.7**
AKT	**Akhty**	**0.65**	**215**	⇓*i* PG	**Pb**	**20 41 46.0**	**-0.2**
AKT				*e*		20 41 56.4	
AKT				smax	smax		
	comp=E,33μm,0.4s						
AKT	**Akhty**	**0.65**	**215**	*i* Pg	**Pb**	**20 41 46.0**	**-0.2**
AKT				*e*Sg	**Sn**	**20 41 56.4**	**-0.9**
QUBA	**Quba, Azerbaij**	**0.69**	**163**	⇑P	**Pn**	**20 41 47.8**	**-0.2**
	SNR=200						
QUBA				⇓S	**Sn**	**20 41 57.5**	**-0.7**
QUBA	**Quba, Azerbaij**	**0.69**	**163**	P	**Pn**	**20 41 47.8**	**-0.2**
	SNR=200						
QUBA				S	**Sn**	**20 41 57.5**	**-0.7**
KMKR	**Kumukh**	**0.85**	**278**	⇑*i* PG	**Pn**	**20 41 50.2**	**-0.1**
KMKR				S	**Sb**	**20 42 01.0**	**+0.5**
KMKR				pmax	pmax		
	comp=Z,1μm,0.2s						
KMKR	**Kumukh**	**0.85**	**278**	*i* Pg	**Pn**	**20 41 50.2**	**-0.1**
	comp=Z,1μm,0.2s						
KMKR				Sg	**Sb**	**20 42 01.0**	**+0.5**
XNQ	**Khinaliq**	**0.85**	**184**	⇑P	**Pn**	**20 41 50.2**	**-0.1**
	SNR=8582						
XNQ				⇑S	**Sn**	**20 42 02.0**	**-0.3**
XNQ	**Khinaliq**	**0.85**	**184**	P	**Pn**	**20 41 50.2**	**-0.1**
	SNR=1000						
XNQ				S	**Sn**	**20 42 02.0**	**-0.3**
GNBR	**Gunib**	**1.01**	**292**	⇓*i* PG	**Pn**	**20 41 52.4**	**0.0**
GNBR				*e*		20 42 07.1	
GNBR				pmax	pmax		
	comp=Z,2μm,0.6s						
GNBR				smax	smax		
	comp=E,13μm,0.4s						
GNBR	**Gunib**	**1.01**	**292**	*i* Pg	**Pn**	**20 41 52.4**	**0.0**
	comp=E,2μm,0.6s						
GNBR				*e*Sg	**Sn**	**20 42 07.1**	**+1.1**
SIZA	**Siyzn**	**1.07**	**151**	⇓Pg	**Pb**	**20 41 54.0**	**+0.8**
	SNR=82						
SIZA				⇑Sg	**Sn**	**20 42 09.0**	**+1.5**
SIZA	**Siyzn**	**1.07**	**151**	Pg	**Pb**	**20 41 54.0**	**+0.8**
	SNR=82						
SIZA				Sg	**Sn**	**20 42 09.0**	**+1.5**
MAK	**Makhachkala**	**1.08**	**331**	*e*PG	**Pb**	**20 41 55.0**	**+1.6**
MAK				*e*		20 42 11.0	
MAK				pmax	pmax		
	comp=Z,67nm,0.2s						
MAK				smax	smax		
	comp=E,5μm,0.4s						
MAK				smax	smax		
	comp=N,6μm,0.4s						
MAK				smax	smax		
	comp=N,1μm,0.4s						
MAK	**Makhachkala**	**1.08**	**331**	*e*Pg	**Pb**	**20 41 55.0**	**+1.6**
	comp=N,67nm,0.2s						
MAK				*e*Sg	**Sn**	**20 42 11.0**	**+3.3**
	comp=N,1μm,0.4s						
ARKR	**Arakani**	**1.08**	**303**	⇓*i* PG	**Pb**	**20 41 54.1**	**+0.6**
ARKR				*e*S	**Sn**	**20 42 09.6**	**+1.7**
ARKR				pmax	pmax		
	comp=Z,621nm,0.3s						
ARKR	**Arakani**	**1.08**	**303**	*i* Pg	**Pb**	**20 41 54.1**	**+0.6**
	comp=Z,621nm,0.3s						
ARKR				*e*Sg	**Sn**	**20 42 09.6**	**+1.7**
QBL	**Gabala**	**1.11**	**195**	⇑P	**Pb**	**20 41 53.9**	**0.0**
	SNR=369						
QBL				⇑S	**Sn**	**20 42 08.2**	**-0.3**
QBL	**Gabala**	**1.11**	**195**	P	**Pb**	**20 41 53.9**	**0.0**
	SNR=369						
QBL				S	**Sn**	**20 42 08.2**	**-0.3**
SEKA	**Sheki**	**1.12**	**224**	⇓P	**Pn**	**20 41 53.9**	**0.0**
	SNR=1767						
SEKA				⇓S	**Sn**	**20 42 08.7**	**0.0**
SEKA	**Sheki**	**1.12**	**224**	PG	**Pb**	**20 41 54.0**	**0.0**
SEKA	**Sheki**	**1.12**	**224**	P	**Pn**	**20 41 53.9**	**0.0**
	SNR=1000						
SEKA				S	**Sn**	**20 42 08.7**	**0.0**
BUJR	**Buynaksk**	**1.16**	**315**	*e*PG	**Pb**	**20 41 56.2**	**+1.6**
BUJR				S	**Sn**	**20 42 13.5**	**+3.9**
BUJR	**Buynaksk**	**1.16**	**315**	*e*Pg	**Pb**	**20 41 56.2**	**+1.6**
BUJR				Sg	**Sn**	**20 42 13.5**	**+3.9**
ZKT	**Zaqatala**	**1.22**	**253**	P	**Pb**	**20 41 56.1**	**+0.4**
	SNR=443						
ZKT				S	**Sn**	**20 42 11.6**	**+0.4**
IML	**Ismayilli**	**1.22**	**182**	⇑P	**Pb**	**20 41 56.3**	**+0.5**
	SNR=335						
IML				⇑S	**Sn**	**20 42 13.5**	**+2.2**
IML	**Ismayilli**	**1.22**	**182**	P	**Pb**	**20 41 56.3**	**+0.5**
	SNR=335						
IML				S	**Sn**	**20 42 13.5**	**+2.2**
ZKTA	**Zakatala**	**1.26**	**253**	⇓P	**Pb**	**20 41 56.1**	**-0.3**
	SNR=443						
ZKTA				⇑S	**Sn**	**20 42 11.6**	**-0.4**
PQL	**Pirkuli**	**1.26**	**167**	⇑P	**Pb**	**20 41 57.5**	**+1.0**
	SNR=460						
PQL				⇓S	**Sb**	**20 42 15.2**	**+2.9**
PQL	**Pirkuli**	**1.26**	**167**	P	**Pb**	**20 41 57.5**	**+1.0**
	SNR=460						
PQL				S	**Sb**	**20 42 15.2**	**+2.9**
KRNR	**Karanay**	**1.27**	**310**	⇓*i* PG	**Pb**	**20 41 57.2**	**+0.6**
KRNR				*e*S	**Sb**	**20 42 15.0**	**+2.5**
KRNR				pmax	pmax		
	comp=Z,1μm,0.2s						
KRNR	**Karanay**	**1.27**	**310**	*i* Pg	**Pb**	**20 41 57.2**	**+0.6**
	comp=Z,1μm,0.2s						
KRNR				*e*Sg	**Sb**	**20 42 15.0**	**+2.5**
UNCR	**Uncukul**	**1.27**	**304**	⇓*i* PG	**Pb**	**20 41 57.0**	**+0.4**
UNCR				*e*S	**Sb**	**20 42 15.5**	**+3.0**
UNCR				pmax	pmax		
	comp=Z,2μm,0.4s						
UNCR	**Uncukul**	**1.27**	**304**	*i* Pg	**Pb**	**20 41 57.0**	**+0.4**
	comp=Z,2μm,0.4s						
UNCR				*e*Sg	**Sb**	**20 42 15.5**	**+3.0**
ATGJ	**Altiaghaj**	**1.27**	**155**	⇓P	**Pb**	**20 41 57.8**	**+1.1**
	SNR=259						
ATGJ				⇓S	**Sb**	**20 42 16.1**	**+3.4**
ATGJ	**Altiaghaj**	**1.27**	**155**	P	**Pb**	**20 41 57.8**	**+1.1**
	SNR=259						
ATGJ				S	**Sb**	**20 42 16.1**	**+3.4**
DBC	**Dubki**	**1.44**	**315**	⇑*i* PG	**Sn**	**20 42 11.9**	**-4.7**
DBC				pmax	pmax		
	comp=Z,1μm,0.5s						
MNGR	**Mingechevir, A**	**1.51**	**215**	⇑P	**Pb**	**20 42 02.2**	**+1.5**
	SNR=85						
MNGR	**Mingechevir, A**	**1.51**	**215**	PN	**Pb**	**20 42 02.2**	**+1.5**
MNGR	**Mingechevir, A**	**1.51**	**215**	P	**Pb**	**20 42 02.2**	**+1.5**
	SNR=85						
GBS	**Qobustan**	**1.58**	**160**	⇑P	**Pb**	**20 42 04.3**	**+2.4**
	SNR=331						
GBS				⇑S	**Sb**	**20 42 27.8**	**+6.5**
GBS	**Qobustan**	**1.58**	**160**	P	**Pb**	**20 42 04.3**	**+2.4**
	SNR=331						
DLMR	**Dylym**	**1.58**	**312**	⇓*i* PG	**Pb**	**20 42 02.5**	**+0.6**
DLMR				*e*S	**Sb**	**20 42 26.0**	**+4.6**
DLMR	**Dylym**	**1.58**	**312**	*i* Pg	**Pb**	**20 42 02.5**	**+0.6**
DLMR				*e*Sg	**Sb**	**20 42 26.0**	**+4.6**
KDMR	**Kurdemir**	**1.64**	**181**	⇑P	**Pb**	**20 42 03.4**	**+0.5**
	SNR=28						
KDMR				⇑S	**Sb**	**20 42 27.9**	**+4.8**
KDMR	**Kurdemir**	**1.64**	**181**	P	**Pb**	**20 42 03.4**	**+0.5**
	SNR=28						
ZRD	**Zardab**	**1.78**	**193**	⇓P	**Pb**	**20 42 05.5**	**+0.2**
	SNR=17						
ZRD				⇑S	**Sb**	**20 42 30.9**	**+3.7**
ZRD	**Zardab**	**1.78**	**193**	P	**Pb**	**20 42 05.5**	**+0.2**
	SNR=17						
ZRD				S	**Sb**	**20 42 30.9**	**+3.7**
BRDA	**Brd**	**1.92**	**205**	⇓Pn	**Pb**	**20 42 07.8**	**+0.1**
	SNR=127						
BRDA				⇓Sn	**Sb**	**20 42 33.8**	**+2.6**
BRDA	**Brd**	**1.92**	**205**	Pn	**Pb**	**20 42 07.8**	**+0.1**
	SNR=127						
BRDA				Sn	**Sb**	**20 42 33.8**	**+2.6**
NDR	**Nardaran**	**1.96**	**137**	⇓P	**Pb**	**20 42 09.5**	**+1.2**
	SNR=35						
NDR				⇓S	**Sb**	**20 42 36.2**	**+4.0**
NDR	**Nardaran**	**1.96**	**137**	P	**Pb**	**20 42 09.5**	**+1.2**
	SNR=35						
GOBA	**Gobu**	**1.98**	**144**	⇑Pn	**Pb**	**20 42 10.5**	**+1.9**
	SNR=19						
GOBA	**Gobu**	**1.98**	**144**	Pn	**Pb**	**20 42 10.5**	**+1.9**
	SNR=19						
GANJ	**Ganja**	**1.98**	**227**	⇑Pn	**Pb**	**20 42 07.9**	**-0.8**
	SNR=487						
GANJ				⇓Sn	**Sb**	**20 42 33.5**	**+0.5**
GANJ	**Ganja**	**1.98**	**227**	PN	**Pb**	**20 42 08.1**	**-0.7**
GANJ	**Ganja**	**1.98**	**227**	Pn	**Pb**	**20 42 08.1**	**-0.7**
GANJ				Sn	**Sb**	**20 42 33.5**	**+0.5**
ALIB	**Äli-Bayra**	**2.14**	**164**	P	**Pb**	**20 42 12.1**	**+0.7**
	SNR=24						
ALIB				⇑S	**Sb**	**20 42 38.6**	**+1.1**
ALIB	**Äli-Bayra**	**2.14**	**164**	P	**Pb**	**20 42 12.1**	**+0.7**
	SNR=24						
ALIB				S	**Sb**	**20 42 38.6**	**+1.1**
GROC	**Groznyy**	**2.15**	**304**	*e*PN	**Pb**	**20 42 12.4**	**+0.8**
GROC				*e*S	**Sb**	**20 42 42.6**	**+4.9**
GROC				pmax	pmax		
	comp=Z,344nm,0.3s						
GROC				smax	smax		
	comp=N,958nm,0.8s						
GROC				smax	smax		
	comp=E,1μm,0.6s						
GROC				smax	smax		
	comp=N,1μm,0.6s						
SAAT	**Saatly**	**2.16**	**176**	⇓P	**Pn**	**20 42 09.7**	**+1.5**
	SNR=6.1						
SAAT				⇑S	**Sb**	**20 42 36.5**	**-1.5**
SAAT	**Saatly**	**2.16**	**176**	P	**Pn**	**20 42 09.7**	**+1.5**
	SNR=6.1						
SAAT				S	**Sb**	**20 42 36.5**	**-1.5**
GALA	**Gala**	**2.17**	**137**	⇑Pn	**Pb**	**20 42 13.7**	**+1.8**
GALA	**Gala**	**2.17**	**137**	Pn	**Pb**	**20 42 13.7**	**+1.8**
GDB	**GEDABAY**	**2.27**	**236**	⇓Pn	**Pb**	**20 42 12.2**	**-1.5**
	SNR=716						
GDB				⇑Sn	**Sb**	**20 42 40.2**	**-1.1**
GDB	**GEDABAY**	**2.27**	**236**	Pn	**Pb**	**20 42 12.2**	**-1.5**
	SNR=716						
GDB				Sn	**Sb**	**20 42 40.2**	**-1.1**
QZX	**Qazax, Azerbai**	**2.35**	**247**	⇑Pn	**Pb**	**20 42 13.4**	**-1.6**
	SNR=250						
QZX				⇑Sn	**Sb**	**20 42 43.0**	**-0.5**
QZX	**Qazax, Azerbai**	**2.35**	**247**	Pn	**Pb**	**20 42 13.4**	**-1.6**
	SNR=250						
QZX				Sn	**Sb**	**20 42 43.0**	**-0.5**
SEAG	**Tbilisi Sea**	**2.57**	**265**	P	**Pb**	**20 42 17.9**	**-0.9**
SEAG				S	**Sb**	**20 42 49.8**	**-0.1**
TBLG	**Delisi**	**2.62**	**265**	P	**Pb**	**20 42 17.5**	**-2.1**
TBLG				S	**Sb**	**20 42 51.8**	**+0.5**
TBLG	**Delisi**	**2.62**	**265**	PN	**Pb**	**20 42 17.5**	**-2.1**
TBLG				S	**Sb**	**20 42 51.8**	**+0.5**
TBLG	**Delisi**	**2.62**	**265**	P	**Pb**	**20 42 17.5**	**-2.1**
DUS	**Dusheti**	**2.62**	**273**	P	**Pb**	**20 42 19.6**	**-0.1**
DUS				S	**Sb**	**20 42 52.7**	**+1.2**
DUS	**Dusheti**	**2.62**	**273**	PN	**Pb**	**20 42 19.6**	**-0.1**
DUS				S	**Sb**	**20 42 52.7**	**+1.2**
GLBA	**Clilabad**	**2.78**	**177**	⇓Pn	**Pn**	**20 42 18.7**	**+2.0**
	SNR=81						
GLBA				⇑Sn	**Sb**	**20 42 53.1**	**-2.7**
GLBA	**Clilabad**	**2.78**	**177**	Pn	**Pn**	**20 42 18.7**	**+2.0**
	SNR=81						
GLBA				Sn	**Sb**	**20 42 53.1**	**-2.7**
GUDG	**Gudauri**	**2.82**	**280**	P	**Pb**	**20 42 21.6**	**-1.5**
GUDG				S	**Sb**	**20 42 57.6**	**+0.3**
GNI	**Garni**	**3.23**	**236**	Pn	**Pb**	**20 42 26.6**	**-3.4**
	comp=N,49nm,0.3s,baz=3.0,slow=2.8,SNR=42						
GNI				Sn	**Sb**	**20 43 05.7**	**-3.2**
	comp=N,51nm,0.3s,baz=151,slow=8.3,SNR=4.5						
GNI				LR	LR	20 44 13.9	
	comp=N,364nm,20.8s,baz=76,slow=50						
GNI	**Garni**	**3.23**	**236**	*i* P	**Pb**	**20 42 26.6**	**-3.4**
	SNR=64						
ZEI	**Tsey**	**3.29**	**285**	*e*PN	**Pn**	**20 42 26.2**	**+2.3**
ZEI				pmax	pmax		
	comp=Z,296nm,0.6s						
ZEI	**Tsey**	**3.29**	**285**	*e*Pn	**Pn**	**20 42 26.2**	**+2.3**
	comp=Z,296nm,0.6s						
LKRN	**Lenkeran, Azer**	**3.33**	**173**	⇑Pn	**Pn**	**20 42 27.0**	**+2.7**
	SNR=56						
LKRN				⇓Sn	**Sb**	**20 43 08.0**	**-3.8**

SOC MLR MLR
comp=Z,90nm,9.0s
SOC Sochi 6.45 287 *eS* **Sn 20 44 18.9 -1.2**
comp=Z,90nm,9.0s
BTMN Batman 6.75 235 *i* P Pn 20 43 18.4 +7.1
BTMN *i* S **Pb 20 43 30.5 +0.6**
KELT Kelkit 7.03 258 *i* P **Pn 20 43 17.6 +2.3**
ANN Anapa 8.33 293 *eP* **Pn 20 43 35.8 +2.9**
ANN *eS* **Sn 20 45 10.8 +4.4**
ANN pmax pmax
comp=Z,26nm,1.0s
ANN Anapa 8.33 293 *eP* **Pn 20 43 35.8 +2.9**
comp=Z,26nm,1.0s
CUKAN kangal_SIVAS 8.61 255 *i* P Pn 20 43 43.6 +6.6
GEYT Alibeck 8.62 115 Pn **Pn 20 43 36.2 -0.8**
comp=Z,4.3nm,0.3s,baz=303,slow=16,SNR=34
GEYT Sn **Sn 20 45 11.5 -2.1**
comp=Z,1.6nm,0.3s,baz=306,slow=20,SNR=2.4
AKTK Aktyubinsk 10.80 35 *i* P **Pn 20 44 05.9 -0.8**
comp=Z,12nm,0.3s
AKTO Aktyubinsk 10.80 35 Pn **Pn 20 44 06.1 -0.6**
comp=Z,1.7nm,0.3s,baz=210,slow=11,SNR=29
AKTO Sn **Sn 20 46 01.3 -5.7**
comp=Z,3.7nm,0.3s,baz=360,slow=20,SNR=5.5
AKTO Aktyubinsk 10.80 35 ⇓Pn **Pn 20 44 06.0 -0.8**
comp=Z,12nm,0.3s
AKTO ⇑Sn **Sn 20 46 01.8 -5.1**
comp=Z,37nm,0.5s
AKTO Aktyubinsk 10.80 35 *i* P **Pn 20 44 05.9 -0.8**
AKTO pmax pmax
comp=Z,12nm,0.3s
AKTO Aktyubinsk 10.80 35 Pn **Pn 20 44 06.0 -0.8**
comp=Z,12nm,0.3s
AB31 Akbulak array 10.93 45 ⇓Pn **Pn 20 44 07.5 -1.0**
comp=Z,5.2nm,0.4s
AB31 Sn **Sn 20 46 07.5 -2.6**
comp=Z,6.2nm,0.3s,baz=231,slow=24,SNR=4.5
AB31 Akbulak array 10.93 45 *i* P **Pn 20 44 07.8 -0.7**
AB31 pmax pmax
comp=Z,5.0nm,0.4s
AB31 Akbulak array 10.93 45 Pn **Pn 20 44 07.5 -1.0**
comp=Z,5.2nm,0.4s
AB31 Akbulak array 10.93 45 *i* P **Pn 20 44 07.8 -0.7**
comp=Z,5.0nm,0.4s
AB31 Sn **Sn 20 46 07.5 -2.6**
comp=Z,6.2nm,0.3s,SNR=4.5
ABKAR Akbulak array 10.93 45 *e*Pn **Pn 20 44 07.7 -0.9**
comp=Z,12nm,0.4s
VSR Storozhevoye 11.10 329 *eP* **Pn 20 44 11.2 +0.4**
VSR pmax pmax
comp=Z,6.0nm,0.4s
VSR Storozhevoye 11.10 329 *eP* **Pn 20 44 11.2 +0.4**
comp=Z,6.0nm,0.4s
BRTR Keskin Array B 11.28 263 Pn Pn 20 44 18.4 +4.9
comp=Z,0.1nm,0.3s,baz=82,slow=10,SNR=19
LPSR Galich'ya Gora 12.31 332 *eP* **Pn 20 44 26.8 -0.5**
LPSR *eS* **Sn 20 46 40.0 -3.8**
LPSR pmax pmax
comp=Z,5.0nm,0.6s
LPSR smax smax
comp=N,40nm,1.3s
LPSR Galich'ya Gora 12.31 332 *eP* **Pn 20 44 26.8 -0.5**
comp=N,5.0nm,0.6s
ASF Jabal al Asfar 13.34 226 Pn **P 20 44 46.8 -4.3**
comp=N,0.1nm,0.3s,baz=284,slow=6.1,SNR=3.1
MMAI Mount Meron Ar 13.56 233 Pn **P 20 44 55.1 +1.6**
comp=N,0.2nm,0.3s,baz=40,slow=11,SNR=6.3
MMAI LR LR 20 50 50.1
comp=N,140nm,18.3s,baz=20,slow=41
TLCR 14.41 289 ⇑*i*P **P 20 45 03.1 +0.3**
TLCR 14.41 289 ⇑P **P 20 45 03.1 +0.3**
TLCR 14.41 289 P **P 20 45 03.1 +0.3**
TIRR Tirgusor 14.64 286 ⇑*i*P **P 20 45 06.0 +0.6**
TIRR Tirgusor 14.64 286 *eP* **Pn 20 44 59.5 +0.3**
TIRR pmax pmax
comp=Z,25nm,0.8s
TIRR Tirgusor 14.64 286 ⇑*i*P **P 20 45 06.0 +0.6**
TIRR Tirgusor 14.64 286 *e*Pn **Pn 20 44 59.5 +0.3**
comp=Z,24nm,0.8s
KIS Kishinev 14.71 296 *eP* **P 20 45 05.0 -1.1**
KIS Kishinev 14.71 296 *eP* **P 20 45 05.0 -1.1**
KIS *e* 20 47 36.0
KIS Kishinev 14.71 296 *eP* **P 20 45 05.0 -1.1**
CFR Carcaliu 14.89 289 ⇑*i*P **P 20 45 08.3 +0.2**
CFR Carcaliu 14.89 289 ⇑P **P 20 45 08.3 +0.2**
CFR Carcaliu 14.89 289 P **P 20 45 08.3 +0.2**
TLB Topalu 14.92 287 ⇓*i*P **P 20 45 09.4 +1.0**
TLB Topalu 14.92 287 ⇓P **P 20 45 09.4 +1.0**
TLB Topalu 14.92 287 P **P 20 45 09.4 +1.0**
HARR Harsova 15.00 287 ⇑*i*P **P 20 45 10.6 +1.2**
HARR Harsova 15.00 287 ⇑P **P 20 45 10.6 +1.2**
HARR Harsova 15.00 287 P **P 20 45 10.6 +1.2**
OBN Obninsk 15.18 334 Pn **Pn 20 45 02.8 -3.6**
comp=Z,2.7nm,0.3s,baz=342,slow=22,SNR=4.5
OBN Sn **Sn 20 47 44.0 -10**
comp=Z,2.8nm,0.3s,baz=351,slow=19,SNR=2.2
OBN LR LR 20 51 48.3
comp=Z,68nm,19.4s,baz=96,slow=40
OBN Obninsk 15.18 334*ce*P **Pn 20 45 07.3 +1.0**
OBN *i* S **Sn 20 47 49.5 -4.1**
OBN pmax pmax
comp=Z,11nm,1.0s
OBN MLR MLR
comp=Z,66nm,14.0s
SORM Soroca 15.29 300 ⇓*i*P **P 20 45 12.4 -0.2**
SORM Soroca 15.29 300 ⇓P **P 20 45 12.4 -0.2**
SORM Soroca 15.29 300 P **P 20 45 12.4 -0.2**
MOS Moscow 15.37 337 *eP* **P 20 45 14.0 +0.6**
MOS *eS* **Sn 20 47 52.5 -5.9**
MOS pmax pmax
comp=Z,47nm,0.9s
MOS Moscow 15.37 337 *eP* **P 20 45 14.0 +0.6**
comp=Z,47nm,0.9s
AKASG Malin Array Be 15.70 310 Pn **Pn 20 45 09.9 -3.2**
comp=Z,1.2nm,0.3s,baz=110,slow=13,SNR=4.9
KIEV Kiev 15.70 310 *di*P **P 20 45 17.2 +0.1**
KIEV Kiev 15.70 310 *i* P **P 20 45 17.2 +0.1**
KIEV Kiev 15.70 310 *eP* **Pn 20 45 11.2 -2.0**
comp=Z,19nm,0.7s
GRER 15.72 290 ⇑*i*P **P 20 45 19.2 +1.8**
GRER 15.72 290 ⇑P **P 20 45 19.2 +1.8**
ARU Arti 15.90 21 Pn **Pn 20 45 10.6 -5.1**
comp=Z,0.0nm,0.3s,baz=231,slow=6.5,SNR=9.5
ARU Sn Sn 20 47 54.4 -17
comp=Z,0.0nm,0.3s,baz=102,slow=20,SNR=3.3
ARU Arti 15.90 21 P **Pn 20 45 14.5 -1.2**
ARU S **Sn 20 48 07.7 -3.5**
ARU MLR MLR
comp=Z,194nm,15.0s
VRI Vrincioaia 15.95 291 ⇑*i*P **P 20 45 21.2 +1.3**
VRI Vrincioaia 15.95 291 ⇑P **P 20 45 21.2 +1.3**
VRI Vrincioaia 15.95 291 P **P 20 45 21.2 +1.3**
PLOR Plostina 16.00 291 ⇑*i*P **P 20 45 22.8 +2.3**
PLOR Plostina 16.00 291 ⇑P **P 20 45 22.8 +2.3**
PLOR Plostina 16.00 291 P **P 20 45 22.8 +2.3**
ISR Istrita 16.01 288 ⇑*i*P **P 20 45 23.2 +2.5**
ISR Istrita 16.01 288 ⇑P **P 20 45 23.2 +2.5**
ISR Istrita 16.01 288 P **P 20 45 23.2 +2.5**
KK31 Karatay Array 16.45 79 ⇑Pn **Pn 20 45 20.9 -2.1**
comp=Z,2.2nm,0.3s,baz=183,slow=39,SNR=62
KK31 ⇓Sn **Sn 20 48 16.1 -8.8**
comp=Z,21nm,0.8s,baz=272,slow=23,SNR=7.9
KK31 Karatay Array 16.45 79 Pn **Pn 20 45 20.9 -2.1**
comp=Z,2.2nm,0.3s,SNR=62
KK31 Sn **Sn 20 48 16.1 -8.8**
comp=Z,21nm,0.8s,SNR=7.9
KKAR Karatay Array 16.45 79 *eP* **Pn 20 45 21.1 -1.8**
KKAR pmax pmax
comp=Z,6.0nm,0.4s
KKAR Karatay Array 16.45 79 *eP* **Pn 20 45 21.1 -1.8**
comp=Z,5.8nm,0.4s
MLR Muntele Rosu 16.46 290 Pn **P 20 45 24.5 -1.1**
baz=175,slow=11
MLR Muntele Rosu 16.46 290 ⇑*i*P **P 20 45 26.0 +0.3**
MLR Muntele Rosu 16.46 290 ⇑P **P 20 45 26.0 +0.3**
MLR Muntele Rosu 16.46 290 P **P 20 45 26.0 +0.3**
PRAR RASCA 16.51 296 ⇑*i*P **P 20 45 28.1 +2.0**
PRAR RASCA 16.51 296 ⇑*i*P **P 20 45 28.1 +2.0**
SVE Sverdlovsk 16.84 24 *eP* **Pn 20 45 25.4 -2.2**
SVE pmax pmax
comp=Z,51nm,1.1s
DOPR Dopca 16.89 291 ⇑*i*P **P 20 45 32.0 +1.7**
DOPR Dopca 16.89 291 ⇑*i*P **P 20 45 32.0 +1.7**
VOIR 17.08 289 ⇑*i*P **P 20 45 34.5 +1.9**
VOIR 17.08 289 ⇑P **P 20 45 34.5 +1.9**
VOIR 17.08 289 P **P 20 45 34.5 +1.9**
comp=Z,34nm,2.0s
KSH LR LR
comp=N,71nm,4.8s
KSH LR LR
comp=E,180nm,5.5s
KSH LR LR
comp=Z,190nm,5.7s
OJC Ojcow 21.24 302 *eP* **P 20 46 20.9 +3.0**
OJC Ojcow 21.24 302 *eP* **P 20 46 20.9 +3.0**
OJC Ojcow 21.24 302 *eP* **P 20 46 20.9 +3.0**
LANS Liptovska Anna 21.26 299 *eP* **P 20 46 19.8 +1.6**
LANS Liptovska Anna 21.26 299 *eP* **P 20 46 19.8 +1.6**
LANS Liptovska Anna 21.26 299 *eP* **P 20 46 19.8 +1.6**
VSU Vasula 21.29 328*c i*P **P 20 46 18.4 +0.1**
VSU pmax pmax
comp=Z,55nm,0.6s
VSU Vasula 21.29 328 *i* P **P 20 46 18.4 +0.1**
comp=Z,55nm,0.6s
BUD Budapest 21.37 295 *eP* P 20 46 27.3 +8.0
PDG Podgorica 21.42 281 ⇑*i*P **P 20 46 21.4 +1.6**
PDG Podgorica 21.42 281 ⇑*i*P **P 20 46 21.4 +1.6**
VYHS Vyhne 21.59 297 *eP* **P 20 46 22.2 +0.5**
VYHS pmax pmax
comp=Z,4.0nm,1.0s
VYHS Vyhne 21.59 297 *eP* **P 20 46 22.2 +0.5**
comp=Z,4.0nm,1.0s
VYHS Vyhne 21.59 297 *eP* **P 20 46 22.2 +0.5**
KURBB Kurchatov Arra 22.50 57 P **P 20 46 32.8 +1.4**
comp=Z,5.9nm,0.8s,baz=264,slow=11,SNR=40
KURBB Kurchatov Arra 22.50 57 ⇑Pn **P 20 46 32.6 +1.2**
comp=Z,9.3nm,0.7s
KURBB Kurchatov Arra 22.50 57 Pn **P 20 46 32.6 +1.2**
comp=Z,9.3nm,0.7s
KURK Kurchatov 22.57 57 ⇑Pn **P 20 46 32.9 +0.7**
comp=Z,21nm,1.1s
KURK Kurchatov 22.57 57 ⇑*i*P **P 20 46 33.7 +1.5**
KURK pmax pmax
comp=Z,28nm,1.3s
KURK Kurchatov 22.57 57 Pn **P 20 46 32.9 +0.7**
comp=Z,21nm,1.1s
KURK Kurchatov 22.57 57 *i* P **P 20 46 33.7 +1.5**
comp=Z,28nm,1.3s
KURK Kurchatov 22.57 57 P **P 20 46 32.8 +0.7**
MORC Moravsky Berou 22.60 301 ⇑*i*P **P 20 46 29.7 -2.8**
MORC Moravsky Berou 22.60 301 *eP* **P 20 46 32.2 -0.3**
MORC pmax pmax
comp=Z,23nm,1.0s
MORC Moravsky Berou 22.60 301 *eP* **P 20 46 32.2 -0.3**
comp=Z,23nm,1.0s
MORC Moravsky Berou 22.60 301 *eP* **P 20 46 32.2 -0.3**
comp=Z,23nm,1.0s
TMCR Tamitsa 22.95 349 *eP* **P 20 46 36.6 +0.6**
TMCR *eS* **S 20 50 48.4 +3.5**
TMCR pmax pmax
comp=Z,15nm,0.6s
TMCR Tamitsa 22.95 349 *eP* **P 20 46 36.6 +0.6**
comp=Z,15nm,0.6s
TMCR *eS* **S 20 50 48.4 +3.5**
PDGK Podgornoye 22.96 76 ⇓Pn **P 20 46 37.4 +0.9**
comp=Z,2.5nm,0.6s
PDGK Podgornoye 22.96 76 P **P 20 46 38.4 +1.9**
PDGK pmax pmax
comp=Z,9.0nm,0.9s
PDGK Podgornoye 22.96 76 P **P 20 46 38.4 +1.9**
comp=Z,9.0nm,0.9s
VRAC Vranov 23.15 299 P **P 20 46 38.6 +0.3**
comp=Z,2.4nm,0.6s,baz=113,slow=8.3,SNR=3.7
JOF Joensuu 23.19 340 P **P 20 46 39.6 +1.2**
JOF pmax pmax
comp=Z,23nm,0.9s
JOF Joensuu 23.19 340 P **P 20 46 39.6 +1.2**
comp=Z,23nm,0.9s
DPC Dobruska-Polom 23.46 302 *eP* **P 20 46 47.6 +6.2**
DPC Dobruska-Polom 23.46 302 *eP* **P 20 46 47.6 +6.2**
CONA Conrad Observa 23.53 296 *i* pP **P 20 46 43.3 +1.2**
comp=Z,1.5nm,0.8s
CONA Conrad Observa 23.53 296 P **P 20 46 43.3 +1.2**
comp=Z,1.5nm,0.8s
FINES FINESS Array B 23.58 333 P **P 20 46 42.2 -0.2**
comp=Z,1.1nm,0.4s,baz=136,slow=10,SNR=97
UPC Upice 23.68 302 *eP* P 20 46 51.0 +7.5
UPC Upice 23.68 302 *eP* P 20 46 51.0 +7.5
ARSA Arzberg 23.74 294 *i* P **P 20 46 44.8 +0.7**
comp=Z,2.3nm,0.7s
ARSA Arzberg 23.74 294 P **P 20 46 44.8 +0.7**
comp=Z,2.3nm,0.7s
SOKA Soboth 24.08 293 *i* P **P 20 46 47.3 0.0**
comp=Z,4.0nm,0.8s
SOKA Soboth 24.08 293 P **P 20 46 47.3 0.0**
comp=Z,4.0nm,0.8s
OBKA Obir 24.42 292 *i* P **P 20 46 50.3 -0.2**
comp=Z,4.1nm,1.1s
OBKA Obir 24.42 292 P **P 20 46 50.3 -0.2**
comp=Z,4.1nm,1.1s
CUC Castrocucco 24.46 276 *eP* **P 20 46 51.6 +0.7**
comp=Z,3.6nm,0.8s
SUF Sumiainen 24.49 335 P **P 20 46 52.0 +1.2**
SUF pmax pmax
comp=Z,24nm,0.9s
SUF Sumiainen 24.49 335 P **P 20 46 52.0 +1.2**
comp=Z,24nm,0.9s
PRU Pruhonice 24.55 301 *eP* **P 20 46 52.7 +1.2**
PRU Pruhonice 24.55 301 *eP* **P 20 46 52.7 +1.2**
PRU Pruhonice 24.55 301 *eP* **P 20 46 52.7 +1.2**
MK31 Makanchi Array 24.68 67 ⇓Pn **P 20 46 53.8 +1.0**
comp=Z,12nm,0.7s,baz=270,slow=7.7,SNR=93
MK31 Makanchi Array 24.68 67 Pn **P 20 46 53.8 +1.0**
comp=Z,12nm,0.7s,SNR=93
GERES GERESS Array B 25.01 298 P **P 20 46 55.1 -0.7**
comp=Z,1.7nm,0.6s,baz=89,slow=8.7,SNR=19
GERES PcP **PcP 20 50 30.6 +0.3**
comp=Z,0.3nm,0.5s,baz=66,slow=2.7,SNR=3.7
BRG Berggiesshubel 25.03 303 *eP* **P 20 46 57.0 +1.1**
comp=Z,6.0nm,1.3s
BRG Berggiesshubel 25.03 303 *eP* **P 20 46 57.0 +1.1**
BRG pmax pmax
comp=Z,6.0nm,1.3s
BRG Berggiesshubel 25.03 303 *eP* **P 20 46 57.0 +1.1**
comp=Z,6.0nm,1.3s
KHC Kasperske Hory 25.11 298 *eP* **P 20 46 55.4 -1.2**
KHC *ex* x 20 47 02.4
KHC Kasperske Hory 25.11 298 *eP* **P 20 46 55.4 -1.2**
KHC *e* 20 47 02.4
KHC Kasperske Hory 25.11 298 *eP* **P 20 46 55.4 -1.2**
BSD Bornholm Skovb 25.36 313 *i* P **P 20 46 57.8 -1.0**
BSD Bornholm Skovb 25.36 313 *i* P **P 20 46 57.8 -1.0**
BSD Bornholm Skovb 25.36 313 *i* P **P 20 46 57.8 -1.0**
CLL Collm 25.68 303 *i* P **P 20 47 01.5 -0.2**
CLL pmax pmax
comp=Z,4.0nm,0.8s
CLL Collm 25.68 303 *i* P **P 20 47 01.5 -0.2**
comp=Z,4.0nm,0.8s
AQU L'Aquila 25.70 283 *eP* **P 20 47 01.8 -0.3**
AQU pmax pmax
comp=Z,12nm,0.8s
AQU L'Aquila 25.70 283 *eP* **P 20 47 01.8 -0.3**
comp=Z,12nm,0.8s
VAF Ylistaro 25.84 333 P **P 20 47 05.9 +2.8**
NVS Novosibirsk 26.23 49 *eP* **P 20 47 09.5 +2.8**
VAE Valguarnera 26.29 271 P **P 20 47 08.8 +1.4**
comp=Z,4.4nm,0.8s,baz=19,slow=18,SNR=3.1
OUL Oulu 26.35 339 P **P 20 47 08.7 +1.1**
OUL pmax pmax
comp=Z,24nm,0.7s
ZALV Zalesovo Beam 26.93 51 P **P 20 47 14.1 +1.1**
comp=Z,1.2nm,0.3s,baz=258,slow=7.4,SNR=6.5
LVZ Lovozero 26.95 349*di*P **P 20 47 15.6 +2.5**
LVZ pmax pmax
comp=Z,15nm,0.9s
DAVOX Davos/Dischmat 27.61 293 P **P 20 47 18.2 -1.2**
comp=Z,1.9nm,0.7s,baz=156,slow=17,SNR=3.5
DAVOX LR LR 21 00 32.0
comp=Z,80nm,19.6s,baz=89,slow=41
NB2 NORSAR Subarra 29.29 323 P **P 20 47 33.6 -0.4**
comp=Z,3.9nm,0.5s,SNR=4.3
NB2 NORSAR Subarra 29.29 323 P **P 20 47 33.6 -0.4**
comp=Z,3.9nm,0.5s,baz=115,slow=8.6
NOA NORSAR Array B 29.29 323 P **P 20 47 33.6 -0.4**
comp=Z,0.7nm,0.3s,baz=118,slow=8.5,SNR=36
NOA NORSAR Array B 29.29 323 P **P 20 47 33.7 -0.4**
NOA pmax pmax
comp=Z,6.0nm,0.7s
KONO Kongsberg 29.53 320 P **P 20 47 36.9 +0.8**
KONO pmax pmax
comp=Z,40nm,1.1s
ARCES ARCESS Array B 30.00 344 P **P 20 47 40.3 +0.1**

comp=Z,1.7nm,0.5s,baz=146,slow=8.8,SNR=23
KEST Kesra 30.72 271 P **P 20 47 47.6 +0.7**
comp=Z,3.8nm,0.8s,baz=25,slow=1.3,SNR=7.0
LSA Lhasa 36.54 96 *eP* **P 20 48 38.9 +0.8**
LSA Lhasa 36.54 96 *eP* **P 20 48 38.9 +0.8**
LSA Lhasa 36.54 96 *eP* **P 20 48 38.9 +0.8**
TLY Talaya 38.26 56 P **P 20 48 54.2 +2.2**
comp=Z,1.2nm,0.5s,baz=261,slow=9.0,SNR=4.5
TLY Talaya 38.26 56 ǁ *eP* **P 20 48 54.7 +2.7**
TLY pmax pmax
comp=Z,3.0nm,1.0s
SPITS Spitsbergen Ar 38.46 350 P **P 20 48 54.7 +1.4**
comp=Z,9.8nm,0.7s,baz=143,slow=14,SNR=13
ESDC Sonseca Array 39.05 285 P **P 20 48 57.8 -0.9**
comp=Z,0.2nm,0.3s,baz=55,slow=8.9,SNR=4.7
TAM Tamanrasset 40.34 255 *eP* **P 20 49 10.8 +1.1**
TAM pmax pmax
comp=Z,4.0nm,0.8s
TAM Tamanrasset 40.34 255 *eP* **P 20 49 10.8 +1.1**
comp=Z,4.2nm,0.8s
TAM Tamanrasset 40.34 255 *eP* **P 20 49 10.8 +1.1**
comp=Z,4.2nm,0.8s
SONM Songino Array 40.75 61 P **P 20 49 14.0 +1.1**
comp=Z,0.4nm,0.6s,baz=286,slow=9.6,SNR=3.7
SONM PcP **PcP 20 51 14.8 +1.0**
comp=Z,1.1nm,0.6s,baz=265,slow=2.7,SNR=6.1
SONM Songino Array 40.75 61 P **P 20 49 14.0 +1.1**
ULN Ulaanbaatar 41.17 61 ǁ *iP* **P 20 49 18.5 +2.1**
ULN pmax pmax
comp=Z,2.0nm,0.9s
ULN Ulaanbaatar 41.17 61 *eP* **P 20 49 18.1 +1.7**
comp=Z,1.1nm,0.6s
ULN Ulaanbaatar 41.17 61 *eP* **P 20 49 18.1 +1.7**
comp=Z,1.1nm,0.6s
BOD Bodaibo 43.37 45 *eP* **P 20 49 29.3 -4.6**
BOD pmax pmax
comp=Z,13nm,1.9s
CMAR Chiang Mai Arr 48.88 103 P **P 20 50 18.5 +0.7**
comp=Z,2.4nm,0.6s,baz=305,slow=8.5,SNR=15
TORD Torodi Ar. Bea 49.45 248 P **P 20 50 21.2 -0.9**
comp=Z,3.0nm,0.5s,baz=42,slow=5.5,SNR=56
TORD PcP **PcP 20 51 44.3 +0.1**
comp=Z,1.2nm,0.5s,baz=31,slow=3.8,SNR=5.3
KLR Kul'dur 56.04 52 ǁ *iP* **P 20 51 11.8 +1.3**
KLR *i* *PP **pP 20 51 14.6 -2.4**
DBIC Dimbokro 58.56 249 P **P 20 51 28.0 -0.7**
comp=Z,3.3nm,0.6s,baz=29,slow=7.7,SNR=13
DBIC Dimbokro 58.56 249 P **P 20 51 28.0 -0.7**
DBIC pmax pmax
comp=Z,3.0nm,0.6s
DBIC Dimbokro 58.56 249 P **P 20 51 28.0 -0.7**
USRK Ussuriysk Ar. 58.56 57 P **P 20 51 29.3 +1.0**
comp=Z,0.6nm,0.4s,baz=308,slow=4.9,SNR=4.6
TIC Toumodi 58.69 249 *eP* **P 20 51 28.8 -0.9**
KIC Kosan Boka 58.70 248 *eP* **P 20 51 29.0 -0.7**
comp=Z,87nm,1.7s
LIC Lamto 59.00 248 *eP* **P 20 51 30.9 -0.9**
comp=Z,42nm,0.8s
KSAR Wonju Array Be 59.33 66 P **P 20 51 34.6 +0.8**
KSAR Wonju Array Be 59.33 66 P **P 20 51 34.6 +0.8**
KSAR Wonju Array Be 59.33 66 P **P 20 51 34.6 +0.8**
KSRS Korea Array 59.34 66 P **P 20 51 34.6 +0.7**
comp=Z,1.3nm,0.6s,baz=299,slow=7.3,SNR=5.7
YKA Yellowknife Ar 74.92 352 P **P 20 53 12.7 +0.4**
comp=Z,1.9nm,0.7s,baz=11,slow=5.7,SNR=7.3
KDAK Kodiak Island 79.05 11 *ceP* **P 20 53 36.9 +1.3**
DLBC Dease Lake 79.90 359 P **P 20 53 40.0 -0.3**
comp=Z,2.8nm,0.6s,baz=358,slow=9.5,SNR=3.3
SADO Sadowa 81.61 325 P **P 20 53 51.1 +1.4**
comp=Z,1.8nm,0.7s,baz=337,slow=7.7,SNR=4.2
ULM Lac du Bonnet 82.89 338 P **P 20 53 56.2 0.0**
comp=Z,3.7nm,0.6s,baz=359,slow=4.7,SNR=3.6
WRA Warramunga Arr 100.29 107 P **Pdif 20 55 18.0 -0.4**
comp=Z,0.6nm,0.7s,baz=323,slow=3.7,SNR=8.2
ASAR Alice Springs 102.40 111 P **Pdif 20 55 27.9 +0.1**
comp=Z,0.4nm,0.9s,baz=328,slow=6.6,SNR=4.2
ASAR Alice Springs 102.40 111 P **Pdif 20 55 27.9 +0.1**
ASAR pmax pmax
comp=Z,1.0nm,1.0s

MEX 01 20:43:30.1±0.4,**14°.12N**×**92°.06W**,**h20**km±42km,**MD3.8,**
Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CCIG	**Comitan**	**2.15**	**358**	*i* P		Pn 20 44 02.1	-2.9
CCIG				*i* S		Sn 20 44 26.9	-4.3
TGIG		**2.84**	**339**	*i* Pn		20 44 11.3	-3.0
TGIG				*i* S		Sn 20 44 45.2	-2.8

*ISCJB **01** 20:47:06.8±0.4,34°.29N±0°.02×118°.49W±0°.02,h6km±3km, mb4.1/1,MS4.2/1,Error ellipse: s-maj=2.8km s-min=2.2km az=37.1*
*NEIC **01** 20:47:08.0±0.0,34°.34N×118°.48W,h7km,mb4.3/2, ML4.2(PAS),After PAS.*
NEIC Felt [IV] at Granada Hills and Los Alamitos; [III] at Burbank, Canyon Country, Chatsworth, Glendale, Mission Hills, Newhall, North Hills, North Hollywood, Northridge, Pacoima, Porter Ranch, San Fernando, Santa Clarita, Sherman Oaks, Stevenson Ranch, Sylmar, Tarzana, Topanga and Valencia. Felt throughout the Santee-Mojave-Santa Barbara area.
*IDC **01** 20:47:09.5±5.2,34°.40N×118°.20W,h0km,mb4.1/1, mb1 4.0/3,mb1mx3.5/56,mbtmp3.7/3,ML3.8/2,MS4.2/1, Ms1 4.1/1,ms1mx3.0/31,Error ellipse: s-maj=67.0km s-min=24.4km az=81.0*

ISC 01 20:47:08.2±0.9,**34°.33N**±0°.02×**118°.43W**±0°.02,**h9**km±6km,
n107,σ**1°72**/135,**Southern California**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DECC	**Green Verdugo**	**0.11**	**133**	P	**Pg**	**20 47 10.9**	**-0.1**
DECC	baz=306,SNR=1000			S	**Sg**	**20 47 13.9**	**+1.1**
PASC	**Pasadena Art C**	**0.26**	**128**	*e*Pg	**Pg**	**20 47 13.2**	**-0.3**
OSI	**Osito Audit: C**	**0.37**	**320**	P	**Pg**	**20 47 14.6**	**-0.9**
OSI	baz=143,SNR=120			S	**Sg**	**20 47 20.0**	**-0.5**
BLG	**Laguna Peak, P**	**0.57**	**247**	P	**Pg**	**20 47 17.2**	**-2.1**
BLG	baz=64,SNR=79			S	**Sg**	**20 47 25.0**	**-1.8**
FMP	**Fort Macarthur**	**0.63**	**169**	P	**Pg**	**20 47 19.3**	**-1.1**
BFSC	baz=347,SNR=19 **Mount Baldy Ra**	**0.65**	**98**	P	**Pg**	**20 47 20.0**	**-0.8**
BFSC	baz=279,SNR=834			S	**Sb**	**20 47 29.3**	**-1.7**
EDW2	baz=279 **Edwards Air Fo**	**0.66**	**33**	P	**Pg**	**20 47 20.1**	**-0.9**
EDW2	baz=216,SNR=783			S	**Sb**	**20 47 29.0**	**-2.2**
ARVC	baz=216 **Arvin**	**0.86**	**338**	P	**Pg**	**20 47 23.3**	**-1.5**
ARVC	baz=160,SNR=171			S	**Sg**	**20 47 35.5**	**-0.4**
CIS	baz=160 **Catalina Islan**	**0.93**	**179**	P	**Pg**	**20 47 24.7**	**-1.4**
CIS	baz=357,SNR=268			Sb	**Sg**	**20 47 39.1**	**+1.0**
BSC	baz=357 **Santa Cruz Isl**	**1.05**	**252**	P	Pg	20 47 25.2	-3.2
BSC	baz=70,SNR=22			S	**Sg**	**20 47 40.1**	**-2.0**
SBC	baz=70 **Santa Barbara**	**1.06**	**276**	P	**Pg**	**20 47 26.7**	**-1.9**
SBC	baz=95,SNR=28			S	**Sg**	**20 47 41.0**	**-1.5**
BBRC	baz=95 **Big Bear Solar**	**1.25**	**93**	P	**Pg**	**20 47 31.2**	**-1.2**
MURC	baz=274,SNR=109 **Murrieta**	**1.26**	**125**	P	**Pg**	**20 47 30.3**	**-2.1**
MURC	baz=305,SNR=239			S	**Sb**	**20 47 48.4**	**-0.2**
PKM	baz=305 **Mcpherson Peak**	**1.27**	**296**	P	**Pg**	**20 47 30.9**	**-1.7**
LRMC	baz=116,SNR=389 **Laurel Mtn Rad**	**1.30**	**28**	P	**Pg**	**20 47 31.8**	**-1.4**
LRMC	baz=210,SNR=348			S	**Sn**	**20 47 49.7**	**-0.7**
RRX	baz=210 **Edison Barstow**	**1.30**	**65**	P	**Pg**	**20 47 32.0**	**-1.3**
	baz=247,SNR=45						
RRX				S	**Sn**	**20 47 50.2**	**0.0**
ISA	baz=247 **Isabella, Lake**	**1.33**	**359**	P	**Pg**	**20 47 31.7**	**-2.1**
ISA	baz=180,SNR=456			S	**Sg**	**20 47 50.0**	**-1.0**
ISA	baz=180 **Isabella, Lake**	**1.33**	**359**	*e*Pn	**Pg**	**20 47 31.7**	**-2.1**
SCI	**San Clemente I**	**1.35**	**184**	P	**Pn**	**20 47 31.1**	**-2.2**
SNCC	baz=2.5,SNR=74 **San Nicolas Is**	**1.41**	**220**	P	Pn	20 47 31.2	-2.9
SNCC	baz=38,SNR=7.2 **San Nicolas Is**	**1.41**	**220**	*e*Pn	Pn	20 47 31.5	-2.6
VES	**Vestal, Richgr**	**1.60**	**341**	P	**Pn**	**20 47 35.6**	**-1.1**
SMMC	baz=161,SNR=337 **Simmler**	**1.62**	**308**	P	**Pn**	**20 47 35.6**	**-1.4**
GSC	baz=128,SNR=148 **Goldstone, Bar**	**1.65**	**54**	P	**Pn**	**20 47 36.8**	**-0.7**
GSC	baz=235,SNR=973			S	**Sg**	**20 47 59.0**	**-2.3**
GSC	baz=235 **Goldstone, Bar**	**1.65**	**54**	*e*Pn	**Pn**	**20 47 36.6**	**-0.9**
PFO	**Pinyon Flats O**	**1.79**	**113**	P	**Pn**	**20 47 38.5**	**-1.0**
PFO	baz=294,SNR=196			Sb	**Sg**	**20 48 04.4**	**-1.4**
PFO	baz=294 **Pinyon Flats O**	**1.79**	**113**	*e*Pn	**Pn**	**20 47 38.6**	**-0.8**
TPFO	**Pinon Flats**	**1.80**	**113**	P	**Pn**	**20 47 38.6**	**-0.9**
TPFO	baz=294,SNR=199			Sb	**Sg**	**20 48 04.5**	**-1.5**
HEC	baz=294 **Hector,Ludlow**	**1.80**	**73**	P	**Pn**	**20 47 38.8**	**-0.8**
HEC	baz=255,SNR=455			S	**Sb**	**20 48 03.2**	**-0.9**
109C	baz=255 **Camp Elliot, M**	**1.82**	**142**	P	**Pn**	**20 47 38.1**	**-1.6**
109C	baz=322,SNR=25			S	**Sn**	**20 48 01.9**	**-0.9**
MPMC	baz=322 **Manual Prospec**	**1.89**	**24**	P	**Pn**	**20 47 40.0**	**-0.8**
MPMC	baz=205,SNR=275			Sb	**Sg**	**20 48 08.0**	**-1.0**
PAGB	baz=205 **Antelope Grade**	**2.04**	**314**	*e*Pn	**Pn**	**20 47 42.0**	**-0.8**
BELC	**Belle Mtn. Jos**	**2.05**	**99**	P	**Pn**	**20 47 42.0**	**-1.0**
DAC	baz=280,SNR=429 **Darwin (Calif)**	**2.06**	**19**	*e*Pn	**Pn**	**20 47 42.4**	**-0.9**
RCTC	**Rector, Farmer**	**2.08**	**342**	P	**Pn**	**20 47 42.2**	**-1.1**
RCTC	baz=162,SNR=43			S	**Sn**	**20 48 09.0**	**-0.3**
CWC	baz=162 **Cottonwood Cre**	**2.12**	**8**	Sb	**Sg**	**20 48 15.0**	**-1.6**
BAR	baz=189 **Barrett**	**2.21**	**138**	*e*Pn	**Pn**	**20 47 43.4**	**-1.7**
MONP	**Monument Peak,**	**2.21**	**130**	P	**Pn**	**20 47 44.4**	**-0.9**
MONP	baz=311,SNR=77			S	**Sn**	**20 48 12.1**	**-0.7**
GMRC	baz=311 **Granite Mounta**	**2.33**	**78**	P	**Pn**	**20 47 45.5**	**-1.4**
GMRC	baz=260,SNR=185			Sb	**Sg**	**20 48 21.4**	**-1.9**
TUQ	baz=260 **Turquoise Moun**	**2.34**	**61**	P	**Pn**	**20 47 45.9**	**-1.1**
TUQ	baz=243,SNR=48			Sb	**Sg**	**20 48 22.1**	**-1.3**
SHOC	baz=243 **Shoshone, Teco**	**2.36**	**48**	P	**Pn**	**20 47 46.4**	**-0.8**
SHOC	baz=230,SNR=36			Sb	**Sg**	**20 48 22.9**	**-1.2**
FURC	baz=230 **Furnace Creek,**	**2.49**	**31**	P	**Pn**	**20 47 48.3**	**-0.6**
FURC	baz=212			Sb	**Sg**	**20 48 26.5**	**-1.7**
IKP	baz=212 **In-Ko-Pah, Jac**	**2.56**	**130**	P	**Pn**	**20 47 49.0**	**-1.0**
IKP	baz=311,SNR=49			Sb	**Sb**	**20 48 27.4**	**+1.2**
BC3	baz=311 **Big Chuckawall**	**2.57**	**104**	P	**Pn**	**20 47 48.4**	**-1.7**
BC3	baz=286,SNR=101			Sb	**Sg**	**20 48 28.0**	**-2.7**
SWSC	baz=286 **San W. Stewart**	**2.60**	**121**	Pb	**Pb**	**20 47 54.4**	**-0.5**
SWSC	baz=303			Sb	**Sb**	**20 48 28.2**	**+1.3**
PMPB	baz=303 **Monarch Peak**	**2.70**	**315**	*e*Pn	**Pn**	**20 47 51.3**	**-0.7**
IRM	**Iron Mountain**	**2.73**	**93**	P	**Pn**	**20 47 51.0**	**-1.2**
IRM	baz=275,SNR=215			Sb	**Sg**	**20 48 34.0**	**-2.0**
GRAC	baz=275 **Grapevine Rang**	**2.80**	**18**	P	**Pn**	**20 47 53.3**	**0.0**
LDFC	baz=199,SNR=23 **Landfair**	**2.84**	**74**	*e*Pn	**Pn**	**20 47 52.9**	**-1.0**
TPNV	**Topopah Spring**	**3.16**	**34**	P	**Pn**	**20 47 58.3**	**-0.1**
TPNV	baz=215,SNR=59 **Topopah Spring**	**3.16**	**34**	*e*Pn	**Pn**	**20 47 58.4**	**0.0**
NEE2	**Needles Airpor**	**3.18**	**81**	P	**Pn**	**20 47 57.8**	**-0.6**
GLA	baz=263 **Glamis**	**3.27**	**112**	P	**Pn**	**20 47 58.5**	**-1.2**
GLA	baz=294			S	**Sn**	**20 48 38.9**	**+0.2**
GLA	baz=294 **Glamis**	**3.27**	**112**	*e*Pn	**Pn**	**20 48 00.1**	**+0.4**
Y12C	**Blythe**	**3.30**	**99**	P	**Pn**	**20 47 59.3**	**-0.8**
Y12C	baz=281,SNR=6.5			Sb	**Sg**	**20 48 50.4**	**-3.8**
Y12C	baz=281 **Blythe**	**3.30**	**99**	*e*Pn	**Pn**	**20 47 59.1**	**-0.9**
MLAC	**Mammoth, Mammo**	**3.31**	**354**	Pb	**Pb**	**20 48 07.4**	**+0.1**
MLAC	baz=175			Sb	**Sb**	**20 48 50.5**	**+2.8**
SHPR	baz=175 **Sheep Range**	**3.44**	**50**	*e*Pn	**Pn**	**20 48 02.8**	**+0.6**
SAO	**San Andreas Ge**	**3.45**	**316**	*e*Pn	**Pn**	**20 48 01.4**	**-0.9**
PDMCI	**Parker Dam,Lak**	**3.55**	**89**	P	**Pn**	**20 48 02.6**	**-1.0**
CMB	baz=272,SNR=23 **Columbia Colle**	**4.02**	**337**	*e*Pn	**Pn**	**20 48 11.1**	**+1.1**
TVH2	**Borealis Mine**	**4.05**	**356**	*e*Pn	**Pn**	**20 48 13.6**	**+3.0**
TVH1	**TV Hill, Hawth**	**4.13**	**356**	*e*Pn	**Pn**	**20 48 15.2**	**+3.4**
WAKR	**Walker**	**4.24**	**349**	*e*Pn	**Pn**	**20 48 15.6**	**+2.4**
Y14A	**Wickenburg**	**4.52**	**93**	*e*Pn	**Pn**	**20 48 16.1**	**-0.8**
R11A	**Troy Canyon, C**	**4.62**	**29**	P	**Pn**	**20 48 18.2**	**-0.3**
R11A	baz=211 **Troy Canyon, C**	**4.62**	**29**	*e*Pn	**Pn**	**20 48 18.8**	**+0.3**
YERR	**Yerington**	**4.69**	**352**	*e*Pn	**Pn**	**20 48 22.6**	**+3.2**
PNTR	**Pine Nut**	**4.84**	**349**	*e*Pn	**Pn**	**20 48 23.7**	**+2.2**
LCMT	**Little Creek M**	**5.00**	**56**	*e*Pn	**Pn**	**20 48 24.6**	**+1.0**
AFDM	**Forest Hills D**	**5.04**	**337**	*e*Pn	**Pn**	**20 48 25.0**	**+1.0**
CCUT	**Cedar City**	**5.22**	**51**	*e*Pn	**Pn**	**20 48 28.0**	**+1.3**
214A	**Organ Pipe Nat** 56nm,0.6s	**5.28**	**115**	*e*Pn	**Pn**	**20 48 27.6**	**+0.3**
KNB	**Kanab**	**5.29**	**58**	*e*Pn	**Pn**	**20 48 29.0**	**+1.3**
PAHR	**Pah Rah Range**	**5.42**	**352**	*e*Pn	**Pn**	**20 48 32.2**	**+2.9**
SZCU	**Shurtz Canyon**	**5.42**	**52**	*e*Pn	**Pn**	**20 48 30.8**	**+1.3**
U15A	**North Rim**	**5.44**	**66**	*e*Pn	**Pn**	**20 48 30.7**	**+0.9**
ORV	**Oroville**	**5.76**	**336**	*e*Pn	**Pn**	**20 48 34.6**	**+0.7**
X16A	**Lo Mia Camp, P**	**5.78**	**87**	*e*Pn	**Pn**	**20 48 34.4**	**-0.1**
WUAZ	**Wupatki**	**5.92**	**76**	*e*Pn	**Pn**	**20 48 37.1**	**+0.8**
BMN	**Battle Mountai**	**6.17**	**9**	*e*Pn	**Pn**	**20 48 40.2**	**+0.6**
MTPU	**Mount Pierson**	**6.26**	**52**	*e*Pn	**Pn**	**20 48 43.6**	**+2.5**
MSU	**Marysvale**	**6.54**	**49**	*e*Pn	**Pn**	**20 48 47.3**	**+2.4**
TUC	**Tucson**	**6.71**	**105**	*e*Pn	**Pn**	**20 48 47.2**	**+0.2**
SRU	**San Rafael Swe**	**7.94**	**51**	*e*Pn	**Pn**	**20 49 08.7**	**+4.7**
MVCO	**Mesa Verde**	**8.57**	**68**	*e*Pn	**Pn**	**20 49 14.5**	**+1.8**
PV09	**Paradox Valley**	**8.57**	**58**	*e*Pn	**Pn**	**20 49 16.6**	**+3.8**
PV01	**Paradox Valley**	**8.82**	**62**	*e*Pn	**Pn**	**20 49 19.4**	**+3.2**
HWUT	**Hardware Ranch**	**9.06**	**35**	*e*Pn	**Pn**	**20 49 21.5**	**+2.2**
121A	**Cookes Peak, D** 8.2nm,0.6s	**9.08**	**98**	*e*Pn	**Pn**	**20 49 19.9**	**+0.3**
HLID	**Hailey**	**9.73**	**18**	*e*Pn	**Pn**	**20 49 30.9**	**+2.3**
O20A	**White River Ci**	**9.97**	**52**	*e*Pn	**Pn**	**20 49 36.7**	**+4.8**
PDAR	**Pinedale Array** 0.1nm,0.3s,baz=218,slow=14,SNR=4.7	**10.91**	**37**	Pn	**Pn**	**20 49 48.6**	**+3.8**
PDAR				Lg	Lg	20 52 46.5	
SDCO	0.1nm,0.3s,baz=234,slow=23,SNR=2.8 **Great Sand Dun** 1.8nm,0.2s	**11.01**	**68**	*e*Pn	**Pn**	**20 49 48.1**	**+2.0**
DLMT	**Dillon**	**11.89**	**20**	Pn	**Pn**	**20 50 00.2**	**+2.2**
BOZ	**Bozeman (W)**	**12.40**	**23**	*e*Pn	**Pn**	**20 50 07.9**	**+2.9**
TX31	**Lajitas Ar. Si**	**13.50**	**108**	*e*Pn	**Pn**	**20 50 24.3**	**+4.2**
TX31				*e*Pn	P	20 50 24.9	-4.6
TXAR	**Lajitas Array** 0.1nm,0.3s,baz=295,slow=13,SNR=11	**13.50**	**108**	Pn	**Pn**	**20 50 22.5**	**+2.4**
WALA	**Waterton Lakes** 8.2nm,0.8s	**15.09**	**11**	*e*Pn	**Pn**	**20 50 44.7**	**+2.9**
EGMT	**Eagleton** 17nm,0.8s	**15.14**	**23**	*e*Pn	**Pn**	**20 50 44.2**	**+1.8**
AGMN	**Agassiz Nation**	**21.85**	**44**	*e*P	**P**	**20 52 02.5**	**+1.5**
ULM	**Lac du Bonnet** 7.4nm,1.0s,baz=238,slow=14,SNR=4.2	**22.92**	**39**	P	**P**	**20 52 11.5**	**-0.9**
ULM	**Lac du Bonnet**	**22.92**	**39**	*e*P	**P**	**20 52 12.1**	**-0.3**
MENT	**Mentasta**	**32.70**	**339**	*e*P	**P**	**20 53 39.8**	**-1.0**
SCHQ	**Schefferville** comp=Z,307nm,20.0s,baz=281,slow=40	**40.95**	**44**	LR	LR	21 14 18.0	
HHC	**Hu-ho-hao-te**	**92.17**	**324**	*e*P	**P**	**21 00 18.5**	**+0.1**
WMQ	**Urumqi**	**98.65**	**341**	*e*P	**P**	**21 00 49.0**	**+1.1**

*DDA **01** 20:58:54.1,36°.02N×35°.99E,h29km,MI3.6*
*ISCJB **01** 20:58:55.6±0.5,36°.08N±0°.02×35°.98E±0°.03,h6km±3km, Error ellipse: s-maj=4.0km s-min=3.1km az=164.0*
*ISK **01** 20:58:55.0,36°.05N×35°.97E,h10km,MD3.3*
*NSSC **01** 20:58:56.9±1.3,36°.24N×35°.91E,h25km±236km,ML2.7*
*CSEM **01** 20:58:56.0±0.1,36°.10N×35°.98E,h5km,ML3.6,Error ellipse: s-maj=3.5km s-min=3.4km az=60.0*

ISC 01 20:58:55.7±0.9,**36°.09N**±0°.02×**35°.99E**±0°.02,**h5**km±7km,
n76,σ**0°84**/105,**Turkey**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
YAYL	**Yayladag**	**0.11**	**122**	PG	**Pg**	**20 58 57.4**	**-0.7**
YAYL				SG	**Sg**	**20 59 01.0**	**+1.3**
YAYL	**Yayladag**	**0.11**	**122**	*i* P	**Pg**	**20 58 57.8**	**-0.4**
YAYL	**Yayladag**	**0.11**	**122**	*i* Pg	**Pg**	**20 58 57.4**	**-0.7**
YAYL	**Yayladag**	**0.11**	**122**	P	**Pg**	**20 58 57.8**	**-0.4**
YAYL				*i* Sg	**Sg**	**20 59 01.0**	**+1.3**
TAHT	**Tahtakopru-Hat**	**0.32**	**29**	*e*PG	**Pg**	**20 59 02.8**	**+0.8**
TAHT				*e*SG	**Sb**	**20 59 08.7**	**-0.8**
TAHT	**Tahtakopru-Hat**	**0.32**	**29**	*e*Pg	**Pg**	**20 59 02.8**	**+0.8**
TAHT				*e*Sg	**Sb**	**20 59 08.7**	**-0.8**
KRTD	**Karatas-Adana**	**0.68**	**317**	*e*PG	**Pg**	**20 59 08.7**	**-0.1**
KRTD	**Karatas-Adana**	**0.68**	**317**	*e*Pg	**Pg**	**20 59 08.7**	**-0.1**
KRTS	**Karatas**	**0.69**	**314**	*e*PG	**Pb**	**20 59 10.0**	**-0.2**
KRTS	**Karatas**	**0.69**	**314**	*e*Pg	**Pb**	**20 59 10.0**	**-0.2**
DORT	**Dortyol-Hatay**	**0.75**	**13**	*e*PG	**Pb**	**20 59 10.8**	**-0.4**
DORT	**Dortyol-Hatay**	**0.75**	**13**	*e*Pg	**Pb**	**20 59 10.8**	**-0.4**
DRWC	**Darouich**	**0.76**	**46**	*e*P	**Pb**	**20 59 10.9**	**-0.5**
DRWC				*e*S	**Sg**	**20 59 19.7**	**-0.5**
DRWC	comp=N,1μm,0.2s			AML	AML	20 59 23.6	
DRWC	comp=E,701nm,0.2s			AML	AML	20 59 25.7	
DRWC	**Darouich** SNR=99	**0.76**	**46**	*e*P	**Pb**	**20 59 10.9**	**-0.5**
DRWC	comp=E,701nm,0.2s,SNR=98			*e*S	**Sg**	**20 59 19.7**	**-0.5**
YURE	**YUREGIR**	**0.79**	**339**	*i* P	**Pg**	**20 59 11.0**	**+0.2**
YURE				*i* S	**Sb**	**20 59 23.7**	**+0.9**
YURE	**YUREGIR**	**0.79**	**339**	P	**Pg**	**20 59 11.0**	**+0.2**
YURE				S	**Sb**	**20 59 23.7**	**+0.9**
CEYT	**Ceyhan**	**0.94**	**348**	*e*PG	**Pg**	**20 59 13.7**	**0.0**
CEYT				*e*SG	**Sb**	**20 59 27.8**	**+0.7**
CEYT	**Ceyhan**	**0.94**	**348**	*e*Pg	**Pg**	**20 59 13.7**	**0.0**
CEYT				*e*Sg	**Sb**	**20 59 27.8**	**+0.7**
KUZU	**Kuzuini**	**1.11**	**52**	*i* P	**Pb**	**20 59 17.3**	**0.0**
KUZU				*i* S	**Sn**	**20 59 35.4**	**+1.8**
KUZU	**Kuzuini**	**1.11**	**52**	P	**Pb**	**20 59 17.3**	**0.0**
KAMA	**Osmaniye**	**1.22**	**26**	*i* P	**Pg**	**20 59 18.1**	**-1.0**
KAMA				*i* S	**Sn**	**20 59 36.7**	**+0.3**
DED	**Mersin**	**1.29**	**312**	*i* P	**Pn**	**20 59 18.5**	**-1.9**
KOZT	**Kozan**	**1.39**	**355**	*e*PN	**Pn**	**20 59 20.9**	**-0.9**
KOZT	**Kozan**	**1.39**	**355**	*e*Pn	**Pn**	**20 59 20.9**	**-0.9**
MERS	**Mersin**	**1.41**	**304**	*e*PN	**Pn**	**20 59 20.9**	**-1.2**
MERS	**Mersin**	**1.41**	**304**	*e*Pn	**Pn**	**20 59 20.9**	**-1.2**
AKO	**Adana**	**1.43**	**342**	*i* P	**Pn**	**20 59 21.1**	**-1.3**
AKO				*i* S	**Sg**	**20 59 41.8**	**0.0**
HCB	**Kahramanmara¯**	**1.45**	**30**	*i* P	**Pn**	**20 59 21.4**	**-1.2**
HCB				*i* S	**Sb**	**20 59 40.5**	**-1.4**
GAZ	**Gaziantep**	**1.46**	**42**	*e*PN	**Pb**	**20 59 22.9**	**-0.4**
GAZ	**Gaziantep**	**1.46**	**42**	*e*Pn	**Pb**	**20 59 22.9**	**-0.4**
ANDN	**Andirin**	**1.51**	**11**	*i* P	**Pn**	**20 59 22.7**	**-0.8**
ANDN				*i* S	**Sg**	**20 59 44.4**	**+0.1**
ANDN	**Andirin**	**1.51**	**11**	P	**Pn**	**20 59 22.7**	**-0.8**
ANDN				S	**Sg**	**20 59 44.4**	**+0.1**
GULE	**Gulek**	**1.54**	**321**	*i* P	**Pg**	**20 59 27.5**	**+2.3**
GULE				*i* S	**Sb**	**20 59 44.4**	**-0.1**
KIZK	**Mersin**	**1.54**	**285**	*e*PN	**Pn**	**20 59 23.5**	**-0.3**
KIZK	**Mersin**	**1.54**	**285**	*i* P	**Pn**	**20 59 23.8**	**0.0**
KIZK				*i* S	**Sb**	**20 59 44.4**	**-0.1**
KIZK	**Mersin**	**1.54**	**285**	P	**Pn**	**20 59 23.8**	**0.0**
KIZK				S	**Sb**	**20 59 44.4**	**-0.1**
KMRS	**Kahramanmaras**	**1.59**	**27**	*e*PN	**Pn**	**20 59 24.3**	**-0.2**
KMRS	**Kahramanmaras**	**1.59**	**27**	*e*Pn	**Pn**	**20 59 24.3**	**-0.2**
SLFK	**Silifke-Mersin**	**1.68**	**281**	*e*PN	**Pn**	**20 59 25.3**	**-0.4**
SLFK	**Silifke-Mersin**	**1.68**	**281**	*e*Pn	**Pn**	**20 59 25.3**	**-0.4**
GZT	**Gaziantep**	**1.78**	**45**	*i* P	**Pn**	**20 59 26.9**	**-0.4**
IKL	**Isikli**	**1.87**	**275**	*e*PN	**Pn**	**20 59 27.9**	**-0.4**
IKL	**Isikli**	**1.87**	**275**	*e*Pn	**Pn**	**20 59 27.9**	**-0.4**
YESI	**Yesilovacik-Me**	**1.90**	**274**	*e*PN	**Pn**	**20 59 28.1**	**-0.7**
YESI	**Yesilovacik-Me**	**1.90**	**274**	*e*Pn	**Pn**	**20 59 28.1**	**-0.7**
AKKU	**Akkuyu-Mersin**	**1.98**	**273**	*e*PN	**Pn**	**20 59 29.2**	**-0.6**
AKKU	**Akkuyu-Mersin**	**1.98**	**273**	*e*Pn	**Pn**	**20 59 29.2**	**-0.6**
KERG	**Konya-Eregli**	**2.00**	**312**	*i* P	**Pb**	**20 59 31.5**	**-1.1**
KERG				*i* S	**Sb**	**20 59 57.4**	**-0.3**
KERG	**Konya-Eregli**	**2.00**	**312**	P	**Pb**	**20 59 31.5**	**-1.1**
KERG				S	**Sb**	**20 59 57.4**	**-0.3**
YAHY	**KAYSERI_Yahyal**	**2.06**	**346**	*i* P	**Pn**	**20 59 31.2**	**+0.2**
YAHY	**KAYSERI_Yahyal**	**2.06**	**346**	P	**Pn**	**20 59 31.2**	**+0.2**
TEVE	**Tevekalti-Mers**	**2.09**	**280**	*e*PN	**Pn**	**20 59 31.2**	**-0.2**
TEVE	**Tevekalti-Mers**	**2.09**	**280**	*e*Pn	**Pn**	**20 59 31.2**	**-0.2**
LFK	**Lefkose**	**2.16**	**249**	*e*PN	**Pn**	**20 59 31.7**	**-0.6**
LFK	**Lefkose**	**2.16**	**249**	*e*Pn	**Pn**	**20 59 31.7**	**-0.6**
ROOS	**tl_alroos**	**2.19**	**151**	*e*P	**Pb**	**20 59 34.6**	**-1.3

*HLW **01** 21:00:56.2, 36.63N×27.87E, h30km±11km, Md3.5, Ml3.0*
*DDA **01** 21:00:57.1, 36.26N×27.61E, h7km, Ml3.3*
*CSEM **01** 21:00:58.8±0.2, 36.29N×27.66E, h8km, ML3.3, Error ellipse: s-maj=4.4km s-min=3.3km az=56.0*
*ISCJB **01** 21:00:58.3±0.5, 36.27N±0.02×27.68E±0.03, h11km±3km, Error ellipse: s-maj=4.8km s-min=3.3km az=42.5*
*THE **01** 21:00:58.6, 36.31N×27.67E, h0km±1km, ML3.3/5, Error ellipse: s-maj=1.7km s-min=1.0km az=201.0*
*ISK **01** 21:00:59.1, 36.34N×27.66E, h8km, MD3.3*
*NIC **01** 21:01:00.7±0.2, 36.64N×28.03E, h5km, ML3.2*

ISC 01 21:00:58.5±1.0, 36.31N±0.02×27.68E±0.02, h11km±8km, n84, σ1§16/118, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
ARG	**Arkhangelos**	**0.38**	**104**	P		**Pg**	**21 01 06.2**	**+0.3**
ARG				S		**Sb**	**21 01 12.8**	**-0.2**
ARG	**Arkhangelos**	**0.38**	**104**	P		**Pg**	**21 01 06.2**	**+0.3**
ARG				S		**Sb**	**21 01 12.8**	**-0.2**
DAT	**Datca**	**0.43**	**349**	*e*PG		**Pg**	**21 01 06.8**	**-0.1**
DAT				*e*SG		**Sg**	**21 01 13.3**	**+0.7**
DAT	**Datca**	**0.43**	**349**	*i* P		**Pg**	**21 01 06.1**	**-0.8**
DAT				*i* S		**Sb**	**21 01 13.9**	**-0.7**
DAT	**Datca**	**0.43**	**349**	P		**Pg**	**21 01 06.1**	**-0.8**
DAT				*e*Sg		**Sg**	**21 01 13.3**	**+0.7**
DAT	**Datca**	**0.43**	**349**	*e*Pg		**Pg**	**21 01 06.8**	**-0.1**
DATC	**Datca-Mugla**	**0.45**	**358**	*e*PG		**Pg**	**21 01 07.3**	**0.0**
DATC	**Datca-Mugla**	**0.45**	**358**	*e*Pg		**Pg**	**21 01 07.3**	**0.0**
NIS1	**Nisyros Isl.**	**0.50**	**306**	P		**Pg**	**21 01 08.4**	**+0.2**
NIS1				S		**Sb**	**21 01 17.3**	**+0.7**
NIS1	**Nisyros Isl.**	**0.50**	**306**	P		**Pg**	**21 01 08.4**	**+0.2**
NIS1				S		**Sb**	**21 01 17.3**	**+0.7**
MRSB	**Marmaris-Mugla**	**0.58**	**46**	*e*PG		**Pb**	**21 01 10.9**	**+0.2**
MRSB				*e*SG		**Sb**	**21 01 19.4**	**+0.3**
MRSB	**Marmaris-Mugla**	**0.58**	**46**	*e*Pg		**Pb**	**21 01 10.9**	**+0.2**
MRSB				*e*Sg		**Sb**	**21 01 19.4**	**+0.3**
BDRM	**Kayabasi**	**0.78**	**346**	*i* P		**Pg**	**21 01 13.2**	**-0.3**
BDRM				*i* S		**Sb**	**21 01 24.3**	**-0.3**
BDRM	**Kayabasi**	**0.78**	**346**	P		**Pg**	**21 01 13.2**	**-0.3**
BDRM				S		**Sb**	**21 01 24.3**	**-0.3**
BODT	**Bodrum**	**0.81**	**339**	*e*PG		**Pg**	**21 01 14.2**	**+0.2**
BODT				*e*SG		**Sb**	**21 01 26.3**	**+0.8**
BODT	**Bodrum**	**0.81**	**339**	*e*Pg		**Pg**	**21 01 14.2**	**+0.2**
BODT				*e*Sg		**Sb**	**21 01 26.3**	**+0.8**
KARP	**Karpathos**	**0.87**	**209**	*e*PG		**Pn**	**21 01 17.1**	**+0.4**
KARP	**Karpathos**	**0.87**	**209**	P		**Pg**	**21 01 15.4**	**+0.2**
KARP				S		**Sn**	**21 01 29.6**	**+0.2**
KARP	**Karpathos**	**0.87**	**209**	P		**Pg**	**21 01 15.4**	**+0.2**
KARP	**Karpathos**	**0.87**	**209**	*e*Pg		**Pn**	**21 01 17.1**	**+0.4**
YKAV	**Yalikavak-Bodr**	**0.87**	**339**	*e*PG		**Pb**	**21 01 15.6**	**-0.1**
YKAV	**Yalikavak-Bodr**	**0.87**	**339**	*e*Pg		**Pb**	**21 01 15.6**	**-0.1**
TURN	**Turunc**	**0.93**	**53**	*i* P		Pg	21 01 11.5	-5.0
TURN				*i* S		**Sg**	**21 01 21.7**	**-6.9**
DALY	**Dalyan (Mu¨la**	**0.94**	**57**	*e*PG		**Pb**	**21 01 17.0**	**+0.3**
DALY	**Dalyan (Mu¨la**	**0.94**	**57**	*i* P		**Pb**	**21 01 16.2**	**-0.3**
DALY				*i* S		**Sb**	**21 01 29.5**	**+0.4**
DALY	**Dalyan (Mu¨la**	**0.94**	**57**	P		**Pb**	**21 01 16.2**	**-0.3**
DALY	**Dalyan (Mu¨la**	**0.94**	**57**	*e*Pg		**Pb**	**21 01 17.0**	**+0.3**
DALY				S		**Sb**	**21 01 29.5**	**+0.4**
MLSB	**Milas**	**0.99**	**5**	*e*PG		**Pn**	**21 01 18.0**	**-0.4**
MLSB				*e*SG		**Sn**	**21 01 31.7**	**-0.6**
MLSB	**Milas**	**0.99**	**5**	*e*Pg		**Pn**	**21 01 18.0**	**-0.4**
MLSB				*e*Sg		**Sn**	**21 01 31.7**	**-0.6**
FETY	**Fethiye**	**1.18**	**74**	*e*PN		**Pg**	**21 01 21.5**	**+0.3**
FETY	**Fethiye**	**1.18**	**74**	P		**Pb**	**21 01 20.6**	**-0.3**
FETY	**Fethiye**	**1.18**	**74**	*e*Pn		**Pg**	**21 01 21.5**	**+0.3**
GCAM	**G?zelcaml?**	**1.43**	**346**	*i* P		**Pn**	**21 01 24.1**	**-0.3**
GCAM				*i* S		**Sg**	**21 01 46.3**	**+1.7**
GCAM	**G?zelcaml?**	**1.43**	**346**	P		**Pn**	**21 01 24.1**	**-0.3**
GCAM				S		**Sg**	**21 01 46.3**	**+1.7**
KSL	**Kastellorizon**	**1.55**	**95**	P		**Pb**	**21 01 27.1**	**-0.1**
KSL				S		**Sg**	**21 01 48.0**	**-0.3**
KSL	**Kastellorizon**	**1.55**	**95**	P		**Pb**	**21 01 27.1**	**-0.1**
KSL				S		**Sg**	**21 01 48.0**	**-0.3**
SMG	**Samos**	**1.55**	**335**	P		**Pn**	**21 01 25.0**	**-1.1**
SMG				S		**Sg**	**21 01 47.5**	**-0.8**
SMG	**Samos**	**1.55**	**335**	P		**Pn**	**21 01 25.0**	**-1.1**
SMG				S		**Sg**	**21 01 47.5**	**-0.8**
AKAS	**Kas**	**1.56**	**92**	*e*PN		**Pb**	**21 01 27.7**	**+0.2**
AKAS	**Kas**	**1.56**	**92**	*i* P		**Pb**	**21 01 27.7**	**+0.2**
AKAS	**Kas**	**1.56**	**92**	P		**Pb**	**21 01 27.7**	**+0.2**
AYDB	**Zeytinkoy-Aydi**	**1.64**	**6**	*e*PN		**Pb**	**21 01 28.4**	**-0.5**
AYDB	**Zeytinkoy-Aydi**	**1.64**	**6**	*e*Pn		**Pb**	**21 01 28.4**	**-0.5**
DNZL	**Cakiroluk**	**1.76**	**38**	*i* P		**Pb**	**21 01 30.4**	**-0.5**
DNZL				*i* S		**Sg**	**21 01 59.3**	**+4.2**
DNZL	**Cakiroluk**	**1.76**	**38**	P		**Pb**	**21 01 30.4**	**-0.5**
GOLH	**Golhisar**	**1.77**	**58**	*i* P		**Pg**	**21 01 32.0**	**-0.5**
GOLH				*i* S		**Sg**	**21 01 56.7**	**+1.2**
GOLH	**Golhisar**	**1.77**	**58**	P		**Pg**	**21 01 32.0**	**-0.5**
GOLH				S		**Sg**	**21 01 56.7**	**+1.2**
DENT	**Denizli**	**1.80**	**37**	*e*PN		**Pb**	**21 01 31.3**	**-0.3**
DENT	**Denizli**	**1.80**	**37**	*e*Pn		**Pb**	**21 01 31.3**	**-0.3**
ELL	**Elmali**	**1.85**	**76**	*e*PN		**Pb**	**21 01 32.9**	**+0.5**
ELL	**Elmali**	**1.85**	**76**	*e*Pn		**Pb**	**21 01 32.9**	**+0.5**
APE	**Apeiranthos**	**1.88**	**294**	*e*PN		**Pn**	**21 01 31.7**	**+1.0**
APE	**Apeiranthos**	**1.88**	**294**	*e*Pn		**Pn**	**21 01 31.7**	**+1.0**
ZEY	**¨zmir**	**2.14**	**334**	*i* P		**Pn**	**21 01 33.2**	**-1.0**
KORT	**Korkueli**	**2.26**	**71**	*e*PN		**Pb**	**21 01 38.2**	**-1.2**
KORT	**Korkueli**	**2.26**	**71**	*e*Pn		**Pb**	**21 01 38.2**	**-1.2**
KULA	**Kula-Manisa**	**2.33**	**19**	*e*PN		**Pn**	**21 01 38.7**	**+1.8**
KULA	**Kula-Manisa**	**2.33**	**19**	*e*Pn		**Pn**	**21 01 38.7**	**+1.8**
ANTB	**Antalya**	**2.47**	**75**	*e*PN		**Pb**	**21 01 41.4**	**-1.4**
ANTB	**Antalya**	**2.47**	**75**	*e*Pn		**Pb**	**21 01 41.4**	**-1.4**
AKS	**Akhisar**	**2.57**	**2**	*e*PN		**Pn**	**21 01 41.4**	**+1.3**
AKS	**Akhisar**	**2.57**	**2**	*e*Pn		**Pn**	**21 01 41.4**	**+1.3**
BCK	**Bucak**	**2.60**	**63**	*e*PN		**Pn**	**21 01 42.4**	**+1.8**
BCK	**Bucak**	**2.60**	**63**	*e*Pn		**Pn**	**21 01 42.4**	**+1.8**
AKMC	**Akamas**	**4.00**	**107**	P		**Pn**	**21 02 00.6**	**+0.9**
AKMC	**Akamas** baz=295	**4.00**	**107**	P		**Pn**	**21 02 00.6**	**+0.9**
PPCY	**Paphos**	**4.06**	**109**	P		**Pn**	**21 02 01.4**	**+0.8**
PPCY	**Paphos** baz=297	**4.06**	**109**	P		**Pn**	**21 02 01.4**	**+0.8**
ALFC	**Alefka**	**4.17**	**105**	P		**Pn**	**21 02 02.6**	**+0.5**
ALFC				S		**Sn**	**21 02 50.4**	**-0.4**
ALFC	**Alefka** baz=293	**4.17**	**105**	P		**Pn**	**21 02 02.6**	**+0.5**
ALFC				S		**Sn**	**21 02 50.4**	**-0.4**
SZAC	**Souni**	**4.52**	**109**	P		**Pn**	**21 02 07.8**	**+0.9**
SZAC				S		**Sn**	**21 03 00.5**	**+1.0**
SZAC	**Souni** baz=296	**4.52**	**109**	P		**Pn**	**21 02 07.8**	**+0.9**
SZAC				S		**Sn**	**21 03 00.5**	**+1.0**
CSS	**Mathiatis**	**4.80**	**105**	P		**Pn**	**21 02 11.6**	**+0.9**
CSS				S		**Sn**	**21 03 06.7**	**+0.4**
CSS	**Mathiatis** baz=292	**4.80**	**105**	P		**Pn**	**21 02 11.6**	**+0.9**
CSS				S		**Sn**	**21 03 06.7**	**+0.4**
SLUM	**Salum** baz=205	**5.22**	**204**	P		**Pn**	**21 02 17.9**	**+1.4**
SLUM	**Salum**	**5.22**	**204**	P		**Pn**	**21 02 17.9**	**+1.4**
KOT	**Kottamia** baz=152	**7.25**	**150**	P		**Pn**	**21 02 43.9**	**-0.6**
KOT	**Kottamia**	**7.25**	**150**	P		**Pn**	**21 02 43.9**	**-0.6**
RSH	baz=137	**7.34**	**135**	P		**Pn**	**21 02 44.4**	**-1.2**
RSH		**7.34**	**135**	P		**Pn**	**21 02 44.4**	**-1.2**
GLL	**Jalalah** baz=154	**7.52**	**152**	P		**Pn**	**21 02 47.8**	**-0.4**
GLL				S		**Sn**	**21 04 09.4**	**-4.0**
GLL	**Jalalah** baz=154	**7.52**	**152**	P		**Pn**	**21 02 47.8**	**-0.4**
HNKL	**Nakhl** baz=140	**8.27**	**139**	P		**Pn**	**21 02 56.8**	**-1.6**
HNKL	**Nakhl**	**8.27**	**139**	P		**Pn**	**21 02 56.8**	**-1.6**

*SJA **01** 21:01:55.8±0.2, 35.50S×72.46W, h55km±6km, ML3.8, MW3.8*
*GUC **01** 21:02:08.8±0.7, 34.75S×71.91W, h48km±2km, ML3.8*

ISC 01 21:02:09.6±1.4, 34.80S±0.03×71.85W±0.06, h17km±11km, n20, σ2§17/33, 1C-3D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
CHPI	**Pichilemu**	**0.43**	**343**	⇑*i*P		**Pg**	**21 02 18.6**	**+0.3**
CHPI				*i* S		**Sb**	**21 02 25.1**	**+0.2**
NICH	**Los Niches**	**0.55**	**112**	⇓*i*P		**Pb**	**21 02 21.6**	**+0.8**
NICH				*i* S		**Sn**	**21 02 30.6**	**-0.8**
TALC	**Talca**	**0.62**	**163**	*e*P		**Pn**	**21 02 23.9**	**+0.3**
TALC				*i* S		**Sn**	**21 02 32.9**	**-0.3**
LNCH	**Linares**	**1.06**	**169**	⇓*i*P		**Pg**	**21 02 31.1**	**+0.9**
LNCH				*i* S		**Sn**	**21 02 46.0**	**+1.9**
COCH	**Cobquecura**	**1.53**	**210**	*e*P		**Pn**	**21 02 34.8**	**-1.4**
COCH				*i* S		**Sn**	**21 02 54.8**	**-0.9**
CLCH	**Cerro Calan**	**1.78**	**38**	⇓*i*P		**Pn**	**21 02 38.2**	**-1.4**
CLCH				*i* S		**Sn**	**21 03 00.3**	**-1.5**
CLCH	comp=E,2μm,0.9s			IAML			21 03 03.3	
ROC1	**El Roble**	**1.95**	**21**	*e*P		**Pn**	**21 02 40.4**	**-1.8**
ROCH	**El Roble**	**1.96**	**21**	*e*P		**Pn**	**21 02 40.7**	**-1.5**
ROCH				*i* S		**Sn**	**21 03 05.4**	**-1.1**
ROCH	comp=N,1μm,0.4s			IAML			21 03 07.9	
AAGR	**Agrelo**	**3.04**	**57**	*e*P		**Pn**	**21 02 55.5**	**-1.5**
ARCO	**CERRO ARCO**	**3.12**	**52**	*e*P		**Pn**	**21 02 56.7**	**-1.5**
ARCO	comp=Z,72nm,0.7s			IAML			21 03 18.1	
ARCO				*e*S		**Sb**	**21 03 41.8**	**-0.8**
AUSP	**Uspallata**	**3.29**	**39**	*e*P		**Pn**	**21 02 60.0**	**-0.7**
ASAL	**Salagasta**	**3.34**	**50**	*e*P		**Pn**	**21 02 59.8**	**-1.4**
ASAL				*e*S		**Sb**	**21 03 47.3**	**-1.7**
RTLS	**Leoncito**	**3.68**	**36**	*e*P		**Pn**	**21 03 05.2**	**-0.8**
RTLS				*e*S		**Sb**	**21 03 56.6**	**-2.2**
RTCV	**Cerro Valdivia**	**4.03**	**44**	*e*P		**Pn**	**21 03 09.2**	**-1.5**
ACAN	**Cantantal**	**4.64**	**58**	*e*P		**Pn**	**21 03 16.6**	**-2.4**
AMOG	**MOGNA**	**4.78**	**37**	*e*P		**Pn**	**21 03 19.5**	**-1.4**
AMOG				*e*S		**Sn**	**21 04 21.1**	**+5.2**
ACCO	**Cerro Coronel**	**4.81**	**30**	*e*P		**Pn**	**21 03 20.6**	**-1.0**
ACCO				*e*S		**Sn**	**21 04 23.4**	**+6.2**
AGUA	**GUANDACOL**	**6.02**	**29**	*e*P		**Pn**	**21 03 36.0**	**-1.9**
AGUA				*e*S		**Sn**	**21 04 50.4**	**+3.8**
ACLC	**CERRO LA CRUZ**	**6.78**	**39**	*e*P		**Pn**	**21 03 46.6**	**-2.0**
VCA	**Vinchina**	**6.80**	**28**	*e*P		**Pn**	**21 03 47.0**	**-1.7**
VCA	comp=Z,24nm,0.5s			IAML			21 05 26.7	

*IDC **01** 21:18:55.5±0.8, 39.24N×75.29E, h0km, mb3.6/11, mb1 3.7/15, mb1mx3.6/37, mbtmp3.6/15, ML3.2/3, Error ellipse: s-maj=19.5km s-min=14.5km az=73.0*
*BJI **01** 21:18:55.8, 39.29N×74.96E, h11km, mb3.8/2, ML3.6/7*
*SOME **01** 21:18:57.3, 39.45N×75.28E, h5km*
*KRNET **01** 21:19:00.1±0.1, 39.35N×75.05E, mb3.8*
*NNC **01** 21:19:03.3±3.8, 39.62N×75.10E, h0km, mb4.2, mpv3.9, Error ellipse: s-maj=31.7km s-min=19.2km az=175.0*

ISC 01 21:18:58.1±0.6, 39.22N±0.05×75.22E±0.04, h10km, n51, σ2§36/67, mb3.5/10, 16C-18D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
KSH	**Kashi**	**0.66**	**63**	⇑*i*Pg		Pg	21 19 04.7	-6.2
KSH				Sg		Sg	21 19 09.9	-10
KSH	comp=N,4μm,0.4s			smax		smax		
KSH	comp=E,3μm,0.5s			smax		smax		
ARSB	**Arslanbob** baz=322	**2.71**	**322**	⇑*i*P		**Pn**	**21 19 44.4**	**+2.5**
ARSB	baz=322			⇑*i*S		**Sn**	**21 20 16.2**	**+1.4**
BOOM	**Boomskoye usch** baz=12	**3.31**	**9**	⇓*i*P		**Pn**	**21 19 52.7**	**+2.5**
BOOM	baz=12			⇓*i*S		**Sn**	**21 20 32.4**	**+2.7**
AAK	**Ala-Archa** 3.8nm,0.3s,baz=168,slow=9.5,SNR=25	**3.46**	**351**	Pn		**Pn**	**21 19 54.1**	**+1.9**
AAK	5.1nm,0.3s,baz=152,slow=13,SNR=3.5			Sn		**Sn**	**21 20 36.0**	**+2.7**
AAK	**Ala-Archa** 20nm,0.4s	**3.46**	**351**	⇓Pn		**Pn**	**21 19 54.1**	**+1.9**
AAK	88nm,0.9s			⇑Lg		Lg	21 20 46.0	
BTK	**Batken** baz=284	**3.50**	**285**	⇓*i*P		**Pn**	**21 19 56.0**	**+3.4**
BTK	baz=284			⇓*i*S		**Sn**	**21 20 35.2**	**+1.1**
ARK	**Arkit** baz=317	**3.58**	**317**	⇑*i*P		**Pn**	**21 19 55.4**	**+1.6**
ARK	baz=317			⇑*i*S		**Sn**	**21 20 36.2**	**+0.1**
FRU1	**Bishkek** baz=355	**3.62**	**353**	⇓*e*P		**Pn**	**21 19 56.8**	**+2.6**
FRU1	baz=355			⇓*i*S		**Sn**	**21 20 39.2**	**+2.2**
TKM2	**Tokmak 2** 74nm,0.7s	**3.71**	**4**	⇓Pn		**Pn**	**21 19 57.9**	**+2.2**
TKM2	65nm,0.6s			⇓Lg		Lg	21 20 43.1	
MRKS	**Merke** 51nm,0.4s	**3.83**	**337**	*e*P		**Pb**	**21 20 07.4**	**+1.5**
MRKS	53nm,0.7s			*e*S		**Sb**	**21 20 56.6**	**+4.2**
MNAS	**Manas** baz=329	**3.86**	**329**	⇓*i*P		**Pn**	**21 20 00.8**	**+3.1**
MNAS	baz=329			⇓*i*S		**Sn**	**21 20 43.9**	**+0.8**
MNAS	**Manas** 21nm,0.5s	**3.86**	**329**	⇓Pg		**Pb**	**21 20 05.9**	**-0.4**
MNAS	45nm,0.5s			⇑Lg		Lg	21 20 55.4	
IZV	**Izvestkoviy** 48nm,0.5s	**3.96**	**15**	*e*P		**Pb**	**21 20 06.7**	**-1.4**
IZV	60nm,0.8s			*e*S		**Sb**	**21 20 55.6**	**-0.4**
ANVS	**Anan'yevo** baz=29	**4.01**	**27**	⇓*i*P		**Pn**	**21 20 03.5**	**+3.7**
ANVS	baz=29			⇓*i*S		**Sn**	**21 20 50.4**	**+3.4**
TNSS	**Tian-Shan** 47nm,0.6s	**4.03**	**18**	*e*P		**Pb**	**21 20 08.1**	**-1.3**
TNSS	40nm,0.6s			*e*S		**Sb**	**21 20 58.3**	**-0.1**
DGS	**Degeres** 53nm,0.6s	**4.04**	**6**	*e*P		**Pb**	**21 20 10.2**	**+0.8**
DGS	62nm,0.6s			*e*S		**Sb**	**21 21 01.6**	**+3.2**
PRZ	**Przheval'sk** baz=38	**4.06**	**35**	⇑*i*P		**Pn**	**21 20 04.8**	**+4.4**
PRZ	baz=38			⇑*i*S		**Sn**	**21 20 51.8**	**+3.7**
KNDC	**Almaty** 25nm,0.5s	**4.21**	**18**	⇓Pg		**Pb**	**21 20 10.4**	**-1.8**
KNDC	93nm,0.7s			⇓Lg		Lg	21 21 07.7	
KTBS	**Karatobe**	**4.62**	**13**	*e*P		**Pb**	**21 20 18.6**	**-0.7**
KTBS				*e*S		**Sb**	**21 21 16.1**	**+1.0**
KURS	**Kuram**	**4.81**	**27**	*e*P		**Pb**	**21 20 23.0**	**+0.5**
KURS				*e*S		**Sb**	**21 21 23.3**	**+2.9**
CHKK	**Chushkaly** 43nm,0.5s	**4.82**	**15**	*e*P		**Pb**	**21 20 22.4**	**-0.2**
CHKK	66nm,0.8s			*e*S		**Sb**	**21 21 22.0**	**+1.4**
IUG	**Iuzhnay** 24nm,0.3s	**4.91**	**308**	*e*P		**Pb**	**21 20 25.5**	**+1.3**
IUG	77nm,0.5s			*e*S		**Sb**	**21 21 28.1**	**+4.8**
PDGK	**Podgornoye** 21nm,0.7s	**5.22**	**37**	⇑Pg		**Pb**	**21 20 32.3**	**+2.8**
PDGK	55nm,0.8s			⇑Lg		Lg	21 21 42.6	
KK31	**Karatay Array** 1.2nm,0.3s,baz=122,slow=12,SNR=49	**5.26**	**319**	⇑Pn		**Pn**	**21 20 17.4**	**+0.6**
KK31	5.5nm,0.6s,baz=140,slow=17,SNR=6.3			⇓Pg		**Pb**	**21 20 33.5**	**+3.4**
KK31	6.2nm,0.3s,baz=132,slow=22,SNR=5.5			⇑Sn		**Sn**	**21 21 16.1**	**-1.4**
KK31	6.5nm,0.4s			⇑Lg		Lg	21 21 37.3	
ARXS	**Arharly** 18nm,0.5s	**5.36**	**21**	*e*P		**Pb**	**21 20 32.0**	**+0.1**
ARXS	30nm,0.4s			*e*S		**Sb**	**21 21 38.6**	**+2.3**
CHCP	**Chirah Chowk**	**5.77**	**196**	P		Pb	21 20 31.1	-7.7
CEP	**Cherat**	**6.01**	**207**	⇓P		Pn	21 20 33.6	+6.4
CEP				S		**Sn**	**21 21 43.0**	**+6.9**
THW	**Thamme Wali**	**7.00**	**205**	P		Pn	21 20 46.0	+5.3
SARP	**Sargodha**	**7.57**	**197**	P		**Pn**	**21 20 52.2**	**+3.7**
WMQ	**Urumqi**	**10.42**	**60**	*e*P		**Pn**	**21 21 28.7**	**+1.0**
WMQ	comp=Z,4.0nm,0.9s			pmax		pmax		
KURBB	**Kurchatov Arra** baz=196,slow=12,SNR=2.5	**11.64**	**11**	Pn		Pn	21 21 41.5	-2.7
KURBB				Lg		Lg	21 25 02.6	
GEYT	**Alibeck** 1.2nm,0.3s,baz=102,slow=9.0,SNR=18	**13.45**	**270**	Pn		**Pn**	**21 22 04.5**	**-4.5**
BVA0	**Borovoye Array** 5.2nm,0.7s,baz=158,slow=10,SNR=34	**14.20**	**348**	P		**P**	**21 22 26.3**	**-0.4**
BVAR	**Borovoye Array** 0.1nm,0.3s,baz=150,slow=14,SNR=2.7	**14.20**	**348**	Pn		**Pn**	**21 22 17.5**	**-1.7**
BVAR				Lg		Lg	21 26 17.5	
AB31	**Akbulak array** 0.8nm,0.6s	**14.82**	**318**	⇑P		**Pn**	**21 22 25.1**	**-2.5**
ZALV	**Zalesovo Beam** 0.2nm,0.3s,baz=211,slow=11,SNR=4.8	**16.12**	**21**	Pn		**Pn**	**21 22 42.8**	**-1.8**
AKTO	**Aktyubinsk** 0.2nm,0.3s,baz=113,slow=17,SNR=4.0	**16.53**	**318**	Pn		**Pn**	**21 22 48.4**	**-1.5**
AKTO	**Aktyubinsk** 2.0nm,0.8s	**16.53**	**318**	⇑P		**Pn**	**21 22 50.5**	**+0.6**
GTA	**Gaotai**	**19.02**	**82**	*e*P		**Pn**	**21 23 22.5**	**+1.5**
GTA				pP		sP	21 23 31.9	+7.5
GTA				sP		pP	21 23 36.0	+13
GTA	comp=Z,3.0nm,1.3s			pmax		pmax		
ARU	**Arti** 1.4nm,0.6s,baz=126,slow=8.7,SNR=4.8	**20.44**	**333**	P		**P**	**21 23 33.9**	**-1.4**
SONM	**Songino Array** 0.5nm,0.6s,baz=254,slow=9.6,SNR=5.1	**24.06**	**59**	P		**P**	**21 24 13.6**	**+0.1**
BRTR	**Keskin Array B** 0.4nm,0.7s,baz=86,slow=6.9,SNR=3.8	**31.89**	**284**	P		**P**	**21 25 23.9**	**+0.2**
FINES	**FINESS Array B** 1.2nm,0.5s,baz=117,slow=9.7,SNR=13	**37.21**	**323**	P		**P**	**21 26 08.2**	**-1.0**
ARCES	**ARCESS Array B** 0.5nm,0.5s,baz=100,slow=8.3,SNR=5.9	**39.99**	**335**	P		**P**	**21 26 31.4**	**-1.1**
NB2	**NORSAR Subarra** comp=Z,0.6nm,0.5s,baz=90,slow=8.6	**44.29**	**321**	P		**P**	**21 27 06.3**	**-1.4**
NOA	**NORSAR Array B** comp=Z,0.7nm,0.6s,baz=91,slow=8.0,SNR=6.1	**44.29**	**321**	P		**P**	**21 27 06.7**	**-1.1**
TORD	**Torodi Ar. Bea** comp=Z,0.2nm,0.3s,baz=48,slow=5.4,SNR=11	**69.09**	**270**	P		**P**	**21 30 03.3**	**-1.3**
ILAR	**Eielson Array** comp=Z,0.5nm,0.9s,baz=335,slow=6.1,SNR=4.1	**71.22**	**18**	P		**P**	**21 30 14.9**	**-1.9**
YKA	**Yellowknife Ar** comp=Z,0.2nm,0.4s,baz=345,slow=5.5,SNR=2.8	**78.33**	**5**	P		**P**	**21 30 56.6**	**-1.5**
WRA	**Warramunga Arr** comp=Z,0.3nm,0.5s,baz=326,slow=5.0,SNR=6.2	**80.70**	**125**	P		**P**	**21 31 10.2**	**-1.4**
ASAR	**Alice Springs** comp=Z,0.1nm,0.5s,baz=316,slow=5.2,SNR=3.4	**83.18**	**128**	P		**P**	**21 31 24.0**	**-0.6**

*JMA **01** 21:21:10.8±0.1, 24.75N×122.07E, h66km±3km, M2.5*
*ISCJB **01** 21:21:11.4±0.5, 24.73N±0.03×122.10E±0.02, h65km±5km, Error ellipse: s-maj=5.4km s-min=3.2km az=164.5*
*TAP **01** 21:21:11.3, 24.74N×122.04E, h68km, ML3.4, C*

ISC 01 21:21:11.8±1.3, 24.72N±0.04×122.10E±0.03, h63km±8km, n44, σ0§88/83, 8D, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
EGS		**0.20**	**309**	*e*P		**Pn**	**21 21 22.0**	**+0.4**
EGS	baz=318			S		**Sn**	**21 21 28.9**	**+0.2**
TWC	**Suao** baz=233	**0.26**	**245**	⇓*i*P		**Pn**	**21 21 22.0**	**+0.1**
TWC	baz=233			S		**Sn**	**21 21 29.4**	**+0.2**
TWB1	**Santiao Chiao** baz=345	**0.31**	**340**	⇓*i*P		**Pn**	**21 21 22.2**	**-0.1**
TWB1	baz=345			*i* S		**Sn**	**21 21 29.8**	**-0.1**
ILA	**Ilan** baz=284	**0.33**	**278**	P		**Pn**	**21 21 22.5**	**+0.1**
ILA	baz=284			S		**Sn**	**21 21 30.5**	**+0.4**
TWE	**Neicheng** baz=274	**0.40**	**270**	⇓*i*P		**Pn**	**21 21 23.1**	**+0.1**
TWE	baz=274			*e*S		**Sn**	**21 21 31.1**	**0.0**
ENA	**Nanau** baz=221	**0.44**	**229**	⇓*i*P		**Pn**	**21 21 23.8**	**+0.4**
ENA	baz=221			S		**Sn**	**21 21 33.1**	**+1.3**
NWF	**Wu-fen Shan** baz=317	**0.46**	**320**	⇓*i*P		**Pn**	**21 21 23.5**	**-0.2**
NWF	baz=317			*i* S		**Sn**	**21 21 32.0**	**-0.3**
ENTT	**Nioudou** baz=261	**0.49**	**261**	⇓*i*P		**Pn**	**21 21 24.2**	**+0.3**
ENTT	baz=261			S		**Sn**	**21 21 33.2**	**+0.4**
TWA	**Mucha** baz=300	**0.54**	**299**	P		**Pn**	**21 21 23.9**	**-0.5**
TWA	baz=300			*i* S		**Sn**	**21 21 32.8**	**-0.9**
TAP1	**Taipei** baz=301	**0.62**	**301**	P		**Pn**	**21 21 24.6**	**-0.7**
TAP1	baz=301			*i* S		**Sn**	**21 21 34.0**	**-1.1**
TAP	**Taipei** baz=301	**0.63**	**301**	P		**Pn**	**21 21 24.4**	**-1.0**
TAP	baz=301			S		**Sn**	**21 21 34.3**	**-1.0**
NSK	**Sanguang** baz=272	**0.68**	**267**	⇓*i*P		**Pn**	**21 21 25.9**	**-0.2**
NSK	baz=272			S		**Sn**	**21 21 36.6**	**+0.1**
TWY	**Chenhua** baz=322	**0.72**	**321**	*e*P		**Pn**	**21 21 25.9**	**-0.5**
TWY	baz=322			*e*S		**Sn**	**21 21 36.5**	**-0.7**
NNS	**Nan Shan** baz=252	**0.72**	**247**	⇓*i*P		**Pn**	**21 21 27.0**	**+0.4**

YUS	**Yu-Shan**	**1.61**	**221**	P		**Pn**	**21 21 38.8**	**+0.2**
	baz=211							
YUS				*eS*		**Sn**	**21 21 58.4**	**-0.3**
	baz=211							
ALS	**Alishan**	**1.69**	**225**	P		**Pn**	**21 21 40.2**	**+0.8**
	baz=234							
ALS				*eS*		**Sn**	**21 22 01.2**	**+1.0**
	baz=234							
CHN5	**Tsauling**	**1.71**	**230**	*eP*		**Pn**	**21 21 40.3**	**+0.7**
	baz=238							
CHN5				*eS*		**Sn**	**21 22 02.0**	**+1.4**
	baz=238							
WGK	**Gukeng**	**1.74**	**234**	*eP*		**Pn**	**21 21 40.8**	**+1.0**
	baz=242							
WGK				*eS*		**Sn**	**21 22 01.6**	**+0.5**
	baz=242							
CHKT	**Chengkung**	**1.75**	**203**	*eP*		**Pn**	**21 21 39.0**	**-0.9**
	baz=195							
CHKT				*eS*		**Sn**	**21 21 58.4**	**-2.8**
	baz=195							
JKRS	**Kuro-shima**	**1.80**	**105**	P		**Pn**	**21 21 40.6**	**0.0**
JKRS				*eS*		**Sn**	**21 22 03.3**	**+0.8**
ELDTW	**Lidau**	**1.82**	**213**	*eP*		**Pn**	**21 21 40.5**	**-0.5**
	baz=206							
ELDTW				*eS*		**Sn**	**21 22 01.4**	**-1.6**
	baz=206							
JIJ	**Ishigaki jima**	**1.89**	**100**	P		**Pn**	**21 21 42.1**	**+0.2**
JIJ				*eS*		**Sn**	**21 22 04.5**	**-0.2**
CHN4	**Tsaushan**	**1.94**	**226**	*eP*		**Pn**	**21 21 43.4**	**+0.8**
	baz=225							
CHN4				*eS*		**Sn**	**21 22 07.8**	**+2.0**
	baz=225							
JISG	**Ishigakijimahi**	**2.01**	**93**	P		**Pn**	**21 21 43.4**	**-0.1**
JISG				S		**Sn**	**21 22 09.0**	**+1.4**
TWK	**Hsinying**	**2.07**	**226**	*eP*		**Pn**	**21 21 44.0**	**-0.3**
	baz=224							
CHN1	**Nanshi**	**2.10**	**224**	*eP*		**Pn**	**21 21 45.8**	**+1.0**
	baz=233							
CHN1				*eS*		**Sn**	**21 22 10.8**	**+1.0**
	baz=233							
SGST	**Jiashian**	**2.14**	**221**	*eP*		**Pn**	**21 21 46.3**	**+1.0**
	baz=230							
SSD	**Sandimen**	**2.38**	**215**	*eP*		**Pn**	**21 21 49.4**	**+0.9**
	baz=205							

*IDC **01** 21:50:54.1±0.9,0.°16S×124.°69E,h0km,mb4.0/7, mb1 4.1/8,mb1mx3.9/30,mbtmp4.0/8,ML3.8/1,Error ellipse: s-maj=51.3km s-min=16.8km az=69.0*
*ISCJB **01** 21:50:57.1±0.5,0.°09S±0.°05×124.°78E±0.°05,h35km, mb4.3/14,Error ellipse: s-maj=7.9km s-min=6.6km az=138.6*
*NEIC **01** 21:50:58.8±1.6,0.°13S×124.°77E,h36km±15km,mb4.1/5, Error ellipse: s-maj=17.6km s-min=6.2km az=59.0*
*DJA **01** 21:50:58.4±1.9,0.°S±8.°×12.°5E±.°,h19km±22km,M4.4/6, mB5.0/2,mb4.7/2,MLv4.2/6,Mw(mB)4.3/2*

ISC 01 21:50:59.2±0.6,**0.°17S**±0.°06×**124.°71E**±0.°06,**h35**km,**n28,** σ1=**57**/32,**mb4.0**/14,**Southern Molucca Sea**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KMSI	**Cibinong**	**1.04**	**315**	P	**Pn**	**21 51 17.9**	**+0.6**
GTOI	**Gorontalo**	**1.88**	**295**	P	**Pn**	**21 51 31.4**	**+2.6**
GTOI				S	**Sn**	**21 51 54.1**	**+2.8**
LUWI	**Luwuk**	**2.12**	**246**	P	**Pn**	**21 51 34.1**	**+1.9**
LUWI				S	**Sn**	**21 52 00.5**	**+3.1**
LUWI	**Luwuk**	**2.12**	**246**	*e*Pn	**Pn**	**21 51 32.8**	**+0.6**
LUWI				Sn	**Sn**	**21 51 58.6**	**+1.3**
SANI	**Sanana**	**2.26**	**146**	P	**Pn**	**21 51 35.2**	**+1.1**
MRSI	**Marisa**	**2.84**	**283**	P	**Pn**	**21 51 40.2**	**-1.9**
NLAI	**Namlea**	**3.87**	**142**	P	**Pn**	**21 51 58.9**	**+2.6**
KDI	**Kendari**	**4.30**	**209**	P	**Pn**	**21 52 02.2**	**0.0**
MSAI	**Masohi**	**5.27**	**127**	P	Pn	21 52 21.0	+5.5
TTSI	**Tana Toraja**	**5.66**	**240**	P	**Pn**	**21 52 22.5**	**+1.6**
TTSI				S	**Sn**	**21 53 20.9**	**-3.9**
SPSI	**Sidrap Palu**	**6.21**	**233**	P	**Pn**	**21 52 30.3**	**+1.8**
KKM	**Kota Kinabalu**	**10.49**	**306**	*e*Pn	**Pn**	**21 53 27.6**	**+0.3**
KSM	**Kuching**	**14.49**	**277**	*e*Pn	**Pn**	**21 54 21.8**	**-0.1**
FITZ	**Fitzroy Crossi**	**17.84**	**177**	P	**Pn**	**21 55 04.3**	**-0.5**
	0.3nm,0.3s,baz=4.2,slow=9.6,SNR=9.5						
WRAB	**Tennant Creek**	**21.79**	**155**	*e*P	**P**	**21 55 48.1**	**-0.3**
	7.8nm,0.9s						
WRA	**Warramunga Arr**	**21.80**	**155**	P	**P**	**21 55 47.8**	**-0.6**
	2.0nm,0.6s,baz=334,slow=10.0,SNR=18						
ASAR	**Alice Springs**	**25.00**	**160**	P	**P**	**21 56 20.1**	**+0.1**
	2.9nm,0.8s,baz=332,slow=7.1,SNR=27						
ASAR				PcP	**PcP**	**21 59 55.1**	**+0.4**
	0.2nm,0.6s,baz=346,slow=3.3,SNR=2.9						
COCO	**West Island**	**30.13**	**246**	*e*P	**P**	**21 57 06.5**	**+0.5**
	69nm,0.6s						
CMAR	**Chiang Mai Arr**	**31.36**	**308**	P	**P**	**21 57 16.8**	**-0.1**
	0.9nm,0.7s,baz=127,slow=8.1,SNR=5.4						
CHTO	**Chiang Mai**	**31.56**	**308**	*e*P	**P**	**21 57 18.6**	**0.0**
	1.6nm,0.7s						
LSA	**Lhasa**	**43.65**	**316**	*e*P	**P**	**21 58 59.1**	**-2.1**
	1.0nm,0.4s						
USRK	**Ussuriysk Ar.**	**44.65**	**7**	P	**P**	**21 59 09.1**	**+0.7**
	0.9nm,0.4s,baz=198,slow=7.3,SNR=8.3						
ULN	**Ulaanbaatar**	**50.25**	**345**	*e*P	**P**	**21 59 51.7**	**-0.4**
	2.4nm,0.8s						
SONM	**Songino Array**	**50.40**	**344**	P	**P**	**21 59 52.4**	**-0.8**
	1.4nm,0.7s,baz=159,slow=9.4,SNR=10						
TLY	**Talaya**	**54.64**	**344**	*e*P	**P**	**22 00 24.1**	**-0.3**
	1.3nm,0.6s						
RAO	**Raoul Island**	**61.80**	**123**	*e*P	**P**	**22 01 13.9**	**-1.0**
	127nm,0.7s						
ZALV	**Zalesovo Beam**	**63.18**	**335**	P	**P**	**22 01 22.8**	**-0.8**
	0.8nm,0.4s,baz=134,slow=6.1,SNR=3.5						
GEYT	**Alibeck**	**71.80**	**310**	P	**P**	**22 02 19.5**	**+1.0**
	0.8nm,0.6s,baz=120,slow=8.5,SNR=3.7						

*ISCJB **01** 22:01:04.8±1.3,36.°99N±0.°07×71.°3E±0.°2,h100km, Error ellipse: s-maj=19.0km s-min=9.6km az=172.2*
*NNC **01** 22:01:11.2±4.9,37.°32N×70.°98E,h106km±106km,mb3.1, mpv3.5,Error ellipse: s-maj=46.6km s-min=39.0km az=104.0*

ISC 01 22:01:05.1±1.3,**36.°90N**±0.°08×**71.°3E**±0.°1,**h100**km,**n6,** σ1=**88**/10,**2C-5D,Afghanistan-Tajikistan border region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MNAS	**Manas**	**5.65**	**9**	⇓P	**Pn**	**22 02 27.9**	**+1.2**
	2.5nm,0.5s						
MNAS				⇓S	**Sn**	**22 03 28.6**	**-1.7**
	5.1nm,0.5s						
THN	**Thein Dam**	**5.74**	**140**	*e*P	**Pn**	**22 02 28.8**	**+1.0**
THN				*e*S	**Sn**	**22 03 29.8**	**-2.5**
AAK	**Ala-Archa**	**6.23**	**22**	⇓P	**Pn**	**22 02 35.9**	**+1.4**
	2.7nm,0.5s						
AAK				⇓S	**Sn**	**22 03 44.3**	**0.0**
	3.1nm,0.5s						
KK31	**Karatay Array**	**6.23**	**354**	P	**Pn**	**22 02 35.5**	**+1.1**
	2.0nm,0.3s,baz=186,slow=14,SNR=40						
KK31				⇑S	**Sn**	**22 03 42.0**	**-2.1**
	5.6nm,0.5s,baz=181,slow=23,SNR=8.8						
AB31	**Akbulak array**	**14.87**	**330**	P	**Pn**	**22 04 28.4**	**-1.5**
	0.6nm,0.4s,baz=142,slow=13,SNR=26						
AB31				⇑S	Sn	22 07 02.1	-12
	1.1nm,0.6s,baz=150,slow=24,SNR=4.8						
AKTO	**Aktyubinsk**	**16.57**	**329**	⇓P	**P**	**22 04 53.8**	**+1.8**
	3.1nm,0.8s						

*ISCJB **01** 22:07:17.9±0.5,33.°89N±0.°03×27.°89E±0.°08,h33km, Error ellipse: s-maj=9.7km s-min=3.9km az=11.6*
*CSEM **01** 22:07:17.8±0.3,33.°85N×27.°90E,h10km,MD3.3,Error ellipse: s-maj=13.1km s-min=7.0km az=95.0*
*HLW **01** 22:07:21.4,33.°72N×27.°96E,h40km±23km,Md3.1,Ml2.6*
*DDA **01** 22:07:31.5,34.°63N×28.°11E,h6km,Md3.3*

ISC 01 22:07:19.0±1.1,**33.°83N**±0.°04×**27.°91E**±0.°07,**h35**km,**n27,** σ1=**95**/44,**Eastern Mediterranean Sea**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AKAS	**Kas**	**2.77**	**30**	*i* P	**Pn**	**22 08 02.9**	**+1.9**
AKAS				*i* S	**Sn**	**22 08 31.8**	**-1.4**
AKAS	**Kas**	**2.77**	**30**	P	**Pn**	**22 08 02.9**	**+1.9**
AKAS				S	**Sn**	**22 08 31.8**	**-1.4**
FETY	**Fethiye**	**2.96**	**19**	P	**Pn**	**22 08 04.0**	**+0.5**
FETY				S	**Sn**	**22 08 35.9**	**-1.8**
DALY	**Dalyan (Mu˘la**	**3.04**	**11**	*i* P	**Pn**	**22 08 04.9**	**+0.3**
DALY				*i* S	**Sn**	**22 08 38.1**	**-1.6**
TURN	**Turunc**	**3.09**	**10**	*i* P	**Pn**	**22 08 05.3**	**+0.1**
TURN				*i* S	**Sn**	**22 08 37.8**	**-3.1**
TURN	**Turunc**	**3.09**	**10**	P	**Pn**	**22 08 05.3**	**+0.1**
TURN				S	**Sn**	**22 08 37.8**	**-3.1**
SLUM	**Salum**	**3.26**	**225**	P	**Pn**	**22 08 09.9**	**+2.3**
	baz=228						
SLUM				S	**Sn**	**22 08 44.1**	**-1.1**
	baz=228						
SLUM	**Salum**	**3.26**	**225**	P	**Pn**	**22 08 09.9**	**+2.3**
SLUM				S	**Sn**	**22 08 44.1**	**-1.1**
GOLH	**Golhisar**	**3.65**	**21**	*i* P	**Pn**	**22 08 16.2**	**+3.1**
GOLH				*i* S	**Sn**	**22 08 56.0**	**+1.0**
GOLH	**Golhisar**	**3.65**	**21**	P	**Pn**	**22 08 16.2**	**+3.1**
GOLH				S	**Sn**	**22 08 56.0**	**+1.0**
DNZL	**Cakiroluk**	**3.96**	**13**	*i* P	**Pn**	**22 08 18.6**	**+1.3**
DNZL				*i* S	**Sn**	**22 09 01.1**	**-1.5**
DNZL	**Cakiroluk**	**3.96**	**13**	P	**Pn**	**22 08 18.6**	**+1.3**
DNZL				S	**Sn**	**22 09 01.1**	**-1.5**
SWA2		**5.03**	**205**	P	**Pn**	**22 08 34.3**	**+2.3**
	baz=207						
SWA2				S	**Sn**	**22 09 27.0**	**-1.9**
	baz=207						
SWA2		**5.03**	**205**	P	**Pn**	**22 08 34.3**	**+2.3**
SWA2				S	**Sn**	**22 09 27.0**	**-1.9**
KOT	**Kottamia**	**5.12**	**138**	P	**Pn**	**22 08 34.7**	**+1.4**
	baz=137						
KOT	**Kottamia**	**5.12**	**138**	P	**Pn**	**22 08 34.7**	**+1.4**
HSAF	**As Saff**	**5.22**	**143**	P	**Pn**	**22 08 36.2**	**+1.6**
	baz=142						
HSAF	**As Saff**	**5.22**	**143**	P	**Pn**	**22 08 36.2**	**+1.6**
HHAG	**Hagoal**	**5.25**	**136**	P	**Pn**	**22 08 37.3**	**+2.2**
	baz=135						
HHAG	**Hagoal**	**5.25**	**136**	P	**Pn**	**22 08 37.3**	**+2.2**
GLL	**Jalalah**	**5.33**	**142**	P	**Pn**	**22 08 37.6**	**+1.5**
	baz=141						
GLL	**Jalalah**	**5.33**	**142**	P	**Pn**	**22 08 37.6**	**+1.5**
RSH		**5.69**	**119**	P	**Pn**	**22 08 41.5**	**+0.6**
	baz=117						
RSH		**5.69**	**119**	P	**Pn**	**22 08 41.5**	**+0.6**
HFRF	**Wahat Farafira**	**6.67**	**177**	P	**Pn**	**22 08 56.6**	**+2.1**
	baz=177						
HFRF				S	**Sn**	**22 10 05.8**	**-3.5**
	baz=177						
HFRF	**Wahat Farafira**	**6.67**	**177**	P	**Pn**	**22 08 56.6**	**+2.1**
HFRF				S	**Sn**	**22 10 05.8**	**-3.5**

*ISCJB **01** 22:24:04.9±0.6,36.°37N±0.°04×26.°46E±0.°04,h124km±7km, Error ellipse: s-maj=7.6km s-min=4.3km az=160.7*
*CSEM **01** 22:24:05.6±0.3,36.°38N×26.°45E,h121km±4km,ML2.5, Error ellipse: s-maj=6.8km s-min=4.2km az=162.0*
*ATH **01** 22:24:05.5,36.°42N×26.°41E,h118km±4km,ML2.5/7,Error ellipse: s-maj=4.4km s-min=1.3km az=128.0*
*HLW **01** 22:24:07.4,36.°20N×26.°80E,h31km±25km,Md3.5*

ISC 01 22:24:03.8±1.4,**36.°42N**±0.°05×**26.°46E**±0.°04,**h137**km±10km, **n45,** σ1=**93**/67,**Dodecanese Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
APE	**Apeiranthos**	**0.99**	**312**	P	**Pn**	**22 24 27.8**	**+0.5**
APE				S	**Sn**	**22 24 43.9**	**-1.3**
APE	**Apeiranthos**	**0.99**	**312**	P	**Pn**	**22 24 28.1**	**+0.8**
APE				AML	AML	22 24 44.0	
	comp=N,76μm,0.4s						
APE				S	**Sn**	**22 24 44.2**	**-1.0**
APE				AML	AML	22 24 44.9	
	comp=E,88μm,0.6s						
KARP	**Karpathos**	**1.04**	**146**	P	**Pn**	**22 24 29.0**	**+1.3**
KARP				S	**Sn**	**22 24 44.9**	**-1.0**
KARP	**Karpathos**	**1.04**	**146**	P	**Pn**	**22 24 29.3**	**+1.6**
KARP				S	**Sn**	**22 24 44.3**	**-1.6**
KARP				AML	AML	22 24 47.1	
	comp=N,348μm,0.2s						
KARP				AML	AML	22 24 47.2	
	comp=E,280μm,0.1s						
SMG	**Samos**	**1.33**	**13**	P	**Pn**	**22 24 31.3**	**+0.8**
SMG	**Samos**	**1.33**	**13**	P	**Pn**	**22 24 31.1**	**+0.6**
NPS	**Neapolis**	**1.34**	**211**	P	**Pn**	**22 24 31.8**	**+1.1**
NPS				S	**Sn**	**22 24 50.5**	**-0.6**
NPS	**Neapolis**	**1.34**	**211**	P	**Pn**	**22 24 32.0**	**+1.3**
NPS				S	**Sn**	**22 24 50.5**	**-0.6**
NPS				AML	AML	22 24 50.9	
	comp=N,203μm,0.2s						
NPS				AML	AML	22 24 51.6	
	comp=E,276μm,0.2s						
LAST	**Lasithi**	**1.48**	**213**	P	**Pn**	**22 24 33.4**	**+1.1**
LAST	**Lasithi**	**1.48**	**213**	P	**Pn**	**22 24 33.6**	**+1.3**
MHLO	**Agia Marina, M**	**1.68**	**280**	P	**Pn**	**22 24 35.5**	**+1.2**
MHLO	**Agia Marina, M**	**1.68**	**280**	P	**Pn**	**22 24 35.6**	**+1.3**
IDI	**Anoyia**	**1.70**	**229**	P	**Pn**	**22 24 55.2**	**+0.5**
IDI				S	**Sn**	**22 24 56.8**	**-1.5**
IDI	**Anoyia**	**1.70**	**229**	P	**Pn**	**22 24 34.8**	**+0.1**
IDI				S	**Sn**	**22 24 55.8**	**-2.5**
IDI				AML	AML	22 24 57.9	
	comp=N,94μm,0.2s						
IDI				AML	AML	22 24 59.5	
	comp=E,190μm,0.4s						
TURN	**Turunc**	**1.79**	**75**	*i* P	**Pn**	**22 24 32.5**	**-3.1**
TURN				*i* S	**Sn**	**22 24 54.2**	**-5.7**
TURN	**Turunc**	**1.79**	**75**	P	**Pn**	**22 24 32.5**	**-3.1**
DALY	**Dalyan (Mu˘la**	**1.81**	**77**	*i* P	**Pn**	**22 24 38.5**	**+2.6**
DALY				*i* S	**Sn**	**22 25 02.1**	**+1.7**
DALY	**Dalyan (Mu˘la**	**1.81**	**77**	P	**Pn**	**22 24 38.5**	**+2.6**
DALY				S	**Sn**	**22 25 02.1**	**+1.7**
SIVA	**Sivas**	**1.93**	**224**	P	**Pn**	**22 24 39.3**	**+2.0**
SIVA				S	**Sn**	**22 25 03.3**	**+0.3**
SIVA	**Sivas**	**1.93**	**224**	P	**Pn**	**22 24 39.8**	**+2.5**
SIVA				S	**Sn**	**22 25 03.8**	**+0.8**
SIVA				AML	AML	22 25 06.1	
	comp=N,197μm,0.5s						
SIVA				AML	AML	22 25 08.7	
	comp=E,209μm,0.5s						
FETY	**Fethiye**	**2.13**	**83**	P	**Pn**	**22 24 42.4**	**+2.7**
FETY				S	**Sn**	**22 25 06.7**	**-0.6**
IMMV	**Iera Moni Meta**	**2.22**	**245**	P	**Pn**	**22 24 42.8**	**+2.0**
IMMV				S	**Sn**	**22 25 08.5**	**-0.8**
IMMV	**Iera Moni Meta**	**2.22**	**245**	P	**Pn**	**22 24 43.3**	**+2.5**
IMMV				S	**Sn**	**22 25 07.9**	**-1.3**
IMMV				AML	AML	22 25 11.0	
	comp=E,115μm,0.2s						
IMMV				AML	AML	22 25 11.9	
	comp=N,190μm,0.3s						
DNZL	**Cakiroluk**	**2.43**	**58**	*i* P	**Pn**	**22 24 45.5**	**+1.9**
DNZL				*i* S	**Sn**	**22 25 11.7**	**-2.5**
DNZL	**Cakiroluk**	**2.43**	**58**	P	**Pn**	**22 24 45.5**	**+1.9**
DNZL				S	**Sn**	**22 25 11.7**	**-2.5**
KSL	**Kastellorizon**	**2.54**	**95**	P	**Pn**	**22 24 47.1**	**+2.3**
KSL	**Kastellorizon**	**2.54**	**95**	P	**Pn**	**22 24 46.7**	**+1.9**
KSL				AML	AML	22 25 18.7	
	comp=E,156μm,0.4s						
KSL				AML	AML	22 25 20.1	
	comp=N,96μm,0.4s						
AKAS	**Kas**	**2.55**	**93**	*i* S	**Sn**	**22 25 15.5**	**-1.3**
ANKY	**Antikythira Is**	**2.61**	**259**	P	**Pn**	**22 24 47.0**	**+1.3**
ANKY	**Antikythira Is**	**2.61**	**259**	P	**Pn**	**22 24 46.5**	**+0.9**
GOLH	**Golhisar**	**2.62**	**71**	*i* P	**Pn**	**22 24 48.4**	**+2.5**
GOLH				*i* S	**Sn**	**22 25 18.4**	**0.0**
GOLH	**Golhisar**	**2.62**	**71**	P	**Pn**	**22 24 48.4**	**+2.5**
GOLH				S	**Sn**	**22 25 18.4**	**0.0**
KYTH	**Kithira**	**2.76**	**268**	P	**Pn**	**22 24 48.8**	**+1.3**
VLI	**Veliai**	**2.85**	**277**	P	**Pn**	**22 24 49.9**	**+1.2**
VLI	**Veliai**	**2.85**	**277**	P	**Pn**	**22 24 49.4**	**+0.8**
SLUM	**Salum**	**5.02**	**192**	P	**Pn**	**22 25 18.4**	**+1.2**
	baz=197						
SLUM				S	**Sn**	**22 26 10.4**	**-4.0**
	baz=197						
SLUM	**Salum**	**5.02**	**192**	P	**Pn**	**22 25 18.4**	**+1.2**
SWA2		**7.20**	**187**	P	**Pn**	**22 25 41.7**	**+0.6**
	baz=190						
SWA2				S	**Sn**	**22 27 02.1**	**-4.8**
	baz=190						
SWA2		**7.20**	**187**	P	**Pn**	**22 25 47.1**	**+0.6**
KOT	**Kottamia**	**7.88**	**144**	P	**Pn**	**22 25 56.0**	**+0.4**
	baz=144						
KOT	**Kottamia**	**7.88**	**144**	P	**Pn**	**22 25 56.1**	**+0.4**
RSH		**8.14**	**130**	P	**Pn**	**22 25 58.8**	**-0.3**
	baz=130						
RSH		**8.14**	**130**	P	**Pn**	**22 25 58.8**	**-0.3**
HFRF	**Wahat Farafira**	**9.37**	**170**	P	**Pn**	**22 26 17.9**	**+2.3**
	baz=171						
HFRF	**Wahat Farafira**	**9.37**	**170**	P	**Pn**	**22 26 17.9**	**+2.3**

*IDC **01** 22:36:20.9±0.9,64.°82N×20.°86E,h0km,mb1 2.6/3, mb1mx2.6/40,mbtmp2.5/3,ML2.0/3,Error ellipse: s-maj=10.5km s-min=8.6km az=106.0*
*ISCJB **01** 22:36:21.0±0.7,64.°90N±0.°02×20.°83E±0.°06,h13km±4km, Error ellipse: s-maj=4.3km s-min=2.9km az=14.2*
*UPP **01** 22:36:21.0±0.1,64.°90N×20.°82E,h2km±3km,ML1.9, Probable volcanic*
*CSEM **01** 22:36:21.2±0.1,64.°89N×20.°84E,h5km,ML2.1,Error ellipse: s-maj=3.5km s-min=2.3km az=104.0*
*HEL **01** 22:36:21.5±0.0,64.°89N×20.°83E,h2km,ML2.1, ML1.9(UPP)*

ISC 01 22:36:20.7±1.1,**64.°90N**±0.°02×**20.°81E**±0.°02,**h4**km±9km, **n59,** σ0=**95**/115,**4C-1D,Sweden**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BURU	**Burvik**	**0.40**	**142**	P	**Pg**	**22 36 28.5**	**+0.1**
BURU				S	**Sg**	**22 36 33.5**	**-0.1**
BURU	**Burvik**	**0.40**	**142**	⇓*i* P	**Pg**	**22 36 28.5**	**+0.1**
BURU				*i* S	**Sg**	**22 36 33.5**	**-0.1**
BURU	**Burvik**	**0.40**	**142**	P	**Pg**	**22 36 28.4**	**+0.1**
BURU				S	**Sg**	**22 36 33.4**	**-0.1**
SVAU	**Svanoeiden**	**0.67**	**233**	P	**Pg**	**22 36 33.5**	**0.0**
SVAU				S	**Sg**	**22 36 42.3**	**+0.2**
SVAU	**Svanoeiden**	**0.67**	**233**	⇑*i* P	**Pg**	**22 36 33.5**	**0.0**
SVAU				*i* S	**Sg**	**22 36 42.3**	**+0.2**
SVAU	**Svanoeiden**	**0.67**	**233**	P	**Pg**	**22 36 33.5**	**0.0**
SVAU				S	**Sg**	**22 36 42.3**	**+0.2**
SJUU	**Sjulsmark**	**0.70**	**28**	P	**Pg**	**22 36 34.0**	**-0.2**
SJUU				S	**Sg**	**22 36 43.0**	**-0.2**
SJUU	**Sjulsmark**	**0.70**	**28**	⇑*i* P	**Pg**	**22 36 34.0**	**-0.2**
SJUU				*i* S	**Sg**	**22 36 43.0**	**-0.2**
SJUU	**Sjulsmark**	**0.70**	**28**	⇑P	**Pg**	**22 36 34.0**	**-0.2**
SJUU				S	**Sg**	**22 36 43.0**	**-0.2**
UMAU	**Umeaa**	**1.02**	**183**	P	**Pg**	**22 36 39.8**	**-0.4**
UMAU				S	**Sg**	**22 36 52.9**	**-0.5**
UMAU	**Umeaa**	**1.02**	**183**	*e*P	**Pg**	**22 36 39.9**	**-0.4**
UMAU				*e*S	**Sg**	**22 36 52.9**	**-0.5**
UMAU	**Umeaa**	**1.02**	**183**	P	**Pg**	**22 36 39.8**	**-0.4**
UMAU				S	**Sg**	**22 36 52.9**	**-0.5**
BREU	**Bredtraesk**	**1.40**	**225**	P	**Pn**	**22 36 46.5**	**-0.5**
BREU				S	**Sg**	**22 37 04.7**	**-0.9**
BREU	**Bredtraesk**	**1.40**	**225**	*e*P	**Pn**	**22 36 46.5**	**-0.5**
BREU				*e*S	**Sg**	**22 37 04.7**	**-0.9**
BREU	**Bredtraesk**	**1.40**	**225**	P	**Pn**	**22 36 46.5**	**-0.5**
BREU				S	**Sg**	**22 37 04.7**	**-0.9**
ERTU	**Ertsjaerv**	**1.76**	**18**	P	**Pn**	**22 36 52.4**	**+0.4**
ERTU				S	**Sn**	**22 37 15.5**	**+0.7**
ERTU	**Ertsjaerv**	**1.76**	**18**	*e*P	**Pn**	**22 36 52.4**	**+0.4**
ERTU				*e*S	**Sn**	**22 37 15.5**	**+0.7**
ERTU	**Ertsjaerv**	**1.76**	**18**	P	**Pn**	**22 36 52.4**	**+0.4**
ERTU				S	**Sn**	**22 37 15.5**	**+0.7**
OUFX	**Oulainen**	**1.76**	**106**	*e*P	**Pn**	**22 36 52.1**	**+0.1**
OUFX				*e*S	**Sn**	**22 37 15.2**	**+0.4**
OUFX	**Oulainen**	**1.76**	**106**	P	**Pn**	**22 36 52.0**	**+0.1**
OUFX				S	**Sn**	**22 37 15.1**	**+0.4**
TOF	**Tornio**	**1.89**	**49**	*e*P	**Pn**	**22 36 54.4**	**+0.7**
TOF				*e*S	**Sn**	**22 37 18.5**	**+0.6**
TOF	**Tornio**	**1.89**	**49**	P	**Pn**	**22 36 54.4**	**+0.7**
TOF				S	**Sn**	**22 37 18.5**	**+0.6**
VAF	**Ylistaro**	**2.04**	**155**	*e*P	**Pn**	**22 36 56.6**	**+0.8**
VAF				*e*S	**Sn**	**22 37 22.1**	**+0.5**
VAF				MSG		22 37 24.3	
	comp=Z,21nm,0.1s						
VAF	**Ylistaro**	**2.04**	**155**	P	**Pn**	**22 36 56.5**	**+0.8**
VAF				S	**Sn**	**22 37 22.0**	**+0.5**
OUL	**Oulu**	**2.17**	**83**	*e*P	**Pn**	**22 36 57.7**	**0.0**
OUL				*e*S	**Sn**	**22 37 25.7**	**+0.8**
OUL	**Oulu**	**2.17**	**83**	P	**Pn**	**22 36 57.6**	**0.0**
OUL				S	**Sn**	**22 37 25.7**	**+0.8**
DUNU	**Dundret**	**2.24**	**358**	P	**Pn**	**22 36 59.9**	**+1.3**
DUNU	**Dundret**	**2.24**	**358**	*e*P	**Pn**	**22 36 59.9**	**+1.3**
DUNU	**Dundret**	**2.24**	**358**	P	**Pn**	**22 36 59.8**	**+1.3**
SOLU	**Sollefteaa**	**2.27**	**225**	P	**Pn**	**22 36 59.8**	**+0.8**
SOLU				S	**Sn**	**22 37 28.4**	**+0.9**
SOLU	**Sollefteaa**	**2.27**	**225**	⇑*e*P	**Pn**	**22 36 59.8**	**+0.8**
SOLU				*e*S	**Sn**	**22 37 28.4**	**+0.9**
SOLU	**Sollefteaa**	**2.27**	**225**	P	**Pn**	**22 36 59.8**	**+0.8**
SOLU				S	**Sn**	**22 37 28.3**	**+0.9**
RNF	**Rovaniemi**	**2.75**	**49**	*e*P	**Pn**	**22 37 06.2**	**+0.6**
RNF				*e*S	**Sn**	**22 37 39.1**	**-0.2**
RNF	**Rovaniemi**	**2.75**	**49**	P	**Pn**	**22 37 06.2**	**+0.6**
RNF				S	**Sn**	**22 37 39.0**	**-0.2**
LANU	**Lannavaara**	**3.20**	**8**	*e*P	**Pn**	**22 37 13.0**	**+1.1**
LANU				*e*S	**Sn**	**22 37 49.1**	**-1.3**
LANU	**Lannavaara**	**3.20**	**8**	P	**Pn**	**22 37 12.9**	**+1.1**
LANU				S	**Sn**	**22 37 49.1**	**-1.3**
SUF	**Sumiainen**	**3.22**	**130**	*e*P	**Pn**	**22 37 13.3**	**+1.2**
SUF				*e*S	**Sn**	**22 37 50.6**	**-0.3**
SUF				MSG		22 37 59.6	
	comp=

*ISCJB **01** 22:39:32.9±0.8, 35°.72N±0°.06×140°.87E±0°.10, h57km±6km, mb3.7/8, Error ellipse: s-maj=14.4km s-min=7.2km az=149.7*

*IDC **01** 22:39:34.3±3.3, 35°.72N×140°.81E, h51km±28km, mb3.5/8, mb1 3.7/10, mb1mx3.5/39, mbtmp3.8/10, ML3.7/2, MS3.2/2, Ms1 3.2/2, ms1mx2.7/30, Error ellipse: s-maj=37.5km s-min=16.6km az=75.0*

*JMA **01** 22:39:34.6±0.1, 35°.75N×140°.65E, h45km±1km, M3.4 Broadband fault plane solution: P waves. NP1: φs10.00000°, δ81.00000°, λ87.00000°. NP2: φs211.00000°, δ10.00000°, λ110.00000°. Principal axes: T Plg54.0000°, Azm276.0000°; N Plg3.0000°, Azm11.0000°; P Plg36.0000°, Azm103.0000°;*

JMA Felt II J1.

ISC 01 22:39:34.0±1.0, 35°.72N±0°.05×140°.81E±0°.08, h49km±8km, n27, σ1§16/23, mb3.7/8, 1C-3D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHOJ	**Chosi**	**0.04**	**116**	⇑P	**Pn**	**22 39 42.2**	**+0.7**
JCN	**Nagara**	**0.58**	**239**	⇓P	**Pn**	**22 39 46.2**	**0.0**
JYT	**Yasato**	**0.71**	**315**	⇓P	**Pn**	**22 39 47.0**	**-0.8**
JYT				S	**Sn**	**22 39 55.8**	**-2.0**
BSO4	**Boso 4**	**0.83**	**208**	⇓P	**Pn**	**22 39 49.4**	**+0.1**
BSO3	**Boso 3**	**0.95**	**195**	P	**Pn**	**22 39 51.0**	**+0.2**
BSO1	**Boso 1**	**1.07**	**173**	P	**Pn**	**22 39 53.0**	**+0.8**
JAG	**Ashikaga**	**1.30**	**303**	P	**Pn**	**22 39 54.7**	**-1.1**
MJAR	**Matsushiro Arr** 22nm,0.3s,baz=97,slow=8.5,SNR=110	**2.26**	**292**	P	**Pn**	**22 40 09.2**	**+0.3**
MJAR				S	**Sn**	**22 40 38.2**	**+2.6**
MAT	**Matsushiro**	**2.26**	**292**	P	**Pn**	**22 40 09.5**	**+0.6**
MAT	13nm,0.3s,baz=126,slow=14,SNR=8.2			eS	**Sn**	**22 40 37.4**	**+1.8**
JHJ	**Hachijo jima 2** 25nm,0.3s,baz=78,slow=20,SNR=4.6	**2.73**	**198**	P	**Pn**	**22 40 15.2**	**-0.2**
JHJ				S	**Sn**	**22 40 44.7**	**-2.5**
KSRS	**Korea Array** 59nm,0.3s,baz=102,slow=20,SNR=2.5	**10.51**	**283**	LR	LR	22 45 31.9	
KLR	**Kul'dur** comp=Z,139nm,21.1s,baz=178,slow=35	**15.05**	**337**	LR	LR	22 48 20.3	
H11N2	**WAKE ISLAND Hy** baz=310,slow=75,SNR=19	**27.93**	**118**	T	T	23 14 33.8	
H11N1	**WAKE ISLAND Hy** baz=310,slow=75,SNR=16	**27.94**	**118**	T	T	23 14 43.3	
H11N3	**WAKE ISLAND Hy** baz=310,slow=75,SNR=15	**27.95**	**118**	T	T	23 14 35.2	
SONM	**Songino Array** 0.4nm,0.3s,baz=93,slow=8.7,SNR=2.9	**28.14**	**306**	P	**P**	**22 45 21.1**	**-0.5**
H11S1	**WAKE ISLAND Hy** baz=312,slow=75,SNR=16	**28.59**	**120**	T	T	23 15 27.7	
H11S3	**WAKE ISLAND Hy** baz=312,slow=75,SNR=7.8	**28.59**	**120**	T	T	23 15 24.4	
H11S2	**WAKE ISLAND Hy** baz=312,slow=75,SNR=8.0	**28.61**	**120**	T	T	23 15 22.4	
ZALV	**Zalesovo Beam** 1.4nm,0.8s,baz=88,slow=7.4,SNR=5.4	**42.45**	**313**	P	**P**	**22 47 23.9**	**+0.1**
ILAR	**Eielson Array** 0.5nm,0.6s,baz=263,slow=4.5,SNR=5.4	**50.86**	**32**	P	**P**	**22 48 29.6**	**0.0**
WRA	**Warramunga Arr** 0.8nm,0.5s,baz=1.0,slow=7.5,SNR=17	**55.70**	**187**	P	**P**	**22 49 05.4**	**-0.1**
ASAR	**Alice Springs** 0.5nm,0.5s,baz=16,slow=11,SNR=7.6	**59.43**	**187**	P	**P**	**22 49 31.8**	**+0.1**
FINES	**FINESS Array B** 2.6nm,1.0s,baz=44,slow=6.6,SNR=5.7	**69.75**	**332**	P	**P**	**22 50 38.0**	**-0.5**
NB2	**NORSAR Subarra** comp=Z,0.5nm,0.6s,baz=40,slow=6.2	**75.20**	**337**	P	**P**	**22 51 12.1**	**+1.0**
NOA	**NORSAR Array B** comp=Z,0.7nm,0.6s,baz=41,slow=5.8,SNR=4.5	**75.20**	**337**	P	**P**	**22 51 11.0**	**-0.1**
BRTR	**Keskin Array B** comp=Z,0.5nm,0.8s,baz=38,slow=2.6,SNR=3.5	**79.35**	**311**	P	**P**	**22 51 35.3**	**+0.4**

*CSEM **01** 22:40:30.5±0.4, 50°.27N×19°.26E, h1km, Error ellipse: s-maj=9.5km s-min=4.0km az=10.0*

PRU 01 22:40:31.6, 50°.28N×19°.28E, h0km, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OJC	**Ojcow**	**0.34**	**100**	*e*Pg	Pg	22 40 37.7	-0.4
OJC				*e*Sg	Sg	22 40 41.9	-0.6
OJC	**Ojcow**	**0.34**	**100**	*e*Pg	Pg	22 40 37.7	-0.4
OJC				*e*Sg	Sg	22 40 41.9	-0.5
OKC	**Ostrava-Krasne** comp=Z,3.5nm,0.3s	**0.85**	**239**	*e*PG	Pg	22 40 47.8	-0.1
OKC				*e*SG	Sg	22 40 59.6	+0.6
OKC	**Ostrava-Krasne** 3.5nm,0.3s	**0.85**	**239**	Pg	Pg	22 40 47.8	-0.1
OKC				Sg	Sg	22 40 59.6	+0.6
NIE	**Niedzica**	**1.09**	**142**	*e*Pg	Pg	22 40 51.9	-0.5
NIE				*e*Sg	Sg	22 41 06.1	-0.4
NIE	**Niedzica**	**1.09**	**142**	*e*Pg	Pg	22 40 51.9	-0.5
NIE				*e*Sg	Sg	22 41 06.1	-0.4
LANS	**Liptovska Anna**	**1.14**	**174**	*e*Pg	Pg	22 40 51.8	-1.6
LANS				*e*Sg	Sg	22 41 06.5	-1.6
LANS	**Liptovska Anna**	**1.14**	**174**	*e*PG	Pg	22 40 51.8	-1.6
LANS				*e*SG	Sg	22 41 06.5	-1.6
MORC	**Moravsky Berou**	**1.23**	**246**	*e*Pg	Pg	22 40 54.2	-0.9
MORC				*e*Sg	Sg	22 41 10.3	-0.7
STHS	**Stebnicka Huta**	**1.54**	**123**	*e*Sn	Sb	22 41 21.2	+0.2
STHS	**Stebnicka Huta**	**1.54**	**123**	*e*SN	Sb	22 41 21.2	+0.2
STHS				*e*LG	Lg	22 41 21.6	
KRLC	**Kraliky**	**1.62**	**264**	*e*PG	Pn	22 41 01.3	-0.1
KRLC				*e*SG	Sn	22 41 22.5	-0.5
KRLC	**Kraliky**	**1.62**	**264**	Pg	Pn	22 41 01.3	-0.1
KRLC				Sg	Sn	22 41 22.5	-0.5
VYHS	**Vyhne**	**1.81**	**189**	*e*Pn	Pn	22 41 01.7	-2.3
VYHS				*e*Sn	Sn	22 41 23.5	-4.2
VYHS	**Vyhne**	**1.81**	**189**	*e*PN	Pn	22 41 01.7	-2.3
VYHS				*e*SN	Sn	22 41 23.5	-4.2
VYHS				*e*LG	Lg	22 41 27.2	
DPC	**Dobruska-Polom**	**1.90**	**273**	*e*PG	Pn	22 41 05.4	+0.1
DPC	comp=Z,2.5nm,0.4s			*e*SG	Sb	22 41 31.2	-0.2
DPC	**Dobruska-Polom**	**1.90**	**273**	Pg	Pn	22 41 05.4	+0.1
DPC	2.5nm,0.4s			Sg	Sb	22 41 31.2	-0.2
KHC	**Kasperske Hory**	**3.88**	**255**	*e*SG	Sg	22 42 35.5	-0.5
KHC	**Kasperske Hory**	**3.88**	**255**	Sg	Sg	22 42 35.5	-0.5

*NIED **01** 22:52:00, 39°.00N×142°.60E, h41km, Mw3.8 Best double couple: M0 6.02000×10^14 NP1: φs70.00000°, δ29.00000°, λ17.00000°. NP2: φs325.00000°, δ82.00000°, λ118.00000°.*

*IDC **01** 22:52:51.8±2.3, 39°.15N×143°.17E, h0km, mb3.9/4, mb1 4.0/5, mb1mx3.6/30, mbtmp3.8/5, ML3.5/1, MS2.8/3, Ms1 2.8/3, ms1mx2.5/36, Error ellipse: s-maj=64.8km s-min=25.6km az=65.0*

*ISCJB **01** 22:52:56.9±1.1, 39°.00N±0°.04×142°.74E±0°.08, h45km±9km, mb4.3/14, Error ellipse: s-maj=11.1km s-min=6.9km az=16.0*

*NEIC **01** 22:52:57.0±0.4, 39°.13N×143°.05E, h35km, mb4.3/9, Error ellipse: s-maj=9.8km s-min=6.7km az=138.0*

*JMA **01** 22:52:58.1±0.1, 38°.97N×142°.56E, h29km±1km, M3.7*

JMA Felt I J1.

ISC 01 22:52:56.3±1.9, 39°.08N±0°.05×142°.87E±0°.06, h31km±13km, n32, σ1§99/41, mb4.2/14, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OFUJ	**Ofunato**	**0.94**	**271**	P	**Pn**	**22 53 11.6**	**-1.8**
OFUJ				*e*S	**Sn**	**22 53 21.2**	**-4.5**
MIYJ	**Miyakonagasawa**	**0.96**	**302**	P	**Pn**	**22 53 13.3**	**-0.4**
MIYJ				*e*S	**Sn**	**22 53 24.2**	**-2.0**
JTH	**Tanohata**	**1.16**	**318**	P	**Pb**	**22 53 18.4**	**+0.5**
JOM	**Ohasama**	**1.29**	**288**	P	**Pn**	**22 53 17.9**	**-0.3**
JOM				*e*S	**Sn**	**22 53 32.4**	**-2.0**
JMK	**Ichinoseki**	**1.29**	**265**	P	**Pn**	**22 53 16.8**	**-1.5**
JMK				S	**Sn**	**22 53 30.3**	**-4.2**
JIO	**Ouri**	**1.34**	**243**	P	**Pn**	**22 53 16.6**	**-2.3**
JIO				*e*S	**Sn**	**22 53 29.9**	**-5.8**
JKZ	**Kuzumaki**	**1.50**	**308**	P	**Pn**	**22 53 22.3**	**+1.2**
JKZ				*e*S	**Sn**	**22 53 40.0**	**+0.3**
JANG	**Nango**	**1.67**	**321**	P	**Pb**	**22 53 25.6**	**-0.8**
JANG				*e*S	**Sb**	**22 53 46.0**	**-1.0**
JRG	**Rokugo**	**1.77**	**281**	P	**Pn**	**22 53 24.4**	**-0.4**
JRG				*e*S	**Sn**	**22 53 44.7**	**-1.5**
JOU	**Okura**	**1.87**	**248**	P	**Pn**	**22 53 25.3**	**-0.9**
JOU				*e*S	**Sn**	**22 53 45.4**	**-3.3**
JYK	**Kaneyama**	**1.97**	**266**	P	**Pn**	**22 53 26.8**	**-0.7**
JYK				*e*S	**Sn**	**22 53 49.4**	**-1.7**
ERM	**Erimo**	**2.94**	**4**	*e*Pn	**Pn**	**22 53 38.9**	**-2.1**
MJAR	**Matsushiro Arr** 2.3nm,0.3s,baz=86,slow=16,SNR=13	**4.48**	**237**	Pn	**Pn**	**22 54 03.6**	**+1.6**
MJAR				LR	LR	22 56 07.1	
MAJO	**Matsushiro**	**4.48**	**237**	*e*Pn	**Pn**	**22 54 03.7**	**+1.6**
MAT	**Matsushiro**	**4.48**	**237**	P	**Pn**	**22 54 03.8**	**+1.7**
MAT				*e*S	**Sn**	**22 54 52.5**	**-0.6**
KSRS	**Korea Array** comp=Z,37nm,19.9s,baz=150,slow=35	**11.87**	**267**	LR	LR	23 00 01.1	
INCN	**Inchon** 1.4nm,0.5s	**12.86**	**268**	*e*Pn	**Pn**	**22 55 59.1**	**+2.1**
KLR	**Kul'dur** comp=Z,44nm,18.4s,baz=86,slow=39	**12.90**	**325**	LR	LR	23 01 19.9	
TATO	**Taipei** 17nm,0.5s	**22.87**	**238**	*e*P	**P**	**22 57 59.2**	**+2.0**
SONM	**Songino Array** 0.4nm,0.4s,baz=83,slow=9.0,SNR=4.0	**27.68**	**300**	P	**P**	**22 58 43.4**	**+1.9**
KKM	**Kota Kinabalu** 1.6nm,0.6s	**40.76**	**223**	P	**P**	**23 00 35.2**	**+0.5**
ZALV	**Zalesovo Beam** 1.1nm,0.5s,baz=89,slow=7.8,SNR=6.8	**41.42**	**311**	P	**P**	**23 00 40.3**	**+0.6**
KURK	**Kurchatov** 26nm,0.8s	**45.61**	**307**	*e*P	**P**	**23 01 14.7**	**+1.3**
BRVK	**Borovoye** 1.0nm,0.4s	**50.12**	**311**	*e*P	**P**	**23 01 49.2**	**+0.8**
ARU	**Arti** 0.9nm,0.5s	**55.61**	**318**	*e*P	**P**	**23 02 29.5**	**+0.7**
POHA	**Pohakuloa** 46nm,0.4s	**55.96**	**91**	*e*P	**P**	**23 02 30.7**	**-1.5**
WRA	**Warramunga Arr** 2.4nm,0.8s,baz=6.6,slow=6.9,SNR=17	**59.25**	**189**	P	**P**	**23 02 55.4**	**+0.6**
ASAR	**Alice Springs** 0.6nm,0.7s,baz=12,slow=6.6,SNR=6.1	**62.98**	**189**	P	**P**	**23 03 21.4**	**+1.3**
NEW	**Newport** 1.3nm,0.7s	**67.87**	**45**	*e*P	**P**	**23 03 50.7**	**-0.9**
FFC	**Flin Flon** 2.4nm,0.6s	**71.37**	**34**	*e*P	**P**	**23 04 12.9**	**-0.1**
CMB	**Columbia Colle** 3.5nm,0.5s	**71.76**	**56**	*e*P	**P**	**23 04 14.9**	**-0.8**
ANMO	**Albuquerque** 0.4nm,0.6s	**82.40**	**51**	*e*P	**P**	**23 05 15.5**	**-0.2**

PGC 01 23:26:46.6±2.6, 58°.63N×137°.52W, h22km, ML2.3/5, 134km Ese of Yakutat, Ak Southeastern Alaska, Southeastern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLBC	**Pleasant Camp**	**1.02**	**35**	P	Pn	23 27 05.4	-0.2
PLBC				S	Sn	23 27 19.1	-0.2
PNL	**Peninsula**	**1.42**	**318**	P	Pn	23 27 11.3	+0.2
PNL				S	Sb	23 27 29.9	-0.2
YUK7	**Dusty Glacier**	**1.93**	**351**	Pg	Pb	23 27 21.4	+0.1
YUK7				Sg	Sb	23 27 47.6	+2.5
PCA	**Pinnacle**	**2.03**	**318**	Pg	Pb	23 27 22.9	0.0
HYT	**Haines Junctio**	**2.20**	**0**	Pg	Pb	23 27 25.6	-0.2
HYT				Sg	Sb	23 27 55.6	+2.9
YUK6	**Outpost Mounta**	**2.36**	**350**	Pg	Pb	23 27 28.6	0.0
WHY	**Whitehorse**	**2.44**	**32**	Sg	Sb	23 28 02.3	+2.9
YUK5	**Granite Creek**	**2.52**	**356**	Pg	Pb	23 27 31.4	+0.3
YUK3	**Moose Creek**	**3.48**	**336**	Pg	Pb	23 27 48.5	+0.9

MEX 01 23:45:19.3±0.4, 18°.14N×102°.03W, h16km±38km, MD3.8, Michoacan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZIIG	**Zihuatanejo**	**0.75**	**134**	*i* P	Pg	23 45 31.5	-2.5
ZIIG				*e*S	Sg	23 45 40.5	-3.5
MMIG	**Aquila**	**1.26**	**277**	*i* P	Pn	23 45 38.4	-3.8
MMIG				*i* S	Sb	23 45 53.8	-4.9
ARIG	**Puente Sto Nin**	**1.61**	**85**	*e*P	Pn	23 45 43.8	-3.3
ARIG				*i* S	Sn	23 46 02.3	-5.2
CAIG	**El Cayaco**	**2.00**	**123**	*i* P	Pn	23 45 48.6	-3.9
CAIG				*i* S	Sn	23 46 12.9	-4.3
MEIG	**Mezcala**	**2.30**	**95**	*i* P	Pn	23 45 53.3	-3.4
MEIG				*i* S	Sn	23 46 20.5	-4.3
TLIG	**Tlapa**	**3.35**	**99**	*i* P	Pn	23 46 09.2	-1.9
TLIG				*i* S	Sn	23 46 46.9	-3.8

*ISCJB **01** 23:48:06.4±0.3, 5°.97S±0°.04×128°.05E±0°.04, h400km, mb3.9/10, Error ellipse: s-maj=6.0km s-min=4.8km az=34.4*

*DJA **01** 23:48:07.3±0.5, 6°.5S×12°.8E±°, h391km±7km, M4.5/7, mb4.6/5, mB4.7/5, MLv4.6/7, Mw(mB)4.0/5*

*NEIC **01** 23:48:07.7±0.4, 5°.98S×127°.95E, h386km±8km, mb4.4/6, Error ellipse: s-maj=9.7km s-min=8.0km az=55.0*

*IDC **01** 23:48:07.7±1.9, 5°.97S×127°.98E, h389km±27km, mb3.6/7, mb1 3.6/11, mb1mx3.4/36, mbtmp4.3/11, Error ellipse: s-maj=24.4km s-min=15.7km az=96.0*

ISC 01 23:48:07.8±0.6, 5°.97S±0°.06×128°.07E±0°.06, h400km, n44, σ1§84/53, mb4.0/10, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AAI	**Ambon**	**2.27**	**3**	P	**Pn**	**23 49 04.9**	**-0.7**
AAI				S	**S**	**23 49 50.7**	**-1.5**
BNDI	**Bandanaira**	**2.32**	**52**	P	**Pn**	**23 49 05.1**	**-0.8**
BNDI				S	**S**	**23 49 52.6**	**-0.2**
MSAI	**Masohi**	**2.74**	**18**	P	**Pn**	**23 49 07.3**	**-1.7**
MSAI				S	**S**	**23 49 53.1**	**-5.3**
NLAI	**Namlea**	**2.88**	**340**	P	**Pn**	**23 49 09.9**	**-0.2**
NLAI				S	**S**	**23 49 58.0**	**-2.4**
SAUI	**Saumlaki**	**3.78**	**122**	P	**Pn**	**23 49 18.3**	**+0.5**
SAUI	**Saumlaki**	**3.78**	**122**	*e*Pn	**Pn**	**23 49 17.9**	**+0.1**
SAUI				*e*S	**S**	**23 50 10.2**	**-3.8**
FAKI	**Fak Fak**	**5.15**	**54**	P	**Pn**	**23 49 31.3**	**-0.1**
FAKI				S	**S**	**23 50 35.1**	**-4.2**
FAKI	**Fak Fak**	**5.15**	**54**	*e*Pn	**Pn**	**23 49 31.4**	**0.0**
FAKI				*e*S	**S**	**23 50 36.8**	**-2.6**
SOEI	**Soe**	**5.33**	**225**	P	**Pn**	**23 49 31.1**	**-2.3**
SOEI	**Soe**	**5.33**	**225**	*e*Pn	**Pn**	**23 49 31.2**	**-2.1**
SOEI				*e*S	**S**	**23 50 40.4**	**-2.5**
SIJI	**Sorong** baz=195,slow=20,SNR=2.6	**5.98**	**32**	P	**Pn**	**23 49 40.7**	**+0.4**
SIJI	1.8nm,0.3s,baz=88,slow=23,SNR=6.9			S	**S**	**23 50 50.6**	**-5.1**
SWI	**Sorong**	**5.99**	**32**	P	**Pn**	**23 49 40.5**	**+0.2**
SWI				S	**S**	**23 50 52.6**	**-3.1**
BATI	**Baumata**	**6.07**	**226**	P	**Pn**	**23 49 39.3**	**-1.9**
MMRI	**Maumere**	**6.37**	**245**	*e*Pn	**Pn**	**23 49 42.8**	**-1.6**
MMRI				*e*S	S	23 50 52.4	-11
MTN	**Manton Dam**	**7.47**	**156**	*e*Pn	**Pn**	**23 49 56.9**	**+0.1**
SPSI	**Sidrap Palu**	**8.51**	**283**	P	**Pn**	**23 50 07.0**	**-1.6**
SGSI	**Sangihe**	**9.92**	**345**	P	P	23 50 18.9	-5.7
FITZ	**Fitzroy Crossi** 0.4nm,0.3s,baz=25,slow=9.2,SNR=14	**12.29**	**191**	P	**P**	**23 50 50.6**	**-0.1**
FITZ	**Fitzroy Crossi**	**12.29**	**191**	*e*P	**P**	**23 50 50.9**	**+0.2**
WRA	**Warramunga Arr** 0.5nm,0.3s,baz=336,slow=11,SNR=27	**15.17**	**157**	P	**P**	**23 51 22.4**	**+0.3**
WB2	**Warramunga Arr**	**15.17**	**157**	*e*P	**P**	**23 51 23.0**	**+0.8**
KKM	**Kota Kinabalu** 14nm,0.7s	**16.81**	**315**	*e*P	**P**	**23 51 39.8**	**-0.2**
SBUM	**Sibu** 14nm,0.7s	**17.90**	**297**	*e*P	**P**	**23 51 51.6**	**+0.1**
ASAR	**Alice Springs** 0.5nm,0.3s,baz=343,slow=12,SNR=22	**18.47**	**163**	P	**P**	**23 51 58.3**	**+0.9**
KSM	**Kuching** 11nm,0.6s	**19.22**	**292**	*e*P	**P**	**23 52 04.4**	**-0.7**
KULM	**Kulim** 16nm,1.1s	**29.57**	**292**	*e*P	**P**	**23 53 38.0**	**0.0**
PSI	**Prapat** 17nm,0.8s,baz=80,slow=6.4,SNR=16	**30.38**	**286**	P	**P**	**23 53 45.0**	**-0.3**
PSI	**Prapat** 22nm,0.9s	**30.38**	**286**	*e*P	**P**	**23 53 44.4**	**-0.8**
CHTO	**Chiang Mai** 16nm,1.3s	**37.82**	**311**	*e*P	**P**	**23 54 48.7**	**+0.4**
KSRS	**Korea Array** 2.1nm,0.6s,baz=176,slow=9.7,SNR=7.2	**43.20**	**360**	P	**P**	**23 55 31.5**	**+0.3**
MJAR	**Matsushiro Arr** 3.2nm,0.7s,baz=192,slow=9.4,SNR=4.7	**43.34**	**12**	P	**P**	**23 55 32.2**	**-0.3**
HHC	**Hu-ho-hao-te**	**48.99**	**343**	*e*P	**P**	**23 56 19.9**	**+3.9**
HHC	comp=Z,15nm,0.9s			pmax	pmax		
HHC	comp=Z,140nm,9.9s			pmax	pmax		
USRK	**Ussuriysk Ar.** comp=Z,4.3nm,0.7s,baz=196,slow=6.9,SNR=11	**50.06**	**4**	P	**P**	**23 56 24.9**	**+1.2**
ODAN	**Odare** comp=Z,9.6nm,0.5s	**51.14**	**312**	*e*P	**P**	**23 56 31.9**	**-0.4**
RAMN	**Ramite**	**51.78**	**311**	*e*P	**P**	**23 56 36.6**	**-0.4**
JIRN	**Jiri**	**52.47**	**312**	*e*P	**P**	**23 56 41.6**	**-0.6**
GUN	**Gumba**	**52.84**	**312**	*e*P	**P**	**23 56 44.3**	**-0.5**
DMN	**Daman**	**53.25**	**311**	*e*P	**P**	**23 56 47.4**	**-0.3**
GKN	**Gorkha** comp=Z,14nm,0.5s	**53.81**	**311**	*e*P	**P**	**23 56 51.3**	**-0.3**
PYUN	**Piuthan** comp=Z,1.0nm,0.7s	**55.10**	**310**	*e*P	**P**	**23 56 59.5**	**-1.3**
SONM	**Songino Array** comp=Z,1.0nm,0.6s,baz=165,slow=9.3,SNR=6.7	**56.88**	**343**	P	**P**	**23 57 14.1**	**+1.4**
WMQ	**Urumqi**	**61.50**	**328**	P	**P**	**23 57 45.3**	**+1.3**
PETK	**Petropavlovsk-** comp=Z,3.8nm,0.6s,baz=160,slow=4.7,SNR=3.9	**63.97**	**19**	P	**P**	**23 58 01.7**	**+1.9**
ZALV	**Zalesovo Beam** comp=Z,0.3nm,0.4s,baz=148,slow=7.0,SNR=3.8	**69.82**	**334**	P	**P**	**23 58 36.1**	**-0.1**

*CSEM **01** 23:51:53.9±0.2, 38°.44N×28°.31E, h0km±1km, MD3.0, Error ellipse: s-maj=2.6km s-min=2.1km az=102.0*

*DDA **01** 23:51:53.4, 38°.44N×28°.29E, h7km, Ml3.0*

*ISK **01** 23:51:53.6, 38°.43N×28°.32E, h5km, MD3.0*

ISC 01 23:51:53.9±1.0, 38°.44N±0°.02×28°.32E±0°.02, h5km±9km, n69, σ0§87/96, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULA	**Kula-Manisa**	**0.28**	**75**	PG	**Pg**	**23 51 59.6**	**+0.3**
KULA				*e*SG	**Sg**	**23 52 03.5**	**+0.5**
KULA	**Kula-Manisa**	**0.28**	**75**	*i* Pg	**Pg**	**23 51 59.6**	**+0.3**
KULA				*e*Sg	**Sg**	**23 52 03.5**	**+0.5**
AKS	**Akhisar**	**0.59**	**318**	*e*PG	**Pg**	**23 52 05.1**	**-0.2**
AKS	**Akhisar**	**0.59**	**318**	*e*Pg	**Pg**	**23 52 05.1**	**-0.2**
AYDB	**Zeytinkoy-Aydi**	**0.60**	**214**	*e*PG	**Pg**	**23 52 05.6**	**+0.1**
AYDB				*e*SG	**Sg**	**23 52 13.3**	**0.0**
AYDB	**Zeytinkoy-Aydi**	**0.60**	**214**	*e*Pg	**Pg**	**23 52 05.6**	**+0.1**
AYDB				*e*Sg	**Sg**	**23 52 13.3**	**0.0**
DEMI	**Demirci**	**0.67**	**27**	*i* P	**Pg**	**23 52 06.0**	**-0.9**
DEMI				*i* S	**Sg**	**23 52 14.8**	**-0.8**
DEMI	**Demirci**	**0.67**	**27**	P	**Pg**	**23 52 06.0**	**-0.9**
DEMI				S	**Sg**	**23 52 14.8**	**-0.8**
SIMA	**Simav-Kutahya**	**0.82**	**39**	*e*PG	**Pg**	**23 52 09.2**	**-0.5**
SIMA	**Simav-Kutahya**	**0.82**	**39**	*e*Pg	**Pg**	**23 52 09.2**	**-0.5**
DENT	**Denizli**	**0.89**	**141**	*e*PG	**Pg**	**23 52 10.6**	**-0.4**
DENT	**Denizli**	**0.89**	**141**	*e*Pg	**Pg**	**23 52 10.6**	**-0.4**
DNZL	**Cakiroluk**	**0.95**	**143**	*i* P	**Pb**	**23 52 12.4**	**-0.5**
DNZL				*i* S	**Sn**	**23 52 26.9**	**-1.1**
DNZL	**Cakiroluk**	**0.95**	**143**	P	**Pb**	**23 52 12.4**	**-0.5**
DNZL				S	**Sn**	**23 52 26.9**	**-1.1**
KHL	**Karahalli**	**0.95**	**97**	*e*PG	**Pb**	**23 52 12.5**	**-0.5**
KHL	**Karahalli**	**0.95**	**97**	*e*Pg	**Pb**	**23 52 12.5**	**-0.5**
GEDZ	**Gediz**	**1.04**	**55**	*e*PG	**Pn**	**23 52 14.9**	**-0.3**
GEDZ	**Gediz**	**1.04**	**55**	*e*Pg	**Pn**	**23 52 14.9**	**-0.3**
GCAM	**G?zelcaml?**	**1.14**	**229**	*i* P	**Pn**	**23 52 16.5**	**+0.1**
GCAM				*i* S	**Sg**	**23 52 29.9**	**-0.4**
GCAM	**G?zelcaml?**	**1.14**	**229**	P	**Pn**	**23 52 16.5**	**+0.1**
GCAM				S	**Sg**	**23 52 30.0**	**-0.4**
DGB	**˜zmir**	**1.20**	**251**	*i* P	**Pn**	**23 52 17.1**	**-0.1**
DGB				*i* S	**Sg**	**23 52 31.5**	**-0.9**
MLSB	**Milas**	**1.23**	**201**	*e*PN	**Pn**	**23 52 17.6**	**-0.1**
MLSB	**Milas**	**1.23**	**201**	*e*Pn	**Pn**	**23 52 17.6**	**-0.1**
BALB	**Balikesir**	**1.24**	**344**	*e*PN	**Pn**	**23 52 18.1**	**+0.2**
BALB				*e*SN	**Sn**	**23 52 36.2**	**+1.2**
BALB	**Balikesir**	**1.24**	**344**	*e*Pn	**Pn**	**23 52 18.1**	**+0.2**
BALB				*e*Sn	**Sn**	**23 52 36.2**	**+1.2**
DKL	**Dikili**	**1.27**	**300**	*e*PN	**Pb**	**23 52 18.4**	**+0.1**
DKL	**Dikili**	**1.27**	**300**	*e*Pn	**Pb**	**23 52 18.4**	**+0.1**
TVSB	**Tavsanli**	**1.34**	**41**	*e*PN	**Pg**	**23 52 20.3**	**+0.6**
TVSB	**Tavsanli**	**1.34**	**41**	*e*Pn	**Pg**	**23 52 20.3**	**+0.6**
URLA	**Izmir**	**1.36**	**267**	*e*PN	**Pg**	**23 52 20.0**	**0.0**
URLA				*e*SN	**Sn**	**23 52 38.7**	**+0.8**
URLA	**Izmir**	**1.36**	**267**	*i* P	**Pg**	**23 52 20.6**	**+0.6**
URLA				*i* S	**Sn**	**23 52 37.7**	**-0.2**
URLA	**Izmir**	**1.36**	**267**	*e*Pn	**Pg**	**23 52 20.0**	**0.0**
URLA	**Izmir**	**1.36**	**267**	P	**Pg**	**23 52 20.5**	**+0.6**
URLA				S	**Sn**	**23 52 37.7**	**-0.2**
URLA				*e*Sn	**Sn**	**23 52 38.7**	**+0.8**
BALY	**Balya**	**1.40**	**337**	*i* P	**Pn**	**23 52 19.6**	**-0.6**
BALY				*i* S	**Sn**	**23 52 39.1**	**0.0**
BALY	**Balya**	**1.40**	**337**	P	**Pn**	**23 52 19.6**	**-0.6**
BALY				S	**Sn**	**23 52 39.1**	**0.0**
BDRM	**Kayabasi**	**1.54**	**207**	*i* P	**Pn**	**23 52 20.8**	**-1.2**
BDRM				*i* S	**Sn**	**23 52 41.7**	**-0.7**
BDRM	**Kayabasi**	**1.54**	**207**	P	**Pn**	**23 52 20.8**	**-1.2**
BDRM				S	**Sn**	**23 52 41.7**	**-0.7**
GOLH	**Golhisar**	**1.56**	**140**	*i* P	**Pb**	**23 52 22.6**	**-0.6**
GOLH				*i* S	**Sg**	**23 52 44.2**	**+0.3**
GOLH	**Golhisar**	**1.56**	**140**	P	**Pb**	**23 52 22.6**	**-0.6**
GOLH				S	**Sg**	**23 52 44.2**	**+0.3**

JOD2	**Odawara 2**	**2.42**	**315**	P	**Pn**	**00 02 07.0**	**-1.2**
MJAR	**Matsushiro Arr**	**3.84**	**321**	Pn	**Pn**	**00 02 27.7**	**0.0**
	13nm,0.3s,baz=156,slow=12,SNR=56						
MJAR				Sn	**Sn**	**00 03 11.1**	**-0.4**
	1.5nm,0.3s,baz=161,slow=26,SNR=2.5						
MAT	**Matsushiro**	**3.84**	**321**	P	**Pn**	**00 02 28.3**	**+0.6**
MAT				S	**Sn**	**00 03 11.4**	**-0.2**
KSRS	**Korea Array**	**11.48**	**293**	Pn	**Pn**	**00 04 13.4**	**+1.2**
	0.3nm,0.3s,baz=102,slow=15,SNR=2.8						
KSRS				LR	LR	00 08 28.6	
	comp=Z,69nm,21.9s,baz=86,slow=36						
KSAR	**Wonju Array Be**	**11.50**	**293**	Pn	**Pn**	**00 04 13.4**	**+0.8**
H11N2	**WAKE ISLAND Hy**	**26.71**	**115**	T	T	00 36 03.4	
	baz=306,slow=75,SNR=5.6						
H11N1	**WAKE ISLAND Hy**	**26.72**	**115**	T	T	00 36 08.3	
	baz=306,slow=75,SNR=8.1						
H11N3	**WAKE ISLAND Hy**	**26.73**	**115**	T	T	00 36 08.1	
	baz=306,slow=75,SNR=7.2						
MA2	**Magadan**	**26.78**	**11**	LR	LR	00 18 06.8	
	comp=Z,29nm,20.6s,baz=206,slow=37						
H11S3	**WAKE ISLAND Hy**	**27.30**	**117**	T	T	00 36 48.4	
	baz=306						
H11S1	**WAKE ISLAND Hy**	**27.30**	**117**	T	T	00 36 39.3	
	baz=306						
H11S2	**WAKE ISLAND Hy**	**27.31**	**117**	T	T	00 36 39.1	
	baz=306						
SONM	**Songino Array**	**29.69**	**309**	P	**P**	**00 07 32.6**	**+0.1**
	0.5nm,0.5s,baz=115,slow=9.0,SNR=3.7						
ZALV	**Zalesovo Beam**	**44.17**	**315**	P	**P**	**00 09 35.0**	**+0.1**
	0.4nm,0.3s,baz=98,slow=10,SNR=3.6						
KURK	**Kurchatov**	**47.98**	**311**	*e*P	**P**	**00 10 04.5**	**-0.3**
	2.5nm,0.6s						
AAK	**Ala-Archa**	**52.03**	**301**	P	**P**	**00 10 36.9**	**+1.0**
	1.0nm,0.3s						
ILAR	**Eielson Array**	**52.54**	**31**	P	**P**	**00 10 38.5**	**-0.7**
	0.5nm,0.8s,baz=271,slow=6.2,SNR=4.2						
WRA	**Warramunga Arr**	**53.61**	**188**	P	**P**	**00 10 46.5**	**-1.0**
	5.4nm,0.6s,baz=3.7,slow=7.6,SNR=79						
ASAR	**Alice Springs**	**57.34**	**188**	P	**P**	**00 11 13.6**	**-0.8**
	0.8nm,0.4s,baz=359,slow=6.0,SNR=10						
FINES	**FINESS Array B**	**71.79**	**333**	P	**P**	**00 12 49.9**	**+1.7**
	1.0nm,0.8s,baz=60,slow=5.5,SNR=4.1						
NB2	**NORSAR Subarra**	**77.31**	**338**	P	**P**	**00 13 19.9**	**-0.3**
	comp=Z,0.8nm,0.8s,baz=41,slow=5.6						
NOA	**NORSAR Array B**	**77.31**	**338**	P	**P**	**00 13 20.0**	**-0.3**
	comp=Z,0.7nm,0.7s,baz=41,slow=5.8,SNR=5.0						
TXAR	**Lajitas Array**	**92.39**	**52**	P	**P**	**00 14 37.8**	**+0.9**
	comp=Z,0.3nm,0.6s,baz=252,slow=1.6,SNR=5.5						
LPAZ	**La Paz**	**148.50**	**64**	PKPbc	**PKPbc**	**00 21 14.8**	**+1.0**
	comp=Z,1.4nm,0.7s,baz=341,slow=4.1,SNR=7.2						

*IDC **02** 00:10:55.3±1.4, 38.°45N×21.°82E, h0km, mb3.5/4, mb1 3.5/6, mb1mx3.3/34, mbtmp3.4/6, ML3.2/2, MS2.8/1, Ms1 2.8/1, ms1mx2.3/29, Error ellipse: s-maj=27.0km s-min=23.6km az=104.0*

*ISCJB **02** 00:10:56.6±0.3, 38.°41N±0.°01×21.°81E±0.°02, h5km±2km, mb3.4/4, Error ellipse: s-maj=2.1km s-min=1.9km az=136.8*

*CSEM **02** 00:10:56.6±0.1, 38.°40N×21.°82E, h2km, ML3.0, Error ellipse: s-maj=2.1km s-min=1.8km az=49.0*

*ATH **02** 00:10:56.1, 38.°40N×21.°83E, h18km, ML3.0/12, Error ellipse: s-maj=0.9km s-min=0.6km az=195.0*

*THE **02** 00:10:57.0, 38.°41N×21.°83E, h0km±1km, ML3.3/32, Error ellipse: s-maj=1.4km s-min=0.5km az=250.0*

ISC 02 00:10:56.9±0.7, 38.°41N±0.°01×21.°82E±0.°01, h10km±4km, n224, σ1°05/313, mb3.4/4, 4C-4D, Greece

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
UPR	**University Cam**	**0.13**	**192**	P	**Pg**	**00 10 59.4**	**-0.5**
UPR				S	**Sg**	**00 11 02.2**	**+0.2**
UPR	**University Cam**	**0.13**	**192**	P	**Pg**	**00 10 59.3**	**-0.6**
UPR				S	**Sg**	**00 11 02.1**	**+0.1**
UPR	**University Cam**	**0.13**	**192**	P	**Pg**	**00 10 58.7**	**-1.2**
UPR				S	**Sg**	**00 11 01.5**	**-0.5**
SERG	**Sergoula**	**0.19**	**89**	P	**Pg**	**00 11 00.6**	**-0.3**
SERG				S	**Sg**	**00 11 04.3**	**+0.7**
SERG	**Sergoula**	**0.19**	**89**	P	**Pg**	**00 11 00.6**	**-0.3**
SERG				S	**Sg**	**00 11 04.3**	**+0.7**
ANX	**Ano Chora**	**0.20**	**23**	P	**Pg**	**00 11 00.9**	**-0.3**
ANX				S	**Sg**	**00 11 04.8**	**+0.7**
ANX	**Ano Chora**	**0.20**	**23**	P	**Pg**	**00 11 00.9**	**-0.3**
ANX				S	**Sg**	**00 11 04.8**	**+0.7**
TRIZ	**Trizonia**	**0.20**	**103**	S	**Sg**	**00 11 04.2**	**+0.2**
TRIZ	**Trizonia**	**0.20**	**103**	S	**Sg**	**00 11 04.0**	**-0.1**
LAKA	**Lakka**	**0.21**	**144**	P	**Pg**	**00 11 00.9**	**-0.4**
LAKA				S	**Sg**	**00 11 04.3**	**0.0**
LAKA	**Lakka**	**0.21**	**144**	P	**Pg**	**00 11 00.9**	**-0.4**
LAKA				S	**Sg**	**00 11 04.3**	**0.0**
KALE	**Kalithea**	**0.25**	**94**	P	**Pg**	**00 11 01.7**	**-0.4**
KALE				S	**Sg**	**00 11 05.5**	**+1.0**
KALE	**Kalithea**	**0.25**	**94**	P	**Pg**	**00 11 01.7**	**-0.4**
KALE				S	**Sg**	**00 11 06.2**	**+0.7**
KALE	**Kalithea**	**0.25**	**94**	P	**Pg**	**00 11 01.7**	**-0.4**
KALE				S	**Sg**	**00 11 06.8**	**+1.2**
KALE				AML	AML	00 11 07.4	
	comp=N,10224μm,0.2s						
KALE				AML	AML	00 11 09.0	
	comp=E,9456μm,0.3s						
PVO	**Paravola**	**0.31**	**312**	P	**Pg**	**00 11 02.5**	**-0.6**
PVO				S	**Sg**	**00 11 08.4**	**+1.1**
PVO	**Paravola**	**0.31**	**312**	P	**Pg**	**00 11 02.5**	**-0.6**
PVO				S	**Sg**	**00 11 07.9**	**+0.6**
PVO	**Paravola**	**0.31**	**312**	P	**Pg**	**00 11 02.1**	**-1.0**
PVO				S	**Sg**	**00 11 08.0**	**+0.6**
AXS	**Araxos**	**0.41**	**239**	P	**Pg**	**00 11 04.1**	**-0.9**
AXS	**Araxos**	**0.41**	**239**	P	**Pg**	**00 11 04.1**	**-0.9**
AXS	**Araxos**	**0.41**	**239**	P	**Pg**	**00 11 03.2**	**-1.8**
RLS	**Riolos of Patr**	**0.45**	**219**	P	**Pg**	**00 11 05.0**	**-0.7**
RLS				S	**Sg**	**00 11 12.2**	**+0.6**
RLS	**Riolos of Patr**	**0.45**	**219**	P	**Pg**	**00 11 05.0**	**-0.7**
RLS				S	**Sg**	**00 11 12.1**	**+0.5**
RLS	**Riolos of Patr**	**0.45**	**219**	S	**Sg**	**00 11 12.3**	**+0.7**
RLS				AML	AML	00 11 14.1	
	comp=E,4474μm,0.5s						
RLS				AML	AML	00 11 17.1	
	comp=N,4011μm,0.9s						
KLV	**Kalavryta, Ach**	**0.45**	**144**	P	**Pg**	**00 11 05.0**	**-0.7**
KLV				S	**Sg**	**00 11 11.0**	**-0.6**
KLV	**Kalavryta, Ach**	**0.45**	**144**	P	**Pg**	**00 11 05.0**	**-0.7**
KLV				S	**Sg**	**00 11 11.0**	**-0.6**
KLV	**Kalavryta, Ach**	**0.45**	**144**	P	**Pg**	**00 11 05.0**	**-0.7**
KLV				S	**Sg**	**00 11 10.6**	**-1.0**
KLV				AML	AML	00 11 16.4	
	comp=E,2886μm,0.6s						
KLV				AML	AML	00 11 17.4	
	comp=N,2696μm,0.5s						
DRO	**Drossia**	**0.47**	**191**	P	**Pg**	**00 11 05.2**	**-0.8**
DRO				S	**Sg**	**00 11 13.1**	**+1.0**
DRO	**Drossia**	**0.47**	**191**	P	**Pg**	**00 11 05.2**	**-0.8**
DRO				S	**Sg**	**00 11 12.4**	**+0.3**
DRO	**Drossia**	**0.47**	**191**	P	**Pg**	**00 11 05.1**	**-0.9**
DRO				S	**Sg**	**00 11 12.8**	**+0.6**
DRO				AML	AML	00 11 13.4	
	comp=E,23923μm,0.4s						
DRO				AML	AML	00 11 16.1	
	comp=N,13928μm,0.5s						
EVR	**Evrytania**	**0.51**	**359**	P	**Pg**	**00 11 06.0**	**-0.8**
EVR				S	**Sb**	**00 11 14.8**	**-0.7**
EVR	**Evrytania**	**0.51**	**359**	P	**Pg**	**00 11 06.0**	**-0.8**
EVR				S	**Sb**	**00 11 14.8**	**-0.7**
EVR	**Evrytania**	**0.51**	**359**	P	**Pg**	**00 11 05.6**	**-1.2**
PDO	**Prodromos**	**0.53**	**291**	P	**Pg**	**00 11 06.1**	**-1.2**
PDO	**Prodromos**	**0.53**	**291**	P	**Pg**	**00 11 06.1**	**-1.2**
PDO	**Prodromos**	**0.53**	**291**	P	**Pg**	**00 11 05.1**	**-2.2**
DSF	**Desfina**	**0.56**	**90**	P	**Pg**	**00 11 06.7**	**-1.0**
DSF				S	**Sb**	**00 11 16.2**	**-0.6**
DSF	**Desfina**	**0.56**	**90**	P	**Pg**	**00 11 06.7**	**-1.0**
DSF				S	**Sg**	**00 11 15.3**	**+0.3**
DSF	**Desfina**	**0.56**	**90**	P	**Pg**	**00 11 06.2**	**-1.6**
DSF				S	**Sg**	**00 11 15.8**	**+0.7**
VTN	**Vitineika**	**0.70**	**226**	P	**Pg**	**00 11 10.8**	**+0.3**
VTN	**Vitineika**	**0.70**	**226**	P	**Pb**	**00 11 12.0**	**+0.8**
AGG	**Agios Georgios**	**0.73**	**33**	P	**Pg**	**00 11 10.1**	**-0.9**
AGG				S	**Sb**	**00 11 22.2**	**+0.4**
AGG	**Agios Georgios**	**0.73**	**33**	P	**Pg**	**00 11 10.1**	**-0.9**
AGG				S	**Sb**	**00 11 21.4**	**-0.4**
AGG	**Agios Georgios**	**0.73**	**33**	P	**Pg**	**00 11 10.0**	**-1.1**
AGG				S	**Sb**	**00 11 22.2**	**+0.4**
THAL	**Thalero**	**0.76**	**119**	P	**Pg**	**00 11 11.2**	**-0.4**
THAL				S	**Sb**	**00 11 23.3**	**+0.7**
THAL	**Thalero**	**0.76**	**119**	P	**Pg**	**00 11 11.1**	**-0.5**
THAL				S	**Sb**	**00 11 23.3**	**+0.7**
THAL	**Thalero**	**0.76**	**119**	P	**Pg**	**00 11 11.6**	**0.0**
PROD	**Prodromos**	**0.86**	**100**	P	**Pg**	**00 11 12.7**	**-0.8**
PROD				S	**Sg**	**00 11 24.5**	**-0.3**
PROD	**Prodromos**	**0.86**	**100**	P	**Pg**	**00 11 13.0**	**-0.6**
PROD				S	**Sg**	**00 11 24.5**	**-0.3**
PROD				AML	AML	00 11 32.1	
	comp=E,3830μm,0.7s						
PROD				AML	AML	00 11 33.1	
	comp=N,2628μm,0.5s						
KFL	**Anninata**	**0.87**	**250**	P	**Pg**	**00 11 12.8**	**-0.8**
KFL				S	**Sn**	**00 11 27.1**	**-0.7**
KFL	**Anninata**	**0.87**	**250**	P	**Pg**	**00 11 13.1**	**-0.5**
KFL				S	**Sn**	**00 11 27.1**	**-0.7**
KFL	**Anninata**	**0.87**	**250**	P	**Pg**	**00 11 13.4**	**-0.2**
AMT	**Artemida-Makis**	**0.88**	**186**	P	**Pg**	**00 11 13.7**	**-0.2**
AMT	**Artemida-Makis**	**0.88**	**186**	P	**Pg**	**00 11 13.7**	**-0.2**
AMT				S	**Sg**	**00 11 25.8**	**+0.5**
AMT	**Artemida-Makis**	**0.88**	**186**	P	**Pg**	**00 11 13.6**	**-0.3**
AMT				S	**Sb**	**00 11 26.5**	**+0.4**
DSL	**Palaion Diasel**	**0.92**	**322**	P	**Pg**	**00 11 13.5**	**-1.1**
DSL	**Palaion Diasel**	**0.92**	**322**	P	**Pg**	**00 11 13.5**	**-1.1**
DSL	**Palaion Diasel**	**0.92**	**322**	P	**Pg**	**00 11 13.1**	**-1.5**
LKR	**Lokris**	**0.95**	**75**	P	**Pg**	**00 11 14.0**	**-1.3**
LKR				S	**Sb**	**00 11 28.5**	**+0.3**
LKR	**Lokris**	**0.95**	**75**	P	**Pg**	**00 11 14.0**	**-1.3**
LKR				S	**Sg**	**00 11 27.8**	**+0.1**
LKR	**Lokris**	**0.95**	**75**	P	**Pg**	**00 11 13.3**	**-2.0**
LKR				S	**Sb**	**00 11 28.3**	**0.0**
LKR				AML	AML	00 11 31.8	
	comp=N,1588μm,0.6s						
LKR				AML	AML	00 11 32.1	
	comp=E,1557μm,0.3s						
LTK	**Loutraki**	**0.98**	**113**	P	**Pg**	**00 11 15.7**	**-0.1**
LTK				S	**Sb**	**00 11 29.8**	**+0.8**
LTK	**Loutraki**	**0.98**	**113**	P	**Pg**	**00 11 15.1**	**-0.7**
LTK				S	**Sb**	**00 11 29.8**	**+0.8**
LTK	**Loutraki**	**0.98**	**113**	P	**Pg**	**00 11 15.5**	**-0.3**
LKD2	**Lefkada island**	**0.99**	**293**	P	**Pg**	**00 11 14.6**	**-1.3**
LKD2				S	**Sn**	**00 11 31.2**	**+0.3**
LKD2	**Lefkada island**	**0.99**	**293**	P	**Pg**	**00 11 15.6**	**-1.3**
LKD2				S	**Sb**	**00 11 29.5**	**+0.3**
LKD2	**Lefkada island**	**0.99**	**293**	P	**Pg**	**00 11 13.4**	**-2.5**
LKD2				S	**Sb**	**00 11 30.1**	**+0.9**
VLS	**Valsamata**	**1.00**	**257**	P	**Pg**	**00 11 14.2**	**-1.9**
VLS				S	**Sb**	**00 11 30.0**	**+0.6**
VLS	**Valsamata**	**1.00**	**257**	P	**Pg**	**00 11 14.2**	**-1.9**
VLS				S	**Sb**	**00 11 30.0**	**+0.6**
LOUT	**Loutraki**	**1.00**	**115**	P	**Pg**	**00 11 15.9**	**-0.3**
LOUT				S	**Sb**	**00 11 29.8**	**+0.2**
LOUT	**Loutraki**	**1.00**	**115**	P	**Pg**	**00 11 15.7**	**-0.5**
LOUT				S	**Sb**	**00 11 29.8**	**+0.2**
LOUT	**Loutraki**	**1.00**	**115**	P	**Pg**	**00 11 16.3**	**+0.1**
LOUT				AML	AML	00 11 35.6	
	comp=E,1188μm,0.8s						
LOUT				AML	AML	00 11 39.8	
	comp=N,1272μm,0.6s						
ZKS	**Zakynthos**	**1.08**	**229**	P	**Pb**	**00 11 16.6**	**-1.1**
ZKS				S	**Sn**	**00 11 35.1**	**+1.9**
ZKS	**Zakynthos**	**1.08**	**229**	P	**Pb**	**00 11 16.7**	**-1.1**
ZKS				S	**Sn**	**00 11 35.1**	**+1.9**
ZKS	**Zakynthos**	**1.08**	**229**	P	**Pb**	**00 11 16.6**	**-1.1**
VLX	**Vlachokerasia**	**1.13**	**157**	P	**Pb**	**00 11 17.3**	**-1.3**
VLX				S	**Sn**	**00 11 34.5**	**+0.1**
VLX	**Vlachokerasia**	**1.13**	**157**	P	**Pb**	**00 11 17.3**	**-1.3**
VLX				S	**Sg**	**00 11 33.4**	**+0.1**
VLX	**Vlachokerasia**	**1.13**	**157**	P	**Pb**	**00 11 17.1**	**-1.5**
VLX				S	**Sn**	**00 11 34.0**	**-0.4**
VIL2	**Platees**	**1.16**	**99**	P	**Pb**	**00 11 19.1**	**+0.1**
THL	**Klokotos Trika**	**1.16**	**7**	P	**Pb**	**00 11 18.6**	**-0.5**
THL				S	**Sn**	**00 11 35.7**	**+0.5**
THL	**Klokotos Trika**	**1.16**	**7**	P	**Pb**	**00 11 18.6**	**-0.5**
THL				S	**Sn**	**00 11 35.7**	**+0.5**
SMIA	**Simia**	**1.18**	**66**	P	**Pb**	**00 11 19.3**	**-0.2**
SMIA				S	**Sn**	**00 11 36.3**	**+0.6**
SMIA	**Simia**	**1.18**	**66**	P	**Pb**	**00 11 19.3**	**-0.2**
SMIA				S	**Sn**	**00 11 36.3**	**+0.6**
VILL	**Villia**	**1.20**	**101**	P	**Pb**	**00 11 19.3**	**-0.4**
VILL				S	**Sn**	**00 11 37.6**	**+1.5**
VILL	**Villia**	**1.20**	**101**	P	**Pb**	**00 11 19.3**	**-0.4**
VILL				S	**Sn**	**00 11 37.6**	**+1.5**
ITM	**Ithomi**	**1.23**	**176**	P	**Pn**	**00 11 19.6**	**-0.6**
ITM				S	**Sn**	**00 11 39.3**	**+2.4**
ITM	**Ithomi**	**1.23**	**176**	P	**Pn**	**00 11 19.6**	**-0.6**
ITM				S	**Sn**	**00 11 39.3**	**+2.4**
ITM	**Ithomi**	**1.23**	**176**	P	**Pn**	**00 11 19.2**	**-1.0**
ITM				AML	AML	00 11 46.2	
	comp=N,1481μm,0.5s						
ITM				AML	AML	00 11 46.5	
	comp=E,1420μm,0.5s						
FYTO	**Fytoko, Volos**	**1.33**	**41**	P	**Pb**	**00 11 21.9**	**0.0**
FYTO				S	**Sg**	**00 11 40.2**	**+0.6**
FYTO	**Fytoko, Volos**	**1.33**	**41**	P	**Pb**	**00 11 21.9**	**0.0**
FYTO				S	**Sg**	**00 11 40.2**	**+0.6**
FYTO	**Fytoko, Volos**	**1.33**	**41**	P	**Pg**	**00 11 22.6**	**+0.2**
LRSO	**Larissa Observ**	**1.34**	**19**	P	**Pn**	**00 11 21.6**	**0.0**
LRSO	**Larissa Observ**	**1.34**	**19**	P	**Pn**	**00 11 21.6**	**0.0**
NEO	**Neokhori**	**1.42**	**50**	P	**Pn**	**00 11 22.7**	**0.0**
NEO				S	**Sg**	**00 11 42.0**	**-0.4**
NEO	**Neokhori**	**1.42**	**50**	P	**Pn**	**00 11 22.9**	**+0.2**
NEO				S	**Sb**	**00 11 41.7**	**+0.2**
NEO	**Neokhori**	**1.42**	**50**	P	**Pn**	**00 11 23.0**	**+0.3**
NEO				S	**Sn**	**00 11 41.3**	**-0.1**
NEO				AML	AML	00 11 44.7	
	comp=E,1000μm,0.4s						
NEO				AML	AML	00 11 44.8	
	comp=N,1098μm,0.5s						
XOR	**Xorichti**	**1.43**	**48**	P	**Pn**	**00 11 22.8**	**-0.2**
XOR				S	**Sg**	**00 11 44.1**	**+1.0**
XOR	**Xorichti**	**1.43**	**48**	P	**Pn**	**00 11 22.9**	**-0.1**
XOR				S	**Sg**	**00 11 44.1**	**+1.0**
XOR	**Xorichti**	**1.43**	**48**	P	**Pn**	**00 11 22.7**	**-0.3**
DID	**Didima**	**1.44**	**128**	P	**Pn**	**00 11 23.4**	**+0.4**
DID				S	**Sg**	**00 11 44.4**	**+1.2**
DID	**Didima**	**1.44**	**128**	P	**Pn**	**00 11 23.4**	**+0.4**
DID				S	**Sg**	**00 11 43.0**	**-0.2**
DID	**Didima**	**1.44**	**128**	P	**Pn**	**00 11 22.9**	**-0.1**
DID				S	**Sg**	**00 11 43.4**	**+0.2**
JAN	**Janina**	**1.46**	**329**	P	**Pb**	**00 11 24.1**	**0.0**
JAN	**Janina**	**1.46**	**329**	P	**Pb**	**00 11 24.1**	**0.0**
SKIA	**Skiathos**	**1.49**	**59**	P	**Pn**	**00 11 23.7**	**-0.1**
SKIA				S	**Sg**	**00 11 44.5**	**-0.4**
SKIA	**Skiathos**	**1.49**	**59**	P	**Pn**	**00 11 24.0**	**+0.2**
SKIA				S	**Sg**	**00 11 44.5**	**-0.4**
SKIA	**Skiathos**	**1.49**	**59**	P	**Pn**	**00 11 23.9**	**+0.1**
PYL	**PYLOS**	**1.51**	**182**	P	**Pn**	**00 11 24.4**	**+0.4**
PYL				S	**Sg**	**00 11 47.3**	**+1.7**
PYL	**PYLOS**	**1.51**	**182**	P	**Pn**	**00 11 24.4**	**+0.4**
PYL				S	**Sg**	**00 11 47.3**	**+1.7**
PYL	**PYLOS**	**1.51**	**182**	P	**Pb**	**00 11 25.0**	**0.0**
ATH	**Athens Observa**	**1.56**	**106**	P	**Pn**	**00 11 24.9**	**+0.3**
ATH	**Athens Observa**	**1.56**	**106**	P	**Pn**	**00 11 24.9**	**+0.3**
KPRO	**Kipourio**	**1.58**	**347**	P	**Pb**	**00 11 26.3**	**0.0**
KPRO				S	**Sb**	**00 11 46.6**	**+0.2**
KPRO	**Kipourio**	**1.58**	**347**	P	**Pb**	**00 11 26.3**	**0.0**
KPRO				S	**Sb**	**00 11 46.6**	**+0.2**
KPRO	**Kipourio**	**1.58**	**347**	P	**Pg**	**00 11 27.0**	**-0.3**
ATHU	**Athens Univers**	**1.61**	**105**	P	**Pn**	**00 11 24.9**	**-0.4**
ATHU	**Athens Univers**	**1.61**	**105**	P	**Pn**	**00 11 25.0**	**-0.4**
ATHU	**Athens Univers**	**1.61**	**105**	P	**Pn**	**00 11 24.3**	**-1.1**
IGT	**Igoumenitsa**	**1.61**	**314**	P	**Pb**	**00 11 27.0**	**+0.2**
IGT				S	**Sg**	**00 11 49.9**	**+1.1**
IGT	**Igoumenitsa**	**1.61**	**314**	P	**Pb**	**00 11 26.5**	**-0.3**
IGT				S	**Sg**	**00 11 49.9**	**+1.1**
IGT	**Igoumenitsa**	**1.61**	**314**	P	**Pb**	**00 11 27.0**	**+0.2**
PTL	**Penteli**	**1.65**	**102**	P	**Pn**	**00 11 25.9**	**0.0**
PTL				S	**Sb**	**00 11 48.5**	**+0.2**
PTL	**Penteli**	**1.65**	**102**	P	**Pn**	**00 11 26.0**	**0.0**
PTL				S	**Sb**	**00 11 48.5**	**+0.2**
PTL	**Penteli**	**1.65**	**102**	P	**Pn**	**00 11 25.6**	**-0.3**
PTL				S	**Sn**	**00 11 47.1**	**-0.1**
PTL				AML	AML	00 11 56.8	
	comp=E,818μm,0.7s						
PTL				AML	AML	00 11 57.0	
	comp=N,809μm,0.6s						
VLY	**Voula,Athens**	**1.65**	**109**	P	**Pn**	**00 11 26.1**	**+0.1**
VLY				S	**Sb**	**00 11 48.9**	**+0.6**
VLY	**Voula,Athens**	**1.65**	**109**	P	**Pn**	**00 11 26.1**	**+0.1**
VLY				S	**Sb**	**00 11 48.9**	**+0.6**
VLY	**Voula,Athens**	**1.65**	**109**	P	**Pn**	**00 11 25.8**	**-0.2**
EREA	**Eretria**	**1.66**	**89**	P	**Pn**	**00 11 26.4**	**+0.3**
EREA				S	**Sg**	**00 11 50.3**	**+0.1**
EREA	**Eretria**	**1.66**	**89**	P	**Pn**	**00 11 26.4**	**+0.3**
EREA				S	**Sg**	**00 11 50.3**	**+0.1**
EREA	**Eretria**	**1.66**	**89**	P	**Pn**	**00 11 26.3**	**+0.2**
EREA				AML	AML	00 11 58.9	
	comp=E,657μm,0.7s						
EREA				AML	AML	00 12 02.3	
	comp=N,745μm,0.5s						
SGD	**Sagiada**	**1.72**	**315**	P	**Pb**	**00 11 28.6**	**0.0**
SGD				S	**Sg**	**00 11 52.2**	**-0.1**
SGD	**Sagiada**	**1.72**	**315**	P	**Pb**	**00 11 28.4**	**-0.2**
SGD				S	**Sg**	**00 11 52.2**	**-0.1**
SGD	**Sagiada**	**1.72**	**315**	P	**Pb**	**00 11 29.1**	**+0.5**
LIT	**Litokhoron**	**1.77**	**17**	P	**Pn**	**00 11 27.9**	**+0.3**
LIT	**Litokhoron**	**1.77**	**17**	P	**Pn**	**00 11 27.9**	**+0.3**
LIT	**Litokhoron**	**1.77**	**17**	P	**Pn**	**00 11 28.5**	**+0.9**
AOS	**Alonnisos**	**1.78**	**64**	P	**Pn**	**00 11 27.3**	**-0.4**
AOS	**Alonnisos**	**1.78**	**64**	P	**Pn**	**00 11 27.3**	**-0.4**
AOS	**Alonnisos**	**1.78**	**64**	P	**Pn**	**00 11 26.1**	**-1.7**
PENT	**Pentalofos**	**1.86**	**344**	P	**Pb**	**00 11 30.3**	**-0.8**
PENT	**Pentalofos**	**1.86**	**344**	P	**Pb**	**00 11 30.3**	**-0.8**
KZN	**Kozani**	**1.90**	**359**	P	**Pb**	**00 11 30.7**	**-0.9**
KZN				S	**Sb**	**00 11 56.0**	**+0.6**
KZN	**Kozani**	**1.90**	**359**	P	**Pb**	**00 11 30.7**	**-0.9**
KZN				S	**Sb**	**00 11 56.0**	**+0.6**
VLI	**Veliai**	**1.91**	**152**	P	**Pn**	**00 11 29.9**	**+0.4**
VLI				S	**Sg**	**00 11 57.1**	**-1.1**
VLI	**Veliai**	**1.91**	**152**	P	**Pn**	**00 11 29.9**	**+0.4**
VLI				S	**Sg**	**00 11 57.1**	**-1.1**
VLI	**Veliai**	**1.91**	**152**	P	**Pn**	**00 11 30.7**	**+1.2**
KTI	**Kastanea**	**1.99**	**7**	P	**Pb**	**00 11 32.2**	**-1.2**
KTI	**Kastanea**	**1.99**	**7**	P	**Pb**	**00 11 32.2**	**-1.2**
KEK	**Kerkira**	**2.04**	**310**	P	**Pn**	**00 11 32.7**	**+1.4**
KEK	**Kerkira**	**2.04**	**310**	P	**Pn**	**00 11 32.7**	**+1.4**
PAIG	**Paliouri**	**2.09**	**43**	P	**Pn**	**00 11 31.7**	**-0.3**
PAIG	**Paliouri**	**2.09**	**43**	P	**Pn**	**00 11 31.7**	**-0.3**
PAIG	**Paliouri**	**2.09**	**43**	P	**Pn**	**00 11 30.7**	**-1.3**
KARY	**Karystos**	**2.10**	**100**	P	**Pn**	**00 11 32.4**	**+0.4**
KARY	**Karystos**	**2.10**	**100**	P	**Pn**	**00 11 32.5**	**+0.4**
KARY	**Karystos**	**2.10**	**100**	P	**Pn**	**00 11 32.5**	**+0.5**
KARY				AML	AML	00 12 09.9	
	comp=E,237μm,0.5s						
KARY				AML	AML	00 12 11.8	
	comp=N,356μm,0.7s						
PLG	**Polygyros**	**2.33**	**32**	P	**Pn**	**00 11 34.9**	**-0.4**
PLG	**Polygyros**	**2.33**	**32**	P	**Pn**	**00 11 34.9**	**-0.4**
OUR	**Ouranopolis**	**2.55**	**40**	P	**Pn**	**00 11 38.3**	**0.0**
OUR	**Ouranopolis**	**2.55**	**40**	P	**Pn**	**00 11 37.6**	**-0.7**
BIA	**Bitola**	**2.63**	**352**	*i* Pn	**Pb**	**00 11 44.0**	**-0.2**
BIA	**Bitola**	**2.63**	**352**	*i* Pn	**Pb**	**00 11 44.0**	**-0.2**
MHLO	**Agia Marina, M**	**2.67**	**129**	P	**Pn**	**00 11 40.7**	**+0.7**
MHLO	**Agia Marina, M**	**2.67**	**129**	P	**Pn**	**00 11 40.6**	**+0.6**
SOH	**Sokhos**	**2.68**	**26**	P	**Pn**	**00 11 40.4**	**+0.2**
SOH	**Sokhos**	**2.68**	**26**	P	**Pn**	**00 11 40.6**	**+0.4**
SOH	**Sokhos**	**2.68**	**26**	P	**Pn**	**00 11 40.2**	**0.0**
ANKY	**Antikythira Is**	**2.80**	**155**	P	**Pn**	**00 11 43.7**	**+2.0**
ANKY	**Antikythira Is**	**2.80**	**155**	P	**Pb**	**00 11 45.0**	**-2.0**
OHR	**Ohrid**	**2.81**	**344**	*i* Pn	**Pg**	**00 11 50.0**	**-0.7**
KNT	**Kendrikon**	**2.87**	**16**	P	**Pn**

	26nm,0.5s							
QSPA	**South Pole Qui**	**74.58**	**180**	P		**P**	**00 31 23.7**	**+0.4**
	0.9nm,0.3s							
YAK	**Yakutsk**	**83.03**	**343**	*e*P		**P**	**00 32 08.8**	**-0.5**
	3.0nm,0.4s							
SONM	**Songino Array**	**83.72**	**323**	P		**P**	**00 32 15.0**	**+1.6**
	1.1nm,0.8s,baz=131,slow=4.0,SNR=5.5							
ILAR	**Eielson Array**	**86.87**	**18**	P		**P**	**00 32 27.4**	**-1.2**
	0.9nm,0.9s,baz=214,slow=6.1,SNR=6.2							
PMSA	**Palmer Station**	**90.73**	**160**	*e*P		**P**	**00 32 47.1**	**+0.1**
	1.5nm,0.4s							
INK	**Inuvik**	**93.22**	**18**	P		**P**	**00 32 59.3**	**+1.0**
	1.0nm,0.8s							
WALA	**Waterton Lakes**	**93.68**	**40**	*e*P		**P**	**00 33 00.7**	**-0.3**
	0.6nm,0.5s							
ANMO	**Albuquerque**	**94.81**	**55**	*e*P		**P**	**00 33 06.5**	**-0.2**
	1.2nm,1.1s							

JMA 02 00:32:32.1±0.1,37°01'N×141°38'E,h33km±1km,M3.1,
Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h	m s	ISC
ONAJ	**Iwakimizuishiy**	**0.47**	**281**	P	Pb	00	32 42.0	-0.3
ONAJ				S	Sb	00	32 49.2	-0.2
JFK	**Kawauchi**	**0.54**	**312**	P	Pb	00	32 42.8	-0.5
JFK				S	Sb	00	32 50.4	-0.7
JHO	**Hitachi**	**0.76**	**239**	P	Pn	00	32 46.3	-0.3
JHO				S	Sn	00	32 56.7	-0.2
JFT	**Otama**	**0.97**	**302**	P	Pb	00	32 50.4	-0.1
JFT				S	Sb	00	33 03.2	+0.1
JFY	**Yanaizu**	**1.40**	**287**	P	Pb	00	32 57.1	-0.5
JFY				S	Sb	00	33 15.2	+0.1
MAT	**Matsushiro**	**2.59**	**261**	P	Pn	00	33 14.0	+2.3
MAT				*e*S	Sn	00	33 44.5	+2.5

DDA ***02*** *00:34:06.4,35.47N×30.68E,h17km, MI3.2*
CSEM ***02*** *00:34:11.3±0.3,35.78N×30.92E,h10km, MD3.5, Error ellipse: s-maj=8.4km s-min=4.0km az=29.0*
ISK ***02*** *00:34:11.8,35.89N×30.94E,h10km, MD3.5*
NIC ***02*** *00:34:14.2±0.0,36.04N×31.12E,h25km,ML3.4*
ISC 02 00:34:10.1±1.2,35.79N±0.03×30.99E±0.02,h2km±11km,
n71,σ1§21/91,Eastern Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h	m s	ISC
ANTB	**Antalya**	**1.14**	**346**	*e*PG	**Pg**	**00**	**34 31.9**	**+0.1**
ANTB	**Antalya**	**1.14**	**346**	*e*Pg	**Pg**	**00**	**34 32.0**	**+0.1**
AKAS	**Kas**	**1.20**	**292**	*i* P	**Pg**	**00**	**34 32.3**	**-0.8**
AKAS				*i* S	**Sn**	**00**	**34 55.1**	**+4.1**
AKAS	**Kas**	**1.20**	**292**	P	**Pg**	**00**	**34 32.3**	**-0.8**
ELL	**Elmali**	**1.29**	**318**	*e*PN	**Pn**	**00**	**34 34.7**	**-0.5**
ELL	**Elmali**	**1.29**	**318**	*e*Pn	**Pn**	**00**	**34 34.7**	**-0.5**
KORT	**Korkueli**	**1.31**	**337**	*e*PN	**Pg**	**00**	**34 35.7**	**+0.5**
KORT				*e*SN	**Sg**	**00**	**34 52.4**	**+0.2**
KORT	**Korkueli**	**1.31**	**337**	*i* P	**Pn**	**00**	**34 34.7**	**-0.8**
KORT				*i* S	**Sn**	**00**	**34 57.5**	**+3.8**
KORT	**Korkueli**	**1.31**	**337**	P	**Pn**	**00**	**34 34.7**	**-0.8**
KORT	**Korkueli**	**1.31**	**337**	*e*Pn	**Pg**	**00**	**34 35.7**	**+0.5**
KORT				*e*Sn	**Sg**	**00**	**34 52.4**	**+0.2**
AKMC	**Akamas**	**1.34**	**124**	P	**Pg**	**00**	**34 36.8**	**+1.1**
AKMC	**Akamas**	**1.34**	**124**	P	**Pg**	**00**	**34 36.8**	**+1.1**
	baz=316							
ALFC	**Alefka**	**1.46**	**115**	P	**Pg**	**00**	**34 37.9**	**-0.2**
ALFC				S	**Sb**	**00**	**34 56.3**	**-0.8**
ALFC	**Alefka**	**1.46**	**115**	P	**Pg**	**00**	**34 37.9**	**-0.2**
	baz=306							
ALFC				S	**Sb**	**00**	**34 56.3**	**-0.8**
BOZY	**Bozyazi-Mersin**	**1.65**	**78**	*e*PN	**Pg**	**00**	**34 42.5**	**+0.9**
BOZY	**Bozyazi-Mersin**	**1.65**	**78**	*e*Pn	**Pg**	**00**	**34 42.5**	**+0.9**
SUTC	**Sutluce-Ispart**	**1.68**	**0**	*e*PN	**Pn**	**00**	**34 40.6**	**0.0**
SUTC	**Sutluce-Ispart**	**1.68**	**0**	*e*Pn	**Pn**	**00**	**34 40.6**	**0.0**
HDMB	**Hadim**	**1.68**	**46**	*e*PN	**Pn**	**00**	**34 41.2**	**+0.5**
HDMB	**Hadim**	**1.68**	**46**	*e*Pn	**Pn**	**00**	**34 41.2**	**+0.5**
BCK	**Bucak**	**1.69**	**349**	*e*PN	**Pn**	**00**	**34 40.3**	**-0.5**
BCK	**Bucak**	**1.69**	**349**	*e*Pn	**Pn**	**00**	**34 40.3**	**-0.5**
LEF	**Lefka**	**1.69**	**113**	*e*PN	**Pg**	**00**	**34 42.8**	**+0.2**
LEF	**Lefka**	**1.69**	**113**	P	**Pn**	**00**	**34 39.9**	**-0.8**
LEF	**Lefka**	**1.69**	**113**	*e*Pn	**Pg**	**00**	**34 42.8**	**+0.2**
LEF				S	**Sg**	**00**	**35 03.7**	**-0.8**
TEKE	**Tekeli-Mersin**	**1.76**	**78**	*e*PN	**Pg**	**00**	**34 43.6**	**-0.2**
TEKE	**Tekeli-Mersin**	**1.76**	**78**	*e*Pn	**Pg**	**00**	**34 43.6**	**-0.2**
ERMK	**Ermenek**	**1.77**	**61**	*i* P	**Pn**	**00**	**34 42.3**	**+0.3**
ERMK				*i* S	**Sg**	**00**	**35 08.9**	**+1.8**
ERMK	**Ermenek**	**1.77**	**61**	P	**Pn**	**00**	**34 42.3**	**+0.3**
ERMK				S	**Sg**	**00**	**35 08.9**	**+1.8**
GOLH	**Golhisar**	**1.84**	**322**	*i* P	**Pn**	**00**	**34 42.3**	**-0.5**
GOLH				*i* S	**Sg**	**00**	**35 10.8**	**+1.6**
GOH	**Golhisar**	**1.84**	**322**	P	**Pn**	**00**	**34 42.3**	**-0.5**
SZAC	**Souni**	**1.87**	**123**	P	**Pb**	**00**	**34 43.9**	**+1.0**
SZAC	**Souni**	**1.87**	**123**	P	**Pb**	**00**	**34 43.9**	**-1.0**
	baz=312							
BERE	**Bereket-Mersin**	**1.89**	**72**	*e*PN	**Pb**	**00**	**34 45.5**	**+0.1**
BERE	**Bereket-Mersin**	**1.89**	**72**	*e*Pn	**Pb**	**00**	**34 45.5**	**+0.1**
MAMC	**Mammari**	**1.93**	**108**	P	**Pn**	**00**	**34 43.7**	**-0.2**
MAMC	**Mammari**	**1.93**	**108**	P	**Pn**	**00**	**34 43.7**	**-0.2**
	baz=297							
CSS	**Mathiatis**	**2.09**	**113**	P	**Pn**	**00**	**34 46.4**	**+0.3**
CSS	**Mathiatis**	**2.09**	**113**	P	**Pn**	**00**	**34 46.4**	**+0.3**
	baz=301							
TEVE	**Tevekalti-Mers**	**2.09**	**71**	*e*PN	**Pb**	**00**	**34 47.7**	**-1.1**
TEVE	**Tevekalti-Mers**	**2.09**	**71**	*e*Pn	**Pb**	**00**	**34 47.7**	**-1.1**
AKKU	**Akkuyu-Mersin**	**2.11**	**79**	*e*PN	**Pb**	**00**	**34 48.6**	**-0.5**
AKKU				*e*SN	**Sb**	**00**	**35 14.9**	**-0.9**
AKKU	**Akkuyu-Mersin**	**2.11**	**79**	*e*Pn	**Pb**	**00**	**34 48.6**	**-0.5**
AKKU				*e*Sn	**Sb**	**00**	**35 14.9**	**-0.9**
DALY	**Dalyan (Mu¨la**	**2.14**	**299**	*e*PN	**Pb**	**00**	**34 48.0**	**-1.6**
DALY	**Dalyan (Mu¨la**	**2.14**	**299**	*e*Pn	**Pb**	**00**	**34 48.0**	**-1.6**
IKL	**Isikli**	**2.23**	**78**	*e*PN	**Pb**	**00**	**34 50.1**	**-1.0**
IKL				*e*SN	**Sb**	**00**	**35 18.0**	**-1.2**
IKL	**Isikli**	**2.23**	**78**	*e*Pn	**Pb**	**00**	**34 50.1**	**-1.0**
IKL				*e*Sn	**Sb**	**00**	**35 18.0**	**-1.2**
KONT	**Konya--Tatoy**	**2.41**	**27**	*e*PN	**Pn**	**00**	**34 52.3**	**+1.7**
KONT	**Konya--Tatoy**	**2.41**	**27**	*e*Pn	**Pn**	**00**	**34 52.3**	**+1.7**
DENT	**Denizli**	**2.51**	**322**	*e*PN	**Pn**	**00**	**34 52.5**	**+0.6**
DENT	**Denizli**	**2.51**	**322**	*e*Pn	**Pn**	**00**	**34 52.5**	**+0.6**
KIZK	**Mersin**	**2.65**	**74**	*i* P	**Pn**	**00**	**34 52.3**	**-1.5**
KIZK				*i* S	**Sn**	**00**	**35 28.4**	**+1.9**
KIZK	**Mersin**	**2.65**	**74**	P	**Pn**	**00**	**34 52.3**	**-1.5**
KIZK				S	**Sn**	**00**	**35 28.4**	**+1.9**
SHUT	**Suhut-Afyon**	**2.77**	**353**	*e*PN	**Pn**	**00**	**34 56.7**	**+1.0**
SHUT	**Suhut-Afyon**	**2.77**	**353**	*e*Pn	**Pn**	**00**	**34 56.7**	**+1.0**
KHL	**Karahalli**	**2.78**	**336**	*e*PN	**Pn**	**00**	**34 56.4**	**+0.6**
KHL	**Karahalli**	**2.78**	**336**	*e*Pn	**Pn**	**00**	**34 56.4**	**+0.6**
KDHN	**Kadinhani**	**2.87**	**18**	*i* P	**Pn**	**00**	**34 56.1**	**-0.9**
KDHN				*i* S	**Sn**	**00**	**35 29.3**	**-2.8**
KDHN	**Kadinhani**	**2.87**	**18**	P	**Pn**	**00**	**34 56.1**	**-0.9**
KDHN				S	**Sn**	**00**	**35 29.3**	**-2.8**
DAT	**Datca**	**2.91**	**290**	*e*PN	**Pn**	**00**	**34 58.2**	**+0.7**
DAT	**Datca**	**2.91**	**290**	*e*Pn	**Pn**	**00**	**34 58.2**	**+0.7**
KERG	**Konya-Eregli**	**3.00**	**56**	*i* P	**Pn**	**00**	**34 59.9**	**+1.1**
KERG				*i* S	**Sb**	**00**	**35 39.3**	**-2.1**
KERG	**Konya-Eregli**	**3.00**	**56**	P	**Pn**	**00**	**34 59.9**	**+1.1**
KERG				S	**Sb**	**00**	**35 39.3**	**-2.1**
KIZT	**Kizilcal**	**3.16**	**13**	*e*PN	**Pn**	**00**	**35 01.6**	**+0.6**
KIZT	**Kizilcal**	**3.16**	**13**	*e*Pn	**Pn**	**00**	**35 01.6**	**+0.6**
BODT	**Bodrum**	**3.22**	**294**	*e*PN	**Pn**	**00**	**35 02.8**	**+1.1**
BODT	**Bodrum**	**3.22**	**294**	*e*Pn	**Pn**	**00**	**35 02.8**	**+1.1**
KULA	**Kula-Manisa**	**3.29**	**326**	*e*PN	**Pn**	**00**	**35 03.1**	**+0.4**
KULA	**Kula-Manisa**	**3.29**	**326**	*e*Pn	**Pn**	**00**	**35 03.1**	**+0.4**
SVRH	**Sivrihisar-ESK**	**3.67**	**7**	*e*PN	**Pn**	**00**	**35 09.3**	**+1.3**
SVRH	**Sivrihisar-ESK**	**3.67**	**7**	*e*Pn	**Pn**	**00**	**35 09.3**	**+1.3**

MEX 02 01:15:22.9±0.7,13°28N×90°16W,h40km,MD4.0,Near
coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h	m s	ISC
CCIG	**Comitan**	**3.54**	**328**	*i* P	Pn	01	16 14.1	-1.5
CCIG				*i* S	Sn	01	16 54.0	-2.3

ISCJB ***02*** *01:40:58.9±0.3,28.72S±0.03×69.37W±0.05,h103km±2km, mb4.3/33, Error ellipse: s-maj=7.8km s-min=4.1km az=163.0*
GUC ***02*** *01:40:59.2±0.7,28.79S×69.72W,h125km±26km,ML4.6*
NEIC ***02*** *01:41:00.0±0.0,28.86S×69.58W,h111km,mb4.4/26, MD4.4(SJA), After SJA.*

NEIC Felt at Copiapo and Vallenar, Chile.
SJA ***02*** *01:41:00.0±0.7,28.86S×69.58W,h111km±9km,ML4.3, MW4.4*
IDC ***02*** *01:41:01.8±0.8,28.88S×69.50W,h118km±6km,mb3.9/8, mb1 4.0/10,mb1mx3.8/25,mbtmp4.2/10, Error ellipse: s-maj=22.7km s-min=15.8km az=84.0*
ISC 02 01:41:00.5±0.6,28.73S±0.04×69.50W±0.04,h106km±5km,
n239,σ1§26/258,mb4.5/33,2C,Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h	m s	ISC
LCO	**Las Campanas**	**1.09**	**255**	*e*P	**Pn**	**01**	**41 21.3**	**-1.3**
LCO				*e*S	**Sn**	**01**	**41 38.1**	**-1.1**
LCO				IAML		01	41 39.4	
	comp=E,32μm,0.3s							
LCO	**Las Campanas**	**1.09**	**255**	*i* P	**Pn**	**01**	**41 22.2**	**-0.4**
LCO	**Las Campanas**	**1.09**	**255**	*e*Pn	**Pn**	**01**	**41 22.2**	**-0.4**
LCO				*e*Sn	**Sn**	**01**	**41 38.8**	**-0.5**
VACH	**Vallenar**	**1.11**	**278**	*i*P	**Pn**	**01**	**41 25.4**	**+2.8**
VACH				*i* S	**Sn**	**01**	**41 42.1**	**+2.7**
VCA	**Vinchina**	**1.14**	**91**	*i* P	**Pn**	**01**	**41 25.2**	**+2.2**
VCA				*i* S	**Sn**	**01**	**41 42.5**	**+2.5**
VCA				IAML		01	41 43.9	
	comp=Z,18μm,0.2s							
AGUA	**GUANDACOL**	**1.16**	**131**	*i* P	**Pn**	**01**	**41 23.8**	**+0.5**
CPCH	**Copiapo**	**1.56**	**331**	*i* P	**Pn**	**01**	**41 27.6**	**-0.2**
CPCH				*i* S	**Sn**	**01**	**41 49.0**	**+0.5**
TLL	**Tololo Astrono**	**1.83**	**218**	*e*P	**Pn**	**01**	**41 29.5**	**-1.9**
TLL				*i* S	**Sn**	**01**	**41 52.3**	**-2.6**
TLL				IAML		01	41 55.5	
	comp=N,4μm,0.5s							
ACCO	**Cerro Coronel**	**1.89**	**168**	*i* P	**Pn**	**01**	**41 32.1**	**-0.1**
ACCO				IAML		01	41 59.4	
	comp=Z,1μm,0.2s							
CDCH	**Caldera**	**2.02**	**325**	*e*P	**Pn**	**01**	**41 34.3**	**+0.7**
CDCH				*e*S	**Sn**	**01**	**41 59.5**	**+0.5**
AMOG	**MOGNA**	**2.37**	**159**	*i* P	**Pn**	**01**	**41 37.6**	**-0.5**
AMOG				*i* S	**Sn**	**01**	**42 06.0**	**-1.0**
RTLL	**Cerro Villicun**	**2.74**	**161**	*i* P	**Pn**	**01**	**41 42.9**	**-0.1**
SJA	**San Juan**	**2.91**	**164**	*i* P	**Pn**	**01**	**41 44.5**	**-0.7**
SJA				IAML		01	42 21.2	
	comp=Z,566nm,0.4s							
RTLS	**Leoncito**	**3.06**	**177**	*i* P	**Pn**	**01**	**41 47.2**	**-0.3**
RTLS				*i* S	**Sn**	**01**	**42 21.7**	**-2.0**
RTCV	**Cerro Valdivia**	**3.23**	**165**	*i* P	**Pn**	**01**	**41 48.9**	**-0.6**
ROC1	**El Roble**	**4.43**	**197**	*e*Pn	**Pn**	**01**	**42 03.8**	**-2.0**
ROC1				*e*Sn	Sn	01	42 43.6	-13
PB10	**IPOC Station P**	**5.28**	**349**	*e*Pn	**Pn**	**01**	**42 15.6**	**-1.5**
LVC	**Limon Verde**	**6.12**	**5**	P	**Pn**	**01**	**42 27.8**	**-1.0**
	comp=Z,81nm,0.3s,baz=156,slow=10,SNR=24							
LVC				S	**Sn**	**01**	**43 36.3**	**-1.3**
	comp=Z,309nm,0.3s,baz=225,slow=17,SNR=3.7							
LVC	**Limon Verde**	**6.12**	**5**	*e*Pn	**Pn**	**01**	**42 28.3**	**-0.5**
LVC				S	**Sn**	**01**	**43 36.3**	**-1.3**
PB04	**IPOC Station P**	**6.39**	**355**	*e*Pn	**Pn**	**01**	**42 30.2**	**-2.2**
PB01	**IPOC Station P**	**7.65**	**0**	*e*Pn	**Pn**	**01**	**42 47.3**	**-2.1**
PB01				*e*Sn	**Sn**	**01**	**44 09.5**	**-5.1**
PB11	**IPOC Station P**	**8.93**	**359**	*e*Pn	**Pn**	**01**	**43 04.0**	**-2.8**
CPUP	**Villa Florida**	**11.07**	**80**	P	**Pn**	**01**	**43 31.6**	**-4.0**
	comp=Z,0.9nm,0.3s,baz=246,slow=12,SNR=14							
CPUP	**Villa Florida**	**11.07**	**80**	*e*Pn	**Pn**	**01**	**43 32.3**	**-3.3**
TRQA	**Tornquist**	**11.22**	**148**	*e*Pn	**Pn**	**01**	**43 34.2**	**-3.4**
LPAZ	**La Paz**	**12.45**	**6**	P	**Pn**	**01**	**43 57.4**	**+2.8**
	comp=Z,0.3nm,0.3s,baz=184,slow=7.1,SNR=13							
LPAZ	**La Paz**	**12.45**	**6**	*e*Pn	**Pn**	**01**	**43 55.5**	**+0.9**
SIV	**San Ignacio**	**14.87**	**33**	P	**P**	**01**	**44 28.5**	**0.0**
	comp=Z,0.5nm,0.3s,baz=228,slow=8.8,SNR=11							
SAML	**Samuel**	**20.56**	**18**	*e*P	**P**	**01**	**45 32.2**	**+1.5**
	comp=Z,4.7nm,0.6s							
PTGA	**Pitinga**	**29.30**	**20**	P	**P**	**01**	**46 53.0**	**0.0**
	comp=Z,1.3nm,0.4s,baz=176,slow=7.2,SNR=4.4							
RUSC	**La Rusia**	**34.59**	**354**	*e*P	**P**	**01**	**47 41.2**	**+1.3**
	comp=Z,3.7nm,0.6s							
HELC	**Santa Helena**	**35.20**	**350**	*e*P	**P**	**01**	**47 46.5**	**+1.5**
	comp=Z,29nm,0.7s							
CELP	**Cerrillos**	**46.62**	**4**	*e*P	**P**	**01**	**49 17.4**	**-0.7**
SNAA	**Sanae**	**55.69**	**159**	P	**P**	**01**	**50 24.2**	**-1.3**
	comp=Z,1.0nm,0.6s,baz=291,slow=8.1,SNR=13							
SNAA	**Sanae**	**55.69**	**159**	*e*P	**P**	**01**	**50 24.4**	**-1.1**
QSPA	**South Pole Qui**	**61.49**	**180**	*e*P	**P**	**01**	**51 06.0**	**+0.2**
	comp=Z,7.4nm,0.8s							
638A	**Rosharon**	**62.91**	**335**	P	**P**	**01**	**51 18.1**	**+2.6**
	baz=155							
834A	**Tilden**	**63.01**	**331**	P	**P**	**01**	**51 18.4**	**+2.3**
	baz=152							
833A	**Chaparral WMA,**	**63.54**	**331**	P	**P**	**01**	**51 21.4**	**+1.7**
	baz=151							
832A	**Faith Ranch, C**	**63.76**	**330**	P	**P**	**01**	**51 22.8**	**+1.6**
	baz=150,SNR=6.1							
145A	**Houston Renfro**	**64.01**	**341**	P	**P**	**01**	**51 24.7**	**+2.0**
	baz=160							
633A	**Saathoff Ranch**	**64.44**	**331**	P	**P**	**01**	**51 27.0**	**+1.4**
	baz=151							
Z44A	**Pea Ridge, Bel**	**64.78**	**341**	P	**P**	**01**	**51 28.9**	**+1.2**
	baz=160							
533A	**Keyville**	**64.91**	**332**	P	**P**	**01**	**51 29.9**	**+1.2**
	baz=152							
433A	**Art**	**65.53**	**332**	P	**P**	**01**	**51 33.8**	**+1.1**
	baz=152,SNR=11							
JCT	**Junction City**	**65.59**	**331**	P	**P**	**01**	**51 34.2**	**+1.2**
	baz=151							
334A	**Lometa**	**65.70**	**333**	P	**P**	**01**	**51 34.9**	**+1.2**
	baz=153							
333A	**Richland Sprin**	**65.99**	**333**	P	**P**	**01**	**51 36.6**	**+1.0**
	baz=152,SNR=6.0							
X43A	**Marvell**	**66.07**	**341**	P	**P**	**01**	**51 37.1**	**+1.1**
	baz=160							
234A	**Clairette**	**66.25**	**334**	P	**P**	**01**	**51 38.3**	**+1.1**
	baz=153							
TXAR	**Lajitas Array**	**66.33**	**328**	P	**P**	**01**	**51 39.2**	**+1.3**
	comp=Z,1.3nm,0.7s,baz=147,slow=7.6,SNR=11							
TXAR				pP	**PcP**	**01**	**52 07.2**	**+0.1**
	comp=Z,0.3nm,0.5s,baz=156,slow=7.2,SNR=2.1							
233A	**Rising Star**	**66.57**	**333**	P	**P**	**01**	**51 40.3**	**+1.0**
	baz=152							
Z36A	**Blue Ridge**	**66.74**	**336**	P	**P**	**01**	**51 41.4**	**+1.1**
	baz=155							
WVT	**Waverly**	**66.78**	**344**	*e*P	**P**	**01**	**51 40.7**	**+0.2**
	comp=Z,5.8nm,0.6s							
MIAR	**Mount Ida**	**66.92**	**339**	P	**P**	**01**	**51 42.6**	**+1.1**
	baz=157							
X39A	**Fountain Ranch**	**67.06**	**338**	P	**P**	**01**	**51 43.4**	**+1.0**
	baz=157							
W41B	**Gary Mavity, V**	**67.09**	**340**	P	**P**	**01**	**51 43.1**	**+0.7**
	baz=159							
133A	**Hamilton Ranch**	**67.09**	**333**	P	**P**	**01**	**51 43.4**	**+0.9**
	baz=152							
X301	**Greenbrier Sit**	**67.19**	**340**	*e*P	**P**	**01**	**51 44.2**	**+1.1**
	comp=Z,4.9nm,0.6s							
W40A	**Ferguson Farm,**	**67.36**	**339**	P	**P**	**01**	**51 45.4**	**+1.2**
	baz=158							
ABTX	**Abilene, Hawle**	**67.40**	**333**	P	**P**	**01**	**51 45.5**	**+1.0**
	baz=152							
V42A	**Cord**	**67.42**	**341**	P	**P**	**01**	**51 45.1**	**+0.6**
	baz=159							
X37A	**Clayton**	**67.56**	**337**	P	**P**	**01**	**51 46.2**	**+0.8**
	baz=156							
W39A	**Magazine**	**67.59**	**339**	P	**P**	**01**	**51 47.0**	**+1.4**
	baz=157							
V41A	**Mountainview**	**67.63**	**340**	P	**P**	**01**	**51 46.2**	**+0.4**
	baz=159							
Z33A	**Whitaker Ranch**	**67.63**	**334**	P	**P**	**01**	**51 46.9**	**+1.0**
	baz=153							
W38A	**Poteau**	**67.71**	**338**	P	**P**	**01**	**51 47.5**	**+1.1**
	baz=157							
Y34A	**Reagan Ranch,**	**67.84**	**335**	P	**P**	**01**	**51 47.9**	**+0.6**
	baz=154							
V40A	**Witts Springs**	**67.85**	**340**	P	**P**	**01**	**51 47.7**	**+0.4**
	baz=158							
X36A	**Centrahoma**	**67.88**	**336**	P	**P**	**01**	**51 47.7**	**+0.2**
	baz=155							
U42A	**Revenden**	**67.89**	**341**	P	**P**	**01**	**51 47.9**	**+0.4**
	baz=160,SNR=5.9							
X35A	**Drake**	**67.95**	**336**	P	**P**	**01**	**51 48.1**	**+0.2**
	baz=154							
W37B	**Quinton**	**68.08**	**337**	P	**P**	**01**	**51 49.4**	**+0.7**
	baz=156							
U41A	**Viola**	**68.08**	**341**	P	**P**	**01**	**51 49.2**	**+0.6**
	baz=159							
V39A	**Pettigrew**	**68.13**	**339**	P	**P**	**01**	**51 49.9**	**+0.8**
	baz=157,SNR=5.4							
T43A	**Greenville**	**68.31**	**342**	P	**P**	**01**	**51 50.4**	**+0.3**
	baz=161,SNR=11							
W36A	**Wetumka**	**68.35**	**337**	P	**P**	**01**	**51 50.4**	**0.0**
	baz=155							
U40A	**Yellville**	**68.37**	**340**	P	**P**	**01**	**51 51.1**	**+0.6**
	baz=158,SNR=5.5							
V38A	**Canehill**	**68.40**	**338**	P	**P**	**01**	**51 51.2**	**+0.5**
	baz=157,SNR=5.5							
X34A	**Smith Ranch, M**	**68.44**	**335**	P	**P**	**01**	**51 52.0**	**+0.9**
	baz=154							
U39A	**Green Forest**	**68.58**	**339**	P	**P**	**01**	**51 52.2**	**+0.4**
	baz=158,SNR=5.8							
S44A	**Carbondale**	**68.62**	**343**	P	**P**	**01**	**51 52.2**	**+0.2**
	baz=162,SNR=6.3							
V37A	**Hulbert**	**68.66**	**338**	P	**P**	**01**	**51 52.9**	**+0.6**
	baz=156							
T41A	**Mountain View**	**68.69**	**341**	P	**P**	**01**	**51 53.0**	**+0.5**
	baz=159,SNR=7.8							
S43A	**Fulton Ridge,**	**68.72**	**343**	P	**P**	**01**	**51 52.8**	**+0.1**
	baz=161,SNR=7.8							
X32A	**Elmer**	**68.83**	**334**	P	**P**	**01**	**51 54.0**	**+0.6**
	baz=152							
V36A	**Jenks**	**68.84**	**337**	P	**P**	**01**	**51 54.1**	**+0.7**
	baz=155							
TUL1	**Leonard**	**68.90**	**337**	P	**P**	**01**	**51 54.2**	**+0.4**
	baz=156							
U38A	**Gravette**	**68.92**	**339**	P	**P**	**01**	**51 54.5**	**+0.5**
	baz=157							
WMOK	**Wichita Mounta**	**68.92**	**334**	P	**P**	**01**	**51 54.6**	**+0.6**
	baz=153							
T40A	**Mansfield**	**69.00**	**340**	P	**P**	**01**	**51 54.8**	**+0.3**
	baz=159							
S42A	**Caledonia**	**69.09**	**342**	P	**P**	**01**	**51 54.9**	**0.0**
	baz=160,SNR=7.1							
MNTX	**Cornudas Mount**	**69.11**	**328**	P	**P**	**01**	**51 55.6**	**+0.4**
	baz=147							
U37A	**Salina**	**69.13**	**338**	P	**P**	**01**	**51 55.7**	**+0.5**
	baz=156							
V35A	**Meyer Ranch, C**	**69.13**	**336**	P	**P**	**01**	**51 55.4**	**+0.2**
	baz=155							
T39A	**Clever**	**69.14**	**340**	P	**P**	**01**	**51 55.9**	**+0.6**
	baz=158							
W33A	**Caddo, Fort Co**	**69.17**	**335**	P	**P**	**01**	**51 57.0**	**+1.5**
	baz=153							
S41A	**Jillco Farms,**	**69.19**	**341**	P	**P**	**01**	**51 56.1**	**+0.6**
	baz=159							
S40A	**Lebanon**	**69.41**	**341**	P	**P**	**01**	**51 57.7**	**+0.7**
	baz=159,SNR=6.4							
T38A	**Diamond**	**69.44**	**339**	P	**P**	**01**	**51 57.8**	**+0.7**
	baz=157,SNR=8.0							
W32A	**Sentinel**	**69.44**	**334**	P	**P**	**01**	**51 58.1**	**+0.9**
	baz=152							
R42A	**Luebbering**	**69.57**	**342**	P	**P**	**01**	**51 58.4**	**+0.5**
	baz=160							
U35A	**Pawnee**	**69.64**	**337**	P	**P**	**01**	**51 59.1**	**+0.7**
	baz=155							
VNDA	**Vanda**	**69.67**	**190**	P	**P**	**01**	**51 57.0**	**-1.0**
	comp=Z,1.3nm,0.9s,baz=111,slow=5.0,SNR=5.8							
T37A	**Cheneyville 18**	**69.72**	**339**	P	**P**	**01**	**51 59.3**	**+0.5**
	baz=156							
S39A	**Bolivar**	**69.74**	**340**	P	**P**	**01**	**51 59.6**	**+0.6**
	baz=158,SNR=6.7							
R41A	**Rosebud**	**69.75**	**342**	P	**P**	**01**	**51 59.5**	**+0.5**
	baz=160,SNR=6.7							
MSTX	**Muleshoe**	**69.86**	**331**	P	**P**	**01**	**52 00.7**	**+0.8**
	baz=149							
MSTX	**Muleshoe**	**69.86**	**331**	*e*P	**P**	**01**	**52 00.6**	**+0.6**
	comp=Z,11nm,0.7s							
S38A	**Stockton**	**69.86

I37A	**Lemond, Waseca**	**75.63**	**342**	P		**P**	**01 52 34.5 +0.9**
	baz=159						
BC3	**Big Chuckawall**	**75.79**	**322**	P		**P**	**01 52 36.6 +1.7**
	baz=140						
I36A	**Fitzsimmons Fa**	**75.80**	**342**	P		**P**	**01 52 34.9 +0.3**
	baz=158						
I35A	**Creekview Farm**	**75.91**	**341**	P		**P**	**01 52 35.6 +0.3**
	baz=157						
IRM	**Iron Mountain**	**76.00**	**322**	P		**P**	**01 52 38.2 +2.2**
	baz=140						
ISCO	**Idaho Springs**	**76.01**	**332**	P		**P**	**01 52 37.9 +1.6**
	baz=148						
H37A	**Dierke Farm, C**	**76.03**	**343**	P		**P**	**01 52 36.8 +0.9**
	baz=159						
SMCO	**Snowmass**	**76.06**	**331**	*e*P		**P**	**01 52 38.8 +2.1**
	comp=Z,4.4nm,0.6s						
ECSD	**EROS Data Cent**	**76.28**	**340**	P		**P**	**01 52 37.9 +0.6**
	baz=156						
ECSD	**EROS Data Cent**	**76.28**	**340**	*e*P		**P**	**01 52 38.0 +0.6**
	comp=Z,5.0nm,0.9s						
H36A	**Jessenland, He**	**76.29**	**342**	P		**P**	**01 52 38.1 +0.7**
	baz=158						
GMRC	**Granite Mounta**	**76.75**	**322**	P		**P**	**01 52 42.6 +2.2**
	baz=140						
KNB	**Kanab**	**77.01**	**326**	*e*P		**P**	**01 52 42.2 +0.3**
	comp=Z,9.8nm,1.1s						
F38A	**Pierce - Schro**	**77.06**	**344**	P		**P**	**01 52 42.3 +0.6**
	baz=160						
HEC	**Hector,Ludlow**	**77.15**	**322**	P		**P**	**01 52 44.7 +2.1**
	baz=139						
H33A	**Prehn Over Nor**	**77.18**	**340**	P		**P**	**01 52 43.8 +1.4**
	baz=156						
F36A	**Milaca**	**77.38**	**343**	P		**P**	**01 52 43.5 0.0**
	baz=159						
TUQ	**Turquoise Moun**	**77.39**	**323**	P		**P**	**01 52 45.9 +1.9**
	baz=140						
O20A	**White River Ci**	**77.40**	**331**	P		**P**	**01 52 45.7 +1.7**
	baz=146						
BFSC	**Mount Baldy Ra**	**77.43**	**321**	P		**P**	**01 52 45.7 +1.5**
	baz=138						
MTPU	**Mount Pierson**	**77.51**	**327**	*e*P		**P**	**01 52 45.1 +0.3**
	comp=Z,20nm,1.8s						
SRU	**San Rafael Swe**	**77.58**	**328**	*e*P		**P**	**01 52 46.8 +1.8**
	comp=Z,3.7nm,0.6s						
CCUT	**Cedar City**	**77.70**	**326**	*e*P		**P**	**01 52 46.9 +1.1**
	comp=Z,6.6nm,0.8s						
MSU	**Marysvale**	**77.88**	**327**	*e*P		**P**	**01 52 49.0 +2.3**
C39A	**Grand Marais**	**78.42**	**346**	P		**P**	**01 52 50.5 +1.3**
	baz=162						
FURC	**Furnace Creek,**	**78.66**	**323**	P		**P**	**01 52 52.3 +1.5**
	baz=139						
TPNV	**Topopah Spring**	**78.70**	**323**	P		**P**	**01 52 52.7 +1.4**
	baz=140						
K22A	**Casper**	**78.78**	**333**	P		**P**	**01 52 53.2 +1.6**
	baz=148						
RSSD	**Black Hills**	**79.09**	**335**	P		**P**	**01 52 55.0 +1.8**
	baz=150						
R11A	**Troy Canyon, C**	**79.43**	**325**	P		**P**	**01 52 56.9 +1.8**
	baz=140						
R11A	**Troy Canyon, C**	**79.43**	**325**	*e*P		**P**	**01 52 57.2 +2.0**
	comp=Z,1.6nm,0.6s						
DUG	**Dugway, Tooele**	**79.51**	**328**	P		**P**	**01 52 56.9 +1.4**
	baz=142						
B35A	**Bob, Littlefor**	**79.75**	**344**	P		**P**	**01 52 57.3 +0.8**
	baz=159						
BW06	**Boulder Array**	**80.12**	**331**	P		**P**	**01 52 59.3 +0.4**
	baz=145						
BW06	**Boulder Array**	**80.12**	**331**	*e*P		**P**	**01 52 58.8 -0.1**
PDAR	**Pinedale Array**	**80.12**	**331**	P		**P**	**01 52 59.7 +0.8**
	comp=Z,0.6nm,0.4s,baz=141,slow=5.2,SNR=8.6						
AGMN	**Agassiz Nation**	**80.24**	**342**	P		**P**	**01 52 59.5 +0.4**
	baz=157						
C31A	**Landman Farms,**	**80.29**	**341**	P		**P**	**01 52 59.8 +0.4**
	baz=155						
TORD	**Torodi Ar. Bea**	**80.35**	**69**	P		**P**	**01 53 00.8 +0.3**
	comp=Z,5.5nm,0.6s,baz=272,slow=5.9,SNR=120						
TORD				pP		**pP**	**01 53 30.6 +3.0**
	comp=Z,2.0nm,0.7s,baz=255,slow=4.6,SNR=4.5						
B32A	**Ashes, Strandq**	**80.51**	**342**	P		**P**	**01 53 00.9 +0.4**
	baz=156						
A33A	**Warroad**	**80.71**	**343**	P		**P**	**01 53 02.0 +0.5**
	baz=157						
MDND	**Maddock**	**80.89**	**340**	P		**P**	**01 53 03.5 +0.9**
	baz=154						
FXWY	**Fox Creek**	**81.46**	**331**	*e*P		**P**	**01 53 07.2 +1.2**
	comp=Z,1.4nm,0.8s						
IMW	**Indian Meadow**	**81.63**	**331**	*e*P		**P**	**01 53 07.0 +0.1**
	comp=Z,1.9nm,0.8s						
RLMT	**Red Lodge**	**81.94**	**333**	P		**P**	**01 53 09.6 +1.1**
	baz=146						
RLMT	**Red Lodge**	**81.94**	**333**	*e*P		**P**	**01 53 09.9 +1.4**
	comp=Z,4.9nm,0.6s						
ULM	**Lac du Bonnet**	**82.04**	**343**	P		**P**	**01 53 08.6 0.0**
	comp=Z,2.5nm,0.5s,baz=219,slow=8.2,SNR=5.0						
PNTR	**Pine Nut**	**82.06**	**323**	*e*P		**P**	**01 53 10.6 +1.3**
	comp=Z,9.1nm,0.8s						
LAO	**LASA Array**	**82.08**	**335**	P		**P**	**01 53 10.0 +1.0**
	baz=148						
YHH	**Holmes Hill**	**82.31**	**332**	*e*P		**P**	**01 53 11.7 +1.2**
	comp=Z,4.9nm,0.7s						
HLID	**Hailey**	**82.89**	**329**	P		**P**	**01 53 15.0 +1.6**
	baz=142						
HLID	**Hailey**	**82.89**	**329**	*e*P		**P**	**01 53 15.0 +1.6**
	comp=Z,14nm,2.0s						
DGMT	**Dagmar**	**82.90**	**338**	P		**P**	**01 53 14.4 +1.3**
	baz=150						
DGMT	**Dagmar**	**82.90**	**338**	*e*P		**P**	**01 53 14.4 +1.3**
	comp=Z,14nm,0.8s						
MCMT	**McKenzie Canyo**	**83.19**	**331**	*e*P		**P**	**01 53 14.8 -0.2**
BOZ	**Bozeman (W)**	**83.29**	**332**	P		**P**	**01 53 16.4 +1.0**
	baz=144						
O03D	**Paynes Creek**	**84.10**	**323**	P		**P**	**01 53 20.1 +0.5**
	baz=136						
EGMT	**Eagleton**	**84.52**	**334**	P		**P**	**01 53 22.9 +1.4**
	baz=145						
I05D	**Terrebonne, OR**	**86.77**	**326**	P		**P**	**01 53 34.3 +1.6**
	baz=136						
TAM	**Tamanrasset**	**88.56**	**63**	*e*P		**P**	**01 53 42.0 +0.2**
	comp=Z,0.9nm,0.6s						
MCK	**McKinley**	**110.89**	**332**	*e*PKP		**PKiKP**	**01 59 19.4 -1.1**
BRTR	**Keskin Array B**	**117.28**	**58**	PKP		**PKPdf**	**01 59 33.1 -0.4**
	comp=Z,0.6nm,0.8s,baz=261,slow=3.1,SNR=5.0						
ASAR	**Alice Springs**	**123.24**	**206**	PKP		**PKPdf**	**01 59 44.3 -1.2**
	comp=Z,1.3nm,0.7s,baz=130,slow=2.0,SNR=14						
KIV	**Kislovodsk**	**124.77**	**54**	*e*PKPdf		**PKPdf**	**01 59 47.6 -0.2**
GNI	**Garni**	**125.70**	**59**	*e*PKPdf		**PKPdf**	**01 59 48.8 -1.0**
WRA	**Warramunga Arr**	**126.41**	**208**	PKP		**PKPdf**	**01 59 51.0 -0.6**
	comp=Z,3.9nm,0.7s,baz=162,slow=1.6,SNR=35						
WRA				pPKP		**pPKPdf**	**02 00 22.6 +2.0**
	comp=Z,0.4nm,0.5s,baz=161,slow=1.7,SNR=1.9						
WRAB	**Tennant Creek**	**126.42**	**208**	*e*PKPdf		**PKPdf**	**01 59 50.8 -0.8**
FITZ	**Fitzroy Crossi**	**131.20**	**199**	PKP		**PKPdf**	**02 00 00.1 -0.6**
	comp=Z,1.2nm,0.6s,baz=181,slow=6.7,SNR=7.4						
ABKAR	**Akbulak array**	**136.62**	**47**	*e*PKPdf		**PKPdf**	**02 00 10.1 +0.2**
YAK	**Yakutsk**	**144.37**	**345**	*e*PKPdf		PKPbc	02 00 22.3 +0.2
KKAR	**Karatay Array**	**144.93**	**55**	*e*PKPdf		PKPbc	02 00 24.2 -0.3
KAPI	**Kappang**	**145.29**	**196**	*e*PKPbc		**PKPab**	**02 00 26.9 +0.2**
KURK	**Kurchatov**	**147.48**	**39**	*e*PKPbc		**PKPbc**	**02 00 31.7 -0.1**
AAK	**Ala-Archa**	**147.89**	**55**	*e*PKPbc		**PKPbc**	**02 00 33.7 +0.3**
AAK				*e*PKPab		**PKPab**	**02 00 36.9 +0.6**
ZALV	**Zalesovo Beam**	**148.60**	**29**	PKP		**PKPdf**	**02 00 31.1 +0.3**
	comp=Z,9.1nm,0.5s,baz=268,slow=3.0,SNR=30						
ZALV				PKPbc		**PKPbc**	**02 00 34.9 +0.2**
	comp=Z,2.9nm,0.6s,baz=333,slow=4.2,SNR=5.9						
ZALV				pPKPbc		**pPKPab**	**02 01 06.4 -0.2**
	comp=Z,1.2nm,0.6s,baz=342,slow=3.8,SNR=1.7						
KSH	**Kashi**	**149.63**	**60**	PKPbc		**PKPbc**	**02 00 38.1 +0.2**
KSH				pPKP		pPKPdf	02 01 05.1 +2.9
KSH				PKS		**PP**	**02 04 12.1 -0.1**
KSH				PP		PP	02 04 18.1 +5.9
KSH				SKS		**SKSdf**	**02 07 34.7 +3.1**
KULM	**Kulim**	**154.89**	**156**	*e*PKPbc		**PKPbc**	**02 00 49.1 -1.2**
KULM				*e*PKPab		**PKPab**	**02 01 04.8 -1.0**
SONM	**Songino Array**	**160.66**	**8**	PKPab		**PKPab**	**02 01 30.4 +0.4**
	comp=Z,0.6nm,0.6s,baz=344,slow=4.8,SNR=3.8						

SKO ***02*** *01:51:40.6,41.˝38N×20.˝98E,h15km,M2.7,ML3.0*
PDG ***02*** *01:51:41.4±0.5,41.˝42N×21.˝03E,h5km,ML3.0/10,Error ellipse: s-maj=0.6km s-min=0.8km az=0.0*
CSEM ***02*** *01:51:41.3±0.1,41.˝38N×21.˝04E,h2km,ML2.7,Error ellipse: s-maj=2.6km s-min=1.9km az=59.0*
BEO ***02*** *01:51:41.2±0.4,41.˝35N×21.˝05E,h0km,M2.5/1*
ATH ***02*** *01:51:42.5,41.˝32N×21.˝12E,h22km±2km,ML2.6/3,Error ellipse: s-maj=3.9km s-min=1.5km az=138.0*

THE ***02*** *01:51:42.3,41.˝39N×21.˝10E,h4km±1km,ML2.6/14,Error ellipse: s-maj=1.4km s-min=0.8km az=91.0*
SOF ***02*** *01:51:47.2,41.˝55N×21.˝51E,h10km,MD2.6*

ISC 02 01:51:41.8±0.9,41˚37N±0.01×21˚04E±0.01,h10km±7km, n151,σ0s86/234,18C-11D,Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
KRUS	**Krusevo**	**0.16**	**91**	*e*Pg		**Pg**	**01 51 45.1**	**-0.2**
KRUS				*i* Sg		**Sg**	**01 51 49.1**	**+1.3**
KRUS	**Krusevo**	**0.16**	**91**	*e*Pg		**Pg**	**01 51 45.1**	**-0.2**
OHR	**Ohrid**	**0.32**	**215**	*i* Pg		**Pg**	**01 51 47.1**	**-1.0**
OHR				*i* Sg		**Sg**	**01 51 52.9**	**+0.5**
OHR				*e*Lg		Lg	01 51 53.0	
	comp=N,2μm,0.3s							
OHR				*e*Lg		Lg	01 51 53.0	
	comp=E,2μm,0.3s							
OHR	**Ohrid**	**0.32**	**215**	*i* Pg		**Pg**	**01 51 47.1**	**-1.0**
OHR				*i* Sg		**Sg**	**01 51 52.9**	**+0.5**
OHR				*e*Lg		Lg	01 51 53.0	
	comp=E,2μm,0.3s							
BIA	**Bitola**	**0.41**	**148**	P		**Pg**	**01 51 50.0**	**+0.1**
BIA				S		**Sb**	**01 51 57.0**	**-0.6**
BIA	**Bitola**	**0.41**	**148**	*i* Pg		**Pg**	**01 51 50.0**	**+0.1**
BIA				*i* Sg		**Sb**	**01 51 57.3**	**-0.3**
BIA	**Bitola**	**0.41**	**148**	P		**Pg**	**01 51 50.0**	**+0.1**
BIA				S		**Sb**	**01 51 57.0**	**-0.6**
SKO	**Skopje**	**0.67**	**27**	P		**Pg**	**01 51 54.5**	**-0.2**
SKO				S		**Sg**	**01 52 03.6**	**+0.1**
SKO	**Skopje**	**0.67**	**27**	*i* Pg		**Pg**	**01 51 54.6**	**-0.1**
SKO				*i* Sg		**Sg**	**01 52 03.8**	**+0.2**
SKO	**Skopje**	**0.67**	**27**	P		**Pg**	**01 51 54.5**	**-0.2**
SKO				*i* Sg		**Sg**	**01 52 03.7**	**+0.2**
TIR	**Tirane**	**0.88**	**269**	*e*Pg		**Pg**	**01 51 57.0**	**-1.8**
TIR				*e*Sg		**Sg**	**01 52 10.3**	**0.0**
TIR	**Tirane**	**0.88**	**269**	⇓*i*P		**Pg**	**01 51 56.9**	**-1.8**
TIR				S		**Sg**	**01 52 09.9**	**-0.4**
TIR	**Tirane**	**0.88**	**269**	*e*Pg		**Pg**	**01 51 57.0**	**-1.8**
ZATK	**Zatriq**	**1.12**	**344**	P		**Pg**	**01 52 15.8**	**-1.5**
VAY	**Valandovo**	**1.16**	**92**	P		**Pg**	**01 52 03.3**	**-0.6**
VAY				S		**Sn**	**01 52 19.8**	**-0.1**
VAY	**Valandovo**	**1.16**	**92**	*i* Pg		**Pg**	**01 52 03.3**	**-0.6**
VAY				*i* Sg		**Sb**	**01 52 19.3**	**+0.4**
VAY				*e*Lg		Lg	01 52 22.2	
	comp=N,145nm,0.7s							
VAY				*e*Lg		Lg	01 52 22.8	
	comp=E,100nm,0.5s							
VAY	**Valandovo**	**1.16**	**92**	*e*Pg		**Pg**	**01 52 02.6**	**-1.3**
VAY				*e*Sg		**Sg**	**01 52 18.0**	**-0.9**
VAY	**Valandovo**	**1.16**	**92**	P		**Pg**	**01 52 03.3**	**-0.6**
VAY				*e*Sg		**Sg**	**01 52 18.0**	**-0.9**
VAY				S		**Sn**	**01 52 19.8**	**-0.1**
VAY				*e*Lg		Lg	01 52 22.1	
	comp=E,145nm,0.7s							
PENT	**Pentalofos**	**1.18**	**176**	P		**Pg**	**01 52 03.7**	**-0.7**
PENT				S		**Sn**	**01 52 22.2**	**+1.6**
PENT	**Pentalofos**	**1.18**	**176**	P		**Pg**	**01 52 03.7**	**-0.7**
PENT				S		**Sg**	**01 52 19.4**	**-0.3**
PENT	**Pentalofos**	**1.18**	**176**	P		**Pg**	**01 52 03.4**	**-1.0**
PENT				S		**Sg**	**01 52 19.4**	**-0.3**
PENT				AML		AML	01 52 25.1	
	comp=E,622μm,0.4s							
PENT				AML		AML	01 52 26.1	
	comp=N,480μm,0.5s							
KZN	**Kozani**	**1.20**	**152**	P		**Pg**	**01 52 03.6**	**-1.3**
KZN				S		**Sn**	**01 52 21.5**	**+0.4**
KZN	**Kozani**	**1.20**	**152**	P		**Pg**	**01 52 03.6**	**-1.3**
KZN				S		**Sn**	**01 52 21.5**	**+0.4**
KTI	**Kastanea**	**1.28**	**140**	P		**Pg**	**01 52 05.7**	**-0.6**
KTI	**Kastanea**	**1.28**	**140**	P		**Pg**	**01 52 05.7**	**-0.6**
PEJK	**Peje**	**1.39**	**336**	P		**Pg**	**01 52 08.1**	**-0.3**
KNT	**Kendrikon**	**1.42**	**98**	P		**Pn**	**01 52 07.9**	**+0.3**
KNT				S		**Sn**	**01 52 27.5**	**+1.1**
KNT	**Kendrikon**	**1.42**	**98**	P		**Pn**	**01 52 07.9**	**+0.3**
KNT				S		**Sn**	**01 52 27.5**	**+1.1**
KNT	**Kendrikon**	**1.42**	**98**	P		**Pn**	**01 52 07.8**	**+0.1**
KPRO	**Kipourio**	**1.44**	**170**	P		**Pn**	**01 52 07.7**	**-0.3**
KPRO				S		**Sg**	**01 52 27.9**	**-0.1**
KPRO	**Kipourio**	**1.44**	**170**	P		**Pn**	**01 52 07.7**	**-0.3**
KPRO				S		**Sg**	**01 52 27.9**	**-0.1**
KPRO	**Kipourio**	**1.44**	**170**	P		**Pn**	**01 52 08.5**	**+0.5**
KPRO				S		**Sg**	**01 52 27.8**	**-0.3**
KPRO				AML		AML	01 52 36.5	
	comp=E,377μm,0.4s							
KPRO				AML		AML	01 52 39.1	
	comp=N,468μm,0.7s							
PVY	**Plav**	**1.46**	**327**	⇑*i*Pg		**Pn**	**01 52 07.7**	**-0.7**
PVY				*e*Sg		**Sg**	**01 52 29.5**	**+0.7**
PVY	**Plav**	**1.46**	**327**	⇑*i*Pg		**Pn**	**01 52 07.7**	**-0.7**
ULC	**Ulcinj**	**1.47**	**294**	⇑*i*Pg		**Pn**	**01 52 06.8**	**-1.5**
ULC				*e*Sg		**Sg**	**01 52 30.2**	**+1.2**
ULC	**Ulcinj**	**1.47**	**294**	⇑*i*Pg		**Pn**	**01 52 06.8**	**-1.5**
ULC	**Ulcinj**	**1.47**	**294**	P		**Pn**	**01 52 07.4**	**-0.9**
ULC				*e*Sg		**Sg**	**01 52 30.2**	**+1.2**
BARS	**Barje**	**1.55**	**22**	*e*Pn		**Pn**	**01 52 07.1**	**-0.4**
BARS				*e*Sn		**Sb**	**01 52 30.6**	**+0.2**
BARS	**Barje**	**1.55**	**22**	*e*Pn		**Pn**	**01 52 09.5**	**0.0**
BARS				*e*Sn		**Sb**	**01 52 30.6**	**+0.2**
DRME	**Dracevica, Mon**	**1.61**	**301**	⇓*i*Pn		**Pn**	**01 52 09.8**	**-0.4**
DRME				*e*Sn		**Sg**	**01 52 34.8**	**+1.3**
DRME	**Dracevica, Mon**	**1.61**	**301**	⇓*i*Pn		**Pn**	**01 52 09.8**	**-0.4**
DRME				*e*Sn		**Sg**	**01 52 34.8**	**+1.3**
LIT	**Litokhoron**	**1.68**	**139**	P		**Pn**	**01 52 11.6**	**+0.3**
LIT				S		**Sn**	**01 52 33.3**	**+0.4**
LIT	**Litokhoron**	**1.68**	**139**	P		**Pn**	**01 52 11.6**	**+0.3**
LIT				S		**Sn**	**01 52 33.3**	**+0.4**
LIT	**Litokhoron**	**1.68**	**139**	P		**Pn**	**01 52 11.9**	**+0.6**
PDG	**Podgorica**	**1.70**	**309**	P		**Pn**	**01 52 11.4**	**-0.1**
PDG				S		**Sg**	**01 52 35.8**	**-0.6**
PDG	**Podgorica**	**1.70**	**309**	*e*Pn		**Pn**	**01 52 11.7**	**+0.2**
PDG				*e*Sn		**Sb**	**01 52 35.3**	**+0.8**
PDG	**Podgorica**	**1.70**	**309**	⇑*i*P		**Pn**	**01 52 11.9**	**+0.4**
PDG	**Podgorica**	**1.70**	**309**	P		**Pn**	**01 52 08.5**	**+0.5**
PDG	**Podgorica**	**1.70**	**309**	⇓*i*Pn		**Pn**	**01 52 12.4**	**+0.9**
PDG				S		**Sg**	**01 52 35.6**	**-0.8**
PDG				*e*Sn		**Sg**	**01 52 36.8**	**+0.4**
TTG	**Podgorica**	**1.70**	**309**	⇓*i*Pn		**Pn**	**01 52 12.4**	**+0.9**
TTG				*e*Sn		**Sg**	**01 52 36.8**	**+0.4**
JAN	**Janina**	**1.72**	**185**	P		**Pb**	**01 52 13.0**	**-0.5**
JAN				S		**Sb**	**01 52 35.2**	**0.0**
JAN	**Janina**	**1.72**	**185**	P		**Pb**	**01 52 13.0**	**-0.5**
JAN				S		**Sn**	**01 52 34.6**	**+0.7**
JAN	**Janina**	**1.72**	**185**	S		**Sn**	**01 52 34.7**	**+0.9**
JAN				AML		AML	01 52 45.2	
	comp=E,325μm,0.6s							
BEY	**Berane**	**1.72**	**331**	⇓*i*Pn		**Pn**	**01 52 12.3**	**+0.4**
BEY	**Berane**	**1.72**	**331**	P		**Pn**	**01 52 14.3**	**-0.5**
IVA	**Berane**	**1.72**	**331**	⇓*i*Pn		**Pn**	**01 52 12.3**	**+0.4**
IVA				*e*Sn		**Sg**	**01 52 37.1**	**-0.1**
HORT	**Hortiatis**	**1.74**	**116**	P		**Pn**	**01 52 12.3**	**+0.1**
HORT	**Hortiatis**	**1.74**	**116**	P		**Pn**	**01 52 12.1**	**-0.1**
SOH	**Sokhos**	**1.83**	**107**	P		**Pn**	**01 52 13.8**	**+0.4**
SOH				S		**Sn**	**01 52 36.9**	**+0.2**
SOH	**Sokhos**	**1.83**	**107**	P		**Pn**	**01 52 13.8**	**+0.4**
SOH				S		**Sn**	**01 52 36.9**	**+0.2**
SOH	**Sokhos**	**1.83**	**107**	P		**Pn**	**01 52 14.3**	**+0.9**
SELS	**Selova**	**1.85**	**2**	*e*Pn		**Pb**	**01 52 14.7**	**-1.0**
BUM	**Brajici-Budva**	**1.85**	**301**	⇑*i*Pn		**Pn**	**01 52 14.3**	**+0.6**
BUM				*e*Sn		**Sg**	**01 52 41.1**	**-0.2**
BUM	**Brajici-Budva**	**1.85**	**301**	⇑*i*Pn		**Pn**	**01 52 14.3**	**+0.6**
BUM				*e*Sn		**Sg**	**01 52 41.1**	**-0.2**
SGD	**Sagiada**	**1.86**	**199**	P		**Pb**	**01 52 15.5**	**-0.4**
SGD				S		**Sb**	**01 52 39.5**	**+0.3**
SGD	**Sagiada**	**1.86**	**199**	P		**Pb**	**01 52 15.5**	**-0.4**
SGD				S		**Sb**	**01 52 39.5**	**+0.3**
KEK	**Kerkira**	**1.91**	**210**	P		**Pn**	**01 52 15.0**	**+0.6**
KEK				S		**Sb**	**01 52 41.2**	**+0.6**
KEK	**Kerkira**	**1.91**	**210**	P		**Pn**	**01 52 15.0**	**+0.6**
KEK				S		**Sb**	**01 52 41.2**	**+0.6**
IGT	**Igoumenitsa**	**1.92**	**197**	P		**Pb**	**01 52 16.2**	**-0.6**
IGT				S		**Sb**	**01 52 42.1**	**+1.3**
IGT	**Igoumenitsa**	**1.92**	**197**	P		**Pb**	**01 52 16.1**	**-0.7**
IGT				S		**Sb**	**01 52 42.1**	**+1.3**
IGT	**Igoumenitsa**	**1.92**	**197**	P		**Pb**	**01 52 16.7**	**-0.1**
SRS	**Serrai**	**1.94**	**97**	P		**Pn**	**01 52 14.6**	**-0.3**
SRS				S		**Sn**	**01 52 38.8**	**-0.5**
SRS	**Serrai**	**1.94**	**97**	P		**Pn**	**01 52 15.4**	**+0.5**
SRS				S		**Sn**	**01 52 38.8**	**-0.5**
SRS	**Serrai**	**1.94**	**97**	P		**Pn**	**01 52 15.3**	**+0.5**
THL	**Klokotos Trika**	**1.95**	**157**	P		**Pn**	**01 52 15.3**	**+0.3**
THL				S		**Sn**	**01 52 41.2**	**+1.6**
THL	**Klokotos Trika**	**1.95**	**157**	P		**Pn**	**01 52 15.3**	**+0.3**
CEME	**Cevo**	**1.97**	**307**	⇑*i*Pn		**Pn**	**01 52 16.3**	**+1.0**
CEME				*e*Sn		**Sb**	**01 52 43.0**	**+0.6**
CEME	**Cevo**	**1.97**	**307**	⇑*i*Pn		**Pn**	**01 52 16.3**	**+1.0**
VTS	**Vitosha**	**2.02**	**52**	P		**Pn**	**01 52 16.8**	**+0.7**
VTS				S		**Sn**	**01 52 42.8**	**+1.2**
VTS	**Vitosha**	**2.02**	**52**	*e*Pn		**Pn**	**01 52 16.8**	**+0.7**
VTS				*e*Sn		**Sb**	**01 52 43.4**	**-0.7**
VTS	**Vitosha**	**2.02**	**52**	⇑*i*P		**Pn**	**01 52 16.9**	**+0.8**
VTS	**Vitosha**	**2.02**	**52**	S		**Sb**	**01 52 43.3**	**-0.8**
VTS	**Vitosha**	**2.02**	**52**	P		**Pn**	**01 52 16.9**	**+0.8**
VTS				Pg		**Pg**	**01 52 20.5**	**-0.1**
VTS	**Vitosha**	**2.02**	**52**	P		**Pn**	**01 52 16.8**	**+0.7**
VTS				S		**Sn**	**01 52 42.8**	**+1.2**
VTS				*e*Sn		**Sb**	**01 52 43.4**	**-0.7**
MMB	**Musomiste**	**2.03**	**83**	P		**Pn**	**01 52 17.1**	**+1.0**
SJES	**Sjenica**	**2.05**	**338**	*e*Pn		**Pn**	**01 52 16.9**	**+0.5**
SJES				*e*Sn		**Sb**	**01 52 43.9**	**-0.7**
PLG	**Polygyros**	**2.08**	**118**	P		**Pn**	**01 52 17.7**	**+0.9**
PLG	**Polygyros**	**2.08**	**118**	P		**Pn**	**01 52 17.7**	**+0.9**
PLG	**Polygyros**	**2.08**	**118**	P		**Pn**	**01 52 18.2**	**+1.4**
NKME	**Niksic**	**2.09**	**313**	*e*Pn		**Pn**	**01 52 18.2**	**+1.3**
NKME				*e*Sn		**Sb**	**01 52 46.6**	**+0.9**
NKME	**Niksic**	**2.09**	**313**	*e*Pn		**Pn**	**01 52 18.2**	**+1.3**
NKY	**Niksic**	**2.09**	**314**	*e*Pn		**Pn**	**01 52 18.3**	**+1.3**
NKY				*e*Sn		**Sb**	**01 52 46.2**	**+0.2**
NKY	**Niksic**	**2.09**	**314**	*e*Pn		**Pn**	**01 52 18.3**	**+1.3**
NVR	**Nevrokopi**	**2.13**	**90**	P		**Pn**	**01 52 17.9**	**+0.5**
NVR				S		**Sn**	**01 52 43.4**	**-0.5**
NVR	**Nevrokopi**	**2.13**	**90**	P		**Pn**	**01 52 17.9**	**+0.5**
NVR				S		**Sn**	**01 52 43.4**	**-0.5**
HCY	**Herceg Novi**	**2.18**	**300**	⇑*i*Pn		**Pn**	**01 52 19.2**	**+1.1**
HCY				*e*Sn		**Sb**	**01 52 48.3**	**-0.1**
HCY	**Herceg Novi**	**2.18**	**300**	⇑*i*Pn		**Pn**	**01 52 19.2**	**+1.1**
HCY				*e*Sn		**Sb**	**01 52 48.3**	**-0.1**
ZAPS	**Zavoj**	**2.24**	**31**	*e*Pn		**Pn**	**01 52 20.3**	**+1.3**
ZAPS				*e*Sn		**Sn**	**01 52 48.4**	**+1.7**
IVAS	**Ivanjica**	**2.30**	**344**	*e*Pn		**Pn**	**01 52 19.7**	**-0.1**
IVAS				*e*Sn		**Sn**	**01 52 50.3**	**+2.1**
IVAS	**Ivanjica**	**2.30**	**344**	*e*Pn		**Pn**	**01 52 19.7**	**-0.1**
PLE	**Pljevlja**	**2.31**	**329**	⇑*i*Pn		**Pn**	**01 52 20.4**	**+0.4**
PLE				*e*Sn		**Sb**	**01 52 50.9**	**-1.3**
PLE	**Pljevlja**	**2.31**	**329**	⇑*i*Pn		**Pn**	**01 52 20.4**	**+0.4**
BOVS	**Bovan**	**2.31**	**12**	*e*Pn		**Pn**	**01 52 20.0**	**0.0**
BOVS	**Bovan**	**2.31**	**12**	*e*Pn		**Pn**	**01 52 20.0**	**0.0**
BRY	**Bratogost**	**2.41**	**310**	⇓*i*Pn		**Pn**	**01 52 22.4**	**+1.0**
BRY				*e*Sn		**Sb**	**01 52 54.0**	**-1.0**
BRY	**Bratogost**	**2.41**	**310**	⇓*i*Pn		**Pn**	**01 52 22.4**	**+1.0**
TREB	**Trebinje**	**2.41**	**305**	*e*Pn		**Pn**	**01 52 23.1**	**+1.8**
TREB				*e*Sn	

ISC 02 02:06:22.1±1.3, 36°85N±0°.04×140°.78E±0°.07, h11km±8km, n19, σ1°04/21, mb3.9/4, 5C, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
ONAJ	**Iwakimizuishiy**	**0.26**	**3**	⇑P		**Pb**	**02 06 28.2**	**-0.5**
ONAJ				S		**Sb**	**02 06 32.1**	**-1.1**
JHO	**Hitachi**	**0.29**	**216**	⇑P		**Pg**	**02 06 28.1**	**+0.1**
JHO				S		**Sg**	**02 06 31.8**	**-0.1**
JFK	**Kawauchi**	**0.52**	**8**	⇑P		**Pb**	**02 06 32.9**	**-0.4**
JFK				S		**Sb**	**02 06 40.2**	**-0.7**
JSB	**Shiboa**	**0.70**	**280**	⇑P		**Pg**	**02 06 35.6**	**0.0**
JSB				S		**Sg**	**02 06 44.5**	**-0.3**
JFT	**Otama**	**0.76**	**332**	⇑P		**Pg**	**02 06 36.8**	**+0.1**
JFT				S		**Sg**	**02 06 46.4**	**-0.3**
JYT	**Yasato**	**0.78**	**218**	P		**Pg**	**02 06 36.7**	**-0.4**
JYT				S		**Sb**	**02 06 47.8**	**-0.3**
MJAR	**Matsushiro Arr**	**2.09**	**262**	Pn		**Pn**	**02 06 57.5**	**+0.5**
MJAR	43nm,0.3s,baz=77,slow=18,SNR=88			Sn		**Sb**	**02 07 24.9**	**-1.0**
MAT	**Matsushiro**	**2.09**	**262**	P		**Pn**	**02 06 57.9**	**+0.9**
MAT	21nm,0.3s,baz=77,slow=27,SNR=14			S		**Sb**	**02 07 24.7**	**-1.2**
USRK	**Ussuriysk Ar.**	**9.93**	**320**	Pn		**Pn**	**02 08 47.4**	**+2.8**
	0.1nm,0.3s,baz=143,slow=14,SNR=3.2							
SONM	**Songino Array**	**27.47**	**304**	P		**P**	**02 12 06.1**	**-2.1**
	0.8nm,0.7s,baz=96,slow=10.0,SNR=2.5							
H11N2	**WAKE ISLAND Hy**	**28.49**	**120**	T		T	02 42 04.9	
	baz=313,slow=75,SNR=409							
H11N1	**WAKE ISLAND Hy**	**28.50**	**120**	T		T	02 42 05.4	
	baz=313,slow=75,SNR=523							
H11N3	**WAKE ISLAND Hy**	**28.51**	**120**	T		T	02 42 06.2	
	baz=313,slow=75,SNR=462							
H11S1	**WAKE ISLAND Hy**	**29.19**	**122**	T		T	02 42 57.6	
	baz=314,slow=76,SNR=1003							
H11S3	**WAKE ISLAND Hy**	**29.19**	**122**	T		T	02 42 57.7	
	baz=314,slow=76,SNR=704							
H11S2	**WAKE ISLAND Hy**	**29.20**	**122**	T		T	02 42 58.8	
	baz=314,slow=76,SNR=408							
KURBB	**Kurchatov Arra**	**45.72**	**308**	P		**P**	**02 14 42.5**	**-0.4**
	1.0nm,0.6s,baz=83,slow=7.8,SNR=11							
WRA	**Warramunga Arr**	**56.81**	**187**	P		**P**	**02 16 06.2**	**-0.2**
	0.5nm,0.5s,baz=7.0,slow=7.6,SNR=6.0							
FINES	**FINESS Array B**	**68.74**	**332**	P		**P**	**02 17 25.9**	**+0.4**
	1.8nm,0.9s,baz=43,slow=5.8,SNR=3.4							

*ISN **02** 02:07:58.1±0.3, 32°.84N×47°.66E, h0km, ML3.2*
*CSEM **02** 02:08:00.8±0.4, 32°.65N×47°.90E, h20km, ML2.9, Error ellipse: s-maj=12.1km s-min=6.5km az=35.0*

TEH 02 02:08:01.6, 32°.77N×47°.99E, h10km, ML3.2, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
SHGR	**Shooshtar-Gavs**	**0.95**	**134**	*e*Pg		Pg	02 08 19.6	-0.3
IKOM	**Komasi**	**1.46**	**344**	*e*Pn		Pn	02 08 27.2	-0.9
IKOM				*e*AMB		AMB	02 08 28.8	
	comp=Z,7μm,0.1s							
IKOM				*e*Sg		Sn	02 08 47.2	-0.2
IKOM	**Komasi**	**1.46**	**344**	*e*Pn		Pn	02 08 27.2	-0.9
IKOM				*e*Sg		Sn	02 08 47.2	-0.2
KHMZ	**Khomeyn**	**1.91**	**59**	*e*Pn		Pn	02 08 34.1	-0.3
KHMZ				*e*Sg		Sn	02 08 59.3	+0.6
IGHG	**Ghaleghazi**	**1.96**	**323**	*e*Pn		Pn	02 08 35.3	+0.2
IGHG				*e*AMB		AMB	02 08 38.8	
	comp=Z,2μm,0.1s							
IGHG	**Ghaleghazi**	**1.96**	**323**	*e*Pn		Pn	02 08 35.3	+0.2
IVIS	**Veis**	**1.99**	**332**	*e*Pn		Pn	02 08 35.1	-0.4
IVIS				*e*AMB		AMB	02 08 46.0	
	comp=Z,1μm,0.1s							
IVIS				*e*Sg		Sb	02 09 03.8	+0.8
IVIS	**Veis**	**1.99**	**332**	*e*Pn		Pn	02 08 35.1	-0.4
IVIS				*e*Sg		Sb	02 09 03.8	+0.8
ILIN	**Lien**	**2.31**	**338**	*e*Pn		Pn	02 08 40.4	+0.5
ILIN				*e*AMB		AMB	02 08 44.0	
	comp=Z,2μm,0.1s							
ILIN	**Lien**	**2.31**	**338**	*e*Pn		Pn	02 08 40.4	+0.5
SNGE	**Sanandaj**	**2.38**	**347**	*e*Pn		Pn	02 08 41.3	+0.4
IPIR	**Pirpir**	**2.45**	**91**	*e*Pn		Pn	02 08 42.0	+0.1
IPIR				*e*AMB		AMB	02 08 46.5	
	comp=Z,1μm,0.2s							
IPIR				*e*Sg		Sb	02 09 17.9	+1.7
IPIR	**Pirpir**	**2.45**	**91**	*e*Pn		Pn	02 08 42.0	+0.1
IPIR				*e*Sg		Sb	02 09 17.9	+1.7
ASAO	**Ashtian**	**2.45**	**43**	*e*Pn		Pn	02 08 41.7	-0.2
QAM	**Ghamsar**	**3.05**	**70**	*e*Pn		Pn	02 08 50.3	+0.2
QAM				*e*AMB		AMB	02 08 57.3	
	comp=Z,1μm,0.2s							
IKLH	**Kolahrood**	**3.06**	**79**	*e*Pn		Pn	02 08 49.7	-0.6
IKLH				*e*AMB		AMB	02 09 01.5	
	comp=Z,644nm,0.2s							
IKLH	**Kolahrood**	**3.06**	**79**	*e*Pn		Pn	02 08 49.7	-0.6
IRAZ	**Razeghan**	**3.08**	**31**	*e*Pn		Pn	02 08 51.0	+0.5
IRAZ				*e*AMB		AMB	02 09 00.5	
	comp=Z,584nm,0.2s							
IRAZ	**Razeghan**	**3.08**	**31**	*e*Pn		Pn	02 08 51.0	+0.5
GHVR	**GHOM**	**3.24**	**57**	*e*Pn		Pn	02 08 52.0	-0.6
IGAR	**Gharneh**	**3.44**	**95**	*e*Pn		Pn	02 08 54.6	-0.8
IGAR				*e*AMB		AMB	02 08 57.6	
	comp=Z,419nm,0.1s							
IZEF	**Zefreh**	**3.65**	**87**	*e*Pn		Pn	02 08 58.3	-0.1
IZEF				*e*AMB		AMB	02 09 06.9	
	comp=Z,240nm,0.1s							
IZEF	**Zefreh**	**3.65**	**87**	*e*Pn		Pn	02 08 58.3	-0.1
IMHD	**Mahdasht**	**3.66**	**37**	*e*Pn		Pn	02 08 57.5	-0.8
IMHD	**Mahdasht**	**3.66**	**37**	*e*Pn		Pn	02 08 57.5	-0.8
IRAM	**Ramesheh**	**3.84**	**103**	*e*Pn		Pn	02 08 59.1	-1.9
IRAM				*e*AMB		AMB	02 09 12.4	
	comp=Z,183nm,0.2s							
IRAM	**Ramesheh**	**3.84**	**103**	*e*Pn		Pn	02 08 59.1	-1.9
NASN	**Na'in**	**4.06**	**88**	*e*Pn		Pn	02 09 03.0	-1.0
IDMV	**Damavand**	**4.37**	**49**	*e*AMB		AMB	02 09 07.8	
	comp=Z,287nm,0.2s							
IDMV				*e*Pn		Pn	02 09 07.1	-1.1
IDMV	**Damavand**	**4.37**	**49**	*e*Pn		Pn	02 09 07.1	-1.1
IFIR	**Firoozkooh**	**4.88**	**53**	*e*Pn		Pn	02 09 14.6	-0.6
IFIR				*e*AMB		AMB	02 09 15.2	
	comp=Z,146nm,0.2s							
IFIR	**Firoozkooh**	**4.88**	**53**	*e*Pn		Pn	02 09 14.6	-0.6
ISRV	**Sarvestan**	**5.54**	**126**	*e*Pn		Pn	02 09 23.6	-0.8
ISRV				*e*AMB		AMB	02 10 31.6	
	comp=Z,126nm,0.3s							
ISRV	**Sarvestan**	**5.54**	**126**	*e*Pn		Pn	02 09 23.6	-0.8

*GUC **02** 02:09:40.3±0.6, 19°.14S×67°.96W, h180km±9km, ML4.3*
*IDC **02** 02:09:41.3±5.3, 18°.49S×66°.90W, h238km±40km, mb3.2/1, mb1 3.3/2, mb1mx3.0/20, mbtmp3.7/2, Error ellipse: s-maj=93.1km s-min=50.9km az=-5.0*

ISC 02 02:09:39.5±1.1, 18°.88S±0°.06×67°.4W±0°.2, h238km±14km, n21, σ1°71/30, 4C-2D, Central Bolivia

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
PB08	**IPOC Station P**	**2.06**	**232**	⇑*i*P		**Pn**	**02 10 23.3**	**+1.5**
PB08				*i*S		**S**	**02 10 55.7**	**+0.6**
MNMC	**Minye Minye**	**2.07**	**263**	⇓*i*P		**Pn**	**02 10 23.2**	**+1.3**
MNMC				*i*S		**S**	**02 10 52.7**	**-2.4**
PB11	**IPOC Station P**	**2.28**	**247**	⇓*i*P		**Pn**	**02 10 24.6**	**+0.8**
PB11				*e*S		**S**	**02 10 58.6**	**0.0**
PSGC	**Pisagua**	**2.65**	**254**	*e*P		**Pn**	**02 10 27.8**	**+0.3**
PSGC				*i*S		**S**	**02 11 03.2**	**-2.0**
LPAZ	**La Paz**	**2.67**	**345**	P		**Pn**	**02 10 29.2**	**+0.9**
	5.6nm,0.3s,baz=149,slow=5.0,SNR=140							
LPAZ				S		**S**	**02 11 05.3**	**-1.3**
	3.7nm,0.3s,baz=205,slow=10,SNR=11							
HMBC	**Humberstone**	**2.71**	**239**	⇑*i*P		**Pn**	**02 10 28.4**	**+0.3**
HMBC				*i*S		**S**	**02 11 05.2**	**-1.2**
HMBC				IAML			02 11 05.5	
	comp=N,440nm,0.7s							
PB09	**IPOC Station P**	**3.36**	**210**	*e*P		**Pn**	**02 10 37.1**	**+1.6**
PB09				*i*S		**S**	**02 11 20.8**	**+1.1**
PB09				IAML			02 11 25.9	
	comp=N,212nm,0.2s							
PB07	**IPOC Station P**	**3.65**	**219**	⇑*i*P		**Pn**	**02 10 39.2**	**+0.4**
PB07				*i*S		**S**	**02 11 23.3**	**-2.4**
PB07				IAML			02 11 27.4	
	comp=E,167nm,0.4s							
PB04	**IPOC Station P**	**4.28**	**216**	⇑*i*P		**Pn**	**02 10 46.8**	**+0.6**
PB04				*i*S		**S**	**02 11 36.4**	**-2.8**
PB04				IAML			02 11 37.9	
	comp=N,124nm,0.7s							
PB06	**IPOC Station P**	**4.30**	**207**	*e*P		**Pn**	**02 10 46.8**	**+0.3**
PB06				*i*S		**S**	**02 11 37.0**	**-2.6**
PB06				IAML			02 11 37.5	
	comp=E,163nm,0.5s							
VCA	**Vinchina**	**9.84**	**184**	*e*P		**P**	**02 12 04.5**	**+1.7**
VCA				IAML			02 12 22.7	
	comp=Z,318nm,0.2s							
ACLC	**CERRO LA CRUZ**	**10.51**	**178**	*e*P		**P**	**02 12 08.4**	**-1.9**
ACDV	**Cuesta del Vie**	**11.34**	**187**	*e*P		**P**	**02 12 21.6**	**+1.9**
AROD	**Rodeo**	**11.39**	**189**	*e*P		**P**	**02 12 24.3**	**+4.0**
ACCO	**Cerro Coronel**	**11.75**	**187**	*e*P		**P**	**02 12 25.6**	**+1.3**
AMOG	**MOGNA**	**12.04**	**184**	*e*P		**P**	**02 12 26.2**	**-1.0**
RTLL	**Cerro Villicun**	**12.43**	**184**	*e*P		**P**	**02 12 31.2**	**-0.4**
ARCO	**CERRO ARCO**	**13.97**	**185**	IAML			02 13 46.2	
	comp=Z,14nm,0.2s							
TORD	**Torodi Ar. Bea**	**75.17**	**70**	P		**P**	**02 20 54.6**	**-1.7**
	comp=Z,0.4nm,0.5s,baz=253,slow=5.5,SNR=12							
WRA	**Warramunga Arr**	**135.91**	**210**	PKP		**PKPdf**	**02 28 33.9**	**+1.1**
	comp=Z,0.2nm,0.6s,baz=162,slow=2.0,SNR=3.8							
SONM	**Songino Array**	**150.69**	**9**	PKPbc		**PKPbc**	**02 29 04.3**	**+0.7**
	comp=Z,0.5nm,0.5s,baz=332,slow=2.1,SNR=3.5							

IDC 02 02:17:39.3±2.4, 5°.31S×146°.76E, h0km, mb3.3/2, mb1 3.6/3, mb1mx3.4/31, mbtmp3.3/3, ML3.4/1, Error ellipse: s-maj=342.3km s-min=29.6km az=122.0, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**18.88**	**218**	P		Pn	02 22 01.7	-0.2
	0.1nm,0.3s,baz=40,slow=12,SNR=2.7							
ASAR	**Alice Springs**	**22.03**	**213**	P		P	02 22 35.4	-0.3
	0.2nm,0.3s,baz=43,slow=8.6,SNR=4.5							
ILAR	**Eielson Array**	**84.97**	**23**	P		P	02 30 16.3	0.0
	0.6nm,0.9s,baz=245,slow=5.6,SNR=3.5							

*IDC **02** 02:18:55.7±0.7, 38°.29N×144°.71E, h0km, mb3.9/13, mb1 4.1/18, mb1mx3.9/52, mbtmp4.0/18, ML4.0/5, MS3.0/4, Ms1 3.0/4, ms1mx2.6/57, Error ellipse: s-maj=18.9km s-min=16.0km az=117.0*
*ISCJB **02** 02:18:58.5±0.5, 38°.40N±0°.04×144°.48E±0°.04, h29km, mb3.9/16, MS3.1/2, Error ellipse: s-maj=6.1km s-min=4.3km az=169.8*
*JMA **02** 02:19:00.2±0.1, 38°.50N×144°.46E, h47km, M4.4*
*NIED **02** 02:19:00, 38°.50N×144°.50E, h8km, Mw3.9 Best double couple: M0 7.57000×10^14 NP1: ϕ=61.00000°, δ=52.00000°, λ=-44.00000°. NP2: ϕ=182.00000°, δ=57.00000°, λ=-133.00000°.*
*NEIC **02** 02:19:01.1±0.5, 38°.40N×144°.59E, h35km, mb4.3/3, Error ellipse: s-maj=10.6km s-min=8.5km az=118.0*

ISC 02 02:19:00.4±0.7, 38°.40N±0°.05×144°.49E±0°.07, h29km, n45, σ1°67/54, mb4.0/16, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
OFUJ	**Ofunato**	**2.31**	**288**	P		**Pn**	**02 19 36.2**	**-0.3**
OFUJ				*e*S		**Sn**	**02 20 02.6**	**-1.3**
MIYJ	**Miyakonagasawa**	**2.39**	**300**	P		**Pn**	**02 19 37.0**	**-0.6**
MIYJ				S		**Sn**	**02 20 04.1**	**-1.9**
JMK	**Ichinoseki**	**2.62**	**283**	P		**Pn**	**02 19 40.8**	**+0.1**
JMK				*e*S		**Sn**	**02 20 10.7**	**-0.9**
JOM	**Ohasama**	**2.72**	**294**	P		**Pn**	**02 19 42.0**	**-0.1**
JOM				S		**Sn**	**02 20 13.2**	**-0.8**
JOU	**Okura**	**3.01**	**271**	P		**Pn**	**02 19 46.6**	**+0.5**
JOU				S		**Sn**	**02 20 20.8**	**-0.4**
JANG	**Nango**	**3.04**	**311**	P		**Pn**	**02 19 45.4**	**-1.1**
JRG	**Rokugo**	**3.17**	**290**	P		**Pn**	**02 19 48.6**	**+0.3**
JRG				*e*S		**Sn**	**02 20 24.9**	**-0.3**
JYK	**Kaneyama**	**3.28**	**280**	P		**Pn**	**02 19 50.2**	**+0.4**
JYK				*e*S		**Sn**	**02 20 27.6**	**-0.2**
JFT	**Otama**	**3.40**	**256**	P		**Pn**	**02 19 52.1**	**+0.6**
JFT				S		**Sn**	**02 20 30.6**	**-0.3**
JTM	**Tenmabayashi**	**3.56**	**313**	P		**Pn**	**02 19 52.9**	**-0.8**
JTM				S		**Sn**	**02 20 32.6**	**-2.2**
ERM	**Erimo**	**3.75**	**345**	*e*Pn		**Pn**	**02 19 55.2**	**-1.1**
JOT	**Ohata**	**3.99**	**319**	P		**Pn**	**02 19 59.0**	**-0.5**
JCH	**Churui**	**4.30**	**349**	P		**Pn**	**02 20 01.5**	**-2.3**
JCH				*e*S		**Sn**	**02 20 48.4**	**-4.5**
JRY	**Ryogami san**	**5.06**	**244**	P		**Pn**	**02 20 14.3**	**0.0**
JRY				*e*S		**Sn**	**02 21 08.8**	**-2.9**
MJAR	**Matsushiro Arr**	**5.33**	**252**	Pn		**Pn**	**02 20 19.2**	**+1.2**
	5.1nm,0.3s,baz=56,slow=9.4,SNR=44							
MJAR				Sn		**Sn**	**02 21 18.2**	**-0.2**
	2.4nm,0.3s,baz=91,slow=22,SNR=6.1							
MAJO	**Matsushiro**	**5.33**	**252**	*e*Pn		**Pn**	**02 20 19.2**	**+1.1**
	51nm,0.6s							
MAT	**Matsushiro**	**5.33**	**252**	P		**Pn**	**02 20 19.1**	**+1.0**
MAT				S		**Sn**	**02 21 17.8**	**-0.7**
ASAJ	**Asahikawa**	**5.89**	**347**	Pn		**Pn**	**02 20 24.9**	**-0.8**
	7.5nm,0.3s,baz=186,slow=13,SNR=20							
ASAJ				Sn		**Sn**	**02 21 28.6**	**-3.5**
	baz=162,slow=20							
JHJ	**Hachijo jima 2**	**6.51**	**217**	Pn		**Pn**	**02 20 32.3**	**-1.9**
	32nm,0.3s,baz=73,slow=20,SNR=2.4							
JHJ				Sn		**Sn**	**02 21 40.5**	**-7.1**
	19nm,0.3s,baz=90,slow=20,SNR=3.3							
USRK	**Ussuriysk Ar.**	**11.04**	**306**	Pn		**Pn**	**02 21 37.8**	**+1.5**
	1.0nm,0.3s,baz=104,slow=14,SNR=17							
KSRS	**Korea Array**	**13.12**	**271**	LR		LR	02 26 27.7	
	comp=Z,43nm,18.6s,baz=115,slow=34							
KLR	**Kul'dur**	**14.19**	**324**	Pn		**Pn**	**02 22 18.6**	**-0.6**
	0.2nm,0.3s,baz=118,slow=18,SNR=3.7							
KLR				LR		LR	02 28 06.0	
	comp=Z,57nm,18.8s,baz=92,slow=38							
SEY	**Seymchan**	**25.03**	**9**	P		**P**	**02 24 22.6**	**+1.0**
	4.6nm,0.6s,baz=174,slow=9.7,SNR=6.1							
H11N2	**WAKE ISLAND Hy**	**26.89**	**127**	T		T	02 52 25.4	
	baz=319							
H11N1	**WAKE ISLAND Hy**	**26.90**	**127**	T		T	02 52 30.6	
	baz=319							
H11N3	**WAKE ISLAND Hy**	**26.91**	**127**	T		T	02 52 37.1	
	baz=319							
SONM	**Songino Array**	**29.11**	**301**	P		**P**	**02 24 59.7**	**+1.1**
	0.7nm,0.6s,baz=99,slow=9.2,SNR=4.8							
TLY	**Talaya**	**31.34**	**308**	LR		LR	02 38 26.0	
	comp=Z,23nm,19.3s,baz=7.0,slow=37							
ZALV	**Zalesovo Beam**	**42.82**	**311**	P		**P**	**02 26 56.2**	**+0.7**
	0.6nm,0.4s,baz=101,slow=6.2,SNR=2.5							
KURK	**Kurchatov**	**47.03**	**308**	*e*P		**P**	**02 27 29.5**	**+0.6**
ILAR	**Eielson Array**	**47.03**	**33**	P		**P**	**02 27 28.2**	**-0.5**
	0.9nm,0.7s,baz=262,slow=7.3,SNR=9.4							
KURBB	**Kurchatov Arra**	**47.10**	**307**	P		**P**	**02 27 30.4**	**+0.9**
	1.2nm,0.4s,baz=81,slow=8.2,SNR=14							
BVAR	**Borovoye Array**	**51.47**	**312**	P		**P**	**02 28 05.6**	**+2.7**
	0.3nm,0.3s,baz=72,slow=9.3,SNR=2.7							
INK	**Inuvik**	**52.05**	**28**	P		**P**	**02 28 07.0**	**+0.1**
	1.0nm,0.6s,baz=309,slow=12,SNR=4.1							
WRAB	**Tennant Creek**	**58.80**	**191**	*e*P		**P**	**02 28 55.1**	**-0.9**
	2.0nm,0.9s							
WRA	**Warramunga Arr**	**58.81**	**191**	P		**P**	**02 28 55.0**	**-1.1**
	1.2nm,0.7s,baz=12,slow=7.5,SNR=9.3							
ABKAR	**Akbulak array**	**58.92**	**310**	*e*P		**P**	**02 28 57.2**	**+0.6**
	1.1nm,0.6s							
YKA	**Yellowknife Ar**	**61.39**	**31**	P		**P**	**02 29 13.3**	**0.0**
	1.1nm,0.7s,baz=301,slow=6.3,SNR=3.7							
ASAR	**Alice Springs**	**62.53**	**191**	P		**P**	**02 29 20.9**	**-0.5**
	0.2nm,0.3s,baz=10,slow=6.7,SNR=5.3							
FINES	**FINESS Array B**	**68.73**	**333**	P		**P**	**02 30 01.4**	**+0.5**
	1.4nm,0.8s,baz=46,slow=8.0,SNR=3.1							
FFC	**Flin Flon**	**71.22**	**34**	*e*P		**P**	**02 30 16.1**	**-0.3**
	2.6nm,0.8s							
PDAR	**Pinedale Array**	**74.96**	**47**	P		**P**	**02 30 39.0**	**0.0**
	0.4nm,0.5s,baz=280,slow=1.1,SNR=5.8							
CLL	**Collm**	**81.09**	**332**	*e*P		**P**	**02 31 14.0**	**+1.4**
TXAR	**Lajitas Array**	**87.35**	**54**	P		**P**	**02 31 43.9**	**-1.1**
	0.4nm,0.8s,baz=324,slow=4.5,SNR=2.8							
TKL	**Tuckaleechee C**	**93.84**	**38**	LR		LR	03 22 28.0	
	comp=Z,10nm,18.1s,baz=130,slow=41							

*IDC **02** 02:28:21.8±6.7, 28°.66S×178°.70W, h0km, mb3.3/1, mb1 3.7/1, mb1mx3.4/26, mbtmp3.3/1, Error ellipse: s-maj=535.5km s-min=69.1km az=169.0*

ISC 02 02:28:49.3±3.0, 30°.5S±0°.1×179°.8W±0°.5, h200km, n8, σ2°68/8, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
RUGZ	**Raukumara Rang**	**7.72**	**195**	*e*PN		**Pn**	**02 30 41.2**	**+2.3**
URZ	**Urewera**	**8.13**	**197**	PN		**Pn**	**02 30 46.8**	**+2.6**
URZ				*e*SN		**Sn**	**02 32 14.1**	**-1.6**
MUGZ	**Murupara**	**8.43**	**199**	*e*PN		**Pn**	**02 30 50.9**	**+2.9**
MRZ	**Mangatainoka R**	**10.80**	**199**	*e*PN		**Pn**	**02 31 17.4**	**-1.3**
MRZ				*e*SN		Sn	02 33 09.4	-10
KHZ	**Kahutara**	**13.02**	**202**	*e*PN		**Pn**	**02 31 44.9**	**-1.9**
WRA	**Warramunga Arr**	**42.54**	**273**	P		**P**	**02 36 26.7**	**+1.3**
	0.2nm,0.3s,baz=110,slow=7.7,SNR=4.1							
FINES	**FINESS Array B**	**144.70**	**339**	PKP	PKPbc		02 47 58.0	-2.6
	2.1nm,0.7s,baz=41,slow=1.8,SNR=11							
BRTR	**Keskin Array B**	**151.27**	**298**	PKPbc	**PKPbc**		**02 48 16.7**	**-2.4**
	0.4nm,0.9s,baz=56,slow=2.6,SNR=3.0							

*IDC **02** 02:30:23.2±0.7, 33°.25N×47°.71E, h0km, mb4.1/24, mb1 4.1/30, mb1mx4.1/51, mbtmp4.1/30, ML3.9/5, MS3.0/7, Ms1 3.0/7, ms1mx2.7/43, Error ellipse: s-maj=18.5km s-min=11.1km az=172.0*
*ISN **02** 02:30:23.5±1.6, 33°.28N×47°.78E, h15km±5km, ML4.4*
*AZER **02** 02:30:25.1±0.7, 33°.47N×47°.62E, h12km, Error ellipse: s-maj=24.2km s-min=13.1km az=248.0*
*MOS **02** 02:30:25.7±1.1, 33°.27N×47°.69E, h25km, mb4.6/38, Error ellipse: s-maj=7.5km s-min=4.5km az=123.9*
*THR **02** 02:30:26.5±1.4, 33°.32N×47°.70E, h14km±11km, ML3.9*
*CSEM **02** 02:30:26.3±0.1, 33°.28N×47°.68E, h15km, mb4.5/65, Error ellipse: s-maj=4.1km s-min=2.8km az=9.0*
*ISCJB **02** 02:30:27.5±0.4, 33°.34N±0°.02×47°.66E±0°.02, h34km±3km, mb4.4/84, MS3.0/3, Error ellipse: s-maj=4.0km s-min=3.1km az=176.3*
*TEH **02** 02:30:28.5, 33°.24N×47°.58E, h28km, ML3.9*
*NEIC **02** 02:30:28.5±0.0, 33°.24N×47°.58E, h28km, mb4.3/15, ML3.9(THR), MN3.9(TEH), After TEH.*

ISC 02 02:30:27.5±0.8, 33°.26N±0°.03×47°.67E±0°.03, h28km±5km, n386, σ1°34/408, mb4.4/85, MS3.0/3, 26C-32D, Western Iran

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
IKOM	**Komasi**	**0.92**	**352**	*e*Pg		**Pn**	**02 30 41.7**	**-3.0**
IKOM				*e*AMB		AMB	02 31 07.9	
	comp=Z,40μm,0.3s							
IKOM	**Komasi**	**0.92**	**352**	*e*Pg		**Pn**	**02 30 41.7**	**-3.0**
IGHG	**Ghaleghazi**	**1.40**	**320**	*e*Pn		**Pn**	**02 30 51.8**	**+0.3**
IGHG				*e*Sg		**Sb**	**02 31 12.4**	**+1.7**
IGHG				*e*AMB		AMB	02 31 17.8	
	comp=Z,26μm,0.3s							
IGHG	**Ghaleghazi**	**1.40**	**320**	Pn		**Pn**	**02 30 51.7**	**+0.3**
IGHG				Sg		**Sb**	**02 31 12.3**	**+1.6**
IGHG	**Ghaleghazi**	**1.40**	**320**	Pn		**Pn**	**02 30 51.7**	**+0.3**
IGHG				Sg		**Sb**	**02 31 12.3**	**+1.6**
IVIS	**Veis**	**1.43**	**332**	*e*Pn		**Pn**	**02 30 51.5**	**-0.2**
IVIS				*e*Sg		**Sb**	**02 31 13.9**	**+2.4**
IVIS				*e*AMB		AMB	02 31 18.4	
	comp=Z,17μm,0.3s							
IVIS	**Veis**	**1.43**	**332**	*e*Pn		**Pn**	**02 30 51.5**	**-0.2**
IVIS				*e*Sg		**Sb**	**02 31 13.9**	**+2.4**
IVIS	**Veis**	**1.43**	**332**	Pn		**Pn**	**02 30 51.4**	**-0.2**
IVIS				Sg		**Sb**	**02 31 13.9**	**+2.4**
SHGR	**Shooshtar-Gavs**	**1.50**	**140**	*e*Pg		**Pb**	**02 30 54.5**	**-0.1**
SHGR				AML		AML	23 01 30.7	
	comp=N,1μm,0.5s							
SHGR	**Shooshtar-Gavs**	**1.50**	**140**	*e*Pg		**Pb**	**02 30 54.5**	**-0.1**
SHGR	**Shooshtar-Gavs**	**1.50**	**140**	Pg		**Pb**	**02 30 54.0**	**-0.6**
ILIN	**Lien**	**1.75**	**341**	*e*Pn		**Pb**	**02 30 57.9**	**-1.2**
ILIN				*e*Sg		**Sb**	**02 31 23.8**	**+2.9**
ILIN				*e*AMB		AMB	02 31 24.4	
	comp=Z,18μm,0.3s							
ILIN	**Lien**	**1.75**	**341**	Pn		**Pb**	**02 30 57.8**	**-1.3**
ILIN				Sg		**Sb**	**02 31 23.7**	**+2.9**
ILIN	**Lien**	**1.75**	**341**	Pn		**Pb**	**02 30 57.8**	**-1.3**
ILIN				Sg		**Sb**	**02 31 23.7**	**+2.9**
SNGE	**Sanandaj**	**1.84**	**352**	*e*Pg		**Pb**	**02 30 59.1**	**-1.6**
SNGE				AML		AML	02 31 31.3	
	com

ASTR ⇑S Sn 02 32 45.4 -1.0
ASTR Astara 5.36 9 P Pn 02 31 45.5 -0.1
ASTR S Sn 02 32 45.4 -1.0
LRK Lerik 5.40 6 ⇓P Pn 02 31 45.5 -0.7
LRK ⇓S Sn 02 32 46.2 -1.3
LRK Lerik 5.40 6 P Pn 02 31 45.5 -0.7
LRK S Sn 02 32 46.2 -1.3
LKRN Lenkeran, Azer 5.51 9 ⇓P Pn 02 31 47.1 -0.5
LKRN ⇑S Sn 02 32 49.1 -0.9
LKRN Lenkeran, Azer 5.51 9 P Pn 02 31 47.1 -0.5
LKRN Lenkeran, Azer 5.51 9 P Pn 02 31 47.1 -0.5
LKRN S Sn 02 32 49.1 -0.9
GLBA Clilabad 6.00 5 ⇓P Pn 02 31 53.8 -0.5
GLBA ⇑S Sn 02 33 01.2 -0.8
GLBA Clilabad 6.00 5 P Pn 02 31 53.8 -0.5
GLBA S Sn 02 33 01.2 -0.8
ISRV Sarvestan 6.06 128 *e*Pn Pn 02 31 56.0 +0.5
ISRV eAMB AMB 02 34 32.2
comp=Z,2µm,0.8s
ISRV Sarvestan 6.06 128 Pn Pn 02 31 55.9 +0.5
ISRV Sarvestan 6.06 128 Pn Pn 02 31 55.9 +0.5
NAX Nakhchivan 6.15 344 ⇓P Pn 02 31 56.1 -0.4
NAX ⇑S Sn 02 33 05.2 -0.8
NAX Nakhchivan 6.15 344 P Pn 02 31 56.1 -0.4
NAX Nakhchivan 6.15 344 P Pn 02 31 56.1 -0.4
NAX S Sn 02 33 05.2 -0.8
RTB Rutbah 6.18 270 *e*Pn Pn 02 31 57.0 +0.2
SNR=4.0
RTB *e*Sn Sn 02 33 08.0 +1.4
SNR=4.0
SAAT Saatly 6.61 5 ⇑P Pn 02 32 03.2 +0.4
SAAT ⇓S Sn 02 33 17.9 +0.8
SAAT Saatly 6.61 5 P Pn 02 32 03.2 +0.4
SAAT S Sn 02 33 17.9 +0.8
ALIB Äli-Bayra 6.77 9 ⇑P Pn 02 32 04.7 -0.2
ALIB Äli-Bayra 6.77 9 P Pn 02 32 04.7 -0.2
MARD Mardin 6.93 308 *e*Pn Pn 02 32 07.2 -0.1
MARD Mardin 6.93 308 *e*Pn Pn 02 32 07.2 -0.1
GNI Garni 7.26 342 Pn Pn 02 32 18.2 +6.4
comp=Z,0.5nm,0.3s,baz=162,slow=13,SNR=1.9
GNI Lg Lg 02 34 19.3
comp=Z,0.7nm,0.3s,baz=257,slow=24,SNR=3.0
GNI LR LR 02 35 24.7
comp=Z,88nm,20.9s,baz=166,slow=41
GNI Garni 7.26 342 *e*Pn Pn 02 32 09.9 -2.0
GNI Garni 7.26 342 *e*Pn Pn 02 32 09.8 -2.0
GNI Lg Lg 02 34 19.3
BINT Bingol 8.07 316 P Pn 02 32 22.1 -0.8
BINT Bingol 8.07 316 P Pn 02 32 22.1 -0.8
AKT Akhty 8.20 0 *e*P Pn 02 32 26.2 +1.5
AKT Akhty 8.20 0 *e*P Pn 02 32 26.2 +1.5
ASF Jabal al Asfar 9.14 266 Pn Pn 02 32 38.1 +0.5
comp=Z,0.7nm,0.3s,baz=60,slow=5.8,SNR=6.9
ASF Sn Sn 02 34 14.3 -5.2
comp=Z,0.1nm,0.3s,baz=53,slow=20,SNR=2.2
ASF Lg Lg 02 35 13.2
comp=Z,0.4nm,0.3s,baz=128,slow=19,SNR=2.7
GEYT Alibeck 9.70 58 Pn Pn 02 32 46.6 +1.5
comp=Z,0.3nm,0.3s,baz=240,slow=13,SNR=5.0
MMAI Mount Meron Ar 10.29 272 Pn Pn 02 32 55.4 +2.2
baz=110,slow=13,SNR=2.1
MMAI Sn Sn 02 34 44.8 -2.9
comp=Z,0.9nm,0.3s,baz=69,slow=28,SNR=5.0
MMAI Lg Lg 02 35 47.5
comp=Z,0.3nm,0.3s,baz=90,slow=32,SNR=2.7
KBZ Khabaz 11.09 342 LR LR 02 37 47.1
comp=Z,77nm,21.8s,baz=100,slow=40
UOSS Minazif 11.15 136 *e*Pn Pn 02 33 06.2 +1.2
UOSS Minazif 11.15 136 *e*Pn Pn 02 33 06.2 +1.2
UOSS *e*Sn Sn 02 35 03.0 -5.8
KVAR Kislovodsk Arr 11.36 341 LR LR 02 37 53.4
comp=Z,64nm,20.5s,baz=238,slow=40
KIV Kislovodsk 11.36 341 ⇓*e*P Pn 02 33 13.3 +5.4
KIV pmax pmax
comp=Z,10.0nm,1.8s
KIV MLR MLR
comp=Z,51nm,18.0s
EIL Elat 11.43 255 Pn Pn 02 33 08.4 -0.5
comp=Z,0.3nm,0.3s,baz=98,slow=7.1,SNR=2.1
EIL Lg Lg 02 36 26.4
comp=Z,0.4nm,0.3s,baz=357,slow=19,SNR=4.6
BRTR Keskin Array B 12.99 304 Pn Pn 02 33 32.6 +2.3
comp=Z,0.0nm,0.3s,baz=125,slow=11,SNR=10
BR231 Keskin MP Arra 13.64 303 *e*Pn Pn 02 33 34.0 -5.1
WSAR Wadi Sarin 13.88 133 Pn Pn 02 33 40.4 -2.1
comp=Z,0.7nm,0.3s,baz=294,slow=11,SNR=7.4
ISK Istanbul-Kandi 16.73 303 P P 02 34 25.9 +4.1
ISK pmax pmax
comp=Z,20nm,1.0s
KBL Kabul 17.79 80 *e*P Pn 02 34 33.2 -0.1
KBL pmax pmax
comp=Z,4.0nm,0.9s
KBL Kabul 17.79 80 *e*P Pn 02 34 33.2 -0.1
comp=Z,4.0nm,0.9s
KBL Kabul 17.79 80 *e*Pn Pn 02 34 33.2 -0.1
comp=Z,4.3nm,0.9s
ABKAR Akbulak array 18.41 26 *e*P P 02 34 39.6 -0.7
comp=Z,43nm,0.4s
ABKAR Akbulak array 18.41 26 *e*P P 02 34 39.6 -0.7
comp=Z,43nm,0.4s
TIRR Tirgusor 18.65 312 *e*P P 02 34 42.3 -0.7
TIRR pmax pmax
comp=Z,3.0nm,0.7s
TIRR Tirgusor 18.65 312 *e*P P 02 34 42.3 -0.7
comp=Z,3.0nm,0.7s
TIRR Tirgusor 18.65 312 *e*P P 02 34 42.3 -0.7
comp=Z,3.0nm,0.7s
AKTK Aktyubinsk 18.78 21 P Pn 02 34 44.6 -0.3
comp=Z,51nm,18.7s
AKTO Aktyubinsk 18.78 21 P Pn 02 34 44.6 -0.3
comp=Z,0.4nm,0.3s,baz=204,slow=12,SNR=22
AKTO LR LR 02 44 30.6
comp=Z,51nm,18.7s,baz=349,slow=45
IDI Anoyia 18.93 282 P Pn 02 34 47.8 +0.9
comp=Z,1.1nm,0.3s,baz=76,slow=5.2,SNR=9.4
VSR Storozhevoye 18.99 343 *e*P P 02 34 45.0 -1.6
VSR pmax pmax
comp=Z,10.0nm,1.2s
VSR Storozhevoye 18.99 343 *e*P P 02 34 45.0 -1.6
comp=Z,10.0nm,1.2s
CFR Carcaliu 19.19 314 ⇑*i*P P 02 34 49.1 +0.2
CFR Carcaliu 19.19 314 P P 02 34 49.3 +0.4
CFR Carcaliu 19.19 314 P P 02 34 49.3 +0.4
ISR Istrita 20.14 312 ⇑*i*P Pn 02 35 01.4 +0.1
ISR Istrita 20.14 312 P Pn 02 35 03.8 +2.5
ISR Istrita 20.14 312 ⇑*i*P Pn 02 35 01.4 +0.1
LPSR Galich'ya Gora 20.33 345 *e*P P 02 35 00.5 -0.7
LPSR pmax pmax
comp=Z,20nm,0.8s
LPSR Galich'ya Gora 20.33 345 *e*P P 02 35 00.5 -0.7
comp=Z,20nm,0.8s
VRI Vrincioaia 20.40 314 ⇓*i*P P 02 35 03.0 +0.9
VRI Vrincioaia 20.40 314 P Pn 02 35 06.3 +2.0
VRI pmax pmax
comp=Z,52nm,1.0s
VRI Vrincioaia 20.40 314 ⇓*i*P P 02 35 03.0 +0.9
KKAR Karatay Array 20.41 55 *e*P Pn 02 35 04.8 +0.3
KKAR pmax pmax
comp=Z,29nm,0.8s
KKAR Karatay Array 20.41 55 *e*P Pn 02 35 04.8 +0.3
comp=Z,29nm,0.8s
KKAR Karatay Array 20.41 55 *e*P Pn 02 35 04.8 +0.3
comp=Z,29nm,0.8s
PLOR Plostina 20.43 314 ⇓*i*P P 02 35 03.5 +0.9
PLOR Plostina 20.43 314 P P 02 35 03.4 +0.9
PLOR Plostina 20.43 314 P P 02 35 03.4 +0.9
MLR Muntele Rosu 20.69 313 P P 02 35 06.4 +1.1
comp=Z,0.7nm,0.7s,baz=68,slow=19
MLR Muntele Rosu 20.69 313 ⇑*i*P Pn 02 35 07.2 -0.6
MLR Muntele Rosu 20.69 313 *e*P Pn 02 35 08.6 +0.8
MLR pmax pmax
comp=Z,16nm,0.9s
MLR Muntele Rosu 20.69 313 ⇑*i*P Pn 02 35 07.2 -0.6
MLR Muntele Rosu 20.69 313 *e*P Pn 02 35 08.6 +0.9
comp=Z,16nm,0.9s
SORM Soroca 20.77 321 ⇓*i*P P 02 35 05.4 -0.7
SORM Soroca 20.77 321 ⇓*i*P P 02 35 05.4 -0.7
VOIR 21.22 312 ⇓*i*P P 02 35 13.0 +2.0
VOIR 21.22 312 P P 02 35 12.5 +1.5
VOIR pmax pmax
comp=Z,43nm,0.8s
VOIR 21.22 312 P P 02 35 12.5 +1.5
comp=Z,43nm,0.8s
AGG Agios Georgios 21.22 293 P P 02 35 12.3 +1.3
AGG Agios Georgios 21.22 293 *e*P P 02 35 12.4 +1.3
DOPR Dopca 21.26 313 ⇑*i*P P 02 35 13.1 +1.7
DOPR Dopca 21.26 313 ⇑*i*P P 02 35 13.1 +1.7
VTS Vitosha 21.36 303 ⇓*i*P P 02 35 15.2 +2.5
VTS Vitosha 21.36 303 *e*P P 02 35 12.1 -0.6
VTS pmax pmax
comp=Z,5.0nm,0.9s
VTS Vitosha 21.36 303 *e*P P 02 35 12.1 -0.6
comp=Z,5.2nm,0.9s
VTS Vitosha 21.36 303 *e*P P 02 35 12.1 -0.6
comp=Z,5.2nm,0.9s
ARR Arges 21.45 311 ⇓*i*P P 02 35 15.2 +1.7
ARR Arges 21.45 311 ⇓*i*P P 02 35 15.2 +1.7
PRAR RASCA 21.48 317 ⇓*i*P P 02 35 13.7 0.0
PRAR RASCA 21.48 317 ⇓*i*P P 02 35 13.7 0.0
AKASG Malin Array Be 22.07 328 P P 02 35 19.4 -0.5
comp=Z,0.4nm,0.3s,baz=136,slow=9.8,SNR=4.6
KIEV Kiev 22.07 328 ⇓*e*P P 02 35 21.7 +1.7
KIEV pmax pmax
comp=Z,3.0nm,0.9s
KIEV Kiev 22.07 328 *e*P P 02 35 21.7 +1.7
comp=Z,3.0nm,0.9s
BURAR Bucovina Array 22.20 317 ⇓*i*P P 02 35 23.5 +2.0
BURAR Bucovina Array 22.20 317 P P 02 35 23.4 +2.0
BURAR Bucovina Array 22.20 317 ⇓*i*P P 02 35 23.5 +2.0
BUR08 Bucovina Ar. S 22.22 317 *e*P P 02 35 19.7 -2.1
BARS Barje 22.41 303 *e*P P 02 35 25.2 +1.4
BOLS Boljevac 22.62 305 *e*P P 02 35 27.1 +1.1
GZR Gura Zlata 22.65 310 ⇑*i*P P 02 35 28.3 +2.0
GZR Gura Zlata 22.65 310 ⇑*i*P P 02 35 28.3 +2.0
BOVS Bovan 22.73 305 *e*P P 02 35 27.2 +0.1
SELS Selova 23.01 303 *e*P P 02 35 31.7 +1.6
AAK Ala-Archa 23.05 58 LR LR 02 45 29.0
comp=Z,50nm,19.8s,baz=66,slow=39
AAK Ala-Archa 23.05 58 ⇓*e*P P 02 35 31.6 +0.9
AAK *i* *PP **sP** 02 35 40.2 -1.8
AAK pmax pmax
comp=Z,2.0nm,1.0s
AAK Ala-Archa 23.05 58 *e*P P 02 35 31.6 +0.9
comp=Z,2.0nm,1.0s
MDVR Moldovita 23.11 307 ⇓*i*P P 02 35 33.0 +1.9
MDVR Moldovita 23.11 307 ⇓*i*P P 02 35 33.0 +1.9
OBN Obninsk 23.19 344 ⇓*i*P P 02 35 31.3 -0.4
OBN pmax pmax
comp=Z,6.0nm,0.9s
OBN Obninsk 23.19 344 *i* P P 02 35 31.3 -0.4
comp=Z,6.0nm,0.9s
DRGR 23.28 313 ⇓*i*P P 02 35 33.3 +0.5
DRGR 23.28 313 ⇓*i*P P 02 35 33.3 +0.5
TIR Tirane 23.47 298 ⇓*i*P P 02 35 36.6 +2.0
TIR Tirane 23.47 298 *e*P P 02 35 36.7 +2.0
TIR pmax pmax
comp=Z,30nm,1.3s
TIR Tirane 23.47 298 *e*P P 02 35 36.7 +2.0
comp=Z,30nm,1.3s
TIR Tirane 23.47 298 *e*P P 02 35 36.7 +2.0
comp=Z,30nm,1.3s
BZS Buzias 23.48 309 ⇑*i*P P 02 35 36.2 +1.5
BZS Buzias 23.48 309 ⇑*i*P P 02 35 36.2 +1.5
GRUS Gruza 23.49 305 *e*P P 02 35 35.4 +0.6
IVAS Ivanjica 23.79 304 *e*P P 02 35 37.4 -0.4
TRUS Trudelj 23.81 305 *e*P P 02 35 38.3 +0.4
DIVS Divibare 24.05 305 *e*P P 02 35 40.9 +0.6
PDG Podgorica 24.14 301 ⇑*i*P P 02 35 41.7 +0.7
PDG Podgorica 24.14 301 ⇑*i*P P 02 35 41.7 +0.7
PLE Pljevlja 24.26 303 P P 02 35 44.0 +1.8
ARU Arti 24.36 15 ⇓*i*P P 02 35 43.3 +0.4
comp=Z,2.8nm,0.4s,baz=217,slow=5.1,SNR=4.9
ARU Arti 24.36 15 *d* *i*P P 02 35 42.1 -0.7
ARU S S 02 39 59.2 -1.1
ARU pmax pmax
comp=Z,6.0nm,1.2s
BBLS Lazići 24.39 304 *e*P P 02 35 43.9 +0.5
TEKS Tekeris 24.51 306 *e*P P 02 35 45.5 +1.1
FGSL Fruska Gora 24.51 307 *e*P P 02 35 45.8 +1.4
KWP Kalwaria Pacla 24.68 319 P P 02 35 47.5 +1.6
KWP pmax pmax
comp=Z,110nm,0.8s
HCY Herceg Novi 24.69 300 P P 02 35 46.8 +0.8
BRY Bratogost 24.76 301 P P 02 35 48.1 +1.3
CRVS Cervenica-Dubn 25.01 316 *e*P P 02 35 50.1 +1.2
CRVS Cervenica-Dubn 25.01 316 *e*P P 02 35 50.1 +1.2
KECS Kecovo 25.39 315 *e*P P 02 35 53.1 +0.8
KECS pmax pmax
comp=Z,4.0nm,0.7s
KECS Kecovo 25.39 315 *e*P P 02 35 53.1 +0.8
comp=Z,4.3nm,0.7s
KECS Kecovo 25.39 315 *e*P P 02 35 53.1 +0.8
STHS Stebnicka Huta 25.39 317 *e*P P 02 35 54.5 +2.2
STHS pmax pmax
comp=Z,2.0nm,0.8s
STHS Stebnicka Huta 25.39 317 *e*P P 02 35 54.5 +2.2
comp=Z,1.8nm,0.8s
STHS Stebnicka Huta 25.39 317 *e*P P 02 35 54.5 +2.2
PSZ Piszkesteto 25.50 313 ⇓*i*P P 02 35 53.4 +0.1
PSZ Piszkesteto 25.50 313 ⇓*i*P P 02 35 53.4 +0.1
BRVK Borovoye 25.57 33 ⇓*i*P P 02 35 54.2 +0.4
BRVK pmax pmax
comp=Z,20nm,1.3s
BRVK Borovoye 25.57 33 *e*P P 02 35 54.8 +1.0
comp=Z,5.5nm,0.8s
BVAR Borovoye Array 25.59 33 P P 02 35 54.7 +0.6
comp=Z,2.1nm,0.7s,baz=93,slow=20,SNR=5.7
BVAR PcP **PcP** 02 39 24.9 +0.4
comp=Z,0.5nm,0.4s,baz=180,slow=2.9,SNR=3.8
LANS Liptovska Anna 26.29 316 *e*P P 02 36 01.9 +1.4
LANS Liptovska Anna 26.29 316 *e*P P 02 36 01.9 +1.4
LANS Liptovska Anna 26.29 316 *e*P P 02 36 01.9 +1.4
VYHS Vyhne 26.38 314 *e*P P 02 36 02.3 +1.0
VYHS pmax pmax
comp=Z,3.0nm,0.8s
VYHS Vyhne 26.38 314 *e*P P 02 36 02.3 +1.0
comp=Z,3.0nm,0.8s
VYHS Vyhne 26.38 314 *e*P P 02 36 02.3 +1.0
OJC Ojcow 26.60 318 *e*P P 02 36 04.2 +1.0
OJC pmax pmax
comp=Z,9.0nm,0.7s
OJC Ojcow 26.60 318 *e*P P 02 36 04.2 +1.0
comp=Z,9.1nm,0.7s
MORC Moravsky Berou 27.69 316 ⇑*i*P P 02 36 13.9 +0.8
MORC Moravsky Berou 27.69 316 P P 02 36 13.8 +0.7
MORC Moravsky Berou 27.69 316 *e*P P 02 36 13.6 +0.5
ARSA Arzberg 28.00 309 *e*P P 02 36 17.1 +1.2
comp=Z,1.8nm,0.6s
ARSA Arzberg 28.00 309 P P 02 36 17.1 +1.2
comp=Z,1.8nm,0.6s
CONA Conrad Observa 28.01 311 *e*P P 02 36 16.5 +0.5
comp=Z,5.6nm,1.5s
CONA Conrad Observa 28.01 311 P P 02 36 16.5 +0.5
comp=Z,5.6nm,1.5s
VRAC Vranov 28.06 314 P P 02 36 16.6 +0.2
comp=Z,0.9nm,0.4s,baz=71,slow=7.0,SNR=4.1
VRAC Vranov 28.06 314 *e*P P 02 36 17.2 +0.8
KLMR Klimovskoe 28.11 352 *e*P P 02 36 15.1 -1.5
KLMR pmax pmax
comp=Z,6.0nm,0.7s
SOKA Soboth 28.15 308 *e*P P 02 36 18.7 +1.4
comp=Z,3.0nm,1.0s
SOKA Soboth 28.15 308 P P 02 36 18.7 +1.4
comp=Z,3.0nm,1.0s
OBKA Obir 28.42 308 *e*P P 02 36 22.0 +2.3
comp=Z,6.9nm,1.2s
OBKA Obir 28.42 308 P P 02 36 22.0 +2.3
comp=Z,6.9nm,1.2s
KURBB Kurchatov Arra 28.49 43 P P 02 36 20.6 +0.6
comp=Z,1.6nm,0.8s,baz=249,slow=9.3,SNR=9.7
KURBB PcP **PcP** 02 39 31.2 -0.1
comp=Z,0.2nm,0.4s,baz=251,slow=2.8,SNR=5.0
KURK Kurchatov 28.58 43 *ce*P P 02 36 22.2 +1.3
KURK pmax pmax
comp=Z,10.0nm,0.8s
KURK Kurchatov 28.58 43 PcP **PcP** 02 39 31.2 -0.4
KURK Kurchatov 28.58 43 *e*P P 02 36 22.4 +1.5
comp=Z,3.8nm,0.9s
KURK PcP **PcP** 02 39 31.2 -0.4
DPC Dobruska-Polom 28.65 316 *i* P P 02 36 22.3 +0.7
DPC Dobruska-Polom 28.65 316 *i* P P 02 36 22.3 +0.7
DPC Dobruska-Polom 28.65 316 P P 02 36 22.3 +0.7
MOA Molln 29.00 310 *e*P P 02 36 25.7 +1.0
comp=Z,6.2nm,0.7s,SNR=5.3
MOA Molln 29.00 310 P P 02 36 25.7 +1.0
comp=Z,6.2nm,0.7s,SNR=5.3
MYKA Terra Mystica 29.06 307 *e*pP pP 02 36 30.2 -3.4
comp=Z,3.1nm,0.8s
KBA Koelnbreinsper 29.37 308 *e*P P 02 36 29.2 +1.0
comp=Z,11nm,0.7s,SNR=9.1
KBA Koelnbreinsper 29.37 308 P P 02 36 29.4 +1.2
KBA pmax pmax
comp=Z,17nm,0.8s
KBA Koelnbreinsper 29.37 308 P P 02 36 29.4 +1.2
comp=Z,17nm,0.8s
MK31 Makanchi Array 29.50 52 *e*P P 02 36 31.5 +2.3
MK31 Makanchi Array 29.50 52 *e*P P 02 36 31.5 +2.3
MK31 Makanchi Array 29.50 52 *e*P P 02 36 31.5 +2.3
MKAR Makanchi Array 29.50 52 *e*P P 02 36 31.5 +2.3
MKAR pmax pmax
comp=Z,9.0nm,0.9s
MKAR Makanchi Array 29.50 52 *e*P P 02 36 31.5 +2.3
comp=Z,8.6nm,0.9s
MKAR Makanchi Array 29.50 52 *e*P P 02 36 31.5 +2.3
comp=Z,8.6nm,0.9s
MK01 Makanchi Array 29.50 52 *e*P P 02 36 29.2 0.0
MK01 Makanchi Array 29.50 52 *e*P P 02 36 29.2 0.0
GEA0 GERESS Array S 29.67 312 *e*P P 02 36 30.9 +0.2
GEA0 GERESS Array S 29.67 312 *e*P P 02 36 30.9 +0.2
GERES GERESS Array B 29.67 312 P P 02 36 30.8 0.0
comp=Z,1.3nm,0.7s,baz=108,slow=8.7,SNR=14
ABTA Abfaltersbach 29.84 307 *e*P P 02 36 33.5 +1.2
comp=Z,6.0nm,0.9s
ABTA Abfaltersbach 29.84 307 P P 02 36 33.5 +1.2
comp=Z,6.0nm,0.9s
KHC Kasperske Hory 29.84 312 *i* P P 02 36 32.6 +0.4
KHC Kasperske Hory 29.84 312 *e*P P 02 36 32.7 +0.5
KHC pmax pmax
comp=Z,1.0nm,1.1s
KHC Kasperske Hory 29.84 312 *e*P P 02 36 32.7 +0.5
comp=Z,1.4nm,1.1s
KHC Kasperske Hory 29.84 312 *e*P P 02 36 32.7 +0.5
comp=Z,1.4nm,1.1s
WET Wettzell 30.28 312 P P 02 36 37.2 +1.1
WET pmax pmax
comp=Z,8.0nm,2.2s
WET Wettzell 30.28 312 P P 02 36 37.2 +1.1
comp=Z,8.0nm,2.2s
WTTA Wattenberg 30.55 308 *e*P P 02 36 39.1 +0.4
comp=Z,7.0nm,0.5s,SNR=6.5
WTTA Wattenberg 30.55 308 P P 02 36 39.1 +0.4
comp=Z,7.0nm,0.5s,SNR=6.5
WATA Walderalm 30.61 308 *e*P P 02 36 39.4 +0.3
comp=Z,7.1nm,0.5s,SNR=10
WATA Walderalm 30.61 308 P P 02 36 39.4 +0.3
comp=Z,7.1nm,0.5s,SNR=10
MOTA Moosalm 30.92 308 *e*P P 02 36 41.7 -0.2
comp=Z,9.2nm,0.5s,SNR=15
MOTA Moosalm 30.92 308 P P 02 36 41.7 -0.2
comp=Z,9.2nm,0.5s,SNR=15
CLL Collm 30.96 316 *e*P P 02 36 43.0 +1.0
CLL *e* 02 36 46.0
FUR Furstenfeldbru 31.01 310 P P 02 36 43.5 +1.0
FUR pmax pmax
comp=Z,54nm,0.8s
FUR Furstenfeldbru 31.01 310 P P 02 36 43.5 +1.0
comp=Z,54nm,0.8s
FETA Feichten 31.09 307 *e*P P 02 36 44.3 +0.9
comp=Z,15nm,1.0s,SNR=10.0
FETA Feichten 31.09 307 P P 02 36 44.3 +0.9
comp=Z,15nm,1.0s,SNR=10.0
RETA Reutte 31.18 308 *i* P P 02 36 43.9 -0.1
comp=Z,3.9nm,0.5s
RETA Reutte 31.18 308 P P 02 36 43.9 -0.1
comp=Z,3.9nm,0.5s
FINES FINESS Array B 31.45 340 P P 02 36 45.6 -0.5
comp=Z,0.9nm,0.5s,baz=146,slow=9.9,SNR=9.8
FINES FINESS Array B 31.45 340 *ce*P P 02 36 46.4 +0.2
FINES pmax pmax
comp=Z,1.0nm,0.4s
FINES FINESS Array B 31.45 340 *e*P P 02 36 46.4 +0.2
comp=Z,1.0nm,0.4s
KEST Kesra 31.55 285 P P 02 36 47.9 +0.4
comp=Z,1.8nm,0.9s,baz=72,slow=9.6,SNR=2.8
DAVA Damuels 31.72 307 *e*P P 02 36 49.1 +0.2
comp=Z,20nm,0.5s,SNR=14
DAVA Damuels 31.72 307 P P 02 36 49.1 +0.2
comp=Z,20nm,0.5s,SNR=14
TUE Stuetta 31.91 306 *e*P P 02 36 48.8 -1.9
comp=Z,4.7nm,0.9s
WMQ Urumqi 32.75 59 P P 02 36 59.6 +1.7
WMQ pP sP 02 37 10.4 +0.7
WMQ sP pP 02 37 14.7 +8.5
SBF Sospel 32.90 301 *e*P P 02 37 00.9 +1.7
SBF pmax pmax
comp=Z,21nm,0.9s
SBF Sospel 32.90 301 *e*P P 02 37 00.9 +1.7
comp=Z,21nm,0.9s
ZAA0 Zalesovo Array 33.38 40 *e*P P 02 37 03.9 +0.7
ZAA0 Zalesovo Array 33.38 40 *e*P P 02 37 03.9 +0.7
ZALV Zalesovo Beam 33.38 40 P P 02 37 03.3 +0.1
comp=Z,2.3nm,0.6s,baz=263,slow=8.8,SNR=9.5
ZALV PcP **PcP** 02 39 42.8 -1.5
comp=Z,0.6nm,0.4s,baz=291,slow=4.0,SNR=2.9
BNI Bardonecchia 33.55 303 *e*P P 02 37 05.0 0.0
BNI pmax pmax
comp=Z,15nm,0.8s
BNI Bardonecchia 33.55 303 *e*P P 02 37 05.0 0.0
comp=Z,15nm,0.8s
BNI Bardonecchia 33.55 303 *e*P P 02 37 05.0 0.0
comp=Z,15nm,0.8s
LPG La Plagne 33.55 304 *e*P P 02 37 05.4 +0.2
LPG pmax pmax
comp=Z,8.0nm,0.9s
LPG La Plagne 33.55 304 *e*P P 02 37 05.4 +0.2
comp=Z,8.0nm,0.9s
LPL La Plagne 33.57 304 *e*P P 02 37 05.5 +0.3
LPL pmax pmax
comp=Z,13nm,1.0s
LPL La Plagne 33.57 304 *e*P P 02 37 05.5 +0.3
comp=Z,13nm,1.0s
CDF Champ du Feu 33.67 309 *e*P P 02 37 05.8 -0.1
CDF pmax pmax
comp=Z,4.0nm,1.0s
CDF Champ du Feu 33.67 309 *e*P P 02 37 05.8 -0.1
comp=Z,4.0nm,1.0s
HINF Hinteralfeld 33.83 308 *e*P P 02 37 08.7 +1.4
HINF pmax pmax
comp=Z,3.0nm,0.7s
HINF Hinteralfeld 33.83 308 *e*P P 02 37 08.7 +1.4
comp=Z,3.0nm,0.7s
ORIF Oris-en-Rattie 34.10 302 *e*P P 02 37 09.6 -0.1
ORIF pmax pmax
comp=Z,11nm,1.4s
ORIF Oris-en-Rattie 34.10 302 *e*P P 02 37 09.6 -0.1
comp=Z,11nm,1.4s
CABF La Chapelle 34.16 305 *e*P P 02 37 10.5 +0.4
CABF pmax pmax
comp=Z,19nm,1.0s
CABF La Chapelle 34.16 305 *e*P P 02 37 10.5 +0.4
comp=Z,19nm,1.0s
VIVF Saint-Julien-l 34.95 302 *e*P P 02 37 16.6 -0.4
VIVF pmax pmax
comp=Z,21nm,1.7s
VIVF Saint-Julien-l 34.95 302 *e*P P 02 37 16.6 -0.4
comp=Z,21nm,1.7s
KMBO Kilima Mbogo 35.59 198 LR LR 02 53 18.0
comp=Z,43nm,19.8s,baz=27,slow=39
AVF Avril sur Loir 36.05 305 *e*P P 02 37 26.1 -0.2
AVF pmax pmax
comp=Z,64nm,2.6s
AVF Avril sur Loir 36.05 305 *e*P P 02 37 26.1 -0.2
comp=Z,64nm,2.6s
NC405 NORSAR Array S 36.24 331 *e*P P 02 37 27.8 0.0
NC405 NORSAR Array S 36.24 331 *e*P P 02 37 27.8 0.0
NB2 NORSAR Subarra 36.40 331 P P 02 37 28.4 -0.8
comp=Z,2.8nm,0.7s,baz=126,slow=8.7,SNR=4.5
NB2 NORSAR Subarra 36.40 331 P P 02 37 28.4 -0.8
comp=Z,2.8nm,0.7s,baz=126,slow=9.3
NOA NORSAR Array B 36.40 331 P P 02 37 28.8 -0.4
comp=Z,2.7nm,0.7s,baz=125,slow=8.6,SNR=16
NOA LR LR 02 54 01.4
comp=Z,21nm,20.8s,baz=330,slow=39
ARCES ARCESS Array B 38.38 348 P P 02 37 45.8 0.0
comp=Z,0.8nm,0.6s,baz=146,slow=9.8,SNR=6.7
FLN La Foliniere 38.81 308 *e*P P 02 37 48.9 -0.8
FLN pmax pmax
comp=Z,35nm,1.6s
FLN La Foliniere 38.81 308 *e*P P 02 37 48.9 -0.8
comp=Z,35nm,1.6s
QUIF Quistinic 40.54 307 *e*P P 02 38 05.0 +0.9
QUIF pmax pmax
comp=Z,80nm,2.1s

QUIF	Quistinic	40.54	307	*e*P		P	02 38 05.0	+0.9
	comp=Z,80nm,2.1s							
ES19	SONSECA Array	41.48	294	*e*P		P	02 38 13.4	+1.3
ES19	SONSECA Array	41.48	294	*e*P		P	02 38 13.4	+1.3
ESDC	Sonseca Array	41.54	294	P		P	02 38 12.5	0.0
	comp=Z,0.9nm,0.8s,baz=75,slow=8.6,SNR=7.3							
ESDC				PcP		PcP	02 40 10.0	+0.4
	comp=Z,0.6nm,0.8s,baz=67,slow=3.4,SNR=4.1							
PBAR	Barrancos	44.15	293	*e*P		P	02 38 34.8	+1.2
	comp=Z,34nm,1.6s							
PBAR	Barrancos	44.15	293	*e*P		P	02 38 34.8	+1.2
	comp=Z,34nm,1.6s							
PVRL	Vila Real	44.15	297	*e*P		P	02 38 34.7	+1.1
PVRL	Vila Real	44.15	297	*e*P		P	02 38 34.7	+1.1
MTE	Manteigas	44.15	296	*e*P		P	02 38 35.3	+1.6
	comp=Z,17nm,1.5s							
MTE	Manteigas	44.15	296	*e*P		P	02 38 35.3	+1.6
	comp=Z,17nm,1.5s							
PCBR	Castelo Branco	44.19	295	*e*P		P	02 38 35.2	+1.3
	comp=Z,15nm,1.4s							
PCBR	Castelo Branco	44.19	295	*e*P		P	02 38 35.2	+1.3
	comp=Z,15nm,1.4s							
PMRV	Marv??o	44.19	294	*e*P		P	02 38 35.3	+1.3
	comp=Z,12nm,2.2s							
PMRV	Marv??o	44.19	294	*e*P		P	02 38 35.3	+1.3
	comp=Z,12nm,2.2s							
POLO	Lamas de Olo	44.19	297	*e*P		P	02 38 37.6	+3.5
PESTR	Estremoz	44.44	294	*e*P		P	02 38 36.9	+0.9
	comp=Z,13nm,2.6s							
PESTR	Estremoz	44.44	294	*e*P		P	02 38 36.9	+0.9
	comp=Z,13nm,2.6s							
PGAV	Gavieira, Arco	44.47	298	*e*P		P	02 38 37.6	+1.4
	comp=Z,32nm,2.2s							
PGAV	Gavieira, Arco	44.47	298	*e*P		P	02 38 37.6	+1.4
	comp=Z,32nm,2.2s							
PBEJ	Beja	44.82	293	*e*P		P	02 38 40.5	+1.5
	comp=Z,22nm,1.5s							
PBEJ	Beja	44.82	293	*e*P		P	02 38 40.5	+1.5
	comp=Z,22nm,1.5s							
RTC	Rabat Centre	44.94	287	*e*P		P	02 38 40.1	+0.1
	comp=Z,377nm,0.4s							
RTC	Rabat Centre	44.94	287	*e*P		P	02 38 40.1	+0.1
	comp=Z,377nm,0.4s							
SONM	Songino Array	45.86	53	P		P	02 38 48.0	+0.7
	comp=Z,0.6nm,0.6s,baz=286,slow=10,SNR=3.0							
SONM				PcP		PcP	02 40 24.2	0.0
	comp=Z,0.3nm,0.4s,baz=250,slow=2.4,SNR=2.9							
SONM	Songino Array	45.86	53	P		P	02 38 48.0	+0.7
	comp=Z,1.0nm,0.6s							
ULN	Ulaanbaatar	46.30	53	⇓*i*P		P	02 38 51.8	+1.1
ULN				pmax		pmax		
	comp=Z,3.0nm,0.8s							
ULN	Ulaanbaatar	46.30	53	*e*P		P	02 38 51.4	+0.7
	comp=Z,2.7nm,0.8s							
ULN	Ulaanbaatar	46.30	53	*e*P		P	02 38 51.4	+0.7
	comp=Z,2.7nm,0.8s							
TOA0	Torodi Ar. Sit	46.32	256	*e*P		P	02 38 52.2	+1.1
TOA0	Torodi Ar. Sit	46.32	256	*e*P		P	02 38 52.1	+1.1
TORD	Torodi Ar. Bea	46.32	256	P		P	02 38 52.1	+1.0
	comp=Z,2.3nm,0.8s,baz=51,slow=7.9,SNR=18							
TORD				PcP		PcP	02 40 26.0	-0.1
	comp=Z,0.5nm,0.8s,baz=62,slow=1.6,SNR=2.5							
CMAR	Chiang Mai Arr	47.99	95	P		P	02 39 03.1	-1.0
	comp=Z,1.2nm,0.3s,baz=291,slow=7.6,SNR=3.0							
CMAR	Chiang Mai Arr	47.99	95	P		P	02 39 03.1	-1.0
CMAR				pmax		pmax		
	comp=Z,2.0nm,0.4s							
CMAR	Chiang Mai Arr	47.99	95	P		P	02 39 03.1	-1.0
	comp=Z,2.0nm,0.4s							
HHC	Hu-ho-hao-te	50.56	62	*e*P		P	02 39 24.8	+1.2
HHC				PP		PP	02 41 21.1	+1.7
DBIC	Dimbokro	55.29	254	P		P	02 39 59.1	+0.4
	comp=Z,2.7nm,0.5s,baz=5.4,slow=8.4,SNR=8.6							
KIC	Kosan Boka	55.38	253	*e*P		P	02 40 00.1	+0.7
	comp=Z,40nm,1.3s							
TIC	Toumodi	55.44	254	*e*P		P	02 39 59.9	+0.1
LIC	Lamto	55.69	253	*e*P		P	02 40 02.3	+0.7
	comp=Z,37nm,0.9s							
YAK	Yakutsk	57.57	34	LR		LR	03 05 56.1	
	comp=Z,2μm,21.1s,baz=188,slow=37							
KLR	Kul'dur	62.04	48	P		P	02 40 46.2	+1.0
	comp=Z,1.7nm,0.9s,baz=324,slow=8.9,SNR=4.0							
KSAR	Wonju Array Be	63.66	61	P		P	02 40 55.7	-0.4
KSAR	Wonju Array Be	63.66	61	P		P	02 40 55.7	-0.4
KSAR	Wonju Array Be	63.66	61	P		P	02 40 55.7	-0.4
KSRS	Korea Array	63.68	61	P		P	02 40 55.7	-0.5
	comp=Z,2.3nm,0.7s,baz=282,slow=7.5,SNR=5.6							
USRK	Ussuriysk Ar.	63.97	53	P		P	02 40 57.4	-0.7
	comp=Z,4.7nm,1.0s,baz=292,slow=7.1,SNR=4.3							
MSHR	Mys Shultsa	64.01	55	⇑P		P	02 41 00.5	+2.1
MSHR	Mys Shultsa	64.01	55	P		P	02 41 00.5	+2.1
SEY	Seymchan	67.17	29	P		P	02 41 18.6	+0.2
	comp=Z,2.2nm,0.2s,baz=0.0,slow=20,SNR=4.4							
SCHQ	Schefferville	75.86	327	P		P	02 42 10.0	-1.0
	comp=Z,1.5nm,0.5s,baz=74,slow=4.5,SNR=4.0							
COLD	Coldfoot	78.91	7	*e*P		P	02 42 28.1	+0.3
	comp=Z,3.4nm,0.9s							
COLD	Coldfoot	78.91	7	*e*P		P	02 42 28.1	+0.3
	comp=Z,3.4nm,0.9s							
COLA	College	81.43	7	*e*P		P	02 42 41.5	+0.1
COLA				pmax		pmax		
	comp=Z,6.0nm,0.9s							
COLA	College	81.43	7	*e*P		P	02 42 41.5	+0.1
	comp=Z,6.4nm,0.9s							
COLA	College	81.43	7	*e*P		P	02 42 41.5	+0.1
	comp=Z,6.4nm,0.9s							
ILAR	Eielson Array	81.62	6	P		P	02 42 42.5	+0.1
	comp=Z,1.7nm,0.8s,baz=324,slow=3.7,SNR=20							
KTH	Kantishna Hill	82.38	8	*e*P		P	02 42 46.5	-0.1
	comp=Z,12nm,1.0s							
KTH	Kantishna Hill	82.38	8	*e*P		P	02 42 46.5	-0.1
	comp=Z,12nm,1.0s							
PPLA	Purkeypile	82.86	9	*e*P		P	02 42 48.5	-0.7
	comp=Z,2.9nm,0.7s							
PPLA	Purkeypile	82.86	9	*e*P		P	02 42 48.5	-0.7
	comp=Z,2.9nm,0.7s							
DOT	Dot Lake	82.97	5	*e*P		P	02 42 50.1	+0.5
	comp=Z,11nm,0.9s							
DOT	Dot Lake	82.97	5	*e*P		P	02 42 50.1	+0.5
	comp=Z,11nm,0.9s							
YKA	Yellowknife Ar	83.51	352	P		P	02 42 52.1	-0.3
	comp=Z,0.7nm,0.8s,baz=12,slow=5.3,SNR=3.1							
KDAK	Kodiak Island	87.72	11	*c*e*e*P		P	02 43 14.3	+1.0
KDAK	Kodiak Island	87.72	11	*e*P		P	02 43 14.3	+1.0
WRA	Warramunga Arr	98.01	108	P		P	02 43 58.8	-2.7
	comp=Z,0.2nm,0.5s,baz=316,slow=4.3,SNR=3.2							

NIED ***02*** *02:37:00, 37.30N×141.60E, h5km, Mw4.1 Best double couple: Mo1.74000×10¹⁵ NP1:φ≈213.00000°, δ32.00000°, λ-79.00000°. NP2:φ≈21.00000°, δ58.00000°, λ-97.00000°.*
IDC ***02*** *02:37:35.5±1.0, 37.27N×141.54E, h0km, mb4.1/16, mb1 4.2/16, mb1mx4.0/40, mbtmp4.1/16, ML3.4/1, MS3.4/11, Ms1 3.4/11, ms1mx3.1/51, Error ellipse: s-maj=25.7km s-min=21.7km az=175.0*
ISCJB ***02*** *02:37:36.6±1.1, 37.25N±0.04×141.66E±0.06, h20km±6km, mb4.1/19, MS3.4/7, Error ellipse: s-maj=8.3km s-min=5.6km az=29.4*
JMA ***02*** *02:37:36.9±0.2, 37.27N×141.64E, h29km±2km, M3.9*
NEIC ***02*** *02:37:41.1±0.9, 37.25N×141.49E, h38km±7km, mb4.1/2, Error ellipse: s-maj=11.4km s-min=7.0km az=144.0*
ISC 02 02:37:37.4±1.7,**37.28N**±0.04×**141.57E**±0.06,**h12**km±9km, **n47**,σ0**82**/45,**mb4.2**/19,**MS3.5**/7,**Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
								h m s	ISC
JFK	Kawauchi	0.56	279	P		Pg		02 37 48.5	+0.2
JFK				*e*S		Sb		02 37 57.4	+0.3
ONAJ	Iwakimizuishiy	0.64	254	P		Pg		02 37 50.1	+0.2
ONAJ				*e*S		Sb		02 37 59.3	-0.1
JMM	Marumori	0.85	314	P		Pg		02 37 53.2	-0.6
JMM				*e*S		Sg		02 38 04.9	0.0
JFT	Otama	1.01	284	P		Pb		02 37 56.5	-0.3
JFT				*e*S		Sg		02 38 10.6	+0.6
JHO	Hitachi	1.04	230	P		Pb		02 37 55.8	-1.6
JHO				*e*S		Sb		02 38 09.9	-1.1
JIO	Ouri	1.18	352	P		Pn		02 37 58.0	-1.7
JIO				*e*S		Sb		02 38 13.2	-1.8
JOU	Okura	1.30	327	P		Pn		02 38 01.0	-0.3
JOU				*e*S		Sn		02 38 18.5	-0.1
JFY	Yanaizu	1.49	275	P		Pn		02 38 03.9	-0.1
JFY				*e*S		Sb		02 38 24.1	+0.2
JYS	Shirataka	1.52	309	P		Pn		02 38 04.2	-0.1
JYS				*e*S		Sb		02 38 25.5	+0.9
MJAR	Matsushiro Arr	2.79	256	Pn		Pn		02 38 22.6	+0.7
	5.8nm,0.3s,baz=78,slow=17,SNR=22								
MJAR				Lg		Lg		02 39 02.4	
	3.5nm,0.3s,baz=77,slow=19,SNR=5.9								
MJAR				LR		LR		02 39 40.0	
	comp=Z,612nm,18.3s,baz=65,slow=46								
MAJO	Matsushiro	2.79	256	*e*Pn		Pn		02 38 22.1	+0.2
MAT	Matsushiro	2.79	256	P		Pn		02 38 22.9	+1.0
MAT				S		Sn		02 38 54.2	-1.3
ERM	Erimo	4.88	14	*e*Pn		Pn		02 38 52.7	+2.1
USRK	Ussuriysk Ar.	10.02	317	Pn		Pn		02 40 03.2	+2.1
	0.1nm,0.3s,baz=136,slow=14,SNR=3.9								
USRK				LR		LR		02 43 35.1	
	comp=Z,225nm,19.5s,baz=146,slow=36								
KSRS	Korea Array	10.86	275	Pn		Pn		02 40 18.2	+5.6
	0.3nm,0.3s,baz=74,slow=16,SNR=5.1								
KSRS				LR		LR		02 44 30.9	
	comp=Z,194nm,19.6s,baz=62,slow=38								
KSAR	Wonju Array Be	10.89	275	Pn		Pn		02 40 18.2	+5.1
KLR	Kul'dur	13.90	332	LR		LR		02 46 08.8	
	comp=Z,145nm,19.8s,baz=82,slow=37								
GUMO	Guam	23.78	172	LR		LR		02 52 07.4	
	comp=Z,20nm,21.7s,baz=131,slow=37								
ULN	Ulaanbaatar	27.32	304	*e*P		P		02 43 21.6	-0.4
	1.5nm,0.6s								
SONM	Songino Array	27.75	304	P		P		02 43 26.2	+0.3
	2.7nm,1.0s,baz=97,slow=9.7,SNR=9.0								
SONM				LR		LR		02 54 44.9	
	comp=Z,67nm,18.5s,baz=55,slow=37								
H11N2	WAKE ISLAND Hy	28.17	121	T		T		03 12 58.4	
	baz=314,slow=75,SNR=241								
H11N1	WAKE ISLAND Hy	28.18	121	T		T		03 12 59.0	
	baz=314,slow=75,SNR=202								
H11N3	WAKE ISLAND Hy	28.19	121	T		T		03 12 59.8	
	baz=314,slow=75,SNR=182								
H11S1	WAKE ISLAND Hy	28.89	123	T		T		03 13 53.5	
	baz=316,slow=76,SNR=120								
H11S3	WAKE ISLAND Hy	28.89	124	T		T		03 13 49.6	
	baz=316,slow=76,SNR=90								
H11S2	WAKE ISLAND Hy	28.91	123	T		T		03 13 52.4	
	baz=316,slow=76,SNR=124								
ZALV	Zalesovo Beam	41.84	312	P		P		02 45 26.9	+0.1
	3.8nm,0.8s,baz=88,slow=6.7,SNR=13								
ZALV				LR		LR		03 03 42.7	
	comp=Z,72nm,18.1s,baz=70,slow=38								
KURK	Kurchatov	45.88	308	*e*P		P		02 45 59.4	0.0
KURBB	Kurchatov Arra	45.95	308	P		P		02 46 00.1	+0.2
	3.1nm,0.3s,baz=84,slow=8.7,SNR=15								
RC01	Rabbit Creek A	48.09	37	*e*P		P		02 46 16.1	-0.4
	6.8nm,0.5s								
ILAR	Eielson Array	49.22	32	P		P		02 46 26.0	+0.9
	0.8nm,0.8s,baz=263,slow=6.0,SNR=7.8								
ARU	Arti	56.26	318	P		P		02 47 17.4	+0.1
	1.7nm,0.3s,baz=88,slow=6.3,SNR=4.9								
WRA	Warramunga Arr	57.32	188	P		P		02 47 24.8	-0.4
	0.6nm,0.6s,baz=5.6,slow=7.0,SNR=6.1								
ABKAR	Akbulak array	57.88	310	*e*P		P		02 47 28.5	-0.3
	2.2nm,0.8s								
AKTO	Aktyubinsk	58.60	312	P		P		02 47 33.5	-0.4
	2.1nm,0.8s,baz=67,slow=12,SNR=6.3								
ARCES	ARCESS Array B	63.81	339	P		P		02 48 09.2	+0.2
	2.6nm,0.9s,baz=66,slow=9.4,SNR=3.4								
GEYT	Alibeck	63.82	299	P		P		02 48 09.7	+0.1
	2.7nm,0.8s,baz=58,slow=11,SNR=5.2								
FINES	FINESS Array B	68.65	332	P		P		02 48 39.7	-0.4
	2.5nm,0.8s,baz=66,slow=4.8,SNR=6.1								
KBZ	Khabaz	70.83	311	P		P		02 48 53.8	0.0
	2.5nm,0.8s,baz=99,slow=0.7,SNR=5.1								
KBZ				LR		LR		03 24 58.0	
	comp=Z,34nm,18.0s,baz=38,slow=40								
NB2	NORSAR Subarra	74.01	337	P		P		02 49 12.6	+0.1
	comp=Z,1.0nm,0.9s,baz=38,slow=5.9								
NOA	NORSAR Array B	74.01	337	P		P		02 49 12.7	+0.1
	comp=Z,1.0nm,0.7s,baz=43,slow=5.4,SNR=4.7								
NOA				LR		LR		03 24 33.9	
	comp=Z,24nm,18.0s,baz=315,slow=38								
AKASG	Malin Array Be	74.18	322	LR		LR		03 26 00.8	
	comp=Z,32nm,18.1s,baz=270,slow=39								
PDAR	Pinedale Array	77.40	46	P		P		02 49 33.0	+0.4
	comp=Z,0.4nm,0.7s,baz=316,slow=4.1,SNR=4.0								
BRTR	Keskin Array B	78.78	312	P		P		02 49 39.3	-0.8
	comp=Z,0.7nm,1.1s,baz=90,slow=5.8,SNR=2.5								
MMAI	Mount Meron Ar	81.92	305	LR		LR		03 30 20.7	
	comp=Z,30nm,18.8s,baz=260,slow=39								
GERES	GERESS Array B	82.57	328	P		P		02 49 60.0	-0.2
	comp=Z,0.4nm,0.6s,baz=350,slow=4.1,SNR=3.8								
TXAR	Lajitas Array	89.87	52	P		P		02 50 37.6	+1.1
	comp=Z,0.7nm,0.9s,baz=324,slow=3.2,SNR=4.3								

MEX 02 02:45:10.7±0.6,**17.49N**×**101.40W**,**h16**km±11km,**MD3.7, Near coast of Guerrero**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
								h m s	ISC
ZIIG	Zihuatanejo	0.13	334	*i*P		Pg		02 45 13.6	-0.9
ZIIG				*e*S		Sg		02 45 16.4	-0.7
CAIG	El Cayaco	1.17	112	*e*P		Pn		02 45 28.0	-4.4
CAIG				*i*S		Sb		02 45 42.6	-4.9
ARIG	Puente Sto Nin	1.28	52	*i*P		Pn		02 45 30.4	-3.6
ARIG				*i*S		Sb		02 45 44.8	-5.9
MEIG	Mezcala	1.75	75	*e*P		Pn		02 45 36.8	-3.8
MEIG				*i*S		Sn		02 45 58.1	-4.6
PLIG	Platanillo	2.02	63	*i*P		Pn		02 45 41.1	-3.1
PLIG				*i*S		Sn		02 46 04.5	-4.7
TLIG	Tlapa	2.71	88	*i*P		Pn		02 45 51.4	-2.3
TLIG				*i*S		Sn		02 46 22.1	-4.1

GUC 02 02:57:39.2±0.6,**20.23S**×**69.11W**,**h98**km±3km,**ML3.6, 4C-1D, Northern Chile**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
								h m s	ISC
PB08	IPOC Station P	0.10	333	⇑*i*P		Pn		02 57 53.8	+0.4
PB08				*i*S		Sn		02 58 05.0	+1.0
PB08				IAML				02 58 06.3	
	comp=N,5μm,0.1s								
PB11	IPOC Station P	0.69	312	⇑*i*P		Pn		02 57 56.8	+0.2
PB11				*i*S		Sn		02 58 10.7	+1.1
HMBC	Humberstone	0.73	266	⇑*i*P		Pn		02 57 57.3	+0.4
HMBC				*i*S		Sn		02 58 11.0	+0.8
HMBC				IAML				02 58 12.8	
	comp=E,2μm,0.5s								
PSGC	Pisagua	1.14	303	*e*P		Pn		02 58 01.2	0.0
PSGC				*i*S		Sn		02 58 18.5	+0.7
MNMC	Minye Minye	1.18	337	⇑*i*P		Pn		02 58 02.2	+0.3
MNMC				*i*S		Sn		02 58 20.1	+1.2
MNMC				IAML				02 58 21.7	
	comp=N,2μm,0.1s								
PB07	IPOC Station P	1.66	206	⇓*i*P		Pn		02 58 08.4	+0.8
PB07				IAML				02 58 39.3	
	comp=E,572nm,0.2s								
PB04	IPOC Station P	2.31	205	*e*P		Pn		02 58 17.2	+1.3
PB04				*e*S		Sn		02 58 45.8	+1.7
PB04				IAML				02 58 56.1	
	comp=E,325nm,0.2s								
PB06	IPOC Station P	2.50	190	*e*P		Pn		02 58 20.0	+1.5

IDC ***02*** *03:01:02.9±2.6, 37.29N×141.88E, h0km, mb3.5/3, mb1 3.5/4, mb1mx3.3/56, mbtmp3.4/4, ML2.9/1, Error ellipse: s-maj=65.5km s-min=29.4km az=64.0*
ISCJB ***02*** *03:01:04.7±1.4, 37.26N±0.04×141.70E±0.08, h18km±8km, mb3.5/3, Error ellipse: s-maj=11.4km s-min=6.3km az=26.1*
JMA ***02*** *03:01:05.9±0.2, 37.28N×141.62E, h28km±2km, M3.2*
ISC 02 03:01:03.5±2.1,**37.27N**±0.05×**141.72E**±0.08,**h2**km±11km, **n18**,σ0**91**/21,**mb3.5**/3,**Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
								h m s	ISC
JFK	Kawauchi	0.68	279	P		Pb		03 01 17.5	-0.6
JFK				S		Sg		03 01 25.6	+0.3
ONAJ	Iwakimizuishiy	0.75	257	P		Pb		03 01 18.9	-0.4
ONAJ				S		Sg		03 01 28.3	+0.7
JMM	Marumori	0.95	309	P		Pg		03 01 22.0	+0.4
JMM				S		Sg		03 01 33.7	-0.2
JFT	Otama	1.13	283	P		Pg		03 01 25.3	+0.2
JFT				S		Sg		03 01 39.3	-0.4
JHO	Hitachi	1.13	235	P		Pg		03 01 24.5	-0.6
JHO				S		Sg		03 01 39.2	-0.6
JIO	Ouri	1.22	346	P		Pg		03 01 27.0	+0.2
JIO				S		Sg		03 01 42.0	-0.6
JOU	Okura	1.38	323	P		Pn		03 01 29.8	+0.1
JOU				S		Sg		03 01 47.2	-0.5
MJAR	Matsushiro Arr	2.90	257	Pn		Pn		03 01 51.5	+0.8
	1.5nm,0.3s,baz=74,slow=16,SNR=5.4								
MJAR				Sn		Sn		03 02 25.5	-0.7
	1.6nm,0.3s,baz=39,slow=13,SNR=4.8								
MAT	Matsushiro	2.91	257	P		Pn		03 01 52.9	+2.1
MAT				S		Sn		03 02 24.6	-1.7
SONM	Songino Array	27.86	304	P		P		03 06 56.0	+1.5
	0.3nm,0.5s,baz=99,slow=7.6,SNR=2.2								
H11N2	WAKE ISLAND Hy	28.06	122	T		T		03 36 22.8	
	baz=314,slow=75,SNR=64								
H11N1	WAKE ISLAND Hy	28.07	122	T		T		03 36 24.6	
	baz=314,slow=75,SNR=76								
H11N3	WAKE ISLAND Hy	28.08	122	T		T		03 36 24.2	
	baz=314,slow=75,SNR=59								
H11S1	WAKE ISLAND Hy	28.79	124	T		T		03 37 17.3	
	baz=316,slow=76,SNR=53								
H11S3	WAKE ISLAND Hy	28.79	124	T		T		03 37 17.4	
	baz=316,slow=76,SNR=27								
H11S2	WAKE ISLAND Hy	28.80	124	T		T		03 37 18.6	
	baz=316,slow=76,SNR=42								
KURBB	Kurchatov Arra	46.05	308	P		P		03 09 27.9	-0.6
	0.3nm,0.4s,baz=82,slow=8.1,SNR=2.7								
WRA	Warramunga Arr	57.33	188	P		P		03 10 52.9	0.0
	0.5nm,0.9s,baz=6.5,slow=7.5,SNR=2.5								

IDC ***02*** *03:02:18.1±2.4, 10.34S×120.66E, h0km, mb4.3/1, mb1 4.0/4, mb1mx3.5/44, mbtmp3.9/4, ML3.8/3, MS3.2/1, Ms1 3.2/1, ms1mx2.5/31, Error ellipse: s-maj=182.5km s-min=26.0km az=56.0*
ISCJB ***02*** *03:02:19.9±0.7, 10.74S±0.07×120.66E±0.08, h35km, mb4.2/1, MS3.2/1, Error ellipse: s-maj=14.0km s-min=5.6km az=136.8*
DJA ***02*** *03:02:23.2±1.0, 11.5S±6.2×12.0E±4.2, h10km, M3.6/6, MLv3.6/6*
ISC 02 03:02:21.9±0.9,**10.65S**±0.14×**120.78E**±0.11,**h35**km,**n8**, σ3**04**/13,**Sumba region**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
								h m s	ISC
BASI	Baing, Sumba	0.43	330	P		Pn		03 02 32.0	+0.4
BASI				S		Sn		03 02 37.4	-0.8
PLAI	Plampang	3.45	300	P		Pn		03 03 12.8	-0.4
PLAI				S		Sn		03 03 51.6	-1.3
TWSI	Taliwang, Sumb	4.28	295	P		Pn		03 03 24.3	-0.2
TWSI				S		Sn		03 04 11.8	-1.4
FITZ	Fitzroy Crossi	8.81	148	Pn		Pn		03 04 30.2	+3.3
	0.9nm,0.3s,baz=321,slow=9.3,SNR=46								
FITZ				Sn		Sn		03 06 02.9	-2.2
	0.3nm,0.3s,baz=342,slow=20,SNR=3.7								
WRA	Warramunga Arr	16.02	127	Pn		P		03 06 07.3	-0.5
	0.3nm,0.3s,baz=302,slow=14,SNR=6.8								
WRA				Sn		Sn		03 08 56.5	-4.9
	0.1nm,0.3s,baz=291,slow=24,SNR=4.2								
ASAR	Alice Springs	18.03	138	P		P		03 06 34.9	+4.8
	0.3nm,0.3s,baz=315,slow=12,SNR=16								
ASAR				S		Sn		03 09 45.1	-5.1
	0.1nm,0.3s,baz=308,slow=21,SNR=3.2								
KSRS	Korea Array	48.26	8	LR		LR		03 32 10.4	
	comp=Z,30nm,21.0s,baz=52,slow=37								
ZALV	Zalesovo Beam	71.16	338	P		P		03 13 36.7	-0.1
	0.9nm,0.3s,baz=138,slow=5.2,SNR=3.1								

MEX 02 03:09:35.2±0.3,**25.11N**×**99.69W**,**h20**km,**MD3.6, Northern Mexico**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
								h m s	ISC
LNIG	Linares	0.29	136	*i*P		Pb		03 09 40.8	-1.0
	baz=316,slow=16								
LNIG				*i*S		Sb		03 09 45.1	-1.2

JMA 02 03:15:09.9±0.1,**36.79N**×**141.14E**,**h47**km±1km,**M3.5, Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
								h m s	ISC
ONAJ	Iwakimizuishiy	0.41	319	P		Pn		03 15 19.6	-0.4
ONAJ				S		Sn		03 15 26.5	-0.7
JHO	Hitachi	0.49	249	P		Pn		03 15 20.7	-0.2
JHO				S		Sn		03 15 28.3	-0.4
JFK	Kawauchi	0.61	340	P		Pn		03 15 22.0	-0.5
JFK				S		Sn		03 15 30.4	-1.1
JFT	Otama	0.97	319	P		Pn		03 15 28.0	+0.8
JMM	Marumori	1.11	346	P		Pn		03 15 28.8	-

GEMT				*e*SN	**Sn**	**03 30 59.2**	**+0.9**	
GEMT	**Gemlik**	**1.32**	**4**	*e*Pn	**Pg**	**03 30 40.5**	**-0.2**	
GEMT				*e*Sn	**Sn**	**03 30 59.2**	**+0.9**	
DENT	**Denizli**	**1.36**	**182**	*e*PN	**Pg**	**03 30 41.3**	**-0.1**	
DENT	**Denizli**	**1.36**	**182**	*e*Pn	**Pg**	**03 30 41.3**	**-0.1**	
ADVT	**Abdulvahap**	**1.41**	**21**	*e*Pn	**Pb**	**03 30 41.5**	**-0.6**	
ADVT	**Abdulvahap**	**1.41**	**21**	*e*Pn	**Pb**	**03 30 41.5**	**-0.6**	
DNZL	**Cakiroluk**	**1.42**	**181**	*i* P	**Pn**	**03 30 40.7**	**-1.2**	
DNZL	**Cakiroluk**	**1.42**	**181**	P	**Pn**	**03 30 40.7**	**-1.2**	
ESKT	**Eskisehir**	**1.43**	**73**	*e*PN	**Pg**	**03 30 42.2**	**-0.5**	
ESKT	**Eskisehir**	**1.43**	**73**	*e*Pn	**Pg**	**03 30 42.3**	**-0.5**	
ARMT	**Armutlu**	**1.46**	**353**	*e*PN	**Pg**	**03 30 42.8**	**-0.5**	
ARMT				*e*SN	**Sg**	**03 31 02.5**	**+0.3**	
ARMT	**Armutlu**	**1.46**	**353**	*e*Pn	**Pg**	**03 30 42.8**	**-0.5**	
ARMT				*e*Sn	**Sg**	**03 31 02.5**	**+0.3**	
AYDB	**Zeytinkoy-Aydi**	**1.49**	**219**	*e*PN	**Pn**	**03 30 42.6**	**-0.2**	
AYDB	**Zeytinkoy-Aydi**	**1.49**	**219**	*e*Pn	**Pn**	**03 30 42.6**	**-0.2**	
SBT5	**Esenkoy-Cinarc**	**1.52**	**354**	*e*PN	**Pg**	**03 30 44.2**	**-0.3**	
SBT5	**Esenkoy-Cinarc**	**1.52**	**354**	*e*Pn	**Pg**	**03 30 44.2**	**-0.3**	
KNL	**Bal¯–kesir**	**1.67**	**314**	*i* P	**Pn**	**03 30 45.5**	**+0.5**	
KNL				*i* S	**Sg**	**03 31 08.2**	**-0.7**	
DKL	**Dikili**	**1.69**	**269**	*e*PN	**Pn**	**03 30 46.0**	**+0.6**	
DKL	**Dikili**	**1.69**	**269**	*e*Pn	**Pn**	**03 30 46.0**	**+0.6**	
GULT	**Gulveren**	**1.72**	**40**	*e*PN	**Pb**	**03 30 46.4**	**-0.9**	
GULT	**Gulveren**	**1.72**	**40**	*e*Pn	**Pb**	**03 30 46.4**	**-0.9**	
BUY	**Buyukada**	**1.74**	**1**	*e*PN	**Pb**	**03 30 47.2**	**-0.4**	
BUY	**Buyukada**	**1.74**	**1**	*e*Pn	**Pb**	**03 30 47.2**	**-0.4**	
HRT	**Hereke**	**1.76**	**15**	*e*PN	**Pb**	**03 30 47.1**	**-0.9**	
HRT	**Hereke**	**1.76**	**15**	*e*Pn	**Pb**	**03 30 47.2**	**-0.9**	
SBT2	**Guzelce-Avcila**	**1.82**	**346**	*e*PN	**Pn**	**03 30 47.4**	**+0.4**	
SBT2	**Guzelce-Avcila**	**1.82**	**346**	*e*Pn	**Pn**	**03 30 47.4**	**+0.4**	
SPNC	**Sapanca-Adapaz**	**1.83**	**31**	*e*PN	**Pb**	**03 30 48.1**	**-1.1**	
SPNC	**Sapanca-Adapaz**	**1.83**	**31**	*e*Pn	**Pb**	**03 30 48.1**	**-1.1**	
KRBG	**Karabiga-Canak**	**1.88**	**313**	*e*PN	**Pb**	**03 30 49.3**	**-0.7**	
KRBG	**Karabiga-Canak**	**1.88**	**313**	*e*Pn	**Pb**	**03 30 49.3**	**-0.7**	
SVRH	**Sivrihisar-ESK**	**1.92**	**79**	*e*PN	**Pn**	**03 30 49.4**	**+0.7**	
SVRH	**Sivrihisar-ESK**	**1.92**	**79**	*e*Pn	**Pn**	**03 30 49.4**	**+0.7**	
KAVV	**Kandilli-Istan**	**1.95**	**359**	*e*PN	**Pb**	**03 30 50.4**	**-0.8**	
KAVV	**Kandilli-Istan**	**1.95**	**359**	*e*Pn	**Pb**	**03 30 50.4**	**-0.8**	
ISK	**Istanbul-Kandi**	**1.95**	**359**	*e*PN	**Pn**	**03 30 49.7**	**+0.8**	
ISK	**Istanbul-Kandi**	**1.95**	**359**	P	**Pb**	**03 30 51.2**	**0.0**	
ISK				S	**Sb**	**03 31 15.5**	**-0.3**	
ISK	**Istanbul-Kandi**	**1.95**	**359**	*e*Pn	**Pn**	**03 30 49.7**	**+0.8**	
ISK	**Istanbul-Kandi**	**1.95**	**359**	P	**Pb**	**03 30 51.2**	**0.0**	
ISK				S	**Sb**	**03 31 15.5**	**-0.3**	
SBT3	**Marmara-Eregli**	**1.96**	**335**	*e*PN	**Pb**	**03 30 50.7**	**-0.6**	
SBT3	**Marmara-Eregli**	**1.96**	**335**	*e*Pn	**Pb**	**03 30 50.7**	**-0.6**	
SILT	**Sile**	**2.08**	**12**	*e*PN	**Pb**	**03 30 52.1**	**-1.4**	
SILT	**Sile**	**2.08**	**12**	*e*Pn	**Pb**	**03 30 52.1**	**-1.4**	
MLSB	**Milas**	**2.09**	**210**	*e*PN	**Pn**	**03 30 52.1**	**+1.2**	
MLSB	**Milas**	**2.09**	**210**	*e*Pn	**Pn**	**03 30 52.1**	**+1.2**	
MDUB	**Mudurnu**	**2.12**	**50**	*e*PN	**Pb**	**03 30 52.6**	**-1.5**	
MDUB	**Mudurnu**	**2.12**	**50**	*e*Pn	**Pb**	**03 30 52.7**	**-1.5**	
KLYT	**Kilyos**	**2.14**	**359**	*e*PN	**Pb**	**03 30 52.8**	**-1.6**	
KLYT	**Kilyos**	**2.14**	**359**	*e*Pn	**Pb**	**03 30 52.8**	**-1.6**	
CTKS	**Kestanelik-??a**	**2.17**	**348**	*e*PN	**Pn**	**03 30 53.0**	**+1.1**	
CTKS	**Kestanelik-??a**	**2.17**	**348**	*e*Pn	**Pn**	**03 30 53.0**	**+1.1**	
LPK	**Lapseki**	**2.19**	**306**	*e*PN	**Pb**	**03 30 53.8**	**-1.5**	
LPK	**Lapseki**	**2.19**	**306**	*e*Pn	**Pb**	**03 30 53.8**	**-1.5**	
PRK	**Paraskevi**	**2.19**	**274**	P	**Pn**	**03 30 51.1**	**-1.1**	
PRK				S	**Sb**	**03 31 21.3**	**-1.4**	
PRK	**Paraskevi**	**2.19**	**274**	P	**Pn**	**03 30 51.1**	**-1.1**	
PRK				S	**Sb**	**03 31 21.3**	**-1.4**	
KIZT	**Kizilcal**	**2.19**	**95**	*e*PN	**Pn**	**03 30 53.4**	**+1.0**	
KIZT	**Kizilcal**	**2.19**	**95**	*e*Pn	**Pn**	**03 30 53.4**	**+1.0**	
SLVT	**Silivri**	**2.22**	**343**	*e*PN	**Pn**	**03 30 53.4**	**+0.8**	
SLVT	**Silivri**	**2.22**	**343**	*e*Pn	**Pn**	**03 30 53.4**	**+0.8**	
SUTC	**Sutluce-Ispart**	**2.22**	**137**	*e*PN	**Pn**	**03 30 53.8**	**+0.9**	
SUTC	**Sutluce-Ispart**	**2.22**	**137**	*e*Pn	**Pn**	**03 30 53.8**	**+0.9**	
EZN	**Ezine**	**2.25**	**289**	*e*PN	**Pn**	**03 30 54.2**	**+1.1**	
EZN	**Ezine**	**2.25**	**289**	*e*Pn	**Pn**	**03 30 54.2**	**+1.1**	
DALY	**Dalyan (Mu¯la**	**2.32**	**189**	*e*PN	**Pn**	**03 30 54.4**	**+0.4**	
DALY	**Dalyan (Mu¯la**	**2.32**	**189**	*e*Pn	**Pn**	**03 30 54.4**	**+0.4**	
BOZC	**Bozcaada**	**2.46**	**288**	*e*PN	**Pn**	**03 30 57.2**	**+1.3**	
BOZC	**Bozcaada**	**2.46**	**288**	*e*Pn	**Pn**	**03 30 57.2**	**+1.3**	
CHOS	**Chios island**	**2.48**	**254**	P	**Pn**	**03 30 54.9**	**-1.4**	
CHOS				S	**Sn**	**03 31 28.9**	**+2.0**	
CHOS	**Chios island**	**2.48**	**254**	P	**Pn**	**03 30 54.9**	**-1.4**	
CHOS				S	**Sn**	**03 31 28.9**	**+2.0**	
SIGR	**SIGRI**	**2.51**	**273**	P	**Pn**	**03 30 56.0**	**-0.6**	
SIGR				S	**Sn**	**03 31 29.2**	**+1.6**	
SIGR	**SIGRI**	**2.51**	**273**	P	**Pn**	**03 30 56.0**	**-0.6**	
SIGR				S	**Sn**	**03 31 29.2**	**+1.6**	
ERIK	**Erikli-Kesan**	**2.52**	**309**	*e*PN	**Pn**	**03 30 58.3**	**+1.6**	
ERIK	**Erikli-Kesan**	**2.52**	**309**	*e*Pn	**Pn**	**03 30 58.3**	**+1.6**	
GADA	**Gvkgeada**	**2.68**	**295**	*e*PN	**Pn**	**03 31 00.0**	**+1.0**	
GADA	**Gvkgeada**	**2.68**	**295**	*e*Pn	**Pn**	**03 31 00.0**	**+1.0**	
ENEZ	**Enez**	**2.77**	**307**	*e*PN	**Pn**	**03 31 01.8**	**+1.5**	
ENEZ	**Enez**	**2.77**	**307**	*e*Pn	**Pn**	**03 31 01.8**	**+1.5**	
KONT	**Konya--Tatoy**	**2.82**	**113**	*e*PN	**Pn**	**03 31 01.5**	**+0.5**	
KONT	**Konya--Tatoy**	**2.82**	**113**	*e*Pn	**Pn**	**03 31 01.5**	**+0.5**	
ALN	**Alexandroupoli**	**2.94**	**308**	P	**Pn**	**03 31 02.6**	**+0.1**	
ALN				S	**Sn**	**03 31 40.7**	**+2.7**	
ALN	**Alexandroupoli**	**2.94**	**308**	P	**Pn**	**03 31 02.6**	**+0.1**	
ALN				S	**Sn**	**03 31 40.7**	**+2.7**	
SMTH	**Samothraki Isl**	**3.05**	**297**	P	**Pn**	**03 31 03.6**	**-0.5**	
SMTH				S	**Sn**	**03 31 42.7**	**+1.7**	
SMTH	**Samothraki Isl**	**3.05**	**297**	P	**Pn**	**03 31 03.6**	**-0.5**	
SMTH				S	**Sn**	**03 31 42.7**	**+1.7**	
AFSR	**Af¯ar-Bala (A**	**3.11**	**83**	*e*PN	**Pn**	**03 31 06.3**	**+1.3**	
AFSR	**Af¯ar-Bala (A**	**3.11**	**83**	*e*Pn	**Pn**	**03 31 06.3**	**+1.3**	
LIA	**Limnos Island**	**3.12**	**286**	P	**Pn**	**03 31 04.9**	**-0.1**	
LIA				S	**Sn**	**03 31 42.5**	**0.0**	
LIA	**Limnos Island**	**3.12**	**286**	P	**Pn**	**03 31 04.9**	**-0.1**	
LIA				S	**Sn**	**03 31 42.5**	**0.0**	
EDRB	**Edirne**	**3.26**	**328**	*e*PN	**Pn**	**03 31 08.3**	**+1.3**	
EDRB	**Edirne**	**3.26**	**328**	P	**Pn**	**03 31 06.9**	**-0.1**	
EDRB	**Edirne**	**3.26**	**328**	P	**Pn**	**03 31 06.9**	**-0.1**	
EDRB	**Edirne**	**3.26**	**328**	*e*Pn	**Pn**	**03 31 08.3**	**+1.3**	
RDO	**Rodhopi**	**3.39**	**308**	P	**Pn**	**03 31 09.9**	**+1.1**	
RDO				S	**Sn**	**03 31 52.4**	**+3.1**	
RDO	**Rodhopi**	**3.39**	**308**	P	**Pn**	**03 31 09.9**	**+1.1**	
RDO				S	**Sn**	**03 31 52.4**	**+3.1**	

MEX 02 03:30:19.4±0.8, 16.16N×98.02W, h5km, MD3.9, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.26**	**335**	*i* P	Pg	03 30 23.4	-1.1
PNIG				*e*S	Sg	03 30 27.8	-0.1
TLIG	**Tlapa**	**1.49**	**339**	*e*P	Pn	03 30 43.8	-3.2
TLIG				*i* S	Sn	03 31 02.9	-4.1
VHO	**Vista Hermosa**	**1.53**	**53**	*e*P	Pn	03 30 43.5	-4.1
VHO				*i* S	Sn	03 31 03.3	-4.7
CAIG	**El Cayaco**	**2.33**	**293**	*i* P	Pn	03 30 54.6	-3.8
CAIG				*i* S	Sn	03 31 23.2	-4.3
MEIG	**Mezcala**	**2.33**	**319**	*i* P	Pn	03 30 55.2	-3.3
MEIG				*e*S	Sn	03 31 23.2	-4.5
PLIG	**Platanillo**	**2.64**	**328**	*e*P	Pn	03 31 00.6	-2.2
PLIG				*e*S	Sn	03 31 31.7	-3.5
ARIG	**Puente Sto Nin**	**3.07**	**314**	*e*P	Pn	03 31 06.2	-2.5
ARIG				*i* S	Sn	03 31 41.9	-3.8

*IDC **02** 03:46:07.9±0.6, 3.50S×79.67W, h72km±5km, mb4.1/14, mb1 4.4/21, mb1mx4.2/40, mbtmp4.5/21, MS3.7/9, Ms1 3.7/9, ms1mx3.5/24, Error ellipse: s-maj=17.3km s-min=10.1km az=63.0*

*ISCJB **02** 03:46:08.7±0.7, 3.44S±0.02×79.62W±0.04, h92km±6km, mb4.8/85, Error ellipse: s-maj=7.1km s-min=3.3km az=159.1*

*NEIC **02** 03:46:09.3±0.6, 3.53S×79.65W, h86km±6km, mb4.9/74, MD5.3(IGQ), Error ellipse: s-maj=6.7km s-min=3.3km az=69.0*

NEIC Felt [III] at Cuenca and Guayaquil and [II] at Loja and Machala. Also felt at Pasaje, Quevedo, Samborondon and Zamora. Felt [III] at Tumbes, Peru.

ISC 02 03:46:07.9±0.5, 3.56S±0.05×79.69W±0.08, h74km±4km, h74km:pP-P, n434, σ1§13/460, mb4.9/85, 1D, Near coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATAH	**Atahualpa**	**3.78**	**160**	P	**Pn**	**03 47 06.0**	**+1.8**
	51nm,0.3s,baz=9.5,slow=8.5,SNR=168						
ATAH				S	**Sn**	**03 47 51.3**	**+3.6**
	74nm,0.3s,baz=7.1,slow=16,SNR=5.3						

ATAH				Lg	Lg	03 48 09.2		
	83nm,0.3s,baz=329,slow=18,SNR=7.4							
CMBC	**Cumbal**	**4.84**	**23**	*e*P	**Pn**	**03 47 20.6**	**+1.8**	
CRUC	**La Cruz**	**5.78**	**28**	*e*P	**Pn**	**03 47 33.2**	**+1.7**	
GRGC	**Isla de Gorgon**	**6.69**	**13**	*e*P	**Pn**	**03 47 42.3**	**-1.4**	
POPC	**Popayan, Colom**	**6.76**	**26**	*e*P	**Pn**	**03 47 44.4**	**-0.4**	
PRAC	**Prado**	**8.67**	**34**	*e*P	**Pn**	**03 48 09.7**	**-1.0**	
NNA	**Nana**	**8.84**	**162**	P	**Pn**	**03 48 12.8**	**-0.3**	
	18nm,0.3s,baz=325,slow=12,SNR=24							
NNA				S	**Sn**	**03 49 47.6**	**-3.5**	
	17nm,0.3s,baz=305,slow=19,SNR=4.1							
NNA	**Nana**	**8.84**	**162**	*e*Pn	**Pn**	**03 48 13.0**	**0.0**	
NNA				*e*Sn	**Sn**	**03 49 45.9**	**-5.2**	
ROSC	**El Rosal**	**9.91**	**33**	P	**Pn**	**03 48 28.2**	**+0.1**	
	1.5nm,0.3s,baz=158,slow=19,SNR=3.1							
ROSC				Lg	Lg	03 51 25.2		
	1.2nm,0.3s,baz=105,slow=20,SNR=2.1							
ROSC				LR	LR	03 52 43.8		
	comp=Z,733nm,20.8s,baz=220,slow=40							
ROSC	**El Rosal**	**9.91**	**33**	*e*P	**Pn**	**03 48 26.7**	**-1.4**	
CHIC	**Chingaza**	**10.07**	**36**	*e*P	**Pn**	**03 48 30.7**	**+0.5**	
NORC	**Norcasia**	**10.26**	**28**	*e*P	**Pn**	**03 48 32.4**	**0.0**	
HELC	**Santa Helena**	**10.54**	**23**	*e*Pn	**Pn**	**03 48 38.7**	**+2.2**	
RUSC	**La Rusia**	**11.47**	**35**	*e*Pn	**Pn**	**03 48 50.5**	**+1.1**	
JTS	**JuntasAbangare**	**14.72**	**339**	P	**Pn**	**03 49 32.0**	**-0.4**	
	0.2nm,0.3s,baz=245,slow=14,SNR=2.4							
SDV	**Santo Domingo**	**15.30**	**36**	P	**Pn**	**03 49 38.7**	**-1.3**	
	3.5nm,0.3s,baz=221,slow=20,SNR=2.9							
SDV	**Santo Domingo**	**15.30**	**36**	*e*Pn	**Pn**	**03 49 41.2**	**+1.1**	
LPAZ	**La Paz**	**17.00**	**139**	P	**Pn**	**03 50 00.7**	**-1.0**	
	1.7nm,0.3s,baz=327,slow=13,SNR=65							
LPAZ				LR	LR	03 57 37.2		
	comp=Z,278nm,20.8s,baz=312,slow=40							
LPAZ	**La Paz**	**17.00**	**139**	*e*Pn	**Pn**	**03 50 01.5**	**-0.3**	
	32nm,0.8s							
SAML	**Samuel**	**17.25**	**109**	*e*Pn	**Pn**	**03 50 01.3**	**-2.9**	
	62nm,0.8s							
SAML				*e*Sn	Sn	03 53 03.9	-12	
PB11	**IPOC Station P**	**18.85**	**149**	*e*Pn	**Pn**	**03 50 23.6**	**-0.1**	
	46nm,0.9s							
PTGA	**Pitinga**	**19.90**	**82**	P	**P**	**03 50 31.9**	**-1.9**	
	3.6nm,0.3s,baz=266,slow=13,SNR=50							
PTGA				S	S	03 53 59.8	-14	
	0.7nm,0.3s,baz=319,slow=19,SNR=2.2							
PTGA				LR	LR	03 58 52.6		
	comp=Z,302nm,19.6s,baz=266,slow=38							
PTGA	**Pitinga**	**19.90**	**82**	*e*P	**P**	**03 50 32.7**	**-1.0**	
	24nm,0.7s							
PTGA				S	S	03 53 59.8	-14	
PB01	**IPOC Station P**	**20.01**	**151**	*e*P	Pn	03 50 36.9	-0.5	
	32nm,1.1s							
PCRV	**Puerto La Cruz**	**20.27**	**48**	P	**P**	**03 50 37.8**	**0.0**	
	105nm,0.7s,baz=342,slow=1.7,SNR=26							
PCRV				LR	LR	03 59 42.1		
	comp=Z,210nm,19.5s,baz=220,slow=40							
PB04	**IPOC Station P**	**20.83**	**154**	*e*P	Pn	03 50 45.8	-1.3	
	72nm,1.1s							
LVC	**Limon Verde**	**21.63**	**152**	P	**P**	**03 50 54.9**	**+2.2**	
	120nm,0.8s,baz=327,slow=7.2,SNR=41							
LVC	**Limon Verde**	**21.63**	**152**	*e*P	**P**	**03 50 54.8**	**+2.2**	
	45nm,0.9s							
PB10	**IPOC Station P**	**21.71**	**157**	*e*P	**P**	**03 50 54.9**	**+1.8**	
	53nm,1.1s							
SIV	**San Ignacio**	**22.09**	**125**	P	**P**	**03 50 57.5**	**+0.2**	
	10.0nm,0.6s,baz=312,slow=9.7,SNR=24							
SIV				S	**S**	**03 55 00.3**	**+3.6**	
	1.8nm,0.7s,baz=7.1,slow=16,SNR=2.2							
TPP	**Pointe-a-Pierr**	**22.80**	**53**	*e*	**P**	**03 51 04.7**	**-0.1**	
TRN	**Trinidad (W)**	**23.03**	**52**	*e*	**P**	**03 51 05.2**	**-2.0**	
YJA	**Yavi**	**23.06**	**145**	*e*P	**P**	**03 51 08.8**	**+1.0**	
GRGR	**Grenville**	**23.75**	**49**	*e*	**P**	**03 51 13.8**	**0.0**	
GRGR	**Grenville**	**23.75**	**49**	*e*P	**P**	**03 51 12.2**	**-1.6**	
	158nm,0.5s							
GRW	**Mount Saint Ca**	**23.77**	**49**	*e*	**P**	**03 51 16.1**	**+2.0**	
GRSS	**Sisters**	**23.89**	**48**	*e*	**P**	**03 51 18.4**	**+3.4**	
HJA	**Humahuaca**	**23.93**	**146**	*e*P	**P**	**03 51 18.3**	**+2.5**	
TOSP	**Speyside**	**24.10**	**52**	*e*	**P**	**03 51 16.9**	**0.0**	
SVB	**Belmont**	**24.79**	**47**	*e*P	**P**	**03 51 23.2**	**0.0**	
	52nm,1.0s							
AZAP	**Zapla**	**24.92**	**147**	*e*P	**P**	**03 51 26.5**	**+1.9**	
AGP	**Aguadilla**	**25.08**	**29**	*e*P	**P**	**03 51 29.2**	**+3.3**	
	380nm,1.4s							
SLA	**San Lorenzo**	**25.09**	**148**	*e*P	**P**	**03 51 28.5**	**+2.5**	
SJG	**San Juan**	**25.33**	**31**	P	**P**	**03 51 29.2**	**+1.1**	
	112nm,0.7s,baz=222,slow=4.7,SNR=37							
SJG				LR	LR	04 03 17.1		
	comp=Z,106nm,20.1s,baz=210,slow=41							
SJG	**San Juan**	**25.33**	**31**	*e*P	**P**	**03 51 28.7**	**+0.6**	
	207nm,1.0s							
FDF	**Fort de France**	**25.84**	**45**	*e*P	**P**	**03 51 31.6**	**-1.1**	
FDF	**Fort de France**	**25.84**	**45**	*e*	**P**	**03 51 34.9**	**+2.2**	
FDF	**Fort de France**	**25.84**	**45**	*e*P	**P**	**03 51 34.8**	**+2.1**	
	32nm,0.6s							
PCM	**Pelee Case Pet**	**25.85**	**45**	*e*P	**P**	**03 51 30.8**	**-2.1**	
PCM	**Pelee Case Pet**	**25.85**	**45**	*e*P	**P**	**03 51 31.8**	**-1.0**	
CXM	**Morne La Croix**	**25.88**	**45**	*e*P	**P**	**03 51 32.3**	**-1.0**	
BAMF	**Morne Balai**	**25.89**	**45**	*e*P	**P**	**03 51 32.5**	**-0.9**	
BBGH	**Gun Hill**	**25.97**	**50**	*e*	P	03 51 42.2	+8.2	
FSA	**Cafayete**	**26.00**	**151**	*e*P	**P**	**03 51 35.8**	**+1.5**	
BBL	**Barber's Block**	**26.16**	**43**	*e*	**P**	**03 51 35.9**	**+0.2**	
TBG	**Guadaloupe-3**	**26.28**	**42**	*e*	**P**	**03 51 36.2**	**-0.4**	
DWS	**Wesley**	**26.30**	**43**	*e*	**P**	**03 51 40.0**	**+3.1**	
MGG	**Marie-Galante**	**26.55**	**43**	*e*	**P**	**03 51 40.2**	**+1.2**	
LCO	**Las Campanas**	**26.72**	**162**	*e*P	**P**	**03 51 41.4**	**+0.5**	
	8.9nm,0.6s							
AHML	**Horco Molle**	**26.87**	**151**	*e*P	**P**	**03 51 43.9**	**+1.8**	
VCA	**Vinchina**	**27.32**	**158**	*e*P	**P**	**03 51 48.7**	**+2.6**	
ANWB	**Willy Bob**	**27.51**	**39**	*e*	**P**	**03 51 46.5**	**-1.2**	
ANWB	**Willy Bob**	**27.51**	**39**	*e*P	**P**	**03 51 46.5**	**-1.2**	
	89nm,0.8s							
CYA	**Choya**	**28.06**	**153**	*e*P	**P**	**03 51 54.3**	**+1.7**	
ACDV	**Cuesta del Vie**	**28.30**	**160**	*e*P	**P**	**03 51 57.4**	**+2.5**	
AMOG	**MOGNA**	**29.21**	**160**	*e*P	**P**	**03 52 04.6**	**+1.7**	
AUSP	**Uspallata**	**30.11**	**162**	*e*P	**P**	**03 52 13.9**	**+2.8**	
ROC1	**El Roble**	**30.37**	**165**	*e*P	**P**	**03 52 14.8**	**+1.5**	
	76nm,0.6s							
ASAL	**Salagasta**	**30.62**	**162**	*e*P	**P**	**03 52 17.7**	**+2.4**	
TCA	**Tanti**	**31.08**	**154**	*e*P	**P**	**03 52 19.5**	**+0.2**	
AAGR	**Agrelo**	**31.08**	**162**	*e*P	**P**	**03 52 21.9**	**+2.5**	
CPUP	**Villa Florida**	**31.18**	**139**	P	**P**	**03 52 20.0**	**-0.1**	
	2.3nm,0.7s,baz=340,slow=9.9,SNR=4.7							
CPUP				LR	LR	04 07 43.5		
	comp=Z,115nm,20.8s,baz=316,slow=42							
035A	**Encino**	**35.15**	**331**	P	**P**	**03 52 55.9**	**+1.2**	
	baz=147							
034A	**Hebbronville**	**35.55**	**330**	P	**P**	**03 52 59.4**	**+1.2**	
	baz=146							
345A	**Thompson Farm,**	**36.05**	**345**	P	**P**	**03 53 02.9**	**+0.5**	
	baz=162							
933A	**Laredo**	**36.29**	**330**	P	**P**	**03 53 05.5**	**+1.0**	
	baz=146							
834A	**Tilden**	**36.36**	**331**	P	**P**	**03 53 06.4**	**+1.3**	
	baz=147							
344A	**Westbrook Farm**	**36.37**	**344**	P	**P**	**03 53 06.1**	**+1.0**	
	baz=161							
736A	**Circle Diamond**	**36.38**	**334**	P	**P**	**03 53 05.7**	**+0.5**	
	baz=150							
342A	**Flagon Creek P**	**36.77**	**342**	P	**P**	**03 53 10.0**	**+1.5**	
	baz=159							
636A	**Smothers Creek**	**36.83**	**334**	P	**P**	**03 53 10.3**	**+1.2**	
	baz=150							
635A	**Leesville**	**37.07**	**333**	P	**P**	**03 53 11.5**	**+0.4**	
	baz=149							
633A	**Saathoff Ranch**	**37.77**	**332**	P	**P**	**03 53 17.7**	**+0.6**	
	baz=147							
338A	**Crockett**	**37.78**	**338**	P	**P**	**03 53 17.8**	**+0.8**	
	baz=154							
PLCA	**Paso Flores**	**37.92**	**169**	P	**P**	**03 53 18.9**	**+0.6**	
	10nm,0.6s,baz=1.2,slow=9.8,SNR=26							
PLCA				PcP	**PcP**	**03 55 33.0**	**0.0**	
	2.1nm,0.8s,baz=290,slow=3.9,SNR=3.4							
534A	**Blanco**	**37.93**	**333**	P	**P**	**03 53 19.0**	**+0.6**	
	baz=148,SNR=6.7							
TRQA	**Tornquist**	**37.96**	**157**	*e*P	**P**	**03 53 18.6**	**0.0**	
	9.9nm,0.7s							
435B	**Jarrell**	**38.19**	**335**	P	**P**	**03 53 21.4**	**+0.8**	
	baz=150							
533A	**Kerrville**	**38.22**	**332**	P	**P**	**03 53 21.4**	**+0.5**	
	baz=148							
Y46A	**Houston**	**38.23**	**348**	P	**P**	**03 53 20.6**	**-0.2**	
	baz=165							
Y45A	**Yeager Farm, C**	**38.37**	**347**	P	**P**	**03 53 22.3**	**+0.3**	
	baz=164							
336A	**Riesel**	**38.40**	**336**	P	**P**	**03 53 23.0**	**+0.6**	
	baz=152							
434A	**Burnet**	**38.51**	**334**	P	**P**	**03 53 23.8**	**+0.5**	
	baz=149							
KMSC	**Kings Mountain**	**38.52**	**358**	P	**P**	**03 53 23.0**	**-0.3**	
	baz=177							
237A	**Washetta, Mont**	**38.54**	**338**	P	**P**	**03 53 24.3**	**+0.8**	
	baz=154							
335A	**Moody**	**38.55**	**335**	P	**P**	**03 53 24.3**	**+0.7**	
	baz=151							
Z41A	**Richland Creek**	**38.66**	**342**	P	**P**	**03 53 24.7**	**+0.2**	
	baz=159							
433A	**Art**	**38.83**	**333**	P	**P**	**03 53 26.7**	**+0.7**	
	baz=148,SNR=8.9							
Z40A	**Long Farm, Mag**	**38.85**	**342**	P	**P**	**03 53 26.6**	**+0.6**	
	baz=158							
138A	**Matatall Enter**	**38.87**	**339**	P	**P**	**03 53 26.6**	**+0.4**	
	baz=155							
JCT	**Junction City**	**38.92**	**332**	P	**P**	**03 53 27.4**	**+0.6**	
	baz=147							
JCT	**Junction City**	**38.92**	**332**	*e*P	**P**	**03 53 27.8**	**+1.0**	
	4.9nm,0.6s							
334A	**Lometa**	**38.94**	**334**	P	**P**	**03 53 27.4**	**+0.5**	
	baz=150,SNR=5.9							
WHTX	**Lake Whitney,**	**39.18**	**336**	P	**P**	**03 53 29.3**	**+0.5**	
	baz=151							
WHTX	**Lake Whitney,**	**39.18**	**336**	*e*P	**P**	**03 53 29.6**	**+0.8**	
	20nm,0.7s							
333A	**Richland Sprin**	**39.26**	**333**	P	**P**	**03 53 30.0**	**+0.4**	
	baz=149							
Y40A	**Okolona**	**39.51**	**342**	P	**P**	**03 53 32.2**	**+0.7**	
	baz=158							
135A	**Vickery Place,**	**39.66**	**336**	P	**P**	**03 53 33.6**	**+0.7**	
	baz=152							
233A	**Rising Star**	**39.81**	**334**	P	**P**	**03 53 34.8**	**+0.6**	
	baz=149,SNR=5.2							
134A	**White-Moore Ra**	**39.95**	**335**	P	**P**	**03 53 35.9**	**+0.6**	
	baz=151,SNR=6.7							
TXAR	**Lajitas Array**	**39.98**	**326**	P	**P**	**03 53 36.0**	**+0.4**	
	0.5nm,0.5s,baz=149,slow=8.3,SNR=7.4							
TXAR				pP	**pP**	**03 53 54.5**	**+1.0**	
	1.8nm,0.8s,baz=146,slow=9.1,SNR=6.3							
TXAR		

MNTX **Cornudas Mount** 42.74 327 P P 03 53 58.2 0.0
baz=140
MNTX **Cornudas Mount** 42.74 327 *e*P P 03 53 58.5 +0.3
12nm,1.0s
MNTX *e*pP pP 03 54 16.6 +0.3
R42A **Luebbering** 42.88 347 P P 03 53 58.3 -0.9
baz=164
T37A **Cheneyville 18** 42.89 342 P P 03 53 59.6 +0.4
baz=157,SNR=7.4
S39A **Bolivar** 42.95 344 P P 03 53 59.1 -0.7
baz=160
R41A **Rosebud** 43.03 346 P P 03 53 59.5 -0.9
baz=163
S38A **Stockton** 43.06 343 P P 03 54 00.3 -0.3
baz=159
Q44A **Meyer Farm, Va** 43.12 349 P P 03 53 59.6 -1.5
baz=166
T36A **Boggs Farm, Ca** 43.13 341 P P 03 54 01.4 +0.2
baz=156
U34A **Anderson Ranch** 43.14 339 P P 03 54 01.4 +0.2
baz=154,SNR=5.9
U34A **Anderson Ranch** 43.14 339 *e*P P 03 54 01.1 -0.1
37nm,0.8s
T35A **Sooner Cattle** 43.21 340 P P 03 54 02.4 +0.5
baz=155,SNR=5.2
MSTX **Muleshoe** 43.22 332 P P 03 54 02.5 +0.4
baz=145,SNR=6.7
MSTX **Muleshoe** 43.22 332 *e*P P 03 54 02.3 +0.2
34nm,1.0s
MSTX *e*pP pP 03 54 20.1 -0.1
Q43A **New Douglas** 43.29 349 P P 03 54 01.3 -1.1
baz=165
Q42A **Golden Eagle** 43.43 348 P P 03 54 02.7 -0.8
baz=164
S37A **Fort Scott** 43.45 342 P P 03 54 04.0 +0.3
baz=158,SNR=8.2
R39A **Chumby, Stover** 43.46 345 P P 03 54 03.4 -0.4
baz=160
AMTX **Amarillo** 43.47 333 P P 03 54 03.7 -0.4
baz=147
AMTX **Amarillo** 43.47 333 *e*P P 03 54 04.2 +0.1
14nm,0.7s
T34A **McClaskey Farm** 43.54 340 P P 03 54 05.1 +0.6
baz=154,SNR=7.4
R38A **Fenwick Farm,** 43.58 344 P P 03 54 04.3 -0.4
baz=159
P44A **Sand Creek, Wi** 43.60 350 P P 03 54 03.8 -1.1
baz=167
Q41A **Truxton** 43.62 347 P P 03 54 04.3 -0.9
baz=163
S36A **Lake Cedric, C** 43.65 342 P P 03 54 05.2 -0.2
baz=157
ACSO **Alum Creek Sta** 43.68 356 *e*P P 03 54 04.4 -1.2
22nm,1.0s
S35A **Otter Creek Ra** 43.84 341 P P 03 54 06.8 -0.1
baz=156
Q40A **Laux Farm, Aux** 43.86 346 P P 03 54 06.3 -0.8
baz=162
P42A **Winchester** 44.04 348 P P 03 54 07.3 -1.1
baz=165
S34A **Willow Spring** 44.12 340 P P 03 54 09.7 +0.5
baz=155,SNR=5.1
R36A **Gordon, Harris** 44.17 342 P P 03 54 09.4 -0.2
baz=157
Q38A **Cooks Store, C** 44.22 344 P P 03 54 09.5 -0.4
baz=160
SFIN **Lafayette** 44.25 352 P P 03 54 09.0 -1.1
baz=169
N54A **Moraine State** 44.30 360 P P 03 54 09.9 -0.6
baz=180
N59A **State Game Lan** 44.40 4 P P 03 54 11.9 +0.6
baz=186
P39B **Salisbury** 44.49 346 P P 03 54 11.2 -0.8
baz=161,SNR=6.7
O41A **Passleys Farm,** 44.66 348 P P 03 54 12.3 -1.1
baz=164
121A **Cookes Peak, D** 44.70 326 P P 03 54 15.7 +1.6
baz=138,SNR=5.6
121A **Cookes Peak, D** 44.70 326 *e*P P 03 54 15.7 +1.6
13nm,0.9s
121A *e*pP pP 03 54 34.1 +1.8
Q36A **Arnold C. Orve** 44.74 342 P P 03 54 14.0 -0.1
baz=157
HDIL **Hopedale** 44.77 350 P P 03 54 12.9 -1.3
baz=166
P38A **Dawn** 44.82 345 P P 03 54 14.0 -0.6
baz=160
Q35A **Mercer Eighty,** 44.83 342 P P 03 54 15.0 +0.2
baz=156,SNR=5.8
M54A **Oil Creek Stat** 44.85 0 P P 03 54 14.3 -0.6
baz=180
O40A **La Belle** 44.88 347 P P 03 54 14.1 -1.1
baz=163
P37A **Lathrop** 45.01 344 P P 03 54 15.8 -0.3
baz=159
O39A **Kirksville** 45.17 346 P P 03 54 16.5 -0.9
baz=162
Q34A **Chapman** 45.17 341 P P 03 54 18.2 +0.7
baz=155
N42A **Yates City** 45.18 349 P P 03 54 16.4 -1.1
baz=165
KSU1 **Kansas State U** 45.23 341 P P 03 54 18.0 0.0
baz=156
KSU1 **Kansas State U** 45.23 341 *e*P P 03 54 17.9 0.0
41nm,0.7s
O38A **Galt** 45.27 345 P P 03 54 17.7 -0.5
baz=160
P36A **Good Intent, A** 45.28 343 P P 03 54 17.8 -0.5
baz=158,SNR=5.1
P35A **Duane Minner,** 45.44 342 P P 03 54 19.5 -0.1
baz=157
N40A **Mertquake, Sal** 45.55 347 P P 03 54 19.4 -1.0
baz=163
P34A **Walnut Farm, R** 45.70 341 P P 03 54 22.5 +0.8
baz=156
N39A **Derby Farms, D** 45.75 346 P P 03 54 20.9 -1.1
baz=162,SNR=6.2
M41A **Milan** 45.80 349 P P 03 54 21.3 -1.1
baz=165
ANMO **Albuquerque** 45.82 329 P P 03 54 23.0 +0.1
baz=141
ANMO **Albuquerque** 45.82 329 *e*P P 03 54 23.8 +0.8
26nm,0.8s
O34A **Beatrice** 46.24 342 P P 03 54 26.0 0.0
baz=156
M39A **Webster** 46.24 347 P P 03 54 25.3 -0.6
baz=163
TUC **Tucson** 46.30 323 P P 03 54 27.0 +0.4
baz=135
TUC **Tucson** 46.30 323 *e*P P 03 54 27.2 +0.6
7.0nm,0.9s
N36A **Muff Farm, Cla** 46.32 344 P P 03 54 26.5 0.0
baz=159
M38A **Pleasantville** 46.43 346 P P 03 54 26.9 -0.4
baz=161
O33A **Hebron** 46.43 341 P P 03 54 27.3 -0.1
baz=155
L41A **Preston** 46.47 349 P P 03 54 26.3 -1.3
baz=165
N35A **Tabor** 46.55 343 P P 03 54 28.0 -0.3
baz=158
L40A **Anamosa** 46.60 348 P P 03 54 28.4 -0.2
baz=164
M37A **Trindle Farm,** 46.63 345 P P 03 54 28.7 -0.2
baz=160
N34A **Lincoln** 46.78 342 P P 03 54 30.4 +0.3
baz=157
L39A **Vinton** 46.82 347 P P 03 54 29.9 -0.5
baz=163
M36A **Felix, Anita** 46.87 344 P P 03 54 31.1 +0.3
baz=159
K41A **Shullsburg** 46.95 349 P P 03 54 30.1 -1.2
baz=165
L38A **Oak Wood Farm,** 47.05 347 P P 03 54 30.9 -1.3
baz=162,SNR=5.3
M35A **Neola** 47.13 344 P P 03 54 32.4 -0.4
baz=158,SNR=6.6
L37A **Phoenix Point,** 47.23 346 P P 03 54 32.9 -0.6
baz=161
214A **Organ Pipe Nat** 47.31 321 P P 03 54 34.2 -0.2
baz=132
214A **Organ Pipe Nat** 47.31 321 *e*P P 03 54 34.9 +0.5
35nm,1.0s
KSCO **Kaye Shedlock'** 47.35 336 *e*P P 03 54 34.6 -0.2
18nm,0.9s
K39A **Oelwein** 47.35 348 P P 03 54 33.2 -1.4
baz=163
M34A **Aspy Farms, Fr** 47.42 343 P P 03 54 35.0 -0.1
baz=157,SNR=11
L36A **Harm Buss Farm** 47.44 345 P P 03 54 34.6 -0.7
baz=160
K38A **Parkersburg** 47.49 347 P P 03 54 34.5 -1.1
baz=162
SDCO **Great Sand Dun** 47.57 332 P P 03 54 37.6 +0.9
baz=144,SNR=7.6
SDCO **Great Sand Dun** 47.57 332 *e*P P 03 54 37.5 +0.9
17nm,0.9s
SDCO *e*pP pP 03 54 55.5 +0.4
J41A **Loganville** 47.63 350 P P 03 54 35.5 -1.1
baz=166
M33A **Taylor Creek F** 47.66 342 P P 03 54 37.2 +0.2
baz=156
L35A **Bielow Farm, R** 47.68 344 P P 03 54 36.6 -0.6
baz=158,SNR=5.6
L34A **Svendsen Farm,** 47.78 343 P P 03 54 37.2 -0.7
baz=157,SNR=8.9
J40A **Soldiers Grove** 47.79 349 P P 03 54 36.4 -1.5
baz=165
K37A **Belmond** 47.81 346 P P 03 54 37.4 -0.6
baz=161
J39A **Decorah** 47.92 348 P P 03 54 37.4 -1.5
baz=164
K35A **Storm Lake** 48.17 345 P P 03 54 40.3 -0.6
baz=159
L33A **Hoskins** 48.23 342 P P 03 54 41.5 +0.1
baz=156
I39A **Houston** 48.38 349 P P 03 54 41.4 -1.1
baz=164
J36A **Seneca 1, Swea** 48.51 346 P P 03 54 42.5 -1.0
baz=160,SNR=5.7
K33A **Hardington** 48.55 343 P P 03 54 43.6 -0.2
baz=157
MVCO **Mesa Verde** 48.62 329 P P 03 54 45.0 +0.3
baz=140,SNR=5.2
MVCO **Mesa Verde** 48.62 329 *e*P P 03 54 45.3 +0.6
12nm,0.9s
MVCO *e*pP pP 03 55 03.1 0.0
I38A **Scanlan Farm,** 48.73 348 P P 03 54 44.0 -1.1
baz=163
J35A **Milford** 48.76 345 P P 03 54 44.6 -0.8
baz=159
J34A **George** 48.88 344 P P 03 54 46.0 -0.3
baz=158
K32A **Verdigre** 48.89 342 P P 03 54 46.0 -0.5
baz=156
H40A **Chili** 48.91 350 P P 03 54 45.3 -1.2
baz=166
WUAZ **Wupatki** 48.91 325 P P 03 54 48.2 +1.3
baz=136,SNR=8.5
WUAZ **Wupatki** 48.91 325 *e*P P 03 54 47.9 +1.0
38nm,1.0s
WUAZ *e*pP pP 03 55 06.1 +0.8
I37A **Lemond, Waseca** 48.94 347 P P 03 54 45.7 -1.0
baz=162
I35A **Creekview Farm** 49.16 345 P P 03 54 48.1 -0.4
baz=160
J33A **Davis** 49.20 343 P P 03 54 48.6 -0.2
baz=157
ISCO **Idaho Springs** 49.29 334 P P 03 54 50.3 +0.4
baz=145
ISCO **Idaho Springs** 49.29 334 *e*P P 03 54 50.5 +0.7
4.3nm,1.0s
PV01 **Paradox Valley** 49.36 330 *e*P P 03 54 51.3 +0.9
SMCO **Snowmass** 49.41 332 *e*P P 03 54 51.5 +0.6
6.0nm,0.8s
ECSD **EROS Data Cent** 49.48 344 P P 03 54 50.2 -0.7
baz=158,SNR=10
ECSD **EROS Data Cent** 49.48 344 *e*P P 03 54 49.7 -1.2
6.5nm,0.5s
J32A **Parkston** 49.50 343 P P 03 54 50.3 -0.8
baz=156
H36A **Jessenland, He** 49.59 347 P P 03 54 51.3 -0.4
baz=161
G39A **Holcombe** 49.70 349 P P 03 54 51.1 -1.4
baz=165
G38A **Ridgeland** 49.71 349 P P 03 54 51.1 -1.5
baz=164,SNR=5.2
PV04 **Paradox Valley** 49.73 330 *e*P P 03 54 53.2 +0.1
I33A **Coleman** 49.82 344 P P 03 54 52.4 -1.1
baz=157
H35A **Sunnyside Ranc** 49.92 346 P P 03 54 53.0 -1.1
baz=160
SPMN **Marine on St.** 49.96 348 P P 03 54 53.1 -1.4
baz=163
BC3 **Big Chuckawall** 50.10 321 P P 03 54 56.9 +1.1
baz=131
H34A **Spellman Lake,** 50.12 345 P P 03 54 55.2 -0.5
baz=159,SNR=9.6
IRM **Iron Mountain** 50.23 321 P P 03 54 58.0 +1.2
baz=131
H33A **Prehn Over Nor** 50.39 344 P P 03 54 57.4 -0.4
baz=158,SNR=7.0
H32A **Carlson Farm,** 50.42 344 P P 03 54 57.4 -0.6
baz=157,SNR=5.4
F38A **Pierce - Schro** 50.48 349 P P 03 54 57.4 -1.0
baz=164
G34A **Benson** 50.63 345 P P 03 54 58.1 -1.4
baz=159
H31A **Wolsey** 50.70 343 P P 03 54 59.8 -0.3
baz=156
F36A **Milaca** 50.72 348 P P 03 54 59.8 -0.4
baz=162
O20A **White River Ci** 50.76 332 P P 03 55 00.5 -0.4
baz=142
G33A **Ortonville** 50.79 345 P P 03 54 59.8 -0.9
baz=158,SNR=6.2
F35A **Swanville** 50.95 347 P P 03 55 01.0 -0.9
baz=161
GMRC **Granite Mounta** 50.96 322 P P 03 55 01.2 -1.2
baz=131
F34A **Alexandria** 51.05 346 P P 03 55 01.6 -1.2
baz=160
G32A **Webster** 51.13 344 P P 03 55 03.0 -0.3
baz=157
E36A **McGregor** 51.29 348 P P 03 55 03.7 -0.8
baz=162
F33A **5 Mile Ranch,** 51.35 345 P P 03 55 04.0 -0.9
baz=159
HEC **Hector,Ludlow** 51.41 321 P P 03 55 06.4 +0.6
baz=130
TUQ **Turquoise Moun** 51.55 322 P P 03 55 06.5 -0.3
baz=131
F32A **Veblen** 51.59 344 P P 03 55 06.1 -0.7
baz=158,SNR=5.1
D37A **Cotton** 51.73 349 P P 03 55 07.1 -0.6
baz=164
GSC **Goldstone, Bar** 52.01 321 P P 03 55 11.0 +0.9
baz=130
SHOC **Shoshone, Teco** 52.07 322 P P 03 55 11.3 +0.7
baz=131
C37A **Embarrass** 52.24 349 P P 03 55 10.7 -0.8
baz=164
RSSD **Black Hills** 52.26 338 *e*P P 03 55 11.0 -1.0
7.8nm,0.7s
EYMN **Ely** 52.32 350 P P 03 55 10.5 -1.7
baz=165
C36A **Pine Crest Far** 52.39 349 P P 03 55 11.9 -0.7
baz=163,SNR=6.0
E31A **Nome** 52.43 344 P P 03 55 12.4 -0.6
baz=157
D33A **AnnSam, Waubun** 52.45 346 P P 03 55 12.6 -0.6
baz=160
EDW2 **Edwards Air Fo** 52.50 320 P P 03 55 12.7 -1.1
baz=129
SNCC **San Nicolas Is** 52.51 317 P P 03 55 13.5 -0.3
baz=126
LRMC **Laurel Mtn Rad** 52.67 321 P P 03 55 17.1 +1.9
baz=130
TPNV **Topopah Spring** 52.75 323 P P 03 55 16.3 +0.6
baz=132
FURC **Furnace Creek,** 52.80 322 P P 03 55 16.1 +0.2
baz=131
MPMC **Manual Prospec** 52.92 321 P P 03 55 16.5 -0.6
baz=130
DUG **Dugway, Tooele** 53.08 328 P P 03 55 18.2 +0.1
baz=137
DUG **Dugway, Tooele** 53.08 328 *e*P P 03 55 16.8 -1.3
20nm,1.4s
R11A **Troy Canyon, C** 53.30 325 P P 03 55 20.8 +1.0
baz=133
R11A **Troy Canyon, C** 53.30 325 *e*P P 03 55 20.7 +0.9
18nm,1.4s
BW06 **Boulder Array** 53.44 333 P P 03 55 20.6 -0.2
baz=142
BW06 **Boulder Array** 53.44 333 *e*P P 03 55 19.8 -1.0
4.4nm,0.8s
PDAR **Pinedale Array** 53.44 333 P P 03 55 20.4 -0.3
1.2nm,0.7s,baz=126,slow=8.0,SNR=12
PDAR pP pP 03 55 38.6 -0.8
3.8nm,0.7s,baz=131,slow=6.3,SNR=17
B34A **Aery, Baudette** 53.45 348 P P 03 55 19.9 -0.5
baz=161,SNR=5.3
B33A **Robert and Kas** 53.46 347 P P 03 55 20.4 0.0
baz=160
HWUT **Hardware Ranch** 53.50 330 *e*P P 03 55 21.0 -0.2
13nm,0.8s
C31A **Landman Farms,** 53.53 345 P P 03 55 20.9 -0.2
baz=157,SNR=5.7
CWC **Cottonwood Cre** 53.53 321 P P 03 55 21.6 +0.1
baz=130
AGMN **Agassiz Nation** 53.54 347 P P 03 55 20.9 -0.2
baz=160,SNR=9.5
AGMN **Agassiz Nation** 53.54 347 *e*P P 03 55 19.8 -1.3
12nm,0.8s
B32A **Ashes, Strandq** 53.79 346 P P 03 55 22.8 -0.2
baz=159,SNR=5.8
A33A **Warroad** 54.04 347 P P 03 55 24.4 -0.3
baz=160
MDND **Maddock** 54.09 344 P P 03 55 25.9 +0.8
baz=155
MDND **Maddock** 54.09 344 *e*P P 03 55 25.2 +0.1
57nm,1.1s
B31A **Greenbush Farm** 54.09 345 P P 03 55 24.9 -0.2
baz=158,SNR=7.1
AHID **Auburn Hatcher** 54.16 332 *e*P P 03 55 28.4 +2.4
7.2nm,1.0s
A32A **Rocking H Ranc** 54.27 346 P P 03 55 25.9 -0.6
baz=159,SNR=6.1
REDW **Red Top Meadow** 54.50 332 *e*P P 03 55 28.4 -0.1
22nm,1.5s
LOHW **Long Hollow** 54.58 333 *e*P P 03 55 28.6 -0.4
3.8nm,0.9s
TPAW **Teton Pass** 54.64 332 *e*P P 03 55 27.2 -2.4
21nm,1.6s
MOOW **Moose Ponds** 54.75 333 *e*P P 03 55 30.1 -0.1
3.4nm,1.0s
FLWY **Flagg Ranch** 54.99 333 *e*P P 03 55 31.3 -0.7
8.2nm,1.0s
RLMT **Red Lodge** 55.18 335 P P 03 55 32.8 -0.5
baz=143
LAO **LASA Array** 55.25 338 P P 03 55 33.4 -0.3
baz=147
ULM **Lac du Bonnet** 55.38 347 P P 03 55 33.6 -0.8
6.3nm,0.4s,baz=157,slow=7.6,SNR=17
ULM pP pP 03 55 51.8 -1.4
8.3nm,0.8s,baz=148,slow=9.4,SNR=5.8
BMN **Battle Mountai** 55.64 326 *e*P P 03 55 33.3 -3.4
42nm,1.9s
DGMT **Dagmar** 56.06 341 *e*P P 03 55 38.7 -0.6
50nm,0.3s
HLID **Hailey** 56.36 330 P P 03 55 42.2 +0.4
baz=137
HLID **Hailey** 56.36 330 *e*P P 03 55 42.1 +0.4
6.8nm,0.9s
BOZ **Bozeman (W)** 56.58 334 P P 03 55 43.9 +0.7
baz=141
BOZ **Bozeman (W)** 56.58 334 *e*P P 03 55 43.3 0.0
7.9nm,0.9s
DLMT **Dillon** 56.84 333 *e*P P 03 55 45.0 0.0
17nm,1.8s
MFID **Camas Ranch** 56.97 329 *e*P P 03 55 46.7 +0.7
20nm,1.0s
EGMT **Eagleton** 57.71 337 P P 03 55 52.3 +1.2
baz=144
EGMT **Eagleton** 57.71 337 *e*P P 03 55 51.2 +0.1
21nm,1.4s
WVOR **Wild Horse Val** 57.78 327 *e*P P 03 55 52.1 +0.4
14nm,0.9s
MOD **Modoc Plateau** 58.36 325 *e*P P 03 55 56.1 +0.2
8.6nm,1.0s
BMO **Blue Mountains** 58.73 329 *e*P P 03 55 57.4 -1.0
4.3nm,1.2s
SCHQ **Schefferville** 59.15 9 LR LR 04 20 39.5
comp=Z,65nm,21.5s,baz=337,slow=35
J05D **Fort Rock, OR** 59.78 326 P P 03 56 06.3 +0.7
baz=130
HAWA **Hanford** 60.93 330 *e*P P 03 56 15.0 +1.8
3.6nm,0.8s
G05D **Wamic, OR** 61.09 328 P P 03 56 14.6 +0.2
baz=131
EDM **Edmonton** 63.24 338 *e*P P 03 56 27.9 -0.8
18nm,0.6s
YKA **Yellowknife Ar** 71.01 344 P P 03 57 17.0 -0.5
1.6nm,0.9s,baz=142,slow=6.6,SNR=5.5
LIC **Lamto** 75.17 83 *e*P P 03 57 43.6 +0.4
25nm,0.8s
TIC **Toumodi** 75.22 82 *e*P P 03 57 43.9 +0.4
DBIC **Dimbokro** 75.38 82 P P 03 57 44.8 +0.4
12nm,0.7s,baz=238,slow=4.3,SNR=17
DBIC LR LR 04 29 49.5
comp=Z,72nm,18.5s,baz=263,slow=35
KIC **Kosan Boka** 75.47 83 *e*P P 03 57 45.5 +0.6
62nm,1.0s
VNA3 **Neumayer Olymp** 80.29 162 P P 03 58 11.1 +0.6
SUMG **Summit** 80.36 12 *i*P P 03 58 11.3 0.0
6.1nm,0.9s
SUMG *i* 03 58 30.9
SUMG *e* 03 58 37.4
VNA1 **Neumayer--Stat** 80.56 161 P P 03 58 13.2 +1.3
INK **Inuvik** 80.69 342 *e*P P 03 58 12.5 -0.1
9.9nm,1.0s
ESDC **Sonseca Array** 81.33 49 P P 03 58 17.0 +0.3
1.7nm,0.8s,baz=268,slow=5.3,SNR=11
EGAK **Eagle** 81.46 338 *e*P P 03 58 16.2 -0.5
8.6nm,0.9s
PAX **Paxson** 82.40 335 *e*P P 03 58 21.3 -0.6
25nm,2.0s
TORD **Torodi Ar. Bea** 82.43 76 P P 03 58 22.6 -0.3
0.9nm,0.4s,baz=278,slow=5.6,SNR=44
TORD pP pP 03 58 42.1 -0.7
1.7nm,0.6s,baz=281,slow=3.8,SNR=5.5
SNAA **Sanae** 82.51 162 P P 03 58 22.7 +0.4
SNAA **Sanae** 82.51 162 *e*P P 03 58 22.1 -0.3
ILAR **Eielson Array** 83.68 337 P P 03 58 27.1 -1.3
2.2nm,0.9s,baz=123,slow=3.8,SNR=14
ILAR PP PP 04 01 41.5 -0.6
0.4nm,0.9s,baz=115,slow=7.0,SNR=3.2
MCK **McKinley** 84.14 335 *e*P P 03 58 30.6 -0.2
5.8nm,0.9s
EKA **Eskdalemuir Ar** 85.28 34 P P 03 58 36.7 +0.1
1.0nm,0.7s,baz=267,slow=2.8,SNR=2.9
QSPA **South Pole Qui** 86.52 180 *e*P P 03 58 43.1 +0.3
74nm,0.9s
TAM **Tamanrasset** 86.95 67 *e*P P 03 58 46.3 +0.5
2.1nm,0.8s
DAG **Danmarks Havn** 87.06 12 *i*P P 03 58 44.5 -0.4
3.1nm,0.9s
DAG *i* 03 59 09.2
TSUM **Tsumeb** 95.69 110 *e*P P 03 59 27.2 +0.7
7.3nm,0.9s
VYHS **Vyhne** 98.30 42 *e*P pP 03 59 54.0 -3.8
AKTO **Aktyubinsk** 121.30 30 PKP PKPdf 04 04 52.4 -0.4
1.0nm,0.8s,baz=250,slow=2.2,SNR=4.2
ABKAR **Akbulak array** 123.01 30 *e*PKPdf PKPdf 04 04 56.3 +0.3
BRVK **Borovoye** 124.80 22 *e*PKPdf PKPdf 04 04 56.6 -2.7
STKA **Stephens Creek** 127.28 225 PKP PKPdf 04 05 04.6 -0.2
2.4nm,0.7s,baz=7.0,slow=4.5,SNR=4.7
ZALV **Zalesovo Beam** 128.19 12 PKP PKPdf 04 05 05.4 -0.4
4.3nm,0.6s,baz=270,slow=3.0,SNR=18
ZALV pPKP pPKPdf 04 05 25.6 -1.1
3.2nm,0.5s,baz=326,slow=1.5,SNR=5.3
GEYT **Alibeck** 128.49 43 PKP PKPdf 04 05 06.6 -0.4
2.1nm,0.5s,baz=243,slow=4.8,SNR=3.7
KURK **Kurchatov** 129.58 18 *e*PKPdf PKPdf 04 05 08.6 +0.1
KURK pPKP pPKPdf 04 05 29.0 -0.6
KURBB **Kurchatov Arra** 129.63 18 PKP PKPdf 04 05 08.9 +0.3
2.6nm,0.4s,baz=325,slow=2.4,SNR=37
KURBB pPKP pPKPdf 04 05 29.0 -0.7
3.7nm,0.8s,baz=328,slow=2.4,SNR=7.8
ULN **Ulaanbaatar** 135.48 354 *e*PKPdf PKPdf 04 05 19.8 -0.2
SONM **Songino Array** 135.58 354 PKP PKPdf 04 05 19.6 -0.5
0.9nm,0.6s,baz=328,slow=1.9,SNR=4.9
ASAR **Alice Springs** 137.54 229 PKhKP PKPpre 04 05 15.7
0.3nm,0.4s,baz=136,slow=3.4,SNR=5.9
ASAR PKP PKPdf 04 05 23.8 -0.6
1.9nm,0.7s,baz=124,slow=2.2,SNR=15
KSRS **Korea Array** 137.83 327 PKP PKPdf 04 05 23.6 -0.8
1.8nm,0.8s,baz=61,slow=1.5,SNR=3.8
KSAR **Wonju Array Be** 137.86 327 PKP PKPdf 04 05 23.6 -0.9
KSH **Kashi** 137.94 28 *e*PKP PKPdf 04 05 24.0 -0.8
KSH sPKP 04 06 00.9
KSH PP PP 04 08 17.0 +4.8
KSH PKS PKSdf 04 08 58.9 -2.1

KSH					SKS	**SKSdf**	**04 12 22.9**	**-6.4**	
WMQ	**Urumqi**	**138.38**	**14**		PKP	PKPdf	04 05 38.0	+13	
WMQ					LR	LR			
	comp=N,22nm,27.5s								
WMQ					LR	LR			
	comp=Z,18nm,18.1s								
WRAB	**Tennant Creek**	**139.23**	**234**	*e*	PKPdf	**PKPdf**	**04 05 27.1**	**-0.4**	
WRA	**Warramunga Arr**	**139.23**	**234**		PKhKP	PKPpre	04 05 16.1		
	comp=Z,1.1nm,0.8s,baz=117,slow=2.2,SNR=7.6								
WRA					PKP	**PKPdf**	**04 05 26.8**	**-0.7**	
	comp=Z,3.2nm,0.7s,baz=116,slow=1.7,SNR=16								
HHC	**Hu-ho-hao-te**	**141.51**	**346**	*e*	PKPbc	PKPdf	04 05 44.5	+13	
HHC					sPKP		04 05 58.7		
HHC					PP	PP	04 08 55.2	+21	
HHC					SKS	SKSdf	04 12 50.2	+15	
GTA	**Gaotai**	**144.31**	**1**	*e*	PKP	PKPbc	04 05 34.6	0.0	
GTA					pPKP	sPKPdf	04 06 01.4	-3.6	
GTA					sPKP		04 06 12.4		
FITZ	**Fitzroy Crossi**	**147.04**	**228**	*e*	PKPbc	**PKPbc**	**04 05 43.0**	**-0.4**	
FAKI	**Fak Fak**	**147.44**	**259**	*e*	PKPbc	**PKPbc**	**04 05 44.8**	**+0.1**	
LZH	**Lanzhou**	**147.47**	**355**	*e*	PKPbc	**PKPbc**	**04 05 44.7**	**+0.4**	
LZH					PKPbc	**PKiKP**	**04 05 51.3**	**+4.8**	
LZH					pPKP	**pPKPbc**	**04 06 04.6**	**-0.5**	
LZH					sPKP		04 06 16.0		
LZH					PP	PP	04 09 17.0	+7.8	
XAN	**Xi'an**	**148.63**	**346**		P	**PKPbc**	**04 05 46.6**	**-0.7**	
MBWA	**Marble Bar**	**148.93**	**217**	*e*	PKPbc	**PKPbc**	**04 05 47.6**	**-0.7**	
PYUN	**Piuthan**	**150.53**	**32**	*e*	P	**PKPbc**	**04 05 52.6**	**+0.2**	
KOLN	**Koldanda**	**151.12**	**32**	*e*	P	**PKPbc**	**04 05 53.6**	**-0.2**	
	comp=Z,12nm,0.6s								
GKN	**Gorkha**	**151.46**	**30**	*e*	P	**PKPbc**	**04 05 54.5**	**0.0**	
	comp=Z,43nm,0.7s								
KKN	**Kakani**	**151.95**	**29**	*e*	P	**PKPbc**	**04 05 55.7**	**0.0**	
	comp=Z,22nm,0.6s								
DMN	**Daman**	**152.02**	**30**	*e*	P	**PKPbc**	**04 05 55.9**	**0.0**	
ENH	**Enshi**	**152.05**	**343**	*e*	PKPbc	**PKPbc**	**04 05 55.0**	**-0.6**	
GUN	**Gumba**	**152.14**	**28**	*e*	P	**PKPbc**	**04 05 56.3**	**0.0**	
	comp=Z,14nm,0.6s								
PKI	**Pulchoki**	**152.20**	**29**	*e*	P	**PKPbc**	**04 05 56.1**	**-0.3**	
	comp=Z,9.9nm,0.4s								
GYA	**Guiyang**	**156.43**	**346**	*e*	PKPbc	**PKPdf**	**04 05 53.2**	**-2.1**	
GYA					pPKP	**pPKPdf**	**04 06 18.0**	**+1.6**	
GYA					PKPab	**PKPab**	**04 06 25.4**	**+1.6**	
GYA					PKS	**PKSdf**	**04 09 26.8**	**-2.7**	
GYA					PP	**PP**	**04 10 03.7**	**+3.4**	
CMAR	**Chiang Mai Arr**	**165.13**	**5**		PKP	**PKPdf**	**04 06 04.6**	**-0.2**	
	comp=Z,1.6nm,0.4s,baz=283,slow=1.3,SNR=10								

MEX 02 03:47:49.7±0.7, 15°39N×96°14W, h4km±8km, MD3.7, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
HUIG	**Huatulco**	**0.38**	**4**	*i* P		Pg	03 47 56.3	-0.7
HUIG				*e*S		Sg	03 48 02.8	+0.8
PANG	**Puerto Angel**	**0.42**	**310**	*i* P		Pg	03 47 57.4	-0.6
PANG				*i* S		Sg	03 48 03.4	-0.1
VHO	**Vista Hermosa**	**1.77**	**341**	*i* P		Pn	03 48 18.1	-3.1
VHO				*i* S		Sn	03 48 39.1	-5.2
PNIG	**Pinotepa**	**2.16**	**298**	*i* P		Pn	03 48 23.6	-2.8
PNIG				*e*S		Sn	03 48 49.4	-4.2

IDC ***02*** *03:52:03.3±1.4, 29°.92S×176°.32W, h0km, mb3.5/2, mb1 3.9/3, mb1mx3.7/22, mbtmp3.7/3, ML3.2/1, MS3.0/1, Ms1 3.0/1, ms1mx2.4/17, Error ellipse: s-maj=39.8km s-min=31.1km az=31.0*

ISCJB ***02*** *03:52:07.3±2.6, 30°.07S±0°.08×176°.7W±0°.2, h24km, mb3.4/2, Error ellipse: s-maj=30.7km s-min=9.8km az=167.9*

ISC 02 03:52:07.3±1.5, 29°.9S±0°.1×176°.5W±0°.1, h24km, n8, σ0s83/9, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**1.39**	**298**	Pn		**Pb**	**03 52 33.2**	**+0.7**
	120nm,0.3s,baz=100,slow=6.6,SNR=11							
RAO				Sn		**Sn**	**03 52 47.5**	**-1.1**
	168nm,0.3s,baz=50,slow=22,SNR=6.5							
RAO				LR		LR	03 53 16.8	
	comp=Z,139nm,21.5s,baz=68,slow=48							
URZ	**Urewera**	**9.85**	**211**	Pn		**Pn**	**03 54 26.6**	**-0.8**
	0.2nm,0.3s,baz=43,slow=18,SNR=2.3							
URZ				Sn		**Sn**	**03 56 17.6**	**+0.4**
	1.3nm,0.3s,baz=15,slow=20,SNR=5.9							
DZM	**Mont Dzumac**	**17.18**	**293**	LR		LR	04 01 09.6	
	comp=Z,48nm,21.2s,baz=26,slow=32							
ASAR	**Alice Springs**	**44.42**	**266**	P		**P**	**04 00 17.4**	**+1.0**
	0.1nm,0.3s,baz=103,slow=8.1,SNR=3.2							
WRA	**Warramunga Arr**	**45.37**	**271**	P		**P**	**04 00 24.1**	**+0.2**
	0.9nm,0.6s,baz=110,slow=7.3,SNR=6.3							
FINES	**FINESS Array B**	**145.12**	**341**	PKPbc		**PKPbc**	**04 11 40.8**	**-0.7**
	0.8nm,0.5s,baz=58,slow=5.0,SNR=8.1							
AKASG	**Malin Array Be**	**151.67**	**324**	PKPbc		**PKPbc**	**04 11 59.1**	**-0.1**
	0.7nm,0.5s,baz=44,slow=2.8,SNR=2.5							
TORD	**Torodi Ar. Bea**	**163.23**	**174**	PKPab		**PKPab**	**04 12 58.9**	**+0.3**
	1.0nm,1.0s,baz=185,slow=5.0,SNR=3.3							

CSEM ***02*** *03:55:51.2±0.2, 44°.93N×14°.88E, h2km, ML2.6/12, Error ellipse: s-maj=4.9km s-min=3.3km az=60.0*

VIE ***02*** *03:55:52.5±0.7, 45°.01N×14°.90E, h4km, mb2.0/5, ML2.1/7, Error ellipse: s-maj=4.2km s-min=2.9km az=170.0*

ISC 02 03:55:50.5±1.2, 44°.90N±0°.03×14°.91E±0°.03, h1km±11km, n32, σ0s56/58, Adriatic Sea

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
NVLJ	**Novalja**	**0.33**	**184**	*i* Pg		**Pb**	**03 55 58.4**	**-0.7**
NVLJ				Sg		**Sb**	**03 56 04.4**	**-0.6**
NVLJ	**Novalja**	**0.33**	**184**	*i* Pg		**Pb**	**03 55 58.4**	**-0.7**
NVLJ				Sg		**Sb**	**03 56 04.3**	**-0.6**
GBRS	**Gornja Briga**	**0.64**	**354**	*i* Pg		**Pg**	**03 56 02.2**	**-0.5**
GBRS				*i* Sg		**Sg**	**03 56 11.1**	**+0.1**
	6.0nm,0.1s							
BOJS	**Bojanci**	**0.66**	**22**	*i* Pg		**Pg**	**03 56 02.6**	**-0.4**
BOJS				*i* Sg		**Sg**	**03 56 11.8**	**+0.2**
	comp=Z,13nm,0.2s							
BOJS	**Bojanci**	**0.66**	**22**	*i* Pg		**Pg**	**03 56 02.6**	**-0.4**
BOJS				*i* Sg		**Sg**	**03 56 11.8**	**+0.2**
	comp=Z,13nm,0.2s							
UDBI	**Udbina**	**0.71**	**121**	*i* Pg		**Pb**	**03 56 05.9**	**+0.2**
UDBI				Sg		**Sb**	**03 56 16.6**	**+0.6**
UDBI	**Udbina**	**0.71**	**121**	*i* Pg		**Pb**	**03 56 05.9**	**+0.2**
UDBI				Sg		**Sb**	**03 56 16.6**	**+0.6**
KNDS	**Knezji Dol**	**0.73**	**330**	*i* Pg		**Pg**	**03 56 04.0**	**-0.5**
KNDS				*i* Sg		**Sg**	**03 56 14.7**	**+0.6**
	comp=Z,16nm,0.2s							
KNDS	**Knezji Dol**	**0.73**	**330**	*i* Pg		**Pg**	**03 56 04.0**	**-0.5**
KNDS				*i* Sg		**Sg**	**03 56 14.7**	**+0.6**
	comp=Z,16nm,0.2s							
OZLJ	**Ozalj**	**0.82**	**29**	*e*Pg		**Pg**	**03 56 06.6**	**+0.3**
OZLJ				Sg		**Sg**	**03 56 16.6**	**-0.3**
OZLJ	**Ozalj**	**0.82**	**29**	*e*Pg		**Pg**	**03 56 06.5**	**+0.3**
OZLJ				Sg		**Sg**	**03 56 16.5**	**-0.3**
SKDS	**Skadanscina**	**0.91**	**316**	*i* Sg		**Sg**	**03 56 19.8**	**+0.2**
	comp=Z,7.0nm,0.1s							
SKDS	**Skadanscina**	**0.91**	**316**	*i* Sg		**Sg**	**03 56 19.8**	**+0.2**
	comp=Z,7.0nm,0.1s							
VISS	**Visnje**	**0.91**	**357**	*i* Pg		**Pg**	**03 56 07.7**	**-0.2**
VISS				*i* Sg		**Sg**	**03 56 19.3**	**-0.4**
	comp=Z,11nm,0.2s							
VISS	**Visnje**	**0.91**	**357**	*i* Pg		**Pg**	**03 56 07.7**	**-0.2**
VISS				*i* Sg		**Sg**	**03 56 19.3**	**-0.4**
	comp=Z,11nm,0.2s							
GCIS	**Gornji Cirnik**	**1.10**	**27**	*i* Pg		**Pb**	**03 56 12.1**	**-0.1**
GCIS				*e*Sg		**Sb**	**03 56 26.3**	**-0.7**
	comp=Z,3.0nm,0.1s							
GCIS	**Gornji Cirnik**	**1.10**	**27**	*i* Pg		**Pb**	**03 56 12.1**	**-0.1**
GCIS				*e*Sg		**Sb**	**03 56 26.3**	**-0.7**
	comp=Z,3.0nm,0.1s							
CRNS	**Crni Vrh**	**1.27**	**339**	*i* Pg		**Pg**	**03 56 15.1**	**+0.3**
CRNS				*i* Sg		**Sn**	**03 56 33.4**	**+0.3**
	comp=Z,8.0nm,0.1s							
CRNS	**Crni Vrh**	**1.27**	**339**	*i* Pg		**Pg**	**03 56 15.1**	**+0.3**
CRNS				*i* Sg		**Sn**	**03 56 33.4**	**+0.3**
	comp=Z,8.0nm,0.1s							
VOJS	**Vojsko**	**1.35**	**328**	*i* Pg		**Pn**	**03 56 16.0**	**-0.4**
VOJS				*i* Sg		**Sn**	**03 56 35.2**	**+0.2**
	comp=Z,5.0nm,0.1s							
VOJS	**Vojsko**	**1.35**	**328**	*i* Pg		**Pn**	**03 56 16.0**	**-0.4**
VOJS				*i* Sg		**Sn**	**03 56 35.2**	**+0.2**
	comp=Z,5.0nm,0.1s							
SABO	**M.te Sabotino**	**1.42**	**320**	*e*Pg		**Pn**	**03 56 17.0**	**-0.5**
SABO				*e*Sg		**Sn**	**03 56 37.0**	**+0.2**
SABO	**M.te Sabotino**	**1.42**	**320**	*e*Pg		**Pn**	**03 56 17.0**	**-0.5**
SABO				*e*Sg		**Sn**	**03 56 37.0**	**+0.2**
DRE	**Drenchia**	**1.56**	**326**	*e*Pg		**Pn**	**03 56 19.6**	**+0.3**
DRE				*e*Sg		**Sg**	**03 56 41.1**	**+0.7**
DRE	**Drenchia**	**1.56**	**326**	*e*Pg		**Pn**	**03 56 19.6**	**+0.3**
DRE				*e*Sg		**Sg**	**03 56 41.1**	**+0.7**
OBKA	**Obir**	**1.63**	**351**	Pg		**Pb**	**03 56 21.6**	**+0.2**
	comp=Z,3.2nm,0.2s							
OBKA				Sg		**Sg**	**03 56 44.0**	**+1.1**
	comp=Z,13nm,0.2s							
VINO	**Villanova**	**1.78**	**321**	*e*Pg		**Pn**	**03 56 22.6**	**+0.3**
VINO	**Villanova**	**1.78**	**321**	*e*Pg		**Pn**	**03 56 22.6**	**+0.3**
SOKA	**Soboth**	**1.79**	**3**	Pn		**Pb**	**03 56 23.2**	**-0.8**
	comp=Z,1.8nm,0.2s							
MYKA	**Terra Mystica**	**1.95**	**333**	Pn		**Pb**	**03 56 26.0**	**-0.8**
	comp=Z,1.2nm,0.1s							
MYKA				Sg		**Sg**	**03 56 53.1**	**+0.1**
	comp=Z,6.4nm,0.4s							
KBA	**Koelnbreinsper**	**2.44**	**334**	Sg		**Sg**	**03 57 09.9**	**+1.1**
	comp=Z,1.6nm,0.3s							
ABTA	**Abfaltersbach**	**2.50**	**319**	Pg		**Pg**	**03 56 38.8**	**+0.5**
	comp=Z,1.0nm,0.3s							
ABTA				Sg		**Sg**	**03 57 12.6**	**+1.9**
	comp=Z,3.8nm,0.6s							

JMA 02 04:06:20.0, 39°.10N×142°.36E, h30km±1km, M1.9, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
OFUJ	**Ofunato**	**0.54**	**268**	P		Pb	04 06 30.8	-0.2
OFUJ				S		Sb	04 06 38.5	-0.1
MIYJ	**Miyakonagasawa**	**0.63**	**319**	P		Pb	04 06 32.1	-0.5
MIYJ				S		Sb	04 06 41.1	-0.2
JMK	**Ichinoseki**	**0.90**	**261**	P		Pn	04 06 36.3	-0.3
JMK				S		Sn	04 06 48.1	-0.5
JOM	**Ohasama**	**0.91**	**295**	P		Pn	04 06 36.8	+0.1
JOM				S		Sb	04 06 49.1	+0.1
JKZ	**Kuzumaki**	**1.19**	**318**	P		Pb	04 06 41.5	-0.5
JKZ				S		Sb	04 06 56.5	-0.5

NIED ***02*** *04:08:00, 39°.10N×142°.40E, h38km, Mw4.6 Best double couple: M₀1.01000×10¹⁶ NP1:φ₀258.00000°, δ11.00000°, λ171.00000°. NP2:φ₀356.00000°, δ88.00000°, λ80.00000°.*

JMA ***02*** *04:08:03.7±0.1, 39°.09N×142°.41E, h33km±1km, M4.5*

JMA Felt II J1.

ISCJB ***02*** *04:08:04.5±0.6, 39°.08N±0°.03×142°.33E±0°.05, h43km±4km, mb4.6/78, MS4.0/13, Error ellipse: s-maj=6.7km s-min=4.4km az=29.0*

BJI ***02*** *04:08:05.5, 39°.13N×142°.55E, h69km, mb4.8/21, mB4.9/12, Ms4.5/9, Ms7 4.2/8*

MOS ***02*** *04:08:05.1±0.9, 39°.12N×142°.30E, h48km, mb4.8/38, Error ellipse: s-maj=9.2km s-min=6.1km az=102.4*

IDC ***02*** *04:08:07.0±2.1, 39°.06N×142°.30E, h52km±19km, mb4.2/25, mb1 4.3/30, mb1mx4.3/40, mbtmp4.4/30, ML3.6/5, MS4.0/15, Ms1 4.0/15, ms1mx3.6/36, Error ellipse: s-maj=15.4km s-min=12.0km az=112.0*

NEIC ***02*** *04:08:06.6±0.6, 39°.06N×142°.27E, h47km±5km, mb4.6/41, Error ellipse: s-maj=5.8km s-min=3.4km az=128.0*

NEIC Recorded [2 JMA] in Iwate and Miyagi.

ISC 02 04:08:05.4±0.4, 39°.08N±0°.04×142°.39E±0°.06, h36km±3km, n166, σ1s49/172, mb4.6/81, MS4.0/13, 11C-8D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
OFUJ	**Ofunato**	**0.56**	**271**	P		**Pn**	**04 08 15.3**	**-1.7**
OFUJ				S		**Sn**	**04 08 23.3**	**-1.8**
MIYJ	**Miyakonagasawa**	**0.67**	**319**	P		**Pn**	**04 08 16.5**	**-1.9**
MIYJ				S		**Sn**	**04 08 25.2**	**-2.5**
JMK	**Ichinoseki**	**0.92**	**263**	P		**Pn**	**04 08 20.7**	**-1.1**
JMK				S		**Sn**	**04 08 32.9**	**-0.9**
JOM	**Ohasama**	**0.94**	**295**	P		**Pn**	**04 08 21.1**	**-1.0**
JOM				S		**Sn**	**04 08 33.5**	**-0.8**
JTH	**Tanohata**	**0.95**	**335**	P		**Pn**	**04 08 20.8**	**-1.5**
JIO	**Ouri**	**1.02**	**233**	P		**Pn**	**04 08 21.7**	**-1.5**
JIO				S		**Sn**	**04 08 34.6**	**-1.7**
JKZ	**Kuzumaki**	**1.22**	**318**	P		**Pn**	**04 08 25.4**	**-0.6**
JKZ				S		**Sn**	**04 08 41.3**	**-0.1**
JRG	**Rokugo**	**1.40**	**284**	P		**Pn**	**04 08 28.2**	**-0.2**
JANG	**Nango**	**1.46**	**333**	P		**Pn**	**04 08 28.2**	**-1.1**
JOU	**Okura**	**1.53**	**243**	P		**Pn**	**04 08 29.6**	**-0.6**
ERM	**Erimo**	**2.99**	**11**	↓P		**Pn**	**04 08 51.0**	**+0.7**
ERM	**Erimo**	**2.99**	**11**	*e*Pn		**Pn**	**04 08 52.2**	**+2.0**
MAJO	**Matsushiro**	**4.17**	**234**	↓*i*P		**Pn**	**04 09 08.3**	**+3.1**
MAJO	**Matsushiro**	**4.17**	**234**	*e*Pn		**Pn**	**04 09 08.3**	**+1.9**
MAT	**Matsushiro**	**4.17**	**234**	P		**Pn**	**04 09 07.8**	**+1.3**
MAT				*e*S		**Sn**	**04 09 59.0**	**+5.0**
MJAR	**Matsushiro Arr**	**4.17**	**234**	P		**Pn**	**04 09 07.7**	**+1.2**
	7.6nm,0.3s,baz=43,slow=11,SNR=114							
MJAR				S		**Sn**	**04 09 55.9**	**+2.0**
	1.8nm,0.3s,baz=41,slow=27,SNR=2.4							
MJAR				LR		LR	04 10 56.5	
	comp=Z,3μm,18.6s,baz=50,slow=42							
ASAJ	**Asahikawa**	**5.04**	**2**	*e*Pn		**Pn**	**04 09 19.0**	**+0.6**
	34nm,0.7s							
JHJ	**Hachijo jima 2**	**6.31**	**200**	P		**Pn**	**04 09 35.8**	**0.0**
	26nm,0.3s,baz=72,slow=20,SNR=2.4							
JHJ				S		**Sn**	**04 10 43.0**	**-3.7**
	23nm,0.3s,baz=75,slow=20,SNR=2.7							
JHJ				LR		LR	04 12 23.1	
	comp=Z,1μm,20.7s,baz=125,slow=41							
YSS	**Yuzh-Sakhalins**	**7.88**	**2**	↑*i*P		**Pn**	**04 09 58.4**	**+1.0**
YSS				pmax		pmax		
	comp=Z,15nm,0.9s							
VLA	**Vladivostok**	**8.90**	**300**	↓*i*P		**Pn**	**04 10 11.1**	**-0.3**
MSHR	**Mys Shultsa**	**9.21**	**296**	↓P		**Pn**	**04 10 15.6**	**0.0**
USRK	**Ussuriysk Ar.**	**9.32**	**307**	P		**Pn**	**04 10 18.8**	**+1.7**
	comp=Z,0.7nm,0.3s,baz=115,slow=13,SNR=17							
USRK				LR		LR	04 13 46.4	
	comp=Z,957nm,18.4s,baz=107,slow=37							
HABR	**Khabarovsk**	**10.78**	**333**	*e*P		**Pn**	**04 10 34.9**	**-2.2**
HABR				*e*S		**Sn**	**04 12 34.2**	**-2.2**
HABR				pmax		pmax		
	comp=Z,35nm,2.0s							
HABR				MLR		MLR		
	comp=Z,194nm,13.0s							
JNU	**Nakatsue**	**11.04**	**241**	P		**Pn**	**04 10 41.5**	**+0.7**
	comp=Z,0.8nm,0.3s,baz=63,slow=2.3,SNR=2.9							
JNU	**Nakatsue**	**11.04**	**241**	*e*Pn		**Pn**	**04 10 38.9**	**-2.0**
	comp=Z,7.2nm,0.9s							
KSRS	**Korea Array**	**11.49**	**266**	P		**Pn**	**04 10 51.5**	**+4.6**
	comp=Z,0.3nm,0.3s,baz=82,slow=14,SNR=6.2							
KSRS				LR		LR	04 14 51.3	
	comp=Z,700nm,19.3s,baz=72,slow=35							
KSAR	**Wonju Array Be**	**11.52**	**266**	P		**Pn**	**04 10 51.5**	**+4.1**
KSAR	**Wonju Array Be**	**11.52**	**266**	P		**Pn**	**04 10 51.5**	**+4.1**
KLR	**Kul'dur**	**12.69**	**327**	P		**Pn**	**04 11 03.5**	**+0.3**
	comp=Z,0.1nm,0.3s,baz=132,slow=15,SNR=5.7							
KLR				LR		LR	04 15 57.0	
	comp=Z,535nm,19.0s,baz=133,slow=37							
PETK	**Petropavlovsk-**	**17.54**	**32**	LR		LR	04 18 15.9	
	comp=Z,434nm,19.2s,baz=191,slow=35							
MA2	**Magadan**	**21.20**	**12**	P		**P**	**04 12 47.6**	**0.0**
	comp=Z,18nm,0.6s,baz=205,slow=8.8,SNR=4.6							
YHNB	**Yeheng**	**22.83**	**237**	*e*P		**P**	**04 13 03.8**	**-1.7**
	comp=Z,12nm,0.7s							
SSLB	**Suanglung**	**23.72**	**236**	*e*P		**P**	**04 13 12.3**	**-1.9**
	comp=Z,13nm,0.8s							
YULB	**Yu-li**	**23.78**	**235**	*e*P		**P**	**04 13 12.4**	**-2.3**
	comp=Z,11nm,0.7s							
YAK	**Yakutsk**	**24.27**	**345**	P		**P**	**04 13 17.5**	**-1.4**
	comp=Z,20nm,0.4s,baz=106,slow=2.4,SNR=5.8							
YAK	**Yakutsk**	**24.27**	**345**	*e*P		**P**	**04 13 17.7**	**-1.2**
YAK				*e**PP		**pP**	**04 13 29.0**	**-0.1**
YAK				*e*			04 13 47.5	
YAK				*e*S		**S**	**04 17 36.9**	**+1.9**
YAK				*e*SS		**SnSn**	**04 18 24.2**	**+5.0**
YAK				*e*			04 24 14.5	
YAK				pmax		pmax		
	comp=N,14nm,0.9s							
YAK				pmax		pmax		
	comp=Z,28nm,0.9s							
YAK				pmax		pmax		
	comp=Z,46nm,0.9s							
YAK				smax		smax		
	comp=E,312nm,3.5s							
YAK				MLR		MLR		
	comp=Z,173nm,14.0s							
YAK				MLR		MLR		
	comp=N,94nm,16.0s							
YAK				MLR		MLR		
	comp=E,106nm,16.0s							
YAK	**Yakutsk**	**24.27**	**345**	*e*P		**P**	**04 13 17.4**	**-1.4**
	comp=E,40nm,0.6s							
TPUB	**Ta-pu**	**24.28**	**236**	*e*P		**P**	**04 13 18.2**	**-1.2**
	comp=E,18nm,0.8s							
TWG	**Pinlang**	**24.34**	**234**	*e*P		**P**	**04 13 19.4**	**-0.4**
	comp=E,55nm,0.7s							
SEY	**Seymchan**	**24.64**	**11**	P		**P**	**04 13 23.4**	**+1.1**
	comp=E,7.8nm,0.6s,baz=203,slow=6.7,SNR=12							
GUMO	**Guam**	**25.48**	**174**	*e*P		**P**	**04 13 30.6**	**+0.4**
GUMO	**Guam**	**25.48**	**174**	*e*P		**P**	**04 13 30.6**	**+0.4**
ULN	**Ulaanbaatar**	**26.91**	**301**	↑*i*P		**P**	**04 13 44.2**	**+1.0**
ULN				pmax		pmax		
	comp=Z,9.0nm,2.5s							
ULN	**Ulaanbaatar**	**26.91**	**301**	*e*P		**P**	**04 13 42.7**	**-0.5**
	comp=Z,2.5nm,0.6s							
SONM	**Songino Array**	**27.35**	**300**	P		**P**	**04 13 46.8**	**-0.3**
	comp=Z,1.8nm,0.7s,baz=88,slow=8.7,SNR=4.5							
SONM				LR		LR	04 25 07.3	
	comp=Z,293nm,18.3s,baz=100,slow=37							
ENH	**Enshi**	**28.33**	**262**	*e*P		**P**	**04 13 54.9**	**-0.9**
H11N2	**WAKE ISLAND Hy**	**28.61**	**125**	T		T	04 44 24.3	
	baz=317,slow=75,SNR=2825							
H11N1	**WAKE ISLAND Hy**	**28.62**	**125**	T		T	04 44 21.8	
	baz=317,slow=75,SNR=2013							
H11N3	**WAKE ISLAND Hy**	**28.63**	**125**	T		T	04 44 25.6	
	baz=317,slow=75,SNR=1939							
H11S1	**WAKE ISLAND Hy**	**29.40**	**127**	T		T	04 45 23.3	
	baz=319,slow=76,SNR=389							
H11S3	**WAKE ISLAND Hy**	**29.40**	**127**	T		T	04 45 21.5	
	baz=319,slow=76,SNR=552							
H11S2	**WAKE ISLAND Hy**	**29.41**	**127**	T		T	04 45 24.5	
	baz=319,slow=76,SNR=403							
TLY	**Talaya**	**29.63**	**308**	P		**P**	**04 14 07.2**	**0.0**
	comp=Z,2.9nm,0.2s,baz=68,slow=6.0,SNR=4.5							
TLY				LR		LR	04 26 33.4	
	comp=Z,341nm,19.5s,baz=66,slow=37							
TLY	**Talaya**	**29.63**	**308**	*e*P		**P**	**04 14 06.7**	**-0.5**
TLY				pmax		pmax		
	comp=Z,5.0nm,0.7s							
TLY				MLR		MLR		
	comp=Z,281nm,15.0s							
TLY	**Talaya**	**29.63**	**308**	*e*P		**P**	**04 14 07.3**	**+0.1**
	comp=Z,5.6nm,0.7s							
ZAK	**Zakamensk**	**29.66**	**305**	*e*P		**P**	**04 14 06.9**	**-0.7**
ZAK				pmax		pmax		
	comp=Z,5.0nm,1.0s							
GTA	**Gaotai**	**32.75**	**284**	*e*P		**P**	**04 14 35.9**	**+0.9**
GTA				pmax		pmax		
	comp=Z,6.0nm,1.0s							
ZALV	**Zalesovo Beam**	**41.14**	**311**	P		**P**	**04 15 45.7**	**-0.1**
	comp=Z,7.1nm,0.6s,baz=91,slow=8.1,SNR=25							
ZALV				PcP		**PcP**	**04 17 44.5**	**-0.1**
	comp=Z,0.8nm,0.4s,baz=96,slow=3.7,SNR=3.4							
ZALV				LR		LR	04 33 27.3	
	comp=Z,240nm,19.5s,baz=70,slow=37							
NRIK	**Noril'sk**	**41.75**	**334**	LR		LR	04 34 00.2	
	comp=Z,284nm,19.7s,baz=112,slow=37							
CHTO	**Chiang Mai**	**42.56**	**254**	*e*P		**P**	**04 15 58.2**	**+0.3**
CHTO				pmax		pmax		
	comp=Z,7.0nm,0.9s							
CHTO	**Chiang Mai**	**42.56**	**254**	*e*P		**P**	**04 15 58.1**	**+0.3**
	comp=Z,6.6nm,0.9s							
CMAR	**Chiang Mai Arr**	**42.78**	**254**	P		**P**	**04 15 59.4**	**-0.3**
	comp=Z,2.6nm,0.7s,baz=44,slow=6.3,SNR=10.0							
CMAR				LR		LR	04 33 21.1	
	comp=Z,74nm,19.6s,baz=68,slow=36							
CMAR	**Chiang Mai Arr**	**42.78**	**254**	*ce*P		**P**	**04 16 00.8**	**+1.1**
CMAR				pmax		pmax		
	comp=Z,3.0nm,0.7s							
MK31	**Makanchi Array**	**43.72**	**300**	*i* P		**P**	**04 16 06.5**	**-0.5**
MK31				pmax		pmax		
	comp=Z,9.0nm,0.7s							
MAKZ	**Makanchi**	**43.93**	**301**	P		**P**	**04 16 08.4**	**-0.2**
MAKZ				pmax		pmax		
	comp=Z,17nm,1.1s							
KDAK	**Kodiak Island**	**45.08**	**43**	*

	comp=Z,22nm,0.8s								
DLBC	**Dease Lake**	**56.55**	**39**	P		**P**	**04 17 45.6**	**+1.6**
	comp=Z,3.9nm,0.9s,baz=285,slow=11,SNR=4.4								
DLBC	**Dease Lake**	**56.55**	**39**	*e*P		**P**	**04 17 44.8**	**+0.8**
	comp=Z,3.2nm,0.6s								
AB31	**Akbulak array**	**57.23**	**309**	*i* P		**P**	**04 17 48.4**	**-0.5**
AB31				pmax	pmax				
	comp=Z,9.0nm,0.7s								
ABKAR	**Akbulak array**	**57.23**	**309**	*e*P		**P**	**04 17 48.1**	**-0.7**
	comp=Z,8.6nm,0.6s								
FITZ	**Fitzroy Crossi**	**59.00**	**199**	*e*P		**P**	**04 18 01.6**	**+0.1**
	comp=Z,3.9nm,0.7s								
WRAB	**Tennant Creek**	**59.18**	**189**	*c* iP		**P**	**04 18 02.0**	**-0.7**
WRAB				*i* *PP		**pP**	**04 18 12.2**	**-1.4**
WRAB				pmax	pmax				
	comp=Z,46nm,1.7s								
WRAB	**Tennant Creek**	**59.18**	**189**	*e*P		**P**	**04 18 01.4**	**-1.3**
	comp=Z,7.3nm,0.8s								
WRA	**Warramunga Arr**	**59.19**	**189**	P		**P**	**04 18 01.7**	**-1.1**
	comp=Z,9.9nm,0.6s,baz=6.3,slow=7.0,SNR=106								
YKA	**Yellowknife Ar**	**61.66**	**31**	P		**P**	**04 18 18.1**	**-1.1**
	comp=Z,1.9nm,0.8s,baz=297,slow=6.5,SNR=3.3								
ARCES	**ARCESS Array B**	**62.36**	**339**	P		**P**	**04 18 23.4**	**-0.4**
	comp=Z,1.7nm,0.7s,baz=58,slow=7.5,SNR=4.5								
KLMR	**Klimovskoe**	**62.45**	**327**	P		**P**	**04 18 23.1**	**-1.4**
KLMR				pmax	pmax				
	comp=Z,5.0nm,0.7s								
ASAR	**Alice Springs**	**62.92**	**189**	P		**P**	**04 18 27.9**	**-0.2**
	comp=Z,4.5nm,0.7s,baz=10,slow=5.4,SNR=52								
ASAR				LR	LR		04 43 02.9		
	comp=Z,42nm,21.2s,baz=2.5,slow=33								
GEYT	**Alibeck**	**63.53**	**298**	P		**P**	**04 18 31.0**	**-1.2**
	comp=Z,4.0nm,0.7s,baz=46,slow=5.1,SNR=4.9								
MOS	**Moscow**	**66.08**	**323**	*e*P		**P**	**04 18 51.8**	**+3.4**
MOS				pmax	pmax				
	comp=Z,60nm,1.0s								
OBN	**Obninsk**	**66.93**	**323**⇑	*e*P		**P**	**04 18 54.3**	**+0.5**
OBN				*e*			04 21 20.1		
OBN				pmax	pmax				
	comp=Z,8.0nm,0.5s								
OBN				MLR	MLR				
	comp=Z,148nm,15.0s								
FINES	**FINESS Array B**	**67.37**	**332**	P		**P**	**04 18 55.9**	**-0.6**
	comp=Z,4.0nm,0.7s,baz=46,slow=8.2,SNR=16								
FINES				LR	LR		04 51 17.9		
	comp=Z,148nm,18.1s,baz=25,slow=38								
FINES	**FINESS Array B**	**67.37**	**332**	*i* P		**P**	**04 18 56.0**	**-0.6**
FINES				pmax	pmax				
	comp=Z,4.0nm,0.7s								
NEW	**Newport**	**68.14**	**45**	P		**P**	**04 19 02.6**	**+1.0**
	comp=Z,5.0nm,0.8s,baz=334,slow=4.7,SNR=7.2								
SUMG	**Summit**	**68.64**	**0**	*e*P		**P**	**04 19 04.7**	**-0.2**
SUMG				pmax	pmax				
	comp=Z,10.0nm,1.1s								
SUMG	**Summit**	**68.64**	**0**	*e*P		**P**	**04 19 04.7**	**-0.2**
	comp=Z,10nm,1.1s								
MOD	**Modoc Plateau**	**69.89**	**52**	*e*P		**P**	**04 19 13.1**	**+0.3**
	comp=Z,2.7nm,0.7s								
BMO	**Blue Mountains**	**69.98**	**48**	*e*P		**P**	**04 19 13.9**	**+0.6**
BMO				pmax	pmax				
	comp=Z,2.0nm,0.9s								
BMO	**Blue Mountains**	**69.98**	**48**	*e*P		**P**	**04 19 13.8**	**+0.6**
	comp=Z,2.1nm,0.9s								
KIV	**Kislovodsk**	**70.16**	**311**⇓	*i* P		**P**	**04 19 15.3**	**+1.0**
KIV				*e*			04 21 52.8		
KIV				pmax	pmax				
	comp=Z,15nm,0.8s								
KBZ	**Khabaz**	**70.16**	**311**	P		**P**	**04 19 14.5**	**+0.3**
	comp=Z,4.2nm,0.8s,baz=88,slow=6.8,SNR=10								
NEY	**Neytrino**	**70.55**	**310**⇑	*e*P		**P**	**04 19 17.0**	**+0.2**
NEY				pmax	pmax				
	comp=Z,1.0nm,1.0s								
FFC	**Flin Flon**	**71.58**	**33**	*e*P		**P**	**04 19 22.7**	**+0.1**
FFC				pmax	pmax				
	comp=Z,9.0nm,1.0s								
FFC	**Flin Flon**	**71.58**	**33**	*e*P		**P**	**04 19 22.6**	**+0.1**
	comp=Z,8.9nm,1.0s								
CMB	**Columbia Colle**	**72.06**	**55**	*e*P		**P**	**04 19 26.4**	**+0.5**
CMB				pmax	pmax				
	comp=Z,22nm,1.0s								
CMB	**Columbia Colle**	**72.06**	**55**	*e*P		**P**	**04 19 26.4**	**+0.5**
	comp=Z,22nm,1.0s								
DLMT	**Dillon**	**72.36**	**46**	*e*P		**P**	**04 19 28.7**	**+1.0**
	comp=Z,7.0nm,1.0s								
HLID	**Hailey**	**72.42**	**48**	*e*P		**P**	**04 19 29.1**	**+0.9**
	comp=Z,1.8nm,0.9s								
NB2	**NORSAR Subarra**	**72.60**	**337**	P		**P**	**04 19 28.0**	**-0.7**
	comp=Z,1.1nm,0.7s,baz=39,slow=6.2								
NOA	**NORSAR Array B**	**72.60**	**337**	P		**P**	**04 19 28.3**	**-0.4**
	comp=Z,1.3nm,0.7s,baz=39,slow=6.0,SNR=10								
NOA				LR	LR		04 55 38.9		
	comp=Z,65nm,20.7s,baz=20,slow=39								
BOZ	**Bozeman (W)**	**72.75**	**45**	*e*P		**P**	**04 19 30.6**	**+0.6**
BOZ				pmax	pmax				
	comp=Z,6.0nm,1.0s								
BOZ	**Bozeman (W)**	**72.75**	**45**	*e*P		**P**	**04 19 30.6**	**+0.6**
	comp=Z,5.9nm,1.0s								
AKASG	**Malin Array Be**	**73.16**	**322**	P		**P**	**04 19 31.4**	**-0.7**
	comp=Z,5.1nm,0.5s,baz=44,slow=6.1,SNR=15								
AKASG	**Malin Array Be**	**73.16**	**322**	*ce*P		**P**	**04 19 31.7**	**-0.4**
AKASG				pmax	pmax				
	comp=Z,6.0nm,0.5s								
KIEV	**Kiev**	**73.17**	**322**	*i* P		**P**	**04 19 31.7**	**-0.5**
KIEV				pmax	pmax				
	comp=Z,6.0nm,0.6s								
KIEV	**Kiev**	**73.17**	**322**	*e*P		**P**	**04 19 31.4**	**-0.8**
	comp=Z,6.5nm,0.7s								
H17A	**Grant Village**	**74.08**	**45**	*e*P		**P**	**04 19 37.4**	**-0.6**
	comp=Z,5.9nm,0.9s								
IMW	**Indian Meadow**	**74.19**	**46**	*e*P		**P**	**04 19 39.4**	**+0.6**
	comp=Z,2.9nm,0.8s								
TPAW	**Teton Pass**	**74.45**	**46**	*e*P		**P**	**04 19 41.5**	**+1.3**
	comp=Z,3.4nm,0.8s								
DUG	**Dugway, Tooele**	**75.44**	**50**	*e*P		**P**	**04 19 47.1**	**+1.2**
DUG				pmax	pmax				
	comp=Z,5.0nm,1.0s								
DUG	**Dugway, Tooele**	**75.44**	**50**	*e*P		**P**	**04 19 47.0**	**+1.2**
	comp=Z,4.7nm,1.0s								
PDAR	**Pinedale Array**	**75.69**	**46**	P		**P**	**04 19 47.6**	**+0.3**
	comp=Z,2.1nm,0.7s,baz=261,slow=2.4,SNR=12								
ULM	**Lac du Bonnet**	**77.38**	**34**	P		**P**	**04 19 55.0**	**-1.4**
	comp=Z,5.1nm,1.0s,baz=301,slow=10,SNR=3.7								
ULM	**Lac du Bonnet**	**77.38**	**34**	P		**P**	**04 19 55.0**	**-1.4**
ULM				pmax	pmax				
	comp=Z,4.0nm,1.0s								
K22A	**Casper**	**77.45**	**45**	*e*P		**P**	**04 19 57.6**	**+0.4**
BRTR	**Keskin Array B**	**78.08**	**312**	P		**P**	**04 20 00.7**	**0.0**
	comp=Z,0.7nm,0.7s,baz=94,slow=3.7,SNR=4.3								
CLL	**Collm**	**79.71**	**330**	*e*P		**P**	**04 20 09.0**	**-0.2**
CLL				*es*P		**sP**	**04 20 28.0**	**+3.5**
KHC	**Kasperske Hory**	**81.20**	**329**	*e*P		**P**	**04 20 17.4**	**0.0**
KHC				pmax	pmax				
	comp=Z,1.0nm,0.7s								
KHC	**Kasperske Hory**	**81.20**	**329**	*e*P		**P**	**04 20 17.4**	**0.0**
	comp=Z,0.7nm,0.7s								
GERES	**GERESS Array B**	**81.38**	**329**	P		**P**	**04 20 17.8**	**-0.6**
	comp=Z,0.8nm,0.7s,baz=45,slow=4.0,SNR=7.5								
ANMO	**Albuquerque**	**82.69**	**51**⇑	*i*P		**P**	**04 20 28.0**	**+2.4**
ANMO				*e**SP		**sP**	**04 20 42.9**	**+1.9**
ANMO				pmax	pmax				
	comp=Z,2.0nm,1.3s								
KBA	**Koelnbreinsper**	**82.93**	**328**	*e*PcP		**P**	**04 20 27.8**	**+1.2**
	comp=Z,3.3nm,0.8s								
ABTA	**Abfaltersbach**	**83.53**	**328**	*e*PcP		**P**	**04 20 29.4**	**-0.3**
	comp=Z,1.5nm,0.8s								
FETA	**Feichten**	**84.04**	**329**	*ep*P		pP	04 20 41.9	-1.7
	comp=Z,4.1nm,0.8s								
PPT2	**Papeete2**	**84.88**	**117**	*e*LR		LR	04 46 33.9		
	comp=Z,139nm,22.0s								
PPT2	**Papeete2**	**84.88**	**117**	*e*T		T	05 54 34.3		
	comp=Z,4.0nm,0.3s								
TAOE	**Nuku Hiva Isla**	**85.93**	**105**	*e*LR		LR	04 46 57.5		
	comp=Z,158nm,22.7s								
TXAR	**Lajitas Array**	**88.27**	**53**	LR		LR	04 55 44.0		
	comp=Z,46nm,20.9s,baz=0.0,slow=32								
TBI	**Tubuai**	**88.92**	**121**	*e*LR		LR	04 48 25.3		
	comp=Z,111nm,23.2s								
TBI	**Tubuai**	**88.92**	**121**	*e*T		T	05 59 34.3		
	comp=Z,26nm,0.3s								
ESDC	**Sonseca Array**	**95.79**	**335**	P		**P**	**04 21 27.4**	**-0.6**
	comp=Z,0.2nm,0.4s,baz=15,slow=2.7,SNR=4.3								
RKT	**Rikitea**	**98.81**	**112**	*e*LR		LR	04 53 00.2		
	comp=Z,163nm,26.0s								
SAML	**Samuel**	**142.25**	**44**	*e*PKPdf		**PKPdf**	**04 27 34.8**	**+0.4**
LPAZ	**La Paz**	**144.98**	**58**	PKPbc		**PKPab**	**04 27 39.0**	**-0.2**
	comp=Z,1.2nm,0.7s,baz=35,slow=6.7,SNR=6.0								
LVC	**Limon Verde**	**148.71**	**68**	*e*PKPbc		**PKPbc**	**04 27 49.3**	**-0.2**
LCO	**Las Campanas**	**150.94**	**80**	*e*PKPbc		**PKPbc**	**04 27 55.7**	**+1.0**

IDC ***02*** *04:09:20.0±0.6, 55°.49N×163°.11E, h0km, mb4.0/18, mb1 4.2/19, mb1mx4.1/39, mbtmp3.9/19, ML2.8/1, MS3.4/2, Ms1 3.4/2, ms1mx2.9/32, Error ellipse: s-maj=23.1km s-min=12.6km az=149.0*

KRSC ***02*** *04:09:21.1±1.0, 55°.35N×163°.52E, h52km±23km, ML4.8*

ISCJB ***02*** *04:09:23.3±0.4, 55°.35N±0°.03×163°.43E±0°.05, h37km±4km, mb4.2/37, MS4.1/7, Error ellipse: s-maj=5.1km s-min=4.0km az=142.6*

MOS ***02*** *04:09:24.4±1.2, 55°.40N×163°.28E, h49km, mb4.4/25, Error ellipse: s-maj=8.0km s-min=5.4km az=72.8*

NEIC ***02*** *04:09:25.5±1.0, 55°.44N×163°.19E, h40km±10km, mb4.6/18, Error ellipse: s-maj=9.6km s-min=5.4km az=156.0*

ISC 02 04:09:23.2±0.6, 55°.40N±0°.03×163°.40E±0°.03, h25km±3km, h25km:pP-P,n136,σ1§39/158, mb4.4/37, MS4.4/7, 8C-1D, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
KBG	**Krutoberegovo**	**0.94**	**336**	PN			**Pb**	**04 09 39.0**	**-1.8**
KBG				S			**Sn**	**04 09 51.8**	**-1.6**
KBG	**Krutoberegovo**	**0.94**	**336**	*e*P			**Pb**	**04 09 39.0**	**-1.8**
KBG				*e*S			**Sn**	**04 09 51.8**	**-1.6**
MKZ	**Mys Kozlova**	**1.28**	**229**	PN			**Pn**	**04 09 43.9**	**-1.5**
MKZ				S			**Sn**	**04 10 00.5**	**-1.2**
MKZ	**Mys Kozlova**	**1.28**	**229**	*e*P			**Pn**	**04 09 43.9**	**-1.5**
MKZ				*e*S			**Sn**	**04 10 00.5**	**-1.2**
BKI	**Bering**	**1.48**	**96**	PN			**Pn**	**04 09 46.5**	**-1.7**
BKI				S			**Sn**	**04 10 04.8**	**-1.9**
BKI	**Bering**	**1.48**	**96**	*e*P			**Pn**	**04 09 46.5**	**-1.7**
BKI				*e*S			**Sn**	**04 10 04.8**	**-1.9**
ZLN	**Zelenaya**	**1.59**	**294**	PN			**Pb**	**04 09 50.9**	**-1.1**
ZLN	**Zelenaya**	**1.59**	**294**	*e*P			**Pb**	**04 09 50.9**	**-1.1**
SMKR	**Semkarok**	**1.61**	**318**	PN			**Pn**	**04 09 50.5**	**+0.5**
SMKR				S			**Sb**	**04 10 11.7**	**-0.4**
SMKR	**Semkarok**	**1.61**	**318**	*e*P			**Pn**	**04 09 50.5**	**+0.5**
SMKR				*e*S			**Sb**	**04 10 11.7**	**-0.4**
CIRR	**Tsirk**	**1.66**	**297**	PN			**Pb**	**04 09 51.8**	**-1.4**
CIRR				S			**Sb**	**04 10 14.0**	**+0.3**
CIRR	**Tsirk**	**1.66**	**297**	*i* P			**Pb**	**04 09 51.8**	**-1.4**
CIRR				*i* S			**Sb**	**04 10 14.0**	**+0.3**
LGNR	**Loginova**	**1.68**	**295**	PN			**Pb**	**04 09 52.3**	**-1.2**
LGNR				S			**Sb**	**04 10 14.9**	**+0.6**
LGNR	**Loginova**	**1.68**	**295**	*e*P			**Pb**	**04 09 52.3**	**-1.2**
LGNR				*e*S			**Sb**	**04 10 14.9**	**+0.6**
BDR	**Baidarnaya**	**1.70**	**314**	PN			**Pn**	**04 09 51.3**	**0.0**
BDR	**Baidarnaya**	**1.70**	**314**	*i* P			**Pn**	**04 09 51.3**	**0.0**
TUMD	**Tumrok D**	**1.73**	**265**	*e*P			**Pn**	**04 09 52.0**	**+0.4**
TUMD				*e*S			**Sn**	**04 10 14.2**	**+1.4**
SRKR	**Sorokina**	**1.78**	**316**	PN			**Pn**	**04 09 53.0**	**+0.7**
SRKR	**Sorokina**	**1.78**	**316**	*e*P			**Pn**	**04 09 53.0**	**+0.7**
KRSR	**Krestovskiy**	**1.80**	**298**	PN			**Pn**	**04 09 53.1**	**+0.5**
KRSR				S			**Sb**	**04 10 16.1**	**-1.5**
KRSR	**Krestovskiy**	**1.80**	**298**	*e*P			**Pn**	**04 09 53.1**	**+0.5**
KRSR				*e*S			**Sb**	**04 10 16.1**	**-1.5**
KLY	**Klyuchi**	**1.80**	**302**	PN			**Pn**	**04 09 51.9**	**-0.6**
KLY	**Klyuchi**	**1.80**	**302**	*e*P			**Pn**	**04 09 51.9**	**-0.6**
TUMR	**Tumrok**	**1.86**	**268**	PN			**Pn**	**04 09 52.0**	**-1.5**
TUMR				S			**Sn**	**04 10 14.2**	**-2.1**
ESO	**Esso**	**2.71**	**283**	PN			**Pn**	**04 10 07.1**	**+2.0**
ESO	**Esso**	**2.71**	**283**	*e*P			**Pn**	**04 10 07.1**	**+2.0**
SPN	**Mys Shipunski**	**3.04**	**222**	*e*S			**Sn**	**04 10 41.7**	**-3.4**
SDLR	**Sedlovina**	**3.39**	**233**	PN			**Pn**	**04 10 15.1**	**+0.6**
SDLR				S			**Sn**	**04 10 54.3**	**+0.3**
SDLR	**Sedlovina**	**3.39**	**233**	*e*P			**Pn**	**04 10 15.1**	**+0.6**
SDLR				*e*S			**Sn**	**04 10 54.3**	**+0.3**
KRER	**Koryakskii**	**3.44**	**234**	PN			**Pn**	**04 10 15.4**	**+0.2**
KRER	**Koryakskii**	**3.44**	**234**	*e*P			**Pn**	**04 10 15.4**	**+0.2**
SMAR	**Somma**	**3.44**	**233**	PN			**Pn**	**04 10 16.3**	**+1.0**
SMAR	**Somma**	**3.44**	**233**	*e*P			**Pn**	**04 10 16.3**	**+1.0**
KRX	**Arik**	**3.45**	**236**	PN			**Pn**	**04 10 17.3**	**+2.0**
KRX	**Arik**	**3.45**	**236**	*e*P			**Pn**	**04 10 17.3**	**+2.0**
UGLR	**Uglovaya**	**3.46**	**233**	PN			**Pn**	**04 10 16.6**	**+1.1**
UGLR	**Uglovaya**	**3.46**	**233**	*e*P			**Pn**	**04 10 16.6**	**+1.1**
AVH	**Avacha**	**3.47**	**234**	PN			**Pn**	**04 10 17.4**	**+1.9**
AVH	**Avacha**	**3.47**	**234**	*e*P			**Pn**	**04 10 17.4**	**+1.9**
KOK	**Koryaka**	**3.50**	**235**	PN			**Pn**	**04 10 17.2**	**+1.2**
KOK	**Koryaka**	**3.50**	**235**	*e*P			**Pn**	**04 10 17.2**	**+1.2**
GNL	**Ganaly**	**3.61**	**244**	PN			**Pn**	**04 10 18.7**	**+1.2**
GNL	**Ganaly**	**3.61**	**244**	*e*P			**Pn**	**04 10 18.7**	**+1.2**
DALK	**Dalny**	**3.62**	**231**	PN			**Pn**	**04 10 19.3**	**+1.8**
DALK	**Dalny**	**3.62**	**231**	*e*P			**Pn**	**04 10 19.3**	**+1.8**
PET	**Petropavlovsk**	**3.66**	**231**	*e*PN			**Pn**	**04 10 18.7**	**+0.6**
PET				*e*S			**Sn**	**04 10 59.5**	**-1.0**
PET				smax	smax				
	comp=E,58nm,0.7s								
PET				MLR	MLR				
	comp=Z,102nm,11.1s								
PET	**Petropavlovsk**	**3.66**	**231**	*e*Pn			**Pn**	**04 10 18.5**	**+0.3**
OSSR	**Ossora**	**3.87**	**357**	PN			**Pn**	**04 10 20.5**	**-0.4**
OSSR	**Ossora**	**3.87**	**357**	*e*P			**Pn**	**04 10 20.5**	**-0.4**
KRMR	**Karymshinskiy**	**4.03**	**232**	PN			**Pn**	**04 10 24.5**	**+1.3**
KRMR	**Karymshinskiy**	**4.03**	**232**	*e*P			**Pn**	**04 10 24.5**	**+1.3**
PETK	**Petropavlovsk-**	**4.05**	**238**	Pn			**Pn**	**04 10 24.1**	**+0.5**
	comp=Z,3.0nm,0.3s,baz=88,slow=19,SNR=16								
PETK				Sn			**Sn**	**04 11 10.1**	**-0.1**
	comp=Z,7.3nm,0.3s,baz=58,slow=19,SNR=6.5								
APC	**Apacha**	**4.43**	**239**	PN			**Pn**	**04 10 31.0**	**+2.4**
APC	**Apacha**	**4.43**	**239**	*e*P			**Pn**	**04 10 31.0**	**+2.4**
SKR	**Severo-Kuril's**	**6.45**	**226**⇓	*e*PN			**Pn**	**04 10 56.5**	**+0.1**
UGL	**Uglegorsk**	**14.49**	**253**	*e*P			**Pn**	**04 12 43.6**	**-2.7**
UGL				*e*S			**Sn**	**04 15 23.1**	**-2.9**
HABR	**Khabarovsk**	**18.71**	**260**	*e*P			Pn	04 13 49.5	+10
HABR				*e*S			**Sn**	**04 17 05.5**	**-2.8**
HABR				pmax	pmax				
	comp=E,31nm,1.5s								
HABR				pmax	pmax				
	comp=N,34nm,2.2s								
HABR				pmax	pmax				
	comp=Z,54nm,2.2s								
HABR				MLR	MLR				
	comp=Z,305nm,15.0s								
KLR	**Kul'dur**	**20.19**	**265**	P			**P**	**04 13 55.4**	**-0.2**
	comp=Z,1.9nm,0.7s,baz=63,slow=14,SNR=2.7								
TIXI	**Tiksi**	**21.89**	**331**	P			**P**	**04 14 15.2**	**+1.4**
	comp=Z,7.6nm,0.6s,baz=127,slow=11,SNR=3.6								
TIXI				LR	LR		04 22 47.4		
	comp=Z,66nm,19.3s,baz=146,slow=37								
TIXI	**Tiksi**	**21.89**	**331**	*e*P			**P**	**04 14 14.8**	**+1.1**
	comp=Z,29nm,0.9s								
KDAK	**Kodiak Island**	**24.03**	**66**	*e*P			**P**	**04 14 35.7**	**0.0**
KDAK				pmax	pmax				
	comp=Z,21nm,0.9s								
KDAK	**Kodiak Island**	**24.03**	**66**	*e*P			**P**	**04 14 35.7**	**0.0**
	comp=Z,21nm,0.9s								
TRF	**Thorofare Moun**	**24.38**	**52**	*e*P			**P**	**04 14 40.6**	**+1.4**
	comp=Z,18nm,1.0s								
COLD	**Coldfoot**	**24.54**	**43**	*e*P			**P**	**04 14 41.5**	**+1.2**
	comp=Z,8.8nm,0.8s								
MCK	**McKinley**	**24.98**	**51**	*e*P			**P**	**04 14 47.5**	**+3.2**
MCK				pmax	pmax				
	comp=Z,3.0nm,0.7s								
MCK	**McKinley**	**24.98**	**51**	*e*P			**P**	**04 14 47.5**	**+3.2**
	comp=Z,2.8nm,0.7s								
COLA	**College**	**25.41**	**48**⇑	*i*P			**P**	**04 14 47.8**	**-0.3**
COLA				pmax	pmax				
	comp=Z,8.0nm,1.5s								
MAJO	**Matsushiro**	**25.50**	**233**⇑	*i*P			**P**	**04 14 50.0**	**+0.8**
MAJO	**Matsushiro**	**25.50**	**233**	*e*P			**P**	**04 14 49.9**	**+0.6**
	comp=Z,17nm,0.6s								
MAT	**Matsushiro**	**25.50**	**233**	P			**P**	**04 14 48.1**	**-1.1**
MJAR	**Matsushiro Arr**	**25.50**	**233**	P			**P**	**04 14 49.5**	**+0.3**
	comp=Z,11nm,0.8s,baz=25,slow=9.3,SNR=11								
MJAR				LR	LR		04 25 07.4		
	comp=Z,117nm,20.1s,baz=70,slow=37								
MJAR	**Matsushiro Arr**	**25.50**	**233**	P			**P**	**04 14 49.5**	**+0.3**
MJAR				pmax	pmax				
	comp=Z,10.0nm,0.8s								
MJAR				MLR	MLR				
	comp=Z,117nm,20.1s								
ILAR	**Eielson Array**	**25.82**	**49**	P			**P**	**04 14 51.9**	**-0.1**
	comp=Z,1.0nm,0.7s,baz=261,slow=8.1,SNR=12								
ILAR	**Eielson Array**	**25.82**	**49**	P			**P**	**04 14 51.9**	**-0.1**
ILAR				pmax	pmax				
	comp=Z,2.0nm,0.9s								
EGAK	**Eagle**	**28.27**	**48**	*e*P			**P**	**04 15 13.7**	**-0.1**
	comp=Z,3.6nm,0.9s								
INK	**Inuvik**	**30.85**	**40**	P			**P**	**04 15 37.6**	**+0.9**
	comp=Z,1.0nm,0.5s,baz=325,slow=8.5,SNR=6.4								
INK	**Inuvik**	**30.85**	**40**	*e*P			**P**	**04 15 37.2**	**+0.5**
INK				pmax	pmax				
	comp=Z,4.0nm,1.0s								
INK	**Inuvik**	**30.85**	**40**	*e*P			**P**	**04 15 37.2**	**+0.5**
	comp=Z,4.2nm,1.0s								
ULN	**Ulaanbaatar**	**34.91**	**282**⇑	*i*P			**P**	**04 16 09.8**	**-2.7**
ULN				pmax	pmax				
	comp=Z,16nm,3.6s								
DLBC	**Dease Lake**	**35.13**	**57**	P			**P**	**04 16 17.0**	**+2.7**
	comp=Z,1.1nm,0.6s,baz=329,slow=12,SNR=2.3								
SONM	**Songino Array**	**35.29**	**282**	P			**P**	**04 16 14.7**	**-1.2**
	comp=Z,0.5nm,0.5s,baz=46,slow=8.3,SNR=2.9								
H11N2	**WAKE ISLAND Hy**	**35.71**	**174**	T			T	04 55 34.9	
	baz=358,slow=76,SNR=9.2								
H11N3	**WAKE ISLAND Hy**	**35.72**	**174**	T			T	04 55 34.0	
	baz=358,slow=76,SNR=11								
H11N1	**WAKE ISLAND Hy**	**35.73**	**174**	T			T	04 55 35.9	
	baz=358,slow=76,SNR=14								
YKA	**Yellowknife Ar**	**40.15**	**45**	P			**P**	**04 16 57.6**	**+1.1**
	comp=Z,1.2nm,0.6s,baz=299,slow=8.1,SNR=3.3								
EDM	**Edmonton**	**45.85**	**56**	*e*P			**P**	**04 17 44.3**	**+1.5**
EDM				pmax	pmax				
	comp=Z,6.0nm,0.9s								
EDM	**Edmonton**	**45.85**	**56**	*e*P			**P**	**04 17 44.3**	**+1.5**
	comp=Z,6.1nm,0.9s								
KURK	**Kurchatov**	**48.16**	**302**⇑	*i*P			**P**	**04 18 00.4**	**-0.4**
KURK				*PP			**sP**	**04 18 11.0**	**-0.6**
KURK				pmax	pmax				
	comp=Z,11nm,0.9s								
KURK	**Kurchatov**	**48.16**	**302**	*e*P			**P**	**04 17 59.2**	**-1.6**
BRVK	**Borovoye**	**50.50**	**309**⇑	*i*P			**P**	**04 18 16.0**	**-2.6**
BRVK				*i* *PP			**sP**	**04 18 28.8**	**-0.6**
BRVK				pmax	pmax				
	comp=Z,4.0nm,0.8s								
BRVK	**Borovoye**	**50.50**	**309**	*e*P			**P**	**04 18 18.4**	**-0.2**
	comp=Z,12nm,0.5s								
PDAR	**Pinedale Array**	**54.73**	**64**	P			**P**	**04 18 51.8**	**+1.4**
	comp=Z,0.3nm,0.6s,baz=288,slow=3.7,SNR=3.3								
AAK	**Ala-Archa**	**55.78**	**297**⇑	*i*P			**P**	**04 18 55.3**	**-2.6**
AAK				*i* *PP			**pP**	**04 19 05.5**	**-0.2**
AAK				pmax	pmax				
	comp=Z,10.0nm,1.2s								
AAK	**Ala-Archa**	**55.78**	**297**	*e*P			**P**	**04 18 57.0**	**-0.9**
	comp=Z,8.8nm,1.1s								
KLMR	**Klimovskoe**	**55.91**	**331**	*e*P			**P**	**04 18 57.7**	**-0.6**
KLMR				pmax	pmax				
	comp=Z,6.0nm,0.8s								
ABKAR	**Akbulak array**	**57.76**	**311**	*e*P			**P**	**04 19 11.2**	**-0.3**
ISCO	**Idaho Springs**	**58.93**	**64**	*e*P			**P**	**04 19 20.1**	**-0.2**
ISCO				pmax	pmax				
	comp=Z,3.0nm,1.1s								
ISCO	**Idaho Springs**	**58.93**	**64**	*e*P			**P**	**04 19 20.1**	**-0.2**
	comp=Z,3.3nm,1.1s								
CMAR	**Chiang Mai Arr**	**60.53**	**260**	P			**P**	**04 19 30.2**

SZAC				S		Sn	04 19 52.6	+1.2
PPCY	**Paphos**	**1.14**	**347**	P		Pn	04 19 39.2	-0.6
PPCY	**Paphos**	**1.14**	**347**	P		Pn	04 19 39.2	-0.6
	baz=173							
AKMC	**Akamas**	**1.28**	**348**	P		Pn	04 19 41.2	-0.6
AKMC	**Akamas**	**1.28**	**348**	P		Pn	04 19 41.2	-0.6
	baz=173							
CSS	**Mathiatis**	**1.31**	**25**	P		Pb	04 19 42.2	-0.9
CSS				S		Sb	04 20 01.1	+1.6
CSS	**Mathiatis**	**1.31**	**25**	P		Pb	04 19 42.2	-0.9
	baz=209							
CSS				S		Sb	04 20 01.1	+1.6
LEF	**Lefka**	**1.36**	**8**	*e*PN		Pb	04 19 43.2	-0.7
LEF				*e*SN		Sb	04 20 01.0	+0.1
LEF	**Lefka**	**1.36**	**8**	*e*Pn		Pb	04 19 43.2	-0.7
LEF				*e*Sn		Sb	04 20 01.0	+0.1
LFK	**Lefkose**	**1.67**	**25**	*e*PN		Pn	04 19 47.6	+0.5
LFK	**Lefkose**	**1.67**	**25**	*e*Pn		Pn	04 19 47.6	+0.5
PHNC	**Paralimni**	**1.67**	**42**	P		Pb	04 19 48.2	-1.1
PHNC	**Paralimni**	**1.67**	**42**	P		Pb	04 19 48.2	-1.1
	baz=225							
HNTI	**Hanita**	**2.21**	**107**	Pn		Pn	04 19 55.0	+0.4
HNTI	**Hanita**	**2.21**	**107**	Pn		Pn	04 19 55.0	+0.4
TEKE	**Tekeli-Mersin**	**2.40**	**9**	*e*PN		Pn	04 19 57.7	+0.6
TEKE	**Tekeli-Mersin**	**2.40**	**9**	*e*Pn		Pn	04 19 57.7	+0.6
MMA0B	**Mount Meron ar**	**2.42**	**107**	Pn		Pn	04 19 57.5	+0.1
MMA0B				Sn		Sn	04 20 27.1	+0.7
MMA0B	**Mount Meron ar**	**2.42**	**107**	Pn		Pn	04 19 57.5	+0.1
MMA0B				Sn		Sn	04 20 27.1	+0.7
AKKU	**Akkuyu-Mersin**	**2.49**	**17**	*e*PN		Pn	04 19 59.6	+1.2
AKKU	**Akkuyu-Mersin**	**2.49**	**17**	*e*Pn		Pn	04 19 59.6	+1.2
SLTI	**Sal'it**	**2.52**	**127**	Pn		Pn	04 19 59.5	+0.7
SLTI				Sn		Sn	04 20 28.7	-0.1
SLTI	**Sal'it**	**2.52**	**127**	Pn		Pn	04 19 59.5	+0.7
SLTI				Sn		Sn	04 20 28.7	-0.1
KSDI	**Kefar Szold**	**2.57**	**102**	Pn		Pn	04 19 59.7	+0.2
KSDI				Sn		Sn	04 20 30.0	-0.1
KSDI	**Kefar Szold**	**2.57**	**102**	Pn		Pn	04 19 59.7	+0.2
KSDI				Sn		Sn	04 20 30.0	-0.1
IKL	**Isikli**	**2.60**	**19**	*e*PN		Pn	04 20 01.0	+1.1
IKL	**Isikli**	**2.60**	**19**	*e*Pn		Pn	04 20 01.0	+1.1
BERE	**Bereket-Mersin**	**2.61**	**10**	*e*PN		Pn	04 20 00.8	+0.6
BERE	**Bereket-Mersin**	**2.61**	**10**	*e*Pn		Pn	04 20 00.8	+0.6
RCY	**Rachaya**	**2.66**	**95**	*e*P		Pn	04 20 01.1	+0.2
RCY	**Rachaya**	**2.66**	**95**	*e*P		Pn	04 20 01.1	+0.2
MMLI	**Mount Malkishu**	**2.67**	**119**	Pn		Pn	04 20 01.1	+0.2
MMLI				Sn		Sn	04 20 33.3	+0.6
MMLI	**Mount Malkishu**	**2.67**	**119**	Pn		Pn	04 20 01.1	+0.2
MMLI				Sn		Sn	04 20 33.3	+0.6
TEVE	**Tevekalti-Mers**	**2.73**	**13**	*e*PN		Pn	04 20 02.2	+0.4
TEVE	**Tevekalti-Mers**	**2.73**	**13**	*e*Pn		Pn	04 20 02.2	+0.4
KSHT	**Keshet**	**2.75**	**106**	Pn		Pn	04 20 03.4	+1.4
KSHT	**Keshet**	**2.75**	**106**	Pn		Pn	04 20 03.4	+1.4
BRBR	**Barbar**	**2.77**	**97**	*e*P		Pn	04 20 01.8	-0.6
BRBR				*e*S		Sn	04 20 30.6	-4.7
BRBR					AML	AML	04 20 36.9	
	comp=E,52nm,0.5s							
BRBR					AML	AML	04 20 38.7	
	comp=N,36nm,0.2s							
BRBR	**Barbar**	**2.77**	**97**	*e*P		Pn	04 20 01.8	-0.6
	SNR=90							
BRBR				*e*S		Sn	04 20 30.6	-4.7
	comp=N,36nm,0.2s,SNR=90							
KEBE	**Keben-Mersin**	**2.81**	**18**	*e*PN		Pn	04 20 03.8	+1.0
KEBE	**Keben-Mersin**	**2.81**	**18**	*e*Pn		Pn	04 20 03.8	+1.0
HMDT	**Nahal Hemdat**	**2.84**	**121**	Pn		Pn	04 20 04.1	+0.8
HMDT	**Nahal Hemdat**	**2.84**	**121**	Pn		Pn	04 20 04.1	+0.8
RSH		**2.94**	**162**	P		Pn	04 20 05.0	+0.3
	baz=161							
RSH		**2.94**	**162**	P		Pn	04 20 04.9	+0.3
TCHB	**Talchebab**	**2.98**	**111**	*e*P		Pn	04 20 05.8	+0.6
TCHB				*e*S		Sn	04 20 40.6	+0.3
TCHB					AML	AML	04 20 45.1	
	comp=N,90nm,0.4s							
TCHB					AML	AML	04 20 48.9	
	comp=E,69nm,0.2s							
TCHB	**Talchebab**	**2.98**	**111**	*e*P		Pn	04 20 05.8	+0.6
	SNR=90							
TCHB				*e*S		Sn	04 20 40.6	+0.3
	comp=E,69nm,0.2s,SNR=90							
TOTH	**TOTAH**	**3.17**	**96**	*e*P		Pn	04 20 09.3	+1.4
TOTH				*e*S		Sn	04 20 44.5	-0.6
TOTH					AML	AML	04 20 48.3	
	comp=E,28nm,0.5s							
TOTH					AML	AML	04 20 50.9	
	comp=N,17nm,0.6s							
TOTH	**TOTAH**	**3.17**	**96**	*e*P		Pn	04 20 09.3	+1.4
	SNR=90							
TOTH				*e*S		Sn	04 20 44.5	-0.6
	comp=N,17nm,0.6s,SNR=90							
HDMB	**Hadim**	**3.19**	**357**	*e*PN		Pn	04 20 10.3	+2.1
HDMB	**Hadim**	**3.19**	**357**	*e*Pn		Pn	04 20 10.3	+2.1
MARH	**Ras Al Marh**	**3.19**	**84**	*e*P		Pn	04 20 06.9	-1.4
MARH				*e*S		Sn	04 20 42.3	-3.5
MARH					AML	AML	04 20 50.3	
	comp=E,16nm,0.3s							
MARH					AML	AML	04 20 51.8	
	comp=N,39nm,0.5s							
MARH	**Ras Al Marh**	**3.19**	**84**	*e*P		Pn	04 20 06.9	-1.4
	SNR=90							
MARH				*e*S		Sn	04 20 42.3	-3.5
	comp=N,39nm,0.5s,SNR=90							
KZIT	**Kziot**	**3.21**	**152**	Pn		Pn	04 20 09.4	+1.0
KZIT				Sn		Sn	04 20 47.2	+1.2
KZIT	**Kziot**	**3.21**	**152**	Pn		Pn	04 20 09.4	+1.0
KZIT				Sn		Sn	04 20 47.2	+1.2
MZDA	**Masada**	**3.35**	**136**	Pn		Pn	04 20 11.1	+0.9
MZDA				Sn		Sn	04 20 50.2	+0.9
MZDA	**Masada**	**3.35**	**136**	Pn		Pn	04 20 11.1	+0.9
MZDA				Sn		Sn	04 20 50.2	+0.9
MERS	**Mersin**	**3.44**	**26**	*e*PN		Pn	04 20 13.4	+1.8
MERS	**Mersin**	**3.44**	**26**	*e*Pn		Pn	04 20 13.4	+1.8
SALA	**Sala**	**3.57**	**106**	*e*P		Pn	04 20 15.0	+1.5
SALA				*e*S		Sn	04 20 55.3	+0.2
SALA					AML	AML	04 21 04.0	
	comp=E,1.5nm,0.6s							
SALA					AML	AML	04 21 04.4	
	comp=N,15nm,0.3s							
SALA	**Sala**	**3.57**	**106**	*e*P		Pn	04 20 15.0	+1.5
	SNR=90							
SALA				*e*S		Sn	04 20 55.3	+0.2
	comp=N,15nm,0.3s,SNR=90							
HHAG	**Hagoal**	**3.84**	**187**	P		Pn	04 20 16.9	-0.1
	baz=186							
HHAG				S		Sn	04 21 00.4	-1.0
	baz=186							
HHAG	**Hagoal**	**3.84**	**187**	P		Pn	04 20 16.9	-0.1
HHAG				S		Sn	04 21 00.4	-1.0
BTCH	**Batrach**	**3.85**	**53**	*e*P		Pn	04 20 07.3	-10
BTCH				*e*S		Sn	04 20 49.6	-12
BTCH					AML	AML	04 21 03.3	
	comp=E,26nm,0.3s							
BTCH					AML	AML	04 21 04.2	
	comp=N,34nm,0.5s							
KOT	**Kottamia**	**3.90**	**191**	P		Pn	04 20 17.8	0.0
	baz=190							
KOT				S		Sn	04 21 01.1	-1.8
	baz=190							
KOT	**Kottamia**	**3.90**	**191**	P		Pn	04 20 17.8	0.0
KOT				S		Sn	04 21 01.1	-1.8
PRNI	**Paran**	**3.95**	**149**	Pn		Pn	04 20 19.0	+0.5
PRNI				Sn		Sn	04 21 04.2	+0.1
PRNI	**Paran**	**3.95**	**149**	Pn		Pn	04 20 19.0	+0.5
PRNI				Sn		Sn	04 21 04.2	+0.1
HNKL	**Nakhl**	**3.99**	**163**	P		Pn	04 20 19.2	+0.1
	baz=162							
HNKL				S		Sn	04 21 04.6	-0.6
	baz=162							
HNKL	**Nakhl**	**3.99**	**163**	P		Pn	04 20 19.2	+0.1
HNKL				S		Sn	04 21 04.6	-0.6
SQR	**Saqqara**	**4.07**	**198**	P		Pn	04 20 21.0	+0.8
	baz=197							
SQR	**Saqqara**	**4.07**	**198**	P		Pn	04 20 21.0	+0.8
HRFI	**Mount Harif**	**4.24**	**151**	Pn		Pn	04 20 23.1	+0.6
HRFI	**Mount Harif**	**4.24**	**151**	Pn		Pn	04 20 23.1	+0.6
HSAF	**As Saff**	**4.25**	**193**	P		Pn	04 20 22.4	-0.2
	baz=192							
HSAF	**As Saff**	**4.25**	**193**	P		Pn	04 20 22.4	-0.2
GLL	**Jalalah**	**4.26**	**191**	P		Pn	04 20 22.8	0.0
	baz=190							
GLL	**Jalalah**	**4.26**	**191**	P		Pn	04 20 22.8	0.0
ZNM	**Zenema**	**4.39**	**178**	P		Pn	04 20 24.9	+0.4
	baz=176							
ZNM	**Zenema**	**4.39**	**178**	P		Pn	04 20 24.9	+0.4
MBRI	**Mt Berech**	**4.41**	**154**	Pn		Pn	04 20 26.2	+1.4
MBRI				Sn		Sn	04 21 16.4	+0.9
MBRI	**Mt Berech**	**4.41**	**154**	Pn		Pn	04 20 26.2	+1.4
MBRI				Sn		Sn	04 21 16.4	+0.9
ZAF	**Zafarana**	**4.48**	**181**	P		Pn	04 20 26.5	+0.8
	baz=181							
ZAF	**Zafarana**	**4.48**	**181**	P		Pn	04 20 26.5	+0.8
EIL	**Elat**	**4.53**	**154**	Pn		Pn	04 20 26.8	+0.3
EIL	**Elat**	**4.53**	**154**	Pn		Pn	04 20 26.8	+0.3
NUB		**5.03**	**160**	P		Pn	04 20 34.3	+1.1
	baz=159							

CSEM ***02*** *04:25:22.8±0.2, 38°.58N×39°.82E, h5km, MD3.0, Error ellipse: s-maj=7.2km s-min=4.4km az=47.0*
DDA ***02*** *04:25:23.0, 38°.61N×39°.88E, h7km, Ml2.9*
ISK ***02*** *04:25:22.4, 38°.56N×39°.82E, h5km, MD3.0*
ISCJB ***02*** *04:25:23.2±0.5, 38°.59N±0°.03×39°.82E±0°.04, h10km±8km, Error ellipse: s-maj=6.0km s-min=5.4km az=39.4*

ISC 02 04:25:22.7±1.4, 38°.59N±0°.03×39°.81E±0°.03, h8km±12km, n24, σ0s80/37, Turkey

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
PTK	**Pertek**	**0.45**	**313**		*e*PG		**Pg**	**04 25 31.8**	**+0.3**
PTK					*e*SG		**Sb**	**04 25 39.4**	**-0.5**
PTK	**Pertek**	**0.45**	**313**		*e*Pg		**Pg**	**04 25 31.8**	**+0.3**
PTK					*e*Sg		**Sb**	**04 25 39.4**	**-0.5**
TNCL	**Tunceli-Merkez**	**0.57**	**338**		*i* P		**Pg**	**04 25 34.0**	**+0.3**
TNCL					*i* S		**Sb**	**04 25 43.7**	**+0.5**
TNCL	**Tunceli-Merkez**	**0.57**	**338**		P		**Pg**	**04 25 34.0**	**+0.3**
TNCL					S		**Sb**	**04 25 43.7**	**+0.5**
ELZG	**Elazig**	**0.65**	**262**		*i* P		**Pg**	**04 25 35.6**	**+0.3**
ELZG					*i* S		**Sn**	**04 25 48.4**	**-0.6**
ELZG	**Elazig**	**0.65**	**262**		P		**Pg**	**04 25 35.6**	**+0.3**
DYBB	**Diyarbakir**	**0.68**	**158**		*e*PG		**Pg**	**04 25 35.8**	**-0.1**
DIYA	**Diyarbakir**	**0.71**	**160**		*i* P		**Pb**	**04 25 36.8**	**-0.5**
DIYA					*i* S		**Sb**	**04 25 48.2**	**+1.0**
DIYA	**Diyarbakir**	**0.71**	**160**		P		**Pb**	**04 25 36.8**	**-0.5**
DIYA					S		**Sb**	**04 25 48.2**	**+1.0**
BNGB	**Bing¯¶l**	**0.79**	**59**		*e*PG		**Pb**	**04 25 39.0**	**+0.3**
BNGB					*e*SG		**Sb**	**04 25 49.5**	**-0.1**
ERZN	**Erzincan**	**1.00**	**356**		*e*PG		**Pb**	**04 25 42.6**	**+0.2**
YEDI	**Yedisu-Bingol**	**1.02**	**34**		*e*PG		**Pg**	**04 25 42.6**	**+0.2**
YEDI	**Yedisu-Bingol**	**1.02**	**34**		*e*Pg		**Pg**	**04 25 42.6**	**+0.2**
SVAN	**Silvan-Diyarba**	**1.18**	**111**		*e*PN		**Pg**	**04 25 44.7**	**-0.6**
SVAN	**Silvan-Diyarba**	**1.18**	**111**		*i* P		**Pg**	**04 25 44.6**	**-0.6**
SVAN					*i* S		**Sb**	**04 26 01.2**	**+0.6**
SVAN	**Silvan-Diyarba**	**1.18**	**111**		P		**Pg**	**04 25 44.6**	**-0.6**
SVAN					S		**Sb**	**04 26 01.2**	**+0.6**
EZC	**Erzincan**	**1.22**	**343**		*e*Pg		**Pg**	**04 25 42.6**	**-3.4**
MAZI	**Mazidag**	**1.23**	**156**		*e*PN		**Pg**	**04 25 45.3**	**-1.1**
MAZI	**Mazidag**	**1.23**	**156**		*e*Pn		**Pg**	**04 25 45.3**	**-1.1**
BTMN	**Batman**	**1.34**	**121**		*i* P		**Pn**	**04 25 48.0**	**+0.2**
BTMN					*i* S		**Sn**	**04 26 06.3**	**+0.4**
BTMN	**Batman**	**1.34**	**121**		P		**Pn**	**04 25 48.0**	**+0.2**
BTMN					S		**Sn**	**04 26 06.3**	**+0.4**
URFA	**Urfa**	**1.39**	**215**		*e*PN		**Pn**	**04 25 48.7**	**+0.3**
URFA	**Urfa**	**1.39**	**215**		*e*Pn		**Pn**	**04 25 48.7**	**+0.3**
MARD	**Mardin**	**1.48**	**149**		*i* P		**Pn**	**04 25 49.9**	**+0.1**
MARD					*i* S		**Sb**	**04 26 09.7**	**0.0**

IDC 02 04:30:40.1±4.8, 48°.19N×153°.58E, h65km±44km, mb3.4/4, mb1 3.7/5, mb1mx3.3/26, mbtmp3.7/5, ML2.4/1, Error ellipse: s-maj=33.1km s-min=29.5km az=150.0, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
PETK	**Petropavlovsk-**	**5.58**	**27**	P			Pn	04 32 00.5	+0.2
	0.5nm,0.3s,baz=173,slow=11,SNR=2.7								
PETK				S			Sn	04 33 02.2	-0.8
	0.6nm,0.3s,baz=187,slow=24,SNR=2.1								
H11N2	**WAKE ISLAND Hy**	**30.37**	**155**	T			T	05 09 04.4	
	baz=343,slow=76,SNR=49								
H11N1	**WAKE ISLAND Hy**	**30.39**	**155**	T			T	05 09 01.9	
	baz=343,slow=76,SNR=130								
H11N3	**WAKE ISLAND Hy**	**30.39**	**155**	T			T	05 09 01.9	
	baz=343,slow=76,SNR=90								
SONM	**Songino Array**	**31.18**	**287**	P			P	04 36 52.3	-0.5
	0.4nm,0.4s,baz=75,slow=7.6,SNR=3.2								
H11S1	**WAKE ISLAND Hy**	**31.48**	**156**	T			T	05 10 21.5	
	baz=343,slow=76,SNR=37								
H11S3	**WAKE ISLAND Hy**	**31.49**	**156**	T			T	05 10 14.9	
	baz=343,slow=76,SNR=44								
H11S2	**WAKE ISLAND Hy**	**31.50**	**156**	T			T	05 10 24.1	
	baz=343,slow=76,SNR=34								
FINES	**FINESS Array B**	**62.87**	**335**	P			P	04 40 59.1	+0.4
	1.7nm,0.9s,baz=42,slow=6.4,SNR=7.6								
WRA	**Warramunga Arr**	**69.98**	**199**	P			P	04 41 44.8	+0.2
	0.5nm,0.7s,baz=13,slow=8.0,SNR=3.8								
TXAR	**Lajitas Array**	**76.51**	**61**	P			P	04 42 23.0	-0.3
	0.2nm,0.5s,baz=298,slow=4.4,SNR=5.6								

ISN ***02*** *04:44:40.5±0.3, 28°.36N×51°.13E, h0km, ML3.5*
THR ***02*** *04:45:10.5±0.3, 28°.17N×51°.02E, h22km±3km, ML3.5*
ISCJB ***02*** *04:45:11.8±0.6, 28°.17N±0°.05×51°.17E±0°.04, h10km, mb3.6/8, MS2.8/1, Error ellipse: s-maj=7.8km s-min=5.4km az=3.5*
IDC ***02*** *04:45:13.4±3.0, 28°.31N×51°.01E, h0km, mb3.8/8, mb1 3.9/11, mb1mx3.7/54, mbtmp3.8/11, ML3.4/3, MS3.0/1, Ms1 3.0/1, ms1mx2.5/37, Error ellipse: s-maj=60.9km s-min=25.8km az=124.0*
CSEM ***02*** *04:45:15.2±0.8, 28°.31N×51°.27E, h10km, ML3.5, Error ellipse: s-maj=18.2km s-min=8.3km az=36.0*
TEH ***02*** *04:45:15.8, 28°.26N×51°.29E, h10km, ML3.5*

ISC 02 04:45:13.6±0.8, 28°.24N±0°.06×51°.20E±0°.05, h10km, n46, σ1s09/52, mb3.7/8, Southern Iran

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
AHBU	**AHRAM**	**0.62**	**8**		*e*P		**Pg**	**04 45 24.6**	**-1.1**
AHBU					*e*Sg		**Sg**	**04 45 34.8**	**+0.9**
GHIR	**Ghir-Karzin**	**1.58**	**88**		*e*Pg		**Pn**	**04 45 41.7**	**-0.1**
GHIR					*e*Sg		**Sb**	**04 46 04.4**	**+1.4**
GHIR					AML		AML	04 46 18.7	
	comp=E,581nm,0.7s								
GHIR	**Ghir-Karzin**	**1.58**	**88**		*e*P		**Pn**	**04 45 41.7**	**-0.1**
GHIR					*e*Sg		**Sb**	**04 46 04.4**	**+1.4**
ISRV	**Sarvestan**	**2.03**	**56**		*e*Pn		**Pn**	**04 45 49.3**	**+1.2**
ISRV					*e*AMB		AMB	04 46 01.8	
	comp=Z,4μm,0.2s								
ISRV					*e*Sg		**Sb**	**04 46 16.6**	**+0.4**
ISRV	**Sarvestan**	**2.03**	**56**		*e*Pn		**Pn**	**04 45 49.3**	**+1.2**
ISRV					*e*Sg		**Sb**	**04 46 16.6**	**+0.4**
IPAR	**Pars**	**2.27**	**45**		*e*Pn		**Pn**	**04 45 52.8**	**+1.3**
IPAR	**Pars**	**2.27**	**45**		*e*Pn		**Pn**	**04 45 52.8**	**+1.3**
IRAM	**Ramesheh**	**3.70**	**16**		*e*Pn		**Pn**	**04 46 11.9**	**+0.9**
IRAM					*e*AMB		AMB	04 47 20.0	
	comp=Z,457nm,0.3s								
IRAM	**Ramesheh**	**3.70**	**16**		*e*Pn		**Pn**	**04 46 11.9**	**+0.9**
ISAD	**Sadrabad**	**4.25**	**30**		*e*Pn		**Pn**	**04 46 20.2**	**+1.6**
ISAD					*e*AMB		AMB	04 46 21.7	
	comp=Z,374nm,0.1s								
ISAD	**Sadrabad**	**4.25**	**30**		*e*Pn		**Pn**	**04 46 20.2**	**+1.6**
IMEH	**Mehriz**	**4.32**	**43**		*e*Pn		**Pn**	**04 46 21.1**	**+1.5**
IMEH					*e*AMB		AMB	04 46 22.1	
	comp=Z,2μm,0.2s								
IMEH	**Mehriz**	**4.32**	**43**		*e*Pn		**Pn**	**04 46 21.1**	**+1.5**
IPIR	**Pirpir**	**4.43**	**357**		*e*Pn		**Pn**	**04 46 22.8**	**+1.6**
IPIR					*e*AMB		AMB	04 47 18.6	
	comp=Z,378nm,0.2s								
IPIR	**Pirpir**	**4.43**	**357**		*e*Pn		**Pn**	**04 46 22.8**	**+1.6**
IZEF	**Zefreh**	**4.74**	**12**		*e*Pn		**Pn**	**04 46 26.2**	**+0.8**
IZEF					*e*AMB		AMB	04 46 56.0	
	comp=Z,156nm,0.2s								
IZEF	**Zefreh**	**4.74**	**12**		*e*Pn		**Pn**	**04 46 26.2**	**+0.8**
NASN	**Na'in**	**4.75**	**17**		*e*Pn		**Pn**	**04 46 25.1**	**-0.5**
NASN	**Na'in**	**4.75**	**17**		*e*P		**Pn**	**04 46 25.1**	**-0.5**
ICHK	**Chekchek**	**4.86**	**34**		*e*Pn		**Pn**	**04 46 27.5**	**+0.5**
ICHK					*e*AMB		AMB	04 46 29.4	
	comp=Z,371nm,0.2s								
ICHK	**Chekchek**	**4.86**	**34**		*e*Pn		**Pn**	**04 46 27.5**	**+0.5**
NGRK	**Negar Kerman**	**5.04**	**73**		*e*Pn		**Pn**	**04 46 29.8**	**+0.1**
NGRK	**Negar Kerman**	**5.04**	**73**		*e*Pn		**Pn**	**04 46 29.8**	**+0.1**
IBAF	**Bafgh**	**5.05**	**48**		*e*Pn		**Pn**	**04 46 30.2**	**+0.6**
IBAF					*e*AMB		AMB	04 46 31.9	
	comp=Z,745nm,0.3s								
IBAF					*e*Sn		**Sn**	**04 47 25.3**	**-2.8**
IBAF	**Bafgh**	**5.05**	**48**		*e*Pn		**Pn**	**04 46 30.2**	**+0.6**
IBAF					*e*Sn		**Sn**	**04 47 25.3**	**-2.8**
IKLH	**Kolahrood**	**5.07**	**4**		*e*Pn		**Pn**	**04 46 30.6**	**+0.7**
IKLH					*e*AMB		AMB	04 46 32.7	
	comp=Z,176nm,0.1s								
IKLH	**Kolahrood**	**5.07**	**4**		*e*Pn		**Pn**	**04 46 30.6**	**+0.7**
KHGB	**Koh Gabri**	**5.08**	**64**		*e*Pn		**Pn**	**04 46 30.0**	**0.0**
KHGB	**Koh Gabri**	**5.08**	**64**		*e*Pn		**Pn**	**04 46 30.0**	**0.0**
NSR	**Nassriya**	**5.20**	**303**		*e*Pg		**Pn**	**04 46 32.0**	**+0.6**
	SNR=9.0								
GHVR	**GHOM**	**6.22**	**1**		*e*Pn		**Pn**	**04 46 44.5**	**-1.1**
GHVR	**GHOM**	**6.22**	**1**		*e*Pn		**Pn**	**04 46 44.5**	**-1.1**
TABS	**Tabas**	**7.41**	**42**		*e*Pn		**Pn**	**04 47 02.2**	**+0.3**
TABS	**Tabas**	**7.41**	**42**		*e*Pn		**Pn**	**04 47 02.2**	**+0.3**
ASF	**Jabal al Asfar**	**12.97**	**291**		Pn		**Pn**	**04 48 17.3**	**-0.8**
	comp=Z,0.3nm,0.3s,baz=68,slow=11,SNR=4.3								
KBZ	**Khabaz**	**16.83**	**339**		Pn		**P**	**04 49 11.1**	**-0.3**
	comp=Z,0.1nm,0.3s,baz=170,slow=9.3,SNR=5.0								
BRTR	**Keskin Array B**	**18.49**	**313**		P		**Pn**	**04 49 30.8**	**+0.7**
	comp=Z,0.1nm,0.3s,baz=136,slow=13,SNR=6.2								
AKTO	**Aktyubinsk**	**22.76**	**11**		P		**P**	**04 50 18.1**	**+2.1**
	comp=Z,1.3nm,0.6s,baz=185,slow=11,SNR=2.9								
IDI	**Anoyia**	**23.40**	**294**		LR		LR	05 01 56.2	
	comp=Z,37nm,20.3s,baz=49,slow=43								
AKASG	**Malin Array Be**	**27.92**	**329**		P		**P**	**04 51 03.4**	**-0.4**
	comp=Z,0.1nm,0.2s,baz=133,slow=8.0,SNR=2.1								
FINES	**FINESS Array B**	**37.19**	**340**		P		**P**	**04 52 23.9**	**-0.7**
	comp=Z,1.0nm,0.6s,baz=133,slow=14,SNR=3.0								
NOA	**NORSAR Array B**	**42.25**	**332**		P		**P**	**04 53 06.4**	**-0.4**
	comp=Z,0.5nm,0.5s,baz=122,slow=8.4,SNR=3.4								
ARCES	**ARCESS Array B**	**43.92**	**347**		P		**P**	**04 53 21.1**	**+0.9**
	comp=Z,0.7nm,0.5s,baz=148,slow=6.9,SNR=2.9								
EKA	**Eskdalemuir Ar**	**47.15**	**321**		P		**P**	**04 53 46.0**	**+0.1**
	comp=Z,0.5nm,0.5s,baz=104,slow=8.9,SNR=2.5								
TORD	**Torodi Ar. Bea**	**48.35**	**262**		P		**P**	**04 53 55.9**	**+0.1**
	comp=Z,1.0nm,0.9s,baz=62,slow=9.2,SNR=5.9								
DBIC	**Dimbokro**	**57.06**	**259**		P		**P**	**04 55 00.8**	**+0.5**
	comp=Z,1.1nm,0.5s,baz=45,slow=7.1,SNR=4.6								

IASPEI ***02*** *04:46:02.8±0.8, 50°.25N±0°.02×12°.47E±0°.02, h14km±4km, Error ellipse: s-maj=3.1km s-min=2.5km az=62.8, GT5 selection from ISC bulletin GT5 identified by Bond¯jr and McLaughlin (2009) selection criteria Bond¯jr and McLaughlin, A new ground truth data set for seismic studies, Seism. Res. Let., 80, 465-472, 2009*
CSEM ***02*** *04:46:02.9±0.1, 50°.22N×12°.50E, h10km, ML3.0/12, Error ellipse: s-maj=1.7km s-min=1.3km az=48.0*
BGR ***02*** *04:46:03.6±0.2, 50°.25N×12°.44E, h12km±1km, ML2.4/6, Error ellipse: s-maj=2.2km s-min=1.1km az=105.0*
CLL ***02*** *04:46:04.2±0.3, 50°.3N±0°.8×1°.2E±°, h9km±1km, ml2.4*
PRU ***02*** *04:46:04.1, 50°.26N×12°.53E, h1km, West Bohemia Swarm*

ISC 02 04:46:02.8±0.8, 50°.25N±0°.02×12°.48E±0°.02, h16km±3km, n73, σ0s87/131, 6C, Germany

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
NKC	**Novy Kostel**	**0.03**	**223**	⇑	*i*PG		**Pg**	**04 46 05.7**	**0.0**
NKC					*e*SG		**Sg**	**04 46 06.7**	**-0.8**
	comp=Z,1μm,0.2s								
NKC	**Novy Kostel**	**0.03

BRG	**Berggiesshubel**	**1.12**	**56**	*e*Pg		**Pg**	**04 46 25.1**	**+0.6**
BRG				*e*Sg		**Sn**	**04 46 40.0**	**+0.9**
BRG	**Berggiesshubel**	**1.12**	**56**	Pg		**Pg**	**04 46 25.1**	**+0.6**
BRG				Sg		**Sn**	**04 46 40.0**	**+0.9**
WET	**Wettzell**	**1.14**	**167**	*e*Pg		**Pg**	**04 46 24.9**	**+0.1**
WET				*e*Sg		**Sn**	**04 46 40.0**	**+0.5**
WET	**Wettzell**	**1.14**	**167**	Pg		**Pg**	**04 46 24.9**	**+0.1**
WET				Sg		**Sn**	**04 46 40.0**	**+0.5**
PRA	**Prague**	**1.27**	**97**	⇑*e*PG		**Pg**	**04 46 26.5**	**-0.8**
PRA				*e*SG		**Sg**	**04 46 43.9**	**0.0**
	comp=Z,15nm,0.2s							
PRA	**Prague**	**1.27**	**97**	Pg		**Pg**	**04 46 26.5**	**-0.8**
PRA				Sg		**Sg**	**04 46 43.9**	**0.0**
	comp=Z,15nm,0.2s							
KHC	**Kasperske Hory**	**1.33**	**147**	*e*PG		**Pg**	**04 46 27.8**	**-0.7**
KHC				*e*SG		**Sg**	**04 46 45.3**	**-0.5**
	comp=Z,20nm,0.2s							
KHC	**Kasperske Hory**	**1.33**	**147**	Pg		**Pg**	**04 46 27.8**	**-0.7**
KHC				Sg		**Sg**	**04 46 45.3**	**-0.5**
	comp=Z,20nm,0.2s							
PRU	**Pruhonice**	**1.36**	**100**	⇑*e*PG		**Pg**	**04 46 28.8**	**-0.1**
PRU				*e*SG		**Sg**	**04 46 46.6**	**0.0**
	comp=Z,20nm,0.2s							
PRU	**Pruhonice**	**1.36**	**100**	Pg		**Pg**	**04 46 28.8**	**-0.1**
PRU				Sg		**Sg**	**04 46 46.6**	**0.0**
	comp=Z,20nm,0.2s							
PVCC	**Panska Ves**	**1.37**	**78**	⇑*e*SG		**Sg**	**04 46 47.3**	**+0.3**
	comp=Z,64nm,0.2s							
PVCC	**Panska Ves**	**1.37**	**78**	Sg		**Sg**	**04 46 47.3**	**+0.3**
	comp=Z,64nm,0.2s							
GOPC	**GO Pecny, Ondr**	**1.53**	**102**	*e*SG		**Sg**	**04 46 51.4**	**-0.6**
	comp=Z,13nm,0.3s							
GOPC	**GO Pecny, Ondr**	**1.53**	**102**	Sg		**Sg**	**04 46 51.4**	**-0.6**
	comp=Z,13nm,0.3s							
UPC	**Upice**	**2.28**	**82**	⇑*e*SG		**Sg**	**04 47 15.2**	**-0.8**
	comp=Z,13nm,0.4s							
UPC	**Upice**	**2.28**	**82**	Sg		**Sg**	**04 47 15.2**	**-0.8**
	comp=Z,13nm,0.4s							
DPC	**Dobruska-Polom**	**2.47**	**86**	*e*SG		**Sg**	**04 47 20.3**	**-1.8**
	comp=Z,8.4nm,0.5s							
DPC	**Dobruska-Polom**	**2.47**	**86**	Sg		**Sg**	**04 47 20.3**	**-1.8**
	comp=Z,8.4nm,0.5s							
MOA	**Molln**	**2.68**	**153**	Pn		**Pn**	**04 46 54.5**	**+0.3**
	comp=Z,1.2nm,0.3s							
MOA				Sg		**Sg**	**04 47 27.8**	**-1.1**
	comp=Z,2.3nm,0.1s							
VRAC	**Vranov**	**2.83**	**108**	*e*Sg		**Sg**	**04 47 31.4**	**-2.3**
MOTA	**Moosalm**	**3.05**	**198**	Pg		**Pg**	**04 46 59.9**	**-1.3**
	comp=Z,0.7nm,0.2s							
MOTA	**Moosalm**	**3.05**	**198**	Pg		**Pg**	**04 46 59.9**	**-1.3**
	comp=Z,0.7nm,0.2s							
CONA	**Conrad Observa**	**3.22**	**135**	Pg		**Pg**	**04 47 03.7**	**-0.8**
	comp=Z,0.7nm,0.2s							
CONA				Sg		**Sg**	**04 47 44.9**	**-1.3**
	comp=Z,6.3nm,0.4s							
CONA	**Conrad Observa**	**3.22**	**135**	Pg		**Pg**	**04 47 03.7**	**-0.8**
	comp=Z,0.7nm,0.2s							
CONA				Sg		**Sg**	**04 47 44.9**	**-1.3**
	comp=Z,6.3nm,0.4s							
KBA	**Koelnbreinsper**	**3.23**	**169**	Pn		**Pn**	**04 46 54.0**	**+1.0**
	comp=Z,1.2nm,0.5s							
KBA				Sg		**Sg**	**04 47 44.3**	**-2.2**
	comp=Z,1.4nm,0.2s							
KBA	**Koelnbreinsper**	**3.23**	**169**	Pn		**Pn**	**04 46 54.0**	**+1.0**
	comp=Z,1.2nm,0.5s							
KBA				Sg		**Sg**	**04 47 44.3**	**-2.2**
	comp=Z,1.4nm,0.2s							
MORC	**Moravsky Berou**	**3.30**	**96**	*e*Sg		**Sg**	**04 47 46.8**	**-2.0**
DAVA	**Damuels**	**3.43**	**211**	Pg		**Pg**	**04 47 08.5**	**0.0**
	comp=Z,1.2nm,0.3s							
DAVA	**Damuels**	**3.43**	**211**	Pg		**Pg**	**04 47 08.5**	**0.0**
	comp=Z,1.2nm,0.3s							
FETA	**Feichten**	**3.44**	**200**	Pg		**Pb**	**04 47 05.3**	**+1.9**
	comp=Z,0.5nm,0.3s							
FETA				Sg		**Sg**	**04 47 52.4**	**-0.7**
	comp=Z,0.7nm,0.2s							
FETA	**Feichten**	**3.44**	**200**	Pg		**Pb**	**04 47 05.3**	**+1.9**
	comp=Z,0.5nm,0.3s							
FETA				Sg		**Sg**	**04 47 52.4**	**-0.7**
	comp=Z,0.7nm,0.2s							
ARSA	**Arzberg**	**3.62**	**145**	Pg		**Pg**	**04 47 15.0**	**+2.9**
	comp=Z,1.0nm,0.3s							
ARSA				*e*Sg		**Sg**	**04 47 57.2**	**-1.8**
	comp=Z,4.4nm,0.6s							
ARSA	**Arzberg**	**3.62**	**145**	Pg		**Pg**	**04 47 15.0**	**+2.9**
	comp=Z,1.0nm,0.3s							
ARSA				Sg		**Sg**	**04 47 57.2**	**-1.8**
	comp=Z,4.4nm,0.6s							

UPP ***02*** *04:47:49.5±2.6,57.°81N×23.°08E,h0km,ML2.2, Suspected explosion*

ISCJB ***02*** *04:47:50.1±0.7,57.°84N±0.°05×22.°86E±0.°07,h0km, Error ellipse: s-maj=8.6km s-min=4.0km az=153.5*

CSEM ***02*** *04:47:50.5±0.4,57.°81N×22.°91E,h2km,ML2.1, Error ellipse: s-maj=10.6km s-min=4.3km az=149.0, Mining explosion.*

HEL ***02*** *04:47:51.7±0.2,57.°80N×22.°70E,h0km,ML2.1, ML2.2(UPP), Explosion*

IDC ***02*** *04:47:53.3±2.6,57.°96N×22.°60E,h0km,mb1 3.0/3, mb1mx3.0/46,mbtmp2.9/3,ML2.7/3, Error ellipse: s-maj=25.3km s-min=11.0km az=158.0*

ISC 02 04:47:50.7±1.0,**57.°86N**±0.°05×**22.°81E**±0.°04,**h0km**,**n46,** σ1§**54**/55,**Baltic States-Belarus-Northwestern Russia**

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h m s		ISC
SLIT	**Slitere, Latvi**	**0.36**	**230**	*e*P	**Pg**	**04 47 56.7**		**-1.0**
SLIT	**Slitere, Latvi**	**0.36**	**230**	P	**Pg**	**04 47 56.6**		**-1.0**
MTSE	**Matsula**	**1.00**	**31**	*e*P	**Pb**	**04 48 10.9**		**-0.1**
MTSE	**Matsula**	**1.00**	**31**	P	**Pb**	**04 48 10.9**		**-0.1**
MTSE				*e*S	**Sg**	**04 48 23.4**		**+0.4**
	SNR=90							
VSU	**Vasula**	**2.17**	**72**	*e*PB	**Pb**	**04 48 30.4**		**-0.3**
VSU				*e*SG	**Sg**	**04 49 00.2**		**0.0**
VSU	**Vasula**	**2.17**	**72**	Pb	**Pb**	**04 48 30.4**		**-0.3**
ARBE	**Arbavere**	**2.29**	**45**	Pb	**Pb**	**04 48 33.1**		**+0.2**
MEF	**Metsahovi**	**2.50**	**18**	*e*PB	**Pb**	**04 48 36.1**		**-0.3**
MEF				*e*SG	**Sg**	**04 49 10.9**		**-0.1**
MEF				MSG		04 49 11.4		
	comp=Z,8.5nm,0.1s							
MEF	**Metsahovi**	**2.50**	**18**	Pb	**Pb**	**04 48 36.1**		**-0.3**
MEF	**Metsahovi**	**2.50**	**18**	*e*P	**Pb**	**04 48 36.4**		**0.0**
	SNR=48							
MEF				Sg	**Sg**	**04 49 10.8**		**-0.1**
NYNU	**Nynaeshamn**	**2.77**	**296**	P	**Pn**	**04 48 36.6**		**+0.3**
NYNU				S	**Sn**	**04 49 13.2**		**+2.7**
NYNU	**Nynaeshamn**	**2.77**	**296**	*e*P	**Pn**	**04 48 36.6**		**+0.3**
NYNU				*e*S	**Sn**	**04 49 13.2**		**+2.7**
NYNU	**Nynaeshamn**	**2.77**	**296**	P	**Pn**	**04 48 36.6**		**+0.3**
NYNU				S	**Sn**	**04 49 13.2**		**+2.7**
PVF	**Pernaja**	**3.11**	**29**	*e*SG	**Sg**	**04 49 29.9**		**-0.8**
PVF				MSG		04 49 39.7		
	comp=Z,4.9nm,0.2s							
PVF	**Pernaja**	**3.11**	**29**	Sg	**Sg**	**04 49 29.9**		**-0.8**
BYXU	**Byxelkrok**	**3.18**	**262**	P	**Pn**	**04 48 42.9**		**+1.1**
BYXU	**Byxelkrok**	**3.18**	**262**	*e*P	**Pn**	**04 48 42.9**		**+1.1**
BYXU	**Byxelkrok**	**3.18**	**262**	P	**Pn**	**04 48 42.9**		**+1.1**
RAF	**Rauma**	**3.21**	**351**	*e*P	**Pn**	**04 48 44.4**		**+1.9**
RAF	**Rauma**	**3.21**	**351**	P	**Pn**	**04 48 44.3**		**+1.9**
VIKU	**Vikbolandet**	**3.30**	**284**	P	**Pn**	**04 48 44.9**		**+1.4**
VIKU	**Vikbolandet**	**3.30**	**284**	*e*P	**Pn**	**04 48 44.9**		**+1.4**
VIKU	**Vikbolandet**	**3.30**	**284**	P	**Pn**	**04 48 44.9**		**+1.4**
GRAU	**Graesoe**	**3.31**	**320**	P	**Pn**	**04 48 44.0**		**+0.2**
GRAU	**Graesoe**	**3.31**	**320**	*e*P	**Pn**	**04 48 44.0**		**+0.2**
GRAU	**Graesoe**	**3.31**	**320**	P	**Pn**	**04 48 44.0**		**+0.2**
FLYU	**Flymyra**	**3.41**	**314**	P	**Pn**	**04 48 46.1**		**+0.9**
FLYU	**Flymyra**	**3.41**	**314**	*e*P	**Pn**	**04 48 46.1**		**+0.9**
FLYU	**Flymyra**	**3.41**	**314**	P	**Pn**	**04 48 46.0**		**+0.9**
FIBU	**Brunna**	**3.49**	**308**	P	**Pn**	**04 48 47.0**		**+0.8**
BACU	**Backbrunna**	**3.57**	**306**	P	**Pn**	**04 48 48.0**		**+0.6**
BACU	**Backbrunna**	**3.57**	**306**	*e*P	**Pn**	**04 48 48.0**		**+0.6**
BACU	**Backbrunna**	**3.57**	**306**	P	**Pn**	**04 48 47.9**		**+0.6**
VJF	**Virojoki**	**3.63**	**40**	*e*PG	**Pg**	**04 48 58.8**		**-1.4**
VJF	**Virojoki**	**3.63**	**40**	Pg	**Pg**	**04 48 58.8**		**-1.4**
ESKU	**Eskilstuna**	**3.63**	**295**	P	**Pn**	**04 48 45.0**		**+0.4**
ESKU	**Eskilstuna**	**3.63**	**295**	*e*P	**Pn**	**04 48 45.0**		**+0.4**
ESKU	**Eskilstuna**	**3.63**	**295**	P	**Pn**	**04 48 45.0**		**+0.4**
OSKU	**Oskarshamn**	**3.68**	**262**	P	**Pn**	**04 48 48.5**		**-0.3**
OSKU	**Oskarshamn**	**3.68**	**262**	*e*P	**Pn**	**04 48 48.5**		**-0.3**
OSKU	**Oskarshamn**	**3.68**	**262**	P	**Pn**	**04 48 48.4**		**-0.3**
FIA0	**FINESS Array S**	**3.96**	**23**	*e*P	**Pn**	**04 48 55.5**		**+2.9**
FINES	**FINESS Array B**	**3.96**	**23**	Pn	**Pn**	**04 48 55.7**		**+3.1**
	comp=Z,0.3nm,0.3s,baz=205,slow=12,SNR=8.5							
FINES				Sn	**Sn**	**04 49 41.0**		**+1.4**
	comp=Z,0.4nm,0.3s,baz=212,slow=25,SNR=3.2							
FINES				Lg	Lg	04 49 57.5		
	comp=Z,0.8nm,0.3s,baz=208,slow=22,SNR=5.3							
KEF	**Keuruu**	**4.44**	**13**	*e*P	**Pn**	**04 49 02.2**		**+3.0**
NOA	**NORSAR Array B**	**6.71**	**303**	Pn	**Pn**	**04 49 29.2**		**-1.3**
	comp=Z,0.4nm,0.3s,baz=112,slow=14,SNR=19							
NOA				Sn	**Sn**	**04 50 41.9**		**-5.6**
	comp=Z,0.2nm,0.3s,baz=122,slow=21,SNR=2.3							
NOA				Lg	Lg	04 51 19.8		
	comp=Z,0.6nm,0.3s,baz=98,slow=17,SNR=5.5							
ARCES	**ARCESS Array B**	**11.78**	**5**	Pn	**Pn**	**04 50 36.8**		**-2.9**
	comp=Z,0.1nm,0.3s,baz=182,slow=14,SNR=3.6							
ARCES				Lg	Lg	04 53 59.2		
	comp=Z,0.2nm,0.3s,baz=184,slow=26,SNR=3.3							

NIED ***02*** *04:48:00,38.°80N×141.°60E,h77km,Mw4.3 Best double couple: M○3.19000×10^15 NP1:ϕs341.00000°,δ42.00000°, λ74.00000°. NP2:ϕs181.00000°,δ50.00000°,λ103.00000°.*

NEIC ***02*** *04:48:29.4±1.0,38.°83N×141.°58E,h39km±8km,mb4.4/25, Error ellipse: s-maj=6.7km s-min=5.0km az=141.0*

NEIC Recorded [3 JMA] in Iwate.

MOS ***02*** *04:48:32.5±1.3,38.°84N×141.°62E,h82km,mb4.2/23, Error ellipse: s-maj=9.2km s-min=6.9km az=100.3*

ISCJB ***02*** *04:48:32.3±0.3,38.°83N±0.°03×141.°63E±0.°05,h80km±2km, mb4.2/51, Error ellipse: s-maj=6.2km s-min=3.8km az=22.4*

JMA ***02*** *04:48:33.4,38.°82N×141.°58E,h74km±1km,M4.3 Broadband fault plane solution: P waves. NP1: ϕs188.00000°,δ56.00000°,λ103.00000°. NP2: ϕs346.00000°,δ36.00000°,λ71.00000°. Principal axes: T Plg75.0000°, Azm137.0000°; N Plg11.0000°, Azm1.0000°; P Plg10.0000°, Azm269.0000°;*

JMA Felt III J1.

IDC ***02*** *04:48:33.0±0.5,38.°81N×141.°46E,h73km±3km,mb4.0/22, mb1 4.2/24,mb1mx4.0/48,mbtmp4.3/24,MS3.2/8, Ms1 3.2/8,ms1mx3.0/36 Error ellipse: s-maj=14.0km s-min=12.0km az=73.0*

ISC 02 04:48:32.7±0.5,**38.°83N**±0.°04×**141.°76E**±0.°05,**h74**km±3km, **h74**km:**pP-P,n124,**σ1§**38**/147,**mb4.3**/51,**19C-8D, Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h m s		ISC
OFUJ	**Ofunato**	**0.27**	**344**	⇑P	**Pn**	**04 48 44.8**		**+0.6**
OFUJ				S	**Sn**	**04 48 53.1**		**+0.5**
JMK	**Ichinoseki**	**0.44**	**287**	⇑P	**Pn**	**04 48 45.0**		**-0.4**
JMK				S	**Sn**	**04 48 53.5**		**-1.2**
JIO	**Ouri**	**0.49**	**221**	⇑P	**Pn**	**04 48 45.8**		**-0.1**
JIO				S	**Sn**	**04 48 54.6**		**-0.9**
JOM	**Ohasama**	**0.74**	**331**	⇑P	**Pn**	**04 48 48.5**		**+0.1**
JOM				S	**Sn**	**04 48 59.5**		**-0.6**
JOU	**Okura**	**0.98**	**242**	⇓P	**Pn**	**04 48 50.6**		**-0.6**
JOU				S	**Sn**	**04 49 03.5**		**-1.4**
JRG	**Rokugo**	**1.05**	**303**	⇑P	**Pn**	**04 48 51.5**		**-0.5**
JRG				S	**Sn**	**04 49 05.3**		**-1.1**
JYK	**Kaneyama**	**1.10**	**275**	⇓P	**Pn**	**04 48 51.8**		**-0.9**
JYK				S	**Sn**	**04 49 06.1**		**-1.5**
JMM	**Marumori**	**1.22**	**219**	⇓P	**Pn**	**04 48 53.4**		**-0.9**
JMM				S	**Sn**	**04 49 08.4**		**-2.0**
JYS	**Shirataka**	**1.46**	**246**	⇓P	**Pn**	**04 48 56.7**		**-0.6**
JYS				S	**Sn**	**04 49 14.5**		**-1.4**
JANG	**Nango**	**1.56**	**353**	⇑P	**Pn**	**04 48 58.8**		**+0.2**
JANG				S	**Sn**	**04 49 18.4**		**+0.3**
JAH	**Hinai**	**1.62**	**328**	⇑P	**Pn**	**04 48 59.7**		**+0.3**
JAH				*e*S	**Sn**	**04 49 19.0**		**-0.5**
JFK	**Kawauchi**	**1.62**	**206**	⇓P	**Pn**	**04 48 59.2**		**-0.2**
JFK				S	**Sn**	**04 49 18.4**		**-1.2**
JYA	**Atsumi**	**1.62**	**262**	⇓P	**Pn**	**04 48 58.6**		**-0.8**
JYA				S	**Sn**	**04 49 17.7**		**-1.9**
JFT	**Otama**	**1.72**	**221**	⇓P	**Pn**	**04 49 00.9**		**+0.1**
JFT				S	**Sn**	**04 49 21.8**		**-0.2**
ERM	**Erimo**	**3.36**	**18**	⇑*i*P	**Pn**	**04 49 23.2**		**+0.4**
ERM	**Erimo**	**3.36**	**18**	*e*Pn	**Pn**	**04 49 18.3**		**-4.5**
ERM				*e*Sn	**Sn**	**04 49 55.2**		**-6.3**
MJAR	**Matsushiro Arr**	**3.62**	**232**	P	**Pn**	**04 49 27.0**		**+0.5**
	26nm,0.3s,baz=38,slow=12,SNR=259							
MAJO	**Matsushiro**	**3.63**	**232**	*d*iP	**Pn**	**04 49 27.5**		**+1.0**
MAJO	**Matsushiro**	**3.63**	**232**	*e*Pn	**Pn**	**04 49 27.1**		**+0.6**
MAT	**Matsushiro**	**3.63**	**232**	P	**Pn**	**04 49 27.4**		**+0.9**
MAT				*e*S	**Sn**	**04 50 06.6**		**-1.5**
ASAJ	**Asahikawa**	**5.32**	**6**	*e*Pn	**Pn**	**04 49 47.0**		**-2.6**
	8.1nm,0.4s							
JHJ	**Hachijo jima 2**	**5.92**	**196**	P	**Pn**	**04 49 58.4**		**+0.7**
	51nm,0.3s,baz=322,slow=19,SNR=3.4							
JHJ				S	**Sn**	**04 50 58.4**		**-5.8**
	54nm,0.3s,baz=286,slow=22,SNR=6.3							
KUR	**Kuril'sk**	**7.85**	**33**	*e*P	**Pn**	**04 50 25.1**		**+1.0**
KUR				*e*S	**Sn**	**04 51 47.0**		**-4.3**
KUR				smax	smax			
	comp=N,142nm,0.4s							
KUR				smax	smax			
	comp=E,70nm,0.2s							
VLA	**Vladivostok**	**8.61**	**303**	⇑*e*P	**Pn**	**04 50 35.6**		**+1.1**
MSHR	**Mys Shultsa**	**8.88**	**298**	*c*iP	**Pn**	**04 50 37.9**		**-0.3**
USRK	**Ussuriysk Ar.**	**9.08**	**309**	P	**Pn**	**04 50 41.4**		**+0.4**
	comp=E,2.7nm,0.3s,baz=119,slow=14,SNR=20							
USRK				LR	LR	04 54 10.8		
	comp=E,100nm,19.1s,baz=82,slow=38							
JNU	**Nakatsue**	**10.49**	**240**	P	**Pn**	**04 51 01.4**		**+1.1**
	comp=E,0.6nm,0.3s,baz=70,slow=12,SNR=2.7							
KSRS	**Korea Array**	**10.99**	**267**	P	**Pn**	**04 51 09.2**		**+2.2**
	comp=E,2.5nm,0.3s,baz=84,slow=14,SNR=27							
KSRS				LR	LR	04 55 04.4		
	comp=E,43nm,20.4s,baz=84,slow=36							
KSAR	**Wonju Array Be**	**11.02**	**267**	P	**Pn**	**04 51 09.2**		**+1.8**
KSAR	**Wonju Array Be**	**11.02**	**267**	P	**Pn**	**04 51 09.2**		**+1.8**
KLR	**Kul'dur**	**12.64**	**329**	P	**Pn**	**04 51 28.1**		**-1.3**
	comp=E,0.1nm,0.3s,baz=157,slow=12,SNR=3.4							
KLR				LR	LR	04 56 00.1		
	comp=E,74nm,18.4s,baz=94,slow=36							
MA2	**Magadan**	**21.55**	**13**	LR	LR	05 01 47.5		
	comp=E,52nm,18.9s,baz=118,slow=37							
YHNB	**Yeheng**	**22.29**	**237**	*e*P	**P**	**04 53 23.1**		**-0.9**
	comp=E,10nm,0.6s							
SSLB	**Suanglung**	**23.18**	**236**	*e*P	**P**	**04 53 32.3**		**-0.9**
	comp=E,6.5nm,0.6s							
YAK	**Yakutsk**	**24.39**	**346**	*e*P	**P**	**04 53 44.1**		**+0.4**
YAK				pmax	pmax			
	comp=Z,12nm,0.9s							
YAK				pmax	pmax			
	comp=N,6.0nm,1.0s							
YAK				pmax	pmax			
	comp=E,5.0nm,1.0s							
SEY	**Seymchan**	**24.98**	**12**	P	**P**	**04 53 50.1**		**+1.0**
	comp=E,1.3nm,0.2s,baz=188,slow=13,SNR=3.0							
GUMO	**Guam**	**25.29**	**173**	*e*P	**P**	**04 53 52.1**		**-0.2**
GUMO	**Guam**	**25.29**	**173**	*e*P	**P**	**04 53 52.1**		**-0.2**
	comp=E,124nm,1.0s							
ULN	**Ulaanbaatar**	**26.62**	**301**	*c*eP	**P**	**04 54 05.2**		**+0.9**
ULN				pmax	pmax			
	comp=Z,5.0nm,1.3s							
ULN	**Ulaanbaatar**	**26.62**	**301**	*e*P	**P**	**04 54 03.6**		**-0.7**
	comp=Z,2.6nm,0.6s							
SONM	**Songino Array**	**27.06**	**301**	P	**P**	**04 54 06.3**		**-1.9**
	comp=Z,2.1nm,0.5s,baz=100,slow=8.9,SNR=8.9							
SONM	**Songino Array**	**27.06**	**301**	*e*P	**P**	**04 54 07.7**		**-0.5**
SONM				pmax	pmax			
	comp=Z,2.0nm,0.5s							
ENH	**Enshi**	**27.81**	**262**	*e*P	**P**	**04 54 15.1**		**+0.2**
	comp=Z,15nm,0.6s							
H11N2	**WAKE ISLAND Hy**	**28.87**	**124**	T	T	05 25 01.0		
	baz=317,slow=75,SNR=1240							
H11N1	**WAKE ISLAND Hy**	**28.88**	**124**	T	T	05 25 01.2		
	baz=317,slow=75,SNR=1668							
H11N3	**WAKE ISLAND Hy**	**28.89**	**124**	T	T	05 25 01.8		
	baz=317,slow=75,SNR=917							
TLY	**Talaya**	**29.40**	**308**	P	**P**	**04 54 29.1**		**+0.2**
	comp=Z,1.5nm,0.3s,baz=64,slow=5.4,SNR=4.1							
TLY				LR	LR	05 05 28.3		
	comp=Z,60nm,19.6s,baz=76,slow=35							
TLY	**Talaya**	**29.40**	**308**	*e*P	**P**	**04 54 28.2**		**-0.6**
TLY				pmax	pmax			
	comp=Z,8.0nm,1.4s							
TLY	**Talaya**	**29.40**	**308**	*e*P	**P**	**04 54 28.4**		**-0.5**
	comp=Z,3.6nm,0.7s							
ZAK	**Zakamensk**	**29.41**	**306**	*e*P	**P**	**04 54 27.0**		**-2.1**
ZAK				pmax	pmax			
	comp=Z,2.0nm,1.2s							
H11S1	**WAKE ISLAND Hy**	**29.64**	**126**	T	T	05 25 46.4		
	baz=318,slow=76,SNR=441							
H11S3	**WAKE ISLAND Hy**	**29.65**	**126**	T	T	05 25 47.0		
	baz=318,slow=76,SNR=890							
H11S2	**WAKE ISLAND Hy**	**29.66**	**126**	T	T	05 25 47.7		
	baz=318,slow=76,SNR=482							
ZALV	**Zalesovo Beam**	**40.93**	**311**	P	**P**	**04 56 07.0**		**-0.6**
	comp=Z,13nm,0.6s,baz=86,slow=7.5,SNR=44							
ZALV				pP	**pP**	**04 56 24.7**		**-1.0**
	comp=Z,2.7nm,0.6s,baz=84,slow=8.4,SNR=3.2							
ZALV				PcP	**PcP**	**04 58 06.2**		**-0.5**
	comp=Z,1.1nm,0.3s,baz=83,slow=3.2,SNR=4.6							
ZALV				LR	LR	05 13 20.9		
	comp=Z,32nm,20.5s,baz=68,slow=36							
CHTO	**Chiang Mai**	**42.02**	**254**	*e*P	**P**	**04 56 16.5**		**-0.5**
CHTO				pmax	pmax			
	comp=Z,4.0nm,0.6s							
CHTO	**Chiang Mai**	**42.02**	**254**	*e*P	**P**	**04 56 16.4**		**-0.5**
	comp=Z,3.8nm,0.6s							
KURK	**Kurchatov**	**45.06**	**307**	*c*eP	**P**	**04 56 40.4**		**-0.6**
KURK	**Kurchatov**	**45.06**	**307**	*e*P	**P**	**04 56 40.0**		**-1.0**
TRF	**Thorofare Moun**	**46.40**	**35**	*e*P	**P**	**04 56 53.7**		**+2.1**
	comp=Z,5.1nm,0.7s							
GUN	**Gumba**	**47.28**	**274**	*e*P	**P**	**04 56 58.8**		**-0.3**
	comp=Z,18nm,0.4s							
SML	**Sawmill**	**47.40**	**37**	*e*P	**P**	**04 56 59.6**		**+0.4**
SML				pmax	pmax			
	comp=Z,1.0nm,0.7s							
SML	**Sawmill**	**47.40**	**37**	*e*P	**P**	**04 56 59.6**		**+0.4**
	comp=Z,0.7nm,0.7s							
KKN	**Kakani**	**47.80**	**274**	*e*P	**P**	**04 57 02.7**		**-0.3**
	comp=Z,15nm,0.6s							
ILAR	**Eielson Array**	**47.84**	**33**	P	**P**	**04 57 03.9**		**+1.3**
	comp=Z,2.7nm,0.7s,baz=272,slow=6.6,SNR=34							
ILAR				pP	**pP**	**04 57 21.8**		**+0.7**
	comp=Z,1.5nm,0.7s,baz=264,slow=5.9,SNR=6.0							
GKN	**Gorkha**	**48.20**	**275**	*e*P	**P**	**04 57 05.7**		**-0.4**
	comp=Z,9.8nm,0.3s							
KOLN	**Koldanda**	**49.12**	**275**	*e*P	**P**	**04 57 13.9**		**+0.8**
	comp=Z,12nm,0.6s							
DOT	**Dot Lake**	**49.17**	**35**	*e*P	**P**	**04 57 13.1**		**+0.3**
	comp=Z,3.5nm,0.6s							
PYUN	**Piuthan**	**49.44**	**276**	*e*P	**P**	**04 57 15.3**		**-0.3**
BVAR	**Borovoye Array**	**49.59**	**311**	P	**P**	**04 57 15.2**		**-0.9**
	comp=Z,2.2nm,0.5s,baz=75,slow=7.5,SNR=12							
BVAR				PcP	**PcP**	**04 58 36.6**		**-0.1**
	comp=Z,1.5nm,0.6s,baz=64,slow=3.4,SNR=4.0							
BRVK	**Borovoye**	**49.64**	**311**	⇑*e*P	**P**	**04 57 16.5**		**0.0**
BRVK				pmax	pmax			
	comp=Z,11nm,1.7s							
BRVK	**Borovoye**	**49.64**	**311**	*e*P	**P**	**04 57 16.0**		**-0.5**
	comp=Z,6.6nm,0.6s							
KKAR	**Karatay Array**	**52.48**	**299**	*e*P	**P**	**04 57 37.6**		**-0.4**
KKAR				pmax	pmax			
	comp=Z,3.0nm,0.3s							
KKAR	**Karatay Array**	**52.48**	**299**	*e*P	**P**	**04 57 37.6**		**-0.4**
	comp=Z,3.3nm,0.3s							
INK	**Inuvik**	**52.67**	**28**	P	**P**	**04 57 40.3**		**+1.4**
	comp=Z,1.3nm,0.5s,baz=300,slow=7.3,SNR=12							
ARU	**Arti**	**55.21**	**318**	P	**P**	**04 57 55.6**		**-2.0**
	comp=Z,8.6nm,0.2s,baz=28,slow=5.1,SNR=4.1							
ARU	**Arti**	**55.21**	**318**	*c iP*	**P**	**04 57 57.9**		**+0.3**
ARU						05 00 00.1		
ARU				S	**S**	**05 05 35.8**		**+0.6**
ARU				SS	**SS**	**05 09 18.7**		**-0.9**
ARU				pmax	pmax			
	comp=Z,5.0

comp=Z,1.0nm,0.7s
KHC Kasperske Hory 81.16 328 *e*P **P 05 00 40.1 0.0**
comp=Z,0.7nm,0.7s
GERES GERESS Array B 81.34 328 P **P 05 00 40.9 -0.1**
GERES comp=Z,0.1nm,0.3s,baz=338,slow=7.4,SNR=3.0 pP **pP 05 01 00.5 -0.6**
comp=Z,0.4nm,0.5s,baz=56,slow=3.4,SNR=3.3
SDCO Great Sand Dun 81.88 48 *e*P **P 05 00 46.1 +1.8**
comp=Z,1.4nm,0.9s
ANMO Albuquerque 83.23 50*c*e**P P 05 00 54.3 +3.0**
ANMO pmax pmax
comp=Z,3.0nm,2.5s
BFO Black Forest 83.88 331*c*e**P P 05 00 56.4 +2.2**
TXAR Lajitas Array 88.81 53 P **P 05 01 20.1 +1.3**
comp=Z,1.0nm,0.7s,baz=296,slow=3.5,SNR=16
TXAR pP **pP 05 01 40.2 +1.2**
comp=Z,0.9nm,0.7s,baz=292,slow=3.3,SNR=6.9
TORD Torodi Ar. Bea 116.25 316 PKP **PKPdf 05 07 06.8 -1.3**
comp=Z,0.3nm,0.7s,baz=13,slow=0.7,SNR=3.0
LPAZ La Paz 145.53 58 PKPbc **PKPab 05 08 04.5 +0.4**
comp=Z,3.3nm,0.6s,baz=351,slow=4.8,SNR=18
LPAZ pPKPbc pPKPab 05 08 25.1 +0.5
comp=Z,2.6nm,0.6s,baz=346,slow=0.7,SNR=4.7
LCO Las Campanas 151.47 80 *e*PKPbc **PKPbc 05 08 19.8 +1.2**

*NNC **02** 04:56:00.7±1.1,42°.52N×74°.79E,h0km,mb2.8,mpv2.3,*
Error ellipse: s-maj=11.4km s-min=2.5km az=177.0
*KRNET **02** 04:56:01.6±0.1,42°.62N×74°.83E,h30km,mb2.2*
*SOME **02** 04:56:02.3,42°.62N×74°.72E,h10km*
ISC 02 04:56:01.7±1.0,42°.58N±0°.05×74°.81E±0°.02,h15km±7km,
n20,σ1°11/39,13C-11D,Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
AAK	**Ala-Archa**	**0.24**	**283**	⇑P			**Pg**	**04 56 06.0**	**-1.1**
AAK	3.9nm,0.3s			⇓S			**Sg**	**04 56 09.0**	**-1.8**
FRU1	124nm,0.5s **Bishkek**	**0.26**	**330**	⇓*i*P			**Pg**	**04 56 08.2**	**+0.8**
FRU1	baz=323			⇓*i*S			**Sg**	**04 56 13.6**	**+2.2**
TKM2	baz=323 **Tokmak 2**	**0.67**	**59**	⇑P			**Pg**	**04 56 14.6**	**-0.3**
TKM2	1.5nm,0.3s			⇑S			**Sb**	**04 56 24.7**	**+0.3**
BOOM	18nm,0.3s **Boomskoye usch**	**0.84**	**96**	⇑*i*P			**Pg**	**04 56 17.8**	**-0.2**
BOOM	baz=98			⇑*i*S			**Sg**	**04 56 28.8**	**-0.3**
KST	baz=98 **Kastek**	**0.96**	**61**	*e*P			**Pb**	**04 56 20.7**	**+0.6**
KST	1.0nm,0.1s			*e*S			**Sb**	**04 56 34.0**	**+1.2**
DGS	14nm,0.3s **Degeres**	**0.97**	**47**	*e*P			**Pn**	**04 56 21.4**	**+0.7**
DGS	2.1nm,0.1s			*e*S			**Sn**	**04 56 34.9**	**+0.6**
MRKS	22nm,0.5s **Merke**	**1.18**	**278**	*e*P			**Pb**	**04 56 23.2**	**-0.6**
MRKS	17nm,0.1s			*e*S			**Sb**	**04 56 38.2**	**-0.7**
IZV	36nm,0.2s **Izvestkoviy**	**1.40**	**71**	*e*P			**Pg**	**04 56 28.4**	**-0.3**
IZV	12nm,0.1s			*e*S			**Sg**	**04 56 47.0**	**+0.1**
NRN	26nm,0.2s **Naryn**	**1.45**	**142**	⇓*i*P			**Pn**	**04 56 27.6**	**0.0**
NRN	baz=144			⇓*i*S			**Sn**	**04 56 46.9**	**+0.4**
MNAS	baz=144 **Manas**	**1.71**	**268**	⇑*e*P			**Pn**	**04 56 31.7**	**+0.7**
MNAS	baz=267			⇑*i*S			**Sn**	**04 56 53.1**	**+0.5**
MNAS	baz=267 **Manas**	**1.71**	**268**	⇑P			**Pn**	**04 56 31.5**	**+0.5**
MNAS	1.8nm,0.3s			⇓S			**Sn**	**04 56 52.9**	**+0.3**
KUU	1.7nm,0.3s **Kurty**	**1.72**	**40**	*e*P			**Pg**	**04 56 34.2**	**-0.5**
KUU	14nm,0.2s			*e*S			**Sg**	**04 56 57.2**	**+0.1**
MDOK	18nm,0.5s **Medeo**	**1.75**	**70**	*e*P			**Pg**	**04 56 34.5**	**-0.7**
MDOK	4.4nm,0.2s			*e*S			**Sg**	**04 56 57.8**	**0.0**
ARSB	17nm,0.3s **Arslanbob**	**1.85**	**228**	⇓*e*P			**Pn**	**04 56 34.3**	**+1.3**
ARSB	baz=228			⇓*e*S			**Sn**	**04 56 57.8**	**+1.6**
CHKK	baz=228 **Chushkaly**	**2.04**	**51**	*e*P			**Pg**	**04 56 39.8**	**-0.9**
CHKK	2.7nm,0.2s			*e*S			**Sg**	**04 57 06.5**	**-0.7**
ANVS	40nm,0.3s **Anan'yevo**	**2.12**	**84**	⇓*e*P			**Pn**	**04 56 36.9**	**+0.3**
ANVS	baz=85			⇓*e*S			**Sn**	**04 57 02.1**	**-0.7**
ARK	baz=85 **Arkit**	**2.26**	**251**	⇑*e*P			**Pn**	**04 56 39.7**	**+1.2**
ARK	baz=249			⇑*e*S			**Sn**	**04 57 06.7**	**+0.6**
ARXS	baz=249 **Arharly**	**2.74**	**52**	*e*P			**Pb**	**04 56 51.5**	**+1.2**
ARXS	1.8nm,0.2s			*e*S			**Sg**	**04 57 26.8**	**-2.8**
KK31	15nm,0.3s **Karatay Array**	**3.20**	**281**	⇓Pg			**Pg**	**04 57 00.9**	**-2.1**
KK31	1.0nm,0.5s,baz=92,slow=16,SNR=5.1			⇑Lg			Lg	04 57 39.5	
PDGK	1.1nm,0.3s,baz=95,slow=28,SNR=11 **Podgornoye**	**3.52**	**76**	⇑*i*P			**Pn**	**04 56 55.6**	**-0.2**
PDGK	baz=77			⇑*e*S			**Sn**	**04 57 34.9**	**-2.3**
	baz=77								

PGC 02 05:11:39.5±0.6,60°.04N×140°.83W,h11km,ML2.0,
ML2.0/8,112km Wnw of Yakutat, Ak Southeastern
Alaska,Southeastern Alaska

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
PCA	**Pinnacle**	**0.29**	**79**	P			Pg	05 11 45.1	-0.3
PCA				S			Sg	05 11 49.8	+0.4
PNL	**Peninsula**	**0.81**	**117**	P			Pg	05 11 53.9	-1.3
PNL				S			Sg	05 12 04.7	-1.1
BALM	**Baldy**	**1.25**	**324**	P			Pn	05 12 01.3	-1.7
BALM				S			Sb	05 12 18.2	-1.0
YUK7	**Dusty Glacier**	**1.43**	**69**	P			Pn	05 12 05.0	-0.5
YUK7				S			Sn	05 12 22.8	-1.6
YUK6	**Outpost Mounta**	**1.52**	**52**	P			Pn	05 12 06.4	-0.5
YUK6				S			Sn	05 12 25.3	-1.4
YUK3	**Moose Creek**	**1.75**	**6**	Pn			Pn	05 12 10.2	+0.2
YUK3				Sn			Sn	05 12 31.2	-1.1
YUK2	**White River**	**1.75**	**360**	Pn			Pn	05 12 10.2	+0.3
YUK2				Sn			Sn	05 12 31.3	-1.0
HYT	**Haines Junctio**	**1.82**	**63**	Pn			Pn	05 12 10.7	-0.2
YUK5	**Granite Creek**	**1.83**	**52**	Pn			Pn	05 12 11.3	+0.4
YUK5				Sn			Sn	05 12 32.8	-1.4
YUK5				Sg			Sg	05 12 35.5	-0.4
YUK1	**Sand Pete Hill**	**2.12**	**4**	Pn			Pn	05 12 15.7	+0.6
YUK1				Sg			Sb	05 12 43.9	-0.6
PLBC	**Pleasant Camp**	**2.33**	**103**	Pn			Pn	05 12 18.5	+0.7
PLBC				Sn			Sn	05 12 45.2	-1.3
BVCY	**Beaver Creek**	**2.38**	**360**	Pg			Pb	05 12 21.8	-0.5
BVCY				Sg			Sb	05 12 52.2	+0.5
WHY	**Whitehorse**	**3.02**	**76**	Pn			Pn	05 12 27.1	-0.3

*CSEM **02** 05:15:54.7±0.1,50°.23N×12°.50E,h10km,ML2.8/7,Error*
ellipse: s-maj=1.6km s-min=1.1km az=43.0
*VIE **02** 05:15:54.0±0.4,50°.26N×12°.58E,h8km,mb2.2/2,ML2.4/5,*
Error ellipse: s-maj=5.9km s-min=2.3km az=50.0
*CLL **02** 05:15:55.8±0.3,50°.3N±0°.8×1°.2E±°,h9km±1km,ml2.1*
*BGR **02** 05:15:55.2±0.2,50°.25N×12°.44E,h12km±1km,ML2.3/6,*
Error ellipse: s-maj=2.2km s-min=2.2km az=105.0
*PRU **02** 05:15:55.8,50.27N×12°.53E,h1km,West Bohemia*
Swarm
ISC 02 05:15:54.9±0.8,50°.23N±0°.02×12°.48E±0°.02,h12km±3km,
n61,σ0s57/110,5C,Germany

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
NKC	**Novy Kostel**	**0.02**	**270**	⇑*i*PG			**Pg**	**05 15 57.3**	**+0.1**
NKC						*e*SG	**Sg**	**05 15 58.4**	**-0.4**
	comp=Z,697nm,0.2s								
NKC	**Novy Kostel**	**0.02**	**270**	⇑*i*Pg			**Pg**	**05 15 57.3**	**+0.1**
NKC						*i* Sg	**Sg**	**05 15 58.5**	**-0.3**
NKC	**Novy Kostel**	**0.02**	**270**	*e*Pg			**Pg**	**05 15 57.3**	**+0.1**
NKC						*e*Sg	**Sg**	**05 15 58.5**	**-0.3**
NKC	**Novy Kostel**	**0.02**	**270**	Pg			**Pg**	**05 15 57.3**	**+0.1**
NKC						Sg	**Sg**	**05 15 58.5**	**-0.3**
WERN	**Wernitzgruen**	**0.09**	**310**	*i* Pg			**Pg**	**05 15 57.7**	**0.0**
WERN						*i* Sg	**Sg**	**05 15 59.2**	**-0.5**
WERN						AML	AML	05 15 59.4	
	comp=E,1μm,0.2s								
WERN	**Wernitzgruen**	**0.09**	**310**	*e*Pg			**Pg**	**05 15 57.7**	**0.0**
WERN						*e*Sg	**Sg**	**05 15 59.2**	**-0.5**
WERN	**Wernitzgruen**	**0.09**	**310**	Pg			**Pg**	**05 15 57.7**	**0.0**
WERN						Sg	**Sg**	**05 15 59.2**	**-0.5**
ROHR	**Rohrbach**	**0.10**	**271**	*i* Pg			**Pg**	**05 15 57.8**	**-0.1**
ROHR						*i* Sg	**Sg**	**05 15 59.4**	**-0.6**
ROHR						AML	AML	05 15 59.6	
	comp=E,1μm,0.1s								
ROHR	**Rohrbach**	**0.10**	**271**	*e*Pg			**Pg**	**05 15 57.9**	**-0.1**
ROHR						*e*Sg	**Sg**	**05 15 59.5**	**-0.6**
ROHR	**Rohrbach**	**0.10**	**271**	Pg			**Pg**	**05 15 57.9**	**-0.1**
ROHR						Sg	**Sg**	**05 15 59.5**	**-0.6**
GUNZ	**Gunzen**	**0.16**	**324**	*i* Pg			**Pg**	**05 15 58.7**	**0.0**
GUNZ						*i* Sg	**Sg**	**05 16 00.9**	**-0.5**
GUNZ						AML	AML	05 16 01.2	
	comp=N,326nm,0.1s								
GUNZ	**Gunzen**	**0.16**	**324**	*e*Pg			**Pg**	**05 15 58.8**	**0.0**
GUNZ						*e*Sg	**Sg**	**05 16 00.9**	**-0.5**
GUNZ	**Gunzen**	**0.16**	**324**	Pg			**Pg**	**05 15 58.8**	**0.0**
GUNZ						Sg	**Sg**	**05 16 00.9**	**-0.5**
TANN	**Tannenbergstha**	**0.18**	**357**	*i* Pg			**Pg**	**05 15 59.1**	**0.0**
TANN						*i* Sg	**Sg**	**05 16 01.5**	**-0.5**
TANN						AML	AML	05 16 02.0	
	comp=N,968nm,0.3s								
MULD	**Muldenberg**	**0.18**	**345**	*i* Pg			**Pg**	**05 15 59.1**	**0.0**
MULD						*i* Sg	**Sg**	**05 16 01.5**	**-0.5**
MULD						AML	AML	05 16 01.7	
	comp=E,568nm,0.1s								
MULD	**Muldenberg**	**0.18**	**345**	*e*Pg			**Pg**	**05 15 59.1**	**0.0**
MULD						*e*Sg	**Sg**	**05 16 01.5**	**-0.5**
MULD	**Muldenberg**	**0.18**	**345**	Pg			**Pg**	**05 15 59.1**	**0.0**
MULD						Sg	**Sg**	**05 16 01.5**	**-0.5**
WERD	**Werda**	**0.24**	**333**	*i* Pg			**Pg**	**05 16 00.0**	**-0.1**
WERD						*i* Sg	**Sg**	**05 16 02.9**	**-0.6**
WERD						AML	AML	05 16 03.4	
	comp=E,158nm,0.3s								
WERD	**Werda**	**0.24**	**333**	*e*Pg			**Pg**	**05 16 00.0**	**-0.1**
WERD						*e*Sg	**Sg**	**05 16 02.7**	**-0.8**
WERD	**Werda**	**0.24**	**333**	Pg			**Pg**	**05 16 00.0**	**-0.1**
WERD						Sg	**Sg**	**05 16 02.7**	**-0.8**
TRIB	**Obertriebel**	**0.25**	**299**	*i* Pg			**Pg**	**05 16 00.0**	**-0.1**
TRIB						*i* Sg	**Sg**	**05 16 03.1**	**-0.6**
TRIB						AML	AML	05 16 03.4	
	comp=N,142nm,0.1s								
TRIB	**Obertriebel**	**0.25**	**299**	*e*Pg			**Pg**	**05 16 00.1**	**-0.1**
TRIB						*e*Sg	**Sg**	**05 16 03.2**	**-0.6**
TRIB	**Obertriebel**	**0.25**	**299**	Pg			**Pg**	**05 16 00.1**	**-0.1**
TRIB						Sg	**Sg**	**05 16 03.2**	**-0.6**
PLN	**Plauen**	**0.33**	**321**	*i* Pg			**Pg**	**05 16 01.4**	**-0.1**
PLN						*i* Sg	**Sg**	**05 16 05.5**	**-0.4**
PLN						AML	AML	05 16 05.7	
	comp=E,75nm,0.1s								
PLN	**Plauen**	**0.33**	**321**	*e*Pg			**Pg**	**05 16 01.4**	**-0.1**
PLN						*e*Sg	**Sg**	**05 16 05.6**	**-0.4**
PLN	**Plauen**	**0.33**	**321**	Pg			**Pg**	**05 16 01.4**	**-0.1**
PLN						Sg	**Sg**	**05 16 05.6**	**-0.4**
SCHF	**Schoenfels**	**0.45**	**354**	*i* Pg			**Pg**	**05 16 03.8**	**0.0**
SCHF						*i* Sg	**Sg**	**05 16 09.6**	**-0.2**
SCHF						AML	AML	05 16 09.8	
	comp=E,191nm,0.2s								
SCHF	**Schoenfels**	**0.45**	**354**	*e*Pg			**Pg**	**05 16 03.8**	**0.0**
SCHF						*e*Sg	**Sg**	**05 16 09.6**	**-0.2**
SCHF	**Schoenfels**	**0.45**	**354**	Pg			**Pg**	**05 16 03.8**	**0.0**
SCHF						Sg	**Sg**	**05 16 09.6**	**-0.2**
MLFH	**Mildenfurth**	**0.61**	**336**	*i* Pg			**Pg**	**05 16 06.7**	**-0.2**
MLFH						*i* Sg	**Sg**	**05 16 14.5**	**-0.5**
MOX	**Moxa**	**0.69**	**307**	*e*Pg			**Pg**	**05 16 08.1**	**-0.2**
MOX						*e*Sg	**Sg**	**05 16 17.0**	**-0.4**
MOX	**Moxa**	**0.69**	**307**	Pg			**Pg**	**05 16 08.1**	**-0.2**
MOX						Sg	**Sg**	**05 16 17.0**	**-0.4**
FBE	**Freiberg**	**0.89**	**39**	*e*Pg			**Pb**	**05 16 12.4**	**+0.2**
FBE						*e*Sg	**Sg**	**05 16 23.7**	**+0.1**
FBE	**Freiberg**	**0.89**	**39**	Pg			**Pb**	**05 16 12.4**	**+0.2**
FBE						Sg	**Sg**	**05 16 23.7**	**+0.1**
GRA1	**Grafenberg Arr**	**0.98**	**237**	Pg			**Pg**	**05 16 13.6**	**-0.1**
GRA1						Sg	**Sg**	**05 16 26.0**	**-0.5**
GRF	**Grafenberg Arr**	**0.98**	**237**	*e*Pg			**Pg**	**05 16 13.6**	**-0.1**
GRF						*e*Sg	**Sg**	**05 16 26.0**	**-0.5**
WET	**Wettzell**	**1.12**	**166**	*e*Pg			**Pb**	**05 16 16.5**	**+0.3**
WET						*e*Sg	**Sb**	**05 16 31.2**	**+0.5**
WET	**Wettzell**	**1.12**	**166**	Pg			**Pb**	**05 16 16.5**	**+0.3**
WET						Sg	**Sb**	**05 16 31.2**	**+0.5**
CLL	**Collm**	**1.13**	**17**	*e*Pg			**Pb**	**05 16 16.3**	**0.0**
CLL						*e*Sg	**Sb**	**05 16 31.0**	**+0.1**
CLL	**Collm**	**1.13**	**17**	Pg			**Pb**	**05 16 16.3**	**0.0**
CLL						Sg	**Sb**	**05 16 31.0**	**+0.1**
CLL	**Collm**	**1.13**	**17**	*i* Pg			**Pb**	**05 16 16.2**	**0.0**
CLL				*i*				05 16 18.5	
CLL				*i*				05 16 20.0	
CLL				*i* Sg			**Sg**	**05 16 31.5**	**+0.2**
	comp=Z,20nm,0.4s								
BRG	**Berggiesshubel**	**1.13**	**55**	PG			**Pg**	**05 16 16.8**	**+0.1**
BRG						SG	**Sg**	**05 16 31.6**	**+0.1**
	comp=Z,28nm,0.2s								
BRG	**Berggiesshubel**	**1.13**	**55**	*e*Pg			**Pg**	**05 16 16.8**	**+0.1**
BRG						*e*Sg	**Sg**	**05 16 31.5**	**+0.1**
BRG	**Berggiesshubel**	**1.13**	**55**	Pg			**Pg**	**05 16 16.8**	**+0.1**
BRG						Sg	**Sg**	**05 16 31.5**	**+0.1**
PRA	**Prague**	**1.27**	**97**	⇑*e*SG			**Sg**	**05 16 35.9**	**+0.1**
	comp=Z,9.3nm,0.3s								
PRA	**Prague**	**1.27**	**97**	Sg			**Sg**	**05 16 35.9**	**+0.1**
	comp=Z,9.3nm,0.3s								
KHC	**Kasperske Hory**	**1.31**	**147**	*e*PG			**Pb**	**05 16 19.6**	**+0.1**
KHC						*e*SG	**Sn**	**05 16 37.0**	**+0.5**
	comp=Z,13nm,0.2s								
KHC	**Kasperske Hory**	**1.31**	**147**	Pg			**Pb**	**05 16 19.6**	**+0.1**
KHC						Sg	**Sn**	**05 16 37.0**	**+0.5**
	comp=Z,13nm,0.2s								
PRU	**Pruhonice**	**1.35**	**100**	⇑*e*PG			**Pb**	**05 16 20.2**	**+0.1**
PRU						*e*SG	**Sg**	**05 16 38.2**	**-0.2**
	comp=Z,15nm,0.2s								
PRU	**Pruhonice**	**1.35**	**100**	Pg			**Pb**	**05 16 20.2**	**+0.1**
PRU						Sg	**Sg**	**05 16 38.2**	**-0.2**
	comp=Z,15nm,0.2s								
GOPC	**GO Pecny, Ondr**	**1.52**	**101**	*e*SG			**Sg**	**05 16 43.6**	**-0.3**
	comp=Z,13nm,0.4s								
GOPC	**GO Pecny, Ondr**	**1.52**	**101**	Sg			**Sg**	**05 16 43.6**	**-0.3**
	comp=Z,13nm,0.4s								
UPC	**Upice**	**2.28**	**82**	⇑*e*SG			**Sg**	**05 17 06.8**	**-1.3**
UPC	**Upice**	**2.28**	**82**	Sg			**Sg**	**05 17 06.8**	**-1.3**
DPC	**Dobruska-Polom**	**2.47**	**86**	*e*SG			**Sg**	**05 17 11.9**	**-2.3**
	comp=Z,6.8nm,0.5s								
DPC	**Dobruska-Polom**	**2.47**	**86**	Sg			**Sg**	**05 17 11.9**	**-2.3**
	comp=Z,6.8nm,0.5s								
MOA	**Molln**	**2.66**	**153**	Pg			**Pg**	**05 16 45.6**	**-0.3**
	comp=Z,0.8nm,0.2s								
VRAC	**Vranov**	**2.82**	**108**	*e*Sg			**Sb**	**05 17 21.5**	**+1.8**
CONA	**Conrad Observa**	**3.20**	**135**	Pg			**Pg**	**05 16 55.4**	**-0.9**
	comp=Z,1.0nm,0.2s								
CONA				Sg			**Sg**	**05 17 36.6**	**-1.2**
	comp=Z,2.7nm,0.3s								
KBA	**Koelnbreinsper**	**3.21**	**169**	Sg			**Sg**	**05 17 38.4**	**+0.4**
	comp=Z,3.3nm,0.5s								
MORC	**Moravsky Berou**	**3.30**	**96**	*e*Sg			**Sg**	**05 17 38.7**	**-2.1**

*CSEM **02** 05:18:07.6±0.1,50°.23N×12°.50E,h10km,ML2.9/13,Error*
ellipse: s-maj=1.7km s-min=1.4km az=57.0
*BGR **02** 05:18:08.1±0.2,50°.25N×12°.45E,h11km±1km,ML2.5/6,*
Error ellipse: s-maj=2.2km s-min=1.1km az=112.0
*CLL **02** 05:18:08.8±0.3,50°.3N±0°.7×1°.2E±°,h9km±1km,ml2.3*
*PRU **02** 05:18:08.4,50°.26N×12°.53E,h2km,West Bohemia*
Swarm
ISC 02 05:18:08.0±0.9,50°.24N±0°.02×12°.50E±0°.02,h11km±4km,
n70,σ0s74/122,1C,Germany

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
NKC	**Novy Kostel**	**0.04**	**260**	*e*PG			**Pg**	**05 18 09.6**	**-0.4**
NKC						*e*SG	**Sg**	**05 18 11.3**	**-0.2**
	comp=Z,1μm,0.2s								
NKC	**Novy Kostel**	**0.04**	**260**	⇑*i*Pg			**Pg**	**05 18 10.2**	**+0.2**
NKC						*i* Sg	**Sg**	**05 18 11.4**	**-0.1**
NKC	**Novy Kostel**	**0.04**	**260**	*e*Pg			**Pg**	**05 18 09.6**	**-0.4**
NKC						*e*Sg	**Sg**	**05 18 11.4**	**-0.1**
NKC	**Novy Kostel**	**0.04**	**260**	Pg			**Pg**	**05 18 09.6**	**-0.4**
NKC						Sg	**Sg**	**05 18 11.3**	**-0.2**
	1μm,0.2s								
WERN	**Wernitzgruen**	**0.10**	**301**	*i* Pg			**Pg**	**05 18 10.6**	**0.0**
WERN						*i* Sg	**Sg**	**05 18 12.2**	**-0.5**
WERN						AML	AML	05 18 12.3	
	comp=E,2μm,0.2s								
WERN	**Wernitzgruen**	**0.10**	**301**	*e*Pg			**Pg**	**05 18 10.3**	**-0.3**
WERN						*e*Sg	**Sg**	**05 18 12.1**	**-0.5**
WERN	**Wernitzgruen**	**0.10**	**301**	Pg			**Pg**	**05 18 10.3**	**-0.3**
WERN						Sg	**Sg**	**05 18 12.1**	**-0.5**
ROHR	**Rohrbach**	**0.12**	**268**	*e*Pg			**Pg**	**05 18 10.8**	**-0.1**
ROHR						*i* Sg	**Sg**	**05 18 12.4**	**-0.7**
ROHR						AML	AML	05 18 12.5	
	comp=E,2μm,0.1s								
ROHR	**Rohrbach**	**0.12**	**268**	*e*Pg			**Pg**	**05 18 10.6**	**-0.4**
ROHR						*e*Sg	**Sg**	**05 18 12.4**	**-0.7**
ROHR	**Rohrbach**	**0.12**	**268**	Pg			**Pg**	**05 18 10.6**	**-0.4**
ROHR						Sg	**Sg**	**05 18 12.4**	**-0.7**
GUNZ	**Gunzen**	**0.17**	**318**	*i* Pg			**Pg**	**05 18 11.7**	**0.0**
GUNZ						*i* Sg	**Sg**	**05 18 13.8**	**-0.5**
GUNZ						AML	AML	05 18 14.3	
	comp=E,578nm,0.2s								
GUNZ	**Gunzen**	**0.17**	**318**	*e*Pg			**Pg**	**05 18 11.7**	**0.0**
GUNZ						*e*Sg	**Sg**	**05 18 13.8**	**-0.5**
GUNZ	**Gunzen**	**0.17**	**318**	Pg			**Pg**	**05 18 11.7**	**0.0**
GUNZ						Sg	**Sg**	**05 18 13.8**	**-0.5**
TANN	**Tannenbergstha**	**0.18**	**351**	*i* Pg			**Pg**	**05 18 12.0**	**+0.1**
TANN						*i* Sg	**Sg**	**05 18 14.4**	**-0.2**
TANN						AML	AML	05 18 14.9	
	comp=N,2μm,0.2s								
MULD	**Muldenberg**	**0.18**	**340**	*i* Pg			**Pg**	**05 18 12.1**	**+0.1**
MULD						*i* Sg	**Sg**	**05 18 14.4**	**-0.3**
MULD						AML	AML	05 18 14.6	
	comp=E,905nm,0.1s								
MULD	**Muldenberg**	**0.18**	**340**	*e*Pg			**Pg**	**05 18 12.1**	**+0.1**
MULD						*e*Sg	**Sg**	**05 18 14.5**	**-0.3**
MULD	**Muldenberg**	**0.18**	**340**	Pg			**Pg**	**05 18 12.1**	**+0.1**
MULD						Sg	**Sg**	**05 18 14.5**	**-0.3**
WERD	**Werda**	**0.24**	**329**	*i* Pg			**Pg**	**05 18 12.9**	**-0.1**
WERD						*i* Sg	**Sg**	**05 18 15.9**	**-0.6**
WERD						AML	AML	05 18 16.4	
	comp=E,251nm,0.3s								
WERD	**Werda**	**0.24**	**329**	*e*Pg			**Pg**	**05 18 13.0**	**-0.1**
WERD						*e*Sg	**Sg**	**05 18 15.7**	**-0.8**
WERD	**Werda**	**0.24**	**329**	Pg			**Pg**	**05 18 13.0**	**-0.1**
WERD						Sg	**Sg**	**05 18 15.6**	**-0.8**
TRIB	**Obertriebel**	**0.26**	**296**	*i* Pg			**Pg**	**05 18 13.0**	**-0.4**
TRIB						*i* Sg	**Sg**	**05 18 16.1**	**-0.8**
TRIB						AML	AML	05 18 16.3	
	comp=N,230nm,0.1s								
TRIB	**Obertriebel**	**0.26**	**296**	*e*Pg			**Pg**	**05 18 13.0**	**-0.4**
TRIB						*e*Sg	**Sg**	**05 18 16.1**	**-0.8**
TRIB	**Obertriebel**	**0.26**	**296**	Pg			**Pg**	**05 18 13.0**	**-0.4**
TRIB						Sg	**Sg**	**05 18 16.1**	**-0.8**
PLN	**Plauen**	**0.33**	**318**	*i* Pg			**Pg**	**05 18 14.3**	**-0.3**
PLN						*i* Sg	**Sg**	**05 18 18.5**	**-0.6**
PLN						AML	AML	05 18 18.6	
	comp=E,120nm,0.1s								
PLN	**Plauen**	**0.33**	**318**	*e*Pg			**Pg**	**05 18 14.3**	**-0.3**
PLN						*e*Sg	**Sg**	**05 18 18.5**	**-0.6**
PLN	**Plauen**	**0.33**	**318**	Pg			**Pg**	**05 18 14.3**	**-0.3**
PLN						Sg	**Sg**	**05 18 18.5**	**-0.6**
SCHF	**Schoenfels**	**0.44**	**352**	*i* Pg			**Pg**	**05 18 16.7**	**0.0**
SCHF						*i* Sg	**Sg**	**05 18 22.6**	**-0.1**
SCHF						AML	AML	05 18 22.7	
	comp=E,297nm,0.2s								
SCHF	**Schoenfels**	**0.44**	**352**	*e*Pg			**Pg**	**05 18 16.7**	**0.0**
SCHF						*e*Sg	**Sg**	**05 18 22.5**	**-0.1**
SCHF	**Schoenfels**	**0.44**	**352**	Pg			**Pg**	**05 18 16.7**	**0.0**
SCHF						Sg	**Sg**	**05 18 22.5**	**-0.1**
MLFH	**Mildenfurth**	**0.61**	**334**	*i* Pg			**Pg**	**05 18 19.6**	**-0.3**
MLFH						*i* Sg	**Sg**	**05 18 27.4**	**-0.6**
MOX	**Moxa**	**0.70**	**306**	*e*Pg			**Pg**	**05 18 21.1**	**-0.4**
MOX						*e*Sg	**Sg**	**05 18 30.0**	**-0.7**
MOX	**Moxa**	**0.70**	**306**	Pg			**Pg**	**05 18 21.1**	**-0.4**
MOX						Sg	**Sg**	**05 18 30.0**	**-0.7**
FBE	**Freiberg**	**0.87**	**38**	*e*Pg			**Pb**	**05 18 25.3**	**+0.1**
FBE						*e*Sg	**Sb**	**05 18 36.7**	**-0.1**
FBE	**Freiberg**	**0.87**	**38**	Pg			**Pb**	**05 18 25.3**	**+0.1**
FBE						Sg	**

comp=Z,2.6nm,0.2s
ABTA Abfaltersbach 3.50 180 Sg **Sg** **05 20 01.3 +1.2**
comp=Z,2.6nm,0.2s
ARSA Arzberg 3.60 145 Sg **Sg** **05 20 01.7 -1.7**
comp=Z,3.7nm,0.5s
ARSA Arzberg 3.60 145 Sg **Sg** **05 20 01.7 -1.7**
comp=Z,3.7nm,0.5s

*ISCJB **02** 05:25:21.9±0.5, 39°.77N±0°.02×20°.31E±0°.03, h0km±4km, Error ellipse: s-maj=3.8km s-min=3.5km az=151.4*
*ATH **02** 05:25:22.6, 39°.70N×20°.39E, h12km±4km, ML2.7/6, Error ellipse: s-maj=4.1km s-min=0.9km az=252.0*
*CSEM **02** 05:25:22.5±0.2, 39°.74N×20°.33E, h0km±2km, ML2.7, Error ellipse: s-maj=3.7km s-min=3.4km az=9.0*
*THE **02** 05:25:22.7, 39°.74N×20°.35E, h0km±2km, ML2.8/16, Error ellipse: s-maj=2.7km s-min=0.9km az=321.0*

ISC 02 05:25:23.3±0.9, 39°.72N±0°.02×20°.36E±0°.02, h8km±7km, n61, σ1§14/103, Greece-Albania border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SGD	**Sagiada**	**0.14**	**221**	P	**Pg**	**05 25 26.0**	**-0.3**
SGD				S	**Sg**	**05 25 28.2**	**-0.2**
SGD	**Sagiada**	**0.14**	**221**	P	**Pg**	**05 25 26.0**	**-0.3**
SGD				S	**Sg**	**05 25 28.2**	**-0.2**
SGD	**Sagiada**	**0.14**	**221**	P	**Pg**	**05 25 26.2**	**-0.2**
SGD				S	**Sg**	**05 25 28.6**	**+0.2**
IGT	**Igoumenitsa**	**0.19**	**185**	P	**Pg**	**05 25 26.4**	**-0.7**
IGT				S	**Sg**	**05 25 29.8**	**0.0**
IGT	**Igoumenitsa**	**0.19**	**185**	P	**Pg**	**05 25 26.4**	**-0.7**
IGT				S	**Sg**	**05 25 29.7**	**0.0**
IGT	**Igoumenitsa**	**0.19**	**185**	P	**Pg**	**05 25 26.0**	**-1.2**
IGT				S	**Sg**	**05 25 29.9**	**+0.2**
IGT				AML	AML	05 25 31.2	
	comp=E,12332μm,0.4s						
IGT				AML	AML	05 25 31.2	
	comp=N,20569μm,0.3s						
JAN	**Janina**	**0.39**	**99**	P	**Pg**	**05 25 29.8**	**-1.1**
JAN				S	**Sg**	**05 25 36.1**	**+0.1**
JAN	**Janina**	**0.39**	**99**	P	**Pg**	**05 25 29.8**	**-1.1**
JAN				S	**Sg**	**05 25 35.6**	**-0.4**
JAN	**Janina**	**0.39**	**99**	S	**Sg**	**05 25 36.2**	**+0.3**
JAN				AML	AML	05 25 39.0	
	comp=E,5878μm,0.2s						
KEK	**Kerkira**	**0.43**	**269**	P	**Pg**	**05 25 31.5**	**-0.1**
KEK				S	**Sg**	**05 25 36.6**	**-0.7**
KEK	**Kerkira**	**0.43**	**269**	P	**Pg**	**05 25 31.5**	**-0.1**
KEK				S	**Sg**	**05 25 36.6**	**-0.7**
PENT	**Pentalofos**	**0.77**	**51**	P	**Pg**	**05 25 37.2**	**-0.9**
PENT				S	**Sb**	**05 25 48.5**	**-1.1**
PENT	**Pentalofos**	**0.77**	**51**	P	**Pg**	**05 25 37.2**	**-0.9**
PENT				S	**Sb**	**05 25 48.5**	**-1.1**
PENT	**Pentalofos**	**0.77**	**51**	P	**Pg**	**05 25 37.4**	**-0.7**
PENT				AML	AML	05 25 51.4	
	comp=N,435μm,0.4s						
PENT				AML	AML	05 25 52.6	
	comp=E,309μm,0.3s						
KPRO	**Kipourio**	**0.81**	**73**	P	**Pg**	**05 25 37.4**	**-1.5**
KPRO				S	**Sg**	**05 25 49.3**	**-0.2**
KPRO	**Kipourio**	**0.81**	**73**	P	**Pg**	**05 25 37.4**	**-1.5**
KPRO				S	**Sg**	**05 25 49.3**	**-0.2**
KPRO	**Kipourio**	**0.81**	**73**	P	**Pg**	**05 25 37.0**	**-1.9**
KPRO				S	**Sg**	**05 25 48.9**	**-0.6**
KPRO				AML	AML	05 25 51.2	
	comp=E,1938μm,0.4s						
KPRO				AML	AML	05 25 51.7	
	comp=N,1373μm,0.6s						
DSL	**Palaion Diasel**	**0.82**	**135**	P	**Pg**	**05 25 37.2**	**-1.8**
DSL				S	**Sg**	**05 25 50.3**	**+0.6**
DSL	**Palaion Diasel**	**0.82**	**135**	P	**Pg**	**05 25 37.3**	**-1.8**
DSL				S	**Sg**	**05 25 50.3**	**+0.6**
DSL	**Palaion Diasel**	**0.82**	**135**	P	**Pg**	**05 25 37.1**	**-1.8**
DSL				S	**Sg**	**05 25 49.3**	**-0.3**
DSL				AML	AML	05 25 52.5	
	comp=N,956μm,0.4s						
DSL				AML	AML	05 25 54.0	
	comp=E,903μm,0.4s						
LKD2	**Lefkada island**	**0.96**	**166**	P	**Pg**	**05 25 40.0**	**-1.7**
LKD2				S	**Sb**	**05 25 56.7**	**+1.7**
LKD2	**Lefkada island**	**0.96**	**166**	P	**Pg**	**05 25 40.0**	**-1.7**
LKD2				S	**Sb**	**05 25 56.7**	**+1.7**
KZN	**Kozani**	**1.23**	**61**	P	**Pg**	**05 25 46.0**	**-1.0**
KZN				S	**Sn**	**05 26 04.0**	**+0.2**
KZN	**Kozani**	**1.23**	**61**	P	**Pg**	**05 25 46.0**	**-1.0**
KZN				S	**Sn**	**05 26 04.0**	**+0.2**
THL	**Klokotos Trika**	**1.29**	**96**	P	**Pg**	**05 25 46.7**	**-1.3**
THL				S	**Sb**	**05 26 05.4**	**+0.9**
THL	**Klokotos Trika**	**1.29**	**96**	P	**Pg**	**05 25 46.7**	**-1.3**
THL				S	**Sb**	**05 26 05.4**	**+0.9**
PDO	**Prodromos**	**1.29**	**150**	P	**Pb**	**05 25 48.0**	**+0.2**
PDO	**Prodromos**	**1.29**	**150**	P	**Pb**	**05 25 48.0**	**+0.2**
PDO	**Prodromos**	**1.29**	**150**	P	**Pg**	**05 25 46.3**	**-1.7**
FNA	**Florina**	**1.32**	**36**	P	**Pg**	**05 25 47.9**	**-0.7**
FNA	**Florina**	**1.32**	**36**	P	**Pg**	**05 25 47.9**	**-0.7**
EVR	**Evrytania**	**1.38**	**125**	P	**Pg**	**05 25 48.0**	**-1.8**
EVR				S	**Sn**	**05 26 08.6**	**+1.1**
EVR	**Evrytania**	**1.38**	**125**	P	**Pg**	**05 25 48.2**	**-1.6**
EVR				S	**Sn**	**05 26 08.6**	**+1.1**
EVR	**Evrytania**	**1.38**	**125**	P	**Pg**	**05 25 48.5**	**-1.3**
EVR				S	**Sg**	**05 26 05.9**	**-1.8**
EVR				AML	AML	05 26 10.3	
	comp=N,308μm,0.5s						
PVO	**Paravola**	**1.43**	**140**	P	**Pn**	**05 25 49.0**	**-0.5**
PVO				S	**Sn**	**05 26 11.1**	**+2.7**
PVO	**Paravola**	**1.43**	**140**	P	**Pn**	**05 25 49.0**	**-0.5**
PVO				S	**Sn**	**05 26 11.1**	**+2.7**
PVO	**Paravola**	**1.43**	**140**	P	**Pn**	**05 25 49.1**	**-0.3**
OHR	**Ohrid**	**1.43**	**14**	*i* Pn	**Pb**	**05 25 52.9**	**+2.7**
OHR	**Ohrid**	**1.43**	**14**	*i* Pn	**Pb**	**05 25 52.9**	**+2.7**
BIA	**Bitola**	**1.50**	**29**	*i* Pn	**Pb**	**05 25 52.0**	**+0.7**
BIA	**Bitola**	**1.50**	**29**	*i* Pn	**Pb**	**05 25 52.0**	**+0.7**
KTI	**Kastanea**	**1.51**	**63**	P	**Pg**	**05 25 51.3**	**-1.0**
KTI	**Kastanea**	**1.51**	**63**	P	**Pg**	**05 25 51.3**	**-1.0**
VLS	**Valsamata**	**1.55**	**173**	P	**Pn**	**05 25 49.9**	**-1.3**
VLS				S	**Sg**	**05 26 13.0**	**-0.1**
VLS	**Valsamata**	**1.55**	**173**	P	**Pn**	**05 25 49.9**	**-1.3**
VLS				S	**Sg**	**05 26 13.0**	**-0.1**
ANX	**Ano Chora**	**1.66**	**132**	P	**Pb**	**05 25 54.1**	**0.0**
ANX				S	**Sg**	**05 26 16.9**	**+0.4**
ANX	**Ano Chora**	**1.66**	**132**	P	**Pb**	**05 25 54.1**	**0.0**
ANX				S	**Sg**	**05 26 16.9**	**+0.4**
AGG	**Agios Georgios**	**1.68**	**114**	P	**Pn**	**05 25 53.8**	**+0.8**
AGG				S	**Sn**	**05 26 15.4**	**+0.7**
AGG	**Agios Georgios**	**1.68**	**114**	P	**Pn**	**05 25 53.8**	**+0.8**
AGG				S	**Sn**	**05 26 15.4**	**+0.7**
SERG	**Sergoula**	**1.86**	**134**	P	**Pb**	**05 25 56.9**	**-0.6**
SERG				S	**Sg**	**05 26 22.4**	**-0.6**
SERG	**Sergoula**	**1.86**	**134**	P	**Pb**	**05 25 56.9**	**-0.6**
SERG				S	**Sg**	**05 26 22.4**	**-0.6**
DSF	**Desfina**	**2.14**	**127**	P	**Pn**	**05 26 00.2**	**+0.9**
DSF	**Desfina**	**2.14**	**127**	P	**Pn**	**05 26 00.2**	**+0.9**
XOR	**Xorichti**	**2.22**	**98**	P	**Pn**	**05 26 01.3**	**+0.9**
XOR				S	**Sn**	**05 26 29.8**	**+1.7**
XOR	**Xorichti**	**2.22**	**98**	P	**Pn**	**05 26 01.3**	**+0.9**
XOR				S	**Sn**	**05 26 29.8**	**+1.7**
TIP	**Timpagrande**	**2.84**	**260**	P	**Pn**	**05 26 08.4**	**-0.5**
TIP	**Timpagrande**	**2.84**	**260**	P	**Pn**	**05 26 08.4**	**-0.5**
UDBI	**Udbina**	**5.89**	**326**	*e*Pn	**Pn**	**05 26 50.4**	**-0.5**
UDBI					**Sn**	**05 27 58.1**	**-0.6**
UDBI	**Udbina**	**5.89**	**326**	*e*Pn	**Pn**	**05 26 50.4**	**-0.5**
UDBI					**Sn**	**05 27 58.0**	**-0.6**
NVLJ	**Novalja**	**6.33**	**322**	*e*Pn	**Pn**	**05 26 56.3**	**-0.5**
NVLJ					**Sn**	**05 28 05.8**	**-3.3**
NVLJ	**Novalja**	**6.33**	**322**	*e*Pn	**Pn**	**05 26 56.3**	**-0.5**

*CNRM **02** 05:25:50.4, 36°.60N×7°.59W, h30km, MD3.3*
*IGIL **02** 05:25:51.9, 36°.62N×7°.56W, h25km, ML2.7*
*CSEM **02** 05:25:51.6±0.2, 36°.66N×7°.51W, h40km, ML3.6/9, Error ellipse: s-maj=4.8km s-min=2.8km az=32.0*
*ISCJB **02** 05:25:51.7±0.5, 36°.79N±0°.03×7°.38W±0°.02, h32km, Error ellipse: s-maj=4.7km s-min=2.2km az=24.2*
*LDG **02** 05:25:51.1±0.5, 36°.69N×7°.39W, h30km, Error ellipse: s-maj=12.0km s-min=5.7km az=18.0*
*INMG **02** 05:25:51.6±1.4, 36°.62N×7°.55W, h21km±3km, ML2.8, Error ellipse: s-maj=2.5km s-min=2.3km az=60.0*
*MDD **02** 05:25:52.0±0.6, 36°.63N×7°.54W, h36km±14km, mbLg2.8/46, Error ellipse: s-maj=8.0km s-min=3.7km az=29.0, PRXIMO*

ISC 02 05:25:50.3±1.0, 36°.67N±0°.04×7°.46W±0°.02, h32km, n138, σ1§53/251, 1C-9D, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PBDV	**Barranco-do-Ve**	**0.68**	**327**	*i*P	**Pb**	**05 26 04.6**	**+0.8**
PBDV				*e*S	**Sn**	**05 26 14.2**	**+0.9**
PBDV				A	A	05 26 15.4	
	203nm,0.1s						
PBDV	**Barranco-do-Ve**	**0.68**	**327**	P	**Pb**	**05 26 04.6**	**+0.8**
PBDV				S	**Sn**	**05 26 14.2**	**+0.9**
	203nm,0.1s						
PBDV	**Barranco-do-Ve**	**0.68**	**327**	P	**Pb**	**05 26 04.6**	**+0.8**
PBDV				S	**Sn**	**05 26 14.2**	**+0.9**
	203nm,0.1s						
PVAQ	**Vaqueiros**	**0.76**	**344**	*i*P	**Pb**	**05 26 06.0**	**+0.9**
PVAQ				*e*S	**Sn**	**05 26 16.3**	**+1.2**
PVAQ				A	A	05 26 18.2	
	242nm,0.1s						
PVAQ	**Vaqueiros**	**0.76**	**344**	P	**Pb**	**05 26 06.0**	**+0.9**
PVAQ				S	**Sn**	**05 26 16.3**	**+1.2**
	242nm,0.1s						
PVAQ	**Vaqueiros**	**0.76**	**344**	P	**Pb**	**05 26 06.0**	**+0.9**
PVAQ				*e*S	**Sn**	**05 26 16.3**	**+1.2**
	242nm,0.1s						
EGRO	**El Granado**	**0.86**	**359**	P	**Pb**	**05 26 07.7**	**+0.9**
	20nm,0.3s,SNR=551						
EGRO				S	**Sb**	**05 26 19.7**	**+1.7**
	216nm,0.1s,SNR=22						
EGRO	**El Granado**	**0.86**	**359**	P	**Pb**	**05 26 07.7**	**+0.9**
	20nm,0.3s,SNR=551						
EGRO				S	**Sb**	**05 26 19.7**	**+1.7**
	216nm,0.1s,SNR=22						
PCVE	**Castro Verde**	**1.06**	**334**	*e*P	**Pb**	**05 26 10.2**	**0.0**
PCVE				*e*S	**Sb**	**05 26 24.1**	**+0.3**
PCVE				A	A	05 26 24.4	
	105nm,0.3s						
PCVE	**Castro Verde**	**1.06**	**334**	P	**Pb**	**05 26 10.2**	**0.0**
PCVE				S	**Sb**	**05 26 24.1**	**+0.3**
	105nm,0.3s						
PCVE	**Castro Verde**	**1.06**	**334**	P	**Pb**	**05 26 10.2**	**0.0**
PCVE				*e*S	**Sb**	**05 26 24.1**	**+0.3**
	105nm,0.3s						
MORF	**Marmelete**	**1.14**	**304**	*e*P	**Pn**	**05 26 10.2**	**+0.1**
MORF				*e*S	**Sn**	**05 26 23.9**	**-0.8**
MORF				AML	AML	05 26 25.3	
	comp=N,178nm,0.0s						
MORF	**Marmelete**	**1.14**	**304**	*e*P	**Pn**	**05 26 10.2**	**+0.1**
MORF				*e*S	**Sn**	**05 26 24.7**	**0.0**
MORF				A	A	05 26 31.5	
	comp=N,146nm,0.1s						
MORF	**Marmelete**	**1.14**	**304**	P	**Pn**	**05 26 10.2**	**+0.1**
MORF				S	**Sn**	**05 26 24.7**	**0.0**
	comp=N,146nm,0.1s						
MORF	**Marmelete**	**1.14**	**304**	P	**Pn**	**05 26 10.2**	**+0.1**
MORF				S	**Sn**	**05 26 24.7**	**0.0**
	comp=N,146nm,0.1s						
PFVI	**Vila Bisbo**	**1.19**	**293**	*e*P	**Pn**	**05 26 10.6**	**0.0**
PFVI				A	A	05 26 34.3	
	comp=N,88nm,0.4s						
PFVI	**Vila Bisbo**	**1.19**	**293**	P	**Pn**	**05 26 10.6**	**0.0**
	comp=N,11nm,0.3s,SNR=82						
PFVI				S	**Sn**	**05 26 24.6**	**-1.1**
	comp=N,64nm,0.1s,SNR=6.9						
PFVI	**Vila Bisbo**	**1.19**	**293**	*e*P	**Pn**	**05 26 10.6**	**0.0**
	comp=N,88nm,0.4s						
PFVI				S	**Sn**	**05 26 24.6**	**-1.1**
	comp=N,64nm,0.1s,SNR=6.9						
EMIN	**Mina Concepcio**	**1.26**	**30**	P	**Pb**	**05 26 13.1**	**-0.4**
	comp=N,3.9nm,0.3s,SNR=44						
EMIN				S	**Sn**	**05 26 28.6**	**+1.0**
	comp=N,24nm,0.1s,SNR=7.9						
EMIN	**Mina Concepcio**	**1.26**	**30**	P	**Pb**	**05 26 13.1**	**-0.4**
	comp=N,3.9nm,0.3s,SNR=44						
EMIN				S	**Sn**	**05 26 28.6**	**+1.0**
	comp=N,24nm,0.1s,SNR=7.9						
ESPR	**Espera**	**1.30**	**81**	P	**Pb**	**05 26 13.8**	**-0.4**
	comp=N,43nm,0.3s,SNR=78						
ESPR				S	**Sb**	**05 26 30.5**	**-0.1**
	comp=N,190nm,0.2s,SNR=6.7						
ESPR	**Espera**	**1.30**	**81**	P	**Pb**	**05 26 13.8**	**-0.4**
	comp=N,43nm,0.3s,SNR=78						
ESPR				S	**Sb**	**05 26 30.5**	**-0.1**
	comp=N,190nm,0.2s,SNR=6.7						
MESJ	**Messejana**	**1.31**	**333**	*e*P	**Pb**	**05 26 13.5**	**-0.9**
MESJ				*e*S	**Sn**	**05 26 29.0**	**+0.2**
MESJ				AML	AML	05 26 30.2	
	comp=N,75nm,0.1s						
MESJ	**Messejana**	**1.31**	**333**	*i*P	**Pb**	**05 26 13.6**	**-0.8**
MESJ				*e*S	**Sb**	**05 26 30.0**	**-0.9**
MESJ				A	A	05 26 36.0	
	comp=N,82nm,0.2s						
MESJ	**Messejana**	**1.31**	**333**	P	**Pb**	**05 26 13.6**	**-0.8**
MESJ				S	**Sb**	**05 26 30.0**	**-0.9**
	comp=N,82nm,0.2s						
MESJ	**Messejana**	**1.31**	**333**	P	**Pb**	**05 26 13.6**	**-0.8**
MESJ				*e*S	**Sb**	**05 26 30.0**	**-0.9**
	comp=N,82nm,0.2s						
PTEO	**Sao Teotonio**	**1.33**	**311**	*i*P	**Pn**	**05 26 13.4**	**+0.7**
PTEO				*e*S	**Sn**	**05 26 29.5**	**+0.2**
PTEO				A	A	05 26 30.2	
	comp=N,69nm,0.4s						
PTEO	**Sao Teotonio**	**1.33**	**311**	P	**Pn**	**05 26 13.4**	**+0.7**
PTEO				S	**Sn**	**05 26 29.5**	**+0.2**
	comp=N,34nm,0.4s						
PTEO	**Sao Teotonio**	**1.33**	**311**	P	**Pn**	**05 26 13.4**	**+0.7**
PTEO				*e*S	**Sn**	**05 26 29.5**	**+0.2**
	comp=N,69nm,0.4s						
PBEJ	**Beja**	**1.39**	**347**	*e*P	**Pb**	**05 26 14.9**	**-0.8**
PBEJ				*e*S	**Sb**	**05 26 32.2**	**-0.9**
PBEJ				A	A	05 26 35.5	
	comp=N,41nm,0.1s						
PBEJ	**Beja**	**1.39**	**347**	P	**Pb**	**05 26 14.9**	**-0.8**
PBEJ				S	**Sb**	**05 26 32.2**	**-0.9**
	comp=N,21nm,0.1s						
PBEJ	**Beja**	**1.39**	**347**	P	**Pb**	**05 26 14.9**	**-0.8**
PBEJ				*e*S	**Sb**	**05 26 32.2**	**-0.9**
	comp=N,41nm,0.1s						
PBAR	**Barrancos**	**1.54**	**13**	*i*P	**Pb**	**05 26 17.1**	**-1.1**
PBAR				S	**Sb**	**05 26 36.5**	**-0.8**
PBAR				A	A	05 26 42.6	
	comp=N,94nm,0.2s						
PBAR	**Barrancos**	**1.54**	**13**	P	**Pb**	**05 26 17.1**	**-1.1**
PBAR				S	**Sb**	**05 26 36.5**	**-0.8**
	comp=N,94nm,0.2s						
PBAR	**Barrancos**	**1.54**	**13**	P	**Pb**	**05 26 17.1**	**-1.1**
PBAR				S	**Sb**	**05 26 36.5**	**-0.8**
	comp=N,94nm,0.2s						
EJIF	**Jimena Fronter**	**1.62**	**97**	P	**Pb**	**05 26 18.8**	**-0.7**
	comp=N,3.1nm,0.2s,SNR=7.9						
EJIF				S	**Sn**	**05 26 35.5**	**-0.9**
	comp=N,5.3nm,0.2s,SNR=7.9						
EJIF	**Jimena Fronter**	**1.62**	**97**	P	**Pb**	**05 26 18.8**	**-0.7**
	comp=N,3.1nm,0.2s,SNR=7.9						
PNCL	**Nicolau / Gran**	**1.67**	**330**	*e*Pn	**Pn**	**05 26 18.3**	**+1.0**
PNCL				*e*Sn	**Sn**	**05 26 38.1**	**+0.5**
PNCL				A	A	05 26 50.6	
	comp=N,67nm,0.7s						
PNCL	**Nicolau / Gran**	**1.67**	**330**	*e*Pn	**Pn**	**05 26 18.3**	**+1.0**
PNCL				*e*Sn	**Sn**	**05 26 38.1**	**+0.5**
	comp=N,67nm,0.7s						
EBAD	**Badajoz**	**2.11**	**10**	P	**Pn**	**05 26 24.7**	**+1.3**
	comp=N,3.2nm,0.3s,SNR=54						
EBAD				S	**Sn**	**05 26 49.0**	**+0.5**
	comp=N,31nm,0.2s,SNR=6.0						
EBAD	**Badajoz**	**2.11**	**10**	P	**Pn**	**05 26 24.7**	**+1.3**
	comp=N,3.2nm,0.3s,SNR=54						
EBAD				S	**Sn**	**05 26 49.0**	**+0.5**
	comp=N,31nm,0.2s,SNR=6.0						
ECAB	**El Cabril**	**2.15**	**49**	P	**Pn**	**05 26 26.0**	**+2.1**
	comp=N,4.7nm,0.2s,SNR=24						
ECAB				S	**Sn**	**05 26 49.4**	**0.0**
	comp=N,7.4nm,0.1s,SNR=6.5						
ECAB	**El Cabril**	**2.15**	**49**	P	**Pn**	**05 26 26.0**	**+2.1**
	comp=N,4.7nm,0.2s,SNR=24						
ECAB				S	**Sn**	**05 26 49.4**	**0.0**
	comp=N,7.4nm,0.1s,SNR=6.5						
EMIJ	**Mijas**	**2.17**	**92**	P	**Pn**	**05 26 25.9**	**+1.8**
	comp=N,2.1nm,0.4s,SNR=6.4						
EMIJ				S	**Sn**	**05 26 51.6**	**+1.7**
	comp=N,5.0nm,0.2s						
EMIJ	**Mijas**	**2.17**	**92**	P	**Pn**	**05 26 25.9**	**+1.8**
	comp=N,2.1nm,0.4s,SNR=6.4						
EMIJ				S	**Sn**	**05 26 51.6**	**+1.7**
	comp=N,5.0nm,0.2s						
PESTR	**Estremoz**	**2.19**	**357**	*e*Pn	**Pn**	**05 26 25.8**	**+1.3**
PESTR				*e*Sn	**Sn**	**05 26 51.0**	**+0.4**
PESTR				A	A	05 27 12.5	
	comp=N,17nm,0.7s						
PESTR	**Estremoz**	**2.19**	**357**	*e*Pn	**Pn**	**05 26 25.8**	**+1.3**
PESTR				*e*Sn	**Sn**	**05 26 51.0**	**+0.4**
	comp=N,17nm,0.7s						
PMST	**Lisbon--Monsan**	**2.47**	**327**	*e*Pn	**Pn**	**05 26 30.1**	**+1.8**
PMST				*e*Sn	**Sn**	**05 26 59.8**	**+2.4**
PMST	**Lisbon--Monsan**	**2.47**	**327**	*e*Pn	**Pn**	**05 26 30.1**	**+1.8**
PMST				*e*Sn	**Sn**	**05 26 59.8**	**+2.4**
PMAFR	**Mafra**	**2.70**	**328**	*e*Pn	**Pn**	**05 26 32.8**	**+1.4**
PMAFR				*e*Sn	**Sn**	**05 27 03.0**	**0.0**
PMAFR				A	A	05 27 08.2	
	comp=N,44nm,0.1s						
PMAFR	**Mafra**	**2.70**	**328**	P	**Pn**	**05 26 33.0**	**+1.5**
	comp=N,8.2nm,0.3s,SNR=38						
PMAFR				S	**Sn**	**05 27 02.6**	**-0.4**
	comp=N,50nm,0.2s,SNR=7.6						
PMAFR	**Mafra**	**2.70**	**328**	*e*Pn	**Pn**	**05 26 32.8**	**+1.4**
PMAFR				S	**Sn**	**05 27 02.6**	**-0.4**
	comp=N,50nm,0.2s,SNR=7.6						
PMAFR				*e*Sn	**Sn**	**05 27 03.0**	**0.0**
	comp=N,44nm,0.1s						
EGOR	**Sierra Gorda,**	**2.72**	**80**	P	**Pb**	**05 26 35.5**	**-2.8**
	comp=N,1.5nm,0.1s,SNR=7.9						
EGOR				S	**Sn**	**05 27 04.3**	**+0.5**
	comp=N,5.7nm,0.2s,SNR=7.9						
EGOR	**Sierra Gorda,**	**2.72**	**80**	P	**Pb**	**05 26 35.5**	**-2.8**
	comp=N,1.5nm,0.1s,SNR=7.9						
EGOR				S	**Sn**	**05 27 04.3**	**+0.5**
	comp=N,5.7nm,0.2s,SNR=7.9						
EADA	**Adamuz**	**2.74**	**56**	P	**Pn**	**05 26 34.1**	**+2.1**
	comp=N,6.8nm,0.2s,SNR=35						
EADA				S	**Sn**	**05 27 04.9**	**+0.9**
	comp=N,11nm,0.1s,SNR=5.6						
EADA	**Adamuz**	**2.74**	**56**	P	**Pn**	**05 26 34.1**	**+2.1**
	comp=N,6.8nm,0.2s,SNR=35						
EADA				S	**Sn**	**05 27 04.9**	**+0.9**
	comp=N,11nm,0.1s,SNR=5.6						
PMRV	**Marv??o**	**2.75**	**1**	*i*P	**Pn**	**05 26 33.7**	**+1.5**
PMRV				*e*Sn	**Sn**	**05 27 05.3**	**+0.9**
PMRV				A	A	05 27 07.3	
	comp=N,24nm,0.4s						
PMRV	**Marv??o**	**2.75**	**1**	P	**Pn**	**05 26 33.7**	**+1.5**
PMRV				S	**Sn**	**05 27 05.3**	**+0.9**
	comp=N,24nm,0.4s						
PMRV	**Marv??o**	**2.75**	**1**	P	**Pn**	**05 26 33.7**	**+1.5**
PMRV				S	**Sn**	**05 27 05.3**	**+0.9**
	comp=N,24nm,0.4s						
PTOM	**Tomar**	**3.04**	**346**	*i*P	**Pn**	**05 26 37.7**	**+1.6**
PTOM				A	A	05 27 14.3	
	comp=N,34nm,0.1s						
PTOM	**Tomar**	**3.04**	**346**	P	**Pn**	**05 26 37.7**	**+1.6**
PTOM	**Tomar**	**3.04**	**346**	P	**Pn**	**05 26 37.7**	**+1.6**
PCBR	**Castelo Branco**	**3.16**	**360**	*e*Pn	**Pn**	**05 26 39.4**	**+1.6**
PCBR				*e*Sn	**Sn**	**05 27 14.9**	**+0.4**
PCBR				A	A	05 27 17.7	
	comp=N,10nm,0.2s						
PCBR	**Castelo Branco**	**3.16**	**360**	P	**Pn**	**05 26 39.4**	**+1.6**
PCBR				S	**Sn**	**05 27 14.9**	**+0.4**
	comp=N,5.1nm,0.2s						
PCBR	**Castelo Branco**	**3.16**	**360**	P	**Pn**	**05 26 39.4**	**+1.6**
PCBR				S	**Sn**	**05 27 14.9**	**+0.4**
	comp=N,5.1nm,0.2s						
EQUE	**Quentar**	**3.27**	**79**	P	**Pn**	**05 26 43.0**	**+3.7**
	comp=N,4.5nm,0.3s						
EQUE				S	**Sn**	**05 27 18.2**	**+1.1**
	comp=N,4.1nm,0.2s,SNR=4.8						
EQUE	**Quentar**	**3.27**	**79**	P	**Pn**	**05 26 43.0**	**+3.7**
	comp=N,4.5nm,0.3s						
EQUE				S	**Sn**	**05 27 18.2**	**+1.1**
	comp=N,4.1nm,0.2s,SNR=4.8						
PCAS	**Casmilo, Conde**	**3.47**	**347**	*e*Pn	**Pn**	**05 26 43.6**	**+1.5**
PCAS				*e*Sn	**Sn**	**05 27 23.3**	**+1.2**
PCAS				A	A	05 27 52.6	
	comp=N,18nm,0.6s						
PCAS	**Casmilo, Conde**	**3.47**	**347**	*e*Pn	**Pn**	**05 26 43.6**	**+1.5**
PCAS				*e*Sn	**Sn**	**05 27 23.3**	**+1.2**
	comp=N,18nm,0.6s						
EPLA	**Plasencia**	**3.56**	**17**	P	**Pn**	**05 26 44.8**	**+1.5**
	comp=N,8.1nm,0.4s						
EPLA				S	**Sn**	**05 27 24.6**	**+0.4**
	comp=N,19nm,0.2s,SNR=8.4						
EPLA	**Plasencia**	**3.56**	**17**	P	**Pn**	**05 26 44.8**	**+1.5**
	comp=N,8.1nm,0.4s						
EPLA				S	**Sn**	**05 27 24.6**	**+0.4**
	comp=N,19nm,0.2s,SNR=8.4						
EBER	**Berja**	**3.68**	**85**	P	**Pn**	**05 26 47.3**	**+2.2**
	comp=N,3.9nm,0.5s,SNR=6.3						
EBER				S	**Sn**	**05 27 28.6**	**+1.2**
	comp=N,1.6nm,0.2s,SNR=4.6						
EBER	**Berja**	**3.68**	**85**	P	**Pn**	**05 26 47.3**	**+2.2**
	comp=N,3.9nm,0.5s,SNR=6.3						
EBER				S	**Sn**	**05 27 28.6**	**+1.2**
	comp=N,1.6nm,0.2s,SNR=4.6						
EQES	**Quesada**	**3.68**	**71**	P	**Pn**	**05 26 46.6**	**+1.6**
	comp=N,1.5nm,0.3s,SNR

	comp=N,1.3nm,0.5s,SNR=12							
GUD				S	Sn	05 27 52.5	-0.9	
	comp=N,0.9nm,0.1s							
GUD	**Guadarrama**	**4.74**	**32**	P	Pn	**05 27 01.7**	**+2.1**	
	comp=N,1.3nm,0.5s,SNR=12							
GUD				S	Sn	05 27 52.5	-0.9	
	comp=N,0.9nm,0.1s							
PCAB	**Cabril**	**5.05**	**355**	*e*Pn	Pn	05 27 05.8	+2.0	
PCAB				*e*Sn	Sn	05 27 59.4	-1.6	
PCAB				A	A	05 28 03.1		
	comp=N,11nm,0.1s							
PCAB	**Cabril**	**5.05**	**355**	P	Pn	05 27 05.8	+2.0	
PCAB				S	Sn	05 27 59.4	-1.6	
	comp=N,5.7nm,0.1s							
PCAB	**Cabril**	**5.05**	**355**	P	Pn	05 27 05.8	+2.0	
PCAB				*e*Sn	Sn	05 27 59.4	-1.6	
	comp=N,11nm,0.1s							
ETOB	**Tobarra**	**5.09**	**65**	P	Pn	05 27 05.1	+0.8	
	comp=N,1.8nm,0.3s,SNR=27							
ETOB				S	Sn	05 28 00.3	-1.8	
	comp=N,11nm,0.3s,SNR=9.9							
ETOB	**Tobarra**	**5.09**	**65**	P	Pn	05 27 05.1	+0.8	
	comp=N,1.8nm,0.3s,SNR=27							
EMUR	**La Murta**	**5.10**	**75**	P	Pn	05 27 06.0	+1.5	
	comp=N,1.0nm,0.2s,SNR=7.9							
EMUR				S	Sn	05 28 01.8	-0.4	
	comp=N,1.6nm,0.2s,SNR=7.9							
EMUR	**La Murta**	**5.10**	**75**	P	Pn	05 27 06.0	+1.5	
	comp=N,1.0nm,0.2s,SNR=7.9							
EMUR				S	Sn	05 28 01.8	-0.4	
	comp=N,1.6nm,0.2s,SNR=7.9							
PBRG	**Braganca**	**5.16**	**6**	*e*Pn	Pn	05 27 06.5	+1.2	
PBRG				*e*Sn	Sn	05 28 02.8	-0.9	
PBRG				A	A	05 28 04.4		
	comp=N,9.1nm,0.4s							
PBRG	**Braganca**	**5.16**	**6**	P	Pn	05 27 06.5	+1.2	
PBRG				Sn	Sn	05 28 02.8	-0.9	
	comp=N,4.6nm,0.4s							
PBRG	**Braganca**	**5.16**	**6**	P	Pn	05 27 06.5	+1.2	
PBRG				*e*Sn	Sn	05 28 02.8	-0.9	
	comp=N,9.1nm,0.4s							
ELOB	**Lobios**	**5.21**	**355**	P	Pn	05 27 07.3	+1.3	
	comp=N,2.4nm,0.3s,SNR=22							
ELOB				S	Sn	05 28 02.5	-2.5	
	comp=N,2.4nm,0.1s,SNR=17							
ELOB	**Lobios**	**5.21**	**355**	P	Pn	05 27 07.3	+1.3	
	comp=N,2.4nm,0.3s,SNR=22							
ECAL	**Calabor**	**5.29**	**6**	P	Pn	05 27 08.7	+1.6	
	comp=N,2.6nm,0.3s,SNR=19							
ECAL				S	Sn	05 28 05.7	-1.4	
	comp=N,4.6nm,0.1s,SNR=6.2							
ECAL	**Calabor**	**5.29**	**6**	P	Pn	05 27 08.7	+1.6	
	comp=N,2.6nm,0.3s,SNR=19							
ECAL				S	Sn	05 28 05.7	-1.4	
	comp=N,4.6nm,0.1s,SNR=6.2							
PGAV	**Gavieira, Arco**	**5.32**	**353**	*e*Pn	Pn	05 27 08.9	+1.3	
PGAV				*e*Sn	Sn	05 28 06.2	-1.7	
PGAV				A	A	05 28 09.1		
	comp=N,5.2nm,0.3s							
PGAV	**Gavieira, Arco**	**5.32**	**353**	*e*Pn	Pn	05 27 08.9	+1.3	
PGAV				*e*Sn	Sn	05 28 06.2	-1.7	
	comp=N,5.2nm,0.3s							
ETOR	**Torete**	**5.92**	**44**	P	Pn	05 27 17.3	+1.6	
	comp=N,1.2nm,0.4s,SNR=6.3							
ETOR				S	Sn	05 28 20.0	-2.5	
	comp=N,1.4nm,0.2s							
ETOR	**Torete**	**5.92**	**44**	P	Pn	05 27 17.3	+1.6	
	comp=N,1.2nm,0.4s,SNR=6.3							
EAGO	**Agolada(Pontev**	**6.14**	**356**	P	Pn	05 27 20.2	+1.4	
	comp=N,1.6nm,0.1s,SNR=7.9							
EAGO				S	Sn	05 28 23.9	-4.0	
	comp=N,1.4nm,0.1s,SNR=7.9							
EAGO	**Agolada(Pontev**	**6.14**	**356**	P	Pn	05 27 20.2	+1.4	
	comp=N,1.6nm,0.1s,SNR=7.9							
EMAZ	**Mazaricos**	**6.38**	**350**	P	Pn	05 27 22.8	+0.8	
	comp=N,0.6nm,0.1s,SNR=7.9							
EMAZ				S	Sn	05 28 30.2	-3.5	
	comp=N,0.7nm,0.1s,SNR=7.9							
EMAZ	**Mazaricos**	**6.38**	**350**	P	Pn	05 27 22.8	+0.8	
	comp=N,0.6nm,0.1s,SNR=7.9							
EMOS	**Mosqueruela**	**6.60**	**54**	P	Pn	05 27 27.2	+2.0	
	comp=N,2.8nm,1.1s,SNR=7.2							
EMOS				S	Sn	05 28 37.0	-2.5	
	comp=N,0.3nm,0.2s,SNR=7.9							
EMOS	**Mosqueruela**	**6.60**	**54**	P	Pn	05 27 27.2	+2.0	
	comp=N,2.8nm,1.1s,SNR=7.2							
EARI	**Arriondas**	**6.84**	**14**	P	Pn	05 27 30.7	+2.3	
	comp=N,0.3nm,0.2s,SNR=7.9							
EARI				S	Sn	05 28 41.6	-3.6	
	comp=N,0.2nm,0.2s,SNR=7.9							
EARI	**Arriondas**	**6.84**	**14**	P	Pn	05 27 30.7	+2.3	
	comp=N,0.3nm,0.2s,SNR=7.9							
ELAN	**Lanestosa**	**7.25**	**24**	P	Pn	05 27 34.9	+1.0	
	comp=N,0.4nm,0.1s,SNR=7.9							
ELAN				S	Sn	05 28 50.6	-4.5	
	comp=N,0.6nm,0.2s,SNR=7.9							
ELAN	**Lanestosa**	**7.25**	**24**	P	Pn	05 27 34.9	+1.0	
	comp=N,0.4nm,0.1s,SNR=7.9							
EIBI	**Ibiza**	**7.35**	**69**	P	Pn	05 27 36.5	+1.1	
	comp=N,0.4nm,0.1s,SNR=7.9							
EIBI				S	Sn	05 28 53.4	-4.3	
	comp=N,1.1nm,0.2s,SNR=7.9							
EIBI	**Ibiza**	**7.35**	**69**	P	Pn	05 27 36.5	+1.1	
	comp=N,0.4nm,0.1s,SNR=7.9							
IELO	**Elcoad**	**7.81**	**36**	P	Pn	05 27 44.7	+3.1	
	comp=N,0.9nm,0.2s,SNR=7.9							
IELO				S	Sn	05 29 06.8	-2.2	
	comp=N,0.9nm,0.2s,SNR=7.9							
IELO	**Elcoad**	**7.81**	**36**	P	Pn	05 27 44.7	+3.1	
	comp=N,0.9nm,0.2s,SNR=7.9							
EORO	**Oroz-Betelu**	**7.81**	**35**	P	Pn	05 27 44.6	+2.9	
	comp=N,0.3nm,0.1s,SNR=7.9							
EORO				S	Sn	05 29 06.7	-2.3	
	comp=N,0.5nm,0.2s,SNR=7.9							
EORO	**Oroz-Betelu**	**7.81**	**35**	P	Pn	05 27 44.6	+2.9	
	comp=N,0.3nm,0.1s,SNR=7.9							
EALK	**Alkurruntz**	**7.98**	**33**	P	Pn	05 27 46.3	+2.3	
	comp=N,0.5nm,0.3s,SNR=7.9							
EALK				S	Sn	05 29 09.9	-3.2	
	comp=N,0.9nm,0.2s,SNR=7.9							
EALK	**Alkurruntz**	**7.98**	**33**	P	Pn	05 27 46.3	+2.3	
	comp=N,0.5nm,0.3s,SNR=7.9							
SJPF	**Ste Jean**	**8.02**	**35**	*e*P	Pn	05 27 47.5	+3.0	
SJPF	**Ste Jean**	**8.02**	**35**	*e*P	Pn	05 27 47.5	+3.0	
ETSF	**Etsaut**	**8.18**	**38**	*e*P	Pn	05 27 49.6	+2.9	
ETSF	**Etsaut**	**8.18**	**38**	*e*P	Pn	05 27 49.6	+2.9	
EPF	**Esparros**	**8.73**	**41**	*e*P	Pn	05 27 57.8	+3.5	
EPF	**Esparros**	**8.73**	**41**	*e*P	Pn	05 27 57.8	+3.5	

ISK ***02*** *05:49:04.4,38°.11N×41°.37E,h2km,MD3.0*
DDA ***02*** *05:49:05.7,38°.12N×41°.36E,h7km,Md2.9*
CSEM ***02*** *05:49:05.4±0.1,38°.13N×41°.38E,h2km,MD2.9, Error ellipse: s-maj=3.5km s-min=2.7km az=11.0*

ISC 02 05:49:05.6±1.1,38.13N±0.03×41.37E±0.03,h6km±8km, n30,σ0.50/45,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SVAN	**Silvan-Diyarba**	**0.14**	**278**	PG	**Pg**	**05 49 07.8**	**-0.6**
SVAN				*e*SG	**Sg**	**05 49 10.4**	**+0.1**
SVAN	**Silvan-Diyarba**	**0.14**	**278**	*i* P	**Pg**	**05 49 07.7**	**-0.6**
SVAN				*i* S	**Sg**	**05 49 11.2**	**+0.9**
SVAN	**Silvan-Diyarba**	**0.14**	**278**	*i* Pg	**Pg**	**05 49 07.8**	**-0.6**
SVAN				*e*Sg	**Sg**	**05 49 10.4**	**+0.1**
SVAN				S	**Sg**	**05 49 11.2**	**+0.9**
BTMN	**Batman**	**0.25**	**199**	*i* P	**Pg**	**05 49 10.3**	**-0.2**
BTMN				*i* S	**Sg**	**05 49 14.6**	**+0.7**
BTMN	**Batman**	**0.25**	**199**	P	**Pg**	**05 49 10.3**	**-0.2**
BTMN				S	**Sg**	**05 49 14.6**	**+0.7**
DIY	**Diyarbakir**	**0.94**	**256**	*e*Pg	**Pb**	**05 49 24.0**	**-0.3**
DIY				*e*Sg	**Sn**	**05 49 38.8**	**-0.3**
MARD	**Mardin**	**0.94**	**210**	*i* P	**Pg**	**05 49 23.8**	**+0.2**
MARD				*i* S	**Sn**	**05 49 39.2**	**-0.2**
DYBB	**Diyarbakir**	**0.99**	**260**	*e*PG	**Pg**	**05 49 24.0**	**-0.5**
DYBB				*e*SG	**Sb**	**05 49 38.8**	**+0.2**
MAZI	**Mazidag**	**0.99**	**228**	*e*PG	**Pg**	**05 49 24.0**	**-0.6**
MAZI				*e*SG	**Sb**	**05 49 38.2**	**-0.5**
MAZI	**Mazidag**	**0.99**	**228**	*e*Pg	**Pg**	**05 49 24.0**	**-0.6**
MAZI				*e*Sg	**Sb**	**05 49 38.2**	**-0.5**
DIYA	**Diyarbakir**	**1.01**	**258**	*i* P	**Pg**	**05 49 25.0**	**+0.1**
DIYA				*i* S	**Sb**	**05 49 39.7**	**+0.6**
DIYA	**Diyarbakir**	**1.01**	**258**	P	**Pg**	**05 49 25.0**	**+0.1**
DIYA				S	**Sb**	**05 49 39.7**	**+0.6**
BINT	**Bingol**	**1.02**	**317**	*e*Pg	**Pg**	**05 49 24.9**	**-0.2**
BNGB	**Bing˜¶ll**	**1.02**	**328**	*e*PG	**Pg**	**05 49 24.9**	**-0.2**
SIRN	**S˜¨rnak**	**1.04**	**127**	*i* P	**Pg**	**05 49 25.1**	**-0.4**
SIRN				*i* S	**Sn**	**05 49 41.2**	**-0.5**
SIRN	**S˜¨rnak**	**1.04**	**127**	P	**Pg**	**05 49 25.1**	**-0.4**
SIRN				S	**Sn**	**05 49 41.2**	**-0.5**
SIRT	**Sirnak**	**1.05**	**126**	*e*PG	**Pg**	**05 49 25.4**	**-0.3**
SIRT	**Sirnak**	**1.05**	**126**	*e*Pg	**Pg**	**05 49 25.5**	**-0.3**
YEDI	**Yedisu-Bingol**	**1.46**	**334**	*e*PN	**Pn**	**05 49 32.7**	**+0.1**
YEDI	**Yedisu-Bingol**	**1.46**	**334**	*e*Pn	**Pn**	**05 49 32.7**	**+0.1**
SVRC	**Sivrice-ELAZID**	**1.65**	**279**	*e*PN	**Pb**	**05 49 36.0**	**-0.4**
SVRC	**Sivrice-ELAZID**	**1.65**	**279**	*e*Pn	**Pb**	**05 49 36.0**	**-0.4**
PTK	**Pertek**	**1.73**	**297**	*e*PN	**Pn**	**05 49 36.9**	**+0.5**
PTK	**Pertek**	**1.73**	**297**	*e*Pn	**Pn**	**05 49 36.9**	**+0.5**
AGRB	**Hanur-Agry**	**1.92**	**41**	*e*PN	**Pn**	**05 49 39.5**	**+0.5**
AGRB	**Hanur-Agry**	**1.92**	**41**	*e*Pn	**Pn**	**05 49 39.5**	**+0.5**
URFA	**Urfa**	**2.13**	**252**	*e*PN	**Pn**	**05 49 42.2**	**+0.3**
URFA	**Urfa**	**2.13**	**252**	*e*Pn	**Pn**	**05 49 42.2**	**+0.3**
SENK	**Senkaya-Erzuru**	**2.54**	**17**	*e*PN	**Pn**	**05 49 48.2**	**+0.6**
SENK	**Senkaya-Erzuru**	**2.54**	**17**	*e*Pn	**Pn**	**05 49 48.2**	**+0.6**

NIED ***02*** *05:57:00,36°.90N×141°.70E,h14km,Mw4.1 Best double couple: Ms1.58000×10^15 NP1:φs326.00000°,δ17.00000°, λ-122.00000°. NP2:φs179.00000°,δ76.00000°, λ-81.00000°.*
IDC ***02*** *05:57:01.6±0.7,36°.82N×142°.13E,h0km,mb4.0/9, mb1 4.2/12,mb1mx4.0/39,mbtmp4.0/12,ML4.0/3,MS3.2/7, Ms1 3.3/7,ms1mx3.0/43,Error ellipse: s-maj=22.6km s-min=16.6km az=127.0*
ISCJB ***02*** *05:57:02.9±0.3,36°.84N±0°.04×142°.03E±0°.04,h19km, mb4.5/23,MS3.4/3,Error ellipse: s-maj=5.9km s-min=4.8km az=147.0*
NEIC ***02*** *05:57:05.3±1.8,36°.84N×142°.06E,h23km±13km,mb4.7/14, Error ellipse: s-maj=6.8km s-min=4.6km az=122.0*
JMA ***02*** *05:57:07.1±0.3,36°.95N×141°.67E,h63km±4km,M3.7*

ISC 02 05:57:04.8±0.6,36°.92N±0°.06×141°.91E±0°.05,h19km,n62, σ1s26/57,mb4.4/23,MS3.3/3,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ONAJ	**Iwakimizuishiy**	**0.91**	**282**	P	**Pb**	**05 57 21.9**	**-0.1**
ONAJ				*e*S	**Sb**	**05 57 31.9**	**-1.8**
JFK	**Kawauchi**	**0.94**	**298**	P	**Pb**	**05 57 22.1**	**-0.4**
JHO	**Hitachi**	**1.12**	**254**	P	**Pn**	**05 57 24.4**	**-1.1**
JMM	**Marumori**	**1.30**	**317**	P	**Pn**	**05 57 27.3**	**-0.6**
MJAR	**Matsushiro Arr**	**3.00**	**264**	Pn	**Pn**	**05 57 53.1**	**+1.7**
	27nm,0.3s,baz=96,slow=12,SNR=189						
MJAR				Sn	**Sb**	**05 58 35.3**	**+1.5**
	10nm,0.3s,baz=50,slow=23,SNR=5.9						
MJAR				LR	LR	05 59 05.6	
	comp=Z,170nm,18.9s,baz=120,slow=40						
MAJO	**Matsushiro**	**3.00**	**264**	*e*Pn	**Pn**	**05 57 53.5**	**+2.1**
MAT	**Matsushiro**	**3.00**	**264**	P	**Pn**	**05 57 53.0**	**+1.6**
MAT				S	**Sn**	**05 58 22.2**	**-4.6**
MJB9	**Matsu-Tunnel**	**3.00**	**264**	*e*Pn	**Pn**	**05 57 53.5**	**+2.1**
JHJ2	**Mitsune**	**4.17**	**205**	*e*Pn	**Pn**	**05 58 07.7**	**+0.2**
JHJ2				*e*Sn	**Sn**	**05 58 57.3**	**+1.7**
JHJ	**Hachijo jima 2**	**4.18**	**205**	Pn	**Pn**	**05 58 07.5**	**-0.1**
	54nm,0.3s,baz=72,slow=20,SNR=5.2						
JHJ				Sn	**Sn**	**05 58 53.2**	**-2.6**
	47nm,0.3s,baz=72,slow=20,SNR=4.5						
ASAJ	**Asahikawa**	**7.21**	**4**	*e*Pn	**Pn**	**05 58 48.7**	**-0.4**
USRK	**Ussuriysk Ar.**	**10.47**	**317**	Pn	Pn	05 59 39.1	+5.2
	0.3nm,0.3s,baz=133,slow=14,SNR=3.1						
KSRS	**Korea Array**	**11.17**	**277**	Pn	**Pn**	**05 59 45.9**	**+2.4**
	0.2nm,0.3s,baz=95,slow=15,SNR=2.5						
KSRS				LR	LR	06 03 52.1	
	comp=Z,147nm,21.7s,baz=89,slow=36						
KS15	**Wonju Array Si**	**11.21**	**277**	*e*Pn	**Pn**	**05 59 45.9**	**+2.0**
KSAR	**Wonju Array Be**	**11.21**	**277**	Pn	**Pn**	**05 59 45.9**	**+2.0**
KLR	**Kur**	**14.35**	**332**	LR	LR	06 05 51.6	
	comp=Z,94nm,18.4s,baz=98,slow=36						
PETK	**Petropavlovsk-**	**19.59**	**29**	LR	LR	06 09 24.6	
	comp=Z,49nm,19.8s,baz=346,slow=38						
ENH	**Enshi**	**27.72**	**266**	*e*P	**P**	**06 02 51.8**	**-0.3**
	17nm,0.9s						
H11N2	**WAKE ISLAND Hy**	**27.75**	**121**	T	T	06 32 03.4	
	baz=314,slow=75,SNR=64						
H11N1	**WAKE ISLAND Hy**	**27.76**	**121**	T	T	06 31 50.3	
	baz=314,slow=75,SNR=48						
H11N3	**WAKE ISLAND Hy**	**27.77**	**121**	T	T	06 32 04.0	
	baz=314,slow=75,SNR=39						
SONA1	**Songino Array**	**28.18**	**304**	*e*P	**P**	**06 02 57.7**	**+1.6**
SONA0	**Songino Array**	**28.18**	**304**	*e*P	**P**	**06 02 57.4**	**+1.3**
	13nm,1.7s						
SONM	**Songino Array**	**28.18**	**304**	P	**P**	**06 02 57.4**	**+1.3**
	2.9nm,0.9s,baz=112,slow=10,SNR=9.1						
H11S1	**WAKE ISLAND Hy**	**28.46**	**123**	T	T	06 32 43.7	
	baz=316,slow=76,SNR=26						
H11S3	**WAKE ISLAND Hy**	**28.46**	**123**	T	T	06 33 09.7	
	baz=316,slow=76,SNR=24						
H11S2	**WAKE ISLAND Hy**	**28.48**	**123**	T	T	06 32 45.0	
	baz=316,slow=76,SNR=23						
CM31	**Chiang Mai Arr**	**41.85**	**256**	*e*P	**P**	**06 04 54.4**	**+0.6**
CMAR	**Chiang Mai Arr**	**41.85**	**256**	P	**P**	**06 04 54.4**	**+0.6**
	0.7nm,0.3s,baz=51,slow=7.5,SNR=4.5						
CMAR				LR	LR	06 23 50.7	
	comp=Z,40nm,18.2s,baz=205,slow=38						
KDAK	**Kodiak Island**	**46.92**	**42**	*e*P	**P**	**06 05 33.5**	**-0.3**
	78nm,1.8s						
JOHN	**Johnston Islan**	**47.21**	**102**	*e*P	**P**	**06 05 35.7**	**-0.8**
	286nm,1.1s						
TRF	**Thorofare Moun**	**47.90**	**34**	*e*P	**P**	**06 05 41.9**	**+0.3**
	12nm,0.9s						
MDM	**Murphy Dome**	**48.80**	**32**	*e*P	**P**	**06 05 49.1**	**+0.8**
	11nm,1.5s						
DHY	**Denali Highway**	**49.23**	**35**	*e*P	**P**	**06 05 51.1**	**-0.8**
	17nm,1.9s						
ILAR	**Eielson Array**	**49.38**	**32**	P	**P**	**06 05 52.5**	**-0.3**
	1.1nm,0.7s,baz=271,slow=6.6,SNR=16						
ILB	**Eielson Array**	**49.38**	**32**	*e*P	**P**	**06 05 52.5**	**-0.3**
IL1	**Eielson Array**	**49.38**	**32**	*e*P	**P**	**06 05 52.7**	**-0.1**
INK	**Inuvik**	**54.30**	**27**	P	**P**	**06 06 29.8**	**+0.4**
	1.4nm,0.6s,baz=295,slow=7.7,SNR=6.3						
INK	**Inuvik**	**54.30**	**27**	*e*P	**P**	**06 06 29.8**	**+0.4**
	12nm,1.7s						
WRAB	**Tennant Creek**	**57.00**	**188**	*e*P	**P**	**06 06 48.6**	**-0.7**
	24nm,1.6s						
WB2	**Warramunga Arr**	**57.01**	**188**	*e*P	**P**	**06 06 48.6**	**-0.7**
	16nm,1.6s						
WR1	**Warramunga Arr**	**57.01**	**188**	*e*P	**P**	**06 06 48.3**	**-1.0**
	19nm,1.7s						
WRA	**Warramunga Arr**	**57.01**	**188**	P	**P**	**06 06 48.3**	**-1.1**
	1.4nm,0.5s,baz=7.2,slow=7.1,SNR=21						
AS31	**Alice Springs**	**60.73**	**188**	*e*P	**P**	**06 07 14.1**	**-1.1**
	2.0nm,1.3s						
ASAR	**Alice Springs**	**60.73**	**188**	P	**P**	**06 07 14.1**	**-1.1**
	0.9nm,0.7s,baz=15,slow=7.7,SNR=9.9						
GEYT	**Alibeck**	**64.24**	**299**	LR	LR	06 39 43.6	
	comp=Z,50nm,18.3s,baz=140,slow=40						
FIA0	**FINESS Array S**	**69.10**	**332**	*e*P	**P**	**06 08 09.6**	**+0.4**
FINES	**FINESS Array B**	**69.10**	**332**	P	**P**	**06 08 09.6**	**+0.4**
	1.3nm,0.8s,baz=9.6,slow=10.0,SNR=3.3						
K05A	**Summer Lake**	**70.71**	**51**	*e*P	**P**	**06 08 20.5**	**+0.8**
	47nm,2.0s						
DLMT	**Dillon**	**74.14**	**45**	*e*P	**P**	**06 08 40.0**	**-0.1**
	8.4nm,1.5s						
NB201	**NORSAR Array S**	**74.41**	**337**	*e*P	**P**	**06 08 42.0**	**+0.8**
NOA	**NORSAR Array B**	**74.44**	**337**	LR	LR	06 48 26.7	
	comp=Z,13nm,18.6s,baz=15,slow=41						
BOZ	**Bozeman (W)**	**74.54**	**44**	*e*P	**P**	**06 08 42.6**	**+0.1**
	4.1nm,1.4s						
BW06	**Boulder Array**	**77.46**	**46**	*e*P	**P**	**06 08 59.2**	**0.0**
PDAR	**Pinedale Array**	**77.46**	**46**	P	**P**	**06 08 57.6**	**-1.6**
	0.3nm,0.7s,baz=343,slow=1.5,SNR=4.0						
TX31	**Lajitas Ar. Si**	**89.87**	**53**	*e*P	**P**	**06 10 02.8**	**0.0**
LTX	**Lajitas**	**89.87**	**53**	*e*P	**P**	**06 10 02.8**	**0.0**
TXAR	**Lajitas Array**	**89.87**	**53**	P	**P**	**06 10 02.8**	**0.0**
	0.9nm,0.7s,baz=301,slow=3.3,SNR=13						
SAML	**Samuel**	**144.04**	**46**	*e*PKPdf	**PKPdf**	**06 16 39.7**	**0.0**
LPAZ	**La Paz**	**146.40**	**60**	PKPbc	**PKPbc**	**06 16 45.4**	**-0.3**
	1.0nm,0.7s,baz=12,slow=4.9,SNR=5.3						
LPAZ	**La Paz**	**146.40**	**60**	*e*PKPdf	**PKPbc**	**06 16 45.3**	**-0.5**
LPAZ				*e*PKPbc	**PKPbc**	**06 16 45.4**	**-0.3**
RCBR	**Riachuelo**	**148.99**	**356**	*e*PKPdf	**PKPdf**	**06 16 47.5**	**-0.7**

NNC 02 06:02:07.1±5.3,50.08N×87.76E,h26km±34km,mb3.6, mpv3.1,10C-5D,Error ellipse: s-maj=33.0km s-min=15.2km az=100.0,Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZAA0	**Zalesovo Array**	**4.28**	**336**	⇓Pn	Pn	06 03 11.0	+0.4
	0.3nm,0.3s						
ZAA0				⇑Sn	Sn	06 03 59.8	+0.2
	0.6nm,0.6s						
ZAA0				⇑Lg	Lg	06 04 21.0	
	2.2nm,0.7s						
MK31	**Makanchi Array**	**4.90**	**230**	⇓Pn	Pn	06 03 21.0	+1.9
	4.3nm,0.6s,baz=49,slow=12,SNR=71						
MK31				⇑Sn	Sn	06 04 16.6	+1.7
	0.8nm,0.3s,baz=52,slow=28,SNR=5.1						
MK31				⇓Lg	Lg	06 04 39.8	
	6.9nm,0.6s,baz=53,slow=33,SNR=5.8						
MAKZ	**Makanchi**	**5.05**	**232**	⇑Pn	Pn	06 03 23.0	+1.8
	1.2nm,0.3s						
MAKZ				⇑Sn	Sn	06 04 19.5	+0.9
	1.5nm,0.3s						
MAKZ				⇓Lg	Lg	06 04 43.8	
	5.9nm,0.8s						
KURK	**Kurchatov**	**5.88**	**280**	⇑Pn	Pn	06 03 32.5	0.0
	1.4nm,0.6s						
KURK				⇑Sn	Sn	06 04 37.8	-1.2
	2.1nm,0.7s						
KURK				⇑Lg	Lg	06 05 12.9	
	3.4nm,0.6s						
KURBB	**Kurchatov Arra**	**5.94**	**279**	⇑Pn	Pn	06 03 33.0	-0.3
	1.7nm,0.5s						
KURBB				⇑Sn	Sn	06 04 38.2	-2.1
	3.3nm,0.5s						
KURBB				⇓Lg	Lg	06 05 14.4	
	13nm,0.6s						

IDC ***02*** *06:06:05.1±1.2,25°.29S×176°.80W,h0km,mb4.3/6, mb1 4.5/8,mb1mx4.2/25,mbtmp4.4/8,ML4.1/2,MS3.3/6, Ms1 3.3/6,ms1mx3.1/21,Error ellipse: s-maj=32.5km s-min=25.3km az=88.0*
ISCJB ***02*** *06:06:08.7±0.6,25°.54S±0°.06×176°.9W±0°.1,h33km, mb4.6/18,MS3.2/4, Error ellipse: s-maj=14.1km s-min=7.7km az=8.6*
NEIC ***02*** *06:06:13.7±1.6,25°.71S×176°.73W,h72km±13km,mb4.7/15, Error ellipse: s-maj=14.9km s-min=11.0km az=91.0*

ISC 02 06:06:10.5±0.6,25.73S±0.07×176.6W±0.1,h36km,n51, σ2s24/45,mb4.7/18,MS3.2/4,South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**3.69**	**198**	Pn	**Pn**	**06 07 07.1**	**+2.1**
	62nm,0.3s,baz=96,slow=12,SNR=7.1						
RAO				Sn	**Sn**	**06 07 51.9**	**+4.7**
	50nm,0.3s,baz=107,slow=19,SNR=3.9						
MSVF	**Nonsavu**	**9.36**	**327**	*e*Pn	**Pn**	**06 08 25.6**	**+2.6**
URZ	**Urewera**	**13.57**	**201**	Pn	**Pn**	**06 09 21.7**	**+1.4**
	0.2nm,0.3s,baz=0.0,slow=20,SNR=2.3						
URZ				Sn	**Sn**	**06 11 41.5**	**-8.2**
	0.4nm,0.3s,baz=342,slow=18,SNR=3.3						
BKZ	**Black Stump Fm**	**14.59**	**202**	*e*Pn	**P**	**06 09 38.2**	**-2.1**
HIZ	**Hauiti**	**14.63**	**207**	*e*Pn	**P**	**06 09 38.5**	**-2.2**
DZM	**Mont Dzumac**	**15.89**	**280**	LR	LR	06 13 36.2	
	comp=Z,64nm,20.9s,baz=186,slow=29						
BFZ	**Birch Farm**	**16.05**	**200**	*e*Pn	**Pn**	**06 09 52.7**	**-0.7**
	64nm,1.2s						
RAR	**Rarotonga**	**16.11**	**77**	LR	LR	06 13 42.9	
	comp=Z,86nm,21.7s,baz=270,slow=28						
SNZO	**South Karori**	**17.12**	**203**	*e*Pn	**P**	**06 10 07.3**	**-1.0**
	231nm,1.6s						
RPZ	**Rata Peaks**	**20.56**	**206**	LR	LR	06 18 03.2	
	comp=Z,122nm,21.1s,baz=348,slow=34						
WKZ	**Wanaka**	**22.30**	**208**	*e*P	**P**	**06 11 02.9**	**-1.8**
	180nm,1.5s						
WHZ	**Wether Hill Ro**	**23.61**	**208**	*e*P	**P**	**06 11 17.7**	**-0.3**
	105nm,1.5s						
PPT	**Papeete**	**26.39**	**78**	LR	LR	06 19 18.4	
	comp=Z,58nm,19.9s

5.3nm,0.5s,baz=95,slow=10,SNR=24

ASAR	**Alice Springs**	**45.18**	**256**	P	**P**	**06 47 46.6**	**-0.2**
	21nm,0.8s,baz=97,slow=7.5,SNR=146						
ASAR				PcP	**PcP**	**06 49 16.4**	**-0.3**
	1.0nm,0.6s,baz=88,slow=5.2,SNR=4.6						
ASAR				S	**S**	**06 53 47.2**	**-2.6**
	1.1nm,1.0s,baz=105,slow=14,SNR=5.6						
WRA	**Warramunga Arr**	**45.25**	**262**	P	**P**	**06 47 46.5**	**-0.9**
	7.5nm,0.5s,baz=98,slow=8.1,SNR=93						
VNDA	**Vanda**	**58.25**	**185**	P	**P**	**06 49 22.9**	**+2.5**
	0.8nm,1.1s,baz=50,slow=6.0,SNR=3.1						
TXAR	**Lajitas Array**	**86.38**	**57**	P	**P**	**06 52 06.4**	**+2.2**
	1.2nm,0.7s,baz=216,slow=6.5,SNR=18						
ILAR	**Eielson Array**	**87.90**	**13**	P	**P**	**06 52 09.7**	**-0.7**
	1.0nm,0.7s,baz=222,slow=6.0,SNR=13						
PDAR	**Pinedale Array**	**88.33**	**43**	P	**P**	**06 52 14.2**	**+1.0**
	0.9nm,0.6s,baz=212,slow=2.9,SNR=10						
CMAR	**Chiang Mai Arr**	**90.60**	**289**	P	**P**	**06 52 25.1**	**+1.2**
	1.4nm,0.7s,baz=114,slow=3.5,SNR=6.0						
FINES	**FINESS Array B**	**135.66**	**344**	PKhKP	PKPpre	06 58 33.8	
	0.4nm,0.4s,baz=90,slow=4.2,SNR=3.1						
AKASG	**Malin Array Be**	**143.05**	**332**	PKhKP	PKPpre	06 58 47.7	
	4.2nm,0.5s,baz=41,slow=4.5,SNR=12						
BRTR	**Keskin Array B**	**147.09**	**313**	PKPbc	**PKPbc**	**06 59 01.2**	**-0.6**
	2.2nm,0.6s,baz=140,slow=5.4,SNR=13						
CLL	**Collm**	**147.92**	**348**	*i* PKPbc	**PKPbc**	**06 59 03.3**	**0.0**
	comp=Z,12nm,0.9s						
BRG	**Berggiesshubel**	**148.13**	**346**	*i* P	**PKPbc**	**06 59 04.0**	**+0.1**
	comp=Z,5.7nm,0.6s						
GERES	**GERESS Array B**	**150.08**	**345**	PKPbc	**PKPbc**	**06 59 08.6**	**-0.2**
	comp=Z,2.7nm,0.8s,baz=40,slow=2.3,SNR=20						
TORD	**Torodi Ar. Bea**	**172.92**	**172**	PKP	**PKPdf**	**06 59 26.1**	**-1.0**
	comp=Z,0.9nm,0.9s,baz=116,slow=0.8,SNR=4.9						
TORD				PKPab	**PKPab**	**07 00 56.8**	**-0.2**
	comp=Z,0.2nm,0.5s,baz=177,slow=2.5,SNR=2.7						

SJA ***02*** *06:41:46.9±0.6,32.87S×70.18W,h134km±8km, ML3.6, MW3.7*

ISCJB ***02*** *06:41:49.2±1.3,32.77S±0.06×70.12W±0.08, h118km±13km, Error ellipse: s-maj=11.9km s-min=8.9km az=138.9*

GUC ***02*** *06:41:50.3±0.5,32.66S×70.13W,h92km±6km, ML3.6*

ISC 02 06:41:49.1±2.3, 32.80S±0.08×70.13W±0.07, h121km±19km, n24, σ0.57/29, 5C, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FCH	**Farellones**	**0.55**	**195**	⇑*i*P	**Pn**	**06 42 08.3**	**+0.5**
FCH				*i*S	**Sn**	**06 42 21.9**	**-0.1**
PEL	**Peldehue**	**0.58**	**233**	⇑*i*P	**Pn**	**06 42 07.7**	**-0.1**
PEL				*i*S	**Sn**	**06 42 20.9**	**-0.9**
PEL				IAML		06 42 22.1	
	comp=E,3µm,0.2s						
CLCH	**Cerro Calan**	**0.69**	**210**	⇑*i*P	**Pn**	**06 42 09.1**	**+0.5**
CLCH				*i*S	**Sn**	**06 42 23.3**	**0.0**
CLCH				IAML		06 42 24.6	
	comp=N,2µm,0.4s						
ROCH	**El Roble**	**0.77**	**256**	⇑*i*P	**Pn**	**06 42 09.4**	**+0.1**
ROCH				*i*S	**Sn**	**06 42 23.8**	**-0.8**
ROCH				IAML		06 42 25.5	
	comp=E,3µm,0.2s						
ROC1	**El Roble**	**0.77**	**256**	*e*P	**Pn**	**06 42 09.0**	**-0.4**
ROC1				*e*S	**Sn**	**06 42 24.4**	**-0.2**
ANTU	**Antumapu**	**0.88**	**209**	⇑*i*P	**Pn**	**06 42 10.9**	**+0.8**
ANTU				*i*S	**Sn**	**06 42 26.8**	**+0.7**
ANTU				IAML		06 42 27.3	
	comp=E,2µm,0.3s						
ARCO	**CERRO ARCO**	**1.01**	**93**	*e*P	**Pn**	**06 42 11.7**	**+0.2**
ARCO				IAML		06 42 29.9	
	comp=Z,603nm,0.3s						
ASAL	**Salagasta**	**1.11**	**80**	*e*P	**Pn**	**06 42 12.6**	**+0.2**
AAGR	**Agrelo**	**1.13**	**105**	*e*P	**Pn**	**06 42 12.6**	**0.0**
RTCV	**Cerro Valdivia**	**1.63**	**56**	*e*P	**Pn**	**06 42 18.6**	**+0.4**
SJA	**San Juan**	**1.83**	**47**	*e*P	**Pn**	**06 42 20.9**	**+0.3**
SJA				IAML		06 42 23.2	
	comp=Z,197nm,0.2s						
RTLL	**Cerro Villicun**	**2.02**	**44**	*e*P	**Pn**	**06 42 23.6**	**+0.7**
AMOG	**MOGNA**	**2.31**	**37**	*e*P	**Pn**	**06 42 27.1**	**+0.5**
ACCO	**Cerro Coronel**	**2.38**	**23**	*e*P	**Pn**	**06 42 28.5**	**+0.8**
ACAN	**Cantantal**	**2.54**	**79**	*e*P	**Pn**	**06 42 29.4**	**0.0**
AROD	**Rodeo**	**2.68**	**12**	*e*P	**Pn**	**06 42 32.7**	**+1.1**
TLL	**Tololo Astrono**	**2.68**	**347**	*e*P	**Pn**	**06 42 31.6**	**+0.1**
TLL				*i*S	**Sn**	**06 43 03.1**	**-1.0**
TLL				IAML		06 43 13.2	
	comp=E,234nm,0.3s						
ACDV	**Cuesta del Vie**	**2.75**	**18**	*e*P	**Pn**	**06 42 33.0**	**+0.6**
AGUA	**GUANDACOL**	**3.58**	**23**	*e*P	**Pn**	**06 42 43.6**	**+0.4**
MRA	**San Martin**	**3.74**	**85**	*e*P	**Pn**	**06 42 45.2**	**-0.1**
MRA				IAML		06 43 47.6	
	comp=Z,56nm,0.5s						
VCA	**Vinchina**	**4.37**	**23**	*e*P	**Pn**	**06 42 54.2**	**+0.5**
VCA				IAML		06 43 49.3	
	comp=Z,69nm,0.4s						
TCA	**Tanti**	**4.92**	**74**	*e*P	**Pn**	**06 43 00.6**	**-0.4**
TCA				IAML		06 43 02.2	
	comp=Z,35nm,0.3s						
CYA	**Choya**	**5.72**	**42**	IAML		06 43 10.2	
	comp=Z,49nm,0.3s						
AHML	**Horco Molle**	**7.29**	**36**	IAML		06 43 32.0	
	comp=Z,7.4nm,0.2s						

MEX 02 06:53:03.3±1.0, 17.01N×95.58W, h122km±11km, MD3.9, Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMIG	**Matias Romero**	**0.67**	**83**	*e*P	Pn	06 53 20.4	-2.2
OXBJ	**Oaxaca**	**1.10**	**273**	*i*P	Pn	06 53 25.5	-1.2
OXBJ				*i*S	Sn	06 53 42.9	-1.6
VHO	**Vista Hermosa**	**1.11**	**273**	*i*P	Pn	06 53 25.9	-0.9
VHO				*e*S	Sn	06 53 42.5	-2.1
HUIG	**Huatulco**	**1.34**	**203**	*i*P	Pn	06 53 28.5	-0.6
HUIG				*e*S	Sn	06 53 46.5	-2.2
TPIG	**Tehuac#an**	**2.20**	**310**	*e*P	Pn	06 53 38.3	-1.3
TPIG				*i*S	Sn	06 54 06.5	-0.9
TGIG		**2.36**	**95**	*i*P	Pn	06 53 41.1	-0.4
TGIG				*i*S	Sn	06 54 09.5	-1.3
PNIG	**Pinotepa**	**2.52**	**256**	*i*P	Pn	06 53 41.7	-1.8
PNIG				*e*S	Sn	06 54 11.9	-2.5

IDC 02 06:53:21.1±3.9, 13.27S×66.94E, h0km, mb3.7/3, mb1 4.0/3, mb1mx3.5/33, mbtmp3.7/3, MS3.5/3, Ms1 3.5/3, ms1mx3.0/38, Error ellipse: s-maj=322.3km s-min=30.3km az=32.0, Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H08S1	**Diego Carcia H**	**7.80**	**45**	T	T	07 04 59.9	
	baz=222,slow=75,SNR=286						
H08S2	**Diego Garcia H**	**7.81**	**45**	T	T	07 04 53.0	
	baz=222,slow=75,SNR=182						
H08S3	**Diego Garcia H**	**7.81**	**45**	T	T	07 04 54.4	
	baz=222,slow=75,SNR=250						
H08N3	**Diego Garcia H**	**7.95**	**31**	T	T	07 05 20.3	
	baz=210,slow=76,SNR=327						
H08N1	**Diego Carcia H**	**7.96**	**31**	T	T	07 05 12.8	
	baz=210,slow=76,SNR=313						
H08N2	**Diego Garcia H**	**7.97**	**30**	T	T	07 05 16.0	
	baz=210,slow=76,SNR=359						
PSI	**Prapat**	**35.53**	**66**	LR	LR	07 12 15.9	
	comp=Z,224nm,20.4s,baz=266,slow=32						
WSAR	**Wadi Sarin**	**37.18**	**347**	LR	LR	07 12 13.0	
	comp=Z,57nm,18.2s,baz=63,slow=30						
BOSA	**Boshof**	**41.59**	**242**	LR	LR	07 16 06.0	
	comp=Z,30nm,19.3s,baz=20,slow=33						
H01W3	**Cape Leeuwin H**	**47.64**	**125**	T	T	07 52 51.6	
	baz=283,slow=75,SNR=12						
H01W2	**Cape Leeuwin H**	**47.65**	**125**	T	T	07 52 56.3	
	baz=283,slow=75,SNR=7.9						
H01W1	**Cape Leeuwin H**	**47.66**	**125**	T	T	07 53 02.3	
	baz=283,slow=75,SNR=9.1						
ASAR	**Alice Springs**	**63.87**	**110**	P	P	07 03 56.2	+0.1
	0.3nm,0.7s,baz=278,slow=6.5,SNR=3.8						
WRA	**Warramunga Arr**	**64.57**	**106**	P	P	07 04 00.3	-0.4
	1.2nm,0.7s,baz=272,slow=5.7,SNR=4.6						
ESDC	**Sonseca Array**	**84.21**	**313**	P	P	07 05 54.3	-0.4
	0.2nm,0.3s,baz=95,slow=4.5,SNR=4.1						
PDAR	**Pinedale Array**	**150.45**	**355**	PKPbc	PKPbc	07 13 15.8	+0.6
	0.4nm,0.6s,baz=72,slow=4.8,SNR=4.5						
TXAR	**Lajitas Array**	**161.79**	**333**	PKPab	PKPab	07 14 09.6	-0.6
	0.3nm,0.9s,baz=98,slow=4.6,SNR=3.5						

JMA ***02*** *07:00:55.0±0.1,22.75N×121.47E,h8km±3km,M3.8*

ISCJB ***02*** *07:00:57.3±0.5,22.81N±0.02×121.42E±0.02,h13km±3km, Error ellipse: s-maj=3.1km s-min=2.7km az=168.4*

TAP ***02*** *07:00:58.7,22.87N×121.25E,h14km, ML3.8,B*

ISC 02 07:00:57.4±1.0, 22.83N±0.02×121.36E±0.02, h12km±8km, n64, σ0.80/101, 14C-4D, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TTN	**Taitung**	**0.21**	**249**	⇓*i*P	**Pb**	**07 01 03.2**	**0.0**
	baz=207						
TTN				*e*S	**Sg**	**07 01 06.6**	**+1.5**
	baz=207						
CHKT	**Chengkung**	**0.27**	**0**	⇓*i*P	**Pb**	**07 01 04.5**	**+0.5**
	baz=27						
CHKT				S	**Sb**	**07 01 09.2**	**+0.6**
	baz=27						
TWG	**Pinlang**	**0.27**	**268**	⇓P	**Pb**	**07 01 03.3**	**-0.8**
	baz=251						
TWG				*e*S	**Sb**	**07 01 07.5**	**-1.2**
	baz=251						
ECL	**Taimali**	**0.45**	**238**	⇑*i*P	**Pb**	**07 01 06.1**	**-1.0**
	baz=234						
ELDTW	**Lidau**	**0.48**	**318**	⇑*i*P	**Pg**	**07 01 06.6**	**-0.2**
	baz=327						
TWF1	**Yuli**	**0.52**	**353**	⇑*i*P	**Pg**	**07 01 08.0**	**+0.3**
	baz=351						
TWF1				*e*S	**Sb**	**07 01 16.6**	**+0.6**
	baz=351						
TAW	**Tawu**	**0.64**	**223**	P	**Pb**	**07 01 09.8**	**-0.6**
	baz=222						
TAW				S	**Sb**	**07 01 17.9**	**-1.4**
	baz=222						
STYT	**Tauyuan**	**0.65**	**301**	⇑*i*P	**Pg**	**07 01 09.6**	**-0.5**
	baz=303						
STYT				S	**Sg**	**07 01 17.7**	**-0.9**
	baz=303						
EAST	**Anshuo**	**0.65**	**227**	⇑*i*P	**Pb**	**07 01 10.0**	**-0.7**
	baz=226						
EHY	**Hungye**	**0.67**	**357**	*e*P	**Pb**	**07 01 11.6**	**+0.5**
	baz=6.0						
YUS	**Yu-Shan**	**0.76**	**330**	⇑P	**Pg**	**07 01 12.0**	**-0.1**
	baz=336						
YUS				*i*S	**Sg**	**07 01 21.4**	**-0.8**
	baz=336						
SGST	**Jiashian**	**0.76**	**289**	*e*P	**Pb**	**07 01 12.1**	**-0.5**
	baz=294						
WTP	**Ta-pu**	**0.81**	**301**	⇑*i*P	**Pb**	**07 01 12.9**	**-0.4**
	baz=303						
WTP				*i*S	**Sb**	**07 01 23.8**	**-0.3**
	baz=303						
LAY	**Lan-yu**	**0.81**	**168**	*e*P	**Pb**	**07 01 13.3**	**0.0**
	baz=149						
SGLT	**Jiouru**	**0.81**	**263**	*e*P	**Pb**	**07 01 13.5**	**+0.1**
	baz=258						
SCZT	**Fangliau**	**0.83**	**236**	⇑*i*P	**Pb**	**07 01 13.0**	**-0.6**
	baz=229						
CHN1	**Nanshi**	**0.85**	**295**	⇑*i*P	**Pb**	**07 01 13.9**	**-0.1**
	baz=300						
CHN1				S	**Sb**	**07 01 25.4**	**0.0**
	baz=300						
ALS	**Alishan**	**0.85**	**323**	⇑*i*P	**Pg**	**07 01 13.8**	**-0.1**
	baz=336						
ALS				*e*S	**Sg**	**07 01 25.1**	**+0.1**
	baz=336						
TWM1	**Shoushan**	**0.87**	**270**	*e*P	**Pb**	**07 01 14.4**	**0.0**
	baz=267						
CHN4	**Tsaushan**	**0.88**	**306**	⇑*i*P	**Pb**	**07 01 14.4**	**-0.2**
	baz=308						
CHN4				*e*S	**Sn**	**07 01 27.4**	**-0.8**
	baz=308						
TWK	**Hsinying**	**0.92**	**298**	*e*P	**Pg**	**07 01 14.9**	**-0.2**
	baz=300						
TWK				*e*S	**Sb**	**07 01 27.7**	**+0.4**
	baz=300						
WDT	**Danda**	**0.94**	**347**	⇑P	**Pg**	**07 01 15.0**	**-0.7**
	baz=353						
WDT				*e*S	**Sg**	**07 01 27.7**	**-0.4**
	baz=353						
CHN3	**Shinhua**	**0.95**	**285**	*e*P	**Pn**	**07 01 16.5**	**0.0**
	baz=284						
CHN3				*e*S	**Sn**	**07 01 31.6**	**+1.6**
	baz=284						
ESL	**Shilin**	**0.98**	**4**	*e*P	**Pg**	**07 01 16.1**	**-0.2**
	baz=10.0						
CHN5	**Tsauling**	**0.99**	**320**	⇑*i*P	**Pg**	**07 01 16.3**	**-0.2**
	baz=331						
CHN5				*e*S	**Sb**	**07 01 30.2**	**+0.7**
	baz=331						
HEN	**Hengchun**	**1.01**	**215**	*e*P	**Pn**	**07 01 18.1**	**+0.9**
	baz=209						
HEN				*e*S	**Sn**	**07 01 33.5**	**+2.2**
	baz=209						
KAU	**Kaohsiung**	**1.01**	**255**	*e*P	**Pn**	**07 01 19.2**	**+1.9**
	baz=252						
TSEB	**Hengchuen, Pin**	**1.02**	**205**	*e*P	**Pn**	**07 01 19.4**	**+1.9**
	baz=188						
TSEB				*e*S	**Sn**	**07 01 31.2**	**-0.5**
	baz=188						
TWK1	**Hengchun**	**1.02**	**210**	⇓*e*P	**Pg**	**07 01 15.9**	**-1.2**
	baz=190						
TWP	**Hsiaoliuchiu**	**1.04**	**243**	*e*P	**Pn**	**07 01 19.7**	**+1.9**
	baz=238						
CHN2	**Minshiung**	**1.07**	**311**	*e*P	**Pn**	**07 01 18.2**	**0.0**
	baz=312						
CHN2				*e*S	**Sn**	**07 01 33.1**	**+0.1**
	baz=312						
CHY	**Chiayi**	**1.09**	**308**	⇑P	**Pg**	**07 01 18.3**	**-0.1**
	baz=309						
CHY				*e*S	**Sn**	**07 01 33.0**	**-0.4**
	baz=309						
WGK	**Gukeng**	**1.12**	**319**	*e*P	**Pg**	**07 01 18.9**	**-0.2**
	baz=321						
WGK				*e*S	**Sn**	**07 01 34.3**	**0.0**
	baz=321						
SMLT	**Sun Moon Lake**	**1.13**	**338**	*e*P	**Pn**	**07 01 19.4**	**+0.3**
	baz=349						
SMLT				*e*S	**Sn**	**07 01 34.6**	**+0.1**
	baz=349						
TYC	**Yuchr**	**1.16**	**336**	*e*P	**Pg**	**07 01 19.8**	**0.0**
	baz=350						
TYC				*e*S	**Sn**	**07 01 36.5**	**+1.3**
	baz=350						
CHN8	**Yiju**	**1.18**	**296**	*e*P	**Pb**	**07 01 18.4**	**-1.3**
	baz=296						
CHN8				*e*S	**Sn**	**07 01 35.9**	**+0.3**
	baz=296						
WNT	**Mingjian**	**1.21**	**329**	P	**Pg**	**07 01 20.9**	**+0.2**
	baz=330						
WNT				*e*S	**Sn**	**07 01 37.9**	**+1.4**
	baz=330						
TWD	**Chiawan**	**1.26**	**10**	*e*P	**Pn**	**07 01 19.6**	**-1.1**
	baz=12						
WHF	**Hehuan Shan**	**1.31**	**356**	*e*P	**Pn**	**07 01 20.9**	**-1.0**
	baz=9.0						
WHF				*e*S	**Sb**	**07 01 37.5**	**-1.6**
	baz=9.0						
WSF	**Szhu**	**1.32**	**308**	*e*P	**Pn**	**07 01 21.1**	**-0.5**
	baz=307						
WSF				*e*S	**Sg**	**07 01 39.6**	**-0.4**
	baz=307						
TWT	**Tachien**	**1.43**	**353**	*e*P	**Pn**	**07 01 23.0**	**-0.2**
	baz=7.0						
TCU	**Taichung**	**1.45**	**334**	*e*P	**Pg**	**07 01 25.6**	**+0.3**
	baz=332						
TCU				*e*S	**Sg**	**07 01 44.3**	**+0.1**
	baz=332						
NNS	**Nan Shan**	**1.60**	**0**	*e*P	**Pn**	**07 01 26.1**	**+0.5**
	baz=15						
TWQ1	**Liyutan**	**1.60**	**340**	*e*P	**Pb**	**07 01 27.0**	**+0.1**
	baz=336						
TWQ1				*e*S	**Sb**	**07 01 48.3**	**+1.2**
	baz=336						
ENA	**Nanau**	**1.63**	**12**	*e*P	**Pn**	**07 01 26.0**	**+0.2**
	baz=12						
NSY	**Sanyi**	**1.67**	**341**	*e*P	**Pb**	**07 01 27.9**	**-0.2**
	baz=337						
NSY				*e*S	**Sg**	**07 01 50.6**	**-0.6**
	baz=337						
ENTT	**Nioudou**	**1.81**	**6**	*e*P	**Pn**	**07 01 29.1**	**+0.8**
	baz=18						
PNG	**Penghu**	**1.82**	**294**	*e*P	**Pn**	**07 01 27.9**	**-0.5**
	baz=280						
NSTT	**Nanjuang**	**1.82**	**350**	*e*P	**Pn**	**07 01 29.7**	**+1.2**
	baz=358						
NSTT				S	**Sb**	**07 01 53.3**	**-0.1**
	baz=358						
TWC	**Suao**	**1.82**	**14**	*e*P	**Pn**	**07 01 29.5**	**+1.0**
	baz=12						
NSK	**Sanguang**	**1.83**	**360**	*e*P	**Pn**	**07 01 29.1**	**+0.3**
	baz=13						
TWE	**Neicheng**	**1.90**	**8**	*e*P	**Pn**	**07 01 31.0**	**+1.4**
	baz=7.0						
EGS		**2.07**	**14**	*e*P	**Pb**	**07 01 34.5**	**-0.3**
	baz=11						
YOJ	**Yonaguni jima**	**2.22**	**43**	*e*P	**Pn**	**07 01 34.0**	**+0.1**
	baz=46						
YOJ	**Yonaguni jima**	**2.22**	**43**	P	**Pn**	**07 01 35.2**	**+1.3**
YOJ				*e*S	**Sn**	**07 02 00.8**	**-0.4**
TWB1	**Santiao Chiao**	**2.24**	**15**	*e*P	**Pn**	**07 01 34.2**	**0.0**
	baz=11						
NWF	**Wu-fen Shan**	**2.26**	**10**	*e*P	**Pn**	**07 01 34.6**	**0.0**
	baz=5.0						
HATJ	**Hateruma jima**	**2.55**	**61**	P	**Pn**	**07 01 38.4**	**-0.1**
HATJ				S	**Sn**	**07 02 08.1**	**-1.4**
IRIF	**Iriomote-Funau**	**2.64**	**55**	*e*S	**Sn**	**07 02 12.1**	**+0.5**
JKRS	**Kuro-shima**	**2.80**	**60**	P	**Pn**	**07 01 42.9**	**+0.9**
JKRS				*e*S	**Sn**	**07 02 15.9**	**+0.2**
JIJ	**Ishigaki jima**	**2.97**	**59**	P	**Pn**	**07 01 44.7**	**+0.4**
JIJ				*e*S	**Sn**	**07 02 19.1**	**-0.7**
JISG	**Ishigakijimahi**	**3.22**	**57**	P	**Pn**	**07 01 47.4**	**-0.3**
JISG				S	**Sn**	**07 02 25.9**	**0.0**
JTJ	**Tarama**	**3.55**	**59**	P	**Pn**	**07 01 52.5**	**+0.3**
JTJ				*e*S	**Sn**	**07 02 33.9**	**-0.2**
JIRB	**Irabujima**	**4.01**	**60**	P	**Pn**	**07 01 59.9**	**+1.3**
JIRB				*e*S	**Sn**	**07 02 45.4**	**-0.2**

ISCJB ***02*** *07:09:31.1±0.3,3.69N±0.03×95.70E±0.03,h38km, mb4.6/38,MS3.4/4, Error ellipse: s-maj=5.7km s-min=3.4km az=43.7*

DJA ***02*** *07:09:34.5±0.8,4.7N±3.3×9.6E±.7,h17km±6km,M4.8/11, mb4.8/11,mB5.4/5,MLv4.8/11,Mw(mB)4.9/5*

NEIC ***02*** *07:09:35.2±1.1,3.73N×95.86E,h60km±9km,mb4.6/18, Error ellipse: s-maj=12.8km s-min=5.2km az=63.0*

NEIC Felt at Banda Aceh.

KLM ***02*** *07:09:35.3,3.63N×95.74E,h60km,mb4.7*

IDC ***02*** *07:09:35.3±0.7,3.84N×96.01E,h56km±4km,mb4.0/16, mb1 4.1/17,mb1mx3.9/41,mbtmp4.3/17, MS3.2/2, Ms1 3.3/2,ms1mx2.7/51, Error ellipse: s-maj=21.2km s-min=9.1km az=37.0*

ISC 02 07:09:33.1±0.4, 3.70N±0.05×95.79E±0.05, h38km, n115, σ1.968/129, mb4.6/38, MS3.4/4, 4C-7D, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MLSI	**Meulaboh, Aceh**	**0.83**	**47**	P	**Pn**	**07 09 49.9**	**+1.6**
MLSI				S	**Sn**	**07 09 59.8**	**+0.5**
TPTI		**1.45**	**108**	P	**Pn**	**07 09 58.5**	**+1.7**
TPTI				S	**Sn**	**07 10 14.0**	**-0.7**
LHMI	**Lhok Sumawe**	**1.90**	**37**	P	**Pn**	**07 10 07.0**	**+3.9**
LHMI				S	**Sn**	**07 10 30.0**	**+4.2**
LHMI	**Lhok Sumawe**	**1.90**	**37**	*e*Pn	**Pn**	**07 10 05.5**	**+2.4**
KCSI	**Kotacane, Aceh**	**1.98**	**95**	P	**Pn**	**07 10 06.2**	**+2.0**
KCSI				S	**Sn**	**07 10 29.4**	**+1.6**
TSI	**Tuntungan**	**2.77**	**94**	P	**Pn**	**07 10 16.8**	**+1.8**
PSI	**Prapat**	**3.25**	**106**	P	**Pn**	**07 10 24.0**	**+2.3**
	15nm,0.3s,baz=302,slow=8.1,SNR=58						
PSI				S	**Sn**	**07 10 59.1**	**-0.2**
	29nm,0.3s,baz=315,slow=11,SNR=5.4						
PSI	**Prapat**	**3.25**	**106**	*e*Pn	**Pn**	**07 10 24.3**	**+2.6**
PSI				S	**Sn**	**07 10 59.1**	**-0.2**
PBSI	**Pulau Batu**	**4.48**	**146**	P	**Pn**	**07 10 40.4**	**+1.8**
MNSI	**Mandailing Nat**	**4.76**	**127**	P	**Pn**	**07 10 44.2**	**+1.9**
KULM	**Kulim**	**5.09**	**72**	*e*Pn	**Pn**	**07 10 47.4**	**+0.5**
KULM				*e*Sn	**Sn**	**07 11 43.3**	**-1.3**
KULM	**Kulim**	**5.09**	**72**	⇑P	**Pn**	**07 10 48.5**	**+1.6**
KRAB	**Krabi**	**5.62**	**37**	P	**Pn**	**07 10 55.6**	**+1.4**
	213nm,0.6s,5µm1.5nm						
TRTT	**Trang**	**5.65**	**43**	P	**Pn**	**07 10 55.4**	**+0.8**
FRIM	**Kepong**	**5.84**	**94**	⇑P	**Pn**	**07 10 59.7**	**+2.5**
SKLT	**Songkhla**	**5.91**	**54**	P	**Pn**	**07 10 59.2**	**+1.0**
	206nm,0.8s,2µm0.7nm						
SISI	**Saibi**	**5.99**	**147**	P	**Pn**	**07 11 01.1**	**+1.9**
	76nm,0.6s,0.4nm						
SURT	**Suratan**	**6.01**	**30**	P	**Pn**	**07 11 00.7**	**+1.1**
	38nm,0.6s,531nm0.2nm						
PPI	**Padang Panjang**	**6.18**	**132**	P	**Pn**	**07 11 03.7**	**+1.8**
BKNI	**Bangkinang**	**6.22**	**122**	P	**Pn**	**07 11 04.2**	**+1.7**
BKNI	**Bangkinang**	**6.22**	**122**	*e*Pn	**Pn**	**07 11 03.5**	**+1.0**
PDSI	**Padang**	**6.54**	**134**	P	**Pn**	**07 11 07.7**	**+0.8**
	28nm,0.4s						
KTGM	**Kuala Trenggan**	**7.50**	**77**	⇓P	**Pn**	**07 11 21.1**	**+1.2**
KGM	**Kluang**	**7.70**	**102**	⇓P	**Pn**	**07 11 25.6**	**+2.9**
MYKOM	**Kota Tinggi**	**8.27**	**103**	*e*Pn	**Pn**	**07 11 31.8**	**+1.2**
MYKOM	**Kota Tinggi**	**8.27**	**103**	⇓P	**Pn**	**07 11 32.7**	**+2.1**
MNAI	**Manna**	**10.74**	**138**	*e*Pn	**Pn**	**07 12 04.5**	**0.0**
MDSI	**Maura Dua**	**11.68**	**134**	P	**Pn**	**07 12 17.8**	**+0.5**
	34nm,0.8s,548nm						
PBKT	**Sadao Pong**	**13.76**	**21**	P	**P**	**07 12 50.7**	**-2.9**
	22nm,0.6s						
SUKH	**Sukhothai**	**14.20**	**15**	P	**P**	**07 12 58.9**	**+0.4**
	4.2nm,0.7s						
KSM	**Kuching**	**14.67**	**98**	⇑P	**Pn**	**07 12 59.3**	**+1.2**
UBPT	**Khong Chiam**	**14.94**	**39**	P	**P**	**07 13 08.4**	**+1.6**
CMAR	**Chiang Mai Arr**	**14.98**	**12**	P	**Pn**	**07 13 04.2**	**+1.9**
	1.0nm,0.3s,baz=201,slow=12,SNR=18						
CMAR				LR	LR	07 19 09.9	
	comp=Z,78nm,19.2s,baz=202,slow=39						
DLV	**T Lat**	**15.00**	**56**	*e*Pn	**P**	**07 13 07.5**	**-0.1**
LAMP	**Lampang**	**15.20**	**14**	P	**P**	**07 13 10.9**	**+1.2**
	6.1nm,0.7s						
**CH

LZH	**Lanzhou**	**33.07**	**12**	*eP*	**P**		**07 16 04.6**	**-0.8**
LZH				pP	pP		07 16 16.4	+0.2
LZH				sP	sP		07 16 21.0	+0.2
LZH				pmax	pmax			
	comp=Z,20nm,1.0s							
LZH				pmax	pmax			
	comp=Z,130nm,5.2s							
GTA	**Gaotai**	**35.73**	**5**	P	**P**		**07 16 27.3**	**-1.1**
GTA				S	**S**		**07 22 00.0**	**-2.9**
GTA				sS	sS		07 22 20.4	-0.4
GTA				pmax	pmax			
	comp=Z,8.0nm,0.9s							
GTA				pmax	pmax			
	comp=Z,80nm,5.2s							
GTA				LR	LR			
	comp=N,150nm,13.8s							
GTA				LR	LR			
	comp=E,130nm,13.8s							
GTA				LR	LR			
	comp=Z,87nm,15.7s							
FITZ	**Fitzroy Crossi**	**36.54**	**127**	*eP*	**P**		**07 16 34.1**	**-1.3**
	comp=Z,2.9nm,0.8s							
FAKI	**Fak Fak**	**37.02**	**100**	*eP*	**P**		**07 16 39.4**	**-0.2**
	comp=Z,16nm,1.0s							
HHC	**Hu-ho-hao-te**	**39.62**	**19**	*eP*	**P**		**07 17 04.1**	**+2.9**
HHC				sP	sP		07 17 21.8	+5.2
HHC				PP	**PnPn**		**07 18 40.0**	**+4.1**
HHC				S	S		07 24 36.6	+95
HHC				pmax	pmax			
	comp=Z,14nm,1.2s							
HHC				pmax	pmax			
	comp=Z,130nm,5.0s							
HHC				LR	LR			
	comp=N,200nm,13.6s							
HHC				LR	LR			
	comp=E,270nm,17.3s							
HHC				LR	LR			
	comp=Z,170nm,16.0s							
KSH	**Kashi**	**39.93**	**336**	*eP*	**P**		**07 17 02.4**	**-1.4**
KSH				pP	pP		07 17 14.6	-0.1
KSH				PP	**PnPn**		**07 18 39.9**	**+0.3**
KSH				S	**S**		**07 23 00.9**	**-5.6**
KSH				sS	sS		07 23 22.0	-2.5
KSH				SS	ScS		07 26 54.3	-14
KSH				pmax	pmax			
	comp=Z,3.0nm,0.5s							
KSH				pmax	pmax			
	comp=Z,83nm,5.6s							
KSH				LR	LR			
	comp=N,78nm,6.1s							
KSH				LR	LR			
	comp=E,100nm,5.0s							
KSH				LR	LR			
	comp=Z,100nm,5.7s							
WMQ	**Urumqi**	**40.59**	**351**	P	**P**		**07 17 10.2**	**+1.0**
WMQ				pP	sP		07 17 23.9	-0.7
WMQ				sP	pP		07 17 30.2	+10
WMQ				pmax	pmax			
	comp=Z,11nm,0.8s							
WMQ				pmax	pmax			
	comp=Z,71nm,4.1s							
WMQ				LR	LR			
	comp=N,24nm,25.5s							
WMQ				LR	LR			
	comp=Z,15nm,22.1s							
MK01	**Makanchi Array**	**44.47**	**347**	*eP*	**P**		**07 17 39.8**	**-0.8**
MK31	**Makanchi Array**	**44.49**	**347**	*eP*	**P**		**07 17 40.1**	**-0.7**
MKAR	**Makanchi Array**	**44.49**	**347**	*eP*	**P**		**07 17 40.1**	**-0.7**
	comp=Z,46nm,0.5s							
WRA	**Warramunga Arr**	**44.56**	**123**	P	**P**		**07 17 41.1**	**-0.6**
	comp=Z,3.6nm,0.8s,baz=303,slow=9.1,SNR=21							
WRAB	**Tennant Creek**	**44.57**	**123**	*eP*	**P**		**07 17 41.9**	**+0.2**
	comp=Z,9.5nm,0.6s							
WB2	**Warramunga Arr**	**44.57**	**123**	*eP*	**P**		**07 17 41.2**	**-0.6**
	comp=Z,7.1nm,0.6s							
MAKZ	**Makanchi**	**44.58**	**346**	*eP*	**P**		**07 17 40.9**	**-0.5**
	comp=Z,9.1nm,0.5s							
KSAR	**Wonju Array Be**	**44.62**	**37**	P	**P**		**07 17 41.0**	**-1.0**
KSRS	**Korea Array**	**44.65**	**37**	P	**P**		**07 17 41.0**	**-1.2**
	comp=Z,1.1nm,0.6s,baz=226,slow=10,SNR=4.2							
SONM	**Songino Array**	**44.91**	**10**	P	**P**		**07 17 43.2**	**-1.0**
	comp=Z,11nm,0.7s,baz=189,slow=8.5,SNR=28							
SONM				PcP	**PcP**		**07 19 25.3**	**+0.1**
	comp=Z,1.4nm,0.6s,baz=199,slow=2.0,SNR=4.2							
SONA1	**Songino Array**	**44.92**	**10**	*eP*	**P**		**07 17 43.5**	**-0.8**
ULN	**Ulaanbaatar**	**45.05**	**11**	*eP*	**P**		**07 17 44.3**	**-1.1**
	comp=Z,5.8nm,0.6s							
AS31	**Alice Springs**	**46.03**	**128**	*eP*	**P**		**07 17 53.1**	**-0.2**
	comp=Z,2.7nm,1.4s							
ASAR	**Alice Springs**	**46.03**	**128**	P	**P**		**07 17 52.9**	**-0.4**
	comp=Z,1.4nm,0.4s,baz=301,slow=7.7,SNR=20							
AS01	**Alice Springs**	**46.06**	**128**	*eP*	**P**		**07 17 53.2**	**-0.4**
FORT	**Forrest**	**46.09**	**140**	*eP*	**P**		**07 17 54.8**	**+1.1**
	comp=Z,2µm,1.8s							
GEYT	**Alibeck**	**48.41**	**320**	P	**P**		**07 18 13.8**	**+2.1**
	comp=Z,2.0nm,0.6s,baz=119,slow=11,SNR=3.2							
GEYT				pP	**sP**		**07 18 27.9**	**+0.6**
	comp=Z,2.2nm,0.5s,baz=193,slow=12,SNR=2.9							
KURK	**Kurchatov**	**49.03**	**346**	*eP*	**P**		**07 18 15.1**	**-1.0**
	comp=Z,3.2nm,0.6s							
ZAA0	**Zalesovo Array**	**50.89**	**352**	*eP*	**P**		**07 18 29.5**	**-0.7**
ZALV	**Zalesovo Beam**	**50.89**	**352**	P	**P**		**07 18 29.5**	**-0.7**
	comp=Z,17nm,0.5s,baz=181,slow=7.6,SNR=62							
USRK	**Ussuriysk Ar.**	**51.41**	**33**	P	**P**		**07 18 32.4**	**-1.9**
	comp=Z,2.6nm,0.7s,baz=240,slow=11,SNR=4.5							
BRVK	**Borovoye**	**53.50**	**341**	*eP*	**P**		**07 18 49.6**	**-0.1**
	comp=Z,4.9nm,0.7s							
ABKAR	**Akbulak array**	**54.66**	**332**	*eP*	**P**		**07 18 58.4**	**+0.2**
	comp=Z,55nm,0.8s							
KLR	**Kul'dur**	**54.69**	**28**	P	**P**		**07 18 56.8**	**-1.6**
	comp=Z,1.4nm,0.8s,baz=253,slow=10,SNR=4.7							
STKA	**Stephens Creek**	**56.07**	**133**	P	**P**		**07 19 07.0**	**-1.7**
	comp=Z,2.8nm,0.7s,baz=303,slow=11,SNR=4.4							
NRIK	**Noril'sk**	**65.76**	**357**	P	**P**		**07 20 13.1**	**-0.7**
	comp=Z,6.2nm,0.6s,baz=160,slow=7.2,SNR=12							
BRTR	**Keskin Array B**	**66.40**	**312**	P	**P**		**07 20 19.5**	**+0.8**
	comp=Z,1.1nm,0.8s,baz=120,slow=7.3,SNR=5.2							
BRTR				pP	**sP**		**07 20 34.1**	**-0.5**
	comp=Z,3.3nm,0.6s,baz=130,slow=7.3,SNR=13							
BR231	**Keskin MP Arra**	**67.07**	**312**	*eP*	**P**		**07 20 20.4**	**-2.5**
CRVS	**Cervenica-Dubn**	**76.94**	**319**	*eP*	**P**		**07 21 24.1**	**+2.4**
FINES	**FINESS Array B**	**77.14**	**332**	P	**P**		**07 21 22.2**	**-0.3**
	comp=Z,0.9nm,0.7s,baz=90,slow=2.5,SNR=4.0							
FINES				pP	**sP**		**07 21 37.5**	**-1.1**
	comp=Z,1.4nm,0.6s,baz=100,slow=5.0,SNR=3.0							
ARA0	**ARCESS Array S**	**79.72**	**340**	*eP*	**P**		**07 21 38.3**	**+1.6**
ARCES	**ARCESS Array B**	**79.72**	**340**	P	**P**		**07 21 35.2**	**-1.5**
	comp=Z,2.3nm,0.5s,baz=93,slow=6.3,SNR=25							
ARCES				pP	**sP**		**07 21 52.3**	**-0.5**
	comp=Z,2.3nm,0.4s,baz=91,slow=5.5,SNR=5.5							
ARE0	**ARCESS Array S**	**79.72**	**340**	*eP*	**P**		**07 21 38.4**	**+1.7**
	comp=Z,11nm,1.2s							
GERES	**GERESS Array B**	**82.02**	**319**	P	**P**		**07 21 49.8**	**+0.3**
	comp=Z,0.6nm,0.6s,baz=85,slow=5.8,SNR=5.4							
GERES				pP	**sP**		**07 22 06.6**	**+1.0**
	comp=Z,1.4nm,0.7s,baz=116,slow=3.1,SNR=4.8							
NB2	**NORSAR Subarra**	**84.15**	**331**	P	**P**		**07 22 02.3**	**+2.1**
	comp=Z,1.8nm,0.8s,baz=89,slow=5.6							
NOA	**NORSAR Array B**	**84.15**	**331**	P	**P**		**07 22 01.2**	**+1.0**
	comp=Z,0.6nm,0.9s,baz=64,slow=5.3,SNR=2.3							
NOA				pP	**sP**		**07 22 15.6**	**-0.7**
	comp=Z,1.5nm,0.8s,baz=92,slow=5.4,SNR=5.6							
VNDA	**Vanda**	**88.54**	**169**	P	**P**		**07 22 22.7**	**+1.4**
	comp=Z,0.5nm,0.6s,baz=325,slow=7.2,SNR=5.4							
VNDA	**Vanda**	**88.54**	**169**	*eP*	**P**		**07 22 22.7**	**+1.4**
	comp=Z,7.1nm,1.6s							
YBMT	**Yellow Bay**	**122.39**	**23**	*e*PKPdf	**PKPdf**		**07 28 24.5**	**-0.1**
YHB	**Horse Butte**	**126.06**	**24**	*e*PKPdf	**PKPdf**		**07 28 31.1**	**-0.8**
TXAR	**Lajitas Array**	**142.22**	**28**	PKP	**PKPdf**		**07 28 59.7**	**-2.6**
	comp=Z,0.2nm,0.8s,baz=348,slow=2.1,SNR=3.4							
CPUP	**Villa Florida**	**145.80**	**226**	PKPbc	**PKPbc**		**07 29 08.9**	**-0.1**
	comp=Z,3.0nm,0.8s,baz=124,slow=5.1,SNR=4.5							

*ISCJB **02** 07:17:46.3±0.7,21.1°19S±0.0°4×68.8°8W±0.1°,1,h126km±7km, mb3.6/3,Error ellipse: s-maj=18.9km s-min=6.5km az=2.8*
*GUC **02** 07:17:46.0±0.7,21.1°7S×68.2°82W,h120km±4km,ML3.9*
*IDC **02** 07:17:49.7±3.9,21.1°11S×68.1°50W,h137km±35km,mb3.3/3, mb1 3.4/4,mb1mx3.2/18,mbtmp3.7/4, Error ellipse: s-maj=44.4km s-min=26.0km az=62.0*

ISC 02 07:17:47.3±1.0,21.1°19S±0.0°4×68.8°8W±0.1°,1,h117km±8km, n15,σ0°68/23,mb3.8/3,7C-1D,Chile-Bolivia border region

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

PB01	**IPOC Station P**	**0.64**	**283**	⇑*iP*	**Pn**		**07 18 05.4**	**-0.5**
PB01				*i* S	**Sn**		**07 18 19.9**	**0.0**
PB09	**IPOC Station P**	**0.72**	**212**	⇑*iP*	**Pn**		**07 18 06.5**	**-0.2**
PB09				*i* S	**Sn**		**07 18 22.0**	**+0.6**
PB09				IAML			07 18 24.0	
	comp=E,11µm,0.3s							
PB08	**IPOC Station P**	**1.08**	**343**	⇓*iP*	**Pn**		**07 18 10.2**	**-0.2**
PB08				*i* S	**Sn**		**07 18 28.0**	**+0.2**
PB07	**IPOC Station P**	**1.13**	**241**	⇑*iP*	**Pn**		**07 18 10.6**	**0.0**
PB07				*i* S	**Sn**		**07 18 29.0**	**+0.9**
PB07				IAML			07 18 30.3	
	comp=E,2µm,0.7s							
HMBC	**Humberstone**	**1.34**	**312**	⇑*iP*	**Pn**		**07 18 12.7**	**-0.2**
HMBC				*i* S	**Sn**		**07 18 32.7**	**+0.5**
HMBC				IAML			07 18 33.0	
	comp=N,2µm,0.6s							
PB06	**IPOC Station P**	**1.67**	**204**	⇑*iP*	**Pn**		**07 18 16.5**	**-0.2**
PB06				*i* S	**Sn**		**07 18 39.5**	**+0.5**
PB04	**IPOC Station P**	**1.68**	**227**	⇑*iP*	**Pn**		**07 18 16.5**	**-0.3**
PB04				*i* S	**Sn**		**07 18 40.2**	**+0.8**
PB04				IAML			07 18 48.0	
	comp=N,929nm,0.2s							
PSGC	**Pisagua**	**2.00**	**322**	⇑*iP*	**Pn**		**07 18 20.0**	**-0.7**
PSGC				*i* S	**Sn**		**07 18 46.0**	**-0.1**
MNMC	**Minye Minye**	**2.17**	**340**	*eP*	**Pn**		**07 18 23.0**	**-0.1**
MNMC				IAML			07 18 58.5	
	comp=N,734nm,0.2s							
PB10	**IPOC Station P**	**2.82**	**214**	*eP*	**Pn**		**07 18 31.3**	**+0.2**
LPAZ	**La Paz**	**4.92**	**8**	P	**Pn**		**07 19 01.0**	**+1.3**
	comp=N,1.0nm,0.3s,baz=195,slow=6.0,SNR=29							
TXAR	**Lajitas Array**	**60.42**	**325**	P	**P**		**07 27 45.6**	**+0.8**
	comp=N,0.2nm,0.8s,baz=152,slow=5.9,SNR=3.5							
SNAA	**Sanae**	**62.55**	**161**	P	**P**		**07 27 58.4**	**-0.1**
	comp=N,0.8nm,0.6s,baz=265,slow=10.0,SNR=9.3							
TORD	**Torodi Ar. Bea**	**77.18**	**70**	P	**P**		**07 29 27.1**	**-1.6**
	comp=N,0.9nm,0.5s,baz=253,slow=5.3,SNR=7.1							
WRA	**Warramunga Arr**	**133.26**	**211**	PKP	**PKPdf**		**07 36 50.8**	**+0.4**
	comp=N,0.3nm,0.7s,baz=157,slow=1.7,SNR=4.6							

*NSSP **02** 07:29:12.5,41.°70N×45.°17E,h10km,Ms3.0*
*TIF **02** 07:29:14.3,41.°72N×45.°01E,h18km±1km*
*ISCJB **02** 07:29:15.5±0.7,41.°73N±0.°03×45.°03E±0.°05,h12km±4km, Error ellipse: s-maj=6.7km s-min=4.4km az=154.5*
*CSEM **02** 07:29:15.3±0.3,41.°73N×44.°97E,h10km,ML2.6,Error ellipse: s-maj=7.3km s-min=5.5km az=70.0*

ISC 02 07:29:12.9±1.5,41.°77N±0.°04×45.°11E±0.°05,h16km±10km, n22,σ0°54/42,6D,Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SEAG	**Tbilisi Sea**	**0.23**	**269**	P	**Pb**	**07 29 18.9**	**+0.2**
SEAG				S	**Sb**	**07 29 22.6**	**-0.1**
SEAG	**Tbilisi Sea**	**0.23**	**269**	P	**Pb**	**07 29 18.9**	**+0.2**
SEAG				S	**Sb**	**07 29 22.9**	**+0.3**
TBLG	**Delisi**	**0.28**	**262**	P	**Pb**	**07 29 19.6**	**0.0**
TBLG				S	**Sb**	**07 29 24.1**	**-0.1**
TBLG	**Delisi**	**0.28**	**262**	P	**Pb**	**07 29 19.6**	**0.0**
TBLG				S	**Sb**	**07 29 24.0**	**-0.1**
DGRG	**David-gareji**	**0.37**	**149**	P	**Pn**	**07 29 23.4**	**-0.2**
DGRG				S	**Sn**	**07 29 30.6**	**+0.1**
DGRG	**David-gareji**	**0.37**	**149**	P	**Pn**	**07 29 23.4**	**-0.2**
DGRG				S	**Sn**	**07 29 30.9**	**+0.4**
DUS	**Dusheti**	**0.44**	**316**	P	**Pn**	**07 29 24.2**	**-0.4**
DUS				S	**Sn**	**07 29 31.0**	**-1.3**
DUS	**Dusheti**	**0.44**	**316**	P	**Pn**	**07 29 24.2**	**-0.4**
KZR	**Kazreti**	**0.65**	**234**	P	**Pb**	**07 29 26.2**	**+0.3**
KZR				S	**Sb**	**07 29 35.4**	**+0.7**
KZR	**Kazreti**	**0.65**	**234**	P	**Pb**	**07 29 26.2**	**+0.3**
KZR				S	**Sb**	**07 29 35.1**	**+0.4**
GUDG	**Gudauri**	**0.84**	**326**	P	**Pn**	**07 29 31.0**	**+0.8**
GUDG				S	**Sn**	**07 29 43.3**	**+0.9**
GUDG	**Gudauri**	**0.84**	**326**	P	**Pn**	**07 29 30.8**	**+0.6**
STEZ	**Stepenevan**	**0.94**	**215**	⇓*eP*	**Pb**	**07 29 30.0**	**-0.8**
STEZ				⇓*eS*	**Sb**	**07 29 43.0**	**-0.1**
STE	**Stepanavan**	**0.95**	**216**	⇓P	**Pb**	**07 29 30.0**	**-1.0**
STE				S	**Sb**	**07 29 43.0**	**-0.4**
BGD	**Bogdanovka**	**1.25**	**247**	P	**Pg**	**07 29 36.5**	**-0.4**
BGD				S	**Sg**	**07 29 53.5**	**+0.3**
BGD	**Bogdanovka**	**1.25**	**247**	P	**Pg**	**07 29 36.5**	**-0.4**
BGD				S	**Sg**	**07 29 53.6**	**+0.4**
AKH	**Akhalkalaki**	**1.27**	**254**	P	**Pn**	**07 29 36.1**	**+0.1**
AKH				S	**Sg**	**07 29 54.1**	**+0.2**
AKH	**Akhalkalaki**	**1.27**	**254**	P	**Pg**	**07 29 37.0**	**-0.3**
AKH				S	**Sg**	**07 29 54.1**	**+0.2**
ONI	**Oni**	**1.48**	**304**	P	**Pg**	**07 29 41.0**	**-0.4**
ONI				S	**Sg**	**07 30 01.0**	**+0.3**
ONI	**Oni**	**1.48**	**304**	P	**Pg**	**07 29 41.0**	**-0.4**
ONI				S	**Sg**	**07 30 01.0**	**+0.3**
GNI	**Garni**	**1.64**	**190**	⇓*iP*	**Pg**	**07 29 44.1**	**-0.4**
GNI				⇓*iS*	**Sg**	**07 30 07.0**	**+1.1**
GNI	**Garni**	**1.64**	**190**	⇓P	**Pg**	**07 29 44.1**	**-0.4**
GNI				S	**Sg**	**07 30 07.0**	**+1.1**

*ISCJB **02** 07:38:53.8±0.8,2.°09N±0.°08×128.°79E±0.°06,h200km, mb3.9/5,Error ellipse: s-maj=10.8km s-min=8.2km az=21.2*
*DJA **02** 07:38:56.9±1.1,2.°1N±5.°×12.°9E±.°,h217km±7km,M4.4/5, mB4.3/1,mb4.4/1,MLv4.5/5,Mw(mB)3.4/1*
*IDC **02** 07:38:57.7±2.2,2.°16N×128.°30E,h240km±21km,mb3.6/6, mb1 3.7/6,mb1mx3.2/47,mbtmp4.1/6,Error ellipse: s-maj=67.0km s-min=16.8km az=96.0*

ISC 02 07:38:54.3±1.0,2.°09N±0.°08×128.°79E±0.°09,h200km,n10, σ2°57/16,mb4.1/5,Halmahera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SGSI	**Sangihe**	**3.62**	**296**	P	**Pn**	**07 39 52.4**	**+1.0**
SGSI				S	**Sn**	**07 40 35.9**	**-0.2**
SANI	**Sanana**	**4.98**	**214**	P	**Pn**	**07 40 10.0**	**+1.6**
SANI				S	**Sn**	**07 41 04.5**	**-2.4**
KMSI	**Cibinong**	**5.04**	**253**	P	**Pn**	**07 40 08.6**	**-0.6**
KMSI				S	**Sn**	**07 41 06.6**	**-1.6**
GTOI	**Gorontalo**	**5.95**	**256**	P	**Pn**	**07 40 21.8**	**+0.8**
GTOI				S	**Sn**	**07 41 31.6**	**+2.1**
FITZ	**Fitzroy Crossi**	**20.31**	**189**	P	**P**	**07 43 15.7**	**+0.7**
	2.0nm,0.5s,baz=346,slow=5.4,SNR=10						
WRA	**Warramunga Arr**	**22.57**	**166**	P	**P**	**07 43 39.5**	**+1.6**
	7.2nm,0.8s,baz=344,slow=10,SNR=38						
WRA				ScP	**ScP**	**07 50 37.4**	**-5.8**
	0.3nm,0.6s,baz=350,slow=3.2,SNR=5.1						
ASAR	**Alice Springs**	**26.08**	**169**	P	**P**	**07 44 10.9**	**+1.3**
	2.4nm,0.7s,baz=355,slow=8.4,SNR=32						
ASAR				ScP	**ScP**	**07 50 47.6**	**-5.3**
	0.7nm,0.9s,baz=1.8,slow=2.9,SNR=5.7						
STKA	**Stephens Creek**	**35.91**	**161**	P	**P**	**07 45 36.8**	**+1.4**
	3.3nm,0.6s,baz=352,slow=8.1,SNR=10						
PETK	**Petropavlovsk-**	**56.20**	**21**	P	**P**	**07 48 13.4**	**+0.1**
	3.3nm,0.7s,baz=210,slow=8.1,SNR=3.9						
VNDA	**Vanda**	**81.56**	**173**	P	**P**	**07 50 49.2**	**+0.2**
	0.8nm,0.9s,baz=324,slow=5.3,SNR=5.5						

*CSEM **02** 07:55:26.3±0.1,43.°12N×18.°86E,h2km,ML3.1,Error ellipse: s-maj=3.4km s-min=2.0km az=108.0*
*BEO **02** 07:55:26.9±0.3,43.°09N×18.°86E,h5km±2km,M2.2/1*
*PDG **02** 07:55:26.6±0.1,43.°10N×18.°86E,h5km±1km,MD2.5/4, ML2.4/11,Error ellipse: s-maj=0.2km s-min=0.3km az=0.0*

ISC 02 07:55:26.4±1.0,43.°11N±0.°02×18.°86E±0.°02,h3km±8km, n53,σ0°74/99,10C-10D,Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
UPM	**Unac-Piva**	**0.10**	**18**	⇓*iPg*	**Pg**	**07 55 28.1**	**-0.4**
UPM				*e*Sg	**Sg**	**07 55 29.7**	**-0.1**
UPM	**Unac-Piva**	**0.10**	**18**	⇓*iPg*	**Pg**	**07 55 28.0**	**-0.4**
UPM				*e*Sg	**Sg**	**07 55 29.7**	**-0.1**
NKY	**Niksic**	**0.31**	**162**	⇑*iPg*	**Pg**	**07 55 32.7**	**+0.2**
NKY				*e*Sg	**Sg**	**07 55 37.4**	**+0.8**
NKY	**Niksic**	**0.31**	**162**	⇑*iPg*	**Pg**	**07 55 32.7**	**+0.2**
NKY				*e*Sg	**Sg**	**07 55 37.4**	**+0.8**
BRY	**Bratogost**	**0.32**	**229**	*e*Pg	**Pg**	**07 55 32.4**	**-0.2**
BRY				*e*Sg	**Sg**	**07 55 37.3**	**+0.6**
BRY	**Bratogost**	**0.32**	**229**	⇑*iPg*	**Pg**	**07 55 32.4**	**-0.2**
BRY				*e*Sg	**Sg**	**07 55 37.3**	**+0.6**
NKME	**Niksic**	**0.35**	**169**	⇓*iPg*	**Pg**	**07 55 33.1**	**-0.1**
NKME				*e*Sg	**Sg**	**07 55 38.5**	**+0.8**
NKME	**Niksic**	**0.35**	**169**	⇓*iPg*	**Pg**	**07 55 33.1**	**-0.1**
NKME				*e*Sg	**Sg**	**07 55 38.5**	**+0.8**
PLE	**Pljevlja**	**0.44**	**60**	⇑*iPg*	**Pg**	**07 55 35.1**	**+0.2**
PLE				*e*Sg	**Sg**	**07 55 42.1**	**+1.4**
PLE	**Pljevlja**	**0.44**	**60**	⇑*iPg*	**Pg**	**07 55 35.1**	**+0.2**
PLE				*e*Sg	**Sg**	**07 55 42.1**	**+1.4**
TREB	**Trebinje**	**0.55**	**224**	*e*Pg	**Pg**	**07 55 36.3**	**-0.6**
TREB				*e*Sg	**Sg**	**07 55 45.0**	**+1.0**
TREB	**Trebinje**	**0.55**	**224**	*e*Pg	**Pg**	**07 55 36.3**	**-0.6**
TREB				*e*Sg	**Sg**	**07 55 45.0**	**+1.0**
CEME	**Cevo**	**0.57**	**176**	⇑*iPg*	**Pg**	**07 55 36.8**	**-0.5**
CEME				*e*Sg	**Sb**	**07 55 45.8**	**-1.7**
CEME	**Cevo**	**0.57**	**176**	⇑*iPg*	**Pg**	**07 55 36.8**	**-0.5**
CEME				*e*Sg	**Sb**	**07 55 45.8**	**-1.7**
HCY	**Herceg Novi**	**0.72**	**202**	⇑*iPg*	**Pg**	**07 55 39.6**	**-0.6**
HCY				*e*Sg	**Sb**	**07 55 50.4**	**-1.4**
HCY	**Herceg Novi**	**0.72**	**202**	*e*Pg	**Pg**	**07 55 39.6**	**-0.6**
HCY				*e*Sg	**Sg**	**07 55 50.1**	**+0.6**
PDG	**Podgorica**	**0.74**	**157**	*e*Pg	**Pg**	**07 55 39.4**	**-1.2**
PDG				*e*Sg	**Sg**	**07 55 50.8**	**+0.6**
PDG	**Podgorica**	**0.74**	**157**	⇓*iPg*	**Pg**	**07 55 39.7**	**-0.9**
PDG				*e*Sg	**Sg**	**07 55 50.8**	**+0.6**
TTG	**Podgorica**	**0.74**	**157**	⇓*iPg*	**Pg**	**07 55 39.7**	**-0.9**
TTG				*e*Sg	**Sb**	**07 55 51.4**	**-1.0**
BEY	**Berane**	**0.79**	**107**	⇑*iPg*	**Pg**	**07 55 41.2**	**-0.4**
BEY	**Berane**	**0.79**	**107**	P	**Pg**	**07 55 41.7**	**+0.1**
BEY				*e*Sg	**Sb**	**07 55 53.7**	**-0.3**
IVA	**Berane**	**0.79**	**107**	⇑*iPg*	**Pg**	**07 55 41.2**	**-0.4**
IVA				*e*Sg	**Sb**	**07 55 53.7**	**-0.3**
BUM	**Brajici-Budva**	**0.81**	**178**	*e*Pg	**Pg**	**07 55 41.4**	**-0.6**
BUM				*e*Sg	**Sb**	**07 55 54.0**	**-0.5**
BUM	**Brajici-Budva**	**0.81**	**178**	*e*Pg	**Pg**	**07 55 41.4**	**-0.6**
BUM				*e*Sg	**Sb**	**07 55 54.0**	**-0.5**
SJES	**Sjenica**	**0.82**	**79**	*e*Pg	**Pg**	**07 55 42.8**	**+0.5**
SJES				*e*Sg	**Sg**	**07 55 52.8**	**-0.2**
BBLS	**Lazi?i**	**0.85**	**27**	*e*Pg	**Pg**	**07 55 42.6**	**-0.2**
BBLS				*e*Sg	**Sg**	**07 55 54.2**	**+0.4**
BBLS	**Lazi?i**	**0.85**	**27**	*e*Pg	**Pg**	**07 55 42.6**	**-0.2**
BBLS				*e*Sg	**Sg**	**07 55 53.9**	**+0.1**
DRME	**Dracevica, Mon**	**0.95**	**166**	⇓*iPg*	**Pg**	**07 55 44.1**	**-0.6**
DRME				*e*Sg	**Sb**	**07 55 58.7**	**+0.1**
DRME	**Dracevica, Mon**	**0.95**	**166**	⇓*iPg*	**Pg**	**07 55 44.2**	**-0.5**
DRME				*e*Sg	**Sg**	**07 55 57.3**	**+0.2**
PVY	**Plav**	**0.96**	**122**	⇓*iPg*	**Pg**	**07 55 44.2**	**-0.6**
PVY				*e*Sg	**Sb**	**07 55 59.4**	**+0.6**
PVY	**Plav**	**0.96**	**122**	⇓*iPg*	**Pg**	**07 55 44.2**	**-0.6**
PVY				*e*Sg	**Sb**	**07 55 59.4**	**+0.6**
IVAS	**Ivanjica**	**1.05**	**63**	*e*Pg	**Pg**	**07 55 45.9**	**-0.6**
IVAS				*e*Sg	**Sg**	**07 55 59.1**	**-1.0**
IVAS	**Ivanjica**	**1.05**	**63**	*e*Pg	**Pg**	**07 55 45.9**	**-0.6**
IVAS				*e*Sg	**Sg**	**07 55 59.1**	**-1.0**
PEJK	**Peje**	**1.14**	**114**	P	**Pb**	**07 55 48.9**	**+0.1**
ULC	**Ulcinj**	**1.18**	**166**	*e*Pg	**Pg**	**07 55 48.0**	**-1.1**
ULC				*e*Sg	**Sn**	**07 56 06.8**	**+0.4**
ULC	**Ulcinj**	**1.18**	**166**	*e*Pg	**Pg**	**07 55 48.0**	**-1.1**
ULC	**Ulcinj**	**1.18**	**166**	P	**Pn**	**07 55 50.8**	**+1.0**
ULC				*e*Sg	**Sn**	**07 56 06.8**	**+0.4**
DIVS	**Divibare**	**1.28**	**39**	*e*Pg	**Pg**	**07 55 50.2**	**-0.8**
DIVS				*e*Sg	**Sn**	**07 56 09.0**	**0.0**
DIVS	**Divibare**	**1.28**	**39**	*e*Pg	**Pg**	**07 55 50.2**	**-0.8**
DIVS				*e*Sg	**Sg**	**07 56 06.8**	**-0.8**
ZATK	**Zatriq**	**1.46**	**116**	P	**Pg**	**07 55 54.6**	**+0.3**
TEKS	**Tekeris**	**1.52**	**18**	*e*Pg	**Pb**	**07 55 55.1**	**-0.1**
TEKS				*e*Sg	**Sg**	**07 56 15.5**	**+0.4**
TEKS	**Tekeris**

SGLT	**Jiouru**	**0.78**	**261**	*e*P	**Pg**	**08 00 32.9**	**-0.4**
	baz=259							
TPUB	**Ta-pu**	**0.78**	**306**	*e*Pn	**Pg**	**08 00 32.8**	**-0.6**
TPUB				*e*Sn	**Sn**	**08 00 45.2**	**-0.1**
SCZT	**Fangliau**	**0.80**	**234**⇑	*e*P	**Pb**	**08 00 32.8**	**-0.5**
	baz=228							
SCZT				*e*S	**Sg**	**08 00 44.1**	**-0.3**
	baz=228							
CHN1	**Nanshi**	**0.81**	**295**⇑	*i*P	**Pn**	**08 00 33.7**	**-0.6**
	baz=297							
CHN1				*e*S	**Sn**	**08 00 47.3**	**+1.5**
	baz=297							
ALS	**Alishan**	**0.82**	**325**⇑	*i*P	**Pg**	**08 00 33.5**	**-0.6**
	baz=327							
LAY	**Lan-yu**	**0.83**	**165**	*e*P	**Pb**	**08 00 33.0**	**-0.8**
	baz=151							
LAY				*e*S	**Sb**	**08 00 45.1**	**+0.5**
	baz=151							
TWM1	**Shoushan**	**0.83**	**269**	*e*P	**Pn**	**08 00 34.4**	**-0.3**
	baz=268							
CHN4	**Tsaushan**	**0.84**	**307**⇑	*i*P	**Pn**	**08 00 34.1**	**-0.7**
	baz=308							
TWK	**Hsinying**	**0.88**	**299**⇑	P	**Pn**	**08 00 34.9**	**-0.4**
	baz=299							
TWK				*e*S	**Sn**	**08 00 48.3**	**+0.8**
	baz=299							
CHN3	**Shinhua**	**0.91**	**285**	*e*P	**Pn**	**08 00 36.9**	**+1.1**
	baz=285							
CHN3				*e*S	**Sn**	**08 00 51.2**	**+2.9**
	baz=285							
WDT	**Danda**	**0.92**	**349**	*e*P	**Pb**	**08 00 34.9**	**-0.8**
	baz=351							
CHN5	**Tsauling**	**0.95**	**322**⇑	*i*P	**Pn**	**08 00 36.1**	**-0.3**
	baz=323							
ESL	**Shilin**	**0.97**	**6**	*e*P	**Pb**	**08 00 35.5**	**-0.8**
	baz=7.0							
KAU	**Kaohsiung**	**0.97**	**254**	*e*P	**Pg**	**08 00 38.7**	**+1.7**
	baz=254							
HEN	**Hengchun**	**0.99**	**213**	*e*P	**Pg**	**08 00 37.2**	**-0.1**
	baz=197							
SSLB	**Suanglung**	**1.00**	**340**	*e*Pn	**Pb**	**08 00 36.0**	**-0.7**
TWK1	**Hengchun**	**1.01**	**208**	*e*P	**Pb**	**08 00 35.1**	**-1.9**
	baz=190							
TWP	**Hsiaoliuchiu**	**1.01**	**241**	*e*P	**Pg**	**08 00 39.2**	**+1.5**
	baz=242							
TSEB	**Hengchuen, Pin**	**1.02**	**203**	*e*P	**Pb**	**08 00 37.3**	**+0.3**
	baz=187							
TAI1	**Yung-k'ang**	**1.03**	**281**	*e*P	**Pg**	**08 00 38.0**	**0.0**
	baz=282							
CHN2	**Minshiung**	**1.04**	**312**	*e*P	**Pg**	**08 00 38.1**	**-0.1**
	baz=311							
CHN2				*e*S	**Sg**	**08 00 53.1**	**+1.2**
	baz=311							
CHY	**Chiayi**	**1.05**	**308**	*e*P	**Pg**	**08 00 38.0**	**-0.5**
	baz=308							
CHY				*e*S	**Sg**	**08 00 53.2**	**+0.9**
	baz=308							
SCLT	**Jiali**	**1.09**	**288**	*e*P	**Pg**	**08 00 39.6**	**+0.4**
	baz=288							
WGK	**Gukeng**	**1.09**	**320**	*e*P	**Pg**	**08 00 38.9**	**-0.3**
	baz=321							
SMLT	**Sun Moon Lake**	**1.10**	**340**	⇓P	**Pn**	**08 00 38.7**	**+0.1**
	baz=344							
SMLT				*e*S	**Sg**	**08 00 55.2**	**+1.1**
	baz=344							
CHN8	**Yiju**	**1.14**	**296**	*e*P	**Pg**	**08 00 39.2**	**-0.9**
	baz=296							
CHN8				*e*S	**Sg**	**08 00 54.0**	**-1.1**
	baz=296							
TYC	**Yuchr**	**1.14**	**338**	*e*P	**Pg**	**08 00 39.9**	**-0.3**
	baz=346							
TYC				S	**Sg**	**08 00 56.0**	**+1.0**
	baz=346							
HWA	**Hwalien**	**1.16**	**13**	*e*P	**Pb**	**08 00 39.8**	**+0.4**
	baz=12							
WNT	**Mingjian**	**1.18**	**330**	*e*P	**Pg**	**08 00 40.7**	**-0.3**
	baz=328							
WNT				*e*S	**Sg**	**08 00 57.6**	**+1.1**
	baz=328							
TWD	**Chiawan**	**1.26**	**12**	*e*P	**Pn**	**08 00 39.5**	**-1.1**
	baz=10.0							
WSF	**Szhu**	**1.28**	**308**	*e*P	**Pb**	**08 00 41.5**	**0.0**
	baz=306							
WSF				*e*S	**Sg**	**08 00 59.0**	**-0.7**
	baz=306							
WHF	**Hehuan Shan**	**1.30**	**358**	*e*P	**Pn**	**08 00 40.7**	**-0.8**
	baz=4.0							
WHF				*e*S	**Sb**	**08 00 57.7**	**-0.8**
	baz=4.0							
NACB	**Ninganchiao**	**1.35**	**11**	*e*Pn	**Pn**	**08 00 40.3**	**-1.5**
TWT	**Tachien**	**1.41**	**355**	*e*P	**Pn**	**08 00 43.2**	**+0.4**
	baz=4.0							
TCU	**Taichung**	**1.43**	**336**	*e*P	**Pb**	**08 00 44.2**	**+0.2**
	baz=330							
TCU				*e*S	**Sg**	**08 01 04.0**	**-0.2**
	baz=330							
TWQ1	**Liyutan**	**1.58**	**342**	*e*P	**Pb**	**08 00 47.1**	**+0.5**
	baz=335							
TWQ1				*e*S	**Sg**	**08 01 08.4**	**-0.7**
	baz=335							
WDGT	**Dungji**	**1.58**	**285**	*e*P	**Pn**	**08 00 44.9**	**-0.2**
	baz=286							
NNS	**Nan Shan**	**1.59**	**2**	*e*P	**Pn**	**08 00 45.9**	**+0.6**
	baz=13							
ENA	**Nanau**	**1.62**	**14**	*e*P	**Pn**	**08 00 45.9**	**+0.3**
	baz=10.0							
NSY	**Sanyi**	**1.65**	**342**	*e*P	**Pb**	**08 00 48.0**	**+0.3**
	baz=335							
NSY				*e*S	**Sg**	**08 01 10.5**	**-0.8**
	baz=335							
PNG	**Penghu**	**1.78**	**294**	*e*P	**Pn**	**08 00 47.4**	**-0.3**
	baz=294							
ENTT	**Nioudou**	**1.80**	**7**	*e*P	**Pn**	**08 00 49.0**	**+0.9**
	baz=22							
NSTT	**Nanjuang**	**1.80**	**351**	*e*P	**Pb**	**08 00 49.7**	**-0.7**
	baz=353							
NSTT				*e*S	**Sb**	**08 01 13.2**	**+0.6**
	baz=353							
YHNB	**Yeheng**	**1.82**	**2**	*e*Pn	**Pn**	**08 00 48.8**	**+0.5**
TWC	**Suao**	**1.82**	**15**	*e*P	**Pn**	**08 00 48.8**	**+0.5**
	baz=11							
NSK	**Sanguang**	**1.82**	**1**	*e*P	**Pn**	**08 00 49.1**	**+0.7**
	baz=12							
TWE	**Neicheng**	**1.90**	**10**	*e*P	**Pn**	**08 00 49.6**	**+0.3**
	baz=6.0							
EGS		**2.07**	**16**	*e*P	**Pn**	**08 00 52.8**	**+1.1**
	baz=10.0							
JYNG	**Yonagunijimaku**	**2.19**	**43**	P	**Pn**	**08 00 54.6**	**+1.3**
JYNG				S	**Sn**	**08 01 20.6**	**+0.8**
YOJ	**Yonaguni jima**	**2.23**	**44**	*e*P	**Pn**	**08 00 54.7**	**+0.7**
	baz=46							
YOJ	**Yonaguni jima**	**2.23**	**44**	P	**Pn**	**08 00 55.4**	**+1.4**
YOJ				*e*S	**Sn**	**08 01 22.1**	**+1.1**
YOJ	**Yonaguni jima**	**2.23**	**44**	*e*Pn	**Pn**	**08 00 55.2**	**+1.2**
TWB1	**Santiao Chiao**	**2.24**	**16**	*e*P	**Pn**	**08 00 56.2**	**+2.1**
	baz=10.0							
NWF	**Wu-fen Shan**	**2.26**	**11**	*e*P	**Pn**	**08 00 55.1**	**+0.7**
	baz=5.0							
HATJ	**Hateruma jima**	**2.58**	**62**	P	**Pn**	**08 00 58.4**	**-0.3**
HATJ				*e*S	**Sn**	**08 01 28.2**	**-1.4**
IRIF	**Iriomote-Funau**	**2.66**	**56**	P	**Pn**	**08 01 00.1**	**+0.2**
IRIF				*e*S	**Sn**	**08 01 31.4**	**-0.2**
JKRS	**Kuro-shima**	**2.83**	**60**	P	**Pn**	**08 01 03.0**	**+0.8**
JKRS				S	**Sn**	**08 01 37.3**	**+1.6**
JIJ	**Ishigaki jima**	**3.00**	**59**	P	**Pn**	**08 01 04.8**	**+0.3**
JIJ				*e*S	**Sn**	**08 01 39.4**	**-0.5**
KNM	**Kinmen**	**3.08**	**301**	*e*P	**Pn**	**08 01 07.3**	**+1.8**
	baz=299							
JISG	**Ishigakijimahi**	**3.24**	**57**	P	**Pn**	**08 01 07.6**	**-0.2**
JISG				S	**Sn**	**08 01 45.7**	**-0.2**
JTJ	**Tarama**	**3.58**	**59**	P	**Pn**	**08 01 13.1**	**+0.7**
JIRB	**Irabujima**	**4.04**	**60**	P	**Pn**	**08 01 19.5**	**+0.7**
JIRB				S	**Sn**	**08 02 04.9**	**-0.8**

IDC 02 08:06:05.5±3.3, 6°94S×150°52E, h0km, mb3.1/2, mb1 3.5/3, mb1mx3.3/27, mbtmp3.3/3, ML1.3/1, Error ellipse: s-maj=125.0km s-min=42.2km az=124.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**4.13**	**233**	Pn	Pn	08 07 09.5	-0.4
	1.4nm,0.3s,baz=87,slow=17,SNR=3.0						
PMG				Sn	Sn	08 07 54.8	-4.1
	2.9nm,0.3s,baz=150,slow=21,SNR=6.6						
WRA	**Warramunga Arr**	**20.33**	**229**	P	P	08 10 42.0	-1.6
	0.5nm,0.5s,baz=55,slow=11,SNR=9.3						
ASAR	**Alice Springs**	**23.05**	**222**	P	P	08 11 13.5	+0.8
	0.3nm,0.4s,baz=55,slow=9.0,SNR=10.0						
TORD	**Torodi Ar. Bea**	**148.71**	**284**	PKPbc	PKPbc	08 25 55.7	-0.3
	0.2nm,0.5s,baz=66,slow=2.6,SNR=3.3						

*NEIC **02** 08:30:56.8±0.0, 35°.50S×178°.92E, h202km, MG4.4(WEL), After WEL.*
*WEL **02** 08:30:57.1±0.6, 35°.52S×178°.88E, h202km±5km, ML4.4/41, Error ellipse: s-maj=4.9km s-min=4.5km az=90.0*
*IDC **02** 08:30:59.7±7.4, 35°.55S×178°.76E, h161km±76km, mb2.9/2, mb1 3.2/3, mb1mx3.0/28, mbtmp3.4/3, Error ellipse: s-maj=97.2km s-min=50.7km az=179.0*

ISC 02 08:30:59.4±2.0, 35°.8S±0°.1×178°.7E±0°.1, h200km, n118, σ1§12/117, 3C-3D, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WMGZ	**Waiomatatini S**	**2.08**	**187**	Pn	**Pn**	**08 31 39.2**	**+0.5**
WMGZ				Sn	**Sn**	**08 32 11.0**	**+1.5**
WMGZ	**Waiomatatini S**	**2.08**	**187**	⇓PN	**Pn**	**08 31 39.2**	**+0.5**
WMGZ				SN	**Sn**	**08 32 11.0**	**+1.5**
WMGZ				AML	AML	08 32 14.0	
HAZ	**Te Kaha**	**2.14**	**201**	AML	AML	08 32 14.0	
HAZ				AML	AML	08 32 15.1	
PKGZ	**Pakihiroa**	**2.20**	**194**	PN	**Pn**	**08 31 40.5**	**+0.5**
PKGZ				SN	**Sn**	**08 32 13.6**	**+1.8**
PUZ	**Puketiti**	**2.35**	**189**	Pn	**Pn**	**08 31 41.8**	**+0.3**
PUZ	**Puketiti**	**2.35**	**189**	⇓PN	**Pn**	**08 31 41.8**	**+0.3**
PUZ				SN	**Sn**	**08 32 14.4**	**-0.3**
PUZ				AML	AML	08 32 16.9	
RUGZ	**Raukumara Rang**	**2.37**	**201**	PN	**Pn**	**08 31 42.5**	**+0.6**
TWGZ	**Tauwhareparae**	**2.49**	**194**	Pn	**Pn**	**08 31 44.1**	**+0.9**
TWGZ	**Tauwhareparae**	**2.49**	**194**	PN	**Pn**	**08 31 44.1**	**+0.9**
TWGZ				AML	AML	08 32 22.5	
TWGZ				AML	AML	08 32 24.0	
KUZ	**Kuaotunu**	**2.62**	**247**	Pn	**Pn**	**08 31 44.7**	**+0.1**
KUZ	**Kuaotunu**	**2.62**	**247**	PN	**Pn**	**08 31 44.7**	**+0.1**
OPRZ	**Ohinepanea**	**2.72**	**219**	Pn	**Pn**	**08 31 47.7**	**+1.9**
OPRZ	**Ohinepanea**	**2.72**	**219**	⇑PN	**Pn**	**08 31 47.7**	**+1.9**
MWZ	**Matawai**	**2.75**	**200**	Pn	**Pn**	**08 31 47.3**	**+1.2**
MWZ	**Matawai**	**2.75**	**200**	PN	**Pn**	**08 31 47.3**	**+1.2**
MWZ				AML	AML	08 32 26.7	
MWZ				AML	AML	08 32 28.9	
CNGZ	**Carnagh Statio**	**2.76**	**189**	Pn	**Pn**	**08 31 47.1**	**+0.9**
CNGZ	**Carnagh Statio**	**2.76**	**189**	PN	**Pn**	**08 31 47.1**	**+0.9**
CNGZ				AML	AML	08 32 28.5	
CNGZ				AML	AML	08 32 29.0	
MARZ	**Manawahe**	**2.77**	**216**	Pn	**Pn**	**08 31 48.2**	**+1.9**
MARZ	**Manawahe**	**2.77**	**216**	PN	**Pn**	**08 31 48.2**	**+1.9**
TKGZ	**Te Karaka**	**2.77**	**194**	Pn	**Pn**	**08 31 47.1**	**+0.8**
TKGZ	**Te Karaka**	**2.77**	**194**	⇑PN	**Pn**	**08 31 47.1**	**+0.8**
TKGZ				AML	AML	08 32 26.6	
TKGZ				AML	AML	08 32 28.0	
URZ	**Urewera**	**2.82**	**207**	P	**Pn**	**08 31 47.7**	**+0.9**
	6.3nm,0.3s,baz=275,slow=4.1,SNR=67						
URZ				S	**Sn**	**08 32 24.9**	**+0.9**
	47nm,0.3s,baz=296,slow=23,SNR=7.0						
URZ	**Urewera**	**2.82**	**207**	⇑PN	**Pn**	**08 31 47.7**	**+0.9**
URZ				AML	AML	08 32 27.8	
URZ				AML	AML	08 32 28.1	
RAGZ	**Rawiri**	**2.93**	**201**	Pn	**Pn**	**08 31 49.9**	**+1.6**
RAGZ	**Rawiri**	**2.93**	**201**	PN	**Pn**	**08 31 49.9**	**+1.6**
RAGZ				AML	AML	08 32 31.2	
RAGZ				AML	AML	08 32 34.3	
RIGZ	**Rimuhau**	**3.05**	**194**	PN	**Pn**	**08 31 50.3**	**+0.8**
RIGZ				AML	AML	08 32 32.9	
RIGZ				AML	AML	08 32 33.6	
MUGZ	**Murupara**	**3.14**	**209**	⇓PN	**Pn**	**08 31 51.8**	**+1.2**
RTZ	**Ruatahuna**	**3.18**	**206**	PN	**Pn**	**08 31 52.0**	**+0.8**
SNGZ	**Shannon Statio**	**3.22**	**200**	Pn	**Pn**	**08 31 53.0**	**+1.4**
SNGZ	**Shannon Statio**	**3.22**	**200**	PN	**Pn**	**08 31 53.0**	**+1.4**
SNGZ				AML	AML	08 32 38.1	
SNGZ				AML	AML	08 32 38.7	
PRGZ	**Paritu Road**	**3.24**	**192**	Pn	**Pn**	**08 31 52.8**	**+1.0**
PRGZ	**Paritu Road**	**3.24**	**192**	PN	**Pn**	**08 31 52.8**	**+1.0**
PRGZ				AML	AML	08 32 37.5	
PRGZ				AML	AML	08 32 40.7	
MHGZ	**Mahia Peninsul**	**3.46**	**191**	Pn	**Pn**	**08 31 55.4**	**+0.9**
MHGZ	**Mahia Peninsul**	**3.46**	**191**	PN	**Pn**	**08 31 55.3**	**+0.9**
MHGZ				AML	AML	08 32 42.5	
MHGZ				AML	AML	08 32 42.6	
WHHZ	**Waihua**	**3.53**	**199**	PN	**Pn**	**08 31 56.5**	**+1.2**
WHHZ				AML	AML	08 32 44.0	
WHHZ				AML	AML	08 32 46.4	
MRHZ	**Matea Rd**	**3.59**	**210**	PN	**Pn**	**08 31 57.1**	**+1.0**
MRHZ				AML	AML	08 32 45.1	
MRHZ				AML	AML	08 32 46.4	
NMHZ	**Naumai**	**3.67**	**204**	Pn	**Pn**	**08 31 58.7**	**+1.5**
NMHZ	**Naumai**	**3.67**	**204**	PN	**Pn**	**08 31 58.7**	**+1.5**
NMHZ				AML	AML	08 32 48.5	
NMHZ				AML	AML	08 32 51.1	
ARHZ	**Aropaoanui**	**3.77**	**201**	Pn	**Pn**	**08 31 59.4**	**+1.1**
ARHZ	**Aropaoanui**	**3.77**	**201**	PN	**Pn**	**08 31 59.4**	**+1.1**
ARHZ				AML	AML	08 32 48.9	
ARHZ				AML	AML	08 32 50.5	
BKZ	**Black Stump Fm**	**3.84**	**207**	Pn	**Pn**	**08 32 00.5**	**+1.3**
BKZ	**Black Stump Fm**	**3.84**	**207**	PN	**Pn**	**08 32 00.5**	**+1.3**
BKZ				AML	AML	08 32 51.8	
MCHZ	**McNeill Hill**	**4.02**	**203**	Pn	**Pn**	**08 32 02.4**	**+1.0**
MCHZ	**McNeill Hill**	**4.02**	**203**	PN	**Pn**	**08 32 02.4**	**+1.0**
MCHZ				AML	AML	08 33 01.8	
MCHZ				AML	AML	08 33 03.1	
KWHZ	**Kaweka Forest**	**4.10**	**206**	PN	**Pn**	**08 32 03.2**	**+0.8**
KWHZ				AML	AML	08 32 57.6	
KWHZ				AML	AML	08 33 00.2	
CKHZ	**Cape Kidnapper**	**4.11**	**198**	AML	AML	08 32 55.6	
CKHZ				AML	AML	08 32 57.9	
BHHZ	**Black Hill Sta**	**4.29**	**209**	Pn	**Pn**	**08 32 05.7**	**+0.9**
BHHZ	**Black Hill Sta**	**4.29**	**209**	PN	**Pn**	**08 32 05.7**	**+0.9**
KAHZ	**Kahuranaki**	**4.29**	**199**	Pn	**Pn**	**08 32 05.4**	**+0.6**
KAHZ	**Kahuranaki**	**4.29**	**199**	PN	**Pn**	**08 32 05.4**	**+0.6**
KAHZ				AML	AML	08 33 02.2	
KRHZ	**Kereru**	**4.31**	**205**	PN	**Pn**	**08 32 06.3**	**+0.1**
KRHZ				AML	AML	08 33 01.4	
KRHZ				AML	AML	08 33 02.2	
MOVZ	**Moawhango**	**4.35**	**212**	Pn	**Pn**	**08 32 06.3**	**+0.8**
MOVZ	**Moawhango**	**4.35**	**212**	PN	**Pn**	**08 32 06.3**	**+0.8**
WNVZ	**Wahianoa**	**4.35**	**214**	Pn	**Pn**	**08 32 07.3**	**+1.6**
WNVZ	**Wahianoa**	**4.35**	**214**	PN	**Pn**	**08 32 07.3**	**+1.6**
PKVZ	**Pokaka**	**4.44**	**216**	Pn	**Pn**	**08 32 08.4**	**+1.8**
PKVZ	**Pokaka**	**4.44**	**216**	PN	**Pn**	**08 32 08.4**	**+1.8**
MTVZ	**Mangateitei**	**4.46**	**215**	Pn	**Pn**	**08 32 08.6**	**+1.7**
MTVZ	**Mangateitei**	**4.46**	**215**	PN	**Pn**	**08 32 08.6**	**+1.7**
PXZ	**Pawanui**	**4.52**	**199**	Pn	**Pn**	**08 32 07.3**	**-0.3**
PXZ	**Pawanui**	**4.52**	**199**	PN	**Pn**	**08 32 07.3**	**-0.3**
PXZ				AML	AML	08 33 03.8	
PXZ				AML	AML	08 33 04.8	
PNHZ	**Pukenui**	**4.61**	**205**	Pn	**Pn**	**08 32 08.7**	**-0.2**
PNHZ	**Pukenui**	**4.61**	**205**	PN	**Pn**	**08 32 08.6**	**-0.2**
PNHZ				AML	AML	08 33 08.2	
PNHZ				AML	AML	08 33 08.6	
WPHZ	**Waipukurau**	**4.67**	**202**	AML	AML	08 33 15.7	
PRHZ	**Porangahau**	**4.80**	**200**	Pn	**Pn**	**08 32 11.1**	**-0.1**
PRHZ	**Porangahau**	**4.80**	**200**	PN	**Pn**	**08 32 11.1**	**-0.1**
PRHZ				AML	AML	08 33 12.2	
PRHZ				AML	AML	08 33 13.5	
TSZ	**Takapari Road**	**4.82**	**206**	Pn	**Pn**	**08 32 11.1**	**-0.4**
TSZ	**Takapari Road**	**4.82**	**206**	PN	**Pn**	**08 32 11.1**	**-0.4**
TSZ				AML	AML	08 33 14.4	
DVHZ	**Dannevirke**	**4.97**	**203**	Pn	**Pn**	**08 32 13.0**	**-0.4**
DVHZ	**Dannevirke**	**4.97**	**203**	PN	**Pn**	**08 32 13.0**	**-0.4**
DVHZ				AML	AML	08 33 15.5	
DVHZ				AML	AML	08 33 19.6	
WAZ	**Wanganui**	**4.98**	**215**	Pn	**Pn**	**08 32 14.8**	**+1.3**
WAZ	**Wanganui**	**4.98**	**215**	PN	**Pn**	**08 32 14.8**	**+1.3**
ANWZ	**Angora Road**	**5.03**	**200**	Pn	**Pn**	**08 32 14.1**	**+0.1**
ANWZ				AML	AML	08 33 17.5	
ANWZ				AML	AML	08 33 21.2	
POWZ	**Post Office Ro**	**5.19**	**206**	Pn	**Pn**	**08 32 16.4**	**+0.2**
POWZ	**Post Office Ro**	**5.19**	**206**	PN	**Pn**	**08 32 16.4**	**+0.2**
POWZ				AML	AML	08 33 24.8	
PRWZ	**Pori Road**	**5.26**	**204**	AML	AML	08 33 22.6	
PRWZ				AML	AML	08 33 23.5	
BFZ	**Birch Farm**	**5.30**	**201**	Pn	**Pn**	**08 32 17.1**	**-0.4**
BFZ	**Birch Farm**	**5.30**	**201**	PN	**Pn**	**08 32 17.1**	**-0.4**
TIWZ	**Tintock**	**5.49**	**203**	Pn	**Pn**	**08 32 19.6**	**-0.5**
TIWZ	**Tintock**	**5.49**	**203**	PN	**Pn**	**08 32 19.6**	**-0.5**
TIWZ				AML	AML	08 33 27.5	
TIWZ				AML	AML	08 33 28.3	
MRZ	**Mangatainoka R**	**5.49**	**206**	Pn	**Pn**	**08 32 19.1**	**-1.0**
MRZ	**Mangatainoka R**	**5.49**	**206**	PN	**Pn**	**08 32 19.1**	**-1.0**
MRZ				SN	**Sn**	**08 33 22.8**	**-1.0**
MRZ				AML	AML	08 33 25.8	
CPWZ	**Castlepoint**	**5.52**	**200**	AML	AML	08 33 31.0	
HOWZ	**Holdsworth Sta**	**5.72**	**205**	Pn	**Pn**	**08 32 22.0**	**-1.0**
HOWZ	**Holdsworth Sta**	**5.72**	**205**	PN	**Pn**	**08 32 22.0**	**-1.0**
HOWZ				AML	AML	08 33 31.9	
HOWZ				AML	AML	08 33 32.9	
OGWZ	**Otaki Gorge**	**5.78**	**208**	*e*PN	**Pn**	**08 32 22.9**	**-0.8**
OGWZ				AML	AML	08 33 32.7	
OGWZ				AML	AML	08 33 33.1	
TMWZ	**Te Maipa**	**5.79**	**202**	Pn	**Pn**	**08 32 23.1**	**-0.9**
TMWZ	**Te Maipa**	**5.79**	**202**	PN	**Pn**	**08 32 23.0**	**-0.9**
TMWZ				AML	AML	08 33 32.9	
TMWZ				AML	AML	08 33 32.9	
KIW	**Kapiti Island**	**5.92**	**209**	*e*PN	**Pn**	**08 32 24.6**	**-1.0**
MTW	**Mount Morrison**	**5.96**	**204**	Pn	**Pn**	**08 32 25.1**	**-1.0**
MTW	**Mount Morrison**	**5.96**	**204**	PN	**Pn**	**08 32 25.1**	**-1.0**
MTW				AML	AML	08 33 37.2	
MTW				AML	AML	08 33 37.7	
CAW	**Cannon Point**	**6.07**	**207**	Pn	**Pn**	**08 32 26.4**	**-1.1**
CAW	**Cannon Point**	**6.07**	**207**	PN	**Pn**	**08 32 26.4**	**-1.1**
CAW				AML	AML	08 33 43.4	
PAWZ	**Paruwai Farm**	**6.19**	**204**	Pn	**Pn**	**08 32 26.9**	**-2.2**
PAWZ	**Paruwai Farm**	**6.19**	**204**	PN	**Pn**	**08 32 26.8**	**-2.2**
MSWZ	**Moikau Station**	**6.28**	**205**	Pn	**Pn**	**08 32 28.8**	**-1.3**
MSWZ	**Moikau Station**	**6.28**	**205**	PN	**Pn**	**08 32 28.8**	**-1.3**
PLWZ	**Palliser**	**6.41**	**204**	Pn	**Pn**	**08 32 30.5**	**-1.4**
PLWZ	**Palliser**	**6.41**	**204**	PN	**Pn**	**08 32 30.5**	**-1.4**
TCW	**Tory Channel**	**6.47**	**211**	Pn	**Pn**	**08 32 31.5**	**-1.2**
TCW	**Tory Channel**	**6.47**	**211**	PN	**Pn**	**08 32 31.5**	**-1.2**
TCW				AML	AML	08 33 47.8	
TCW				AML	AML	08 33 47.8	
TUWZ	**Tuamarina**	**6.79**	**212**	Pn	**Pn**	**08 32 35.6**	**-1.2**
TUWZ	**Tuamarina**	**6.79**	**212**	PN	**Pn**	**08 32 35.6**	**-1.2**
NNZ	**Nelson**	**6.88**	**216**	Pn	**Pn**	**08 32 37.1**	**-0.9**
NNZ	**Nelson**	**6.88**	**216**	PN	**Pn**	**08 32 37.1**	**-0.9**
QRZ	**Quartz Range**	**7.03**	**222**	Pn	**Pn**	**08 32 38.9**	**-1.0**
QRZ	**Quartz Range**	**7.03**	**222**	PN	**Pn**	**08 32 38.9**	**-1.0**
BSWZ	**Blackbirch Sta**	**7.06**	**211**	Pn	**Pn**	**08 32 39.5**	**-0.8**
BSWZ	**Blackbirch Sta**	**7.06**	**211**	PN	**Pn**	**08 32 39.5**	**-0.8**
THZ	**Tophouse**	**7.53**	**215**	Pn	**Pn**	**08 32 45.5**	**-1.0**
THZ	**Tophouse**	**7.53**	**215**	PN	**Pn**	**08 32 45.5**	**-1.0**
KHZ	**Kahutara**	**7.78**	**210**	Pn	**Pn**	**08 32 48.4**	**-1.3**
KHZ	**Kahutara**	**7.78**	**210**	PN	**Pn**	**08 32 48.4**	**-1.3**
LTZ	**Lake Taylor**	**8.62**	**214**	Pn	**Pn**	**08 32 59.0**	**-1.7**
LTZ	**Lake Taylor**	**8.62**	**214**	PN	**Pn**	**08 32 59.0**	**-1.7**
ASAR	**Alice Springs**	**40.43**	**275**	P	P	08 38 22.1	+3.7
	0.2nm,0.6s,baz=118,slow=7.6,SNR=5.5						
WRA	**Warramunga Arr**	**41.92**	**280**	P	P	08 38 34.7	+4.1
	0.6nm,0.7s,baz=119,slow=7.7,SNR=4.9						
FINES	**FINESS Array B**	**149.01**	**335**	PKPbc	**PKPab**	**08 50 26.8**	**-0.9**
	0.6nm,0.4s,baz=42,slow=5.9,SNR=6.2						

IDC 02 08:37:10.9±8.1, 3°35S×153°61E, h293km±73km, mb3.3/7, mb1 3.5/7, mb1mx3.3/27, mbtmp4.0/7, Error ellipse: s-maj=44.2km s-min=20.5km az=89.0, New Ireland region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**25.01**	**227**	P	P	08 42 08.5	-0.3
	1.6nm,0.5s,baz=50,slow=9.7,SNR=29						
WRA				PcP	PcP	08 45 35.4	0.0
	1.2nm,0.8s,baz=50,slow=2.6,SNR=8.7						
ASAR	**Alice Springs**	**27.76**	**222**	P	P	08 42 33.0	-0.3
	0.7nm,0.4s,baz=56,slow=9.3,SNR=20						
ASAR				PcP	PcP	08 45 41.1	-0.8
	0.4nm,0.6s,baz=58,slow=3.3,SNR=5.4						
CMAR	**Chiang Mai Anr**	**58.01**	**294**	P	P	08 46 34.9	+0.8
	1.0nm,0.4s,baz=111,slow=4.9,SNR=4.0						
SONM	**Songino Array**	**65.55**	**327**	P	P	08 47 24.2	+0.6
	1.0nm,0.5s,baz=135,slow=3.5,SNR=5.1						
VNDA	**V

*IDC **02** 09:54:41.6±0.8, 78°.39N×6°.85E, h0km, mb3.8/8, mb1 4.0/10,mb1mx3.8/40,mbtmp3.8/10,ML3.4/2,MS3.4/21, Ms1 3.4/21,ms1mx3.2/43,Error ellipse: s-maj=16.1km s-min=12.0km az=14.0*
*NEIC **02** 09:54:42.7±0.8, 78°.43N×6°.99E, h10km, mb4.5/4, Error ellipse: s-maj=13.6km s-min=11.2km az=137.0*
*CSEM **02** 09:54:42.5±0.3, 78°.40N×7°.65E, h10km, mb4.5/4, Error ellipse: s-maj=7.3km s-min=6.5km az=149.0*
*BER **02** 09:54:43.3±3.2, 78°.40N×7°.65E, h1km±22km, ML2.9, ML3.8(NAO)*
*NAO **02** 09:54:44.6±2.9, 78°.40N×8°.18E, h6km±19km, ML3.8*

ISC 02 09:54:43.2±1.8, 78°.36N±0°.05×7°.68E±0°.05, h12km±11km, n80, σ1°88/82, mb3.8/12, MS3.3/18, 5C, Svalbard region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KBS	**Kingsbay**	**1.02**	**54**	Pg	**Pb**	**09 55 01.6**	**-1.2**
KBS				Lg	Lg	09 55 14.6	
KBS	**Kingsbay**	**1.02**	**54**	⇑*i*P	**Pb**	**09 55 01.6**	**-1.2**
KBS				*e*S	**Sb**	**09 55 14.2**	**-1.8**
KBS				IAML		09 55 15.3	
	comp=Z,2µm,0.2s						
KBS	**Kingsbay**	**1.02**	**54**	⇑*i*P	**Pb**	**09 55 01.6**	**-1.2**
	SNR=90						
KBS				*e*S	**Sb**	**09 55 14.2**	**-1.8**
	SNR=90						
KBS	**Kingsbay**	**1.02**	**54**	*e*Pg	**Pb**	**09 55 01.6**	**-1.2**
KBS				*e*Sg	**Sg**	**09 55 14.8**	**-1.2**
SPA0	**Spitsbergen Ar**	**1.79**	**92**	Pn	**Pb**	**09 55 14.3**	**-1.5**
	baz=276,slow=14						
SPA0				Lg	Lg	09 55 37.9	
	baz=287,slow=11						
SPA0	**Spitsbergen Ar**	**1.79**	**92**	Pn	**Pb**	**09 55 14.3**	**-1.5**
	baz=276,slow=14						
SPA0				Lg	Lg	09 55 37.9	
	baz=287,slow=11						
SPA0	**Spitsbergen Ar**	**1.79**	**92**	Pn	**Pb**	**09 55 14.3**	**-1.5**
	SNR=348						
SPA0				Lg	Lg	09 55 37.9	
	SNR=2.7						
SPITS	**Spitsbergen Ar**	**1.79**	**92**	Pn	**Pb**	**09 55 14.4**	**-1.5**
	baz=267,slow=14,SNR=779						
SPITS				Sn	**Sb**	**09 55 37.6**	**-0.5**
	baz=273,slow=16,SNR=11						
SPITS				LR	LR	09 55 55.4	
	comp=Z,527nm,18.5s,baz=295,slow=38						
HSP	**Hornsund**	**2.17**	**125**	Pn	**Pn**	**09 55 18.4**	**-0.7**
HSP				Sn	**Sn**	**09 55 45.9**	**+0.1**
HSPB	**Hornsund (broa**	**2.17**	**125**	⇑*i*P	**Pn**	**09 55 18.3**	**-0.8**
HSPB				*e*S	**Sn**	**09 55 44.7**	**-1.2**
HSPB				IAML		09 55 48.8	
	comp=Z,137nm,0.5s						
HSPB	**Hornsund (broa**	**2.17**	**125**	Pn	**Pn**	**09 55 18.4**	**-0.8**
HSPB	**Hornsund (broa**	**2.17**	**125**	*e*Pg	**Pg**	**09 55 25.6**	**+0.8**
HSPB				*e*S	**Sn**	**09 55 44.7**	**-1.2**
	SNR=50						
HSPB				Sn	**Sb**	**09 55 45.9**	**-3.3**
HOPEN	**Hopen**	**4.21**	**108**	Pn	**Pn**	**09 55 46.6**	**-0.5**
HOPEN				Sn	**Sn**	**09 56 34.6**	**-1.4**
HOPEN	**Hopen**	**4.21**	**108**	⇑*i*P	**Pn**	**09 55 46.4**	**-0.6**
HOPEN				*e*S	**Sn**	**09 56 34.2**	**-1.8**
HOPEN				IAML		09 56 35.8	
	comp=Z,188nm,0.2s						
HOPEN	**Hopen**	**4.21**	**108**	Pn	**Pn**	**09 55 46.6**	**-0.5**
HOPEN				*e*S	**Sn**	**09 56 34.2**	**-1.8**
	SNR=49						
BJO1	**Bjornoya**	**4.70**	**140**	Pn	**Pn**	**09 55 53.5**	**-0.3**
BJO1				Sn	**Sn**	**09 56 46.8**	**-1.3**
BJO	**Bjornoya**	**4.72**	**139**	*e*P	**Pn**	**09 55 54.9**	**+0.7**
BJO				*e*S	**Sn**	**09 56 44.8**	**-3.9**
BJO				IAML		09 56 48.1	
	comp=Z,12nm,0.4s						
BJO	**Bjornoya**	**4.72**	**139**	Pn	**Pn**	**09 55 53.5**	**-0.6**
BJO	**Bjornoya**	**4.72**	**139**	*e*P	**Pn**	**09 55 54.8**	**+0.7**
	SNR=49						
BJO				Sn	**Sn**	**09 56 46.8**	**-1.9**
DAG	**Danmarks Havn**	**5.87**	**267**	⇑*i*P	Pn	09 56 02.4	-7.5
DAG				*i* S	Sn	09 57 01.9	-15
JMIC	**Jan Mayen**	**8.51**	**218**	Pn	**Pn**	**09 56 42.9**	**-3.1**
	comp=Z,40nm,0.3s,baz=1.0,slow=3.7,SNR=15						
JMIC	**Jan Mayen**	**8.51**	**218**	*e*P	**Pn**	**09 56 42.6**	**-3.4**
HAMF	**Hammerfest**	**8.81**	**143**	*e*Pn	**Pn**	**09 56 49.6**	**-0.5**
HAMF	**Hammerfest**	**8.81**	**143**	*e*Pn	**Pn**	**09 56 49.6**	**-0.5**
	SNR=50						
KEV	**Kevo**	**10.06**	**139**	*e*Pn	**Pn**	**09 57 09.8**	**+2.5**
	comp=Z,9.8nm,0.6s						
KEV				*e*Sn	**Sn**	**09 59 00.4**	**+0.5**
KEV	**Kevo**	**10.06**	**139**	*e*Pn	**Pn**	**09 57 09.8**	**+2.5**
	comp=Z,9.8nm,0.6s						
KEV				*e*Sn	**Sn**	**09 59 00.4**	**+0.5**
ARA0	**ARCESS Array S**	**10.07**	**142**	Pn	**Pn**	**09 57 07.8**	**+0.3**
	baz=347,slow=12						
ARA0				Sn	**Sn**	**09 58 55.0**	**-5.2**
	baz=345,slow=22						
ARA0	**ARCESS Array S**	**10.07**	**142**	Pn	**Pn**	**09 57 07.8**	**+0.3**
	baz=347,slow=12						
ARA0				Sn	**Sn**	**09 58 55.0**	**-5.2**
	baz=345,slow=22						
ARA0	**ARCESS Array S**	**10.07**	**142**	Pn	**Pn**	**09 57 07.8**	**+0.3**
	SNR=8.0						
ARCES	**ARCESS Array B**	**10.07**	**142**	Pn	**Pn**	**09 57 07.3**	**-0.1**
	comp=Z,1.1nm,0.3s,baz=335,slow=10,SNR=18						
ARCES				Sn	**Sn**	**09 58 55.1**	**-5.1**
	comp=Z,0.5nm,0.3s,baz=347,slow=20,SNR=3.5						
ARCES				LR	LR	10 00 56.7	
	comp=Z,159nm,21.7s,baz=319,slow=37						
ARE0	**ARCESS Array S**	**10.07**	**142**	*e*P	**Pn**	**09 57 04.8**	**-2.6**
ARE0				IAML		09 59 09.3	
	comp=Z,2.1nm,0.7s						
LOF	**Lofoten**	**10.42**	**168**	*e*Pn	**Pn**	**09 57 11.1**	**-1.1**
LOF	**Lofoten**	**10.42**	**168**	*e*Pn	**Pn**	**09 57 11.1**	**-1.1**
	SNR=50						
SUMG	**Summit**	**12.56**	**267**	*i* P	Pn	09 57 33.9	-7.9
SUMG	**Summit**	**12.56**	**267**	*e*Pn	Pn	09 57 35.2	-6.6
	comp=Z,13nm,0.5s						
SUMG				*e*Sn	**Sn**	**09 59 58.3**	**-3.3**
APA0	**Apatity Array**	**12.90**	**133**	Pn	**Pn**	**09 57 45.1**	**-1.0**
	baz=333,slow=16						
APA0	**Apatity Array**	**12.90**	**133**	Pn	**Pn**	**09 57 45.1**	**-1.0**
	baz=333,slow=16						
APA0	**Apatity Array**	**12.90**	**133**	Pn	**Pn**	**09 57 45.1**	**-1.0**
	SNR=4.2						
NB2	**NORSAR Subarra**	**17.45**	**174**	P	**P**	**09 58 50.1**	**+2.8**
NB2	**NORSAR Subarra**	**17.45**	**174**	P	**P**	**09 58 50.1**	**+2.8**
NB2	**NORSAR Subarra**	**17.45**	**174**	P	**P**	**09 58 50.1**	**+2.8**
NOA	**NORSAR Array B**	**17.45**	**174**	LR	LR	10 04 33.8	
	comp=Z,68nm,19.5s,baz=0.0,slow=34						
FIA0	**FINESS Array S**	**17.96**	**151**	P	**P**	**09 58 53.0**	**+0.1**
	baz=350,slow=8.6						
FIA0	**FINESS Array S**	**17.96**	**151**	P	**P**	**09 58 53.0**	**+0.1**
	baz=350,slow=8.6						
FIA0	**FINESS Array S**	**17.96**	**151**	P	**P**	**09 58 53.0**	**+0.1**
	SNR=7.6						
FINES	**FINESS Array B**	**17.96**	**151**	P	**P**	**09 58 53.2**	**+0.4**
	comp=Z,0.2nm,0.3s,baz=327,slow=9.5,SNR=6.0						
FINES				LR	LR	10 05 53.3	
	comp=Z,38nm,20.9s,baz=12,slow=37						
HFS	**Hagfors**	**18.42**	**170**	P	**Pn**	**09 58 59.1**	**+1.1**
	baz=329,slow=12						
HFS	**Hagfors**	**18.42**	**170**	P	**Pn**	**09 58 59.1**	**+1.1**
	baz=329,slow=12						
HFS	**Hagfors**	**18.42**	**170**	P	**Pn**	**09 58 59.1**	**+1.1**
SFJD	**Kangerlussuaq**	**19.56**	**267**	LR	LR	10 07 11.4	
	comp=Z,127nm,21.4s,baz=21,slow=39						
RES	**Resolute Bay**	**21.22**	**314**	LR	LR	10 07 19.0	
	comp=Z,163nm,21.6s,baz=42,slow=36						
NRIK	**Noril'sk**	**21.86**	**70**	LR	LR	10 09 14.7	
	comp=Z,79nm,19.1s,baz=82,slow=40						
OBN	**Obninsk**	**25.37**	**140**	LR	LR	10 10 18.4	
	comp=Z,145nm,19.5s,baz=292,slow=37						
FRB	**Frobisher Bay**	**26.04**	**280**	LR	LR	10 09 48.8	
	comp=Z,159nm,19.9s,baz=24,slow=35						
ARU	**Arti**	**27.71**	**112**	LR	LR	10 12 31.9	
	comp=Z,70nm,21.8s,baz=350,slow=38						
GRFO	**Grafenberg**	**28.82**	**175**	*e*P	**P**	**10 00 41.8**	**+1.0**
	comp=Z,27nm,0.5s						
GRFO	**Grafenberg**	**28.82**	**175**	*e*P	**P**	**10 00 41.8**	**+1.0**
	comp=Z,27nm,0.5s						
AKASG	**Malin Array Be**	**28.86**	**151**	P	**P**	**10 00 41.1**	**-0.1**
	comp=Z,1.0nm,0.4s,baz=344,slow=9.4,SNR=9.2						
AKASG				LR	LR	10 12 15.6	
	comp=Z,63nm,21.3s,baz=205,slow=36						
KIEV	**Kiev**	**28.87**	**151**	*e*P	**P**	**10 00 42.9**	**+1.7**
	comp=Z,8.4nm,1.2s						
KIEV	**Kiev**	**28.87**	**151**	*e*P	**P**	**10 00 42.9**	**+1.7**
	comp=Z,8.4nm,1.2s						
VRAC	**Vranov**	**29.36**	**168**	LR	LR	10 11 46.2	
	comp=Z,79nm,18.8s,baz=342,slow=35						
KHC	**Kasperske Hory**	**29.43**	**172**	*e*P	**P**	**10 00 46.8**	**+0.6**
	comp=Z,13nm,1.0s						
KHC	**Kasperske Hory**	**29.43**	**172**	*e*P	**P**	**10 00 46.9**	**+0.6**
	comp=Z,13nm,1.0s						
GERES	**GERESS Array B**	**29.72**	**172**	LR	LR	10 12 32.0	
	comp=Z,71nm,18.9s,baz=342,slow=36						
INK	**Inuvik**	**31.77**	**334**	LR	LR	10 16 30.3	
	comp=Z,58nm,18.9s,baz=272,slow=41						
SCHQ	**Schefferville**	**33.90**	**271**	LR	LR	10 14 20.5	
	comp=Z,120nm,21.1s,baz=18,slow=35						
YKA	**Yellowknife Ar**	**35.22**	**317**	LR	LR	10 16 36.0	
	comp=Z,5.7nm,21.9s,baz=180,slow=38						
ZALV	**Zalesovo Beam**	**35.26**	**87**	P	**P**	**10 01 40.3**	**+3.1**
	comp=Z,0.5nm,0.3s,baz=334,slow=13,SNR=2.2						
ZALV				LR	LR	10 18 57.0	
	comp=Z,42nm,19.1s,baz=251,slow=41						
ILAR	**Eielson Array**	**36.28**	**342**	P	**P**	**10 01 45.7**	**-0.1**
	comp=Z,0.5nm,0.9s,baz=5.8,slow=4.6,SNR=4.7						
KBZ	**Khabaz**	**37.37**	**136**	P	**P**	**10 01 58.4**	**+3.1**
	comp=Z,1.4nm,0.7s,baz=239,slow=11,SNR=3.7						
KBZ				LR	LR	10 17 37.8	
	comp=Z,59nm,19.9s,baz=27,slow=37						
ESDC	**Sonseca Array**	**39.10**	**194**	P	**P**	**10 02 09.8**	**-0.2**
	comp=Z,0.2nm,0.3s,baz=10,slow=8.0,SNR=4.6						
PAB	**San Pablo**	**39.24**	**195**	*e*P	**P**	**10 02 10.9**	**-0.3**
	comp=Z,0.7nm,0.4s						
PAB	**San Pablo**	**39.24**	**195**	*e*P	**P**	**10 02 10.8**	**-0.3**
	comp=Z,0.7nm,0.4s						
BRTR	**Keskin Array B**	**40.18**	**148**	P	**P**	**10 02 21.8**	**+2.8**
	comp=Z,2.0nm,0.9s,baz=346,slow=7.9,SNR=8.5						
BRTR				LR	LR	10 19 51.0	
	comp=Z,22nm,21.4s,baz=304,slow=38						
ULM	**Lac du Bonnet**	**43.93**	**296**	LR	LR	10 21 02.4	
	comp=Z,106nm,19.8s,baz=342,slow=36						
GEYT	**Alibeck**	**45.44**	**121**	LR	LR	10 25 54.9	
	comp=Z,75nm,18.1s,baz=125,slow=41						
KSRS	**Korea Array**	**59.23**	**53**	LR	LR	10 34 35.8	
	comp=Z,19nm,19.4s,baz=80,slow=40						
TORD	**Torodi Ar. Bea**	**65.29**	**186**	P	**P**	**10 05 24.8**	**+0.1**
	comp=Z,0.9nm,0.6s,baz=1.7,slow=6.8,SNR=12						
TXAR	**Lajitas Array**	**65.62**	**297**	P	**P**	**10 05 25.6**	**-1.2**
	comp=Z,0.5nm,0.7s,baz=44,slow=4.7,SNR=6.5						
TXAR				LR	LR	10 33 03.1	
	comp=Z,51nm,21.7s,baz=0.0,slow=35						
ASAR	**Alice Springs**	**120.06**	**59**	PKP	**PKPdf**	**10 13 31.6**	**-1.5**
	comp=Z,0.2nm,0.6s,baz=12,slow=2.2,SNR=5.4						

*SOME **02** 10:00:10.4, 42°.33N×80°.75E, h0km*

KRNET 02 09:59:19.0±0.1, 39°.79N×76°.55E, mb2.3, 4C-4D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
NRN	**Naryn**	**1.69**	**346**	⇓*e*P	Pn	09 59 49.7	-0.4
	baz=345						
NRN				⇓*e*S	Sn	10 00 12.0	-0.7
	baz=345						
BOOM	**Boomskoye usch**	**2.73**	**351**	⇓*e*P	Pn	10 00 05.0	+0.7
	baz=351						
BOOM				⇓*e*S	Sn	10 00 38.3	+0.1
	baz=351						
ANVS	**Anan'yevo**	**3.10**	**15**	⇑*i*P	Pn	10 00 09.7	+0.3
	baz=15						
ANVS				⇑*i*S	Sn	10 00 47.2	-0.2
	baz=15						
UZB	**Uzynbulak**	**3.83**	**28**	*e*P	Pg	10 00 40.2	+7.7
	1.2nm,0.2s						
UZB				*e*S	Sn	10 01 01.5	-3.8
	4.4nm,0.3s						
KPKS	**Kokpek**	**4.00**	**23**	*e*P	Pg	10 00 46.0	+10
	8.6nm,0.2s						
KPKS				*e*S	Sn	10 01 11.8	+2.4
	12nm,0.3s						
PDGK	**Podgornoye**	**4.17**	**31**	⇑*e*P	Pn	10 00 24.4	+0.4
	baz=31						
PDGK				⇑*i*S	Sn	10 01 11.9	-1.5
	baz=31						
DJR	**Jarkent**	**5.14**	**27**	*e*P	Pb	10 00 49.5	-0.3
	1.0nm,0.1s						
DJR				*e*S	Sn	10 01 18.0	-19
	2.0nm,0.4s						

*ISCJB **02** 10:02:25.8±0.9, 15°.1S±0°.1×73°.6W±0°.1, h98km, mb3.7/3, Error ellipse: s-maj=23.5km s-min=8.1km az=36.8*
*IDC **02** 10:02:25.8±2.1, 15°.04S×73°.42W, h68km±19km, mb3.4/3, mb1 3.9/6,mb1mx3.6/27,mbtmp4.0/6,MS2.6/1,Ms1 2.6/1, ms1mx2.5/13,Error ellipse: s-maj=37.0km s-min=15.2km az=35.0*

ISC 02 10:02:27.3±0.8, 15°.2S±0°.1×73°.6W±0°.1, h98km, n11, σ1°75/14, mb3.7/3, Southern Peru

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
NNA	**Nana**	**4.53**	**315**	P	**Pn**	**10 03 33.0**	**-0.7**
	15nm,0.3s,baz=128,slow=11,SNR=25						
NNA				S	**Sn**	**10 04 22.3**	**-2.9**
	10nm,0.3s,baz=202,slow=11,SNR=4.0						
NNA				LR	LR	10 05 14.8	
	comp=Z,67nm,18.6s,baz=147,slow=38						
LPAZ	**La Paz**	**5.33**	**102**	P	**Pn**	**10 03 46.5**	**+1.3**
	3.0nm,0.3s,baz=273,slow=9.9,SNR=58						
LVC	**Limon Verde**	**8.57**	**150**	P	**Pn**	**10 04 28.8**	**-0.1**
	150nm,0.3s,baz=351,slow=8.6,SNR=43						
SIV	**San Ignacio**	**12.06**	**95**	P	**Pn**	**10 05 13.1**	**-2.8**
	0.7nm,0.3s,baz=288,slow=13,SNR=12						
PTGA	**Pitinga**	**19.68**	**44**	P	**P**	**10 06 47.8**	**-1.0**
	0.9nm,0.3s,baz=211,slow=12,SNR=13						
TXAR	**Lajitas Array**	**52.98**	**327**	P	**P**	**10 11 35.5**	**+1.4**
	0.5nm,0.7s,baz=151,slow=8.3,SNR=8.6						
TXAR				pP	**pP**	**10 12 00.3**	**+2.4**
	0.3nm,0.6s,baz=148,slow=9.2,SNR=4.0						
TORD	**Torodi Ar. Bea**	**79.61**	**73**	P	**P**	**10 14 24.6**	**+0.2**
	1.0nm,0.7s,baz=256,slow=5.0,SNR=5.9						
TORD				pP	**pP**	**10 14 49.9**	**+0.1**
	1.3nm,0.9s,baz=267,slow=4.7,SNR=5.0						
ESDC	**Sonseca Array**	**84.61**	**47**	P	**P**	**10 14 50.7**	**+0.6**
	0.2nm,0.3s,baz=267,slow=5.1,SNR=5.3						
WRA	**Warramunga Ar**	**135.58**	**219**	PKP	**PKPdf**	**10 21 38.6**	**+1.5**
	0.8nm,0.7s,baz=137,slow=1.9,SNR=5.2						
ZALV	**Zalesovo Beam**	**137.81**	**19**	PKP	**PKPdf**	**10 21 41.9**	**+1.8**
	1.5nm,0.6s,baz=312,slow=3.9,SNR=5.3						
SONM	**Songino Array**	**147.48**	**0**	PKPbc	**PKPab**	**10 22 02.0**	**-0.4**
	2.0nm,0.7s,baz=282,slow=0.6,SNR=7.3						

*ISN **02** 10:03:01.5±4.5, 38°.72N×44°.96E, h0km, ML3.4*
*DDA **02** 10:03:17.6, 38°.35N×44°.48E, h8km, Ml3.4*
*NSSP **02** 10:03:21.0, 38°.55N×44°.38E, h8km, Ms3.0*
*ISK **02** 10:03:20.2, 38°.54N×44°.32E, h5km, MD3.3*
*CSEM **02** 10:03:22.4±0.3, 38°.54N×44°.27E, h10km, ML3.4, Error ellipse: s-maj=7.0km s-min=6.9km az=92.0*
*TEH **02** 10:03:23.6, 38°.59N×44°.25E, h18km, ML2.8*

ISC 02 10:03:22.5±1.1, 38°.53N±0°.02×44°.28E±0°.02, h12km±10km, n37, σ1°25/50, 1C-4D, Turkey-Iran border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BASK	**Baskale_VAN**	**0.52**	**204**	*i* P	**Pg**	**10 03 32.5**	**-0.4**
BASK				*i* S	**Sb**	**10 03 41.2**	**-0.1**
BASK	**Baskale_VAN**	**0.52**	**204**	P	**Pg**	**10 03 32.5**	**-0.4**
CLDR	**Caldiran**	**0.67**	**335**	*e*PG	**Pg**	**10 03 34.5**	**-1.2**
CLDR				*e*SG	**Sb**	**10 03 45.0**	**-0.7**
CLDR	**Caldiran**	**0.67**	**335**	*i* P	**Pg**	**10 03 34.7**	**-1.0**
CLDR				*i* S	**Sb**	**10 03 45.1**	**-0.6**
CLDR	**Caldiran**	**0.67**	**335**	*e*Pg	**Pg**	**10 03 34.5**	**-1.2**
CLDR	**Caldiran**	**0.67**	**335**	P	**Pg**	**10 03 34.7**	**-1.0**
CLDR				*e*Sg	**Sb**	**10 03 45.0**	**-0.7**
VMUR	**Van-Muradiye**	**0.72**	**310**	*i* P	**Pb**	**10 03 36.5**	**-0.6**
VMUR				*i* S	**Sn**	**10 03 50.0**	**+0.3**
VMUR	**Van-Muradiye**	**0.72**	**310**	P	**Pb**	**10 03 36.5**	**-0.6**
GEVA	**Gevas**	**0.98**	**258**	*i* P	**Pg**	**10 03 39.1**	**-2.4**
GEVA				*i* S	**Sg**	**10 03 54.9**	**+0.5**
GEVA	**Gevas**	**0.98**	**258**	P	**Pg**	**10 03 39.1**	**-2.4**
HKR	**Hakkari**	**1.04**	**204**	*e*PG	**Pg**	**10 03 41.3**	**-1.3**
HKR				*e*SG	**Sb**	**10 03 57.3**	**+1.0**
HKR	**Hakkari**	**1.04**	**204**	*e*Pg	**Pg**	**10 03 41.3**	**-1.3**
HKR				*e*Sg	**Sb**	**10 03 57.3**	**+1.0**
ISHB	**Shabestar**	**1.08**	**103**	*e*Pg	**Pn**	**10 03 42.9**	**-0.8**
ISHB				*e*Sg	**Sn**	**10 03 58.4**	**-0.3**
ISHB				*e*AMB	AMB	10 04 02.5	
	comp=Z,5µm,0.2s						
IMRD	**Marand**	**1.13**	**80**	*e*Pg	**Pn**	**10 03 43.7**	**-0.6**
IMRD				*e*AMB	AMB	10 04 06.9	
	comp=Z,9µm,0.2s						
IMRD	**Marand**	**1.13**	**80**	*e*Pg	**Pn**	**10 03 43.7**	**-0.6**
TUTA	**Tutak**	**1.44**	**308**	*i* P	**Pb**	**10 03 49.2**	**-0.2**
TUTA				*i* S	**Sg**	**10 04 10.1**	**+1.2**
TUTA	**Tutak**	**1.44**	**308**	P	**Pb**	**10 03 49.2**	**-0.2**
AGRB	**Hanur-Agry**	**1.45**	**317**	*e*PN	**Pb**	**10 03 49.1**	**-0.4**
AGRB	**Hanur-Agry**	**1.45**	**317**	*e*Pn	**Pb**	**10 03 49.1**	**-0.4**
ITBZ	**Tabriz**	**1.50**	**101**	*e*Pg	**Pg**	**10 03 51.4**	**+0.1**
ITBZ				*e*AMB	AMB	10 04 14.4	
	comp=Z,531nm,0.1s						
ITBZ	**Tabriz**	**1.50**	**101**	*e*Pg	**Pg**	**10 03 51.4**	**+0.1**
GNI	**Garni**	**1.66**	**12**	⇑*i*P	**Pg**	**10 03 54.5**	**+0.1**
GNI				⇓*i*S	**Sg**	**10 04 17.4**	**+1.5**
SIRT	**Sirnak**	**1.78**	**235**	*e*PN	**Pb**	**10 03 54.5**	**-0.6**
SIRT	**Sirnak**	**1.78**	**235**	*e*Pn	**Pb**	**10 03 54.5**	**-0.6**
SIRN	**S¨–rnak**	**1.80**	**236**	*i* P	**Pb**	**10 03 55.7**	**+0.2**
SIRN				*i* S	**Sb**	**10 04 20.0**	**+2.1**
SIRN	**S¨–rnak**	**1.80**	**236**	P	**Pb**	**10 03 55.7**	**+0.2**
GRS	**Goris**	**1.87**	**58**	⇓*i*P	**Pg**	**10 03 59.0**	**+0.6**
GRS				⇓*i*S	**Sg**	**10 04 26.0**	**+3.3**
GRS	**Goris**	**1.87**	**58**	⇓P	**Pg**	**10 03 59.0**	**+0.6**
VADZ	**Vardenis**	**2.00**	**34**	*e*P	**Pb**	**10 03 57.0**	**-1.9**
VADZ				*e*S	**Sg**	**10 04 29.0**	**+2.3**
VADZ	**Vardenis**	**2.00**	**34**	P	**Pb**	**10 03 57.0**	**-1.9**
IHRS	**Heris**	**2.18**	**95**	*e*AMB	AMB	10 04 38.7	
	comp=Z,465nm,0.2s						
IBST	**Bostanabad**	**2.22**	**111**	*e*Pn	**Pb**	**10 04 00.4**	**-2.3**
IBST	**Bostanabad**	**2.22**	**111**	*e*Pn	**Pb**	**10 04 00.4**	**-2.3**
SVAN	**Silvan-Diyarba**	**2.45**	**262**	*e*PN	**Pn**	**10 04 02.9**	**+0.6**
SVAN	**Silvan-Diyarba**	**2.45**	**262**	*e*Pn	**Pn**	**10 04 02.9**	**+0.6**
MAZI	**Mazidag**	**3.21**	**252**	*e*PN	**Pn**	**10 04 13.8**	**+0.9**
MAZI	**Mazidag**	**3.21**	**252**	*e*Pn	**Pn**	**10 04 13.8**	**+0.9**

*ISCJB **02** 10:04:31.5±0.9, 67°.88N±0°.05×32°.9E±0°.1, h0km, Error ellipse: s-maj=7.6km s-min=4.9km az=32.2*
*HEL **02** 10:04:33.8±0.6, 68°.01N×32°.99E, h0km, ML2.5, Explosion*
*CSEM **02** 10:04:33.8±0.7, 68°.00N×32°.40E, h2km, ML2.9, Error ellipse: s-maj=14.3km s-min=7.7km az=48.0, Mining explosion.*
*NAO **02** 10:04:34.1±1.8, 67°.48N×34°.00E, ML2.9*
*KOLA **02** 10:04:35.7, 67°.63N×33°.93E, h0km*
*IDC **02** 10:04:38.4±3.0, 67°.68N×33°.39E, h0km, mb1 3.2/3, mb1mx3.0/42,mbtmp3.1/3,ML3.0/3, Error ellipse: s-maj=33.0km s-min=10.8km az=72.0*

ISC 02 10:04:30.6±1.3, 67°.94N±0°.04×33°.24E±0°.06, h0km, n32, σ1°37/47, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
APA0	**Apatity Array**	**0.34**	**196**	Pg	**Pn**	**10 04 42.1**	**-0.8**
	baz=90,slow=11						
APA0				Lg	Lg	10 04 47.3	
	baz=108,slow=37						
APA0				Rg	Rg	10 04 50.3	
	baz=81,slow=56						
APA0	**Apatity Array**	**0.34**	**196**	Pg	**Pn**	**10 04 42.1**	**-0.8**
	baz=90,slow=11						
APA0				Lg	Lg	10 04 47.3	
	baz=108,slow=37						
APA0				Rg	Rg	10 04 50.3	
	baz=81,slow=56						
APA0	**Apatity Array**	**0.34**	**196**	P	**Pn**	**10 04 42.1**	**-0.8**
APA0				S	**Sb**	**10 04 46.8**	**+1.2**
APA0	**Apatity Array**	**0.34**	**196**	Pg	**Pn**	**10 04 42.1**	**-0.8**
	SNR=241						
APA0				Lg	Lg	10 04 47.3	
	SNR=9.7						
APA	**Apatity**	**0.37**	**170**	P	**Pb**	**10 04 39.5**	**-0.6**
APA				S	**Sg**	**10 04 42.2**	**-0.4**
APZ9	**Apatity**	**0.37**	**170**	Pg	**Pb**	**10 04 39.5**	**-0.6**
APZ9				Lg	Lg	10 04 42.5	
APZ9	**Apatity**	**0.37**	**170**	Pg	**Pb**	**10 04 39.5**	**-0.6**
APZ9				Lg	Lg	10 04 42.5	
APZ9	**Apatity**	**0.37**	**170**	Pg	**Pb**	**10 04 39.5**	**-0.6**
APZ9				Lg	Lg	10 04 42.5	
KU6	**Riekki**	**2.33**	**216**	PB	**Pg**	**10 05 14.7**	**-0.5**
KU6				MSG		10 05 43.0	
	comp=Z,23nm,0.2s						
KU6				SG	**Sg**	**10 05 45.3**	**0.0**
KU6	**Riekki**	**2.33**	**216**	Pb	**Pg

KBS *e* 10 06 40.8
KBS *eS* Sn 10 06 59.5 -2.8
KBS IAML 10 07 05.4
comp=Z,3.7nm,0.5s
HOPEN Hopen 2.16 123 *eP* Pn 10 06 47.7 -1.8
HOPEN *eS* Sn 10 07 13.6 -3.2

---

*ISCJB **02** 10:08:34.0±0.9, 55.44N×163.38E±0.05, h16km±7km, mb3.9/14, MS3.4/6, Error ellipse: s-maj=4.8km s-min=4.4km az=3.4*
*KRSC **02** 10:08:34.2±1.1, 55.48N×163.38E, h54km±20km, ML4.5*
*MOS **02** 10:08:36.2±1.1, 55.48N×163.22E, h42km, mb4.2/10, Error ellipse: s-maj=8.4km s-min=6.5km az=74.8*
*IDC **02** 10:08:38.9±3.1, 55.51N×162.86E, h49km±32km, mb3.7/14, mb1 4.0/15, mb1mx3.8/32, mbtmp4.0/15, ML2.5/1, MS3.4/9, Ms1 3.4/9, ms1mx3.1/41, Error ellipse: s-maj=26.1km s-min=14.2km az=141.0*

ISC 02 10:08:35.9±0.6, 55.48N±0.03×163.32E±0.03, h21km±3km, n82, σ1s41/101, mb4.0/14, MS3.4/6, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KBG	**Krutoberegovo**	**0.85**	**336**	PN	**Pb**	**10 08 50.6**	**-1.3**
KBG				S	**Sn**	**10 09 04.1**	**-0.2**
KBG	**Krutoberegovo**	**0.85**	**336**	*eP*	**Pb**	**10 08 50.6**	**-1.3**
KBG				*eS*	**Sn**	**10 09 04.1**	**-0.2**
MKZ	**Mys Kozlova**	**1.30**	**225**	PN	**Pn**	**10 08 55.7**	**-3.0**
MKZ				S	**Sn**	**10 09 13.6**	**-1.8**
MKZ	**Mys Kozlova**	**1.30**	**225**	*eP*	**Pn**	**10 08 55.7**	**-3.0**
MKZ				*eS*	**Sn**	**10 09 13.6**	**-1.8**
SMKR	**Semkarok**	**1.52**	**318**	PN	**Pn**	**10 09 00.6**	**-1.2**
SMKR				S	**Sb**	**10 09 24.0**	**+1.9**
SMKR	**Semkarok**	**1.52**	**318**	*eP*	**Pn**	**10 09 00.6**	**-1.2**
SMKR				*eS*	**Sb**	**10 09 24.0**	**+1.9**
ZLN	**Zelenaya**	**1.52**	**292**	PN	**Pn**	**10 09 00.4**	**-1.4**
ZLN	**Zelenaya**	**1.52**	**292**	*eP*	**Pn**	**10 09 00.4**	**-1.4**
BKI	**Bering**	**1.54**	**99**	PN	**Pn**	**10 09 00.8**	**-1.2**
BKI				S	**Sb**	**10 09 22.2**	**-0.5**
BKI	**Bering**	**1.54**	**99**	*eP*	**Pn**	**10 09 00.8**	**-1.2**
BKI				*eS*	**Sb**	**10 09 22.2**	**-0.5**
CIRR	**Tsirk**	**1.58**	**295**	PN	**Pn**	**10 09 00.6**	**-2.2**
CIRR				S	**Sn**	**10 09 22.6**	**0.0**
CIRR	**Tsirk**	**1.58**	**295**	*eP*	**Pn**	**10 09 00.6**	**-2.2**
CIRR				*eS*	**Sn**	**10 09 22.6**	**0.0**
LGNR	**Loginova**	**1.60**	**293**	PN	**Pn**	**10 09 01.8**	**-1.3**
LGNR	**Loginova**	**1.60**	**293**	*eP*	**Pn**	**10 09 01.8**	**-1.3**
BZMR	**Bezymyannaya**	**1.66**	**287**	PN	**Pn**	**10 09 02.2**	**-1.7**
BZMR				S	**Sn**	**10 09 25.9**	**+1.3**
BZMR	**Bezymyannaya**	**1.66**	**287**	*eP*	**Pn**	**10 09 02.2**	**-1.7**
BZMR				*eS*	**Sn**	**10 09 25.9**	**+1.3**
SRKR	**Sorokina**	**1.68**	**315**	PN	**Pn**	**10 09 03.8**	**-0.3**
SRKR				S	**Sb**	**10 09 28.2**	**+1.3**
SRKR	**Sorokina**	**1.68**	**315**	*eP*	**Pn**	**10 09 03.8**	**-0.3**
SRKR				*eS*	**Sb**	**10 09 28.2**	**+1.3**
KLY	**Klyuchi**	**1.72**	**300**	PN	**Pn**	**10 09 02.1**	**-2.3**
KLY				S	**Sn**	**10 09 23.8**	**-1.9**
KLY	**Klyuchi**	**1.72**	**300**	*eP*	**Pn**	**10 09 02.1**	**-2.3**
KLY				*eS*	**Sn**	**10 09 23.8**	**-1.9**
KRSR	**Krestovskiy**	**1.72**	**297**	PN	**Pn**	**10 09 02.7**	**-1.9**
KRSR				S	**Sn**	**10 09 25.4**	**-0.5**
KRSR	**Krestovskiy**	**1.72**	**297**	*eP*	**Pn**	**10 09 02.7**	**-1.9**
KRSR				*eS*	**Sn**	**10 09 25.4**	**-0.5**
KIRR	**Kirishev**	**1.75**	**287**	PN	**Pn**	**10 09 04.4**	**-0.6**
KIRR				S	**Sb**	**10 09 28.9**	**+0.1**
KIRR	**Kirishev**	**1.75**	**287**	*eP*	**Pn**	**10 09 04.4**	**-0.6**
KIRR				*eS*	**Sb**	**10 09 28.9**	**+0.1**
KMNR	**Kamenistaya**	**1.77**	**280**	PN	**Pn**	**10 09 04.3**	**-1.0**
KMNR				S	**Sn**	**10 09 28.6**	**+1.5**
KMNR	**Kamenistaya**	**1.77**	**280**	*eP*	**Pn**	**10 09 04.3**	**-1.0**
KMNR				*eS*	**Sn**	**10 09 28.6**	**+1.5**
KPT	**Kopyto**	**1.82**	**287**	PN	**Pn**	**10 09 05.1**	**-0.8**
KPT				S	**Sb**	**10 09 30.5**	**-0.2**
KPT	**Kopyto**	**1.82**	**287**	*eP*	**Pn**	**10 09 05.1**	**-0.8**
KPT				*eS*	**Sb**	**10 09 30.5**	**-0.2**
TUMR	**Tumrok**	**1.82**	**265**	PN	**Pn**	**10 09 06.5**	**+0.5**
TUMR				S	**Sn**	**10 09 29.1**	**+0.7**
TUMR	**Tumrok**	**1.82**	**265**	*eP*	**Pn**	**10 09 06.5**	**+0.5**
TUMR				*eS*	**Sn**	**10 09 29.1**	**+0.7**
KOZ	**Kozyrevsk**	**2.03**	**288**	PN	**Pn**	**10 09 09.4**	**+0.6**
KOZ	**Kozyrevsk**	**2.03**	**288**	*eP*	**Pn**	**10 09 09.4**	**+0.6**
ESO	**Esso**	**2.65**	**282**	PN	**Pn**	**10 09 17.9**	**+0.6**
ESO	**Esso**	**2.65**	**282**	*eP*	**Pn**	**10 09 17.9**	**+0.6**
SPN	**Mys Shipunski**	**3.07**	**220**	PN	**Pn**	**10 09 23.3**	**+0.3**
SPN				S	**Sn**	**10 10 02.0**	**+2.9**
SPN	**Mys Shipunski**	**3.07**	**220**	*eP*	**Pn**	**10 09 23.3**	**+0.3**
SPN				*eS*	**Sn**	**10 10 02.0**	**+2.9**
KRER	**Koryakskii**	**3.45**	**233**	PN	**Pn**	**10 09 27.9**	**-0.5**
KRER	**Koryakskii**	**3.45**	**233**	*eP*	**Pn**	**10 09 27.9**	**-0.5**
AVH	**Avacha**	**3.48**	**232**	PN	**Pn**	**10 09 28.4**	**-0.3**
AVH	**Avacha**	**3.48**	**232**	*eP*	**Pn**	**10 09 28.4**	**-0.3**
GNL	**Ganaly**	**3.60**	**242**	PN	**Pn**	**10 09 29.5**	**-1.0**
GNL	**Ganaly**	**3.60**	**242**	*eP*	**Pn**	**10 09 29.5**	**-1.0**
DALK	**Dalny**	**3.63**	**229**	PN	**Pn**	**10 09 30.6**	**-0.1**
DALK	**Dalny**	**3.63**	**229**	*eP*	**Pn**	**10 09 30.6**	**-0.1**
PET	**Petropavlovsk**	**3.68**	**230**	*e*PN	**Pn**	**10 09 32.2**	**+0.8**
PET				*e*S	**Sn**	**10 10 17.4**	**+3.3**
PET				pmax	pmax		
	comp=Z,230nm,0.8s						
PET				smax	smax		
	comp=E,312nm,1.0s						
PET				smax	smax		
	comp=N,255nm,0.7s						
PET				MLR	MLR		
	comp=Z,600nm,16.0s						
OSSR	**Ossora**	**3.78**	**358**	PN	**Pn**	**10 09 34.3**	**+1.5**
OSSR	**Ossora**	**3.78**	**358**	*eP*	**Pn**	**10 09 34.3**	**+1.5**
KRMR	**Karymshinskiy**	**4.04**	**231**	PN	**Pn**	**10 09 36.8**	**+0.4**
KRMR	**Karymshinskiy**	**4.04**	**231**	*eP*	**Pn**	**10 09 36.8**	**+0.4**
PETK	**Petropavlovsk-**	**4.06**	**236**	P	**Pn**	**10 09 36.0**	**-0.6**
	comp=Z,1.6nm,0.3s,baz=68,slow=16,SNR=20						
PETK				LR	LR	10 11 13.8	
	comp=Z,215nm,19.1s,baz=55,slow=40						
RUS	**Russkaya**	**4.17**	**225**	PN	**Pn**	**10 09 38.9**	**+0.8**
RUS	**Russkaya**	**4.17**	**225**	*eP*	**Pn**	**10 09 38.9**	**+0.8**
APC	**Apacha**	**4.43**	**237**	PN	**Pn**	**10 09 43.9**	**+2.2**
APC	**Apacha**	**4.43**	**237**	*eP*	**Pn**	**10 09 43.9**	**+2.2**
ASAK	**Asacha**	**4.46**	**228**	PN	**Pn**	**10 09 43.8**	**+1.6**
ASAK	**Asacha**	**4.46**	**228**	*eP*	**Pn**	**10 09 43.8**	**+1.6**
MA2	**Magadan**	**7.90**	**306**	LR	LR	10 13 46.9	
	comp=Z,223nm,20.9s,baz=110,slow=40						
YAK	**Yakutsk**	**18.47**	**304**	LR	LR	10 20 45.7	
	comp=Z,80nm,18.6s,baz=88,slow=40						
KLR	**Kul'dur**	**20.15**	**265**	LR	LR	10 21 46.8	
	comp=Z,124nm,19.2s,baz=72,slow=40						
TIXI	**Tiksi**	**21.80**	**331**	LR	LR	10 22 41.6	
	comp=Z,115nm,18.5s,baz=97,slow=39						
USRK	**Ussuriysk Ar.**	**22.94**	**254**	LR	LR	10 23 32.9	
	comp=Z,95nm,18.9s,baz=352,slow=39						
MJAR	**Matsushiro Arr**	**25.51**	**233**	P	**P**	**10 14 00.9**	**-1.6**
	comp=Z,5.3nm,1.0s,baz=22,slow=8.3,SNR=6.3						
ILAR	**Eielson Array**	**25.80**	**49**	P	**P**	**10 14 05.2**	**+0.2**
	comp=Z,1.9nm,0.8s,baz=267,slow=8.6,SNR=17						
INK	**Inuvik**	**30.82**	**40**	P	**P**	**10 14 50.8**	**+1.1**
	comp=Z,2.1nm,0.6s,baz=297,slow=5.7,SNR=11						
NRIK	**Noril'sk**	**35.08**	**323**	LR	LR	10 30 58.7	
	comp=Z,84nm,20.1s,baz=60,slow=38						
DLBC	**Dease Lake**	**35.13**	**57**	P	**P**	**10 15 29.5**	**+2.1**
	comp=Z,1.6nm,0.7s,baz=264,slow=13,SNR=4.7						
H11N2	**WAKE ISLAND Hy**	**35.80**	**174**	T	T	10 54 35.7	
	baz=357,slow=76,SNR=86						
H11N3	**WAKE ISLAND Hy**	**35.81**	**174**	T	T	10 54 36.2	
	baz=357,slow=76,SNR=14						
H11N1	**WAKE ISLAND Hy**	**35.81**	**174**	T	T	10 54 35.7	
	baz=357,slow=76,SNR=53						
YKA	**Yellowknife Ar**	**40.13**	**46**	P	**P**	**10 16 10.4**	**+0.9**
	comp=Z,2.2nm,0.8s,baz=302,slow=8.3,SNR=3.6						
ARU	**Arti**	**52.91**	**318**	LR	LR	10 41 02.1	
	comp=Z,47nm,20.2s,baz=331,slow=37						
PDAR	**Pinedale Array**	**54.74**	**64**	P	**P**	**10 18 04.9**	**+1.2**
	comp=Z,1.1nm,0.7s,baz=306,slow=3.5,SNR=10						
ULM	**Lac du Bonnet**	**55.82**	**50**	P	**P**	**10 18 12.3**	**+1.3**
	comp=Z,1.7nm,0.5s,baz=354,slow=9.2,SNR=3.1						
FINES	**FINESS Array B**	**58.66**	**338**	P	**P**	**10 18 30.6**	**-0.3**
	comp=Z,0.6nm,0.6s,baz=24,slow=14,SNR=2.6						
CMAR	**Chiang Mai Arr**	**60.50**	**260**	LR	LR	10 47 36.7	
	comp=Z,46nm,18.3s,baz=300,slow=39						
NB2	**NORSAR Subarra**	**61.75**	**345**	P	**P**	**10 18 51.2**	**-0.9**
	comp=Z,0.6nm,0.5s,baz=19,slow=6.9						
NOA	**NORSAR Array B**	**61.75**	**345**	P	**P**	**10 18 51.0**	**-1.1**
	comp=Z,0.9nm,0.7s,baz=18,slow=6.8,SNR=5.4						
TXAR	**Lajitas Array**	**68.00**	**70**	P	**P**	**10 19 34.9**	**+1.5**
	comp=Z,1.5nm,0.6s,baz=298,slow=4.3,SNR=22						
BRTR	**Keskin Array B**	**75.93**	**322**	P	**P**	**10 20 17.5**	**-3.3**
	comp=Z,1.0nm,1.0s,baz=346,slow=8.2,SNR=3.5						
WRA	**Warramunga Arr**	**79.06**	**208**	P	**P**	**10 20 36.8**	**-1.4**
	comp=Z,0.6nm,0.8s,baz=16,slow=6.0,SNR=5.7						
ASAR	**Alice Springs**	**82.73**	**207**	P	**P**	**10 20 56.7**	**-1.0**
	comp=Z,0.9nm,0.9s,baz=15,slow=5.5,SNR=6.0						
ASAR				pP	**sP**	**10 21 08.1**	**+0.8**
	comp=Z,0.7nm,0.6s,baz=11,slow=4.2,SNR=4.3						
ESDC	**Sonseca Array**	**84.59**	**350**	P	**P**	**10 21 07.3**	**-0.1**
	comp=Z,0.4nm,0.5s,baz=9.6,slow=4.6,SNR=4.2						

IDC 02 10:28:31.7±405.0, 46.64N×46.63E, h0km, Error ellipse: s-maj=204.1km s-min=135.7km az=13.0, Ukraine-Moldova-Southwestern Russia region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I31KZ	**AKTYUBINSK INF**	**8.45**	**59**	*i*		11 07 15.0	
	baz=249,slow=316,SNR=2.9						
I26DE	**FREYUNG INFRAS**	**22.15**	**288**	*i*		12 44 00.0	
	baz=83,slow=328,SNR=0.5						
I46RU	**ZALESOVO INFRA**	**25.22**	**59**	*i*		13 02 50.0	
	baz=264,slow=305,SNR=14						

IDC 02 10:53:13.9±437.0, 49.99N×135.94E, h0km, Error ellipse: s-maj=200.5km s-min=125.3km az=29.0, Southeastern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I45RU	**USSURIYSK INFR**	**6.39**	**207**	*i*		11 33 40.0	
	baz=26,slow=323,SNR=2.6						
I44RU	**PETROPAVLOVSK**	**13.89**	**69**	*i*		12 25 30.0	
	baz=262,slow=315,SNR=0.6						
I34MN	**SONGINO INFRAS**	**19.48**	**275**	*i*		12 54 40.0	
	baz=64,slow=325,SNR=0.3						

---

*BJI **02** 10:55:48.8, 52.20N×171.70W, h30km, mb6.8/85, mB7.0/71, Ms7.1/94, Ms7 7.1/86*
*MOS **02** 10:55:52.9±0.9, 52.24N×171.70W, h43km, mb6.7/164, MS6.8/87, Error ellipse: s-maj=5.8km s-min=4.8km az=79.0 Broadband fault plane solution: P waves. M_o3.90000×10^19 NP1:φs8.00000°, δ71.00000°, λ147.00000°. NP2:φs110.00000°, δ59.00000°, λ22.00000°. Principal axes: T Plg36.0000°, Azm326.0000°; N Plg53.0000°, Azm162.0000°; P Plg8.0000°, Azm61.0000°;*
*GCMT **02** 10:55:53.6±0.0, 51.91N×171.56W, h39km, MW6.9/147, Moment Tensor Solution. s147,c389; s147,c724; Duration: 6s5 Moment tensor: Scale 10^19Nm; M_{rr}1.21±.01; $M_{\theta\theta}$0.70±.01; $M_{\phi\phi}$-1.90±.01; $M_{r\theta}$0.65±.01; $M_{\theta\phi}$0.74±.01; $M_{r\phi}$1.43±.01; Best double couple: M_o2.39700×10^19 NP1:φs15.00000°, δ71.00000°, λ123.00000°. NP2:φs132.00000°, δ38.00000°, λ32.00000°. Principal axes: T 2.2670, Plg52.0000°, Azm324.0000°; N 0.2690, Plg31.0000°, Azm183.0000°; P -2.5270, Plg19.0000°, Azm81.0000°; nsta1 refers to body waves, cutoff=50s. nsta2 refers to surface/mantle waves, cutoff=50s.*
*NEIC **02** 10:55:53.6±0.1, 52.17N×171.71W, h32km, mb6.5/299, ME7.0, MS6.9/298, MW6.8, MW6.8, MW6.9 Error ellipse: s-maj=3.4km s-min=2.1km az=173.0, Moment Tensor Solution. s10 Moment tensor: Scale 10^19Nm; M_{rr}0.86; $M_{\theta\theta}$0.75; $M_{\phi\phi}$-1.60; $M_{r\theta}$0.52; $M_{\theta\phi}$0.57; $M_{r\phi}$0.84; Principal axes: T 1.6300, Plg47.0000°, Azm334.0000°; N 0.2900, Plg39.0000°, Azm184.0000°; P -1.9200, Plg15.0000°, Azm81.0000°; Broadband fault plane solution: P waves. NP1:φs122.00000°, δ44.00000°, λ30.00000°. NP2: φs10.00000°, δ70.00000°, λ130.00000°. Principal axes: T Plg49.0000°, Azm323.0000°; N Plg0.0000°, Azm0.0000°; P Plg15.0000°, Azm72.0000°; Complex earthquake observed on broadband displacement seismograms. A small event is followed by at least one larger event about 2 seconds later. Depth from synthetics of broadband displacement seismograms based on first event. Energy computed from BB mechanism.*
NEIC Felt throughout the Aleutian Islands. A tsunami with a wave height of 6 cm was recorded at Atka.
*IDC **02** 10:55:54.6±1.1, 52.24N×171.70W, h38km±8km, mb5.9/42, mb1 6.0/44, mb1mx6.0/46, mbtmp6.1/44, ML5.2/2, MS6.7/64, Ms1 6.7/64, ms1mx6.6/77 Error ellipse: s-maj=12.0km s-min=8.2km az=175.0*
*NEIC **02** 10:55:54.0±0.0, 52.79N×171.85W, h45km, Moment Tensor Solution. s82 Moment tensor: Scale 10^19Nm; M_{rr}1.07; $M_{\theta\theta}$0.69; $M_{\phi\phi}$-1.76; $M_{r\theta}$0.63; $M_{\theta\phi}$0.79; $M_{r\phi}$1.77; Best double couple: M_o2.60000×10^19 NP1:φs14.00000°, δ75.00000°, λ120.00000°. NP2:φs128.00000°, δ34.00000°, λ28.00000°. Principal axes: T 2.4100, Plg50.0000°, Azm318.0000°; N 0.2600, Plg29.0000°, Azm185.0000°; P -2.6700, Plg23.0000°, Azm81.0000°;*
*ISCJB **02** 10:55:54.5±0.2, 52.18N±0.01×171.62W±0.01, h56km±2km, mb6.5/728, MS6.8/611 Error ellipse: s-maj=2.3km s-min=1.3km az=0.4*
*NEIC **02** 10:56:13.4±0.0, 52.12N×171.79W, h43km, Moment Tensor Solution. s73 Moment tensor: Scale 10^19Nm; M_{rr}1.20; $M_{\theta\theta}$0.61; $M_{\phi\phi}$-1.81; $M_{r\theta}$0.73; $M_{\theta\phi}$0.76; $M_{r\phi}$1.02; Best double couple: M_o2.20000×10^19 NP1:φs131.00000°, δ43.00000°, λ34.00000°. NP2:φs15.00000°, δ67.00000°, λ128.00000°. Principal axes: T 2.1000, Plg52.0000°, Azm330.0000°; N 0.1100, Plg35.0000°, Azm179.0000°; P -2.2200, Plg14.0000°, Azm79.0000°;*

ISC 02 10:55:55.0±0.3, 52.10N±0.03×171.72W±0.02, h46km±2km, h46km:pP-P, n2855, σ1s58/3051, mb6.5/747, MS6.9/618, 236C-44D, Fox Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KOSE	**Korovin Southe**	**1.46**	**281**	*e*Pn	**Pn**	**10 56 21.8**	**+2.9**
KOFP	**Korovin Flat P**	**1.48**	**278**	*e*Pn	**Pn**	**10 56 21.5**	**+2.4**
KONE	**Korovin Northe**	**1.50**	**282**	*e*Pn	**Pn**	**10 56 22.6**	**+3.1**
ATKA	**Atka Island**	**1.53**	**275**	*e*Pn	**Pn**	**10 56 21.0**	**+1.2**
ATKA				*e*Sn	**Sn**	**10 56 42.9**	**+4.4**
KOKL	**Mount Kliuchef**	**1.54**	**279**	*e*Pn	**Pn**	**10 56 22.7**	**+2.6**
NIKH	**Nikolski High**	**1.96**	**62**	*e*Pn	**Pn**	**10 56 24.5**	**-1.1**
NIKH				*e*Sn	**Sn**	**10 56 50.6**	**+1.7**
OKSO	**Okmok South**	**2.50**	**58**	*e*Pn	**Pn**	**10 56 33.8**	**+0.6**
OKSO				*e*Sn	**Sn**	**10 57 04.9**	**+2.4**
OKCE	**Okmok Cone E**	**2.54**	**57**	*e*Pn	**Pn**	**10 56 34.3**	**+0.7**
OKTU	**Okmok Mt. Tuli**	**2.58**	**59**	*e*Pn	**Pn**	**10 56 35.1**	**+0.8**
OKFG	**Magazine Ridge**	**2.66**	**59**	*e*Pn	**Pn**	**10 56 35.5**	**+0.2**
OKFG				*e*Sn	**Sn**	**10 57 08.6**	**+2.3**
GSTR	**Great Sitkin T**	**2.68**	**272**	*e*Pn	**Pn**	**10 56 37.8**	**+2.2**
GSMY	**Great Sitkin M**	**2.68**	**270**	*e*Pn	**Pn**	**10 56 36.9**	**+1.4**
GSTD	**Great Sitkin T**	**2.73**	**271**	*e*Pn	**Pn**	**10 56 37.9**	**+1.5**
GSCK	**Great Sitkin C**	**2.75**	**270**	*e*Pn	**Pn**	**10 56 37.9**	**+1.4**
ETKA	**Kagalaska Isla**	**2.91**	**267**	*e*Pn	**Pn**	**10 56 39.7**	**+0.9**
ADAG	**Mount Adagdak**	**3.02**	**270**	*e*Pn	**Pn**	**10 56 42.5**	**+2.3**
KIRH	**Kanaga Island**	**3.33**	**269**	*e*Pn	**Pn**	**10 56 46.9**	**+2.4**
KIKV	**Kanaga Island**	**3.38**	**268**	*e*Pn	**Pn**	**10 56 47.3**	**+2.1**
MGOD	**Makushin Gods**	**3.39**	**58**	*e*Pn	**Pn**	**10 56 45.4**	**+0.1**
KICM	**Kanaga Island**	**3.39**	**269**	*e*Pn	**Pn**	**10 56 47.9**	**+2.6**
MCIR	**Makushin Cirqu**	**3.45**	**56**	*e*Pn	**Pn**	**10 56 47.0**	**+0.8**
MSW	**Makushin Switc**	**3.49**	**57**	*e*Pn	**Pn**	**10 56 47.1**	**+0.4**
MSW				*e*Sn	**Sn**	**10 57 29.3**	**+2.5**
MTBL	**Makushin Table**	**3.57**	**56**	*e*Pn	**Pn**	**10 56 48.5**	**+0.6**
UNV	**Unalaska Valle**	**3.60**	**59**	*e*Pn	**Pn**	**10 56 48.7**	**+0.4**
UNV				*e*Sn	**Sn**	**10 57 33.4**	**+3.9**
TAPA	**Tanaga Point A**	**3.78**	**268**	*e*Pn	**Pn**	**10 56 53.0**	**+2.3**
TAFL	**Tanaga Flats**	**3.84**	**267**	*e*Pn	**Pn**	**10 56 53.9**	**+2.4**
TAFP	**Tanaga Falls P**	**3.88**	**269**	*e*Pn	**Pn**	**10 56 54.3**	**+2.3**
AKRB	**Akutan Reef Bi**	**3.96**	**57**	*e*Pn	**Pn**	**10 56 54.5**	**+1.3**
AKMO	**Akutan Morgan**	**3.98**	**58**	*e*Pn	**Pn**	**10 56 54.5**	**+1.1**
AKLV	**Akutan Long Va**	**4.04**	**57**	*e*Pn	**Pn**	**10 56 55.6**	**+1.4**
AKUT	**Akutan**	**4.12**	**58**	*e*Pn	**Pn**	**10 56 55.7**	**+0.4**
AKUT				*e*Sn	**Sn**	**10 57 44.8**	**+2.7**
GAEA	**Gareloi East**	**4.36**	**269**	*e*Pn	**Pn**	**10 57 01.0**	**+2.3**
GALAA	**Gareloi Lava P**	**4.38**	**268**	*e*Pn	**Pn**	**10 57 01.0**	**+2.1**
WESP	**Westdahl Peak**	**4.83**	**58**	*e*Pn	**Pn**	**10 57 06.5**	**+1.3**
WESE	**West Dahl East**	**4.89**	**58**	*e*Pn	**Pn**	**10 57 06.7**	**+0.6**
WESN	**West Dahl Nort**	**4.94**	**57**	*e*Pn	**Pn**	**10 57 07.7**	**+1.1**
SPIA	**Saint Paul Isl**	**5.16**	**9**	*e*Pn	**Pn**	**10 57 12.2**	**+2.6**
SSLN	**Shishaldin Nor**	**5.35**	**56**	*e*Pn	**Pn**	**10 57 13.2**	**+0.9**
DT1	**Dutton Round H**	**6.37**	**58**	*e*Pn	**Pn**	**10 57 26.6**	**+0.4**
DTNA	**Dutton South F**	**6.41**	**58**	*e*Pn	**Pn**	**10 57 26.9**	**+0.2**
SDPT	**Sand Point**	**7.42**	**60**	*e*Pn	**Pn**	**10 57 39.7**	**-0.8**
SMY	**Shemya**	**8.70**	**280**	*e*P	**Pn**	**10 57 59.6**	**+1.6**
SMY	**Shemya**	**8.70**	**280**	*e*Pn	**Pn**	**10 57 59.6**	**+1.6**
CHGN	**Chignik**	**8.86**	**56**	*e*Pn	**Pn**	**10 57 59.3**	**-0.9**
GAMB	**Gambell**	**11.71**	**0**	*e*Pn	**Pn**	**10 58 42.0**	**+2.9**
OHAK	**Old Harbor**	**11.82**	**57**	*e*Pn	Pn	10 58 35.1	-5.6
KDAK	**Kodiak Island**	**12.36**	**55**	*i* P	**Pn**	**10 58 44.5**	**-3.6**
KDAK	**Kodiak Island**	**12.36**	**55**	*e*Pn	**Pn**	**10 58 43.9**	**-4.2**
SVW2	**Sparrevohn**	**12.62**	**38**	*e*Pn	**Pn**	**10 58 52.8**	**+1.1**
RSO	**Redoubt South**	**13.41**	**44**	*e*Pn	Pn	10 58 57.8	-4.8
HOM	**Homer**	**13.53**	**48**	*e*Pn	**Pn**	**10 59 05.6**	**+1.5**
CNPM	**China Poot**	**13.66**	**49**	*e*Pn	**Pn**	**10 59 06.3**	**+0.4**
TT01	**Tatalina**	**13.68**	**32**	*e*Pn	**Pn**	**10 59 07.3**	**+1.3**
TTA	**Tatalina**	**13.70**	**32**	*e*P	**Pn**	**10 59 07.7**	**+1.3**
TTA	**Tatalina**	**13.70**	**32**	*e*Pn	**Pn**	**10 59 07.7**	**+1.3**
BRLK	**Bradley Lake**	**13.92**	**48**	*e*Pn	**Pn**	**10 59 08.4**	**-1.0**
BRLK				*e*Sn	**Sn**	**11 01 41.4**	**-1.0**
SPU	**Mount Spurr**	**14.08**	**42**	*e*Pn	**Pn**	**10 59 12.3**	**+0.8**
SEW	**Seward**	**14.72**	**48**	*e*Pn	Pn	10 59 14.5	-5.5
PPLA	**Purkeypile**	**14.99**	**36**	*e*Pn	**Pn**	**10 59 24.8**	**+1.1**
RC01	**Rabbit Creek A**	**15.01**	**45**	*e*Pn	**Pn**	**10 59 19.9**	**-3.9**
CAST	**Castle Rocks**	**15.35**	**35**	*e*Pn	**Pn**	**10 59 29.0**	**+0.7**
	1μm,1.0s						
PMR	**Palmer**	**15.50**	**43**	*e*P	**Pn**	**10 59 30.0**	**-0.2**
PMR				pmax	pmax		
	comp=Z,5μm,1.9s						
PMR	**Palmer**	**15.50**	**43**	*e*Pn	**Pn**	**10 59 30.0**	**-0.2**
	comp=Z,5μm,1.9s						
KTH	**Kantishna Hill**	**15.85**	**36**	*e*Pn	**Pn**	**10 59 35.0**	**+0.3**
	comp=Z,2μm,0.9s						
SML	**Sawmill**	**15.94**	**43**	*e*P	**Pn**	**10 59 33.5**	**-2.4**
SML				pmax	pmax		
	comp=Z,2μm,1.1s						
SML	**Sawmill**	**15.94**	**43**	*e*Pn	**Pn**	**10 59 33.5**	**-2.4**
	comp=Z,2μm,1.1s						
MID	**Middleton Isla**	**15.98**	**53**	*e*P	**Pn**	**10 59 33.6**	**-2.7**
MID				*e*		11 02 32.1	
MID				pmax	pmax		
	comp=Z,6μm,1.1s						
MID	**Middleton Isla**	**15.98**	**53**	*e*Pn	**Pn**	**10 59 33.6**	**-2.7**
	comp=Z,6μm,1.1s						
MID				*e*Sn	**Sn**	**11 02 32.1**	**0.0**
TRF	**Thorofare Moun**	**16.02**	**37**	*e*Pn	**Pn**	**10 59 36.6**	**-0.4**
	comp=Z,4μm,1.4s						
TRF				*e*Sn	**Sn**	**11 02 30.7**	**-2.7**
FID	**Port Fidalgo**	**16.33**	**48**	*e*Pn	**Pn**	**10 59 36.4**	**-4.4**
	comp=Z,1μm,1.1s						
SCM	**Sheep Creek Mo**	**16.38**	**44**	*e*P	**Pn**	**10 59 36.8**	**-4.7**
SCM				pmax	pmax		
	comp=Z,3μm,1.2s						
SCM	**Sheep Creek Mo**	**16.38**	**44**	*e*Pn	**Pn**	**10 59 36.8**	**-4.7**
	comp=Z,3μm,1.2s						
RND	**Reindeer**	**16.53**	**38**	*e*P	**Pn**	**10 59 40.8**	**-2.5**
RND				*e*		11 02 47.6	
RND				pmax	pmax		
	comp=Z,2μm,1.2s						
RND	**Reindeer**	**16.53**	**38**	*e*Pn	**Pn**	**10 59 40.8**	**-2.5**
	comp=Z,2μm,1.2s						
RND				*e*Sn	**Sn**	**11 02 47.6**	**+2.0**
EYAK	**Cordova Ski Ar**	**16.60**	**49**	*e*Pn	**Pn**	**10 59 39.2**	**-4.9**
	comp=Z,746nm,0.8s						
EYAK				*e*Sn	**Sn**	**11 02 48.4**	**+1.2**
MCK	**McKinley**	**16.68**	**37**	*e*P	**Pn**	**10 59 43.5**	**-1.6**
MCK				pmax	pmax		
	comp=Z,3μm,1.3s						
MCK	**McKinley**	**16.68**	**37**	*e*Pn	**P

EGAK LR LR
comp=Z,347µm,19.0s
DAWY Dawson 20.59 42 *e*P **P 11 00 28.4 -1.5**
comp=Z,508nm,0.8s
DAWY LR LR
comp=Z,464µm,20.0s
HYT Haines Junctio 20.60 52 *e*P **P 11 00 29.9 -0.1**
comp=Z,3µm,0.8s
HYT LR LR
comp=Z,370µm,21.0s
SKAG Skagway 21.52 56 *e*P **P 11 00 40.1 +0.4**
comp=Z,2µm,0.8s
SKAG LR LR
comp=Z,349µm,20.0s
SEY Seymchan 21.80 314 P **P 11 00 43.9 +1.1**
comp=Z,328nm,0.6s,baz=345,slow=23,SNR=281
SEY LR LR 11 08 51.3
comp=Z,330µm,21.8s,baz=100,slow=36
WHY Whitehorse 21.85 52 *e*P **P 11 00 43.2 -0.2**
comp=Z,1µm,0.8s
WHY LR LR
comp=Z,283µm,22.0s
MA2 Magadan 22.10 305 P **P 11 00 46.7 +0.7**
comp=Z,1µm,0.9s,baz=85,slow=11,SNR=28
MA2 LR LR 11 08 47.3
comp=Z,280µm,21.2s,baz=101,slow=35
MA2 Magadan 22.10 305 *e*P **P 11 00 47.9 +1.9**
MA2 pmax pmax
comp=Z,2µm,1.0s
MA2 MLR MLR
comp=Z,298µm,20.0s
MA2 Magadan 22.10 305 *e*P **P 11 00 47.9 +1.9**
comp=Z,2µm,1.0s
MA2 LR LR
comp=Z,298µm,20.0s
CRAG Craig 22.85 66 *e*P **P 11 00 53.5 -0.4**
comp=Z,2µm,1.1s
CRAG LR LR
comp=Z,309µm,21.0s
WRAK Wrangell Islan 23.17 64 *e*P **P 11 00 57.6 +0.5**
comp=Z,1µm,0.9s
H02N1 VAN INLET T-PH 23.58 72 P **P 11 01 01.1 -0.2**
DIB Dawson Inlet, 23.63 72 *e*P **P 11 01 01.8 +0.2**
comp=Z,2µm,1.1s
DIB LR LR
comp=Z,274µm,21.0s
H02S1 DAWSON INLET T 23.63 72 P **P 11 01 01.5 -0.2**
MIDW Midway 24.23 192 *e*P **P 11 01 08.9 +1.6**
comp=Z,1µm,1.6s
MIDW LR LR
comp=Z,134µm,22.0s
DLBC Dease Lake 24.26 58 P **P 11 01 08.4 +0.9**
comp=Z,2µm,0.9s,baz=280,slow=7.5,SNR=394
DLBC LR LR 11 11 03.8
comp=Z,117µm,21.2s,baz=290,slow=38
DLBC Dease Lake 24.26 58 *e*P **P 11 01 08.4 +0.9**
comp=Z,6µm,1.4s
INK Inuvik 24.37 34 P **P 11 01 06.6 -1.7**
comp=Z,660nm,0.7s,baz=235,slow=7.8,SNR=339
INK ScP **ScP 11 08 21.2 +0.4**
comp=Z,271nm,1.3s,baz=290,slow=5.3,SNR=4.7
INK Inuvik 24.37 34 *e*P **P 11 01 06.9 -1.4**
INK pmax pmax
comp=Z,843nm,0.8s
INK MLR MLR
comp=Z,202µm,22.0s
INK Inuvik 24.37 34 *e*P **P 11 01 06.9 -1.4**
comp=Z,843nm,0.8s
INK LR LR
comp=Z,202µm,22.0s
BBB Bella Bella 26.46 72 P **P 11 01 28.5 +1.2**
comp=Z,326nm,1.1s,baz=290,slow=8.9,SNR=33
BBB ScP **ScP 11 08 28.0 +1.0**
comp=Z,52nm,1.1s,baz=230,slow=10.0,SNR=3.5
BBB LR LR 11 10 07.7
comp=Z,197µm,21.9s,baz=284,slow=32
BBB Bella Bella 26.46 72 *e*P **P 11 01 28.6 +1.2**
comp=Z,880nm,1.0s
BBB LR LR
comp=Z,206µm,22.0s
KUR Kuril'sk 27.28 272*c i*P **P 11 01 35.1 +0.3**
KUR *e* 11 02 26.4
KUR *i* S **S 11 06 15.2 +4.5**
KUR *e*SSS SSS 11 07 42.4
KUR pmax pmax
comp=Z,27µm,3.6s
KUR pmax pmax
comp=Z,5µm,1.6s
KUR MLR MLR
comp=Z,52µm,16.0s
KUR MLR MLR
comp=E,42µm,14.0s
KUR MLR MLR
comp=N,27µm,15.0s
TYV Tymovskoe 28.09 286 *e*P **P 11 01 42.2 +0.3**
TYV MLR MLR
comp=Z,168µm,15.0s
NKL Nikolayevsk 28.50 291 *i* P **P 11 01 45.0 -0.6**
NKL pmax pmax
comp=E,230nm,0.8s
NKL pmax pmax
comp=N,4µm,10.0s
NKL pmax pmax
comp=E,13µm,10.0s
NKL pmax pmax
comp=Z,6µm,10.0s
YUK Yuzh-Kuril'sk 29.12 271 *i* P **P 11 01 51.5 +0.3**
YSS Yuzh-Sakhalins 29.61 278α *i*P **P 11 01 55.9 +0.4**
YSS *e* 11 02 08.0
YSS *e**SP **sP 11 02 10.7 -2.4**
YSS *e* 11 02 55.6
YSS *i* S **S 11 06 49.0 +1.7**
YSS *e* 11 07 09.0
YSS *e*SS **SnSn 11 08 19.0 +0.4**
YSS pmax pmax
comp=N,6µm,5.0s
YSS pmax pmax
comp=E,11µm,5.0s
YSS pmax pmax
comp=Z,19µm,5.0s
YSS pmax pmax
comp=N,210nm,0.6s
YSS pmax pmax
comp=Z,770nm,0.6s
YSS pmax pmax
comp=E,480nm,1.1s
YSS pmax pmax
comp=E,22µm,16.0s
YSS pmax pmax
comp=Z,22µm,16.0s
YSS pmax pmax
comp=N,9µm,14.0s
YSS smax smax
comp=E,20µm,10.0s
YSS MLR MLR
comp=Z,132µm,18.0s
YSS MLR MLR
comp=N,39µm,21.0s
YSS MLR MLR
comp=E,114µm,19.0s
PGC Sidney 30.52 77 *e*P **P 11 02 04.3 +0.8**
comp=E,1µm,1.6s
PGC LR LR
comp=Z,288µm,22.0s
LLLB Lilooet 30.67 73 *e*P **P 11 02 06.3 +1.4**
comp=Z,735nm,0.9s
LLLB LR LR
comp=Z,232µm,21.0s
NLWA Neilton Lookou 30.82 79 *e*P **P 11 02 07.5 +1.2**
comp=Z,482nm,0.9s
NLWA LR LR
comp=Z,316µm,21.0s
A04D Lummi Island 30.94 76 P **P 11 02 08.3 +1.1**
baz=295,SNR=27
ASAJ Asahikawa 31.09 274 P **P 11 02 09.1 +0.5**
comp=Z,3µm,1.1s,baz=46,slow=5.9
ASAJ ScP **ScP 11 08 42.6 +0.8**
comp=Z,68nm,1.1s,baz=273,slow=5.4,SNR=3.4
ASAJ PKiKP **PKiKP 11 12 33.2 +0.5**
comp=Z,9.5nm,0.8s,baz=209,slow=6.5,SNR=5.0
ASAJ Asahikawa 31.09 274 *e*P **P 11 02 09.4 +0.8**
comp=Z,2µm,1.0s
BLN Blyn Mountain 31.09 78 *e*P **P 11 02 09.2 +0.6**
GNW Green Mountain 31.38 79 *e*P **P 11 02 12.4 +1.4**
E03A Lebam 31.40 81 *e*P **P 11 02 12.3 +1.1**
comp=Z,919nm,0.9s
E03A LR LR
comp=Z,291µm,22.0s
KEKH Kekaha 31.47 158 *e*P **P 11 02 13.6 +1.5**
comp=Z,648nm,1.3s
KEKH LR LR
comp=Z,180µm,22.0s
YKW3 Yellowknife Ar 31.49 48 *e*P **P 11 02 11.7 -0.2**
comp=Z,307nm,0.8s
YKW3 LR LR
comp=Z,268µm,22.0s
YKA Yellowknife Ar 31.50 48 P **P 11 02 11.6 -0.4**
comp=Z,24nm,0.3s,baz=275,slow=9.1,SNR=269
YKA PcP **PcP 11 05 05.3 +1.5**
comp=Z,57nm,0.7s,baz=294,slow=2.4,SNR=6.1
YKA ScP **ScP 11 08 43.5 +0.7**
comp=Z,44nm,1.0s,baz=288,slow=2.9,SNR=5.5
YKA LR LR 11 15 37.5
comp=Z,27µm,21.8s,baz=0.0,slow=38
YKA P3KPbc 11 33 47.5
comp=Z,4.5nm,0.6s,baz=94,slow=5.2,SNR=17
YKB5 Yellowknife Ar 31.50 48 *e*P **P 11 02 11.4 -0.6**
YKB5 *e*PcP **PcP 11 05 05.3 +1.5**
B05A Bryant 31.50 77 P **P 11 02 13.2 +1.0**
baz=296,SNR=142
B05A S **S 11 07 16.6 -0.4**
baz=296
JCW Jim Creek 31.64 77 *e*P **P 11 02 14.4 +1.0**
SP2 Seward Park 2 31.73 78 *e*P **P 11 02 16.1 +2.0**
B06A Marblemount 31.76 76 PFAKE 11 02 30.0 +16
B06A LR LR
comp=Z,324µm,22.0s
RPW Rockport 31.77 76 *e*P **P 11 02 15.2 +0.5**
ERM Erimo 31.88 270*d i*P **P 11 02 16.6 +1.1**
ERM pmax pmax
comp=Z,3µm,1.7s
ERM Erimo 31.88 270 *e*P **P 11 02 16.8 +1.3**
comp=Z,2µm,1.0s
ERM LR LR
comp=Z,204µm,21.0s
HTW Haystack Looko 31.91 78 *e*P **P 11 02 16.7 +0.9**
F04D Rainier, OR 31.95 81 P **P 11 02 17.3 +1.1**
baz=299,SNR=34
B941 Kapowsin 32.01 79 *e*P **P 11 02 17.6 +1.0**
D05A Enumclaw 32.05 79 *e*P **P 11 02 18.7 +1.7**
comp=Z,2µm,1.3s
D05A LR LR
comp=Z,170µm,22.0s
OPA Opana 32.16 156 *e*P **P 11 02 19.0 +0.8**
OPA pmax pmax
comp=Z,1µm,1.4s
OPA MLR MLR
comp=Z,187µm,21.0s
OPA Opana 32.16 156 *e*P **P 11 02 19.0 +0.8**
comp=Z,1µm,1.4s
OPA LR LR
comp=Z,187µm,21.0s
TIXI Tiksi 32.22 329 P **P 11 02 18.0 -0.3**
comp=Z,168nm,1.2s,baz=100,slow=9.5,SNR=14
TIXI PcP **PcP 11 05 06.6 +1.0**
comp=Z,217nm,0.5s,baz=95,slow=3.2,SNR=15
TIXI ScP **ScP 11 08 45.7 +0.6**
comp=Z,172nm,0.9s,baz=20,slow=3.7,SNR=6.4
TIXI LR LR 11 16 31.4
comp=Z,156µm,19.4s,baz=121,slow=38
TIXI Tiksi 32.22 329 *e*P **P 11 02 18.0 -0.3**
comp=Z,199nm,1.0s
TIXI *e*PcP **PcP 11 05 06.6 +1.0**
TIXI LR LR
comp=Z,163µm,19.0s
G03D McMinnville, O 32.23 83 P **P 11 02 19.6 +1.0**
baz=300,SNR=36
YAK Yakutsk 32.26 311 P **P 11 02 17.2 -1.5**
comp=Z,164nm,0.6s,baz=78,slow=4.0,SNR=48
YAK PcP **PcP 11 05 05.9 +0.1**
comp=Z,157nm,0.5s,baz=154,slow=1.2,SNR=4.9
YAK ScP **ScP 11 08 46.2 +0.8**
comp=Z,620nm,1.1s,baz=256,slow=2.3,SNR=12
YAK LR LR 11 15 55.1
comp=Z,173µm,18.7s,baz=90,slow=37
YAK Yakutsk 32.26 311*c i*P **P 11 02 17.4 -1.3**
YAK *e* 11 03 27.6
YAK *e* 11 05 06.5
YAK *e*S **S 11 07 29.1 +0.6**
YAK *e* 11 12 43.0
YAK pmax pmax
comp=Z,1µm,1.0s
YAK pmax pmax
comp=E,829nm,1.1s
YAK pmax pmax
comp=N,94nm,1.0s
YAK pmax pmax
comp=Z,2µm,2.7s
YAK pmax pmax
comp=E,2µm,2.2s
YAK pmax pmax
comp=N,315nm,2.0s
YAK smax smax
comp=N,13µm,16.3s
YAK smax smax
comp=E,41µm,19.5s
YAK MLR MLR
comp=Z,196µm,18.0s
YAK MLR MLR
comp=E,119µm,18.0s
YAK MLR MLR
comp=N,26µm,19.0s
YAK Yakutsk 32.26 311 *e*P **P 11 02 17.3 -1.3**
comp=N,1µm,0.9s
YAK *e*PcP **PcP 11 05 05.9 +0.1**
YAK LR LR
comp=Z,179µm,20.0s
B201 Coldwater, Mou 32.30 80 *e*P **P 11 02 20.2 +0.8**
FL2 Flat Top 2 32.30 81 *e*P **P 11 02 20.2 +0.7**
TDL Tradedollar La 32.31 80 *e*P **P 11 02 20.4 +0.9**
LVP Lakeview Peak 32.33 81 *e*P **P 11 02 20.6 +0.9**
LON Longmire 32.37 79 *e*P **P 11 02 20.7 +0.8**
LON pmax pmax
comp=Z,294nm,0.8s
LON Longmire 32.37 79 *e*P **P 11 02 20.6 +0.8**
comp=Z,294nm,0.8s
C06D Leavenworth 32.38 77 P **P 11 02 20.9 +0.9**
baz=297,SNR=18
F04A Amboy 32.39 81 *e*P **P 11 02 20.8 +0.8**
comp=Z,421nm,0.7s
F04A LR LR
comp=Z,249µm,22.0s
B202 Windy Ridge, M 32.41 80 *e*P **P 11 02 21.4 +1.1**
KIP Kipapa 32.42 156‖ *e*P **P 11 02 21.4 +1.0**
KIP pmax pmax
comp=Z,6µm,1.3s
KIP Kipapa 32.42 156 *e*P **P 11 02 21.6 +1.2**
comp=Z,1µm,1.4s
KIP LR LR
comp=Z,191µm,20.0s
MTMW Mount Mitchell 32.47 81 *e*P **P 11 02 21.7 +0.9**
HON Honolulu 32.51 156 *e*P **P 11 02 22.1 +0.8**
HON Honolulu 32.51 156 *e*P **P 11 02 22.1 +0.8**
COR Corvallis 32.52 84 *e*P **P 11 02 21.5 +0.3**
COR pmax pmax
comp=Z,2µm,1.5s
COR MLR MLR
comp=Z,319µm,22.0s
COR Corvallis 32.52 84 *e*P **P 11 02 21.5 +0.3**
comp=Z,2µm,1.5s
COR LR LR
comp=Z,319µm,22.0s
PNT Penticton 32.53 74 *e*P **P 11 02 21.9 +0.7**
PNT Penticton 32.53 74 *e*P **P 11 02 21.9 +0.7**
G04A Mulino 32.71 82 *e*P **P 11 02 23.6 +0.8**
KEBM Edson Butte 32.80 87 *e*P **P 11 02 25.0 +1.3**
comp=Z,517nm,1.1s
KEBM LR LR
comp=Z,242µm,21.0s
LTY Liberty 32.82 78 *e*P **P 11 02 24.2 +0.4**
comp=Z,808nm,1.4s
LTY LR LR
comp=Z,266µm,22.0s
I03D Drain, OR 32.96 85 P **P 11 02 26.0 +1.0**
baz=302,SNR=46
TDH Tom, Dick, Har 33.09 82 *e*P **P 11 02 26.8 +0.4**
B08A Colville Reser 33.12 75 *e*P **P 11 02 27.1 +0.7**
comp=Z,760nm,0.9s
B08A LR LR
comp=Z,218µm,22.0s
KBO Bosley Butte 33.23 88 *e*P **P 11 02 28.7 +1.2**
comp=Z,831nm,1.4s
KBO LR LR
comp=Z,226µm,21.0s
DBO Dodson Butte 33.33 86 *e*P **P 11 02 29.6 +1.2**
G05D Wamic, OR 33.40 81 P **P 11 02 29.7 +0.7**
baz=300,SNR=110
IRO Indian Ridge 33.47 84 *e*P **P 11 02 30.3 +0.6**
I04A Tendick Farm, 33.48 84 P **P 11 02 30.3 +0.7**
baz=302,SNR=229
HLK Haleakala 33.52 153 *e*P **P 11 02 31.8 +1.4**
comp=Z,518nm,1.0s
HLK LR LR
comp=Z,188µm,21.0s
HABR Khabarovsk 33.57 285*d i*P **P 11 02 28.9 -1.3**
HABR *e**SP **pP 11 02 42.6 +0.2**
HABR *e* 11 03 41.0
HABR *e* 11 05 08.4
HABR *e*S **S 11 07 49.9 +0.8**
HABR *e**SS **sS 11 08 06.0 -3.5**
HABR *e*SS **SnSn 11 09 55.8 +1.0**
HABR *e* 11 12 51.3
HABR pmax pmax
comp=E,499nm,2.3s
HABR pmax pmax
comp=Z,915nm,2.3s
HABR pmax pmax
comp=N,216nm,2.3s
HABR pmax pmax
comp=Z,11µm,6.4s
HABR MLR MLR
comp=Z,201µm,21.0s
E07A Sunnyside 33.64 78 *e*P **P 11 02 31.6 +0.7**
comp=Z,339nm,0.9s
E07A LR LR
comp=Z,196µm,22.0s
L02D Cave Junction, 33.64 88 P **P 11 02 32.1 +1.1**
baz=304,SNR=48
FHE Frenchman Hill 33.67 78 *e*P **P 11 02 31.8 +0.6**
WIFE Three Sisters- 33.71 84 *e*P **P 11 02 32.7 +1.0**
HUMO Hull Mountain 33.79 87 *e*P **P 11 02 33.2 +0.9**
comp=Z,264nm,1.2s
HUMO LR LR
comp=Z,328µm,22.0s
KRMB Red Mountain 33.81 89 *e*P **P 11 02 33.6 +1.0**
comp=Z,1µm,1.7s
KRMB LR LR
comp=Z,203µm,21.0s
G06A Carlson Farm, 33.82 81 *e*P **P 11 02 33.3 +0.7**
comp=Z,417nm,1.2s
G06A LR LR
comp=Z,210µm,22.0s
I05D Terrebonne, OR 33.85 83 P **P 11 02 33.6 +0.7**
baz=302,SNR=213
HAWA Hanford 33.92 79 *e*P **P 11 02 33.9 +0.5**
comp=Z,541nm,0.8s
HAWA LR LR
comp=Z,212µm,22.0s
KTRM Thompson Ridge 33.92 88 *e*P **P 11 02 34.7 +1.1**
D08A Wollman Farm, 33.97 77 *e*P **P 11 02 34.0 +0.3**
comp=Z,361nm,0.8s
D08A LR LR
comp=Z,213µm,22.0s
J04D Umpqua Nationa 33.97 85 P **P 11 02 35.0 +1.0**
baz=303,SNR=121
DPW Davenport 34.01 75 *e*P **P 11 02 34.7 +0.5**
DPW Davenport 34.01 75 *e*P **P 11 02 34.7 +0.5**
JCC Jacoby Creek, 34.14 90 *e*P **P 11 02 36.5 +1.2**
comp=Z,676nm,1.3s
JCC LR LR
comp=Z,94µm,18.0s
KHMM Horse Mountain 34.29 90 *e*P **P 11 02 37.9 +1.1**
comp=Z,1µm,1.4s
KHMM LR LR
comp=Z,145µm,20.0s
HPAH Hawaii Prepara 34.37 153 *e*P **P 11 02 37.6 +0.1**
comp=Z,548nm,0.8s
HPAH LR LR
comp=Z,168µm,22.0s
NEW Newport 34.48 74 P **P 11 02 38.4 +0.2**
baz=298,SNR=624
NEW Newport 34.48 74 *e*P **P 11 02 38.6 +0.4**
NEW pmax pmax
comp=Z,1µm,1.0s
NEW MLR MLR
comp=Z,200µm,22.0s
NEW Newport 34.48 74 *e*P **P 11 02 38.6 +0.4**
comp=Z,1µm,1.0s
NEW LR LR
comp=Z,200µm,22.0s
J05D Fort Rock, OR 34.48 84 P **P 11 02 39.5 +1.1**
baz=303,SNR=234
K04D Chiloquin, OR 34.52 86 P **P 11 02 39.4 +0.7**
baz=304,SNR=15
M02C Callahan 34.54 88 P **P 11 02 40.0 +1.2**
baz=305,SNR=97
B040 Montague 34.55 87 *e*P **P 11 02 40.0 +1.1**
EDM Edmonton 34.57 64 *e*P **P 11 02 39.6 +0.6**
EDM pmax pmax
comp=Z,2µm,1.0s
EDM MLR MLR
comp=Z,179µm,21.0s
EDM Edmonton 34.57 64 *e*P **P 11 02 39.6 +0.6**
comp=Z,2µm,1.0s
EDM LR LR
comp=Z,179µm,21.0s
POHA Pohakuloa 34.67 153 *e*P **P 11 02 40.8 +0.5**
comp=Z,861nm,1.0s
POHA LR LR
comp=Z,171µm,22.0s
KMRM Mail Ridge 34.69 91 *e*P **P 11 02 41.9 +1.8**
comp=Z,2µm,1.8s
KMRM LR LR
comp=Z,159µm,22.0s
E09A Wood Farm, Sta 34.69 77 *e*P **P 11 02 40.2 +0.2**
comp=Z,360nm,0.8s
E09A LR LR
comp=Z,205µm,22.0s
LHEM Herd Peak 34.79 87 *e*P **P 11 02 42.3 +1.1**
N02D Trinity Center 34.87 89 P **P 11 02 42.9 +1.2**
baz=306,SNR=83
MLOA Mauna Loa Obse 34.87 153 *e*P **P 11 02 42.8 +0.5**
comp=Z,3µm,1.8s
LMPM Military Pass 34.91 88 *e*P **P 11 02 43.4 +1.2**
M04C Macdoel 34.94 87 P **P 11 02 43.2 +0.8**
baz=305,SNR=178
MLH Mauna Loa 34.96 152 *e*P **P 11 02 43.6 +0.7**
MLH Mauna Loa 34.96 152 *e*P **P 11 02 43.6 +0.7**
LGBM Gray Butte 34.97 88 *e*P **P 11 02 43.6 +0.8**
K05A Summer Lake 34.99 85 *e*P **P 11 02 44.3 +1.4**
comp=Z,764nm,0.9s
K05A LR LR
comp=Z,234µm,20.0s
LGMM Garner Mountai 35.05 87 *e*P **P 11 02 44.5 +1.2**
AIN Ainahou 35.06 153 *e*P **P 11 02 44.8 +1.2**
UWE Uwekahuna 35.06 152 *e*P **P 11 02 43.7 +0.2**
comp=Z,1µm,1.1s
UWE LR LR
comp=Z,191µm,22.0s
UWB Uwekahuna B 35.06 152 *e*P **P 11 02 43.1 -0.5**
comp=Z,732nm,1.1s
UWB LR LR
comp=Z,193µm,22.0s
SBLHI Steaming Bluff 35.06 152 *e*P **P 11 02 44.6 +1.1**
SBLHI LR LR
comp=Z,188µm,22.0s
OBL Observatory Le 35.06 152 *e*P **P 11 02 45.2 +1.6**
HATHI Halema'uma'u T 35.07 152 *e*P **P 11 02 43.6 0.0**
NPH North Pit 35.07 152 *e*P **P 11 02 45.9 +2.3**
NPH North Pit 35.07 152 *e*P **P 11 02 45.9 +2.3**
WRMHI West Rim 35.07 152 *e*P **P 11 02 42.8 -0.8**
comp=Z,611nm,0.9s
WRMHI LR LR
comp=Z,186µm,22.0s
BYL Byron's Ledge 35.08 152 *e*P **P 11 02 45.3 +1.6**
KCPM Cahto Peak 35.09 91 *e*P **P 11 02 44.6 +0.9**
comp=Z,686nm,1.2s
KCPM LR LR
comp=Z,154µm,21.0s
KKO Keanakako'i 35.09 152 *e*P **P 11 02 44.3 +0.5**
RIM Rim 35.09 152 *e*P **P 11 02 45.2 +1.4**
RIM LR LR
comp=Z,188µm,22.0s
SDHHI Sand Hill 35.09 152 *e*P **P 11 02 45.4 +1.6**
SDHHI LR LR
comp=Z,191µm,22.0s
PUH Pauahi 35.13 152 *e*P **P 11 02 44.3 +0.2**
NPOC North of Pu'u 35.14 152 *e*P **P 11 02 44.9 +0.8**
STCH Steam Cracks 35.14 152 *e*P **P 11 02 45.0 +0.8**
STCH LR LR

HLP **Hilina Pali** 35.17 152 *e*P P 11 02 46.5 +2.0
KLR **Kul'dur** 35.18 288 P P 11 02 42.9 -1.2
comp=Z,143nm,0.7s,baz=61,slow=8.0,SNR=121
KLR LR LR 11 18 40.3
comp=Z,151µm,18.8s,baz=66,slow=39
WDC **Whiskeytown Da** 35.20 89 *e*P P 11 02 45.3 +0.8
WDC pmax pmax
comp=Z,986nm,1.5s
WDC MLR MLR
comp=Z,121µm,21.0s
WDC **Whiskeytown Da** 35.20 89 *e*P P 11 02 45.3 +0.8
comp=Z,986nm,1.5s
WDC LR LR
comp=Z,121µm,21.0s
JOHN **Johnston Islan** 35.33 176 PFAKE 11 03 00.0 +14
JOHN LR LR
comp=Z,132µm,21.0s
LTIM **Timbered Crate** 35.50 88 *e*P P 11 02 48.5 +1.3
F10A **Beach Ranch, E** 35.52 78 *e*P P 11 02 46.8 -0.5
comp=Z,504nm,0.9s
F10A LR LR
comp=Z,262µm,22.0s
GASB **Alder Springs** 35.64 91 *e*P P 11 02 49.7 +1.2
MOD **Modoc Plateau** 35.82 86 *e*P P 11 02 50.7 +0.8
comp=Z,590nm,1.1s
MOD LR LR
comp=Z,256µm,21.0s
HOPS **Hopland Field** 35.82 92 *e*P P 11 02 50.2 +0.4
comp=Z,550nm,1.1s
HOPS LR LR
comp=Z,277µm,21.0s
O03D **Paynes Creek** 35.82 89 P P 11 02 50.0 +0.1
baz=306,SNR=324
O03D **Paynes Creek** 35.82 89 *e*P P 11 02 50.2 +0.3
CLNS **Chul'man** 35.96 303 *e*P P 11 02 49.6 -1.3
CLNS *e**PP pP 11 03 00.8 -2.3
CLNS *e* 11 04 07.1
CLNS *e* 11 05 17.9
CLNS *e*SS S 11 08 22.3 -3.6
CLNS *e*SSS SSS 11 10 54.2
CLNS pmax pmax
comp=N,83nm,0.8s
CLNS pmax pmax
comp=Z,165nm,0.9s
CLNS pmax pmax
comp=E,103nm,0.8s
CLNS pmax pmax
comp=Z,83nm,1.0s
CLNS pmax pmax
comp=N,118nm,1.1s
CLNS pmax pmax
comp=E,76nm,0.9s
CLNS smax smax
comp=N,6µm,11.5s
CLNS smax smax
comp=E,19µm,13.1s
CLNS MLR MLR
comp=N,89µm,19.0s
CLNS MLR MLR
comp=E,112µm,18.0s
CLNS MLR MLR
comp=Z,154µm,18.0s
WALA **Waterton Lakes** 36.00 71 *e*P P 11 02 51.8 +0.4
comp=Z,742nm,1.1s
WALA LR LR
comp=Z,183µm,22.0s
BMO **Blue Mountains** 36.04 79 *e*P P 11 02 52.1 +0.3
BMO pmax pmax
comp=Z,265nm,1.1s
BMO MLR MLR
comp=Z,202µm,22.0s
BMO **Blue Mountains** 36.04 79 *e*P P 11 02 52.0 +0.3
comp=Z,265nm,1.1s
BMO LR LR
comp=Z,202µm,22.0s
BSMT **Bassoo Peak** 36.05 74 *e*P P 11 02 52.3 +0.3
GDXM **Geysers** 36.11 92 PFAKE 11 03 00.0 +7.6
GDXM LR LR
comp=Z,300µm,22.0s
BLMT **Blacktail Moun** 36.23 73 *e*P P 11 02 53.7 +0.3
GARM **Arbuckle** 36.35 91 *e*P P 11 02 55.8 +1.4
H11N2 **WAKE ISLAND Hy** 36.37 215 P P 11 02 55.8 +1.4
baz=336,slow=3.7,SNR=11
H11N2 T T 11 41 23.4
baz=21,slow=75,SNR=7973
H11N3 **WAKE ISLAND Hy** 36.38 215 P P 11 02 55.8 +1.4
baz=336,slow=3.7,SNR=14
H11N3 T T 11 41 24.0
baz=21,slow=75,SNR=7569
H11N1 **WAKE ISLAND Hy** 36.39 215 P P 11 02 56.0 +1.5
baz=336,slow=3.7,SNR=14
H11N1 T T 11 41 32.0
baz=21,slow=75,SNR=8565
JTMT **Jette** 36.40 73 *e*P P 11 02 55.1 +0.2
ORV **Oroville** 36.45 90 *e*P P 11 02 55.1 -0.1
ORV pmax pmax
comp=Z,184nm,1.0s
ORV MLR MLR
comp=Z,93µm,21.0s
ORV **Oroville** 36.45 90 *e*P P 11 02 55.1 -0.1
comp=Z,184nm,1.0s
ORV LR LR
comp=Z,93µm,21.0s
MCCM **Marconi Confer** 36.46 93 *e*P P 11 02 55.4 +0.1
comp=Z,360nm,1.0s
MCCM LR LR
comp=Z,282µm,22.0s
YBMT **Yellow Bay** 36.51 73 *e*P P 11 02 55.8 +0.1
WVOR **Wild Horse Val** 36.54 84 *e*P P 11 02 56.7 +0.6
WVOR pmax pmax
comp=Z,827nm,1.1s
WVOR MLR MLR
comp=Z,220µm,20.0s
WVOR **Wild Horse Val** 36.54 84 *e*P P 11 02 56.7 +0.6
comp=Z,827nm,1.1s
WVOR LR LR
comp=Z,220µm,20.0s
CVS **Carmenet Viney** 36.60 92 *e*P P 11 02 56.7 +0.2
SWMT **Swartz Lake** 36.68 74 *e*P P 11 02 57.0 -0.2
WAKE **Wake Island** 36.87 215 *e*P P 11 02 59.9 +1.1
comp=Z,910nm,1.2s
WAKE LR LR
comp=Z,143µm,22.0s
MSO **Missoula** 37.05 75 P P 11 03 00.2 -0.2
baz=300,SNR=363
MSO **Missoula** 37.05 75 *e*P P 11 03 00.1 -0.2
comp=Z,687nm,1.0s
MSO LR LR
comp=Z,121µm,22.0s
SLMT **Seeley Lake** 37.12 74 *e*P P 11 03 00.7 -0.3
AFDM **Forest Hills D** 37.14 90 *e*P P 11 03 01.2 +0.1
comp=Z,323nm,1.2s
AFDM LR LR
comp=Z,134µm,22.0s
RES **Resolute Bay** 37.23 25 *e*P P 11 03 00.8 -0.6
RES pmax pmax
comp=Z,290nm,0.8s
RES MLR MLR
comp=Z,89µm,22.0s
RES **Resolute Bay** 37.23 25 *e*P P 11 03 00.8 -0.6
comp=Z,290nm,0.8s
RES LR LR
comp=Z,89µm,22.0s
DONR **Donner Summit** 37.30 89 *e*P P 11 03 02.9 +0.2
AASM **Arroyo Seco** 37.38 91 *e*P P 11 03 03.4 +0.4
CHMT **Chamberlain Mo** 37.42 74 *e*P P 11 03 03.2 -0.4
USRK **Ussuriysk Ar.** 37.53 281 P P 11 03 02.6 -1.7
comp=Z,68nm,0.5s,baz=50,slow=6.7,SNR=102
USRK PcP PcP 11 05 22.8 +1.3
comp=Z,37nm,0.6s,baz=42,slow=4.9,SNR=5.2
USRK ScP ScP 11 09 03.8 -0.9
comp=Z,14nm,1.0s,baz=22,slow=2.1,SNR=3.7
USRK LR LR 11 17 47.1
comp=Z,204µm,21.7s,baz=49,slow=35
H11S1 **WAKE ISLAND Hy** 37.57 215 P P 11 03 05.8 +1.2
baz=356,slow=3.2,SNR=80
H11S1 T T 11 43 04.2
baz=22,slow=76
H11S2 **WAKE ISLAND Hy** 37.58 215 P P 11 03 05.8 +1.1
baz=356,slow=3.2,SNR=65
H11S2 T T 11 43 07.6
baz=22,slow=76
H11S3 **WAKE ISLAND Hy** 37.58 215 P P 11 03 05.8 +1.0
baz=356,slow=3.2,SNR=47
H11S3 T T 11 43 04.8
baz=22,slow=76,SNR=9256

PAHR **Pah Rah Range** 37.66 88 *e*P P 11 03 06.2 +0.5
comp=Z,661nm,1.0s
PAHR LR LR
comp=Z,146µm,21.0s
MFID **Camas Ranch** 37.71 81 *e*P P 11 03 05.9 -0.1
comp=Z,351nm,1.0s
MFID LR LR
comp=Z,182µm,22.0s
MHC **Mount Hamilton** 37.73 93 *e*P P 11 03 06.5 +0.3
MHC **Mount Hamilton** 37.73 93 *e*P P 11 03 06.5 +0.3
JLAB **Laurel Hill** 37.79 93 *e*PcP PcP 11 05 25.6 +3.2
PNTR **Pine Nut** 37.91 89 *e*P P 11 03 08.7 +0.9
comp=Z,1µm,0.9s
HLPM **Lions Peak** 37.93 93 *e*P P 11 03 08.1 +0.4
CMB **Columbia Colle** 38.07 91 *e*P P 11 03 09.5 +0.5
CMB MLR MLR
comp=Z,235µm,22.0s
CMB **Columbia Colle** 38.07 91 *e*P P 11 03 09.5 +0.5
CMB LR LR
comp=Z,235µm,22.0s
HPCM **Pacheco Lake** 38.13 93 *e*P P 11 03 10.0 +0.5
VLA **Vladivostok** 38.18 279 *c i*P P 11 03 09.9 +0.1
VLA pmax pmax
comp=Z,344nm,1.1s
YERR **Yerington** 38.19 89 *e*P P 11 03 10.9 +0.7
comp=Z,790nm,1.0s
SAO **San Andreas Ge** 38.22 93 *e*P P 11 03 10.3 +0.1
SAO pmax pmax
comp=Z,367nm,1.0s
SAO MLR MLR
comp=Z,206µm,22.0s
SAO **San Andreas Ge** 38.22 93 *e*P P 11 03 10.3 +0.1
comp=Z,367nm,1.0s
SAO LR LR
comp=Z,206µm,22.0s
BPCNC **Pine Canyon** 38.23 94 *e*P P 11 03 10.7 +0.4
BSRM **Salinas Radio** 38.24 94 *e*P P 11 03 10.7 +0.3
MJAR **Matsushiro Arr** 38.24 266 P P 11 03 11.1 +0.7
comp=Z,413nm,0.8s,baz=52,slow=8.4,SNR=151
MJAR PcP PcP 11 05 25.2 +1.3
comp=Z,190nm,1.2s,baz=322,slow=1.0,SNR=5.5
MJAR ScP ScP 11 09 04.6 -3.0
comp=Z,9.9nm,1.0s,baz=9.3,slow=2.2,SNR=3.1
MJAR LR LR 11 16 56.8
comp=Z,240µm,21.7s,baz=65,slow=33
MAJO **Matsushiro** 38.24 266 *c i*P P 11 03 11.2 +0.8
MAJO pmax pmax
comp=Z,6µm,1.1s
MAJO **Matsushiro** 38.24 266 *e*P P 11 03 11.3 +0.8
comp=Z,3µm,1.1s
MAJO LR LR
comp=Z,323µm,22.0s
MAT **Matsushiro** 38.24 266 P P 11 03 11.0 +0.6
MAT S S 11 09 01.8 +0.9
MJB9 **Matsu-Tunnel** 38.24 266 *e*P P 11 03 11.3 +0.9
comp=Z,793nm,1.1s
WAKR **Walker** 38.36 90 *e*P P 11 03 12.4 +0.8
comp=Z,1µm,1.5s
WAKR LR LR
comp=Z,183µm,22.0s
HRY **Holter Researc** 38.37 74 *e*P P 11 03 11.3 -0.2
EKH **Elkhorn Ranch** 38.45 93 *e*P P 11 03 12.9 +0.8
LRM **Limekiln Ridge** 38.46 75 *e*P P 11 03 11.9 -0.5
HLID **Hailey** 38.49 79 P P 11 03 12.8 +0.1
baz=304,SNR=359
HLID **Hailey** 38.49 79 *e*P P 11 03 12.7 +0.1
comp=Z,363nm,1.0s
HLID LR LR
comp=Z,164µm,22.0s
EMT **Emmet** 38.50 93 *e*P P 11 03 13.3 +0.7
BMN **Battle Mountai** 38.56 85 *e*P P 11 03 13.6 +0.4
BMN pmax pmax
comp=Z,412nm,1.2s
BMN MLR MLR
comp=Z,249µm,22.0s
BMN **Battle Mountai** 38.56 85 *e*P P 11 03 13.6 +0.4
comp=Z,412nm,1.2s
BMN LR LR
comp=Z,249µm,22.0s
BPIM **Pinnacles** 38.57 93 *e*P P 11 03 13.3 +0.2
DLMT **Dillon** 38.61 76 *e*P P 11 03 13.2 -0.4
comp=Z,398nm,1.1s
MCMT **McKenzie Canyo** 38.75 77 *e*P P 11 03 14.8 0.0
MDJ **Mudanjiang** 38.75 283 P P 11 03 12.8 -1.8
MDJ pP pP 11 03 21.6 -5.3
MDJ sP sP 11 03 25.8 -6.5
MDJ PP PP 11 04 42.5 -1.2
MDJ PcP PcP 11 05 24.9 -0.4
MDJ S S 11 09 05.0 -3.4
MDJ pmax pmax
comp=Z,11µm,12.1s
MDJ LR LR
comp=Z,99µm,22.9s
MDJ LR LR
comp=Z,175µm,23.3s
MDJ LR LR
comp=Z,314µm,24.2s
TVH1 **TV Hill, Hawth** 38.81 89 *e*P P 11 03 16.2 +0.6
comp=Z,996nm,1.1s
TVH1 LR LR
comp=Z,111µm,20.0s
TVH3 **East Aurora ar** 38.84 89 *e*P P 11 03 16.3 +0.7
comp=Z,585nm,1.1s
TVH3 LR LR
comp=Z,86µm,20.0s
TVH2 **Borealis Mine** 38.86 89 *e*P P 11 03 16.4 +0.5
comp=Z,473nm,1.3s
TVH2 LR LR
comp=Z,80µm,20.0s
EGMT **Eagleton** 38.92 71 P P 11 03 16.2 +0.1
baz=300,SNR=426
EGMT **Eagleton** 38.92 71 *e*P P 11 03 15.9 -0.1
comp=Z,1µm,0.8s
EGMT LR LR
comp=Z,182µm,22.0s
MSHR **Mys Shultsa** 38.93 279 *c i*P P 11 03 16.4 +0.3
PMPB **Monarch Peak** 38.97 94 *e*P P 11 03 17.0 +0.4
comp=Z,557nm,1.0s
PMPB LR LR
comp=Z,166µm,22.0s
BGMT **Barton Gulch** 39.01 76 *e*P P 11 03 16.6 -0.5
BOZ **Bozeman (W)** 39.06 75 P P 11 03 17.3 -0.1
baz=302,SNR=506
BOZ **Bozeman (W)** 39.06 75 *e*P P 11 03 17.1 -0.3
BOZ pmax pmax
comp=Z,465nm,1.0s
BOZ **Bozeman (W)** 39.06 75 *e*P P 11 03 17.1 -0.3
comp=Z,465nm,1.0s
MLAC **Mammoth, Mammo** 39.28 90 P P 11 03 20.5 +1.1
baz=309,SNR=16
WKR **Work Ranch** 39.41 94 *e*P P 11 03 20.9 +0.8
BZMT **Bozeman Pass** 39.53 74 *e*P P 11 03 21.6 +0.3
JHJ2 **Mitsune** 39.54 261 *e*P P 11 03 22.1 +0.9
comp=Z,2µm,0.9s
JHJ2 LR LR
comp=Z,63µm,21.0s
JHJ **Hachijo jima 2** 39.55 261 LR LR 11 17 46.8
comp=Z,65µm,21.6s,baz=51,slow=33
QLMT **Earthquake Lak** 39.59 76 *e*P P 11 03 21.6 -0.2
MTUM **Tungsten Hills** 39.62 90 *e*P P 11 03 23.2 +1.1
PAGB **Antelope Grade** 39.62 94 *e*P P 11 03 22.7 +0.7
comp=Z,794nm,1.1s
PAGB LR LR
comp=Z,93µm,20.0s
RCTC **Rector, Farmer** 39.87 92 P P 11 03 24.1 +0.1
baz=310,SNR=231
YMC **Maple Creek** 39.89 76 *e*P P 11 03 23.8 -0.5
YMV **Mammoth Vault** 39.96 75 *e*P P 11 03 21.3 -3.6
YMR **Madison River** 39.96 76 *e*P P 11 03 24.9 0.0
comp=Z,832nm,1.1s
YHH **Holmes Hill** 39.96 76 *e*P P 11 03 25.0 0.0
comp=Z,641nm,1.0s
TIN **Tinemaha, Big** 40.02 90 P P 11 03 26.1 +0.8
baz=310,SNR=84
YPM **Purple Mountai** 40.02 76 *e*P P 11 03 26.0 +0.5
SMMC **Simmler** 40.05 94 P P 11 03 26.2 +0.6
baz=311,SNR=109
FFC **Flin Flon** 40.09 58 *e*P P 11 03 25.6 0.0
FFC pmax pmax
comp=Z,900nm,1.3s
FFC MLR MLR
comp=Z,145µm,19.0s
FFC **Flin Flon** 40.09 58 *e*P P 11 03 25.6 0.0
comp=Z,900nm,1.3s
FFC LR LR
comp=Z,145µm,19.0s

MCID **Moose Creek** 40.09 77 *e*P P 11 03 26.4 +0.4
YNR **Norris Junctio** 40.11 76 *e*P P 11 03 26.8 +0.6
comp=Z,785nm,1.0s
GCMT **Greycliff** 40.13 74 *e*P P 11 03 26.4 +0.2
VES **Vestal, Richgr** 40.27 93 P P 11 03 27.2 -0.1
baz=311,SNR=264
YPP **Pitchstone Pla** 40.27 76 *e*P P 11 03 28.3 +0.6
comp=Z,329nm,1.1s
YLT **Little Thumb C** 40.31 76 *e*P P 11 03 30.3 +2.4
H17A **Grant Village** 40.34 76 P P 11 03 29.5 +1.3
baz=304,SNR=253
H17A **Grant Village** 40.34 76 *e*P P 11 03 29.4 +1.3
comp=Z,931nm,1.1s
LKWY **Lake** 40.35 76 *e*P P 11 03 29.5 +1.3
LKWY pmax pmax
comp=Z,499nm,0.9s
LKWY **Lake** 40.35 76 *e*P P 11 03 29.5 +1.3
comp=Z,499nm,0.9s
IMW **Indian Meadow** 40.40 77 *e*P P 11 03 28.9 +0.3
comp=Z,411nm,0.9s
FLWY **Flagg Ranch** 40.44 76 *e*P P 11 03 29.3 +0.4
comp=Z,504nm,0.9s
FIGC **Figueroa Mtn.** 40.45 95 *e*P P 11 03 30.0 +1.1
PKM **Mcpherson Peak** 40.45 94 P P 11 03 29.7 +0.7
baz=312,SNR=84
FXWY **Fox Creek** 40.49 77 *e*P P 11 03 29.6 +0.2
comp=Z,204nm,1.1s
FXWY LR LR
comp=Z,147µm,22.0s
HVU **Hansel Valley** 40.49 81 *e*P P 11 03 29.5 +0.2
HVU pmax pmax
comp=Z,336nm,0.8s
HVU MLR MLR
comp=Z,138µm,22.0s
HVU **Hansel Valley** 40.49 81 *e*P P 11 03 29.5 +0.2
comp=Z,336nm,0.8s
HVU LR LR
comp=Z,138µm,22.0s
CWC **Cottonwood Cre** 40.50 91 P P 11 03 29.9 +0.5
baz=310
YTP **The Promontory** 40.52 76 *e*P P 11 03 32.2 +2.6
GRAC **Grapevine Rang** 40.59 90 P P 11 03 30.8 +0.8
baz=310,SNR=257
MOOW **Moose Ponds** 40.60 77 *e*P P 11 03 30.4 +0.1
comp=Z,184nm,1.0s
TPAW **Teton Pass** 40.62 77 *e*P P 11 03 30.9 +0.4
comp=Z,591nm,1.4s
TPAW LR LR
comp=Z,170µm,22.0s
RLMT **Red Lodge** 40.72 74 P P 11 03 31.3 +0.1
baz=303,SNR=520
RLMT **Red Lodge** 40.72 74 *e*P P 11 03 31.5 +0.3
comp=Z,796nm,0.9s
RLMT LR LR
comp=Z,85µm,20.0s
MTUT **Morton Thiokol** 40.73 81 *e*P P 11 03 31.7 +0.5
MLI **Malad Range** 40.75 80 *e*P P 11 03 27.9 -3.5
REDW **Red Top Meadow** 40.75 77 *e*P P 11 03 31.9 +0.4
comp=Z,803nm,1.3s
REDW LR LR
comp=Z,191µm,22.0s
SNOW **Snow King Moun** 40.76 77 *e*P P 11 03 32.0 +0.4
comp=Z,426nm,1.1s
SNOW LR LR
comp=Z,175µm,22.0s
ISA **Isabella, Lake** 40.76 92 P P 11 03 31.1 -0.4
baz=311,SNR=198
ISA **Isabella, Lake** 40.76 92 *e*P P 11 03 31.3 -0.2
ISA pmax pmax
comp=Z,382nm,0.9s
ISA MLR MLR
comp=Z,171µm,21.0s
ISA **Isabella, Lake** 40.76 92 *e*P P 11 03 31.3 -0.2
comp=Z,382nm,0.9s
ISA LR LR
comp=Z,171µm,21.0s
LOHW **Long Hollow** 40.76 77 *e*P P 11 03 31.6 +0.1
comp=Z,276nm,1.0s
LOHW LR LR
comp=Z,130µm,22.0s
SBC **Santa Barbara** 40.80 95 P P 11 03 32.0 +0.3
baz=312,SNR=11
WHFM **Hanning Flat** 40.82 92 *e*P P 11 03 31.5 -0.4
R11A **Troy Canyon, C** 40.83 87 P P 11 03 32.1 0.0
baz=309,SNR=527
R11A **Troy Canyon, C** 40.83 87 *e*P P 11 03 32.2 0.0
comp=Z,359nm,1.0s
R11A LR LR
comp=Z,193µm,20.0s
BGU **Big Grassy Mou** 40.84 82 *e*P P 11 03 32.4 +0.2
comp=Z,399nm,1.1s
BGU LR LR
comp=Z,221µm,22.0s
ARVC **Arvin** 40.89 93 P P 11 03 32.2 -0.2
baz=312,SNR=49
BEI **Bear River Ran** 40.90 80 *e*P P 11 03 31.2 -1.5
DAC **Darwin (Calif)** 40.91 91 PFAKE 11 03 40.0 +7.2
DAC LR LR
comp=Z,239µm,22.0s
AHID **Auburn Hatcher** 40.94 78 *e*P P 11 03 33.3 +0.3
comp=Z,397nm,1.0s
AHID LR LR
comp=Z,249µm,22.0s
SPUT **South Promonto** 40.97 81 *e*P P 11 03 33.5 +0.3
comp=Z,272nm,1.0s
SPUT LR LR
comp=Z,124µm,22.0s
BOD **Bodaibo** 41.03 308 *e*P P 11 03 32.8 -0.5
BOD pmax pmax
comp=Z,984nm,1.0s
WVUT **Wellsville** 41.09 80 *e*P P 11 03 31.1 -3.1
HDU **Hyde Park** 41.09 80 *e*P P 11 03 32.3 -2.0
MPMC **Manual Prospec** 41.11 91 P P 11 03 34.8 +0.3
baz=311,SNR=351
HONU **Honeyville** 41.12 80 *e*P P 11 03 30.2 -4.2
BSC **Santa Cruz Isl** 41.15 95 P P 11 03 34.4 -0.2
baz=313,SNR=8.2
GZU **Grizzly Peak** 41.19 81 *e*P P 11 03 31.9 -3.2
CLC **China Lake** 41.20 91 *e*P P 11 03 35.3 +0.2
CLC **China Lake** 41.20 91 *e*P P 11 03 35.3 +0.2
FURC **Furnace Creek,** 41.23 90 P P 11 03 35.9 +0.7
baz=310,SNR=750
OSI **Osito Audit: C** 41.30 94 P P 11 03 35.9 +0.1
baz=312,SNR=12
OSI **Osito Audit: C** 41.30 94 *e*P P 11 03 36.0 +0.1
comp=Z,731nm,1.3s
OSI LR LR
comp=Z,126µm,22.0s
TPNV **Topopah Spring** 41.30 89 P P 11 03 36.3 +0.3
baz=310,SNR=795
TPNV **Topopah Spring** 41.30 89 *e*P P 11 03 36.4 +0.3
TPNV pmax pmax
comp=Z,692nm,1.0s
TPNV MLR MLR
comp=Z,212µm,22.0s
TPNV **Topopah Spring** 41.30 89 *e*P P 11 03 36.4 +0.3
comp=Z,692nm,1.0s
TPNV LR LR
comp=Z,212µm,22.0s
BMUT **Black Mountain** 41.33 79 *e*P P 11 03 37.3 +1.0
HWUT **Hardware Ranch** 41.33 80 *e*P P 11 03 36.3 +0.1
comp=Z,307nm,1.1s
HWUT LR LR
comp=Z,108µm,22.0s
FSU **Fish Springs** 41.34 84 *e*P P 11 03 37.6 +1.3
LRMC **Laurel Mtn Rad** 41.37 92 P P 11 03 36.3 -0.2
baz=311,SNR=74
WSHM **Spangler Hills** 41.41 92 *e*P P 11 03 36.9 +0.1
DUG **Dugway, Tooele** 41.41 83 P P 11 03 37.0 +0.1
baz=307,SNR=199
DUG **Dugway, Tooele** 41.41 83 *e*P P 11 03 36.9 +0.1
DUG MLR MLR
comp=Z,204µm,22.0s
DUG **Dugway, Tooele** 41.41 83 *e*P P 11 03 36.9 +0.1
DUG LR LR
comp=Z,204µm,22.0s
BLG **Laguna Peak, P** 41.42 94 P P 11 03 36.9 0.0
baz=312,SNR=22
MCU **Monte Cristo P** 41.45 80 *e*P P 11 03 36.4 -1.0
FPU **Francis Peak** 41.51 81 *e*P P 11 03 35.8 -2.1
FOXC **Fox Airport** 41.51 93 *e*P P 11 03 37.5 -0.2
LEOC **Leona Valley** 41.55 93 *e*P P 11 03 38.4 +0.4
NOQ **North Oquirrh** 41.56 82 *e*P P 11 03 36.2 -1.9
EDW2 **Edwards Air Fo** 41.57 93 P P 11 03 37.7 -0.5
baz=312,SNR=249
LAO **LASA Array** 41.67 70 P P 11 03 39.2 +0.4
baz=303,SNR=236

LAO	**LASA Array**	**41.67**	**70**	*eP*		**P**	**11 03 39.2**	**+0.4**
	comp=Z,592nm,0.9s								
LAO				LR		LR			
	comp=Z,192µm,22.0s								
RBU	**Red Butte Cany**	**41.67**	**81**	*eP*		**P**	**11 03 37.9**	**-1.1**
CN2	**Changchun**	**41.69**	**284**	⇑P		**P**	**11 03 37.9**	**-0.9**
CN2				PP		**PnPn**	**11 05 20.8**	**0.0**
CN2				*eS*		**S**	**11 09 51.8**	**-0.4**
CN2				SS		**SS**	**11 12 52.8**	**-5.7**
CN2				LR		LR			
	comp=Z,75µm,22.0s								
CN2				LR		LR			
	comp=Z,151µm,22.0s								
CN2				LR		LR			
	comp=Z,168µm,20.0s								
CWU	**Camp Williams**	**41.69**	**82**	*eP*		**P**	**11 03 38.2**	**-1.0**
SNCC	**San Nicolas Is**	**41.72**	**96**	P		**P**	**11 03 39.1**	**-0.1**
	baz=313,SNR=6.4								
SNCC	**San Nicolas Is**	**41.72**	**96**	*eP*		**P**	**11 03 39.6**	**+0.4**
	comp=Z,358nm,1.0s								
SNCC				LR		LR			
	comp=Z,143µm,21.0s								
MHD	**Mile High Driv**	**41.75**	**81**	*eP*		**P**	**11 03 38.9**	**-0.7**
DECC	**Green Verdugo**	**41.78**	**94**	P		**P**	**11 03 39.8**	**0.0**
	baz=312,SNR=27								
PSUT	**Pine Spring**	**41.78**	**85**	*eP*		**P**	**11 03 40.1**	**+0.1**
	comp=Z,872nm,1.6s								
PSUT				LR		LR			
	comp=Z,144µm,21.0s								
GMU	**Granite Mounta**	**41.82**	**81**	*eP*		**P**	**11 03 39.9**	**-0.3**
N16A	**Rees Ranch, Co**	**41.84**	**81**	*eP*		**P**	**11 03 40.5**	**+0.1**
BW06	**Boulder Array**	**41.87**	**77**	P		**P**	**11 03 40.3**	**-0.4**
	baz=305,SNR=598								
BW06	**Boulder Array**	**41.87**	**77**	*eP*		**P**	**11 03 40.3**	**-0.4**
BW06				LR		LR			
	comp=Z,185µm,21.0s								
PD31	**Pinedale Array**	**41.87**	**77**	*eP*		**P**	**11 03 40.6**	**-0.2**
PDAR	**Pinedale Array**	**41.87**	**77**	P		**P**	**11 03 40.5**	**-0.2**
	comp=Z,392nm,1.0s,baz=294,slow=4.7,SNR=323								
PDAR				ScP		**ScP**	**11 09 19.2**	**-2.8**
	comp=Z,15nm,1.1s,baz=318,slow=2.4,SNR=2.9								
PDAR				LR		LR	11 18 48.4		
	comp=Z,166µm,21.6s,baz=312,slow=33								
PDAR				P3KPbc			11 33 06.5		
	comp=Z,1.1nm,0.5s,baz=116,slow=5.8,SNR=7.2								
DGMT	**Dagmar**	**41.89**	**67**	P		**P**	**11 03 40.6**	**+0.1**
	baz=302,SNR=200								
DGMT	**Dagmar**	**41.89**	**67**	*eP*		**P**	**11 03 40.3**	**-0.2**
	comp=Z,1µm,1.3s								
DGMT				LR		LR			
	comp=Z,215µm,21.0s								
BLKC	**Black Mountain**	**41.91**	**92**	*eP*		**P**	**11 03 41.4**	**+0.5**
PASC	**Pasadena Art C**	**41.92**	**94**	*eP*		**P**	**11 03 40.9**	**-0.1**
	comp=Z,414nm,1.3s								
HOLC	**Holcomb Ridge**	**41.94**	**93**	*eP*		**P**	**11 03 41.7**	**+0.5**
SHOC	**Shoshone, Teco**	**41.96**	**90**	P		**P**	**11 03 41.4**	**+0.1**
	baz=311,SNR=105								
MWC	**Mount Wilson**	**41.97**	**94**	*eP*		**P**	**11 03 41.6**	**+0.1**
MWC				pmax		pmax			
	comp=Z,1µm,1.4s								
MWC				MLR		MLR			
	comp=Z,110µm,19.0s								
MWC	**Mount Wilson**	**41.97**	**94**	*eP*		**P**	**11 03 41.6**	**+0.1**
	comp=Z,1µm,1.4s								
MWC				LR		LR			
	comp=Z,110µm,19.0s								
RCJ	**Ross Creek**	**41.97**	**81**	*eP*		**P**	**11 03 42.1**	**+0.6**
JLU	**Jordanelle**	**42.00**	**81**	*eP*		**P**	**11 03 41.7**	**0.0**
	comp=Z,1µm,1.5s								
JLU				LR		LR			
	comp=Z,144µm,22.0s								
NLU	**North Lily Min**	**42.01**	**82**	*eP*		**P**	**11 03 41.9**	**+0.1**
	comp=Z,380nm,0.9s								
NLU				LR		LR			
	comp=Z,221µm,21.0s								
KLJ	**Keetly**	**42.01**	**81**	*eP*		**P**	**11 03 42.6**	**+0.8**
HLJ	**Hailstone**	**42.02**	**81**	*eP*		**P**	**11 03 42.8**	**+0.9**
GSC	**Goldstone, Bar**	**42.03**	**91**	P		**P**	**11 03 42.1**	**+0.2**
	baz=311,SNR=910								
GSC	**Goldstone, Bar**	**42.03**	**91**	*eP*		**P**	**11 03 42.1**	**+0.2**
GSC				pmax		pmax			
	comp=Z,965nm,0.9s								
GSC				MLR		MLR			
	comp=Z,141µm,21.0s								
GSC	**Goldstone, Bar**	**42.03**	**91**	*eP*		**P**	**11 03 42.1**	**+0.2**
	comp=Z,965nm,0.9s								
GSC				LR		LR			
	comp=Z,141µm,21.0s								
LDJ	**Lady**	**42.03**	**81**	*eP*		**P**	**11 03 43.0**	**+0.9**
HIA	**Hailar**	**42.05**	**294**	*eP*		**P**	**11 03 41.4**	**-0.4**
HIA				pmax		pmax			
	comp=Z,2µm,0.8s								
HIA				MLR		MLR			
	comp=Z,172µm,19.0s								
HIA	**Hailar**	**42.05**	**294**	*eP*		**P**	**11 03 41.4**	**-0.4**
	comp=Z,2µm,0.8s								
HIA				LR		LR			
	comp=Z,172µm,19.0s								
HTU	**Hoyt Peak**	**42.09**	**81**	*eP*		**P**	**11 03 44.0**	**+1.4**
IMU	**Iron Mountain**	**42.15**	**85**	*eP*		**P**	**11 03 45.1**	**+2.1**
FMP	**Fort Macarthur**	**42.17**	**94**	P		**P**	**11 03 42.7**	**-0.2**
	baz=313								
RRX	**Edison Barstow**	**42.19**	**92**	P		**P**	**11 03 43.4**	**+0.3**
	baz=312,SNR=30								
BFSC	**Mount Baldy Ra**	**42.20**	**93**	P		**P**	**11 03 43.5**	**+0.1**
	baz=312,SNR=364								
FCC	**Fort Churchill**	**42.22**	**49**	*eP*		**P**	**11 03 43.3**	**+0.3**
FCC				pmax		pmax			
	comp=Z,932nm,0.8s								
FCC				MLR		MLR			
	comp=Z,145µm,21.0s								
FCC	**Fort Churchill**	**42.22**	**49**	*eP*		**P**	**11 03 43.3**	**+0.3**
	comp=Z,932nm,0.8s								
FCC				LR		LR			
	comp=Z,145µm,21.0s								
SHPR	**Sheep Range**	**42.26**	**89**	*eP*		**P**	**11 03 43.9**	**0.0**
	comp=Z,613nm,1.5s								
SHPR				LR		LR			
	comp=Z,216µm,22.0s								
CIS	**Catalina Islan**	**42.30**	**95**	P		**P**	**11 03 43.7**	**-0.3**
	baz=313,SNR=32								
CBIJ	**Chichi jima**	**42.45**	**252**	PFAKE			11 04 00.0	+15	
CBIJ				LR		LR			
	comp=Z,102µm,22.0s								
TUQ	**Turquoise Moun**	**42.48**	**90**	P		**P**	**11 03 45.8**	**+0.1**
	baz=311,SNR=262								
ARUT	**Antelope Range**	**42.51**	**86**	*eP*		**P**	**11 03 46.5**	**+0.7**
ARUT	**Antelope Range**	**42.51**	**86**	*eP*		**P**	**11 03 46.5**	**+0.7**
SCI	**San Clemente I**	**42.51**	**95**	P		**P**	**11 03 45.8**	**+0.1**
	baz=313,SNR=13								
DWU	**Dry Willow Pea**	**42.58**	**85**	*eP*		**P**	**11 03 46.5**	**0.0**
WCU	**Willow Creek**	**42.60**	**84**	*eP*		**P**	**11 03 47.2**	**+0.4**
TCRU	**Three Creeks R**	**42.60**	**84**	PFAKE			11 04 00.0	+13	
TCRU				LR		LR			
	comp=Z,194µm,20.0s								
ICU	**Indian Springs**	**42.61**	**87**	*eP*		**P**	**11 03 47.0**	**+0.3**
HEC	**Hector,Ludlow**	**42.63**	**91**	P		**P**	**11 03 46.8**	**+0.1**
	baz=312,SNR=196								
BBRC	**Big Bear Solar**	**42.64**	**93**	P		**P**	**11 03 47.3**	**+0.2**
	baz=312,SNR=181								
CCUT	**Cedar City**	**42.70**	**86**	*eP*		**P**	**11 03 46.8**	**-0.7**
	comp=Z,1µm,1.8s								
SNO	**Snow College**	**42.72**	**83**	*eP*		**P**	**11 03 49.2**	**+1.5**
SGU	**Sterling**	**42.74**	**83**	*eP*		**P**	**11 03 46.9**	**-0.9**
MSU	**Marysvale**	**42.83**	**84**	*eP*		**P**	**11 03 48.9**	**+0.4**
MSU	**Marysvale**	**42.83**	**84**	*eP*		**P**	**11 03 48.9**	**+0.4**
SZCU	**Shurtz Canyon**	**42.84**	**86**	*eP*		**P**	**11 03 48.5**	**-0.1**
	comp=Z,420nm,1.5s								
MURC	**Murrieta**	**42.92**	**93**	P		**P**	**11 03 48.9**	**-0.1**
	baz=313,SNR=74								
TMUT	**Trail Mountain**	**42.94**	**83**	*eP*		**P**	**11 03 49.8**	**+0.3**
	comp=Z,470nm,1.1s								
TMUT				LR		LR			
	comp=Z,147µm,21.0s								
HMTC	**Hemet**	**42.96**	**93**	*eP*		**P**	**11 03 49.4**	**0.0**
BHU	**Blowhard Mount**	**42.99**	**86**	*eP*		**P**	**11 03 50.2**	**+0.2**
DBD	**Des Bee Dove**	**43.00**	**82**	*eP*		**P**	**11 03 51.3**	**+1.4**
DGR	**Domenigoni Val**	**43.00**	**93**	*eP*		**P**	**11 03 49.8**	**+0.1**
BACC	**Bachelor Mtn.**	**43.00**	**93**	*eP*		**P**	**11 03 49.9**	**+0.1**
ARGU	**Argyle Ridge**	**43.02**	**81**	*eP*		**P**	**11 03 50.6**	**+0.5**
GMRC	**Granite Mounta**	**43.07**	**91**	P		**P**	**11 03 50.4**	**0.0**
	baz=312,SNR=309								
P17A	**Butcher Ranch,**	**43.12**	**82**	PFAKE			11 04 00.0	+9.3	
P17A				LR		LR			
	comp=Z,151µm,22.0s								
LCMT	**Little Creek M**	**43.12**	**87**	*eP*		**P**	**11 03 51.2**	**+0.4**
	comp=Z,869nm,1.5s								
LCMT				LR		LR			
	comp=Z,155µm,20.0s								
MTPU	**Mount Pierson**	**43.12**	**85**	*eP*		**P**	**11 03 51.6**	**+0.6**
	comp=Z,836nm,1.3s								
MTPU				LR		LR			
	comp=Z,207µm,21.0s								
OWUT	**Old Woman Plat**	**43.12**	**83**	*eP*		**P**	**11 03 51.5**	**+0.6**
LDFC	**Landfair**	**43.22**	**90**	*eP*		**P**	**11 03 51.4**	**-0.1**
	comp=Z,1µm,0.9s								
LDFC				LR		LR			
	comp=Z,145µm,19.0s								
TPC	**Twentynine Pal**	**43.28**	**92**	*eP*		**P**	**11 03 51.9**	**-0.2**
P18A	**Preston Nutter**	**43.32**	**81**	PFAKE			11 04 00.0	+7.4	
P18A				LR		LR			
	comp=Z,171µm,22.0s								
FRD	**Ford Ranch, An**	**43.35**	**93**	*eP*		**P**	**11 03 52.9**	**+0.3**
PFO	**Pinyon Flats O**	**43.36**	**93**	LR		LR	11 18 01.4		
	comp=Z,151µm,21.5s,baz=310,slow=31								
PFO	**Pinyon Flats O**	**43.36**	**93**	P		**P**	**11 03 52.4**	**-0.4**
	baz=313,SNR=122								
PFO	**Pinyon Flats O**	**43.36**	**93**	*eP*		**P**	**11 03 52.6**	**-0.1**
PFO				pmax		pmax			
	comp=Z,457nm,1.0s								
PFO				MLR		MLR			
	comp=Z,169µm,22.0s								
PFO	**Pinyon Flats O**	**43.36**	**93**	*eP*		**P**	**11 03 52.6**	**-0.1**
	comp=Z,457nm,1.0s								
PFO				LR		LR			
	comp=Z,169µm,22.0s								
TPFO	**Pinon Flats**	**43.37**	**93**	P		**P**	**11 03 52.4**	**-0.4**
	baz=313,SNR=93								
KNB	**Kanab**	**43.37**	**86**	*eP*		**P**	**11 03 53.4**	**+0.5**
KNB				pmax		pmax			
	comp=Z,856nm,1.2s								
KNB	**Kanab**	**43.37**	**86**	*eP*		**P**	**11 03 53.4**	**+0.5**
	comp=Z,856nm,1.2s								
BELC	**Belle Mtn. Jos**	**43.39**	**92**	P		**P**	**11 03 52.5**	**-0.4**
	baz=312,SNR=177								
BELC	**Belle Mtn. Jos**	**43.39**	**92**	*eP*		**P**	**11 03 52.6**	**-0.4**
PKCU	**Pink Cliffs**	**43.42**	**85**	*eP*		**P**	**11 03 54.0**	**+0.6**
	comp=Z,270nm,0.8s								
109C	**Camp Elliot, M**	**43.45**	**94**	P		**P**	**11 03 53.6**	**+0.3**
	baz=313,SNR=58								
SRU	**San Rafael Swe**	**43.47**	**82**	*eP*		**P**	**11 03 53.7**	**+0.1**
SRU				pmax		pmax			
	comp=Z,417nm,0.7s								
SRU				MLR		MLR			
	comp=Z,173µm,22.0s								
SRU	**San Rafael Swe**	**43.47**	**82**	*eP*		**P**	**11 03 53.7**	**+0.1**
	comp=Z,417nm,0.7s								
SRU				LR		LR			
	comp=Z,173µm,22.0s								
EKU	**East Kanab**	**43.54**	**86**	*eP*		**P**	**11 03 54.8**	**+0.6**
MMU	**Miners Mountai**	**43.57**	**84**	*eP*		**P**	**11 03 55.0**	**+0.5**
NEE2	**Needles Airpor**	**43.73**	**90**	P		**P**	**11 03 55.3**	**-0.2**
	baz=312,SNR=41								
K22A	**Casper**	**43.76**	**76**	P		**P**	**11 03 55.2**	**-0.7**
	baz=306,SNR=140								
K22A	**Casper**	**43.76**	**76**	*eP*		**P**	**11 03 55.0**	**-0.9**
	comp=Z,911nm,1.4s								
IRM	**Iron Mountain**	**43.81**	**91**	P		**P**	**11 03 56.0**	**-0.2**
	baz=312,SNR=140								
BAR	**Barrett**	**43.86**	**94**	*eP*		**P**	**11 03 56.8**	**+0.2**
	comp=Z,671nm,1.1s								
MONP	**Monument Peak,**	**43.87**	**94**	P		**P**	**11 03 57.0**	**0.0**
	baz=313,SNR=130								
SNY	**Shenyang**	**43.95**	**283**	⇓P		**P**	**11 03 57.3**	**+0.1**
SNY				S		**S**	**11 10 25.4**	**0.0**
SNY				pmax		pmax			
	comp=Z,940nm,1.0s								
SNY				pmax		pmax			
	comp=Z,23µm,6.3s								
SNY				LR		LR			
	comp=Z,132µm,23.1s								
SNY				LR		LR			
	comp=Z,174µm,23.3s								
SNY				LR		LR			
	comp=Z,386µm,24.0s								
BC3	**Big Chuckawall**	**43.95**	**92**	P		**P**	**11 03 57.0**	**-0.5**
	baz=313,SNR=60								
W13A	**Hualapai Mount**	**43.96**	**89**	*eP*		**P**	**11 03 57.5**	**-0.1**
	comp=Z,1µm,1.5s								
KSRS	**Korea Array**	**43.99**	**275**	P		**P**	**11 03 58.5**	**+1.0**
	comp=Z,2µm,1.0s,baz=57,slow=7.6,SNR=310								
KSRS				ScP		**ScP**	**11 09 31.7**	**+1.5**
	comp=Z,23nm,1.2s,baz=58,slow=4.6,SNR=2.8								
KSRS				LR		LR	11 20 30.3		
	comp=Z,85µm,21.3s,baz=52,slow=34								
KS01	**Wonju Array Si**	**44.00**	**275**	*eP*		**P**	**11 03 57.5**	**-0.2**
CIT	**Chita**	**44.01**	**301**	*eP*		**P**	**11 03 58.4**	**+0.8**
CIT				*e*			11 05 45.3		
CIT				*e*			11 13 50.6		
CIT				pmax		pmax			
	comp=Z,1µm,1.5s								
KS15	**Wonju Array Si**	**44.03**	**275**	*eP*		**P**	**11 03 58.5**	**+0.7**
U15A	**North Rim**	**44.08**	**87**	*eP*		**P**	**11 03 59.0**	**+0.3**
	comp=Z,440nm,0.8s								
U15A				LR		LR			
	comp=Z,227µm,22.0s								
CRR	**Carrizo Plain**	**44.16**	**93**	*eP*		**P**	**11 03 59.6**	**+0.6**
SWSC	**Sam W. Stewart**	**44.22**	**93**	P		**P**	**11 03 59.0**	**-0.5**
	baz=313,SNR=12								
IKP	**In-Ko-Pah, Jac**	**44.23**	**94**	P		**P**	**11 03 59.7**	**+0.1**
	baz=313,SNR=110								
O20A	**White River Ci**	**44.23**	**80**	P		**P**	**11 03 59.1**	**-0.6**
	baz=308,SNR=621								
O20A	**White River Ci**	**44.23**	**80**	*eP*		**P**	**11 03 59.4**	**-0.3**
	comp=Z,849nm,0.8s								
O20A				LR		LR			
	comp=Z,124µm,22.0s								
PDMCI	**Parker Dam,Lak**	**44.33**	**90**	P		**P**	**11 04 00.4**	**+0.1**
	baz=312,SNR=214								
RSSD	**Black Hills**	**44.38**	**72**	P		**P**	**11 04 00.2**	**-0.6**
	baz=306								
RSSD	**Black Hills**	**44.38**	**72**	*eP*		**P**	**11 04 00.3**	**-0.6**
RSSD				pmax		pmax			
	comp=Z,344nm,0.6s								
RSSD	**Black Hills**	**44.38**	**72**	*eP*		**P**	**11 04 00.3**	**-0.6**
	comp=Z,344nm,0.6s								
Y12C	**Blythe**	**44.46**	**91**	P		**P**	**11 04 01.5**	**+0.1**
	baz=312,SNR=202								
Y12C	**Blythe**	**44.46**	**91**	*eP*		**P**	**11 04 01.4**	**0.0**
	comp=Z,622nm,1.0s								
PV09	**Paradox Valley**	**44.70**	**82**	*eP*		**P**	**11 04 03.2**	**-0.4**
GLA	**Glamis**	**44.75**	**92**	P		**P**	**11 04 03.8**	**+0.1**
	baz=313,SNR=75								
GLA	**Glamis**	**44.75**	**92**	*eP*		**P**	**11 04 03.8**	**+0.1**
GLA				pmax		pmax			
	comp=Z,946nm,1.4s								
GLA				MLR		MLR			
	comp=Z,117µm,19.0s								
GLA	**Glamis**	**44.75**	**92**	*eP*		**P**	**11 04 03.8**	**+0.1**
	comp=Z,946nm,1.4s								
GLA				LR		LR			
	comp=Z,117µm,19.0s								
INCN	**Inchon**	**44.77**	**276**	*eP*		**P**	**11 04 04.6**	**+0.8**
	comp=Z,2µm,0.9s								
INCN				LR		LR			
	comp=Z,63µm,20.0s								
MDND	**Maddock**	**44.82**	**65**	P		**P**	**11 04 04.1**	**0.0**
	baz=304,SNR=188								
MDND	**Maddock**	**44.82**	**65**	*eP*		**P**	**11 04 04.1**	**0.0**
	comp=Z,6µm,1.4s								
MDND				LR		LR			
	comp=Z,221µm,21.0s								
PV05	**Paradox Valley**	**44.99**	**82**	*eP*		**P**	**11 04 05.5**	**-0.4**
JNU	**Nakatsue**	**45.02**	**268**	P		**P**	**11 04 06.9**	**+1.0**
	comp=Z,290nm,0.6s,baz=34,slow=3.4,SNR=90								
JNU				LR		LR	11 21 49.3		
	comp=Z,916nm,21.9s,baz=58,slow=34								
JNU	**Nakatsue**	**45.02**	**268**	*eP*		**P**	**11 04 06.7**	**+0.9**
	comp=Z,733nm,0.9s								
JNU				LR		LR			
	comp=Z,1µm,22.0s								
N23A	**Red Feather La**	**45.16**	**77**	P		**P**	**11 04 07.0**	**-0.2**
	baz=308,SNR=202								
N23A	**Red Feather La**	**45.16**	**77**	*eP*		**P**	**11 04 07.0**	**-0.2**
	comp=Z,668nm,1.1s								
PHWY	**Pilot Hill**	**45.20**	**76**	*eP*		**P**	**11 04 06.7**	**-0.9**
	comp=Z,167nm,1.0s								
WUAZ	**Wupatki**	**45.23**	**87**	P		**P**	**11 04 07.9**	**+0.1**
	baz=311,SNR=336								
WUAZ	**Wupatki**	**45.23**	**87**	*eP*		**P**	**11 04 08.0**	**+0.3**
	comp=Z,572nm,1.0s								
WUAZ				LR		LR			
	comp=Z,255µm,22.0s								
PV01	**Paradox Valley**	**45.27**	**82**	*eP*		**P**	**11 04 07.7**	**-0.5**
Y14A	**Wickenburg**	**45.27**	**90**	*eP*		**P**	**11 04 07.8**	**-0.1**
	comp=Z,2µm,1.3s								
ULM	**Lac du Bonnet**	**45.55**	**61**	P		**P**	**11 04 09.2**	**-0.6**
	comp=Z,613nm,0.9s,baz=302,slow=8.6,SNR=108								
ULM				S		**S**	**11 10 51.1**	**+2.7**
	comp=Z,37nm,1.0s,baz=95,slow=17,SNR=4.0								
ULM				LR		LR	11 23 42.9		
	comp=Z,133µm,21.1s,baz=309,slow=37								
ULM	**Lac du Bonnet**	**45.55**	**61**	*eP*		**P**	**11 04 09.2**	**-0.6**
	comp=Z,1µm,1.2s								
ULM				LR		LR			
	comp=Z,140µm,21.0s								
A31A	**Linda, St. Vin**	**45.56**	**63**	P		**P**	**11 04 09.3**	**-0.6**
	baz=304,SNR=46								
B31A	**Greenbush Farm**	**45.59**	**64**	P		**P**	**11 04 09.7**	**-0.4**
	baz=304,SNR=247								
SMCO	**Snowmass**	**45.59**	**80**	*eP*		**P**	**11 04 10.0**	**-0.8**
	comp=Z,509nm,1.4s								
SMCO				LR		LR			
	comp=Z,204µm,22.0s								
113A	**Mohawk Valley,**	**45.59**	**92**	*eP*		**P**	**11 04 10.0**	**-0.4**
	comp=Z,369nm,1.1s								
113A				LR		LR			
	comp=Z,114µm,19.0s								
C31A	**Landman Farms,**	**45.89**	**65**	P		**P**	**11 04 11.8**	**-0.8**
	baz=304,SNR=160								
MVCO	**Mesa Verde**	**45.91**	**83**	P		**P**	**11 04 12.4**	**-0.7**
	baz=310,SNR=129								
MVCO	**Mesa Verde**	**45.91**	**83**	*eP*		**P**	**11 04 12.6**	**-0.5**
	comp=Z,1µm,1.6s								
MVCO				LR		LR			
	comp=Z,145µm,21.0s								
X16A	**Lo Mia Camp, P**	**45.92**	**88**	*eP*		**P**	**11 04 13.6**	**+0.4**
	comp=Z,776nm,1.6s								
A32A	**Rocking H Ranc**	**45.95**	**63**	P		**P**	**11 04 12.1**	**-0.8**
	baz=304,SNR=123								
NRIK	**Noril'sk**	**45.96**	**331**	P		**P**	**11 04 12.7**	**-0.2**
	comp=Z,276nm,1.0s,baz=66,slow=7.6,SNR=50								
NRIK				PcP		**PcP**	**11 05 51.4**	**+2.5**
	comp=Z,217nm,0.5s,baz=74,slow=8.4,SNR=9.1								
NRIK				ScP		**ScP**	**11 09 40.6**	**+2.8**
	comp=Z,61nm,1.0s,baz=35,slow=2.7,SNR=4.2								
NRIK				LR		LR	11 25 24.0		
	comp=Z,116µm,19.5s,baz=66,slow=39								
ISCO	**Idaho Springs**	**46.03**	**78**	P		**P**	**11 04 14.0**	**-0.2**
	baz=309,SNR=188								
ISCO	**Idaho Springs**	**46.03**	**78**	*eP*		**P**	**11 04 13.8**	**-0.3**
ISCO				pmax		pmax			
	comp=Z,381nm,1.3s								
ISCO				MLR		MLR			
	comp=Z,220µm,22.0s								
ISCO	**Idaho Springs**	**46.03**	**78**	*eP*		**P**	**11 04 13.8**	**-0.3**
	comp=Z,381nm,1.3s								
ISCO				LR		LR			
	comp=Z,220µm,22.0s								
B32A	**Ashes, Strandq**	**46.22**	**63**	P		**P**	**11 04 14.3**	**-0.8**
	baz=304,SNR=264								
D31A	**Mcclaflin, Tow**	**46.32**	**65**	P		**P**	**11 04 15.0**	**-0.9**
	baz=305,SNR=40								
KWAJ	**Kwajalein Atol**	**46.36**	**209**	*eP*		**P**	**11 04 18.0**	**+1.5**
KWAJ				pmax		pmax			
	comp=Z,1µm,1.3s								
KWAJ				MLR		MLR			
	comp=Z,56µm,20.0s								
KWAJ	**Kwajalein Atol**	**46.36**	**209**	*eP*		**P**	**11 04 18.0**	**+1.5**
	comp=Z,1µm,1.3s								
KWAJ				LR		LR			
	comp=Z,56µm,20.0s								
KULLO	**Kullorsuaq**	**46.37**	**20**	*i* P		**P**	**11 04 16.3**	**+0.3**
KULLO				*i*			11 05 52.5		
	comp=Z,91µm,20.0s								
KULLO	**Kullorsuaq**	**46.37**	**20**	*i* P		**P**	**11 04 16.3**	**+0.3**
KULLO				*i*			11 05 52.5		
KULLO				MLR		MLR			
	comp=Z,91µm,20.0s								
W18A	**Petrified Fore**	**46.51**	**86**	P		**P**	**11 04 17.8**	**0.0**
	baz=312,SNR=50								
W18A	**Petrified Fore**	**46.51**	**86**	*eP*		**P**	**11 04 18.0**	**+0.2**
	comp=Z,737nm,1.1s								
W18A				LR		LR			
	comp=Z,257µm,22.0s								
E31A	**Nome**	**46.51**	**66**	P		**P**	**11 04 16.4**	**-1.1**
	baz=305,SNR=116								
A33A	**Warroad**	**46.54**	**62**	P		**P**	**11 04 16.9**	**-0.7**
	baz=304,SNR=286								
C32A	**Crookston**	**46.54**	**64**	P		**P**	**11 04 16.9**	**-0.8**
	baz=305,SNR=50								
S22A	**4UR Ranch, Cre**	**46.58**	**81**	P		**P**	**11 04 18.8**	**+0.3**
	baz=310,SNR=358								
S22A	**4UR Ranch, Cre**	**46.58**	**81**	*eP*		**P**	**11 04 18.7**	**+0.2**
	comp=Z,466nm,1.2s								
S22A				LR		LR			
	comp=Z,126µm,22.0s								
AGMN	**Agassiz Nation**	**46.64**	**63**	P		**P**	**11 04 17.5**	**-1.0**
	baz=305,SNR=362								
AGMN	**Agassiz Nation**	**46.64**	**63**	*eP*		**P**	**11 04 17.7**	**-0.8**
	comp=Z,1µm,1.1s								
AGMN				LR		LR			
	comp=Z,179µm,22.0s								
D32A	**Dogwood Acres,**	**46.67**	**65**	P		**P**	**11 04 17.7**	**-0.9**
	baz=305,SNR=29								
F31A	**Hecla**	**46.71**	**67**	P		**P**	**11 04 17.9**	**-1.2**
	baz=306,SNR=99								
214A	**Organ Pipe Nat**	**46.74**	**92**	P		**P**	**11 04 19.2**	**-0.3**
	baz=314

D34A Park Rapids 47.71 64 P P 11 04 25.7 -1.1
baz=306,SNR=252
TUC Tucson 47.74 90 P P 11 04 27.6 +0.2
baz=314
TUC Tucson 47.74 90 eP P 11 04 27.4 0.0
TUC pmax pmax
comp=Z,404nm,1.0s
TUC MLR MLR
comp=Z,110µm,20.0s
TUC Tucson 47.74 90 eP P 11 04 27.4 0.0
TUC LR LR
comp=Z,110µm,20.0s
B35A Bob, Littlefor 47.77 62 P P 11 04 26.3 -1.0
baz=306,SNR=236
F33A 5 Mile Ranch, 47.83 66 P P 11 04 26.3 -1.4
baz=306,SNR=134
J31A Geddes 47.96 70 P P 11 04 28.1 -0.7
baz=308,SNR=182
H32A Carlson Farm, 47.98 68 P P 11 04 27.7 -1.3
baz=307,SNR=208
C35A Jirik Farms, M 48.02 63 P P 11 04 28.1 -1.1
baz=306,SNR=247
E34A Wadena 48.06 65 P P 11 04 28.3 -1.2
baz=306,SNR=36
G33A Ortonville 48.13 67 P P 11 04 28.8 -1.3
baz=307,SNR=93
I32A Karley and Nic 48.25 69 P P 11 04 29.6 -1.4
baz=307,SNR=61
H33A Prehn Over Nor 48.27 67 P P 11 04 30.1 -1.0
baz=307,SNR=282
KSCO Kaye Shedlock' 48.32 77 P P 11 04 31.9 +0.1
baz=310,SNR=288
KSCO Kaye Shedlock' 48.32 77 eP P 11 04 31.9 +0.1
KSCO LR LR
comp=Z,862nm,0.9s
comp=Z,178µm,22.0s
D35A Remer 48.34 63 P P 11 04 30.8 -0.8
baz=306,SNR=314
K31A O'Neill 48.36 71 P P 11 04 31.3 -0.6
baz=308,SNR=102
J32A Parkston 48.43 69 P P 11 04 31.3 -1.1
baz=308,SNR=335
F34A Alexandria 48.44 65 P P 11 04 31.1 -1.3
baz=307,SNR=62
T25A Trinidad 48.45 80 P P 11 04 33.0 +0.1
baz=311,SNR=964
T25A Trinidad 48.45 80 eP P 11 04 32.9 +0.1
T25A LR LR
comp=Z,1µm,1.0s
comp=Z,148µm,22.0s
E35A Pequot Lakes 48.46 64 P P 11 04 31.8 -0.8
baz=307,SNR=250
G34A Benson 48.56 66 P P 11 04 32.1 -1.3
baz=307,SNR=56
LAZ Ladron 48.58 85 eP P 11 04 34.3 +0.4
C36A Pine Crest Far 48.61 62 P P 11 04 33.0 -0.7
baz=306,SNR=242
I33A Coleman 48.62 68 P P 11 04 32.6 -1.3
baz=308,SNR=38
ANMO Albuquerque 48.63 84 P P 11 04 34.1 -0.2
baz=312
ANMO Albuquerque 48.63 84 d iP P 11 04 33.9 -0.4
ANMO pmax pmax
comp=Z,219nm,1.3s
ANMO MLR MLR
comp=Z,103µm,17.0s
ANMO Albuquerque 48.63 84 eP P 11 04 33.1 -1.2
comp=Z,392nm,1.4s
ANMO LR LR
comp=Z,118µm,21.0s
IRK Irkutsk 48.68 305 eP P 11 04 33.5 -0.7
IRK e 11 06 00.8
IRK e 11 14 20.5
IRK pmax pmax
comp=Z,2µm,1.8s
D36A Goodland 48.78 63 P P 11 04 33.9 -1.1
baz=307,SNR=148
F35A Swanville 48.78 65 P P 11 04 34.0 -1.1
baz=307,SNR=180
K32A Verdigre 48.79 70 P P 11 04 34.1 -1.1
baz=308,SNR=105
H34A Spellman Lake, 48.83 67 P P 11 04 34.3 -1.1
baz=308,SNR=79
LENM Lemitar 48.84 85 eP P 11 04 36.3 +0.5
ECSD EROS Data Cent 48.92 68 P P 11 04 34.8 -1.3
baz=308,SNR=175
ECSD EROS Data Cent 48.92 68 eP P 11 04 34.8 -1.3
ECSD LR LR
comp=Z,607nm,1.3s
comp=Z,184µm,21.0s
Y22D IRIS PASSCAL I 48.93 85 P P 11 04 37.0 +0.5
baz=312,SNR=26
Y22D IRIS PASSCAL I 48.93 85 eP P 11 04 37.3 +0.8
Y22D LR LR
comp=Z,1µm,1.3s
comp=Z,311µm,22.0s
LPM Los Pinos Moun 48.95 85 eP P 11 04 36.9 +0.1
J33A Davis 48.97 69 P P 11 04 35.6 -1.0
baz=308,SNR=149
C37A Embarrass 48.98 62 P P 11 04 35.8 -0.8
baz=307,SNR=188
BNM Barren Site 49.06 85 eP P 11 04 37.9 +0.3
E36A McGregor 49.12 63 P P 11 04 36.8 -0.8
baz=307,SNR=220
I34A Hadley 49.16 68 P P 11 04 36.5 -1.5
baz=308,SNR=16
L32A Elgin 49.18 71 P P 11 04 37.6 -0.6
baz=309,SNR=46
D37A Cotton 49.19 62 P P 11 04 37.1 -1.1
baz=307,SNR=147
KBS Kingsbay 49.21 359 ⇑ iP P 11 04 38.2 +0.3
KBS IVmB_BB 11 04 44.8
comp=Z,7µm,1.1s
KBS eS S 11 11 41.6 +1.8
KBS IVMs_BB IVMs_BB 11 29 45.5
comp=Z,19µm,17.3s
KBS Kingsbay 49.21 359 eP P 11 04 38.4 +0.5
KBS pmax pmax
comp=Z,602nm,0.9s
KBS MLR MLR
comp=Z,60µm,20.0s
KBS Kingsbay 49.21 359 eP P 11 04 38.4 +0.5
comp=Z,602nm,0.9s
KBS LR LR
comp=Z,60µm,20.0s
G35A Watkins 49.22 66 P P 11 04 37.4 -1.0
baz=308,SNR=88
EYMN Ely 49.23 61 P P 11 04 37.4 -1.0
baz=307,SNR=313
EYMN Ely 49.23 61 eP P 11 04 37.7 -0.7
comp=Z,1µm,1.2s
319A Douglas 49.31 89 eP P 11 04 39.4 -0.1
comp=Z,1µm,1.8s
319A LR LR
comp=Z,146µm,19.0s
TLY Talaya 49.32 305 P P 11 04 39.0 -0.1
comp=Z,351nm,0.7s,baz=38,slow=7.3,SNR=81
TLY LR LR 11 25 39.3
comp=Z,145µm,21.8s,baz=44,slow=36
TLY PKPPKP P'P'df 11 35 32.1 -10
comp=Z,2.0nm,0.6s,baz=263,slow=8.5,SNR=4.2
TLY Talaya 49.32 305 c iP P 11 04 38.7 -0.4
TLY e 11 06 02.6
TLY e 11 06 37.7
TLY eS S 11 11 42.4 +0.4
TLY e 11 14 31.6
TLY pmax pmax
comp=Z,2µm,1.1s
TLY MLR MLR
comp=Z,112µm,19.0s
TLY Talaya 49.32 305 eP P 11 04 39.3 +0.2
TLY LR LR
comp=Z,158µm,21.0s
TLY Talaya 49.32 305 P P 11 04 39.5 +0.3
SNR=281
TLY P P 11 04 39.5 +0.3
SNR=281
TLY P P 11 04 39.5 +0.3
SNR=281
TLY Talaya 49.32 305 P P 11 04 39.5 +0.3
SNR=281
H35A Sunnyside Ranc 49.34 66 P P 11 04 38.3 -1.0
baz=308,SNR=181
F36A Milaca 49.37 64 P P 11 04 38.5 -1.1
baz=308,SNR=116
K33A Hardington 49.39 70 P P 11 04 39.0 -0.7
baz=309,SNR=47
121A Cookes Peak, D 49.44 87 P P 11 04 40.5 +0.1
baz=313,SNR=159
BGNE Belgrade 49.47 72 P P 11 04 39.7 -0.7
baz=309,SNR=33
BGNE Belgrade 49.47 72 eP P 11 04 39.9 -0.5
BGNE comp=Z,1µm,0.8s
BGNE LR LR
comp=Z,164µm,22.0s
BJI Beijing 49.47 286 P P 11 04 39.9 -0.5
BJI S S 11 11 44.1 -0.1
BJI pmax pmax
comp=Z,270nm,1.7s
BJI pmax pmax
comp=Z,23µm,5.1s
BJI LR LR
comp=Z,108µm,20.4s
BJI LR LR
comp=Z,94µm,25.2s
BJI LR LR
comp=Z,162µm,30.0s
C38A Sawbill Land. 49.48 61 P P 11 04 39.3 -1.1
baz=307,SNR=192
BJT Baijiatuau 49.49 286 eP P 11 04 40.8 +0.3
BJT pmax pmax
comp=Z,1µm,1.1s
BJT MLR MLR
comp=Z,167µm,21.0s
BJT Baijiatuau 49.49 286 eP P 11 04 40.8 +0.3
comp=Z,1µm,1.1s
BJT LR LR
comp=Z,167µm,21.0s
L33A Hoskins 49.51 70 P P 11 04 39.5 -1.2
baz=309,SNR=37
E37A Wrenshall 49.56 63 P P 11 04 40.1 -1.0
baz=307,SNR=21
J34A George 49.57 68 P P 11 04 40.0 -1.1
baz=308,SNR=70
G36A St. Michael 49.62 65 P P 11 04 40.6 -0.9
baz=308,SNR=74
I35A Creekview Farm 49.77 67 P P 11 04 41.3 -1.4
baz=308,SNR=40
ULN Ulaanbaatar 49.81 299 c iP P 11 04 42.8 -0.3
ULN pmax pmax
comp=Z,967nm,1.7s
ULN MLR MLR
comp=Z,223µm,17.0s
ULN Ulaanbaatar 49.81 299 eP P 11 04 42.8 -0.3
comp=Z,969nm,1.0s
ULN LR LR
comp=Z,249µm,18.0s
ULN Ulaanbaatar 49.81 299 P P 11 04 43.2 +0.1
SNR=328
ULN P P 11 04 43.2 +0.1
SNR=328
ULN P P 11 04 43.2 +0.1
SNR=328
ULN Ulaanbaatar 49.81 299 P P 11 04 43.2 +0.1
SNR=328
K34A Le Mars 49.86 69 P P 11 04 42.4 -1.0
baz=309,SNR=134
SPA0 Spitsbergen Ar 49.89 358 ⇑ iP P 11 04 42.4 -0.7
SPA0 IVmB_BB 11 04 49.0
comp=Z,8µm,1.4s
SPA0 eS S 11 11 48.3 -1.0
SPA0 eScS ScS 11 14 28.9 -0.7
SPA0 IVMs_BB IVMs_BB 11 27 38.7
comp=Z,28µm,18.4s
SPA0 Spitsbergen Ar 49.89 358 eP P 11 04 42.3 -0.7
SPITS Spitsbergen Ar 49.89 358 LR LR 11 27 49.8
comp=Z,54µm,18.1s,baz=15,slow=38
M33A Taylor Creek F 49.92 71 P P 11 04 42.6 -1.2
baz=309,SNR=219
H36A Jessenland, He 49.92 66 P P 11 04 43.3 -0.5
baz=308,SNR=96
HSIG 49.93 93 eP P 11 04 43.4 -0.6
HSIG comp=Z,278nm,1.1s
HSIG LR LR
comp=Z,71µm,21.0s
F37A Hinrichs Farm, 49.95 64 P P 11 04 42.9 -1.1
baz=308,SNR=32
J35A Milford 49.95 68 P P 11 04 42.6 -1.4
baz=309,SNR=69
E38A The Farm, Brul 50.00 62 P P 11 04 43.3 -1.1
baz=308
C39A Grand Marais 50.04 60 P P 11 04 43.4 -1.2
baz=307,SNR=68
L34A Svendsen Farm, 50.15 70 P P 11 04 44.2 -1.3
baz=309,SNR=259
SPMN Marine on St. 50.16 65 P P 11 04 44.6 -0.9
baz=308,SNR=87
SPMN Marine on St. 50.16 65 eP P 11 04 44.8 -0.8
SPMN comp=Z,312nm,0.8s
comp=Z,205µm,21.0s
SONA1 Songino Array 50.17 300 eP P 11 04 44.8 -1.1
CBKS Cedar Bluff 50.18 75 P P 11 04 45.5 -0.4
baz=310,SNR=70
CBKS Cedar Bluff 50.18 75 eP P 11 04 45.7 -0.2
CBKS pmax pmax
comp=Z,830nm,0.8s
CBKS Cedar Bluff 50.18 75 eP P 11 04 45.7 -0.2
comp=Z,830nm,0.8s
SONA0 Songino Array 50.19 300 eP P 11 04 45.8 -0.1
SONA0 ePcP PcP 11 06 05.5 +0.9
SONM Songino Array 50.19 300 P P 11 04 45.8 -0.1
comp=Z,292nm,0.8s,baz=48,slow=4.9,SNR=303
SONM PcP PcP 11 06 05.5 +0.9
comp=Z,203nm,1.0s,baz=126,slow=1.7,SNR=2.9
SONM ScP ScP 11 09 57.0 +0.7
comp=Z,54nm,0.8s,baz=48,slow=3.5,SNR=6.3
SONM LR LR 11 26 31.9
comp=Z,252µm,20.8s,baz=56,slow=37
SONM P4KPbc 11 42 19.3
comp=Z,14nm,0.9s,baz=65,slow=2.9,SNR=25
F38A Pierce - Schro 50.22 63 P P 11 04 45.4 -0.6
baz=308,SNR=273
I36A Fitzsimmons Fa 50.22 67 P P 11 04 44.7 -1.4
baz=308,SNR=60
DAG Danmarks Havn 50.26 8 ⇑ iP P 11 04 45.0 -0.9
comp=Z,768nm,0.9s
comp=Z,66µm,18.0s
DAG Danmarks Havn 50.26 8 ⇑ iP P 11 04 45.0 -0.9
DAG pmax pmax
comp=Z,650nm,0.9s
DAG MLR MLR
comp=Z,68µm,18.0s
ZAK Zakamensk 50.28 304 eP P 11 04 47.3 +0.8
ZAK pmax pmax
comp=Z,775nm,1.4s
N33A J Bar K, Exete 50.30 72 P P 11 04 45.4 -1.3
baz=310,SNR=67
M34A Aspy Farms, Fr 50.32 71 P P 11 04 45.7 -1.2
baz=309,SNR=24
K35A Storm Lake 50.34 69 P P 11 04 45.6 -1.4
baz=309,SNR=113
SRIG Santa Rosalia 50.35 96 eP P 11 04 46.5 -0.7
comp=Z,672nm,1.5s
SRIG LR LR
comp=Z,161µm,22.0s
J36A Seneca 1, Swea 50.47 67 P P 11 04 46.7 -1.2
baz=309,SNR=94
H37A Dierke Farm, C 50.49 65 P P 11 04 47.7 -0.4
baz=308,SNR=80
L35A Bielow Farm, R 50.54 69 P P 11 04 47.0 -1.5
baz=309,SNR=56
I37A Lemond, Waseca 50.57 66 P P 11 04 47.9 -0.8
baz=309,SNR=138
O33A Hebron 50.64 73 P P 11 04 47.9 -1.4
baz=310,SNR=284
MOY Mondy 50.66 306 eP P 11 04 49.6 +0.2
MOY pmax pmax
comp=Z,2µm,1.5s
G38A Ridgeland 50.72 64 P P 11 04 48.6 -1.2
baz=308,SNR=128
H38A Maiden Rock 50.79 65 P P 11 04 49.6 -0.7
baz=309,SNR=216
N34A Lincoln 50.79 71 P P 11 04 49.0 -1.4
baz=310,SNR=66
K36A Gilmore City 50.84 68 P P 11 04 49.6 -1.1
baz=309
M35A Neola 50.86 70 P P 11 04 50.1 -0.8
baz=310,SNR=191
J37A Redenius Farm, 50.93 67 P P 11 04 50.1 -1.3
baz=309,SNR=86
G39A Holcombe 51.02 64 P P 11 04 50.8 -1.3
baz=309,SNR=174
JOW Kunigami 51.03 264 P P 11 04 53.1 +0.7
comp=Z,413nm,0.9s,baz=5.1,slow=6.6,SNR=20
JOW LR LR 11 25 12.0
comp=Z,51µm,21.2s,baz=35,slow=34
JOW Kunigami 51.03 264 eP P 11 04 52.9 +0.5
comp=Z,794nm,1.0s
JOW LR LR
comp=Z,57µm,20.0s
L36A Harm Buss Farm 51.05 69 P P 11 04 51.0 -1.3
baz=310,SNR=18
HSPB Hornsund (broa 51.09 358 ⇑ iP P 11 04 51.6 -0.5
HSPB IVmB_BB 11 04 58.7
comp=Z,5µm,1.9s
HSPB eS S 11 12 06.3 +0.5
HSPB eScS ScS 11 14 39.1 +1.4
HSPB IVMs_BB IVMs_BB 11 28 24.8
comp=Z,38µm,18.6s
HSPB Hornsund (broa 51.09 358 eP P 11 04 52.1 0.0
HSPB e*SP pP 11 05 05.3 +0.5
HSPB e 11 06 56.3
HSPB eS S 11 12 06.5 +0.7
HSPB e 11 14 37.4
O34A Beatrice 51.10 72 P P 11 04 51.5 -1.3
baz=310,SNR=238
I38A Scanlan Farm, 51.16 66 P P 11 04 52.3 -0.8
baz=309,SNR=101
F40A Park Falls 51.21 62 P P 11 04 52.5 -0.9
baz=309
HOPEN Hopen 51.21 355 ⇑ iP P 11 04 52.4 -0.6
HOPEN IVmB_BB 11 04 59.7
comp=Z,6µm,2.4s
HOPEN eS S 11 12 08.0 +0.4
HOPEN eScS ScS 11 14 38.8 +0.1
HOPEN IVMs_BB IVMs_BB 11 25 57.2
comp=Z,29µm,21.0s
K37A Belmond 51.22 68 P P 11 04 52.2 -1.4
baz=309,SNR=164
N35A Tabor 51.28 71 P P 11 04 53.1 -0.9
baz=310,SNR=116
XMAS Kiritimati 51.30 162 eP P 11 04 54.6 +0.3
comp=Z,579nm,1.1s
XMAS LR LR
comp=Z,105µm,20.0s
H39A Augusta 51.34 64 P P 11 04 53.4 -1.1
baz=309,SNR=75
M36A Felix, Anita 51.39 70 P P 11 04 53.9 -1.0
baz=310,SNR=90
TIA Tai'an 51.39 282 ⇑ P P 11 04 55.2 +0.3
TIA ScP ScP 11 09 55.4 -6.1
TIA S S 11 12 13.5 +2.5
TIA pmax pmax
comp=Z,680nm,1.2s
TIA pmax pmax
comp=Z,22µm,4.7s
TIA LR LR
comp=Z,138µm,20.6s
TIA LR LR
comp=Z,142µm,21.6s
TIA LR LR
comp=Z,161µm,26.5s
PATS Pohnpei 51.41 219 eP P 11 04 56.4 +1.1
comp=Z,334nm,1.1s
PATS LR LR
comp=Z,80µm,21.0s
P34A Walnut Farm, R 51.43 73 P P 11 04 53.7 -1.5
baz=311,SNR=106
SUMG Summit 51.45 16 ⇑ iP P 11 04 55.4 0.0
comp=Z,1µm,1.1s
comp=Z,76µm,20.0s
SUMG Summit 51.45 16 ⇑ iP P 11 04 55.4 0.0
SUMG pmax pmax
comp=Z,1µm,1.1s
SUMG MLR MLR
comp=Z,76µm,20.0s
SUMG Summit 51.45 16 eP P 11 04 54.8 -0.6
comp=Z,3µm,1.5s
SUMG LR LR
comp=Z,80µm,21.0s
ILULI Ilulissat 51.46 23 ⇑ iP P 11 04 54.1 -0.8
comp=Z,431nm,1.1s
ILULI i 11 06 08.4
comp=Z,110µm,22.0s
ILULI Ilulissat 51.46 23 ⇑ iP P 11 04 54.1 -0.8
ILULI i 11 06 08.4
ILULI pmax pmax
comp=Z,430nm,1.1s
ILULI MLR MLR
comp=Z,110µm,22.0s
MNTX Cornudas Mount 51.49 86 P P 11 04 55.5 -0.2
baz=314,SNR=384
MNTX Cornudas Mount 51.49 86 eP P 11 04 55.7 -0.1
comp=Z,426nm,1.1s
MNTX LR LR
comp=Z,65µm,21.0s
O35A Humboldt 51.50 71 P P 11 04 54.1 -1.6
baz=310,SNR=46
J38A Wedel Dairy, R 51.53 66 P P 11 04 55.0 -0.9
baz=310,SNR=136
MSTX Muleshoe 51.54 82 P P 11 04 55.5 -0.8
baz=313,SNR=295
MSTX Muleshoe 51.54 82 eP P 11 04 55.5 -0.8
comp=Z,952nm,1.3s
MSTX LR LR
comp=Z,117µm,21.0s
L37A Phoenix Point, 51.56 68 P P 11 04 55.1 -1.1
baz=310,SNR=171
G40A Rib Lake 51.57 63 P P 11 04 55.2 -1.0
baz=309,SNR=158
AMTX Amarillo 51.59 80 P P 11 04 55.8 -0.8
baz=312
AMTX Amarillo 51.59 80 eP P 11 04 56.1 -0.5
comp=Z,710nm,1.4s
AMTX LR LR
comp=Z,67µm,19.0s
HHC Hu-ho-hao-te 51.66 290 ⇑ iP P 11 04 58.0 +1.0
HHC sP pP 11 05 12.1 +2.3
HHC PP PP 11 06 56.7 +2.1
HHC S S 11 12 15.6 +0.7
HHC sS sS 11 12 32.2 -4.0
HHC ScS ScS 11 14 40.4 -2.7
HHC pmax pmax
comp=Z,1µm,1.0s
HHC pmax pmax
comp=Z,5µm,4.9s
HHC LR LR
comp=Z,89µm,18.5s
HHC LR LR
comp=Z,117µm,18.5s
HHC LR LR
comp=Z,159µm,21.0s
N36A Muff Farm, Cla 51.70 70 P P 11 04 56.2 -1.0
baz=310,SNR=27
GUMO Guam 51.72 238 P P 11 04 55.5 -2.0
comp=Z,602nm,0.4s,baz=3.8,slow=3.9,SNR=30
GUMO Guam 51.72 238 eP P 11 04 56.3 -1.3
GUMO MLR MLR
comp=Z,46µm,20.0s
GUMO Guam 51.72 238 eP P 11 04 56.3 -1.3
GUMO LR LR
comp=Z,46µm,20.0s
I39A Houston 51.73 65 P P 11 04 56.2 -1.2
baz=309,SNR=258
Q34A Chapman 51.77 73 P P 11 04 56.7 -1.1
baz=311,SNR=181
K38A Parkersburg 51.79 67 P P 11 04 56.5 -1.4
baz=310,SNR=117
KSU1 Kansas State U 51.85 73 P P 11 04 57.0 -1.3
baz=311,SNR=77
KSU1 Kansas State U 51.85 73 eP P 11 04 57.2 -1.1
comp=Z,590nm,1.1s
M37A Trindle Farm, 51.85 69 P P 11 04 57.6 -0.7
baz=310,SNR=118
H40A Chili 51.87 64 P P 11 04 57.3 -1.2
baz=309,SNR=147
P35A Duane Minner, 51.92 72 P P 11 04 57.2 -1.6
baz=311,SNR=69
J39A Decorah 51.95 66 P P 11 04 57.7 -1.4
baz=310,SNR=285
R34A Isabella, Hill 51.99 74 P P 11 04 58.4 -1.1
baz=311,SNR=105
L38A Oak Wood Farm, 52.01 68 P P 11 04 58.4 -1.1
baz=310,SNR=188
SCIA State Center 52.01 68 eP P 11 04 58.8 -0.7
comp=Z,2µm,1.4s
SCIA LR LR
comp=Z,216µm,22.0s
O36A Bolckow 52.14 71 P P 11 04 59.2 -1.3
baz=311,SNR=58

G41A Antigo 52.16 63 P P 11 04 59.9 -0.7
baz=309,SNR=19
N37A Lee Faris, Mou 52.18 70 P P 11 05 00.2 -0.6
baz=310,SNR=228
TARA Tarawa 52.18 200 *e*P P 11 05 02.4 +1.5
comp=Z,725nm,1.1s
TARA LR LR
comp=Z,40µm,20.0s
I40A Norwalk 52.21 65 P P 11 04 59.9 -1.0
baz=310,SNR=53
U32A Winter Ranch, 52.21 77 P P 11 05 00.4 -0.8
baz=312,SNR=50
K39A Oelwein 52.25 67 P P 11 04 59.4 -1.9
baz=310,SNR=272
H41A Junction City 52.28 63 P P 11 05 00.4 -1.1
baz=310,SNR=98
P36A Good Intent, A 52.33 72 P P 11 05 00.6 -1.4
baz=311,SNR=224
M38A Pleasantville 52.34 69 P P 11 05 00.8 -1.1
baz=310,SNR=179
Q35A Mercer Eighty, 52.34 73 P P 11 05 00.4 -1.6
baz=311
SSE Sheshan 52.38 274 P P 11 05 03.0 +0.7
SSE sP pP 11 05 17.5 +2.4
SSE S S 11 12 24.8 +0.1
SSE pmax pmax
comp=Z,2µm,1.3s
SSE pmax pmax
comp=Z,17µm,5.1s
SSE LR LR
comp=Z,74µm,26.5s
SSE LR LR
comp=Z,56µm,26.9s
SSE LR LR
comp=Z,95µm,25.7s
J40A Soldiers Grove 52.46 65 P P 11 05 01.0 -1.8
baz=310,SNR=137
S34A Willow Spring 52.47 75 P P 11 05 01.5 -1.4
baz=312,SNR=55
I41A Arkdale 52.52 64 P P 11 05 02.1 -1.2
baz=310,SNR=95
L39A Vinton 52.56 67 P P 11 05 02.1 -1.5
baz=310,SNR=212
O37A Wolven Farm, M 52.60 70 P P 11 05 03.0 -0.9
baz=311,SNR=131
R35A Emporia Munici 52.60 73 P P 11 05 02.8 -1.1
baz=311,SNR=66
Q36A Arnold C. Orve 52.62 72 P P 11 05 02.5 -1.5
baz=311,SNR=49
K40A Colesburg 52.68 66 P P 11 05 02.8 -1.6
baz=310,SNR=83
BTO Baotou 52.71 290 *e*P P 11 05 05.7 +0.9
N38A Joes South For 52.72 69 P P 11 05 03.6 -1.2
baz=311,SNR=260
P37A Lathrop 52.86 71 P P 11 05 04.3 -1.5
baz=311,SNR=375
T34A McClaskey Farm 52.87 75 P P 11 05 04.8 -1.1
baz=312,SNR=234
M39A Webster 52.88 68 P P 11 05 04.9 -1.1
baz=311,SNR=283
J41A Loganville 52.88 65 P P 11 05 04.5 -1.4
baz=310,SNR=178
W32A Sentinel 52.91 79 P P 11 05 06.0 -0.2
baz=313,SNR=179
S35A Otter Creek Ra 52.95 74 P P 11 05 05.2 -1.3
baz=312,SNR=182
R36A Gordon, Harris 53.01 73 P P 11 05 05.6 -1.3
baz=312,SNR=238
O38A Galt 53.02 70 P P 11 05 05.7 -1.3
baz=311,SNR=155
JFWS Jewell Farm 53.04 65 *e*P P 11 05 05.5 -1.6
JFWS pmax pmax
comp=Z,601nm,1.1s
JFWS MLR MLR
comp=Z,248µm,22.0s
JFWS Jewell Farm 53.04 65 *e*P P 11 05 05.5 -1.6
comp=Z,601nm,1.1s
JFWS LR LR
comp=Z,248µm,22.0s
L40A Anamosa 53.04 67 P P 11 05 05.7 -1.5
baz=311,SNR=174
U34A Anderson Ranch 53.06 76 P P 11 05 06.3 -1.0
baz=312,SNR=204
U34A Anderson Ranch 53.06 76 *e*P P 11 05 06.5 -0.9
comp=Z,740nm,0.9s
U34A LR LR
comp=Z,88µm,22.0s
N39A Derby Farms, D 53.08 69 P P 11 05 06.3 -1.2
baz=311,SNR=344
NJ2 Nanjing 53.15 277 *e*P P 11 05 08.1 +0.1
NJ2 pP pP 11 05 19.1 -1.7
NJ2 sP sP 11 05 22.0 -4.1
NJ2 PP PP 11 07 05.8 -2.2
NJ2 S S 11 12 36.1 +0.9
NJ2 sS pS 11 12 50.7 +0.8
NJ2 pmax pmax
comp=Z,2µm,1.0s
NJ2 pmax pmax
comp=Z,7µm,3.6s
NJ2 LR LR
comp=Z,112µm,24.4s
NJ2 LR LR
comp=Z,106µm,24.9s
NJ2 LR LR
comp=Z,227µm,25.5s
TIY Taiyuan 53.20 286 *e*P P 11 05 09.5 +1.1
TIY pP pP 11 05 14.7 -6.5
TIY PP PP 11 07 11.8 +3.3
TIY S S 11 12 34.9 -1.0
TIY pmax pmax
comp=Z,2µm,1.5s
TIY pmax pmax
comp=Z,16µm,7.9s
TIY LR LR
comp=Z,44µm,16.8s
TIY LR LR
comp=Z,79µm,18.5s
TIY LR LR
comp=Z,106µm,19.3s
K41A Shullsburg 53.21 66 P P 11 05 06.9 -1.5
baz=311,SNR=176
SFJD Kangerlussuaq 53.23 25 LR LR 11 32 14.4
comp=Z,66µm,18.8s,baz=321,slow=41
SFJD Kangerlussuaq 53.23 25⇑ *i*P P 11 05 07.9 -0.3
SFJD *i* 11 06 18.5
SFJD *i* S S 11 12 32.7 -2.7
SFJD *i* 11 14 50.5
SFJD Kangerlussuaq 53.23 25⇑ *i*P P 11 05 07.9 -0.3
SFJD *i* 11 06 18.5
SFJD *i* S S 11 12 32.7 -2.7
SFJD *i* 11 14 50.5
SFJD Kangerlussuaq 53.23 25 *e*P P 11 05 07.8 -0.3
comp=Z,574nm,1.0s
SFJD LR LR
comp=Z,66µm,20.0s
Q37A Longview Farm, 53.26 72 P P 11 05 06.8 -2.0
baz=312,SNR=33
M40A Post Highland 53.31 68 P P 11 05 07.5 -1.6
baz=311,SNR=148
P38A Dawn 53.31 71 P P 11 05 07.7 -1.4
baz=311,SNR=232
T35A Sooner Cattle 53.35 75 P P 11 05 08.0 -1.4
baz=312,SNR=155
S36A Lake Cedric, C 53.35 74 P P 11 05 08.1 -1.4
baz=312,SNR=25
W33A Caddo, Fort Co 53.36 78 P P 11 05 09.3 -0.2
baz=313,SNR=160
X32A Elmer 53.36 79 P P 11 05 09.0 -0.6
baz=313,SNR=68
R37A Teagarden Farm 53.41 73 P P 11 05 08.1 -1.8
baz=312,SNR=137
L41A Preston 53.45 66 P P 11 05 08.4 -1.7
baz=311,SNR=159
WMOK Wichita Mounta 53.45 79 P P 11 05 09.5 -0.7
baz=313,SNR=370
WMOK Wichita Mounta 53.45 79 *e*P P 11 05 09.6 -0.7
WMOK pmax pmax
comp=Z,296nm,0.8s
WMOK MLR MLR
comp=Z,174µm,22.0s
WMOK Wichita Mounta 53.45 79 *e*P P 11 05 09.6 -0.7
comp=Z,296nm,0.8s
WMOK LR LR
comp=Z,174µm,22.0s
BJO Bjornoya 53.47 356⇑ *i*P P 11 05 09.3 -0.5
BJO IVmB_BB 11 05 16.7
comp=Z,7µm,2.4s
BJO *e*S S 11 12 39.7 +1.3
BJO IVMs_BB IVMs_BB 11 26 59.6
comp=Z,20µm,20.8s
O39A Kirksville 53.47 69 P P 11 05 09.0 -1.3
baz=311,SNR=181
V34A Guthrie 53.47 77 P P 11 05 09.3 -1.1
baz=313
V34A Guthrie 53.47 77 *e*P P 11 05 09.3 -1.1
comp=Z,563nm,0.9s
V34A LR LR
comp=Z,88µm,22.0s
U35A Pawnee 53.58 76 P P 11 05 09.9 -1.3
baz=312,SNR=50
N40A Mertquake, Sal 53.61 68 P P 11 05 10.0 -1.3
baz=311,SNR=142
T36A Boggs Farm, Ca 53.63 74 P P 11 05 10.0 -1.5
baz=312,SNR=54
Q38A Cooks Store, C 53.70 71 P P 11 05 09.9 -2.1
baz=312,SNR=294
W34A Bridge Creek, 53.72 77 P P 11 05 11.6 -0.6
baz=313,SNR=49
W34A Bridge Creek, 53.72 77 *e*P P 11 05 11.8 -0.5
comp=Z,342nm,0.8s
W34A LR LR
comp=Z,106µm,20.0s
X33A Lawton 53.75 79 P P 11 05 11.8 -0.7
baz=313,SNR=60
S37A Fort Scott 53.78 73 P P 11 05 11.1 -1.6
baz=312,SNR=586
P39B Salisbury 53.85 70 P P 11 05 11.4 -1.6
baz=312,SNR=467
M41A Milan 53.88 67 P P 11 05 11.8 -1.5
baz=311,SNR=163
LPIG La Paz 53.89 97 LR LR 11 23 04.5
comp=Z,64µm,21.1s,baz=316,slow=30
V35A Meyer Ranch, C 53.93 76 P P 11 05 12.6 -1.1
baz=313,SNR=66
O40A La Belle 53.94 69 P P 11 05 12.6 -1.2
baz=312,SNR=683
Q39A Willow Grove F 54.01 71 P P 11 05 12.5 -1.7
baz=312
Y33A Hilltop Ranch, 54.04 79 P P 11 05 13.9 -0.7
baz=313,SNR=36
R38A Fenwick Farm, 54.04 72 P P 11 05 12.0 -2.5
baz=312,SNR=234
X34A Smith Ranch, M 54.12 78 P P 11 05 14.9 -0.2
baz=313,SNR=34
N41A Harden Midland 54.14 68 P P 11 05 13.6 -1.6
baz=312,SNR=174
T37A Cheneyville 18 54.16 74 P P 11 05 13.8 -1.5
baz=312,SNR=330
U36A Oologah 54.16 75 P P 11 05 13.8 -1.6
baz=313,SNR=41
TX31 Lajitas Ar. Si 54.20 87 *e*P P 11 05 15.4 -0.5
LTX Lajitas 54.20 87 *e*P P 11 05 15.3 -0.6
LTX Lajitas 54.20 87 *e*P P 11 05 15.3 -0.6
TXAR Lajitas Array 54.20 87 P P 11 05 15.3 -0.6
comp=Z,144nm,0.8s,baz=305,slow=5.8,SNR=336
TXAR ScP ScP 11 10 13.7 -0.2
comp=Z,21nm,0.8s,baz=306,slow=4.3,SNR=5.2
TXAR LR LR 11 25 57.5
comp=Z,97µm,21.2s,baz=0.0,slow=33
TXAR P4KPbc 11 42 38.4
comp=Z,2.7nm,1.0s,baz=270,slow=2.5,SNR=11
P40A Paris 54.23 70 P P 11 05 14.3 -1.5
baz=312,SNR=687
M42A Sheffield 54.27 66 P P 11 05 14.4 -1.7
baz=311,SNR=39
W35A Tecumseh 54.32 77 P P 11 05 15.8 -0.7
baz=313,SNR=165
ABTX Abilene, Hawle 54.37 81 P P 11 05 16.3 -0.8
baz=314,SNR=139
ABTX Abilene, Hawle 54.37 81 *e*P P 11 05 16.2 -0.8
comp=Z,554nm,1.0s
ABTX LR LR
comp=Z,125µm,20.0s
S38A Stockton 54.41 73 P P 11 05 15.0 -2.2
baz=312,SNR=426
SLBS Sierra La Lagu 54.42 97 *e*P P 11 05 17.1 -0.4
comp=Z,943nm,1.7s
SLBS LR LR
comp=Z,92µm,22.0s
V36A Jenks 54.45 76 P P 11 05 16.4 -1.1
baz=313,SNR=81
Z33A Whitaker Ranch 54.45 80 P P 11 05 16.5 -1.0
baz=314,SNR=142
TUL1 Leonard 54.45 75 P P 11 05 16.4 -1.1
baz=313,SNR=70
TUL1 Leonard 54.45 75 *e*P P 11 05 16.5 -1.0
comp=Z,298nm,0.8s
TUL1 LR LR
comp=Z,82µm,22.0s
R39A Chumby, Stover 54.47 71 P P 11 05 14.7 -2.8
baz=312,SNR=126
O41A Passleys Farm, 54.52 68 P P 11 05 16.5 -1.4
baz=312,SNR=376
U37A Salina 54.52 75 P P 11 05 16.7 -1.3
baz=313,SNR=311
N42A Yates City 54.53 67 P P 11 05 16.7 -1.3
baz=312,SNR=69
Q40A Laux Farm, Aux 54.57 70 P P 11 05 16.7 -1.6
baz=312,SNR=353
T38A Diamond 54.58 73 P P 11 05 16.8 -1.7
baz=313,SNR=163
Y34A Reagan Ranch, 54.60 79 P P 11 05 18.0 -0.7
baz=314,SNR=213
HPIG 54.68 91 *e*P P 11 05 18.4 -1.1
comp=Z,228nm,1.1s
HPIG LR LR
comp=Z,61µm,18.0s
P41A Barry, Barry 54.70 69 P P 11 05 17.8 -1.5
baz=312,SNR=132
S39A Bolivar 54.72 72 P P 11 05 16.5 -3.0
baz=312,SNR=178
W36A Wetumka 54.72 76 P P 11 05 18.6 -0.8
baz=313,SNR=78
X35A Drake 54.77 78 P P 11 05 18.9 -0.9
baz=313,SNR=141
133A Hamilton Ranch 54.83 81 P P 11 05 19.4 -0.9
baz=313,SNR=217
V37A Hulbert 54.86 75 P P 11 05 19.0 -1.5
baz=313,SNR=160
Z34A Collier Ranch, 54.91 79 P P 11 05 20.2 -0.6
baz=314,SNR=32
O42A Bath 54.92 68 P P 11 05 19.6 -1.3
baz=312,SNR=71
R40A Maddies Statio 54.93 71 P P 11 05 18.6 -2.3
baz=312,SNR=358
U38A Gravette 54.93 74 P P 11 05 19.2 -1.8
baz=313,SNR=222
X36A Centrahoma 55.03 77 P P 11 05 21.3 -0.4
baz=314,SNR=87
Y35A Marietta 55.07 78 P P 11 05 21.7 -0.3
baz=314,SNR=247
Q41A Truxton 55.09 70 P P 11 05 20.3 -1.7
baz=312,SNR=256
HDIL Hopedale 55.13 67 P P 11 05 21.0 -1.3
baz=312,SNR=121
HDIL Hopedale 55.13 67 *e*P P 11 05 21.2 -1.1
comp=Z,643nm,0.6s
HDIL LR LR
comp=Z,174µm,21.0s
T39A Clever 55.13 73 P P 11 05 20.2 -2.2
baz=313,SNR=288
P42A Winchester 55.18 69 P P 11 05 21.3 -1.4
baz=312,SNR=112
W37B Quinton 55.19 76 P P 11 05 22.3 -0.6
baz=313,SNR=220
233A Rising Star 55.24 81 P P 11 05 22.4 -1.0
baz=314,SNR=244
S40A Lebanon 55.26 72 P P 11 05 20.6 -2.7
baz=313,SNR=44
O43A Sugar Creek Fa 55.30 67 P P 11 05 22.3 -1.3
baz=312,SNR=39
HHAR Hobbs 55.30 74 *e*P P 11 05 21.8 -1.9
comp=Z,380nm,1.2s
V38A Canehill 55.31 75 P P 11 05 22.3 -1.4
baz=313,SNR=224
Z35A Perchaven, San 55.34 79 P P 11 05 23.0 -0.9
baz=314,SNR=41
134A White-Moore Ra 55.36 80 P P 11 05 23.6 -0.5
baz=314,SNR=146
R41A Rosebud 55.44 70 P P 11 05 22.8 -1.9
baz=313,SNR=263
U39A Green Forest 55.51 73 P P 11 05 23.1 -2.1
baz=313,SNR=204
Q42A Golden Eagle 55.52 69 P P 11 05 24.0 -1.1
baz=312,SNR=382
Y36A Durant 55.53 78 P P 11 05 24.6 -0.7
baz=314,SNR=164
T40A Mansfield 55.55 72 P P 11 05 23.0 -2.5
baz=313,SNR=193
X37A Clayton 55.60 76 P P 11 05 25.3 -0.6
baz=314,SNR=194
P43A Skaggs, Pawnee 55.61 68 P P 11 05 24.4 -1.4
baz=312,SNR=229
333A Richland Sprin 55.68 82 P P 11 05 25.0 -1.4
baz=315,SNR=225
S41A Jillco Farms, 55.71 71 P P 11 05 24.1 -2.5
baz=313,SNR=517
234A Clairette 55.72 81 P P 11 05 26.1 -0.6
baz=314,SNR=164
JCT Junction City 55.77 83 P P 11 05 25.6 -1.5
baz=315,SNR=99
JCT Junction City 55.77 83 *e*P P 11 05 25.7 -1.5
JCT pmax pmax
comp=Z,309nm,0.7s
JCT MLR MLR
comp=Z,191µm,21.0s
JCT Junction City 55.77 83 *e*P P 11 05 25.7 -1.5
comp=Z,309nm,0.7s
JCT LR LR
comp=Z,191µm,21.0s
135A Vickery Place, 55.78 80 P P 11 05 26.5 -0.6
baz=314,SNR=71
V39A Pettigrew 55.78 74 P P 11 05 25.3 -1.8
baz=313,SNR=132
W38A Poteau 55.78 75 P P 11 05 26.2 -1.0
baz=314,SNR=256
SCO Scoresbysund 55.79 12⇑ *i*P P 11 05 26.6 0.0
comp=Z,93µm,19.0s
SCO Scoresbysund 55.79 12⇑ *i*P P 11 05 26.6 0.0
SCO MLR MLR
comp=Z,93µm,19.0s
R42A Luebbering 55.79 70 P P 11 05 25.3 -1.9
baz=313,SNR=124
Z36A Blue Ridge 55.87 78 P P 11 05 26.8 -1.0
baz=314,SNR=87
Y37A Hugo 55.87 77 P P 11 05 27.4 -0.4
baz=314
X38A Whitesboro 55.87 76 P P 11 05 26.9 -0.8
baz=314,SNR=138
SLM Saint Louis 55.88 69 *e*P P 11 05 26.4 -1.3
SLM pmax pmax
comp=Z,1µm,1.4s
SLM Saint Louis 55.88 69 *e*P P 11 05 26.4 -1.3
comp=Z,1µm,1.4s
U40A Yellville 55.89 73 P P 11 05 25.6 -2.3
baz=313,SNR=310
Q43A New Douglas 55.98 69 P P 11 05 27.3 -1.1
baz=313,SNR=157
YOJ Yonaguni jima 56.00 267 *e*P P 11 05 27.4 -1.3
YOJ pmax pmax
comp=Z,1µm,1.0s
YOJ MLR MLR
comp=Z,42µm,19.0s
YOJ Yonaguni jima 56.00 267 *e*P P 11 05 27.4 -1.3
comp=Z,1µm,1.0s
YOJ LR LR
comp=Z,42µm,19.0s
433A Art 56.01 82 P P 11 05 27.6 -1.3
baz=315,SNR=255
T41A Mountain View 56.07 72 P P 11 05 26.6 -2.5
baz=313,SNR=185
334A Lometa 56.13 81 P P 11 05 28.9 -0.7
baz=315,SNR=314
W39A Magazine 56.14 75 P P 11 05 28.5 -1.1
baz=314,SNR=240
S42A Caledonia 56.14 70 P P 11 05 27.5 -2.1
baz=313,SNR=360
WHTX Lake Whitney, 56.14 80 P P 11 05 29.1 -0.6
baz=315,SNR=154
WHTX Lake Whitney, 56.14 80 *e*P P 11 05 29.2 -0.5
comp=Z,972nm,1.1s
WHTX LR LR
comp=Z,260µm,22.0s
P44A Sand Creek, Wi 56.24 68 P P 11 05 29.2 -1.2
baz=313,SNR=402
V40A Witts Springs 56.29 74 P P 11 05 28.8 -1.9
baz=314,SNR=286
R43A Red Bud 56.30 69 P P 11 05 29.1 -1.6
baz=313,SNR=255
136A Ennis 56.37 79 P P 11 05 30.7 -0.6
baz=314,SNR=32
VLDQ Val d'Or 56.40 53 *e*P P 11 05 29.1 -2.1
comp=Z,836nm,0.9s
VLDQ LR LR
comp=Z,111µm,18.0s
Q44A Meyer Farm, Va 56.40 68 P P 11 05 29.8 -1.6
baz=313,SNR=74
X39A Fountain Ranch 56.41 76 P P 11 05 30.9 -0.7
baz=314,SNR=221
Z37A Pogue Cattle C 56.41 78 P P 11 05 30.7 -0.9
baz=314,SNR=16
Y38A Idabel 56.44 76 P P 11 05 30.7 -1.2
baz=314,SNR=11
U41A Viola 56.45 72 P P 11 05 29.7 -2.2
baz=313,SNR=214
T42A Van Buren 56.47 71 P P 11 05 29.3 -2.7
baz=313
434A Burnet 56.47 82 P P 11 05 31.2 -0.9
baz=315,SNR=242
SFIN Lafayette 56.49 66 P P 11 05 30.8 -1.3
baz=313,SNR=222
SFIN Lafayette 56.49 66 *e*P P 11 05 31.1 -0.9
comp=Z,664nm,0.9s
SFIN LR LR
comp=Z,204µm,22.0s
533A Kerrville 56.52 83 P P 11 05 31.0 -1.5
baz=315,SNR=110
TATO Taipei 56.56 268 *e*P P 11 05 32.9 +0.2
comp=Z,276nm,0.9s
TATO LR LR
comp=Z,266µm,22.0s
W40A Ferguson Farm, 56.56 74 P P 11 05 31.3 -1.3
baz=314,SNR=244
SCHQ Schefferville 56.61 42 P P 11 05 32.5 -0.2
comp=Z,470nm,0.8s,baz=323,slow=7.2,SNR=79
SCHQ LR LR 11 30 50.9
comp=Z,99µm,20.8s,baz=319,slow=37
SCHQ Schefferville 56.61 42 *e*P P 11 05 32.3 -0.4
comp=Z,592nm,0.9s
SCHQ LR LR
comp=Z,93µm,20.0s
JMIC Jan Mayen 56.63 7 LR LR 11 31 42.7
comp=Z,36µm,18.4s,baz=347,slow=38
JMIC Jan Mayen 56.63 7⇑ *i*P P 11 05 32.5 -0.1
JMIC IVmB_BB 11 05 39.1
comp=Z,6µm,1.4s
JMIC *e*S S 11 13 22.5 +1.7
JMIC *e*ScS ScS 11 15 19.0 +1.9
JMIC IVMs_BB IVMs_BB 11 27 38.9
comp=Z,17µm,21.6s
ZAA1 Zalesovo Array 56.63 317 *e*P P 11 05 32.9 0.0
ZAA1 *e*PcP PcP 11 06 31.5 +2.8
ZAA0 Zalesovo Array 56.63 317 *e*P P 11 05 32.0 -0.9
ZALV Zalesovo Beam 56.63 317 P P 11 05 32.9 0.0
comp=Z,73nm,0.5s,baz=46,slow=7.4,SNR=71
ZALV PcP PcP 11 06 31.5 +2.8
comp=Z,390nm,0.8s,baz=42,slow=3.6,SNR=10
ZALV ScP ScP 11 10 23.4 -0.7
comp=Z,78nm,1.0s,baz=42,slow=4.6,SNR=4.5
ZALV LR LR 11 30 54.9
comp=Z,112µm,21.2s,baz=37,slow=37
ZALV P4KPbc 11 42 47.5
comp=Z,4.0nm,0.8s,baz=67,slow=4.8,SNR=12
335A Moody 56.66 81 P P 11 05 32.7 -0.7
baz=315,SNR=21
NVS Novosibirsk 56.67 318⇑ *i*P P 11 05 33.8 +0.7
NVS *i* 11 06 33.6
NVS *i* S S 11 13 24.0 +2.2
NVS *i* 11 15 18.2
NVS pmax pmax
comp=Z,978nm,1.2s
NVS pmax pmax
comp=N,374nm,1.3s
NVS pmax pmax
comp=E,509nm,1.0s
NVS smax smax
comp=N,215nm,1.6s
NVS smax smax
comp=E,190nm,2.2s
S43A Fulton Ridge, 56.69 70 P P 11 05 31.8 -1.7
baz=313,SNR=542
V41A Mountainview 56.70 73 P P 11 05 31.4 -2.3
baz=314,SNR=344

236A Katherine and 56.70 79 P P 11 05 33.2 -0.4
baz=315,SNR=57
MIAR Mount Ida 56.71 75 P P 11 05 32.7 -1.0
baz=314,SNR=366
MIAR Mount Ida 56.71 75 *e*P P 11 05 32.9 -0.8
MIAR pmax pmax
comp=Z,560nm,0.9s
MIAR MLR MLR
comp=Z,78µm,22.0s
MIAR Mount Ida 56.71 75 *e*P P 11 05 32.9 -0.8
comp=Z,560nm,0.9s
MIAR LR LR
comp=Z,78µm,22.0s
137A Heron Place, G 56.75 78 P P 11 05 33.3 -0.7
baz=314,SNR=38
Z38A Mt. Pleasant 56.76 77 P P 11 05 33.0 -1.1
baz=314,SNR=18
R44A Waltonville 56.81 69 P P 11 05 32.5 -1.9
baz=313,SNR=210
Y39A Lockesburg 56.82 76 P P 11 05 33.4 -1.0
baz=314,SNR=17
U42A Revenden 56.85 72 P P 11 05 32.1 -2.5
baz=314,SNR=165
YHNB Yeheng 56.85 268 *e*P P 11 05 33.5 -1.4
comp=Z,188nm,0.8s
YHNB LR LR
comp=Z,199µm,22.0s
633A Saathoff Ranch 56.87 83 P P 11 05 33.6 -1.3
baz=316,SNR=52
534A Blanco 56.90 82 P P 11 05 34.0 -1.1
baz=315,SNR=114
T43A Greenville 56.90 71 P P 11 05 33.1 -1.9
baz=314,SNR=530
435B Jarrell 56.91 81 P P 11 05 34.5 -0.7
baz=315,SNR=23
X301 Greenbrier Sit 56.93 74 *e*P P 11 05 33.6 -1.7
comp=Z,864nm,1.4s
X301 LR LR
comp=Z,72µm,21.0s
336A Riesel 56.94 80 P P 11 05 34.8 -0.5
baz=315,SNR=65
WHN Wuhan 56.95 279⇑ *i*P P 11 05 35.8 +0.3
WHN pP pP 11 05 45.3 -3.1
WHN S S 11 13 26.1 -0.1
WHN pmax pmax
comp=Z,7µm,1.6s
WHN LR LR
comp=Z,254µm,28.0s
WHN LR LR
comp=Z,266µm,19.2s
WHN LR LR
comp=Z,399µm,26.2s
WHAR Wooly Hollow 56.96 74 *e*P P 11 05 33.6 -1.9
comp=Z,1µm,1.8s
WHAR LR LR
comp=Z,69µm,21.0s
PBMO Poplar Bluff 57.03 71 *e*P P 11 05 34.0 -2.0
comp=Z,837nm,1.4s
PBMO LR LR
comp=Z,100µm,21.0s
OLIL Olney 57.04 68 *e*P P 11 05 35.0 -1.0
comp=Z,2µm,1.2s
OLIL LR LR
comp=Z,168µm,21.0s
HAMF Hammerfest 57.06 354⇑ *i*P P 11 05 34.1 -1.5
HAMF IVmB_BB 11 05 41.1
comp=Z,3µm,2.1s
HAMF *e* 11 13 24.7
HAMF *e*S **S** **11 13 28.4 +1.9**
HAMF *e*ScS **ScS** **11 15 20.4 +0.1**
HAMF *e*SS **SS** **11 17 21.1 +6.4**
HAMF IVMs_BB IVMs_BB 11 31 27.8
comp=Z,19µm,20.1s
W41B Gary Mavity, V 57.06 74 P P 11 05 34.6 -1.6
baz=314,SNR=188
NACB Ninganchiao 57.08 268 *e*P P 11 05 35.3 -1.2
comp=Z,884nm,1.3s
NACB LR LR
comp=Z,143µm,21.0s
S44A Carbondale 57.08 70 P P 11 05 34.7 -1.6
baz=313,SNR=139
AAM Ann Arbor 57.09 62 *e*P P 11 05 35.4 -0.9
AAM pmax pmax
comp=Z,803nm,1.5s
AAM MLR MLR
comp=Z,124µm,21.0s
AAM Ann Arbor 57.09 62 *e*P P 11 05 35.4 -0.9
comp=Z,803nm,1.5s
AAM LR LR
comp=Z,124µm,21.0s
138A Matatall Enter 57.11 78 P P 11 05 36.3 -0.2
baz=315,SNR=82
237A Washetta, Mont 57.13 79 P P 11 05 36.2 -0.6
baz=315,SNR=13
V42A Cord 57.13 73 P P 11 05 34.3 -2.3
baz=314,SNR=119
X40A Basin Creek Fa 57.19 75 P P 11 05 35.8 -1.3
baz=314,SNR=144
832A Faith Ranch, C 57.22 85 P P 11 05 36.5 -0.9
baz=316,SNR=144
Z39A Irene McRaven, 57.25 77 P P 11 05 36.8 -0.8
baz=314,SNR=20
Y40A Okolona 57.25 75 P P 11 05 36.4 -1.2
baz=314
UALR University of 57.28 74 *e*P P 11 05 36.5 -1.3
comp=Z,244nm,0.8s
UALR LR LR
comp=Z,78µm,21.0s
T44A Benton 57.31 70 P P 11 05 36.1 -1.8
baz=314,SNR=74
U43A Rector 57.32 71 P P 11 05 36.1 -1.9
baz=314,SNR=67
733A Divot King Ran 57.33 84 P P 11 05 37.4 -0.8
baz=316,SNR=84
X41A Kaden, Bauxite 57.37 74 P P 11 05 37.2 -1.2
baz=314,SNR=23
436A Wall Ranch, Ga 57.40 81 P P 11 05 38.4 -0.2
baz=315,SNR=46
W42A Bald Knob 57.42 73 P P 11 05 37.3 -1.5
baz=314,SNR=34
634A China Grove, S 57.43 83 P P 11 05 37.9 -0.9
baz=316
535A Dale 57.45 82 P P 11 05 38.4 -0.6
baz=316,SNR=43
S45A Carrier Mills 57.48 69 P P 11 05 37.7 -1.5
baz=314,SNR=73
PARMO Parma 57.50 71 *e*P P 11 05 37.9 -1.4
139A Bunkhouse Ranc 57.51 77 P P 11 05 38.8 -0.7
baz=315
H06S1 SOCORRO T 57.53 101 P P 11 05 40.2 +0.5
833A Chaparral WMA, 57.55 85 P P 11 05 39.1 -0.6
baz=316,SNR=54
238A Jacksonville 57.55 78 P P 11 05 39.3 -0.3
baz=315,SNR=39
337A Centerville 57.57 79 P P 11 05 39.9 +0.1
baz=315,SNR=18
WLAR White Oak Lake 57.58 76 *e*P P 11 05 39.4 -0.5
comp=Z,1µm,0.9s
WLAR LR LR
comp=Z,86µm,22.0s
BLO Bloomington 57.63 66 *e*P P 11 05 39.0 -1.2
BLO pmax pmax
comp=Z,2µm,1.5s
BLO MLR MLR
comp=Z,210µm,21.0s
BLO Bloomington 57.63 66 *e*P P 11 05 39.0 -1.2
comp=Z,2µm,1.5s
BLO LR LR
comp=Z,210µm,21.0s
V43A Jonesboro 57.64 72 P P 11 05 38.7 -1.6
baz=314,SNR=21
U44A Portageville 57.65 71 P P 11 05 38.9 -1.4
baz=314,SNR=26
734A La Parita Cree 57.69 83 P P 11 05 40.1 -0.5
baz=316,SNR=51
KEV Kevo 57.69 352 PFAKE 11 05 50.0 +10
KEV LR LR
comp=Z,75µm,22.0s
PVMO Portageville 57.70 71 *e*P P 11 05 40.1 -0.6
comp=Z,986nm,1.0s
PVMO LR LR
comp=Z,116µm,22.0s
Z40A Long Farm, Mag 57.70 76 P P 11 05 40.1 -0.6
baz=315,SNR=79
536A Bastrop 57.73 81 P P 11 05 40.6 -0.3
baz=316,SNR=16
HBAR Harrisburg 57.74 72 *e*P P 11 05 40.1 -0.8
Y41A Eaglette Beard 57.74 75 P P 11 05 40.3 -0.7
baz=314,SNR=129
437A Phantom Ranch, 57.76 80 P P 11 05 41.4 +0.2
baz=315,SNR=21
SSLB Suanglung 57.76 268 *e*P P 11 05 41.0 -0.2
comp=Z,783nm,0.8s
SSLB *e*S **S** 11 13 38.8 +1.8
SSLB LR LR
comp=Z,143µm,22.0s
635A Leesville 57.78 82 P P 11 05 40.9 -0.4
baz=316,SNR=29
XAN Xi'an 57.78 285 P P 11 05 41.5 +0.1
XAN pP pP 11 05 52.5 -1.8
XAN sP sP 11 05 55.8 -3.8
XAN PP **PP** **11 07 52.4 +2.9**
XAN S **S** **11 13 38.3 +1.2**
XAN sS sS 11 13 55.5 -3.2
XAN pmax pmax
comp=Z,1µm,1.5s
XAN pmax pmax
comp=Z,19µm,8.4s
XAN LR LR
comp=Z,101µm,23.2s
XAN LR LR
comp=Z,164µm,21.9s
XAN LR LR
comp=Z,320µm,22.8s
USIN University of 57.81 68 *e*P P 11 05 40.3 -1.1
comp=Z,1µm,0.8s
USIN LR LR
comp=Z,182µm,21.0s
SADO Sadowa 57.81 57 *e*P P 11 05 40.8 -0.5
comp=Z,394nm,0.8s
SADO LR LR
comp=Z,117µm,19.0s
GNAR Gosnell 57.83 72 *e*P P 11 05 40.3 -1.3
YULB Yu-li 57.84 267 *e*P P 11 05 41.1 -0.8
comp=Z,930nm,1.4s
YULB LR LR
comp=Z,100µm,22.0s
X42A Stuttgart 57.86 74 P P 11 05 40.6 -1.2
baz=314,SNR=12
338A Crockett 57.89 79 P P 11 05 42.0 -0.1
baz=315,SNR=24
239A Gary 57.93 78 P P 11 05 41.5 -0.8
baz=315,SNR=16
U44B Burton Farm, H 57.96 71 P P 11 05 41.2 -1.3
baz=314,SNR=111
V44A Blytheville 57.99 72 P P 11 05 41.5 -1.3
baz=314,SNR=17
NATX Nacogdoches 58.00 78 P P 11 05 42.1 -0.7
baz=315,SNR=19
NATX Nacogdoches 58.00 78 *e*P P 11 05 42.4 -0.4
comp=Z,566nm,1.3s
NATX LR LR
comp=Z,92µm,19.0s
ARA0 ARCESS Array S 58.02 353 *e*P P 11 05 41.1 -1.4
ARCES ARCESS Array B 58.02 353 P P 11 05 41.3 -1.2
comp=Z,99nm,0.7s,baz=22,slow=6.8,SNR=96
ARCES PcP **PcP** 11 06 35.6 +1.7
comp=Z,142nm,0.6s,baz=19,slow=5.1,SNR=13
ARCES ScP **ScP** 11 10 29.7 -0.3
comp=Z,24nm,0.9s,baz=339,slow=3.1,SNR=4.3
ARCES S **S** **11 13 37.7 -1.5**
comp=Z,2.7nm,0.6s,baz=325,slow=1.5,SNR=2.4
ARCES LR LR 11 30 47.6
comp=Z,60µm,21.8s,baz=4.0,slow=36
ARCES PKP2bc 11 35 40.9
comp=Z,10nm,1.0s,baz=242,slow=5.2,SNR=3.7
ARCES P4KPbc 11 42 52.0
comp=Z,3.1nm,0.9s,baz=12,slow=6.2,SNR=4.9
ARE0 ARCESS Array S 58.02 353⇑ *i*P P 11 05 41.2 -1.3
ARE0 IVmB_BB 11 05 48.2
comp=Z,7µm,8.0s
ARE0 *e*PP **PP** **11 07 52.6 +1.9**
ARE0 *e*S **S** **11 13 37.4 -1.8**
ARE0 IVMs_BB IVMs_BB 11 30 21.9
comp=Z,21µm,21.2s
ARE0 ARCESS Array S 58.02 353 *e*P P 11 05 41.4 -1.1
comp=Z,349nm,0.9s
ARE0 LR LR
comp=Z,75µm,22.0s
W43A Forest City 58.03 73 P P 11 05 41.5 -1.5
baz=314,SNR=12
140A Cam and Jess, 58.03 77 P P 11 05 42.7 -0.4
baz=315,SNR=34
GLAT Glass 58.04 71 *e*P P 11 05 42.3 -0.8
Z41A Richland Creek 58.06 76 P P 11 05 42.5 -0.8
baz=315,SNR=30
933A Laredo 58.13 85 P P 11 05 43.3 -0.5
baz=316,SNR=64
735A Kenedy 58.14 83 P P 11 05 43.7 -0.2
baz=316,SNR=13
636A Smothers Creek 58.15 82 P P 11 05 44.1 +0.2
baz=316,SNR=37
537A Green Hill Far 58.18 81 P P 11 05 44.2 +0.1
baz=316,SNR=37
834A Tilden 58.21 84 P P 11 05 44.4 +0.1
baz=316,SNR=51
438A Sam Houston St 58.22 80 P P 11 05 44.7 +0.3
baz=315,SNR=37
CCAR Cane Creek 58.22 74 *e*P P 11 05 43.9 -0.4
comp=Z,2µm,1.3s
CCAR LR LR
comp=Z,62µm,20.0s
UTMT University of 58.24 70 *e*P P 11 05 43.6 -0.8
comp=Z,2µm,1.1s
HALT Halls 58.26 71 *e*P P 11 05 43.5 -1.1
Y42A Garnett, Star 58.26 74 P P 11 05 44.1 -0.6
baz=315,SNR=15
U45A Rockin P Farm, 58.30 70 P P 11 05 43.8 -1.0
baz=314,SNR=53
TPUB Ta-pu 58.32 268 *e*P P 11 05 44.7 -0.5
comp=Z,390nm,0.7s
TPUB LR LR
comp=Z,181µm,22.0s
X43A Marvell 58.33 73 P P 11 05 44.0 -1.1
baz=314,SNR=32
TRO Tromso 58.33 356⇑ *i*P P 11 05 45.5 +1.0
TRO *e*S **S** **11 13 44.5 +1.5**
TRO IVMs_BB IVMs_BB 11 31 05.6
comp=Z,16µm,21.0s
240A Hunter Patters 58.34 77 P P 11 05 44.4 -0.8
baz=315,SNR=18
339A Huntington 58.36 79 P P 11 05 44.8 -0.6
baz=315,SNR=9.5
QZH Quanzhou 58.37 271⇑ *i*P P 11 05 45.6 +0.1
QZH S **S** **11 13 44.0 -0.8**
QZH pmax pmax
comp=Z,2µm,0.8s
QZH pmax pmax
comp=Z,35µm,5.8s
QZH LR LR
comp=Z,111µm,19.2s
QZH LR LR
comp=Z,38µm,15.2s
QZH LR LR
comp=Z,197µm,22.5s
TWG Pinlang 58.40 267 *e*P P 11 05 46.7 +0.9
comp=Z,982nm,0.9s
TWG LR LR
comp=Z,134µm,21.0s
WCI Wyandotte Cave 58.41 67 *e*P P 11 05 44.5 -1.2
WCI pmax pmax
comp=Z,957nm,1.3s
WCI MLR MLR
comp=Z,176µm,22.0s
WCI Wyandotte Cave 58.41 67 *e*P P 11 05 44.5 -1.2
comp=Z,957nm,1.3s
WCI LR LR
comp=Z,176µm,22.0s
141A Papa Simpson, 58.46 76 P P 11 05 45.5 -0.5
baz=315,SNR=28
MET Memphis--Engin 58.46 72 *e*P P 11 05 45.2 -0.8
comp=Z,6µm,1.7s
MET LR LR
comp=Z,93µm,22.0s
W44A Shelby Farms P 58.52 72 P P 11 05 45.4 -1.0
baz=314,SNR=12
736A Circle Diamond 58.52 82 P P 11 05 47.0 +0.5
baz=316,SNR=39
835A Beeville 58.53 83 P P 11 05 47.0 +0.4
baz=316,SNR=70
Z42A Norrel Spur, H 58.56 75 P P 11 05 46.0 -0.8
baz=315,SNR=67
538A Harpers Horsep 58.58 80 P P 11 05 47.2 +0.3
baz=316
934A Benavides 58.60 84 P P 11 05 47.5 +0.4
baz=316,SNR=67
V45A Humboldt 58.60 71 P P 11 05 45.7 -1.3
baz=314,SNR=36
439A Center Grove, 58.62 79 P P 11 05 47.1 0.0
baz=316,SNR=34
637A Eagle Lake 58.62 81 P P 11 05 47.6 +0.4
baz=316,SNR=13
PLVO Plevna 58.69 56 *e*P P 11 05 47.3 -0.2
comp=Z,798nm,1.1s
PLVO LR LR
comp=Z,101µm,20.0s
KTK1 Kautokeino 58.70 354⇑ *i*P P 11 05 45.0 -2.2
KTK1 IVmB_BB 11 05 53.0
comp=Z,3µm,2.1s
KTK1 *e*S **S** **11 13 47.2 -0.8**
KTK1 IVMs_BB IVMs_BB 11 33 18.0
comp=Z,22µm,20.2s
340A Bronson 58.70 78 P P 11 05 47.1 -0.7
baz=315,SNR=33
LVZ Lovozero 58.71 349*c* *i*P P 11 05 45.8 -1.5
LVZ pmax pmax
comp=Z,450nm,1.0s
LVZ MLR MLR
comp=Z,109µm,19.0s
LVZ Lovozero 58.71 349 *e*P P 11 05 45.9 -1.5
comp=Z,488nm,0.8s
LVZ LR LR
comp=Z,110µm,20.0s
Y43A Makayla and Ka 58.72 74 P P 11 05 47.1 -0.7
baz=315
X44A Crenshaw 58.77 73 P P 11 05 47.2 -1.0
baz=315,SNR=68
EBZ Ebenezer Churc 58.79 72 *e*P P 11 05 49.0 +0.7
KIF Kilpisjarvi 58.86 355⇑ *e*P P 11 05 46.5 -1.7
241A Mo Tay, Goldon 58.86 77 P P 11 05 48.4 -0.5
baz=315,SNR=32
W45A Hickory Valley 58.88 72 P P 11 05 48.0 -0.9
baz=315,SNR=50
ACSO Alum Creek Sta 58.88 63 *e*P P 11 05 48.0 -0.9
comp=Z,885nm,1.5s
ACSO LR LR
comp=Z,102µm,20.0s
034A Hebbronville 58.89 85 P P 11 05 49.3 +0.2
baz=317,SNR=129
WVT Waverly 58.99 70 *e*P P 11 05 48.5 -1.2
WVT pmax pmax
comp=Z,710nm,1.3s
WVT MLR MLR
comp=Z,144µm,21.0s
WVT Waverly 58.99 70 *e*P P 11 05 48.5 -1.2
comp=Z,710nm,1.3s
WVT LR LR
comp=Z,144µm,21.0s
KVTX Kingsville 59.03 84 *e*P P 11 05 50.3 +0.3
comp=Z,1µm,1.4s
KVTX LR LR
comp=Z,103µm,22.0s
Z43A Armstrong Fami 59.03 75 P P 11 05 49.2 -0.8
baz=315
737A Port Lavaca 59.04 82 P P 11 05 50.9 +0.8
baz=316
142A Monroe 59.07 76 P P 11 05 49.8 -0.5
baz=315,SNR=18
Y44A Strider, Charl 59.11 73 P P 11 05 49.5 -1.1
baz=315,SNR=25
539A Cross D Ranch, 59.13 80 P P 11 05 51.4 +0.8
baz=316,SNR=6.0
TRQ Mont Tremblant 59.13 53 *e*P P 11 05 50.0 -0.7
440A Kirbyville 59.14 79 P P 11 05 50.7 -0.1
baz=316,SNR=24
APA Apatity 59.17 349⇓ *i*P P 11 05 50.2 -0.2
APA *i* 11 06 01.9
APA *i* 11 08 07.0
APA *i*S **S** **11 13 52.0 -2.1**
APA *i*PS **PnS** **11 14 21.0 +10**
APA *i* 11 15 35.0
APA pmax pmax
comp=Z,53nm,1.3s
APA MLR MLR
comp=Z,117µm,10.0s
638A Rosharon 59.18 81 P P 11 05 52.0 +0.9
baz=316
OXF Oxford 59.20 72 *e*P P 11 05 50.0 -1.2
OXF pmax pmax
comp=Z,2µm,0.9s
OXF MLR MLR
comp=Z,90µm,22.0s
OXF Oxford 59.20 72 *e*P P 11 05 50.0 -1.2
comp=Z,2µm,0.9s
OXF LR LR
comp=Z,90µm,22.0s
341A Kurthwood 59.20 78 P P 11 05 50.9 -0.3
baz=316,SNR=9.3
ERPA Erie 59.20 60 *e*P P 11 05 50.7 -0.4
comp=Z,2µm,1.2s
ERPA LR LR
comp=Z,90µm,21.0s
BUF Buffalo 59.24 59 *e*P P 11 05 51.5 +0.2
NRS Narsarsuaq 59.25 27 *i*P P 11 05 50.7 -0.3
comp=Z,142µm,22.0s
NRS Narsarsuaq 59.25 27 *i*P P 11 05 50.7 -0.3
NRS MLR MLR
comp=Z,140µm,22.0s
HEF Hetta 59.27 353⇑ *e*P P 11 05 50.0 -1.1
X45A UM Field Stati 59.27 72 P P 11 05 50.3 -1.3
baz=315,SNR=128
143A Socs Landing, 59.29 75 P P 11 05 51.1 -0.7
baz=315,SNR=51
242A Grayson 59.29 76 P P 11 05 51.2 -0.6
baz=315,SNR=24
GTA Gaotai 59.30 296 ⇑P P 11 05 51.6 -0.4
GTA pP pP 11 06 01.6 -3.4
GTA sP sP 11 06 05.6 -4.7
GTA PP **PP** **11 08 05.0 +2.1**
GTA S **S** **11 13 58.2 +1.3**
GTA sS pS 11 14 14.4 +2.2
GTA ScS **ScS** **11 15 35.3 -2.8**
GTA SS **SS** **11 17 54.1 +2.7**
GTA pmax pmax
comp=Z,380nm,2.2s
GTA pmax pmax
comp=Z,15µm,8.6s
GTA LR LR
comp=Z,98µm,20.9s
GTA LR LR
comp=Z,127µm,19.0s
GTA LR LR
comp=Z,189µm,20.0s
035A Encino 59.34 85 P P 11 05 52.4 +0.2
baz=317,SNR=52
LZH Lanzhou 59.34 290 ⇑P P 11 05 53.3 +1.0
LZH pP pP 11 06 02.9 -2.4
LZH sP sP 11 06 07.6 -3.0
LZH PP **PP** **11 08 04.0 +0.7**
LZH S **S** **11 13 59.8 +2.3**
LZH SS **SS** **11 17 52.4 +0.2**
LZH pmax pmax
comp=Z,3µm,1.0s
LZH pmax pmax
comp=Z,21µm,8.2s
LZH LR LR
comp=Z,135µm,17.4s
LZH LR LR
comp=Z,64µm,16.0s
LZH LR LR
comp=Z,163µm,19.4s
ALLY Alegheny Colle 59.44 60 *e*P P 11 05 52.4 -0.4
comp=Z,2µm,0.9s
Z44A Pea Ridge, Bel 59.46 74 P P 11 05 52.0 -1.0
baz=315
738A Farr-Stevens R 59.47 81 P P 11 05 53.5 +0.4
baz=316
936A North Padre Is 59.47 84 P P 11 05 53.5 +0.4
baz=317
540A Vidor 59.51 79 P P 11 05 52.8 -0.5
baz=316
Y45A Yeager Farm, C 59.57 73 P P 11 05 52.7 -1.1
baz=315,SNR=92
441A DeRidder 59.60 78 P P 11 05 53.9 0.0
baz=316,SNR=13
ZAIG Zacatecas 59.63 91 *e*P P 11 05 53.0 -1.7
comp=Z,441nm,1.5s
ZAIG LR LR
comp=Z,112µm,22.0s
342A Flagon Creek P 59.68 77 P P 11 05 54.1 -0.4
baz=316,SNR=27
035Z Hargill 59.70 85 P P 11 05 54.6 0.0

baz=317,SNR=39
M54A Oil Creek Stat 59.80 60 P **P 11 05 54.4 -0.8**
baz=315,SNR=178
243A Waterproof 59.82 76 P **P 11 05 55.1 -0.3**
baz=316,SNR=34
Z45A Winona 59.83 73 P **P 11 05 54.4 -1.2**
baz=315,SNR=37
144A Alexander Plac 59.92 75 P **P 11 05 55.5 -0.6**
baz=315,SNR=28
Y46A Houston 59.96 72 P **P 11 05 55.5 -0.9**
baz=315,SNR=251
LNIG Linares 59.98 87 *e*P **P 11 05 54.3 -2.4**
comp=Z,168nm,1.1s
LNIG LR LR
comp=Z,72µm,20.0s
N54A Moraine State 60.01 61 P **P 11 05 55.9 -0.8**
baz=315,SNR=168
LOF Lofoten 60.02 358⇑ *i*P **P 11 05 54.6 -1.7**
LOF IVmB_BB 11 06 02.1
comp=Z,3µm,3.0s
LOF *e*PP **PP 11 08 10.4 +2.0**
LOF *e*S **S 11 14 03.9 -1.2**
LOF IVMs_BB IVMs_BB 11 28 24.2
comp=Z,13µm,23.6s
442A Mamou 60.08 78 P **P 11 05 57.5 +0.2**
baz=316,SNR=9.8
541A Lake Charles 60.09 79 P **P 11 05 56.6 -0.7**
baz=316
ENH Enshi 60.10 282 *e*P **P 11 05 57.3 -0.2**
comp=Z,2µm,1.5s
ENH LR LR
comp=Z,119µm,22.0s
VBMS Vicksburg 60.16 75 P **P 11 05 57.0 -0.7**
baz=316,SNR=41
VBMS Vicksburg 60.16 75 *e*P **P 11 05 57.3 -0.5**
comp=Z,753nm,0.9s
VBMS LR LR
comp=Z,77µm,20.0s
343A Vidalia 60.16 76 P **P 11 05 57.1 -0.7**
baz=316
STEI Steigen 60.18 357 *e*P **P 11 05 56.1 -1.2**
STEI *e*S **S 11 14 08.7 +1.7**
244A Avery, Jackson 60.18 75 P **P 11 05 57.3 -0.6**
baz=316,SNR=71
145A Houston Renfro 60.23 74 P **P 11 05 57.4 -0.9**
baz=316,SNR=31
LMQ La Malbaie 60.23 50 *e*P **P 11 05 57.7 -0.4**
LONY Lake Ozonia 60.25 55 *e*P **P 11 05 57.3 -1.0**
comp=Z,286nm,0.8s
LONY LR LR
comp=Z,74µm,22.0s
Z46A Louisville 60.40 73 P **P 11 05 58.5 -0.9**
baz=316,SNR=40
542A Morse 60.43 78 P **P 11 05 59.3 -0.4**
baz=316
443A Delano Plantat 60.44 77 P **P 11 05 59.9 +0.2**
baz=316
Y47A UCPARC, Winfie 60.54 72 P **P 11 05 58.9 -1.5**
baz=315,SNR=227
344A Westbrook Farm 60.58 76 P **P 11 06 00.0 -0.6**
baz=316,SNR=68
FRNY Flat Rock 60.59 54 *e*P **P 11 05 59.5 -1.0**
comp=Z,545nm,1.3s
FRNY LR LR
comp=Z,94µm,19.0s
245A Little AP, Sta 60.66 75 P **P 11 06 00.2 -1.0**
baz=316,SNR=69
SWET Sewanee 60.73 69 *e*P **P 11 05 60.0 -1.7**
comp=Z,83nm,1.0s
SWET LR LR
comp=Z,60µm,22.0s
146A Union 60.73 74 P **P 11 06 00.9 -0.8**
baz=316,SNR=83
543A St. Martinvill 60.88 78 P **P 11 06 02.2 -0.5**
baz=316
FUNA Funafuti 60.89 190 *e*P **P 11 06 04.8 +2.0**
comp=Z,721nm,1.5s
FUNA LR LR
comp=Z,52µm,19.0s
NCB Newcomb 60.89 55 *e*P **P 11 06 01.8 -0.9**
comp=Z,16nm,1.6s
NCB LR LR
comp=Z,900nm,18.0s
Z47A Carrollton 60.91 72 P **P 11 06 01.3 -1.5**
baz=316,SNR=125
MCWV Mont Chateau 61.00 62 *e*P **P 11 06 03.1 -0.3**
comp=Z,474nm,1.0s
MCWV LR LR
comp=Z,77µm,19.0s
Z48A Northport 61.09 72 P **P 11 06 02.4 -1.7**
baz=316,SNR=256
444A Pine Grove 61.09 76 P **P 11 06 04.2 +0.1**
baz=316,SNR=8.4
345A Thompson Farm, 61.10 75 P **P 11 06 03.6 -0.6**
baz=316,SNR=27
246A Jackson Lee, B 61.13 74 P **P 11 06 03.6 -0.8**
baz=316
SEM Semipalatinsk 61.14 316 *i*P **P 11 06 00.9 -3.5**
comp=Z,2µm,1.2s
SEM *e*S **S 11 14 17.4 -2.9**
SEM LR LR 11 32 40.9
comp=Z,60µm,18.1s
TZTN Tazewell 61.15 67 *e*P **P 11 06 03.8 -0.8**
comp=Z,2µm,1.5s
TZTN LR LR
comp=Z,205µm,21.0s
147A Livingston 61.17 73 P **P 11 06 03.5 -1.1**
baz=316,SNR=192
SGCP Mt. Cagua 61.24 263 *e*P **P 11 06 04.6 -0.7**
BINY Binghamton 61.25 57 *e*P **P 11 06 04.8 -0.4**
comp=Z,1µm,1.3s
BINY LR LR
comp=Z,124µm,21.0s
BORG Borgarnes 61.25 14 *e*P **P 11 06 05.2 +0.5**
BORG pmax pmax
comp=Z,655nm,0.8s
BORG MLR MLR
comp=Z,66µm,20.0s
BORG Borgarnes 61.25 14 *e*P **P 11 06 05.2 +0.5**
comp=Z,655nm,0.8s
BORG LR LR
comp=Z,66µm,20.0s
ZSN Zaisan 61.25 311 *i*P **P 11 06 04.3 -0.7**
comp=Z,2µm,1.6s
ZSN *i*S **S 11 14 22.8 +1.3**
ZSN LR LR 11 32 56.5
comp=Z,4µm,9.5s
O56A Blue Knob Stat 61.26 61 P **P 11 06 04.2 -1.1**
baz=316,SNR=237
544A White Castle 61.28 77 P **P 11 06 04.8 -0.6**
baz=316
445A Amite 61.33 76 P **P 11 06 05.7 -0.1**
baz=316,SNR=7.2
SSPA Standing Stone 61.36 60 *e*P **P 11 06 05.4 -0.4**
comp=Z,1µm,1.1s
SSPA LR LR
comp=Z,100µm,20.0s
CPCT Cooper Cave 61.37 68 *e*P **P 11 06 04.5 -1.5**
comp=Z,136nm,0.7s
CPCT LR LR
comp=Z,128µm,22.0s
346A Big Creek Wild 61.38 75 P **P 11 06 05.1 -0.9**
baz=316,SNR=25
MDV Middlebury 61.40 54 *e*P **P 11 06 05.5 -0.5**
247A Quitman 61.41 74 P **P 11 06 05.9 -0.4**
baz=316,SNR=50
ACCN Adirondack Com 61.59 55 *e*P **P 11 06 07.0 -0.3**
comp=Z,699nm,1.0s
ACCN LR LR
comp=Z,68µm,19.0s
KURK Kurchatov 61.60 317 *c i*P **P 11 06 06.8 -0.5**
KURK MLR MLR
comp=Z,503µm,19.0s
KURK Kurchatov 61.60 317 *e*P **P 11 06 06.7 -0.5**
comp=Z,2µm,0.7s
KURK *e*PP **PP 11 08 23.1 +0.3**
KURK LR LR
comp=Z,163µm,19.0s
KURK Kurchatov 61.60 317 P **P 11 06 07.2 -0.1**
SNR=976
KURK P **P 11 06 07.2 -0.1**
SNR=976
KURK P **P 11 06 07.2 -0.1**
SNR=976
KURK Kurchatov 61.60 317 P **P 11 06 07.2 -0.1**
SNR=976
TKL Tuckaleechee C 61.65 68 LR LR 11 32 01.3
comp=Z,166µm,21.9s,slow=35
TKL PKPPKP 11 35 19.2
comp=Z,4.0nm,0.9s,baz=155,slow=3.9,SNR=3.5
TKL Tuckaleechee C 61.65 68 *e*P **P 11 06 06.7 -1.2**
TKL pmax pmax
comp=Z,937nm,1.5s
TKL MLR MLR
comp=Z,179µm,22.0s
TKL Tuckaleechee C 61.65 68 *e*P **P 11 06 06.7 -1.2**
comp=Z,937nm,1.5s
TKL LR LR
comp=Z,179µm,22.0s
LRAL Lakeview Retre 61.66 72 *e*P **P 11 06 06.0 -1.9**
comp=Z,268nm,1.0s
LRAL LR LR
comp=Z,79µm,20.0s
KONS Konsvik 61.67 358 *e*P **P 11 06 06.5 -1.0**
KONS IVmB_BB 11 06 13.3
comp=Z,4µm,2.0s
KONS *e*S **S 11 14 26.5 +0.5**
KONS *e*ScS **ScS 11 15 56.0 +1.5**
KURBB Kurchatov Arra 61.71 317 P **P 11 06 07.5 -0.5**
comp=Z,974nm,0.7s,baz=43,slow=7.3,SNR=407
KURBB PP **PP 11 08 23.1 -0.6**
comp=Z,119nm,1.0s,baz=45,slow=9.7,SNR=2.9
KURBB PKPPKP P'P'df 11 35 13.3 -10
comp=Z,9.3nm,1.1s,baz=222,slow=2.6,SNR=6.8
KURBB P4KPbc 11 43 10.2
comp=Z,18nm,1.1s,baz=39,slow=4.4,SNR=25
545A Edgard 61.73 77 P **P 11 06 08.4 0.0**
baz=316
TMCR Tamitsa 61.78 346 *e*P **P 11 06 08.0 -0.2**
TMCR pmax pmax
comp=Z,439nm,1.3s
CVP Callao Caves 61.79 263‖ *e*P **P 11 06 08.7 -0.3**
KSPA Keystone Colle 61.82 58 PFAKE 11 06 20.0 +11
KSPA LR LR
comp=Z,113µm,19.0s
STOK Stokkvaagen 61.84 358 *e*P **P 11 06 07.8 -0.8**
STOK IVmB_BB 11 06 14.3
comp=Z,9µm,1.4s
STOK *e*S **S 11 14 29.8 +1.6**
STOK *e*ScS **ScS 11 15 57.2 +1.4**
STOK IVMs_BB IVMs_BB 11 40 45.5
comp=Z,16µm,18.7s
LBNH Lisbon 61.85 53 *e*P **P 11 06 09.1 0.0**
LBNH pmax pmax
comp=Z,399nm,1.0s
LBNH MLR MLR
comp=Z,102µm,20.0s
LBNH Lisbon 61.85 53 *e*P **P 11 06 09.1 0.0**
comp=Z,399nm,1.0s
LBNH LR LR
comp=Z,102µm,20.0s
446A Poplarville 61.87 75 P **P 11 06 08.9 -0.4**
baz=316,SNR=17
248A Dixon Mills 61.90 73 P **P 11 06 08.9 -0.6**
baz=316,SNR=132
347A Saraland 61.92 74 P **P 11 06 09.0 -0.7**
baz=316,SNR=47
PQI Presque Isle 61.96 49 *e*P **P 11 06 09.1 -0.6**
comp=Z,796nm,1.0s
PQI LR LR
comp=Z,184µm,21.0s
MOR8 Moi Rana 61.96 357⇑ *i*P **P 11 06 07.2 -2.3**
MOR8 *e*PP **PP 11 08 27.6 +2.0**
MOR8 *e*S **S 11 14 27.9 -1.9**
MOR8 IVMs_BB IVMs_BB 11 30 09.0
comp=Z,15µm,25.6s
SOKR Solikamsk 61.98 334 *c i*P **P 11 06 07.5 -2.1**
SOKR 11 08 25.9
SOKR S **S 11 14 31.0 +0.9**
SOKR SS **SS 11 18 33.4 +1.4**
SOKR pmax pmax
comp=Z,207nm,0.8s
SOKR MLR MLR
comp=Z,83µm,20.0s
546A Slidell 62.05 76 P **P 11 06 10.8 +0.2**
baz=316
TRY Troy 62.06 56 *e*P **P 11 06 10.0 -0.5**
comp=Z,666nm,1.0s
TRY LR LR
comp=Z,101µm,19.0s
645A Chauvin 62.09 77 P **P 11 06 10.5 -0.4**
baz=317
N59A State Game Lan 62.28 58 P **P 11 06 11.8 -0.3**
baz=316
447A Lucedale 62.28 75 P **P 11 06 11.9 -0.3**
baz=316,SNR=13
348A Jackson 62.29 74 P **P 11 06 11.3 -0.8**
baz=316,SNR=32
CAUP Cauayan 62.37 262 *e*P **P 11 06 13.6 +0.7**
PKME Peaks-Kenny Pk 62.38 51 PFAKE 11 06 20.0 +7.4
PKME LR LR
comp=Z,225µm,21.0s
BLA Blacksburg 62.43 64 *e*P **P 11 06 12.8 -0.4**
BLA pmax pmax
comp=Z,2µm,1.3s
BLA MLR MLR
comp=Z,154µm,21.0s
BLA Blacksburg 62.43 64 *e*P **P 11 06 12.8 -0.4**
comp=Z,2µm,1.3s
BLA LR LR
comp=Z,154µm,21.0s
646A Port Sulphur 62.46 77 P **P 11 06 13.2 -0.1**
baz=317
FFD Franklin Falls 62.54 54 *e*P **P 11 06 14.0 +0.3**
comp=Z,693nm,0.8s
FFD LR LR
comp=Z,157µm,19.0s
WMQ Urumqi 62.55 307 P **P 11 06 14.3 +0.5**
WMQ pP pP 11 06 27.7 +0.8
WMQ sP sP 11 06 31.2 -1.0
WMQ PcP **PcP 11 06 55.1 +2.5**
WMQ PP **PP 11 08 34.0 +2.7**
WMQ S **S 11 14 39.5 +1.5**
WMQ sS sS 11 14 57.4 -2.4
WMQ ScS **SKKSac 11 16 01.9 -0.2**
WMQ SS **SS 11 18 45.6 +3.8**
WMQ pmax pmax
comp=Z,860nm,0.9s
WMQ pmax pmax
comp=Z,10µm,7.3s
WMQ LR LR
comp=Z,66µm,18.9s
WMQ LR LR
comp=Z,51µm,21.5s
WMQ LR LR
comp=Z,66µm,25.3s
MVL Millersville 62.64 59 *e*P **P 11 06 14.1 -0.3**
comp=Z,490nm,1.1s
MVL LR LR
comp=Z,114µm,19.0s
VWCC Virginia Weste 62.65 64 *e*P **P 11 06 13.9 -0.7**
448A Bay Minette 62.66 74 P **P 11 06 14.1 -0.6**
baz=317,SNR=10
LUPA Lehigh Univers 62.72 58 *e*P **P 11 06 14.9 0.0**
comp=Z,984nm,1.0s
LUPA LR LR
comp=Z,143µm,19.0s
WVL Waterville 62.72 52 *e*P **P 11 06 14.5 -0.4**
comp=Z,960nm,1.0s
WVL LR LR
comp=Z,266µm,22.0s
SZP Santa 62.74 264 *e*P **P 11 06 16.0 +0.7**
comp=Z,1µm,0.9s
SZP LR LR
comp=Z,65µm,20.0s
ODNJ Ogdensburg 62.77 58 *e*P **P 11 06 15.1 -0.2**
comp=Z,628nm,1.1s
ODNJ LR LR
comp=Z,85µm,21.0s
MOIG Morelia 62.79 93 *e*P **P 11 06 15.2 -0.7**
comp=Z,534nm,1.0s
MOIG LR LR
comp=Z,99µm,21.0s
SDMD Soldier's Deli 62.80 60 *e*P **P 11 06 15.0 -0.5**
comp=Z,511nm,1.2s
SDMD LR LR
comp=Z,52µm,20.0s
MK31 Makanchi Array 62.93 312 *i*P **P 11 06 15.4 -0.9**
MK31 pmax pmax
comp=Z,550nm,0.7s
MK31 Makanchi Array 62.93 312 *e*P **P 11 06 15.2 -1.0**
MKAR Makanchi Array 62.93 312 *e*P **P 11 06 15.4 -0.9**
MKAR pmax pmax
comp=Z,4µm,0.8s
MKAR MLR MLR
comp=Z,16µm,20.0s
MKAR Makanchi Array 62.93 312 *e*P **P 11 06 15.4 -0.9**
comp=Z,4µm,0.8s
MKAR LR LR
comp=Z,16µm,20.0s
MK01 Makanchi Array 62.94 312 *e*P **P 11 06 15.7 -0.7**
BRAL Brewton 62.97 73 *e*P **P 11 06 16.8 +0.1**
comp=Z,1µm,1.1s
BRAL LR LR
comp=Z,70µm,21.0s
GZH Guangzhou 62.97 273 P **P 11 06 13.4 -3.4**
GZH S **S 11 14 39.9 -3.6**
GZH pmax pmax
comp=Z,34µm,8.0s
HKC Hong Kong Obse 63.04 272⇑ P **P 11 06 19.0 +1.7**
MAKZ Makanchi 63.06 312 P **P 11 06 16.2 -0.9**
MAKZ pmax pmax
comp=Z,1µm,1.2s
MAKZ Makanchi 63.06 312 *e*P **P 11 06 16.2 -0.9**
comp=Z,951nm,1.0s
MAKZ LR LR
comp=Z,91µm,19.0s
QUA2 Belchertown 63.06 55 *e*P **P 11 06 17.4 +0.2**
comp=Z,715nm,1.2s
QUA2 LR LR
comp=Z,65µm,18.0s
BVA0 Borovoye Array 63.07 323 *i*P **P 11 06 16.8 -0.3**
BVA0 pmax pmax
comp=Z,1µm,0.6s
BVAR Borovoye Array 63.07 323 P **P 11 06 16.8 -0.3**
comp=Z,600nm,0.6s,baz=48,slow=6.4,SNR=822
BVAR PcP **PcP 11 06 56.5 +2.0**
comp=Z,381nm,0.8s,baz=46,slow=4.3,SNR=5.7
BVAR PKPPKP **P'P'df 11 35 16.7 -5.2**
comp=Z,21nm,0.9s,baz=242,slow=2.4,SNR=11
BVAR PKP2ab 11 35 30.3
comp=Z,10nm,0.9s,baz=248,slow=1.6,SNR=5.2
BVAR LR LR 11 36 14.6
comp=Z,136µm,19.6s,baz=48,slow=38
BVAR P4KPbc 11 43 15.1
comp=Z,12nm,1.0s,baz=38,slow=2.6,SNR=21
IP04 Greensprings 63.08 62 PFAKE 11 06 30.0 +13
IP04 LR LR
comp=Z,151µm,19.0s
BRVK Borovoye 63.08 323 *c i*P **P 11 06 16.8 -0.3**
BRVK pmax pmax
comp=Z,2µm,1.7s
BRVK MLR MLR
comp=Z,388µm,19.0s
BRVK Borovoye 63.08 323 *e*P **P 11 06 16.9 -0.2**
comp=Z,4µm,1.3s
BRVK LR LR
comp=Z,165µm,19.0s
BRVK Borovoye 63.08 323 P **P 11 06 17.2 0.0**
SNR=1029
BRVK P **P 11 06 17.2 0.0**
SNR=1029
BRVK P **P 11 06 17.2 0.0**
SNR=1029
BRVK Borovoye 63.08 323 P **P 11 06 17.2 0.0**
SNR=1029
BRNJ Basking Ridge 63.08 58 *e*P **P 11 06 17.2 -0.1**
comp=Z,803nm,0.9s
BRNJ LR LR
comp=Z,113µm,22.0s
PSUB Penn St. - Bra 63.17 59 *e*P **P 11 06 17.3 -0.6**
comp=Z,445nm,1.2s
PSUB LR LR
comp=Z,181µm,19.0s
IP03 Louisa 63.17 62 *e*P **P 11 06 18.2 +0.2**
comp=Z,2µm,1.2s
IP03 LR LR
comp=Z,149µm,19.0s
PAL Palisades 63.19 57 *e*P **P 11 06 18.1 0.0**
PAL pmax pmax
comp=Z,1µm,1.1s
PAL MLR MLR
comp=Z,119µm,22.0s
PAL Palisades 63.19 57 *e*P **P 11 06 18.1 0.0**
comp=Z,1µm,1.1s
PAL LR LR
comp=Z,119µm,22.0s
SVE Sverdlovsk 63.23 331 *d i*P **P 11 06 18.0 -0.1**
SVE *e* 11 08 41.9
SVE *e*S **S 11 14 48.3 +2.3**
SVE *e*SS **SS 11 18 50.1 -1.6**
SVE pmax pmax
comp=Z,1µm,1.4s
SVE pmax pmax
comp=Z,6µm,12.9s
SVE MLR MLR
comp=Z,73µm,20.0s
SVE MLR MLR
comp=N,54µm,19.0s
SVE MLR MLR
comp=E,37µm,20.0s
IP07 Quail 63.24 62 *e*P **P 11 06 18.6 +0.2**
comp=E,2µm,1.1s
IP07 LR LR
comp=Z,145µm,19.0s
CVRD Centerville Ro 63.25 62 *e*P **P 11 06 18.4 -0.1**
comp=Z,949nm,1.2s
CVRD LR LR
comp=Z,136µm,19.0s
IP06 Yanceyville 63.25 62 *e*P **P 11 06 18.6 +0.1**
comp=Z,1µm,1.1s
IP06 LR LR
comp=Z,149µm,19.0s
IP01 Cuckoo 63.27 62 *e*P **P 11 06 18.6 -0.1**
comp=Z,815nm,1.1s
IP01 LR LR
comp=Z,147µm,19.0s
HRV Adam Dziewonsk 63.29 55 *e*P **P 11 06 18.9 +0.2**
HRV pmax pmax
comp=Z,562nm,1.1s
HRV MLR MLR
comp=Z,66µm,18.0s
HRV Adam Dziewonsk 63.29 55 *e*P **P 11 06 18.9 +0.2**
comp=Z,562nm,1.1s
HRV LR LR
comp=Z,66µm,18.0s
PTRD Partlow Road 63.31 62 PFAKE 11 06 30.0 +11
PTRD LR LR
comp=Z,145µm,19.0s
CPNY Central Park 63.32 57 *e*P **P 11 06 18.9 0.0**
comp=Z,787nm,0.9s
CPNY LR LR
comp=Z,117µm,21.0s
CBN Corbin Frederi 63.39 61 *e*P **P 11 06 19.6 +0.2**
comp=Z,1µm,1.3s
CBN LR LR
comp=Z,136µm,19.0s
KMSC Kings Mountain 63.41 66 P **P 11 06 18.7 -0.9**
baz=317,SNR=294
KMSC Kings Mountain 63.41 66 *e*P **P 11 06 18.8 -0.8**
comp=Z,1µm,1.1s
KMSC LR LR
comp=Z,198µm,21.0s
GOGA Godfrey 63.44 69 *e*P **P 11 06 18.3 -1.5**
GOGA pmax pmax
comp=Z,438nm,0.9s
GOGA MLR MLR
comp=Z,156µm,22.0s
GOGA Godfrey 63.44 69 *e*P **P 11 06 18.3 -1.5**
comp=Z,438nm,0.9s
GOGA LR LR
comp=Z,156µm,22.0s
IP05 Hopewell Churc 63.45 62 *e*P **P 11 06 19.6 -0.2**
comp=Z,1µm,1.1s
IP05 LR LR
comp=Z,142µm,19.0s
YLE Yale 63.47 56 *e*P **P 11 06 19.9 +0.1**
comp=Z,579nm,1.0s
YLE LR LR
comp=Z,83µm,18.0s
JSRW J. Sargeant Re 63.48 62 *e*P **P 11 06 20.1 +0.1**
WES Weston 63.50 55 *e*P **P 11 06 19.9 -0.2**
WES pmax pmax
comp=Z,925nm,0.8s
WES MLR MLR
comp=Z,131µm,19.0s
WES Weston 63.50 55 *e*P **P 11 06 19.9 -0.2**
comp=Z,926nm,0.8s
WES LR LR
comp=Z,131µm,19.0s
PVCP Virac 63.54 258 *e*P **P 11 06 21.4 +0.7**

MCO **Taipa Grande** 63.55 272 P **P** 11 06 23.0 +2.3
BCX **Boston College** 63.61 54 *e*P **P** 11 06 20.8 0.0
comp=Z,3μm,1.8s
BCX LR LR
comp=Z,215μm,19.0s
GGN **Saint George** 63.66 50 *e*P **P** 11 06 20.7 -0.4
comp=Z,796nm,0.9s
GGN LR LR
comp=Z,127μm,21.0s
EMMW **East Machias** 63.67 50 *e*P **P** 11 06 20.8 -0.4
comp=Z,1μm,0.9s
EMMW LR LR
comp=Z,222μm,21.0s
BRYW **Bryant College** 63.74 55 *e*P **P** 11 06 21.9 +0.2
comp=Z,933nm,0.9s
BRYW LR LR
comp=Z,119μm,20.0s
URVA **University of** 63.76 62 *e*P **P** 11 06 21.5 -0.3
PCPH **Palayan** 63.87 262⇑ *e*P **P** 11 06 23.8 +1.0
RABL **Rabaul** 63.91 221 *e*P **P** 11 06 22.5 -0.5
comp=Z,495nm,1.1s
RABL LR LR
comp=Z,55μm,21.0s
BOLP **Bolinao** 63.97 263 *e*P **P** 11 06 25.9 +2.5
MANU **Manus Island** 64.03 227 *e*P **P** 11 06 24.0 +0.2
comp=Z,2μm,2.0s
LMN **Caledonia Moun** 64.05 48 *e*P **P** 11 06 23.6 -0.2
comp=Z,1μm,0.9s
LMN LR LR
comp=Z,120μm,21.0s
ARU **Arti** 64.18 332 P **P** 11 06 19.6 -4.8
comp=Z,9.0nm,0.5s,baz=280,slow=20,SNR=2.2
ARU PKPPKP P'P'df 11 35 11.9 -8.3
comp=Z,17nm,1.0s,baz=200,slow=3.0,SNR=9.5
ARU LR LR 11 38 60.0
comp=Z,64μm,18.7s,baz=52,slow=40
ARU **Arti** 64.18 332 *c i*P **P** 11 06 23.5 -0.9
ARU 11 07 00.3
ARU 11 08 46.1
ARU PPP PPP 11 10 18.9
ARU S **S** 11 14 59.3 +1.5
ARU 11 16 10.4
ARU SS **SS** 11 19 00.2 -6.4
ARU pmax pmax
comp=Z,298nm,0.8s
ARU pmax pmax
comp=Z,7μm,9.2s
ARU MLR MLR
comp=Z,70μm,21.0s
ARU **Arti** 64.18 332 *e*P **P** 11 06 23.8 -0.6
comp=Z,802nm,0.9s
ARU LR LR
comp=Z,65μm,19.0s
UNM **Universidad Na** 64.30 91 *e*P **P** 11 06 25.2 -0.7
UNM pmax pmax
comp=Z,1μm,1.6s
UNM MLR MLR
comp=Z,99μm,20.0s
UNM **Universidad Na** 64.30 91 *e*P **P** 11 06 25.2 -0.7
comp=Z,1μm,1.6s
UNM LR LR
comp=Z,99μm,20.0s
GQP **Guinayangan** 64.33 259‖ *e*P **P** 11 06 26.9 +1.1
SCZP **Santa Cruz** 64.43 263 *e*P **P** 11 06 23.7 -2.8
GYA **Guiyang** 64.57 281⇑ *i*P **P** 11 06 27.8 +0.3
GYA pP pP 11 06 39.4 -1.2
GYA PcP **PcP** 11 07 01.2 0.0
GYA PP **PP** 11 08 52.8 +3.2
GYA S **S** 11 15 02.7 -1.0
GYA sS pS 11 15 21.2 +1.8
GYA SKS **SKSac** 11 16 16.6 -1.5
GYA SS **SS** 11 19 15.3 +1.0
GYA pmax pmax
comp=Z,3μm,1.1s
GYA pmax pmax
comp=Z,14μm,7.5s
GYA LR LR
comp=Z,66μm,24.5s
GYA LR LR
comp=Z,92μm,26.7s
GYA LR LR
comp=Z,111μm,28.2s
BRZS **Berezniki** 64.59 320 *i* P **P** 11 06 25.2 -2.0
comp=Z,509nm,1.0s
BRZS *e*S **S** 11 15 01.8 -1.4
BRZS LR LR 11 34 22.3
comp=Z,1μm,15.2s
DRLN **Deer Lake** 64.61 41 *e*P **P** 11 06 27.1 -0.2
comp=Z,1μm,0.8s
DRLN LR LR
comp=Z,168μm,19.0s
VAF **Ylistaro** 64.64 353 P **P** 11 06 26.6 -0.6
VAF pmax pmax
comp=Z,619nm,0.7s
AUQP **San Andres** 64.65 259 *e*P **P** 11 06 29.0 +1.1
KLMR **Klimovskoe** 64.65 344 *c i*P **P** 11 06 25.5 -1.8
KLMR *e* 11 08 47.1
KLMR *e*S **S** 11 15 01.5 -1.9
KLMR *e*SS **SS** 11 19 11.9 -1.7
KLMR pmax pmax
comp=Z,296nm,1.1s
KLMR MLR MLR
comp=Z,30μm,20.0s
SUF **Sumiainen** 64.66 351 P **P** 11 06 26.9 -0.4
SUF pmax pmax
comp=Z,457nm,0.8s
LQP **Lukban** 64.72 260⇑ *e*P **P** 11 06 30.7 +2.0
TIGA **Tifton** 64.80 71 P **P** 11 06 27.2 -1.6
baz=317,SNR=25
TIGA **Tifton** 64.80 71 *e*P **P** 11 06 27.3 -1.4
comp=Z,1μm,1.6s
TIGA LR LR
comp=Z,99μm,20.0s
PLP **Palo** 64.95 255‖ *e*P **P** 11 06 30.2 +0.3
TBLU **Trondheim** 64.98 359⇑ *i*P **P** 11 06 27.6 -1.8
TBLU IVmB_BB 11 06 34.5
comp=Z,6μm,2.1s
TBLU *e*PP **PP** 11 08 52.6 +0.6
TBLU *e*S **S** 11 15 04.7 -2.6
TBLU IVMs_BB IVMs_BB 11 28 12.3
comp=Z,13μm,36.2s
BOAC **Boac** 65.04 260 *e*P **P** 11 06 30.8 +0.3
TGY **Tagaytay City** 65.10 261 LR LR 11 31 16.0
comp=Z,41μm,21.8s,baz=16,slow=33
CNNC **Cliffs of the** 65.27 64 *e*P **P** 11 06 32.1 +0.4
comp=Z,344nm,0.8s
CNNC LR LR
comp=Z,130μm,20.0s
NHSC **New Hope** 65.55 67 *e*P **P** 11 06 33.6 0.0
comp=Z,3μm,1.1s
NHSC LR LR
comp=Z,173μm,21.0s
MOL **Molde** 65.67 0⇑ *i*P **P** 11 06 32.9 -1.0
MOL IVmB_BB 11 06 39.5
comp=Z,5μm,1.3s
MOL *e*PP **PP** 11 08 58.1 +0.1
MOL *e*S **S** 11 15 14.9 -0.9
MOL IVMs_BB IVMs_BB 11 28 37.7
comp=Z,16μm,34.1s
RGRS **Roger Stewart** 65.68 67 *e*P **P** 11 06 34.9 +0.5
comp=Z,8μm,0.5s
CSU **Charleston Sou** 65.69 67 *e*P **P** 11 06 34.5 0.0
AFI **Afiamalu** 65.73 180 LR LR 11 29 53.4
comp=Z,27μm,20.4s,baz=1.5,slow=31
AFI PKP2bc 11 35 16.5
comp=Z,100nm,1.2s,baz=144,slow=8.6,SNR=6.4
AFI **Afiamalu** 65.73 180 *e*P **P** 11 06 35.9 +1.0
AFI pmax pmax
comp=Z,121nm,0.9s
AFI MLR MLR
comp=Z,27μm,20.0s
AFI **Afiamalu** 65.73 180 *e*P **P** 11 06 35.9 +1.0
comp=Z,121nm,0.9s
AFI LR LR
comp=Z,27μm,20.0s
LUBP **Lubang** 65.80 261 *e*P **P** 11 06 32.5 -2.9
LUBP *e*S **S** 11 15 11.6 -7.1
FIA1 **FINESS Array S** 65.92 351 *e*P **P** 11 06 34.1 -1.4
FIA0 **FINESS Array S** 65.92 351 *e*P **P** 11 06 34.1 -1.4
FIA0 **FINESS Array S** 65.92 351 *e*P **P** 11 06 34.1 -1.4
FINES **FINESS Array B** 65.92 351 P **P** 11 06 34.1 -1.4
comp=Z,96nm,0.6s,baz=21,slow=8.1,SNR=114
FINES PKPPKP P'P'df 11 35 08.3 -9.2
comp=Z,14nm,0.7s,baz=139,slow=3.8,SNR=12
FINES LR LR 11 39 50.0
comp=Z,41μm,18.4s,baz=13,slow=40
FINES P4KPbc 11 43 28.4
comp=Z,2.1nm,0.7s,baz=32,slow=7.6,SNR=5.0
HNR **Honiara** 65.95 211 LR LR 11 30 26.9
comp=Z,46μm,21.5s,baz=1.5,slow=31
HNR **Honiara** 65.95 211 *e*P **P** 11 06 35.0 -1.2
HNR **Honiara** 65.95 211 *e*P **P** 11 06 36.7 +0.4
HNR pmax pmax
comp=Z,640nm,1.1s
HNR MLR MLR
comp=Z,43μm,21.0s
HNR **Honiara** 65.95 211 *e*P **P** 11 06 36.7 +0.4
comp=Z,640nm,1.1s
HNR LR LR
comp=Z,43μm,21.0s
RCP **Roxas** 65.98 258‖ *e*P **P** 11 06 37.8 +1.2
TLIG **Tlapa** 66.01 92 *e*P **P** 11 06 36.2 -0.6
comp=Z,359nm,1.2s
TLIG LR LR
comp=Z,114μm,22.0s
TDK **Taldygorghan** 66.05 313 *i* P **P** 11 06 35.1 -1.6
comp=Z,4μm,1.1s
TDK *e*S **S** 11 15 20.1 -1.1
TDK LR LR 11 35 57.2
comp=Z,34μm,19.7s
AKN **Aaknes** 66.06 1⇑ *i*P **P** 11 06 36.0 -0.5
AKN IVmB_BB 11 06 42.5
comp=Z,7μm,1.5s
AKN *e*PP **PP** 11 09 01.7 +0.1
AKN *e*S **S** 11 15 21.4 +0.7
AKN IVMs_BB IVMs_BB 11 28 48.0
comp=Z,17μm,34.5s
DOMB **Dombas** 66.20 360⇑ *i*P **P** 11 06 36.5 -0.9
DOMB IVmB_BB 11 06 42.9
comp=Z,4μm,1.6s
DOMB *e*S **S** 11 15 21.5 -0.9
DOMB IVMs_BB IVMs_BB 11 44 07.5
comp=Z,15μm,18.3s
LLP **Lapu-Lapu** 66.23 256‖ *e*P **P** 11 06 37.6 -0.6
LLP *e*S **S** 11 15 23.0 -0.9
TAOE **Nuku Hiva Isla** 66.48 146 *e*P **P** 11 06 39.9 +0.1
comp=Z,710nm,1.2s
TAOE *e*S **S** 11 15 27.8 +0.8
comp=Z,24μm,27.0s
TAOE *e*SS **SS** 11 19 46.2 +1.3
comp=Z,16μm,26.9s
TAOE *e*LQ LQ 11 23 13.5
comp=Z,81μm,31.7s
TAOE *e*LR LR 11 26 39.0
comp=Z,225μm,23.0s,baz=348
TAOE **Nuku Hiva Isla** 66.48 146 *e*T T 12 19 03.0
comp=Z,591nm,0.2s
FOO **Floro** 66.62 2⇑ *i*P **P** 11 06 38.9 -1.0
FOO IVmB_BB 11 06 45.5
comp=Z,4μm,1.5s
FOO *e*PP **PP** 11 09 06.8 +0.5
FOO *e*S **S** 11 15 27.4 +0.1
FOO *e*SS **SS** 11 19 46.8 +2.8
FOO IVMs_BB IVMs_BB 11 28 59.9
comp=Z,12μm,43.5s
GUIM **Jordan** 66.81 257 *e*P **P** 11 06 41.1 -0.7
NC204 **NORSAR Array S** 66.95 359 *e*P **P** 11 06 41.3 -0.9
SHLS **Shalkode** 66.99 311 *i*P **P** 11 06 39.6 -3.3
comp=Z,6μm,1.1s
SHLS *i* S **S** 11 15 28.8 -4.0
SHLS LR LR 11 36 26.6
comp=Z,11μm,16.4s
NC303 **NORSAR Array S** 67.00 358 *e*P **P** 11 06 41.8 -0.7
HYA **Hoyanger** 67.07 1 *e*P **P** 11 06 42.2 -0.6
HYA IVmB_BB 11 06 48.7
comp=Z,5μm,1.8s
PUL **Pulkovo** 67.08 348⇑ *e*P **P** 11 06 43.6 +0.7
PUL MLR MLR
comp=Z,108μm,23.0s
NC405 **NORSAR Array S** 67.10 358 *e*P **P** 11 06 41.9 -1.2
KPKS **Kokpek** 67.11 312 *i*P **P** 11 06 41.7 -1.9
comp=Z,7μm,0.8s
KPKS *i* S **S** 11 15 33.3 -0.9
KPKS LR LR 11 36 08.7
comp=Z,32μm,17.1s
SUE **Sulen** 67.16 2⇑ *i*P **P** 11 06 42.7 -0.7
SUE IVmB_BB 11 06 49.1
comp=Z,3μm,1.6s
SUE *e*PP **PP** 11 09 11.4 +0.4
SUE *e*S **S** 11 15 33.9 +0.1
SUE IVMs_BB IVMs_BB 11 29 16.6
comp=Z,10μm,32.9s
NB201 **NORSAR Array S** 67.17 358 *e*P **P** 11 06 42.8 -0.8
NBO02 **NORSAR Array S** 67.18 359 *e*P **P** 11 06 41.8 -1.8
NB2 **NORSAR Subarra** 67.18 358 P **P** 11 06 43.1 -0.6
baz=2.7,slow=6.5
NB2 **NORSAR Subarra** 67.18 358 P **P** 11 06 46.4 +2.7
NB2 pmax pmax
comp=Z,1μm,1.6s
NB2 **NORSAR Subarra** 67.18 358 P **P** 11 06 43.1 -0.6
comp=Z,174nm,0.7s,baz=2.7,slow=6.5
NB200 **NORSAR Array S** 67.18 358 *e*P **P** 11 06 42.2 -1.5
NOA **NORSAR Array B** 67.18 358 P **P** 11 06 42.2 -1.5
comp=Z,59nm,0.5s,baz=168,slow=8.4,SNR=128
NOA PKPPKP P'P'df 11 35 06.1 -9.4
comp=Z,18nm,0.9s,baz=174,slow=4.4,SNR=16
NBO00 **NORSAR Array S** 67.20 359 *e*P **P** 11 06 43.0 -0.8
UZB **Uzynbulak** 67.20 311 *i*P **P** 11 06 41.5 -2.7
comp=Z,3μm,1.7s
UZB *e*S **S** 11 15 33.0 -2.4
UZB LR LR 11 36 24.6
comp=Z,10μm,15.6s
CGP **Cagayan de Oro** 67.27 254‖ *e*P **P** 11 06 45.9 +1.1
NAO01 **NORSAR Array S** 67.39 359 *e*P **P** 11 06 44.0 -0.9
SNPH **Sibulan** 67.43 256⇑ *e*P **P** 11 06 45.8 -0.1
YEL1 **Yell** 67.45 5 *e*P **P** 11 06 45.1 -0.2
YEL1 AMB AMB 11 06 50.4
comp=Z,689nm,1.7s
NC602 **NORSAR Array S** 67.48 358⇑ *i*P **P** 11 06 44.3 -1.3
NC602 IVmB_BB 11 06 51.1
comp=Z,4μm,1.6s
NC602 *e*S **S** 11 15 37.2 -0.7
NC602 IVMs_BB IVMs_BB 11 37 27.2
comp=Z,16μm,19.7s
NC602 **NORSAR Array S** 67.48 358 *e*P **P** 11 06 44.2 -1.3
MATI **Mati** 67.55 252 *e*P **P** 11 06 45.9 -0.7
SATY **Saty** 67.56 312 *i*P **P** 11 06 44.4 -2.1
comp=Z,6μm,1.7s
SATY *i* S **S** 11 15 38.2 -1.4
SATY LR LR 11 36 43.6
comp=Z,20μm,14.6s
JAY **Jayapura** 67.58 233 LR LR 11 32 28.8
comp=Z,2μm,20.4s,slow=32
JAY **Jayapura** 67.58 233 P **P** 11 06 48.3 +1.5
comp=Z,245nm,1.2s,comp=Z,6μm
ASK **Askoy** 67.74 2 *e*P **P** 11 06 46.7 -0.4
ASK IVmB_BB 11 06 53.0
comp=Z,4μm,1.6s
BER **Bergen** 67.84 2⇑ *i*P **P** 11 06 47.0 -0.8
BER IVmB_BB 11 06 53.5
comp=Z,6μm,8.5s
BER *e*S **S** 11 15 41.3 -0.8
BER IVMs_BB IVMs_BB 11 29 35.7
comp=Z,10μm,31.3s
BER **Bergen** 67.84 2 P **P** 11 06 47.1 -0.6
BER pmax pmax
comp=Z,112nm,1.3s
KUU **Kurty** 67.84 314 *i*P **P** 11 06 46.1 -2.0
comp=Z,4μm,1.5s
KUU *i* S **S** 11 15 41.3 -1.4
KUU LR LR 11 37 08.9
comp=Z,50μm,18.5s
DAV **Davao City (W)** 67.85 252⇑ *i*P **P** 11 06 47.7 -0.8
DAV **Davao City (W)** 67.85 252 PFAKE 11 07 00.0 +12
DAV LR LR
comp=Z,158μm,22.0s
DAV **Davao City (W)** 67.85 252 P **P** 11 06 49.0 +0.5
SNR=7.9
DAV P **P** 11 06 49.0 +0.5
SNR=7.9
DAV P **P** 11 06 49.0 +0.5
SNR=7.9
DAV **Davao City (W)** 67.85 252 P **P** 11 06 49.0 +0.5
SNR=7.9
LRW **Lerwick** 67.86 5 *e*P **P** 11 06 46.9 -1.0
LRW **Lerwick** 67.86 5 *e*P **P** 11 06 47.5 -0.3
LRW AMB AMB 11 06 52.8
comp=Z,499nm,1.7s
GENI **Genyem** 67.91 233 P **P** 11 06 52.8 +4.0
comp=Z,576nm,1.1s,comp=Z,21μmcomp=Z,65μm
KMI **Kunming** 67.93 283 P **P** 11 06 49.9 +0.8
KMI PcP **PcP** 11 07 15.8 +0.5
KMI PP **PP** 11 09 23.6 +4.6
KMI S **S** 11 15 48.0 +3.3
KMI SKS **SKSac** 11 16 43.8 0.0
KMI pmax pmax
comp=Z,1μm,1.8s
KMI pmax pmax
comp=Z,8μm,3.1s
KMI LR LR
comp=Z,75μm,25.2s
KMI LR LR
comp=Z,68μm,22.7s
KMI LR LR
comp=Z,131μm,28.8s
DCPH **Dipolog City** 67.97 255‖ *e*P **P** 11 06 49.3 +0.1
SAN1 **Sandwick** 67.97 5 *e*P **P** 11 06 48.2 -0.4
MDOK **Medeo** 68.10 313 *i*P **P** 11 06 48.7 -1.2
comp=Z,3μm,1.0s
MDOK *i* S **S** 11 15 45.7 -0.4
MDOK *i* SS **SS** 11 20 10.2 +2.0
MDOK LR LR 11 37 22.2
comp=Z,31μm,20.0s
AAA **Alma-Ata** 68.12 313 *e*P **P** 11 06 50.6 +0.7
AAA *e*S **S** 11 15 48.8 +2.6
AAA pmax pmax
comp=Z,17μm,12.3s
AAA smax smax
comp=E,7μm,10.1s
AAA MLR MLR
comp=Z,90μm,19.0s
AAA **Alma-Ata** 68.12 313 *i*P **P** 11 06 48.1 -1.8
comp=Z,6μm,1.3s
AAA *e*S **S** 11 15 44.9 -1.3
AAA LR LR 11 37 26.6
comp=Z,28μm,21.0s
SMPI **Sarmi** 68.12 235 P **P** 11 06 51.7 +1.6
comp=Z,274nm,1.5s,comp=Z,14μm
QIZ **Qiongzhong** 68.16 273 P **P** 11 06 51.1 +0.7
QIZ sP **pP** 11 07 04.8 +1.2
QIZ PP **PP** 11 09 20.8 -0.1
QIZ S **S** 11 15 47.6 +0.5
QIZ ScS **SKiKP** 11 16 37.9 -3.3
QIZ SS **SS** 11 20 09.2 -0.8
QIZ pmax pmax
comp=Z,430nm,2.1s
QIZ pmax pmax
comp=Z,15μm,11.1s
QIZ LR LR
comp=Z,64μm,24.4s
QIZ LR LR
comp=Z,60μm,22.8s
QIZ LR LR
comp=Z,107μm,23.1s
QIZ **Qiongzhong** 68.16 273 *e*P **P** 11 06 51.0 +0.6
comp=Z,535nm,1.2s
QIZ LR LR
comp=Z,98μm,22.0s
TUIG **Tuzandepetl** 68.21 88 PFAKE 11 07 00.0 +9.3
TUIG LR LR
comp=Z,65μm,20.0s
OSL **Oslo** 68.30 359 *e*P **P** 11 06 50.1 -0.5
OSL IVmB_BB 11 06 56.7
comp=Z,4μm,1.8s
OSL *e*S **S** 11 15 49.5 +1.9
OSL IVMs_BB IVMs_BB 11 45 22.1
comp=Z,16μm,21.3s
ODD1 **Odda** 68.33 1 *e*P **P** 11 06 50.2 -0.7
ODD1 IVmB_BB 11 06 56.7
comp=Z,4μm,1.4s
ODD1 *e*S **S** 11 15 49.6 +1.4
ODD1 IVMs_BB IVMs_BB 11 41 02.0
comp=Z,13μm,21.5s
CTBH **Cotabato--PC H** 68.52 253‖ *e*P **P** 11 06 54.0 +1.4
DWPF **Disney Wildern** 68.52 72 *e*P **P** 11 06 52.0 -0.5
comp=Z,491nm,0.8s
DWPF LR LR
comp=Z,70μm,21.0s
PAGZ **Pagadian** 68.53 255 *e*P **P** 11 06 51.9 -0.8
KONO **Kongsberg** 68.60 359⇑ *i*P **P** 11 06 51.9 -0.6
KONO IVmB_BB 11 06 58.5
comp=Z,6μm,1.5s
KONO *e*PP **PP** 11 09 24.6 +1.0
KONO *e*S **S** 11 15 52.7 +1.5
KONO IVMs_BB IVMs_BB 11 44 45.1
comp=Z,16μm,18.6s
KONO **Kongsberg** 68.60 359 *c i*P **P** 11 06 52.0 -0.6
KONO pmax pmax
comp=Z,6μm,1.7s
KONO **Kongsberg** 68.60 359 *e*P **P** 11 06 51.9 -0.6
comp=Z,806nm,1.3s
KONO LR LR
comp=Z,30μm,20.0s
BMNS **Besmoynak** 68.76 314 *i*P **P** 11 06 52.2 -1.9
comp=Z,8μm,1.3s
BMNS *i* S **S** 11 15 52.6 -1.4
BMNS LR LR 11 37 39.4
comp=Z,44μm,19.4s
VSU **Vasula** 68.77 350 *c e*P **P** 11 06 52.8 -0.8
VSU pmax pmax
comp=Z,1μm,0.6s
VSU MLR MLR
comp=Z,249μm,22.0s
BLS5 **Blasjo** 68.82 1⇑ *i*P **P** 11 06 53.6 -0.3
BLS5 IVmB_BB 11 06 60.0
comp=Z,3μm,1.4s
BLS5 *e*S **S** 11 15 55.0 +1.1
BLS5 IVMs_BB IVMs_BB 11 30 02.7
comp=Z,12μm,36.7s
KMY **Karmoy** 69.02 2 *e*P **P** 11 06 55.0 -0.1
KMY *e*S **S** 11 15 58.0 +1.9
STAV **Stavanger** 69.30 1⇑ *i*P **P** 11 06 55.4 -1.4
STAV IVmB_BB 11 07 02.7
comp=Z,5μm,1.4s
STAV *e*S **S** 11 16 00.8 +1.4
STAV IVMs_BB IVMs_BB 11 30 14.6
comp=Z,10μm,36.8s
FRU **Bishkek** 69.45 314⇑ *i*P **P** 11 06 58.0 -0.1
FRU *i* S **S** 11 16 04.0 +2.1
FRU *i* PS **PnS** 11 16 26.0 -6.1
FRU pmax pmax
comp=Z,3μm,2.2s
FRU smax smax
comp=N,2μm,4.0s
SCIG **Sabancuy** 69.49 85 *e*P **P** 11 06 57.8 -0.9
comp=N,218nm,1.0s
AKTO **Aktyubinsk** 69.50 329 P4KPbc 11 43 43.4
comp=N,0.5nm,0.3s,baz=186,slow=3.8,SNR=3.6
AKTO **Aktyubinsk** 69.50 329 P **P** 11 06 58.0 -0.3
AKTO pmax pmax
comp=Z,1μm,0.7s
MLA1 **Latheron** 69.54 7 *e*P **P** 11 06 57.8 -0.6
AAK **Ala-Archa** 69.66 314 P **P** 11 06 59.8 +0.2
comp=Z,1μm,0.7s,baz=108,slow=3.4,SNR=386
AAK LR LR 11 40 45.3
comp=Z,98μm,19.5s,baz=26,slow=39
AAK **Ala-Archa** 69.66 314 *e*P **P** 11 07 00.0 +0.4
AAK LR LR
comp=Z,102μm,20.0s
AAK **Ala-Archa** 69.66 314 P **P** 11 06 60.0 +0.4
SNR=1349
AAK P **P** 11 06 60.0 +0.4
SNR=1349
AAK P **P** 11 06 60.0 +0.4
SNR=1349
AAK **Ala-Archa** 69.66 314 P **P** 11 06 60.0 +0.4
SNR=1349
RRR **Rubha Reidh** 69.80 8 *e*P **P** 11 06 59.2 -0.7
MOS **Moscow** 69.82 343 *α i*P **P** 11 06 58.7 -1.4
MOS *e* 11 09 33.4
MOS *e*PPP PPP 11 11 18.5
MOS *i* S **S** 11 16 02.5 -3.1
MOS *i* 11 16 57.3
MOS pmax pmax
comp=Z,609nm,1.0s
MOS smax smax
comp=E,3μm,4.0s
MOS smax smax
comp=N,3μm,4.0s
MOS MLR MLR
comp=N,58μm,20.0s
MOS MLR MLR
comp=Z,70μm,20.0s
MOS MLR MLR
comp=E,29μm,19.0s
AB31 **Akbulak array** 69.88 327 P **P** 11 07 00.8 +0.2
AB31 pmax pmax

comp=Z,366nm,0.7s
ABKAR Akbulak array 69.88 327 *e*P **P 11 07 00.2 -0.4**
comp=Z,4µm,0.8s
ABKAR LR LR
comp=Z,20µm,19.0s
SNART Snartemo 69.92 1⇑*i*P **P 11 07 00.3 -0.4**
SNART IVmB_BB 11 07 06.9
comp=Z,2µm,1.9s
SNART IVMs_BB IVMs_BB 11 30 52.5
comp=Z,7µm,32.6s
HOMB Homborsund 69.99 360⇑*i*P **P 11 06 59.4 -1.6**
HOMB IVmB_BB 11 07 07.1
comp=Z,5µm,1.5s
HOMB *e*S **S 11 16 08.7 +1.2**
HOMB IVMs_BB IVMs_BB 11 30 37.9
comp=Z,15µm,33.9s
SLVN Son La 70.06 279 *e*P **P 11 07 03.1 +0.9**
comp=Z,1µm,1.3s
SLVN LR LR
comp=Z,104µm,21.0s
MSVF Nonsavu 70.11 190 *e*P **P 11 07 02.8 +0.5**
MSVF pmax pmax
comp=Z,379nm,1.2s
MSVF MLR MLR
comp=Z,50µm,20.0s
MSVF Nonsavu 70.11 190 *e*P **P 11 07 02.8 +0.5**
comp=Z,379nm,1.2s
MSVF LR LR
comp=Z,50µm,20.0s
KAC Achnashellach 70.19 8 *e*P **P 11 07 01.6 -0.8**
VAH Vaihoa 70.25 155 *e*P **P 11 07 03.8 +0.7**
comp=Z,863nm,1.0s
MCD Coleburn Disti 70.27 7 *e*P **P 11 07 02.9 +0.1**
KPL Plockton 70.32 8 *e*P **P 11 07 02.5 -0.7**
KPL Plockton 70.32 8⇑*e*P **P 11 07 01.6 -1.6**
KPL AMB AMB 11 07 08.5
comp=Z,264nm,1.1s
MDO Dochfour 70.33 7 *e*P **P 11 07 02.5 -0.7**
MME1 Meikle Cairn 70.56 6 *e*P **P 11 07 04.4 -0.3**
OBN Obninsk 70.60 343 LR LR 11 42 04.6
comp=Z,49µm,20.9s,baz=22,slow=39
OBN Obninsk 70.60 343*c i*P **P 11 07 03.5 -1.4**
OBN *i* 11 07 24.5
OBN *i* 11 09 39.0
OBN *i* PPP PPP 11 11 28.8
OBN *i* S **S 11 16 12.3 -2.5**
OBN *i* SS **SS 11 20 48.5 +2.9**
OBN pmax pmax
comp=Z,373nm,1.7s
OBN pmax pmax
comp=Z,8µm,6.7s
OBN MLR MLR
comp=Z,74µm,22.0s
OBN Obninsk 70.60 343 *e*P **P 11 07 03.5 -1.4**
comp=Z,884nm,1.4s
OBN LR LR
comp=Z,69µm,22.0s
MNAS Manas 70.66 315 P **P 11 07 05.7 0.0**
MNAS pmax pmax
comp=Z,1µm,1.3s
PMG Port Moresby 70.69 223 LR LR 11 34 13.1
comp=Z,62µm,20.6s,baz=44,slow=32
PMG Port Moresby 70.69 223*c i*P **P 11 07 05.9 0.0**
PMG pmax pmax
comp=Z,3µm,2.5s
PMG Port Moresby 70.69 223 *e*P **P 11 07 05.6 -0.3**
comp=Z,314nm,1.0s
PMG LR LR
comp=Z,70µm,21.0s
CCIG Comitan 70.95 88 *e*P **P 11 07 07.2 -0.6**
comp=Z,214nm,1.0s
CCIG LR LR
comp=Z,49µm,20.0s
DRUM Mains of Drumt 70.99 6 *e*P **P 11 07 07.5 +0.3**
KK31 Karatay Array 71.01 317 *i*P **P 11 07 07.1 -0.6**
KK31 pmax pmax
comp=Z,1µm,1.0s
KKAR Karatay Array 71.01 317 *e*P **P 11 07 07.3 -0.4**
KKAR MLR MLR
comp=Z,38µm,19.0s
KKAR Karatay Array 71.01 317 *e*P **P 11 07 07.3 -0.4**
comp=Z,10µm,1.0s
KKAR LR LR
comp=Z,38µm,19.0s
SWI Sorong 71.10 242 P **P 11 07 09.8 +1.3**
comp=Z,1µm,1.2s,comp=Z,24µmcomp=Z,74µm
SWI Sorong 71.10 242 P **P 11 07 08.5 0.0**
SWI pmax pmax
comp=Z,1µm,1.1s
BATP Bataraza 71.14 260 *e*P **P 11 07 10.0 +1.2**
BATP *e*S **S 11 16 25.9 +3.7**
LSA Lhasa 71.25 294 P **P 11 07 11.4 +1.5**
LSA S S 11 16 14.2 -10
LSA pmax pmax
comp=Z,1µm,1.5s
LSA LR LR
comp=Z,21µm,23.6s
LSA LR LR
comp=Z,42µm,26.1s
LSA LR LR
comp=Z,95µm,26.1s
LSA Lhasa 71.25 294 *e*P **P 11 07 11.4 +1.5**
LSA pmax pmax
comp=Z,3µm,0.9s
LSA MLR MLR
comp=Z,92µm,20.0s
LSA Lhasa 71.25 294 *e*P **P 11 07 11.4 +1.5**
comp=Z,3µm,0.9s
LSA LR LR
comp=Z,92µm,20.0s
KSH Kashi 71.48 311⇑*i*P **P 11 07 13.9 +3.2**
KSH pP pP 11 07 24.1 +0.1
KSH sP sP 11 07 28.1 -1.1
KSH PcP **PcP 11 07 33.3 +3.3**
KSH PP **PP 11 09 55.0 +5.9**
KSH S **S 11 16 28.2 +2.4**
KSH sS SKiKP 11 16 45.3 -0.5
KSH SS **SS 11 21 05.2 +5.0**
KSH pmax pmax
comp=Z,5µm,1.1s
KSH LR LR
comp=Z,50µm,17.5s
KSH LR LR
comp=Z,24µm,13.0s
KSH LR LR
comp=Z,109µm,18.7s
IZAR Zarasai 71.49 349 *e*P **P 11 07 09.9 -0.4**
IZAR IAmb IAmb 11 07 16.6
comp=Z,195nm,0.6s
IZAR Zarasai 71.49 349 *e*P P'P'df 11 34 46.2 -22
ISAL Salakas 71.68 349 *e*P **P 11 07 11.0 -0.4**
ISAL IAmb IAmb 11 07 17.9
comp=Z,146nm,0.7s
ISAL Salakas 71.68 349 *e*P P'P'df 11 34 47.1 -20
MUD Monsted U'grnd 71.81 359⇑*e*P **P 11 07 12.0 -0.2**
MUD Monsted U'grnd 71.81 359⇑*i*P **P 11 07 12.3 +0.2**
comp=Z,32µm,19.0s
MUD Monsted U'grnd 71.81 359⇑*i*P **P 11 07 12.3 +0.2**
MUD MLR MLR
comp=Z,32µm,19.0s
IDID Didziasalis 71.86 349 *e*P **P 11 07 12.1 -0.5**
IDID IAmb IAmb 11 07 18.7
comp=Z,212nm,1.0s
IDID Didziasalis 71.86 349 *e*P P'P'df 11 34 47.9 -19
IIGN Ignalina 71.89 349 *e*P **P 11 07 12.2 -0.5**
IIGN IAmb IAmb 11 07 18.5
comp=Z,256nm,0.5s
IIGN Ignalina 71.89 349 *e*P P'P'df 11 34 48.3 -19
EDI Edinburgh 71.92 7⇑*e*P **P 11 07 12.3 -0.6**
PGBU Glenifferbraes 71.94 8 *e*P **P 11 07 12.3 -0.6**
PGBU AMB AMB 11 07 18.9
comp=Z,897nm,1.2s
IUG Iuzhnay 72.00 316 *i*P **P 11 07 11.7 -2.0**
comp=Z,5µm,1.6s
IUG *i* S **S 11 16 30.1 -1.6**
IUG LR LR 11 40 05.1
comp=Z,29µm,17.1s
PPT Papeete 72.01 158 P **P 11 07 15.9 +2.1**
comp=Z,76nm,1.1s,baz=287,slow=2.6,SNR=6.3
PPT LR LR 11 31 50.2
comp=Z,48µm,21.9s,baz=322,slow=30
PPT2 Papeete2 72.03 158 *e*P **P 11 07 14.9 +0.9**
comp=Z,321nm,1.5s
PPT2 *e*S **S 11 16 31.0 -1.1**
comp=Z,28µm,29.5s
PPT2 *e*SS **SS 11 21 11.3 +1.0**
comp=Z,15µm,27.0s
PPT2 *e*LQ LQ 11 25 37.9
comp=Z,44µm,27.5s
PPT2 *e*LR LR 11 28 50.5
comp=Z,236µm,31.8s,baz=345
PPT2 Papeete2 72.03 158 *e*T T 12 25 55.8
comp=Z,66nm,0.3s
CHM Chimkent 72.03 317 *e*P **P 11 07 11.8 -2.1**
comp=Z,6µm,1.6s
CHM *e*S **S 11 16 30.2 -1.7**
CHM LR LR 11 37 50.3
comp=Z,37µm,19.1s
TIAR Tiarei 72.05 158 *e*P **P 11 07 15.0 +1.0**
comp=Z,200nm,1.0s
TIAR Tiarei 72.05 158 *e*T T 12 25 57.1
comp=Z,52nm,0.3s
PAE Paea 72.10 158 *e*P **P 11 07 15.0 +0.7**
comp=Z,71nm,1.4s
PAE Paea 72.10 158 *e*T T 12 26 00.6
comp=Z,14nm,0.3s
NACGM Naroch 72.26 349 *e*P **P 11 07 12.0 -2.9**
NACGM *e*P **P 11 07 12.0 -2.9**
NACGM PM 11 07 21.0
comp=Z,1.1nm,0.9s
NACGM *e*PP **PP 11 09 50.0 -5.1**
NACGM *e*PPP PPP 11 11 42.0
NACGM *e*S S 11 16 23.0 -11
NACGM *e*PS **PnS 11 17 17.0 +8.4**
NACGM *e*SS SS 11 20 56.0 -15
NACGM *e*SSS SSS 11 24 10.0
NACGM *e*LQ LQ 11 28 51.0
NACGM LRM MLR 11 39 52.0
comp=E,45nm,21.0s
NACGM LRM MLR 11 39 56.0
comp=Z,84nm,21.0s
NACGM LRM MLR 11 40 02.0
comp=N,80nm,21.0s
NACGM Naroch 72.26 349 *e* **P'P'df 11 35 01.0 -5.5**
FAKI Fak Fak 72.28 240 P **P 11 07 15.6 0.0**
comp=N,777nm,1.7s,comp=N,22µmcomp=N,72µm
FAKI Fak Fak 72.28 240 *e*P **P 11 07 15.5 0.0**
comp=N,4µm,2.0s
FAKI LR LR
comp=Z,50µm,20.0s
TVO Taravao 72.29 158 *e*P **P 11 07 16.4 +0.9**
comp=Z,84nm,0.9s
TVO Taravao 72.29 158 *e*T T 12 26 12.0
comp=Z,4.3nm,0.2s
IDGL Inch Island, C 72.39 9⇑*e*P **P 11 07 14.9 -0.8**
IDGL AMB AMB 11 07 21.4
comp=Z,489nm,1.2s
MICGM Minsk 72.52 348⇓*i*P **P 11 07 15.0 -1.5**
MICGM PM 11 07 17.0
comp=Z,1.1nm,1.0s
MICGM PM 11 07 18.0
comp=N,0.3nm,1.0s
MICGM PM 11 07 20.0
comp=Z,18nm,8.0s
MICGM PM 11 07 22.0
comp=E,0.3nm,1.0s
MICGM PM 11 07 22.0
comp=Z,17nm,8.0s
MICGM *e*PcP **PcP 11 07 34.0 +0.1**
MICGM *e*PP **PP 11 09 52.0 -5.3**
MICGM PPM 11 09 58.0
comp=Z,4.2nm,10.0s
MICGM PPM 11 09 58.0
comp=Z,6.6nm,10.0s
MICGM *e*PPP PPP 11 11 46.0
MICGM *e*PsP 11 13 10.0
MICGM *e*S **S 11 16 34.0 -2.9**
MICGM SM 11 16 38.0
comp=E,6.0nm,10.0s
MICGM SM 11 16 40.0
comp=E,17nm,10.0s
MICGM *e*PS **PnS 11 17 24.0 +12**
MICGM *e*SS SS 11 21 04.0 -11
MICGM *e*SSS SSS 11 24 30.0
MICGM *e*LQ LQ 11 31 16.0
MICGM LQM 11 33 12.0
comp=E,85nm,24.0s
MICGM LQM 11 33 14.0
comp=E,20nm,24.0s
MICGM *e*LR LR 11 35 40.0
MICGM LRM MLR 11 40 10.0
comp=E,102nm,24.0s
MICGM LRM MLR 11 40 10.0
comp=E,44nm,24.0s
MICGM LRM MLR 11 40 48.0
comp=Z,173nm,24.0s
MICGM LRM MLR 11 40 48.0
comp=Z,90nm,24.0s
MICGM LRM MLR 11 40 52.0
comp=N,4.8nm,24.0s
MICGM LRM MLR 11 40 52.0
comp=N,18nm,24.0s
MNK Minsk 72.52 348⇓*i*P **P 11 07 15.0 -1.5**
MNK *e* 11 07 34.0
MNK *e* 11 09 52.0
MNK *e*PPP PPP 11 11 46.0
MNK *e*S **S 11 16 34.0 -2.9**
MNK *e*PS **PnS 11 17 24.0 +12**
MNK *e*SSS SSS 11 24 30.0
MNK pmax pmax
comp=Z,1µm,1.0s
MNK pmax pmax
comp=N,340nm,1.0s
MNK pmax pmax
comp=Z,18µm,8.0s
MNK pmax pmax
comp=Z,11µm,8.0s
MNK pmax pmax
comp=E,290nm,1.0s
MNK pmax pmax
comp=Z,590nm,10.0s
MNK pmax pmax
comp=Z,4µm,10.0s
MNK smax smax
comp=E,6µm,10.0s
MNK smax smax
comp=E,17µm,10.0s
MNK MLR MLR
comp=E,44µm,24.0s
MNK MLR MLR
comp=E,102µm,24.0s
MNK MLR MLR
comp=Z,87µm,24.0s
MNK MLR MLR
comp=Z,173µm,24.0s
MNK MLR MLR
comp=N,18µm,24.0s
MNK MLR MLR
comp=N,5µm,24.0s
COP Copenhagen 72.52 358⇑*i*P **P 11 07 16.4 0.0**
comp=N,167nm,0.8s
COP *i* S **S 11 16 35.3 -1.6**
comp=Z,24µm,20.0s
COP Copenhagen 72.52 358⇑*i*P **P 11 07 16.4 0.0**
COP *i* S **S 11 16 35.3 -1.6**
COP pmax pmax
comp=Z,170nm,0.8s
COP MLR MLR
comp=Z,24µm,20.0s
ESK Eskdalemuir 72.53 7 *e*P **P 11 07 15.7 -0.8**
ESK pmax pmax
comp=Z,508nm,1.1s
ESK MLR MLR
comp=Z,39µm,19.0s
ESK Eskdalemuir 72.53 7 *e*P **P 11 07 15.7 -0.8**
comp=Z,508nm,1.1s
ESK LR LR
comp=Z,39µm,19.0s
LPSR Galich'ya Gora 72.54 341 *e*P **P 11 07 15.9 -0.7**
LPSR *e* 11 09 56.5
LPSR *e*S **S 11 16 35.1 -2.1**
LPSR pmax pmax
comp=Z,100nm,0.6s
LPSR smax smax
comp=N,6µm,4.5s
BHH Howats Hill 72.75 7 *e*P **P 11 07 17.4 -0.4**
GAL1 Galloway 72.85 8 *e*P **P 11 07 18.7 +0.2**
LLD Lille Linde 72.88 358 *i*P **P 11 07 19.0 +0.4**
comp=N,333nm,0.7s
LLD Lille Linde 72.88 358 *i*P **P 11 07 19.0 +0.4**
LLD pmax pmax
comp=Z,330nm,0.7s
NONG Nongkai 73.00 278 P **P 11 07 20.0 +0.1**
comp=Z,2µm,1.8s,comp=Z,17µm
BSD Bornholm Skovb 73.01 356⇑*i*P **P 11 07 18.9 -0.4**
comp=Z,115nm,0.7s
comp=Z,60µm,20.0s
BSD Bornholm Skovb 73.01 356⇑*i*P **P 11 07 18.9 -0.4**
BSD pmax pmax
comp=Z,120nm,0.7s
BSD MLR MLR
comp=Z,60µm,20.0s
BBO1 Bothel 73.10 7 *e*P **P 11 07 19.4 -0.5**
KDM Kudat 73.20 259⇓P **P 11 07 22.6 +1.5**
KESW Keswick, Cumbr 73.26 7⇑*e*P **P 11 07 20.0 -0.9**
KESW AMB AMB 11 07 26.8
comp=Z,538nm,1.1s
SKNT Sakolnakorn 73.32 276 P **P 11 07 21.7 -0.1**
comp=Z,2µm,0.9s,comp=Z,28µm
IMP Imphal 73.36 289⇓*i*P **P 11 07 21.5 -0.5**
VORR Voronezh 73.36 340 *e*P **P 11 07 19.0 -2.5**
VORR pmax pmax
comp=Z,500nm,2.0s
SUW Suwalki 73.53 351 *e*P **P 11 07 21.2 -1.2**
SUW *e*S **SKiKP 11 16 45.5 -2.7**
SUW LMZ LR 11 35 49.4
comp=Z,78µm,29.2s
SUW Suwalki 73.53 351 *e*P **P 11 07 21.2 -1.2**
SUW *e*S **SKiKP 11 16 45.5 -2.7**
MYLDM Lahad Datu 73.57 257 *e*P **P 11 07 24.6 +1.3**
comp=Z,1µm,1.4s
MYLDM Lahad Datu 73.57 257⇑P **P 11 07 24.8 +1.5**
WIM Isle of Man 73.57 8 *e*P **P 11 07 22.8 +0.1**
RGN Rugen 73.64 357 *e*P **P 11 07 23.5 +0.5**
comp=Z,640nm,0.8s
RGN LR LR
comp=Z,62µm,20.0s
RAR Rarotonga 73.74 168 LR LR 11 33 36.1
comp=Z,54µm,20.7s,baz=2.0,slow=31
RAR Rarotonga 73.74 168 *e*P **P 11 07 25.6 +1.7**
RAR pmax pmax
comp=Z,209nm,1.3s
RAR MLR MLR
comp=Z,62µm,22.0s
RAR Rarotonga 73.74 168 *e*P **P 11 07 25.6 +1.7**
comp=Z,209nm,1.3s
RAR LR LR
comp=Z,62µm,22.0s
VSR Storozhevoye 73.80 340 *e*P **P 11 07 22.9 -1.2**
VSR *e* 11 10 03.9
VSR *e*PPP PPP 11 11 57.7
VSR *e*S **SKiKP 11 16 46.5 -2.2**
VSR pmax pmax
comp=Z,310nm,1.1s
VSR smax smax
comp=E,3µm,4.3s
IGLA Glengowla, Co 73.81 11⇑*e*P **P 11 07 22.6 -1.5**
IGLA AMB AMB 11 07 29.6
comp=Z,772nm,1.3s
SDKM Sandakan 73.99 258⇑P **P 11 07 26.4 +0.6**
SHL Shillong 73.99 291⇑*i*P **P 11 07 25.5 -0.4**
SHL *ex* x 11 16 54.0
KMSI Cibinong 74.02 250 P **P 11 07 25.9 0.0**
comp=Z,2µm,1.0s,comp=Z,25µm
KKM Kota Kinabalu 74.26 259 *e*P **P 11 07 27.6 +0.2**
comp=Z,476nm,1.3s
KKM LR LR
comp=Z,73µm,22.0s
KKM Kota Kinabalu 74.26 259⇓P **P 11 07 28.2 +0.7**
DSB Dublin 74.31 9 *e*P **P 11 07 26.1 -1.0**
comp=Z,354nm,1.1s
DSB LR LR
comp=Z,36µm,19.0s
WPS Cemaes, Angles 74.33 8 *e*P **P 11 07 26.8 -0.3**
WPS AMB AMB 11 07 32.0
comp=Z,400nm,1.5s
WME Myndd Eilian 74.34 8 *e*P **P 11 07 27.2 0.0**
DLV T`Lat 74.41 269 *e*P **P 11 07 28.6 +0.3**
comp=Z,1µm,1.7s
DLV LR LR
comp=Z,56µm,22.0s
MSAI Masohi 74.44 243 P **P 11 07 29.8 +1.5**
comp=Z,201nm,1.2s,comp=Z,4µm
WLF1 Llynfaes 74.44 8 *e*P **P 11 07 26.7 -1.1**
WLF1 AMB AMB 11 07 32.7
comp=Z,686nm,1.4s
WPM1 Penmaenmawr 74.52 8 *e*P **P 11 07 27.5 -0.8**
GTOI Gorontalo 74.53 250 P **P 11 07 30.2 +1.4**
comp=Z,199nm,1.5s,comp=Z,8µmcomp=Z,67µm
BBSR BB Station 74.54 57 *e*P **P 11 07 28.9 +0.2**
comp=Z,593nm,1.1s
BBSR LR LR
comp=Z,51µm,22.0s
LMK Market Rasen 74.56 5⇑*e*P **P 11 07 27.7 -0.8**
LMK AMB AMB 11 07 33.5
comp=Z,780nm,1.9s
YLL Llanberis 74.61 8 *e*P **P 11 07 30.4 +1.6**
TSM Tawau 74.65 257⇓P **P 11 07 30.3 +0.8**
GKP Gorka Klasztor 74.73 354 *e*P **P 11 07 29.1 -0.4**
GKP *e*S **S 11 17 00.6 -1.3**
GKP LMZ LR 11 40 08.7
comp=Z,77µm,23.8s
GKP Gorka Klasztor 74.73 354 *e*P **P 11 07 29.1 -0.4**
GKP *e*S **S 11 17 00.6 -1.3**
GKP MLR MLR
comp=Z,77µm,23.8s
LAMP Lampang 74.79 281 P **P 11 07 31.3 +0.9**
comp=Z,307nm,1.1s,comp=Z,2µm
STNC Stoke 74.81 7⇑*e*P **P 11 07 29.9 -0.1**
STNC AMB AMB 11 07 36.3
comp=Z,864nm,1.0s
UTTA Uttaradit 74.83 279 P **P 11 07 31.0 +0.5**
comp=Z,374nm,1.0s,comp=Z,3µm
BNDI Bandanaira 74.88 242 P **P 11 07 32.3 +1.5**
comp=Z,2µm,1.6s,comp=Z,25µmcomp=Z,74µm
LLW Llanuwychllyn 74.94 7⇑*e*P **P 11 07 30.1 -0.6**
LLW AMB AMB 11 07 35.7
comp=Z,4µm,1.9s
CMMT Chiang Mai 74.98 281 P **P 11 07 31.4 -0.1**
comp=Z,1µm,1.3s,comp=Z,24µm
CHTO Chiang Mai 74.99 281 P **P 11 07 31.5 0.0**
comp=Z,5µm,1.1s,comp=Z,108µm
CHTO Chiang Mai 74.99 281 *e*P **P 11 07 31.8 +0.3**
CHTO pmax pmax
comp=Z,1µm,1.2s
CHTO MLR MLR
comp=Z,55µm,20.0s
CHTO Chiang Mai 74.99 281 *e*P **P 11 07 31.8 +0.3**
comp=Z,1µm,1.2s
CHTO LR LR
comp=Z,55µm,20.0s
CHTO Chiang Mai 74.99 281 P **P 11 07 32.2 +0.7**
SNR=289
CHTO P **P 11 07 32.2 +0.7**
SNR=289
CHTO Chiang Mai 74.99 281 P **P 11 07 32.2 +0.7**
SNR=289
TAPN Taplejung 74.99 295 *e*P **P 11 07 32.4 +0.6**
comp=Z,13µm,1.2s
SANI Sanana 75.01 246 P **P 11 07 31.4 -0.2**
comp=Z,688nm,1.1s,comp=Z,15µmcomp=Z,71µm
AAI Ambon 75.13 244 P **P 11 07 32.0 -0.3**
comp=Z,704nm,0.8s,comp=Z,14µmcomp=Z,80µm
AAI Ambon 75.13 244 P **P 11 07 32.9 +0.6**
AAI pmax pmax
comp=Z,707nm,0.8s
IWEX Carrickbyrne, 75.13 9⇑*e*P **P 11 07 31.2 -0.6**
VAL Valentia 75.16 12⇓*i*P **P 11 07 32.3 +0.4**
VAL *e*S **S 11 17 06.0 -0.7**
VAL Valentia 75.16 12 P **P 11 07 31.5 -0.4**
VAL pmax pmax
comp=Z,274nm,1.5s
CWF Charnwood Fore 75.22 6 *e*P **P 11 07 31.9 -0.4**
comp=Z,802nm,1.3s
CWF LR LR
comp=Z,54µm,21.0s
CM31 Chiang Mai Arr 75.26 281 *e*P **P 11 07 34.1 +1.0**
CMAR Chiang Mai Arr 75.26 281 P **P 11 07 33.9 +0.8**
comp=Z,342nm,0.8s,baz=26,slow=5.9,SNR=564
CMAR PKPPKP **P'P'df 11 34 53.2 -5.2**
comp=Z,4.9nm,1.1s,baz=239,slow=3.8,SNR=8.6
CMAR LR LR 11 41 46.7
comp=Z,54µm,21.0s,baz=52,slow=37
CMAR P4KPbc 11 44 11.5
comp=Z,0.7nm,0.5s,baz=227,slow=30,SNR=4.6
DZET Dzherino 75.27 315 P **P 11 07 33.1 +0.1**
DZET pmax pmax
comp=Z,3µm,1.1s

CM01	**Chiang Mai Arr**	**75.28**	**281**	*e*P		**P**	**11 07 33.3**	**+0.1**
MRSI	**Marisa**	**75.28**	**251**	P		**P**	**11 07 32.7**	**-0.5**
	comp=Z,602nm,1.1s,comp=Z,16µm							
HLM1	**Long Mynd**	**75.33**	**7**⇑	*e*P		**P**	**11 07 32.6**	**-0.4**
HLM1				AMB	AMB		11 07 38.5	
	comp=Z,385nm,1.3s							
WACR	**West Acre**	**75.35**	**5**⇑	*e*P		**P**	**11 07 32.4**	**-0.7**
WACR				AMB	AMB		11 07 39.3	
	comp=Z,1µm,1.0s							
NLAI	**Namlea**	**75.36**	**245**	P		**P**	**11 07 34.8**	**+1.2**
	comp=Z,358nm,1.4s,comp=Z,10µmcomp=Z,73µm							
CHAI	**Chaiyaphum**	**75.36**	**277**	P		**P**	**11 07 34.1**	**+0.4**
	comp=Z,174nm,0.9s,comp=Z,2µm							
WIT	**Witteveen**	**75.45**	**1**	P		**P**	**11 07 33.8**	**+0.2**
PBKT	**Sadao Pong**	**75.47**	**278**	P		**P**	**11 07 34.3**	**0.0**
	comp=Z,769nm,0.7s,comp=Z,19µm							
GUN	**Gumba**	**75.57**	**297**	*e*P		**P**	**11 07 35.7**	**+0.5**
	comp=Z,11µm,1.0s							
SUKH	**Sukhothai**	**75.59**	**280**	P		**P**	**11 07 35.6**	**+0.7**
	comp=Z,260nm,1.3s,comp=Z,2µm							
LPW	**Lampeter**	**75.64**	**8**	*e*P		**P**	**11 07 34.4**	**-0.3**
LPW				AMB	AMB		11 07 39.9	
	comp=Z,190nm,1.6s							
TGUH	**Tegucigalpa,Un**	**75.65**	**86**	*e*P		**P**	**11 07 35.1**	**-0.2**
	comp=Z,764nm,1.1s							
TGUH				LR	LR			
	comp=Z,76µm,21.0s							
TGUH	**Tegucigalpa,Un**	**75.65**	**86**	*e*P		**P**	**11 07 35.1**	**-0.2**
MCH1	**Michaelchurch**	**75.84**	**7**⇑	*e*P		**P**	**11 07 34.0**	**-1.8**
MCH1				AMB	AMB		11 07 41.1	
	comp=Z,443nm,1.6s							
BEL	**Belsk**	**75.90**	**352**	*e*P		**P**	**11 07 36.2**	**0.0**
BEL				*e*S		**S**	**11 17 14.0**	**-0.9**
BEL				LMZ	LR		11 36 11.5	
	comp=Z,52µm,29.5s							
BEL	**Belsk**	**75.90**	**352**	*e*P		**P**	**11 07 36.2**	**0.0**
BEL				*e*S		**S**	**11 17 14.0**	**-0.9**
RAMN	**Ramite**	**75.92**	**296**	*e*P		**P**	**11 07 37.3**	**+0.3**
	comp=Z,9µm,1.0s							
KKN	**Kakani**	**75.99**	**297**	*e*P		**P**	**11 07 37.8**	**+0.4**
	comp=Z,4µm,0.9s							
MONM	**Monmouth**	**76.01**	**7**	*e*P		**P**	**11 07 35.1**	**-1.7**
MONM				AMB	AMB		11 07 40.8	
	comp=Z,428nm,1.4s							
LUWI	**Luwuk**	**76.03**	**250**	P		**P**	**11 07 37.4**	**0.0**
	comp=Z,2µm,1.1s,comp=Z,19µmcomp=Z,77µm							
LUWI	**Luwuk**	**76.03**	**250**	*e*P		**P**	**11 07 36.5**	**-1.0**
	comp=Z,1µm,0.9s							
LUWI				LR	LR			
	comp=Z,26µm,22.0s							
AKASG	**Malin Array Be**	**76.05**	**346**	P		**P**	**11 07 35.3**	**-1.8**
	comp=Z,78nm,0.5s,baz=17,slow=5.9,SNR=107							
AKASG				LR	LR		11 42 36.7	
	comp=Z,76µm,21.8s,baz=15,slow=37							
AKBB	**Malin Array Si**	**76.05**	**346**	*e*P		**P**	**11 07 35.4**	**-1.7**
AKBB				pmax	pmax			
	comp=Z,790nm,1.4s							
AKBB				MLR	MLR			
	comp=Z,80µm,21.0s							
AKBB	**Malin Array Si**	**76.05**	**346**	*e*P		**P**	**11 07 35.4**	**-1.7**
	comp=Z,790nm,1.4s							
AKBB				LR	LR			
	comp=Z,80µm,21.0s							
KIEV	**Kiev**	**76.06**	**346***c*	*i*P		**P**	**11 07 35.6**	**-1.5**
KIEV				pmax	pmax			
	comp=Z,64nm,0.8s							
KIEV				MLR	MLR			
	comp=Z,82µm,22.0s							
KIEV	**Kiev**	**76.06**	**346**	*e*P		**P**	**11 07 35.3**	**-1.8**
	comp=Z,715nm,1.3s							
KIEV				LR	LR			
	comp=Z,78µm,21.0s							
AK11	**Malin Array Si**	**76.08**	**346**	*e*P		**P**	**11 07 35.5**	**-1.7**
STRD	**Stroud**	**76.12**	**7**⇑	*e*P		**P**	**11 07 36.5**	**-0.9**
STRD				AMB	AMB		11 07 43.0	
	comp=Z,1µm,1.4s							
GKN	**Gorkha**	**76.17**	**298**	*e*P		**P**	**11 07 38.7**	**+0.3**
	comp=Z,10µm,1.1s							
OLDB	**Oldbury-Upon-S**	**76.21**	**7**	*e*P		**P**	**11 07 36.6**	**-1.3**
OLDB				AMB	AMB		11 07 43.2	
	comp=Z,557nm,1.4s							
HGH	**Gray Hill**	**76.21**	**7**⇑	*e*P		**P**	**11 07 38.1**	**+0.2**
DZM	**Mont Dzumac**	**76.29**	**201**	LR	LR		11 36 16.4	
	comp=Z,47µm,19.7s,baz=13,slow=32							
DZM	**Mont Dzumac**	**76.29**	**201**	*e*P		**P**	**11 07 37.3**	**-1.4**
	comp=Z,697nm,1.3s							
DZM				*e*S		**S**	**11 17 15.0**	**-4.8**
	comp=Z,24µm,26.8s							
DZM				*e*SS		**SS**	**11 22 11.6**	**-3.6**
	comp=Z,41µm,27.6s							
DZM				*e*LQ		LQ	11 27 51.7	
	comp=Z,74µm,32.9s							
DZM				*e*LR		LR	11 30 53.0	
	comp=Z,59µm,21.2s,baz=22							
WTSB	**Winterswijk**	**76.30**	**1**	*e*P		**P**	**11 07 38.3**	**-0.2**
	comp=Z,447nm,1.1s							
SWN1	**Swindon**	**76.41**	**6**⇑	*e*P		**P**	**11 07 38.9**	**-0.2**
SWN1				AMB	AMB		11 07 44.8	
	comp=Z,866nm,1.3s							
COEN	**Coen**	**76.47**	**225**	*e*P		**P**	**11 07 39.2**	**-0.6**
	comp=Z,515nm,1.4s							
COEN				LR	LR			
	comp=Z,36µm,21.0s							
WOL	**Wolverton**	**76.65**	**6**⇑	*e*P		**P**	**11 07 39.9**	**-0.6**
WOL				AMB	AMB		11 07 45.9	
	comp=Z,728nm,1.2s							
HTL	**Hartland**	**76.71**	**8**⇑	*e*P		**P**	**11 07 39.3**	**-1.5**
HTL				AMB	AMB		11 07 45.9	
	comp=Z,183nm,1.9s							
BUG	**Bochum--Univer**	**76.83**	**1**	P		**P**	**11 07 41.2**	**-0.2**
BUG				pmax	pmax			
	comp=Z,632nm,1.4s							
CLL	**Collm**	**76.89**	**357**⇑	*i*P		**P**	**11 07 41.0**	**-0.8**
CLL				*e*S		**S**	**11 17 25.0**	**-0.8**
CLL				pmax	pmax			
	comp=Z,582nm,1.3s							
CLL				MLR	MLR			
	comp=Z,40µm,20.7s							
CLL	**Collm**	**76.89**	**357**⇑	*i*P		**P**	**11 07 41.0**	**-0.8**
	comp=Z,582nm,1.3s							
CLL				*e*Pmax			11 07 44.0	
CLL				*e*PP		**PP**	**11 10 38.0**	**+3.7**
CLL				*e*PPP		PPP	11 12 24.0	
CLL				*e*S		**S**	**11 17 25.0**	**-0.8**
	comp=N,5µm,10.8s							
CLL				*e*S		**S**	**11 17 25.0**	**-0.8**
	comp=E,10µm,13.0s							
CLL				*e*SKSac		**SKSac**	**11 17 47.0**	**-2.9**
CLL				*e*PS		**PnS**	**11 18 04.0**	**-4.5**
CLL				*e*SS		**SS**	**11 22 12.0**	**-9.3**
CLL				*e*			11 22 58.0	
CLL				*e*			11 26 45.0	
CLL				*e*PKKPbc		**PKKPbc**	**11 26 51.0**	**+2.9**
CLL				*e*			11 34 44.0	
CLL				*e*PKPPKPdf		P'P'df	11 34 50.0	-8.2
CLL				*e*			11 35 13.0	
CLL				Lmax			11 43 00.0	
CLL				L	L		11 44 00.0	
	comp=Z,40µm,20.7s							
CLL	**Collm**	**76.89**	**357**	*e*P		**P**	**11 07 41.2**	**-0.6**
	comp=Z,670nm,1.3s							
CLL				LR	LR			
	comp=Z,41µm,21.0s							
NAYO	**Nakonayok**	**76.99**	**277**	P		**P**	**11 07 43.4**	**+0.5**
	comp=Z,672nm,0.8s,comp=Z,12µm							
PYUN	**Piuthan**	**76.99**	**299**	*e*P		**P**	**11 07 43.5**	**+0.4**
	comp=Z,4µm,1.0s							
SAUI	**Saumlaki**	**77.04**	**238**	P		**P**	**11 07 43.7**	**+0.6**
	comp=Z,3µm,1.2s,comp=Z,35µm							
SAUI	**Saumlaki**	**77.04**	**238**	*e*P		**P**	**11 07 44.2**	**+1.1**
	comp=Z,3µm,1.2s							
SAUI				LR	LR			
	comp=Z,63µm,22.0s							
UMPA	**Umpang Tak**	**77.04**	**280**	P		**P**	**11 07 45.1**	**+1.9**
	comp=Z,305nm,1.1s,comp=Z,3µm							
DHRM	**DHARAMSHALA**	**77.15**	**306**	*e*P		**P**	**11 07 42.8**	**-1.2**
HMNX	**Herstmonceux**	**77.19**	**5**⇑	*e*P		**P**	**11 07 43.2**	**-0.2**
HMNX				AMB	AMB		11 07 48.8	
	comp=Z,568nm,1.7s							
KSP	**Ksiaz**	**77.21**	**355**	*e*P		**P**	**11 07 43.2**	**-0.4**
KSP				*e*S		**S**	**11 17 28.8**	**-0.5**
KSP				LMZ	LR		11 41 21.4	
	comp=Z,50µm,23.5s							
KSP	**Ksiaz**	**77.21**	**355**	*e*P		**P**	**11 07 43.2**	**-0.4**
KSP				*e*S		**S**	**11 17 28.8**	**-0.5**
KSP				MLR	MLR			
	comp=Z,50µm,23.5s							
BRG	**Berggiesshubel**	**77.29**	**356**	*i*P		**P**	**11 07 43.6**	**-0.5**
	comp=Z,306nm,1.4s							
BRG				*e*			11 07 47.7	
	comp=Z,1µm,1.4s							
BRG				S		**S**	**11 17 30.0**	**-0.2**
BRG				SS		SS	11 22 14.0	-13
BRG				*e*PKKP		**PKKPbc**	**11 26 50.0**	**+2.8**
	comp=Z,16nm,1.5s							
	comp=N,48µm,21.1s							
	comp=E,28µm,20.3s							
	comp=Z,60µm,20.9s							
BRG	**Berggiesshubel**	**77.29**	**356**	*i*P		**P**	**11 07 43.6**	**-0.5**
BRG				*e*			11 07 47.7	
BRG				S		**S**	**11 17 30.0**	**-0.2**
BRG				pmax	pmax			
	comp=Z,306nm,1.4s							
BRG				MLR	MLR			
	comp=N,48µm,21.1s							
BRG				MLR	MLR			
	comp=E,28µm,20.3s							
BRG				MLR	MLR			
	comp=Z,60µm,20.9s							
THN	**Thein Dam**	**77.29**	**307**	*e*P		**P**	**11 07 43.0**	**-1.4**
THN				*e*x		x	11 17 29.0	
DYA	**Yadsworthy**	**77.31**	**8**	*e*P		**P**	**11 07 43.5**	**-0.7**
	comp=Z,411nm,1.0s							
DYA				LR	LR			
	comp=Z,43µm,22.0s							
PTH	**Pithoragarh**	**77.32**	**302**	*e*P		**P**	**11 07 44.7**	**-0.1**
PTH				*e*x		x	11 10 19.8	
UCC	**Uccle**	**77.42**	**3**	P		**P**	**11 07 44.8**	**0.0**
SDNR	**Sundarnagar**	**77.42**	**305**	*e*P		**P**	**11 07 44.6**	**-0.6**
JWA	**Jwalamukhi**	**77.45**	**306**	*e*P		**P**	**11 07 45.0**	**-0.3**
JWA				*e*x		x	11 08 14.0	
BEBN	**Eben Emael**	**77.45**	**2**	P		**P**	**11 07 44.9**	**-0.1**
	comp=Z,195nm,1.4s							
HGN	**Heimansgroeve**	**77.49**	**2**	*i*P		**P**	**11 07 44.6**	**-0.6**
	comp=Z,590nm,1.1s							
HGN				*i*S		**S**	**11 17 31.3**	**-1.0**
HGN				*e*SS		SS	11 23 18.6	+48
COPN	**Copaltepe**	**77.51**	**86**	*e*P		P	11 07 52.4	+6.6
COPN				AML	AML		11 08 16.9	
	comp=Z,58nm,0.6s							
UPC	**Upice**	**77.56**	**355**	*e*P		**P**	**11 07 45.2**	**-0.4**
UPC				*e*x		x	11 07 49.5	
UPC				*e*S		**S**	**11 17 31.0**	**-2.1**
UPC				AMS	AMS		11 45 40.0	
	comp=Z,61µm,19.9s							
UPC	**Upice**	**77.56**	**355**	*e*P		**P'P'df**	**11 34 52.1**	**-5.0**
UPC	**Upice**	**77.56**	**355**	*e*P		**P**	**11 07 45.2**	**-0.4**
UPC				*e*			11 07 49.5	
UPC				*e*S		**S**	**11 17 31.0**	**-2.1**
UPC				MLR	MLR			
	comp=Z,61µm,19.9s							
CHBT	**CHBT**	**77.58**	**275**	P		**P**	**11 07 47.6**	**+1.4**
	comp=Z,1µm,1.9s,comp=Z,646µm							
LVV	**L'vov**	**77.58**	**350**	*i*P		**P**	**11 07 46.1**	**+0.4**
LVV				*i*			11 10 39.2	
LVV				*i*S		**S**	**11 17 33.3**	**0.0**
LVV				*i*PS		**PnS**	**11 18 14.6**	**-2.8**
LVV				*i*SS		**SS**	**11 22 37.2**	**+5.4**
LVV				pmax	pmax			
	comp=Z,1µm,1.5s							
LVV				MLR	MLR			
	comp=N,71µm,22.0s							
LVV				MLR	MLR			
	comp=E,46µm,22.0s							
LVV				MLR	MLR			
	comp=Z,89µm,22.0s							
OJC	**Ojcow**	**77.59**	**352**	*e*P		**P**	**11 07 45.2**	**-0.5**
OJC				*e*S		**S**	**11 17 32.1**	**-1.4**
OJC				LMZ	LR		11 42 14.5	
	comp=Z,49µm,24.6s							
OJC	**Ojcow**	**77.59**	**352**	*e*P		**P**	**11 07 45.3**	**-0.5**
OJC				pmax	pmax			
	comp=Z,902nm,1.5s							
OJC	**Ojcow**	**77.59**	**352**	*e*P		**P**	**11 07 45.3**	**-0.5**
	comp=Z,902nm,1.5s							
MOX	**Moxa**	**77.59**	**358**	P		**P**	**11 07 45.9**	**+0.1**
MOX				pmax	pmax			
	comp=Z,500nm,1.2s							
PVCC	**Panska Ves**	**77.61**	**356**	*e*P		**P**	**11 07 46.2**	**+0.3**
PVCC				*e*PP		PP	11 10 31.4	-9.0
PVCC				*e*S		**S**	**11 17 34.3**	**+0.7**
PVCC				AMS	AMS		11 46 10.0	
	comp=Z,57µm,20.5s							
PVCC	**Panska Ves**	**77.61**	**356**	*e*P		**P**	**11 07 46.2**	**+0.3**
TBI	**Tubuai**	**77.61**	**159**	*e*P		**P**	**11 07 46.6**	**+0.6**
	comp=Z,630nm,1.4s							
TBI				*e*S		**S**	**11 17 33.4**	**-0.6**
	comp=Z,24µm,32.8s							
TBI				*e*SS		**SS**	**11 22 35.7**	**+0.7**
	comp=Z,11µm,26.8s							
TBI				*e*LQ		LQ	11 28 26.3	
	comp=Z,20µm,33.2s							
TBI				*e*LR		LR	11 31 34.7	
	comp=Z,126µm,25.5s,baz=341							
TBI	**Tubuai**	**77.61**	**159**	*e*T		T	12 32 53.3	
	comp=Z,201nm,0.2s							
SMLA	**Simla**	**77.62**	**305**	*e*P		**P**	**11 07 45.5**	**-0.7**
PCI	**Palu**	**77.63**	**252**	P		**P**	**11 07 45.8**	**-0.7**
	comp=Z,924nm,1.2s,comp=Z,13µmcomp=Z,90µm							
PCI	**Palu**	**77.63**	**252**	P		**P**	**11 07 45.3**	**-1.2**
PCI				pmax	pmax			
	comp=Z,925nm,1.2s							
MEM	**Membach**	**77.65**	**1**	P		**P**	**11 07 45.7**	**-0.4**
	comp=Z,381nm,1.4s							
MEM	**Membach**	**77.65**	**1**	P		**P**	**11 07 45.5**	**-0.6**
MEM				pmax	pmax			
	comp=Z,578nm,1.2s							
DPC	**Dobruska-Polom**	**77.70**	**355**	*e*P		**P**	**11 07 46.3**	**-0.1**
DPC				*e*x		x	11 07 50.6	
DPC				*e*x		x	11 10 29.1	
DPC				*e*S		**S**	**11 17 34.3**	**-0.4**
DPC				AMS	AMS		11 45 50.0	
	comp=Z,51µm,20.4s							
DPC	**Dobruska-Polom**	**77.70**	**355**	*e*P		P'P'df	11 34 39.5	-17
DPC				*e*x		x	11 34 47.1	
DPC	**Dobruska-Polom**	**77.70**	**355**	*e*P		**P**	**11 07 46.3**	**-0.1**
DPC				*e*			11 07 50.6	
DPC				*e*S		**S**	**11 17 34.3**	**-0.4**
DPC				MLR	MLR			
	comp=Z,51µm,20.4s							
SNF	**Seneffe**	**77.71**	**3**	P		**P**	**11 07 46.0**	**-0.4**
BHK	**Bhakra**	**77.77**	**306**	*e*P		**P**	**11 07 46.0**	**-1.1**
BHK				*e*x		x	11 08 08.8	
DDI	**Dehra Dun**	**77.82**	**304**	*e*P		**P**	**11 07 46.9**	**-0.6**
BCLA	**Clavier**	**77.82**	**2**	P		**P**	**11 07 46.8**	**-0.2**
	comp=Z,360nm,1.4s							
RAC	**Raciborz**	**77.84**	**353**	*e*P		**P**	**11 07 47.3**	**+0.1**
RAC				*e*S		**S**	**11 17 36.2**	**0.0**
RAC				MLR	MLR			
	comp=Z,57µm,19.0s							
KWP	**Kalwaria Pacla**	**77.90**	**350**	*e*P		**P**	**11 07 47.0**	**-0.6**
KWP				*e*S		**S**	**11 17 35.6**	**-1.3**
KWP				LMZ	LR		11 38 58.0	
	comp=Z,66µm,28.2s							
KWP	**Kalwaria Pacla**	**77.90**	**350**	*e*P		**P**	**11 07 47.0**	**-0.6**
KWP				*e*S		**S**	**11 17 35.6**	**-1.3**
KRLC	**Kraliky**	**77.94**	**354**	*e*P		**P**	**11 07 48.3**	**+0.5**
KRLC				*e*x		x	11 07 51.8	
KRLC	**Kraliky**	**77.94**	**354**	*e*P		**P**	**11 07 48.3**	**+0.5**
KRLC				*e*			11 07 51.8	
NKC	**Novy Kostel**	**77.98**	**357**	*e*P		**P**	**11 07 47.9**	**-0.1**
NKC				*e*x		x	11 07 52.0	
NKC				*e*S		**S**	**11 17 37.3**	**-0.4**
NKC				AMS	AMS		11 44 30.0	
	comp=Z,39µm,20.4s							
NKC	**Novy Kostel**	**77.98**	**357**	*e*P		P'P'df	11 34 45.5	-11
NKC	**Novy Kostel**	**77.98**	**357**	*e*P		**P**	**11 07 47.9**	**-0.1**
NKC				*e*			11 07 52.0	
NKC				*e*S		**S**	**11 17 37.3**	**-0.4**
NKC				MLR	MLR			
	comp=Z,39µm,20.4s							
PRA	**Prague**	**78.07**	**356**	*e*P		**P**	**11 07 49.2**	**+0.8**
PRA				*e*x		x	11 07 52.5	
PRA				*e*S		**S**	**11 17 37.4**	**-1.2**
PRA				AMS	AMS		11 46 20.0	
	comp=Z,58µm,20.5s							
PRA	**Prague**	**78.07**	**356**	*e*P		**P'P'df**	**11 34 49.3**	**-6.8**
PRA	**Prague**	**78.07**	**356**	*e*P		**P**	**11 07 49.2**	**+0.8**
PRA				*e*			11 07 52.5	
PRA				*e*S		**S**	**11 17 37.4**	**-1.2**
PRA				MLR	MLR			
	comp=Z,58µm,20.5s							
OKC	**Ostrava-Krasne**	**78.09**	**353**	*e*P		**P**	**11 07 48.3**	**-0.3**
OKC				*e*x		x	11 07 52.4	
OKC				*e*S		**S**	**11 17 38.3**	**-0.6**
OKC				AMS	AMS		11 45 40.0	
	comp=Z,47µm,18.9s							
OKC	**Ostrava-Krasne**	**78.09**	**353**	*e*P		**P'P'df**	**11 34 54.9**	**-1.2**
OKC	**Ostrava-Krasne**	**78.09**	**353**	*e*P		**P**	**11 07 48.3**	**-0.3**
OKC				*e*			11 07 52.4	
OKC				*e*S		**S**	**11 17 38.3**	**-0.6**
OKC				MLR	MLR			
	comp=Z,47µm,18.9s							
KALG	**Kalgarh**	**78.11**	**303**	*e*x		**P**	**11 07 46.0**	**-3.0**
DOU	**Dourbes**	**78.13**	**2**	P		**P**	**11 07 48.5**	**-0.3**
	comp=Z,314nm,1.4s							
GIVF	**Givet**	**78.13**	**2**	*e*P		**P**	**11 07 49.5**	**+0.7**
GIVF				pmax	pmax			
	comp=Z,816nm,1.3s							
PRU	**Pruhonice**	**78.15**	**356**	*e*P		**P**	**11 07 48.5**	**-0.4**
PRU				*e*x		x	11 07 52.8	
PRU				*e*PP		**PP**	**11 10 37.4**	**-7.5**
PRU				*e*S		**S**	**11 17 38.6**	**-0.9**
PRU				AMS	AMS		11 46 30.0	
	comp=Z,57µm,19.9s							
PRU	**Pruhonice**	**78.15**	**356**	*e*P		P'P'df	11 34 41.1	-15
PRU				*e*x		x	11 34 54.3	
PRU	**Pruhonice**	**78.15**	**356**	*e*P		**P**	**11 07 48.5**	**-0.4**
PRU				*e*			11 07 52.8	
PRU				*e*S		**S**	**11 17 38.6**	**-0.9**
PRU				MLR	MLR			
	comp=Z,57µm,19.9s							
BAIF	**Baives**	**78.16**	**3**	*e*P		**P**	**11 07 49.6**	**+0.7**
BAIF				pmax	pmax			
	comp=Z,697nm,1.2s							
MORC	**Moravsky Berou**	**78.19**	**354**⇑	*i*P		**P**	**11 07 50.0**	**+0.8**
GOPC	**GO Pecny, Ondr**	**78.21**	**356**	*e*P		**P**	**11 07 48.7**	**-0.6**
GOPC				*e*x		x	11 07 53.1	
GOPC				*e*S		**S**	**11 17 40.7**	**+0.5**
GOPC				AMS	AMS		11 46 40.0	
	comp=Z,59µm,20.1s							
GOPC	**GO Pecny, Ondr**	**78.21**	**356**	*e*P		**P'P'df**	**11 34 51.3**	**-4.6**
GOPC	**GO Pecny, Ondr**	**78.21**	**356**	*e*P		**P**	**11 07 48.7**	**-0.6**
GOPC				*e*			11 07 53.1	
GOPC				*e*S		**S**	**11 17 40.7**	**+0.5**
GOPC				MLR	MLR			
	comp=Z,59µm,20.1s							
STHS	**Stebnicka Huta**	**78.26**	**351**	*e*P		**P**	**11 07 50.3**	**+0.8**
STHS				pmax	pmax			
	comp=Z,5µm,3.7s							
STHS	**Stebnicka Huta**	**78.26**	**351**	*e*P		**P**	**11 07 50.3**	**+0.8**
SRDT	**SRDT**	**78.31**	**278**	P		**P**	**11 07 51.3**	**+1.0**
	comp=Z,3µm,0.8s,comp=Z,51µm							
NIE	**Niedzica**	**78.34**	**352**	*e*P		**P**	**11 07 49.7**	**-0.3**
NIE				*e*S		**S**	**11 17 41.6**	**0.0**
NIE				LMZ	LR		11 37 37.3	
	comp=Z,28µm,29.2s							
NIE	**Niedzica**	**78.34**	**352**	*e*P		**P**	**11 07 49.7**	**-0.3**
NIE				*e*S		**S**	**11 17 41.6**	**0.0**
PATY	**Pattaya**	**78.34**	**276**	P		**P**	**11 07 51.8**	**+1.4**
	comp=Z,454nm,0.8s,comp=Z,3µm							
MTDJ	**Mount Denham**	**78.35**	**75**	*e*P		**P**	**11 07 50.3**	**-0.3**
	comp=Z,612nm,1.2s							
MTDJ				LR	LR			
	comp=Z,32µm,19.0s							
MTDJ	**Mount Denham**	**78.35**	**75**	*e*P		**P**	**11 07 48.4**	**-2.2**
BBJ	**Bamboo Saint A**	**78.39**	**75**⇑	*i*P		**P**	**11 07 51.0**	**+0.3**
BTM	**Bintulu**	**78.41**	**260**	⇓P		**P**	**11 07 51.3**	**+0.5**
GTBY	**Guantanamo Bay**	**78.47**	**73**	*e*P		**P**	**11 07 50.5**	**-0.6**
	comp=Z,354nm,1.1s							
GTBY				LR	LR			
	comp=Z,63µm,21.0s							
GTBY	**Guantanamo Bay**	**78.47**	**73**	*e*P		**P**	**11 07 47.7**	**-3.4**
KDI	**Kendari**	**78.48**	**248**	P		**P**	**11 07 51.7**	**+0.5**
	comp=Z,331nm,1.3s,comp=Z,12µmcomp=Z,95µm							
MCJ	**Malvern**	**78.49**	**76**	*i*P		**P**	**11 07 51.5**	**+0.2**
MCJ				*i*P		**PcP**	**11 07 58.1**	**-2.3**
ACON	**Acoyapa**	**78.55**	**85**	*e*P		**P**	**11 07 48.6**	**-3.0**
GRF	**Grafenberg Arr**	**78.55**	**358**	P		**P**	**11 07 51.9**	**+0.8**
GRF				pmax	pmax			
	comp=Z,1µm,1.3s							
GRFO	**Grafenberg**	**78.55**	**358**	*e*P		**P**	**11 07 51.5**	**+0.3**
GRFO				pmax	pmax			
	comp=Z,2µm,1.4s							
GRFO				MLR	MLR			
	comp=Z,38µm,21.0s							
GRFO	**Grafenberg**	**78.55**	**358**	*e*P		**P**	**11 07 51.5**	**+0.3**
	comp=Z,2µm,1.4s							
GRFO				LR	LR			
	comp=Z,38µm,21.0s							
WLF	**Walferdange**	**78.59**	**1**	P		**P**	**11 07 51.3**	**0.0**
	comp=Z,277nm,1.4s							
WLF	**Walferdange**	**78.59**	**1**	*e*P		**P**	**11 07 51.4**	**0.0**
WLF				pmax	pmax			
	comp=Z,383nm,1.1s							
WLF				MLR	MLR			
	comp=Z,84µm,20.0s							
WLF	**Walferdange**	**78.59**	**1**	*e*P		**P**	**11 07 51.4**	**+0.1**
	comp=Z,383nm,1.1s							
WLF				LR	LR			
	comp=Z,84µm,20.0s							
BNJ	**Bonny Gate**	**78.62**	**75**	*i*P		P	11 07 44.3	-7.7
LANS	**Liptovska Anna**	**78.68**	**353**	*e*P		**P**	**11 07 53.0**	**+1.1**
LANS	**Liptovska Anna**	**78.68**	**353**	*e*P		**P**	**11 07 53.0**	**+1.1**
LANS				*e*			11 34 40.2	
SORM	**Soroca**	**78.68**	**346**⇑	*i*P		**P**	**11 07 51.5**	**-0.3**
GOF	**Gofitskoye**	**78.69**	**336**⇑	*i*P		**P**	**11 07 52.0**	**0.0**
GOF				*e*S		**S**	**11 17 48.1**	**+2.6**
GOF				pmax	pmax			
	comp=Z,4µm,1.2s							
GOF				smax	smax			
	comp=N,590nm,1.3s							
GOF				smax	smax			
	comp=E,728nm,1.3s							
JQE	**Queens East**	**78.69**	**7**⇑	*e

comp=Z,25µm,21.0s
WET Wettzell 79.06 357 P P 11 07 54.2 +0.3
WET pmax pmax
comp=Z,493nm,1.4s
YHJ Yallahs 79.23 75⇑ iP P 11 07 56.1 +0.7
KECS Kecovo 79.25 352 eP P 11 07 55.6 +0.6
KECS pmax pmax
comp=Z,113nm,1.1s
KECS Kecovo 79.25 352 eP P 11 07 55.6 +0.6
KECS e 11 34 41.0
GEC2 GERESS Array S 79.32 356 eP P 11 07 55.1 -0.4
GEC2 pmax pmax
comp=Z,718nm,1.4s
GEC2 MLR MLR
comp=Z,71µm,21.0s
GEC2 GERESS Array S 79.32 356 eP P 11 07 55.1 -0.4
comp=Z,718nm,1.4s
GEC2 LR LR
comp=Z,71µm,21.0s
GERES GERESS Array B 79.32 356 P P 11 07 55.0 -0.4
comp=Z,88nm,0.7s,baz=20,slow=4.3,SNR=151
GERES PKKPbc **PKKPbc 11 26 45.0 +2.0**
comp=Z,5.8nm,0.9s,baz=191,slow=1.4,SNR=11
GERES PKP2ab 11 34 35.2
comp=Z,0.7nm,0.4s,baz=211,slow=1.6,SNR=5.2
GEA0 GERESS Array S 79.33 356 eP P 11 07 54.4 -1.1
TTSI Tana Toraja 79.36 251 P P 11 07 56.8 +0.8
comp=Z,458nm,1.1s,comp=Z,14µmcomp=Z,67µm
VYHS Vyhne 79.38 353 eP P 11 07 55.6 -0.1
VYHS pmax pmax
comp=Z,327nm,1.5s
VYHS Vyhne 79.38 353 eP P 11 07 55.6 -0.1
VYHS eS S 11 17 51.8 -0.9
VYHS eSS SS 11 23 00.1 +1.2
VYHS e 11 34 25.2
VYHS eL L 11 42 54.0
SMOL Smolenice 79.46 354 eP P 11 07 56.8 +0.7
SMOL Smolenice 79.46 354 eP P 11 07 56.8 +0.7
STU Stuttgart 79.50 359 eP P 11 07 56.3 0.0
STU pmax pmax
comp=Z,771nm,1.3s
STU MLR MLR
comp=Z,27µm,21.0s
STU Stuttgart 79.50 359 eP P 11 07 56.3 0.0
comp=Z,772nm,1.3s
STU LR LR
comp=Z,27µm,21.0s
SBUM Sibu 79.52 260 eP P 11 07 57.3 +0.4
comp=Z,958nm,2.0s
SBUM LR LR
comp=Z,90µm,22.0s
SBUM Sibu 79.52 260 ⇓P P 11 07 57.5 +0.6
GRTK Grand Turk 79.55 69 eP P 11 07 57.2 +0.2
comp=Z,3µm,1.9s
GRTK LR LR
comp=Z,121µm,22.0s
GRTK Grand Turk 79.55 69 eP P 11 07 56.9 -0.1
NDI New Delhi 79.57 304 eP P 11 07 49.0 -8.0
NDI eS S 11 17 44.5 -11
BUR08 Bucovina Ar. S 79.58 348 eP P 11 07 56.4 -0.5
GRR Gorron 79.58 6 eP P 11 07 55.9 -0.9
GRR pmax pmax
comp=Z,647nm,1.1s
BURAR Bucovina Array 79.61 348⇑ iP P 11 07 56.6 -0.5
BURAR Bucovina Array 79.61 348⇓ iP PKKPbc 11 26 44.2 +1.9
BURAR Bucovina Array 79.61 348 P P 11 07 56.6 -0.5
BKB Balikpapan 79.65 254 P P 11 07 58.1 +0.5
comp=Z,724nm,1.1s,comp=Z,26µmcomp=Z,83µm
GROC Groznyy 79.68 333 eP P 11 07 56.4 -1.0
GROC eS S 11 17 57.6 +1.6
GROC pmax pmax
comp=Z,528nm,1.1s
RTK Rohtak 79.70 304 ex P 11 07 51.8 -5.9
BHGR Bahadurgarh 79.71 304 eP P 11 07 55.0 -2.8
IAS Iasi 79.71 347⇑ iP P 11 07 57.3 -0.2
KIS Kishinev 79.72 346⇑ iP P 11 07 54.0 -3.5
comp=Z,700nm,2.0s
KIS Kishinev 79.72 346 i PP PP 11 10 56.0 -2.1
comp=Z,4µm,10.0s
KIS Kishinev 79.72 346 eP P'P'df 11 34 38.0 -15
KIS Kishinev 79.72 346α iP **P 11 07 54.0 -3.5**
KIS i 11 10 56.0
KIS i PPP PPP 11 12 56.0
KIS i PS **PnS 11 18 38.0 -6.4**
KIS pmax pmax
comp=Z,700nm,2.0s
KIS pmax pmax
comp=Z,9µm,9.0s
KIS pmax pmax
comp=N,4µm,13.0s
KIS pmax pmax
comp=Z,11µm,20.0s
KIS pmax pmax
comp=Z,4µm,10.0s
KIS pmax pmax
comp=N,3µm,13.0s
KIS pmax pmax
comp=Z,4µm,16.0s
KIS MLR MLR
comp=Z,93µm,22.0s
KIS MLR MLR
comp=Z,93µm,22.0s
BMR Baia Mare 79.75 350⇑ iP P 11 07 57.9 +0.2
BBSI Bau Bau 79.76 247 P P 11 07 58.6 +0.5
comp=Z,162nm,1.4s,comp=Z,5µm
KVAR Kislovodsk Arr 79.81 336 LR LR 11 47 13.7
comp=Z,67µm,20.4s,baz=21,slow=39
KIV Kislovodsk 79.81 336 i P **P 11 07 57.7 -0.5**
SNR=78
KIV Kislovodsk 79.81 336c iP **P 11 07 58.2 0.0**
KIV i 11 08 06.2
KIV i 11 10 58.0
KIV i S **S 11 17 56.4 -1.2**
KIV i SS **SS 11 23 09.1 +3.3**
KIV pmax pmax
comp=Z,731nm,1.2s
KIV pmax pmax
comp=Z,7µm,5.8s
KIV MLR MLR
comp=Z,47µm,22.0s
KIV Kislovodsk 79.81 336 eP **P 11 07 58.1 -0.1**
comp=Z,1µm,1.5s
KIV LR LR
comp=Z,66µm,20.0s
KIV Kislovodsk 79.81 336 P **P 11 07 58.3 0.0**
SNR=141
KIV P **P 11 07 58.3 0.0**
SNR=141
KIV Kislovodsk 79.81 336 P **P 11 07 58.3 0.0**
SNR=141
CDF Champ du Feu 79.86 1 eP P 11 07 57.8 -0.6
CDF pmax pmax
comp=Z,564nm,1.2s
PSZ Piszkesteto 79.86 352⇓ iP P 11 07 59.1 +0.7
PSZ Piszkesteto 79.86 352 eP P 11 07 58.2 -0.2
PSZ pmax pmax
comp=Z,522nm,1.3s
PSZ MLR MLR
comp=Z,60µm,21.0s
PSZ Piszkesteto 79.86 352⇑ ex **P 11 07 58.6 +0.2**
PSZ ex **S 11 17 58.5 +0.5**
PSZ Piszkesteto 79.86 352 eP P 11 07 58.2 -0.2
comp=Z,522nm,1.3s
PSZ LR LR
comp=Z,60µm,21.0s
BFO Black Forest 79.95 360 iP P 11 07 59.1 +0.3
BFO Black Forest 79.95 360 eP P 11 07 58.4 -0.4
comp=Z,704nm,1.4s
BFO LR LR
comp=Z,26µm,22.0s
KBZ Khabaz 79.97 335 P P 11 07 59.0 +0.1
comp=Z,80nm,0.5s,baz=112,slow=2.3,SNR=84
KBZ PKKPbc **PKKPbc 11 26 44.5 +3.2**
comp=Z,7.8nm,0.9s,baz=176,slow=2.2,SNR=8.5
KBZ LR LR 11 47 21.2
comp=Z,71µm,20.8s,baz=28,slow=39
KBZ Khabaz 79.97 335 P **P 11 07 59.0 +0.1**
KBZ pmax pmax
comp=Z,80nm,0.5s
KBZ MLR MLR
comp=Z,71µm,20.8s
SONA Sohna 79.99 303 eP P 11 07 59.0 -0.3
SONA IAmb IAmb 11 08 04.2
comp=Z,59nm,0.8s
THEF They Montfort 80.03 2⇑ eP P 11 07 59.2 0.0
ECH Echery 80.06 1⇑ eP P 11 07 59.4 0.0

SPSI Sidrap Palu 80.13 250 P P 11 07 59.8 -0.4
comp=Z,143nm,0.8s,comp=Z,8µm
CONA Conrad Observa 80.14 355 eP **P 11 07 59.8 -0.1**
comp=Z,447nm,1.0s,SNR=341
CONA i PcP **PcP 11 08 04.2 -2.9**
comp=Z,700nm,1.4s
ARCR ARCALIA 80.23 349⇑ iP P 11 08 00.6 +0.3
ANN Anapa 80.26 339c iP **P 11 07 59.4 -1.0**
ANN i 11 10 58.5
ANN i PPP PPP 11 12 55.5
ANN i S **S 11 18 00.6 -1.4**
ANN pmax pmax
comp=N,51nm,0.7s
ANN pmax pmax
comp=Z,859nm,1.4s
ANN pmax pmax
comp=E,73nm,0.7s
ANN pmax pmax
comp=Z,12µm,10.1s
ANN pmax pmax
comp=E,587nm,5.1s
ANN pmax pmax
comp=N,4µm,10.1s
ANN smax smax
comp=E,3µm,6.8s
ANN smax smax
comp=N,5µm,6.8s
ANN smax smax
comp=Z,1µm,6.8s
ANN MLR MLR
comp=E,26µm,23.0s
ANN MLR MLR
comp=N,100µm,23.0s
ANN MLR MLR
comp=Z,66µm,23.0s
MOA Molln 80.30 356 i P **P 11 08 00.5 -0.1**
comp=Z,365nm,1.4s,SNR=127
LEOM Leova 80.32 346⇓ iP P 11 08 00.8 +0.1
BUD Budapest 80.37 353⇑ eP P 11 08 01.3 +0.3
BUD ePP **S 11 18 03.7 +0.6**
GEYT Alibeck 80.38 322 P P 11 08 01.3 0.0
comp=Z,186nm,0.8s,baz=343,slow=4.6,SNR=83
GEYT PP **PP 11 11 01.4 -2.5**
comp=Z,68nm,1.1s,baz=27,slow=8.1,SNR=3.2
GEYT PKKPbc **PKKPbc 11 26 43.3 +2.9**
comp=Z,1.2nm,0.4s,baz=165,slow=6.2,SNR=3.6
GEYT PKPPKP **P'P'df 11 34 48.7 -2.7**
comp=Z,3.9nm,0.9s,baz=318,slow=13,SNR=5.1
GEYT LR LR 11 47 41.1
comp=Z,45µm,18.4s,baz=25,slow=39
KUDL Kundal 80.38 304 eP P 11 08 02.0 +0.7
MOF Molkenrain 80.42 1⇑ eP P 11 08 01.4 0.0
HINF Hinteralfeld 80.45 1 eP P 11 08 00.8 -0.7
HINF pmax pmax
comp=Z,253nm,0.8s
ZEI Tsey 80.58 334 eP P 11 08 00.1 -2.4
ZEI e 11 11 12.7
ZEI ePPP PPP 11 12 56.9
ZEI eS **S 11 18 06.8 +0.8**
ZEI pmax pmax
comp=Z,821nm,0.6s
ZEI pmax pmax
comp=N,2µm,1.3s
ZEI pmax pmax
comp=E,2µm,1.1s
ZEI MLR MLR
comp=Z,218µm,20.0s
MTKI Muara Teweh, K 80.59 256 P P 11 08 03.1 +0.4
comp=Z,382nm,1.5s,comp=Z,17µmcomp=Z,72µm
CTA Charters Tower 80.68 220 PKKPbc PKKPbc 11 26 43.4 +2.1
comp=Z,6.8nm,0.7s,baz=181,slow=5.8,SNR=9.7
CTA LR LR 11 38 48.8
comp=Z,30µm,21.7s,baz=20,slow=32
CTAO Charters Tower 80.68 220 eP **P 11 08 02.7 -0.2**
CTAO pmax pmax
comp=Z,908nm,2.0s
CTAO Charters Tower 80.68 220 eP **P 11 08 02.7 -0.2**
comp=Z,908nm,2.0s
CJR Cluj-Napoca 80.69 349⇑ iP P 11 08 03.1 +0.3
DRGR 80.71 350⇑ iP P 11 08 03.3 +0.3
DRGR 80.71 350⇓ iP PKKPbc 11 26 40.0 +0.2
HDC Heredia 80.72 86 PFAKE 11 08 20.0 +16
HDC LR LR
comp=Z,28µm,20.0s
GUDG Gudauri 80.73 334 P P 11 08 04.3 +1.0
RETA Reutte 80.77 358 i P **P 11 08 03.2 0.0**
comp=Z,117nm,1.4s,SNR=167
KHET Khetri 80.79 304 eP P 11 08 03.8 +0.2
SIM Simferopol' 80.80 342ceP **P 11 08 03.5 +0.1**
SIM eS **S 11 18 08.0 +0.3**
SIM pmax pmax
comp=Z,707nm,1.4s
SIM pmax pmax
comp=Z,5µm,10.0s
SIM MLR MLR
comp=Z,115µm,22.0s
ARSA Arzberg 80.83 355 i P **P 11 08 03.8 +0.2**
comp=Z,377nm,1.4s,SNR=203
ARSA i PKKPbc **PKKPbc 11 26 41.5 +1.9**
comp=Z,10nm,0.9s
ONI Oni 80.89 334 P P 11 08 05.1 +1.1
ONI Oni 80.89 334 P P 11 08 05.1 +1.1
SOC Sochi 80.89 337c iP **P 11 08 03.5 -0.4**
SOC e*SP **pP 11 08 16.9 -0.5**
SOC e 11 11 06.0
SOC ePPP PPP 11 12 59.9
SOC i S **S 11 18 08.7 0.0**
SOC eSS **SS 11 23 26.3 +4.6**
SOC pmax pmax
comp=Z,2µm,3.2s
SOC pmax pmax
comp=Z,713nm,1.3s
SOC MLR MLR
comp=Z,68µm,21.0s
WATA Walderalm 80.90 358 i P **P 11 08 04.2 +0.1**
comp=Z,224nm,1.2s,SNR=132
WATA i PcP **PcP 11 08 08.7 -1.9**
comp=Z,921nm,1.3s
MOTA Moosalm 80.90 358 i P **P 11 08 03.9 -0.2**
comp=Z,288nm,1.3s,SNR=174
LOMF Lomont 80.92 1⇑ eP P 11 08 04.4 +0.3
WTTA Wattenberg 80.97 358 i P **P 11 08 04.7 +0.2**
comp=Z,258nm,1.4s,SNR=160
WTTA i PKKPbc **PKKPbc 11 26 42.0 +2.6**
comp=Z,8.6nm,0.6s
DAVA Damuels 80.98 359 i P **P 11 08 04.6 +0.1**
comp=Z,73nm,1.4s,SNR=122
DAVA i PKKPbc **PKKPbc 11 26 40.5 +1.1**
comp=Z,22nm,0.8s
KAPI Kappang 80.99 250 eP **P 11 08 05.0 +0.3**
comp=Z,2µm,1.9s
KAPI Kappang 80.99 250 P **P 11 08 05.6 +0.8**
SNR=54
KAPI Kappang 80.99 250 P **P 11 08 05.6 +0.8**
SNR=54
DUS Dusheti 81.01 333 P P 11 08 07.7 +3.0
DUS Dusheti 81.01 333 P P 11 08 07.7 +3.0
KBA Koelnbreinsper 81.10 356 i P **P 11 08 05.6 +0.4**
comp=Z,411nm,1.3s,SNR=675
KBA i PcP **PcP 11 08 10.0 -1.5**
comp=Z,1µm,1.4s
KBA Koelnbreinsper 81.10 356 P **P 11 08 05.2 0.0**
KBA pmax pmax
comp=Z,1µm,1.2s
SEKA Sheki 81.11 331 P P 11 08 03.3 -1.9
CHVG Ch'k'valeri 81.12 335 P P 11 08 05.9 +0.7
VRI Vrincioaia 81.13 347⇓ iP P 11 08 05.4 +0.2
VRI Vrincioaia 81.13 347 P P 11 08 05.6 +0.4
VRI pmax pmax
comp=Z,937nm,1.4s
PLOR Plostina 81.16 347⇑ iP P 11 08 05.9 +0.6
PLOR Plostina 81.16 347⇓ iP P'P'df 11 34 37.5 -13
ODBI Odobesti 81.18 347⇓ iP P 11 08 06.0 +0.6
RAO Raoul Island 81.19 185 LR LR 11 39 05.9
comp=Z,23µm,19.6s,baz=19,slow=32
RAO Raoul Island 81.19 185 PFAKE 11 08 20.0 +15
RAO LR LR
comp=Z,31µm,22.0s
DOPR Dopca 81.21 348⇓ iP P 11 08 06.6 +1.0
MTN Manton Dam 81.23 236 eP **P 11 08 05.7 -0.3**
comp=Z,517nm,0.8s
MTN LR LR
comp=Z,76µm,22.0s
FETA Feichten 81.23 358 i P **P 11 08 06.1 +0.2**
comp=Z,196nm,1.0s,SNR=342
FETA i PKKPbc **PKKPbc 11 26 41.2 +2.4**

comp=Z,15nm,1.0s
SEAG Tbilisi Sea 81.29 333 P P 11 08 07.5 +1.4
SIRR Siria 81.34 351⇑ iP P 11 08 07.3 +1.0
SIRR Siria 81.34 351⇑ iP PKKPbc 11 26 39.7 +1.3
TBLG Delisi 81.34 333 P P 11 08 07.0 +0.6
TBLG Delisi 81.34 333 P P 11 08 07.0 +0.6
AVF Avril sur Loir 81.40 3 eP P 11 08 05.1 -1.4
AVF pmax pmax
comp=Z,713nm,1.1s
SOKA Soboth 81.43 355 i P **P 11 08 06.6 -0.2**
comp=Z,257nm,1.2s,SNR=448
SOKA i PKKPbc **PKKPbc 11 26 39.4 +1.1**
comp=Z,9.8nm,1.1s
SDDR Presa de Saban 81.44 70 eP P 11 08 07.6 +0.4
comp=Z,196nm,0.9s
SDDR LR LR
comp=Z,90µm,22.0s
SDDR Presa de Saban 81.44 70 eP P 11 08 03.7 -3.5
KSM Kuching 81.45 261 eP P 11 08 07.6 +0.3
comp=Z,331nm,1.1s
KSM LR LR
comp=Z,38µm,22.0s
ABTA Abfaltersbach 81.46 357 i P **P 11 08 06.8 -0.2**
comp=Z,142nm,1.6s,SNR=304
ABTA i PKKPbc **PKKPbc 11 26 40.6 +2.4**
comp=Z,6.9nm,1.0s
PERS Pernice 81.47 355 i P **P 11 08 07.1 +0.1**
PERS i S **S 11 18 14.8 +0.1**
JHNI Jhansi 81.48 301 eP P 11 08 08.0 +0.7
JHNI ex x 11 09 00.0
BSSI Bau Bau, Buton 81.48 249 P P 11 08 08.4 +1.1
comp=Z,365nm,1.1s,comp=Z,14µmcomp=Z,56µm
DAVOX Davos/Dischmat 81.49 359 PKKPbc PKKPbc 11 26 40.3 +2.0
comp=Z,8.4nm,0.8s,baz=247,slow=0.6,SNR=6.8
TLCR 81.49 345⇓ iP P 11 08 06.8 -0.2
RKT Rikitea 81.50 146 eP P 11 08 08.4 +1.2
comp=Z,313nm,1.4s
RKT Rikitea 81.50 146 ePP PP 11 11 15.6 +1.3
comp=Z,4µm,28.0s
RKT eS **S 11 18 16.1 +0.9**
comp=Z,16µm,43.0s
RKT eSS **SS 11 23 36.6 +3.3**
comp=Z,10µm,27.5s
RKT eLQ LQ 11 29 32.1
comp=Z,29µm,32.2s
RKT eLR LR 11 33 36.5
comp=Z,173µm,22.8s,baz=338
RKT Rikitea 81.50 146 eT T 12 37 48.4
comp=Z,43nm,0.3s
BEHE Becsehely 81.54 354⇑ eP P 11 08 07.8 +0.5
MYKA Terra Mystica 81.54 356 i P **P 11 08 06.9 -0.4**
comp=Z,97nm,1.3s,SNR=146
MYKA i PKKPbc **PKKPbc 11 26 41.9 +3.9**
comp=Z,8.0nm,0.7s
MNGR Mingechevir, A 81.55 331 P P 11 08 05.9 -1.5
GRER 81.57 347⇑ iP P 11 08 08.5 +1.0
BWNR Bhubaneshwar 81.59 292 eP P 11 08 06.8 -1.1
BWNR IAmb IAmb 11 08 12.8
CFR Carcaliu 81.60 346⇑ iP P 11 08 07.6 0.0
CFR Carcaliu 81.60 346⇓ iP S 11 18 13.4 -2.5
CFR Carcaliu 81.60 346⇑ iP PKKPbc 11 26 40.3 +2.6
MLR Muntele Rosu 81.60 348 PKKPbc PKKPbc 11 26 39.2 +1.3
comp=Z,1.9nm,1.0s,baz=206,slow=6.0,SNR=4.5
MLR LR LR 11 47 57.3
comp=Z,12µm,20.6s,baz=13,slow=38
MLR Muntele Rosu 81.60 348⇓ iP P 11 08 08.5 +0.7
MLR Muntele Rosu 81.60 348⇑ iP S 11 18 24.1 +7.8
MLR Muntele Rosu 81.60 348⇓ iP P'P'df 11 34 39.0 -11
MLR Muntele Rosu 81.60 348 eP P 11 08 07.5 -0.3
MLR pmax pmax
comp=Z,468nm,1.4s
MLR MLR MLR
comp=Z,90µm,22.0s
MLR Muntele Rosu 81.60 348 eP P 11 08 07.5 -0.3
comp=Z,468nm,1.4s
MLR LR LR
comp=Z,90µm,22.0s
OBKA Obir 81.62 356 i P **P 11 08 07.8 -0.1**
comp=Z,84nm,0.9s,SNR=132
OBKA i PKKPbc **PKKPbc 11 26 41.2 +3.3**
FUORN Ofenpass-Fuorn 81.64 359 eP P 11 08 08.6 +0.5
comp=Z,1µm,1.3s
FUORN LR LR
comp=Z,33µm,20.0s
CABF La Chapelle 81.65 2 eP P 11 08 07.9 -0.1
CABF pmax pmax
comp=Z,1µm,1.3s
VOIR 81.77 348⇑ iP P 11 08 08.6 -0.1
VOIR 81.77 348⇑ iP P'P'df 11 34 39.5 -10
TUE Stuetta 81.80 359 eP P 11 08 09.2 +0.2
comp=Z,849nm,1.1s
TUE LR LR
comp=Z,34µm,20.0s
STKI Sintang 81.85 260 P P 11 08 09.8 +0.4
comp=Z,270nm,1.6s,comp=Z,13µmcomp=Z,56µm
ISR Istrita 81.89 347⇑ iP P 11 08 09.7 +0.5
ARR Arges 81.89 348⇑ iP P 11 08 10.2 +0.9
ARR Arges 81.89 348⇑ iP S 11 18 34.1 +15
ARR Arges 81.89 348⇓ iP P'P'df 11 34 37.8 -11
SENIN Lac Senin/Sane 81.91 1 eP P 11 08 09.5 -0.1
comp=Z,172nm,1.2s
SENIN LR LR
comp=Z,49µm,22.0s
LOT Lotru 81.92 349⇑ iP P 11 08 09.7 +0.2
OG01 Vacheresse 81.94 1⇑ eP P 11 08 09.4 -0.1
AKH Akhalkalaki 81.98 334 P P 11 08 11.2 +1.3
AKH Akhalkalaki 81.98 334⇑ iP P 11 08 11.3 +1.4
AKH Akhalkalaki 81.98 334 P P 11 08 11.2 +1.3
MTUR Matau 81.98 348⇑ iP P 11 08 11.0 +1.3
BZS Buzias 81.99 351⇑ iP P 11 08 09.3 -0.4
BZS Buzias 81.99 351⇓ iP PKKPbc 11 26 38.8 +1.9
VNDS Vrh nad Dolski 82.02 355 eP P 11 08 08.9 -1.0
SECR 82.03 347⇑ iP P 11 08 10.1 +0.2
BGD Bogdanovka 82.08 334 P P 11 08 12.1 +1.6
LJU Ljubljana 82.09 356⇑ eP P 11 08 09.0 -1.2
EPOS Posof 82.09 335 iP P 11 08 07.6 -2.9
HARR Harsova 82.11 346⇑ iP P 11 08 09.7 -0.6
AGO Saint Agoulin 82.12 4⇑ eP P 11 08 12.1 +1.7
TLB Topalu 82.19 346⇓ iP P 11 08 10.3 -0.4
TLB Topalu 82.19 346⇑ iP PKKPbc 11 26 39.0 +2.6
PLDF La Plantade 82.22 3⇑ eP P 11 08 12.4 +1.4
JAVS Javornik 82.26 356 i P **P 11 08 10.0 -1.2**
JAVS eS **S 11 18 20.8 -2.1**
TIRR Tirgusor 82.26 346⇑ iP P 11 08 11.5 +0.4
TIRR Tirgusor 82.26 346⇑ iP PKKPbc 11 26 38.6 +2.4
TIRR Tirgusor 82.26 346 eP P 11 08 10.7 -0.4
TIRR pmax pmax
comp=Z,901nm,1.6s
TIRR MLR MLR
comp=Z,78µm,22.0s
TIRR Tirgusor 82.26 346 eP P 11 08 10.7 -0.4
comp=Z,901nm,1.6s
TIRR LR LR
comp=Z,78µm,22.0s
SOEI Soe 82.31 243 eP P 11 08 10.7 -0.7
comp=Z,606nm,1.1s,comp=Z,16µmcomp=Z,76µm
SOEI Soe 82.31 243 eP P 11 08 11.1 -0.7
comp=Z,1µm,1.2s
VISS Visnje 82.31 355 i P **P 11 08 10.5 -0.9**
SULR 82.36 347⇑ iP P 11 08 12.0 +0.4
H07N1 FLORES T-PHASE 82.36 30 P P 11 08 13.2 +1.4
H07N1 FLORES T-PHASE 82.36 30 eP P 11 08 11.8 0.0
VERF Verneugheol 82.40 4 eP P 11 08 12.6 +0.7
PYM Petit Puy Mans 82.42 4⇑ eP P 11 08 13.1 +1.1
TRI Trieste 82.45 356 eP P 11 08 11.1 -1.0
TRI pmax pmax
comp=Z,109nm,1.1s
TRI MLR MLR
comp=Z,49µm,22.0s
TRI Trieste 82.45 356 eP P 11 08 11.1 -1.0
comp=Z,109nm,1.1s
TRI LR LR
comp=Z,49µm,22.0s
OZLJ Ozalj 82.47 355 P P 11 08 10.2 -2.0
MMRI Maumere 82.52 246 P P 11 08 11.3 -1.5
comp=Z,595nm,2.0s,comp=Z,15µmcomp=Z,59µm
MMRI Maumere 82.52 246 eP P 11 08 11.0 -1.7
comp=Z,898nm,1.3s
DBOC Borcka 82.52 335 iP P 11 08 10.2 -2.4
JBP Jabalpur 82.55 298⇑ eP P 11 08 12.6 -0.4
JBP ex x 11 18 27.4
SISC Sisak 82.56 354 P P 11 08 12.5 -0.1
RSL Roselend 82.58 1⇑ eP P 11 08 15.4 +2.4
BOJS Bojanci 82.59 355 i P **P 11 08 12.1 -0.7**

BOJS eS **S** 11 18 24.1 -2.0
EFOR EFORIE 82.60 345⇑ *i* P **P** 11 08 14.1 +1.3
ARTV Artvin 82.60 335 *i* P **P** 11 08 10.2 -3.1
ARTV Artvin 82.60 335 *e*P **P** 11 08 13.9 +0.7
comp=Z,489nm,1.4s
ARTV LR LR
comp=Z,43µm,21.0s
EAK Akyaka 82.62 334 *i* P **P** 11 08 11.5 -1.8
SDD Santo Domingo 82.65 70 *e*P **P** 11 08 15.1 +1.6
comp=Z,1µm,1.6s
SDD LR LR
comp=Z,138µm,22.0s
HUMR Humele 82.68 348⇑ *i* P **P** 11 08 12.9 -0.4
SURT Suratani 82.69 275 P **P** 11 08 14.4 +0.6
comp=Z,611nm,1.0s,comp=Z,10µm
AGI Agillar 82.71 335 *i* P **P** 11 08 10.2 -3.5
SRE Strehaia 82.76 349⇑ *i* P **P** 11 08 13.7 0.0
MDVR Moldovita 82.80 350⇑ *i* P **P** 11 08 14.2 +0.2
GNI Garni 82.80 333 LR LR 11 49 56.6
comp=Z,44µm,21.3s,baz=24,slow=39
GNI Garni 82.80 333 *i* P **P** 11 08 14.0 -0.2
SNR=62
GNI Garni 82.80 333 *c i* P **P** 11 08 15.0 +0.8
GNI pmax pmax
comp=Z,288nm,1.5s
GNI MLR MLR
comp=Z,160µm,24.0s
GNI Garni 82.80 333 *e*P **P** 11 08 14.3 +0.1
comp=Z,502nm,1.1s
GNI LR LR
comp=Z,55µm,20.0s
DDEM Demirkent 82.92 335 *i* P **P** 11 08 15.4 +0.6
DIGO Kars 82.94 334 *i* P P 11 08 10.2 -4.8
SSB Saint Sauveur 82.94 3⇑ *e*P **P** 11 08 14.9 +0.2
SSB Saint Sauveur 82.94 3 *e*P **P** 11 08 14.8 +0.1
SSB pmax pmax
comp=Z,425nm,1.2s
SSB MLR MLR
comp=Z,32µm,20.0s
SSB Saint Sauveur 82.94 3 *e*P **P** 11 08 14.8 +0.1
comp=Z,425nm,1.2s
SSB LR LR
comp=Z,32µm,20.0s
LBL Lubilhac 82.95 4⇑ *e*P **P** 11 08 16.3 +1.5
DGPR DIGLIPUR 82.98 282 *e*P **P** 11 08 14.2 -1.1
BATI Baumata 83.01 244 P **P** 11 08 15.4 +0.1
comp=Z,333nm,1.5s,comp=Z,6µm
GRN Grenoble 83.01 2⇑ *e*P **P** 11 08 15.7 +0.6
TRTT Trang 83.01 274 P **P** 11 08 15.9 +0.5
comp=Z,2µm,1.0s,comp=Z,23µm
KRAB Krabi 83.02 274 P **P** 11 08 17.7 +2.2
comp=Z,3µm,0.7s,comp=Z,23µm
PSN Preselentsi 83.06 346 P **P** 11 08 15.9 +0.7
GDM Grand'Maison 83.06 2⇑ *e*P **P** 11 08 16.2 +0.8
BNI Bardonecchia 83.22 1 *e*P **P** 11 08 17.3 +1.0
BNI pmax pmax
comp=Z,828nm,1.2s
BNI MLR MLR
comp=Z,37µm,21.0s
BNI Bardonecchia 83.22 1 *e*P **P** 11 08 17.2 +1.0
comp=Z,828nm,1.2s
BNI LR LR
comp=Z,37µm,21.0s
BLY Banja Luka 83.22 354 *e*P **P** 11 08 15.8 -0.3
comp=Z,197nm,1.5s
BLY LR LR
comp=Z,53µm,21.0s
MACK Trabzon 83.38 337 *i* P **P** 11 08 14.1 -2.9
ZIMR 83.48 348⇑ *i* P **P** 11 08 17.8 +0.4
NAX Nakhchivan 83.49 332 P **P** 11 08 16.1 -1.6
UDBI Udbina 83.53 355 P **P** 11 08 16.4 -1.4
NVLJ Novalja 83.55 355 P **P** 11 08 16.7 -1.0
PRD Provadia 83.64 346 P **P** 11 08 18.9 +0.6
DIVS Divibare 83.65 352 P **P** 11 08 17.5 -0.9
DYDN Diyadin 83.66 333 *i* P **P** 11 08 18.0 -0.8
OG26 St.-Nazaire-De 83.67 2⇑ *e*P **P** 11 08 19.4 +0.9
HOMI Horasan 83.68 335 *i* P **P** 11 08 19.3 +0.4
EIDS Eidsvold 83.74 213 *e*P **P** 11 08 18.5 -0.3
comp=Z,643nm,1.8s
EIDS LR LR
comp=Z,72µm,22.0s
GRSN GIRESUNGRSN 83.75 338 *i* P **P** 11 08 19.3 +0.3
ORDU Ordu-Boztepe 83.79 338 *i* P **P** 11 08 19.3 +0.2
SZH Strazhica 83.79 347 P **P** 11 08 18.2 -0.8
SAMS Samsun-Alacam 83.81 339 *i* P **P** 11 08 19.3 +0.1
BHPL Bhopal 83.87 300 *e*P **P** 11 08 18.9 -0.9
PGRA Graciosa 83.90 28 *e*P **P** 11 08 18.9 -0.8
comp=Z,866nm,1.3s
PGRA Graciosa 83.90 28 *e*SKSac **S** 11 18 44.3 +4.7
PGRA Graciosa 83.90 28 *e*LQ LQ 11 30 19.1
PVL Pavlikeni 83.92 348 P **P** 11 08 20.5 +0.8
PBKI Pangkalan Bun 83.93 258 P **P** 11 08 20.7 +0.6
comp=Z,934nm,1.2s,comp=Z,19µm
CLDR Caldiran 83.97 333 *i* P **P** 11 08 16.7 -3.7
MPEP Malo Peshtene 83.98 349 P **P** 11 08 18.9 -1.1
CHLP Challavanipeta 84.00 292 *e*P **P** 11 08 20.6 +0.1
CHLP IAmb IAmb 11 08 26.6
comp=Z,2µm,1.3s
CHLP *e*SKSac **SKSac** 11 18 37.9 -2.0
CHLP IVMs_BB IVMs_BB 11 47 55.1
comp=Z,13µm,20.4s
BOYT Boyabat 84.03 340 *i* P **P** 11 08 20.6 +0.2
TUTA Tutak 84.04 334 *i* P **P** 11 08 20.6 -0.1
PCED Cedros 84.06 28 *e*P **P** 11 08 21.2 +0.7
comp=Z,667nm,1.2s
KOPT Kop Dagi 84.07 336 *i* P **P** 11 08 20.6 -0.3
KOPT Kop Dagi 84.07 336 PFAKE 11 08 30.0 +9.1
KOPT LR LR
comp=Z,73µm,21.0s
VLC Villacollemand 84.10 358 *e*P **P** 11 08 20.1 -0.6
comp=Z,873nm,1.4s
VLC LR LR
comp=Z,40µm,21.0s
IDE Isla Desecheo 84.11 68 *e*P **P** 11 08 21.8 +0.7
ROSA Rosais 84.11 28 *e*P **P** 11 08 21.6 +0.8
comp=Z,589nm,1.0s
ROSA Rosais 84.11 28 *e*SKSac **S** 11 18 42.7 +0.9
ROSA Rosais 84.11 28 *e*LQ LQ 11 30 37.0
ROSA Rosais 84.11 28 *e*P **P** 11 08 21.0 +0.2
comp=Z,329nm,1.0s
ROSA LR LR
comp=Z,48µm,21.0s
KAST KASTAMONU 84.16 341 *i* P **P** 11 08 18.0 -3.1
HOR Horta 84.18 28 *e*P **P** 11 08 22.4 +1.3
comp=Z,301nm,0.6s
HAVZ Havza 84.19 340 *i* P **P** 11 08 16.7 -4.5
JASL Jaisalmer 84.19 307 *e*P **P** 11 08 20.4 -0.9
VMUR Van-Muradiye 84.21 333 *i* P **P** 11 08 21.9 +0.4
PMAN Manadas 84.24 28 *e*P **P** 11 08 18.7 -2.7
comp=Z,799nm,1.4s
KELT Kelkit 84.25 337 *i* P **P** 11 08 20.6 -1.2
PICO Pico 84.26 28 *e*P **P** 11 08 18.9 -2.7
comp=Z,621nm,1.3s
AGP Aguadilla 84.28 67 *e*P **P** 11 08 22.4 +0.5
comp=Z,3µm,1.5s
AGP LR LR
comp=Z,62µm,22.0s
ECAT Cat-ERZURUM 84.33 335 *i* P **P** 11 08 23.2 +1.0
EKAR Karacoban 84.38 334 *i* P **P** 11 08 20.6 -1.8
KULM Kulim 84.41 271 *e*P **P** 11 08 23.0 +0.4
comp=Z,1µm,1.0s
KULM LR LR
comp=Z,33µm,21.0s
SBF Sospel 84.41 1 *e*P **P** 11 08 22.7 +0.4
SBF pmax pmax
comp=Z,621nm,0.9s
MPR Mayaguez 84.44 68 *e*P **P** 11 08 22.6 -0.1
comp=Z,206nm,1.0s
MPR LR LR
comp=Z,54µm,22.0s
SUSE Susehri 84.45 337 *i* P P 11 08 16.7 -6.0
WSI Waingapu 84.45 247 P **P** 11 08 23.1 +0.4
comp=Z,1µm,1.1s,comp=Z,26µmcomp=Z,58µm
ADH Angra Heroismo 84.46 27 *e*P **P** 11 08 23.2 +0.7
comp=Z,743nm,1.3s
PLE Pljevlja 84.46 352⇑ *i* P **P** 11 08 21.7 -0.9
JMB Yambol 84.48 347 P **P** 11 08 25.4 +2.8
EUZM Uzumlu 84.56 336 *i* P **P** 11 08 20.6 -2.6
ILGA Ilgaz 84.63 341 *i* P **P** 11 08 23.2 -0.5
ILGA Ilgaz 84.63 341 *e*P **P** 11 08 24.6 +0.9
comp=Z,1µm,1.3s
ILGA LR LR
comp=Z,53µm,21.0s
VRTB Varto-Mus 84.63 335 *i* P **P** 11 08 23.2 -0.4
UPM Unac-Piva 84.63 352 *e*P **P** 11 08 22.2 -1.4

OSSF Osses 84.66 7⇑ *e*P **P** 11 08 23.0 -0.5
NGP Nagpur 84.68 298 *e*P **P** 11 08 23.9 0.0
NGP *e*S **S** 11 18 43.7 -4.3
PGB Panagyurishte 84.73 348 P **P** 11 08 23.6 -0.3
ORDF Ordiarp 84.73 7⇑ *e*P **P** 11 08 23.0 -0.8
TOKA Tokat 84.74 339 *i* P **P** 11 08 20.6 -3.4
TOKA Tokat 84.74 339 PFAKE 11 08 40.0 +16
TOKA LR LR
comp=Z,27µm,20.0s
BASI Baing, Sumba 84.74 246 P **P** 11 08 23.3 -0.8
comp=Z,2µm,1.2s,comp=Z,21µm
CTAK Corum_Osmancik 84.79 340 *i* P **P** 11 08 23.2 -1.3
VTS Vitosha 84.80 349 P **P** 11 08 23.4 -1.0
VTS Vitosha 84.80 349⇑ *i* P **P** 11 08 24.1 -0.3
VTS Vitosha 84.80 349 *e*P **P** 11 08 23.6 -0.8
VTS MLR MLR
comp=Z,53µm,22.0s
VTS Vitosha 84.80 349 P **P** 11 08 23.1 -1.3
VTS Vitosha 84.80 349 *e*P **P** 11 08 23.6 -0.8
VTS LR LR
comp=Z,53µm,22.0s
CUZAR Zara_SIVAS 84.86 338 *i* P **P** 11 08 24.5 -0.2
CELP Cerrillos 84.87 67 *e*P **P** 11 08 24.4 -0.5
IVA Berane 84.87 351⇑ *i* P **P** 11 08 23.9 -0.8
ATE Arette 84.87 7⇑ *e*P **P** 11 08 24.2 -0.4
LARF Larrau 84.90 7 *e*P **P** 11 08 24.9 +0.2
BNGL BINGOL 84.90 335 *i* P **P** 11 08 23.2 -1.9
REYF Montagne du Re 84.91 6⇑ *e*P **P** 11 08 24.2 -0.6
BRY Bratogost 84.96 352⇑ *i* P **P** 11 08 23.8 -1.4
GEVA Gevas 84.99 333 *i* P **P** 11 08 21.9 -3.6
NKY Niksic 85.01 352⇑ *i* P **P** 11 08 24.1 -1.3
TATV Tatvan 85.02 334 *i* P **P** 11 08 23.2 -2.5
SCER sogukcermik 85.03 338 *i* P **P** 11 08 23.2 -2.4
PTCN Pitcairn Islan 85.04 143 PFAKE 11 08 40.0 +15
PTCN LR LR
comp=Z,82µm,21.0s
VIS Vishakhapatnam 85.04 292 *i* P **P** 11 08 26.2 +0.5
VIS *i* x x 11 18 50.0
NKME Niksic 85.06 352⇑ *i* P **P** 11 08 24.3 -1.2
EDRB Edirne 85.07 348 P **P** 11 08 25.4 -0.1
SJG San Juan 85.08 67 S **S** 11 18 47.5 -4.4
comp=Z,7.2nm,0.3s,baz=209,slow=23,SNR=6.5
SJG San Juan 85.08 67 *e*P **P** 11 08 26.5 +0.6
SJG pmax pmax
comp=Z,664nm,1.4s
SJG MLR MLR
comp=Z,67µm,22.0s
SJG San Juan 85.08 67 *e*P **P** 11 08 27.0 +1.1
SJG San Juan 85.08 67 *e*P **P** 11 08 26.5 +0.6
comp=Z,664nm,1.4s
SJG LR LR
comp=Z,67µm,22.0s
REFA Refahiye_ERZ 85.09 337 *i* P **P** 11 08 21.9 -4.0
PLD Plovdiv 85.09 348 P **P** 11 08 25.9 +0.2
CBYP Canovanas 85.12 67 *e*P **P** 11 08 26.8 +0.6
comp=Z,195nm,0.8s
VIEF Viey 85.12 6⇑ *e*P **P** 11 08 26.6 +0.7
COAL Corum-Alaca 85.13 340 *i* P **P** 11 08 23.2 -2.9
PVY Plav 85.14 351⇑ *i* P **P** 11 08 24.9 -1.2
TNCL Tunceli-Merkez 85.16 336 *i* P **P** 11 08 25.8 -0.4
MYKOM Kota Tinggi 85.17 267 *e*P **P** 11 08 27.0 +0.6
comp=Z,245nm,1.0s
MYKOM LR LR
comp=Z,50µm,22.0s
MYKOM Kota Tinggi 85.17 267 ⇓P **P** 11 08 27.7 +1.3
BCAM Yenicaga 85.18 342 *i* P **P** 11 08 25.8 -0.5
LRDF Laroque-de-Fa 85.21 4⇑ *e*P **P** 11 08 26.8 +0.6
PLAI Plampang 85.21 249 P **P** 11 08 25.1 -1.4
comp=Z,730nm,1.5s,comp=Z,15µmcomp=Z,53µm
PGAV Gavieira, Arco 85.22 12⇑ *e*P **P** 11 08 26.3 -0.1
comp=Z,431nm,1.5s
PGAV Gavieira, Arco 85.22 12 *e*PP PP 11 11 43.1 -0.3
PGAV *e*S **S** 11 18 54.2 +1.3
PGAV Gavieira, Arco 85.22 12 *e*LQ LQ 11 32 28.2
PGAV *e*LR LR 11 33 45.8
comp=Z,37µm,20.0s
RESF Ens 85.22 6⇑ *e*P **P** 11 08 26.8 +0.4
HUMP Col San Antoni 85.23 67 *e*P **P** 11 08 26.7 0.0
comp=Z,625nm,1.5s
HUMP LR LR
comp=Z,87µm,20.0s
KAND Kocaeli-Kandir 85.25 344 *i* P **P** 11 08 24.5 -1.9
PAYG Puerto Ayora 85.26 97 PFAKE 11 08 40.0 +13
PAYG LR LR
comp=Z,50µm,21.0s
PAYG Puerto Ayora 85.26 97 *e*P **P** 11 08 23.7 -3.1
CEME Cevo 85.28 352⇑ *i* P **P** 11 08 25.1 -1.6
SAHE Sakarya_HENDEK 85.36 343 *i* P **P** 11 08 23.2 -3.9
PDG Podgorica 85.37 352 P **P** 11 08 25.9 -1.1
PDG Podgorica 85.37 352⇑ *i* P **P** 11 08 27.1 +0.1
TTG Podgorica 85.37 352⇑ *i* P **P** 11 08 25.8 -1.2
CARF Carcanieres 85.41 5⇑ *e*P **P** 11 08 27.3 -0.1
CMDR Camlidere-ANKA 85.41 342 *i* P **P** 11 08 24.5 -3.0
HCY Herceg Novi 85.41 352⇑ *i* P **P** 11 08 26.0 -1.3
TPRI Tanjung Pinang 85.43 266 P **P** 11 08 29.7 +2.0
comp=Z,251nm,1.0s,comp=Z,19µmcomp=Z,63µm
KDZ Kurdzhali 85.45 347 P **P** 11 08 28.5 +1.0
ISK Istanbul-Kandi 85.47 344 P **P** 11 08 26.9 -0.6
CUKAN kangal_SIVAS 85.47 338 *i* P **P** 11 08 25.8 -2.0
ELBA Catalca 85.49 345 *i* P **P** 11 08 25.8 -1.9
PCAB Cabril 85.50 12⇑ *e*P **P** 11 08 28.1 +0.4
comp=Z,421nm,1.5s
RZN Rozhen 85.50 348 P **P** 11 08 28.3 +0.3
HAKT HAKKARI 85.51 332 *i* P **P** 11 08 27.1 -1.1
BUM Brajici-Budva 85.53 352⇑ *i* P **P** 11 08 26.6 -1.3
KKB Krupnik 85.53 349 P **P** 11 08 28.3 +0.4
WB0 Warramunga Arr 85.54 230 PFAKE 11 08 40.0 +12
WB0 LR LR
comp=Z,73µm,22.0s
STVI Saint Thomas 85.56 66 *e*P **P** 11 08 26.8 -1.6
comp=Z,1µm,1.7s
STVI LR LR
comp=Z,79µm,22.0s
PBRG Braganca 85.57 11⇑ *e*P **P** 11 08 27.9 -0.2
comp=Z,586nm,1.3s
PBRG Braganca 85.57 11 *e*PP PP 11 11 53.8 +7.7
PBRG *e*S **S** 11 18 55.2 -1.0
PBRG Braganca 85.57 11 *e*LQ LQ 11 31 12.5
PBRG *e*LR LR 11 37 12.8
comp=Z,31µm,22.0s
WB9 Warramunga Arr 85.57 230 PFAKE 11 08 40.0 +12
WB9 LR LR
comp=Z,138µm,22.0s
FILF Fillols 85.59 4⇑ *e*P **P** 11 08 28.0 -0.2
WB8 Warramunga Arr 85.59 230 PFAKE 11 08 40.0 +12
WB8 LR LR
comp=Z,74µm,22.0s
SKO Skopje 85.61 350 P **P** 11 08 27.9 -0.3
SKO Skopje 85.61 350⇑ *i* P **P** 11 08 28.1 -0.2
SKO Skopje 85.61 350 *e*P **P** 11 08 27.9 -0.3
SKO Skopje 85.61 350 *e*P **P** 11 08 27.9 -0.3
BTAS Taskesti 85.61 343 *i* P **P** 11 08 27.1 -1.3
DRME Dracevica, Mon 85.61 352⇑ *i* P **P** 11 08 27.3 -1.0
WB6 Warramunga Arr 85.63 230 PFAKE 11 08 40.0 +12
WB6 LR LR
comp=Z,72µm,22.0s
WR0 Warramunga Arr 85.64 230 PFAKE 11 08 40.0 +12
WR0 LR LR
comp=Z,68µm,22.0s
SVAN Silvan-Diyarba 85.64 335 *i* P **P** 11 08 29.6 +1.1
WR9 Warramunga Arr 85.65 230 PFAKE 11 08 40.0 +11
WR9 LR LR
comp=Z,69µm,22.0s
WB5 Warramunga Arr 85.65 230 PFAKE 11 08 40.0 +11
WB5 LR LR
comp=Z,72µm,22.0s
WR8 Warramunga Arr 85.65 230 PFAKE 11 08 40.0 +11
WR8 LR LR
comp=Z,72µm,22.0s
CUSAR Sarkisla-SIVAS 85.66 339 *i* P **P** 11 08 27.1 -1.6
PSET Sete Cidades 85.66 26 *e*P **P** 11 08 27.7 -0.9
comp=Z,1µm,1.4s
PSET Sete Cidades 85.66 26 *e*SKSac **S** 11 18 54.2 -3.0
PSET Sete Cidades 85.66 26 *e*LQ LQ 11 30 40.9
TWSI Taliwang, Sumb 85.66 250 P **P** 11 08 27.5 -1.2
comp=Z,208nm,1.3s,comp=Z,6µm
WR7 Warramunga Arr 85.66 230 PFAKE 11 08 40.0 +11
WR7 LR LR
comp=Z,72µm,22.0s
WR6 Warramunga Arr 85.67 230 PFAKE 11 08 40.0 +11
WR6 LR LR
comp=Z,70µm,22.0s
WB4 Warramunga Arr 85.67 230 PFAKE 11 08 40.0 +11
WB4 LR LR
comp=Z,71µm,22.0s
SJAF Saint Jean de 85.68 4 *e*P **P** 11 08 28.8 +0.2
CUALT Altinyayla-SIV 85.68 338 *i* P **P** 11 08 27.1 -1.8
WR5 Warramunga Arr 85.68 230 PFAKE 11 08 40.0 +11
WR5 LR LR
comp=Z,70µm,22.0s
WC2 Warramunga Arr 85.69 230 PFAKE 11 08 40.0 +11
WC2 LR LR
comp=Z,80µm,22.0s
WB3 Warramunga Arr 85.69 230 PFAKE 11 08 40.0 +11
WB3 LR LR
comp=Z,73µm,22.0s
WR4 Warramunga Arr 85.69 230 PFAKE 11 08 40.0 +11
WR4 LR LR
comp=Z,66µm,21.0s
WR3 Warramunga Arr 85.70 230 PFAKE 11 08 40.0 +11
WR3 LR LR
comp=Z,73µm,22.0s
WC1 Warramunga Arr 85.70 230 PFAKE 11 08 40.0 +11
WC1 LR LR
comp=Z,56µm,22.0s
WRAB Tennant Creek 85.70 230 *e*P **P** 11 08 28.0 -0.8
WRAB pmax pmax
comp=Z,973nm,1.7s
WRAB MLR MLR
comp=Z,84µm,22.0s
WRAB Tennant Creek 85.70 230 *e*P **P** 11 08 28.0 -0.8
comp=Z,973nm,1.7s
WRAB LR LR
comp=Z,84µm,22.0s
WR2 Warramunga Arr 85.71 230 PFAKE 11 08 40.0 +11
WR2 LR LR
comp=Z,71µm,22.0s
WB2 Warramunga Arr 85.71 230 *e*P **P** 11 08 27.9 -1.0
WB2 LR LR
comp=Z,84µm,22.0s
WC3 Warramunga Arr 85.72 230 PFAKE 11 08 40.0 +11
WC3 LR LR
comp=Z,76µm,22.0s
WR1 Warramunga Arr 85.72 230 *e*P **P** 11 08 28.0 -0.9
comp=Z,1µm,1.9s
WR1 LR LR
comp=Z,76µm,22.0s
WRA Warramunga Arr 85.72 230 P **P** 11 08 28.0 -0.9
comp=Z,138nm,0.9s,baz=36,slow=5.9,SNR=246
WRA S **S** 11 18 50.1 -7.7
comp=Z,16nm,1.3s,baz=351,slow=5.1,SNR=6.5
WRA PKPPKP **P'P'df** 11 34 37.0 +2.3
comp=Z,3.3nm,1.1s,baz=209,slow=2.1,SNR=6.1
WRA LR LR 11 43 03.4
comp=Z,64µm,21.8s,baz=35,slow=33
VALF Valcebollere 85.72 5⇑ *e*P **P** 11 08 29.2 +0.2
PGF Pioggiola 85.73 359 *e*P **P** 11 08 28.4 -0.5
PGF pmax pmax
comp=Z,1µm,1.1s
MMB Musomiste 85.73 348 P **P** 11 08 29.0 +0.1
WC4 Warramunga Arr 85.73 230 PFAKE 11 08 40.0 +11
WC4 LR LR
comp=Z,72µm,22.0s
PCALD Caldeiras da R 85.75 26 *e*P **P** 11 08 29.0 0.0
comp=Z,849nm,1.0s
PDA Ponta Delgada 85.75 26 *e*P **P** 11 08 30.8 +1.9
comp=Z,2µm,1.3s
CMLA Cha da Macela 85.77 26 *i* P **P** 11 08 31.3 +2.2
CMLA Cha da Macela 85.77 26 *e*P **P** 11 08 26.5 -2.6
comp=Z,2µm,1.5s
CMLA Cha da Macela 85.77 26 *e*SKSac **S** 11 18 55.2 -3.0
CMLA Cha da Macela 85.77 26 *e*LQ LQ 11 30 34.5
CMLA Cha da Macela 85.77 26 PFAKE 11 08 40.0 +11
CMLA LR LR
comp=Z,60µm,22.0s
AQU L'Aquila 85.82 356 *e*P **P** 11 08 30.0 +0.7
AQU pmax pmax
comp=Z,492nm,1.1s
AQU MLR MLR
comp=Z,65µm,22.0s
AQU L'Aquila 85.82 356 *e*P **P** 11 08 30.0 +0.7
comp=Z,492nm,1.1s
AQU LR LR
comp=Z,65µm,22.0s
ULC Ulcinj 85.83 352⇑ *i* P **P** 11 08 28.2 -1.2
POLO Lamas de Olo 85.86 12⇑ *e*P **P** 11 08 29.2 -0.4
comp=Z,206nm,1.6s
POLO Lamas de Olo 85.86 12 *e*PP PP 11 11 54.5 +5.9
POLO *e*S **S** 11 18 59.6 +0.4
POLO Lamas de Olo 85.86 12 *e*LQ LQ 11 31 33.3
POLO *e*LR LR 11 38 24.3
comp=Z,22µm,24.0s
CDAG Cicekdag 85.86 340 *i* P **P** 11 08 25.8 -3.9
BTMN Batman 85.87 334 *i* P **P** 11 08 29.8 +0.1
ELZG Elazig 85.88 336 *i* P **P** 11 08 29.6 -0.2
BR101 Keskin Array S 85.92 341 *e*P **P** 11 08 29.6 -0.5
BR131 Keskin Array S 85.92 341 *e*P **P** 11 08 29.7 -0.3
BRTR Keskin Array B 85.92 341 P **P** 11 08 29.6 -0.5
comp=Z,82nm,0.9s,baz=45,slow=2.1,SNR=99
BRTR ScS **S** 11 19 06.6 +6.7
comp=Z,10nm,1.1s,baz=74,slow=4.4,SNR=4.6
BRTR PKKPbc **PKKPbc** 11 26 28.7 +0.7
comp=Z,12nm,0.9s,baz=169,slow=6.1,SNR=18
BRTR LR LR 11 50 37.8
comp=Z,39µm,22.0s,baz=29,slow=38
RDO Rodhopi 85.93 347 P **P** 11 08 30.0 +0.2
RDO Rodhopi 85.93 347 *e*P **P** 11 08 30.0 +0.2
SIRN S¯¬rnak 85.93 333 *i* P **P** 11 08 28.4 -1.7
CAPC Capurgana 85.93 81 *e*P **P** 11 08 29.5 -0.7
NVR Nevrokopi 85.95 348 P **P** 11 08 29.7 -0.3
ANTO Ankara 85.95 341 *e*P **P** 11 08 30.3 +0.2
ANTO pmax pmax
comp=Z,932nm,1.8s
ANTO MLR MLR
comp=Z,37µm,22.0s
ANTO Ankara 85.95 341 *e*P **P** 11 08 30.3 +0.2
comp=Z,932nm,1.8s
ANTO LR LR
comp=Z,37µm,22.0s
ANTO Ankara 85.95 341 P **P** 11 08 30.6 +0.6
SNR=86
ANTO Ankara 85.95 341 P **P** 11 08 30.6 +0.6
SNR=86
PVRL Vila Real 85.97 12⇑ *e*P **P** 11 08 29.7 -0.4
comp=Z,558nm,1.7s
BR231 Keskin MP Arra 85.98 341 *e*P **P** 11 08 30.3 0.0
KMMI Kalianget 86.01 253 P **P** 11 08 30.8 +0.3
comp=Z,533nm,1.6s,comp=Z,20µmcomp=Z,54µm
KESN Edirne-Kesan 86.08 346 *i* P **P** 11 08 28.4 -2.7
CUGUR Gurin_S¯VAS 86.08 338 *i* P **P** 11 08 29.6 -1.2
AJU Alexandroupoli 86.10 347 P **P** 11 08 30.1 -0.5
SRBI Singaraja 86.11 252 P **P** 11 08 29.5 -1.5
comp=Z,267nm,1.2s,comp=Z,8µmcomp=Z,46µm
VAY Valandovo 86.13 349 P **P** 11 08 30.9 +0.1
VAY Valandovo 86.13 349⇑ *i* P **P** 11 08 30.5 -0.3
VAY Valandovo 86.13 349 *e*P **P** 11 08 30.9 +0.1
VAY Valandovo 86.13 349 *e*P **P** 11 08 30.9 +0.1
SART Tekirdag 86.14 346 *i* P **P** 11 08 27.1 -3.9
DIYA Diyarbakir 86.14 335 *i* P **P** 11 08 27.1 -4.0
CDVI St. Croix 86.15 66 *e*P **P** 11 08 31.4 +0.2
comp=Z,713nm,0.9s
MVO Moncorvo 86.16 12⇑ *e*P **P** 11 08 30.9 -0.2
comp=Z,520nm,1.5s
MVO Moncorvo 86.16 12 *e*PP PP 11 11 56.2 +5.2
MVO *e*S **S** 11 19 02.6 +0.5
MVO Moncorvo 86.16 12 *e*LQ LQ 11 31 10.6
MVO *e*LR LR 11 34 54.0
comp=Z,42µm,18.0s
BBAL Bala 86.20 341 *i* P **P** 11 08 32.2 +0.9
SRS Serrai 86.21 348 P **P** 11 08 30.7 -0.5
SRS Serrai 86.21 348 *e*P **P** 11 08 30.7 -0.5
SRS Serrai 86.21 348 *e*P **P** 11 08 30.7 -0.5
KAVA Kavala 86.21 348 P **P** 11 08 30.8 -0.4
KAVA Kavala 86.21 348 *e*P **P** 11 08 30.8 -0.4
IGD Bursa 86.23 344 *i* P **P** 11 08 30.9 -0.3
KRUS Krusevo 86.23 350 *i* P **P** 11 08 30.8 -0.6
KNT Kendrikon 86.25 349 P **P** 11 08 31.5 +0.1
SJCC San Jacinto, C 86.26 79 *e*P **P** 11 08 31.3 -0.7
BORA Eskisehir 86.38 343 *i* P P 11 08 27.1 -5.1
TIR Tirane 86.39 351⇓ *i* P **P** 11 08 32.7 +0.6
TIR Tirane 86.39 351 *e*P **P** 11 08 31.8 -0.3
TIR pmax pmax
comp=Z,568nm,1.3s
TIR MLR MLR
comp=Z,81µm,22.0s
TIR Tirane 86.39 351 *e*P **P** 11 08 31.8 -0.3
comp=Z,568nm,1.3s
TIR LR LR

comp=Z,81µm,22.0s
PVM Polavaram 86.39 293 *e*P P **11 08 32.2 -0.2**
PVM IAmb IAmb 11 08 38.3
comp=Z,1µm,0.8s
PVM *e*SKSac **SKSac** **11 18 52.0 -3.1**
PVM IVMs_BB IVMs_BB 11 46 41.4
comp=Z,18µm,24.8s
RPR Rampur 86.40 296 *e*P P **11 08 31.9 -0.5**
RPR IAmb IAmb 11 08 38.0
comp=Z,2µm,1.2s
RPR *e*SKSac **SKSac** **11 18 52.7 -2.5**
RPR IVMs_BB IVMs_BB 11 48 16.9
comp=Z,26µm,23.4s
ABJI Asem Bagus 86.45 253 P P **11 08 31.4 -1.3**
comp=Z,238nm,1.2s,comp=Z,9µmcomp=Z,82µm
KNL Bal¯-kesir 86.49 345 *i*P P **11 08 30.9 -1.7**
DSRI Dabo 86.50 265 P P **11 08 34.1 +1.1**
comp=Z,1µm,1.1s,comp=Z,38µmcomp=Z,390µm
OHR Ohrid 86.53 351⍐ *i*P P **11 08 32.2 -0.7**
SOH Sokhos 86.53 349 P P **11 08 32.3 -0.6**
SOH Sokhos 86.53 349 *e*P P **11 08 32.3 -0.6**
SOH Sokhos 86.53 349 *e*P P **11 08 32.3 -0.6**
MARD Mardin 86.54 335 *i*P P **11 08 29.6 -3.4**
MARD Mardin 86.54 335 *e*P P **11 08 33.5 +0.4**
comp=Z,1µm,1.0s
AVNS Nevsehir-Avano 86.55 340 *i*P P **11 08 28.4 -4.7**
BIA Bitola 86.56 350 P P **11 08 33.2 +0.2**
BIA Bitola 86.56 350 *i*P P **11 08 33.2 +0.2**
BIA Bitola 86.56 350 *e*P P **11 08 33.2 +0.2**
SMTH Samothraki Isl 86.59 347 P P **11 08 32.4 -0.7**
SMTH Samothraki Isl 86.59 347 *e*P P **11 08 32.4 -0.7**
PSMA Santa Maria 86.60 26 *e*P P **11 08 33.1 -0.1**
comp=Z,881nm,1.5s
KKUL Konya-Kulu 86.60 341 *i*P P **11 08 34.8 +1.5**
PSMN Pico do Norte, 86.61 26 *e*P P **11 08 31.8 -1.4**
comp=Z,905nm,1.6s
PSMN Pico do Norte, 86.61 26 *e*SKSac **SKSac** **11 18 58.7 +2.7**
PSMN Pico do Norte, 86.61 26 *e*LQ LQ 11 30 49.8
ESKT Eskisehir 86.66 343 *i*P P **11 08 30.9 -2.7**
IGBI Denpasar 86.73 251 P P **11 08 31.4 -2.6**
comp=Z,159nm,1.2s,comp=Z,5µmcomp=Z,27µm
LHMI Lhok Sumawe 86.73 274 P P **11 08 35.2 +1.1**
comp=Z,3µm,1.1s,comp=Z,44µmcomp=Z,79µm
LHMI Lhok Sumawe 86.73 274 *e*P P **11 08 35.3 +1.1**
comp=Z,3µm,0.9s
LHMI LR LR
comp=Z,79µm,22.0s
URIC Uribia, Colomb 86.76 75 *e*P P **11 08 34.9 +0.7**
THE Thessaloniki 86.76 349 P P **11 08 32.9 -1.0**
THE Thessaloniki 86.76 349 *e*P P **11 08 32.9 -1.0**
THE Thessaloniki 86.76 349 *e*P P **11 08 32.9 -1.0**
HORT Hortiatis 86.78 349 P P **11 08 33.1 -1.0**
FNA Florina 86.79 350 P P **11 08 33.1 -1.1**
MOTC Monteria, Cord 86.84 80 *e*P P **11 08 33.6 -1.1**
MTE Manteigas 86.85 12⍐ *e*P P **11 08 33.9 -0.6**
comp=Z,307nm,2.2s
MTE Manteigas 86.85 12 *e*PP PP 11 12 00.9 +4.3
MTE *e*S **S** **11 19 09.5 +0.7**
MTE *e*SS **SS** **11 24 53.7 +3.9**
MTE *e*LQ LQ 11 31 22.7
MTE *e*LR LR 11 35 08.3
comp=Z,34µm,20.0s
MTE Manteigas 86.85 12 *e*P P **11 08 33.7 -0.7**
comp=Z,175nm,0.7s
MTE LR LR
comp=Z,34µm,20.0s
PPBI Pangkal Pinang 86.86 262 P P **11 08 35.5 +0.8**
comp=Z,155nm,1.0s
SRSP Sriramsagar 86.87 297 *e*P P **11 08 33.7 -1.1**
SRSP IAmb IAmb 11 08 39.8
comp=Z,2µm,1.1s
SRSP *e*SKSac **SKSac** **11 18 54.3 -3.8**
SRSP IVMs_BB IVMs_BB 11 50 03.8
comp=Z,42µm,19.5s
AKSY AKSARAY - Alti 86.93 340 *i*P P **11 08 30.9 -4.0**
OUR Ouranopolis 86.93 348 P P **11 08 34.0 -0.7**
OUR Ouranopolis 86.93 348 *e*P P **11 08 34.0 -0.7**
OUR Ouranopolis 86.93 348 *e*P P **11 08 34.0 -0.7**
MAPC Malpelo 86.94 87 *e*P P **11 08 34.5 -0.7**
PLG Polygyros 86.96 348 P P **11 08 33.6 -1.4**
BALY Balya 87.00 345 *i*P P **11 08 33.5 -1.6**
GUD Guadarrama 87.00 9 P P **11 08 35.4 +0.1**
ATAB Bozova 87.03 337 *i*P P **11 08 33.5 -1.8**
JAGI Jajag, Banyuwa 87.04 252 P P **11 08 35.1 -0.4**
comp=Z,174nm,1.3s,comp=Z,4µmcomp=Z,50µm
JAGI Jajag, Banyuwa 87.04 252 PFAKE 11 08 50.0 +14
JAGI LR LR
comp=Z,33µm,22.0s
PCAS Casmilo, Conde 87.06 13⍐ *e*P P **11 08 34.8 -0.6**
comp=Z,482nm,1.0s
PCAS Casmilo, Conde 87.06 13 *e*PP PP 11 11 58.1 -0.1
PCAS *e*S **S** **11 19 11.1 +0.3**
PCAS *e*SS **SS** **11 24 56.8 +4.0**
PCAS *e*LQ LQ 11 31 57.2
PCAS *e*LR LR 11 35 05.2
comp=Z,38µm,20.0s
TSI Tuntungan 87.09 272 P P **11 08 36.9 +1.0**
comp=Z,2µm,1.1s,comp=Z,22µm
KTI Kastanea 87.10 349 P P **11 08 35.6 -0.2**
SABA Saba 87.11 65 *e*P P **11 08 36.3 +0.3**
SABA Saba 87.11 65 *e* 11 12 37.6
SABA Saba 87.11 65 *e*P P **11 08 36.2 +0.2**
comp=Z,588nm,1.4s
SABA LR LR
comp=Z,65µm,20.0s
YAHY KAYSERI_Yahyal 87.12 339 *i*P P **11 08 34.8 -1.0**
BOZC Bozcaada 87.13 346 *i*P P **11 08 33.5 -2.2**
NEST Nestorio 87.19 350 P P **11 08 35.4 -0.8**
NEST Nestorio 87.19 350 P **SKSac** **11 18 57.3 -2.4**
CMBY CAMPBELL BAY 87.19 278 *e*P P **11 08 36.5 +0.1**
LIA Limnos Island 87.20 347 P P **11 08 35.7 -0.3**
LIA Limnos Island 87.20 347 P **SKSac** **11 19 09.2 +10**
KZN Kozani 87.22 350 P P **11 08 35.2 -1.1**
GMJI Gumukmas 87.30 253 P P **11 08 35.2 -1.6**
comp=Z,78nm,1.0s,comp=Z,5µmcomp=Z,42µm
GZT Gaziantep 87.32 337 *i*P P **11 08 37.4 +0.6**
LIT Litokhoron 87.34 349 P P **11 08 35.6 -1.2**
LIT Litokhoron 87.34 349 P **SKSac** **11 19 07.1 +6.6**
LIT Litokhoron 87.34 349 *e*P P **11 08 35.6 -1.2**
LIT Litokhoron 87.34 349 *e*P P **11 08 35.6 -1.2**
SEUS St. Eustatius 87.36 65 *e*P P **11 08 36.3 -0.9**
SEUS St. Eustatius 87.36 65 *e* PP 11 12 19.1 +18
SEUS St. Eustatius 87.36 65 *e*P P **11 08 37.9 +0.7**
comp=Z,578nm,1.3s
SEUS LR LR
comp=Z,58µm,21.0s
PAIG Paliouri 87.37 348 P P **11 08 35.6 -1.3**
PAIG Paliouri 87.37 348 *e*P P **11 08 35.6 -1.3**
PAIG Paliouri 87.37 348 *e*P P **11 08 35.6 -1.3**
KDHN Kadinhani 87.39 342 *i*P P 11 08 30.9 -6.2
ANDN Andirin 87.39 338 *i*P P **11 08 33.5 -3.6**
PENT Pentalofos 87.40 350 P P **11 08 36.5 -0.7**
PCBR Castelo Branco 87.41 12⍐ *e*P P **11 08 36.1 -1.0**
comp=Z,276nm,1.1s
PCBR Castelo Branco 87.41 12 *e*PP PP 11 12 02.6 +1.6
PSI Prapat 87.41 271 *e*P P **11 08 37.9 +0.3**
PSI pmax pmax
comp=Z,2µm,1.0s
PSI MLR MLR
comp=Z,42µm,22.0s
PSI Prapat 87.41 271 *e*P P **11 08 37.9 +0.3**
comp=Z,2µm,1.0s
PSI LR LR
comp=Z,42µm,22.0s
BOLV Bolvadin 87.42 342 *i*P P **11 08 36.1 -1.2**
BOLV Bolvadin 87.42 342 *e*P P **11 08 38.0 +0.7**
comp=Z,177nm,0.7s
HCB Kahramanmara¯ 87.48 338 *i*P P **11 08 37.4 -0.1**
DEMI Demirci 87.50 344 *i*P P **11 08 36.1 -1.5**
PTOM Tomar 87.50 13⍐ *e*P P **11 08 36.8 -0.7**
comp=Z,572nm,1.1s
PTOM Tomar 87.50 13 *e*PP PP 11 12 00.6 -1.2
SURC SANLIURFA_SURC 87.51 336 *i*P P **11 08 37.4 -0.2**
AYVA Ayvalik 87.56 346 *i*P P **11 08 34.8 -3.0**
KCSI Kotacane, Aceh 87.56 273 P P **11 08 37.5 -0.7**
comp=Z,549nm,1.1s,comp=Z,10µmcomp=Z,59µm
KPRO Kipourio 87.61 350 P P **11 08 37.2 -1.0**
KPRO Kipourio 87.61 350 P **SKSac** **11 19 01.8 -0.4**
PRK Paraskevi 87.69 346 P P **11 08 37.4 -1.0**
KAMA Osmaniye 87.69 338 *i*P P **11 08 40.0 +1.4**
NGJI Ngawi 87.75 255 P P **11 08 39.3 +0.3**
comp=Z,447nm,1.3s,comp=Z,12µmcomp=Z,53µm
RGRI Rengat 87.78 267 P P **11 08 41.3 +2.1**
comp=Z,2µm,1.1s,comp=Z,30µmcomp=Z,45µm

SIGR SIGRI 87.78 346 P P **11 08 38.0 -0.8**
SIGR SIGRI 87.78 346 *e*P P **11 08 38.0 -0.8**
MLSI Meulaboh, Aceh 87.82 274 P P **11 08 39.6 +0.2**
comp=Z,557nm,0.8s,comp=Z,14µm
PMRV Marv??o 87.83 12⍐ *e*P P **11 08 38.1 -1.0**
comp=Z,313nm,1.4s
PMRV Marv??o 87.83 12 *e*PP PP 11 12 03.9 -0.5
PMRV *e*S **S** **11 19 16.8 -1.3**
PMRV *e*SS **SS** **11 25 10.2 +6.2**
PMRV *e*LQ LQ 11 31 44.3
PMRV *e*LR LR 11 38 40.4
comp=Z,28µm,22.0s
BHJ Bhuj 87.87 306 *e*P P **11 08 39.3 -0.2**
ANWB Willy Bob 87.88 64 *e*P P **11 08 39.9 +0.3**
ANWB Willy Bob 87.88 64 *e*P P **11 08 39.8 +0.1**
comp=Z,287nm,0.9s
ANWB LR LR
comp=Z,57µm,20.0s
KONT Konya--Tatoy 87.89 341 *i*P P **11 08 38.7 -0.8**
OUZ Omahuta 87.90 192 *e*P P **11 08 40.2 +1.1**
comp=Z,160nm,1.2s
OUZ LR LR
comp=Z,25µm,20.0s
OUZ Omahuta 87.90 192 PN P **11 08 39.9 +0.8**
THL Klokotos Trika 87.93 349 P P **11 08 38.0 -1.5**
THL Klokotos Trika 87.93 349 P **SKSac** **11 19 01.0 -2.9**
ES19 SONSECA Array 87.96 9 *e*P P **11 08 38.6 -1.2**
JAN Janina 87.96 350 P P **11 08 39.3 -0.5**
HYBB Hyderabad (bro 87.97 296 *e*P P **11 08 39.5 -0.6**
HYBB IAmb IAmb 11 08 45.6
comp=Z,2µm,0.9s
HYBB *e*SKSac **SKSac** **11 19 01.3 -3.6**
HYBB IVMs_BB IVMs_BB 11 50 18.1
comp=Z,24µm,23.5s
HYB Hyderabad 87.97 296⍐ *i*P P **11 08 39.0 -1.2**
comp=Z,270nm,1.0s
HYB *e*pP **pP** **11 08 52.0 -1.8**
HYB *e*PP **PP** **11 12 08.0 +1.6**
HYB *e*SKS **SKSac** **11 19 02.0 -2.9**
HYB *e*S **S** **11 19 20.0 -0.1**
HYB LR LR
comp=Z,112nm,30.0s
HYB Hyderabad 87.97 296 *e*P P **11 08 38.8 -1.4**
HYB IAmb IAmb 11 08 41.0
FYTO Fytoko, Volos 87.97 349 P P **11 08 38.6 -1.2**
FYTO Fytoko, Volos 87.97 349 *e*P P **11 08 38.6 -1.2**
ESDC Sonseca Array 87.98 9 P P **11 08 39.2 -0.7**
comp=Z,38nm,0.5s,baz=351,slow=4.5,SNR=144
ESDC PP **PP** **11 12 05.7 +0.1**
comp=Z,8.8nm,0.9s,baz=337,slow=5.6,SNR=2.2
ESDC PKKPbc **PKKPbc** **11 26 24.6 +1.6**
comp=Z,6.8nm,0.8s,baz=185,slow=1.9,SNR=15
ESDC PKPPKP **P'P'df** **11 34 35.0 -2.8**
comp=Z,1.7nm,0.7s,baz=190,slow=1.7,SNR=5.9
ESLA Sonseca Array 87.98 9 *e*P P **11 08 39.3 -0.6**
comp=Z,237nm,1.0s
ESLA LR LR
comp=Z,27µm,20.0s
XOR Xorichti 87.98 348 P P **11 08 38.5 -1.4**
KUZU Kuzuini 87.99 337 *i*P P **11 08 38.7 -1.2**
KEK Kerkira 88.01 351 P P **11 08 38.9 -1.1**
KULA Kula-Manisa 88.02 344 P P **11 08 39.2 -0.9**
PMAFR Mafra 88.03 14⍐ *e*P P **11 08 39.8 -0.3**
comp=Z,1µm,1.1s
PMAFR Mafra 88.03 14 *e*PP PP 11 12 10.3 +4.3
PMAFR *e*S **S** **11 19 19.9 -0.2**
PMAFR *e*SS **SS** **11 25 08.4 +1.4**
PMAFR *e*LQ LQ 11 31 53.9
PMAFR *e*LR LR 11 35 42.3
comp=Z,32µm,20.0s
KERG Konya-Eregli 88.04 340 *i*P P **11 08 37.4 -2.9**
BKNI Bangkinang 88.04 268 P P **11 08 42.4 +2.0**
comp=Z,4µm,1.0s,comp=Z,29µmcomp=Z,62µm
BKNI Bangkinang 88.04 268 *e*P P **11 08 40.6 +0.2**
comp=Z,3µm,1.0s
BKNI LR LR
comp=Z,25µm,22.0s
CUC Castrocucco 88.05 354 *e*P P **11 08 38.3 -1.9**
comp=Z,157nm,1.3s
CUC LR LR
comp=Z,26µm,21.0s
MANT Manisa 88.06 344 PFAKE 11 08 50.0 +9.5
MANT LR LR
comp=Z,47µm,22.0s
KMER Konya-Meram 88.06 341 *i*P P **11 08 38.7 -1.7**
PAB San Pablo 88.07 10 *e*P P **11 08 39.7 -0.7**
PAB pmax pmax
comp=Z,193nm,1.2s
PAB MLR MLR
comp=Z,35µm,21.0s
PAB San Pablo 88.07 10 *e*P P **11 08 39.6 -0.7**
comp=Z,193nm,1.2s
PAB LR LR
comp=Z,35µm,21.0s
PWJI Pagerwojo 88.07 254 P P **11 08 39.0 -1.5**
comp=Z,337nm,1.3s,comp=Z,8µm
SGD Sagiada 88.07 351 P P **11 08 39.4 -0.8**
AOS Alonnisos 88.09 348 P P **11 08 39.0 -1.3**
AOS Alonnisos 88.09 348 *e*P P **11 08 39.0 -1.3**
SMRI Semarang 88.11 256 *e*P P **11 08 39.3 -1.4**
comp=Z,1µm,1.7s
SMRI LR LR
comp=Z,28µm,22.0s
TPTI 88.13 273 P P **11 08 40.9 0.0**
comp=Z,393nm,0.6s,comp=Z,15µm
IGT Igoumenitsa 88.14 351 P P **11 08 39.7 -0.9**
IGT Igoumenitsa 88.14 351 *e*P P **11 08 39.7 -0.9**
IGT Igoumenitsa 88.14 351 *e*P P **11 08 39.7 -0.9**
SKIA Skiathos 88.15 348 P P **11 08 39.5 -1.1**
BAGO Egridir - ISPA 88.15 342 *i*P P **11 08 37.4 -3.4**
ARMA Armidale 88.23 211 *e*P P **11 08 41.6 +0.6**
comp=Z,263nm,1.3s
ARMA LR LR
comp=Z,35µm,20.0s
DRWC Darouich 88.23 338 *e*P P **11 08 41.4 +0.2**
NJS Nagarjunasagar 88.25 295 *e*P P **11 08 40.8 -0.7**
NJS IAmb IAmb 11 08 46.9
comp=Z,2µm,1.3s
NJS *e*SKSac **SKSac** **11 19 03.6 -2.9**
NJS IVMs_BB IVMs_BB 11 47 47.6
comp=Z,20µm,26.5s
PMST Lisbon--Monsan 88.26 14⍐ *e*P P **11 08 40.7 -0.5**
comp=Z,585nm,1.2s
PMST Lisbon--Monsan 88.26 14 *e*PP PP 11 12 11.2 +3.4
YURE YUREGIR 88.27 338 *i*P P **11 08 38.7 -2.6**
LIS Lisbon 88.29 14 *e*P P **11 08 40.4 -0.9**
LIS AMS AMS 11 51 16.4
comp=Z,39µm,19.6s
LIS Lisbon 88.29 14⍐ *e*P P **11 08 40.6 -0.7**
comp=Z,604nm,1.3s
LIS Lisbon 88.29 14 *e*PP PP 11 12 05.1 -2.9
LIS Lisbon 88.29 14 *e*P P **11 08 40.4 -0.9**
SLMH Al Salmeh 88.31 336 *e*P P **11 08 41.5 0.0**
DED Mersin 88.33 339 *i*P P **11 08 40.0 -1.5**
PESTR Estremoz 88.35 12⍐ *e*P P **11 08 40.5 -1.1**
comp=Z,481nm,1.1s
PESTR Estremoz 88.35 12 *e*PP PP 11 12 11.1 +2.5
PESTR *e*S **S** **11 19 23.1 0.0**
PESTR *e*SS **SS** **11 25 14.1 +2.4**
PESTR *e*LQ LQ 11 31 59.1
PESTR *e*LR LR 11 34 56.2
comp=Z,33µm,20.0s
KSRV Kasrt alli 88.37 335 *e*P P **11 08 43.5 +1.8**
MLYT Lee's Yard 88.42 65 *e*P P **11 08 43.0 +0.7**
MLYT Lee's Yard 88.42 65 *e* **PP** **11 12 08.5 -1.5**
AGG Agios Georgios 88.43 349 P P **11 08 39.9 -2.1**
AGG Agios Georgios 88.43 349 P **SKSac** **11 19 03.8 -3.3**
AGG Agios Georgios 88.43 349 *e*P P **11 08 39.9 -2.1**
AGG Agios Georgios 88.43 349 *e*P P **11 08 39.9 -2.1**
ADKI Addanki 88.45 294 *e*P P **11 08 42.8 +0.4**
ADKI IAmb IAmb 11 08 48.3
comp=Z,2µm,1.1s
ADKI *e*SKSac **SKSac** **11 19 05.0 -2.6**
ADKI IVMs_BB IVMs_BB 11 50 44.9
comp=Z,17µm,18.2s
DSL Palaion Diesel 88.45 350 P P **11 08 41.3 -0.8**
DSL Palaion Diesel 88.45 350 *e*P P **11 08 41.3 -0.8**
SMIA Simia 88.46 348 P P **11 08 40.9 -1.2**
SMIA Simia 88.46 348 P **SKSac** **11 19 02.4 -4.9**
URLA Izmir 88.50 346 *i*P P 11 08 37.4 -4.9
KLRI Killari 88.52 298 *e*P P **11 08 42.1 -0.7**
KLRI IAmb IAmb 11 08 48.1
comp=Z,3µm,0.9s
KLRI *e*SKSac **SKSac** **11 19 03.9 -4.3**
KLRI IVMs_BB IVMs_BB 11 50 44.6
comp=Z,47µm,20.5s
CHOS Chios island 88.56 346 P P **11 08 41.8 -0.9**
MNSI Mandailing Nat 88.58 269 P P **11 08 41.9 -1.1**
comp=Z,744nm,0.6s,comp=Z,11µm
PCJI Pacitan 88.58 255 P P **11 08 43.5 +0.6**
comp=Z,128nm,1.2s,comp=Z,6µmcomp=Z,43µm
EVR Evrytania 88.59 349 P P **11 08 42.2 -0.7**
EVR Evrytania 88.59 349 P **SKSac** **11 19 10.5 +2.3**
EVO Evora 88.63 13⍐ *e*P P **11 08 42.1 -0.8**
comp=Z,316nm,1.1s
EVO Evora 88.63 13 *e*PP PP 11 12 06.9 -3.9
ZEY ¯zmir 88.64 346 *i*P P **11 08 41.3 -1.6**
OCAC Ocana 88.69 78 *e*P P **11 08 44.0 +0.3**
JHLN Al Jahlan 88.70 336 *e*P P 11 08 37.8 -5.5
LKR Lokris 88.71 349 P P **11 08 41.2 -2.1**
LKR Lokris 88.71 349 P **SKSac** **11 19 04.7 -4.0**
UGM Wanagama 88.74 256 P P **11 08 43.0 -0.7**
comp=Z,447nm,1.7s,comp=Z,8µmcomp=Z,48µm
UGM Wanagama 88.74 256 *e*P P **11 08 41.9 -1.9**
comp=Z,551nm,1.2s
UGM LR LR
comp=Z,35µm,22.0s
DNZL Cakiroluk 88.76 344 *i*P P **11 08 42.6 -1.2**
DGB ¯zmir 88.76 345 *i*P P **11 08 41.3 -2.2**
VSL Villasalto 88.77 359 *e*P P **11 08 43.1 -0.5**
comp=Z,104nm,0.9s
VSL LR LR
comp=Z,44µm,20.0s
SDSI Sungai Dareh 88.79 267 P P **11 08 44.4 +0.5**
comp=Z,696nm,1.1s
TIP Timpagrande 88.80 353 P P **11 08 42.9 -0.9**
TIP Timpagrande 88.80 353 *e*P P **11 08 43.0 -0.7**
TIP LR LR
comp=Z,53µm,22.0s
EREA Eretria 88.82 348 P P **11 08 42.3 -1.6**
BTCH Batrach 88.83 337 *e*P P **11 08 44.2 +0.1**
BTCH Batrach 88.83 337 *e*P P **11 08 44.0 0.0**
LKD2 Lefkada island 88.84 350 P P **11 08 42.5 -1.4**
LKD2 Lefkada island 88.84 350 P **SKSac** **11 19 07.3 -2.2**
SRLM Srisailam 88.85 295 *e*P P **11 08 43.6 -0.7**
SRLM IAmb IAmb 11 08 49.5
comp=Z,2µm,1.3s
SRLM *e*SKSac **SKSac** **11 19 07.0 -3.2**
SRLM IVMs_BB IVMs_BB 11 50 22.0
comp=Z,17µm,22.3s
ANX Ano Chora 88.90 349 P P **11 08 42.9 -1.4**
ANX Ano Chora 88.90 349 P **SKSac** **11 19 09.0 -1.0**
PVO Paravola 88.92 350 P P **11 08 43.9 -0.4**
YAYL Yayladag 88.92 338 *i*P P **11 08 41.3 -3.2**
KIZK Mersin 88.94 339 *i*P P **11 08 42.6 -1.8**
HELC Santa Helena 88.96 81 *e*P P **11 08 46.3 +1.1**
HELC Santa Helena 88.96 81 *e*P P **11 08 45.0 -0.2**
comp=Z,322nm,1.0s
HELC LR LR
comp=Z,47µm,20.0s
PNCL Nicolau / Gran 88.97 13⍐ *e*P P **11 08 43.4 -1.1**
comp=Z,474nm,1.2s
PNCL Nicolau / Gran 88.97 13 *e*PP PP 11 12 12.1 -1.4
PNCL *e*S **S** **11 19 29.4 +0.5**
PNCL *e*SS **SS** **11 25 23.4 +2.9**
PNCL *e*LQ LQ 11 32 14.0
PNCL *e*LR LR 11 36 10.5
comp=Z,46µm,20.0s
PDO Prodromos 88.97 350 P P **11 08 43.8 -0.7**
DSF Desfina 89.01 349 P P **11 08 43.0 -1.8**
DSF Desfina 89.01 349 P **SKSac** **11 19 04.7 -5.9**
DSF Desfina 89.01 349 *e*P P **11 08 43.0 -1.8**
GDHS Morne Mazeau, 89.03 65 *e*P P **11 08 45.6 +0.5**
comp=Z,1µm,1.2s
GDHS LR LR
comp=Z,54µm,22.0s
ERMK Ermenek 89.04 340 *i*P P 11 08 37.4 -7.7
GCAM G?zelcaml? 89.05 345 *i*P P 11 08 40.0 -4.8
PPI Padang Panjang 89.05 268 P P **11 08 45.1 -0.1**
comp=Z,914nm,0.9s,comp=Z,10µm
SERG Sergoula 89.06 349 P P **11 08 43.7 -1.3**
SERG Sergoula 89.06 349 P **SKSac** **11 19 05.6 -5.2**
KALE Kalithea 89.07 349 P P **11 08 43.5 -1.6**
KALE Kalithea 89.07 349 P **SKSac** **11 19 09.6 -1.4**
KALE Kalithea 89.07 349 *e*P P **11 08 43.5 -1.6**
SMG Samos 89.11 345 P P **11 08 43.6 -1.6**
PBAR Barrancos 89.11 12⍐ *e*P P **11 08 44.3 -0.8**
comp=Z,2µm,1.2s
PBAR Barrancos 89.11 12 *e*PP PP 11 12 17.9 +3.3
PBAR *e*S **S** **11 19 30.8 +0.6**
PBAR Barrancos 89.11 12 *e*LQ LQ 11 32 13.2
PBAR *e*LR LR 11 36 17.9
comp=Z,63µm,18.0s
GOLH Golhisar 89.11 343 *i*P P 11 08 40.0 -5.3
ARNB Al Arnab 89.12 338 *e*P P **11 08 49.3 +4.0**
ARNB Al Arnab 89.12 338 *e*P P **11 08 49.1 +3.8**
AS31 Alice Springs 89.13 228 *e*P P **11 08 45.3 0.0**
comp=Z,119nm,0.9s
AS31 LR LR
comp=Z,500nm,21.0s
ASAR Alice Springs 89.13 228 P P **11 08 45.2 -0.1**
comp=Z,236nm,0.7s,baz=29,slow=4.6,SNR=789
ASAR LR LR 11 44 10.0
comp=Z,41µm,22.0s,baz=20,slow=32
KARY Karystos 89.14 347 P P **11 08 43.4 -1.9**
PBEJ Beja 89.14 13⍐ *e*P P **11 08 44.4 -0.9**
comp=Z,345nm,1.4s
PBEJ Beja 89.14 13 *e*PP PP 11 12 15.6 +0.7
VILL Villia 89.15 348 P P **11 08 43.6 -1.8**
VILL Villia 89.15 348 P **SKSac** **11 19 11.6 +0.1**
KUZ Kuaotunu 89.16 190 *e*PN P **11 08 45.8 +0.9**
KORT Korkueli 89.20 342 *i*P P **11 08 43.9 -1.9**
PTL Penteli 89.20 348 P P **11 08 43.7 -1.9**
PTL Penteli 89.20 348 *e*P P **11 08 43.7 -1.9**
UPR University Cam 89.22 349 P P **11 08 49.8 +4.1**
KPJI Karang Pucung 89.24 257 P P **11 08 43.9 -2.1**
comp=Z,166nm,1.0s,comp=Z,5µm
LAKA Lakka 89.24 349 P P **11 08 45.2 -0.6**
LAKA Lakka 89.24 349 P **SKSac** **11 19 11.0 -0.9**
LAKA Lakka 89.24 349 *e*P P **11 08 45.2 -0.6**
MESJ Messejana 89.28 13 *e*P P **11 08 45.0 -1.0**
MESJ *e*S **SKSac** **11 19 12.3 +0.3**
MESJ AMS AMS 11 51 47.8
comp=Z,35µm,17.2s
MESJ Messejana 89.28 13 *e*P P **11 08 45.1 -0.9**
comp=Z,163nm,1.5s
MESJ Messejana 89.28 13 *e*PP PP 11 12 19.2 +3.2
MESJ Messejana 89.28 13 *e*P P **11 08 44.9 -1.0**
MESJ *e*S **SKSac** **11 19 12.3 +0.3**
ATHU Athens Univers 89.29 348 P P **11 08 43.6 -2.4**
ATHU Athens Univers 89.29 348 *e*P P **11 08 43.6 -2.4**
ATH Athens Observa 89.29 348 P P **11 08 44.3 -1.7**
RCLA Racherla 89.33 294 *e*P P **11 08 46.0 -0.5**
RCLA IAmb IAmb 11 08 52.1
comp=Z,2µm,1.3s
RCLA *e*SKSac **SKSac** **11 19 09.1 -3.8**
RCLA IVMs_BB IVMs_BB 11 52 13.2
comp=Z,16µm,19.2s
LTK Loutraki 89.34 348 P P **11 08 44.1 -2.2**
LTK Loutraki 89.34 348 P **SKSac** **11 19 10.3 -2.2**
LTK Loutraki 89.34 348 *e*P P **11 08 44.1 -2.2**
BRRC Barranca, Sant 89.34 79 *e*P P **11 08 46.3 -0.3**
AXS Araxos 89.35 350 P P **11 08 45.9 -0.4**
AXS Araxos 89.35 350 P **SKSac** **11 19 11.3 -1.2**
THAL Thalero 89.36 349 P P **11 08 44.8 -1.5**
THAL Thalero 89.36 349 P **SKSac** **11 19 11.2 -1.3**
PDSI Padang 89.37 268 P P **11 08 46.3 -0.4**
comp=Z,353nm,0.9s,comp=Z,6µm
LOUT Loutraki 89.37 348 P P **11 08 44.1 -2.3**
LOUT Loutraki 89.37 348 P **SKSac** **11 19 08.8 -3.8**
H0SN1 Guadeloupe/Mar 89.38 64 P P **11 08 47.0 +0.2**
VLY Voula,Athens 89.40 348 P P **11 08 44.5 -2.0**
VLY Voula,Athens 89.40 348 *e*P P **11 08 44.5 -2.0**
KLV Kalavryta, Ach 89.41 349 P P **11 08 45.7 -1.0**
KLV Kalavryta, Ach 89.41 349 P **SKSac** **11 19 09.3 -3.7**
KLV Kalavryta, Ach 89.41 349 *e*P P **11 08 45.7 -1.0**
TBG Guadaloupe-3 89.43 65 *e*P P **11 08 47.7 +0.8**
TBG Guadaloupe-3 89.43 65 *e* **PP** **11 12 13.2 -4.9**
VLS Valsamata 89.45 350 P P **11 08 45.4 -1.4**
RLS Riolos of Patr 89.48 350 P P **11 08 46.5 -0.4**
RLS Riolos of Patr 89.48 350 P **SKSac** **11 19 12.5 -0.7**
PTEO Sao Teotonio 89.50 13 *e*P P **11 08 46.8 -0.2**
comp=Z,613nm,1.1s
KFL Anninata 89.50 350 P P **11 08 45.2 -1.8**
PCVE Castro Verde 89.51 13⍐ *e*P P **11 08 46.2 -0.8**
comp=Z,331nm,1.4s
PCVE Castro Verde 89.51 13 *e*PP PP 11 12 20.2 +2.4

PCVE eS **S** 11 19 34.5 +0.5
PCVE eSS **SS** 11 25 31.4 +3.0
PCVE eLR LR 11 35 00.5
comp=Z,37µm,20.0s
DRO Drossia 89.56 349 P **P** 11 08 46.9 -0.4
DRO Drossia 89.56 349 P **SKSac** 11 19 12.6 -1.2
MALC Bahia Malaga 89.56 84 eP **P** 11 08 50.8 +3.2
MGG Marie-Galante 89.56 64 eP **P** 11 08 48.2 +0.6
MGG Marie-Galante 89.56 64 e **PP** 11 12 13.9 -5.2
MKAZ Moumakai 89.57 190 PN **P** 11 08 47.1 +0.2
POO Poona 89.62 300⇑ iP **P** 11 08 44.0 -3.9
comp=Z,80nm,1.2s
POO i PCP **PcP** 11 08 47.0 -2.2
POO i PP PP 11 12 01.0 -19
POO i SKS **SKSac** 11 19 05.0 -10
POO i S SKKSac 11 19 10.0 -17
POO i SCS S 11 19 20.0 -16
POO i PS PnS 11 20 05.0 -41
POO i PPS PPS 11 20 28.0
POO i SS SS 11 24 43.0 -49
POO i SSS SSS 11 28 11.0
POO i LQ LQ 11 31 35.0
POO i LR LR 11 35 36.0
POO Poona 89.62 300 eP **P** 11 08 46.9 -1.0
TURN Turunc 89.63 344 i P **P** 11 08 43.9 -3.7
BDRM Kayabasi 89.64 345 i P P 11 08 42.6 -5.1
DALY Dalyan (Mu˘la 89.68 344 i P **P** 11 08 43.9 -3.9
GIRC Giron, Santand 89.68 79 eP **P** 11 08 48.6 +0.2
MORF Marmelete 89.74 13 eP **P** 11 08 47.4 -0.9
MORF AMS AMS 11 50 48.2
comp=Z,38µm,21.4s
MORF Marmelete 89.74 13⇑ eP **P** 11 08 47.1 -1.1
comp=Z,630nm,1.3s
MORF Marmelete 89.74 13 ePP PP 11 12 22.9 +3.2
MORF eS **S** 11 19 36.3 0.0
MORF eSS **SS** 11 25 35.2 +3.3
MORF eLQ LQ 11 32 10.2
MORF eLR LR 11 34 55.4
MORF Marmelete 89.74 13 eP **P** 11 08 47.3 -0.9
CEL Celeste 89.77 354 eP **P** 11 08 45.9 -2.4
comp=Z,69nm,0.9s
CEL LR LR
comp=Z,35µm,22.0s
PAMC Pamplona, Colo 89.77 78 eP **P** 11 08 49.8 +0.6
PVAQ Vaqueiros 89.78 13⇑ eP **P** 11 08 47.7 -0.6
comp=Z,351nm,1.9s
PVAQ Vaqueiros 89.78 13 ePP PP 11 12 23.8 +3.9
PVAQ eS **S** 11 19 36.7 +0.2
PVAQ eSS **SS** 11 25 35.8 +3.5
PVAQ Vaqueiros 89.78 13 eLR LR 11 36 06.5
comp=Z,26µm,20.0s
BBL Barber's Block 89.79 65 eP **P** 11 08 50.2 +1.5
BBL Barber's Block 89.79 65 e **PP** 11 12 18.0 -3.0
SDV Santo Domingo 89.79 76 S **SKSac** 11 19 13.1 -2.9
comp=Z,6.7nm,0.8s,baz=20,slow=21,SNR=8.9
SDV Santo Domingo 89.79 76 eP **P** 11 08 48.5 -0.4
comp=Z,303nm,0.8s
SDV LR LR
comp=Z,31µm,22.0s
SDV Santo Domingo 89.79 76 eP **P** 11 08 48.7 -0.2
DID Didima 89.81 348 P **P** 11 08 46.0 -2.5
DID Didima 89.81 348 eP **P** 11 08 46.0 -2.5
GRGC Isla de Gorgon 89.84 85 eP **P** 11 08 48.9 0.0
DWS Wesley 89.85 65 eP **P** 11 08 51.5 +2.6
DWS Wesley 89.85 65 e **PP** 11 12 18.7 -2.6
NORC Norcasia 89.85 81 eP **P** 11 08 48.9 -0.1
MDSI Maura Dua 89.88 263 P **P** 11 08 48.7 -0.3
comp=Z,100nm,1.0s,comp=Z,5µm,comp=Z,35µm
CMJI Cimerak 89.89 257 P **P** 11 08 51.9 +2.9
comp=Z,104nm,0.9s,comp=Z,4µm
PFVI Vila Bisbo 89.89 14⇑ eP **P** 11 08 48.0 -0.8
comp=Z,568nm,1.2s
PFVI Vila Bisbo 89.89 14 ePP PP 11 12 24.5 +3.7
PFVI eS **S** 11 19 37.4 -0.1
PFVI eSS **SS** 11 25 36.1 +2.2
PFVI eLQ LQ 11 32 13.1
PFVI eLR LR 11 34 40.8
comp=Z,34µm,18.0s
PFVI Vila Bisbo 89.89 14 eP **P** 11 08 48.1 -0.7
comp=Z,262nm,0.9s
PFVI LR LR
comp=Z,37µm,19.0s
PBDV Barranco-do-Ve 89.91 13⇑ eP **P** 11 08 48.6 -0.3
comp=Z,456nm,1.6s
PBDV Barranco-do-Ve 89.91 13 ePP PP 11 12 23.8 +2.8
PBDV eS **S** 11 19 37.0 -0.7
PBDV eSS **SS** 11 25 38.3 +4.1
PBDV eLQ LQ 11 32 18.3
PBDV eLR LR 11 36 04.4
comp=Z,37µm,18.0s
ZKS Zakynthos 89.91 350 P **P** 11 08 47.5 -1.4
APE Apeiranthos 89.93 346 P **P** 11 08 47.9 -1.2
APE Apeiranthos 89.93 346⇑ iP **P** 11 08 47.7 -1.4
APE Apeiranthos 89.93 346 eP **P** 11 08 47.9 -1.2
APE Apeiranthos 89.93 346 eP **P** 11 08 47.9 -1.2
DAT Datca 89.94 345 i P **P** 11 08 46.5 -2.7
HAZ Te Kaha 89.95 188 ePN **P** 11 08 50.8 +2.2
AMT Artemida-Makis 89.97 349 P **P** 11 08 48.1 -1.1
SBJI Serang 89.98 260 P P 11 08 58.1 +8.6
MDN Morne-Daniel 90.01 65 eP **P** 11 08 51.7 +2.0
MASI Maura Aman, Be 90.02 265 P **P** 11 08 51.4 +1.6
comp=Z,970nm,1.0s,comp=Z,11µm
PBSI Pulau Batu 90.04 270 P **P** 11 08 53.3 +3.5
comp=Z,969nm,1.2s,comp=Z,16µm
VLX Vlachokerasia 90.05 349 P **P** 11 08 48.5 -1.2
VLX Vlachokerasia 90.05 349 eP **P** 11 08 48.5 -1.2
BARC Barichara 90.07 79 eP **P** 11 08 51.5 +1.2
DLPL La Plaine 90.08 65 eP **P** 11 08 50.3 +0.3
DLPL La Plaine 90.08 65 e **PP** 11 12 24.5 +1.2
AKAS Kas 90.08 343 i P **P** 11 08 47.8 -2.1
AKAS Kas 90.08 343 eP **P** 11 08 49.7 -0.2
comp=Z,177nm,1.3s
AKAS LR LR
comp=Z,31µm,21.0s
CISI Cisompet, Garu 90.09 258 PFAKE 11 09 00.0 +10
CISI LR LR
comp=Z,23µm,21.0s
DSHT Scott's Head 90.10 65 eP **P** 11 08 52.3 +2.2
TOZ Tahuroa Road 90.15 190 PN **P** 11 08 49.9 +0.3
KSL Kastellorizon 90.16 343 P **P** 11 08 48.4 -1.7
KSL Kastellorizon 90.16 343 eP **P** 11 08 48.4 -1.7
ITM Ithomi 90.29 349 P **P** 11 08 49.4 -1.3
SKHT Srikalahasti 90.29 293 eP **P** 11 08 51.5 +0.5
SKHT IAmb IAmb 11 08 57.6
comp=Z,750nm,1.0s
CNJI Cibinong 90.31 259 P **P** 11 08 51.1 +0.1
comp=Z,167nm,1.2s,comp=Z,4µm
TOLC Tolima 90.34 82 eP **P** 11 08 51.3 -0.4
ARG Arkhangelos 90.36 344 P **P** 11 08 49.4 -1.6
ARG Arkhangelos 90.36 344 P **P** 11 08 49.8 -1.2
ARG pmax pmax
comp=Z,402nm,1.2s
LWLI Liwa 90.37 262 P **P** 11 08 52.0 +0.5
comp=Z,262nm,0.7s,comp=Z,6µm
TUMC Tumaco 90.42 87 PFAKE 11 09 00.0 +8.4
TUMC LR LR
comp=Z,18µm,20.0s
MHLO Agia Marina, M 90.46 347 P **P** 11 08 49.3 -2.2
KASI Kota Agung 90.50 262 P **P** 11 08 51.6 -0.3
comp=Z,103nm,1.2s,comp=Z,5µm
PCM Pelee Case Pet 90.52 65 eP **P** 11 08 53.2 +1.2
PCM Pelee Case Pet 90.52 65 eP **P** 11 08 54.4 +2.4
URZ Urewera 90.52 189 PKKPbc PKKPbc 11 26 18.1 -0.4
comp=Z,9.9nm,0.6s,baz=179,slow=5.1,SNR=6.5
URZ LR LR 11 43 35.7
comp=Z,39µm,20.1s,baz=28,slow=32
URZ Urewera 90.52 189 eP **P** 11 08 52.0 +0.8
comp=Z,56nm,1.0s
URZ LR LR
comp=Z,50µm,21.0s
URZ Urewera 90.52 189 PN **P** 11 08 52.2 +0.9
MDRS Chennai 90.53 292 eP **P** 11 08 51.8 -0.3
MDRS ex x 11 25 14.8
MDRS ex x 11 34 52.8
MNAI Manna 90.53 264 PFAKE 11 09 00.0 +7.9
MNAI LR LR
comp=Z,35µm,22.0s
SISI Saibi 90.54 269 P **P** 11 08 54.7 +2.6
comp=Z,1µm,0.8s,comp=Z,16µm
CXM Morne La Croix 90.54 65 eP **P** 11 08 53.3 +0.9
BAMF Morne Balai 90.55 65 eP **P** 11 08 54.1 +1.8
FKH Fakeheh 90.56 337 eP **P** 11 08 51.6 -0.5
CSS Mathiatis 90.57 340 P **P** 11 08 51.2 -0.9
CSS Mathiatis 90.57 340 eP **P** 11 08 51.2 -0.9
CSS LR LR
comp=Z,6µm,22.0s
CSS Mathiatis 90.57 340 P **P** 11 08 51.6 -0.5
CLTB Caltabellotta 90.59 356 eP **P** 11 08 51.0 -1.2
comp=Z,526nm,1.4s
PYL PYLOS 90.60 349 P **P** 11 08 50.4 -1.7
PYL PYLOS 90.60 349 eP **P** 11 08 50.4 -1.7
FDF Fort de France 90.62 65 eP **P** 11 08 53.3 +0.7
FDF Fort de France 90.62 65 eP **P** 11 08 54.7 +2.2
FDF Fort de France 90.62 65 e **PP** 11 12 27.0 -0.6
FDF Fort de France 90.62 65 eP **P** 11 08 53.0 +0.4
FDF pmax pmax
comp=Z,772nm,1.4s
FDF MLR MLR
comp=Z,60µm,20.0s
FDF Fort de France 90.62 65 eP **P** 11 08 53.0 +0.4
comp=Z,772nm,1.4s
FDF LR LR
comp=Z,60µm,20.0s
SANT Santorini 90.62 346 P **P** 11 08 50.8 -1.5
SANT Santorini 90.62 346 eP **P** 11 08 50.7 -1.6
comp=Z,384nm,1.5s
SANT LR LR
comp=Z,44µm,22.0s
VLI Velíai 90.63 348 P **P** 11 08 50.1 -2.2
CGJI Cibinong 90.63 260 P **P** 11 08 52.0 -0.5
comp=Z,208nm,1.3s,comp=Z,5µm,comp=Z,35µm
VAE Valguarnera 90.63 355 LR LR 11 54 10.4
comp=Z,18µm,18.4s,baz=16,slow=39
RUSC La Rusia 90.68 80 eP **P** 11 08 52.9 -0.6
RUSC La Rusia 90.68 80 eP **P** 11 08 52.8 -0.6
comp=Z,355nm,1.1s
RUSC LR LR
comp=Z,12µm,21.0s
CTAB Cerro Tablazo, 90.69 81 eP **P** 11 08 55.1 +1.6
URV Uravakonda 90.70 296 eP **P** 11 08 52.1 -0.9
URV IAmb IAmb 11 08 58.1
comp=Z,1µm,1.2s
URV eSKSac **SKSac** 11 19 17.0 -3.9
URV IVMs_BB IVMs_BB 11 50 41.7
comp=Z,29µm,24.8s
AKMC Akamas 90.72 340 P **P** 11 08 53.2 +0.4
MARH Ras Al Marh 90.75 337 eP **P** 11 08 53.7 +0.4
ROSC El Rosal 90.75 81 P **P** 11 08 54.0 +0.3
comp=Z,49nm,0.7s,baz=152,slow=3.2,SNR=14
ROSC LR LR 11 51 45.3
comp=Z,12µm,19.8s,baz=345,slow=37
ROSC El Rosal 90.75 81 eP **P** 11 08 54.2 +0.6
ROSC El Rosal 90.75 81 eP **P** 11 08 54.7 +1.0
comp=Z,137nm,1.1s
ZAM Aeronautique 90.81 65 eP **P** 11 08 55.4 +1.9
TRMF Trois Ilets 90.83 65 eP **P** 11 08 56.0 +2.5
BIM Bigot 90.84 65 eP **P** 11 08 54.5 +0.9
SZAC Souni 90.87 340 P **P** 11 08 53.2 -0.3
MVM Montagne Vaucl 90.90 65 eP **P** 11 08 57.0 +3.2
HIZ Hauiti 91.00 190 eP **P** 11 08 54.9 +1.4
comp=Z,486nm,1.3s
HIZ LR LR
comp=Z,33µm,20.0s
HIZ Hauiti 91.00 190 PN **P** 11 08 53.9 +0.4
H05S1 Guadeloupe/Mar 91.04 65 P **P** 11 08 54.7 +0.2
KYTH Kithira 91.06 348 P **P** 11 08 52.7 -1.6
KYTH Kithira 91.06 348 eP **P** 11 08 52.7 -1.6
BHL Bhannes 91.06 338 eP **P** 11 08 53.9 -0.6
PPSI Pulau Pagai 91.09 267 P **P** 11 08 54.9 +0.2
comp=Z,610nm,1.2s,comp=Z,20µm
POPC Popayan, Colom 91.12 84 eP **P** 11 08 54.2 -0.9
KARP Karpathos 91.17 345 P **P** 11 08 52.2 -2.7
KARP Karpathos 91.17 345 eP **P** 11 08 53.1 -1.8
comp=Z,76nm,0.6s
KARP LR LR
comp=Z,13µm,22.0s
DQRL Deir Qamar 91.27 338 eP **P** 11 08 55.8 +0.4
CHIC Chingaza 91.28 81 eP **P** 11 08 56.4 +0.3
PRAC Prado 91.29 82 eP **P** 11 08 55.0 -0.7
PRAC Prado 91.29 82 eP **P** 11 08 55.5 -0.2
comp=Z,406nm,1.0s
PRAC LR LR
comp=Z,11µm,20.0s
ABA Alger-Bouzarea 91.35 4 P **P** 11 08 59.0 +3.4
TOTH TOTAH 91.40 337 eP **P** 11 09 00.7 +4.7
TOTH TOTAH 91.40 337 eP **P** 11 09 00.7 +4.7
RCY Rachaya 91.41 337 eP **P** 11 08 55.8 -0.3
SLB Belfond 91.41 65 eP **P** 11 08 57.3 +1.0
ANKY Antikythira Is 91.42 348 P **P** 11 08 54.7 -1.3
ANKY Antikythira Is 91.42 348 eP **P** 11 08 54.7 -1.3
BRBR Barbar 91.46 337 eP **P** 11 08 57.0 +0.5
BRBR Barbar 91.46 337 eP **P** 11 08 56.6 +0.1
BKZ Black Stump Fm 91.47 189 eP **P** 11 08 55.6 -0.3
comp=Z,160nm,1.3s
BKZ LR LR
comp=Z,44µm,20.0s
CAEH 'Ain El Ouahch 91.48 1 P **P** 11 08 59.8 +3.5
MCLT Moule a Chique 91.56 65 eP **P** 11 08 59.1 +2.2
MCLT Moule a Chique 91.56 65 e PP 11 12 47.2 +12
CMAH Djebel Manchou 91.64 1 P **P** 11 08 56.8 -0.3
CMBC Cumbal 91.66 86 eP **P** 11 08 59.6 +1.7
BANOM Banah 91.68 318 i P **P** 11 08 55.9 -1.5
SNR=53
BANOM Banah 91.68 318 P **P** 11 08 56.1 -1.3
SNR=46
BANOM Banah 91.68 318 P **P** 11 08 56.1 -1.3
SNR=46
DFRA Djebel Bou Aff 91.70 2 P **P** 11 08 58.0 +0.6
VILC Villavicencio, 91.71 81 eP **P** 11 08 58.6 +0.9
CRUC La Cruz 91.71 85 eP **P** 11 08 59.8 +1.7
SVV Soufriere Volc 91.73 66 eP **P** 11 09 01.0 +3.4
IMMV Iera Moni Meta 91.73 347 P **P** 11 08 56.1 -1.3
SSV Crater Summit 91.73 66 eP **P** 11 09 00.9 +3.1
SVB Belmont 91.74 66 eP **P** 11 08 57.6 -0.2
SVB Belmont 91.74 66 e **PP** 11 12 40.9 +4.4
SVB Belmont 91.74 66 eP **P** 11 08 57.9 +0.1
comp=Z,364nm,1.0s
SVB LR LR
comp=Z,50µm,20.0s
VAM Vamos 91.75 347 P **P** 11 08 55.8 -1.7
IDI Anoyia 91.77 346 LR LR 11 54 29.8
comp=Z,27µm,20.7s,baz=13,slow=38
IDI Anoyia 91.77 346 P **P** 11 08 54.1 -3.6
IDI Anoyia 91.77 346 eP **P** 11 08 56.9 -0.8
comp=Z,197nm,1.2s
IDI LR LR
comp=Z,40µm,22.0s
EBNR Beni Rached 91.78 5 P **P** 11 08 57.0 -0.7
LAST Lasithi 91.81 346 P **P** 11 08 55.8 -2.1
FCV Fort Charlotte 91.84 66 eP **P** 11 08 59.6 +1.4
CKFL Kef-Lekhel 91.86 1 P **P** 11 08 58.2 0.0
ECHA Ech Chlef 91.91 6 P **P** 11 08 57.5 -0.7
SALA Sala 91.94 336 eP **P** 11 09 02.7 +4.0
SALA Sala 91.94 336 eP **P** 11 08 59.8 +1.1
EMHD Djebel Mahouad 91.94 4 P **P** 11 08 59.0 +0.4
MMAI Mount Meron Ar 91.97 337 LR LR 11 55 45.9
comp=Z,15µm,18.0s,baz=20,slow=39
OKGL Djebel Kef Gue 91.97 6 P **P** 11 09 02.0 +3.4
ABSA Djebel Ababsia 91.99 1 P **P** 11 08 59.0 +0.3
CASM Ain Smara 91.99 1 P **P** 11 08 58.8 +0.1
TMBK Timbaki Herakl 92.00 347 P **P** 11 08 59.4 +0.8
SET Setif 92.03 2 P **P** 11 09 02.0 +3.1
SIVA Sivas 92.05 346 P **P** 11 08 58.0 -0.9
EANR 'Ain N'Sour 92.09 6 P **P** 11 08 59.5 +0.3
GOA Goa 92.14 299 eP **P** 11 08 58.8 -0.7
GOA IAmb IAmb 11 08 59.9
comp=Z,536nm,1.2s
CTEI Djebel Teioual 92.19 2 P **P** 11 09 00.2 +0.5
SJAC San Juan de Ar 92.21 82 eP **P** 11 09 01.1 +1.0
CKHR Kef el Ahmar 92.22 2 P **P** 11 09 00.4 +0.6
WDD Wied Dalam 92.26 355 eP **P** 11 08 59.2 -0.7
comp=Z,170nm,1.0s
WDD LR LR
comp=Z,24µm,22.0s
GVD Gavdhos 92.33 347 P **P** 11 08 58.5 -1.7
GVD Gavdhos 92.33 347 eP **P** 11 08 58.5 -1.7
GRSS Sisters 92.33 67 eP P 11 09 05.8 +5.4
GRSS Sisters 92.33 67 e **PP** 11 12 35.9 -5.2
ASF Jabal al Asfar 92.41 336 PKPPKP **P'P'df** 11 34 26.2 -3.1
comp=Z,2.4nm,1.0s,baz=151,slow=8.8,SNR=5.5
ASF LR LR 11 54 59.9
comp=Z,7µm,19.7s,slow=38
GRW Mount Saint Ca 92.41 67 eP P 11 09 08.0 +7.0
GRW Mount Saint Ca 92.41 67 e **PP** 11 12 48.3 +6.5
GRGR Grenville 92.44 67 e **P** 11 08 56.7 -4.3
GRGR Grenville 92.44 67 eP **P** 11 09 05.3 +4.3
GRGR Grenville 92.44 67 e **PP** 11 12 43.6 +1.7
GRGR Grenville 92.44 67 eP PP 11 12 50.9 +8.9
GRGR Grenville 92.44 67 PFAKE 11 09 10.0 +9.0
GRGR LR LR
comp=Z,71µm,21.0s
GRGR Grenville 92.44 67 eP **P** 11 09 01.6 +0.7
PMPS Porto Santo 92.50 20 eP **P** 11 09 00.6 -0.4
comp=Z,1µm,1.5s
OJGS Djebel Guires 92.51 6 P **P** 11 09 03.0 +1.9
KEST Kesra 92.53 359 P **P** 11 09 00.8 -0.4
comp=Z,47nm,0.9s,baz=19,slow=1.3,SNR=24
KEST PKKPbc **PKKPbc** 11 26 12.7 +1.0
comp=Z,14nm,1.0s,baz=185,slow=4.0,SNR=7.1
KEST Kesra 92.53 359 eP **P** 11 09 00.8 -0.4
comp=Z,294nm,1.4s
KEST LR LR
comp=Z,36µm,20.0s
PMOZ Porto Moniz, M 92.54 21⇑ eP **P** 11 09 01.1 -0.2
comp=Z,1µm,1.3s
PMOZ Porto Moniz, M 92.54 21 eS **S** 11 20 01.8 -0.1
PMOZ Porto Moniz, M 92.54 21 eLQ LQ 11 33 14.6
PMOZ eLR LR 11 38 28.6
comp=Z,36µm,22.0s
UOSS Minazif 92.59 318 eP **P** 11 08 59.5 -2.0
comp=Z,778nm,1.3s
UOSS LR LR
comp=Z,61µm,22.0s
OLHC Oulhaca 92.60 8 P **P** 11 09 03.0 +1.5
OTSS Djebel Tessala 92.62 7 P **P** 11 09 03.0 +1.3
ODJA Bouhanifia 92.62 7 P **P** 11 09 02.0 +0.4
ETRT Tiaret 92.66 6 P **P** 11 09 02.4 +0.5
PMAR Madeira 92.69 21 eP **P** 11 09 02.3 +0.1
comp=Z,2µm,1.5s
HATD Hatta, Dubai 92.72 318 i P **P** 11 09 00.7 -1.5
SNR=159
FUL Funchal 92.77 21 eP **P** 11 09 02.5 +0.2
NAZ Nazwa, Dubai 92.77 318 i P **P** 11 09 00.9 -1.5
SNR=160
BBGH Gun Hill 92.80 65 eP **P** 11 09 05.9 +3.3
BBGH Gun Hill 92.80 65 e PP 11 13 03.7 +19
BBGH Gun Hill 92.80 65 PFAKE 11 09 10.0 +7.4
BBGH LR LR
comp=Z,57µm,22.0s
BBGH Gun Hill 92.80 65 eP P 11 09 08.2 +5.5
ASHO Ashiyiah 92.88 318 i P **P** 11 09 01.3 -1.7
SNR=222
ASHO Ashiyiah 92.88 318 P **P** 11 09 01.4 -1.5
SNR=130
ASHO S **SKSac** 11 19 30.2 -2.9
ASHO Ashiyiah 92.88 318 P **P** 11 09 01.4 -1.5
SNR=130
BFZ Birch Farm 93.00 189 eP **P** 11 09 04.7 +1.9
comp=Z,77nm,1.0s
BFZ LR LR
comp=Z,44µm,21.0s
FAQ Al Faqa, Dubai 93.02 318 i P **P** 11 09 01.7 -1.8
SNR=105
BIDO Bidbid 93.02 315 P **P** 11 09 02.6 -1.0
SNR=42
BIDO P **P** 11 09 02.6 -1.0
SNR=42
BIDO Bidbid 93.02 315 P **P** 11 09 02.6 -1.0
SNR=42
STKA Stephens Creek 93.08 218 P **P** 11 09 03.2 -0.1
comp=Z,86nm,1.0s,baz=360,slow=6.0,SNR=41
STKA PKKPbc **PKKPbc** 11 26 13.6 +2.2
comp=Z,9.2nm,0.7s,baz=210,slow=4.3,SNR=7.0
STKA LR LR 11 47 19.7
comp=Z,66µm,20.6s,baz=19,slow=33
STKA Stephens Creek 93.08 218 eP **P** 11 09 03.2 -0.1
comp=Z,40nm,1.3s
STKA LR LR
comp=Z,16µm,21.0s
RTC Rabat Centre 93.25 13 PFAKE 11 09 20.0 +16
RTC LR LR
comp=Z,86µm,22.0s
HOQ Hoqain 93.32 316 P **P** 11 09 04.5 -0.5
SNR=63
HOQ Hoqain 93.32 316 P **P** 11 09 04.5 -0.5
SNR=63
SMDO Samad 93.46 315 P **P** 11 09 05.1 -0.7
SNR=102
SMDO Samad 93.46 315 P **P** 11 09 05.1 -0.7
SNR=102
TCE Chacachacare 93.55 68 eP **P** 11 09 05.3 -0.8
CAN Canberra 93.59 211 eP **P** 11 09 08.0 +2.3
CAN pmax pmax
comp=Z,95nm,1.3s
CAN MLR MLR
comp=Z,28µm,22.0s
CAN Canberra 93.59 211 eP **P** 11 09 08.0 +2.3
comp=Z,95nm,1.3s
CAN LR LR
comp=Z,28µm,22.0s
GUVC San Jose del G 93.59 81 eP **P** 11 09 07.6 +1.3
XMIS Christmas Isla 93.69 258 eP **P** 11 09 06.7 +0.1
comp=Z,157nm,1.0s
XMIS LR LR
comp=Z,13µm,22.0s
TOSP Speyside 93.75 66 eP **P** 11 09 08.2 +1.3
TOSP Speyside 93.75 66 eP **P** 11 09 08.3 +1.3
TOSP Speyside 93.75 66 e PP 11 13 08.0 +16
SNZO South Karori 93.78 190 PFAKE 11 09 20.0 +14
SNZO LR LR
comp=Z,40µm,22.0s
ARQ Araqi 93.87 317 P **P** 11 09 06.5 -1.0
SNR=259
ARQ Araqi 93.87 317 P **P** 11 09 06.5 -1.0
SNR=259
TPP Pointe-a-Pierr 94.03 68 eP **P** 11 09 10.8 +2.5
TPP Pointe-a-Pierr 94.03 68 e **PP** 11 12 50.1 -4.3
JMDO Jabal Madar 94.04 315 P **P** 11 09 07.6 -0.7
SNR=124
JMDO Jabal Madar 94.04 315 P **P** 11 09 07.6 -0.7
SNR=124
TBH Brigand Hill 94.11 67 eP **P** 11 09 10.1 +1.4
TBH Brigand Hill 94.11 67 e **PP** 11 12 57.7 +2.6
MBWA Marble Bar 94.12 241 eP **P** 11 09 07.5 -0.9
comp=Z,492nm,1.6s
MBWA LR LR
comp=Z,25µm,21.0s
MBWA Marble Bar 94.12 241 P **P** 11 09 07.9 -0.6
SNR=18
MBWA Marble Bar 94.12 241 P **P** 11 09 07.9 -0.6
SNR=18
THZ Tophouse 94.44 191 PFAKE 11 09 20.0 +11
THZ LR LR
comp=Z,22µm,20.0s
PALK Pallekele 94.92 288 i P **P** 11 09 11.9 -0.6
SNR=42
PALK Pallekele 94.92 288 eP **P** 11 09 12.6 +0.1
PALK pmax pmax
comp=Z,825nm,1.4s
PALK MLR MLR
comp=Z,38µm,21.0s
PALK Pallekele 94.92 288 eP **P** 11 09 12.6 +0.1
comp=Z,825nm,1.4s
PALK LR LR
comp=Z,38µm,21.0s
PALK Pallekele 94.92 288 P **P** 11 09 12.6 +0.1
SNR=18
PALK Pallekele 94.92 288 P **P** 11 09 12.6 +0.1
SNR=18
KHZ Kahutara 95.00 191 PFAKE 11 09 20.0 +8.1
KHZ LR LR
comp=Z,67µm,20.0s
EIL Elat 95.28 337 LR LR 11 57 36.4
comp=Z,10µm,19.0s,baz=30,slow=39
LTZ Lake Taylor 95.52 192 PFAKE 11 09 30.0 +16
LTZ LR LR
comp=Z,42µm,21.0s
RPN Rapa Nui 95.86 127 LR LR 11 44 02.8
comp=Z,26µm,20.0s,baz=320,slow=30
RPN Rapa Nui 95.86 127 PFAKE 11 09 30.0 +14
RPN LR LR
comp=Z,28µm,20.0s
OXZ Oxford 96.08 192 PFAKE 11 09 30.0 +13
OXZ LR LR
comp=Z,36µm,20.0s
TRD Trivandrum 96.09 292 eP **P** 11 09 17.9 +0.1
TRD IAmb IAmb 11 09 19.3
comp=Z,150nm,0.5s
BBOO Buckleboo 96.10 222 eP **P** 11 09 17.4 +0.2
comp=Z,75nm,1.2s
BBOO LR LR
comp=Z,45µm,22.0s
CRLZ Canterbury Las 96.26 191 PFAKE 11 09 30.0 +12

CRLZ				LR	LR				
	comp=Z,27μm,21.0s								
MQZ	**McQueen's Vall**	**96.38**	**191**	PFAKE			11 09 30.0	+12	
MQZ				LR	LR				
	comp=Z,24μm,20.0s								
FOZ	**Fox Glacier**	**96.59**	**193**	PFAKE			11 09 30.0	+11	
FOZ				LR	LR				
	comp=Z,43μm,22.0s								
RPZ	**Rata Peaks**	**96.59**	**192**	LR	LR		11 45 45.4		
	comp=Z,36μm,21.6s,baz=11,slow=31								
RPZ	**Rata Peaks**	**96.59**	**192**	PFAKE			11 09 30.0	+11	
RPZ				LR	LR				
	comp=Z,36μm,22.0s								
TOO	**Toolangi**	**96.79**	**213**	P	**P**		**11 09 21.0**	**+0.7**	
LBZ	**Lake Benmore**	**97.37**	**193**	PFAKE			11 09 30.0	+7.3	
LBZ				LR	LR				
	comp=Z,34μm,21.0s								
FORT	**Forrest**	**97.88**	**229**	*e*P	Pdif		11 09 25.9	+0.6	
	comp=Z,434nm,0.8s								
ODZ	**Otahua Downs**	**97.95**	**193**	PFAKE			11 09 40.0	+15	
ODZ				LR	LR				
	comp=Z,40μm,22.0s								
WKZ	**Wanaka**	**97.97**	**194**	PFAKE			11 09 40.0	+15	
WKZ				LR	LR				
	comp=Z,40μm,20.0s								
MLZ	**Mavora Lakes**	**98.63**	**194**	PFAKE			11 09 40.0	+12	
MLZ				LR	LR				
	comp=Z,36μm,22.0s								
DCZ	**Deep Cove**	**98.88**	**195**	PFAKE			11 09 40.0	+11	
DCZ				LR	LR				
	comp=Z,26μm,22.0s								
WHZ	**Wether Hill Ro**	**99.17**	**194**	PFAKE			11 09 40.0	+9.3	
WHZ				LR	LR				
	comp=Z,36μm,22.0s								
PYZ	**Puysegur Point**	**99.64**	**195**	PFAKE			11 09 40.0	+7.3	
PYZ				LR	LR				
	comp=Z,25μm,20.0s								
RBK	**Rabkut**	**100.03**	**316**	P	**Pdif**		**11 09 34.1**	**-1.3**	
	SNR=8.8								
RBK	**Rabkut**	**100.03**	**316**	Pdiff	**Pdif**		**11 09 34.1**	**-1.3**	
	SNR=8.8								
COCO	**West Island**	**100.39**	**264**	PFAKE			11 09 50.0	+13	
COCO				LR	LR				
	comp=Z,13μm,21.0s								
TAU	**Tasmania Unive**	**101.05**	**209**	PFAKE			11 09 50.0	+11	
TAU				LR	LR				
	comp=Z,24μm,21.0s								
PTGA	**Pitinga**	**103.80**	**73**	PFAKE			11 10 00.0	+7.8	
PTGA				LR	LR				
	comp=Z,54μm,22.0s								
NWAO	**Narrogin (SRO)**	**104.91**	**235**	PFAKE			11 10 10.0	+13	
NWAO				LR	LR				
	comp=Z,34μm,22.0s								
TAM	**Tamanrasset**	**105.39**	**3**	PFAKE			11 14 20.0		
TAM				LR	LR				
	comp=Z,25μm,21.0s								
DAMY	**Dhamar**	**106.60**	**323**	PFAKE			11 14 30.0		
DAMY				LR	LR				
	comp=Z,69μm,20.0s								
SACV	**Santiago Islan**	**107.71**	**32**	PFAKE			11 14 30.0		
SACV				LR	LR				
	comp=Z,16μm,22.0s								
SAML	**Samuel**	**108.38**	**81**	PFAKE			11 14 30.0		
SAML				LR	LR				
	comp=Z,20μm,22.0s								
MCQ	**Macquarie Isla**	**109.00**	**198**	PFAKE			11 14 30.0		
MCQ				LR	LR				
	comp=Z,26μm,21.0s								
LPAZ	**La Paz**	**111.01**	**90**	Pdiff	**Pdif**		**11 10 26.0**	**+1.1**	
	comp=Z,3.0nm,1.0s,baz=24,slow=3.4,SNR=6.3								
LPAZ				PKKPbc	**PKKPab**		**11 25 24.7**	**-5.6**	
	comp=Z,3.1nm,0.5s,baz=42,slow=3.3,SNR=9.1								
LPAZ	**La Paz**	**111.01**	**90**	*e*P	**Pdif**		**11 10 26.9**	**+2.0**	
LPAZ	**La Paz**	**111.01**	**90**	*e*Pdif	**Pdif**		**11 10 26.9**	**+2.0**	
MNMC	**Minye Minye**	**112.27**	**93**	*e*P	PP		11 15 03.0	-8.6	
PB11	**IPOC Station P**	**112.70**	**93**	PFAKE			11 14 40.0		
PB11				LR	LR				
	comp=Z,18μm,21.0s								
HMBC	**Humberstone**	**112.95**	**94**	*e*P	PP		11 14 48.7	-28	
PB08	**IPOC Station P**	**113.30**	**93**	*e*P	**PP**		**11 15 21.4**	**+2.3**	
PB01	**IPOC Station P**	**113.77**	**94**	*e*P	PP		11 15 05.1	-17	
PB01	**IPOC Station P**	**113.77**	**94**	PFAKE			11 14 40.0		
PB01				LR	LR				
	comp=Z,25μm,21.0s								
FURI	**Furi**	**113.88**	**327**	PFAKE			11 14 40.0		
FURI				LR	LR				
	comp=Z,39μm,20.0s								
PB07	**IPOC Station P**	**114.03**	**95**	*e*P	**PP**		**11 15 29.5**	**+5.5**	
PB04	**IPOC Station P**	**114.33**	**95**	*e*P	**PP**		**11 15 33.6**	**+7.5**	
PB04	**IPOC Station P**	**114.33**	**95**	PFAKE			11 14 40.0	+10	
PB04				LR	LR				
	comp=Z,29μm,22.0s								
TOC1	**Torodi Ar. Sit**	**114.75**	**7**	PFAKE			11 14 40.0	+10	
TOC1				LR	LR				
	comp=Z,27μm,20.0s								
TOC7	**Torodi Ar. Sit**	**114.75**	**7**	PFAKE			11 14 40.0	+9.5	
TOC7				LR	LR				
	comp=Z,23μm,20.0s								
TOB5	**Torodi Ar. Sit**	**114.77**	**7**	PFAKE			11 14 40.0	+9.5	
TOB5				LR	LR				
	comp=Z,25μm,21.0s								
TOC2	**Torodi Ar. Sit**	**114.77**	**7**	PFAKE			11 14 40.0	+9.5	
TOC2				LR	LR				
	comp=Z,25μm,20.0s								
TOA1	**Torodi Ar. Sit**	**114.77**	**7**	*e*Pdif	**Pdif**		**11 10 42.5**	**+1.5**	
TOA1				*e*PKiKP	**PKiKP**		**11 14 30.2**	**-0.3**	
TOA1				LR	LR				
	comp=Z,24μm,20.0s								
TOB2	**Torodi Ar. Sit**	**114.77**	**7**	PFAKE			11 14 40.0	+9.5	
TOB2				LR	LR				
	comp=Z,25μm,20.0s								
TOA0	**Torodi Ar. Sit**	**114.77**	**7**	PFAKE			11 14 40.0	+9.5	
TOA0				LR	LR				
	comp=Z,24μm,20.0s								
TORD	**Torodi Ar. Bea**	**114.77**	**7**	Pdiff	**Pdif**		**11 10 42.5**	**+1.5**	
	comp=Z,2.1nm,1.0s,baz=340,slow=4.7,SNR=6.0								
TORD				PKP	**PKiKP**		**11 14 30.2**	**-0.3**	
	comp=Z,22nm,0.6s,baz=344,slow=2.5,SNR=44								
TORD				PKKPbc	**PKKPbc**		**11 25 05.7**	**0.0**	
	comp=Z,15nm,0.7s,baz=163,slow=2.1,SNR=15								
TOB4	**Torodi Ar. Sit**	**114.78**	**7**	PFAKE			11 14 40.0	+9.4	
TOB4				LR	LR				
	comp=Z,23μm,20.0s								
TOB3	**Torodi Ar. Sit**	**114.78**	**7**	PFAKE			11 14 40.0	+9.4	
TOB3				LR	LR				
	comp=Z,24μm,20.0s								
TOC3	**Torodi Ar. Sit**	**114.78**	**7**	PFAKE			11 14 40.0	+9.4	
TOC3				LR	LR				
	comp=Z,25μm,20.0s								
TOC5	**Torodi Ar. Sit**	**114.79**	**7**	PFAKE			11 14 40.0	+9.4	
TOC5				LR	LR				
	comp=Z,26μm,20.0s								
TOC4	**Torodi Ar. Sit**	**114.80**	**7**	PFAKE			11 14 40.0	+9.4	
TOC4				LR	LR				
	comp=Z,24μm,20.0s								
PB10	**IPOC Station P**	**114.95**	**97**	PFAKE			11 14 40.0	+9.5	
PB10				LR	LR				
	comp=Z,26μm,21.0s								
PB06	**IPOC Station P**	**114.96**	**95**	*e*P	PP		11 15 43.8	+13	
SIV	**San Ignacio**	**115.13**	**84**	PKKPbc	PKKPbc		11 25 06.8	+2.4	
	comp=Z,2.4nm,0.5s,baz=218,slow=5.3,SNR=8.7								
LVC	**Limon Verde**	**115.29**	**95**	PKP	**PKPdf**		**11 14 32.7**	**+1.0**	
	comp=Z,32nm,0.8s,baz=291,slow=2.2,SNR=8.2								
LVC				PKKPbc	**PKKPab**		**11 25 08.3**	**-2.4**	
	comp=Z,57nm,0.8s,baz=6.6,slow=2.5,SNR=12								
LVC	**Limon Verde**	**115.29**	**95**	*e*PKPdf	**PKPdf**		**11 14 32.7**	**+1.0**	
LVC				LR	LR				
	comp=Z,27μm,22.0s								
YJA	**Yavi**	**117.06**	**92**	*e*P	**PKPdf**		**11 14 35.8**	**+0.6**	
HJA	**Humahuaca**	**117.89**	**92**	*e*P	**PKPdf**		**11 14 37.5**	**+0.8**	
MSEY	**Mahe Island**	**118.78**	**303**	PFAKE			11 14 50.0	+12	
MSEY				LR	LR				
	comp=Z,29μm,19.0s								
AZAP	**Zapla**	**118.85**	**93**	*e*P	**PKPdf**		**11 14 41.3**	**+3.0**	
LCO	**Las Campanas**	**118.88**	**101**	*e*PKPdf	**PKPdf**		**11 14 39.0**	**+0.7**	
LCO				LR	LR				
	comp=Z,25μm,21.0s								
TLL	**Tololo Astrono**	**119.65**	**102**	*e*P	**PKPdf**		**11 14 38.9**	**-0.8**	
TLL				*e*P	**PKiKP**		**11 14 39.8**	**+0.1**	
FSA	**Cafayete**	**119.67**	**95**	*e*P	**PKPdf**		**11 14 40.0**	**+0.2**	
VCA	**Vinchina**	**120.20**	**99**	*e*P	**PKPdf**		**11 14 41.5**	**+0.8**	
TIC	**Toumodi**	**120.39**	**15**	*e*PKiKP	**PKPdf**		**11 14 41.2**	**-0.2**	
TIC	**Toumodi**	**120.39**	**15**	*e*PKiKP	**PKKPbc**		**11 24 45.1**	**-0.6**	
DBIC	**Dimbokro**	**120.39**	**15**	PKP	**PKPdf**		**11 14 41.5**	**+0.2**	
	comp=Z,26nm,0.5s,baz=4.3,slow=2.5,SNR=24								
DBIC				PKKPbc	**PKKPbc**		**11 24 47.6**	**+1.9**	
	comp=Z,16nm,1.0s,baz=159,slow=4.9,SNR=5.0								
DBIC	**Dimbokro**	**120.39**	**15**	*e*PKPdf	**PKPdf**		**11 14 41.2**	**-0.2**	
AHML	**Horco Molle**	**120.55**	**95**	*e*P	**PKPdf**		**11 14 41.1**	**-0.2**	
AGUA	**GUANDACOL**	**120.56**	**100**	*e*P	**PKPdf**		**11 14 42.0**	**+0.7**	
KIC	**Kosan Boka**	**120.71**	**15**	*e*PKIKP	**PKPdf**		**11 14 41.8**	**-0.2**	
	comp=Z,308nm,1.3s								
KIC	**Kosan Boka**	**120.71**	**15**	*e*PKIKP	**PKKPbc**		**11 24 45.4**	**+0.9**	
	comp=Z,120nm,1.4s								
LIC	**Lamto**	**120.80**	**15**	*e*PKIKP	**PKPdf**		**11 14 41.9**	**-0.3**	
	comp=Z,246nm,0.8s								
LIC	**Lamto**	**120.80**	**15**	*e*PKIKP	**PKKPbc**		**11 24 44.8**	**+0.6**	
	comp=Z,103nm,1.4s								
RCBR	**Riachuelo**	**121.30**	**54**	PKKPbc	PKKPbc		11 24 45.7	+3.5	
	comp=Z,34nm,1.1s,baz=137,slow=6.4,SNR=4.2								
RCBR	**Riachuelo**	**121.30**	**54**	PFAKE			11 14 50.0	+6.9	
RCBR				LR	LR				
	comp=Z,40μm,21.0s								
ACLC	**CERRO LA CRUZ**	**121.46**	**99**	*e*P	**PKPdf**		**11 14 43.5**	**+0.4**	
CYA	**Choya**	**121.46**	**97**	*e*P	**PKPdf**		**11 14 43.1**	**+0.1**	
ROC1	**El Roble**	**121.51**	**104**	*e*PKPdf	**PKPdf**		**11 14 43.4**	**+0.2**	
ROC1				LR	LR				
	comp=Z,100nm,20.0s								
ROCH	**El Roble**	**121.51**	**104**	*e*P	**PKPdf**		**11 14 40.8**	**-2.4**	
AMOG	**MOGNA**	**121.60**	**101**	*e*P	**PKPdf**		**11 14 43.8**	**+0.6**	
RTLL	**Cerro Villicun**	**121.88**	**101**	↓*e*P	**PKPdf**		**11 14 46.1**	**+2.4**	
AUSP	**Uspallata**	**121.96**	**103**	*e*P	**PKPdf**		**11 14 44.3**	**+0.1**	
FCH	**Farellones**	**122.19**	**104**	*e*P	**PKPdf**		**11 14 45.1**	**+0.5**	
RTCV	**Cerro Valdivia**	**122.22**	**102**	*e*P	**PKPdf**		**11 14 45.3**	**+0.9**	
ASAL	**Salagasta**	**122.55**	**103**	*e*P	**PKPdf**		**11 14 45.6**	**+0.6**	
ARCO	**CERRO ARCO**	**122.67**	**103**	*e*P	**PKPdf**		**11 14 45.6**	**+0.3**	
AAGR	**Agrelo**	**122.90**	**103**	*e*P	**PKPdf**		**11 14 45.0**	**-0.7**	
ACAN	**Cantantal**	**123.32**	**101**	*e*P	**PKPdf**		**11 14 46.8**	**+0.4**	
KMBO	**Kilima Mbogo**	**123.70**	**324**	PKP	**PKPdf**		**11 14 49.6**	**+1.6**	
	comp=Z,72nm,1.0s,baz=8.0,slow=2.3,SNR=40								
KMBO				PP	**PP**		**11 16 29.5**	**-0.5**	
	comp=Z,26nm,1.1s,baz=28,slow=9.1,SNR=3.8								
KMBO				PKKPab	**PKKPab**		**11 24 38.5**	**+1.3**	
	comp=Z,8.8nm,1.0s,baz=169,slow=1.0,SNR=6.6								
KMBO				SKKP			11 28 38.1		
	comp=Z,2.4nm,0.4s,baz=187,slow=6.0,SNR=5.0								
TCA	**Tanti**	**124.25**	**98**	*e*P	**PKPdf**		**11 14 48.8**	**+0.4**	
MRA	**San Martin**	**124.32**	**100**	*e*P	**PKPdf**		**11 14 48.8**	**+0.4**	
CPUP	**Villa Florida**	**125.16**	**89**	PKP	**PKPdf**		**11 14 50.1**	**+0.1**	
	comp=Z,45nm,0.5s,baz=335,slow=2.1,SNR=38								
CPUP				PKKPab	**PKKPab**		**11 24 34.0**	**+5.9**	
	comp=Z,4.1nm,0.8s,baz=77,slow=4.7,SNR=3.1								
CPUP	**Villa Florida**	**125.16**	**89**	*e*PKIKP	**PKPdf**		**11 14 50.4**	**+0.4**	
CPUP	**Villa Florida**	**125.16**	**89**	*e*PKPdf	**PKPdf**		**11 14 50.4**	**+0.4**	
SUCO	**SUCO**	**125.46**	**100**	*e*P	**PKPdf**		**11 14 50.9**	**+0.4**	
PLCA	**Paso Flores**	**127.04**	**111**	PKP	**PKPdf**		**11 14 53.1**	**-0.2**	
	comp=Z,107nm,0.9s,baz=289,slow=2.1,SNR=43								
SPB	**Sao Paulo**	**129.20**	**78**	*e*PKPdf	**PKPdf**		**11 14 59.1**	**+1.3**	
SPB				LR	LR				
	comp=Z,28μm,20.0s								
CHRN	**Cochrane**	**130.00**	**119**	*e*P	**PKPdf**		**11 15 00.8**	**+2.2**	
CHRN	**Cochrane**	**130.00**	**119**	*e*PKPdf	**PKPdf**		**11 15 00.3**	**+1.7**	
TRQA	**Tornquist**	**130.36**	**103**	*e*PKPdf	**PKPdf**		**11 15 00.1**	**+0.5**	
TRQA				LR	LR				
	comp=Z,27μm,20.0s								
SBA	**Scott Base**	**130.37**	**186**	*e*PKHKP	PKPpre		11 14 46.0		
SBA				*e*			11 14 59.6		
SBA				MLR	MLR				
	comp=Z,19μm,21.0s								
SBA	**Scott Base**	**130.37**	**186**	*e*PKPpre	PKPpre		11 14 46.0		
SBA				*e*PKPdf	**PKiKP**		**11 14 59.6**	**+0.3**	
SBA				LR	LR				
	comp=Z,19μm,21.0s								
VNDA	**Vanda**	**130.40**	**187**	PKP	**PKPdf**		**11 14 57.8**	**-0.7**	
	comp=Z,12nm,0.8s,baz=346,slow=3.1,SNR=6.5								
VNDA				SKPbc	**SKPbc**		**11 18 18.0**	**+0.2**	
	comp=Z,64nm,1.2s,baz=4.2,slow=5.5,SNR=14								
VNDA	**Vanda**	**130.40**	**187**	*e*PKPpre	PKPpre		11 14 45.5		
VNDA				*e*PKPdf	**PKPdf**		**11 14 57.8**	**-0.7**	
RER	**Riviere de l'E**	**132.20**	**292**	PFAKE			11 15 20.0	+16	
RER				LR	LR				
	comp=Z,39μm,22.0s								
ASCN	**Ascension**	**132.21**	**31**	PFAKE			11 15 20.0	+16	
ASCN				LR	LR				
	comp=Z,28μm,19.0s								
ABPO	**Ambohimpanom**	**135.14**	**303**	*e*PKIKP	**PKPdf**		**11 15 11.0**	**+1.6**	
ABPO				MLR	MLR				
	comp=Z,40μm,20.0s								
ABPO	**Ambohimpanom**	**135.14**	**303**	*e*PKPdf	**PKPdf**		**11 15 11.0**	**+1.6**	
ABPO				LR	LR				
	comp=Z,40μm,20.0s								
MIR	**Mirnyy**	**138.07**	**217**	↓*i*PKIKP	**PKPdf**		**11 15 10.0**	**-3.1**	
MIR				*i*			11 18 04.0		
MIR				pmax	pmax				
	comp=Z,5μm,8.0s								
LSZ	**Lusaka**	**139.98**	**329**	PKhKP	PKPpre		11 15 12.1		
	comp=Z,17nm,0.5s,baz=32,slow=3.5,SNR=32								
LSZ				SKPbc	**SKiKP**		**11 18 52.6**	**-0.3**	
	comp=Z,119nm,1.2s,baz=94,slow=3.4,SNR=6.0								
LSZ	**Lusaka**	**139.98**	**329**	*e*PKHKP	PKPpre		11 15 11.7		
LSZ				MLR	MLR				
	comp=Z,48μm,21.0s								
LSZ	**Lusaka**	**139.98**	**329**	*e*PKPpre	PKPpre		11 15 11.7		
LSZ				LR	LR				
	comp=Z,48μm,21.0s								
EFI	**East Falkland**	**140.35**	**117**	PFAKE			11 15 30.0	+12	
EFI				LR	LR				
	comp=Z,24μm,21.0s								
QSPA	**South Pole Qui**	**141.86**	**180**	PFAKE			11 15 30.0	+10	
QSPA				LR	LR				
	comp=Z,14μm,20.0s								
SHEL	**Horse Pasture**	**142.25**	**22**	PFAKE			11 15 30.0	+7.7	
SHEL				LR	LR				
	comp=Z,20μm,21.0s								
PMSA	**Palmer Station**	**142.32**	**138**	*e*PKPpre	PKPpre		11 15 16.3		
PMSA				LR	LR				
	comp=Z,73μm,22.0s								
BLWY	**Bulawayo**	**144.38**	**326**	*i* P	**PKPdf**		**11 15 25.9**	**-0.2**	
MATP	**Matopo**	**144.68**	**326**	*i* P	PKPbc		11 15 25.6	+0.1	
MATP	**Matopo**	**144.68**	**326**	PKP	**PKPab**		**11 15 25.2**	**-0.2**	
	comp=Z,938nm,1.0s,baz=347,slow=2.2,SNR=205								
MATP				PP	**PP**		**11 18 42.9**	**-0.3**	
	comp=Z,66nm,1.0s,baz=21,slow=9.3,SNR=2.3								
TSUM	**Tsumeb**	**146.37**	**344**	PKPbc	**PKPbc**		**11 15 30.7**	**-0.2**	
	comp=Z,280nm,0.6s,baz=2.1,slow=3.5,SNR=144								
TSUM	**Tsumeb**	**146.37**	**344**	*i* P	**PKPab**		**11 15 32.1**	**+0.4**	
TSUM	**Tsumeb**	**146.37**	**344**	*e*PKPdf	**PKPbc**		**11 15 30.3**	**-0.5**	
TSUM				*e*PKPdf	**PKPbc**		**11 15 30.7**	**-0.2**	
TSUM				LR	LR				
	comp=Z,32μm,20.0s								
KJAB	**KAMANJAB**	**147.18**	**349**	*i* P	**PKPbc**		**11 15 33.7**	**+0.6**	
KJAB				*i* S	**PKiKP**		**11 15 35.1**	**-0.4**	
MAW	**Mawson**	**149.77**	**218**	PKP	**PKPdf**		**11 15 33.7**	**+0.3**	
	comp=Z,17nm,1.0s,baz=42,slow=3.0,SNR=14								
MAW				PKPbc	**PKPbc**		**11 15 38.5**	**+0.3**	
	comp=Z,506nm,0.9s,baz=78,slow=3.0,SNR=94								
MAW	**Mawson**	**149.77**	**218**	PFAKE			11 15 50.0	+6.2	
MAW				LR	LR				
	comp=Z,4μm,22.0s								
LBTB	**Lobatse**	**149.91**	**327**	PKP	**PKPdf**		**11 15 35.8**	**+0.6**	
	comp=Z,95nm,1.1s,baz=322,slow=0.3,SNR=22								
LBTB				PKPbc	**PKiKP**		**11 15 40.6**	**-0.4**	
	comp=Z,731nm,0.6s,baz=35,slow=1.9,SNR=35								
CRZF	**Crozet Islands**	**151.34**	**264**	*e*PKPdf	**PKPdf**		**11 15 37.6**	**+1.1**	
CRZF				*e*PKPbc	**PKiKP**		**11 15 43.8**	**+0.7**	
CRZF				*e*			11 15 51.9		
CRZF				LR	LR				
	comp=Z,16μm,21.0s								
BOSA	**Boshof**	**153.34**	**325**	*i* P	**PKPbc**		**11 15 45.9**	**-1.9**	
BOSA	**Boshof**	**153.34**	**325**	PKP	**PKPdf**		**11 15 39.9**	**-0.4**	
	comp=Z,20nm,0.9s,baz=6.9,slow=1.0,SNR=15								
BOSA				PKPbc	**PKiKP**		**11 15 48.0**	**+0.1**	
	comp=Z,72nm,0.4s,baz=23,slow=2.1,SNR=72								
BOSA	**Boshof**	**153.34**	**325**	PKIKP	**PKPdf**		**11 15 39.9**	**-0.4**	
BOSA							11 15 48.0		
BOSA				pmax	pmax				
	comp=Z,39nm,0.9s								
BOSA	**Boshof**	**153.34**	**325**	*e*PKPdf	**PKPdf**		**11 15 39.3**	**-1.0**	
BOSA				*e*PKPdf	**PKPdf**		**11 15 39.9**	**-0.4**	
BOSA				*e*PKPbc	**PKiKP**		**11 15 48.0**	**+0.1**	
HOPE	**Hope Point**	**153.43**	**113**	PFAKE			11 15 50.0	+3.0	
HOPE				LR	LR				
	comp=Z,48μm,20.0s								
ARMS	**Ukamas**	**154.48**	**336**	*i* P	**PKPdf**		**11 15 44.7**	**+2.9**	
ARMS				*i* S	**PKiKP**		**11 15 54.0**	**+3.7**	
SYO	**Syowa Base**	**157.53**	**209**	↓*e*X	**PKPdf**		**11 15 41.4**	**-3.0**	
SUR	**Sutherland**	**158.28**	**330**	PKP	**PKPdf**		**11 15 47.4**	**+0.6**	
	comp=Z,2.2nm,1.0s,baz=135,slow=5.0,SNR=4.5								
SUR	**Sutherland**	**158.28**	**330**	*e*PKPdf	**PKPdf**		**11 15 50.5**	**+3.7**	
SUR				LR	LR				
	comp=Z,36μm,20.0s								
TRIS	**Tristan da Cun**	**159.11**	**52**	PFAKE			11 16 00.0	+13	
TRIS				LR	LR				
	comp=Z,20μm,21.0s								
VNA3	**Neumayer Olymp**	**159.16**	**164**	PKP	**PKPdf**		**11 15 44.9**	**-1.5**	
SNAA	**Sanae**	**159.74**	**170**	PKP	**PKPdf**		**11 15 45.5**	**-1.7**	
SNAA	**Sanae**	**159.74**	**170**	PKP	**PKPdf**		**11 15 44.6**	**-2.5**	
	comp=Z,27nm,1.1s,baz=162,slow=2.2,SNR=29								
SNAA				PKPab	**PKPab**		**11 16 26.6**	**+0.3**	
	comp=Z,32nm,0.7s,baz=186,slow=9.5,SNR=13								
SNAA	**Sanae**	**159.74**	**170**	*e*PKPdf	**PKPdf**		**11 15 44.5**	**-2.7**	
SNAA				*e*PKPab	**PKPab**		**11 16 27.4**	**+1.1**	
SNAA				LR	LR				
	comp=Z,38μm,20.0s								
VNA1	**Neumayer--Stat**	**159.91**	**164**	PKP	**PKPdf**		**11 15 46.5**	**-0.7**	
NVL	**N'lazarevskaya**	**161.20**	**184**	*e*PKIKP	**PKPdf**		**11 15 48.6**	**0.0**	
NVL				*e*			11 20 14.8		
NVL				*e*SS	SS		11 40 30.9	+3.6	
NVL				*e*SSS	SSS		11 46 45.0		

IDC 02 11:00:09.3±8.4, 49.73N×107.06E, h0km, Error ellipse: s-maj=47.9km s-min=33.9km az=12.0, Tuva-Buryatia-Mongolia border region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
SONM	**Songino Array**	**1.94**	**193**	Pg	Pb		11 00 44.7	-0.9
	1.4nm,0.3s,baz=9.8,slow=16,SNR=12							
SONM				Lg	Lg		11 01 11.2	
	2.5nm,0.3s,baz=9.1,slow=28,SNR=15							
I34MN	**SONGINO INFRAS**	**1.97**	**193**	*i*			11 12 30.0	
	baz=14,slow=325,SNR=13							
I44RU	**PETROPAVLOVSK**	**31.23**	**64**	*i*			14 10 00.0	
	baz=276,slow=314,SNR=1.2							

NEIC 02 11:02:49.0±0.0, 52.02N×171.45W, h42km, ML3.8(AEIC), **After AEIC., Fox Islands**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
KOSE	**Korovin Southe**	**1.63**	**283**	P		Pn	11 03 16.2	+1.0
KOFP	**Korovin Flat P**	**1.65**	**280**	P		Pn	11 03 16.4	+1.0
KONE	**Korovin Northe**	**1.68**	**284**	P		Pn	11 03 17.2	+1.3
ATKA	**Atka Island**	**1.70**	**277**	P		Pn	11 03 15.8	-0.3
ATKA				S		Sn	11 03 36.4	-0.2
KOKV	**Korovin Volcan**	**1.70**	**283**	P		Pn	11 03 17.3	+1.1
KOKV				S		Sn	11 03 39.3	+2.5
NIKH	**Nikolski High**	**1.86**	**58**	P		Pn	11 03 18.3	+0.1
NIKH				S		Sn	11 03 41.9	+1.4
OKSO	**Okmok South**	**2.41**	**55**	P		Pn	11 03 27.0	+1.1
OKSO				S		Sn	11 03 56.5	+2.4
OKCE	**Okmok Cone E**	**2.45**	**54**	P		Pn	11 03 27.5	+1.1
GSMY	**Great Sitkin M**	**2.84**	**272**	P		Pn	11 03 32.3	+0.5
GSTD	**Great Sitkin T**	**2.90**	**273**	P		Pn	11 03 33.0	+0.4
ETKA	**Kagalaska Isla**	**3.07**	**269**	P		Pn	11 03 35.2	+0.4

SOME ***02*** *11:03:42.8, 40.65N×73.97E, h10km*
NNC ***02*** *11:03:44.4±3.9, 40.77N×73.97E, h0km, mb2.9, mpv2.5, Error ellipse: s-maj=28.3km s-min=15.6km az=167.0*
KRNET ***02*** *11:03:45.3±0.1, 40.86N×73.91E, h18km, mb2.2*

ISC 02 11:03:45.0±1.7, 40.83N±0.06×73.92E±0.03, h4km±20km, n13, σ0.82/24, 13C-9D, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res

ATKA				S	Sn	11 10 48.1	-2.0		
KONE	**Korovin Northe**	**1.71**	**291**	P	Pn	11 10 29.0	-0.4		
NIKH	**Nikolski High**	**2.01**	**53**	P	Pn	11 10 33.7	+0.2		
NIKH				S	Sn	11 10 58.2	+0.6		
OKSO	**Okmok South**	**2.57**	**51**	P	Pn	11 10 42.0	+0.8		
OKSO				S	Sn	11 11 12.7	+1.1		
OKCE	**Okmok Cone E**	**2.61**	**50**	P	Pn	11 10 43.5	+1.7		
OKFG	**Magazine Ridge**	**2.73**	**52**	P	Pn	11 10 44.6	+1.3		
OKFG				S	Sb	11 11 19.0	-3.5		
GSTR	**Great Sitkin T**	**2.83**	**278**	P	Pn	11 10 44.9	+0.2		
UNV	**Unalaska Valle**	**3.67**	**54**	P	Pn	11 10 57.7	+1.5		

NEIC 02 11:12:22.5±0.0, 51°.86N×171°.46W, h42km, ML3.6(AEIC), After AEIC., Fox Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KOSE	**Korovin Southe**	**1.67**	**288**	P	Pn	11 12 50.7	+1.5
ATKA	**Atka Island**	**1.72**	**283**	P	Pn	11 12 49.5	-0.4
ATKA				S	Sn	11 13 11.3	+0.7
NIKH	**Nikolski High**	**1.95**	**54**	P	Pn	11 12 52.7	-0.3
NIKH				S	Sn	11 13 16.8	+0.5
OKSO	**Okmok South**	**2.51**	**52**	P	Pn	11 13 01.5	+0.7
OKSO				S	Sn	11 13 32.6	+2.4
OKFG	**Magazine Ridge**	**2.66**	**53**	P	Pn	11 13 03.8	+0.9
OKFG				S	Sn	11 13 36.2	+2.3
ETKA	**Kagalaska Isla**	**3.06**	**272**	P	Pn	11 13 07.4	-1.0
MSW	**Makushin Switc**	**3.50**	**52**	P	Pn	11 13 14.8	+0.3
UNV	**Unalaska Valle**	**3.61**	**55**	P	Pn	11 13 15.9	+0.2
UNV				S	Sn	11 14 00.6	+3.6

IDC 02 11:13:33.5±2.6, 49°.66N×107°.08E, h0km, Error ellipse: s-maj=29.5km s-min=11.0km az=74.0, Tuva-Buryatia-Mongolia border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SONM	**Songino Array**	**1.88**	**194**	Pg	Pn	11 14 07.5	+0.5
	3.3nm,0.3s,baz=9.1,slow=18,SNR=42						
SONM				Lg	Lg	11 14 33.6	
	8.2nm,0.3s,baz=16,slow=28,SNR=24						
I34MN	**SONGINO INFRAS**	**1.91**	**194**	*i*		11 26 00.0	
	baz=14,slow=325,SNR=12						
TLY	**Talaya**	**2.98**	**314**	Pg	Pb	11 14 26.0	-1.4
	0.0nm,0.3s,baz=129,slow=16,SNR=8.1						
TLY				Lg	Lg	11 15 07.0	
	0.0nm,0.3s,baz=102,slow=19,SNR=8.1						
I44RU	**PETROPAVLOVSK**	**31.25**	**64**	*i*		14 28 20.0	
	baz=279,slow=316,SNR=0.9						

*ISCJB **02** 11:14:00.1±1.1, 51°.9N±0°.1×171°.48W±0°.07, h50km±9km, mb4.0/7, Error ellipse: s-maj=23.1km s-min=4.2km az=165.1*
*NEIC **02** 11:14:00.3±0.0, 51°.90N×171°.46W, h42km, mb4.0/1, ML3.9(AEIC), After AEIC.*
*IDC **02** 11:14:02.2±8.5, 52°.14N×171°.55W, h46km±81km, mb3.8/6, mb1 4.0/8, mb1mx3.6/68, mbtmp4.0/8, ML3.7/2, Error ellipse: s-maj=58.0km s-min=18.2km az=178.0*
ISC 02 11:14:01.5±1.8, 51°.9N±0°.2×171°.51W±0°.05, h46km±16km, n27, σ1ᵎ02/33, mb4.0/7, Fox Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KOSE	**Korovin Southe**	**1.63**	**287**	P	**Pn**	**11 14 27.7**	**0.0**
KONE	**Korovin Northe**	**1.68**	**288**	P	**Pn**	**11 14 28.2**	**-0.2**
ATKA	**Atka Island**	**1.69**	**281**	P	**Pn**	**11 14 26.4**	**-2.1**
ATKA				S	**Sn**	**11 14 49.3**	**+0.4**
KOKL	**Mount Kliuchef**	**1.71**	**285**	P	**Pn**	**11 14 28.8**	**-0.1**
NIKH	**Nikolski High**	**1.95**	**55**	P	**Pn**	**11 14 31.1**	**-1.0**
NIKH				S	**Sn**	**11 14 53.8**	**-1.5**
OKSO	**Okmok South**	**2.51**	**53**	P	**Pn**	**11 14 39.6**	**-0.2**
OKSO				S	**Sn**	**11 15 09.5**	**+0.3**
OKFG	**Magazine Ridge**	**2.66**	**54**	P	**Pn**	**11 14 41.7**	**-0.2**
OKFG				S	**Sn**	**11 15 14.4**	**+1.6**
GSTD	**Great Sitkin T**	**2.87**	**275**	P	**Pn**	**11 14 44.6**	**-0.2**
GSTD				S	**Sn**	**11 15 20.2**	**+2.0**
ETKA	**Kagalaska Isla**	**3.04**	**271**	P	**Pn**	**11 14 47.6**	**+0.6**
MSOM	**Makushin Julie**	**3.37**	**53**	P	**Pn**	**11 14 51.7**	**+0.2**
MSW	**Makushin Switc**	**3.50**	**53**	P	**Pn**	**11 14 53.5**	**+0.1**
MSW				S	**Sn**	**11 15 35.5**	**+2.0**
UNV	**Unalaska Valle**	**3.61**	**55**	P	**Pn**	**11 14 55.2**	**+0.4**
UNV				S	**Sn**	**11 15 36.4**	**+0.3**
AHB	**Akutan Harbor**	**4.09**	**55**	P	**Pn**	**11 15 01.1**	**-0.4**
AKSA	**Akutan Strait**	**4.16**	**55**	P	**Pn**	**11 15 02.0**	**-0.5**
WESP	**Westdahl Peak**	**4.84**	**55**	P	**Pn**	**11 15 11.7**	**-0.1**
SPIA	**Saint Paul Isl**	**5.34**	**7**	P	**Pn**	**11 15 18.7**	**+0.1**
SDPT	**Sand Point**	**7.41**	**58**	P	**Pn**	**11 15 46.5**	**-0.5**
ILAR	**Eielson Array**	**18.09**	**35**	P	**P**	**11 18 07.9**	**-1.1**
	0.2nm,0.3s,baz=218,slow=9.6,SNR=7.3						
PETK	**Petropavlovsk-**	**18.72**	**286**	P	**P**	**11 18 15.6**	**-0.4**
	0.5nm,0.3s,baz=82,slow=11,SNR=5.1						
DAWY	**Dawson**	**20.66**	**42**	*e*P	Pn	11 18 39.1	-0.6
	9.2nm,1.2s						
DLBC	**Dease Lake**	**24.26**	**58**	P	**P**	**11 19 16.1**	**+2.1**
	2.2nm,0.4s,baz=221,slow=8.6,SNR=7.0						
INK	**Inuvik**	**24.47**	**34**	P	**P**	**11 19 14.2**	**-1.5**
	5.5nm,0.9s,baz=226,slow=7.0,SNR=5.5						
YKA	**Yellowknife Ar**	**31.54**	**48**	P	**P**	**11 20 18.6**	**-0.3**
	0.5nm,0.4s,baz=275,slow=9.1,SNR=6.9						
PDAR	**Pinedale Array**	**41.79**	**77**	P	**P**	**11 21 47.0**	**+0.4**
	1.4nm,0.5s,baz=308,slow=2.7,SNR=11						
SONM	**Songino Array**	**50.40**	**300**	P	**P**	**11 22 53.0**	**-1.1**
	0.6nm,0.5s,baz=38,slow=7.3,SNR=2.4						
TXAR	**Lajitas Array**	**54.08**	**87**	P	**P**	**11 23 21.8**	**+0.2**
	0.9nm,0.6s,baz=301,slow=5.7,SNR=14						
CMAR	**Chiang Mai Arr**	**75.43**	**281**	P	**P**	**11 25 41.4**	**+0.8**
	1.8nm,0.4s,baz=16,slow=6.1,SNR=4.9						

NNC 02 11:21:19.7±3.8, 37°.58N×71°.63E, h0km, mb3.8, mpv3.4, 3C-2D, Error ellipse: s-maj=31.2km s-min=13.8km az=156.0, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZET	**Dzherino**	**2.52**	**300**	⇑Pn	Pn	11 22 01.7	-0.4
	5.6nm,0.3s						
DZET				⇓Sn	Sn	11 22 34.5	+0.9
	19nm,0.3s						
MNAS	**Manas**	**4.95**	**8**	⇑Pn	Pn	11 22 36.2	+0.8
	1.5nm,0.3s						
MNAS				⇑Sn	Sn	11 23 33.7	+0.3
	1.6nm,0.4s						
KK31	**Karatay Array**	**5.59**	**352**	Pn	Pn	11 22 45.4	+1.3
	1.9nm,0.3s,baz=168,slow=12,SNR=26						
KK31				⇓Sn	Sn	11 23 50.9	+2.0
	4.1nm,0.6s,baz=168,slow=23,SNR=7.2						

*CSEM **02** 11:22:44.1, 38°.30N×21°.75E, h8km, ML1.1/2*
ATH 02 11:22:44.1, 38°.30N×21°.75E, h8km±3km, ML1.1/2, Error ellipse: s-maj=3.3km s-min=0.8km az=126.0, Greece

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
UPR	**University Cam**	**0.04**	**123**	P	Pg	11 22 46.0	+0.2
UPR				S	Sg	11 22 47.0	+0.1
UPR	**University Cam**	**0.04**	**123**	P	Pg	11 22 46.1	+0.4
UPR				S	Sg	11 22 47.1	+0.1
LAKA	**Lakka**	**0.19**	**109**	P	Pg	11 22 48.2	+0.1
LAKA				S	Sg	11 22 51.2	+0.4
LAKA	**Lakka**	**0.19**	**109**	P	Pg	11 22 48.3	+0.1
LAKA				S	Sg	11 22 51.4	+0.5
TRIZ	**Trizonia**	**0.26**	**77**	S	Sg	11 22 53.2	+0.3
TRIZ	**Trizonia**	**0.26**	**77**	S	Sg	11 22 53.0	+0.1
AXS	**Araxos**	**0.31**	**250**	P	Pg	11 22 50.3	0.0
AXS				S	Sg	11 22 54.9	+0.5
AXS	**Araxos**	**0.31**	**250**	P	Pg	11 22 50.2	-0.1
AXS				S	Sg	11 22 55.0	+0.6
ANX	**Ano Chora**	**0.32**	**25**	S	Sg	11 22 55.2	+0.4
ANX	**Ano Chora**	**0.32**	**25**	S	Sg	11 22 55.2	+0.5
ANX				AML	AML	11 22 56.3	
	comp=N,104μm,0.2s						
ANX				AML	AML	11 22 57.7	
	comp=E,59μm,0.2s						
KALE	**Kalithea**	**0.32**	**74**	P	Pg	11 22 50.7	+0.2
KALE				S	Sg	11 22 54.9	+0.1
KALE	**Kalithea**	**0.32**	**74**	P	Pg	11 22 50.9	+0.3
KALE				S	Sg	11 22 54.8	0.0
RLS	**Riolos of Patr**	**0.33**	**222**	S	Sg	11 22 54.7	-0.3
RLS	**Riolos of Patr**	**0.33**	**222**	S	Sg	11 22 53.9	-1.1
DRO	**Drossia**	**0.35**	**185**	P	Pg	11 22 51.4	+0.3
DRO	**Drossia**	**0.35**	**185**	P	Pg	11 22 51.8	+0.7
PVO	**Paravola**	**0.36**	**331**	P	Pg	11 22 51.0	-0.2
PVO				S	Sg	11 22 55.4	-0.5
PVO	**Paravola**	**0.36**	**331**	P	Pg	11 22 50.9	-0.3
PVO				S	Sg	11 22 54.6	-1.3
PVO				AML	AML	11 22 57.6	
	comp=N,96μm,0.3s						
PVO				AML	AML	11 22 57.7	
	comp=E,164μm,0.2s						
KLV	**Kalavryta, Ach**	**0.41**	**129**	P	Pg	11 22 52.3	+0.1
KLV				S	Sg	11 22 57.4	-0.2
KLV	**Kalavryta, Ach**	**0.41**	**129**	P	Pg	11 22 52.5	+0.3
KLV				S	Sg	11 22 56.7	-0.9
PDO	**Prodromos**	**0.53**	**304**	P	Pg	11 22 55.0	+0.6
PDO				S	Sg	11 23 02.1	+0.7
PDO	**Prodromos**	**0.53**	**304**	P	Pb	11 22 55.6	-0.1
PDO				S	Sg	11 23 02.4	+1.0

*IDC **02** 11:23:14.6±15.0, 17°.91S×168°.44E, h0km, mb4.5/4, mb1 4.6/5, mb1mx4.1/38, mbtmp4.5/5, ML3.9/1, Error ellipse: s-maj=250.1km s-min=54.6km az=70.0*
*ISCJB **02** 11:23:29.1±1.7, 18°.37S±0°.07×167°.1E±0°.2, h33km, mb4.6/9, Error ellipse: s-maj=28.2km s-min=7.6km az=166.2*
*NEIC **02** 11:23:31.5±1.1, 18°.51S×167°.07E, h35km, mb4.5/6, Error ellipse: s-maj=18.4km s-min=13.5km az=81.0*
ISC 02 11:23:30.9±1.9, 18°.43S±0°.09×167°.2E±0°.2, h35km, n15, σ1ᵎ38/16, mb4.6/9/1D, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**3.68**	**191**	Pn	**Pn**	**11 24 23.9**	**-1.6**
	6.4nm,0.3s,baz=47,slow=7.3,SNR=40						
DZM				Sn	**Sn**	**11 25 10.9**	**+3.1**
	18nm,0.3s,baz=297,slow=23,SNR=5.7						
HNR	**Honiara**	**11.36**	**321**	Pn	**Pn**	**11 26 11.2**	**+0.4**
HNR				*e*Sn	**Sn**	**11 28 16.9**	**+0.2**
EIDS	**Eidsvold**	**16.44**	**242**	*e*Pn	**Pn**	**11 27 17.5**	**-1.5**
	11nm,1.0s						
CTA	**Charters Tower**	**19.82**	**262**	P	**Pn**	**11 28 00.9**	**+0.5**
	8.7nm,0.7s,baz=90,slow=12,SNR=5.7						
CTAO	**Charters Tower**	**19.82**	**262**	*P*	**P**	**11 27 56.5**	**-2.1**
	20nm,0.5s						
COEN	**Coen**	**23.46**	**277**	*e*P	**P**	**11 28 37.7**	**+0.2**
	25nm,1.4s						
STKA	**Stephens Creek**	**26.66**	**235**	P	**P**	**11 29 08.0**	**+1.4**
	12nm,0.8s,baz=76,slow=8.0,SNR=9.3						
WRAB	**Tennant Creek**	**31.01**	**262**	*e*P	**P**	**11 29 45.3**	**-0.1**
	3.3nm,0.8s						
WRA	**Warramunga Arr**	**31.02**	**262**	P	**P**	**11 29 45.2**	**-0.3**
	1.6nm,0.7s,baz=92,slow=8.7,SNR=5.9						
BBOO	**Buckleboo**	**31.36**	**237**	*e*P	**P**	**11 29 49.1**	**+0.8**
	7.2nm,0.7s						
ASAR	**Alice Springs**	**31.43**	**255**	P	**P**	**11 29 48.6**	**-0.5**
	6.9nm,0.7s,baz=81,slow=8.8,SNR=69						
FITZ	**Fitzroy Crossi**	**39.38**	**264**	*e*P	**P**	**11 30 57.2**	**-0.3**
	14nm,0.8s						
GYA	**Guiyang**	**73.76**	**306**	*e*P	P	11 35 11.4	+9.4
GYA				pmax	pmax		
	comp=Z,10.0nm,1.0s						
GYA				pmax	pmax		
	comp=Z,10.0nm,1.0s						
XAN	**Xi'an**	**76.13**	**313**	P	**P**	**11 35 16.5**	**+1.1**
XAN				pmax	pmax		
	comp=Z,90nm,1.2s						
SYO	**Syowa Base**	**85.15**	**197**	⇓*e*P	**P**	**11 36 02.2**	**-0.9**

BUC 02 11:23:45.6±0.3, 46°.24N×23°.48E, h16km, MD2.5/2, 10C-2D, Error ellipse: s-maj=4.3km s-min=2.2km az=66.0, Romania

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CJR	**Cluj-Napoca**	**0.48**	**10**	⇑*i*P	Pb	11 23 55.8	+0.1
CJR	**Cluj-Napoca**	**0.48**	**10**	⇑*i*P	Pb	11 23 55.8	+0.1
CJR				*i* S	Sb	11 24 03.5	+1.0
DRGR		**0.76**	**316**	⇑*i*P	Pb	11 24 00.7	+0.2
DRGR		**0.76**	**316**	⇑*i*P	Pb	11 24 00.7	+0.2
DRGR				*i* S	Sb	11 24 11.5	+0.8
LOT	**Lotru**	**0.82**	**165**	⇑*i*P	Pg	11 24 02.0	+0.4
LOT	**Lotru**	**0.82**	**165**	⇑*i*P	Pg	11 24 02.0	+0.4
LOT				*i* S	Sg	11 24 13.2	+0.8
GZR	**Gura Zlata**	**0.98**	**210**	⇑*i*P	Pn	11 24 05.3	+0.6
GZR	**Gura Zlata**	**0.98**	**210**	⇑*i*P	Pn	11 24 05.3	+0.6
SIRR	**Siria**	**1.26**	**272**	S	Sg	11 24 26.0	-0.4
SIRR	**Siria**	**1.26**	**272**	*i* S	Sg	11 24 26.0	-0.4
VOIR		**1.36**	**126**	⇓*i*P	Pb	11 24 10.5	-0.2
VOIR		**1.36**	**126**	⇓*i*P	Pb	11 24 10.5	-0.2
VOIR				*i* S	Sg	11 24 29.7	+0.1
MDVR	**Moldovita**	**1.92**	**221**	⇑*i*P	Pb	11 24 19.5	-0.7
MDVR	**Moldovita**	**1.92**	**221**	⇑*i*P	Pb	11 24 19.5	-0.7

*NEIC **02** 11:23:53.8±0.0, 51°.79N×171°.39W, h42km, mb4.5/40, ML4.6(AEIC), After AEIC.*
*ISCJB **02** 11:23:55.4±0.3, 52°.11N±0°.04×171°.50W±0°.03, h71km±3km, mb4.6/73, Error ellipse: s-maj=7.3km s-min=2.6km az=169.8*
*MOS **02** 11:23:55.4±0.8, 52°.30N×171°.49W, h60km, mb4.8/30, Error ellipse: s-maj=11.2km s-min=8.0km az=74.8*
*IDC **02** 11:23:57.3±4.3, 52°.17N×171°.46W, h65km±38km, mb4.3/31, mb1 4.5/33, mb1mx4.2/77, mbtmp4.6/33, ML4.3/2, Error ellipse: s-maj=16.6km s-min=9.4km az=2.0*
ISC 02 11:23:56.3±1.0, 52°.00N±0°.08×171°.47W±0°.03, h60km±8km, n462, σ0ᵎ99/471, mb4.7/73, 7C-5D, Fox Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KOSE	**Korovin Southe**	**1.62**	**283**	P	**Pn**	**11 24 22.9**	**+0.2**
KOFP	**Korovin Flat P**	**1.64**	**281**	P	**Pn**	**11 24 22.5**	**-0.5**
KONE	**Korovin Northe**	**1.68**	**285**	P	**Pn**	**11 24 23.4**	**0.0**
ATKA	**Atka Island**	**1.69**	**278**	P	**Pn**	**11 24 21.8**	**-1.7**
ATKA				S	**Sn**	**11 24 43.5**	**-0.6**
KOKL	**Mount Kliuchef**	**1.71**	**282**	P	**Pn**	**11 24 23.6**	**-0.3**
NIKH	**Nikolski High**	**1.88**	**58**	P	**Pn**	**11 24 23.9**	**-2.1**
NIKH				S	**Sn**	**11 24 51.2**	**+2.5**
OKSO	**Okmok South**	**2.44**	**55**	P	**Pn**	**11 24 33.4**	**-0.3**
OKSO				S	**Sn**	**11 25 02.2**	**-0.1**
OKCE	**Okmok Cone E**	**2.47**	**53**	P	**Pn**	**11 24 34.2**	**0.0**
OKTU	**Okmok Mt. Tuli**	**2.51**	**55**	P	**Pn**	**11 24 34.9**	**+0.1**
OKFG	**Magazine Ridge**	**2.59**	**55**	P	**Pn**	**11 24 35.0**	**-0.8**
OKFG				S	**Sn**	**11 25 07.0**	**+1.0**
GSMY	**Great Sitkin M**	**2.83**	**273**	P	**Pn**	**11 24 38.9**	**-0.2**
GSTD	**Great Sitkin T**	**2.89**	**273**	P	**Pn**	**11 24 39.3**	**-0.5**
GSTD				S	**Sn**	**11 25 13.8**	**+0.4**
ETKA	**Kagalaska Isla**	**3.06**	**269**	P	**Pn**	**11 24 41.2**	**-1.0**
ADAG	**Mount Adagdak**	**3.17**	**272**	P	**Pn**	**11 24 44.0**	**+0.3**
MGOD	**Makushin Gods**	**3.32**	**55**	P	**Pn**	**11 24 46.2**	**+0.4**
MCIR	**Makushin Cirqu**	**3.39**	**53**	P	**Pn**	**11 24 47.2**	**+0.4**
MSW	**Makushin Switc**	**3.43**	**54**	P	**Pn**	**11 24 46.7**	**-0.5**
MSW				S	**Sn**	**11 25 28.9**	**+2.3**
KIRH	**Kanaga Island**	**3.48**	**271**	P	**Pn**	**11 24 47.7**	**-0.2**
MTBL	**Makushin Table**	**3.51**	**54**	P	**Pn**	**11 24 48.1**	**-0.3**
KIKV	**Kanaga Island**	**3.53**	**270**	P	**Pn**	**11 24 48.2**	**-0.4**
UNV	**Unalaska Valle**	**3.54**	**56**	*e*Pn	**Pn**	**11 24 48.4**	**-0.2**
AKRB	**Akutan Reef Bi**	**3.90**	**55**	P	**Pn**	**11 24 54.1**	**+0.5**
AKMO	**Akutan Morgan**	**3.91**	**55**	P	**Pn**	**11 24 53.8**	**+0.1**
TAPA	**Tanaga Point A**	**3.93**	**270**	P	**Pn**	**11 24 53.7**	**-0.4**
AKLV	**Akutan Long Va**	**3.97**	**55**	P	**Pn**	**11 24 55.3**	**+0.6**
AKGG	**Akutan Green G**	**3.97**	**54**	P	**Pn**	**11 24 54.9**	**+0.2**
TAFL	**Tanaga Flats**	**3.99**	**269**	P	**Pn**	**11 24 54.4**	**-0.5**
TAFP	**Tanaga Falls P**	**4.03**	**271**	P	**Pn**	**11 24 54.8**	**-0.6**
AKUT	**Akutan**	**4.05**	**56**	*e*Pn	**Pn**	**11 24 55.4**	**-0.3**
GAEA	**Gareloi East**	**4.51**	**270**	P	**Pn**	**11 25 01.8**	**-0.3**
GALA	**Gareloi Lava P**	**4.53**	**270**	P	**Pn**	**11 25 01.9**	**-0.3**
WESP	**Westdahl Peak**	**4.76**	**56**	P	**Pn**	**11 25 05.3**	**-0.3**
WESE	**West Dahl East**	**4.82**	**56**	P	**Pn**	**11 25 06.1**	**-0.3**
SPIA	**Saint Paul Isl**	**5.24**	**7**	P	**Pn**	**11 25 12.9**	**+0.9**
SSLN	**Shishaldin Nor**	**5.29**	**55**	P	**Pn**	**11 25 13.1**	**+0.4**
DT1	**Dutton Round H**	**6.30**	**57**	P	**Pn**	**11 25 26.4**	**-0.1**
DTNA	**Dutton South F**	**6.34**	**56**	P	**Pn**	**11 25 26.4**	**-0.6**
SDPT	**Sand Point**	**7.34**	**58**	*e*Pn	**Pn**	**11 25 39.7**	**-1.0**
CHGN	**Chignik**	**8.79**	**55**	*e*Pn	**Pn**	**11 25 58.7**	**-1.8**
OHAK	**Old Harbor**	**11.76**	**56**	*e*Pn	**Pn**	**11 26 36.3**	**-4.7**
KDAK	**Kodiak Island**	**12.30**	**54**	*i* P	**Pn**	**11 26 46.0**	**-2.4**
KDAK	**Kodiak Island**	**12.30**	**54**	*e*Pn	**Pn**	**11 26 44.4**	**-4.0**
SVW2	**Sparrevohn**	**12.62**	**38**	*e*Pn	**Pn**	**11 26 54.8**	**+2.1**
TT01	**Tatalina**	**13.69**	**31**	*e*Pn	**Pn**	**11 27 10.0**	**+2.7**
CAST	**Castle Rocks**	**15.36**	**34**	*e*Pn	**Pn**	**11 27 29.7**	**+0.7**
KTH	**Kantishna Hill**	**15.85**	**35**	*e*Pn	**P**	**11 27 37.1**	**-1.0**
SCM	**Sheep Creek Mo**	**16.35**	**44**	*e*P	**Pn**	**11 27 40.3**	**-1.4**
SCM	**Sheep Creek Mo**	**16.35**	**44**	*e*Pn	**Pn**	**11 27 40.3**	**-1.4**
MCK	**McKinley**	**16.67**	**36**	*e*P	**Pn**	**11 27 46.1**	**+0.4**
MCK				*e*		11 30 50.2	
MCK				pmax	pmax		
	comp=Z,16nm,1.0s						
MCK	**McKinley**	**16.67**	**36**	*e*Pn	**Pn**	**11 27 46.1**	**+0.4**
	comp=Z,16nm,1.0s						
MCK				*e*Sn	**Sn**	**11 30 50.2**	**+0.4**
BMRM	**Bremner River**	**17.23**	**48**	*e*Pn	**Pn**	**11 27 50.0**	**-2.6**
CCB	**Clear Creek Bu**	**17.60**	**35**	*e*Pn	**Pn**	**11 27 54.9**	**-2.2**
MDM	**Murphy Dome**	**17.64**	**34**	*e*Pn	**Pn**	**11 27 56.5**	**-1.0**
	comp=Z,18nm,1.3s						
COLA	**College**	**17.72**	**34**	⇓*e*P	**Pn**	**11 27 55.9**	**-2.6**
ILAR	**Eielson Array**	**18.00**	**35**	P	**P**	**11 27 59.2**	**-2.5**
	comp=Z,1.0nm,0.3s,baz=225,slow=9.1,SNR=29						
ILB	**Eielson Array**	**18.00**	**35**	*e*Pn	**P**	**11 28 01.1**	**-0.7**
BALM	**Baldy**	**18.30**	**49**	*e*P	**P**	**11 28 02.9**	**-2.3**
BALM				pmax	pmax		
	comp=Z,21nm,0.6s						
BALM	**Baldy**	**18.30**	**49**	*e*Pn	**P**	**11 28 02.9**	**-2.3**
	comp=Z,21nm,0.6s						
DOT	**Dot Lake**	**18.51**	**40**	*e*P	**P**	**11 28 06.0**	**-1.4**
	comp=Z,13nm,0.5s						
COLD	**Coldfoot**	**18.52**	**26**	*e*Pn	**Pn**	**11 28 10.7**	**+2.5**
	comp=Z,6.9nm,0.7s						
PETK	**Petropavlovsk-**	**18.71**	**286**	P	**Pn**	**11 28 10.2**	**-0.4**
	comp=Z,1.4nm,0.3s,baz=88,slow=13,SNR=21						
PCA	**Pinnacle**	**19.07**	**53**	*e*Pn	**Pn**	**11 28 14.8**	**-0.1**
	comp=Z,79nm,0.7s						
FYU	**Fort Yukon**	**19.59**	**32**	*e*Pn	**P**	**11 28 19.7**	**+0.7**
	comp=Z,32nm,1.4s						
TOLK	**Toolik Lake Re**	**19.70**	**24**	P	**P**	**11 28 21.2**	**+0.8**
	baz=223,SNR=17						
EGAK	**Eagle**	**20.14**	**39**	*e*Pn	**P**	**11 28 24.6**	**-0.5**
	comp=Z,11nm,0.6s						
HYT	**Haines Junctio**	**20.55**	**51**	*e*Pn	**P**	**11 28 30.3**	**+0.6**
	comp=Z,49nm,1.0s						
DAWY	**Dawson**	**20.57**	**42**	*e*Pn	**P**	**11 28 30.1**	**+0.3**
	comp=Z,6.9nm,0.8s						
SKAG	**Skagway**	**21.45**	**55**	*e*P	**P**	**11 28 40.2**	**+0.9**
	comp=Z,31nm,0.8s						
WHY	**Whitehorse**	**21.80**	**52**	*e*P	**P**	**11 28 45.0**	**+2.0**
	comp=Z,12nm,0.8s						
SEY	**Seymchan**	**21.98**	**314**	P	**P**	**11 28 44.7**	**-0.2**
	comp=Z,2.9nm,0.5s,baz=112,slow=7.8,SNR=11						
SEY	**Seymchan**	**21.98**	**314**	P	**P**	**11 28 44.7**	**-0.2**
SEY				pmax	pmax		
	comp=Z,4.0nm,0.6s						
DLBC	**Dease Lake**	**24.19**	**58**	P	**P**	**11 29 09.3**	**+2.5**
	comp=Z,19nm,0.6s,baz=265,slow=7.4,SNR=42						
DLBC	**Dease Lake**	**24.19**	**58**	*e*P	**P**	**11 29 09.4**	**+2.5**
	comp=Z,76nm,1.4s						
INK	**Inuvik**	**24.38**	**34**	P	**P**	**11 29 07.5**	**-0.7**
	comp=Z,9.6nm,0.4s,baz=242,slow=7.2,SNR=69						
INK	**Inuvik**	**24.38**	**34**	*e*P	**P**	**11 29 07.6**	**-0.7**
	comp=Z,36nm,1.3s						
B05A	**Bryant**	**31.38**	**77**	P	**P**	**11 30 13.0**	**+1.9**
	baz=295						
YKA	**Yellowknife Ar**	**31.46**	**48**	P	**P**	**11 30 11.3**	**-0.4**
	comp=Z,2.8nm,0.4s,baz=80,slow=7.8,SNR=25						
YKA	**Yellowknife Ar**	**31.46**	**48**	P	**P**	**11 30 11.3**	**-0.4**
YKA				pmax	pmax		
	comp=Z,2.0nm,0.4s						
YAK	**Yakutsk**	**32.44**	**311**	*e*P	**P**	**11 30 19.7**	**-0.6**
G05D	**Wamic, OR**	**33.27**	**81**	P	**P**	**11 30 27.5**	**-0.3**
	baz=300						
I04A	**Tendick Farm,**	**33.34**	**84**	P	**P**	**11 30 30.1**	**+1.7**
	baz=302						
HAWA	**Hanford**	**33.79**	**78**	*e*P	**P**	**11 30 33.4**	**+1.2**
	comp=Z,7.8nm,0.8s						
J05D	**Fort Rock, OR**	**34.34**	**84**	P	**P**	**11 30 39.2**	**+2.1**
	baz=302						
NEW	**Newport**	**34.36**	**74**	P	**P**	**11 30 38.0**	**+0.8**
	comp=Z,6.9nm

MPMC	Manual Prospec baz=310	40.96	91	P		P		11 31 33.8	+0.6
FURC	Furnace Creek, baz=310	41.08	90	P		P		11 31 35.6	+1.7
TPNV	Topopah Spring baz=309,SNR=12	41.16	89	P		P		11 31 35.8	+1.0
BOD	Bodaibo	41.22	308	*e*P		P		11 31 33.1	-1.7
BOD	comp=Z,6.0nm,0.9s			pmax		pmax			
DUG	Dugway, Tooele baz=307	41.27	83	P		P		11 31 36.1	+0.5
DUG	Dugway, Tooele	41.27	83	*e*P		P		11 31 36.8	+1.1
DUG	comp=Z,5.0nm,0.9s			pmax		pmax			
DUG	Dugway, Tooele comp=Z,5.0nm,0.9s	41.27	83	*e*P		P		11 31 36.8	+1.1
EDW2	Edwards Air Fo baz=311	41.41	93	P		P		11 31 37.2	+0.5
LAO	LASA Array baz=302,SNR=7.3	41.56	70	P		P		11 31 38.4	+0.6
LAO	LASA Array comp=Z,7.8nm,0.5s	41.56	70	*e*P		P		11 31 38.8	+0.9
BW06	Boulder Array baz=305,SNR=7.9	41.75	77	P		P		11 31 39.9	+0.2
BW06	Boulder Array comp=Z,7.9nm,1.0s	41.75	77	*e*P		P		11 31 40.1	+0.5
PDAR	Pinedale Array comp=Z,4.3nm,0.8s,baz=299,slow=4.3,SNR=27	41.75	77	P		P		11 31 40.0	+0.4
DGMT	Dagmar baz=301	41.79	67	P		P		11 31 40.3	+0.6
SHOC	Shoshone, Teco baz=310	41.81	90	P		P		11 31 40.9	+1.0
GSC	Goldstone, Bar baz=311,SNR=7.9	41.87	91	P		P		11 31 41.6	+1.0
BFSC	Mount Baldy Ra baz=312	42.05	93	P		P		11 31 42.1	+0.1
SCI	San Clemente I baz=313	42.34	95	P		P		11 31 44.9	+0.6
HEC	Hector,Ludlow baz=311	42.47	92	P		P		11 31 46.1	+0.7
BBRC	Big Bear Solar baz=312	42.49	93	P		P		11 31 46.6	+0.9
MURC	Murrieta baz=312	42.76	94	P		P		11 31 48.7	+1.0
GMRC	Granite Mounta baz=311	42.92	91	P		P		11 31 49.8	+0.7
PFO	Pinyon Flats O comp=Z,6.0nm,1.1s,baz=19,slow=5.5,SNR=4.2	43.21	93	P		P		11 31 52.0	+0.7
PFO	Pinyon Flats O baz=312	43.21	93	P		P		11 31 51.9	+0.5
K22A	Casper baz=306	43.64	76	P		P		11 31 54.9	+0.1
K22A	Casper comp=Z,3.1nm,0.6s	43.64	76	*e*P		P		11 31 54.9	+0.1
MONP	Monument Peak, baz=313	43.71	94	P		P		11 31 56.5	+0.9
O20A	White River Ci baz=307,SNR=5.7	44.10	80	P		P		11 31 58.8	+0.2
O20A	White River Ci comp=Z,6.0nm,0.6s	44.10	80	*e*P		P		11 31 58.9	+0.2
KSRS	Korea Array comp=Z,3.9nm,0.8s,baz=53,slow=8.6,SNR=9.1	44.16	276	P		P		11 31 59.5	+0.7
PDMC	Parker Dam,Lak baz=312	44.18	90	P		P		11 31 59.7	+0.7
KSAR	Wonju Array Be	44.19	276	P		P		11 31 59.5	+0.4
KSAR	Wonju Array Be	44.19	276	P		P		11 31 59.5	+0.4
RSSD	Black Hills baz=305	44.27	72	P		P		11 32 00.0	+0.1
RSSD	Black Hills	44.27	72	*e*P		P		11 32 00.0	+0.1
RSSD	comp=Z,4.0nm,0.6s			pmax		pmax			
RSSD	Black Hills comp=Z,4.1nm,0.6s	44.27	72	*e*P		P		11 32 00.0	+0.1
Y12C	Blythe baz=312	44.31	91	P		P		11 32 00.9	+0.8
GLA	Glamis baz=312	44.59	92	P		P		11 32 02.6	+0.1
MDND	Maddock baz=303,SNR=5.7	44.73	65	P		P		11 32 03.6	+0.4
MDND	Maddock comp=Z,55nm,1.1s	44.73	65	*e*P		P		11 32 04.0	+0.8
N23A	Red Feather La baz=307	45.03	77	P		P		11 32 06.4	+0.3
WUAZ	Wupatki baz=311,SNR=7.7	45.09	87	P		P		11 32 07.5	+1.1
ULM	Lac du Bonnet comp=Z,11nm,1.0s,baz=305,slow=9.9,SNR=7.4	45.47	61	P		P		11 32 08.9	-0.2
B31A	Greenbush Farm baz=303,SNR=5.1	45.50	64	P		P		11 32 09.4	0.0
MVCO	Mesa Verde baz=310	45.77	83	P		P		11 32 11.7	-0.2
C31A	Landman Farms, baz=304	45.80	65	P		P		11 32 11.9	+0.1
A32A	Rocking H Ranc baz=304	45.86	63	P		P		11 32 12.5	+0.3
B32A	Ashes, Strandq baz=304,SNR=7.1	46.13	63	P		P		11 32 14.2	-0.1
E31A	Nome baz=305	46.42	66	P		P		11 32 16.5	-0.1
S22A	4UR Ranch, Cre baz=309	46.45	81	P		P		11 32 17.7	+0.4
A33A	Warroad baz=304,SNR=7.2	46.45	62	P		P		11 32 16.5	-0.3
AGMN	Agassiz Nation baz=304,SNR=9.8	46.56	63	P		P		11 32 17.5	-0.2
AGMN	Agassiz Nation comp=Z,18nm,0.9s	46.56	63	*e*P		P		11 32 17.6	0.0
214A	Organ Pipe Nat baz=313	46.58	92	P		P		11 32 18.6	+0.4
F31A	Hecla baz=305	46.61	67	P		P		11 32 17.8	-0.4
B33A	Robert and Kas baz=304,SNR=5.5	46.72	63	P		P		11 32 18.9	-0.1
C33A	Trail baz=305	46.91	64	P		P		11 32 19.8	-0.7
SUSD	Miller baz=306	47.04	69	P		P		11 32 21.4	-0.1
B34A	Aery, Baudette baz=305,SNR=8.4	47.11	62	P		P		11 32 21.3	-0.7
D33A	AnnSam, Waubun baz=305	47.23	64	P		P		11 32 22.5	-0.5
SDCO	Great Sand Dun baz=310	47.26	80	P		P		11 32 23.6	0.0
SDCO	Great Sand Dun comp=Z,10.0nm,1.5s	47.26	80	*e*P		P		11 32 24.2	+0.5
H31A	Wolsey baz=306,SNR=5.2	47.30	69	P		P		11 32 23.2	-0.4
OGNE	Ogallala baz=308	47.35	75	P		P		11 32 23.9	-0.2
G32A	Webster baz=306	47.40	67	P		P		11 32 23.4	-0.9
C34A	RKJ Ranch, Bem baz=305	47.45	63	P		P		11 32 23.8	-0.9
TUC	Tucson baz=313	47.59	90	P		P		11 32 25.8	-0.3
D34A	Park Rapids baz=305,SNR=6.3	47.62	64	P		P		11 32 25.5	-0.5
B35A	Bob, Littlefor baz=305,SNR=7.0	47.69	62	P		P		11 32 26.0	-0.5
F33A	5 Mile Ranch, baz=306	47.74	66	P		P		11 32 26.1	-0.8
J31A	Geddes baz=307,SNR=7.2	47.85	70	P		P		11 32 27.6	-0.2
H32A	Carlson Farm, baz=306,SNR=5.1	47.88	68	P		P		11 32 27.4	-0.6
C35A	Jirik Farms, M baz=305,SNR=5.4	47.94	63	P		P		11 32 27.8	-0.6
G33A	Ortonville baz=306	48.04	67	P		P		11 32 28.8	-0.5
H33A	Prehn Over Nor baz=307	48.17	67	P		P		11 32 29.7	-0.6
KSCO	Kaye Shedlock' baz=309	48.20	77	P		P		11 32 30.8	0.0
KSCO	Kaye Shedlock' comp=Z,5.6nm,0.6s	48.20	77	*e*P		P		11 32 31.8	+1.1
D35A	Remer baz=306,SNR=7.8	48.26	63	P		P		11 32 30.4	-0.5
T25A	Trinidad baz=310,SNR=5.6	48.31	80	P		P		11 32 32.3	+0.6
J32A	Parkston baz=307,SNR=7.3	48.32	70	P		P		11 32 30.8	-0.7
F34A	Alexandria baz=306	48.35	65	P		P		11 32 30.9	-0.7
E35A	Pequot Lakes baz=306	48.37	64	P		P		11 32 31.4	-0.3
ANMO	Albuquerque baz=311	48.49	84	P		P		11 32 33.0	-0.1
ANMO	Albuquerque	48.49	84⇑	*e*P		P		11 32 34.2	+1.1
ANMO	comp=Z,8.0nm,2.5s			pmax		pmax			
I33A	Coleman baz=307	48.52	68	P		P		11 32 32.4	-0.6
C36A	Pine Crest Far baz=306,SNR=5.6	48.53	62	P		P		11 32 32.4	-0.6
K32A	Verdigre baz=308	48.69	70	P		P		11 32 33.8	-0.5
D36A	Goodland baz=306	48.69	63	P		P		11 32 33.4	-0.8
F35A	Swanville baz=306	48.69	65	P		P		11 32 33.9	-0.3
H34A	Spellman Lake, baz=307	48.73	67	P		P		11 32 34.2	-0.3
ECSD	EROS Data Cent baz=307,SNR=8.8	48.82	68	P		P		11 32 34.4	-0.8
J33A	Davis baz=308	48.87	69	P		P		11 32 35.3	-0.3
C37A	Embarrass baz=306,SNR=7.9	48.90	62	P		P		11 32 35.2	-0.6
E36A	McGregor baz=306,SNR=6.0	49.03	64	P		P		11 32 36.4	-0.5
D37A	Cotton baz=306	49.11	62	P		P		11 32 36.6	-0.8
EYMN	Ely baz=306,SNR=5.7	49.15	61	P		P		11 32 37.2	-0.5
F36A	Milaca baz=307	49.28	64	P		P		11 32 38.3	-0.5
121A	Cookes Peak, D baz=313	49.30	87	P		P		11 32 39.4	+0.1
BGNE	Belgrade baz=308	49.36	72	P		P		11 32 39.5	0.0
C38A	Sawbill Land. baz=306	49.40	61	P		P		11 32 39.3	-0.4
J34A	George baz=308	49.47	68	P		P		11 32 39.9	-0.3
TLY	Talaya comp=Z,4.5nm,0.6s,baz=48,slow=6.3,SNR=4.9	49.51	305	P		P		11 32 40.7	+0.2
TLY	Talaya	49.51	305	*e*P		P		11 32 41.1	+0.7
TLY	comp=Z,8.0nm,0.9s			pmax		pmax			
G36A	St. Michael baz=307	49.53	65	P		P		11 32 40.6	-0.1
K34A	Le Mars baz=308	49.76	69	P		P		11 32 42.2	-0.2
M33A	Taylor Creek F baz=309	49.81	71	P		P		11 32 42.7	-0.2
H36A	Jessenland, He baz=308	49.83	66	P		P		11 32 42.9	-0.1
F37A	Hinrichs Farm, baz=307	49.86	64	P		P		11 32 42.8	-0.3
C39A	Grand Marais baz=307	49.96	60	P		P		11 32 43.2	-0.7
ULN	Ulaanbaatar	50.00	300⇓	*e*P		P		11 32 44.2	-0.2
ULN	comp=Z,11nm,1.7s			pmax		pmax			
SPITS	Spitsbergen Ar comp=Z,8.2nm,0.8s,baz=18,slow=6.1,SNR=4.6	50.00	358	P		P		11 32 41.4	-2.4
L34A	Svendsen Farm, baz=309	50.05	70	P		P		11 32 44.3	-0.3
CBKS	Cedar Bluff baz=310	50.06	75	P		P		11 32 44.5	-0.3
SPMN	Marine on St. baz=308	50.07	65	P		P		11 32 44.3	-0.5
I36A	Fitzsimmons Fa baz=308	50.13	67	P		P		11 32 44.7	-0.4
F38A	Pierce - Schro baz=307,SNR=8.4	50.13	63	P		P		11 32 45.0	-0.2
N33A	J Bar K, Exete baz=309	50.19	72	P		P		11 32 45.7	-0.1
K35A	Storm Lake baz=308	50.23	69	P		P		11 32 45.3	-0.7
DAG	Danmarks Havn	50.35	8	*i* P		P		11 32 45.0	-1.4
DAG	Danmarks Havn	50.35	8	*i* P		P		11 32 45.0	-1.4
J36A	Seneca 1, Swea baz=308	50.37	67	P		P		11 32 46.5	-0.6
SONM	Songino Array comp=Z,2.6nm,0.6s,baz=52,slow=7.0,SNR=12	50.37	300	P		P		11 32 47.2	0.0
SONM				PcP		PcP		11 34 05.1	+0.2
H37A	comp=Z,1.9nm,0.7s,baz=96,slow=2.0,SNR=5.3 Dierke Farm, C baz=308	50.40	65	P		P		11 32 47.3	0.0
I37A	Lemond, Waseca baz=308	50.48	66	P		P		11 32 47.6	-0.2
O33A	Hebron baz=310,SNR=5.6	50.53	73	P		P		11 32 47.5	-0.8
G38A	Ridgeland baz=308	50.63	64	P		P		11 32 47.9	-1.1
N34A	Lincoln baz=309	50.68	71	P		P		11 32 48.8	-0.7
H38A	Maiden Rock baz=308	50.70	65	P		P		11 32 49.4	-0.1
M35A	Nea baz=309	50.76	70	P		P		11 32 49.3	-0.7
J37A	Redenius Farm, baz=309	50.83	67	P		P		11 32 50.1	-0.5
G39A	Holcombe baz=308	50.94	64	P		P		11 32 51.0	-0.3
O34A	Beatrice baz=310,SNR=5.9	50.99	72	P		P		11 32 51.2	-0.6
I38A	Scanlan Farm, baz=308	51.06	66	P		P		11 32 51.9	-0.3
K37A	Belmond baz=309	51.12	68	P		P		11 32 52.0	-0.7
N35A	Tabor baz=310	51.17	71	P		P		11 32 52.8	-0.3
H39A	Augusta baz=308	51.25	64	P		P		11 32 53.3	-0.3
M36A	Felix, Anita baz=309	51.28	70	P		P		11 32 53.8	-0.2
P34A	Walnut Farm, R baz=310	51.32	73	P		P		11 32 53.8	-0.4
MNTX	Cornudas Mount baz=314,SNR=5.5	51.35	86	P		P		11 32 55.0	+0.5
MNTX	Cornudas Mount comp=Z,3.3nm,0.9s	51.35	86	*e*P		P		11 32 55.4	+0.8
O35A	Humboldt baz=310	51.40	71	P		P		11 32 54.0	-0.8
MSTX	Muleshoe baz=312	51.41	82	P		P		11 32 55.0	-0.1
L37A	Phoenix Point, baz=309	51.46	68	P		P		11 32 54.5	-0.8
G40A	Rib Lake baz=308	51.48	63	P		P		11 32 55.2	-0.2
SUMG	Summit comp=Z,24nm,1.2s	51.51	16	*i* P		P		11 32 55.0	-0.7
SUMG	Summit	51.51	16	*i* P		P		11 32 55.0	-0.7
SUMG	comp=Z,24nm,1.2s			pmax		pmax			
I39A	Houston baz=309	51.63	65	P		P		11 32 56.1	-0.5
Q34A	Chapman baz=310	51.66	73	P		P		11 32 56.4	-0.4
KSU1	Kansas State U baz=310	51.73	73	P		P		11 32 56.7	-0.7
M37A	Trindle Farm, baz=310	51.75	69	P		P		11 32 57.1	-0.3
H40A	Chili baz=309	51.78	64	P		P		11 32 57.6	-0.1
P35A	Duane Minner, baz=310	51.81	72	P		P		11 32 57.5	-0.4
HHC	Hu-ho-hao-te	51.84	290	*e*P		P		11 32 59.3	+1.1
J39A	Decorah baz=309,SNR=10	51.86	66	P		P		11 32 57.3	-0.9
R34A	Isabella, Hill baz=311	51.88	74	P		P		11 32 58.2	-0.3
L38A	Oak Wood Farm, baz=310,SNR=6.8	51.91	68	P		P		11 32 58.0	-0.6
N37A	Le Paris, Mou baz=310	52.07	70	P		P		11 33 00.0	+0.2
I40A	Norwalk baz=309	52.12	65	P		P		11 32 59.4	-0.7
K39A	Oelwein baz=310,SNR=6.4	52.16	67	P		P		11 32 59.1	-1.3
H41A	Junction City baz=309	52.20	63	P		P		11 33 00.3	-0.4
P36A	Good Intent, A baz=310	52.23	72	P		P		11 33 00.3	-0.7
M38A	Pleasantville baz=310	52.23	69	P		P		11 33 00.6	-0.4
S34A	Willow Spring baz=311	52.35	75	P		P		11 33 01.3	-0.6
J40A	Soldiers Grove baz=309	52.36	65	P		P		11 33 00.9	-1.1
I41A	Arkdale baz=309	52.43	64	P		P		11 33 01.7	-0.7
L39A	Vinton baz=310,SNR=5.5	52.47	67	P		P		11 33 02.0	-0.7
R35A	Emporia Munici baz=311	52.49	74	P		P		11 33 02.3	-0.6
O37A	Wolven Farm, M baz=310	52.49	70	P		P		11 33 02.4	-0.5
K40A	Colesburg baz=310	52.59	66	P		P		11 33 02.7	-0.9
N38A	Joes South For baz=310	52.61	69	P		P		11 33 03.5	-0.3
P37A	Lathrop baz=311,SNR=8.1	52.75	71	P		P		11 33 04.0	-0.9
T34A	McClaskey Farm baz=312,SNR=5.1	52.75	75	P		P		11 33 04.2	-0.7
W32A	Sentinel baz=312	52.78	79	P		P		11 33 05.2	0.0
M39A	Webster baz=310,SNR=11	52.78	68	P		P		11 33 04.4	-0.7
J41A	Loganville baz=310	52.79	65	P		P		11 33 04.2	-0.9
S35A	Otter Creek Ra baz=311	52.84	74	P		P		11 33 05.1	-0.4
R36A	Gordon, Harris baz=311,SNR=6.2	52.90	73	P		P		11 33 05.1	-0.9
O38A	Galt baz=310,SNR=5.5	52.91	70	P		P		11 33 05.3	-0.8
U34A	Anderson Ranch baz=312	52.94	76	P		P		11 33 06.2	-0.1
U34A	Anderson Ranch comp=Z,7.3nm,0.8s	52.94	76	*e*P		P		11 33 06.3	0.0
L40A	Anamosa baz=310	52.95	67	P		P		11 33 05.2	-1.0
N39A	Derby Farms, D baz=310,SNR=10	52.98	69	P		P		11 33 05.8	-0.8
K41A	Shullsburg baz=310,SNR=5.4	53.12	66	P		P		11 33 06.3	-1.2
Q37A	Longview Farm, baz=311	53.15	72	P		P		11 33 07.2	-0.6
P38A	Dawn baz=311,SNR=9.1	53.20	71	P		P		11 33 07.2	-1.0
M40A	Post Highland baz=310	53.21	68	P		P		11 33 07.5	-0.7
T35A	Sooner Cattle baz=312	53.23	75	P		P		11 33 08.3	-0.1
X32A	Elmer baz=313	53.23	79	P		P		11 33 08.6	+0.2
W33A	Caddo, Fort Co baz=312	53.23	78	P		P		11 33 08.8	+0.3
R37A	Teagarden Farm baz=311	53.30	73	P		P		11 33 08.7	-0.3
V34A	Guthrie baz=312	53.35	77	P		P		11 33 09.0	-0.3
L41A	Preston baz=310,SNR=6.3	53.35	66	P		P		11 33 08.1	-1.2
U35A	Pawnee baz=312	53.46	76	P		P		11 33 09.5	-0.6
N40A	Mertquake, Sal baz=311	53.51	68	P		P		11 33 09.9	-0.5
T36A	Boggs Farm, Ca baz=312	53.51	75	P		P		11 33 09.7	-0.7
Q38A	Cooks Store, C baz=311,SNR=6.0	53.59	71	P		P		11 33 09.5	-1.5
S37A	Fort Scott baz=312,SNR=7.5	53.67	73	P		P		11 33 10.5	-1.1
P39B	Salisbury baz=311,SNR=7.3	53.74	70	P		P		11 33 11.0	-1.1
M41A	Milan baz=311,SNR=5.9	53.78	67	P		P		11 33 11.4	-1.0
O40A	La Belle baz=311,SNR=13	53.84	69	P		P		11 33 12.1	-0.8
Q39A	Willow Grove F baz=311	53.91	71	P		P		11 33 12.1	-1.2
R38A	Fenwick Farm, baz=312,SNR=6.1	53.93	72	P		P		11 33 11.9	-1.6
N41A	Harden Midland baz=311	54.04	68	P		P		11 33 12.9	-1.4
T37A	Cheneyville 18 baz=312,SNR=7.3	54.04	74	P		P		11 33 13.1	-1.2
TXAR	Lajitas Array comp=Z,4.4nm,0.8s,baz=307,slow=6.2,SNR=36	54.05	87	P		P		11 33 14.9	+0.2
TXAR				PcP		PcP		11 34 19.7	+0.8
TXAR	comp=Z,2.0nm,0.7s,baz=217,slow=0.7,SNR=6.6	54.05	87	P		P		11 33 14.9	+0.2
TXAR	Lajitas Array							11 34 19.7	
TXAR	comp=Z,5.0nm,0.8s			pmax		pmax			
P40A	Paris baz=311,SNR=19	54.13	70	P		P		11 33 14.2	-0.8
W35A	Tecumseh baz=313	54.19	77	P		P		11 33 15.7	+0.2
ABTX	Abilene, Hawle baz=314	54.24	81	P		P		11 33 16.0	+0.1
S38A	Stockton baz=312,SNR=11	54.30	73	P		P		11 33 14.6	-1.6
Z33A	Whitaker Ranch baz=313	54.32	80	P		P		11 33 16.0	-0.4
TUL1	Leonard baz=312	54.33	76	P		P		11 33 16.0	-0.5
R39A	Chumby, Stover baz=312	54.36	72	P		P		11 33 14.6	-2.0
U37A	Salina baz=312,SNR=7.0	54.40	75	P		P		11 33 15.9	-1.1
O41A	Passleys Farm, baz=311,SNR=8.0	54.41	68	P		P		11 33 16.1	-0.9
N42A	Yates City baz=311	54.43	67	P		P		11 33 16.2	-0.9
Q40A	Laux Farm, Aux baz=312,SNR=7.5	54.47	70	P		P		11 33 16.3	-1.1
T38A	Diamond baz=312	54.47	73	P		P		11 33 16.4	-1.1
Y34A	Reagan Ranch, baz=313	54.47	79	P		P		11 33 17.7	+0.2
P41A	Barry, Barry baz=311,SNR=5.0	54.60	69	P		P		11 33 17.5	-0.9
S39A	Bolivar baz=312	54.60	72	P		P		11 33 16.7	-1.7
X35A	Drake baz=313	54.65	78	P		P		11 33 18.7	-0.1
133A	Hamilton Ranch baz=314	54.69	81	P		P		11 33 19.1	0.0
V37A	Hulbert baz=312	54.74	75	P		P		11 33 18.7	-0.7
U38A	Gravette baz=312	54.81	74	P		P		11 33 19.0	-1.0
O42A	Bath baz=311	54.82	68	P		P		11 33 19.2	-0.7
R40A	Maddies Statio baz=312,SNR=9.4	54.82	71	P		P		11 33 18.3	-1.7
X36A	Centrahoma baz=313	54.91	77	P		P		11 33 19.8	-0.8
Q41A	Truxton baz=312,SNR=5.6	54.98	70	P		P		11 33 19.9	-1.2
T39A	Clever baz=312,SNR=6.6	55.02	73	P		P		11 33 20.0	-1.5
HDIL	Hopedale baz=312	55.03	67	P		P		11 33 20.7	-0.8
HDIL	Hopedale comp=Z,20nm,0.6s	55.03	67	*e*P		P		11 33 20.9	-0.6
W37B	Quinton baz=313	55.07	76	P		P		11 33 21.3	-0.6
P42A	Winchester baz=312	55.08	69	P		P		11 33 20.6	-1.2
233A	Rising Star baz=314	55.11	81	P		P		11 33 21.7	-0.5
S40A	Lebanon baz=312	55.15	72	P		P		11 33 22.8	+0.4
V38A	Canehill baz=313,SNR=5.9	55.19	75	P		P		11 33 21.6	-1.1
O43A	Sugar Creek Fa baz=312	55.20	67	P		P		11 33 22.7	0.0
R41A	Rosebud baz=312,SNR=5.4	55.34	70	P		P		11 33 22.4	-1.4
U39A	Green Forest baz=313	55.39	74	P		P		11 33 22.8	-1.4
Y36A	Durant baz=313	55.40	78	P		P		11 33 24.1	-0.2
Q42A	Golden Eagle baz=312,SNR=9.3	55.42	69	P		P		11 33 23.5	-0.7
T40A	Mansfield baz=312	55.44	72	P		P		11 33 22.9	-1.6
X37A	Clayton baz=313	55.48	76	P		P		11 33 24.9	+0.1
P43A	Skaggs, Pawnee baz=312	55.51	68	P		P		11 33 24.3	-0.6
333A	Richland Sprin baz=314	55.54	82	P		P		11 33 25.0	-0.3
234A	Clairette baz=314	55.59	81	P		P		11 33 25.7	+0.1
JCT	Junction City baz=315	55.63	83	P		P		11 33 25.3	-0.6

W38A Poteau 55.66 75 P P 11 33 26.0 0.0
baz=313,SNR=5.7
R42A Luebbering 55.69 70 P P 11 33 25.4 -0.9
baz=312
Z36A Blue Ridge 55.75 78 P P 11 33 26.3 -0.4
baz=314
X38A Whitesboro 55.75 76 P P 11 33 26.7 -0.1
baz=313
U40A Yellville 55.78 73 P P 11 33 25.7 -1.2
baz=313,SNR=8.5
433A Art 55.87 82 P P 11 33 26.8 -0.9
baz=314
Q43A New Douglas 55.88 69 P P 11 33 27.0 -0.6
baz=312,SNR=5.9
T41A Mountain View 55.96 72 P P 11 33 26.3 -1.9
baz=313
334A Lometa 55.99 81 P P 11 33 28.6 +0.1
baz=314,SNR=5.3
WHTX Lake Whitney, 56.01 80 P P 11 33 27.8 -0.9
baz=314
W39A Magazine 56.02 75 P P 11 33 28.0 -0.7
baz=313
S42A Caledonia 56.03 71 P P 11 33 27.5 -1.2
baz=312
P44A Sand Creek, Wi 56.14 68 P P 11 33 28.6 -0.9
baz=312,SNR=6.7
V40A Witts Springs 56.17 74 P P 11 33 28.4 -1.4
baz=313,SNR=7.4
R43A Red Bud 56.19 70 P P 11 33 28.6 -1.2
baz=312,SNR=5.7
X39A Fountain Ranch 56.29 76 P P 11 33 30.2 -0.4
baz=313
Q44A Meyer Farm, Va 56.30 68 P P 11 33 29.3 -1.2
baz=312
434A Burnet 56.34 82 P P 11 33 30.9 -0.1
baz=315,SNR=5.9
U41A Viola 56.34 73 P P 11 33 29.3 -1.6
baz=313,SNR=5.4
SFIN Lafayette 56.40 66 P P 11 33 30.5 -0.7
baz=312
W40A Ferguson Farm, 56.45 74 P P 11 33 31.0 -0.7
baz=313
V41A Mountainview 56.58 73 P P 11 33 31.1 -1.6
baz=313,SNR=5.5
S43A Fulton Ridge, 56.59 70 P P 11 33 31.7 -1.0
baz=313,SNR=12
MIAR Mount Ida 56.59 75 P P 11 33 32.2 -0.5
baz=314,SNR=7.9
SCHQ Schefferville 56.59 42 P P 11 33 32.5 +0.1
comp=Z,8.9nm,0.8s,baz=310,slow=7.9,SNR=4.6
R44A Waltonville 56.70 69 P P 11 33 32.4 -1.1
baz=313
U42A Revenden 56.74 72 P P 11 33 32.3 -1.4
baz=313
534A Blanco 56.76 83 P P 11 33 33.7 -0.3
baz=315
T43A Greenville 56.79 71 P P 11 33 32.8 -1.3
baz=313,SNR=17
ZALV Zalesovo Beam 56.82 317 P P 11 33 33.1 -0.9
comp=Z,2.7nm,0.6s,baz=40,slow=4.3,SNR=8.6
ZALV PcP PcP 11 34 29.4 +0.3
comp=Z,4.1nm,0.6s,baz=26,slow=3.4,SNR=8.7
W41B Gary Mavity, V 56.95 74 P P 11 33 34.6 -0.7
baz=313
S44A Carbondale 56.98 70 P P 11 33 34.5 -0.9
baz=313
X40A Basin Creek Fa 57.07 75 P P 11 33 36.0 -0.1
baz=314
832A Faith Ranch, C 57.08 85 P P 11 33 36.3 +0.1
baz=316
T44A Benton 57.20 70 P P 11 33 35.8 -1.2
baz=313
U43A Rector 57.21 72 P P 11 33 36.0 -1.0
baz=313
S45A Carrier Mills 57.38 69 P P 11 33 37.1 -1.2
baz=313,SNR=5.5
SADO Sadowa 57.74 57 P P 11 33 40.4 -0.3
comp=Z,10.0nm,0.7s,baz=323,slow=7.5,SNR=9.8
ARCES ARCESS Array B 58.15 353 P P 11 33 41.6 -1.5
comp=Z,3.9nm,0.7s,baz=17,slow=8.9,SNR=11
ARCES PcP PcP 11 34 33.9 -0.2
comp=Z,1.6nm,0.5s,baz=15,slow=5.0,SNR=4.6
LVZ Lovozero 58.84 349↑ *eP* P 11 33 46.8 -1.3
LVZ pmax pmax
comp=Z,10.0nm,0.8s
LZH Lanzhou 59.52 291 *eP* P 11 33 52.9 -0.5
LZH pP pP 11 34 06.8 -2.6
LZH sP sP 11 34 12.5 -3.6
M54A Oil Creek Stat 59.72 60 P P 11 33 54.4 -0.1
baz=314
Y46A Houston 59.85 73 P P 11 33 55.1 -0.4
baz=315
N54A Moraine State 59.93 61 P P 11 33 55.3 -0.6
baz=314
Y47A UCPARC, Winfie 60.43 72 P P 11 33 58.6 -0.9
baz=315,SNR=5.6
Z47A Carrollton 60.80 73 P P 11 34 01.1 -0.8
baz=315
Z48A Northport 60.98 72 P P 11 34 02.2 -1.0
baz=315
147A Livingston 61.05 73 P P 11 34 03.2 -0.4
baz=315
O56A Blue Knob Stat 61.18 61 P P 11 34 04.0 -0.5
baz=315
TKL Tuckaleechee C 61.55 68 P P 11 34 06.2 -0.9
comp=Z,3.9nm,0.7s,baz=167,slow=4.8,SNR=5.6
248A Dixon Mills 61.78 73 P P 11 34 08.5 -0.1
baz=316
KURK Kurchatov 61.78 317↓↓ *eP* P 11 34 08.1 -0.2
KURK pmax pmax
comp=Z,56nm,0.7s
KURK Kurchatov 61.78 317 P P 11 34 08.4 +0.1
KURK PcP PcP 11 34 49.4 +0.5
KURBB Kurchatov Arra 61.89 317 P P 11 34 08.5 -0.6
comp=Z,13nm,0.7s,baz=44,slow=6.9,SNR=57
KURBB PcP PcP 11 34 49.4 +0.1
comp=Z,2.7nm,0.6s,baz=38,slow=3.5,SNR=7.0
N59A State Game Lan 62.21 58 P P 11 34 10.8 -0.6
baz=316
BVAR Borovoye Array 63.24 323 P P 11 34 17.8 -0.3
comp=Z,16nm,0.5s,baz=51,slow=6.6,SNR=69
BVAR PcP PcP 11 34 54.8 0.0
comp=Z,4.7nm,0.7s,baz=43,slow=3.3,SNR=4.8
BRVK Borovoye 63.26 323↑ *eP* P 11 34 17.7 -0.4
BRVK pmax pmax
comp=Z,24nm,1.3s
KMSC Kings Mountain 63.31 67 P P 11 34 18.4 -0.4
baz=316,SNR=6.6
ARU Arti 64.35 332 P P 11 34 20.9 -4.3
comp=Z,12nm,0.6s,baz=8.2,slow=1.9,SNR=24
ARU Arti 64.35 332 *d/P* P 11 34 24.6 -0.6
ARU S S 11 43 01.4 +2.9
ARU SS SS 11 47 06.6 -1.5
ARU pmax pmax
comp=Z,11nm,0.6s
GYA Guiyang 64.74 281 *eP* P 11 34 29.0 +0.6
FINES FINESS Array B 66.05 351 P P 11 34 34.5 -1.7
comp=Z,4.0nm,0.6s,baz=14,slow=7.8,SNR=19
NB2 NORSAR Subarra 67.30 359 P P 11 34 43.1 -1.1
comp=Z,3.3nm,0.6s,baz=2.1,slow=6.5
NOA NORSAR Array B 67.30 359 P P 11 34 43.3 -0.8
comp=Z,2.9nm,0.6s,baz=2.4,slow=6.4,SNR=17
KONO Kongsberg 68.71 359↓↓ *eP* P 11 34 51.1 -1.9
KONO pmax pmax
comp=Z,44nm,1.1s
VSU Vasula 68.91 350↑ *eP* P 11 34 53.4 -0.8
VSU pmax pmax
comp=Z,26nm,0.7s
FRU Bishkek 69.63 314 *eP* P 11 35 02.0 +3.0
FRU pmax pmax
comp=Z,175nm,2.1s
AKTO Aktyubinsk 69.67 329 P P 11 34 58.5 -0.6
comp=Z,19nm,0.6s,baz=52,slow=7.2,SNR=50
AAK Ala-Archa 69.84 314 P P 11 35 00.7 +0.2
comp=Z,14nm,0.7s,baz=124,slow=3.5,SNR=19
MOS Moscow 69.96 343 *eP* P 11 34 55.7 -5.1
PMG Port Moresby 70.72 224 *ceP* P 11 35 04.8 -1.0
KSH Kashi 71.66 311 P P 11 35 14.1 +2.6
KSH pP pP 11 35 26.8 -1.2
KSH Kashi 71.66 311 SS SS 11 49 06.5 +4.6
KSH pmax pmax
comp=Z,54nm,1.5s
KSH pmax pmax
comp=Z,8μm,16.8s
KSH pmax pmax
comp=Z,40nm,1.5s
KSH pmax pmax
comp=Z,42nm,1.3s
KSH pmax pmax
comp=Z,1μm,9.0s
KSH LR LR
comp=N,510nm,10.7s
KSH LR LR
comp=E,2μm,13.9s
KSH LR LR
comp=Z,8μm,18.6s
TAPN Taplejung 75.17 295 *eP* P 11 35 32.8 +0.2
comp=Z,43nm,0.7s
CMAR Chiang Mai Arr 75.43 281 P P 11 35 34.3 +0.6
comp=Z,5.4nm,0.7s,baz=26,slow=6.7,SNR=8.5
GUN Gumba 75.75 297 *eP* P 11 35 36.0 +0.1
comp=Z,39nm,0.6s
KKN Kakani 76.17 297 *eP* P 11 35 38.2 0.0
GKN Gorkha 76.36 298 *eP* P 11 35 39.2 0.0
comp=Z,36nm,0.7s
PYUN Piuthan 77.18 299 *eP* P 11 35 43.9 +0.1
comp=Z,60nm,1.0s
GERES GERESS Array B 79.44 357 P P 11 35 55.7 -0.1
comp=Z,2.2nm,0.7s,baz=28,slow=6.0,SNR=4.8
WRAB Tennant Creek 85.75 230 *ceP* P 11 36 29.4 +0.6
WRAB pmax pmax
comp=Z,37nm,2.5s
WRA Warramunga Arr 85.76 230 P P 11 36 28.1 -0.7
comp=Z,1.6nm,0.9s,baz=37,slow=6.2,SNR=8.0
PSI Prapat 87.57 271 P P 11 36 38.5 +0.5
comp=Z,12nm,0.6s,baz=318,slow=4.4,SNR=7.4
ESDC Sonseca Array 88.06 10 P P 11 36 39.5 -0.5
comp=Z,3.8nm,0.7s,baz=351,slow=4.6,SNR=11
HYB Hyderabad 88.16 296 *i* P P 11 36 40.0 -0.7
ASAR Alice Springs 89.17 228 P P 11 36 45.2 +0.1
comp=Z,6.0nm,0.7s,baz=25,slow=5.0,SNR=58
SDV Santo Domingo 89.67 76 P P 11 36 48.4 +0.3
comp=Z,4.9nm,0.5s,baz=52,slow=3.1,SNR=5.7
PLCA Paso Flores 126.86 111 PKP PKPdf 11 42 53.0 +0.4
comp=Z,3.1nm,0.9s,baz=5.3,slow=3.4,SNR=4.7
MAW Mawson 149.78 218 PKPbc PKPbc 11 43 38.5 +0.7
comp=Z,8.9nm,0.9s,baz=224,slow=4.3,SNR=9.6
SNAA Sanae 159.61 170 PKPab PKPab 11 44 24.5 -0.9
comp=Z,0.3nm,0.5s,baz=215,slow=10,SNR=6.4

IDC 02 11:25:41.3±3.4, 15.77N×46.67W, h0km, mb4.2/3, mb1 4.5/3, mb1mx3.8/61, mbtmp4.2/3, Error ellipse: s-maj=165.4km s-min=30.2km az=14.0, Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H10N3	**ASCENSION HYDR**	**39.56**	**124**	T	T	12 15 12.0	
	baz=306,slow=75,SNR=14						
H10N2	**ASCENSION HYDR**	**39.56**	**124**	T	T	12 15 12.2	
	baz=306,slow=75,SNR=12						
H10N1	**ASCENSION HYDR**	**39.58**	**124**	T	T	12 15 13.0	
	baz=306,slow=75,SNR=13						
H10S3	**ASCENSION HYDR**	**40.10**	**126**	T	T	12 15 55.3	
	baz=307,slow=75,SNR=9.3						
H10S1	**ASCENSION HYDR**	**40.10**	**126**	T	T	12 15 54.0	
	baz=307,slow=75,SNR=9.0						
H10S2	**ASCENSION HYDR**	**40.12**	**126**	T	T	12 15 56.6	
	baz=307,slow=75,SNR=7.8						
TORD	**Torodi Ar. Bea**	**46.82**	**87**	P	P	11 34 13.2	-0.1
	4.6nm,0.8s,baz=286,slow=8.2,SNR=16						
TXAR	**Lajitas Array**	**53.88**	**295**	P	P	11 35 06.7	-0.1
	2.3nm,1.0s,baz=100,slow=5.0,SNR=4.9						
ILAR	**Eielson Array**	**80.17**	**335**	P	P	11 37 53.3	0.0
	2.2nm,0.9s,baz=79,slow=4.5,SNR=5.7						

*BJI **02** 11:27:41.3, 51.90N×171.60W, h30km, mb5.0/28, mB5.2/2, Ms5.5/2, Ms7 5.1/2*
*MOS **02** 11:27:44.3±1.0, 52.15N×171.56W, h47km, mb4.9/42, Error ellipse: s-maj=10.9km s-min=7.3km az=76.5*
*ISCJB **02** 11:27:45.1±0.4, 52.02N±0.04×171.49W±0.03, h56km±3km, mb4.8/91, MS5.8/1, Error ellipse: s-maj=7.5km s-min=2.4km az=165.9*
*NEIC **02** 11:27:45.1±0.0, 51.92N×171.44W, h42km, mb4.8/56, ML4.5(AEIC), After AEIC.*
*IDC **02** 11:27:47.5±4.8, 52.08N×171.49W, h64km±42km, mb4.3/31, mb1 4.4/33, mb1mx4.2/76, mbtmp4.5/33, ML4.2/2, Error ellipse: s-maj=15.8km s-min=10.9km az=179.0*

ISC 02 11:27:46.0±0.9, 51.95N±0.06×171.45W±0.03, h51km±7km, n241, σ1$32/262, mb4.9/91, 4C-5D, Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KOSE	**Korovin Southe**	**1.65**	**285**	*ePn*	**Pn**	**11 28 13.3**	**+0.8**
KOFF	**Korovin Flat P**	**1.66**	**282**	*ePn*	**Pn**	**11 28 13.2**	**+0.4**
KONE	**Korovin Northe**	**1.70**	**286**	*ePn*	**Pn**	**11 28 13.1**	**-0.1**
ATKA	**Atka Island**	**1.71**	**280**	*ePn*	**Pn**	**11 28 12.1**	**-1.2**
ATKA				*eSn*	**Sn**	**11 28 34.0**	**0.0**
KOKL	**Mount Kliuchef**	**1.73**	**283**	*ePn*	**Pn**	**11 28 14.2**	**+0.5**
NIKH	**Nikolski High**	**1.89**	**56**	*ePn*	**Pn**	**11 28 14.5**	**-1.3**
NIKH				*eSn*	**Sn**	**11 28 36.5**	**-1.9**
OKSO	**Okmok South**	**2.45**	**54**	*ePn*	**Pn**	**11 28 23.1**	**-0.3**
OKSO				*eSn*	**Sn**	**11 28 54.1**	**+2.0**
OKCE	**Okmok Cone E**	**2.49**	**52**	*ePn*	**Pn**	**11 28 24.6**	**+0.6**
OKFG	**Magazine Ridge**	**2.60**	**54**	*ePn*	**Pn**	**11 28 25.5**	**0.0**
OKFG				*eSn*	**Sn**	**11 28 57.7**	**+1.8**
GSMY	**Great Sitkin M**	**2.85**	**274**	*ePn*	**Pn**	**11 28 28.8**	**-0.1**
GSTR	**Great Sitkin T**	**2.85**	**275**	*ePn*	**Pn**	**11 28 29.2**	**+0.3**
GSTR				*eSn*	**Sn**	**11 29 03.6**	**+1.5**
GSTD	**Great Sitkin T**	**2.90**	**274**	*ePn*	**Pn**	**11 28 29.8**	**+0.1**
GSTD				*eSn*	**Sn**	**11 29 03.8**	**+0.4**
GSCK	**Great Sitkin C**	**2.91**	**273**	*ePn*	**Pn**	**11 28 29.4**	**-0.4**
ETKA	**Kagalaska Isla**	**3.07**	**270**	*ePn*	**Pn**	**11 28 31.4**	**-0.6**
ADAG	**Mount Adagdak**	**3.19**	**273**	*ePn*	**Pn**	**11 28 33.5**	**0.0**
MGOD	**Makushin Gods**	**3.33**	**55**	*ePn*	**Pn**	**11 28 35.5**	**0.0**
MSW	**Makushin Switc**	**3.44**	**53**	*ePn*	**Pn**	**11 28 37.2**	**+0.1**
KIRH	**Kanaga Island**	**3.49**	**271**	*ePn*	**Pn**	**11 28 38.1**	**+0.4**
MTBL	**Makushin Table**	**3.52**	**53**	*ePn*	**Pn**	**11 28 38.6**	**+0.4**
KIKV	**Kanaga Island**	**3.54**	**271**	*ePn*	**Pn**	**11 28 38.8**	**+0.4**
UNV	**Unalaska Valle**	**3.55**	**56**	*ePn*	**Pn**	**11 28 38.4**	**0.0**
UNV				*eSn*	**Sn**	**11 29 18.2**	**-0.9**
KICM	**Kanaga Island**	**3.56**	**272**	*ePn*	**Pn**	**11 28 38.9**	**+0.4**
AKRB	**Akutan Reef Bi**	**3.91**	**54**	*ePn*	**Pn**	**11 28 44.2**	**+0.7**
AKMO	**Akutan Morgan**	**3.92**	**55**	*ePn*	**Pn**	**11 28 44.1**	**+0.5**
AKMO				*eSn*	**Sn**	**11 29 29.7**	**+1.4**
TAPA	**Tanaga Point A**	**3.94**	**271**	*ePn*	**Pn**	**11 28 44.1**	**+0.1**
AKLV	**Akutan Long Va**	**3.99**	**54**	*ePn*	**Pn**	**11 28 45.5**	**+0.9**
AKGG	**Akutan Green G**	**3.99**	**53**	*P*	**Pn**	**11 28 45.4**	**+0.9**
TAFL	**Tanaga Flats**	**4.00**	**270**	*ePn*	**Pn**	**11 28 44.9**	**+0.2**
TAFP	**Tanaga Falls P**	**4.04**	**272**	*ePn*	**Pn**	**11 28 45.8**	**+0.5**
TAFP				*eSn*	**Sn**	**11 29 32.0**	**+0.7**
AKUT	**Akutan**	**4.07**	**55**	*ePn*	**Pn**	**11 28 45.8**	**+0.3**
TANO	**Tanaga North**	**4.13**	**272**	*ePn*	**Pn**	**11 28 46.6**	**+0.2**
GAEA	**Gareloi East**	**4.53**	**271**	*ePn*	**Pn**	**11 28 52.0**	**+0.1**
WESP	**Westdahl Peak**	**4.78**	**55**	*ePn*	**Pn**	**11 28 55.8**	**+0.4**
WESE	**West Dahl East**	**4.84**	**56**	*ePn*	**Pn**	**11 28 56.0**	**-0.2**
SSLW	**Shishaldin Wes**	**5.22**	**54**	*P*	**Pn**	**11 29 02.3**	**+0.9**
SPIA	**Saint Paul Isl**	**5.28**	**7**	*ePn*	**Pn**	**11 29 03.9**	**+1.7**
SSLN	**Shishaldin Nor**	**5.30**	**54**	*ePn*	**Pn**	**11 29 03.6**	**+1.1**
DT1	**Dutton Round H**	**6.32**	**56**	*ePn*	**Pn**	**11 29 16.2**	**-0.2**
DTNA	**Dutton South F**	**6.35**	**56**	*ePn*	**Pn**	**11 29 16.6**	**-0.3**
DOL	**Dolgoi Island**	**6.55**	**57**	*P*	**Pn**	**11 29 19.2**	**-0.4**
PS4A	**Pavlof South-4**	**6.64**	**55**	*P*	**Pn**	**11 29 21.2**	**+0.4**
SDPT	**Sand Point**	**7.36**	**58**	*ePn*	**Pn**	**11 29 30.0**	**-0.6**
SDPT				*eSn*	**Sn**	**11 30 49.5**	**-3.0**
CHGN	**Chignik**	**8.80**	**55**	*ePn*	**Pn**	**11 29 49.5**	**-0.9**
SMY	**Shemya**	**8.88**	**281**	*eP*	**Pn**	**11 29 51.4**	**-0.1**
SMY	**Shemya**	**8.88**	**281**	*ePn*	**Pn**	**11 29 51.4**	**-0.1**
KDAK	**Kodiak Island**	**12.31**	**54**	*i P*	**Pn**	**11 30 35.2**	**-3.1**
SVW2	**Sparrevohn**	**12.64**	**37**	*ePn*	**Pn**	**11 30 45.7**	**+2.9**
RSO	**Redoubt South**	**13.41**	**43**	*ePn*	**Pn**	**11 30 55.4**	**+2.0**
TT01	**Tatalina**	**13.72**	**31**	*ePn*	**Pn**	**11 31 00.1**	**+2.6**
TTA	**Tatalina**	**13.74**	**31**	*eP*	**Pn**	**11 31 00.1**	**+2.2**
TTA	**Tatalina**	**13.74**	**31**	*ePn*	**Pn**	**11 31 00.1**	**+2.2**
SPU	**Mount Spurr**	**14.08**	**41**	*ePn*	**Pn**	**11 31 05.0**	**+2.6**
PPLA	**Purkeypile**	**15.02**	**36**	*ePn*	**P**	**11 31 17.5**	**-1.8**
	79nm,1.4s						
CAST	**Castle Rocks**	**15.38**	**34**	*ePn*	**Pn**	**11 31 19.5**	**0.0**
	16nm,0.7s						
PMR	**Palmer**	**15.50**	**43**	*eP*	**Pn**	**11 31 18.9**	**-2.0**
PMR				pmax	pmax		
	comp=Z,42nm,1.5s						
PMR	**Palmer**	**15.50**	**43**	*ePn*	**Pn**	**11 31 18.9**	**-2.0**
	comp=Z,42nm,1.5s						
KTH	**Kantishna Hill**	**15.88**	**35**	*ePn*	**P**	**11 31 27.3**	**-1.4**
	comp=Z,22nm,0.7s						
SCM	**Sheep Creek Mo**	**16.38**	**43**	*eP*	**Pn**	**11 31 29.3**	**-2.8**
SCM				pmax	pmax		
	comp=Z,42nm,1.1s						
SCM	**Sheep Creek Mo**	**16.38**	**43**	*ePn*	**Pn**	**11 31 29.3**	**-2.8**
	comp=Z,42nm,1.1s						
RND	**Reindeer**	**16.55**	**37**	*eP*	**Pn**	**11 31 33.5**	**-0.8**
RND				pmax	pmax		
	comp=Z,20nm,0.7s						
RND	**Reindeer**	**16.55**	**37**	*ePn*	**Pn**	**11 31 33.5**	**-0.8**
	comp=Z,20nm,0.7s						
MCK	**McKinley**	**16.70**	**36**	*eP*	**Pn**	**11 31 36.1**	**0.0**
MCK				pmax	pmax		
	comp=Z,17nm,1.0s						
MCK	**McKinley**	**16.70**	**36**	*ePn*	**Pn**	**11 31 36.1**	**0.0**
	comp=Z,17nm,1.0s						
CCB	**Clear Creek Bu**	**17.63**	**35**	*ePn*	**Pn**	**11 31 45.7**	**-1.9**
	comp=Z,11nm,0.8s						
MDM	**Murphy Dome**	**17.66**	**34**	*ePn*	**Pn**	**11 31 47.5**	**-0.6**
	comp=Z,16nm,0.8s						
IL1	**Eielson Array**	**18.03**	**35**	*ePn*	**P**	**11 31 51.6**	**-0.8**
IL1				*eSn*	**Sn**	**11 35 13.2**	**+0.8**
ILAR	**Eielson Array**	**18.03**	**35**	P	**P**	**11 31 50.3**	**-2.1**
	comp=Z,0.6nm,0.3s,baz=224,slow=9.6,SNR=16						
ILB	**Eielson Array**	**18.03**	**35**	*ePn*	**P**	**11 31 50.0**	**-2.4**
ILB				*eSn*	**Sn**	**11 35 13.1**	**+0.7**
BALM	**Baldy**	**18.31**	**49**	*eP*	**P**	**11 31 54.3**	**-1.4**
BALM				*e*		11 35 18.9	
BALM				pmax	pmax		
	comp=Z,22nm,1.2s						
BALM	**Baldy**	**18.31**	**49**	*eP*	**P**	**11 31 54.3**	**-1.4**
	comp=Z,22nm,1.2s						
BALM				*eSn*	**Sn**	**11 35 18.9**	**-0.7**
DOT	**Dot Lake**	**18.53**	**40**	*eP*	**P**	**11 31 57.3**	**-0.7**
	comp=Z,24nm,0.9s						
COLD	**Coldfoot**	**18.55**	**26**	*eP*	**Pn**	**11 32 00.4**	**+1.6**
	comp=Z,6.8nm,0.9s						
COLD				*eSn*	**S**	**11 35 27.1**	**+0.5**
PEA1	**Petropavlovsk-**	**18.74**	**286**	*eP*	**P**	**11 32 00.6**	**+0.3**
PEA0	**Petropavlovsk-**	**18.74**	**286**	*eP*	**P**	**11 32 00.3**	**0.0**
PEA0				*eSn*	**Sn**	**11 35 27.9**	**-1.8**
PETK	**Petropavlovsk-**	**18.74**	**286**	P	**P**	**11 32 00.6**	**+0.3**
	comp=Z,1.9nm,0.3s,baz=89,slow=14,SNR=18						
PCA	**Pinnacle**	**19.09**	**53**	*eP*	**Pn**	**11 32 05.8**	**+0.5**
	comp=Z,45nm,0.8s						
FYU	**Fort Yukon**	**19.61**	**32**	*eP*	**Pn**	**11 32 11.2**	**-0.2**
	comp=Z,19nm,0.9s						
DHAK	**Deception Hill**	**19.96**	**56**	*eP*	**Pn**	**11 32 15.3**	**-0.4**
	comp=Z,53nm,0.8s						
EGAK	**Eagle**	**20.17**	**39**	*eP*	**P**	**11 32 15.2**	**-0.5**
	comp=Z,11nm,0.7s						
HYT	**Haines Junctio**	**20.56**	**51**	*eP*	**P**	**11 32 21.0**	**+0.7**
	comp=Z,44nm,0.5s						
DAWY	**Dawson**	**20.59**	**42**	*eP*	**P**	**11 32 20.8**	**+0.3**
	comp=Z,11nm,1.0s						
SKAG	**Skagway**	**21.47**	**55**	*eP*	**P**	**11 32 30.8**	**+1.1**
	comp=Z,35nm,0.7s						
WHY	**Whitehorse**	**21.81**	**52**	*eP*	**P**	**11 32 33.9**	**+0.3**
	comp=Z,13nm,0.9s						
SEY	**Seymchan**	**22.02**	**314**	P	**P**	**11 32 37.3**	**+1.6**
	comp=Z,7.1nm,0.7s,baz=152,slow=18,SNR=11						
DLBC	**Dease Lake**	**24.20**	**58**	P	**P**	**11 32 59.9**	**+2.5**
	comp=Z,15nm,0.6s,baz=253,slow=6.9,SNR=37						
DLBC	**Dease Lake**	**24.20**	**58**	*eP*	**P**	**11 32 59.8**	**+2.3**
	comp=Z,48nm,1.4s						
INK	**Inuvik**	**24.40**	**34**	P	**P**	**11 32 58.4**	**-0.7**
	comp=Z,5.7nm,0.5s,baz=232,slow=7.8,SNR=20						
INK	**Inuvik**	**24.40**	**34**	*eP*	**P**	**11 32 58.5**	**-0.6**
INK				pmax	pmax		
	comp=Z,9.0nm,1.0s						
INK	**Inuvik**	**24.40**	**34**	*eP*	**P**	**11 32 58.5**	**-0.6**
	comp=Z,9.3nm,1.0s						
PGC	**Sidney**	**30.40**	**77**	*eP*	**P**	**11 33 54.7**	**+1.7**
	comp=Z,27nm,1.1s						
LLLB	**Lillooet**	**30.56**	**73**	*eP*	**P**	**11 33 54.1**	**-0.3**
	comp=Z,64nm,2.0s						
NLWA	**Neilton Lookou**	**30.69**	**79**	*eP*	**P**	**11 33 54.7**	**-0.9**
	comp=Z,13nm,1.0s						
E03A	**Lebam**	**31.26**	**81**	*eP*	**P**	**11 33 56.9**	**-3.6**
	comp=Z,50nm,1.4s						
YKA	**Yellowknife Ar**	**31.48**	**48**	P	**P**	**11 34 02.2**	**-0.1**
	comp=Z,1.4nm,0.4s,baz=275,slow=9.2,SNR=11						
YKB5	**Yellowknife Ar**	**31.48**	**48**	*eP*	**P**	**11 34 02.2**	**-0.1**
ERM	**Erimo**	**32.04**	**270↓↓**	*eP*	**P**	**11 34 04.9**	**-2.6**
ERM				pmax	pmax		
	comp=Z,29nm,1.0s						
YAK	**Yakutsk**	**32.48**	**311↓↓**	*eP*	**P**	**11 34 10.0**	**-1.1**
YAK				pmax	pmax		
	comp=Z,10.0nm,0.8s						
B08A	**Colville Reser**	**32.99**	**75**	*eP*	**P**	**11 34 17.2**	**+1.4**
	comp=Z,9.0nm,1.0s						
NEW	**Newport**	**34.36**	**74**	P	**P**	**11 34 28.6**	**+1.0**
	comp=Z,4.8nm,0.5s,baz=292,slow=10,SNR=8.3						
NEW	**Newport**	**34.36**	**74**	*eP*	**P**	**11 34 28.6**	**+1.0**
	comp=Z,12nm,1.1s						
EDM	**Edmonton**	**34.49**	**64**	*eP*	**P**	**11 34 29.9**	**+1.2**
EDM				pmax	pmax		
	comp=Z,22nm,1.0s						
EDM	**Edmonton**	**34.49**	**64**	*eP*	**P**	**11 34 29.9**	**+1.2**
	comp=Z,22nm,1.0s						
PUH	**Pauahi**	**34.92**	**153**	*eP*	**P**	**11 34 33.6**	**+0.8**
JOHN	**Johnston Islan**	**35.17**	**177**	*eP*	**P**	**11 34 33.9**	**-0.9**
	comp=Z,204nm,1.0s						
H11N2	**WAKE ISLAND Hy**	**36.34**	**216**	T	T	12 13 15.8	
	baz=21,slow=76,SNR=8.5						
H11N3	**WAKE ISLAND Hy**	**36.35**	**216**	T	T	12 13 20.8	
	baz=21,slow=76,SNR=7.1						
H11N1	**WAKE ISLAND Hy**	**36.36**	**216**	T	T	12 13 23.1	
	baz=21,slow=76,SNR=5.1						
WVOR	**Wild Horse Val**	**36.39**	**84**	*eP*	**P**	**11 34 47.0**	**+1.7**
WVOR				pmax	pmax		
	comp=Z,57nm,1.8s						
WVOR	**Wild Horse Val**	**36.39**	**84**	*eP*	**P**	**11 34 47.0**	**+1.7**
	comp=Z,57nm,1.8s						
CHMT	**Chamberlain Mo**	**37.30**	**74**	*eP*	**P**	**11 34 53.7**	**+0.6**
PAHR	**Pah Rah Range**	**37.50**	**88**	*eP*	**P**	**11 34 56.3**	**+1.5**
	comp=Z,16nm,1.2s						
H11S1	**WAKE ISLAND Hy**	**37.54**	**215**	T	T	12 14 41.2	
	baz=22,slow=76,SNR=4.6						
H11S2	**WAKE ISLAND Hy**	**37.55**	**215**	T	T	12 14 51.1	
	baz=22,slow=76,SNR=0.8						
H11S3	**WAKE ISLAND Hy**	**37.56**	**215**	T	T	12 14 53.4	
	baz=22,slow=76,SNR=5.7						
PNTR	**Pine Nut**	**37.74**	**89**	*eP*	**P**	**11 34 58.9**	**+1.9**
	comp=Z,15nm,0.8s						
YERR	**Yerington**	**38.03**	**89**	*eP*	**P**	**11 35 00.2**	**+0.9**
	comp=Z,69nm,1.7s						
WAKR	**Walker**	**38.20**	**90**	*eP*	**P**	**11 35 02.7**	**+1.9**
	comp=Z,36nm,1.4s						
HRY	**Holter Researc**	**38.25**	**74**	*eP*	**P**	**11 35 01.1**	**+0.1**
HLID	**Hailey**	**38.35**	**79**	*eP*	**P**	**11 35 02.3**	**+0.3**
	comp=Z,21nm,1.3s						
MAJO	**Matsushiro**	**38.40**	**267↓↓**	*eP*	**P**	**11 35 00.3**	**-1.9**
MAJO				pmax	pmax		
	comp=Z,48nm,1.0s						
MAT	**Matsushiro**	**38.40**	**267**	P	**P**	**11 35 02.7**	**+0.5**
MJAR	**Matsushiro Arr**	**38.40**	**267**	P	**P**	**11 35 03.3**	**+1.1**
	comp=Z,3.2nm,0.8s,baz=48,slow=7.5,SNR=7.2						
MJAR				PcP	**PcP**	**11 37 15.3**	**+0.6**
	comp=Z,4.0nm,0.9s,baz=124,slow=1.8,SNR=4.4						
BMN	**Battle Mountai**	**38.41**	**85**	*eP*	**P**	**11 35 03.7**	**+1.3**
BMN				pmax	pmax		

GSC					pmax	pmax			
	comp=Z,10.0nm,0.8s								
GSC	**Goldstone, Bar**	**41.86**	**91**	*eP*	**P**		**11 35 32.5**	**+1.5**
	comp=Z,9.7nm,0.8s								
BBRC	**Big Bear Solar**	**42.47**	**93**	*eP*	**P**		**11 35 35.5**	**-0.6**
CRY	**Cary Ranch**	**43.05**	**93**	*eP*	**P**		**11 35 43.1**	**+2.4**
DANC	**Danby, Needles**	**43.17**	**91**	*eP*	**P**		**11 35 43.2**	**+1.6**
KSRS	**Korea Array**	**44.17**	**276**	P	**P**		**11 35 49.7**	**+0.2**
	comp=Z,3.5nm,0.8s,baz=53,slow=6.6,SNR=7.7								
KS15	**Wonju Array Si**	**44.20**	**276**	*eP*	**P**		**11 35 50.9**	**+1.1**
KSAR	**Wonju Array Be**	**44.20**	**276**	P	**P**		**11 35 49.7**	**-0.1**
KSAR	**Wonju Array Be**	**44.20**	**276**	P	**P**		**11 35 49.7**	**-0.1**
ULM	**Lac du Bonnet**	**45.48**	**61**	P	**P**		**11 36 01.2**	**+1.4**
	comp=Z,4.6nm,0.5s,baz=310,slow=4.1,SNR=4.7								
KSCO	**Kaye Shedlock'**	**48.19**	**77**	*eP*	**P**		**11 36 21.6**	**+0.3**
	comp=Z,58nm,1.6s								
KSCO				*eS*	**S**		**11 43 19.1**	**+2.3**
TLY	**Talaya**	**49.54**	**305**	P	**P**		**11 36 31.4**	**+0.1**
	comp=Z,1.0nm,0.3s,baz=60,slow=4.5,SNR=3.6								
TLY	**Talaya**	**49.54**	**305⇑**	*eP*	**P**		**11 36 31.3**	**0.0**
TLY				pmax	pmax				
	comp=Z,7.0nm,1.0s								
SPITS	**Spitsbergen Ar**	**50.05**	**358**	P	**P**		**11 36 33.4**	**-1.4**
	comp=Z,5.9nm,0.8s,baz=56,slow=14,SNR=3.8								
SONA0	**Songino Array**	**50.41**	**300**	*eP*	**P**		**11 36 37.7**	**-0.3**
	comp=Z,8.0nm,1.2s								
SONM	**Songino Array**	**50.41**	**300**	P	**P**		**11 36 37.7**	**-0.3**
	comp=Z,1.5nm,0.4s,baz=40,slow=6.3,SNR=4.8								
SONM	**Songino Array**	**50.41**	**300**	P	**P**		**11 36 37.7**	**-0.3**
SONM				pmax	pmax				
	comp=Z,1.0nm,0.4s								
HHC	**Hu-ho-hao-te**	**51.87**	**290**	*eP*	**P**		**11 36 49.2**	**+0.2**
HHC				pmax	pmax				
	comp=Z,32nm,1.2s								
LTX	**Lajitas**	**54.04**	**87**	*eP*	**P**		**11 37 05.5**	**+0.3**
LTX				*e*			11 38 10.1		
LTX	**Lajitas**	**54.04**	**87**	*eP*	**P**		**11 37 05.5**	**+0.3**
LTX				*e*PcP	**PcP**		**11 38 10.1**	**+0.4**
TXAR	**Lajitas Array**	**54.04**	**87**	P	**P**		**11 37 05.5**	**+0.3**
	comp=Z,4.6nm,0.7s,baz=304,slow=5.9,SNR=23								
TXAR				PcP	**PcP**		**11 38 10.1**	**+0.4**
	comp=Z,1.7nm,0.6s,baz=279,slow=1.0,SNR=6.5								
TXAR	**Lajitas Array**	**54.04**	**87**	P	**P**		**11 37 05.5**	**+0.3**
TXAR							11 38 10.1		
TXAR				pmax	pmax				
	comp=Z,4.0nm,0.7s								
TXAR	**Lajitas Array**	**54.04**	**87**	P	**P**		**11 37 05.5**	**+0.2**
ZAA1	**Zalesovo Array**	**56.85**	**317**	*eP*	**P**		**11 37 23.7**	**-1.2**
ZAA1				*e*PcP	**PcP**		**11 38 20.3**	**+0.3**
ZALV	**Zalesovo Beam**	**56.86**	**317**	P	**P**		**11 37 23.7**	**-1.2**
	comp=Z,2.0nm,0.6s,baz=39,slow=6.1,SNR=3.8								
ZALV				PcP	**PcP**		**11 38 20.3**	**+0.3**
	comp=Z,0.7nm,0.3s,baz=56,slow=5.3,SNR=3.8								
PARMO	**Parma**	**57.40**	**71**	*eP*	**P**		**11 37 28.3**	**-0.7**
ARCES	**ARCESS Array B**	**58.19**	**353**	P	**P**		**11 37 32.1**	**-2.0**
	comp=Z,1.4nm,0.4s,baz=17,slow=8.9,SNR=4.6								
GTA	**Gaotai**	**59.52**	**296**	*eP*	**P**		**11 37 42.5**	**-1.4**
GTA				pP	pP		11 37 49.7	-8.3	
GTA				sP	sP		11 37 53.8	-10	
GTA				pmax	pmax				
	comp=Z,20nm,1.0s								
LZH	**Lanzhou**	**59.54**	**291**	*eP*	**P**		**11 37 44.8**	**+0.6**
LZH				pP	pP		11 37 51.7	-6.5	
LZH				sP	sP		11 37 54.4	-10	
LZH				pmax	pmax				
	comp=Z,43nm,1.3s								
KURK	**Kurchatov**	**61.82**	**317**	*eP*	**P**		**11 37 58.9**	**-0.3**
KURK				*e*			11 38 40.1		
KURK				pmax	pmax				
	comp=Z,12nm,0.7s								
KURK	**Kurchatov**	**61.82**	**317**	*eP*	**P**		**11 37 58.9**	**-0.3**
	comp=Z,12nm,0.7s								
KURK				*e*PcP	**PcP**		**11 38 40.1**	**+0.3**
KURBB	**Kurchatov Arra**	**61.93**	**317**	P	**P**		**11 37 59.4**	**-0.5**
	comp=Z,9.8nm,0.7s,baz=44,slow=7.1,SNR=31								
KURBB				PcP	**PcP**		**11 38 40.1**	**-0.1**
	comp=Z,0.8nm,0.3s,baz=187,slow=14,SNR=4.8								
BLA	**Blacksburg**	**62.35**	**64**	*eP*	**P**		**11 38 03.1**	**+0.1**
BLA				pmax	pmax				
	comp=Z,21nm,0.8s								
BLA	**Blacksburg**	**62.35**	**64**	*eP*	**P**		**11 38 03.1**	**+0.1**
	comp=Z,21nm,0.8s								
WMQ	**Urumqi**	**62.77**	**307**	P	**P**		**11 38 07.7**	**+1.9**
WMQ				pP	pP		11 38 18.4	-1.5	
WMQ				sP	sP		11 38 22.5	-3.2	
WMQ				pmax	pmax				
	comp=Z,89nm,0.6s								
MKAR	**Makanchi Array**	**63.15**	**312**	*eP*	**P**		**11 38 07.0**	**-1.2**
MKAR				pmax	pmax				
	comp=Z,34nm,0.8s								
MKAR	**Makanchi Array**	**63.15**	**312**	*eP*	**P**		**11 38 07.0**	**-1.2**
	comp=Z,34nm,0.8s								
IP06	**Yanceyville**	**63.18**	**62**	*eP*	**P**		**11 38 09.2**	**+0.7**
	comp=Z,14nm,0.7s								
CD2	**Chengdu**	**63.27**	**287**	*eP*	**P**		**11 38 09.4**	**+0.1**
CD2				S	**S**		**11 46 36.0**	**-1.4**
CD2				pmax	pmax				
	comp=Z,30nm,1.1s								
BVAR	**Borovoye Array**	**63.28**	**323**	P	**P**		**11 38 08.5**	**-0.5**
	comp=Z,11nm,0.5s,baz=53,slow=6.0,SNR=32								
BRVK	**Borovoye**	**63.30**	**323⇓**	*eP*	**P**		**11 38 08.8**	**-0.2**
BRVK				pmax	pmax				
	comp=Z,15nm,1.0s								
GOGA	**Godfrey**	**63.34**	**69**	*eP*	**P**		**11 38 08.8**	**-0.8**
GOGA				pmax	pmax				
	comp=Z,13nm,0.8s								
GOGA	**Godfrey**	**63.34**	**69**	*eP*	**P**		**11 38 08.8**	**-0.8**
	comp=Z,13nm,0.8s								
LMN	**Caledonia Moun**	**64.03**	**48**	*eP*	**P**		**11 38 14.0**	**0.0**
	comp=Z,19nm,0.8s								
ARU	**Arti**	**64.39**	**332**	P	P		11 38 11.1	-5.0	
	comp=Z,5.2nm,0.4s,baz=346,slow=2.2,SNR=11								
ARU	**Arti**	**64.39**	**332**	*d iP*	**P**		**11 38 15.5**	**-0.7**
ARU				S	**S**		**11 46 53.0**	**+2.5**
ARU				SS	**SS**		**11 50 52.3**	**-7.7**
ARU				pmax	pmax				
	comp=Z,47nm,2.5s								
GYA	**Guiyang**	**64.76**	**281**	*eP*	**P**		**11 38 19.0**	**-0.2**
GYA				pmax	pmax				
	comp=Z,10.0nm,1.0s								
FIA0	**FINESS Array S**	**66.09**	**351**	*eP*	**P**		**11 38 25.2**	**-1.9**
FIA0	**FINESS Array S**	**66.09**	**351**	*eP*	**P**		**11 38 25.1**	**-1.9**
FINES	**FINESS Array B**	**66.09**	**351**	P	**P**		**11 38 25.1**	**-1.9**
	comp=Z,3.7nm,0.7s,baz=6.9,slow=8.8,SNR=8.1								
NB2	**NORSAR Subarra**	**67.34**	**359**	P	**P**		**11 38 33.8**	**-1.3**
	comp=Z,1.1nm,0.5s,baz=0.1,slow=6.5								
NB200	**NORSAR Array S**	**67.34**	**359**	*eP*	**P**		**11 38 34.1**	**-1.0**
NOA	**NORSAR Array B**	**67.34**	**359**	P	**P**		**11 38 34.1**	**-1.0**
	comp=Z,2.0nm,0.7s,baz=1.6,slow=6.4,SNR=6.4								
KMI	**Kunming**	**68.12**	**283**	P	**P**		**11 38 40.8**	**0.0**
KMI				pmax	pmax				
	comp=Z,20nm,0.5s								
VSU	**Vasula**	**68.95**	**350**	*eP*	**P**		**11 38 42.4**	**-2.7**
AKTO	**Aktyubinsk**	**69.72**	**329**	P	**P**		**11 38 49.3**	**-0.8**
	comp=Z,12nm,0.6s,baz=57,slow=7.4,SNR=29								
AAK	**Ala-Archa**	**69.88**	**314**	P	**P**		**11 38 51.4**	**0.0**
	comp=Z,6.8nm,0.5s,baz=122,slow=3.1,SNR=11								
AAK	**Ala-Archa**	**69.88**	**314⇑**	*eP*	**P**		**11 38 51.3**	**-0.1**
AAK				pmax	pmax				
	comp=Z,25nm,0.9s								
ABKAR	**Akbulak array**	**70.10**	**327**	*eP*	**P**		**11 38 51.6**	**-0.8**
	comp=Z,55nm,0.4s								
LSA	**Lhasa**	**71.47**	**294**	*eP*	**P**		**11 39 02.8**	**+1.2**
LSA				pmax	pmax				
	comp=Z,16nm,0.8s								
LSA	**Lhasa**	**71.47**	**294**	*eP*	**P**		**11 39 02.8**	**+1.2**
	comp=Z,16nm,0.8s								
KSH	**Kashi**	**71.70**	**311**	P	**P**		**11 39 05.4**	**+2.9**
KSH				sP	PcP		11 39 19.4	-1.9	
KSH				PP	**PP**		**11 41 46.5**	**+5.0**
KSH				S	**S**		**11 48 21.1**	**+2.7**
KSH				sS	pS		11 48 38.0	+2.1	
KSH				SS	**SS**		**11 52 59.1**	**+5.3**
KSH				pmax	pmax				
	comp=Z,13nm,0.6s								
KSH				LR	LR				
	comp=Z,3μm,16.1s								
KSH				LR	LR				
	comp=Z,2μm,14.0s								
EKA	**Eskdalemuir Ar**	**72.64**	**7**	P	**P**		**11 39 06.9**	**-0.8**
	comp=Z,8.9nm,1.0s,baz=343,slow=4.3,SNR=5.8								
TAPN	**Taplejung**	**75.20**	**295**	*eP*	**P**		**11 39 23.5**	**+0.1**
	comp=Z,31nm,0.7s								
CMAR	**Chiang Mai Arr**	**75.45**	**281**	P	**P**		**11 39 24.8**	**+0.2**
	comp=Z,6.4nm,0.8s,baz=26,slow=6.9,SNR=7.3								
GUN	**Gumba**	**75.78**	**297**	*eP*	**P**		**11 39 26.9**	**+0.1**
	comp=Z,29nm,0.6s								
JIRN	**Jiri**	**75.81**	**297**	*eP*	**P**		**11 39 27.1**	**+0.1**
KKN	**Kakani**	**76.20**	**297**	*eP*	**P**		**11 39 28.8**	**-0.3**
	comp=Z,9.1nm,0.4s								
GKN	**Gorkha**	**76.39**	**298**	*eP*	**P**		**11 39 29.5**	**-0.5**
CLL	**Collm**	**77.05**	**357**	*i P*	**P**		**11 39 32.2**	**-0.9**
PYUN	**Piuthan**	**77.21**	**299**	*eP*	**P**		**11 39 34.4**	**-0.3**
GERES	**GERESS Array B**	**79.48**	**357**	P	**P**		**11 39 46.5**	**-0.3**
	comp=Z,1.7nm,0.7s,baz=7.4,slow=4.2,SNR=8.6								
ROSF	**Rostrenen**	**79.58**	**8**	*eP*	**P**		**11 39 46.8**	**-0.4**
ROSF				pmax	pmax				
	comp=Z,37nm,1.6s								
GRR	**Gorron**	**79.72**	**6**	*eP*	**P**		**11 39 47.1**	**-0.8**
GRR				pmax	pmax				
	comp=Z,5.0nm,0.8s								
CDF	**Champ du Feu**	**80.01**	**1**	*eP*	**P**		**11 39 48.9**	**-0.7**
CDF				pmax	pmax				
	comp=Z,4.0nm,0.8s								
KBZ	**Khabaz**	**80.18**	**335**	P	**P**		**11 39 50.5**	**0.0**
	comp=Z,1.3nm,0.5s,baz=148,slow=1.8,SNR=4.0								
KBZ	**Khabaz**	**80.18**	**335**	P	**P**		**11 39 50.5**	**0.0**
KBZ				pmax	pmax				
	comp=Z,2.0nm,0.6s								
MTN	**Manton Dam**	**81.28**	**236**	*eP*	**P**		**11 39 56.4**	**-0.3**
	comp=Z,17nm,0.8s								
AVF	**Avril sur Loir**	**81.54**	**4**	*eP*	**P**		**11 39 57.0**	**-0.7**
AVF				pmax	pmax				
	comp=Z,6.0nm,1.0s								
DAVOX	**Davos/Dischmat**	**81.64**	**359**	P	**P**		**11 39 58.5**	**0.0**
	comp=Z,1.6nm,0.6s,baz=341,slow=8.4,SNR=3.7								
LPL	**La Plagne**	**82.90**	**1**	*eP*	**P**		**11 40 06.7**	**+1.6**
LPL				pmax	pmax				
	comp=Z,25nm,1.8s								
CAF	**Calviac**	**83.34**	**5**	*eP*	**P**		**11 40 06.9**	**-0.3**
CAF				pmax	pmax				
	comp=Z,7.0nm,1.2s								
MTLF	**Montolieu**	**84.93**	**5**	*eP*	**P**		**11 40 15.0**	**-0.2**
MTLF				pmax	pmax				
	comp=Z,4.0nm,0.9s								
WRAB	**Tennant Creek**	**85.73**	**230⇑**	*eP*	**P**		**11 40 17.9**	**-1.5**
WRAB				pmax	pmax				
	comp=Z,23nm,1.2s								
WR1	**Warramunga Arr**	**85.75**	**230**	*eP*	**P**		**11 40 18.4**	**-1.0**
	comp=Z,14nm,1.3s								
WRA	**Warramunga Arr**	**85.75**	**230**	P	**P**		**11 40 18.4**	**-1.0**
	comp=Z,2.9nm,0.9s,baz=35,slow=6.0,SNR=16								
BR101	**Keskin Array S**	**86.12**	**341**	*eP*	**P**		**11 40 20.9**	**-0.5**
BRTR	**Keskin Array B**	**86.12**	**341**	P	**P**		**11 40 20.9**	**-0.5**
	comp=Z,1.1nm,0.8s,baz=28,slow=4.0,SNR=4.5								
PSI	**Prapat**	**87.58**	**271**	P	**P**		**11 40 29.1**	**+0.3**
	comp=Z,8.8nm,0.8s,baz=340,slow=2.0,SNR=5.6								
PSI	**Prapat**	**87.58**	**271**	*eP*	**P**		**11 40 28.8**	**0.0**
	comp=Z,9.3nm,0.7s								
ES19	**SONSECA Array**	**88.08**	**10**	*eP*	**P**		**11 40 30.1**	**-0.6**
ESDC	**Sonseca Array**	**88.10**	**10**	P	**P**		**11 40 30.1**	**-0.8**
	comp=Z,1.1nm,0.5s,baz=350,slow=4.5,SNR=10								
AS01	**Alice Springs**	**89.13**	**228**	*eP*	**P**		**11 40 35.4**	**-0.2**
AS31	**Alice Springs**	**89.15**	**228**	*eP*	**P**		**11 40 36.0**	**+0.2**
	comp=Z,2.9nm,0.7s								
ASAR	**Alice Springs**	**89.15**	**228**	P	**P**		**11 40 35.7**	**-0.1**
	comp=Z,12nm,0.8s,baz=28,slow=4.9,SNR=64								
ASAR	**Alice Springs**	**89.15**	**228**	P	**P**		**11 40 35.7**	**-0.1**
ASAR				pmax	pmax				
	comp=Z,13nm,0.9s								
SDV	**Santo Domingo**	**89.67**	**76**	P	**P**		**11 40 38.1**	**-0.7**
	comp=Z,7.3nm,0.7s,baz=276,slow=4.6,SNR=5.7								
SDV	**Santo Domingo**	**89.67**	**76**	*eP*	**P**		**11 40 39.1**	**+0.3**
	comp=Z,8.9nm,0.9s								
URZ	**Urewera**	**90.39**	**189**	P	**P**		**11 40 41.2**	**+0.1**
	comp=Z,5.7nm,0.8s,baz=284,slow=23,SNR=6.4								
CPUP	**Villa Florida**	**125.00**	**89**	PKP	**PKPdf**		**11 46 39.8**	**-0.3**
	comp=Z,1.3nm,0.6s,baz=136,slow=9.0,SNR=3.6								
CPUP	**Villa Florida**	**125.00**	**89**	*e*PKPdf	**PKPdf**		**11 46 40.8**	**+0.7**
PLCA	**Paso Flores**	**126.83**	**111**	PKP	**PKPdf**		**11 46 43.0**	**-0.3**
	comp=Z,1.9nm,0.7s,baz=280,slow=2.2,SNR=5.5								
PLCA	**Paso Flores**	**126.83**	**111**	PKIKP	**PKPdf**		**11 46 43.0**	**-0.3**
PLCA				pmax	pmax				
	comp=Z,2.0nm,0.7s								
MAW	**Mawson**	**149.75**	**218**	PKPbc	**PKPbc**		**11 47 28.7**	**+0.2**
	comp=Z,15nm,0.9s,baz=50,slow=1.5,SNR=15								
SNAA	**Sanae**	**159.57**	**170**	PKPab	**PKPab**		**11 48 14.7**	**-1.2**
	comp=Z,1.3nm,0.5s,baz=216,slow=7.2,SNR=11								

BUC 02 11:32:23.3±0.4, 45.07°N×28.26°E, h5km, MD1.9/2, 8C-2D,
Error ellipse: s-maj=5.8km s-min=2.4km az=71.0,
Ukraine-Moldova-Southwestern Russia region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CFR	**Carcaliu**	**0.14**	**321⇑**	*iP*	Pg	11 32 26.1	0.0
CFR				S	Sg	11 32 28.6	+0.6
CFR	**Carcaliu**	**0.14**	**321⇑**	*iP*	Pg	11 32 26.1	0.0
CFR				*i* S	Sg	11 32 28.6	+0.6
TLCR		**0.41**	**73**	*i*P	Pg	11 32 31.9	+0.7
TLCR		**0.41**	**73**	S	Sg	11 32 37.9	+1.3
TLCR		**0.41**	**73**	*i*P	Pg	11 32 31.9	+0.7
TLCR				*i* S	Sg	11 32 37.9	+1.3
HARR	**Harsova**	**0.45**	**212⇑**	*i*P	Pg	11 32 32.6	+0.7
HARR	**Harsova**	**0.45**	**212⇑**	*i*P	Pg	11 32 32.6	+0.7
TLB	**Topalu**	**0.51**	**198⇑**	*i*P	Pg	11 32 33.7	+0.7
TLB	**Topalu**	**0.51**	**198⇑**	*i*P	Pg	11 32 33.7	+0.7
TLB				*i* S	Sg	11 32 40.6	+1.0
TIRR	**Tirgusor**	**0.62**	**170⇑**	*i*P	Pg	11 32 35.7	+0.5
TIRR	**Tirgusor**	**0.62**	**170⇑**	*i*P	Pg	11 32 35.7	+0.5
TIRR				*i* S	Sb	11 32 46.2	+0.6

*CSEM **02** 11:32:36.2, 40.62N×34.93E, h7km, MD2.3*
DDA 02 11:32:36.2, 40.62N×34.93E, h7km, Md2.3, Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CTAK	**Corum_Osmancik**	**0.11**	**287**	*i* P	Pg	11 32 38.9	+0.1
CTAK				*i* S	Sg	11 32 41.2	+0.6
CTAK	**Corum_Osmancik**	**0.11**	**287**	P	Pg	11 32 38.9	+0.1
CTAK				S	Sg	11 32 41.2	+0.6
COAL	**Corum-Alaca**	**0.36**	**173**	*i* P	Pg	11 32 43.7	+0.4
COAL				*i* S	Sg	11 32 49.3	+1.2
COAL	**Corum-Alaca**	**0.36**	**173**	P	Pg	11 32 43.7	+0.3
COAL				S	Sg	11 32 49.3	+1.2
HAVZ	**Havza**	**0.75**	**52**	*i* P	Pg	11 32 50.7	0.0
HAVZ				*i* S	Sb	11 33 01.5	-0.8
HAVZ	**Havza**	**0.75**	**52**	P	Pg	11 32 50.7	0.0
HAVZ				S	Sb	11 33 01.5	-0.7
BOYT	**Boyabat**	**0.81**	**359**	*i* P	Pg	11 32 51.0	-0.7
BOYT				*i* S	Sg	11 33 02.0	-0.2
BOYT	**Boyabat**	**0.81**	**359**	P	Pg	11 32 51.0	-0.7
BOYT				S	Sg	11 33 02.0	-0.2
CDAG	**Cicekdag**	**1.08**	**204**	*i* P	Pg	11 32 56.6	-0.4
CDAG				*i* S	Sb	11 33 11.9	+0.3
CDAG	**Cicekdag**	**1.08**	**204**	P	Pg	11 32 56.6	-0.3
CDAG				S	Sb	11 33 11.9	+0.3
SAMS	**Samsun-Alacam**	**1.21**	**52**	*i* P	Pg	11 32 59.4	0.0
SAMS				*i* S	Sn	11 33 16.3	+0.1
SAMS	**Samsun-Alacam**	**1.21**	**52**	P	Pg	11 32 59.4	0.0
SAMS				S	Sn	11 33 16.3	+0.1

*ISCJB **02** 11:48:10.4±0.8, 32.49S±0.03×69.78W±0.04, h132km±7km,*
Error ellipse: s-maj=7.0km s-min=4.2km az=44.0
*GUC **02** 11:48:11.5±0.6, 32.41S×69.91W, h115km±11km, ML3.7*
*SJA **02** 11:48:11.1±1.2, 32.47S×69.70W, h129km±9km, ML3.8, MW3.8*
ISC 02 11:48:09.4±1.9, 32.53S±0.05×69.78W±0.04,
h143km±14km, n23, σ0.99/43, 2C-20D, Mendoza Province

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AUSP	**Uspallata**	**0.45**	**48**	*e*P	Pn	**11 48 29.9**	**-0.2**
ARCO	**CERRO ARCO**	**0.78**	**114**	*e*P	Pn	**11 48 32.8**	**+0.9**
ARCO				*e*S	Sn	**11 48 48.5**	**-0.6**
ARCO				IAML		11 48 51.7	
	comp=Z,1μm,0.2s						
ASAL	**Salagasta**	**0.80**	**95**	*e*P	Pn	**11 48 32.6**	**+0.7**
ASAL				*e*S	Sn	**11 48 48.9**	**-0.2**
FCH	**Farellones**	**0.91**	**208**	*i*P	Pn	**11 48 34.1**	**+1.1**
FCH				*i* S	Sn	**11 48 51.4**	**+0.2**
FCH				IAML		11 48 52.7	
	comp=N,1μm,0.2s						
AAGR	**Agrelo**	**0.98**	**125**	*e*P	Pn	**11 48 34.8**	**+1.4**
AAGR				*e*S	Sn	**11 48 51.2**	**-0.5**
PEL	**Peldehue**	**0.98**	**231**	*i*P	Pn	**11 48 33.6**	**+0.2**
PEL				*i* S	Sn	**11 48 50.7**	**-1.0**
CLCH	**Cerro Calan**	**1.07**	**216**	*i*P	Pn	**11 48 35.1**	**+0.8**
CLCH				*i* S	Sn	**11 48 53.3**	**0.0**
CLCH				IAML		11 48 54.8	
	comp=N,2μm,0.5s						
ROCH	**El Roble**	**1.13**	**247**	*i*P	Pn	**11 48 35.1**	**+0.2**
ROCH				*i* S	Sn	**11 48 53.0**	**-1.3**
ROCH				IAML		11 48 53.8	
	comp=E,2μm,0.4s						
ROC1	**El Roble**	**1.13**	**246**	*e*P	Pn	**11 48 35.2**	**+0.3**
ROC1				*e*S	Sn	**11 48 53.4**	**-1.1**
RTCV	**Cerro Valdivia**	**1.24**	**58**	*i*P	Pn	**11 48 36.5**	**+0.7**
RTCV				*i*eS	Sn	**11 48 54.6**	**-1.3**
ANTU	**Antumapu**	**1.26**	**214**	*e*P	Pn	**11 48 37.2**	**+1.2**
ANTU				*e*S	Sn	**11 48 56.8**	**+0.4**
ANTU				IAML		11 48 57.0	
	comp=N,2μm,0.4s						
RCDM	**Rinconada Maip**	**1.29**	**222**	*e*P	Pn	**11 48 36.0**	**-0.2**
RCDM				*e*S	Sn	**11 48 55.8**	**-1.0**
RCDM				IAML		11 48 56.9	
	comp=E,1μm,0.2s						
RTLL	**Cerro Villicun**	**1.63**	**43**	*e*P	Pn	**11 48 40.8**	**+0.8**
RTLL				*i*eS	Sn	**11 49 02.7**	**-0.6**
AMOG	**MOGNA**	**1.93**	**35**	*i*eP	Pn	**11 48 44.1**	**+0.8**
AMOG				*e*S	Sn	**11 49 07.9**	**-1.4**
ACCO	**Cerro Coronel**	**2.03**	**18**	*i*eP	Pn	**11 48 45.7**	**+0.9**
ACCO				*i*eS	Sn	**11 49 11.9**	**0.0**
ACCO				IAML		11 49 14.0	
	comp=Z,731nm,0.3s						
ACAN	**Cantantal**	**2.21**	**84**	*e*P	Pn	**11 48 47.8**	**+1.1**
ACAN				*e*S	Sn	**11 49 13.7**	**-1.6**
AROD	**Rodeo**	**2.37**	**6**	*i*eP	Pn	**11 48 50.8**	**+1.9**
AROD				*e*S	Sn	**11 49 19.8**	**+0.6**
ACDV	**Cuesta del Vie**	**2.42**	**14**	*i*eP	Pn	**11 48 51.2**	**+1.9**
ACDV				*e*S	Sn	**11 49 20.0**	**-0.1**
TLL	**Tololo Astrono**	**2.51**	**339⇑**	*i*P	Pn	**11 48 51.0**	**+0.5**
TLL				*e*S	Sn	**11 49 20.6**	**-1.6**
TLL				IAML		11 49 22.2	
	comp=E,404nm,0.3s						
AGUA	**GUANDACOL**	**3.23**	**20**	*i*eP	Pn	**11 49 01.0**	**+1.5**
AGUA				*e*S	Sn	**11 49 38.4**	**+0.1**
APLL	**PUNTA DE LOS L**	**3.50**	**53**	*i*eP	Pn	**11 49 03.3**	**+0.3**
ACLC	**CERRO LA CRUZ**	**3.93**	**39**	*i*eP	Pn	**11 49 08.8**	**0.0**
ACLC				*e*S	Sn	**11 49 53.4**	**-1.4**
CYA	**Choya**	**5.33**	**41**	*e*P	Pn	**11 49 26.2**	**-0.9**

JMA 02 11:49:41.8, 43.36N×144.00E, h4km±1km, M3.5, 2C
Broadband fault plane solution: P waves. NP1:
ϕs352.00000°, δ87.00000°, λ73.00000°. NP2:
ϕs253.00000°, δ17.00000°, λ171.00000°. Principal axes:
T Plg45.0000°, Azm245.0000°; N Plg17.0000°, Azm352.0000°; P Plg40.0000°, Azm97.0000°; **Hokkaido region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JAR	**Ashorobuto**	**0.18**	**250**	⇑P	Pg	11 49 45.4	+0.1
JAR				*e*S	Sg	11 49 48.7	+1.0
JOB	**Onbets**	**0.47**	**195**	⇑P	Pg	11 49 50.9	0.0
JOB				*e*S	Sb	11 49 58.6	-1.4
JKK2	**Kamakawa 2**	**1.04**	**300**	P	Pg	11 50 01.7	-0.1
JKK2				S	Sg	11 50 15.6	+0.3

*IDC **02** 11:54:32.1±1.8, 51.77N×171.26W, h0km, mb3.6/3,*
mb1 3.7/4, mb1mx3.4/57, mbtmp3.4/4, ML3.5/1 Error
ellipse: s-maj=161.0km s-min=30.8km az=132.0
*ISCJB **02** 11:54:37.6±1.1, 51.19N±0.02×171.46W±0.08, h44km,*
mb3.5/4, Error ellipse: s-maj=23.8km s-min=4.8km
az=166.1
*NEIC **02** 11:54:38.8±0.0, 52.03N×171.49W, h45km, ML3.2(AEIC),*
After AEIC.
ISC 02 11:54:39.0±1.4, 52.0N±0.2×171.49W±0.07, h44km, n12,
σ1.9/17/16, mb3.6/4, Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC

INK	**Inuvik**	**24.48**	**33**	P	**P**	**12 09 23.4**	**-1.9**
	0.5nm,0.4s,baz=292,slow=4.7,SNR=5.3						
YKA	**Yellowknife Ar**	**31.55**	**48**	P	**P**	**12 10 29.5**	**+1.0**
	0.7nm,0.7s,baz=274,slow=9.3,SNR=4.0						
H11N2	**WAKE ISLAND Hy 36.27 216**			T	T	12 49 38.1	
	baz=26,slow=74,SNR=6.0						
H11N3	**WAKE ISLAND Hy 36.28 216**			T	T	12 49 39.0	
	baz=26,slow=74,SNR=5.5						
H11N1	**WAKE ISLAND Hy 36.29 216**			T	T	12 49 43.3	
	baz=26						
PDAR	**Pinedale Array**	**41.78**	**77**	P	**P**	**12 11 55.1**	**-0.8**
	0.5nm,0.7s,baz=318,slow=4.0,SNR=4.1						
TXAR	**Lajitas Array**	**54.06**	**87**	P	**P**	**12 13 30.8**	**-0.1**
	0.3nm,0.6s,baz=297,slow=6.7,SNR=4.9						
ASAR	**Alice Springs**	**89.08**	**228**	P	**P**	**12 17 01.3**	**+0.2**
	0.2nm,0.7s,baz=30,slow=4.5,SNR=3.3						

*IDC **02** 12:13:13.8±1.4,52°.08N×171°.78W,h0km,mb3.9/5, mb1 4.1/6,mb1mx3.6/54,mbtmp3.8/6,ML3.9/1,Error ellipse: s-maj=54.5km s-min=26.6km az=138.0*

*ISCJB **02** 12:13:20.6±0.8,52°.2N±0°.1×171°.73W±0°.08,h63km±8km, mb3.9/8,Error ellipse: s-maj=23.8km s-min=4.3km az=163.0*

*NEIC **02** 12:13:20.9±0.0,52°.18N×171°.74W,h42km,mb4.0/3, ML3.6(AEIC),After AEIC.*

ISC 02 12:13:21.4±1.4,52°.1N±0°.2×171°.71W±0°.05,h55km±15km, n28,σ0§95/34,mb4.0/8,Fox Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KOFP	**Korovin Flat P**	**1.48**	**278**	P	**Pn**	**12 13 44.9**	**-0.9**
ATKA	**Atka Island**	**1.54**	**275**	P	**Pn**	**12 13 45.9**	**-0.6**
ATKA				S	**Sn**	**12 14 04.6**	**-0.7**
NIKH	**Nikolskiy High**	**1.96**	**62**	P	**Pn**	**12 13 50.9**	**-1.3**
NIKH				S	**Sn**	**12 14 16.7**	**+1.2**
OKSO	**Okmok South**	**2.50**	**58**	P	**Pn**	**12 14 00.0**	**+0.3**
OKSO				S	**Sn**	**12 14 29.2**	**+0.2**
OKFG	**Magazine Ridge**	**2.66**	**59**	P	**Pn**	**12 14 01.8**	**0.0**
OKFG				S	**Sn**	**12 14 33.6**	**+0.8**
GSMY	**Great Sitkin M**	**2.68**	**271**	P	**Pn**	**12 14 02.0**	**-0.1**
GSTD	**Great Sitkin T**	**2.74**	**271**	P	**Pn**	**12 14 03.1**	**+0.1**
GSTD				S	**Sn**	**12 14 37.3**	**+2.5**
GSCK	**Great Sitkin C**	**2.75**	**270**	P	**Pn**	**12 14 03.1**	**+0.1**
ETKA	**Kagalaska Isla**	**2.91**	**267**	P	**Pn**	**12 14 05.9**	**+0.7**
ADAG	**Mount Adagdak**	**3.02**	**270**	P	**Pn**	**12 14 07.4**	**+0.6**
MSOM	**Makushin Julie**	**3.36**	**57**	P	**Pn**	**12 14 11.2**	**-0.1**
MSW	**Makushin Switc**	**3.49**	**57**	P	**Pn**	**12 14 12.9**	**-0.3**
UNV	**Unalaska Valle**	**3.61**	**59**	P	**Pn**	**12 14 14.5**	**-0.2**
UNV				S	**Sn**	**12 14 56.8**	**+0.9**
AKMO	**Akutan Morgan**	**3.98**	**57**	P	**Pn**	**12 14 20.1**	**+0.2**
AKGG	**Akutan Green G**	**4.04**	**56**	P	**Pn**	**12 14 20.0**	**-0.6**
WESE	**West Dahl East**	**4.89**	**58**	P	**Pn**	**12 14 32.6**	**+0.2**
SPIA	**Saint Paul Isl**	**5.17**	**9**	P	**Pn**	**12 14 36.3**	**+0.2**
SDPT	**Sand Point**	**7.42**	**59**	P	**Pn**	**12 15 06.3**	**-0.7**
ILAR	**Eielson Array**	**18.00**	**36**	P	**P**	**12 17 25.5**	**-1.8**
	0.2nm,0.3s,baz=232,slow=10,SNR=11						
EGAK	**Eagle**	**20.16**	**39**	*e*P	**P**	**12 17 50.3**	**-0.5**
	2.8nm,0.8s						
DLBC	**Dease Lake**	**24.26**	**58**	P	**P**	**12 18 35.6**	**+2.4**
	4.2nm,0.8s,baz=285,slow=11,SNR=7.7						
INK	**Inuvik**	**24.38**	**34**	P	**P**	**12 18 33.4**	**-0.5**
	1.7nm,0.5s,baz=224,slow=9.3,SNR=9.8						
YKA	**Yellowknife Ar**	**31.50**	**48**	P	**P**	**12 19 37.0**	**-0.7**
	0.8nm,0.4s,baz=275,slow=7.7,SNR=6.6						
EGMT	**Eagleton**	**38.92**	**71**	*e*P	**P**	**12 20 43.0**	**+1.3**
	4.5nm,0.8s						
RLMT	**Red Lodge**	**40.72**	**74**	*e*P	**P**	**12 20 56.4**	**-0.4**
	3.1nm,1.0s						
PDAR	**Pinedale Array**	**41.87**	**77**	P	**P**	**12 21 06.3**	**+0.1**
	0.8nm,0.4s,baz=305,slow=3.7,SNR=9.9						
TXAR	**Lajitas Array**	**54.20**	**87**	P	**P**	**12 22 41.1**	**-0.2**
	0.8nm,0.6s,baz=290,slow=5.1,SNR=5.5						
ASAR	**Alice Springs**	**89.12**	**228**	P	**P**	**12 26 10.7**	**0.0**
	1.0nm,0.7s,baz=30,slow=4.8,SNR=17						

*ISCJB **02** 12:16:48.6±0.4,51°.8N±0°.06×171°.43W±0°.04,h44km, mb4.1/18,MS5.1/1,Error ellipse: s-maj=8.7km s-min=3.0km az=165.9*

*NEIC **02** 12:16:49.1±0.0,51°.94N×171°.46W,h27km,mb4.3/7, ML4.0(AEIC),After AEIC.*

*IDC **02** 12:16:54.6±6.9,52°.27N×171°.56W,h84km±64km,mb3.7/13, mb1 3.9/15,mb1mx3.6/47,mbtmp4.0/15,ML3.9/2,Error ellipse: s-maj=29.3km s-min=13.0km az=172.0*

ISC 02 12:16:49.5±0.6,51°.82N±0°.10×171°.39W±0°.04,h44km,n68, σ1§74/73,mb4.1/18,Fox Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KOSE	**Korovin Southe**	**1.72**	**289**	P	**Pn**	**12 17 17.0**	**0.0**
KOFP	**Korovin Flat P**	**1.73**	**286**	P	**Pn**	**12 17 17.5**	**+0.4**
ATKA	**Atka Island**	**1.77**	**283**	P	**Pn**	**12 17 16.6**	**-1.1**
ATKA				S	**Sn**	**12 17 37.3**	**-1.7**
KONE	**Korovin Northe**	**1.78**	**290**	P	**Pn**	**12 17 17.9**	**+0.2**
KOKL	**Mount Kliuchef**	**1.81**	**287**	P	**Pn**	**12 17 18.5**	**+0.4**
NIKH	**Nikolskiy High**	**1.93**	**52**	*e*Pn	**Pn**	**12 17 19.5**	**-0.4**
NIKH				*e*Sn	**Sn**	**12 17 43.5**	**+0.5**
OKSO	**Okmok South**	**2.50**	**51**	*e*Pn	**Pn**	**12 17 28.1**	**+0.5**
OKSO				*e*Sn	**Sn**	**12 17 59.5**	**+2.6**
OKCE	**Okmok Cone E**	**2.54**	**49**	*e*Pn	**Pn**	**12 17 29.5**	**+1.4**
OKFG	**Magazine Ridge**	**2.65**	**52**	*e*Pn	**Pn**	**12 17 30.2**	**+0.6**
GSMY	**Great Sitkin M**	**2.90**	**276**	P	**Pn**	**12 17 33.2**	**+0.1**
GSTD	**Great Sitkin T**	**2.95**	**276**	P	**Pn**	**12 17 33.8**	**-0.1**
GSTD				S	**Sn**	**12 18 08.0**	**-0.1**
GSCK	**Great Sitkin C**	**2.96**	**276**	P	**Pn**	**12 17 33.5**	**-0.5**
ETKA	**Kagalaska Isla**	**3.11**	**273**	P	**Pn**	**12 17 35.6**	**-0.4**
ADAG	**Mount Adagdak**	**3.23**	**275**	P	**Pn**	**12 17 38.3**	**+0.6**
MSW	**Makushin Switc**	**3.49**	**51**	*e*Pn	**Pn**	**12 17 41.7**	**+0.5**
MTBL	**Makushin Table**	**3.57**	**51**	*e*Pn	**Pn**	**12 17 42.4**	**0.0**
UNV	**Unalaska Valle**	**3.59**	**54**	*e*Pn	**Pn**	**12 17 43.7**	**+1.2**
UNV				*e*Sn	**Sn**	**12 18 23.0**	**-0.7**
TAPA	**Tanaga Point A**	**3.99**	**272**	P	**Pn**	**12 17 48.4**	**+0.3**
AKLV	**Akutan Long Va**	**4.03**	**52**	*e*Pn	**Pn**	**12 17 50.2**	**+1.5**
AKUT	**Akutan**	**4.11**	**54**	*e*Pn	**Pn**	**12 17 51.0**	**+1.3**
AKUT				*e*Sn	**Sn**	**12 18 35.1**	**-1.3**
WESE	**West Dahl East**	**4.88**	**54**	*e*Pn	**Pn**	**12 18 01.3**	**+0.9**
SPIA	**Saint Paul Isl**	**5.41**	**7**	*e*Pn	**Pn**	**12 18 08.0**	**+0.6**
SPIA				*e*Sn	**Sn**	**12 19 09.6**	**+1.3**
DTNA	**Dutton South F**	**6.39**	**55**	*e*Pn	**Pn**	**12 18 21.7**	**+0.7**
SDPT	**Sand Point**	**7.39**	**57**	*e*Pn	**Pn**	**12 18 35.0**	**+0.4**
SDPT				*e*Sn	**Sn**	**12 19 51.6**	**-5.5**
CHGN	**Chignik**	**8.85**	**54**	*e*Pn	**Pn**	**12 18 54.2**	**-0.4**
SVW2	**Sparrevohn**	**12.72**	**37**	*e*Pn	**Pn**	**12 19 50.4**	**+2.9**
TTA	**Tatalina**	**13.83**	**30**	*e*Pn	**P**	**12 20 06.4**	**-3.7**
CAST	**Castle Rocks**	**15.47**	**34**	*e*Pn	**P**	**12 20 28.5**	**+0.3**
	3.4nm,0.8s						
COLA	**College**	**17.83**	**34**	*e*Pn	**P**	**12 20 58.7**	**+4.5**
	76nm,0.3s						
ILAR	**Eielson Array**	**18.11**	**35**	P	**P**	**12 20 54.2**	**-3.1**
	0.4nm,0.3s,baz=229,slow=10,SNR=22						
ILB	**Eielson Array**	**18.11**	**35**	*e*Pn	**P**	**12 20 54.5**	**-2.8**
PETK	**Petropavlovsk-**	**18.81**	**286**	P	**P**	**12 21 05.0**	**-0.1**
	0.7nm,0.3s,baz=86,slow=14,SNR=9.5						
EGAK	**Eagle**	**20.24**	**39**	*e*P	**P**	**12 21 20.2**	**-0.5**
	28nm,2.0s						
EGAK	**Eagle**	**20.24**	**39**	*e*S	**P**	**12 21 20.2**	**-0.5**
HYT	**Haines Junctio**	**20.61**	**51**	*e*P	**P**	**12 21 25.7**	**+0.9**
	15nm,0.5s						
SKAG	**Skagway**	**21.51**	**55**	*e*P	**P**	**12 21 35.4**	**+1.1**
	9.7nm,1.0s						
SEY	**Seymchan**	**22.14**	**314**	P	**P**	**12 21 41.2**	**+0.2**
	3.1nm,0.7s,baz=219,slow=18,SNR=5.2						
DLBC	**Dease Lake**	**24.23**	**58**	P	**P**	**12 22 04.2**	**+2.2**
	5.2nm,0.5s,baz=253,slow=6.7,SNR=18						
DLBC	**Dease Lake**	**24.23**	**58**	*e*P	**P**	**12 22 04.7**	**+2.8**
	7.2nm,0.6s						
INK	**Inuvik**	**24.49**	**33**	P	**P**	**12 22 02.9**	**-1.2**
	1.8nm,0.4s,baz=249,slow=6.7,SNR=22						
INK	**Inuvik**	**24.49**	**33**	*e*P	**P**	**12 22 02.9**	**-1.2**
	17nm,1.8s						
YKA	**Yellowknife Ar**	**31.54**	**48**	P	**P**	**12 23 06.7**	**-0.3**
	0.9nm,0.4s,baz=275,slow=9.2,SNR=13						
YKB5	**Yellowknife Ar**	**31.54**	**48**	*e*P	**P**	**12 23 07.0**	**0.0**
BBOR	**Butler Butte**	**33.62**	**86**	*e*P	**P**	**12 23 21.6**	**-4.1**
BBOR				*e*S	**S**	**12 28 43.3**	**-2.0**
NEW	**Newport**	**34.35**	**74**	P	**P**	**12 23 33.6**	**+1.7**
	2.2nm,0.4s,baz=292,slow=9.0,SNR=6.9						
H11N2	**WAKE ISLAND Hy 36.26 216**			T	T	13 02 15.9	
	baz=21,slow=76,SNR=8.4						
H11N3	**WAKE ISLAND Hy 36.27 216**			T	T	13 02 16.6	
	baz=21,slow=76,SNR=11						
H11N1	**WAKE ISLAND Hy 36.28 216**			T	T	13 02 17.2	
	baz=21,slow=76,SNR=4.3						
MJAR	**Matsushiro Arr**	**38.42**	**267**	P	**P**	**12 24 07.2**	**+0.6**
	1.5nm,0.7s,baz=36,slow=6.8,SNR=4.2						
MCMT	**McKenzie Canyo**	**38.61**	**77**	*e*P	**P**	**12 24 09.9**	**+1.5**
BW06	**Boulder Array**	**41.73**	**77**	*e*P	**P**	**12 24 35.4**	**+1.1**
PD31	**Pinedale Array**	**41.73**	**77**	*e*P	**P**	**12 24 35.7**	**+1.4**
PDAR	**Pinedale Array**	**41.73**	**77**	P	**P**	**12 24 35.5**	**+1.2**
	0.7nm,0.5s,baz=287,slow=3.3,SNR=9.4						
ROA	**Roan Cliffs**	**43.07**	**81**	*e*P	**P**	**12 24 47.2**	**+1.9**
KSRS	**Korea Array**	**44.22**	**276**	P	**P**	**12 24 54.0**	**-0.1**
	2.4nm,0.8s,baz=45,slow=7.3,SNR=4.7						
KSAR	**Wonju Array Be**	**44.26**	**276**	P	**P**	**12 24 54.0**	**-0.4**
ULM	**Lac du Bonnet**	**45.51**	**61**	P	**P**	**12 25 04.6**	**+0.4**
	2.1nm,0.6s,baz=298,slow=7.3,SNR=4.7						
SONM	**Songino Array**	**50.50**	**300**	P	**P**	**12 25 42.0**	**-1.0**
	0.4nm,0.4s,baz=63,slow=7.2,SNR=3.1						
HHC	**Hu-ho-hao-te**	**51.95**	**290**	*e*P	P	12 26 05.2	+11
HHC				pmax	pmax		
	comp=Z,19nm,1.6s						
HHC				pmax	pmax		
	comp=Z,2μm,5.5s						
TX31	**Lajitas Ar. Si**	**54.01**	**87**	*e*P	**P**	**12 26 10.3**	**+1.1**
LTX	**Lajitas**	**54.01**	**87**	*e*P	**P**	**12 26 10.4**	**+1.1**
TXAR	**Lajitas Array**	**54.01**	**87**	P	**P**	**12 26 10.4**	**+1.1**
	comp=Z,0.5nm,0.4s,baz=301,slow=6.1,SNR=8.6						
FINES	**FINESS Array B**	**66.22**	**351**	P	**P**	**12 27 30.1**	**-2.1**
	comp=Z,0.7nm,0.7s,baz=2.6,slow=8.4,SNR=4.4						
NOA	**NORSAR Array B**	**67.47**	**359**	P	**P**	**12 27 37.3**	**-2.9**
	comp=Z,0.7nm,0.8s,baz=3.9,slow=6.4,SNR=3.1						
KSH	**Kashi**	**71.81**	**311**	*e*P	**P**	**12 28 10.0**	**+2.6**
KSH				pP	PcP	12 28 41.1	+15
KSH				PP	**PP**	**12 30 50.8**	**+4.1**
KSH				S	S	12 37 10.3	-14
KSH				sS	SKSac	12 38 02.7	-4.9
KSH	**Kashi**	**71.81**	**311**	SS	SS	12 41 47.5	-13
KSH				pmax	pmax		
	comp=Z,11nm,1.5s						
KSH				pmax	pmax		
	comp=Z,420nm,10.9s						
KSH				LR	LR		
	comp=N,450nm,12.4s						
KSH				LR	LR		
	comp=E,310nm,10.7s						
KSH				LR	LR		
	comp=Z,2μm,17.6s						
CMAR	**Chiang Mai Arr**	**75.51**	**281**	P	**P**	**12 28 29.4**	**+0.1**
	comp=Z,1.4nm,0.6s,baz=23,slow=7.1,SNR=8.4						
ASAR	**Alice Springs**	**89.09**	**228**	P	**P**	**12 29 40.5**	**+0.7**
	comp=Z,1.2nm,0.7s,baz=27,slow=4.8,SNR=18						

*IDC **02** 12:19:41.0±1.6,52°.07N×171°.72W,h0km,mb3.6/5, mb1 3.8/6,mb1mx3.5/40,mbtmp3.5/6,ML3.6/1,Error ellipse: s-maj=58.1km s-min=29.7km az=136.0*

*ISCJB **02** 12:19:45.7±0.9,51°.8N±0°.1×171°.46W±0°.07,h44km, mb3.6/5,Error ellipse: s-maj=19.5km s-min=4.5km az=168.3*

*NEIC **02** 12:19:45.6±0.0,51°.81N×171°.47W,h26km,ML3.4(AEIC), After AEIC.*

ISC 02 12:19:47.6±1.0,52°.0N±0°.2×171°.55W±0°.06,h44km,n22, σ1§30/20,mb3.6/5,Fox Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KOFP	**Korovin Flat P**	**1.60**	**281**	P	**Pn**	**12 20 12.8**	**-0.6**
ATKA	**Atka Island**	**1.65**	**278**	P	**Pn**	**12 20 13.2**	**-0.8**
ATKA				S	**Sn**	**12 20 35.0**	**+1.1**
KOKL	**Mount Kliuchef**	**1.67**	**283**	P	**Pn**	**12 20 14.3**	**-0.1**
NIKH	**Nikolskiy High**	**1.92**	**58**	P	**Pn**	**12 20 17.1**	**-0.7**
NIKH				S	**Sn**	**12 20 43.5**	**+2.8**
OKSO	**Okmok South**	**2.48**	**55**	P	**Pn**	**12 20 26.1**	**+0.6**
GSMY	**Great Sitkin M**	**2.79**	**273**	P	**Pn**	**12 20 29.6**	**-0.1**
GSTD	**Great Sitkin T**	**2.84**	**273**	P	**Pn**	**12 20 30.6**	**+0.1**
GSTD				S	**Sn**	**12 21 06.5**	**+3.0**
ADAG	**Mount Adagdak**	**3.12**	**272**	P	**Pn**	**12 20 35.2**	**+0.8**
MSW	**Makushin Switc**	**3.47**	**54**	P	**Pn**	**12 20 39.1**	**+0.1**
UNV	**Unalaska Valle**	**3.58**	**57**	P	**Pn**	**12 20 40.8**	**+0.3**
UNV				S	**Sn**	**12 21 23.0**	**+1.6**
ILAR	**Eielson Array**	**18.03**	**35**	P	**Pn**	**12 23 52.6**	**-1.9**
	0.1nm,0.3s,baz=234,slow=10.0,SNR=4.6						
ILAR	**Eielson Array**	**18.03**	**35**	P	pP	12 24 07.7	+2.6
	0.1nm,0.3s,baz=234,slow=9.0,SNR=5.2						
ILAR	**Eielson Array**	**18.03**	**35**	P	pP	12 24 07.7	+2.6
INK	**Inuvik**	**24.40**	**34**	P	**P**	**12 25 00.2**	**-1.2**
	0.6nm,0.4s,baz=220,slow=9.1,SNR=5.5						
INK	**Inuvik**	**24.40**	**34**	P	pP	12 25 14.8	+1.7
	1.0nm,0.4s,baz=264,slow=6.2,SNR=7.9						
INK	**Inuvik**	**24.40**	**34**	P	pP	12 25 14.8	+1.7
YKA	**Yellowknife Ar**	**31.50**	**48**	P	**P**	**12 26 04.5**	**-0.3**
	0.9nm,0.7s,baz=277,slow=6.9,SNR=4.4						
YKA	**Yellowknife Ar**	**31.50**	**48**	P	pP	12 26 19.3	+2.7
	0.8nm,0.8s,baz=277,slow=7.6,SNR=3.4						
PDAR	**Pinedale Array**	**41.79**	**77**	P	**P**	**12 27 33.0**	**+0.1**
	0.5nm,0.5s,baz=298,slow=3.2,SNR=4.0						
TXAR	**Lajitas Array**	**54.10**	**87**	P	**P**	**12 29 07.9**	**-0.1**
	0.4nm,0.6s,baz=296,slow=5.8,SNR=5.2						
ASAR	**Alice Springs**	**89.13**	**228**	P	**P**	**12 32 38.0**	**-0.1**
	0.3nm,0.6s,baz=24,slow=5.4,SNR=5.8						
ASAR	**Alice Springs**	**89.13**	**228**	P	pP	12 32 51.6	+0.3

*ISCJB **02** 12:20:52.7±0.7,42°.35N±0°.02×42°.82E±0°.04,h6km±4km, mb4.3/1,Error ellipse: s-maj=5.4km s-min=3.6km az=173.6*

*TIF **02** 12:20:53.0,42°.33N×43°.05E,h0km*

*CSEM **02** 12:20:54.9,42°.37N×42°.87E,h18km,mb3.8*

*MOS **02** 12:20:54.9±1.5,42°.37N×42°.87E,h18km,mb3.8/1,Error ellipse: s-maj=11.5km s-min=7.3km az=69.0*

ISC 02 12:20:54.8±1.1,42°.37N±0°.02×42°.93E±0°.03,h13km±8km, n43,σ1§36/75,7C-3D,Western Caucasus

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ONI	**Oni**	**0.45**	**60**	P	**Pg**	**12 21 02.1**	**-1.6**
ONI				S	**Sg**	**12 21 09.2**	**-0.5**
ONI	**Oni**	**0.45**	**60**	PG	**Pg**	**12 21 02.0**	**-1.7**
ONI				S	**Sg**	**12 21 09.4**	**-0.3**
ONI	**Oni**	**0.45**	**60**	Pg	**Pg**	**12 21 02.0**	**-1.7**
ONI				Sg	**Sg**	**12 21 09.4**	**-0.3**
CHVG	**Ch'k'valeri**	**0.72**	**300**	P	**Pn**	**12 21 10.9**	**+0.3**
CHVG				S	**Sn**	**12 21 22.9**	**+1.4**
DIGR	**Digorskoe uzhe**	**0.72**	**42**	*i*PG	**Pb**	**12 21 07.3**	**-2.0**
DIGR				*i* S	**Sb**	**12 21 18.4**	**-0.7**
DIGR	**Digorskoe uzhe**	**0.72**	**42**	*i* Pg	**Pb**	**12 21 07.3**	**-2.0**
DIGR				*i* Sg	**Sb**	**12 21 18.4**	**-0.7**
ZEI	**Tsey**	**0.83**	**59**	*e*PG	**Pb**	**12 21 10.1**	**-1.1**
ZEI				*e*S	**Sb**	**12 21 22.8**	**+0.4**
ZEI	**Tsey**	**0.83**	**59**	*e*Pg	**Pb**	**12 21 10.1**	**-1.1**
ZEI				*e*Sg	**Sb**	**12 21 22.8**	**+0.4**
NEY	**Neytrino**	**0.90**	**350**	*i*PG	**Pn**	**12 21 12.4**	**-0.8**
NEY				*i* S	**Sn**	**12 21 25.9**	**-0.3**
NEY	**Neytrino**	**0.90**	**350**	*i* Pg	**Pn**	**12 21 12.4**	**-0.8**
NEY				*i* Sg	**Sn**	**12 21 25.9**	**-0.3**
AKH	**Akhalkalaki**	**1.04**	**156**	P	**Pb**	**12 21 13.8**	**-1.0**
AKH				S	**Sb**	**12 21 28.2**	**-0.3**
AKH	**Akhalkalaki**	**1.04**	**156**	PG	**Pb**	**12 21 13.8**	**-1.0**
AKH				S	**Sb**	**12 21 28.2**	**-0.3**
AKH	**Akhalkalaki**	**1.04**	**156**	Pg	**Pb**	**12 21 13.8**	**-1.0**
AKH				Sg	**Sb**	**12 21 28.2**	**-0.3**
KORR	**Kora**	**1.10**	**49**	*e*PG	**Pn**	**12 21 15.5**	**-0.5**
KORR				*e*S	**Sg**	**12 21 31.9**	**+1.4**
KORR	**Kora**	**1.10**	**49**	*e*Pg	**Pn**	**12 21 15.5**	**-0.5**
KORR				*e*Sg	**Sg**	**12 21 31.9**	**+1.4**
LACR	**Lac**	**1.11**	**65**	*i*PG	**Pn**	**12 21 14.9**	**-1.3**
LACR				*i* S	**Sb**	**12 21 30.7**	**+0.4**
LACR	**Lac**	**1.11**	**65**	*i* Pg	**Pn**	**12 21 14.9**	**-1.3**
LACR				*i* Sg	**Sb**	**12 21 30.7**	**+0.4**
BGD	**Bogdanovka**	**1.21**	**155**	P	**Pn**	**12 21 16.9**	**-0.7**
BGD				S	**Sb**	**12 21 33.2**	**+0.1**
ARNR	**Ardon**	**1.29**	**50**	*e*PG	**Pg**	**12 21 20.2**	**+0.7**
ARNR				*e*S	**Sg**	**12 21 39.1**	**+2.8**
ARNR	**Ardon**	**1.29**	**50**	*e*Pg	**Pg**	**12 21 20.2**	**+0.7**
ARNR				*e*Sg	**Sg**	**12 21 39.1**	**+2.8**
STDR	**Stavd-Durt**	**1.30**	**39**	*i*PG	**Pg**	**12 21 20.6**	**+0.8**
STDR				*e*S	**Sg**	**12 21 40.0**	**+3.2**
STDR	**Stavd-Durt**	**1.30**	**39**	*i* Pg	**Pg**	**12 21 20.6**	**+0.8**
STDR				*e*Sg	**Sg**	**12 21 40.0**	**+3.2**
VLKR	**Vladikavkaz**	**1.46**	**62**	*e*PG	**Pg**	**12 21 23.8**	**+1.0**
VLKR				*e*S	**Sg**	**12 21 44.3**	**+2.6**
VLKR	**Vladikavkaz**	**1.46**	**62**	*e*Pg	**Pg**	**12 21 23.8**	**+1.0**
VLKR				*e*Sg	**Sg**	**12 21 44.3**	**+2.6**
TBLG	**Delisi**	**1.49**	**115**	P	**Pn**	**12 21 20.7**	**-0.6**
TBLG				S	**Sn**	**12 21 41.4**	**+0.7**
TBLG	**Delisi**	**1.49**	**115**	PG	**Pn**	**12 21 20.3**	**-1.0**
TBLG	**Delisi**	**1.49**	**115**	Pg	**Pn**	**12 21 20.3**	**-1.0**
SEAG	**Tbilisi Sea**	**1.52**	**113**	P	**Pn**	**12 21 21.3**	**-0.4**
SEAG				S	**Sn**	**12 21 41.9**	**+0.5**
BTKR	**Batakoyurt**	**1.56**	**49**	*e*PG	**Pg**	**12 21 25.8**	**+1.2**
BTKR				*e*S	**Sg**	**12 21 47.5**	**+2.7**
BTKR	**Batakoyurt**	**1.56**	**49**	*e*Pg	**Pg**	**12 21 25.8**	**+1.2**
BTKR				*e*Sg	**Sg**	**12 21 47.5**	**+2.7**
KIV	**Kislovodsk**	**1.60**	**354**	*e*PG	**Pb**	**12 21 23.9**	**-0.3**
KIV				*e*S	**Sg**	**12 21 45.9**	**-0.3**
KIV				pmax	pmax		
	comp=Z,21nm,0.9s						
KIV	**Kislovodsk**	**1.60**	**354**	*e*Pg	**Pb**	**12 21 23.9**	**-0.3**
	comp=Z,21nm,0.9s						
KIV				*e*Sg	**Sg**	**12 21 45.9**	**-0.3**
GNI	**Garni**	**2.60**	**148**	*e*PN	**Pb**	**12 21 42.0**	**+0.6**
GNI	**Garni**	**2.60**	**148**	*e*Pn	**Pb**	**12 21 42.0**	**+0.6**
GOF	**Gofitskoye**	**2.69**	**2**	*e*PN	Pn	12 21 29.4	-8.4
GOF				*e*S	**Sn**	**12 22 09.3**	**-0.9**
GOF				pmax	pmax		
	comp=Z,22nm,0.6s						
GOF				smax	smax		
	comp=N,26nm,0.6s						
GOF				smax	smax		
	comp=E,27nm,0.6s						
GOF	**Gofitskoye**	**2.69**	**2**	*e*Pn	Pn	12 21 29.4	-8.4
	comp=E,22nm,0.6s						
GOF				*e*Sn	**Sn**	**12 22 09.3**	**-0.9**
	comp=E,26nm,0.6s						
KIEV	**Kiev**	**12.58**	**316**	*e*P	**Pn**	**12 23 54.0**	**+0.7**
KIEV				pmax	pmax		
	comp=Z,2.0nm,1.5s						
KIEV	**Kiev**	**12.58**	**316**	*e*P	**Pn**	**12 23 54.0**	**+0.7**
	comp=Z,2.0nm,1.5s						
OBN	**Obninsk**	**13.42**	**344**	*e*P	**Pn**	**12 24 06.2**	**+1.5**
OBN				pmax	pmax		
	comp=Z,3.0nm,0.6s						
OBN	**Obninsk**	**13.42**	**344**	*e*P	**Pn**	**12 24 06.2**	**+1.5**
	comp=Z,3.0nm,0.6s						
ARU	**Arti**	**17.30**	**30**	*c i*P	**P**	**12 24 56.3**	**-1.0**
ARU				S	**Sn**	**12 28 09.9**	**+1.8**
ARU				pmax	pmax		
	comp=Z,8.0nm,2.5s						
ARU	**Arti**	**17.30**	**30**	*i* P	**P**	**12 24 56.3**	**-1.0**
	comp=Z,8.0nm,2.5s						
ARU				S	**Sn**	**12 28 09.9**	**+1.8**
WMQ	**Urumqi**	**32.42**	**72**	P	**P**	**12 27 22.3**	**-2.1**
WMQ				pP	sP	12 27 33.0	+3.0
WMQ				sP	pP	12 27 37.1	+8.7
WMQ				pmax	pmax		
	comp=Z,3.0nm,0.7s						
WMQ				pmax	pmax		
	comp=Z,51nm,3.6s						

OBM 02 12:43:06.0±0.1,44°.00N×104°.43E,h2km,Ml3.5/3,Error ellipse: s-maj=1.4km s-min=1.0km az=41.0,Mongolia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZBM		**0.19**	**164**	*e*Pg	Pg	12 43 10.9	+1.1
DZBM				*e*Sg	Sg	12 43 13.5	+1.2
SEMM		**3.98**	**26**	*e*Sg	Sg	12 45 09.9	-4.0
	38nm,0.3s						
TTS	**Tsetserleg**	**4

PRK					AML	AML	12 56 25.7		
	comp=N,859μm,0.2s								
PRK					S	**Sb**	**12 56 25.9**	**+0.2**	
PRK					AML	AML	12 56 26.8		
	comp=E,1357μm,0.5s								
SIGR	**SIGRI**	**0.40**	**199**		P	**Pg**	**12 56 19.3**	**+0.1**	
SIGR					S	**Sb**	**12 56 25.4**	**-0.4**	
SIGR	**SIGRI**	**0.40**	**199**		P	**Pg**	**12 56 19.1**	**-0.1**	
SIGR					S	**Sg**	**12 56 24.9**	**+0.2**	
SIGR					AML	AML	12 56 25.6		
	comp=N,484μm,0.4s								
SIGR					AML	AML	12 56 28.6		
	comp=E,350μm,0.4s								
AYVA	**Ayvalik**	**0.59**	**118**	*i*	P	**Pg**	**12 56 22.4**	**-0.3**	
AYVA				*i*	S	**Sn**	**12 56 33.9**	**-0.4**	
AYVA	**Ayvalik**	**0.59**	**118**		P	**Pg**	**12 56 22.4**	**-0.3**	
AYVA					S	**Sn**	**12 56 33.9**	**-0.4**	
GADA	**Gvkgeada**	**0.60**	**351**	*e*	PG	**Pg**	**12 56 23.2**	**+0.2**	
GADA	**Gvkgeada**	**0.60**	**351**	*e*	Pg	**Pg**	**12 56 23.2**	**+0.2**	
DKL	**Dikili**	**0.86**	**127**	*e*	PG	**Pn**	**12 56 28.2**	**-0.5**	
DKL	**Dikili**	**0.86**	**127**	*e*	Pg	**Pn**	**12 56 28.2**	**-0.5**	
SMTH	**Samothraki Isl**	**0.95**	**337**		P	**Pg**	**12 56 29.6**	**+0.1**	
SMTH	**Samothraki Isl**	**0.95**	**337**		P	**Pg**	**12 56 29.7**	**+0.1**	
LPK	**Lapseki**	**0.96**	**36**	*e*	PG	**Pb**	**12 56 29.5**	**0.0**	
LPK	**Lapseki**	**0.96**	**36**	*e*	Pg	**Pb**	**12 56 29.5**	**0.0**	
ERIK	**Erikli-Kesan**	**1.14**	**19**	*e*	PN	**Pn**	**12 56 32.3**	**-0.2**	
ERIK	**Erikli-Kesan**	**1.14**	**19**	*e*	Pn	**Pn**	**12 56 32.3**	**-0.2**	
ENEZ	**Enez**	**1.15**	**5**	*e*	PN	**Pg**	**12 56 33.0**	**-0.2**	
ENEZ	**Enez**	**1.15**	**5**	*e*	Pn	**Pg**	**12 56 33.1**	**-0.2**	
CHOS	**Chios island**	**1.20**	**179**		P	**Pg**	**12 56 34.3**	**0.0**	
CHOS	**Chios island**	**1.20**	**179**		P	**Pg**	**12 56 34.7**	**+0.4**	
BALY	**Balya**	**1.24**	**83**	*i*	P	**Pg**	**12 56 35.0**	**-0.1**	
BALY				*i*	S	**Sg**	**12 56 51.9**	**+0.6**	
BALY	**Balya**	**1.24**	**83**		P	**Pg**	**12 56 35.0**	**-0.1**	
BALY					S	**Sg**	**12 56 51.9**	**+0.6**	
KRBG	**Karabiga-Canak**	**1.27**	**50**	*e*	PN	**Pb**	**12 56 34.6**	**-0.1**	
KRBG	**Karabiga-Canak**	**1.27**	**50**	*e*	Pn	**Pb**	**12 56 34.6**	**-0.1**	
ALN	**Alexandroupoli**	**1.30**	**1**		P	**Pb**	**12 56 35.5**	**+0.2**	
ALN					S	**Sg**	**12 56 53.3**	**+0.1**	
ALN	**Alexandroupoli**	**1.30**	**1**		P	**Pb**	**12 56 35.4**	**+0.1**	
ALN					S	**Sg**	**12 56 53.0**	**-0.2**	
ALN					AML	AML	12 56 54.5		
	comp=E,88μm,0.3s								
ALN					AML	AML	12 56 54.6		
	comp=N,86μm,0.5s								
URLA	**Izmir**	**1.31**	**160**	*e*	PN	**Pb**	**12 56 35.7**	**+0.3**	
URLA	**Izmir**	**1.31**	**160**	*i*	P	**Pn**	**12 56 34.3**	**-0.6**	
URLA				*i*	S	**Sg**	**12 56 54.7**	**+1.3**	
URLA	**Izmir**	**1.31**	**160**		P	**Pn**	**12 56 34.3**	**-0.6**	
URLA	**Izmir**	**1.31**	**160**	*e*	Pn	**Pb**	**12 56 35.7**	**+0.3**	
URLA					S	**Sg**	**12 56 54.7**	**+1.3**	
KESN	**Edirne-Kesan**	**1.33**	**22**	*i*	P	**Pb**	**12 56 36.1**	**+0.1**	
KESN				*i*	S	**Sg**	**12 56 55.6**	**+1.4**	
KESN	**Edirne-Kesan**	**1.33**	**22**		P	**Pb**	**12 56 36.1**	**+0.1**	
KESN					S	**Sg**	**12 56 55.6**	**+1.4**	
KNL	**Bal¯–kesir**	**1.34**	**59**	*i*	P	**Pb**	**12 56 36.1**	**+0.1**	
KNL				*i*	S	**Sg**	**12 56 54.9**	**+0.5**	
RKY	**Sarkoy-Tekirda**	**1.41**	**39**	*e*	PN	**Pn**	**12 56 36.4**	**+0.1**	
RKY	**Sarkoy-Tekirda**	**1.41**	**39**	*e*	Pn	**Pn**	**12 56 36.4**	**+0.1**	
SART	**Tekirdag**	**1.41**	**39**	*i*	P	**Pn**	**12 56 36.5**	**+0.2**	
SART				*i*	S	**Sg**	**12 56 57.1**	**+0.5**	
SART	**Tekirdag**	**1.41**	**39**		P	**Pn**	**12 56 36.5**	**+0.2**	

NEIC ***02*** *13:06:01.1±0.0,51.°68N×171.°56W,h42km,ML3.6(AEIC), After AEIC.*

ISCJB ***02*** *13:06:02.1±0.8,51.°9N±0.°1×171.°64W±0.°06,h58km±8km, mb3.7/8, Error ellipse: s-maj=21.2km s-min=3.7km az=164.8*

IDC ***02*** *13:06:04.6±12.0, 52.°23N×171.°83W,h60km±117km, mb3.5/8,mb1 3.7/10,mb1mx3.4/48,mbtmp3.7/10,ML3.4/2, Error ellipse: s-maj=57.5km s-min=20.2km az=170.0*

ISC 02 13:06:03.6±0.9,51.°9N±0.°1×171.°67W±0.°04,h55km±9km, n44,σ0992/46,mb3.7/8,Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KOSE	**Korovin Southe**	**1.53**	**287**	P	**Pn**	**13 06 28.9**	**+0.3**
KOFP	**Korovin Flat P**	**1.54**	**285**	P	**Pn**	**13 06 28.7**	**-0.1**
ATKA	**Atka Island**	**1.59**	**282**	P	**Pn**	**13 06 28.2**	**-1.2**
KOKV	**Korovin Volcan**	**1.60**	**287**	P	**Pn**	**13 06 29.9**	**+0.3**
KOKV				S	**Sn**	**13 06 50.9**	**+1.7**
KOKL	**Mount Kliuchef**	**1.61**	**286**	P	**Pn**	**13 06 29.7**	**-0.1**
NIKH	**Nikolski High**	**2.03**	**57**	P	**Pn**	**13 06 34.0**	**-1.4**
NIKH				S	**Sn**	**13 06 59.6**	**+0.2**
OKSO	**Okmok South**	**2.58**	**55**	P	**Pn**	**13 06 43.0**	**0.0**
OKSO				S	**Sn**	**13 07 15.5**	**+2.3**
OKTU	**Okmok Mt. Tuli**	**2.66**	**55**	P	**Pn**	**13 06 44.4**	**+0.3**
GSMY	**Great Sitkin M**	**2.72**	**274**	P	**Pn**	**13 06 44.3**	**-0.5**
OKFG	**Magazine Ridge**	**2.74**	**55**	P	**Pn**	**13 06 45.2**	**+0.2**
OKFG				S	**Sn**	**13 07 18.7**	**+1.8**
GSTD	**Great Sitkin T**	**2.77**	**275**	P	**Pn**	**13 06 45.3**	**-0.2**
GSTD				S	**Sn**	**13 07 19.0**	**+1.2**
GSCK	**Great Sitkin C**	**2.78**	**274**	P	**Pn**	**13 06 45.1**	**-0.5**
ETKA	**Kagalaska Isla**	**2.94**	**271**	P	**Pn**	**13 06 47.1**	**-0.7**
ADAG	**Mount Adagdak**	**3.05**	**273**	P	**Pn**	**13 06 49.4**	**+0.1**
ADAG				S	**Sn**	**13 07 25.4**	**+0.7**
KIRH	**Kanaga Island**	**3.36**	**272**	P	**Pn**	**13 06 53.9**	**+0.3**
KIKV	**Kanaga Island**	**3.41**	**272**	P	**Pn**	**13 06 54.0**	**-0.3**
KICM	**Kanaga Island**	**3.42**	**272**	P	**Pn**	**13 06 54.2**	**-0.2**
MGOD	**Makushin Gods**	**3.47**	**55**	P	**Pn**	**13 06 54.7**	**-0.3**
MCIR	**Makushin Cirqu**	**3.54**	**53**	P	**Pn**	**13 06 55.9**	**-0.2**
MSW	**Makushin Switc**	**3.57**	**54**	P	**Pn**	**13 06 56.3**	**-0.3**
UNV	**Unalaska Valle**	**3.68**	**56**	P	**Pn**	**13 06 58.0**	**0.0**
TAPA	**Tanaga Point A**	**3.81**	**271**	P	**Pn**	**13 06 59.6**	**-0.2**
TAFP	**Tanaga Falls P**	**3.91**	**272**	P	**Pn**	**13 07 01.0**	**-0.2**
AKMO	**Akutan Morgan**	**4.06**	**55**	P	**Pn**	**13 07 03.7**	**+0.6**
AHB	**Akutan Harbor**	**4.17**	**56**	P	**Pn**	**13 07 04.6**	**0.0**
SPIA	**Saint Paul Isl**	**5.34**	**8**	P	**Pn**	**13 07 21.1**	**+0.4**
DT1	**Dutton Round H**	**6.45**	**57**	P	**Pn**	**13 07 35.9**	**+0.1**
SDPT	**Sand Point**	**7.49**	**58**	P	**Pn**	**13 07 49.2**	**-0.9**
ILAR	**Eielson Array**	**18.14**	**35**	P	**P**	**13 10 08.2**	**-2.7**
	0.2nm,0.3s,baz=227,slow=9.0,SNR=18						
PETK	**Petropavlovsk-**	**18.62**	**286**	P	**P**	**13 10 15.4**	**-0.8**
	0.1nm,0.3s,baz=88,slow=16,SNR=5.1						
DLBC	**Dease Lake**	**24.33**	**58**	P	**P**	**13 11 15.9**	**0.0**
	2.7nm,0.9s,baz=284,slow=7.3,SNR=5.5						
INK	**Inuvik**	**24.51**	**34**	P	**P**	**13 11 16.0**	**-1.3**
	1.2nm,0.5s,baz=226,slow=9.0,SNR=12						
YKA	**Yellowknife Ar**	**31.61**	**48**	P	**P**	**13 12 19.4**	**-1.2**
	0.3nm,0.4s,baz=273,slow=7.3,SNR=5.1						
H11N2	**WAKE ISLAND Hy**	**36.23**	**216**	T	T	13 51 32.2	
	baz=21,slow=75,SNR=21						
H11N3	**WAKE ISLAND Hy**	**36.24**	**216**	T	T	13 51 34.4	
	baz=21,slow=75,SNR=18						
H11N1	**WAKE ISLAND Hy**	**36.25**	**216**	T	T	13 51 34.3	
	baz=21,slow=75,SNR=22						
H11S1	**WAKE ISLAND Hy**	**37.43**	**215**	T	T	13 52 57.6	
	baz=22,slow=76,SNR=11						
H11S2	**WAKE ISLAND Hy**	**37.44**	**215**	T	T	13 53 00.4	
	baz=22,slow=76,SNR=9.8						
H11S3	**WAKE ISLAND Hy**	**37.45**	**215**	T	T	13 53 03.4	
	baz=22,slow=76,SNR=13						
PDAR	**Pinedale Array**	**41.88**	**77**	P	**P**	**13 13 49.7**	**+1.2**
	0.4nm,0.5s,baz=294,slow=4.4,SNR=4.6						
PDAR				pP	**pP**	**13 14 02.2**	**-0.6**
	0.5nm,0.6s,baz=320,slow=3.9,SNR=3.3						
TXAR	**Lajitas Array**	**54.18**	**87**	P	**P**	**13 15 24.1**	**+0.7**
	0.2nm,0.6s,baz=298,slow=6.9,SNR=3.6						
TXAR				pP	**pP**	**13 15 38.3**	**+0.1**
	0.2nm,0.5s,baz=308,slow=4.4,SNR=2.7						
CMAR	**Chiang Mai Arr**	**75.33**	**281**	P	**P**	**13 17 40.7**	**-0.3**
	0.6nm,0.4s,baz=22,slow=6.6,SNR=6.2						
WRA	**Warramunga Arr**	**85.62**	**230**	P	**P**	**13 18 37.1**	**+1.2**
	0.5nm,0.8s,baz=35,slow=6.0,SNR=3.7						
ASAR	**Alice Springs**	**89.02**	**228**	P	**P**	**13 18 52.7**	**+0.4**
	1.7nm,0.8s,baz=28,slow=4.8,SNR=23						

IDC 02 13:11:47.0±2.2,19.°55N×143.°45E,h0km,mb3.6/3, mb1 4.0/3,mb1mx3.4/38,mbtmp3.6/3,Error ellipse: s-maj=289.8km s-min=27.1km az=109.0,Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**40.25**	**193**	P	P	13 19 25.9	+0.1
	1.4nm,0.3s,baz=14,slow=8.6,SNR=27						
ASAR	**Alice Springs**	**43.95**	**193**	P	P	13 19 55.6	-0.4
	0.2nm,0.5s,baz=17,slow=7.1,SNR=7.8						
ILAR	**Eielson Array**	**63.84**	**27**	P	P	13 22 21.0	0.0
	0.2nm,0.5s,baz=252,slow=5.8,SNR=5.1						

IDC ***02*** *13:36:12.8±0.8,37.°62N×142.°58E,h0km,mb3.9/10, mb1 4.0/13,mb1mx3.8/62,mbtmp3.9/13,ML3.4/3,Error ellipse: s-maj=22.6km s-min=17.0km az=92.0*

ISCJB ***02*** *13:36:14.3±0.6,37.°67N±0.°04×142.°48E±0.°06,h21km, mb3.8/10,Error ellipse: s-maj=7.0km s-min=5.3km az=25.4*

JMA ***02*** *13:36:14.1±0.2,37.°71N×142.°49E,h25km±3km,M4.2*

ISC 02 13:36:16.5±0.8,37.°70N±0.°05×142.°42E±0.°07,h21km,n34, σ1ş23/33,mb3.8/10,Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JIO	**Ouri**	**1.13**	**312**	P	**Pn**	**13 36 34.9**	**-2.2**
JFK	**Kawauchi**	**1.28**	**255**	P	**Pn**	**13 36 37.2**	**-1.9**
JMM	**Marumori**	**1.30**	**278**	P	**Pn**	**13 36 37.6**	**-1.8**
JMM				*e*S	**Sn**	**13 36 54.3**	**-1.9**
JOU	**Okura**	**1.54**	**296**	P	**Pn**	**13 36 41.5**	**-1.2**
JMK	**Ichinoseki**	**1.57**	**323**	P	**Pn**	**13 36 41.4**	**-1.7**
JFT	**Otama**	**1.67**	**264**	P	**Pn**	**13 36 43.9**	**-0.6**
JFT				*e*S	**Sn**	**13 37 05.2**	**-0.1**
JYS	**Shirataka**	**1.94**	**286**	P	**Pn**	**13 36 47.3**	**-0.9**
JOM	**Ohasama**	**1.98**	**334**	P	**Pn**	**13 36 47.4**	**-1.3**
JYK	**Kaneyama**	**2.03**	**307**	P	**Pn**	**13 36 48.1**	**-1.3**
JRG	**Rokugo**	**2.20**	**321**	P	**Pn**	**13 36 50.9**	**-0.9**
JAG	**Ashikaga**	**2.70**	**243**	P	**Pn**	**13 36 58.3**	**-0.3**
JANG	**Nango**	**2.76**	**345**	P	**Pn**	**13 36 59.5**	**0.0**
JAH	**Hinai**	**2.85**	**331**	P	**Pn**	**13 37 00.3**	**-0.4**
JTM	**Tenmabayashi**	**3.25**	**342**	P	**Pn**	**13 37 07.1**	**+0.8**
JTM				*e*S	**Sn**	**13 37 44.0**	**-0.4**
MJAR	**Matsushiro Arr**	**3.56**	**252**	Pn	**Pn**	**13 37 11.3**	**+0.7**
	2.6nm,0.3s,baz=61,slow=14,SNR=18						
MAT	**Matsushiro**	**3.56**	**252**	P	**Pn**	**13 37 12.3**	**+1.7**
MAT				*e*S	**Sn**	**13 37 53.9**	**+1.8**
JHJ	**Hachijo jima 2**	**5.06**	**206**	Pn	**Pn**	**13 37 30.4**	**-0.6**
	17nm,0.3s,baz=63,slow=16,SNR=2.9						
JHJ				Sn	**Sn**	**13 38 27.1**	**-1.7**
	23nm,0.3s,baz=39,slow=14,SNR=2.8						
USRK	**Ussuriysk Ar.**	**10.21**	**313**	Pn	**Pn**	**13 38 43.3**	**+1.5**
	0.7nm,0.3s,baz=121,slow=13,SNR=7.5						
SEY	**Seymchan**	**25.98**	**10**	P	**P**	**13 41 48.6**	**+1.2**
	1.1nm,0.5s,baz=238,slow=6.3,SNR=4.1						
H11N2	**WAKE ISLAND Hy**	**27.82**	**123**	T	T	14 11 09.2	
	baz=316,slow=75,SNR=52						
H11N1	**WAKE ISLAND Hy**	**27.83**	**123**	T	T	14 11 12.6	
	baz=316,slow=75,SNR=52						
H11N3	**WAKE ISLAND Hy**	**27.84**	**123**	T	T	14 11 08.3	
	baz=316,slow=75,SNR=44						
SONM	**Songino Array**	**28.09**	**303**	P	**P**	**13 42 08.2**	**+1.4**
	0.5nm,0.5s,baz=105,slow=9.1,SNR=1.9						
H11S1	**WAKE ISLAND Hy**	**28.57**	**125**	T	T	14 12 07.7	
	baz=318,slow=76,SNR=25						
H11S3	**WAKE ISLAND Hy**	**28.57**	**125**	T	T	14 12 07.6	
	baz=318,slow=76,SNR=43						
H11S2	**WAKE ISLAND Hy**	**28.58**	**125**	T	T	14 12 09.0	
	baz=318,slow=76,SNR=29						
ZALV	**Zalesovo Beam**	**42.06**	**312**	P	**P**	**13 44 06.6**	**+0.1**
	0.5nm,0.4s,baz=86,slow=4.5,SNR=2.8						
KURBB	**Kurchatov Arra**	**46.23**	**308**	P	**P**	**13 44 40.7**	**+0.8**
	1.0nm,0.5s,baz=82,slow=8.3,SNR=5.3						
ILAR	**Eielson Array**	**48.50**	**33**	P	**P**	**13 44 56.9**	**-0.5**
	0.5nm,0.6s,baz=261,slow=6.1,SNR=15						
WRA	**Warramunga Arr**	**57.84**	**189**	P	**P**	**13 46 05.2**	**-1.3**
	2.0nm,0.5s,baz=6.3,slow=7.2,SNR=26						
ASAR	**Alice Springs**	**61.57**	**189**	P	**P**	**13 46 31.9**	**-0.3**
	0.7nm,0.7s,baz=15,slow=10.0,SNR=12						
GEYT	**Alibeck**	**64.22**	**299**	P	**P**	**13 46 49.8**	**-0.1**
	1.2nm,0.3s,baz=108,slow=17,SNR=6.8						
FINES	**FINESS Array B**	**68.60**	**332**	P	**P**	**13 47 17.7**	**+0.2**
	0.7nm,0.7s,baz=41,slow=13,SNR=4.1						
TXAR	**Lajitas Array**	**89.08**	**53**	P	**P**	**13 49 09.9**	**-0.5**
	0.1nm,0.5s,baz=305,slow=3.2,SNR=3.1						

NEIC ***02*** *13:46:26.8±0.0,16.°84N×94.°82W,h122km,MD4.0(MEX), After MEX.*

MEX 02 13:46:26.8±0.8,16.°84N×94.°82W,h122km±19km,MD4.0, Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
HUIG	**Huatulco**	**1.63**	**230**	*e*P	Pn	13 46 53.7	-2.1
HUIG				*e*S	Sn	13 47 16.8	-1.2
HUIG	**Huatulco**	**1.63**	**230**	*e*P	Pn	13 46 53.7	-2.1
HUIG				*e*S	Sn	13 47 16.8	-1.2
TGIG		**1.63**	**92**	*e*P	Pn	13 46 55.0	-0.9
TGIG				*e*S	Sn	13 47 16.0	-2.1
TGIG		**1.63**	**92**	*e*P	Pn	13 46 55.0	-0.9
TGIG				*e*S	Sn	13 47 16.0	-2.1
VHO	**Vista Hermosa**	**1.84**	**278**	*e*P	Pn	13 46 58.1	-0.5
VHO				*e*S	Sn	13 47 21.3	-1.7
VHO	**Vista Hermosa**	**1.84**	**278**	*e*P	Pn	13 46 58.1	-0.5
VHO				*e*S	Sn	13 47 21.3	-1.7
PANG	**Puerto Angel**	**1.97**	**234**	*i*P	Pn	13 46 57.9	-2.1
PANG				*e*S	Sn	13 47 23.6	-1.7
CCIG	**Comitan**	**2.63**	**102**	*i*P	Pn	13 47 08.2	-0.3
CCIG				*i*S	Sn	13 47 39.2	-1.4
CCIG	**Comitan**	**2.63**	**102**	*i*P	Pn	13 47 08.2	-0.3
CCIG				*i*S	Sn	13 47 39.2	-1.4
TPIG	**Tehuac#an**	**2.89**	**303**	*i*P	Pn	13 47 11.5	-0.4
TPIG				*i*S	Sn	13 47 44.6	-2.0
TPIG	**Tehuac#an**	**2.89**	**303**	*i*P	Pn	13 47 11.5	-0.4
TPIG				*i*S	Sn	13 47 44.6	-2.0
PNIG	**Pinotepa**	**3.20**	**263**	*i*P	Pn	13 47 13.4	-2.4
PNIG				*i*S	Sn	13 47 50.2	-3.4
PNIG	**Pinotepa**	**3.20**	**263**	*i*P	Pn	13 47 13.4	-2.4
PNIG				*i*S	Sn	13 47 50.2	-3.4

SJA ***02*** *13:47:01.4±0.6,28.°64S×63.°02W,h635km±6km,ML6.9, MW6.1*

GCMT ***02*** *13:47:09.6±0.1,28.°56S×63.°08W,h597km,MW6.7/142, Moment Tensor Solution. s142,c367; s135,c245; Duration: 5s4 Moment tensor: Scale 10¹⁹Nm; Mrr-1.08±.01; Mθθ0.74±.01; Mφφ0.34±.01; Mrθ-0.25±.01; Mrφ0.34±.01; Mθφ1.06±.01; Best double couple: M₀1.37100×10¹⁹ NP1:ϕs199.00000°,δ67.00000°, λ-115.00000°. NP2:ϕs70.00000°,δ34.00000°, λ-45.00000°. Principal axes: T 1.0380, Plg18.0000°, Azm308.0000°; N 0.6640, Plg23.0000°, Azm210.0000°; P -1.7040, Plg60.0000°, Azm72.0000°; nsta1 refers to body waves, cutoff=50s. nsta2 refers to mantle waves, cutoff=125s.*

MOS ***02*** *13:47:09.3±0.9,28.°36S×63.°19W,h583km,mb6.3/48, MS5.6/44 Error ellipse: s-maj=10.3km s-min=6.1km az=102.1*

NEIC ***02*** *13:47:09.6±0.3,28.°40S×63.°03W,h579km±3km,mb6.4/181, MW6.7,MW6.7,MW6.7,MD6.9(SJA),Error ellipse: s-maj=3.6km s-min=2.8km az=69.0,Moment Tensor Solution. s52 Moment tensor: Scale 10¹⁹Nm; Mrr-0.92; Mθθ0.66; Mφφ0.26; Mrθ-0.26; Mφθ0.22; Mφr1.18; Best double couple: M₀1.50000×10¹⁹ NP1:ϕs42.00000°, δ18.00000°,λ-50.00000°. NP2:ϕs180.00000°,δ76.00000°, λ-102.00000°. Principal axes: T 1.0000, Plg30.0000°, Azm280.0000°; N 0.7000, Plg12.0000°, Azm183.0000°; P -1.7000, Plg57.0000°, Azm75.0000°;*

NEIC Felt [III] at Buenos Aires, Catamarca, Cordoba, La Rioja, Mendoza, San Juan and San Miguel de Tucuman. Also felt at Mar del Plata, Parana, Rosario and Santiago del Estero. Felt at Cascavel and Passo Fundo, Brazil; Copiapo and Santiago, Chile; Asuncion, Paraguay.

ISCJB ***02*** *13:47:09.2±0.2,28.°33S±0.°02×63.°11W±0.°03,h583km±2km, mb6.3/267 Error ellipse: s-maj=3.5km s-min=3.0km az=156.8*

NEIC ***02*** *13:47:11.0±0.0,28.°52S×63.°03W,h600km Best double couple: NP1:ϕs200.00000°,δ67.00000°,λ-117.00000°. NP2:ϕs74.00000°,δ35.00000°,λ-42.00000°. Principal axes: T 0.9800, Plg18.0000°, Azm310.0000°; N 0.4900, Plg25.0000°, Azm211.0000°; P -1.4700, Plg58.0000°, Azm72.0000°;*

BJI ***02*** *13:47:11.0,28.°40S×63.°10W,h590km,mB6.4/53*

IDC ***02*** *13:47:11.1±0.2,28.°43S×63.°14W,h591km±2km,mb5.6/39, mb1 5.7/42,mb1mx5.7/43,mbtmp6.5/42,Error ellipse: s-maj=7.2km s-min=5.9km az=67.0*

NEIC ***02*** *13:47:22.4±0.0,28.°50S×63.°45W,h594km,Moment Tensor Solution. s42 Moment tensor: Scale 10¹⁹Nm; Mrr-1.20; Mθθ0.44; Mφφ0.76; Mrθ-0.23; Mrφ0.19; Mθr1.00; Best double couple: M₀1.40000×10¹⁹ NP1:ϕs179.00000°, δ68.00000°,λ-101.00000°. NP2:ϕs25.00000°,δ25.00000°, λ-66.00000°. Principal axes: T 1.1900, Plg22.0000°, Azm277.0000°; N 0.4700, Plg10.0000°, Azm183.0000°; P -1.6600, Plg66.0000°, Azm71.0000°;*

ISC 02 13:47:10.7±0.2,28.°41S±0.°02×63.°14W±0.°03,h593km±1km, h593km:pP-P,n2154,σ1ş73/2815,mb6.4/262,64C-127D, Santiago del Estero Province

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CYA	**Choya**	**2.35**	**269**	*i*P	**P**	**13 48 23.7**	**-2.2**
CYA				IAML		13 48 27.8	
	comp=Z,15μm,0.3s						
CYA				*i*S	**S**	**13 49 24.9**	**-2.3**
AHML	**Horco Molle**	**2.54**	**309**	*i*P	**P**	**13 48 25.6**	**-1.3**
AHML				IAML		13 48 29.5	
	comp=Z,19μm,0.5s						
TCA	**Tanti**	**3.18**	**203**	*i*P	**P**	**13 48 26.9**	**-3.4**
TCA				IAML		13 48 35.3	
	comp=Z,11μm,0.7s						
PIL	**Pilar**	**3.31**	**191**	IAML		13 48 39.1	
	comp=Z,46μm,0.8s						
FSA	**Cafayete**	**3.42**	**312**	*i*P	**P**	**13 48 31.0**	**-1.0**
FSA				IAML		13 48 34.8	
	comp=Z,6μm,0.7s						
APLL	**PUNTA DE LOS L**	**3.56**	**235**	*i*P	**P**	**13 48 30.1**	**-2.5**
APLL				*i*S	**S**	**13 49 35.8**	**-3.8**
SLA	**San Lorenzo**	**4.25**	**329**	IAML		13 48 42.0	
	comp=Z,7μm,0.6s						
VCA	**Vinchina**	**4.47**	**265**	*i*P	**P**	**13 48 38.5**	**-0.7**
VCA				*i*S	**S**	**13 49 49.5**	**-1.9**
VCA				IAML		13 49 58.6	
	comp=Z,38μm,0.7s						
VCA				IAML		13 49 58.7	
	comp=Z,38μm,0.7s						
AZAP	**Zapla**	**4.52**	**337**	IAML		13 48 47.4	
	comp=Z,2μm,0.5s						
MRA	**San Martin**	**4.57**	**209**	IAML		13 48 44.3	
	comp=Z,13μm,0.5s						
AGUA	**GUANDACOL**	**4.81**	**256**	*i*P	**P**	**13 48 40.5**	**-1.2**
SUCO	**SUCO**	**5.14**	**197**	IAML		13 48 48.5	
	comp=Z,18μm,0.4s						
RTLL	**Cerro Villicun**	**5.47**	**237**	*i*P	**P**	**13 48 46.1**	**-0.8**
RTLL				*i*S	**S**	**13 50 02.7**	**-3.0**
CPUP	**Villa Florida**	**5.56**	**69**	P	**P**	**13 48 47.8**	**+0.1**
	comp=Z,679nm,0.3s,baz=250,slow=8.5,SNR=2097						
CPUP				S	**S**	**13 50 06.4**	**-0.6**
	baz=49,slow=19,SNR=0.9						
CPUP				ScP	**ScP**	**13 57 12.2**	**+1.3**
	comp=Z,9.0nm,0.3s,baz=164,slow=4.0,SNR=4.7						
CPUP	**Villa Florida**	**5.56**	**69**	⇑*i*P	**P**	**13 48 47.9**	**+0.1**
CPUP				*i*S	**S**	**13 50 07.8**	**+0.7**
HJA	**Humahuaca**	**5.57**	**338**	IAML		13 48 56.3	
	comp=Z,3μm,0.5s						
ACCO	**Cerro Coronel**	**5.60**	**246**	*i*P	**P**	**13 48 47.5**	**-0.9**
ACCO				IAML		13 48 50.9	
	comp=Z,18μm,0.5s						
SJA	**San Juan**	**5.64**	**235**	IAML		13 48 53.2	
	comp=Z,22μm,0.4s						
RTLS	**Leoncito**	**6.31**	**236**	IAML		13 48 57.1	
	comp=Z,19μm,0.6s						
ASAL	**Salagasta**	**6.44**	**228**	*i*P	**P**	**13 48 54.5**	**-0.8**
CPCH	**Copiapo**	**6.47**	**278**	⇑*i*P	**P**	**13 48 53.9**	**-1.7**
ARCO	**CERRO ARCO**	**6.66**	**227**	IAML		13 49 02.0	
	comp=Z,22μm,0.6s						
LCO	**Las Campanas**	**6.67**	**263**	⇑*i*P	**P**	**13 48 56.2**	**-1.5**
LCO				*i*S	**S**	**13 50 22.2**	**-3.1**
LCO	**Las Campanas**	**6.67**	**263**	*e*P	**P**	**13 48 56.5**	**-1.2**
LCO				*e*S	**S**	**13 50 23.4**	**-1.9**
TLL	**Tololo Astrono**	**6.92**	**254**	*e*P	**P**	**13 48 58.6**	**-1.3**
CDCH	**Caldera**	**6.94**	**279**	⇑*i*P	**P**	**13 48 58.2**	**-1.6**
PB14	**IPOC Station P**	**7.52**	**298**	⇑*i*P	**P**	**13 49 04.2**	**-1.4**
LVC	**Limon Verde**	**7.78**	**317**	P	**P**	**13 49 07.3**	**-0.9**
	comp=Z,51μm,0.3s,baz=139,slow=7.1,SNR=2370						
LVC				S	**S**	**13 50 42.8**	**-1.6**
	comp=Z,97μm,0.3s,baz=282,slow=20,SNR=29						
LVC				ScS	**ScS**	**14 00 48.4**	**+0.8**
	baz=224,slow=19,SNR=13						
**

ATAH PcP **PcP** 13 55 07.9 +2.4
comp=Z,94nm,0.5s,baz=70,slow=2.7,SNR=4.4
ATAH ScP **ScP** 13 57 50.9 +1.4
comp=Z,213nm,0.8s,baz=163,slow=6.5,SNR=5.8
ATAH ScS **ScS** 14 01 42.4 +1.9
comp=Z,75nm,1.3s,baz=95,slow=22,SNR=9.4
USHA Ushuaia 26.68 187 P **P** 13 52 02.7 -0.9
comp=Z,7µm,0.7s,baz=357,slow=8.0,SNR=904
USHA ScP **ScP** 13 57 52.2 +0.8
comp=Z,2µm,0.9s,baz=335,slow=3.5,SNR=7.9
PTGA Pitinga 27.69 7 P **P** 13 52 12.4 -0.6
comp=Z,2µm,0.5s,baz=196,slow=12,SNR=806
PTGA S **S** 13 56 14.9 -0.1
comp=Z,792nm,0.9s,baz=330,slow=19,SNR=17
GUVC San Jose del G 32.10 342 *eP* **P** 13 52 50.5 -0.4
HOPE Hope Point 32.32 151 *eP* **P** 13 52 52.4 +0.2
comp=Z,3µm,1.0s
HOPE *epP* **pP** 13 54 28.2 -0.2
HOPE *ePcP* **PcP** 13 55 21.1 -0.6
HOPE *eScP* **ScP** 13 58 10.7 +0.9
HOPE LR LR
comp=Z,18µm,20.0s
CMBC Cumbal 32.41 332 *eP* **P** 13 52 55.9 +1.9
CRUC La Cruz 32.63 334 *eP* **P** 13 52 57.4 +1.7
BETC Betania 33.10 337 *eP* **P** 13 52 59.2 -0.2
SJAC San Juan de Ar 33.18 340 *eP* **P** 13 52 59.6 -0.5
POPC Popayan, Colom 33.41 335 *eP* **P** 13 53 03.2 +1.0
TUMC Tumaco 33.59 331 *eP* **P** 13 53 04.7 +1.3
PRAC Prado 33.88 339 *eP* **P** 13 53 04.9 -1.1
PRAC Prado 33.88 339 *eP* **P** 13 53 04.5 -1.4
comp=Z,1µm,0.7s
VILC Villavicencio, 33.90 341 *eP* **P** 13 53 05.7 -0.5
RCBR Riachuelo 34.21 54 P **P** 13 53 09.2 +0.5
comp=Z,554nm,0.6s,baz=205,slow=7.6,SNR=257
RCBR PcP **PcP** 13 55 29.8 +1.9
comp=Z,186nm,0.7s,baz=154,slow=6.4,SNR=2.5
RCBR S **S** 13 57 54.3 -0.5
comp=Z,75nm,1.1s,baz=143,slow=20,SNR=3.8
RCBR Riachuelo 34.21 54 *eP* **P** 13 53 09.1 +0.3
comp=Z,1µm,1.0s
RCBR *epP* **pP** 13 54 45.2 -0.9
RCBR *ePcP* **PcP** 13 55 28.2 +0.2
RCBR S **S** 13 57 54.3 -0.5
RCBR *eScP* **ScP** 13 58 19.5 +2.2
RCBR LR LR
comp=Z,8µm,19.0s
CVER Cruz Verde, Cu 34.40 340 *eP* **P** 13 53 11.2 +0.5
CHIC Chingaza 34.40 341 *eP* **P** 13 53 09.8 -0.9
GRGC Isla de Gorgon 34.42 333 *eP* **P** 13 53 11.0 +0.7
YOPC Yopal, Colombi 34.74 344 *eP* **P** 13 53 12.0 -1.2
ROSC El Rosal 34.77 340 P **P** 13 53 14.1 +0.4
comp=Z,817nm,0.6s,baz=172,slow=5.8,SNR=133
ROSC ScP **ScP** 13 58 20.9 +1.2
comp=Z,289nm,0.8s,baz=85,slow=11,SNR=7.3
ROSC El Rosal 34.77 340 *eP* **P** 13 53 13.9 +0.1
ROSC El Rosal 34.77 340 *eP* **P** 13 53 13.8 0.0
comp=Z,671nm,0.6s
ROSC ScP **ScP** 13 58 20.9 +1.2
TOLC Tolima 34.84 338 *eP* **P** 13 53 13.3 -0.9
CTAB Cerro Tablazo, 34.90 340 *eP* **P** 13 53 15.1 +0.2
MALC Bahia Malaga 35.02 335 *eP* **P** 13 53 16.6 +1.3
RUSC La Rusia 35.43 343 *eP* **P** 13 53 18.3 -0.9
RUSC La Rusia 35.43 343 *eP* **P** 13 53 17.9 -1.4
comp=Z,722nm,0.6s
GUYC Guyana, Colomb 35.47 339 *eP* **P** 13 53 18.9 -0.6
NORC Norcasia 35.62 340 *eP* **P** 13 53 18.2 -2.2
BARC Barichara 36.13 343 *eP* **P** 13 53 21.9 -2.8
PMSA Palmer Station 36.38 181 P **P** 13 53 26.3 +0.5
comp=Z,380nm,0.7s,baz=16,slow=7.6,SNR=112
PMSA ScP **S** 13 58 25.8 +0.3
comp=Z,222nm,1.1s,baz=354,slow=4.0,SNR=8.1
PMSA Palmer Station 36.38 181 *eP* **P** 13 53 26.3 +0.5
comp=Z,849nm,1.1s
PMSA *eScP* **S** 13 58 25.0 -0.6
PMSA LR LR
comp=Z,18µm,22.0s
HELC Santa Helena 36.42 339 *eP* **P** 13 53 25.0 -2.3
HELC Santa Helena 36.42 339 *eP* **P** 13 53 24.6 -2.7
comp=Z,2µm,0.7s
GIRC Giron, Santand 36.60 343 *eP* **P** 13 53 25.3 -3.2
PAMC Pamplona, Colo 36.72 344 *eP* **P** 13 53 28.3 -1.5
BRRC Barranca, Sant 36.76 342 *eP* **P** 13 53 26.1 -3.6
MAPC Malpelo 36.81 328 *eP* **P** 13 53 30.9 +0.9
SOLC Bahia Solano 37.09 336 *eP* **P** 13 53 32.6 +0.3
DBBC Dabeiba 37.42 338 *eP* **P** 13 53 35.6 +0.5
ZARC Zaragoza, Cauc 37.45 341 *eP* **P** 13 53 32.3 -3.0
OCAC Ocana 37.74 343 *eP* **P** 13 53 35.5 -2.3
SDV Santo Domingo 37.78 348 P **P** 13 53 36.4 -1.8
comp=Z,1µm,0.5s,baz=190,slow=6.8,SNR=126
SDV ScP **ScP** 13 58 32.1 +1.4
comp=Z,104nm,0.6s,baz=167,slow=6.7,SNR=3.8
SDV S **S** 13 58 49.2 +1.2
comp=Z,122nm,0.9s,baz=248,slow=18,SNR=3.1
SDV Santo Domingo 37.78 348 *eP* **P** 13 53 36.4 -1.8
comp=Z,3µm,1.1s
SDV ScP **ScP** 13 58 32.1 +1.4
SDV S **S** 13 58 49.2 +1.2
SDV LR LR
comp=Z,7µm,21.0s
SDV Santo Domingo 37.78 348 *eP* **P** 13 53 36.3 -1.8
PAYG Puerto Ayora 37.88 312 *eP* **P** 13 53 39.0 +0.2
comp=Z,4µm,1.7s
PAYG *ePcP* **PcP** 13 55 40.1 +1.0
PAYG LR LR
comp=Z,5µm,19.0s
PAYG Puerto Ayora 37.88 312 *eP* **P** 13 53 38.6 -0.2
PCRV Puerto La Cruz 38.39 358 P **P** 13 53 42.6 -0.3
comp=Z,1µm,0.5s,baz=177,slow=5.7,SNR=171
PCRV ScP **ScP** 13 58 34.2 +1.4
comp=Z,122nm,0.7s,baz=141,slow=3.7,SNR=3.7
PCRV S **S** 13 58 57.2 +0.6
comp=Z,54nm,0.7s,baz=159,slow=21,SNR=5.8
TPP Pointe-a-Pierr 38.54 3 *eP* **P** 13 53 45.3 +1.3
TBH Brigand Hill 38.72 3 *eP* **P** 13 53 47.9 +2.3
TBH Brigand Hill 38.72 3 *e* **PP** 13 55 31.6 -1.7
TRN Trinidad (W) 38.87 3 *eP* **P** 13 53 48.4 +1.7
TRN Trinidad (W) 38.87 3 *e* **PcP** 13 55 44.3 +2.2
TCE Chacachacare 38.90 2 *eP* P 13 53 40.7 -6.3
MOTC Monteria, Cord 38.91 340 *eP* **P** 13 53 44.9 -2.1
CAPC Capurgana 39.31 337 *eP* **P** 13 53 49.1 -1.2
CODC Agust´n Codaz 39.40 344 *eP* **P** 13 53 46.9 -4.1
BOT Bacolet 39.42 4 *eP* **P** 13 53 51.1 0.0
TPR Prospect 39.43 4 *eP* **P** 13 53 52.2 +1.0
TPR Prospect 39.43 4 *e* **PcP** 13 55 46.0 +2.1
UPD2 Meteti 39.46 336 *eP* **P** 13 53 50.4 -1.0
TOSP Speyside 39.56 4 *eP* **P** 13 53 52.1 -0.1
TOSP Speyside 39.56 4 *e* **PP** 13 55 38.2 -2.8
AZU Azuero 39.62 333 *eP* **P** 13 53 53.3 +0.6
SJCC San Jacinto, C 39.83 341 *eP* **P** 13 53 52.8 -1.6
PNME Penonome 40.27 333 *eP* **P** 13 53 58.6 +0.7
GRGR Grenville 40.33 2 *eP* **P** 13 53 58.2 -0.2
GRGR Grenville 40.33 2 *e* **PcP** 13 55 45.9 -1.0
GRGR Grenville 40.33 2 *eP* **P** 13 53 57.8 -0.6
comp=Z,7µm,0.8s
GRGR *epP* **pP** 13 55 40.0 0.0
GRGR *ePcP* **PcP** 13 55 46.1 -0.8
GRGR *eScP* **ScP** 13 58 40.6 +0.2
GRGR LR LR
comp=Z,10µm,21.0s
GRGR Grenville 40.33 2 *eP* **P** 13 53 57.5 -0.9
FLAM Flamenco Islan 40.35 334 *eP* **P** 13 53 59.7 +1.2
GRW Mount Saint Ca 40.36 2 *eP* **P** 13 53 59.8 +1.2
GRSS Sisters 40.50 2 *eP* **P** 13 54 00.4 +0.8
ZANG Zanguenga, Cho 40.52 334 *eP* **P** 13 54 01.1 +1.2
RPN Rapa Nui 40.70 261 P **P** 13 54 02.0 +0.7
comp=Z,211nm,0.4s,baz=105,slow=1.4,SNR=11
RPN PcP **PcP** 13 55 49.3 +1.2
comp=Z,487nm,1.1s,baz=54,slow=3.2,SNR=4.5
RPN ScP **ScP** 13 58 42.7 +0.8
comp=Z,233nm,0.8s,baz=301,slow=4.1,SNR=6.2
RPN Rapa Nui 40.70 261 *eP* **P** 13 54 01.1 -0.2
comp=Z,2µm,1.3s
RPN PcP **PcP** 13 55 49.3 +1.2
RPN ScP **ScP** 13 58 42.7 +0.8
RPN LR LR
comp=Z,2µm,19.0s
FRIJ El Hiral 40.71 334 *eP* **P** 13 54 02.2 +0.9
URIC Uribia, Colomb 40.79 347 *eP* **P** 13 53 57.8 -4.2
FCV Fort Charlotte 41.37 3 *eP* **P** 13 54 08.3 +1.8
BBGH Gun Hill 41.46 5 *eP* **P** 13 54 08.8 +1.5
BBGH Gun Hill 41.46 5 *eP* **P** 13 54 08.0 +0.7
comp=Z,3µm,1.1s
BBGH *epP* **pP** 13 55 50.1 +0.4
BBGH *ePP* **PP** 13 55 58.6 +0.2
BBGH LR LR
comp=Z,22µm,21.0s
SVB Belmont 41.48 3 *eP* **P** 13 54 07.5 0.0
SVB Belmont 41.48 3 *e* **PcP** 13 55 53.5 +2.8
SVB Belmont 41.48 3 *eP* **P** 13 54 06.3 -1.2
comp=Z,2µm,0.5s
BHS Barnard House 41.51 3 *eP* **P** 13 54 09.1 +1.4
TBS2 41.52 330 *eP* **P** 13 54 08.8 +0.8
SVV Soufriere Volc 41.53 3 *eP* **P** 13 54 09.3 +1.5
BRU2 Volcan 41.54 330 *eP* **P** 13 54 09.2 +1.1
SSV Crater Summit 41.54 3 *eP* **P** 13 54 10.4 +2.4
SSV Crater Summit 41.54 3 *e* **PcP** 13 55 53.1 +2.2
ACR Cerro Adams 41.62 329 *eP* **P** 13 54 08.4 -0.3
MCLT Moule a Chique 41.93 3 *eP* **P** 13 54 10.1 -0.8
MCLT Moule a Chique 41.93 3 *e* **PcP** 13 55 51.8 -0.4
SLB Belfond 42.04 3 *eP* **P** 13 54 12.1 +0.2
SLW Petit Monier 42.24 3 *eP* **P** 13 54 13.5 +0.1
BUS Buena Vista 42.69 329 *eP* **P** 13 54 18.2 +0.7
BIM Bigot 42.72 3 *eP* **P** 13 54 16.0 -1.2
TRMF Trois Ilets 42.74 3 *eP* **P** 13 54 16.6 -0.7
QCR1 Quepos 42.76 329 *eP* **P** 13 54 17.5 0.0
MVM Montagne Vaucl 42.77 3 *eP* **P** 13 54 16.7 -0.8
ZAM Aeronautique 42.78 3 *eP* **P** 13 54 17.0 -0.6
FDF Fort de France 42.94 3 *eP* **P** 13 54 17.9 -1.0
FDF Fort de France 42.94 3 *eP* **P** 13 54 17.9 -1.0
FDF *e*PP **pP** 13 56 01.9 -0.5
FDF MLR MLR
comp=Z,9µm,19.0s
FDF Fort de France 42.94 3 *eP* **P** 13 54 17.9 -1.0
comp=Z,7µm,0.5s
FDF *epP* **pP** 13 56 01.9 -0.5
FDF *eScP* **ScP** 13 58 51.5 +0.6
FDF LR LR
comp=Z,9µm,19.0s
URSC Urasca 42.94 329 *iP* **P** 13 54 19.4 +0.3
PML Morne Lenard 42.98 3 *eP* **P** 13 54 18.8 -0.4
GBMF Grand Be 43.00 3 *eP* **P** 13 54 18.6 -0.8
CXM Morne La Croix 43.01 3 *eP* **P** 13 54 18.5 -1.0
PCM Pelee Case Pet 43.01 3 *eP* **P** 13 54 18.6 -0.8
PCM Pelee Case Pet 43.01 3 *eP* **P** 13 54 18.7 -0.7
BAMF Morne Balai 43.02 3 *eP* **P** 13 54 18.9 -0.6
TRIS Tristan da Cun 43.18 115 *eP* **P** 13 54 20.1 -0.4
comp=Z,2µm,1.1s
TRIS *ePcP* **PcP** 13 55 56.2 -0.1
HDC Heredia 43.24 329 *eP* **P** 13 54 23.2 +1.9
comp=Z,2µm,0.8s
HDC Heredia 43.24 329 *eP* **P** 13 54 22.6 +1.2
DSHT Scott's Head 43.40 2 *eP* **P** 13 54 22.4 0.0
CGA2 Cerro Gallo 2 43.41 329 *iP* **P** 13 54 23.4 +0.6
DPMT Pointe Michel 43.45 2 *eP* **P** 13 54 22.8 0.0
DBCT Belle View Cho 43.46 3 *e* **P** 13 54 23.2 +0.3
MDN Morne-Daniel 43.51 2 *eP* **P** 13 54 24.5 +1.3
DLPL La Plaine 43.53 3 *eP* **P** 13 54 22.3 -1.1
BBL Barber's Block 43.71 2 *eP* **P** 13 54 24.1 -0.7
BBL Barber's Block 43.71 2 *e* 13 55 30.9
DWS Wesley 43.76 3 *eP* **P** 13 54 24.4 -0.7
DWS Wesley 43.76 3 *eP* P 13 54 33.4 +8.3
JTS JuntasAbangare 43.88 328 P **P** 13 54 27.3 +1.1
comp=Z,610nm,0.7s,baz=224,slow=2.2,SNR=134
JTS ScP **ScP** 13 58 56.0 +1.2
comp=Z,213nm,0.9s,baz=52,slow=1.7,SNR=8.6
JTS JuntasAbangare 43.88 328 *eP* **P** 13 54 27.3 +1.1
comp=Z,807nm,0.8s
JTS ScP **ScP** 13 58 56.0 +1.2
TBG Guadaloupe-3 44.03 2 *eP* **P** 13 54 27.4 +0.2
VCR Vista de Mar 44.06 327 *eP* **P** 13 54 27.7 0.0
MGG Marie-Galante 44.10 3 *eP* **P** 13 54 27.5 -0.3
GDHS Morne Mazeau, 44.44 2 *eP* **P** 13 54 28.8 -1.6
comp=Z,5µm,1.2s
DEG La Desirade 44.51 3 *eP* **P** 13 54 28.1 -2.9
CRZ1 La Cruz 44.88 328 *eP* **P** 13 54 33.3 -0.5
BPA Boggy Peak 45.21 2 *eP* **P** 13 54 34.2 -2.1
SEUS St. Eustatius 45.64 0 *eP* **P** 13 54 37.3 -2.2
SABA Saba 45.76 360 *eP* **P** 13 54 39.2 -1.3
SABA Saba 45.76 360 *eP* **P** 13 54 38.7 -1.7
comp=Z,5µm,0.8s
ANWB Willy Bob 45.83 2 *eP* **P** 13 54 39.0 -1.9
ANWB Willy Bob 45.83 2 *eP* **P** 13 54 38.4 -2.6
comp=Z,6µm,0.7s
ANWB *ePcP* **PcP** 13 56 06.7 +1.1
ANWB *epP* **pP** 13 56 28.2 +1.6
ANWB LR LR
comp=Z,5µm,22.0s
CDVI St. Croix 45.92 358 *eP* **P** 13 54 39.8 -1.9
comp=Z,3µm,0.8s
MASN Masaya 45.92 328 *eP* **P** 13 54 41.1 -0.7
MGAN Managua 46.11 328 *eP* **P** 13 54 42.7 -0.4
MGAN AMb AMB 13 54 45.0
comp=Z,5µm,0.6s
CELP Cerrillos 46.33 355 *eP* **P** 13 54 43.1 -1.7
SJG San Juan 46.34 356 P **P** 13 54 42.9 -1.9
comp=Z,1µm,0.9s,baz=131,slow=3.8,SNR=181
SJG PP **PP** 13 56 44.8 +2.0
comp=Z,320nm,0.8s,baz=141,slow=6.1,SNR=3.3
SJG S **S** 14 00 46.1 -3.7
comp=Z,61nm,1.0s,baz=184,slow=3.8,SNR=3.2
SJG San Juan 46.34 356 *eP* **P** 13 54 43.1 -1.7
SJG 13 56 44.8
SJG S **S** 14 00 46.1 -3.7
SJG pmax pmax
comp=Z,2µm,1.0s
SJG MLR MLR
comp=Z,5µm,19.0s
SJG San Juan 46.34 356 *eP* **P** 13 54 42.6 -2.2
SJG San Juan 46.34 356 *eP* **P** 13 54 43.1 -1.7
comp=Z,2µm,1.0s
SJG PP **PP** 13 56 44.8 +2.0
SJG S **S** 14 00 46.1 -3.7
SJG LR LR
comp=Z,5µm,19.0s
CBYP Canovanas 46.48 356 *eP* **P** 13 54 43.7 -2.3
comp=Z,2µm,0.7s
STVI Saint Thomas 46.52 358 *eP* **P** 13 54 44.4 -1.8
comp=Z,831nm,0.7s
AGP Aguadilla 46.71 355 *eP* **P** 13 54 45.5 -2.1
comp=Z,3µm,1.2s
IDE Isla Desecheo 46.71 354 *eP* **P** 13 54 45.7 -2.0
ESTN Estel 47.00 328 *eP* **P** 13 54 49.8 -0.1
SDD Santo Domingo 47.05 351 *eP* **P** 13 54 48.5 -1.6
comp=Z,3µm,1.2s
SDDR Presa de Saban 47.77 350 *eP* **P** 13 54 54.7 -0.9
comp=Z,1µm,0.8s
SDDR LR LR
comp=Z,5µm,20.0s
SDDR Presa de Saban 47.77 350 *eP* **P** 13 54 54.9 -0.7
PCJ Portland Cotta 47.85 342 *iP* **P** 13 54 56.1 0.0
HOJ Hope 47.99 342 *i* **P** 13 54 58.4 +1.2
STH Stony Hill 48.07 342 *iP* **P** 13 54 57.7 -0.1
MCJ Malvern 48.17 341 *iP* **P** 13 54 58.8 +0.2
MCJ *jiP* P 13 55 00.6 +2.0
TGUH Tegucigalpa,Un 48.25 328 *eP* **P** 13 54 58.6 -0.6
comp=Z,2µm,1.0s
TGUH Tegucigalpa,Un 48.25 328 *eP* **P** 13 54 58.5 -0.6
MTDJ Mount Denham 48.41 342 *eP* **P** 13 55 00.2 -0.2
comp=Z,3µm,0.8s
MTDJ LR LR
comp=Z,5µm,22.0s
MTDJ Mount Denham 48.41 342 *eP* **P** 13 55 00.3 -0.1
BBJ Bamboo Saint A 48.49 342 *iP* **P** 13 55 00.6 -0.3
SBLS San Blas 49.21 325 *eP* **P** 13 55 06.5 0.0
GTBY Guantanamo Bay 49.43 345 *eP* **P** 13 55 07.3 -0.5
comp=Z,3µm,0.6s
GTBY *ePcP* **PcP** 13 56 19.8 +1.1
GTBY LR LR
comp=Z,5µm,22.0s
GTBY Guantanamo Bay 49.43 345 *eP* **P** 13 55 07.3 -0.5
H10S3 ASCENSION HYDR 49.45 77 P **P** 13 55 08.0 +0.2
baz=251,slow=9.2,SNR=111
H10S2 ASCENSION HYDR 49.46 77 P **P** 13 55 08.2 +0.4
baz=251,slow=9.2,SNR=174
H10S1 ASCENSION HYDR 49.47 77 P **P** 13 55 08.2 +0.3
baz=251,slow=9.2,SNR=307
H10N3 ASCENSION HYDR 50.14 76 P **P** 13 55 13.7 +0.9
baz=237,slow=6.2,SNR=82
H10N1 ASCENSION HYDR 50.16 76 P **P** 13 55 13.7 +0.8
baz=237,slow=6.2,SNR=86
H10N2 ASCENSION HYDR 50.16 76 P **P** 13 55 13.8 +0.9
baz=237,slow=6.2,SNR=101
ASCN Ascension 50.22 76 *eP* **P** 13 55 12.6 -1.1
comp=Z,2µm,0.5s
ASCN *ePcP* **PcP** 13 56 21.3 -0.7
ASCN LR LR
comp=Z,8µm,20.0s
GRTK Grand Turk 50.23 350 *eP* **P** 13 55 13.5 -0.1
comp=Z,3µm,0.9s
GRTK *ePcP* **PcP** 13 56 18.2 -3.5
GRTK LR LR
comp=Z,6µm,22.0s
GRTK Grand Turk 50.23 350 *eP* **P** 13 55 13.4 -0.1
VNA3 Neumayer Olymp 51.86 161 P **P** 13 55 24.9 +0.2
VNA1 Neumayer--Stat 52.03 160 P **P** 13 55 26.7 +0.8
CCIG Comitan 52.55 324 *eP* **P** 13 55 29.4 -1.2
comp=Z,843nm,0.8s
SNAA Sanae 54.05 160 P **P** 13 55 40.3 +0.1
SNAA Sanae 54.05 160 P **P** 13 55 40.1 -0.1
comp=Z,328nm,0.9s,baz=281,slow=7.5,SNR=897
SNAA PcP **PcP** 13 56 36.1 +0.5
comp=Z,262nm,0.9s,baz=259,slow=7.0,SNR=5.6
SNAA pP **pP** 13 57 31.4 +0.1
comp=Z,2µm,1.0s,baz=297,slow=7.9,SNR=24
SNAA ScP **ScP** 13 59 38.1 +0.7
comp=Z,244nm,1.0s,baz=272,slow=4.5,SNR=5.5
SNAA S **S** 14 02 31.8 -0.6
comp=Z,171nm,1.2s,baz=240,slow=24,SNR=18
SNAA P4KPbc 14 32 52.2
comp=Z,1.7nm,0.8s,baz=280,slow=7.6,SNR=6.6
SNAA Sanae 54.05 160 *eP* **P** 13 55 40.1 -0.1
comp=Z,2µm,1.0s
SNAA *ePcP* **PcP** 13 56 36.0 +0.3
SNAA *epP* **pP** 13 57 31.2 -0.1
SNAA *eScP* **ScP** 13 59 38.0 +0.5
SNAA S **S** 14 02 31.8 -0.6
SNAA *e* 14 32 52.2
SHEL Horse Pasture 54.13 90 *eP* **P** 13 55 41.4 -0.3
SHEL *e* 13 56 38.3
SHEL *e**PP **pP** 13 57 32.7 -0.2
SHEL pmax pmax
comp=Z,2µm,0.8s
SHEL MLR MLR
comp=Z,3µm,22.0s
SHEL Horse Pasture 54.13 90 *eP* **P** 13 55 41.4 -0.3
comp=Z,2µm,0.8s
SHEL *ePcP* **PcP** 13 56 38.3 +1.4
SHEL *epP* **pP** 13 57 32.7 -0.2
SHEL *eScP* **ScP** 13 59 39.0 +0.2
SHEL LR LR
comp=Z,3µm,22.0s
TLIG Tlapa 57.13 319 *eP* **P** 13 56 03.3 +0.9
comp=Z,743nm,0.9s
SACV Santiago Islan 57.65 47 *eP* **P** 13 56 04.5 -1.3
comp=Z,371nm,0.8s
SACV *ePcP* **PcP** 13 56 50.2 -0.4
SACV LR LR
comp=Z,2µm,20.0s
NVL N'lazarevskaya 58.51 158 *jiP* **P** 13 56 12.7 +1.9
NVL *e* 13 56 55.4
NVL *e**PP **pP** 13 58 05.9 +1.4
NVL *e**SP **sP** 13 59 09.1 +1.2
NVL *i* S **S** 14 03 31.5 +2.0
NVL *e*SS **SS** 14 07 38.4 +3.2
DWPF Disney Wildern 58.88 341 *eP* **P** 13 56 13.4 -0.3
comp=Z,1µm,0.9s
DWPF *epP* **pP** 13 58 08.2 +0.2
UNM Universidad Na 58.88 320 *eP* **P** 13 56 15.4 +1.1
UNM pmax pmax
comp=Z,1µm,0.9s
UNM Universidad Na 58.88 320 *eP* **P** 13 56 15.4 +1.1
comp=Z,1µm,0.9s
PTCN Pitcairn Islan 59.19 256 *eP* **P** 13 56 15.1 -1.1
comp=Z,1µm,0.6s
PTCN LR LR
comp=Z,5µm,21.0s
MOIG Morelia 60.32 318 *eP* **P** 13 56 25.0 +1.2
comp=Z,1µm,0.8s
BBSR BB Station 60.47 358 *eP* **P** 13 56 24.2 0.0
comp=Z,2µm,1.1s
BBSR LR LR
comp=Z,2µm,21.0s
BBTS Babate 62.18 53 P **P** 13 56 36.3 +0.5
comp=Z,1µm,0.9s,baz=214,slow=1.3,SNR=77
TIGA Tifton 62.63 340 P **P** 13 56 37.8 -0.5
baz=160,SNR=48
TIGA S **S** 14 04 20.1 -1.3
baz=160
TIGA Tifton 62.63 340 *eP* **P** 13 56 38.0 -0.3
comp=Z,1µm,0.7s
TIGA *ePcP* **PcP** 13 57 11.3 +0.9
TIGA *epP* **pP** 13 58 34.2 -0.4
646A Port Sulphur 63.06 334 P **P** 13 56 41.8 +0.7
baz=154
RGRS Roger Stewart 63.10 344 *eP* **P** 13 56 42.0 +0.7
comp=Z,27µm,0.5s
CSU Charleston Sou 63.15 344 *eP* **P** 13 56 42.2 +0.6
645A Chauvin 63.25 333 P **P** 13 56 43.4 +1.1
baz=153
NHSC New Hope 63.29 344 *eP* **P** 13 56 43.3 +0.8
comp=Z,4µm,0.8s
NHSC *epP* **pP** 13 58 38.9 -0.3
NHSC LR LR
comp=Z,6µm,19.0s
BRAL Brewton 63.48 337 *eP* **P** 13 56 43.7 -0.1
comp=Z,3µm,0.7s
BRAL *epP* **pP** 13 58 40.0 -0.6
BRAL LR LR
comp=Z,4µm,21.0s
ZAIG Zacatecas 63.52 319 *eP* **P** 13 56 45.9 +1.3
comp=Z,472nm,0.7s
448A Bay Minette 63.55 336 P **P** 13 56 43.8 -0.4
baz=156,SNR=41
546A Slidell 63.60 334 P **P** 13 56 45.0 +0.4
baz=154
447A Lucedale 63.71 336 P **P** 13 56 45.0 -0.2
baz=155,SNR=32
545A Edgard 63.73 334 P **P** 13 56 45.6 +0.2
baz=153
446A Poplarville 63.97 335 P **P** 13 56 46.9 0.0
baz=154,SNR=44
348A Jackson 64.00 337 P **P** 13 56 46.8 -0.3
baz=156,SNR=67
035Z Hargill 64.05 325 P **P** 13 56 47.7 +0.2
baz=146,SNR=21
544A White Castle 64.06 333 P **P** 13 56 47.8 +0.4
baz=153
347A Saraland 64.22 336 P **P** 13 56 48.2 -0.2
baz=155,SNR=62
445A Amite 64.28 334 P **P** 13 56 49.2 +0.3
baz=154,SNR=30
543A St. Martinvill 64.31 332 P **P** 13 56 50.9 +1.8
baz=152,SNR=19
444A Pine Grove 64.43 334 P **P** 13 56 50.3 +0.5
baz=153,SNR=28
GOGA Godfrey 64.44 341 *eP* **P** 13 56 49.5 -0.3
GOGA *e* 13 57 18.4
GOGA pmax pmax
comp=Z,837nm,1.0s
GOGA MLR MLR
comp=Z,4µm,20.0s
GOGA Godfrey 64.44 341 *eP* **P** 13 56 49.5 -0.3
comp=Z,837nm,1.0s
GOGA *ePcP* **PcP** 13 57 18.4 +0.5
GOGA LR LR
comp=Z,4µm,20.0s
035A Encino 64.46 325 P **P** 13 56 50.8 +0.8
baz=146,SNR=204
936A North Padre Is 64.47 326 P **P** 13 56 50.1 -0.1
baz=147
346A Big Creek Wild 64.54 335 P **P** 13 56 50.2 -0.2
baz=154,SNR=56
248A Dixon Mills 64.56 337 P **P** 13 56 50.4 -0.3
baz=156,SNR=67
542A Morse 64.63 332 P **P** 13 56 53.0 +1.9
baz=151,SNR=14
JSC Jenkinsville 64.67 343 *eP* **P** 13 56 51.7 +0.4
JSC pmax pmax
comp=Z,2µm,0.8s
JSC Jenkinsville 64.67 343 *eP* **P** 13 56 51.7 +0.4
comp=Z,2µm,0.8s
345A Thompson Farm, 64.68 335 P **P** 13 56 51.4 0.0
baz=154,SNR=25
CNNC Cliffs of the 64.83 347 *eP* **P** 13 56 52.2 0.0
comp=Z,1µm,0.8s
CNNC LR LR
comp=Z,3µm,20.0s
247A Quitman 64.83 336 P **P** 13 56 52.2 -0.1
baz=155,SNR=75
541A Lake Charles 64.84 331 P **P** 13 56 54.2 +1.8
baz=151,SNR=18
034A Hebbronville 64.86 325 P **P** 13 56 53.4 +0.8
baz=146,SNR=359
KVTX Kingsville 64.86 326 *eP* **P** 13 56 54.3 +1.7
comp=Z,3µm,0.9s

KVTX LR LR
comp=Z,7µm,20.0s
738A Farr-Stevens R 64.88 329 P **P** 13 56 53.3 +0.6
baz=148
443A Delano Plantat 64.88 333 P **P** 13 56 53.4 +0.8
baz=152,SNR=15
246A Jackson Lee, B 64.98 336 P **P** 13 56 53.2 -0.1
baz=155
344A Westbrook Farm 65.08 334 P **P** 13 56 54.2 +0.3
baz=153,SNR=27
442A Mamou 65.10 332 P **P** 13 56 55.4 +1.4
baz=152,SNR=40
LRAL Lakeview Retre 65.17 338 *e*P **P** 13 56 53.9 -0.6
comp=Z,1µm,0.9s
LRAL *e*PcP **PcP** 13 57 21.2 +0.2
737A Port Lavaca 65.18 328 P **P** 13 56 56.3 +1.7
baz=148,SNR=19
934A Benavides 65.22 326 P **P** 13 56 56.1 +1.3
baz=146,SNR=245
343A Vidalia 65.27 333 P **P** 13 56 55.6 +0.6
baz=152,SNR=18
147A Livingston 65.28 337 P **P** 13 56 54.6 -0.5
baz=156,SNR=68
245A Little AP, Sta 65.28 335 P **P** 13 56 55.2 +0.1
baz=154,SNR=183
638A Rosharon 65.28 329 P **P** 13 56 56.6 +1.4
baz=149,SNR=20
540A Vidor 65.31 331 P **P** 13 56 57.1 +1.8
baz=150,SNR=19
441A DeRidder 65.44 332 P **P** 13 56 57.8 +1.6
baz=151,SNR=43
835A Beeville 65.44 327 P **P** 13 56 57.7 +1.5
baz=147,SNR=96
KMSC Kings Mountain 65.51 344 P **P** 13 56 56.8 +0.3
baz=162,SNR=493
KMSC Kings Mountain 65.51 344 *e*P **P** 13 56 56.7 +0.3
comp=Z,2µm,0.8s
146A Union 65.52 336 P **P** 13 56 56.6 0.0
baz=155,SNR=85
539A Cross D Ranch, 65.55 330 P **P** 13 56 58.4 +1.6
baz=150,SNR=46
244A Avery, Jackson 65.59 334 P **P** 13 56 57.1 +0.1
baz=153,SNR=153
933A Laredo 65.61 325 P **P** 13 56 57.6 +0.4
baz=145,SNR=266
342A Flagon Creek P 65.64 333 P **P** 13 56 58.4 +1.1
baz=152,SNR=310
736A Circle Diamond 65.64 328 P **P** 13 56 58.8 +1.4
baz=147,SNR=113
834A Tilden 65.67 326 P **P** 13 56 58.6 +1.0
baz=146,SNR=390
Z48A Northport 65.67 338 P **P** 13 56 57.0 -0.5
baz=156,SNR=468
VBMS Vicksburg 65.68 335 P **P** 13 56 57.7 +0.1
baz=154,SNR=16
Z47A Carrollton 65.69 337 P **P** 13 56 57.2 -0.4
baz=156,SNR=180
LIC Lamto 65.69 68 *e*P **P** 13 56 55.5 -2.6
comp=Z,2µm,0.5s
637A Eagle Lake 65.70 328 P **P** 13 56 58.8 +1.1
baz=148,SNR=206
243A Waterproof 65.75 334 P **P** 13 56 58.5 +0.5
baz=153,SNR=43
440A Kirbyville 65.77 331 P **P** 13 56 59.2 +1.1
baz=150,SNR=58
145A Houston Renfro 65.81 335 P **P** 13 56 58.6 +0.3
baz=154,SNR=38
735A Kenedy 65.91 327 P **P** 13 56 59.9 +0.8
baz=147,SNR=53
TIC Toumodi 65.94 67 *e*P **P** 13 56 57.5 -2.1
341A Kurthwood 65.94 332 P **P** 13 57 00.2 +0.9
baz=151,SNR=163
Z46A Louisville 65.98 336 P **P** 13 56 59.7 +0.2
baz=155,SNR=89
538A Harpers Horsep 65.98 330 P **P** 13 57 00.8 +1.3
baz=149,SNR=37
KIC Kosan Boka 66.00 68 *e*P **P** 13 56 57.8 -2.2
comp=Z,755nm,0.6s
144A Alexander Plac 66.01 335 P **P** 13 57 00.2 +0.6
baz=154,SNR=13
636A Smothers Creek 66.07 328 P **P** 13 57 01.0 +0.9
baz=148,SNR=226
DBIC Dimbokro 66.08 68 P **P** 13 57 00.5 -0.1
comp=Z,2µm,0.8s,baz=212,slow=7.1,SNR=620
DBIC S **S** 14 05 03.6 +0.1
comp=Z,54nm,0.8s,baz=315,slow=23,SNR=15
DBIC PKPPKP **P'P'df** 14 25 24.0 -3.6
comp=Z,17nm,1.0s,baz=52,slow=2.8,SNR=6.1
DBIC Dimbokro 66.08 68 *e*P **P** 13 57 00.4 -0.1
DBIC S **S** 14 05 03.6 +0.1
DBIC pmax pmax
comp=Z,2µm,0.6s
DBIC Dimbokro 66.08 68 *e*P **P** 13 57 00.4 -0.1
comp=Z,2µm,0.6s
DBIC S **S** 14 05 03.6 +0.1
DBIC P'P' 14 25 24.0
I17CI DIMBOKRO INFRA 66.08 68 P **P** 13 57 00.0 -0.5
baz=232,slow=6.6,SNR=1.0
439A Center Grove, 66.16 330 P **P** 13 57 01.8 +1.2
baz=150,SNR=218
242A Grayson 66.17 333 P **P** 13 57 01.5 +0.8
baz=152,SNR=288
537A Green Hill Far 66.24 329 P **P** 13 57 01.9 +0.8
baz=148,SNR=196
833A Chaparral WMA, 66.25 325 P **P** 13 57 01.8 +0.6
baz=145,SNR=645
Y47A UCPARC, Winfie 66.25 338 P **P** 13 57 00.9 -0.2
baz=156,SNR=575
734A La Parita Cree 66.26 326 P **P** 13 57 01.6 +0.3
baz=146,SNR=114
340A Bronson 66.32 331 P **P** 13 57 02.3 +0.8
baz=151,SNR=81
635A Leesville 66.33 327 P **P** 13 57 01.7 0.0
baz=147,SNR=85
Z45A Winona 66.41 336 P **P** 13 57 02.5 +0.5
baz=155,SNR=38
438A Sam Houston St 66.43 330 P **P** 13 57 03.2 +0.9
baz=149,SNR=82
241A Mo Tay, Goldon 66.45 333 P **P** 13 57 03.5 +1.2
baz=152,SNR=256
143A Socs Landing, 66.45 334 P **P** 13 57 03.0 +0.7
baz=153,SNR=48
832A Faith Ranch, C 66.51 325 P **P** 13 57 03.4 +0.5
baz=145,SNR=479
142A Monroe 66.52 334 P **P** 13 57 03.5 +0.7
baz=152,SNR=125
733A Divot King Ran 66.52 326 P **P** 13 57 02.9 0.0
baz=146,SNR=76
339A Huntington 66.53 331 P **P** 13 57 03.6 +0.8
baz=150,SNR=175
536A Bastrop 66.58 328 P **P** 13 57 03.6 +0.4
baz=148,SNR=180
Y46A Houston 66.58 337 P **P** 13 57 02.5 -0.6
baz=155,SNR=122
Z44A Pea Ridge, Bel 66.59 335 P **P** 13 57 03.1 -0.1
baz=154
634A China Grove, S 66.61 327 P **P** 13 57 03.5 +0.1
baz=146,SNR=32
TKL Tuckaleechee C 66.64 342 *e*P **P** 13 57 02.7 -0.7
TKL pmax pmax
comp=Z,2µm,1.1s
TKL Tuckaleechee C 66.64 342 *e*P **P** 13 57 02.7 -0.7
comp=Z,2µm,1.1s
CPCT Cooper Cave 66.65 341 *e*P **P** 13 57 03.1 -0.4
comp=Z,762nm,0.8s
535A Dale 66.78 328 P **P** 13 57 04.5 +0.1
baz=147,SNR=140
437A Phantom Ranch, 66.79 329 P **P** 13 57 05.2 +0.7
baz=149,SNR=40
Y45A Yeager Farm, C 66.80 336 P **P** 13 57 04.6 +0.1
baz=155,SNR=321
240A Hunter Patters 66.81 332 P **P** 13 57 05.4 +0.9
baz=151,SNR=91
Z43A Armstrong Fami 66.84 335 P **P** 13 57 04.7 0.0
baz=153,SNR=33
SWET Sewanee 66.85 340 *e*P **P** 13 57 04.3 -0.5
comp=Z,543nm,0.7s
338A Crockett 66.88 330 P **P** 13 57 06.3 +1.3
baz=149,SNR=270
NATX Nacogdoches 66.94 331 P **P** 13 57 06.3 +0.9
baz=150,SNR=115
NATX Nacogdoches 66.94 331 *e*P **P** 13 57 06.3 +0.9
comp=Z,2µm,0.8s
NATX *e*PcP **PcP** 13 57 26.9 -1.5
NATX LR LR
comp=Z,4µm,20.0s
141A Papa Simpson, 66.95 333 P **P** 13 57 06.3 +0.8
baz=152,SNR=143

URVA University of 67.01 348 *e*P **P** 13 57 06.2 +0.5
436A Wall Ranch, Ga 67.04 329 P **P** 13 57 06.7 +0.7
baz=148,SNR=196
633A Saathoff Ranch 67.07 326 P **P** 13 57 06.6 +0.3
baz=146,SNR=558
239A Gary 67.08 331 P **P** 13 57 07.0 +0.8
baz=150,SNR=133
337A Centerville 67.09 330 P **P** 13 57 07.5 +1.2
baz=149,SNR=299
Y44A Strider, Charl 67.13 336 P **P** 13 57 06.2 -0.3
baz=154,SNR=16
Z42A Norrel Spur, H 67.16 334 P **P** 13 57 06.6 -0.1
baz=153,SNR=58
JSRW J. Sargeant Re 67.20 347 *e*P **P** 13 57 07.3 +0.5
VWCC Virginia Weste 67.20 345 *e*P **P** 13 57 07.4 +0.5
534A Blanco 67.20 327 P **P** 13 57 06.6 -0.4
baz=146,SNR=34
140A Cam and Jess, 67.25 332 P **P** 13 57 08.2 +0.9
baz=151,SNR=70
X45A UM Field Stati 67.25 337 P **P** 13 57 06.7 -0.5
baz=155,SNR=138
BLA Blacksburg 67.27 345 *e*P **P** 13 57 07.5 +0.1
BLA *e* 13 59 45.5
BLA pmax pmax
comp=Z,4µm,1.5s
BLA MLR MLR
comp=Z,4µm,21.0s
BLA Blacksburg 67.27 345 *e*P **P** 13 57 07.5 +0.1
comp=Z,4µm,1.5s
BLA *e*PP **PP** 13 59 45.5 -1.2
BLA LR LR
comp=Z,4µm,21.0s
OXF Oxford 67.34 337 *e*P **P** 13 57 07.0 -0.7
OXF pmax pmax
comp=Z,3µm,1.3s
OXF Oxford 67.34 337 *e*P **P** 13 57 07.0 -0.7
comp=Z,3µm,1.3s
Y43A Makayla and Ka 67.35 335 P **P** 13 57 08.1 +0.3
baz=154,SNR=36
238A Jacksonville 67.35 331 P **P** 13 57 08.7 +0.8
baz=150,SNR=75
TZTN Tazewell 67.41 342 *e*P **P** 13 57 07.6 -0.6
comp=Z,2µm,1.4s
435B Jarrell 67.41 328 P **P** 13 57 08.8 +0.4
baz=147,SNR=131
Z41A Richland Creek 67.48 333 P **P** 13 57 09.1 +0.4
baz=152,SNR=125
533A Kerrville 67.51 327 P **P** 13 57 09.3 +0.3
baz=146,SNR=380
336A Riesel 67.58 329 P **P** 13 57 09.7 +0.4
baz=148,SNR=253
X44A Crenshaw 67.59 336 P **P** 13 57 08.9 -0.4
baz=154,SNR=26
CBN Corbin Frederi 67.60 348 *e*P **P** 13 57 10.0 +0.7
comp=Z,2µm,1.1s
CBN *e*pP **pP** 13 59 05.5 -2.6
CBN LR LR
comp=Z,5µm,21.0s
Y42A Garnett, Star 67.60 334 P **P** 13 57 09.7 +0.4
baz=153,SNR=54
139A Bunkhouse Ranc 67.62 332 P **P** 13 57 10.4 +0.9
baz=150
237A Washetta, Mont 67.64 330 P **P** 13 57 10.5 +0.8
baz=149,SNR=68
CCAR Cane Creek 67.67 334 *e*P **P** 13 57 10.3 +0.5
comp=Z,2µm,0.8s
Z40A Long Farm, Mag 67.72 333 P **P** 13 57 11.1 +1.0
baz=151,SNR=349
434A Burnet 67.76 328 P **P** 13 57 10.5 0.0
baz=147,SNR=525
335A Moody 67.76 329 P **P** 13 57 10.8 +0.3
baz=148,SNR=443
W45A Hickory Valley 67.84 337 P **P** 13 57 10.5 -0.3
baz=155,SNR=225
X43A Marvell 67.87 335 P **P** 13 57 11.6 +0.6
baz=154,SNR=42
138A Matatall Enter 67.90 331 P **P** 13 57 12.3 +1.0
baz=150,SNR=248
Y41A Eaglette Beard 67.96 334 P **P** 13 57 12.2 +0.6
baz=152,SNR=131
236A Katherine and 67.96 330 P **P** 13 57 12.0 +0.4
baz=148,SNR=214
Z39A Irene McRaven, 68.03 332 P **P** 13 57 12.8 +0.8
baz=151,SNR=107
W44A Shelby Farms P 68.05 337 P **P** 13 57 11.9 -0.2
baz=155,SNR=15
MET Memphis--Engin 68.07 337 *e*P **P** 13 57 12.4 +0.2
comp=Z,4µm,0.8s
433A Art 68.10 327 P **P** 13 57 12.7 +0.2
baz=146,SNR=1000
137A Heron Place, G 68.13 331 P **P** 13 57 13.5 +0.9
baz=149,SNR=293
334A Lometa 68.18 328 P **P** 13 57 13.1 +0.1
baz=147,SNR=1000
X42A Stuttgart 68.18 335 P **P** 13 57 13.0 +0.2
baz=153,SNR=113
SYO Syowa Base 68.18 158 *i*P **P** 13 57 11.2 -1.2
JCT Junction City 68.22 326 P **P** 13 57 13.4 +0.1
baz=146,SNR=431
JCT Junction City 68.22 326 *e*P **P** 13 57 13.4 +0.1
JCT *e* 13 57 34.5
JCT pmax pmax
comp=Z,1µm,0.8s
JCT MLR MLR
comp=Z,4µm,20.0s
JCT Junction City 68.22 326 *e*P **P** 13 57 13.4 +0.1
comp=Z,1µm,0.8s
JCT *e*PcP **PcP** 13 57 34.5 +0.6
JCT LR LR
comp=Z,4µm,20.0s
WVT Waverly 68.28 339 *e*P **P** 13 57 12.5 -1.0
WVT pmax pmax
comp=Z,1µm,0.7s
WVT Waverly 68.28 339 *e*P **P** 13 57 12.5 -1.0
comp=Z,1µm,0.7s
V45A Humboldt 68.30 338 P **P** 13 57 13.1 -0.4
baz=156,SNR=254
W43A Forest City 68.32 336 P **P** 13 57 13.4 -0.3
baz=154,SNR=65
Y40A Okolona 68.33 333 P **P** 13 57 14.2 +0.4
baz=152
136A Ennis 68.36 330 P **P** 13 57 14.3 +0.2
baz=149,SNR=81
Z38A Mt. Pleasant 68.36 332 P **P** 13 57 14.7 +0.7
baz=150,SNR=111
WHTX Lake Whitney, 68.37 329 P **P** 13 57 14.1 0.0
baz=148,SNR=276
WHTX Lake Whitney, 68.37 329 *e*P **P** 13 57 14.2 0.0
comp=Z,3µm,1.4s
X41A Kaden, Bauxite 68.46 334 P **P** 13 57 14.4 -0.2
baz=152,SNR=35
HPIG 68.52 320 *e*P **P** 13 57 15.6 +0.3
comp=Z,778nm,0.7s
333A Richland Sprin 68.52 327 P **P** 13 57 15.0 -0.1
baz=146,SNR=880
X40A Basin Creek Fa 68.58 334 P **P** 13 57 15.0 -0.2
baz=152,SNR=148
HALT Halls 68.58 337 *e*P **P** 13 57 15.0 -0.2
Z37A Pogue Cattle C 68.59 331 P **P** 13 57 15.9 +0.5
baz=150,SNR=62
Y39A Lockesburg 68.59 333 P **P** 13 57 15.7 +0.3
baz=151,SNR=329
UALR University of 68.64 334 *e*P **P** 13 57 15.3 -0.3
comp=Z,1µm,0.6s
SDMD Soldier's Deli 68.67 349 *e*P **P** 13 57 16.6 +0.9
comp=Z,700nm,1.0s
234A Clairette 68.69 328 P **P** 13 57 16.1 0.0
baz=147,SNR=305
V44A Blytheville 68.70 337 P **P** 13 57 16.0 +0.1
baz=155,SNR=51
HBAR Harrisburg 68.72 336 *e*P **P** 13 57 16.3 +0.2
W42A Bald Knob 68.78 335 P **P** 13 57 16.3 -0.2
baz=153,SNR=72
U45A Rockin P Farm, 68.79 338 P **P** 13 57 15.8 -0.7
baz=156,SNR=70
UTMT University of 68.81 338 *e*P **P** 13 57 16.4 -0.3
comp=Z,3µm,1.1s
135A Vickery Place, 68.83 329 P **P** 13 57 16.9 0.0
baz=148,SNR=210
Y38A Idabel 68.85 332 P **P** 13 57 17.1 +0.2
baz=150,SNR=30
GNAR Gosnell 68.86 337 *e*P **P** 13 57 17.3 +0.4
V43A Jonesboro 68.89 336 P **P** 13 57 17.1 +0.1
baz=154,SNR=92
GLAT Glass 68.89 338 *e*P **P** 13 57 17.1 0.0
MIAR Mount Ida 68.92 333 P **P** 13 57 17.2 -0.1
baz=151,SNR=503

MIAR Mount Ida 68.92 333 *e*P **P** 13 57 17.3 -0.1
MIAR pmax pmax
comp=Z,2µm,1.4s
MIAR MLR MLR
comp=Z,4µm,22.0s
MIAR Mount Ida 68.92 333 *e*P **P** 13 57 17.2 -0.1
comp=Z,2µm,1.4s
MIAR LR LR
comp=Z,4µm,22.0s
PSUB Penn St. - Bra 68.95 350 *e*P **P** 13 57 18.0 +0.7
comp=Z,531nm,0.9s
W41B Gary Mavity, V 68.96 335 P **P** 13 57 17.4 -0.2
baz=153,SNR=464
U44B Burton Farm, H 68.97 338 P **P** 13 57 17.3 -0.3
baz=155,SNR=212
Z36A Blue Ridge 69.00 330 P **P** 13 57 18.1 +0.3
baz=149,SNR=251
233A Rising Star 69.06 328 P **P** 13 57 18.2 -0.1
baz=147,SNR=419
X301 Greenbrier Sit 69.08 335 *e*P **P** 13 57 18.1 -0.1
comp=Z,4µm,1.5s
WHAR Wooly Hollow 69.08 335 *e*P **P** 13 57 18.0 -0.3
comp=Z,1µm,1.1s
X39A Fountain Ranch 69.10 333 P **P** 13 57 19.0 +0.6
baz=151,SNR=1000
134A White-Moore Ra 69.14 329 P **P** 13 57 18.7 0.0
baz=147,SNR=508
PVMO Portageville 69.16 337 *e*P **P** 13 57 19.0 +0.3
comp=Z,11µm,1.1s
MVL Millersville 69.17 349 *e*P **P** 13 57 19.5 +0.8
comp=Z,555nm,0.9s
V42A Cord 69.21 336 P **P** 13 57 18.4 -0.6
baz=154,SNR=633
U44A Portageville 69.24 337 P **P** 13 57 19.2 0.0
baz=155,SNR=31
Y37A Hugo 69.26 331 P **P** 13 57 20.2 +0.8
baz=150,SNR=251
TXAR Lajitas Array 69.28 323 P **P** 13 57 19.7 0.0
comp=Z,187nm,0.6s,baz=150,slow=7.1,SNR=1208
TXAR S **S** 14 05 40.2 +0.1
comp=Z,7.0nm,1.1s,baz=63,slow=32,SNR=3.1
TXAR PKPPKP **P'P'df** 14 25 23.1 +2.9
comp=Z,19nm,1.1s,baz=163,slow=0.4,SNR=14
TXAR P4KPbc 14 34 02.2
comp=Z,1.9nm,0.7s,baz=151,slow=6.2,SNR=16
TXAR Lajitas Array 69.28 323 P **P** 13 57 19.7 0.0
TXAR S **S** 14 05 40.3 +0.1
TXAR pmax pmax
comp=Z,190nm,0.5s
TXAR smax smax
comp=N,7.0nm,1.1s
TX31 Lajitas Ar. Si 69.28 323 *e*P **P** 13 57 19.8 +0.1
W40A Ferguson Farm, 69.29 334 P **P** 13 57 20.0 +0.5
baz=152,SNR=426
U43A Rector 69.36 337 P **P** 13 57 19.7 -0.2
baz=154,SNR=132
PARMO Parma 69.40 337 *e*P **P** 13 57 20.0 -0.2
Z35A Perchaven, San 69.41 330 P **P** 13 57 20.6 +0.3
baz=148,SNR=166
V41A Mountainview 69.47 335 P **P** 13 57 20.5 -0.2
baz=153,SNR=1000
Y36A Durant 69.47 331 P **P** 13 57 20.7 +0.1
baz=149,SNR=162
MCWV Mont Chateau 69.49 346 *e*P **P** 13 57 21.4 +0.7
comp=N,818nm,0.9s
X38A Whitesboro 69.53 332 P **P** 13 57 21.4 +0.4
baz=150,SNR=646
133A Hamilton Ranch 69.56 328 P **P** 13 57 21.2 0.0
baz=147,SNR=598
BRNJ Basking Ridge 69.56 351 *e*P **P** 13 57 21.8 +0.8
comp=N,748nm,0.7s
W39A Magazine 69.57 334 P **P** 13 57 21.7 +0.5
baz=151,SNR=973
CPNY Central Park 69.58 351 *e*P **P** 13 57 21.4 +0.3
comp=N,724nm,1.2s
LUPA Lehigh Univers 69.60 350 *e*P **P** 13 57 18.2 -3.0
comp=N,2µm,1.5s
U42A Revenden 69.64 336 P **P** 13 57 21.1 -0.5
baz=154,SNR=413
X37A Clayton 69.68 332 P **P** 13 57 22.1 +0.2
baz=150,SNR=614
T44A Benton 69.73 338 P **P** 13 57 21.0 -1.1
baz=155,SNR=62
V40A Witts Springs 69.74 335 P **P** 13 57 21.9 -0.3
baz=152,SNR=586
PBMO Poplar Bluff 69.74 337 *e*P **P** 13 57 21.6 -0.5
comp=N,1µm,0.7s
Z34A Collier Ranch, 69.74 329 P **P** 13 57 22.3 0.0
baz=148,SNR=222
WCI Wyandotte Cave 69.75 341 *e*P **P** 13 57 21.2 -1.1
WCI *e* 13 57 40.6
WCI pmax pmax
comp=Z,998nm,0.8s
WCI Wyandotte Cave 69.75 341 *e*P **P** 13 57 21.2 -1.1
comp=Z,998nm,0.8s
WCI *e*PcP **PcP** 13 57 40.6 +0.4
W38A Poteau 69.75 333 P **P** 13 57 23.0 +0.7
baz=151,SNR=853
PAL Palisades 69.79 351 *e*P **P** 13 57 22.7 +0.4
PAL pmax pmax
comp=Z,803nm,1.3s
PAL Palisades 69.79 351 *e*P **P** 13 57 22.7 +0.4
comp=Z,803nm,1.3s
Y35A Marietta 69.80 330 P **P** 13 57 22.8 +0.2
baz=148,SNR=258
O56A Blue Knob Stat 69.82 347 P **P** 13 57 23.5 +0.8
baz=166,SNR=278
U41A Viola 69.88 336 P **P** 13 57 22.7 -0.3
baz=153,SNR=797
ABTX Abilene, Hawle 69.91 328 P **P** 13 57 23.2 -0.1
baz=146,SNR=187
ABTX Abilene, Hawle 69.91 328 *e*P **P** 13 57 23.1 -0.2
comp=Z,1µm,1.1s
ABTX *e*PcP **PcP** 13 57 42.2 +1.2
USIN University of 69.92 340 *e*P **P** 13 57 22.0 -1.1
comp=Z,869nm,0.8s
S45A Carrier Mills 69.94 339 P **P** 13 57 22.3 -1.0
baz=156,SNR=206
ODNJ Ogdensburg 69.96 351 *e*P **P** 13 57 24.1 +0.8
comp=Z,725nm,1.1s
T43A Greenville 69.97 337 P **P** 13 57 22.6 -0.9
baz=155,SNR=424
N59A State Game Lan 69.97 350 P **P** 13 57 24.5 +1.0
baz=168
YLE Yale 69.97 352 *e*P **P** 13 57 24.7 +1.3
comp=Z,839nm,0.9s
SBA Scott Base 69.98 190 *e*P **P** 13 57 24.2 +1.2
SBA *e* 13 57 40.5
SBA *e**PP **pP** 13 59 20.3 -2.6
SBA pmax pmax
comp=Z,324nm,1.0s
SBA MLR MLR
comp=Z,2µm,19.0s
SBA Scott Base 69.98 190 *e*P **P** 13 57 24.2 +1.2
comp=Z,324nm,1.0s
SBA *e*PcP **PcP** 13 57 40.5 -0.1
SBA *e*pP **pP** 13 59 20.3 -2.6
SBA LR LR
comp=Z,2µm,19.0s
SSPA Standing Stone 70.05 348 *e*P **P** 13 57 24.5 +0.6
comp=Z,2µm,1.3s
SSPA *e*PcP **PcP** 13 57 41.9 +0.6
SSPA *e*pP **pP** 13 59 20.9 -3.1
SSPA *e*PP **PP** 14 00 08.8 -1.4
SSPA *e*S **S** 14 05 46.8 -1.5
Z33A Whitaker Ranch 70.05 329 P **P** 13 57 24.3 +0.2
baz=147,SNR=796
X36A Centrahoma 70.08 331 P **P** 13 57 23.8 -0.5
baz=149,SNR=872
V39A Pettigrew 70.08 334 P **P** 13 57 24.4 +0.1
baz=152,SNR=1000
Y34A Reagan Ranch, 70.16 330 P **P** 13 57 24.7 -0.1
baz=148,SNR=546
S44A Carbondale 70.17 338 P **P** 13 57 23.7 -1.0
baz=156,SNR=402
W37B Quinton 70.18 332 P **P** 13 57 25.0 +0.1
baz=150,SNR=1000
T42A Van Buren 70.20 336 P **P** 13 57 23.8 -1.1
baz=154
X35A Drake 70.20 331 P **P** 13 57 24.4 -0.5
baz=149,SNR=522
U40A Yellville 70.23 335 P **P** 13 57 24.7 -0.4
baz=152,SNR=636
S43A Fulton Ridge, 70.33 338 P **P** 13 57 24.5 -1.2
baz=155,SNR=390
V38A Canehill 70.40 333 P **P** 13 57 26.0 -0.1
baz=151,SNR=1000

BRYW Bryant College 70.41 353 *e*P P 13 57 26.8 +0.8
comp=Z,1µm,0.8s
T41A Mountain View 70.45 336 P P 13 57 25.8 -0.6
baz=153,SNR=524
U39A Green Forest 70.50 334 P P 13 57 26.4 -0.3
baz=152,SNR=877
W36A Wetumka 70.51 332 P P 13 57 26.4 -0.4
baz=149,SNR=849
HHAR Hobbs 70.58 334 *e*P P 13 57 26.9 -0.3
comp=Z,2µm,1.1s
Y33A Hilltop Ranch, 70.59 329 P P 13 57 27.2 -0.1
baz=147,SNR=231
R44A Waltonville 70.62 339 P P 13 57 26.1 -1.2
baz=156,SNR=123
SUR Sutherland 70.68 117 P P 13 57 29.4 +1.2
comp=Z,62nm,0.7s,baz=239,slow=6.5,SNR=255
SUR S S 14 05 59.1 +2.7
comp=Z,2.4nm,1.1s,baz=145,slow=23,SNR=7.5
SUR PKPPKP P'P'df 14 25 17.9 -3.3
comp=Z,3.6nm,1.2s,baz=102,slow=17,SNR=3.6
SUR Sutherland 70.68 117 *e*P P 13 57 29.4 +1.2
comp=Z,799nm,0.6s
SUR S S 14 05 59.1 +2.7
SUR P'P' 14 25 17.9
SUR LR LR
comp=Z,8µm,19.0s
SUR Sutherland 70.68 117 P P 13 57 29.4 +1.2
SNR=16
SUR Sutherland 70.68 117 P P 13 57 29.4 +1.2
SNR=16
BLO Bloomington 70.69 341 *e*P P 13 57 27.1 -0.6
BLO pmax pmax
comp=Z,2µm,0.6s
BLO Bloomington 70.69 341 *e*P P 13 57 27.1 -0.6
comp=Z,2µm,0.6s
V37A Hulbert 70.71 333 P P 13 57 27.9 -0.1
baz=150,SNR=1000
X34A Smith Ranch, M 70.74 330 P P 13 57 28.3 +0.1
baz=148,SNR=466
ACSO Alum Creek Sta 70.75 344 *e*P P 13 57 27.6 -0.4
comp=Z,1µm,0.8s
ACSO LR LR
comp=Z,3µm,20.0s
OLIL Olney 70.76 340 *e*P P 13 57 26.9 -1.2
comp=Z,1µm,0.9s
S42A Caledonia 70.76 337 P P 13 57 27.0 -1.2
baz=154,SNR=596
N54A Moraine State 70.77 347 P P 13 57 28.9 +0.7
baz=164,SNR=527
BCX Boston College 70.79 354 *e*P P 13 57 29.1 +1.0
comp=Z,3µm,1.6s
W35A Tecumseh 70.80 331 P P 13 57 27.8 -0.7
baz=149,SNR=241
T40A Mansfield 70.81 335 P P 13 57 28.1 -0.4
baz=153,SNR=404
WES Weston 70.85 354 *e*P P 13 57 29.6 +1.0
WES pmax pmax
comp=Z,1µm,1.4s
WES Weston 70.85 354 *e*P P 13 57 29.6 +1.0
comp=Z,1µm,1.4s
QUA2 Belchertown 70.85 353 *e*P P 13 57 25.6 -3.0
comp=Z,1µm,1.4s
U38A Gravette 70.89 334 P P 13 57 28.7 -0.3
baz=151,SNR=357
R43A Red Bud 70.92 338 P P 13 57 28.0 -1.1
baz=155,SNR=156
S41A Jillco Farms, 70.93 336 P P 13 57 28.7 -0.4
baz=154,SNR=1000
VNDA Vanda 70.94 189 P P 13 57 29.9 +1.2
comp=Z,362nm,1.0s,baz=135,slow=5.3,SNR=867
VNDA S S 14 06 00.9 +3.4
comp=Z,17nm,1.1s,baz=282,slow=20,SNR=9.8
VNDA Vanda 70.94 189 *e*P P 13 57 30.0 +1.2
VNDA S S 14 06 00.9 +3.4
VNDA pmax pmax
comp=Z,608nm,1.1s
VNDA Vanda 70.94 189 *e*P P 13 57 29.9 +1.2
comp=Z,608nm,1.1s
VNDA S S 14 06 00.9 +3.4
V36A Jenks 70.95 332 P P 13 57 29.3 0.0
baz=150,SNR=452
X33A Lawton 70.98 330 P P 13 57 29.3 -0.3
baz=147,SNR=61
HRV Adam Dziewonsk 70.99 353 *e*P P 13 57 29.4 0.0
HRV *e**PP pP 13 59 32.5 +2.5
HRV pmax pmax
comp=Z,1µm,1.3s
HRV Adam Dziewonsk 70.99 353 *e*P P 13 57 29.4 0.0
comp=Z,1µm,1.3s
HRV *e*pP pP 13 59 32.5 +2.5
TUL1 Leonard 71.00 332 P P 13 57 29.6 0.0
baz=150
TUL1 Leonard 71.00 332 *e*P P 13 57 29.6 0.0
comp=Z,1µm,0.6s
T39A Clever 71.02 335 P P 13 57 29.5 -0.2
baz=152,SNR=426
U37A Salina 71.15 333 P P 13 57 30.6 +0.1
baz=150,SNR=1000
Q44A Meyer Farm, Va 71.20 339 P P 13 57 29.3 -1.4
baz=156,SNR=202
S40A Lebanon 71.21 336 P P 13 57 30.6 -0.2
baz=153,SNR=906
R42A Luebbering 71.22 337 P P 13 57 30.2 -0.6
baz=154,SNR=557
M54A Oil Creek Stat 71.23 347 P P 13 57 31.1 +0.2
baz=165,SNR=507
X32A Elmer 71.24 329 P P 13 57 31.0 0.0
baz=147,SNR=293
W34A Bridge Creek, 71.25 331 P P 13 57 31.0 -0.2
baz=148,SNR=136
W34A Bridge Creek, 71.25 331 *e*P P 13 57 31.0 -0.2
comp=Z,1µm,0.6s
BINY Binghamton 71.25 350 *e*P P 13 57 31.6 +0.6
comp=Z,2µm,1.3s
BINY *e*PcP PcP 13 57 46.7 +0.2
BINY *e*pP pP 13 59 29.3 -2.4
BINY LR LR
comp=Z,4µm,19.0s
WMOK Wichita Mounta 71.28 330 P P 13 57 30.7 -0.7
baz=147,SNR=750
WMOK Wichita Mounta 71.28 330 *e*P P 13 57 30.6 -0.7
WMOK pmax pmax
comp=Z,493nm,0.8s
WMOK MLR MLR
comp=Z,2µm,21.0s
WMOK Wichita Mounta 71.28 330 *e*P P 13 57 30.6 -0.7
comp=Z,493nm,0.8s
WMOK LR LR
comp=Z,2µm,21.0s
V35A Meyer Ranch, C 71.30 332 P P 13 57 31.3 -0.1
baz=149,SNR=485
SLM Saint Louis 71.35 338 *e*P P 13 57 30.6 -1.0
SLM pmax pmax
comp=Z,2µm,1.4s
SLM Saint Louis 71.35 338 *e*P P 13 57 30.6 -1.0
comp=Z,2µm,1.4s
T38A Diamond 71.38 334 P P 13 57 31.8 0.0
baz=151,SNR=822
U36A Oologah 71.39 333 P P 13 57 31.7 -0.1
baz=150,SNR=178
R41A Rosebud 71.43 337 P P 13 57 31.4 -0.7
baz=154,SNR=519
Q43A New Douglas 71.45 338 P P 13 57 31.4 -0.8
baz=155,SNR=239
TRY Troy 71.45 352 *e*P P 13 57 33.2 +1.2
comp=Z,4µm,1.3s
ALLY Alegheny Colle 71.47 347 *e*P P 13 57 32.6 +0.4
comp=Z,2µm,1.0s
W33A Caddo, Fort Co 71.48 330 P P 13 57 33.3 +0.8
baz=148,SNR=624
P44A Sand Creek, Wi 71.59 339 P P 13 57 31.9 -1.1
baz=156,SNR=239
S39A Bolivar 71.59 335 P P 13 57 32.8 -0.2
baz=152,SNR=910
V34A Guthrie 71.65 331 P P 13 57 33.2 -0.2
baz=148,SNR=162
V34A Guthrie 71.65 331 *e*P P 13 57 33.3 -0.1
comp=Z,4µm,1.4s
Q42A Golden Eagle 71.70 338 P P 13 57 32.8 -0.8
baz=155,SNR=307
T37A Cheneyville 18 71.70 334 P P 13 57 33.6 -0.1
baz=151,SNR=1000
R40A Maddies Statio 71.74 336 P P 13 57 33.2 -0.7
baz=153,SNR=590
S38A Stockton 71.75 335 P P 13 57 33.7 -0.3
baz=152,SNR=1000
U35A Pawnee 71.78 332 P P 13 57 34.4 +0.2
baz=149,SNR=215
W32A Sentinel 71.81 329 P P 13 57 34.5 +0.1
baz=147,SNR=582
ERPA Erie 71.88 347 *e*P P 13 57 35.1 +0.4
comp=Z,3µm,0.6s
Q41A Truxton 71.97 337 P P 13 57 34.4 -0.8
baz=154,SNR=328
SFIN Lafayette 71.97 341 P P 13 57 34.0 -1.1
baz=155,SNR=422
SFIN Lafayette 71.97 341 *e*P P 13 57 34.1 -1.1
comp=Z,2µm,0.6s
T36A Boggs Farm, Ca 72.02 333 P P 13 57 35.5 -0.1
baz=150,SNR=547
P43A Skaggs, Pawnee 72.03 339 P P 13 57 34.7 -0.8
baz=156,SNR=257
R39A Chumby, Stover 72.03 336 P P 13 57 35.3 -0.3
baz=152,SNR=108
MNTX Cornudas Mount 72.04 323 P P 13 57 35.0 -0.8
baz=142,SNR=1000
MNTX Cornudas Mount 72.04 323 *e*P P 13 57 34.9 -1.0
comp=Z,494nm,0.7s
MNTX *e*PcP PcP 13 57 50.9 +0.7
MNTX LR LR
comp=Z,2µm,20.0s
ACCN Adirondack Com 72.10 352 *e*P P 13 57 36.6 +0.8
comp=Z,2µm,1.8s
T35A Sooner Cattle 72.16 332 P P 13 57 36.5 +0.1
baz=149,SNR=397
S37A Fort Scott 72.22 334 P P 13 57 36.4 -0.3
baz=151,SNR=479
R38A Fenwick Farm, 72.24 335 P P 13 57 36.3 -0.5
baz=152,SNR=204
P42A Winchester 72.24 338 P P 13 57 35.8 -0.9
baz=155,SNR=83
Q40A Laux Farm, Aux 72.30 337 P P 13 57 36.5 -0.6
baz=153,SNR=288
BUF Buffalo 72.45 348 *e*P P 13 57 38.5 +0.6
S36A Lake Cedric, C 72.48 333 P P 13 57 38.0 -0.1
baz=150,SNR=169
MSTX Muleshoe 72.51 326 P P 13 57 38.5 -0.1
baz=144,SNR=1000
MSTX Muleshoe 72.51 326 *e*P P 13 57 38.5 -0.1
comp=Z,3µm,1.2s
MSTX *e*pP pP 13 59 38.6 -1.2
T34A McClaskey Farm 72.52 332 P P 13 57 38.7 +0.3
baz=149,SNR=656
O43A Sugar Creek Fa 72.55 339 P P 13 57 37.7 -0.8
baz=156,SNR=330
P41A Barry, Barry 72.56 338 P P 13 57 37.7 -0.9
baz=154,SNR=285
MDV Middlebury 72.65 352 *e*P P 13 57 39.6 +0.7
Q39A Willow Grove F 72.66 336 P P 13 57 38.7 -0.5
baz=153
R37A Teagarden Farm 72.70 334 P P 13 57 38.8 -0.6
baz=151,SNR=182
O42A Bath 72.71 339 P P 13 57 38.7 -0.8
baz=155,SNR=65
SRIG Santa Rosalia 72.72 315 *e*P P 13 57 40.4 +0.6
comp=Z,874nm,1.0s
AMTX Amarillo 72.73 328 P P 13 57 39.8 0.0
baz=145
AMTX Amarillo 72.73 328 *e*P P 13 57 39.7 0.0
comp=Z,784nm,0.8s
AMTX *e*PcP PcP 13 57 52.2 -0.9
S35A Otter Creek Ra 72.74 333 P P 13 57 39.6 0.0
baz=150,SNR=466
NCB Newcomb 72.75 352 *e*P P 13 57 40.3 +0.7
comp=Z,11nm,0.8s
LBNH Lisbon 72.75 353 *e*P P 13 57 40.4 +0.9
LBNH pmax pmax
comp=Z,1µm,0.6s
LBNH Lisbon 72.75 353 *e*P P 13 57 40.4 +0.9
comp=Z,1µm,0.6s
U32A Winter Ranch, 72.75 330 P P 13 57 40.1 +0.3
baz=147,SNR=99
P40A Paris 72.77 337 P P 13 57 39.2 -0.6
baz=154,SNR=458
HDIL Hopedale 72.79 339 P P 13 57 39.3 -0.6
baz=156,SNR=308
HDIL Hopedale 72.79 339 *e*P P 13 57 39.2 -0.7
comp=Z,2µm,0.6s
HDIL LR LR
comp=Z,4µm,21.0s
Q38A Cooks Store, C 72.82 336 P P 13 57 39.6 -0.5
baz=152,SNR=340
AAM Ann Arbor 72.87 344 *e*P P 13 57 39.9 -0.3
AAM *e* 13 57 53.5
AAM pmax pmax
comp=Z,3µm,1.7s
AAM MLR MLR
comp=Z,4µm,19.0s
AAM Ann Arbor 72.87 344 *e*P P 13 57 39.9 -0.3
comp=Z,3µm,1.7s
AAM *e*PcP PcP 13 57 53.5 +0.2
AAM LR LR
comp=Z,4µm,19.0s
WVL Waterville 72.87 355 *e*P P 13 57 41.2 +1.0
comp=Z,1µm,0.9s
EMMW East Machias 72.88 357 *e*P P 13 57 41.5 +1.3
comp=Z,1µm,0.8s
O41A Passleys Farm, 72.90 338 P P 13 57 39.5 -1.0
baz=155,SNR=130
R36A Gordon, Harris 72.97 334 P P 13 57 40.5 -0.5
baz=150,SNR=301
P39B Salisbury 72.97 336 P P 13 57 40.4 -0.5
baz=153,SNR=45
Q37A Longview Farm, 73.05 335 P P 13 57 40.9 -0.5
baz=151,SNR=201
S34A Willow Spring 73.07 332 P P 13 57 41.5 -0.1
baz=149,SNR=260
HSIG 73.16 317 *e*P P 13 57 42.7 +0.4
comp=Z,917nm,0.8s
TSUM Tsumeb 73.20 103 P P 13 57 43.4 +0.4
comp=Z,422nm,0.8s,baz=234,slow=6.3,SNR=312
TSUM pP pP 13 59 44.8 +0.3
comp=Z,156nm,0.9s,baz=268,slow=5.6,SNR=5.2
TSUM PKPPKP P'P'df 14 25 09.1 -7.8
comp=Z,7.9nm,1.0s,baz=319,slow=2.0,SNR=4.1
TSUM Tsumeb 73.20 103 *e*P P 13 57 43.2 +0.2
TSUM pP pP 13 59 44.8 +0.3
TSUM P'P' 14 25 09.1
TSUM LR LR
comp=Z,4µm,20.0s
O40A La Belle 73.24 337 P P 13 57 41.7 -0.7
baz=154,SNR=343
R35A Emporia Munici 73.24 333 P P 13 57 42.6 +0.1
baz=150,SNR=294
GGN Saint George 73.26 357 *e*P P 13 57 43.3 +0.9
comp=Z,932nm,1.0s
N42A Yates City 73.27 339 P P 13 57 41.9 -0.7
baz=155,SNR=266
P38A Dawn 73.37 336 P P 13 57 42.7 -0.6
baz=152,SNR=520
N41A Harden Midland 73.43 338 P P 13 57 42.6 -0.9
baz=155,SNR=79
LONY Lake Ozonia 73.43 351 *e*P P 13 57 44.1 +0.6
comp=Z,2µm,1.0s
LONY *e*PcP PcP 13 57 55.2 -0.5
LONY LR LR
comp=Z,5µm,21.0s
Q36A Arnold C. Orve 73.51 334 P P 13 57 43.2 -0.8
baz=151,SNR=55
FRNY Flat Rock 73.52 352 *e*P P 13 57 44.6 +0.7
comp=Z,1µm,0.6s
PKME Peaks-Kenny Pk 73.54 355 *e*P P 13 57 44.9 +0.9
comp=Z,3µm,1.4s
PKME *e*pP pP 13 59 46.2 +0.4
PKME LR LR
comp=Z,4µm,20.0s
O39A Kirksville 73.58 337 P P 13 57 43.8 -0.6
baz=153,SNR=33
P37A Lathrop 73.64 335 P P 13 57 43.8 -0.9
baz=152,SNR=208
Q35A Mercer Eighty, 73.64 334 P P 13 57 44.2 -0.6
baz=150,SNR=178
R34A Isabella, Hill 73.64 333 P P 13 57 44.9 +0.1
baz=149,SNR=450
M42A Sheffield 73.75 339 P P 13 57 44.6 -0.8
baz=156,SNR=45
O38A Galt 73.79 336 P P 13 57 45.0 -0.6
baz=152,SNR=224
N40A Mertquake, Sal 73.82 338 P P 13 57 45.0 -0.7
baz=154,SNR=478
LMN Caledonia Moun 73.93 359 *e*P P 13 57 46.9 +0.6
comp=Z,1µm,0.9s
M41A Milan 73.93 339 P P 13 57 45.5 -0.8
baz=155,SNR=106
121A Cookes Peak, D 73.98 322 P P 13 57 48.4 +1.3
baz=140
121A Cookes Peak, D 73.98 322 *e*P P 13 57 47.9 +0.8
comp=Z,1µm,1.3s
P36A Good Intent, A 73.98 335 P P 13 57 45.9 -0.8
baz=151
PCAN Candelaria 74.00 28 *e*P P 13 57 47.8 +1.0
comp=Z,2µm,1.3s
PCAN *e*S S 14 06 33.0 +0.7
H07N1 FLORES T-PHASE 74.03 25 *e*P P 13 57 48.2 +1.2
H07N1 *e*S S 14 06 34.4 +1.8
Q34A Chapman 74.05 333 P P 13 57 47.0 -0.1
baz=149,SNR=227
PCED Cedros 74.05 27 *e*P P 13 57 47.5 +0.4
comp=Z,998nm,1.1s
PICO Pico 74.06 28 *e*P P 13 57 49.0 +1.8
comp=Z,2µm,0.8s
PICO *e*S S 14 06 33.0 0.0
O37A Wolven Farm, M 74.07 336 P P 13 57 46.6 -0.6
baz=152,SNR=288
KSU1 Kansas State U 74.07 333 P P 13 57 46.8 -0.3
baz=150,SNR=194
KSU1 Kansas State U 74.07 333 *e*P P 13 57 46.9 -0.3
KSU1 *e*PcP PcP 13 57 59.4 +0.7
KSU1 LR LR
comp=Z,4µm,21.0s
N39A Derby Farms, D 74.13 337 P P 13 57 46.8 -0.6
baz=153,SNR=773
PSMA Santa Maria 74.21 31 *e*P P 13 57 48.1 +0.1
comp=Z,2µm,1.6s
PSMA *e*S S 14 06 29.1 -5.5
P35A Duane Minner, 74.21 334 P P 13 57 47.3 -0.7
baz=150,SNR=166
PSMN Pico do Norte, 74.25 31 *e*P P 13 57 48.0 -0.2
comp=Z,2µm,1.8s
PSMN *e*S S 14 06 29.1 -5.9
M40A Post Highland 74.27 338 P P 13 57 47.5 -0.8
baz=154,SNR=350
SADO Sadowa 74.28 348 S S 14 06 36.6 +1.6
comp=Z,16nm,0.9s,baz=351,slow=18,SNR=7.0
SADO Sadowa 74.28 348 *e*P P 13 57 48.3 +0.1
comp=Z,1µm,0.6s
SADO *e*PP PP 14 00 41.7 -4.0
SADO S S 14 06 36.6 +1.6
N38A Joes South For 74.30 337 P P 13 57 47.8 -0.7
baz=153,SNR=188
PMAN Manadas 74.31 28 *e*P P 13 57 49.2 +0.7
comp=Z,3µm,1.3s
PMAN *e*S S 14 06 34.4 -1.2
ROSA Rosais 74.32 28 *e*P P 13 57 49.3 +0.7
comp=Z,8µm,0.9s
ROSA *e*S S 14 06 33.4 -2.3
ROSA Rosais 74.32 28 *e*P P 13 57 49.9 +1.4
comp=Z,1µm,0.9s
O36A Bolckow 74.34 335 P P 13 57 48.1 -0.6
baz=151,SNR=294
P34A Walnut Farm, R 74.54 334 P P 13 57 49.9 0.0
baz=150,SNR=806
L41A Preston 74.55 339 P P 13 57 49.0 -0.8
baz=155,SNR=496
M39A Webster 74.55 338 P P 13 57 49.0 -0.8
baz=154,SNR=206
PDA Ponta Delgada 74.60 30 *e*P P 13 57 47.9 -2.2
comp=Z,875nm,1.3s
BNM Barren Site 74.61 324 *e*P P 13 57 51.3 +0.7
N37A Lee Faris, Mou 74.62 336 P P 13 57 49.7 -0.5
baz=152,SNR=411
PSET Sete Cidades 74.64 30 *e*P P 13 57 49.1 -1.3
comp=Z,967nm,1.5s
CMLA Cha da Macela 74.67 30 *i* P P 13 57 51.5 +0.9
CMLA Cha da Macela 74.67 30 *e*P P 13 57 50.5 -0.1
comp=Z,1µm,1.1s
CMLA *e*S S 14 06 40.1 +0.5
CMLA Cha da Macela 74.67 30 *e*P P 13 57 49.5 -1.0
comp=Z,472nm,0.8s
CMLA LR LR
comp=Z,3µm,22.0s
ADH Angra Heroismo 74.68 28 *e*P P 13 57 51.2 +0.6
comp=Z,2µm,1.4s
PGRA Graciosa 74.69 28 *e*P P 13 57 51.3 +0.7
comp=Z,2µm,1.1s
PGRA *e*S S 14 06 33.4 -6.3
Y22D IRIS PASSCAL I 74.70 323 P P 13 57 52.0 +1.0
baz=141,SNR=11
Y22D IRIS PASSCAL I 74.70 323 *e*P P 13 57 52.5 +1.4
PCALD Caldeiras da R 74.72 30 *e*P P 13 57 47.5 -3.3
comp=Z,952nm,1.4s
LPM Los Pinos Moun 74.73 324 *e*P P 13 57 52.0 +0.8
L40A Anamosa 74.77 339 P P 13 57 50.4 -0.6
baz=154,SNR=585
O35A Humboldt 74.81 335 P P 13 57 50.1 -1.2
baz=150,SNR=109
M38A Pleasantville 74.84 337 P P 13 57 50.7 -0.8
baz=153,SNR=452
PQI Presque Isle 74.86 357 *e*P P 13 57 52.4 +1.0
comp=Z,850nm,0.8s
PMOZ Porto Moniz, M 74.91 39|| *e*P P 13 57 52.4 +0.3
comp=Z,1µm,1.1s
PMOZ *e*S S 14 06 43.1 +0.6
N36A Muff Farm, Cla 74.94 336 P P 13 57 51.7 -0.3
baz=151,SNR=225
FUL Funchal 74.94 39 *e*P P 13 57 52.3 +0.1
comp=Z,1µm,1.5s
K41A Shullsburg 74.97 340 P P 13 57 51.7 -0.4
baz=155,SNR=427
PMAR Madeira 74.99 39|| *e*P P 13 57 53.0 +0.3
comp=Z,2µm,1.3s
TRQ Mont Tremblant 75.00 352 *e*P P 13 57 52.6 +0.3
O34A Beatrice 75.04 334 P P 13 57 52.1 -0.5
baz=150,SNR=444
TORD Torodi Ar. Bea 75.05 66 P P 13 57 53.0 -0.2
comp=Z,1µm,0.8s,baz=237,slow=4.6,SNR=2240
TORD pP pP 13 59 56.2 +0.6
comp=Z,144nm,0.9s,baz=250,slow=5.9,SNR=4.2
TORD S S 14 06 44.2 -0.4
comp=Z,39nm,0.9s,baz=218,slow=10.0,SNR=8.6
TORD PKKPbc PKKPbc 14 17 09.9 +0.6
comp=Z,2.0nm,0.4s,baz=39,slow=2.2,SNR=5.9
TORD P3KP 14 23 57.8
comp=Z,3.6nm,1.0s,baz=66,slow=3.1,SNR=4.5
TORD PKPPKP P'P'df 14 25 06.5 -5.5
comp=Z,9.6nm,1.1s,baz=64,slow=1.4,SNR=6.3
LAZ Ladron 75.07 324 *e*P P 13 57 54.1 +0.9
L39A Vinton 75.07 338 P P 13 57 52.1 -0.7
baz=154,SNR=342
CBKS Cedar Bluff 75.11 331 P P 13 57 53.8 +0.7
baz=147,SNR=332
CBKS Cedar Bluff 75.11 331 *e*P P 13 57 53.8 +0.7
CBKS pmax pmax
comp=Z,3µm,0.8s
CBKS MLR MLR
comp=Z,3µm,21.0s
CBKS Cedar Bluff 75.11 331 *e*P P 13 57 53.8 +0.7
comp=Z,3µm,0.8s
CBKS LR LR
comp=Z,3µm,21.0s
M37A Trindle Farm, 75.13 336 P P 13 57 52.9 -0.1
baz=152,SNR=609
ANMO Albuquerque 75.14 324 P P 13 57 54.3 +0.8
baz=141
ANMO Albuquerque 75.14 324 *de*P P 13 57 54.1 +0.6
ANMO *i* *PP pP 13 59 58.9 +3.0
ANMO pmax pmax
comp=Z,1µm,1.5s
ANMO Albuquerque 75.14 324 *e*P P 13 57 53.9 +0.4
comp=Z,511nm,0.8s
ANMO LR LR
comp=Z,3µm,22.0s
N35A Tabor 75.23 335 P P 13 57 53.3 -0.4
baz=151,SNR=531
JFWS Jewell Farm 75.23 340 *e*P P 13 57 53.2 -0.4
JFWS *e**PP pP 13 59 57.5 +1.4
JFWS pmax pmax
comp=Z,2µm,0.6s
JFWS MLR MLR
comp=Z,5µm,21.0s
JFWS Jewell Farm 75.23 340 *e*P P 13 57 53.2 -0.4
comp=Z,2µm,0.6s
JFWS *e*pP pP 13 59 57.5 +1.4
JFWS LR LR
comp=Z,5µm,21.0s
SCIA State Center 75.29 337 *e*P P 13 57 53.5 -0.5
comp=Z,3µm,1.4s
SCIA *e*PP PP 14 00 54.2 +0.1
SCIA LR LR
comp=Z,4µm,21.0s
O33A Hebron 75.30 333 P P 13 57 54.0 0.0
baz=149,SNR=222
K40A Colesburg 75.32 339 P P 13 57 53.4 -0.6

baz=155,SNR=279
L38A Oak Wood Farm, 75.41 338 P **P** **13 57 54.0 -0.6**
baz=153,SNR=373
M36A Felix, Anita 75.44 336 P **P** **13 57 54.3 -0.5**
baz=152,SNR=183
TUC Tucson 75.48 320 P **P** **13 57 56.1 +0.7**
baz=138
TUC Tucson 75.48 320 *eP* **P** **13 57 55.9 +0.6**
TUC *e* 13 58 03.7
TUC *e**PP **pP** **14 00 01.1 +3.2**
TUC pmax pmax
comp=Z,807nm,1.3s
TUC MLR MLR
comp=Z,3µm,20.0s
TUC Tucson 75.48 320 *eP* **P** **13 57 55.9 +0.6**
comp=Z,808nm,1.3s
TUC *e*PcP **PcP** **13 58 03.7 -1.4**
TUC *e*pP **pP** **14 00 01.1 +3.2**
TUC LR LR
comp=Z,3µm,20.0s
N34A Lincoln 75.53 334 P **P** **13 57 54.7 -0.6**
baz=150,SNR=464
K39A Oelwein 75.56 339 P **P** **13 57 54.7 -0.7**
baz=154,SNR=524
PMPS Porto Santo 75.56 39|| *eP* **P** **13 57 56.1 +0.5**
comp=Z,1µm,1.5s
J41A Loganville 75.57 340 P **P** **13 57 55.0 -0.5**
baz=156,SNR=297
L37A Phoenix Point, 75.66 337 P **P** **13 57 55.2 -0.8**
baz=152,SNR=128
BOSA Boshof 75.69 115 *i* P **P** **13 57 56.8 0.0**
BOSA Boshof 75.69 115 P **P** **13 57 56.6 -0.1**
comp=Z,840nm,0.7s,baz=248,slow=4.6,SNR=533
BOSA S **S** **14 06 50.1 -1.3**
comp=Z,124nm,1.2s,baz=16,slow=19,SNR=12
BOSA PKKPbc **PKKPbc** **14 17 09.3 +1.4**
comp=Z,4.4nm,0.8s,baz=89,slow=4.1,SNR=6.0
BOSA SKKP 14 19 31.6
comp=Z,8.5nm,1.0s,baz=50,slow=1.6,SNR=3.4
M35A Neola 75.78 335 P **P** **13 57 56.1 -0.5**
baz=151,SNR=175
K38A Parkersburg 75.80 338 P **P** **13 57 56.1 -0.6**
baz=153,SNR=146
N33A J Bar K, Exete 75.81 334 P **P** **13 57 56.6 -0.2**
baz=149,SNR=15
J40A Soldiers Grove 75.82 340 P **P** **13 57 56.4 -0.5**
baz=155,SNR=377
T25A Trinidad 75.85 327 P **P** **13 57 58.5 +1.1**
baz=143,SNR=862
T25A Trinidad 75.85 327 *eP* **P** **13 57 58.5 +1.1**
LMQ La Malbaie 75.89 355 *eP* **P** **13 57 57.6 +0.5**
LMQ *eP* **pP** **14 00 02.9 +3.0**
L36A Harm Buss Farm 75.96 336 P **P** **13 57 57.1 -0.5**
baz=152,SNR=70
J39A Decorah 76.07 339 P **P** **13 57 57.6 -0.6**
baz=154,SNR=439
M34A Aspy Farms, Fr 76.14 335 P **P** **13 57 58.2 -0.4**
baz=150,SNR=35
I41A Arkdale 76.16 340 P **P** **13 57 58.3 -0.3**
baz=156,SNR=21
MAW Mawson 76.19 161 P **P** **13 57 58.9 +0.3**
comp=Z,402nm,0.8s,baz=221,slow=6.4,SNR=303
MAW pP **pP** **14 00 01.3 +0.1**
comp=Z,170nm,1.0s,baz=205,slow=7.7,SNR=4.1
MAW S **S** **14 06 54.6 -0.4**
comp=Z,50nm,1.1s,baz=30,slow=20,SNR=10
MAW P3KP 14 23 58.5
comp=Z,6.8nm,0.9s,baz=318,slow=8.2,SNR=6.0
MAW PKPPKP **P'P'df** **14 25 09.7 -0.4**
comp=Z,16nm,1.1s,baz=25,slow=6.5,SNR=4.6
MAW Mawson 76.19 161 *eP* **P** **13 57 58.7 +0.1**
comp=Z,163nm,1.0s
MAW pP **pP** **14 00 01.3 +0.1**
MAW S **S** **14 06 54.6 -0.4**
MAW PKKKP 14 23 58.5
MAW P'P' 14 25 09.7
K37A Belmond 76.19 337 P **P** **13 57 58.0 -0.9**
baz=153,SNR=73
I40A Norwalk 76.23 340 P **P** **13 57 58.6 -0.5**
baz=155,SNR=200
L35A Bielow Farm, R 76.28 336 P **P** **13 57 59.1 -0.4**
baz=151,SNR=881
J38A Wedel Dairy, R 76.30 338 P **P** **13 57 58.8 -0.7**
baz=154,SNR=368
K36A Gilmore City 76.36 337 P **P** **13 57 59.4 -0.4**
baz=152
214A Organ Pipe Nat 76.39 318 P **P** **13 58 01.3 +1.0**
baz=136,SNR=310
214A Organ Pipe Nat 76.39 318 *eP* **P** **13 58 01.3 +1.0**
comp=Z,3µm,0.7s
214A *ep*P **pP** **14 00 06.9 +3.6**
M33A Taylor Creek F 76.43 334 P **P** **13 57 59.7 -0.6**
baz=150,SNR=65
L34A Svendsen Farm, 76.46 335 P **P** **13 57 60.0 -0.4**
baz=150,SNR=325
I39A Houston 76.48 339 P **P** **13 57 59.8 -0.6**
baz=154,SNR=394
KSCO Kaye Shedlock' 76.53 329 P **P** **13 58 02.1 +1.1**
baz=145,SNR=154
KSCO Kaye Shedlock' 76.53 329 *eP* **P** **13 58 02.3 +1.2**
H41A Junction City 76.61 341 P **P** **13 58 00.8 -0.3**
baz=156,SNR=182
J37A Redenius Farm, 76.65 338 P **P** **13 58 00.8 -0.6**
baz=153,SNR=342
BGNE Belgrade 76.66 334 P **P** **13 58 01.5 0.0**
baz=149,SNR=319
BGNE Belgrade 76.66 334 *eP* **P** **13 58 01.6 0.0**
BGNE *eP*P **pP** **14 00 05.1 +0.4**
K35A Storm Lake 76.71 336 P **P** **13 58 01.3 -0.5**
baz=151,SNR=268
H40A Chili 76.83 340 P **P** **13 58 02.0 -0.4**
baz=156,SNR=178
SDCO Great Sand Dun 76.86 327 P **P** **13 58 04.0 +1.0**
baz=142,SNR=1000
SDCO Great Sand Dun 76.86 327 *eP* **P** **13 58 03.9 +0.8**
comp=Z,2µm,1.5s
SDCO LR LR
comp=Z,3µm,22.0s
I38A Scanlan Farm, 76.90 339 P **P** **13 58 02.4 -0.3**
baz=154,SNR=435
J36A Seneca 1, Swea 76.93 337 P **P** **13 58 02.4 -0.5**
baz=152,SNR=449
L33A Hoskins 76.97 335 P **P** **13 58 02.6 -0.6**
baz=150,SNR=43
K34A Le Mars 76.99 336 P **P** **13 58 02.8 -0.5**
baz=150,SNR=30
W18A Petrified Fore 76.99 322 P **P** **13 58 04.6 +0.9**
baz=139,SNR=442
W18A Petrified Fore 76.99 322 *eP* **P** **13 58 04.6 +0.9**
G41A Antigo 77.02 341 P **P** **13 58 03.4 0.0**
baz=157,SNR=45
L32A Elgin 77.11 334 P **P** **13 58 03.4 -0.6**
baz=149,SNR=29
H39A Augusta 77.15 340 P **P** **13 58 03.5 -0.5**
baz=155,SNR=146
I37A Lemond, Waseca 77.22 338 P **P** **13 58 04.3 -0.1**
baz=153,SNR=521
K33A Hardington 77.25 335 P **P** **13 58 04.5 -0.2**
baz=150,SNR=164
VLDQ Val d'Or 77.25 350 *eP* **P** **13 58 04.3 -0.2**
J35A Milford 77.26 337 P **P** **13 58 04.0 -0.7**
baz=151,SNR=111
G40A Rib Lake 77.36 341 P **P** **13 58 05.2 -0.1**
baz=156,SNR=157
X16A Lo Mia Camp, P 77.41 321 *eP* **P** **13 58 07.0 +1.1**
I36A Fitzsimmons Fa 77.43 338 P **P** **13 58 05.3 -0.3**
baz=152,SNR=141
H38A Maiden Rock 77.45 339 P **P** **13 58 05.3 -0.4**
baz=154,SNR=168
J34A George 77.46 336 P **P** **13 58 05.4 -0.3**
baz=151,SNR=209
DRLN Deer Lake 77.48 4 *eP* **P** **13 58 06.5 +0.8**
LBTB Lobatse 77.48 112 P **P** **13 58 06.6 +0.1**
comp=Z,1µm,0.8s,baz=248,slow=5.4,SNR=656
LBTB pP **pP** **14 00 10.1 +0.1**
comp=Z,174nm,0.8s,baz=253,slow=9.7,SNR=4.8
LBTB PKPPKP **P'P'df** **14 25 07.7 -1.6**
comp=Z,4.8nm,0.9s,baz=354,slow=6.4,SNR=4.2
LBTB Lobatse 77.48 112 *eP* **P** **13 58 06.7 +0.1**
LBTB *PP **pP** **14 00 10.1 +0.1**
LBTB pmax pmax
comp=Z,1µm,0.8s
LBTB Lobatse 77.48 112 *eP* **P** **13 58 06.7 +0.1**
comp=Z,1µm,0.8s
LBTB pP **pP** **14 00 10.1 +0.1**
LBTB P'P' 14 25 07.7
S22A 4UR Ranch, Cre 77.51 326 P **P** **13 58 07.4 +0.8**
baz=142,SNR=510
S22A 4UR Ranch, Cre 77.51 326 *eP* **P** **13 58 07.4 +0.8**
H37A Dierke Farm, C 77.57 339 P **P** **13 58 06.1 -0.2**
baz=153,SNR=122
I35A Creekview Farm 77.62 337 P **P** **13 58 06.3 -0.3**
baz=152,SNR=269
Q24A Divide 77.66 328 P **P** **13 58 08.3 +0.9**
baz=143,SNR=508
Q24A Divide 77.66 328 *eP* **P** **13 58 08.2 +0.9**
K32A Verdigre 77.66 334 P **P** **13 58 06.3 -0.6**
baz=149,SNR=65
G39A Holcombe 77.67 340 P **P** **13 58 06.4 -0.4**
baz=155,SNR=122
G38A Ridgeland 77.77 340 P **P** **13 58 06.9 -0.5**
baz=154,SNR=223
J33A Davis 77.85 335 P **P** **13 58 07.5 -0.4**
baz=150,SNR=91
OGNE Ogallala 77.86 331 P **P** **13 58 08.8 +0.7**
baz=146,SNR=169
OGNE Ogallala 77.86 331 *eP* **P** **13 58 08.8 +0.7**
comp=Z,1µm,0.8s
OGNE LR LR
comp=Z,3µm,22.0s
H36A Jessenland, He 77.90 338 P **P** **13 58 08.1 0.0**
baz=152,SNR=183
K31A O'Neill 77.93 334 P **P** **13 58 08.4 0.0**
baz=148,SNR=147
MVCO Mesa Verde 77.93 324 P **P** **13 58 09.6 +0.9**
baz=140,SNR=779
MVCO Mesa Verde 77.93 324 *eP* **P** **13 58 09.5 +0.7**
comp=Z,840nm,0.7s
MVCO *e*PcP **PcP** **13 58 14.5 -1.3**
MVCO LR LR
comp=Z,4µm,22.0s
F40A Park Falls 77.93 341 P **P** **13 58 08.7 +0.4**
baz=156
I34A Hazel 78.08 337 P **P** **13 58 08.8 -0.3**
baz=151,SNR=133
ECSD EROS Data Cent 78.08 336 P **P** **13 58 08.8 -0.3**
baz=150,SNR=861
ECSD EROS Data Cent 78.08 336 *eP* **P** **13 58 08.7 -0.4**
comp=Z,1µm,0.8s
ECSD *ep*P **pP** **14 00 09.6 -3.3**
ECSD LR LR
comp=Z,5µm,20.0s
SPMN Marine on St. 78.11 339 P **P** **13 58 08.7 -0.5**
baz=154,SNR=85
SPMN Marine on St. 78.11 339 *eP* **P** **13 58 08.8 -0.5**
WUAZ Wupatki 78.18 322 P **P** **13 58 11.2 +1.2**
baz=138,SNR=864
WUAZ Wupatki 78.18 322 *eP* **P** **13 58 11.0 +1.0**
comp=Z,1µm,0.9s
WUAZ LR LR
comp=Z,3µm,22.0s
J32A Parkston 78.22 335 P **P** **13 58 09.5 -0.4**
baz=149,SNR=192
H35A Sunyside Ranc 78.31 338 P **P** **13 58 09.9 -0.3**
baz=152,SNR=316
GLA Glamis 78.37 318 P **P** **13 58 11.6 +0.7**
baz=135,SNR=142
GLA Glamis 78.37 318 *eP* **P** **13 58 11.6 +0.7**
GLA pmax pmax
comp=Z,497nm,0.9s
GLA Glamis 78.37 318 *eP* **P** **13 58 11.6 +0.7**
comp=Z,497nm,0.9s
I33A Coleman 78.42 336 P **P** **13 58 10.7 -0.2**
baz=150,SNR=61
G36A St. Michael 78.42 338 P **P** **13 58 10.7 -0.2**
baz=153,SNR=170
F38A Pierce - Schro 78.49 340 P **P** **13 58 11.4 +0.2**
baz=154,SNR=823
J31A Geddes 78.49 334 P **P** **13 58 11.1 -0.2**
baz=148,SNR=607
F37A Hinrichs Farm, 78.50 339 P **P** **13 58 11.4 +0.1**
baz=154,SNR=64
ISCO Idaho Springs 78.54 328 P **P** **13 58 12.8 +0.8**
baz=143,SNR=1000
ISCO Idaho Springs 78.54 328 *eP* **P** **13 58 12.8 +0.8**
ISCO pmax pmax
comp=Z,822nm,0.8s
ISCO MLR MLR
comp=Z,4µm,22.0s
ISCO Idaho Springs 78.54 328 *eP* **P** **13 58 12.8 +0.8**
comp=Z,822nm,0.8s
ISCO LR LR
comp=Z,4µm,22.0s
H34A Spellman Lake, 78.60 337 P **P** **13 58 11.6 -0.3**
baz=151,SNR=218
I32A Karley and Nic 78.64 335 P **P** **13 58 11.4 -0.7**
baz=150,SNR=96
G35A Watkins 78.65 338 P **P** **13 58 11.8 -0.3**
baz=152,SNR=90
PV01 Paradox Valley 78.68 325 *eP* **P** **13 58 13.6 +0.9**
Y12C Blythe 78.68 318 P **P** **13 58 13.4 +0.9**
baz=136,SNR=253
Y12C Blythe 78.68 318 *eP* **P** **13 58 13.4 +0.9**
SMCO Snowmass 78.69 327 *eP* **P** **13 58 14.3 +1.3**
comp=Z,1µm,0.9s
SMCO *ep*P **pP** **14 00 15.5 -1.5**
PPT Papeete 78.80 256 P **P** **13 58 15.0 +1.4**
comp=Z,647nm,0.8s,baz=71,slow=5.2,SNR=65
PPT pP **pP** **14 00 18.2 +0.7**
comp=Z,247nm,0.9s,baz=112,slow=7.7,SNR=6.6
PPT Papeete 78.80 256 *eP* **P** **13 58 15.0 +1.4**
PPT *ep*P **pP** **14 00 20.8 +3.3**
IKP In-Ko-Pah, Jac 78.85 317 P **P** **13 58 14.6 +1.0**
baz=134,SNR=208
PDMCI Parker Dam,Lak 78.86 319 P **P** **13 58 14.1 +0.7**
baz=136,SNR=160
SWSC Sam W. Stewart 78.87 317 P **P** **13 58 14.0 +0.4**
baz=134,SNR=99
PV05 Paradox Valley 78.90 325 *eP* **P** **13 58 14.4 +0.5**
F36A Milaca 78.91 339 P **P** **13 58 13.1 -0.4**
baz=153,SNR=510
H33A Prehn Over Nor 78.95 336 P **P** **13 58 13.7 0.0**
baz=150,SNR=421
E38A The Farm, Brul 78.97 340 P **P** **13 58 13.7 -0.1**
baz=155
I31A Royce, Wessing 79.04 335 P **P** **13 58 13.9 -0.3**
baz=149,SNR=20
PV04 Paradox Valley 79.04 325 *eP* **P** **13 58 15.3 +0.7**
PV04 *e*PcP **PcP** **13 58 20.6 0.0**
H32A Carlson Farm, 79.05 336 P **P** **13 58 13.9 -0.3**
baz=150,SNR=251
G34A Benson 79.06 337 P **P** **13 58 13.8 -0.4**
baz=151,SNR=222
PV10 Paradox Valley 79.10 325 *eP* **P** **13 58 15.2 +0.2**
BC3 Big Chuckawall 79.16 318 P **P** **13 58 15.8 +0.6**
baz=135,SNR=432
E37A Wrenshall 79.19 340 P **P** **13 58 15.0 +0.1**
baz=154,SNR=148
MONP Monument Peak, 79.21 317 P **P** **13 58 16.2 +0.6**
baz=134,SNR=134
BAR Barrett 79.22 316 *eP* **P** **13 58 16.1 +0.6**
comp=Z,480nm,0.8s
PV09 Paradox Valley 79.24 325 *eP* **P** **13 58 16.7 +1.0**
F35A Swanville 79.24 338 P **P** **13 58 14.9 -0.4**
baz=152,SNR=64
G33A Ortonville 79.29 337 P **P** **13 58 14.9 -0.6**
baz=150,SNR=227
IRM Iron Mountain 79.33 318 P **P** **13 58 16.7 +0.7**
baz=135,SNR=599
H31A Wolsey 79.41 335 P **P** **13 58 15.7 -0.4**
baz=149,SNR=98
E36A McGregor 79.41 339 P **P** **13 58 16.2 +0.1**
baz=153,SNR=1000
F34A Alexandria 79.41 338 P **P** **13 58 16.0 -0.1**
baz=152,SNR=39
NEE2 Needles Airpor 79.46 319 P **P** **13 58 17.4 +0.8**
baz=136,SNR=34
SUSD Miller 79.55 335 P **P** **13 58 16.6 -0.3**
baz=148,SNR=40
N23A Red Feather La 79.56 328 P **P** **13 58 18.2 +0.9**
baz=142,SNR=454
N23A Red Feather La 79.56 328 *eP* **P** **13 58 18.2 +0.9**
109C Camp Elliot, M 79.62 316 P **P** **13 58 18.1 +0.6**
baz=134,SNR=23
PHWY Pilot Hill 79.66 329 *eP* **P** **13 58 18.5 +0.6**
PHWY *e*PcP **PcP** **13 58 23.4 +0.1**
C39A Grand Marais 79.67 342 P **P** **13 58 17.1 -0.3**
baz=156,SNR=144
G32A Webster 79.72 336 P **P** **13 58 17.2 -0.6**
baz=150,SNR=44
TPFO Pinon Flats 79.72 317 P **P** **13 58 19.0 +0.8**
baz=134,SNR=302
BELC Belle Mtn. Jos 79.73 318 P **P** **13 58 19.1 +0.8**
baz=134,SNR=422
D37A Cotton 79.73 340 P **P** **13 58 17.9 +0.1**
baz=154,SNR=295
PFO Pinyon Flats O 79.73 317 P **P** **13 58 19.0 +0.7**
baz=134,SNR=263
PFO Pinyon Flats O 79.73 317 *eP* **P** **13 58 18.9 +0.7**
PFO *e**PP **pP** **14 00 22.4 -0.3**
PFO pmax pmax
comp=Z,514nm,0.8s
PFO MLR MLR
comp=Z,3µm,20.0s
PFO Pinyon Flats O 79.73 317 *eP* **P** **13 58 18.9 +0.7**
comp=Z,514nm,0.8s
PFO *ep*P **pP** **14 00 22.4 -0.3**
PFO LR LR
comp=Z,3µm,20.0s
F33A 5 Mile Ranch, 79.80 337 P **P** **13 58 17.5 -0.6**
baz=151,SNR=173
E35A Pequot Lakes 79.81 339 P **P** **13 58 18.1 -0.1**
baz=152,SNR=135
C38A Sawbill Land, 79.90 341 P **P** **13 58 18.1 -0.5**
baz=155,SNR=363
G31A Conde 79.95 336 P **P** **13 58 18.5 -0.4**
baz=149,SNR=71
D36A Goodland 79.97 340 P **P** **13 58 18.9 -0.1**
baz=153,SNR=464
E34A Wadena 80.02 338 P **P** **13 58 19.2 -0.1**
baz=152,SNR=66
O20A White River Ci 80.05 327 P **P** **13 58 20.9 +1.0**
baz=141,SNR=817
O20A White River Ci 80.05 327 *eP* **P** **13 58 20.7 +0.9**
O20A *e*PcP **PcP** **13 58 25.4 +0.4**
KNB Kanab 80.07 322 *eP* **P** **13 58 21.2 +1.2**
KNB Kanab 80.07 322 *eP* **P** **13 58 21.2 +1.2**
GMRC Granite Mounta 80.08 318 P **P** **13 58 20.9 +0.9**
baz=135,SNR=893
PKCU Pink Cliffs 80.11 322 *eP* **P** **13 58 21.5 +1.1**
F32A Veblen 80.12 337 P **P** **13 58 19.5 -0.3**
baz=150,SNR=108
D35A Remer 80.16 339 P **P** **13 58 20.4 +0.4**
baz=153,SNR=954
MURC Murrieta 80.17 317 P **P** **13 58 21.3 +0.9**
baz=134,SNR=132
EYMN Ely 80.17 341 P **P** **13 58 19.7 -0.4**
baz=155,SNR=180
EYMN Ely 80.17 341 *eP* **P** **13 58 19.6 -0.4**
comp=Z,727nm,0.8s
EYMN *e*PcP **PcP** **13 58 25.2 +0.1**
EYMN LR LR
comp=Z,3µm,19.0s
C37A Embarrass 80.17 341 P **P** **13 58 20.0 0.0**
baz=154,SNR=381
E33A Westby DABS, E 80.28 338 P **P** **13 58 20.4 -0.3**
baz=151,SNR=193
LCMT Little Creek M 80.30 321 *eP* **P** **13 58 21.9 +0.7**
C36A Pine Crest Far 80.39 340 P **P** **13 58 21.2 0.0**
baz=154,SNR=468
SRU San Rafael Swe 80.41 325 *eP* **P** **13 58 22.4 +0.7**
SRU San Rafael Swe 80.41 325 *eP* **P** **13 58 22.4 +0.7**
BBRC Big Bear Solar 80.46 317 P **P** **13 58 23.2 +1.0**
baz=134,SNR=66
MTPU Mount Pierson 80.48 323 *eP* **P** **13 58 23.2 +0.8**
HEC Hector,Ludlow 80.50 318 P **P** **13 58 23.3 +1.2**
baz=134,SNR=197
F31A Hecla 80.51 336 P **P** **13 58 21.7 -0.2**
baz=149,SNR=90
D34A Park Rapids 80.53 338 P **P** **13 58 21.7 -0.2**
baz=152,SNR=141
SCI San Clemente I 80.57 315 P **P** **13 58 23.2 +0.7**
baz=133,SNR=40
SZCU Shurtz Canyon 80.64 322 *eP* **P** **13 58 23.9 +0.9**
C35A Jirik Farms, M 80.69 339 P **P** **13 58 22.7 0.0**
baz=153,SNR=723
TUQ Turquoise Moun 80.69 319 P **P** **13 58 24.0 +0.8**
baz=135,SNR=402
E32A Braaten, Kindr 80.72 337 P **P** **13 58 23.0 +0.1**
baz=150,SNR=133
CCUT Cedar City 80.76 322 *eP* **P** **13 58 23.9 +0.3**
CCUT *ep*P **pP** **14 00 30.5 +2.0**
CIS Catalina Islan 80.77 316 P **P** **13 58 24.0 +0.5**
baz=133,SNR=79
D33A AnnSam, Waubun 80.79 338 P **P** **13 58 23.2 0.0**
baz=151,SNR=358
MSU Marysvale 80.83 323 *eP* **P** **13 58 25.0 +1.1**
MSU Marysvale 80.83 323 *eP* **P** **13 58 25.0 +1.1**
BFSC Mount Baldy Ra 80.88 317 P **P** **13 58 24.7 +0.4**
baz=134,SNR=223
TMUT Trail Mountain 80.90 324 *eP* **P** **13 58 25.2 +0.8**
FMP Fort Macarthur 80.91 316 P **P** **13 58 24.8 +0.6**
baz=133,SNR=12
RRX Edison Barstow 80.93 318 P **P** **13 58 25.3 +1.0**
baz=134,SNR=48
C34A RKJ Ranch, Bem 80.94 339 P **P** **13 58 23.8 -0.2**
baz=152,SNR=119
E31A Nome 80.98 337 P **P** **13 58 24.4 +0.2**
baz=149,SNR=391
SHPR Sheep Range 81.01 320 *eP* **P** **13 58 25.7 +0.9**
comp=Z,708nm,1.2s
GSC Goldstone, Bar 81.11 318 P **P** **13 58 26.2 +0.9**
baz=134,SNR=398
GSC Goldstone, Bar 81.11 318 *eP* **P** **13 58 25.9 +0.6**
GSC pmax pmax
comp=Z,1µm,1.3s
GSC Goldstone, Bar 81.11 318 *eP* **P** **13 58 25.9 +0.6**
comp=Z,1µm,1.3s
MWC Mount Wilson 81.11 317 *eP* **P** **13 58 26.1 +0.7**
MWC pmax pmax
comp=Z,654nm,1.0s
MWC Mount Wilson 81.11 317 *eP* **P** **13 58 26.1 +0.7**
comp=Z,654nm,1.0s
PASC Pasadena Art C 81.16 317 *eP* **P** **13 58 26.3 +0.8**
D32A Dogwood Acres, 81.18 337 P **P** **13 58 25.3 +0.1**
baz=150,SNR=116
B35A Bob, Littlefor 81.20 340 P **P** **13 58 25.2 -0.1**
baz=153,SNR=573
K22A Casper 81.22 329 P **P** **13 58 26.3 +0.6**
baz=142,SNR=485
K22A Casper 81.22 329 *eP* **P** **13 58 26.3 +0.6**
SHOC Shoshone, Teco 81.22 319 P **P** **13 58 26.3 +0.6**
baz=135,SNR=110
DECC Green Verdugo 81.30 317 P **P** **13 58 27.1 +0.9**
baz=133,SNR=57
C33A Trail 81.31 338 P **P** **13 58 25.9 0.0**
baz=151,SNR=73
RSSD Black Hills 81.31 332 P **P** **13 58 26.3 +0.1**
baz=144
RSSD Black Hills 81.31 332 *eP* **P** **13 58 26.2 -0.1**
RSSD *e* 14 01 45.6
RSSD pmax pmax
comp=Z,390nm,0.8s
RSSD Black Hills 81.31 332 *eP* **P** **13 58 26.2 -0.1**
comp=Z,390nm,0.8s
RSSD *e*PcP **PcP** **13 58 31.4 +1.0**
RSSD *e*PP **PP** **14 01 45.6 +1.9**
D31A Mcclaflin, Tow 81.34 337 P **P** **13 58 26.2 +0.2**
baz=150,SNR=288
SNCC San Nicolas Is 81.36 315 P **P** **13 58 27.2 +0.7**
baz=132,SNR=31
SNCC San Nicolas Is 81.36 315 *eP* **P** **13 58 27.3 +0.8**
comp=Z,733nm,0.9s
SNCC *ep*P **pP** **14 00 34.6 +3.0**
EDW2 Edwards Air Fo 81.53 317 P **P** **13 58 27.8 +0.5**
baz=133,SNR=318
B34A Aery, Baudette 81.59 339 P **P** **13 58 27.1 -0.2**
baz=152,SNR=101
C32A Crookston 81.61 338 P **P** **13 58 27.6 +0.2**
baz=151,SNR=102
BLG Laguna Peak, P 81.65 316 P **P** **13 58 28.5 +0.5**
baz=132,SNR=31
B33A Robert and Kas 81.70 339 P **P** **13 58 27.9 0.0**
baz=151,SNR=348
PSUT Pine Spring 81.74 322 *eP* **P** **13 58 29.9 +1.3**
LRMC Laurel Mtn Rad 81.75 318 P **P** **13 58 29.1 +0.5**
baz=134,SNR=124
OSI Osito Audit: C 81.78 317 P **P** **13 58 29.3 +0.6**
baz=133,SNR=57
OSI Osito Audit: C 81.78 317 *eP* **P** **13 58 29.4 +0.6**
comp=Z,748nm,1.1s
OSI *ep*P **pP** **14 00 36.8 +2.9**
RTC Rabat Centre 81.78 44 *eP* **P** **13 58 28.5 -0.1**
comp=Z,3µm,0.9s
RTC *e*PcP **PcP** **13 58 33.3 +0.9**
RTC LR LR
comp=Z,9µm,21.0s
AGMN Agassiz Nation 81.81 339 P **P** **13 58 28.5 +0.1**
baz=151,SNR=518
AGMN Agassiz Nation 81.81 339 *eP* **P** **13 58 28.5 +0.1**
comp=Z,4µm,1.6s

AGMN ePcP PcP 13 58 32.1 -0.1
AGMN LR LR
comp=Z,4µm,22.0s
NLU North Lily Min 81.84 324 eP P 13 58 29.9 +0.8
MATP Matopo 81.92 109 i P P 13 58 30.4 +0.5
MATP Matopo 81.92 109 P P 13 58 30.3 +0.5
comp=Z,942nm,0.8s,baz=241,slow=5.0,SNR=864
MATP pP pP 14 00 35.6 +0.5
comp=Z,97nm,0.9s,baz=250,slow=6.1,SNR=3.0
MATP PKPPKP P'P'df 14 24 59.5 -1.8
comp=Z,3.8nm,0.9s,baz=350,slow=6.6,SNR=3.6
BSC Santa Cruz Isl 81.92 316 P P 13 58 30.2 +0.8
baz=132,SNR=57
TPNV Topopah Spring 81.94 320 P P 13 58 30.7 +1.1
baz=135,SNR=675
TPNV Topopah Spring 81.94 320 eP P 13 58 30.4 +0.8
TPNV Topopah Spring 81.94 320 eP P 13 58 30.4 +0.8
FURC Furnace Creek, 81.95 319 P P 13 58 30.4 +1.1
baz=134,SNR=371
C31A Landman Farms, 81.99 337 P P 13 58 29.4 0.0
baz=150,SNR=251
JLU Jordanelle 82.00 325 eP P 13 58 30.7 +0.8
MPMC Manual Prospec 82.03 318 P P 13 58 30.5 +0.4
baz=134,SNR=444
B32A Ashes, Strandq 82.11 338 P P 13 58 30.0 +0.1
baz=151,SNR=1000
BLWY Bulawayo 82.14 109 i P P 13 58 31.6 +0.6
ARVC Arvin 82.19 317 P P 13 58 31.6 +0.9
baz=133,SNR=17
A33A Warroad 82.22 339 P P 13 58 30.6 +0.1
baz=152,SNR=304
DAC Darwin (Calif) 82.25 318 eP P 13 58 31.8 +0.6
DAC pmax pmax
comp=Z,195nm,1.0s
DAC Darwin (Calif) 82.25 318 eP P 13 58 31.8 +0.6
comp=Z,195nm,1.0s
SBC Santa Barbara 82.27 316 P P 13 58 31.9 +0.9
baz=132,SNR=21
ISA Isabella, Lake 82.34 317 P P 13 58 32.5 +0.9
baz=133,SNR=154
ISA Isabella, Lake 82.34 317 eP P 13 58 31.8 +0.3
ISA pmax pmax
comp=Z,466nm,0.8s
ISA Isabella, Lake 82.34 317 eP P 13 58 31.8 +0.3
comp=Z,466nm,0.8s
DUG Dugway, Tooele 82.40 324 P P 13 58 32.5 +0.7
baz=137,SNR=268
DUG Dugway, Tooele 82.40 324 eP P 13 58 32.3 +0.5
DUG pmax pmax
comp=Z,1µm,1.6s
DUG MLR MLR
comp=Z,2µm,20.0s
DUG Dugway, Tooele 82.40 324 eP P 13 58 32.3 +0.5
comp=Z,1µm,1.6s
DUG LR LR
comp=Z,2µm,20.0s
MDT Midelt 82.42 46 P P 13 58 32.9 +0.9
comp=Z,203nm,0.8s,baz=240,slow=4.5,SNR=111
B31A Greenbush Farm 82.51 338 P P 13 58 31.8 -0.1
baz=150,SNR=253
R11A Troy Canyon, C 82.55 321 P P 13 58 33.8 +1.1
baz=135,SNR=1000
R11A Troy Canyon, C 82.55 321 eP P 13 58 33.6 +0.9
R11A epP pP 14 00 39.5 +1.2
A32A Rocking H Ranc 82.56 339 P P 13 58 32.0 -0.1
baz=151,SNR=65
GRAC Grapevine Rang 82.61 319 P P 13 58 33.7 +0.9
baz=134,SNR=270
PKM Mcpherson Peak 82.63 316 P P 13 58 33.9 +0.8
baz=132,SNR=459
CWC Cottonwood Cre 82.64 318 P P 13 58 34.0 +0.8
baz=133
MDND Maddock 82.69 336 P P 13 58 33.6 +0.7
baz=148,SNR=56
MDND Maddock 82.69 336 eP P 13 58 33.5 +0.6
BW06 Boulder Array 82.71 327 P P 13 58 33.5 +0.1
baz=140,SNR=671
BW06 Boulder Array 82.71 327 eP P 13 58 33.5 +0.1
BW06 epP pP 14 00 42.2 +3.1
BW06 LR LR
comp=Z,4µm,21.0s
PD31 Pinedale Array 82.71 327 eP P 13 58 33.5 +0.1
PDAR Pinedale Array 82.71 327 P P 13 58 33.4 -0.1
comp=Z,274nm,0.5s,baz=123,slow=7.4,SNR=730
PDAR pP pP 14 00 40.1 +1.0
comp=Z,69nm,1.1s,baz=135,slow=6.9,SNR=2.6
PDAR PKKPbc PKKPbc 14 16 52.6 -1.4
comp=Z,2.9nm,0.4s,baz=50,slow=2.3,SNR=21
PDAR PKPPKP P'P'df 14 24 56.9 +0.6
comp=Z,14nm,1.1s,baz=217,slow=0.2,SNR=10
PFVI Vila Bisbo 82.75 41⇓eP P 13 58 33.8 +0.4
comp=Z,1µm,1.3s
PFVI eS S 14 08 04.3 +1.2
PFVI Vila Bisbo 82.75 41 eP P 13 58 33.9 +0.4
A31A Linda, St. Vin 82.79 338 P P 13 58 33.4 +0.1
baz=150,SNR=35
HWUT Hardware Ranch 82.81 326 eP P 13 58 34.3 +0.4
HWUT LR LR
comp=Z,3µm,22.0s
VES Vestal, Richgr 82.83 317 P P 13 58 34.5 +0.7
baz=133,SNR=305
SCHQ Schefferville 82.97 358 P P 13 58 34.0 -0.1
comp=Z,621nm,0.8s,baz=159,slow=3.6,SNR=138
SCHQ pP pP 14 00 41.9 +2.0
comp=Z,51nm,0.9s,baz=206,slow=3.9,SNR=2.8
MORF Marmelete 82.97 41 eP P 13 58 34.9 +0.2
MORF AMb AMB 13 58 38.0
comp=Z,974nm,1.4s
MORF eS S 14 07 59.6 -5.8
MORF Marmelete 82.97 41⇓eP P 13 58 35.1 +0.5
comp=Z,1µm,1.8s
MORF epP pP 14 00 44.7 +4.3
MORF esP sP 14 01 44.1 +4.0
MORF Marmelete 82.97 41 ePP PP 14 02 02.6 +5.6
MORF eS S 14 08 04.0 -1.4
MORF Marmelete 82.97 41 eP P 13 58 34.8 +0.2
MORF eS S 14 07 59.6 -5.8
SMMC Simmler 83.03 316 P P 13 58 36.0 +1.1
baz=132,SNR=86
SPUT South Promonto 83.03 325 eP P 13 58 35.8 +0.9
BGU Big Grassy Mou 83.05 324 eP P 13 58 35.4 +0.3
PTEO Sao Teotonio 83.10 41⇓eP P 13 58 36.0 +0.9
comp=Z,2µm,1.1s
TIN Tinemaha, Big 83.15 319 P P 13 58 36.4 +0.8
baz=133,SNR=79
RCTC Rector, Farmer 83.24 318 P P 13 58 35.7 -0.1
baz=133,SNR=6.2
PBDV Barranco-do-Ve 83.35 41⇓eP P 13 58 37.3 +0.9
comp=Z,2µm,1.2s
PBDV epP pP 14 00 44.5 +2.1
PBDV esP sP 14 01 48.0 +6.0
PBDV Barranco-do-Ve 83.35 41 ePP PP 14 02 00.4 +0.4
PBDV eS S 14 08 05.0 -4.0
AHID Auburn Hatcher 83.45 327 eP P 13 58 37.4 +0.3
AHID epP pP 14 00 44.7 +1.7
AHID LR LR
comp=Z,4µm,20.0s
PAGB Antelope Grade 83.46 317 eP P 13 58 37.9 +0.8
TAM Tamanrasset 83.48 60 eP P 13 58 38.2 +0.6
TAM MLR MLR
comp=Z,3µm,20.0s
TAM Tamanrasset 83.48 60 eP P 13 58 38.2 +0.6
TAM LR LR
comp=Z,3µm,20.0s
ULM Lac du Bonnet 83.53 340 P P 13 58 36.7 -0.3
comp=Z,1000nm,1.0s,baz=150,slow=3.5,SNR=178
ULM pP pP 14 00 44.9 +1.9
comp=Z,278nm,1.1s,baz=139,slow=5.2,SNR=5.0
ULM S S 14 08 01.6 -8.6
comp=Z,33nm,1.0s,baz=348,slow=17,SNR=8.5
ULM PKKPbc PKKPbc 14 16 49.7 -2.6
comp=Z,34nm,0.9s,baz=333,slow=3.4,SNR=15
ULM PKPPKP P'P'df 14 24 54.8 +1.0
comp=Z,12nm,1.1s,baz=324,slow=5.8,SNR=4.2
HVU Hansel Valley 83.54 325 eP P 13 58 37.7 +0.2
HVU Hansel Valley 83.54 325 eP P 13 58 37.6 +0.2
PCVE Castro Verde 83.55 41⇓eP P 13 58 38.0 +0.6
comp=Z,1µm,1.8s
PCVE epP pP 14 00 45.1 +1.7
PCVE esP sP 14 01 42.2 -0.8
PCVE Castro Verde 83.55 41 ePP PP 14 02 01.7 +0.2
PCVE eS S 14 08 07.3 -3.7
PVAQ Vaqueiros 83.58 41⇓eP P 13 58 38.2 +0.7
comp=Z,2µm,1.6s
PVAQ epP pP 14 00 47.4 +3.8
PVAQ esP sP 14 01 42.4 -0.8
PVAQ Vaqueiros 83.58 41 ePP PP 14 02 01.2 -0.6
PVAQ eS S 14 08 11.6 +0.3
MESJ Messejana 83.59 41 eP P 13 58 38.0 +0.4
MESJ AMb AMB 13 58 41.7
comp=Z,1µm,1.3s
MESJ eS S 14 08 03.5 -7.9
MESJ Messejana 83.59 41⇓eP P 13 58 38.3 +0.7
comp=Z,1µm,1.5s
MESJ epP pP 14 00 45.9 +2.3
MESJ esP sP 14 01 44.9 +1.7
MESJ Messejana 83.59 41 ePP PP 14 02 02.6 +0.8
MESJ Messejana 83.59 41 eP P 13 58 37.9 +0.4
MESJ eS S 14 08 03.4 -7.9
PNCL Nicolau / Gran 83.60 40⇓eP P 13 58 38.2 +0.6
comp=Z,1µm,1.5s
PNCL epP pP 14 00 45.5 +1.9
PNCL esP sP 14 01 41.9 -1.3
PNCL Nicolau / Gran 83.60 40 ePP PP 14 01 59.9 -2.0
PNCL eS S 14 08 11.9 +0.5
PMST Lisbon--Monsan 83.66 40⇓eP P 13 58 38.6 +0.7
comp=Z,2µm,1.6s
PMST esP sP 14 01 47.5 +3.9
PMST Lisbon--Monsan 83.66 40 ePP PP 14 02 02.9 +0.5
LIS Lisbon 83.67 40 eP P 13 58 38.3 +0.4
LIS AMb AMB 13 58 42.2
comp=Z,1µm,1.6s
LIS eS S 14 08 03.6 -8.5
LIS Lisbon 83.67 40⇓eP P 13 58 38.6 +0.7
comp=Z,2µm,1.7s
LIS epP pP 14 00 45.8 +1.8
LIS esP sP 14 01 43.3 -0.3
LIS Lisbon 83.67 40 ePP PP 14 02 03.0 +0.6
LIS Lisbon 83.67 40 eP P 13 58 38.3 +0.4
LIS eS S 14 08 03.5 -8.5
PMAFR Mafra 83.76 39⇓eP P 13 58 38.9 +0.5
comp=Z,1µm,1.7s
PMAFR Mafra 83.76 39 ePP PP 14 02 03.5 +0.3
PMAFR eS S 14 08 08.6 -4.4
REDW Red Top Meadow 83.78 327 eP P 13 58 38.9 +0.2
SNOW Snow King Moun 83.81 327 eP P 13 58 39.3 +0.4
SNOW ePcP PcP 13 58 41.5 0.0
LOHW Long Hollow 83.85 327 eP P 13 58 39.4 +0.4
MLAC Mammoth, Mammo 83.90 319 P P 13 58 40.3 +0.9
baz=133,SNR=150
PBEJ Beja 83.92 41⇓eP P 13 58 39.8 +0.6
comp=Z,2µm,1.5s
PBEJ Beja 83.92 41 ePP PP 14 02 03.3 -1.2
TPAW Teton Pass 83.92 327 eP P 13 58 39.8 +0.3
LSZ Lusaka 84.01 104 P P 13 58 42.1 +1.7
comp=Z,816nm,0.8s,baz=235,slow=4.4,SNR=786
LSZ pP pP 14 00 47.9 +1.4
comp=Z,123nm,1.0s,baz=230,slow=6.6,SNR=3.8
LSZ PKPPKP P'P'df 14 24 55.6 -1.9
comp=Z,3.3nm,0.5s,baz=59,slow=4.1,SNR=3.0
LSZ Lusaka 84.01 104 eP P 13 58 42.1 +1.7
comp=Z,2µm,1.3s
LSZ pP pP 14 00 47.9 +1.4
LSZ P'P' 14 24 55.6
LSZ LR LR
comp=Z,4µm,22.0s
LSZ Lusaka 84.01 104 PcP PcP 13 58 42.3 -0.7
LSZ Lusaka 84.01 104 P PcP 13 58 42.3 -0.7
MOOW Moose Ponds 84.02 327 eP P 13 58 40.0 +0.2
FXWY Fox Creek 84.07 327 eP P 13 58 40.4 +0.2
PMPB Monarch Peak 84.11 317 eP P 13 58 41.2 +0.9
EVO Evora 84.18 40⇓eP P 13 58 40.8 +0.3
comp=Z,969nm,1.6s
EVO esP sP 14 01 49.4 +3.1
EVO Evora 84.18 40 ePP PP 14 02 05.7 -0.9
IMW Indian Meadow 84.22 327 eP P 13 58 41.5 +0.5
FLWY Flagg Ranch 84.25 328 eP P 13 58 41.5 +0.5
LAO LASA Array 84.29 332 P P 13 58 41.0 +0.1
baz=143,SNR=351
LAO LASA Array 84.29 332 eP P 13 58 40.9 +0.1
LAO LR LR
comp=Z,4µm,21.0s
TVH2 Borealis Mine 84.36 319 eP P 13 58 42.8 +1.1
TVH3 East Aurora ar 84.38 319 eP P 13 58 43.0 +1.2
RLMT Red Lodge 84.38 329 P P 13 58 42.1 +0.5
baz=140,SNR=469
RLMT Red Lodge 84.38 329 eP P 13 58 41.4 -0.2
RLMT LR LR
comp=Z,4µm,21.0s
TVH1 TV Hill, Hawth 84.42 319 eP P 13 58 42.9 +0.7
H17A Grant Village 84.43 328 P P 13 58 42.7 +0.8
baz=139,SNR=202
H17A Grant Village 84.43 328 eP P 13 58 43.0 +1.1
YPP Pitchstone Pla 84.44 328 eP P 13 58 42.9 +0.9
LKWY Lake 84.48 328 eP P 13 58 43.8 +1.7
LKWY MLR MLR
comp=Z,5µm,20.0s
LKWY Lake 84.48 328 eP P 13 58 43.8 +1.7
LKWY LR LR
comp=Z,5µm,20.0s
PBAR Barrancos 84.50 41⇓eP P 13 58 42.4 +0.4
comp=Z,2µm,1.7s
PBAR epP pP 14 00 49.8 +1.4
PBAR esP sP 14 01 51.9 +4.0
PBAR Barrancos 84.50 41 ePP PP 14 02 09.0 -0.1
PBAR eS S 14 08 20.3 +0.2
PESTR Estremoz 84.65 40⇓eP P 13 58 43.3 +0.5
comp=Z,1µm,1.6s
PESTR Estremoz 84.65 40 ePP PP 14 02 10.1 -0.3
PESTR eS S 14 08 21.3 -0.3
PTOM Tomar 84.70 39⇓eP P 13 58 43.2 +0.2
comp=Z,2µm,1.1s
PTOM Tomar 84.70 39 ePP PP 14 02 11.7 +1.0
YNR Norris Junctio 84.72 328 eP P 13 58 44.4 +1.1
YMR Madison River 84.82 328 eP P 13 58 44.7 +1.1
WAKR Walker 84.84 319 eP P 13 58 45.0 +1.1
YHH Holmes Hill 84.86 328 eP P 13 58 44.7 +0.7
SAO San Andreas Ge 84.87 317 eP P 13 58 44.4 +0.5
SAO San Andreas Ge 84.87 317 eP P 13 58 44.4 +0.5
DGMT Dagmar 84.91 334 P P 13 58 44.7 +0.8
baz=144,SNR=521
DGMT Dagmar 84.91 334 eP P 13 58 44.5 +0.7
DGMT LR LR
comp=Z,3µm,20.0s
BMN Battle Mountai 84.92 322 eP P 13 58 43.8 -0.5
BMN Battle Mountai 84.92 322 eP P 13 58 43.8 -0.5
PCAS Casmilo, Conde 84.96 39⇓eP P 13 58 44.5 +0.3
comp=Z,2µm,1.1s
PCAS esP sP 14 01 52.3 +2.0
PCAS Casmilo, Conde 84.96 39 ePP PP 14 02 11.3 -1.5
PCAS eS S 14 08 24.1 -0.4
YHB Horse Butte 84.99 328 eP P 13 58 45.4 +0.8
YERR Yerington 85.05 320 eP P 13 58 45.8 +0.9
CMB Columbia Colle 85.08 318 eP P 13 58 45.1 +0.2
CMB Columbia Colle 85.08 318 eP P 13 58 45.1 +0.2
GCMT Greycliff 85.08 329 eP P 13 58 44.9 +0.1
PMRV Marv??o 85.15 40⇓eP P 13 58 45.1 -0.1
comp=Z,946nm,1.3s
PMRV esP sP 14 01 56.2 +4.9
PMRV Marv??o 85.15 40 ePP PP 14 02 11.5 -2.8
PMRV eS S 14 08 26.3 -0.1
QLMT Earthquake Lak 85.16 328 eP P 13 58 46.3 +0.9
PNTR Pine Nut 85.33 319 eP P 13 58 47.4 +1.1
PCBR Castelo Branco 85.38 40⇓eP P 13 58 46.2 -0.1
comp=Z,1µm,1.2s
PAHR Pah Rah Range 85.62 320 eP P 13 58 48.5 +0.9
PTO Porto 85.65 38 eP P 13 58 48.1 +0.6
HLID Hailey 85.67 325 P P 13 58 49.0 +1.2
baz=136,SNR=1000
HLID Hailey 85.67 325 eP P 13 58 48.8 +1.0
HLID LR LR
comp=Z,3µm,21.0s
RAR Rarotonga 85.68 248 P P 13 58 47.8 -0.4
comp=Z,127nm,1.0s,baz=198,slow=5.3,SNR=16
RAR pP pP 14 00 56.2 +1.2
comp=Z,95nm,1.1s,baz=204,slow=6.1,SNR=5.9
RAR Rarotonga 85.68 248 eP P 13 58 48.3 +0.1
RAR epP pP 14 00 56.3 +1.2
RAR LR LR
comp=Z,6µm,21.0s
MTE Manteigas 85.72 39⇓eP P 13 58 48.0 +0.1
comp=Z,1µm,1.3s
MTE esP sP 14 01 59.5 +5.2
MTE Manteigas 85.72 39 ePP PP 14 02 18.4 -0.5
MTE eS S 14 08 31.1 -0.8
MTE Manteigas 85.72 39 eP P 13 58 48.1 +0.1
MTE LR LR
comp=Z,3µm,19.0s
BOZ Bozeman (W) 85.83 328 P P 13 58 48.7 +0.2
baz=139,SNR=189
BOZ Bozeman (W) 85.83 328 eP P 13 58 48.4 0.0
BOZ pmax pmax
comp=Z,172nm,0.6s
BOZ MLR MLR
comp=Z,3µm,20.0s
BOZ Bozeman (W) 85.83 328 eP P 13 58 48.4 0.0
comp=Z,172nm,0.6s
BOZ LR LR
comp=Z,3µm,20.0s
MCMT McKenzie Canyo 85.83 327 P P 13 58 49.6 +1.0
AFDM Forest Hills D 86.03 319 eP P 13 58 49.6 +0.2
DLMT Dillon 86.11 328 eP P 13 58 50.4 +0.7
PVRL Vila Real 86.23 38⇓eP P 13 58 50.4 +0.1
comp=Z,1µm,1.7s
POLO Lamas de Olo 86.25 38⇓eP P 13 58 50.5 0.0
comp=Z,483nm,1.5s
POLO epP pP 14 00 59.4 +1.8
POLO esP sP 14 01 59.4 +2.4
POLO eS S 14 08 36.1 -0.9
MFID Camas Ranch 86.28 324 eP P 13 58 51.1 +0.5
PCAB Cabril 86.36 38⇓eP P 13 58 51.3 +0.4
comp=Z,743nm,1.7s
LRM Limekiln Ridge 86.38 328 eP P 13 58 51.8 +0.6
PGAV Gavieira, Arco 86.41 38⇓eP P 13 58 50.5 -0.7
comp=Z,839nm,1.6s
PGAV epP pP 14 00 59.9 +1.5
PGAV eS S 14 08 37.3 -1.0
OTSS Djebel Tessala 86.42 47 P P 13 58 56.0 +4.5
MVO Moncorvo 86.53 39⇓eP P 13 58 52.1 +0.3
comp=Z,1µm,1.9s
MVO epP pP 14 01 00.9 +1.9
MVO esP sP 14 02 01.8 +3.5
MVO Moncorvo 86.53 39 ePP PP 14 02 25.1 -0.2
MVO eS S 14 08 38.0 -1.5
MCCM Marconi Confer 86.63 317 eP P 13 58 52.9 +0.7
ORV Oroville 86.73 319 eP P 13 58 53.1 +0.4
ORV Oroville 86.73 319 eP P 13 58 53.1 +0.4
HRY Holter Researc 86.75 329 eP P 13 58 53.3 +0.5
EGMT Eagleton 86.83 331 P P 13 58 52.9 -0.2
baz=140,SNR=456
EGMT Eagleton 86.83 331 eP P 13 58 52.8 -0.2
EGMT LR LR
comp=Z,2µm,19.0s
USTO Oran 86.86 46 P P 13 58 58.0 +4.7
ODJA Bouhanifia 86.87 47 P P 13 58 54.0 +0.5
PAB San Pablo 86.97 41 eP P 13 58 54.2 +0.3
PAB MLR MLR
comp=Z,3µm,21.0s
PAB San Pablo 86.97 41 eP P 13 58 54.2 +0.3
PAB LR LR
comp=Z,3µm,21.0s
GDXM Geysers 87.01 318 eP P 13 58 55.1 +1.0
WVOR Wild Horse Val 87.07 322 eP P 13 58 54.5 +0.2
WVOR MLR MLR
comp=Z,3µm,21.0s
WVOR Wild Horse Val 87.07 322 eP P 13 58 54.5 +0.2
WVOR LR LR
comp=Z,3µm,21.0s
PBRG Braganca 87.13 39 eP P 13 58 54.8 +0.3
comp=Z,505nm,1.3s
PBRG eS S 14 08 44.7 -0.3
ESDC Sonseca Array 87.28 42 P P 13 58 55.6 +0.3
comp=Z,83nm,0.6s,baz=242,slow=4.8,SNR=226
ESDC pP pP 14 01 04.6 +1.7
comp=Z,40nm,0.9s,baz=235,slow=5.4,SNR=5.7
ESDC PKKPbc PKKPdf 14 16 38.8 +1.6
comp=Z,2.6nm,0.8s,baz=37,slow=5.7,SNR=4.3
ESDC SKKPbc SKKPbc 14 19 24.9 -2.9
comp=Z,1.5nm,0.7s,baz=20,slow=3.1,SNR=4.4
ESDC PKPPKP P'P'df 14 24 48.1 -0.1
comp=Z,0.3nm,0.4s,baz=11,slow=2.6,SNR=4.7
ESLA Sonseca Array 87.28 42 eP P 13 58 55.6 +0.3
HOPS Hopland Field 87.29 318 eP P 13 58 56.5 +1.2
ES19 SONSECA Array 87.34 42 eP P 13 58 55.6 0.0
OJBR Djebel Berber 87.34 47 P P 13 58 57.0 +1.3
O03D Paynes Creek 87.40 319 P P 13 58 55.7 -0.2
baz=131,SNR=234
OJGS Djebel Guires 87.56 47 P P 13 58 55.0 -1.7
CHMT Chamberlain Mo 87.56 328 P P 13 58 56.9 +0.2
MOD Modoc Plateau 87.62 321 eP P 13 58 55.3 -1.7
OKGL Djebel Kef Gue 87.81 47 P P 13 58 55.0 -2.9
MSO Missoula 87.82 328 P P 13 58 58.3 +0.5
baz=137,SNR=226
MSO Missoula 87.82 328 eP P 13 58 58.2 +0.5
ETRT Tiaret 87.84 48 P P 13 58 59.5 +1.4
SLMT Seeley Lake 87.91 328 eP P 13 58 58.5 +0.3
WDC Whiskeytown Da 88.01 319 eP P 13 58 57.8 -0.8
WDC Whiskeytown Da 88.01 319 eP P 13 58 57.8 -0.8
KCPM Cahto Peak 88.04 318 eP P 13 59 00.5 +1.6
KCPM epP pP 14 01 10.2 +3.5
BMO Blue Mountains 88.05 325 eP P 13 58 58.8 0.0
BMO MLR MLR
comp=Z,2µm,21.0s
BMO Blue Mountains 88.05 325 eP P 13 58 58.8 0.0
BMO LR LR
comp=Z,2µm,21.0s
EANR 'Ain N'Sour 88.05 47 P P 13 59 00.8 +1.8
SWMT Swartz Lake 88.34 328 eP P 13 59 00.5 +0.3
ECHA Ech Chlef 88.34 47 P P 13 59 01.5 +1.2
N02D Trinity Center 88.36 319 P P 13 59 00.3 -0.1
baz=131,SNR=212
M04C Macdoel 88.39 320 P P 13 59 01.2 +0.6
baz=131,SNR=219
KMRM Mail Ridge 88.46 318 eP P 13 59 02.4 +1.5
K05A Summer Lake 88.49 321 P P 13 59 01.9 +0.9
EBNR Beni Rached 88.53 47 P P 13 59 02.9 +1.7
YBMT Yellow Bay 88.61 328 eP P 13 59 02.0 +0.6
JTMT Jette 88.65 328 eP P 13 59 02.0 +0.4
M02C Callahan 88.72 319 P P 13 59 02.4 +0.3
baz=130,SNR=188
F10A Beach Ranch, E 88.79 326 P P 13 59 02.0 -0.3
BLMT Blacktail Moun 88.88 328 eP P 13 59 03.0 +0.2
KHMM Horse Mountain 88.89 319 eP P 13 59 04.2 +1.3
K04D Chiloquin, OR 88.90 321 P P 13 59 03.6 +0.7
baz=131,SNR=52
BSMT Bassoo Peak 88.96 328 eP P 13 59 03.3 +0.2
JCC Jacoby Creek, 89.03 318 eP P 13 59 04.6 +1.3
J05D Fort Rock, OR 89.05 322 P P 13 59 04.2 +0.6
baz=132,SNR=57
FFC Flin Flon 89.29 339 eP P 13 59 04.5 +0.3
FFC MLR MLR
comp=Z,3µm,22.0s
FFC Flin Flon 89.29 339 eP P 13 59 04.5 +0.3
FFC LR LR
comp=Z,3µm,22.0s
EMHD Djebel Mahouad 89.40 48 P P 13 59 06.7 +1.3
KRMB Red Mountain 89.41 319 eP P 13 59 06.4 +1.2
WALA Waterton Lakes 89.43 329 eP P 13 59 05.2 0.0
J04D Umpqua Nationa 89.50 321 P P 13 59 06.2 +0.5
baz=131,SNR=168
HUMO Hull Mountain 89.56 320 eP P 13 59 05.6 -0.3
E09A Wood Farm, Sta 89.63 326 eP P 13 59 05.6 -0.4
L02D Cave Junction, 89.64 320 P P 13 59 07.0 +0.8
baz=130,SNR=198
ADJB Djebel Djouab 89.69 48 P P 13 59 08.1 +1.4
I05D Terrebonne, OR 89.81 322 P P 13 59 07.7 +0.7
baz=132,SNR=295
ABA Alger-Bouzarea 89.81 47 P P 13 59 08.0 +0.9
MCQ Macquarie Isla 89.82 203 eP P 13 59 07.8 +0.9
MCQ Macquarie Isla 89.82 203 eP P 13 59 07.8 +0.9
AKET Djebel Ketaf 89.92 48 P P 13 59 10.0 +2.2
KBO Bosley Butte 90.03 319 eP P 13 59 09.5 +1.4
G06A Carlson Farm, 90.03 323 eP P 13 59 08.4 +0.5
I04A Tendick Farm, 90.03 322 P P 13 59 07.8 -0.2
baz=131,SNR=124
ATAF Djebel Tarf 90.08 49 P P 13 59 10.3 +1.8
HAWA Hanford 90.24 325 eP P 13 59 09.2 +0.4
HAWA LR LR
comp=Z,2µm,20.0s
NEW Newport 90.35 327 PKKPbc PKKPbc 14 16 35.9 +0.2
comp=Z,14nm,1.0s,baz=341,slow=2.5,SNR=6.5
NEW Newport 90.35 327 P P 13 59 08.7 -0.7
baz=135,SNR=73
NEW Newport 90.35 327 eP P 13 59 08.7 -0.7
NEW MLR MLR
comp=Z,2µm,20.0s
NEW Newport 90.35 327 eP P 13 59 08.7 -0.7
NEW PKKPbc PKKPbc 14 16 35.9 +0.2
NEW LR LR
comp=Z,2µm,20.0s
D08A Wollman Farm, 90.39 326 eP P 13 59 09.6 +0.1
G05D Wamic, OR 90.39 323 P P 13 59 10.3 +0.7
baz=132,SNR=184

NRS Narsarsuaq 90.41 8 *i* P **P** 13 59 10.2 +1.0
comp=Z,207nm,0.6s
NRS *i* 14 01 16.4
NRS Narsarsuaq 90.41 8 *i* P **P** 13 59 10.2 +1.0
NRS *i* 14 01 16.4
NRS pmax pmax
comp=Z,210nm,0.6s
I03D Drain, OR 90.49 321 P **P** 13 59 10.6 +0.6
baz=130,SNR=103
KEBM Edson Butte 90.51 320 *e*P **P** 13 59 11.3 +1.1
E07A Sunnyside 90.52 325 *e*P **P** 13 59 10.6 +0.5
FCC Fort Churchill 90.59 344 *e*P **P** 13 59 10.4 +0.3
FCC Fort Churchill 90.59 344 *e*P **P** 13 59 10.4 +0.3
CKHR Kef el Ahmar 90.98 49 P **P** 13 59 13.9 +1.2
SET Setif 91.01 49 P **P** 13 59 15.0 +2.2
COR Corvallis 91.03 322 *e*P **P** 13 59 13.6 +1.1
COR Corvallis 91.03 322 *e*P **P** 13 59 13.6 +1.1
OSSF Osses 91.14 40|| *e*P **P** 13 59 13.3 +0.3
LARF Larrau 91.16 40|| *e*P **P** 13 59 14.1 +0.9
ORDF Ordiarp 91.30 40|| *e*P **P** 13 59 13.8 0.0
ATE Arette 91.35 41|| *e*P **P** 13 59 14.8 +0.7
G03D McMinnville, O 91.42 322 P **P** 13 59 14.8 +0.6
baz=130,SNR=51
F04A Amboy 91.43 323 *e*P **P** 13 59 14.1 -0.2
B08A Colville Reser 91.48 326 *e*P **P** 13 59 14.0 -0.6
REYF Montagne du Re 91.52 41|| *e*P **P** 13 59 15.8 +0.9
DFRA Djebel Bou Aff 91.52 49 P **P** 13 59 16.9 +1.7
CTEI Djebel Teioual 91.60 49 P **P** 13 59 16.4 +0.8
VIEF Viey 91.64 41|| *e*P **P** 13 59 16.3 +0.8
CASM Ain Smara 91.77 49 P **P** 13 59 17.5 +1.3
RESF Ens 91.78 41|| *e*P **P** 13 59 17.0 +0.8
F04D Rainier, OR 91.84 323 P **P** 13 59 16.7 +0.4
baz=130,SNR=18
MQZ McQueen's Vall 91.91 217 *e*P **P** 13 59 17.6 +0.9
MQZ McQueen's Vall 91.91 217 PN **P** 13 59 16.9 +0.1
BFZ Birch Farm 91.94 221 *e*P **P** 13 59 18.7 +1.7
FRB Frobisher Bay 91.95 358 pP pP 14 01 25.9 +1.1
comp=Z,59nm,1.1s,baz=174,slow=5.8,SNR=3.1
C06D Leavenworth 91.96 325 P **P** 13 59 15.9 -0.9
baz=132,SNR=6.0
CKFL Kef-Lekhel 92.00 49 P **P** 13 59 18.1 +0.7
CRLZ Canterbury Las 92.01 217 *e*P **P** 13 59 18.9 +1.7
CRLZ Canterbury Las 92.01 217 PKKP **PKKPbc** 14 16 31.3 +0.2
ODZ Otahua Downs 92.01 215 *e*P **P** 13 59 18.4 +1.2
ODZ Otahua Downs 92.01 215 PN **P** 13 59 17.9 +0.6
ODZ pP **pP** 14 01 25.7 +0.1
D05A Enumclaw 92.03 324 *e*P **P** 13 59 16.9 -0.1
EDM Edmonton 92.25 332 *e*P **P** 13 59 17.3 -0.7
EDM Edmonton 92.25 332 *e*P **P** 13 59 17.3 -0.7
CAEH 'Ain El Ouahch 92.30 49 P **P** 13 59 19.5 +0.9
KHZ Kahutara 92.31 218 *e*P **P** 13 59 19.5 +0.9
KHZ Kahutara 92.31 218 PN **P** 13 59 19.4 +0.8
KHZ pP **pP** 14 01 27.5 +0.5
KHZ PKKP **PKKPbc** 14 16 28.7 -1.6
MRZ Mangatainoka R 92.34 221 PN **P** 13 59 19.3 +0.5
MRZ pP **pP** 14 01 26.7 -0.6
SNZO South Karori 92.40 220 *e*P **P** 13 59 20.1 +1.0
SNZO LR LR
comp=Z,3µm,19.0s
PUZ Puketiti 92.42 224 PN **P** 13 59 20.4 +1.1
E03A Lebam 92.43 323 *e*P **P** 13 59 19.2 +0.4
ABSA Djebel Ababsia 92.44 50 P **P** 13 59 20.0 +0.7
VAL Valentia 92.45 30|| *i*P **P** 13 59 18.9 +0.1
OXZ Oxford 92.49 217 *e*P **P** 13 59 19.9 +0.4
VALF Valcebollere 92.52 42|| *e*P **P** 13 59 20.5 +0.9
CMAH Djebel Manchou 92.59 49 P **P** 13 59 20.5 +0.5
MWZ Matawai 92.69 223 *e*PN **P** 13 59 21.4 +0.8
MWZ SKS **SKSac** 14 08 58.6 +0.5
LBZ Lake Benmore 92.71 215 *e*P **P** 13 59 21.4 +0.9
WHZ Wether Hill Ro 92.73 213 *e*P **P** 13 59 21.3 +0.7
RPZ Rata Peaks 92.74 216 P **P** 13 59 21.2 +0.6
comp=Z,180nm,0.9s,baz=196,slow=2.1,SNR=21
RPZ pP **pP** 14 01 29.7 +0.6
comp=Z,129nm,0.9s,baz=44,slow=6.0,SNR=9.9
RPZ S **SKSac** 14 09 05.1 +7.0
comp=Z,37nm,1.1s,baz=31,slow=21,SNR=4.0
RPZ PKKPbc **PKKPbc** 14 16 29.1 -0.2
comp=Z,20nm,0.6s,baz=268,slow=1.4,SNR=11
RPZ PKPPKP **P'P'df** 14 24 38.4 -1.9
comp=Z,24nm,0.9s,baz=30,slow=8.4,SNR=4.3
RPZ Rata Peaks 92.74 216 PN **P** 13 59 20.7 +0.1
RPZ pP **pP** 14 01 28.0 -1.1
LTZ Lake Taylor 92.74 217 *e*P **P** 13 59 21.6 +0.9
LTZ Lake Taylor 92.74 217 PN **P** 13 59 21.4 +0.7
LTZ pP **pP** 14 01 29.6 +0.4
CARF Carcanieres 92.75 42|| *e*P **P** 13 59 21.7 +1.0
BKZ Black Stump Fm 92.78 222 *e*P **P** 13 59 22.4 +1.4
BKZ Black Stump Fm 92.78 222 *e*PN **P** 13 59 22.1 +1.1
B05A Bryant 92.79 325 P **P** 13 59 19.8 -0.7
baz=131,SNR=74
HAZ Te Kaha 92.91 224 *e*PN **P** 13 59 22.6 +1.1
FILF Fillols 92.93 42|| *e*P **P** 13 59 21.7 +0.3
WKZ Wanaka 92.98 214 *e*P **P** 13 59 23.0 +1.3
URZ Urewera 92.99 223 P **P** 13 59 22.1 +0.2
comp=Z,29nm,0.7s,baz=186,slow=1.4,SNR=16
URZ pP **pP** 14 01 29.2 -1.1
comp=Z,79nm,1.3s,baz=85,slow=7.3,SNR=3.9
URZ S **SKSac** 14 08 58.9 -0.7
comp=Z,84nm,0.9s,baz=342,slow=22,SNR=17
URZ PKPPKP **P'P'df** 14 24 35.4 -4.6
comp=Z,25nm,1.0s,baz=10.0,slow=3.7,SNR=4.2
URZ Urewera 92.99 223 *e*P **P** 13 59 23.0 +1.1
URZ pP **pP** 14 01 29.2 -1.1
URZ S **SKSac** 14 08 58.9 -0.7
URZ P'P' 14 24 35.4
URZ Urewera 92.99 223 *e*PN **P** 13 59 22.4 +0.6
MLZ Mavora Lakes 93.03 213 *e*P **P** 13 59 22.8 +0.8
SJAF Saint Jean de 93.08 43|| *e*P **P** 13 59 22.2 +0.2
THZ Tophouse 93.10 218 *e*P **P** 13 59 23.5 +1.1
THZ Tophouse 93.10 218 PN **P** 13 59 22.9 +0.6
THZ pP **pP** 14 01 31.5 +0.6
THZ SKS **SKSac** 14 08 56.9 -3.2
NLWA Neilton Lookou 93.14 324 *e*P **P** 13 59 22.4 +0.2
NLWA LR LR
comp=Z,3µm,20.0s
LRDF Laroque-de-Fa 93.14 42|| *e*P **P** 13 59 22.5 +0.2
NNZ Nelson 93.20 219 PN **P** 13 59 23.2 +0.4
NNZ pP **pP** 14 01 32.1 +0.8
NNZ SKS **SKSac** 14 08 56.6 -4.0
INZ Inchbonnie 93.22 217 PN **P** 13 59 22.6 -0.2
INZ SKS **SKSac** 14 08 57.1 -3.6
INZ PKKP **PKKPdf** 14 16 25.3 +1.4
WVZ Waitaha Valley 93.35 216 PN **P** 13 59 22.9 -0.5
WVZ SKS **SKSac** 14 08 56.3 -5.0
WVZ PKKP **PKKPbc** 14 16 26.3 -1.4
A04D Lummi Island 93.40 325 P **P** 13 59 23.2 0.0
baz=130,SNR=7.0
KEST Kesra 93.41 51 P **P** 13 59 24.3 +0.5
comp=Z,48nm,0.8s,baz=233,slow=2.3,SNR=48
KEST pP **pP** 14 01 33.8 +1.4
comp=Z,73nm,1.0s,baz=168,slow=3.0,SNR=4.9
KEST S **SKSac** 14 09 05.0 +3.3
comp=Z,16nm,1.0s,baz=214,slow=23,SNR=6.5
KEST PKKPbc **PKKPbc** 14 16 28.1 +0.8
comp=Z,15nm,0.9s,baz=97,slow=4.7,SNR=13
KEST SKKPbc **SKKPbc** 14 19 11.5 -1.1
comp=Z,8.0nm,0.9s,baz=337,slow=2.9,SNR=3.6
DCZ Deep Cove 93.43 213 *e*P **P** 13 59 25.4 +1.7
FOZ Fox Glacier 93.50 216 *e*P **P** 13 59 24.7 +0.6
FOZ Fox Glacier 93.50 216 PN **P** 13 59 24.4 +0.3
CCA1 Carnmenellis 93.54 33 *e*P **P** 13 59 23.4 -0.5
JCZ Jackson Bay 93.64 215 *e*PN **P** 13 59 23.4 -1.4
JCZ pP **pP** 14 01 33.6 +0.3
JCZ PKKP **PKKPbc** 14 16 26.8 -0.3
DSZ Denniston Nort 93.71 218 P **P** 13 59 24.2 -0.9
DSZ PKKP **PKKPbc** 14 16 25.4 -1.4
PGC Sidney 93.73 325 *e*P **P** 13 59 24.9 +0.2
IGLA Glengowla, Co 93.87 29 *e*P **P** 13 59 24.8 -0.5
QRZ Quartz Range 93.94 219 PN **P** 13 59 25.4 -0.7
HIZ Hauiti 94.17 222 *e*P **P** 13 59 27.8 +0.5
HIZ Hauiti 94.17 222 PN **P** 13 59 27.1 -0.2
HIZ PKKP **PKKPbc** 14 16 25.6 +0.2
LLLB Lillooet 94.22 327 *e*P **P** 13 59 26.5 -0.5
DYA Yadsworthy 94.33 33 *e*P **P** 13 59 26.2 -1.2
DYA AMB AMB 13 59 28.8
comp=Z,302nm,1.2s
DYA Yadsworthy 94.33 33 *e*P **P** 13 59 26.9 -0.5
JSA Saint Aubin 94.40 35 *e*P **P** 13 59 27.6 -0.1
JSA AMB AMB 13 59 29.4
comp=Z,347nm,1.2s
HTL Hartland 94.43 33 *e*P **P** 13 59 27.7 -0.2
JRS Jersey 94.44 35|| *e*P **P** 13 59 27.8 -0.2

XMAS Kiritimati 94.76 270 *e*P **P** 13 59 32.9 +2.6
XMAS LR LR
comp=Z,6.0nm,19.0s
VERF Verneugheol 94.78 40|| *e*P **P** 13 59 30.2 +0.5
LBL Lubilhac 94.91 41|| *e*P **P** 13 59 31.4 +1.1
MKAZ Moumakai 94.92 223 pP pP 14 01 38.2 -1.1
DSB Dublin 95.06 30 *e*P **P** 13 59 29.7 -1.0
RAO Raoul Island 95.31 233 PFAKE 13 59 40.0 +7.4
RAO LR LR
comp=Z,1µm,19.0s
AGO Saint Agoulin 95.33 40|| *e*P **P** 13 59 32.8 +0.7
LPW Lampeter 95.36 32 *e*P **P** 13 59 31.5 -0.6
LPW AMB AMB 13 59 33.4
comp=Z,287nm,1.1s
VSL Villasalto 95.45 48 *e*P **P** 13 59 33.5 +0.7
VSL LR LR
comp=Z,2µm,21.0s
PLDF La Plantade 95.55 40|| *e*P **P** 13 59 34.0 +0.8
SFJD Kangerlussuaq 95.58 5 P **P** 13 59 33.5 +0.7
comp=Z,36nm,0.7s,baz=196,slow=4.9,SNR=14
SFJD pP **pP** 14 01 42.3 +0.7
comp=Z,47nm,1.1s,baz=212,slow=6.6,SNR=3.7
SFJD Kangerlussuaq 95.58 5 *i*P **P** 13 59 33.4 +0.7
comp=Z,139nm,1.2s
SFJD *i* 14 01 44.2
SFJD Kangerlussuaq 95.58 5 *e*P **P** 13 59 33.4 +0.7
SFJD pP **pP** 14 01 42.3 +0.7
SFJD LR LR
comp=Z,3µm,20.0s
HGH Gray Hill 95.65 33 *e*P **P** 13 59 32.6 -0.8
SSB Saint Sauveur 95.68 41|| *e*P **P** 13 59 34.5 +0.7
SSB Saint Sauveur 95.68 41 *e*P **P** 13 59 33.9 +0.1
SSB MLR MLR
comp=Z,3µm,22.0s
SSB Saint Sauveur 95.68 41 *e*P **P** 13 59 33.9 +0.1
SSB LR LR
comp=Z,3µm,22.0s
OG26 St.-Nazaire-De 95.73 42|| *e*P **P** 13 59 35.0 +1.0
MONM Monmouth 95.78 33 *e*P **P** 13 59 33.0 -0.9
MONM AMB AMB 13 59 35.0
comp=Z,278nm,1.4s
OLDB Oldbury-Upon-S 95.79 33 *e*P **P** 13 59 33.6 -0.4
OLDB AMB AMB 13 59 35.0
comp=Z,164nm,1.0s
MCH1 Michaelchurch 95.79 33 *e*P **P** 13 59 33.3 -0.7
MCH1 AMB AMB 13 59 35.1
comp=Z,256nm,1.2s
GMM Mts of Mourne 95.91 30 *e*P **P** 13 59 33.3 -1.2
WLF1 Llynfaes 95.98 31⇑ *e*P **P** 13 59 34.1 -0.7
WLF1 AMB AMB 13 59 36.0
comp=Z,285nm,1.6s
WPS Cemaes, Angles 96.00 31 *e*P **P** 13 59 34.2 -0.7
LLW Llanuwchllyn 96.03 32 *e*P **P** 13 59 34.3 -0.8
LLW AMB AMB 13 59 36.1
comp=Z,996nm,1.6s
STRD Stroud 96.05 33 *e*P **P** 13 59 34.4 -0.8
STRD AMB AMB 13 59 36.3
comp=Z,400nm,0.9s
SWN1 Swindon 96.06 33 *e*P **P** 13 59 34.6 -0.6
SWN1 AMB AMB 13 59 36.5
comp=Z,355nm,1.0s
HLM1 Long Mynd 96.18 32 *e*P **P** 13 59 34.9 -0.9
HLM1 AMB AMB 13 59 36.9
comp=Z,220nm,1.4s
WPM1 Penmaenmawr 96.18 31 *e*P **P** 13 59 35.2 -0.6
WOL Wolverton 96.21 34⇑ *e*P **P** 13 59 35.6 -0.4
FOEL Foel Wylfa 96.27 32 *e*P **P** 13 59 35.7 -0.4
FOEL AMB AMB 13 59 37.4
comp=Z,251nm,1.4s
SSW Stow on the Wo 96.32 33 *e*P **P** 13 59 35.8 -0.6
GRN Grenoble 96.36 42|| *e*P **P** 13 59 37.8 +0.9
GCL Cushendall 96.40 29 *e*P **P** 13 59 36.3 -0.4
WIM Isle of Man 96.42 30 *e*P **P** 13 59 35.9 -0.9
GDM Grand'Maison 96.56 42|| *e*P **P** 13 59 38.6 +0.7
HMNX Herstmonceux 96.71 35 *e*P **P** 13 59 38.1 -0.1
HMNX AMB AMB 13 59 40.3
comp=Z,504nm,1.1s
BNI Bardonecchia 96.80 42 *e*P **P** 13 59 39.8 +0.8
BNI MLR MLR
comp=Z,3µm,20.0s
BNI Bardonecchia 96.80 42 *e*P **P** 13 59 39.8 +0.8
BNI LR LR
comp=Z,3µm,20.0s
GMK Mull of Kintyr 96.81 29 *e*P **P** 13 59 38.1 -0.4
STNC Stoke 96.86 32 *e*P **P** 13 59 39.0 +0.2
STNC AMB AMB 13 59 40.4
comp=Z,333nm,1.3s
GAL1 Galloway 96.87 30 *e*P **P** 13 59 38.1 -0.6
CLTB Caltabellotta 97.03 51 PFAKE 13 59 50.0 +10
CLTB LR LR
comp=Z,2µm,21.0s
WDD Wied Dalam 97.06 53 PFAKE 13 59 50.0 +10
WDD LR LR
comp=Z,4µm,20.0s
RSL Roselend 97.12 42|| *e*P **P** 13 59 43.0 +2.6
ELSH Elham, Standar 97.28 35 *e*P **P** 13 59 40.8 +0.1
ELSH AMB AMB 13 59 43.4
comp=Z,455nm,0.8s
KESW Keswick, Cumbr 97.40 31 *e*P Pdif 13 59 41.0 -0.2
KESW AMB AMB 13 59 43.3
comp=Z,221nm,1.0s
BBO1 Bothel 97.43 30 *e*P Pdif 13 59 40.7 -0.6
OG01 Vacheresse 97.51 41|| *e*P **P** 13 59 42.2 +0.2
PGBU Glenifferbraes 97.59 29 *e*P Pdif 13 59 40.8 -1.1
PGBU AMB AMB 13 59 43.4
comp=Z,309nm,1.2s
BHH Howats Hill 97.67 30 *e*P Pdif 13 59 42.0 -0.4
ILULI Ilulissat 97.74 4 *i*P **P** 13 59 42.3 0.0
ILULI *i* 14 01 51.1
ILULI Ilulissat 97.74 4 *i*P **P** 13 59 42.3 0.0
ILULI *i* 14 01 51.1
ECK Cauldkaine Hil 97.77 30⇑ *e*P Pdif 13 59 42.3 -0.5
VAE Valguarnera 97.80 52 P **P** 13 59 45.0 +1.6
comp=Z,14nm,0.4s,baz=183,slow=3.8,SNR=5.3
ESK Eskdalemuir 97.82 30 *e*P Pdif 13 59 42.4 -0.6
ESK AMB AMB 13 59 44.3
comp=Z,136nm,1.0s
ESK Eskdalemuir 97.82 30 *e*P Pdif 13 59 42.6 -0.4
ESK *e*PP pP 14 01 53.6 +1.4
ESK pmax pmax
comp=Z,101nm,0.8s
ESK MLR MLR
comp=Z,2µm,21.0s
ESK Eskdalemuir 97.82 30 *e*Pdif Pdif 13 59 42.6 -0.4
comp=Z,101nm,0.8s
ESK *e*pP pP 14 01 53.6 +1.4
ESK LR LR
comp=Z,2µm,21.0s
EKA Eskdalemuir Ar 97.85 30 P Pdif 13 59 42.3 -0.8
comp=Z,38nm,0.6s,baz=236,slow=6.6,SNR=78
EKA pP pP 14 01 52.4 +0.1
comp=Z,21nm,0.9s,baz=224,slow=3.5,SNR=4.8
EKA PP **PP** **14 03 49.7 -2.5**
comp=Z,10nm,0.8s,baz=225,slow=4.6,SNR=3.5
EKA PKKPbc **PKKPbc** **14 16 15.2 -0.9**
comp=Z,9.2nm,0.7s,baz=60,slow=3.7,SNR=11
EKA SKKPbc SKKPbc 14 19 00.8 -2.4
comp=Z,2.4nm,0.7s,baz=17,slow=3.6,SNR=3.6
ABPO Ambohimpanom 97.86 116 *e*P **P** 13 59 45.4 +1.0
ABPO pmax pmax
comp=Z,163nm,1.0s
ABPO MLR MLR
comp=Z,1µm,20.0s
ABPO Ambohimpanom 97.86 116 *e*Pdif **P** 13 59 45.4 +1.0
comp=Z,163nm,1.0s
ABPO LR LR
comp=Z,1µm,20.0s
SENIN Lac Senin/Sane 97.89 41 *e*Pdif **P** 13 59 44.5 +0.6
WACR West Acre 97.98 33 *e*P Pdif 13 59 43.3 -0.5
WACR AMB AMB 13 59 44.8
comp=Z,469nm,1.6s
KPL Plockton 98.11 28 *e*P Pdif 13 59 43.5 -0.7
KPL AMB AMB 13 59 45.4
comp=Z,102nm,1.0s
LOMF Lomont 98.16 40|| *e*P **P** 13 59 45.2 +0.3
THEF They Montfort 98.17 39|| *e*P **P** 13 59 45.2 +0.4
KAC Achnashellach 98.36 28⇑ *e*P Pdif 13 59 44.9 -0.5
RRR Rubha Reidh 98.39 27 *e*P Pdif 13 59 44.8 -0.6
BORG Borgarnes 98.39 17 P **P** 13 59 46.6 +1.2
comp=Z,32nm,0.7s,baz=47,slow=1.9,SNR=15
BORG pP **pP** 14 01 55.8 +1.3
comp=Z,60nm,1.2s,baz=143,slow=1.7,SNR=2.5
BORG Borgarnes 98.39 17 P **P** 13 59 46.6 +1.2
BORG *PP **pP** 14 01 55.8 +1.3
BORG pmax pmax
comp=Z,28nm,0.6s
BORG pmax pmax
comp=Z,61nm,1.2s
BORG Borgarnes 98.39 17 *e*Pdif **P** 13 59 46.0 +0.6
comp=Z,895nm,2.3s
BORG pP **pP** 14 01 55.8 +1.3
BORG LR LR
comp=Z,3µm,20.0s
DOU Dourbes 98.46 37 P Pdif 13 59 45.3 -0.7
comp=Z,124nm,1.7s
SNF Seneffe 98.53 37 P **P** 13 59 46.7 +0.4
VLC Villacollemand 98.56 44 *e*Pdif Pdif 13 59 46.0 -0.6
comp=Z,45nm,1.0s
VLC LR LR
comp=Z,1µm,20.0s
KMBO Kilima Mbogo 98.60 96 P **P** 13 59 49.3 +1.4
comp=Z,7.9nm,1.0s,baz=237,slow=4.6,SNR=12
KMBO pP **pP** 14 01 58.6 +1.6
comp=Z,4.6nm,0.7s,baz=236,slow=3.8,SNR=1.5
KMBO PKKPbc **PKKPdf** 14 16 15.6 +0.3
comp=Z,2.7nm,0.5s,baz=47,slow=2.4,SNR=5.7
KMBO Kilima Mbogo 98.60 96 P **P** 13 59 49.3 +1.4
KMBO *PP **pP** 14 01 58.6 +1.6
KMBO pmax pmax
comp=Z,6.0nm,0.9s
KMBO pmax pmax
comp=Z,5.0nm,0.7s
KMBO Kilima Mbogo 98.60 96 *e*Pdif **P** 13 59 50.5 +2.6
comp=Z,32nm,1.3s
KMBO pP **pP** 14 01 58.6 +1.6
KMBO PKKPbc **PKKPdf** 14 16 15.6 +0.3
KMBO LR LR
comp=Z,3µm,20.0s
KMBO Kilima Mbogo 98.60 96 Pdiff Pdif 13 59 47.2 -0.6
KMBO Kilima Mbogo 98.60 96 P Pdif 13 59 47.2 -0.6
MOF Molkenrain 98.60 40|| *e*P **P** 13 59 46.9 0.0
MDO Dochfour 98.70 28 *e*P Pdif 13 59 46.3 -0.5
ECH Echery 98.82 40|| *e*P **P** 13 59 48.0 +0.2
BCLA Clavier 99.02 37 P **Pdif** 13 59 48.5 +0.1
comp=Z,120nm,1.7s
WLF Walferdange 99.06 38 P **Pdif** 13 59 49.7 +1.0
comp=Z,280nm,1.5s
WLF Walferdange 99.06 38 *e*P **Pdif** 13 59 49.1 +0.4
WLF pmax pmax
comp=Z,459nm,1.1s
WLF MLR MLR
comp=Z,3µm,20.0s
WLF Walferdange 99.06 38 *e*Pdif **Pdif** 13 59 49.1 +0.4
comp=Z,459nm,1.1s
WLF LR LR
comp=Z,3µm,20.0s
TUE Stuetta 99.14 42 *e*Pdif **Pdif** 13 59 49.7 +0.3
TUE LR LR
comp=Z,3µm,20.0s
MME1 Meikle Cairn 99.20 28⇑ *e*P **Pdif** 13 59 48.5 -0.6
CEL Celeste 99.20 52 *e*Pdif **Pdif** 13 59 48.7 -1.0
comp=Z,67nm,1.1s
CEL LR LR
comp=Z,3µm,20.0s
AFI Afiamalu 99.23 249 PKKPbc PKKPbc 14 16 12.6 +1.3
comp=Z,21nm,0.5s,baz=154,slow=2.4,SNR=6.4
AFI Afiamalu 99.23 249 PKKPbc PKKPbc 14 16 12.6 +1.3
AFI LR LR
comp=Z,4µm,20.0s
MCD Coleburn Disti 99.25 28 *e*P **Pdif** 13 59 49.7 +0.4
BEBN Eben Emael 99.43 37 P **Pdif** 13 59 51.1 +0.8
YKA Yellowknife Ar 99.47 338 P **Pdif** 13 59 49.8 -0.4
comp=Z,60nm,0.6s,baz=130,slow=4.5,SNR=234
YKA pP **pP** 14 01 59.4 0.0
comp=Z,43nm,1.1s,baz=130,slow=4.6,SNR=6.8
YKA PP **PP** 14 04 03.5 -0.6
comp=Z,19nm,0.7s,baz=116,slow=7.0,SNR=3.9
YKA S **SKSac** 14 09 33.6 +2.5
comp=Z,5.6nm,0.8s,baz=123,slow=5.6,SNR=3.8
YKA PKKPbc **PKKPbc** 14 16 09.4 -2.4
comp=Z,5.7nm,0.9s,baz=327,slow=3.5,SNR=19
YKA PKPPKP **P'P'df** 14 24 19.4 -4.6
comp=Z,3.8nm,1.0s,baz=304,slow=1.8,SNR=4.0
MEM Membach 99.50 37 P **Pdif** 13 59 50.9 +0.3
comp=Z,88nm,1.7s
BFO Black Forest 99.54 40 *i*P **Pdif** 13 59 51.4 +0.5
AQU L'Aquila 99.54 47 PFAKE 14 00 00.0 +8.9
AQU LR LR
comp=Z,3µm,21.0s
HGN Heimansgroeve 99.54 37 *e*P **Pdif** 13 59 50.9 +0.1
HGN *e*pP **pP** 14 02 00.7 +0.6
DAVOX Davos/Dischmat 99.61 42 P **Pdif** 13 59 52.0 +0.5
comp=Z,28nm,0.8s,baz=217,slow=7.7,SNR=36
DAVOX pP **pP** 14 02 01.1 +0.3
comp=Z,20nm,1.0s,baz=126,slow=1.6,SNR=2.8
FUORN Ofenpass-Fuorn 99.76 42 *e*Pdif **Pdif** 13 59 53.1 +0.9
DAVA Damuels 99.88 41 *i*Pdiff **Pdif** 13 59 53.1 +0.5
comp=Z,78nm,1.1s,SNR=30
DAVA *i* pP **pP** 14 02 04.0 +2.1
comp=Z,115nm,1.6s,SNR=7.5
DAVA *i* PKKPdf **PKKPbc** 14 16 10.4 0.0
comp=Z,11nm,0.6s
CUC Castrocucco 99.98 50 *e*Pdif **Pdif** 13 59 53.4 +0.3
comp=Z,16nm,0.9s
CUC LR LR
comp=Z,2µm,20.0s
TIP Timpagrande 100.24 51 P **Pdif** 13 59 47.1 -7.2
TIP Timpagrande 100.24 51 *e*Pdif **Pdif** 13 59 53.0 -1.2
comp=Z,45nm,1.2s
TIP LR LR
comp=Z,3µm,21.0s
FETA Feichten 100.24 42 *i*Pdiff **Pdif** 13 59 55.1 +0.9
comp=Z,97nm,1.2s,SNR=43
FETA *i* pP pP 14 02 05.7 +2.1
comp=Z,93nm,1.4s,SNR=8.9
FETA *i* PKKPdf **PKKPbc** 14 16 09.4 0.0
comp=Z,34nm,1.0s,SNR=9.4
STU Stuttgart 100.26 40 *e*P **Pdif** 13 59 54.7 +0.7
STU pmax pmax
comp=Z,215nm,1.3s
STU Stuttgart 100.26 40 *e*Pdif **Pdif** 13 59 54.7 +0.7
comp=Z,215nm,1.3s
RETA Reutte 100.50 42 *i*Pdiff **Pdif** 13 59 56.3 +1.0
comp=Z,68nm,1.3s,SNR=32
RETA *i* pPdiff pP 14 02 06.6 +2.0
comp=Z,82nm,1.5s,SNR=9.9
RETA *i* PKKPbc **PKKPbc** 14 16 08.3 -0.2
comp=Z,29nm,1.1s,SNR=6.1
MOTA Moosalm 100.62 42 *i*Pdiff **Pdif** 13 59 56.0 +0.1
comp=Z,50nm,1.3s,SNR=16
MOTA *i* PKKPbc **PKKPbc** 14 16 07.8 -0.5
comp=Z,39nm,0.9s,SNR=7.5
WTSB Winterswijk 100.66 36 *e*P **Pdif** 13 59 55.5 -0.2
comp=Z,144nm,0.9s
WTSB *e*pP pP 14 02 05.9 +0.9
WATA Walderalm 100.90 42 *i*Pdiff **Pdif** 13 59 57.9 +0.8
comp=Z,48nm,1.2s,SNR=11
WATA *i* pPdiff pP 14 02 09.5 +3.0
comp=Z,73nm,1.4s,SNR=7.0
WTTA Wattenberg 100.90 42 *i*Pdiff **Pdif** 13 59 58.0 +0.9
comp=Z,37nm,1.8s,SNR=13
WTTA *i* pPdiff pP 14 02 09.9 +3.4
comp=Z,79nm,1.8s,SNR=5.4
WTTA *i* PKKPbc **PKKPbc** 14 16 07.3 -0.2
comp=Z,26nm,1.0s
ABTA Abfaltersbach 101.16 43 *i*Pdiff **Pdif** 13 59 59.1 +0.9
comp=Z,50nm,1.1s,SNR=22
ABTA *i* pPdiff pP 14 02 09.5 +1.9
comp=Z,54nm,1.5s,SNR=8.2
ABTA *i* PKKPbc **PKKPbc** 14 16 05.9 -0.8
comp=Z,34nm,1.3s,SNR=5.4
POHA Pohakuloa 101.17 286 PFAKE 14 00 10.0 +11
POHA LR LR
comp=Z,4µm,21.0s
JAVS Javornik 101.68 44 *i*Pdiff **Pdif** 14 00 00.9 +0.4
JAVS *i* pPdiff pP 14 02 10.5 +0.6
JAVS *e*PP **PKiKP** 14 04 15.8 -4.3
JAVS *i* SKSac **SKSac** 14 09 43.7 +0.9
JAVS *e*SKKSac **SKKSac** 14 10 21.2 -2.5
JAVS *e*Sdiff **Sdif** 14 10 55.4 +4.6
JAVS *e*SS **SS** 14 18 02.4 -9.3
JAVS *i* 14 26 10.7
JAVS Javornik 101.68 44 *i*P **PKKPbc** 14 16 04.7 -0.4
MYKA Terra Mystica 101.78 43 *i*Pdiff **Pdif** 14 00 02.0 +1.0
comp=Z,44nm,1.5s,SNR=21
MYKA *i* pPdiff pP 14 02 12.4 +2.0
comp=Z,80nm,1.7s,SNR=8.8
MYKA *i* PKKPbc **PKKPbc** 14 16 03.9 -1.0
comp=Z,11nm,1.0s
KBA Koelnbreinsper 101.82 43 *i*Pdiff **Pdif** 14 00 03.0 +1.8

comp=Z,53nm,1.4s,SNR=12
KBA *i* pPdiff pP 14 02 12.2 +1.6
comp=Z,21nm,0.8s
KBA *i* PKiKP **PKiKP** **14 04 20.6 +0.1**
comp=Z,70nm,1.4s
KBA *i* PKKPbc **PKKPbc** **14 16 04.0 -0.9**
comp=Z,11nm,0.5s
KBA Koelnbreinsper 101.82 43 P **Pdif** **14 00 02.3 +1.0**
GRFO Grafenberg 101.87 40 *e*P **Pdif** **14 00 02.5 +1.3**
GRFO pmax pmax
comp=Z,124nm,1.2s
GRFO Grafenberg 101.87 40 *e*Pdif **Pdif** **14 00 02.5 +1.3**
comp=Z,124nm,1.2s
LJU Ljubljana 102.04 44 *e*Pdiff **Pdif** **14 00 06.5 +4.5**
VISS Visnje 102.12 44 *i* Pdiff **Pdif** **14 00 02.6 +0.2**
VISS *i* pP **pPdif** **14 02 12.8 +1.2**
VISS *i* SKSac **SKSac** **14 09 45.2 +0.6**
VISS *e*Sdiff **Sdif** **14 10 56.1 +1.9**
VISS *i* SS **SS** **14 18 10.0 -7.4**
VISS Visnje 102.12 44 *i* P **PKKPbc** **14 16 03.5 -0.2**
VISS *e* 14 26 08.3
SUMG Summit 102.14 7 ⇓*i*P **Pdif** **14 00 03.9 +1.5**
SUMG Summit 102.14 7 *i* P **PKKPbc** **14 16 03.7 -1.2**
comp=Z,37nm,1.1s
SUMG Summit 102.14 7 *e*P **Pdif** **14 00 03.6 +1.3**
SUMG pmax pmax
comp=Z,42nm,0.8s
SUMG Summit 102.14 7 *e*Pdif **Pdif** **14 00 03.6 +1.3**
comp=Z,42nm,0.8s
BOJS Bojanci 102.23 45 *i* Pdiff **Pdif** **14 00 03.6 +0.7**
BOJS *i* pPdiff **pPdif** **14 02 13.8 +1.6**
BOJS *e*PP **PKiKP** **14 04 18.6 -2.4**
BOJS *e* 14 06 12.2
BOJS *i* SKSac **SKSac** **14 09 46.1 +0.9**
BOJS *e*SKKSac **SKKSac** **14 10 26.0 -1.4**
BOJS *e*Sdiff **Sdif** **14 10 58.9 +3.7**
BOJS *e*SS **SS** **14 18 09.8 -9.2**
BOJS *i* 14 26 09.9
BOJS Bojanci 102.23 45 *i* P **PKKPbc** **14 16 03.6 +0.2**
OBKA Obir 102.27 44 *i* Pdiff **Pdif** **14 00 04.3 +1.2**
comp=Z,52nm,1.4s,SNR=15
OBKA *i* pPdiff **pPdif** **14 02 15.0 +2.6**
comp=Z,55nm,1.7s,SNR=6.5
OBKA *i* PKKPbc **PKKPbc** **14 16 03.0 -0.4**
comp=Z,17nm,1.1s
VLS Valsamata 102.44 53 P **Pdif** **14 00 02.7 -1.4**
VLS Valsamata 102.44 53 P **Pdif** **14 00 02.7 -1.4**
VLS Valsamata 102.44 53 P **Pdif** **14 00 02.7 -1.4**
MOX Moxa 102.56 39 P **Pdif** **14 00 05.5 +1.2**
KEK Kerkira 102.57 52 P **Pdif** **14 00 02.7 -1.9**
KEK Kerkira 102.57 52 P **Pdif** **14 00 02.7 -1.9**
SOKA Soboth 102.65 44 *i* Pdiff **Pdif** **14 00 05.6 +0.7**
comp=Z,23nm,1.6s,SNR=18
SOKA *i* pPdiff **pPdif** **14 02 16.4 +2.4**
comp=Z,33nm,1.4s,SNR=7.1
SOKA *i* PKiKP **PKiKP** **14 04 18.8 -3.0**
comp=Z,60nm,1.2s
SOKA *i* PKKPbc **PKKPbc** **14 16 02.2 -0.2**
comp=Z,13nm,1.0s,SNR=5.6
PERS Pernice 102.68 44 *i* Pdiff **Pdif** **14 00 05.3 +0.4**
PERS *i* pP **pPdif** **14 02 15.4 +1.2**
PERS *i* SKSac **SKSac** **14 09 47.3 0.0**
PERS *i* SKKSac **SKKSac** **14 10 29.5 -1.2**
PERS Pernice 102.68 44 *i* P **PKKPbc** **14 16 01.9 -0.4**
PERS *i* 14 26 04.5
WRAK Wrangell Islan 102.70 328 *e*Pdif **Pdif** **14 00 04.6 0.0**
comp=Z,35nm,0.9s
WRAK LR LR
comp=Z,3μm,21.0s
MOA Molln 102.74 42 *i* Pdiff **Pdif** **14 00 05.8 +0.7**
comp=Z,52nm,1.4s,SNR=21
MOA *i* pPdiff **pPdif** **14 02 16.4 +2.1**
comp=Z,48nm,1.3s,SNR=5.8
MOA *i* PKKPbc **PKKPbc** **14 16 02.1 0.0**
comp=Z,18nm,1.1s
DLBC Dease Lake 102.75 330 PKKPbc PKKPbc 14 16 02.8 +0.4
comp=Z,6.9nm,0.8s,baz=289,slow=1.8,SNR=4.5
DLBC Dease Lake 102.75 330 *e*Pdif **Pdif** **14 00 05.5 +0.5**
comp=Z,109nm,1.3s
DLBC PKKPbc **PKKPbc** **14 16 02.8 +0.4**
NKC Novy Kostel 102.83 40 *e*PDIFF **Pdif** **14 00 06.8 +1.3**
NKC *e*PP **PKiKP** **14 04 23.6 +1.6**
NKC *e*SDIF 14 11 05.8
NKC *ex* x 14 13 54.7
NKC *ex* x 14 16 24.9
NKC Novy Kostel 102.83 40 *e*P **Pdif** **14 00 06.8 +1.3**
NKC *e*S **Sdif** **14 11 05.8 +5.8**
NKC *e* 14 13 54.7
IGT Igoumenitsa 102.86 52 P **Pdif** **14 00 03.1 -2.8**
IGT Igoumenitsa 102.86 52 P **Pdif** **14 00 03.1 -2.8**
IGT Igoumenitsa 102.86 52 P **Pdif** **14 00 03.1 -2.8**
GERES GERESS Array B 102.88 41 P **Pdif** **14 00 05.8 0.0**
comp=Z,3.3nm,0.7s,baz=247,slow=2.8,SNR=23
GERES pP **pPdif** **14 02 15.9 +0.9**
comp=Z,0.6nm,0.3s,baz=197,slow=7.0,SNR=1.2
GERES PKiKP **PKiKP** **14 04 22.9 +0.7**
comp=Z,11nm,0.6s,baz=253,slow=1.7,SNR=21
GERES PKKPbc **PKKPbc** **14 16 02.1 +0.3**
comp=Z,8.1nm,0.8s,baz=66,slow=1.6,SNR=12
GERES PKPPKP **P'P'df** **14 24 21.5 +2.7**
comp=Z,2.6nm,1.0s,baz=48,slow=2.0,SNR=3.9
KHC Kasperske Hory 102.94 41 *e*PDIFF **Pdif** **14 00 06.2 +0.2**
KHC *ex* x 14 02 17.4
KHC *e*PP **PKiKP** **14 04 20.3 -1.9**
KHC *e*SKS 14 09 46.3
KHC *e*SDIF **Sdif** **14 11 04.2 +3.2**
KHC *ex* x 14 12 30.8
KHC *e*PKKP **PKKPbc** **14 16 01.8 +0.3**
KHC *ex* x 14 16 30.1
KHC *e*PKPPKP **P'P'df** **14 24 15.5 -3.1**
KHC *ex* x 14 26 06.8
KHC Kasperske Hory 102.94 41 *e*P **Pdif** **14 00 06.2 +0.2**
KHC *e* 14 09 46.3
KHC *e*S **Sdif** **14 11 04.2 +3.2**
KHC Kasperske Hory 102.94 41 *e*Pdif **Pdif** **14 00 05.7 -0.3**
comp=Z,6.5nm,1.0s
RER Riviere de l'E 103.14 123 PFAKE 14 00 20.0 +12
RER LR LR
comp=Z,3μm,20.0s
DRO Drossia 103.14 54 P **Pdif** **14 00 04.8 -2.4**
ARSA Arzberg 103.21 43 *i* Pdiff **Pdif** **14 00 08.0 +0.8**
comp=Z,22nm,1.3s,SNR=13
ARSA *i* pPdiff **pPdif** **14 02 18.1 +1.6**
comp=Z,27nm,1.6s
ARSA *i* PKiKP **PKiKP** **14 04 23.2 +0.4**
comp=Z,37nm,0.9s
ARSA *i* PKKPbc **PKKPbc** **14 16 00.7 +0.1**
comp=Z,9.8nm,1.2s
PVO Paravola 103.30 53 P **Pdif** **14 00 06.1 -1.7**
TIR Tirane 103.34 50 PFAKE 14 00 20.0 +12
TIR LR LR
comp=Z,2μm,21.0s
VLX Vlachokerasia 103.37 55 P **Pdif** **14 00 05.8 -2.5**
VLX Vlachokerasia 103.37 55 P **Pdif** **14 00 05.8 -2.5**
ANKY Antikythira Is 103.39 56 P **Pdif** **14 00 08.2 -0.1**
ANKY Antikythira Is 103.39 56 P **Pdif** **14 00 08.2 -0.1**
PDG Podgorica 103.41 49 P **Pdif** **14 00 07.8 -0.4**
PDG Podgorica 103.41 49 ⇑*i*P **Pdif** **14 00 10.5 +2.3**
PDG Podgorica 103.41 49 ⇑*i*P **PKKPbc** **14 15 59.7 -0.1**
TTG Podgorica 103.41 49 P **Pdif** **14 00 07.8 -0.4**
TTG Podgorica 103.41 49 P **Pdif** **14 00 07.8 -0.4**
VLI Veliai 103.49 56 P **Pdif** **14 00 07.0 -1.7**
VLI Veliai 103.49 56 P **Pdif** **14 00 07.0 -1.7**
KLV Kalavryta, Ach 103.49 54 P **Pdif** **14 00 07.3 -1.5**
KLV Kalavryta, Ach 103.49 54 P **Pdif** **14 00 07.3 -1.5**
ANX Ano Chora 103.57 53 P **Pdif** **14 00 07.8 -1.3**
CLL Collm 103.65 39 *i* P **Pdif** **14 00 10.3 +1.3**
CLL *e* 14 09 54.0
CLL *e*S **Sdif** **14 11 08.0 +1.3**
CLL pmax pmax
comp=Z,74nm,1.3s
CLL pmax pmax
comp=Z,30nm,1.3s
CLL Collm 103.65 39 *i* Pdif **Pdif** **14 00 10.3 +1.3**
comp=Z,74nm,1.3s
CLL *e*Pmax 14 00 11.0
CLL *i* pPdif **pPdif** **14 02 20.6 +2.3**
CLL *e* 14 03 22.0
CLL *e*PP **PP** **14 04 31.0 -4.3**
comp=Z,168nm,1.6s
CLL *e*PP(2) 14 04 36.0
comp=Z,148nm,1.4s
CLL *e*sPP 14 07 29.0
CLL *e*SKSac **SKSac** **14 09 54.0 +2.6**
CLL *e*SKKSac **SKKSac** **14 10 41.0 +3.9**
CLL *e*Sdif **Sdif** **14 11 08.0 +1.3**
comp=N,2μm,13.0s
CLL *e*Sdif **Sdif** **14 11 08.0 +1.3**
CLL *e*SP **SP** **14 12 48.0 -0.8**
CLL *e*PS **PS** **14 14 00.0 -2.2**
CLL *e*sSdiff **sSdif** **14 15 12.0 +12**
CLL *e*PKKPbc **PKKPbc** **14 15 59.0 -0.4**
comp=Z,30nm,1.3s
CLL *e*PS 14 16 32.0
CLL *e*SS **SS** **14 18 32.0 -6.0**
CLL *e*PcPPKPre 14 20 13.0
CLL *e*SSS SSS 14 22 48.0
CLL *e* 14 24 05.0
CLL *e*PKPPKPdf **P'P'df** **14 24 16.0 -1.1**
CLL *e*SSSS 14 26 06.0
TAU Tasmania Unive 103.69 203 PFAKE 14 00 20.0 +10
TAU LR LR
comp=Z,2μm,19.0s
IMMV Iera Moni Meta 103.72 57 P **Pdif** **14 00 07.0 -2.8**
CONA Conrad Observa 103.72 43 *i* Pdiff **Pdif** **14 00 10.1 +0.5**
comp=Z,48nm,1.7s,SNR=19
CONA *i* pPdiff **pPdif** **14 02 20.4 +1.6**
comp=Z,33nm,1.7s
CONA *i* PKiKP **PKiKP** **14 04 28.4 +4.7**
comp=Z,92nm,1.7s
CONA *i* PKKPbc **PKKPbc** **14 16 00.1 +0.9**
comp=Z,31nm,1.3s
KMY Karmoy 103.83 30 *e*SKSac **SKSac** **14 09 52.6 +0.8**
PRA Prague 103.88 40 *e*PDIFF **Pdif** **14 00 11.7 +1.6**
PRA *ex* x 14 02 23.5
PRA *e*PP **PP** **14 04 32.6 -4.4**
PRA *e*SKS 14 09 55.4
PRA *e*SDIF **Sdif** **14 11 14.1 +5.5**
PRA *e*SP **SP** **14 12 44.6 -6.6**
PRA Prague 103.88 40 *e*P **Pdif** **14 00 11.7 +1.6**
PRA *e* 14 04 32.2
PRA *e* 14 09 55.4
PRA *e*S **Sdif** **14 11 14.1 +5.5**
STAV Stavanger 103.88 30 *e*SP SP 14 12 51.5 +0.8
PRU Pruhonice 103.90 41 *e*PDIFF **Pdif** **14 00 11.3 +1.1**
PRU *ex* x 14 02 22.3
PRU *e*PP **PP** **14 04 32.2 -5.0**
PRU *e*SKS 14 09 54.7
PRU *e*SDIF **Sdif** **14 11 13.0 +4.1**
PRU *ex* x 14 13 48.6
PRU *e*PKKP **PKKPbc** **14 15 58.9 +0.3**
PRU *e*PKPPKP **P'P'df** **14 24 15.9 -0.8**
PRU Pruhonice 103.90 41 *e*P **Pdif** **14 00 11.3 +1.1**
PRU *e* 14 09 54.7
PRU *e*S **Sdif** **14 11 13.0 +4.1**
PRU *e* 14 13 48.6
DSF Desfina 103.92 54 P **Pdif** **14 00 08.2 -2.5**
DSF Desfina 103.92 54 P **Pdif** **14 00 08.2 -2.5**
BRG Berggiesshubel 103.97 40 *i* PDIFF **Pdif** **14 00 11.8 +1.3**
comp=Z,48nm,1.4s
BRG pP **pPdif** **14 02 22.2 +2.5**
comp=Z,37nm,1.5s
BRG *i* 14 04 25.8
comp=Z,28nm,1.1s
BRG PP **PP** **14 04 33.0 -4.7**
BRG SDIFF 14 11 13.0
BRG SP **SP** **14 12 52.0 -0.1**
BRG PS **PS** **14 14 08.0 +2.9**
BRG PKKP **PKKPbc** **14 15 58.4 -0.1**
comp=Z,52nm,1.5s
BRG PKKP PKKPdf 14 16 19.8 +13
comp=Z,51nm,1.3s
BRG *i* 14 16 43.0
BRG SS SS 14 18 31.0 -11
BRG SKKP 14 20 12.9
comp=Z,34nm,1.6s
BRG PKPPKP P'P'df 14 24 04.0 -13
comp=Z,7.9nm,1.0s
BRG Berggiesshubel 103.97 40 *i* P **Pdif** **14 00 11.8 +1.3**
BRG S **Sdif** **14 11 13.0 +3.6**
BRG SP **SP** **14 12 52.0 -0.1**
BRG PS **PS** **14 14 08.0 +2.9**
BRG pmax pmax
comp=Z,48nm,1.4s
KIP Kipapa 103.99 287 PFAKE 14 00 20.0 +8.8
KIP LR LR
comp=Z,7μm,21.0s
GOPC GO Pecny, Ondr 104.00 41 *e*PDIFF **Pdif** **14 00 11.3 +0.6**
GOPC *ex* x 14 02 22.2
GOPC *e*SDIF 14 11 13.1
GOPC *e*PKKP **PKKPbc** **14 15 56.8 -1.6**
GOPC *e*PKPPKP **P'P'df** **14 24 15.7 -0.9**
GOPC GO Pecny, Ondr 104.00 41 *e*P **Pdif** **14 00 11.3 +0.6**
GOPC *e*S **Sdif** **14 11 13.1 +3.3**
AGG Agios Georgios 104.04 53 P **Pdif** **14 00 08.2 -2.9**
AGG Agios Georgios 104.04 53 P **Pdif** **14 00 08.2 -2.9**
AGG Agios Georgios 104.04 53 P **Pdif** **14 00 08.2 -2.9**
THL Klokotos Trika 104.05 53 P **Pdif** **14 00 05.6 -5.5**
FNA Florina 104.12 51 P **Pdif** **14 00 05.3 -6.2**
FNA Florina 104.12 51 P **Pdif** **14 00 05.3 -6.2**
FNA Florina 104.12 51 P **Pdif** **14 00 05.3 -6.2**
PVCC Panska Ves 104.16 40 *e*PDIFF **Pdif** **14 00 14.3 +2.9**
PVCC *e*PP **PP** **14 04 33.2 -5.9**
PVCC *e*SP SP 14 12 47.4 -6.8
PVCC *ex* x 14 16 44.4
PVCC Panska Ves 104.16 40 *e*P **Pdif** **14 00 14.3 +2.9**
MUD Monsted U'grnd 104.19 33 *i* P **Pdif** **14 00 11.9 +0.6**
MUD *i* 14 04 35.3
MUD Monsted U'grnd 104.19 33 *i* P **Pdif** **14 00 11.9 +0.6**
MUD *i* 14 04 35.3
KZN Kozani 104.19 52 P **Pdif** **14 00 09.5 -2.4**
KZN Kozani 104.19 52 P **Pdif** **14 00 09.5 -2.4**
KZN Kozani 104.19 52 P **Pdif** **14 00 09.5 -2.4**
SNART Snartemo 104.23 31 *e*Pdif **Pdif** **14 00 12.5 +1.0**
SNART *e*SKSac **SKSac** **14 09 55.7 +2.0**
SNART *e*SP **SP** **14 12 55.8 +1.4**
SNART *e*PS **PS** **14 14 07.7 +0.4**
SNART *e*SS **SS** **14 18 45.9 +0.3**
IDI Anoyia 104.32 58 Pdiff **Pdif** **14 00 13.9 +1.3**
comp=Z,32nm,1.1s,baz=239,slow=4.4,SNR=4.9
IDI PKiKP **PKiKP** **14 04 26.2 +1.0**
comp=Z,41nm,0.6s,baz=26,slow=7.4,SNR=9.4
IDI Anoyia 104.32 58 P **Pdif** **14 00 09.9 -2.6**
IDI Anoyia 104.32 58 P **Pdif** **14 00 09.9 -2.6**
IDI PKiKP **PKiKP** **14 04 26.2 +1.0**
LKR Lokris 104.36 54 P **Pdif** **14 00 09.5 -3.0**
LKR Lokris 104.36 54 P **Pdif** **14 00 09.5 -3.0**
VILL Villia 104.38 54 P **Pdif** **14 00 09.7 -3.0**
BLS5 Blasjo 104.47 30 *e*SKSac **SKSac** **14 09 56.5 +1.8**
BLS5 *e*SP **SP** **14 12 56.6 -0.2**
ASK Askoy 104.49 28 *e*SP SP 14 12 60.0 +3.0
BER Bergen 104.49 29 *e*Pdif **Pdif** **14 00 13.9 +1.4**
BER *e*SP SP 14 12 58.3 +1.3
BER *e*SS **SS** **14 18 50.2 +1.3**
VLY Voula,Athens 104.59 55 P **Pdif** **14 00 11.9 -1.7**
VLY Voula,Athens 104.59 55 P **Pdif** **14 00 11.9 -1.7**
DIVS Divibare 104.61 48 P **Pdif** **14 00 09.9 -3.7**
SUE Sulen 104.62 28 *e*Pdif **Pdif** **14 00 14.2 +1.1**
SUE *e*PP **PP** **14 04 42.6 +0.5**
SUE *e*SP SP 14 13 00.1 +1.8
SUE *e*PS **PS** **14 14 11.4 +0.8**
PTL Penteli 104.72 55 P **Pdif** **14 00 10.9 -3.3**
PTL Penteli 104.72 55 P **Pdif** **14 00 10.9 -3.3**
VRAC Vranoy 104.78 42 Pdiff **Pdif** **14 00 15.5 +1.4**
comp=Z,2.3nm,0.5s,baz=231,slow=4.7,SNR=8.7
VRAC Vranov 104.78 42 ⇓*i*P **Pdif** **14 00 16.7 +2.5**
HOMB Hombersund 104.79 31 *e*PP PP 14 04 41.4 -2.0
HOMB *e*SP SP 14 12 57.6 -2.5
XOR Xorichti 104.79 53 P **Pdif** **14 00 12.4 -2.1**
XOR Xorichti 104.79 53 P **Pdif** **14 00 12.4 -2.1**
ODD1 Odda 104.80 29 *e*Pdif **Pdif** **14 00 16.1 +2.1**
ODD1 *e*SP SP 14 13 01.2 +0.9
RES Resolute Bay 104.91 352 PKKPbc PKKPbc 14 15 55.1 -1.1
comp=Z,8.0nm,0.5s,baz=319,slow=2.1,SNR=4.4
SMOL Smolenice 104.92 43 *e*PP PP 14 04 40.1 -4.6
EREA Eretria 104.92 54 P **Pdif** **14 00 11.6 -3.5**
UPC Upice 104.98 40 *e*PDIFF **Pdif** **14 00 16.4 +1.4**
UPC *ex* x 14 02 27.9
UPC *ex* x 14 03 32.3
UPC *e*PP **PP** **14 04 39.4 -5.6**
UPC *e*SKS 14 10 00.4
UPC *e*SDIF **Sdif** **14 11 22.4 +4.5**
UPC *e*SP **SP** **14 13 02.5 0.0**
UPC *e*PKKP **PKKPbc** **14 15 55.5 0.0**
UPC *ex* x 14 16 53.0
UPC Upice 104.98 40 *e*P **Pdif** **14 00 16.4 +1.4**
UPC *e* 14 10 00.4
UPC *e*S **Sdif** **14 11 22.4 +4.5**
UPC *e* 14 13 02.5
FOO Floro 105.02 27 *e*Pdif **Pdif** **14 00 16.4 +1.5**
FOO *e*PP **PP** **14 04 43.9 -1.1**
FOO *e*SP SP 14 13 02.7 +0.3
DPC Dobruska-Polom 105.08 41 *e*PDIFF **Pdif** **14 00 16.5 +1.0**
DPC *ex* x 14 02 27.8
DPC *ex* x 14 03 26.4
DPC *e*SKS **SKSac** **14 10 00.1 +2.1**
DPC *e*SDIF **Sdif** **14 11 23.4 +4.5**
DPC *e*SP **SP** **14 12 55.7 -8.0**
DPC *e*PKKP **PKKPbc** **14 15 54.2 -1.0**
DPC *e*PKPPKP **P'P'df** **14 24 13.6 -0.9**
DPC Dobruska-Polom 105.08 41 *e*P **Pdif** **14 00 16.5 +1.0**
DPC *e* 14 10 00.1
DPC *e*S **Sdif** **14 11 23.4 +4.5**
LLD Lille Linde 105.14 35 *i* P **Pdif** **14 00 16.2 +0.7**
comp=Z,64nm,0.9s
LLD Lille Linde 105.14 35 *i* P **Pdif** **14 00 16.2 +0.7**
LLD pmax pmax
comp=Z,64nm,0.9s
MSVF Nonsavu 105.15 240 PFAKE 14 04 40.0
MSVF LR LR
comp=Z,2μm,19.0s
SANT Santorini 105.19 57 PFAKE 14 04 40.0
SANT LR LR
comp=Z,1μm,20.0s
AOS Alonnisos 105.20 54 P **Pdif** **14 00 12.1 -4.1**
AOS Alonnisos 105.20 54 P **Pdif** **14 00 12.1 -4.1**
KRLC Kraliky 105.23 41 *e*PDIFF **Pdif** **14 00 18.0 +1.8**
KRLC *ex* x 14 02 28.7
KRLC *ex* x 14 24 05.0
KRLC *ex* x 14 25 56.4
KRLC Kraliky 105.23 41 *e*P **Pdif** **14 00 18.0 +1.8**
KSP Ksiaz 105.28 40 *e*Pdiff **Pdif** **14 00 18.6 +2.2**
KSP *e*PP **PP** **14 04 44.7 -2.5**
KSP *e*SKSac **SKSac** **14 10 01.6 +2.8**
KSP *e*SKKSac **SKKSac** **14 10 48.9 +0.2**
KSP *e* 14 11 23.5
KSP *e* 14 13 01.8
KSP Ksiaz 105.28 40 *e*P **Pdif** **14 00 18.6 +2.2**
KSP *e* 14 04 44.7
KSP *e* 14 10 01.5
KSP *e* 14 10 48.9
KSP *e* 14 11 23.5
KSP *e* 14 13 01.8
KNT Kendrikon 105.33 51 P **Pdif** **14 00 13.3 -3.5**
KNT Kendrikon 105.33 51 P **Pdif** **14 00 13.3 -3.5**
KNT Kendrikon 105.33 51 P **Pdif** **14 00 13.3 -3.5**
PAIG Paliouri 105.37 53 P **Pdif** **14 00 12.8 -4.2**
PAIG Paliouri 105.37 53 P **Pdif** **14 00 12.8 -4.2**
PAIG Paliouri 105.37 53 P **Pdif** **14 00 12.8 -4.2**
COP Copenhagen 105.42 35 *i* P **Pdif** **14 00 17.0 +0.3**
COP Copenhagen 105.42 35 *e*P **Pdif** **14 00 17.0 +0.3**
APE Apeiranthos 105.53 56 P **Pdif** **14 00 16.0 -1.8**
APE Apeiranthos 105.53 56 ⇑*i*P **PKiKP** **14 04 28.5 +1.1**
APE Apeiranthos 105.53 56 P **Pdif** **14 00 16.0 -1.8**
APE Apeiranthos 105.53 56 P **Pdif** **14 00 16.0 -1.8**
MORC Moravsky Berou 105.54 42 ⇓*i*P **Pdif** **14 00 19.3 +1.7**
MORC Moravsky Berou 105.54 42 ⇓*i*P **PKiKP** **14 04 28.0 +1.0**
MORC Moravsky Berou 105.54 42 *e*P **Pdif** **14 00 17.9 +0.3**
MORC pmax pmax
comp=Z,66nm,1.2s
MORC Moravsky Berou 105.54 42 *e*Pdif **Pdif** **14 00 17.9 +0.3**
comp=Z,66nm,1.2s
SKAG Skagway 105.63 330 *e*Pdif **Pdif** **14 00 15.1 -2.5**
comp=Z,37nm,1.3s
OUR Ouranopolis 105.74 52 P **Pdif** **14 00 15.8 -2.8**
OUR Ouranopolis 105.74 52 P **Pdif** **14 00 15.8 -2.8**
OUR Ouranopolis 105.74 52 P **Pdif** **14 00 15.8 -2.8**
VYHS Vyhne 105.76 43 *e*P **Pdif** **14 00 19.2 +0.7**
VYHS Vyhne 105.76 43 *e*PDIFF **Pdif** **14 00 19.2 +0.7**
VYHS *e* 14 04 27.8
VYHS *e*PP **PP** **14 04 45.7 -5.1**
SRS Serrai 105.79 52 P **Pdif** **14 00 13.8 -5.1**
SRS Serrai 105.79 52 P **Pdif** **14 00 13.8 -5.1**
SRS Serrai 105.79 52 P **Pdif** **14 00 13.8 -5.1**
OKC Ostrava-Krasne 105.92 42 *e*PDIFF **Pdif** **14 00 21.6 +2.4**
OKC *e*SKS **SKSac** **14 10 03.6 +2.0**
OKC *e*SDIF **Sdif** **14 11 30.4 +4.7**
OKC Ostrava-Krasne 105.92 42 *e*P **Pdif** **14 00 21.6 +2.4**
OKC *e* 14 10 03.6
OKC *e*S **Sdif** **14 11 30.4 +4.7**
KONO Kongsberg 105.96 30 *e*SKSac **SKSac** **14 10 02.2 +0.9**
KONO *e*SP **SP** **14 13 10.7 -1.3**
KONO Kongsberg 105.96 30 PFAKE 14 04 40.0
KONO LR LR
comp=Z,2μm,20.0s
MDVR Moldovita 106.02 48 ⇑*i*P **PKKPbc** **14 15 52.5 +0.3**
AKN Aaknes 106.12 27 *e*SP SP 14 13 14.7 +1.2
AKN *e*SS **SS** **14 19 12.2 +1.5**
VTS Vitosha 106.12 50 P **Pdif** **14 00 17.0 -3.5**
VTS Vitosha 106.12 50 ⇑*i*P **Pdif** **14 00 23.9 +3.4**
VTS Vitosha 106.12 50 ⇑*i*P **PKiKP** **14 04 30.5 +2.0**
VTS Vitosha 106.12 50 ⇑P **Pdif** **14 00 23.9 +3.4**
VTS Vitosha 106.12 50 P **Pdif** **14 00 17.0 -3.5**
PSZ Piszkesteto 106.16 44 PFAKE 14 04 40.0
PSZ LR LR
comp=Z,2μm,19.0s
JMIC Jan Mayen 106.27 16 *e*SP SP 14 13 14.1 -0.5
BZS Buzias 106.30 47 ⇓*i*P **Pdif** **14 00 23.8 +2.8**
BZS Buzias 106.30 47 ⇓*i*P **PKiKP** **14 04 29.0 +0.5**
BZS Buzias 106.30 47 ⇓P **Pdif** **14 00 23.8 +2.8**
LANS Liptovska Anna 106.41 43 *e*P **Pdif** **14 00 24.1 +2.6**
LANS *e* 14 04 53.7
LANS Liptovska Anna 106.41 43 *e*PDIFF **Pdif** **14 00 24.1 +2.6**
LANS *e* 14 04 31.5
LANS *e*PP **PP** **14 04 53.6 -1.9**
BSD Bornholm Skovb 106.42 36 *i* P **Pdif** **14 00 22.2 +1.0**
BSD Bornholm Skovb 106.42 36 *i* P **Pdif** **14 00 22.2 +1.0**
MOL Molde 106.53 27 *e*Pdif **Pdif** **14 00 22.3 +0.8**
MOL *e*SP SP 14 13 18.3 +0.7
SIRR Siria 106.59 46 ⇑*i*P **Pdif** **14 00 27.6 +5.3**
SIRR Siria 106.59 46 ⇓*i*P **PKiKP** **14 04 29.7 +0.7**
OSL Oslo 106.60 30 *e*SS SS 14 19 16.1 -1.1
SIGR SIGRI 106.62 54 P **Pdif** **14 00 19.9 -2.6**
SIGR SIGRI 106.62 54 P **Pdif** **14 00 19.9 -2.6**
KECS Kecovo 106.75 44 *e*P **Pdif** **14 00 25.1 +2.2**
KECS *e* 14 04 56.3
KECS Kecovo 106.75 44 *e*PDIFF **Pdif** **14 00 25.1 +2.2**
KECS *e* 14 04 10.5
KECS *e* 14 04 29.6
KECS *e*PP **PP** **14 04 56.3 -1.6**
KECS *e* 14 16 08.1
GKP Gorka Klasztor 106.86 38 *e*PKiKP **PKiKP** **14 04 30.4 +1.1**
GKP *e*PP **PP** **14 04 55.9 -2.6**
GKP *e*SKSac **SKSac** **14 10 08.1 +2.7**
GKP *e* 14 25 48.1
DOMB Dombas 106.89 28 *e*Pdif **Pdif** **14 00 24.8 +1.6**
DOMB *e*PP **PP** **14 04 56.3 -2.3**
DOMB *e*SP SP 14 13 20.6 -0.8
NIE Niedzica 107.02 43 *e*Pdiff **Pdif** **14 00 27.0 +2.9**
NIE *e*PKiKP **PKiKP** **14 04 31.3 +1.5**
NIE *e*PP **PP** **14 04 57.3 -2.5**
NIE *e*SKSac **SKSac** **14 10 10.2 +3.7**
NIE *e*SKKSac **SKKSac** **14 11 01.3 +0.4**
NIE *e* 14 11 40.8
NIE *e* 14 25 49.6
NIE Niedzica 107.02 43 *e*P **Pdif** **14 00 27.0 +2.9**
OJC Ojcow 107.05 42 *e*Pdiff **Pdif** **14 00 25.4 +1.3**
OJC *e*PKiKP **PKiKP** **14 04 29.5 -0.2**
OJC *e*PP **PP** **14 04 55.3 -4.7**
OJC *e*SKSac **SKSac** **14 10 07.4 +0.9**
OJC *e* 14 11 38.8
OJC *e* 14 13 20.4
OJC *e* 14 25 47.3
OJC Ojcow 107.05 42 *e*P **Pdif** **14 00 25.5 +1.3**
RDO Rodhopi 107.15 52 P **Pdif** **14 00 20.9 -4.0**
RDO Rodhopi 107.15 52 P **Pdif** **14 00 20.9 -4.0**
NB2 NORSAR Subarra 107.33 29 P **Pdif** **14 00 26.6 +1.4**
baz=249,slow=5.1
NB2 NORSAR Subarra 107.33 29 P **Pdif** **14 00 26.6 +1.4**
comp=Z,92nm,2.0s,baz=249,slow=5.1
NOA NORSAR Array B 107.33 29 Pdiff **Pdif** **14 00 26.4 +1.1**
comp=Z,2.4nm,0.7s,baz=258,slow=4.8,SNR=9.4
NOA PKiKP **PKiKP** **14 04 30.6 +0.6**
comp=Z,2.3nm,0.7s,baz=250,slow=2.6,SNR=20
NOA PP **PP** **14 04 59.0 -2.7**
comp=Z,11nm,1.0s,baz=259,slow=5.5,SNR=4.1

NOA PKKPbc **PKKPbc** **14 15 46.2 -2.4**
comp=Z,7.7nm,1.0s,baz=70,slow=3.9,SNR=4.6
NOA PKKP **PKKPab** **14 16 03.1 +0.3**
comp=Z,13nm,0.8s,baz=65,slow=4.5,SNR=14
NOA PKPPKP **P'P'df** **14 24 07.2 -2.3**
comp=Z,3.8nm,1.1s,baz=270,slow=3.7,SNR=5.4
NC602 NORSAR Array S 107.33 30 *e*SKSac **SKSac** **14 10 07.9 +0.7**
NC602 *e*SP **SP** **14 13 24.1 -1.5**
ALN Alexandroupoli 107.41 53 P **Pdif** **14 00 20.1 -5.9**
ALN Alexandroupoli 107.41 53 P **Pdif** **14 00 20.1 -5.9**
ALN Alexandroupoli 107.41 53 P **Pdif** **14 00 20.1 -5.9**
DRGR 107.46 46⇓ *i*P **Pdif** **14 00 30.4 +4.2**
DRGR 107.46 46⇓ *i*P **PKiKP** **14 04 32.3 +1.6**
DRGR 107.46 46⇓ *i*P **PKKPab** **14 16 03.5 +0.9**
DRGR 107.46 46 ⇓P **Pdif** **14 00 30.4 +4.2**
CRVS Cervenica-Dubn 107.52 44 *e*P **Pdif** **14 00 27.8 +1.5**
CRVS Cervenica-Dubn 107.52 44 *e*PDIFF **Pdif** **14 00 27.8 +1.5**
CRVS *e*PP **PP** **14 04 58.8 -4.6**
CRVS *e* 14 16 03.6
STHS Stebnicka Huta 107.59 43 *e*P **Pdif** **14 00 29.0 +2.4**
STHS *e* 14 05 02.0
STHS Stebnicka Huta 107.59 43 *e*PDIFF **Pdif** **14 00 29.0 +2.4**
STHS *e* 14 04 31.9
STHS *e*PP **PP** **14 05 02.0 -1.9**
STHS *e* 14 16 04.6
UZH Uzhgorod 107.92 44⇓ *e*P **Pdif** **14 00 33.0 +4.9**
UZH MLR MLR
comp=N,620nm,16.0s
UZH MLR MLR
comp=E,500nm,16.0s
UZH MLR MLR
comp=Z,200nm,16.0s
TBLU Trondheim 107.95 27 *e*PP PP 14 05 05.8 -0.3
TBLU *e*SP SP 14 13 33.5 +2.1
TBLU *e*SS **SS** **14 19 36.7 +1.5**
ARR Arges 108.15 48⇓ *i*P **Pdif** **14 00 36.3 +7.0**
ARR Arges 108.15 48⇓ *i*P **PKiKP** **14 04 32.1 +0.1**
ARR Arges 108.15 48⇑ *i*P **PKKPab** **14 16 02.3 +2.7**
BEL Belsk 108.26 41 *e*PKiKP **PKiKP** **14 04 33.0 +1.1**
BEL *e*PP **PP** **14 05 05.6 -3.0**
BEL *e*SKSac **SKSac** **14 10 13.2 +1.7**
BEL *e*SKKSac **SKKSac** **14 11 10.4 +1.1**
BEL *e* 14 13 33.3
BEL *e* 14 25 43.0
BMR Baia Mare 108.30 45⇑ *i*P **PKiKP** **14 04 33.8 +1.7**
DAG Danmarks Havn 108.42 10 *i* P **Pdif** **14 00 30.3 +0.6**
DAG Danmarks Havn 108.42 10 *i* P **PKKPbc** **14 15 43.4 -2.0**
DAG *i* 14 15 58.3
DAG Danmarks Havn 108.42 10 *i* P **Pdif** **14 00 30.3 +0.6**
VOIR 108.45 48⇓ *i*P **Pdif** **14 00 36.3 +5.6**
VOIR 108.45 48⇑ *i*P **PKiKP** **14 04 29.4 -3.2**
VOIR 108.45 48 ⇓P **Pdif** **14 00 36.3 +5.6**
KWP Kalwaria Pacla 108.55 43 *e*Pdiff **Pdif** **14 00 32.8 +1.9**
KWP *e*PKiKP **PKiKP** **14 04 33.8 +1.2**
KWP *e*PP **PP** **14 05 08.5 -2.3**
KWP *e*SKSac **SKSac** **14 11 14.6 +1.7**
KWP *e* 14 25 40.0
KWP Kalwaria Pacla 108.55 43 *e*P **Pdif** **14 00 32.8 +1.9**
ARCR ARCALIA 108.62 46⇑ *i*P **PKiKP** **14 04 34.2 +1.4**
MLR Muntele Rosu 109.06 48 Pdiff **Pdif** **14 00 35.5 +2.1**
comp=Z,0.7nm,0.6s,baz=184,slow=10,SNR=5.1
MLR Muntele Rosu 109.06 48⇓ *i*P **Pdif** **14 00 39.5 +6.1**
MLR Muntele Rosu 109.06 48⇓ *i*P **PKiKP** **14 04 34.1 +0.3**
MLR Muntele Rosu 109.06 48⇑ *i*P **PKKPab** **14 15 52.6 -3.1**
INK Inuvik 109.24 338 Pdiff **Pdif** **14 00 34.3 +0.9**
comp=Z,13nm,0.7s,baz=68,slow=2.9,SNR=41
INK PKiKP **PKiKP** **14 04 33.5 +0.3**
comp=Z,12nm,0.5s,baz=90,slow=5.2,SNR=18
INK PP **PP** **14 05 11.5 -3.6**
comp=Z,42nm,1.1s,baz=135,slow=2.5,SNR=3.3
INK PKKPbc **PKKPbc** **14 15 41.4 -1.4**
comp=Z,43nm,0.8s,baz=304,slow=2.3,SNR=24
INK Inuvik 109.24 338 *e*Pdif **Pdif** **14 00 33.0 -0.5**
INK PKiKP **PKiKP** **14 04 33.5 +0.3**
INK PP **PP** **14 05 11.5 -3.6**
INK PKKPbc **PKKPbc** **14 15 41.4 -1.4**
ISR Istrita 109.32 49⇑ *i*P **Pdif** **14 00 39.4 +4.9**
ISR Istrita 109.32 49 ⇑P **Pdif** **14 00 39.4 +4.9**
BURAR Bucovina Array 109.36 46⇓ *i*P **Pdif** **14 00 38.6 +3.9**
BURAR Bucovina Array 109.36 46⇑ *i*P **PKiKP** **14 04 35.1 +0.8**
BURAR Bucovina Array 109.36 46⇑ *i*P **PKKPab** **14 15 55.4 +1.1**
BURAR Bucovina Array 109.36 46 ⇓P **Pdif** **14 00 38.6 +3.9**
DAWY Dawson 109.46 333 *e*Pdif **Pdif** **14 00 35.1 +0.4**
DAWY *e*PKPdf **PKiKP** **14 04 34.0 +0.1**
FUNA Funafuti 109.56 248 PFAKE 14 04 50.0
FUNA LR LR
comp=Z,5μm,19.0s
PLOR Plostina 109.65 48⇓ *i*P **PKiKP** **14 04 35.6 +0.8**
PLOR Plostina 109.65 48⇑ *i*P **PKKPab** **14 15 54.9 +1.9**
VRI Vrincioaia 109.70 48⇑ *i*P **Pdif** **14 00 42.0 +5.9**
VRI Vrincioaia 109.70 48⇓ *i*P **PKiKP** **14 04 35.8 +0.9**
VRI Vrincioaia 109.70 48 ⇑P **Pdif** **14 00 42.0 +5.9**
CAN Canberra 109.73 208 PFAKE 14 04 50.0
CAN LR LR
comp=Z,2μm,19.0s
ODBI Odobesti 109.88 48⇓ *i*P **PKiKP** **14 04 37.0 +1.8**
EIL Elat 109.94 66 Pdiff **Pdif** **14 00 43.4 +5.8**
comp=Z,8.6nm,1.0s,baz=254,slow=8.1,SNR=4.4
EIL PKiKP **PKiKP** **14 04 36.9 +1.1**
comp=Z,22nm,0.8s,baz=291,slow=0.4,SNR=11
HARR Harsova 110.09 49⇑ *i*P **PKiKP** **14 04 35.8 +0.2**
TLB Topalu 110.13 50⇑ *i*P **Pdif** **14 00 42.5 +4.5**
TLB Topalu 110.13 50⇑ *i*P **PKiKP** **14 04 35.6 -0.1**
TLB Topalu 110.13 50 ⇑P **Pdif** **14 00 42.5 +4.5**
TIRR Tirgusor 110.33 50⇑ *i*P **PKiKP** **14 04 36.5 +0.5**
TIRR Tirgusor 110.33 50 *e*PKIKP **PKiKP** **14 04 35.2 -0.8**
TIRR Tirgusor 110.33 50 *e*P **PKiKP** **14 04 35.2 -0.8**
STOK Stokkvaagen 110.36 25 *e*PP PP 14 05 22.9 -0.2
CFR Carcaliu 110.39 49⇑ *i*P **PKiKP** **14 04 35.8 -0.3**
CFR Carcaliu 110.39 49⇑ *i*P **PKKPab** **14 15 51.6 +2.0**
SUW Suwalki 110.41 39 *e*PKiKP **PKiKP** **14 04 36.0 +0.1**
SUW *e*SKSac **SKSac** **14 10 20.8 +0.5**
SUW *e*SKKSac **SKKSac** **14 11 21.7 -2.2**
SUW *e* 14 25 32.6
SUW Suwalki 110.41 39 *i* PKIKP **PKiKP** **14 04 36.0 +0.1**
SUW *e* 14 10 20.8
EGAK Eagle 110.45 333 *e*Pdif **Pdif** **14 00 39.5 +0.6**
EGAK LR LR
comp=Z,3μm,21.0s
BMRM Bremner River 110.45 329 *e*PKPdf **PKiKP** **14 04 35.9 0.0**
KONS Konsvik 110.47 25 *e*SKSac **SKSac** **14 10 22.2 +2.2**
CSS Mathiatis 110.58 61 *e*PKPdf **PKiKP** **14 04 34.9 -2.0**
CSS LR LR
comp=Z,448nm,22.0s
DZM Mont Dzumac 110.67 229 SKiKP **SKiKP** **14 07 18.5 +1.0**
comp=Z,26nm,0.9s,baz=150,slow=2.9,SNR=6.4
DZM PKKPbc PKKPbc 14 15 39.4 +1.6
comp=Z,40nm,0.8s,baz=236,slow=6.7,SNR=15
DZM PKPPKP **P'P'df** **14 24 06.8 -0.1**
comp=Z,8.6nm,1.0s,baz=21,slow=11,SNR=3.6
MOR8 Moi Rana 110.83 25 *e*Pdif **Pdif** **14 00 42.1 +1.5**
MOR8 *e*PP **PP** **14 05 25.9 -0.6**
MOR8 *e*SKSac **SKSac** **14 10 22.8 +1.2**
MOR8 *e*SP **SP** **14 13 59.5 +1.9**
TLCR 110.85 49⇓ *i*P **PKiKP** **14 04 37.5 +0.5**
LEOM Leova 110.90 48⇓ *i*P **PKiKP** **14 04 37.5 +0.4**
DIV Divide 111.04 329 *e*Pdif **Pdif** **14 00 42.6 +0.8**
DOT Dot Lake 111.20 332 *e*Pdif **Pdif** **14 00 42.8 +0.4**
DOT *e*PKPdf **PKiKP** **14 04 38.1 +0.9**
LOF Lofoten 111.28 23 *e*Pdif **Pdif** **14 00 43.0 +0.5**
LOF *e*PP **PP** **14 05 28.4 -1.2**
LOF *e*PKSdf **PKSdf** **14 08 17.8 +4.5**
LOF *e*SKSac **SKSac** **14 10 24.0 +0.8**
LOF *e*SP **SP** **14 13 59.8 -1.8**
KIS Kishinev 111.45 47⇓ *i*PKP PKiKP 14 04 48.0 +10
KIS M M 14 04 49.0
comp=Z,400nm,1.4s
KIS Kishinev 111.45 47 *i* PP PP 14 05 24.0 -7.4
comp=Z,2μm,6.0s
KIS *e*pPKP 14 06 44.0
KIS ⇓ *i*SKS **SKSac** **14 10 24.0 -0.8**
KIS *i* SKKS **SKKSac** **14 11 26.0 -5.3**
KIS *e*S **Sdif** **14 12 16.0 +4.0**
KIS *e*SKSP 14 14 05.0
KIS Kishinev 111.45 47 *e*PS PS 14 15 08.0 -5.8
KIS Kishinev 111.45 47 *e*PPS PPS 14 16 04.0
KIS Kishinev 111.45 47⇖ *i*PKIKP PKiKP 14 04 48.0 +10
KIS *i* 14 10 24.0
KIS *e* 14 14 05.0
KIS *e*PS **PS** **14 15 08.0 -5.8**
KIS pmax pmax
comp=Z,400nm,1.4s
KIS pmax pmax
comp=Z,500nm,1.2s
MMAI Mount Meron Ar 111.51 63 Pdiff **Pdif** **14 00 51.7 +7.2**
comp=Z,3.6nm,0.9s,baz=224,slow=11,SNR=3.9
MMAI PKiKP **PKiKP** **14 04 39.2 +0.4**
comp=Z,21nm,0.5s,baz=14,slow=0.3,SNR=43
PAX Paxson 111.55 331 *e*P **Pdif** **14 00 43.9 -0.2**
PAX *e* 14 04 38.1
PAX Paxson 111.55 331 *e*Pdif **Pdif** **14 00 43.9 -0.2**
PAX *e*PKPdf **PKiKP** **14 04 38.1 +0.2**
TCHB Talchebab 111.83 64 *e*P **PKiKP** **14 04 34.0 -5.4**
ANTO Ankara 111.86 56 *e*PKIKP **PKiKP** **14 04 38.8 -0.4**
ANTO MLR MLR
comp=Z,1μm,20.0s
ANTO Ankara 111.86 56 *e*PKPdf **PKiKP** **14 04 38.8 -0.4**
ANTO LR LR
comp=Z,1μm,20.0s
ANTO Ankara 111.86 56 PKiKP **PKiKP** **14 04 39.8 +0.6**
SNR=12
ANTO Ankara 111.86 56 P **PKiKP** **14 04 39.8 +0.6**
SNR=12
JOHN Johnston Islan 111.94 278 PFAKE 14 04 50.0
JOHN LR LR
comp=Z,231nm,19.0s
DAMY Dhamar 112.04 85 *e*PKPdf **PKiKP** **14 04 40.1 -0.4**
BRBR Barbar 112.07 63 *e*P **PKiKP** **14 04 41.0 +1.0**
ASF Jabal al Asfar 112.39 65 PKiKP **PKiKP** **14 04 41.2 +0.7**
comp=Z,48nm,1.1s,baz=214,slow=1.1,SNR=20
ASF PP **PP** **14 05 36.1 -2.4**
comp=Z,26nm,1.1s,baz=230,slow=3.7,SNR=4.3
BRTR Keskin Array B 112.42 56 Pdiff **Pdif** **14 00 56.6 +8.0**
comp=Z,2.0nm,0.8s,baz=216,slow=4.0,SNR=6.0
BRTR PKiKP **PKiKP** **14 04 40.2 -0.2**
comp=Z,55nm,1.0s,baz=205,slow=2.9,SNR=36
BRTR PP **PP** **14 05 35.0 -3.7**
comp=Z,27nm,0.9s,baz=241,slow=7.0,SNR=5.6
BRTR PKKPbc **PKKPbc** **14 15 32.2 +0.3**
comp=Z,2.6nm,0.4s,baz=119,slow=1.9,SNR=6.4
BRTR P3KPbc 14 17 52.1
comp=Z,6.6nm,1.0s,baz=81,slow=3.4,SNR=4.1
SML Sawmill 112.43 329 *e*P **Pdif** **14 00 47.7 -0.2**
SML *e* 14 04 39.5
SML Sawmill 112.43 329 *e*Pdif **Pdif** **14 00 47.7 -0.2**
SML *e*PKPdf **PKiKP** **14 04 39.5 -0.1**
TOTH TOTAH 112.43 63 *e*P **PKiKP** **14 04 41.7 +1.1**
SALA Sala 112.45 64 *e*P **PKiKP** **14 04 41.3 +0.6**
MSEY Mahe Island 112.47 109 PFAKE 14 04 50.0
MSEY LR LR
comp=Z,3μm,21.0s
IIGN Ignalina 112.52 38 *e*P **PKiKP** **14 04 39.7 -0.2**
IIGN IAmb IAmb 14 04 41.4
comp=Z,65nm,0.7s
IIGN Ignalina 112.52 38 *e*P **PKKPbc** **14 15 31.7 -0.2**
IIGN IAmb IAmb 14 15 42.0
comp=Z,40nm,1.1s
ISAL Salakas 112.53 38 *e*P **PKiKP** **14 04 40.1 +0.2**
ISAL IAmb IAmb 14 04 41.9
comp=Z,48nm,0.8s
ISAL Salakas 112.53 38 *e*P **PKKPbc** **14 15 32.0 +0.2**
ISAL IAmb IAmb 14 15 42.3
comp=Z,13nm,0.9s
IZAR Zarasai 112.65 38 *e*P **PKiKP** **14 04 40.3 +0.2**
IZAR IAmb IAmb 14 04 42.1
comp=Z,51nm,0.8s
IZAR Zarasai 112.65 38 *e*P **PKKPbc** **14 15 31.8 +0.3**
IZAR IAmb IAmb 14 15 41.7
comp=Z,29nm,0.8s
NACGM Naroch 112.69 39 *e* **PKKPbc** **14 15 30.0 -1.3**
MARH Ras Al Marh 112.70 63 *e*P **PKiKP** **14 04 43.0 +1.7**
PMR Palmer 112.72 329 *e*PKIKP **PKiKP** **14 04 38.9 -1.1**
PMR Palmer 112.72 329 *e*PKPdf **PKiKP** **14 04 38.9 -1.1**
ILAR Eielson Array 112.74 332 Pdiff **Pdif** **14 00 49.5 +0.4**
comp=Z,2.4nm,0.8s,baz=138,slow=4.0,SNR=16
ILAR PKiKP **PKiKP** **14 04 39.9 -0.2**
comp=Z,33nm,0.8s,baz=211,slow=0.7,SNR=63
ILAR PP **PP** **14 05 36.4 -3.6**
comp=Z,22nm,0.7s,baz=105,slow=5.5,SNR=7.3
ILAR SKiKP **SKiKP** **14 07 20.1 +0.1**
comp=Z,28nm,1.1s,baz=269,slow=0.8,SNR=5.6
ILAR PKKPbc **PKKPbc** **14 15 29.5 -1.9**
comp=Z,12nm,0.9s,baz=302,slow=3.2,SNR=17
IDID Didziasalis 112.79 38 *e*P **PKiKP** **14 04 40.4 0.0**
IDID IAmb IAmb 14 04 42.9
comp=Z,51nm,0.8s
IDID Didziasalis 112.79 38 *e*P **PKKPbc** **14 15 31.1 +0.2**
IDID IAmb IAmb 14 15 41.1
comp=Z,48nm,1.1s
KIEV Kiev 112.84 44 *e*PKIKP **PKiKP** **14 04 39.7 -0.9**
KIEV MLR MLR
comp=Z,2μm,21.0s
KIEV Kiev 112.84 44 *e*PKPdf **PKiKP** **14 04 39.7 -0.9**
KIEV LR LR
comp=Z,2μm,21.0s
RC01 Rabbit Creek A 112.85 328 *e*PKPdf **PKiKP** **14 04 39.6 -0.8**
AKASG Malin Array Be 112.85 44 Pdiff **Pdif** **14 00 52.4 +2.4**
comp=Z,1.0nm,0.6s,baz=262,slow=4.3,SNR=3.0
AKASG pPdiff **pPdif** **14 03 00.4 +1.2**
comp=Z,0.6nm,0.3s,baz=232,slow=5.7,SNR=2.3
AKASG PKiKP **PKiKP** **14 04 39.6 -1.0**
comp=Z,41nm,0.5s,baz=268,slow=2.4,SNR=53
AKASG PP **PP** **14 05 36.8 -4.3**
comp=Z,13nm,0.7s,baz=253,slow=6.8,SNR=6.3
AKASG SKiKP **SKiKP** **14 07 20.1 -0.4**
comp=Z,8.8nm,0.6s,baz=263,slow=2.6,SNR=4.2
AKASG PKKPbc **PKKPbc** **14 15 29.9 -0.7**
comp=Z,3.5nm,0.3s,baz=60,slow=3.8,SNR=7.5
AKASG SKKPbc **SKKPbc** **14 18 20.6 -0.4**
comp=Z,2.9nm,0.5s,baz=58,slow=3.3,SNR=5.0
ARNB Al Arnab 112.91 61 *e*P **PKiKP** **14 04 40.4 -1.1**
SLNF Slenfeh 113.02 61 *e*P **PKiKP** **14 04 47.8 +6.1**
COLA College 113.17 332 *e*PKIKP **PKiKP** **14 04 40.9 +0.1**
COLA College 113.17 332 *e*Pdif **Pdif** **14 00 48.1 -2.9**
COLA *e*PKPdf **PKiKP** **14 04 40.9 +0.1**
COLA LR LR
comp=Z,2μm,19.0s
MICGM Minsk 113.18 39⇑ *e*PKP1 **PKiKP** **14 04 40.0 -1.2**
MICGM PKPM1 14 04 42.0
comp=Z,0.6nm,1.0s
MICGM *e*PP **PP** **14 05 43.0 -0.3**
MICGM *e*pPKP1 14 06 50.0
MICGM *e*SKS **SKSac** **14 10 33.0 +1.7**
MICGM *e*SKKS **SKKSac** **14 11 36.0 -6.7**
MICGM *e*SP **SP** **14 14 24.0 +4.2**
MICGM *e*PS **PS** **14 15 18.0 -11**
MICGM *e*PPS PPS 14 18 08.0
MICGM *e*SS P'P'df 14 24 08.0 +9.2
MICGM *e*SSS SSS 14 29 00.0
MNK Minsk 113.18 39⇑ *e*PKIKP **PKiKP** **14 04 40.0 -1.2**
MNK *e* 14 05 43.0
MNK *e* 14 06 50.0
MNK *e* 14 10 33.0
MNK *e*SP SP 14 14 24.0 +4.2
MNK pmax pmax
comp=Z,590nm,1.0s
KDAK Kodiak Island 113.28 324 *i* PKIKP **PKiKP** **14 04 41.7 +0.5**
KDAK Kodiak Island 113.28 324 PFAKE 14 04 50.0
KDAK LR LR
comp=Z,975nm,20.0s
MCK McKinley 113.28 331 *e*PKIKP **PKiKP** **14 04 41.3 +0.1**
MCK *e* 14 05 44.3
MCK McKinley 113.28 331 *e*PKPdf **PKiKP** **14 04 41.3 +0.1**
MCK *e*PP **PP** **14 05 44.3 +0.6**
BTCH Batrach 113.34 61 *e*P **PKiKP** **14 04 42.3 +0.1**
ROOS tl_alroos 113.38 63 *e*P **PKiKP** **14 04 43.7 +1.4**
TRO Tromso 113.63 22 *e*PKPdf **PKiKP** **14 04 43.6 +2.0**
TRO *e*PP **PP** **14 05 46.8 +0.9**
TRO *e*SKSac **SKSac** **14 10 35.2 +2.8**
TRO *e*SP **SP** **14 14 23.8 +0.8**
TRO *e*SS **SS** **14 20 53.4 +4.0**
VSU Vasula 113.68 35*d* *i*PKIKP **PKiKP** **14 04 41.3 -0.7**
VSU pmax pmax
comp=Z,507nm,0.6s
DRWC Darouich 113.69 60 *e*P **PKiKP** **14 04 42.5 -0.3**
TRF Thorofare Moun 113.78 331 *e*PKPdf **PKiKP** **14 04 42.4 0.0**
TRF *e*PP **PP** **14 05 44.8 -2.7**
TRF *e*SKPdf **SKiKP** **14 07 22.9 +0.7**
KTH Kantishna Hill 114.08 331 *e*PKPdf PKPdf 14 04 42.7 -0.1
KTH *e*PP **PP** **14 05 49.0 -0.4**
KTH *e*SKPdf **SKiKP** **14 07 23.4 +0.7**
FINES FINESS Array B 114.16 32 Pdiff **Pdif** **14 01 00.1 +4.6**
comp=Z,2.6nm,0.9s,baz=209,slow=3.5,SNR=6.4
FINES PKP PKPdif 14 04 42.2 -0.6
comp=Z,31nm,0.6s,baz=154,slow=1.5,SNR=49
FINES PP **PP** **14 05 45.8 -4.1**
comp=Z,27nm,1.0s,baz=240,slow=3.8,SNR=4.8
FINES PKKPbc **PKKPbc** **14 15 24.6 -1.9**
comp=Z,17nm,0.6s,baz=81,slow=3.6,SNR=16
FINES PKPPKP **P'P'df** **14 23 53.5 -2.9**
comp=Z,2.6nm,0.6s,baz=90,slow=2.5,SNR=4.9
SIM Simferopol' 114.35 51 P Pdif 14 01 17.2 +20
SIM *i* 14 04 43.4
SIM 14 05 49.1
SIM PPP PPP 14 08 21.4
SIM 14 10 36.4
SIM SS SS 14 20 56.3 -3.7
SIM pmax pmax
comp=Z,900nm,20.0s
SIM pmax pmax
comp=Z,119nm,1.0s
PPLA Purkeypile 114.46 330 *e*Pdif **Pdif** **14 00 56.9 -0.2**
PPLA *e*PKPdf **PKiKP** **14 04 43.7 +0.1**
COLD Coldfoot 114.74 335 *e*PKPdf PKPdf 14 04 44.5 +0.7
COLD *e*PP **PP** **14 05 48.8 -5.0**
COLD *e*SKPdf **SKiKP** **14 07 25.1 +1.3**
TOLK Toolik Lake Re 114.86 336 P PKPdf 14 04 44.1 0.0
baz=104
KBS Kingsbay 114.87 12 *e*PKPdf PKPdf 14 04 45.1 +1.3
KBS *e*SP SP 14 14 34.8 +0.8
KBS *e*SS **SS** **14 21 07.5 +2.4**
KBS Kingsbay 114.87 12 *e*PKIKP PKPdf 14 04 45.2 +1.4
KBS *e* 14 05 53.4
KBS MLR MLR
comp=Z,2μm,20.0s
KBS Kingsbay 114.87 12 *e*PKPdf PKPdf 14 04 45.2 +1.4
KBS *e*PP **PP** **14 05 53.4 -1.1**
KBS LR LR
comp=Z,2μm,20.0s
KTK1 Kautokeino 114.93 23 *e*PKPdf PKPdf 14 04 44.4 +0.3
KTK1 *e*PP **PP** **14 05 54.6 -0.5**
HSPB Hornsund (broa 114.95 14 *e*PKPdf PKPdf 14 04 45.3 +1.3
HSPB *e*PP **PP** **14 05 55.8 +0.8**
HSPB *e*SP SP 14 14 37.5 +2.7
HSPB *e*SS **SS** **14 21 09.2 +3.0**
BJO Bjornoya 115.11 17 *e*PKPdf **PKPdf** **14 04 45.3 +1.0**
BJO *e*PP **PP** **14 05 55.7 -0.4**
BJO *e*SP SP 14 14 37.9 +1.6
KSRV Kasrt alli 115.25 61 *e*P **PKPdf** **14 04 46.7 +0.9**
HAMF Hammerfest 115.47 22 *e*PKPdf **PKPdf** **14 04 45.4 +0.3**
HAMF *e*PP **PP** **14 05 58.5 -0.2**
HAMF *e*SP SP 14 14 40.8 +1.1
HAMF *e*PS **PS** **14 15 49.6 +0.6**
HAMF *e*SS **SS** **14 21 13.8 +0.7**
SPA0 Spitsbergen Ar 115.47 13 *e*PKPdf **PKPdf** **14 04 45.8 +0.7**
SPA0 *e*SP SP 14 14 44.1 +4.6
SPITS Spitsbergen Ar 115.47 13 PKP **PKPdf** **14 04 45.5 +0.5**
comp=Z,19nm,0.6s,baz=126,slow=4.2,SNR=32
SPITS PP **PP** **14 05 58.0 -0.6**
comp=Z,41nm,1.0s,baz=100,slow=8.0,SNR=4.0
SPITS SKP 14 07 26.0
comp=Z,12nm,0.6s,baz=146,slow=1.9,SNR=5.5
SPITS PKKPbc **PKKPbc** **14 15 21.0 -1.4**
comp=Z,19nm,0.5s,baz=112,slow=6.4,SNR=20
STKA Stephens Creek 115.59 203 PKP **PKPdf** **14 04 46.4 -0.3**
comp=Z,31nm,1.0s,baz=131,slow=3.5,SNR=17
STKA PP **PP** **14 05 59.5 +0.6**
comp=Z,23nm,1.1s,baz=145,slow=7.3,SNR=4.2
STKA SKP 14 07 25.5
comp=Z,26nm,0.9s,baz=41,slow=1.9,SNR=5.1
STKA PKKPbc **PKKPbc** **14 15 18.2 -3.8**
comp=Z,3.9nm,0.5s,baz=340,slow=5.3,SNR=3.0
STKA PKP2bc 14 21 26.7
comp=Z,1.8nm,0.5s,baz=344,slow=9.7,SNR=3.0
PUL Pulkovo 115.79 34*d* *i*PKIKP **PKPdf** **14 04 46.6 +0.6**
PUL pmax pmax
comp=Z,276nm,0.6s
ARCES ARCESS Array B 115.83 23 Pdiff **Pdif** **14 01 09.5 +6.7**
comp=Z,1.7nm,0.9s,baz=250,slow=3.6,SNR=4.5
ARCES PKP **PKPdf** **14 04 45.8 -0.1**
comp=Z,26nm,0.6s,baz=245,slow=2.6,SNR=28
ARCES PP **PP** **14 06 00.5 -0.8**
comp=Z,38nm,0.9s,baz=269,slow=7.3,SNR=6.7
ARCES PKPbc **PKKPbc** **14 15 19.7 -1.3**
comp=Z,39nm,0.4s,baz=82,slow=3.3,SNR=63
ARCES SKKPbc SKKPbc 14 18 09.2 -3.8
comp=Z,26nm,0.9s,baz=79,slow=2.6,SNR=6.8
ARCES PKPPKP **P'P'df** **14 23 55.1 +2.3**
comp=Z,4.7nm,1.1s,baz=58,slow=3.0,SNR=4.0
ARE0 ARCESS Array S 115.83 23 *e*PKPdf **PKPdf** **14 04 46.2 +0.3**
ARE0 *e*PP **PP** **14 06 00.4 -0.9**
ARE0 *e*SKSac **SKSac** **14 10 41.2 +0.5**
ARE0 *e*SP **SP** **14 14 42.7 -0.4**
KEV Kevo 116.39 23 *e*PKIKP **PKPdf** **14 04 47.2 +0.3**
KEV MLR MLR
comp=Z,1μm,20.0s
KEV Kevo 116.39 23 *e*PKPdf **PKPdf** **14 04 47.1 +0.3**
KEV LR LR
comp=Z,1μm,20.0s
BBOO Buckleboo 116.44 198 *e*PKPdf **PKPdf** **14 04 47.8 -0.5**
ANN Anapa 116.58 51*d* *i*PKIKP **PKPdf** **14 04 47.6 -0.4**
ANN *i* 14 06 02.7
ANN *i* 14 10 45.5
ANN *e* 14 11 06.9
ANN *i*SP **PS** **14 16 00.8 +1.0**
ANN *e*SS SS 14 21 22.7 -6.0
ANN pmax pmax
comp=E,12nm,0.6s
ANN pmax pmax
comp=Z,367nm,1.3s
ANN pmax pmax
comp=N,88nm,1.3s
SDPT Sand Point 116.93 321 *e*PKPdf **PKPdf** **14 04 47.8 -0.5**
HOPEN Hopen 116.97 15 *e*PKPdf **PKPdf** **14 04 48.6 +0.7**
HOPEN *e*SP SP 14 14 54.2 +1.3
HOPEN *e*SS **SS** **14 21 34.3 +2.2**
EIDS Eidsvold 117.21 215 *e*PKPdf **PKPdf** **14 04 49.3 -0.7**
SOC Sochi 117.88 53 *i* PKIKP **PKPdf** **14 04 50.5 -0.1**
SOC *e* 14 06 12.8
SOC *e**PP **pPKPdf** **14 07 03.8 -3.8**
SOC *e*PPP PPP 14 09 01.3
SOC *e* 14 10 48.5
SOC *e*PS **PS** **14 16 11.7 +0.4**
SOC pmax pmax
comp=Z,257nm,0.7s
OBN Obninsk 118.21 40*d* *i*PKIKP **PKPdf** **14 04 50.4 -0.4**
OBN *i* 14 06 16.6
OBN *i*S **SKSac** **14 10 49.4 -0.5**
OBN *i*PS **PS** **14 16 11.5 -2.3**
OBN *i*SS **SS** **14 21 48.6 -0.4**
OBN pmax pmax
comp=Z,728nm,1.2s
OBN Obninsk 118.21 40 *e*PKPdf **PKPdf** **14 04 50.7 -0.1**
OBN LR LR
comp=Z,2μm,20.0s
APA Apatity 118.40 26⇓ *i*PKIKP **PKPdf** **14 04 50.8 0.0**
APA *i* 14 06 59.0
APA *i* 14 11 03.0
APA *i* 14 15 16.0
APA *i*PS **PS** **14 16 11.0 -4.1**
APA pmax pmax
comp=Z,97nm,0.7s
LVZ Lovozero 118.90 25*d* *i*PKIKP **PKPdf** **14 04 51.6 -0.3**
LVZ pmax pmax
comp=Z,270nm,1.3s
LVZ Lovozero 118.90 25 *e*PKPdf **PKPdf** **14 04 52.2 +0.3**
LVZ LR LR
comp=Z,1μm,21.0s
MOS Moscow 118.91 39 *i* PKIKP **PKPdf** **14 04 52.1 0.0**
MOS *e* 14 06 22.3
MOS *i* 14 10 52.4
MOS *e*SP SP 14 15 08.4 -2.9
MOS pmax pmax
comp=Z,900nm,1.3s
MOS pmax pmax
comp=Z,708nm,1.2s
NWAO Narrogin (SRO) 119.00 180 PKP **PKPdf** **14 04 52.8 -0.5**
comp=Z,63nm,0.8s,baz=3.5,slow=3.7,SNR=29
NWAO PP **PP** **14 06 23.3 +1.5**
comp=Z,51nm,1.0s,baz=4.6,slow=3.0,SNR=4.1
NWAO PKKPbc **PKKPbc** **14 15 10.0 -0.3**
comp=Z,17nm,0.6s,baz=228,slow=4.4,SNR=5.7
NWAO Narrogin (SRO) 119.00 180 *e*PKPdf **PKPdf** **14 04 52.7 -0.5**
NWAO PP **PP** **14 06 23.3 +1.5**
NWAO PKKPbc **PKKPbc** **14 15 10.0 -0.3**
NWAO LR LR
comp=Z,3μm,22.0s
VSR Storozhevoye 119.08 45 *e*PKIKP **PKPdf** **14 04 51.1 -1.5**
VSR pmax pmax
comp=Z,370nm,0.9s

LPSR Galich'ya Gora 119.17 43 *e*PKIKP **PKPdf** 14 04 52.2 -0.5
LPSR *e* 14 10 52.5
LPSR pmax pmax
comp=Z,530nm,0.7s
VORR Voronezh 119.19 44 *e*PKIKP **PKPdf** 14 04 51.0 -1.8
VORR pmax pmax
comp=Z,750nm,1.4s
CHVG Ch'k'valeri 119.37 55 P **PKPdf** 14 04 54.8 +1.3
AKUT Akutan 119.74 319 *e*PKPdf **PKPdf** 14 04 54.3 +0.5
NEY Neytrino 119.94 54 *c i*PKIKP **PKPdf** 14 04 55.5 +0.7
TMCR Tamitsa 120.02 30 *e*PKIKP **PKPdf** 14 04 53.5 -0.5
TMCR pmax pmax
comp=Z,398nm,0.9s
KIV Kislovodsk 120.06 53 *i* P **PKPdf** 14 04 54.6 -0.3
SNR=68
KIV Kislovodsk 120.06 53 *d i*PKIKP **PKPdf** 14 04 54.7 -0.2
KIV *i* 14 06 27.9
KIV *i* S **SKSac** 14 10 57.9 +0.7
KIV *i* SS **SS** 14 22 18.1 +4.8
KIV pmax pmax
comp=Z,557nm,1.0s
KIV Kislovodsk 120.06 53 *e*PKPdf **PKPdf** 14 04 54.3 -0.6
KIV LR LR
comp=Z,1μm,20.0s
KIV Kislovodsk 120.06 53 PKPdf **PKPdf** 14 04 54.7 -0.2
SNR=65
KIV Kislovodsk 120.06 53 P **PKPdf** 14 04 54.7 -0.2
SNR=65
KIV S **PP** 14 06 29.4 -1.5
AKH Akhalkalaki 120.10 56 P **PKPdf** 14 04 55.9 +0.7
AKH Akhalkalaki 120.10 56 ||| *i*P **PKPdf** 14 04 56.0 +0.8
AKH Akhalkalaki 120.10 56 PKIKP **PKPdf** 14 04 55.9 +0.7
UNV Unalaska Vale 120.13 318 *e*PKPdf **PKPdf** 14 04 53.7 -0.8
BGD Bogdanovka 120.15 57 P **PKPdf** 14 04 56.9 +1.5
KBZ Khabaz 120.16 54 Pdiff **Pdif** 14 01 35.7 +13
comp=Z,6.4nm,0.9s,baz=332,slow=2.0,SNR=13
KBZ PKP **PKiKP** 14 04 55.1 0.0
comp=Z,217nm,1.0s,baz=232,slow=1.6,SNR=83
KBZ PKKPbc **PKKPab** 14 15 07.8 +1.1
comp=Z,12nm,0.9s,baz=78,slow=0.4,SNR=4.6
FORT Forrest 120.18 191 *e*PKPdf **PKPdf** 14 04 55.0 -0.5
TARA Tarawa 120.19 254 *e*PKPdf **PKPdf** 14 04 55.4 -0.6
TARA LR LR
comp=Z,248nm,22.0s
ONI Oni 120.32 55 P **PKPdf** 14 04 55.5 +0.1
ONI Oni 120.32 55 PKIKP **PKPdf** 14 04 55.5 +0.1
KLMR Klimovskoe 120.48 34 *e*PKIKP **PKPdf** 14 04 52.1 -2.9
KLMR pmax pmax
comp=Z,1μm,1.4s
GOF Gofitskoye 120.52 52 ||| *i*PKIKP **PKPdf** 14 04 55.9 +0.3
GOF pmax pmax
comp=Z,786nm,0.9s
ZEI Tsey 120.69 55 *e*PKIKP **PKPdf** 14 04 55.0 -1.3
ZEI pmax pmax
comp=Z,491nm,0.9s
GNI Garni 120.75 58 *i* P **PKPdf** 14 04 56.6 +0.2
SNR=37
GNI Garni 120.75 58 *e*PKIKP **PKPdf** 14 04 55.0 -1.5
GNI MLR MLR
comp=Z,3μm,21.0s
GNI Garni 120.75 58 *e*PKPdf **PKPdf** 14 04 55.0 -1.5
GNI LR LR
comp=Z,3μm,21.0s
GNI Garni 120.75 58 PKiKP **PKiKP** 14 04 56.8 +0.2
SNR=16
GNI Garni 120.75 58 P **PKiKP** 14 04 56.8 +0.2
SNR=16
GNI S **PP** 14 06 32.0 -3.7
GUDG Gudauri 121.04 55 P **PKPdf** 14 04 58.6 +1.6
TBLG Delisi 121.08 56 P **PKPdf** 14 04 56.8 0.0
TBLG Delisi 121.08 56 PKIKP **PKPdf** 14 04 56.8 0.0
DUS Dusheti 121.13 56 P **PKPdf** 14 04 60.0 +3.0
DUS Dusheti 121.13 56 PKIKP **PKPdf** 14 05 00.0 +3.0
SEAG Tbilisi Sea 121.14 56 P **PKPdf** 14 04 57.8 +0.8
MIDW Midway 122.80 287 PFAKE 14 05 10.0 +10
MIDW LR LR
comp=Z,3μm,22.0s
GAMB Gambell 123.28 330 *e*PKPdf **PKPdf** 14 05 01.1 +0.9
HNR Honiara 123.90 234 PKP **PKPdf** 14 05 03.3 +0.3
comp=Z,115nm,0.7s,baz=265,slow=1.2,SNR=9.0
HNR Honiara 123.90 234 *e*PKPdf **PKPdf** 14 05 03.0 -0.1
HNR LR LR
comp=Z,2μm,21.0s
HNR Honiara 123.90 234 P **PKPdf** 14 05 03.0 -0.1
CTA Charters Tower 124.04 214 PKP **PKPdf** 14 05 03.4 +0.1
comp=Z,178nm,1.0s,baz=132,slow=2.2,SNR=60
CTA PP **PP** 14 06 57.0 +0.8
comp=Z,48nm,1.1s,baz=154,slow=9.5,SNR=4.5
CTA pPKP **pPKPdf** 14 07 19.2 -1.0
comp=Z,62nm,1.0s,baz=175,slow=2.1,SNR=5.7
CTA SKiKP **SKiKP** 14 07 43.0 -0.8
comp=Z,149nm,1.1s,baz=270,slow=1.8,SNR=8.1
CTA PKKPbc **PKKPab** 14 14 53.6 -0.1
comp=Z,45nm,0.7s,baz=349,slow=5.6,SNR=23
CTAO Charters Tower 124.04 214 *e*PKIKP **PKPdf** 14 05 02.6 -0.6
CTAO MLR MLR
comp=Z,2μm,22.0s
CTAO Charters Tower 124.04 214 *e*PKPdf **PKPdf** 14 05 02.6 -0.6
CTAO LR LR
comp=Z,2μm,22.0s
DGAR Diego Garcia 124.29 123 PFAKE 14 05 20.0 +16
DGAR LR LR
comp=Z,3μm,19.0s
FAQ Al Faqa, Dubai 125.59 79 *i* P **PKPdf** 14 05 05.7 -0.3
SNR=57
ASAR Alice Springs 125.68 199 Pdiff **Pdif** 14 01 55.0 +7.1
comp=Z,0.7nm,0.7s,baz=163,slow=4.3,SNR=7.6
ASAR PKP **PKPdf** 14 05 05.6 -0.8
comp=Z,148nm,0.5s,baz=138,slow=1.7,SNR=134
ASAR pPKP **pPKPdf** 14 07 22.2 -1.2
comp=Z,70nm,1.0s,baz=163,slow=3.3,SNR=7.4
ASAR SKiKP **SKiKP** 14 07 46.4 -0.7
comp=Z,86nm,0.8s,baz=157,slow=2.5,SNR=6.8
ASAR PKKPbc **PKKPbc** 14 14 44.0 -1.2
comp=Z,23nm,0.6s,baz=342,slow=3.6,SNR=20
ASAR PKKP **PKKPdf** 14 15 24.6 +0.4
comp=Z,7.5nm,0.6s,baz=0.5,slow=1.9,SNR=6.0
ASAR SKKP 14 18 15.0
comp=Z,18nm,1.0s,baz=1.1,slow=2.7,SNR=5.4
NAZ Nazwa, Dubai 125.73 78 *i* P **PKPdf** 14 05 06.0 -0.2
SNR=32
ASHO Ashiyiah 125.98 79 PKPdf **PKPdf** 14 05 06.1 -0.7
ASHO Ashiyiah 125.98 79 P **PKPdf** 14 05 06.1 -0.7
ASHO S **PP** 14 07 05.5 -5.0
HATD Hatta, Dubai 126.08 79 *i* P **PKPdf** 14 05 06.4 -0.6
SNR=38
HATD Hatta, Dubai 126.08 79 PKPdf **PKPdf** 14 05 06.3 -0.7
HATD Hatta, Dubai 126.08 79 P **PKPdf** 14 05 06.3 -0.7
HATD S **PP** 14 07 07.4 -3.8
BANOM Banah 126.56 78 P **PKPdf** 14 05 07.4 -0.5
HOQ Hoqain 126.72 81 PKPdf **PKPdf** 14 05 07.3 -0.9
SNR=28
HOQ Hoqain 126.72 81 P **PKPdf** 14 05 07.3 -0.9
SNR=28
JMDO Jabal Madar 127.01 82 PKPdf **PKPdf** 14 05 07.7 -1.1
SNR=32
JMDO Jabal Madar 127.01 82 P **PKPdf** 14 05 07.7 -1.1
SNR=32
SMDO Samad 127.19 82 PKPdf **PKPdf** 14 05 08.9 -0.3
SNR=75
SMDO Samad 127.19 82 P **PKPdf** 14 05 08.9 -0.3
SNR=75
BIDO Bidbid 127.41 81 PKPdf **PKPdf** 14 05 09.1 -0.4
SNR=33
BIDO Bidbid 127.41 81 P **PKPdf** 14 05 09.1 -0.4
SNR=33
WSAR Wadi Sarin 127.75 82 PKKPbc PKKPbc 14 14 37.9
comp=Z,24nm,1.1s,baz=212,slow=3.5,SNR=5.3
KWAJ Kwajalein Atol 128.52 258 *e*PKIKP **PKPdf** 14 05 12.9 +1.1
KWAJ Kwajalein Atol 128.52 258 *e*PKPdf **PKPdf** 14 05 12.9 +1.1
WRA Warramunga Arr 129.05 201 Pdiff **Pdif** 14 02 06.8 +3.9
comp=Z,1.1nm,1.1s,baz=173,slow=3.9,SNR=3.6
WRA PKhKP PKPpre 14 04 48.1
comp=Z,1.2nm,0.4s,baz=163,slow=2.8,SNR=13
WRA PKP **PKPdf** 14 05 12.0 -0.8
comp=Z,324nm,0.8s,baz=169,slow=1.6,SNR=153
WRA pPKP **PP** 14 07 27.7 -0.7
comp=Z,156nm,1.0s,baz=172,slow=1.4,SNR=15
WRA SKPbc SKPab 14 07 38.0 -1.0
comp=Z,635nm,0.9s,baz=158,slow=3.5,SNR=40
WRA PKKPbc PKKPbc 14 14 33.2
comp=Z,9.7nm,0.5s,baz=344,slow=4.1,SNR=16
WRA PKKP **PKKPdf** 14 15 20.2 +2.5
comp=Z,2.8nm,0.6s,baz=336,slow=1.7,SNR=4.5
WRA SKKPbc **SKKPbc** 14 17 27.9 +3.2
comp=Z,14nm,0.9s,baz=324,slow=4.9,SNR=5.8
WRA SKKP 14 18 05.2
comp=Z,28nm,1.0s,baz=343,slow=5.5,SNR=7.2
WRAB Tennant Creek 129.05 201 *e*PKIKP **PKPdf** 14 05 12.4 -0.4
WRAB MLR MLR
comp=Z,2μm,20.0s
WRAB Tennant Creek 129.05 201 *e*PKPdf **PKPdf** 14 05 12.4 -0.4
WRAB LR LR
comp=Z,2μm,20.0s
SOKR Solikamsk 129.13 35 *d i*PKIKP **PKPdf** 14 05 09.5 -2.1
SOKR pmax pmax
comp=Z,514nm,1.1s
ARU Arti 130.60 38 *i* PKIKP **PKPdf** 14 05 15.0 +0.5
ARU 14 07 45.2
ARU PPP PPP 14 10 32.8
ARU 14 11 28.1
ARU Arti 130.60 38 *e*PKPdf **PKPdf** 14 05 13.6 -0.9
ARU LR LR
comp=Z,2μm,20.0s
GEYT Alibeck 130.63 63 PKhKP PKPpre 14 05 01.4
comp=Z,10nm,0.8s,baz=289,slow=4.5,SNR=8.2
GEYT PKP **PKPdf** 14 05 15.1 -0.2
comp=Z,184nm,1.0s,baz=279,slow=4.6,SNR=55
GEYT PP **PP** 14 07 37.4 -2.7
comp=Z,61nm,0.9s,baz=260,slow=8.9,SNR=6.1
GEYT SKPbc **SKPab** 14 07 45.7 +0.5
comp=Z,191nm,0.8s,baz=268,slow=5.5,SNR=16
GEYT SKKPbc **SKKPbc** 14 17 27.6 +5.8
comp=Z,26nm,1.1s,baz=90,slow=3.1,SNR=5.6
MBWA Marble Bar 130.64 184 *e*PKPdf **PKPdf** 14 05 15.6 -0.2
MBWA LR LR
comp=Z,2μm,22.0s
MBWA Marble Bar 130.64 184 PKPdf PKPpre 14 05 11.6
SNR=16
MBWA Marble Bar 130.64 184 P PKPpre 14 05 11.6
SNR=16
COEN Coen 130.78 215 *e*PKPdf **PKPdf** 14 05 16.7 +0.6
COEN *e*SKPbc **SKPbc** 14 07 45.9 +0.1
AKTO Aktyubinsk 130.94 46 PKHKP PKPpre 14 05 00.2
AKTO pmax pmax
comp=Z,545nm,1.3s
SVE Sverdlovsk 131.65 38 *e*PKIKP **PKPdf** 14 05 17.2 +0.7
SVE pmax pmax
comp=Z,547nm,1.4s
SMY Shemya 131.74 317 *e*PKIKP **PKPdf** 14 05 17.1 +0.4
SMY *e* 14 07 47.4
SMY Shemya 131.74 317 *e*PKPdf **PKPdf** 14 05 17.1 +0.4
SMY *e*SKPbc **SKPbc** 14 07 47.4 -0.5
AB31 Akbulak array 132.27 48 PKHKP PKPpre 14 05 01.4
AB31 pmax pmax
comp=Z,370nm,0.9s
ABKAR Akbulak array 132.27 48 *e*PKPdf **PKPdf** 14 05 18.1 +0.2
ABKAR *e*PP **PP** 14 07 49.6 -0.4
PMG Port Moresby 132.35 222 PKhKP PKPpre 14 05 07.6
comp=Z,44nm,1.1s,baz=12,slow=8.8,SNR=5.9
PMG PKP **PKiKP** 14 05 19.8 -0.5
comp=Z,309nm,1.1s,baz=45,slow=2.9,SNR=26
PMG pPKP pPKPdf 14 07 34.4 -1.8
comp=Z,108nm,1.3s,baz=80,slow=4.5,SNR=3.6
PMG SKPbc **SKPbc** 14 07 51.5 +0.3
comp=Z,1μm,0.9s,baz=92,slow=1.8,SNR=55
PMG SKKPbc **SKKPbc** 14 17 20.6 +7.5
comp=Z,39nm,0.9s,baz=38,slow=1.8,SNR=4.4
PMG SKKP 14 17 59.5
comp=Z,42nm,0.9s,baz=307,slow=3.3,SNR=3.8
PMG Port Moresby 132.35 222 PKPpre PKPpre 14 05 07.6
PMG *e*PKPdf **PKiKP** 14 05 19.9 -0.4
PMG pPKP pPKPdf 14 07 34.4 -1.8
PMG SKPbc **SKPbc** 14 07 51.5 +0.3
PMG SKKPbc **SKKPbc** 14 17 20.6 +7.5
PMG SKKP 14 17 59.5
PMG LR LR
comp=Z,2μm,22.0s
FITZ Fitzroy Crossi 132.99 191 PKP **PKPdf** 14 05 20.6 +0.3
comp=Z,90nm,0.6s,baz=277,slow=2.2,SNR=14
FITZ pPKP **pPKPdf** 14 07 36.0 -1.3
comp=Z,20nm,0.8s,baz=136,slow=8.4,SNR=2.3
FITZ SKPbc **SKPbc** 14 07 53.1 -0.2
comp=Z,1μm,0.9s,baz=199,slow=4.7,SNR=88
FITZ SKKP 14 17 51.3
comp=Z,10nm,0.8s,baz=25,slow=7.8,SNR=3.4
WAKE Wake Island 133.83 270 *e*PKPdf **PKPdf** 14 05 22.2 +0.5
WAKE *e*SKPbc **SKPbc** 14 07 56.9 +0.9
MNCY Minicoy 134.15 107 *ex* **pKPdf** 14 07 36.0 -3.6
MNCY *ex* **SKPab** 14 07 59.0 -2.1
COCO West Island 135.22 152 *e*PKIKP **PKPdf** 14 05 25.2 +0.7
COCO MLR MLR
comp=Z,2μm,20.0s
COCO West Island 135.22 152 *e*PKPdf **PKPdf** 14 05 25.2 +0.7
COCO LR LR
comp=Z,2μm,20.0s
NRIK Noril'sk 135.66 14 PKhKP PKPpre 14 05 12.7
comp=Z,14nm,0.6s,baz=316,slow=4.4,SNR=12
NRIK PKP **PKiKP** 14 05 25.1 -0.3
comp=Z,36nm,0.6s,baz=186,slow=0.8,SNR=28
NRIK pPKP pPKPdf 14 07 41.0 +0.2
comp=Z,43nm,1.1s,baz=133,slow=2.8,SNR=2.6
NRIK SKKPbc SKKPbc 14 17 01.4 -3.9
comp=Z,55nm,1.1s,baz=120,slow=5.0,SNR=7.8
TIXI Tiksi 136.21 355 SKPbc **SKPbc** 14 08 01.3 -0.4
comp=Z,219nm,0.9s,baz=62,slow=5.1,SNR=5.5
TIXI SKKPbc **SKKPbc** 14 16 59.0 -4.4
comp=Z,26nm,0.9s,baz=316,slow=1.7,SNR=4.1
TIXI Tiksi 136.21 355 *e*PKIKP **PKPdf** 14 05 24.7 +0.1
TIXI *e* 14 08 14.0
TIXI MLR MLR
comp=Z,2μm,21.0s
TIXI Tiksi 136.21 355 *e*PKPdf **PKPdf** 14 05 24.7 +0.1
TIXI *e*SKPbc **SKPbc** 14 08 01.7 0.0
TIXI *e*PP **PP** 14 08 14.0 +0.4
TIXI SKKPbc **SKKPbc** 14 16 59.0 -4.4
TIXI LR LR
comp=Z,2μm,21.0s
MMPI Merauke 136.87 215 PKP **PKPdf** 14 05 27.9 +0.3
BHJ Bhuj 137.41 86 *e*P **PKPdf** 14 05 26.6 -1.6
BRVK Borovoye 137.97 41 *e*PKIKP **PKPdf** 14 05 29.5 +1.1
BRVK *e* 14 07 42.0
BRVK MLR MLR
comp=Z,1μm,20.0s
BRVK Borovoye 137.97 41 *e*PKPdf **PKPdf** 14 05 29.4 +1.1
BRVK *e*pPKPdf **pPKPdf** 14 07 42.0 -3.6
BRVK LR LR
comp=Z,1μm,20.0s
BRVK Borovoye 137.97 41 PKPdf PKPpre 14 05 19.7
SNR=123
BRVK Borovoye 137.97 41 P PKPpre 14 05 19.7
SNR=123
MNGI Mangalore 138.00 103 *i* x **Pdif** 14 02 41.7 -0.9
BVA0 Borovoye Array 138.04 41 *i* PKHKP PKPpre 14 05 19.7
BVA0 pmax pmax
comp=Z,444nm,1.1s
GOA Goa 138.28 99 *e*P **PKPdf** 14 05 28.9 -1.1
SEY Seymchan 138.50 336 pPKP **pPKPdf** 14 07 47.0 +0.7
comp=Z,148nm,1.0s,baz=32,slow=2.5,SNR=8.8
SEY SKPbc **SKPbc** 14 08 09.6 +1.1
comp=Z,228nm,0.8s,baz=116,slow=3.5,SNR=15
SEY SKKPbc **SKKPbc** 14 16 53.6 -0.7
comp=Z,95nm,1.1s,baz=206,slow=4.7,SNR=14
JASL Jaisalmer 139.46 81 *ex* PKPpre 14 05 24.5
POO Poona 139.52 94 ||| *i*PKP PKPpre 14 05 20.0
comp=Z,14nm,1.0s
POO *e*PP pPKPdf 14 07 33.0 -16
POO *i* PKSP 14 08 48.0
POO *e*PPP PPP 14 10 28.0
POO *i* SKS SKSdf 14 12 28.0 +41
POO *e*SSS SSS 14 29 57.0
POO *e*LR LR 14 48 16.0
POO Poona 139.52 94 *e*P **PKPdf** 14 05 30.7 -1.6
XMIS Christmas Isla 139.84 163 *e*PKPdf **PKPdf** 14 05 33.0 0.0
XMIS *e*SKPdf **SKPbc** 14 08 13.5 -0.2
PALK Pallekele 139.91 115 PKhKP PKPpre 14 05 27.1
baz=295,slow=3.2
PALK PKP **PKPdf** 14 05 33.9 +0.7
comp=Z,272nm,1.0s,baz=296,slow=1.5
PALK pPKP pPKPdf 14 07 50.6 +0.3
comp=Z,136nm,1.2s,baz=296,slow=0.7,SNR=7.4
PALK SKPbc **SKPbc** 14 08 13.0 -1.0
comp=Z,373nm,1.2s,baz=295,slow=0.6,SNR=11
PALK SKKPbc **SKKPbc** 14 16 46.7 +1.2
comp=Z,38nm,0.7s,baz=322,slow=0.2,SNR=10
PALK Pallekele 139.91 115 *i* P **PKPdf** 14 05 32.6 -0.6
SNR=14
PALK Pallekele 139.91 115 PKPpre PKPpre 14 05 27.1
PALK *e*PKPdf **PKPdf** 14 05 33.4 +0.2
PALK pPKP pPKPdf 14 07 50.6 +0.3
PALK SKPbc **SKPbc** 14 08 13.0 -1.0
PALK SKKPbc **SKKPbc** 14 16 46.7 +1.2
PALK Pallekele 139.91 115 PKPdf PKPpre 14 05 27.5
SNR=14
PALK Pallekele 139.91 115 P PKPpre 14 05 27.5
SNR=14
KK31 Karatay Array 140.14 56 *e*PKHKP PKPpre 14 05 24.4
KK31 pmax pmax
comp=Z,96nm,0.8s
PET Petropavlovsk 140.71 321 *e*PKHKP PKPpre 14 05 28.0
PET *i* 14 05 33.5
PET MLR MLR
comp=Z,2μm,24.0s
PET MLR MLR
comp=Z,1μm,19.0s
PET Petropavlovsk 140.71 321 *e*SKPdf **SKPdf** 14 08 13.3 +1.0
PET LR LR
comp=Z,1μm,19.0s
URV Uravakonda 141.02 102 *e*PKPdf PKPpre 14 05 29.6
URV *e*PP **PP** 14 08 43.2 -1.3
BATI Baumata 141.05 191 PKP **PKPdf** 14 05 31.6 -3.6
PETK Petropavlovsk- 141.21 321 PKHKP PKPpre 14 05 29.0
comp=Z,92nm,0.6s,baz=88,slow=8.6,SNR=87
PETK pPKP pPKPdf 14 07 51.7 +0.2
comp=Z,92nm,1.0s,baz=81,slow=9.2,SNR=4.9
PETK SKPbc **SKPbc** 14 08 15.4 -0.5
comp=Z,145nm,0.8s,baz=84,slow=6.1,SNR=8.8
PETK PKKP **PKKPdf** 14 14 56.5 +0.9
comp=Z,6.1nm,0.8s,baz=73,slow=4.1,SNR=4.3
PETK SKKPbc **SKKPbc** 14 16 43.3 +0.1
comp=Z,35nm,1.1s,baz=240,slow=1.2,SNR=6.9
PETK Petropavlovsk- 141.21 321 PKHKP PKPpre 14 05 29.0
MA2 Magadan 141.22 333 PKhKP PKPpre 14 05 29.2
baz=50,slow=6.8
MA2 SKPbc **SKPbc** 14 08 16.3 +0.6
comp=Z,165nm,0.9s,baz=96,slow=3.4,SNR=7.7
MA2 SKKPbc **SKKPab** 14 16 42.4 -0.6
comp=Z,38nm,0.9s,baz=176,slow=7.0,SNR=4.2
MA2 Magadan 141.22 333 *e*PKIKP **PKPdf** 14 05 33.2 -0.9
MA2 MLR MLR
comp=Z,2μm,22.0s
MA2 Magadan 141.22 333 *e*PKPdf **PKPdf** 14 05 33.2 -0.9
MA2 SKPbc **SKPbc** 14 08 16.3 +0.6
MA2 SKKPbc **SKKPab** 14 16 42.4 -0.6
MA2 LR LR
comp=Z,2μm,22.0s
SAUI Saumlaki 141.22 203 PKP **PKPdf** 14 05 31.9 -3.6
SOEI Soe 141.39 192 PKP **PKPdf** 14 05 32.9 -3.0
SOEI Soe 141.39 192 *e*SKPdf **SKPbc** 14 08 16.6 -1.3
BASI Baing, Sumba 141.43 186 PKP **PKPdf** 14 05 32.7 -3.1
JAY Jayapura 141.66 221 pPKP **pPKPdf** 14 07 53.8 +0.2
comp=Z,5.0nm,0.9s,baz=271,slow=22,SNR=3.3
JAY SKPbc **SKPbc** 14 08 18.7 +0.3
comp=Z,33nm,1.0s,baz=264,slow=21,SNR=18
JAY Jayapura 141.66 221 PKP PKPpre 14 05 31.0
MNAS Manas 141.66 56 PKHKP PKPpre 14 05 31.0
MNAS pmax pmax
comp=Z,537nm,1.2s
KLRI Killari 141.75 97 *e*PKPdf PKPpre 14 05 31.6
KLRI *ep*PKPdf pPKPdf 14 07 49.0 -4.6
KLRI *e*SKPdf **SKPdf** 14 08 15.5 +0.1
GENI Genyem 141.90 220 PKP **PKPdf** 14 05 34.7 -2.0
WSI Waingapu 142.00 186 PKP **PKPdf** 14 05 34.3 -2.6
SKHT Srikalahasti 142.56 105 *e*PKPdf **PKPdf** 14 05 35.0 -2.7
MDRS Chennai 142.68 107 *e*P **PKPdf** 14 05 35.3 -2.7
RCLA Racherla 142.71 102 *e*PKPdf **PKPdf** 14 05 34.9 -3.1
RCLA *ep*PKiKP **pPKPdf** 14 07 55.9 +0.6
RCLA *e*SKPdf **SKPdf** 14 08 17.6 +0.6
RCLA *e*PP **PP** 14 08 53.6 -0.9
MMRI Maumere 142.80 189 PKP **PKPdf** 14 05 36.4 -1.9
MMRI PKP **PKPdf** 14 05 36.5 -1.9
SRLM Srisailam 142.94 101 *e*PKPdf **PKPdf** 14 05 36.3 -2.1
SRLM *e*PP **PP** 14 08 55.2 -0.8
IGBI Denpasar 142.95 177 PKP **PKPdf** 14 05 37.0 -1.5
PLAI Plampang 142.97 181 PKP **PKPdf** 14 05 36.0 -2.6
PLAI PKP **PKiKP** 14 05 36.9 -5.1
SKR Severo-Kuril's 143.05 318 *e*PKIKP PKPab 14 05 35.5 +0.1
SKR pmax pmax
comp=Z,7μm,1.6s
SKR pmax pmax
comp=Z,3μm,0.7s
TWSI Taliwang, Sumb 143.07 180 PKP PKPbc 14 05 37.1 +0.1
TWSI PKP PKPbc 14 05 37.1 +0.1
TWSI PKP PKPab 14 05 37.5 +1.0
DNP Denpasar 143.09 177 PKP PKPbc 14 05 37.9 +0.8
DNP PKP PKPbc 14 05 37.9 +0.8
AAK Ala-Archa 143.10 56 SKKPbc SKKPbc 14 16 33.7 -1.5
comp=Z,96nm,0.9s,baz=122,slow=2.5,SNR=23
AAK Ala-Archa 143.10 56 PKIKP PKPab 14 05 36.3 +0.1
AAK pmax pmax
comp=Z,4μm,1.1s
AAK Ala-Archa 143.10 56 *e*PKPdf **PKPdf** 14 05 38.5 +0.3
AAK *e*SKPbc **SKiKP** 14 08 22.8 +0.7
AAK SKKPbc **SKKPab** 14 16 33.7 -1.3
AAK LR LR
comp=Z,2μm,21.0s
AAK Ala-Archa 143.10 56 PKPdf PKPbc 14 05 37.0 +0.4
SNR=1657
AAK Ala-Archa 143.10 56 P PKPbc 14 05 37.0 +0.4
SNR=1657
CMJI Cimerak 143.11 166 PKP PKPab 14 05 36.2 -0.4
CMJI PKP PKPbc 14 05 37.6 +0.5
FRU Bishkek 143.16 56 ||| *i*PKIKP PKPab 14 05 36.0 -0.2
FRU pmax pmax
comp=E,4μm,6.0s
CISI Cisompet, Garu 143.19 165 PKP PKPbc 14 05 37.5 0.0
CISI PKP PKPbc 14 05 37.5 0.0
CISI Cisompet, Garu 143.19 165 *e*PKPdf **PKPdf** 14 05 39.4 +0.4
CISI *e*SKPdf **SKPdf** 14 08 19.7 +1.7
CISI *e*SKPbc **SKiKP** 14 08 24.1 +0.9
PCJI Pacitan 143.19 171 PKP PKPbc 14 05 38.0 +0.6
PCJI PKP PKPbc 14 05 38.0 +0.6
HYB Hyderabad 143.20 99 ||| *i*PKP PKPab 14 05 37.0 0.0
comp=E,220nm,1.0s
HYB *ep*PKP sPKPdf 14 08 52.0 -1.0
HYB *e*SKS **SKSdf** 14 11 58.0 +4.8
HYB Hyderabad 143.20 99 *e*P PKPab 14 05 36.9 -0.1
HYBB Hyderabad (bro 143.20 99 *e*PKPab PKPab 14 05 36.0 -1.1
HYBB *e*PP **PP** 14 08 58.2 +0.7
JAGI Jajag, Banyuwa 143.24 176 PKP PKPab 14 05 37.3 +0.2
JAGI PKP PKPbc 14 05 37.3 +0.2
JAGI Jajag, Banyuwa 143.24 176 *e*PKPdf **PKPdf** 14 08 38.5 -0.5
JAGI *e*SKPbc **SKiKP** 14 08 23.1 0.0
CNJI Cibinong 143.26 164 PKP PKPbc 14 05 37.8 +0.2
CNJI PKP PKPbc 14 05 37.8 +0.2
UGM Wanagama 143.37 169 PKP PKPab 14 05 36.6 -1.1
UGM PKP **PKPdf** 14 05 39.0 -0.3
GMJI Gumukmas 143.38 174 PKP PKPab 14 05 36.9 -0.8
GMJI PKP PKPbc 14 05 38.1 +0.2
SKJI Sukabumi 143.41 163 PKP **PKPdf** 14 05 38.9 -0.5
SKJI PKP **PKPdf** 14 05 38.9 -0.5
NJS Nagarjunasagar 143.49 101 *e*PKPdf PKPab 14 05 37.8 -0.3
NJS *ep*PKiKP pPKPdf 14 07 55.9 -0.8
NJS *e*SKPbc **SKPbc** 14 08 21.9 -0.8
NJS *e*PP **PP** 14 08 58.6 -0.6
WOJI Wonogiri, Jawa 143.51 170 PKP PKPab 14 05 37.1 -1.1
WOJI PKP PKPbc 14 05 38.9 +0.6
CGJI Cibinong 143.55 161 PKP PKPab 14 05 36.7 -1.6
CGJI PKP PKPbc 14 05 38.9 +0.4
SRSP Sriramsagar 143.61 96 *e*PKPbc PKPab 14 05 36.7 -1.8
SRSP *e*PKPdf PKPbc 14 05 38.4 -0.2
SRSP *ep*PKPdf pPKPdf 14 07 53.1 -3.7
SRSP *e*PP **PP** 14 08 59.9 0.0
KURBB Kurchatov Arra 143.61 42 PKP **PKPdf** 14 05 38.1 -0.4
comp=E,2μm,0.6s,baz=292,slow=3.7,SNR=1965
KURK Kurchatov 143.63 42 *d i*PKIKP PKPab 14 05 38.0 +0.3
KURK Kurchatov 143.63 42 *e*PKPdf **PKPdf** 14 05 38.3 -0.2
KURK LR LR
comp=Z,3μm,21.0s
KURK Kurchatov 143.63 42 PKPdf **PKPdf** 14 05 38.4 -0.2
SNR=1380
KURK Kurchatov 143.63 42 P **PKPdf** 14 05 38.4 -0.2
SNR=1380
KPJI Karang Pucung 143.65 167 PKP PKPab 14 05 37.4 -1.3
KPJI PKP PKPbc 14 05 39.2 +0.4
SRBI Singaraja 143.68 177 PKP **PKPdf** 14 05 39.8 0.0
ADKI Addanki 143.75 102 *e*PKPdf PKPab 14 05 39.3 +0.2
ADKI *ep*PKPdf pPKPdf 14 07 54.4 -2.7
ADKI *e*SKPdf **SKPdf** 14 08 20.4 +1.7
ADKI *e*PP **PP** 14 08 59.8 -0.9
LEM Lembang 143.85 164 PKP **PKPdf** 14 05 45.2 +4.9
BMNS Besmoynak 143.88 55 ||| *i*PKP **PKPdf** 14 05 39.5 0.0
comp=Z,22μm,1.0s
DBJI Dramaga 143.89 163 PKP **PKPdf** 14 05 41.1 +0.9

DBJI PKP **PKPdf** **14 05 41.1 +0.9**
ABJI Asem Bagus 143.91 176 PKP PKPbc 14 05 38.8 -0.8
ABJI PKP **PKPdf** **14 05 40.1 -0.1**
BLJI Banyuglugur 143.91 174 PKP **PKPdf** **14 05 41.4 +1.2**
KHET Khetri 143.95 81 *eP* PKPbc 14 05 38.5 -0.9
NGJI Ngawi 144.05 171 PKP PKPbc 14 05 38.9 -1.1
NGJI PKP **PKPdf** **14 05 41.5 +1.0**
NVS Novosibirsk 144.13 33⇑ *i*PKIKP **PKPab** **14 05 40.3 +0.8**
NVS *e* 14 09 05.3
NVS pmax pmax
comp=Z,2μm,1.6s
NVS pmax pmax
comp=N,1μm,1.7s
NVS pmax pmax
comp=E,2μm,1.7s
SBJI Serang 144.14 162 PKP PKPbc 14 05 38.7 -1.6
SBJI PKP **PKPab** **14 05 40.5 -0.1**
SMRI Semarang 144.20 169 PKP **PKPab** **14 05 40.8 0.0**
SMRI Semarang 144.20 169 *e*PKPdf **PKPab** **14 05 41.3 +0.4**
KUU Kurty 144.21 53 *i* PKP **PKPab** **14 05 40.0 -0.1**
comp=E,32μm,1.3s
KUU *e*SKP 14 08 19.9
KUU *i* PP **PP** **14 09 02.7 -0.2**
KASI Kota Agung 144.22 159 PKP PKPbc 14 05 38.8 -1.7
KASI PKP **PKPab** **14 05 41.4 +0.5**
TNG Tangerang 144.23 162 PKP **PKPab** **14 05 40.9 0.0**
BHPL Bhopal 144.24 89 *eP* PKPbc 14 05 40.1 -0.3
THN Thein Dam 144.45 73 *eP* **PKPdf** **14 05 39.0 -1.6**
THN *ex* x 14 14 54.0
LWLI Liwa 144.55 158 PKP **PKPdf** **14 05 39.8 -1.7**
LWLI PKP **PKPab** **14 05 43.5 +1.2**
KUDL Kundal 144.56 81 *eP* **PKPdf** **14 05 40.7 -0.2**
KSH Kashi 144.60 61⇓ *i*PKP **PKPdf** **14 05 40.7 -0.1**
KSH pPKP pPKPdf 14 07 58.6 +0.4
KSH sPKP 14 08 56.5
KSH PP **PP** **14 09 07.6 +2.0**
KSH PKS **PKSdf** **14 09 14.4 -2.0**
KSH SKS **SKSdf** **14 11 51.4 -3.2**
KSH SKKS **SKKSac** **14 14 55.4 -2.8**
KSH SS **SS** **14 27 05.4 -1.7**
KSH AMB AMB
comp=E,2μm,3.7s
BLSI Bandar Lampung 144.60 160 PKP **PKPdf** **14 05 40.0 -1.4**
BLSI PKP **PKPab** **14 05 42.1 -0.3**
KMMI Kalianget 144.63 175 PKP **PKPab** **14 05 43.6 +1.2**
KMMI PKP **PKPab** **14 05 43.6 +1.2**
TBJI Tambak Boyo 144.64 171 PKP **PKPdf** **14 05 41.6 +0.1**
TBJI PKP **PKiKP** **14 05 44.9 -0.6**
RTK Rohtak 144.64 79 *ex* PKPpre 14 05 34.6
RTK IAmb IAmb 14 05 38.1
comp=E,2μm,0.9s
SEM Semipalatinsk 144.71 41⇓ *i*PKP PKPbc 14 05 41.5 +0.3
comp=E,6μm,1.0s
AAA Alma-Ata 144.75 54⇓ *i*PKP **PKPab** **14 05 42.0 -0.4**
comp=Z,16μm,1.4s
MNAI Manna 144.77 155 PKP PKPbc 14 05 42.0 -0.3
MNAI Manna 144.77 155 *e*PKPdf PKPbc 14 05 42.0 -0.3
JWA Jwalamukhi 144.92 74 *eP* PKPbc 14 05 42.0 -0.2
JWA *ex* x 14 06 00.0
DHRM DHARAMSHALA 144.93 74 *eP* PKPbc 14 05 42.3 -0.2
BNDI Bandanaira 144.93 203 PKP **PKPab** **14 05 44.1 +0.5**
BNDI PKP **PKPab** **14 05 44.1 +0.5**
BHK Bhakra 144.95 75 *eP* **PKPdf** **14 05 40.0 -1.5**
BHK *ex* x 14 06 14.4
NGP Nagpur 145.02 93 *eP* **PKPdf** **14 05 40.8 -1.1**
NGP *ex* x 14 05 44.8
PPSI Pulau Pagai 145.02 150 PKP **PKPab** **14 05 45.6 +1.6**
PPSI PKP **PKPab** **14 05 45.6 +1.6**
BHGR Bahadurgarh 145.04 80 *eP* **PKPbc** **14 05 42.5 -0.1**
BHGR IAmb IAmb 14 05 44.2
comp=Z,2μm,1.1s
MDSI Maura Dua 145.08 158 PKP **PKPdf** **14 05 41.8 -0.4**
MDSI PKP **PKPbc** **14 05 42.2 -1.0**
SONA Sohna 145.09 81 *eP* **PKPbc** **14 05 42.5 -0.3**
SONA IAmb IAmb 14 05 44.1
comp=Z,50nm,0.7s
KKR Kurukshetra 145.13 78 *eP* **PKPdf** **14 05 41.2 -0.6**
KKR IAmb IAmb 14 05 45.1
comp=Z,2μm,0.8s
NDI New Delhi 145.28 80 *i* x PKPpre 14 05 35.0
NDI *i* x x 14 15 51.0
NDI *i* x x 14 17 16.5
YAK Yakutsk 145.32 349 PKPbc **PKPdf** **14 05 41.3 +0.2**
comp=Z,932nm,0.6s,baz=115,slow=0.1,SNR=306
YAK pPKPbc pPKPbc 14 07 57.3 +0.1
comp=Z,426nm,1.0s,baz=72,slow=0.5,SNR=3.9
YAK SKKPbc SKKPbc 14 16 24.3 -2.7
comp=Z,52nm,1.0s,baz=346,slow=0.7,SNR=6.4
YAK Yakutsk 145.32 349 *e*PKIKP **PKPdf** **14 05 41.6 +0.4**
YAK *e* 14 07 57.6
YAK *e* 14 09 07.3
YAK *e* 14 11 50.1
YAK pmax pmax
comp=Z,3μm,1.3s
YAK pmax pmax
comp=N,914nm,1.2s
YAK pmax pmax
comp=E,59nm,1.0s
YAK pmax pmax
comp=Z,767nm,1.9s
YAK pmax pmax
comp=E,262nm,1.6s
YAK pmax pmax
comp=N,603nm,1.7s
YAK Yakutsk 145.32 349 *e*PKPdf **PKPdf** **14 05 41.5 +0.4**
YAK *ep*PKPdf pPKPab 14 07 54.8 -1.0
YAK *e*SKPdf **SKPdf** **14 08 21.2 +1.4**
YAK SKKPbc **SKKPab** **14 16 24.3 -0.3**
YAK LR LR
comp=Z,2μm,20.0s
TDK Taldyqorghan 145.38 51 *i* PKP **PKPdf** **14 05 42.5 +0.6**
ZALV Zalesovo Beam 145.40 34 PKPbc **PKPdf** **14 05 42.0 +0.5**
comp=Z,1μm,0.6s,baz=276,slow=2.8,SNR=754
ZALV pPKPbc **pPKPdf** **14 07 58.8 -0.2**
comp=Z,453nm,1.0s,baz=295,slow=4.8,SNR=9.0
ZALV SKPbc **SKiKP** **14 08 27.0 +0.7**
comp=Z,163nm,0.5s,baz=312,slow=2.8,SNR=7.0
ZALV SKKPbc **SKKPab** **14 16 22.4 -2.0**
comp=Z,125nm,0.9s,baz=116,slow=3.7,SNR=14
ZALV Zalesovo Beam 145.40 34 PKIKP **PKPdf** **14 05 42.0 +0.5**
ZALV pmax pmax
comp=Z,453nm,1.0s
SDNR Sundarnagar 145.43 75 *eP* **PKPdf** **14 05 42.6 +0.3**
BSSI Bau Bau, Buton 145.47 186 PKP **PKPbc** **14 05 43.9 -0.4**
BSSI PKP **PKPab** **14 05 44.5 -1.2**
FAKI Fak Fak 145.51 208 PKP **PKPab** **14 05 45.2 -0.7**
FAKI PKP **PKPab** **14 05 45.2 -0.7**
FAKI Fak Fak 145.51 208 *e*PKPdf **PKPbc** **14 05 43.7 -0.7**
FAKI *ep*PKPdf pPKPab 14 07 56.9 -0.9
SMLA Simla 145.56 76 *eP* **PKPbc** **14 05 43.5 -0.5**
MASI Maura Aman, Be 145.62 153 PKP **PKPbc** **14 05 44.8 0.0**
MASI PKP **PKPbc** **14 05 44.8 0.0**
PVM Polavaram 145.79 101 *e*PKPbc **PKPdf** **14 05 43.6 +0.3**
PVM *ep*PKPdf pPKPab 14 07 58.2 -0.6
PVM *e*PP **PP** **14 09 11.6 -1.0**
JHNI Jhansi 145.80 86 *eP* **PKPdf** **14 05 43.0 -0.1**
JHNI *ex* x 14 08 05.0
BBSI Bau Bau 145.85 190 PKP **PKPbc** **14 05 45.3 -0.1**
BBSI PKP **PKPab** **14 05 47.4 +0.2**
SATY Saty 145.85 54⇓ *i*PKP **PKPdf** **14 05 43.3 +0.4**
comp=Z,9μm,1.0s
SATY *i* PKiKP **PKiKP** **14 05 48.7 +1.4**
SISI Saibi 145.87 147 PKP **PKPab** **14 05 46.9 -0.4**
SISI PKP **PKPab** **14 05 46.9 -0.4**
KPKS Kokpek 145.96 54⇓ *i*PKP **PKPdf** **14 05 43.7 +0.7**
comp=Z,27μm,1.1s
KPKS *i* PKiKP **PKiKP** **14 05 48.9 +1.4**
DDI Dehra Dun 146.23 77 *eP* **PKPdf** **14 05 43.3 -0.4**
DDI IAMs_20 IAMs_20 14 46 57.8
comp=Z,6μm,28.8s
UZB Uzynbulak 146.27 54⇓ *i*PKP **PKPdf** **14 05 44.3 +0.8**
comp=Z,3μm,1.1s
UZB *i* PKiKP **PKPab** **14 05 49.6 +1.1**
UZB *e*SKP 14 08 24.2
AAI Ambon 146.27 201 PKP **PKPdf** **14 05 44.4 +0.1**
AAI PKP **PKPbc** **14 05 46.2 -0.4**
MSAI Masohi 146.36 202 PKP **PKPbc** **14 05 46.4 -0.4**
MSAI PKP **PKiKP** **14 05 47.1 -1.9**
JBP Jabalpur 146.47 90⇑ *eP* **PKPdf** **14 05 43.1 -1.2**
JBP *ex* x 14 08 02.4
PBSI Pulau Batu 146.56 145 PKP **PKPbc** **14 05 47.5 +0.2**
PBSI PKP **PKPbc** **14 05 47.5 +0.2**

SHLS Shalkode 146.58 54⇓ *i*PKP **PKPbc** **14 05 45.6 -1.2**
comp=Z,2μm,1.2s
SHLS *i* PKiKP **PKPab** **14 05 50.9 +1.2**
SHLS *e*PKS **PKSdf** **14 09 20.6 +1.2**
KAPI Kappang 146.65 185 *e*PKPdf **PKPbc** **14 05 46.4 -1.2**
KAPI *ep*PKPdf pPKPab 14 07 59.4 -2.6
KAPI LR LR
comp=Z,1μm,21.0s
KAPI Kappang 146.65 185 PKPbc **PKPdf** **14 05 45.8 +0.9**
SNR=120
KAPI Kappang 146.65 185 P **PKPdf** **14 05 45.8 +0.9**
SNR=120
KALG Kalgarh 146.73 79 *eP* **PKPdf** **14 05 42.5 -2.0**
KALG IAmb IAmb 14 05 46.8
comp=Z,3μm,1.2s
PMBI Palembang 146.74 158 PKP **PKPdf** **14 05 45.9 +0.9**
PMBI PKP **PKiKP** **14 05 49.1 -0.7**
PDSI Padang 146.87 149 PKP **PKPdf** **14 05 46.1 +0.8**
NLAI Namlea 147.03 199 PKP **PKPbc** **14 05 47.4 -1.2**
NLAI PKP **PKiKP** **14 05 48.5 -1.9**
MAKZ Makanchi 147.18 46 PKIKP **PKPdf** **14 05 45.4 +0.6**
MAKZ pmax pmax
comp=Z,919nm,0.7s
PPI Padang Panjang 147.24 148 PKP **PKPdf** **14 05 46.4 +0.5**
PPI PKP **PKPbc** **14 05 46.6 -2.5**
KDI Kendari 147.34 191 PKP **PKPdf** **14 05 46.7 +0.7**
MK31 Makanchi Array 147.38 46 PKIKP **PKPdf** **14 05 45.2 +0.1**
MK31 pmax pmax
comp=Z,766nm,0.7s
VIS Vishakhapatnam 147.46 102 *eP* **PKPdf** **14 05 44.7 -1.4**
JAMBI JAMBI 147.54 155 PKP **PKPdf** **14 05 47.0 +0.6**
SPSI Sidrap Palu 147.69 185 PKP **PKPdf** **14 05 44.9 -1.7**
SPSI PKP **PKPdf** **14 05 44.9 -1.7**
SWI Sorong 147.78 208 PKP **PKPbc** **14 05 48.8 -1.7**
SWI PKP **PKiKP** **14 05 49.7 -2.2**
PPBI Pangkal Pinang 147.90 160 PKP **PKPdf** **14 05 47.9 +0.9**
PPBI PKP **PKPdf** **14 05 47.9 +0.9**
MNSI Mandailing Nat 147.94 146 PKP **PKPdf** **14 05 47.5 +0.5**
MNSI PKP **PKPbc** **14 05 48.5 -2.4**
PTH Pithoragarh 148.00 79 *eP* **PKPdf** **14 05 46.8 -0.1**
PTH *ex* x 14 08 06.9
RGRI Rengat 148.19 152 PKP **PKPdf** **14 05 44.9 -2.5**
BKNI Bangkinang 148.23 149 PKP **PKPdf** **14 05 46.3 -1.2**
BKNI PKP **PKPdf** **14 05 46.3 -1.2**
BKNI Bangkinang 148.23 149 *e*PKPdf **PKPdf** **14 05 46.9 -0.5**
CHLP Challavanipeta 148.42 101 *e*PKPdf **PKPdf** **14 05 47.0 -0.5**
CHLP *e*PP **PP** **14 09 28.1 +0.2**
SANI Sanana 148.47 198 PKP **PKPdf** **14 05 48.6 +0.7**
TTSI Tana Toraja 148.59 186 PKP **PKPdf** **14 05 49.0 +0.9**
TTSI PKP **PKPdf** **14 05 49.0 +0.9**
PBKI Pangkalan Bun 148.66 170 PKP **PKPdf** **14 05 49.3 +1.1**
ZSN Zaisan 148.72 44⇓ *i*PKP **PKPdf** **14 05 47.9 +0.6**
comp=Z,379nm,2.0s
ZSN *i* PKiKP **PKiKP** **14 05 53.9 +1.0**
ZSN *e*PKS **PKSdf** **14 09 22.9 +0.8**
TPTI **148.74 140** PKP **PKPdf** **14 05 48.6 +0.3**
TPTI PKP **PKPbc** **14 05 49.2 -3.7**
DSRI Dabo 148.95 156 PKP **PKPdf** **14 05 49.5 +0.9**
DSRI PKP **PKPbc** **14 05 53.0 -0.4**
MLSI Meulaboh, Aceh 149.10 137 PKP **PKPdf** **14 05 49.1 +0.2**
MLSI PKP **PKPbc** **14 05 49.7 -4.1**
KCSI Kotacane, Aceh 149.29 140 PKP **PKPdf** **14 05 49.1 -0.1**
KCSI PKP **PKPdf** **14 05 49.1 -0.1**
PSI Prapat 149.32 143 PKP **PKPdf** **14 05 48.9 -0.5**
comp=Z,226nm,1.1s,baz=222,slow=2.6,SNR=116
PSI PKPbc **PKPbc** **14 05 54.1 -0.4**
comp=Z,1μm,1.0s,baz=163,slow=11,SNR=119
PSI pPKPbc **pPKPbc** **14 08 09.9 -0.3**
comp=Z,715nm,1.1s,baz=202,slow=10,SNR=17
LBMI Labuha 149.37 201 PKP **PKPdf** **14 05 50.4 +1.1**
CMBY CAMPBELL BAY 149.61 130 *eP* **PKPdf** **14 05 48.3 -1.4**
NKL Nikolayevsk 149.68 331 *i* PKHKP PKPpre 14 05 50.0
NKL *e* 14 09 33.0
NKL pmax pmax
comp=N,60nm,1.0s
NKL pmax pmax
comp=Z,390nm,1.0s
NKL pmax pmax
comp=Z,6μm,6.0s
TSI Tuntungan 149.71 142 PKP **PKPdf** **14 05 50.3 +0.5**
TSI PKP **PKPbc** **14 05 55.3 +0.1**
GUMO Guam 150.08 246 PKP **PKPdf** **14 05 50.2 -0.1**
comp=Z,426nm,1.1s,baz=135,slow=1.2,SNR=9.9
GUMO PKPbc **PKPbc** **14 05 55.9 -0.1**
comp=Z,3μm,1.0s,baz=182,slow=5.2,SNR=38
GUMO pPKPbc **pPKPbc** **14 08 10.8 -1.2**
comp=Z,520nm,0.9s,baz=173,slow=7.1,SNR=6.8
GUMO Guam 150.08 246 *e*PKPdf **PKPdf** **14 05 50.6 +0.3**
GUMO *e*PKPbc **PKPbc** **14 05 56.0 -0.1**
GUMO pPKPbc **pPKPbc** **14 08 10.8 -1.2**
GUMO LR LR
comp=Z,1μm,20.0s
LUWI Luwuk 150.17 192 PKP **PKPdf** **14 05 52.4 +1.9**
LUWI PKP **PKPdf** **14 05 52.5 +1.9**
LUWI Luwuk 150.17 192 *e*PKPdf **PKPdf** **14 05 51.8 +1.3**
LUWI *e*PKPab **PKPab** **14 06 04.8 0.0**
LUWI *ep*PKPdf **pPKPdf** **14 08 05.2 -2.9**
LHMI Lhok Sumawe 150.19 137 PKP **PKPdf** **14 05 50.9 +0.4**
LHMI PKP **PKPbc** **14 05 53.3 -3.0**
LHMI Lhok Sumawe 150.19 137 *e*PKPdf **PKPdf** **14 05 51.1 +0.5**
LHMI *e*PKPbc **PKiKP** **14 05 56.8 0.0**
LHMI *ep*PKPdf **pPKPdf** **14 08 04.8 -3.3**
PYUN Piuthan 150.22 82 *eP* **PKPdf** **14 05 50.7 +0.2**
comp=Z,1μm,0.8s
TPRI Tanjung Pinang 150.22 155 PKP **PKPdf** **14 05 51.0 +0.4**
KUR Kuril'sk 150.28 313⇑ *i*PKIKP **PKPdf** **14 05 50.9 +1.2**
KUR *e* 14 06 00.6
KUR *e* 14 09 45.4
KUR *e*SS SS 14 28 14.0 +4.9
BKB Balikpapan 150.50 180 PKP **PKPdf** **14 05 52.3 +1.3**
BKB PKP **PKPdf** **14 05 52.3 +1.3**
BOD Bodaibo 150.54 3 *e*PKIKP PKPpre 14 05 42.9
BOD pmax pmax
comp=Z,1μm,1.2s
BWNR Bhubaneshwar 150.64 99 *eP* **PKPdf** **14 05 51.3 +0.3**
PCI Palu 150.71 186 PKP **PKPdf** **14 05 52.3 +0.9**
PCI PKP **PKPdf** **14 05 52.3 +0.9**
MTKI Muara Teweh, K 150.75 176 PKP **PKPdf** **14 05 53.3 +1.5**
MTKI PKP **PKPbc** **14 05 53.2 -4.5**
CLNS Chul'man 151.03 351 *e*PKIKP **PKPdf** **14 05 50.7 +0.1**
CLNS pmax pmax
comp=Z,481nm,1.1s
CLNS pmax pmax
comp=N,98nm,1.0s
CLNS pmax pmax
comp=E,64nm,1.3s
STKI Sintang 151.34 169 PKP **PKPdf** **14 05 53.5 +1.2**
KMSI Cibinong 151.49 195 PKP **PKPdf** **14 05 54.5 +2.0**
KMSI PKP **PKPbc** **14 05 56.5 -2.8**
GKN Gorkha 151.64 83 *eP* **PKPdf** **14 05 52.7 +0.1**
comp=E,1μm,0.5s
GTOI Gorontalo 151.76 193 PKP **PKPdf** **14 05 53.9 +1.0**
GTOI PKP **PKPdf** **14 05 53.9 +1.0**
MRSI Marisa 151.80 191 PKP **PKPdf** **14 05 54.9 +1.9**
MRSI PKP **PKPbc** **14 05 56.5 -3.5**
BOK Bokaro 151.85 92 *eP* **PKPdf** **14 05 50.9 -1.9**
WMQ Urumqi 152.05 49 PKPbc **PKPdf** **14 05 52.3 -0.3**
WMQ PKPab **PKPab** **14 06 14.6 +2.3**
WMQ pPKP pPKPdf 14 08 10.8 +0.5
WMQ PP **PP** **14 09 50.4 +2.6**
WMQ SKS **SKSdf** **14 12 02.7 -1.7**
WMQ SKKS **SKKSac** **14 15 39.8 +0.7**
WMQ SS **SS** **14 28 30.2 +1.5**
WMQ AMB AMB
comp=E,3μm,8.1s
YUK Yuzh-Kuril'sk 152.08 312 *e*PKIKP **PKPdf** **14 05 52.8 +0.4**
KKN Kakani 152.17 84 *eP* **PKPdf** **14 05 53.6 +0.2**
comp=E,1μm,0.5s
KULM Kulim 152.33 143 *e*PKPdf **PKPdf** **14 05 53.8 0.0**
KULM *e*PKPbc **PKiKP** **14 06 01.4 +0.1**
KULM *ep*PKPdf **pPKPdf** **14 08 08.0 -3.5**
KULM LR LR
comp=Z,2μm,21.0s
KSM Kuching 152.49 166 *e*PKPdf **PKPdf** **14 05 53.8 -0.3**
KSM *e*PKPbc **PKiKP** **14 06 01.6 -0.1**
KSM *e*PKPab **PKPab** **14 06 14.3 -0.3**
KSM *ep*PKPdf **pPKPdf** **14 08 08.1 -3.7**
KSM LR LR
comp=Z,1μm,20.0s
YSS Yuzh-Sakhalins 152.59 319⇓ *i*PKIKP **PKPdf** **14 05 53.5 +0.4**
YSS *e**PP **pPKPdf** **14 08 09.7 -1.2**
YSS *e**SP **sPKPdf** **14 09 10.5 +2.9**
YSS *e* 14 09 53.5
YSS pmax pmax
comp=Z,230nm,1.4s
YSS pmax pmax
comp=Z,3μm,8.8s
DGPR DIGLIPUR 153.05 119 *eP* **PKPdf** **14 05 55.7 +1.0**
RAMN Ramite 153.19 86 *eP* **PKPdf** **14 05 55.6 +0.6**
comp=Z,1μm,0.6s
MOY Mondy 153.90 23 *e*PKIKP **PKPdf** **14 05 56.1 +1.1**
MOY pmax pmax
comp=Z,722nm,2.3s
ASAJ Asahikawa 154.15 314 *e*PKPdf **PKPdf** **14 05 55.5 +0.1**
ASAJ *e*PKPab **PKPab** **14 06 21.5 +0.4**
ASAJ *ep*PKPdf **pPKPdf** **14 08 10.5 -2.7**
TAPN Taplejung 154.23 85 *eP* **PKPdf** **14 05 56.9 +0.4**
IRK Irkutsk 154.41 18 *e*PKIKP **PKPdf** **14 05 56.6 +1.1**
IRK *e* 14 06 22.5
IRK pmax pmax
comp=Z,687nm,4.0s
ERM Erimo 154.71 309 *e*PKIKP **PKPdf** **14 05 56.7 +0.4**
ERM MLR MLR
comp=Z,2μm,22.0s
ERM Erimo 154.71 309 *e*PKPdf **PKPdf** **14 05 56.6 +0.4**
ERM *e*SKPdf **SKPdf** **14 08 36.0 +2.3**
ERM LR LR
comp=Z,2μm,22.0s
TLY Talaya 154.73 19 PKP **PKPdf** **14 05 56.6 +0.6**
comp=Z,48nm,0.9s,baz=225,slow=2.6,SNR=18
TLY PKPab **PKPab** **14 06 25.2 +1.8**
comp=Z,172nm,0.8s,baz=314,slow=2.7,SNR=27
TLY pPKPab **pPKPab** **14 08 35.0 +1.4**
comp=Z,78nm,0.9s,baz=263,slow=2.2,SNR=3.3
TLY Talaya 154.73 19*d* *i*PKIKP **PKPdf** **14 05 56.7 +0.6**
TLY *e* 14 09 57.0
TLY Talaya 154.73 19 *e*PKPdf **PKPdf** **14 05 57.0 +1.0**
TLY PKPab **PKPab** **14 06 25.2 +1.8**
TLY pPKPab **pPKPab** **14 08 35.0 +1.4**
TLY LR LR
comp=Z,2μm,21.0s
TLY Talaya 154.73 19 PKPdf **PKPdf** **14 05 57.4 +1.4**
SNR=26
TLY Talaya 154.73 19 P **PKPdf** **14 05 57.4 +1.4**
SNR=26
HABR Khabarovsk 155.54 330*de*PKIKP **PKPdf** **14 05 56.2 -0.9**
HABR *e* 14 06 26.6
HABR *e* 14 08 13.5
HABR *e* 14 10 06.6
HABR *e* 14 12 07.2
HABR *e*PPP PPP 14 13 46.0
HABR *e*SS SS 14 29 06.8 +2.0
HABR *e*SSS SSS 14 35 16.1
ZAK Zakamensk 155.76 21 *e*PKIKP **PKPdf** **14 05 58.2 +0.7**
ZAK pmax pmax
comp=Z,91nm,1.5s
KLR Kul'dur 156.28 335 PKP **PKPdf** **14 05 58.5 +0.4**
comp=Z,224nm,1.1s,baz=10.0,slow=2.4,SNR=156
KLR PKPab **PKPab** **14 06 30.6 +0.5**
comp=Z,130nm,0.7s,baz=34,slow=4.4,SNR=12
KLR pPKP **pPKPdf** **14 08 15.3 -0.8**
comp=Z,180nm,1.2s,baz=25,slow=1.9,SNR=6.8
CIT Chita 156.29 5 *e*PKIKP **PKPdf** **14 05 58.1 0.0**
CIT *e* 14 06 31.0
CIT pmax pmax
comp=Z,1μm,1.5s
MATI Mati 156.87 204 *eP* **PKPdf** **14 06 01.0 +1.0**
DAV Davao City (W) 157.23 203⇓ *eP* **PKPdf** **14 05 56.6 -3.8**
DAV Davao City (W) 157.23 203 PFAKE 14 06 10.0 +10
DAV LR LR
comp=Z,746nm,19.0s
LSA Lhasa 157.50 81 *e*PKIKP **PKPdf** **14 06 01.7 +0.8**
LSA *e* 14 06 37.4
LSA MLR MLR
comp=Z,1μm,20.0s
LSA Lhasa 157.50 81 *e*PKPdf **PKPdf** **14 06 01.7 +0.8**
LSA *e*PKPab **PKPab** **14 06 37.4 +0.6**
LSA LR LR
comp=Z,1μm,20.0s
SHL Shillong 157.57 91 *eP* **PKPdf** **14 06 00.9 +0.2**
KKM Kota Kinabalu 157.74 178 *e*PKPdf **PKPdf** **14 06 01.7 +0.6**
KKM *eP* **PP** **14 10 17.8 0.0**
KKM LR LR
comp=Z,1μm,20.0s
PAGZ Pagadian 158.64 198 *eP* **PKPdf** **14 06 01.8 -0.3**
SONM Songino Array 158.97 20 PKP **PKPdf** **14 06 02.0 +0.4**
comp=Z,298nm,1.0s,baz=261,slow=0.6,SNR=382
SONM PKPab **PKPab** **14 06 43.4 +1.4**
comp=Z,90nm,0.6s,baz=319,slow=3.8,SNR=12
SONM pPKP **pPKPdf** **14 08 19.5 -0.2**
comp=Z,143nm,1.1s,baz=313,slow=0.6,SNR=12
SONM pPKPab **pPKPab** **14 08 53.1 +1.2**
comp=Z,68nm,1.1s,baz=284,slow=2.5,SNR=3.0
HIA Hailar 159.06 355 *e*PKIKP **PKPdf** **14 06 01.5 0.0**
HIA MLR MLR
comp=Z,1μm,20.0s
HIA Hailar 159.06 355 *e*PKPdf **PKPdf** **14 06 01.5 0.0**
HIA LR LR
comp=Z,1μm,20.0s
ULN Ulaanbaatar 159.14 19 *e*PKIKP **PKPdf** **14 06 02.2 +0.4**
ULN *e* 14 06 44.2
ULN *e* 14 08 16.8
ULN MLR MLR
comp=Z,1μm,19.0s
ULN Ulaanbaatar 159.14 19 *e*PKPdf **PKPdf** **14 06 02.2 +0.4**
ULN *e*PKPab **PKPab** **14 06 44.2 +1.4**
ULN *ep*PKPdf **pPKPdf** **14 08 16.8 -3.2**
ULN LR LR
comp=Z,1μm,19.0s
ULN Ulaanbaatar 159.14 19 PKPdf **PKPdf** **14 06 02.5 +0.7**
SNR=303
ULN Ulaanbaatar 159.14 19 P **PKPdf** **14 06 02.5 +0.7**
SNR=303
NAYO Nakonayok 159.88 131 P **PKPdf** **14 06 03.8 +0.4**
USRK Ussuriysk Ar. 160.13 326 PKP **PKPdf** **14 06 02.8 0.0**
comp=Z,50nm,1.0s,baz=243,slow=1.7,SNR=70
USRK PKPab **PKPab** **14 06 47.5 +0.4**
comp=Z,48nm,0.6s,baz=18,slow=3.9,SNR=15
USRK pPKP **pPKPdf** **14 08 19.0 -2.0**
comp=Z,17nm,0.9s,baz=204,slow=3.3,SNR=2.0
USRK PP **PP** **14 10 32.3 +1.0**
comp=Z,44nm,1.1s,baz=31,slow=4.4,SNR=5.4
MJAR Matsushiro Arr 160.28 300 PKP **PKPdf** **14 06 03.2 -0.1**
comp=Z,48nm,1.1s,baz=268,slow=0.9,SNR=54
MJAR PKPab **PKPab** **14 06 48.2 +0.1**
comp=Z,70nm,0.5s,baz=74,slow=4.0,SNR=23
MJAR pPKPab **pPKPab** **14 08 59.5 +1.6**
comp=Z,55nm,1.0s,baz=111,slow=2.1,SNR=7.8
MAJO Matsushiro 160.28 300 *e*PKIKP **PKPdf** **14 06 02.4 -0.9**
MAJO *e* 14 06 47.8
MAJO *e* 14 08 17.3
MAJO MLR MLR
comp=Z,3μm,21.0s
MAJO Matsushiro 160.28 300 *e*PKPdf **PKPdf** **14 06 02.4 -0.9**
MAJO *e*PKPab **PKPab** **14 06 47.8 -0.4**
MAJO *ep*PKPdf **pPKPdf** **14 08 17.2 -4.2**
MAJO LR LR
comp=Z,3μm,21.0s
MAT Matsushiro 160.28 300 PKP **PKPdf** **14 06 02.7 -0.6**
BATP Bataraza 160.47 183 *eP* **PKPdf** **14 06 06.0 +1.9**
BATP *eS* **PKPab** **14 06 50.0 +0.9**
SUKH Sukhothai 160.78 121 P **PKPdf** **14 06 04.8 +0.5**
comp=Z,76nm,1.1s,comp=Z,1μm
CMAR Chiang Mai Arr 160.82 117 PKP **PKPdf** **14 06 04.8 +0.4**
comp=Z,85nm,1.0s,baz=253,slow=2.4,SNR=187
CMAR PKPab **PKPab** **14 06 49.4 -1.5**
comp=Z,63nm,0.9s,baz=284,slow=5.8,SNR=5.1
CMAR pPKPab **pPKPab** **14 09 02.1 +1.7**
comp=Z,30nm,1.0s,baz=246,slow=5.1,SNR=3.2
CMAR PP **PP** **14 10 38.9 +3.1**
comp=Z,44nm,1.1s,baz=260,slow=4.6,SNR=6.7
CMAR Chiang Mai Arr 160.82 117 PKIKP **PKPdf** **14 06 04.8 +0.4**
CMAR 14 06 49.4
CMAR 14 10 38.9
CMAR pmax pmax
comp=Z,82nm,1.0s
CMAR pmax pmax
comp=Z,63nm,0.9s
CMAR pmax pmax
comp=Z,45nm,1.1s
MDJ Mudanjiang 160.91 331 PKP **PKPdf** **14 06 03.4 -0.2**
MDJ pPKP pPKPdf 14 08 21.2 -0.7
MDJ sPKP 14 09 18.2
MDJ AMB AMB
comp=Z,2μm,13.8s
CHTO Chiang Mai 161.02 116 *e*PKIKP **PKPdf** **14 06 04.6 0.0**
CHTO *e* 14 06 51.4

CHTO				MLR	MLR		
	comp=Z,1μm,22.0s						
CHTO	**Chiang Mai**	**161.02**	**116**	*e*PKPdf	**PKPdf**	**14 06 04.6**	**0.0**
CHTO				*e*PKPab	**PKPab**	**14 06 51.4**	**-0.3**
CHTO				LR	LR		
	comp=Z,1μm,22.0s						
CHTO	**Chiang Mai**	**161.02**	**116**	PKPdf	**PKPdf**	**14 06 05.2**	**+0.6**
	SNR=89						
CHTO	**Chiang Mai**	**161.02**	**116**	P	**PKPdf**	**14 06 05.2**	**+0.6**
	SNR=89						
LAMP	**Lampang**	**161.40**	**118**	P	**PKPdf**	**14 06 05.7**	**+0.8**
	comp=Z,112nm,1.1s,comp=Z,1μm						
CHAI	**Chaiyaphum**	**161.45**	**129**	P	**PKPdf**	**14 06 05.1**	**+0.1**
	comp=Z,84nm,1.2s,comp=Z,877nm						
GUIM	**Jordan**	**161.51**	**198**	*e*P	**PKPdf**	**14 06 04.6**	**-0.6**
DLV	**T Lat**	**161.84**	**153**	*e*PKPdf	**PKPdf**	**14 06 06.0**	**+0.3**
DLV				*e*PKPab	**PKPab**	**14 06 55.7**	**+0.3**
GTA	**Gaotai**	**162.13**	**48**	PKP	**PKPdf**	**14 06 05.5**	**+0.2**
GTA				PKPab	**PKPab**	**14 06 57.0**	**+0.8**
GTA				pPKP	pPKPdf	14 08 25.6	+2.0
GTA				sPKP		14 09 22.5	
GTA				PP	**PP**	**14 10 43.5**	**+1.1**
GTA				SKS	**SKSdf**	**14 12 12.8**	**-2.0**
GTA				SKKS	**SKKSac**	**14 16 31.2**	**-1.0**
GTA				SS	**SS**	**14 30 11.6**	**-3.3**
CN2	**Changchun**	**163.17**	**338**	*e*PKP	**PKPdf**	**14 06 05.1**	**-0.8**
CN2				PKPab	**PKPab**	**14 07 00.2**	**-0.2**
CN2				PKS	**PKSdf**	**14 09 37.5**	**-1.3**
CN2				SKS	**SKSdf**	**14 12 14.0**	**-1.1**
PVCP	**Virac**	**163.77**	**206**	*e*P	**PKPdf**	**14 06 08.1**	**+0.8**
AUQP	**San Andres**	**164.04**	**201**	*e*P	**PKPdf**	**14 06 10.0**	**+2.4**
AUQP				*e*S	**PKPab**	**14 07 08.3**	**+3.5**
BOAC	**Boac**	**164.41**	**198**	*e*P	**PKPdf**	**14 06 09.2**	**+1.3**
GQP	**Guinayangan**	**164.66**	**201**↓	*e*P	**PKPdf**	**14 06 08.1**	**0.0**
LUBP	**Lubang**	**165.06**	**193**	*e*P	**PKPdf**	**14 06 08.5**	**+0.1**
SNY	**Shenyang**	**165.54**	**340**	↓PKP	**PKPdf**	**14 06 02.7**	**-5.3**
SNY				PKPab	**PKPab**	**14 07 11.8**	**+0.9**
SNY				pPKP	**pPKPdf**	**14 08 24.4**	**-2.1**
SNY				sPKP		14 09 21.0	
SNY				PP	**PP**	**14 10 58.8**	**-0.2**
SNY				SKKS		14 16 47.7	
SNY				AMB	AMB		
	comp=Z,2μm,4.8s						
SLVN	**Son La**	**166.29**	**118**	*e*PKPdf	**PKPdf**	**14 06 09.9**	**+0.5**
SLVN				*e*PKPab	**PKPab**	**14 07 15.3**	**+0.3**
SLVN				*e*PP	**PP**	**14 11 04.6**	**+0.5**
LZH	**Lanzhou**	**166.59**	**52**	PKP	**PKPdf**	**14 06 10.4**	**+1.1**
LZH				PKPab	**PKPab**	**14 07 17.2**	**+1.1**
LZH				pPKP	pPKPdf	14 08 31.0	+3.2
LZH				PP	**PP**	**14 11 07.4**	**+1.8**
LZH				SKKS		14 16 54.4	
LZH				SS	**SS**	**14 31 01.3**	**+1.0**
LZH				AMB	AMB		
	comp=Z,7μm,5.6s						
BTO	**Baotou**	**166.60**	**23**	*e*PKP	**PKPdf**	**14 06 10.5**	**+1.4**
PCPH	**Palayan**	**166.62**	**198**↑	*e*P	**PKPdf**	**14 06 10.5**	**+0.9**
HHC	**Hu-ho-hao-te**	**166.85**	**18**	*e*PKP	**PKPdf**	**14 06 10.1**	**+0.8**
HHC				PKPab	**PKPab**	**14 07 17.8**	**+0.9**
HHC				pPKP	pPKPdf	14 08 30.6	+2.8
HHC				sPKP		14 09 27.3	
HHC				PP	**PP**	**14 11 05.4**	**-0.3**
HHC				SKKS		14 16 59.8	
HHC				SS	**SS**	**14 31 03.2**	**+2.4**
HHC				AMB	AMB		
	comp=Z,3μm,6.2s						
KMI	**Kunming**	**166.96**	**101**	PKP	**PKPdf**	**14 06 10.3**	**+0.3**
KSRS	**Korea Array**	**167.07**	**317**	PKP	**PKPdf**	**14 06 09.6**	**+0.3**
	comp=Z,76nm,0.9s,baz=279,slow=0.6,SNR=102						
KSRS				PKPab	**PKPab**	**14 07 17.9**	**+0.1**
	comp=Z,51nm,0.7s,baz=47,slow=4.3,SNR=30						
KSRS				pPKP	**pPKPdf**	**14 08 27.3**	**-0.5**
	comp=Z,30nm,1.0s,baz=82,slow=1.8,SNR=2.6						
KSRS				PP	**PP**	**14 11 10.6**	**+3.2**
	comp=Z,49nm,1.1s,baz=34,slow=4.3,SNR=6.8						
JNU	**Nakatsue**	**167.07**	**295**	PKP	**PKPdf**	**14 06 09.9**	**+0.3**
	comp=Z,14nm,0.8s,baz=15,slow=2.8,SNR=7.4						
JNU				PKPab	**PKPab**	**14 07 18.2**	**0.0**
	comp=Z,51nm,0.8s,baz=164,slow=4.4,SNR=9.9						
KSAR	**Wonju Array Be**	**167.10**	**317**	PKIKP	**PKPdf**	**14 06 09.6**	**+0.2**
KSAR						14 07 18.0	
KSAR						14 08 27.3	
KSAR						14 11 10.6	
KSAR	**Wonju Array Be**	**167.10**	**317**	PKP	**PKPdf**	**14 06 09.6**	**+0.2**
KSAR				PKPab	**PKPab**	**14 07 17.9**	**0.0**
KSAR				pPKP	**pPKPdf**	**14 08 27.3**	**-0.6**
KSAR				PP	**PP**	**14 11 10.6**	**+3.0**
SCZP	**Santa Cruz**	**167.11**	**193**	*e*P	**PKPdf**	**14 06 10.9**	**+1.0**
BOLP	**Bolinao**	**167.70**	**194**	*e*P	**PKPdf**	**14 06 11.6**	**+1.2**
CAUP	**Cauayan**	**167.70**	**203**	*e*P	**PKPdf**	**14 06 11.6**	**+1.2**
CD2	**Chengdu**	**168.33**	**75**	PKP	**PKPdf**	**14 06 10.5**	**0.0**
CD2				PKPab	**PKPab**	**14 07 22.4**	**-1.5**
CD2				pPKP	pPKPdf	14 08 28.1	-1.0
CD2				PP	**PP**	**14 11 15.5**	**+0.7**
CD2				AMB	AMB		
	comp=Z,12μm,12.6s						
BJI	**Beijing**	**168.39**	**3**	PKP	**PKPdf**	**14 06 10.1**	**-0.1**
CVP	**Callao Caves**	**168.41**	**204**↓	*e*P	**PKPdf**	**14 06 11.5**	**+0.7**
BJT	**Baijiatuan**	**168.41**	**3**	*e*PKIKP	**PKPdf**	**14 06 10.1**	**-0.1**
BJT				MLR	MLR		
	comp=Z,3μm,22.0s						
BJT	**Baijiatuan**	**168.41**	**3**	*e*PKPdf	**PKPdf**	**14 06 10.1**	**-0.1**
BJT				LR	LR		
	comp=Z,3μm,22.0s						
QIZ	**Qiongzhong**	**168.66**	**144**	PKP	**PKPdf**	**14 06 12.2**	**+1.2**
QIZ				PKPab	**PKPab**	**14 07 26.4**	**+1.1**
QIZ				pPKP	**pPKPdf**	**14 08 28.8**	**-0.7**
QIZ				PP	**PP**	**14 11 13.3**	**-1.7**
QIZ				SS	SS	14 31 16.0	-3.1
QIZ	**Qiongzhong**	**168.66**	**144**	*e*PKPdf	**PKPdf**	**14 06 11.9**	**+0.9**
QIZ				LR	LR		
	comp=Z,2μm,20.0s						
SZP	**Santa**	**168.69**	**198**	*e*PKPdf	**PKPdf**	**14 06 10.8**	**-0.2**
DL2	**Dalian**	**168.81**	**340**↓	*i*PKP	**PKPdf**	**14 06 10.9**	**+0.4**
DL2				PKPab	**PKPab**	**14 07 24.8**	**-0.6**
DL2				pPKP	**pPKPdf**	**14 08 27.6**	**-1.4**
DL2				PP	**PP**	**14 11 14.4**	**-1.0**
DL2				SS	SS	14 31 17.9	-2.0
DL2				AMB	AMB		
	comp=Z,2μm,6.2s						
SGCP	**Mt. Cagua**	**168.81**	**206**	*e*P	**PKPdf**	**14 06 12.0**	**+0.9**
JOW	**Kunigami**	**169.76**	**264**	PKPab	**PKPab**	**14 07 31.2**	**+1.0**
	comp=Z,76nm,0.8s,baz=96,slow=2.7,SNR=4.1						
JOW	**Kunigami**	**169.76**	**264**	*e*PKPdf	**PKPdf**	**14 06 11.4**	**0.0**
JOW				PKPab	**PKPab**	**14 07 31.2**	**+1.0**
TIY	**Taiyuan**	**170.01**	**21**	*e*PKP	**PKPdf**	**14 06 09.1**	**-2.3**
TIY				PKPab	**PKPab**	**14 07 30.4**	**-0.5**
TIY				pPKP	**pPKPdf**	**14 08 27.7**	**-2.3**
TIY				PP	**PP**	**14 11 19.2**	**-2.3**
TIY				SS	SS	14 31 31.1	-0.8
TIY				AMB	AMB		
	comp=Z,4μm,5.6s						
GYA	**Guiyang**	**170.73**	**100**	*i*PKP	**PKPdf**	**14 06 11.8**	**-0.3**
GYA				PKPab	**PKPab**	**14 07 33.9**	**-0.8**
GYA				pPKP	pPKPdf	14 08 29.4	-1.4
GYA				sPKP		14 09 25.0	
GYA				PKS	**pPKPab**	**14 09 42.6**	**-1.5**
GYA				PP	**PP**	**14 11 29.9**	**+3.1**
GYA				SKKS		14 17 15.2	
GYA				SS	**SS**	**14 31 40.6**	**-1.5**
XAN	**Xi'an**	**171.19**	**49**	PKP	**PKPdf**	**14 06 12.2**	**+0.1**
XAN				PKPab	**PKPab**	**14 07 38.7**	**+2.3**
XAN				pPKP	pPKPdf	14 08 33.6	+2.9
XAN				sPKP		14 09 29.7	
XAN				PKS	**PKSdf**	**14 09 43.4**	**-1.1**
XAN				PP	**PP**	**14 11 31.0**	**+2.9**
XAN				SKS	**SKSdf**	**14 12 18.2**	**-2.1**
XAN				SKKS	**SKKSac**	**14 17 18.4**	**+1.3**
XAN				SS	**SS**	**14 31 44.7**	**-0.2**
XAN				AMB	AMB		
	comp=Z,7μm,14.2s						
TIA	**Tai'an**	**172.22**	**358**	PKP	**PKPdf**	**14 06 12.8**	**+0.4**
TIA				pPKP	**pPKPdf**	**14 08 33.6**	**+2.5**
TIA				PP	**PP**	**14 11 31.3**	**-0.6**
TIA				AMB	AMB		
	comp=Z,6μm,5.2s						
YOJ	**Yonaguni jima**	**173.23**	**236**	*e*PKIKP	**PKPdf**	**14 06 12.3**	**-0.8**
YOJ	**Yonaguni jima**	**173.23**	**236**	*e*PKPdf	**PKPdf**	**14 06 12.3**	**-0.8**
TWG	**Pinlang**	**173.26**	**215**	*e*PKPdf	**PKPdf**	**14 06 12.8**	**-0.4**
ENH	**Enshi**	**173.30**	**72**	*e*PKPdf	**PKPdf**	**14 06 12.7**	**-0.3**
ENH				LR	LR		
	comp=Z,2μm,22.0s						
YULB	**Yu-li**	**173.60**	**220**	*e*PKPdf	**PKPdf**	**14 06 11.8**	**-1.6**
GZH	**Guangzhou**	**173.82**	**148**	PKP	**PKPdf**	**14 06 14.1**	**+0.7**
GZH				PKPab	**PKPab**	**14 07 51.7**	**+3.7**
GZH				pPKP	**pPKPdf**	**14 08 32.3**	**+0.2**
GZH				PP	**PP**	**14 11 41.8**	**+1.8**
GZH				SKKS		14 17 35.1	
GZH				SS	**SS**	**14 32 14.2**	**+5.6**
GZH				AMB	AMB		
	comp=Z,6μm,6.9s						
TPUB	**Ta-pu**	**173.88**	**215**	*e*PKPdf	**PKPdf**	**14 06 14.0**	**+0.5**
SSLB	**Suanglung**	**174.11**	**220**	*e*PKPdf	**PKPdf**	**14 06 13.3**	**-0.2**
SSLB				*e*pPKPdf	**pPKPdf**	**14 08 30.6**	**-1.6**
YHNB	**Yeheng**	**174.50**	**228**	*e*PKPdf	**PKPdf**	**14 06 14.0**	**+0.3**
YHNB				LR	LR		
	comp=Z,2μm,22.0s						
TATO	**Taipei**	**174.63**	**231**	PFAKE		14 06 20.0	+6.4
TATO				LR	LR		
	comp=Z,2μm,20.0s						
NJ2	**Nanjing**	**175.99**	**335**	*e*PKP	**PKPdf**	**14 06 14.5**	**+0.8**
NJ2				PKPab	**PKPab**	**14 07 57.0**	**-0.5**
NJ2				pPKP	**pPKPdf**	**14 08 33.4**	**+0.9**
NJ2				PP	**PP**	**14 11 49.6**	**-0.5**
NJ2				SKS	**SKSdf**	**14 12 22.4**	**+0.8**
NJ2				SKKS	**SKKSac**	**14 17 39.9**	**+0.5**
NJ2				SS	**SS**	**14 32 27.5**	**-1.5**
NJ2				AMB	AMB		
	comp=Z,4μm,6.3s						
QZH	**Quanzhou**	**176.21**	**204**	*i*PKP	**PKPdf**	**14 06 13.0**	**-1.0**
QZH				PKPab	**PKPab**	**14 07 58.4**	**-0.2**
QZH				pPKP	**pPKPdf**	**14 08 32.0**	**-0.7**
QZH				PP	**PP**	**14 11 56.4**	**+5.4**
QZH				SKS	**SKSdf**	**14 12 20.0**	**-1.9**
QZH				SKKS	**SKKSac**	**14 17 38.5**	**-2.1**
WHN	**Wuhan**	**176.95**	**45**	↓PKP	**PKPdf**	**14 06 14.2**	**+0.2**
WHN				PKPab	**PKPab**	**14 08 01.9**	**0.0**
WHN				pPKP	**pPKPdf**	**14 08 33.0**	**+0.3**
WHN				PP	**PP**	**14 11 55.4**	**+0.1**
WHN				AMB	AMB		
	comp=Z,6μm,6.8s						

*ISCJB **02** 13:50:39.8±1.1,28°.4S±0°.2×63°.0W±0°.3,h602km,mb5.3/11, Error ellipse: s-maj=40.0km s-min=13.7km az=136.2*
*IDC **02** 13:50:40.6±2.4,28°.48S×63°.06W,h603km±24km,mb4.9/10, mb1 5.1/11,mb1mx4.6/44,mbtmp5.9/11,Error ellipse: s-maj=35.6km s-min=14.5km az=41.0*

ISC 02 13:50:40.3±1.0,28°.5S±0°.2×63°.2W±0°.2,h602km,n16, σ0s78/17,mb5.3/11,Santiago del Estero Province

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**12.98**	**338**	P	**P**		**13 53 28.9**	**-0.9**
	67nm,0.3s,baz=166,slow=4.2,SNR=4.8							
PTGA	**Pitinga**	**27.77**	**7**	P	**P**		**13 55 43.2**	**+0.3**
	263nm,0.6s,baz=180,slow=6.1,SNR=3.0							
JTS	**JuntasAbangare**	**43.93**	**328**	P	**P**		**13 57 56.9**	**+1.3**
	88nm,0.8s,baz=90,slow=3.0,SNR=3.9							
DBIC	**Dimbokro**	**66.13**	**68**	P	**P**		**14 00 29.0**	**-0.6**
	175nm,0.7s,baz=199,slow=3.8,SNR=11							
TXAR	**Lajitas Array**	**69.32**	**323**	P	**P**		**14 00 49.0**	**+0.1**
	14nm,0.4s,baz=155,slow=7.5,SNR=5.7							
SUR	**Sutherland**	**70.66**	**117**	P	**P**		**14 00 57.7**	**+0.6**
	6.3nm,0.6s,baz=219,slow=5.4,SNR=6.5							
TORD	**Torodi Ar. Bea**	**75.10**	**66**	P	**P**		**14 01 22.3**	**0.0**
	121nm,0.6s,baz=274,slow=6.3,SNR=5.6							
BOSA	**Boshof**	**75.67**	**115**	P	**P**		**14 01 25.1**	**-0.4**
	71nm,0.6s,baz=272,slow=5.8,SNR=4.0							
LBTB	**Lobatse**	**77.47**	**112**	P	**P**		**14 01 34.5**	**-0.9**
	114nm,0.6s,baz=251,slow=5.5,SNR=10							
MATP	**Matopo**	**81.91**	**109**	P	**P**		**14 01 58.9**	**+0.2**
	70nm,0.6s,baz=223,slow=3.0,SNR=5.4							
PDAR	**Pinedale Array**	**82.76**	**327**	P	**P**		**14 02 02.5**	**0.0**
	21nm,0.6s,baz=123,slow=8.8,SNR=5.4							
LSZ	**Lusaka**	**84.01**	**104**	P	**P**		**14 02 10.5**	**+1.3**
	117nm,0.8s,baz=224,slow=4.8,SNR=5.1							
WRA	**Warramunga Arr**	**128.97**	**201**	PKP	**PKPdf**		**14 08 39.9**	**-1.5**
	28nm,0.8s,baz=151,slow=2.2,SNR=2.3							
WRA				SKPbc	SKPbc		14 11 05.8	
	7.6nm,0.4s,baz=196,slow=3.0,SNR=5.3							
FITZ	**Fitzroy Crossi**	**132.91**	**191**	SKPbc	**SKPbc**		**14 11 21.1**	**+0.1**
	31nm,0.7s,baz=256,slow=1.9,SNR=9.5							
PETK	**Petropavlovsk-**	**141.26**	**321**	SKPbc	**SKiKP**		**14 11 46.0**	**+0.3**
	8.9nm,0.7s,baz=90,slow=3.4,SNR=5.8							
ZALV	**Zalesovo Beam**	**145.47**	**34**	PKPbc	**PKPbc**		**14 09 11.4**	**-0.4**
	31nm,0.5s,baz=293,slow=3.9,SNR=3.3							
ZALV				SKPbc	**SKiKP**		**14 11 54.1**	**-0.2**
	10nm,0.4s,baz=296,slow=2.5,SNR=6.4							

*SKHL **02** 13:59:32.2±0.9,44°.45N×148°.78E,h39km±5km,mb4.1/4*
*JMA **02** 13:59:33.2±0.4,44°.05N×148°.35E,h0km,M4.0*

ISC 02 13:59:30.4±3.4,44°.38N±0°.08×148°.6E±0°.2,h4km±14km, n15,σ1s47/24,Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**1.00**	**329**	*i*P	**Pb**		**13 59 49.3**	**-0.8**
KUR				AMB	AMB		13 59 49.5	
	60nm,0.3s							
KUR				AMB	AMB		13 59 49.5	
	50nm,0.3s							
KUR				AMB	AMB		13 59 49.5	
	40nm,0.3s							
KUR				*e*S	**Sg**		**14 00 01.6**	**-0.8**
KUR				A	A		14 00 05.5	
	360nm,0.2s							
KUR				A	A		14 00 05.5	
	140nm,0.2s							
SHO	**Shikotan**	**1.36**	**249**	*i*P	**Pg**		**13 59 56.6**	**+0.1**
SHO				AMB	AMB		13 59 58.4	
	70nm,0.9s							
SHO				AMB	AMB		13 59 58.4	
	50nm,0.9s							
SHO				*e*S	**Sn**		**14 00 14.7**	**+0.2**
SHO				A	A		14 00 22.3	
	330nm,0.4s							
SHO				A	A		14 00 22.3	
	140nm,0.4s							
YUK	**Yuzh-Kuril'sk**	**1.99**	**261**	*e*P	**Pn**		**14 00 05.0**	**+0.3**
YUK				AMB	AMB		14 00 05.8	
	30nm,0.5s							
YUK				*e*S	**Sn**		**14 00 30.4**	**+0.4**
YUK				A	A		14 00 34.5	
	130nm,0.4s							
YUK				A	A		14 00 34.5	
	290nm,0.4s							
NEM2	**Nemuro 2**	**2.29**	**245**	P	**Pn**		**14 00 08.6**	**-0.2**
NEM2				*e*S	**Sn**		**14 00 35.4**	**-2.0**
JRA	**Rausu**	**2.53**	**261**	P	**Pn**		**14 00 13.8**	**+1.7**
JNK	**Nakash**	**2.90**	**255**	P	**Pn**		**14 00 18.3**	**+1.1**
JNK				*e*S	**Sn**		**14 00 51.2**	**-1.3**
JAK	**Akkeshi**	**3.14**	**245**	P	**Pn**		**14 00 20.9**	**+0.4**
JAK				*e*S	**Sn**		**14 00 56.9**	**-1.5**
JTKR	**Abashiri--Toko**	**3.39**	**265**	P	**Pn**		**14 00 26.9**	**+3.0**
JAR	**Ashorobuto**	**3.65**	**254**	P	**Pn**		**14 00 29.5**	**+2.0**
JAR				*e*S	**Sn**		**14 01 11.1**	**+0.2**
JCH	**Churui**	**4.19**	**247**	P	**Pn**		**14 00 35.9**	**+1.0**
JCH				*e*S	**Sn**		**14 01 23.8**	**-0.5**
JNBK	**Urakawa-nobuka**	**4.74**	**246**	P	**Pn**		**14 00 44.1**	**+1.5**
YSS	**Yuzh-Sakhalins**	**4.83**	**304**	*e*P	**Pn**		**14 00 44.8**	**+1.1**
YSS				AMB	AMB		14 00 45.4	
	50nm,0.3s							
JKB	**Kayabe**	**6.06**	**248**	P	**Pn**		**14 01 02.2**	**+1.6**
JKB				*e*S	**Sn**		**14 02 08.6**	**-1.8**
JOT	**Ohata**	**6.29**	**244**	P	**Pn**		**14 01 04.7**	**+0.8**
JOSM	**Okushiri--Mats**	**7.04**	**254**	P	**Pn**		**14 01 16.4**	**+2.3**

*IDC **02** 14:15:50.4±2.2,38°.60S×178°.92E,h0km,mb3.8/2, mb1 4.0/3,mb1mx3.7/34,mbtmp3.8/3,ML2.7/1,MS4.4/1, Ms1 4.4/1,ms1mx3.8/30,Error ellipse: s-maj=56.0km s-min=33.1km az=4.0*
*WEL **02** 14:15:56.5±0.3,38°.29S×178°.84E,h33km,ML4.1/64,Error ellipse: s-maj=3.6km s-min=1.3km az=90.0*
*NEIC **02** 14:15:56.5±0.0,38°.30S×178°.85E,h33km,ML4.1(WEL), After WEL*

ISC 02 14:15:52.8±1.9,38°.41S±0°.04×179°.03E±0°.09,h27km±12km, n161,σ1s37/162,14C-3D,Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
CNGZ	**Carnagh Statio**	**0.65**	**264**	Pn	**Pn**		**14 16 07.4**	**+1.2**
CNGZ	**Carnagh Statio**	**0.65**	**264**	↑PN	**Pn**		**14 16 07.4**	**+1.2**
CNGZ				AML	AML		14 16 18.3	
CNGZ				AML	AML		14 16 18.4	
PUZ	**Puketiti**	**0.69**	**299**	Pn	**Pb**		**14 16 06.5**	**+0.1**
PUZ				Sn	**Sb**		**14 16 14.9**	**-0.7**
PUZ	**Puketiti**	**0.69**	**299**	↓PN	**Pb**		**14 16 06.5**	**+0.1**
PUZ				SN	**Sb**		**14 16 14.9**	**-0.7**
PUZ				AML	AML		14 16 15.5	
WMGZ	**Waiomatatini S**	**0.77**	**321**	Pn	**Pb**		**14 16 08.2**	**+0.7**
WMGZ				Sn	**Sb**		**14 16 17.6**	**+0.1**
WMGZ	**Waiomatatini S**	**0.77**	**321**	↑PN	**Pb**		**14 16 08.2**	**+0.7**
WMGZ				AML	AML		14 16 08.7	
WMGZ				AML	AML		14 16 17.8	
TWGZ	**Tauwhareparae**	**0.86**	**286**	Pn	**Pb**		**14 16 09.5**	**+0.4**
TWGZ	**Tauwhareparae**	**0.86**	**286**	↑PN	**Pb**		**14 16 09.5**	**+0.4**
TWGZ				AML	AML		14 16 20.7	
TWGZ				AML	AML		14 16 22.0	
PKGZ	**Pakihiroa**	**0.91**	**305**	↑PN	**Pb**		**14 16 10.0**	**0.0**
TKGZ	**Te Karaka**	**0.93**	**268**	Pn	**Pb**		**14 16 10.8**	**+0.6**
TKGZ	**Te Karaka**	**0.93**	**268**	↑PN	**Pb**		**14 16 10.8**	**+0.6**
TKGZ				*e*SN	**Sb**		**14 16 21.2**	**-0.9**
TKGZ				AML	AML		14 16 23.7	
PRGZ	**Paritu Road**	**1.03**	**240**	Pn	**Pb**		**14 16 13.5**	**+1.5**
PRGZ	**Paritu Road**	**1.03**	**240**	PN	**Pb**		**14 16 13.5**	**+1.5**
PRGZ				AML	AML		14 16 27.8	
PRGZ				AML	AML		14 16 39.6	
RIGZ	**Rimuhau**	**1.03**	**253**	↑PN	**Pb**		**14 16 12.9**	**+0.9**
RIGZ				AML	AML		14 16 26.8	
RIGZ				AML	AML		14 16 28.6	
MHGZ	**Mahia Peninsul**	**1.14**	**230**	Pn	**Pb**		**14 16 15.3**	**+1.4**
MHGZ	**Mahia Peninsul**	**1.14**	**230**	PN	**Pb**		**14 16 15.3**	**+1.4**
MHGZ				AML	AML		14 16 32.6	
MHGZ				AML	AML		14 16 38.5	
RUGZ	**Raukumara Rang**	**1.15**	**292**	↑PN	**Pb**		**14 16 13.2**	**0.0**
MWZ	**Matawai**	**1.18**	**273**	Pn	**Pn**		**14 16 13.8**	**+0.2**
MWZ	**Matawai**	**1.18**	**273**	↑PN	**Pn**		**14 16 13.8**	**+0.2**
MWZ				SN	**Sn**		**14 16 26.3**	**-2.5**
MWZ				AML	AML		14 16 27.9	
HAZ	**Te Kaha**	**1.18**	**303**	PN	**Pn**		**14 16 13.2**	**-0.3**
HAZ				AML	AML		14 16 28.8	
HAZ				AML	AML		14 16 28.8	
HAZ				AML	AML		14 16 31.3	
KNZ	**Kokohu**	**1.22**	**240**	Pn	**Pn**		**14 16 15.5**	**+1.5**
KNZ	**Kokohu**	**1.22**	**240**	PN	**Pn**		**14 16 15.5**	**+1.5**
KNZ				AML	AML		14 16 33.4	
KNZ				AML	AML		14 16 36.3	
RAGZ	**Rawiri**	**1.27**	**266**	Pn	**Pn**		**14 16 15.6**	**+0.8**
RAGZ	**Rawiri**	**1.27**	**266**	PN	**Pn**		**14 16 15.6**	**+0.8**
RAGZ				AML	AML		14 16 32.1	
RAGZ				AML	AML		14 16 36.3	
SNGZ	**Shannon Statio**	**1.37**	**254**	Pn	**Pn**		**14 16 17.3**	**+1.1**
SNGZ	**Shannon Statio**	**1.37**	**254**	↑PN	**Pn**		**14 16 17.3**	**+1.1**
SNGZ				AML	AML		14 16 35.4	
SNGZ				AML	AML		14 16 41.2	
URZ	**Urewera**	**1.51**	**275**	Pn	**Pn**		**14 16 19.0**	**+0.8**
	38nm,0.3s,baz=250,slow=4.7,SNR=204							
URZ				Sn	**Sb**		**14 16 37.4**	**-1.5**
	103nm,0.3s,baz=3.5,slow=19,SNR=12							
URZ	**Urewera**	**1.51**	**275**	↑PN	**Pn**		**14 16 19.0**	**+0.8**
URZ				AML	AML		14 16 42.7	
URZ				AML	AML		14 16 44.8	
WHHZ	**Waihua**	**1.55**	**244**	Pn	**Pb**		**14 16 20.8**	**0.0**
WHHZ				AML	AML		14 16 43.1	
WHHZ				AML	AML		14 16 43.1	
RTZ	**Ruatahuna**	**1.62**	**262**	↑PN	**Pn**		**14 16 20.6**	**+0.9**
WHRZ	**Whale Island**	**1.71**	**288**	*e*Pn	**Pn**		**14 16 22.4**	**+1.6**
MUGZ	**Murupara**	**1.77**	**267**	↑PN	**Pn**		**14 16 23.0**	**+1.3**
ARHZ	**Aropaoanui**	**1.80**	**241**	Pn	**Pn**		**14 16 24.0**	**+1.9**
ARHZ	**Aropaoanui**	**1.80**	**241**	PN	**Pn**		**14 16 24.0**	**+1.9**
ARHZ				AML	AML		14 16 49.7	
ARHZ				AML	AML		14 16 50.3	
NMHZ	**Naumai**	**1.86**	**248**	Pn	**Pn**		**14 16 25.3**	**+2.3**
NMHZ	**Naumai**	**1.86**	**248**	↑PN	**Pn**		**14 16 25.3**	**+2.3**
NMHZ				AML	AML		14 16 48.1	
NMHZ				AML	AML		14 16 49.7	
CKHZ	**Cape Kidnapper**	**1.96**	**230**	Pn	**Pn**		**14 16 26.3**	**+2.0**
CKHZ	**Cape Kidnapper**	**1.96**	**230**	PN	**Pn**		**14 16 26.3**	**+2.0**
CKHZ				AML	AML		14 16 51.6	
CKHZ				AML	AML		14 16 59.0	
RRRZ	**Republican Roa**	**1.98**	**271**	AML	AML		14 16 55.9	
RRRZ				AML	AML		14 17 00.1	
TARZ	**Mount Tarawera**	**1.99**	**274**	Pn	**Pn**		**14 16 26

WHVZ	**Whangaehu Hut**	**2.82**	**251**	Pn	**Pn**	**14 16 38.2**	**+1.9**
WHVZ	**Whangaehu Hut**	**2.82**	**251**	AML	AML	14 17 16.0	
WHVZ				AML	AML	14 17 16.9	
WNVZ	**Wahianoa**	**2.83**	**250**	Pn	**Pn**	**14 16 37.8**	**+1.5**
WNVZ	**Wahianoa**	**2.83**	**250**	PN	**Pn**	**14 16 37.8**	**+1.5**
ANWZ	**Angora Road**	**2.84**	**223**	PN	**Pn**	**14 16 37.2**	**+0.8**
ANWZ				AML	AML	14 17 12.4	
ANWZ				AML	AML	14 17 14.1	
TOZ	**Tahuroa Road**	**2.86**	**283**	Pn	**Pn**	**14 16 37.2**	**+0.5**
TSZ	**Takapari Road**	**2.89**	**234**	Pn	**Pn**	**14 16 37.7**	**+0.6**
TSZ	**Takapari Road**	**2.89**	**234**	PN	**Pn**	**14 16 37.7**	**+0.6**
TSZ				AML	AML	14 17 11.0	
TSZ				AML	AML	14 17 15.3	
DVHZ	**Dannevirke**	**2.91**	**229**	Pn	**Pn**	**14 16 37.9**	**+0.6**
DVHZ	**Dannevirke**	**2.91**	**229**	PN	**Pn**	**14 16 37.9**	**+0.6**
DVHZ				AML	AML	14 17 12.0	
DVHZ				AML	AML	14 17 15.6	
MTVZ	**Mangateitei**	**2.94**	**250**	Pn	**Pn**	**14 16 39.5**	**+1.7**
MTVZ	**Mangateitei**	**2.94**	**250**	⇓PN	**Pn**	**14 16 39.5**	**+1.7**
MTVZ				AML	AML	14 17 14.5	
MTVZ				AML	AML	14 17 21.1	
PKVZ	**Pokaka**	**3.00**	**252**	Pn	**Pn**	**14 16 40.5**	**+1.8**
PKVZ	**Pokaka**	**3.00**	**252**	PN	**Pn**	**14 16 40.5**	**+1.8**
KUZ	**Kuaotunu**	**3.11**	**301**	Pn	**Pn**	**14 16 39.8**	**-0.3**
KUZ	**Kuaotunu**	**3.11**	**301**	PN	**Pn**	**14 16 39.7**	**-0.3**
BFZ	**Birch Farm**	**3.12**	**223**	Pn	**Pn**	**14 16 40.6**	**+0.4**
BFZ	**Birch Farm**	**3.12**	**223**	AML	AML	14 17 16.6	
BFZ				AML	AML	14 17 17.0	
PRWZ	**Pori Road**	**3.19**	**227**	Pn	**Pn**	**14 16 41.9**	**+0.8**
PRWZ	**Pori Road**	**3.19**	**227**	PN	**Pn**	**14 16 41.9**	**+0.8**
PRWZ				AML	AML	14 17 21.5	
PRWZ				AML	AML	14 17 22.4	
POWZ	**Post Office Ro**	**3.21**	**231**	Pn	**Pn**	**14 16 42.1**	**+0.7**
POWZ	**Post Office Ro**	**3.21**	**231**	PN	**Pn**	**14 16 42.1**	**+0.7**
POWZ				AML	AML	14 17 26.8	
POWZ				AML	AML	14 17 29.6	
HIZ	**Hauiti**	**3.27**	**267**	PN	**Pn**	**14 16 44.3**	**+2.0**
MKAZ	**Moumakai**	**3.33**	**292**	Pn	**Pn**	**14 16 43.6**	**+0.5**
MKAZ	**Moumakai**	**3.33**	**292**	PN	**Pn**	**14 16 43.6**	**+0.5**
TIWZ	**Tintock**	**3.38**	**225**	Pn	**Pn**	**14 16 44.2**	**+0.3**
TIWZ	**Tintock**	**3.38**	**225**	PN	**Pn**	**14 16 44.2**	**+0.3**
TIWZ				AML	AML	14 17 29.2	
TIWZ				AML	AML	14 17 32.5	
VRZ	**Vera Road**	**3.41**	**257**	Pn	**Pn**	**14 16 46.0**	**+1.8**
VRZ	**Vera Road**	**3.41**	**257**	⇓PN	**Pn**	**14 16 46.0**	**+1.8**
WAZ	**Wanganui**	**3.42**	**246**	Pn	**Pn**	**14 16 46.4**	**+2.1**
WAZ	**Wanganui**	**3.42**	**246**	PN	**Pn**	**14 16 46.4**	**+2.1**
WAZ				AML	AML	14 17 25.5	
WAZ				AML	AML	14 17 28.8	
MRZ	**Mangatainoka R**	**3.48**	**229**	Pn	**Pn**	**14 16 45.4**	**+0.2**
MRZ	**Mangatainoka R**	**3.48**	**229**	⇑PN	**Pn**	**14 16 45.4**	**+0.2**
MRZ				AML	AML	14 17 25.5	
MRZ				AML	AML	14 17 25.7	
WIAZ	**Waiheke Island**	**3.49**	**296**	PN	**Pn**	**14 16 46.1**	**+0.9**
ETAZ	**East Tamaki Re**	**3.56**	**293**	Pn	**Pn**	**14 16 47.1**	**+0.8**
ETAZ	**East Tamaki Re**	**3.56**	**293**	PN	**Pn**	**14 16 47.1**	**+0.8**
GRZ	**Great Barrier**	**3.57**	**306**	PN	**Pn**	**14 16 46.5**	**+0.1**
TMWZ	**Te Maipa**	**3.62**	**221**	Pn	**Pn**	**14 16 46.7**	**-0.3**
TMWZ	**Te Maipa**	**3.62**	**221**	PN	**Pn**	**14 16 46.7**	**-0.3**
TMWZ				AML	AML	14 17 29.6	
TMWZ				AML	AML	14 17 32.6	
HOWZ	**Holdsworth Sta**	**3.67**	**226**	Pn	**Pn**	**14 16 47.6**	**-0.2**
HOWZ	**Holdsworth Sta**	**3.67**	**226**	PN	**Pn**	**14 16 47.6**	**-0.2**
HOWZ				AML	AML	14 17 29.4	
HOWZ				AML	AML	14 17 30.4	
MHEZ	**Mangahewa**	**3.74**	**258**	Pn	**Pn**	**14 16 51.7**	**+3.0**
MHEZ	**Mangahewa**	**3.74**	**258**	PN	**Pn**	**14 16 51.7**	**+3.0**
OGWZ	**Otaki Gorge**	**3.82**	**230**	Pn	**Pn**	**14 16 49.8**	**-0.1**
OGWZ	**Otaki Gorge**	**3.82**	**230**	PN	**Pn**	**14 16 49.8**	**-0.1**
OGWZ				AML	AML	14 17 39.3	
OGWZ				AML	AML	14 17 41.7	
MTW	**Mount Morrison**	**3.86**	**224**	Pn	**Pn**	**14 16 49.6**	**-0.7**
MTW	**Mount Morrison**	**3.86**	**224**	PN	**Pn**	**14 16 49.6**	**-0.7**
MTW				AML	AML	14 17 35.1	
MTW				AML	AML	14 17 35.8	
RVAZ	**Riverhead Bore**	**3.89**	**294**	Pn	**Pn**	**14 16 51.9**	**+1.0**
RVAZ	**Riverhead Bore**	**3.89**	**294**	PN	**Pn**	**14 16 51.9**	**+1.0**
TRWZ	**Traveller**	**3.93**	**220**	Pn	**Pn**	**14 16 50.4**	**-1.0**
TRWZ	**Traveller**	**3.93**	**220**	PN	**Pn**	**14 16 50.4**	**-1.0**
TRWZ				AML	AML	14 17 36.7	
TRWZ				AML	AML	14 17 39.6	
NEZ	**North Egmont**	**3.94**	**256**	Pn	**Pn**	**14 16 54.5**	**+2.9**
KIW	**Kapiti Island**	**4.01**	**231**	Pn	**Pn**	**14 16 52.2**	**-0.2**
KIW	**Kapiti Island**	**4.01**	**231**	PN	**Pn**	**14 16 52.2**	**-0.2**
KIW				AML	AML	14 17 37.6	
KIW				AML	AML	14 17 38.4	
PAWZ	**Paruwai Farm**	**4.05**	**222**	Pn	**Pn**	**14 16 52.3**	**-0.8**
PAWZ	**Paruwai Farm**	**4.05**	**222**	PN	**Pn**	**14 16 52.3**	**-0.8**
PAWZ				AML	AML	14 17 39.0	
PAWZ				AML	AML	14 17 40.4	
CAW	**Cannon Point**	**4.07**	**227**	Pn	**Pn**	**14 16 52.6**	**-0.6**
CAW	**Cannon Point**	**4.07**	**227**	PN	**Pn**	**14 16 52.6**	**-0.6**
CAW				AML	AML	14 17 40.1	
CAW				AML	AML	14 17 40.5	
MSWZ	**Moikau Station**	**4.17**	**223**	Pn	**Pn**	**14 16 53.8**	**-0.9**
MSWZ	**Moikau Station**	**4.17**	**223**	PN	**Pn**	**14 16 53.8**	**-0.9**
MSWZ				AML	AML	14 17 44.4	
PLWZ	**Palliser**	**4.28**	**221**	Pn	**Pn**	**14 16 55.0**	**-1.2**
PLWZ	**Palliser**	**4.28**	**221**	PN	**Pn**	**14 16 55.0**	**-1.2**
PLWZ				AML	AML	14 17 43.6	
SNZO	**South Karori**	**4.41**	**228**	ePn	**Pn**	**14 17 00.5**	**+2.6**
SNZO				eSn	**Sn**	**14 17 44.0**	**-4.3**
TCW	**Tory Channel**	**4.60**	**231**	Pn	**Pn**	**14 16 59.6**	**-1.0**
TCW	**Tory Channel**	**4.60**	**231**	PN	**Pn**	**14 16 59.6**	**-1.0**
TCW				AML	AML	14 17 53.4	
TCW				AML	AML	14 17 55.9	
TUWZ	**Tuamarina**	**4.93**	**231**	Pn	**Pn**	**14 17 03.5**	**-1.6**
TUWZ	**Tuamarina**	**4.93**	**231**	PN	**Pn**	**14 17 03.5**	**-1.6**
TUWZ				AML	AML	14 17 59.8	
TUWZ				AML	AML	14 18 02.5	
BSWZ	**Blackbirch Sta**	**5.14**	**229**	Pn	**Pn**	**14 17 06.7**	**-1.4**
BSWZ	**Blackbirch Sta**	**5.14**	**229**	PN	**Pn**	**14 17 06.7**	**-1.4**
NNZ	**Nelson**	**5.17**	**235**	Pn	**Pn**	**14 17 07.5**	**-0.9**
NNZ	**Nelson**	**5.17**	**235**	PN	**Pn**	**14 17 07.5**	**-0.9**
QRZ	**Quartz Range**	**5.56**	**242**	Pn	**Pn**	**14 17 12.4**	**-1.4**
THZ	**Tophouse**	**5.76**	**233**	Pn	**Pn**	**14 17 14.9**	**-1.7**
THZ	**Tophouse**	**5.76**	**233**	PN	**Pn**	**14 17 14.9**	**-1.7**
THZ				AML	AML	14 18 20.8	
THZ				AML	AML	14 18 22.1	
KHZ	**Kahutara**	**5.79**	**225**	Pn	**Pn**	**14 17 16.0**	**-0.8**
KHZ	**Kahutara**	**5.79**	**225**	PN	**Pn**	**14 17 16.0**	**-0.8**
DSZ	**Denniston Nort**	**6.46**	**237**	ePN	**Pn**	**14 17 24.5**	**-1.6**
LTZ	**Lake Taylor**	**6.74**	**228**	ePN	**Pn**	**14 17 28.2**	**-1.8**
MQZ	**McQueen's Vall**	**7.15**	**220**	ePN	**Pn**	**14 17 33.3**	**-2.2**
RPZ	**Rata Peaks**	**8.02**	**226**	Pn	**Pn**	**14 17 45.8**	**-1.6**
	0.1nm,0.3s,baz=335,slow=19,SNR=3.3						
RPZ				Sn	Sn	14 19 08.7	-8.5
	1.7nm,0.3s,baz=157,slow=23,SNR=13						
RPZ				LR	LR	14 20 54.9	
	comp=Z,3μm,21.6s,baz=316,slow=39						
ASAR	**Alice Springs**	**40.96**	**278**	P	**P**	**14 23 33.5**	**+0.1**
	1.1nm,0.5s,baz=129,slow=8.0,SNR=17						
WRA	**Warramunga Arr**	**42.67**	**283**	P	**P**	**14 23 49.1**	**+1.7**
	0.6nm,0.6s,baz=125,slow=7.1,SNR=5.2						
FINES	**FINESS Array B**	**151.50**	**333**	PKPbc	**PKPbc**	**14 35 45.7**	**+2.4**
	1.3nm,0.7s,baz=75,slow=2.2,SNR=4.6						

KRSC 02 14:38:42.9±1.3, 53°29'N×160°66'E, h50km±13km, ML3.6, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SPN	**Mys Shipunski**	**0.43**	**244**	*e*P	Pn	14 38 55.4	+2.1
SPN				*e*S	Sn	14 39 02.1	+1.4
SDLR	**Sedlovina**	**1.06**	**270**	*e*P	Pn	14 39 03.2	+1.6
SDLR				*e*S	Sn	14 39 16.3	+0.9
UGLR	**Uglovaya**	**1.10**	**267**	*e*P	Pn	14 39 04.3	+2.2
UGLR				*e*S	Sn	14 39 17.7	+1.4
SMAR	**Somma**	**1.12**	**269**	*e*P	Pn	14 39 03.9	+1.5
KRER	**Koryakskii**	**1.15**	**272**	*e*P	Pn	14 39 04.6	+1.8
KRER				*e*S	Sn	14 39 18.9	+1.4
AVH	**Avacha**	**1.15**	**270**	*e*P	Pn	14 39 04.7	+2.0
AVH				*e*S	Sn	14 39 19.0	+1.5
DALK	**Dalny**	**1.18**	**258**	*e*P	Pn	14 39 04.8	+1.9
DALK				*e*S	Sn	14 39 18.6	+0.8
KRX	**Arik**	**1.21**	**274**	*e*P	Pn	14 39 05.1	+1.6
KRX				*e*S	Sn	14 39 19.5	+0.6
KOK	**Koryaka**	**1.21**	**271**	*e*P	Pn	14 39 05.5	+1.9
KOK				*e*S	Sn	14 39 19.5	+0.5
MKZ	**Mys Kozlova**	**1.42**	**26**	*e*P	Pn	14 39 08.4	+2.1
MKZ				*e*S	Sn	14 39 25.1	+1.3
RUS	**Russkaya**	**1.56**	**237**	*e*P	Pn	14 39 10.3	+2.2
RUS				*e*S	Sn	14 39 28.2	+1.0
KRMR	**Karymshinskiy**	**1.59**	**254**	*e*P	Pn	14 39 11.0	+2.4
KRMR				*e*S	Sn	14 39 29.9	+1.9
GNL	**Ganaly**	**1.67**	**285**	*e*P	Pn	14 39 11.8	+1.9
GNL				*e*S	Sn	14 39 31.2	+1.0
ASAK	**Asacha**	**1.90**	**243**	*e*P	Pn	14 39 16.2	+3.2
ASAK				*e*S	Sn	14 39 38.8	+3.0
APC	**Apacha**	**2.14**	**262**	*e*P	Pn	14 39 19.4	+3.3
APC				*e*S	Sn	14 39 44.2	+2.7
ZLN	**Zelenaya**	**2.74**	**2**	*e*P	Pn	14 39 28.8	+4.4
CIRR	**Tsirk**	**2.83**	**1**	*e*P	Pn	14 39 30.2	+4.4
ESO	**Esso**	**2.88**	**337**	*e*P	Pn	14 39 28.9	+2.7
KRSR	**Krestovskiy**	**2.94**	**359**	*e*P	Pn	14 39 31.3	+4.2
BKI	**Bering**	**3.66**	**56**	*e*S	Sn	14 40 18.7	-0.1

*IDC **02** 14:39:58.1±9.1, 30°.71S×179°.63W, h409km±96km, mb2.6/2, mb1 2.9/3, mb1mx2.7/34, mbtmp3.6/3, Error ellipse: s-maj=95.7km s-min=50.1km az=19.0*

ISC 02 14:39:57.6±2.1, 30°.7S±0°.1×179°.7W±0°.3, h400km, n13, σ0§90/17, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WMGZ	**Waiomatatini S**	**7.28**	**192**	*e*PN	**P**	**14 41 46.9**	**+2.1**
HAZ	**Te Kaha**	**7.34**	**196**	*e*PN	**Pn**	**14 41 44.7**	**-0.2**
HAZ				*e*SN	**S**	**14 43 12.3**	**-0.5**
PUZ	**Puketiti**	**7.55**	**192**	*e*PN	**Pn**	**14 41 47.0**	**-0.4**
PUZ				*e*SN	**S**	**14 43 16.1**	**-1.0**
RUGZ	**Raukumara Rang**	**7.57**	**196**	*e*PN	**P**	**14 41 49.1**	**+0.9**
MWZ	**Matawai**	**7.95**	**196**	*e*PN	**Pn**	**14 41 51.7**	**-0.3**
MWZ				*e*SN	**S**	**14 43 25.5**	**-0.1**
URZ	**Urewera**	**7.99**	**198**	P	**P**	**14 41 53.1**	**+0.4**
	1.1nm,0.3s,baz=252,slow=5.5,SNR=28						
URZ				S	**S**	**14 43 27.2**	**+0.9**
	1.2nm,0.3s,baz=244,slow=22,SNR=12						
URZ	**Urewera**	**7.99**	**198**	*e*PN	**Pn**	**14 41 51.5**	**-0.8**
RTZ	**Ruatahuna**	**8.36**	**198**	*e*PN	**Pn**	**14 41 56.8**	**+0.2**
TSZ	**Takapari Road**	**9.98**	**199**	*e*SN	**S**	**14 44 0.0**	**-1.1**
MRZ	**Mangatainoka R**	**10.65**	**200**	*e*PN	**P**	**14 42 22.0**	**-0.3**
ASAR	**Alice Springs**	**41.59**	**268**	P	**P**	**14 47 09.1**	**+0.4**
	0.7nm,1.0s,baz=106,slow=7.3,SNR=4.4						
WRA	**Warramunga Arr**	**42.61**	**273**	P	**P**	**14 47 17.1**	**+0.3**
	0.4nm,0.8s,baz=111,slow=7.7,SNR=2.9						
FINES	**FINESS Array B**	**144.88**	**339**	PKP	**PKPdf**	**14 58 45.9**	**-1.1**
	0.9nm,0.4s,baz=45,slow=4.1,SNR=7.2						

NEIC 02 14:40:44.8±0.0, 51°.98N×171°.42W, h41km, ML2.9(AEIC), After AEIC., Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KOFP	**Korovin Flat P**	**1.67**	**281**	P	Pn	14 41 10.5	-1.1
ATKA	**Atka Island**	**1.72**	**278**	P	Pn	14 41 11.3	-1.0
ATKA				S	Sn	14 41 35.7	+2.7
NIKH	**Nikolski High**	**1.86**	**57**	P	Pn	14 41 14.9	+0.7
NIKH				S	Sn	14 41 37.6	+1.2
OKSO	**Okmok South**	**2.42**	**54**	P	Pn	14 41 23.1	+1.2
GSCK	**Great Sitkin C**	**2.93**	**272**	P	Pn	14 41 29.3	+0.5
MSW	**Makushin Switc**	**3.41**	**54**	P	Pn	14 41 36.2	+0.7
UNV	**Unalaska Valle**	**3.52**	**56**	P	Pn	14 41 38.4	+1.5

NEIC 02 14:44:28.9±0.0, 51°.89N×171°.50W, h26km, ML3.6(AEIC), After AEIC., Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KOFP	**Korovin Flat P**	**1.65**	**284**	P	Pn	14 44 56.5	+0.3
ATKA	**Atka Island**	**1.69**	**282**	P	Pn	14 44 56.6	-0.1
ATKA				S	Sn	14 45 17.3	-0.2
NIKH	**Nikolski High**	**1.95**	**55**	P	Pn	14 44 59.3	-0.9
NIKH				S	Sn	14 45 23.1	-0.7
OKSO	**Okmok South**	**2.51**	**53**	P	Pn	14 45 07.7	-0.3
OKSO				S	Sn	14 45 37.5	-0.2
OKFG	**Magazine Ridge**	**2.66**	**54**	P	Pn	14 45 10.0	-0.1
OKFG				S	Sn	14 45 43.8	+2.3
GSMY	**Great Sitkin M**	**2.82**	**275**	P	Pn	14 45 13.2	+0.9
ETKA	**Kagalaska Isla**	**3.04**	**271**	P	Pn	14 45 15.5	+0.3
MSW	**Makushin Switc**	**3.50**	**53**	P	Pn	14 45 22.3	+0.7
UNV	**Unalaska Valle**	**3.61**	**55**	P	Pn	14 45 23.0	0.0
UNV				S	Sn	14 46 06.0	+1.3
AKMO	**Akutan Morgan**	**3.98**	**54**	P	Pn	14 45 29.0	+0.8
SPIA	**Saint Paul Isl**	**5.35**	**7**	P	Pn	14 45 47.6	+0.7
SDPT	**Sand Point**	**7.41**	**58**	P	Pn	14 46 15.6	+0.4

*ISK **02** 14:50:08.6, 37°.27N×28°.18E, h5km, MD2.6*
*ISCJB **02** 14:50:09.9±0.6, 37°.29N±0°.04×28°.18E±0°.03, h0km, Error ellipse: s-maj=5.8km s-min=3.6km az=5.6*
*CSEM **02** 14:50:09.5±0.2, 37°.27N×28°.21E, h2km, MD2.6, Error ellipse: s-maj=5.5km s-min=3.7km az=10.0, Suspected Mining explosion.*
*DDA **02** 14:50:09.3, 37°.23N×28°.21E, h7km, Md2.6, Suspected Mining explosion.*

ISC 02 14:50:09.3±0.9, 37°.32N±0°.04×28°.23E±0°.03, h0km, n25, σ1§05/39, Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MLSB	**Milas**	**0.36**	**267**	*e*PG	**Pg**	**14 50 15.6**	**-0.7**
MLSB				*e*SG	**Sg**	**14 50 21.8**	**+0.8**
MLSB	**Milas**	**0.36**	**267**	*e*Pg	**Pg**	**14 50 15.6**	**-0.7**
MLSB				*e*Sg	**Sg**	**14 50 21.8**	**+0.8**
TURN	**Turunc**	**0.54**	**146**	*i* P	**Pg**	**14 50 17.8**	**-1.8**
TURN	**Turunc**	**0.54**	**146**	P	**Pg**	**14 50 17.8**	**-1.8**
DALY	**Dalyan (Mu˘la**	**0.60**	**146**	*e*PG	**Pg**	**14 50 21.0**	**+0.1**
DALY	**Dalyan (Mu˘la**	**0.60**	**146**	*i* P	**Pg**	**14 50 19.9**	**-1.0**
DALY				*i* S	**Sb**	**14 50 31.5**	**-0.3**
DALY	**Dalyan (Mu˘la**	**0.60**	**146**	P	**Pg**	**14 50 19.9**	**-1.0**
DALY	**Dalyan (Mu˘la**	**0.60**	**146**	*e*Pg	**Pg**	**14 50 21.0**	**+0.1**
DALY				S	**Sb**	**14 50 31.5**	**-0.3**
BDRM	**Kayabasi**	**0.68**	**248**	*i* P	**Pg**	**14 50 21.6**	**-0.7**
BDRM	**Kayabasi**	**0.68**	**248**	P	**Pg**	**14 50 21.6**	**-0.7**
AYDB	**Zeytinkoy-Aydi**	**0.68**	**337**	*e*PG	**Pb**	**14 50 23.7**	**-0.5**
AYDB	**Zeytinkoy-Aydi**	**0.68**	**337**	*e*Pg	**Pb**	**14 50 23.7**	**-0.5**
DNZL	**Cakiroluk**	**0.75**	**60**	*i* P	**Pb**	**14 50 25.0**	**-0.4**
DNZL				*i* S	**Sn**	**14 50 38.9**	**-0.6**
DNZL	**Cakiroluk**	**0.75**	**60**	P	**Pb**	**14 50 25.0**	**-0.4**
DNZL				S	**Sn**	**14 50 38.9**	**-0.6**
BODT	**Bodrum**	**0.78**	**251**	*e*PG	**Pg**	**14 50 24.2**	**0.0**
BODT				*e*SG	**Sg**	**14 50 34.6**	**+0.3**
BODT	**Bodrum**	**0.78**	**251**	*e*Pg	**Pg**	**14 50 24.2**	**0.0**
BODT				*e*Sg	**Sg**	**14 50 34.6**	**+0.3**
DAT	**Datca**	**0.79**	**222**	*e*PG	**Pg**	**14 50 23.9**	**-0.5**
DAT				*e*SG	**Sg**	**14 50 35.0**	**+0.4**
DAT	**Datca**	**0.79**	**222**	*i* P	**Pg**	**14 50 23.6**	**-0.8**
DAT				*i* S	**Sb**	**14 50 37.2**	**0.0**
DAT	**Datca**	**0.79**	**222**	P	**Pg**	**14 50 23.6**	**-0.8**
DAT	**Datca**	**0.79**	**222**	*e*Pg	**Pg**	**14 50 23.9**	**-0.5**
DAT				*e*Sg	**Sg**	**14 50 35.0**	**+0.4**
DAT				S	**Sb**	**14 50 37.2**	**0.0**
FETY	**Fethiye**	**0.96**	**135**	P	**Pn**	**14 50 30.9**	**+0.7**
FETY				S	**Sb**	**14 50 41.8**	**-0.5**
AKAS	**Kas**	**1.55**	**134**	*e*PN	**Pg**	**14 50 38.7**	**-0.3**
AKAS	**Kas**	**1.55**	**134**	*i* P	**Pb**	**14 50 38.3**	**-0.6**
AKAS				*i* S	**Sb**	**14 51 03.9**	**+4.8**
AKAS	**Kas**	**1.55**	**134**	P	**Pb**	**14 50 38.3**	**-0.6**
AKAS	**Kas**	**1.55**	**134**	*e*Pn	**Pg**	**14 50 38.7**	**-0.3**

*ISN **02** 15:14:31.1±0.3, 37°.43N×42°.97E, h0km, ML2.7*
*DDA **02** 15:14:33.9, 36°.98N×42°.86E, h6km, Md2.8*
*CSEM **02** 15:14:37.0±0.3, 37°.26N×42°.97E, h5km, MD2.7, Error ellipse: s-maj=9.2km s-min=6.1km az=12.0*
*ISK **02** 15:14:38.2, 37°.65N×42°.96E, h8km, MD2.7*

ISC 02 15:14:36.4±2.5, 37°.3N±0°.1×42°.96E±0°.03, h11km±17km, n14, σ0§73/23, Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SIRT	**Sirnak**	**0.48**	**301**	*e*PG	**Pb**	**15 14 46.4**	**-0.6**
SIRT				*e*SG	**Sb**	**15 14 54.5**	**+0.3**
SIRT	**Sirnak**	**0.48**	**301**	*e*Pg	**Pb**	**15 14 46.4**	**-0.6**
SIRT				*e*Sg	**Sb**	**15 14 54.5**	**+0.3**
HKR	**Hakkari**	**0.70**	**62**	*e*PG	**Pb**	**15 14 50.7**	**-0.1**
HKR				*e*SG	**Sb**	**15 15 00.2**	**-0.3**
HKR	**Hakkari**	**0.70**	**62**	*e*Pg	**Pb**	**15 14 50.7**	**-0.1**
HKR				*e*Sg	**Sb**	**15 15 00.2**	**-0.3**
GEVA	**Gevas**	**1.06**	**4**	*i* S	Sn	15 15 19.3	+7.1
BTMN	**Batman**	**1.49**	**296**	*i* P	**Pn**	**15 15 03.1**	**-0.1**
BTMN				*i* S	**Sg**	**15 15 25.1**	**+0.7**
BTMN	**Batman**	**1.49**	**296**	P	**Pn**	**15 15 03.1**	**-0.1**
BTMN				S	**Sg**	**15 15 25.1**	**+0.7**
SVAN	**Silvan-Diyarba**	**1.66**	**303**	*e*PN	**Pb**	**15 15 06.4**	**-0.6**
SVAN	**Silvan-Diyarba**	**1.66**	**303**	*e*Pn	**Pb**	**15 15 06.4**	**-0.6**
MARD	**Mardin**	**1.74**	**273**	*i* P	**Pn**	**15 15 06.3**	**-0.4**
MARD				*i* S	**Sn**	**15 15 29.8**	**+0.8**
MAZI	**Mazidag**	**2.02**	**277**	*e*PN	**Pb**	**15 15 13.2**	**+0.1**
MAZI				*e*SN	**Sb**	**15 15 38.5**	**+0.2**
MAZI	**Mazidag**	**2.02**	**277**	*e*Pn	**Pb**	**15 15 13.2**	**+0.1**
MAZI				*e*Sn	**Sb**	**15 15 38.5**	**+0.2**
BNGL	**BINGOL**	**2.22**	**320**	*i* P	**Pb**	**15 15 15.6**	**-1.1**
BNGL				*i* S	**Sg**	**15 15 49.3**	**+1.6**
DIYA	**Diyarbakir**	**2.35**	**287**	*i* P	Pg	15 15 32.0	+10
DIYA				*i* S	**Sg**	**15 15 50.5**	**-1.6**

*ISCJB **02** 15:20:47.8±0.7, 51°.9N±0°.1×171°.38W±0°.06, h44km, mb3.6/7, MS3.2/1, Error ellipse: s-maj=15.4km s-min=3.5km az=162.6*
*NEIC **02** 15:20:49.4±0.0, 52°.02N×171°.49W, h41km, ML3.8(AEIC), After AEIC.*
*IDC **02** 15:20:53.5±8.1, 52°.06N×171°.31W, h88km±75km, mb3.4/7, mb1 3.5/9, mb1mx3.3/53, mbtmp3.7/9, ML3.6/2, MS3.3/1, Ms1 3.3/1, ms1mx3.2/27, Error ellipse: s-maj=38.4km s-min=18.6km az=177.0*

ISC 02 15:20:48.7±0.9, 51°.9N±0°.1×171°.41W±0°.05, h44km, n36, σ1§14/35, mb3.8/7, Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KOFP	**Korovin Flat P**	**1.71**	**285**	P	**Pn**	**15 21 16.6**	**+0.6**
ATKA	**Atka Island**	**1.76**	**282**	P	**Pn**	**15 21 16.5**	**-0.1**
ATKA				S	**Sn**	**15 21 36.9**	**-0.8**
NIKH	**Nikolski High**	**1.92**	**53**	P	**Pn**	**15 21 19.0**	**+0.1**
NIKH				S	**Sn**	**15 21 41.0**	**-0.7**
OKSO	**Okmok South**	**2.48**	**52**	P	**Pn**	**15 21 26.9**	**+0.2**
OKSO				S	**Sn**	**15 21 58.3**	**+2.6**
OKTU	**Okmok Mt. Tuli**	**2.56**	**52**	P	**Pn**	**15 21 28.3**	**+0.7**
OKFG	**Magazine Ridge**	**2.64**	**52**	P	**Pn**	**15 21 29.4**	**+0.8**
OKFG				S	**Sn**	**15 22 00.8**	**+1.4**
GSMY	**Great Sitkin M**	**2.88**	**276**	P	**Pn**	**15 21 33.4**	**+1.3**
GSTD	**Great Sitkin T**	**2.94**	**276**	P	**Pn**	**15 21 34.0**	**+1.1**
GSCK	**Great Sitkin C**	**2.95**	**275**	P	**Pn**	**15 21 34.1**	**+1.2**
ETKA	**Kagalaska Isla**	**3.10**	**272**	P	**Pn**	**15 21 36.0**	**+1.0**
ADAG	**Mount Adagdak**	**3.22**	**274**	P	**Pn**	**15 21 38.2**	**+1.5**
MSW	**Makushin Switc**	**3.48**	**52**	P	**Pn**	**15 21 43.1**	**+1.1**
KIKV	**Kanaga Island**	**3.57**	**273**	P	**Pn**	**15 21 43.1**	**+1.5**
UNV	**Unalaska Valle**	**3.58**	**54**	P	**Pn**	**15 21 42.2**	**+0.7**
UNV				S	**Sn**	**15 22 23.9**	**+1.4**
AKRB	**Akutan Reef Bi**	**3.95**	**53**	P	**Pn**	**15 21 48.5**	**+1.8**
TAFP	**Tanaga Falls P**	**4.08**	**273**	P	**Pn**	**15 21 49.6**	**+1.1**
AKUT	**Akutan**	**4.10**	**54**	ePn	**Pn**	**15 21 47.8**	**-0.9**
AKUT				eSn	**Sn**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MIYJ	**Miyakonagasawa**	**0.75**	**274**	P	**Pb**	**15 41 27.3**	**-0.2**
MIYJ				S	**Sb**	**15 41 38.3**	**+0.9**
JTH	**Tanohata**	**0.82**	**300**	P	**Pb**	**15 41 28.8**	**+0.1**
JTH				*eS*	**Sn**	**15 41 40.9**	**-0.6**
OFUJ	**Ofunato**	**0.97**	**243**	P	**Pb**	**15 41 30.6**	**-0.7**
OFUJ				S	**Sb**	**15 41 43.6**	**-0.3**
JOM	**Ohasama**	**1.16**	**268**	P	**Pn**	**15 41 34.1**	**-0.2**
JOM				S	**Sn**	**15 41 49.7**	**-0.1**
JKZ	**Kuzumaki**	**1.21**	**293**	P	**Pn**	**15 41 35.0**	**-0.1**
JKZ				S	**Sn**	**15 41 51.9**	**+0.7**
JANG	**Nango**	**1.29**	**311**	P	**Pn**	**15 41 35.8**	**-0.4**
JMK	**Ichinoseki**	**1.34**	**245**	P	**Pn**	**15 41 36.7**	**-0.2**
JMK				S	**Sn**	**15 41 54.2**	**-0.2**
JIO	**Ouri**	**1.55**	**227**	P	**Pn**	**15 41 38.7**	**-1.0**
JIO				*eS*	**Sn**	**15 41 58.1**	**-1.3**
JRG	**Rokugo**	**1.67**	**266**	P	**Pb**	**15 41 42.7**	**-0.5**
JRG				S	**Sb**	**15 42 04.5**	**+0.5**
MAT	**Matsushiro**	**4.68**	**232**	P	**Pn**	**15 42 25.4**	**+2.5**
MAT				*eS*	**Sn**	**15 43 17.3**	**+0.5**
MJAR	**Matsushiro Arr**	**4.68**	**232**	P	**Pn**	**15 42 24.7**	**+1.9**
	1.5nm,0.3s,baz=42,slow=11,SNR=22						
JHJ	**Hachijo jima 2**	**6.84**	**202**	LR	LR	15 45 51.3	
	comp=Z,1μm,20.6s,baz=19,slow=40						
SONM	**Songino Array**	**27.39**	**300**	P	**P**	**15 46 57.9**	**+0.4**
	0.5nm,0.4s,baz=97,slow=8.1,SNR=4.1						
H11N2	**WAKE ISLAND Hy**	**28.63**	**127**	T	T	16 17 00.0	
	baz=319,slow=74,SNR=49						
H11N1	**WAKE ISLAND Hy**	**28.64**	**127**	T	T	16 17 01.0	
	baz=319,slow=74,SNR=39						
H11N3	**WAKE ISLAND Hy**	**28.65**	**127**	T	T	16 16 59.6	
	baz=319,slow=74,SNR=41						
H11S1	**WAKE ISLAND Hy**	**29.43**	**128**	T	T	16 18 01.9	
	baz=321,slow=76,SNR=9.6						
H11S3	**WAKE ISLAND Hy**	**29.44**	**129**	T	T	16 18 05.3	
	baz=321,slow=76,SNR=8.0						
H11S2	**WAKE ISLAND Hy**	**29.45**	**129**	T	T	16 18 01.7	
	baz=321,slow=76,SNR=7.0						
ZALV	**Zalesovo Beam**	**41.08**	**310**	P	**P**	**15 48 54.3**	**-1.2**
	1.5nm,0.4s,baz=93,slow=7.8,SNR=6.2						
ILAR	**Eielson Array**	**46.82**	**34**	P	**P**	**15 49 42.1**	**+0.7**
	0.5nm,0.6s,baz=259,slow=6.9,SNR=6.2						
WRA	**Warramunga Arr**	**59.68**	**189**	P	**P**	**15 51 15.7**	**-0.7**
	0.2nm,0.8s,baz=8.5,slow=6.9,SNR=5.2						
ASAR	**Alice Springs**	**63.41**	**189**	P	**P**	**15 51 42.0**	**+0.4**
	0.3nm,0.8s,baz=24,slow=7.1,SNR=3.5						

CASC 02 15:44:09.3±2.9, 10.41N×86.73W, h19km±14km, MD3.7, 1C, Off coast of Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
VCR	**Vista de Mar**	**1.12**	**104**	*eP*	Pn	15 44 28.6	-1.5
VCR				*eS*	Sb	15 44 42.4	-1.9
CRZ1	**La Cruz**	**1.26**	**58**	*eP*	Pn	15 44 32.2	+0.2
CRZ1				*eS*	Sg	15 44 50.5	+0.2
CONN	**Concepcion**	**1.58**	**43**	*eP*	Pn	15 44 35.6	-0.7
COPN	**Copaltepe**	**1.77**	**4**	*eP*	Pn	15 44 38.2	-0.6
COPN				*eS*	Sn	15 45 00.6	-0.2
APYN	**Apoyeque**	**1.85**	**12**	*eP*	Pn	15 44 39.9	-0.2
MOMN	**Momotombo**	**2.00**	**5**	*eP*	Pn	15 44 41.9	-0.2
CNGN	**Cerro Negro**	**2.08**	**1**	*eP*	Pn	15 44 43.4	+0.2
CNGN				*eS*	Sn	15 45 08.6	0.0
CNGN				AML	AML	15 45 12.2	
ACON	**Acoyapa**	**2.18**	**44**	*eP*	Pn	15 44 44.6	+0.1
CGA2	**Cerro Gallo 2**	**2.27**	**100**	*eP*	Pn	15 44 47.3	+1.4
CGA2				*eS*	Sn	15 45 13.7	+0.4
BOAB	**BOACO BROADBAN**	**2.28**	**27**	*eP*	Pn	15 44 46.1	+0.2
URSC	**Urasca**	**2.96**	**101**	*eP*	Pn	15 44 57.9	+2.4
URSC				*eS*	Sn	15 45 32.4	+1.7

MEX 02 15:55:35.3±0.4, 20.62N×105.87W, h20km, MD3.8, Near coast of Jalisco

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PUVA	**Puert Vallarta**	**0.61**	**89**	*eP*	Pb	15 55 45.9	-1.4
PUVA				*i* S	Sb	15 55 53.9	-1.6
ANIG	**Ahuacatlan**	**1.34**	**71**	*eP*	Pn	15 55 56.2	-2.8
ANIG				*i* S	Sn	15 56 12.4	-3.8
R15V		**2.29**	**129**	*eP*	Pn	15 56 09.7	-2.3
R15V				*i* S	Sn	15 56 35.5	-4.2
EZ5V		**2.42**	**118**	*i* P	Pn	15 56 10.9	-3.1
EZ5V				*i* S	Sn	15 56 39.6	-3.5
SFJM	**Santa Fe**	**2.66**	**92**	*i* P	Pb	15 56 21.6	-0.8
SFJM				*i* S	Sb	15 56 52.5	-2.1
MMIG	**Aquila**	**3.33**	**134**	*i* P	Pn	15 56 23.1	-3.2
MMIG				*i* S	Sn	15 57 01.1	-4.1
ZAIG	**Zacatecas**	**3.75**	**55**	*i* P	Pn	15 56 28.6	-3.6
ZAIG				*i* S	Sn	15 57 14.0	-1.9
IGIG	**Irapuato, Guan**	**4.26**	**87**	*i* P	Pn	15 56 35.7	-3.5

*ISCJB **02** 16:14:12.5±0.5, 40.80N±0.03×141.75E±0.07, h108km±4km, mb3.6/5, Error ellipse: s-maj=9.2km s-min=5.0km az=18.0*
*JMA **02** 16:14:13.4±0.1, 40.81N×141.79E, h101km±1km, M3.4*
JMA Felt I J1.
*IDC **02** 16:14:16.3±2.3, 40.99N×141.69E, h120km±15km, mb3.5/5, mb1 3.4/8, mb1mx3.2/47, mbtmp3.7/8, Error ellipse: s-maj=33.2km s-min=16.1km az=123.0*
ISC 02 16:14:13.3±0.9, 40.79N±0.04×141.77E±0.06, h102km±7km, n20, σ0§73/31, mb3.8/5, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JANG	**Nango**	**0.46**	**205**	P	**Pn**	**16 14 29.1**	**+0.1**
JANG				S	**Sn**	**16 14 40.6**	**-0.2**
JTM	**Tenmabayashi**	**0.53**	**270**	P	**Pn**	**16 14 29.4**	**-0.1**
JTM				S	**Sn**	**16 14 41.6**	**0.0**
JOT	**Ohata**	**0.80**	**317**	P	**Pn**	**16 14 31.6**	**-0.2**
JOT				*eS*	**Sn**	**16 14 45.8**	**+0.1**
JAH	**Hinai**	**1.05**	**235**	P	**Pn**	**16 14 35.1**	**+0.7**
JAH				S	**Sn**	**16 14 51.2**	**+0.9**
JKB	**Kayabe**	**1.23**	**333**	P	**Pn**	**16 14 36.5**	**+0.1**
JKB				S	**Sn**	**16 14 53.9**	**+0.1**
JSR	**Shiriuchi**	**1.26**	**306**	P	**Pn**	**16 14 36.7**	**0.0**
JSR				*eS*	**Sn**	**16 14 54.0**	**-0.4**
JIW	**Iwasaki**	**1.35**	**262**	P	**Pn**	**16 14 38.5**	**+0.6**
JOM	**Ohasama**	**1.37**	**196**	P	**Pn**	**16 14 38.4**	**+0.3**
JOM				S	**Sn**	**16 14 56.9**	**+0.1**
JEM	**Erimo**	**1.61**	**40**	P	**Pn**	**16 14 41.2**	**+0.3**
JEM				S	**Sn**	**16 15 01.6**	**-0.3**
JRG	**Rokugo**	**1.65**	**212**	P	**Pn**	**16 14 42.4**	**+1.0**
JRG				S	**Sn**	**16 15 04.4**	**+1.6**
JNBK	**Urakawa-nobuka**	**1.66**	**26**	P	**Pn**	**16 14 42.6**	**+1.0**
JNBK				S	**Sn**	**16 15 04.9**	**+1.8**
JMK	**Ichinoseki**	**1.89**	**193**	P	**Pn**	**16 14 44.6**	**+0.1**
JMK				*eS*	**Sn**	**16 15 07.1**	**-1.1**
ASAJ	**Asahikawa**	**3.38**	**10**	P	**Pn**	**16 15 04.2**	**+0.2**
	baz=212,slow=10						
ASAJ				S	**Sn**	**16 15 43.6**	**+0.3**
	baz=180,slow=13						
MJAR	**Matsushiro Arr**	**5.08**	**214**	P	Pn	16 15 32.2	+5.1
	0.4nm,0.3s,baz=60,slow=17,SNR=4.2						
USRK	**Ussuriysk Ar.**	**7.99**	**298**	P	**Pn**	**16 16 07.5**	**+1.0**
	0.3nm,0.3s,baz=97,slow=14,SNR=4.5						
SONM	**Songino Array**	**26.10**	**298**	P	**P**	**16 19 37.6**	**+0.1**
	0.6nm,0.4s,baz=84,slow=9.1,SNR=3.3						
ZALV	**Zalesovo Beam**	**39.67**	**309**	P	**P**	**16 21 34.1**	**-1.0**
	1.4nm,0.5s,baz=98,slow=7.7,SNR=5.4						
ILAR	**Eielson Array**	**46.20**	**34**	P	**P**	**16 22 27.6**	**0.0**
	0.2nm,0.5s,baz=282,slow=7.2,SNR=4.8						
FINES	**FINESS Array B**	**65.63**	**332**	P	**P**	**16 24 45.1**	**-0.9**
	1.0nm,0.8s,baz=57,slow=10,SNR=4.2						
KBZ	**Khabaz**	**68.69**	**310**	P	**P**	**16 25 06.3**	**+0.7**
	0.8nm,0.5s,baz=56,slow=3.6,SNR=3.2						

IDC 02 16:19:51.9±1.8, 18.11S×167.57E, h0km, mb4.0/4, mb1 4.2/5, mb1mx3.8/30, mbtmp3.9/5, ML3.5/1, Error ellipse: s-maj=55.9km s-min=28.7km az=130.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**4.08**	**195**	Pn	Pn	16 20 55.4	-0.3
	2.7nm,0.3s,baz=76,slow=15,SNR=36						
DZM				Sn	Sn	16 21 41.5	-2.7
	6.9nm,0.3s,baz=130,slow=23,SNR=7.6						
STKA	**Stephens Creek**	**27.15**	**235**	P	P	16 25 37.3	+0.3
	3.7nm,0.8s,baz=50,slow=8.1,SNR=7.1						
WRA	**Warramunga Arr**	**31.44**	**261**	P	P	16 26 15.3	0.0
	0.4nm,0.7s,baz=80,slow=6.0,SNR=3.2						
ASAR	**Alice Springs**	**31.88**	**254**	P	P	16 26 18.9	-0.3
	0.8nm,0.7s,baz=82,slow=8.5,SNR=19						
ILAR	**Eielson Array**	**89.64**	**18**	P	P	16 32 51.2	0.0
	1.7nm,0.7s,baz=234,slow=5.1,SNR=16						

*ISCJB **02** 16:20:41.9±0.4, 14.34N±0.02×61.42W±0.06, h183km±3km, mb3.7/5, Error ellipse: s-maj=10.0km s-min=3.6km az=174.0*
*IDC **02** 16:20:42.3±0.8, 14.37N×61.31W, h178km±10km, mb3.5/5, mb1 3.8/8, mb1mx3.4/43, mbtmp4.1/8, Error ellipse: s-maj=31.2km s-min=24.8km az=102.0*
*TRN **02** 16:20:42.7, 14.34N×61.44W, h175km, MD4.3*
ISC 02 16:20:42.3±0.8, 14.34N±0.03×61.43W±0.07, h179km±6km, n59, σ1§43/75, mb4.0/5, 3C-9D, Windward Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BIM	**Bigot**	**0.39**	**63**	*ePⓊ*	**Pn**	**16 21 06.7**	**+0.1**
TRMF	**Trois Ilets**	**0.41**	**61**	*eP*	**Pn**	**16 21 06.9**	**+0.2**
ZAM	**Aeronautique**	**0.45**	**59**	*eP*	**Pn**	**16 21 07.1**	**+0.3**
FDF	**Fort de France**	**0.48**	**34**	*ⓊiP*	**Pn**	**16 21 07.0**	**0.0**
FDF				*eS*	**Sn**	**16 21 25.0**	**-1.1**
PML	**Morne Lenard**	**0.50**	**28**	*eP*	**Pn**	**16 21 07.4**	**+0.3**
LPMF	**Morne Lapointe**	**0.51**	**62**	*eP*	**Pn**	**16 21 07.6**	**+0.6**
PCM	**Pelee Case Pet**	**0.52**	**24**	*eP*	**Pn**	**16 21 07.3**	**+0.2**
PCM	**Pelee Case Pet**	**0.52**	**24**	*eP*	**Pn**	**16 21 07.5**	**+0.4**
GBMF	**Grand Be**	**0.52**	**29**	*eP*	**Pn**	**16 21 07.5**	**+0.2**
CXM	**Morne La Croix**	**0.53**	**28**	*ⓊeP*	**Pn**	**16 21 07.6**	**+0.3**
CXM				*eS*	**Sn**	**16 21 26.3**	**-0.4**
BAMF	**Morne Balai**	**0.55**	**30**	*eP*	**Pn**	**16 21 07.7**	**+0.4**
MVM	**Montagne Vaucl**	**0.56**	**67**	*eP*	**Pn**	**16 21 07.6**	**+0.4**
SLW	**Petit Monier**	**0.57**	**123**	*ⓊiP*	**Pn**	**16 21 08.1**	**+0.8**
SLW				*eS*	**Sn**	**16 21 27.0**	**+0.4**
H05S1	**Guadeloupe/Mar**	**0.58**	**81**	P	**Pn**	**16 21 07.3**	**-0.1**
H05S1				S	**Sn**	**16 21 26.5**	**-0.1**
SLB	**Belfond**	**0.63**	**143**	*eP*	**Pn**	**16 21 08.4**	**+0.7**
SLB				*eS*	**Sn**	**16 21 27.6**	**+0.3**
SLDE	**Delcer**	**0.64**	**146**	*ⓊiP*	**Pn**	**16 21 08.5**	**+0.8**
SLDE				*eS*	**Sn**	**16 21 27.4**	**+0.1**
MCLT	**Moule a Chique**	**0.78**	**143**	*ⓊiP*	**Pn**	**16 21 08.1**	**-0.4**
DSHT	**Scott's Head**	**0.87**	**3**	*eP*	**Pn**	**16 21 10.7**	**+1.6**
DPMT	**Pointe Michel**	**0.92**	**3**	*eP*	**Pn**	**16 21 10.4**	**+1.1**
DBCT	**Belle View Cho**	**0.93**	**5**	*eP*	**Pn**	**16 21 11.2**	**+1.7**
MDN	**Morne-Daniel**	**0.98**	**2**	*eP*	**Pn**	**16 21 11.4**	**+1.7**
SFAN	**Fancy Village**	**0.98**	**165**	*eP*	**Pn**	**16 21 11.5**	**+1.7**
SFAN				*eS*	**Sn**	**16 21 31.6**	**+0.4**
DLPL	**La Plaine**	**1.00**	**10**	*eP*	**Pn**	**16 21 10.2**	**+0.2**
SSV	**Crater Summit**	**1.03**	**167**	*ⓊiP*	**Pn**	**16 21 12.0**	**+1.7**
SSV				*eS*	**Sn**	**16 21 32.1**	**+0.1**
SVV	**Soufriere Volc**	**1.03**	**168**	*iP*	**Pn**	**16 21 12.2**	**+2.0**
SVB	**Belmont**	**1.07**	**171**	*iP*	**Pn**	**16 21 10.3**	**-0.3**
SVB				*eS*	**Sn**	**16 21 31.8**	**-0.6**
BHS	**Barnard House**	**1.07**	**164**	*iP*	**Pn**	**16 21 12.3**	**+1.8**
BHS				*eS*	**Sn**	**16 21 33.2**	**+0.8**
BBL	**Barber's Block**	**1.18**	**358**	*ⓊiP*	**Pn**	**16 21 12.0**	**+0.6**
FCV	**Fort Charlotte**	**1.19**	**171**	*ⓊiP*	**Pn**	**16 21 12.7**	**+1.3**
DWS	**Wesley**	**1.23**	**5**	*ⓊiP*	**Pn**	**16 21 12.4**	**+0.7**
DWS				*eS*	**Sn**	**16 21 34.4**	**-0.3**
TBG	**Guadaloupe-3**	**1.52**	**352**	*ⓊiP*	**Pn**	**16 21 14.9**	**+0.5**
MGG	**Marie-Galante**	**1.58**	**4**	*eP*	**Pn**	**16 21 15.4**	**+0.5**
MGG				*eS*	**Sn**	**16 21 40.4**	**+0.1**
H05N1	**Guadeloupe/Mar**	**2.00**	**10**	P	**Pn**	**16 21 18.7**	**-0.6**
	SNR=3966						
H05N1				S	**Sn**	**16 21 45.7**	**-2.5**
GRSS	**Sisters**	**2.03**	**185**	*ⓊiP*	**Pn**	**16 21 21.3**	**+1.6**
GRHS	**Sauteurs**	**2.11**	**186**	*eP*	**Pn**	**16 21 21.9**	**+1.4**
GRHS				*eS*	**Sn**	**16 21 50.1**	**-0.2**
BBGH	**Gun Hill**	**2.17**	**123**	*eP*	**Pn**	**16 21 22.0**	**+0.8**
BBGH				*eS*	**Sn**	**16 21 52.2**	**+0.8**
GRW	**Mount Saint Ca**	**2.18**	**186**	*eP*	**Pn**	**16 21 23.1**	**+1.8**
GRW				*eS*	**Sn**	**16 21 51.1**	**-0.7**
GRGR	**Grenville**	**2.20**	**186**	*eP*	**Pn**	**16 21 22.4**	**+0.8**
GRGR				*eS*	**Sn**	**16 21 51.9**	**-0.2**
BBSP	**Saint Philip**	**2.27**	**122**	*eP*	**Pn**	**16 21 23.9**	**+1.6**
BBSP				*eS*	**Sn**	**16 21 53.9**	**+0.5**
MLYT	**Lee's Yard**	**2.48**	**343**	*eP*	**Pn**	**16 21 25.9**	**+1.1**
MLYT				*eS*	**Sn**	**16 21 58.1**	**+0.2**
TOSP	**Speyside**	**3.14**	**164**	*eP*	**Pn**	**16 21 34.5**	**+1.8**
TOSP				*eS*	**Sn**	**16 22 10.2**	**-1.8**
ANWB	**Willy Bob**	**3.33**	**354**	*e*	**Pn**	**16 21 34.3**	**-0.6**
ANWB	**Willy Bob**	**3.33**	**354**	*eP*	**Pn**	**16 21 36.2**	**+1.3**
ANWB				*eS*	**Sn**	**16 22 14.4**	**-1.8**
TRN	**Trinidad (W)**	**3.67**	**180**	*eS*	**Sn**	**16 22 21.5**	**-2.2**
TPP	**Pointe-a-Pierr**	**4.00**	**180**	*eS*	**Sn**	**16 22 29.2**	**-2.0**
PCRV	**Puerto La Cruz**	**5.19**	**218**	P	**Pn**	**16 21 59.7**	**+0.9**
	1.2nm,0.3s,baz=4.4,slow=13,SNR=2.9						
SJG	**San Juan**	**5.89**	**310**	P	**Pn**	**16 22 08.0**	**+0.3**
	8.6nm,0.3s,baz=308,slow=18,SNR=6.3						
PTGA	**Pitinga**	**15.04**	**174**	P	**Pn**	**16 24 06.2**	**+0.2**
	1.7nm,0.3s,baz=4.1,slow=15,SNR=30						
PTGA				S	**Sn**	**16 26 45.8**	**-8.3**
	1.1nm,0.3s,baz=89,slow=9.4,SNR=4.6						
TXAR	**Lajitas Array**	**41.71**	**298**	P	**P**	**16 28 14.7**	**+0.9**
	0.2nm,0.4s,baz=99,slow=11,SNR=6.6						
PDAR	**Pinedale Array**	**49.99**	**314**	P	**P**	**16 29 19.6**	**+0.9**
	2.3nm,0.5s,baz=114,slow=9.7,SNR=24						
H10N3	**ASCENSION HYDR**	**51.50**	**112**	T	T	17 24 52.7	
	baz=295,slow=75,SNR=8.1						
H10N2	**ASCENSION HYDR**	**51.51**	**112**	T	T	17 24 55.9	
	baz=295,slow=75,SNR=6.0						
H10N1	**ASCENSION HYDR**	**51.52**	**112**	T	T	17 24 58.7	
	baz=295,slow=75,SNR=8.8						
H10S3	**ASCENSION HYDR**	**51.84**	**114**	T	T	17 25 21.7	
	baz=297,slow=74,SNR=5.4						
H10S1	**ASCENSION HYDR**	**51.84**	**114**	T	T	17 25 50.7	
	baz=297,slow=74,SNR=6.3						
H10S2	**ASCENSION HYDR**	**51.85**	**114**	T	T	17 25 45.0	
	baz=297,slow=74,SNR=3.6						
YKA	**Yellowknife Ar**	**60.81**	**335**	P	**P**	**16 30 35.7**	**+0.6**
	2.0nm,0.5s,baz=105,slow=7.4,SNR=7.4						
INK	**Inuvik**	**70.17**	**338**	P	**P**	**16 31 35.9**	**+0.8**
	2.5nm,0.8s,baz=100,slow=11,SNR=3.3						
ILAR	**Eielson Array**	**75.21**	**334**	P	**P**	**16 32 04.4**	**-0.5**
	0.4nm,0.5s,baz=94,slow=4.6,SNR=7.8						

*ISCJB **02** 16:23:12.2±0.7, 51.9N±0.1×171.39W±0.07, h44km, mb3.7/8, Error ellipse: s-maj=17.2km s-min=3.6km az=164.3*
*NEIC **02** 16:23:13.2±0.0, 52.04N×171.46W, h42km, ML3.6(AEIC), After AEIC.*
*IDC **02** 16:23:14.8±8.3, 52.04N×171.49W, h53km±75km, mb3.5/8, mb1 3.7/10, mb1mx3.4/57, mbtmp3.7/10, ML3.7/2, Error ellipse: s-maj=43.0km s-min=19.5km az=171.0*
ISC 02 16:23:13.7±0.9, 52.0N±0.2×171.44W±0.06, h44km, n31, σ0§87/30, mb3.7/8, Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KOFP	**Korovin Flat P**	**1.67**	**281**	P	**Pn**	**16 23 40.6**	**+0.2**
ATKA	**Atka Island**	**1.72**	**279**	P	**Pn**	**16 23 40.8**	**-0.3**
ATKA				S	**Sn**	**16 24 02.1**	**+0.3**
NIKH	**Nikolski High**	**1.87**	**57**	P	**Pn**	**16 23 42.8**	**-0.5**
NIKH				S	**Sn**	**16 24 05.0**	**-0.5**
OKFG	**Magazine Ridge**	**2.58**	**55**	P	**Pn**	**16 23 52.9**	**-0.1**
OKFG				S	**Sn**	**16 24 25.0**	**+1.8**
GSMY	**Great Sitkin M**	**2.85**	**273**	P	**Pn**	**16 23 57.2**	**+0.4**
GSTD	**Great Sitkin T**	**2.91**	**273**	P	**Pn**	**16 23 58.0**	**+0.5**
GSTD				S	**Sn**	**16 24 32.4**	**+1.1**
GSCK	**Great Sitkin C**	**2.92**	**273**	P	**Pn**	**16 23 57.9**	**+0.3**
ETKA	**Kagalaska Isla**	**3.08**	**270**	P	**Pn**	**16 23 59.8**	**0.0**
ADAG	**Mount Adagdak**	**3.19**	**272**	P	**Pn**	**16 24 02.2**	**+0.8**
MSW	**Makushin Switc**	**3.42**	**54**	P	**Pn**	**16 24 05.2**	**+0.7**
KIRH	**Kanaga Island**	**3.50**	**271**	P	**Pn**	**16 24 06.4**	**+0.8**
UNV	**Unalaska Valle**	**3.53**	**56**	P	**Pn**	**16 24 06.5**	**+0.6**
UNV				S	**Sn**	**16 24 48.2**	**+1.9**
KIKV	**Kanaga Island**	**3.55**	**271**	P	**Pn**	**16 24 07.1**	**+0.8**
TAPA	**Tanaga Point A**	**3.95**	**270**	P	**Pn**	**16 24 12.4**	**+0.5**
TAFP	**Tanaga Falls P**	**4.05**	**271**	P	**Pn**	**16 24 13.7**	**+0.5**
ILAR	**Eielson Array**	**18.00**	**35**	P	**Pn**	**16 27 19.6**	**-0.8**
	0.2nm,0.3s,baz=225,slow=9.4,SNR=12						
PETK	**Petropavlovsk-**	**18.74**	**286**	P	**Pn**	**16 27 28.6**	**-0.7**
	0.5nm,0.3s,baz=81,slow=16,SNR=13						
DLBC	**Dease Lake**	**24.18**	**58**	P	**P**	**16 28 27.8**	**+2.1**
	3.4nm,0.6s,baz=247,slow=8.3,SNR=7.3						
INK	**Inuvik**	**24.38**	**34**	P	**P**	**16 28 26.8**	**-0.5**
	1.8nm,0.4s,baz=229,slow=6.0,SNR=13						
YKA	**Yellowknife Ar**	**31.46**	**48**	P	**P**	**16 29 30.3**	**-0.3**
	1.0nm,0.6s,baz=276,slow=7.4,SNR=3.6						
H11N2	**WAKE ISLAND Hy**	**36.37**	**216**	T	T	17 08 51.1	
	baz=20,slow=76,SNR=22						
H11N3	**WAKE ISLAND Hy**	**36.38**	**216**	T	T	17 08 51.9	
	baz=20,slow=76,SNR=19						
H11N1	**WAKE ISLAND Hy**	**36.39**	**216**	T	T	17 08 50.0	
	baz=20,slow=76,SNR=17						
H11S1	**WAKE ISLAND Hy**	**37.56**	**215**	T	T	17 10 22.8	
	baz=22,slow=76,SNR=9.0						
H11S2	**WAKE ISLAND Hy**	**37.58**	**215**	T	T	17 10 16.5	
	baz=22,slow=76,SNR=7.8						
H11S3	**WAKE ISLAND Hy**	**37.58**	**215**	T	T	17 10 18.5	
	baz=22,slow=76,SNR=7.5						
PDAR	**Pinedale Array**	**41.73**	**77**	P	**P**	**16 30 58.6**	**+0.2**
	0.6nm,0.7s,baz=318,slow=4.0,SNR=4.0						
TXAR	**Lajitas Array**	**54.03**	**87**	P	**P**	**16 32 33.4**	**-0.3**
	0.3nm,0.7s,baz=270,slow=2.5,SNR=3.9						
CMAR	**Chiang Mai Arr**	**75.45**	**281**	P	**P**	**16 34 53.7**	**+0.6**
	0.8nm,0.9s,baz=35,slow=6.5,SNR=4.1						
AKASG	**Malin Array Be**	**76.21**	**347**	P	**P**	**16 34 56.1**	**-0.8**
	0.3nm,0.3s,baz=38,slow=1.6,SNR=4.9						
ASAR	**Alice Springs**	**89.17**	**228**	P	**P**	**16 36 03.8**	**-0.7**
	0.2nm,0.6s,baz=27,slow=5.3,SNR=4.8						

*THR **02** 16:35:21.0±0.5, 26.87N×54.89E, h18km±7km, ML3.5*
*IDC **02** 16:35:24.3±1.5, 27.44N×54.75E, h0km, mb3.6/6, mb1 3.7/7, mb1mx3.4/43, mbtmp3.7/7, ML3.3/1, Error ellipse: s-maj=30.6km s-min=26.4km az=165.0*
*ISCJB **02** 16:35:25.6±0.7, 27.12N±0.07×54.72E±0.07, h17km, mb3.6/6, Error ellipse: s-maj=11.4km s-min=6.2km az=41.6*
*CSEM **02** 16:35:27.0±0.9, 27.22N×54.86E, h5km, ML3.2, Error ellipse: s-maj=28.3km s-min=8.8km az=14.0*
*TEH **02** 16:35:31.9, 27.32N×54.99E, h35km, ML3.2*
ISC 02 16:35:25.7±0.9, 27.15N±0.09×54.81E±0.04, h17km, n25, σ1§83/29, mb3.6/6, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BNDS	**Bandar-Abbas**	**1.23**	**78**	*ePg*	**Pn**	**16 35 44.5**	**-3.9**
BNDS				AML	AML	16 36 08.7	
	comp=N,1μm,0.3s						
BNDS				AML	AML	16 36 10.7	
	comp=E,721nm,0.2s						
IBND	**Bandar-abas**	**1.57**	**78**	*ePn*	**Pb**	**16 35 54.7**	**+0.5**
IBND				*eSg*	**Sg**	**16 36 16.1**	**-0.1**
IBND				*eAMB*	AMB	16 36 25.0	
	comp=Z,16μm,0.2s						
IBND	**Bandar-abas**	**1.57**	**78**	*ePn*	**Pb**	**16 35 54.7**	**+0.5**
IBND				*eSg*	**Sg**	**16 36 16.1**	**-0.1**
GHIR	**Ghir-Karzin**	**1.98**	**305**	*ePg*	**Pb**	**16 36 01.0**	**-0.4**
GHIR				*eSg*	**Sg**	**16 36 30.2**	**+0.8**
GHIR				AML	AML	16 36 31.7	
	comp=E,250nm,0.4s						
GHIR	**Ghir-Karzin**	**1.98**	**305**	*ePn*	**Pb**	**16 36 00.5**	**-0.8**
GHIR				*eSg*	**Sg**	**16 36 30.2**	**+0.8**
ISRV	**Sarvestan**	**2.69**	**326**	*ePn*	**Pb**	**16 36 12.1**	**-1.4**
ISRV				*eAMB*	AMB	16 37 10.6	
	comp=Z,2μm,0.4s						
ISRV	**Sarvestan**	**2.69**	**326**	*ePn*	**Pb**	**16 36 12.1**	**-1.4**
IPAR	**Pars**	**3.10**	**330**	*eAMB*	AMB	16 37 14.7	
	comp=Z,689nm,0.4s						
IMEH	**Mehriz**	**4.23**	**358**	*ePn*	**Pn**	**16 36 31.6**	**+1.9**
IMEH				*eAMB*	AMB	16 37 09.2	
	comp=Z,163nm,0.1s						

PDAR	**Pinedale Array**	**58.82**	**59**	P		**P**	**16 54 32.5**	**+0.9**	
	0.9nm,0.6s,baz=319,slow=3.3,SNR=9.4								
TXAR	**Lajitas Array**	**71.93**	**65**	P		**P**	**16 55 56.8**	**+0.7**	
	1.0nm,0.6s,baz=297,slow=4.9,SNR=16								
WRA	**Warramunga Arr**	**75.03**	**203**	P		**P**	**16 56 13.1**	**-1.0**	
	0.7nm,0.9s,baz=18,slow=6.1,SNR=5.3								
ASAR	**Alice Springs**	**78.71**	**203**	P		**P**	**16 56 35.1**	**+0.5**	
	0.4nm,0.4s,baz=16,slow=5.0,SNR=12								

*ISCJB **02** 16:52:02.6±0.4, 23.67N±0.03×122.89E±0.02, h33km±27km, Error ellipse: s-maj=6.0km s-min=3.3km az=166.5*
*JMA **02** 16:52:02.6±0.1, 23.84N×122.81E, h42km, M2.0*
*TAP **02** 16:52:03.5, 23.72N×122.86E, h57km±2km, ML3.1, D*
ISC 02 16:52:00.9±1.3, 23.74N±0.04×122.87E±0.02, h16km±10km, n36, σ0.98/67, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
JYNG	**Yonagunijimaku**	**0.71**	**6**	P		**Pg**		**16 52 14.9**	**0.0**
JYNG				S		**Sg**		**16 52 23.4**	**-0.9**
YOJ	**Yonaguni jima**	**0.73**	**10**	P		**Pb**		**16 52 15.5**	**+0.2**
YOJ				S		**Sg**		**16 52 23.7**	**-1.2**
HATJ	**Hateruma jima**	**0.91**	**69**	P		**Pb**		**16 52 19.4**	**+1.0**
HATJ				eS		**Sb**		**16 52 31.5**	**+1.1**
IRIF	**Iriomote-Funau**	**0.99**	**53**	P		**Pb**		**16 52 20.1**	**+0.4**
IRIF				S		**Sg**		**16 52 32.8**	**-0.2**
JKRS	**Kuro-shima**	**1.16**	**64**	P		**Pb**		**16 52 23.0**	**+0.5**
JKRS				S		**Sb**		**16 52 37.8**	**+0.5**
ENA	**Nanau**	**1.24**	**304**	*e*P		**Pn**		**16 52 23.9**	**+0.3**
	baz=304								
ENA				*e*S		**Sb**		**16 52 39.6**	**-0.1**
	baz=304								
TWC	**Suao**	**1.27**	**313**	*e*P		**Pg**		**16 52 25.4**	**0.0**
	baz=305								
TWC				*e*S		**Sb**		**16 52 40.7**	**0.0**
	baz=305								
ESL	**Shilin**	**1.32**	**274**	*e*P		**Pb**		**16 52 25.9**	**+0.6**
	baz=266								
ESL				*e*S		**Sb**		**16 52 41.2**	**-0.8**
	baz=266								
JIJ	**Ishigaki jima**	**1.32**	**62**	P		**Pn**		**16 52 24.7**	**0.0**
JIJ				*e*S		**Sb**		**16 52 42.5**	**+0.4**
EHY	**Hungye**	**1.44**	**261**	P		**Pn**		**16 52 26.6**	**+0.2**
	baz=261								
EHY				S		**Sn**		**16 52 43.6**	**-1.4**
	baz=261								
TWE	**Neicheng**	**1.47**	**312**	*e*P		**Pg**		**16 52 29.8**	**+0.6**
	baz=304								
TWE				*e*S		**Sg**		**16 52 47.7**	**-0.7**
	baz=304								
ENTT	**Nioudou**	**1.49**	**307**	*e*P		**Pb**		**16 52 28.4**	**+0.1**
	baz=298								
ENTT				*e*S		**Sb**		**16 52 47.5**	**+0.5**
	baz=298								
TWF1	**Yuli**	**1.49**	**255**	P		**Pn**		**16 52 27.3**	**+0.2**
	baz=250								
TWF1				S		**Sn**		**16 52 44.9**	**-1.4**
	baz=250								
CHKT	**Chengkung**	**1.52**	**246**	*e*P		**Pn**		**16 52 27.2**	**-0.2**
	baz=239								
CHKT				*e*S		**Sn**		**16 52 44.8**	**-2.2**
	baz=239								
WHF	**Hehuan Shan**	**1.52**	**286**	*e*P		**Pn**		**16 52 28.1**	**+0.2**
	baz=286								
WHF				*e*S		**Sn**		**16 52 46.6**	**-1.0**
	baz=286								
NNS	**Nan Shan**	**1.54**	**297**	*e*P		**Pg**		**16 52 30.4**	**-0.1**
	baz=291								
NNS				*e*S		**Sb**		**16 52 48.3**	**-0.1**
	baz=291								
JISG	**Ishigakijimahi**	**1.56**	**57**	P		**Pn**		**16 52 27.2**	**-0.9**
TWT	**Tachien**	**1.63**	**289**	*e*P		**Pg**		**16 52 32.8**	**+0.5**
	baz=288								
TWT				*e*S		**Sn**		**16 52 48.9**	**-1.1**
	baz=288								
NSK	**Sanguang**	**1.67**	**304**	*e*P		**Pb**		**16 52 31.6**	**+0.3**
	baz=294								
NSK				*e*S		**Sn**		**16 52 51.3**	**+0.6**
	baz=294								
YUS	**Yu-Shan**	**1.77**	**262**	*e*P		**Pn**		**16 52 32.1**	**+0.7**
	baz=262								
YUS				*e*S		**Sn**		**16 52 52.6**	**-1.3**
	baz=262								
ELDTW	**Lidau**	**1.79**	**253**	P		**Pn**		**16 52 31.3**	**+0.1**
	baz=253								
ELDTW				S		**Sn**		**16 52 51.5**	**-2.2**
	baz=253								
SMLT	**Sun Moon Lake**	**1.81**	**275**	*e*P		**Pb**		**16 52 34.0**	**+0.3**
	baz=275								
SMLT				*e*S		**Sn**		**16 52 54.6**	**+0.3**
	baz=275								
TYC	**Yuchr**	**1.85**	**276**	*e*P		**Pb**		**16 52 35.2**	**+0.8**
	baz=269								
TWG	**Pinlang**	**1.89**	**241**	*e*P		**Pn**		**16 52 33.8**	**+1.2**
	baz=236								
TWG				*e*S		**Sn**		**16 52 54.9**	**-1.2**
	baz=236								
JTJ	**Tarama**	**1.90**	**61**	S		**Sn**		**16 52 55.5**	**-0.8**
ALS	**Alishan**	**1.91**	**264**	*e*P		**Pn**		**16 52 34.0**	**+0.9**
	baz=264								
ALS				*e*S		**Sn**		**16 52 57.9**	**+1.0**
	baz=264								
WNT	**Mingjian**	**2.01**	**274**	*e*P		**Pb**		**16 52 36.8**	**-0.2**
	baz=275								
CHN5	**Tsauling**	**2.01**	**266**	*e*P		**Pn**		**16 52 35.6**	**+1.3**
	baz=272								
CHN5				*e*S		**Sb**		**16 53 02.3**	**+0.1**
	baz=272								
STYT	**Tauyuan**	**2.02**	**254**	*e*P		**Pn**		**16 52 35.6**	**+1.1**
	baz=249								
STYT				*e*S		**Sn**		**16 52 59.1**	**-0.4**
	baz=249								
LAY	**Lan-yu**	**2.08**	**216**	*e*P		**Pn**		**16 52 36.4**	**+1.2**
	baz=223								
LAY				*e*S		**Sn**		**16 52 58.4**	**-2.5**
	baz=223								
ECL	**Taimali**	**2.10**	**238**	*e*P		**Pn**		**16 52 35.5**	**+0.1**
	baz=247								
ECL				*e*S		**Sn**		**16 52 59.9**	**-1.3**
	baz=247								
WGK	**Gukeng**	**2.12**	**269**	*e*S		**Sn**		**16 53 02.4**	**+0.7**
	baz=269								
CHN4	**Tsaushan**	**2.12**	**260**	*e*P		**Pn**		**16 52 37.0**	**+1.2**
	baz=254								
CHN4				*e*S		**Sn**		**16 53 04.0**	**+2.1**
	baz=254								
CHN1	**Nanshi**	**2.22**	**256**	*e*P		**Pn**		**16 52 38.3**	**+1.2**
	baz=251								
CHN1				*e*S		**Sn**		**16 53 04.7**	**+0.4**
	baz=251								
TWK	**Hsinying**	**2.23**	**258**	*e*P		**Pn**		**16 52 38.9**	**+1.5**
	baz=251								
TWK				*e*S		**Sn**		**16 53 04.4**	**-0.4**
	baz=251								
EAST	**Anshuo**	**2.30**	**234**	*e*P		**Pn**		**16 52 39.0**	**+0.8**
	baz=241								
EAST				*e*S		**Sn**		**16 53 04.5**	**-1.8**
	baz=241								

MEX 02 16:53:34.5±0.5, 13.58N×91.27W, h23km±33km, MD4.1, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
CCIG	**Comitan**	**2.81**	**343**	*i*P			Pn	16 54 16.5	-1.7
CCIG				*i*S			Sn	16 54 47.6	-3.8
TGIG		**3.64**	**331**	*i*P			Pn	16 54 28.0	-1.6
TGIG				*i*S			Sn	16 55 08.9	-3.0

GUC 02 17:02:12.0±0.4, 17.65S×71.65W, h76km±16km, ML3.6, 5C-1D, Near coast of Peru

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
ARCH	**Arica**	**1.53**	**123**	*i*S			Sn	17 02 57.7	+0.8
PB12	**IPOC Station P**	**1.58**	**128**	⇑*i*P			Pn	17 02 39.1	+0.8
PB12				*i*S			Sn	17 02 59.4	+1.2
PB12				IAML				17 03 11.8	
	comp=N,880nm,0.2s								
PSGC	**Pisagua**	**2.42**	**144**	⇑*i*P			Pn	17 02 50.3	+0.8
PSGC				*i*S			Sn	17 03 19.9	+1.6
MNMC	**Minye Minye**	**2.44**	**127**	⇑*i*P			Pn	17 02 51.4	+1.4
MNMC				*i*S			Sn	17 03 20.8	+1.7
PB11	**IPOC Station P**	**2.82**	**138**	⇑*i*P			Pn	17 02 56.2	+1.1
PB11				*i*S			Sn	17 03 30.0	+1.9
PB11				IAML				17 03 48.3	
	comp=N,309nm,0.7s								
HMBC	**Humberstone**	**3.10**	**148**	⇓*i*P			Pn	17 03 00.0	+1.2
PB08	**IPOC Station P**	**3.42**	**137**	⇑*i*P			Pn	17 03 05.2	+1.8
PB08				*i*S			Sn	17 03 45.4	+2.3
PB08				IAML				17 04 12.3	
	comp=E,53nm,0.5s								
LPAZ	**La Paz**	**3.63**	**69**	*i*P			Pn	17 03 08.3	+1.9
PB09	**IPOC Station P**	**4.71**	**152**	*i*P			Pn	17 03 22.7	+2.0

IDC 02 17:06:22.7±3.5, 9.55N×123.76E, h0km, mb4.1/3, mb1 4.3/3, mb1mx3.4/56, mbtmp4.1/3, Error ellipse: s-maj=217.0km s-min=25.1km az=56.0, Negros

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**31.11**	**160**	P		P		17 12 42.9	-0.2
	1.4nm,0.3s,baz=341,slow=9.2,SNR=23								
ASAR	**Alice Springs**	**34.47**	**163**	P		P		17 13 12.2	-0.4
	1.1nm,0.7s,baz=340,slow=7.3,SNR=50								
STKA	**Stephens Creek**	**44.59**	**158**	P		P		17 14 37.3	+0.5
	3.0nm,0.9s,baz=316,slow=9.8,SNR=3.7								
GEYT	**Alibeck**	**65.00**	**307**	P		P		17 17 04.9	0.0
	36nm,0.3s,baz=90,slow=7.6,SNR=7.0								

*MOS **02** 17:14:48.8±1.1, 40.59N×52.63E, h41km, mb4.7/31, Error ellipse: s-maj=5.4km s-min=4.8km az=117.8*
*ISCJB **02** 17:14:49.5±0.4, 40.59N±0.03×52.62E±0.02, h50km±4km, mb4.7/93, MS4.0/5, Error ellipse: s-maj=5.3km s-min=2.8km az=180.0*
*IDC **02** 17:14:49.5±1.3, 40.39N×52.68E, h44km±15km, mb3.9/23, mb1 4.1/36, mb1mx4.0/56, mbtmp4.2/36, ML4.0/10, MS3.6/3, Ms1 3.6/3, ms1mx2.8/56, Error ellipse: s-maj=14.7km s-min=8.3km az=8.0*
*AZER **02** 17:14:49.9±14.0, 40.15N×52.57E, h54km, Error ellipse: s-maj=8.8km s-min=6.0km az=36.0*
*BJI **02** 17:14:50.7, 40.55N×52.57E, h62km, mb4.6/34, mB4.8/24, Ms4.2/9, Ms7 4.2/5*
*NEIC **02** 17:14:51.0±0.5, 40.54N×52.56E, h50km±5km, mb4.7/62, Error ellipse: s-maj=5.8km s-min=3.3km az=173.0*
NEIC Felt at Turkmenbasy.
*CSEM **02** 17:14:50.3±0.2, 40.59N×52.65E, h45km±1km, mb4.7/64, Error ellipse: s-maj=6.4km s-min=2.9km az=170.0*
*NNC **02** 17:14:54.6±2.7, 41.21N×53.30E, h0km, mb4.6, Error ellipse: s-maj=23.7km s-min=22.9km az=134.0*
ISC 02 17:14:49.9±0.5, 40.52N±0.04×52.69E±0.03, h37km±1km, n420, σ2.01/502, mb4.6/93, MS4.0/5, 58C-42D, Turkmenistan

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
GALA	**Gala**	**1.93**	**268**	⇓P			Pn	**17 15 20.8**	**+0.7**
GALA				⇑S			Sn	**17 15 42.5**	**-0.6**
GALA	**Gala**	**1.93**	**268**	P			Pn	**17 15 20.8**	**+0.7**
GALA				S			Sn	**17 15 42.5**	**-0.6**
NDR	**Nardaran**	**2.06**	**273**	⇑P			Pn	**17 15 22.7**	**+0.9**
	SNR=5.0								
NDR				⇑S			Sn	**17 15 50.4**	**+4.2**
NDR	**Nardaran**	**2.06**	**273**	P			Pn	**17 15 22.7**	**+0.9**
	SNR=5.0								
GOBA	**Gobu**	**2.26**	**268**	⇓P			Pn	**17 15 25.4**	**+0.8**
	SNR=5.2								
GOBA				⇑S			Sn	**17 15 51.0**	**-0.1**
GOBA	**Gobu**	**2.26**	**268**	P			Pn	**17 15 25.4**	**+0.8**
	SNR=5.2								
GOBA				S			Sn	**17 15 51.0**	**-0.1**
GBS	**Qobustan**	**2.85**	**272**	⇑P			Pn	**17 15 34.5**	**+1.6**
	SNR=9.6								
GBS				⇓S			Sn	**17 16 09.1**	**+3.2**
GBS	**Qobustan**	**2.85**	**272**	P			Pn	**17 15 34.5**	**+1.6**
	SNR=9.6								
ATGJ	**Altiaghaj**	**2.87**	**278**	⇑P			Pn	**17 15 33.6**	**+0.5**
	SNR=7.8								
ATGJ				⇓S			Sn	**17 16 11.3**	**+4.9**
ATGJ	**Altiaghaj**	**2.87**	**278**	P			Pn	**17 15 33.6**	**+0.5**
	SNR=7.8								
ALIB	**Äli-Bayra**	**2.87**	**260**	⇓P			Pn	**17 15 34.8**	**+1.8**
	SNR=6.0								
ALIB	**Äli-Bayra**	**2.87**	**260**	P			Pn	**17 15 34.8**	**+1.8**
	SNR=6.0								
SIZA	**Siyzn**	**2.93**	**282**	P			Pn	**17 15 36.9**	**+3.0**
	SNR=3.3								
SIZA				⇓S			Sn	**17 16 12.8**	**+5.0**
PQL	**Pirkuli**	**3.12**	**276**	P			Pn	**17 15 38.4**	**+1.7**
	SNR=14								
PQL				⇓S			Sn	**17 16 16.2**	**+3.4**
PQL	**Pirkuli**	**3.12**	**276**	P			Pn	**17 15 38.4**	**+1.7**
	SNR=14								
QUBA	**Quba, Azerbaij**	**3.28**	**286**	⇑P			Pn	**17 15 41.0**	**+2.3**
	SNR=11								
QUBA				⇑S			Sn	**17 16 19.9**	**+3.4**
QUBA	**Quba, Azerbaij**	**3.28**	**286**	P			Pn	**17 15 41.0**	**+2.3**
	SNR=11								
SAAT	**Saatly**	**3.33**	**260**	⇑P			Pn	**17 15 41.3**	**+2.0**
SAAT				⇓S			Sn	**17 16 18.5**	**+0.9**
SAAT	**Saatly**	**3.33**	**260**	P			Pn	**17 15 41.3**	**+2.0**
SAAT				S			Sn	**17 16 18.5**	**+0.9**
IML	**Ismayilli**	**3.44**	**276**	⇑P			Pn	**17 15 41.9**	**+1.0**
	SNR=5.7								
IML				⇑S			Sn	**17 16 20.7**	**+0.3**
IML	**Ismayilli**	**3.44**	**276**	P			Pn	**17 15 41.9**	**+1.0**
	SNR=5.7								
IML				S			Sn	**17 16 20.7**	**+0.3**
KDMR	**Kurdemir**	**3.44**	**269**	⇓P			Pn	**17 15 41.3**	**+0.5**
KDMR				⇑S			Sn	**17 16 20.8**	**+0.5**
KDMR	**Kurdemir**	**3.44**	**269**	P			Pn	**17 15 41.3**	**+0.5**
KDMR				S			Sn	**17 16 20.8**	**+0.5**
QSAR	**Qusar**	**3.49**	**288**	⇑P			Pn	**17 15 43.9**	**+2.3**
	SNR=8.4								
QSAR				⇓S			Sn	**17 16 23.3**	**+1.6**
QSAR	**Qusar**	**3.49**	**288**	P			Pn	**17 15 43.9**	**+2.3**
	SNR=8.4								
QSAR				S			Sn	**17 16 23.3**	**+1.6**
XNQ	**Khinaliq**	**3.51**	**282**	⇓P			Pn	**17 15 43.7**	**+1.7**
	SNR=17								
XNQ				⇑S			Sn	**17 16 23.7**	**+1.3**
XNQ	**Khinaliq**	**3.51**	**282**	P			Pn	**17 15 43.7**	**+1.7**
	SNR=17								
XNQ				S			Sn	**17 16 23.7**	**+1.3**
LKRN	**Lenkeran, Azer**	**3.52**	**240**	⇑P			Pn	**17 15 40.5**	**-1.4**
	SNR=71								
LKRN				⇑S			Sn	**17 16 17.1**	**-5.1**
LKRN	**Lenkeran, Azer**	**3.52**	**240**	P			Pn	**17 15 40.5**	**-1.4**
LKRN	**Lenkeran, Azer**	**3.52**	**240**	P			Pn	**17 15 40.5**	**-1.4**
	SNR=71								
GLBA	**Clilabad**	**3.54**	**250**	⇑P			Pn	**17 15 41.4**	**-0.8**
	SNR=38								
GLBA				⇓S			Sn	**17 16 20.1**	**-2.7**
GLBA	**Clilabad**	**3.54**	**250**	P			Pn	**17 15 41.4**	**-0.8**
	SNR=38								
ASTR	**Astara**	**3.59**	**238**	⇓P			Pn	**17 15 41.3**	**-1.7**
	SNR=53								
ASTR				⇑S			Sn	**17 16 19.3**	**-4.8**
QBL	**Gabala**	**3.71**	**278**	⇓P			Pn	**17 15 45.4**	**+0.8**
	SNR=5.2								
QBL				⇑S			Sn	**17 16 27.0**	**-0.1**
QBL	**Gabala**	**3.71**	**278**	P			Pn	**17 15 45.4**	**+0.8**
	SNR=5.2								
QBL				S			Sn	**17 16 27.0**	**-0.1**
ZRD	**Zardab**	**3.83**	**268**	⇑P			Pn	**17 15 46.8**	**+0.7**
	SNR=4.3								
ZRD				⇓S			Sn	**17 16 30.4**	**+0.5**
ZRD	**Zardab**	**3.83**	**268**	P			Pn	**17 15 46.8**	**+0.7**
	SNR=4.3								
ZRD				S			Sn	**17 16 30.4**	**+0.5**
LRK	**Lerik**	**3.84**	**242**	P			Pn	**17 15 44.8**	**-1.8**
	SNR=94								
LRK				⇑S			Sn	**17 16 25.3**	**-5.3**
BRDA	**Brd**	**4.21**	**268**	⇓P			Pn	**17 15 52.3**	**+0.8**
	SNR=3.7								
BRDA				⇓S			Sn	**17 16 40.1**	**+0.7**
BRDA	**Brd**	**4.21**	**268**	P			Pn	**17 15 52.3**	**+0.8**
	SNR=3.7								
BRDA				S			Sn	**17 16 40.1**	**+0.7**
SEKA	**Sheki**	**4.22**	**281**	P			Pn	**17 15 52.6**	**+0.9**
	SNR=34								
SEKA				⇑S			Sn	**17 16 40.7**	**+1.1**
SEKA	**Sheki**	**4.22**	**281**	P			Pn	**17 15 52.5**	**+0.9**
SEKA	**Sheki**	**4.22**	**281**	P			Pn	**17 15 52.5**	**+0.9**
SEKA				S			Sn	**17 16 40.7**	**+1.1**
MNGR	**Mingechevir, A**	**4.27**	**275**	⇑P			Pn	**17 15 53.8**	**+1.5**
	SNR=4.6								
MNGR				⇑S			Sn	**17 16 40.6**	**-0.1**
MNGR	**Mingechevir, A**	**4.27**	**275**	P			Pn	**17 15 53.7**	**+1.5**
MNGR	**Mingechevir, A**	**4.27**	**275**	P			Pn	**17 15 53.7**	**+1.5**
MNGR				S			Sn	**17 16 40.6**	**-0.1**
ZKTA	**Zakatala**	**4.72**	**286**	⇑P			Pn	**17 15 59.9**	**+1.5**
	SNR=8.3								
ZKTA				⇑S			Sn	**17 16 53.7**	**+1.8**
GANJ	**Ganja**	**4.85**	**274**	⇑P			Pn	**17 16 00.3**	**+0.1**
	SNR=9.2								
GANJ	**Ganja**	**4.85**	**274**	P			Pn	**17 16 00.7**	**+0.5**
GANJ	**Ganja**	**4.85**	**274**	P			Pn	**17 16 00.3**	**+0.1**
	SNR=9.2								
GEYT	**Alibeck**	**4.95**	**120**	P			Pn	**17 16 02.0**	**+0.4**
	7.3nm,0.3s,baz=301,slow=16,SNR=36								
GEYT				S			Sn	**17 16 53.8**	**-3.8**
	10nm,0.3s,baz=277,slow=18,SNR=5.3								
GDB	**GEDABAY**	**5.28**	**274**	⇑P			Pn	**17 16 06.2**	**-0.1**
	SNR=10.0								
GDB	**GEDABAY**	**5.28**	**274**	P			Pn	**17 16 06.2**	**-0.1**
	SNR=10.0								
QZX	**Qazax, Azerbai**	**5.58**	**278**	P			Pn	**17 16 09.9**	**-0.3**
	SNR=14								
QZX				⇑S			Sn	**17 17 11.3**	**-1.8**
QZX	**Qazax, Azerbai**	**5.58**	**278**	P			Pn	**17 16 09.9**	**-0.3**
	SNR=14								
QZX				S			Sn	**17 17 11.3**	**-1.8**
NAX	**Nakhchivan**	**5.70**	**259**	⇓P			Pn	**17 16 12.7**	**+0.7**
	SNR=4.3								
NAX				⇑S			Sn	**17 17 14.6**	**-1.4**
NAX	**Nakhchivan**	**5.70**	**259**	P			Pn	**17 16 12.6**	**+0.7**
NAX	**Nakhchivan**	**5.70**	**259**	P			Pn	**17 16 12.6**	**+0.7**
NAX				S			Sn	**17 17 14.6**	**-1.4**
GROC	**Groznyy**	**5.80**	**300**	P			Pn	**17 16 16.1**	**+2.8**
GROC				*e*				17 17 22.0	
GROC				pmax			pmax		
	comp=Z,17nm,0.3s								
GROC				smax			smax		
	comp=E,40nm,0.5s								
GROC				smax			smax		
	comp=N,63nm,0.5s								
GROC				smax			smax		
	comp=N,63nm,0.6s								
GNI	**Garni**	**6.08**	**269**	P			Pn	**17 16 18.0**	**+0.7**
	comp=N,2.3nm,0.3s,baz=83,slow=1.0,SNR=7.2								
GNI				S			Sn	**17 17 19.7**	**-6.0**
	comp=N,4.1nm,0.3s,baz=334,slow=8.6,SNR=4.8								
ZEI	**Tsey**	**6.96**	**292**	*e*P			Pn	**17 16 32.6**	**+3.2**
ZEI				pmax			pmax		
	comp=Z,19nm,0.4s								
NEY	**Neytrino**	**7.92**	**293**	*ce*P			Pn	**17 16 44.0**	**+1.5**
NEY	**Neytrino**	**7.92**	**293**	*e*P			Pn	**17 16 44.0**	**+1.5**
KBZ	**Khabaz**	**7.95**	**297**	P			Pn	**17 16 42.5**	**-0.3**
	comp=Z,0.8nm,0.3s,baz=140,slow=3.7,SNR=11								
KBZ				S			Sn	**17 18 07.9**	**-3.5**
	comp=Z,2.3nm,0.3s,baz=111,slow=13,SNR=3.3								
KVAR	**Kislovodsk Arr**	**8.17**	**298**	P			Pn	**17 16 46.0**	**+0.1**
	baz=104,slow=12,SNR=8.5								
KVAR				S			Sn	**17 18 10.8**	**-6.1**
	baz=354,slow=19,SNR=3.9								
KIV	**Kislovodsk**	**8.17**	**298**	*c*iP			Pn	**17 16 47.2**	**+1.3**
KIV				*i*S			Sn	**17 18 15.8**	**-1.2**
KIV				pmax			pmax		
	comp=Z,9.0nm,0.7s								
KIV				MLR			MLR		
	comp=Z,65nm,19.0s								
KIV	**Kislovodsk**	**8.17**	**298**	*e*Pn			Pn	**17 16 47.0**	**+1.1**
KIV				*i*S			Sn	**17 18 15.8**	**-1.2**
	comp=Z,65nm,19.0s								
KIV	**Kislovodsk**	**8.17**	**298**	*e*Pn			Pn	**17 16 47.0**	**+1.1**
GOF	**Gofitskoye**	**8.41**	**306**	⇑*e*P			Pn	**17 16 51.7**	**+2.6**
GOF				*e*S			Sn	**17 18 18.9**	**-3.9**
GOF				pmax			pmax		
	comp=Z,13nm,0.6s								
GOF				smax			smax		
	comp=E,46nm,0.6s								
GOF				smax			smax		
	comp=N,66nm,0.6s								
AB31	**Akbulak array**	**10.13**	**28**	⇑P			Pn	**17 17 12.5**	**-0.2**
	comp=N,5.4nm,0.5s								
AB31				⇑S			Sn	**17 18 57.6**	**-7.4**
	comp=N,28nm,0.5s								
AB31	**Akbulak array**	**10.13**	**28**	P			Pn	**17 17 12.4**	**-0.2**
AB31				S			Sn	**17 18 57.5**	**-7.4**
AB31				pmax			pmax		
	comp=Z,5.0nm,0.5s								
AB31				smax			smax		
	comp=N,28nm,0.5s								
AB31	**Akbulak array**	**10.13**	**28**	P			Pn	**17 17 12.4**	**-0.2**
	comp=N,5.0nm,0.5s								
ABKAR	**Akbulak array**	**10.13**	**28**	*e*Pn			Pn	**17 17 12.5**	**-0.2**
ABKAR				*e*Sn			Sn	**17 18 57.7**	**-7.2**
ABKAR	**Akbulak array**	**10.13**	**28**	*e*Pn			Pn	**17 17 12.5**	**-0.2**
ABKAR				*e*Sn			Sn	**17 18 57.7**	**-7.2**
AKTK	**Aktyubinsk**	**10.60**	**19**	P			Pn	**17 17 18.2**	**-0.8**
	comp=N,8.0nm,0.4s								
AKTO	**Aktyubinsk**	**10.60**	**19**	P			Pn	**17 17 19.2**	**+0.3**
	comp=N,5.0nm,0.3s,baz=207,slow=8.4,SNR=67								
AKTO				S			Sn	**17 19 12.8**	**-3.4**
	comp=N,18nm,0.3s,baz=95,slow=16,SNR=14								
AKTO	**Aktyubinsk**	**10.60**	**19**	⇑P			Pn	**17 17 18.2**	**-0.7**
	comp=N,8.3nm,0.3s								
AKTO				⇓S			Sn	**17 19 09.4**	**-6.8**
	comp=N,110nm,0.9s								
AKTO	**Aktyubinsk**	**10.60**	**19**	P			Pn	**17 17 18.2**	**-0.7**
AKTO				S			Sn	**17 19 09.4**	**-6.8**
AKTO				pmax			pmax		
	comp=Z,8.0nm,0.4s								
AKTO				smax			smax		
	comp=N,91nm,0.8s								
AKTO	**Aktyubinsk**	**10.60**	**19**	P			Pn	**17 17 18.2**	**-0.7**
	comp=N,8.3nm,0.3s								
AKTO				S			Sn	**17 19 12.8**

ARU Arti 16.38 12*c* *i*P Pn 17 18 35.1 -1.6
ARU S **Sn** 17 21 35.0 -2.2
ARU pmax pmax
comp=Z,7.0nm,0.5s
ARU Arti 16.38 12 *e*Pn **Pn** 17 18 35.4 -1.3
comp=Z,30nm,0.7s
ARU Arti 16.38 12 *e*Pn **Pn** 17 18 35.4 -1.3
comp=Z,30nm,0.7s
ARU S Sn 17 21 25.9 -11
AAK Ala-Archa 16.45 75 P **Pn** 17 18 38.4 +0.5
comp=Z,0.6nm,0.3s,baz=237,slow=7.1,SNR=12
AAK S **Sn** 17 21 35.3 -4.1
comp=Z,0.3nm,0.3s,baz=195,slow=12,SNR=3.0
AAK Ala-Archa 16.45 75 ⇑P **Pn** 17 18 35.8 -2.1
comp=Z,4.8nm,0.6s
AAK ⇓S **Sn** 17 21 39.3 -0.1
comp=Z,12nm,1.1s
AAK Ala-Archa 16.45 75 P **Pn** 17 18 37.9 0.0
AAK pmax pmax
comp=Z,9.0nm,1.1s
AAK Ala-Archa 16.45 75 P **Pn** 17 18 37.9 0.0
comp=Z,9.0nm,1.1s
AAK Ala-Archa 16.45 75 *e*Pn **P** 17 18 40.5 +0.2
comp=Z,26nm,1.6s
AAK S **Sn** 17 21 35.3 -4.1
AAK Ala-Archa 16.45 75 *e*Pn **P** 17 18 40.5 +0.2
comp=Z,26nm,1.6s
AAK S **Sn** 17 21 35.3 -4.1
FRU Bishkek 16.54 75 *e*P **P** 17 18 41.0 -0.2
FRU *e* 17 21 44.5
FRU pmax pmax
comp=Z,60nm,1.9s
FRU Bishkek 16.54 75 *e*P **P** 17 18 41.0 -0.2
comp=Z,60nm,1.9s
SVE Sverdlovsk 17.12 15 *e*P **Pn** 17 18 45.5 -0.5
SVE *e*S **Sn** 17 21 45.6 -10
SVE pmax pmax
comp=Z,25nm,1.0s
SVE Sverdlovsk 17.12 15 *e*P **Pn** 17 18 45.5 -0.5
comp=Z,25nm,1.0s
TKM2 Tokmak 2 17.26 74 ⇓P **Pn** 17 18 48.7 +0.6
comp=Z,19nm,1.1s
TKM2 ⇑S **Sn** 17 21 57.2 -1.9
comp=Z,6.2nm,1.2s
TKM2 Tokmak 2 17.26 74 P **Pn** 17 18 48.7 +0.6
comp=Z,19nm,1.1s
BRVK Borovoye 17.33 38 ⇓P **Pn** 17 18 48.0 -0.6
comp=Z,13nm,0.7s
BRVK ⇓S Sn 17 21 49.0 -11
comp=Z,14nm,0.6s
BRVK Borovoye 17.33 38*d* *i*P **Pn** 17 18 48.2 -0.5
BRVK pmax pmax
comp=Z,22nm,0.6s
BRVK Borovoye 17.33 38 *i* P **Pn** 17 18 48.2 -0.5
comp=Z,22nm,0.6s
BRVK Borovoye 17.33 38 *e*Pn **Pn** 17 18 49.0 +0.3
comp=Z,25nm,1.0s
BRVK Borovoye 17.33 38 *e*Pn **Pn** 17 18 49.0 +0.3
comp=Z,25nm,1.0s
BVA0 Borovoye Array 17.36 38 ⇓P **Pn** 17 18 49.0 0.0
comp=Z,11nm,0.5s,baz=225,slow=12,SNR=123
BVA0 ⇓S Sn 17 21 50.1 -11
comp=Z,14nm,0.6s,baz=245,slow=24,SNR=3.8
BVA0 Borovoye Array 17.36 38 *i* P **P** 17 18 51.0 +0.9
BVA0 *i* S Sn 17 21 49.4 -12
BVA0 pmax pmax
comp=Z,11nm,0.5s
BVA0 smax smax
comp=N,14nm,0.6s
BVA0 Borovoye Array 17.36 38 P **Pn** 17 18 49.0 0.0
comp=N,11nm,0.5s,SNR=123
BVAR Borovoye Array 17.36 38 P **Pn** 17 18 49.1 +0.1
comp=N,4.7nm,0.3s,baz=233,slow=11,SNR=66
BVAR S **Sn** 17 21 51.9 -9.1
comp=N,3.6nm,0.3s,baz=223,slow=26,SNR=11
KSH Kashi 17.86 86 *e*P **Pn** 17 18 54.0 -1.5
KSH pP pP 17 19 05.0 -0.3
KSH PP **sP** **17 19 10.1 +0.1**
KSH S **Sn** **17 22 04.2 -9.3**
KSH sS S 17 22 21.3 +2.1
KSH SS **SnSn** **17 22 28.5 +1.5**
KSH pmax pmax
comp=N,10.0nm,0.7s
KSH pmax pmax
comp=N,61nm,5.2s
WSAR Wadi Sarin 17.95 162 P **Pn** 17 18 53.6 -2.9
comp=N,0.9nm,0.3s,baz=2.4,slow=11,SNR=17
EIL Elat 18.07 239 P **Pn** 17 18 57.4 -0.6
comp=N,0.2nm,0.3s,baz=22,slow=12,SNR=3.8
OBN Obninsk 18.11 329 P **Pn** 17 18 57.0 -1.1
comp=N,4.1nm,0.3s,baz=336,slow=23,SNR=4.2
OBN S **Sn** 17 22 11.2 -7.7
comp=N,1.4nm,0.3s,baz=221,slow=19,SNR=4.1
OBN LR LR 17 27 27.9
comp=N,79nm,20.1s,baz=53,slow=42
OBN Obninsk 18.11 329⇑ *e*P **Pn** 17 18 57.3 -0.9
OBN *i* S **Sn** 17 22 16.9 -2.0
OBN pmax pmax
comp=Z,13nm,0.8s
OBN MLR MLR
comp=Z,76nm,20.0s
OBN Obninsk 18.11 329 *e*P **Pn** 17 18 57.3 -0.9
comp=Z,13nm,0.8s
OBN S **Sn** 17 22 11.2 -7.7
OBN Obninsk 18.11 329 *e*P **Pn** 17 18 57.2 -0.9
comp=Z,30nm,1.2s
OBN S **Sn** 17 22 11.2 -7.7
MOS Moscow 18.18 332 *e*P **Pn** 17 18 57.8 -1.3
MOS *e*S **Sn** 17 22 15.3 -5.5
MOS pmax pmax
comp=Z,47nm,0.8s
MOS Moscow 18.18 332 *e*P **Pn** 17 18 57.8 -1.3
comp=Z,47nm,0.8s
CFR Carcaliu 18.57 293 ⇓*i*P **P** 17 19 00.5 -2.9
CFR Carcaliu 18.57 293 ⇓*i*P **P** 17 19 00.5 -2.9
AKAS Kas 18.58 264 *e*P **Pn** 17 19 04.1 -0.2
comp=Z,34nm,1.8s
AKAS Kas 18.58 264 *e*P **Pn** 17 19 04.1 -0.2
comp=Z,34nm,1.8s
SORM Soroca 18.95 302 ⇓*i*P **P** 17 19 06.1 -1.5
SORM Soroca 18.95 302 ⇓*i*P **P** 17 19 06.1 -1.5
AKASG Malin Array Be 19.24 310 P **P** 17 19 09.9 -0.9
comp=Z,5.2nm,0.3s,baz=111,slow=12,SNR=13
AKASG S **Sn** 17 22 40.1 -6.2
comp=Z,0.7nm,0.3s,baz=112,slow=22,SNR=4.0
AKASG Malin Array Be 19.24 310*ce*P **P** 17 19 09.8 -0.9
AKASG pmax pmax
comp=Z,16nm,0.8s
AKBB Malin Array Si 19.24 310 *e*P **P** 17 19 10.4 -0.3
AKBB pmax pmax
comp=Z,19nm,0.6s
AKBB Malin Array Si 19.24 310 *e*P **P** 17 19 10.4 -0.3
comp=Z,19nm,0.6s
AKBB Malin Array Si 19.24 310 *e*P **P** 17 19 10.4 -0.3
comp=Z,19nm,0.6s
KIEV Kiev 19.24 310*d* *i*P **P** 17 19 09.8 -1.0
KIEV pmax pmax
comp=Z,16nm,0.8s
KIEV Kiev 19.24 310 *e*P **P** 17 19 10.2 -0.6
comp=Z,19nm,0.6s
KIEV Kiev 19.24 310 *e*P **P** 17 19 10.2 -0.6
comp=Z,19nm,0.6s
AK11 Malin Array Si 19.26 310 *e*P **P** 17 19 10.0 -1.0
AK11 Malin Array Si 19.26 310 *e*P **P** 17 19 10.0 -1.0
PDGK Podgornoye 20.11 73 ⇑P **P** 17 19 21.4 +0.9
comp=Z,11nm,1.0s
PDGK Podgornoye 20.11 73 P **P** 17 19 21.4 +0.9
PDGK pmax pmax
comp=Z,11nm,1.0s
PDGK Podgornoye 20.11 73 P **P** 17 19 21.4 +0.9
comp=Z,11nm,1.0s
MLR Muntele Rosu 20.13 293 P **P** 17 19 21.6 +0.9
comp=Z,0.8nm,0.6s,baz=140,slow=12,SNR=5.6
MLR Muntele Rosu 20.13 293 ⇓*i*P **P** 17 19 18.9 -1.8
MLR Muntele Rosu 20.13 293 *e*P **P** 17 19 21.6 +0.9
comp=Z,9.5nm,1.1s
MLR Muntele Rosu 20.13 293 *e*P **P** 17 19 21.6 +0.9
comp=Z,9.5nm,1.1s
KURBB Kurchatov Arra 20.62 52 P Pn 17 19 27.6 -0.6
comp=Z,4.1nm,0.8s,baz=254,slow=11,SNR=28
KURBB S **S** 17 23 13.9 -0.2
comp=Z,1.7nm,0.7s,baz=263,slow=22,SNR=4.8
KURK Kurchatov 20.71 52 ⇓P **P** 17 19 27.6 +0.9
comp=Z,26nm,1.1s
KURK ⇑S **S** 17 23 11.0 -4.8
comp=Z,6.1nm,1.0s
KURK Kurchatov 20.71 52*c* *i*P Pn 17 19 28.5 -0.7
KURK *i* *PP sP 17 19 40.3 -0.6
KURK pmax pmax
comp=Z,76nm,1.0s
KURK Kurchatov 20.71 52 *e*P **P** 17 19 27.8 +1.1
comp=Z,21nm,1.0s
KURK S **S** 17 23 13.9 -1.9
KURK Kurchatov 20.71 52 *e*P **P** 17 19 27.8 +1.1
comp=Z,21nm,1.0s
KURK S **S** 17 23 13.9 -1.9
VOIR 20.76 293 ⇑*i*P **P** 17 19 27.8 +0.4
VOIR 20.76 293 ⇑*i*P **P** 17 19 27.8 +0.4
BURAR Bucovina Array 20.90 299 ⇓*i*P **P** 17 19 28.3 -0.7
BURAR Bucovina Array 20.90 299 ⇓*i*P **P** 17 19 28.3 -0.7
BUR08 Bucovina Ar. S 20.92 299 *e*P **P** 17 19 28.1 -1.0
BUR08 Bucovina Ar. S 20.92 299 *e*P **P** 17 19 28.1 -1.0
ARR Arges 21.05 293 ⇓*i*P **P** 17 19 31.9 +1.4
ARR Arges 21.05 293 ⇓*i*P **P** 17 19 31.9 +1.4
KLMR Klimovskoe 21.92 343 *e*P **P** 17 19 37.4 -2.2
KLMR *e* 17 23 34.6
KLMR pmax pmax
comp=Z,24nm,1.0s
KLMR Klimovskoe 21.92 343 *e*P **P** 17 19 37.4 -2.2
comp=Z,24nm,1.0s
MAKZ Makanchi 22.02 64 ⇑P **P** 17 19 42.4 +1.5
comp=Z,25nm,0.9s
MAKZ ⇓S **S** 17 23 44.2 +2.5
comp=Z,3.1nm,0.7s
MAKZ Makanchi 22.02 64 P **P** 17 19 42.4 +1.5
MAKZ pmax pmax
comp=Z,25nm,1.0s
MAKZ Makanchi 22.02 64 *e*P **P** 17 19 42.8 +1.9
comp=Z,24nm,1.0s
MAKZ Makanchi 22.02 64 *e*P **P** 17 19 42.8 +1.9
comp=Z,24nm,1.0s
VTS Vitosha 22.11 285 *e*P **P** 17 19 40.4 -1.6
VTS pmax pmax
comp=Z,3.0nm,0.8s
VTS Vitosha 22.11 285 *e*P **P** 17 19 40.4 -1.6
comp=Z,2.6nm,0.8s
VTS Vitosha 22.11 285 *e*P **P** 17 19 40.4 -1.6
comp=Z,2.6nm,0.8s
MK31 Makanchi Array 22.23 64 ⇓P **P** 17 19 44.3 +1.1
comp=Z,32nm,1.2s,baz=258,slow=8.7,SNR=83
MK31 ⇓S **S** 17 23 45.6 -0.1
comp=Z,5.4nm,0.9s,baz=251,slow=38,SNR=4.0
MK31 Makanchi Array 22.23 64 *i* P **P** 17 19 44.6 +1.4
MK31 pmax pmax
comp=Z,32nm,1.2s
MK31 Makanchi Array 22.23 64 *e*P **P** 17 19 45.2 +2.0
MK31 S **S** 17 23 45.6 -0.1
comp=Z,5.4nm,0.9s,baz=251,SNR=4.0
MK31 *e*Sn Sn 17 23 53.2 -5.3
MK31 Makanchi Array 22.23 64 *e*P **P** 17 19 45.2 +2.0
MK31 *e*Sn Sn 17 23 53.2 -5.3
MKAR Makanchi Array 22.23 64 *e*P **P** 17 19 45.2 +2.0
MKAR pmax pmax
comp=Z,78nm,0.9s
MKAR Makanchi Array 22.23 64 *e*P **P** 17 19 45.2 +2.0
comp=Z,78nm,0.9s
MKAR Makanchi Array 22.23 64 *e*P **P** 17 19 45.2 +2.0
comp=Z,78nm,0.9s
MK01 Makanchi Array 22.24 64 *e*P **P** 17 19 45.0 +1.7
MK01 *e*S **S** 17 23 47.0 +1.2
MK01 Makanchi Array 22.24 64 *e*P **P** 17 19 45.0 +1.7
MK01 *e*S **S** 17 23 47.0 +1.2
IDI Anoyia 22.50 266 P **P** 17 19 45.6 -0.6
comp=Z,6.1nm,0.8s,baz=69,slow=14,SNR=4.2
IDI Anoyia 22.50 266 *e*P **P** 17 19 45.6 -0.6
comp=Z,19nm,1.0s
IDI Anoyia 22.50 266 *e*P **P** 17 19 45.6 -0.6
comp=Z,19nm,1.0s
AGG Agios Georgios 23.33 276 *e*P **P** 17 19 53.5 -1.2
AGG Agios Georgios 23.33 276 *e*P **P** 17 19 53.5 -1.2
AGG Agios Georgios 23.33 276 *e*P **P** 17 19 53.5 -1.2
CRVS Cervenica-Dubn 23.59 301 *e*P **P** 17 19 57.9 +0.9
CRVS Cervenica-Dubn 23.59 301 *e*P **P** 17 19 57.9 +0.9
VSU Vasula 24.38 326⇑ *e*P **P** 17 20 03.4 -0.8
VSU pmax pmax
comp=Z,62nm,1.0s
PSZ Piszkesteto 24.50 299 *e*P **P** 17 20 04.9 -0.7
PSZ pmax pmax
comp=Z,5.0nm,0.9s
PSZ Piszkesteto 24.50 299 *e*P **P** 17 20 04.9 -0.7
comp=Z,5.0nm,0.9s
PSZ Piszkesteto 24.50 299 *e*P **P** 17 20 04.9 -0.7
comp=Z,5.0nm,0.9s
NVS Novosibirsk 24.81 44⇑ *i*P **P** 17 20 10.3 +2.1
NVS *e* 17 20 28.4
NVS pmax pmax
comp=Z,13nm,1.3s
NVS pmax pmax
comp=N,6.0nm,1.4s
NVS pmax pmax
comp=E,4.0nm,1.1s
OJC Ojcow 24.88 304 *e*P **P** 17 20 07.0 -1.9
OJC pmax pmax
comp=Z,6.0nm,0.6s
OJC Ojcow 24.88 304 *e*P **P** 17 20 07.0 -1.9
comp=Z,6.2nm,0.6s
OJC Ojcow 24.88 304 *e*P **P** 17 20 07.0 -1.9
comp=Z,6.2nm,0.6s
TMCR Tamitsa 25.19 345 *e*P **P** 17 20 12.7 +1.2
TMCR pmax pmax
comp=Z,30nm,1.0s
VYHS Vyhne 25.26 300 *e*P **P** 17 20 11.9 -0.5
VYHS Vyhne 25.26 300 *e*P **P** 17 20 11.9 -0.5
ZAA0 Zalesovo Array 25.36 47 *e*P **P** 17 20 13.7 +0.5
ZAA0 Zalesovo Array 25.36 47 *e*P **P** 17 20 13.7 +0.5
ZALV Zalesovo Beam 25.36 47 P **P** 17 20 14.1 +0.9
comp=Z,7.7nm,0.9s,baz=262,slow=10,SNR=28
ZALV Zalesovo Beam 25.36 47 P **P** 17 20 14.1 +0.9
ZALV pmax pmax
comp=Z,9.0nm,0.9s
JOF Joensuu 25.80 337 P **P** 17 20 18.0 +1.0
JOF pmax pmax
comp=Z,26nm,0.8s
WMQ Urumqi 26.04 71 P **P** 17 20 21.6 +2.0
WMQ pP sP 17 20 36.7 +2.3
WMQ sP pP 17 20 44.6 +15
WMQ pmax pmax
comp=Z,13nm,0.9s
WMQ pmax pmax
comp=Z,83nm,5.1s
MORC Moravsky Berou 26.25 302 *e*P **P** 17 20 19.2 -2.1
MORC pmax pmax
comp=Z,10.0nm,0.8s
MORC Moravsky Berou 26.25 302 *e*P **P** 17 20 19.2 -2.1
comp=Z,10nm,0.8s
MORC Moravsky Berou 26.25 302 *e*P **P** 17 20 19.2 -2.1
comp=Z,10nm,0.8s
FIA1 FINESS Array S 26.48 331 *e*P **P** 17 20 22.7 -0.5
FIA1 FINESS Array S 26.48 331 *e*P **P** 17 20 22.7 -0.5
FINES FINESS Array B 26.48 331 P **P** 17 20 23.2 0.0
comp=Z,6.0nm,0.5s,baz=140,slow=11,SNR=76
DAMY Dhamar 26.85 198 *e*P **P** 17 20 27.4 +0.1
comp=Z,19nm,1.0s
DAMY Dhamar 26.85 198 *e*P **P** 17 20 27.4 +0.1
comp=Z,19nm,1.0s
TIP Timpagrande 27.50 279 *e*P **P** 17 20 31.3 -1.5
comp=Z,3.4nm,0.9s
TIP Timpagrande 27.50 279 *e*P **P** 17 20 31.3 -1.5
comp=Z,3.4nm,0.9s
CEL Celeste 28.39 278 *e*P **P** 17 20 37.9 -2.8
comp=Z,11nm,0.9s
CEL Celeste 28.39 278 *e*P **P** 17 20 37.9 -2.8
comp=Z,11nm,0.9s
GEA0 GERESS Array S 28.68 300 *e*P **P** 17 20 41.7 -1.5
GEA0 GERESS Array S 28.68 300 *e*P **P** 17 20 41.7 -1.5
GERES GERESS Array B 28.68 300 P **P** 17 20 42.5 -0.7
comp=Z,0.1nm,0.3s,baz=85,slow=12,SNR=3.5
APA Apatity 29.10 345⇑ *i*P **P** 17 20 42.6 -4.0
APA MLR MLR
comp=Z,200nm,10.0s
FUORN Ofenpass-Fuorn 31.04 296 *e*P **P** 17 21 02.5 -1.8
comp=Z,2.5nm,0.8s
FUORN Ofenpass-Fuorn 31.04 296 *e*P **P** 17 21 02.5 -1.8
comp=Z,2.5nm,0.8s
TUE Stuetta 31.69 295 *e*P **P** 17 21 07.2 -2.7
comp=Z,2.9nm,0.8s
TUE Stuetta 31.69 295 *e*P **P** 17 21 07.2 -2.7
comp=Z,2.9nm,0.8s
KEV Kevo 32.24 344 *e*P **P** 17 21 12.4 -1.8
KEV Kevo 32.24 344 *e*P **P** 17 21 12.4 -1.8
KEV Kevo 32.24 344 *e*P **P** 17 21 12.4 -1.8
NC602 NORSAR Array S 32.25 323 *e*P **P** 17 21 12.4 -2.0
NC602 NORSAR Array S 32.25 323 *e*P **P** 17 21 12.4 -2.0
NC405 NORSAR Array S 32.30 323 *e*P **P** 17 21 13.8 -1.1
NC405 NORSAR Array S 32.30 323 *e*P **P** 17 21 13.8 -1.1
ARA0 ARCESS Array S 32.40 343 *e*P **P** 17 21 15.0 -0.7
ARA0 ARCESS Array S 32.40 343 *e*P **P** 17 21 15.0 -0.7
ARCES ARCESS Array B 32.40 343 P **P** 17 21 15.1 -0.5
comp=Z,1.1nm,0.7s,baz=138,slow=9.3,SNR=6.0
ARE0 ARCESS Array S 32.40 343 *e*P **P** 17 21 15.3 -0.4
comp=Z,11nm,1.4s
ARE0 ARCESS Array S 32.40 343 *e*P **P** 17 21 15.3 -0.4
comp=Z,11nm,1.4s
NB201 NORSAR Array S 32.47 323 *e*P **P** 17 21 16.0 -0.4
NB201 NORSAR Array S 32.47 323 *e*P **P** 17 21 16.0 -0.4
NC303 NORSAR Array S 32.50 324 *e*P **P** 17 21 16.7 +0.1
NC303 NORSAR Array S 32.50 324 *e*P **P** 17 21 16.7 +0.1
NB2 NORSAR Subarra 32.50 323 P **P** 17 21 15.7 -1.0
comp=Z,7.0nm,0.9s,SNR=1.9
NB2 NORSAR Subarra 32.50 323 P **P** 17 21 15.7 -1.0
comp=Z,7.0nm,0.9s,baz=112,slow=8.6
NOA NORSAR Array B 32.50 323 P **P** 17 21 15.8 -1.0
comp=Z,5.3nm,0.8s,baz=112,slow=8.4,SNR=14
NAO01 NORSAR Array S 32.59 323 *e*P **P** 17 21 16.6 -0.8
NAO01 NORSAR Array S 32.59 323 *e*P **P** 17 21 16.6 -0.8
NBO02 NORSAR Array S 32.67 323 *e*P **P** 17 21 16.3 -1.9
NBO02 NORSAR Array S 32.67 323 *e*P **P** 17 21 16.3 -1.9
NBO00 NORSAR Array S 32.70 323 *e*P **P** 17 21 16.3 -2.1
NBO00 NORSAR Array S 32.70 323 *e*P **P** 17 21 16.3 -2.1
NC204 NORSAR Array S 32.79 323 *e*P **P** 17 21 18.3 -0.9
NC204 NORSAR Array S 32.79 323 *e*P **P** 17 21 18.3 -0.9
KONO Kongsberg 32.83 320⇑ *e*P **P** 17 21 19.3 -0.3
VSL Villasalto 32.94 283 *e*P **P** 17 21 20.2 -0.6
comp=Z,31nm,1.4s
VSL Villasalto 32.94 283 *e*P **P** 17 21 20.2 -0.6
comp=Z,31nm,1.4s
SENIN Lac Senin/Sane 33.11 296 *e*P **P** 17 21 21.3 -1.1
comp=Z,3.0nm,0.8s
SENIN Lac Senin/Sane 33.11 296 *e*P **P** 17 21 21.3 -1.1
comp=Z,3.0nm,0.8s
BNI Bardonecchia 33.71 293 *e*P **P** 17 21 26.8 -0.8
BNI pmax pmax
comp=Z,26nm,2.0s
BNI Bardonecchia 33.71 293 *e*P **P** 17 21 26.8 -0.8
comp=Z,26nm,2.0s
BNI Bardonecchia 33.71 293 *e*P **P** 17 21 26.8 -0.8
comp=Z,26nm,2.0s
SSB Saint Sauveur 35.17 294 *e*P **P** 17 21 38.5 -1.6
SSB pmax pmax
comp=Z,4.0nm,0.8s
SSB Saint Sauveur 35.17 294 *e*P **P** 17 21 38.5 -1.6
comp=Z,4.4nm,0.8s
SSB Saint Sauveur 35.17 294 *e*P **P** 17 21 38.5 -1.6
comp=Z,4.4nm,0.8s
GTA Gaotai 35.80 76 ⇑P **P** 17 21 47.2 +1.5
GTA pP sP 17 22 02.3 +1.7
GTA sP pP 17 22 09.8 +14
GTA S **S** **17 27 20.0 -0.7**
GTA sS sS 17 27 46.2 +8.1
GTA SS **SnSn** **17 29 44.0 -0.8**
GTA pmax pmax
comp=Z,8.0nm,1.1s
GTA pmax pmax
comp=Z,43nm,5.2s
GTA LR LR
comp=Z,110nm,15.0s
GTA LR LR
comp=Z,140nm,15.7s
ZAK Zakamensk 36.20 57 *e*P **P** 17 21 50.0 +1.1
ZAK pmax pmax
comp=Z,3.0nm,1.1s
ZAK Zakamensk 36.20 57 *e*P **P** 17 21 50.0 +1.1
comp=Z,3.0nm,1.1s
TLY Talaya 36.35 55 *e*P **P** 17 21 52.9 +2.8
TLY pmax pmax
comp=Z,5.0nm,0.6s
TLY Talaya 36.35 55 *e*P **P** 17 21 52.9 +2.8
comp=Z,4.7nm,0.6s
SONM Songino Array 38.53 61 P **P** 17 22 09.0 +0.3
comp=Z,1.2nm,0.7s,baz=278,slow=9.4,SNR=11
SONA1 Songino Array 38.54 61 *e*P **P** 17 22 10.2 +1.4
SONA1 Songino Array 38.54 61 *e*P **P** 17 22 10.2 +1.4
ULN Ulaanbaatar 38.97 60*c* *i*P **P** 17 22 13.9 +1.5
ULN pmax pmax
comp=Z,11nm,0.8s
ULN Ulaanbaatar 38.97 60 *e*P **P** 17 22 14.2 +1.8
comp=Z,12nm,1.0s
ULN Ulaanbaatar 38.97 60 *e*P **P** 17 22 14.2 +1.8
comp=Z,12nm,1.0s
EKA Eskdalemuir Ar 39.13 311 P **P** 17 22 12.9 -0.6
comp=Z,3.2nm,0.4s,baz=96,slow=8.8,SNR=31
ESK Eskdalemuir 39.16 311 *e*P **P** 17 22 13.1 -0.6
ESK pmax pmax
comp=Z,32nm,1.3s
ESK Eskdalemuir 39.16 311 *e*P **P** 17 22 13.1 -0.6
comp=Z,32nm,1.3s
ESK Eskdalemuir 39.16 311 *e*P **P** 17 22 13.1 -0.6
comp=Z,32nm,1.3s
DYA Yadsworthy 40.02 304 *e*P **P** 17 22 20.0 -1.0
comp=Z,54nm,1.6s
DYA Yadsworthy 40.02 304 *e*P **P** 17 22 20.0 -1.0
comp=Z,54nm,1.6s
SPA0 Spitsbergen Ar 40.54 349 *e*P **P** 17 22 26.8 +1.8
SPA0 Spitsbergen Ar 40.54 349 *e*P **P** 17 22 26.8 +1.8
SPITS Spitsbergen Ar 40.54 349 P **P** 17 22 26.4 +1.5
comp=Z,1.8nm,0.3s,baz=135,slow=11,SNR=8.6
BOD Bodaibo 42.05 45 *e*P **P** 17 22 37.1 -0.5
BOD pmax pmax
comp=Z,6.0nm,0.8s
BOD Bodaibo 42.05 45 *e*P **P** 17 22 37.1 -0.5
comp=Z,6.0nm,0.8s
ES19 SONSECA Array 42.64 288 *e*P **P** 17 22 41.6 -1.1
ES19 SONSECA Array 42.64 288 *e*P **P** 17 22 41.6 -1.1
ESDC Sonseca Array 42.69 288 P **P** 17 22 41.8 -1.3
comp=Z,2.1nm,0.7s,baz=63,slow=8.3,SNR=14
ESLA Sonseca Array 42.69 288 *e*P **P** 17 22 40.8 -2.3
comp=Z,16nm,1.8s
ESLA Sonseca Array 42.69 288 *e*P **P** 17 22 40.8 -2.3
comp=Z,16nm,1.8s
HHC Hu-ho-hao-te 43.90 69 *e*P **P** 17 22 54.9 +2.0
HHC pP sP 17 23 08.2 +0.2
HHC PcS **PcS** **17 28 32.2 +0.7**
HHC S **S** **17 29 22.8 +1.1**
HHC SS **SS** **17 32 31.5 -7.1**
HHC pmax pmax
comp=Z,15nm,1.5s
HHC pmax pmax
comp=Z,80nm,5.1s
HHC LR LR
comp=Z,160nm,17.3s
HHC LR LR
comp=Z,220nm,16.0s
HHC LR LR
comp=Z,160nm,16.0s
KMI Kunming 44.20 95 P **P** 17 22 56.9 +1.3
KMI pmax pmax
comp=Z,12nm,0.5s
XAN Xi'an 44.57 80 P **P** 17 22 58.9 +0.7
XAN pmax pmax
comp=Z,16nm,0.8s
XAN pmax pmax
comp=Z,63nm,5.9s
CMAR Chiang Mai Arr 45.25 105 P **P** 17 23 03.2 -0.6
comp=Z,1.0nm,0.8s,baz=310,slow=9.7,SNR=6.6
CM01 Chiang Mai Arr 45.29 105 *e*P **P** 17 23 03.3 -0.8
CM01 Chiang Mai Arr 45.29 105 *e*P **P** 17 23 03.3 -0.8
GYA Guiyang 46.47 90 *e*P **P** 17 23 14.0 +0.5
GYA pmax pmax
comp=Z,10.0nm,1.0s
YAK Yakutsk 49.34 37⇑ *e*P **P** 17 23 34.8 -0.2
YAK pmax pmax
comp=Z,4.0nm,0.9s
YAK Yakutsk 49.34 37 *e*P **P** 17 23 34.8 -0.2
comp=Z,4.0nm,0.9s
TORD Torodi Ar. Bea 52.14 253 P **P** 17 23 54.3 -2.4
comp=Z,0.2nm,0.5s,baz=67,slow=5.8,SNR=3.0
TORD LR LR 17 53 10.5
comp=Z,57nm,18.1s,baz=195,slow=44
KLR Kul'dur 54.30 52*d* *i*P **P** 17 24 12.8 +0.6
KLR Kul'dur 54.30 52 *i* P **P** 17 24 12.8 +0.6
USRK Ussuriysk Ar. 56.54 58 P **P** 17 24 28.4 0.0
comp=Z,3.7nm,0.7s,baz=286,slow=6.1,SNR=10.0
KS01 Wonju Array Si 56.84 67 *e*P **P** 17 24 30.0 -0.6
KS01 Wonju Array Si 56.84 67 *e*P **P** 17 24 30.0 -0.6
KSAR Wonju Array Be 56.85 67 P **P** 17 24 31.1 +0.4
KSAR Wonju Array Be 56.85 67 P **P** 17 24 31.0 +0.4

KSAR	Wonju Array Be	56.85	67	P		P	17 24 31.1	+0.4	
KSRS	Korea Array	56.87	67	P		P	17 24 31.1	+0.2	
	comp=Z,3.1nm,0.7s,baz=280,slow=7.8,SNR=7.8								
SFJD	Kangerlussuaq	58.26	333	LR		LR	17 50 29.9		
	comp=Z,117nm,18.0s,baz=313,slow=37								
SFJD	Kangerlussuaq	58.26	333	*e*P		P	17 24 41.3	+1.2	
SFJD	Kangerlussuaq	58.26	333	*e*P		P	17 24 41.2	+1.2	
	comp=Z,47nm,0.8s								
SFJD	Kangerlussuaq	58.26	333	*e*P		P	17 24 41.2	+1.2	
	comp=Z,47nm,0.8s								
DBIC	Dimbokro	61.24	253	P		P	17 25 11.4	+10	
	comp=Z,4.3nm,0.7s,baz=32,slow=6.2,SNR=3.8								
KIC	Kosan Boka	61.37	253	*e*P		P	17 25 14.2	+12	
	comp=Z,82nm,1.8s								
TIC	Toumodi	61.38	253	*e*P		P	17 25 14.2	+12	
LIC	Lamto	61.67	253	*e*P		P	17 25 16.1	+12	
	comp=Z,31nm,0.8s								
MJAR	Matsushiro Arr	64.43	63	P		P	17 25 20.4	-2.0	
	comp=Z,1.8nm,0.8s,baz=308,slow=4.0,SNR=3.8								
COLD	Coldfoot	71.17	9	*e*P		P	17 26 05.0	+0.7	
	comp=Z,6.1nm,1.0s								
COLD	Coldfoot	71.17	9	*e*P		P	17 26 05.0	+0.7	
	comp=Z,6.1nm,1.0s								
INK	Inuvik	71.39	2	P		P	17 26 03.3	-2.2	
	comp=Z,3.2nm,0.9s,baz=4.1,slow=12,SNR=3.5								
INK	Inuvik	71.39	2	*e*P		P	17 26 04.8	-0.8	
INK				pmax		pmax			
	comp=Z,9.0nm,1.4s								
INK	Inuvik	71.39	2	*e*P		P	17 26 04.8	-0.8	
	comp=Z,9.2nm,1.4s								
INK	Inuvik	71.39	2	*e*P		P	17 26 04.8	-0.8	
	comp=Z,9.2nm,1.4s								
SCHQ	Schefferville	71.91	328	*e*P		P	17 26 07.2	-1.7	
	comp=Z,70nm,1.9s								
SCHQ	Schefferville	71.91	328	*e*P		P	17 26 07.2	-1.7	
	comp=Z,70nm,1.9s								
MDM	Murphy Dome	73.59	9	*e*P		P	17 26 19.3	+0.5	
	comp=Z,4.1nm,0.9s								
MDM	Murphy Dome	73.59	9	*e*P		P	17 26 19.3	+0.5	
	comp=Z,4.1nm,0.9s								
COLA	College	73.71	9	⇑*e*P		P	17 26 19.7	+0.3	
COLA				pmax		pmax			
	comp=Z,8.0nm,0.9s								
COLA	College	73.71	9	*e*P		P	17 26 19.7	+0.3	
	comp=Z,8.0nm,0.9s								
IL1	Eielson Array	73.92	9	*e*P		P	17 26 20.8	+0.1	
IL1	Eielson Array	73.92	9	*e*P		P	17 26 20.8	+0.1	
ILAR	Eielson Array	73.92	9	P		P	17 26 21.0	+0.3	
	comp=Z,1nm,0.8s,baz=336,slow=5.1,SNR=14								
CCB	Clear Creek Bu	73.94	9	*e*P		P	17 26 20.3	-0.5	
	comp=Z,9.8nm,1.4s								
CCB	Clear Creek Bu	73.94	9	*e*P		P	17 26 20.3	-0.5	
	comp=Z,9.8nm,1.4s								
HDA	Harding Lake	74.27	9	*e*P		P	17 26 23.0	+0.3	
	comp=Z,20nm,1.7s								
HDA	Harding Lake	74.27	9	*e*P		P	17 26 23.0	+0.3	
	comp=Z,20nm,1.7s								
TT01	Tatalina	74.38	13	*e*P		P	17 26 23.0	-0.4	
TT01	Tatalina	74.38	13	*e*P		P	17 26 23.0	-0.4	
EGAK	Eagle	74.48	6	*e*P		P	17 26 24.5	+0.6	
	comp=Z,6.0nm,0.9s								
EGAK	Eagle	74.48	6	*e*P		P	17 26 24.6	+0.6	
	comp=Z,6.0nm,0.9s								
CAST	Castle Rocks	74.54	11	*e*P		P	17 26 24.1	-0.2	
	comp=Z,15nm,0.9s								
CAST	Castle Rocks	74.54	11	*e*P		P	17 26 24.1	-0.2	
	comp=Z,15nm,0.9s								
KTH	Kantishna Hill	74.58	11	*e*P		P	17 26 24.8	+0.2	
	comp=Z,15nm,1.2s								
KTH	Kantishna Hill	74.58	11	*e*P		P	17 26 24.8	+0.2	
	comp=Z,15nm,1.2s								
RND	Reindeer	75.00	10	*e*P		P	17 26 26.7	-0.4	
RND				pmax		pmax			
	comp=Z,9.0nm,0.9s								
RND	Reindeer	75.00	10	*e*P		P	17 26 26.7	-0.4	
	comp=Z,9.1nm,0.9s								
RND	Reindeer	75.00	10	*e*P		P	17 26 26.7	-0.4	
	comp=Z,9.1nm,0.9s								
PPLA	Purkeypile	75.02	12	*e*P		P	17 26 27.8	+0.5	
	comp=Z,25nm,1.4s								
PPLA	Purkeypile	75.02	12	*e*P		P	17 26 27.8	+0.5	
	comp=Z,25nm,1.4s								
DAWY	Dawson	75.32	5	*e*P		P	17 26 29.0	+0.2	
	comp=Z,7.2nm,0.8s								
DAWY	Dawson	75.32	5	*e*P		P	17 26 29.0	+0.2	
	comp=Z,7.2nm,0.8s								
DOT	Dot Lake	75.32	8	*e*P		P	17 26 29.5	+0.6	
	comp=Z,17nm,0.8s								
DOT	Dot Lake	75.32	8	*e*P		P	17 26 29.5	+0.6	
	comp=Z,17nm,0.8s								
DHY	Denali Highway	75.51	9	*e*P		P	17 26 29.3	-0.7	
	comp=Z,15nm,1.2s								
DHY	Denali Highway	75.51	9	*e*P		P	17 26 29.3	-0.7	
	comp=Z,15nm,1.2s								
PAX	Paxson	75.83	8	*e*P		P	17 26 32.1	+0.3	
PAX				pmax		pmax			
	comp=Z,27nm,1.9s								
PAX	Paxson	75.83	8	*e*P		P	17 26 32.1	+0.3	
	comp=Z,27nm,1.9s								
PAX	Paxson	75.83	8	*e*P		P	17 26 32.1	+0.3	
	comp=Z,27nm,1.9s								
MENT	Mentasta	76.05	8	*e*P		P	17 26 33.8	+0.8	
	comp=Z,7.7nm,0.9s								
MENT	Mentasta	76.05	8	*e*P		P	17 26 33.8	+0.8	
	comp=Z,7.7nm,0.9s								
SML	Sawmill	76.61	10	*e*P		P	17 26 36.2	0.0	
SML				pmax		pmax			
	comp=Z,16nm,0.8s								
SML	Sawmill	76.61	10	*e*P		P	17 26 36.2	0.0	
	comp=Z,16nm,0.8s								
SML	Sawmill	76.61	10	*e*P		P	17 26 36.1	0.0	
	comp=Z,16nm,0.8s								
PMR	Palmer	76.71	11	*e*P		P	17 26 36.0	-0.7	
PMR				pmax		pmax			
	comp=Z,63nm,1.9s								
PMR	Palmer	76.71	11	*e*P		P	17 26 36.0	-0.7	
	comp=Z,63nm,1.9s								
PMR	Palmer	76.71	11	*e*P		P	17 26 36.0	-0.7	
	comp=Z,63nm,1.9s								
SCM	Sheep Creek Mo	76.72	10	*e*P		P	17 26 37.4	+0.5	
SCM				pmax		pmax			
	comp=Z,59nm,1.5s								
SCM	Sheep Creek Mo	76.72	10	*e*P		P	17 26 37.4	+0.5	
	comp=Z,59nm,1.5s								
SCM	Sheep Creek Mo	76.72	10	*e*P		P	17 26 37.4	+0.5	
	comp=Z,59nm,1.5s								
YKA	Yellowknife Ar	76.83	354	P		P	17 26 36.6	-0.7	
	comp=Z,1.6nm,0.7s,baz=7.1,slow=5.6,SNR=5.3								
RC01	Rabbit Creek A	77.10	11	*e*P		P	17 26 39.1	+0.1	
	comp=Z,38nm,1.2s								
RC01	Rabbit Creek A	77.10	11	*e*P		P	17 26 39.1	+0.1	
	comp=Z,38nm,1.2s								
FCC	Fort Churchill	77.29	343	*e*P		P	17 26 39.1	-0.9	
FCC				pmax		pmax			
	comp=Z,58nm,1.2s								
FCC	Fort Churchill	77.29	343	*e*P		P	17 26 39.1	-0.9	
	comp=Z,58nm,1.2s								
FCC	Fort Churchill	77.29	343	*e*P		P	17 26 39.1	-0.9	
	comp=Z,58nm,1.2s								
LMN	Caledonia Moun	77.47	321	*e*P		P	17 26 40.3	-1.0	
	comp=Z,30nm,1.6s								
LMN	Caledonia Moun	77.47	321	*e*P		P	17 26 40.3	-1.0	
	comp=Z,30nm,1.6s								
DIV	Divide	77.59	9	*e*P		P	17 26 41.8	0.0	
	comp=Z,54nm,1.6s								
DIV	Divide	77.59	9	*e*P		P	17 26 41.8	0.0	
	comp=Z,54nm,1.6s								
FID	Port Fidalgo	77.87	9	*e*P		P	17 26 40.6	-2.7	
	comp=Z,98nm,1.6s								
FID	Port Fidalgo	77.87	9	*e*P		P	17 26 40.6	-2.7	
	comp=Z,98nm,1.6s								
BALM	Baldy	78.06	7	*e*P		P	17 26 42.7	-1.7	
BALM				pmax		pmax			
	comp=Z,12nm,0.9s								
BALM	Baldy	78.06	7	*e*P		P	17 26 42.7	-1.7	
	comp=Z,12nm,0.9s								
BALM	Baldy	78.06	7	*e*P		P	17 26 42.6	-1.7	
	comp=Z,12nm,0.9s								
SEW	Seward	78.09	11	*e*P		P	17 26 44.5	+0.1	
	comp=Z,79nm,1.5s								
SEW	Seward	78.09	11	*e*P		P	17 26 44.5	+0.1	
	comp=Z,79nm,1.5s								
BRLK	Bradley Lake	78.20	12	*e*P		P	17 26 44.3	-0.8	
	comp=Z,144nm,1.8s								
BRLK	Bradley Lake	78.20	12	*e*P		P	17 26 44.3	-0.8	
	comp=Z,144nm,1.8s								
CNPM	China Poot	78.37	12	*e*P		P	17 26 45.4	-0.7	
	comp=Z,249nm,2.0s								
CNPM	China Poot	78.37	12	*e*P		P	17 26 45.4	-0.7	
	comp=Z,249nm,2.0s								
PQI	Presque Isle	78.39	323	*e*P		P	17 26 45.3	-1.1	
	comp=Z,72nm,1.8s								
PQI	Presque Isle	78.39	323	*e*P		P	17 26 45.3	-1.1	
	comp=Z,72nm,1.8s								
HYT	Haines Junctio	78.67	5	*e*P		P	17 26 48.1	+0.3	
HYT	Haines Junctio	78.67	5	*e*P		P	17 26 48.1	+0.3	
KDAK	Kodiak Island	79.79	13	P		P	17 26 53.9	0.0	
	comp=Z,20nm,1.1s,baz=340,slow=15,SNR=3.8								
KDAK	Kodiak Island	79.79	13	*e*P		P	17 26 53.8	0.0	
	comp=Z,431nm,1.9s								
KDAK	Kodiak Island	79.79	13	*e*P		P	17 26 53.9	0.0	
	comp=Z,431nm,1.9s								
OHAK	Old Harbor	80.20	14	*e*P		P	17 26 57.0	+1.0	
	comp=Z,225nm,1.7s								
OHAK	Old Harbor	80.20	14	*e*P		P	17 26 57.0	+1.0	
	comp=Z,225nm,1.7s								
FFC	Flin Flon	82.68	346	*e*P		P	17 27 08.0	-1.2	
FFC				pmax		pmax			
	comp=Z,34nm,1.8s								
FFC	Flin Flon	82.68	346	*e*P		P	17 27 08.0	-1.2	
	comp=Z,34nm,1.8s								
FFC	Flin Flon	82.68	346	*e*P		P	17 27 08.0	-1.2	
	comp=Z,34nm,1.8s								
ULM	Lac du Bonnet	85.49	340	P		P	17 27 22.8	-0.8	
	comp=Z,1.3nm,0.3s,baz=347,slow=6.6,SNR=3.3								
RLMT	Red Lodge	93.22	347	*e*P		P	17 27 58.6	-1.9	
	comp=Z,7.1nm,0.6s								
RLMT	Red Lodge	93.22	347	*e*P		P	17 27 58.6	-1.9	
	comp=Z,7.1nm,0.6s								
BGMT	Barton Gulch	93.54	349	*e*P		P	17 28 00.0	-2.0	
BGMT	Barton Gulch	93.54	349	*e*P		P	17 28 00.0	-2.0	
WRA	Warramunga Arr	96.62	110	P		P	17 28 14.2	-2.0	
	comp=Z,0.5nm,0.9s,baz=313,slow=4.9,SNR=5.1								
WRA	Warramunga Arr	96.62	110	*i* P		P	17 28 15.5	-0.6	
WRA				pmax		pmax			
	comp=Z,1.0nm,0.9s								
WRA	Warramunga Arr	96.62	110	*i* P		P	17 28 15.5	-0.6	
	comp=Z,1.0nm,0.9s								

FIA0 ***02*** *17:25:09.9, 60.25N×29.69E, h0km, ML0.9, Explosion*
IDC 02 17:25:09.4±6.0, 60.16N×29.41E, h0km, mb1 2.2/1, mb1mx2.2/40, mbtmp2.2/1, ML1.3/1, Error ellipse: s-maj=48.4km s-min=40.6km az=129.0, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FIA0	**FINESS Array S**	**2.08**	**310**	PG	Pb	17 25 48.0	0.0
	comp=Z,0.3nm,0.2s						
FIA0				SG	Sg	17 26 17.0	+0.7
	comp=Z,0.5nm,0.2s						
FIA0				LG	Lg	17 26 20.9	
	comp=Z,0.6nm,0.2s						
FINES	**FINESS Array B**	**2.08**	**310**	Pn	Pb	17 25 48.0	0.0
	comp=Z,0.3nm,0.3s,baz=130,slow=16,SNR=5.0						
FINES				Sn	Sb	17 26 15.2	+0.8
	comp=Z,0.2nm,0.3s,baz=126,slow=25,SNR=4.5						
I43RU	**DUBNA INFRASON**	**5.36**	**127**	*i*		17 58 10.0	
	baz=316,slow=311,SNR=2.8						
I26DE	**FREYUNG INFRAS**	**14.49**	**226**	*i*		18 56 10.0	
	baz=34,slow=323,SNR=0.3						

IDC ***02*** *17:31:21.8±1.4, 6.90S×143.98E, h0km, mb3.7/4, mb1 3.9/7, mb1mx3.7/44, mbtmp3.8/7, ML3.4/2, Error ellipse: s-maj=35.6km s-min=26.5km az=83.0*
ISCJB ***02*** *17:31:24.3±0.9, 7.1S±0.1×143.95E±0.09, h30km, mb3.8/3, Error ellipse: s-maj=18.2km s-min=9.9km az=29.3*
ISC 02 17:31:26.0±1.1, 7.0S±0.2×144.0E±0.1, h30km, n7, σ0s78/8, mb3.8/3, Near south coast of New Guinea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**3.95**	**127**	Pn	**Pn**	**17 32 25.0**	**+0.4**
	4.0nm,0.3s,baz=12,slow=2.3,SNR=17						
PMG				Sn	**Sn**	**17 33 09.4**	**-0.6**
	4.6nm,0.3s,baz=36,slow=16,SNR=6.7						
WRA	**Warramunga Arr**	**15.86**	**215**	Pn	**Pn**	**17 35 06.3**	**-1.1**
	0.1nm,0.3s,baz=35,slow=13,SNR=5.0						
ASAR	**Alice Springs**	**19.14**	**209**	P	**Pn**	**17 35 48.9**	**+0.9**
	0.3nm,0.3s,baz=44,slow=8.6,SNR=40						
FITZ	**Fitzroy Crossi**	**20.96**	**237**	P	**P**	**17 36 07.3**	**+0.4**
	2.4nm,1.0s,baz=67,slow=9.6,SNR=6.6						
CMAR	**Chiang Mai Arr**	**51.11**	**300**	P	**P**	**17 40 25.9**	**-0.6**
	0.8nm,0.7s,baz=122,slow=6.7,SNR=5.4						
ZALV	**Zalesovo Beam**	**78.30**	**329**	P	**P**	**17 43 23.2**	**+0.1**
	0.4nm,0.4s,baz=106,slow=5.1,SNR=2.5						
BVAR	**Borovoye Array**	**85.83**	**324**	P	**P**	**17 44 03.1**	**+0.4**
	0.5nm,0.6s,baz=104,slow=5.0,SNR=4.1						

IDC ***02*** *17:39:07.9±0.5, 51.97N×171.61W, h0km, mb4.5/30, mb1 4.6/31, mb1mx4.5/54, mbtmp4.5/31, ML4.6/1, MS3.8/23, Ms1 3.8/23, ms1mx3.6/49, Error ellipse: s-maj=15.6km s-min=8.6km az=159.0*
ISCJB ***02*** *17:39:11.1±0.1, 52.03N±0.03×171.46W±0.02, h33km, mb4.9/270, MS3.9/24, Error ellipse: s-maj=3.9km s-min=1.8km az=175.7*
MOS ***02*** *17:39:11.4±1.0, 52.14N×171.51W, h33km, mb5.1/66, Error ellipse: s-maj=8.0km s-min=6.2km az=45.5*
NEIC ***02*** *17:39:12.2±0.0, 51.95N×171.46W, h17km, mb4.9/257, ML4.7(AEIC), After AEIC.*
BJI ***02*** *17:39:13.2, 52.39N×171.77W, h42km, mb5.1/50, mB5.1/27, Ms4.8/23, Ms7 4.4/19*
ISC 02 17:39:13.4±0.7, 51.90N±0.06×171.48W±0.03, h42km±5km, n835, σ1s18/857, mb4.9/270, MS3.9/25, 5C-8D, Fox Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KOSE	**Korovin Southe**	**1.65**	**287**	P	**Pn**	**17 39 41.0**	**+1.1**
KONE	**Korovin Northe**	**1.70**	**288**	P	**Pn**	**17 39 41.2**	**+0.6**
ATKA	**Atka Island**	**1.70**	**281**	*e*Pn	**Pn**	**17 39 40.7**	**+0.1**
ATKA				*e*Sn	**Sn**	**17 40 00.3**	**-0.8**
NIKH	**Nikolski High**	**1.94**	**55**	*e*Pn	**Pn**	**17 39 42.1**	**-1.7**
NIKH				*e*Sn	**Sn**	**17 40 04.7**	**-2.2**
OKSO	**Okmok South**	**2.50**	**53**	P	**Pn**	**17 39 51.6**	**0.0**
OKSO				S	**Sn**	**17 40 23.1**	**+2.3**
OKCE	**Okmok Cone E**	**2.54**	**52**	P	**Pn**	**17 39 52.1**	**0.0**
OKCE				S	**Sn**	**17 40 23.6**	**+1.9**
OKTU	**Okmok Mt. Tuli**	**2.57**	**53**	P	**Pn**	**17 39 53.1**	**+0.5**
OKFG	**Magazine Ridge**	**2.65**	**54**	P	**Pn**	**17 39 53.3**	**-0.3**
OKFG				S	**Sn**	**17 40 26.9**	**+2.4**
GSMY	**Great Sitkin M**	**2.83**	**275**	P	**Pn**	**17 39 57.0**	**+0.9**
GSTD	**Great Sitkin T**	**2.89**	**275**	P	**Pn**	**17 39 58.8**	**+1.8**
GSCK	**Great Sitkin C**	**2.90**	**274**	P	**Pn**	**17 39 58.7**	**+1.6**
ETKA	**Kagalaska Isla**	**3.05**	**271**	P	**Pn**	**17 39 59.9**	**+0.8**
ADAG	**Mount Adagdak**	**3.17**	**273**	P	**Pn**	**17 40 02.1**	**+1.4**
MGOD	**Makushin Gods**	**3.38**	**54**	P	**Pn**	**17 40 04.2**	**+0.5**
MCIR	**Makushin Cirqu**	**3.46**	**52**	P	**Pn**	**17 40 05.3**	**+0.6**
KIRH	**Kanaga Island**	**3.48**	**272**	P	**Pn**	**17 40 06.3**	**+1.3**
MSW	**Makushin Switc**	**3.49**	**53**	P	**Pn**	**17 40 05.6**	**+0.5**
KIKV	**Kanaga Island**	**3.52**	**272**	P	**Pn**	**17 40 06.8**	**+1.2**
KICM	**Kanaga Island**	**3.54**	**273**	P	**Pn**	**17 40 07.8**	**+2.0**
MTBL	**Makushin Table**	**3.57**	**53**	P	**Pn**	**17 40 06.9**	**+0.6**
UNV	**Unalaska Valle**	**3.59**	**55**	P	**Pn**	**17 40 06.5**	**-0.1**
UNV				S	**Sn**	**17 40 52.3**	**+4.6**
TAPA	**Tanaga Point A**	**3.93**	**271**	P	**Pn**	**17 40 13.1**	**+1.9**
AKRB	**Akutan Reef Bi**	**3.96**	**54**	P	**Pn**	**17 40 12.8**	**+1.1**
AKMO	**Akutan Morgan**	**3.97**	**54**	P	**Pn**	**17 40 12.8**	**+1.1**
TAFL	**Tanaga Flats**	**3.98**	**270**	P	**Pn**	**17 40 13.6**	**+1.7**
TAFP	**Tanaga Falls P**	**4.03**	**273**	P	**Pn**	**17 40 14.1**	**+1.5**
AKLV	**Akutan Long Va**	**4.03**	**54**	P	**Pn**	**17 40 13.9**	**+1.3**
AKGG	**Akutan Green G**	**4.04**	**53**	P	**Pn**	**17 40 14.2**	**+1.5**
AKUT	**Akutan**	**4.11**	**55**	*e*Pn	**Pn**	**17 40 15.8**	**+2.1**
GAEA	**Gareloi East**	**4.51**	**271**	P	**Pn**	**17 40 21.1**	**+1.9**
WESN	**West Dahl Nort**	**4.93**	**54**	P	**Pn**	**17 40 26.9**	**+1.9**
SPIA	**Saint Paul Isl**	**5.34**	**7**	*e*Pn	**Pn**	**17 40 31.6**	**+1.2**
SPIA				*e*Sn	**Sn**	**17 41 31.5**	**+0.8**
DT1	**Dutton Round H**	**6.36**	**56**	P	**Pn**	**17 40 45.0**	**+0.5**
DTNA	**Dutton South F**	**6.39**	**56**	P	**Pn**	**17 40 46.2**	**+1.2**
SDPT	**Sand Point**	**7.40**	**58**	*e*Pn	**Pn**	**17 40 58.7**	**0.0**
SDPT	**Sand Point**	**7.40**	**58**	P	**Pn**	**17 40 59.1**	**+0.3**
CHGN	**Chignik**	**8.85**	**55**	*e*Pn	**Pn**	**17 41 17.7**	**-0.9**
SMY	**Shemya**	**8.88**	**281**	*e*P	**Pn**	**17 41 20.3**	**+1.3**
SMY	**Shemya**	**8.88**	**281**	*e*Pn	**Pn**	**17 41 20.2**	**+1.3**
OHAK	**Old Harbor**	**11.81**	**56**	*e*Pn	**Pn**	**17 41 56.0**	**-3.2**
GAMB	**Gambell**	**11.91**	**360**	*e*Pn	**Pn**	**17 41 59.1**	**-1.3**
KDAK	**Kodiak Island**	**12.36**	**54**	*e*P	**Pn**	**17 42 03.7**	**-2.9**
KDAK	**Kodiak Island**	**12.36**	**54**	*e*Pn	**Pn**	**17 42 03.7**	**-2.9**
CNPM	**China Poot**	**13.69**	**48**	*e*Pn	**Pn**	**17 42 23.2**	**-1.6**
TT01	**Tatalina**	**13.78**	**31**	*e*Pn	**Pn**	**17 42 22.3**	**-3.6**
TTA	**Tatalina**	**13.80**	**31**	*e*P	**Pn**	**17 42 22.7**	**-3.5**
TTA	**Tatalina**	**13.80**	**31**	*e*Pn	**Pn**	**17 42 22.7**	**-3.5**
BRLK	**Bradley Lake**	**13.95**	**48**	*e*Pn	**Pn**	**17 42 26.5**	**-1.8**
SEW	**Seward**	**14.75**	**48**	*e*Pn	**Pn**	**17 42 36.0**	**-3.0**
RC01	**Rabbit Creek A**	**15.06**	**44**	*e*Pn	**Pn**	**17 42 42.4**	**-0.6**
PPLA	**Purkeypile**	**15.07**	**36**	*e*Pn	**Pn**	**17 42 41.1**	**-2.3**
CAST	**Castle Rocks**	**15.44**	**34**	*e*Pn	**Pn**	**17 42 46.3**	**-1.7**
	36nm,1.2s						
PMR	**Palmer**	**15.55**	**43**	*e*P	**Pn**	**17 42 48.5**	**-1.0**
PMR				pmax	pmax		
	comp=Z,29nm,1.1s						
PMR	**Palmer**	**15.55**	**43**	*e*Pn	**Pn**	**17 42 48.5**	**-1.0**
	comp=Z,29nm,1.1s						
KTH	**Kantishna Hill**	**15.93**	**35**	*e*Pn	**Pn**	**17 42 53.1**	**-1.2**
	comp=Z,32nm,0.9s						
MID	**Middleton Isla**	**15.99**	**52**	*e*P	**Pn**	**17 42 54.9**	**-0.1**
MID				pmax	pmax		
	comp=Z,1μm,1.4s						
MID	**Middleton Isla**	**15.99**	**52**	*e*Pn	**Pn**	**17 42 54.9**	**-0.1**
	comp=Z,1μm,1.4s						
SML	**Sawmill**	**15.99**	**43**	*e*P	**Pn**	**17 42 53.9**	**-1.2**
SML				pmax	pmax		
	comp=Z,29nm,0.9s						
SML	**Sawmill**	**15.99**	**43**	*e*Pn	**Pn**	**17 42 53.9**	**-1.2**
	comp=Z,29nm,0.9s						
FID	**Port Fidalgo**	**16.36**	**47**	*e*Pn	**Pn**	**17 42 56.2**	**-3.6**
	comp=Z,41nm,1.0s						
SCM	**Sheep Creek Mo**	**16.43**	**43**	*e*P	**Pn**	**17 42 59.0**	**-1.7**
SCM				pmax	pmax		
	comp=Z,73nm,1.2s						
SCM	**Sheep Creek Mo**	**16.43**	**43**	*e*Pn	**Pn**	**17 42 59.0**	**-1.7**
	comp=Z,73nm,1.2s						
RND	**Reindeer**	**16.60**	**37**	*e*P	**Pn**	**17 43 02.2**	**-0.7**
RND				pmax	pmax		
	comp=Z,21nm,0.8s						
RND	**Reindeer**	**16.60**	**37**	*e*Pn	**Pn**	**17 43 02.2**	**-0.7**
	comp=Z,21nm,0.8s						
MCK	**McKinley**	**16.75**	**36**	*e*P	**P**	**17 43 06.1**	**-0.4**
MCK				pmax	pmax		
	comp=Z,34nm,1.0s						
MCK	**McKinley**	**16.75**	**36**	*e*Pn	**P**	**17 43 06.1**	**-0.4**
	comp=Z,34nm,1.0s						
DIV	**Divide**	**16.82**	**47**	*e*Pn	**Pn**	**17 43 05.8**	**+0.2**
	comp=Z,30nm,1.1s						
KLU	**Klutina**	**16.89**	**45**	*e*Pn	**Pn**	**17 43 04.9**	**-1.6**
DHY	**Denali Highway**	**17.00**	**40**	*e*P	**P**	**17 43 09.1**	**-0.3**
	comp=Z,41nm,1.4s						
BMRM	**Bremner River**	**17.30**	**48**	*e*Pn	**Pn**	**17 43 08.4**	**-3.1**
	comp=Z,36nm,0.9s						
WRH	**Wood River Hil**	**17.48**	**35**	*e*Pn	**Pn**	**17 43 12.8**	**-1.0**
	comp=Z,27nm,1.1s						
HARP	**HAARP**	**17.60**	**43**	*e*Pn	**Pn**	**17 43 15.1**	**-0.1**
	comp=Z,38nm,0.8s						
CCB	**Clear Creek Bu**	**17.68**	**35**	*e*Pn	**Pn**	**17 43 14.4**	**-1.8**
	comp=Z,15nm,1.0s						
PAX	**Paxson**	**17.71**	**41**	*e*P	**P**	**17 43 17.4**	**+0.2**
PAX				pmax	pmax		
	comp=Z,22nm,1.2s						
PAX	**Paxson**	**17.71**	**41**	*e*Pn	**P**	**17 43 17.4**	**+0.2**
	comp=Z,22nm,1.2s						
MDM	**Murphy Dome**	**17.72**	**34**	*e*Pn	**P**	**17 43 17.4**	**+0.3**
	comp=Z,28nm,1.0s						
COLA	**College**	**17.80**	**34**	⇑P	**Pn**	**17 43 16.7**	**-0.9**
COLA				pmax	pmax		
	comp=Z,11nm,1.0s						
HDA	**Harding Lake**	**17.86**	**36**	*e*Pn	**Pn**	**17 43 17.8**	**-0.6**
	comp=Z,28nm,1.2s						
ILAR	**Eielson Array**	**18.08**	**35**	P	**Pn**	**17 43 18.2**	**-2.9**
	comp=Z,0.9nm,0.3s,baz=229,slow=11,SNR=14						
ILAR				S	**S**	**17 46 45.4**	**-0.4**
	baz=230,slow=13,SNR=2.5						
ILAR				LR	LR	17 50 38.4	
	comp=Z,312nm,21.5s,baz=234,slow=38						
ILB	**Eielson Array**	**18.08**	**35**	*e*Pn	**Pn**	**17 43 18.7**	**-2.4**
IL1	**Eielson Array**	**18.08**	**35**	*e*Pn	**Pn**	**17 43 18.4**	**-2.7**
PET	**Petropavlovsk**	**18.18**	**285**	*e*P	**Pn**	**17 43 23.1**	**+0.8**

YKB5 **Yellowknife Ar** 31.53 48 *e*P P 17 45 31.1 0.0
B06A **Marblemount** 31.67 76 *e*P P 17 45 33.6 +1.2
comp=Z,40nm,0.3s
D05A **Enumclaw** 31.95 79 *e*P P 17 45 37.3 +2.3
comp=Z,31nm,0.9s
LON **Longmire** 32.26 79 *e*P P 17 45 40.2 +2.4
LON pmax pmax
comp=Z,8.0nm,0.7s
LON **Longmire** 32.26 79 *e*P P 17 45 40.2 +2.4
comp=Z,8.4nm,0.7s
F04A **Amboy** 32.28 81 *e*P P 17 45 40.0 +2.1
comp=Z,27nm,1.2s
YAK **Yakutsk** 32.50 311 P P 17 45 39.2 -0.4
comp=Z,9.8nm,0.7s,baz=284,slow=13,SNR=7.7
YAK **Yakutsk** 32.50 311 *e*P P 17 45 38.4 -1.2
YAK *e**PP pP 17 45 47.4 -3.6
YAK *e* 17 46 49.2
YAK *e* 17 48 25.5
YAK *e*S S 17 50 54.0 +2.6
YAK *e*SS SnSn 17 52 52.1 +4.9
YAK *e* 17 56 05.1
YAK pmax pmax
comp=Z,11nm,0.9s
YAK pmax pmax
comp=N,2.0nm,1.1s
YAK pmax pmax
comp=E,6.0nm,1.1s
YAK pmax pmax
comp=Z,18nm,0.9s
YAK smax smax
comp=E,56nm,3.7s
YAK smax smax
comp=N,88nm,3.4s
YAK **Yakutsk** 32.50 311 *e*P P 17 45 38.4 -1.2
comp=N,14nm,0.8s
YAK *e*PcP PcP 17 48 25.4 0.0
LTY **Liberty** 32.72 78 *e*P P 17 45 42.8 +1.0
comp=N,15nm,1.3s
B08A **Colville Reser** 33.03 75 *e*P P 17 45 45.4 +1.0
comp=N,19nm,0.6s
I04A **Tendick Farm,** 33.36 84 P P 17 45 48.4 +1.0
baz=302
L02D **Cave Junction,** 33.50 88 P P 17 45 50.1 +1.4
baz=304
E07A **Sunnyside** 33.54 78 *e*P P 17 45 49.8 +0.9
comp=N,20nm,1.5s
G06A **Carlson Farm,** 33.71 81 *e*P P 17 45 51.3 +0.8
comp=N,17nm,1.4s
I05D **Terrebonne, OR** 33.73 83 P P 17 45 51.9 +1.2
baz=301
HAWA **Hanford** 33.81 78 *e*P P 17 45 52.4 +1.1
comp=N,19nm,0.8s
D08A **Wollman Farm,** 33.87 77 *e*P P 17 45 52.8 +1.0
comp=N,11nm,0.6s
J05D **Fort Rock, OR** 34.35 84 P P 17 45 57.7 +1.5
baz=303,SNR=7.8
NEW **Newport** 34.39 74 P P 17 45 57.5 +1.1
comp=N,20nm,0.6s,baz=301,slow=8.1,SNR=23
NEW **Newport** 34.39 74 P P 17 45 57.3 +1.0
baz=297,SNR=15
NEW **Newport** 34.39 74 *e*P P 17 45 57.1 +0.8
comp=N,20nm,0.7s
M02C **Callahan** 34.40 88 P P 17 45 58.6 +2.1
baz=305
EDM **Edmonton** 34.53 64 *e*P P 17 45 57.9 +0.4
EDM pmax pmax
comp=Z,48nm,0.8s
EDM **Edmonton** 34.53 64 *e*P P 17 45 57.9 +0.4
comp=Z,48nm,0.8s
E09A **Wood Farm, Sta** 34.60 77 *e*P P 17 45 58.6 +0.5
comp=Z,9.5nm,0.8s
N02D **Trinity Center** 34.73 89 P P 17 46 01.6 +2.2
baz=305
M04C **Macdoel** 34.80 87 P P 17 46 01.3 +1.2
baz=304
K05A **Summer Lake** 34.87 85 *e*P P 17 46 03.3 +2.6
comp=Z,19nm,0.8s
WDC **Whiskeytown Da** 35.06 89 *e*P P 17 46 04.1 +2.0
WDC pmax pmax
comp=Z,7.0nm,0.8s
WDC **Whiskeytown Da** 35.06 89 *e*P P 17 46 04.1 +2.0
comp=Z,7.1nm,0.8s
KLR **Kul'dur** 35.38 289 P P 17 46 03.8 -1.0
comp=Z,1.9nm,0.7s,baz=59,slow=8.7,SNR=8.8
F10A **Beach Ranch, E** 35.42 78 *e*P P 17 46 05.8 +0.5
comp=Z,8.1nm,1.0s
O03D **Paynes Creek** 35.68 89 P P 17 46 08.6 +1.1
baz=306,SNR=5.3
MOD **Modoc Plateau** 35.69 86 *e*P P 17 46 09.7 +2.0
comp=Z,20nm,1.3s
WALA **Waterton Lakes** 35.93 71 *e*P P 17 46 10.8 +1.1
comp=Z,12nm,0.7s
GDXM **Geysers** 35.95 92 *e*P P 17 46 11.7 +1.8
comp=Z,16nm,1.3s
BSMT **Bassoo Peak** 35.97 73 *e*P P 17 46 10.9 +0.8
BLMT **Blacktail Moun** 36.15 73 *e*P P 17 46 12.4 +0.8
H11N2 **WAKE ISLAND Hy** 36.29 216 T T 18 24 45.4
baz=21,slow=76,SNR=80
H11N3 **WAKE ISLAND Hy** 36.30 216 T T 18 24 47.1
baz=21,slow=76,SNR=366
ORV **Oroville** 36.30 90 *e*P P 17 46 13.5 +0.7
ORV pmax pmax
comp=Z,4.0nm,0.8s
ORV **Oroville** 36.30 90 *e*P P 17 46 13.5 +0.7
comp=Z,4.1nm,0.8s
H11N1 **WAKE ISLAND Hy** 36.31 216 T T 18 24 46.8
baz=21,slow=76,SNR=243
JTMT **Jette** 36.32 73 *e*P P 17 46 13.9 +0.9
WVOR **Wild Horse Val** 36.42 84 *e*P P 17 46 15.3 +1.4
WVOR pmax pmax
comp=Z,16nm,0.9s
WVOR **Wild Horse Val** 36.42 84 *e*P P 17 46 15.3 +1.4
comp=Z,16nm,0.9s
YBMT **Yellow Bay** 36.42 73 *e*P P 17 46 15.7 +1.8
SWMT **Swartz Lake** 36.60 73 *e*P P 17 46 15.9 +0.5
MSO **Missoula** 36.97 74 P P 17 46 18.8 +0.3
baz=300,SNR=5.0
MSO **Missoula** 36.97 74 *e*P P 17 46 19.1 +0.6
comp=Z,16nm,1.3s
AFDM **Forest Hills D** 37.00 90 *e*P P 17 46 19.9 +1.1
comp=Z,22nm,1.9s
SLMT **Seeley Lake** 37.03 74 *e*P P 17 46 19.7 +0.6
CHMT **Chamberlain Mo** 37.34 74 *e*P P 17 46 22.0 +0.2
RES **Resolute Bay** 37.36 25 P P 17 46 20.5 -0.8
comp=Z,7.5nm,0.9s,baz=265,slow=8.0,SNR=7.0
H11S1 **WAKE ISLAND Hy** 37.48 215 T T 18 26 16.9
baz=22,slow=76,SNR=125
H11S2 **WAKE ISLAND Hy** 37.50 215 T T 18 26 16.9
baz=22,slow=76,SNR=123
H11S3 **WAKE ISLAND Hy** 37.50 215 T T 18 26 16.9
baz=22,slow=76,SNR=90
PAHR **Pah Rah Range** 37.52 88 *e*P P 17 46 24.9 +1.6
comp=Z,18nm,0.8s
MFID **Camas Ranch** 37.60 80 *e*P P 17 46 24.8 +0.8
comp=Z,9.6nm,0.9s
USRK **Ussuriysk Ar.** 37.71 281 P P 17 46 24.3 -0.4
comp=Z,3.1nm,0.7s,baz=62,slow=10,SNR=5.8
USRK LR LR 18 00 44.8
comp=Z,175nm,21.9s,baz=40,slow=34
PNTR **Pine Nut** 37.76 89 *e*P P 17 46 27.4 +1.9
comp=Z,29nm,0.8s
CMB **Columbia Colle** 37.92 91 *e*P P 17 46 28.2 +1.6
CMB pmax pmax
comp=Z,14nm,1.4s
CMB **Columbia Colle** 37.92 91 *e*P P 17 46 28.2 +1.6
comp=Z,14nm,1.4s
YERR **Yerington** 38.05 89 *e*P P 17 46 29.2 +1.4
comp=Z,19nm,0.8s
SAO **San Andreas Ge** 38.06 93 *e*P P 17 46 29.0 +1.3
SAO pmax pmax
comp=Z,34nm,1.8s
SAO **San Andreas Ge** 38.06 93 *e*P P 17 46 29.0 +1.3
comp=Z,34nm,1.8s
WAKR **Walker** 38.22 89 *e*P P 17 46 31.1 +1.8
comp=Z,14nm,0.7s
HRY **Holter Researc** 38.28 73 *e*P P 17 46 30.5 +0.9
MJAR **Matsushiro Arr** 38.37 267 P P 17 46 30.3 -0.1
comp=Z,10.0nm,0.8s,baz=50,slow=6.5,SNR=26
MJAR PcP PcP 17 48 43.2 0.0
comp=Z,2.2nm,0.8s,baz=33,slow=3.0,SNR=4.3
MJAR LR LR 18 00 16.3
comp=Z,268nm,21.8s,baz=65,slow=33
MAJO **Matsushiro** 38.37 267 *e*P P 17 46 31.0 +0.7
MAJO pmax pmax
comp=Z,33nm,0.8s
MAJO **Matsushiro** 38.37 267 *e*P P 17 46 31.0 +0.7
comp=Z,32nm,0.8s

MAT **Matsushiro** 38.37 267 P P 17 46 31.0 +0.6
MAT *e*S S 17 52 14.6 -7.4
MJB9 **Matsu-Tunnel** 38.37 267 *e*P P 17 46 31.4 +1.1
comp=Z,8.6nm,0.9s
HLID **Hailey** 38.38 79 P P 17 46 31.3 +0.7
baz=303,SNR=11
HLID **Hailey** 38.38 79 *e*P P 17 46 31.3 +0.7
comp=Z,7.7nm,0.9s
BMN **Battle Mountai** 38.43 85 *e*P P 17 46 32.2 +1.2
BMN pmax pmax
comp=Z,31nm,1.6s
BMN **Battle Mountai** 38.43 85 *e*P P 17 46 32.1 +1.2
comp=Z,31nm,1.6s
DLMT **Dillon** 38.52 76 *e*P P 17 46 32.3 +0.6
comp=Z,11nm,1.4s
MCMT **McKenzie Canyo** 38.65 77 *e*P P 17 46 33.4 +0.5
TVH1 **TV Hill, Hawth** 38.66 89 *e*P P 17 46 34.8 +1.6
comp=Z,18nm,0.8s
TVH3 **East Aurora ar** 38.69 89 *e*P P 17 46 34.7 +1.4
comp=Z,9.8nm,0.9s
TVH2 **Borealis Mine** 38.72 89 *e*P P 17 46 35.1 +1.6
comp=Z,5.3nm,0.8s
PMPB **Monarch Peak** 38.81 93 *e*P P 17 46 36.1 +2.1
comp=Z,28nm,1.2s
EGMT **Eagleton** 38.85 70 P P 17 46 34.5 +0.2
baz=300,SNR=11
EGMT **Eagleton** 38.85 70 *e*P P 17 46 35.0 +0.6
comp=Z,36nm,0.8s
BOZ **Bozeman (W)** 38.98 75 P P 17 46 35.9 +0.4
baz=302,SNR=14
BOZ **Bozeman (W)** 38.98 75 *e*P P 17 46 35.9 +0.4
BOZ pmax pmax
comp=Z,31nm,1.5s
BOZ **Bozeman (W)** 38.98 75 *e*P P 17 46 35.9 +0.4
comp=Z,31nm,1.5s
PAGB **Antelope Grade** 39.47 94 *e*P P 17 46 41.1 +1.6
comp=Z,15nm,0.8s
QLMT **Earthquake Lak** 39.50 76 *e*P P 17 46 40.0 0.0
YHB **Horse Butte** 39.69 76 *e*P P 17 46 42.3 +0.8
comp=Z,15nm,0.8s
RCTC **Rector, Farmer** 39.72 92 P P 17 46 43.4 +1.9
baz=310
TIN **Tinemaha, Big** 39.87 90 P P 17 46 44.9 +1.9
baz=309
YMR **Madison River** 39.87 76 *e*P P 17 46 43.7 +0.6
comp=Z,11nm,0.8s
YHH **Holmes Hill** 39.87 75 *e*P P 17 46 43.7 +0.6
comp=Z,15nm,0.9s
YNR **Norris Junctio** 40.02 75 *e*P P 17 46 45.3 +1.0
comp=Z,16nm,0.9s
GCMT **Greycliff** 40.04 73 *e*P P 17 46 45.4 +1.0
GCMT *e*S S 17 52 44.7 -2.5
FFC **Flin Flon** 40.08 58 *e*P P 17 46 44.4 0.0
FFC pmax pmax
comp=Z,17nm,0.6s
FFC **Flin Flon** 40.08 58 *e*P P 17 46 44.4 0.0
comp=Z,17nm,0.6s
VES **Vestal, Richgr** 40.12 92 P P 17 46 46.4 +1.5
baz=311
YPP **Pitchstone Pla** 40.18 76 *e*P P 17 46 47.1 +1.4
comp=Z,5.5nm,1.0s
H17A **Grant Village** 40.25 76 P P 17 46 47.5 +1.2
baz=303
H17A **Grant Village** 40.25 76 *e*P P 17 46 47.9 +1.7
comp=Z,52nm,1.6s
PKM **Mcpherson Peak** 40.28 94 P P 17 46 48.0 +1.5
baz=312
IMW **Indian Meadow** 40.31 77 *e*P P 17 46 47.7 +1.0
comp=Z,8.2nm,0.9s
FLWY **Flagg Ranch** 40.35 76 *e*P P 17 46 48.3 +1.3
comp=Z,32nm,1.7s
CWC **Cottonwood Cre** 40.35 91 P P 17 46 48.5 +1.5
baz=310
HVU **Hansel Valley** 40.38 81 *e*P P 17 46 47.9 +0.7
HVU pmax pmax
comp=Z,9.0nm,0.8s
HVU **Hansel Valley** 40.38 81 *e*P P 17 46 47.9 +0.7
comp=Z,9.4nm,0.8s
FXWY **Fox Creek** 40.40 77 *e*P P 17 46 47.8 +0.4
comp=Z,2.5nm,0.8s
GRAC **Grapevine Rang** 40.44 90 P P 17 46 49.3 +1.7
baz=310,SNR=13
MOOW **Moose Ponds** 40.51 77 *e*P P 17 46 49.0 +0.7
comp=Z,7.8nm,1.5s
TPAW **Teton Pass** 40.52 77 *e*P P 17 46 49.4 +0.9
comp=Z,9.2nm,1.1s
ISA **Isabella, Lake** 40.61 92 P P 17 46 50.6 +1.5
baz=311
ISA **Isabella, Lake** 40.61 92 *e*P P 17 46 49.8 +0.8
ISA pmax pmax
comp=Z,17nm,0.6s
ISA **Isabella, Lake** 40.61 92 *e*P P 17 46 49.8 +0.8
comp=Z,17nm,0.6s
RLMT **Red Lodge** 40.64 74 P P 17 46 50.0 +0.6
baz=303,SNR=18
RLMT **Red Lodge** 40.64 74 *e*P P 17 46 50.4 +1.0
comp=Z,26nm,1.0s
REDW **Red Top Meadow** 40.66 77 *e*P P 17 46 51.1 +1.6
comp=Z,21nm,1.4s
SNOW **Snow King Moun** 40.66 77 *e*P P 17 46 51.7 +2.1
comp=Z,6.9nm,0.6s
LOHW **Long Hollow** 40.67 77 *e*P P 17 46 50.3 +0.7
comp=Z,3.5nm,0.8s
R11A **Troy Canyon, C** 40.70 87 P P 17 46 50.6 +0.7
baz=308,SNR=22
R11A **Troy Canyon, C** 40.70 87 *e*P P 17 46 50.5 +0.6
comp=Z,8.9nm,0.8s
BGU **Big Grassy Mou** 40.73 82 *e*P P 17 46 50.6 +0.6
comp=Z,5.3nm,0.8s
DAC **Darwin (Calif)** 40.76 91 *e*P P 17 46 52.1 +1.6
DAC pmax pmax
comp=Z,10.0nm,0.8s
DAC **Darwin (Calif)** 40.76 91 *e*P P 17 46 52.0 +1.6
comp=Z,10nm,0.8s
AHID **Auburn Hatcher** 40.84 78 *e*P P 17 46 51.6 +0.6
comp=Z,8.2nm,0.9s
MPMC **Manual Prospec** 40.96 91 P P 17 46 53.4 +1.3
baz=310,SNR=12
FURC **Furnace Creek,** 41.09 90 P P 17 46 54.1 +1.2
baz=310,SNR=9.9
OSI **Osito Audit: C** 41.14 94 P P 17 46 54.8 +1.3
baz=312
OSI **Osito Audit: C** 41.14 94 *e*P P 17 46 55.2 +1.8
comp=Z,33nm,1.4s
TPNV **Topopah Spring** 41.16 89 P P 17 46 55.1 +1.4
baz=310,SNR=31
TPNV **Topopah Spring** 41.16 89 *e*P P 17 46 54.9 +1.2
TPNV pmax pmax
comp=Z,23nm,0.8s
TPNV **Topopah Spring** 41.16 89 *e*P P 17 46 54.9 +1.2
comp=Z,23nm,0.8s
LRMC **Laurel Mtn Rad** 41.22 92 P P 17 46 55.1 +0.9
baz=311
HWUT **Hardware Ranch** 41.22 80 *e*P P 17 46 54.9 +0.7
comp=Z,4.8nm,1.0s
BOD **Bodaibo** 41.27 309 *e*P P 17 46 52.9 -1.2
BOD pmax pmax
comp=Z,9.0nm,1.0s
DUG **Dugway, Tooele** 41.29 83 P P 17 46 55.8 +1.1
baz=307,SNR=12
DUG **Dugway, Tooele** 41.29 83 *e*P P 17 46 55.8 +1.1
DUG pmax pmax
comp=Z,28nm,1.4s
DUG **Dugway, Tooele** 41.29 83 *e*P P 17 46 55.8 +1.1
comp=Z,28nm,1.4s
EDW2 **Edwards Air Fo** 41.41 93 P P 17 46 56.9 +1.2
baz=311
LAO **LASA Array** 41.60 70 P P 17 46 57.9 +0.9
baz=302
LAO **LASA Array** 41.60 70 *e*P P 17 46 58.0 +0.9
comp=Z,22nm,0.6s
BW06 **Boulder Array** 41.77 77 P P 17 46 59.3 +0.5
baz=305,SNR=22
BW06 **Boulder Array** 41.77 77 *e*P P 17 46 59.2 +0.5
PD31 **Pinedale Array** 41.77 77 *e*P P 17 46 59.1 +0.4
PDAR **Pinedale Array** 41.77 77 P P 17 46 59.5 +0.7
comp=Z,9.1nm,0.8s,baz=306,slow=5.1,SNR=76
PDAR LR LR 18 01 47.8
comp=Z,232nm,19.8s,baz=307,slow=32
MWC **Mount Wilson** 41.81 93 *e*P P 17 47 00.1 +1.0
MWC pmax pmax
comp=Z,24nm,1.3s
MWC **Mount Wilson** 41.81 93 *e*P P 17 47 00.1 +1.0
comp=Z,24nm,1.3s
SHOC **Shoshone, Teco** 41.82 90 P P 17 47 00.2 +1.3
baz=310,SNR=15
DGMT **Dagmar** 41.84 67 P P 17 46 59.6 +0.6

baz=301
DGMT **Dagmar** 41.84 67 *e*P P 17 46 59.1 +0.2
comp=Z,19nm,0.6s
GSC **Goldstone, Bar** 41.88 91 P P 17 47 00.7 +1.2
baz=311,SNR=17
GSC **Goldstone, Bar** 41.88 91 *e*P P 17 47 00.9 +1.4
GSC pmax pmax
comp=Z,27nm,0.8s
GSC **Goldstone, Bar** 41.88 91 *e*P P 17 47 00.9 +1.4
comp=Z,27nm,0.8s
JLU **Jordanelle** 41.88 81 *e*P P 17 47 00.4 +0.7
comp=Z,8.3nm,1.0s
NLU **North Lily Min** 41.89 82 *e*P P 17 47 00.8 +1.1
comp=Z,8.2nm,0.9s
BFSC **Mount Baldy Ra** 42.05 93 P P 17 47 02.0 +1.1
baz=312,SNR=7.0
SHPR **Sheep Range** 42.12 89 *e*P P 17 47 02.7 +1.2
comp=Z,5.1nm,1.0s
FCC **Fort Churchill** 42.24 49 *e*P P 17 47 02.1 +0.1
FCC pmax pmax
comp=Z,40nm,0.8s
FCC **Fort Churchill** 42.24 49 *e*P P 17 47 02.1 +0.1
comp=Z,40nm,0.8s
HIA **Hailar** 42.27 295 *e*P P 17 47 02.0 -0.5
HIA pmax pmax
comp=Z,22nm,0.7s
HIA **Hailar** 42.27 295 *e*P P 17 47 02.0 -0.5
comp=Z,22nm,0.7s
TUQ **Turquoise Moun** 42.34 90 P P 17 47 04.4 +1.1
baz=311,SNR=7.0
HEC **Hector,Ludlow** 42.48 91 P P 17 47 05.7 +1.4
baz=311
TCRU **Three Creeks R** 42.48 84 *e*P P 17 47 05.5 +1.0
comp=Z,7.8nm,0.8s
CBIJ **Chichi jima** 42.52 253 *e*P P 17 47 03.9 -0.8
comp=Z,138nm,0.9s
CCUT **Cedar City** 42.57 86 *e*P P 17 47 05.4 +0.1
comp=Z,5.5nm,0.8s
MSU **Marysvale** 42.70 84 *e*P P 17 47 08.0 +1.7
MSU **Marysvale** 42.70 84 *e*P P 17 47 08.0 +1.7
SZCU **Shurtz Canyon** 42.71 86 *e*P P 17 47 07.2 +0.8
comp=Z,3.6nm,0.8s
MURC **Murrieta** 42.76 93 P P 17 47 07.9 +1.2
baz=312
TMUT **Trail Mountain** 42.82 82 *e*P P 17 47 08.5 +1.2
comp=Z,10nm,0.9s
GMRC **Granite Mounta** 42.92 91 P P 17 47 09.2 +1.1
baz=311,SNR=12
LCMT **Little Creek M** 42.98 87 *e*P P 17 47 09.5 +1.0
comp=Z,7.3nm,0.8s
MTPU **Mount Pierson** 42.99 85 *e*P P 17 47 09.8 +1.0
comp=Z,42nm,1.8s
LDFC **Landfair** 43.07 90 *e*P P 17 47 10.2 +1.0
comp=Z,27nm,0.8s
P18A **Preston Nutter** 43.21 81 *e*P P 17 47 11.8 +1.3
comp=Z,14nm,0.9s
PFO **Pinyon Flats O** 43.21 93 P P 17 47 11.7 +1.4
baz=312
PFO **Pinyon Flats O** 43.21 93 *e*P P 17 47 11.3 +1.0
PFO pmax pmax
comp=Z,12nm,1.1s
PFO **Pinyon Flats O** 43.21 93 *e*P P 17 47 11.3 +1.0
comp=Z,12nm,1.1s
TPFO **Pinon Flats** 43.21 93 P P 17 47 11.1 +0.7
baz=312
BELC **Belle Mtn. Jos** 43.23 92 P P 17 47 11.5 +0.9
baz=312,SNR=6.2
KNB **Kanab** 43.24 86 *e*P P 17 47 12.2 +1.5
KNB pmax pmax
comp=Z,42nm,1.8s
KNB **Kanab** 43.24 86 *e*P P 17 47 12.2 +1.5
comp=Z,42nm,1.8s
SRU **San Rafael Swe** 43.35 82 *e*P P 17 47 12.4 +0.9
SRU pmax pmax
comp=Z,13nm,0.8s
SRU **San Rafael Swe** 43.35 82 *e*P P 17 47 12.4 +0.9
comp=Z,13nm,0.8s
MMU **Miners Mountai** 43.44 84 *e*P P 17 47 13.9 +1.5
IRM **Iron Mountain** 43.66 91 P P 17 47 14.8 +0.9
baz=312,SNR=7.7
K22A **Casper** 43.67 75 P P 17 47 14.0 -0.1
baz=306
K22A **Casper** 43.67 75 *e*P P 17 47 13.8 -0.3
comp=Z,11nm,0.8s
BAR **Barrett** 43.70 94 *e*P P 17 47 15.3 +1.1
comp=Z,11nm,0.9s
MONP **Monument Peak,** 43.71 94 P P 17 47 16.1 +1.5
baz=313
BC3 **Big Chuckawall** 43.80 92 P P 17 47 15.7 +0.6
baz=312
W13A **Hualapai Mount** 43.82 89 *e*P P 17 47 16.4 +1.1
comp=Z,12nm,1.1s
RWWY **Rawlins** 43.82 77 *e*P P 17 47 15.5 +0.2
comp=Z,3µm,0.6s
U15A **North Rim** 43.95 87 *e*P P 17 47 17.6 +1.1
comp=Z,11nm,0.7s
SWSC **Sam W. Stewart** 44.06 93 P P 17 47 18.3 +1.3
baz=313
IKP **In-Ko-Pah, Jac** 44.07 94 P P 17 47 18.1 +0.8
baz=313
O20A **White River Ci** 44.12 79 P P 17 47 18.0 +0.3
baz=308,SNR=11
O20A **White River Ci** 44.12 79 *e*P P 17 47 18.0 +0.3
comp=Z,37nm,1.1s
KSRS **Korea Array** 44.16 276 P P 17 47 19.1 +1.3
comp=Z,16nm,0.9s,baz=56,slow=7.7,SNR=24
KSRS LR LR 18 05 00.2
comp=Z,61nm,21.8s,baz=50,slow=35
KS01 **Wonju Array Si** 44.16 276 *e*P P 17 47 18.9 +1.1
PDMCI **Parker Dam,Lak** 44.18 90 P P 17 47 18.9 +0.9
baz=312
KS15 **Wonju Array Si** 44.19 276 *e*P P 17 47 18.9 +0.9
KSAR **Wonju Array Be** 44.19 276 P P 17 47 19.1 +1.1
KSAR **Wonju Array Be** 44.19 276 *e*P P 17 47 19.1 +1.1
RSSD **Black Hills** 44.30 72 P P 17 47 19.0 -0.1
baz=305
RSSD **Black Hills** 44.30 72 *e*P P 17 47 19.2 +0.1
RSSD pmax pmax
comp=Z,11nm,0.6s
RSSD **Black Hills** 44.30 72 *e*P P 17 47 19.2 +0.1
comp=Z,11nm,0.6s
Y12C **Blythe** 44.31 91 P P 17 47 20.3 +1.2
baz=312
Y12C **Blythe** 44.31 91 *e*P P 17 47 20.2 +1.2
comp=Z,15nm,0.9s
PV09 **Paradox Valley** 44.58 82 *e*P P 17 47 22.2 +0.6
GLA **Glamis** 44.59 92 P P 17 47 22.6 +1.2
baz=313
GLA **Glamis** 44.59 92 *e*P P 17 47 21.9 +0.5
GLA pmax pmax
comp=Z,14nm,1.1s
GLA **Glamis** 44.59 92 *e*P P 17 47 21.9 +0.5
comp=Z,14nm,1.1s
PV10 **Paradox Valley** 44.72 82 *e*P P 17 47 23.5 +0.9
MDND **Maddock** 44.77 65 P P 17 47 23.0 +0.5
baz=303
MDND **Maddock** 44.77 65 *e*P P 17 47 23.3 +0.8
comp=Z,57nm,0.9s
PV04 **Paradox Valley** 44.79 82 *e*P P 17 47 23.6 +0.6
PV05 **Paradox Valley** 44.87 82 *e*P P 17 47 24.7 +1.0
INCN **Inchon** 44.94 277 *e*P P 17 47 24.8 +0.7
comp=Z,49nm,1.0s
N23A **Red Feather La** 45.06 77 P P 17 47 25.9 +0.6
baz=307,SNR=5.6
N23A **Red Feather La** 45.06 77 *e*P P 17 47 25.2 -0.1
comp=Z,14nm,1.1s
PV15 **Paradox Valley** 45.08 82 *e*P P 17 47 26.9 +1.5
WUAZ **Wupatki** 45.10 87 P P 17 47 26.6 +1.1
baz=311,SNR=12
WUAZ **Wupatki** 45.10 87 *e*P P 17 47 26.6 +1.1
comp=Z,14nm,0.8s
PHWY **Pilot Hill** 45.11 76 *e*P P 17 47 24.1 -1.6
comp=Z,5.9nm,0.8s
Y14A **Wickenburg** 45.13 90 *e*P P 17 47 26.5 +0.9
comp=Z,27nm,0.9s
PV01 **Paradox Valley** 45.16 82 *e*P P 17 47 26.6 +0.5
113A **Mohawk Valley,** 45.44 92 *e*P P 17 47 27.0 -1.0
comp=Z,7.7nm,1.1s
ULM **Lac du Bonnet** 45.52 61 P P 17 47 28.5 0.0
comp=Z,15nm,0.9s,baz=301,slow=9.0,SNR=11
ULM **Lac du Bonnet** 45.52 61 *e*P P 17 47 27.9 -0.5
comp=Z,43nm,1.3s
A31A **Linda, St. Vin** 45.52 63 P P 17 47 28.5 +0.1
baz=309
B31A **Greenbush Farm** 45.55 64 P P 17 47 28.8 +0.1
baz=304
X16A **Lo Mia Camp, P** 45.78 88 *e*P P 17 47 31.6 +0.7

comp=Z,6.6nm,0.9s
MVCO Mesa Verde 45.78 83 P P 17 47 31.4 +0.3
baz=310,SNR=5.3
MVCO Mesa Verde 45.78 83 *e*P P 17 47 31.1 +0.1
comp=Z,5.5nm,0.6s
C31A Landman Farms, 45.85 64 P P 17 47 31.3 +0.2
baz=304
A32A Rocking H Ranc 45.91 63 P P 17 47 31.6 0.0
baz=304
ISCO Idaho Springs 45.93 78 P P 17 47 32.7 +0.5
baz=308
ISCO Idaho Springs 45.93 78 *e*P P 17 47 32.2 0.0
ISCO pmax pmax
comp=Z,17nm,1.7s
ISCO Idaho Springs 45.93 78 *e*P P 17 47 32.2 0.0
comp=Z,17nm,1.7s
B32A Ashes, Strandq 46.18 63 P P 17 47 33.6 -0.1
baz=304
D31A Mcclaflin, Tow 46.27 65 P P 17 47 33.9 -0.5
baz=305
E31A Nome 46.46 66 P P 17 47 35.9 0.0
baz=305
S22A 4UR Ranch, Cre 46.47 81 P P 17 47 36.9 +0.5
baz=310,SNR=9.6
S22A 4UR Ranch, Cre 46.47 81 *e*P P 17 47 37.6 +1.1
comp=Z,5.0nm,0.8s
C32A Crookston 46.50 64 P P 17 47 36.0 -0.2
baz=305
A33A Warroad 46.51 62 P P 17 47 36.4 +0.1
baz=304,SNR=5.8
214A Organ Pipe Nat 46.59 92 P P 17 47 37.9 +0.8
baz=313
AGMN Agassiz Nation 46.60 63 P P 17 47 36.7 -0.3
baz=304,SNR=15
AGMN Agassiz Nation 46.60 63 *e*P P 17 47 36.9 -0.1
comp=Z,29nm,0.9s
X18A Snowflake 46.63 87 *e*P P 17 47 38.0 +0.4
comp=Z,21nm,1.6s
Q24A Divide 46.73 79 *e*P P 17 47 39.3 +0.8
comp=Z,3.7nm,0.8s
B33A Robert and Kas 46.77 63 P P 17 47 38.5 +0.2
baz=305
E32A Braaten, Kindr 46.90 65 P P 17 47 38.9 -0.5
baz=305
C33A Trail 46.96 63 P P 17 47 39.4 -0.5
baz=305
G31A Conde 47.05 68 P P 17 47 40.5 -0.1
baz=306
SUSD Miller 47.08 69 P P 17 47 40.9 0.0
baz=306
B34A Aery, Baudette 47.16 62 P P 17 47 40.9 -0.5
baz=305,SNR=12
D33A AnnSam, Waubun 47.27 64 P P 17 47 42.0 -0.3
baz=305
SDCO Great Sand Dun 47.28 80 P P 17 47 43.5 +0.7
baz=310,SNR=11
SDCO Great Sand Dun 47.28 80 *e*P P 17 47 43.8 +1.0
comp=Z,9.4nm,1.1s
H31A Wolsey 47.34 69 P P 17 47 42.6 -0.2
baz=306,SNR=7.9
OGNE Ogallala 47.38 75 *e*P P 17 47 43.7 +0.5
comp=Z,32nm,1.2s
G32A Webster 47.44 67 P P 17 47 43.5 -0.1
baz=306
C34A RKJ Ranch, Bem 47.50 63 P P 17 47 43.8 -0.2
baz=305
I31A Royce, Wessing 47.57 69 P P 17 47 44.4 -0.2
baz=307,SNR=5.5
TUC Tucson 47.60 90 P P 17 47 46.0 +0.9
baz=313
TUC Tucson 47.60 90 *e*P P 17 47 45.9 +0.9
TUC pmax pmax
comp=Z,9.0nm,0.8s
TUC Tucson 47.60 90 *e*P P 17 47 45.9 +0.9
comp=Z,8.8nm,0.8s
D34A Park Rapids 47.67 64 P P 17 47 44.9 -0.5
baz=306,SNR=8.1
B35A Bob, Littlefor 47.74 62 P P 17 47 44.9 -1.0
baz=305,SNR=6.6
F33A 5 Mile Ranch, 47.78 66 P P 17 47 45.7 -0.5
baz=306
J31A Geddes 47.89 70 P P 17 47 47.1 -0.1
baz=307,SNR=8.9
H32A Carlson Farm, 47.92 68 P P 17 47 47.1 -0.3
baz=307
C35A Jirik Farms, M 47.98 63 P P 17 47 47.0 -0.7
baz=306,SNR=7.9
G33A Ortonville 48.08 67 P P 17 47 47.9 -0.6
baz=307
H33A Prehn Over Nor 48.21 67 P P 17 47 48.8 -0.8
baz=307,SNR=9.9
KSCO Kaye Shedlock' 48.23 77 *e*P P 17 47 50.9 +1.0
comp=Z,28nm,1.1s
D35A Remer 48.30 63 P P 17 47 49.8 -0.5
baz=306,SNR=9.0
T25A Trinidad 48.34 80 P P 17 47 51.7 +0.8
baz=310,SNR=11
T25A Trinidad 48.34 80 *e*P P 17 47 51.7 +0.8
comp=Z,22nm,1.1s
J32A Parkston 48.36 69 P P 17 47 50.4 -0.3
baz=307
F34A Alexandria 48.39 65 P P 17 47 50.8 -0.2
baz=306
LAZ Ladron 48.45 85 *e*P P 17 47 53.4 +1.6
ANMO Albuquerque 48.51 84 P P 17 47 53.4 +1.1
comp=Z,2.2nm,0.9s,baz=293,slow=6.9,SNR=6.9
ANMO Albuquerque 48.51 84 P P 17 47 52.9 +0.7
baz=312
ANMO Albuquerque 48.51 84 *e*P P 17 47 52.5 +0.3
ANMO pmax pmax
comp=Z,5.0nm,1.3s
ANMO Albuquerque 48.51 84 *e*P P 17 47 53.2 +1.0
comp=Z,6.8nm,1.2s
I33A Coleman 48.56 68 P P 17 47 51.8 -0.5
baz=307
C36A Pine Crest Far 48.58 62 P P 17 47 51.7 -0.6
baz=306,SNR=8.2
K32A Verdigre 48.72 70 P P 17 47 53.6 +0.1
baz=308
F35A Swanville 48.74 65 P P 17 47 53.4 -0.2
baz=307
D36A Goodland 48.74 63 P P 17 47 53.4 -0.2
baz=306
H34A Spellman Lake, 48.77 67 P P 17 47 53.4 -0.5
baz=307
LPM Los Pinos Moun 48.82 85 *e*P P 17 47 55.6 +1.0
ECSD EROS Data Cent 48.86 68 P P 17 47 53.6 -1.0
baz=308,SNR=9.3
ECSD EROS Data Cent 48.86 68 *e*P P 17 47 53.8 -0.8
comp=Z,10nm,0.6s
J33A Davis 48.91 69 P P 17 47 54.4 -0.6
baz=308
BNM Barren Site 48.93 85 *e*P P 17 47 56.9 +1.4
C37A Embarrass 48.95 62 P P 17 47 54.8 -0.4
baz=306,SNR=8.9
E36A McGregor 49.08 63 P P 17 47 56.0 -0.2
baz=307,SNR=7.6
L32A Elgin 49.11 71 P P 17 47 56.3 -0.2
baz=308
D37A Cotton 49.16 62 P P 17 47 55.9 -0.9
baz=307
319A Douglas 49.17 89 *e*P P 17 47 58.0 +0.8
comp=Z,18nm,1.6s
EYMN Ely 49.20 61 P P 17 47 56.4 -0.7
baz=306,SNR=6.5
EYMN Ely 49.20 61 *e*P P 17 47 56.7 -0.4
comp=Z,27nm,1.0s
H35A Sunnyside Ranc 49.29 66 P P 17 47 57.3 -0.5
baz=308
121A Cookes Peak, D 49.31 87 P P 17 47 59.3 +1.0
baz=313
121A Cookes Peak, D 49.31 87 *e*P P 17 47 58.3 0.0
comp=Z,6.5nm,0.6s
F36A Milaca 49.32 64 P P 17 47 57.6 -0.4
baz=307
K33A Hardington 49.32 70 P P 17 47 57.8 -0.3
baz=308
BGNE Belgrade 49.39 72 P P 17 47 58.7 0.0
baz=309
BGNE Belgrade 49.39 72 *e*P P 17 47 58.6 0.0
comp=Z,44nm,0.6s
L33A Hoskins 49.44 70 P P 17 47 59.0 -0.1
baz=308
C38A Sawbill Land. 49.45 61 P P 17 47 58.4 -0.7
baz=307
J34A George 49.51 68 P P 17 47 59.2 -0.3
baz=308
TLY Talaya 49.56 305 LR LR 18 09 53.8
comp=Z,86nm,21.8s,baz=36,slow=37
TLY Talaya 49.56 305 *e*P P 17 48 00.6 +0.8
TLY pmax pmax
comp=Z,6.0nm,0.5s
TLY MLR MLR
comp=Z,97nm,17.0s
TLY Talaya 49.56 305 *e*P P 17 47 58.0 -1.9
comp=Z,12nm,0.7s
G36A St. Michael 49.58 65 P P 17 47 59.7 -0.3
baz=307
I35A Creekview Farm 49.72 67 P P 17 48 00.7 -0.4
baz=308
HSIG 49.78 93 *e*P P 17 48 01.5 -0.2
comp=Z,6.8nm,0.5s
K34A Le Mars 49.80 69 P P 17 48 01.4 -0.3
baz=308
M33A Taylor Creek F 49.85 71 P P 17 48 01.8 -0.4
baz=309
J35A Milford 49.89 68 P P 17 48 02.0 -0.5
baz=308
F37A Hinrichs Farm, 49.91 64 P P 17 48 01.8 -0.7
baz=308
E38A The Farm, Brul 49.97 62 P P 17 48 02.3 -0.6
baz=307
C39A Grand Marais 50.01 60 P P 17 48 02.6 -0.7
baz=307
ULN Ulaanbaatar 50.04 300 *d*P P 17 48 03.4 -0.3
ULN pmax pmax
comp=Z,7.0nm,0.8s
ULN Ulaanbaatar 50.04 300 *e*P P 17 48 03.0 -0.8
comp=Z,6.3nm,0.8s
L34A Svendsen Farm, 50.08 70 P P 17 48 03.2 -0.7
baz=309,SNR=5.4
CBKS Cedar Bluff 50.09 75 P P 17 48 04.6 +0.6
baz=310
CBKS Cedar Bluff 50.09 75 *e*P P 17 48 03.6 -0.4
CBKS pmax pmax
comp=Z,25nm,0.6s
CBKS Cedar Bluff 50.09 75 *e*P P 17 48 03.6 -0.4
comp=Z,25nm,0.6s
SPMN Marine on St. 50.11 65 P P 17 48 03.6 -0.4
baz=308
SPMN Marine on St. 50.11 65 *e*P P 17 48 03.4 -0.6
comp=Z,23nm,1.3s
I36A Fitzsimmons Fa 50.17 67 P P 17 48 04.0 -0.5
baz=308
F38A Pierce - Schro 50.18 63 P P 17 48 04.1 -0.5
baz=308,SNR=8.0
K35A Storm Lake 50.27 69 P P 17 48 05.1 -0.2
baz=309
SONA1 Songino Array 50.40 300 *e*P P 17 48 06.2 -0.2
J36A Seneca 1, Swea 50.41 67 P P 17 48 05.8 -0.6
baz=308
SONM Songino Array 50.41 300 P P 17 48 06.7 +0.2
comp=Z,3.8nm,0.7s,baz=50,slow=7.5,SNR=8.9
SONM LR LR 18 11 26.5
comp=Z,291nm,18.8s,baz=72,slow=38
DAG Danmarks Havn 50.44 8 *i*P P 17 48 05.1 -1.0
DAG Danmarks Havn 50.44 8 *i*P P 17 48 05.1 -1.0
H37A Dierke Farm, C 50.44 65 P P 17 48 06.8 +0.2
baz=308
L35A Bielow Farm, R 50.47 69 P P 17 48 06.2 -0.7
baz=309
ZAK Zakamensk 50.51 304 *e*P P 17 48 06.7 -0.5
ZAK pmax pmax
comp=Z,5.0nm,1.3s
I37A Lemond, Waseca 50.52 66 P P 17 48 06.8 -0.4
baz=308,SNR=5.3
O33A Hebron 50.56 73 P P 17 48 07.1 -0.5
baz=310,SNR=7.1
G38A Ridgeland 50.68 64 P P 17 48 07.8 -0.6
baz=308
H38A Maiden Rock 50.74 65 P P 17 48 08.0 -0.8
baz=308
J37A Redenius Farm, 50.87 67 P P 17 48 09.2 -0.6
baz=309,SNR=9.0
O34A Beatrice 51.02 72 P P 17 48 10.5 -0.5
baz=310,SNR=5.9
XMAS Kiritimati 51.06 162 *e*P P 17 48 11.9 +0.5
comp=Z,84nm,1.1s
I38A Scanlan Farm, 51.11 66 P P 17 48 11.1 -0.5
baz=309
K37A Belmond 51.16 68 P P 17 48 11.4 -0.6
baz=309
N35A Tabor 51.21 71 P P 17 48 12.3 -0.1
baz=310
H39A Augusta 51.30 64 P P 17 48 12.7 -0.3
baz=309
M36A Felix, Anita 51.32 70 P P 17 48 13.1 -0.2
baz=310
P34A Walnut Farm, R 51.35 73 P P 17 48 13.0 -0.5
baz=310
MNTX Cornudas Mount 51.36 86 P P 17 48 14.4 +0.8
baz=314,SNR=9.5
MNTX Cornudas Mount 51.36 86 *e*P P 17 48 14.5 +0.8
comp=Z,6.0nm,0.8s
MSTX Muleshoe 51.43 82 P P 17 48 14.4 +0.1
baz=313,SNR=7.1
MSTX Muleshoe 51.43 82 *e*P P 17 48 14.5 +0.2
comp=Z,32nm,1.5s
O35A Humboldt 51.43 71 P P 17 48 13.1 -1.0
baz=310
J38A Wdel Dairy, R 51.48 66 P P 17 48 14.0 -0.4
baz=309,SNR=5.8
AMTX Amarillo 51.48 80 *e*P P 17 48 15.0 +0.4
comp=Z,6.1nm,0.7s
L37A Phoenix Point, 51.50 68 P P 17 48 14.0 -0.6
baz=310,SNR=6.5
G40A Rib Lake 51.53 63 P P 17 48 14.4 -0.4
baz=309
SUMG Summit 51.61 16 *i*P P 17 48 13.5 -1.9
SUMG Summit 51.61 16 *e*P P 17 48 14.6 -0.8
SUMG pmax pmax
comp=Z,24nm,1.2s
SUMG Summit 51.61 16 *e*P P 17 48 14.6 -0.8
comp=Z,24nm,1.2s
N36A Muff Farm, Cla 51.63 70 P P 17 48 15.4 -0.1
baz=310
I39A Houston 51.68 65 P P 17 48 15.1 -0.8
baz=309,SNR=11
Q34A Chapman 51.69 73 P P 17 48 15.6 -0.4
baz=311,SNR=5.5
K38A Parkersburg 51.73 67 P P 17 48 15.9 -0.4
baz=309
GUMO Guam 51.74 239 LR LR 18 05 24.4
comp=Z,48nm,21.1s,baz=50,slow=30
KSU1 Kansas State U 51.77 73 P P 17 48 16.2 -0.4
baz=311
KSU1 Kansas State U 51.77 73 *e*P P 17 48 15.8 -0.8
comp=Z,16nm,0.6s
M37A Trindle Farm, 51.78 69 P P 17 48 16.8 +0.1
baz=310
H40A Chili 51.83 64 P P 17 48 16.6 -0.5
baz=309
P35A Duane Minner, 51.84 72 P P 17 48 16.3 -0.8
baz=310
HHC Hu-ho-hao-te 51.87 290 *e*P P 17 48 19.0 +1.6
HHC PP PP 17 50 16.7 +1.4
HHC S S 17 55 37.4 +0.5
HHC ScS ScS 17 58 01.6 -2.3
HHC pmax pmax
comp=Z,23nm,1.5s
HHC pmax pmax
comp=Z,130nm,4.9s
HHC LR LR
comp=Z,170nm,17.3s
HHC LR LR
comp=Z,320nm,16.0s
HHC LR LR
comp=Z,230nm,18.5s
J39A Decorah 51.90 66 P P 17 48 16.8 -0.8
baz=309,SNR=14
R34A Isabella, Hill 51.91 74 P P 17 48 17.8 +0.1
baz=311
L38A Oak Wood Farm, 51.95 68 P P 17 48 17.3 -0.6
baz=310,SNR=7.4
SCIA State Center 51.95 68 *e*P P 17 48 17.8 -0.1
comp=Z,20nm,0.8s
O36A Bolckow 52.07 71 P P 17 48 18.6 -0.2
baz=310
I40A Norwalk 52.16 65 P P 17 48 18.9 -0.6
baz=309
K39A Oelwein 52.20 67 P P 17 48 18.9 -0.9
baz=310
H41A Junction City 52.24 63 P P 17 48 19.5 -0.6
baz=309
P36A Good Intent, A 52.26 72 P P 17 48 19.4 -0.8
baz=311,SNR=7.0
Q35A Mercer Eighty, 52.27 73 P P 17 48 19.5 -0.8
baz=311
M38A Pleasantville 52.27 69 P P 17 48 19.6 -0.7
baz=310,SNR=5.1
S34A Willow Spring 52.38 75 P P 17 48 20.8 -0.4
baz=311
J40A Soldiers Grove 52.41 65 P P 17 48 20.0 -1.3
baz=310
I41A Arkdale 52.48 64 P P 17 48 21.2 -0.6
baz=310
L39A Vinton 52.51 67 P P 17 48 21.2 -0.8
baz=310,SNR=5.7
R35A Emporia Munici 52.52 73 P P 17 48 21.9 -0.3
baz=311
O37A Wolven Farm, M 52.53 70 P P 17 48 21.7 -0.5
baz=311,SNR=8.0
Q36A Arnold C. Orve 52.54 72 P P 17 48 21.8 -0.6
baz=311
K40A Colesburg 52.63 66 P P 17 48 22.4 -0.5
baz=310
T34A McClaskey Farm 52.78 75 P P 17 48 23.8 -0.4
baz=312,SNR=8.4
P37A Lathrop 52.78 71 P P 17 48 23.2 -1.0
baz=311,SNR=8.8
M39A Webster 52.82 68 P P 17 48 23.9 -0.4
baz=310,SNR=12
J41A Logansville 52.84 65 P P 17 48 23.7 -0.8
baz=310
S35A Otter Creek Ra 52.87 74 P P 17 48 24.5 -0.3
baz=312
R36A Gordon, Harris 52.93 73 P P 17 48 24.8 -0.4
baz=311,SNR=6.9
O38A Galt 52.95 70 P P 17 48 24.5 -0.9
baz=311,SNR=10
L40A Anamosa 52.99 67 P P 17 48 25.3 -0.4
baz=310
JFWS Jewell Farm 52.99 65 *e*P P 17 48 24.8 -0.8
JFWS pmax pmax
comp=Z,17nm,0.8s
JFWS Jewell Farm 52.99 65 *e*P P 17 48 24.8 -0.8
comp=Z,16nm,0.8s
N39A Derby Farms, D 53.02 69 P P 17 48 25.1 -0.8
baz=311,SNR=17
K41A Shullsburg 53.16 66 P P 17 48 25.9 -1.0
baz=310,SNR=5.1
P38A Dawn 53.24 71 P P 17 48 26.9 -0.6
baz=311,SNR=14
T35A Sooner Cattle 53.26 75 P P 17 48 27.3 -0.4
baz=312
NJ2 Nanjing 53.32 277 *e*P P 17 48 28.7 +0.6
NJ2 pmax pmax
comp=Z,24nm,0.5s
WMOK Wichita Mounta 53.35 79 P P 17 48 28.5 +0.1
baz=313,SNR=7.4
WMOK Wichita Mounta 53.35 79 *e*P P 17 48 28.5 +0.1
WMOK pmax pmax
comp=Z,50nm,0.4s
WMOK Wichita Mounta 53.35 79 *e*P P 17 48 28.5 +0.1
comp=Z,50nm,0.4s
V34A Guthrie 53.38 77 P P 17 48 28.2 -0.3
baz=312
V34A Guthrie 53.38 77 *e*P P 17 48 28.4 -0.1
comp=Z,17nm,0.6s
L41A Preston 53.39 66 P P 17 48 27.8 -0.7
baz=310
U35A Pawnee 53.49 76 P P 17 48 29.0 -0.3
baz=312
T36A Boggs Farm, Ca 53.54 74 P P 17 48 29.5 -0.2
baz=312
N40A Mertquake, Sal 53.55 68 P P 17 48 29.0 -0.7
baz=311
Q38A Cooks Store, C 53.62 71 P P 17 48 28.7 -1.6
baz=311,SNR=10
W34A Bridge Creek, 53.62 77 *e*P P 17 48 31.0 +0.6
comp=Z,23nm,0.6s
S37A Fort Scott 53.70 73 P P 17 48 30.0 -0.9
baz=312,SNR=11
M41A Milan 53.82 67 P P 17 48 31.0 -0.7
baz=311
O40A La Belle 53.88 69 P P 17 48 31.4 -0.8
baz=311,SNR=15
Q39A Willow Grove F 53.94 71 P P 17 48 31.3 -1.3
baz=312,SNR=22
R38A Fenwick Farm, 53.97 72 P P 17 48 31.0 -1.8
baz=312,SNR=8.4
TX31 Lajitas Ar. Si 54.06 87 *e*P P 17 48 34.6 +0.8
TXAR Lajitas Array 54.07 87 P P 17 48 34.4 +0.6
comp=Z,8.6nm,0.9s,baz=297,slow=5.8,SNR=24
TXAR PcP PcP 17 49 39.4 +1.2
comp=Z,1.1nm,0.6s,baz=325,slow=1.4,SNR=1.9
TXAR LR LR 18 09 40.3
comp=Z,113nm,20.9s,baz=0.0,slow=34
T37A Cheneyville 18 54.07 74 P P 17 48 32.7 -0.9
baz=312,SNR=10.0
N41A Harden Midland 54.08 68 P P 17 48 32.8 -0.8
baz=311
P40A Paris 54.16 70 P P 17 48 33.2 -1.0
baz=312,SNR=24
W35A Tecumseh 54.22 77 P P 17 48 35.1 +0.3
baz=313
ABTX Abilene, Hawle 54.26 81 *e*P P 17 48 35.4 +0.3
comp=Z,46nm,0.5s
S38A Stockton 54.33 73 P P 17 48 34.1 -1.4
baz=312,SNR=15
Z33A Whitaker Ranch 54.34 80 P P 17 48 36.0 +0.3
baz=314
V36A Jenks 54.35 76 P P 17 48 35.2 -0.4
baz=313
TUL1 Leonard 54.36 75 P P 17 48 35.5 -0.2
baz=313
TUL1 Leonard 54.36 75 *e*P P 17 48 35.4 -0.3
comp=Z,12nm,0.9s
R39A Chumby, Stover 54.39 71 P P 17 48 35.8 -0.1
baz=312
U37A Salina 54.43 75 P P 17 48 35.5 -0.7
baz=312,SNR=9.9
O41A Passleys Farm, 54.45 68 P P 17 48 35.4 -0.9
baz=312,SNR=6.9
N42A Yates City 54.47 67 P P 17 48 35.6 -0.8
baz=311
Y34A Reagan Ranch, 54.50 79 P P 17 48 37.2 +0.4
baz=313
T38A Diamond 54.50 73 P P 17 48 35.5 -1.3
baz=312,SNR=5.3
Q40A Laux Farm, Aux 54.50 70 P P 17 48 35.4 -1.4
baz=312,SNR=10
HPIG 54.53 91 *e*P P 17 48 36.4 -0.9
comp=Z,7.5nm,1.1s
W36A Wetumka 54.62 76 P P 17 48 37.6 0.0
baz=313
S39A Bolivar 54.64 72 P P 17 48 35.9 -1.8
baz=312,SNR=5.5
P41A Barry, Barry 54.64 69 P P 17 48 36.8 -0.9
baz=312,SNR=5.2
X35A Drake 54.67 78 P P 17 48 37.9 -0.1
baz=313
133A Hamilton Ranch 54.72 81 P P 17 48 38.3 0.0
baz=314
V37A Hulbert 54.77 75 P P 17 48 37.9 -0.8
baz=313,SNR=6.0
U38A Gravette 54.85 74 P P 17 48 37.9 -1.4
baz=313,SNR=5.1
R40A Maddies Statio 54.86 71 P P 17 48 37.6 -1.7
baz=312,SNR=11
O42A Bath 54.86 68 P P 17 48 38.5 -0.8
baz=312
X36A Centrahoma 54.93 77 P P 17 48 40.4 +0.5
baz=313
Y35A Marietta 54.97 78 P P 17 48 40.7 +0.5
baz=313
Q41A Truxton 55.02 70 P P 17 48 39.8 -0.6
baz=312,SNR=8.4
T39A Clever 55.05 73 P P 17 48 39.3 -1.4
baz=312,SNR=8.8
HDIL Hopedale 55.07 67 P P 17 48 40.0 -0.8
baz=312
HDIL Hopedale 55.07 67 *e*P P 17 48 39.9 -0.9
comp=Z,44nm,0.8s
W37B Quinton 55.10 76 P P 17 48 41.7 +0.6
baz=313
P42A Winchester 55.12 69 P P 17 48 40.3 -0.8
baz=312
233A Rising Star 55.13 81 P P 17 48 40.7 -0.7
baz=314
S40A Lebanon 55.18 72 P P 17 48 40.4 -1.3
baz=312
HHAR Hobbs 55.22 74 *e*P P 17 48 40.9 -1.1
comp=Z,6.8nm,0.7s

V38A	**Canehill**	**55.22**	**75**	P		**P**		**17 48 40.9**	**-1.1**	
	baz=313,SNR=9.6									
134A	**White-Moore Ra**	**55.25**	**80**	P		**P**		**17 48 42.7**	**+0.5**	
	baz=314									
R41A	**Rosebud**	**55.37**	**70**	P		**P**		**17 48 41.7**	**-1.4**	
	baz=312,SNR=6.5									
U39A	**Green Forest**	**55.42**	**73**	P		**P**		**17 48 42.2**	**-1.3**	
	baz=313,SNR=6.3									
Y36A	**Durant**	**55.43**	**78**	P		**P**		**17 48 43.7**	**+0.3**	
	baz=314									
Q42A	**Golden Eagle**	**55.45**	**69**	P		**P**		**17 48 43.3**	**-0.3**	
	baz=312									
T40A	**Mansfield**	**55.48**	**72**	P		**P**		**17 48 42.1**	**-1.7**	
	baz=313,SNR=6.7									
X37A	**Clayton**	**55.51**	**76**	P		**P**		**17 48 43.9**	**-0.1**	
	baz=313									
P43A	**Skaggs, Pawnee**	**55.55**	**68**	P		**P**		**17 48 43.4**	**-0.9**	
	baz=312									
234A	**Clairette**	**55.61**	**81**	P		**P**		**17 48 44.9**	**+0.1**	
	baz=314									
S41A	**Jillco Farms,**	**55.63**	**71**	P		**P**		**17 48 43.1**	**-1.8**	
	baz=313,SNR=12									
JCT	**Junction City**	**55.65**	**83**	P		**P**		**17 48 44.4**	**-0.7**	
	baz=315									
JCT	**Junction City**	**55.65**	**83**	*e*P		**P**		**17 48 44.9**	**-0.2**	
JCT				pmax		pmax				
	comp=Z,56nm,0.7s									
JCT	**Junction City**	**55.65**	**83**	*e*P		**P**		**17 48 44.9**	**-0.2**	
	comp=Z,56nm,0.7s									
V39A	**Pettigrew**	**55.69**	**74**	P		**P**		**17 48 45.1**	**-0.3**	
	baz=313									
W38A	**Poteau**	**55.69**	**75**	P		**P**		**17 48 45.4**	**+0.1**	
	baz=313,SNR=6.3									
R42A	**Luebbering**	**55.73**	**70**	P		**P**		**17 48 44.9**	**-0.6**	
	baz=312									
SLM	**Saint Louis**	**55.81**	**69**	*e*P		**P**		**17 48 45.2**	**-0.9**	
SLM				pmax		pmax				
	comp=Z,24nm,0.7s									
SLM	**Saint Louis**	**55.81**	**69**	*e*P		**P**		**17 48 45.2**	**-0.9**	
	comp=Z,24nm,0.7s									
U40A	**Yellville**	**55.81**	**73**	P		**P**		**17 48 44.9**	**-1.3**	
	baz=313,SNR=12									
433A	**Art**	**55.89**	**82**	P		**P**		**17 48 46.4**	**-0.5**	
	baz=315									
Q43A	**New Douglas**	**55.92**	**69**	P		**P**		**17 48 46.3**	**-0.6**	
	baz=312,SNR=6.2									
334A	**Lometa**	**56.01**	**81**	P		**P**		**17 48 47.7**	**0.0**	
	baz=314,SNR=9.0									
WHTX	**Lake Whitney,**	**56.03**	**80**	P		**P**		**17 48 47.7**	**-0.1**	
	baz=314									
WHTX	**Lake Whitney,**	**56.03**	**80**	*e*P		**P**		**17 48 48.0**	**+0.2**	
	comp=Z,351nm,1.4s									
W39A	**Magazine**	**56.05**	**75**	P		**P**		**17 48 47.3**	**-0.6**	
	baz=313									
S42A	**Caledonia**	**56.07**	**70**	P		**P**		**17 48 46.7**	**-1.4**	
	baz=313,SNR=5.2									
P44A	**Sand Creek, Wi**	**56.18**	**68**	P		**P**		**17 48 47.9**	**-0.9**	
	baz=312,SNR=5.3									
V40A	**Witts Springs**	**56.21**	**74**	P		**P**		**17 48 47.8**	**-1.3**	
	baz=313,SNR=9.9									
R43A	**Red Bud**	**56.23**	**69**	P		**P**		**17 48 47.9**	**-1.2**	
	baz=313,SNR=7.8									
X39A	**Fountain Ranch**	**56.32**	**76**	P		**P**		**17 48 49.4**	**-0.4**	
	baz=314,SNR=8.2									
Q44A	**Meyer Farm, Va**	**56.34**	**68**	P		**P**		**17 48 49.4**	**-0.5**	
	baz=313									
434A	**Burnet**	**56.35**	**82**	P		**P**		**17 48 49.9**	**-0.2**	
	baz=315,SNR=9.5									
U41A	**Viola**	**56.37**	**72**	P		**P**		**17 48 48.8**	**-1.4**	
	baz=313,SNR=6.2									
VLDQ	**Val d'Or**	**56.40**	**53**	*e*P		**P**		**17 48 48.5**	**-1.7**	
	comp=Z,17nm,0.8s									
533A	**Kerrville**	**56.41**	**83**	P		**P**		**17 48 50.4**	**-0.2**	
	baz=315									
SFIN	**Lafayette**	**56.44**	**66**	P		**P**		**17 48 50.0**	**-0.6**	
	baz=312									
SFIN	**Lafayette**	**56.44**	**66**	*e*P		**P**		**17 48 50.2**	**-0.4**	
W40A	**Ferguson Farm,**	**56.48**	**74**	P		**P**		**17 48 50.4**	**-0.6**	
	baz=313									
V41A	**Mountainview**	**56.62**	**73**	P		**P**		**17 48 50.6**	**-1.4**	
	baz=313,SNR=7.2									
MIAR	**Mount Ida**	**56.62**	**75**	P		**P**		**17 48 51.5**	**-0.4**	
	baz=314,SNR=10									
MIAR	**Mount Ida**	**56.62**	**75**	*e*P		**P**		**17 48 51.6**	**-0.4**	
MIAR				pmax		pmax				
	comp=Z,14nm,0.8s									
MIAR	**Mount Ida**	**56.62**	**75**	*e*P		**P**		**17 48 51.6**	**-0.4**	
	comp=Z,14nm,0.8s									
S43A	**Fulton Ridge,**	**56.62**	**70**	P		**P**		**17 48 51.0**	**-1.0**	
	baz=313,SNR=12									
SCHQ	**Schefferville**	**56.66**	**42**	LR		LR		18 13 59.5		
	comp=Z,217nm,18.9s,baz=290,slow=37									
SCHQ	**Schefferville**	**56.66**	**42**	*e*P		**P**		**17 48 50.7**	**-1.3**	
	comp=Z,71nm,1.8s									
R44A	**Waltonville**	**56.74**	**69**	P		**P**		**17 48 51.9**	**-0.9**	
	baz=313									
U42A	**Revenden**	**56.77**	**72**	P		**P**		**17 48 51.7**	**-1.3**	
	baz=313									
534A	**Blanco**	**56.78**	**82**	P		**P**		**17 48 52.9**	**-0.3**	
	baz=315									
T43A	**Greenville**	**56.83**	**71**	P		**P**		**17 48 52.4**	**-1.1**	
	baz=313									
X301	**Greenbrier Sit**	**56.84**	**74**	*e*P		**P**		**17 48 52.8**	**-0.7**	
	comp=Z,9.8nm,0.9s									
WHAR	**Wooly Hollow**	**56.88**	**74**	*e*P		**P**		**17 48 52.6**	**-1.2**	
	comp=Z,6.1nm,0.8s									
ZAA0	**Zalesovo Array**	**56.88**	**317**	*e*P		**P**		**17 48 53.7**	**+0.1**	
ZAA0				*e*PcP		**PcP**		**17 49 48.9**	**+0.3**	
ZAA0				*e*PcP		**PcP**		**17 49 49.5**	**+0.8**	
ZALV	**Zalesovo Beam**	**56.88**	**317**	P		**P**		**17 48 52.3**	**-1.2**	
	comp=Z,2.0nm,0.7s,baz=48,slow=4.1,SNR=8.6									
ZALV				PcP		**PcP**		**17 49 49.1**	**+0.5**	
	comp=Z,1.5nm,0.6s,baz=21,slow=3.8,SNR=5.0									
PBMO	**Poplar Bluff**	**56.96**	**71**	*e*P		**P**		**17 48 53.1**	**-1.2**	
	comp=Z,36nm,1.5s									
OLIL	**Olney**	**56.98**	**68**	*e*P		**P**		**17 48 53.7**	**-0.8**	
	comp=Z,37nm,0.7s									
W41B	**Gary Mavity, V**	**56.98**	**74**	P		**P**		**17 48 53.7**	**-0.8**	
	baz=314									
S44A	**Carbondale**	**57.02**	**70**	P		**P**		**17 48 53.6**	**-1.1**	
	baz=313									
V42A	**Cord**	**57.05**	**73**	P		**P**		**17 48 53.9**	**-1.1**	
	baz=314									
832A	**Faith Ranch, C**	**57.09**	**85**	P		**P**		**17 48 55.6**	**+0.2**	
	baz=316									
X40A	**Basin Creek Fa**	**57.10**	**75**	P		**P**		**17 48 55.2**	**-0.2**	
	baz=314									
UALR	**University of**	**57.20**	**74**	*e*P		**P**		**17 48 55.3**	**-0.8**	
	comp=Z,7.5nm,0.9s									
NACB	**Ninganchiao**	**57.22**	**268**	*e*P		**P**		**17 48 55.0**	**-1.3**	
	comp=Z,17nm,0.8s									
T44A	**Benton**	**57.24**	**70**	P		**P**		**17 48 55.6**	**-0.7**	
	baz=313									
436A	**Wall Ranch, Ga**	**57.29**	**81**	P		**P**		**17 48 57.4**	**+0.7**	
	baz=315									
535A	**Dale**	**57.33**	**82**	P		**P**		**17 48 57.4**	**+0.3**	
	baz=315									
S45A	**Carrier Mills**	**57.42**	**69**	P		**P**		**17 48 56.7**	**-0.8**	
	baz=313,SNR=5.7									
833A	**Chaparral WMA,**	**57.42**	**85**	P		**P**		**17 48 57.8**	**+0.1**	
	baz=316									
PARMO	**Parma**	**57.43**	**71**	*e*P		**P**		**17 48 56.9**	**-0.8**	
WLAR	**White Oak Lake**	**57.49**	**76**	*e*P		**P**		**17 48 58.2**	**+0.1**	
	comp=Z,40nm,1.1s									
BLO	**Bloomington**	**57.58**	**67**	*e*P		**P**		**17 48 57.8**	**-0.9**	
BLO				pmax		pmax				
	comp=Z,15nm,0.8s									
BLO	**Bloomington**	**57.58**	**67**	*e*P		**P**		**17 48 57.8**	**-0.9**	
	comp=Z,15nm,0.8s									
USIN	**University of**	**57.75**	**68**	*e*P		**P**		**17 48 59.0**	**-0.9**	
	comp=Z,60nm,0.7s									
SADO	**Sadowa**	**57.80**	**57**	*e*P		**P**		**17 48 59.9**	**-0.3**	
	comp=Z,14nm,0.8s									
239A	**Gary**	**57.83**	**78**	P		**P**		**17 49 00.6**	**+0.1**	
	baz=315									
U44B	**Burton Farm, H**	**57.89**	**71**	P		**P**		**17 49 00.5**	**-0.4**	
	baz=314									
SSLB	**Suanglung**	**57.90**	**268**	*e*P		**P**		**17 49 00.8**	**-0.4**	
	comp=Z,58nm,1.7s									
XAN	**Xi'an**	**57.98**	**286**	P		**P**		**17 49 01.6**	**0.0**	
XAN				pmax		pmax				
	comp=Z,27nm,1.0s									
XAN				pmax		pmax				
	comp=Z,70nm,3.4s									
CCAR	**Cane Creek**	**58.13**	**74**	*e*P		**P**		**17 49 02.8**	**+0.2**	
	comp=Z,55nm,1.3s									
ARCES	**ARCESS Array B**	**58.24**	**353**	P		**P**		**17 49 01.4**	**-1.5**	
	comp=Z,1.1nm,0.7s,baz=15,slow=8.4,SNR=5.5									
ARCES	**ARCESS Array B**	**58.24**	**353**	P		**P**		**17 49 01.4**	**-1.5**	
ARCES				pmax		pmax				
	comp=Z,2.0nm,0.9s									
WCI	**Wyandotte Cave**	**58.36**	**67**	*e*P		**P**		**17 49 03.9**	**-0.3**	
WCI				pmax		pmax				
	comp=Z,18nm,0.8s									
WCI	**Wyandotte Cave**	**58.36**	**67**	*e*P		**P**		**17 49 03.9**	**-0.3**	
	comp=Z,18nm,0.8s									
934A	**Benavides**	**58.48**	**85**	P		**P**		**17 49 06.2**	**+1.1**	
	baz=316									
PLVO	**Plevna**	**58.68**	**56**	*e*P		**P**		**17 49 06.4**	**+0.1**	
	comp=Z,12nm,0.7s									
034A	**Hebbronville**	**58.76**	**85**	P		**P**		**17 49 08.2**	**+1.1**	
	baz=316									
W45A	**Hickory Valley**	**58.80**	**72**	P		**P**		**17 49 07.3**	**0.0**	
	baz=314									
ACSO	**Alum Creek Sta**	**58.84**	**63**	*e*P		**P**		**17 49 06.8**	**-0.7**	
	comp=Z,11nm,0.7s									
WVT	**Waverly**	**58.92**	**70**	*e*P		**P**		**17 49 07.3**	**-0.8**	
WVT				pmax		pmax				
	comp=Z,10.0nm,0.9s									
WVT	**Waverly**	**58.92**	**70**	*e*P		**P**		**17 49 07.3**	**-0.8**	
	comp=Z,9.6nm,0.9s									
OXF	**Oxford**	**59.12**	**72**	*e*P		**P**		**17 49 09.0**	**-0.5**	
OXF				pmax		pmax				
	comp=Z,50nm,1.0s									
OXF	**Oxford**	**59.12**	**72**	*e*P		**P**		**17 49 09.0**	**-0.5**	
	comp=Z,50nm,1.0s									
TRQ	**Mont Tremblant**	**59.13**	**53**	*e*P		**P**		**17 49 08.8**	**-0.8**	
ERPA	**Erie**	**59.17**	**60**	*e*P		**P**		**17 49 10.2**	**+0.4**	
	comp=Z,27nm,0.9s									
035A	**Encino**	**59.21**	**85**	P		**P**		**17 49 11.3**	**+1.1**	
	baz=316									
BUF	**Buffalo**	**59.22**	**59**	*e*P		**P**		**17 49 09.9**	**-0.1**	
ALLY	**Alegheny Colle**	**59.41**	**60**	*e*P		**P**		**17 49 11.0**	**-0.5**	
	comp=Z,40nm,0.8s									
ZAIG	**Zacatecas**	**59.48**	**91**	*e*P		**P**		**17 49 12.4**	**-0.1**	
	comp=Z,5.1nm,0.7s									
Y45A	**Yeager Farm, C**	**59.49**	**73**	P		**P**		**17 49 13.0**	**+0.9**	
	baz=315									
GTA	**Gaotai**	**59.52**	**296**	P		**P**		**17 49 12.0**	**-0.4**	
GTA				pP		pP		17 49 24.7	+0.2	
GTA				sP		sP		17 49 30.1	+0.7	
GTA				S		**S**		**17 57 16.4**	**-2.6**	
GTA				sS		sS		17 57 36.8	-2.4	
GTA				SS		**SS**		**18 01 11.8**	**-2.3**	
GTA				pmax		pmax				
	comp=Z,9.0nm,0.8s									
GTA				pmax		pmax				
	comp=Z,100nm,5.9s									
GTA				LR		LR				
	comp=Z,180nm,17.8s									
GTA				LR		LR				
	comp=Z,200nm,18.1s									
GTA				LR		LR				
	comp=Z,290nm,18.5s									
LZH	**Lanzhou**	**59.55**	**291**	*e*P		**P**		**17 49 13.1**	**+0.5**	
LZH				pP		sP		17 49 29.3	-0.3	
LZH				pmax		pmax				
	comp=Z,29nm,1.0s									
LZH				pmax		pmax				
	comp=Z,190nm,4.1s									
LZH				LR		LR				
	comp=Z,870nm,16.9s									
LZH				LR		LR				
	comp=Z,600nm,18.8s									
LZH				LR		LR				
	comp=Z,390nm,20.3s									
M54A	**Oil Creek Stat**	**59.77**	**60**	P		**P**		**17 49 13.7**	**-0.3**	
	baz=314									
Y46A	**Houston**	**59.89**	**73**	P		**P**		**17 49 14.4**	**-0.3**	
	baz=315									
N54A	**Moraine State**	**59.98**	**61**	P		**P**		**17 49 15.2**	**-0.1**	
	baz=314									
244A	**Avery, Jackson**	**60.09**	**75**	P		**P**		**17 49 16.7**	**+0.5**	
	baz=315									
LONY	**Lake Ozonia**	**60.25**	**55**	*e*P		**P**		**17 49 16.2**	**-0.9**	
	comp=Z,19nm,1.4s									
LMQ	**La Malbaie**	**60.25**	**50**	*e*P		**P**		**17 49 16.6**	**-0.5**	
ENH	**Enshi**	**60.28**	**282**	*e*P		**P**		**17 49 17.3**	**-0.3**	
	comp=Z,9.1nm,0.8s									
Y47A	**UCPARC, Winfie**	**60.47**	**72**	P		**P**		**17 49 18.5**	**-0.2**	
	baz=315									
SWET	**Sewanee**	**60.66**	**69**	*e*P		**P**		**17 49 18.7**	**-1.4**	
	comp=Z,9.5nm,1.7s									
FUNA	**Funafuti**	**60.71**	**191**	*e*P		**P**		**17 49 20.7**	**+0.3**	
	comp=Z,227nm,1.4s									
NCB	**Newcomb**	**60.89**	**55**	*e*P		**P**		**17 49 21.7**	**+0.2**	
	comp=Z,0.3nm,1.5s									
MCWV	**Mont Chateau**	**60.97**	**62**	*e*P		**P**		**17 49 21.9**	**-0.2**	
	comp=Z,9.9nm,0.8s									
Z48A	**Northport**	**61.01**	**72**	P		**P**		**17 49 21.3**	**-1.2**	
	baz=315,SNR=6.1									
147A	**Livingston**	**61.09**	**73**	P		**P**		**17 49 22.9**	**0.0**	
	baz=316									
TZTN	**Tazewell**	**61.10**	**67**	*e*P		**P**		**17 49 22.7**	**-0.3**	
	comp=Z,9.1nm,0.7s									
O56A	**Blue Knob Stat**	**61.23**	**61**	P		**P**		**17 49 23.8**	**-0.1**	
	baz=315									
BINY	**Binghamton**	**61.24**	**58**	*e*P		**P**		**17 49 24.1**	**+0.2**	
	comp=Z,28nm,1.1s									
CPCT	**Cooper Cave**	**61.31**	**68**	*e*P		**P**		**17 49 23.8**	**-0.7**	
	comp=Z,12nm,1.5s									
247A	**Quitman**	**61.33**	**74**	P		**P**		**17 49 25.8**	**+1.2**	
	baz=316									
SSPA	**Standing Stone**	**61.34**	**60**	*e*P		**P**		**17 49 24.6**	**0.0**	
	comp=Z,14nm,0.8s									
BORG	**Borgarnes**	**61.41**	**14**	*e*P		**P**		**17 49 24.3**	**-0.4**	
BORG				pmax		pmax				
	comp=Z,233nm,1.6s									
BORG	**Borgarnes**	**61.41**	**14**	*e*P		**P**		**17 49 24.3**	**-0.4**	
	comp=Z,233nm,1.6s									
LRAL	**Lakeview Retre**	**61.58**	**72**	*e*P		**P**		**17 49 25.1**	**-1.2**	
	comp=Z,6.8nm,0.8s									
TKL	**Tuckaleechee C**	**61.59**	**68**	*e*P		**P**		**17 49 25.9**	**-0.5**	
TKL				pmax		pmax				
	comp=Z,37nm,1.7s									
TKL	**Tuckaleechee C**	**61.59**	**68**	*e*P		**P**		**17 49 25.9**	**-0.5**	
	comp=Z,37nm,1.7s									
248A	**Dixon Mills**	**61.81**	**73**	P		**P**		**17 49 28.4**	**+0.5**	
	baz=316									
KURK	**Kurchatov**	**61.85**	**317**	*d i*P		**P**		**17 49 27.1**	**-0.7**	
KURK				pmax		pmax				
	comp=Z,45nm,0.8s									
KURK	**Kurchatov**	**61.85**	**317**	*e*P		**P**		**17 49 27.3**	**-0.5**	
	comp=Z,12nm,0.7s									
PQI	**Presque Isle**	**61.98**	**49**	*e*P		**P**		**17 49 28.0**	**-0.8**	
	comp=Z,17nm,0.8s									
645A	**Chauvin**	**61.99**	**77**	P		**P**		**17 49 29.6**	**+0.5**	
	baz=316									
N59A	**State Game Lan**	**62.27**	**58**	P		**P**		**17 49 30.9**	**+0.1**	
	baz=316									
BLA	**Blacksburg**	**62.39**	**64**	*e*P		**P**		**17 49 31.7**	**-0.1**	
BLA				*e*S		**S**		**17 57 51.4**	**-3.9**	
BLA				pmax		pmax				
	comp=Z,30nm,0.8s									
BLA	**Blacksburg**	**62.39**	**64**	*e*P		**P**		**17 49 31.7**	**-0.1**	
	comp=Z,30nm,0.8s									
BLA				*e*S		**S**		**17 57 51.4**	**-3.9**	
VWCC	**Virginia Weste**	**62.61**	**64**	*e*P		**P**		**17 49 33.0**	**-0.2**	
LUPA	**Lehigh Univers**	**62.70**	**58**	*e*P		**P**		**17 49 34.0**	**+0.2**	
	comp=Z,15nm,0.7s									
ODNJ	**Ogdensburg**	**62.76**	**58**	*e*P		**P**		**17 49 33.8**	**-0.3**	
	comp=Z,8.6nm,0.9s									
SDMD	**Soldier's Deli**	**62.78**	**60**	*e*P		**P**		**17 49 34.1**	**-0.2**	
	comp=Z,9.3nm,1.0s									
WMQ	**Urumqi**	**62.78**	**307**	P		**P**		**17 49 36.4**	**+2.1**	
WMQ				pP		sP		17 49 49.7	-1.7	
WMQ				sP		pP		17 49 55.1	+8.6	
WMQ				pmax		pmax				
	comp=Z,16nm,0.7s									
WMQ				pmax		pmax				
	comp=Z,81nm,4.5s									
WMQ				LR		LR				
	comp=Z,160nm,23.7s									
WMQ				LR		LR				
	comp=Z,61nm,17.7s									
BRNJ	**Basking Ridge**	**63.07**	**58**	*e*P		**P**		**17 49 36.3**	**+0.2**	
	comp=Z,21nm,1.0s									
MK31	**Makanchi Array**	**63.17**	**312**	*e*P		**P**		**17 49 35.4**	**-1.4**	
MK31	**Makanchi Array**	**63.17**	**312**	*e*P		**P**		**17 49 35.4**	**-1.4**	
MKAR	**Makanchi Array**	**63.17**	**312**	*e*P		**P**		**17 49 35.6**	**-1.2**	
MKAR				pmax		pmax				
	comp=Z,22nm,0.6s									
MKAR	**Makanchi Array**	**63.17**	**312**	*e*P		**P**		**17 49 35.6**	**-1.2**	
	comp=Z,22nm,0.6s									
PAL	**Palisades**	**63.18**	**57**	*e*P		**P**		**17 49 36.2**	**-0.7**	
PAL				pmax		pmax				
	comp=Z,20nm,0.8s									
PAL	**Palisades**	**63.18**	**57**	*e*P		**P**		**17 49 36.2**	**-0.7**	
	comp=Z,20nm,0.8s									
MK01	**Makanchi Array**	**63.18**	**312**	*e*P		**P**		**17 49 35.8**	**-1.1**	
CD2	**Chengdu**	**63.27**	**287**	*j i*P		**P**		**17 49 38.1**	**+0.4**	
CD2				pmax		pmax				
	comp=Z,30nm,1.0s									
MAKZ	**Makanchi**	**63.30**	**313**	*e*P		**P**		**17 49 36.3**	**-1.4**	
MAKZ				pmax		pmax				
	comp=Z,4.0nm,0.8s									
MAKZ	**Makanchi**	**63.30**	**313**	*e*P		**P**		**17 49 36.3**	**-1.4**	
	comp=Z,3.9nm,0.8s									
BRVK	**Borovoye**	**63.33**	**323**	*d i*P		**P**		**17 49 37.6**	**-0.1**	
BRVK				pmax		pmax				
	comp=Z,10.0nm,1.3s									
BRVK	**Borovoye**	**63.33**	**323**	*e*P		**P**		**17 49 37.3**	**-0.4**	
	comp=Z,3.3nm,0.9s									
CBN	**Corbin Frederi**	**63.36**	**62**	*e*P		**P**		**17 49 37.8**	**-0.2**	
	comp=Z,29nm,0.4s									
KMSC	**Kings Mountain**	**63.36**	**66**	P		**P**		**17 49 37.5**	**-0.6**	
	baz=316,SNR=9.3									
KMSC	**Kings Mountain**	**63.36**	**66**	*e*P		**P**		**17 49 37.5**	**-0.6**	
	comp=Z,26nm,0.8s									
GOGA	**Godfrey**	**63.38**	**69**	*e*P		**P**		**17 49 37.5**	**-0.8**	
GOGA				pmax		pmax				
	comp=Z,14nm,0.8s									
GOGA	**Godfrey**	**63.38**	**69**	*e*P		**P**		**17 49 37.5**	**-0.8**	
	comp=Z,14nm,0.8s									
JSRW	**J. Sargeant Re**	**63.45**	**62**	*e*P		**P**		**17 49 38.9**	**+0.2**	
WES	**Weston**	**63.50**	**55**	*e*P		**P**		**17 49 38.6**	**-0.4**	
WES				pmax		pmax				
	comp=Z,25nm,0.6s									
WES	**Weston**	**63.50**	**55**	*e*P		**P**		**17 49 38.6**	**-0.4**	
	comp=Z,25nm,0.6s									
GGN	**Saint George**	**63.68**	**50**	*e*P		**P**		**17 49 39.8**	**-0.3**	
	comp=Z,15nm,0.8s									
EMMW	**East Machias**	**63.69**	**51**	*e*P		**P**		**17 49 39.3**	**-0.9**	
	comp=Z,28nm,0.8s									
BRYW	**Bryant College**	**63.73**	**55**	*e*P		**P**		**17 49 41.0**	**+0.4**	
	comp=Z,116nm,1.6s									
RABL	**Rabaul**	**63.85**	**221**	*e*P		**P**		**17 49 41.6**	**0.0**	
	comp=Z,14nm,0.5s									
MANU	**Manus Island**	**63.99**	**227**	*e*P		**P**		**17 49 43.0**	**+0.5**	
	comp=Z,12nm,0.7s									
JSC	**Jenkinsville**	**64.02**	**67**	*e*P		**P**		**17 49 42.4**	**-0.1**	
JSC				pmax		pmax				
	comp=Z,14nm,0.7s									
JSC	**Jenkinsville**	**64.02**	**67**	*e*P		**P**		**17 49 42.4**	**-0.1**	
	comp=Z,14nm,0.7s									
LMN	**Caledonia Moun**	**64.08**	**48**	*e*P		**P**		**17 49 42.3**	**-0.5**	
	comp=Z,31nm,0.8s									
ARU	**Arti**	**64.43**	**332**	*d i*P		**P**		**17 49 44.4**	**-0.5**	
ARU								17 50 16.9		
ARU								17 52 01.8		
ARU				S		**S**		**17 58 24.0**	**+3.9**	
ARU								17 59 33.6		
ARU				SS		**SS**		**18 02 31.6**	**+2.0**	
ARU				pmax		pmax				
	comp=Z,4.0nm,0.6s									
ARU	**Arti**	**64.43**	**332**	*e*P		**P**		**17 49 43.9**	**-1.0**	
	comp=Z,4.1nm,0.8s									
DRLN	**Deer Lake**	**64.66**	**41**	*e*P		**P**		**17 49 45.4**	**-1.1**	
	comp=Z,30nm,0.9s									
GYA	**Guiyang**	**64.75**	**281**	*e*P		**P**		**17 49 49.7**	**+2.1**	
GYA				pP		sP		17 50 02.4	-2.3	
GYA				PP		**PP**		**17 52 13.8**	**+3.8**	
GYA				S		**S**		**17 58 24.0**	**-1.2**	
GYA				SKS		**SKSac**		**17 59 36.6**	**-2.2**	
GYA				pmax		pmax				
	comp=Z,20nm,0.9s									
GYA				pmax		pmax				
	comp=Z,120nm,5.8s									
HNR	**Honiara**	**65.85**	**211**	LR		LR		18 11 42.9		
	comp=Z,77nm,21.6s,baz=14,slow=30									
FINES	**FINESS Array B**	**66.14**	**351**	P		**P**		**17 49 54.7**	**-1.1**	
	comp=Z,1.0nm,0.7s,baz=27,slow=9.0,SNR=6.7									
FINES				LR		LR		18 19 00.6		
	comp=Z,30nm,21.7s,baz=360,slow=36									
FINES	**FINESS Array B**	**66.14**	**351**	*i*P		**P**		**17 49 55.5**	**-0.3**	
FINES				pmax		pmax				
	comp=Z,2.0nm,0.9s									
NB2	**NORSAR Subarra**	**67.39**	**359**	P		**P**		**17 50 03.3**	**-0.6**	
	comp=Z,0.6nm,0.6s,baz=5.1,slow=6.9									
**N

	comp=Z,6.7nm,1.0s							
GERES	**GERESS Array B**	79.54	357	P		P	17 51 14.0	-1.5
	comp=Z,0.6nm,0.8s,baz=1.1,slow=4.9,SNR=5.2							
GEA0	**GERESS Array S**	79.55	357	*e*P		P	17 51 15.0	-0.6
VYHS	**Vyhne**	79.60	353	*e*P		P	17 51 18.0	+2.2
VYHS	**Vyhne**	79.60	353	*e*P		P	17 51 18.0	+2.2
KIV	**Kislovodsk**	80.06	336	*e*P		P	17 51 20.2	+1.7
KIV				pmax	pmax			
	comp=Z,4.0nm,0.7s							
KBZ	**Khabaz**	80.22	335	P		P	17 51 18.3	-0.9
	comp=Z,0.8nm,0.7s,baz=45,slow=1.4,SNR=3.1							
MTN	**Manton Dam**	81.24	236	*e*P		P	17 51 25.3	+0.4
	comp=Z,23nm,0.8s							
GNI	**Garni**	83.05	333	*e*P		P	17 51 33.3	-1.2
GNI				pmax	pmax			
	comp=Z,24nm,0.8s							
SJG	**San Juan**	85.03	67	*e*P		P	17 51 57.5	+13
WRAB	**Tennant Creek**	85.68	230	*e*P		P	17 51 47.5	-0.1
WRAB				pmax	pmax			
	comp=Z,61nm,2.5s							
WB2	**Warramunga Arr**	85.69	230	*e*P		P	17 51 47.4	-0.3
	comp=Z,17nm,1.2s							
WRA	**Warramunga Arr**	85.70	230	P		P	17 51 47.5	-0.2
	comp=Z,5.3nm,1.1s,baz=36,slow=5.4,SNR=6.6							
BRTR	**Keskin Array B**	86.16	341	P		P	17 51 50.0	-0.1
	comp=Z,0.5nm,0.6s,baz=38,slow=3.7,SNR=3.1							
PSI	**Prapat**	87.56	271	*e*P		P	17 51 57.4	+0.1
PSI				pmax	pmax			
	comp=Z,25nm,0.9s							
PSI	**Prapat**	87.56	271	*e*P		P	17 51 57.4	+0.1
	comp=Z,25nm,0.9s							
ES19	**SONSECA Array**	88.14	10	*e*P		P	17 51 58.2	-1.4
ESDC	**Sonseca Array**	88.16	10	P		P	17 51 59.4	-0.2
	comp=Z,0.8nm,0.4s,baz=348,slow=4.6,SNR=4.8							
FITZ	**Fitzroy Crossi**	88.50	238	*e*P		P	17 52 02.0	+0.7
	comp=Z,11nm,1.0s							
AS01	**Alice Springs**	89.08	228	*e*P		P	17 52 04.5	+0.5
AS31	**Alice Springs**	89.10	228	*e*P		P	17 52 04.6	+0.5
	comp=Z,4.1nm,0.8s							
ASAR	**Alice Springs**	89.10	228	P		P	17 52 05.0	+0.9
	comp=Z,11nm,0.8s,baz=34,slow=4.9,SNR=33							
ASAR				LR		LR	18 27 28.1	
	comp=Z,60nm,21.7s,baz=30,slow=33							
GUYC	**Guyana, Colomb**	89.69	82	*e*P		P	17 52 07.2	-0.5
NORC	**Norcasia**	89.74	81	*e*P		P	17 52 07.7	+0.3
BARC	**Barichara**	89.96	79	*e*P		P	17 52 08.9	+0.2
RUSC	**La Rusia**	90.57	80	*e*P		P	17 52 11.1	-0.7
STKA	**Stephens Creek**	93.01	218	LR		LR	18 29 15.1	
	comp=Z,96nm,19.5s,baz=26,slow=32							
MAW	**Mawson**	149.70	218	PKPbc		PKPbc	17 58 57.9	+0.9
	comp=Z,7.4nm,0.9s,baz=121,slow=2.0,SNR=11							
MAW	**Mawson**	149.70	218	*e*PKPbc		PKPbc	17 58 57.2	+0.2
LBTB	**Lobatse**	150.16	328	*e*PKP2		PKPbc	17 58 59.7	+0.1
LBTB	**Lobatse**	150.16	328	*e*PKPbc		PKPbc	17 58 59.7	+0.1
BOSA	**Boshof**	153.59	325	PKPbc		PKPbc	17 59 09.0	+1.7
	comp=Z,3.0nm,0.5s,baz=12,slow=2.3,SNR=7.5							

NEIC 02 17:39:39.5±0.0, 58°25'N×150°84'W, h22km, ML3.1(AEIC), **After AEIC., Gulf of Alaska**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
KDAK	**Kodiak Island**	1.04	244	*e*Pn		Pb	17 39 56.7	-2.0
KDAK				*e*Sn		Sb	17 40 09.4	-2.4
CNPM	**China Poot**	1.29	351	*e*Pn		Pn	17 40 00.7	-1.5
HOM	**Homer**	1.47	344	*e*Pn		Pn	17 40 02.8	-1.8
FOPK	**Fourpeaked Vol**	1.47	291	P		Pn	17 40 03.1	-1.6
BRLK	**Bradley Lake**	1.52	359	*e*Pn		Pn	17 40 03.5	-1.8
CDD	**Cape Douglas**	1.62	296	P		Pn	17 40 05.2	-1.5
OHAK	**Old Harbor**	1.67	233	*e*Pn		Pn	17 40 05.4	-2.0
OHAK				S		Sn	17 40 26.6	-1.5
AUI	**Augustine Isla**	1.73	310	P		Pn	17 40 07.2	-1.0
AUI				S		Sn	17 40 28.5	-1.1
KAPH	**Katmai Pasha**	1.88	282	P		Pn	17 40 08.1	-2.2
KAPH				S		Sn	17 40 31.3	-2.0
SEW	**Seward**	1.99	21	*e*Pn		Pn	17 40 10.7	-1.1
KAWH	**Katmai**	2.09	275	P		Pn	17 40 12.5	-0.7
ILIM	**Iliamna**	2.13	330	P		Pn	17 40 11.6	-2.3
KABR	**Katmai Barrier**	2.19	269	P		Pn	17 40 14.3	-0.3
KABR				S		Sn	17 40 41.3	+0.3
KAHC	**Katmai Hardscr**	2.23	282	P		Pn	17 40 14.8	-0.4
KAKN	**Katmai Knife C**	2.23	273	P		Pn	17 40 13.2	-1.9
SLKM	**Skilak Lake**	2.28	8	P		Pn	17 40 14.4	-1.4
KABU	**Katmai Buttres**	2.35	272	P		Pn	17 40 16.3	-0.5
KVTA	**Katmai Vly 10**	2.35	275	P		Pn	17 40 16.2	-0.6
DFR	**Drift River**	2.53	339	P		Pn	17 40 17.5	-1.8
KELA	**Mount Kelaz**	2.59	276	P		Pn	17 40 19.1	-1.0
RC01	**Rabbit Creek A**	2.90	11	*e*Pn		Pn	17 40 22.8	-1.5
PWL	**Port Wells**	2.91	25	P		Pn	17 40 23.8	-0.7
SPU	**Mount Spurr**	3.00	349	P		Pn	17 40 23.7	-2.0
STLK	**Strandline Lak**	3.29	352	P		Pn	17 40 28.3	-1.5
FID	**Port Fidalgo**	3.35	40	*e*Pn		Pn	17 40 29.6	-0.8
KNK	**Knik Glacier**	3.39	20	P		Pn	17 40 29.7	-1.4
PMR	**Palmer**	3.46	14	*e*Pn		Pn	17 40 30.5	-1.4
JPK	**Jack Peak**	3.54	36	P		Pn	17 40 32.8	-0.4
GHO	**Glory Hole Cre**	3.66	14	P		Pn	17 40 34.5	-0.3
VLZ	**Valdez**	3.68	36	P		Pn	17 40 34.9	0.0
SVW2	**Sparrevohn**	3.73	322	*e*Pn		Pn	17 40 32.4	-3.3
SKT	**Skwentna**	3.75	355	P		Pn	17 40 34.9	-1.1
SML	**Sawmill**	3.78	18	*e*Pn		Pn	17 40 35.1	-1.3
DIV	**Divide**	3.86	40	*e*Pn		Pn	17 40 37.6	0.0
SCM	**Sheep Creek Mo**	4.00	25	*e*Pn		Pn	17 40 39.5	0.0
KLU	**Klutina**	4.09	35	P		Pn	17 40 39.4	-1.3
BMRM	**Bremner River**	4.18	47	*e*Pn		Pn	17 40 42.4	+0.5
PPLA	**Purkeypile**	4.71	352	*e*Pn		Pn	17 40 47.8	-1.5
HARP	**HAARP**	5.03	32	*e*Pn		Pn	17 40 54.5	+0.9
DHY	**Denali Highway**	5.13	18	*e*Pn		Pn	17 40 54.0	-1.0
BALM	**Baldy**	5.13	53	*e*Pn		Pn	17 40 56.1	+1.0
CAST	**Castle Rocks**	5.22	354	*e*Pn		Pn	17 40 55.3	-0.8
TRF	**Thorofare Moun**	5.22	3	*e*Pn		Pn	17 40 55.8	-0.6
RND	**Reindeer**	5.26	10	*e*Pn		Pn	17 40 55.6	-1.2
KTH	**Kantishna Hill**	5.32	360	*e*Pn		Pn	17 40 56.5	-1.1
TT01	**Tatalina**	5.32	334	*e*Pn		Pn	17 40 54.5	-3.0
PAX	**Paxson**	5.42	27	*e*Pn		Pn	17 40 59.2	+0.2
MCK	**McKinley**	5.58	9	*e*Pn		Pn	17 41 01.7	+0.6
PCA	**Pinnacle**	5.75	67	*e*Pn		Pn	17 41 04.8	+1.3
MENT	**Mentasta**	5.86	34	*e*Pn		Pn	17 41 04.1	-0.9
DOT	**Dot Lake**	6.34	29	*e*Pn		Pn	17 41 10.7	-0.8
WRH	**Wood River Hil**	6.38	11	*e*Pn		Pn	17 41 10.6	-1.4
HDA	**Harding Lake**	6.45	15	*e*Pn		Pn	17 41 11.8	-1.3
CCB	**Clear Creek Bu**	6.58	11	*e*Pn		Pn	17 41 13.2	-1.5
IL1	**Eielson Array**	6.81	14	*e*Pn		Pn	17 41 17.2	-0.8
ILB	**Eielson Array**	6.81	14	*e*Pn		Pn	17 41 17.6	-0.4
MDM	**Murphy Dome**	6.84	9	*e*Pn		Pn	17 41 17.3	-1.1
WHY	**Whitehorse**	8.48	67	*e*Pn		Pn	17 41 42.3	+1.4
FYU	**Fort Yukon**	8.73	15	*e*Pn		Pn	17 41 44.0	-0.3
COLD	**Coldfoot**	9.01	2	*e*Pn		Pn	17 41 46.2	-1.9

ISCJB ***02*** *17:40:41.7±0.3, 6°.55S±0°.03×130°.14E±0°.04, h146km, mb4.3/8, Error ellipse: s-maj=5.3km s-min=3.4km az=160.9*

NEIC ***02*** *17:40:42.6±1.0, 6°.52S×130°.09E, h135km±13km, mb4.2/7, Error ellipse: s-maj=15.5km s-min=8.9km az=75.0*

DJA ***02*** *17:40:42.1±0.9, 7°.5S±2°×13°.0E±°, h11km±6km, M4.6/13, mb4.6/8, mB5.5/4, MLv4.5/13, Mw(mB)5.0/4*

IDC ***02*** *17:40:50.7±7.7, 7°.28S×129°.81E, h159km±54km, mb3.4/2, mb1 3.9/5, mb1mx3.4/42, mbtmp4.2/5, Error ellipse: s-maj=58.2km s-min=47.1km az=26.0*

ISC 02 17:40:42.9±0.6, 6°.61S±0°.04×130°.18E±0°.05, h146km, n41, σ2§37/54, mb4.7/8, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
SAUI	**Saumlaki**	1.76	141	P		Pn	17 41 14.7	-0.3
SAUI				S		Sn	17 41 40.3	+0.6
SAUI	**Saumlaki**	1.76	141	*e*Pn		Pn	17 41 20.3	+5.2
BNDI	**Bandanaira**	2.10	353	P		Pn	17 41 16.4	-2.5
MSAI	**Masohi**	3.48	339	P		Pn	17 41 34.7	-1.6
MSAI				S		Sn	17 42 15.0	-2.6
AAI	**Ambon**	3.51	326	P		Pn	17 41 34.6	-2.2
AAI				S		Sn	17 42 15.4	-3.1
FAKI	**Fak Fak**	4.21	29	P		Pn	17 41 46.9	+1.0
FAKI				S		Sn	17 42 31.1	-3.8
FAKI	**Fak Fak**	4.21	29	*e*Pn		Pn	17 41 45.0	-0.8
FAKI				*e*Sn		Sn	17 42 33.6	-1.3
NLAI	**Namlea**	4.54	317	P		Pn	17 41 48.9	-1.3
SWI	**Sorong**	5.81	11	P		Pn	17 42 08.1	+1.0
SANI	**Sanana**	6.16	317	P		Pn	17 42 10.1	-1.7
MTN	**Manton Dam**	6.26	171	*e*Pn		Pn	17 42 15.7	+2.6
LBMI	**Labuha**	6.51	336	P		Pn	17 42 15.9	-0.5
SOEI	**Soe**	6.63	242	P		Pn	17 42 18.3	+0.2
	40nm,0.8s,1μm0.6nm							
SOEI				S		Sn	17 43 32.2	-0.5
	40nm,0.8s,1μm0.6nm							
SOEI	**Soe**	6.63	242	*e*Pn		Pn	17 42 18.4	+0.3
SOEI				*e*Sn		Sn	17 43 30.9	-1.7
BATI	**Baumata**	7.37	241	P		Pn	17 42 28.0	+0.1
BBSI	**Bau Bau**	7.65	278	P		Pn	17 42 30.8	-0.8
MMRI	**Maumere**	8.12	255	P		Pn	17 42 37.9	-0.1
MMRI				S		Sn	17 44 09.1	+0.7
FITZ	**Fitzroy Crossi**	12.25	201	P		Pn	17 43 29.9	-2.7
	1.0nm,0.3s,baz=26,slow=14,SNR=81							
FITZ				S		Sn	17 45 38.5	-9.4
	2.0nm,0.3s,baz=86,slow=18,SNR=5.1							
FITZ	**Fitzroy Crossi**	12.25	201	*e*Pn		Pn	17 43 31.4	-1.1
FITZ				Sn		Sn	17 45 46.3	-1.6
WRAB	**Tennant Creek**	13.85	163	*e*Pn		Pn	17 43 53.0	-0.1
WRAB				*e*Sn		Sn	17 46 21.1	-5.4
WRA	**Warramunga Arr**	13.85	163	P		Pn	17 43 52.9	-0.3
	0.9nm,0.3s,baz=346,slow=13,SNR=26							
WRA				S		Sn	17 46 21.0	-5.7
	6.1nm,0.3s,baz=333,slow=21,SNR=14							
WB2	**Warramunga Arr**	13.86	163	*e*Pn		Pn	17 43 53.1	-0.1
WC3	**Warramunga Arr**	13.88	163	*e*Pn		Pn	17 43 53.5	0.0
COEN	**Coen**	14.72	121	*e*Pn		P	17 44 10.3	+3.9
COEN				*e*Sn		Sn	17 46 43.2	-4.3
AS31	**Alice Springs**	17.33	168	*e*P		Pn	17 44 38.4	+2.4
	5.0nm,0.4s							
ASAR	**Alice Springs**	17.33	168	P		Pn	17 44 37.7	+1.6
	1.4nm,0.3s,baz=346,slow=11,SNR=63							
ASAR				S		S	17 47 42.5	-5.9
	1.1nm,0.3s,baz=351,slow=28,SNR=7.6							
AS01	**Alice Springs**	17.34	168	*e*P		Pn	17 44 38.7	+2.6
AS01				*e*S		S	17 47 44.4	-4.2
MBWA	**Marble Bar**	17.64	214	*e*P		P	17 44 38.8	+0.2
	33nm,1.4s							
KKM	**Kota Kinabalu**	18.77	312	*e*P		P	17 44 50.4	-0.6
SBUM	**Sibu**	20.06	296	*e*P		P	17 45 04.8	-0.1
	12nm,1.3s							
BBOO	**Buckleboo**	26.63	169	*e*P		P	17 46 10.7	+2.8
	18nm,1.0s							
STKA	**Stephens Creek**	27.30	158	P		P	17 46 16.9	+2.9
	1.6nm,0.6s,baz=345,slow=9.7,SNR=5.1							
STKA	**Stephens Creek**	27.30	158	*e*P		P	17 46 17.1	+3.2
	7.3nm,2.0s							
LZH	**Lanzhou**	49.15	332	*e*P		P	17 49 19.2	+3.0
LZH				pP		sP	17 49 59.0	-6.7
LZH				sP		pP	17 50 08.4	+19
LZH				pmax	pmax			
	comp=Z,18nm,1.0s							
LZH				pmax	pmax			
	comp=Z,170nm,5.0s							
HHC	**Hu-ho-hao-te**	50.23	342	*e*P		P	17 49 26.3	+2.1
HHC				pmax	pmax			
	comp=Z,27nm,1.3s							
HHC				pmax	pmax			
	comp=Z,51nm,4.8s							
WMQ	**Urumqi**	63.17	327	P		P	17 50 56.0	+0.6
WMQ				pP		pP	17 51 30.6	+0.3
WMQ				sP		sP	17 51 46.6	+0.4
WMQ				pmax	pmax			
	comp=Z,8.0nm,0.6s							
WMQ				pmax	pmax			
	comp=Z,49nm,4.1s							
WMQ				LR	LR			
	comp=N,130nm,20.1s							
WMQ				LR	LR			
	comp=E,71nm,18.9s							
WMQ				LR	LR			
	comp=Z,80nm,18.9s							
MK01	**Makanchi Array**	67.98	327	*e*P		P	17 51 25.7	-0.6
MK31	**Makanchi Array**	68.00	327	*e*P		P	17 51 25.8	-0.5
MKAR	**Makanchi Array**	68.00	327	*e*P		P	17 51 25.9	-0.4
	comp=Z,10.0nm,0.7s							
MAKZ	**Makanchi**	68.18	327	*e*P		P	17 51 27.7	+0.2
	comp=Z,2.2nm,1.0s							
VNDA	**Vanda**	72.81	173	P		P	17 51 57.3	+2.3
	comp=Z,0.3nm,0.6s,baz=328,slow=6.8,SNR=2.8							

JMA 02 17:40:51.0±0.1, 38°27N×143°99E, h41km, M3.7, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
OFUJ	**Ofunato**	1.99	295	P		Pn	17 41 23.5	+1.4
JIO	**Ouri**	2.08	276	P		Pn	17 41 24.5	+1.1
JIO				*e*S		Sn	17 41 49.1	+1.0
MIYJ	**Miyakonagasawa**	2.14	308	P		Pn	17 41 25.3	+1.1
MIYJ				*e*S		Sn	17 41 51.3	+1.8
JMK	**Ichinoseki**	2.27	288	P		Pn	17 41 27.7	+1.7
JOM	**Ohasama**	2.42	301	P		Pn	17 41 30.0	+1.9
JYK	**Kaneyama**	2.92	284	P		Pn	17 41 37.0	+2.1
JFT	**Otama**	2.99	257	P		Pn	17 41 37.5	+1.7
JFT				*e*S		Sn	17 42 11.1	+0.7
JOT	**Ohata**	3.85	325	*e*S		Sn	17 42 32.0	+0.5
JCH	**Churui**	4.37	354	P		Pn	17 41 56.0	+1.2

ISCJB ***02*** *17:54:06.8±1.1, 34°.67N±0°.05×25°.11E±0°.03, h5km±6km, mb3.3/1, Error ellipse: s-maj=8.4km s-min=4.7km az=1.6*

CSEM ***02*** *17:54:07.9±0.6, 34°.71N×25°.08E, h8km, ML3.3, Error ellipse: s-maj=11.9km s-min=5.5km az=177.0*

ATH ***02*** *17:54:08.7, 34°.75N×25°.06E, h10km±3km, ML3.4/3, Error ellipse: s-maj=3.6km s-min=1.2km az=357.0*

THE ***02*** *17:54:08.6, 34°.78N×25°.07E, h2km±3km, ML3.3/4, Error ellipse: s-maj=3.4km s-min=0.8km az=172.0*

IDC ***02*** *17:54:08.1±1.5, 34°.73N×25°.05E, h0km, mb3.5/1, mb1 3.5/7, mb1mx3.3/48, mbtmp3.4/7, ML3.4/6, Error ellipse: s-maj=23.3km s-min=10.8km az=71.0*

ISC 02 17:54:08.4±1.3, 34°.73N±0°.05×25°.07E±0°.02, h11km±9km, n53, σ1§01/71, Crete

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
SIVA	**Sivas**	0.36	324	P		Pg	17 54 15.4	-0.2
SIVA				S		Sg	17 54 19.7	-0.7
SIVA	**Sivas**	0.36	324	P		Pg	17 54 15.4	-0.2
SIVA				S		Sg	17 54 20.4	0.0
SIVA	**Sivas**	0.36	324	P		Pg	17 54 15.8	+0.2
SIVA				S		Sg	17 54 20.7	+0.3
SIVA				AML	AML		17 54 22.1	
	comp=E,74113μm,0.3s							
SIVA				AML	AML		17 54 22.8	
	comp=N,33736μm,0.4s							
TMBK	**Timbaki Herakl**	0.42	324	P		Pg	17 54 16.8	0.0
TMBK				S		Sg	17 54 22.5	+0.1
TMBK	**Timbaki Herakl**	0.42	324	P		Pg	17 54 16.8	0.0
TMBK				S		Sg	17 54 22.5	+0.1
LAST	**Lasithi**	0.55	38	P		Pg	17 54 18.7	-0.4
LAST				S		Sg	17 54 26.4	0.0
LAST	**Lasithi**	0.55	38	P		Pg	17 54 18.7	-0.4
LAST				S		Sg	17 54 26.4	0.0
LAST	**Lasithi**	0.55	38	P		Pb	17 54 19.6	-0.5
IDI	**Anoyia**	0.58	345	Pg		Pg	17 54 19.2	-0.5
	comp=N,44nm,0.3s,baz=170,slow=19,SNR=143							
IDI				Lg		Lg	17 54 26.7	
	comp=N,325nm,0.3s,baz=143,slow=20,SNR=110							
IDI	**Anoyia**	0.58	345	P		Pg	17 54 18.9	-0.7
IDI				S		Sg	17 54 26.5	-0.8
IDI	**Anoyia**	0.58	345	P		Pg	17 54 19.0	-0.7
IDI				S		Sg	17 54 26.7	-0.7
IDI				AML	AML		17 54 27.7	
	comp=E,10044μm,0.5s							
IDI				AML	AML		17 54 28.3	
	comp=N,4884μm,0.3s							
NPS	**Neapolis**	0.69	40	P		Pg	17 54 21.2	-0.7
NPS				S		Sb	17 54 31.4	-0.7
NPS	**Neapolis**	0.69	40	P		Pg	17 54 21.9	0.0
NPS				S		Sg	17 54 30.9	-0.1
NPS	**Neapolis**	0.69	40	P		Pg	17 54 22.1	+0.2
NPS				S		Sg	17 54 30.6	-0.5
GVD	**Gavdhos**	0.81	278	P		Pg	17 54 24.1	-0.1
GVD				S		Sb	17 54 36.7	+1.2
GVD	**Gavdhos**	0.81	278	P		Pg	17 54 24.0	-0.1
GVD				S		Sb	17 54 36.7	+1.2
GVD	**Gavdhos**	0.81	278	P		Pg	17 54 24.0	-0.1
GVD				AML	AML		17 54 45.0	
	comp=N,7819μm,0.7s							
GVD				AML	AML		17 54 45.2	
	comp=E,7689μm,0.7s							
VAM	**Vamos**	0.98	314	P		Pg	17 54 26.2	-1.2
VAM				S		Sb	17 54 41.3	+0.9
VAM	**Vamos**	0.98	314	P		Pg	17 54 26.2	-1.2
VAM				S		Sb	17 54 41.3	+0.9
ZKR	**Zakros**	1.02	68	P		Pg	17 54 27.8	-0.3
ZKR	**Zakros**	1.02	68	P		Pg	17 54 27.7	-0.3
IMMV	**Iera Moni Meta**	1.15	310	P		Pg	17 54 28.9	-1.7
IMMV	**Iera Moni Meta**	1.15	310	P		Pg	17 54 29.4	-1.2
IMMV	**Iera Moni Meta**	1.15	310	P		Pg	17 54 28.7	-1.9
THR6	**Thira Island,**	1.65	9	P		Pn	17 54 36.8	-0.4
THR6	**Thira Island,**	1.65	9	P		Pn	17 54 36.8	-0.4
SAP1	**Santorini-Akro**	1.65	9	P		Pb	17 54 39.0	+0.2
SAP1	**Santorini-Akro**	1.65	9	P		Pb	17 54 38.9	+0.1
THR3	**Thira Island,**	1.70	9	P		Pn	17 54 38.2	+0.3
THR3	**Thira Island,**	1.70	9	P		Pn	17 54 38.2	+0.3
THR5	**Thira Island,**	1.70	8	P		Pn	17 54 38.2	+0.2
THR5	**Thira Island,**	1.70	8	P		Pn	17 54 38.2	+0.2
ANKY	**Antikythira Is**	1.84	309	P		Pn	17 54 39.0	-0.9
ANKY	**Antikythira Is**	1.84	309	P		Pn	17 54 39.0	-0.9
ANKY	**Antikythira Is**	1.84	309	P		Pb	17 54 42.1	+0.1
KARP	**Karpathos**	1.90	64	P		Pn	17 54 39.5	-1.3
KARP	**Karpathos**	1.90	64	P		Pn	17 54 39.5	-1.3
KARP	**Karpathos**	1.90	64	P		Pg	17 54 45.5	+0.7
MHLO	**Agia Marina, M**	2.03	345	P		Pn	17 54 42.1	-0.4
MHLO	**Agia Marina, M**	2.03	345	P		Pn	17 54 42.1	-0.4
MHLO	**Agia Marina, M**	2.03	345	P		Pn	17 54 43.8	+1.3
KYTH	**Kithira**	2.25	313	P		Pb	17 54 49.6	+0.5
APE	**Apeiranthos**	2.36	9	P		Pn	17 54 48.9	+1.7
APE	**Apeiranthos**	2.36	9	P		Pn	17 54 48.3	+1.1
VLI	**Veliai**	2.63	319	P		Pn	17 54 50.3	-0.5
VLI	**Veliai**	2.63	319	P		Pn	17 54 50.3	-0.5
BRTR	**Keskin Array B**	8.46	51	Pn		Pn	17 56 12.4	+1.4
	comp=E,0.0nm,0.3s,baz=235,slow=9.6,SNR=2.9							
MMAI	**Mount Meron Ar**	8.76	98	Pn		Pn	17 56 14.7	-0.3
	comp=E,0.3nm,0.3s,baz=280,slow=13,SNR=3.3							
MMAI				Sn		Sn	17 57 52.5	-1.4
	comp=E,0.4nm,0.3s,baz=305,slow=10.0,SNR=2.4							
EIL	**Elat**	9.77	118	Pn		Pn	17 56 30.2	+1.3
	comp=E,0.4nm,0.3s,baz=360,slow=4.9,SNR=4.4							
EIL				Sn		Sn	17 58 14.3	-4.3
	comp=E,0.3nm,0.3s,baz=43,slow=19,SNR=2.4							
AKASG	**Malin Array Be**	16.25	9	Pn		P	17 57 58.6	-0.9
	comp=E,0.6nm,0.3s,baz=201,slow=11,SNR=3.5							
GERES	**GERESS Array B**	16.43	333	Pn		P	17 58 02.1	+0.4
	comp=E,0.1nm,0.3s,baz=150,slow=12,SNR=6.2							
KBZ	**Khabaz**	16.45	52	Pn		P	17 58 04.8	+2.9
	comp=E,0.1nm,0.3s,baz=250,slow=15,SNR=2.8							
TORD	**Torodi Ar. Bea**	30.16	230	P		P	18 00 19.5	+1.0
	comp=E,0.3nm,0.4s,baz=36,slow=9.1,SNR=4.5							

ISCJB ***02*** *18:03:39.7±1.1, 37°.72N±0°.08×143°.20E±0°.09, h18km, mb3.5/3, Error ellipse: s-maj=11.7km s-min=10.1km az=33.6*

JMA ***02*** *18:03:40.2±0.3, 37°.78N×143°.23E, h30km, M3.6*

IDC ***02*** *18:04:12.7±4.6, 36°.67N×139°.57E, h215km±21km, mb3.0/3, mb1 3.1/4, mb1mx2.8/43, mbtmp3.5/4, Error ellipse: s-maj=115.0km s-min=18.8km az=71.0*

ISC 02 18:03:40.8±1.6, 37°.87N±0°.08×143°.2E±0°.1, h18km, n13, σ1§11/15, mb3.5/3, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
JIO	**Ouri**	1.55	293	P		Pb	18 04 07.8	-1.2
JIO				*e*S		Sn	18 04 27.8	+0.6
OFUJ	**Ofunato**	1.69	316	P		Pn	18 04 10.0	+0.5
JMM	**Marumori**	1.88	271	P		Pn	18 04 11.9	-0.2
JMM				*e*S		Sn	18 04 35.0	-0.3
JOM	**Ohasama**	2.18	318	P		Pb	18 04 18.2	-1.5
JFT	**Otama**	2.27	262	P		Pn	18 04 18.1	+0.6
JYK	**Kaneyama**	2

SOEI	Soe	23.21	260	*e*P		P		18 22 01.5	+0.6
	21nm,0.8s								
ARMA	Armidale	24.12	171	*e*P		P		18 22 10.3	+1.2
	63nm,1.6s								
FITZ	Fitzroy Crossi	24.23	240	P		P		18 22 10.0	-0.1
	26nm,0.6s,baz=56,slow=12,SNR=136								
FITZ				LR		LR		18 32 10.2	
	comp=Z,117nm,18.6s,baz=60,slow=38								
FITZ	Fitzroy Crossi	24.23	240	*e*P		P		18 22 09.9	-0.2
MMRI	Maumere	25.12	264	*e*P		P		18 22 17.7	-0.6
	70nm,0.6s								
LUWI	Luwuk	25.24	281	*e*P		P		18 22 19.7	+0.4
	56nm,0.9s								
STKA	Stephens Creek	25.85	192	P		P		18 22 25.1	+0.5
	3.1nm,0.4s,baz=3.1,slow=8.5,SNR=15								
STKA	Stephens Creek	25.85	192	*e*P		P		18 22 25.0	+0.3
	6.1nm,1.6s								
KAPI	Kappang	27.63	272	*e*P		P		18 22 41.4	+0.4
	18nm,1.2s								
BBOO	Buckleboo	28.26	201	*e*P		P		18 22 46.7	+0.3
	79nm,1.6s								
MBWA	Marble Bar	30.56	239	*e*P		P		18 23 05.7	-1.1
	27nm,1.4s								
MYLDM	Lahad Datu	31.17	291	*e*P		P		18 23 11.6	-0.7
	12nm,1.1s								
FUNA	Funafuti	31.50	96	*e*P		P		18 23 13.5	-1.7
	268nm,1.5s								
MSVF	Nonsavu	31.85	113	*e*P		P		18 23 17.2	-1.1
	63nm,1.7s								
JAGI	Jajag, Banyuwa	33.10	264	*e*P		P		18 23 26.9	-2.3
	89nm,1.9s								
KKM	Kota Kinabalu	33.60	291	*e*P		P		18 23 32.8	-0.9
	5.0nm,0.9s								
TAU	Tasmania Unive	36.27	180	*e*P		P		18 23 55.2	-1.0
	85nm,1.5s								
SBUM	Sibu	36.31	283	*e*P		P		18 23 56.1	-0.8
	5.2nm,0.9s								
UGM	Wanagama	36.69	265	*e*P		P		18 23 59.1	-1.1
	328nm,1.7s								
OUZ	Omahuta	37.34	144	*e*P		P		18 24 04.2	-1.3
	111nm,1.9s								
KSM	Kuching	37.95	281	*e*P		P		18 24 10.1	-0.8
	9.3nm,1.1s								
JOW	Kunigami	38.00	331	*e*P		P		18 24 10.4	-0.7
	94nm,1.3s								
YOJ	Yonaguni jima	38.93	323	*e*P		P		18 24 18.4	-0.5
	213nm,1.7s								
LBZ	Lake Benmore	42.65	156	*e*P		P		18 24 48.0	-1.3
	129nm,1.7s								
DLV	T Lat	42.89	295	*e*P		P		18 24 51.2	-0.7
	94nm,1.6s								
KULM	Kulim	48.19	283	*e*P		P		18 25 33.5	-0.2
	7.1nm,0.6s								
GYA	Guiyang	51.37	311	*e*P		P		18 25 59.4	+1.7
GYA				pP		sP		18 26 18.2	-3.0
GYA				PcP		PcP		18 27 13.0	+1.3
GYA				PP		PP		18 27 58.4	+3.0
GYA				S		S		18 33 12.6	-0.3
GYA				sS		sS		18 33 45.8	+5.3
GYA				pmax		pmax			
	comp=Z,20nm,0.9s								
GYA				pmax		pmax			
	comp=Z,120nm,5.7s								
KMI	Kunming	53.68	308	P		P		18 26 16.8	+1.9
KMI				pmax		pmax			
	comp=Z,20nm,0.5s								
HHC	Hu-ho-hao-te	57.50	328	*e*P		P		18 26 43.3	+1.4
HHC				pP		sP		18 27 02.8	-2.9
HHC				sP		pP		18 27 13.1	+15
HHC				S		S		18 34 34.6	-0.3
HHC				sS		sS		18 35 07.9	+4.9
HHC				pmax		pmax			
	comp=Z,27nm,1.6s								
HHC				pmax		pmax			
	comp=Z,68nm,5.1s								
HHC				LR		LR			
	comp=N,340nm,18.5s								
HHC				LR		LR			
	comp=E,290nm,18.5s								
HHC				LR		LR			
	comp=Z,160nm,16.0s								
PEA0	Petropavlovsk-	60.00	7	*e*P		P		18 26 58.5	-0.3
PETK	Petropavlovsk-	60.00	7	P		P		18 26 58.5	-0.4
	comp=Z,1.0nm,0.5s,baz=169,slow=6.1,SNR=7.9								
VNDA	Vanda	71.40	177	P		P		18 28 13.0	+1.1
	comp=Z,2.9nm,0.6s,baz=334,slow=6.9,SNR=39								
VNDA	Vanda	71.40	177	*e*P		P		18 28 12.8	+0.8
	comp=Z,3.0nm,0.7s								
WMQ	Urumqi	73.48	319	P		P		18 28 24.9	-0.1
WMQ				pP		pP		18 28 44.5	+2.3
WMQ				sP		sP		18 28 53.0	+3.8
WMQ				pmax		pmax			
	comp=Z,16nm,0.7s								
WMQ				pmax		pmax			
	comp=Z,88nm,6.1s								
WMQ				LR		LR			
	comp=N,120nm,21.3s								
WMQ				LR		LR			
	comp=E,96nm,22.1s								
WMQ				LR		LR			
	comp=Z,100nm,17.7s								
ZALV	Zalesovo Beam	79.68	328	P		P		18 28 57.7	-2.0
	comp=Z,0.7nm,0.6s,baz=115,slow=6.7,SNR=3.6								
KSH	Kashi	80.06	312	*e*P		P		18 29 05.1	+2.8
KSH				pP		sP		18 29 25.1	-1.5
KSH				pmax		pmax			
	comp=Z,83nm,3.8s								
MAW	Mawson	81.98	203	P		P		18 29 12.3	+0.6
	comp=Z,1.5nm,0.7s,baz=90,slow=1.0,SNR=3.4								
QSPA	South Pole Qui	83.48	180	*e*P		P		18 29 20.1	+0.4
ILAR	Eielson Array	85.74	23	P		P		18 29 28.2	-2.7
	comp=Z,0.5nm,0.8s,baz=244,slow=5.0,SNR=3.9								
TORD	Torodi Ar. Bea	145.68	284	PKPbc		PKPbc		18 36 31.7	-0.1
	comp=Z,6.6nm,0.5s,baz=73,slow=4.1,SNR=82								

NEIC ***02*** *18:28:39.8±0.0,51.95N×171.43W,h25km,mb5.0/244, ML5.2(AEIC),After AEIC.*

GCMT ***02*** *18:28:39.8±0.6,51.95N×171.50W,h26km±2km,MW5.2/76, Moment Tensor Solution. s14,c16; s76,c103; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr1.42±.48; Mθθ 1.91±.28; Mφφ-3.33±.34; Mrθ 4.97±.92; Mrφ 2.58±.18; Mθφ-1.68±.57; Best double couple: Mo6.51600×10^16 NP1:φs117.00000°,δ82.00000°,λ55.00000°. NP2: φs16.00000°,δ35.00000°,λ167.00000°. Principal axes: T 6.6960, Plg42.0000°, Azm354.0000°; N -0.3610, Plg34.0000°, Azm122.0000°; P -6.3360, Plg29.0000°, Azm234.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

MOS ***02*** *18:28:40.6±1.0,52.22N×171.54W,h50km,mb5.3/115 Error ellipse: s-maj=6.7km s-min=4.2km az=89.1*

ISCJB ***02*** *18:28:41.0±0.3,52.16N±0.02×171.49W±0.02,h56km±2km, mb5.1/346,MS4.1/34,Error ellipse: s-maj=4.2km s-min=1.9km az=178.5*

BJI ***02*** *18:28:40.0,52.45N×171.74W,h42km,mb5.3/55, mB5.0/34,Ms4.8/26,Ms7 4.5/18*

IDC ***02*** *18:28:42.4±1.6,52.20N×171.50W,h53km±12km,mb4.6/34, mb1 4.7/36,mb1mx4.6/42,mbtmp4.8/36,MS4.0/23, Ms1 3.9/23,ms1mx3.8/39,Error ellipse: s-maj=15.1km s-min=8.7km az=163.0*

ISC 02 18:28:42.0±0.7,52.18N±0.05×171.51W±0.03,h48km±5km, n1072,σ1§15/1122,mb5.1/346,MS4.2/35,55C-18D,Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KOSE	Korovin Southe	1.57	277	P	Pn	18 29 08.3	+0.8
ATKA	Atka Island	1.65	272	*e*Pn	Pn	18 29 08.0	-0.5
NIKH	Nikolski High	1.81	63	*e*Pn	Pn	18 29 09.5	-1.1
OKSO	Okmok South	2.35	59	P	Pn	18 29 18.4	+0.3
OKSO				S	Sn	18 29 49.1	+3.3
OKCE	Okmok Cone E	2.38	57	P	Pn	18 29 19.4	+0.8
OKFG	Magazine Ridge	2.51	59	P	Pn	18 29 20.9	+0.7
GSMY	Great Sitkin M	2.81	269	P	Pn	18 29 24.4	0.0
GSTD	Great Sitkin T	2.86	269	P	Pn	18 29 25.6	+0.5
GSCK	Great Sitkin C	2.87	268	P	Pn	18 29 25.6	+0.3
ETKA	Kagalaska Isla	3.04	266	P	Pn	18 29 26.9	-0.6
ADAG	Mount Adagdak	3.15	268	P	Pn	18 29 29.9	+0.9
MGOD	Makushin Gods	3.24	58	P	Pn	18 29 31.1	+0.9
MCIR	Makushin Cirqu	3.30	56	P	Pn	18 29 32.5	+1.3
MSW	Makushin Switc	3.34	57	P	Pn	18 29 32.6	+0.9
MSW				S	Sn	18 30 12.6	+2.6
MTBL	Makushin Table	3.42	57	P	Pn	18 29 34.1	+1.3
UNV	Unalaska Valle	3.46	59	*e*Pn	Pn	18 29 33.9	+0.7
KIRH	Kanaga Island	3.46	268	P	Pn	18 29 33.6	+0.3
KIKV	Kanaga Island	3.51	267	P	Pn	18 29 34.2	+0.3
KICM	Kanaga Island	3.52	268	P	Pn	18 29 35.0	+0.9
AKRB	Akutan Reef Bi	3.81	57	P	Pn	18 29 39.3	+1.2
AKRB				S	Sn	18 30 25.3	+3.6
AKMO	Akutan Morgan	3.83	58	P	Pn	18 29 39.6	+1.3
AKGG	Akutan Green G	3.89	56	P	Pn	18 29 40.7	+1.6
AKLV	Akutan Long Va	3.89	57	P	Pn	18 29 40.4	+1.2
TAPA	Tanaga Point A	3.91	267	P	Pn	18 29 39.9	+0.3
AKUT	Akutan	3.97	58	*e*Pn	Pn	18 29 41.5	+1.3
TAFL	Tanaga Flats	3.97	266	P	Pn	18 29 40.8	+0.5
TAFP	Tanaga Falls P	4.01	269	P	Pn	18 29 41.6	+0.8
TASE	Tanaga Southea	4.05	268	P	Pn	18 29 41.8	+0.4
WESP	Westdahl Peak	4.68	58	P	Pn	18 29 51.3	+1.1
WESE	West Dahl East	4.74	58	P	Pn	18 29 52.4	+1.4
WESN	West Dahl Nort	4.79	57	P	Pn	18 29 52.6	+1.1
SPIA	Saint Paul Isl	5.06	8	*e*Pn	Pn	18 29 58.8	+3.6
SSLS	Shishaldin Sou	5.16	58	P	Pn	18 29 57.0	+0.4
SSLN	Shishaldin Nor	5.20	57	P	Pn	18 29 57.6	+0.4
DT1	Dutton Round H	6.22	58	P	Pn	18 30 12.0	+0.8
DTNA	Dutton South F	6.25	58	P	Pn	18 30 12.3	+0.7
DOL	Dolgoi Island	6.46	59	P	Pn	18 30 16.0	+1.6
SDPT	Sand Point	7.27	60	*e*Pn	Pn	18 30 25.5	+0.1
CHGN	Chignik	8.71	57	*e*Pn	Pn	18 30 44.9	-0.3
SMY	Shemya	8.81	279	*e*P	Pn	18 30 46.8	+0.2
SMY	Shemya	8.81	279	*e*Pn	Pn	18 30 46.8	+0.2
GAMB	Gambell	11.63	360	*e*Pn	Pn	18 31 26.7	+1.6
	230nm,1.2s						
GAMB				*e*Sn	Sn	18 33 29.4	-3.8
OHAK	Old Harbor	11.67	57	*e*Pn	Pn	18 31 24.7	-0.9
KDAK	Kodiak Island	12.21	55	*i* P	Pn	18 31 30.8	-2.2
KDAK	Kodiak Island	12.21	55	*e*Pn	Pn	18 31 30.5	-2.5
SVW2	Sparrevohn	12.48	38	*e*Pn	Pn	18 31 40.9	+4.1
HOM	Homer	13.38	48	*e*Pn	Pn	18 31 49.1	+0.1
CNPM	China Poot	13.52	49	*e*Pn	Pn	18 31 49.6	-1.2
TT01	Tatalina	13.54	31	*e*Pn	Pn	18 31 54.9	+3.7
TTA	Tatalina	13.56	31	*e*P	Pn	18 31 55.2	+3.7
TTA	Tatalina	13.56	31	*e*Pn	Pn	18 31 55.2	+3.7
BRLK	Bradley Lake	13.78	48	*e*Pn	Pn	18 31 53.9	-0.5
SEW	Seward	14.57	48	*e*Pn	Pn	18 32 03.0	-2.0
SEW				*e*Sn	Sn	18 34 52.4	+7.4
PPLA	Purkeypile	14.86	36	*e*Pn	P	18 32 14.3	+0.6
RC01	Rabbit Creek A	14.87	45	*e*Pn	Pn	18 32 07.8	-1.1
CAST	Castle Rocks	15.22	35	*e*Pn	P	18 32 16.2	-1.4
	45nm,0.7s						
PMR	Palmer	15.36	43	*e*P	P	18 32 17.3	-1.8
PMR				pmax	pmax		
	comp=Z,41nm,0.9s						
PMR	Palmer	15.36	43	*e*Pn	P	18 32 17.3	-1.8
	comp=Z,41nm,0.9s						
KTH	Kantishna Hill	15.71	36	*e*Pn	P	18 32 23.0	-0.2
	comp=Z,109nm,1.0s						
SML	Sawmill	15.80	43	*e*P	Pn	18 32 20.5	-0.4
SML				*e*		18 35 16.7	
SML				pmax	pmax		
	comp=Z,47nm,0.8s						
SML	Sawmill	15.80	43	*e*Pn	Pn	18 32 20.5	-0.4
	comp=Z,47nm,0.8s						
SML				*e*Sn	Sn	18 35 16.7	+2.0
MID	Middleton Isla	15.83	53	*e*P	Pn	18 32 22.6	+1.4
MID				pmax	pmax		
	comp=Z,774nm,1.4s						
MID	Middleton Isla	15.83	53	*e*Pn	Pn	18 32 22.6	+1.4
	comp=Z,774nm,1.4s						
TRF	Thorofare Moun	15.88	36	*e*Pn	P	18 32 24.1	-1.0
	comp=Z,376nm,2.0s						
FID	Port Fidalgo	16.18	48	*e*Pn	Pn	18 32 23.5	-2.3
	comp=Z,123nm,1.1s						
FID				*e*Sn	Sn	18 35 18.9	-5.2
SCM	Sheep Creek Mo	16.23	44	*e*P	Pn	18 32 24.7	-1.8
SCM				*e*		18 35 25.8	
SCM				pmax	pmax		
	comp=Z,104nm,1.0s						
SCM	Sheep Creek Mo	16.23	44	*e*Pn	Pn	18 32 24.7	-1.8
	comp=Z,104nm,1.0s						
SCM				*e*Sn	Sn	18 35 25.8	+0.4
RND	Reindeer	16.39	38	*e*P	Pn	18 32 28.9	+0.5
RND				pmax	pmax		
	comp=Z,43nm,0.9s						
RND	Reindeer	16.39	38	*e*Pn	Pn	18 32 28.9	+0.5
	comp=Z,43nm,0.9s						
EYAK	Cordova Ski Ar	16.45	49	*e*Pn	Pn	18 32 29.2	0.0
	comp=Z,34nm,0.6s						
MCK	McKinley	16.54	37	*e*P	Pn	18 32 31.0	+0.7
MCK				pmax	pmax		
	comp=Z,74nm,1.2s						
MCK	McKinley	16.54	37	*e*Pn	Pn	18 32 31.0	+0.7
	comp=Z,74nm,1.2s						
DIV	Divide	16.64	47	*e*Pn	Pn	18 32 30.9	-0.8
	comp=Z,36nm,0.7s						
DIV				*e*Sn	Sn	18 35 33.8	-1.4
DHY	Denali Highway	16.79	40	*e*Pn	Pn	18 32 33.6	+0.1
	comp=Z,58nm,1.1s						
BMRM	Bremner River	17.12	49	*e*Pn	Pn	18 32 36.3	-1.3
	comp=Z,57nm,0.8s						
WRH	Wood River Hil	17.26	35	*e*Pn	Pn	18 32 39.3	0.0
	comp=Z,55nm,0.9s						
HARP	HAARP	17.40	44	*e*Pn	Pn	18 32 40.2	-0.9
	comp=Z,74nm,0.9s						
CCB	Clear Creek Bu	17.46	35	*e*Pn	Pn	18 32 40.2	-1.5
	comp=Z,26nm,0.8s						
MDM	Murphy Dome	17.50	34	*e*Pn	Pn	18 32 41.9	-0.2
	comp=Z,54nm,1.0s						
PAX	Paxson	17.51	42	*e*P	Pn	18 32 35.6	-6.9
PAX				*e*		18 35 52.8	
PAX				pmax	pmax		
	comp=Z,99nm,1.4s						
PAX	Paxson	17.51	42	*e*Pn	Pn	18 32 35.6	-6.9
	comp=Z,99nm,1.4s						
PAX				*e*Sn	Sn	18 35 52.8	-3.5
COLA	College	17.58	35	*e*P	Pn	18 32 42.3	-0.8
COLA				pmax	pmax		
	comp=Z,6.0nm,0.8s						
HDA	Harding Lake	17.64	37	*e*Pn	Pn	18 32 42.2	-1.7
	comp=Z,76nm,1.4s						
ILAR	Eielson Array	17.86	36	P	Pn	18 32 44.8	-1.9
	comp=Z,2.6nm,0.3s,baz=239,slow=10,SNR=61						
ILAR				S	Sn	18 36 04.9	+0.4
	comp=Z,0.1nm,0.3s,baz=212,slow=11,SNR=3.2						
ILAR				LR	LR	18 40 14.5	
	comp=Z,187nm,20.3s,baz=248,slow=39						
ILAR				ScP	ScP	18 40 49.5	-1.9
	comp=Z,0.1nm,0.3s,baz=246,slow=3.7,SNR=4.8						
ILB	Eielson Array	17.86	36	*e*Pn	Pn	18 32 44.4	-2.2
IL1	Eielson Array	17.86	36	*e*Pn	Pn	18 32 44.2	-2.4
PET	Petropavlovsk	18.09	285	*e*P	Pn	18 32 50.7	+1.3
PET				*e*S	Sn	18 36 07.0	-3.1
PET				pmax	pmax		
	comp=Z,22nm,0.9s						
PET				MLR	MLR		
	comp=Z,400nm,19.0s						
PET				MLR	MLR		
	comp=Z,500nm,18.0s						
PET	Petropavlovsk	18.09	285	*e*P	P	18 32 47.7	-1.6
	comp=Z,84nm,1.6s						
BALM	Baldy	18.19	49	*e*P	Pn	18 32 52.1	+1.3
BALM				pmax	pmax		
	comp=Z,35nm,0.8s						
BALM	Baldy	18.19	49	*e*Pn	Pn	18 32 52.1	+1.3
	comp=Z,35nm,0.8s						
MENT	Mentasta	18.22	43	*e*P	Pn	18 32 51.3	+0.3
	comp=Z,28nm,0.6s						
COLD	Coldfoot	18.36	27	*e*P	Pn	18 32 53.4	+0.8
	comp=Z,40nm,1.1s						
DOT	Dot Lake	18.38	41	*e*P	P	18 32 52.1	-0.4
	comp=Z,124nm,1.2s						
PEA0	Petropavlovsk-	18.64	285	*e*P	Pn	18 32 56.6	+0.4
PEA0B	Petropavlovsk-	18.64	285	*e*P	Pn	18 32 56.5	+0.4
	comp=Z,41nm,0.8s						
PETK	Petropavlovsk-	18.64	285	P	Pn	18 32 56.2	0.0
	comp=Z,2.9nm,0.3s,baz=78,slow=15,SNR=27						
PCA	Pinnacle	18.98	53	*e*P	Pn	18 33 00.4	+0.1
	comp=Z,153nm,0.6s						
FYU	Fort Yukon	19.44	32	*e*P	Pn	18 33 05.0	-0.6
	comp=Z,128nm,1.3s						
TOLK	Toolik Lake Re	19.54	24	P	P	18 33 04.8	-0.5
	baz=223						
DHAK	Deception Hill	19.86	57	*e*P	P	18 33 09.5	+0.8
	comp=Z,109nm,0.8s						
EGAK	Eagle	20.01	39	*e*P	P	18 33 10.8	+0.5
	comp=Z,38nm,0.6s						
DAWY	Dawson	20.45	42	*e*P	P	18 33 15.5	+0.5
	comp=Z,33nm,1.0s						
HYT	Haines Junctio	20.45	52	*e*P	Pn	18 33 16.8	-1.0
	comp=Z,160nm,1.0s						
SKAG	Skagway	21.37	56	*e*P	P	18 33 26.2	+1.3
	comp=Z,90nm,0.8s						
WHY	Whitehorse	21.70	53	*e*P	P	18 33 29.6	+0.9
	comp=Z,48nm,0.8s						
SEY	Seymchan	21.84	314	P	P	18 33 30.9	+1.0
	comp=Z,38nm,0.7s,baz=187,slow=23,SNR=28						
SEY				PcP	PcP	18 37 28.2	+0.4
	comp=Z,4.9nm,0.6s,baz=124,slow=3.6,SNR=3.4						
MA2	Magadan	22.16	304	P	P	18 33 34.3	+0.9
	comp=Z,21nm,0.9s,baz=92,slow=14,SNR=3.5						
MA2	Magadan	22.16	304	*e*P	P	18 33 39.4	+6.0
WRAK	Wrangell Islan	23.02	64	*e*P	P	18 33 43.4	+0.9
	comp=Z,26nm,0.8s						
DIB	Dawson Inlet,	23.49	72	*e*P	P	18 33 49.6	+2.6
	comp=Z,37nm,0.9s						
DLBC	Dease Lake	24.11	59	P	P	18 33 55.0	+2.1
	comp=Z,50nm,0.6s,baz=282,slow=8.0,SNR=35						
DLBC	Dease Lake	24.11	59	*e*P	P	18 33 54.8	+1.9
	comp=Z,74nm,0.7s						
INK	Inuvik	24.23	34	P	P	18 33 54.0	+0.2
	comp=Z,26nm,0.4s,baz=242,slow=6.9,SNR=187						
INK				PP	PnPn	18 34 23.9	-1.2
	comp=Z,10nm,0.5s,baz=263,slow=9.0,SNR=3.7						
INK				PcP	PcP	18 37 32.5	-0.2
	comp=Z,7.6nm,0.7s,baz=244,slow=3.4,SNR=3.6						
INK	Inuvik	24.23	34	*e*P	P	18 33 54.0	+0.2
	comp=Z,27nm,0.6s						
INK				PP	PnPn	18 34 23.9	-1.2
INK				PcP	PcP	18 37 32.5	-0.2
BBB	Bella Bella	26.32	73	P	P	18 34 14.3	+1.5
	comp=Z,16nm,1.0s,baz=315,slow=9.2,SNR=5.5						
LLLB	Lillooet	30.52	73	*e*P	P	18 34 51.5	+1.1
	comp=Z,18nm,0.8s						
A04D	Lummi Island	30.80	77	P	P	18 34 52.4	-0.3
	baz=295						
ASAJ	Asahikawa	31.21	274	*e*P	P	18 34 56.4	0.0
	comp=Z,56nm,1.2s						
YKA	Yellowknife Ar	31.35	48	P	P	18 34 57.4	-0.1
	comp=Z,5.8nm,0.5s,baz=274,slow=7.9,SNR=77						
YKA				PcP	PcP	18 37 49.6	-0.4
	comp=Z,2.3nm,0.7s,baz=304,slow=2.4,SNR=4.8						
YKA				ScP	ScP	18 41 29.4	+0.6
	comp=Z,1.7nm,0.9s,baz=289,slow=3.8,SNR=3.2						
YKA				LR	LR	18 48 43.6	
	comp=Z,50nm,19.8s,baz=180,slow=38						
B05A	Bryant	31.36	77	P	P	18 34 57.2	-0.5
	baz=296,SNR=5.6						
D05A	Enumclaw	31.91	79	*e*P	P	18 35 04.1	+1.5
	comp=Z,53nm,1.1s						
ERM	Erimo	32.01	270	*e*P	P	18 35 04.7	+1.3
ERM				pmax	pmax		
	comp=Z,34nm,0.8s						
G03D	McMinnville, O	32.09	83	P	P	18 35 03.8	-0.4
	baz=300						
TIXI	Tiksi	32.22	329	P	P	18 35 04.5	-0.5
	comp=Z,10nm,0.8s,baz=92,slow=6.6,SNR=2.8						
TIXI				PcP	PcP	18 37 52.5	+0.2
	comp=Z,6.5nm,0.4s,baz=104,slow=4.7,SNR=6.2						
F04A	Amboy	32.25	81	*e*P	P	18 35 06.6	+1.0
	comp=Z,19nm,0.6s						
YAK	Yakutsk	32.30	311	*e*P	P	18 35 04.5	-1.3
YAK				*e**PP	pP	18 35 16.0	-2.5
YAK				*e*		18 37 52.5	
YAK				*e*S	S	18 40 13.2	-2.6
YAK				*e*		18 45 29.0	
YAK				pmax	pmax		
	comp=Z,44nm,1.0s						
YAK				pmax	pmax		
	comp=E,19nm,1.1s						
YAK				pmax	pmax		
	comp=N,4.0nm,1.2s						
YAK				smax	smax		
	comp=E,103nm,3.7s						
YAK				smax	smax		
	comp=N,91nm,3.0s						
YAK				MLR	MLR		
	comp=Z,384nm,19.0s						
YAK				MLR	MLR		
	comp=E,250nm,18.0s						
YAK	Yakutsk	32.30	311	*e*P	P	18 35 05.3	-0.5
	comp=E,35nm,0.8s						
YAK				*e*PcP	PcP	18 37 52.5	-0.2
LTY	Liberty	32.68	78	*e*P	P	18 35 09.9	+0.5
	comp=E,35nm,1.6s						
I03D	Drain, OR	32.82	85	P	P	18 35 11.5	+0.9
	baz=302						
B08A	Colville Reser	32.97	75	*e*P	P	18 35 12.5	+0.6
	comp=E,22nm,0.6s						
I04A	Tendick Farm,	33.35	85	P	P	18 35 15.4	+0.2
	baz=302						
E07A	Sunnyside	33.50	79	*e*P	P	18 35 16.7	+0.1
	comp=E,12nm,0.8s						
L02D	Cave Junction,	33.51	88	P	P	18 35 17.1	+0.5
	baz=304						
G06A	Carlson Farm,	33.68	81	*e*P	P	18 35 19.1	+0.9
	comp=E,18nm,1.4s						
HAWA	Hanford	33.77	79	*e*P	P	18 35 20.0	+1.1
D08A	Wollman Farm,	33.82	77	*e*P	P	18 35 19.9	+0.6
	comp=E,11nm,0.6s						
YBH	Yreka Blue Hor	34.30	88	*e*P	P	18 35 24.5	+0.9
YBH				pmax	pmax		
	comp=Z,17nm,1.4s						
YBH	Yreka Blue Hor	34.30	88	*e*P	P	18 35 24.4	+0.9
	comp=Z,17nm,1.4s						
NEW	Newport	34.33	74	P	P	18 35 23.9	+0.2
	baz=297,SNR=15						
NEW	Newport	34.33	74	*e*P	P	18 35 24.3	+0.6
NEW				pmax	pmax		
	comp=Z,30nm,0.8s						
NEW	Newport	34.33	74	*e*P	P	18 35 24.3	+0.6
	comp=Z,30nm,0.8s						
J05D	Fort Rock, OR	34.34	85	P	P	18 35 24.7	+0.7
	baz=303						
M02C	Callahan	34.41	89	P	P	18 35 25.2	+0.7
	baz=305						
EDM	Edmonton	34.42	65	*e*P	P	18 35 24.9	+0.5
EDM				pmax	pmax		
	comp=Z,64nm,0.6s						
EDM	Ed

baz=300
MSO Missoula 36.91 75 *e*P **P 18 35 46.4 +0.4**
comp=Z,23nm,1.1s
MSO *e*PcP **PcP 18 38 06.6 +0.2**
SLMT Seeley Lake 36.97 74 *e*P **P 18 35 46.8 +0.2**
AFDM Forest Hills D 37.02 90 *e*P **P 18 35 46.9 +0.1**
comp=Z,11nm,1.1s
CHMT Chamberlain Mo 37.28 74 *e*P **P 18 35 49.1 -0.1**
PAHR Pah Rah Range 37.53 88 *e*P **P 18 35 52.4 +1.0**
comp=Z,23nm,0.9s
MFID Camas Ranch 37.57 81 *e*P **P 18 35 51.7 +0.1**
comp=Z,12nm,1.0s
USRK Ussuriysk Ar. 37.64 281 P **P 18 35 52.7 +0.7**
comp=Z,2.7nm,0.7s,baz=56,slow=6.8,SNR=6.2
USRK PcP **PcP 18 38 08.8 +0.2**
comp=Z,1.4nm,0.5s,baz=47,slow=5.3,SNR=2.9
USRK LR LR 18 50 40.7
comp=Z,152nm,21.3s,baz=55,slow=35
H11S1 WAKE ISLAND Hy 37.70 215 T T 19 15 39.6
baz=22,slow=76,SNR=2377
H11S2 WAKE ISLAND Hy 37.72 215 T T 19 15 39.6
baz=22,slow=76,SNR=457
H11S3 WAKE ISLAND Hy 37.72 215 T T 19 15 39.6
baz=22,slow=76,SNR=247
PNTR Pine Nut 37.77 89 *e*P **P 18 35 54.9 +1.4**
comp=Z,34nm,0.8s
CMB Columbia Colle 37.94 91 *e*P **P 18 35 54.8 +0.1**
CMB pmax pmax
comp=Z,9.0nm,0.9s
CMB Columbia Colle 37.94 91 *e*P **P 18 35 54.8 +0.1**
comp=Z,9.1nm,0.9s
YERR Yerington 38.06 89 *e*P **P 18 35 56.6 +0.8**
comp=Z,18nm,0.8s
WAKR Walker 38.23 90 *e*P **P 18 35 58.5 +1.1**
comp=Z,21nm,1.1s
HLID Hailey 38.35 80 P **P 18 35 58.0 -0.2**
baz=303
HLID Hailey 38.35 80 *e*P **P 18 35 58.6 +0.4**
comp=Z,10nm,0.9s
HLID *e*S **S 18 41 54.2 +4.8**
MJAR Matsushiro Arr 38.37 266 P **P 18 35 58.7 +0.4**
comp=Z,13nm,0.9s,baz=40,slow=6.9,SNR=16
MJAR Matsushiro Arr 38.37 266 P **P 18 35 58.7 +0.4**
MJAR pmax pmax
comp=Z,5.0nm,0.6s
MAJO Matsushiro 38.37 266 *e*P **P 18 35 58.9 +0.6**
MAJO pmax pmax
comp=Z,33nm,0.8s
MAJO Matsushiro 38.37 266 *e*P **P 18 35 58.9 +0.6**
comp=Z,34nm,0.8s
MAT Matsushiro 38.37 266 P **P 18 35 59.4 +1.1**
MAT *e*S **S 18 41 53.0 +3.5**
MJB9 Matsu-Tunnel 38.37 266 *e*P **P 18 35 58.7 +0.5**
comp=Z,9.2nm,0.9s
DLMT Dillon 38.47 76 *e*P **P 18 35 59.3 +0.1**
comp=Z,12nm,1.0s
MCMT McKenzie Canyo 38.60 77 *e*P **P 18 36 00.6 +0.2**
TVH1 TV Hill, Hawth 38.68 89 *e*P **P 18 36 01.8 +0.6**
comp=Z,25nm,0.9s
TVH3 East Aurora ar 38.71 90 *e*P **P 18 36 02.3 +0.9**
comp=Z,12nm,0.9s
EGMT Eagleton 38.77 71 P **P 18 36 01.8 +0.2**
baz=300,SNR=18
EGMT Eagleton 38.77 71 *e*P **P 18 36 02.4 +0.8**
comp=Z,37nm,0.7s
BOZ Bozeman (W) 38.92 75 P **P 18 36 02.2 -0.7**
baz=302,SNR=18
BOZ Bozeman (W) 38.92 75 *e*P **P 18 36 02.6 -0.3**
BOZ *e*S **S 18 41 56.0 -1.8**
BOZ pmax pmax
comp=Z,10.0nm,0.7s
BOZ Bozeman (W) 38.92 75 *e*P **P 18 36 02.6 -0.3**
comp=Z,10nm,0.7s
BOZ *e*S **S 18 41 56.0 -1.8**
PAGB Antelope Grade 39.50 94 *e*P **P 18 36 08.5 +0.8**
comp=Z,18nm,0.9s
YHH Holmes Hill 39.82 76 *e*P **P 18 36 10.5 -0.1**
comp=Z,32nm,1.1s
TIN Tinemaha, Big 39.89 91 P **P 18 36 11.3 +0.2**
baz=309
SMMC Simmler 39.93 94 P **P 18 36 11.8 +0.5**
baz=311
FFC Flin Flon 39.94 58 *e*P **P 18 36 11.5 +0.4**
FFC pmax pmax
comp=Z,46nm,1.4s
FFC Flin Flon 39.94 58 *e*P **P 18 36 11.5 +0.4**
comp=Z,46nm,1.4s
YNR Norris Junctio 39.96 76 *e*P **P 18 36 13.4 +1.7**
comp=Z,20nm,0.9s
GCMT Greycliff 39.98 74 *e*P **P 18 36 11.5 -0.2**
H17A Grant Village 40.20 76 P **P 18 36 13.9 +0.1**
baz=303
H17A Grant Village 40.20 76 *e*P **P 18 36 14.9 +1.2**
comp=Z,22nm,1.0s
IMW Indian Meadow 40.26 77 *e*P **P 18 36 14.8 +0.5**
comp=Z,21nm,1.0s
FLWY Flagg Ranch 40.30 77 *e*P **P 18 36 14.4 -0.1**
comp=Z,22nm,1.1s
PKM Mcpherson Peak 40.32 95 P **P 18 36 15.1 +0.3**
baz=312
FXWY Fox Creek 40.35 77 *e*P **P 18 36 15.7 +0.7**
comp=Z,6.9nm,0.8s
HVU Hansel Valley 40.36 81 *e*P **P 18 36 15.2 +0.3**
HVU pmax pmax
comp=Z,10.0nm,0.8s
HVU Hansel Valley 40.36 81 *e*P **P 18 36 15.2 +0.3**
comp=Z,9.9nm,0.8s
CWC Cottonwood Cre 40.38 91 P **P 18 36 15.2 0.0**
baz=310
GRAC Grapevine Rang 40.46 90 P **P 18 36 16.1 +0.4**
baz=310,SNR=17
MOOW Moose Ponds 40.46 77 *e*P **P 18 36 17.1 +1.2**
comp=Z,5.7nm,0.9s
TPAW Teton Pass 40.48 78 *e*P **P 18 36 17.0 +0.9**
comp=Z,16nm,1.0s
RLMT Red Lodge 40.58 74 P **P 18 36 16.8 0.0**
baz=303,SNR=17
RLMT Red Lodge 40.58 74 *e*P **P 18 36 17.1 +0.3**
comp=Z,22nm,0.9s
REDW Red Top Meadow 40.61 78 *e*P **P 18 36 16.4 -0.7**
comp=Z,15nm,1.0s
LOHW Long Hollow 40.62 77 *e*P **P 18 36 16.9 -0.2**
comp=Z,11nm,1.1s
ISA Isabella, Lake 40.64 93 P **P 18 36 16.8 -0.5**
baz=311
SBC Santa Barbara 40.68 95 P **P 18 36 18.0 +0.6**
baz=312
R11A Troy Canyon, C 40.70 87 *e*P **P 18 36 17.5 -0.4**
comp=Z,18nm,0.9s
BGU Big Grassy Mou 40.70 82 *e*P **P 18 36 18.0 +0.2**
comp=Z,35nm,1.7s
ARVC Arvin 40.77 93 P **P 18 36 18.6 +0.4**
baz=311
DAC Darwin (Calif) 40.78 91 *e*P **P 18 36 17.5 -1.1**
DAC pmax pmax
comp=Z,12nm,0.9s
DAC Darwin (Calif) 40.78 91 *e*P **P 18 36 17.4 -1.1**
comp=Z,12nm,0.9s
AHID Auburn Hatcher 40.80 79 *e*P **P 18 36 19.1 +0.4**
comp=Z,15nm,0.9s
MPMC Manual Prospec 40.99 91 P **P 18 36 20.4 +0.1**
baz=310
BSC Santa Cruz Isl 41.03 95 P **P 18 36 19.9 -0.5**
baz=312
BOD Bodaibo 41.08 308 *e*P **P 18 36 19.5 -1.0**
BOD pmax pmax
comp=Z,21nm,0.9s
FURC Furnace Creek, 41.11 90 P **P 18 36 21.0 0.0**
baz=310,SNR=12
TPNV Topopah Spring 41.18 89 P **P 18 36 21.9 +0.2**
baz=310,SNR=35
TPNV Topopah Spring 41.18 89 *e*P **P 18 36 21.3 -0.5**
TPNV pmax pmax
comp=Z,38nm,0.8s
TPNV Topopah Spring 41.18 89 *e*P **P 18 36 21.3 -0.5**
comp=Z,38nm,0.8s
HWUT Hardware Ranch 41.19 80 *e*P **P 18 36 21.8 -0.1**
comp=Z,7.5nm,0.9s
LRMC Laurel Mtn Rad 41.24 92 P **P 18 36 22.6 +0.3**
baz=311
DUG Dugway, Tooele 41.27 83 P **P 18 36 22.4 -0.1**
baz=307,SNR=15
DUG Dugway, Tooele 41.27 83 *e*P **P 18 36 22.5 0.0**
DUG pmax pmax
comp=Z,30nm,1.2s
DUG Dugway, Tooele 41.27 83 *e*P **P 18 36 22.5 0.0**
comp=Z,30nm,1.2s
EDW2 Edwards Air Fo 41.45 93 P **P 18 36 23.2 -0.7**
baz=311
LAO LASA Array 41.52 71 P **P 18 36 24.0 -0.3**
baz=302,SNR=6.3
LAO LASA Array 41.52 71 *e*P **P 18 36 24.8 +0.4**
comp=Z,15nm,0.7s
BW06 Boulder Array 41.73 78 P **P 18 36 25.9 -0.4**
baz=305,SNR=34
BW06 Boulder Array 41.73 78 *e*P **P 18 36 25.5 -0.8**
comp=Z,1.1nm,1.1s
PD31 Pinedale Array 41.73 78 *e*P **P 18 36 25.8 -0.5**
PDAR Pinedale Array 41.73 78 P **P 18 36 26.6 +0.2**
comp=Z,21nm,0.9s,baz=302,slow=4.4,SNR=33
PDAR PcP **PcP 18 38 25.7 +3.7**
comp=Z,1.3nm,0.5s,baz=243,slow=1.0,SNR=3.7
PDAR ScP **ScP 18 42 05.5 -2.3**
comp=Z,2.0nm,1.0s,baz=274,slow=2.4,SNR=6.1
PDAR LR LR 18 51 20.0
comp=Z,254nm,21.3s,baz=310,slow=32
DGMT Dagmar 41.74 67 P **P 18 36 26.1 0.0**
baz=301
DGMT Dagmar 41.74 67 *e*P **P 18 36 26.9 +0.8**
comp=Z,17nm,0.8s
SHOC Shoshone, Teco 41.84 90 P **P 18 36 27.1 +0.1**
baz=310
JLU Jordanelle 41.86 81 *e*P **P 18 36 26.3 -1.1**
comp=Z,65nm,1.9s
NLU North Lily Min 41.87 83 *e*P **P 18 36 27.2 -0.2**
comp=Z,14nm,0.8s
GSC Goldstone, Bar 41.90 92 P **P 18 36 27.7 +0.1**
baz=311,SNR=10
GSC Goldstone, Bar 41.90 92 *e*P **P 18 36 27.9 +0.3**
GSC pmax pmax
comp=Z,30nm,0.7s
GSC Goldstone, Bar 41.90 92 *e*P **P 18 36 27.9 +0.3**
comp=Z,30nm,0.7s
BFSC Mount Baldy Ra 42.08 93 P **P 18 36 29.1 0.0**
baz=312
SHPR Sheep Range 42.13 89 *e*P **P 18 36 31.7 +2.1**
comp=Z,15nm,1.3s
HIA Hailar 42.13 294 *e*P **P 18 36 28.4 -0.9**
HIA pmax pmax
comp=Z,35nm,0.7s
HIA Hailar 42.13 294 *e*P **P 18 36 28.4 -0.9**
comp=Z,35nm,0.7s
CIS Catalina Islan 42.18 95 P **P 18 36 30.2 +0.4**
baz=313
TUQ Turquoise Moun 42.36 91 P **P 18 36 31.2 -0.1**
baz=311,SNR=5.9
SCI San Clemente I 42.39 96 P **P 18 36 31.3 -0.1**
baz=313
HEC Hector,Ludlow 42.50 92 P **P 18 36 32.9 +0.4**
baz=311
CCUT Cedar City 42.57 86 *e*P **P 18 36 33.0 -0.2**
comp=Z,12nm,0.8s
MSU Marysvale 42.69 84 *e*P **P 18 36 34.8 +0.6**
MSU Marysvale 42.69 84 *e*P **P 18 36 34.8 +0.6**
MURC Murrieta 42.80 94 P **P 18 36 34.7 -0.1**
baz=312
TMUT Trail Mountain 42.80 83 *e*P **P 18 36 34.5 -0.6**
comp=Z,24nm,0.8s
GMRC Granite Mounta 42.95 91 P **P 18 36 36.4 +0.2**
baz=311,SNR=17
MTPU Mount Pierson 42.98 85 *e*P **P 18 36 37.0 +0.3**
comp=Z,28nm,1.3s
LDFC Landfair 43.09 90 *e*P **P 18 36 36.6 -0.7**
comp=Z,65nm,1.0s
PFO Pinyon Flats O 43.24 93 P **P 18 36 38.3 -0.2**
baz=312
PFO Pinyon Flats O 43.24 93 *e*P **P 18 36 37.9 -0.6**
PFO pmax pmax
comp=Z,18nm,1.1s
PFO Pinyon Flats O 43.24 93 *e*P **P 18 36 37.9 -0.6**
comp=Z,18nm,1.1s
KNB Kanab 43.24 87 *e*P **P 18 36 39.4 +0.8**
KNB pmax pmax
comp=Z,27nm,1.0s
KNB Kanab 43.24 87 *e*P **P 18 36 39.4 +0.8**
comp=Z,27nm,1.0s
TPFO Pinon Flats 43.25 93 P **P 18 36 38.1 -0.4**
baz=312
BELC Belle Mtn. Jos 43.26 92 P **P 18 36 38.3 -0.4**
baz=312
SRU San Rafael Swe 43.33 83 *e*P **P 18 36 39.1 -0.2**
SRU pmax pmax
comp=Z,28nm,0.9s
SRU San Rafael Swe 43.33 83 *e*P **P 18 36 39.1 -0.2**
comp=Z,28nm,0.9s
K22A Casper 43.62 76 P **P 18 36 41.0 -0.5**
baz=306
K22A Casper 43.62 76 *e*P **P 18 36 40.8 -0.8**
comp=Z,16nm,0.8s
IRM Iron Mountain 43.68 91 P **P 18 36 42.0 0.0**
baz=312
MONP Monument Peak, 43.75 94 P **P 18 36 42.9 +0.2**
baz=313
BC3 Big Chuckawall 43.83 92 P **P 18 36 43.2 -0.1**
baz=312
W13A Hualapai Mount 43.83 89 *e*P **P 18 36 43.4 0.0**
comp=Z,18nm,0.9s
U15A North Rim 43.95 87 *e*P **P 18 36 44.2 -0.1**
comp=Z,25nm,0.9s
CIT Chita 44.08 301 *e*P **P 18 36 44.3 -0.7**
CIT *e* 18 36 57.4
CIT *e* 18 37 04.8
O20A White River Ci 44.09 80 P **P 18 36 45.7 +0.4**
baz=308
O20A White River Ci 44.09 80 *e*P **P 18 36 45.0 -0.4**
comp=Z,34nm,0.9s
SWSC Sam W. Stewart 44.10 93 P **P 18 36 45.3 +0.1**
baz=313
IKP In-Ko-Pah, Jac 44.11 94 P **P 18 36 45.8 +0.4**
baz=313
KSRS Korea Array 44.12 275 P **P 18 36 45.8 +0.5**
comp=Z,7.3nm,0.8s,baz=54,slow=7.4,SNR=17
KSRS LR LR 18 54 44.5
comp=Z,97nm,20.2s,baz=52,slow=35
KS01 Wonju Array Si 44.12 275 *e*P **P 18 36 44.4 -1.0**
KSAR Wonju Array Be 44.15 275 P **P 18 36 45.8 +0.2**
KSAR Wonju Array Be 44.15 275 P **P 18 36 45.8 +0.2**
PDMCI Parker Dam,Lak 44.20 91 P **P 18 36 46.6 +0.6**
baz=312
RSSD Black Hills 44.23 72 P **P 18 36 46.5 0.0**
baz=305
RSSD Black Hills 44.23 72 *e*P **P 18 36 45.9 -0.6**
RSSD pmax pmax
comp=Z,11nm,0.6s
RSSD Black Hills 44.23 72 *e*P **P 18 36 45.9 -0.6**
comp=Z,11nm,0.6s
Y12C Blythe 44.34 91 P **P 18 36 47.1 0.0**
baz=312
Y12C Blythe 44.34 91 *e*P **P 18 36 45.8 -1.4**
comp=Z,30nm,0.9s
PV09 Paradox Valley 44.56 82 *e*P **P 18 36 47.4 -1.9**
GLA Glamis 44.62 92 P **P 18 36 49.8 +0.3**
baz=313
GLA Glamis 44.62 92 *e*P **P 18 36 49.2 -0.3**
GLA pmax pmax
comp=Z,16nm,0.8s
GLA Glamis 44.62 92 *e*P **P 18 36 49.2 -0.3**
comp=Z,16nm,0.8s
MDND Maddock 44.67 66 P **P 18 36 50.0 +0.3**
baz=303
MDND Maddock 44.67 66 *e*P **P 18 36 50.1 +0.4**
comp=Z,138nm,1.3s
PV10 Paradox Valley 44.70 82 *e*P **P 18 36 51.0 +0.7**
PV04 Paradox Valley 44.77 82 *e*P **P 18 36 49.9 -0.9**
PV05 Paradox Valley 44.85 83 *e*P **P 18 36 50.3 -1.2**
N23A Red Feather La 45.01 77 P **P 18 36 52.7 -0.1**
baz=307
N23A Red Feather La 45.01 77 *e*P **P 18 36 52.5 -0.3**
comp=Z,17nm,1.1s
PHWY Pilot Hill 45.06 77 *e*P **P 18 36 51.5 -1.7**
comp=Z,14nm,0.9s
WUAZ Wupatki 45.10 87 P **P 18 36 53.0 -0.4**
baz=311,SNR=11
WUAZ Wupatki 45.10 87 *e*P **P 18 36 53.6 +0.1**
comp=Z,29nm,0.9s
PV01 Paradox Valley 45.14 82 *e*P **P 18 36 53.6 -0.1**
JNU Nakatsue 45.15 268 P **P 18 36 53.5 -0.1**
comp=Z,32nm,1.0s,baz=61,slow=1.6,SNR=10
JNU Nakatsue 45.15 268 *e*P **P 18 36 55.2 +1.6**
comp=Z,26nm,0.8s
Y14A Wickenburg 45.15 90 *e*P **P 18 36 53.7 0.0**
comp=Z,83nm,1.0s
ULM Lac du Bonnet 45.40 61 P **P 18 36 55.0 -0.4**
comp=Z,21nm,1.0s,baz=300,slow=8.6,SNR=12
ULM LR LR 18 56 35.4
comp=Z,385nm,21.1s,baz=278,slow=37
ULM Lac du Bonnet 45.40 61 P **P 18 36 55.0 -0.4**
ULM pmax pmax
comp=Z,21nm,1.0s
ULM MLR MLR
comp=Z,385nm,21.1s
ULM Lac du Bonnet 45.40 61 *e*P **P 18 36 54.9 -0.5**
comp=Z,35nm,1.3s
B31A Greenbush Farm 45.44 64 P **P 18 36 55.7 0.0**
baz=304
C31A Landman Farms, 45.74 65 P **P 18 36 58.3 +0.1**
baz=304
MVCO Mesa Verde 45.77 83 P **P 18 36 58.1 -0.7**
baz=310,SNR=7.8
MVCO Mesa Verde 45.77 83 *e*P **P 18 36 59.1 +0.3**
X16A Lo Mia Camp, P 45.79 88 *e*P **P 18 36 59.3 +0.4**
comp=Z,15nm,0.9s
A32A Rocking H Ranc 45.80 63 P **P 18 36 59.3 +0.7**
baz=304
ISCO Idaho Springs 45.89 78 P **P 18 36 59.4 -0.4**
baz=308
ISCO Idaho Springs 45.89 78 *e*P **P 18 37 00.9 +1.1**
ISCO pmax pmax
comp=Z,5.0nm,0.8s
ISCO Idaho Springs 45.89 78 *e*P **P 18 37 00.9 +1.1**
comp=Z,4.7nm,0.8s
NRIK Noril'sk 45.96 331 P **P 18 36 59.0 -0.5**
comp=Z,11nm,1.0s,baz=67,slow=7.1,SNR=5.1
NRIK PcP **PcP 18 38 36.1 +0.6**
comp=Z,8.8nm,0.6s,baz=79,slow=5.0,SNR=4.3
NRIK LR LR 18 59 28.3
comp=Z,107nm,18.1s,baz=74,slow=40
B32A Ashes, Strandq 46.07 63 P **P 18 37 00.8 +0.1**
baz=304
D31A Mcclaflin, Tow 46.17 66 P **P 18 37 02.0 +0.5**
baz=305
E31A Nome 46.36 66 P **P 18 37 03.4 +0.3**
baz=305
A33A Warroad 46.39 62 P **P 18 37 03.3 +0.1**
baz=304
S22A 4UR Ranch, Cre 46.44 81 P **P 18 37 03.8 -0.3**
baz=310
S22A 4UR Ranch, Cre 46.44 81 *e*P **P 18 37 05.2 +1.0**
comp=Z,29nm,1.4s
AGMN Agassiz Nation 46.49 63 P **P 18 37 03.1 -0.9**
baz=304,SNR=13
AGMN Agassiz Nation 46.49 63 *e*P **P 18 37 04.2 +0.1**
comp=Z,50nm,1.2s
D32A Dogwood Acres, 46.52 65 P **P 18 37 03.9 -0.4**
baz=305
F31A Hecla 46.56 67 P **P 18 37 04.7 +0.1**
baz=306
214A Organ Pipe Nat 46.61 92 P **P 18 37 05.1 -0.1**
baz=313
X18A Snowflake 46.63 87 *e*P **P 18 37 05.2 -0.3**
comp=Z,10nm,0.8s
B33A Robert and Kas 46.66 63 P **P 18 37 05.6 +0.2**
baz=305
E32A Braaten, Kindr 46.80 66 P **P 18 37 06.6 +0.1**
baz=305
C33A Trail 46.85 64 P **P 18 37 06.5 -0.4**
baz=305
G31A Conde 46.96 68 P **P 18 37 08.1 +0.3**
baz=306
SUSD Miller 47.00 69 P **P 18 37 08.1 +0.1**
baz=306
B34A Aery, Baudette 47.05 62 P **P 18 37 08.2 -0.2**
baz=305
D33A AnnSam, Waubun 47.17 64 P **P 18 37 09.6 +0.2**
baz=305
SDCO Great Sand Dun 47.25 80 P **P 18 37 09.5 -1.0**
baz=310,SNR=13
SDCO Great Sand Dun 47.25 80 *e*P **P 18 37 09.2 -1.3**
comp=Z,12nm,1.1s
OGNE Ogallala 47.32 75 P **P 18 37 10.8 +0.1**
baz=308
G32A Webster 47.35 67 P **P 18 37 11.2 +0.4**
baz=306
C34A RKJ Ranch, Bem 47.39 63 P **P 18 37 11.5 +0.5**
baz=305
E33A Westby DABS, E 47.45 65 P **P 18 37 12.0 +0.5**
baz=306
D34A Park Rapids 47.56 64 P **P 18 37 12.2 -0.2**
baz=306
TUC Tucson 47.62 90 P **P 18 37 13.2 +0.1**
baz=313
TUC Tucson 47.62 90 *e*P **P 18 37 12.9 -0.2**
TUC pmax pmax
comp=Z,15nm,0.9s
TUC Tucson 47.62 90 *e*P **P 18 37 12.9 -0.2**
comp=Z,15nm,0.9s
B35A Bob, Littlefor 47.62 62 P **P 18 37 12.7 -0.1**
baz=305
F33A 5 Mile Ranch, 47.68 66 P **P 18 37 13.7 +0.3**
baz=306
J31A Geddes 47.81 70 P **P 18 37 14.8 +0.3**
baz=307
H32A Carlson Farm, 47.83 68 P **P 18 37 14.7 +0.2**
baz=307
C35A Jirik Farms, M 47.87 63 P **P 18 37 14.9 +0.1**
baz=306
E34A Wadena 47.91 65 P **P 18 37 15.7 +0.6**
baz=306
G33A Ortonville 47.98 67 P **P 18 37 16.2 +0.5**
baz=307
H33A Prehn Over Nor 48.12 68 P **P 18 37 17.1 +0.3**
baz=307
KSCO Kaye Shedlock' 48.18 77 *e*P **P 18 37 18.2 +0.7**
comp=Z,62nm,1.2s
D35A Remer 48.19 64 P **P 18 37 17.6 +0.3**
baz=306
F34A Alexandria 48.29 66 P **P 18 37 18.3 +0.2**
baz=306
T25A Trinidad 48.30 80 P **P 18 37 19.4 +0.9**
baz=310
T25A Trinidad 48.30 80 *e*P **P 18 37 19.6 +1.1**
comp=Z,37nm,1.0s
E35A Pequot Lakes 48.31 64 P **P 18 37 18.7 +0.5**
baz=306
LAZ Ladron 48.44 85 *e*P **P 18 37 20.5 +0.9**
C36A Pine Crest Far 48.46 62 P **P 18 37 19.6 +0.2**
baz=306
ANMO Albuquerque 48.50 84 P **P 18 37 19.8 -0.2**
baz=312
ANMO Albuquerque 48.50 84 *e*P **P 18 37 21.7 +1.7**
ANMO pmax pmax
comp=Z,4.0nm,1.4s
ANMO Albuquerque 48.50 84 *e*P **P 18 37 20.3 +0.3**
comp=Z,15nm,1.3s
D36A Goodland 48.63 63 P **P 18 37 21.0 +0.3**
baz=306
F35A Swanville 48.63 65 P **P 18 37 20.4 -0.3**
baz=307
K32A Verdigre 48.65 70 P **P 18 37 21.2 +0.3**
baz=308
H34A Spellman Lake, 48.68 67 P **P 18 37 21.0 0.0**
baz=307
ECSD EROS Data Cent 48.77 69 P **P 18 37 21.0 -0.8**
baz=308,SNR=14
ECSD EROS Data Cent 48.77 69 *e*P **P 18 37 20.3 -1.5**
comp=Z,10.0nm,0.6s
Y22D IRIS PASSCAL I 48.80 85 P **P 18 37 22.9 +0.7**
baz=312
C37A Embarrass 48.83 62 P **P 18 37 22.8 +0.6**
baz=306
BNM Barren Site 48.92 85 *e*P **P 18 37 23.1 -0.3**
E36A McGregor 48.97 64 P **P 18 37 23.4 +0.1**
baz=307
D37A Cotton 49.04 63 P **P 18 37 23.7 -0.2**
baz=307
G35A Watkins 49.07 66 P **P 18 37 24.1 +0.1**
baz=307
EYMN Ely 49.08 61 P **P 18 37 23.5 -0.6**
baz=306,SNR=5.1
EYMN Ely 49.08 61 *e*P **P 18 37 22.9 -1.1**
comp=Z,35nm,1.0s
KBS Kingsbay 49.14 359 *e*P **P 18 37 24.3 +0.2**
KBS pmax pmax
comp=Z,25nm,0.8s
KBS Kingsbay 49.14 359 *e*P **P 18 37 24.3 +0.2**
comp=Z,25nm,0.8s
H35A Sunnyside Ranc 49.19 66 P **P 18 37 25.2 +0.2**
baz=307
F36A Milaca 49.22 65 P **P 18 37 25.1 0.0**
baz=307
K33A Hardington 49.24 70 P **P 18 37 25.6 +0.2**
baz=308

121A	**Cookes Peak, D**	49.31	87	P		P	18 37 26.4	+0.2	
	baz=313								
121A	**Cookes Peak, D**	49.31	87	*e*P		P	18 37 24.4	-1.8	
	comp=Z,15nm,0.7s								
BGNE	**Belgrade**	49.32	72	P		P	18 37 25.9	-0.1	
	baz=309								
BGNE	**Belgrade**	49.32	72	*e*P		P	18 37 25.9	-0.1	
	comp=Z,46nm,0.6s								
C38A	**Sawbill Land.**	49.33	61	P		P	18 37 25.7	-0.3	
	baz=307								
TLY	**Talaya**	49.38	305	P		P	18 37 26.0	-0.4	
	comp=Z,15nm,0.7s,baz=31,slow=6.6,SNR=15								
TLY	**Talaya**	49.38	305	*e*P		P	18 37 26.1	-0.3	
TLY				pmax		pmax			
	comp=Z,20nm,0.6s								
TLY	**Talaya**	49.38	305	*e*P		P	18 37 24.8	-1.5	
	comp=Z,21nm,0.8s								
TLY				*e*PcP		PcP	18 38 48.8	+0.6	
TLY	**Talaya**	49.38	305	P		P	18 37 26.9	+0.6	
	SNR=9.5								
TLY	**Talaya**	49.38	305	P		P	18 37 26.9	+0.6	
	SNR=9.5								
TLY				P		P	18 37 26.9	+0.6	
	SNR=9.5								
E37A	**Wrenshall**	49.41	63	P		P	18 37 27.7	+1.1	
	baz=307								
G36A	**St. Michael**	49.47	65	P		P	18 37 27.5	+0.4	
	baz=307								
I35A	**Creekview Farm**	49.62	67	P		P	18 37 28.5	+0.2	
	baz=308								
K34A	**Le Mars**	49.71	69	P		P	18 37 28.6	-0.4	
	baz=308								
M33A	**Taylor Creek F**	49.77	71	P		P	18 37 29.7	+0.2	
	baz=309								
H36A	**Jessenland, He**	49.78	66	P		P	18 37 29.8	+0.4	
	baz=308								
E38A	**The Farm, Brul**	49.85	63	P		P	18 37 29.6	-0.4	
	baz=307								
C39A	**Grand Marais**	49.89	61	P		P	18 37 30.0	-0.3	
	baz=307								
ULN	**Ulaanbaatar**	49.89	299	*c i*P		P	18 37 29.8	-0.6	
ULN				pmax		pmax			
	comp=Z,18nm,0.8s								
ULN	**Ulaanbaatar**	49.89	299	*e*P		P	18 37 29.5	-0.9	
	comp=Z,16nm,0.8s								
ULN				*e*PcP		PcP	18 38 48.7	-1.5	
ULN	**Ulaanbaatar**	49.89	299	P		P	18 37 30.5	+0.1	
	SNR=7.3								
ULN	**Ulaanbaatar**	49.89	299	P		P	18 37 30.5	+0.1	
	SNR=7.3								
ULN				P		P	18 37 30.5	+0.1	
	SNR=7.3								
L34A	**Svendsen Farm,**	50.00	70	P		P	18 37 31.2	0.0	
	baz=309								
SPMN	**Marine on St.**	50.01	65	P		P	18 37 31.4	+0.2	
	baz=308								
CBKS	**Cedar Bluff**	50.03	76	P		P	18 37 31.5	-0.1	
	baz=310								
CBKS	**Cedar Bluff**	50.03	76	*e*P		P	18 37 34.3	+2.8	
CBKS				pmax		pmax			
	comp=Z,30nm,0.8s								
CBKS	**Cedar Bluff**	50.03	76	*e*P		P	18 37 34.3	+2.8	
	comp=Z,30nm,0.8s								
F38A	**Pierce - Schro**	50.07	63	P		P	18 37 31.8	+0.1	
	baz=308								
DAG	**Danmarks Havn**	50.16	8⇑	*i*P		P	18 37 31.4	-0.5	
	comp=Z,20nm,0.7s								
DAG	**Danmarks Havn**	50.16	8⇑	*i*P		P	18 37 31.4	-0.5	
DAG				pmax		pmax			
	comp=Z,14nm,0.7s								
K35A	**Storm Lake**	50.19	69	P		P	18 37 32.6	0.0	
	baz=309								
SONA1	**Songino Array**	50.25	300	*e*P		P	18 37 33.1	-0.1	
SONA1				*e*PcP		PcP	18 38 50.7	-0.8	
SONM	**Songino Array**	50.26	300	P		P	18 37 33.6	+0.4	
	comp=Z,8.1nm,0.7s,baz=50,slow=7.2,SNR=29								
SONM				PcP		PcP	18 38 51.4	-0.2	
	comp=Z,4.0nm,0.7s,baz=77,slow=2.6,SNR=4.0								
SONM				ScP		ScP	18 42 43.3	+0.3	
	comp=Z,6.2nm,0.8s,baz=60,slow=2.5,SNR=12								
SONM				LR		LR	19 00 14.3		
	comp=Z,329nm,20.3s,baz=60,slow=38								
J36A	**Seneca 1, Swea**	50.32	68	P		P	18 37 33.1	-0.5	
	baz=308								
ZAK	**Zakamensk**	50.34	304	*e*P		P	18 37 33.4	-0.4	
ZAK				*e*			18 38 52.0		
ZAK				pmax		pmax			
	comp=Z,15nm,1.3s								
H37A	**Dierke Farm, C**	50.34	65	P		P	18 37 33.5	-0.2	
	baz=308								
I37A	**Lemond, Waseca**	50.42	66	P		P	18 37 34.3	0.0	
	baz=308								
O33A	**Hebron**	50.50	73	P		P	18 37 34.5	-0.5	
	baz=310								
G38A	**Ridgeland**	50.57	64	P		P	18 37 35.4	0.0	
	baz=308								
H38A	**Maiden Rock**	50.64	65	P		P	18 37 35.8	-0.1	
	baz=308								
N34A	**Lincoln**	50.65	71	P		P	18 37 35.8	-0.2	
	baz=310								
MOY	**Mondy**	50.71	306	*e*P		P	18 37 37.2	+0.6	
MOY				pmax		pmax			
	comp=Z,23nm,1.2s								
M35A	**Neola**	50.72	70	P		P	18 37 36.5	-0.1	
	baz=309								
J37A	**Redenius Farm,**	50.78	67	P		P	18 37 37.0	0.0	
	baz=309								
G39A	**Holcombe**	50.88	64	P		P	18 37 37.6	-0.1	
	baz=308								
O34A	**Beatrice**	50.95	72	P		P	18 37 38.3	-0.1	
	baz=310								
I38A	**Scanlan Farm,**	51.01	66	P		P	18 37 38.5	-0.3	
	baz=309								
K37A	**Belmond**	51.07	68	P		P	18 37 38.9	-0.4	
	baz=309								
N35A	**Tabor**	51.13	71	P		P	18 37 39.7	0.0	
	baz=310								
H39A	**Augusta**	51.19	64	P		P	18 37 40.0	-0.1	
	baz=309								
M36A	**Felix, Anita**	51.24	70	P		P	18 37 40.5	0.0	
	baz=310								
P34A	**Walnut Farm, R**	51.28	73	P		P	18 37 40.8	-0.1	
	baz=310								
SUMG	**Summit**	51.34	16	*i*P		P	18 37 37.9	-3.4	
SUMG	**Summit**	51.34	16⇑	*i*P		P	18 37 41.7	+0.4	
	comp=Z,58nm,1.1s								
SUMG	**Summit**	51.34	16⇑	*i*P		P	18 37 41.7	+0.4	
SUMG				pmax		pmax			
	comp=Z,58nm,1.1s								
SUMG	**Summit**	51.34	16	*e*P		P	18 37 41.0	-0.3	
	comp=Z,61nm,1.1s								
O35A	**Humboldt**	51.36	72	P		P	18 37 41.4	0.0	
	baz=310								
MNTX	**Cornudas Mount**	51.36	86	P		P	18 37 41.6	0.0	
	baz=314,SNR=18								
MNTX	**Cornudas Mount**	51.36	86	*e*P		P	18 37 41.9	+0.4	
J38A	**Wedel Dairy, R**	51.38	66	P		P	18 37 41.4	-0.1	
	baz=309								
MSTX	**Muleshoe**	51.41	82	P		P	18 37 42.1	+0.1	
	baz=313								
MSTX	**Muleshoe**	51.41	82	*e*P		P	18 37 41.7	-0.3	
	comp=Z,48nm,1.4s								
L37A	**Phoenix Point,**	51.41	68	P		P	18 37 41.7	-0.1	
	baz=310								
G40A	**Rib Lake**	51.42	63	P		P	18 37 41.8	0.0	
	baz=309								
AMTX	**Amarillo**	51.45	81	P		P	18 37 42.2	-0.2	
	baz=312								
AMTX	**Amarillo**	51.45	81	*e*P		P	18 37 41.9	-0.4	
	comp=Z,38nm,1.6s								
TIA	**Tai'an**	51.50	282	⇓P		P	18 37 42.3	-0.2	
TIA				pmax		pmax			
	comp=Z,30nm,0.7s								
I39A	**Houston**	51.58	65	P		P	18 37 43.0	0.0	
	baz=309								
Q34A	**Chapman**	51.62	74	P		P	18 37 43.4	-0.1	
	baz=311								
K38A	**Parkersburg**	51.64	67	P		P	18 37 43.6	+0.1	
	baz=309								
M37A	**Trindle Farm,**	51.70	69	P		P	18 37 44.4	+0.4	
	baz=310								
H40A	**Chili**	51.72	64	P		P	18 37 44.6	+0.5	
	baz=309								
HHC	**Hu-ho-hao-te**	51.75	290	*e*P		P	18 37 45.5	+1.0	
HHC				S		S	18 45 05.7	+3.0	
HHC				pmax		pmax			
	comp=Z,22nm,1.0s								
HHC				pmax		pmax			
	comp=Z,98nm,5.3s								
HHC				LR		LR			
	comp=Z,320nm,16.0s								
HHC				LR		LR			
	comp=Z,250nm,18.5s								
P35A	**Duane Minner,**	51.77	72	P		P	18 37 44.2	-0.3	
	baz=310								
J39A	**Decorah**	51.80	66	P		P	18 37 44.7	0.0	
	baz=309								
R34A	**Isabella, Hill**	51.85	74	P		P	18 37 44.7	-0.5	
	baz=311								
L38A	**Oak Wood Farm,**	51.86	68	P		P	18 37 45.1	0.0	
	baz=310								
SCIA	**State Center**	51.86	68	*e*P		P	18 37 44.5	-0.7	
	comp=Z,27nm,0.6s								
GUMO	**Guam**	51.87	239	P		P	18 37 42.7	-2.8	
	comp=Z,68nm,0.7s,baz=18,slow=20,SNR=3.5								
O36A	**Bolckow**	52.00	71	P		P	18 37 46.7	+0.5	
	baz=310								
N37A	**Lee Faris, Mou**	52.03	70	P		P	18 37 46.3	-0.1	
	baz=310								
I40A	**Norwalk**	52.06	65	P		P	18 37 46.5	-0.1	
	baz=309								
U32A	**Winter Ranch,**	52.07	77	P		P	18 37 47.4	+0.6	
	baz=312								
K39A	**Oelwein**	52.10	67	P		P	18 37 46.5	-0.5	
	baz=310								
H41A	**Junction City**	52.13	64	P		P	18 37 47.2	0.0	
	baz=309								
M38A	**Pleasantville**	52.19	69	P		P	18 37 47.6	0.0	
	baz=310								
P36A	**Good Intent, A**	52.19	72	P		P	18 37 48.0	+0.4	
	baz=311								
Q35A	**Mercer Eighty,**	52.20	73	P		P	18 37 47.4	-0.3	
	baz=311								
J40A	**Soldiers Grove**	52.31	65	P		P	18 37 47.8	-0.6	
	baz=310								
S34A	**Willow Spring**	52.33	75	P		P	18 37 48.5	-0.2	
	baz=311								
I41A	**Arkdale**	52.37	64	P		P	18 37 48.7	-0.2	
	baz=310								
L39A	**Vinton**	52.41	67	P		P	18 37 48.8	-0.5	
	baz=310								
O37A	**Wolven Farm, M**	52.45	71	P		P	18 37 49.5	-0.1	
	baz=310								
R35A	**Emporia Munici**	52.45	74	P		P	18 37 50.0	+0.4	
	baz=311								
Q36A	**Arnold C. Orve**	52.47	73	P		P	18 37 50.1	+0.4	
	baz=311								
K40A	**Colesburg**	52.53	66	P		P	18 37 50.1	0.0	
	baz=310								
N38A	**Joes South For**	52.57	69	P		P	18 37 50.1	-0.3	
	baz=310								
P37A	**Lathrop**	52.71	71	P		P	18 37 51.3	-0.2	
	baz=311								
T34A	**McClaskey Farm**	52.73	76	P		P	18 37 51.2	-0.4	
	baz=312								
J41A	**Loganville**	52.73	65	P		P	18 37 51.6	0.0	
	baz=310								
M39A	**Webster**	52.73	68	P		P	18 37 51.5	-0.1	
	baz=310								
S35A	**Otter Creek Ra**	52.81	74	P		P	18 37 51.8	-0.4	
	baz=312								
R36A	**Gordon, Harris**	52.87	73	P		P	18 37 52.7	+0.1	
	baz=311								
O38A	**Galt**	52.87	70	P		P	18 37 52.7	+0.1	
	baz=311								
JFWS	**Jewell Farm**	52.89	66	*e*P		P	18 37 51.2	-1.6	
JFWS				pmax		pmax			
	comp=Z,35nm,1.0s								
JFWS	**Jewell Farm**	52.89	66	*e*P		P	18 37 51.2	-1.6	
	comp=Z,35nm,1.0s								
L40A	**Anamosa**	52.90	67	P		P	18 37 52.3	-0.5	
	baz=310								
N39A	**Derby Farms, D**	52.94	69	P		P	18 37 53.4	+0.3	
	baz=311								
K41A	**Shullsburg**	53.06	66	P		P	18 37 54.0	0.0	
	baz=310								
SFJD	**Kangerlussuaq**	53.11	25	*e*P		P	18 37 52.0	-2.0	
SFJD				pmax		pmax			
	comp=Z,26nm,1.0s								
SFJD	**Kangerlussuaq**	53.11	25	*e*P		P	18 37 52.0	-2.0	
	comp=Z,26nm,1.0s								
Q37A	**Longview Farm,**	53.12	72	P		P	18 37 53.9	-0.6	
	baz=311								
M40A	**Post Highland**	53.16	68	P		P	18 37 54.2	-0.6	
	baz=311								
P38A	**Dawn**	53.16	71	P		P	18 37 54.4	-0.4	
	baz=311								
T35A	**Sooner Cattle**	53.20	75	P		P	18 37 55.1	0.0	
	baz=312								
W33A	**Caddo, Fort Co**	53.22	78	P		P	18 37 55.9	+0.6	
	baz=312								
X32A	**Elmer**	53.22	79	P		P	18 37 55.4	+0.1	
	baz=313								
NJ2	**Nanjing**	53.27	277	*e*P		P	18 37 58.4	+2.8	
NJ2				pmax		pmax			
	comp=Z,25nm,0.5s								
R37A	**Teagarden Farm**	53.27	73	P		P	18 37 55.2	-0.4	
	baz=311								
L41A	**Preston**	53.30	67	P		P	18 37 55.1	-0.7	
	baz=310								
WMOK	**Wichita Mounta**	53.31	79	P		P	18 37 56.2	+0.2	
	baz=313,SNR=16								
WMOK	**Wichita Mounta**	53.31	79	*e*P		P	18 37 55.9	-0.1	
WMOK				pmax		pmax			
	comp=Z,10.0nm,0.8s								
WMOK	**Wichita Mounta**	53.31	79	*e*P		P	18 37 55.9	-0.1	
	comp=Z,9.7nm,0.8s								
O39A	**Kirksville**	53.32	69	P		P	18 37 55.6	-0.3	
	baz=311								
V34A	**Guthrie**	53.33	77	P		P	18 37 56.4	+0.3	
	baz=312								
V34A	**Guthrie**	53.33	77	*e*P		P	18 37 56.4	+0.3	
	comp=Z,14nm,0.6s								
N40A	**Mertquake, Sal**	53.46	68	P		P	18 37 56.9	-0.1	
	baz=311								
T36A	**Boggs Farm, Ca**	53.48	75	P		P	18 37 57.2	0.0	
	baz=312								
Q38A	**Cooks Store, C**	53.55	71	P		P	18 37 57.0	-0.7	
	baz=311								
W34A	**Bridge Creek,**	53.58	78	P		P	18 37 58.0	+0.1	
	baz=313								
S37A	**Fort Scott**	53.64	73	P		P	18 37 57.5	-0.8	
	baz=312								
M41A	**Milan**	53.73	67	P		P	18 37 58.4	-0.6	
	baz=311								
O40A	**La Belle**	53.79	69	P		P	18 37 58.7	-0.7	
	baz=311								
Q39A	**Willow Grove F**	53.87	71	P		P	18 37 59.2	-0.8	
	baz=312								
R38A	**Fenwick Farm,**	53.90	72	P		P	18 37 59.3	-0.9	
	baz=312								
Y33A	**Hilltop Ranch,**	53.90	79	P		P	18 38 00.1	-0.2	
	baz=313								
T37A	**Cheneyville 18**	54.01	74	P		P	18 38 00.5	-0.5	
	baz=312								
TX31	**Ijitas Ar. Si**	54.07	87	*e*P		P	18 38 01.1	-0.6	
TXAR	**Lajitas Array**	54.07	87	P		P	18 38 01.4	-0.3	
	comp=Z,14nm,0.9s,baz=299,slow=5.1,SNR=35								
TXAR				ScP		ScP	18 42 57.3	-2.6	
	comp=Z,1.6nm,0.9s,baz=279,slow=3.1,SNR=5.1								
TXAR				LR		LR	18 59 22.1		
	comp=Z,101nm,19.4s,baz=0.0,slow=34								
P40A	**Paris**	54.08	70	P		P	18 38 01.0	-0.5	
	baz=312								
W35A	**Tecumseh**	54.17	77	P		P	18 38 01.9	-0.4	
	baz=313								
ABTX	**Abilene, Hawle**	54.23	81	P		P	18 38 02.4	-0.4	
	baz=314								
S38A	**Stockton**	54.27	73	P		P	18 38 01.6	-1.3	
	baz=312								
TUL1	**Leonard**	54.31	76	P		P	18 38 03.4	+0.1	
	baz=313								
Z33A	**Whitaker Ranch**	54.31	80	P		P	18 38 03.3	0.0	
	baz=314								
R39A	**Chumby, Stover**	54.32	72	P		P	18 38 02.1	-1.2	
	baz=312								
O41A	**Passleys Farm,**	54.37	69	P		P	18 38 03.0	-0.5	
	baz=311								
U37A	**Salina**	54.38	75	P		P	18 38 03.5	-0.3	
	baz=312								
N42A	**Yates City**	54.38	67	P		P	18 38 02.5	-1.2	
	baz=311								
Q40A	**Laux Farm, Aux**	54.42	70	P		P	18 38 03.0	-1.0	
	baz=312								
T38A	**Diamond**	54.44	74	P		P	18 38 02.9	-1.3	
	baz=312								
Y34A	**Reagan Ranch,**	54.46	79	P		P	18 38 04.3	-0.1	
	baz=313								
P41A	**Barry, Barry**	54.56	69	P		P	18 38 03.6	-1.4	
	baz=312								
S39A	**Bolivar**	54.57	72	P		P	18 38 03.3	-1.8	
	baz=312								
W36A	**Wetumka**	54.57	77	P		P	18 38 04.7	-0.5	
	baz=313								
X35A	**Drake**	54.63	78	P		P	18 38 05.2	-0.4	
	baz=313								
133A	**Hamilton Ranch**	54.69	81	P		P	18 38 06.4	+0.4	
	baz=314								
V37A	**Hulbert**	54.72	75	P		P	18 38 05.8	-0.4	
	baz=313								
Z34A	**Collier Ranch,**	54.77	79	P		P	18 38 06.0	-0.6	
	baz=314								
R40A	**Maddies Statio**	54.78	71	P		P	18 38 05.1	-1.5	
	baz=312								
U38A	**Gravette**	54.79	74	P		P	18 38 05.8	-0.9	
	baz=313								
X36A	**Centrahoma**	54.89	77	P		P	18 38 07.6	+0.2	
	baz=313								
Q41A	**Truxton**	54.94	70	P		P	18 38 07.6	-0.1	
	baz=312								
HDIL	**Hopedale**	54.98	67	P		P	18 38 07.7	-0.3	
	baz=312								
HDIL	**Hopedale**	54.98	67	*e*P		P	18 38 11.0	+3.0	
	comp=Z,32nm,0.6s								
T39A	**Clever**	54.99	73	P		P	18 38 06.9	-1.3	
	baz=312								
W37B	**Quinton**	55.05	76	P		P	18 38 08.4	-0.2	
	baz=313								
233A	**Rising Star**	55.11	81	P		P	18 38 08.6	-0.5	
	baz=314								
S40A	**Lebanon**	55.11	72	P		P	18 38 08.3	-0.8	
	baz=312								
HHAR	**Hobbs**	55.16	74	*e*P		P	18 38 08.0	-1.4	
	comp=Z,8.2nm,0.7s								
V38A	**Canehill**	55.16	75	P		P	18 38 08.8	-0.6	
	baz=313								
134A	**White-Moore Ra**	55.22	80	P		P	18 38 09.7	-0.2	
	baz=314								
R41A	**Rosebud**	55.30	71	P		P	18 38 09.4	-0.9	
	baz=312								
U39A	**Green Forest**	55.36	74	P		P	18 38 09.6	-1.3	
	baz=313								
Q42A	**Golden Eagle**	55.37	69	P		P	18 38 10.5	-0.4	
	baz=312								
Y36A	**Durant**	55.39	78	P		P	18 38 11.1	+0.1	
	baz=314								
T40A	**Mansfield**	55.41	72	P		P	18 38 10.1	-1.0	
	baz=313								
X37A	**Clayton**	55.46	77	P		P	18 38 11.2	-0.3	
	baz=313								
P43A	**Skaggs, Pawnee**	55.46	68	P		P	18 38 10.5	-1.0	
	baz=312								
S41A	**Jillco Farms,**	55.56	71	P		P	18 38 10.9	-1.4	
	baz=313								
234A	**Clairette**	55.58	81	P		P	18 38 12.7	+0.2	
	baz=314								
JCT	**Junction City**	55.63	83	P		P	18 38 12.7	-0.2	
	baz=315								
JCT	**Junction City**	55.63	83	*e*P		P	18 38 13.8	+0.9	
JCT	**Junction City**	55.63	83	*e*P		P	18 38 13.8	+0.9	
V39A	**Pettigrew**	55.63	74	P		P	18 38 12.2	-0.7	
	baz=313								
W38A	**Poteau**	55.64	75	P		P	18 38 12.1	-0.7	
	baz=313								
R42A	**Luebbering**	55.65	70	P		P	18 38 12.2	-0.6	
	baz=312								
X38A	**Whitesboro**	55.73	76	P		P	18 38 14.0	+0.5	
	baz=313								
U40A	**Yellville**	55.75	73	P		P	18 38 12.4	-1.3	
	baz=313								
Q43A	**New Douglas**	55.83	69	P		P	18 38 13.2	-1.0	
	baz=312								
433A	**Art**	55.87	82	P		P	18 38 13.9	-0.7	
	baz=315								
T41A	**Mountain View**	55.92	72	P		P	18 38 13.6	-1.3	
	baz=313								
334A	**Lometa**	55.99	81	P		P	18 38 15.5	+0.1	
	baz=314								
W39A	**Magazine**	55.99	75	P		P	18 38 14.8	-0.6	
	baz=313								
S42A	**Caledonia**	55.99	71	P		P	18 38 14.2	-1.1	
	baz=313								
WHTX	**Lake Whitney,**	56.00	80	P		P	18 38 15.9	+0.5	
	baz=314								
WHTX	**Lake Whitney,**	56.00	80	*e*P		P	18 38 14.8	-0.6	
	comp=Z,22nm,0.8s								
P44A	**Sand Creek, Wi**	56.09	68	P		P	18 38 15.8	-0.3	
	baz=312								
V40A	**Witts Springs**	56.14	74	P		P	18 38 15.2	-1.3	
	baz=313								
R43A	**Red Bud**	56.15	70	P		P	18 38 15.7	-0.7	
	baz=313								
VLDQ	**Val d'Or**	56.25	54	*e*P		P	18 38 14.8	-2.2	
	comp=Z,31nm,1.0s								
Q44A	**Meyer Farm, Va**	56.25	68	P		P	18 38 16.5	-0.6	
	baz=313								
X39A	**Fountain Ranch**	56.27	76	P		P	18 38 17.3	-0.1	
	baz=314								
U41A	**Viola**	56.31	73	P		P	18 38 16.7	-0.9	
	baz=313								
434A	**Burnet**	56.33	82	P		P	18 38 18.1	+0.2	
	baz=315								
SFIN	**Lafayette**	56.34	66	P		P	18 38 17.4	-0.4	
	baz=312								
SFIN	**Lafayette**	56.34	66	*e*P		P	18 38 16.9	-0.8	
	comp=Z,79nm,1.5s								
533A	**Kerrville**	56.39	83	P		P	18 38 18.5	+0.2	
	baz=315								
W40A	**Ferguson Farm,**	56.42	74	P		P	18 38 17.6	-0.8	
	baz=313								
SCHQ	**Schefferville**	56.47	42	P		P	18 38 18.7	+0.2	
	comp=Z,17nm,0.6s,baz=309,slow=7.7,SNR=6.0								
SCHQ				LR		LR	19 03 43.3		
	comp=Z,290nm,18.1s,baz=312,slow=37								
SCHQ	**Schefferville**	56.47	42	*e*P		P	18 38 18.1	-0.4	
	comp=Z,34nm,1.0s								
335A	**Moody**	56.52	81	P		P	18 38 18.6	-0.5	
	baz=315								
S43A	**Fulton Ridge,**	56.55	70	P		P	18 38 18.5	-0.7	
	baz=313								
V41A	**Mountainview**	56.55	73	P		P	18 38 18.6	-0.7	
	baz=313								
MIAR	**Mount Ida**	56.56	75	P		P	18 38 19.0	-0.5	
	baz=314								
MIAR	**Mount Ida**	56.56	75	*e*P		P	18 38 18.1	-1.3	
MIAR				pmax		pmax			
	comp=Z,16nm,0.8s								
MIAR	**Mount Ida**	56.56	75	*e*P		P	18 38 18.1	-1.3	
	comp=Z,16nm,0.8s								
R44A	**Waltonville**	56.66	69	P		P	18 38 20.2	+0.1	
	baz=313								
ZAA0	**Zalesovo Array**	56.66	317	*e*P		P	18 38 19.1	-0.8	
ZAA0				*e*PcP		PcP	18 39 15.5	0.0	
ZALV	**Zalesovo Beam**	56.66	317	P		P	18 38 19.4	-0.5	
	comp=Z,10nm,0

comp=Z,34nm,1.0s
W41B Gary Mavity, V 56.92 74 P P 18 38 21.6 -0.3
baz=314
S44A Carbondale 56.94 70 P P 18 38 21.4 -0.6
baz=313
V42A Cord 56.99 73 P P 18 38 21.2 -1.2
baz=314
X40A Basin Creek Fa 57.05 75 P P 18 38 23.2 +0.3
baz=314
WHN Wuhan 57.07 279 ⇑P P 18 38 22.0 -1.1
832A Faith Ranch, C 57.08 85 P P 18 38 23.7 +0.4
baz=316
T44A Benton 57.16 70 P P 18 38 23.2 -0.5
baz=313
PARMO **Parma** 57.35 71 *e*P P 18 38 23.8 -1.2
WLAR White Oak Lake 57.44 76 *e*P P 18 38 24.4 -1.2
comp=Z,50nm,0.9s
BLO Bloomington 57.49 67 *e*P P 18 38 24.2 -1.7
BLO pmax pmax
comp=Z,22nm,0.6s
BLO Bloomington 57.49 67 *e*P P 18 38 24.2 -1.7
comp=Z,22nm,0.6s
KEV Kevo 57.63 352 *e*P P 18 38 24.4 -2.0
KEV pmax pmax
comp=Z,12nm,0.8s
KEV Kevo 57.63 352 *e*P P 18 38 24.4 -2.0
comp=Z,12nm,0.8s
SADO Sadowa 57.66 57 *e*P P 18 38 26.3 -0.8
comp=Z,25nm,0.8s
USIN University of 57.66 68 *e*P P 18 38 26.3 -0.8
comp=Z,46nm,0.8s
XAN Xi'an 57.89 285 P P 18 38 28.4 -0.4
XAN pmax pmax
comp=Z,40nm,1.1s
XAN pmax pmax
comp=Z,160nm,4.3s
SSLB Suanglung 57.89 268 *e*P P 18 38 28.7 -0.2
comp=Z,197nm,1.7s
ARA0 ARCESS Array S 57.96 353 *e*P P 18 38 27.5 -1.3
ARA0 *e*PcP **PcP** 18 39 20.0 -0.4
ARCES ARCESS Array B 57.96 353 P P 18 38 28.1 -0.7
comp=Z,5.8nm,0.5s,baz=21,slow=9.4,SNR=55
ARCES PcP **PcP** 18 39 20.2 -0.2
comp=Z,7.4nm,0.7s,baz=18,slow=4.3,SNR=7.9
ARCES ScP **ScP** 18 43 16.0 -0.2
comp=Z,3.5nm,0.9s,baz=27,slow=11,SNR=4.6
ARCES LR LR 19 03 20.4
comp=Z,126nm,21.9s,baz=358,slow=36
ARE0 ARCESS Array S 57.96 353 *e*P P 18 38 27.7 -1.1
comp=Z,13nm,0.9s
ARE0 *e*PcP **PcP** 18 39 19.6 -0.8
YULB Yu-li 57.97 267 *e*P P 18 38 29.8 +0.3
comp=Z,39nm,1.3s
WCI Wyandotte Cave 58.26 67 *e*P P 18 38 30.3 -1.1
WCI pmax pmax
comp=Z,42nm,1.1s
WCI Wyandotte Cave 58.26 67 *e*P P 18 38 30.3 -1.1
comp=Z,42nm,1.1s
PLVO Plevna 58.54 56 *e*P P 18 38 32.8 -0.4
comp=Z,21nm,0.9s
LVZ Lovozero 58.66 349 *de*P P 18 38 32.6 -1.1
LVZ pmax pmax
comp=Z,55nm,1.7s
LVZ Lovozero 58.66 349 *e*P P 18 38 32.1 -1.5
comp=Z,28nm,0.8s
034A Hebbronville 58.75 85 P P 18 38 35.7 +0.8
baz=316
WVT Waverly 58.84 70 *e*P P 18 38 34.5 -0.9
WVT pmax pmax
comp=Z,12nm,1.0s
WVT Waverly 58.84 70 *e*P P 18 38 34.5 -0.9
comp=Z,12nm,1.0s
TRQ Mont Tremblant 58.98 54 *e*P P 18 38 35.2 -1.2
ERPA Erie 59.05 60 *e*P P 18 38 37.0 +0.2
comp=Z,48nm,1.1s
OXF Oxford 59.05 73 *e*P P 18 38 36.6 -0.3
OXF Oxford 59.05 73 *e*P P 18 38 36.6 -0.3
ALLY Alegheny Colle 59.29 61 *e*P P 18 38 37.6 -0.9
comp=Z,62nm,0.6s
GTA Gaotai 59.38 296 ⇑P P 18 38 38.6 -0.7
GTA S **S** 18 46 44.9 +0.4
GTA SS **SS** 18 50 42.2 +2.9
GTA pmax pmax
comp=Z,24nm,1.1s
GTA pmax pmax
comp=Z,110nm,5.0s
GTA LR LR
comp=Z,310nm,20.9s
GTA LR LR
comp=Z,320nm,20.4s
Y45A Yeager Farm, C 59.43 73 P P 18 38 39.7 +0.2
baz=315
LZH Lanzhou 59.43 290 *e*P P 18 38 40.5 +0.8
LZH pmax pmax
comp=Z,69nm,1.0s
LZH pmax pmax
comp=Z,140nm,4.0s
342A Flagon Creek P 59.53 77 P P 18 38 39.4 -0.8
baz=315
M54A Oil Creek Stat 59.65 60 P P 18 38 40.4 -0.5
baz=314
Y46A Houston 59.82 73 P P 18 38 43.2 +1.0
baz=315
N54A Moraine State 59.86 61 P P 18 38 42.4 0.0
baz=314
LMQ La Malbaie 60.09 50 *e*P P 18 38 43.4 -0.4
LONY Lake Ozonia 60.10 55 *e*P P 18 38 42.8 -1.2
comp=Z,22nm,1.1s
ENH Enshi 60.21 282 *e*P P 18 38 43.8 -1.2
comp=Z,32nm,1.3s
Y47A UCPARC, Winfie 60.40 72 P P 18 38 45.8 -0.4
baz=315
FRNY Flat Rock 60.44 54 *e*P P 18 38 45.2 -1.1
comp=Z,13nm,1.0s
SWET Sewanee 60.58 70 *e*P P 18 38 46.2 -1.3
comp=Z,9.0nm,1.3s
146A Union 60.58 74 P P 18 38 47.3 -0.1
baz=315
NCB Newcomb 60.74 55 *e*P P 18 38 48.1 -0.2
comp=Z,0.2nm,1.0s
Z47A Carrollton 60.77 73 P P 18 38 48.6 -0.1
baz=315
MCWV Mont Chateau 60.85 62 *e*P P 18 38 49.0 -0.2
comp=Z,12nm,0.7s
Z48A Northport 60.94 72 P P 18 38 49.6 -0.2
baz=315
147A Livingston 61.02 73 P P 18 38 50.3 -0.1
baz=316
BINY Binghamton 61.10 58 *e*P P 18 38 51.5 +0.6
comp=Z,31nm,0.8s
O56A Blue Knob Stat 61.11 61 P P 18 38 50.6 -0.4
baz=315
SSPA Standing Stone 61.21 60 *e*P P 18 38 51.2 -0.4
comp=Z,26nm,0.6s
CPCT Cooper Cave 61.23 68 *e*P P 18 38 50.1 -1.6
comp=Z,28nm,1.6s
ACCN Adirondack Com 61.44 55 *e*P P 18 38 52.2 -0.9
comp=Z,26nm,1.0s
TKL Tuckaleechee C 61.50 68 *e*P P 18 38 52.3 -1.4
TKL pmax pmax
comp=Z,31nm,0.5s
TKL Tuckaleechee C 61.50 68 *e*P P 18 38 52.3 -1.4
comp=Z,31nm,0.5s
LRAL Lakeview Retre 61.51 72 *e*P P 18 38 51.8 -1.9
KURK Kurchatov 61.63 317 *ce*P P 18 38 54.1 -0.1
KURK pmax pmax
comp=Z,163nm,0.7s
KURK Kurchatov 61.63 317 *e*P P 18 38 53.2 -1.0
comp=Z,46nm,0.7s
KURK Kurchatov 61.63 317 P P 18 38 54.4 +0.2
SNR=18
KURK Kurchatov 61.63 317 P P 18 38 54.4 +0.2
SNR=18
KURK P P 18 38 54.4 +0.2
SNR=18
PQI Presque Isle 61.81 49 *e*P P 18 38 54.4 -1.1
comp=Z,30nm,0.8s
N59A State Game Lan 62.13 59 P P 18 38 58.1 +0.3
baz=316
PKME Peaks-Kenny Pk 62.24 51 *e*P P 18 38 58.1 -0.3
comp=Z,34nm,1.0s
BLA Blacksburg 62.28 64 *e*P P 18 38 59.3 +0.4
BLA pmax pmax
comp=Z,32nm,0.9s
BLA Blacksburg 62.28 64 *e*P P 18 38 59.2 +0.4
comp=Z,32nm,0.9s
OUL Oulu 62.30 352 P P 18 38 57.2 -1.3
OUL pmax pmax
comp=Z,29nm,0.8s
MVL Millersville 62.49 60 *e*P P 18 39 00.8 +0.7
comp=Z,31nm,1.5s
LUPA Lehigh Univers 62.57 59 *e*P P 18 39 00.6 -0.1
comp=Z,25nm,0.8s
WVL Waterville 62.57 52 *e*P P 18 39 00.5 -0.2
comp=Z,45nm,1.0s
WMQ Urumqi 62.60 307 P P 18 39 05.6 +4.6
WMQ pP pP 18 39 08.9 -5.7
WMQ sP sP 18 39 12.8 -7.3
WMQ pmax pmax
comp=Z,15nm,0.7s
WMQ pmax pmax
comp=Z,66nm,5.3s
WMQ LR LR
comp=Z,120nm,22.5s
WMQ LR LR
comp=Z,110nm,19.5s
ODNJ Ogdensburg 62.62 58 *e*P P 18 39 00.8 -0.2
comp=Z,17nm,0.9s
MK31 Makanchi Array 62.97 312 P P 18 39 02.3 -1.0
MK31 pmax pmax
comp=Z,11nm,0.6s
MK31 Makanchi Array 62.97 312 *e*P P 18 39 02.3 -1.0
MKAR Makanchi Array 62.97 312 *e*P P 18 39 02.3 -1.0
MKAR pmax pmax
comp=Z,110nm,0.8s
MKAR Makanchi Array 62.97 312 *e*P P 18 39 02.3 -1.0
comp=Z,110nm,0.8s
MK01 Makanchi Array 62.98 312 *e*P P 18 39 02.4 -1.0
BVA0 Borovoye Array 63.08 323 *i*P P 18 39 03.8 -0.1
BVA0 pmax pmax
comp=Z,28nm,0.6s
BRVK Borovoye 63.09 323 *ci*P P 18 39 04.2 +0.2
BRVK pmax pmax
comp=Z,94nm,1.3s
BRVK Borovoye 63.09 323 *e*P P 18 39 03.9 -0.1
comp=Z,22nm,0.8s
BRVK Borovoye 63.09 323 P P 18 39 04.3 +0.3
SNR=10
BRVK Borovoye 63.09 323 P P 18 39 04.3 +0.3
SNR=10
BRVK P P 18 39 04.3 +0.3
SNR=10
MAKZ Makanchi 63.10 312 *e*P P 18 39 03.2 -1.0
MAKZ pmax pmax
comp=Z,25nm,1.0s
MAKZ Makanchi 63.10 312 *e*P P 18 39 03.2 -1.0
comp=Z,25nm,1.0s
CD2 Chengdu 63.17 286 ⇑*i*P P 18 39 05.2 +0.3
CD2 PcP **PcP** 18 39 43.2 +1.2
CD2 PP **PP** 18 41 22.2 -1.7
CD2 S **S** 18 47 29.8 -2.8
CD2 SS **SS** 18 51 32.2 -6.5
CD2 pmax pmax
comp=Z,60nm,0.7s
CD2 pmax pmax
comp=Z,130nm,7.1s
CD2 LR LR
comp=Z,300nm,16.7s
CD2 LR LR
comp=Z,270nm,17.8s
SVE Sverdlovsk 63.23 331 ⇑*e*P P 18 39 04.8 0.0
SVE pmax pmax
comp=Z,24nm,0.8s
KMSC Kings Mountain 63.26 67 P P 18 39 05.5 +0.1
baz=316
KMSC Kings Mountain 63.26 67 *e*P P 18 39 04.8 -0.6
comp=Z,22nm,0.9s
GOGA Godfrey 63.29 69 *e*P P 18 39 04.8 -0.8
GOGA pmax pmax
comp=Z,13nm,1.0s
GOGA Godfrey 63.29 69 *e*P P 18 39 04.8 -0.8
comp=Z,13nm,1.0s
WES Weston 63.35 55 *e*P P 18 39 05.4 -0.4
WES pmax pmax
comp=Z,53nm,0.9s
WES Weston 63.35 55 *e*P P 18 39 05.4 -0.4
comp=Z,53nm,0.9s
GGN Saint George 63.51 50 *e*P P 18 39 06.7 -0.2
comp=Z,77nm,1.4s
EMMW East Machias 63.52 51 *e*P P 18 39 06.2 -0.7
comp=Z,45nm,0.8s
URVA University of 63.61 62 *e*P P 18 39 07.2 -0.4
JOF Joensuu 63.84 349 P P 18 39 08.9 +0.1
JOF pmax pmax
comp=Z,17nm,1.1s
LMN Caledonia Moun 63.91 48 *e*P P 18 39 09.6 +0.1
comp=Z,106nm,1.1s
JSC Jenkinsville 63.92 67 *e*P P 18 39 09.7 -0.1
JSC pmax pmax
comp=Z,23nm,1.2s
JSC Jenkinsville 63.92 67 *e*P P 18 39 09.7 -0.1
comp=Z,22nm,1.2s
MANU Manus Island 64.17 227 *e*P P 18 39 10.4 -1.1
comp=Z,17nm,1.0s
ARU Arti 64.18 332 *ci*P P 18 39 10.2 -0.8
ARU 18 39 43.3
ARU S **S** 18 47 45.1 +0.8
ARU 18 48 58.7
ARU SS **SS** 18 51 51.9 -1.1
ARU pmax pmax
comp=Z,26nm,0.6s
ARU Arti 64.18 332 *e*P P 18 39 10.2 -0.8
comp=Z,30nm,0.6s
DRLN Deer Lake 64.46 42 *e*P P 18 39 12.5 -0.5
comp=Z,62nm,0.9s
VAF Ylistaro 64.58 353 P P 18 39 12.5 -1.0
VAF pmax pmax
comp=Z,32nm,0.8s
SUF Sumiainen 64.60 351 P P 18 39 13.2 -0.5
SUF pmax pmax
comp=Z,27nm,0.9s
KLMR Klimovskoe 64.61 344 *e*P P 18 39 11.2 -2.6
KLMR *e* 18 39 44.8
KLMR 18 41 33.5
KLMR pmax pmax
comp=Z,11nm,1.1s
GYA Guiyang 64.68 281 ⇑*i*P P 18 39 14.5 -0.5
GYA pP pP 18 39 22.4 -6.2
GYA PcP **PcP** 18 39 51.8 +3.4
GYA PP **PP** 18 41 42.0 +4.6
GYA S **S** 18 47 55.7 +4.1
GYA pmax pmax
comp=Z,30nm,0.8s
GYA pmax pmax
comp=Z,120nm,5.7s
FIA1 FINESS Array S 65.86 351 *e*P P 18 39 20.8 -1.1
comp=Z,14nm,0.8s
FINES FINESS Array B 65.86 351 P P 18 39 20.9 -1.0
comp=Z,9.7nm,0.6s,baz=6.6,slow=8.9,SNR=36
FINES PcP **PcP** 18 39 51.4 -1.1
comp=Z,7.5nm,0.7s,baz=42,slow=5.9,SNR=6.6
FINES LR LR 19 08 55.2
comp=Z,109nm,21.4s,baz=12,slow=37
TAOE Nuku Hiva Isla 66.48 146 *e*LR LR 18 59 19.6
comp=Z,414nm,23.8s
TAOE Nuku Hiva Isla 66.48 146 *e*T T 19 51 53.3
comp=Z,280nm,0.3s
NC204 NORSAR Array S 66.88 359 *e*P P 18 39 27.4 -1.1
PDGK Podgornoye 66.89 311 P P 18 39 28.5 -0.5
PDGK pmax pmax
comp=Z,36nm,0.8s
NC303 NORSAR Array S 66.92 358 *e*P P 18 39 27.8 -0.9
NC405 NORSAR Array S 67.03 358 *e*P P 18 39 28.9 -0.5
NB201 NORSAR Array S 67.10 359 *e*P P 18 39 29.1 -0.8
NBO02 NORSAR Array S 67.11 359 *e*P P 18 39 29.7 -0.2
NB2 NORSAR Subarra 67.11 359 P P 18 39 29.3 -0.7
comp=Z,7.0nm,0.6s,baz=2.4,slow=6.5
NOA NORSAR Array B 67.11 359 P P 18 39 29.4 -0.5
comp=Z,6.2nm,0.6s,baz=2.0,slow=6.4,SNR=30
NOA LR LR 19 08 10.1
comp=Z,64nm,21.3s,baz=350,slow=35
KMI Kunming 68.03 283 P P 18 39 37.1 +0.5
KMI PP **PP** 18 42 06.3 -0.4
KMI S **S** 18 48 34.7 +2.2
KMI pmax pmax
comp=Z,33nm,1.0s
KMI LR LR
comp=Z,190nm,8.5s
KMI LR LR
comp=Z,110nm,5.9s
KMI LR LR
comp=Z,230nm,15.7s
KONO Kongsberg 68.52 359 *de*P P 18 39 39.1 +0.3
KONO pmax pmax
comp=Z,202nm,1.7s
KONO Kongsberg 68.52 359 *e*P P 18 39 38.7 0.0
comp=Z,20nm,1.0s
VSU Vasula 68.72 350 *di*P P 18 39 39.4 -0.6
FRU Bishkek 69.48 314 ⇑*i*P P 18 39 45.0 -0.1
FRU pmax pmax
comp=Z,70nm,1.6s
AKTO Aktyubinsk 69.50 329 P P 18 39 44.1 -0.9
AKTO pmax pmax
comp=Z,40nm,0.6s
AAK Ala-Archa 69.70 314 P P 18 39 47.0 +0.4
comp=Z,26nm,0.6s,baz=106,slow=3.3,SNR=61
AAK Ala-Archa 69.70 314 P P 18 39 46.6 0.0
AAK pmax pmax
comp=Z,50nm,1.0s
AAK Ala-Archa 69.70 314 *e*P P 18 39 46.5 0.0
comp=Z,44nm,0.9s
AAK Ala-Archa 69.70 314 P P 18 39 47.0 +0.4
SNR=22
AAK Ala-Archa 69.70 314 P P 18 39 47.0 +0.4
SNR=22
AAK P P 18 39 47.0 +0.4
SNR=22
AB31 Akbulak array 69.89 327 P P 18 39 46.5 -0.9
AB31 pmax pmax
comp=Z,6.0nm,0.5s
ABKAR **Akbulak array** 69.89 327 *e*P P 18 39 46.6 -0.8
comp=Z,147nm,0.5s
SLVN Son La 70.17 279 *e*P P 18 39 49.6 -0.1
comp=Z,26nm,1.0s
OBN Obninsk 70.56 343 ⇓*i*P P 18 39 50.8 -0.6
OBN *e* 18 42 28.2
OBN pmax pmax
comp=Z,11nm,0.6s
OBN MLR MLR
comp=Z,117nm,20.0s
MNAS Manas 70.69 315 P P 18 39 51.9 -0.7
MNAS pmax pmax
comp=Z,12nm,0.7s
KK31 Karatay Array 71.04 317 P P 18 39 53.9 -0.7
KK31 pmax pmax
comp=Z,10.0nm,0.7s
KKAR Karatay Array 71.04 317 *e*P P 18 39 54.0 -0.6
KKAR pmax pmax
comp=Z,148nm,0.9s
KKAR Karatay Array 71.04 317 *e*P P 18 39 54.0 -0.6
comp=Z,148nm,0.9s
SWI Sorong 71.25 243 P P 18 39 54.8 -1.3
SWI pmax pmax
comp=Z,27nm,0.8s
LSA Lhasa 71.34 294 P P 18 39 58.3 +1.1
LSA pmax pmax
comp=Z,88nm,0.9s
LSA Lhasa 71.34 294 *e*P P 18 39 57.9 +0.7
LSA pmax pmax
comp=Z,54nm,0.8s
LSA Lhasa 71.34 294 *e*P P 18 39 57.9 +0.7
comp=Z,54nm,0.8s
KSH Kashi 71.52 311 ⇑*i*P P 18 40 00.9 +3.2
KSH PcP **PcP** 18 40 19.7 +2.8
KSH PP **PP** 18 42 41.8 +5.6
KSH S **S** 18 49 16.8 +4.0
KSH SS **SS** 18 53 53.6 +6.1
KSH pmax pmax
comp=Z,53nm,1.0s
KSH pmax pmax
comp=Z,110nm,3.6s
KSH LR LR
comp=Z,87nm,4.4s
KSH LR LR
comp=Z,73nm,3.9s
KSH LR LR
comp=Z,170nm,5.4s
PPT2 Papeete2 72.05 158 *e*LR LR 19 01 35.5
comp=Z,241nm,24.8s
TIAR Tiarei 72.08 158 *e*T T 19 58 48.3
comp=Z,6.0nm,0.3s
NONG Nongkai 73.12 278 P P 18 40 08.2 +0.9
comp=Z,73nm,0.8s
SKNT Sakolnakorn 73.44 276 P P 18 40 09.9 +0.7
comp=Z,61nm,1.0s
SUW Suwalki 73.47 351 P P 18 40 08.3 -0.5
SUW pmax pmax
comp=Z,474nm,1.0s
UBPT Khong Chiam 73.83 274 P P 18 40 14.0 +2.5
comp=Z,44nm,1.0s
SHL Shillong 74.08 291 *e*P P 18 40 15.0 +1.8
GKP Gorka Klasztor 74.67 355 *e*P P 18 40 16.4 +0.6
GKP Gorka Klasztor 74.67 355 *e*P P 18 40 16.4 +0.6
LAMP Lampang 74.90 281 P P 18 40 21.4 +3.7
comp=Z,6.6nm,1.0s
UTTA Uttaradit 74.94 280 P P 18 40 19.1 +1.2
comp=Z,24nm,0.8s
TAPN Taplejung 75.07 295 *e*P P 18 40 18.9 -0.1
comp=Z,128nm,0.8s
CMMT Chiang Mai 75.09 281 P P 18 40 18.7 -0.2
comp=Z,21nm,1.4s
CHTO Chiang Mai 75.10 281 P P 18 40 18.8 -0.1
comp=Z,94nm,1.4s
CHTO Chiang Mai 75.10 281 *e*P P 18 40 17.9 -1.0
CHTO pmax pmax
comp=Z,49nm,1.5s
CHTO Chiang Mai 75.10 281 *e*P P 18 40 17.9 -1.0
comp=Z,49nm,1.5s
CHTO Chiang Mai 75.10 281 P P 18 40 18.9 0.0
SNR=7.4
CHTO Chiang Mai 75.10 281 P P 18 40 18.9 0.0
SNR=7.4
CWF Charnwood Fore 75.13 6 *e*P P 18 40 18.3 -0.3
comp=Z,16nm,1.1s
CMAR Chiang Mai Arr 75.37 281 P P 18 40 20.6 +0.2
comp=Z,23nm,0.8s,baz=26,slow=6.5,SNR=57
CM31 Chiang Mai Arr 75.37 281 *e*P P 18 40 20.5 +0.1
CM01 Chiang Mai Arr 75.39 281 *e*P P 18 40 20.4 -0.2
CHAI Chaiyaphum 75.48 277 P P 18 40 23.1 +2.0
comp=Z,8.0nm,1.0s
PBKT Sadao Pong 75.59 278 P P 18 40 22.7 +1.0
comp=Z,29nm,0.9s
ODAN Odare 75.63 295 *e*P P 18 40 21.8 -0.3
comp=Z,54nm,0.9s
GUN Gumba 75.64 297 *e*P P 18 40 22.2 -0.1
comp=Z,111nm,0.6s
JIRN Jiri 75.67 297 *e*P P 18 40 22.7 +0.2
RAMN Ramite 76.00 296 *e*P P 18 40 24.0 -0.2
comp=Z,216nm,0.8s
AKASG **Malin Array Be** 76.00 347 P P 18 40 22.2 -1.4
comp=Z,3.4nm,0.4s,baz=15,slow=5.8,SNR=17
AKASG LR LR 19 15 31.2
comp=Z,164nm,21.8s,baz=10.0,slow=37
AKBB Malin Array Si 76.00 347 *e*P P 18 40 20.5 -3.0
AKBB pmax pmax
comp=Z,10.0nm,0.9s
AKBB Malin Array Si 76.00 347 *e*P P 18 40 20.5 -3.0
comp=Z,9.6nm,0.9s
KIEV Kiev 76.01 347 *e*P P 18 40 21.1 -2.5
KIEV pmax pmax
comp=Z,11nm,1.0s
KIEV Kiev 76.01 347 *e*P P 18 40 21.1 -2.5
comp=Z,11nm,1.0s
AK11 Malin Array Si 76.03 347 *e*P P 18 40 21.6 -2.1
KKN Kakani 76.07 297 *e*P P 18 40 24.5 -0.1
comp=Z,54nm,0.6s
PKIN Phulchoki 76.17 297 *e*P P 18 40 25.1 -0.1
comp=Z,48nm,0.7s
GKN Gorkha 76.25 298 *e*P P 18 40 25.2 -0.4
comp=Z,147nm,0.8s
DMN Daman 76.31 297 *e*P P 18 40 25.7 -0.3
comp=Z,76nm,0.8s
DZM Mont Dzumac 76.41 201 *e*LR LR 19 04 02.2
comp=Z,216nm,22.0s
BUG Bochum--Univer 76.75 1 P P 18 40 27.6 -0.1
BUG pmax pmax
comp=Z,18nm,1.1s
CLL Collm 76.82 357 *i*P P 18 40 28.2 +0.1
CLL pmax pmax
comp=Z,18nm,1.1s
CLL Collm 76.82 357 *i*P P 18 40 28.2 +0.1
comp=Z,18nm,1.1s
CLL L L 19 17 00.0
comp=Z,100nm,18.5s
CLL Collm 76.82 357 *e*P P 18 40 26.8 -1.4
comp=Z,12nm,0.6s
PYUN Piuthan 77.07 299 *e*P P 18 40 29.9 -0.3
comp=Z,210nm,1.0s
NAYO Nakonayok 77.11 277 P P 18 40 31.6 +1.3
comp=Z,80nm,1.0s

KSP Ksiaz 77.14 355 eP P 18 40 30.1 +0.1
KSP Ksiaz 77.14 355 eP P 18 40 30.1 +0.1
UMPA Umpang Tak 77.15 280 P P 18 40 34.2 +3.6
comp=Z,19nm,0.9s
BRG Berggiesshubel 77.22 356 iP P 18 40 30.2 -0.2
comp=Z,20nm,0.9s
BRG e 18 40 42.6
comp=Z,7.2nm,0.9s
BRG e 18 40 57.1
comp=Z,9.3nm,0.9s
BRG Berggiesshubel 77.22 356 iP P 18 40 30.2 -0.2
BRG e 18 40 42.6
BRG pmax pmax
comp=Z,20nm,0.9s
UPC Upice 77.49 355⇑eP P 18 40 32.0 0.0
UPC AMS AMS 19 18 20.0
comp=Z,200nm,17.9s
UPC Upice 77.49 355 eP P 18 40 32.0 0.0
UPC MLR MLR
comp=Z,200nm,17.9s
MOX Moxa 77.52 358 P P 18 40 32.5 +0.4
MOX pmax pmax
comp=Z,22nm,1.0s
LVV L'vov 77.52 350 eP P 18 40 32.5 +0.4
OJC Ojcow 77.53 353 eP P 18 40 32.6 +0.4
OJC Ojcow 77.53 353 eP P 18 40 31.7 -0.5
OJC pmax pmax
comp=Z,11nm,0.9s
OJC Ojcow 77.53 353 eP P 18 40 31.7 -0.5
comp=Z,11nm,0.9s
PVCC Panska Ves 77.54 356⇑eP P 18 40 32.8 +0.6
PVCC AMS AMS 19 19 00.0
comp=Z,200nm,22.6s
PVCC Panska Ves 77.54 356 eP P 18 40 32.8 +0.6
PVCC MLR MLR
comp=Z,200nm,22.6s
MEM Membach 77.56 2 P P 18 40 32.4 0.0
comp=Z,12nm,1.4s
MEM Membach 77.56 2 P P 18 40 32.8 +0.4
MEM pmax pmax
comp=Z,23nm,1.1s
DPC Dobruska-Polom 77.63 355⇑iP P 18 40 32.8 0.0
DPC Dobruska-Polom 77.63 355⇑iP P 18 40 32.8 0.0
TBI Tubuai 77.64 159 eLR LR 19 04 15.6
comp=Z,236nm,26.5s,baz=338
TBI Tubuai 77.64 159 eT T 20 05 44.9
comp=Z,13nm,0.3s
CHBT CHBT 77.70 275 P P 18 40 38.1 +4.5
comp=Z,54nm,1.1s
BCLA Clavier 77.74 2 P P 18 40 33.5 +0.2
comp=Z,12nm,1.5s
KWP Kalwaria Pacla 77.85 351 P P 18 40 33.6 -0.4
KRLC Kraliky 77.88 355⇑iP P 18 40 33.9 -0.3
KRLC Kraliky 77.88 355⇑iP P 18 40 33.9 -0.3
NKC Novy Kostel 77.91 357⇑eP P 18 40 34.7 +0.4
NKC Novy Kostel 77.91 357 eP P 18 40 34.7 +0.4
PRA Prague 78.00 356⇑eP P 18 40 35.5 +0.7
PRA Prague 78.00 356 eP P 18 40 35.5 +0.7
OKC Ostrava-Krasne 78.03 354⇑eP P 18 40 35.4 +0.5
OKC Ostrava-Krasne 78.03 354 eP P 18 40 35.4 +0.5
DOU Dourbes 78.05 3 P P 18 40 34.8 -0.2
comp=Z,5.8nm,1.2s
GIVF Givet 78.05 2 eP P 18 40 34.2 -0.8
GIVF pmax pmax
comp=Z,40nm,1.0s
BAIF Baives 78.07 3 eP P 18 40 34.5 -0.7
BAIF pmax pmax
comp=Z,23nm,1.0s
PRU Pruhonice 78.08 356⇑eP P 18 40 35.3 +0.1
PRU AMS AMS 19 19 30.0
comp=Z,200nm,19.2s
PRU Pruhonice 78.08 356 eP P 18 40 35.3 +0.1
PRU MLR MLR
comp=Z,200nm,19.2s
MORC Moravsky Berou 78.13 354⇓iP P 18 40 35.4 -0.2
MORC Moravsky Berou 78.13 354 eP P 18 40 34.7 -0.9
MORC pmax pmax
comp=Z,59nm,1.0s
MORC Moravsky Berou 78.13 354 eP P 18 40 34.7 -0.9
comp=Z,59nm,1.0s
GOPC GO Pecny, Ondr 78.14 356⇑eP P 18 40 36.2 +0.6
GOPC epP PcP 18 40 45.9 +0.9
GOPC AMS AMS 19 19 40.0
comp=Z,200nm,22.7s
GOPC GO Pecny, Ondr 78.14 356 eP P 18 40 36.2 +0.6
GOPC e 18 40 45.9
GOPC MLR MLR
comp=Z,200nm,22.7s
STHS Stebnicka Huta 78.20 352 eP P 18 40 36.7 +0.7
STHS pmax pmax
comp=Z,9.0nm,0.7s
STHS Stebnicka Huta 78.20 352 eP P 18 40 36.7 +0.7
NIE Niedzica 78.28 352 eP P 18 40 36.3 -0.1
NIE Niedzica 78.28 352 eP P 18 40 36.3 -0.1
SRDT SRDT 78.43 278 P P 18 40 39.3 +1.7
comp=Z,154nm,0.9s
GRF Grafenberg Arr 78.48 358 P P 18 40 38.4 +0.9
GRF pmax pmax
comp=Z,45nm,1.0s
GRFO Grafenberg 78.48 358 eP P 18 40 36.8 -0.6
GRFO pmax pmax
comp=Z,25nm,0.8s
GRFO Grafenberg 78.48 358 eP P 18 40 36.8 -0.6
comp=Z,25nm,0.8s
WLF Walferdange 78.51 2 P P 18 40 38.2 +0.6
comp=Z,12nm,1.7s
LANS Liptovska Anna 78.61 353 eP P 18 40 39.0 +0.7
LANS Liptovska Anna 78.61 353 eP P 18 40 39.0 +0.7
SORM Soroca 78.63 347⇓iP P 18 40 37.2 -1.1
VRAC Vranov 78.65 355⇓iP P 18 40 38.1 -0.3
GOF Gofitskoye 78.67 336⇑eP P 18 40 39.0 +0.4
GOF pmax pmax
comp=Z,75nm,0.9s
CRVS Cervenica-Dubn 78.69 351 eP P 18 40 38.8 +0.1
CRVS Cervenica-Dubn 78.69 351 eP P 18 40 38.8 +0.1
KBL Kabul 78.77 313 eP P 18 40 37.6 -2.0
KBL pmax pmax
comp=Z,32nm,0.8s
KBL Kabul 78.77 313 eP P 18 40 37.6 -2.0
comp=Z,32nm,0.8s
KHC Kasperske Hory 78.97 357⇑iP P 18 40 40.5 +0.2
KHC Kasperske Hory 78.97 357 eP P 18 40 40.4 +0.2
KHC pmax pmax
comp=Z,7.0nm,0.9s
KHC Kasperske Hory 78.97 357 eP P 18 40 40.4 +0.1
comp=Z,6.9nm,0.9s
WET Wettzell 78.98 357 P P 18 40 40.9 +0.6
WET pmax pmax
comp=Z,17nm,1.3s
FLN La Foliniere 79.14 6 eP P 18 40 39.8 -1.3
FLN pmax pmax
comp=Z,20nm,1.0s
KECS Kecovo 79.19 352 eP P 18 40 41.9 +0.5
KECS pmax pmax
comp=Z,5.0nm,1.0s
KECS Kecovo 79.19 352 eP P 18 40 41.9 +0.5
GEC2 GERESS Array S 79.25 356 eP P 18 40 41.5 -0.3
GEC2 pmax pmax
comp=Z,11nm,0.9s
GEC2 GERESS Array S 79.25 356 eP P 18 40 41.5 -0.3
comp=Z,11nm,0.9s
GERES GERESS Array B 79.25 356 P P 18 40 41.6 -0.3
comp=Z,5.4nm,0.7s,baz=19,slow=4.5,SNR=55
GEA0 GERESS Array S 79.26 356 eP P 18 40 41.1 -0.7
VYHS Vyhne 79.31 353 eP P 18 40 42.5 +0.4
VYHS pmax pmax
comp=Z,6.0nm,1.1s
VYHS Vyhne 79.31 353 eP P 18 40 42.5 +0.4
SMOL Smolenice 79.39 354 eP P 18 40 43.1 +0.6
SMOL Smolenice 79.39 354 eP P 18 40 43.1 +0.6
GRR Gorron 79.49 6 eP P 18 40 41.9 -1.1
GRR pmax pmax
comp=Z,19nm,0.8s
BUR08 Bucovina Ar. S 79.53 349 eP P 18 40 42.1 -1.3
BURAR Bucovina Array 79.56 349⇑iP P 18 40 42.4 -1.1
BURAR Bucovina Array 79.56 349 P P 18 40 42.3 -1.2
SBUM Sibu 79.66 261 eP P 18 40 45.5 +1.1
comp=Z,12nm,1.4s
KIV Kislovodsk 79.79 336 iP P 18 40 44.4 -0.4
SNR=6.4
KIV Kislovodsk 79.79 336⇓iP P 18 40 44.9 0.0
KIV i 18 40 51.1
KIV pmax pmax
comp=Z,16nm,0.9s
KIV MLR MLR
comp=Z,109nm,20.0s
KIV Kislovodsk 79.79 336 eP P 18 40 44.1 -0.7
comp=Z,13nm,0.8s
PSZ Piszkesteto 79.80 352⇑iP P 18 40 43.8 -1.0
PSZ Piszkesteto 79.80 352 eP P 18 40 44.5 -0.3
PSZ pmax pmax
comp=Z,12nm,1.2s
PSZ Piszkesteto 79.80 352 eP P 18 40 44.5 -0.3
comp=Z,12nm,1.2s
BFO Black Forest 79.87 0 eP P 18 40 44.7 -0.4
BFO pmax pmax
comp=Z,13nm,1.0s
BFO Black Forest 79.87 0 eP P 18 40 44.7 -0.4
comp=Z,13nm,1.0s
THEF They Montfort 79.95 2⇑eP P 18 40 45.6 +0.1
KBZ Khabaz 79.95 335 P P 18 40 45.9 +0.3
comp=Z,5.9nm,0.7s,baz=35,slow=2.9,SNR=15
KBZ LR LR 19 22 04.8
comp=Z,83nm,18.2s,baz=30,slow=40
ECH Echery 79.97 1⇑eP P 18 40 45.6 -0.1
CONA Conrad Observa 80.07 355 iP P 18 40 46.2 -0.1
comp=Z,9.8nm,0.6s,SNR=16
ARCR ARCALIA 80.18 349⇑iP P 18 40 47.4 +0.6
MOA Molln 80.23 356 iP P 18 40 47.5 +0.5
comp=Z,5.8nm,0.9s
ANN Anapa 80.23 340 eP P 18 40 44.1 -2.9
ANN pmax pmax
comp=Z,42nm,1.5s
MOF Molkenrain 80.34 1 eP P 18 40 47.5 -0.2
GEYT Alibeck 80.39 322 P P 18 40 47.9 -0.2
comp=Z,8.7nm,0.8s,baz=328,slow=5.3,SNR=18
GEYT LR LR 19 19 50.0
comp=Z,115nm,18.6s,baz=20,slow=38
ZEI Tsey 80.57 334 eP P 18 40 46.7 -2.5
ZEI pmax pmax
comp=Z,24nm,0.4s
CJR Cluj-Napoca 80.64 350⇑iP P 18 40 49.8 +0.5
DRGR 80.66 350⇑iP P 18 40 49.6 +0.2
RETA Reutte 80.69 358 iP P 18 40 50.1 +0.4
comp=Z,11nm,1.0s,SNR=5.1
SIM Simferopol' 80.76 342deP P 18 40 50.7 +0.8
SIM pmax pmax
comp=Z,13nm,0.9s
ARSA Arzberg 80.77 355 iP P 18 40 50.4 +0.4
comp=Z,7.2nm,0.7s,SNR=5.8
WATA Walderalm 80.83 358 iP P 18 40 51.4 +1.0
comp=Z,30nm,1.3s,SNR=8.8
MOTA Moosalm 80.83 358 iP P 18 40 51.2 +0.8
comp=Z,26nm,1.1s,SNR=18
LOMF Lomont 80.84 1 eP P 18 40 50.3 -0.1
WTTA Wattenberg 80.90 358 iP P 18 40 51.6 +0.8
comp=Z,11nm,0.8s,SNR=7.5
DAVA Damuels 80.90 359 iP P 18 40 51.7 +0.8
comp=Z,5.9nm,0.8s
KBA Koelnbreinsper 81.03 357 iP P 18 40 52.2 +0.6
comp=Z,22nm,0.6s,SNR=13
KBA Koelnbreinsper 81.03 357 P P 18 40 52.5 +0.9
KBA pmax pmax
comp=Z,50nm,1.0s
VRI Vrincioaia 81.08 347⇑iP P 18 40 51.5 -0.1
PLOR Plostina 81.11 347⇑iP P 18 40 52.2 +0.4
DOPR Dopca 81.16 348⇑iP P 18 40 51.9 -0.2
FETA Feichten 81.16 358 iP P 18 40 52.7 +0.4
comp=Z,30nm,1.0s,SNR=18
SIRR Siria 81.28 351⇓iP P 18 40 52.2 -0.5
SOKA Soboth 81.36 355 iP P 18 40 53.2 0.0
comp=Z,24nm,1.0s,SNR=18
MTN Manton Dam 81.38 236 eP P 18 40 51.7 -1.8
comp=Z,15nm,0.8s
ABTA Abfaltersbach 81.39 357 iP P 18 40 53.3 -0.1
comp=Z,20nm,1.1s,SNR=15
TLCR 81.44 346⇑iP P 18 40 53.3 -0.2
MYKA Terra Mystica 81.47 356 iP P 18 40 54.1 +0.4
comp=Z,7.5nm,1.0s
RKT Rikitea 81.50 146 eLR LR 19 06 27.5
comp=Z,307nm,23.0s
RKT Rikitea 81.50 146 eT T 20 10 38.8
comp=Z,2.7nm,0.3s
BGF Bois d'Agland 81.52 4 eP P 18 40 53.1 -0.8
BGF pmax pmax
comp=Z,22nm,1.0s
OBKA Obir 81.55 356 iP P 18 40 54.1 -0.1
comp=Z,7.6nm,0.6s,SNR=7.4
MLR Muntele Rosu 81.55 348⇓iP P 18 40 54.7 +0.4
MLR Muntele Rosu 81.55 348 eP P 18 40 53.6 -0.7
MLR pmax pmax
comp=Z,15nm,1.4s
MLR Muntele Rosu 81.55 348 eP P 18 40 53.6 -0.7
comp=Z,15nm,1.4s
CFR Carcaliu 81.56 346⇓iP P 18 40 53.5 -0.6
CABF La Chapelle 81.57 2 eP P 18 40 53.9 -0.4
CABF pmax pmax
comp=Z,50nm,1.2s
FUORN Ofenpass-Fuorn 81.57 359 eP P 18 40 54.6 +0.1
comp=Z,31nm,1.1s
KSM Kuching 81.59 262 eP P 18 40 54.4 -0.3
comp=Z,20nm,1.0s
VOIR 81.72 348⇑iP P 18 40 55.6 +0.5
VOIR 81.72 348 P P 18 40 56.6 +1.5
TUE Stuetta 81.72 359 eP P 18 40 55.3 0.0
comp=Z,23nm,1.0s
SENIN Lac Senin/Sane 81.83 1 eP P 18 40 55.2 -0.7
comp=Z,5.4nm,0.9s
ARR Arges 81.84 349⇑iP P 18 40 55.9 +0.2
BZS Buzias 81.93 351⇑iP P 18 40 55.7 -0.4
AKH Akhalkalaki 81.96 334⇓iP P 18 40 57.5 +0.9
AGO Saint Agoulin 82.04 4⇑eP P 18 40 57.2 +0.5
HARR Harsova 82.06 346⇓iP P 18 40 56.8 0.0
HARR Harsova 82.06 346 P P 18 40 56.7 0.0
PLDF La Plantade 82.14 3⇑eP P 18 40 57.9 +0.6
TLB Topalu 82.15 346⇑iP P 18 40 56.6 -0.6
TIRR Tirgusor 82.22 346⇓iP P 18 40 58.1 +0.5
LPL La Plagne 82.67 1 eP P 18 41 02.1 +1.8
LPL pmax pmax
comp=Z,6.0nm,0.8s
LPG La Plagne 82.69 1 eP P 18 41 00.7 +0.3
LPG pmax pmax
comp=Z,11nm,1.3s
RJF Les Rejaudoux 82.71 5 eP P 18 40 59.0 -1.2
MDVR Moldovita 82.75 351⇑iP P 18 40 59.5 -0.9
GNI Garni 82.79 333 P P 18 40 59.8 -1.1
SURT Suratani 82.81 275 P P 18 41 02.2 +1.1
comp=Z,22nm,1.1s
SSB Saint Sauveur 82.86 3 eP P 18 41 00.8 -0.2
SSB pmax pmax
comp=Z,9.0nm,0.8s
SSB Saint Sauveur 82.86 3 eP P 18 41 00.8 -0.2
comp=Z,9.2nm,0.8s
LBL Lubilhac 82.86 4⇑eP P 18 41 01.4 +0.3
SKLT Songkhla 83.08 273 P P 18 41 05.2 +2.7
comp=Z,93nm,0.8s
CAF Calviac 83.11 5 eP P 18 41 01.7 -0.6
CAF pmax pmax
comp=Z,20nm,1.1s
BNI Bardonecchia 83.13 1 eP P 18 41 02.9 +0.3
BNI pmax pmax
comp=Z,15nm,0.8s
BNI Bardonecchia 83.13 1 eP P 18 41 02.9 +0.3
comp=Z,15nm,0.8s
TRTT Trang 83.14 274 P P 18 41 04.6 +1.8
comp=Z,75nm,0.9s
KRAB Krabi 83.14 274 P P 18 41 08.0 +5.2
comp=Z,117nm,0.6s
SZH Strazhica 83.74 347 eP P 18 41 05.0 -0.5
SBF Sospel 84.33 1 eP P 18 41 08.8 +0.2
SBF pmax pmax
comp=Z,31nm,0.9s
KULM Kulim 84.53 272 eP P 18 41 10.3 +0.3
comp=Z,31nm,0.9s
VTS Vitosha 84.75 349 eP P 18 41 09.9 -0.9
VTS pmax pmax
comp=Z,3.0nm,0.7s
VTS Vitosha 84.75 349 eP P 18 41 10.0 -0.9
VTS Vitosha 84.75 349 eP P 18 41 09.9 -0.9
comp=Z,2.9nm,0.7s
LARF Larrau 84.81 7⇑eP P 18 41 11.7 +0.7
EPF Esparros 84.91 6 eP P 18 41 10.1 -1.4
EPF pmax pmax
comp=Z,10.0nm,0.8s
VIEF Viey 85.03 6⇑eP P 18 41 12.7 +0.5
PLD Plovdiv 85.05 348 P P 18 41 12.9 +0.8
LRDF Laroque-de-Fa 85.12 4⇑eP P 18 41 13.0 +0.5
RESF Ens 85.13 6⇑eP P 18 41 13.5 +0.8
PDG Podgorica 85.31 352⇓iP P 18 41 12.8 -0.6
PCAB Cabril 85.39 12 eP P 18 41 14.8 +0.8
RZN Rozhen 85.45 348 eP P 18 41 14.0 -0.4
PBRG Braganca 85.46 11 eP P 18 41 14.4 +0.1
comp=Z,25nm,1.7s
SKO Skopje 85.56 350 P P 18 41 15.7 +1.0
SKO pmax pmax
comp=Z,3.0nm,1.2s
MMB Musomiste 85.68 349 eP P 18 41 15.0 -0.4
AQU L'Aquila 85.75 356 eP P 18 41 15.9 +0.2
AQU pmax pmax
comp=Z,18nm,0.9s
AQU L'Aquila 85.75 356 eP P 18 41 15.9 +0.2
comp=Z,18nm,0.9s
POLO Lamas de Olo 85.76 12 eP P 18 41 15.6 -0.2
comp=Z,12nm,2.0s
WRAB Tennant Creek 85.85 230⇑iP P 18 41 16.5 +0.2
WRAB pmax pmax
comp=Z,13nm,1.1s
WB2 Warramunga Arr 85.86 230 eP P 18 41 16.9 +0.6
PVRL Vila Real 85.86 12 eP P 18 41 16.5 +0.2
WRA Warramunga Arr 85.86 230 P P 18 41 14.7 -1.7
comp=Z,1.7nm,0.5s,baz=36,slow=5.8,SNR=19
BR131 Keskin Array S 85.89 341 eP P 18 41 16.0 -0.6
BRTR Keskin Array B 85.89 341 P P 18 41 16.3 -0.3
comp=Z,2.4nm,0.6s,baz=46,slow=3.6,SNR=16
BRTR LR LR 19 23 20.6
comp=Z,58nm,21.6s,baz=9.5,slow=38
BR231 Keskin MP Arra 85.95 341 eP P 18 41 16.6 -0.3
MVO Moncorvo 86.06 12 eP P 18 41 17.3 0.0
comp=Z,18nm,0.7s
MARD Mardin 86.53 335 eP P 18 41 20.5 +0.8
comp=Z,24nm,0.9s
MTE Manteigas 86.75 12 eP P 18 41 20.6 -0.1
comp=Z,21nm,0.9s
MTE Manteigas 86.75 12 eP P 18 41 20.1 -0.6
comp=Z,14nm,0.8s
PCAS Casmilo, Conde 86.96 13 eP P 18 41 21.4 -0.3
comp=Z,23nm,0.8s
PCBR Castelo Branco 87.31 12 eP P 18 41 22.8 -0.5
comp=Z,11nm,1.4s
PTOM Tomar 87.40 13 eP P 18 41 23.7 -0.1
comp=Z,31nm,0.8s
PSI Prapat 87.54 271 P P 18 41 24.4 -0.6
comp=Z,55nm,0.6s,baz=12,slow=3.1,SNR=48
PSI Prapat 87.54 271 eP P 18 41 24.3 -0.6
comp=Z,88nm,0.9s
PMRV Marv??o 87.72 12 eP P 18 41 24.6 -0.8
ES19 SONSECA Array 87.86 10 eP P 18 41 25.1 -1.0
ESDC Sonseca Array 87.88 10 P P 18 41 25.5 -0.6
comp=Z,12nm,0.8s,baz=351,slow=4.6,SNR=52
ESLA Sonseca Array 87.88 10 eP P 18 41 25.3 -0.9
comp=Z,12nm,0.8s
PAB San Pablo 87.97 10 eP P 18 41 26.0 -0.6
PAB pmax pmax
comp=Z,10.0nm,1.0s
PAB San Pablo 87.97 10 eP P 18 41 26.0 -0.6
comp=Z,10nm,1.0s
CUC Castrocucco 87.98 354 eP P 18 41 24.7 -1.9
comp=Z,3.7nm,1.0s
HYB Hyderabad 88.05 296 iP P 18 41 27.0 -0.3
BKNI Bangkinang 88.17 268 eP P 18 41 25.8 -2.0
comp=Z,72nm,0.9s
PESTR Estremoz 88.25 12 eP P 18 41 27.2 -0.7
EVO Evora 88.52 13 eP P 18 41 28.5 -0.6
FITZ Fitzroy Crossi 88.63 238 P P 18 41 29.0 -0.7
comp=Z,2.7nm,0.5s,baz=23,slow=4.2,SNR=16
FITZ LR LR 19 16 27.1
comp=Z,65nm,20.9s,baz=44,slow=32
PNCL Nicolau / Gran 88.86 13 eP P 18 41 30.6 -0.1
PBAR Barrancos 89.00 12 eP P 18 41 30.9 -0.5
comp=Z,41nm,1.3s
PBEJ Beja 89.04 13 eP P 18 41 31.0 -0.6
BRRC Barranca, Sant 89.20 80 eP P 18 41 33.1 +0.5
AS01 Alice Springs 89.25 228 eP P 18 41 31.7 -0.9
AS31 Alice Springs 89.27 228 eP P 18 41 31.7 -1.0
comp=Z,3.0nm,0.8s
ASAR Alice Springs 89.28 228 P P 18 41 31.9 -0.8
comp=Z,7.9nm,0.7s,baz=30,slow=4.9,SNR=62
ASAR LR LR 19 21 35.0
comp=Z,51nm,18.1s,baz=24,slow=36
PTEO Sao Teotonio 89.39 14 eP P 18 41 33.1 -0.1
GIRC Giron, Santand 89.54 79 eP P 18 41 33.6 -0.8
MORF Marmelete 89.64 14 eP P 18 41 34.3 -0.2
GUYC Guyana, Colomb 89.66 82 eP P 18 41 35.1 -0.3
PVAQ Vaqueiros 89.67 13 eP P 18 41 34.5 0.0
NORC Norcasia 89.71 81 eP P 18 41 33.6 -1.5
BARC Barichara 89.93 79 eP P 18 41 35.6 -0.8
RUSC La Rusia 90.54 80 eP P 18 41 37.5 -2.0
RUSC La Rusia 90.54 80 eP P 18 41 38.2 -1.3
ROSC El Rosal 90.62 81 LR LR 19 24 25.6
comp=Z,37nm,18.7s,baz=168,slow=37
CHIC Chingaza 91.14 81 eP P 18 41 41.9 -0.3
BANOM Banah 91.71 318 P P 18 41 42.3 -1.9
SJAC San Juan de Ar 92.07 82 eP P 18 41 59.0 +13
KEST Kesra 92.45 359 LR LR 19 24 53.0
comp=Z,50nm,20.6s,baz=340,slow=36
ASHO Ashiyiah 92.91 318 P P 18 41 47.8 -2.0
WSAR Wadi Sarin 93.09 315 P P 18 41 50.4 -0.3
comp=Z,15nm,1.1s,baz=261,slow=2.3,SNR=8.0
STKA Stephens Creek 93.22 218 P P 18 41 54.8 +4.0
comp=Z,4.1nm,1.0s,baz=7.1,slow=16,SNR=4.5
STKA LR LR 19 19 59.4
comp=Z,156nm,19.2s,baz=25,slow=33
TORD Torodi Ar. Bea 114.68 7 PKP PKPdf 18 47 15.9 -1.2
comp=Z,1.2nm,0.8s,baz=340,slow=2.3,SNR=7.4
TORD PKKPab PKKPab 18 58 05.3 +1.7
comp=Z,1.4nm,0.8s,baz=168,slow=3.7,SNR=7.1
DBIC Dimbokro 120.28 15 PKP PKPdf 18 47 27.4 -0.4
comp=Z,4.1nm,0.9s,baz=18,slow=3.2,SNR=3.4
KMBO Kilima Mbogo 123.72 325 PKP PKPdf 18 47 34.3 -0.5
comp=Z,1.2nm,0.5s,baz=9.5,slow=2.0,SNR=6.8
CPUP Villa Florida 125.03 89 PKP PKPdf 18 47 35.6 -0.9
comp=Z,2.7nm,0.7s,baz=338,slow=5.4,SNR=2.8
PLCA Paso Flores 126.95 111 PKP PKPdf 18 47 39.3 -0.5
comp=Z,2.9nm,0.8s,baz=254,slow=7.4,SNR=3.3
SBA Scott Base 130.46 186 ePKIKP PKPdf 18 47 45.8 +0.5
SBA Scott Base 130.46 186 PKPdf PKPdf 18 47 45.8 +0.5
VNDA Vanda 130.49 187 PKP PKPdf 18 47 45.4 -0.1
comp=Z,0.2nm,0.4s,baz=316,slow=3.7,SNR=2.3
VNDA SKPbc SKPbc 18 51 03.5 -1.2
comp=Z,0.6nm,1.0s,baz=11,slow=3.7,SNR=4.2
VNDA SKP 18 51 16.0
comp=Z,2.4nm,1.2s,baz=326,slow=5.9,SNR=5.0
QSPA South Pole Qui 141.94 180 ePKPpre PKPpre 18 48 00.1
TSUM Tsumeb 146.33 344 ePKPdf PKPbc 18 48 16.9 -0.5
MAW Mawson 149.91 218 PKPbc PKPbc 18 48 24.9 -0.3
comp=Z,6.5nm,0.7s,baz=56,slow=1.7,SNR=11
MAW Mawson 149.91 218 ePKPbc PKPbc 18 48 24.4 -0.9
LBTB Lobatse 149.91 328 ePKP2 PKPbc 18 48 27.1 +0.3
LBTB Lobatse 149.91 328 ePKPbc PKPbc 18 48 27.1 +0.3
BOSA Boshof 153.35 326 PKPbc PKPbc 18 48 34.8 +0.2
comp=Z,4.3nm,0.4s,baz=6.7,slow=2.0,SNR=19

*IDC **02** 18:29:07.4±1.2,9.°38S×113.°72E,h0km,mb3.9/4, mb1 4.1/5,mb1mx3.7/34,mbtmp3.9/5,ML3.6/1,Error ellipse: s-maj=119.5km s-min=18.5km az=40.0*
*ISCJB **02** 18:29:16.2±0.5,9.°45S±0.°06×114.°05E±0.°02,h76km±10km, mb3.8/4,Error ellipse: s-maj=10.2km s-min=3.4km az=13.2*
*DJA **02** 18:29:17.9±0.3,9.°S±3.°×11.°4E±.°,h62km±9km,M4.4/24, mB5.3/2,mb4.7/6,MLv4.3/24,Mw(mB)4.7/2*

ISC 02 18:29:17.1±1.1,9.°47S±0.°09×114.°05E±0.°04,h67km±13km, **n28,σ0.°87/50,mb3.9/4,South of Bali**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAGI	Jajag, Banyuwa	0.99	6	P	Pn	18 29 35.4	0.0
JAGI				S	Sn	18 29 48.2	-0.8
IGBI	Denpasar	1.26	59	P	Pn	18 29 38.8	0.0
IGBI				S	Sn	18 29 54.6	-0.5
GMJI	Gumukmas	1.33	333	P	Pn	18 29 39.8	+0.1
GMJI				S	Sn	18 29 56.2	-0.4
DNP	Denpasar	1.39	56	P	Pn	18 29 40.7	+0.2
DNP				S	Sn	18 29 59.7	+1.6
ABJI	Asem Bagus	1.67	6	P	Pn	18 29 44.0	-0.3
ABJI				S	Sn	18 30 03.7	-1.1
BLJI	Banyuglugur	1.77	345	P	Pn	18 29 45.8	+0.2
BLJI				S	Sn	18 30 07.5	+0.4
SRBI	Singaraja	1.79	40	P	Pn	18 29 46.0	+0.1
KMMI	Kalianget	2.40	358	P	Pn	18 29 54.7	+0.5
KMMI				S	Sn	18 30 23.3	+0.8
PWJI	Pagerwojo	2.64	303	P	Pn	18 29 56.7	-0.7
PWJI				S	Sn	18 30 26.5	-1.8
TWSI	Taliwang, Sumb	2.89	76	P	Pn	18 30 01.6	+0.8

TWSI				S		Sn	18 30 33.4	-1.1
PCJI	**Pacitan**	**3.10**	**294**	P		Pn	18 30 04.3	+0.6
NGJI	**Ngawi**	**3.30**	**309**	P		Pn	18 30 06.7	+0.3
NGJI				S		Sn	18 30 45.0	+0.5
TBJI	**Tambak Boyo**	**3.41**	**320**	P		Pn	18 30 08.9	+0.9
TBJI				S		Sn	18 30 47.5	+0.2
WOJI	**Wonogiri, Jawa**	**3.49**	**297**	P		Pn	18 30 09.7	+0.8
WOJI				S		Sn	18 30 48.2	-0.8
PLAI	**Plampang**	**3.74**	**81**	P		Pn	18 30 13.3	+0.9
PLAI				S		Sn	18 30 54.4	-0.8
UGM	**Wanagama**	**3.81**	**294**	P		Pn	18 30 14.5	+1.1
UGM				S		Sn	18 30 58.1	+1.1
BWJI	**Bawean**	**3.85**	**339**	P		Pn	18 30 13.8	-0.1
BWJI				S		Sn	18 30 57.9	0.0
SMRI	**Semarang**	**4.30**	**304**	P		Pn	18 30 21.2	+1.1
SMRI				S		Sn	18 31 10.1	+1.0
KPJI	**Karang Pucung**	**5.49**	**292**	P		Pn	18 30 36.7	+0.4
KPJI				S		Sn	18 31 38.5	+0.4
CMJI	**Cimerak**	**5.78**	**286**	P		Pn	18 30 41.7	+1.3
CMJI				S		Sn	18 31 46.8	+1.4
WSI	**Waingapu**	**6.17**	**92**	P		Pn	18 30 46.2	+0.5
WSI				S		Sn	18 31 55.3	+0.4
JCJI	**Jatiwangi**	**6.44**	**297**	P		Pn	18 30 48.6	-0.8
CISI	**Cisompet, Garu**	**6.45**	**287**	P		Pn	18 30 50.7	+1.1
FITZ	**Fitzroy Crossi**	**14.15**	**129**	Pn		Pn	18 32 34.0	-0.4
	0.2nm,0.3s,baz=302,slow=7.7,SNR=8.1							
FITZ				Sn		Sn	18 34 57.6	-12
	0.3nm,0.3s,baz=194,slow=22,SNR=7.3							
WRA	**Warramunga Arr**	**22.19**	**120**	P		**P**	**18 34 07.9**	**-0.2**
	0.5nm,0.5s,baz=296,slow=12,SNR=7.8							
WRA				PcP		**PcP**	**18 38 02.3**	**-0.5**
	0.3nm,0.6s,baz=319,slow=2.0,SNR=3.9							
WRA				S		**S**	**18 38 10.8**	**+2.1**
	0.2nm,0.5s,baz=293,slow=24,SNR=3.2							
ASAR	**Alice Springs**	**23.65**	**129**	P		**P**	**18 34 22.9**	**+0.1**
	1.1nm,0.3s,baz=304,slow=9.2,SNR=57							
ASAR				PcP		**PcP**	**18 38 05.6**	**-0.2**
	0.7nm,0.5s,baz=306,slow=1.8,SNR=15							
ASAR				S		S	18 38 44.1	+11
	0.3nm,0.9s,baz=299,slow=25,SNR=3.3							
STKA	**Stephens Creek**	**33.90**	**135**	P		**P**	**18 35 54.5**	**+0.7**
	2.8nm,0.3s,baz=319,slow=8.7,SNR=18							
GEYT	**Alibeck**	**70.30**	**316**	P		**P**	**18 40 22.3**	**-1.5**
	1.5nm,0.6s,baz=134,slow=6.4,SNR=4.4							

*ISCJB **02** 18:32:17.4±0.9, 40.°42N±0.°08×52.°87E±0.°06, h33km, Error ellipse: s-maj=11.3km s-min=6.7km az=172.9*
*CSEM **02** 18:32:18.8±0.4, 40.°31N×52.°91E, h40km, mb3.5, Error ellipse: s-maj=11.9km s-min=6.8km az=153.0*
*AZER **02** 18:32:20.9±0.0, 40.°13N×52.°57E, h46km±6km, Error ellipse: s-maj=10.9km s-min=3.3km az=247.0*

ISC 02 18:32:16.4±1.3, **40.°23N**±0.°06×**52.°95E**±0.°08, **h35**km, **n41, σ2s27/78, 19C-19D, Turkmenistan**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
GBS	**Qobustan**	**3.08**	**277**	⇑P		**Pn**	**18 33 04.7**	**+2.1**
GBS				⇓S		**Sn**	**18 33 39.1**	**+1.0**
GBS	**Qobustan**	**3.08**	**277**	P		**Pn**	**18 33 04.7**	**+2.1**
GBS				S		**Sn**	**18 33 39.1**	**+1.0**
ATGJ	**Altiaghaj**	**3.12**	**283**	⇓P		**Pn**	**18 33 05.6**	**+2.4**
ATGJ				⇓S		**Sn**	**18 33 41.5**	**+2.2**
ATGJ	**Altiaghaj**	**3.12**	**283**	P		**Pn**	**18 33 05.6**	**+2.4**
ATGJ				S		**Sn**	**18 33 41.5**	**+2.2**
SIZA	**Siyzn**	**3.19**	**287**	⇓P		**Pn**	**18 33 05.5**	**+1.3**
SIZA	**Siyzn**	**3.19**	**287**	P		**Pn**	**18 33 05.5**	**+1.3**
PQL	**Pirkuli**	**3.37**	**281**	P		**Pn**	**18 33 09.1**	**+2.4**
PQL				⇑S		**Sn**	**18 33 47.5**	**+2.0**
PQL	**Pirkuli**	**3.37**	**281**	P		**Pn**	**18 33 09.1**	**+2.4**
PQL				S		**Sn**	**18 33 47.5**	**+2.0**
QUBA	**Quba, Azerbaij**	**3.56**	**290**	⇓P		**Pn**	**18 33 10.6**	**+1.3**
QUBA				⇑S		**Sn**	**18 33 51.0**	**+0.8**
QUBA	**Quba, Azerbaij**	**3.56**	**290**	P		**Pn**	**18 33 10.6**	**+1.3**
QUBA				S		**Sn**	**18 33 51.0**	**+0.8**
LKRN	**Lenkeran, Azer**	**3.57**	**246**	P		**Pn**	**18 33 11.6**	**+2.4**
	SNR=11							
LKRN				⇓S		**Sn**	**18 33 49.1**	**-1.0**
LKRN	**Lenkeran, Azer**	**3.57**	**246**	P		**Pn**	**18 33 11.6**	**+2.4**
	SNR=11							
LKRN				S		**Sn**	**18 33 49.1**	**-1.0**
ASTR	**Astara**	**3.63**	**244**	P		**Pn**	**18 33 12.2**	**+2.1**
	SNR=8.1							
ASTR				⇓S		**Sn**	**18 33 50.5**	**-1.2**
ASTR	**Astara**	**3.63**	**244**	P		**Pn**	**18 33 12.2**	**+2.1**
	SNR=8.1							
ASTR				S		**Sn**	**18 33 50.5**	**-1.2**
GLBA	**Clilabad**	**3.65**	**256**	⇑P		**Pn**	**18 33 12.6**	**+2.2**
	SNR=6.5							
GLBA				⇓S		**Sn**	**18 33 50.5**	**-1.7**
GLBA	**Clilabad**	**3.65**	**256**	P		**Pn**	**18 33 12.6**	**+2.2**
	SNR=6.5							
GLBA				S		**Sn**	**18 33 50.5**	**-1.7**
IML	**Ismayilli**	**3.68**	**280**	⇑P		**Pn**	**18 33 13.1**	**+2.3**
IML				⇓S		**Sn**	**18 33 52.7**	**-0.3**
IML	**Ismayilli**	**3.68**	**280**	P		**Pn**	**18 33 13.1**	**+2.3**
IML				S		**Sn**	**18 33 52.7**	**-0.3**
XNQ	**Khinaliq**	**3.77**	**286**	⇑P		**Pn**	**18 33 14.8**	**+2.5**
XNQ				⇓S		**Sn**	**18 33 54.9**	**-0.7**
XNQ	**Khinaliq**	**3.77**	**286**	P		**Pn**	**18 33 14.8**	**+2.5**
XNQ				S		**Sn**	**18 33 54.9**	**-0.7**
LRK	**Lerik**	**3.90**	**248**	P		**Pn**	**18 33 15.9**	**+1.8**
	SNR=37							
LRK				⇓S		**Sn**	**18 33 56.3**	**-2.5**
LRK	**Lerik**	**3.90**	**248**	P		**Pn**	**18 33 15.9**	**+1.8**
	SNR=37							
LRK				S		**Sn**	**18 33 56.3**	**-2.5**
QBL	**Gabala**	**3.96**	**282**	⇑P		**Pn**	**18 33 17.0**	**+2.3**
QBL				⇓S		**Sn**	**18 33 58.4**	**-1.5**
QBL	**Gabala**	**3.96**	**282**	P		**Pn**	**18 33 17.0**	**+2.3**
QBL				S		**Sn**	**18 33 58.4**	**-1.5**
ZRD	**Zardab**	**4.03**	**272**	⇓P		**Pn**	**18 33 18.5**	**+2.9**
ZRD				⇓S		**Sn**	**18 33 59.0**	**-2.5**
ZRD	**Zardab**	**4.03**	**272**	P		**Pn**	**18 33 18.5**	**+2.9**
ZRD				S		**Sn**	**18 33 59.0**	**-2.5**
BRDA	**Brd**	**4.42**	**272**	⇑P		**Pn**	**18 33 21.5**	**+0.6**
BRDA				⇑S		**Sn**	**18 34 09.3**	**-1.8**
BRDA	**Brd**	**4.42**	**272**	P		**Pn**	**18 33 21.5**	**+0.6**
BRDA				S		**Sn**	**18 34 09.3**	**-1.8**
SEKA	**Sheki**	**4.48**	**284**	⇑P		**Pn**	**18 33 24.4**	**+2.6**
SEKA				⇑S		**Sn**	**18 34 11.7**	**-1.0**
SEKA	**Sheki**	**4.48**	**284**	P		**Pn**	**18 33 24.4**	**+2.6**
SEKA				S		**Sn**	**18 34 11.7**	**-1.0**
ZKTA	**Zakatala**	**4.99**	**288**	⇑P		**Pn**	**18 33 31.5**	**+2.6**
ZKTA				⇑S		**Sn**	**18 34 25.5**	**+0.1**
GANJ	**Ganja**	**5.07**	**277**	⇓P		**Pn**	**18 33 32.4**	**+2.4**
GANJ				⇑S		**Sn**	**18 34 23.0**	**-4.3**
GANJ	**Ganja**	**5.07**	**277**	P		**Pn**	**18 33 32.4**	**+2.4**
GANJ				S		**Sn**	**18 34 23.0**	**-4.3**
GDB	**GEDABAY**	**5.51**	**277**	⇑P		**Pn**	**18 33 37.6**	**+1.5**
GDB				⇓S		**Sn**	**18 34 33.0**	**-5.3**
GDB	**GEDABAY**	**5.51**	**277**	P		**Pn**	**18 33 37.6**	**+1.5**
GDB				S		**Sn**	**18 34 33.0**	**-5.3**
QZX	**Qazax, Azerbai**	**5.82**	**281**	⇑P		**Pn**	**18 33 41.1**	**+0.8**
QZX				⇓S		**Sn**	**18 34 42.1**	**-3.7**
QZX	**Qazax, Azerbai**	**5.82**	**281**	P		**Pn**	**18 33 41.1**	**+0.8**
QZX				S		**Sn**	**18 34 42.1**	**-3.7**
AB31	**Akbulak array**	**10.30**	**27**	⇑Pn		**Pn**	**18 34 42.4**	**+0.8**
	0.3nm,0.4s,baz=207,slow=14							
AB31				⇓Sn		Sn	18 36 24.2	-11
	1.3nm,0.3s,baz=203,slow=25							
AB31	**Akbulak array**	**10.30**	**27**	Pn		**Pn**	**18 34 42.4**	**+0.8**
	0.3nm,0.4s							
AB31				Sn		Sn	18 36 24.2	-11
	1.3nm,0.3s							
AKTO	**Aktyubinsk**	**10.81**	**18**	⇑Pn		**Pn**	**18 34 49.8**	**+1.3**
	0.5nm,0.3s							
AKTO				⇑Sn		**Sn**	**18 36 44.6**	**-3.5**
	5.3nm,0.6s							
AKTO	**Aktyubinsk**	**10.81**	**18**	Pn		**Pn**	**18 34 49.8**	**+1.3**
	0.5nm,0.3s							
AKTO				Sn		**Sn**	**18 36 44.6**	**-3.5**
	5.3nm,0.6s							

*ISCJB **02** 19:16:38.5±1.4, 38.°41N±0.°04×142.°29E±0.°08, h17km±8km, mb3.6/2, Error ellipse: s-maj=10.9km s-min=6.2km az=13.1*
*JMA **02** 19:16:40.8±0.1, 38.°49N×142.°19E, h30km±1km, M3.5*
*IDC **02** 19:16:43.6±4.6, 37.°39N×142.°45E, h0km, mb3.7/2, mb1 3.7/3, mb1mx3.4/33, mbtmp3.4/3, ML2.8/1, Error ellipse: s-maj=90.6km s-min=38.0km az=15.0*

ISC 02 19:16:38.9±2.9, **38.°43N**±0.°04×**142.°25E**±0.°09, **h13**km±15km, **n14, σ1s36/25, Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
JIO	**Ouri**	**0.70**	**272**	P		**Pb**	**19 16 53.6**	**+0.6**
JIO				*e*S		**Sg**	**19 17 02.1**	**+0.2**
OFUJ	**Ofunato**	**0.79**	**326**	P		**Pb**	**19 16 54.5**	**-0.1**
OFUJ				*e*S		**Sb**	**19 17 04.0**	**-1.2**
JMK	**Ichinoseki**	**0.96**	**303**	P		**Pb**	**19 16 57.2**	**-0.2**
JMK				*e*S		**Sb**	**19 17 08.5**	**-1.4**
JOU	**Okura**	**1.24**	**268**	P		**Pn**	**19 17 01.9**	**-0.1**
JOU				*e*S		**Sb**	**19 17 17.5**	**-0.7**
JMM	**Marumori**	**1.27**	**244**	P		**Pn**	**19 17 01.8**	**-0.6**
JMM				*e*S		**Sb**	**19 17 17.5**	**-1.5**
JOM	**Ohasama**	**1.28**	**325**	P		**Pn**	**19 17 02.1**	**-0.4**
JOM				*e*S		**Sb**	**19 17 17.6**	**-1.7**
JFK	**Kawauchi**	**1.52**	**226**	P		**Pn**	**19 17 05.0**	**-0.8**
JFK				S		**Sn**	**19 17 23.1**	**-2.3**
JYK	**Kaneyama**	**1.56**	**289**	P		**Pn**	**19 17 06.4**	**+0.1**
JYK				S		**Sn**	**19 17 26.0**	**-0.3**
JRG	**Rokugo**	**1.59**	**308**	P		**Pn**	**19 17 07.1**	**+0.4**
JFT	**Otama**	**1.76**	**240**	P		**Pn**	**19 17 09.6**	**+0.5**
JFT				S		**Sn**	**19 17 31.4**	**0.0**
JAH	**Hinai**	**2.16**	**325**	P		**Pn**	**19 17 16.1**	**+1.6**
JAH				S		**Sn**	**19 17 42.1**	**+1.0**
MJAR	**Matsushiro Arr**	**3.72**	**241**	Pn		**Pn**	**19 17 38.1**	**+2.0**
	0.8nm,0.3s,baz=76,slow=13,SNR=6.1							
MJAR				Sn		**Sn**	**19 18 23.6**	**+3.8**
	0.6nm,0.3s,baz=75,slow=23,SNR=3.2							
WRA	**Warramunga Arr**	**58.53**	**189**	P		**P**	**19 26 34.7**	**-0.4**
	0.7nm,0.7s,baz=8.8,slow=7.0,SNR=4.5							
ASAR	**Alice Springs**	**62.26**	**189**	P		**P**	**19 27 00.9**	**+0.3**
	0.3nm,0.8s,baz=12,slow=4.7,SNR=5.4							

*SJA **02** 19:17:13.3±0.4, 24.°04S×69.°02W, h482km±5km, ML4.6, MW5.2*
*IDC **02** 19:17:28.2±0.9, 25.°61S×70.°84W, h0km, mb3.9/4, mb1 4.1/8, mb1mx3.9/24, mbtmp4.0/8, ML3.8/3, Error ellipse: s-maj=32.9km s-min=21.6km az=104.0*
*ISCJB **02** 19:17:29.1±0.6, 25.°50S±0.°03×70.°78W±0.°09, h10km, mb3.9/4, Error ellipse: s-maj=11.8km s-min=3.7km az=179.5*
*NEIC **02** 19:17:30.0±0.0, 25.°50S×70.°81W, h44km, MG4.1(GUC), After GUC.*
*GUC **02** 19:17:30.9±0.4, 25.°50S×70.°81W, h44km±2km, ML4.1*

ISC 02 19:17:29.4±0.7, **25.°53S**±0.°03×**70.°93W**±0.°08, **h10**km, **n32, σ2s37/33, mb4.0/4, 2C-1D, Near coast of northern Chile**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
PB14	**IPOC Station P**	**1.02**	**28**	⇓*i*P		**Pg**	**19 17 49.0**	**-0.1**
PB14				*i* S		**Sg**	**19 18 02.3**	**0.0**
PB14				IAML			19 18 04.7	
	comp=E,7μm,0.3s							
CDCH	**Caldera**	**1.54**	**176**	*i* S		**Sn**	**19 18 17.2**	**+0.4**
CPCH	**Copiapo**	**1.89**	**164**	⇑*i*P		**Pn**	**19 18 02.1**	**+0.3**
CPCH				*i* S		**Sn**	**19 18 25.6**	**-0.2**
ANCH	**Antofagasta**	**1.90**	**15**	*e*P		**Pn**	**19 18 01.2**	**-0.6**
ANCH				*i* S		**Sn**	**19 18 24.3**	**-1.6**
PB10	**IPOC Station P**	**2.04**	**10**	⇑*i*P		**Pn**	**19 18 03.0**	**-0.8**
PB10				*i* S		**Sn**	**19 18 27.7**	**-1.6**
PB10				IAML			19 18 40.5	
	comp=E,3μm,0.8s							
PB06	**IPOC Station P**	**3.07**	**24**	*i* P		**Pn**	**19 18 17.9**	**-0.3**
LVC	**Limon Verde**	**3.44**	**33**	Pn		**Pn**	**19 18 25.0**	**+1.6**
	comp=E,1μm,0.3s,baz=235,slow=9.5,SNR=67							
LVC				Sn		**Sn**	**19 19 14.1**	**+1.4**
	comp=E,5μm,0.3s,baz=314,slow=22,SNR=14							
LVC	**Limon Verde**	**3.44**	**33**	*e*P		Pn	19 18 15.2	-8.3
LVC				*e*S		**Sn**	**19 19 01.1**	**-3.4**
LVC	**Limon Verde**	**3.44**	**33**	*e*Pn		**Pn**	**19 18 24.8**	**+1.4**
LVC				*e*Sn		**Sn**	**19 19 00.0**	**-4.5**
LCO	**Las Campanas**	**3.47**	**177**	*e*Pn		Pn	19 18 20.0	-3.8
LCO				*e*Sn		**Sn**	**19 19 02.6**	**-2.5**
VCA	**Vinchina**	**4.01**	**143**	*e*P		Pn	19 18 38.9	+7.8
VCA				IAML			19 19 41.1	
	comp=Z,118nm,0.8s							
ACLC	**CERRO LA CRUZ**	**5.25**	**139**	*e*P		**Pn**	**19 18 48.9**	**+0.8**
CYA	**Choya**	**5.42**	**124**	*e*S		**Sn**	**19 19 51.7**	**-1.1**
AMOG	**MOGNA**	**5.80**	**159**	*e*P		Pn	19 19 01.9	+6.2
RTLS	**Leoncito**	**6.41**	**167**	*e*P		Pn	19 19 12.1	+7.9
RTCV	**Cerro Valdivia**	**6.65**	**162**	*e*P		Pn	19 19 12.5	+5.3
RTCV				*e*S		**Sb**	**19 20 40.1**	**-4.6**
AUSP	**Uspallata**	**6.81**	**169**	*e*P		Pn	19 19 17.0	+7.4
ASAL	**Salagasta**	**7.27**	**166**	*e*P		**Pn**	**19 19 20.2**	**+4.4**
ACAN	**Cantantal**	**7.48**	**155**	*e*P		**Pn**	**19 19 18.7**	**+0.1**
ARCO	**CERRO ARCO**	**7.49**	**167**	*e*P		**Pn**	**19 19 23.6**	**+4.7**
ARCO				*e*S		Sn	19 20 59.5	+15
ARCO				IAML			19 21 38.1	
	comp=Z,39nm,0.2s							
TCA	**Tanti**	**8.03**	**138**	*e*P		Pn	19 19 17.4	-8.9
TCA				IAML			19 19 32.5	
	comp=Z,15nm,0.5s							
TCA				*e*S		Sn	19 20 49.2	-8.1
MRA	**San Martin**	**8.24**	**148**	*e*P		Pn	19 19 24.1	-5.0
LPAZ	**La Paz**	**9.56**	**16**	Pn		**Pn**	**19 19 48.4**	**+0.7**
	comp=Z,0.3nm,0.3s,baz=201,slow=8,SNR=6.6							
CPUP	**Villa Florida**	**12.27**	**97**	Pn		**Pn**	**19 20 25.0**	**+0.8**
	comp=Z,0.1nm,0.3s,baz=284,slow=12,SNR=3.2							
SIV	**San Ignacio**	**13.22**	**46**	Pn		**Pn**	**19 20 37.7**	**+0.3**
	comp=Z,1.4nm,0.3s,baz=243,slow=11,SNR=15							
SIV				Sn		**Sn**	**19 23 11.5**	**+6.9**
	comp=Z,0.1nm,0.3s,baz=252,slow=17,SNR=3.4							
PTGA	**Pitinga**	**26.83**	**25**	P		**P**	**19 23 09.8**	**-0.3**
	comp=Z,3.8nm,0.7s,baz=202,slow=11,SNR=13							
SNAA	**Sanae**	**59.12**	**160**	P		**P**	**19 27 29.2**	**-0.6**
	comp=Z,0.5nm,0.8s,baz=275,slow=11,SNR=6.8							
TXAR	**Lajitas Array**	**62.96**	**328**	P		**P**	**19 27 58.0**	**+1.6**
	comp=Z,0.3nm,0.7s,baz=158,slow=9.7,SNR=4.0							
TORD	**Torodi Ar. Bea**	**80.45**	**71**	P		**P**	**19 29 41.8**	**-0.1**
	comp=Z,2.0nm,0.7s,baz=252,slow=4.4,SNR=14							
ASAR	**Alice Springs**	**125.50**	**208**	PKP		**PKPdf**	**19 36 31.6**	**+0.1**
	comp=Z,0.4nm,0.6s,baz=123,slow=1.5,SNR=10							
WRA	**Warramunga Arr**	**128.56**	**211**	PKP		**PKPdf**	**19 36 38.2**	**+0.7**
	comp=Z,0.7nm,0.6s,baz=157,slow=1.7,SNR=9.1							
ZALV	**Zalesovo Beam**	**146.37**	**26**	PKPbc		**PKPdf**	**19 37 10.0**	**+1.1**
	comp=Z,6.6nm,0.7s,baz=298,slow=3.5,SNR=28							

MAN 02 19:24:29, 13.°27N×124.°59E, h12km, mb4.5, ML3.3, MS3.2, 1D, Luzon

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
PVCP	**Virac**	**0.53**	**307**	*e*P		Pb	19 24 40.6	+0.3
PVCP				*e*S		Sg	19 24 45.8	-0.8
AUQP	**San Andres**	**1.87**	**272**	*e*P		Pn	19 25 00.6	-0.2
AUQP				*e*S		Sb	19 25 25.4	-1.0
PLP	**Palo**	**2.13**	**170**	⇓*e*P		Pn	19 25 05.7	+1.3
PLP				*e*S		Sb	19 25 32.4	-1.5
BOAC	**Boac**	**2.68**	**274**	*e*P		Pn	19 25 13.8	+1.8
BOAC				*e*S		Sb	19 25 47.4	-2.4
GUIM	**Jordan**	**3.28**	**217**	*e*P		Pn	19 25 18.9	-1.4
CAUP	**Cauayan**	**4.53**	**324**	*e*P		Pn	19 25 38.9	+1.5

SJA 02 19:27:41.4±0.4, **31.°81S**×**69.°47W, h33**km, **ML2.7, MW3.9, San Juan Province**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
RTLS	**Leoncito**	**0.15**	**87**	*e*P		Pb	19 27 48.6	+0.8
RTLS				*e*S		Sb	19 27 54.0	+1.8
AUSP	**Uspallata**	**0.42**	**171**	*e*P		Pn	19 27 52.0	+0.5
RTCV	**Cerro Valdivia**	**0.79**	**94**	*e*P		Pb	19 27 56.9	+0.1
ASAL	**Salagasta**	**0.95**	**146**	*e*P		Pb	19 28 00.4	+0.9
ASAL				*e*S		Sb	19 28 14.2	+2.4
ARCO	**CERRO ARCO**	**1.13**	**156**	*e*P		Pb	19 28 02.9	+0.4
ARCO				*e*S		Sb	19 28 18.8	+1.8
ARCO				IAML			19 28 20.7	
	comp=Z,189nm,0.2s							
AMOG	**MOGNA**	**1.20**	**44**	*e*P		Pb	19 28 03.8	+0.1
AMOG				*e*S		Sb	19 28 20.4	+1.5
ACCO	**Cerro Coronel**	**1.26**	**16**	*e*P		Pb	19 28 05.4	+0.5
ACCO				*e*S		Sb	19 28 23.3	+2.3
ACCO				IAML			19 28 25.7	
	comp=Z,103nm,0.2s							
AAGR	**Agrelo**	**1.39**	**157**	*e*P		Pb	19 28 06.6	-0.2
AAGR				*e*S		Sb	19 28 25.2	+1.0
AROD	**Rodeo**	**1.64**	**360**	*e*P		Pb	19 28 10.8	-0.4
AROD				*e*S		Sb	19 28 32.4	+0.9
ROC1	**El Roble**	**1.75**	**228**	*e*P		Pb	19 28 11.8	-1.3
ROC1				*e*S		Sb	19 28 34.4	-0.4
ACAN	**Cantantal**	**1.99**	**104**	*e*P		Pb	19 28 15.0	-2.0
ACAN				*e*S		Sb	19 28 40.1	-1.4

*JMA **02** 19:30:57.4±0.2, 23.°99N×122.°42E, h12km, M2.0*
*TAP **02** 19:30:57.8, 24.°05N×122.°45E, h27km±1km, ML2.6, D*
*ISCJB **02** 19:30:58.2±0.5, 24.°03N±0.°04×122.°41E±0.°02, h22km±6km, Error ellipse: s-maj=6.7km s-min=2.8km az=167.7*

ISC 02 19:30:57.5±1.1, **24.°02N**±0.°04×**122.°42E**±0.°02, **h19**km±3km, **n25, σ0s54/42, Taiwan region**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
JYNG	**Yonagunijimaku**	**0.64**	**48**	P		**Pb**	**19 31 10.2**	**+0.2**
JYNG				S		**Sb**	**19 31 18.3**	**-0.3**
YOJ	**Yonaguni jima**	**0.70**	**50**	P		**Pb**	**19 31 11.1**	**+0.1**
YOJ				S		**Sb**	**19 31 20.0**	**-0.2**
ENA	**Nanau**	**0.75**	**304**	P		**Pb**	**19 31 11.6**	**-0.2**
	baz=300							
ENA				*e*S		**Sg**	**19 31 22.3**	**+0.2**
	baz=300							
TWD	**Chiawan**	**0.76**	**275**	P		**Pb**	**19 31 12.3**	**+0.2**
	baz=272							
TWD				*e*S		**Sg**	**19 31 23.3**	**+0.7**
	baz=272							
TWC	**Suao**	**0.79**	**319**	*e*P		**Pb**	**19 31 12.3**	**-0.3**
	baz=316							
TWC				*e*S		**Sb**	**19 31 22.3**	**-0.6**
	baz=316							
ESL	**Shilin**	**0.93**	**258**	*e*P		**Pb**	**19 31 14.1**	**-0.9**
	baz=255							
ESL				*e*S		**Sg**	**19 31 28.0**	**+0.2**
	baz=255							
TWE	**Neicheng**	**0.98**	**316**	*e*P		**Pb**	**19 31 15.8**	**-0.2**
	baz=313							
TWE				*e*S		**Sb**	**19 31 28.2**	**-0.3**
	baz=313							
ENTT	**Nioudou**	**1.00**	**309**	*e*P		**Pn**	**19 31 16.5**	**0.0**
	baz=306							
ENTT				*e*S		**Sb**	**19 31 28.8**	**-0.2**
	baz=306							
NNS	**Nan Shan**	**1.05**	**294**	*e*P		**Pn**	**19 31 17.6**	**+0.3**
	baz=291							
NNS				*e*S		**Sg**	**19 31 31.9**	**+0.2**
	baz=291							
EHY	**Hungye**	**1.13**	**244**	*e*S		**Sb**	**19 31 32.8**	**+0.1**
	baz=242							
TWT	**Tachien**	**1.17**	**282**	*e*P		**Pg**	**19 31 19.9**	**-0.2**
	baz=279							
NSK	**Sanguang**	**1.17**	**304**	*e*P		**Pb**	**19 31 19.7**	**+0.5**
	baz=302							
NSK				*e*S		**Sb**	**19 31 33.5**	**-0.6**
	baz=302							
TWF1	**Yuli**	**1.23**	**238**	*e*P		**Pn**	**19 31 19.1**	**-0.6**
	baz=236							
TWF1				*e*S		**Sb**	**19 31 35.1**	**-0.4**
	baz=236							
IRIF	**Iriomote-Funau**	**1.23**	**75**	P		**Pb**	**19 31 20.6**	**+0.4**
IRIF				S		**Sg**	**19 31 37.3**	**-0.3**
HATJ	**Hateruma jima**	**1.26**	**88**	P		**Pg**	**19 31 21.4**	**-0.5**
HATJ				S		**Sg**	**19 31 38.2**	**-0.3**
SMLT	**Sun Moon Lake**	**1.40**	**265**	*e*P		**Pn**	**19 31 22.2**	**+0.1**
	baz=263							
TYC	**Yuchr**	**1.44**	**266**	*e*P		**Pn**	**19 31 22.7**	**+0.2**
	baz=264							
YUS	**Yu-Shan**	**1.45**	**249**	*e*P		**Pn**	**19 31 22.4**	**-0.7**
	baz=247							
JKRS	**Kuro-shima**	**1.47**	**81**	P		**Pg**	**19 31 25.0**	**-0.8**
JKRS				*e*S		**Sg**	**19 31 44.5**	**-0.4**
ALS	**Alishan**	**1.57**	**252**	*e*P		**Pn**	**19 31 25.2**	**+0.7**
	baz=250							
JIJ	**Ishigaki jima**	**1.61**	**77**	P		**Pn**	**19 31 25.6**	**+0.8**
JIJ				S		**Sb**	**19 31 46.1**	**-0.4**
CHN5	**Tsauling**	**1.65**	**256**	*e*P		**Pn**	**19 31 26.1**	**+0.5**
	baz=254							
CHN4	**

GUNZ	**Gunzen**	**0.15**	**326**	*e*Pg	**Pg**	**19 33 48.1**	**-0.1**
GUNZ				*e*Sg	**Sg**	**19 33 50.1**	**-0.6**
GUNZ	**Gunzen**	**0.15**	**326**	Pg	**Pg**	**19 33 48.1**	**-0.1**
GUNZ				Sg	**Sg**	**19 33 50.1**	**-0.6**
TANN	**Tannenbergstha**	**0.18**	**359**	*i* Pg	**Pg**	**19 33 48.5**	**-0.2**
TANN				*i* Sg	**Sg**	**19 33 50.8**	**-0.7**
TANN				AML	AML	19 33 51.3	
	comp=N,685nm,0.2s						
MULD	**Muldenberg**	**0.18**	**347**	*i* Pg	**Pg**	**19 33 48.5**	**-0.2**
MULD				*i* Sg	**Sg**	**19 33 50.7**	**-0.7**
MULD				AML	AML	19 33 50.9	
	comp=E,454nm,0.2s						
MULD	**Muldenberg**	**0.18**	**347**	*e*Pg	**Pg**	**19 33 48.5**	**-0.2**
MULD				*e*Sg	**Sg**	**19 33 50.8**	**-0.7**
MULD	**Muldenberg**	**0.18**	**347**	Pg	**Pg**	**19 33 48.5**	**-0.2**
MULD				Sg	**Sg**	**19 33 50.8**	**-0.7**
WERD	**Werda**	**0.24**	**334**	*i* Pg	**Pg**	**19 33 49.4**	**-0.2**
WERD				*i* Sg	**Sg**	**19 33 52.3**	**-0.7**
WERD				AML	AML	19 33 52.5	
	comp=E,145nm,0.1s						
WERD	**Werda**	**0.24**	**334**	*e*Pg	**Pg**	**19 33 49.5**	**-0.2**
WERD				*e*Sg	**Sg**	**19 33 52.2**	**-0.7**
WERD	**Werda**	**0.24**	**334**	Pg	**Pg**	**19 33 49.5**	**-0.2**
WERD				Sg	**Sg**	**19 33 52.2**	**-0.7**
TRIB	**Obertriebel**	**0.24**	**299**	*i* Pg	**Pg**	**19 33 49.5**	**-0.2**
TRIB				*i* Sg	**Sg**	**19 33 52.5**	**-0.6**
TRIB				AML	AML	19 33 53.0	
	comp=E,103nm,0.1s						
TRIB	**Obertriebel**	**0.24**	**299**	*e*Pg	**Pg**	**19 33 49.5**	**-0.2**
TRIB				*e*Sg	**Sg**	**19 33 52.5**	**-0.6**
TRIB	**Obertriebel**	**0.24**	**299**	Pg	**Pg**	**19 33 49.5**	**-0.2**
TRIB				Sg	**Sg**	**19 33 52.5**	**-0.6**
PLN	**Plauen**	**0.32**	**322**	*i* Pg	**Pg**	**19 33 51.0**	**-0.2**
PLN				*i* Sg	**Sg**	**19 33 54.9**	**-0.5**
PLN				AML	AML	19 33 55.0	
	comp=E,159nm,0.2s						
PLN	**Plauen**	**0.32**	**322**	*e*Pg	**Pg**	**19 33 50.9**	**-0.2**
PLN				*e*Sg	**Sg**	**19 33 54.9**	**-0.5**
PLN	**Plauen**	**0.32**	**322**	Pg	**Pg**	**19 33 50.9**	**-0.2**
PLN				Sg	**Sg**	**19 33 54.9**	**-0.5**
SCHF	**Schoenfels**	**0.45**	**355**	*i* Pg	**Pg**	**19 33 52.3**	**-0.2**
SCHF				*i* Sg	**Sg**	**19 33 59.0**	**-0.4**
SCHF				AML	AML	19 33 59.2	
	comp=E,259nm,0.2s						
SCHF	**Schoenfels**	**0.45**	**355**	*e*Pg	**Pg**	**19 33 53.3**	**-0.2**
SCHF				*e*Sg	**Sg**	**19 33 59.1**	**-0.3**
SCHF	**Schoenfels**	**0.45**	**355**	Pg	**Pg**	**19 33 53.3**	**-0.2**
SCHF				Sg	**Sg**	**19 33 59.1**	**-0.3**
MLFH	**Mildenfurth**	**0.61**	**336**	*i* Pg	**Pg**	**19 33 56.1**	**-0.4**
MLFH				*i* Sg	**Sg**	**19 34 03.9**	**-0.6**
MOX	**Moxa**	**0.68**	**307**	*e*Pg	**Pg**	**19 33 57.6**	**-0.3**
MOX				*e*Sg	**Sg**	**19 34 06.8**	**0.0**
MOX	**Moxa**	**0.68**	**307**	Pg	**Pg**	**19 33 57.6**	**-0.3**
MOX				Sg	**Sg**	**19 34 06.8**	**0.0**
FBE	**Freiberg**	**0.89**	**39**	*e*Pg	**Pg**	**19 34 01.9**	**0.0**
FBE				*e*Sg	**Sg**	**19 34 13.1**	**-0.4**
FBE	**Freiberg**	**0.89**	**39**	Pg	**Pg**	**19 34 01.9**	**0.0**
FBE				Sg	**Sg**	**19 34 13.1**	**-0.4**
GRA1	**Grafenberg Arr**	**0.97**	**236**	Pg	**Pg**	**19 34 03.3**	**-0.1**
GRA1				Sg	**Sg**	**19 34 15.7**	**-0.3**
GRF	**Grafenberg Arr**	**0.97**	**236**	*e*Pg	**Pg**	**19 34 03.3**	**-0.1**
GRF				*e*Sg	**Sg**	**19 34 15.7**	**-0.3**
WET	**Wettzell**	**1.12**	**166**	*e*Pg	**Pb**	**19 34 06.3**	**+0.1**
WET				*e*Sg	**Sb**	**19 34 20.6**	**-0.2**
WET	**Wettzell**	**1.12**	**166**	Pg	**Pb**	**19 34 06.3**	**+0.1**
WET				Sg	**Sb**	**19 34 20.6**	**-0.2**
CLL	**Collm**	**1.13**	**17**	*e*Pg	**Pb**	**19 34 05.9**	**-0.3**
CLL				*e*Sg	**Sg**	**19 34 20.5**	**-0.5**
CLL	**Collm**	**1.13**	**17**	Pg	**Pb**	**19 34 05.9**	**-0.3**
CLL				Sg	**Sg**	**19 34 20.5**	**-0.5**
CLL	**Collm**	**1.13**	**17**	*i* Pg	**Pb**	**19 34 05.8**	**-0.4**
CLL				*i*		19 34 07.8	
CLL				*i*		19 34 09.2	
CLL				*i* Sg	**Sg**	**19 34 20.8**	**-0.2**
	comp=Z,18nm,0.5s						
BRG	**Berggiesshubel**	**1.14**	**55**	PG	**Pb**	**19 34 06.4**	**0.0**
BRG				SG	**Sg**	**19 34 21.2**	**-0.2**
	comp=Z,18nm,0.5s						
BRG	**Berggiesshubel**	**1.14**	**55**	*e*Pg	**Pb**	**19 34 06.4**	**0.0**
BRG				*e*Sg	**Sg**	**19 34 20.7**	**-0.7**
BRG	**Berggiesshubel**	**1.14**	**55**	Pg	**Pb**	**19 34 06.4**	**0.0**
BRG				Sg	**Sg**	**19 34 20.7**	**-0.7**
PRA	**Prague**	**1.28**	**97**⇑	*e*SG	**Sb**	**19 34 25.6**	**+0.4**
	comp=Z,9.0nm,0.3s						
PRA	**Prague**	**1.28**	**97**	Sg	**Sb**	**19 34 25.6**	**+0.4**
	comp=Z,9.0nm,0.3s						
KHC	**Kasperske Hory**	**1.32**	**146**	*e*PG	**Pn**	**19 34 09.3**	**+0.2**
KHC				*e*SG	**Sb**	**19 34 26.3**	**-0.2**
	comp=Z,13nm,0.2s						
KHC	**Kasperske Hory**	**1.32**	**146**	Pg	**Pn**	**19 34 09.3**	**+0.2**
KHC				Sg	**Sb**	**19 34 26.3**	**-0.2**
	comp=Z,13nm,0.2s						
PRU	**Pruhonice**	**1.36**	**100**⇑	*e*PG	**Pn**	**19 34 10.1**	**+0.5**
PRU				*e*SG	**Sn**	**19 34 28.2**	**+0.5**
	comp=Z,11nm,0.2s						
PRU	**Pruhonice**	**1.36**	**100**	Pg	**Pn**	**19 34 10.1**	**+0.5**
PRU				Sg	**Sn**	**19 34 28.2**	**+0.5**
	comp=Z,11nm,0.2s						
GOPC	**GO Pecny, Ondr**	**1.53**	**101**	*e*SG	**Sg**	**19 34 33.6**	**-0.3**
GOPC	**GO Pecny, Ondr**	**1.53**	**101**	Sg	**Sg**	**19 34 33.6**	**-0.3**
UPC	**Upice**	**2.29**	**82**⇑	*e*SG	**Sb**	**19 34 56.1**	**+1.8**
	comp=Z,10nm,0.5s						
UPC	**Upice**	**2.29**	**82**	Sg	**Sb**	**19 34 56.1**	**+1.8**
	comp=Z,10nm,0.5s						
DPC	**Dobruska-Polom**	**2.48**	**86**	*e*SG	**Sg**	**19 35 02.5**	**-1.7**
	comp=Z,4.9nm,0.3s						
DPC	**Dobruska-Polom**	**2.48**	**86**	Sg	**Sg**	**19 35 02.5**	**-1.7**
	comp=Z,4.9nm,0.3s						
MORC	**Moravsky Berou**	**3.31**	**96**	*e*Sg	**Sg**	**19 35 27.8**	**-3.1**

ISCJB ***02*** *19:34:14.7±0.6,50°.23N±0°.02×12°.51E±0°.03,h15km±5km, Error ellipse: s-maj=3.6km s-min=3.1km az=36.1*
CSEM ***02*** *19:34:15.9±0.1,50°.24N×12°.48E,h10km,ML3.1/6, Error ellipse: s-maj=1.1km s-min=0.9km az=21.0*
BGR ***02*** *19:34:16.1±0.2,50°.25N×12°.46E,h11km±1km, ML2.4/6, Error ellipse: s-maj=2.2km s-min=2.2km az=105.0*
CLL ***02*** *19:34:16.9±0.3,50°.3N±0°.8×1°.2E±°,h7km±1km,ml2.3*
PRU ***02*** *19:34:16.6,50°.27N×12°.50E,h3km, West Bohemia Swarm*

ISC 02 19:34:16.2±0.8,50°.24N±0°.02×12°.46E±0°.02,h11km±3km, n60,σ0:64/102,6C,Germany

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
NKC	**Novy Kostel**	**0.01**	**240**⇑	*i* PG		**Pg**		**19 34 18.2**	**0.0**
NKC				*e*SG		**Sg**		**19 34 19.2**	**-0.3**
	comp=Z,1μm,0.2s								
NKC	**Novy Kostel**	**0.01**	**240**⇑	*i* Pg		**Pg**		**19 34 18.2**	**0.0**
NKC				*i* Sg		**Sg**		**19 34 19.2**	**-0.3**
NKC	**Novy Kostel**	**0.01**	**240**	*e*Pg		**Pg**		**19 34 18.2**	**0.0**
NKC				*e*Sg		**Sg**		**19 34 19.2**	**-0.3**
NKC	**Novy Kostel**	**0.01**	**240**	Pg		**Pg**		**19 34 18.2**	**0.0**
NKC				Sg		**Sg**		**19 34 19.2**	**-0.3**
	1μm,0.2s								
WERN	**Wernitzgruen**	**0.07**	**312**	*i* Pg		**Pg**		**19 34 18.5**	**-0.1**
WERN				*i* Sg		**Sg**		**19 34 19.9**	**-0.5**
WERN				AML		AML		19 34 20.0	
	comp=E,2μm,0.2s								
WERN	**Wernitzgruen**	**0.07**	**312**	*e*Pg		**Pg**		**19 34 18.6**	**-0.1**
WERN				*e*Sg		**Sg**		**19 34 19.9**	**-0.5**
WERN	**Wernitzgruen**	**0.07**	**312**	Pg		**Pg**		**19 34 18.6**	**-0.1**
WERN				Sg		**Sg**		**19 34 19.9**	**-0.5**
ROHR	**Rohrbach**	**0.09**	**268**	*i* Pg		**Pg**		**19 34 18.7**	**-0.1**
ROHR				*i* Sg		**Sg**		**19 34 20.2**	**-0.6**
ROHR				AML		AML		19 34 20.3	
	comp=E,1μm,0.2s								
ROHR	**Rohrbach**	**0.09**	**268**	*e*Pg		**Pg**		**19 34 18.7**	**-0.1**
ROHR				*e*Sg		**Sg**		**19 34 20.2**	**-0.6**
ROHR	**Rohrbach**	**0.09**	**268**	Pg		**Pg**		**19 34 18.7**	**-0.1**
ROHR				Sg		**Sg**		**19 34 20.2**	**-0.6**
GUNZ	**Gunzen**	**0.15**	**327**	*i* Pg		**Pg**		**19 34 19.6**	**0.0**
GUNZ				*i* Sg		**Sg**		**19 34 21.6**	**-0.5**
GUNZ				AML		AML		19 34 22.2	
	comp=E,641nm,0.4s								
GUNZ	**Gunzen**	**0.15**	**327**	*e*Pg		**Pg**		**19 34 19.6**	**0.0**
GUNZ				*e*Sg		**Sg**		**19 34 21.6**	**-0.5**
GUNZ	**Gunzen**	**0.15**	**327**	Pg		**Pg**		**19 34 19.6**	**0.0**
GUNZ				Sg		**Sg**		**19 34 21.6**	**-0.5**
TANN	**Tannenbergstha**	**0.18**	**0**	*i* Pg		**Pg**		**19 34 20.0**	**-0.1**
TANN				*i* Sg		**Sg**		**19 34 22.3**	**-0.6**
TANN				AML		AML		19 34 22.9	
	comp=N,902nm,0.3s								
MULD	**Muldenberg**	**0.18**	**348**	*i* Pg		**Pg**		**19 34 20.0**	**-0.1**
MULD				*i* Sg		**Sg**		**19 34 22.3**	**-0.6**
MULD				AML		AML		19 34 22.9	
	comp=N,646nm,0.3s								
MULD	**Muldenberg**	**0.18**	**348**	*e*Pg		**Pg**		**19 34 20.0**	**-0.1**
MULD				*e*Sg		**Sg**		**19 34 22.3**	**-0.6**
MULD	**Muldenberg**	**0.18**	**348**	Pg		**Pg**		**19 34 20.0**	**-0.1**
MULD				Sg		**Sg**		**19 34 22.3**	**-0.6**
WERD	**Werda**	**0.23**	**335**	*i* Pg		**Pg**		**19 34 20.9**	**-0.1**
WERD				*i* Sg		**Sg**		**19 34 23.8**	**-0.6**
WERD				AML		AML		19 34 25.0	
	comp=E,190nm,0.2s								
WERD	**Werda**	**0.23**	**335**	*e*Pg		**Pg**		**19 34 21.0**	**-0.1**
WERD				*e*Sg		**Sg**		**19 34 23.7**	**-0.6**
WERD	**Werda**	**0.23**	**335**	Pg		**Pg**		**19 34 21.0**	**-0.1**
WERD				Sg		**Sg**		**19 34 23.7**	**-0.6**
TRIB	**Obertriebel**	**0.24**	**299**	*i* Pg		**Pg**		**19 34 21.0**	**-0.1**
TRIB				*i* Sg		**Sg**		**19 34 24.0**	**-0.5**
TRIB				AML		AML		19 34 24.4	
	comp=E,146nm,0.1s								
TRIB	**Obertriebel**	**0.24**	**299**	*e*Pg		**Pg**		**19 34 21.0**	**-0.1**
TRIB				*e*Sg		**Sg**		**19 34 24.0**	**-0.5**
TRIB	**Obertriebel**	**0.24**	**299**	Pg		**Pg**		**19 34 21.0**	**-0.1**
TRIB				Sg		**Sg**		**19 34 24.0**	**-0.5**
PLN	**Plauen**	**0.32**	**322**	*i* Pg		**Pg**		**19 34 22.4**	**-0.1**
PLN				*i* Sg		**Sg**		**19 34 26.4**	**-0.4**
PLN				AML		AML		19 34 26.5	
	comp=E,173nm,0.2s								
PLN	**Plauen**	**0.32**	**322**	*e*Pg		**Pg**		**19 34 22.4**	**-0.1**
PLN				*e*Sg		**Sg**		**19 34 26.4**	**-0.4**
PLN	**Plauen**	**0.32**	**322**	Pg		**Pg**		**19 34 22.4**	**-0.1**
PLN				Sg		**Sg**		**19 34 26.4**	**-0.4**
SCHF	**Schoenfels**	**0.44**	**355**	*i* Pg		**Pg**		**19 34 24.8**	**0.0**
SCHF				*i* Sg		**Sg**		**19 34 30.4**	**-0.2**
SCHF				AML		AML		19 34 30.7	
	comp=E,435nm,0.2s								
SCHF	**Schoenfels**	**0.44**	**355**	*e*Pg		**Pg**		**19 34 24.7**	**-0.1**
SCHF				*e*Sg		**Sg**		**19 34 30.5**	**-0.2**
SCHF	**Schoenfels**	**0.44**	**355**	Pg		**Pg**		**19 34 24.7**	**-0.1**
SCHF				Sg		**Sg**		**19 34 30.5**	**-0.2**
MLFH	**Mildenfurth**	**0.60**	**336**	*i* Pg		**Pg**		**19 34 27.7**	**-0.2**
MLFH				*i* Sg		**Sg**		**19 34 35.4**	**-0.4**
MOX	**Moxa**	**0.68**	**307**	*e*Pg		**Pg**		**19 34 29.0**	**-0.3**
MOX				*e*Sg		**Sg**		**19 34 37.7**	**-0.5**
MOX	**Moxa**	**0.68**	**307**	Pg		**Pg**		**19 34 29.0**	**-0.3**
MOX				Sg		**Sg**		**19 34 37.7**	**-0.5**
FBE	**Freiberg**	**0.89**	**39**	*e*Sg		**Sg**		**19 34 44.2**	**-0.7**
FBE	**Freiberg**	**0.89**	**39**	Sg		**Sg**		**19 34 44.2**	**-0.7**
GRA1	**Grafenberg Arr**	**0.97**	**236**	Pg		**Pg**		**19 34 34.8**	**0.0**
GRA1				Sg		**Sg**		**19 34 47.2**	**-0.2**
GRF	**Grafenberg Arr**	**0.97**	**236**	*e*Pg		**Pg**		**19 34 34.8**	**0.0**
GRF				*e*Sg		**Sg**		**19 34 47.2**	**-0.2**
CLL	**Collm**	**1.12**	**18**	*e*Pg		**Pb**		**19 34 37.4**	**-0.2**
CLL				*e*Sg		**Sg**		**19 34 51.9**	**-0.5**
CLL	**Collm**	**1.12**	**18**	Pg		**Pb**		**19 34 37.4**	**-0.2**
CLL				Sg		**Sg**		**19 34 51.9**	**-0.5**
CLL	**Collm**	**1.12**	**18**	*i* Pg		**Pb**		**19 34 37.4**	**-0.2**
CLL				*i*				19 34 39.3	
CLL				*i*				19 34 40.7	
CLL				*i* Sg		**Sb**		**19 34 52.4**	**+0.1**
	comp=Z,40nm,0.7s								
CLL				*i*				19 34 56.4	
WET	**Wettzell**	**1.13**	**166**	*e*Pg		**Pb**		**19 34 37.7**	**0.0**
WET				*e*Sg		**Sb**		**19 34 51.6**	**-0.8**
WET	**Wettzell**	**1.13**	**166**	Pg		**Pb**		**19 34 37.7**	**0.0**
WET				Sg		**Sb**		**19 34 51.6**	**-0.8**
BRG	**Berggiesshubel**	**1.14**	**55**	PG		**Pb**		**19 34 37.8**	**0.0**
BRG				SG		**Sg**		**19 34 52.6**	**-0.2**
	comp=Z,36nm,0.2s								
BRG	**Berggiesshubel**	**1.14**	**55**	*e*Pg		**Pb**		**19 34 38.0**	**+0.1**
BRG				*e*Sg		**Sg**		**19 34 52.4**	**-0.5**
BRG	**Berggiesshubel**	**1.14**	**55**	Pg		**Pb**		**19 34 38.0**	**+0.1**
BRG				Sg		**Sg**		**19 34 52.4**	**-0.5**
PRA	**Prague**	**1.28**	**97**⇑	*e*SG		**Sb**		**19 34 57.0**	**+0.3**
PRA	**Prague**	**1.28**	**97**	Sg		**Sb**		**19 34 57.0**	**+0.3**
KHC	**Kasperske Hory**	**1.32**	**146**	*e*SG		**Sb**		**19 34 58.4**	**+0.4**
	comp=Z,17nm,0.3s								
KHC	**Kasperske Hory**	**1.32**	**146**	Sg		**Sb**		**19 34 58.4**	**+0.4**
	comp=Z,17nm,0.3s								
PRU	**Pruhonice**	**1.36**	**100**⇑	*e*SG		**Sn**		**19 34 59.5**	**+0.3**
	comp=Z,16nm,0.2s								
PRU	**Pruhonice**	**1.36**	**100**	Sg		**Sn**		**19 34 59.5**	**+0.3**
	comp=Z,16nm,0.2s								
PVCC	**Panska Ves**	**1.38**	**77**⇑	*e*SG		**Sn**		**19 35 00.0**	**+0.4**
	comp=Z,39nm,0.2s								
PVCC	**Panska Ves**	**1.38**	**77**	Sg		**Sn**		**19 35 00.0**	**+0.4**
	comp=Z,39nm,0.2s								
GOPC	**GO Pecny, Ondr**	**1.53**	**101**	*e*SG		**Sg**		**19 35 05.0**	**-0.5**
	comp=Z,16nm,0.3s								
GOPC	**GO Pecny, Ondr**	**1.53**	**101**	Sg		**Sg**		**19 35 05.0**	**-0.5**
	comp=Z,16nm,0.3s								
UPC	**Upice**	**2.29**	**82**⇑	*e*SG		**Sg**		**19 35 28.0**	**-1.7**
UPC	**Upice**	**2.29**	**82**	Sg		**Sg**		**19 35 28.0**	**-1.7**
DPC	**Dobruska-Polom**	**2.48**	**86**	*e*SG		**Sg**		**19 35 34.0**	**-1.8**
	comp=Z,9.8nm,0.3s								
DPC	**Dobruska-Polom**	**2.48**	**86**	Sg		**Sg**		**19 35 34.0**	**-1.8**
	comp=Z,9.8nm,0.3s								
VRAC	**Vranov**	**2.84**	**108**	*e*Sg		**Sb**		**19 35 42.8**	**+1.3**
MORC	**Moravsky Berou**	**3.31**	**96**	*e*Sg		**Sb**		**19 35 58.9**	**+3.7**

IDC 02 19:35:36.5±4.5,2°.44N×128°.29E,h237km±48km,mb3.2/6, mb1 3.3/7,mb1mx3.1/40,mbtmp3.7/7,Error ellipse: s-maj=35.5km s-min=14.6km az=67.0,Halmahera

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
JAY	**Jayapura**	**13.35**	**112**	P		P		19 38 38.9	-0.1
	0.0nm,0.3s,baz=273,slow=23,SNR=4.9								
JAY				S		S		19 41 14.3	+9.0
	0.1nm,0.3s,baz=98,slow=24,SNR=5.7								
FITZ	**Fitzroy Crossi**	**20.58**	**187**	P		P		19 39 56.9	-0.7
	0.6nm,0.5s,baz=22,slow=9.5,SNR=9.0								
WRA	**Warramunga Arr**	**23.02**	**165**	P		P		19 40 20.8	-0.2
	3.6nm,0.7s,baz=344,slow=10,SNR=25								
ASAR	**Alice Springs**	**26.52**	**168**	P		P		19 40 52.8	+0.2
	0.5nm,0.6s,baz=352,slow=7.6,SNR=24								
CMAR	**Chiang Mai Arr**	**32.87**	**301**	P		P		19 41 49.5	+1.0
	0.7nm,0.6s,baz=121,slow=7.8,SNR=4.5								
STKA	**Stephens Creek**	**36.39**	**161**	P		P		19 42 18.6	+0.1
	2.4nm,0.6s,baz=337,slow=9.7,SNR=6.9								
SONM	**Songino Array**	**49.02**	**341**	P		P		19 43 58.6	-1.0
	0.3nm,0.4s,baz=142,slow=7.3,SNR=2.0								
TORD	**Torodi Ar. Bea**	**124.80**	**288**	PKP		PKPdf		19 54 09.3	+0.2
	0.2nm,0.5s,baz=116,slow=3.4,SNR=2.8								

IDC 02 19:43:38.5±29.0,22°.62S×173°.75W,h0km,mb3.9/4, mb1 4.1/4,mb1mx3.7/40,mbtmp3.9/4,MS3.9/1,Ms1 3.9/1, ms1mx2.7/37,Error ellipse: s-maj=531.7km s-min=148.7km az=78.0,Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**37.26**	**266**	P		P		19 50 53.0	+0.6
	5.6nm,0.8s,baz=86,slow=9.8,SNR=5.1								
STKA	**Stephens Creek**	**40.52**	**247**	P		P		19 51 19.3	-0.3
	5.0nm,1.3s,baz=82,slow=7.1,SNR=2.5								
ASAR	**Alice Springs**	**47.92**	**258**	P		P		19 52 18.8	-0.3
	0.2nm,0.3s,baz=97,slow=7.2,SNR=9.2								
WRA	**Warramunga Arr**	**48.25**	**263**	P		P		19 52 21.2	-0.4
	0.6nm,0.5s,baz=102,slow=8.5,SNR=6.4								
WRA				LR		LR		20 12 08.9	
	comp=Z,132nm,21.3s,baz=200,slow=35								

ISCJB ***02*** *19:47:12.2±0.5,50°.22N±0°.02×12°.51E±0°.03,h15km±5km, Error ellipse: s-maj=3.5km s-min=2.9km az=144.2*
CSEM ***02*** *19:47:13.5±0.1,50°.23N×12°.48E,h10km,ML2.9/9, Error ellipse: s-maj=1.3km s-min=1.0km az=37.0*
BGR ***02*** *19:47:13.8±0.2,50°.25N×12°.45E,h11km±1km, ML2.2/6, Error ellipse: s-maj=2.2km s-min=2.2km az=105.0*
CLL ***02*** *19:47:14.6±0.3,50°.3N±0°.8×1°.2E±°,h7km±1km,ml2.0*
PRU ***02*** *19:47:14.4,50°.26N×12°.52E,h1km, West Bohemia Swarm*

ISC 02 19:47:12.7±0.8,50°.24N±0°.02×12°.47E±0°.02,h14km±3km, n63,σ0:74/109,6C,Germany

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
NKC	**Novy Kostel**	**0.02**	**257**⇑	*i* PG		**Pg**		**19 47 15.8**	**+0.6**
NKC				*e*SG		**Sg**		**19 47 16.7**	**-0.2**
	comp=Z,388nm,0.2s								
NKC	**Novy Kostel**	**0.02**	**257**⇑	*i* Pg		**Pg**		**19 47 15.8**	**+0.6**
NKC				*i* Sg		**Sg**		**19 47 16.9**	**0.0**
NKC	**Novy Kostel**	**0.02**	**257**	*e*Pg		**Pg**		**19 47 15.8**	**+0.6**
NKC				*e*Sg		**Sg**		**19 47 16.9**	**0.0**
NKC	**Novy Kostel**	**0.02**	**257**	Pg		**Pg**		**19 47 15.8**	**+0.6**
NKC				Sg		**Sg**		**19 47 16.7**	**-0.2**
	388nm,0.2s								
WERN	**Wernitzgruen**	**0.08**	**309**	*i* Pg		**Pg**		**19 47 16.3**	**+0.6**
WERN				*i* Sg		**Sg**		**19 47 17.6**	**-0.1**
WERN				AML		AML		19 47 17.7	
	comp=E,2μm,0.2s								
WERN	**Wernitzgruen**	**0.08**	**309**	*e*Pg		**Pg**		**19 47 16.3**	**+0.6**
WERN				*e*Sg		**Sg**		**19 47 17.6**	**-0.1**
WERN	**Wernitzgruen**	**0.08**	**309**	Pg		**Pg**		**19 47 16.3**	**+0.6**
WERN				Sg		**Sg**		**19 47 17.6**	**-0.1**
ROHR	**Rohrbach**	**0.10**	**268**	*i* Pg		**Pg**		**19 47 16.4**	**+0.5**
ROHR				*i* Sg		**Sb**		**19 47 17.9**	**-1.1**
ROHR				AML		AML		19 47 18.0	
	comp=E,1μm,0.2s								
ROHR	**Rohrbach**	**0.10**	**268**	*e*Pg		**Pg**		**19 47 16.4**	**+0.5**
ROHR				*e*Sg		**Sb**		**19 47 17.9**	**-1.1**
ROHR	**Rohrbach**	**0.10**	**268**	Pg		**Pg**		**19 47 16.4**	**+0.5**
ROHR				Sg		**Sb**		**19 47 17.9**	**-1.1**
GUNZ	**Gunzen**	**0.16**	**324**	*i* Pg		**Pb**		**19 47 17.4**	**-0.1**
GUNZ				*i* Sg		**Sb**		**19 47 19.4**	**-1.2**
GUNZ				AML		AML		19 47 19.9	
	comp=E,330nm,0.4s								
GUNZ	**Gunzen**	**0.16**	**324**	*e*Pg		**Pb**		**19 47 17.4**	**-0.1**
GUNZ				*e*Sg		**Sb**		**19 47 19.4**	**-1.2**
GUNZ	**Gunzen**	**0.16**	**324**	Pg		**Pb**		**19 47 17.4**	**-0.1**
GUNZ				Sg		**Sb**		**19 47 19.4**	**-1.2**
TANN	**Tannenbergstha**	**0.18**	**357**	*i* Pg		**Pb**		**19 47 17.7**	**-0.1**
TANN				*i* Sg		**Sg**		**19 47 20.0**	**+0.2**
TANN				AML		AML		19 47 20.2	
	comp=E,340nm,0.4s								
MULD	**Muldenberg**	**0.18**	**346**	*i* Pg		**Pb**		**19 47 17.8**	**-0.1**
MULD				*i* Sg		**Sg**		**19 47 20.0**	**+0.2**
MULD				AML		AML		19 47 20.7	
	comp=N,316nm,0.3s								
MULD	**Muldenberg**	**0.18**	**346**	*e*Pg		**Pb**		**19 47 17.8**	**-0.1**
MULD				*e*Sg		**Sg**		**19 47 20.1**	**+0.2**
MULD	**Muldenberg**	**0.18**	**346**	Pg		**Pb**		**19 47 17.8**	**-0.1**
MULD				Sg		**Sg**		**19 47 20.1**	**+0.2**
WERD	**Werda**	**0.24**	**333**	*i* Pg		**Pb**		**19 47 18.7**	**-0.1**
WERD				*i* Sg		**Sg**		**19 47 21.6**	**+0.1**
WERD				AML		AML		19 47 21.7	
	comp=E,116nm,0.2s								
WERD	**Werda**	**0.24**	**333**	*e*Pg		**Pb**		**19 47 18.7**	**-0.1**
WERD				*e*Sg		**Sg**		**19 47 21.5**	**+0.1**
WERD	**Werda**	**0.24**	**333**	Pg		**Pb**		**19 47 18.7**	**-0.1**
WERD				Sg		**Sg**		**19 47 21.5**	**+0.1**
TRIB	**Obertriebel**	**0.24**	**298**	*i* Pg		**Pb**		**19 47 18.7**	**-0.2**
TRIB				*i* Sg		**Sg**		**19 47 21.7**	**+0.1**
TRIB				AML		AML		19 47 22.0	
	comp=E,76nm,0.1s								
TRIB	**Obertriebel**	**0.24**	**298**	*e*Pg		**Pb**		**19 47 18.7**

ISC 02 19:47:34.7±0.9, 50°24N±0°02×12°47E±0°02, h10km±4km, n51, σ0°83/77, 1C, Germany

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NKC	**Novy Kostel**	**0.02**	**255**	*e*Pg	**Pg**	**19 47 36.3**	**-0.2**
NKC				*e*Sg	**Sg**	**19 47 37.4**	**-0.4**
	comp=Z,841nm,0.2s						
NKC	**Novy Kostel**	**0.02**	**255** ⇑	*i*Pg	**Pg**	**19 47 36.4**	**-0.2**
NKC				*i* Sg	**Sg**	**19 47 37.4**	**-0.4**
NKC	**Novy Kostel**	**0.02**	**255**	*e*Pg	**Pg**	**19 47 36.3**	**-0.2**
NKC				*e*Sg	**Sg**	**19 47 37.4**	**-0.4**
NKC	**Novy Kostel**	**0.02**	**255**	Pg	**Pg**	**19 47 36.3**	**-0.2**
NKC				Sg	**Sg**	**19 47 37.4**	**-0.4**
	841nm,0.2s						
WERN	**Wernitzgruen**	**0.08**	**309**	*i* Pg	**Pg**	**19 47 36.8**	**-0.3**
WERN				*i* Sg	**Sg**	**19 47 38.1**	**-0.7**
WERN				AML	AML	19 47 38.3	
	comp=E,2μm,0.2s						
WERN	**Wernitzgruen**	**0.08**	**309**	*e*Pg	**Pg**	**19 47 36.8**	**-0.3**
WERN				*e*Sg	**Sg**	**19 47 38.2**	**-0.7**
WERN	**Wernitzgruen**	**0.08**	**309**	Pg	**Pg**	**19 47 36.8**	**-0.3**
WERN				Sg	**Sg**	**19 47 38.2**	**-0.7**
ROHR	**Rohrbach**	**0.10**	**268**	*i* Pg	**Pg**	**19 47 36.9**	**-0.4**
ROHR				*i* Sg	**Sg**	**19 47 38.4**	**-0.8**
ROHR				AML	AML	19 47 38.5	
	comp=E,813nm,0.1s						
ROHR	**Rohrbach**	**0.10**	**268**	*e*Pg	**Pg**	**19 47 36.9**	**-0.4**
ROHR				*e*Sg	**Sg**	**19 47 38.4**	**-0.8**
ROHR	**Rohrbach**	**0.10**	**268**	Pg	**Pg**	**19 47 36.9**	**-0.4**
ROHR				Sg	**Sg**	**19 47 38.4**	**-0.8**
GUNZ	**Gunzen**	**0.16**	**324**	*i* Pg	**Pg**	**19 47 37.9**	**-0.3**
GUNZ				*i* Sg	**Sg**	**19 47 39.9**	**-0.8**
GUNZ				AML	AML	19 47 40.4	
	comp=E,295nm,0.2s						
GUNZ	**Gunzen**	**0.16**	**324**	*e*Pg	**Pg**	**19 47 37.9**	**-0.3**
GUNZ				*e*Sg	**Sg**	**19 47 39.8**	**-0.8**
GUNZ	**Gunzen**	**0.16**	**324**	Pg	**Pg**	**19 47 37.9**	**-0.3**
GUNZ				Sg	**Sg**	**19 47 39.8**	**-0.8**
TANN	**Tannenbergstha**	**0.18**	**357**	*i* Pg	**Pg**	**19 47 38.2**	**-0.3**
TANN				*i* Sg	**Sg**	**19 47 40.6**	**-0.7**
TANN				AML	AML	19 47 41.1	
	comp=N,405nm,0.3s						
MULD	**Muldenberg**	**0.18**	**346**	*i* Pg	**Pg**	**19 47 38.3**	**-0.3**
MULD				*i* Sg	**Sg**	**19 47 40.6**	**-0.7**
MULD				AML	AML	19 47 40.7	
	comp=E,302nm,0.2s						
WERD	**Werda**	**0.24**	**333**	*i* Pg	**Pg**	**19 47 39.2**	**-0.4**
WERD				*i* Sg	**Sg**	**19 47 42.0**	**-0.8**
WERD				AML	AML	19 47 42.5	
	comp=E,138nm,0.2s						
WERD	**Werda**	**0.24**	**333**	*e*Pg	**Pg**	**19 47 39.2**	**-0.4**
WERD				*e*Sg	**Sg**	**19 47 42.0**	**-0.8**
WERD	**Werda**	**0.24**	**333**	Pg	**Pg**	**19 47 39.2**	**-0.4**
WERD				Sg	**Sg**	**19 47 42.0**	**-0.8**
TRIB	**Obertriebel**	**0.24**	**298**	*i* Pg	**Pg**	**19 47 39.2**	**-0.5**
TRIB				*i* Sg	**Sg**	**19 47 42.2**	**-0.8**
TRIB				AML	AML	19 47 42.7	
	comp=E,91nm,0.1s						
TRIB	**Obertriebel**	**0.24**	**298**	*e*Pg	**Pg**	**19 47 39.2**	**-0.5**
TRIB				*e*Sg	**Sg**	**19 47 42.2**	**-0.8**
TRIB	**Obertriebel**	**0.24**	**298**	Pg	**Pg**	**19 47 39.2**	**-0.5**
TRIB				Sg	**Sg**	**19 47 42.2**	**-0.8**
PLN	**Plauen**	**0.32**	**321**	*i* Pg	**Pg**	**19 47 40.7**	**-0.4**
PLN				*i* Sg	**Sg**	**19 47 44.6**	**-0.7**
PLN				AML	AML	19 47 44.8	
	comp=E,121nm,0.2s						
PLN	**Plauen**	**0.32**	**321**	*e*Pg	**Pg**	**19 47 40.6**	**-0.4**
PLN				*e*Sg	**Sg**	**19 47 44.5**	**-0.9**
PLN	**Plauen**	**0.32**	**321**	Pg	**Pg**	**19 47 40.6**	**-0.4**
PLN				Sg	**Sg**	**19 47 44.5**	**-0.9**
SCHF	**Schoenfels**	**0.44**	**354**	*e*Pg	**Pg**	**19 47 43.0**	**-0.3**
SCHF				*i* Sg	**Sg**	**19 47 48.8**	**-0.4**
SCHF				AML	AML	19 47 49.0	
	comp=E,228nm,0.2s						
MLFH	**Mildenfurth**	**0.61**	**336**	*i* Sg	**Sg**	**19 47 53.6**	**-0.8**
MOX	**Moxa**	**0.68**	**307**	*e*Sg	**Sg**	**19 47 56.3**	**-0.5**
MOX	**Moxa**	**0.68**	**307**	Sg	**Sg**	**19 47 56.3**	**-0.5**
FBE	**Freiberg**	**0.89**	**39**	*e*Sg	**Sg**	**19 48 02.8**	**-0.4**
FBE	**Freiberg**	**0.89**	**39**	Sg	**Sg**	**19 48 02.8**	**-0.4**
GRA1	**Grafenberg Arr**	**0.98**	**236**	Sg	**Sg**	**19 48 05.3**	**-0.8**
GRF	**Grafenberg Arr**	**0.98**	**236**	*e*Sg	**Sg**	**19 48 05.3**	**-0.8**
CLL	**Collm**	**1.12**	**17**	*e*Sg	**Sg**	**19 48 10.1**	**-0.7**
CLL	**Collm**	**1.12**	**17**	Sg	**Sg**	**19 48 10.1**	**-0.7**
CLL	**Collm**	**1.12**	**17**	*i*	**Pn**	**19 47 57.6**	**+1.2**
CLL				*i*		19 47 58.9	
CLL				*i* Sg	**Sb**	**19 48 10.7**	**-0.1**
	comp=Z,15nm,0.7s						
CLL				*i*		19 48 14.8	
WET	**Wettzell**	**1.13**	**166**	*e*Sg	**Sg**	**19 48 09.9**	**-1.0**
WET	**Wettzell**	**1.13**	**166**	Sg	**Sg**	**19 48 09.9**	**-1.0**
BRG	**Berggiesshubel**	**1.13**	**55**	*e*Sg	**Sg**	**19 48 10.5**	**-0.6**
BRG	**Berggiesshubel**	**1.13**	**55**	Sg	**Sg**	**19 48 10.5**	**-0.6**
KHC	**Kasperske Hory**	**1.32**	**147**	*e*SG	**Sb**	**19 48 16.9**	**+0.4**
	comp=Z,10.0nm,0.3s						
KHC	**Kasperske Hory**	**1.32**	**147**	Sg	**Sb**	**19 48 16.9**	**+0.4**
	comp=Z,10.0nm,0.3s						
PRU	**Pruhonice**	**1.35**	**100**	*e*SG	**Sb**	**19 48 17.9**	**+0.4**
	comp=Z,9.2nm,0.2s						
PRU	**Pruhonice**	**1.35**	**100**	Sg	**Sb**	**19 48 17.9**	**+0.4**
	comp=Z,9.2nm,0.2s						
GOPC	**GO Pecny, Ondr**	**1.52**	**101**	*e*SG	**Sg**	**19 48 23.4**	**-0.3**
	comp=Z,8.3nm,0.3s						
GOPC	**GO Pecny, Ondr**	**1.52**	**101**	Sg	**Sg**	**19 48 23.4**	**-0.3**
	comp=Z,8.3nm,0.3s						
UPC	**Upice**	**2.28**	**82**	*e*SG	**Sg**	**19 48 46.2**	**-1.7**
	comp=Z,5.5nm,0.4s						
UPC	**Upice**	**2.28**	**82**	Sg	**Sg**	**19 48 46.2**	**-1.7**
	comp=Z,5.5nm,0.4s						
DPC	**Dobruska-Polom**	**2.47**	**86**	*e*SG	**Sg**	**19 48 52.4**	**-1.6**
	comp=Z,3.3nm,0.4s						
DPC	**Dobruska-Polom**	**2.47**	**86**	Sg	**Sg**	**19 48 52.4**	**-1.6**
	comp=Z,3.3nm,0.4s						
VRAC	**Vranov**	**2.83**	**108**	*e*Sg	**Sb**	**19 49 02.7**	**+2.8**
MORC	**Moravsky Berou**	**3.30**	**96**	*e*Sg	**Sg**	**19 49 18.1**	**-2.6**

*IDC **02** 19:48:02.7±2.9, 32°16S×178°77W, h0km, mb3.5/2, mb1 3.7/3, mb1mx3.5/36, mbtmp3.5/3, ML3.3/1, MS3.8/1, Ms1 3.8/1, ms1mx2.7/18, Error ellipse: s-maj=70.5km s-min=45.3km az=118.0*

*ISCJB **02** 19:48:08.5±2.3, 32°8S±0°1×178°2W±0°4, h100km, mb3.3/2, Error ellipse: s-maj=45.7km s-min=11.9km az=13.9*

ISC 02 19:48:10.6±2.7, 32°8S±0°2×178°2W±0°4, h100km, n10, σ0°71/12, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WMGZ	**Waiomatatini S**	**5.71**	**208**	*e*PN	**Pn**	**19 49 33.2**	**+0.2**
PKGZ	**Pakihiroa**	**5.91**	**210**	*e*PN	**Pn**	**19 49 34.8**	**-0.9**
HAZ	**Te Kaha**	**5.93**	**212**	*e*PN	**Pn**	**19 49 35.4**	**-0.5**
HAZ				*e*SN	**Sn**	**19 50 43.3**	**+1.0**
PUZ	**Puketiti**	**6.00**	**208**	*e*PN	**Pn**	**19 49 35.9**	**-0.9**
PUZ				*e*SN	**Sn**	**19 50 44.3**	**+0.2**
URZ	**Urewera**	**6.64**	**214**	Pn	**Pn**	**19 49 45.2**	**-0.3**
	0.5nm,0.3s,baz=70,slow=12,SNR=5.2						
URZ				Sn	**Sn**	**19 50 59.9**	**+0.1**
	0.5nm,0.3s,baz=66,slow=20,SNR=4.4						
URZ	**Urewera**	**6.64**	**214**	*e*PN	**Pn**	**19 49 45.1**	**-0.5**
DZM	**Mont Dzumac**	**17.29**	**304**	LR	LR	19 56 00.7	
	comp=Z,292nm,19.0s,baz=40,slow=29						
ASAR	**Alice Springs**	**42.85**	**270**	P	**P**	**19 55 59.6**	**+0.5**
	0.2nm,0.4s,baz=106,slow=7.2,SNR=4.9						
WRA	**Warramunga Arr**	**44.05**	**275**	P	**P**	**19 56 07.9**	**-0.8**
	0.3nm,0.3s,baz=113,slow=7.9,SNR=4.9						
FINES	**FINESS Array B**	**147.31**	**339**	PKPbc	**PKPab**	**20 07 44.5**	**+0.7**
	0.9nm,0.8s,baz=8.5,slow=2.8,SNR=3.2						

*BJI **02** 19:48:54.1, 52°43N×171°84W, h30km, mb5.1/50, mB5.0/32, Ms4.8/27, Ms7 4.5/12*

*MOS **02** 19:48:54.5±0.9, 52°26N×171°53W, h35km, mb5.0/100, Error ellipse: s-maj=6.8km s-min=4.7km az=85.8*

*ISCJB **02** 19:48:56.7±0.3, 52°15N±0°03×171°48W±0°02, h61km±2km, mb4.8/278, Error ellipse: s-maj=4.5km s-min=2.0km az=176.1*

*NEIC **02** 19:48:56.2±0.0, 52°05N×171°50W, h42km, mb4.9/198, ML5.0(AEIC), After AEIC.*

*IDC **02** 19:49:00.8±1.9, 52°25N×171°52W, h78km±16km, mb4.4/49, mb1 4.5/50, mb1mx4.4/74, mbtmp4.7/50, MS3.9/31, Ms1 3.9/31, ms1mx3.7/60, Error ellipse: s-maj=12.8km s-min=7.8km az=173.0*

ISC 02 19:48:57.7±0.7, 52°15N±0°06×171°53W±0°03, h53km±5km, n854, σ1°16/885, mb4.8/278, MS4.0/38, 20C-12D, Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KOFP	**Korovin Flat P**	**1.58**	**276**	P	**Pn**	**19 49 23.1**	**-0.4**
ATKA	**Atka Island**	**1.64**	**273**	P	**Pn**	**19 49 23.0**	**-1.2**
ATKA				S	**Sn**	**19 49 44.5**	**+0.4**
NIKH	**Nikolski High**	**1.83**	**62**	P	**Pn**	**19 49 25.1**	**-1.7**
NIKH				S	**Sn**	**19 49 48.5**	**-0.3**
OKSO	**Okmok South**	**2.38**	**58**	P	**Pn**	**19 49 34.6**	**+0.3**
OKSO				S	**Sn**	**19 50 04.5**	**+2.3**
OKCE	**Okmok Cone E**	**2.41**	**57**	P	**Pn**	**19 49 35.0**	**+0.3**
OKCE				S	**Sn**	**19 50 03.5**	**+0.4**
OKFG	**Magazine Ridge**	**2.53**	**59**	P	**Pn**	**19 49 36.2**	**-0.2**
OKFG				S	**Sn**	**19 50 07.0**	**+1.0**
GSMY	**Great Sitkin M**	**2.79**	**270**	P	**Pn**	**19 49 39.9**	**0.0**
GSTD	**Great Sitkin T**	**2.85**	**270**	P	**Pn**	**19 49 40.6**	**-0.2**
GSCK	**Great Sitkin C**	**2.86**	**269**	P	**Pn**	**19 49 40.1**	**-0.8**
ETKA	**Kagalaska Isla**	**3.03**	**266**	P	**Pn**	**19 49 42.2**	**-0.9**
ADAG	**Mount Adagdak**	**3.14**	**269**	P	**Pn**	**19 49 44.6**	**0.0**
MGOD	**Makushin Gods**	**3.26**	**58**	P	**Pn**	**19 49 46.4**	**0.0**
MCIR	**Makushin Cirqu**	**3.33**	**55**	P	**Pn**	**19 49 47.4**	**+0.1**
MSW	**Makushin Switc**	**3.37**	**56**	P	**Pn**	**19 49 48.0**	**+0.2**
MSW				S	**Sn**	**19 50 27.6**	**+1.1**
KIRH	**Kanaga Island**	**3.45**	**268**	P	**Pn**	**19 49 49.6**	**+0.7**
MTBL	**Makushin Table**	**3.45**	**56**	P	**Pn**	**19 49 49.3**	**+0.4**
UNV	**Unalaska Valle**	**3.48**	**59**	P	**Pn**	**19 49 49.4**	**+0.1**
UNV				S	**Sn**	**19 50 31.4**	**+2.2**
KIKV	**Kanaga Island**	**3.50**	**268**	P	**Pn**	**19 49 50.2**	**+0.7**
KICM	**Kanaga Island**	**3.51**	**268**	P	**Pn**	**19 49 50.6**	**+1.0**
AKRB	**Akutan Reef Bi**	**3.84**	**57**	P	**Pn**	**19 49 55.2**	**+0.9**
AKMO	**Akutan Morgan**	**3.85**	**58**	P	**Pn**	**19 49 55.2**	**+0.8**
AKMO				S	**Sn**	**19 50 41.1**	**+2.8**
TAPA	**Tanaga Point A**	**3.90**	**268**	P	**Pn**	**19 49 55.6**	**+0.5**
AKGG	**Akutan Green G**	**3.91**	**56**	P	**Pn**	**19 49 56.2**	**+0.9**
AKLV	**Akutan Long Va**	**3.91**	**57**	P	**Pn**	**19 49 55.7**	**+0.4**
TAFL	**Tanaga Flats**	**3.96**	**267**	P	**Pn**	**19 49 56.6**	**+0.7**
TAFP	**Tanaga Falls P**	**4.00**	**269**	P	**Pn**	**19 49 56.9**	**+0.5**
AKUT	**Akutan**	**4.00**	**58**	P	**Pn**	**19 49 57.2**	**+0.9**
WESP	**Westdahl Peak**	**4.71**	**57**	P	**Pn**	**19 50 07.4**	**+1.2**
WESE	**West Dahl East**	**4.77**	**58**	P	**Pn**	**19 50 08.2**	**+1.1**
WESN	**West Dahl Nort**	**4.81**	**57**	P	**Pn**	**19 50 08.3**	**+0.7**
SPIA	**Saint Paul Isl**	**5.09**	**8**	P	**Pn**	**19 50 13.0**	**+1.7**
SSLN	**Shishaldin Nor**	**5.23**	**56**	P	**Pn**	**19 50 14.3**	**+1.0**
DTNA	**Dutton South F**	**6.28**	**58**	P	**Pn**	**19 50 28.0**	**+0.3**
DOL	**Dolgoi Island**	**6.48**	**59**	P	**Pn**	**19 50 31.0**	**+0.5**
PS4A	**Pavlof South-4**	**6.57**	**57**	P	**Pn**	**19 50 32.6**	**+0.9**
SDPT	**Sand Point**	**7.29**	**60**	P	**Pn**	**19 50 41.8**	**+0.3**
CHGN	**Chignik**	**8.73**	**56**	*e*Pn	**Pn**	**19 50 59.7**	**-1.5**
SMY	**Shemya**	**8.80**	**279**	*e*P	**Pn**	**19 51 00.5**	**-1.7**
SMY	**Shemya**	**8.80**	**279**	*e*Pn	**Pn**	**19 51 00.5**	**-1.7**
GAMB	**Gambell**	**11.66**	**360**	*e*Pn	**Pn**	**19 51 43.5**	**+2.3**
OHAK	**Old Harbor**	**11.70**	**57**	*e*Pn	**Pn**	**19 51 37.2**	**-4.5**
KDAK	**Kodiak Island**	**12.24**	**55**	*i* P	**Pn**	**19 51 46.0**	**-3.1**
KDAK	**Kodiak Island**	**12.24**	**55**	*e*Pn	**Pn**	**19 51 45.7**	**-3.4**
SVW2	**Spurrevohn**	**12.51**	**38**	*e*Pn	**Pn**	**19 51 55.9**	**+3.0**
CNPM	**China Poot**	**13.54**	**49**	*e*Pn	**Pn**	**19 52 03.7**	**-3.2**
TTA	**Tatalina**	**13.60**	**31**	*e*P	**Pn**	**19 52 04.7**	**-3.0**
TTA	**Tatalina**	**13.60**	**31**	*e*Pn	**Pn**	**19 52 04.7**	**-3.0**
BRLK	**Bradley Lake**	**13.80**	**48**	*e*Pn	**Pn**	**19 52 09.4**	**-1.0**
SEW	**Seward**	**14.60**	**48**	*e*Pn	**Pn**	**19 52 17.3**	**-3.7**
SEW				*e*Sn	**Sn**	**19 55 02.5**	**+1.2**
PPLA	**Purkeypile**	**14.89**	**36**	*e*Pn	**Pn**	**19 52 23.8**	**-1.1**
RC01	**Rabbit Creek A**	**14.90**	**45**	*e*Pn	**Pn**	**19 52 21.8**	**-3.0**
CAST	**Castle Rocks**	**15.25**	**35**	*e*Pn	**P**	**19 52 31.4**	**-1.9**
	31nm,0.7s						
PMR	**Palmer**	**15.39**	**43**	*e*P	**Pn**	**19 52 31.4**	**+0.3**
PMR				pmax	pmax		
	comp=Z,28nm,0.8s						
PMR	**Palmer**	**15.39**	**43**	*e*Pn	**Pn**	**19 52 31.4**	**+0.3**
	comp=Z,28nm,0.8s						
KTH	**Kantishna Hill**	**15.74**	**36**	*e*Pn	**Pn**	**19 52 35.6**	**-0.2**
	comp=Z,68nm,1.1s						
SML	**Sawmill**	**15.82**	**43**	*e*P	**Pn**	**19 52 34.7**	**-2.1**
SML				*e*		19 55 31.6	
SML				pmax	pmax		
	comp=Z,71nm,1.1s						
SML	**Sawmill**	**15.82**	**43**	*e*Pn	**Pn**	**19 52 34.7**	**-2.1**
	comp=Z,71nm,1.1s						
SML				eSn	**Sn**	**19 55 31.6**	**+0.6**
FID	**Port Fidalgo**	**16.21**	**48**	*e*Pn	**Pn**	**19 52 38.6**	**-3.1**
	comp=Z,44nm,0.9s						
SCM	**Sheep Creek Mo**	**16.26**	**44**	*e*P	**Pn**	**19 52 40.2**	**-2.2**
SCM				pmax	pmax		
	comp=Z,63nm,0.8s						
SCM	**Sheep Creek Mo**	**16.26**	**44**	*e*Pn	**Pn**	**19 52 40.2**	**-2.2**
	comp=Z,63nm,0.8s						
RND	**Reindeer**	**16.42**	**38**	*e*P	**Pn**	**19 52 44.0**	**-0.3**
RND				pmax	pmax		
	comp=Z,38nm,0.8s						
RND	**Reindeer**	**16.42**	**38**	*e*Pn	**Pn**	**19 52 44.0**	**-0.3**
	comp=Z,38nm,0.8s						
EYAK	**Cordova Ski Ar**	**16.48**	**49**	*e*Pn	**Pn**	**19 52 43.1**	**-1.9**
	comp=Z,37nm,1.0s						
MCK	**McKinley**	**16.57**	**37**	*e*P	**Pn**	**19 52 46.8**	**+0.6**
MCK				pmax	pmax		
	comp=Z,30nm,0.9s						
MCK	**McKinley**	**16.57**	**37**	*e*Pn	**Pn**	**19 52 46.8**	**+0.6**
	comp=Z,30nm,0.9s						
DIV	**Divide**	**16.67**	**47**	*e*Pn	**Pn**	**19 52 46.8**	**-0.7**
	comp=Z,79nm,1.4s						
DIV				eSn	**Sn**	**19 55 52.4**	**+0.9**
DHY	**Denali Highway**	**16.82**	**40**	*e*Pn	**P**	**19 52 51.0**	**+0.1**
	comp=Z,23nm,0.9s						
BMRM	**Bremner River**	**17.15**	**49**	*e*Pn	**Pn**	**19 52 52.6**	**-0.9**
	comp=Z,52nm,1.0s						
WRH	**Wood River Hil**	**17.29**	**35**	*e*Pn	**Pn**	**19 52 54.8**	**-0.3**
	comp=Z,36nm,1.1s						
HARP	**HAARP**	**17.43**	**44**	*e*Pn	**Pn**	**19 52 57.0**	**+0.1**
	comp=Z,47nm,0.6s						
CCB	**Clear Creek Bu**	**17.49**	**35**	*e*Pn	**Pn**	**19 52 55.8**	**-1.7**
	comp=Z,16nm,0.8s						
MDM	**Murphy Dome**	**17.53**	**34**	*e*Pn	**Pn**	**19 52 56.7**	**-1.3**
	comp=Z,19nm,0.9s						
PAX	**Paxson**	**17.54**	**42**	*e*P	**Pn**	**19 52 54.7**	**-3.6**
PAX				pmax	pmax		
	comp=Z,28nm,0.7s						
PAX	**Paxson**	**17.54**	**42**	*e*Pn	**Pn**	**19 52 54.7**	**-3.6**
	comp=Z,28nm,0.7s						
COLA	**College**	**17.61**	**35**	*e*P	**P**	**19 53 01.3**	**+1.9**
COLA				pmax	pmax		
	comp=Z,36nm,0.9s						
COLA	**College**	**17.61**	**35**	*e*Pn	**P**	**19 53 01.3**	**+1.9**
	comp=Z,36nm,0.9s						
HDA	**Harding Lake**	**17.67**	**37**	*e*Pn	**Pn**	**19 52 59.7**	**-0.1**
	comp=Z,23nm,0.8s						
ILAR	**Eielson Array**	**17.89**	**36**	P	**Pn**	**19 53 00.3**	**-2.2**
	comp=Z,1.1nm,0.3s,baz=230,slow=10,SNR=43						
ILAR				S	**Sn**	**19 56 17.0**	**-3.8**
	baz=218,slow=16,SNR=2.2						
ILAR				LR	LR	19 59 49.5	
	comp=Z,296nm,18.8s,baz=242,slow=36						
ILAR				ScP	**ScP**	**20 01 06.5**	**+0.3**
	comp=Z,0.1nm,0.3s,baz=268,slow=3.8,SNR=4.2						
PET	**Petropavlovsk**	**18.08**	**285**	*e*P	**Pn**	**19 53 06.3**	**+1.4**
PET				*e*S	**Sn**	**19 56 25.5**	**-0.1**
PET				pmax	pmax		
	comp=Z,26nm,1.3s						
PET				pmax	pmax		
	comp=Z,400nm,9.8s						
PET				MLR	MLR		
	comp=Z,300nm,18.0s						
BALM	**Baldy**	**18.22**	**49**	*e*P	**P**	**19 53 05.8**	**-0.5**
BALM	**Baldy**	**18.22**	**49**	*e*P	**P**	**19 53 05.8**	**-0.5**
MENT	**Mentasta**	**18.25**	**43**	*e*P	**Pn**	**19 53 06.9**	**-0.1**
COLD	**Coldfoot**	**18.39**	**27**	*e*P	**Pn**	**19 53 09.5**	**+1.0**
	comp=Z,26nm,1.1s						
DOT	**Dot Lake**	**18.41**	**41**	*e*P	**Pn**	**19 53 08.9**	**+0.1**
	comp=Z,53nm,0.7s						
PETK	**Petropavlovsk-**	**18.64**	**285**	P	**Pn**	**19 53 11.8**	**+0.2**
	comp=Z,1.5nm,0.3s,baz=89,slow=13,SNR=12						
PETK				LR	LR	20 01 06.9	
	comp=Z,174nm,19.1s,baz=89,slow=39						
PCA	**Pinnacle**	**19.00**	**53**	*e*P	**Pn**	**19 53 16.4**	**+0.4**
	comp=Z,106nm,1.0s						
PCA				*e*Sn	**S**	**19 56 41.4**	**-6.2**
FYU	**Fort Yukon**	**19.47**	**32**	*e*P	**P**	**19 53 20.2**	**+0.4**
	comp=Z,39nm,0.8s						
TOLK	**Toolik Lake Re**	**19.57**	**24**	P	**Pn**	**19 53 23.6**	**+1.0**
	baz=223,SNR=26						
DHAK	**Deception Hill**	**19.89**	**56**	*e*P	**Pn**	**19 53 26.0**	**-0.4**
	comp=Z,305nm,1.4s						
EGAK	**Eagle**	**20.04**	**39**	*e*P	**P**	**19 53 26.0**	**0.0**
	comp=Z,28nm,0.9s						
DAWY	**Dawson**	**20.48**	**42**	*e*P	**P**	**19 53 30.1**	**-0.7**
	comp=Z,28nm,1.2s						
HYT	**Haines Junctio**	**20.48**	**52**	*e*P	**P**	**19 53 31.9**	**+1.0**
	comp=Z,88nm,0.7s						
SKAG	**Skagway**	**21.39**	**56**	*e*P	**P**	**19 53 41.4**	**+0.7**
	comp=Z,66nm,0.9s						
WHY	**Whitehorse**	**21.73**	**53**	*e*P	**P**	**19 53 45.6**	**+1.3**
	comp=Z,31nm,0.8s						
SEY	**Seymchan**	**21.85**	**314**	P	**P**	**19 53 45.8**	**+0.3**
	comp=Z,28nm,0.7s,baz=107,slow=9.6,SNR=23						
SEY				PcP	**PcP**	**19 57 45.8**	**+2.8**
	comp=Z,5.0nm,0.8s,baz=162,slow=2.3,SNR=4.2						
MA2	**Magadan**	**22.17**	**304**	P	**P**	**19 53 46.8**	**-2.1**
	comp=Z,18nm,0.9s,baz=134,slow=10,SNR=3.6						
MA2				LR	LR	20 02 15.8	
	comp=Z,263nm,19.0s,baz=104,slow=36						
CRAG	**Craig**	**22.72**	**66**	*e*P	**P**	**19 53 57.0**	**+2.2**
	comp=Z,76nm,1.3s						
DIB	**Dawson Inlet,**	**23.51**	**72**	*e*P	**P**	**19 54 03.7**	**+1.1**
	comp=Z,52nm,1.0s						
DLBC	**Dease Lake**	**24.13**	**58**	P	**P**	**19 54 10.4**	**+2.0**
	comp=Z,26nm,0.7s,baz=264,slow=6.7,SNR=35						
DLBC				LR	LR	20 04 28.0	
	comp=Z,214nm,21.1s,baz=235,slow=38						
DLBC	**Dease Lake**	**24.13**	**58**	*e*P	**P**	**19 54 10.4**	**+2.0**
	comp=Z,36nm,0.8s						
INK	**Inuvik**	**24.26**	**34**	P	**P**	**19 54 09.6**	**+0.2**
	comp=Z,5.7nm,0.3s,baz=219,slow=8.0,SNR=21						
INK	**Inuvik**	**24.26**	**34**	*e*P	**P**	**19 54 09.2**	**-0.2**
	comp=Z,20nm,0.8s						
BBB	**Bella Bella**	**26.34**	**73**	P	**P**	**19 54 29.7**	**+1.4**
	comp=Z,21nm,1.1s,baz=297,slow=8.5,SNR=6.5						
BBB				LR	LR	20 02 30.3	
	comp=Z,262nm,20.7s,baz=284,slow=31						
BBB	**Bella Bella**	**26.34**	**73**	*e*P	**P**	**19 54 29.7**	**+1.4**
	comp=Z,38nm,1.3s						
LLLB	**Lillooet**	**30.54**	**73**	*e*P	**P**	**19 55 06.9**	**+1.0**
	comp=Z,14nm,0.9s						
NLWA	**Neilton Lookou**	**30.70**	**80**	*e*P	**P**	**19 55 08.6**	**+1.4**
	comp=Z,19nm,1.0s						
ASAJ	**Asahikawa**	**31.20**	**274**	P	**P**	**19 55 12.6**	**+0.9**
	comp=Z,10nm,0.6s,baz=66,slow=7.0,SNR=7.5						
ASAJ	**Asahikawa**	**31.20**	**274**	*e*P	**P**	**19 55 12.5**	**+0.8**
	comp=Z,50nm,1.3s						
E03A	**Lebam**	**31.27**	**81**	*e*P	**P**	**19 55 13.2**	**+0.9**
	comp=Z,30nm,1.0s						
B05A	**Bryant**	**31.38**	**77**	P	**P**	**19 55 14.3**	**+1.1**
	baz=296,SNR=9.2						
YKA	**Yellowknife Ar**	**31.38**	**48**	P	**P**	**19 55 13.4**	**+0.4**
	comp=Z,1.7nm,0.4s,baz=275,slow=7.8,SNR=20						
YKA				LR	LR	20 08 11.8	
	comp=Z,58nm,21.4s,baz=180,slow=37						
B06A	**Marblemount**	**31.64**	**76**	*e*P	**P**	**19 55 15.6**	**+0.1**
	comp=Z,14nm,0.6s						
D05A	**Enumclaw**	**31.93**	**79**	*e*P	**P**	**19 55 19.4**	**+1.3**
	comp=Z,39nm,0.8s						
LVP	**Lakeview Peak**	**32.21**	**81**	*e*pP	pP	19 55 34.8	+0.7
TIXI	**Tiksi**	**32.24**	**329**	PcP	**PcP**	**19 58 07.6**	**0.0**
	comp=Z,4.3nm,0.5s,baz=95,slow=8.7,SNR=4.1						
LON	**Longmire**	**32.24**	**80**	*e*P	**P**	**19 55 22.2**	**+1.3**
LON				pmax	pmax		
	comp=Z,10.0nm,0.8s	

comp=Z,177nm,18.6s,baz=68,slow=39
F10A Beach Ranch, E 35.39 78 eP P 19 55 47.6 -0.7
comp=Z,9.9nm,0.8s
MOD Modoc Plateau 35.70 86 eP P 19 55 51.7 +0.7
comp=Z,13nm,0.8s
O03D Paynes Creek 35.70 89 P P 19 55 51.0 0.0
baz=306,SNR=6.4
HOPS Hopland Field 35.71 92 eP P 19 55 51.4 +0.4
comp=Z,63nm,1.5s
WALA Waterton Lakes 35.87 71 eP P 19 55 52.5 +0.1
comp=Z,19nm,0.9s
BMO Blue Mountains 35.92 80 eP P 19 55 52.8 0.0
BMO pmax pmax
comp=Z,7.0nm,1.0s
BMO Blue Mountains 35.92 80 eP P 19 55 52.8 0.0
comp=Z,7.1nm,1.0s
BSMT Bassoo Peak 35.93 74 eP P 19 55 53.4 +0.4
GDXM Geysers 35.99 92 eP P 19 55 54.9 +1.4
comp=Z,39nm,1.6s
BLMT Blacktail Moun 36.10 73 eP P 19 55 55.2 +0.7
JTMT Jette 36.27 74 eP P 19 55 55.7 -0.1
ORV Oroville 36.33 90 eP P 19 55 56.5 +0.2
ORV pmax pmax
comp=Z,5.0nm,0.8s
ORV Oroville 36.33 90 eP P 19 55 56.5 +0.2
comp=Z,5.4nm,0.8s
YBMT Yellow Bay 36.38 73 eP P 19 55 56.9 +0.1
WVOR Wild Horse Val 36.42 84 eP P 19 55 57.6 +0.5
WVOR pmax pmax
comp=Z,20nm,0.9s
WVOR Wild Horse Val 36.42 84 eP P 19 55 57.6 +0.5
comp=Z,20nm,0.9s
H11N2 WAKE ISLAND Hy 36.48 216 T T 20 34 26.0
baz=21,slow=75,SNR=43
H11N3 WAKE ISLAND Hy 36.48 216 T T 20 34 26.0
baz=21,slow=75,SNR=39
H11N1 WAKE ISLAND Hy 36.50 216 T T 20 34 26.0
baz=21,slow=75,SNR=38
SWMT Swartz Lake 36.56 74 eP P 19 55 58.5 +0.3
MSO Missoula 36.93 75 P P 19 56 01.2 -0.2
baz=300,SNR=8.4
MSO Missoula 36.93 75 eP P 19 56 01.3 -0.1
comp=Z,21nm,1.3s
SLMT Seeley Lake 36.99 74 eP P 19 56 02.1 +0.1
CHMT Chamberlain Mo 37.30 74 eP P 19 56 04.3 -0.4
JPC Peters Creek, 37.31 94 ePcP PcP 19 58 23.7 +0.8
PAHR Pah Rah Range 37.55 88 eP P 19 56 07.6 +0.9
comp=Z,22nm,0.8s
MFID Camas Ranch 37.59 81 eP P 19 56 07.4 +0.4
comp=Z,11nm,0.9s
USRK Ussuriysk Ar. 37.63 281 P P 19 56 07.9 +0.6
comp=Z,2.0nm,0.7s,baz=52,slow=9.9,SNR=5.2
USRK LR LR 20 10 36.0
comp=Z,178nm,21.7s,baz=49,slow=34
H11S1 WAKE ISLAND Hy 37.67 215 T T 20 35 55.4
baz=22,slow=76,SNR=232
H11S2 WAKE ISLAND Hy 37.69 215 T T 20 35 55.4
baz=22,slow=76,SNR=280
H11S3 WAKE ISLAND Hy 37.69 215 T T 20 35 55.4
baz=22,slow=76,SNR=224
PNTR Pine Nut 37.79 89 eP P 19 56 10.3 +1.5
comp=Z,36nm,0.8s
CMB Columbia Colle 37.95 91 eP P 19 56 10.5 +0.4
CMB pmax pmax
comp=Z,5.0nm,0.8s
CMB Columbia Colle 37.95 91 eP P 19 56 10.5 +0.4
comp=Z,5.4nm,0.8s
YERR Yerington 38.07 89 eP P 19 56 12.2 +0.9
comp=Z,25nm,0.8s
WAKR Walker 38.25 90 eP P 19 56 13.9 +1.2
comp=Z,17nm,0.8s
MJAR Matsushiro Arr 38.36 266 P P 19 56 13.9 +0.5
comp=Z,6.6nm,0.8s,baz=50,slow=7.5,SNR=17
MJAR LR LR 20 10 58.4
comp=Z,201nm,21.0s,baz=60,slow=34
MAJO Matsushiro 38.36 266 eP P 19 56 13.9 +0.4
MAJO pmax pmax
comp=Z,40nm,1.1s
MAJO Matsushiro 38.36 266 eP P 19 56 13.9 +0.4
comp=Z,40nm,1.1s
MAT Matsushiro 38.36 266 P P 19 56 14.4 +0.9
HLID Hailey 38.37 80 P P 19 56 14.1 +0.5
baz=304,SNR=13
HLID Hailey 38.37 80 eP P 19 56 14.4 +0.8
comp=Z,7.1nm,0.9s
HLID eS S 20 02 10.9 +6.4
BPIM Pinnacles 38.45 94 eP P 19 56 17.7 +3.5
DLMT Dillon 38.49 76 eP P 19 56 15.2 +0.5
comp=Z,4.7nm,0.8s
MCMT McKenzie Canyo 38.62 77 eP P 19 56 16.0 +0.1
TVH1 TV Hill, Hawth 38.69 89 eP P 19 56 17.1 +0.5
comp=Z,20nm,0.8s
TVH3 East Aurora ar 38.72 89 eP P 19 56 17.6 +0.9
comp=Z,13nm,1.0s
TVH2 Borealis Mine 38.74 89 eP P 19 56 17.6 +0.6
comp=Z,5.7nm,0.8s
EGMT Eagleton 38.79 71 P P 19 56 17.0 -0.1
baz=300
PMPB Monarch Peak 38.86 94 eP P 19 56 18.9 +1.2
comp=Z,15nm,0.9s
BOZ Bozeman (W) 38.94 75 P P 19 56 18.3 -0.1
baz=302,SNR=18
BOZ Bozeman (W) 38.94 75 eP P 19 56 18.6 +0.2
BOZ pmax pmax
comp=Z,38nm,1.5s
BOZ Bozeman (W) 38.94 75 eP P 19 56 18.6 +0.2
comp=Z,38nm,1.5s
PAGB Antelope Grade 39.51 94 eP P 19 56 23.7 +0.6
comp=Z,17nm,0.8s
RCTC Rector, Farmer 39.76 92 P P 19 56 26.4 +1.4
baz=310
YHH Holmes Hill 39.84 76 eP P 19 56 26.3 +0.2
comp=Z,19nm,1.0s
TIN Tinemaha, Big 39.90 91 P P 19 56 27.2 +0.8
baz=310
SMMC Simmler 39.94 94 P P 19 56 27.8 +1.1
baz=311
FFC Flin Flon 39.97 58 eP P 19 56 26.7 +0.1
FFC pmax pmax
comp=Z,14nm,0.6s
FFC Flin Flon 39.97 58 eP P 19 56 26.7 +0.1
comp=Z,14nm,0.6s
YNR Norris Junctio 39.98 76 eP P 19 56 27.9 +0.7
comp=Z,43nm,1.4s
VES Vestal, Richgr 40.16 93 P P 19 56 28.8 +0.4
baz=311
H17A Grant Village 40.22 76 P P 19 56 30.3 +1.2
baz=303
H17A Grant Village 40.22 76 eP P 19 56 30.4 +1.2
comp=Z,15nm,0.8s
IMW Indian Meadow 40.28 77 eP P 19 56 30.5 +0.8
comp=Z,9.8nm,0.8s
FLWY Flagg Ranch 40.32 77 eP P 19 56 30.7 +0.7
comp=Z,9.7nm,0.8s
PKM Mcpherson Peak 40.33 94 P P 19 56 30.7 +0.6
baz=312,SNR=5.4
FXWY Fox Creek 40.37 77 eP P 19 56 30.6 +0.2
comp=Z,23nm,2.0s
HVU Hansel Valley 40.37 81 eP P 19 56 30.9 +0.5
HVU pmax pmax
comp=Z,12nm,0.8s
HVU Hansel Valley 40.37 81 eP P 19 56 30.9 +0.5
comp=Z,12nm,0.8s
CWC Cottonwood Cre 40.39 91 P P 19 56 31.2 +0.7
baz=310
GRAC Grapevine Rang 40.47 90 P P 19 56 31.9 +0.8
baz=310
MOOW Moose Ponds 40.48 77 eP P 19 56 32.0 +0.7
comp=Z,4.7nm,0.9s
TPAW Teton Pass 40.50 77 eP P 19 56 32.2 +0.7
comp=Z,6.0nm,0.8s
RLMT Red Lodge 40.60 74 P P 19 56 32.7 +0.5
baz=303,SNR=17
RLMT Red Lodge 40.60 74 eP P 19 56 33.2 +0.9
comp=Z,23nm,0.8s
REDW Red Top Meadow 40.63 78 eP P 19 56 32.5 -0.1
comp=Z,10nm,1.0s
LOHW Long Hollow 40.64 77 eP P 19 56 32.9 +0.3
comp=Z,4.9nm,0.6s
ISA Isabella, Lake 40.65 92 P P 19 56 32.2 -0.3
baz=311
ISA Isabella, Lake 40.65 92 eP P 19 56 32.7 +0.1
ISA pmax pmax
comp=Z,13nm,0.8s
ISA Isabella, Lake 40.65 92 eP P 19 56 32.7 +0.1
comp=Z,13nm,0.8s
R11A Troy Canyon, C 40.72 87 P P 19 56 33.3 0.0
baz=308,SNR=21
R11A Troy Canyon, C 40.72 87 eP P 19 56 33.1 -0.1
comp=Z,19nm,1.1s
BGU Big Grassy Mou 40.72 82 eP P 19 56 33.4 +0.1
comp=Z,6.0nm,0.9s
AHID Auburn Hatcher 40.82 78 eP P 19 56 34.4 +0.3
comp=Z,17nm,1.2s
MPMC Manual Prospec 41.00 91 P P 19 56 35.8 +0.2
baz=310,SNR=15
BOD Bodaibo 41.09 308 eP P 19 56 33.8 -2.1
BOD pmax pmax
comp=Z,14nm,1.0s
FURC Furnace Creek, 41.12 90 P P 19 56 36.3 0.0
baz=310
TPNV Topopah Spring 41.19 89 P P 19 56 37.6 +0.5
baz=310,SNR=38
TPNV Topopah Spring 41.19 89 eP P 19 56 37.2 +0.1
TPNV pmax pmax
comp=Z,25nm,0.8s
TPNV Topopah Spring 41.19 89 eP P 19 56 37.2 +0.1
comp=Z,25nm,0.8s
HWUT Hardware Ranch 41.21 80 eP P 19 56 37.5 +0.2
comp=Z,8.3nm,1.1s
LRMC Laurel Mtn Rad 41.26 92 P P 19 56 37.6 -0.1
baz=311
DUG Dugway, Tooele 41.29 83 P P 19 56 38.3 +0.4
baz=307,SNR=14
DUG Dugway, Tooele 41.29 83 eP P 19 56 38.5 +0.6
DUG pmax pmax
comp=Z,27nm,1.3s
DUG Dugway, Tooele 41.29 83 eP P 19 56 38.5 +0.6
comp=Z,27nm,1.3s
LAO LASA Array 41.54 71 P P 19 56 40.4 +0.6
baz=302
LAO LASA Array 41.54 71 eP P 19 56 40.9 +1.1
comp=Z,38nm,0.7s
BW06 Boulder Array 41.75 77 P P 19 56 41.8 0.0
baz=305,SNR=29
BW06 Boulder Array 41.75 77 eP P 19 56 41.8 0.0
comp=Z,20nm,0.7s
PDAR Pinedale Array 41.75 77 P P 19 56 41.9 +0.1
comp=Z,16nm,0.9s,baz=305,slow=5.2,SNR=81
PDAR ScP ScP 20 02 19.7 -3.0
comp=Z,1.2nm,0.8s,baz=264,slow=3.0,SNR=5.1
PDAR LR LR 20 11 44.6
comp=Z,208nm,21.4s,baz=314,slow=33
DGMT Dagmar 41.76 67 P P 19 56 41.6 +0.1
baz=301
DGMT Dagmar 41.76 67 eP P 19 56 42.2 +0.7
comp=Z,20nm,0.6s
SHOC Shoshone, Teco 41.85 90 P P 19 56 42.7 +0.3
baz=311,SNR=5.6
MWC Mount Wilson 41.85 94 eP P 19 56 42.9 +0.3
MWC pmax pmax
comp=Z,54nm,1.6s
MWC Mount Wilson 41.85 94 eP P 19 56 42.9 +0.3
comp=Z,54nm,1.6s
JLU Jordanelle 41.87 81 eP P 19 56 43.1 +0.3
comp=Z,13nm,1.1s
NLU North Lily Min 41.88 83 eP P 19 56 42.8 -0.1
comp=Z,11nm,1.0s
GSC Goldstone, Bar 41.91 92 P P 19 56 43.3 +0.3
baz=311,SNR=26
GSC Goldstone, Bar 41.91 92 eP P 19 56 43.2 +0.3
GSC pmax pmax
comp=Z,30nm,0.8s
GSC Goldstone, Bar 41.91 92 eP P 19 56 43.2 +0.3
comp=Z,30nm,0.8s
BFSC Mount Baldy Ra 42.09 93 P P 19 56 44.8 +0.3
baz=312,SNR=9.1
HIA Hailar 42.14 295 eP P 19 56 43.9 -0.7
HIA pmax pmax
comp=Z,24nm,0.7s
HIA Hailar 42.14 295 eP P 19 56 43.9 -0.7
comp=Z,24nm,0.7s
SHPR Sheep Range 42.14 89 eP P 19 56 45.5 +0.5
comp=Z,8.2nm,1.1s
TUQ Turquoise Moun 42.37 91 P P 19 56 46.9 +0.1
baz=311,SNR=8.2
HEC Hector,Ludlow 42.51 92 P P 19 56 48.1 +0.2
baz=312,SNR=15
CCUT Cedar City 42.58 86 eP P 19 56 48.0 -0.5
comp=Z,55nm,2.0s
MSU Marysvale 42.71 84 eP P 19 56 49.9 +0.3
MSU Marysvale 42.71 84 eP P 19 56 49.9 +0.3
MURC Murieta 42.80 94 P P 19 56 50.2 +0.1
baz=312
TMUT Trail Mountain 42.81 83 eP P 19 56 50.9 +0.3
comp=Z,16nm,0.9s
GMRC Granite Mounta 42.96 91 P P 19 56 51.6 +0.1
baz=312,SNR=16
MTPU Mount Pierson 43.00 85 eP P 19 56 52.9 +0.8
comp=Z,15nm,1.3s
LCMT Little Creek M 43.00 87 eP P 19 56 52.1 +0.2
comp=Z,15nm,1.0s
PFO Pinyon Flats O 43.25 93 P P 19 56 53.8 -0.1
comp=Z,7.4nm,0.9s,baz=316,slow=5.5,SNR=7.1
PFO LR LR 20 10 34.7
comp=Z,165nm,21.9s,baz=317,slow=30
PFO Pinyon Flats O 43.25 93 P P 19 56 53.4 -0.5
baz=312,SNR=5.7
PFO Pinyon Flats O 43.25 93 eP P 19 56 53.8 -0.1
comp=Z,12nm,0.9s
KNB Kanab 43.25 86 eP P 19 56 54.4 +0.5
KNB pmax pmax
comp=Z,18nm,1.0s
KNB Kanab 43.25 86 eP P 19 56 54.4 +0.5
comp=Z,18nm,1.0s
TPFO Pinon Flats 43.26 93 P P 19 56 53.6 -0.4
baz=312,SNR=5.7
BELC Belle Mtn. Jos 43.27 92 P P 19 56 53.6 -0.5
baz=312,SNR=6.8
109C Camp Elliot, M 43.34 94 P P 19 56 54.5 0.0
baz=313
SRU San Rafael Swe 43.35 82 eP P 19 56 55.2 +0.5
SRU pmax pmax
comp=Z,16nm,0.9s
SRU San Rafael Swe 43.35 82 eP P 19 56 55.2 +0.5
comp=Z,16nm,0.9s
MMU Miners Mountai 43.44 84 eP P 19 56 56.3 +0.7
NEE2 Needles Airpor 43.61 90 P P 19 56 56.7 +0.1
baz=312
K22A Casper 43.63 76 P P 19 56 56.7 -0.2
baz=306
K22A Casper 43.63 76 eP P 19 56 56.7 -0.2
comp=Z,97nm,0.4s
IRM Iron Mountain 43.69 91 P P 19 56 57.8 +0.4
baz=312,SNR=8.1
BAR Barrett 43.75 94 eP P 19 56 58.3 +0.5
comp=Z,13nm,0.9s
MONP Monument Peak, 43.76 94 P P 19 56 58.0 -0.1
baz=313
BC3 Big Chuckawall 43.84 92 P P 19 56 58.3 -0.3
baz=312,SNR=5.3
W13A Hualapai Mount 43.84 89 eP P 19 56 58.5 -0.3
comp=Z,13nm,1.0s
U15A North Rim 43.96 87 eP P 19 56 59.8 +0.1
comp=Z,17nm,0.9s
SWSC Sam W. Stewart 44.11 93 P P 19 57 00.6 0.0
baz=313
KSRS Korea Array 44.11 275 P P 19 57 00.9 +0.4
comp=Z,9.7nm,0.9s,baz=58,slow=8.1,SNR=17
KSRS LR LR 20 13 29.1
comp=Z,84nm,20.3s,baz=54,slow=33
O20A White River Ci 44.11 80 P P 19 57 00.5 -0.3
baz=308,SNR=6.3
O20A White River Ci 44.11 80 eP P 19 57 00.3 -0.5
comp=Z,28nm,0.8s
IKP In-Ko-Pah, Jac 44.12 94 P P 19 57 01.0 +0.2
baz=313
KSAR Wonju Array Be 44.14 275 P P 19 57 00.9 +0.1
KSAR Wonju Array Be 44.14 275 P P 19 57 00.9 +0.1
PDMCI Parker Dam,Lak 44.21 90 P P 19 57 01.3 -0.2
baz=312
Y12C Blythe 44.35 91 P P 19 57 02.7 +0.1
baz=312,SNR=5.9
Y12C Blythe 44.35 91 eP P 19 57 02.5 0.0
comp=Z,19nm,0.9s
PV09 Paradox Valley 44.58 82 eP P 19 57 04.5 -0.2
GLA Glamis 44.63 92 P P 19 57 05.3 +0.4
baz=313
GLA Glamis 44.63 92 eP P 19 57 04.9 0.0
GLA pmax pmax
comp=Z,14nm,0.8s
GLA Glamis 44.63 92 eP P 19 57 04.9 0.0
comp=Z,14nm,0.8s
PV10 Paradox Valley 44.71 82 eP P 19 57 06.0 +0.3
PV05 Paradox Valley 44.86 83 eP P 19 57 07.5 +0.6
N23A Red Feather La 45.03 77 P P 19 57 08.2 0.0
baz=308
WUAZ Wupatki 45.12 87 P P 19 57 09.0 +0.1
baz=311,SNR=14
WUAZ Wupatki 45.12 87 eP P 19 57 08.9 +0.1
comp=Z,16nm,0.8s
JNU Nakatsue 45.13 268 P P 19 57 10.2 +1.3
comp=Z,16nm,0.9s,baz=24,slow=6.3,SNR=6.1
PV01 Paradox Valley 45.15 82 eP P 19 57 09.1 -0.1
Y14A Wickenburg 45.16 90 eP P 19 57 09.0 -0.1
comp=Z,59nm,1.1s
ULM Lac du Bonnet 45.42 61 P P 19 57 10.7 -0.2
comp=Z,7.7nm,0.7s,baz=299,slow=9.8,SNR=8.4
ULM LR LR 20 16 49.3
comp=Z,227nm,21.6s,baz=299,slow=37
C31A Landman Farms, 45.77 65 P P 19 57 13.0 -0.6
baz=304
MVCO Mesa Verde 45.78 83 P P 19 57 13.8 -0.4
baz=310,SNR=5.6
MVCO Mesa Verde 45.78 83 eP P 19 57 14.3 +0.1
comp=Z,7.9nm,0.8s
X16A Lo Mia Camp, P 45.80 88 eP P 19 57 15.0 +0.7
comp=Z,8.4nm,0.8s
A32A Rocking H Ranc 45.82 63 P P 19 57 13.8 -0.3
baz=304
ISCO Idaho Springs 45.90 78 eP P 19 57 17.0 +1.8
ISCO pmax pmax
comp=Z,5.0nm,0.7s
ISCO Idaho Springs 45.90 78 eP P 19 57 17.0 +1.8
comp=Z,5.5nm,0.7s
NRIK Noril'sk 45.98 331 P P 19 57 14.2 -0.8
comp=Z,2.8nm,0.6s,baz=72,slow=9.6,SNR=3.3
NRIK LR LR 20 18 23.3
comp=Z,116nm,19.4s,baz=96,slow=38
B32A Ashes, Strandq 46.09 63 P P 19 57 15.4 -0.8
baz=304,SNR=7.5
W18A Petrified Fore 46.39 86 P P 19 57 19.0 +0.2
baz=311
W18A Petrified Fore 46.39 86 eP P 19 57 19.1 +0.2
comp=Z,21nm,1.0s
A33A Warroad 46.41 62 P P 19 57 18.5 -0.1
baz=304,SNR=7.2
S22A 4UR Ranch, Cre 46.46 81 P P 19 57 19.5 -0.1
baz=310
S22A 4UR Ranch, Cre 46.46 81 eP P 19 57 20.4 +0.8
comp=Z,9.7nm,1.2s
AGMN Agassiz Nation 46.52 63 P P 19 57 19.1 -0.4
baz=305,SNR=11
AGMN Agassiz Nation 46.52 63 eP P 19 57 19.4 -0.1
comp=Z,22nm,0.8s
214A Organ Pipe Nat 46.62 92 P P 19 57 20.3 -0.3
baz=314
X18A Snowflake 46.64 87 eP P 19 57 21.0 +0.1
comp=Z,7.6nm,0.9s
B33A Robert and Kas 46.68 63 P P 19 57 20.0 -0.8
baz=305
Q24A Divide 46.71 79 eP P 19 57 23.5 +2.0
comp=Z,5.0nm,0.6s
E32A Braaten, Kindr 46.83 66 P P 19 57 21.3 -0.7
baz=306
C33A Trail 46.87 64 P P 19 57 21.5 -0.8
baz=305
G31A Conde 46.98 68 P P 19 57 22.5 -0.7
baz=306
SUSD Miller 47.02 69 P P 19 57 22.6 -0.9
baz=306
B34A Aery, Baudette 47.07 62 P P 19 57 23.1 -0.7
baz=305,SNR=9.9
D33A AnnSam, Waubun 47.19 64 P P 19 57 24.2 -0.6
baz=306
SDCO Great Sand Dun 47.27 80 P P 19 57 25.9 +0.1
baz=310,SNR=14
SDCO Great Sand Dun 47.27 80 eP P 19 57 26.4 +0.5
comp=Z,8.6nm,1.0s
H31A Wolsey 47.27 69 P P 19 57 24.8 -0.7
baz=307
OGNE Ogallala 47.34 75 P P 19 57 26.0 -0.1
baz=308
G32A Webster 47.37 67 P P 19 57 25.7 -0.5
baz=306
C34A RKJ Ranch, Bem 47.41 63 P P 19 57 25.7 -0.8
baz=305
E33A Westby DABS, E 47.47 65 P P 19 57 26.1 -1.0
baz=306
I31A Royce, Wessing 47.51 69 P P 19 57 26.6 -0.8
baz=307
D34A Park Rapids 47.58 64 P P 19 57 27.1 -0.8
baz=306,SNR=8.5
TUC Tucson 47.63 90 P P 19 57 28.8 +0.3
baz=313
TUC Tucson 47.63 90 eP P 19 57 28.5 0.0
TUC pmax pmax
comp=Z,12nm,0.9s
TUC Tucson 47.63 90 eP P 19 57 28.5 0.0
comp=Z,12nm,0.9s
B35A Bob, Littlefor 47.65 62 P P 19 57 27.6 -0.7
baz=305,SNR=6.9
J31A Geddes 47.83 70 P P 19 57 29.5 -0.4
baz=307,SNR=9.2
H32A Carlson Farm, 47.85 68 P P 19 57 29.1 -0.9
baz=307,SNR=6.0
C35A Jirik Farms, M 47.90 63 P P 19 57 29.6 -0.6
baz=306,SNR=5.8
E34A Wadena 47.94 65 P P 19 57 29.8 -0.8
baz=306
G33A Ortonville 48.01 67 P P 19 57 30.5 -0.6
baz=307
I32A Karley and Nic 48.12 69 P P 19 57 31.3 -0.8
baz=307
H33A Prehn Over Nor 48.14 68 P P 19 57 31.4 -0.9
baz=307,SNR=7.7
KSCO Kaye Shedlock' 48.20 77 P P 19 57 33.5 +0.6
baz=310
KSCO Kaye Shedlock' 48.20 77 eP P 19 57 33.5 +0.6
comp=Z,36nm,1.1s
D35A Remer 48.22 63 P P 19 57 32.3 -0.4
baz=306,SNR=6.0
K31A O'Neill 48.23 71 P P 19 57 32.5 -0.5
baz=308
J32A Parkston 48.30 70 P P 19 57 32.6 -0.8
baz=308
F34A Alexandria 48.31 66 P P 19 57 32.6 -0.9
baz=307
T25A Trinidad 48.32 80 P P 19 57 34.1 +0.2
baz=310,SNR=15
T25A Trinidad 48.32 80 eP P 19 57 34.2 +0.2
comp=Z,29nm,1.0s
E35A Pequot Lakes 48.33 64 P P 19 57 33.1 -0.5
baz=306
LAZ Ladron 48.46 85 eP P 19 57 35.4 +0.4
C36A Pine Crest Far 48.48 62 P P 19 57 34.1 -0.7
baz=306,SNR=6.2
I33A Coleman 48.49 68 P P 19 57 34.8 -0.1
baz=307
ANMO Albuquerque 48.51 84 P P 19 57 34.7 -0.7
comp=Z,2.4nm,0.9s,baz=341,slow=9.0,SNR=5.1
ANMO LR LR 20 17 20.1
comp=Z,123nm,18.2s,baz=310,slow=35
ANMO Albuquerque 48.51 84 P P 19 57 35.8 +0.4
baz=312
ANMO Albuquerque 48.51 84⇓ eP P 19 57 36.0 +0.6
ANMO pmax pmax
comp=Z,5.0nm,1.3s
ANMO Albuquerque 48.51 84 eP P 19 57 35.5 +0.1
comp=Z,24nm,1.8s
D36A Goodland 48.65 63 P P 19 57 35.4 -0.6
baz=306
F35A Swanville 48.66 65 P P 19 57 35.3 -0.9
baz=307
K32A Verdigre 48.67 70 P P 19 57 35.5 -0.8
baz=308
H34A Spellman Lake, 48.70 67 P P 19 57 35.4 -1.0
baz=307
ECSD EROS Data Cent 48.79 68 P P 19 57 36.2 -1.1
baz=308,SNR=11
ECSD EROS Data Cent 48.79 68 eP P 19 57 36.2 -1.1
comp=Z,16nm,1.0s
J33A Davis 48.84 69 P P 19 57 37.0 -0.6
baz=308
C37A Embarrass 48.85 62 P P 19 57 37.1 -0.5
baz=306,SNR=7.8
BNM Barren Site 48.94 85 eP P 19 57 38.9 +0.2
E36A McGregor 48.99 64 P P 19 57 38.3 -0.4
baz=307,SNR=5.9
L32A Elgin 49.05 71 P P 19 57 38.9 -0.4
baz=308
D37A Cotton 49.06 63 P P 19 57 38.5 -0.7
baz=307

EYMN	**Ely**	49.10	61	P		**P**	19 57 39.0	-0.5	
	baz=307,SNR=5.4								
EYMN	**Ely**	49.10	61	*eP*		**P**	19 57 39.5	-0.1	
	comp=Z,12nm,0.8s								
319A	**Douglas**	49.20	90	*eP*		**P**	19 57 40.5	-0.1	
	comp=Z,9.3nm,0.8s								
H35A	**Sunnyside Ranc**	49.22	66	P		**P**	19 57 39.5	-0.9	
	baz=308								
F36A	**Milaca**	49.24	64	P		**P**	19 57 39.6	-1.0	
	baz=307								
K33A	**Hardington**	49.26	70	P		**P**	19 57 40.1	-0.7	
	baz=308								
121A	**Cookes Peak, D**	49.32	87	P		**P**	19 57 41.4	-0.2	
	baz=313								
BGNE	**Belgrade**	49.34	72	P		**P**	19 57 41.1	-0.4	
	baz=309								
C38A	**Sawbill Land.**	49.36	61	P		**P**	19 57 40.7	-0.7	
	baz=307								
L33A	**Hoskins**	49.38	71	P		**P**	19 57 40.9	-0.8	
	baz=309								
TLY	**Talaya**	49.39	305	P		**P**	19 57 42.1	+0.4	
	comp=Z,9.8nm,0.8s,baz=359,slow=3.4,SNR=16								
TLY	**Talaya**	49.39	305	*eP*		**P**	19 57 41.5	-0.2	
TLY				pmax		pmax			
	comp=Z,15nm,0.9s								
TLY				MLR		MLR			
	comp=Z,121nm,18.0s								
TLY	**Talaya**	49.39	305	*eP*		**P**	19 57 41.4	-0.3	
	comp=Z,12nm,0.8s								
J34A	**George**	49.44	69	P		**P**	19 57 41.4	-0.8	
	baz=308								
I35A	**Creekview Farm**	49.65	67	P		**P**	19 57 42.6	-1.1	
	baz=308								
K34A	**Le Mars**	49.73	69	P		**P**	19 57 44.0	-0.5	
	baz=309								
M33A	**Taylor Creek F**	49.80	71	P		**P**	19 57 44.1	-0.8	
	baz=309								
H36A	**Jessenland, He**	49.80	66	P		**P**	19 57 44.5	-0.4	
	baz=308								
F37A	**Hinrichs Farm,**	49.82	64	P		**P**	19 57 44.6	-0.4	
	baz=308								
SPITS	**Spitsbergen Ar**	49.85	358	P		**P**	19 57 44.6	-0.2	
	comp=Z,15nm,1.0s,baz=38,slow=7.3								
SPITS				PcP		**PcP**	19 59 04.3	-0.2	
	comp=Z,8.4nm,0.8s,baz=140,slow=3.4,SNR=4.7								
E38A	**The Farm, Brul**	49.88	63	P		**P**	19 57 44.9	-0.5	
	baz=307								
ULN	**Ulaanbaatar**	49.89	299	*ceP*		**P**	19 57 45.5	-0.2	
ULN				pmax		pmax			
	comp=Z,10.0nm,0.8s								
ULN	**Ulaanbaatar**	49.89	299	*eP*		**P**	19 57 45.3	-0.4	
	comp=Z,8.4nm,0.7s								
C39A	**Grand Marais**	49.91	61	P		**P**	19 57 45.1	-0.6	
	baz=307								
L34A	**Svendsen Farm,**	50.02	70	P		**P**	19 57 45.7	-0.9	
	baz=309								
CBKS	**Cedar Bluff**	50.05	75	P		**P**	19 57 46.7	-0.2	
	baz=310								
F38A	**Pierce - Schro**	50.09	63	P		**P**	19 57 46.9	-0.2	
	baz=308,SNR=8.8								
I36A	**Fitzsimmons Fa**	50.09	67	P		**P**	19 57 46.4	-0.7	
	baz=308								
N33A	**J Bar K, Exete**	50.17	72	P		**P**	19 57 46.9	-0.9	
	baz=310								
DAG	**Danmarks Havn**	50.20	8	*i* P		**P**	19 57 46.8	-0.6	
	comp=Z,6.6nm,0.6s								
DAG	**Danmarks Havn**	50.20	8	*i* P		**P**	19 57 46.8	-0.6	
DAG				pmax		pmax			
	comp=Z,4.0nm,0.6s								
K35A	**Storm Lake**	50.21	69	P		**P**	19 57 47.1	-0.9	
	baz=309,SNR=5.1								
SONM	**Songino Array**	50.26	300	P		**P**	19 57 48.9	+0.4	
	comp=Z,4.0nm,0.6s,baz=51,slow=6.7,SNR=44								
SONM				PcP		**PcP**	19 59 07.2	+0.4	
	comp=Z,1.9nm,0.7s,baz=92,slow=2.3,SNR=3.8								
SONM				ScP		**ScP**	20 02 58.4	+0.5	
	comp=Z,2.4nm,0.8s,baz=37,slow=3.8,SNR=9.5								
SONM				LR		LR	20 19 41.1		
	comp=Z,226nm,20.2s,baz=58,slow=37								
J36A	**Seneca 1, Swea**	50.34	68	P		**P**	19 57 48.1	-0.9	
	baz=309								
ZAK	**Zakamensk**	50.35	304	*eP*		**P**	19 57 48.7	-0.4	
ZAK				pmax		pmax			
	comp=Z,7.0nm,1.3s								
H37A	**Dierke Farm, C**	50.36	65	P		**P**	19 57 48.4	-0.8	
	baz=308								
L35A	**Bielow Farm, R**	50.41	70	P		**P**	19 57 48.8	-0.8	
	baz=309								
I37A	**Lemond, Waseca**	50.45	66	P		**P**	19 57 49.2	-0.6	
	baz=308								
O33A	**Hebron**	50.52	73	P		**P**	19 57 49.5	-0.9	
	baz=310								
G38A	**Ridgeland**	50.59	64	P		**P**	19 57 50.1	-0.7	
	baz=308								
H38A	**Maiden Rock**	50.66	65	P		**P**	19 57 51.1	-0.3	
	baz=308								
MOY	**Mondy**	50.72	307	*eP*		**P**	19 57 52.6	+0.7	
MOY				pmax		pmax			
	comp=Z,19nm,1.2s								
M35A	**Neola**	50.73	70	P		**P**	19 57 51.2	-0.8	
	baz=310								
J37A	**Redenius Farm,**	50.80	67	P		**P**	19 57 51.7	-0.8	
	baz=309,SNR=10								
G39A	**Holcombe**	50.90	64	P		**P**	19 57 52.2	-1.0	
	baz=308								
O34A	**Beatrice**	50.97	72	P		**P**	19 57 53.0	-0.8	
	baz=310,SNR=6.2								
I38A	**Scanlan Farm,**	51.03	66	P		**P**	19 57 53.6	-0.6	
	baz=309								
F40A	**Park Falls**	51.08	63	P		**P**	19 57 54.3	-0.2	
	baz=308								
K37A	**Belmond**	51.09	68	P		**P**	19 57 53.8	-0.8	
	baz=309,SNR=6.5								
N35A	**Tabor**	51.15	71	P		**P**	19 57 54.6	-0.5	
	baz=310								
M36A	**Felix, Anita**	51.26	70	P		**P**	19 57 55.4	-0.5	
	baz=310								
P34A	**Walnut Farm, R**	51.30	73	P		**P**	19 57 55.2	-1.2	
	baz=310								
SUMG	**Summit**	51.37	16	*i* P		**P**	19 57 56.8	0.0	
	comp=Z,20nm,1.1s								
SUMG	**Summit**	51.37	16	*i* P		**P**	19 57 56.8	0.0	
SUMG				pmax		pmax			
	comp=Z,20nm,1.1s								
SUMG	**Summit**	51.37	16	*eP*		**P**	19 57 56.6	-0.2	
	comp=Z,21nm,1.1s								
MNTX	**Cornudas Mount**	51.37	86	P		**P**	19 57 57.2	+0.3	
	baz=314,SNR=12								
MNTX	**Cornudas Mount**	51.37	86	*eP*		**P**	19 57 57.4	+0.5	
	comp=Z,6.4nm,0.8s								
O35A	**Humboldt**	51.38	72	P		**P**	19 57 55.9	-1.0	
	baz=310								
J38A	**Wedel Dairy, R**	51.40	66	P		**P**	19 57 56.4	-0.6	
	baz=309,SNR=5.9								
MSTX	**Muleshoe**	51.42	82	P		**P**	19 57 57.1	-0.3	
	baz=313,SNR=6.3								
MSTX	**Muleshoe**	51.42	82	*eP*		**P**	19 57 56.9	-0.5	
	comp=Z,13nm,0.9s								
L37A	**Phoenix Point,**	51.44	68	P		**P**	19 57 56.5	-0.7	
	baz=310,SNR=6.4								
G40A	**Rib Lake**	51.44	63	P		**P**	19 57 56.1	-1.1	
	baz=309								
I39A	**Houston**	51.60	65	P		**P**	19 57 57.6	-0.9	
	baz=309,SNR=7.0								
Q34A	**Chapman**	51.64	74	P		**P**	19 57 58.0	-0.8	
	baz=311,SNR=5.8								
K38A	**Parkersburg**	51.66	67	P		**P**	19 57 58.0	-0.9	
	baz=310								
KSU1	**Kansas State U**	51.72	73	P		**P**	19 57 58.5	-0.9	
	baz=311								
KSU1	**Kansas State U**	51.72	73	*eP*		**P**	19 57 59.0	-0.5	
	comp=Z,14nm,0.7s								
M37A	**Trindle Farm,**	51.72	69	P		**P**	19 57 58.8	-0.6	
	baz=310								
H40A	**Chili**	51.75	64	P		**P**	19 57 58.9	-0.7	
	baz=309								
HHC	**Hu-ho-hao-te**	51.75	290	*eP*		**P**	19 58 00.6	+0.8	
HHC				pP		pP	19 58 10.4	-3.6	
HHC				PcS		**PcS**	**20 03 10.1**	**-0.4**	
HHC				S		**S**	**20 05 19.6**	**+2.0**	
HHC				sS		sS	20 05 36.8	-4.7	
HHC				SS		**SS**	**20 08 51.7**	**-2.4**	
HHC				pmax		pmax			
	comp=Z,22nm,1.1s								
HHC				pmax		pmax			
	comp=Z,110nm,5.0s								
HHC				LR		LR			
	comp=Z,330nm,14.8s								
HHC				LR		LR			
	comp=Z,270nm,14.8s								
P35A	**Duane Minner,**	51.79	72	P		**P**	19 57 59.1	-0.9	
	baz=311								
J39A	**Decorah**	51.83	66	P		**P**	19 57 59.1	-1.1	
	baz=310,SNR=6.2								
R34A	**Isabella, Hill**	51.87	74	P		**P**	19 57 59.9	-0.7	
	baz=311,SNR=7.1								
L38A	**Oak Wood Farm,**	51.88	68	P		**P**	19 57 59.4	-1.2	
	baz=310,SNR=7.4								
N37A	**Lee Faris, Mou**	52.05	70	P		**P**	19 58 01.3	-0.6	
	baz=310								
U32A	**Winter Ranch,**	52.09	77	P		**P**	19 58 01.4	-0.8	
	baz=312								
K39A	**Oelwein**	52.13	67	P		**P**	19 58 00.8	-1.5	
	baz=310,SNR=7.7								
H41A	**Junction City**	52.16	64	P		**P**	19 58 01.6	-1.0	
	baz=309								
M38A	**Pleasantville**	52.21	69	P		**P**	19 58 02.1	-0.9	
	baz=310,SNR=5.7								
P36A	**Good Intent, A**	52.21	72	P		**P**	19 58 01.9	-1.2	
	baz=311,SNR=11								
Q35A	**Mercer Eighty,**	52.22	73	P		**P**	19 58 01.7	-1.4	
	baz=311								
J40A	**Soldiers Grove**	52.33	65	P		**P**	19 58 02.5	-1.4	
	baz=310								
S34A	**Willow Spring**	52.34	75	P		**P**	19 58 02.6	-1.4	
	baz=311								
I41A	**Arkdale**	52.39	64	P		**P**	19 58 03.2	-1.1	
	baz=310								
L39A	**Vinton**	52.44	67	P		**P**	19 58 03.8	-0.9	
	baz=310,SNR=5.7								
O37A	**Wolven Farm, M**	52.47	71	P		**P**	19 58 04.1	-0.9	
	baz=311,SNR=7.9								
R35A	**Emporia Munici**	52.47	74	P		**P**	19 58 04.3	-0.8	
	baz=311								
Q36A	**Arnold C. Orve**	52.49	73	P		**P**	19 58 04.6	-0.5	
	baz=311								
K40A	**Colesburg**	52.55	66	P		**P**	19 58 04.8	-0.8	
	baz=310								
N38A	**Joes South For**	52.59	69	P		**P**	19 58 04.7	-1.1	
	baz=311								
P37A	**Lathrop**	52.73	71	P		**P**	19 58 05.6	-1.3	
	baz=311,SNR=10								
T34A	**McClaskey Farm**	52.75	76	P		**P**	19 58 06.2	-0.9	
	baz=312,SNR=7.3								
M39A	**Webster**	52.76	68	P		**P**	19 58 06.3	-0.8	
	baz=310,SNR=8.1								
J41A	**Loganville**	52.76	65	P		**P**	19 58 05.8	-1.2	
	baz=310								
S35A	**Otter Creek Ra**	52.83	74	P		**P**	19 58 06.3	-1.4	
	baz=312,SNR=6.6								
R36A	**Gordon, Harris**	52.88	73	P		**P**	19 58 06.9	-1.2	
	baz=311,SNR=11								
O38A	**Galt**	52.89	70	P		**P**	19 58 07.0	-1.1	
	baz=311,SNR=6.7								
L40A	**Anamosa**	52.92	67	P		**P**	19 58 06.9	-1.3	
	baz=310								
N39A	**Derby Farms, D**	52.96	69	P		**P**	19 58 07.6	-1.0	
	baz=311,SNR=14								
K41A	**Shullsburg**	53.08	66	P		**P**	19 58 08.1	-1.3	
	baz=310								
M40A	**Post Highland**	53.18	68	P		**P**	19 58 08.9	-1.2	
	baz=311								
P38A	**Dawn**	53.18	71	P		**P**	19 58 09.1	-1.2	
	baz=311,SNR=8.2								
T35A	**Sooner Cattle**	53.22	75	P		**P**	19 58 09.6	-0.9	
	baz=312								
X32A	**Elmer**	53.23	79	P		**P**	19 58 10.2	-0.5	
	baz=313								
NJ2	**Nanjing**	53.26	277	*eP*		**P**	19 58 11.0	+0.2	
NJ2				pmax		pmax			
	comp=Z,25nm,0.7s								
R37A	**Teagarden Farm**	53.29	73	P		**P**	19 58 09.4	-1.6	
	baz=312								
L41A	**Preston**	53.32	66	P		**P**	19 58 09.9	-1.3	
	baz=311								
WMOK	**Wichita Mounta**	53.33	79	P		**P**	19 58 10.8	-0.6	
	baz=313,SNR=8.7								
WMOK	**Wichita Mounta**	53.33	79	*eP*		**P**	19 58 10.7	-0.6	
WMOK				pmax		pmax			
	comp=Z,8.0nm,0.8s								
WMOK	**Wichita Mounta**	53.33	79	*eP*		**P**	19 58 10.7	-0.7	
	comp=Z,8.3nm,0.8s								
O39A	**Kirksville**	53.34	69	P		**P**	19 58 10.2	-1.2	
	baz=311								
U35A	**Pawnee**	53.46	76	P		**P**	19 58 11.2	-1.0	
	baz=312								
N40A	**Mertquake, Sal**	53.48	68	P		**P**	19 58 11.1	-1.3	
	baz=311								
T36A	**Boggs Farm, Ca**	53.50	75	P		**P**	19 58 11.4	-1.2	
	baz=312								
Q38A	**Cooks Store, C**	53.57	71	P		**P**	19 58 11.4	-1.7	
	baz=312,SNR=6.8								
S37A	**Fort Scott**	53.66	73	P		**P**	19 58 12.4	-1.3	
	baz=312,SNR=12								
P39B	**Salisbury**	53.72	70	P		**P**	19 58 13.2	-1.0	
	baz=311								
M41A	**Milan**	53.75	67	P		**P**	19 58 12.8	-1.5	
	baz=311								
LPIG	**Laz Piaz**	53.78	97	LR		LR	20 16 28.8		
	comp=Z,71nm,18.5s,baz=270,slow=31								
V35A	**Meyer Ranch, C**	53.80	76	P		**P**	19 58 13.9	-0.9	
	baz=313								
O40A	**La Belle**	53.81	69	P		**P**	19 58 13.7	-1.2	
	baz=311,SNR=18								
Q39A	**Willow Grove F**	53.89	71	P		**P**	19 58 13.7	-1.6	
	baz=312,SNR=8.9								
R38A	**Fenwick Farm,**	53.91	72	P		**P**	19 58 13.4	-2.2	
	baz=312,SNR=7.2								
N41A	**Harden Midland**	54.01	68	P		**P**	19 58 15.2	-1.1	
	baz=311								
T37A	**Cheneyville 18**	54.03	74	P		**P**	19 58 15.0	-1.4	
	baz=312,SNR=8.6								
TXAR	**Lajitas Array**	54.08	87	P		**P**	19 58 16.7	-0.3	
	comp=Z,8.4nm,0.8s,baz=298,slow=5.2,SNR=91								
TXAR				ScP		**ScP**	**20 03 11.7**	**-3.0**	
	comp=Z,0.9nm,0.9s,baz=245,slow=2.9,SNR=3.8								
TXAR				LR		LR	20 20 46.4		
	comp=Z,93nm,18.0s,baz=0.0,slow=35								
P40A	**Paris**	54.10	70	P		**P**	19 58 15.7	-1.2	
	baz=312,SNR=21								
W35A	**Tecumseh**	54.19	77	P		**P**	19 58 17.0	-0.7	
	baz=313								
S38A	**Stockton**	54.29	73	P		**P**	19 58 16.4	-1.9	
	baz=312,SNR=6.7								
V36A	**Jenks**	54.32	76	P		**P**	19 58 17.7	-0.9	
	baz=313								
TUL1	**Lenard**	54.33	76	P		**P**	19 58 17.5	-1.1	
	baz=313								
R39A	**Chumby, Stover**	54.34	72	P		**P**	19 58 18.6	-0.1	
	baz=312								
O41A	**Passleys Farm,**	54.39	69	P		**P**	19 58 17.8	-1.2	
	baz=312,SNR=9.2								
U37A	**Salina**	54.40	75	P		**P**	19 58 18.1	-1.0	
	baz=313,SNR=11								
Q40A	**Laux Farm, Aux**	54.45	70	P		**P**	19 58 18.0	-1.4	
	baz=312,SNR=13								
T38A	**Diamond**	54.46	74	P		**P**	19 58 18.2	-1.4	
	baz=312,SNR=6.1								
Y34A	**Reagan Ranch,**	54.48	79	P		**P**	19 58 19.4	-0.4	
	baz=313								
P41A	**Barry, Barry**	54.58	69	P		**P**	19 58 19.2	-1.2	
	baz=312								
S39A	**Bolivar**	54.59	72	P		**P**	19 58 18.2	-2.3	
	baz=312,SNR=5.3								
W36A	**Watumka**	54.59	77	P		**P**	19 58 19.8	-0.8	
	baz=313								
X35A	**Drake**	54.65	78	P		**P**	19 58 20.2	-0.8	
	baz=313								
133A	**Hamilton Ranch**	54.70	81	P		**P**	19 58 20.7	-0.7	
	baz=314								
V37A	**Hulbert**	54.73	75	P		**P**	19 58 20.5	-1.1	
	baz=313								
Z34A	**Collier Ranch,**	54.78	79	P		**P**	19 58 21.3	-0.7	
	baz=314								
R40A	**Maddies Statio**	54.80	71	P		**P**	19 58 19.9	-2.1	
	baz=312,SNR=9.9								
U38A	**Gravette**	54.81	74	P		**P**	19 58 20.6	-1.5	
	baz=313,SNR=6.4								
X36A	**Centrahoma**	54.90	77	P		**P**	19 58 22.5	-0.3	
	baz=313								
Q41A	**Truxton**	54.96	70	P		**P**	19 58 22.0	-1.1	
	baz=312,SNR=6.4								
HDIL	**Hopedale**	55.00	67	P		**P**	19 58 22.5	-1.0	
	baz=312								
HDIL	**Hopedale**	55.00	67	*eP*		**P**	19 58 22.9	-0.5	
	comp=Z,31nm,0.8s								
T39A	**Clever**	55.01	73	P		**P**	19 58 21.7	-1.9	
	baz=313,SNR=10.0								
W37B	**Quinton**	55.07	76	P		**P**	19 58 23.4	-0.6	
	baz=313,SNR=7.7								
233A	**Rising Star**	55.12	81	P		**P**	19 58 23.8	-0.6	
	baz=314								
HHAR	**Hobbs**	55.18	74	*eP*		**P**	19 58 22.9	-1.9	
	comp=Z,6.6nm,0.8s								
V38A	**Canehill**	55.18	75	P		**P**	19 58 23.6	-1.3	
	baz=313,SNR=7.6								
134A	**White-Moore Ra**	55.23	80	P		**P**	19 58 24.6	-0.7	
	baz=314								
R41A	**Rosebud**	55.32	71	P		**P**	19 58 24.0	-1.8	
	baz=312,SNR=8.3								
U39A	**Green Forest**	55.38	74	P		**P**	19 58 24.4	-1.9	
	baz=313,SNR=6.0								
Q42A	**Golden Eagle**	55.39	69	P		**P**	19 58 25.3	-1.0	
	baz=312								
Y36A	**Durant**	55.40	78	P		**P**	19 58 25.7	-0.7	
	baz=314								
T40A	**Mansfield**	55.42	72	P		**P**	19 58 24.5	-2.1	
	baz=313,SNR=6.4								
X37A	**Clayton**	55.48	76	P		**P**	19 58 26.2	-0.8	
	baz=313,SNR=6.2								
P43A	**Skaggs, Pawnee**	55.48	68	P		**P**	19 58 26.0	-0.9	
	baz=312								
S41A	**Jillco Farms,**	55.58	71	P		**P**	19 58 25.7	-2.0	
	baz=313,SNR=12								
234A	**Clairette**	55.59	81	P		**P**	19 58 27.1	-0.7	
	baz=314								
JCT	**Junction City**	55.65	83	P		**P**	19 58 27.5	-0.8	
	baz=315								
JCT	**Junction City**	55.65	83	*eP*		**P**	19 58 27.8	-0.5	
JCT				pmax		pmax			
	comp=Z,10.0nm,0.9s								
JCT	**Junction City**	55.65	83	*eP*		**P**	19 58 27.8	-0.5	
	comp=Z,8.8nm,0.9s								
V39A	**Pettigrew**	55.65	74	P		**P**	19 58 26.8	-1.5	
	baz=313								
W38A	**Poteau**	55.66	75	P		**P**	19 58 27.6	-0.6	
	baz=313,SNR=8.0								
R42A	**Luebbering**	55.67	70	P		**P**	19 58 26.7	-1.6	
	baz=313								
X38A	**Whitesboro**	55.75	76	P		**P**	19 58 28.2	-0.7	
	baz=314								
U40A	**Yellville**	55.77	73	P		**P**	19 58 26.9	-2.2	
	baz=313,SNR=13								
Q43A	**New Douglas**	55.85	69	P		**P**	19 58 28.1	-1.4	
	baz=312,SNR=8.0								
433A	**Art**	55.89	82	P		**P**	19 58 28.9	-1.1	
	baz=315								
T41A	**Mountain View**	55.94	72	P		**P**	19 58 28.1	-2.1	
	baz=313								
334A	**Lometa**	56.00	81	P		**P**	19 58 30.2	-0.6	
	baz=315,SNR=8.6								
W39A	**Magazine**	56.01	75	P		**P**	19 58 29.7	-1.0	
	baz=313								
S42A	**Caledonia**	56.01	71	P		**P**	19 58 28.9	-1.8	
	baz=313,SNR=5.8								
WHTX	**Lake Whitney,**	56.02	80	P		**P**	19 58 30.3	-0.6	
	baz=314								
P44A	**Sand Creek, Wi**	56.12	68	P		**P**	19 58 30.5	-1.0	
	baz=313,SNR=5.9								
V40A	**Witts Springs**	56.16	74	P		**P**	19 58 30.0	-1.9	
	baz=313,SNR=9.8								
R43A	**Red Bud**	56.17	70	P		**P**	19 58 30.4	-1.5	
	baz=313,SNR=9.6								
Q44A	**Meyer Farm, Va**	56.27	68	P		**P**	19 58 31.5	-1.0	
	baz=313								
VLDQ	**Val d'Or**	56.27	53	*eP*		**P**	19 58 31.3	-1.1	
	comp=Z,19nm,1.1s								
X39A	**Fountain Ranch**	56.28	76	P		**P**	19 58 32.0	-0.8	
	baz=314,SNR=12								
U41A	**Viola**	56.33	73	P		**P**	19 58 31.0	-2.0	
	baz=313,SNR=6.7								
T42A	**Van Buren**	56.34	71	P		**P**	19 58 30.6	-2.5	
	baz=313,SNR=5.6								
434A	**Burnet**	56.35	82	P		**P**	19 58 32.5	-0.8	
	baz=315,SNR=7.7								
SFIN	**Lafayette**	56.36	66	P		**P**	19 58 31.6	-1.6	
	baz=313								
SFIN	**Lafayette**	56.36	66	*eP*		**P**	19 58 31.8	-1.3	
	comp=Z,44nm,1.4s								
W40A	**Ferguson Farm,**	56.44	74	P		**P**	19 58 32.8	-1.0	
	baz=314								
SCHQ	**Schefferville**	56.50	42	P		**P**	19 58 33.3	-0.7	
	comp=Z,5.8nm,0.7s,baz=275,slow=12,SNR=2.3								
SCHQ				LR		LR	20 23 55.8		
	comp=Z,151nm,19.5s,baz=9.5,slow=37								
S43A	**Fulton Ridge,**	56.56	70	P		**P**	19 58 33.4	-1.3	
	baz=313,SNR=17								
V41A	**Mountainview**	56.57	73	P		**P**	19 58 33.0	-1.8	
	baz=314,SNR=8.7								
MIAR	**Mount Ida**	56.58	75	P		**P**	19 58 34.3	-0.5	
	baz=314,SNR=11								
MIAR	**Mount Ida**	56.58	75	*eP*		**P**	19 58 34.3	-0.5	
MIAR				pmax		pmax			
	comp=Z,16nm,0.9s								
MIAR	**Mount Ida**	56.58	75	*eP*		**P**	19 58 34.3	-0.5	
	comp=Z,16nm,0.9s								
R44A	**Waltonville**	56.68	69	P		**P**	19 58 34.3	-1.1	
	baz=313								
ZALV	**Zalesovo Beam**	56.68	317	P		**P**	19 58 34.8	-0.4	
	comp=Z,4.0nm,0.7s,baz=42,slow=7.1,SNR=16								
ZALV				PcP		**PcP**	19 59 31.3	+0.5	
	comp=Z,6.3nm,0.7s,baz=29,slow=4.1,SNR=8.9								
ZALV				ScP		**ScP**	**20 03 22.5**	**-3.0**	
	comp=Z,0.4nm,0.4s,baz=42,slow=4.5,SNR=2.5								
ZALV				LR		LR	20 26 50.4		
	comp=Z,117nm,18.3s,baz=70,slow=40								
NVS	**Novosibirsk**	56.71	318	↓*iP*		**P**	19 58 35.4	-0.1	
NVS				*e*			19 59 30.9		
NVS				pmax		pmax			
	comp=Z,13nm,0.9s			

WCI pmax pmax
comp=Z,41nm,0.8s
WCI Wyandotte Cave 58.29 67 *eP* **P 19 58 45.8 -1.0**
comp=Z,41nm,0.8s
439A Center Grove, 58.49 79 P **P 19 58 48.5 +0.2**
baz=315
W45A Hickory Valley 58.75 72 P **P 19 58 49.6 -0.5**
baz=314
ACSO Alum Creek Sta 58.76 64 *eP* **P 19 58 49.2 -0.8**
comp=Z,103nm,0.8s
WVT Waverly 58.86 70 *eP* **P 19 58 50.2 -0.6**
WVT pmax pmax
comp=Z,11nm,0.7s
WVT Waverly 58.86 70 *eP* **P 19 58 50.2 -0.6**
comp=Z,11nm,0.7s
OXF Oxford 59.07 72 *eP* **P 19 58 52.1 -0.2**
OXF pmax pmax
comp=Z,47nm,0.8s
OXF Oxford 59.07 72 *eP* **P 19 58 52.1 -0.2**
comp=Z,46nm,0.8s
GTA Gaotai 59.39 296 ⇑P **P 19 58 53.9 -0.7**
GTA pP pP 19 59 01.3 -7.8
GTA sP sP 19 59 05.2 -10
GTA S **S 20 06 57.0 -2.5**
GTA sS pS 20 07 14.6 -1.7
GTA SS **SS 20 10 53.6 -0.7**
GTA pmax pmax
comp=Z,12nm,1.0s
GTA pmax pmax
comp=Z,100nm,5.2s
GTA LR LR
comp=Z,220nm,18.1s
GTA LR LR
comp=Z,290nm,17.3s
GTA LR LR
comp=Z,290nm,17.1s
LZH Lanzhou 59.43 291 *eP* **P 19 58 55.6 +0.7**
LZH pP pP 19 59 07.6 -1.8
LZH sP sP 19 59 12.5 -2.9
LZH pmax pmax
comp=Z,52nm,1.0s
LZH pmax pmax
comp=Z,220nm,6.0s
LZH LR LR
comp=Z,630nm,18.4s
LZH LR LR
comp=Z,440nm,18.8s
M54A Oil Creek Stat 59.67 60 P **P 19 58 56.1 -0.2**
baz=314
Y46A Houston 59.84 73 P **P 19 58 56.7 -0.9**
baz=315
ENH Enshi 60.20 282 *eP* **P 19 58 59.3 -0.9**
comp=Z,62nm,1.8s
Y47A UCPARC, Winfie 60.41 72 P **P 19 59 00.3 -1.2**
baz=315,SNR=6.3
Z47A Carrollton 60.78 73 P **P 19 59 03.0 -1.0**
baz=316,SNR=5.5
Z48A Northport 60.96 72 P **P 19 59 04.0 -1.3**
baz=316,SNR=5.5
147A Livingston 61.04 73 P **P 19 59 04.9 -0.9**
baz=316
SSPA Standing Stone 61.24 60 *eP* **P 19 59 07.0 -0.1**
comp=Z,14nm,0.8s
247A Quitman 61.28 74 P **P 19 59 06.8 -0.6**
baz=316
ACCN Adirondack Com 61.47 55 *eP* **P 19 59 08.9 +0.4**
comp=Z,12nm,1.0s
KURK Kurchatov 61.64 317 *ce*P **P 19 59 09.4 -0.2**
KURK pmax pmax
comp=Z,95nm,0.8s
KURK Kurchatov 61.64 317 *eP* **P 19 59 09.6 +0.1**
comp=Z,24nm,0.8s
KURK PcP **PcP 19 59 50.9 +0.2**
KURBB Kurchatov Arra 61.75 317 P **P 19 59 10.4 +0.1**
comp=Z,19nm,0.7s,baz=44,slow=7.1,SNR=135
KURBB PcP **PcP 19 59 50.9 -0.2**
comp=Z,3.3nm,0.8s,baz=42,slow=5.3,SNR=6.1
347A Saraland 61.79 74 P **P 19 59 10.3 -0.5**
baz=316
OUL Oulu 62.33 352 P **P 19 59 13.6 -0.3**
OUL pmax pmax
comp=Z,19nm,1.0s
LUPA Lehigh Univers 62.60 59 *eP* **P 19 59 15.9 -0.3**
comp=Z,13nm,0.7s
WMQ Urumqi 62.61 307 P **P 19 59 17.0 +0.7**
WMQ pP pP 19 59 29.8 -1.0
WMQ sP sP 19 59 34.0 -2.8
WMQ pmax pmax
comp=Z,13nm,0.8s
WMQ pmax pmax
comp=Z,41nm,3.9s
WMQ LR LR
comp=Z,110nm,18.3s
WMQ LR LR
comp=Z,87nm,22.3s
MKAR Makanchi Array 62.98 312 *eP* **P 19 59 17.8 -0.9**
MKAR pmax pmax
comp=Z,51nm,0.6s
MKAR Makanchi Array 62.98 312 *eP* **P 19 59 17.8 -0.9**
comp=Z,51nm,0.6s
BVAR Borovoye Array 63.10 323 P **P 19 59 19.6 +0.4**
comp=Z,16nm,0.5s,baz=53,slow=6.8,SNR=77
BRVK Borovoye 63.11 323 *c iP* **P 19 59 19.5 +0.2**
BRVK pmax pmax
comp=Z,39nm,1.3s
MAKZ Makanchi 63.11 312 *eP* **P 19 59 18.5 -1.0**
MAKZ pmax pmax
comp=Z,9.0nm,0.8s
MAKZ Makanchi 63.11 312 *eP* **P 19 59 18.5 -1.0**
comp=Z,9.2nm,0.8s
CD2 Chengdu 63.17 286 ⇑*iP* **P 19 59 20.4 +0.3**
CD2 S **S 20 07 45.6 -1.9**
CD2 SS **SS 20 11 54.1 +0.4**
CD2 pmax pmax
comp=Z,50nm,1.0s
CD2 LR LR
comp=Z,270nm,15.5s
CD2 LR LR
comp=Z,240nm,15.5s
SVE Sverdlovsk 63.25 331 *eP* **P 19 59 19.6 -0.6**
SVE pmax pmax
comp=Z,8.0nm,0.6s
KMSC Kings Mountain 63.28 67 P **P 19 59 20.1 -0.6**
baz=316
GOGA Godfrey 63.31 69 *eP* **P 19 59 20.0 -1.0**
GOGA pmax pmax
comp=Z,13nm,0.8s
GOGA Godfrey 63.31 69 *eP* **P 19 59 20.0 -1.0**
comp=Z,13nm,0.8s
WES Weston 63.38 55 *eP* **P 19 59 23.5 +2.2**
WES pmax pmax
comp=Z,25nm,0.8s
WES Weston 63.38 55 *eP* **P 19 59 23.5 +2.2**
comp=Z,25nm,0.8s
LMN Caledonia Moun 63.94 48 *eP* **P 19 59 24.9 0.0**
comp=Z,28nm,1.0s
JSC Jenkinsville 63.95 67 *eP* **P 19 59 25.1 0.0**
JSC pmax pmax
comp=Z,18nm,0.7s
JSC Jenkinsville 63.95 67 *eP* **P 19 59 25.1 0.0**
comp=Z,18nm,0.7s
ARU Arti 64.20 332 P **P 19 59 26.0 -0.5**
comp=Z,10nm,0.5s,baz=12,slow=2.9,SNR=32
ARU Arti 64.20 332 *c iP* **P 19 59 25.7 -0.7**
ARU 19 59 57.9
ARU 20 01 44.0
ARU S **S 20 08 00.8 +1.4**
ARU 20 09 12.3
ARU SS **SS 20 12 07.5 -0.8**
ARU pmax pmax
comp=Z,13nm,0.6s
ARU Arti 64.20 332 *eP* **P 19 59 25.5 -1.0**
comp=Z,15nm,0.6s
KLMR Klimovskoe 64.64 344 *eP* **P 19 59 27.4 -1.8**
KLMR *e* 20 00 01.6
KLMR pmax pmax
comp=Z,10.0nm,1.5s
GYA Guiyang 64.67 281 ⇑*iP* **P 19 59 30.1 -0.1**
GYA pP pP 19 59 43.2 -1.6
GYA PcP **PcP 20 00 05.4 +1.8**
GYA PP **PP 20 01 55.8 +3.2**
GYA S **S 20 08 07.0 +0.6**
GYA sS pS 20 08 25.7 +1.8
GYA SKS **SKSac 20 09 19.2 -1.0**
GYA pmax pmax
comp=Z,20nm,0.8s
GYA pmax pmax
comp=Z,120nm,5.6s
NHSC New Hope 65.42 67 *eP* **P 19 59 35.4 +0.7**
comp=Z,51nm,0.9s
FINES FINESS Array B 65.89 351 P **P 19 59 36.2 -1.1**
comp=Z,2.8nm,0.6s,baz=9.7,slow=7.2,SNR=23
FINES PcP **PcP 20 00 06.6 -1.2**
comp=Z,3.1nm,0.6s,baz=46,slow=8.2,SNR=5.0
FINES LR LR 20 32 30.0
comp=Z,84nm,18.6s,baz=4.0,slow=40
TAOE Nuku Hiva Isla 66.46 146 *e*LR LR 20 19 54.3
comp=Z,384nm,24.5s
TAOE Nuku Hiva Isla 66.46 146 *e*T T 21 12 05.5
comp=Z,36nm,0.2s
NB2 NORSAR Subarra 67.14 359 P **P 19 59 44.8 -0.6**
NB2 pmax pmax
comp=Z,3.0nm,0.6s
NB2 NORSAR Subarra 67.14 359 P **P 19 59 44.9 -0.5**
comp=Z,3.2nm,0.6s,baz=1.8,slow=6.5
NB2 NORSAR Subarra 67.14 359 P **P 19 59 44.8 -0.6**
comp=Z,3.6nm,0.6s,baz=1.6,slow=6.5
NOA NORSAR Array B 67.14 359 P **P 19 59 44.9 -0.5**
comp=Z,2.8nm,0.6s,baz=1.8,slow=6.3,SNR=16
NOA LR LR 20 31 00.1
comp=Z,18nm,18.0s,baz=340,slow=38
JAY Jayapura 67.70 233 P **P 19 59 51.8 +2.3**
comp=Z,0.7nm,0.9s,baz=270,slow=23,SNR=4.1
KMI Kunming 68.03 283 P **P 19 59 52.6 +0.8**
KMI pmax pmax
comp=Z,32nm,1.2s
VSU Vasula 68.75 350 *ce*P **P 19 59 55.0 -0.4**
VSU pmax pmax
comp=Z,36nm,0.7s
FRU Bishkek 69.50 314 *eP* **P 20 00 01.0 +0.6**
AKTO Aktyubinsk 69.52 329 P **P 20 00 00.2 -0.2**
comp=Z,21nm,0.6s,baz=46,slow=7.1,SNR=98
AAK Ala-Archa 69.71 314 P **P 20 00 02.1 +0.2**
comp=Z,16nm,0.7s,baz=96,slow=2.5,SNR=34
AAK Ala-Archa 69.71 314 *c iP* **P 20 00 02.0 +0.1**
AAK pmax pmax
comp=Z,43nm,1.0s
ABKAR Akbulak array 69.91 327 *eP* **P 20 00 02.1 -0.7**
comp=Z,69nm,0.6s
SLVN Son La 70.17 279 *eP* **P 20 00 04.5 -0.4**
comp=Z,30nm,1.5s
OBN Obninsk 70.59 343 ⇓*eP* **P 20 00 06.1 -0.7**
OBN *i* 20 00 27.9
OBN pmax pmax
comp=Z,5.0nm,0.7s
OBN MLR MLR
comp=Z,89nm,20.0s
MNAS Manas 70.70 315 P **P 20 00 08.3 +0.3**
MNAS pmax pmax
comp=Z,9.0nm,0.8s
KKAR Karatay Array 71.05 317 *eP* **P 20 00 09.1 -0.8**
KKAR pmax pmax
comp=Z,52nm,0.7s
KKAR Karatay Array 71.05 317 *eP* **P 20 00 09.1 -0.8**
comp=Z,52nm,0.7s
LSA Lhasa 71.34 294 *eP* **P 20 00 13.2 +0.8**
LSA pmax pmax
comp=Z,31nm,0.8s
LSA Lhasa 71.34 294 *eP* **P 20 00 13.2 +0.8**
comp=Z,31nm,0.8s
KSH Kashi 71.53 311 P **P 20 00 16.1 +3.1**
KSH pP pP 20 00 26.0 -1.8
KSH PP **PP 20 02 57.1 +5.5**
KSH S **S 20 09 30.3 +2.5**
KSH sS SKiKP 20 09 47.6 +0.5
KSH SS **SS 20 14 07.5 +4.9**
KSH pmax pmax
comp=Z,21nm,0.7s
KSH LR LR
comp=Z,85nm,5.4s
KSH LR LR
comp=Z,120nm,4.4s
KSH LR LR
comp=Z,120nm,7.0s
PPT Papeete 72.01 158 LR LR 20 24 32.4
comp=Z,117nm,19.8s,baz=0.5,slow=30
PPT2 Papeete2 72.03 158 *e*LR LR 20 22 08.8
comp=Z,122nm,22.8s
TIAR Tiarei 72.05 158 *e*T T 21 19 00.4
comp=Z,3.1nm,0.2s
EKA Eskdalemuir Ar 72.45 7 P **P 20 00 17.9 -0.1**
comp=Z,2.5nm,0.6s,baz=357,slow=4.8,SNR=8.8
NONG Nongkai 73.11 278 P **P 20 00 23.2 +0.7**
comp=Z,29nm,0.8s
SKNT Sakolnakorn 73.43 276 P **P 20 00 25.5 +1.1**
comp=Z,35nm,1.1s
VSR Storozhevoye 73.79 340 *eP* **P 20 00 24.2 -1.8**
VSR pmax pmax
comp=Z,8.0nm,0.6s
UBPT Khong Chiam 73.82 274 P **P 20 00 30.3 +3.6**
comp=Z,26nm,1.0s,comp=Z,1μm
SHL Shillong 74.09 291 *eP* **P 20 00 30.5 +2.1**
LAMP Lampang 74.90 281 P **P 20 00 37.5 +4.6**
comp=Z,6.8nm,1.0s
UTTA Uttaradit 74.93 280 P **P 20 00 34.5 +1.4**
comp=Z,8.1nm,0.8s
TAPN Taplejung 75.07 295 *eP* **P 20 00 34.2 0.0**
comp=Z,85nm,0.9s
CMMT Chiang Mai 75.09 281 P **P 20 00 34.4 +0.3**
comp=Z,15nm,1.3s
CHTO Chiang Mai 75.09 281 P **P 20 00 34.4 +0.3**
comp=Z,64nm,1.4s
CHTO Chiang Mai 75.09 281 *eP* **P 20 00 34.0 -0.1**
CHTO pmax pmax
comp=Z,39nm,1.5s
CHTO Chiang Mai 75.09 281 *eP* **P 20 00 34.0 -0.1**
comp=Z,39nm,1.5s
CMAR Chiang Mai Arr 75.36 281 P **P 20 00 35.9 +0.3**
comp=Z,7.4nm,0.6s,baz=25,slow=6.5,SNR=49
CMAR Chiang Mai Arr 75.36 281 *ce*P **P 20 00 36.0 +0.3**
CMAR pmax pmax
comp=Z,8.0nm,0.6s
CHAI Chaiyaphum 75.47 277 P **P 20 00 39.8 +3.5**
comp=Z,4.2nm,1.4s
PBKT Sadao Pong 75.58 278 P **P 20 00 38.4 +1.5**
comp=Z,15nm,1.1s
ODAN Odare 75.63 295 *eP* **P 20 00 37.2 -0.2**
comp=Z,29nm,0.9s
GUN Gumba 75.65 297 *eP* **P 20 00 37.6 0.0**
JIRN Jiri 75.67 297 *eP* **P 20 00 38.0 +0.2**
comp=Z,128nm,0.7s
RAMN Ramite 76.00 296 *eP* **P 20 00 39.5 0.0**
comp=Z,113nm,0.7s
AKASG Malin Array Be 76.03 347 P **P 20 00 37.5 -1.4**
comp=Z,2.8nm,0.6s,baz=11,slow=5.6,SNR=5.9
AKASG LR LR 20 35 35.2
comp=Z,81nm,21.9s,baz=340,slow=37
AKASG Malin Array Be 76.03 347 *ce*P **P 20 00 37.9 -1.0**
AKASG pmax pmax
comp=Z,3.0nm,0.6s
KIEV Kiev 76.04 347 *de*P **P 20 00 38.1 -0.9**
KIEV pmax pmax
comp=Z,8.0nm,1.0s
KIEV Kiev 76.04 347 *eP* **P 20 00 37.3 -1.6**
comp=Z,8.3nm,1.1s
KKN Kakani 76.07 297 *eP* **P 20 00 39.7 -0.1**
comp=Z,18nm,0.4s
PKIN Phulchoki 76.17 297 *eP* **P 20 00 40.4 -0.1**
comp=Z,36nm,0.8s
GKN Gorkha 76.26 298 *eP* **P 20 00 40.5 -0.3**
DMN Daman 76.31 297 *eP* **P 20 00 41.2 0.0**
CLL Collm 76.84 357 *eP* **P 20 00 44.0 +0.5**
CLL pmax pmax
comp=Z,5.0nm,0.8s
CLL Collm 76.84 357 *eP* **P 20 00 44.0 +0.5**
comp=Z,5.0nm,0.8s
CLL *i* 20 01 16.0
CLL Collm 76.84 357 *eP* **P 20 00 42.9 -0.6**
comp=Z,4.5nm,0.6s
PYUN Piuthan 77.07 299 *eP* **P 20 00 45.7 +0.2**
comp=Z,61nm,0.7s
NAYO Nakonayok 77.10 277 P **P 20 00 47.5 +2.0**
comp=Z,132nm,0.7s
BRG Berggiesshubel 77.25 356 *i* P **P 20 00 46.1 +0.4**
comp=Z,7.8nm,0.8s
BRG *e* 20 01 19.4
comp=Z,5.5nm,1.0s
BRG Berggiesshubel 77.25 356 *i* P **P 20 00 46.2 +0.4**
BRG pmax pmax
comp=Z,8.0nm,0.8s
MOX Moxa 77.55 358 P **P 20 00 48.3 +0.8**
MOX pmax pmax
comp=Z,8.0nm,1.7s
OJC Ojcow 77.55 353 *eP* **P 20 00 46.5 -1.0**
OJC pmax pmax
comp=Z,16nm,1.1s
OJC Ojcow 77.55 353 *eP* **P 20 00 46.5 -1.0**
comp=Z,16nm,1.1s
PVCC Panska Ves 77.57 356 *eP* **P 20 00 48.5 +0.9**
PVCC Panska Ves 77.57 356 *eP* **P 20 00 48.5 +0.9**
TBI Tubuai 77.62 159 *e*LR LR 20 24 32.5
comp=Z,149nm,26.2s,baz=347
TBI Tubuai 77.62 159 *e*T T 21 25 57.1
comp=Z,13nm,0.3s
DPC Dobruska-Polom 77.66 355 *eP* **P 20 00 48.4 +0.2**
DPC Dobruska-Polom 77.66 355 *eP* **P 20 00 48.4 +0.2**
PCI Palu 77.75 252 P **P 20 00 51.4 +2.3**
KWP Kalwaria Pacla 77.88 351 P **P 20 00 49.9 +0.5**
KRLC Kraliky 77.91 355 *eP* **P 20 00 49.4 -0.2**
KRLC Kraliky 77.91 355 *eP* **P 20 00 49.4 -0.2**
NKC Novy Kostel 77.94 357 *eP* **P 20 00 50.1 +0.4**
NKC Novy Kostel 77.94 357 ⇓*eP* **P 20 00 50.1 +0.4**
OKC Ostrava-Krasne 78.06 354 *eP* **P 20 00 50.3 0.0**
OKC Ostrava-Krasne 78.06 354 *eP* **P 20 00 50.3 0.0**
PRU Pruhonice 78.11 356 *eP* **P 20 00 51.2 +0.6**
PRU AMS AMS 20 39 50.0
comp=Z,100nm,17.4s
PRU Pruhonice 78.11 356 *eP* **P 20 00 51.2 +0.6**
PRU MLR MLR
comp=Z,100nm,17.4s
MORC Moravsky Berou 78.16 354 ⇓*iP* **P 20 00 51.7 +0.7**
MORC Moravsky Berou 78.16 354 *eP* **P 20 00 50.8 -0.2**
MORC pmax pmax
comp=Z,14nm,0.8s
MORC Moravsky Berou 78.16 354 *eP* **P 20 00 50.8 -0.2**
comp=Z,14nm,0.8s
GOPC GO Pecny, Ondr 78.17 356 *eP* **P 20 00 51.5 +0.5**
GOPC GO Pecny, Ondr 78.17 356 *eP* **P 20 00 51.5 +0.5**
STHS Stebnicka Huta 78.23 352 *eP* **P 20 00 52.5 +1.2**
STHS pmax pmax
comp=Z,4.0nm,0.7s
STHS Stebnicka Huta 78.23 352 *eP* **P 20 00 52.5 +1.2**
GRFO Grafenberg 78.51 358 *eP* **P 20 00 53.2 +0.3**
GRFO pmax pmax
comp=Z,17nm,1.3s
GRFO Grafenberg 78.51 358 *eP* **P 20 00 53.1 +0.3**
comp=Z,18nm,1.3s
LANS Liptovska Anna 78.64 353 *eP* **P 20 00 54.2 +0.5**
LANS Liptovska Anna 78.64 353 *eP* **P 20 00 54.2 +0.5**
SORM Soroca 78.66 347 ⇑*iP* **P 20 00 53.0 -0.7**
VRAC Vranov 78.68 355 *iP* **P 20 00 53.7 -0.1**
comp=Z,6.1nm,0.5s,baz=0.1,slow=6.2,SNR=8.2
VRAC Vranov 78.68 355 ⇑*iP* **P 20 00 54.4 +0.6**
GOF Gofitskoye 78.69 336 ⇑*eP* **P 20 00 54.7 +0.7**
GOF pmax pmax
comp=Z,31nm,0.9s
CRVS Cervenica-Dubn 78.72 351 *eP* **P 20 00 53.5 -0.5**
CRVS Cervenica-Dubn 78.72 351 *eP* **P 20 00 53.5 -0.5**
KHC Kasperske Hory 79.00 357 *eP* **P 20 00 56.0 +0.4**
KHC Kasperske Hory 79.00 357 *eP* **P 20 00 56.0 +0.4**
KHC Kasperske Hory 79.00 357 *eP* **P 20 00 54.4 -1.2**
comp=Z,2.5nm,0.8s
FLN La Foliniere 79.17 6 *eP* **P 20 00 55.7 -0.8**
KECS Kecovo 79.22 352 *eP* **P 20 00 57.7 +0.9**
KECS pmax pmax
comp=Z,2.0nm,1.0s
KECS Kecovo 79.22 352 *eP* **P 20 00 57.7 +0.9**
GERES GERESS Array B 79.28 356 P **P 20 00 57.1 -0.1**
comp=Z,2.0nm,0.6s,baz=5.7,slow=4.0,SNR=20
VYHS Vyhne 79.34 353 *eP* **P 20 00 57.9 +0.4**
VYHS pmax pmax
comp=Z,3.0nm,1.0s
VYHS Vyhne 79.34 353 *eP* **P 20 00 57.9 +0.4**
LDF La Druitiere 79.37 6 *eP* **P 20 00 56.6 -1.0**
LDF pmax pmax
comp=Z,5.0nm,0.6s
GRR Gorron 79.52 6 *eP* **P 20 00 57.7 -0.7**
GRR pmax pmax
comp=Z,23nm,1.5s
BURAR Bucovina Array 79.58 349 ⇑*iP* **P 20 00 58.4 -0.5**
BURAR Bucovina Array 79.58 349 P **P 20 00 58.4 -0.5**
SBUM Sibu 79.64 261 *eP* **P 20 00 56.2 -3.4**
comp=Z,11nm,1.4s
CDF Champ du Feu 79.81 1 *eP* **P 20 00 59.6 -0.5**
CDF pmax pmax
comp=Z,7.0nm,1.2s
KVAR Kislovodsk Arr 79.81 336 P **P 20 01 00.4 +0.2**
comp=Z,3.8nm,0.5s,baz=5.4,slow=7.8,SNR=4.9
KIV Kislovodsk 79.82 336 *de*P **P 20 01 00.6 +0.4**
KIV *i* 20 01 09.0
KIV pmax pmax
comp=Z,5.0nm,0.6s
KIV MLR MLR
comp=Z,81nm,17.0s
KIV Kislovodsk 79.82 336 *eP* **P 20 00 59.7 -0.5**
comp=Z,6.9nm,0.8s
BFO Black Forest 79.90 0 *i* P **P 20 01 01.1 +0.6**
BFO Black Forest 79.90 0 *eP* **P 20 00 60.0 -0.5**
comp=Z,9.9nm,1.4s
KBZ Khabaz 79.97 335 P **P 20 01 01.1 +0.2**
comp=Z,3.5nm,0.8s,baz=126,slow=3.1,SNR=9.7
KBZ LR LR 20 42 29.0
comp=Z,62nm,18.6s,baz=36,slow=40
CONA Conrad Observa 80.10 355 *eP* **P 20 01 01.8 +0.1**
comp=Z,13nm,1.4s,SNR=6.0
HINF Hinteralfeld 80.40 1 *eP* **P 20 01 02.6 -0.6**
HINF pmax pmax
comp=Z,2.0nm,0.6s
GEYT Alibeck 80.41 322 P **P 20 01 03.3 -0.2**
comp=Z,3.1nm,0.7s,baz=336,slow=3.3,SNR=13
GEYT LR LR 20 40 42.3
comp=Z,120nm,18.7s,baz=20,slow=39
ZEI Tsey 80.59 334 *eP* **P 20 01 02.8 -1.7**
ZEI pmax pmax
comp=Z,15nm,0.4s
DRGR 80.68 350 ⇓*iP* **P 20 01 04.3 -0.5**
RETA Reutte 80.72 358 *eP* **P 20 01 05.5 +0.5**
comp=Z,6.5nm,1.1s
CTA Charters Tower 80.79 220 P **P 20 01 06.9 +1.4**
comp=Z,4.2nm,0.9s,baz=11,slow=5.2,SNR=2.2
WATA Walderalm 80.86 358 *i* P **P 20 01 06.3 +0.5**
comp=Z,6.7nm,0.9s
MOTA Moosalm 80.86 358 *i* P **P 20 01 06.1 +0.2**
comp=Z,12nm,1.2s,SNR=6.2
KBA Koelnbreinsper 81.06 357 *eP* **P 20 01 07.9 +0.9**
comp=Z,16nm,0.8s
KBA Koelnbreinsper 81.06 357 P **P 20 01 08.0 +1.1**
FETA Feichten 81.19 358 *i* P **P 20 01 08.4 +0.8**
comp=Z,11nm,1.0s,SNR=7.5
AVF Avril sur Loir 81.34 4 *eP* **P 20 01 07.6 -0.6**
AVF pmax pmax
comp=Z,8.0nm,0.8s
MTN Manton Dam 81.35 236 *eP* **P 20 01 07.9 -0.7**
comp=Z,16nm,0.8s
SOKA Soboth 81.39 355 *eP* **P 20 01 09.2 +0.6**
comp=Z,8.5nm,0.9s,SNR=5.8
ABTA Abfaltersbach 81.42 357 *i* P **P 20 01 09.2 +0.4**
comp=Z,8.4nm,1.2s
DAVOX Davos/Dischmat 81.44 359 P **P 20 01 09.6 +0.7**
comp=Z,4.6nm,0.8s,baz=8.1,slow=8.3,SNR=5.4
TLCR 81.47 346 ⇓*iP* **P 20 01 09.4 +0.5**
RKT Rikitea 81.48 146 *e*LR LR 20 26 29.2
comp=Z,224nm,31.2s
RKT Rikitea 81.48 146 *e*T T 21 30 51.9
comp=Z,2.0nm,0.3s
KSM Kuching 81.58 262 *eP* **P 20 01 12.8 +2.9**
comp=Z,14nm,1.0s
CFR Carcaliu 81.58 346 ⇑*iP* **P 20 01 09.5 0.0**
MLR Muntele Rosu 81.58 348 ⇓*iP* **P 20 01 10.5 +0.8**
OBKA Obir 81.58 356 *eP* **P 20 01 09.9 +0.3**
comp=Z,3.0nm,0.6s
FUORN Ofenpass-Fuorn 81.60 359 *eP* **P 20 01 10.2 +0.3**
comp=Z,13nm,1.3s
VOIR 81.75 348 ⇑*iP* **P 20 01 11.0 +0.5**
VOIR 81.75 348 P **P 20 01 10.9 +0.5**
TUE Stuetta 81.75 359 *eP* **P 20 01 10.9 +0.3**
comp=Z,7.2nm,0.9s
TCF Toulx Ste Croi 81.79 4 *eP* **P 20 01 10.0 -0.6**
TCF pmax pmax
comp=Z,5.0nm,0.9s
ARR Arges 81.87 349 ⇓*iP* **P 20 01 12.2 +1.1**
BZS Buzias 81.96 351 ⇓*iP* **P 20 01 11.5 0.0**
AKH Akhalkalaki 81.98 334 ⇑*iP* **P 20 01 13.2 +1.3**
LPL La Plagne 82.70 1 *eP* **P 20 01 19.0 +3.4**
LPL pmax pmax
comp=Z,10.0nm,1.5s
MDVR Moldovita 82.77 351 ⇓*iP* **P 20 01 15.2 -0.6**
SURT Suratani 82.80 275 P **P 20 01 18.2 +1.9**

	comp=Z,10nm,1.1s								
TRTT	**Trang**	**83.13**	**274**	P		**P**		**20 01 20.3**	**+2.3**
	comp=Z,44nm,1.0s								
CAF	**Calviac**	**83.14**	**5**	*e*P		**P**		**20 01 17.6**	**-0.1**
CAF				pmax	pmax				
	comp=Z,6.0nm,1.0s								
BNI	**Bardonecchia**	**83.16**	**1**	*e*P		**P**		**20 01 19.0**	**+1.0**
BNI				pmax	pmax				
	comp=Z,8.0nm,1.0s								
BNI	**Bardonecchia**	**83.16**	**1**	*e*P		**P**		**20 01 18.9**	**+1.0**
	comp=Z,8.3nm,1.0s								
ORIF	**Oris-en-Rattie**	**83.28**	**2**	*e*P		**P**		**20 01 19.3**	**+0.8**
ORIF				pmax	pmax				
	comp=Z,4.0nm,1.0s								
VIVF	**Saint-Julien-l**	**83.32**	**3**	*e*P		**P**		**20 01 18.5**	**-0.1**
VIVF				pmax	pmax				
	comp=Z,2.0nm,0.5s								
MBDF	**Montbardon**	**83.49**	**1**	*e*P		**P**		**20 01 20.6**	**+1.0**
MBDF				pmax	pmax				
	comp=Z,16nm,1.3s								
KULM	**Kulim**	**84.52**	**272**	*e*P		**P**		**20 01 26.8**	**+1.7**
	comp=Z,22nm,0.9s								
MTLF	**Montolieu**	**84.73**	**5**	*e*P		**P**		**20 01 25.7**	**-0.1**
MTLF				pmax	pmax				
	comp=Z,5.0nm,0.8s								
SJPF	**Ste Jean**	**84.74**	**7**	*e*P		**P**		**20 01 26.1**	**+0.2**
SJPF				pmax	pmax				
	comp=Z,8.0nm,0.8s								
EPF	**Esparros**	**84.94**	**6**	*e*P		**P**		**20 01 26.0**	**-0.9**
EPF				pmax	pmax				
	comp=Z,4.0nm,0.8s								
PDG	**Podgorica**	**85.33**	**352⇑**	*i*P		**P**		**20 01 28.7**	**-0.1**
SKO	**Skopje**	**85.58**	**350**	P		**P**		**20 01 32.0**	**+1.9**
SKO				pmax	pmax				
	comp=Z,1.0nm,1.1s								
PGF	**Pioggiola**	**85.68**	**360**	*e*P		**P**		**20 01 30.3**	**-0.4**
PGF				pmax	pmax				
	comp=Z,21nm,1.0s								
WRA	**Warramunga Arr**	**85.84**	**230**	P		**P**		**20 01 30.4**	**-1.1**
	comp=Z,2.9nm,1.0s,baz=36,slow=6.0,SNR=8.8								
BRTR	**Keskin Array B**	**85.91**	**341**	P		**P**		**20 01 30.5**	**-1.4**
	comp=Z,1.3nm,0.7s,baz=26,slow=3.1,SNR=6.6								
BRTR				LR		LR		20 43 36.6	
	comp=Z,39nm,21.8s,baz=343,slow=38								
BRTR	**Keskin Array B**	**85.91**	**341**	*i* P		**P**		**20 01 32.0**	**+0.1**
BRTR				pmax	pmax				
	comp=Z,1.0nm,0.7s								
URIC	**Uribia, Colomb**	**86.63**	**75**	*e*P		**P**		**20 01 33.8**	**-1.8**
PSI	**Prapat**	**87.53**	**271**	P		**P**		**20 01 40.3**	**+0.2**
	comp=Z,42nm,0.8s,baz=9.7,slow=2.9,SNR=37								
PSI	**Prapat**	**87.53**	**271**	*e*P		**P**		**20 01 39.8**	**-0.3**
	comp=Z,57nm,0.9s								
ESDC	**Sonseca Array**	**87.91**	**10**	P		**P**		**20 01 41.2**	**-0.3**
	comp=Z,3.7nm,0.7s,baz=349,slow=4.6,SNR=21								
FITZ	**Fitzroy Crossi**	**88.61**	**238**	P		**P**		**20 01 44.7**	**-0.1**
	comp=Z,2.1nm,0.5s,baz=17,slow=5.1,SNR=7.8								
ASAR	**Alice Springs**	**89.25**	**228**	P		**P**		**20 01 47.3**	**-0.5**
	comp=Z,6.4nm,0.7s,baz=30,slow=4.6,SNR=33								
ASAR				LR		LR		20 37 29.3	
	comp=Z,87nm,19.6s,baz=25,slow=33								
GUYC	**Guyana, Colomb**	**89.68**	**82**	*e*P		**P**		**20 01 50.1**	**-0.5**
NORC	**Norcasia**	**89.73**	**81**	*e*P		**P**		**20 01 50.1**	**-0.3**
BARC	**Barichara**	**89.94**	**79**	*e*P		**P**		**20 01 50.6**	**-1.0**
RUSC	**La Rusia**	**90.56**	**80**	*e*P		**P**		**20 01 52.9**	**-1.9**
MMAI	**Mount Meron Ar**	**91.97**	**338**	P		**P**		**20 02 00.2**	**-0.4**
	comp=Z,2.6nm,0.7s,baz=348,slow=6.2,SNR=4.2								
ASF	**Jabal al Asfar**	**92.42**	**336**	P		**P**		**20 02 01.2**	**-1.5**
	comp=Z,1.3nm,0.5s,baz=11,slow=5.2,SNR=3.5								
TORD	**Torodi Ar. Bea**	**114.71**	**7**	PKP		PKPdf		20 07 31.6	-0.7
	comp=Z,0.9nm,0.9s,baz=346,slow=2.1,SNR=13								
TORD				PKPbc		**PKPdf**		**20 18 25.2**	**-4.5**
	comp=Z,0.6nm,0.7s,baz=163,slow=2.5,SNR=3.7								
KMBO	**Kilima Mbogo**	**123.73**	**325**	PKP		**PKPdf**		**20 07 50.8**	**+0.8**
	comp=Z,0.7nm,0.3s,baz=84,slow=19,SNR=2.6								
VNDA	**Vanda**	**130.46**	**187**	SKPbc		**SKPab**		**20 11 18.4**	**-0.9**
	comp=Z,1.0nm,1.0s,baz=345,slow=2.7,SNR=3.6								
TSUM	**Tsumeb**	**146.35**	**344**	*e*PKPdf		**PKPbc**		**20 08 32.2**	**-0.4**
MAW	**Mawson**	**149.88**	**218**	PKPbc		**PKPbc**		**20 08 39.5**	**-0.9**
	comp=Z,4.6nm,0.8s,baz=63,slow=2.3,SNR=4.0								
BOSA	**Boshof**	**153.37**	**326**	PKPbc		**PKPbc**		**20 08 50.2**	**+0.4**
	comp=Z,4.4nm,0.6s,baz=11,slow=2.5,SNR=12								

*ISCJB **02** 19:54:01.3±0.6, 18°.32S±0°.07×167°.62E±0°.10, h29km, mb4.1/9, MS3.7/4, Error ellipse: s-maj=13.4km s-min=9.2km az=17.9*
*NEIC **02** 19:54:03.9±0.7, 18°.27S×167°.57E, h35km, mb4.0/1, Error ellipse: s-maj=16.4km s-min=14.0km az=145.0*
*IDC **02** 19:54:06.9±4.8, 18°.69S×168°.07E, h88km±54km, mb3.8/10, mb1 3.9/11, mb1mx3.7/42, mbtmp4.2/11, ML3.6/1, MS3.8/5, Ms1 3.7/5, ms1mx3.3/31, Error ellipse: s-maj=55.7km s-min=25.3km az=146.0*

ISC 02 19:54:02.1±1.0, 18°.32S±0°.10×167°.8E±0°.2, h29km, n17, σ0°.94/13, mb4.0/9, MS3.7/4, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**3.95**	**199**	P	**Pn**	**19 55 02.2**	**+1.4**
	4.9nm,0.3s,baz=331,slow=7.4,SNR=33						
DZM				S	**Sn**	**19 55 44.8**	**-1.4**
	9.3nm,0.3s,baz=313,slow=23,SNR=9.6						
MSVF	**Nonsavu**	**9.75**	**88**	Pn	Pn	19 56 27.0	+6.4
	54nm,1.1s						
HNR	**Honiara**	**11.68**	**318**	LR	LR	20 00 59.3	
	comp=Z,162nm,20.2s,baz=174,slow=34						
CTA	**Charters Tower**	**20.44**	**262**	P	Pn	19 58 39.6	0.0
	8.7nm,1.1s,baz=82,slow=15,SNR=3.2						
PMG	**Port Moresby**	**21.91**	**291**	LR	LR	20 06 34.4	
	comp=Z,246nm,20.1s,baz=118,slow=34						
SNZO	**South Karori**	**25.66**	**167**	*e*P	**P**	**19 59 11.3**	**+0.3**
RPZ	**Rata Peaks**	**25.46**	**175**	LR	LR	20 08 39.9	
	comp=Z,302nm,19.5s,baz=32,slow=35						
STKA	**Stephens Creek**	**27.23**	**235**	P	**P**	**19 59 42.9**	**-0.8**
	4.5nm,1.1s,baz=61,slow=12,SNR=2.8						
STKA				LR	LR	20 09 52.5	
	comp=Z,220nm,18.2s,baz=28,slow=35						
WRA	**Warramunga Arr**	**31.64**	**262**	P	**P**	**20 00 22.2**	**-0.8**
	0.9nm,0.9s,baz=88,slow=10,SNR=5.0						
ASAR	**Alice Springs**	**32.06**	**255**	P	**P**	**20 00 26.8**	**+0.1**
	1.2nm,0.6s,baz=84,slow=8.3,SNR=20						
ASAR				LR	LR	20 13 00.2	
	comp=Z,152nm,19.1s,baz=89,slow=35						
FITZ	**Fitzroy Crossi**	**40.00**	**263**	P	**P**	**20 01 35.2**	**+0.6**
	4.0nm,1.1s,baz=113,slow=6.7,SNR=3.9						
FITZ	**Fitzroy Crossi**	**40.00**	**263**	*e*P	**P**	**20 01 34.7**	**+0.1**
	2.4nm,0.8s						
PETK	**Petropavlovsk-**	**71.67**	**354**	P	**P**	**20 05 21.5**	**+0.6**
	3.3nm,0.8s,baz=167,slow=7.0,SNR=4.5						
KLR	**Kul'dur**	**74.49**	**336**	P	**P**	**20 05 37.8**	**+0.2**
	2.1nm,0.9s,baz=125,slow=6.0,SNR=3.6						
CMAR	**Chiang Mai Arr**	**76.90**	**295**	P	**P**	**20 05 52.6**	**+0.4**
	0.7nm,0.3s,baz=135,slow=4.1,SNR=4.3						
YAK	**Yakutsk**	**85.60**	**343**	P	**P**	**20 06 37.5**	**+0.2**
	3.5nm,0.5s,baz=151,slow=1.1,SNR=4.7						
ILAR	**Eielson Array**	**89.76**	**18**	P	**P**	**20 06 55.7**	**-1.6**
	0.6nm,0.8s,baz=231,slow=5.7,SNR=3.6						

*NIED **02** 19:56:00, 37°.50N×142°.80E, h8km, Mw3.7 Best double couple: M0=4.02000×10^14 NP1:φ=27.00000°, δ=12.00000°, λ=-100.00000°. NP2:φ=217.00000°, δ=78.00000°, λ=-88.00000°.*
*JMA **02** 19:56:21.3±0.2, 37°.53N×142°.76E, h38km, M3.8*
*IDC **02** 19:56:37.7±2.4, 37°.03N×141°.44E, h130km±22km, mb3.3/8, mb1 3.4/10, mb1mx3.2/63, mbtmp3.7/10, Error ellipse: s-maj=27.1km s-min=15.7km az=77.0*

ISC 02 19:56:20.3±3.7, 37°.52N±0°.05×142°.75E±0°.08, h14km±23km, n29, σ1°.77/33, mb3.5/8, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JIO	**Ouri**	**1.45**	**311**	P	**Pn**	**19 56 46.0**	**0.0**
JIO				*e*S	**Sn**	**19 57 03.6**	**-1.1**
JFK	**Kawauchi**	**1.50**	**265**	P	**Pn**	**19 56 46.4**	**-0.3**
JFK				S	**Sn**	**19 57 04.7**	**-1.3**
JMM	**Marumori**	**1.59**	**283**	P	**Pn**	**19 56 47.6**	**-0.3**
JMM				*e*S	**Sn**	**19 57 07.2**	**-1.0**
OFUJ	**Ofunato**	**1.77**	**332**	P	**Pn**	**19 56 50.2**	**-0.3**
OFUJ				*e*S	**Sn**	**19 57 11.4**	**-1.4**
JOU	**Okura**	**1.85**	**298**	P	**Pn**	**19 56 52.0**	**+0.4**
JOU				*e*S	**Sn**	**19 57 14.6**	**-0.1**
JMK	**Ichinoseki**	**1.87**	**320**	P	**Pn**	**19 56 52.0**	**+0.2**
JMK				*e*S	**Sn**	**19 57 14.5**	**-0.6**
JFT	**Otama**	**1.92**	**271**	P	**Pb**	**19 56 53.4**	**-1.6**
JFT				*e*S	**Sn**	**19 57 16.2**	**-0.1**
JYS	**Shirataka**	**2.23**	**289**	P	**Pn**	**19 56 57.5**	**+0.7**
JYS				*e*S	**Sn**	**19 57 24.3**	**+0.1**
JOM	**Ohasama**	**2.26**	**330**	P	**Pn**	**19 56 57.5**	**+0.3**
JYK	**Kaneyama**	**2.34**	**307**	P	**Pn**	**19 56 59.1**	**+0.8**
JYK				*e*S	**Sn**	**19 57 26.3**	**-0.5**
JRG	**Rokugo**	**2.50**	**319**	P	**Pn**	**19 57 01.8**	**+1.3**
JAG	**Ashikaga**	**2.85**	**248**	S	**Sn**	**19 57 40.4**	**+0.9**
MJAR	**Matsushiro Arr**	**3.76**	**256**	P	**Pn**	**19 57 20.3**	**+2.5**
	2.2nm,0.3s,baz=92,slow=16,SNR=10.0						
MJAR				S	**Sn**	**19 58 03.8**	**+1.9**
	1.4nm,0.3s,baz=207,slow=28,SNR=3.3						
MAT	**Matsushiro**	**3.76**	**256**	P	**Pn**	**19 57 20.4**	**+2.6**
MAT				*e*S	**Sn**	**19 57 56.9**	**-5.0**
JHJ	**Hachijo jima 2**	**5.01**	**210**	P	**Pn**	**19 57 37.3**	**+2.3**
	15nm,0.3s,baz=13,slow=18,SNR=2.6						
JHJ				S	**Sn**	**19 58 27.5**	**-5.3**
	11nm,0.3s,baz=258,slow=20,SNR=2.0						
H11N2	**WAKE ISLAND Hy**	**27.51**	**123**	T	T	20 30 58.0	
	baz=313						
H11N1	**WAKE ISLAND Hy**	**27.51**	**123**	T	T	20 30 58.3	
	baz=313						
H11N3	**WAKE ISLAND Hy**	**27.52**	**123**	T	T	20 30 58.0	
	baz=313						
H11S1	**WAKE ISLAND Hy**	**28.25**	**126**	T	T	20 31 57.3	
	baz=317						
H11S3	**WAKE ISLAND Hy**	**28.25**	**126**	T	T	20 31 58.6	
	baz=317						
H11S2	**WAKE ISLAND Hy**	**28.27**	**126**	T	T	20 31 56.4	
	baz=317						
SONM	**Songino Array**	**28.40**	**303**	P	**P**	**20 02 15.9**	**+1.6**
	0.5nm,0.7s,baz=96,slow=8.7,SNR=4.1						
ZALV	**Zalesovo Beam**	**42.38**	**312**	P	**P**	**20 04 13.5**	**-0.3**
	0.4nm,0.3s,baz=90,slow=5.8,SNR=2.3						
KURBB	**Kurchatov Arra**	**46.54**	**308**	P	**P**	**20 04 47.6**	**+0.4**
	1.0nm,0.5s,baz=84,slow=8.0,SNR=6.8						
ILAR	**Eielson Array**	**48.52**	**33**	P	P	20 05 13.6	+11
	1.0nm,0.8s,baz=264,slow=6.7,SNR=6.9						
BVAR	**Borovoye Array**	**51.03**	**312**	P	**P**	**20 05 22.3**	**+0.7**
	0.3nm,0.5s,baz=54,slow=7.3,SNR=2.1						
WRA	**Warramunga Arr**	**57.70**	**189**	P	**P**	**20 06 10.1**	**-0.3**
	1.4nm,0.9s,baz=10,slow=7.5,SNR=6.7						
ASAR	**Alice Springs**	**61.43**	**189**	P	**P**	**20 06 35.9**	**-0.2**
	0.3nm,0.8s,baz=17,slow=9.7,SNR=4.3						
PDAR	**Pinedale Array**	**76.57**	**46**	P	P	20 08 21.6	+11
	0.2nm,0.5s,baz=0.0,slow=2.0,SNR=2.4						

*ISCJB **02** 19:56:33.7±0.5, 50°.22N±0°.02×12°.52E±0°.03, h15km±5km, Error ellipse: s-maj=3.5km s-min=3.1km az=157.5*
*VIE **02** 19:56:34.4±0.5, 50°.25N×12°.52E, h10km, ML2.2/2, Error ellipse: s-maj=8.5km s-min=1.7km az=51.0*
*CSEM **02** 19:56:34.9±0.1, 50°.23N×12°.49E, h10km, ML2.8/8, Error ellipse: s-maj=1.8km s-min=1.3km az=43.0*
*BGR **02** 19:56:35.4±0.2, 50°.25N×12°.45E, h11km±1km, ML2.0/5, Error ellipse: s-maj=2.2km s-min=2.2km az=104.0*
*PRU **02** 19:56:35.9, 50°.27N×12°.51E, h1km, West Bohemia Swarm*
*CLL **02** 19:56:36.1±0.3, 50°.3N±0°.8×1°.2E±°, h7km±1km, ml2.0*

ISC 02 19:56:35.2±0.8, 50°.24N±0°.02×12°.48E±0°.02, h11km±3km, n56, σ0°.64/102, 5C, Germany

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
NKC	**Novy Kostel**	**0.02**	**247**	*i*PG	**Pg**	**19 56 37.3**	**+0.1**
NKC				*e*SG	**Sg**	**19 56 38.2**	**-0.5**
	comp=Z,328nm,0.3s						
NKC	**Novy Kostel**	**0.02**	**247**	*i*Pg	**Pg**	**19 56 37.3**	**+0.1**
NKC				*i* Sg	**Sg**	**19 56 38.4**	**-0.3**
NKC	**Novy Kostel**	**0.02**	**247**	*e*Pg	**Pg**	**19 56 37.3**	**+0.1**
NKC				*e*Sg	**Sg**	**19 56 38.4**	**-0.3**
NKC	**Novy Kostel**	**0.02**	**247**	Pg	**Pg**	**19 56 37.3**	**+0.1**
NKC				Sg	**Sg**	**19 56 38.4**	**-0.3**
WERN	**Wernitzgruen**	**0.08**	**305**	*i* Pg	**Pg**	**19 56 37.7**	**-0.1**
WERN				*i* Sg	**Sg**	**19 56 39.1**	**-0.5**
WERN				AML	AML	19 56 39.2	
	comp=E,1μm,0.2s						
WERN	**Wernitzgruen**	**0.08**	**305**	*e*Pg	**Pg**	**19 56 37.7**	**-0.1**
WERN				*e*Sg	**Sg**	**19 56 39.1**	**-0.5**
WERN	**Wernitzgruen**	**0.08**	**305**	Pg	**Pg**	**19 56 37.7**	**-0.1**
WERN				Sg	**Sg**	**19 56 39.1**	**-0.5**
ROHR	**Rohrbach**	**0.10**	**266**	*i* Pg	**Pg**	**19 56 37.9**	**-0.1**
ROHR				*i* Sg	**Sg**	**19 56 39.4**	**-0.7**
ROHR				AML	AML	19 56 39.5	
	comp=E,1μm,0.1s						
ROHR	**Rohrbach**	**0.10**	**266**	*e*Pg	**Pg**	**19 56 37.9**	**-0.1**
ROHR				*e*Sg	**Sg**	**19 56 39.4**	**-0.7**
ROHR	**Rohrbach**	**0.10**	**266**	Pg	**Pg**	**19 56 37.9**	**-0.1**
ROHR				Sg	**Sg**	**19 56 39.4**	**-0.7**
GUNZ	**Gunzen**	**0.15**	**322**	*i* Pg	**Pg**	**19 56 38.8**	**0.0**
GUNZ				*i* Sg	**Sg**	**19 56 40.8**	**-0.5**
GUNZ				AML	AML	19 56 41.4	
	comp=E,262nm,0.3s						
GUNZ	**Gunzen**	**0.15**	**322**	*e*Pg	**Pg**	**19 56 38.8**	**0.0**
GUNZ				*e*Sg	**Sg**	**19 56 40.8**	**-0.5**
GUNZ	**Gunzen**	**0.15**	**322**	Pg	**Pg**	**19 56 38.8**	**0.0**
GUNZ				Sg	**Sg**	**19 56 40.8**	**-0.5**
TANN	**Tannenbergstha**	**0.17**	**356**	*i* Pg	**Pg**	**19 56 39.2**	**0.0**
TANN				*i* Sg	**Sg**	**19 56 41.4**	**-0.4**
TANN				AML	AML	19 56 42.0	
	comp=N,303nm,0.2s						
MULD	**Muldenberg**	**0.18**	**344**	*i* Pg	**Pg**	**19 56 39.2**	**0.0**
MULD				*i* Sg	**Sg**	**19 56 41.5**	**-0.4**
MULD				AML	AML	19 56 41.6	
	comp=E,358nm,0.2s						
MULD	**Muldenberg**	**0.18**	**344**	*e*Pg	**Pg**	**19 56 39.2**	**0.0**
MULD				*e*Sg	**Sg**	**19 56 41.5**	**-0.4**
MULD	**Muldenberg**	**0.18**	**344**	Pg	**Pg**	**19 56 39.2**	**0.0**
MULD				Sg	**Sg**	**19 56 41.5**	**-0.4**
WERD	**Werda**	**0.23**	**332**	*i* Pg	**Pg**	**19 56 40.1**	**0.0**
WERD				*i* Sg	**Sg**	**19 56 43.0**	**-0.5**
WERD				AML	AML	19 56 43.4	
	comp=E,113nm,0.1s						
WERD	**Werda**	**0.23**	**332**	*e*Pg	**Pg**	**19 56 40.1**	**0.0**
WERD				*e*Sg	**Sg**	**19 56 43.0**	**-0.5**
WERD	**Werda**	**0.23**	**332**	Pg	**Pg**	**19 56 40.2**	**0.0**
WERD				Sg	**Sg**	**19 56 43.0**	**-0.5**
TRIB	**Obertriebel**	**0.24**	**297**	*i* Pg	**Pg**	**19 56 40.2**	**-0.1**
TRIB				*i* Sg	**Sg**	**19 56 43.3**	**-0.5**
TRIB				AML	AML	19 56 43.6	
	comp=E,93nm,0.1s						
TRIB	**Obertriebel**	**0.24**	**297**	*e*Pg	**Pg**	**19 56 40.2**	**-0.1**
TRIB				*e*Sg	**Sg**	**19 56 43.2**	**-0.5**
TRIB	**Obertriebel**	**0.24**	**297**	Pg	**Pg**	**19 56 40.2**	**-0.1**
TRIB				Sg	**Sg**	**19 56 43.2**	**-0.5**
PLN	**Plauen**	**0.32**	**320**	*i* Pg	**Pg**	**19 56 41.6**	**-0.1**
PLN				*i* Sg	**Sg**	**19 56 45.6**	**-0.4**
PLN				AML	AML	19 56 45.7	
	comp=E,110nm,0.2s						
PLN	**Plauen**	**0.32**	**320**	*e*Pg	**Pg**	**19 56 41.6**	**-0.1**
PLN				*e*Sg	**Sg**	**19 56 45.6**	**-0.4**
PLN	**Plauen**	**0.32**	**320**	Pg	**Pg**	**19 56 41.6**	**-0.1**
PLN				Sg	**Sg**	**19 56 45.6**	**-0.4**
SCHF	**Schoenfels**	**0.44**	**354**	*i* Pg	**Pg**	**19 56 44.0**	**+0.1**
SCHF				*i* Sg	**Sg**	**19 56 49.7**	**0.0**
SCHF				AML	AML	19 56 49.9	
	comp=E,253nm,0.2s						
MOX	**Moxa**	**0.68**	**307**	*e*Pg	**Pg**	**19 56 48.2**	**-0.3**
MOX				*e*Sg	**Sg**	**19 56 57.1**	**-0.4**
MOX	**Moxa**	**0.68**	**307**	Pg	**Pg**	**19 56 48.2**	**-0.3**
MOX				Sg	**Sg**	**19 56 57.1**	**-0.4**
FBE	**Freiberg**	**0.88**	**39**	*e*Pg	**Pb**	**19 56 52.6**	**+0.1**
FBE				*e*Sg	**Sb**	**19 57 03.8**	**-0.5**
FBE	**Freiberg**	**0.88**	**39**	Pg	**Pb**	**19 56 52.6**	**+0.1**
FBE				Sg	**Sb**	**19 57 03.8**	**-0.5**
GRA1	**Grafenberg Arr**	**0.98**	**236**	Pg	**Pg**	**19 56 53.9**	**-0.2**
GRA1				Sg	**Sg**	**19 57 06.5**	**-0.3**
GRF	**Grafenberg Arr**	**0.98**	**236**	*e*Pg	**Pg**	**19 56 53.9**	**-0.2**
GRF				*e*Sg	**Sg**	**19 57 06.5**	**-0.3**
CLL	**Collm**	**1.12**	**17**	*e*Pg	**Pb**	**19 56 56.6**	**0.0**
CLL				*e*Sg	**Sb**	**19 57 11.2**	**+0.1**
CLL	**Collm**	**1.12**	**17**	Pg	**Pb**	**19 56 56.6**	**0.0**
CLL				Sg	**Sb**	**19 57 11.2**	**+0.1**
CLL	**Collm**	**1.12**	**17**	*i* Pg	**Pb**	**19 56 56.5**	**0.0**
CLL				*i*		19 56 58.4	
CLL				*i*		19 56 59.9	
CLL				*i* Sg	**Sb**	**19 57 11.6**	**+0.5**
	comp=Z,14nm,0.5s						
CLL				*i*		19 57 15.5	
BRG	**Berggiesshubel**	**1.13**	**55**	*e*Pg	**Pn**	**19 56 57.1**	**+0.2**
BRG				*e*Sg	**Sb**	**19 57 11.6**	**+0.2**
BRG	**Berggiesshubel**	**1.13**	**55**	Pg	**Pn**	**19 56 57.1**	**+0.2**
BRG				Sg	**Sb**	**19 57 11.6**	**+0.2**
WET	**Wettzell**	**1.13**	**167**	*e*Pg	**Pb**	**19 56 56.9**	**+0.1**
WET				*e*Sg	**Sb**	**19 57 11.3**	**-0.2**
WET	**Wettzell**	**1.13**	**167**	Pg	**Pb**	**19 56 56.9**	**+0.1**
WET				Sg	**Sb**	**19 57 11.3**	**-0.2**
KHC	**Kasperske Hory**	**1.32**	**147**	*e*PG	**Pn**	**19 56 59.7**	**+0.1**
KHC				*e*SG	**Sn**	**19 57 17.8**	**+0.5**
	comp=Z,6.7nm,0.2s						
KHC	**Kasperske Hory**	**1.32**	**147**	Pg	**Pn**	**19 56 59.7**	**+0.1**
KHC				Sg	**Sn**	**19 57 17.8**	**+0.5**
	comp=Z,6.7nm,0.2s						
PRU	**Pruhonice**	**1.35**	**100⇑**	*e*PG	**Pb**	**19 57 00.5**	**0.0**
PRU				*e*SG	**Sg**	**19 57 18.6**	**-0.1**
	comp=Z,8.4nm,0.2s						
PRU	**Pruhonice**	**1.35**	**100**	Pg	**Pb**	**19 57 00.5**	**0.0**
PRU				Sg	**Sg**	**19 57 18.6**	**-0.1**
	comp=Z,8.4nm,0.2s						
PVCC	**Panska Ves**	**1.37**	**77⇑**	*e*SG	**Sg**	**19 57 19.3**	**0.0**
	comp=Z,20nm,0.2s						
PVCC	**Panska Ves**	**1.37**	**77**	Sg	**Sg**	**19 57 19.3**	**0.0**
	comp=Z,20nm,0.2s						
GOPC	**GO Pecny, Ondr**	**1.52**	**102**	*e*SG	**Sg**	**19 57 24.1**	**-0.1**
	comp=Z,7.7nm,0.3s						
GOPC	**GO Pecny, Ondr**	**1.52**	**102**	Sg	**Sg**	**19 57 24.1**	**-0.1**
	comp=Z,7.7nm,0.3s						
UPC	**Upice**	**2.28**	**82⇑**	*e*SG	**Sg**	**19 57 46.9**	**-1.5**
	comp=Z,6.2nm,0.4s						
UPC	**Upice**	**2.28**	**82**	Sg	**Sg**	**19 57 46.9**	**-1.5**
	comp=Z,6.2nm,0.4s						
DPC	**Dobruska-Polom**	**2.47**	**86**	*e*SG	**Sg**	**19 57 52.4**	**-2.1**
	comp=Z,3.1nm,0.4s						
DPC	**Dobruska-Polom**	**2.47**	**86**	Sg	**Sg**	**19 57 52.4**	**-2.1**
	comp=Z,3.1nm,0.4s						
MOA	**Molln**	**2.67**	**153**	Pg	**Pg**	**19 57 26.6**	**+0.3**
	comp=Z,0.4nm,0.2s						
MOA				Sg	**Sg**	**19 58 00.0**	**-0.9**
	comp=Z,1.0nm,0.1s						
VRAC	**Vranov**	**2.83**	**108**	*e*Sg	**Sb**	**19 58 02.0**	**+1.7**
CONA	**Conrad Observa**	**3.21**	**135**	Pg	**Pg**	**19 57 34.9**	**-1.8**
	comp=Z,0.2nm,0.2s						
CONA				Sg	**Sg**	**19 58 18.2**	**-0.1**
	comp=Z,2.5nm,0.4s						
MORC	**Moravsky Berou**	**3.30**	**96**	*e*Sg	**Sb**	**19 58 17.3**	**+3.4**

*IDC **02** 20:07:11.2±1.1, 52°.04N×171°.40W, h0km, mb3.6/8, mb1 3.8/10, mb1mx3.6/59, mbtmp3.6/10, ML3.3/2, Error ellipse: s-maj=32.9km s-min=18.9km az=167.0*
*NEIC **02** 20:07:16.9±0.0, 51°.94N×171°.41W, h32km, ML3.7(AEIC), After AEIC.*
*ISCJB **02** 20:07:17.1±0.8, 52°.0N±0°.1×171°.44W±0°.07, h58km±7km, mb3.6/8, Error ellipse: s-maj=21.9km s-min=3.9km az=163.2*

ISC 02 20:07:17.7±1.6, 52°.0N±0°.1×171°.42W±0°.05, h50km±1.4km, n35, σ0°.97/36, mb3.6/8, Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ATKA	**Atka Island**	**1.73**	**279**	P	**Pn**	**20 07 44.6**	**-0.7**
ATKA				S	**Sn**	**20 08 05.3**	**-0.9**
KOKL	**Mount Kliuchef**	**1.75**	**283**	P	**Pn**	**20 07 45.9**	**+0.2**
NIKH	**Nikolski High**	**1.87**	**56**	P	**Pn**	**20 07 46.0**	**-1.3**
NIKH				S	**Sn**	**20 08 08.5**	**-1.2**
OKSO	**Okmok South**	**2.43**	**53**	P	**Pn**	**20 07 55.2**	**+0.3**
OKSO				S	**Sn**	**20 08 25.7**	**+2.2**
OKCE	**Okmok Cone E**	**2.47**	**52**	P	**Pn**	**20 07 56.0**	**+0.4**
OKFG	**Magazine Ridge**	**2.59**	**54**	P	**Pn**	**20 07 57.2**	**+0.2**
OKFG				S	**Sn**	**20 08 28.5**	**+1.3**
GSMY	**Great Sitkin M**	**2.87**	**274**	P	**Pn**	**20 08 00.9**	**0.0**
GSTD	**Great Sitkin T**	**2.92**	**274**	P	**P

GTOI	**Gorontalo**	**5.86**	**249**	P		**Pn**	**20**	**20**	**29.8**	**+2.0**
	963nm,0.6s,9µm3.2nm										
MSAI	**Masohi**	**6.06**	**176**	P		**Pn**	**20**	**20**	**33.4**	**+3.0**
	303nm,1.0s,3µm1.0nm										
NLAI	**Namlea**	**6.10**	**193**	P		**Pn**	**20**	**20**	**32.3**	**+1.4**
	399nm,0.9s,3µm4.3nm										
AAI	**Ambon**	**6.39**	**183**	P		**Pn**	**20**	**20**	**35.6**	**+0.9**
	333nm,1.0s,2µm1.0nm										
AAI	**Ambon**	**6.39**	**183**	P		**Pn**	**20**	**20**	**37.4**	**+2.7**
AAI				pmax		pmax					
	comp=Z,332nm,1.0s										
FAKI	**Fak Fak**	**6.76**	**146**	P		**Pn**	**20**	**20**	**40.8**	**+1.3**
	comp=Z,484nm,1.1s,comp=Z,6µmcomp=Z,1.7nm										
FAKI	**Fak Fak**	**6.76**	**146**	*e*Pn		**Pn**	**20**	**20**	**40.0**	**+0.5**
CGP	**Cagayan de Oro**	**6.81**	**327**⇓	*e*P		**Pn**	**20**	**20**	**42.0**	**+1.9**
LUWI	**Luwuk**	**6.84**	**237**	P		**Pn**	**20**	**20**	**40.0**	**-0.4**
	comp=Z,2µm,0.6s,comp=Z,18µmcomp=Z,16nm										
LUWI	**Luwuk**	**6.84**	**237**	*e*Pn		**Pn**	**20**	**20**	**39.2**	**-1.2**
LUWI				*e*Sn		**S**	**20**	**21**	**54.3**	**-4.2**
MRSI	**Marisa**	**6.92**	**251**	P		**Pn**	**20**	**20**	**42.6**	**+1.2**
	comp=Z,1µm,0.9s,comp=Z,15µmcomp=Z,660µmcomp=Z,5.8nm										
PAGZ	**Pagadian**	**7.18**	**315**	*e*P		**Pn**	**20**	**20**	**45.0**	**+0.2**
DCPH	**Dipolog City**	**7.73**	**319**⇑	*e*P		**Pn**	**20**	**20**	**53.5**	**+1.6**
SNPH	**Sibulan**	**8.38**	**322**⇑	*e*P		**Pn**	**20**	**21**	**01.4**	**+1.0**
LLP	**Lapu-Lapu**	**8.76**	**329**⇑	*e*P		**Pn**	**20**	**21**	**06.5**	**+1.2**
KDI	**Kendari**	**8.87**	**221**	P		**Pn**	**20**	**21**	**06.3**	**-0.3**
	comp=Z,92nm,0.7s,comp=Z,1µm										
PCI	**Palu**	**9.37**	**247**	P		**Pn**	**20**	**21**	**13.2**	**0.0**
	comp=Z,443nm,1.2s,comp=Z,4µm										
PCI	**Palu**	**9.37**	**247**	P		**Pn**	**20**	**21**	**13.2**	**0.0**
PCI				pmax		pmax					
	comp=Z,443nm,1.2s										
GUIM	**Jordan**	**9.78**	**324**	*e*P		**Pn**	**20**	**21**	**18.7**	**+0.3**
BBSI	**Bau Bau**	**10.09**	**216**	P		**Pn**	**20**	**21**	**23.6**	**+1.3**
MYLDM	**Lahad Datu**	**10.25**	**284**	*e*Pn		**Pn**	**20**	**21**	**26.6**	**+2.1**
MYLDM	**Lahad Datu**	**10.25**	**284**	⇓P		**Pn**	**20**	**21**	**27.9**	**+3.4**
TTSI	**Tana Toraja**	**10.40**	**236**	P		**Pn**	**20**	**21**	**26.6**	**+0.3**
	comp=Z,721nm,1.1s,comp=Z,6µm										
RCP	**Roxas**	**10.45**	**327**⇓	*i*P		**Pn**	**20**	**21**	**29.1**	**+2.2**
TSM	**Tawau**	**10.70**	**279**	⇓P		**Pn**	**20**	**21**	**31.5**	**+1.2**
SPSI	**Sidrap Palu**	**10.97**	**233**	P		**Pn**	**20**	**21**	**34.7**	**+1.1**
	comp=Z,320nm,0.7s,comp=Z,3µm										
SMPI	**Sarmi**	**11.25**	**115**	P		**Pn**	**20**	**21**	**39.1**	**+1.9**
PVCP	**Virac**	**11.60**	**339**	*e*P		**Pn**	**20**	**21**	**38.2**	**-3.5**
SDKM	**Sandakan**	**11.62**	**285**	⇑P		**Pn**	**20**	**21**	**43.9**	**+1.9**
KAPI	**Kappang**	**11.64**	**229**	*e*Pn		**Pn**	**20**	**21**	**43.1**	**+0.9**
BSSI	**Bau Bau, Buton**	**11.90**	**222**	P		**Pn**	**20**	**21**	**46.4**	**+0.9**
AUQP	**San Andres**	**11.98**	**332**	*e*P		**P**	**20**	**21**	**54.7**	**+4.0**
BATP	**Bataraza**	**12.21**	**300**	*e*P		**P**	**20**	**21**	**57.1**	**+3.8**
BOAC	**Boac**	**12.51**	**329**	*e*P		**Pn**	**20**	**21**	**54.3**	**+1.2**
KKM	**Kota Kinabalu**	**12.67**	**285**	*e*Pn		**Pn**	**20**	**21**	**55.6**	**+0.4**
KKM	**Kota Kinabalu**	**12.67**	**285**	⇓P		**Pn**	**20**	**21**	**55.7**	**+0.5**
GENI	**Genyem**	**12.82**	**114**	P		**P**	**20**	**21**	**58.2**	**-1.9**
MMRI	**Maumere**	**12.90**	**209**	P		**Pn**	**20**	**21**	**59.1**	**+1.0**
MMRI	**Maumere**	**12.90**	**209**	*e*Pn		**P**	**20**	**22**	**00.8**	**-0.2**
SOEI	**Soe**	**13.11**	**199**	P		**P**	**20**	**22**	**03.2**	**-0.1**
	comp=Z,457nm,1.0s,comp=Z,4µm										
SOEI	**Soe**	**13.11**	**199**	*e*Pn		**Pn**	**20**	**22**	**02.0**	**+1.4**
LQP	**Lukban**	**13.22**	**329**⇑	*e*P		**P**	**20**	**22**	**05.5**	**+0.8**
JAY	**Jayapura**	**13.28**	**113**	P		**P**	**20**	**22**	**05.1**	**-0.2**
	comp=Z,0.7nm,0.3s,baz=270,slow=21,SNR=42										
JAY				S		**S**	**20**	**24**	**36.6**	**+6.5**
	baz=273,slow=24,SNR=7.0										
JAY	**Jayapura**	**13.28**	**113**	P		**P**	**20**	**22**	**06.8**	**+1.5**
	comp=Z,84nm,1.0s,comp=Z,954nm										
TGY	**Tagaytay City**	**13.53**	**327**	P		**Pn**	**20**	**22**	**07.0**	**+1.1**
	comp=Z,52nm,0.3s,baz=268,slow=4.2,SNR=15										
BATI	**Baumata**	**13.73**	**200**	P		**P**	**20**	**22**	**09.8**	**-0.4**
MTKI	**Muara Teweh, K**	**14.07**	**255**	P		**P**	**20**	**22**	**14.4**	**+0.4**
	comp=Z,171nm,0.9s,comp=Z,4µm										
SCZP	**Santa Cruz**	**15.46**	**327**	*e*P		**P**	**20**	**22**	**30.3**	**+1.0**
CAUP	**Cauayan**	**15.56**	**336**	*e*P		**Pn**	**20**	**22**	**33.3**	**+2.7**
PLAI	**Plampang**	**15.69**	**223**	P		**Pn**	**20**	**22**	**33.0**	**+0.8**
MTN	**Manton Dam**	**15.71**	**170**	P		**P**	**20**	**22**	**30.4**	**-1.6**
	baz=16,SNR=48										
MTN	**Manton Dam**	**15.71**	**170**	*e*Pn		**P**	**20**	**22**	**29.6**	**-2.4**
	comp=Z,140nm,1.1s										
KDU	**Kakadu**	**15.83**	**166**	P		**P**	**20**	**22**	**32.2**	**-1.2**
	baz=16,SNR=19										
BOLP	**Bolinao**	**15.96**	**329**	*e*P		**Pn**	**20**	**22**	**36.3**	**+0.8**
TWSI	**Taliwang, Sumb**	**16.24**	**225**	P		**Pn**	**20**	**22**	**40.5**	**+1.6**
	comp=Z,88nm,0.8s,comp=Z,1µm										
SBUM	**Sibu**	**16.25**	**269**	*e*P		**Pn**	**20**	**22**	**40.7**	**+1.7**
	comp=Z,305nm,1.0s										
SGCP	**Mt. Cagua**	**16.65**	**338**	*e*P		**P**	**20**	**22**	**43.5**	**+1.2**
SZP	**Santa**	**16.70**	**332**	*e*P		**P**	**20**	**22**	**44.1**	**+1.3**
	comp=Z,353nm,0.7s										
STKI	**Sintang**	**17.21**	**261**	P		**Pn**	**20**	**22**	**50.6**	**+0.3**
DNP	**Denpasar**	**17.43**	**229**	P		**Pn**	**20**	**22**	**53.5**	**+0.6**
DNP	**Denpasar**	**17.43**	**229**	P		**Pn**	**20**	**22**	**55.3**	**+2.4**
DNP				pmax		pmax					
	comp=Z,315nm,1.2s										
KMMI	**Kalianget**	**17.45**	**236**	P		**Pn**	**20**	**22**	**53.3**	**+0.2**
	comp=Z,293nm,1.2s,comp=Z,3µm										
IGBI	**Denpasar**	**17.57**	**229**	P		**Pn**	**20**	**22**	**54.2**	**-0.3**
ABJI	**Asem Bagus**	**17.66**	**234**	P		**P**	**20**	**22**	**54.7**	**+1.3**
PBKI	**Pangkalan Bun**	**17.66**	**252**	P		**P**	**20**	**22**	**54.9**	**+1.4**
JAGI	**Jajag, Banyuwa**	**18.12**	**232**	P		**Pn**	**20**	**23**	**01.8**	**+0.8**
	comp=Z,108nm,0.9s,comp=Z,1µm										
JAGI	**Jajag, Banyuwa**	**18.12**	**232**	*e*P		**P**	**20**	**22**	**59.5**	**+1.1**
	comp=Z,106nm,1.0s										
BLJI	**Banyuglugur**	**18.14**	**235**	P		**P**	**20**	**23**	**00.5**	**+1.8**
	comp=Z,157nm,1.0s,comp=Z,2µm										
KSM	**Kuching**	**18.21**	**266**	*e*P		**P**	**20**	**23**	**01.4**	**+1.9**
	comp=Z,440nm,1.0s										
KSM	**Kuching**	**18.21**	**266**	⇓P		**Pn**	**20**	**23**	**01.9**	**-0.1**
KNRA	**Kununurra**	**18.30**	**179**	P		**P**	**20**	**23**	**00.1**	**-0.3**
	baz=18,SNR=32										
GMJI	**Gumukmas**	**18.57**	**234**	P		**Pn**	**20**	**23**	**06.8**	**+0.6**
	comp=Z,107nm,0.9s,comp=Z,1µm										
TBJI	**Tambak Boyo**	**19.13**	**240**	P		**P**	**20**	**23**	**11.4**	**+2.0**
MANU	**Manus Island**	**19.46**	**104**	*e*P		**P**	**20**	**23**	**12.4**	**-0.6**
	comp=Z,21nm,0.9s										
NGJI	**Ngawi**	**19.73**	**239**	P		**P**	**20**	**23**	**18.3**	**+2.4**
PWJI	**Pagerwojo**	**19.78**	**237**	P		**P**	**20**	**23**	**17.6**	**+1.3**
	comp=Z,253nm,0.8s,comp=Z,2µm										
PCJI	**Pacitan**	**20.40**	**238**	P		**P**	**20**	**23**	**25.7**	**+2.8**
	comp=Z,149nm,1.0s,comp=Z,2µm										
WOJI	**Wonogiri, Jawa**	**20.43**	**239**	P		**P**	**20**	**23**	**25.2**	**+1.9**
SMRI	**Semarang**	**20.47**	**242**	P		**P**	**20**	**23**	**25.9**	**+2.1**
SMRI	**Semarang**	**20.47**	**242**	*e*P		Pn	20	23	27.5	-1.7
	comp=Z,81nm,0.8s										
UGM	**Wanagama**	**20.81**	**239**	P		**P**	**20**	**23**	**29.0**	**+1.6**
UGM	**Wanagama**	**20.81**	**239**	*e*P		**P**	**20**	**23**	**28.8**	**+1.4**
	comp=Z,148nm,1.0s										
FITZ	**Fitzroy Crossi**	**20.90**	**188**	P		**P**	**20**	**23**	**26.5**	**-1.7**
	comp=Z,11nm,0.5s,baz=15,slow=9.8,SNR=57										
FITZ	**Fitzroy Crossi**	**20.90**	**188**	P		**P**	**20**	**23**	**26.5**	**-1.7**
	baz=21,SNR=24										
FITZ	**Fitzroy Crossi**	**20.90**	**188**	*e*P		**P**	**20**	**23**	**26.3**	**-1.9**
	comp=Z,148nm,2.0s										
TWG	**Pinlang**	**21.22**	**341**	*e*P		**P**	**20**	**23**	**29.2**	**-2.3**
	comp=Z,429nm,0.7s										
YULB	**Yu-li**	**21.68**	**342**	*e*P		**P**	**20**	**23**	**33.3**	**-2.8**
	comp=Z,30nm,0.7s										
TPUB	**Ta-pu**	**21.81**	**340**	*e*P		**P**	**20**	**23**	**35.6**	**-1.8**
	comp=Z,97nm,0.8s										
TPUB				*e*S		**S**	**20**	**27**	**23.6**	**+0.1**
DLV	**T Lat**	**21.82**	**296**	*e*P		**P**	**20**	**23**	**38.0**	**+0.1**
	comp=Z,62nm,1.3s										
KPJI	**Karang Pucung**	**21.93**	**243**	P		**P**	**20**	**23**	**40.8**	**+2.1**
	comp=Z,128nm,0.9s,comp=Z,1µm										
COEN	**Coen**	**22.08**	**139**	*e*P		**P**	**20**	**23**	**37.0**	**-3.1**
	comp=Z,43nm,1.4s										
SSLB	**Suanglung**	**22.16**	**341**	*e*P		**P**	**20**	**23**	**39.9**	**-0.9**
	comp=Z,55nm,0.7s										
JCJI	**Jatiwangi**	**22.17**	**246**	P		**P**	**20**	**23**	**43.3**	**+2.4**
YOJ	**Yonaguni jima**	**22.23**	**347**	*e*P		**P**	**20**	**23**	**41.8**	**+0.4**
YOJ				pmax		pmax					
	comp=Z,78nm,0.8s										
YOJ	**Yonaguni jima**	**22.23**	**347**	*e*P		**P**	**20**	**23**	**41.8**	**+0.4**
	comp=Z,78nm,0.8s										
NACB	**Ninganchiao**	**22.32**	**343**	*e*P		**P**	**20**	**23**	**42.0**	**-0.2**
	comp=Z,39nm,0.9s										
CMJI	**Cimerak**	**22.56**	**242**	P		**P**	**20**	**23**	**45.1**	**+0.6**
YHNB	**Yeheng**	**22.86**	**343**	*e*P		**P**	**20**	**23**	**47.3**	**+0.2**
	comp=Z,114nm,0.9s										
PPBI	**Pangkal Pinang**	**22.87**	**258**	P		**P**	**20**	**23**	**48.6**	**+1.3**
LEM	**Lembang**	**22.90**	**245**	P		P	20	23	55.5	+7.8
	comp=Z,3µm,0.9s,comp=Z,26µm										
CISI	**Cisompet, Garu**	**23.02**	**243**	P		**P**	**20**	**23**	**49.1**	**+0.4**
CISI	**Cisompet, Garu**	**23.02**	**243**	*e*P		**P**	**20**	**23**	**47.5**	**-1.2**
	comp=Z,119nm,0.7s										
TATO	**Taipei**	**23.11**	**344**	*e*P		**P**	**20**	**23**	**48.8**	**-0.5**
	comp=Z,89nm,1.1s										
WRAB	**Tennant Creek**	**23.26**	**166**	*c i*P		**P**	**20**	**23**	**49.1**	**-1.7**
WRAB				pmax		pmax					
	comp=Z,376nm,1.1s										
WRAB	**Tennant Creek**	**23.26**	**166**	*e*P		**P**	**20**	**23**	**49.0**	**-1.7**
	comp=Z,154nm,1.0s										
WRA	**Warramunga Arr**	**23.26**	**166**	P		**P**	**20**	**23**	**49.6**	**-1.2**
	comp=Z,102nm,0.8s,baz=344,slow=10,SNR=124										
WRA				S		**S**	**20**	**27**	**48.8**	**+1.9**
	comp=Z,6.4nm,1.0s,baz=353,slow=20,SNR=5.0										
WRA				ScP		**ScP**	**20**	**30**	**47.1**	**-2.7**
	comp=Z,1.2nm,0.5s,baz=344,slow=2.8,SNR=8.3										
CBJI	**Citeko**	**23.44**	**247**	P		**P**	**20**	**23**	**54.4**	**+2.0**
CNJI	**Cibinong**	**23.53**	**245**	P		**P**	**20**	**23**	**54.6**	**+1.3**
	comp=Z,268nm,0.8s,comp=Z,2µm										
DBJI	**Dramaga**	**23.58**	**247**	P		**P**	**20**	**23**	**55.5**	**+1.7**
	comp=Z,193nm,1.3s,comp=Z,2µm										
SKJI	**Sukabumi**	**23.93**	**246**	P		**P**	**20**	**23**	**57.9**	**+0.9**
JOW	**Kunigami**	**23.96**	**360**	P		**P**	**20**	**23**	**58.0**	**+1.0**
	comp=Z,49nm,0.9s,baz=173,slow=10,SNR=4.9										
JOW	**Kunigami**	**23.96**	**360**	*e*P		**P**	**20**	**23**	**57.5**	**+0.5**
	comp=Z,64nm,1.0s										
SBJI	**Serang**	**24.00**	**248**	P		**P**	**20**	**23**	**59.5**	**+2.0**
TPRI	**Tanjung Pinang**	**24.01**	**266**	P		**P**	**20**	**23**	**59.4**	**+1.7**
QZH	**Quanzhou**	**24.05**	**337**⇓	*i*P		**P**	**20**	**23**	**58.6**	**+0.8**
QZH				S		S	20	28	10.1	+11
PMBI	**Palembang**	**24.36**	**257**	P		**P**	**20**	**24**	**03.6**	**+2.7**
QIZ	**Qiongzhong**	**24.39**	**313**	P		**P**	**20**	**24**	**02.0**	**+1.0**
QIZ				pP		**pP**	**20**	**24**	**41.0**	**-0.7**
QIZ				S		**S**	**20**	**28**	**07.5**	**+2.6**
QIZ				sS		**sS**	**20**	**29**	**19.6**	**0.0**
QIZ				pmax		pmax					
	comp=Z,29nm,1.2s										
QIZ	**Qiongzhong**	**24.39**	**313**	*e*P		**P**	**20**	**24**	**01.2**	**+0.1**
	comp=Z,35nm,1.1s										
BLSI	**Bandar Lampung**	**24.57**	**251**	P		**P**	**20**	**24**	**04.4**	**+1.6**
CGJI	**Cibinong**	**24.58**	**248**	P		**P**	**20**	**24**	**02.8**	**0.0**
MYKOM	**Kota Tinggi**	**24.63**	**268**	*e*P		**P**	**20**	**24**	**04.5**	**+1.1**
	comp=Z,74nm,0.8s										
MYKOM	**Kota Tinggi**	**24.63**	**268**	⇑P		**P**	**20**	**24**	**04.8**	**+1.5**
RABL	**Rabaul**	**24.64**	**106**	*e*P		**P**	**20**	**24**	**03.2**	**-0.2**
	comp=Z,28nm,0.6s										
KGM	**Kluang**	**25.16**	**269**	⇑P		**P**	**20**	**24**	**09.7**	**+1.7**
JMBI	**JAMBI**	**25.21**	**260**	P		**P**	**20**	**24**	**11.2**	**+2.6**
MBWA	**Marble Bar**	**25.25**	**199**	*e*P		**P**	**20**	**24**	**07.3**	**-1.5**
	comp=Z,26nm,1.1s										
MDSI	**Maura Dua**	**25.33**	**254**	P		**P**	**20**	**24**	**11.0**	**+1.4**
KASI	**Kota Agung**	**25.33**	**251**	P		**P**	**20**	**24**	**10.9**	**+1.3**
KTGM	**Kuala Trenggan**	**25.42**	**277**	⇑P		**P**	**20**	**24**	**11.1**	**+0.7**
LWLI	**Liwa**	**25.59**	**253**	P		**P**	**20**	**24**	**13.2**	**+1.1**
QIS	**Mount Isa**	**25.59**	**155**	P		**P**	**20**	**24**	**10.7**	**-1.2**
	baz=26,SNR=42										
MTSU	**Mount Surprise**	**25.95**	**144**	P		**P**	**20**	**24**	**14.3**	**-0.9**
	baz=26,SNR=9.2										
XMIS	**Christmas Isla**	**26.25**	**240**	*e*P		**P**	**20**	**24**	**17.1**	**-0.8**
	comp=Z,121nm,0.9s										
MNAI	**Manna**	**26.47**	**255**	*e*P		**P**	**20**	**24**	**20.3**	**+0.5**
	comp=Z,311nm,1.1s										
ASAR	**Alice Springs**	**26.77**	**169**	P		**P**	**20**	**24**	**21.5**	**-1.0**
	comp=Z,30nm,0.5s,baz=352,slow=7.6,SNR=853										
ASAR				PcP		**PcP**	**20**	**27**	**39.0**	**-0.9**
	comp=Z,2.3nm,0.6s,baz=352,slow=2.3,SNR=4.4										
ASAR				ScP		**ScP**	**20**	**30**	**57.0**	**-2.7**
	comp=Z,1.2nm,0.5s,baz=346,slow=3.0,SNR=10										
FRIM	**Kepong**	**26.83**	**272**	⇓P		**P**	**20**	**24**	**24.5**	**+1.4**
MASI	**Maura Aman, Be**	**26.88**	**258**	P		**P**	**20**	**24**	**25.5**	**+2.0**
BKNI	**Bangkinang**	**27.54**	**265**	P		**P**	**20**	**24**	**30.8**	**+1.4**
BKNI	**Bangkinang**	**27.54**	**265**	*e*P		**P**	**20**	**24**	**30.4**	**+1.0**
	comp=Z,156nm,0.9s										
WRKA	**Warakurna**	**27.61**	**180**	P		**P**	**20**	**24**	**29.0**	**-0.9**
	baz=28,SNR=15										
KULM	**Kulim**	**27.88**	**276**	*e*P		**P**	**20**	**24**	**32.9**	**+0.5**
	comp=Z,29nm,0.9s										
KULM	**Kulim**	**27.88**	**276**	⇑P		**P**	**20**	**24**	**33.4**	**+1.0**
SKLT	**Songkhla**	**28.10**	**280**	P		**P**	**20**	**24**	**36.0**	**+1.7**
	comp=Z,38nm,0.9s										
PPI	**Padang Panjang**	**28.26**	**264**	P		**P**	**20**	**24**	**36.9**	**+1.1**
CTA	**Charters Tower**	**28.62**	**143**	P		**P**	**20**	**24**	**37.9**	**-0.9**
	comp=Z,2.9nm,0.8s,baz=288,slow=9.6,SNR=3.3										
CTA	**Charters Tower**	**28.62**	**143**	P		**P**	**20**	**24**	**38.2**	**-0.7**
	baz=28										
GIRL	**Giralia**	**28.81**	**208**	P		**P**	**20**	**24**	**40.9**	**+0.4**
	baz=29,SNR=7.4										
MNSI	**Mandailing Nat**	**28.95**	**267**	P		**P**	**20**	**24**	**42.6**	**+0.7**
TRTT	**Trang**	**29.10**	**281**	P		**P**	**20**	**24**	**44.8**	**+1.6**
	comp=Z,31nm,0.9s										
PSI	**Prapat**	**29.53**	**271**	P		**P**	**20**	**24**	**47.6**	**+0.5**
	comp=Z,59nm,1.0s,baz=84,slow=4.1,SNR=53										
PSI				S		**S**	**20**	**29**	**25.1**	**-1.1**
	comp=Z,3.1nm,0.3s,baz=157,slow=16,SNR=6.7										
PSI				ScP		**ScP**	**20**	**31**	**06.6**	**-2.1**
	comp=Z,2.3nm,0.4s,baz=162,slow=20,SNR=3.7										
PSI	**Prapat**	**29.53**	**271**	*e*P		**P**	**20**	**24**	**47.1**	**0.0**
PSI				S		**S**	**20**	**29**	**25.1**	**-1.1**
PSI				pmax		pmax					
	comp=Z,90nm,1.1s										
PSI	**Prapat**	**29.53**	**271**	*e*P		**P**	**20**	**24**	**47.1**	**0.0**
	comp=Z,90nm,1.1s										
PSI				S		**S**	**20**	**29**	**25.1**	**-1.1**
PSI				ScP		**ScP**	**20**	**31**	**06.6**	**-2.1**
SISI	**Saibi**	**29.66**	**263**	P		**P**	**20**	**24**	**49.6**	**+1.4**
SURT	**Suratani**	**30.16**	**283**	P		**P**	**20**	**24**	**53.9**	**+1.4**
	comp=Z,15nm,0.9s										
SLVN	**Son La**	**30.23**	**310**	*e*P		**P**	**20**	**24**	**54.6**	**+1.5**
	comp=Z,5.5nm,0.9s										
JNU	**Nakatsue**	**30.31**	**4**	P		**P**	**20**	**24**	**53.3**	**-0.3**
	comp=Z,11nm,0.8s,baz=284,slow=19,SNR=5.4										
JNU	**Nakatsue**	**30.31**	**4**	*e*P		**P**	**20**	**24**	**54.1**	**+0.5**
	comp=Z,25nm,1.1s										
KCSI	**Kotacane, Aceh**	**30.68**	**272**	P		**P**	**20**	**24**	**57.8**	**+0.7**
WHN	**Wuhan**	**30.72**	**336**	⇓P		**P**	**20**	**24**	**59.4**	**+2.2**
WHN				pmax		pmax					
	comp=Z,76nm,1.0s										
MEEK	**Meekatharra**	**30.73**	**197**	P		**P**	**20**	**24**	**56.0**	**-1.3**
	baz=31,SNR=18										
TPTI		**31.27**	**272**	P		**P**	**20**	**25**	**02.8**	**+0.5**
NANT	**Nan**	**31.53**	**302**	P		P	20	25	15.9	+11
GYA	**Guiyang**	**31.54**	**320**	P		**P**	**20**	**25**	**07.3**	**+2.7**
GYA				PP		**PP**	**20**	**26**	**21.4**	**+0.9**
GYA				PcP		**PcP**	**20**	**27**	**54.8**	**+2.7**
GYA				S		**S**	**20**	**30**	**00.6**	**+3.4**
GYA				ScP		**ScP**	**20**	**31**	**16.2**	**+1.2**
GYA				ScS		**ScS**	**20**	**35**	**13.0**	**-0.6**
GYA				pmax		pmax					
	comp=Z,20nm,1.0s										
GYA				pmax		pmax					
	comp=Z,120nm,5.4s										
LHMI	**Lhok Sumawe**	**31.55**	**275**	P		**P**	**20**	**25**	**06.5**	**+1.7**
LHMI	**Lhok Sumawe**	**31.55**	**275**	*e*P		**P**	**20**	**25**	**05.6**	**+0.8**
	comp=Z,72nm,0.7s										
SUKH	**Sukhothai**	**31.88**	**299**	P		**P**	**20**	**25**	**10.7**	**+3.1**
	comp=Z,2.7nm,0.8s										
MLSI	**Meulaboh, Aceh**	**32.05**	**274**	P		**P**	**20**	**25**	**09.4**	**+0.2**
ENH	**Enshi**	**32.77**	**329**	*e*P		**P**	**20**	**25**	**16.3**	**+1.1**
	comp=Z,42nm,0.9s										
CMAR	**Chiang Mai Arr**	**32.88**	**300**	P		**P**	**20**	**25**	**17.7**	**+1.4**
	comp=Z,4.2nm,0.6s,baz=118,slow=7.5,SNR=29										
CMAR				ScP		**ScP**	**20**	**31**	**19.7**	**+0.1**
	comp=Z,1.8nm,0.8s,baz=142,slow=1.8,SNR=11										
QLP	**Quilpie**	**32.88**	**153**	P		**P**	**20**	**25**	**14.7**	**-1.5**
	baz=33,SNR=4.9										
CMMT	**Chiang Mai**	**33.03**	**301**	P		**P**	**20**	**25**	**19.5**	**+1.9**
	comp=Z,10.0nm,0.9s										
CHTO	**Chiang Mai**	**33.03**	**301**	P		**P**	**20**	**25**	**19.6**	**+2.0**
	comp=Z,44nm,0.9s										
CHTO	**Chiang Mai**	**33.03**	**301**	*e*P		**P**	**20**	**25**	**19.0**	**+1.4**
CHTO				pmax		pmax					
	comp=Z,6.0nm,0.6s										
CHTO	**Chiang Mai**	**33.03**	**301**	*e*P		**P**	**20**	**25**	**19.0**	**+1.4**
	comp=Z,6.1nm,0.6s										
KMI	**Kunming**	**33.32**	**314**	P		**P**	**20**	**25**	**22.9**	**+2.6**
KMI				pmax		pmax					
	comp=Z,17nm,1.0s										
FORT	**Forrest**	**33.34**	**181**	P		**P**	**20**	**25**	**19.1**	**-0.9**
	baz=33,SNR=12										
FORT	**Forrest**	**33.34**	**181**	*e*P		**P**	**20**	**25**	**19.1**	**-0.9**
	comp=Z,1µm,1.0s										
MORW	**Morawa**	**33.81**	**200**	P		**P**	**20**	**25**	**23.1**	**-1.0**
	baz=34,SNR=5.8										
KSAR	**Wonju Array Be**	**34.54**	**359**	P		**P**	**20**	**25**	**30.9**	**+0.6**
KSAR	**Wonju Array Be**	**34.54**	**359**	P		**P**	**20**	**25**	**30.9**	**+0.6**
KSRS	**Korea Array**	**34.55**	**359**	P		**P**	**20**	**25**	**30.9**	**+0.5**
	comp=Z,14nm,1.0s,baz=177,slow=10,SNR=20										
MAJO	**Matsushiro**	**34.81**	**14**⇑	*e*P		**P**	**20**	**25**	**32.6**	**-0.1**
MAJO				pmax		pmax					
	comp=Z,100nm,0.9s										
MAJO	**Matsushiro**	**34.81**	**14**	*e*P		**P**	**20**	**25**	**32.0**	**-0.7**
	comp=Z,15nm,0.8s										
MAT	**Matsushiro**	**34.81**	**14**	P		**P**	**20**	**25**	**31.5**	**-1.2**
MJAR	**Matsushiro Arr**	**34.81**	**14**	P		**P**	**20**	**25**	**31.6**	**-1.1**
	comp=Z,12nm,0.8s,baz=186,slow=9.2,SNR=18										
MJAR				pP		**pP**	**20**	**26**	**12.9**	**-3.7**
	comp=Z,4.7nm,0.8s,baz=194,slow=8.6,SNR=3.1										
BLDU	**Ballidu**	**35.02**	**198**	P		**P**	**20**	**25**	**33.5**	**-1.0**
	baz=35,SNR=37										
EIDS	**Eidsvold**	**35.51**	**143**	*e*P		**P**	**20**	**25**	**36.5**	**-2.2**
	comp=Z,21nm,1.2s										
KLBR	**Kellerberrin**	**35.64**	**196**	P		**P**	**20**	**25**	**38.8**	**-0.9**
	baz=36,SNR=23										
BBOO	**Buckleboo**	**36.08**	**169**	P		**P**	**20**	**25**	**42.0**	**-1.4**
	baz=36,SNR=13										
BBOO	**Buckleboo**	**36.08**	**169**	*e*P		**P**	**20**	**25**	**41.9**	**-1.5**
	comp=Z,169nm,1.2s										
XAN	**Xi'an**	**36.10**	**332**	P		**P**	**20**	**25**	**43.5**	**-0.2**
XAN				pmax		pmax					
	comp=Z,29nm,0.9s										
XAN				pmax		pmax					

ULN	**Ulaanbaatar**	**48.61**	**341**	*e*P		**P**	**20 27 25.1**	**+0.8**
	comp=Z,20nm,1.0s							
SONM	**Songino Array**	**48.80**	**340**	P		**P**	**20 27 26.3**	**+0.5**
	comp=Z,7.4nm,1.0s,baz=152,slow=7.7,SNR=36							
SONM				pP		**pP**	**20 28 11.1**	**-1.4**
	comp=Z,5.6nm,1.0s,baz=151,slow=8.4,SNR=4.8							
KOLN	**Koldanda**	**49.52**	**305**	*e*P		**P**	**20 27 32.3**	**+0.6**
	comp=Z,31nm,0.5s							
PYUN	**Piuthan**	**50.15**	**305**	*e*P		**P**	**20 27 37.0**	**+0.6**
	comp=Z,15nm,0.4s							
MSVF	**Nonsavu**	**52.91**	**115**	*e*P		**P**	**20 27 57.8**	**+1.0**
MSVF				pmax	pmax			
	comp=Z,72nm,1.7s							
MSVF	**Nonsavu**	**52.91**	**115**	*e*P		**P**	**20 27 57.8**	**+1.0**
	comp=Z,72nm,1.7s							
WMQ	**Urumqi**	**54.54**	**325**	P		**P**	**20 28 09.5**	**+1.3**
WMQ				pP		pP	20 28 56.9	+1.0
WMQ				pmax	pmax			
	comp=Z,9.0nm,1.3s							
WMQ				pmax	pmax			
	comp=Z,86nm,3.9s							
WMQ				LR	LR			
	comp=Z,21nm,16.3s							
WMQ				LR	LR			
	comp=Z,23nm,20.3s							
WMQ				LR	LR			
	comp=Z,45nm,16.3s							
PETK	**Petropavlovsk-**	**55.70**	**21**	P		**P**	**20 28 16.7**	**+0.5**
	comp=Z,3.5nm,0.8s,baz=179,slow=4.6,SNR=5.2							
PETK				pP		**pP**	**20 29 03.4**	**-0.8**
	comp=Z,1.5nm,0.6s,baz=26,slow=4.9,SNR=2.1							
PETK				PcP		**PcP**	**20 29 10.5**	**-2.3**
	comp=Z,6.7nm,0.8s,baz=177,slow=4.4,SNR=7.4							
BOD	**Bodaibo**	**56.10**	**351**	*e*P		**P**	**20 28 18.4**	**-0.6**
BOD				pmax	pmax			
	comp=Z,11nm,1.3s							
YAK	**Yakutsk**	**59.16**	**1***c*	*i*P		**P**	**20 28 40.0**	**-0.1**
YAK				*e*PP		**PcP**	**20 29 25.0**	**-1.2**
YAK				*e*			20 29 30.1	
YAK				*e*			20 30 53.9	
YAK				*e*S		**S**	**20 36 25.9**	**-4.3**
YAK				*e*SS		**SS**	**20 40 25.5**	**-2.8**
YAK				pmax	pmax			
	comp=Z,25nm,0.9s							
YAK				pmax	pmax			
	comp=N,5.0nm,0.9s							
YAK				pmax	pmax			
	comp=E,2.0nm,0.9s							
YAK				pmax	pmax			
	comp=E,46nm,3.6s							
YAK				pmax	pmax			
	comp=Z,62nm,3.7s							
YAK				pmax	pmax			
	comp=N,50nm,2.7s							
YAK				smax	smax			
	comp=E,103nm,2.5s							
YAK				smax	smax			
	comp=N,52nm,2.2s							
YAK	**Yakutsk**	**59.16**	**1**	*e*P		**P**	**20 28 40.8**	**+0.7**
	comp=N,28nm,0.9s							
MKAR	**Makanchi Array**	**59.37**	**325**	*e*P		**P**	**20 28 41.5**	**-0.5**
MKAR				pmax	pmax			
	comp=Z,35nm,0.6s							
MKAR	**Makanchi Array**	**59.37**	**325**	*e*P		**P**	**20 28 41.5**	**-0.5**
	comp=Z,35nm,0.6s							
MAKZ	**Makanchi**	**59.55**	**325**	*e*P		**P**	**20 28 43.9**	**+0.7**
MAKZ	**Makanchi**	**59.55**	**325**	*e*P		**P**	**20 28 43.9**	**+0.7**
THZ	**Tophouse**	**59.85**	**143**	*e*P		**P**	**20 28 43.4**	**-2.0**
	comp=Z,73nm,1.5s							
LBZ	**Lake Benmore**	**59.89**	**147**	*e*P		**P**	**20 28 44.5**	**-1.0**
	comp=Z,53nm,1.0s							
RPZ	**Rata Peaks**	**59.95**	**145**	*e*P		**P**	**20 28 45.9**	**-0.1**
	comp=Z,164nm,1.8s							
KSH	**Kashi**	**59.98**	**315**	*e*P		**P**	**20 28 48.7**	**+2.3**
KSH				pP		pP	20 29 35.6	+0.6
KSH				sP		sP	20 29 58.8	+0.4
KSH				PP		**PP**	**20 31 05.8**	**+4.4**
KSH				S		**S**	**20 36 40.5**	**-1.4**
KSH				sS		sS	20 38 02.3	-4.7
KSH				pmax	pmax			
	comp=Z,3.0nm,0.7s							
KSH				pmax	pmax			
	comp=Z,94nm,5.3s							
KSH				LR	LR			
	comp=Z,75nm,5.7s							
KSH				LR	LR			
	comp=Z,86nm,5.3s							
KSH				LR	LR			
	comp=Z,140nm,7.3s							
BKZ	**Black Stump Fm**	**60.68**	**138**	*e*P		**P**	**20 28 50.1**	**-0.9**
	comp=Z,23nm,0.9s							
ZALV	**Zalesovo Beam**	**62.26**	**333**	P		**P**	**20 29 00.4**	**-0.8**
	comp=Z,1.4nm,0.4s,baz=104,slow=6.3,SNR=16							
ZALV				pP		**pP**	**20 29 48.1**	**-2.2**
	comp=Z,2.1nm,0.6s,baz=116,slow=6.8,SNR=3.9							
AAK	**Ala-Archa**	**62.26**	**318**‖	*e*P		**P**	**20 29 02.1**	**+0.4**
AAK				pmax	pmax			
	comp=Z,5.0nm,0.9s							
KURK	**Kurchatov**	**63.51**	**327**	*de*P		**P**	**20 29 09.6**	**+0.1**
KURK				pmax	pmax			
	comp=Z,38nm,1.1s							
KURK	**Kurchatov**	**63.51**	**327**	*e*P		**P**	**20 29 09.0**	**-0.5**
	comp=Z,16nm,0.8s							
NVS	**Novosibirsk**	**63.54**	**333**	*e*P		**P**	**20 29 09.4**	**-0.2**
NVS				pmax	pmax			
	comp=E,10.0nm,1.3s							
NVS				pmax	pmax			
	comp=Z,10.0nm,1.3s							
KKAR	**Karatay Array**	**65.15**	**317**	*e*P		**P**	**20 29 19.8**	**-0.6**
KKAR	**Karatay Array**	**65.15**	**317**	*e*P		**P**	**20 29 19.8**	**-0.6**
BRVK	**Borovoye**	**69.17**	**327***c*	*i*P		**P**	**20 29 44.8**	**-0.6**
BRVK				pmax	pmax			
	comp=Z,19nm,1.0s							
BRVK	**Borovoye**	**69.17**	**327**	*e*P		**P**	**20 29 44.9**	**-0.6**
	comp=Z,18nm,0.9s							
NRIK	**Noril'sk**	**71.81**	**346**	P		**P**	**20 30 00.8**	**-0.2**
	comp=Z,3.4nm,0.8s,baz=130,slow=4.5,SNR=5.2							
GEYT	**Alibeck**	**72.88**	**309**	P		**P**	**20 30 08.7**	**+0.7**
	comp=Z,0.7nm,0.4s,baz=134,slow=8.3,SNR=3.5							
GEYT				pP		**pP**	**20 30 57.3**	**-1.2**
	comp=Z,2.2nm,0.7s,baz=90,slow=10,SNR=2.8							
ABKAR	**Akbulak array**	**74.02**	**321**	*e*P		**P**	**20 30 13.4**	**-1.0**
SVE	**Sverdlovsk**	**75.72**	**328**	*i*P		**P**	**20 30 23.3**	**-0.6**
SVE				pmax	pmax			
	comp=Z,10.0nm,1.3s							
ARU	**Arti**	**76.70**	**328***c*	*i*P		**P**	**20 30 28.6**	**-0.9**
ARU							20 33 19.5	
ARU				S		**S**	**20 39 57.7**	**-0.6**
ARU				SS		**SS**	**20 44 52.9**	**-5.9**
ARU				pmax	pmax			
	comp=Z,5.0nm,1.2s							
ARU	**Arti**	**76.70**	**328**	*e*P		**P**	**20 30 28.6**	**-0.9**
VNDA	**Vanda**	**82.23**	**173**	P		**P**	**20 30 58.3**	**-0.6**
	comp=Z,5.1nm,0.7s,baz=316,slow=6.0,SNR=29							
SBA	**Scott Base**	**83.13**	**172**	*e*P		**P**	**20 31 03.3**	**-0.1**
SBA				pmax	pmax			
	comp=Z,26nm,1.8s							
SBA	**Scott Base**	**83.13**	**172**	*e*P		**P**	**20 31 03.3**	**-0.1**
	comp=Z,26nm,1.8s							
MAW	**Mawson**	**83.44**	**201**	P		**P**	**20 31 05.2**	**0.0**
	comp=Z,4.1nm,0.7s,baz=52,slow=8.4,SNR=7.3							
PMR	**Palmer**	**83.97**	**28**	*e*P		**P**	**20 31 07.8**	**-0.3**
PMR				pmax	pmax			
	comp=Z,47nm,1.5s							
PMR	**Palmer**	**83.97**	**28**	*e*P		**P**	**20 31 07.8**	**-0.3**
	comp=Z,47nm,1.5s							
ILAR	**Eielson Array**	**85.24**	**25**	P		**P**	**20 31 14.6**	**+0.2**
	comp=Z,0.3nm,0.6s,baz=230,slow=5.1,SNR=4.1							
ILAR				pP		**pP**	**20 32 02.5**	**-3.9**
	comp=Z,0.5nm,0.8s,baz=232,slow=7.4,SNR=2.6							
KLMR	**Klimovskoe**	**87.12**	**331**	*e*P		**P**	**20 31 20.7**	**-2.9**
KLMR				pmax	pmax			
	comp=Z,9.0nm,1.4s							
ARCES	**ARCESS Array B**	**91.97**	**340**	P		**P**	**20 31 45.3**	**-0.8**
	comp=Z,1.8nm,0.7s,baz=81,slow=5.6,SNR=10.0							
ARCES				pP		**pP**	**20 32 36.0**	**-2.8**
	comp=Z,1.4nm,0.8s,baz=66,slow=3.1,SNR=2.5							
SYO	**Syowa Base**	**92.14**	**201**‖	*e*P		**P**	**20 31 45.4**	**-1.4**
QSPA	**South Pole Qui**	**92.65**	**180**	*e*P		**P**	**20 31 49.2**	**-0.2**
FINES	**FINESS Array B**	**93.52**	**332**	P		**P**	**20 31 52.6**	**-0.8**
	comp=Z,1.9nm,1.0s,baz=90,slow=5.6,SNR=3.9							
YKA	**Yellowknife Ar**	**99.66**	**25**	P		**Pdif**	**20 32 20.9**	**-0.2**
	comp=Z,0.7nm,0.7s,baz=300,slow=4.9,SNR=3.1							
TORD	**Torodi Ar. Bea**	**124.89**	**288**	PKP		**PKPdf**	**20 37 36.9**	**-0.8**
	comp=Z,0.9nm,0.8s,baz=67,slow=1.8,SNR=7.1							
TZTN	**Tazewell**	**130.82**	**34**	*e*PKPdf		**PKPdf**	**20 37 49.0**	**+0.5**
DBIC	**Dimbokro**	**132.49**	**282**	SKPbc		**SKPbc**	**20 40 57.1**	**-2.0**
	comp=Z,5.0nm,0.9s,baz=128,slow=6.7,SNR=4.1							
ROC1	**El Roble**	**144.80**	**151**	*e*PKPbc		**PKPab**	**20 38 12.9**	**-1.0**
LCO	**Las Campanas**	**148.13**	**147**	*e*PKPbc		**PKPbc**	**20 38 23.1**	**-0.5**

SJA 02 20:28:03.0±0.3, 28.76S×66.64W, h30km±1km, ML3.0, MW3.6, Catamarca Province

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
					Op	ISC	h m s	ISC
ACLC	**CERRO LA CRUZ**	**0.71**	**202**	*e*P		Pn	20 28 17.8	+0.6
CYA	**Choya**	**0.81**	**67**	*e*P		Pb	20 28 19.1	+0.6
CYA				*e*S		Sn	20 28 31.0	+1.7
CYA				IAML			20 28 32.7	
	comp=Z,419nm,0.6s							
VCA	**Vinchina**	**1.37**	**271**	*e*P		Pb	20 28 28.4	+0.2
VCA				IAML			20 28 52.6	
	comp=Z,230nm,0.3s							
APLL	**PUNTA DE LOS L**	**1.63**	**177**	*e*P		Pb	20 28 31.8	-0.7
APLL				*e*S		Sb	20 28 53.1	+0.5
AGUA	**GUANDACOL**	**1.77**	**246**	*e*P		Pb	20 28 33.9	-1.0
AGUA				*e*S		Sb	20 28 56.9	+0.1
AMOG	**MOGNA**	**2.70**	**216**	*e*S		Sn	20 29 19.6	+3.4
ACAN	**Cantantal**	**3.53**	**188**	*e*P		Pn	20 28 59.0	+3.1

*ISCJB **02** 20:29:05.0±0.5, 50.22N±0.02×12.52E±0.03, h14km±5km, Error ellipse: s-maj=3.4km s-min=3.2km az=42.1*
*CSEM **02** 20:29:06.1±0.1, 50.23N×12.49E, h10km, ML2.9/8, Error ellipse: s-maj=1.6km s-min=1.2km az=30.0*
*BGR **02** 20:29:06.5±0.2, 50.25N×12.45E, h11km±1km, ML2.2/6, Error ellipse: s-maj=2.2km s-min=2.2km az=105.0*
*IASPEI **02** 20:29:06.2±0.8, 50.24N±0.02×12.47E±0.02, h11km±3km, Error ellipse: s-maj=3.5km s-min=2.7km az=83.4, GT5 selection from ISC bulletin GT5 identified by Bond˜jr and McLaughlin (2009) selection criteria Bond˜jr and McLaughlin, A new ground truth data set for seismic studies, Seism. Res. Let., 80, 465-472, 2009*
*PRU **02** 20:29:07.2, 50.26N×12.52E, h1km, West Bohemia Swarm*
*CLL **02** 20:29:07.3±0.3, 50.3N±0.8×1.2E±, h7km±1km, ml2.0*

ISC 02 20:29:06.3±0.8, 50.24N±0.02×12.49E±0.02, h11km±4km, n62, σ0.962/112, 6C, Germany

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
					Op	ISC	h m s	ISC
NKC	**Novy Kostel**	**0.03**	**260**‖	*i*PG		**Pg**	**20 29 08.6**	**+0.2**
NKC				*e*SG		**Sg**	**20 29 09.4**	**-0.5**
	comp=Z,392nm,0.2s							
NKC	**Novy Kostel**	**0.03**	**260**‖	*i*Pg		**Pg**	**20 29 08.6**	**+0.2**
NKC				*i*Sg		**Sg**	**20 29 09.6**	**-0.3**
NKC	**Novy Kostel**	**0.03**	**260**	*e*Pg		**Pg**	**20 29 08.6**	**+0.2**
NKC				*e*Sg		**Sg**	**20 29 09.6**	**-0.3**
NKC	**Novy Kostel**	**0.03**	**260**	Pg		**Pg**	**20 29 08.6**	**+0.2**
NKC				Sg		**Sg**	**20 29 09.6**	**-0.3**
WERN	**Wernitzgruen**	**0.09**	**304**	*i*Pg		**Pg**	**20 29 09.0**	**0.0**
WERN				*i*Sg		**Sg**	**20 29 10.3**	**-0.6**
WERN				AML		AML	20 29 10.5	
	comp=E,2μm,0.2s							
WERN	**Wernitzgruen**	**0.09**	**304**	*e*Pg		**Pg**	**20 29 09.0**	**0.0**
WERN				*e*Sg		**Sg**	**20 29 10.4**	**-0.6**
WERN	**Wernitzgruen**	**0.09**	**304**	Pg		**Pg**	**20 29 09.0**	**0.0**
WERN				Sg		**Sg**	**20 29 10.4**	**-0.6**
ROHR	**Rohrbach**	**0.11**	**268**	*i*Pg		**Pg**	**20 29 09.1**	**-0.1**
ROHR				*i*Sg		**Sg**	**20 29 10.6**	**-0.8**
ROHR				AML		AML	20 29 10.7	
	comp=E,2μm,0.1s							
ROHR	**Rohrbach**	**0.11**	**268**	*e*Pg		**Pg**	**20 29 09.2**	**-0.1**
ROHR				*e*Sg		**Sg**	**20 29 10.6**	**-0.8**
ROHR	**Rohrbach**	**0.11**	**268**	Pg		**Pg**	**20 29 09.2**	**-0.1**
ROHR				Sg		**Sg**	**20 29 10.6**	**-0.8**
GUNZ	**Gunzen**	**0.16**	**321**	*i*Pg		**Pg**	**20 29 10.1**	**+0.1**
GUNZ				*i*Sg		**Sg**	**20 29 12.1**	**-0.5**
GUNZ				AML		AML	20 29 12.7	
	comp=E,240nm,0.4s							
GUNZ	**Gunzen**	**0.16**	**321**	*e*Pg		**Pg**	**20 29 10.1**	**+0.1**
GUNZ				*e*Sg		**Sg**	**20 29 12.1**	**-0.5**
GUNZ	**Gunzen**	**0.16**	**321**	Pg		**Pg**	**20 29 10.1**	**+0.1**
GUNZ				Sg		**Sg**	**20 29 12.1**	**-0.5**
TANN	**Tannenbergstha**	**0.18**	**354**	*i*Pg		**Pg**	**20 29 10.5**	**+0.2**
TANN				*i*Sg		**Sg**	**20 29 12.7**	**-0.3**
TANN				AML		AML	20 29 13.1	
	comp=N,296nm,0.2s							
MULD	**Muldenberg**	**0.18**	**342**	*i*Pg		**Pg**	**20 29 10.5**	**+0.1**
MULD				*i*Sg		**Sg**	**20 29 12.7**	**-0.4**
MULD				AML		AML	20 29 12.9	
	comp=E,313nm,0.2s							
MULD	**Muldenberg**	**0.18**	**342**	*e*Pg		**Pg**	**20 29 10.5**	**+0.1**
MULD				*e*Sg		**Sg**	**20 29 12.8**	**-0.4**
MULD	**Muldenberg**	**0.18**	**342**	Pg		**Pg**	**20 29 10.5**	**+0.1**
MULD				Sg		**Sg**	**20 29 12.8**	**-0.4**
WERD	**Werda**	**0.24**	**331**	*i*Pg		**Pg**	**20 29 11.4**	**+0.1**
WERD				*i*Sg		**Sg**	**20 29 14.3**	**-0.5**
WERD				AML		AML	20 29 14.7	
	comp=E,109nm,0.2s							
WERD	**Werda**	**0.24**	**331**	*e*Pg		**Pg**	**20 29 11.4**	**+0.1**
WERD				*e*Sg		**Sg**	**20 29 14.2**	**-0.5**
WERD	**Werda**	**0.24**	**331**	Pg		**Pg**	**20 29 11.4**	**+0.1**
WERD				Sg		**Sg**	**20 29 14.2**	**-0.5**
TRIB	**Obertriebel**	**0.25**	**297**	*i*Pg		**Pg**	**20 29 11.4**	**-0.1**
TRIB				*i*Sg		**Sg**	**20 29 14.4**	**-0.7**
TRIB				AML		AML	20 29 14.7	
	comp=N,103nm,0.1s							
TRIB	**Obertriebel**	**0.25**	**297**	*e*Pg		**Pg**	**20 29 11.4**	**-0.1**
TRIB				*e*Sg		**Sg**	**20 29 14.4**	**-0.7**
TRIB	**Obertriebel**	**0.25**	**297**	Pg		**Pg**	**20 29 11.4**	**-0.1**
TRIB				Sg		**Sg**	**20 29 14.4**	**-0.7**
PLN	**Plauen**	**0.33**	**319**	*i*Pg		**Pg**	**20 29 12.9**	**0.0**
PLN				*i*Sg		**Sg**	**20 29 16.9**	**-0.4**
PLN				AML		AML	20 29 17.0	
	comp=E,92nm,0.2s							
PLN	**Plauen**	**0.33**	**319**	*e*Pg		**Pg**	**20 29 12.9**	**0.0**
PLN				*e*Sg		**Sg**	**20 29 16.9**	**-0.4**
PLN	**Plauen**	**0.33**	**319**	Pg		**Pg**	**20 29 12.9**	**0.0**
PLN				Sg		**Sg**	**20 29 16.9**	**-0.4**
SCHF	**Schoenfels**	**0.44**	**353**	*i*Pg		**Pg**	**20 29 15.2**	**+0.2**
SCHF				*i*Sg		**Sg**	**20 29 21.0**	**+0.1**
SCHF				AML		AML	20 29 21.2	
	comp=E,278nm,0.2s							
SCHF	**Schoenfels**	**0.44**	**353**	*e*Pg		**Pg**	**20 29 15.3**	**+0.2**
SCHF				*e*Sg		**Sg**	**20 29 21.0**	**+0.1**
SCHF	**Schoenfels**	**0.44**	**353**	Pg		**Pg**	**20 29 15.3**	**+0.2**
SCHF				Sg		**Sg**	**20 29 21.0**	**+0.1**
MOX	**Moxa**	**0.69**	**306**	*e*Pg		**Pg**	**20 29 19.5**	**-0.2**
MOX				*e*Sg		**Sg**	**20 29 28.4**	**-0.4**
MOX	**Moxa**	**0.69**	**306**	Pg		**Pg**	**20 29 19.5**	**-0.2**
MOX				Sg		**Sg**	**20 29 28.4**	**-0.4**
FBE	**Freiberg**	**0.88**	**39**	*e*Pg		**Pn**	**20 29 23.9**	**-0.6**
FBE				*e*Sg		**Sb**	**20 29 35.1**	**-0.1**
FBE	**Freiberg**	**0.88**	**39**	Pg		**Pn**	**20 29 23.9**	**-0.6**
FBE				Sg		**Sb**	**20 29 35.1**	**-0.1**
GRA1	**Grafenberg Arr**	**0.98**	**237**	Pg		**Pg**	**20 29 25.2**	**-0.1**
GRA1				Sg		**Sg**	**20 29 37.6**	**-0.5**
GRF	**Grafenberg Arr**	**0.98**	**237**	*e*Pg		**Pg**	**20 29 25.2**	**-0.1**
GRF				*e*Sg		**Sg**	**20 29 37.6**	**-0.5**
CLL	**Collm**	**1.12**	**17**	*e*Pg		**Pn**	**20 29 27.9**	**0.0**
CLL				*e*Sg		**Sb**	**20 29 42.2**	**0.0**
CLL	**Collm**	**1.12**	**17**	Pg		**Pn**	**20 29 27.9**	**0.0**
CLL				Sg		**Sb**	**20 29 42.2**	**0.0**
CLL	**Collm**	**1.12**	**17**	*i*Pg		**Pn**	**20 29 27.8**	**0.0**
CLL				*i*			20 29 29.6	
CLL				*i*			20 29 31.1	
CLL				*i*Sg		**Sn**	**20 29 42.9**	**-0.3**
	comp=Z,17nm,0.5s							
CLL				*i*			20 29 46.7	
BRG	**Berggiesshubel**	**1.12**	**55**	*e*Pg		**Pn**	**20 29 28.4**	**+0.5**
BRG				*e*Sg		**Sb**	**20 29 42.3**	**0.0**
BRG	**Berggiesshubel**	**1.12**	**55**	Pg		**Pn**	**20 29 28.4**	**+0.5**
BRG				Sg		**Sb**	**20 29 42.3**	**0.0**
WET	**Wettzell**	**1.12**	**167**	*e*Pg		**Pb**	**20 29 28.1**	**+0.4**
WET				*e*Sg		**Sg**	**20 29 42.4**	**-0.1**
WET	**Wettzell**	**1.12**	**167**	Pg		**Pb**	**20 29 28.1**	**+0.4**
WET				Sg		**Sg**	**20 29 42.4**	**-0.1**
PRA	**Prague**	**1.26**	**97**‖	*e*SG		**Sn**	**20 29 46.9**	**+0.2**
PRA	**Prague**	**1.26**	**97**	Sg		**Sn**	**20 29 46.9**	**+0.2**
KHC	**Kasperske Hory**	**1.31**	**147**	*e*PG		**Pn**	**20 29 31.0**	**+0.4**
KHC				*e*SG		**Sn**	**20 29 48.7**	**+0.6**
	comp=Z,6.7nm,0.2s							
KHC	**Kasperske Hory**	**1.31**	**147**	Pg		**Pn**	**20 29 31.0**	**+0.4**
KHC				Sg		**Sn**	**20 29 48.7**	**+0.6**
	comp=Z,6.7nm,0.2s							
PRU	**Pruhonice**	**1.34**	**100**‖	*e*PG		**Pg**	**20 29 31.7**	**-0.4**
PRU				*e*SG		**Sg**	**20 29 49.7**	**+0.2**
	comp=Z,11nm,0.2s							
PRU	**Pruhonice**	**1.34**	**100**	Pg		**Pg**	**20 29 31.7**	**-0.4**
PRU				Sg		**Sg**	**20 29 49.7**	**+0.2**
	comp=Z,11nm,0.2s							
PVCC	**Panska Ves**	**1.36**	**77**‖	*e*SG		**Sg**	**20 29 50.2**	**+0.1**
	comp=Z,30nm,0.2s							
PVCC	**Panska Ves**	**1.36**	**77**	Sg		**Sg**	**20 29 50.2**	**+0.1**
	comp=Z,30nm,0.2s							
GOPC	**GO Pecny, Ondr**	**1.52**	**101**	*e*SG		**Sg**	**20 29 55.4**	**+0.4**
	comp=Z,11nm,0.2s							
GOPC	**GO Pecny, Ondr**	**1.52**	**101**	Sg		**Sg**	**20 29 55.4**	**+0.4**
	comp=Z,11nm,0.2s							
UPC	**Upice**	**2.27**	**82**‖	*e*SG		**Sg**	**20 30 18.2**	**-1.0**
	comp=Z,7.7nm,0.4s							
UPC	**Upice**	**2.27**	**82**	Sg		**Sg**	**20 30 18.2**	**-1.0**
	comp=Z,7.7nm,0.4s							
DPC	**Dobruska-Polom**	**2.46**	**86**	*e*SG		**Sg**	**20 30 23.6**	**-1.7**
	comp=Z,4.1nm,0.3s							
DPC	**Dobruska-Polom**	**2.46**	**86**	Sg		**Sg**	**20 30 23.6**	**-1.7**
	comp=Z,4.1nm,0.3s							
KSP	**Ksiaz**	**2.50**	**75**	*e*Pg		**Pg**	**20 29 54.1**	**-0.1**
KSP				*e*Sg		**Sg**	**20 30 26.6**	**0.0**
KSP	**Ksiaz**	**2.50**	**75**	*e*Pg		**Pg**	**20 29 54.1**	**-0.1**
KSP				*e*Sg		**Sg**	**20 30 26.6**	**0.0**
MOA	**Molln**	**2.66**	**153**	*e*Pn		**Pg**	**20 29 57.8**	**+0.5**
	comp=Z,0.2nm,0.1s							
MOA				*i*Sg		**Sg**	**20 30 30.4**	**-1.4**
	comp=Z,1.7nm,0.2s							
VRAC	**Vranov**	**2.82**	**108**	*e*Sg		**Sb**	**20 30 32.7**	**+1.6**
CONA	**Conrad Observa**	**3.20**	**135**	*e*Pn		**Pg**	**20 30 06.8**	**-0.8**
	comp=Z,1.0nm,0.4s							
CONA				*i*Sg		**Sg**	**20 30 46.8**	**-2.3**
	comp=Z,0.9nm,0.2s							
MORC	**Moravsky Berou**	**3.29**	**96**	*e*Sg		**Sg**	**20 30 48.7**	**-3.3**

IDC 02 20:39:23.6±2.1, 2.43N×128.46E, h246km±19km, mb3.3/7, mb1 3.5/8, mb1mx3.2/42, mbtmp3.9/8, Error ellipse: s-maj=35.4km s-min=13.0km az=67.0, Halmahera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
					Op	ISC	h m s	ISC
JAY	**Jayapura**	**13.19**	**112**	P		P	20 42 23.7	-0.1
	0.1nm,0.3s,baz=89,slow=23,SNR=4.0							
FITZ	**Fitzroy Crossi**	**20.59**	**188**	P		P	20 43 43.5	-0.7
	0.6nm,0.3s,baz=32,slow=9.6,SNR=9.0							
WRA	**Warramunga Arr**	**22.97**	**166**	P		P	20 44 06.7	-0.2
	3.2nm,0.4s,baz=345,slow=10.0,SNR=36							
WRA				ScP		ScP	20 51 01.5	-1.9
	0.3nm,0.6s,baz=356,slow=3.6,SNR=4.5							
ASAR	**Alice Springs**	**26.47**	**169**	P		P	20 44 38.5	0.0
	2.7nm,0.5s,baz=352,slow=7.4,SNR=101							
ASAR				PcP		PcP	20 47 57.3	+0.4
	0.1nm,0.4s,baz=339,slow=1.7,SNR=3.7							
ASAR				ScP		ScP	20 51 13.8	+0.5
	0.2nm,0.5s,baz=350,slow=2.3,SNR=3.5							
CMAR	**Chiang Mai Arr**	**33.02**	**301**	P		P	20 45 37.3	+1.1
	1.3nm,0.8s,baz=121,slow=7.8,SNR=5.3							
STKA	**Stephens Creek**	**36.32**	**161**	P		P	20 46 04.2	0.0
	2.6nm,0.3s,baz=342,slow=8.3,SNR=28							
SONM	**Songino Array**	**49.09**	**340**	P		P	20 47 45.2	-1.1
	0.3nm,0.6s,baz=151,slow=9.9,SNR=3.3							
VNDA	**Vanda**	**81.93**	**173**	P		P	20 51 15.5	+0.2
	0.4nm,0.8s,baz=309,slow=4.1,SNR=4.0							

JMA 02 20:40:21.4±0.2, 39.06N×143.25E, h7km±2km, M3.5, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
					Op	ISC	h m s	ISC
MIYJ	**Miyakonagasawa**	**1.22**	**295**	P		Pb	20 40 44.2	-0.7
MIYJ				S		Sg	20 41 00.4	-0.4
OFUJ	**Ofunato**	**1.23**	**271**	P		Pb	20 40 44.3	-0.7
OFUJ				S		Sg	20 41 00.8	-0.2
JTH	**Tanohata**	**1.39**	**310**	P		Pn	20 40 46.5	-0.7
JTH				*e*S		Sb	20 41 04.7	-0.8
JOM	**Ohasama**	**1.57**	**286**	P		Pn	20 40 49.9	+0.1
JOM				*e*S		Sn	20 41 10.1	-0.3
JMK	**Ichinoseki**	**1.58**	**267**	P		Pn	20 40 50.0	+0.1
JMK				*e*S		Sn	20 41 10.8	+0.2
JIO	**Ouri**	**1.60**	**248**	P

0.3nm,0.5s,baz=81,slow=8.6,SNR=3.2
H11N2 WAKE ISLAND Hy 28.56 123 T T 21 31 57.8
baz=316,slow=75,SNR=34
H11N1 WAKE ISLAND Hy 28.57 123 T T 21 31 58.3
baz=316,slow=75,SNR=41
H11N3 WAKE ISLAND Hy 28.58 123 T T 21 31 58.9
baz=316,slow=75,SNR=40
H11S1 WAKE ISLAND Hy 29.32 125 T T 21 32 56.1
baz=318,slow=76,SNR=27
H11S3 WAKE ISLAND Hy 29.32 125 T T 21 32 58.3
baz=318,slow=76,SNR=40
H11S2 WAKE ISLAND Hy 29.33 125 T T 21 32 57.2
baz=318,slow=76,SNR=41
FITZ Fitzroy Crossi 57.99 198 LR LR 21 32 46.8
comp=Z,22nm,18.2s,baz=193,slow=38
WRA Warramunga Arr 58.24 188 P **P 21 05 45.1 -2.1**
0.5nm,0.4s,baz=5.5,slow=7.2,SNR=13
VRAC Vranov 80.27 327 LR LR 21 47 40.4
comp=Z,31nm,19.3s,baz=286,slow=39

*ISCJB **02** 20:58:31.2±0.7, 17°6S±0.2×178.7W±0.1, h500km, mb3.7/7, Error ellipse: s-maj=22.6km s-min=13.7km az=155.7*
*IDC **02** 20:58:31.8±2.0, 17.59S×178.68W, h496km±25km, mb3.2/7, mb1 3.4/9, mb1mx3.2/29, mbtmp4.1/9, Error ellipse: s-maj=22.2km s-min=16.9km az=160.0*
ISC 02 20:58:32.1±0.8, 17°6S±0.2×178.7W±0.1, h500km, n14, σ0.81/13, mb3.6/7, 1C-2D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**7.60**	**62**	**P**	**P**	**21 00 24.3**	**-0.4**
	5.2nm,0.3s,baz=231,slow=22,SNR=3.6						
DZM	**Mont Dzumac**	**14.67**	**250**	**P**	**P**	**21 01 39.0**	**0.0**
	0.1nm,0.3s,baz=56,slow=18,SNR=2.1						
URZ	**Urewera**	**20.92**	**189**	**P**	**P**	**21 02 37.7**	**-1.3**
	11nm,1.0s,baz=347,slow=8.5,SNR=3.3						
STKA	**Stephens Creek**	**38.54**	**241**	**P**	**P**	**21 05 12.2**	**+0.9**
	5.4nm,0.5s,baz=87,slow=10,SNR=28						
JAY	**Jayapura**	**42.55**	**286**	**P**	**P**	**21 05 42.7**	**-1.0**
	0.4nm,0.6s,baz=99,slow=23,SNR=4.3						
WRA	**Warramunga Arr**	**44.41**	**259**	**P**	**P**	**21 05 57.6**	**-0.5**
	2.2nm,0.6s,baz=94,slow=7.2,SNR=47						
WRA				PcP	**pP**	**21 07 30.5**	**-0.3**
	0.2nm,0.3s,baz=93,slow=3.8,SNR=5.6						
ASAR	**Alice Springs**	**44.61**	**254**	**P**	**P**	**21 06 00.0**	**+0.4**
	25nm,0.6s,baz=88,slow=8.1,SNR=424						
ASAR				PcP	**PcP**	**21 07 31.1**	**-0.9**
	1.1nm,0.5s,baz=103,slow=4.0,SNR=5.4						
VNDA	**Vanda**	**60.74**	**185**	**P**	**P**	**21 07 54.9**	**+0.6**
	0.3nm,0.6s,baz=340,slow=7.3,SNR=5.5						
TXAR	**Lajitas Array**	**86.06**	**58**	**P**	**P**	**21 10 20.2**	**+0.3**
	0.9nm,0.7s,baz=213,slow=6.3,SNR=14						
CMAR	**Chiang Mai Arr**	**88.51**	**290**	**P**	**P**	**21 10 32.3**	**+0.8**
	0.3nm,0.3s,baz=83,slow=1.4,SNR=5.4						
BURAR	**Bucovina Array**	**144.19**	**332**	*i*P	PKPbc	21 17 10.2	-0.1
BRTR	**Keskin Array B**	**144.35**	**315**	PKP	PKPbc	21 17 10.3	-0.8
	1.1nm,0.8s,baz=122,slow=5.0,SNR=7.3						
CFR	**Carcaliu**	**144.51**	**327**	*i*P	PKPbc	21 17 09.8	-1.4
ARR	**Arges**	**146.13**	**330**	*i*P	**PKPbc**	**21 17 16.7**	**+0.6**

*CSEM **02** 21:00:23.4±0.1, 50°20N×12°45E, h2km, ML3.5/15, Error ellipse: s-maj=3.0km s-min=2.3km az=5.0*
*IPEC **02** 21:00:24.3±0.1, 50°24N×12°46E, h10km, ML2.5/8, Error ellipse: s-maj=1.6km s-min=0.8km az=18.0*
*LDG **02** 21:00:24.3±0.1, 50°25N×12°44E, h10km, Ml3.0/8, Error ellipse: s-maj=1.0km s-min=0.7km az=132.0*
*STR **02** 21:00:24.9±0.3, 50°25N×12°41E, h10km, Ml3.2, Error ellipse: s-maj=0.0km s-min=0.0km az=0.0*
*CLL **02** 21:00:24.9±0.3, 50°3N±0.8×1°2E±°, h7km±1km, ml2.5*
*BGR **02** 21:00:24.3±0.2, 50°26N×12°44E, h10km±1km, ML2.8/6, Error ellipse: s-maj=2.2km s-min=1.1km az=103.0*
*PRU **02** 21:00:24.8, 50°26N×12°52E, h0km, West Bohemia Swarm*
ISC 02 21:00:24.3±0.7, 50°23N±0°02×12°43E±0°01, h12km±3km, n118, σ1.983/206, 6D, Germany

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NKC	**Novy Kostel**	**0.01**	**62**	*i*PG	**Pg**	**21 00 26.2**	**-0.4**
NKC				*e*SG	**Sg**	**21 00 27.1**	**-1.0**
	comp=Z,4μm,0.2s						
NKC	**Novy Kostel**	**0.01**	**62**	*i*Pg	**Pg**	**21 00 26.2**	**-0.4**
NKC				*i* Sg	**Sg**	**21 00 27.2**	**-1.0**
NKC	**Novy Kostel**	**0.01**	**62**	*e*Pg	**Pg**	**21 00 26.1**	**-0.4**
NKC				*e*Sg	**Sg**	**21 00 27.2**	**-1.0**
NKC	**Novy Kostel**	**0.01**	**62**	Pg	**Pg**	**21 00 26.1**	**-0.5**
NKC				Sg	**Sg**	**21 00 27.1**	**-1.0**
	4μm,0.2s						
WERN	**Wernitzgruen**	**0.07**	**330**	*i* Pg	**Pg**	**21 00 26.5**	**-0.4**
WERN				*i* Sg	**Sg**	**21 00 27.9**	**-1.1**
WERN				AML	AML	21 00 28.1	
	comp=E,3μm,0.2s						
WERN	**Wernitzgruen**	**0.07**	**330**	*e*Pg	**Pg**	**21 00 26.5**	**-0.4**
WERN				*e*Sg	**Sg**	**21 00 27.8**	**-1.1**
WERN	**Wernitzgruen**	**0.07**	**330**	Pg	**Pg**	**21 00 26.5**	**-0.4**
WERN				Sg	**Sg**	**21 00 27.8**	**-1.1**
ROHR	**Rohrbach**	**0.07**	**276**	*i* Pg	**Pg**	**21 00 26.7**	**-0.3**
ROHR				*i* Sg	**Sg**	**21 00 28.2**	**-0.7**
ROHR				AML	AML	21 00 28.3	
	comp=E,5μm,0.2s						
ROHR	**Rohrbach**	**0.07**	**276**	*e*Pg	**Pg**	**21 00 26.7**	**-0.3**
ROHR				*e*Sg	**Sg**	**21 00 28.2**	**-0.7**
ROHR	**Rohrbach**	**0.07**	**276**	Pg	**Pg**	**21 00 26.7**	**-0.3**
ROHR				Sg	**Sg**	**21 00 28.2**	**-0.7**
GUNZ	**Gunzen**	**0.15**	**335**	*i* Pg	**Pg**	**21 00 27.6**	**-0.4**
GUNZ				*i* Sg	**Sg**	**21 00 29.6**	**-1.0**
GUNZ				AML	AML	21 00 30.3	
	comp=E,742nm,0.3s						
GUNZ	**Gunzen**	**0.15**	**335**	*e*Pg	**Pg**	**21 00 27.6**	**-0.4**
GUNZ				*e*Sg	**Sg**	**21 00 29.6**	**-1.0**
GUNZ	**Gunzen**	**0.15**	**335**	Pg	**Pg**	**21 00 27.6**	**-0.4**
GUNZ				Sg	**Sg**	**21 00 29.6**	**-1.0**
MULD	**Muldenberg**	**0.19**	**355**	*i* Pg	**Pg**	**21 00 28.1**	**-0.5**
MULD				*i* Sg	**Sg**	**21 00 30.3**	**-1.2**
MULD				AML	AML	21 00 31.0	
	comp=N,1μm,0.3s						
MULD	**Muldenberg**	**0.19**	**355**	*e*Pg	**Pg**	**21 00 28.0**	**-0.5**
MULD				*e*Sg	**Sg**	**21 00 30.3**	**-1.2**
MULD	**Muldenberg**	**0.19**	**355**	Pg	**Pg**	**21 00 28.0**	**-0.5**
MULD				Sg	**Sg**	**21 00 30.3**	**-1.2**
TANN	**Tannenbergstha**	**0.19**	**6**	*i* Pg	**Pg**	**21 00 28.0**	**-0.6**
TANN				*i* Sg	**Sg**	**21 00 30.3**	**-1.3**
TANN				AML	AML	21 00 31.0	
	comp=N,1μm,0.3s						
TRIB	**Obertriebel**	**0.23**	**304**	*i* Pg	**Pg**	**21 00 29.0**	**-0.2**
TRIB				*i* Sg	**Sg**	**21 00 31.9**	**-0.5**
TRIB				AML	AML	21 00 32.4	
	comp=E,437nm,0.2s						
TRIB	**Obertriebel**	**0.23**	**304**	*e*Pg	**Pg**	**21 00 29.0**	**-0.2**
TRIB				*e*Sg	**Sg**	**21 00 31.9**	**-0.5**
TRIB	**Obertriebel**	**0.23**	**304**	Pg	**Pg**	**21 00 29.0**	**-0.2**
TRIB				Sg	**Sg**	**21 00 31.9**	**-0.5**
WERD	**Werda**	**0.23**	**340**	*i* Pg	**Pg**	**21 00 29.0**	**-0.4**
WERD				*i* Sg	**Sg**	**21 00 31.8**	**-1.0**
WERD				*i* Sg	Sg	21 00 31.9	-0.9
WERD				AML	AML	21 00 32.5	
	comp=N,189nm,0.2s						
WERD	**Werda**	**0.23**	**340**	*e*Pg	**Pg**	**21 00 29.0**	**-0.4**
WERD				*e*Sg	**Sg**	**21 00 31.8**	**-1.0**
WERD	**Werda**	**0.23**	**340**	Pg	**Pg**	**21 00 29.0**	**-0.4**
WERD				Sg	**Sg**	**21 00 31.8**	**-1.0**
PLN	**Plauen**	**0.31**	**326**	*i* Pg	**Pg**	**21 00 30.4**	**-0.3**
PLN				*i* Sg	**Sg**	**21 00 34.5**	**-0.5**
PLN				AML	AML	21 00 34.6	
	comp=E,193nm,0.2s						
PLN	**Plauen**	**0.31**	**326**	*e*Pg	**Pg**	**21 00 30.4**	**-0.3**
PLN				*e*Sg	**Sg**	**21 00 34.5**	**-0.5**
PLN	**Plauen**	**0.31**	**326**	Pg	**Pg**	**21 00 30.4**	**-0.3**
PLN				Sg	**Sg**	**21 00 34.5**	**-0.5**
SCHF	**Schoenfels**	**0.45**	**358**	*i* Pg	**Pg**	**21 00 32.8**	**-0.4**
SCHF				*i* Sg	**Sg**	**21 00 38.6**	**-0.7**
SCHF				AML	AML	21 00 38.8	
	comp=E,1μm,0.2s						
SCHF	**Schoenfels**	**0.45**	**358**	*e*Pg	**Pg**	**21 00 32.8**	**-0.4**
SCHF				*e*Sg	**Sg**	**21 00 38.0**	**-1.3**
SCHF	**Schoenfels**	**0.45**	**358**	Pg	**Pg**	**21 00 32.8**	**-0.4**
SCHF				Sg	**Sg**	**21 00 38.0**	**-1.3**
MLFH	**Mildenfurth**	**0.61**	**339**	*i* Pg	**Pg**	**21 00 35.7**	**-0.4**
MLFH				*i* Sg	**Sg**	**21 00 43.5**	**-0.6**
MOX	**Moxa**	**0.67**	**309**	*e*Pg	**Pg**	**21 00 37.1**	**-0.2**
MOX				*e*Sg	**Sg**	**21 00 45.8**	**-0.3**
MOX	**Moxa**	**0.67**	**309**	Pg	**Pg**	**21 00 37.1**	**-0.2**
MOX				Sg	**Sg**	**21 00 45.8**	**-0.3**
FBE	**Freiberg**	**0.91**	**40**	*e*Pg	**Pg**	**21 00 41.5**	**-0.4**
FBE				*e*Sg	**Sg**	**21 00 52.7**	**-1.1**
FBE	**Freiberg**	**0.91**	**40**	Pg	**Pg**	**21 00 41.5**	**-0.4**
FBE				Sg	**Sg**	**21 00 52.7**	**-1.1**
GRA1	**Grafenberg Arr**	**0.95**	**236**	Pg	**Pb**	**21 00 42.8**	**+0.2**
GRA1				Sg	**Sb**	**21 00 55.3**	**+0.2**
GRF	**Grafenberg Arr**	**0.95**	**236**	*e*Pg	**Pb**	**21 00 42.8**	**+0.2**
GRF				*e*Sg	**Sb**	**21 00 55.3**	**+0.2**
WET	**Wettzell**	**1.12**	**165**	*e*Pg	**Pb**	**21 00 45.7**	**+0.1**
WET				*e*Sg	**Sg**	**21 01 01.0**	**+0.5**
WET	**Wettzell**	**1.12**	**165**	Pg	**Pb**	**21 00 45.7**	**+0.1**
WET				Sg	**Sg**	**21 01 01.0**	**+0.5**
CLL	**Collm**	**1.14**	**18**	*e*Pg	**Pb**	**21 00 45.0**	**-0.9**
CLL				*e*Sg	**Sb**	**21 00 59.8**	**-0.9**
CLL	**Collm**	**1.14**	**18**	Pg	**Pb**	**21 00 45.0**	**-0.9**
CLL				Sg	**Sb**	**21 00 59.8**	**-0.9**
CLL	**Collm**	**1.14**	**18**	*i* Pg	**Pb**	**21 00 45.5**	**-0.4**
CLL				*i*		21 00 48.5	
CLL				*i* Sg	**Sb**	**21 01 00.5**	**-0.2**
	comp=Z,76nm,0.6s						
CLL				*i*		21 01 04.1	
BRG	**Berggiesshubel**	**1.16**	**56**	PG	**Pb**	**21 00 46.0**	**-0.3**
BRG				SG	**Sb**	**21 01 00.8**	**-0.4**
	comp=Z,87nm,0.4s						
BRG	**Berggiesshubel**	**1.16**	**56**	*e*Pg	**Pb**	**21 00 45.8**	**-0.5**
BRG				*e*Sg	**Sb**	**21 01 00.9**	**-0.4**
BRG	**Berggiesshubel**	**1.16**	**56**	Pg	**Pb**	**21 00 45.8**	**-0.5**
BRG				Sg	**Sb**	**21 01 00.9**	**-0.4**
PRA	**Prague**	**1.30**	**96**	*e*SG	**Sb**	**21 01 04.4**	**-0.8**
	comp=Z,43nm,0.2s						
PRA	**Prague**	**1.30**	**96**	Sg	**Sb**	**21 01 04.4**	**-0.8**
	comp=Z,43nm,0.2s						
KHC	**Kasperske Hory**	**1.33**	**145**	*e*PG	**Pn**	**21 00 48.6**	**0.0**
KHC				*e*SG	**Sb**	**21 01 05.9**	**-0.2**
	comp=Z,38nm,0.3s						
KHC	**Kasperske Hory**	**1.33**	**145**	Pg	**Pn**	**21 00 48.6**	**0.0**
KHC				Sg	**Sb**	**21 01 05.9**	**-0.2**
	comp=Z,38nm,0.3s						
PRU	**Pruhonice**	**1.38**	**99**	*e*PG	**Pn**	**21 00 49.8**	**+0.5**
PRU				*e*SG	**Sn**	**21 01 07.1**	**-0.4**
	comp=Z,73nm,0.2s						
PRU	**Pruhonice**	**1.38**	**99**	Pg	**Pn**	**21 00 49.8**	**+0.5**
PRU				Sg	**Sn**	**21 01 07.1**	**-0.4**
	comp=Z,73nm,0.2s						
PVCC	**Panska Ves**	**1.40**	**77**	*e*PG	**Pn**	**21 00 50.1**	**+0.5**
PVCC				*e*SG	**Sn**	**21 01 07.2**	**-0.8**
	comp=Z,131nm,0.2s						
PVCC	**Panska Ves**	**1.40**	**77**	Pg	**Pn**	**21 00 50.1**	**+0.5**
PVCC				Sg	**Sn**	**21 01 07.2**	**-0.8**
	comp=Z,131nm,0.2s						
GOPC	**GO Pecny, Ondr**	**1.55**	**101**	*e*PG	**Pn**	**21 00 52.5**	**+0.8**
GOPC				*e*SG	**Sb**	**21 01 12.8**	**+0.3**
	comp=Z,67nm,0.3s						
GOPC	**GO Pecny, Ondr**	**1.55**	**101**	Pg	**Pn**	**21 00 52.5**	**+0.8**
GOPC				Sg	**Sb**	**21 01 12.8**	**+0.3**
	comp=Z,67nm,0.3s						
UPC	**Upice**	**2.31**	**82**	*e*SG	**Sb**	**21 01 35.9**	**+1.5**
	comp=Z,45nm,0.5s						
UPC	**Upice**	**2.31**	**82**	Sg	**Sb**	**21 01 35.9**	**+1.5**
	comp=Z,45nm,0.5s						
TOD	**Tromm**	**2.42**	**257**	P	**Pn**	**21 01 04.1**	**+0.4**
TOD				S	**Sb**	**21 01 36.5**	**-1.1**
DPC	**Dobruska-Polom**	**2.50**	**86**	*e*PN	**Pn**	**21 01 05.3**	**+0.5**
DPC				*e*PG	**Pb**	**21 01 09.3**	**+0.2**
DPC				*e*SG	**Sb**	**21 01 41.3**	**+1.5**
	comp=Z,23nm,0.4s						
DPC	**Dobruska-Polom**	**2.50**	**86**	Pn	**Pn**	**21 01 05.3**	**+0.5**
KSP	**Ksiaz**	**2.54**	**74**	*e*Pn	**Pn**	**21 01 05.9**	**+0.6**
KSP				*e*Pg	**Pb**	**21 01 11.2**	**+1.4**
KSP				*e*Sg	**Sb**	**21 01 43.6**	**+2.6**
KSP	**Ksiaz**	**2.54**	**74**	*e*Pn	**Pn**	**21 01 05.9**	**+0.6**
MOA	**Molln**	**2.67**	**152**	*e*Pn	**Pn**	**21 01 07.5**	**+0.4**
	comp=Z,0.2nm,0.2s						
MOA				Sg	**Sg**	**21 01 48.0**	**-2.0**
	comp=Z,18nm,0.5s						
MOA	**Molln**	**2.67**	**152**	Pn	**Pn**	**21 01 07.5**	**+0.4**
	comp=Z,0.2nm,0.2s						
MOA				Sg	**Sg**	**21 01 48.0**	**-2.0**
	comp=Z,18nm,0.5s						
KRLC	**Kraliky**	**2.80**	**91**	*e*SG	**Sg**	**21 01 52.3**	**-2.0**
KRLC	**Kraliky**	**2.80**	**91**	Sg	**Sg**	**21 01 52.3**	**-2.0**
KRUC	**Moravsky**	**2.83**	**113**	*e*Pn	**Pn**	**21 01 09.3**	**+0.1**
KRUC				*e*Sg	**Sb**	**21 01 52.1**	**+2.9**
	comp=Z,34nm,0.4s						
VRAC	**Vranov**	**2.85**	**107**	*e*Pn	**Pn**	**21 01 09.5**	**-0.1**
VRAC				*e*Sg	**Sb**	**21 01 52.9**	**+3.0**
	comp=Z,42nm,0.5s						
KTD	**Kalmit**	**2.96**	**254**	P	**Pn**	**21 01 11.6**	**+0.5**
KTD				S	**Sb**	**21 01 50.0**	**-3.1**
SPAK	**Spaichingen-Ko**	**3.20**	**230**	P	**Pn**	**21 01 15.3**	**+0.9**
SPAK				S	**Sn**	**21 01 56.4**	**+3.9**
CONA	**Conrad Observa**	**3.22**	**134**	*i* Pn	**Pn**	**21 01 16.3**	**+1.6**
	comp=Z,0.9nm,0.3s						
CONA				*i* Sg	**Sg**	**21 02 05.7**	**-2.0**
	comp=Z,12nm,0.3s						
CONA	**Conrad Observa**	**3.22**	**134**	Pn	**Pn**	**21 01 16.3**	**+1.6**
	comp=Z,0.9nm,0.3s						
CONA				Sg	**Sg**	**21 02 05.7**	**-2.0**
	comp=Z,12nm,0.3s						
MORC	**Moravsky Berou**	**3.33**	**96**	*e*Pn	**Pn**	**21 01 16.0**	**-0.2**
MORC				*e*Sg	**Sg**	**21 02 08.3**	**-2.9**
	comp=Z,30nm,0.7s						
RUP	**Ruppelstein**	**3.51**	**263**	P	**Pn**	**21 01 19.3**	**+0.7**
RUP				S	**Sn**	**21 02 04.1**	**+4.1**
ARSA	**Arzberg**	**3.61**	**144**	*e*Pn	**Pn**	**21 01 21.8**	**+1.7**
	comp=Z,1.2nm,0.3s						
ARSA	**Arzberg**	**3.61**	**144**	Pn	**Pn**	**21 01 21.8**	**+1.7**
	comp=Z,1.2nm,0.3s						
SMOL	**Smolenice**	**3.69**	**116**	*e*Sg	**Sg**	**21 02 21.9**	**-0.8**
SMOL	**Smolenice**	**3.69**	**116**	*e*SG	**Sg**	**21 02 21.8**	**-0.9**
FELD	**Feldberg im Sc**	**3.74**	**233**	P	**Pn**	**21 01 22.1**	**+0.2**
FELD				S	**Sn**	**21 02 10.1**	**+4.1**
CDF	**Champ du Feu**	**3.83**	**244**	*e*Pn	**Pn**	**21 01 21.6**	**-1.5**
CDF	**Champ du Feu**	**3.83**	**244**	*e*Pg	**Pg**	**21 01 35.6**	**-2.0**
CDF				*e*Sg	**Sg**	**21 02 24.7**	**-2.5**
	comp=Z,16nm,0.6s						
CDF	**Champ du Feu**	**3.83**	**244**	*e*Pn	**Pn**	**21 01 21.6**	**-1.5**
CDF	**Champ du Feu**	**3.83**	**244**	*e*Pg	**Pg**	**21 01 35.6**	**-2.0**
CDF				*e*Sg	**Sg**	**21 02 24.7**	**-2.5**
	comp=Z,8.1nm,0.6s						
ECH	**Echery**	**4.00**	**242**	P	**Pn**	**21 01 26.2**	**+0.9**
ECH				S	**Sn**	**21 02 16.5**	**+4.4**
ECH	**Echery**	**4.00**	**242**	P	**Pn**	**21 01 26.2**	**+0.9**
ECH				S	**Sn**	**21 02 16.5**	**+4.4**
PERS	**Pernice**	**4.01**	**153**	*i* Pn	**Pg**	**21 01 40.2**	**-0.9**
MOF	**Molkenrain**	**4.22**	**238**	P	**Pn**	**21 01 29.1**	**+0.7**
MOF				S	**Sn**	**21 02 22.8**	**+5.2**
MOF	**Molkenrain**	**4.22**	**238**	P	**Pn**	**21 01 29.1**	**+0.7**
MOF				S	**Sn**	**21 02 22.8**	**+5.2**
HINF	**Hinteralfeld**	**4.39**	**239**	*e*Pn	**Pn**	**21 01 29.2**	**-1.6**
HINF	**Hinteralfeld**	**4.39**	**239**	*e*Pg	**Pg**	**21 01 45.3**	**-3.1**
HINF				*e*Sg	**Sg**	**21 02 42.8**	**-2.4**
	comp=Z,14nm,0.6s						
HINF	**Hinteralfeld**	**4.39**	**239**	*e*Pn	**Pn**	**21 01 29.2**	**-1.6**
HINF	**Hinteralfeld**	**4.39**	**239**	*e*Pg	**Pg**	**21 01 45.3**	**-3.1**
HINF				*e*Sg	**Sg**	**21 02 42.8**	**-2.4**
	comp=Z,7.2nm,0.6s						
VYHS	**Vyhne**	**4.53**	**110**	*e*Pn	**Pn**	**21 01 33.8**	**+1.1**
VYHS	**Vyhne**	**4.53**	**110**	*e*PN	**Pn**	**21 01 33.8**	**+1.1**
VYHS				*e*PG	**Pg**	**21 01 51.5**	**+0.4**
VYHS				*e*SG	**Sb**	**21 02 39.4**	**+1.2**
VYHS				eLG	Lg	21 02 48.8	
DOBS	**Dobrina**	**4.56**	**152**	*i* Pn	**Pn**	**21 01 35.0**	**+2.0**
DOBS	**Dobrina**	**4.56**	**152**	*i* Pn	**Pn**	**21 01 35.0**	**+2.0**
KOGS	**Kog**	**4.56**	**145**	*i* Pn	**Pn**	**21 01 34.0**	**+1.0**
KOGS	**Kog**	**4.56**	**145**	*i* Pn	**Pn**	**21 01 34.0**	**+1.0**
HAU	**Haudompre**	**4.57**	**243**	*e*Pn	**Pn**	**21 01 31.5**	**-1.7**
HAU	**Haudompre**	**4.57**	**243**	*e*Pg	**Pg**	**21 01 49.3**	**-2.5**
HAU				*e*Sg	**Sg**	**21 02 47.6**	**-3.4**
	comp=Z,15nm,0.5s						
HAU	**Haudompre**	**4.57**	**243**	*e*Pn	**Pn**	**21 01 31.5**	**-1.7**
HAU	**Haudompre**	**4.57**	**243**	*e*Pg	**Pg**	**21 01 49.3**	**-2.5**
HAU				*e*Sg	**Sg**	**21 02 47.6**	**-3.4**
	comp=Z,7.7nm,0.5s						
THEF	**They Montfort**	**4.67**	**247**	P	**Pn**	**21 01 35.7**	**+1.1**
THEF				S	**Sn**	**21 02 33.5**	**+4.8**
THEF	**They Montfort**	**4.67**	**247**	P	**Pn**	**21 01 35.7**	**+1.1**
PAGF	**Fort de Pagny**	**4.69**	**252**	*e*Pn	**Pn**	**21 01 33.0**	**-1.8**
PAGF	**Fort de Pagny**	**4.69**	**252**	*e*Pg	**Pg**	**21 01 51.4**	**-2.6**
PAGF				*e*Sg	**Sg**	**21 02 51.3**	**-3.4**
	comp=Z,3.0nm,0.6s						
PAGF	**Fort de Pagny**	**4.69**	**252**	*e*Pn	**Pn**	**21 01 33.0**	**-1.8**
PAGF	**Fort de Pagny**	**4.69**	**252**	*e*Pg	**Pg**	**21 01 51.4**	**-2.6**
PAGF				*e*Sg	**Sg**	**21 02 51.3**	**-3.4**
	comp=Z,1.5nm,0.6s						
LOMF	**Lomont**	**4.69**	**234**	P	**Pn**	**21 01 36.0**	**+1.1**
LOMF				S	**Sn**	**21 02 34.9**	**+5.7**
LOMF	**Lomont**	**4.69**	**234**	P	**Pn**	**21 01 36.0**	**+1.1**
LOMF				S	**Sn**	**21 02 34.9**	**+5.7**
LANS	**Liptovska Anna**	**4.69**	**101**	*e*Pn	**Pn**	**21 01 35.1**	**+0.2**
LANS				*e*Sg	**Sg**	**21 02 53.3**	**-1.6**
LANS	**Liptovska Anna**	**4.69**	**101**	*e*PN	**Pn**	**21 01 35.1**	**+0.2**
LANS				*e*SG	**Sg**	**21 02 53.3**	**-1.6**
GIVF	**Givet**	**4.89**	**271**	*e*Sg	**Sg**	**21 02 57.6**	**-3.6**
	comp=Z,5.0nm,0.3s						
GIVF	**Givet**	**4.89**	**271**	*e*Sg	**Sg**	**21 02 57.6**	**-3.6**
	comp=Z,2.5nm,0.3s						
MEZF	**Maizieres J'vi**	**5.12**	**253**	*e*Sg	**Sg**	**21 03 04.8**	**-3.8**
	comp=Z,4.6nm,0.4s						
MEZF	**Maizieres J'vi**	**5.12**	**253**	*e*Sg	**Sg**	**21 03 04.8**	**-3.8**
	comp=Z,2.3nm,0.4s						
STHS	**Stebnicka Huta**	**5.76**	**95**	*e*SG	**Sg**	**21 03 24.0**	**-5.2**
STHS				eLG	Lg	21 03 38.4	
SSF	**Saint Saulge**	**6.71**	**245**	*e*Sg	**Sg**	**21 03 55.0**	**-4.4**
	comp=Z,3.2nm,0.4s						
SMF	**Signal de Mont**	**6.74**	**241**	*e*Pg	**Pg**	**21 02 28.9**	**-4.5**
SMF				*e*Sg	**Sg**	**21 03 56.2**	**-4.4**
	comp=Z,4.0nm,0.5s						

*CSEM **02** 21:16:24.5±0.1, 50°17N×12°35E, h10km, ML3.5/25, Error ellipse: s-maj=3.0km s-min=2.1km az=158.0*
*IPEC **02** 21:16:25.9±0.1, 50°24N×12°46E, h10km, ML2.9/8, Error ellipse: s-maj=1.4km s-min=0.8km az=15.0*
*BGR **02** 21:16:26.0±0.2, 50°25N×12°44E, h11km±1km, ML3.4/6, Error ellipse: s-maj=2.2km s-min=1.1km az=103.0*
*PRU **02** 21:16:26.1, 50°25N×12°48E, h6km, West Bohemia Swarm*
*LDG **02** 21:16:26.0±0.1, 50°24N×12°43E, h10km, Ml3.4/19, Error ellipse: s-maj=1.4km s-min=0.8km az=129.0*
*CLL **02** 21:16:26.6±0.3, 50°3N±0.8×1°2E±°, h7km±1km, ml3.1*
*BNS **02** 21:16:29.9±0.6, 50°25N×12°41E, h9km, ML3.0*
*STR **02** 21:16:40.4±0.4, 50°38N×12°26E, h10km, Ml3.5, Error ellipse: s-maj=0.0km s-min=0.0km az=0.0*
ISC 02 21:16:24.7±0.7, 50°22N±0°02×12°31E±0°01, h18km±3km, n165, σ1.951/258, 8D, Germany

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ROHR	**Rohrbach**	**0.01**	**23**	*i* Pg	**Pg**	**21 16 28.4**	**+0.5**
ROHR				*i* Sg	**Sg**	**21 16 29.9**	**-0.3**
ROHR				AML	AML	21 16 30.0	
	comp=E,24μm,0.2s						
ROHR	**Rohrbach**	**0.01**	**23**	*e*Pg	**Pg**	**21 16 28.4**	**+0.5**
ROHR				*e*Sg	**Sg**	**21 16 29.9**	**-0.3**
ROHR	**Rohrbach**	**0.01**	**23**	Pg	**Pg**	**21 16 28.4**	**+0.5**
ROHR				Sg	**Sg**	**21 16 29.9**	**-0.3**
WERN	**Wernitzgruen**	**0.08**	**33**	*i* Pg	**Pg**	**21 16 28.2**	**0.0**
WERN				*i* Sg	**Sg**	**21 16 29.6**	**-1.1**
WERN				AML	AML	21 16 29.7	
	comp=N,12μm,0.1s						
WERN	**Wernitzgruen**	**0.08**	**33**	*e*Pg	**Pg**	**21 16 28.3**	**0.0**
WERN				*e*Sg	**Sg**	**21 16 29.6**	**-1.1**
WERN	**Wernitzgruen**	**0.08**	**33**	Pg	**Pg**	**21 16 28.3**	**0.0**
WERN				Sg	**Sg**	**21 16 29.6**	**-1.1**
NKC	**Novy Kostel**	**0.09**	**82**	*i*PG	**Pg**	**21 16 27.8**	**-0.5**
NKC				*e*SG	**Sg**	**21 16 28.9**	**-1.9**
	comp=N,18μm,0.2s						
NKC	**Novy Kostel**	**0.09**	**82**	*i*Pg	**Pg**	**21 16 27.8**	**-0.5**
NKC				*i* Sg	**Sg**	**21 16 28.8**	**-1.9**
NKC	**Novy Kostel**	**0.09**	**82**	*e*P

comp=Z,70nm,0.2s
PRA Prague 1.38 95 ⇓*i*PG **Pb 21 16 50.1 +0.2**
PRA eSG **Sn 21 17 06.0 -0.7**
comp=Z,185nm,0.6s
PRA Prague 1.38 95 Pg **Pb 21 16 50.1 +0.2**
PRA Sg **Sn 21 17 06.0 -0.7**
comp=Z,185nm,0.6s
PRU Pruhonice 1.46 98 ⇓*i*PG **Pb 21 16 51.4 +0.1**
PRU eSG **Sn 21 17 08.9 +0.1**
comp=Z,166nm,0.2s
PRU Pruhonice 1.46 98 Pg **Pb 21 16 51.4 +0.1**
PRU Sg **Sn 21 17 08.9 +0.1**
comp=Z,166nm,0.2s
PVCC Panska Ves 1.48 77 ⇓*i*PG **Pb 21 16 51.9 +0.2**
PVCC eSG **Sb 21 17 10.7 +0.5**
comp=Z,462nm,0.2s
PVCC Panska Ves 1.48 77 Pg **Pb 21 16 51.9 +0.2**
PVCC Sg **Sb 21 17 10.7 +0.5**
comp=Z,462nm,0.2s
GOPC GO Pecny, Ondr 1.63 100 eSG **Sb 21 17 14.4 0.0**
comp=Z,148nm,0.2s
GOPC GO Pecny, Ondr 1.63 100 Sg **Sb 21 17 14.4 0.0**
comp=Z,148nm,0.2s
UPC Upice 2.39 82 ⇓*e*SG **Sb 21 17 37.6 +1.3**
comp=Z,115nm,0.6s
UPC Upice 2.39 82 Sg **Sb 21 17 37.6 +1.3**
comp=Z,115nm,0.6s
DPC Dobruska-Polom 2.58 86 eSG **Sb 21 17 43.0 +1.2**
comp=Z,65nm,0.4s
DPC Dobruska-Polom 2.58 86 Sg **Sb 21 17 43.0 +1.2**
comp=Z,65nm,0.4s
KSP Ksiaz 2.62 75 *e*Pg **Pb 21 17 12.6 +1.5**
KSP eSg **Sb 21 17 45.3 +2.4**
KSP Ksiaz 2.62 75 *e*Pg **Pb 21 17 12.6 +1.5**
KSP eSg **Sb 21 17 45.3 +2.4**
MOA Molln 2.70 151 Pn **Pn 21 17 09.2 +2.0**
comp=Z,2.6nm,0.3s
MOA Sg **Sg 21 17 49.6 -1.8**
comp=Z,17nm,0.2s
MOA Molln 2.70 151 Pn **Pn 21 17 09.2 +2.0**
comp=Z,2.6nm,0.3s
MOA Sg **Sg 21 17 49.6 -1.8**
comp=Z,17nm,0.2s
KRLC Kraliky 2.88 91 ⇓*e*SG **Sg 21 17 53.8 -3.5**
KRLC Kraliky 2.88 91 Sg **Sg 21 17 53.8 -3.5**
KRUC Moravsky 2.90 112 *e*Pn **Pn 21 17 10.6 +0.6**
KRUC eSg **Sb 21 17 53.7 +2.7**
comp=Z,71nm,0.4s
RETA Reutte 2.92 201 *i* Pn **Pn 21 17 11.8 +1.5**
comp=Z,0.9nm,0.2s
RETA Reutte 2.92 201 Pn **Pn 21 17 11.8 +1.5**
comp=Z,0.9nm,0.2s
VRAC Vranov 2.92 107 *e*Pn **Pn 21 17 10.9 +0.6**
VRAC eSg **Sb 21 17 54.6 +2.9**
comp=Z,78nm,0.4s
BGG Burgeitz 3.19 272 *e*Pn **Pb 21 17 19.4 -1.5**
KBA Koelnbreinsper 3.22 167 *i* Pn **Pn 21 17 17.4 +2.9**
comp=Z,3.1nm,0.2s
KBA Koelnbreinsper 3.22 167 Pn **Pn 21 17 17.4 +2.9**
comp=Z,3.1nm,0.2s
HOBG Hohbusch 3.26 285 *e*Pn **Pb 21 17 21.0 -1.0**
HOBG eSn **Sb 21 17 59.4 -1.9**
CONA Conrad Observa 3.27 133 *i* Pn **Pn 21 17 17.5 +2.3**
comp=Z,2.5nm,0.3s
CONA *i* Sg **Sg 21 18 06.4 -3.5**
CONA Conrad Observa 3.27 133 Pn **Pn 21 17 17.5 +2.3**
comp=Z,2.5nm,0.3s
CONA Sg **Sg 21 18 06.4 -3.5**
DAVA Damuels 3.35 210 *i* Pn **Pn 21 17 17.6 +1.3**
comp=Z,3.8nm,0.3s
DAVA Damuels 3.35 210 Pn **Pn 21 17 17.6 +1.3**
comp=Z,3.8nm,0.3s
MORC Moravsky Berou 3.41 95 *e*Pn **Pn 21 17 17.5 +0.5**
MORC eSg **Sb 21 18 09.4 +3.8**
comp=Z,48nm,0.4s
STB Steinbach 3.52 278 *e*Pn **Pb 21 17 23.9 -2.5**
LAUG Laupendahl 3.59 290 *e*Pn **Pb 21 17 25.0 -2.6**
HILG Hillesheim 3.61 273 *e*Pn **Pb 21 17 25.9 -2.1**
CDF Champ du Feu 3.76 243 *e*Pn **Pn 21 17 23.9 +2.1**
CDF Champ du Feu 3.76 243 *e*Pg **Pg 21 17 37.4 +0.8**
CDF eSg **Sg 21 18 26.6 +1.3**
comp=Z,40nm,0.6s
CDF Champ du Feu 3.76 243 *e*Pn **Pn 21 17 23.9 +2.1**
CDF Champ du Feu 3.76 243 *e*Pg **Pg 21 17 37.4 +0.8**
CDF eSg **Sg 21 18 26.6 +1.3**
comp=Z,20nm,0.6s
SMOL Smolenice 3.76 115 *e*Sg **Sg 21 18 23.3 -2.0**
SMOL Smolenice 3.76 115 eSG **Sg 21 18 23.3 -2.0**
KLL Kalltalsperre 3.86 279 *e*Pn **Pb 21 17 28.8 -3.4**
ECH Echery 3.93 241 P **Pg 21 17 41.7 +1.8**
ECH S **Sg 21 18 31.8 +1.1**
ROBS Robic 4.06 168 *i* Pn **Pn 21 17 29.6 +3.7**
ROBS Robic 4.06 168 Pn **Pn 21 17 29.6 +3.7**
CADS Cadrg 4.11 166 *i* Pn **Pn 21 17 30.4 +3.8**
CADS Cadrg 4.11 166 *i* Pn **Pn 21 17 30.4 +3.8**
MOF Molkenrain 4.15 237 P **Pg 21 17 45.4 +1.3**
MOF S **Sg 21 18 37.9 +0.1**
MOZS Mozjanca 4.18 159 *i* Pn **Pn 21 17 30.3 +2.7**
MOZS Mozjanca 4.18 159 *i* Pn **Pn 21 17 30.3 +2.7**
HINF Hinteralfeld 4.32 238 *e*Pn **Pn 21 17 30.8 +1.3**
HINF Hinteralfeld 4.32 238 *e*Pg **Pg 21 17 46.8 -0.6**
HINF eSg **Sg 21 18 43.1 -0.3**
comp=Z,37nm,0.6s
HINF Hinteralfeld 4.32 238 *e*Pn **Pn 21 17 30.8 +1.3**
HINF Hinteralfeld 4.32 238 *e*Pg **Pg 21 17 46.8 -0.6**
HINF eSg **Sg 21 18 43.1 -0.3**
comp=Z,19nm,0.6s
HAU Haudompre 4.50 243 *e*Pn **Pn 21 17 33.4 +1.4**
HAU Haudompre 4.50 243 *e*Pg **Pg 21 17 50.7 -0.1**
HAU eSg **Sg 21 18 49.2 +0.2**
comp=Z,36nm,0.5s
HAU Haudompre 4.50 243 *e*Pn **Pn 21 17 33.4 +1.4**
HAU Haudompre 4.50 243 *e*Pg **Pg 21 17 50.7 -0.1**
HAU eSg **Sg 21 18 49.2 +0.2**
comp=Z,18nm,0.5s
THEF They Montfort 4.60 247 P **Pg 21 17 50.2 -2.5**
KOGS Kog 4.60 144 *i* Pn **Pn 21 17 35.7 +2.4**
KOGS Kog 4.60 144 *i* Pn **Pn 21 17 35.7 +2.4**
VYHS Vyhne 4.60 110 *e*Pn **Pn 21 17 33.6 +0.2**
VYHS Vyhne 4.60 110 *e*PN **Pn 21 17 33.6 +0.2**
VYHS eSG **Sb 21 18 43.4 +3.4**
VYHS eLG Lg 21 18 51.8
PAGF Fort de Pagny 4.61 251 *e*Pn **Pn 21 17 35.5 +2.0**
PAGF Fort de Pagny 4.61 251 *e*Pg **Pg 21 17 53.0 0.0**
baz=65
PAGF eSg **Sg 21 18 53.1 +0.4**
comp=Z,13nm,0.9s
PAGF Fort de Pagny 4.61 251 *e*Pn **Pn 21 17 35.5 +2.0**
PAGF Fort de Pagny 4.61 251 *e*Pg **Pg 21 17 53.0 0.0**
PAGF eSg **Sg 21 18 53.1 +0.4**
comp=Z,6.6nm,0.9s
LOMF Lomont 4.62 234 P **Pg 21 17 51.2 -2.0**
LOMF S **Sg 21 18 50.6 -2.4**
LANS Liptovska Anna 4.77 100 *e*Pn **Pn 21 17 37.1 +1.4**
LANS eSg **Sg 21 18 53.6 -4.2**
LANS Liptovska Anna 4.77 100 *e*PN **Pn 21 17 37.1 +1.4**
LANS eSG **Sg 21 18 53.6 -4.2**
GIVF Givet 4.81 271 *e*Pn **Pn 21 17 37.8 +1.6**
GIVF Givet 4.81 271 *e*Pg **Pg 21 17 56.9 +0.1**
GIVF eSg **Sg 21 18 58.7 -0.4**
comp=Z,22nm,0.5s
GIVF Givet 4.81 271 *e*Pn **Pn 21 17 37.8 +1.6**
GIVF Givet 4.81 271 *e*Pg **Pg 21 17 56.9 +0.1**
GIVF eSg **Sg 21 18 58.7 -0.4**
comp=Z,11nm,0.5s
MEZF Maizieres J'vi 5.04 253 *e*Pn **Pn 21 17 40.4 +1.0**
MEZF Maizieres J'vi 5.04 253 *e*Pg **Pg 21 18 00.8 -0.4**
MEZF eSg **Sg 21 19 06.7 +0.2**
comp=Z,21nm,0.7s
MEZF Maizieres J'vi 5.04 253 *e*Pn **Pn 21 17 40.4 +1.0**
MEZF Maizieres J'vi 5.04 253 *e*Pg **Pg 21 18 00.8 -0.4**
MEZF eSg **Sg 21 19 06.7 +0.2**
comp=Z,10nm,0.7s
BSD Bornholm Skovb 5.15 17 *i* P **Pn 21 17 39.9 -1.0**
BSD Bornholm Skovb 5.15 17 *i* P **Pn 21 17 39.9 -1.0**
SFTF Sexfontaines 5.17 250 *e*Pn **Pn 21 17 42.2 +1.0**
baz=73
SFTF Sexfontaines 5.17 250 *e*Pg **Pg 21 18 03.1 -0.6**
SFTF eSg **Sg 21 19 11.1 +0.4**
comp=Z,23nm,0.7s
SFTF Sexfontaines 5.17 250 *e*Pn **Pn 21 17 42.2 +1.0**
SFTF Sexfontaines 5.17 250 *e*Pg **Pg 21 18 03.1 -0.6**
SFTF eSg **Sg 21 19 11.1 +0.4**
comp=Z,11nm,0.7s
BAIF Baives 5.21 271 *e*Sg **Sg 21 19 11.1 -0.8**
comp=Z,24nm,0.9s
BAIF Baives 5.21 271 *e*Sg **Sg 21 19 11.1 -0.8**
comp=Z,12nm,0.9s
CABF La Chapelle 5.49 231 *e*Pn **Pn 21 17 46.7 +1.0**
CABF La Chapelle 5.49 231 *e*Pg **Pg 21 18 08.8 -1.1**
CABF eSg **Sg 21 19 20.6 -0.4**
comp=Z,27nm,0.8s
CABF La Chapelle 5.49 231 *e*Pn **Pn 21 17 46.7 +1.0**
CABF La Chapelle 5.49 231 *e*Pg **Pg 21 18 08.8 -1.1**
CABF eSg **Sg 21 19 20.6 -0.4**
comp=Z,13nm,0.8s
KECS Kecovo 5.62 105 *e*Sg **Sg 21 19 23.1 -1.9**
KECS Kecovo 5.62 105 eSG **Sg 21 19 23.0 -1.9**
KECS eLG Lg 21 19 27.6
STHS Stebnicka Huta 5.84 94 *e*Sg **Sg 21 19 29.9 -2.1**
STHS Stebnicka Huta 5.84 94 eSG **Sg 21 19 29.9 -2.1**
STHS eLG Lg 21 19 33.8
LPL La Plagne 6.02 221 *e*Pg **Pg 21 18 18.5 -1.4**
LPL eSg **Sg 21 19 37.1 -0.6**
comp=Z,1.1nm,0.2s
LPL La Plagne 6.02 221 *e*Pn **Pg 21 18 18.5 -1.4**
LPL eSg **Sg 21 19 37.1 -0.6**
comp=Z,0.6nm,0.2s
LPG La Plagne 6.02 220 *e*Pg **Pg 21 18 18.5 -1.5**
LPG eSg **Sg 21 19 37.8 -0.2**
comp=Z,13nm,0.9s
LPG La Plagne 6.02 220 *e*Pg **Pg 21 18 18.5 -1.5**
LPG eSg **Sg 21 19 37.8 -0.2**
comp=Z,6.3nm,0.9s
CRVS Cervenica-Dubn 6.10 99 *e*Sg **Sg 21 19 38.1 -2.3**
CRVS Cervenica-Dubn 6.10 99 eSG **Sg 21 19 38.1 -2.3**
LOR Lormes 6.32 245 *e*Pn **Pn 21 17 58.1 +1.1**
baz=64
LOR Lormes 6.32 245 *e*Pg **Pg 21 18 24.2 -1.4**
baz=61
LOR eSg **Sg 21 19 46.6 -0.8**
comp=Z,15nm,0.6s
LOR Lormes 6.32 245 *e*Pn **Pn 21 17 58.1 +1.1**
LOR Lormes 6.32 245 *e*Pg **Pg 21 18 24.2 -1.4**
LOR eSg **Sg 21 19 46.6 -0.8**
comp=Z,7.4nm,0.6s
SSF Saint Saulge 6.63 245 *e*Pn **Pn 21 18 02.0 +0.8**
SSF Saint Saulge 6.63 245 *e*Pg **Pg 21 18 29.9 -1.7**
SSF eSg **Sg 21 19 56.2 -1.2**
comp=Z,6.4nm,0.4s
SSF Saint Saulge 6.63 245 *e*Pn **Pn 21 18 02.0 +0.8**
SSF Saint Saulge 6.63 245 *e*Pg **Pg 21 18 29.9 -1.7**
SSF eSg **Sg 21 19 56.2 -1.2**
comp=Z,3.2nm,0.4s
SMF Signal de Mont 6.67 241 *e*Pn **Pn 21 18 01.9 +0.1**
SMF Signal de Mont 6.67 241 *e*Pg **Pg 21 18 31.2 -1.2**
SMF eSg **Sg 21 19 57.4 -1.3**
comp=Z,10nm,0.5s
SMF Signal de Mont 6.67 241 *e*Pn **Pn 21 18 01.9 +0.1**
SMF Signal de Mont 6.67 241 *e*Pg **Pg 21 18 31.2 -1.2**
SMF eSg **Sg 21 19 57.4 -1.3**
comp=Z,5.2nm,0.5s
ORIF Oris-en-Rattie 6.86 222 *e*Pg **Pg 21 18 34.1 -1.8**
ORIF eSg **Sg 21 20 02.8 -1.8**
comp=Z,7.8nm,0.8s
ORIF Oris-en-Rattie 6.86 222 *e*Pg **Pg 21 18 34.1 -1.8**
ORIF eSg **Sg 21 20 02.8 -1.8**
comp=Z,3.9nm,0.8s
AVF Avril sur Loir 6.87 243 *e*Pn **Pn 21 18 05.4 +1.0**
AVF Avril sur Loir 6.87 243 *e*Pg **Pg 21 18 34.8 -1.3**
AVF eSg **Sg 21 20 02.8 -2.1**
comp=Z,7.6nm,0.6s
AVF Avril sur Loir 6.87 243 *e*Pn **Pn 21 18 05.4 +1.0**
AVF Avril sur Loir 6.87 243 *e*Pg **Pg 21 18 34.8 -1.3**
AVF eSg **Sg 21 20 02.8 -2.1**
comp=Z,3.8nm,0.6s
VIVF Saint-Julien-l 7.45 227 *e*Sg **Sg 21 20 21.9 -1.6**
comp=Z,4.8nm,0.6s
VIVF Saint-Julien-l 7.45 227 eSg **Sg 21 20 21.9 -1.6**
comp=Z,2.4nm,0.6s
TCF Toulx Ste Croi 7.80 244 eSg Sb 21 20 33.2 +21
comp=Z,7.1nm,0.7s
TCF Toulx Ste Croi 7.80 244 eSg Sb 21 20 33.2 +21
comp=Z,3.5nm,0.7s

*ISCJB **02** 21:17:41.0±0.8,50°.23N±0°.03×12°.55E±0°.04,h13km±8km, Error ellipse: s-maj=6.2km s-min=3.3km az=41.9*
*CSEM **02** 21:17:43.1±0.3,50°.22N×12°.56E,h2km,ML3.6/8, Error ellipse: s-maj=9.8km s-min=3.6km az=8.0*
*CLL **02** 21:17:43.3±0.3,50°.3N±0°.8×1°.2E±°,h7km±1km,ml2.5*
*PRU **02** 21:17:43.2,50°.26N×12°.51E,h1km, West Bohemia Swarm*
ISC 02 21:17:43.0±1.1,50°.24N±0°.03×12°.48E±0°.03,h9km±6km, n36,σ1°09/52,7D,Germany

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
NKC	**Novy Kostel**	**0.03**	**248**	⇓*i*PG		**Pg**	**21 17 44.5**	**-0.2**
NKC				e SG		**Sg**	**21 17 45.5**	**-0.4**
	comp=Z,5μm,0.2s							
NKC	**Novy Kostel**	**0.03**	**248**	⇓*i*Pg		**Pg**	**21 17 44.5**	**-0.2**
NKC				*i* Sg		**Sg**	**21 17 45.5**	**-0.4**
NKC	**Novy Kostel**	**0.03**	**248**	Pg		**Pg**	**21 17 44.5**	**-0.2**
NKC				Sg		**Sg**	**21 17 45.5**	**-0.4**
	5μm,0.2s							
WERN	**Wernitzgruen**	**0.08**	**303**	*i* Pg		**Pg**	**21 17 44.9**	**-0.4**
WERN				*i* Sg		**Sg**	**21 17 46.2**	**-0.7**
WERN				AML	AML		21 17 46.3	
	comp=N,2μm,0.1s							
ROHR	**Rohrbach**	**0.11**	**265**	*i* Pg		**Pg**	**21 17 45.0**	**-0.6**
ROHR				*i* Sg		**Sg**	**21 17 46.5**	**-1.0**
ROHR				AML	AML		21 17 46.6	
	comp=E,6μm,0.2s							
GUNZ	**Gunzen**	**0.16**	**321**	*i* Pg		**Pg**	**21 17 46.0**	**-0.4**
GUNZ				*i* Sg		**Sg**	**21 17 48.0**	**-0.8**
GUNZ				AML	AML		21 17 48.3	
	comp=N,654nm,0.2s							
TANN	**Tannenbergstha**	**0.17**	**355**	*i* Pg		**Pg**	**21 17 46.4**	**-0.3**
TANN				*i* Sg		**Sg**	**21 17 48.6**	**-0.6**
TANN				AML	AML		21 17 49.3	
	comp=N,1μm,0.4s							
MULD	**Muldenberg**	**0.18**	**343**	*i* Pg		**Pg**	**21 17 46.4**	**-0.4**
MULD				*i* Sg		**Sg**	**21 17 48.6**	**-0.7**
MULD				AML	AML		21 17 49.3	
	comp=N,1μm,0.2s							
WERD	**Werda**	**0.23**	**331**	*i* Pg		**Pg**	**21 17 47.3**	**-0.4**
WERD				*i* Sg		**Sg**	**21 17 50.2**	**-0.8**
WERD				AML	AML		21 17 50.2	
	comp=E,306nm,0.3s							
TRIB	**Obertriebel**	**0.25**	**296**	*i* Pg		**Pg**	**21 17 47.3**	**-0.7**
TRIB				*i* Sg		**Sg**	**21 17 50.3**	**-1.0**
TRIB				AML	AML		21 17 50.8	
	comp=E,441nm,0.1s							
PLN	**Plauen**	**0.32**	**319**	*i* Pg		**Pg**	**21 17 48.8**	**-0.6**
PLN				*i* Sg		**Sg**	**21 17 52.8**	**-0.9**
PLN				AML	AML		21 17 52.9	
	comp=E,239nm,0.2s							
SCHF	**Schoenfels**	**0.44**	**353**	*i* Pg		**Pg**	**21 17 51.2**	**-0.4**
SCHF				*i* Sg		**Sg**	**21 17 56.9**	**-0.4**
SCHF				AML	AML		21 17 57.1	
	comp=E,1μm,0.1s							
MLFH	**Mildenfurth**	**0.61**	**335**	*i* Pg		**Pg**	**21 17 54.0**	**-0.7**
MLFH				*i* Sg		**Sg**	**21 18 01.8**	**-0.9**
CLL	**Collm**	**1.12**	**17**	*i* Pg		**Pg**	**21 18 03.8**	**-0.6**
CLL				*i*			21 18 07.1	
CLL				*i* Sg		**Sg**	**21 18 18.3**	**-0.6**
	comp=E,68nm,0.6s							
PRA	**Prague**	**1.27**	**97**	⇓*e*PG		**Pg**	**21 18 07.0**	**-0.3**
PRA				e SG		**Sg**	**21 18 22.8**	**-0.9**
	comp=Z,52nm,0.2s							
PRA	**Prague**	**1.27**	**97**	Pg		**Pg**	**21 18 07.0**	**-0.3**
PRA				Sg		**Sg**	**21 18 22.8**	**-0.9**
	comp=Z,52nm,0.2s							
KHC	**Kasperske Hory**	**1.32**	**147**	⇓*e*SG		**Sg**	**21 18 24.6**	**-0.8**
	comp=Z,37nm,0.2s							
KHC	**Kasperske Hory**	**1.32**	**147**	Sg		**Sg**	**21 18 24.6**	**-0.8**
	comp=Z,37nm,0.2s							
PRU	**Pruhonice**	**1.35**	**100**	⇓*e*SG		**Sg**	**21 18 25.5**	**-0.8**
	comp=Z,71nm,0.2s							
PRU	**Pruhonice**	**1.35**	**100**	Sg		**Sg**	**21 18 25.5**	**-0.8**
	comp=Z,71nm,0.2s							
PVCC	**Panska Ves**	**1.36**	**77**	⇓*e*SG		**Sn**	**21 18 27.3**	**+0.8**
	comp=Z,146nm,0.2s							
PVCC	**Panska Ves**	**1.36**	**77**	Sg		**Sn**	**21 18 27.3**	**+0.8**
	comp=Z,146nm,0.2s							
GOPC	**GO Pecny, Ondr**	**1.52**	**102**	*e*SG		**Sb**	**21 18 31.4**	**+0.7**
	comp=Z,75nm,0.6s							
GOPC	**GO Pecny, Ondr**	**1.52**	**102**	Sg		**Sb**	**21 18 31.4**	**+0.7**
	comp=Z,75nm,0.6s							
UPC	**Upice**	**2.27**	**82**	⇓*e*SG		**Sb**	**21 18 54.2**	**+1.8**
	comp=Z,44nm,0.5s							
UPC	**Upice**	**2.27**	**82**	Sg		**Sb**	**21 18 54.2**	**+1.8**
	comp=Z,44nm,0.5s							
DPC	**Dobruska-Polom**	**2.46**	**86**	*e*SG		**Sb**	**21 18 59.6**	**+1.7**
	comp=Z,23nm,0.4s							
DPC	**Dobruska-Polom**	**2.46**	**86**	Sg		**Sb**	**21 18 59.6**	**+1.7**
	comp=Z,23nm,0.4s							
VRAC	**Vranov**	**2.82**	**108**	*e*Sg		**Sb**	**21 19 10.5**	**+2.3**
MORC	**Moravsky Berou**	**3.30**	**96**	*e*Sg		**Sg**	**21 19 26.7**	**-2.1**
SMOL	**Smolenice**	**3.67**	**116**	*e*Sg		**Sg**	**21 19 39.1**	**-1.5**
SMOL	**Smolenice**	**3.67**	**116**	eSG		**Sg**	**21 19 39.1**	**-1.5**
LANS	**Liptovska Anna**	**4.66**	**101**	*e*Sg		**Sg**	**21 20 11.6**	**-1.0**
LANS	**Liptovska Anna**	**4.66**	**101**	eSG		**Sg**	**21 20 11.6**	**-1.0**
STHS	**Stebnicka Huta**	**5.73**	**95**	*e*Sg		**Sg**	**21 20 44.4**	**-2.4**
STHS	**Stebnicka Huta**	**5.73**	**95**	*e*SG		**Sg**	**21 20 44.4**	**-2.4**
STHS				eLG		Lg	21 20 51.2	

*NIED **02** 21:18:00,38°.60N×142°.10E,h41km,Mw3.6 Best double couple: M0 3.25000×10^14 NP1:φ=285.00000°,δ=11.00000°,λ=170.00000°. NP2:φ=25.00000°,δ=88.00000°,λ=79.00000°.*
*IDC **02** 21:18:12.1±3.0,38°.76N×142°.70E,h0km,mb3.5/3, mb1 3.6/5,mb1mx3.4/40,mbtmp3.5/5,ML2.7/2,Error ellipse: s-maj=67.0km s-min=31.7km az=69.0*
*JMA **02** 21:18:19.8±0.1,38°.65N×142°.09E,h43km±1km,M3.7*
JMA Felt I J1.
ISC 02 21:18:18.3±2.3,38°.65N±0°.05×142°.2E±0°.1,h29km±15km, n21,σ1°24/24,mb3.5/3,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
OFUJ	**Ofunato**	**0.59**	**317**	P		**Pn**	**21 18 31.3**	**+0.5**
OFUJ				S		**Sn**	**21 18 39.2**	**-0.3**
JIO	**Ouri**	**0.69**	**254**	P		**Pn**	**21 18 32.0**	**-0.1**
JIO				S		**Sn**	**21 18 40.5**	**-1.2**
JMK	**Ichinoseki**	**0.81**	**292**	P		**Pn**	**21 18 34.0**	**+0.1**
JMK				S		**Sn**	**21 18 44.0**	**-0.9**
JOM	**Ohasama**	**1.08**	**320**	P		**Pb**	**21 18 38.1**	**-0.3**
JOM				S		**Sn**	**21 18 51.5**	**0.0**
JOU	**Okura**	**1.23**	**257**	P		**Pn**	**21 18 39.7**	**+0.1**
JOU				eS		**Sn**	**21 18 54.2**	**-1.0**
JMM	**Marumori**	**1.35**	**235**	P		**Pn**	**21 18 41.1**	**-0.1**
JMM				eS		**Sn**	**21 18 56.7**	**-1.4**
JRG	**Rokugo**	**1.42**	**302**	P		**Pn**	**21 18 42.9**	**+0.7**
JYK	**Kaneyama**	**1.46**	**281**	P		**Pn**	**21 18 43.1**	**+0.4**
JFK	**Kawauchi**	**1.65**	**219**	P		**Pn**	**21 18 45.6**	**+0.2**
JFK				eS		**Sn**	**21 19 04.1**	**-1.5**
MJAR	**Matsushiro Arr**	**3.80**	**238**	Pn		**Pn**	**21 19 17.0**	**+2.1**
	2.3nm,0.3s,baz=38,slow=12,SNR=26							
MJAR				Sn		**Sb**	**21 20 10.0**	**-0.2**
	0.9nm,0.3s,baz=83,slow=6.0,SNR=3.1							
MAT	**Matsushiro**	**3.80**	**238**	P		**Pn**	**21 19 16.8**	**+1.9**
MAT				eS		**Sn**	**21 20 02.1**	**+3.5**
USRK	**Ussuriysk Ar.**	**9.45**	**309**	Pn		**Pn**	**21 20 32.8**	**+0.3**
	0.1nm,0.3s,baz=120,slow=12,SNR=2.6							
SONM	**Songino Array**	**27.43**	**301**	P		**P**	**21 24 02.3**	**+0.7**
	0.2nm,0.5s,baz=114,slow=9.3,SNR=2.8							
H11N2	**WAKE ISLAND Hy**	**28.50**	**124**	T		T	21 54 26.6	
	baz=316,slow=75,SNR=173							
H11N1	**WAKE ISLAND Hy**	**28.51**	**124**	T		T	21 54 26.1	
	baz=316,slow=75,SNR=125							
H11N3	**WAKE ISLAND Hy**	**28.52**	**124**	T		T	21 54 27.2	
	baz=316,slow=75,SNR=146							
H11S1	**WAKE ISLAND Hy**	**29.27**	**126**	T		T	21 55 24.7	
	baz=318,slow=76,SNR=62							
H11S3	**WAKE ISLAND Hy**	**29.27**	**126**	T		T	21 55 26.4	
	baz=318,slow=76,SNR=99							
H11S2	**WAKE ISLAND Hy**	**29.29**	**126**	T		T	21 55 25.3	
	baz=318,slow=76,SNR=68							
ZALV	**Zalesovo Beam**	**41.30**	**311**	P		**P**	**21 26 00.6**	**-0.3**
	0.6nm,0.4s,baz=88,slow=7.9,SNR=3.2							
WRA	**Warramunga Arr**	**58.74**	**189**	P		**P**	**21 28 12.9**	**-0.7**
	0.3nm,0.7s,baz=6.2,slow=7.0,SNR=2.9							

*ISCJB **02** 21:23:49.1±0.7,21°.31S±0°.04×68°.7W±0°.1,h127km±7km, mb3.8/4,Error ellipse: s-maj=20.9km s-min=6.3km az=6.8*
*IDC **02** 21:23:49.2±1.0,21°.28S×68°.34W,h114km±14km,mb3.8/3, mb1 3.9/5,mb1mx3.6/31,mbtmp4.2/5,Error ellipse: s-maj=31.8km s-min=16.9km az=113.0*
*NEIC **02** 21:23:51.0±0.0,21°.29S×68°.99W,h103km,MG4.0(GUC), After GUC.*
*GUC **02** 21:23:51.5±0.4,21°.29S×68°.99W,h103km±5km,ML4.0*
ISC 02 21:23:49.4±0.9,21°.27S±0°.05×68°.6W±0°.1,h118km±9km, n13,σ1°59/19,mb4.0/4,4C,Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
PB08	**IPOC Station P**	**1.24**	**335**	⇑*i*P		**Pn**	**21 24 14.9**	**+0.7**
PB08				*i* S		**Sn**	**21 24 32.8**	**0.0**
LVC	**Limon Verde**	**1.36**	**192**	P		**Pn**	**21 24 16.1**	**+0.6**
	baz=24,slow=12							
LVC				S		**Sn**	**21 24 35.7**	**+0.4**
	2μm,0.3s,baz=72,slow=20,SNR=32							
LVC	**Limon Verde**	**1.36**	**192**	*i* S		**Sn**	**21 24 35.9**	**+0.6**
LVC	**Limon Verde**	**1.36**	**192**	⇑*i*Pn		**Pn**	**21 24 16.1**	**+0.6**
LVC				e Sn		**Sn**	**21 24 35.0**	**-0.3**
MNMC	**Minye Minye**	**2.32**	**336**	⇑*i*P		**Pn**	**21 24 28.0**	**+0.9**
MNMC				*i* S		**Sn**	**21 24 56.0**	**0.0**
MNMC				IAML			21 25 04.9	
	comp=N,703nm,0.2s							
PB10	**IPOC Station P**	**2.87**	**219**	⇑*i*P		**Pn**	**21 24 33.8**	**-0.2**
PB10				*i* S		**Sn**	**21 25 05.6**	**-2.7**
PB10				IAML			21 25 21.0	
	comp=E,886nm,1.3s							
ANCH	**Antofagasta**	**2.92**	**215**	*i* P		**Pn**	**21 24 34.9**	**+0.3**
ANCH				*i* S		**Sn**	**21 25 07.5**	**-2.0**
LPAZ	**La Paz**	**4.98**	**5**	P		**Pn**	**21 25 04.3**	**+1.7**
	comp=E,3.0nm,0.3s,baz=177,slow=5.0,SNR=30							
SIV	**San Ignacio**	**8.86**	**55**	P		**Pn**	**21 25 51.2**	**-3.4**
	comp=E,8.2nm,0.3s,baz=229,slow=14,SNR=90							
PTGA	**Pitinga**	**22.09**	**24**	P		**P**	**21 28 32.8**	**-2.3**
	comp=E,4.2nm,0.3s,baz=197,slow=19,SNR=14							
JTS	**JuntasAbangare**	**35.24**	**331**	*e*P		**P**	**21 30 34.6**	**+1.8**
	comp=E,0.7nm,0.5s							
PDAR	**Pinedale Array**	**74.06**	**330**	P		**P**	**21 35 13.5**	**+0.9**
	comp=E,0.3nm,0.6s,baz=138,slow=7.2,SNR=2.6							
TORD	**Tordi Ar. Ba**	**77.01**	**70**	P		**P**	**21 35 29.4**	**-0.4**
	comp=E,1.9nm,0.4s,baz=254,slow=5.3,SNR=65							

*ISCJB **02** 21:25:17.9±0.3,50°.22N±0°.02×12°.55E±0°.03,h5km±5km, Error ellipse: s-maj=3.2km s-min=2.5km az=31.7*
*CSEM **02** 21:25:18.8±0.1,50°.23N×12°.52E,h5km,ML3.4/9,Error ellipse: s-maj=2.2km s-min=1.4km az=28.0*
*BGR **02** 21:25:19.1±0.2,50°.25N×12°.45E,h11km±1km,ML2.7/6, Error ellipse: s-maj=2.2km s-min=2.2km az=103.0*
*CLL **02** 21:25:19.9±0.3,50°.3N±0°.8×1°.2E±°,h7km±1km,ml2.4

2011 SEP

s-maj=8.1km s-min=6.0km az=322.0
*TIF **02** 21:32:45.0, 42°.64N×46°.32E, h11^{km}±1^{km}*
*MOS **02** 21:32:45.0±1.0, 42°.76N×46°.39E, h12^{km}, mb4.3/3, Error ellipse: s-maj=5.7km s-min=4.3km az=36.4*
*CSEM **02** 21:32:45.6±0.1, 42°.72N×46°.33E, h2^{km}, mb4.3, Error ellipse: s-maj=3.9km s-min=2.3km az=23.0*

ISC 02 21:32:45.3±1.0, **42.72N**±0.02×**46.35E**±0.01, **h9**^{km}±7^{km}, **n157**, σ1=**70**/255, **mb3.4**/3, **27C-32D, Eastern Caucasus**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
XNZR	**Khunzakh**	**0.32**	**124**	⇑	*i*	Pg	**Pg**	**21 32 50.9**	**-0.8**
XNZR					*eS*		**Sg**	**21 32 56.7**	**+0.7**
XNZR	**Khunzakh**	**0.32**	**124**		*i*	Pg	**Pg**	**21 32 50.9**	**-0.8**
XNZR					*eSg*		**Sg**	**21 32 56.7**	**+0.7**
UNCR	**Uncukul**	**0.33**	**91**	⇓	*i*	PG	**Pg**	**21 32 52.0**	**+0.2**
UNCR					*eS*		**Sb**	**21 32 58.5**	**-0.3**
UNCR	**Uncukul**	**0.33**	**91**		*i*	Pg	**Pg**	**21 32 52.0**	**+0.2**
UNCR					*eSg*		**Sb**	**21 32 58.5**	**-0.3**
DLMR	**Dylym**	**0.40**	**31**	⇓	*i*	PG	**Pb**	**21 32 53.5**	**-1.1**
DLMR					*eS*		**Sb**	**21 33 02.5**	**+1.5**
DLMR						pmax	pmax		
	comp=Z,321nm,0.2s								
DLMR	**Dylym**	**0.40**	**31**		*i*	Pg	**Pb**	**21 32 53.5**	**-1.1**
	comp=Z,321nm,0.2s								
KRNR	**Karanay**	**0.42**	**76**	⇓	*i*	PG	**Pb**	**21 32 53.8**	**-1.3**
KRNR					*i*	S	**Sb**	**21 33 01.8**	**+0.2**
KRNR						pmax	pmax		
	comp=Z,362nm,0.2s								
KRNR	**Karanay**	**0.42**	**76**		*i*	Pg	**Pb**	**21 32 53.8**	**-1.3**
	comp=Z,362nm,0.2s								
KRNR					*i*	Sg	**Sb**	**21 33 01.8**	**+0.2**
DBC	**Dubki**	**0.46**	**50**	⇑	*i*	PG	Pn	21 33 06.2	+8.0
DBC						pmax	pmax		
	comp=Z,103nm,0.2s								
GNBR	**Gunib**	**0.56**	**126**	⇑	*i*	PG	**Pg**	**21 32 55.8**	**-0.4**
GNBR					*i*	S	**Sb**	**21 33 05.9**	**+0.3**
GNBR						pmax	pmax		
	comp=Z,421nm,0.1s								
GNBR	**Gunib**	**0.56**	**126**		*i*	Pg	**Pg**	**21 32 55.8**	**-0.4**
	comp=Z,421nm,0.1s								
GNBR					*i*	Sg	**Sb**	**21 33 05.9**	**+0.3**
BUJR	**Buynaksk**	**0.57**	**79**	⇓	*i*	PG	**Pb**	**21 32 57.0**	**-0.5**
BUJR					*eS*		**Sn**	**21 33 08.8**	**-0.4**
BUJR						pmax	pmax		
	comp=Z,274nm,0.3s								
BUJR	**Buynaksk**	**0.57**	**79**		*i*	Pg	**Pb**	**21 32 57.0**	**-0.5**
	comp=Z,274nm,0.3s								
GROC	**Groznyy**	**0.63**	**320**	⇓	*i*	PG	**Pb**	**21 32 58.2**	**-0.2**
GROC					*i*	S	**Sb**	**21 33 08.8**	**+1.5**
GROC	**Groznyy**	**0.63**	**320**		*i*	Pg	**Pb**	**21 32 58.2**	**-0.2**
KMKR	**Kumukh**	**0.81**	**136**		PG		**Pg**	**21 33 00.0**	**-0.9**
KMKR					*i*	S	**Sb**	**21 33 12.3**	**-0.6**
KMKR						pmax	pmax		
	comp=Z,386nm,0.3s								
KMKR	**Kumukh**	**0.81**	**136**			Pg	**Pg**	**21 33 00.0**	**-0.9**
	comp=Z,386nm,0.3s								
KMKR					*i*	Sg	**Sb**	**21 33 12.3**	**-0.6**
MAK	**Makhachkala**	**0.89**	**74**		*e*	PG	**Pn**	**21 33 03.6**	**-0.3**
MAK					*e*			21 33 18.8	
MAK						pmax	pmax		
	comp=Z,13nm,0.3s								
MAK						smax	smax		
	comp=E,72nm,0.4s								
MAK						smax	smax		
	comp=N,57nm,0.4s								
MAK						smax	smax		
	comp=N,74nm,0.6s								
MAK	**Makhachkala**	**0.89**	**74**		*e*	Pg	**Pn**	**21 33 03.6**	**-0.3**
	comp=N,13nm,0.3s								
URKR	**Urkarakh**	**1.10**	**120**	⇑	*i*	PG	**Pg**	**21 33 06.1**	**-0.4**
URKR					*i*	S	**Sn**	**21 33 22.8**	**+0.3**
URKR						pmax	pmax		
	comp=Z,340nm,0.2s								
URKR	**Urkarakh**	**1.10**	**120**		*i*	Pg	**Pg**	**21 33 06.1**	**-0.4**
	comp=Z,340nm,0.2s								
URKR					*i*	Sg	**Sn**	**21 33 22.8**	**+0.3**
ZKTA	**Zakatala** SNR=50	**1.10**	**169**	⇑		Pg	**Pg**	**21 33 04.8**	**-1.7**
ZKTA						Sg	**Sg**	**21 33 19.5**	**-1.3**
KMGR	**Komgaron**	**1.14**	**288**		*e*	PG	**Pg**	**21 33 06.9**	**-0.2**
KMGR					*eS*		**Sn**	**21 33 24.3**	**+1.1**
KMGR	**Komgaron**	**1.14**	**288**		*e*	Pg	**Pg**	**21 33 06.9**	**-0.2**
KMGR					*eSg*		**Sn**	**21 33 24.3**	**+1.1**
VLKR	**Vladikavkaz**	**1.27**	**285**	⇓	*i*	PG	**Pb**	**21 33 09.9**	**+0.5**
VLKR					*i*	S	**Sn**	**21 33 28.9**	**+2.4**
VLKR	**Vladikavkaz**	**1.27**	**285**		*i*	Pg	**Pb**	**21 33 09.9**	**+0.5**
DUS	**Dusheti**	**1.37**	**243**			P	**Pg**	**21 33 10.2**	**-1.4**
DUS						S	**Sg**	**21 33 28.8**	**-0.6**
DUS	**Dusheti**	**1.37**	**243**			PG	**Pg**	**21 33 10.2**	**-1.4**
DUS						S	**Sg**	**21 33 29.2**	**-0.2**
DUS	**Dusheti**	**1.37**	**243**			P	**Pg**	**21 33 10.2**	**-1.4**
DUS						S	**Sg**	**21 33 29.2**	**-0.2**
DGRG	**David-gareji**	**1.46**	**210**			P	**Pn**	**21 33 12.2**	**+0.2**
DGRG						S	**Sg**	**21 33 32.5**	**+0.2**
DGRG	**David-gareji**	**1.46**	**210**			PG	**Pn**	**21 33 12.3**	**+0.4**
DGRG	**David-gareji**	**1.46**	**210**			P	**Pn**	**21 33 12.3**	**+0.4**
BTKR	**Batakoyurt**	**1.47**	**297**	⇑	*i*	PG	**Pn**	**21 33 12.7**	**+0.6**
BTKR					*eS*		**Sn**	**21 33 33.5**	**+2.0**
BTKR	**Batakoyurt**	**1.47**	**297**		*i*	Pg	**Pn**	**21 33 12.7**	**+0.6**
BTKR					*eSg*		**Sn**	**21 33 33.5**	**+2.0**
SEAG	**Tbilisi Sea**	**1.49**	**231**			P	**Sg**	**21 33 11.9**	**-0.5**
SEAG						S	**Sg**	**21 33 32.2**	**-1.0**
SEAG	**Tbilisi Sea**	**1.49**	**231**			P	**Pn**	**21 33 12.0**	**-0.3**
SEAG						S	**Sg**	**21 33 32.3**	**-1.0**
LACR	**Lac**	**1.51**	**275**	⇓	*i*	PG	**Pn**	**21 33 12.0**	**-0.7**
LACR					*eS*		**Sg**	**21 33 33.6**	**-0.3**
LACR	**Lac**	**1.51**	**275**		*eSg*		**Sg**	**21 33 33.6**	**-0.3**
TRKR	**Terskaya**	**1.55**	**311**	⇑	*i*	PG	**Pb**	**21 33 14.4**	**+0.3**
TRKR					*i*	S	**Sg**	**21 33 36.0**	**+1.0**
TRKR	**Terskaya**	**1.55**	**311**		*i*	Pg	**Pb**	**21 33 14.4**	**+0.3**
TRKR					*i*	Sg	**Sg**	**21 33 36.0**	**+1.0**
TBLG	**Delisi**	**1.55**	**231**			P	**Pn**	**21 33 12.6**	**-0.6**
TBLG						S	**Sn**	**21 33 33.1**	**-0.3**
TBLG	**Delisi**	**1.55**	**231**			PG	**Pn**	**21 33 12.8**	**-0.3**
TBLG						S	**Sn**	**21 33 35.1**	**+1.7**
TBLG	**Delisi**	**1.55**	**231**			P	**Pn**	**21 33 12.8**	**-0.3**
TBLG						S	**Sn**	**21 33 35.1**	**+1.7**
ARNR	**Ardon**	**1.58**	**287**	⇓	*i*	PG	**Pn**	**21 33 14.6**	**+1.1**
ARNR					*eS*		**Sg**	**21 33 37.5**	**+1.4**
ARNR	**Ardon**	**1.58**	**287**		*i*	Pg	**Pn**	**21 33 14.6**	**+1.1**
ARNR					*eSg*		**Sg**	**21 33 37.5**	**+1.4**
AKT	**Akhty**	**1.61**	**140**		*e*	PG	**Pn**	**21 33 13.7**	**-0.3**
AKT					*eS*		**Sn**	**21 33 35.7**	**+0.7**
AKT						pmax	pmax		
	comp=Z,202nm,0.3s								
AKT	**Akhty**	**1.61**	**140**		*eSg*		**Sn**	**21 33 35.7**	**+0.7**
DRN	**Derbent**	**1.62**	**115**	⇓	*i*	PG	**Pg**	**21 33 15.8**	**-0.6**
DRN					*eS*		**Sg**	**21 33 39.0**	**+1.5**
DRN						pmax	pmax		
	comp=Z,222nm,0.6s								
DRN	**Derbent**	**1.62**	**115**		*i*	Pg	**Pg**	**21 33 15.8**	**-0.6**
	comp=Z,222nm,0.6s								
DRN					*eSg*		**Sg**	**21 33 39.0**	**+1.5**
SEKA	**Sheki** SNR=58	**1.64**	**157**	⇓		Pg	**Pn**	**21 33 14.7**	**+0.3**
SEKA					⇓	Sg	**Sg**	**21 33 38.3**	**+0.3**
SEKA	**Sheki**	**1.64**	**157**			PN	**Pb**	**21 33 15.8**	**+0.1**
SEKA	**Sheki** SNR=58	**1.64**	**157**			Pg	**Pn**	**21 33 14.7**	**+0.3**
SEKA	**Sheki**	**1.64**	**157**			Pn	**Pb**	**21 33 15.8**	**+0.1**
SEKA						Sg	**Sg**	**21 33 38.3**	**+0.3**
KORR	**Kora**	**1.71**	**283**	⇓	*i*	PN	**Pb**	**21 33 16.9**	**-0.1**
KORR					*eS*		**Sg**	**21 33 41.2**	**+0.9**
KORR	**Kora**	**1.71**	**283**		*i*	Pn	**Pb**	**21 33 16.9**	**-0.1**
KORR					*eSg*		**Sg**	**21 33 41.2**	**+0.9**
KSMR	**Kasumkent**	**1.73**	**130**		*i*	PN	**Pb**	**21 33 17.6**	**+0.3**
KSMR					*eS*		**Sg**	**21 33 41.6**	**+0.6**
KSMR						pmax	pmax		
	comp=Z,101nm,0.2s								
KSMR	**Kasumkent**	**1.73**	**130**		*i*	Pn	**Pb**	**21 33 17.6**	**+0.3**
	comp=Z,101nm,0.2s								
KSMR					*eSg*		**Sg**	**21 33 41.6**	**+0.6**
STDR	**Stavd-Durt**	**1.79**	**292**		*e*	PN	**Pb**	**21 33 18.3**	**0.0**
STDR					*eS*		**Sg**	**21 33 43.6**	**+0.7**
STDR	**Stavd-Durt**	**1.79**	**292**		*e*	Pn	**Pb**	**21 33 18.3**	**0.0**
STDR					*eSg*		**Sg**	**21 33 43.6**	**+0.7**
ZEI	**Tsey**	**1.80**	**273**		*e*	PN	**Pn**	**21 33 17.4**	**+0.7**
ZEI					*eS*		**Sb**	**21 33 42.8**	**+1.5**
ZEI	**Tsey**	**1.80**	**273**		*e*	Pn	**Pn**	**21 33 17.4**	**+0.7**
ZEI					*eSg*		**Sb**	**21 33 42.8**	**+1.5**
QZX	**Qazax, Azerbai**	**1.82**	**204**	⇑		P	**Pn**	**21 33 16.8**	**0.0**
	SNR=99								
QZX					⇓	S	**Sn**	**21 33 40.0**	**+0.1**
QZX	**Qazax, Azerbai**	**1.82**	**204**			P	**Pn**	**21 33 16.8**	**0.0**
	SNR=99								
QZX						S	**Sn**	**21 33 40.0**	**+0.1**
PRTR	**Priterechnaya**	**1.83**	**305**		*e*	PN	**Pn**	**21 33 18.3**	**+1.5**
PRTR					*eS*		**Sg**	**21 33 43.8**	**-0.1**
PRTR	**Priterechnaya**	**1.83**	**305**		*e*	Pn	**Pn**	**21 33 18.3**	**+1.5**
PRTR					*eSg*		**Sg**	**21 33 43.8**	**-0.1**
QSAR	**Qusar** SNR=64	**1.87**	**130**	⇑		P	**Pb**	**21 33 19.4**	**-0.2**
QSAR					⇓	S	**Sg**	**21 33 52.9**	**+7.6**
QSAR	**Qusar** SNR=64	**1.87**	**130**			P	**Pb**	**21 33 19.4**	**-0.2**
LSNR	**Lesken**	**1.93**	**288**		*e*	PN	**Pb**	**21 33 20.7**	**0.0**
LSNR					*eS*		**Sg**	**21 33 47.0**	**-0.3**
LSNR	**Lesken**	**1.93**	**288**		*e*	Pn	**Pb**	**21 33 20.7**	**0.0**
LSNR					*eSg*		**Sg**	**21 33 47.0**	**-0.3**
KZR	**Kazreti**	**1.97**	**228**			P	**Pn**	**21 33 19.3**	**+0.5**
KZR						S	**Sn**	**21 33 45.2**	**+1.5**
MNGR	**Mingechevir, A** SNR=4.2	**2.02**	**164**	⇓		P	**Pn**	**21 33 20.9**	**+1.2**
MNGR					⇑	S	**Sg**	**21 33 51.4**	**+1.1**
MNGR	**Mingechevir, A**	**2.02**	**164**		PN		**Pn**	**21 33 20.8**	**+1.2**
MNGR	**Mingechevir, A**	**2.02**	**164**		Pn		**Pn**	**21 33 20.8**	**+1.2**
MNGR					S		**Sg**	**21 33 51.4**	**+1.1**
DIGR	**Digorskoe uzhe**	**2.04**	**276**		*e*	PN	**Pn**	**21 33 21.1**	**+1.1**
DIGR					*eS*		**Sb**	**21 33 48.9**	**+0.6**
DIGR	**Digorskoe uzhe**	**2.04**	**276**		*e*	Pn	**Pn**	**21 33 21.1**	**+1.1**
DIGR					*eSb*		**Sb**	**21 33 48.9**	**+0.6**
XNQ	**Khinaliq**	**2.05**	**139**	⇑		S	**Sg**	**21 33 55.9**	**+4.9**
GDB	**GEDABAY** SNR=32	**2.05**	**193**	⇓		P	**Pn**	**21 33 20.0**	**-0.1**
GDB				⇑		S	**Sn**	**21 33 46.8**	**+0.9**
GDB	**GEDABAY** SNR=32	**2.05**	**193**			P	**Pn**	**21 33 20.0**	**-0.1**
GDB						S	**Sn**	**21 33 46.8**	**+0.9**
GANJ	**Ganja** SNR=47	**2.08**	**181**	⇑		P	**Pn**	**21 33 20.9**	**+0.6**
GANJ					⇓	S	**Sb**	**21 33 49.6**	**+0.6**
GANJ	**Ganja**	**2.08**	**181**		PN		**Pn**	**21 33 21.5**	**+1.2**
GANJ	**Ganja** SNR=47	**2.08**	**181**		P		**Pn**	**21 33 20.9**	**+0.6**
GANJ	**Ganja**	**2.08**	**181**		Pn		**Pn**	**21 33 21.5**	**+1.2**
GANJ					S		**Sb**	**21 33 49.6**	**+0.6**
QBL	**Gabala** SNR=24	**2.10**	**147**	⇑		P	**Pb**	**21 33 23.5**	**0.0**
QBL					⇑	S	**Sg**	**21 33 56.9**	**+4.3**
QBL	**Gabala** SNR=24	**2.10**	**147**			P	**Pb**	**21 33 23.5**	**0.0**
QUBA	**Quba, Azerbaij**	**2.10**	**130**	⇑		S	**Sg**	**21 33 56.8**	**+3.9**
ONI	**Oni**	**2.14**	**267**			P	**Pn**	**21 33 23.1**	**+1.9**
ONI						S	**Sn**	**21 33 50.5**	**+2.5**
ONI	**Oni**	**2.14**	**267**		PN		**Pn**	**21 33 23.4**	**+2.2**
ONI					S		**Sg**	**21 33 53.7**	**-0.3**
ONI	**Oni**	**2.14**	**267**		P		**Pn**	**21 33 23.4**	**+2.2**
ONI					S		**Sg**	**21 33 53.7**	**-0.3**
NCK	**Nalchik**	**2.16**	**292**		*e*	PN	**Pn**	**21 33 22.2**	**+0.8**
NCK					*eS*		**Sb**	**21 33 51.8**	**+0.4**
NCK	**Nalchik**	**2.16**	**292**		*e*	Pn	**Pn**	**21 33 22.2**	**+0.8**
NCK					*eSn*		**Sb**	**21 33 51.8**	**+0.4**
IML	**Ismayilli** SNR=9.5	**2.37**	**144**	⇑		P	**Pb**	**21 33 28.4**	**+0.3**
IML					⇓	S	**Sg**	**21 34 05.7**	**+4.4**
IML	**Ismayilli** SNR=9.5	**2.37**	**144**			P	**Pb**	**21 33 28.4**	**+0.3**
AKH	**Akhalkalaki**	**2.50**	**239**			P	**Pn**	**21 33 27.1**	**+0.8**
AKH						S	**Sn**	**21 33 57.1**	**+0.1**
AKH	**Akhalkalaki**	**2.50**	**239**		PN		**Pn**	**21 33 28.4**	**+2.1**
AKH					S		**Sn**	**21 34 00.3**	**+3.4**
AKH	**Akhalkalaki**	**2.50**	**239**		P		**Pn**	**21 33 28.4**	**+2.1**
AKH					S		**Sn**	**21 34 00.3**	**+3.4**
BGD	**Bogdanovka**	**2.51**	**235**		P		**Pn**	**21 33 28.4**	**+1.9**
BGD					S		**Sn**	**21 33 59.5**	**+2.1**
BGD	**Bogdanovka**	**2.51**	**235**		P		**Pn**	**21 33 28.5**	**+2.0**
BGD					S		**Sb**	**21 34 01.2**	**-0.6**
SIZA	**Siyzn** SNR=5.7	**2.52**	**130**	⇓		P	**Pg**	**21 33 32.5**	**-1.0**
SIZA				⇑		S	**Sg**	**21 34 10.8**	**+4.7**
SIZA	**Siyzn** SNR=5.7	**2.52**	**130**			P	**Pg**	**21 33 32.5**	**-1.0**
BRDA	**Brd** SNR=4.6	**2.54**	**165**	⇑		P	**Pn**	**21 33 28.8**	**+2.2**
BRDA				⇓		S	**Sg**	**21 34 05.0**	**-1.7**
BRDA	**Brd** SNR=4.6	**2.54**	**165**			P	**Pn**	**21 33 28.8**	**+2.2**
PQL	**Pirkuli** SNR=18	**2.56**	**138**	⇓		P	**Pb**	**21 33 30.5**	**-1.0**
PQL				⇓		S	**Sg**	**21 34 09.7**	**+2.2**
PQL	**Pirkuli** SNR=18	**2.56**	**138**			P	**Pb**	**21 33 30.5**	**-1.0**
ATGJ	**Altiaghaj** SNR=5.5	**2.69**	**133**	⇓		P	**Pb**	**21 33 33.3**	**-0.3**
ATGJ				⇑		S	**Sg**	**21 34 14.4**	**+2.8**
ATGJ	**Altiaghaj** SNR=5.5	**2.69**	**133**			P	**Pb**	**21 33 33.3**	**-0.3**
NEY	**Neytrino**	**2.71**	**282**	⇓	*e*	PN	**Pn**	**21 33 30.0**	**+0.8**
NEY					*eS*		**Sb**	**21 34 08.0**	**+0.5**
NEY						pmax	pmax		
	comp=Z,6.0nm,0.1s								
NEY	**Neytrino**	**2.71**	**282**		*e*	Pn	**Pn**	**21 33 30.0**	**+0.8**
	comp=Z,6.0nm,0.1s								
KBZ	**Khabaz**	**2.71**	**293**			Pn	**Pn**	**21 33 29.0**	**0.0**
	comp=Z,1.6nm,0.3s,baz=106,slow=7.5,SNR=26								
KBZ						Lg	Lg	21 34 07.5	
	comp=Z,7.6nm,0.3s,baz=90,slow=20,SNR=7.0								
KBZ	**Khabaz**	**2.71**	**293**			PN	**Pn**	**21 33 29.0**	**0.0**
KBZ						pmax	pmax		
	comp=Z,2.0nm,0.3s								
KBZ	**Khabaz**	**2.71**	**293**			Pn	**Pn**	**21 33 29.0**	**0.0**
	comp=Z,2.0nm,0.3s								
GNI	**Garni**	**2.84**	**206**			Pn	**Pn**	**21 33 32.7**	**+1.7**
	comp=Z,6.2nm,0.3s,baz=292,slow=2.3,SNR=28								
GNI						Lg	Lg	21 34 11.4	
	comp=Z,6.3nm,0.3s,baz=74,slow=20,SNR=4.4								
SHA1	**Shidzhatmaz**	**2.88**	**292**		*e*	PN	**Pn**	**21 33 31.4**	**-0.2**
SHA1					*eS*		**Sn**	**21 34 08.7**	**+2.2**
SHA1	**Shidzhatmaz**	**2.88**	**292**		*e*	Pn	**Pn**	**21 33 31.4**	**-0.2**
SHA1					*eSn*		**Sn**	**21 34 08.7**	**+2.2**
EAK	**Akyaka**	**2.89**	**226**		*i*	P	**Pn**	**21 33 34.2**	**+2.6**
EAK					*i*	S	**Sn**	**21 34 09.1**	**+2.5**
EAK	**Akyaka**	**2.89**	**226**			P	**Pn**	**21 33 34.2**	**+2.6**
EAK						S	**Sn**	**21 34 09.1**	**+2.5**
GBS	**Qobustan** SNR=9.2	**2.93**	**137**	⇓		P	**Pb**	**21 33 38.8**	**+1.1**
GBS				⇑		S	**Sg**	**21 34 18.5**	**-0.8**
KVAR	**Kislovodsk Arr** baz=110,slow=12,SNR=64	**2.94**	**296**			Pn	**Pn**	**21 33 32.0**	**-0.2**
KVAR						Sn	**Sn**	**21 34 10.6**	**+3.0**
	baz=78,slow=19,SNR=3.6								
KIV	**Kislovodsk**	**2.94**	**296**	*d*	*i*	PN	**Pn**	**21 33 31.6**	**-0.7**
KIV					*i*	S	**Sn**	**21 34 10.6**	**+2.8**
KIV						pmax	pmax		
	comp=Z,11nm,0.5s								
KIV	**Kislovodsk**	**2.94**	**296**		*i*	Pn	**Pn**	**21 33 31.6**	**-0.7**
	comp=Z,11nm,0.5s								
KIV					*i*	Sn	**Sn**	**21 34 10.6**	**+2.8**
EPOS	**Posof**	**2.96**	**247**		*i*	P	**Pn**	**21 33 34.6**	**+2.1**
EPOS					*i*	S	**Sb**	**21 34 13.0**	**-1.5**
EPOS	**Posof**	**2.96**	**247**			P	**Pn**	**21 33 34.6**	**+2.1**
EPOS						S	**Sb**	**21 34 13.0**	**-1.5**
CHVG	**Ch'k'valeri**	**3.14**	**271**			P	**Pb**	**21 33 42.8**	**+1.5**
CHVG						S	**Sg**	**21 34 25.0**	**-1.1**
DIGO	**Kars**	**3.21**	**225**		*i*	P	**Pn**	**21 33 36.8**	**+0.7**
DIGO	**Kars**	**3.21**	**225**			P	**Pn**	**21 33 36.8**	**+0.7**
GOF	**Gofitskoye**	**3.34**	**315**	⇑	*e*	PN	**Pn**	**21 33 38.7**	**+1.0**
GOF					*eS*		**Sg**	**21 34 36.1**	**+3.6**
GOF						pmax	pmax		
	comp=Z,16nm,0.7s								
GOF						smax	smax		
	comp=E,129nm,0.6s								
GOF						smax	smax		
	comp=N,66nm,0.6s								
GOF	**Gofitskoye** comp=N,16nm,0.7s	**3.34**	**315**		*e*	Pn	**Pn**	**21 33 38.7**	**+1.0**
DOMR	**Dombai**	**3.51**	**281**		*e*	PN	**Pg**	**21 33 50.7**	**-1.8**
DOMR					*eS*		**Sb**	**21 34 34.2**	**+3.7**
ARTV	**Artvin**	**3.64**	**246**		*i*	P	**Pn**	**21 33 45.1**	**+3.2**
ARTV	**Artvin**	**3.64**	**246**		P		**Pn**	**21 33 45.1**	**+3.2**
DAGI	**Agillar**	**3.69**	**245**		*i*	P	**Pn**	**21 33 45.3**	**+2.7**
GLBA	**Cililabad** SNR=3.8	**3.81**	**155**	⇑		P	**Pn**	**21 33 45.8**	**+1.7**
GLBA					⇓	S	**Sb**	**21 34 35.9**	**-2.9**

*IDC **02** 21:32:42.6±0.8, 42°.73N×46°.30E, h0^{km}, mb3.4/3, mb1 3.4/11, mb1mx3.3/46, mbtmp3.4/11, ML3.2/7, Error ellipse: s-maj=11.0km s-min=9.2km az=172.0*
*AZER **02** 21:32:43.8±12.0, 42°.62N×45°.76E, h9^{km}, Error ellipse:*

GLBA	**Clilabad**	**3.81**	**155**		P		**Pn**	**21 33 45.8**	**+1.7**
	SNR=3.8									
DDEM	**Demirkent**	**3.89**	**244**	*i*	P		**Pn**	**21 33 48.1**	**+2.8**
DDEM	**Demirkent**	**3.89**	**244**		P		**Pn**	**21 33 48.1**	**+2.8**
LRK	**Lerik**	**4.35**	**159**	⇑	P		**Pn**	**21 33 53.0**	**+1.3**
	SNR=19									
LRK	**Lerik**	**4.35**	**159**		P		**Pn**	**21 33 53.0**	**+1.3**
	SNR=19									
ASTR	**Astara**	**4.55**	**155**	⇓	P		**Pn**	**21 33 55.4**	**+1.0**
	SNR=3.9									
ASTR				⇑	S		**Sn**	**21 34 51.7**	**+4.3**
ASTR	**Astara**	**4.55**	**155**		P		**Pn**	**21 33 55.4**	**+1.0**
	SNR=3.9									
ASTR					S		**Sn**	**21 34 51.7**	**+4.3**
BRTR	**Keskin Array B**	**10.03**	**257**		Pn		**Pn**	**21 35 11.7**	**+2.0**
	comp=N,0.1nm,0.3s,baz=80,slow=16,SNR=2.3									
GEYT	**Alibeck**	**10.18**	**114**		Pn		**Pn**	**21 35 08.8**	**-2.8**
	comp=N,0.3nm,0.3s,baz=304,slow=16,SNR=2.3									
AKTO	**Aktyubinsk**	**11.12**	**42**		Pn		**Pn**	**21 35 20.5**	**-3.9**
	comp=N,0.1nm,0.3s,baz=200,slow=12,SNR=2.9									
KIEV	**Kiev**	**14.18**	**310**	⇓	*eP*		**Pn**	**21 36 06.1**	**-0.1**
KIEV					pmax		pmax			
	comp=Z,1.0nm,1.1s									
MLR	**Muntele Rosu**	**14.91**	**288**		Pn		**Pn**	**21 36 15.8**	**-0.6**
	comp=Z,0.0nm,0.3s,baz=131,slow=11,SNR=2.1									
ARU	**Arti**	**15.80**	**26**		Pn		**Pn**	**21 36 26.2**	**-1.6**
	comp=Z,0.0nm,0.3s,baz=231,slow=6.5,SNR=3.2									
ARU	**Arti**	**15.80**	**26***c*	*i*	P		**Pn**	**21 36 28.6**	**+0.8**
ARU					S		**Sn**	**21 39 24.8**	**+1.8**
ARU					pmax		pmax			
	comp=Z,8.0nm,2.5s									
SVE	**Sverdlovsk**	**16.81**	**28**	*e*	P		**Pn**	**21 36 38.9**	**-1.8**
SVE					*e*S		**Sn**	**21 39 37.5**	**-10**
SVE					pmax		pmax			
	comp=Z,5.0nm,0.8s									
BRVK	**Borovoye**	**19.00**	**49**	⇑	*eP*		**Pn**	**21 37 09.1**	**+1.3**
BRVK					pmax		pmax			
	comp=Z,4.0nm,0.8s									
BRVK	**Borovoye**	**19.00**	**49**		*eP*		**Pn**	**21 37 09.1**	**+1.3**
	comp=Z,4.0nm,0.8s									
BVAR	**Borovoye Array**	**19.05**	**49**		P		**P**	**21 37 06.6**	**-1.0**
	comp=Z,0.2nm,0.3s,baz=233,slow=12,SNR=9.7									
AAK	**Ala-Archa**	**20.66**	**81**		P		**P**	**21 37 25.4**	**0.0**
	comp=Z,1.0nm,0.4s,baz=216,slow=13,SNR=2.0									
AAK	**Ala-Archa**	**20.66**	**81**	⇓	*eP*		**P**	**21 37 26.3**	**+0.9**
AAK					pmax		pmax			
	comp=Z,8.0nm,0.9s									
AAK	**Ala-Archa**	**20.66**	**81**		*eP*		**P**	**21 37 26.3**	**+0.9**
	comp=Z,8.0nm,0.9s									
FINES	**FINESS Array B**	**22.33**	**334**		P		**P**	**21 37 42.5**	**-0.5**
	comp=Z,0.8nm,0.5s,baz=153,slow=9.4,SNR=7.6									
FINES	**FINESS Array B**	**22.33**	**334**	*i*	P		**P**	**21 37 41.9**	**-1.1**
FINES					pmax		pmax			
	comp=Z,1.0nm,0.5s									
KURBB	**Kurchatov Arra**	**23.31**	**59**		P		**P**	**21 37 54.1**	**+0.7**
	comp=Z,0.7nm,0.8s,baz=271,slow=11,SNR=9.2									
KURK	**Kurchatov**	**23.38**	**59**	⇓	*eP*		**P**	**21 37 56.0**	**+2.0**
KURK					pmax		pmax			
	comp=Z,8.0nm,1.2s									
KURK	**Kurchatov**	**23.38**	**59**		*eP*		**P**	**21 37 56.0**	**+2.0**
	comp=Z,8.0nm,1.2s									

*CSEM **02** 21:45:36.6±0.1,50.21N×12.46E,h10km,ML3.4/11,Error ellipse: s-maj=2.8km s-min=2.4km az=25.0*
*VIE **02** 21:45:37.0±0.5,50.21N×12.41E,h10km,mb1.8/2,ML3.0/2, Error ellipse: s-maj=14.1km s-min=2.6km az=52.0*
*BGR **02** 21:45:37.5±0.2,50.25N×12.44E,h11km±1km,ML2.9/6, Error ellipse: s-maj=2.2km s-min=2.2km az=104.0*
*LDG **02** 21:45:38.2±0.3,50.3N±0.8×12.2E±,h7km±1km,ml2.7 Error ellipse: s-maj=1.1km s-min=0.8km az=129.0*
*CLL **02** 21:45:38.2±0.3,50.3N±0.8×12.2E±,h7km±1km,ml2.7*
*PRU **02** 21:45:38.2,50.26N×12.53E,h0km,West Bohemia Swarm*

ISC 02 21:45:36.8±0.7,50.22N±0.02×12.39E±0.02,h15km±3km, n85,σ1.42/152,6D,Germany

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
NKC	**Novy Kostel**	**0.04**	**65**	⇓*i*	Pg	**Pg**	**21 45 39.4**	**-0.2**
NKC					*e*SG	**Sg**	**21 45 40.3**	**-1.2**
	comp=Z,8μm,0.2s							
NKC	**Novy Kostel**	**0.04**	**65**	⇓*i*	Pg	**Pg**	**21 45 39.4**	**-0.2**
NKC					*i* Sg	**Sg**	**21 45 40.4**	**-1.1**
NKC	**Novy Kostel**	**0.04**	**65**		*e*Pg	**Pg**	**21 45 39.4**	**-0.2**
NKC					*e*Sg	**Sg**	**21 45 40.4**	**-1.1**
NKC	**Novy Kostel**	**0.04**	**65**		Pg	**Pg**	**21 45 39.4**	**-0.2**
NKC					Sg	**Sg**	**21 45 40.4**	**-1.1**
ROHR	**Rohrbach**	**0.05**	**289**	*i*	Pg	**Pg**	**21 45 40.0**	**+0.3**
ROHR					*i* Sg	**Sg**	**21 45 41.4**	**-0.3**
ROHR					AML	AML	21 45 41.5	
	comp=E,9μm,0.2s							
ROHR	**Rohrbach**	**0.05**	**289**	*e*	Pg	**Pg**	**21 45 40.0**	**+0.3**
ROHR					*e*Sg	**Sg**	**21 45 41.4**	**-0.3**
ROHR	**Rohrbach**	**0.05**	**289**		Pg	**Pg**	**21 45 40.0**	**+0.3**
ROHR					Sg	**Sg**	**21 45 41.4**	**-0.3**
WERN	**Wernitzgruen**	**0.07**	**351**	*i*	Pg	**Pg**	**21 45 39.8**	**-0.1**
WERN					*i* Sg	**Sg**	**21 45 41.1**	**-0.8**
WERN					AML	AML	21 45 41.4	
	comp=E,3μm,0.1s							
WERN	**Wernitzgruen**	**0.07**	**351**	*e*	Pg	**Pg**	**21 45 39.8**	**-0.1**
WERN					*e*Sg	**Sg**	**21 45 41.2**	**-0.8**
WERN	**Wernitzgruen**	**0.07**	**351**		Pg	**Pg**	**21 45 39.8**	**-0.1**
WERN					Sg	**Sg**	**21 45 41.2**	**-0.8**
GUNZ	**Gunzen**	**0.15**	**345**	*i*	Pg	**Pg**	**21 45 41.0**	**+0.2**
GUNZ					*i* Sg	**Sg**	**21 45 43.0**	**-0.5**
GUNZ					AML	AML	21 45 43.3	
	comp=N,834nm,0.2s							
GUNZ	**Gunzen**	**0.15**	**345**	*e*	Pg	**Pg**	**21 45 41.0**	**+0.2**
GUNZ					*e*Sg	**Sg**	**21 45 43.0**	**-0.5**
GUNZ	**Gunzen**	**0.15**	**345**		Pg	**Pg**	**21 45 41.0**	**+0.2**
GUNZ					Sg	**Sg**	**21 45 43.0**	**-0.5**
MULD	**Muldenberg**	**0.20**	**2**	*i*	Pg	**Pg**	**21 45 41.4**	**-0.1**
MULD					*i* Sg	**Sg**	**21 45 43.6**	**-0.9**
MULD					AML	AML	21 45 44.4	
	comp=N,2μm,0.2s							
MULD	**Muldenberg**	**0.20**	**2**	*e*	Pg	**Pg**	**21 45 41.4**	**-0.1**
MULD					*e*Sg	**Sg**	**21 45 43.7**	**-0.9**
MULD	**Muldenberg**	**0.20**	**2**		Pg	**Pg**	**21 45 41.4**	**-0.1**
MULD					Sg	**Sg**	**21 45 43.7**	**-0.9**
TANN	**Tannenbergstha**	**0.20**	**13**	*i*	Pg	**Pg**	**21 45 41.3**	**-0.2**
TANN					*i* Sg	**Sg**	**21 45 43.6**	**-1.2**
TANN					AML	AML	21 45 44.1	
	comp=E,2μm,0.2s							
TRIB	**Obertriebel**	**0.21**	**309**	*i*	Pg	**Pg**	**21 45 42.3**	**+0.6**
TRIB					*i* Sg	**Sg**	**21 45 45.4**	**+0.3**
TRIB					AML	AML	21 45 45.9	
	comp=E,701nm,0.1s							
TRIB	**Obertriebel**	**0.21**	**309**	*e*	Pg	**Pg**	**21 45 42.3**	**+0.6**
TRIB					*e*Sg	**Sg**	**21 45 45.3**	**+0.3**
TRIB	**Obertriebel**	**0.21**	**309**		Pg	**Pg**	**21 45 42.3**	**+0.6**
TRIB					Sg	**Sg**	**21 45 45.3**	**+0.3**
WERD	**Werda**	**0.24**	**347**	*i*	Pg	**Pg**	**21 45 42.3**	**+0.2**
WERD					*i* Sg	**Sg**	**21 45 45.2**	**-0.6**
WERD					AML	AML	21 45 46.1	
	comp=E,360nm,0.2s							
WERD	**Werda**	**0.24**	**347**	*e*	Pg	**Pg**	**21 45 42.3**	**+0.2**
WERD					*e*Sg	**Sg**	**21 45 45.1**	**-0.6**
WERD	**Werda**	**0.24**	**347**		Pg	**Pg**	**21 45 42.3**	**+0.2**
WERD					Sg	**Sg**	**21 45 45.1**	**-0.6**
PLN	**Plauen**	**0.31**	**331**	*i*	Pg	**Pg**	**21 45 43.8**	**+0.5**
PLN					*i* Sg	**Sg**	**21 45 47.9**	**+0.1**
PLN					AML	AML	21 45 47.9	
	comp=E,525nm,0.2s							
PLN	**Plauen**	**0.31**	**331**	*e*	Pg	**Pg**	**21 45 43.8**	**+0.5**
PLN					*e*Sg	**Sg**	**21 45 47.8**	**+0.1**
PLN	**Plauen**	**0.31**	**331**		Pg	**Pg**	**21 45 43.8**	**+0.5**
PLN					Sg	**Sg**	**21 45 47.8**	**+0.1**
SCHF	**Schoenfels**	**0.46**	**1**	*i*	Pg	**Pg**	**21 45 46.1**	**+0.2**
SCHF					*i* Sg	**Sg**	**21 45 51.9**	**-0.3**
SCHF					AML	AML	21 45 52.2	
	comp=E,2μm,0.1s							
SCHF	**Schoenfels**	**0.46**	**1**	*e*	Pg	**Pg**	**21 45 46.2**	**+0.2**
SCHF					*e*Sg	**Sg**	**21 45 51.7**	**-0.5**
SCHF	**Schoenfels**	**0.46**	**1**		Pg	**Pg**	**21 45 46.2**	**+0.2**
SCHF					Sg	**Sg**	**21 45 51.7**	**-0.5**
MLFH	**Mildenfurth**	**0.61**	**341**	*i*	Pg	**Pg**	**21 45 49.0**	**+0.3**
MLFH					*i* Sg	**Sg**	**21 45 56.8**	**0.0**
MOX	**Moxa**	**0.66**	**311**	*e*	Pg	**Pg**	**21 45 50.4**	**+0.8**
MOX					*e*Sg	**Sg**	**21 45 59.1**	**+0.8**
MOX	**Moxa**	**0.66**	**311**		Pg	**Pg**	**21 45 50.4**	**+0.8**
MOX					Sg	**Sg**	**21 45 59.1**	**+0.8**
GRA1	**Grafenberg Arr**	**0.92**	**236**		Pg	**Pg**	**21 45 56.0**	**+1.4**
GRA1					Sg	**Sg**	**21 46 08.5**	**+1.8**
GRF	**Grafenberg Arr**	**0.92**	**236**	*e*	Pg	**Pg**	**21 45 56.0**	**+1.4**
GRF					*e*Sg	**Sg**	**21 46 08.5**	**+1.8**
FBE	**Freiberg**	**0.93**	**41**	*e*	Pg	**Pg**	**21 45 54.8**	**-0.1**
FBE					*e*Sg	**Sg**	**21 46 06.1**	**-1.0**
FBE	**Freiberg**	**0.93**	**41**		Pg	**Pg**	**21 45 54.8**	**-0.1**
FBE					Sg	**Sg**	**21 46 06.1**	**-1.0**
WET	**Wettzell**	**1.12**	**163**	*e*	Pg	**Pb**	**21 45 58.9**	**+1.1**
WET					*e*Sg	**Sb**	**21 46 13.7**	**+1.6**
WET	**Wettzell**	**1.12**	**163**		Pg	**Pb**	**21 45 58.9**	**+1.1**
WET					Sg	**Sb**	**21 46 13.7**	**+1.6**
CLL	**Collm**	**1.16**	**19**	*e*	Pg	**Pb**	**21 45 58.3**	**-0.1**
CLL					*e*Sg	**Sg**	**21 46 13.4**	**-0.9**
CLL	**Collm**	**1.16**	**19**		Pg	**Pb**	**21 45 58.3**	**-0.1**
CLL					Sg	**Sg**	**21 46 13.4**	**-0.9**
CLL	**Collm**	**1.16**	**19**	*i*	Pg	**Pb**	**21 45 58.8**	**+0.4**
CLL					*i*		21 46 01.8	
CLL					*i* Sg	**Sb**	**21 46 13.8**	**+0.5**
	comp=Z,83nm,0.5s							
CLL					*i*		21 46 17.5	
BRG	**Berggiesshubel**	**1.19**	**56**		PG	**Pb**	**21 45 59.1**	**+0.2**
BRG					SG	**Sb**	**21 46 14.2**	**+0.1**
	comp=Z,161nm,0.3s							
BRG	**Berggiesshubel**	**1.19**	**56**	*e*	Pg	**Pb**	**21 45 59.3**	**+0.4**
BRG					*e*Sg	**Sb**	**21 46 13.8**	**-0.3**
BRG	**Berggiesshubel**	**1.19**	**56**		Pg	**Pb**	**21 45 59.3**	**+0.4**
BRG					Sg	**Sb**	**21 46 13.8**	**-0.3**
PRA	**Prague**	**1.32**	**96**	⇓	*e*SG	**Sb**	**21 46 18.1**	**+0.2**
	comp=Z,42nm,0.2s							
PRA	**Prague**	**1.32**	**96**		Sg	**Sb**	**21 46 18.1**	**+0.2**
	comp=Z,42nm,0.2s							
KHC	**Kasperske Hory**	**1.33**	**144**		*e*PG	**Pn**	**21 46 01.8**	**+1.0**
KHC					*e*SG	**Sb**	**21 46 19.7**	**+1.4**
	comp=Z,42nm,0.2s							
KHC	**Kasperske Hory**	**1.33**	**144**		Pg	**Pn**	**21 46 01.8**	**+1.0**
KHC					Sg	**Sb**	**21 46 19.7**	**+1.4**
	comp=Z,42nm,0.2s							
PRU	**Pruhonice**	**1.40**	**99**	⇓	*e*PG	**Pn**	**21 46 02.9**	**+1.2**
PRU					*e*SG	**Sb**	**21 46 20.2**	**-0.1**
	comp=Z,65nm,0.2s							
PRU	**Pruhonice**	**1.40**	**99**		Pg	**Pn**	**21 46 02.9**	**+1.2**
PRU					Sg	**Sb**	**21 46 20.2**	**-0.1**
	comp=Z,65nm,0.2s							
PVCC	**Panska Ves**	**1.43**	**77**	⇓	*e*PG	**Pn**	**21 46 03.2**	**+1.1**
PVCC	**Panska Ves**	**1.43**	**77**		Pg	**Pn**	**21 46 03.2**	**+1.1**
GOPC	**GO Pecny, Ondr**	**1.57**	**100**		*e*PG	**Pb**	**21 46 05.9**	**+0.4**
GOPC					*e*SG	**Sb**	**21 46 26.0**	**+0.8**
	comp=Z,60nm,0.2s							
GOPC	**GO Pecny, Ondr**	**1.57**	**100**		Pg	**Pb**	**21 46 05.9**	**+0.4**
GOPC					Sg	**Sb**	**21 46 26.0**	**+0.8**
	comp=Z,60nm,0.2s							
UPC	**Upice**	**2.34**	**81**	⇓	*e*PG	**Pb**	**21 46 18.9**	**+0.4**
UPC					*e*SG	**Sb**	**21 46 49.1**	**+2.0**
	comp=Z,37nm,0.5s							
UPC	**Upice**	**2.34**	**81**		Pg	**Pb**	**21 46 18.9**	**+0.4**
UPC					Sg	**Sb**	**21 46 49.1**	**+2.0**
	comp=Z,37nm,0.5s							
DPC	**Dobruska-Polom**	**2.52**	**85**		*e*SG	**Sb**	**21 46 54.6**	**+2.0**
	comp=Z,23nm,0.4s							
DPC	**Dobruska-Polom**	**2.52**	**85**		Sg	**Sb**	**21 46 54.6**	**+2.0**
	comp=Z,23nm,0.4s							
KSP	**Ksiaz**	**2.57**	**74**		*e*Pg	**Pb**	**21 46 24.2**	**+1.8**
KSP					*e*Sg	**Sg**	**21 46 56.9**	**-2.3**
KSP	**Ksiaz**	**2.57**	**74**		*e*Pg	**Pb**	**21 46 24.2**	**+1.8**
KSP					*e*Sg	**Sg**	**21 46 56.9**	**-2.3**
MOA	**Molln**	**2.67**	**152**		Pn	**Pn**	**21 46 20.5**	**+1.3**
	comp=Z,0.6nm,0.3s							
MOA					Sg	**Sb**	**21 47 01.1**	**+4.3**
	comp=Z,22nm,0.5s							
VRAC	**Vranov**	**2.87**	**107**		*e*Pn	**Pn**	**21 46 22.7**	**+0.8**
VRAC					*e*Sg	**Sb**	**21 47 03.8**	**+1.3**
CONA	**Conrad Observa**	**3.23**	**134**		Pn	**Pn**	**21 46 28.5**	**+1.5**
	comp=Z,0.7nm,0.2s							
CONA					Sg	**Sg**	**21 47 18.1**	**-2.4**
	comp=Z,18nm,0.4s							
MORC	**Moravsky Berou**	**3.35**	**96**		*e*Pn	**Pn**	**21 46 29.2**	**+0.6**
MORC					*e*Sg	**Sb**	**21 47 19.3**	**+2.9**
FETA	**Feichten**	**3.38**	**200**		Sg	**Sg**	**21 47 24.5**	**-0.9**
	comp=Z,6.2nm,0.4s							
ABTA	**Abfaltersbach**	**3.47**	**179**		Sg	**Sg**	**21 47 29.6**	**+1.3**
	comp=Z,18nm,0.5s							
CDF	**Champ du Feu**	**3.80**	**244**		*e*Pn	**Pn**	**21 46 35.1**	**+0.3**
CDF	**Champ du Feu**	**3.80**	**244**		*e*Pg	**Pg**	**21 46 49.0**	**-0.6**
CDF					*e*Sg	**Sg**	**21 47 37.9**	**-0.9**
	comp=Z,8.6nm,0.3s							
CDF	**Champ du Feu**	**3.80**	**244**		*e*Pn	**Pn**	**21 46 35.1**	**+0.3**
CDF					*e*Sg	**Sg**	**21 47 37.9**	**-0.9**
	comp=Z,4.3nm,0.3s							
HINF	**Hinteralfeld**	**4.37**	**239**		*e*Pg	**Pg**	**21 46 58.9**	**-1.4**
HINF					*e*Sn	**Sn**	**21 47 30.4**	**-2.7**
HINF					*e*Sg	**Sg**	**21 47 54.8**	**-2.1**
	comp=Z,16nm,0.6s							
HINF	**Hinteralfeld**	**4.37**	**239**		*e*Pg	**Pg**	**21 46 58.9**	**-1.4**
HINF					*e*Sn	**Sn**	**21 47 30.4**	**-2.7**
HINF					*e*Sg	**Sg**	**21 47 54.8**	**-2.1**
	comp=Z,8.2nm,0.6s							
HAU	**Haudompre**	**4.54**	**243**		*e*Pn	**Pn**	**21 46 45.0**	**+0.1**
HAU	**Haudompre**	**4.54**	**243**		*e*Pg	**Pg**	**21 47 02.1**	**-1.7**
HAU					*e*Sg	**Sg**	**21 48 00.8**	**-1.8**
	comp=Z,15nm,0.5s							
HAU	**Haudompre**	**4.54**	**243**		*e*Pn	**Pn**	**21 46 45.0**	**+0.1**
HAU	**Haudompre**	**4.54**	**243**		*e*Pg	**Pg**	**21 47 02.1**	**-1.7**
HAU					*e*Sg	**Sg**	**21 48 00.8**	**-1.8**
	comp=Z,7.6nm,0.5s							
VYHS	**Vyhne**	**4.55**	**110**		*e*SG	**Sb**	**21 47 54.8**	**+4.0**
VYHS					eLG	Lg	**21 48 03.0**	
LANS	**Liptovska Anna**	**4.72**	**100**		*e*Sg	**Sg**	**21 48 04.4**	**-3.7**
LANS	**Liptovska Anna**	**4.72**	**100**		eSG	**Sg**	**21 48 04.4**	**-3.7**
GIVF	**Givet**	**4.87**	**272**		*e*Sg	**Sg**	**21 48 10.7**	**-2.2**
	comp=Z,3.9nm,0.2s							
GIVF	**Givet**	**4.87**	**272**		*e*Sg	**Sg**	**21 48 10.7**	**-2.2**
	comp=Z,2.0nm,0.2s							
BAIF	**Baives**	**5.27**	**271**		*e*Sg	**Sg**	**21 48 22.6**	**-3.1**
	comp=Z,3.4nm,0.6s							
STHS	**Stebnicka Huta**	**5.79**	**95**		*e*SG	**Sb**	**21 48 32.3**	**+6.0**
STHS					eLG	Lg	**21 48 44.3**	
LPL	**La Plagne**	**6.05**	**221**		*e*Pg	**Pg**	**21 47 30.3**	**-2.3**
LOR	**Lormes**	**6.37**	**246**		*e*Sg	**Sg**	**21 48 58.7**	**-2.3**
	comp=Z,2.8nm,0.4s							
SMF	**Signal de Mont**	**6.72**	**241**		*e*Pg	**Pg**	**21 47 42.3**	**-3.0**
SMF					*e*Sg	**Sg**	**21 49 08.8**	**-3.4**
	comp=Z,3.3nm,0.4s							

*SKHL **02** 21:56:35.6±0.7,47.44N×153.76E,h114km±10km,mb5.2/8, msh5.8/4*
*ISCJB **02** 21:56:36.8±0.4,47.93N±0.03×153.19E±0.03, h106km±4km,mb4.6/118,Error ellipse: s-maj=6.0km s-min=3.0km az=161.3*
*IDC **02** 21:56:36.4±0.6,48.08N×153.06E,h87km±5km,mb4.1/24, mb1 4.3/25,mb1mx4.2/29,mbtmp4.4/25,MS3.4/9, Ms1 3.4/9,ms1mx3.1/28,Error ellipse: s-maj=14.1km s-min=10.5km az=141.0*
*MOS **02** 21:56:38.5±0.9,48.09N×153.07E,h115km,mb4.6/53, Error ellipse: s-maj=7.8km s-min=5.6km az=91.8*
*NEIC **02** 21:56:40.5±0.7,48.12N×152.96E,h119km±5km,mb4.7/48, Error ellipse: s-maj=6.6km s-min=3.3km az=159.0*

ISC 02 21:56:37.9±0.5,47.97N±0.05×153.13E±0.04,h104km±3km, h104km:pP-P,n466,σ1.40/494,mb4.6/118,15C-14D,Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**3.34**	**35**	*e*	PN	**Pn**	**21 57 28.0**	**-0.2**
SKR					*e*S	**Sn**	**21 58 05.9**	**-1.2**
SKR					pmax	pmax		
	comp=Z,925nm,0.6s							
SKR					smax	smax		
	comp=E,691nm,0.5s							
SKR					smax	smax		
	comp=N,530nm,0.4s							
SKR	**Severo-Kuril's**	**3.34**	**35**	*e*	P	**Pn**	**21 57 28.3**	**+0.1**
SKR					AMB	AMB	21 57 30.8	
	comp=N,410nm,0.3s							
SKR					*e*S	**Sn**	**21 58 07.3**	**+0.2**
SKR					A	A	21 58 12.7	
	comp=N,690nm,0.5s							
SKR					A	A	21 58 14.0	
	comp=N,530nm,0.4s							
KUR	**Kuril'sk**	**4.55**	**235**	*e*	PN	**Pn**	**21 57 46.7**	**+2.3**
KUR					*e*S	**Sn**	**21 58 40.6**	**+4.5**
KUR					pmax	pmax		
	comp=Z,126nm,0.4s							
KUR					pmax	pmax		
	comp=N,72nm,0.3s							
KUR					pmax	pmax		
	comp=E,83nm,0.3s							
KUR					smax	smax		
	comp=E,335nm,0.6s							
KUR					smax	smax		
	comp=N,141nm,0.2s							
KUR	**Kuril'sk**	**4.55**	**235**	*i*	P	**Pn**	**21 57 46.7**	**+2.3**
KUR					AMB	AMB	21 57 47.3	
	comp=N,80nm,0.4s							
KUR					AMB	AMB	21 57 47.3	
	comp=N,230nm,0.4s							
KUR				*i*	S	**Sn**	**21 58 40.6**	**+4.5**
KUR					A	A	21 58 51.3	
	comp=N,230nm,0.6s							
KUR					A	A	21 58 51.3	
	comp=N,340nm,0.6s							
PETK	**Petropavlovsk-**	**5.91**	**28**		P	**Pn**	**21 58 03.6**	**+0.7**
	comp=N,8.4nm,0.3s,baz=194,slow=12,SNR=99							
PETK					LR	LR	22 00 51.2	
	comp=N,73nm,20.1s,baz=160,slow=44							
SHO	**Shikotan**	**6.01**	**229**	*e*	PN	**Pn**	**21 58 02.5**	**-1.8**
SHO					pmax	pmax		
	comp=Z,72nm,0.5s							
SHO	**Shikotan**	**6.01**	**229**	*e*	P	**Pn**	**21 58 02.5**	**-1.8**
SHO					AMB	AMB	21 58 06.9	
	comp=Z,70nm,0.3s							
SHO					*e*S	**Sn**	**21 59 08.1**	**-3.6**
SHO					A	A	21 59 22.7	
	comp=Z,140nm,0.6s							
SHO					A	A	21 59 22.7	
	comp=Z,130nm,0.6s							
PET	**Petropavlovsk**	**6.16**	**33**	*e*	PN	**Pn**	**21 58 05.5**	**-0.7**
PET					*e*S	**Sn**	**21 59 13.3**	**-1.9**
PET					pmax	pmax		
	comp=Z,67nm,0.4s							
PET					smax	smax		
	comp=N,95nm,0.4s							
PET					smax	smax		
	comp=E,67nm,0.4s							
PET	**Petropavlovsk**	**6.16**	**33**	*e*	P	**Pn**	**21 58 05.5**	**-0.7**
PET					AMB	AMB	21 58 13.0	
	comp=E,60nm,0.4s							
PET					*e*S	**Sn**	**21 59 13.3**	**-1.9**
PET					A	A	21 59 18.1	
	comp=E,100nm,0.4s							
PET					A	A	21 59 18.1	
	comp=E,70nm,0.4s							
PET	**Petropavlovsk**	**6.16**	**33**	*e*	PN	**Pn**	**21 58 06.1**	**-0.1**
YUK	**Yuzh-Kuril'sk**	**6.41**	**235**	*e*	PN	Pn	21 57 59.6	-10
YUK					pmax	pmax		
	comp=Z,421nm,0.3s							
YUK					pmax	pmax		
	comp=N,198nm,0.2s							
YUK					pmax	pmax		
	comp=E,231nm,0.2s							
JRA	**Rausu**	**6.89**	**237**		P	**Pn**	**21 58 16.7**	**+0.6**
NEM2	**Nemuro 2**	**6.93**	**231**		P	**Pn**	**21 58 14.2**	**-2.5**
NEM2					*e*S	**Sn**	**21 59 27.8**	**-6.2**
YSS	**Yuzh-Sakhalins**	**7.11**	**266**	⇓	*i*PN	**Pn**	**21 58 23.8**	**+4.6**
YSS					*e*S	**Sn**	**21 59 34.8**	**-3.5**
YSS					pmax	pmax		
	comp=Z,60nm,0.6s							
YSS					pmax	pmax		
	comp=E,40nm,0.9s							
YSS	**Yuzh-Sakhalins**	**7.11**	**266**	*i*	P	**Pn**	**21 58 23.8**	**+4.6**
YSS					AMB	AMB	21 58 25.4	
	comp=E,40nm,0.6s							
YSS					AMB	AMB	21 58 25.4	
	comp=E,60nm,0.6s							
JNK	**Nakash**	**7.34**	**236**		P	**Pn**	**21 58 22.1**	**-0.2**
TYV	**Tymovskoe**	**7.42**	**297**	*e*	P	Pn	21 58 28.5	+5.1
TYV					AMB	AMB	21 58 29.5	
	comp=E,40nm,0.7s							
UGL	**Uglegorsk**	**7.43**	**283**	*e*	PN	**Pn**	**21 58 23.6**	**+0.1**
UGL					*e*S	**Sn**	**21 59 45.9**	**-0.3**
UGL	**Uglegorsk**	**7.43**	**283**	*e*	P	**Pn**	**21 58 26.0**	**+2.5**
UGL					AMB	AMB	21 58 27.0	
	comp=E,20nm,0.2s							
JTKR	**Abashiri--Toko**	**7.57**	**241**		P	**Pn**	**21 58 26.6**	**+1.2**
JMP	**Maruseppu**	**7.88**	**243**		P	**Pn**	**21 58 31.2**	**+1.6**
JKA	**K

YAK pmax pmax
comp=N,12nm,1.2s
YAK pmax pmax
comp=E,24nm,1.4s
YAK smax smax
comp=N,89nm,3.2s
YAK smax smax
comp=E,74nm,3.3s
YAK Yakutsk 19.31 325 *e*P **Pn 22 00 56.8 +0.3**
CN2 Changchun 19.67 268 *e*P **P 22 00 52.5 -6.0**
CN2 pmax pmax
comp=Z,20nm,1.0s
KSRS Korea Array 21.21 250 P **P 22 01 16.5 +1.5**
comp=Z,19nm,0.9s,baz=51,slow=10,SNR=25
KSRS Korea Array 21.21 250 P **P 22 01 16.5 +1.5**
KSRS pmax pmax
comp=Z,20nm,0.9s
KSAR Wonju Array Be 21.24 250 P **P 22 01 16.5 +1.1**
KSAR Wonju Array Be 21.24 250 P **P 22 01 16.5 +1.1**
JNU Nakatsue 22.38 237 P **P 22 01 28.8 +1.2**
comp=Z,12nm,0.9s,baz=27,slow=6.8,SNR=3.3
GAMB Gambell 24.84 38 *e*P **P 22 01 51.3 +1.2**
comp=Z,14nm,0.6s
TIXI Tiksi 26.30 343 P **P 22 02 01.3 -2.0**
comp=Z,4.5nm,0.5s,baz=147,slow=8.4,SNR=2.7
HHC Hu-ho-hao-te 30.24 272 *e*P **P 22 02 39.7 +0.9**
HHC PP **PP 22 03 46.6 -2.2**
HHC S **S 22 07 29.8 -1.0**
HHC SS **SnSn 22 09 17.2 +1.4**
HHC pmax pmax
comp=Z,20nm,1.3s
HHC pmax pmax
comp=Z,190nm,5.0s
H11N2 WAKE ISLAND Hy 30.30 154 T T 22 34 48.0
baz=342,slow=76,SNR=2045
H11N1 WAKE ISLAND Hy 30.32 154 T T 22 34 46.8
baz=342,slow=76,SNR=2441
H11N3 WAKE ISLAND Hy 30.32 154 T T 22 34 47.1
baz=342,slow=76,SNR=1755
ULN Ulaanbaatar 30.53 287⇑ *e*P **P 22 02 38.5 -2.8**
ULN pmax pmax
comp=Z,2.0nm,0.7s
SONM Songino Array 30.96 287 P **P 22 02 45.0 -0.1**
comp=Z,1.8nm,0.8s,baz=58,slow=9.6,SNR=8.9
SONM sP **pP 22 03 13.0 +4.9**
comp=Z,0.8nm,0.7s,baz=69,slow=8.1,SNR=2.9
SONM PcP **PcP 22 05 38.3 -0.4**
comp=Z,0.7nm,0.7s,baz=106,slow=3.0,SNR=4.2
SONM LR LR 22 15 33.6
comp=Z,61nm,18.8s,baz=58,slow=37
H11S1 WAKE ISLAND Hy 31.40 155 T T 22 36 09.6
baz=343,slow=76,SNR=3599
H11S3 WAKE ISLAND Hy 31.41 155 T T 22 36 09.7
baz=343,slow=76,SNR=1962
H11S2 WAKE ISLAND Hy 31.42 155 T T 22 36 07.5
baz=343,slow=76,SNR=2097
TLY Talaya 31.65 296⇑ *e*P **P 22 02 52.0 +1.1**
TLY pmax pmax
comp=Z,3.0nm,0.8s
TLY Talaya 31.65 296 *e*P **P 22 02 52.0 +1.1**
CAST Castle Rocks 33.31 42 *e*P **P 22 03 06.6 +1.3**
comp=Z,24nm,1.7s
KDAK Kodiak Island 33.33 52 *i* P **P 22 03 05.0 -0.5**
KTH Kantishna Hill 33.83 42 *e*P **P 22 03 11.2 +1.3**
comp=Z,38nm,1.4s
COLD Coldfoot 34.32 35 *e*P **P 22 03 14.8 +0.8**
comp=Z,16nm,0.5s
TOLK Toolik Lake Re 34.70 33 P **P 22 03 17.4 +0.1**
baz=264
MDM Murphy Dome 35.02 39 *e*P **P 22 03 21.0 +1.0**
comp=Z,11nm,0.6s
WRH Wood River Hil 35.08 40 *e*P **P 22 03 21.4 +0.9**
comp=Z,8.3nm,1.0s
COLA College 35.18 39 *i* P **P 22 03 22.2 +0.9**
COLA pmax pmax
comp=Z,18nm,1.0s
COLA College 35.18 39 *e*P **P 22 03 22.2 +0.9**
CCB Clear Creek Bu 35.20 40 *e*P **P 22 03 22.0 +0.5**
comp=Z,8.6nm,0.5s
ILAR Eielson Array 35.59 40 P **P 22 03 24.9 +0.1**
comp=Z,4.3nm,0.5s,baz=261,slow=6.1,SNR=64
ILAR Eielson Array 35.59 40 P **P 22 03 25.0 +0.1**
ILAR pmax pmax
comp=Z,4.0nm,0.6s
ILAR Eielson Array 35.59 40 *e*P **P 22 03 25.0 +0.1**
TPUB Ta-pu 35.68 238 *e*P **P 22 03 26.9 +0.9**
comp=Z,17nm,0.9s
FYU Fort Yukon 36.25 37 *e*P **P 22 03 31.6 +1.2**
comp=Z,30nm,0.7s
DOT Dot Lake 36.89 41 *e*P **P 22 03 35.8 -0.2**
comp=Z,19nm,0.6s
MENT Mentasta 37.12 43 *e*P **P 22 03 39.1 +1.1**
comp=Z,42nm,1.9s
LZH Lanzhou 37.88 270 *e*P **P 22 03 46.4 +1.6**
LZH pP pP 22 04 13.6 +5.2
LZH sP sP 22 04 28.1 +7.8
LZH pmax pmax
comp=Z,42nm,1.3s
LZH pmax pmax
comp=Z,160nm,5.5s
EGAK Eagle 38.04 39 *e*P **P 22 03 45.7 +0.1**
comp=Z,19nm,1.0s
GTA Gaotai 38.81 278 P **P 22 03 53.8 +1.3**
GTA pP pP 22 04 21.8 +5.6
GTA sP sP 22 04 36.1 +8.0
GTA S **S 22 09 40.5 -2.0**
GTA sS sS 22 10 29.9 +6.5
GTA SS **SS 22 12 27.5 -10**
GTA pmax pmax
comp=Z,6.0nm,1.1s
GTA pmax pmax
comp=Z,40nm,5.9s
GTA LR LR
comp=Z,77nm,15.7s
GTA LR LR
comp=Z,110nm,17.6s
GTA LR LR
comp=Z,93nm,15.2s
INK Inuvik 40.62 33 *e*P **P 22 04 07.9 +1.0**
INK pmax pmax
comp=Z,11nm,0.6s
INK Inuvik 40.62 33 *e*P **P 22 04 07.9 +1.0**
comp=Z,11nm,0.6s
CD2 Chengdu 41.01 264⇓ *i*P **P 22 04 11.3 +0.6**
CD2 S **S 22 10 12.8 -2.5**
CD2 pmax pmax
comp=Z,20nm,0.8s
CD2 pmax pmax
comp=Z,160nm,7.1s
ZALV Zalesovo Beam 41.92 305 P **P 22 04 16.9 -0.9**
comp=Z,3.6nm,0.6s,baz=66,slow=7.7,SNR=17
ZALV PcP **PcP 22 06 11.5 +0.2**
comp=Z,3.4nm,0.7s,baz=82,slow=2.3,SNR=12
ZALV LR LR 22 22 32.2
comp=Z,51nm,18.8s,baz=70,slow=37
GYA Guiyang 42.01 256 *e*P **P 22 04 20.0 +1.0**
GYA pmax pmax
comp=Z,10.0nm,1.0s
NVS Novosibirsk 42.47 306 *e*P **P 22 04 21.7 -0.5**
NVS pmax pmax
comp=Z,11nm,1.4s
NVS pmax pmax
comp=E,10.0nm,1.6s
WMQ Urumqi 44.51 290 P **P 22 04 40.3 +1.4**
WMQ pP pP 22 05 08.2 +5.2
WMQ sP sP 22 05 22.3 +7.5
WMQ pmax pmax
comp=E,13nm,0.6s
WMQ pmax pmax
comp=E,58nm,4.1s
WMQ LR LR
comp=E,35nm,18.7s
WMQ LR LR
comp=E,21nm,17.5s
WMQ LR LR
comp=E,23nm,16.5s
KMI Kunming 45.49 258 P **P 22 04 47.9 +0.9**
KMI pmax pmax
comp=E,14nm,0.5s
MKAR Makanchi Array 46.40 296 *e*P **P 22 04 53.3 -0.4**
MKAR pmax pmax
comp=Z,45nm,0.6s
MKAR Makanchi Array 46.40 296 *e*P **P 22 04 53.3 -0.4**
comp=Z,45nm,0.6s
MAKZ Makanchi 46.58 296 *e*P **P 22 04 55.2 +0.1**
MAKZ pmax pmax
comp=Z,4.0nm,0.8s
MAKZ Makanchi 46.58 296 *e*P **P 22 04 55.1 +0.1**
comp=Z,4.2nm,0.8s
KURK Kurchatov 46.71 303 *c i*P **P 22 04 55.6 -0.3**
KURK pmax pmax
comp=Z,60nm,0.7s
KURK Kurchatov 46.71 303 *e*P **P 22 04 55.6 -0.3**
KURK Kurchatov 46.71 303 *e*P **P 22 04 55.7 -0.3**
comp=Z,18nm,0.8s
SLVN Son La 47.39 254 *e*P **P 22 05 02.0 +0.3**
comp=Z,3.7nm,0.7s
PDGK Podgornoye 49.88 294 P **P 22 05 21.4 +0.8**
PDGK pmax pmax
comp=Z,3.0nm,1.1s
YKA Yellowknife Ar 49.94 37 P **P 22 05 21.4 +0.8**
comp=Z,5.2nm,0.6s,baz=298,slow=7.1,SNR=19
YKA pP **pP 22 05 43.0 -2.3**
comp=Z,1.4nm,0.6s,baz=294,slow=6.9,SNR=2.9
YKA PcP **PcP 22 06 38.9 -0.4**
comp=Z,1.1nm,0.8s,baz=306,slow=3.0,SNR=3.0
BRVK Borovoye 50.14 309 *c i*P **P 22 05 22.2 -0.1**
BRVK pmax pmax
comp=Z,23nm,0.7s
BRVK Borovoye 50.14 309 *e*P **P 22 05 22.9 +0.7**
comp=Z,8.9nm,0.8s
LSA Lhasa 50.23 272 *e*P **P 22 05 24.8 +1.0**
LSA pmax pmax
comp=Z,9.0nm,0.6s
LSA Lhasa 50.23 272 *e*P **P 22 05 24.8 +1.0**
comp=Z,9.0nm,0.6s
CHTO Chiang Mai 52.42 256 *e*P **P 22 05 41.0 +1.3**
CHTO pmax pmax
comp=Z,7.0nm,0.8s
CHTO Chiang Mai 52.42 256 *e*P **P 22 05 41.0 +1.3**
comp=Z,6.9nm,0.8s
CMAR Chiang Mai Arr 52.68 255 P **P 22 05 43.4 +1.7**
comp=Z,4.1nm,0.6s,baz=37,slow=7.0,SNR=28
CMAR PcP **PcP 22 06 49.6 -0.6**
comp=Z,0.4nm,0.3s,baz=41,slow=2.9,SNR=3.1
CMAR Chiang Mai Arr 52.68 255 P **P 22 05 43.4 +1.7**
CMAR 22 06 49.6
CMAR pmax pmax
comp=Z,5.0nm,0.7s
SVE Sverdlovsk 52.95 317 *e*P **P 22 05 42.7 -0.4**
SVE pmax pmax
comp=Z,6.0nm,0.6s
AAK Ala-Archa 53.31 296⇑ *e*P **P 22 05 46.1 -0.1**
AAK pmax pmax
comp=Z,10.0nm,0.9s
AAK Ala-Archa 53.31 296 *e*P **P 22 05 46.1 -0.1**
comp=Z,4.4nm,0.8s
ARU Arti 54.12 317 *d i*P **P 22 05 50.9 -0.8**
ARU *PP **pP 22 06 17.7 +1.0**
ARU 22 06 53.5
ARU 22 07 50.5
ARU S **S 22 13 17.0 -3.1**
ARU SS **SS 22 16 57.3 -5.0**
ARU pmax pmax
comp=Z,12nm,1.2s
ARU Arti 54.12 317 *e*P **P 22 05 50.3 -1.4**
comp=Z,6.6nm,0.7s
KSH Kashi 54.21 292 *e*P **P 22 05 56.9 +4.2**
KSH pP sP 22 06 25.8 -3.4
KSH PP **PP 22 08 01.9 +6.7**
KSH S **S 22 13 22.3 +0.4**
KSH sS sS 22 14 14.2 +9.4
KSH SS **SS 22 17 05.9 +1.3**
KSH pmax pmax
comp=Z,6.0nm,1.1s
KSH pmax pmax
comp=Z,68nm,5.9s
KSH LR LR
comp=Z,77nm,5.8s
KSH LR LR
comp=Z,97nm,4.9s
KSH LR LR
comp=Z,170nm,5.2s
MNAS Manas 54.60 296 P **P 22 05 56.6 +1.0**
MNAS pmax pmax
comp=Z,4.0nm,0.7s
JIRN Jiri 54.87 274 *e*P **P 22 05 58.5 +0.5**
comp=Z,32nm,0.5s
GUN Gumba 54.92 274 *e*P **P 22 05 59.0 +0.7**
comp=Z,20nm,0.4s
RAMN Ramite 55.06 273 *e*P **P 22 05 59.7 +0.5**
comp=Z,23nm,0.5s
KKN Kakani 55.40 274 *e*P **P 22 06 02.7 +1.1**
comp=Z,14nm,0.6s
KKAR Karatay Array 55.43 298 *e*P **P 22 06 01.8 +0.4**
KKAR pmax pmax
comp=Z,1.0nm,0.3s
KKAR Karatay Array 55.43 298 *e*P **P 22 06 01.8 +0.4**
comp=Z,0.5nm,0.3s
PKIN Phulchoki 55.46 274 *e*P **P 22 06 03.1 +1.0**
comp=Z,17nm,0.7s
EDM Edmonton 55.46 47 *e*P **P 22 06 02.3 +0.8**
EDM *e* 22 07 01.2
EDM Edmonton 55.46 47 *e*P **P 22 06 02.3 +0.8**
comp=Z,46nm,0.5s
EDM *ePcP **PcP 22 07 01.2 +0.9**
DMN Daman 55.63 274 *e*P **P 22 06 04.6 +1.3**
comp=Z,23nm,0.6s
GKN Gorkha 55.69 275 *e*P **P 22 06 04.3 +0.7**
comp=Z,17nm,0.6s
HAWA Hanford 56.21 56 *e*P **P 22 06 07.3 +0.5**
comp=Z,1.4nm,0.6s
NEW Newport 56.43 53 P **P 22 06 09.0 +0.5**
baz=307
NEW Newport 56.43 53 *e*P **P 22 06 09.2 +0.8**
NEW pmax pmax
comp=Z,8.0nm,1.3s
NEW Newport 56.43 53 *e*P **P 22 06 09.2 +0.8**
comp=Z,7.8nm,1.3s
J04D Umpqua Nationa 56.61 61 P **P 22 06 11.2 +1.2**
baz=307
ARCES ARCESS Array B 56.70 341 P **P 22 06 09.7 -0.4**
comp=Z,1.0nm,0.3s,baz=29,slow=7.4,SNR=17
ARCES PcP **PcP 22 07 05.3 +0.4**
comp=Z,1.9nm,0.6s,baz=46,slow=4.0,SNR=7.9
PYUN Piuthan 56.73 276 *e*P **P 22 06 13.3 +2.3**
J05D Fort Rock, OR 57.09 60 P **P 22 06 14.5 +1.2**
baz=307
M02C Callahan 57.28 63 P **P 22 06 16.1 +1.5**
baz=308
WALA Waterton Lakes 57.66 51 *e*P **P 22 06 18.0 +0.8**
comp=Z,17nm,0.6s
ABKAR Akbulak array 57.66 309 *e*P **P 22 06 16.5 -0.5**
BSMT Bassoo Peak 57.93 53 *e*P **P 22 06 20.6 +1.4**
BLMT Blacktail Moun 58.06 52 *e*P **P 22 06 21.6 +1.5**
JTMT Jette 58.26 52 *e*P **P 22 06 22.8 +1.3**
SLMT Seeley Lake 58.99 53 *e*P **P 22 06 27.7 +1.2**
MSO Missoula 59.01 53 P **P 22 06 27.3 +0.7**
baz=309
MSO Missoula 59.01 53 *e*P **P 22 06 27.8 +1.1**
comp=Z,6.9nm,0.8s
WVOR Wild Horse Val 59.12 60 *e*P **P 22 06 29.0 +1.5**
WVOR pmax pmax
comp=Z,4.0nm,0.8s
WVOR Wild Horse Val 59.12 60 *e*P **P 22 06 29.0 +1.5**
comp=Z,3.8nm,0.8s
CHMT Chamberlain Mo 59.33 53 *e*P **P 22 06 29.8 +0.9**
SUMG Summit 59.48 4 *i*P **P 22 06 29.8 0.0**
comp=Z,5.6nm,0.8s
SUMG Summit 59.48 4 *i*P **P 22 06 29.8 0.0**
SUMG pmax pmax
comp=Z,6.0nm,0.8s
SUMG Summit 59.48 4 *e*P **P 22 06 30.1 +0.3**
comp=Z,39nm,1.9s
FFC Flin Flon 59.80 40 *e*P **P 22 06 32.9 +1.2**
FFC pmax pmax
comp=Z,13nm,0.8s
FFC Flin Flon 59.80 40 *e*P **P 22 06 32.9 +1.2**
comp=Z,13nm,0.8s
HRY Holter Researc 60.21 52 *e*P **P 22 06 36.8 +2.0**
LRM Limekiln Ridge 60.45 53 *e*P **P 22 06 37.9 +1.3**
PNTR Pine Nut 60.66 63 *e*P **P 22 06 40.6 +2.4**
comp=Z,5.8nm,0.7s
HLID Hailey 60.81 56 P **P 22 06 40.4 +1.3**
baz=310
MCMT McKenzie Canyo 60.87 54 *e*P **P 22 06 40.8 +1.3**
BOZ Bozeman (W) 61.03 53 P **P 22 06 41.1 +1.0**
baz=310
BOZ Bozeman (W) 61.03 53 *e*P **P 22 06 41.8 +1.3**
BOZ pmax pmax
comp=Z,11nm,0.8s
BOZ Bozeman (W) 61.03 53 *e*P **P 22 06 41.8 +1.3**
comp=Z,11nm,0.8s
YHH Holmes Hill 61.98 53 *e*P **P 22 06 48.6 +1.5**
comp=Z,5.2nm,0.8s
RLMT Red Lodge 62.61 52 *e*P **P 22 06 52.5 +1.4**
comp=Z,23nm,1.5s
FXWY Fox Creek 62.64 54 *e*P **P 22 06 53.0 +1.7**
comp=Z,7.7nm,0.8s
TPAW Teton Pass 62.78 54 *e*P **P 22 06 54.1 +1.8**
comp=Z,6.8nm,0.8s
LOHW Long Hollow 62.88 54 *e*P **P 22 06 55.0 +2.0**
comp=Z,3.8nm,0.6s
HVU Hansel Valley 62.89 57 *e*P **P 22 06 55.0 +2.0**
HVU Hansel Valley 62.89 57 *e*P **P 22 06 55.0 +2.0**
REDW Red Top Meadow 62.91 55 *e*P **P 22 06 55.2 +2.0**
comp=Z,6.1nm,0.8s
FINES FINESS Array B 62.94 334 P **P 22 06 52.0 -0.8**
comp=Z,3.9nm,0.5s,baz=32,slow=7.8,SNR=33
FINES PcP **sP 22 07 29.7 -0.1**
comp=Z,2.1nm,0.5s,baz=46,slow=4.0,SNR=5.5
FINES LR LR 22 36 10.1
comp=Z,42nm,19.7s,baz=38,slow=38
FINES FINESS Array B 62.94 334 *e*P **P 22 06 52.0 -0.8**
DGMT Dagmar 62.96 47 P **P 22 06 53.8 +0.7**
baz=313
CWC Cottonwood Cre 63.29 64 P **P 22 06 56.1 +0.3**
baz=312
SPUT South Promonto 63.38 57 *e*P **P 22 06 58.2 +1.9**
comp=Z,4.9nm,0.9s
R11A Troy Canyon, C 63.53 61 P **P 22 06 57.9 +0.7**
baz=312
HWUT Hardware Ranch 63.68 56 *e*P **P 22 06 59.8 +1.5**
comp=Z,3.7nm,0.6s
MPMC Manual Prospec 63.90 64 P **P 22 07 00.5 +0.7**
baz=312
DUG Dugway, Tooele 63.92 58 P **P 22 07 00.3 +0.6**
baz=312
DUG Dugway, Tooele 63.92 58 *e*P **P 22 07 01.1 +1.3**
DUG pmax pmax
comp=Z,4.0nm,0.9s
DUG Dugway, Tooele 63.92 58 *e*P **P 22 07 01.1 +1.3**
comp=Z,3.6nm,0.9s
FURC Furnace Creek, 64.01 64 P **P 22 07 01.2 +1.1**
baz=312
BW06 Boulder Array 64.02 54 *e*P **P 22 07 01.3 +0.8**
comp=Z,10nm,0.9s
PDAR Pinedale Array 64.02 54 P **P 22 07 01.2 +0.7**
comp=Z,6.2nm,0.8s,baz=300,slow=1.5,SNR=44
TPNV Topopah Spring 64.06 63 P **P 22 07 01.5 +0.8**
baz=312
TPNV Topopah Spring 64.06 63 *e*P **P 22 07 01.7 +0.9**
TPNV pmax pmax
comp=Z,24nm,2.0s
TPNV Topopah Spring 64.06 63 *e*P **P 22 07 01.7 +0.9**
comp=Z,24nm,2.0s
NLU North Lily Min 64.50 58 *e*P **P 22 07 05.4 +1.7**
comp=Z,9.3nm,0.8s
TUQ Turquoise Moun 65.27 64 P **P 22 07 08.9 +0.4**
baz=313
ULM Lac du Bonnet 65.59 41 P **P 22 07 10.2 0.0**
comp=Z,2.3nm,0.4s,baz=316,slow=6.8,SNR=8.6
GMRC Granite Mounta 65.86 64 P **P 22 07 13.1 +0.6**
baz=313
SRU San Rafael Swe 65.95 58 *e*P **P 22 07 14.6 +1.6**
SRU *e*PP **pP 22 07 38.7 -0.1**
SRU pmax pmax
comp=Z,6.0nm,0.8s
SRU San Rafael Swe 65.95 58 *e*P **P 22 07 14.6 +1.6**
comp=Z,5.5nm,0.8s
SRU *e*pP **pP 22 07 38.7 -0.1**
GEYT Alibeck 65.99 300 P **P 22 07 13.3 +0.2**
comp=Z,1.4nm,0.6s,baz=33,slow=5.7,SNR=3.9
GEYT LR LR 22 40 32.1
comp=Z,64nm,18.8s,baz=75,slow=40
RSSD Black Hills 66.03 50 *e*P **P 22 07 14.1 +0.6**
RSSD Black Hills 66.03 50 *e*P **P 22 07 14.1 +0.6**
comp=Z,63nm,0.4s
A33A Warroad 66.76 42 P **P 22 07 17.2 -0.6**
baz=317
D31A Mcclaflin, Tow 67.07 45 P **P 22 07 19.2 -0.5**
baz=317
NB2 NORSAR Subarra 67.08 341 P **P 22 07 19.8 +0.2**
comp=Z,3.7nm,0.7s,baz=30,slow=6.5
NOA NORSAR Array B 67.08 341 P **P 22 07 17.4 -2.2**
comp=Z,2.8nm,0.7s,baz=28,slow=6.4,SNR=12
NOA LR LR 22 40 54.3
comp=Z,15nm,18.9s,baz=50,slow=40
B33A Robert and Kas 67.16 42 P **P 22 07 20.1 -0.2**
baz=318
PV10 Paradox Valley 67.30 58 *e*P **P 22 07 23.4 +1.7**
PV10 *e*PcP **PcP 22 07 48.5 -0.2**
PV05 Paradox Valley 67.47 58 *e*P **P 22 07 23.9 +1.1**
B35A Bob, Littlefor 67.93 41 P **P 22 07 25.0 -0.1**
baz=318
ISCO Idaho Springs 68.22 54 *e*P **P 22 07 28.9 +1.4**
ISCO pmax pmax
comp=Z,9.0nm,0.8s
ISCO Idaho Springs 68.22 54 *e*P **P 22 07 28.9 +1.4**
comp=Z,9.1nm,0.8s
D34A Park Rapids 68.22 43 P **P 22 07 26.4 -0.6**
baz=318
SUSD Miller 68.36 47 P **P 22 07 27.5 -0.4**
baz=317
D35A Remer 68.74 43 P **P 22 07 29.9 -0.3**
baz=319
S22A 4UR Ranch, Cre 68.99 57 P **P 22 07 32.7 +0.5**
baz=315
EYMN Ely 69.23 41 P **P 22 07 32.6 -0.7**
baz=320
J31A Geddes 69.31 48 P **P 22 07 33.8 0.0**
baz=317
OGNE Ogallala 69.32 52 P **P 22 07 34.5 +0.5**
baz=316
I32A Karley and Nic 69.40 47 P **P 22 07 33.8 -0.6**
baz=318
C38A Sawbill Land. 69.50 41 P **P 22 07 34.5 -0.4**
baz=320
E36A McGregor 69.53 42 P **P 22 07 35.0 -0.1**
baz=319
WRA Warramunga Arr 69.67 199 P **P 22 07 36.3 +0.1**
comp=Z,1.1nm,0.6s,baz=16,slow=6.6,SNR=9.3
WRA pP **PcP 22 07 58.5 +0.2**
comp=Z,1.0nm,0.6s,baz=18,slow=6.6,SNR=4.2
SDCO Great Sand Dun 69.73 56 P **P 22 07 37.3 +0.4**
baz=316
F36A Milaca 69.90 43 P **P 22 07 36.6 -0.8**
baz=319
C39A Grand Marais 69.92 40 P **P 22 07 36.7 -0.8**
baz=321
KIV Kislovodsk 69.96 314⇓ *e*P **P 22 07 39.7 +1.8**
KIV pmax pmax
comp=Z,6.0nm,0.8s
KBZ Khabaz 70.02 314 P **P 22 07 38.1 0.0**
comp=Z,3.1nm,0.8s,baz=39,slow=10,SNR=7.8
ECSD EROS Data Cent 70.03 46 P **P 22 07 38.1 -0.1**
baz=318
ECSD EROS Data Cent 70.03 46 *e*P **P 22 07 38.4 +0.2**
comp=Z,8.0nm,0.6s
H35A Sunnyside Ranc 70.16 45 P **P 22 07 39.1 +0.1**
baz=319
J33A Davis 70.17 47 P **P 22 07 39.0 -0.1**
baz=318
I34A Hadley 70.17 46 P **P 22 07 38.7 -0.4**
baz=318
E38A The Farm, Brul 70.22 41 P **P 22 07 39.2 -0.1**
baz=320
AKASG Malin Array Be 70.54 326 P **P 22 07 40.6 -0.5**
comp=Z,2.2nm,0.4s,baz=34,slow=6.3,SNR=5.8
AKASG LR LR 22 39 47.2
comp=Z,25nm,21.6s,baz=290,slow=37
F38A Pierce - Schro 70.57 42 P **P 22 07 41.9 +0.4**
baz=320
SPMN Marine on St. 70.71 43 P **P 22 07 42.5 +0.2**
baz=320
G38A Ridgeland 71.19 43 P **P 22 07 44.9 -0.3**
baz=320
I37A Lemond, Waseca 71.35 44 P **P 22 07 46.0 -0.3**
baz=320
F40A Park Falls 71.39 41 P **P 22 07 45.9 -0.5**
baz=321
G39A Holcombe 71.41 42 P **P 22 07 46.5 -0.1**
baz=321
J36A Seneca 1, Swea 71.43 45 P **P 22 07 46.6 -0.1**
baz=319
AKH Akhalkalaki 71.45 312⇑ *i*P **P 22 07 49.4 +2.3**
K35A Storm Lake 71.46 46 P **P 22 07 46.6 -0.3**
baz=319
L34A Svendsen Farm, 71.46 47 P **P 22 07 46.8 -0.2**

	baz=319								
J37A	Redenius Farm,	71.82	45	P		P	22 07 48.9	-0.1	
	baz=320								
I38A	Scanlan Farm,	71.83	44	P		P	22 07 48.2	-0.9	
	baz=320								
M35A	Neola	72.17	47	P		P	22 07 50.7	-0.5	
	baz=319								
SCHQ	Schefferville	72.18	23	P		P	22 07 51.4	+0.4	
	comp=Z,9.8nm,0.4s,baz=321,slow=5.2,SNR=12								
K37A	Belmond	72.19	45	P		P	22 07 50.5	-0.7	
	baz=320								
J38A	Wedel Dairy, R	72.32	44	P		P	22 07 51.4	-0.6	
	baz=320								
I39A	Houston	72.35	43	P		P	22 07 51.5	-0.7	
	baz=321								
H41A	Junction City	72.61	42	P		P	22 07 53.0	-0.7	
	baz=322								
L37A	Phoenix Point,	72.62	46	P		P	22 07 53.5	-0.3	
	baz=320								
M36A	Felix, Anita	72.62	47	P		P	22 07 53.3	-0.5	
	baz=320								
O34A	Beatrice	72.64	49	P		P	22 07 53.0	-1.0	
	baz=319								
N35A	Tabor	72.66	48	P		P	22 07 53.9	-0.1	
	baz=319								
J39A	Decorah	72.67	44	P		P	22 07 53.4	-0.6	
	baz=321								
I40A	Norwalk	72.74	43	P		P	22 07 53.9	-0.6	
	baz=321								
L38A	Oak Wood Farm,	72.99	45	P		P	22 07 55.7	-0.3	
	baz=320								
M37A	Trindle Farm,	73.03	46	P		P	22 07 55.7	-0.5	
	baz=320								
P34A	Walnut Farm, R	73.05	49	P		P	22 07 55.7	-0.7	
	baz=319								
SCIA	State Center	73.05	46	eP		P	22 07 57.0	+0.7	
K39A	Oelwein	73.07	44	P		P	22 07 55.5	-1.0	
	baz=321								
ASAR	Alice Springs	73.37	198	P		P	22 07 59.1	+0.8	
	comp=Z,1.2nm,0.5s,baz=12,slow=5.7,SNR=15								
ASAR				pP		pP	22 08 22.1	-2.6	
	comp=Z,2.9nm,0.6s,baz=13,slow=5.2,SNR=9.7								
K40A	Colesburg	73.42	44	P		P	22 07 58.1	-0.4	
	baz=321								
J41A	Loganville	73.42	43	P		P	22 07 57.1	-1.4	
	baz=322								
M38A	Pleasantville	73.43	46	P		P	22 07 58.6	-0.1	
	baz=320								
Q34A	Chapman	73.46	50	P		P	22 07 58.2	-0.7	
	baz=319								
L39A	Vinton	73.46	45	P		P	22 07 58.2	-0.6	
	baz=321,SNR=6.7								
P35A	Duane Minner,	73.47	49	P		P	22 07 58.1	-0.8	
	baz=319								
KSU1	Kansas State U	73.49	50	P		P	22 07 58.0	-1.0	
	baz=319								
R34A	Isabella, Hill	73.77	51	P		P	22 07 59.7	-0.9	
	baz=319								
P36A	Good Intent, A	73.81	48	P		P	22 08 00.3	-0.6	
	baz=320								
L40A	Anamosa	73.88	44	P		P	22 08 00.7	-0.5	
	baz=321								
M39A	Webster	73.88	45	P		P	22 08 01.1	-0.1	
	baz=321								
K41A	Shullsburg	73.88	43	P		P	22 08 00.6	-0.6	
	baz=322								
O37A	Wolven Farm, M	73.92	47	P		P	22 08 01.1	-0.4	
	baz=320								
MSTX	Muleshoe	73.98	57	P		P	22 08 02.5	+0.3	
	baz=318								
MNTX	Cornudas Mount	74.15	60	P		P	22 08 03.5	+0.5	
	baz=317								
N39A	Derby Farms, D	74.18	46	P		P	22 08 02.7	-0.3	
	baz=321								
L41A	Preston	74.20	44	P		P	22 08 02.6	-0.5	
	baz=322								
P37A	Lathrop	74.27	48	P		P	22 08 03.1	-0.4	
	baz=320								
O38A	Galt	74.29	47	P		P	22 08 03.5	-0.1	
	baz=320								
R35A	Emporia Munici	74.29	50	P		P	22 08 03.5	-0.2	
	baz=320								
LEOM	Leova	74.36	324	⇓	iP	P	22 08 04.6	+0.7	
BURAR	Bucovina Array	74.58	326	⇓	iP	P	22 08 05.1	-0.2	
BURAR	Bucovina Array	74.58	326		P	P	22 08 05.1	-0.2	
N40A	Mertquake, Sal	74.62	45		P	P	22 08 05.2	-0.3	
	baz=321								
P38A	Dawn	74.64	47		P	P	22 08 05.3	-0.4	
	baz=320,SNR=8.1								
R36A	Gordon, Harris	74.64	49		P	P	22 08 05.4	-0.3	
	baz=320								
VLDQ	Val d'Or	74.71	32	eP		P	22 08 05.0	-0.9	
S35A	Otter Creek Ra	74.71	50	P		P	22 08 05.6	-0.5	
	baz=320								
M41A	Milan	74.73	44	P		P	22 08 05.9	-0.2	
	baz=322								
R37A	Teagarden Farm	75.00	49	P		P	22 08 07.2	-0.6	
	baz=320								
O40A	La Belle	75.07	46	P		P	22 08 07.8	-0.3	
	baz=321,SNR=10								
N41A	Harden Midland	75.10	45	P		P	22 08 07.9	-0.4	
	baz=322								
Q38A	Cooks Store, C	75.11	48	P		P	22 08 07.7	-0.7	
	baz=321,SNR=14								
T35A	Sooner Cattle	75.19	51	P		P	22 08 09.0	+0.1	
	baz=320								
DPC	Dobruska-Polom	75.24	333	eP		P	22 08 09.4	+0.4	
DPC	Dobruska-Polom	75.24	333	eP		P	22 08 09.4	+0.4	
KRLC	Kraliky	75.34	333	eP		P	22 08 14.3	+4.7	
KRLC	Kraliky	75.34	333	eP		P	22 08 14.3	+4.7	
CLL	Collm	75.36	335	i P		P	22 08 09.3	-0.3	
CLL				pmax		pmax			
	comp=Z,7.0nm,0.6s								
CLL	Collm	75.36	335	eP		P	22 08 09.3	-0.3	
CLL	Collm	75.36	335	i P		P	22 08 09.3	-0.3	
	comp=Z,7.0nm,0.6s								
CLL	Collm	75.36	335	eP		P	22 08 09.2	-0.3	
Q39A	Willow Grove F	75.36	47	P		P	22 08 09.7	-0.1	
	baz=321,SNR=7.9								
MORC	Moravsky Berou	75.36	332	⇑	iP	P	22 08 10.4	+0.7	
MORC	Moravsky Berou	75.36	332		P	P	22 08 10.1	+0.4	
MORC				pmax		pmax			
	comp=Z,15nm,1.1s								
S37A	Fort Scott	75.42	49	P		P	22 08 09.6	-0.6	
	baz=320,SNR=5.9								
P40A	Paris	75.44	46	P		P	22 08 10.2	0.0	
	baz=321,SNR=6.1								
VRI	Vrincioaia	75.46	324	⇑	iP	P	22 08 10.8	+0.5	
VRI	Vrincioaia	75.46	324		P	P	22 08 10.8	+0.5	
CFR	Carcaliu	75.47	323	⇓	iP	P	22 08 10.5	+0.2	
CFR	Carcaliu	75.47	323		P	P	22 08 10.5	+0.2	
V34A	Guthrie	75.48	52		P	P	22 08 10.8	+0.2	
	baz=319								
PLOR	Plostina	75.50	325	⇑	iP	P	22 08 11.0	+0.4	
O41A	Passleys Farm,	75.55	45	P		P	22 08 10.7	-0.2	
	baz=322,SNR=5.3								
R38A	Fenwick Farm,	75.56	49	P		P	22 08 10.4	-0.6	
	baz=321								
X32A	Elmer	75.59	54	P		P	22 08 11.9	+0.6	
	baz=319								
WMOK	Wichita Mounta	75.62	54	P		P	22 08 11.5	+0.1	
	baz=319								
P41A	Barry, Barry	75.81	46	P		P	22 08 12.2	-0.2	
	baz=322,SNR=6.7								
Q40A	Laux Farm, Aux	75.85	47	P		P	22 08 12.5	-0.1	
	baz=321								
T37A	Cheneyville 18	75.86	50	P		P	22 08 12.3	-0.4	
	baz=320,SNR=5.1								
V35A	Meyer Ranch, C	75.89	52	P		P	22 08 13.0	+0.1	
	baz=320								
R39A	Chumby, Stover	75.90	48	P		P	22 08 12.3	-0.6	
	baz=321,SNR=6.3								
HDIL	Hopedale	75.96	44	P		P	22 08 12.7	-0.5	
	baz=322								
S38A	Stockton	75.99	49	P		P	22 08 13.4	-0.1	
	baz=321								
U36A	Oologah	76.00	51	P		P	22 08 13.4	-0.1	
	baz=320								
MLR	Muntele Rosu	76.07	325	⇑	iP	P	22 08 15.1	+1.2	
VRAC	Vranov	76.07	332	⇑	iP	P	22 08 14.0	+0.3	
PRU	Pruhonice	76.09	334	eP		P	22 08 14.3	+0.5	
PRU	Pruhonice	76.09	334	eP		P	22 08 14.3	+0.5	
DRGR		76.19	327	⇑	iP	P	22 08 14.1	-0.4	
S39A	Bolivar	76.23	48	P		P	22 08 14.8	-0.1	
	baz=321								
T38A	Diamond	76.25	50	P		P	22 08 14.6	-0.3	
	baz=321,SNR=7.5								
Q41A	Truxton	76.29	46	P		P	22 08 15.2	+0.1	
	baz=322,SNR=8.0								
R40A	Maddies Statio	76.30	47	P		P	22 08 14.9	-0.2	
	baz=321								
U37A	Salina	76.31	50	P		P	22 08 15.3	0.0	
	baz=320								
W35A	Tecumseh	76.34	52	P		P	22 08 15.5	+0.1	
	baz=320								
V36A	Jenks	76.35	51	P		P	22 08 15.7	+0.2	
	baz=320								
VOIR		76.46	325	⇓	iP	P	22 08 17.4	+1.3	
VOIR		76.46	325		P	P	22 08 17.4	+1.3	
P43A	Skaggs, Pawnee	76.57	45	P		P	22 08 16.5	-0.2	
	baz=322								
U38A	Gravette	76.66	50	P		P	22 08 16.7	-0.5	
	baz=321								
Q42A	Golden Eagle	76.66	46	P		P	22 08 17.5	+0.3	
	baz=322,SNR=5.4								
ARR	Arges	76.68	325	⇑	iP	P	22 08 19.4	+2.1	
W36A	Wetumka	76.69	52	P		P	22 08 17.8	+0.3	
	baz=320								
V37A	Hulbert	76.69	51	P		P	22 08 17.3	-0.2	
	baz=320,SNR=5.2								
S40A	Lebanon	76.72	48	P		P	22 08 17.0	-0.6	
	baz=321								
T39A	Clever	76.72	49	P		P	22 08 17.2	-0.4	
	baz=321								
R41A	Rosebud	76.73	47	P		P	22 08 17.2	-0.4	
	baz=322								
TXAR	Lajitas Array	76.88	61	P		P	22 08 19.1	+0.4	
	comp=Z,4.5nm,0.6s,baz=299,slow=4.5,SNR=55								
TXAR				pP		pP	22 08 42.1	-3.1	
	comp=Z,3.4nm,0.7s,baz=303,slow=4.5,SNR=8.7								
SADO	Sadowa	76.89	35	eP		P	22 08 21.8	+3.4	
HHAR	Hobbs	77.01	50	eP		P	22 08 19.3	0.0	
R42A	Luebbering	77.03	47	P		P	22 08 19.3	0.0	
	baz=322								
Q43A	New Douglas	77.04	45	P		P	22 08 19.3	0.0	
	baz=322								
T40A	Mansfield	77.06	48	P		P	22 08 19.0	-0.5	
	baz=321								
X36A	Centrahoma	77.06	52	P		P	22 08 19.5	0.0	
	baz=320								
V38A	Canehill	77.09	50	P		P	22 08 19.7	0.0	
	baz=321,SNR=5.3								
S41A	Jillco Farms,	77.10	48	P		P	22 08 19.2	-0.5	
	baz=322								
W37B	Quinton	77.11	51	P		P	22 08 19.5	-0.3	
	baz=320								
P44A	Sand Creek, Wi	77.13	44	P		P	22 08 19.8	-0.1	
	baz=323								
KHC	Kasperske Hory	77.14	334	eP		P	22 08 20.1	+0.3	
KHC				ex		x	22 08 25.0		
KHC	Kasperske Hory	77.14	334	eP		P	22 08 20.1	+0.3	
KHC				e			22 08 25.0		
KHC	Kasperske Hory	77.14	334	eP		P	22 08 20.1	+0.3	
U39A	Green Forest	77.17	49	P		P	22 08 19.7	-0.4	
	baz=321,SNR=9.4								
GRFO	Grafenberg	77.31	336	eP		P	22 08 20.9	+0.2	
GRFO	Grafenberg	77.31	336	eP		P	22 08 20.9	+0.2	
GERES	GERESS Array B	77.36	334	P		P	22 08 21.0	-0.1	
	comp=Z,1.1nm,0.5s,baz=37,slow=5.3,SNR=17								
GERES	GERESS Array B	77.36	334	P		P	22 08 21.0	-0.1	
GERES				pmax		pmax			
	comp=Z,1.0nm,0.5s								
GERES	GERESS Array B	77.36	334	eP		P	22 08 21.0	-0.1	
Q44A	Meyer Farm, Va	77.39	45	P		P	22 08 21.0	-0.3	
	baz=323								
S42A	Caledonia	77.43	47	P		P	22 08 21.3	-0.3	
	baz=322								
R43A	Red Bud	77.45	46	P		P	22 08 21.4	-0.3	
	baz=322								
V39A	Pettigrew	77.50	50	P		P	22 08 21.5	-0.6	
	baz=321,SNR=5.2								
U40A	Yellville	77.50	49	P		P	22 08 21.5	-0.5	
	baz=321,SNR=7.8								
BRTR	Keskin Array B	77.51	317	P		P	22 08 23.0	+0.9	
	comp=Z,1.7nm,0.7s,baz=71,slow=2.4,SNR=8.7								
T41A	Mountain View	77.52	48	P		P	22 08 21.5	-0.6	
	baz=322								
CONA	Conrad Observa	77.52	332	i P		P	22 08 22.8	+0.8	
	comp=Z,3.1nm,0.6s								
BZS	Buzias	77.59	327	⇓	iP	P	22 08 22.1	-0.2	
W38A	Poteau	77.64	51	P		P	22 08 22.9	+0.2	
	baz=321								
BEBN	Eben Emael	77.71	340	P		P	22 08 23.2	+0.4	
X38A	Whitesboro	77.79	51	P		P	22 08 23.0	-0.6	
	baz=321								
MEM	Membach	77.81	339	P		P	22 08 23.9	+0.5	
	comp=Z,8.2nm,1.1s								
MEM	Membach	77.81	339	P		P	22 08 24.2	+0.8	
MEM				pmax		pmax			
	comp=Z,17nm,0.8s								
T42A	Van Buren	77.86	47	P		P	22 08 23.6	-0.3	
	baz=322								
R44A	Waltonville	77.88	45	P		P	22 08 23.7	-0.3	
	baz=323								
W39A	Magazine	77.93	50	P		P	22 08 24.2	-0.1	
	baz=321								
S43A	Fulton Ridge,	77.94	46	P		P	22 08 24.1	-0.3	
	baz=322								
U41A	Viola	77.99	48	P		P	22 08 24.5	-0.2	
	baz=322								
MOA	Molln	78.08	333	i P		P	22 08 25.6	+0.6	
	comp=Z,1.8nm,0.8s								
BCLA	Clavier	78.15	340	P		P	22 08 25.5	+0.2	
T43A	Greenville	78.22	47	P		P	22 08 25.9	0.0	
	baz=322								
S44A	Carondale	78.24	46	P		P	22 08 25.7	-0.3	
	baz=323								
MDVR	Moldovita	78.27	327	⇓	iP	P	22 08 25.7	-0.4	
X39A	Fountain Ranch	78.28	51	P		P	22 08 26.6	+0.3	
	baz=321								
V41A	Mountainview	78.30	49	P		P	22 08 25.7	-0.7	
	baz=322								
U42A	Revenden	78.32	48	P		P	22 08 26.7	+0.2	
	baz=322								
GIVF	Givet	78.56	340	eP		P	22 08 27.3	-0.2	
GIVF				pmax		pmax			
	comp=Z,14nm,1.2s								
V42A	Cord	78.67	48	P		P	22 08 28.3	-0.2	
	baz=322								
MPEP	Malo Peshtene	78.72	325	eP		P	22 08 29.0	+0.4	
W41B	Gary Mavity, V	78.73	49	P		P	22 08 29.4	+0.6	
	baz=322								
BAIF	Baives	78.74	340	eP		P	22 08 28.3	-0.2	
BAIF				pmax		pmax			
	comp=Z,3.0nm,0.6s								
SOKA	Soboth	78.89	332	i P		P	22 08 29.7	+0.1	
	comp=Z,4.1nm,0.7s,SNR=8.6								
236A	Katherine and	78.92	54	P		P	22 08 30.2	+0.3	
	baz=320								
KBA	Koelnbreinsper	79.05	333	i P		P	22 08 31.7	+1.2	
	comp=Z,9.8nm,0.5s,SNR=8.5								
KBA	Koelnbreinsper	79.05	333	P		P	22 08 31.4	+0.9	
KBA				pmax		pmax			
	comp=Z,17nm,0.7s								
OBKA	Obir	79.19	332	i P		P	22 08 31.6	+0.4	
	comp=Z,3.6nm,0.7s								
WCI	Wyandotte Cave	79.21	44	P		P	22 08 31.8	+0.4	
WCI	Wyandotte Cave	79.21	44	eP		P	22 08 31.8	+0.4	
BFO	Black Forest	79.33	337	i P		P	22 08 32.3	+0.4	
WATA	Walderalm	79.34	335	i P		P	22 08 33.0	+0.9	
	comp=Z,5.6nm,0.5s								
MYKA	Terra Mystica	79.37	333	i P		P	22 08 32.4	+0.3	
	comp=Z,3.0nm,0.5s								
WTTA	Wattenberg	79.39	334	i P		P	22 08 33.0	+0.6	
	SNR=5.4								
M54A	Oil Creek Stat	79.41	37	P		P	22 08 31.9	-0.5	
	baz=327								
RETA	Reutte	79.44	335	i P		P	22 08 32.8	+0.3	
	comp=Z,4.3nm,0.7s								
MOTA	Moosalm	79.47	335	i P		P	22 08 33.6	+0.8	
	comp=Z,5.9nm,0.6s,SNR=8.6								
CDF	Champ du Feu	79.53	338	eP		P	22 08 32.3	-0.7	
CDF				pmax		pmax			
	comp=Z,5.0nm,0.6s								
VTS	Vitosha	79.58	325	⇑	iP	P	22 08 33.8	+0.4	
VTS	Vitosha	79.58	325	eP		P	22 08 33.5	+0.1	
VTS	Vitosha	79.58	325	eP		P	22 08 33.0	-0.4	
VTS	Vitosha	79.58	325	eP		P	22 08 33.5	+0.1	
ABTA	Abfaltersbach	79.60	334	i P		P	22 08 33.7	+0.3	
	comp=Z,2.1nm,0.6s								
N54A	Moraine State	79.73	38	P		P	22 08 34.2	+0.1	
	baz=327								
832A	Faith Ranch, C	79.81	59	P		P	22 08 35.5	+0.7	
	baz=320								
DAVA	Damuels	79.87	336	i P		P	22 08 35.3	+0.3	
	comp=Z,5.4nm,0.7s								
FETA	Feichten	79.87	335	i P		P	22 08 33.7	-1.3	
	comp=Z,2.6nm,0.5s								
HINF	Hinteralfeld	80.19	338	eP		P	22 08 35.5	-1.0	
HINF				pmax		pmax			
	comp=Z,3.0nm,0.7s								
MMB	Musomiste	80.23	324	eP		P	22 08 37.0	+0.2	
FUORN	Ofenpass-Fuorn	80.37	335	eP		P	22 08 38.9	+1.1	
TUE	Stuetta	80.76	336	eP		P	22 08 39.6	-0.2	
O56A	Blue Knob Stat	80.90	37	P		P	22 08 40.3	-0.1	
	baz=328								
FLN	La Foliniere	80.97	343	eP		P	22 08 39.8	-0.8	
FLN				pmax		pmax			
	comp=Z,3.0nm,0.6s								
PDG	Podgorica	81.20	327	⇓	iP	P	22 08 41.4	-0.5	
SENIN	Lac Senin/Sane	81.42	337	eP		P	22 08 44.0	+0.7	
CABF	La Chapelle	81.50	338	eP		P	22 08 43.0	-0.6	
CABF				pmax		pmax			
	comp=Z,7.0nm,0.9s								
SWET	Sewanee	81.82	45	eP		P	22 08 45.4	0.0	
AVF	Avril sur Loir	82.00	340	eP		P	22 08 45.5	-0.6	
AVF				pmax		pmax			
	comp=Z,13nm,1.0s								
QUIF	Quistinic	82.30	344	eP		P	22 08 46.2	-1.3	
QUIF				pmax		pmax			
	comp=Z,20nm,1.6s								
LPL	La Plagne	82.35	337	eP		P	22 08 48.2	0.0	
LPL				pmax		pmax			
	comp=Z,9.0nm,0.6s								
LPG	La Plagne	82.36	337	eP		P	22 08 48.4	0.0	
LPG				pmax		pmax			
	comp=Z,10.0nm,0.7s								
TCF	Toulx Ste Croi	82.74	340	eP		P	22 08 49.7	-0.3	
TCF				pmax		pmax			
	comp=Z,6.0nm,0.8s								
PPT	Papeete	82.86	126	LR		LR	22 40 40.0		
	comp=Z,54nm,19.9s,baz=350,slow=32								
SSB	Saint Sauveur	83.14	338	eP		P	22 08 52.9	+0.8	
SSB	Saint Sauveur	83.14	338	eP		P	22 08 52.9	+0.8	
447A	Lucedale	84.04	50	P		P	22 08 56.9	+0.1	
	baz=324								
CAF	Calviac	84.06	340	eP		P	22 08 57.1	+0.3	
CAF				pmax		pmax			
	comp=Z,6.0nm,1.0s								
PGF	Pioggiola	84.46	334	eP		P	22 08 58.8	-0.1	
PGF				pmax		pmax			
	comp=Z,6.0nm,0.8s								
ESDC	Sonseca Array	90.39	343	P		P	22 09 26.6	-0.9	
	comp=Z,0.7nm,0.6s,baz=7,8,slow=3.9,SNR=6.4								
KEST	Kesra	90.60	331	P		P	22 09 27.7	-0.9	
	comp=Z,3.5nm,0.8s,baz=15,slow=1.8,SNR=7.6								
TORD	Torodi Ar. Bea	114.05	329	PKiKP		PKiKP	22 15 04.0	-1.1	
	comp=Z,0.5nm,0.6s,baz=41,slow=2.4,SNR=7.4								
DBIC	Dimbokro	122.23	334	PKP		PKPdf	22 15 20.1	-0.7	
	comp=Z,1.2nm,0.5s,baz=40,slow=7.9,SNR=3.0								
MAW	Mawson	133.25	212	PKP		PKPdf	22 15 40.6	+0.6	
	comp=Z,2.1nm,0.5s,baz=65,slow=19,SNR=9.1								
CPUP	Villa Florida	147.84	59	PKPbc		PKPbc	22 16 10.1	-0.5	
	comp=Z,2.1nm,0.8s,baz=295,slow=1.7,SNR=4.1								

JMA 02 21:56:53.7, 34°.33N×136°.05E, h53km, M3.6, 6C-2D
Broadband fault plane solution: P waves. NP1: ϕ_s119.00000°,δ57.00000°,λ-76.00000°. **NP2:** ϕ_s275.00000°,δ36.00000°,λ-110.00000°. **Principal axes:** T Plg11.000°, Azm199.0000°; N Plg12.0000°, Azm291.0000°; P Plg74.0000°, Azm67.0000°; **Western Honshu**

Code	Station Name	Δ°	AZ°	Phase	ID		Time		Res
				Op		ISC	h	m s	ISC
JKN2	Miekihoku	0.21	116	⇓		Pn	21 57 02.3		-0.1
JKN2						S	21 57 08.4		-0.2
JWY	Kouya	0.40	254	⇓		Pn	21 57 04.1		0.0
JWY						S	21 57 11.5		0.0
JHE	Heguri	0.44	317		P	Pn	21 57 04.5		0.0
JHE						S	21 57 12.2		-0.1
TSUJ	Tsu 2	0.49	39	⇑	P	Pn	21 57 04.9		-0.1
TSUJ						S	21 57 13.0		-0.1
JIE	Ise	0.55	83	⇑	P	Pn	21 57 05.8		+0.1
JIE						S	21 57 14.3		0.0
JWM	Minabe	0.75	230	⇑	P	Pn	21 57 07.7		-0.5
JWM						S	21 57 17.9		-0.9
JWZ	Kozaga	0.84	199	⇑	P	Pn	21 57 09.2		-0.3
JWZ						S	21 57 21.1		+0.1
TTO1	TONANKAI O.B.S	0.93	139	⇑	P	Pn	21 57 10.6		+0.3
JAJ2	Tsuna	0.97	276		P	Pn	21 57 11.1		0.0
JAJ2						S	21 57 23.9		+0.1
TTO2	TONANKAI O.B.S	1.01	126		P	Pn	21 57 11.8		+0.5
JWT	Wachi	1.09	331	⇑	P	Pn	21 57 12.8		+0.1
JWT						S	21 57 26.8		0.0
JKS	Kasai	1.19	304		P	Pn	21 57 14.2		+0.2
MAT	Matsushiro	2.82	38		P	Pn	21 57 36.5		+0.1
MAT						S	21 58 10.0		+0.8

IDC ***02*** *22:20:37.6±1.3, 58°.87S×25°.40W, h0km, mb4.1/2, mb1 4.0/2, mb1mx3.7/17, mbtmp4.1/2 Error ellipse: s-maj=62.6km s-min=36.9km az=67.0*
ISCJB ***02*** *22:20:40.9±0.8, 59°.0S±0°.1×25°.6W±0°.2, h35km, mb4.1/3, Error ellipse: s-maj=21.2km s-min=12.1km az=142.7*
NEIC ***02*** *22:20:42.8±0.4, 58°.96S×25°.47W, h35km, mb4.4/2, Error ellipse: s-maj=15.6km s-min=10.2km az=49.0*
ISC 02 22:20:42.8±0.8, 59°.0S±0°.1×25°.6W±0°.2, h35km, n19,
σ0s44/13, mb4.1/3, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time		Res
				Op		ISC	h	m s	ISC
VNA1	Neumayer--Stat	13.76	155	P		Pn	22 23 55.8		+0.8
VNA3	Neumayer Olymp	13.94	158	P		Pn	22 23 56.9		-0.6
SNAA	Sanae	15.72	153	P		Pn	22 24 20.8		-0.4
SNAA	Sanae	15.72	153	ePn		Pn	22 24 20.7		-0.4
	10.0nm,0.3s								
PMSA	Palmer Station	18.81	236	P		Pn	22 24 59.4		-0.2
	1.0nm,0.4s								
TRQA	Tornquist	31.34	296	eP		P	22 26 59.7		+0.

NKC					Sg		Sg	22 47 47.2	-0.3
WERN	**Wernitzgruen**	**0.05**	**309**	*e*Pg			Pg	22 47 46.6	+0.1
WERN				*e*Sg			Sg	22 47 47.9	-0.1
WERN	**Wernitzgruen**	**0.05**	**309**	Pg			Pg	22 47 46.6	+0.1
WERN				Sg			Sg	22 47 47.9	-0.1
ROHR	**Rohrbach**	**0.08**	**256**	*e*Pg			Pg	22 47 46.8	0.0
ROHR				*e*Sg			Sg	22 47 48.2	-0.3
ROHR	**Rohrbach**	**0.08**	**256**	Pg			Pg	22 47 46.8	0.0
ROHR				Sg			Sg	22 47 48.2	-0.3
GUNZ	**Gunzen**	**0.13**	**328**	*e*Pg			Pg	22 47 47.7	+0.2
GUNZ				*e*Sg			Sg	22 47 49.7	+0.1
GUNZ	**Gunzen**	**0.13**	**328**	Pg			Pg	22 47 47.7	+0.2
GUNZ				Sg			Sg	22 47 49.7	0.0
MULD	**Muldenberg**	**0.16**	**352**	*e*Pg			Pg	22 47 48.1	+0.1
MULD				*e*Sg			Sg	22 47 50.3	-0.1
MULD	**Muldenberg**	**0.16**	**352**	Pg			Pg	22 47 48.1	+0.1
MULD				Sg			Sg	22 47 50.3	-0.1
WERD	**Werda**	**0.21**	**336**	*e*Pg			Pg	22 47 49.0	+0.1
WERD				*e*Sg			Sg	22 47 51.8	-0.1
WERD	**Werda**	**0.21**	**336**	Pg			Pg	22 47 49.0	+0.1
WERD				Sg			Sg	22 47 51.8	-0.1
TRIB	**Obertriebel**	**0.22**	**297**	*e*Pg			Pg	22 47 49.1	+0.1
TRIB				*e*Sg			Sg	22 47 52.0	0.0
TRIB	**Obertriebel**	**0.22**	**297**	Pg			Pg	22 47 49.1	+0.1
TRIB				Sg			Sg	22 47 52.0	0.0
PLN	**Plauen**	**0.29**	**322**	*e*Pg			Pg	22 47 50.5	+0.1
PLN				*e*Sg			Sg	22 47 54.5	+0.2
PLN	**Plauen**	**0.29**	**322**	Pg			Pg	22 47 50.5	+0.1
PLN				Sg			Sg	22 47 54.5	+0.2
SCHF	**Schoenfels**	**0.42**	**357**	*e*Pg			Pg	22 47 52.9	+0.1
SCHF	**Schoenfels**	**0.42**	**357**	Pg			Pg	22 47 52.9	+0.1
MOX	**Moxa**	**0.66**	**307**	*e*Pg			Pg	22 47 57.1	0.0
MOX				*e*Sg			Sg	22 48 06.1	+0.3
MOX	**Moxa**	**0.66**	**307**	Pg			Pg	22 47 57.1	-0.1
MOX				Sg			Sg	22 48 06.1	+0.3
FBE	**Freiberg**	**0.89**	**41**	*e*Pg			Pg	22 48 01.5	0.0
FBE	**Freiberg**	**0.89**	**41**	Pg			Pg	22 48 01.5	0.0
GRA1	**Grafenberg Arr**	**0.97**	**235**	Pg			Pg	22 48 02.9	-0.2
GRF	**Grafenberg Arr**	**0.97**	**235**	*e*Pg			Pg	22 48 02.9	-0.2
CLL	**Collm**	**1.11**	**18**	*e*Pg			Pb	22 48 05.6	-0.3
CLL				*e*Sg			Sg	22 48 20.3	-0.1
CLL	**Collm**	**1.11**	**18**	Pg			Pb	22 48 05.6	-0.2
CLL				Sg			Sg	22 48 20.3	0.0
CLL	**Collm**	**1.11**	**18**	*i* Pg			Pb	22 48 05.5	-0.3
CLL				*i*				22 48 07.3	
CLL				*i*				22 48 08.7	
CLL				*i* Sg			Sg	22 48 20.1	-0.2
	comp=Z,16nm,0.3s								
BRG	**Berggiesshubel**	**1.14**	**57**	PG			Pb	22 48 05.9	-0.4
BRG				SG			Sg	22 48 21.0	-0.2
	comp=Z,20nm,0.3s								
BRG	**Berggiesshubel**	**1.14**	**57**	*e*Pg			Pb	22 48 06.0	-0.3
BRG				*e*Sg			Sg	22 48 20.9	-0.3
BRG	**Berggiesshubel**	**1.14**	**57**	Pg			Pb	22 48 06.0	-0.3
BRG				Sg			Sg	22 48 20.9	-0.3
WET	**Wettzell**	**1.15**	**165**	*e*Pg			Pb	22 48 05.9	-0.6
WET				*e*Sg			Sg	22 48 21.2	-0.2
WET	**Wettzell**	**1.15**	**165**	Pg			Pb	22 48 05.9	-0.5
WET				Sg			Sg	22 48 21.2	-0.2
MOA	**Molln**	**2.69**	**153**	Pg			Pb	22 48 33.7	+1.0
	comp=Z,0.4nm,0.2s								
CONA	**Conrad Observa**	**3.24**	**135**	Pn			Pn	22 48 34.4	-1.0
	comp=Z,0.2nm,0.2s								
CONA				Sg			Sg	22 49 28.9	+0.5
	comp=Z,3.4nm,0.3s								
MORC	**Moravsky Berou**	**3.33**	**96**	*e*Sg			Sg	22 49 28.0	-3.2
SMOL	**Smolenice**	**3.69**	**116**	*e*Sg			Sg	22 49 44.1	+1.0
SMOL	**Smolenice**	**3.69**	**116**	*e*SG			Sg	22 49 44.0	+0.9
VYHS	**Vyhne**	**4.54**	**110**	*e*Sg			Sg	22 50 06.8	-3.2
VYHS	**Vyhne**	**4.54**	**110**	*e*SG			Sg	22 50 06.8	-3.2
LANS	**Liptovska Anna**	**4.69**	**101**	*e*Sg			Sg	22 50 12.0	-3.1
LANS	**Liptovska Anna**	**4.69**	**101**	*e*SG			Sg	22 50 12.0	-3.1
STHS	**Stebnicka Huta**	**5.76**	**95**	*e*Sg			Sg	22 50 49.4	+0.2
STHS	**Stebnicka Huta**	**5.76**	**95**	*e*SG			Sg	22 50 49.4	+0.2

*ISCJB **02** 22:47:49.1±0.5,50°.25N×0°.02×12°.52E±0°.03,h12km±5km, Error ellipse: s-maj=3.6km s-min=3.3km az=141.5*
*BGR **02** 22:47:50.5±0.2,50°.26N×12°.46E,h9km±2km,ML2.5/6, Error ellipse: s-maj=2.2km s-min=2.2km az=102.0*
*CSEM **02** 22:47:50.2±0.1,50°.25N×12°.49E,h8km,ML3.1/5,Error ellipse: s-maj=1.6km s-min=1.3km az=8.0*
*PRU **02** 22:47:50.8,50°.28N×12°.52E,h1km,West Bohemia Swarm*
*CLL **02** 22:47:51.0±0.3,50°.3N±0°.9×1°2E±°,h7km±1km,ml2.2*
ISC 02 22:47:50.3±0.8,50°.25N±0°.02×12°.46E±0°.02,h10km±3km, n56,σ0§43/97,1D,Germany

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NKC	**Novy Kostel**	**0.02**	**209**	*e*PG	**Pg**	**22 47 52.1**	**0.0**
NKC				*e*SG	**Sg**	**22 47 53.3**	**-0.2**
	comp=Z,2µm,0.2s						
NKC	**Novy Kostel**	**0.02**	**209**	*i* Pg	**Pg**	**22 47 52.2**	**0.0**
NKC				*i* Sg	**Sg**	**22 47 53.2**	**-0.2**
NKC	**Novy Kostel**	**0.02**	**209**	*e*Pg	**Pg**	**22 47 52.2**	**0.0**
NKC				*e*Sg	**Sg**	**22 47 53.2**	**-0.2**
NKC	**Novy Kostel**	**0.02**	**209**	Pg	**Pg**	**22 47 52.2**	**+0.1**
NKC				Sg	**Sg**	**22 47 53.2**	**-0.2**
WERN	**Wernitzgruen**	**0.07**	**306**	*i* Pg	**Pg**	**22 47 52.5**	**0.0**
WERN				*i* Sg	**Sg**	**22 47 53.9**	**-0.3**
WERN				AML	AML	22 47 54.0	
	comp=E,413nm,0.1s						
WERN	**Wernitzgruen**	**0.07**	**306**	*e*Pg	**Pg**	**22 47 52.5**	**0.0**
WERN				*e*Sg	**Sg**	**22 47 53.9**	**-0.3**
WERN	**Wernitzgruen**	**0.07**	**306**	Pg	**Pg**	**22 47 52.5**	**0.0**
WERN				Sg	**Sg**	**22 47 53.9**	**-0.3**
ROHR	**Rohrbach**	**0.09**	**262**	*i* Sg	**Sg**	**22 47 54.2**	**-0.5**
ROHR				AML	AML	22 47 54.3	
	comp=E,2µm,0.2s						
ROHR	**Rohrbach**	**0.09**	**262**	*e*Pg	**Pg**	**22 47 52.6**	**-0.2**
ROHR				*e*Sg	**Sg**	**22 47 54.2**	**-0.5**
ROHR	**Rohrbach**	**0.09**	**262**	Pg	**Pg**	**22 47 52.6**	**-0.2**
ROHR				Sg	**Sg**	**22 47 54.2**	**-0.5**
GUNZ	**Gunzen**	**0.14**	**325**	*i* Pg	**Pg**	**22 47 53.6**	**+0.1**
GUNZ				*i* Sg	**Sg**	**22 47 55.6**	**-0.3**
GUNZ				AML	AML	22 47 56.0	
	comp=N,277nm,0.2s						
GUNZ	**Gunzen**	**0.14**	**325**	*e*Pg	**Pg**	**22 47 53.7**	**+0.1**
GUNZ				*e*Sg	**Sg**	**22 47 55.6**	**-0.3**
GUNZ	**Gunzen**	**0.14**	**325**	Pg	**Pg**	**22 47 53.7**	**+0.1**
GUNZ				Sg	**Sg**	**22 47 55.6**	**-0.3**
MULD	**Muldenberg**	**0.17**	**348**	*i* Pg	**Pg**	**22 47 54.0**	**+0.1**
MULD				*i* Sg	**Sg**	**22 47 56.2**	**-0.3**
MULD				AML	AML	22 47 56.4	
	comp=E,862nm,0.2s						
MULD	**Muldenberg**	**0.17**	**348**	*e*Pg	**Pg**	**22 47 54.1**	**+0.1**
MULD				*e*Sg	**Sg**	**22 47 56.3**	**-0.3**
MULD	**Muldenberg**	**0.17**	**348**	Pg	**Pg**	**22 47 54.1**	**+0.1**
MULD				Sg	**Sg**	**22 47 56.3**	**-0.3**
TANN	**Tannenbergstha**	**0.17**	**0**	*i* Pg	**Pg**	**22 47 54.0**	**+0.1**
TANN				*i* Sg	**Sg**	**22 47 56.2**	**-0.3**
TANN				AML	AML	22 47 56.7	
	comp=E,793nm,0.2s						
WERD	**Werda**	**0.22**	**334**	*i* Pg	**Pg**	**22 47 55.0**	**+0.1**
WERD				*i* Sg	**Sg**	**22 47 57.8**	**-0.3**
WERD				AML	AML	22 47 59.1	
	comp=E,104nm,0.1s						
WERD	**Werda**	**0.22**	**334**	*e*Pg	**Pg**	**22 47 55.0**	**+0.1**
WERD				*e*Sg	**Sg**	**22 47 57.7**	**-0.3**
WERD	**Werda**	**0.22**	**334**	Pg	**Pg**	**22 47 55.0**	**+0.1**
WERD				Sg	**Sg**	**22 47 57.7**	**-0.3**
TRIB	**Obertriebel**	**0.23**	**297**	*i* Pg	**Pg**	**22 47 55.0**	**0.0**
TRIB				*i* Sg	**Sg**	**22 47 58.0**	**-0.3**
TRIB				AML	AML	22 47 58.3	
	comp=E,315nm,0.1s						
TRIB	**Obertriebel**	**0.23**	**297**	*e*Pg	**Pg**	**22 47 55.0**	**0.0**
TRIB				*e*Sg	**Sg**	**22 47 58.0**	**-0.3**
TRIB	**Obertriebel**	**0.23**	**297**	Pg	**Pg**	**22 47 55.0**	**0.0**
TRIB				Sg	**Sg**	**22 47 58.0**	**-0.3**
PLN	**Plauen**	**0.31**	**321**	*i* Pg	**Pg**	**22 47 56.5**	**+0.1**
PLN				*i* Sg	**Sg**	**22 48 00.5**	**0.0**
PLN				AML	AML	22 48 00.7	
	comp=E,138nm,0.1s						
PLN	**Plauen**	**0.31**	**321**	*e*Pg	**Pg**	**22 47 56.5**	**+0.1**
PLN				*e*Sg	**Sg**	**22 48 00.2**	**-0.4**
PLN	**Plauen**	**0.31**	**321**	Pg	**Pg**	**22 47 56.5**	**+0.1**
PLN				Sg	**Sg**	**22 48 00.2**	**-0.4**
SCHF	**Schoenfels**	**0.43**	**355**	*i* Pg	**Pg**	**22 47 58.7**	**0.0**
SCHF				*i* Sg	**Sg**	**22 48 04.6**	**+0.1**
SCHF				AML	AML	22 48 04.7	
	comp=E,818nm,0.2s						
SCHF	**Schoenfels**	**0.43**	**355**	Sg	**Pg**	**22 47 58.7**	**0.0**
SCHF	**Schoenfels**	**0.43**	**355**	*e*Sg	**Pg**	**22 47 58.7**	**0.0**
MLFH	**Mildenfurth**	**0.59**	**336**	*i* Pg	**Pg**	**22 48 01.5**	**-0.3**
MLFH				*i* Sg	**Sg**	**22 48 09.5**	**-0.1**
MOX	**Moxa**	**0.67**	**307**	*e*Sg	**Sg**	**22 48 11.8**	**-0.2**
MOX	**Moxa**	**0.67**	**307**	Sg	**Sg**	**22 48 11.8**	**-0.2**
FBE	**Freiberg**	**0.88**	**40**	*e*Pg	**Pb**	**22 48 07.6**	**-0.1**
FBE				*e*Sg	**Sg**	**22 48 18.8**	**0.0**
FBE	**Freiberg**	**0.88**	**40**	Pg	**Pb**	**22 48 07.6**	**-0.1**
FBE				Sg	**Sg**	**22 48 18.8**	**0.0**
GRA1	**Grafenberg Arr**	**0.97**	**236**	Pg	**Pg**	**22 48 09.0**	**0.0**
GRA1				Sg	**Sn**	**22 48 23.5**	**-0.4**
GRF	**Grafenberg Arr**	**0.97**	**236**	*e*Pg	**Pg**	**22 48 09.0**	**0.0**
GRF				*e*Sg	**Sn**	**22 48 23.5**	**-0.4**
CLL	**Collm**	**1.12**	**18**	*e*Pg	**Pb**	**22 48 11.5**	**-0.1**
CLL				*e*Sg	**Sg**	**22 48 25.9**	**-0.2**
CLL	**Collm**	**1.12**	**18**	Pg	**Pb**	**22 48 11.5**	**-0.1**
CLL				Sg	**Sg**	**22 48 25.9**	**-0.2**
CLL	**Collm**	**1.12**	**18**	*i* Pg	**Pb**	**22 48 11.5**	**-0.1**
CLL				*i*		22 48 14.6	
CLL				*i* Sg	**Sg**	**22 48 26.0**	**-0.2**
	comp=Z,23nm,0.3s						
BRG	**Berggiesshubel**	**1.13**	**56**	PG	**Pb**	**22 48 11.8**	**-0.1**
BRG				SG	**Sb**	**22 48 26.9**	**+0.1**
	comp=Z,42nm,0.3s						
BRG	**Berggiesshubel**	**1.13**	**56**	*e*Pg	**Pg**	**22 48 12.1**	**0.0**
BRG				*e*Sg	**Sb**	**22 48 26.8**	**+0.1**
BRG	**Berggiesshubel**	**1.13**	**56**	Pg	**Pg**	**22 48 12.1**	**0.0**
BRG				Sg	**Sb**	**22 48 26.8**	**+0.1**
WET	**Wettzell**	**1.14**	**166**	*e*Pg	**Pb**	**22 48 11.9**	**-0.1**
WET				*e*Sg	**Sg**	**22 48 26.9**	**0.0**
WET	**Wettzell**	**1.14**	**166**	Pg	**Pb**	**22 48 11.9**	**-0.1**
WET				Sg	**Sg**	**22 48 26.9**	**0.0**
KHC	**Kasperske Hory**	**1.33**	**147**	*e*SG	**Sn**	**22 48 33.0**	**+0.3**
	comp=Z,13nm,0.3s						
KHC	**Kasperske Hory**	**1.33**	**147**	Sg	**Sn**	**22 48 33.0**	**+0.3**
	comp=Z,13nm,0.3s						
PRU	**Pruhonice**	**1.36**	**100**	*e*SG	**Sg**	**22 48 33.9**	**-0.2**
	comp=Z,32nm,0.2s						
PRU	**Pruhonice**	**1.36**	**100**	Sg	**Sg**	**22 48 33.9**	**-0.2**
	comp=Z,32nm,0.2s						
GOPC	**GO Pecny, Ondr**	**1.54**	**102**	*e*SG	**Sg**	**22 48 39.1**	**-0.5**
	comp=Z,23nm,0.4s						
GOPC	**GO Pecny, Ondr**	**1.54**	**102**	Sg	**Sg**	**22 48 39.1**	**-0.5**
	comp=Z,23nm,0.4s						
UPC	**Upice**	**2.29**	**82**	*e*SG	**Sg**	**22 49 02.1**	**-1.6**
	comp=Z,20nm,0.5s						
UPC	**Upice**	**2.29**	**82**	Sg	**Sg**	**22 49 02.1**	**-1.6**
	comp=Z,20nm,0.5s						
DPC	**Dobruska-Polom**	**2.48**	**86**	*e*SG	**Sb**	**22 49 07.2**	**+1.8**
	comp=Z,9.3nm,0.4s						
DPC	**Dobruska-Polom**	**2.48**	**86**	Sg	**Sb**	**22 49 07.2**	**+1.8**
	comp=Z,9.3nm,0.4s						
KSP	**Ksiaz**	**2.52**	**75**	*e*Pg	**Pg**	**22 48 38.3**	**-0.2**
KSP				*e*Sg	**Sg**	**22 49 10.2**	**-0.8**
KSP	**Ksiaz**	**2.52**	**75**	*e*Pg	**Pg**	**22 48 38.3**	**-0.2**
KSP				*e*Sg	**Sg**	**22 49 10.2**	**-0.8**

*HEL **02** 23:19:50.5,67°.91N×20°.02E,h0km,ML1.4,Explosion*
*CSEM **02** 23:19:51.1±0.2,67°.84N×20°.22E,h2km,ML1.8,Error ellipse: s-maj=4.2km s-min=3.9km az=12.0,Mining explosion.*
UPP 02 23:19:51.3±0.1,67°.83N×20°.19E,h0km,ML1.8, Explosion,Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RATU	**Laukkuluspa**	**0.23**	**269**	P	Pg	23 19 55.8	+0.2
RATU				S	Sg	23 19 59.1	+0.5
NIKU	**Nikkaluokta**	**0.44**	**276**	P	Pg	23 19 59.8	0.0
NIKU	**Nikkaluokta**	**0.44**	**276**	*i* P	Pg	23 19 59.8	0.0
NIKU	**Nikkaluokta**	**0.44**	**276**	P	Pg	23 19 59.8	+0.1
LANU	**Lannavaara**	**0.71**	**71**	P	Pg	23 20 04.7	-0.3
LANU	**Lannavaara**	**0.71**	**71**	*e*P	Pg	23 20 04.4	-0.5
	baz=266						
LANU	**Lannavaara**	**0.71**	**71**	P	Pg	23 20 04.7	-0.2
DUNU	**Dundret**	**0.73**	**168**	P	Pg	23 20 04.9	-0.3
DUNU	**Dundret**	**0.73**	**168**	*i* P	Pg	23 20 04.9	-0.3
DUNU	**Dundret**	**0.73**	**168**	P	Pg	23 20 04.8	-0.4
MASU	**Masugnsbyn**	**0.79**	**118**	P	Pg	23 20 06.1	-0.2
MASU	**Masugnsbyn**	**0.79**	**118**	*i* P	Pg	23 20 06.1	-0.2
MASU	**Masugnsbyn**	**0.79**	**118**	P	Pg	23 20 06.1	-0.2
KIF	**Kilpisjarvi**	**1.20**	**11**	*e*PB	Pg	23 20 14.3	0.0
	baz=198						
KIF				*e*SB	Sb	23 20 30.5	-0.4
KIF	**Kilpisjarvi**	**1.20**	**11**	Pb	Pg	23 20 14.2	-0.1
KIF				Sb	Sb	23 20 30.5	-0.4
	3.5nm,0.2s						
HEF	**Hetta**	**1.42**	**64**	MSG		23 20 34.0	
	comp=Z,3.5nm,0.2s						
ERTU	**Ertsjaerv**	**1.50**	**148**	P	Pn	23 20 18.6	-0.8
ERTU	**Ertsjaerv**	**1.50**	**148**	*e*P	Pn	23 20 18.6	-0.8
ERTU	**Ertsjaerv**	**1.50**	**148**	P	Pn	23 20 18.6	-0.8
SJUU	**Sjulsmark**	**2.40**	**166**	P	Pn	23 20 32.8	+1.0
SJUU	**Sjulsmark**	**2.40**	**166**	*e*P	Pn	23 20 32.8	+1.0
SJUU	**Sjulsmark**	**2.40**	**166**	P	Pn	23 20 32.7	+1.0

*CSEM **02** 23:20:01.0,67°.83N×20°.18E,h0km,ML1.5,Mining explosion.*
UPP 02 23:20:01.0±0.1,67°.83N×20°.18E,h0km,ML1.5, Explosion,Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RATU	**Laukkuluspa**	**0.22**	**269**	P	Pg	23 20 05.4	+0.1
RATU				S	Sg	23 20 08.6	+0.5
NIKU	**Nikkaluokta**	**0.44**	**276**	P	Pg	23 20 09.3	0.0
NIKU	**Nikkaluokta**	**0.44**	**276**	P	Pg	23 20 09.3	0.0
LANU	**Lannavaara**	**0.72**	**71**	P	Pg	23 20 14.5	-0.2
LANU	**Lannavaara**	**0.72**	**71**	P	Pg	23 20 14.5	-0.2
LANU	**Lannavaara**	**0.72**	**71**	S	Pg	23 20 14.1	-0.6
LANU	**Lannavaara**	**0.72**	**71**	*e*S	Pg	23 20 14.1	-0.6
DUNU	**Dundret**	**0.72**	**168**	P	Pg	23 20 14.7	-0.2
DUNU	**Dundret**	**0.72**	**168**	P	Pg	23 20 14.6	-0.2
MASU	**Masugnsbyn**	**0.79**	**117**	P	Pg	23 20 15.7	-0.4
MASU	**Masugnsbyn**	**0.79**	**117**	P	Pg	23 20 15.7	-0.4

*ISK **02** 23:33:54.4,39°.37N×40°.89E,h5km,MD2.9*
*ISCJB **02** 23:33:55.9±0.5,39°.37N±0°.02×40°.88E±0°.03,h3km±5km, Error ellipse: s-maj=4.0km s-min=3.7km az=17.3*
*CSEM **02** 23:33:55.1±0.2,39°.31N×40°.67E,h2km,MD2.8,Error ellipse: s-maj=5.0km s-min=3.7km az=2.0*
*DDA **02** 23:33:55.6,39°.38N×40°.89E,h7km,Md2.8*
ISC 02 23:33:55.0±1.1,39°.34N±0°.02×40°.88E±0°.02,h4km±10km, n32,σ0§85/54,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ECAT	**Cat-ERZURUM**	**0.27**	**15**	*i* P	**Pg**	**23 34 00.1**	**-0.2**
ECAT				*i* S	**Sg**	**23 34 04.8**	**+0.8**
ECAT	**Cat-ERZURUM**	**0.27**	**15**	P	**Pg**	**23 34 00.2**	**-0.2**
ECAT				S	**Sg**	**23 34 04.8**	**+0.8**
YEDI	**Yedisu-Bingol**	**0.28**	**290**	*e*PG	**Pg**	**23 34 00.8**	**+0.3**
YEDI	**Yedisu-Bingol**	**0.28**	**290**	*e*Pg	**Pg**	**23 34 00.8**	**+0.3**
BNGB	**Bing˜¶l**	**0.39**	**204**	*e*PG	**Pg**	**23 34 03.5**	**+1.0**
BNGB				*e*SG	**Sb**	**23 34 09.9**	**-0.9**
BNGL	**BINGOL**	**0.44**	**152**	*i* P	**Pg**	**23 34 04.7**	**+1.2**
BNGL				*i* S	**Sb**	**23 34 12.9**	**+0.3**
VRTB	**Varto-Mus**	**0.48**	**112**	*e*PG	**Pg**	**23 34 04.6**	**+0.3**
VRTB	**Varto-Mus**	**0.48**	**112**	*i* P	**Pg**	**23 34 04.6**	**+0.3**
VRTB				*i* S	**Sb**	**23 34 12.9**	**-0.8**
VRTB	**Varto-Mus**	**0.48**	**112**	P	**Pg**	**23 34 04.6**	**+0.3**
VRTB				S	**Sb**	**23 34 12.9**	**-0.8**
BINT	**Bingol**	**0.56**	**213**	*e*Pg	**Pg**	**23 34 03.5**	**-2.3**
BINT				*e*Sg	**Sg**	**23 34 09.9**	**-3.1**
KOPT	**Kop Dagi**	**0.74**	**336**	*i* P	**Pb**	**23 34 09.8**	**-0.8**
KOPT				*i* S	**Sb**	**23 34 20.6**	**-0.6**
KOPT	**Kop Dagi**	**0.74**	**336**	P	**Pb**	**23 34 09.8**	**-0.8**
KOPT				S	**Sb**	**23 34 20.5**	**-0.6**
EKAR	**Karacoban**	**0.92**	**95**	*i* P	**Pb**	**23 34 13.6**	**-0.1**
EKAR				*i* S	**Sn**	**23 34 28.8**	**0.0**
EKAR	**Karacoban**	**0.92**	**95**	P	**Pb**	**23 34 13.6**	**-0.1**
EUZM	**Uzumlu**	**0.99**	**292**	*i* P	**Pg**	**23 34 14.0**	**+0.1**
EUZM				*i* S	**Sb**	**23 34 27.9**	**-0.3**
EUZM	**Uzumlu**	**0.99**	**292**	P	**Pg**	**23 34 14.0**	**+0.1**
EUZM				S	**Sb**	**23 34 27.9**	**-0.3**
TNCL	**Tunceli-Merkez**	**1.07**	**258**	*i* P	**Pb**	**23 34 16.1**	**0.0**
TNCL				*i* S	**Sn**	**23 34 32.2**	**0.0**
TNCL	**Tunceli-Merkez**	**1.07**	**258**	P	**Pb**	**23 34 16.1**	**0.0**
TNCL				S	**Sn**	**23 34 32.2**	**0.0**
SVAN	**Silvan-Diyarba**	**1.22**	**168**	*e*PN	**Pn**	**23 34 19.6**	**+0.7**
SVAN	**Silvan-Diyarba**	**1.22**	**168**	*e*Pn	**Pn**	**23 34 19.6**	**+0.7**
PTK	**Pertek**	**1.24**	**249**	*e*PN	**Pn**	**23 34 19.8**	**+0.4**
PTK				*e*SN	**Sn**	**23 34 38.4**	**+1.7**
PTK	**Pertek**	**1.24**	**249**	*e*Pn	**Pn**	**23 34 19.8**	**+0.4**
PTK				*e*Sn	**Sn**	**23 34 38.4**	**+1.7**
KELT	**Kelkit**	**1.49**	**303**	*i* P	**Pn**	**23 34 22.9**	**+0.1**
KELT				*i* S	**Sg**	**23 34 44.2**	**+1.3**
KELT	**Kelkit**	**1.49**	**303**	P	**Pn**	**23 34 22.9**	**+0.1**
KELT				S	**Sg**	**23 34 44.2**	**+1.3**
TUTA	**Tutak**	**1.50**	**87**	*i* P	**Pn**	**23 34 23.1**	**+0.2**
TUTA				*i* S	**Sg**	**23 34 43.2**	**+0.1**
TUTA	**Tutak**	**1.50**	**87**	P	**Pn**	**23 34 23.1**	**+0.2**
TUTA				S	**Sg**	**23 34 43.2**	**+0.1**
AGRB	**Hanur-Agry**	**1.65**	**81**	*e*PN	**Pb**	**23 34 25.6**	**-0.5**
AGRB	**Hanur-Agry**	**1.65**	**81**	*e*Pn	**Pb**	**23 34 25.6**	**-0.5**
SENK	**Senkaya-Erzuru**	**1.66**	**42**	*e*PN	**Pb**	**23 34 25.4**	**-0.8**
SENK	**Senkaya-Erzuru**	**1.66**	**42**	*e*Pn	**Pb**	**23 34 25.5**	**-0.8**
DDEM	**Demirkent**	**1.68**	**23**	*i* P	**Pg**	**23 34 27.0**	**-0.3**
DDEM				*i* S	**Sb**	**23 34 47.7**	**-0.5**
DDEM	**Demirkent**	**1.68**	**23**	P	**Pg**	**23 34 27.0**	**-0.3**
DDEM				S	**Sb**	**23 34 47.7**	**-0.5**

*MOS **02** 23:35:34.0±1.8,52°.86N×160°.07E,h54km,mb4.2/1,Error ellipse: s-maj=14.4km s-min=8.7km az=91.3*
KRSC 02 23:35:34.0±1.8,52°.86N×160°.07E,h54km±13km,ML4.0, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPN	**Mys Shipunski**	**0.24**	**354**	PN	Pn	23 35 44.6	+1.6
SPN				S	Sn	23 35 50.5	+1.0
SPN	**Mys Shipunski**	**0.24**	**354**	*e*P	Pn	23 35 44.6	+1.6
SPN				*e*S	Sn	23 35 50.5	+1.0
DALK	**Dalny**	**0.81**	**283**	PN	Pn	23 35 50.5	+1.2
DALK				S	Sn	23 36 01.1	+0.6
DALK	**Dalny**	**0.81**	**283**	*e*P	Pn	23 35 50.5	+1.2
DALK				*e*S	Sn	23 36 01.1	+0.6
SMAR	**Somma**	**0.86**	**298**	PN	Pn	23 35 50.7	+0.5
SMAR	**Somma**	**0.86**	**298**	*e*P	Pn	23 35 50.7	+0.5
PET	**Petropavlovsk**	**0.87**	**281**	PN	Pn	23 35 51.4	+1.3
PET				S	Sn	23 36 02.2	+0.3
PET	**Petropavlovsk**	**0.87**	**281**	*e*P	Pn	23 35 51.4	+1.3
PET				*e*S	Sn	23 36 02.2	+0.3
AVH	**Avacha**	**0.90**	**297**	PN	Pn	23 35 52.0	+1.4
AVH				S	Sn	23 36 04.4	+1.7
AVH	**Avacha**	**0.90**	**297**	*e*P	Pn	23 35 52.0	+1.4
AVH				*e*S	Sn	23 36 04.4	+1.7
KRER	**Koryakskii**	**0.91**	**300**	PN	Pn	23 35 52.3	+1.5
KRER				S	Sn	23 36 03.4	+0.2
KRER	**Koryakskii**	**0.91**	**300**	*e*P	Pn	23 35 52.3	+1.5
KRER				*e*S	Sn	23 36 03.4	+0.2
KOK	**Koryaka**	**0.96**	**297**	PN	Pn	23 35 53.1	+1.6
KOK				S	Sn	23 36 05.4	+1.1
KOK	**Koryaka**	**0.96**	**297**	*e*P	Pn	23 35 53.1	+1.6
KOK				*e*S	Sn	23 36 05.4	+1.1
RUS	**Russkaya**	**1.04**	**246**

TANN	**Tannenbergstha**	**0.20**	**10**	*i* Pg	**Pg**		23 36 05.1	-0.1
TANN				*e*Sg	**Sg**		**23 36 07.4**	**-0.9**
TANN				AML	AML		23 36 07.9	
	comp=N,18µm,0.3s							
TRIB	**Obertriebel**	**0.22**	**308**	*i* Pg	**Pg**		**23 36 06.0**	**+0.5**
TRIB				*i* Sg	**Sg**		**23 36 09.1**	**+0.3**
TRIB				AML	AML		23 36 09.4	
	comp=E,6µm,0.1s							
TRIB	**Obertriebel**	**0.22**	**308**	*e*Pg	**Pg**		**23 36 05.9**	**+0.5**
TRIB				*e*Sg	**Sg**		**23 36 08.9**	**+0.1**
TRIB	**Obertriebel**	**0.22**	**308**	Pg	**Pg**		**23 36 05.9**	**+0.4**
TRIB				Sg	**Sg**		**23 36 08.9**	**+0.1**
WERD	**Werda**	**0.24**	**344**	*i* Pg	**Pg**		**23 36 06.0**	**+0.2**
WERD				*i* Sg	**Sg**		**23 36 08.9**	**-0.5**
WERD				AML	AML		23 36 09.4	
	comp=N,4µm,0.2s							
WERD	**Werda**	**0.24**	**344**	*e*Pg	**Pg**		**23 36 05.6**	**-0.2**
WERD				*e*Sg	**Sg**		**23 36 08.7**	**-0.7**
WERD	**Werda**	**0.24**	**344**	Pg	**Pg**		**23 36 05.6**	**-0.2**
WERD				Sg	**Sg**		**23 36 08.7**	**-0.7**
PLN	**Plauen**	**0.31**	**329**	*i* Pg	**Pg**		**23 36 07.5**	**+0.5**
PLN				*i* Sg	**Sg**		**23 36 11.5**	**0.0**
PLN				AML	AML		23 36 11.8	
	comp=E,2µm,0.1s							
PLN	**Plauen**	**0.31**	**329**	*e*Pg	**Pg**		**23 36 07.4**	**+0.4**
PLN				*e*Sg	**Sg**		**23 36 11.1**	**-0.3**
PLN	**Plauen**	**0.31**	**329**	Pg	**Pg**		**23 36 07.4**	**+0.4**
PLN				Sg	**Sg**		**23 36 11.1**	**-0.3**
SCHF	**Schoenfels**	**0.46**	**360**	*i* Pg	**Pg**		**23 36 09.9**	**+0.2**
SCHF				*i* Sg	**Sg**		**23 36 15.5**	**-0.4**
SCHF				AML	AML		23 36 15.7	
	comp=E,22µm,0.2s							
SCHF	**Schoenfels**	**0.46**	**360**	*e*Pg	**Pg**		**23 36 09.8**	**+0.1**
SCHF				*e*Sg	**Sg**		**23 36 15.3**	**-0.6**
SCHF	**Schoenfels**	**0.46**	**360**	Pg	**Pg**		**23 36 09.8**	**+0.1**
SCHF				Sg	**Sg**		**23 36 15.3**	**-0.6**
MLFH	**Mildenfurth**	**0.61**	**340**	*i* Pg	**Pg**		**23 36 12.7**	**+0.2**
MLFH				*i* Sg	**Sg**		**23 36 20.3**	**-0.3**
MOX	**Moxa**	**0.66**	**311**	*e*Pg	**Pg**		**23 36 14.0**	**+0.5**
MOX				*e*Sg	**Sg**		**23 36 22.5**	**+0.2**
MOX	**Moxa**	**0.66**	**311**	Pg	**Pg**		**23 36 14.0**	**+0.5**
MOX				Sg	**Sg**		**23 36 22.5**	**+0.2**
FBE	**Freiberg**	**0.93**	**40**	*e*Pg	**Pb**		**23 36 18.4**	**0.0**
FBE				*e*Sg	**Sb**		**23 36 29.7**	**-0.9**
FBE	**Freiberg**	**0.93**	**40**	Pg	**Pb**		**23 36 18.4**	**0.0**
FBE				Sg	**Sb**		**23 36 29.7**	**-0.9**
GRF	**Grafenberg Arr**	**0.93**	**236**	*e*Pg	**Pn**		**23 36 19.6**	**+0.5**
GRF				*e*Sg	**Sn**		**23 36 32.4**	**+0.2**
WET	**Wettzell**	**1.12**	**164**	*e*Pg	**Pg**		**23 36 22.5**	**+0.5**
WET				*e*Sg	**Sn**		**23 36 37.1**	**+0.2**
CLL	**Collm**	**1.16**	**19**	*e*Pg	**Pn**		**23 36 22.0**	**-0.3**
CLL				*e*Sg	**Sb**		**23 36 36.9**	**-0.2**
CLL	**Collm**	**1.16**	**19**	Pg	**Pn**		**23 36 22.0**	**-0.3**
CLL				Sg	**Sb**		**23 36 36.9**	**-0.2**
CLL	**Collm**	**1.16**	**19**	*i* Pg	**Pn**		**23 36 22.4**	**+0.1**
CLL				*i* Sg	**Sb**		**23 36 36.9**	**-0.2**
	comp=Z,798nm,0.6s							
CLL				*i*			23 36 41.0	
BRG	**Berggiesshubel**	**1.18**	**56**	PG	**Pb**		**23 36 22.9**	**+0.2**
BRG				SG	**Sb**		**23 36 38.0**	**+0.2**
	comp=Z,1µm,0.4s							
BRG	**Berggiesshubel**	**1.18**	**56**	*e*Pg	**Pn**		**23 36 22.1**	**-0.5**
BRG				*e*Sg	**Sb**		**23 36 37.7**	**-0.1**
BRG	**Berggiesshubel**	**1.18**	**56**	Pg	**Pn**		**23 36 22.1**	**-0.5**
BRG				Sg	**Sb**		**23 36 37.7**	**-0.1**
PRA	**Prague**	**1.31**	**96**‖	*e*PG	**Pn**		**23 36 24.5**	**+0.1**
PRA				*e*SG	**Sn**		**23 36 41.9**	**+0.2**
	comp=Z,820nm,0.6s							
PRA	**Prague**	**1.31**	**96**	Pg	**Pn**		**23 36 24.5**	**+0.1**
PRA				Sg	**Sn**		**23 36 41.9**	**+0.2**
	comp=Z,820nm,0.6s							
KHC	**Kasperske Hory**	**1.33**	**145**‖	*e*PG	**Pb**		**23 36 25.5**	**+0.3**
KHC				*e*SG	**Sg**		**23 36 42.9**	**-0.4**
	comp=Z,204nm,0.3s							
KHC	**Kasperske Hory**	**1.33**	**145**	Pg	**Pb**		**23 36 25.5**	**+0.3**
KHC				Sg	**Sg**		**23 36 42.9**	**-0.4**
	comp=Z,204nm,0.3s							
PRU	**Pruhonice**	**1.39**	**99**‖	*e*PG	**Pn**		**23 36 25.6**	**+0.1**
PRU				*e*SG	**Sn**		**23 36 43.6**	**-0.1**
	comp=Z,368nm,0.2s							
PRU	**Pruhonice**	**1.39**	**99**	Pg	**Pn**		**23 36 25.6**	**+0.1**
PRU				Sg	**Sn**		**23 36 43.6**	**-0.1**
	comp=Z,368nm,0.2s							
PVCC	**Panska Ves**	**1.42**	**76**‖	*e*SG	**Sn**		**23 36 44.2**	**-0.1**
	comp=Z,885nm,0.2s							
PVCC	**Panska Ves**	**1.42**	**76**	Sg	**Sn**		**23 36 44.2**	**-0.1**
	comp=Z,885nm,0.2s							
GOPC	**GO Pecny, Ondr**	**1.56**	**100**	*e*SG	**Sg**		**23 36 50.0**	**-0.8**
GOPC	**GO Pecny, Ondr**	**1.56**	**100**	Sg	**Sg**		**23 36 50.0**	**-0.8**
TREC	**Trest**	**2.20**	**114**‖	*e*SG	**Sb**		**23 37 08.7**	**+1.5**
	comp=Z,232nm,0.5s							
TREC				AMS	AMS		23 37 20.0	
	comp=Z,500nm,4.5s							
TREC	**Trest**	**2.20**	**114**	Sg	**Sb**		**23 37 08.7**	**+1.5**
	comp=Z,232nm,0.5s							
UPC	**Upice**	**2.33**	**81**‖	*e*SG	**Sb**		**23 37 12.9**	**+2.1**
	comp=Z,418nm,0.6s							
UPC	**Upice**	**2.33**	**81**	Sg	**Sb**		**23 37 12.9**	**+2.1**
	comp=Z,418nm,0.6s							
DPC	**Dobruska-Polom**	**2.52**	**85**	*e*SG	**Sb**		**23 37 18.3**	**+2.0**
	comp=Z,289nm,0.7s							
DPC	**Dobruska-Polom**	**2.52**	**85**	Sg	**Sb**		**23 37 18.3**	**+2.0**
	comp=Z,289nm,0.7s							
KSP	**Ksiaz**	**2.56**	**74**	*e*Pn	**Pn**		**23 36 42.7**	**+1.2**
KSP				*e*Pg	**Pg**		**23 36 48.0**	**-1.5**
KSP				*e*Sg	**Sg**		**23 37 20.3**	**-2.3**
KSP	**Ksiaz**	**2.56**	**74**	*e*Pn	**Pn**		**23 36 42.7**	**+1.2**
KSP	**Ksiaz**	**2.56**	**74**	*e*Pg	**Pg**		**23 36 48.0**	**-1.5**
KSP				*e*Sg	**Sg**		**23 37 20.3**	**-2.3**
MOA	**Molln**	**2.67**	**152**	Pn	**Pn**		**23 36 44.4**	**+1.3**
	comp=Z,1.9nm,0.2s,SNR=5.8							
MOA				Sg	**Sg**		**23 37 25.4**	**-0.7**
	comp=Z,46nm,0.3s							
MOA	**Molln**	**2.67**	**152**	Pn	**Pn**		**23 36 44.4**	**+1.3**
	comp=Z,1.9nm,0.2s,SNR=5.8							
MOA				Sg	**Sg**		**23 37 25.4**	**-0.7**
	comp=Z,46nm,0.3s							
KRUC	**Moravsky**	**2.84**	**113**	*e*Pn	**Pn**		**23 36 45.9**	**+0.5**
KRUC				*e*Sg	**Sg**		**23 37 28.7**	**-3.0**
	comp=Z,380nm,0.8s							
VRAC	**Vranov**	**2.86**	**107**	*e*Pn	**Pn**		**23 36 46.1**	**+0.4**
VRAC				*e*Sg	**Sg**		**23 37 30.0**	**-2.4**
	comp=Z,383nm,0.8s							
RETA	**Reutte**	**2.94**	**202**	*e*Pn	**Pn**		**23 36 47.1**	**+0.2**
	comp=Z,2.3nm,0.2s,SNR=9.1							
RETA				*i* Sg	**Sg**		**23 37 37.5**	**+2.6**
	comp=Z,112nm,0.6s							
RETA	**Reutte**	**2.94**	**202**	Pn	**Pn**		**23 36 47.1**	**+0.2**
	comp=Z,2.3nm,0.2s,SNR=9.1							
KTD	**Kalmit**	**2.94**	**254**	P	**Pn**		**23 36 48.7**	**+1.8**
KTD				S	**Sb**		**23 37 27.0**	**-1.6**
WTTA	**Wattenberg**	**3.00**	**190**	*e*Pg	**Pg**		**23 36 58.7**	**+0.7**
	comp=Z,4.6nm,0.2s,SNR=6.7							
WTTA	**Wattenberg**	**3.00**	**190**	Pg	**Pg**		**23 36 58.7**	**+0.7**
	comp=Z,4.6nm,0.2s,SNR=6.7							
MOTA	**Moosalm**	**3.00**	**197**	*i* Pn	**Pn**		**23 36 48.0**	**+0.3**
	comp=Z,0.7nm,0.1s,SNR=9.9							
MOTA	**Moosalm**	**3.00**	**197**	Pn	**Pn**		**23 36 48.0**	**+0.3**
	comp=Z,0.7nm,0.1s,SNR=9.9							
KOE	**Koeppel**	**3.00**	**276**	*e*Pn	**Pn**		**23 36 49.7**	**+2.0**
KOE				*e*Sn	**Sn**		**23 37 24.7**	**+1.2**
	comp=Z,225nm,0.6s							
KOE	**Koeppel**	**3.00**	**276**	Pn	**Pn**		**23 36 49.7**	**+2.0**
KOE				Sn	**Sn**		**23 37 24.7**	**+1.2**
	comp=Z,225nm,0.6s							
SPAK	**Spaichingen-Ko**	**3.18**	**230**	P	**Pn**		**23 36 52.6**	**+2.4**
KBA	**Koelnbreinsper** SNR=12	**3.20**	**168**	*i* Pn	**Pn**		**23 36 53.1**	**+2.5**
KBA				*i* Sg	**Sg**		**23 37 43.6**	**+0.3**
	comp=Z,108nm,0.8s							
KBA	**Koelnbreinsper** SNR=12	**3.20**	**168**	Pn	**Pn**		**23 36 53.1**	**+2.5**
KBA				Sg	**Sg**		**23 37 43.6**	**+0.3**
	comp=Z,108nm,0.8s							
CONA	**Conrad Observa**	**3.23**	**134**	*i* Pn	**Pn**		**23 36 53.1**	**+2.3**
	comp=Z,3.5nm,0.2s,SNR=6.9							
CONA				Sg	**Sg**		**23 37 42.5**	**-1.6**
	comp=Z,107nm,0.5s							
CONA	**Conrad Observa**	**3.23**	**134**	Pn	**Pn**		**23 36 53.1**	**+2.3**
	comp=Z,3.5nm,0.2s,SNR=6.9							
CONA				Sg	**Sg**		**23 37 42.5**	**-1.6**
	comp=Z,107nm,0.5s							
BGG	**Burgeitz**	**3.26**	**272**	*e*Pn	**Pn**		**23 36 53.4**	**+2.3**
BGG	**Burgeitz**	**3.26**	**272**	Pn	**Pn**		**23 36 53.4**	**+2.3**

MORC	**Moravsky Berou**	**3.34**	**96**	*e*Pn	**Pn**		**23 36 52.7**	**+0.3**
MORC				*e*Sg	**Sg**		**23 37 44.8**	**-3.0**
	comp=Z,244nm,0.9s							
ABTA	**Abfaltersbach**	**3.47**	**179**	*i* Pn	**Pn**		**23 36 56.5**	**+2.3**
	comp=Z,4.6nm,0.3s,SNR=8.5							
ABTA	**Abfaltersbach**	**3.47**	**179**	Pn	**Pn**		**23 36 56.5**	**+2.3**
	comp=Z,4.6nm,0.3s,SNR=8.5							
RUP	**Ruppelstein**	**3.49**	**264**	P	**Pn**		**23 36 55.8**	**+1.4**
STB	**Steinbach**	**3.58**	**278**	*e*Pn	**Pn**		**23 36 57.0**	**+1.4**
STB	**Steinbach**	**3.58**	**278**	Pn	**Pn**		**23 36 57.0**	**+1.4**
ARSA	**Arzberg**	**3.61**	**144**	*i* Pn	**Pn**		**23 36 58.6**	**+2.5**
	comp=Z,6.3nm,0.3s,SNR=10							
ARSA	**Arzberg**	**3.61**	**144**	Pn	**Pn**		**23 36 58.6**	**+2.5**
	comp=Z,6.3nm,0.3s,SNR=10							
HILG	**Hillesheim**	**3.68**	**273**	*e*Pn	**Pn**		**23 36 58.8**	**+1.9**
HILG	**Hillesheim**	**3.68**	**273**	Pn	**Pn**		**23 36 58.8**	**+1.9**
MYKA	**Terra Mystica**	**3.68**	**167**	*i* Pn	**Pn**		**23 37 00.4**	**+3.3**
	comp=Z,1.0nm,0.2s							
MYKA	**Terra Mystica**	**3.68**	**167**	Pn	**Pn**		**23 37 00.4**	**+3.3**
	comp=Z,1.0nm,0.2s							
SMOL	**Smolenice**	**3.70**	**116**	*e*Pn	**Pn**		**23 36 58.2**	**+1.0**
SMOL				*e*Sg	**Sg**		**23 37 58.2**	**-1.0**
SMOL	**Smolenice**	**3.70**	**116**	*e*PN	**Pn**		**23 36 58.2**	**+1.0**
SMOL				*e*SG	**Sg**		**23 37 58.2**	**-1.0**
RAC	**Raciborz**	**3.72**	**90**	*e*Pg	**Pg**		**23 37 09.6**	**-2.2**
RAC				*e*Sg	**Sg**		**23 37 57.5**	**-2.5**
FELD	**Feldberg im Sc**	**3.73**	**233**	P	**Pn**		**23 36 59.9**	**+2.2**
CDF	**Champ du Feu**	**3.81**	**244**	*e*Pn	**Pn**		**23 36 59.5**	**+0.6**
CDF	**Champ du Feu**	**3.81**	**244**	*e*Pg	**Pg**		**23 37 13.0**	**-0.5**
CDF				*e*Sg	**Sg**		**23 38 01.6**	**-1.3**
	comp=Z,182nm,0.7s							
CDF	**Champ du Feu**	**3.81**	**244**	*e*Pn	**Pn**		**23 36 59.5**	**+0.6**
CDF	**Champ du Feu**	**3.81**	**244**	*e*Pg	**Pg**		**23 37 13.0**	**-0.5**
CDF				*e*Sg	**Sg**		**23 38 01.6**	**-1.3**
	comp=Z,91nm,0.7s							
KLL	**Kalltalsperre**	**3.92**	**279**	*e*Pn	**Pn**		**23 37 01.8**	**+1.5**
KLL	**Kalltalsperre**	**3.92**	**279**	Pn	**Pn**		**23 37 01.8**	**+1.5**
WTSB	**Winterswijk**	**3.95**	**299**	*e*Pn	**Pn**		**23 37 04.6**	**+4.1**
WTSB				*e*Sn	**Sb**		**23 38 01.0**	**+3.7**
WTSB	**Winterswijk**	**3.95**	**299**	*e*Pn	**Pn**		**23 37 04.6**	**+4.1**
OBKA	**Obir**	**3.98**	**158**	*e*Pn	**Pn**		**23 37 02.8**	**+1.7**
	comp=Z,3.4nm,0.4s,SNR=5.3							
OBKA	**Obir**	**3.98**	**158**	Pn	**Pn**		**23 37 02.8**	**+1.7**
	comp=Z,3.4nm,0.4s,SNR=5.3							
ECH	**Echery**	**3.98**	**242**	P	**Pn**		**23 37 02.7**	**+1.6**
ECH				S	**Sb**		**23 37 54.5**	**-3.9**
ECH	**Echery**	**3.98**	**242**	P	**Pn**		**23 37 02.7**	**+1.6**
PERS	**Pernice**	**4.01**	**152**	*i* Pn	**Pn**		**23 37 04.4**	**+2.8**
PERS	**Pernice**	**4.01**	**152**	*i* Pn	**Pn**		**23 37 04.4**	**+2.8**
HGN	**Heimansgroeve**	**4.17**	**280**	*e*Pn	**Pn**		**23 37 07.2**	**+3.5**
HGN	**Heimansgroeve**	**4.17**	**280**	*e*Pn	**Pn**		**23 37 07.2**	**+3.5**
MOF	**Molkenrain**	**4.20**	**238**	P	**Pn**		**23 37 06.2**	**+2.0**
MOF				S	**Sb**		**23 37 59.6**	**-5.2**
MOF	**Molkenrain**	**4.20**	**238**	P	**Pn**		**23 37 06.2**	**+2.0**
GROS	**Grobnik**	**4.29**	**150**	*i* Pn	**Pn**		**23 37 07.2**	**+1.8**
GROS	**Grobnik**	**4.29**	**150**	*i* Pn	**Pn**		**23 37 07.2**	**+1.8**
HINF	**Hinteralfeld**	**4.37**	**239**	*e*Pn	**Pn**		**23 37 05.8**	**-0.7**
HINF	**Hinteralfeld**	**4.37**	**239**	*e*Pg	**Pg**		**23 37 21.9**	**-2.4**
HINF				*e*Sg	**Sg**		**23 38 18.4**	**-2.5**
	comp=Z,101nm,0.6s							
HINF	**Hinteralfeld**	**4.37**	**239**	*e*Pn	**Pn**		**23 37 05.8**	**-0.7**
HINF	**Hinteralfeld**	**4.37**	**239**	*e*Pg	**Pg**		**23 37 21.9**	**-2.4**
HINF				*e*Sg	**Sg**		**23 38 18.4**	**-2.5**
	comp=Z,50nm,0.6s							
VNDS	**Vrh nad Dolski**	**4.39**	**159**	*i* Pn	**Pn**		**23 37 08.7**	**+1.9**
VNDS	**Vrh nad Dolski**	**4.39**	**159**	*i* Pn	**Pn**		**23 37 08.7**	**+1.9**
LJU	**Ljubljana**	**4.41**	**160**	*i* Pn	**Pn**		**23 37 09.0**	**+2.0**
LJU	**Ljubljana**	**4.41**	**160**	*i* Pn	**Pn**		**23 37 09.0**	**+2.0**
VYHS	**Vyhne**	**4.54**	**110**	*e*Pn	**Pn**		**23 37 09.2**	**+0.4**
VYHS	**Vyhne**	**4.54**	**110**	*e*PN	**Pn**		**23 37 09.2**	**+0.4**
VYHS				*e*SG	**Sb**		**23 38 16.8**	**+2.3**
VYHS				*e*LG	Lg		23 38 26.8	
HAU	**Haudompre**	**4.55**	**243**	*e*Pn	**Pn**		**23 37 09.3**	**+0.3**
HAU	**Haudompre**	**4.55**	**243**	*e*Pg	**Pg**		**23 37 25.7**	**-2.0**
HAU				*e*Sg	**Sg**		**23 38 24.5**	**-2.1**
	comp=Z,146nm,0.6s							
HAU	**Haudompre**	**4.55**	**243**	*e*Pn	**Pn**		**23 37 09.3**	**+0.3**
HAU	**Haudompre**	**4.55**	**243**	*e*Pg	**Pg**		**23 37 25.7**	**-2.0**
HAU				*e*Sg	**Sg**		**23 38 24.5**	**-2.1**
	comp=Z,73nm,0.6s							
THEF	**They Montfort**	**4.66**	**247**	P	**Pn**		**23 37 11.8**	**+1.4**
THEF				S	**Sn**		**23 38 10.6**	**+6.4**
THEF	**They Montfort**	**4.66**	**247**	P	**Pn**		**23 37 11.8**	**+1.4**
PAGF	**Fort de Pagny**	**4.67**	**252**	*e*Pn	**Pn**		**23 37 11.6**	**+1.0**
PAGF	**Fort de Pagny** baz=64	**4.67**	**252**	*e*Pg	**Pg**		**23 37 29.3**	**-0.6**
PAGF				*e*Sg	**Sg**		**23 38 28.3**	**-2.1**
	comp=Z,52nm,0.9s							
PAGF	**Fort de Pagny**	**4.67**	**252**	*e*Pn	**Pn**		**23 37 11.6**	**+1.0**
PAGF	**Fort de Pagny**	**4.67**	**252**	*e*Pg	**Pg**		**23 37 29.3**	**-0.6**
PAGF				*e*Sg	**Sg**		**23 38 28.3**	**-2.1**
	comp=Z,26nm,0.9s							
LOMF	**Lomont**	**4.67**	**234**	P	**Pn**		**23 37 13.0**	**+2.3**
LOMF				S	**Sn**		**23 38 11.8**	**+7.1**
LOMF	**Lomont**	**4.67**	**234**	P	**Pn**		**23 37 13.0**	**+2.3**
LANS	**Liptovska Anna**	**4.71**	**100**	*e*Pn	**Pn**		**23 37 12.3**	**+1.2**
LANS				*e*Sg	**Sg**		**23 38 29.6**	**-1.9**
LANS	**Liptovska Anna**	**4.71**	**100**	*e*PN	**Pn**		**23 37 12.3**	**+1.2**
LANS				*e*SG	**Sg**		**23 38 29.6**	**-1.9**
VISS	**Visnje**	**4.71**	**159**	*i* Pn	**Pn**		**23 37 12.4**	**+1.3**
VISS	**Visnje**	**4.71**	**159**	*i* Pn	**Pn**		**23 37 12.4**	**+1.3**
BEHE	**Becsehely**	**4.75**	**140**	*e*Pn	**Pn**		**23 37 14.8**	**+3.2**
BEHE	**Becsehely**	**4.75**	**140**	*ex*	**Pn**		**23 37 14.8**	**+3.2**
BEHE				*ex*	**Sg**		**23 38 32.1**	**-0.7**
GIVF	**Givet**	**4.88**	**272**	*e*Pn	**Pn**		**23 37 13.2**	**-0.2**
GIVF	**Givet**	**4.88**	**272**	*e*Pg	**Pg**		**23 37 32.1**	**-1.8**
GIVF				*e*Sg	**Sg**		**23 38 33.8**	**-3.2**
	comp=Z,178nm,0.8s							
GIVF	**Givet**	**4.88**	**272**	*e*Pn	**Pn**		**23 37 13.2**	**-0.2**
GIVF	**Givet**	**4.88**	**272**	*e*Pg	**Pg**		**23 37 32.1**	**-1.8**
GIVF				*e*Sg	**Sg**		**23 38 33.8**	**-3.2**
	comp=Z,89nm,0.8s							
BOJS	**Bojanci**	**5.09**	**157**	*i* Pn	**Pn**		**23 37 18.2**	**+1.9**
BOJS	**Bojanci**	**5.09**	**157**	*i* Pn	**Pn**		**23 37 18.2**	**+1.9**
MEZF	**Maizieres J'vi** baz=75	**5.10**	**253**	*e*Pg	**Pg**		**23 37 36.6**	**-1.6**
MEZF	**Maizieres J'vi**	**5.10**	**253**	*e*Pg	**Pg**		**23 37 36.6**	**-1.6**
LLD	**Lille Linde**	**5.13**	**359**	*i* P	**Pn**		**23 37 14.3**	**-2.5**
LLD	**Lille Linde**	**5.13**	**359**	*e*P	**Pn**		**23 37 14.3**	**-2.5**
BSD	**Bornholm Skovb**	**5.14**	**16**	*i* P	**Pn**		**23 37 14.8**	**-2.1**
BSD	**Bornholm Skovb**	**5.14**	**16**	*e*P	**Pn**		**23 37 14.8**	**-2.1**
BUD	**Budapest**	**5.15**	**120**‖	*e*Pn	**Pn**		**23 37 18.6**	**+1.4**
BUD	**Budapest**	**5.15**	**120**‖	*ex*	**Pn**		**23 37 18.6**	**+1.4**
BUD				*ex*	x		23 38 58.1	
SFTF	**Sexfontaines**	**5.23**	**250**	*e*Pn	**Pn**		**23 37 17.6**	**-0.7**
SFTF	**Sexfontaines**	**5.23**	**250**	*e*Pg	**Pg**		**23 37 37.9**	**-2.8**
SFTF				*e*Sg	**Sg**		**23 38 46.2**	**-2.2**
	comp=Z,90nm,0.8s							
SFTF	**Sexfontaines**	**5.23**	**250**	*e*Pn	**Pn**		**23 37 17.6**	**-0.7**
SFTF	**Sexfontaines**	**5.23**	**250**	*e*Pg	**Pg**		**23 37 37.9**	**-2.8**
SFTF				*e*Sg	**Sg**		**23 38 46.2**	**-2.2**
	comp=Z,45nm,0.8s							
BAIF	**Baives**	**5.28**	**271**	*e*Sg	**Sg**		**23 38 46.1**	**-3.7**
	comp=Z,108nm,0.9s							
BAIF	**Baives**	**5.28**	**271**	*e*Sg	**Sg**		**23 38 46.1**	**-3.7**
	comp=Z,54nm,0.9s							
CABF	**La Chapelle**	**5.54**	**232**	*e*Pn	**Pn**		**23 37 22.0**	**-0.6**
CABF	**La Chapelle**	**5.54**	**232**	*e*Pg	**Pg**		**23 37 44.0**	**-2.6**
CABF				*e*Sg	**Sg**		**23 38 55.2**	**-3.1**
	comp=Z,140nm,1.0s							
CABF	**La Chapelle**	**5.54**	**232**	*e*Pn	**Pn**		**23 37 22.0**	**-0.6**
CABF	**La Chapelle**	**5.54**	**232**	*e*Pg	**Pg**		**23 37 44.0**	**-2.6**
CABF				*e*Sg	**Sg**		**23 38 55.2**	**-3.1**
	comp=Z,70nm,1.0s							
KECS	**Kecovo**	**5.56**	**105**	*e*Pn	**Pn**		**23 37 24.4**	**+1.7**
KECS				*e*Sg	**Sg**		**23 38 58.6**	**-0.2**
KECS	**Kecovo**	**5.56**	**105**	*e*PN	**Pn**		**23 37 24.4**	**+1.7**
KECS				*e*SG	**Sg**		**23 38 58.6**	**-0.2**
KECS				*e*LG	Lg		23 39 11.7	
STHS	**Stebnicka Huta**	**5.78**	**95**	*e*Pn	**Pn**		**23 37 28.0**	**+2.2**
STHS				*e*Sg	**Sg**		**23 39 04.7**	**-1.1**
STHS	**Stebnicka Huta**	**5.78**	**95**	*e*PN	**Pn**		**23 37 28.0**	**+2.2**
STHS				*e*SG	**Sg**		**23 39 04.7**	**-1.1**
STHS				*e*LG	Lg		23 39 16.6	
CRVS	**Cervenica-Dubn**	**6.04**	**99**	*e*Pn	**Pn**		**23 37 30.7**	**+1.4**
CRVS	**Cervenica-Dubn**	**6.04**	**99**	*e*PN	**Pn**		**23 37 30.7**	**+1.4**
LPL	**La Plagne**	**6.06**	**221**	*e*Pg	**Pg**		**23 37 54.6**	**-1.8**
LPL				*e*Sg	**Sg**		**23 39 13.2**	**-1.6**
	comp=Z,35nm,0.9s							
LPL	**La Plagne**	**6.06**	**221**	*e*Pg	**Pg**		**23 37 54.6**	**-1.8**
LPL				*e*Sg	**Sg**		**23 39 13.2**	**-1.6**
	comp=Z,18nm,0.9s							

LPG	**La Plagne**	**6.06**	**221**	*e*Pg	**Pg**		**23 37 55.2**	**-1.4**
LPG				*e*Sg	**Sg**		**23 39 15.1**	**0.0**
	comp=Z,45nm,0.9s							
LPG	**La Plagne**	**6.06**	**221**	*e*Pg	**Pg**		**23 37 55.2**	**-1.4**
LPG				*e*Sg	**Sg**		**23 39 15.1**	**0.0**
	comp=Z,22nm,0.9s							
UDBI	**Udbina**	**6.13**	**157**	*e*Pn	**Pn**		**23 37 33.5**	**+2.9**
UDBI				Sn	**Sn**		**23 38 39.3**	**-1.2**
LOR	**Lormes**	**6.38**	**246**	*e*Pn	**Pn**		**23 37 33.3**	**-0.7**
LOR	**Lormes**	**6.38**	**246**	*e*Pg	**Pg**		**23 37 59.6**	**-2.9**
	baz=55							
LOR				*e*Sg	**Sg**		**23 39 21.8**	**-3.3**
	comp=Z,33nm,0.5s							
LOR	**Lormes**	**6.38**	**246**	*e*Pn	**Pn**		**23 37 33.3**	**-0.7**
LOR	**Lormes**	**6.38**	**246**	*e*Pg	**Pg**		**23 37 59.6**	**-2.9**
LOR				*e*Sg	**Sg**		**23 39 21.8**	**-3.3**
	comp=Z,17nm,0.5s							
SSF	**Saint Saulge**	**6.69**	**245**	*e*Pn	**Pn**		**23 37 37.4**	**-0.9**
SSF	**Saint Saulge**	**6.69**	**245**	*e*Pg	**Pg**		**23 38 06.0**	**-2.5**
SSF				*e*Sg	**Sg**		**23 39 31.7**	**-3.4**
	comp=Z,28nm,0.5s							
SSF	**Saint Saulge**	**6.69**	**245**	*e*Pn	**Pn**		**23 37 37.4**	**-0.9**
SSF	**Saint Saulge**	**6.69**	**245**	*e*Pg	**Pg**		**23 38 06.0**	**-2.5**
SSF				*e*Sg	**Sg**		**23 39 31.7**	**-3.4**
	comp=Z,14nm,0.5s							
SMF	**Signal de Mont**	**6.73**	**241**	*e*Pg	**Pg**		**23 38 06.3**	**-2.9**
SMF				*e*Sg	**Sg**		**23 39 32.6**	**-3.6**
	comp=Z,29nm,0.5s							
SMF	**Signal de Mont**	**6.73**	**241**	*e*Pg	**Pg**		**23 38 06.3**	**-2.9**

NKC				*e*SG		Sg	23 38 47.0	-0.1
	comp=Z,2μm,0.2s							
NKC	**Novy Kostel**	**0.02**	**174**	*i* Pg		Pg	23 38 46.0	-0.1
NKC				*i* Sg		Sg	23 38 47.0	0.0
NKC	**Novy Kostel**	**0.02**	**174**	Pg		Pg	23 38 46.0	-0.1
NKC				Sg		Sg	23 38 47.0	-0.1
	2μm,0.2s							
WERN	**Wernitzgruen**	**0.05**	**306**	*i* Pg		Pg	23 38 46.3	-0.1
WERN				*i* Sg		Sg	23 38 47.6	0.0
WERN				AML		AML	23 38 47.7	
	comp=N,2μm,0.1s							
ROHR	**Rohrbach**	**0.09**	**255**	*e*Pg		Pg	23 38 46.5	-0.3
ROHR				*i* Sg		Sg	23 38 48.0	-0.3
ROHR				AML		AML	23 38 48.1	
	comp=E,4μm,0.1s							
GUNZ	**Gunzen**	**0.13**	**326**	*i* Pg		Pg	23 38 47.4	-0.2
GUNZ				*i* Sg		Sg	23 38 49.4	-0.1
GUNZ				AML		AML	23 38 49.7	
	comp=N,302nm,0.2s							
MULD	**Muldenberg**	**0.16**	**351**	*i* Pg		Pg	23 38 47.8	-0.3
MULD				*i* Sg		Sg	23 38 50.0	-0.3
MULD				AML		AML	23 38 50.1	
	comp=E,803nm,0.2s							
TANN	**Tannenbergstha**	**0.16**	**4**	*i* Pg		Pg	23 38 47.9	-0.3
TANN				*i* Sg		Sg	23 38 50.0	-0.4
TANN				AML		AML	23 38 50.2	
	comp=N,800nm,0.2s							
WERD	**Werda**	**0.21**	**335**	*i* Pg		Pg	23 38 48.8	-0.3
WERD				*i* Sg		Sg	23 38 51.5	-0.4
WERD				AML		AML	23 38 51.6	
	comp=E,178nm,0.1s							
TRIB	**Obertriebel**	**0.22**	**296**	*i* Pg		Pg	23 38 48.8	-0.4
TRIB				*i* Sg		Sg	23 38 51.9	-0.2
TRIB				AML		AML	23 38 52.0	
	comp=E,532nm,0.1s							
TRIB	**Obertriebel**	**0.22**	**296**	*e*Sg		Pg	23 38 48.6	-0.6
TRIB	**Obertriebel**	**0.22**	**296**	Sg		Pg	23 38 48.6	-0.6
PLN	**Plauen**	**0.29**	**321**	*i* Pg		Pg	23 38 50.2	-0.3
PLN				*i* Sg		Sg	23 38 54.2	-0.3
PLN				AML		AML	23 38 54.3	
	comp=E,189nm,0.2s							
PLN	**Plauen**	**0.29**	**321**	*e*Sg		Pg	23 38 50.2	-0.4
PLN	**Plauen**	**0.29**	**321**	Sg		Pg	23 38 50.2	-0.4
SCHF	**Schoenfels**	**0.42**	**356**	*i* Pg		Pg	23 38 52.6	-0.4
SCHF				*i* Sg		Sg	23 38 58.3	-0.3
SCHF				AML		AML	23 38 58.5	
	comp=E,822nm,0.2s							
MLFH	**Mildenfurth**	**0.58**	**337**	*i* Pg		Pg	23 38 55.6	-0.4
MLFH				*i* Sg		Sg	23 39 03.1	-0.6
CLL	**Collm**	**1.11**	**18**	*i* Pg		Pg	23 39 05.2	-0.9
CLL				*i*			23 39 08.4	
CLL				*i* Sg		Sg	23 39 20.2	-0.3
	comp=Z,25nm,0.3s							
BRG	**Berggiesshubel**	**1.14**	**57**	PG		Pg	23 39 05.7	-0.9
BRG				SG		Sg	23 39 20.6	-0.8
	comp=Z,45nm,0.3s							
PRU	**Pruhonice**	**1.38**	**100**	*e*SG		Sb	23 39 27.6	-1.1
	comp=Z,36nm,0.2s							
PRU	**Pruhonice**	**1.38**	**100**	Sg		Sb	23 39 27.6	-1.1
	comp=Z,36nm,0.2s							
GOPC	**GO Pecny, Ondr**	**1.55**	**102**	*e*SG		Sn	23 39 32.9	-0.3
	comp=Z,24nm,0.2s							
GOPC	**GO Pecny, Ondr**	**1.55**	**102**	Sg		Sn	23 39 32.9	-0.3
	comp=Z,24nm,0.2s							
DPC	**Dobruska-Polom**	**2.49**	**86**	*e*SG		Sb	23 40 01.4	+0.7
	comp=Z,9.1nm,0.3s							
DPC	**Dobruska-Polom**	**2.49**	**86**	Sg		Sb	23 40 01.4	+0.7
	comp=Z,9.1nm,0.3s							
KSP	**Ksiaz**	**2.52**	**75**	*e*Pg		Pg	23 39 32.1	-1.0
KSP				*e*Sg		Sg	23 40 04.0	-1.9

*IDC **02** 23:47:06.9±1.6, 17°.25S×179°.03W, h515km±22km, mb3.3/8, mb1 3.6/10, mb1mx3.2/39, mbtmp4.2/10, Error ellipse: s-maj=69.8km s-min=12.7km az=152.0*

*ISCJB **02** 23:47:07.1±0.8, 17°.3S±0°.5×179°.0W±0°.2, h533km, mb3.7/8, Error ellipse: s-maj=66.8km s-min=9.0km az=156.6*

ISC 02 23:47:07.7±1.0,**17°.4S**±0°.5×**178°.9W**±0°.2,**h533km**,**n12**, σ1**§18**/14,**mb3.7/8**,**Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**7.69**	**64**	P	**P**	**23 49 02.0**	**0.0**
	8.3nm,0.3s,baz=253,slow=20,SNR=8.3						
AFI				S	**S**	**23 50 33.0**	**-2.7**
	3.7nm,0.3s,baz=256,slow=16,SNR=2.5						
DZM	**Mont Dzumac**	**14.56**	**249**	P	**P**	**23 50 12.5**	**-0.5**
	0.5nm,0.3s,baz=79,slow=23,SNR=7.1						
CTA	**Charters Tower**	**33.07**	**260**	P	**P**	**23 52 59.2**	**-0.4**
	5.6nm,0.9s,baz=101,slow=10,SNR=3.0						
STKA	**Stephens Creek**	**38.47**	**240**	P	**P**	**23 53 44.2**	**+0.1**
	3.8nm,0.5s,baz=88,slow=11,SNR=20						
WRA	**Warramunga Arr**	**44.26**	**259**	P	**P**	**23 54 29.4**	**-0.9**
	1.6nm,0.5s,baz=93,slow=7.2,SNR=32						
WRA				PcP	**PcP**	**23 56 02.9**	**-0.3**
	0.1nm,0.5s,baz=100,slow=3.3,SNR=2.8						
ASAR	**Alice Springs**	**44.48**	**254**	P	**P**	**23 54 31.6**	**-0.3**
	18nm,0.5s,baz=88,slow=8.1,SNR=276						
ASAR				PcP	**PcP**	**23 56 03.0**	**-0.8**
	0.5nm,0.5s,baz=96,slow=5.0,SNR=3.4						
FITZ	**Fitzroy Crossi**	**52.65**	**260**	P	**P**	**23 55 32.9**	**+0.3**
	1.0nm,0.3s,baz=64,slow=8.8,SNR=11						
ILAR	**Eielson Array**	**85.49**	**13**	P	**P**	**23 58 48.5**	**-0.2**
	0.5nm,0.4s,baz=220,slow=5.7,SNR=6.3						
TXAR	**Lajitas Array**	**86.12**	**58**	P	**P**	**23 58 55.0**	**+2.3**
	0.2nm,0.7s,baz=208,slow=4.9,SNR=3.0						
PDAR	**Pinedale Array**	**87.31**	**44**	P	**P**	**23 58 58.9**	**+0.7**
	0.3nm,0.6s,baz=238,slow=5.2,SNR=3.6						
BRTR	**Keskin Array B**	**144.08**	**315**	PKP	PKPbc	00 05 42.0	-0.6
	0.4nm,0.7s,baz=78,slow=5.3,SNR=3.2						
GERES	**GERESS Array B**	**146.99**	**345**	PKPbc	**PKPbc**	**00 05 51.3**	**+0.7**
	0.6nm,0.6s,baz=31,slow=3.1,SNR=5.8						

*ISK **02** 23:51:48.0, 39°.12N×28°.98E, h19km, MD2.4*

*CSEM **02** 23:51:49.1±0.3, 39°.07N×29°.05E, h15km, MD2.4, Error ellipse: s-maj=11.8km s-min=5.9km az=138.0*

*DDA **02** 23:51:53.6, 38°.92N×28°.69E, h7km, Md2.6*

ISC 02 23:51:47.2±1.3,**38°.91N**±0°.04×**29°.10E**±0°.04,**h5**km±12km, **n11**, σ1**§13**/20,**Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIMA	**Simav-Kutahya**	**0.20**	**333**	PG	**Pg**	**23 51 52.2**	**+1.0**
SIMA				*e*SG	**Sg**	**23 51 53.6**	**-0.2**
SIMA	**Simav-Kutahya**	**0.20**	**333**	*i* Pg	**Pg**	**23 51 52.2**	**+1.0**
SIMA				*e*Sg	**Sg**	**23 51 53.6**	**-0.2**
GEDZ	**Gediz**	**0.28**	**60**	*e*PG	**Pb**	**23 51 55.8**	**+0.9**
GEDZ	**Gediz**	**0.28**	**60**	*e*Pg	**Pb**	**23 51 55.8**	**+0.9**
DEMI	**Demirci**	**0.33**	**295**	*i* P	**Pb**	**23 51 56.0**	**+0.4**
DEMI				*i* S	**Sb**	**23 51 59.9**	**-1.4**
DEMI	**Demirci**	**0.33**	**295**	P	**Pb**	**23 51 56.0**	**+0.4**
DEMI				S	**Sb**	**23 51 59.8**	**-1.4**
KULA	**Kula-Manisa**	**0.52**	**221**	*e*PG	**Pb**	**23 52 00.4**	**+1.5**
KULA				*e*SG	**Sn**	**23 52 11.4**	**+0.7**
KULA	**Kula-Manisa**	**0.52**	**221**	*e*Pg	**Pb**	**23 52 00.4**	**+1.5**
KULA				*e*Sg	**Sn**	**23 52 11.4**	**+0.7**
MANT	**Manisa**	**0.59**	**226**	*i* P	**Pg**	**23 51 57.0**	**-1.6**
MANT				*i* S	**Sg**	**23 52 06.3**	**+0.1**
TVSB	**Tavsanli**	**0.61**	**27**	*e*PG	**Pg**	**23 51 58.8**	**-0.2**
TVSB				*e*SG	**Sg**	**23 52 05.6**	**-1.4**
TVSB	**Tavsanli**	**0.61**	**27**	*e*Pg	**Pg**	**23 51 58.8**	**-0.2**
TVSB				*e*Sg	**Sg**	**23 52 05.6**	**-1.4**

JMA 03 00:00:10.1±0.4,**35°.59N**×**143°.55E**,**h89**km,**M3.5**,**Off east coast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSO1	**Boso 1**	**2.31**	**247**	P	Pn	00 00 46.9	+1.1
JFT	**Otama**	**3.22**	**308**	P	Pn	00 01 00.4	+1.8
JFT				S	Sn	00 01 36.7	+0.6
JAG	**Ashikaga**	**3.42**	**285**	P	Pn	00 01 02.9	+1.6
JAG				S	Sn	00 01 41.6	+0.7
JMK	**Ichinoseki**	**3.84**	**332**	P	Pn	00 01 07.1	+0.3
JMK				S	Sn	00 01 49.0	-1.8
JHJ2	**Mitsune**	**3.96**	**232**	*e*S	Sn	00 01 54.6	+0.8
JOM	**Ohasama**	**4.27**	**336**	P	Pn	00 01 14.2	+1.4
JOM				S	Sn	00 01 59.4	-2.0

*ISCJB **03** 00:05:41.7±1.1, 17°.56S±0°.08×167°.1E±0°.2, h12km, mb3.9/6, Error ellipse: s-maj=28.0km s-min=11.0km az=0.1*

*IDC **03** 00:05:41.1±1.4, 17°.45S×167°.15E, h0km, mb3.9/5, mb1 4.1/6, mb1mx3.9/24, mbtmp3.9/6, ML3.6/1, MS2.9/3, Ms1 2.9/3, ms1mx2.8/30, Error ellipse: s-maj=48.8km s-min=26.6km az=127.0*

*NEIC **03** 00:05:42.4±0.6, 17°.50S×167°.20E, h10km, mb4.3/1, Error ellipse: s-maj=21.9km s-min=13.1km az=106.0*

ISC 03 00:05:42.7±0.9,**17°.53S**±0°.1×**167°.2E**±0°.2,**h12**km,**n14**, σ0**§81**/13,**mb4.0/6**,**Vanuatu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**4.58**	**189**	Pn	**Pn**	**00 06 51.9**	**0.0**
	2.9nm,0.3s,baz=88,slow=11,SNR=55						
DZM				Sn	**Sn**	**00 07 44.6**	**-0.5**
	4.9nm,0.3s,baz=146,slow=23,SNR=8.8						
DZM				LR	LR	00 08 18.4	
	comp=Z,97nm,19.9s,baz=5.5,slow=34						
HNR	**Honiara**	**10.71**	**318**	LR	LR	00 11 52.9	
	comp=Z,31nm,18.9s,baz=354,slow=35						
RAO	**Raoul Island**	**17.94**	**133**	LR	LR	00 14 44.3	
	comp=Z,112nm,19.6s,baz=292,slow=30						
STKA	**Stephens Creek**	**27.22**	**234**	P	**P**	**00 11 28.5**	**+1.9**
	3.7nm,0.8s,baz=73,slow=14,SNR=3.9						
WRA	**Warramunga Arr**	**31.20**	**260**	P	**P**	**00 12 01.8**	**-0.3**
	0.8nm,0.9s,baz=86,slow=8.7,SNR=4.6						
ASAR	**Alice Springs**	**31.72**	**253**	P	**P**	**00 12 05.8**	**-0.9**
	1.3nm,0.6s,baz=80,slow=8.2,SNR=20						
QSPA	**South Pole Qui**	**72.52**	**180**	*e*P	**P**	**00 17 09.6**	**+0.3**
	2.3nm,0.9s						
SONM	**Songino Array**	**84.71**	**324**	P	**P**	**00 18 16.5**	**-0.1**
	0.3nm,0.4s,baz=127,slow=3.8,SNR=2.7						
ILAR	**Eielson Array**	**89.19**	**18**	P	**P**	**00 18 38.4**	**+0.6**
	0.4nm,0.7s,baz=233,slow=5.5,SNR=3.2						
ARCES	**ARCESS Array B**	**122.93**	**345**	PKP	**PKPdf**	**00 24 37.1**	**-1.1**
	0.6nm,0.6s,baz=34,slow=0.4,SNR=4.5						
DAVOX	**Davos/Dischmat**	**145.34**	**332**	PKPbc	**PKPdf**	**00 25 20.6**	**-0.2**
	5.7nm,0.6s,baz=355,slow=2.1,SNR=12						
TUE	**Stuetta**	**145.81**	**332**	*e*PKPdf	**PKPab**	**00 25 22.3**	**-0.2**
BNI	**Bardonecchia**	**148.08**	**333**	*e*PKPbc	**PKPbc**	**00 25 28.7**	**+0.2**
TORD	**Torodi Ar. Bea**	**165.37**	**255**	PKP	**PKPdf**	**00 25 47.9**	**-0.2**
	0.6nm,0.8s,baz=37,slow=0.7,SNR=3.4						

*VIE **03** 00:25:29.9±0.8, 50°.20N×12°.47E, h10km, mb2.6/8, ML3.7/10, Error ellipse: s-maj=11.9km s-min=3.9km az=48.0*

*IDC **03** 00:25:29.3±1.3, 50°.24N×12°.47E, h0km, mb3.4/1, mb1 3.3/5, mb1mx3.1/44, mbtmp3.2/5, ML3.0/4, MS2.3/1, Ms1 2.3/1, ms1mx1.9/47, Error ellipse: s-maj=12.8km s-min=10.8km az=92.0*

*CSEM **03** 00:25:29.1±0.1, 50°.17N×12°.41E, h2km, ML4.0/27, Error ellipse: s-maj=3.0km s-min=2.3km az=170.0*

*STR **03** 00:25:30.1±0.3, 50°.26N×12°.48E, h10km, Ml3.8, Error ellipse: s-maj=0.0km s-min=0.0km az=0.0*

*PRU **03** 00:25:30.5, 50°.25N×12°.50E, h4km, West Bohemia Swarm*

*BGR **03** 00:25:30.3±0.2, 50°.25N×12°.45E, h10km±1km, ML3.6/6, Error ellipse: s-maj=2.2km s-min=1.1km az=104.0*

*IPEC **03** 00:25:30.2±0.1, 50°.25N×12°.48E, h9km, ML3.4/7, Error ellipse: s-maj=1.0km s-min=0.6km az=29.0*

*LDG **03** 00:25:30.2±0.1, 50°.24N×12°.46E, h10km, Ml3.8/18, Error ellipse: s-maj=1.9km s-min=1.4km az=155.0*

*CLL **03** 00:25:31.0±0.3, 50°.3N±0°.9×12°.2E±1°, h6km±1km, ml3.2*

*BNS **03** 00:25:32.4±0.9, 50°.27N×12°.53E, h5km, ML3.5*

ISC 03 00:25:30.2±0.7,**50°.21N**±0°.02×**12°.44E**±0°.01,**h13**km±3km, **n182**, σ2**§01**/293,**1C-8D**,**Germany**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NKC	**Novy Kostel**	**0.03**	**10**	*i*PG	**Pg**	**00 25 32.1**	**-0.5**
NKC				*e*SG	**Sg**	**00 25 33.1**	**-1.1**
	comp=Z,20μm,0.3s						
NKC	**Novy Kostel**	**0.03**	**10**	*i* Pg	**Pg**	**00 25 32.1**	**-0.5**
NKC				*i* Sg	**Sg**	**00 25 33.1**	**-1.1**
NKC	**Novy Kostel**	**0.03**	**10**	*i*Pg	**Pg**	**00 25 32.8**	**+0.2**
NKC				*i* Sg	**Sg**	**00 25 33.9**	**-0.4**
NKC	**Novy Kostel**	**0.03**	**10**	*e*Pg	**Pg**	**00 25 32.1**	**-0.5**
NKC				*e*Sg	**Sg**	**00 25 33.2**	**-1.1**
NKC	**Novy Kostel**	**0.03**	**10**	Pg	**Pg**	**00 25 32.1**	**-0.5**
NKC				Sg	**Sg**	**00 25 33.1**	**-1.1**
	20μm,0.3s						
ROHR	**Rohrbach**	**0.08**	**288**	*i* Pg	**Pg**	**00 25 32.9**	**-0.2**
ROHR				*i* Sg	**Sg**	**00 25 34.1**	**-0.9**
ROHR				AML	AML	00 25 34.4	
	comp=E,17μm,0.2s						
ROHR	**Rohrbach**	**0.08**	**288**	*i* Pg	**Pg**	**00 25 33.4**	**+0.3**
ROHR				*i* Sg	**Sg**	**00 25 34.9**	**-0.2**
ROHR				AML	AML	00 25 35.0	
	comp=E,16μm,0.1s						
ROHR	**Rohrbach**	**0.08**	**288**	*e*Pg	**Pg**	**00 25 32.8**	**-0.2**
ROHR				*e*Sg	**Sg**	**00 25 34.2**	**-0.9**
ROHR	**Rohrbach**	**0.08**	**288**	Pg	**Pg**	**00 25 32.8**	**-0.2**
ROHR				Sg	**Sg**	**00 25 34.2**	**-0.9**
WERN	**Wernitzgruen**	**0.09**	**333**	*i* Pg	**Pg**	**00 25 32.6**	**-0.6**
WERN				*i* Sg	**Sg**	**00 25 33.9**	**-1.3**
WERN				AML	AML	00 25 34.0	
	comp=N,10μm,0.1s						
WERN	**Wernitzgruen**	**0.09**	**333**	*i* Pg	**Pg**	**00 25 33.3**	**+0.2**
WERN				*i* Sg	**Sg**	**00 25 34.5**	**-0.7**
WERN				AML	AML	00 25 34.6	
	comp=N,7μm,0.1s						
WERN	**Wernitzgruen**	**0.09**	**333**	*e*Pg	**Pg**	**00 25 32.6**	**-0.6**
WERN				*e*Sg	**Sg**	**00 25 33.9**	**-1.3**
WERN	**Wernitzgruen**	**0.09**	**333**	Pg	**Pg**	**00 25 32.6**	**-0.6**
WERN				Sg	**Sg**	**00 25 33.9**	**-1.3**
GUNZ	**Gunzen**	**0.17**	**336**	*i* Pg	**Pg**	**00 25 33.8**	**-0.5**
GUNZ				*i* Sg	**Sg**	**00 25 35.8**	**-1.2**
GUNZ				AML	AML	00 25 36.2	
	comp=E,3μm,0.2s						
GUNZ	**Gunzen**	**0.17**	**336**	*i* Pg	**Pg**	**00 25 34.5**	**+0.3**
GUNZ				*e*Sg	**Sg**	**00 25 36.7**	**-0.3**
GUNZ				AML	AML	00 25 37.0	
	comp=E,4μm,0.4s						
GUNZ	**Gunzen**	**0.17**	**336**	*e*Pg	**Pg**	**00 25 33.7**	**-0.5**
GUNZ				*e*Sg	**Sg**	**00 25 35.8**	**-1.2**
GUNZ	**Gunzen**	**0.17**	**336**	Pg	**Pg**	**00 25 33.7**	**-0.5**
GUNZ				Sg	**Sg**	**00 25 35.8**	**-1.2**
MULD	**Muldenberg**	**0.21**	**353**	*i* Pg	**Pg**	**00 25 34.2**	**-0.7**
MULD				*i* Sg	**Sg**	**00 25 36.4**	**-1.6**
MULD				AML	AML	00 25 36.6	
	comp=E,6μm,0.1s						
MULD	**Muldenberg**	**0.21**	**353**	*i* Pg	**Pg**	**00 25 34.9**	**+0.1**
MULD				*i* Sg	**Sg**	**00 25 37.2**	**-0.8**
MULD				AML	AML	00 25 37.3	
	comp=E,5μm,0.2s						
MULD	**Muldenberg**	**0.21**	**353**	*e*Pg	**Pg**	**00 25 34.1**	**-0.7**
MULD				*e*Sg	**Sg**	**00 25 36.4**	**-1.6**
MULD	**Muldenberg**	**0.21**	**353**	Pg	**Pg**	**00 25 34.1**	**-0.7**
MULD				Sg	**Sg**	**00 25 36.4**	**-1.6**
TANN	**Tannenbergstha**	**0.21**	**4**	*e*Pg	**Pg**	**00 25 34.1**	**-0.8**
TANN				*i* Sg	**Sg**	**00 25 36.4**	**-1.6**
TANN				AML	AML	00 25 36.9	
	comp=E,6μm,0.2s						
TANN	**Tannenbergstha**	**0.21**	**4**	*i* Pg	**Pg**	**00 25 34.8**	**-0.1**
TANN				*e*Sg	**Sg**	**00 25 37.2**	**-0.8**
TANN				AML	AML	00 25 37.9	
	comp=N,5μm,0.2s						
TRIB	**Obertriebel**	**0.24**	**307**	*i* Pg	**Pg**	**00 25 35.1**	**-0.3**
TRIB				*i* Sg	**Sg**	**00 25 38.3**	**-0.6**
TRIB				AML	AML	00 25 38.6	
	comp=E,2μm,0.1s						
TRIB	**Obertriebel**	**0.24**	**307**	*i* Pg	**Pg**	**00 25 35.9**	**+0.4**
TRIB				*i* Sg	**Sg**	**00 25 39.2**	**+0.3**
TRIB				AML	AML	00 25 39.3	
	comp=E,2μm,0.1s						
TRIB	**Obertriebel**	**0.24**	**307**	*e*Pg	**Pg**	**00 25 35.1**	**-0.3**
TRIB				*e*Sg	**Sg**	**00 25 38.0**	**-0.9**
TRIB	**Obertriebel**	**0.24**	**307**	Pg	**Pg**	**00 25 35.1**	**-0.3**
TRIB				Sg	**Sg**	**00 25 38.0**	**-0.9**
WERD	**Werda**	**0.26**	**340**	*i* Pg	**Pg**	**00 25 35.1**	**-0.6**
WERD				*i* Sg	**Sg**	**00 25 38.0**	**-1.3**
WERD				AML	AML	00 25 38.0	
	comp=E,1μm,0.2s						
WERD	**Werda**	**0.26**	**340**	*i* Pg	**Pg**	**00 25 35.7**	**+0.1**
WERD				*e*Sg	**Sg**	**00 25 39.1**	**-0.2**
WERD				AML	AML	00 25 39.7	
	comp=E,2μm,0.2s						
WERD	**Werda**	**0.26**	**340**	*e*Pg	**Pg**	**00 25 35.0**	**-0.6**
WERD				*e*Sg	**Sg**	**00 25 37.8**	**-1.5**
WERD	**Werda**	**0.26**	**340**	Pg	**Pg**	**00 25 35.0**	**-0.6**
WERD				Sg	**Sg**	**00 25 37.8**	**-1.5**
PLN	**Plauen**	**0.33**	**327**	*i* Pg	**Pg**	**00 25 36.6**	**-0.5**
PLN				*i* Sg	**Sg**	**00 25 40.7**	**-0.9**
PLN				AML	AML	00 25 41.0	
	comp=E,1μm,0.2s						
PLN	**Plauen**	**0.33**	**327**	*i* Pg	**Pg**	**00 25 37.3**	**+0.3**
PLN				*e*Sg	**Sg**	**00 25 41.7**	**+0.2**
PLN				AML	AML	00 25 41.9	
	comp=N,1μm,0.2s						
PLN	**Plauen**	**0.33**	**327**	*e*Pg	**Pg**	**00 25 36.5**	**-0.5**
PLN				*e*Sg	**Sg**	**00 25 40.6**	**-0.9**
PLN	**Plauen**	**0.33**	**327**	Pg	**Pg**	**00 25 36.5**	**-0.5**
PLN				Sg	**Sg**	**00 25 40.6**	**-0.9**
SCHF	**Schoenfels**	**0.47**	**357**	*i* Pg	**Pg**	**00 25 38.9**	**-0.6**
SCHF				*i* Sg	**Sg**	**00 25 44.7**	**-1.1**
SCHF				AML	AML	00 25 44.9	
	comp=E,7μm,0.2s						
SCHF	**Schoenfels**	**0.47**	**357**	*e*Pg	**Pg**	**00 25 39.7**	**+0.2**
SCHF				*i* Sg	**Sg**	**00 25 45.6**	**-0.2**
SCHF				AML	AML	00 25 45.9	
	comp=E,6μm,0.2s						
SCHF	**Schoenfels**	**0.47**	**357**	*e*Pg	**Pg**	**00 25 38.9**	**-0.6**
SCHF				*e*Sg	**Sg**	**00 25 44.6**	**-1.3**
SCHF	**Schoenfels**	**0.47**	**357**	Pg	**Pg**	**00 25 38.9**	**-0.6**
SCHF				Sg	**Sg**	**00 25 44.6**	**-1.3**
MLFH	**Mildenfurth**	**0.63**	**339**	*i* Pg	**Pg**	**00 25 41.8**	**-0.7**
MLFH				*i* Sg	**Sg**	**00 25 49.6**	**-1.2**
MOX	**Moxa**	**0.69**	**310**	*e*Pg	**Pg**	**00 25 43.2**	**-0.4**
MOX				*e*Sg	**Sg**	**00 25 51.7**	**-0.9**
MOX	**Moxa**	**0.69**	**310**	Pg	**Pg**	**00 25 43.2**	**-0.4**
MOX				Sg	**Sg**	**00 25 51.7**	**-0.9**
FBE	**Freiberg**	**0.92**	**39**	*e*Pg	**Pg**	**00 25 47.5**	**-0.5**
FBE				*e*Sg	**Sg**	**00 25 59.0**	**-1.1**
FBE	**Freiberg**	**0.92**	**39**	Pg	**Pg**	**00 25 47.5**	**-0.5**
FBE				Sg	**Sg**	**00 25 59.0**	**-1.1**
GRA1	**Grafenberg Arr**	**0.94**	**237**	Pg	**Pg**	**00 25 48.9**	**+0.5**
GRF	**Grafenberg Arr**	**0.94**	**237**	*e*Pg	**Pg**	**00 25 48.9**	**+0.5**
GRF				*e*Sg	**Sg**	**00 26 01.7**	**+1.0**
WET	**Wettzell**	**1.10**	**165**	*e*Pg	**Pn**	**00 25 51.7**	**+0.3**
WET				*e*Sg	**Sn**	**00 26 06.7**	**+0.2**
WET	**Wettzell**	**1.10**	**165**	Pg	**Pn**	**00 25 51.7**	**+0.3**
CLL	**Collm**	**1.16**	**18**	*e*Pg	**Pb**	**00 25 51.1**	**-1.0**
CLL				*e*Sg	**Sb**	**00 26 06.0**	**-1.0**
CLL	**Collm**	**1.16**	**18**	Pg	**Pb**	**00 25 51.1**	**-1.0**
CLL				Sg	**Sb**	**00 26 06.0**	**-1.0**
CLL	**Collm**	**1.16**	**18**	*i* Pg	**Pb**	**00 25 51.6**	**-0.5**
CLL				*i*		00 25 55.5	
CLL				*i* Sg	**Sb**	**00 26 06.1**	**-1.0**
	comp=Z,567nm,0.7s						
CLL				*i*		00 26 10.2	
BRG	**Berggiesshubel**	**1.17**	**55**	PG	**Pb**	**00 25 52.0**	**-0.3**
BRG				SG	**Sb**	**00 26 06.9**	**-0.4**
	comp=Z,360nm,0.4s						
BRG	**Berggiesshubel**	**1.17**	**55**	*e*Pg	**Pb**	**00 25 51.4**	**-0.9**
BRG				*e*Sg	**Sb**	**00 26 06.9**	**-0.4**
BRG	**Berggiesshubel**	**1.17**	**55**	Pg	**Pb**	**00 25 51.4**	**-0.9**
BRG				Sg	**Sb**	**00 26 06.9**	**-0.4**
PRA	**Prague**	**1.29**	**95**	*e*PG	**Pb**	**00 25 54.3**	**0.0**
PRA				*e*SG	**Sb**	**00 26 10.7**	**-0.1**
PRA	**Prague**	**1.29**	**95**	Pg	**Pb**	**00 25 54.3**	**0.0**
PRA				Sg	**Sb**	**00 26 10.7**	**-0.1**
KHC	**Kasperske Hory**	**1.31**	**145**	*e*PG	**Pb**	**00 25 54.7**	**0.0**
KHC				*e*SG	**Sg**	**00 26 12.3**	**0.0**
	comp=Z,257nm,0.5s						
KHC	**Kasperske Hory**	**1.31**	**145**	Pg	**Pb**	**00 25 54.7**	**0.0**
KHC				Sg	**Sg**	**00 26 12.3**	**0.0**
	comp=Z,257nm,0.5s						
PRU	**Pruhonice**	**1.37**	**98**	*e*PG	**Pn**	**00 25 55.0**	**-0.1**
PRU				*e*SG	**Sn**	**00 26 13.0**	**-0.1**
	comp=Z,368nm,0.4s						
PRU	**Pruhonice**	**1.37**	**98**	Pg	**Pn**	**00 25 55.0**	**-0.1**
PRU				Sg	**Sn**	**00 26 13.0**	**-0.1**
	comp=Z,368nm,0.4s						
PVCC	**Panska Ves**	**1.40**	**76**	*e*PG	**Pb**	**00 25 56.1**	**-0.1**
PVCC				*e*SG	**Sg**	**00 26 14.9**	**-0.4**
	comp=Z,669nm,0.3s						
PVCC	**Panska Ves**	**1.40**	**76**	Pg	**Pb**	**00 25 56.1**	**-0.1**
PVCC				Sg	**Sg**	**00 26 14.9**	**-0.4**
	comp=Z,669nm,0.3s						
GOPC	**GO Pecny, Ondr**	**1.54**	**100**	*e*PG	**Pb**	**00 25 58.4**

SMOL				*e*PG		**Pg**	**00 26 38.0**	**-2.6**
SMOL				*e*SG		**Sg**	**00 27 28.4**	**+0.2**
HILG	**Hillesheim**	**3.70**	**274**	*e*Pn		**Pn**	**00 26 29.6**	**+2.5**
RAC	**Raciborz**	**3.70**	**90**	*e*Pg		**Pg**	**00 26 39.7**	**-1.4**
RAC				*e*Sg		**Sg**	**00 27 25.9**	**-3.2**
FELD	**Feldberg im Sc**	**3.74**	**233**	P		**Pn**	**00 26 29.1**	**+1.4**
CDF	**Champ du Feu**	**3.83**	**244**	*e*Pn		**Pn**	**00 26 28.6**	**-0.3**
CDF	**Champ du Feu**	**3.83**	**244**	*e*Pg		**Pg**	**00 26 41.9**	**-1.6**
CDF				*e*Sg		**Sg**	**00 27 30.7**	**-2.4**
	comp=Z,91nm,0.6s							
CDF	**Champ du Feu**	**3.83**	**244**	*e*Pn		**Pn**	**00 26 28.6**	**-0.3**
CDF	**Champ du Feu**	**3.83**	**244**	*e*Pg		**Pg**	**00 26 41.9**	**-1.6**
CDF				*e*Sg		**Sg**	**00 27 30.7**	**-2.4**
	comp=Z,45nm,0.6s							
DAVOX	**Davos/Dischmat**	**3.83**	**207**	Pn		**Pn**	**00 26 29.3**	**+0.2**
	comp=Z,0.3nm,0.3s,baz=29,slow=10,SNR=6.6							
DAVOX				Sn		**Sn**	**00 27 15.0**	**+0.9**
	comp=Z,2.7nm,0.3s,baz=241,slow=17,SNR=8.9							
DAVOX				Lg		Lg	00 27 32.6	
	comp=Z,7.2nm,0.3s,baz=163,slow=19,SNR=6.9							
DAVOX				LR		LR	00 28 14.0	
	comp=Z,41nm,19.1s,baz=45,slow=43							
KLL	**Kalltalsperre**	**3.94**	**279**	*e*Pn		**Pn**	**00 26 32.6**	**+2.1**
KLL	**Kalltalsperre**	**3.94**	**279**	Pn		**Pn**	**00 26 32.6**	**+2.1**
OBKA	**Obir**	**3.96**	**158**	Pn		**Pn**	**00 26 32.1**	**+1.4**
	comp=Z,1.5nm,0.2s,SNR=5.4							
ECH	**Echery**	**4.00**	**242**	P		**Pn**	**00 26 31.7**	**+0.5**
ECH				S		**Sn**	**00 27 23.0**	**+5.1**
ECH	**Echery**	**4.00**	**242**	P		**Pn**	**00 26 31.7**	**+0.5**
CADS	**Cadrg**	**4.08**	**167**	*i* Pn		**Pn**	**00 26 34.6**	**+2.3**
CADS	**Cadrg**	**4.08**	**167**	*i* Pn		**Pn**	**00 26 34.6**	**+2.3**
MOZS	**Mozjanca**	**4.14**	**160**	*i* Pn		**Pn**	**00 26 34.8**	**+1.6**
MOZS	**Mozjanca**	**4.14**	**160**	*i* Pn		**Pn**	**00 26 34.8**	**+1.6**
MOF	**Molkenrain**	**4.21**	**238**	P		**Pn**	**00 26 35.2**	**+1.0**
MOF				S		**Sn**	**00 27 28.1**	**+4.8**
MOF	**Molkenrain**	**4.21**	**238**	P		**Pn**	**00 26 35.2**	**+1.0**
HINF	**Hinteralfeld**	**4.39**	**239**	*e*Pn		**Pn**	**00 26 35.0**	**-1.6**
HINF	**Hinteralfeld**	**4.39**	**239**	*e*Pg		**Pg**	**00 26 51.1**	**-3.1**
HINF				*e*Sg		**Sg**	**00 27 47.1**	**-3.9**
	comp=Z,134nm,0.8s							
HINF	**Hinteralfeld**	**4.39**	**239**	*e*Pn		**Pn**	**00 26 35.0**	**-1.6**
HINF	**Hinteralfeld**	**4.39**	**239**	*e*Pg		**Pg**	**00 26 51.1**	**-3.1**
HINF				*e*Sg		**Sg**	**00 27 47.1**	**-3.9**
	comp=Z,67nm,0.8s							
VYHS	**Vyhne**	**4.52**	**110**	*e*Pn		**Pn**	**00 26 37.6**	**-0.8**
VYHS	**Vyhne**	**4.52**	**110**	*e*PN		**Pn**	**00 26 37.6**	**-0.8**
VYHS				*e*SG		**Sb**	**00 27 46.6**	**+2.9**
VYHS				*e*LG		Lg	00 27 56.6	
HAU	**Haudompre**	**4.57**	**243**	*e*Pn		**Pn**	**00 26 38.3**	**-0.8**
HAU	**Haudompre**	**4.57**	**243**	*e*Pg		**Pg**	**00 26 55.4**	**-2.3**
HAU				*e*Sg		**Sg**	**00 27 53.1**	**-3.7**
	comp=Z,74nm,0.5s							
HAU	**Haudompre**	**4.57**	**243**	*e*Pn		**Pn**	**00 26 38.3**	**-0.8**
HAU	**Haudompre**	**4.57**	**243**	*e*Pg		**Pg**	**00 26 55.4**	**-2.3**
HAU				*e*Sg		**Sg**	**00 27 53.1**	**-3.7**
	comp=Z,37nm,0.5s							
THEF	**They Montfort**	**4.67**	**247**	P		**Pn**	**00 26 41.0**	**+0.5**
THEF				S		**Sn**	**00 27 40.3**	**+5.8**
THEF	**They Montfort**	**4.67**	**247**	P		**Pn**	**00 26 41.0**	**+0.5**
LANS	**Liptovska Anna**	**4.68**	**100**	*e*Pn		**Pn**	**00 26 41.3**	**+0.6**
LANS				*e*Sg		**Sg**	**00 28 00.5**	**0.0**
LANS	**Liptovska Anna**	**4.68**	**100**	*e*PN		**Pn**	**00 26 41.3**	**+0.6**
LANS				*e*SG		**Sg**	**00 28 00.5**	**0.0**
LOMF	**Lomont**	**4.68**	**235**	P		**Pn**	**00 26 41.2**	**+0.5**
LOMF				S		**Sn**	**00 27 40.2**	**+5.3**
LOMF	**Lomont**	**4.68**	**235**	P		**Pn**	**00 26 41.2**	**+0.5**
PAGF	**Fort de Pagny**	**4.69**	**252**	*e*Pn		**Pn**	**00 26 39.5**	**-1.2**
PAGF	**Fort de Pagny**	**4.69**	**252**	*e*Pg		**Pg**	**00 26 57.9**	**-2.1**
	baz=68							
PAGF				*e*Sg		**Sg**	**00 27 57.4**	**-3.3**
	comp=Z,22nm,0.7s							
PAGF	**Fort de Pagny**	**4.69**	**252**	*e*Pn		**Pn**	**00 26 39.5**	**-1.2**
PAGF	**Fort de Pagny**	**4.69**	**252**	*e*Pg		**Pg**	**00 26 57.9**	**-2.1**
PAGF				*e*Sg		**Sg**	**00 27 57.4**	**-3.3**
	comp=Z,11nm,0.7s							
BEHE	**Becsehely**	**4.73**	**141**	*e*PP			00 28 03.3	
GIVF	**Givet**	**4.90**	**272**	*e*Pg		**Pg**	**00 27 00.7**	**-3.3**
GIVF				*e*Sg		**Sg**	**00 28 03.9**	**-3.5**
	comp=Z,94nm,0.7s							
GIVF	**Givet**	**4.90**	**272**	*e*Pg		**Pg**	**00 27 00.7**	**-3.3**
GIVF				*e*Sg		**Sg**	**00 28 03.9**	**-3.5**
	comp=Z,47nm,0.7s							
MEZF	**Maizieres J'vi**	**5.12**	**253**	*e*Sg		**Sg**	**00 28 10.3**	**-4.2**
	comp=Z,44nm,0.6s							
MEZF	**Maizieres J'vi**	**5.12**	**253**	*e*Sg		**Sg**	**00 28 10.3**	**-4.2**
	comp=Z,22nm,0.6s							
BUD	**Budapest**	**5.13**	**120**	*ex*		**Pn**	**00 26 47.8**	**+1.1**
LLD	**Lille Linde**	**5.14**	**359**	*i* P		**Pn**	**00 26 47.0**	**+0.2**
LLD	**Lille Linde**	**5.14**	**359**	*e*P		**Pn**	**00 26 47.0**	**+0.2**
BSD	**Bornholm Skovb**	**5.14**	**16**	*i* P		**Pn**	**00 26 44.4**	**-2.4**
BSD				*i* S		**Sn**	**00 27 40.5**	**-5.4**
BSD	**Bornholm Skovb**	**5.14**	**16**	*e*P		**Pn**	**00 26 44.8**	**-2.0**
	SNR=49							
SFTF	**Sexfontaines**	**5.25**	**250**	*e*Pg		**Pg**	**00 27 08.2**	**-2.5**
SFTF				*e*Sg		**Sg**	**00 28 15.0**	**-3.6**
	comp=Z,66nm,0.7s							
SFTF	**Sexfontaines**	**5.25**	**250**	*e*Pg		**Pg**	**00 27 08.2**	**-2.5**
SFTF				*e*Sg		**Sg**	**00 28 15.0**	**-3.6**
	comp=Z,33nm,0.7s							
BAIF	**Baives**	**5.30**	**272**	*e*Sg		**Sg**	**00 28 14.9**	**-5.3**
	comp=Z,48nm,0.9s							
BAIF	**Baives**	**5.30**	**272**	*e*Sg		**Sg**	**00 28 14.9**	**-5.3**
	comp=Z,24nm,0.9s							
PSZ	**Piszkesteto**	**5.41**	**112**	‖*e*Pn		**Pn**	**00 26 52.0**	**+1.4**
PSZ	**Piszkesteto**	**5.41**	**112**	‖*ex*		**Pn**	**00 26 52.0**	**+1.4**
PSZ				*ex*		x	00 28 05.2	
CABF	**La Chapelle**	**5.55**	**232**	*e*Pn		**Pn**	**00 26 51.0**	**-1.6**
CABF	**La Chapelle**	**5.55**	**232**	*e*Pg		**Pg**	**00 27 13.6**	**-2.9**
CABF				*e*Sg		**Sg**	**00 28 24.2**	**-4.2**
	comp=Z,47nm,0.6s							
CABF	**La Chapelle**	**5.55**	**232**	*e*Pn		**Pn**	**00 26 51.0**	**-1.6**
CABF	**La Chapelle**	**5.55**	**232**	*e*Pg		**Pg**	**00 27 13.6**	**-2.9**
CABF				*e*Sg		**Sg**	**00 28 24.2**	**-4.2**
	comp=Z,23nm,0.6s							
STHS	**Stebnicka Huta**	**5.75**	**95**	*e*Pn		**Pn**	**00 26 57.1**	**+1.8**
STHS				*e*Sg		**Sg**	**00 28 33.7**	**-1.1**
STHS	**Stebnicka Huta**	**5.75**	**95**	*e*PN		**Pn**	**00 26 57.1**	**+1.8**
STHS				*e*SG		**Sg**	**00 28 33.7**	**-1.1**
STHS				*e*LG		Lg	00 28 44.5	
CRVS	**Cervenica-Dubn**	**6.01**	**99**	*e*Sg		**Sg**	**00 28 41.2**	**-1.9**
CRVS	**Cervenica-Dubn**	**6.01**	**99**	*e*SG		**Sg**	**00 28 41.2**	**-1.9**
LPL	**La Plagne**	**6.06**	**221**	*e*Pg		**Pg**	**00 27 23.0**	**-3.3**
LPL				*e*Sg		**Sg**	**00 28 42.1**	**-2.7**
	comp=Z,24nm,1.0s							
LPL	**La Plagne**	**6.06**	**221**	*e*Pg		**Pg**	**00 27 23.0**	**-3.3**
LPL				*e*Sg		**Sg**	**00 28 42.1**	**-2.7**
	comp=Z,12nm,1.0s							
LPG	**La Plagne**	**6.07**	**221**	*e*Pg		**Pg**	**00 27 23.5**	**-2.9**
LPG				*e*Sg		**Sg**	**00 28 43.6**	**-1.4**
	comp=Z,26nm,0.8s							
LPG	**La Plagne**	**6.07**	**221**	*e*Pg		**Pg**	**00 27 23.5**	**-2.9**
LPG				*e*Sg		**Sg**	**00 28 43.6**	**-1.4**
	comp=Z,13nm,0.8s							
UDBI	**Udbina**	**6.11**	**157**	*e*Pn		**Pn**	**00 26 57.4**	**-2.9**
UDBI				Sn		**Sn**	**00 28 08.0**	**-2.1**
LOR	**Lormes**	**6.39**	**246**	*e*Pn		**Pn**	**00 27 01.2**	**-2.9**
LOR	**Lormes**	**6.39**	**246**	*e*Pg		**Pg**	**00 27 29.4**	**-3.2**
	baz=63							
LOR				*e*Sg		**Sg**	**00 28 51.1**	**-4.2**
	comp=Z,33nm,0.5s							
LOR	**Lormes**	**6.39**	**246**	*e*Pn		**Pn**	**00 27 01.2**	**-2.9**
LOR	**Lormes**	**6.39**	**246**	*e*Pg		**Pg**	**00 27 29.4**	**-3.2**
LOR				*e*Sg		**Sg**	**00 28 51.1**	**-4.2**
	comp=Z,16nm,0.5s							
SSF	**Saint Saulge**	**6.71**	**245**	*e*Pg		Pg	00 27 33.9	-4.6
SSF				*e*Sg		**Sg**	**00 29 01.1**	**-4.2**
	comp=Z,30nm,0.7s							
SMF	**Signal de Mont**	**6.74**	**241**	*e*Pg		**Pg**	**00 27 35.5**	**-3.7**
SMF				*e*Sg		**Sg**	**00 29 01.5**	**-4.9**
	comp=Z,36nm,0.7s							
SMF	**Signal de Mont**	**6.74**	**241**	*e*Pg		**Pg**	**00 27 35.5**	**-3.7**
ORIF	**Oris-en-Rattie**	**6.91**	**222**	*e*Sg		**Sg**	**00 29 07.9**	**-3.8**
	comp=Z,17nm,0.7s							
ORIF	**Oris-en-Rattie**	**6.91**	**222**	*e*Sg		**Sg**	**00 29 07.9**	**-3.8**
	comp=Z,8.4nm,0.7s							
AVF	**Avril sur Loir**	**6.94**	**244**	*e*Pg		**Pg**	**00 27 39.2**	**-3.8**
AVF				*e*Sg		**Sg**	**00 29 07.0**	**-5.8**
	comp=Z,23nm,0.7s							
AVF	**Avril sur Loir**	**6.94**	**244**	*e*Pg		**Pg**	**00 27 39.2**	**-3.8**
TCF	**Toulx Ste Croi**	**7.87**	**244**	*e*Sg		**Sg**	**00 29 36.5**	**-6.2**
	comp=Z,13nm,0.6s							
AKASG	**Malin Array Be**	**10.72**	**81**	Pn		**Pn**	**00 28 04.6**	**+1.3**
	comp=Z,0.8nm,0.3s,baz=278,slow=13,SNR=2.5							
EKA	**Eskdalemuir Ar**	**10.75**	**305**	Pn		**Pn**	**00 28 04.9**	**+1.2**
	baz=114,slow=14,SNR=4.7							
FINES	**FINESS Array B**	**13.58**	**29**	Pn		Pn	00 28 37.4	-5.0
	comp=Z,0.1nm,0.3s,baz=216,slow=9.4,SNR=3.7							
FINES				Sn		Sn	00 31 03.5	-9.5
	comp=Z,0.1nm,0.3s,baz=219,slow=21,SNR=3.4							
TORD	**Torodi Ar. Bea**	**37.99**	**197**	P		**P**	**00 32 50.4**	**+2.5**
	comp=Z,0.5nm,0.9s,baz=7.0,slow=8.5,SNR=3.5							

VIE ***03*** *00:30:13.0±1.3,50°.29N×12°.62E,h10km,ML2.4/3,Error ellipse: s-maj=21.5km s-min=3.4km az=45.0*
ISCJB ***03*** *00:30:13.6±0.4,50°.22N±0°.02×12°.54E±0°.03,h10km±5km, Error ellipse: s-maj=3.4km s-min=2.7km az=137.5*
CSEM ***03*** *00:30:14.6±0.1,50°.23N×12°.50E,h8km,ML3.0/9, Error ellipse: s-maj=1.8km s-min=1.3km az=39.0*
PRU ***03*** *00:30:15.5,50°.26N×12°.53E,h0km, West Bohemia Swarm*
BGR ***03*** *00:30:15.1±0.2,50°.25N×12°.45E,h10km±1km, ML2.5/6, Error ellipse: s-maj=2.2km s-min=2.2km az=103.0*
CLL ***03*** *00:30:15.8±0.3,50°.3N±0°.9×1°.2E±°,h6km±1km,ml2.3*

ISC 03 00:30:14.8±0.8, 50°.24N±0°.02×12°.48E±0°.02, h10km±3km, n63,σ0s54/114, 6D, Germany

Code	Station Name	Δ°	AZ°	Phase ID		ISC	Time h m s	Res ISC
					Op			
NKC	**Novy Kostel**	**0.02**	**251**	‖*i*PG		**Pg**	**00 30 16.8**	**+0.1**
NKC				*e*SG		**Sg**	**00 30 17.7**	**-0.2**
	comp=Z,3μm,0.3s							
NKC	**Novy Kostel**	**0.02**	**251**	‖*i*Pg		**Pg**	**00 30 16.8**	**+0.1**
NKC				*i* Sg		**Sg**	**00 30 17.8**	**-0.2**
NKC	**Novy Kostel**	**0.02**	**251**	*e*Pg		**Pg**	**00 30 16.8**	**+0.1**
NKC				*e*Sg		**Sg**	**00 30 17.8**	**-0.2**
NKC	**Novy Kostel**	**0.02**	**251**	Pg		**Pg**	**00 30 16.8**	**+0.1**
NKC				Sg		**Sg**	**00 30 17.8**	**-0.2**
WERN	**Wernitzgruen**	**0.08**	**308**	*i* Pg		**Pg**	**00 30 17.3**	**+0.1**
WERN				*i* Sg		**Sg**	**00 30 18.6**	**-0.4**
WERN				AML		AML	00 30 18.9	
	comp=N,1μm,0.2s							
WERN	**Wernitzgruen**	**0.08**	**308**	*e*Pg		**Pg**	**00 30 17.3**	**+0.1**
WERN				*e*Sg		**Sg**	**00 30 18.6**	**-0.4**
WERN	**Wernitzgruen**	**0.08**	**308**	Pg		**Pg**	**00 30 17.3**	**+0.1**
WERN				Sg		**Sg**	**00 30 18.6**	**-0.4**
ROHR	**Rohrbach**	**0.10**	**267**	*i* Pg		**Pg**	**00 30 17.5**	**0.0**
ROHR				*i* Sg		**Sg**	**00 30 18.9**	**-0.5**
ROHR				AML		AML	00 30 19.3	
	comp=E,3μm,0.3s							
ROHR	**Rohrbach**	**0.10**	**267**	*e*Pg		**Pg**	**00 30 17.5**	**0.0**
ROHR				*e*Sg		**Sg**	**00 30 18.9**	**-0.5**
ROHR	**Rohrbach**	**0.10**	**267**	Pg		**Pg**	**00 30 17.5**	**0.0**
ROHR				Sg		**Sg**	**00 30 18.9**	**-0.5**
GUNZ	**Gunzen**	**0.15**	**324**	*i* Pg		**Pg**	**00 30 18.4**	**+0.2**
GUNZ				*i* Sg		**Sg**	**00 30 20.4**	**-0.3**
GUNZ				AML		AML	00 30 21.2	
	comp=N,520nm,0.3s							
GUNZ	**Gunzen**	**0.15**	**324**	*e*Pg		**Pg**	**00 30 18.5**	**+0.2**
GUNZ				*e*Sg		**Sg**	**00 30 20.4**	**-0.3**
GUNZ	**Gunzen**	**0.15**	**324**	Pg		**Pg**	**00 30 18.5**	**+0.2**
GUNZ				Sg		**Sg**	**00 30 20.4**	**-0.3**
TANN	**Tannenbergstha**	**0.18**	**357**	*i* Pg		**Pg**	**00 30 18.8**	**+0.1**
TANN				*i* Sg		**Sg**	**00 30 21.1**	**-0.3**
TANN				AML		AML	00 30 21.2	
	comp=E,1μm,0.1s							
MULD	**Muldenberg**	**0.18**	**345**	*i* Pg		**Pg**	**00 30 18.9**	**+0.2**
MULD				*i* Sg		**Sg**	**00 30 21.1**	**-0.3**
MULD				AML		AML	00 30 21.2	
	comp=E,1μm,0.2s							
MULD	**Muldenberg**	**0.18**	**345**	*e*Pg		**Pg**	**00 30 18.9**	**+0.2**
MULD				*e*Sg		**Sg**	**00 30 21.1**	**-0.3**
MULD	**Muldenberg**	**0.18**	**345**	Pg		**Pg**	**00 30 18.9**	**+0.2**
MULD				Sg		**Sg**	**00 30 21.1**	**-0.3**
WERD	**Werda**	**0.23**	**333**	*i* Pg		**Pg**	**00 30 19.8**	**+0.1**
WERD				*e*Sg		**Sg**	**00 30 22.7**	**-0.3**
WERD				AML		AML	00 30 22.8	
	comp=E,240nm,0.2s							
WERD	**Werda**	**0.23**	**333**	*e*Pg		**Pg**	**00 30 19.8**	**+0.1**
WERD				*e*Sg		**Sg**	**00 30 22.6**	**-0.4**
WERD	**Werda**	**0.23**	**333**	Pg		**Pg**	**00 30 19.8**	**+0.1**
WERD				Sg		**Sg**	**00 30 22.6**	**-0.4**
TRIB	**Obertriebel**	**0.24**	**298**	*i* Pg		**Pg**	**00 30 19.8**	**0.0**
TRIB				*e*Sg		**Sg**	**00 30 22.8**	**-0.4**
TRIB				AML		AML	00 30 23.1	
	comp=N,138nm,0.3s							
TRIB	**Obertriebel**	**0.24**	**298**	*e*Pg		**Pg**	**00 30 19.8**	**0.0**
TRIB				*e*Sg		**Sg**	**00 30 22.8**	**-0.4**
TRIB	**Obertriebel**	**0.24**	**298**	Pg		**Pg**	**00 30 19.8**	**0.0**
TRIB				Sg		**Sg**	**00 30 22.8**	**-0.4**
PLN	**Plauen**	**0.32**	**321**	*i* Pg		**Pg**	**00 30 21.3**	**+0.1**
PLN				*e*Sg		**Sg**	**00 30 25.3**	**-0.2**
PLN				AML		AML	00 30 25.4	
	comp=E,169nm,0.2s							
PLN	**Plauen**	**0.32**	**321**	*e*Pg		**Pg**	**00 30 21.3**	**+0.1**
PLN				*e*Sg		**Sg**	**00 30 24.9**	**-0.6**
PLN	**Plauen**	**0.32**	**321**	Pg		**Pg**	**00 30 21.3**	**+0.1**
PLN				Sg		**Sg**	**00 30 24.9**	**-0.6**
SCHF	**Schoenfels**	**0.44**	**354**	*i* Pg		**Pg**	**00 30 23.7**	**+0.2**
SCHF				*i* Sg		**Sg**	**00 30 29.4**	**+0.1**
SCHF				AML		AML	00 30 29.6	
	comp=E,1μm,0.2s							
SCHF	**Schoenfels**	**0.44**	**354**	*e*Pg		**Pg**	**00 30 23.7**	**+0.2**
SCHF				*e*Sg		**Sg**	**00 30 29.2**	**-0.1**
SCHF	**Schoenfels**	**0.44**	**354**	Pg		**Pg**	**00 30 23.7**	**+0.2**
SCHF				Sg		**Sg**	**00 30 29.2**	**-0.1**
MLFH	**Mildenfurth**	**0.61**	**336**	*i* Pg		**Pg**	**00 30 26.6**	**0.0**
MLFH				*i* Sg		**Sg**	**00 30 34.4**	**-0.2**
MOX	**Moxa**	**0.68**	**307**	*e*Pg		**Pg**	**00 30 28.0**	**0.0**
MOX				*e*Sg		**Sg**	**00 30 36.4**	**-0.6**
MOX	**Moxa**	**0.68**	**307**	Pg		**Pg**	**00 30 28.0**	**0.0**
MOX				Sg		**Sg**	**00 30 36.4**	**-0.6**
FBE	**Freiberg**	**0.88**	**39**	*e*Pg		**Pb**	**00 30 32.3**	**+0.1**
FBE				*e*Sg		**Sg**	**00 30 43.6**	**+0.2**
FBE	**Freiberg**	**0.88**	**39**	Pg		**Pb**	**00 30 32.3**	**+0.1**
FBE				Sg		**Sg**	**00 30 43.6**	**+0.2**
GRA1	**Grafenberg Arr**	**0.98**	**236**	Pg		**Pg**	**00 30 33.6**	**0.0**
GRA1				Sg		**Sg**	**00 30 46.6**	**+0.3**
GRF	**Grafenberg Arr**	**0.98**	**236**	*e*Pg		**Pg**	**00 30 33.6**	**0.0**
GRF				*e*Sg		**Sg**	**00 30 46.6**	**+0.3**
CLL	**Collm**	**1.12**	**17**	*e*Pg		**Pg**	**00 30 36.3**	**0.0**
CLL				*e*Sg		**Sb**	**00 30 50.7**	**-0.2**
CLL	**Collm**	**1.12**	**17**	Pg		**Pg**	**00 30 36.3**	**0.0**
CLL				Sg		**Sb**	**00 30 50.7**	**-0.2**
CLL	**Collm**	**1.12**	**17**	*i* Pg		**Pg**	**00 30 36.3**	**0.0**
CLL				*i*			00 30 39.4	
CLL				*i* Sg		**Sb**	**00 30 50.8**	**-0.1**
	comp=Z,39nm,0.5s							
CLL				*i*			00 30 55.0	
WET	**Wettzell**	**1.13**	**166**	*e*Pg		**Pg**	**00 30 36.5**	**0.0**
WET				*e*Sg		**Sg**	**00 30 51.4**	**+0.3**
WET	**Wettzell**	**1.13**	**166**	Pg		**Pg**	**00 30 36.5**	**0.0**
WET				Sg		**Sg**	**00 30 51.4**	**+0.3**
BRG	**Berggiesshubel**	**1.13**	**55**	PG		**Pn**	**00 30 36.8**	**+0.1**
BRG				SG		**Sg**	**00 30 51.6**	**+0.4**
	comp=Z,50nm,0.4s							
BRG	**Berggiesshubel**	**1.13**	**55**	*e*Pg		**Pn**	**00 30 36.7**	**+0.1**
BRG				*e*Sg		**Sg**	**00 30 51.2**	**0.0**
BRG	**Berggiesshubel**	**1.13**	**55**	Pg		**Pn**	**00 30 36.7**	**+0.1**
BRG				Sg		**Sg**	**00 30 51.2**	**0.0**
PRA	**Prague**	**1.27**	**97**	‖*e*SG		**Sb**	**00 30 55.0**	**-0.2**
PRA	**Prague**	**1.27**	**97**	Sg		**Sb**	**00 30 55.0**	**-0.2**
KHC	**Kasperske Hory**	**1.32**	**147**	*e*PG		**Pn**	**00 30 39.0**	**-0.3**
KHC				*e*SG		**Sn**	**00 30 57.1**	**+0.1**
	comp=Z,13nm,0.4s							
KHC	**Kasperske Hory**	**1.32**	**147**	Pg		**Pn**	**00 30 39.0**	**-0.3**
KHC				Sg		**Sn**	**00 30 57.1**	**+0.1**
	comp=Z,13nm,0.4s							
PRU	**Pruhonice**	**1.35**	**100**	‖*e*PG		**Pb**	**00 30 40.3**	**+0.1**
PRU				*e*SG		**Sg**	**00 30 58.3**	**0.0**
	comp=Z,32nm,0.3s							
PRU	**Pruhonice**	**1.35**	**100**	Pg		**Pb**	**00 30 40.3**	**+0.1**
PRU				Sg		**Sg**	**00 30 58.3**	**0.0**
	comp=Z,32nm,0.3s							
GOPC	**GO Pecny, Ondr**	**1.52**	**101**	*e*SG		**Sg**	**00 31 03.5**	**-0.3**
	comp=Z,26nm,0.3s							
GOPC	**GO Pecny, Ondr**	**1.52**	**101**	Sg		**Sg**	**00 31 03.5**	**-0.3**
	comp=Z,26nm,0.3s							
TREC	**Trest**	**2.17**	**115**	‖*e*SG		**Sb**	**00 31 22.3**	**+1.2**
	comp=Z,11nm,0.4s							
TREC	**Trest**	**2.17**	**115**	Sg		**Sb**	**00 31 22.3**	**+1.2**
	comp=Z,11nm,0.4s							
UPC	**Upice**	**2.28**	**82**	‖*e*SG		**Sg**	**00 31 26.7**	**-1.3**
	comp=Z,23nm,0.6s							
UPC	**Upice**	**2.28**	**82**	Sg		**Sg**	**00 31 26.7**	**-1.3**
	comp=Z,23nm,0.6s							
DPC	**Dobruska-Polom**	**2.47**	**86**	*e*SG		**Sg**	**00 31 32.2**	**-1.9**
	comp=Z,12nm,0.4s							
DPC	**Dobruska-Polom**	**2.47**	**86**	Sg		**Sg**	**00 31 32.2**	**-1.9**
	comp=Z,12nm,0.4s							
MOA	**Molln**	**2.67**	**153**	Pn		**Pn**	**00 30 56.8**	**-1.0**
	comp=Z,0.6nm,0.2s							
MOA				Sg		**Sg**	**00 31 39.7**	**-0.7**
	comp=Z,4.7nm,0.3s							
VRAC	**Vranov**	**2.83**	**108**	*e*Pn		**Pn**	**00 31 00.3**	**+0.3**
VRAC				*e*Sg		**Sb**	**00 31 42.0**	**+2.0**
CONA	**Conrad Observa**	**3.21**	**135**	Sg		**Sg**	**00 31 57.5**	**-0.4**
	comp=Z,5.6nm,0.5s							
MORC	**Moravsky Berou**	**3.30**	**96**	*e*Pn		**Pn**	**00 31 07.3**	**+0.8**
MORC				*e*Sg		**Sg**	**00 31 59.0**	**-1.8**
ARSA	**Arzberg**	**3.61**	**145**	Sg		**Sg**	**00 32 09.0**	**-1.6**
	comp=Z,2.8nm,0.4s							

AZER ***03*** *00:30:47.3±0.1,37°.29N×48°.47E,h7km,Error ellipse: s-maj=6.0km s-min=4.1km az=280.0*
ISN ***03*** *00:30:48.7±7.9,37°.57N×47°.95E,h0km±267km,ML4.0*
THR ***03*** *00:30:50.0±0.9,37°.51N×47°.86E,h15km±7km,ML3.8*
TEH ***03*** *00:30:51.2,37°.55N×47°.82E,h5km,ML4.0*
CSEM ***03*** *00:30:51.3±0.2,37°.45N×47°.76E,h2km,ML4.0,Error ellipse: s-maj=9.1km s-min=5.2km az=85.0*

ISC 03 00:30:49.5±1.1, 37°.51N±0°.02×47°.77E±0°.03, h4km±10km, n81,σ1s95/127, 24C-20D, Northwestern Iran

Code	Station Name	Δ°	AZ°	Phase ID		ISC	Time h m s	Res ISC
					Op			
ISRB	**Sarab**	**0.33**	**345**	*e*Pg		**Pg**	**00 30 56.5**	**+0.6**
ISRB				*e*AMB		AMB	00 31 01.1	
	comp=Z,35μm,0.0s							
ISRB				*e*Sg		**Sg**	**00 31 01.9**	**+1.7**
ISRB	**Sarab**	**0.33**	**345**	*e*Pg		**Pg**	**00 30 56.5**	**+0.6**
ISRB				*e*Sg		**Sg**	**00 31 01.9**	**+1.7**
IHRS	**Heris**	**0.99**	**325**	*e*Sg		**Sg**	**00 31 21.7**	**+0.2**
IHRS				*e*Pg		**Pg**	**00 31 08.1**	**-0.5**
IHRS				*e*AMB		AMB	00 31 25.5	
	comp=Z,54μm,0.1s							
ZNJK	**Zanjan**	**1.11**	**139**	*e*Pg		**Pg**	**00 31 09.8**	**-1.0**
ZNJK				*e*Sg		**Sg**	**00 31 24.6**	**-0.7**
ZNJK				AML		AML	00 31 31.5	
	comp=N,1μm,0.5s							
ZNJK	**Zanjan**	**

	SNR=12										
QBL					⇑S		Sb	00 32 34.1	+1.1		
QBL	**Gabala**	**3.43**	**1**	P			**Pb**	00 31 48.9	-2.1		
	SNR=12										
QBL					S		**Sb**	00 32 34.1	+1.1		
ATGJ	**Altiaghaj**	**3.47**	**15**	⇓P			**Pb**	00 31 49.0	-2.6		
	SNR=17										
ATGJ					⇓S		**Sb**	00 32 30.0	-4.1		
ATGJ	**Altiaghaj**	**3.47**	**15**	P			**Pb**	00 31 49.0	-2.6		
	SNR=17										
ATGJ					S		**Sb**	00 32 30.0	-4.1		
ASAO	**Ashtian**	**3.47**	**148**	*e*Pn			**Pn**	00 31 45.9	+1.3		
ASAO	**Ashtian**	**3.47**	**148**	*e*Pn			**Pn**	00 31 45.9	+1.3		
GDB	**GEDABAY**	**3.57**	**335**	⇓P			**Pb**	00 31 53.1	-0.3		
	SNR=36										
GDB					⇑S		**Sg**	00 32 42.7	-1.5		
GDB	**GEDABAY**	**3.57**	**335**	P			**Pb**	00 31 53.1	-0.3		
	SNR=36										
GDB					S		**Sg**	00 32 42.7	-1.5		
IAFJ	**Afjeh**	**3.57**	**116**	*e*AMB			AMB	00 32 47.6			
	comp=Z,4μm,0.3s										
SIZA	**Siyzn**	**3.67**	**13**	⇓P			**Pn**	00 31 47.5	+0.4		
	SNR=11										
SIZA					⇑S		**Sb**	00 32 36.7	-3.1		
SIZA	**Siyzn**	**3.67**	**13**	P			**Pn**	00 31 47.5	+0.4		
	SNR=11										
SIZA					S		**Sb**	00 32 36.7	-3.1		
XNQ	**Khinaliq**	**3.67**	**4**	⇓P			**Pn**	00 31 50.3	+3.0		
	SNR=9.2										
XNQ					⇑S		**Sb**	00 32 39.2	-0.8		
XNQ	**Khinaliq**	**3.67**	**4**	P			**Pn**	00 31 50.3	+3.0		
	SNR=9.2										
XNQ					S		**Sb**	00 32 39.2	-0.8		
SEKA	**Sheki**	**3.72**	**353**	⇑P			**Pn**	00 31 49.6	+1.8		
	SNR=7.8										
SEKA					⇑S		**Sb**	00 32 42.5	+1.1		
SEKA	**Sheki**	**3.72**	**353**	P			**Pn**	00 31 49.6	+1.8		
	SNR=7.8										
SEKA					S		**Sb**	00 32 42.5	+1.1		
QUBA	**Quba, Azerbaij**	**3.88**	**8**	⇓P			**Pn**	00 31 54.1	+4.0		
	SNR=5.2										
QUBA					⇓S		**Sb**	00 32 44.2	-1.7		
QUBA	**Quba, Azerbaij**	**3.88**	**8**	P			**Pn**	00 31 54.1	+4.0		
	SNR=5.2										
QUBA					S		**Sb**	00 32 44.2	-1.7		
IDMV	**Damavand**	**3.94**	**118**	*e*Pn			**Pn**	00 31 53.4	+2.4		
IDMV					*e*AMB		AMB	00 33 00.2			
	comp=Z,1μm,0.2s										
IDMV	**Damavand**	**3.94**	**118**	*e*Pn			**Pn**	00 31 53.4	+2.4		
QZX	**Qazax, Azerbai**	**4.00**	**333**	⇓P			**Pb**	00 31 58.6	-2.1		
	SNR=41										
QZX					⇓S		**Sg**	00 32 54.9	-3.2		
QZX	**Qazax, Azerbai**	**4.00**	**333**	P			**Pb**	00 31 58.6	-2.1		
	SNR=41										
QZX					S		**Sg**	00 32 54.9	-3.2		
QSAR	**Qusar**	**4.02**	**5**	⇑P			**Pn**	00 31 55.3	+3.4		
	SNR=3.7										
QSAR					⇑S		**Sb**	00 32 48.8	-1.1		
QSAR	**Qusar**	**4.02**	**5**	P			**Pn**	00 31 55.3	+3.4		
	SNR=3.7										
QSAR					S		**Sb**	00 32 48.8	-1.1		
GHVR	**GHOM**	**4.16**	**136**	*e*Pn			**Pn**	00 31 53.9	0.0		
GHVR	**GHOM**	**4.16**	**136**	*e*Pn			**Pn**	00 31 53.9	0.0		
ZKTA	**Zakatala**	**4.22**	**348**	⇓P			**Pn**	00 31 57.0	+2.4		
	SNR=15										
ZKTA					⇓S		**Sb**	00 32 54.7	-0.9		
IFIR	**Firoozkooh**	**4.42**	**113**	*e*Pn			**Pn**	00 32 01.9	+4.2		
IFIR					*e*AMB		AMB	00 33 18.0			
	comp=Z,526nm,0.2s										
IFIR	**Firoozkooh**	**4.42**	**113**	*e*Pn			**Pn**	00 32 01.9	+4.2		
NSR	**Nassriya**	**6.62**	**192**	*e*Pn			**Pn**	00 32 30.5	+2.9		
	SNR=4.0										
NSR					*i* Sn		**Sn**	00 33 46.5	+2.9		
	SNR=4.0										
RTB	**Rutbah**	**7.56**	**236**	*e*Pn			**Pn**	00 32 41.0	+0.4		
	SNR=4.0										
RTB					*i* Sn		**Sn**	00 34 04.0	-2.9		
	SNR=4.0										

IDC 03 00:31:54.6±6.0,17°02S×175°09W,h299km±121km, mb3.3/4,mb1 3.5/5,mb1mx3.1/50,mbtmp4.0/5,Error ellipse: s-maj=123.8km s-min=39.4km az=28.0,Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID			Time		Res
				Op		ISC	h m s		ISC
AFI	**Afiamalu**	**4.45**	**46**	P		Pn	00 33 07.5		+1.6
	4.6nm,0.3s,baz=166,slow=4.2,SNR=2.1								
AFI				S		S	00 34 02.9		-0.3
	51nm,0.3s,baz=53,slow=17,SNR=11								
STKA	**Stephens Creek**	**41.83**	**241**	P		P	00 39 15.4		-0.5
	1.3nm,0.8s,baz=104,slow=8.3,SNR=1.4								
WRA	**Warramunga Arr**	**47.91**	**258**	P		P	00 40 03.7		0.0
	1.3nm,0.5s,baz=96,slow=7.0,SNR=12								
WRA				pP		pP	00 41 03.9		-2.2
	0.3nm,0.3s,baz=96,slow=7.7,SNR=2.9								
ASAR	**Alice Springs**	**48.08**	**253**	P		P	00 40 04.8		-0.2
	4.7nm,0.6s,baz=88,slow=8.9,SNR=31								
VNDA	**Vanda**	**61.61**	**186**	P		P	00 41 40.5		0.0
	0.4nm,0.7s,baz=358,slow=4.4,SNR=2.5								

*ISCJB **03** 00:32:41.5±0.6,32°.16N±0°.02×115°.18W±0°.02,h14km±4km, Error ellipse: s-maj=3.8km s-min=3.1km az=11.4*
*NEIC **03** 00:32:43.7±0.0,32°.16N×115°.27W,h8km,ML3.2(PAS), ML3.3(ECX),After ECX.*
*ECX **03** 00:32:43.6±0.4,32°.16N×115°.27W,h8km,MD3.1,ML3.3*
*MEX **03** 00:32:45.3±0.6,32°.12N×115°.15W,h16km±8km,MD4.0*
ISC 03 00:32:41.9±0.9,32°.14N±0°.02×115°.26W±0°.02,h15km±8km, n37,σ1º71/61,3C-3D,California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase ID			Time		Res
				Op		ISC	h m s		ISC
CPBX	**Cerro Prieto**	**0.28**	**352**	*e*P		**Pg**	**00 32 48.7**		**+0.8**
CPBX				*e*S		**Sg**	**00 32 52.5**		**+0.6**
CPBX				IAML			00 32 56.9		
	comp=N,15μm,0.2s								
EMSC	**East Mesa**	**0.64**	**21**	⇓*i*P		**Pg**	**00 32 54.3**		**-0.1**
SGL	**Mount Signal**	**0.64**	**322**	⇑*i*P		**Pg**	**00 32 54.8**		**+0.3**
ECBX	**El Chinero**	**0.69**	**165**	*i* P		**Pg**	**00 32 55.5**		**+0.1**
ECBX				*e*S		**Sg**	**00 33 05.5**		**+1.0**
COA	**Coachella**	**0.73**	**9**	⇓*i*P		**Pg**	**00 32 55.5**		**-0.6**
WESC	**Westside Schoo**	**0.73**	**327**	*e*P		**Pg**	**00 32 56.7**		**+0.5**
YUH	**Yuha Desert**	**0.76**	**312**	*e*P		**Pg**	**00 32 56.4**		**-0.2**
COK	**Cook Ranch**	**0.81**	**331**	*e*P		**Pg**	**00 32 57.7**		**0.0**
IKP	**In-Ko-Pah, Jac**	**0.88**	**305**	P		**Pg**	**00 32 58.7**		**-0.3**
	baz=124,SNR=68								
IKP				S		**Sg**	**00 33 10.6**		**0.0**
	baz=124								
IKP	**In-Ko-Pah, Jac**	**0.88**	**305**	⇑*i*P		**Pg**	**00 32 58.7**		**-0.3**
SWSC	**Sam W. Stewart**	**0.92**	**330**	P		**Pg**	**00 32 59.3**		**-0.5**
	baz=150,SNR=30								
SWSC				S		**Sg**	**00 33 11.7**		**-0.2**
	baz=150								
GLA	**Glamis**	**0.98**	**22**	P		**Pg**	**00 32 59.0**		**-1.9**
	baz=203,SNR=66								
GLA				S		**Sg**	**00 33 11.8**		**-1.8**
	baz=203								
SPIG	**San Pedro Mart**	**1.11**	**189**	*e*P		**Pg**	**00 33 03.3**		**-0.1**
SPIG	**San Pedro Mart**	**1.11**	**189**	*e*P		**Pg**	**00 33 03.3**		**-0.1**
SPIG				*e*S		**Sg**	**00 33 15.7**		**-2.1**
SPIG	**San Pedro Mart**	**1.11**	**189**	*e*P		**Pg**	**00 33 03.3**		**-0.1**
SPIG				*e*S		**Sg**	**00 33 15.7**		**-2.1**
SPX	**San Pedro Mart**	**1.11**	**189**	*e*P		**Pg**	**00 33 03.3**		**-0.1**
SPX				IAML			00 33 21.6		
	comp=N,268nm,0.2s								
CBX	**Cerro Bola**	**1.20**	**278**	*i* P		**Pg**	**00 33 04.3**		**-0.8**
CBX				*e*S		**Sg**	**00 33 20.5**		**-0.4**
CBX				⇓*e*			00 33 22.5		
CBX				IAML			00 33 22.5		
	comp=N,887nm,0.2s								
TJIG	**Tijuana**	**1.23**	**284**	*e*P		**Pb**	**00 33 05.6**		**+0.6**
TJIG				*i* S		**Sb**	**00 33 20.7**		**-0.1**
MONP	**Monument Peak,**	**1.24**	**308**	P		**Pg**	**00 33 04.9**		**-0.9**
	baz=126,SNR=35								
MONP				S		**Sg**	**00 33 21.6**		**-0.4**
	baz=126								
ECNX	**Esteban Cantu**	**1.24**	**247**	⇑*e*P		**Pb**	**00 33 05.0**		**-0.1**
BAR	**Barrett**	**1.31**	**294**	*e*P		**Pn**	**00 33 05.6**		**-0.1**
PBX	**Punta Banda**	**1.31**	**253**	*e*P		**Pn**	**00 33 06.0**		**+0.3**
113A	**Mohawk Valley,**	**1.41**	**63**	*e*P		**Pn**	**00 33 05.4**		**-1.6**
113A				*e*S		**Sb**	**00 33 21.9**		**-3.7**
113A	**Mohawk Valley,**	**1.41**	**63**	*e*P		**Pn**	**00 33 05.4**		**-1.6**
113A				*e*S		**Sb**	**00 33 21.9**		**-3.7**
BC3	**Big Chuckawall**	**1.52**	**354**	P		**Pn**	**00 33 07.1**		**-1.6**
	baz=174,SNR=20								
Y12C	**Blythe**	**1.72**	**21**	P		**Pn**	**00 33 09.8**		**-1.5**
	baz=202,SNR=15								
Y12C				S		**Sn**	**00 33 35.0**		**+2.0**
	baz=202								
109C	**Camp Elliot, M**	**1.73**	**296**	P		**Pn**	**00 33 11.7**		**+0.2**
	baz=115,SNR=12								
109C				S		**Sn**	**00 33 35.9**		**+2.6**
	baz=115								
TPFO	**Pinon Flats**	**1.77**	**326**	P		**Pn**	**00 33 10.9**		**-1.3**
	baz=145,SNR=7.8								
TPFO				S		**Sn**	**00 33 37.1**		**+2.6**
	baz=145								
PFO	**Pinyon Flats O**	**1.78**	**326**	P		**Pn**	**00 33 11.1**		**-1.2**
	baz=145,SNR=6.7								
PFO				S		**Sn**	**00 33 37.1**		**+2.4**
	baz=145								
PFO	**Pinyon Flats O**	**1.78**	**326**	*e*Pn		**Pn**	**00 33 11.0**		**-1.2**
PFO				S		**Sn**	**00 33 32.3**		**-2.4**
IRM	**Iron Mountain**	**2.01**	**3**	P		**Pn**	**00 33 14.7**		**-0.7**
	baz=183,SNR=40								
214A	**Organ Pipe Nat**	**2.08**	**94**	P		**Pn**	**00 33 14.9**		**-1.5**
	baz=276,SNR=17								
214A	**Organ Pipe Nat**	**2.08**	**94**	*e*Pn		**Pn**	**00 33 15.3**		**-1.1**
214A	**Organ Pipe Nat**	**2.08**	**94**	*i* P		**Pn**	**00 33 14.9**		**-1.5**
214A				*e*S		**Sn**	**00 33 37.5**		**-4.6**
TUC	**Tucson**	**3.79**	**86**	Pn		**Pn**	**00 33 42.0**		**+2.1**
TUC				*e*Pg		**Pg**	**00 33 55.5**		**+0.9**
TUC				Sb		**Sb**	**00 34 39.5**		**+5.1**
TUC				*e*Sg		**Sg**	**00 34 46.7**		**+2.9**
WUAZ	**Wupatki**	**4.67**	**43**	*e*Pn		**Pn**	**00 33 53.4**		**+1.4**
WUAZ				Sn		**Sn**	**00 34 46.5**		**+0.6**
WUAZ				*e*Sg		**Sg**	**00 35 13.0**		**+1.3**
121A	**Cookes Peak, D**	**6.34**	**85**	*e*Pn		**Pn**	**00 34 15.6**		**+0.6**
121A				*e*Sn		**Sn**	**00 35 28.4**		**+1.2**

*ISCJB **03** 00:35:31.4±0.5,50°.23N±0°.02×12°.51E±0°.03,h14km±5km, Error ellipse: s-maj=3.7km s-min=3.3km az=135.9*
*IASPEI **03** 00:35:32.4±0.8,50°.24N±0°.02×12°.47E±0°.03,h11km±4km, Error ellipse: s-maj=3.7km s-min=2.8km az=89.7,GT5 selection from ISC bulletin GT5 identified by Bond¨jr and McLaughlin (2009) selection criteria Bond¨jr and McLaughlin, A new ground truth data set for seismic studies, Seism. Res. Let., 80, 465-472, 2009*
*BGR **03** 00:35:32.8±0.2,50°.25N×12°.44E,h10km±1km, ML2.1/6, Error ellipse: s-maj=2.2km s-min=2.2km az=104.0*
*CSEM **03** 00:35:32.3±0.1,50°.24N×12°.49E,h10km,ML2.8/6,Error ellipse: s-maj=1.9km s-min=1.4km az=26.0*
*PRU **03** 00:35:33.5,50°.27N×12°.52E,h0km,West Bohemia Swarm*
ISC 03 00:35:32.5±0.8,50°.25N±0°.02×12°.48E±0°.02,h11km±4km, n49,σ0º54/86,5D,Germany

Code	Station Name	Δ°	AZ°	Phase ID			Time		Res
				Op		ISC	h m s		ISC
NKC	**Novy Kostel**	**0.03**	**240**	⇓*i*PG		**Pg**	**00 35 34.6**		**+0.1**
NKC				*e*SG		**Sg**	**00 35 35.5**		**-0.3**
	comp=Z,1μm,0.3s								
NKC	**Novy Kostel**	**0.03**	**240**	*e*Pg		**Pg**	**00 35 34.6**		**+0.1**
NKC				*e*Sg		**Sg**	**00 35 35.6**		**-0.3**
NKC	**Novy Kostel**	**0.03**	**240**	Pg		**Pg**	**00 35 34.6**		**+0.1**
NKC				Sg		**Sg**	**00 35 35.6**		**-0.3**
WERN	**Wernitzgruen**	**0.08**	**302**	*e*Pg		**Pg**	**00 35 35.1**		**+0.1**
WERN				*e*Sg		**Sg**	**00 35 36.3**		**-0.5**
WERN	**Wernitzgruen**	**0.08**	**302**	Pg		**Pg**	**00 35 35.1**		**+0.1**
WERN				Sg		**Sg**	**00 35 36.3**		**-0.5**
ROHR	**Rohrbach**	**0.11**	**264**	*e*Pg		**Pg**	**00 35 35.3**		**0.0**
ROHR				*e*Sg		**Sg**	**00 35 36.7**		**-0.6**
ROHR	**Rohrbach**	**0.11**	**264**	Pg		**Pg**	**00 35 35.3**		**0.0**
ROHR				Sg		**Sg**	**00 35 36.7**		**-0.6**
GUNZ	**Gunzen**	**0.15**	**321**	*e*Pg		**Pg**	**00 35 36.2**		**+0.2**
GUNZ				*e*Sg		**Sg**	**00 35 38.1**		**-0.4**
GUNZ	**Gunzen**	**0.15**	**321**	Pg		**Pg**	**00 35 36.2**		**+0.2**
GUNZ				Sg		**Sg**	**00 35 38.1**		**-0.4**
MULD	**Muldenberg**	**0.17**	**343**	*e*Pg		**Pg**	**00 35 36.6**		**+0.2**
MULD				*e*Sg		**Sg**	**00 35 38.9**		**-0.2**
MULD	**Muldenberg**	**0.17**	**343**	Pg		**Pg**	**00 35 36.6**		**+0.2**
MULD				Sg		**Sg**	**00 35 38.9**		**-0.2**
WERD	**Werda**	**0.23**	**331**	*e*Pg		**Pg**	**00 35 37.6**		**+0.2**
WERD				*e*Sg		**Sg**	**00 35 40.3**		**-0.4**
WERD	**Werda**	**0.23**	**331**	Pg		**Pg**	**00 35 37.6**		**+0.2**
WERD				Sg		**Sg**	**00 35 40.3**		**-0.4**
TRIB	**Obertriebel**	**0.24**	**296**	*e*Pg		**Pg**	**00 35 37.6**		**0.0**
TRIB				*e*Sg		**Sg**	**00 35 40.6**		**-0.4**
TRIB	**Obertriebel**	**0.24**	**296**	Pg		**Pg**	**00 35 37.6**		**0.0**
TRIB				Sg		**Sg**	**00 35 40.6**		**-0.4**
PLN	**Plauen**	**0.32**	**319**	*e*Pg		**Pg**	**00 35 39.1**		**+0.2**
PLN				*e*Sg		**Sg**	**00 35 42.7**		**-0.5**
PLN	**Plauen**	**0.32**	**319**	Pg		**Pg**	**00 35 39.1**		**+0.2**
PLN				Sg		**Sg**	**00 35 42.7**		**-0.5**
SCHF	**Schoenfels**	**0.43**	**353**	*e*Pg		**Pg**	**00 35 40.4**		**-0.7**
SCHF				*e*Sg		**Sg**	**00 35 47.0**		**+0.1**
SCHF	**Schoenfels**	**0.43**	**353**	Pg		**Pg**	**00 35 40.4**		**-0.7**
SCHF				Sg		**Sg**	**00 35 47.0**		**+0.1**
MOX	**Moxa**	**0.68**	**306**	*e*Pg		**Pg**	**00 35 45.7**		**0.0**
MOX				*e*Sg		**Sg**	**00 35 54.4**		**-0.3**
MOX	**Moxa**	**0.68**	**306**	Pg		**Pg**	**00 35 45.7**		**0.0**
MOX				Sg		**Sg**	**00 35 54.4**		**-0.3**
FBE	**Freiberg**	**0.88**	**39**	*e*Pg		**Pb**	**00 35 50.1**		**+0.3**
FBE				*e*Sg		**Sb**	**00 36 01.3**		**-0.2**
FBE	**Freiberg**	**0.88**	**39**	Pg		**Pb**	**00 35 50.1**		**+0.3**
FBE				Sg		**Sb**	**00 36 01.3**		**-0.2**
GRA1	**Grafenberg Arr**	**0.98**	**236**	Pg		**Pg**	**00 35 51.4**		**-0.1**
GRA1				Sg		**Sg**	**00 36 03.8**		**-0.5**
GRF	**Grafenberg Arr**	**0.98**	**236**	*e*Pg		**Pg**	**00 35 51.4**		**-0.1**
GRF				*e*Sg		**Sg**	**00 36 03.8**		**-0.5**
CLL	**Collm**	**1.11**	**17**	*e*Pg		**Pb**	**00 35 53.7**		**-0.1**
CLL				*e*Sg		**Sg**	**00 36 08.5**		**+0.1**
CLL	**Collm**	**1.11**	**17**	Pg		**Pb**	**00 35 53.7**		**-0.1**
CLL				Sg		**Sg**	**00 36 08.5**		**+0.1**
CLL	**Collm**	**1.11**	**17**	⇑Pg		**Pg**	**00 35 54.0**		**+0.1**
CLL				*i*			00 35 54.6		
CLL				*i* Sg		**Sg**	**00 36 08.5**		**+0.1**
	comp=Z,14nm,0.5s								
CLL				*i*			00 36 12.6		
BRG	**Berggiesshubel**	**1.12**	**55**	PG		**Pn**	**00 35 54.5**		**+0.3**
BRG				SG		**Sn**	**00 36 09.4**		**-0.3**
	comp=Z,15nm,0.4s								
BRG	**Berggiesshubel**	**1.12**	**55**	*e*Pg		**Pn**	**00 35 54.6**		**+0.3**
BRG				*e*Sg		**Sn**	**00 36 09.5**		**-0.3**
BRG	**Berggiesshubel**	**1.12**	**55**	Pg		**Pn**	**00 35 54.6**		**+0.3**
BRG				Sg		**Sn**	**00 36 09.5**		**-0.2**
WET	**Wettzell**	**1.13**	**167**	*e*Pg		**Pg**	**00 35 54.3**		**0.0**
WET				*e*Sg		**Sb**	**00 36 08.9**		**0.0**
WET	**Wettzell**	**1.13**	**167**	Pg		**Pg**	**00 35 54.3**		**0.0**
WET				Sg		**Sb**	**00 36 08.9**		**0.0**
PRA	**Prague**	**1.27**	**97**	⇓*e*SG		**Sb**	**00 36 12.7**		**0.0**
	comp=Z,14nm,0.5s								
PRA	**Prague**	**1.27**	**97**	Sg		**Sb**	**00 36 12.7**		**0.0**
	comp=Z,14nm,0.5s								
KHC	**Kasperske Hory**	**1.32**	**147**	*e*PG		**Pb**	**00 35 57.3**		**-0.1**
KHC				*e*SG		**Sg**	**00 36 15.1**		**0.0**
	comp=Z,8.6nm,0.3s								
KHC	**Kasperske Hory**	**1.32**	**147**	Pg		**Pb**	**00 35 57.3**		**-0.1**
KHC				Sg		**Sg**	**00 36 15.1**		**0.0**
	comp=Z,8.6nm,0.3s								
PRU	**Pruhonice**	**1.35**	**100**	⇓*e*PG		**Pb**	**00 35 58.1**		**+0.3**
PRU				*e*SG		**Sg**	**00 36 16.2**		**+0.2**
	comp=Z,14nm,0.2s								
PRU	**Pruhonice**	**1.35**	**100**	Pg		**Pb**	**00 35 58.1**		**+0.3**
PRU				Sg		**Sg**	**00 36 16.2**		**+0.2**
	comp=Z,14nm,0.2s								
PVCC	**Panska Ves**	**1.37**	**77**	⇓*e*PG		**Pg**	**00 35 58.6**		**-0.1**
PVCC	**Panska Ves**	**1.37**	**77**	Pg		**Pg**	**00 35 58.6**		**-0.1**
GOPC	**GO Pecny, Ondr**	**1.52**	**102**	*e*SG		**Sg**	**00 36 21.5**		**+0.1**
	comp=Z,11nm,0.2s								
GOPC	**GO Pecny, Ondr**	**1.52**	**102**	Sg		**Sg**	**00 36 21.5**		**+0.1**
	comp=Z,11nm,0.2s								
UPC	**Upice**	**2.27**	**82**	⇓*e*SG		**Sg**	**00 36 44.6**		**-1.0**
	comp=Z,9.3nm,0.5s								
UPC	**Upice**	**2.27**	**82**	Sg		**Sg**	**00 36 44.6**		**-1.0**
	comp=Z,9.3nm,0.5s								
DPC	**Dobruska-Polom**	**2.46**	**86**	*e*SG		**Sg**	**00 36 49.9**		**-1.8**
	comp=Z,4.3nm,0.4s								
DPC	**Dobruska-Polom**	**2.46**	**86**	Sg		**Sg**	**00 36 49.9**		**-1.8**
	comp=Z,4.3nm,0.4s								
VRAC	**Vranov**	**2.83**	**108**	*e*Sg		**Sb**	**00 37 00.2**		**+2.6**
MORC	**Moravsky Berou**	**3.30**	**96**	*e*Sg		**Sg**	**00 37 16.8**		**-1.6**

*ISCJB **03** 00:38:41.8±1.5,50°.22N±0°.04×12°.57E±0°.08,h10km±13km, Error ellipse: s-maj=9.3km s-min=6.0km az=164.5*
*CSEM **03** 00:38:42.3±0.4,50°.24N×12°.52E,h10km,ML2.5/5,Error ellipse: s-maj=9.3km s-min=5.0km az=2.0*
*PRU **03** 00:38:43.3,50°.27N×12°.52E,h1km,West Bohemia Swarm*
ISC 03 00:38:42.9±0.9,50°.23N±0°.05×12°.56E±0°.05,h4km±10km, n17,σ0º63/25,4C,Germany

Code	Station Name	Δ°	AZ°	Phase ID			Time		Res
				Op		ISC	h m s		ISC
NKC	**Novy Kostel**	**0.07**	**269**	⇑*i*PG		**Pg**	**00 38 44.6**		**+0.1**
NKC				*e*SG		**Sg**	**00 38 45.5**		**-0.1**
	comp=Z,334nm,0.2s								
NKC	**Novy Kostel**	**0.07**	**269**	Pg		**Pg**	**00 38 44.6**		**+0.1**
NKC				Sg		**Sg**	**00 38 45.5**		**-0.1**
	334nm,0.2s								
BRG	**Berggiesshubel**	**1.09**	**54**	PG		**Pb**	**00 39 04.4**		**+0.1**
BRG				SG		**Sb**	**00 39 19.3**		**+0.5**
	11nm,0.3s								
CLL	**Collm**	**1.11**	**15**	*i* Pg		**Pg**	**00 39 04.0**		**-0.2**
CLL				*i*			00 39 05.9		
CLL				*i* Sg		**Sb**	**00 39 19.4**		**-0.1**
	comp=Z,9.0nm,0.4s								
CLL				*i*			00 39 22.7		
PRA	**Prague**	**1.22**	**97**	⇑*e*SG		**Sn**	**00 39 23.5**		**0.0**
	comp=Z,4.3nm,0.3s								
PRA	**Prague**	**1.22**	**97**	Sg		**Sn**	**00 39 23.5**		**0.0**
	comp=Z,4.3nm,0.3s								
KHC	**Kasperske Hory**	**1.29**	**149**	*e*PG		**Pn**	**00 39 07.4**		**-0.3**
KHC				*e*SG		**Sg**	**00 39 24.0**		**-0.3**
	comp=Z,5.2nm,0.2s								
KHC	**Kasperske Hory**	**1.29**	**149**	Pg		**Pn**	**00 39 07.4**		**-0.3**
KHC				Sg		**Sg**	**00 39 24.0**		**-0.3**
	comp=Z,5.2nm,0.2s								
PRU	**Pruhonice**	**1.30**	**100**	⇑*e*PG		**Pn**	**00 39 07.9**		**+0.1**
PRU				*e*SG		**Sn**	**00 39 25.9**		**+0.3**
	comp=Z,4.9nm,0.2s								
PRU	**Pruhonice**	**1.30**	**100**	Pg		**Pn**	**00 39 07.9**		**+0.1**
PRU				Sg		**Sn**	**00 39 25.9**		**+0.3**
	comp=Z,4.9nm,0.2s								
GOPC	**GO Pecny, Ondr**	**1.47**	**102**	*e*SG		**Sg**	**00 39 31.5**		**+1.4**
	comp=Z,5.7nm,0.2s								
GOPC	**GO Pecny, Ondr**	**1.47**	**102**	Sg		**Sg**	**00 39 31.5**		**+1.4**
	comp=Z,5.7nm,0.2s								
UPC	**Upice**	**2.23**	**82**	⇑*e*SG		**Sg**	**00 39 54.1**		**-0.3**
UPC	**Upice**	**2.23**	**82**	Sg		**Sg**	**00 39 54.1**		**-0.3**
DPC	**Dobruska-Polom**	**2.42**	**86**	*e*SG		**Sg**	**00 39 59.7**		**-0.8**
DPC	**Dobruska-Polom**	**2.42**	**86**	Sg		**Sg**	**00 39 59.7**		**-0.8**
VRAC	**Vranov**	**2.77**	**108**	*e*Sg		**Sg**	**00 40 10.5**		**-1.5**

*DJA **03** 00:40:10.9±1.0,8°.N±4°×12°.6E±°,h38km±13km,M4.9/20, mb4.6/20,mB5.4/7,MLv5.0/1,Mw(mB)4.9/7*
*ISCJB **03** 00:40:10.8±0.4,8°.50N±0°.02×125°.85E±0°.04,h63km±3km, mb4.5/38,Error ellipse: s-maj=6.1km s-min=3.7km az=171.3*
*BJI **03** 00:40:11.8,8°.07N×126°.20E,h76km,mb4.7/18,mB4.9/11, Ms4.2/3,Ms7 3.9/4*
*MAN **03** 00:40:12,8°.51N×125°.69E,h31km,mb5.1,ML4.1,MS4.3*
MAN INTENSITY II - SAN FRANCISCO AGUSAN DEL SUR; INTENSITY I - BAYUGAN AGUSAN DEL SUR.
*IDC **03** 00:40:13.2±7.2,8°.45N×125°.79E,h76km±67km,mb3.8/12, mb1 4.0/12,mb1mx3.7/45,mbtmp4.1/12,MS3.1/7, Ms1 3.

WRA	**Warramunga Arr**	**29.43**	**164**	P	**P**	**00 46 09.6**	**-1.0**
	1.4nm,0.6s,baz=344,slow=9.2,SNR=17						
MBWA	**Marble Bar**	**30.04**	**192**	*e*P	**P**	**00 46 16.0**	**0.0**
	60nm,1.3s						
MAJO	**Matsushiro**	**30.13**	**20**	*e*P	**P**	**00 46 16.7**	**+0.1**
	5.8nm,0.9s						
MJAR	**Matsushiro Arr**	**30.13**	**20**	LR	LR	00 56 35.7	
	comp=Z,23nm,21.0s,baz=170,slow=33						
BJT	**Baijiatuau**	**32.60**	**346**	*e*P	**P**	**00 46 40.1**	**+1.8**
	3.7nm,0.4s						
ASAR	**Alice Springs**	**32.88**	**166**	P	**P**	**00 46 40.6**	**-0.4**
	1.9nm,0.6s,baz=345,slow=6.9,SNR=23						
ASAR				PcP	**PcP**	**00 49 23.6**	**-1.1**
	0.2nm,0.6s,baz=336,slow=2.8,SNR=2.8						
HHC	**Hu-ho-hao-te**	**34.67**	**341**	*e*P	**P**	**00 47 00.1**	**+3.6**
HHC				S	**S**	**00 52 24.8**	**+2.3**
HHC				pmax	pmax		
	comp=Z,18nm,0.9s						
HHC				pmax	pmax		
	comp=Z,87nm,3.8s						
HHC				LR	LR		
	comp=N,130nm,12.7s						
HHC				LR	LR		
	comp=E,130nm,13.1s						
HHC				LR	LR		
	comp=Z,100nm,12.3s						
CTAO	**Charters Tower**	**34.74**	**145**	*e*P	**P**	**00 46 56.2**	**-1.0**
	77nm,1.1s						
CN2	**Changchun**	**35.21**	**359**	*e*P	**P**	**00 46 59.8**	**-1.1**
CN2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
USRK	**Ussuriysk Ar.**	**36.00**	**7**	P	**P**	**00 47 06.8**	**-0.9**
	4.2nm,0.8s,baz=182,slow=7.8,SNR=8.1						
GTA	**Gaotai**	**38.66**	**327**	*e*P	P	00 47 36.3	+5.9
GTA				pP	sP	00 47 52.1	+0.9
GTA				sP	pP	00 47 59.1	+14
GTA				pmax	pmax		
	comp=Z,4.0nm,1.3s						
HIA	**Hailar**	**41.00**	**354**	*e*P	**P**	**00 47 50.8**	**+1.2**
	10nm,0.4s						
STKA	**Stephens Creek**	**42.83**	**160**	P	**P**	**00 48 05.1**	**+0.4**
	6.7nm,1.0s,baz=332,slow=10.0,SNR=6.1						
WMQ	**Urumqi**	**48.41**	**323**	*e*P	**P**	**00 48 52.9**	**+4.1**
WMQ				S	**S**	**00 55 50.3**	**+4.7**
WMQ				pmax	pmax		
	comp=Z,4.0nm,0.7s						
WMQ				pmax	pmax		
	comp=Z,45nm,4.9s						
MAKZ	**Makanchi**	**53.42**	**324**	*e*P	**P**	**00 49 28.9**	**+2.5**
MAKZ				*e*pP	**pP**	**00 49 40.8**	**-0.4**
YAK	**Yakutsk**	**53.54**	**2**	*e*P	**P**	**00 49 27.7**	**+0.8**
	10nm,0.6s						
KSH	**Kashi**	**54.16**	**313**	*e*P	**P**	**00 49 33.7**	**+1.7**
KSH				*e*PcP	**PcP**	**00 50 39.2**	**+3.2**
KSH				*e*ScP	**ScP**	**00 54 28.8**	**-0.9**
KSH				PcS	**PcS**	**00 54 35.1**	**-0.5**
KSH				S	**S**	**00 57 02.7**	**-2.4**
KSH				ScS	**ScS**	**00 59 13.2**	**-3.6**
KSH				pmax	pmax		
	comp=Z,9.0nm,1.2s						
KSH				pmax	pmax		
	comp=Z,89nm,4.7s						
KSH				LR	LR		
	comp=N,99nm,5.8s						
KSH				LR	LR		
	comp=E,86nm,6.1s						
KSH				LR	LR		
	comp=Z,130nm,6.4s						
ZALV	**Zalesovo Beam**	**56.02**	**332**	P	**P**	**00 49 44.3**	**-0.7**
	0.3nm,0.3s,baz=101,slow=7.6,SNR=2.5						
KURK	**Kurchatov**	**57.34**	**326**	*e*P	**P**	**00 49 57.2**	**+2.8**
	9.1nm,1.2s						
KURBB	**Kurchatov Arra**	**57.34**	**326**	P	**P**	**00 49 54.0**	**-0.3**
	0.9nm,0.6s,baz=126,slow=6.5,SNR=8.0						
KKAR	**Karatay Array**	**59.25**	**315**	*e*P	**P**	**00 50 07.5**	**-0.4**
	27nm,0.8s						
BRVK	**Borovoye**	**63.00**	**326**	*e*P	**P**	**00 50 33.1**	**0.0**
	7.3nm,0.9s						
GEYT	**Alibeck**	**67.32**	**308**	P	**P**	**00 51 00.2**	**-1.2**
	1.3nm,0.7s,baz=152,slow=9.5,SNR=5.7						
ABKAR	**Akbulak array**	**67.99**	**320**	*e*P	**P**	**00 51 04.5**	**-0.9**
	15nm,0.6s						
ARU	**Arti**	**70.52**	**327**	*e*P	**P**	**00 51 22.2**	**+1.3**
	0.8nm,0.4s						
POHA	**Pohakuloa**	**76.51**	**72**	*e*P	**P**	**00 51 56.5**	**-0.6**
	74nm,0.8s						
KIV	**Kislovodsk**	**79.29**	**313**	*e*P	**P**	**00 52 10.6**	**-1.3**
	3.6nm,1.0s						
MCK	**McKinley**	**80.34**	**27**	*e*P	**P**	**00 52 17.0**	**-0.1**
	2.3nm,0.5s						
ILAR	**Eielson Array**	**81.23**	**26**	P	**P**	**00 52 20.9**	**-0.9**
	0.5nm,0.8s,baz=245,slow=5.9,SNR=3.8						
FYU	**Fort Yukon**	**81.86**	**24**	*e*P	**P**	**00 52 25.2**	**+0.1**
	51nm,1.7s						
ARCES	**ARCESS Array B**	**85.75**	**340**	P	**P**	**00 52 43.2**	**-1.6**
	0.8nm,0.7s,baz=57,slow=8.7,SNR=2.2						
FINES	**FINESS Array B**	**87.29**	**332**	P	**P**	**00 52 50.2**	**-2.3**
	1.4nm,0.9s,baz=50,slow=9.2,SNR=3.7						
VNDA	**Vanda**	**88.19**	**173**	P	**P**	**00 52 55.8**	**-0.7**
	2.2nm,0.6s,baz=319,slow=6.6,SNR=29						
SBA	**Scott Base**	**89.11**	**172**	P	**P**	**00 52 59.7**	**-1.1**
	1.8nm,1.0s						
QSPA	**South Pole Qui**	**98.33**	**180**	*e*P	**P**	**00 53 43.3**	**-0.2**
	5.1nm,1.0s						
RSSD	**Black Hills**	**110.95**	**36**	*e*PKP	**PKiKP**	**00 58 39.3**	**-0.4**
WMOK	**Wichita Mounta**	**119.78**	**42**	*e*PKPdf	**PKPdf**	**00 58 56.2**	**-0.5**
TORD	**Torodi Ar. Bea**	**120.55**	**291**	PKP	**PKPdf**	**00 58 55.7**	**-2.8**
	0.5nm,0.7s,baz=72,slow=1.4,SNR=4.3						

KRSC 03 00:41:36.5±0.7, 55°32N×162°57E, h36^{km}±19^{km}, ML3.5,
Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time (h m s)	Res
MKZ	**Mys Kozlova**	**0.91**	**213**	*e*P		Pn	00 41 53.8	+1.1
MKZ				*e*S		Sn	00 42 06.0	+1.5
KBG	**Krutoberegovo**	**0.94**	**5**	*e*P		Pn	00 41 54.6	+1.4
KBG				*e*S		Sn	00 42 09.5	+4.1
ZLN	**Zelenaya**	**1.22**	**306**	*e*P		Pn	00 41 57.9	+0.8
CIRR	**Tsirk**	**1.30**	**308**	*e*P		Pn	00 41 59.7	+1.4
CIRR				*e*S		Sn	00 42 16.3	+1.8
LGNR	**Loginova**	**1.31**	**306**	*e*P		Pn	00 42 00.4	+1.9
BZMR	**Bezymyannaya**	**1.33**	**298**	*e*P		Pn	00 41 59.5	+0.8
TUMR	**Tumrok**	**1.39**	**270**	*e*P		Pn	00 42 00.9	+1.5
TUMR				*e*S		Sn	00 42 18.8	+2.3
KMNR	**Kamenistaya**	**1.40**	**289**	*e*P		Pn	00 42 00.5	+1.0
KMNR				*e*S		Sn	00 42 18.2	+1.4
SMKR	**Semkarok**	**1.41**	**334**	*e*P		Pn	00 42 00.6	+0.9
SMKR				*e*S		Sn	00 42 20.8	+3.8
KIRR	**Kirishev**	**1.42**	**298**	*e*P		Pn	00 42 01.1	+1.3
KIRR				*e*S		Sn	00 42 19.3	+2.0
KRSR	**Krestovskiy**	**1.45**	**309**	*e*P		Pn	00 42 01.3	+1.1
KRSR				*e*S		Sn	00 42 18.6	+0.6
KLY	**Klyuchi**	**1.47**	**313**	*e*P		Pn	00 42 00.6	+0.2
KPT	**Kopyto**	**1.48**	**297**	*e*P		Pn	00 42 02.3	+1.6
KPT				*e*S		Sn	00 42 22.1	+3.3
SRKR	**Sorokina**	**1.55**	**330**	*e*P		Pn	00 42 02.8	+1.2
KOZ	**Kozyrevsk**	**1.70**	**297**	*e*P		Pn	00 42 06.2	+2.6
BKI	**Bering**	**1.95**	**92**	*e*P		Pn	00 42 09.3	+2.3
BKI				*e*S		Sn	00 42 33.1	+2.9
SPN	**Mys Shipunski**	**2.68**	**215**	*e*P		Pn	00 42 21.1	+4.0
SDLR	**Sedlovina**	**2.98**	**228**	*e*P		Pn	00 42 23.8	+2.6
SDLR				*e*S		Sn	00 42 59.5	+3.8
KRER	**Koryakskii**	**3.02**	**230**	*e*P		Pn	00 42 26.2	+4.4
AVH	**Avacha**	**3.05**	**229**	*e*P		Pn	00 42 26.7	+4.5
UGLR	**Uglovaya**	**3.05**	**228**	*e*P		Pn	00 42 25.0	+2.8
GNL	**Ganaly**	**3.15**	**241**	*e*P		Pn	00 42 26.2	+2.6
DALK	**Dalny**	**3.21**	**226**	*e*P		Pn	00 42 28.0	+3.7
KRMR	**Karymshinskiy**	**3.61**	**228**	*e*P		Pn	00 42 34.9	+5.0
KRMR				*e*S		Sn	00 43 17.6	+6.4
RUS	**Russkaya**	**3.76**	**221**	*e*P		Pn	00 42 35.4	+3.6

*CSEM **03** 00:42:23.9±0.1, 50°.22N×12°.52E, h5^{km}, ML3.3/11, Error ellipse: s-maj=2.0km s-min=1.3km az=36.0*
*BGR **03** 00:42:24.4±0.2, 50°.25N×12°.45E, h10^{km}±1^{km}, ML2.8/6, Error ellipse: s-maj=2.2km s-min=2.2km az=104.0*
*PRU **03** 00:42:24.9, 50°.25N×12°.53E, h0^{km}, West Bohemia Swarm*
*CLL **03** 00:42:25.1±0.3, 50°.3N±0°.8×1°.2E±°, h6^{km}±1^{km}, ml2.6*
ISC 03 00:42:24.8±0.8, 50°.24N±0°.02×12°.48E±0°.02, h9^{km}±4^{km}, n75, σ1^{s}06/135, 6D, Germany

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time (h m s)	Res
NKC	**Novy Kostel**	**0.02**	**257**	*i*P	G	**Pg**	**00 42 26.2**	**-0.4**
NKC				*e*SG		**Sg**	**00 42 27.1**	**-0.7**
	comp=Z,6μm,0.2s							
NKC	**Novy Kostel**	**0.02**	**257**	*i*P	G	**Pg**	**00 42 26.2**	**-0.4**
NKC				*i* Sg		**Sg**	**00 42 27.1**	**-0.7**
NKC	**Novy Kostel**	**0.02**	**257**	*e*P	G	**Pg**	**00 42 26.2**	**-0.4**
NKC				*e*Sg		**Sg**	**00 42 27.2**	**-0.7**
NKC	**Novy Kostel**	**0.02**	**257**	Pg		**Pg**	**00 42 26.2**	**-0.4**
NKC				Sg		**Sg**	**00 42 27.1**	**-0.7**
	6μm,0.2s							
WERN	**Wernitzgruen**	**0.08**	**308**	*i* Pg		**Pg**	**00 42 26.7**	**-0.5**
WERN				*i* Sg		**Sg**	**00 42 27.9**	**-0.9**
WERN				AML		AML	00 42 28.1	
	comp=N,2μm,0.1s							
WERN	**Wernitzgruen**	**0.08**	**308**	*e*Pg		**Pg**	**00 42 26.7**	**-0.5**
WERN				*e*Sg		**Sg**	**00 42 28.0**	**-0.9**
WERN	**Wernitzgruen**	**0.08**	**308**	Pg		**Pg**	**00 42 26.7**	**-0.5**
WERN				Sg		**Sg**	**00 42 28.0**	**-0.9**
ROHR	**Rohrbach**	**0.10**	**268**	*i* Pg		**Pg**	**00 42 26.8**	**-0.6**
ROHR				*i* Sg		**Sg**	**00 42 28.2**	**-1.0**
ROHR				AML		AML	00 42 28.4	
	comp=E,5μm,0.2s							
ROHR	**Rohrbach**	**0.10**	**268**	*e*Pg		**Pg**	**00 42 26.8**	**-0.6**
ROHR				*e*Sg		**Sg**	**00 42 28.3**	**-1.0**
ROHR	**Rohrbach**	**0.10**	**268**	Pg		**Pg**	**00 42 26.8**	**-0.6**
ROHR				Sg		**Sg**	**00 42 28.3**	**-1.0**
GUNZ	**Gunzen**	**0.16**	**324**	*i* Pg		**Pg**	**00 42 27.8**	**-0.5**
GUNZ				*i* Sg		**Sg**	**00 42 29.8**	**-0.9**
GUNZ				AML		AML	00 42 30.2	
	comp=E,760nm,0.2s							
GUNZ	**Gunzen**	**0.16**	**324**	*e*Pg		**Pg**	**00 42 27.8**	**-0.5**
GUNZ				*e*Sg		**Sg**	**00 42 29.8**	**-0.9**
GUNZ	**Gunzen**	**0.16**	**324**	Pg		**Pg**	**00 42 27.8**	**-0.5**
GUNZ				Sg		**Sg**	**00 42 29.8**	**-0.9**
TANN	**Tannenbergstha**	**0.18**	**357**	*i* Pg		**Pg**	**00 42 28.2**	**-0.5**
TANN				*i* Sg		**Sg**	**00 42 30.4**	**-0.9**
TANN				AML		AML	00 42 30.6	
	comp=E,2μm,0.1s							
MULD	**Muldenberg**	**0.18**	**345**	*i* Pg		**Pg**	**00 42 28.2**	**-0.5**
MULD				*i* Sg		**Sg**	**00 42 30.4**	**-0.9**
MULD				AML		AML	00 42 30.6	
	comp=E,2μm,0.2s							
MULD	**Muldenberg**	**0.18**	**345**	*e*Pg		**Pg**	**00 42 28.2**	**-0.5**
MULD				*e*Sg		**Sg**	**00 42 30.5**	**-0.9**
MULD	**Muldenberg**	**0.18**	**345**	Pg		**Pg**	**00 42 28.2**	**-0.5**
MULD				Sg		**Sg**	**00 42 30.5**	**-0.9**
WERD	**Werda**	**0.24**	**333**	*i* Pg		**Pg**	**00 42 29.2**	**-0.5**
WERD				*i* Sg		**Sg**	**00 42 32.0**	**-1.0**
WERD				AML		AML	00 42 32.1	
	comp=E,414nm,0.2s							
WERD	**Werda**	**0.24**	**333**	*e*Pg		**Pg**	**00 42 29.2**	**-0.5**
WERD				*e*Sg		**Sg**	**00 42 31.4**	**-1.6**
WERD	**Werda**	**0.24**	**333**	Pg		**Pg**	**00 42 29.2**	**-0.5**
WERD				Sg		**Sg**	**00 42 31.4**	**-1.6**
TRIB	**Obertriebel**	**0.25**	**298**	*i* Pg		**Pg**	**00 42 29.1**	**-0.7**
TRIB				*i* Sg		**Sg**	**00 42 32.2**	**-1.1**
TRIB				AML		AML	00 42 32.6	
	comp=E,291nm,0.1s							
TRIB	**Obertriebel**	**0.25**	**298**	*e*Pg		**Pg**	**00 42 29.2**	**-0.7**
TRIB				*e*Sg		**Sg**	**00 42 32.1**	**-1.1**
TRIB	**Obertriebel**	**0.25**	**298**	Pg		**Pg**	**00 42 29.2**	**-0.7**
TRIB				Sg		**Sg**	**00 42 32.1**	**-1.1**
PLN	**Plauen**	**0.32**	**321**	*i* Pg		**Pg**	**00 42 30.6**	**-0.6**
PLN				*e*Sg		**Sg**	**00 42 34.6**	**-0.9**
PLN				AML		AML	00 42 34.8	
	comp=E,308nm,0.2s							
PLN	**Plauen**	**0.32**	**321**	*e*Pg		**Pg**	**00 42 30.6**	**-0.6**
PLN				*e*Sg		**Sg**	**00 42 34.4**	**-1.1**
PLN	**Plauen**	**0.32**	**321**	Pg		**Pg**	**00 42 30.6**	**-0.6**
PLN				Sg		**Sg**	**00 42 34.4**	**-1.1**
SCHF	**Schoenfels**	**0.44**	**354**	*i* Pg		**Pg**	**00 42 33.0**	**-0.5**
SCHF				*i* Sg		**Sg**	**00 42 38.8**	**-0.6**
SCHF				AML		AML	00 42 39.0	
	comp=E,2μm,0.2s							
SCHF	**Schoenfels**	**0.44**	**354**	*e*Pg		**Pg**	**00 42 33.0**	**-0.5**
SCHF				*e*Sg		**Sg**	**00 42 38.6**	**-0.7**
SCHF	**Schoenfels**	**0.44**	**354**	Pg		**Pg**	**00 42 33.0**	**-0.5**
SCHF				Sg		**Sg**	**00 42 38.6**	**-0.7**
MLFH	**Mildenfurth**	**0.61**	**336**	*i* Pg		**Pg**	**00 42 35.9**	**-0.7**
MLFH				*i* Sg		**Sg**	**00 42 43.7**	**-0.9**
MOX	**Moxa**	**0.69**	**307**	*e*Pg		**Pg**	**00 42 37.3**	**-0.8**
MOX				*e*Sg		**Sg**	**00 42 45.9**	**-1.1**
MOX	**Moxa**	**0.69**	**307**	Pg		**Pg**	**00 42 37.3**	**-0.8**
MOX				Sg		**Sg**	**00 42 45.9**	**-1.1**
FBE	**Freiberg**	**0.88**	**39**	*e*Pg		**Pg**	**00 42 41.6**	**-0.2**
FBE				*e*Sg		**Sg**	**00 42 53.0**	**-0.3**
FBE	**Freiberg**	**0.88**	**39**	Pg		**Pg**	**00 42 41.6**	**-0.2**
FBE				Sg		**Sg**	**00 42 53.0**	**-0.3**
GRA1	**Grafenberg Arr**	**0.98**	**237**	Pg		**Pg**	**00 42 42.8**	**-0.8**
GRA1				Sg		**Sg**	**00 42 56.0**	**-0.3**
GRF	**Grafenberg Arr**	**0.98**	**237**	*e*Pg		**Pg**	**00 42 42.8**	**-0.8**
GRF				*e*Sg		**Sg**	**00 42 56.0**	**-0.3**
CLL	**Collm**	**1.12**	**17**	*e*Pg		**Pg**	**00 42 45.7**	**-0.7**
CLL				*e*Sg		**Sg**	**00 43 00.0**	**-0.9**
CLL	**Collm**	**1.12**	**17**	Pg		**Pg**	**00 42 45.7**	**-0.7**
CLL				Sg		**Sg**	**00 43 00.0**	**-0.9**
CLL	**Collm**	**1.12**	**17**	*i* Pg		**Pg**	**00 42 45.6**	**-0.7**
CLL				*i*			00 42 48.8	
CLL				*i* Sg		**Sg**	**00 43 00.2**	**-0.8**
	comp=Z,90nm,0.3s							
CLL				*i*			00 43 04.4	
WET	**Wettzell**	**1.12**	**166**	*e*Pg		**Pg**	**00 42 45.8**	**-0.6**
WET				*e*Sg		**Sg**	**00 43 00.6**	**-0.4**
WET	**Wettzell**	**1.12**	**166**	Pg		**Pg**	**00 42 45.8**	**-0.6**
WET				Sg		**Sg**	**00 43 00.6**	**-0.4**
BRG	**Berggiesshubel**	**1.13**	**55**	PG		**Pg**	**00 42 46.1**	**-0.4**
BRG				SG		**Sb**	**00 43 01.0**	**-0.3**
	comp=Z,94nm,0.4s							
BRG	**Berggiesshubel**	**1.13**	**55**	*e*Pg		**Pg**	**00 42 46.1**	**-0.4**
BRG				*e*Sg		**Sg**	**00 43 00.6**	**-0.6**
BRG	**Berggiesshubel**	**1.13**	**55**	Pg		**Pg**	**00 42 46.1**	**-0.4**
BRG				Sg		**Sg**	**00 43 00.6**	**-0.6**
KHC	**Kasperske Hory**	**1.32**	**147**	*e*PG		**Pn**	**00 42 48.7**	**-0.7**
KHC				*e*SG		**Sb**	**00 43 05.7**	**-1.0**
	comp=Z,30nm,0.4s							
KHC	**Kasperske Hory**	**1.32**	**147**	Pg		**Pn**	**00 42 48.7**	**-0.7**
KHC				Sg		**Sb**	**00 43 05.7**	**-1.0**
	comp=Z,30nm,0.4s							
PRU	**Pruhonice**	**1.35**	**100**	*e*PG		**Pn**	**00 42 49.7**	**-0.1**
PRU				*e*SG		**Sb**	**00 43 07.0**	**-0.6**
	comp=Z,77nm,0.6s							
PRU	**Pruhonice**	**1.35**	**100**	Pg		**Pn**	**00 42 49.7**	**-0.1**
PRU				Sg		**Sb**	**00 43 07.0**	**-0.6**
	comp=Z,77nm,0.6s							
PVCC	**Panska Ves**	**1.37**	**77**	*e*SG		**Sg**	**00 43 08.0**	**-0.9**
	comp=Z,107nm,0.2s							
PVCC	**Panska Ves**	**1.37**	**77**	Sg		**Sg**	**00 43 08.0**	**-0.9**
	comp=Z,107nm,0.2s							
GOPC	**GO Pecny, Ondr**	**1.52**	**101**	*e*PG		**Pn**	**00 42 52.2**	**0.0**
GOPC				*e*SG		**Sg**	**00 43 12.9**	**-0.9**
GOPC	**GO Pecny, Ondr**	**1.52**	**101**	Pg		**Pn**	**00 42 52.2**	**0.0**
GOPC				Sg		**Sg**	**00 43 12.9**	**-0.9**
TREC	**Trest**	**2.17**	**115**	*e*SG		**Sb**	**00 43 31.5**	**+0.4**
	comp=Z,21nm,0.4s							
TREC	**Trest**	**2.17**	**115**	Sg		**Sb**	**00 43 31.5**	**+0.4**
	comp=Z,21nm,0.4s							
UPC	**Upice**	**2.28**	**82**	*e*SG		**Sg**	**00 43 36.1**	**-1.9**
	comp=Z,44nm,0.6s							
UPC	**Upice**	**2.28**	**82**	Sg		**Sg**	**00 43 36.1**	**-1.9**
	comp=Z,44nm,0.6s							
DPC	**Dobruska-Polom**	**2.47**	**86**	*e*SG		**Sb**	**00 43 41.4**	**+1.6**
	comp=Z,20nm,0.4s							
DPC	**Dobruska-Polom**	**2.47**	**86**	Sg		**Sb**	**00 43 41.4**	**+1.6**
	comp=Z,20nm,0.4s							
KSP	**Ksiaz**	**2.51**	**75**	*e*Pg		**Pb**	**00 43 10.9**	**+0.9**
KSP				*e*Sg		**Sg**	**00 43 43.6**	**-1.8**
KSP	**Ksiaz**	**2.51**	**75**	*e*Pg		**Pb**	**00 43 10.9**	**+0.9**
KSP				*e*Sg		**Sg**	**00 43 43.6**	**-1.8**
MOA	**Molln**	**2.66**	**153**	*e*Pn		**Pn**	**00 43 08.0**	**+0.2**
	comp=Z,0.1nm,0.1s							
MOA				*e*Sg		**Sb**	**00 43 48.0**	**+2.6**
	comp=Z,9.3nm,0.3s							
MOA	**Molln**	**2.66**	**153**	Pn		**Pn**	**00 43 08.0**	**+0.2**
	comp=Z,0.1nm,0.1s							
MOA				Sg		**Sb**	**00 43 48.0**	**+2.6**
	comp=Z,9.3nm,0.3s							
VRAC	**Vranov**	**2.83**	**108**	*e*Pn		**Pn**	**00 43 09.8**	**-0.3**
VRAC				*e*Sg		**Sb**	**00 43 51.9**	**+1.9**
CONA	**Conrad Observa**	**3.21**	**135**	*e*Pg		**Pb**	**00 43 24.0**	**+2.1**
	comp=Z,1.8nm,0.3s							
CONA				*e*Sg		**Sg**	**00 44 05.0**	**-2.8**
	comp=Z,9.0nm,0.3s							
CONA	**Conrad Observa**	**3.21**	**135**	Pg		**Pb**	**00 43 24.0**	**+2.1**
	comp=Z,1.8nm,0.3s							
CONA				Sg		**Sg**	**00 44 05.0**	**-2.8**
	comp=Z,9.0nm,0.3s							
KBA	**Koelnbreinsper**	**3.21**	**169**	*e*Sg		**Sg**	**00 44 06.9**	**-1.1**
	comp=Z,14nm,0.7s							
KBA	**Koelnbreinsper**	**3.21**	**169**	Sg		**Sg**	**00 44 06.9**	**-1.1**
	comp=Z,14nm,0.7s							
MORC	**Moravsky Berou**	**3.30**	**96**	*e*Pn		**Pn**	**00 43 16.3**	**-0.3**
MORC				*e*Sg		**Sb**	**00 44 06.0**	**+2.3**
ARSA	**Arzberg**	**3.60**	**145**	*e*Sg		**Sg**	**00 44 18.3**	**-2.2**
	comp=Z,6.7nm,0.5s							
ARSA	**Arzberg**	**3.60**	**145**	Sg		**Sg**	**00 44 18.3**	**-2.2**
	comp=Z,6.7nm,0.5s							
SMOL	**Smolenice**	**3.67**	**116**	*e*Pg		**Pg**	**00 43 33.9**	**-1.1**
SMOL				*e*Sg		**Sg**	**00 44 22.6**	**+0.1**
SMOL	**Smolenice**	**3.67**	**116**	*e*PG		**Pg**	**00 43 33.9**	**-1.1**
SMOL				*e*SG		**Sg**	**00 44 22.6**	**+0.1**
VYHS	**Vyhne**	**4.51**	**110**	*e*SG		**Sb**	**00 44 40.1**	**+1.7**
VYHS				eLG		Lg	00 44 49.5	
LANS	**Liptovska Anna**	**4.67**	**101**	*e*SG		**Sg**	**00 44 52.5**	**-2.1**
STHS	**Stebnicka Huta**	**5.73**	**95**	*e*SG		**Sg**	**00 45 27.5**	**-1.3**
STHS				eLG		Lg	00 45 38.4	

IDC 03 00:48:00.2±1.7, 0°.39S×127°.10E, h0^{km}, mb3.4/3, mb1 3.6/3, mb1mx3.4/38, mbtmp3.5/3, Error ellipse: s-maj=188.0km s-min=25.8km az=69.0, Halmahera

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time (h m s)	Res
WRA	**Warramunga Arr**	**20.69**	**160**	P		P	00 52 42.4	+0.2
	0.4nm,0.7s,baz=339,slow=11,SNR=5.7							
ASAR	**Alice Springs**	**24.07**	**165**	P		P	00 53 17.3	-0.2
	0.4nm,0.4s,baz=353,slow=16,SNR=5.2							
ZALV	**Zalesovo Beam**	**64.41**	**334**	P		P	00 58 38.2	0.0
	0.7nm,0.3s,baz=129,slow=7.7,SNR=2.7							

*ISCJB **03** 00:49:29.6±0.3, 6°.82N±0°.03×73°.06W±0°.03, h154^{km}±3^{km}, mb3.2/3, Error ellipse: s-maj=5.6km s-min=3.2km az=39.2*
*FUNV **03** 00:49:30.4, 6°.76N×73°.16W, h161^{km}, MW3.5*
*IDC **03** 00:49:31.4±1.6, 6°.74N×72°.97W, h166^{km}±16^{km}, mb3.0/3, mb1 3.4/6, mb1mx3.1/36, mbtmp3.6/6, Error ellipse: s-maj=25.9km s-min=19.0km az=148.0*
*RSNC **03** 00:49:32.3±0.5, 6°.78N×73°.09W, h140^{km}±3^{km}, ML3.7*
ISC 03 00:49:30.3±0.8, 6°.81N±0°.04×73°.05W±0°.04, h152^{km}±5^{km}, n42, σ0^{s}89/65, mb3.2/3, 3C-11D, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time (h m s)	Res
BARC	**Barichara**	**0.25**	**211**	*i* P		**Pn**	**00 49 51.2**	**0.0**
BARC				*e*S		**Sn**	**00 50 05.7**	**-1.4**
BARC				*i*			00 50 09.3	
	comp=Z,937nm,0.5s							
GIRC	**Giron, Santand**	**0.30**	**332**	*i* P		**Pn**	**00 49 51.4**	**+0.1**
GIRC				*e*S		**Sn**	**00 50 06.0**	**-1.3**
PAMC	**Pamplona, Colo**	**0.63**	**34**	*i* P		**Pn**	**00 49 54.1**	**+1.0**
PAMC				*e*S		**Sn**	**00 50 10.6**	**+0.0**
BRRC	**Barranca, Sant**	**0.72**	**294**	*e*P		**Pn**	**00 49 53.2**	**+0.1**
BRRC				*e*S		**Sn**	**00 50 09.9**	**-0.6**
BRRC				*i*			00 50 11.4	
	comp=Z,1μm,0.2s							
RUSC	**La Rusia**	**0.91**	**182**	*i*P		**Pn**	**00 49 55.1**	**0.0**
RUSC				*e*S		**Sn**	**00 50 13.1**	**-1.0**
RUSC				*i*			00 50 15.0	
	comp=Z,546nm,0.5s							
CAPV	**Capacho**	**1.28**	**35**	*i*P		**Pn**	**00 49 59.4**	**+1.4**
CAPV				*e*S		**Sn**	**00 50 20.0**	**+0.8**
OCAC	**Ocana**	**1.44**	**349**	*e*P		**Pn**	**00 49 60.0**	**+0.4**
OCAC				*e*S		**Sn**	**00 50 21

0.4nm,0.8s,baz=46,slow=4.2,SNR=3.0

CSEM ***03*** *00:54:10.5, 50°.26N×12°.50E, h4km*

PRU 03 00:54:10.5, 50°.26N×12°.50E, h4km, 2D, West Bohemia Swarm, Germany

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NKC	**Novy Kostel**	**0.04**	**231**	∥*i*PG	Pg	00 54 12.2	+0.6
NKC				*e*SG	Sg	00 54 13.1	+0.7
	comp=Z,233nm,0.4s						
NKC	**Novy Kostel**	**0.04**	**231**	Pg	Pg	00 54 12.2	+0.6
NKC				Sg	Sg	00 54 13.1	+0.7
	233nm,0.4s						
CLL	**Collm**	**1.10**	**17**	*i*	Pb	00 54 31.8	-0.2
CLL				*i*		00 54 34.8	
CLL				*i* Sg	Sb	00 54 46.4	-0.3
	comp=Z,3.0nm,0.4s						
CLL				*e*		00 54 50.0	
KHC	**Kasperske Hory**	**1.33**	**148**	*e*SG	Sg	00 54 52.3	-0.9
	comp=Z,1.5nm,0.3s						
KHC	**Kasperske Hory**	**1.33**	**148**	Sg	Sg	00 54 52.3	-0.9
	comp=Z,1.5nm,0.3s						
PRU	**Pruhonice**	**1.34**	**101**	∥*e*SG	Sg	00 54 53.3	-0.3
	comp=Z,3.4nm,0.3s						
PRU	**Pruhonice**	**1.34**	**101**	Sg	Sg	00 54 53.3	-0.3
	comp=Z,3.4nm,0.3s						
GOPC	**GO Pecny, Ondr**	**1.51**	**102**	*e*SG	Sg	00 54 59.2	+0.1
	comp=Z,3.2nm,0.3s						
GOPC	**GO Pecny, Ondr**	**1.51**	**102**	Sg	Sg	00 54 59.2	+0.1
	comp=Z,3.2nm,0.3s						
DPC	**Dobruska-Polom**	**2.45**	**86**	*e*SG	Sg	00 55 27.8	-1.4
	comp=Z,0.7nm,0.3s						
DPC	**Dobruska-Polom**	**2.45**	**86**	Sg	Sg	00 55 27.8	-1.4
	comp=Z,0.7nm,0.3s						

ISCJB ***03*** *00:58:46.8±1.6, 50°.22N±0°.04×12°.59E±0°.08, h9km±16km, Error ellipse: s-maj=9.1km s-min=5.9km az=162.5*

CSEM ***03*** *00:58:47.2±0.3, 50°.23N×12°.53E, h10km, ML2.6/7, Error ellipse: s-maj=8.8km s-min=4.5km az=4.0*

PRU ***03*** *00:58:48.1, 50°.26N×12°.53E, h1km, West Bohemia Swarm*

ISC 03 00:58:47.8±1.0, 50°.23N±0°.04×12°.55E±0°.05, h6km±10km, n18, σ0°62/24, 4D, Germany

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NKC	**Novy Kostel**	**0.07**	**269**	∥*i*PG	**Pg**	**00 58 49.6**	**+0.1**
NKC				*e*SG	**Sg**	**00 58 50.5**	**-0.1**
	comp=Z,731nm,0.2s						
NKC	**Novy Kostel**	**0.07**	**269**	Pg	**Pg**	**00 58 49.6**	**+0.1**
NKC				Sg	**Sg**	**00 58 50.5**	**-0.1**
	731nm,0.2s						
BRG	**Berggiesshubel**	**1.09**	**54**	PG	**Pn**	**00 59 09.5**	**-0.1**
BRG				SG	**Sb**	**00 59 24.4**	**+0.8**
	11nm,0.3s						
CLL	**Collm**	**1.11**	**15**	*i* Pg	**Pg**	**00 59 09.0**	**-0.1**
CLL				*i*		00 59 12.0	
CLL				*i* Sg	**Sb**	**00 59 24.1**	**0.0**
	comp=Z,8.0nm,0.3s						
CLL				*i*		00 59 27.8	
PRA	**Prague**	**1.22**	**97**	∥*e*SG	**Sn**	**00 59 28.2**	**0.0**
	comp=Z,6.4nm,0.4s						
PRA	**Prague**	**1.22**	**97**	Sg	**Sn**	**00 59 28.2**	**0.0**
	comp=Z,6.4nm,0.4s						
KHC	**Kasperske Hory**	**1.29**	**149**	*e*PG	**Pn**	**00 59 12.1**	**-0.3**
KHC				*e*SG	**Sg**	**00 59 29.1**	**-0.1**
	comp=Z,3.6nm,0.2s						
KHC	**Kasperske Hory**	**1.29**	**149**	Pg	**Pn**	**00 59 12.1**	**-0.3**
KHC				Sg	**Sg**	**00 59 29.1**	**-0.1**
	comp=Z,3.6nm,0.2s						
PRU	**Pruhonice**	**1.30**	**100**	∥*e*SG	**Sn**	**00 59 30.6**	**+0.4**
	comp=Z,5.7nm,0.2s						
PRU	**Pruhonice**	**1.30**	**100**	Sg	**Sn**	**00 59 30.6**	**+0.4**
	comp=Z,5.7nm,0.2s						
GOPC	**GO Pecny, Ondr**	**1.47**	**102**	*e*SG	**Sg**	**00 59 36.2**	**+1.1**
	comp=Z,7.1nm,0.2s						
GOPC	**GO Pecny, Ondr**	**1.47**	**102**	Sg	**Sg**	**00 59 36.2**	**+1.1**
	comp=Z,7.1nm,0.2s						
UPC	**Upice**	**2.23**	**82**	∥*e*SG	**Sg**	**00 59 59.3**	**-0.1**
	comp=Z,2.4nm,0.3s						
UPC	**Upice**	**2.23**	**82**	Sg	**Sg**	**00 59 59.3**	**-0.1**
	comp=Z,2.4nm,0.3s						
DPC	**Dobruska-Polom**	**2.42**	**86**	*e*SG	**Sg**	**01 00 04.8**	**-0.6**
	comp=Z,2.3nm,0.5s						
DPC	**Dobruska-Polom**	**2.42**	**86**	Sg	**Sg**	**01 00 04.8**	**-0.6**
	comp=Z,2.3nm,0.5s						
VRAC	**Vranov**	**2.78**	**108**	*e*Sg	**Sg**	**01 00 15.2**	**-1.7**
MORC	**Moravsky Berou**	**3.25**	**96**	*e*Sg	**Sg**	**01 00 31.6**	**-0.5**

IDC ***03*** *00:59:43.6±1.2, 52°.08N×171°.67W, h0km, mb3.8/12, mb1 4.0/13, mb1mx3.7/52, mbtmp3.7/13, ML3.7/1, Error ellipse: s-maj=33.2km s-min=19.0km az=3.0*

ISCJB ***03*** *00:59:48.7±0.7, 51°.87N±0°.10×171°.43W±0°.05, h44km, mb3.8/12, Error ellipse: s-maj=14.2km s-min=3.6km az=167.1*

NEIC ***03*** *00:59:49.4±0.0, 51°.88N×171°.44W, h38km, ML3.7(AEIC), After AEIC.*

ISC 03 00:59:49.4±0.9, 51°.9N±0°.1×171°.47W±0°.04, h44km, n33, σ19°40/39, mb3.9/12, Fox Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KOSE	**Korovin Southe**	**1.65**	**286**	P	**Pn**	**01 00 17.4**	**+1.5**
KOSE				S	**Sn**	**01 00 38.8**	**+2.9**
KOFP	**Korovin Flat P**	**1.66**	**284**	P	**Pn**	**01 00 17.1**	**+1.0**
ATKA	**Atka Island**	**1.71**	**281**	P	**Pn**	**01 00 16.6**	**0.0**
ATKA				S	**Sn**	**01 00 36.9**	**-0.4**
KOKL	**Mount Kliuchef**	**1.73**	**285**	P	**Pn**	**01 00 18.1**	**+1.1**
KOWE	**Korovin West**	**1.77**	**286**	P	**Pn**	**01 00 19.2**	**+1.6**
NIKH	**Nikolski High**	**1.93**	**55**	P	**Pn**	**01 00 18.7**	**-0.9**
NIKH				S	**Sn**	**01 00 41.1**	**-1.5**
OKSP	**Okmok Steeple**	**2.36**	**54**	P	**Pn**	**01 00 26.3**	**+0.6**
OKSO	**Okmok South**	**2.48**	**53**	P	**Pn**	**01 00 28.4**	**+1.0**
OKSO				S	**Sn**	**01 00 59.3**	**+2.8**
OKCE	**Okmok Cone E**	**2.52**	**52**	P	**Pn**	**01 00 28.8**	**+0.9**
OKTU	**Okmok Mt. Tuli**	**2.56**	**53**	P	**Pn**	**01 00 30.0**	**+1.6**
OKFG	**Magazine Ridge**	**2.64**	**54**	P	**Pn**	**01 00 30.2**	**+0.7**
GSMY	**Great Sitkin M**	**2.84**	**275**	P	**Pn**	**01 00 32.8**	**+0.6**
GSTD	**Great Sitkin T**	**2.89**	**275**	P	**Pn**	**01 00 34.0**	**+1.0**
MCIR	**Makushin Cirqu**	**3.44**	**52**	P	**Pn**	**01 00 41.7**	**+1.2**
MSW	**Makushin Switc**	**3.48**	**53**	P	**Pn**	**01 00 42.0**	**+1.1**
MTBL	**Makushin Table**	**3.56**	**53**	P	**Pn**	**01 00 43.5**	**+1.4**
UNV	**Unalaska Valle**	**3.58**	**55**	P	**Pn**	**01 00 43.1**	**+0.7**
UNV				S	**Sn**	**01 01 25.4**	**+2.1**
AKGG	**Akutan Green G**	**4.02**	**53**	P	**Pn**	**01 00 49.5**	**+1.0**
AKUT	**Akutan**	**4.10**	**55**	*e*Pn	**Pn**	**01 00 50.9**	**+1.4**
AKUT				*e*Sn	**Sn**	**01 01 36.6**	**+0.5**
SPIA	**Saint Paul Isl**	**5.33**	**7**	P	**Pn**	**01 01 08.0**	**+1.7**
ILAR	**Eielson Array**	**18.07**	**35**	P	**Pn**	**01 03 54.8**	**-2.0**
	0.1nm,0.3s,baz=227,slow=8.8,SNR=4.4						
SEY	**Seymchan**	**22.04**	**314**	P	**P**	**01 04 38.6**	**-1.3**
	1.1nm,0.2s,baz=90,slow=17,SNR=2.7						
DLBC	**Dease Lake**	**24.23**	**58**	P	**P**	**01 05 03.6**	**+1.7**
	2.1nm,0.5s,baz=259,slow=18,SNR=4.2						
INK	**Inuvik**	**24.45**	**34**	P	**P**	**01 05 03.0**	**-0.5**
	1.2nm,0.6s,baz=192,slow=8.0,SNR=1.7						
YKA	**Yellowknife Ar**	**31.52**	**48**	P	**P**	**01 06 06.9**	**+0.2**
	0.2nm,0.4s,baz=79,slow=7.8,SNR=6.2						
NEW	**Newport**	**34.38**	**74**	P	**P**	**01 06 33.5**	**+1.5**
	1.3nm,0.5s,baz=278,slow=7.1,SNR=3.4						
PDAR	**Pinedale Array**	**41.77**	**77**	P	**P**	**01 07 34.9**	**+0.4**
	0.8nm,0.8s,baz=327,slow=2.5,SNR=5.9						
SONM	**Songino Array**	**50.41**	**300**	P	**P**	**01 08 42.1**	**-0.2**
	0.5nm,0.7s,baz=68,slow=6.4,SNR=2.9						
TXAR	**Lajitas Array**	**54.06**	**87**	P	**P**	**01 09 09.9**	**+0.4**
	0.3nm,0.7s,baz=284,slow=4.8,SNR=4.8						
ZALV	**Zalesovo Beam**	**56.88**	**317**	P	**P**	**01 09 28.2**	**-1.0**
	0.4nm,0.3s,baz=68,slow=8.0,SNR=2.4						
ARCES	**ARCESS Array B**	**58.23**	**353**	P	**P**	**01 09 36.6**	**-2.0**
	1.0nm,0.7s,baz=18,slow=6.6,SNR=2.3						
FINES	**FINESS Array B**	**66.13**	**351**	P	**P**	**01 10 29.4**	**-2.1**
	3.5nm,1.1s,baz=26,slow=9.1,SNR=5.0						
ASAR	**Alice Springs**	**89.11**	**228**	P	**P**	**01 12 40.6**	**+0.8**
	0.5nm,0.7s,baz=33,slow=5.0,SNR=5.2						

GCMT ***03*** *01:06:53.8±0.1, 12°.80S×166°.54E, h94km, MW5.8/134, Moment Tensor Solution. s134,c274; s130,c339; Duration: 2s0 Moment tensor: Scale 10¹⁷Nm; Mrr5.86±.05; Mθθ-6.24±.07; Mϕϕ0.38±.06; Mrθ-2.44±.05; Mθϕ-1.38±.06; Mϕr-2.12±.05; Best double couple: M07.00000×10¹⁷ NP1:ϕ1p245.00000°,δ59.00000°, λ74.00000°. NP2:ϕ1p93.00000°,δ35.00000°,λ114.00000°. Principal axes: T 6.8620, Plg72.0000°, Azm118.0000°; N 0.2780, Plg13.0000°, Azm253.0000°; P -7.1390, Plg12.0000°, Azm346.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*

IDC ***03*** *01:06:53.7±0.4, 12°.85S×166°.76E, h85km±3km, mb4.9/26, mb1 5.0/28, mb1mx5.0/30, mbtmp5.2/28, MS4.8/21, Ms1 4.8/21, ms1mx4.7/26 Error ellipse: s-maj=10.2km s-min=8.4km az=63.0*

NEIC ***03*** *01:06:53.8±0.1, 12°.78S×166°.79E, h85km, mb5.6/105, MW5.8, MW5.8, Error ellipse: s-maj=3.6km s-min=3.4km az=115.0, Moment Tensor Solution. s52 Moment tensor: Scale 10¹⁷Nm; Mrr5.96; Mθθ-4.97; Mϕϕ-1.00; Mrθ-2.49; Mθϕ-1.33; Mϕr-1.77; Best double couple: M06.50000×10¹⁷ NP1:ϕ1p245.00000°,δ59.00000°,λ82.00000°. NP2: ϕ1p80.00000°,δ32.00000°,λ102.00000°. Principal axes: T 6.7800, Plg75.0000°, Azm134.0000°; N -0.7000, Plg7.0000°, Azm249.0000°; P -6.0800, Plg14.0000°, Azm341.0000°;*

BJI ***03*** *01:06:54.3, 12°.50S×166°.63E, h86km, mb5.3/68, mB5.4/58, Ms5.3/63, Ms7 5.0/63*

ISCJB ***03*** *01:06:54.5±0.8, 12°.89S±0°.02×166°.74E±0°.02, h102km±6km, mb5.4/176, Error ellipse: s-maj=3.7km s-min=3.2km az=10.1*

MOS ***03*** *01:06:55.4±1.0, 12°.77S×166°.68E, h106km, mb5.5/41, MS5.3/12, Error ellipse: s-maj=7.1km s-min=6.4km az=130.1*

NEIC ***03*** *01:06:56.0±0.0, 12°.68S×166°.47E, h100km, Moment Tensor Solution. s35 Moment tensor: Scale 10¹⁷Nm; Mrr5.02; Mθθ-4.55; Mϕϕ-0.46; Mrθ-2.21; Mθϕ-1.49; Mϕr-2.61; Best double couple: M06.10000×10¹⁷ NP1: ϕ236.00000°,δ62.00000°,λ74.00000°. NP2:ϕ86.00000°, δ32.00000°,λ117.00000°. Principal axes: T 6.2800, Plg68.0000°, Azm113.0000°; N -0.4200, Plg13.0000°, Azm243.0000°; P -5.8600, Plg15.0000°. Azm337.0000°;*

ISC 03 01:06:54.7±0.3, 12°.81S±0°.03×166°.66E±0°.03, h92km±1km, h92km:pP-P, n878, σ1°53/994, mb5.5/196, 49C-30D, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**7.39**	**296**	P	**Pn**	**01 08 42.4**	**+2.4**
	254nm,0.3s,baz=263,slow=12,SNR=48						
HNR				S	**Sn**	**01 10 03.5**	**+1.2**
	510nm,0.3s,baz=180,slow=23,SNR=20						
HNR	**Honiara**	**7.39**	**296**	*e*P	**Pn**	**01 08 41.0**	**+1.0**
HNR				*e*S	**Sn**	**01 09 54.0**	**-8.4**
HNR	**Honiara**	**7.39**	**296**	*e*Pn	**Pn**	**01 08 42.9**	**+3.0**
HNR				*e*Sn	**Sn**	**01 10 03.0**	**+0.6**
DZM	**Mont Dzumac**	**9.22**	**181**	P	**Pn**	**01 09 05.2**	**+0.3**
	262nm,0.3s,baz=139,slow=23,SNR=1028						
DZM				S	**Sn**	**01 10 45.0**	**-1.8**
	18nm,0.3s,baz=321,slow=20,SNR=3.3						
DZM	**Mont Dzumac**	**9.22**	**181**	*e*Pn	**Pn**	**01 09 03.3**	**-1.6**
	4μm,1.3s						
DZM				*e*LR	LR	01 11 18.6	
	47μm,26.4s						
MSVF	**Nonsavu**	**12.03**	**115**	*e*P	**Pn**	**01 09 45.8**	**+2.8**
MSVF	**Nonsavu**	**12.03**	**115**	*e*Pn	**Pn**	**01 09 45.8**	**+2.8**
FUNA	**Funafuti**	**13.03**	**72**	*e*Pn	**Pn**	**01 09 56.6**	**+0.3**
TARA	**Taiwa**	**15.38**	**24**	*e*Pn	**P**	**01 10 28.5**	**-0.8**
	546nm,0.7s						
EIDS	**Eidsvold**	**19.29**	**227**	P	**Pn**	**01 11 14.8**	**+0.6**
	baz=19,SNR=101						
EIDS	**Eidsvold**	**19.29**	**227**	*e*P	**Pn**	**01 11 14.9**	**+0.6**
	332nm,0.8s						
PMG	**Port Moresby**	**19.43**	**278**	P	**Pn**	**01 11 16.3**	**+0.3**
	2.3nm,0.3s,baz=114,slow=4.6,SNR=7.3						
PMG	**Port Moresby**	**19.43**	**278**	*de*P	**Pn**	**01 11 16.1**	**+0.1**
PMG				pmax	pmax		
	comp=Z,485nm,1.7s						
PMG	**Port Moresby**	**19.43**	**278**	*e*P	**Pn**	**01 11 15.4**	**-0.6**
LHI	**Lord Howe Isla**	**19.90**	**199**	P	**Pn**	**01 11 20.9**	**-0.4**
	baz=20,SNR=6.5						
LHI	**Lord Howe Isla**	**19.90**	**199**	*e*P	**Pn**	**01 11 21.2**	**0.0**
	comp=Z,210nm,0.7s						
CTA	**Charters Tower**	**20.86**	**247**	P	Pn	01 11 31.2	-1.5
	comp=Z,131nm,0.9s,baz=76,slow=12,SNR=53						
CTAO	**Charters Tower**	**20.86**	**247**	*e*P	Pn	01 11 31.9	-0.8
CTAO				pmax	pmax		
	comp=Z,341nm,1.2s						
CTAO	**Charters Tower**	**20.86**	**247**	*e*P	Pn	01 11 31.9	-0.8
	comp=Z,341nm,1.2s						
AFI	**Afiamalu**	**21.01**	**95**	P	**P**	**01 11 32.9**	**+1.9**
	comp=Z,317nm,0.8s,baz=89,slow=2.2,SNR=32						
AFI	**Afiamalu**	**21.01**	**95**	*e*P	**P**	**01 11 33.0**	**+1.9**
	comp=Z,547nm,1.0s						
PATS	**Pohnpei**	**21.21**	**337**	P	**P**	**01 11 34.1**	**+1.0**
	baz=21,SNR=19						
PATS	**Pohnpei**	**21.21**	**337**	*e*P	**P**	**01 11 33.7**	**+0.6**
	comp=Z,462nm,1.3s						
KWAJ	**Kwajalein Atol**	**21.49**	**3**	*e*P	**P**	**01 11 37.4**	**+1.3**
KWAJ				pmax	pmax		
	comp=Z,627nm,1.4s						
KWAJ	**Kwajalein Atol**	**21.49**	**3**	*e*P	**P**	**01 11 37.4**	**+1.3**
	comp=Z,627nm,1.4s						
RMQ	**Roma**	**21.63**	**228**	P	**P**	**01 11 39.6**	**+2.1**
	baz=22,SNR=89						
RAO	**Raoul Island**	**21.75**	**141**	P	**P**	**01 11 39.9**	**+1.1**
	comp=Z,911nm,0.3s,baz=75,slow=20,SNR=2.5						
RAO	**Raoul Island**	**21.75**	**141**	*e*P	**P**	**01 11 37.9**	**-0.9**
RAO				pmax	pmax		
	comp=Z,990nm,1.1s						
RAO	**Raoul Island**	**21.75**	**141**	*e*P	**P**	**01 11 37.9**	**-0.9**
	comp=Z,990nm,1.1s						
MANU	**Manus Island**	**21.89**	**298**	*e*P	**P**	**01 11 41.9**	**+1.4**
	comp=Z,240nm,1.1s						
MTSU	**Mount Surprise**	**22.17**	**253**	P	**P**	**01 11 45.4**	**+2.0**
	baz=22,SNR=31						
ARMA	**Armidale**	**22.37**	**216**	P	**P**	**01 11 47.2**	**+1.7**
	baz=22,SNR=77						
ARMA	**Armidale**	**22.37**	**216**	*e*P	**P**	**01 11 47.0**	**+1.5**
	comp=Z,573nm,1.0s						
COEN	**Coen**	**22.88**	**264**	P	**P**	**01 11 52.3**	**+1.6**
	baz=23,SNR=14						
COEN	**Coen**	**22.88**	**264**	*e*P	**P**	**01 11 51.8**	**+1.0**
	comp=Z,150nm,1.3s						
OUZ	**Omahuta**	**23.18**	**165**	*e*P	**P**	**01 11 54.4**	**+1.0**
	comp=Z,666nm,1.9s						
NIUE	**Niue**	**23.34**	**109**	P	**P**	**01 11 55.4**	**+0.3**
	baz=23,SNR=26						
MGCD	**Mangrove Creek**	**24.79**	**212**	P	**P**	**01 12 10.2**	**+2.1**
	baz=25,SNR=31						
QLP	**Quilpie**	**25.11**	**234**	P	**P**	**01 12 12.2**	**+1.1**
	baz=25,SNR=119						
RIV	**Riverview**	**25.25**	**211**	P	**P**	**01 12 14.4**	**+2.2**
HAZ	**Te Kaha**	**26.76**	**160**	*e*PN	**P**	**01 12 25.4**	**-0.3**
HAZ				*e*SN	**S**	**01 16 50.6**	**-4.3**
CMSA	**Cobar Meteorol**	**26.83**	**223**	P	**P**	**01 12 27.3**	**+0.8**
	baz=27,SNR=66						
RUGZ	**Raukumara Rang**	**26.91**	**161**	PN	**P**	**01 12 27.0**	**-0.3**
URZ	**Urewera**	**27.00**	**162**	P	**P**	**01 12 27.7**	**-0.3**
	comp=Z,21nm,0.5s,baz=258,slow=2.7,SNR=35						
URZ				PcP	**PcP**	**01 15 44.8**	**-2.5**
	comp=Z,23nm,0.9s,baz=350,slow=8.5,SNR=3.8						
URZ				S	**S**	**01 16 56.8**	**-2.0**
	comp=Z,5.6nm,0.5s,baz=129,slow=22,SNR=8.1						
URZ	**Urewera**	**27.00**	**162**	*e*P	**P**	**01 12 28.2**	**+0.3**
	comp=Z,159nm,1.4s						
URZ				PcP	**PcP**	**01 15 44.8**	**-2.5**
URZ				S	**S**	**01 16 56.8**	**-2.0**
URZ	**Urewera**	**27.00**	**162**	*e*PN	**P**	**01 12 26.1**	**-1.9**
URZ				PcP	**PcP**	**01 15 44.9**	**-2.5**
URZ				*e*SN	**S**	**01 16 56.3**	**-2.5**
QIS	**Mount Isa**	**27.01**	**250**	P	**P**	**01 12 29.6**	**+1.2**
	baz=27,SNR=12						
WMGZ	**Waiomatatini S**	**27.03**	**159**	*e*PN	**P**	**01 12 26.7**	**-1.5**
MUGZ	**Murupara**	**27.10**	**162**	*e*PN	**P**	**01 12 27.6**	**-1.3**
MWZ	**Matawai**	**27.20**	**161**	PN	**P**	**01 12 28.4**	**-1.4**
MWZ				PcP	**PcP**	**01 15 46.3**	**-1.6**
PUZ	**Puketiti**	**27.20**	**160**	*e*PN	**P**	**01 12 28.0**	**-1.8**
PUZ				*e*SN	**S**	**01 16 56.4**	**-5.6**
CNB	**Canberra Magne**	**27.33**	**212**	P	**P**	**01 12 32.6**	**+1.6**
	baz=27,SNR=26						
CAN	**Canberra**	**27.52**	**212**	*e*P	**P**	**01 12 31.2**	**-1.6**
CAN				*e*		01 15 48.9	
	comp=Z,335nm,1.8s			pmax	pmax		
CAN	**Canberra**	**27.52**	**212**	*e*P	**P**	**01 12 31.2**	**-1.6**
	comp=Z,334nm,1.8s						
CAN				*e*PcP	**PcP**	**01 15 48.9**	**+0.1**
RIGZ	**Rimuhau**	**27.61**	**161**	*e*PN	**P**	**01 12 33.3**	**-0.2**
JAY	**Jayapura**	**27.65**	**290**	P	**P**	**01 12 35.1**	**+1.0**
	comp=Z,0.9nm,0.8s,baz=90,slow=20,SNR=3.6						
BKZ	**Black Stump Fm**	**27.66**	**163**	*e*P	**P**	**01 12 34.0**	**+0.1**
	comp=Z,58nm,0.6s						
BKZ	**Black Stump Fm**	**27.66**	**163**	PN	**P**	**01 12 32.4**	**-1.5**
NMHZ	**Naumai**	**27.69**	**163**	PN	**P**	**01 12 33.6**	**-0.6**
BHHZ	**Black Hill Sta**	**27.85**	**164**	PN	**P**	**01 12 34.6**	**-1.0**
KNZ	**Kokohu**	**27.88**	**161**	PN	**P**	**01 12 33.3**	**-2.5**
KWHZ	**Kaweka Forest**	**27.88**	**164**	PN	**P**	**01 12 34.8**	**-1.1**
KAHZ	**Kahuranaki**	**28.35**	**163**	*e*PN	**P**	**01 12 38.6**	**-1.5**
PXZ	**Pawanui**	**28.57**	**163**	*e*PN	**P**	**01 12 40.0**	**-1.9**
MILA	**Mila**	**28.79**	**210**	P	**P**	**01 12 45.8**	**+1.7**
	baz=29,SNR=10						
MRZ	**Mangatainoka R**	**28.83**	**166**	PN	**P**	**01 12 42.9**	**-1.4**
MRZ				PcP	**PcP**	**01 15 50.6**	**-1.2**
OGWZ	**Otaki Gorge**	**28.89**	**167**	*e*PN	**P**	**01 12 43.4**	**-1.3**
BFZ	**Birch Farm**	**29.02**	**165**	*e*P	**P**	**01 12 45.0**	**-0.9**
	comp=Z,75nm,0.9s						
BFZ	**Birch Farm**	**29.02**	**165**	PN	**P**	**01 12 44.1**	**-1.8**
BFZ				PcP	**PcP**	**01 15 52.2**	**-0.1**
CAW	**Cannon Point**	**29.14**	**167**	PN	**P**	**01 12 46.3**	**-0.7**
THZ	**Tophouse**	**29.36**	**170**	*e*P	**P**	**01 12 49.3**	**+0.3**
	comp=Z,59nm,0.6s						
THZ	**Tophouse**	**29.36**	**170**	PN	**P**	**01 12 48.5**	**-0.5**
SMPI	**Sarmi**	**29.69**	**289**	P	**P**	**01 12 53.0**	**+0.8**
	comp=Z,116nm,1.4s,comp=Z,1μm						
STKA	**Stephens Creek**	**29.84**	**226**	P	**P**	**01 12 54.4**	**+1.1**
	comp=Z,146nm,0.8s,baz=42,slow=8.2,SNR=148						
STKA				PcP	**PcP**	**01 15 53.8**	**-0.8**
	comp=Z,22nm,0.8s,baz=352,slow=5.2,SNR=3.7						
STKA				ScP	**ScP**	**01 19 28.7**	**+0.1**
	comp=Z,13nm,1.0s,baz=356,slow=5.9,SNR=5.2						
STKA				LR	LR	01 24 25.3	
	comp=Z,2μm,18.5s,baz=52,slow=35						
STKA	**Stephens Creek**	**29.84**	**226**	P	**P**	**01 12 54.4**	**+1.1**
	baz=30,SNR=110						
INZ	**Inchbonnie**	**30.10**	**173**	*e*PN	**P**	**01 12 54.6**	**-0.8**
INZ				PcP	**PcP**	**01 15 54.0**	**-1.0**
KHZ	**Kahutara**	**30.10**	**170**	*e*P	**P**	**01 12 55.9**	**+0.4**
	comp=Z,71nm,0.5s						
KHZ	**Kahutara**	**30.10**	**170**	PN	**P**	**01 12 53.9**	**-1.6**
LTZ	**Lake Taylor**	**30.26**	**172**	*e*P	**P**	**01 12 56.7**	**-0.2**
	comp=Z,130nm,0.6s						
FOZ	**Fox Glacier**	**30.74**	**176**	*e*P	**P**	**01 13 01.0**	**0.0**
	comp=Z,177nm,0.8s						
FOZ	**Fox Glacier**	**30.74**	**176**	PN	**P**	**01 13 00.9**	**-0.1**
FOZ				PcP	**PcP**	**01 15 56.1**	**-0.5**
OXZ	**Oxford**	**30.76**	**172**	*e*P	**P**	**01 13 01.1**	**-0.2**
	comp=Z,174nm,1.1s						
OXZ	**Oxford**	**30.76**	**172**	PN	**P**	**01 13 00.3**	**-1.0**
RPZ	**Rata Peaks**	**31.03**	**174**	P	**P**	**01 13 03.6**	**0.0**
	comp=Z,95nm,0.5s,baz=342,slow=3.3,SNR=114						
RPZ	**Rata Peaks**	**31.03**	**174**	*e*P	**P**	**01 13 03.7**	**0.0**
	comp=Z,122nm,0.7s						
RPZ	**Rata Peaks**	**31.03**	**174**	PN	**P**	**01 13 03.1**	**-0.6**
TOO	**Toolangi**	**31.08**	**214**	P	**P**	**01 13 05.6**	**+1.4**
	baz=31,SNR=15						
CRLZ	**Canterbury Las**	**31.09**	**172**	*e*P	**P**	**01 13 04.2**	**+0.1**
	comp=Z,398nm,1.6s						
H11S2	**WAKE ISLAND Hy**	**31.10**	**0**	T	T	01 44 16.5	
	baz=184,slow=76,SNR=69						
H11S3	**WAKE ISLAND Hy**	**31.10**	**0**	T	T	01 44 16.2	
	baz=184,slow=76,SNR=78						
H11S1	**WAKE ISLAND Hy**	**31.12**	**0**	T	T	01 44 16.5	
	baz=184,slow=76,SNR=96						
JCZ	**Jackson Bay**	**31.21**	**177**	PN	**P**	**01 13 06.2**	**+0.8**
JCZ				PcP	**PcP**	**01 15 58.4**	**+0.3**
MQZ	**McQueen's Vall**	**31.22**	**172**	*e*P	**P**	**01 13 05.3**	**0.0**
	comp=Z,119nm,0.8s						
MQZ	**McQueen's Vall**	**31.22**	**172**	*e*PN	**P**	**01 13 04.1**	**-1.2**
LBZ	**Lake Benmore**	**31.61**	**175**	*e*P	**P**	**01 13 09.4**	**+0.6**
	comp=Z,185nm,1.4s						
LBZ	**Lake Benmore**	**31.61**	**175**	PN	**P**	**01 13 07.6**	**-1.2**
LBZ				PcP	**PcP**	**01 15 59.3**	**+0.3**
WRAB	**Tennant Creek**	**31.76**	**253**	*c* P	**P**	**01 13 10.2**	**-0.2**
WRAB				pmax	pmax		
	comp=Z,355nm,1.4s						
WRAB	**Tennant Creek**	**31.76**	**253**	*e*P	**P**	**01 13 10.6**	**+0.2**
	comp=Z,169nm,1.4s						
WRAB				*e*ScP	**ScP**	**01 19 36.6**	**+1.4**
WRA	**Warramun

comp=Z,7μm,0.7s
FITZ Fitzroy Crossi 39.83 257 P P 01 14 19.9 +0.5
baz=40,SNR=85
FITZ Fitzroy Crossi 39.83 257 eP P 01 14 19.9 +0.5
comp=Z,424nm,1.5s
NLAI Namlea 40.26 280 P P 01 14 25.6 +2.7
SOEI Soe 41.65 270 P P 01 14 36.9 +2.3
SOEI Soe 41.65 270 eP P 01 14 35.9 +1.3
comp=Z,129nm,1.2s
SANI Sanana 41.66 281 P P 01 14 36.5 +2.1
MCQ Macquarie Isla 42.03 187 eP P 01 14 37.0 +0.1
MCQ pmax pmax
comp=Z,235nm,1.1s
MCQ Macquarie Isla 42.03 187 eP P 01 14 37.0 +0.1
comp=Z,235nm,1.1s
BATI Baumata 42.18 269 P P 01 14 41.2 +2.4
PAE Paea 42.42 102 eP P 01 14 41.3 +0.7
comp=Z,26nm,1.2s
PPT2 Papeete2 42.43 102 eP P 01 14 41.7 +0.9
comp=Z,130nm,1.3s
PPT2 eS S 01 21 01.4 +5.4
comp=Z,1μm,27.5s
PPT2 eLQ LQ 01 24 47.0
comp=Z,8μm,35.0s
PPT2 eLR LR 01 26 38.4
comp=Z,13μm,31.2s,baz=274
PPT Papeete 42.43 102 P P 01 14 41.1 +0.4
comp=Z,71nm,0.9s,baz=347,slow=3.2,SNR=6.7
PPT LR LR 01 29 12.0
comp=Z,464nm,18.1s,baz=266,slow=32
TIAR Tiarei 42.65 102 eP P 01 14 43.6 +1.1
comp=Z,65nm,1.4s
TVO Taravao 42.74 102 eP P 01 14 44.2 +0.9
comp=Z,33nm,1.0s
TBI Tubuai 42.86 111 eP P 01 14 45.0 +0.9
comp=Z,71nm,0.9s
TBI eS S 01 21 07.3 +5.2
comp=Z,530nm,32.2s
TBI eLQ LQ 01 25 04.7
comp=Z,8μm,29.5s
TBI eLR LR 01 26 54.0
comp=Z,6μm,38.5s,baz=284
MMRI Maumere 43.81 271 P P 01 14 53.3 +1.4
MMRI Maumere 43.81 271 eP P 01 14 53.0 +1.1
comp=Z,408nm,1.4s
BBSI Bau Bau 44.08 275 P P 01 14 56.6 +2.5
VAH Vaihoa 44.35 99 eP P 01 14 57.3 +1.1
comp=Z,459nm,1.2s
LUWI Luwuk 45.02 282 P P 01 15 03.8 +2.3
LUWI Luwuk 45.02 282 eP P 01 15 03.0 +1.5
comp=Z,177nm,1.2s
BASI Baing, Sumba 45.19 268 P P 01 15 05.2 +2.3
GTOI Gorontalo 45.31 284 P P 01 15 06.8 +3.0
MBWA Marble Bar 45.51 253 eP P 01 15 06.6 +1.2
comp=Z,517nm,0.9s
MBWA Marble Bar 45.51 253 P P 01 15 07.3 +2.0
SNR=25
MBWA Marble Bar 45.51 253 P P 01 15 07.3 +2.0
SNR=25
BSSI Bau Bau, Buton 45.97 274 P P 01 15 11.5 +2.5
MRSI Marisa 46.27 283 P P 01 15 11.8 +0.4
KAPI Kappang 46.92 275 eP P 01 15 18.1 +1.6
comp=Z,100nm,1.0s
KAPI Kappang 46.92 275 P P 01 15 18.1 +1.6
SNR=11
MEEK Meekatharra 47.01 246 P P 01 15 18.2 +1.1
baz=47,SNR=243
SPSI Sidrap Palu 47.15 277 P P 01 15 19.0 +0.8
TTSI Tana Toraja 47.32 278 P P 01 15 22.1 +2.5
PCI Palu 47.87 281 P P 01 15 26.3 +2.4
PLAI Plampang 48.13 270 P P 01 15 26.9 +1.1
KLBR Kellerberrin 48.55 239 P P 01 15 28.9 0.0
baz=48,SNR=95
KIP Kipapa 48.58 46 ⇓eP P 01 15 30.3 +1.2
KIP pmax pmax
comp=Z,694nm,1.4s
KIP Kipapa 48.58 46 eP P 01 15 29.1 0.0
comp=Z,218nm,1.1s
OPA Opana 48.76 46 eP P 01 15 30.4 -0.1
OPA e*PP **pP 01 15 55.3 +2.7**
OPA Opana 48.76 46 eP P 01 15 30.4 -0.1
OPA epP **pP 01 15 55.3 +2.7**
TWSI Taliwang, Sumb 49.01 269 P P 01 15 34.3 +1.7
NWAO Narrogin (SRO) 49.25 237 P P 01 15 34.6 +0.4
baz=49,SNR=123
NWAO P P 01 15 34.6 +0.4
baz=49,SNR=123
NWAO Narrogin (SRO) 49.25 237 eP P 01 15 34.8 +0.6
NWAO pmax pmax
comp=Z,308nm,0.8s
NWAO Narrogin (SRO) 49.25 237 eP P 01 15 34.8 +0.6
comp=Z,308nm,0.8s
NWAO Narrogin (SRO) 49.25 237 P P 01 15 35.1 +0.9
SNR=8.1
NWAO Narrogin (SRO) 49.25 237 P P 01 15 35.1 +0.9
SNR=8.1
BLDU Ballidu 49.26 241 P P 01 15 34.4 +0.1
baz=49,SNR=50
POHA Pohakuloa 49.32 50 eP P 01 15 35.4 +0.4
comp=Z,148nm,0.9s
HPAH Hawaii Prepara 49.36 49 eP P 01 15 35.5 +0.3
HPAH epP **pP 01 15 57.2 -0.3**
MORW Morawa 49.59 243 P P 01 15 37.6 +0.7
baz=50,SNR=62
RKGY Rocky Gully 49.83 235 P P 01 15 39.8 +1.2
baz=50,SNR=28
GIRL Giralia 50.67 251 P P 01 15 47.4 +2.4
baz=51,SNR=7.0
IGBI Denpasar 50.69 269 P P 01 15 47.6 +2.2
SRBI Singaraja 50.75 270 P P 01 15 48.1 +2.3
MYLDM Lahad Datu 51.08 287 eP P 01 15 51.7 +3.4
comp=Z,79nm,1.1s
MYLDM Lahad Datu 51.08 287 ⇑P P 01 15 51.8 +3.5
JAGI Jajag, Banyuwa 51.72 269 P P 01 15 53.9 +0.8
JAGI Jajag, Banyuwa 51.72 269 eP P 01 15 52.9 -0.2
comp=Z,262nm,1.4s
BBKI Banjar Baru 52.04 276 P P 01 15 57.7 +2.2
H01W1 Cape Leeuwin H 52.16 236 P P 01 15 58.1 +2.3
baz=92,slow=7.7,SNR=11
H01W3 Cape Leeuwin H 52.17 236 P P 01 15 58.1 +2.2
baz=92,slow=7.7,SNR=5.0
H01W2 Cape Leeuwin H 52.18 236 P P 01 15 58.3 +2.4
baz=92,slow=7.7,SNR=4.0
TAOE Nuku Hiva Isla 52.32 91 eS S 01 23 18.8 +2.2
comp=Z,752nm,25.7s
TAOE eLR LR 01 30 55.8
comp=Z,4μm,31.1s,baz=274
JHJ Hachijo jima 2 52.38 331 LR LR 01 36 31.3
comp=Z,514nm,19.4s,baz=114,slow=34
BLJI Banyuglugur 52.39 270 P P 01 15 59.5 +1.5
GMJI Gumukmas 52.44 269 P P 01 16 00.7 +2.3
MTKI Muara Teweh, K 52.61 279 P P 01 16 01.4 +1.7
KDM Kudat 53.25 289 ⇓P P 01 16 06.8 +2.5
KKM Kota Kinabalu 53.51 287 eP P 01 16 07.2 +0.9
comp=Z,189nm,1.1s
KKM Kota Kinabalu 53.51 287 ⇓P P 01 16 08.1 +1.7
PWJI Pagerwojo 54.09 269 P P 01 16 11.7 +1.2
JOW Kunigami 54.25 317 LR LR 01 38 43.7
comp=Z,814nm,19.8s,baz=102,slow=35
JOW Kunigami 54.25 317 eP P 01 16 12.0 +0.7
comp=Z,22nm,0.8s
NGJI Ngawi 54.53 270 P P 01 16 15.4 +1.7
PCJI Pacitan 54.67 269 P P 01 16 16.2 +1.5
WOJI Wonogiri, Jawa 54.98 269 P P 01 16 18.2 +1.3
UGM Wanagama 55.35 269 P P 01 16 21.0 +1.3
UGM Wanagama 55.35 269 eP P 01 16 19.5 -0.2
comp=Z,129nm,0.9s
SMRI Semarang 55.59 270 P P 01 16 23.0 +1.7
SMRI Semarang 55.59 270 eP P 01 16 21.3 0.0
comp=Z,111nm,1.0s
MJAR Matsushiro Arr 55.94 332 P P 01 16 22.5 -0.9
comp=Z,5.6nm,0.8s,baz=166,slow=8.6,SNR=11
MJAR pP **pP 01 16 44.2 -1.9**
comp=Z,13nm,0.9s,baz=163,slow=7.0,SNR=7.0
MJAR LR LR 01 38 33.5
comp=Z,368nm,21.8s,baz=135,slow=34
MJAR Matsushiro Arr 55.94 332 P P 01 16 22.5 -0.9
MJAR *PP **pP 01 16 44.2 -1.9**
MJAR pmax pmax
comp=Z,5.0nm,0.8s
MJAR pmax pmax
comp=Z,13nm,0.9s
MAJO Matsushiro 55.94 332 ⇓eP P 01 16 24.1 +0.7
MAJO pmax pmax
comp=Z,74nm,0.9s
MAJO Matsushiro 55.94 332 eP P 01 16 23.4 0.0
comp=Z,28nm,1.1s
MAT Matsushiro 55.94 332 P P 01 16 22.3 -1.1
MAT S **S 01 24 05.4 +1.0**
SBUM Sibu 56.13 282 eP P 01 16 26.4 +1.2
SBUM Sibu 56.13 282 ⇓P P 01 16 27.3 +2.1
RKT Rikitea 56.15 109 eS S 01 24 12.2 +4.5
comp=Z,1μm,27.2s
RKT eLR LR 01 33 00.6
comp=Z,5μm,32.0s
STKI Sintang 56.18 279 P P 01 16 27.8 +2.3
KPJI Karang Pucung 57.01 270 P P 01 16 33.2 +1.8
JNU Nakatsue 57.02 324 eP P 01 16 31.8 +0.6
comp=Z,13nm,0.9s
JNU epP **pP 01 16 52.9 -1.0**
YULB Yu-li 57.13 309 eP P 01 16 33.8 +1.7
comp=Z,63nm,1.2s
NACB Ninganchiao 57.35 310 eP P 01 16 34.2 +0.6
comp=Z,190nm,1.7s
TPUB Ta-pu 57.59 308 eP P 01 16 35.9 +0.6
comp=Z,42nm,0.9s
TPUB epP **pP 01 16 56.8 -1.3**
SSLB Suanglung 57.61 309 eP P 01 16 36.0 +0.6
comp=Z,14nm,0.6s
KSM Kuching 57.68 280 eP P 01 16 36.6 +0.5
comp=Z,124nm,1.4s
KSM Kuching 57.68 280 ⇓P P 01 16 38.3 +2.2
YHNB Yeheng 57.80 310 eP P 01 16 36.7 -0.1
comp=Z,97nm,0.8s
JCJI Jatiwangi 57.81 270 P P 01 16 38.6 +1.6
CISI Cisompet, Garu 58.06 269 P P 01 16 39.4 +0.5
CISI Cisompet, Garu 58.06 269 eP P 01 16 38.4 -0.4
CNJI Cibinong 58.77 269 P P 01 16 46.4 +2.7
CBJI Citeko 59.21 270 P P 01 16 47.4 +0.6
DBJI Dramaga 59.28 270 P P 01 16 48.8 +1.5
SKJI Sukabumi 59.39 269 P P 01 16 49.5 +1.5
XMIS Christmas Isla 59.68 265 eP P 01 16 49.6 -0.5
QZH Quanzhou 60.04 309 ⇓P P 01 16 55.2 +3.0
QZH S **S 01 25 00.6 +2.4**
QZH LR LR
comp=Z,4μm,28.6s
CGJI Cibinong 60.30 270 P P 01 16 54.6 +0.3
PPBI Pangkal Pinang 60.80 275 P P 01 16 59.8 +2.1
BLSI Bandar Lampung 60.98 271 P P 01 17 00.5 +1.6
KASI Kota Agung 61.68 271 P P 01 17 03.8 +0.2
SSE Sheshan 61.73 316 P P 01 17 04.7 +1.1
SSE pP **pP 01 17 25.3 -1.3**
SSE S **S 01 25 18.1 -1.4**
SSE sS **sS 01 25 55.1 -3.8**
SSE pmax pmax
comp=Z,55nm,0.8s
SSE pmax pmax
comp=Z,160nm,5.3s
SSE LR LR
comp=Z,730nm,36.0s
SSE LR LR
comp=Z,790nm,36.0s
SSE LR LR
comp=Z,1μm,35.8s
KSRS Korea Array 61.83 326 P P 01 17 05.1 +1.0
comp=Z,6.9nm,0.8s,baz=140,slow=7.5,SNR=18
KSRS pP **pP 01 17 26.1 -1.1**
comp=Z,13nm,0.8s,baz=139,slow=7.3,SNR=10.0
KSAR Wonju Array Be 61.84 326 P P 01 17 05.1 +0.9
KSAR Wonju Array Be 61.84 326 P P 01 17 05.1 +0.9
KSAR pP **pP 01 17 26.1 -1.2**
MDSI Maura Dua 62.20 272 P P 01 17 07.0 -0.1
LWLI Liwa 62.21 271 P P 01 17 08.8 +1.5
DLV T Lat 62.74 291 eP P 01 17 09.9 -1.0
GZH Guangzhou 63.21 304 P P 01 17 11.2 -2.4
GZH S **S 01 25 40.2 +1.8**
GZH pmax pmax
comp=Z,360nm,3.9s
YSS Yuzh-Sakhalins 63.23 342 eP P 01 17 13.8 +0.6
YSS e 01 17 36.4
YSS e*SP **PcP 01 17 52.4 +2.6**
YSS e 01 19 37.4
YSS eS **S 01 25 37.0 -0.7**
YSS eSS **SS 01 29 45.0 -0.9**
YSS pmax pmax
comp=Z,20nm,0.8s
JMBI JAMBI 63.35 275 P P 01 17 16.8 +2.1
NJ2 Nanjing 63.90 316 eP P 01 17 18.2 +0.3
NJ2 pP **pP 01 17 40.0 -1.1**
NJ2 S **S 01 25 42.7 -3.9**
NJ2 sS **sS 01 26 26.1 -0.1**
NJ2 SS **SS 01 29 53.7 -3.2**
NJ2 pmax pmax
comp=Z,48nm,0.5s
NJ2 LR LR
comp=Z,760nm,13.0s
NJ2 LR LR
comp=Z,830nm,14.6s
NJ2 LR LR
comp=Z,1μm,15.7s
MYKOM Kota Tinggi 63.98 278 eP P 01 17 20.3 +1.4
QIZ Qiongzhong 64.30 299 P P 01 17 22.3 +1.4
QIZ pP **pP 01 17 44.1 +0.1**
QIZ sP **PcP 01 17 57.5 +2.7**
QIZ S **S 01 25 53.7 +1.6**
QIZ sS **sS 01 26 34.7 +3.0**
QIZ pmax pmax
comp=Z,39nm,1.1s
QIZ pmax pmax
comp=Z,400nm,7.0s
QIZ LR LR
comp=Z,480nm,24.9s
QIZ LR LR
comp=Z,1μm,40.6s
VNDA Vanda 64.76 181 P P 01 17 22.7 -0.2
comp=Z,36nm,0.9s,baz=1.4,slow=6.8,SNR=109
VNDA LR LR 01 41 56.0
comp=Z,859nm,20.7s,baz=16,slow=32
USRK Ussuriysk Ar. 64.91 333 P P 01 17 25.1 +0.8
comp=Z,15nm,0.9s,baz=145,slow=6.2,SNR=18
USRK pP **pP 01 17 46.5 -1.1**
comp=Z,11nm,0.9s,baz=134,slow=8.2,SNR=4.9
RGRI Rengat 64.92 276 P P 01 17 27.1 +2.1
SBA Scott Base 65.05 180 eP P 01 17 25.5 +0.8
SBA Scott Base 65.05 180 eP P 01 17 25.5 +0.8
SDSI Sungai Dareh 65.66 275 P P 01 17 31.2 +1.4
PET Petropavlovsk 65.92 355 eP P 01 17 31.1 +0.5
PET e*SP **sP 01 18 06.5 +2.5**
PET eS **S 01 26 10.2 -0.4**
PET eSP **SPn 01 26 27.3 -2.1**
PET ePS **PnS 01 26 38.8 -5.4**
PET eSS **ScS 01 27 18.7 +0.7**
PET pmax pmax
comp=Z,200nm,15.0s
PETK Petropavlovsk- 66.10 354 P P 01 17 32.9 +1.1
comp=Z,2.3nm,0.3s,baz=94,slow=9.5,SNR=4.2
PETK LR LR 01 40 46.1
comp=Z,1μm,21.7s,baz=159,slow=31
WHN Wuhan 66.23 312 ⇑P P 01 17 34.2 +1.1
WHN pP **pP 01 17 54.8 -1.6**
WHN S **S 01 26 15.7 +0.5**
WHN LR LR
comp=Z,3μm,21.4s
WHN LR LR
comp=Z,2μm,14.2s
WHN LR LR
comp=Z,2μm,17.9s
MDJ Mudanjiang 66.32 332 P P 01 17 35.0 +1.7
MDJ pP pP 01 17 59.0 +2.3
MDJ PcP **PcP 01 18 02.7 +0.1**
MDJ sP sP 01 18 10.9 +4.2
MDJ PP **PP 01 20 02.1 +1.4**
MDJ S **S 01 26 18.4 +2.7**
MDJ ScS **ScS 01 27 23.1 +1.6**
MDJ pmax pmax
comp=Z,21nm,1.0s
MDJ pmax pmax
comp=Z,210nm,6.1s
MDJ LR LR
comp=Z,1μm,35.0s
MDJ LR LR
comp=Z,670nm,35.0s
MDJ LR LR
comp=Z,2μm,32.7s
BKNI Bangkinang 66.34 276 P P 01 17 35.7 +1.5
BKNI Bangkinang 66.34 276 eP P 01 17 35.5 +1.4
DL2 Dalian 66.42 323 P P 01 17 34.5 +0.4
DL2 pP **pP 01 17 57.3 -0.1**
DL2 sP **sP 01 18 09.6 +2.1**
DL2 S **S 01 26 17.5 +0.3**
DL2 SS **SS 01 30 32.1 -3.8**
DL2 pmax pmax
comp=Z,59nm,1.1s
DL2 pmax pmax
comp=Z,440nm,4.0s
DL2 LR LR
comp=Z,1μm,30.6s
DL2 LR LR
comp=Z,1μm,32.9s
DL2 LR LR
comp=Z,2μm,30.1s
UBPT Khong Chiam 66.67 293 P P 01 17 38.1 +1.9
comp=Z,56nm,1.2s,comp=Z,1μm
PPI Padang Panjang 66.78 275 P P 01 17 38.1 +1.2
HABR Khabarovsk 67.14 338 eP P 01 17 37.4 -1.1
HABR e*PP **pP 01 18 02.5 +0.6**
HABR e 01 18 04.9
HABR e*SP **sP 01 18 13.6 +1.7**
HABR ePPP PPP 01 21 43.6
HABR eS **S 01 26 23.6 -1.9**
HABR e 01 26 53.4
HABR e*SS **sS 01 27 07.4 +1.9**
HABR e 01 27 25.3
HABR eSS **SS 01 30 45.3 -1.5**
HABR pmax pmax
comp=E,37nm,2.0s
HABR pmax pmax
comp=Z,148nm,2.0s
HABR pmax pmax
comp=N,34nm,2.0s
HABR MLR MLR
comp=Z,310nm,20.0s
SNY Shenyang 67.29 326 ⇑P P 01 17 39.8 +0.2
SNY S **S 01 26 25.0 -2.5**
SNY pmax pmax
comp=Z,18nm,0.8s
SNY pmax pmax
comp=Z,560nm,5.0s
SNY LR LR
comp=Z,510nm,27.0s
SNY LR LR
comp=Z,880nm,24.0s
SNY LR LR
comp=Z,2μm,35.3s
TIA Tai'an 67.52 318 ⇓P P 01 17 42.5 +1.3
TIA S **S 01 26 30.4 -0.2**
TIA pmax pmax
comp=Z,20nm,0.9s
TIA pmax pmax
comp=Z,480nm,5.2s
TIA LR LR
comp=Z,800nm,21.1s
TIA LR LR
comp=Z,1μm,19.5s
TIA LR LR
comp=Z,2μm,22.0s
CN2 Changchun 67.70 329 eP P 01 17 42.8 +0.6
CN2 eS P 01 18 13.5 -2.1
CN2 eS **S 01 26 32.4 -0.1**
CN2 SS **SS 01 30 57.0 +1.3**
CN2 pmax pmax
comp=Z,40nm,0.9s
CN2 pmax pmax
comp=Z,200nm,4.0s
SISI Saibi 67.85 274 P P 01 17 45.7 +2.0
MNSI Mandailing Nat 67.87 276 P P 01 17 44.1 +0.3
KULM Kulim 67.99 281 eP P 01 17 45.2 +0.6
comp=Z,92nm,1.3s
SKLT Songkhla 68.55 283 P P 01 17 50.2 +2.1
comp=Z,71nm,0.8s,comp=Z,1μm
SKNT Sakolnakorn 68.62 294 P P 01 17 49.5 +1.0
comp=Z,146nm,1.1s,comp=Z,2μm
CHBT CHBT 68.66 289 P P 01 17 52.2 +3.5
comp=Z,71nm,0.9s,comp=Z,5μm
PSI Prapat 69.00 278 P P 01 17 50.6 -0.5
comp=Z,40nm,0.9s,baz=74,slow=2.3,SNR=18
PSI Prapat 69.00 278 eP P 01 17 50.8 -0.2
KLR Kul'dur 69.02 336 LR LR 01 44 13.7
comp=Z,735nm,21.3s,baz=141,slow=32
KLR Kul'dur 69.02 336 *c iP* **P 01 17 51.2 +0.9**
NKL Nikolayevsk 69.37 344 eP P 01 17 52.0 -0.3
NKL e 01 18 15.5
NKL e 01 26 53.0
NKL pmax pmax
comp=Z,42nm,1.2s
NKL MLR MLR
comp=Z,1μm,16.0s
TRTT Trang 69.62 283 P P 01 17 56.4 +1.7
comp=Z,77nm,1.4s,comp=Z,1μm
ENH Enshi 69.70 309 eP P 01 17 55.4 +0.5
comp=Z,156nm,1.0s
ENH epP **PcP 01 18 16.3 -0.9**
NONG Nongkai 69.76 295 P P 01 17 56.7 +1.2
comp=Z,66nm,1.0s
CHAI Chaiyaphum 70.03 292 P P 01 17 58.1 +0.9
comp=Z,14nm,0.9s,comp=Z,147nm
GYA Guiyang 70.15 304 *⇑iP* **P 01 17 59.3 +1.5**
GYA PcP **pP 01 18 21.0 -0.4**
GYA PP **PP 01 20 38.4 +4.0**
GYA S **S 01 27 02.5 +0.2**
GYA SKS **SKSac 01 27 43.7 -7.6**
GYA SS **SS 01 31 36.0 +1.8**
GYA pmax pmax
comp=Z,30nm,0.7s
GYA pmax pmax
comp=Z,160nm,7.8s
GYA LR LR
comp=Z,2μm,19.5s
GYA LR LR
comp=Z,2μm,20.0s
GYA LR LR
comp=Z,2μm,19.2s
KCSI Kotacane, Aceh 70.29 278 P P 01 17 58.6 -0.3
SLVN Son La 70.33 298 eP P 01 18 00.1 +1.2
comp=Z,60nm,1.4s
BJT Baijiatuao 70.40 321 eP P 01 17 59.4 +0.5
BJT e*PP **PcP 01 18 21.1 +1.2**
BJT pmax pmax
comp=Z,11nm,0.5s
BJT Baijiatuao 70.40 321 eP P 01 17 59.4 +0.5
comp=Z,11nm,0.5s
BJT epP **PcP 01 18 21.1 +1.2**
BJI Beijing 70.41 321 P P 01 18 00.3 +1.3
BJI S **S 01 27 06.2 +1.7**
BJI SS **SS 01 31 40.6 +3.1**
BJI pmax pmax
comp=Z,29nm,0.8s
BJI pmax pmax
comp=Z,560nm,3.6s
BJI LR LR
comp=Z,1μm,27.4s
BJI LR LR
comp=Z,1μm,29.3s
BJI LR LR
comp=Z,4μm,30.3s
SURT Suratani 70.79 284 P P 01 18 03.8 +2.0
comp=Z,39nm,1.4s,comp=Z,596nm
PBKT Sadao Pong 71.18 293 P P 01 18 06.0 +1.9
comp=Z,59nm,1.4s,comp=Z,1μm
TIY Taiyuan 71.45 317 eP P 01 18 05.5 0.0
TIY pP **PcP 01 18 26.3 +1.8**
TIY S **S 01 27 16.4 -0.5**
TIY sS **SKSac 01 28 00.2 -0.4**
TIY pmax pmax
comp=Z,42nm,0.7s
TIY LR LR
comp=Z,560nm,13.3s
TIY LR LR
comp=Z,540nm,16.8s
TIY LR LR
comp=Z,1μm,17.9s
LHMI Lhok Sumawe 71.53 280 P P 01 18 08.3 +2.0
MLSI Meulaboh, Aceh 71.80 279 P P 01 18 08.4 +0.4
MIR Mirnyy 71.83 204 *i P* **P 01 18 08.0 +0.8**
MIR pmax pmax
comp=Z,10.0nm,1.2s
UTTA Uttaradit 71.95 294 P P 01 18 11.2 +2.4
comp=Z,14nm,1.0s,comp=Z,127nm
XAN Xi'an 71.96 312 P P 01 18 09.4 +0.8
XAN pP pP 01 18 35.2 +3.0
XAN sP sP 01 18 45.1 +2.9
XAN PP **PP 01 20 53.9 +4.1**
XAN S **S 01 27 22.1 -0.8**
XAN sS SKKSac 01 28 05.4 +0.7
XAN SS **SS 01 32 04.4 +2.7**

XAN pmax pmax
comp=Z,49nm,0.9s
XAN pmax pmax
comp=Z,490nm,5.3s
XAN LR LR
comp=Z,360nm,17.8s
XAN LR LR
comp=Z,560nm,19.4s
XAN LR LR
comp=Z,1μm,18.4s
SRDT SRDT 72.13 290 P **P** **01 18 12.6 +2.8**
comp=Z,216nm,1.3s
NANT Nan 72.19 295 P **P** **01 18 11.3 +1.1**
comp=Z,18nm,0.7s,comp=Z,6μm
SUKH Sukhothai 72.69 293 P **P** **01 18 14.9 +1.8**
comp=Z,18nm,0.9s,comp=Z,157nm
KMI Kunming 72.80 302 P **P** **01 18 15.8 +1.8**
KMI PcP **PcP** **01 18 32.8 +2.1**
KMI pP sP 01 18 42.7 -4.9
KMI PP **PP** **01 20 59.1 +1.8**
KMI S **S** **01 27 32.6 -0.5**
KMI SS **SS** **01 32 13.3 -1.9**
KMI pmax pmax
comp=Z,120nm,0.9s
KMI pmax pmax
comp=Z,640nm,5.0s
KMI LR LR
comp=Z,620nm,25.4s
KMI LR LR
comp=Z,520nm,22.3s
KMI LR LR
comp=Z,830nm,21.8s
UMPA Umpang Tak 72.96 292 P **P** **01 18 16.9 +2.1**
comp=Z,11nm,1.1s,comp=Z,787nm
LAMP Lampang 73.04 294 P **P** **01 18 17.1 +1.9**
comp=Z,35nm,0.9s,comp=Z,274nm
MA2 Magadan 73.27 352 LR LR 01 45 47.8
comp=Z,294nm,21.2s,baz=159,slow=32
CMAR Chiang Mai Arr 73.64 294 P **P** **01 18 20.8 +2.1**
comp=Z,43nm,0.9s,baz=119,slow=4.4,SNR=118
CMAR pP **pP** **01 18 42.7 +0.3**
comp=Z,23nm,0.8s,baz=122,slow=4.6,SNR=7.1
CMAR LR LR 01 49 16.8
comp=Z,271nm,21.6s,baz=115,slow=34
HHC Hu-ho-hao-te 73.75 320 *e*P **P** **01 18 21.0 +1.9**
HHC pP pP 01 18 41.6 -1.2
HHC S **S** **01 27 43.8 +0.8**
HHC SKS **SKSac** **01 28 15.8 -2.0**
HHC SS **SS** **01 32 32.4 +3.6**
HHC pmax pmax
comp=Z,38nm,0.7s
HHC pmax pmax
comp=Z,280nm,6.7s
HHC LR LR
comp=Z,740nm,21.4s
HHC LR LR
comp=Z,1μm,22.9s
HHC LR LR
comp=Z,2μm,22.8s
CMMT Chiang Mai 73.75 294 P **P** **01 18 21.0 +1.6**
comp=Z,63nm,1.4s,comp=Z,980nm
CHTO Chiang Mai 73.76 294 P **P** **01 18 21.0 +1.6**
comp=Z,283nm,1.4s,comp=Z,4μm
CHTO Chiang Mai 73.76 294 *e*P **P** **01 18 20.1 +0.7**
CHTO pmax pmax
comp=Z,101nm,1.3s
CHTO Chiang Mai 73.76 294 *e*P **P** **01 18 20.1 +0.7**
comp=Z,101nm,1.3s
CHTO Chiang Mai 73.76 294 P **P** **01 18 21.0 +1.6**
SNR=23
CHTO Chiang Mai 73.76 294 P **P** **01 18 21.0 +1.6**
SNR=23
CD2 Chengdu 74.38 307⇑ *i*P **P** **01 18 23.7 +0.8**
CD2 PcP **PcP** **01 18 33.0 -4.2**
CD2 pP pP 01 18 46.0 -0.6
CD2 sP sP 01 18 59.8 +3.2
CD2 S **S** **01 27 50.1 -0.2**
CD2 sS ScS 01 28 25.8 -0.2
CD2 pmax pmax
comp=Z,70nm,1.2s
CD2 pmax pmax
comp=Z,570nm,10.7s
CD2 LR LR
comp=Z,880nm,29.4s
CD2 LR LR
comp=Z,830nm,20.2s
BTO Baotou 74.60 319 *e*P **P** **01 18 25.9 +1.9**
SEY Seymchan 76.31 353 LR LR 01 46 28.2
comp=Z,1μm,21.4s,baz=153,slow=31
SEY Seymchan 76.31 353⇓ *e*P **P** **01 18 33.7 +0.5**
LZH Lanzhou 76.60 312 *e*P **P** **01 18 38.1 +2.5**
LZH pP pP 01 18 59.1 -0.4
LZH sP sP 01 19 09.3 -0.1
LZH PP **PP** **01 21 26.3 -2.9**
LZH *e*S **S** **01 28 16.2 +1.3**
LZH SKS **SKSac** **01 28 36.0 -3.4**
LZH SS **SS** **01 33 15.8 +3.4**
LZH pmax pmax
comp=Z,77nm,1.2s
LZH pmax pmax
comp=Z,360nm,4.8s
QSPA South Pole Qui 77.21 180 *e*P **P** **01 18 38.0 -0.6**
comp=Z,881nm,0.9s
DGPR DIGLIPUR 77.51 287 *e*P **P** **01 18 40.9 0.0**
DGPR IAmb IAmb 01 18 43.8
comp=Z,273nm,1.6s
CLNS Chul'man 77.53 338 *e*P **P** **01 18 41.7 +1.5**
CLNS pmax pmax
comp=Z,19nm,0.9s
CLNS pmax pmax
comp=E,9.0nm,1.0s
CLNS pmax pmax
comp=N,6.0nm,0.7s
YAK Yakutsk 80.03 343 LR LR 01 50 06.2
comp=N,677nm,21.9s,baz=126,slow=32
YAK Yakutsk 80.03 343 *e*P **P** **01 18 52.6 -1.1**
YAK *e**PP **pP** **01 19 16.7 -1.0**
YAK *e*S **S** **01 28 45.2 -4.9**
YAK *e* 01 28 59.9
YAK *e*SS **SS** **01 34 02.0 -0.5**
YAK pmax pmax
comp=Z,12nm,0.9s
YAK pmax pmax
comp=N,6.0nm,1.3s
YAK pmax pmax
comp=E,9.0nm,1.4s
YAK smax smax
comp=N,210nm,3.3s
YAK smax smax
comp=E,121nm,2.1s
ULN Ulaanbaatar 80.25 324*c i*P **P** **01 18 56.1 +0.7**
ULN pmax pmax
comp=Z,41nm,1.0s
ULN Ulaanbaatar 80.25 324 *e*P **P** **01 18 55.6 +0.2**
comp=Z,36nm,0.8s
ULN *e*pP **pP** **01 19 17.6 -1.8**
ULN Ulaanbaatar 80.25 324 P **P** **01 18 56.5 +1.1**
SNR=16
ULN Ulaanbaatar 80.25 324 P **P** **01 18 56.5 +1.1**
SNR=16
SONM Songino Array 80.61 324 P **P** **01 18 58.2 +0.8**
comp=Z,14nm,0.8s,baz=138,slow=5.5,SNR=44
SONM pP **pP** **01 19 19.9 -1.5**
comp=Z,6.2nm,0.6s,baz=169,slow=3.0,SNR=4.0
SONM LR LR 01 54 37.7
comp=Z,274nm,19.4s,baz=116,slow=36
GTA Gaotai 80.92 314⇑ P **P** **01 19 00.4 +1.2**
GTA pP pP 01 19 22.6 -0.7
GTA sP sP 01 19 34.0 +0.8
GTA S **S** **01 29 03.5 +2.8**
GTA SKS **SKSac** **01 29 09.2 -0.7**
GTA sS sS 01 29 39.8 -2.1
GTA pmax pmax
comp=Z,53nm,1.4s
GTA pmax pmax
comp=Z,580nm,8.3s
GTA LR LR
comp=Z,340nm,19.0s
GTA LR LR
comp=Z,520nm,19.0s
GTA LR LR
comp=Z,770nm,20.9s
PMR Palmer 81.90 20 *e*P **P** **01 19 02.3 -1.3**
PMR Palmer 81.90 20 *e*P **P** **01 19 02.3 -1.3**
SHL Shillong 82.14 298 *e*P **P** **01 19 06.6 +0.6**
SHL IAmb IAmb 01 19 08.3
comp=Z,82nm,1.0s
BOD Bodaibo 82.50 335 *e*P **P** **01 19 06.7 -0.2**
BOD pmax pmax
comp=Z,24nm,2.2s
KTH Kantishna Hill 82.79 18 *e*P **P** **01 19 07.3 -1.1**
comp=Z,27nm,1.2s
MAW Mawson 83.44 202 P **P** **01 19 11.9 +0.3**
comp=Z,43nm,0.8s,baz=108,slow=6.5,SNR=92
MAW LR LR 01 50 21.4
comp=Z,806nm,20.8s,baz=79,slow=31
MAW Mawson 83.44 202 P **P** **01 19 11.4 -0.2**
baz=83,SNR=61
MCK McKinley 83.52 18 *e*P **P** **01 19 11.0 -1.1**
MCK pmax pmax
comp=Z,66nm,1.5s
MCK McKinley 83.52 18 *e*P **P** **01 19 11.0 -1.1**
comp=Z,66nm,1.5s
SAO San Andreas Ge 83.56 50 *e*P **P** **01 19 12.3 -0.6**
SAO pmax pmax
comp=Z,70nm,2.0s
SAO San Andreas Ge 83.56 50 *e*P **P** **01 19 12.3 -0.6**
comp=Z,70nm,2.0s
ZAK Zakamensk 83.65 325 *e*P **P** **01 19 13.7 +0.6**
ZAK pmax pmax
comp=Z,27nm,1.3s
IRK Irkutsk 84.02 327 *e*P **P** **01 19 14.8 0.0**
IRK pmax pmax
comp=Z,85nm,2.4s
LSA Lhasa 84.05 302 P **P** **01 19 17.7 +1.7**
LSA pmax pmax
comp=Z,52nm,0.9s
LSA Lhasa 84.05 302 *e*P **P** **01 19 17.8 +1.7**
LSA pmax pmax
comp=Z,23nm,0.7s
LSA Lhasa 84.05 302 *e*P **P** **01 19 17.8 +1.8**
comp=Z,23nm,0.7s
TLY Talaya 84.08 326 P **P** **01 19 15.6 +0.5**
comp=Z,23nm,0.8s,baz=174,slow=2.9,SNR=13
TLY Talaya 84.08 326*c i*P **P** **01 19 15.1 -0.1**
TLY *e*S **S** **01 29 30.0 -2.2**
TLY *e*PS **PnS** **01 30 27.4 -10**
TLY pmax pmax
comp=Z,33nm,0.8s
TLY MLR MLR
comp=Z,284nm,21.0s
TLY Talaya 84.08 326 *e*P **P** **01 19 15.4 +0.2**
comp=Z,25nm,0.8s
TLY Talaya 84.08 326 P **P** **01 19 16.7 +1.5**
SNR=12
TLY Talaya 84.08 326 P **P** **01 19 16.7 +1.5**
SNR=12
PKM Mcpherson Peak 84.14 52 P **P** **01 19 15.9 -0.2**
baz=250
N02D Trinity Center 84.20 46 P **P** **01 19 16.6 +0.4**
baz=248,SNR=8.3
M02C Callahan 84.25 45 P **P** **01 19 16.8 +0.4**
baz=247,SNR=7.1
O03D Paynes Creek 84.58 47 P **P** **01 19 18.0 -0.1**
baz=248,SNR=19
COLA College 84.67 18 *e*P **P** **01 19 16.9 -0.9**
COLA pmax pmax
comp=Z,41nm,1.1s
COLA College 84.67 18 *e*P **P** **01 19 16.9 -0.9**
comp=Z,41nm,1.1s
CMB Columbia Colle 84.80 49 *e*P **P** **01 19 18.5 -0.7**
CMB pmax pmax
comp=Z,215nm,1.6s
CMB Columbia Colle 84.80 49 *e*P **P** **01 19 18.4 -0.7**
comp=Z,215nm,1.6s
I03D Drain, OR 84.81 43 P **P** **01 19 19.4 +0.4**
baz=247
ILAR Eielson Array 84.89 18 P **P** **01 19 18.2 -0.8**
comp=Z,8.0nm,0.7s,baz=246,slow=5.0,SNR=56
ILAR pP **pP** **01 19 39.8 -3.5**
comp=Z,23nm,1.0s,baz=239,slow=5.5,SNR=8.0
ILAR PKKPbc **PKKPdf** **01 37 25.8 +3.6**
comp=Z,2.8nm,0.9s,baz=333,slow=1.2,SNR=12
ILAR LR LR 01 53 40.2
comp=Z,810nm,19.4s,baz=234,slow=33
ARVC Arvin 84.98 52 P **P** **01 19 20.2 +0.1**
baz=250
DOT Dot Lake 85.01 20 *e*P **P** **01 19 19.6 -0.1**
comp=Z,96nm,1.1s
VES Vestal, Richgr 85.03 52 P **P** **01 19 20.4 +0.1**
baz=250
M04C Macdoel 85.11 45 P **P** **01 19 20.9 +0.2**
baz=248,SNR=6.9
ISA Isabella, Lake 85.44 52 P **P** **01 19 22.5 0.0**
baz=251
G03D McMinnville, O 85.46 42 P **P** **01 19 22.5 +0.3**
baz=247
K04D Chiloquin, OR 85.48 45 P **P** **01 19 22.5 -0.1**
baz=248
BBB Bella Bella 85.52 34 LR LR 01 52 17.3
comp=Z,1μm,19.4s,baz=244,slow=32
MOY Mondy 85.53 325 *e*P **P** **01 19 23.6 +1.0**
MOY pmax pmax
comp=Z,85nm,3.0s
EDW2 Edwards Air Fo 85.55 53 P **P** **01 19 23.1 +0.1**
baz=251,SNR=11
BFSC Mount Baldy Ra 85.61 54 P **P** **01 19 23.4 0.0**
baz=251,SNR=9.3
COLD Coldfoot 85.74 15 *e*P **P** **01 19 22.8 -0.3**
comp=Z,127nm,2.1s
MURC Murrieta 85.77 54 P **P** **01 19 24.1 -0.1**
baz=252
MLAC Mammoth, Mammo 85.81 50 P **P** **01 19 24.3 -0.2**
baz=250
CWC Cottonwood Cre 85.99 51 P **P** **01 19 25.2 -0.1**
baz=251
BWNR Bhubaneshwar 86.01 292 *e*P **P** **01 19 26.4 +1.0**
BWNR IAmb IAmb 01 19 27.1
comp=Z,31nm,0.7s
J05D Fort Rock, OR 86.08 44 P **P** **01 19 25.9 +0.4**
baz=248
TIN Tinemaha, Big 86.08 51 P **P** **01 19 25.5 -0.2**
baz=251
MONP Monument Peak, 86.17 55 P **P** **01 19 26.3 -0.1**
baz=252,SNR=9.4
MOD Modoc Plateau 86.22 46 *e*P **P** **01 19 25.4 -0.8**
comp=Z,13nm,1.0s
TAPN Taplejung 86.24 299 *e*P **P** **01 19 27.2 +0.3**
comp=Z,285nm,1.3s
MPMC Manual Prospec 86.32 52 P **P** **01 19 27.0 0.0**
baz=251,SNR=14
IKP In-Ko-Pah, Jac 86.35 56 P **P** **01 19 27.1 0.0**
baz=252
PFO Pinyon Flats O 86.36 55 P **P** **01 19 27.1 -0.1**
baz=252,SNR=6.1
PFO Pinyon Flats O 86.36 55 *e*P **P** **01 19 26.1 -1.1**
PFO Pinyon Flats O 86.36 55 *e*P **P** **01 19 26.1 -1.1**
TPFO Pinon Flats 86.36 55 P **P** **01 19 26.8 -0.3**
baz=252,SNR=5.7
ODAN Odare 86.38 298 *e*P **P** **01 19 27.9 +0.4**
comp=Z,330nm,0.9s
GSC Goldstone, Bar 86.61 53 P **P** **01 19 28.1 -0.1**
baz=252,SNR=9.9
SWSC Sam W. Stewart 86.69 55 P **P** **01 19 28.6 +0.1**
baz=252,SNR=6.7
EGAK Eagle 86.72 20 *e*P **P** **01 19 27.4 -0.5**
comp=Z,18nm,0.9s
G05D Wamic, OR 86.74 42 P **P** **01 19 28.8 +0.3**
baz=248
HEC Hector Ludlow 86.83 53 P **P** **01 19 29.2 -0.2**
baz=252
BELC Belle Mtn. Jos 86.85 54 P **P** **01 19 29.4 -0.1**
baz=252,SNR=12
BOK Bokaro 86.86 295 *e*P **P** **01 19 30.2 +0.6**
BOK IAmb IAmb 01 19 31.1
comp=Z,39nm,0.2s
DAWY Dawson 86.87 21 *e*P **P** **01 19 28.2 -0.6**
comp=Z,8.3nm,0.9s
FURC Furnace Creek, 86.93 52 P **P** **01 19 29.8 +0.1**
baz=252,SNR=19
TOLK Toolik Lake Re 86.95 15 P **P** **01 19 30.6 +1.5**
baz=222
RAMN Ramite 87.08 298 *e*P **P** **01 19 31.1 +0.2**
comp=Z,67nm,0.7s
CHLP Challavanipeta 87.15 290 *e*P **P** **01 19 31.6 +0.5**
CHLP IAmb IAmb 01 19 33.2
comp=Z,158nm,1.6s
BC3 Big Chuckawall 87.17 55 P **P** **01 19 31.2 +0.2**
baz=253,SNR=11
A04D Lummi Island 87.18 39 P **P** **01 19 31.5 +1.0**
baz=247
SHOC Shoshone, Teco 87.21 52 P **P** **01 19 31.1 +0.1**
baz=252
TUQ Turquoise Moun 87.34 53 P **P** **01 19 31.9 +0.1**
baz=252,SNR=16
GMRC Granite Mounta 87.35 54 P **P** **01 19 31.7 -0.2**
baz=252,SNR=16
B05A Bryant 87.38 39 P **P** **01 19 32.0 +0.5**
baz=248
GLA Glamis 87.50 55 P **P** **01 19 32.8 +0.2**
baz=253,SNR=15
DLBC Dease Lake 87.53 28 LR LR 01 50 51.3
comp=Z,809nm,21.5s,baz=300,slow=30
TPNV Topopah Spring 87.55 51 P **P** **01 19 32.9 +0.1**
baz=252,SNR=17
WVOR Wild Horse Val 87.56 46 *e*P **P** **01 19 32.4 -0.4**
WVOR pmax pmax
comp=Z,110nm,1.7s
WVOR Wild Horse Val 87.56 46 *e*P **P** **01 19 32.4 -0.4**
comp=Z,110nm,1.7s
IRM Iron Mountain 87.57 54 P **P** **01 19 33.2 +0.4**
baz=253,SNR=22
JIRN Jiri 87.62 299 *e*P **P** **01 19 33.9 +0.2**
VIS Vishakhapatnam 87.63 289 *e*P **P** **01 19 33.8 +0.4**
PALK Pallekele 87.68 278 P **P** **01 19 34.7 +0.9**
comp=Z,31nm,1.1s,baz=116,slow=4.4,SNR=6.2
PALK Pallekele 87.68 278 *e*P **P** **01 19 34.9 +1.1**
comp=Z,61nm,1.2s
BMN Battle Mountai 87.91 48 *e*P **P** **01 19 34.6 +0.1**
BMN *e*PP **pP** **01 19 59.1 +0.1**
BMN pmax pmax
comp=Z,79nm,1.6s
BMN Battle Mountai 87.91 48 *e*P **P** **01 19 34.6 +0.1**
comp=Z,79nm,1.6s
BMN *e*pP **pP** **01 19 59.0 +0.1**
Y12C Blythe 87.94 55 P **P** **01 19 34.5 -0.1**
baz=253,SNR=13
GUN Gumba 87.95 299 *e*P **P** **01 19 35.3 +0.1**
comp=Z,164nm,0.9s
PKI Pulchoki 88.27 299 *e*P **P** **01 19 36.8 +0.1**
comp=Z,262nm,1.0s
PKIN Phulchoki 88.28 299 *e*P **P** **01 19 36.9 +0.2**
comp=Z,89nm,0.7s
HAWA Hanford 88.32 42 *e*P **P** **01 19 36.1 +0.1**
comp=Z,128nm,1.9s
PDMCI Parker Dam,Lak 88.41 54 P **P** **01 19 36.7 -0.1**
baz=253,SNR=14
KKN Kakani 88.43 299 *e*P **P** **01 19 37.4 +0.1**
comp=Z,185nm,0.9s
R11A Troy Canyon, C 88.47 50 P **P** **01 19 37.0 -0.3**
baz=252,SNR=35
R11A Troy Canyon, C 88.47 50 *e*P **P** **01 19 36.7 -0.5**
comp=Z,58nm,1.7s
DMN Daman 88.53 299 *e*P **P** **01 19 38.2 +0.3**
comp=Z,398nm,0.9s
214A Organ Pipe Nat 88.83 57 P **P** **01 19 38.6 -0.3**
baz=254,SNR=14
214A Organ Pipe Nat 88.83 57 *e*P **P** **01 19 38.9 +0.1**
comp=Z,496nm,1.7s
GKN Gorkha 89.04 299 *e*P **P** **01 19 39.7 -0.4**
comp=Z,262nm,0.9s
PVM Polavaram 89.10 288 *e*P **P** **01 19 40.2 -0.1**
PVM IAmb IAmb 01 19 41.6
comp=Z,162nm,2.0s
BMO Blue Mountains 89.27 44 *e*P **P** **01 19 40.1 -0.6**
BMO pmax pmax
comp=Z,71nm,1.6s
BMO Blue Mountains 89.27 44 *e*P **P** **01 19 40.1 -0.6**
comp=Z,71nm,1.6s
MFID Camas Ranch 89.83 45 *e*P **P** **01 19 43.3 -0.1**
comp=Z,55nm,1.4s
KOLN Koldanda 89.87 298 *e*P **P** **01 19 43.4 -0.6**
comp=Z,80nm,0.9s
SKHT Srikalahasti 90.09 284 *e*P **P** **01 19 43.2 -1.8**
ADKI Addanki 90.32 286 *e*P **P** **01 19 47.1 +1.0**
ADKI IAmb IAmb 01 19 47.6
comp=Z,138nm,2.0s
SYO Syowa Base 90.37 197⇓ *e*P **P** **01 19 42.8 -2.5**
SYO Syowa Base 90.37 197⇑ *i*PcP **P** **01 19 43.8 -1.5**
PYUN Piuthan 90.47 299 *e*P **P** **01 19 46.0 -0.9**
comp=Z,144nm,1.0s
NEW Newport 90.49 40 LR LR 01 55 21.0
comp=Z,621nm,19.8s,baz=252,slow=32
NEW Newport 90.49 40 P **P** **01 19 46.2 -0.1**
baz=251
NEW Newport 90.49 40 *e*P **P** **01 19 45.8 -0.5**
NEW pmax pmax
comp=Z,11nm,0.9s
NEW Newport 90.49 40 *e*P **P** **01 19 45.8 -0.5**
comp=Z,11nm,0.9s
TUC Tucson 90.58 57 P **P** **01 19 46.8 -0.3**
baz=255
TUC Tucson 90.58 57 *e*P **P** **01 19 46.8 -0.3**
TUC *e**PP **pP** **01 20 12.1 +0.5**
TUC pmax pmax
comp=Z,46nm,1.2s
TUC Tucson 90.58 57 *e*P **P** **01 19 46.8 -0.3**
comp=Z,46nm,1.2s
TUC *e*pP **pP** **01 20 12.1 +0.5**
HLID Hailey 90.86 46 P **P** **01 19 48.5 +0.2**
baz=253
HLID Hailey 90.86 46 *e*P **P** **01 19 48.6 +0.4**
comp=Z,40nm,1.6s
HLID *e*ScP 01 38 51.1
WUAZ Wupatki 90.92 54 P **P** **01 19 49.0 +0.3**
baz=255
WUAZ Wupatki 90.92 54 *e*P **P** **01 19 48.5 -0.2**
comp=Z,97nm,1.8s
WMQ Urumqi 90.97 315 P **P** **01 19 49.5 +0.9**
WMQ pP pP 01 20 11.2 -1.9
WMQ SKS **SKSac** **01 30 11.3 -1.1**
WMQ S **S** **01 30 37.4 -1.1**
WMQ sS sS 01 31 22.3 +1.8
WMQ SS **SS** **01 36 43.8 -0.3**
WMQ pmax pmax
comp=Z,22nm,1.1s
WMQ pmax pmax
comp=Z,250nm,4.9s
WMQ LR LR
comp=Z,140nm,15.7s
WMQ LR LR
comp=Z,220nm,20.9s
WMQ LR LR
comp=Z,470nm,32.9s
DUG Dugway, Tooele 91.06 49 P **P** **01 19 49.3 +0.1**
baz=254
DUG Dugway, Tooele 91.06 49 *e*P **P** **01 19 48.9 -0.4**
DUG pmax pmax
comp=Z,30nm,1.4s
DUG Dugway, Tooele 91.06 49 *e*P **P** **01 19 48.9 -0.4**
comp=Z,30nm,1.4s
NJS Nagarjunasagar 91.10 287 *e*P **P** **01 19 49.0 -0.7**
NJS IAmb IAmb 01 19 51.1
comp=Z,90nm,1.2s
RCLA Racherla 91.19 285 *e*P **P** **01 19 49.0 -1.1**
RCLA IAmb IAmb 01 19 51.8
comp=Z,24nm,1.1s
INK Inuvik 91.27 19 PKKP **PKKPdf** **01 37 09.8 -1.2**
comp=Z,1.3nm,0.3s,baz=52,slow=6.7,SNR=4.6
SRLM Srisailam 91.39 286 *e*P **P** **01 19 51.0 -0.1**
SRLM IAmb IAmb 01 19 52.2
comp=Z,165nm,1.1s
RPR Rampur 91.62 289 *e*P **P** **01 19 51.7 -0.4**
RPR IAmb IAmb 01 19 53.3
comp=Z,140nm,0.9s
HYBB Hyderabad (bro 92.00 287 *e*P **P** **01 19 53.5 -0.4**
HYBB IAmb IAmb 01 19 54.9
comp=Z,58nm,1.0s
MSO Missoula 92.11 42 P **P** **01 19 54.4 +0.5**
baz=254
W18A Petrified Fore 92.12 55 P **P** **01 19 53.8 -0.5**
baz=256
W18A Petrified Fore 92.12 55 *e*P **P** **01 19 53.5 -0.9**
comp=Z,9.2nm,0.9s
HWUT Hardware Ranch 92.35 48 *e*P **P** **01 19 54.2 -1.1**
comp=Z,7.0nm,1.1s
NGP Nagpur 92.35 291 *e*P **P** **01 19 55.3 -0.1**
NGP IAmb IAmb 01 19 56.4
comp=Z,30nm,0.5s
SRSP Sriramsagar 92.52 289 *e*P **P** **01 19 55.8 -0.5**
SRSP IAmb IAmb 01 19 57.2
comp=Z,126nm,1.0s
DLMT Dillon 92.61 44 *e*P **P** **01 19 56.3 0.0**
comp=Z,21nm,1.2s
URV Uravakonda 92.67 285 *e*P **P** **01 19 56.8 -0.3**
URV IAmb IAmb 01 19 58.4
comp=Z,41nm,1.0s
WALA Waterton Lakes 92.76 40 *e*P **P** **01 19 57.0 +0.2**
comp=Z,21nm,1.5s
121A Cookes Peak, D 93.09 58 P **P** **01 19 58.9 0.0**

baz=257
121A Cookes Peak, D 93.09 58 *e*P **P** **01 19 58.8 0.0**
comp=Z,8.2nm,0.9s
TPAW Teton Pass 93.27 46 *e*P **P** **01 20 00.1 +0.6**
comp=Z,18nm,1.5s
REDW Red Top Meadow 93.31 46 *e*P **P** **01 19 59.3 -0.4**
comp=Z,30nm,1.7s
BOZ Bozeman (W) 93.33 44 P **P** **01 19 59.7 +0.1**
baz=255
BOZ Bozeman (W) 93.33 44 *e*P **P** **01 19 59.0 -0.6**
BOZ *e**PP **pP** **01 20 24.0 -0.1**
BOZ pmax pmax
comp=Z,22nm,1.5s
BOZ Bozeman (W) 93.33 44 *e*P **P** **01 19 59.0 -0.6**
comp=Z,22nm,1.5s
BOZ *e*pP **pP** **01 20 23.9 -0.1**
IMW Indian Meadow 93.38 46 *e*P **P** **01 19 59.5 -0.6**
comp=Z,23nm,1.6s
PV04 Paradox Valley 93.55 52 *e*P **P** **01 19 59.4 -1.4**
MVCO Mesa Verde 93.59 53 P **P** **01 20 01.1 0.0**
baz=257
PV01 Paradox Valley 93.74 52 *e*P **P** **01 20 00.7 -1.1**
comp=Z,479nm,1.1s
H17A Grant Village 93.75 45 P **P** **01 20 01.6 -0.1**
baz=256
PMSA Palmer Station 93.77 161 *e*P **P** **01 20 00.1 -0.9**
comp=Z,112nm,1.7s
KLRI Killari 93.95 288 *e*P **P** **01 20 02.1 -0.8**
KLRI IAmb IAmb 01 20 04.0
comp=Z,27nm,0.9s
BW06 Boulder Array 94.08 47 P **P** **01 20 02.8 -0.5**
baz=256
PDAR Pinedale Array 94.08 47 P **P** **01 20 02.2 -1.1**
comp=Z,1.0nm,0.7s,baz=189,slow=3.5,SNR=9.1
PDAR LR LR 01 56 17.3
comp=Z,404nm,20.5s,baz=274,slow=32
EDM Edmonton 94.24 36 *e*P **P** **01 20 02.6 -0.9**
EDM Edmonton 94.24 36 *e*P **P** **01 20 02.6 -0.9**
BHPL Bhopal 94.27 293 *e*P **P** **01 20 04.7 +0.4**
BHPL IAmb IAmb 01 20 05.2
comp=Z,13nm,0.7s
O20A White River Ci 94.44 50 P **P** **01 20 04.9 0.0**
baz=257
O20A White River Ci 94.44 50 *e*P **P** **01 20 04.9 0.0**
comp=Z,6.2nm,0.8s
ANMO Albuquerque 94.70 55 P **P** **01 20 06.0 -0.2**
baz=258
ANMO Albuquerque 94.70 55⇑ *e*P **P** **01 20 06.6 +0.4**
ANMO *i*PP **pP** **01 20 30.9 +0.2**
ANMO pmax pmax
comp=Z,9.0nm,1.7s
ANMO Albuquerque 94.70 55 *e*P **P** **01 20 05.2 -1.1**
comp=Z,5.3nm,1.1s
ANMO *e*pP **pP** **01 20 30.2 -0.6**
RLMT Red Lodge 94.83 45 P **P** **01 20 06.8 +0.2**
baz=257
NVL N'lazarevskaya 94.86 188 *e*P **P** **01 20 06.2 +0.2**
MNTX Cornudas Mount 94.91 59 P **P** **01 20 06.6 -0.4**
baz=258
MNTX Cornudas Mount 94.91 59 *e*P **P** **01 20 05.9 -1.1**
comp=Z,4.0nm,1.2s
MNTX *e*pP **pP** **01 20 30.5 -1.0**
S22A 4UR Ranch, Cre 95.00 53 P **P** **01 20 07.1 -0.5**
baz=258
EGMT Eagleton 95.17 42 P **P** **01 20 08.0 +0.1**
baz=257
SMCO Snowmass 95.19 51 *e*P **P** **01 20 07.2 -1.4**
comp=Z,2.7nm,0.8s
SNAA Sanae 95.42 183 P **P** **01 20 07.3 -1.4**
SNAA Sanae 95.42 183 *e*P **P** **01 20 06.9 -1.8**
SNAA Sanae 95.42 183 *e*P **P** **01 20 06.9 -1.8**
comp=Z,814nm,0.9s
ZALV Zalesovo Beam 95.50 324 P **P** **01 20 08.4 -0.7**
comp=Z,9.5nm,0.7s,baz=117,slow=4.2,SNR=32
TXAR Lajitas Array 95.88 61 P **P** **01 20 11.2 -0.4**
comp=Z,1.5nm,0.7s,baz=225,slow=5.6,SNR=21
TXAR pP **pP** **01 20 34.6 -1.6**
comp=Z,3.0nm,0.8s,baz=235,slow=4.4,SNR=5.9
GOA Goa 96.03 284 *e*P **P** **01 20 11.3 -1.1**
SDCO Great Sand Dun 96.03 53 P **P** **01 20 12.1 -0.2**
baz=258
SMLA Simla 96.08 300 *e*P **P** **01 20 12.4 +0.1**
KUDL Kundal 96.08 297 *e*P **P** **01 20 10.9 -1.5**
KUDL IAmb IAmb 01 20 12.0
comp=Z,21nm,1.2s
VNA3 Neumayer Olymp 96.11 181 P **P** **01 20 10.1 -1.6**
YKA Yellowknife Ar 96.12 27 P **P** **01 20 10.4 -1.3**
comp=Z,1.3nm,0.5s,baz=259,slow=4.8,SNR=20
YKA PKKP **PKKPbc** **01 36 57.7 -3.7**
comp=Z,1.2nm,0.7s,baz=80,slow=2.4,SNR=5.5
K22A Casper 96.24 48 P **P** **01 20 12.7 -0.3**
baz=258
N23A Red Feather La 96.31 50 P **P** **01 20 13.4 -0.2**
baz=258
ISCO Idaho Springs 96.35 51 P **P** **01 20 13.0 -0.8**
baz=259
Q24A Divide 96.54 52 P **P** **01 20 13.9 -0.7**
baz=259
POO Poona 96.60 287 *ex* pP 01 20 37.5 -2.0
NVS Novosibirsk 96.61 325⇑ *i*P **P** **01 20 14.4 +0.3**
NVS pmax pmax
comp=Z,31nm,1.9s
NVS pmax pmax
comp=N,13nm,2.0s
NVS pmax pmax
comp=E,27nm,2.0s
KHET Khetri 96.66 297 *e*P **P** **01 20 14.3 -0.7**
VNA1 Neumayer--Stat 96.67 182 P **P** **01 20 13.6 -0.6**
T25A Trinidad 96.77 54 P **P** **01 20 14.8 -0.8**
baz=259
MSTX Muleshoe 97.50 57 P **P** **01 20 18.0 -0.9**
baz=260
NRIK Noril'sk 98.08 339 P **P** **01 20 19.1 -1.3**
comp=E,3.7nm,0.7s,baz=93,slow=3.2,SNR=7.2
NRIK LR LR 02 02 51.6
comp=E,485nm,21.0s,baz=118,slow=34
RSSD Black Hills 98.29 47 P **P** **01 20 21.7 -0.6**
baz=260
AMTX Amarillo 98.54 56 P **P** **01 20 22.7 -0.8**
baz=260
KSH Kashi 98.55 309 *e*P Pdif 01 20 25.5 +2.0
KSH *e*pP pP 01 20 52.1 +4.1
KSH *e*sP sP 01 21 03.6 +5.8
KSH *e*PP **PP** **01 24 29.1 +3.8**
KSH SKS **SKSac** **01 30 54.0 +0.6**
KSH S **S** **01 31 41.8 -3.2**
KSH SS **SS** **01 38 33.0 +0.8**
KSH pmax pmax
comp=E,140nm,6.0s
KSH LR LR
comp=E,140nm,9.2s
KSH LR LR
comp=E,98nm,5.4s
KSH LR LR
comp=E,380nm,23.0s
KURK Kurchatov 98.56 320 *ce*P **P** **01 20 22.1 -0.9**
KURK pmax pmax
comp=Z,36nm,1.4s
KURK Kurchatov 98.56 320 *e*P **P** **01 20 22.1 -0.9**
comp=Z,105nm,1.6s
KURK *e*pP **pP** **01 20 44.2 -3.3**
KURBB Kurchatov Arra 98.60 320 P **P** **01 20 22.0 -1.2**
comp=Z,1.8nm,0.6s,baz=93,slow=3.8,SNR=13
KURBB pP **pP** **01 20 44.6 -3.2**
comp=Z,1.3nm,0.5s,baz=97,slow=3.5,SNR=4.5
832A Faith Ranch, C 98.88 63 P **P** **01 20 24.1 -0.9**
baz=260
433A Art 100.03 61 P **Pdif** **01 20 29.4 -0.8**
baz=261
AAK Ala-Archa 100.13 311⇑ *e*P **Pdif** **01 20 30.7 +0.2**
BHJ Bhuj 101.30 291 *e*P **Pdif** **01 20 36.2 +0.3**
BHJ IAmb IAmb 01 20 51.5
comp=Z,960nm,2.5s
BVAR Borovoye Array 103.88 322 Pdiff **Pdif** **01 20 45.8 -0.9**
comp=Z,1.3nm,0.7s,baz=72,slow=6.4,SNR=7.4
347A Saraland 109.10 61 P **PKiKP** **01 25 13.8 -0.5**
baz=266
ARU Arti 110.58 326 *i* PKIKP **PKiKP** **01 25 16.3 0.0**
ARU 01 25 53.9
ARU 01 32 19.0
ARU SP SP 01 35 14.8 +1.2
ARU PS **PS** **01 35 24.5 -0.7**
ARU SS **SS** **01 41 10.8 -4.7**
ARU Arti 110.58 326 *e*PKP **PKiKP** **01 25 15.7 -0.6**
KBS Kingsbay 112.74 355 *e*SP SP 01 35 32.4 +0.1
KBS *e*SS **SS** **01 41 45.2 +2.2**

SPA0 Spitsbergen Ar 112.97 354 *e*PKSdf PKSdf 01 28 57.5 +1.0
SPA0 *e*SKSac **SKSac** **01 31 58.1 +2.0**
SPA0 *e*SP **SP** **01 35 32.9 -1.5**
HOPEN Hopen 113.18 351 *e*SP SP 01 35 37.3 +0.9
HSPB Hornsund (broa 114.07 353 *e*PS PS 01 35 58.5 +2.0
HSPB *e*SS SS 01 42 03.0 +2.5
HAMF Hammerfest 117.86 347 *e*PKPdf **PKPdf** **01 25 29.3 -0.6**
HAMF *e*SKSac **SKSac** **01 32 14.6 -0.1**
HAMF *e*SP **SP** **01 36 21.7 +2.7**
ARCES ARCESS Array B 118.25 345 PKP **PKPdf** **01 25 29.7 -1.0**
comp=Z,7.2nm,0.7s,baz=48,slow=1.8,SNR=32
ARCES SKP 01 28 56.1
comp=Z,2.5nm,0.8s,baz=51,slow=9.6,SNR=3.8
ARCES PKKPbc **PKKPab** **01 35 48.0 -3.8**
comp=Z,1.8nm,0.4s,baz=180,slow=0.4,SNR=12
ARE0 ARCESS Array S 118.25 345 *e*PKPdf **PKPdf** **01 25 30.0 -0.7**
ARE0 *e*SKSac **SKSac** **01 32 15.8 -0.5**
ARE0 *e*SP **SP** **01 36 20.7 -2.0**
ARE0 *e*SS **SS** **01 42 54.8 -0.6**
LPAZ La Paz 118.60 117 PKP **PKPdf** **01 25 32.1 -1.5**
comp=Z,1.6nm,0.8s,baz=197,slow=1.8,SNR=7.0
LPAZ PKKPbc **PKKPbc** **01 35 49.0 -1.1**
comp=Z,2.2nm,0.8s,baz=36,slow=2.1,SNR=10
KLMR Klimovskoe 118.71 334 *e*PKIKP **PKPdf** **01 25 30.5 -1.2**
KLMR *e*PS **PS** **01 36 35.5 -3.6**
KLMR *e*SSS SSS 01 47 20.0
KLMR pmax pmax
comp=Z,12nm,1.3s
TRO Tromso 119.67 348 *e*PKPdf **PKPdf** **01 25 33.9 +0.5**
TRO *e*SKSac **SKSac** **01 32 20.7 -0.4**
TRO *e*SP **SP** **01 36 32.5 -2.8**
TRO *e*SS **SS** **01 43 16.1 +2.6**
MSF Maaselka 119.78 341 PKIKP **PKPdf** **01 25 33.7 0.0**
SEKA Sheki 120.44 310 PKIKP **PKPdf** **01 25 35.2 -0.6**
SCHQ Schefferville 121.02 33 PKKPbc PKKPbc 01 35 40.2 -1.3
comp=Z,13nm,0.8s,baz=169,slow=3.7,SNR=6.9
GANJ Ganja 121.19 310 PKIKP **PKPdf** **01 25 36.7 -0.5**
STEI Steigen 121.84 348 *e*PKPdf **PKPdf** **01 25 37.0 -0.5**
LOF Lofoten 122.02 348 *e*SP SP 01 36 57.0 +0.8
CPUP Villa Florida 122.18 133 PKP **PKPdf** **01 25 37.5 -2.0**
comp=Z,7.8nm,0.9s,baz=276,slow=3.1,SNR=9.9
CPUP PKKPab **PKKPbc** **01 35 35.1 -1.2**
comp=Z,2.6nm,0.8s,baz=23,slow=6.6,SNR=4.6
GNI Garni 122.47 310 PKP **PKPdf** **01 25 39.0 -0.8**
comp=Z,9.4nm,0.9s,baz=20,slow=11,SNR=4.3
GNI Garni 122.47 310 *e*PKPdf **PKPdf** **01 25 40.0 +0.1**
ZEI Tsey 122.52 313 *i* PKIKP **PKPdf** **01 25 39.7 -0.2**
ZEI pmax pmax
comp=Z,40nm,1.1s
LPSR Galich'ya Gora 122.59 325 *e*PKIKP **PKPdf** **01 25 39.2 -0.2**
LPSR pmax pmax
comp=Z,10.0nm,0.8s
OBN Obninsk 122.77 328 PKP **PKPdf** **01 25 39.3 -0.4**
comp=Z,4.3nm,0.5s,baz=327,slow=8.4,SNR=1.5
OBN Obninsk 122.77 328*c i*PKIKP **PKPdf** **01 25 39.1 -0.6**
OBN *e* 01 26 02.8
OBN *i* 01 32 38.4
OBN *i* SP SP 01 37 03.6 0.0
OBN *e* 01 38 37.2
OBN *e*SS **SS** **01 43 54.6 +0.8**
OBN SSS SSS 01 48 30.0
OBN pmax pmax
comp=Z,28nm,2.5s
SUF Sumiainen 122.84 340 PKIKP **PKPdf** **01 25 39.3 -0.3**
VSR Storozhevoye 123.00 323 *e*PKIKP **PKPdf** **01 25 38.9 -1.4**
VSR pmax pmax
comp=Z,10.0nm,1.0s
KBZ Khabaz 123.01 314 PKP **PKPdf** **01 25 39.5 -1.1**
comp=Z,2.9nm,0.7s,baz=142,slow=2.7,SNR=7.3
KVAR Kislovodsk Arr 123.09 314 PKP **PKPdf** **01 25 40.6 -0.3**
comp=Z,1.8nm,0.5s,baz=314,slow=6.5,SNR=1.5
KIV Kislovodsk 123.09 314*c i*PKIKP **PKPdf** **01 25 40.8 -0.1**
KIV *e* 01 26 05.0
KIV *e* 01 26 16.5
KIV *e* 01 32 43.1
KIV *i* SP SP 01 37 08.2 +0.6
KIV *e*SS **SS** **01 44 01.1 +1.9**
KIV pmax pmax
comp=Z,6.0nm,1.0s
KIV Kislovodsk 123.09 314 *e*PKPdf **PKPdf** **01 25 40.7 -0.1**
AKH Akhalkalaki 123.13 311⇑ *i*P **PKPdf** **01 25 41.8 +0.7**
NEY Neytrino 123.25 314⇓ *i*PKIKP **PKPdf** **01 25 42.0 +0.7**
STOK Stokkvaagen 123.67 348 *e*PKPdf **PKPdf** **01 25 40.1 -0.9**
FINES FINESS Array B 123.73 338 PKP **PKPdf** **01 25 40.1 -1.2**
comp=Z,7.2nm,0.9s,baz=106,slow=6.2,SNR=20
FINES PKKPab **PKKPab** **01 35 28.2 0.0**
comp=Z,1.2nm,0.8s,baz=294,slow=1.9,SNR=6.5
BOSA Boshof 124.43 222 PKP **PKPdf** **01 25 42.9 -1.1**
comp=Z,16nm,0.8s,baz=98,slow=1.8,SNR=18
SUR Sutherland 124.45 215 *e*PKPdf **PKPdf** **01 25 43.9 -0.1**
SOC Sochi 125.27 315 *i* PKIKP PKPdf 01 25 52.7 +7.8
SOC *e* 01 27 45.5
SOC *e*PPP PPP 01 30 17.4
SOC *e* 01 32 36.9
SOC *e*PS **PS** **01 37 38.6 +0.6**
SOC *e*SS SS 01 44 22.8 -3.5
SOC *e*SSS SSS 01 49 10.1
SOC MLR MLR
comp=Z,414nm,22.0s
VSU Vasula 125.43 335*c i*PKIKP **PKPdf** **01 25 43.9 -0.8**
VSU pmax pmax
comp=Z,33nm,1.0s
SAML Samuel 125.97 111 *e*PKPdf **PKPdf** **01 25 45.1 -2.0**
ANN Anapa 126.43 317 *i* PKIKP **PKPdf** **01 25 46.4 -0.6**
ANN *e**PP **pPKiKP** **01 26 12.0 -1.0**
ANN *e* 01 27 43.8
ANN *e* 01 32 43.7
ANN *e*SS SS 01 44 34.1 -6.6
ANN pmax pmax
comp=Z,23nm,1.0s
IZAR Zarasai 127.35 333 IAmb IAmb 01 25 49.9
comp=Z,3.2nm,0.9s
IDID Didziasalis 127.40 332 *e*P **PKPdf** **01 25 47.6 -1.0**
IDID IAmb IAmb 01 25 50.0
comp=Z,6.6nm,1.0s
ISAL Salakas 127.52 333 *e*P **PKPdf** **01 25 45.0 -3.7**
ISAL IAmb IAmb 01 25 49.2
comp=Z,13nm,1.1s
IIGN Ignalina 127.61 333 *e*P **PKPdf** **01 25 47.1 -1.9**
IIGN IAmb IAmb 01 25 52.0
comp=Z,10nm,1.1s
DOMB Dombas 128.26 347 *e*PKPdf **PKPdf** **01 25 50.0 -0.1**
AKN Aaknes 128.58 348 *e*PKPdf **PKPdf** **01 25 50.6 -0.1**
NB2 NORSAR Subarra 128.62 345 PKPdf **PKPdf** **01 25 50.4 -0.4**
baz=28,slow=1.9
NB2 NORSAR Subarra 128.62 345 PKIKP **PKPdf** **01 25 50.4 -0.4**
NB2 NORSAR Subarra 128.62 345 PKPdf **PKPdf** **01 25 50.4 -0.4**
comp=Z,6.8nm,0.9s,baz=28,slow=1.9
NOA NORSAR Array B 128.62 345 PKP **PKPdf** **01 25 50.7 -0.2**
comp=Z,3.3nm,0.8s,baz=33,slow=1.9,SNR=12
AKASG Malin Array Be 128.82 326 PKP **PKPdf** **01 25 51.2 -0.2**
comp=Z,2.6nm,0.7s,baz=60,slow=2.7,SNR=8.7
KIEV Kiev 128.83 326 *e*PKIKP **PKPdf** **01 25 51.0 -0.4**
KIEV Kiev 128.83 326 *e*PKPdf **PKPdf** **01 25 51.0 -0.4**
SJG San Juan 128.96 77 *e*PKIKP **PKPdf** **01 25 51.1 -1.5**
SJG San Juan 128.96 77 *e*PKPdf **PKPdf** **01 25 51.1 -1.5**
FOO Floro 129.50 349 *e*PKPdf **PKPdf** **01 25 53.7 +1.3**
FOO *e*SP SP 01 38 01.2 -0.5
SUE Sulen 130.05 349 *e*SP SP 01 38 04.9 -1.6
ASF Jabal al Asfar 130.23 301 PKP **PKPdf** **01 25 54.8 0.0**
comp=Z,2.2nm,0.9s,baz=65,slow=4.2,SNR=4.8
ASF SKPbc **SKPbc** **01 29 12.5 +2.6**
comp=Z,5.4nm,1.1s,baz=23,slow=1.3,SNR=4.7
LSZ Lusaka 130.33 237 *e*PKIKP **PKPdf** **01 25 55.1 -0.4**
LSZ Lusaka 130.33 237 *e*PKPdf **PKPdf** **01 25 55.1 -0.4**
SORM Soroca 130.65 324⇓ *i*P **SKPab** **01 29 13.5 +2.7**
BRTR Keskin Array B 130.81 312 PKPdf **PKPdf** **01 25 54.8 -1.0**
comp=Z,0.6nm,0.7s,baz=104,slow=5.7,SNR=4.0
BRTR PKP **PKPdf** **01 25 54.8 -1.0**
comp=Z,1.8nm,0.8s,baz=90,slow=1.2,SNR=8.7
BRTR SKPbc **SKPab** **01 29 13.6 +1.6**
comp=Z,8.9nm,1.1s,baz=85,slow=2.6,SNR=10.0
BRTR Keskin Array B 130.81 312*c i*PKIKP **PKPdf** **01 25 55.4 -0.4**
BRTR pmax pmax
comp=Z,2.0nm,0.8s
KIS Kishinev 130.96 323 *e*PKP PKPdf 01 26 05.0 +9.4
KIS *e*pPKP sPKPdf 01 27 10.0 +39
KIS Kishinev 130.96 323 *i* PP PP 01 29 12.0 +59
comp=Z,500nm,8.0s
KIS *e*SKS 01 35 00.0
KIS Kishinev 130.96 323 *e*PS PS 01 39 54.0 +87
KIS LRM MLR 02 22 08.0
comp=Z,600nm,24.0s
KIS Kishinev 130.96 323 *e*PKIKP PKPdf 01 26 05.0 +9.4
KIS *e*PS PS 01 39 54.0 +87
KIS pmax pmax
comp=Z,500nm,8.0s
KIS MLR MLR
comp=Z,600nm,22.0s
KIS MLR MLR
comp=Z,600nm,24.0s
MMAI Mount Meron Ar 131.29 303 PKP **PKPdf** **01 25 56.6 -0.2**
comp=Z,3.7nm,0.9s,baz=56,slow=4.4,SNR=5.8
TLCR 131.85 320⇑ *i*P **PKPdf** **01 25 57.8 +0.5**
TLCR 131.85 320⇑ PKIKP **PKPdf** **01 25 57.8 +0.5**
CFR Carcaliu 132.27 321⇑ *i*P PKPpre 01 25 52.8
CFR Carcaliu 132.27 321⇓ *i*P **SKPab** **01 29 21.4 +3.6**
CFR Carcaliu 132.27 321 ⇑PKIKP **PKPdf** **01 25 52.8 -5.3**
EIL Elat 132.32 299 PKP **PKPdf** **01 25 58.8 0.0**
comp=Z,6.0nm,0.8s,baz=353,slow=4.3,SNR=7.1
CSS Mathiatis 132.49 306 *e*PKPdf **PKPdf** **01 25 59.2 +0.3**
TLB Topalu 132.62 320⇓ *i*P **PKPdf** **01 25 57.3 -1.5**
TLB Topalu 132.62 320⇓ *i*P **SKPab** **01 29 23.5 +4.2**
TLB Topalu 132.62 320 ⇓PKIKP **PKPdf** **01 25 57.3 -1.5**
BURAR Bucovina Array 132.71 325⇓ *i*P **PKPdf** **01 26 00.3 +1.2**
BURAR Bucovina Array 132.71 325⇑ *i*P **SKPab** **01 29 20.2 +0.5**
BURAR Bucovina Array 132.71 325 ⇓PKIKP **PKPdf** **01 26 00.3 +1.2**
VRI Vrincioaia 132.78 322⇑ *i*P **PKPdf** **01 25 56.9 -2.2**
VRI Vrincioaia 132.78 322⇑ *i*P **SKPab** **01 29 22.0 +2.0**
VRI Vrincioaia 132.78 322 ⇑PKIKP **PKPdf** **01 25 56.9 -2.2**
PLOR Plostina 132.83 322⇑ *i*P **PKPdf** **01 25 59.3 0.0**
PLOR Plostina 132.83 322⇓ *i*P **SKPab** **01 29 18.1 -2.2**
PLOR Plostina 132.83 322 ⇑PKIKP **PKPdf** **01 25 59.4 +0.1**
KWP Kalwaria Pacla 132.86 329 *e*PKP **PKPdf** **01 26 00.7 +1.5**
KWP Kalwaria Pacla 132.86 329 *e*PKIKP **PKPdf** **01 26 00.7 +1.5**
MLR Muntele Rosu 133.44 322⇓ *i*P **PKPdf** **01 26 00.9 +0.3**
MLR Muntele Rosu 133.44 322 ⇓PKIKP **PKPdf** **01 26 00.9 +0.3**
ARCR ARCALIA 133.49 325⇓ *i*P **SKPab** **01 29 25.9 +2.9**
DOPR Dopca 133.52 323⇓ *i*P **PKPdf** **01 26 02.3 +1.8**
UZH Uzhgorod 133.69 328 *e*PKIKP **PKPdf** **01 26 01.9 +1.2**
UZH *e* 01 26 34.1
UZH *e* 01 33 00.9
STHS Stebnicka Huta 133.73 329 *e*PKIKP **PKPdf** **01 26 02.8 +2.0**
STHS Stebnicka Huta 133.73 329 *e*PKP **PKPdf** **01 26 02.8 +2.0**
STHS Stebnicka Huta 133.73 329 *e*P **SKPab** **01 29 26.1 +2.1**
OJC Ojcow 133.91 331 *e*PKP **PKPdf** **01 26 01.4 +0.3**
OJC *e*PP **SKPab** **01 29 24.6 -0.2**
OJC Ojcow 133.91 331 *e*PKIKP **PKPdf** **01 26 01.4 +0.3**
CRVS Cervenica-Dubn 133.95 328 *e*PKIKP **PKPdf** **01 26 00.9 -0.3**
CRVS Cervenica-Dubn 133.95 328 *e*PKP **PKPdf** **01 26 00.9 -0.3**
CRVS Cervenica-Dubn 133.95 328 *e*P **SKPab** **01 29 24.3 -0.7**
VOIR 134.01 323⇑ *i*P **PKPdf** **01 26 02.2 +0.7**
VOIR 134.01 323⇓ *i*P **SKPab** **01 29 27.0 +1.6**
VOIR 134.01 323 ⇑PKIKP **PKPdf** **01 26 02.2 +0.7**
CJR Cluj-Napoca 134.13 325⇑ *i*P **PKPdf** **01 26 03.6 +1.9**
CJR Cluj-Napoca 134.13 325 ⇑PKIKP **PKPdf** **01 26 03.6 +1.9**
NIE Niedzica 134.20 330 *e*PKP **PKPdf** **01 26 02.9 +1.2**
NIE Niedzica 134.20 330 *e*PKIKP **PKPdf** **01 26 02.9 +1.2**
ARR Arges 134.29 323⇓ *i*P **PKPdf** **01 26 02.6 +0.5**
ARR Arges 134.29 323⇑ *i*P **SKPab** **01 29 28.1 +1.5**
HUMR Humele 134.53 322⇑ *i*P **PKPdf** **01 26 01.9 -0.5**
DRGR 134.58 325⇑ *i*P **PKPdf** **01 26 02.3 -0.3**
DRGR 134.58 325⇑ *i*P **SKPab** **01 29 27.6 -0.3**
DRGR 134.58 325 ⇑PKIKP **PKPdf** **01 26 02.3 -0.3**
SZH Strazhica 134.59 320 P **PKPdf** **01 26 01.5 -1.1**
KECS Kecovo 134.72 329 *e*PKIKP **PKPdf** **01 26 02.4 -0.3**
KECS Kecovo 134.72 329 *e*PKP **PKPdf** **01 26 02.4 -0.3**
KECS Kecovo 134.72 329 *e*P **SKPab** **01 29 27.7 -0.6**
LOT Lotru 134.75 323⇑ *i*P **PKPdf** **01 26 03.8 +0.8**
LANS Liptovska Anna 134.78 330 *e*PKIKP **PKPdf** **01 26 04.1 +1.3**
LANS Liptovska Anna 134.78 330 *e*PKP **PKPdf** **01 26 04.1 +1.3**
LANS Liptovska Anna 134.78 330 *e*P **SKPab** **01 29 31.7 +3.1**
OKC Ostrava-Krasne 134.95 331 *e*PKPdf **PKPdf** **01 26 03.4 +0.4**
OKC *ep*PKP **pPKPdf** **01 26 26.6 -2.0**
OKC *e*SKP 01 29 26.5
OKC AMS AMS 02 20 10.0
comp=Z,1μm,26.0s
OKC Ostrava-Krasne 134.95 331 *e*PKIKP **PKPdf** **01 26 03.4 +0.4**
OKC MLR MLR
comp=Z,1μm,26.0s
PVL Pavlikeni 134.99 320 P **PKPdf** **01 26 03.5 +0.2**
KSP Ksiaz 135.06 334 *e*PKP **PKPdf** **01 26 04.0 +0.7**
KSP *e*PP **SKPab** **01 29 28.0 -1.8**
KSP Ksiaz 135.06 334 *e*PKIKP **PKPdf** **01 26 04.0 +0.7**
MORC Moravsky Berou 135.27 332⇓ *i*P **PKPdf** **01 26 04.2 +0.5**
MORC Moravsky Berou 135.27 332 *e*PKIKP **PKPdf** **01 26 03.6 -0.1**
MORC Moravsky Berou 135.27 332 *e*PKPdf **PKPdf** **01 26 03.6 -0.1**
PSZ Piszkesteto 135.38 328⇑ *i*P **PKPdf** **01 26 04.7 +0.7**
PSZ Piszkesteto 135.38 328 *e*PKIKP **PKPdf** **01 26 04.3 +0.2**
PSZ Piszkesteto 135.38 328 *e*PKPdf **PKPdf** **01 26 04.3 +0.2**
KRLC Kraliky 135.40 333 *e*SKP **SKPab** **01 29 29.6 -1.7**
DPC Dobruska-Polom 135.41 333 *e*PKPdf **PKPdf** **01 26 04.4 +0.4**
DPC *ep*PKP **pPKPdf** **01 26 27.6 -1.9**
DPC *e*SKP 01 29 29.6
DPC *ex* x 01 40 34.5
DPC AMS AMS 02 25 00.0
comp=Z,1μm,20.5s
DPC Dobruska-Polom 135.41 333 *e*PKIKP **PKPdf** **01 26 04.4 +0.4**
DPC *e* 01 40 34.5
DPC MLR MLR
comp=Z,1μm,20.5s
UPC Upice 135.43 334 *e*PKPdf **PKPdf** **01 26 04.2 +0.2**
UPC *ep*PKP **pPKPdf** **01 26 27.5 -2.0**
UPC *e*SKP 01 29 29.5
UPC *ex* x 01 40 29.5
UPC AMS AMS 02 21 00.0
comp=Z,1μm,22.5s
UPC Upice 135.43 334 *e*PKIKP **PKPdf** **01 26 04.2 +0.2**
UPC *e* 01 40 29.5
UPC MLR MLR
comp=Z,1μm,22.5s
SIRR Siria 135.48 325⇓ *i*P **PKPdf** **01 26 06.2 +2.0**
SIRR Siria 135.48 325⇑ *i*P **SKPdf** **01 29 30.1 -1.0**
VYHS Vyhne 135.53 330 *e*PKIKP **PKPdf** **01 26 03.8 -0.4**
VYHS Vyhne 135.53 330 *e*PKP **PKPdf** **01 26 03.8 -0.4**
VYHS Vyhne 135.53 330 *e*P **SKPdf** **01 29 29.6 -1.5**
RDO Rodhopi 135.88 317 P PKPpre 01 25 58.5
RDO Rodhopi 135.88 317 P PKPpre 01 25 58.5
BZS Buzias 135.89 325⇓ *i*P **PKPdf** **01 26 05.3 +0.4**
BZS Buzias 135.89 325 ⇓PKIKP **PKPdf** **01 26 05.3 +0.4**
MPEP Malo Peshtene 135.91 321 P **PKPdf** **01 26 05.0 -0.1**
TSUM Tsumeb 135.96 224 *e*PKPpre PKPpre 01 25 57.8
TSUM *e*PKP **PKPdf** **01 26 05.5 -0.5**
BRG Berggiesshubel 136.03 335 *e*PKP **PKPdf** **01 26 06.9 +1.9**
comp=Z,12nm,1.2s
BRG *ep*PKP **pPKPdf** **01 26 29.3 -1.2**
comp=Z,9.0nm,1.3s
BRG *e*PP PP 01 28 29.4 -15
comp=Z,7.6nm,1.4s
BRG SKP 01 29 30.7
comp=Z,31nm,1.4s
BRG Berggiesshubel 136.03 335 *e*PKIKP **PKPdf** **01 26 06.9 +1.9**
BRG pmax pmax
comp=Z,13nm,1.2s
PVCC Panska Ves 136.03 335 *e*PKPdf **PKPdf** **01 26 05.3 +0.2**
PVCC *ep*PKP **pPKPdf** **01 26 28.4 -2.2**
PVCC *e*SKP 01 29 36.4
PVCC AMS AMS 02 19 00.0
comp=Z,1μm,26.9s
PVCC Panska Ves 136.03 335 *e*PKIKP **PKPdf** **01 26 05.3 +0.2**
PVCC MLR MLR
comp=Z,1μm,26.9s
VRAC Vranov 136.04 332⇑ *i*P **SKPdf** **01 29 32.0 0.0**
CLL Collm 136.07 336 *e*PKIKP **PKPdf** **01 26 05.0 -0.1**
CLL *i* 01 26 29.3
CLL pmax pmax
comp=Z,16nm,1.4s
CLL Collm 136.07 336 *e*PKPdf **PKPdf** **01 26 05.0 -0.1**
comp=Z,16nm,1.4s
CLL *i* pPKPdf **pPKPdf** **01 26 29.3 -1.3**
CLL *e*SPP 01 29 16.0
CLL *i* SKPbc **SKPbc** **01 29 30.7 +1.8**
comp=Z,15nm,1.3s
CLL *e*PSKS 01 38 54.0
CLL *e*SPP SPP 01 40 44.0
CLL *e*PPPrev 01 41 49.0
CLL *e*SKKSacre 01 42 10.0
CLL *e*SS SS 01 46 24.0 -13
CLL *e*SKSSKSac **S'ac** **01 48 27.0 -7.1**
CLL *e*SSS SSS 01 51 42.0
MDVR Moldovita 136.33 324⇑ *i*P **PKPdf** **01 26 05.5 -0.4**
MDVR Moldovita 136.33 324⇑ *i*P **SKPdf** **01 29 32.1 -0.6**
GOPC GO Pecny, Ondr 136.40 334 *e*SKP **SKPdf** **01 29 32.2 -0.5**
GOPC *ex* x 01 40 41.9
GOPC AMS AMS 02 20 50.0
comp=Z,1μm,26.8s

PRA	**Prague**	**136.43**	**334**	*e*SKP	**SKPdf**	**01 29 32.6**	**-0.1**
PRA				AMS	AMS	02 19 10.0	
	comp=Z,1μm,25.6s						
PRU	**Pruhonice**	**136.45**	**334**	*e*PKPdf	**PKPdf**	**01 26 05.9**	**+0.1**
PRU				*ep*PKP	**pPKPdf**	**01 26 30.4**	**-1.0**
PRU				*e*SKP		01 29 32.6	
PRU				AMS	AMS	02 19 20.0	
	comp=Z,1μm,24.8s						
PRU	**Pruhonice**	**136.45**	**334**	*e*PKIKP	**PKPdf**	**01 26 05.9**	**+0.1**
PRU				*e*		01 26 30.4	
PRU				MLR	MLR		
	comp=Z,1μm,24.8s						
TREC	**Trest**	**136.55**	**333**	*e*PKPdf	**PKPdf**	**01 26 06.4**	**+0.3**
TREC				*ep*PKP	**pPKPdf**	**01 26 30.5**	**-1.1**
TREC				*e*SKP		01 29 32.7	
TREC				AMS	AMS	02 21 40.0	
	comp=Z,1μm,24.1s						
TREC	**Trest**	**136.55**	**333**	*e*PKIKP	**PKPdf**	**01 26 06.4**	**+0.3**
TREC				MLR	MLR		
	comp=Z,1μm,24.1s						
VTS	**Vitosha**	**136.65**	**320**	P	**PKPdf**	**01 26 03.7**	**-3.0**
VTS	**Vitosha**	**136.65**	**320**	⇑*i*P	**PKPdf**	**01 26 04.8**	**-1.9**
VTS	**Vitosha**	**136.65**	**320**	⇑PKIKP	**PKPdf**	**01 26 04.8**	**-1.9**
VTS	**Vitosha**	**136.65**	**320**	P	**PKPdf**	**01 26 05.5**	**-1.2**
VTS	**Vitosha**	**136.65**	**320**	P	**PKPdf**	**01 26 03.7**	**-3.0**
NVR	**Nevrokopi**	**136.88**	**318**	P	PKPpre	01 25 54.5	
NVR	**Nevrokopi**	**136.88**	**318**	P	PKPpre	01 25 54.5	
NKC	**Novy Kostel**	**137.13**	**336**	*e*SKP	**SKPdf**	**01 29 33.7**	**-0.3**
SRS	**Serrai**	**137.17**	**318**	P	PKPpre	01 25 54.7	
SRS	**Serrai**	**137.17**	**318**	PKHKP	PKPpre	01 25 54.7	
SRS	**Serrai**	**137.17**	**318**	P	PKPpre	01 25 54.7	
KHC	**Kasperske Hory**	**137.51**	**334**	*e*PKPdf	**PKPdf**	**01 26 06.9**	**-1.0**
KHC				*ep*PKP	**pPKPdf**	**01 26 31.9**	**-1.5**
KHC				*e*SKP		01 29 35.7	
KHC				*ex*	x	01 40 53.6	
KHC				AMS	AMS	02 20 00.0	
	comp=Z,1μm,25.4s						
KHC	**Kasperske Hory**	**137.51**	**334**	*e*PKIKP	**PKPdf**	**01 26 06.9**	**-1.0**
KHC				*e*		01 26 31.9	
KHC				*e*		01 40 53.6	
KHC				MLR	MLR		
	comp=Z,1μm,25.4s						
KHC	**Kasperske Hory**	**137.51**	**334**	*e*PKPdf	**PKPdf**	**01 26 07.3**	**-0.6**
KHC				*e*SKPbc	**SKPbc**	**01 29 35.0**	**+1.7**
GERES	**GERESS Array B**	**137.67**	**334**	PKhKP	PKPpre	01 25 55.3	
	comp=Z,0.7nm,0.7s,baz=330,slow=7.7,SNR=3.6						
GERES				PKP	**PKPdf**	**01 26 08.0**	**-0.3**
	comp=Z,2.5nm,0.8s,baz=36,slow=2.5,SNR=5.9						
GERES				pPKP	pPKPdf	01 26 32.9	-0.9
	comp=Z,1.8nm,0.7s,baz=90,slow=2.7,SNR=4.4						
GERES				SKP		01 29 36.0	
	comp=Z,3.7nm,0.9s,baz=47,slow=2.5,SNR=9.7						
SKIA	**Skiathos**	**138.22**	**316**	P	**PKPdf**	**01 26 05.5**	**-4.0**
XOR	**Xorichti**	**138.31**	**316**	P	PKPpre	01 25 53.5	
XOR	**Xorichti**	**138.31**	**316**	P	PKPpre	01 25 53.5	
LIT	**Litokhoron**	**138.41**	**317**	PKIKP	**PKPdf**	**01 26 10.9**	**+1.1**
PTL	**Penteli**	**138.47**	**314**	P	**PKPdf**	**01 26 06.4**	**-3.6**
PTL	**Penteli**	**138.47**	**314**	P	**PKPdf**	**01 26 06.4**	**-3.6**
SMIA	**Simia**	**138.53**	**315**	P	PKPpre	01 26 02.6	
FNA	**Florina**	**138.78**	**319**	P	PKPpre	01 26 02.4	
FNA	**Florina**	**138.78**	**319**	PKHKP	PKPpre	01 26 02.4	
FNA	**Florina**	**138.78**	**319**	P	PKPpre	01 26 02.4	
THL	**Klokotos Trika**	**139.00**	**317**	P	PKPpre	01 25 59.7	
AGG	**Agios Georgios**	**139.06**	**316**	P	PKPpre	01 25 59.6	
LTK	**Loutraki**	**139.11**	**314**	P	PKPpre	01 25 58.3	
MEM	**Membach**	**139.13**	**341**	PKP	**PKPdf**	**01 26 10.4**	**-0.3**
MEM				SKiKP	**SKiKP**	**01 29 40.5**	**-0.5**
KBA	**Koelnbreinsper**	**139.15**	**332**	PKIKP	**PKPdf**	**01 26 09.6**	**-1.6**
DID	**Didima**	**139.16**	**314**	P	PKPpre	01 25 58.0	
DID	**Didima**	**139.16**	**314**	P	PKPpre	01 25 58.0	
PDG	**Podgorica**	**139.16**	**322**	P	**PKPdf**	**01 26 09.4**	**-1.6**
PDG	**Podgorica**	**139.16**	**322**	⇑*i*P	**PKPdf**	**01 26 10.2**	**-0.8**
TTG	**Podgorica**	**139.16**	**322**	PKIKP	**PKPdf**	**01 26 09.4**	**-1.6**
TTG	**Podgorica**	**139.16**	**322**	P	**PKPdf**	**01 26 09.4**	**-1.6**
NEST	**Nestorio**	**139.19**	**319**	P	PKPpre	01 26 01.5	
KPRO	**Kipourio**	**139.23**	**318**	P	PKPpre	01 26 03.1	
PENT	**Pentalofos**	**139.25**	**318**	P	PKPpre	01 26 02.5	
LJU	**Ljubljana**	**139.35**	**330**	*e*PKPdf	**PKPdf**	**01 26 10.5**	**-0.8**
LJU				*e*		01 29 40.0	
VAM	**Vamos**	**139.37**	**310**	P	PKPpre	01 25 52.2	
VAM	**Vamos**	**139.37**	**310**	PKHKP	PKPpre	01 25 52.2	
VAM	**Vamos**	**139.37**	**310**	P	PKPpre	01 25 52.2	
BOJS	**Bojanci**	**139.37**	**329**	*e*	**PKPdf**	**01 26 04.4**	**-7.0**
BOJS				*e*PKPdf	**PKiKP**	**01 26 10.6**	**-3.1**
BOJS				*ep*PKPdf	**pPKPdf**	**01 26 35.6**	**-1.3**
EVR	**Evrytania**	**139.47**	**316**	P	PKPpre	01 26 02.6	
IMMV	**Iera Moni Meta**	**139.51**	**310**	P	PKPpre	01 25 56.6	
SERG	**Sergoula**	**139.55**	**315**	P	PKPpre	01 26 00.7	
ANX	**Ano Chora**	**139.55**	**316**	P	PKPpre	01 26 06.4	
STU	**Stuttgart**	**139.57**	**337**	*e*PKIKP	**PKPdf**	**01 26 10.4**	**-1.2**
STU	**Stuttgart**	**139.57**	**337**	*e*PKPdf	**PKPdf**	**01 26 10.4**	**-1.2**
KLV	**Kalavryta, Ach**	**139.66**	**315**	P	PKPpre	01 26 02.5	
JAVS	**Javornik**	**139.68**	**330**	*e*	PKPpre	01 26 03.8	
JAVS				*e*PKPdf	**PKPdf**	**01 26 09.9**	**-2.1**
JAVS				*ep*PKPdf	pPKPdf	01 26 35.5	-2.0
LAKA	**Lakka**	**139.69**	**315**	P	PKPpre	01 26 03.1	
JAN	**Janina**	**139.72**	**318**	P	PKPpre	01 26 03.0	
JAN	**Janina**	**139.72**	**318**	PKHKP	PKPpre	01 26 03.0	
JAN	**Janina**	**139.72**	**318**	P	PKPpre	01 26 03.0	
VLX	**Vlachokerasia**	**139.82**	**314**	P	PKPpre	01 26 04.0	
VLX	**Vlachokerasia**	**139.82**	**314**	P	PKPpre	01 26 04.0	
DSL	**Palaion Diasel**	**139.83**	**317**	P	PKPpre	01 26 01.5	
WLF	**Walferdange**	**139.90**	**340**	SKiKP	**SKiKP**	**01 29 42.6**	**-0.1**
DOU	**Dourbes**	**140.01**	**342**	PKP	**PKPdf**	**01 26 12.2**	**-0.1**
DOU				SKiKP	**SKPbc**	**01 29 41.1**	**+0.9**
PDO	**Prodromos**	**140.05**	**316**	P	PKPpre	01 26 03.9	
AXS	**Araxos**	**140.12**	**316**	P	PKPpre	01 25 59.8	
SGD	**Sagiada**	**140.15**	**318**	P	PKPpre	01 26 05.7	
ITM	**Ithomi**	**140.23**	**314**	P	PKPpre	01 26 07.5	
ITM	**Ithomi**	**140.23**	**314**	P	PKPpre	01 26 07.5	
BFO	**Black Forest**	**140.26**	**337**	*e*PKHKP	PKPpre	01 26 05.0	
BFO				*e*		01 26 13.2	
BFO	**Black Forest**	**140.26**	**337**	*e*PKPpre	PKPpre	01 26 05.0	
BFO				*e*PKPdf	**PKPdf**	**01 26 13.2**	**+0.2**
ECH	**Echery**	**140.79**	**338**	PKP	**PKPdf**	**01 26 12.0**	**-1.9**
TUE	**Stuetta**	**141.37**	**335**	*e*PKPpre	PKPpre	01 26 06.3	
TUE				*e*PKPdf	**PKPdf**	**01 26 15.1**	**-0.1**
TUE				*e*SKPbc	**SKiKP**	**01 29 45.5**	**-0.6**
LOMF	**Lomont**	**141.64**	**338**	PKP	**PKPdf**	**01 26 09.2**	**-6.3**
TIP	**Timpagrande**	**142.61**	**320**	P	PKPpre	01 26 13.4	
TIP	**Timpagrande**	**142.61**	**320**	*e*PKPpre	PKPpre	01 26 13.2	
BNI	**Bardonecchia**	**143.61**	**336**	*e*PKIKP	PKPbc	01 26 17.2	+0.4
BNI	**Bardonecchia**	**143.61**	**336**	*e*PKPdf	PKPbc	01 26 17.2	+0.4
CEL	**Celeste**	**143.70**	**320**	*e*PKPdf	PKPab	01 26 16.3	0.0
GDM	**Grand'Maison**	**143.71**	**337**	PKP	PKPbc	01 26 17.7	+0.6
GRN	**Grenoble**	**143.82**	**337**	PKP	PKPbc	01 26 18.3	+1.0
SSB	**Saint Sauveur**	**144.23**	**338**	PKP	PKPbc	01 26 19.3	+0.8
SSB	**Saint Sauveur**	**144.23**	**338**	*e*PKIKP	**PKPab**	**01 26 18.3**	**+0.2**
SSB	**Saint Sauveur**	**144.23**	**338**	*e*PKPdf	**PKPab**	**01 26 18.3**	**+0.2**
VERF	**Verneugheol**	**144.53**	**341**	PKP	**PKPdf**	**01 26 20.1**	**-0.5**
CLTB	**Caltabellotta**	**145.79**	**321**	*e*PKPbc	**PKPbc**	**01 26 23.7**	**0.0**
WDD	**Wied Dalam**	**146.01**	**317**	*e*PKPbc	**PKPdf**	**01 26 23.6**	**+0.2**
VSL	**Villasalto**	**146.69**	**327**	*e*PKPbc	**PKPbc**	**01 26 25.5**	**-0.8**
LRDF	**Laroque-de-Fa**	**146.98**	**338**	PKP	**PKPbc**	**01 26 26.8**	**-0.1**
SJAF	**Saint Jean de**	**147.25**	**338**	PKP	**PKPbc**	**01 26 27.5**	**-0.2**
FILF	**Fillols**	**147.30**	**338**	PKP	**PKPbc**	**01 26 27.9**	**0.0**
CARF	**Carcanieres**	**147.33**	**339**	PKP	**PKPbc**	**01 26 27.5**	**-0.6**
VALF	**Valcebollere**	**147.64**	**339**	PKP	**PKPbc**	**01 26 29.3**	**+0.3**
REYF	**Montagne du Re**	**147.83**	**342**	PKP	**PKPbc**	**01 26 29.5**	**+0.1**
RESF	**Ens**	**147.84**	**341**	PKP	**PKPbc**	**01 26 30.4**	**+0.9**
VIEF	**Viey**	**147.88**	**341**	PKP	**PKPbc**	**01 26 30.4**	**+0.9**
LARF	**Larrau**	**148.04**	**343**	PKP	**PKPbc**	**01 26 30.4**	**+0.5**
KEST	**Kesra**	**149.35**	**322**	PKPbc	**PKPbc**	**01 26 33.5**	**0.0**
	comp=Z,44nm,0.8s,baz=222,slow=0.6,SNR=54						
KEST				pPKPbc	**pPKPdf**	**01 26 56.5**	**+1.9**
	comp=Z,46nm,0.9s,baz=151,slow=3.5,SNR=5.8						
CMAH	**Djebel Manchou**	**149.84**	**325**	P	**PKPbc**	**01 26 34.7**	**0.0**
ABSA	**Djebel Ababsia**	**150.06**	**325**	P	**PKPbc**	**01 26 35.5**	**+0.3**
CKFL	**Kef-Lekhel**	**150.39**	**326**	P	**PKPbc**	**01 26 36.3**	**+0.2**
SHEL	**Horse Pasture**	**150.45**	**195**	*e*PKIKP	**PKPbc**	**01 26 37.2**	**+0.5**
SHEL	**Horse Pasture**	**150.45**	**195**	*e*PKPbc	**PKPbc**	**01 26 37.2**	**+0.5**
PBRG	**Braganca**	**150.54**	**350**	*e*PKPdf	**PKPdf**	**01 26 30.4**	**-0.3**
PBRG	**Braganca**	**150.54**	**350**	*e*PKPbc	**PKPbc**	**01 26 36.0**	**-0.1**
PBRG	**Braganca**	**150.54**	**350**	*e*PKPab	**PKPab**	**01 26 43.6**	**+0.6**
CASM	**Ain Smara**	**150.62**	**326**	P	**PKPbc**	**01 26 36.5**	**0.0**
PGAV	**Gavieira, Arco**	**150.62**	**352**	*e*PKPdf	**PKPdf**	**01 26 30.4**	**-0.5**
PGAV	**Gavieira, Arco**	**150.62**	**352**	*e*PKPbc	**PKPbc**	**01 26 36.4**	**0.0**
PGAV	**Gavieira, Arco**	**150.62**	**352**	*e*LR	LR	02 18 10.2	
	comp=Z,559nm,18.0s						
DFRA	**Djebel Bou Aff**	**150.73**	**327**	P	**PKPbc**	**01 26 37.6**	**+0.7**
CTEI	**Djebel Teioual**	**150.81**	**326**	P	**PKPbc**	**01 26 37.4**	**+0.3**
PCAB	**Cabril**	**150.83**	**352**	*e*PKPdf	**PKPdf**	**01 26 31.8**	**+0.7**
PCAB	**Cabril**	**150.83**	**352**	*e*PKPbc	**PKPbc**	**01 26 37.8**	**+1.0**
RCBR	**Riachuelo**	**150.92**	**128**	*e*PKPdf	**PKPdf**	**01 26 30.3**	**-1.8**
RCBR				*e*PKPbc	**PKPbc**	**01 26 36.6**	**-1.2**
POLO	**Lamas de Olo**	**151.13**	**351**	*e*PKPdf	**PKPdf**	**01 26 31.9**	**+0.2**
POLO	**Lamas de Olo**	**151.13**	**351**	*e*PKPbc	**PKPbc**	**01 26 37.8**	**+0.2**
POLO	**Lamas de Olo**	**151.13**	**351**	*e*PKPab	**PKPab**	**01 26 45.5**	**0.0**
MVO	**Moncorvo**	**151.21**	**350**	*e*PKPdf	**PKPdf**	**01 26 31.7**	**-0.1**
MVO	**Moncorvo**	**151.21**	**350**	*e*PKPbc	**PKPbc**	**01 26 38.0**	**+0.2**
MVO	**Moncorvo**	**151.21**	**350**	*e*PKPab	**PKPab**	**01 26 45.9**	**+0.1**
MVO	**Moncorvo**	**151.21**	**350**	*e*LR	LR	02 19 35.5	
	comp=Z,635nm,18.0s						
PVRL	**Vila Real**	**151.22**	**351**	*e*PKPdf	**PKPdf**	**01 26 30.9**	**-0.9**
SET	**Setif**	**151.24**	**327**	P	**PKPbc**	**01 26 40.0**	**+2.0**
CKHR	**Kef el Ahmar**	**151.32**	**327**	P	**PKPbc**	**01 26 36.0**	**-2.3**
ESDC	**Sonseca Array**	**151.99**	**344**	PKP	**PKPdf**	**01 26 33.1**	**+0.1**
	comp=Z,0.2nm,0.5s,baz=5.7,slow=2.3,SNR=5.0						
ESDC				PKPbc	**PKPbc**	**01 26 39.0**	**-0.6**
	comp=Z,9.0nm,0.9s,baz=20,slow=2.1,SNR=42						
ESDC				PKPab	**PKPab**	**01 26 49.8**	**+0.7**
	comp=Z,4.1nm,0.6s,baz=12,slow=4.0,SNR=14						
MTE	**Manteigas**	**152.04**	**351**	*e*PKPbc	**PKPbc**	**01 26 39.5**	**-0.2**
MTE	**Manteigas**	**152.04**	**351**	*e*PKPab	**PKPab**	**01 26 50.5**	**+1.2**
MTE	**Manteigas**	**152.04**	**351**	*e*LR	LR	02 17 18.8	
	comp=Z,707nm,20.0s						
MTE	**Manteigas**	**152.04**	**351**	*e*PKPdf	**PKPdf**	**01 26 32.4**	**-0.7**
MTE				*e*PKPbc	**PKPbc**	**01 26 39.8**	**+0.1**
MTE				*e*PKPab	**PKPab**	**01 26 50.4**	**+1.1**
PAB	**San Pablo**	**152.21**	**345**	*e*PKIKP	**PKPdf**	**01 26 33.4**	**0.0**
PAB				*e*		01 26 49.9	
PAB	**San Pablo**	**152.21**	**345**	*e*PKPdf	**PKPdf**	**01 26 33.4**	**0.0**
PAB				*e*PKPbc	**PKPbc**	**01 26 40.0**	**-0.1**
PAB				*e*PKPab	**PKPab**	**01 26 49.9**	**-0.1**
PCAS	**Casmilo, Conde**	**152.53**	**352**	*e*PKPdf	**PKPdf**	**01 26 33.1**	**-0.6**
PCAS	**Casmilo, Conde**	**152.53**	**352**	*e*PKPbc	**PKPbc**	**01 26 40.6**	**-0.1**
PCAS	**Casmilo, Conde**	**152.53**	**352**	*e*PKPab	**PKPab**	**01 26 50.5**	**-0.7**
PCBR	**Castelo Branco**	**152.58**	**350**	*e*PKPdf	**PKPdf**	**01 26 33.0**	**-0.8**
PCBR	**Castelo Branco**	**152.58**	**350**	*e*PKPbc	**PKPbc**	**01 26 40.9**	**+0.1**
PTOM	**Tomar**	**152.94**	**352**	*e*PKPdf	**PKPdf**	**01 26 34.5**	**+0.2**
PTOM	**Tomar**	**152.94**	**352**	*e*PKPbc	**PKPbc**	**01 26 41.8**	**+0.2**
PMRV	**Marv??o**	**152.97**	**350**	*e*PKPdf	**PKPdf**	**01 26 33.6**	**-0.8**
PMRV	**Marv??o**	**152.97**	**350**	*e*PKPbc	**PKPbc**	**01 26 41.5**	**-0.2**
PMRV	**Marv??o**	**152.97**	**350**	*e*PKPab	**PKPab**	**01 26 54.3**	**+1.2**
PMRV	**Marv??o**	**152.97**	**350**	*e*LR	LR	02 20 29.7	
	comp=Z,552nm,20.0s						
PESTR	**Estremoz**	**153.55**	**350**	*e*PKPdf	**PKPdf**	**01 26 34.8**	**-0.4**
PESTR	**Estremoz**	**153.55**	**350**	*e*PKPbc	**PKPbc**	**01 26 42.3**	**-0.7**
PESTR	**Estremoz**	**153.55**	**350**	*e*PKPab	**PKPab**	**01 26 56.4**	**+0.8**
PMAFR	**Mafra**	**153.71**	**353**	*e*PKPab	**PKPab**	**01 26 57.4**	**+1.2**
LIS	**Lisbon**	**153.93**	**353**	*e*P	**PKPdf**	**01 26 35.0**	**-0.7**
LIS				AMS	AMS	02 37 57.5	
	comp=E,687nm,15.5s						
LIS	**Lisbon**	**153.93**	**353**	*e*PKIKP	**PKPdf**	**01 26 35.0**	**-0.7**
EVO	**Evora**	**153.94**	**350**	*e*PKPdf	**PKPdf**	**01 26 35.2**	**-0.5**
EVO	**Evora**	**153.94**	**350**	*e*PKPbc	**PKPbc**	**01 26 43.3**	**-0.5**
EVO	**Evora**	**153.94**	**350**	*e*PKPab	**PKPab**	**01 26 58.3**	**+1.1**
PBAR	**Barrancos**	**154.12**	**349**	*e*PKPdf	**PKPdf**	**01 26 35.5**	**-0.5**
PBAR	**Barrancos**	**154.12**	**349**	*e*PKPbc	**PKPbc**	**01 26 43.9**	**-0.3**
PBAR	**Barrancos**	**154.12**	**349**	*e*PKPab	**PKPab**	**01 26 59.2**	**+1.2**
PBEJ	**Beja**	**154.41**	**350**	*e*PKPdf	**PKPdf**	**01 26 36.3**	**-0.2**
PBEJ	**Beja**	**154.41**	**350**	*e*PKPab	**PKPab**	**01 27 00.7**	**+1.4**
PNCL	**Nicolau / Gran**	**154.44**	**351**	*e*PKPdf	**PKPdf**	**01 26 36.1**	**-0.4**
PNCL	**Nicolau / Gran**	**154.44**	**351**	*e*PKPbc	**PKPbc**	**01 26 44.6**	**-0.3**
MESJ	**Messejana**	**154.66**	**351**	*e*P	**PKPdf**	**01 26 35.9**	**-0.9**
MESJ				AMS	AMS	02 36 29.9	
	comp=Z,457nm,17.3s						
MESJ	**Messejana**	**154.66**	**351**	*e*PKPdf	**PKPdf**	**01 26 36.6**	**-0.2**
MESJ	**Messejana**	**154.66**	**351**	*e*PKPab	**PKPab**	**01 27 01.3**	**+1.0**
MESJ	**Messejana**	**154.66**	**351**	*e*PKIKP	**PKPdf**	**01 26 35.9**	**-0.9**
PCVE	**Castro Verde**	**154.83**	**350**	*e*PKPdf	**PKPdf**	**01 26 36.7**	**-0.3**
PCVE	**Castro Verde**	**154.83**	**350**	*e*PKPab	**PKPab**	**01 27 01.6**	**+0.6**
PVAQ	**Vaqueiros**	**154.99**	**349**	*e*PKPdf	**PKPdf**	**01 26 36.4**	**-0.9**
PVAQ	**Vaqueiros**	**154.99**	**349**	*e*LR	LR	02 20 31.1	
	comp=Z,706nm,22.0s						
PBDV	**Barranco-do-Ve**	**155.19**	**350**	*e*PKPdf	**PKPdf**	**01 26 36.6**	**-1.0**
MORF	**Marmelete**	**155.24**	**351**	*e*P	**PKPdf**	**01 26 36.6**	**-1.1**
MORF				*e*PP	**PP**	**01 30 39.3**	**+1.1**
MORF				AMS	AMS	02 33 22.3	
	comp=Z,369nm,25.1s						
MORF	**Marmelete**	**155.24**	**351**	*e*PKIKP	**PKPdf**	**01 26 36.4**	**-1.3**
MORF				*e*		01 30 39.3	
TAM	**Tamanrasset**	**159.50**	**302**	*e*PKIKP	**PKPdf**	**01 26 43.3**	**-0.3**
TAM				*e*		01 27 22.1	
TAM	**Tamanrasset**	**159.50**	**302**	*e*PKPdf	**PKPdf**	**01 26 43.3**	**-0.3**
TAM				*e*PKPab	**PKPab**	**01 27 22.1**	**+0.1**
PMOZ	**Porto Moniz, M**	**159.76**	**9**	*e*LR	LR	02 22 04.9	
	comp=Z,435nm,18.0s						
TORD	**Torodi Ar. Bea**	**165.34**	**273**	PKP	**PKPdf**	**01 26 48.5**	**-0.9**
	comp=Z,3.3nm,0.8s,baz=14,slow=1.5,SNR=22						
TORD				PKPab	**PKPab**	**01 27 48.5**	**+0.8**
	comp=Z,22nm,0.9s,baz=81,slow=5.0,SNR=30						
TORD				pPKPab	**pPKPab**	**01 28 10.5**	**-1.8**
	comp=Z,14nm,1.0s,baz=100,slow=4.6,SNR=9.1						
TORD				PP	**PP**	**01 31 35.0**	**-0.1**
	comp=Z,3.7nm,1.1s,baz=90,slow=4.4,SNR=4.1						
KIC	**Kosan Boka**	**169.38**	**234**	*e*PKP2	**PKPab**	**01 28 05.7**	**+0.3**
	comp=Z,419nm,1.8s						
LIC	**Lamto**	**169.52**	**232**	*e*PKP2	**PKPab**	**01 28 05.6**	**-0.4**
	comp=Z,130nm,1.4s						
DBIC	**Dimbokro**	**169.66**	**235**	PKP	**PKPdf**	**01 26 50.8**	**-1.8**
	comp=Z,7.0nm,0.8s,baz=156,slow=1.9,SNR=6.8						
DBIC				PKPab	**PKPab**	**01 28 07.3**	**+0.7**
	comp=Z,28nm,1.0s,baz=105,slow=4.8,SNR=11						
TIC	**Toumodi**	**169.77**	**234**	*e*PKP2	**PKPab**	**01 28 07.1**	**-0.1**

MOS ***03*** *01:14:14.9±2.6,49°.75N×157°.21E,h41km,mb4.2/1,Error ellipse: s-maj=41.0km s-min=6.5km az=82.4*

KRSC 03 01:14:15.0±2.1,49.75N×157.21E,h41km±26km**,ML4.2,**
East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SKR	**Severo-Kuril's**	**1.17**	**323**	*e*PN	Pn	01 14 36.1	+1.3
SKR				*i* S	Sn	01 14 48.6	-0.9
SKR				pmax	pmax		
	comp=Z,20nm,0.3s						
SKR				smax	smax		
	comp=E,428nm,0.8s						
SKR				smax	smax		
	comp=N,346nm,0.5s						
SKR	**Severo-Kuril's**	**1.17**	**323**	*e*P	Pn	01 14 34.8	0.0
SKR				*e*S	Sn	01 14 48.7	-0.8
ASAK	**Asacha**	**2.67**	**9**	PN	Pn	01 14 59.1	+3.6
ASAK	**Asacha**	**2.67**	**9**	*e*P	Pn	01 14 59.1	+3.6
RUS	**Russkaya**	**2.81**	**17**	PN	Pn	01 15 00.6	+3.3
RUS				S	Sn	01 15 33.2	+3.3
RUS	**Russkaya**	**2.81**	**17**	*e*P	Pn	01 15 00.6	+3.3
RUS				*e*S	Sn	01 15 33.2	+3.3
KRMR	**Karymshinskiy**	**3.14**	**10**	PN	Pn	01 15 06.2	+4.4
KRMR				S	Sn	01 15 45.1	+7.1
KRMR	**Karymshinskiy**	**3.14**	**10**	*e*P	Pn	01 15 06.2	+4.4
KRMR				*e*S	Sn	01 15 45.1	+7.1
APC	**Apacha**	**3.18**	**359**	PN	Pn	01 15 05.3	+2.9
APC	**Apacha**	**3.18**	**359**	*e*P	Pn	01 15 05.3	+2.9
DALK	**Dalny**	**3.42**	**16**	PN	Pn	01 15 09.4	+3.6
DALK				S	Sn	01 15 49.0	+4.0
DALK	**Dalny**	**3.42**	**16**	*e*P	Pn	01 15 09.4	+3.6
DALK				*e*S	Sn	01 15 49.0	+4.0
UGLR	**Uglovaya**	**3.61**	**16**	PN	Pn	01 15 12.5	+4.1
UGLR	**Uglovaya**	**3.61**	**16**	*e*P	Pn	01 15 12.5	+4.1
AVH	**Avacha**	**3.65**	**15**	PN	Pn	01 15 13.7	+4.8
AVH				S	Sn	01 15 55.2	+4.5
AVH	**Avacha**	**3.65**	**15**	*e*P	Pn	01 15 13.7	+4.8
AVH				*e*S	Sn	01 15 55.2	+4.5
KOK	**Koryaka**	**3.66**	**14**	PN	Pn	01 15 14.2	+5.1
KOK	**Koryaka**	**3.66**	**14**	*e*P	Pn	01 15 14.2	+5.1
SDLR	**Sedlovina**	**3.68**	**16**	PN	Pn	01 15 13.1	+3.6
SDLR				S	Sn	01 15 55.9	+4.3
SDLR	**Sedlovina**	**3.68**	**16**	*e*P	Pn	01 15 13.1	+3.6
SDLR				*e*S	Sn	01 15 55.9	+4.3
KRER	**Koryakskii**	**3.68**	**15**	PN	Pn	01 15 14.3	+4.7
KRER				S	Sn	01 15 56.8	+5.0
KRER	**Koryakskii**	**3.68**	**15**	*e*P	Pn	01 15 14.3	+4.7
KRER				*e*S	Sn	01 15 56.8	+5.0
KRX	**Arik**	**3.72**	**13**	PN	Pn	01 15 14.4	+4.4
KRX	**Arik**	**3.72**	**13**	*e*P	Pn	01 15 14.4	+4.4
SPN	**Mys Shipunski**	**3.79**	**27**	PN	Pn	01 15 14.8	+4.1
SPN				S	Sn	01 15 58.2	+4.2
SPN	**Mys Shipunski**	**3.79**	**27**	*e*P	Pn	01 15 14.8	+4.1
SPN				*e*S	Sn	01 15 58.2	+4.2
GNL	**Ganaly**	**3.98**	**6**	PN	Pn	01 15 17.6	+4.1
GNL	**Ganaly**	**3.98**	**6**	*e*P	Pn	01 15 17.6	+4.1
MKZ	**Mys Kozlova**	**5.56**	**28**	PN	Pn	01 15 38.1	+3.1
MKZ	**Mys Kozlova**	**5.56**	**28**	*e*P	Pn	01 15 38.1	+3.1

CSEM ***03*** *01:15:20.9±0.1,50°.19N×12°.45E,h2km,ML3.6/15,Error ellipse: s-maj=2.9km s-min=2.3km az=17.0*
IPEC ***03*** *01:15:21.7±0.1,50°.24N×12°.48E,h9km,ML2.9/8,Error ellipse: s-maj=1.0km s-min=0.6km az=26.0*
BGR ***03*** *01:15:21.9±0.2,50°.25N×12°.44E,h10km±1km,ML2.9/6, Error ellipse: s-maj=2.2km s-min=2.2km az=104.0*
LDG ***03*** *01:15:21.6±0.1,50°.23N×12°.44E,h10km,Ml3.2/9,Error ellipse: s-maj=2.2km s-min=1.7km az=130.0*
PRU ***03*** *01:15:22.4,50°.24N×12°.52E,h0km,West Bohemia Swarm*
CLL ***03*** *01:15:22.5±0.3,50°.3N±0°.8×1°.2E±°,h7km±1km,ml2.6*
STR ***03*** *01:15:22.1±0.3,50°.25N×12°.42E,h10km,Ml3.3,Error ellipse: s-maj=0.0km s-min=0.0km az=0.0*
BNS ***03*** *01:15:30.3±0.9,50°.24N×12°.42E,h3km,ML2.6*

ISC 03 01:15:21.7±0.7,50°.19N±0°.02×12°.44E±0°.01,h12km±3km**,**
n119,σ1§86/204,7D,Germany

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC

GOPC	**GO Pecny, Ondr**	**1.54**	**100**	Pg		**Pg**	**01 15 50.3**	**-0.8**
GOPC				Sg		**Sg**	**01 16 10.3**	**-0.8**
	comp=Z,127nm,0.4s							
TREC	**Trest**	**2.17**	**113**	⇓*e*SG		**Sg**	**01 16 29.3**	**-2.1**
	comp=Z,38nm,0.4s							
TREC	**Trest**	**2.17**	**113**	Sg		**Sg**	**01 16 29.3**	**-2.1**
	comp=Z,38nm,0.4s							
UPC	**Upice**	**2.31**	**81**	⇓*e*SG		**Sg**	**01 16 33.4**	**-2.4**
	comp=Z,87nm,0.6s							
UPC	**Upice**	**2.31**	**81**	Sg		**Sg**	**01 16 33.4**	**-2.4**
	comp=Z,87nm,0.6s							
TOD	**Tromm**	**2.43**	**257**	P		**Pn**	**01 16 01.7**	**+0.6**
TOD				S		**Sb**	**01 16 33.6**	**-1.4**
DPC	**Dobruska-Polom**	**2.49**	**85**	*e*SG		**Sg**	**01 16 39.0**	**-2.7**
	comp=Z,31nm,0.3s							
DPC	**Dobruska-Polom**	**2.49**	**85**	Sg		**Sg**	**01 16 39.0**	**-2.7**
	comp=Z,31nm,0.3s							
KSP	**Ksiaz**	**2.54**	**74**	*e*Pg		**Pg**	**01 16 09.1**	**-1.2**
KSP				*e*Sg		**Sg**	**01 16 41.2**	**-2.1**
KSP	**Ksiaz**	**2.54**	**74**	*e*Pg		**Pg**	**01 16 09.1**	**-1.2**
KSP				*e*Sg		**Sg**	**01 16 41.2**	**-2.1**
MOA	**Molln**	**2.64**	**152**	*e*Pn		**Pn**	**01 16 05.1**	**+1.1**
	comp=Z,0.4nm,0.1s							
MOA				Sg		**Sg**	**01 16 45.7**	**-0.6**
	comp=Z,36nm,0.5s							
MOA	**Molln**	**2.64**	**152**	Pn		**Pn**	**01 16 05.1**	**+1.1**
	comp=Z,0.4nm,0.1s							
MOA				Sg		**Sg**	**01 16 45.7**	**-0.6**
	comp=Z,36nm,0.5s							
KRUC	**Moravsky**	**2.81**	**112**	*e*Pn		**Pn**	**01 16 06.6**	**+0.3**
KRUC				*e*Sg		**Sg**	**01 16 49.8**	**-2.0**
	comp=Z,60nm,0.5s							
VRAC	**Vranov**	**2.83**	**107**	*e*Pn		**Pn**	**01 16 07.0**	**+0.3**
VRAC				*e*Sg		**Sg**	**01 16 50.1**	**-2.5**
	comp=Z,69nm,0.7s							
KOE	**Koeppel**	**3.03**	**276**	*e*Pg		**Pb**	**01 16 16.7**	**+1.3**
KBA	**Koelnbreinsper**	**3.17**	**169**	*i* Pn		**Pn**	**01 16 13.9**	**+2.4**
	comp=Z,1.9nm,0.3s							
KBA	**Koelnbreinsper**	**3.17**	**169**	Pn		**Pn**	**01 16 13.9**	**+2.4**
	comp=Z,1.9nm,0.3s							
SPAK	**Spaichingen-Ko**	**3.19**	**230**	P		**Pn**	**01 16 12.9**	**+1.3**
SPAK				S		**Sb**	**01 16 54.3**	**-2.7**
CONA	**Conrad Observa**	**3.19**	**134**	*i* Pn		**Pn**	**01 16 13.3**	**+1.6**
	comp=Z,1.3nm,0.3s							
CONA				Sg		**Sg**	**01 17 01.7**	**-2.4**
	comp=Z,14nm,0.3s							
CONA	**Conrad Observa**	**3.19**	**134**	Pn		**Pn**	**01 16 13.3**	**+1.6**
	comp=Z,1.3nm,0.3s							
CONA				Sg		**Sg**	**01 17 01.7**	**-2.4**
	comp=Z,14nm,0.3s							
BGG	**Burgeitz**	**3.28**	**272**	*e*Pg		**Pb**	**01 16 21.1**	**+1.3**
MORC	**Moravsky Berou**	**3.32**	**95**	*e*Pn		**Pn**	**01 16 13.5**	**+0.1**
MORC				*e*Sg		**Sg**	**01 17 05.2**	**-2.9**
	comp=Z,45nm,0.6s							
HOBG	**Hohbusch**	**3.35**	**286**	*e*Pg		**Pb**	**01 16 22.1**	**+1.1**
RUP	**Ruppelstein**	**3.51**	**264**	P		**Pn**	**01 16 16.9**	**+0.9**
RUP				S		**Sn**	**01 17 01.3**	**+3.8**
ARSA	**Arzberg**	**3.58**	**144**	*i* Pn		**Pn**	**01 16 19.4**	**+2.4**
	comp=Z,2.1nm,0.3s							
ARSA				*e*Sg		**Sg**	**01 17 15.5**	**-1.1**
	comp=Z,10nm,0.4s							
ARSA	**Arzberg**	**3.58**	**144**	Pn		**Pn**	**01 16 19.4**	**+2.4**
	comp=Z,2.1nm,0.3s							
ARSA				Sg		**Sg**	**01 17 15.5**	**-1.1**
	comp=Z,10nm,0.4s							
STB	**Steinbach**	**3.61**	**279**	*e*Pg		**Pb**	**01 16 25.6**	**+0.3**
STB				*e*Sg		**Sb**	**01 17 06.7**	**-2.3**
	comp=Z,13nm,0.6s							
SMOL	**Smolenice**	**3.67**	**115**	*e*Pg		**Pg**	**01 16 30.4**	**-1.5**
SMOL				*e*Sg		**Sg**	**01 17 18.0**	**-1.4**
SMOL	**Smolenice**	**3.67**	**115**	*e*PG		**Pg**	**01 16 30.4**	**-1.5**
SMOL				*e*SG		**Sg**	**01 17 18.0**	**-1.4**
HILG	**Hillesheim**	**3.70**	**274**	*e*Pg		**Pb**	**01 16 27.0**	**+0.1**
FELD	**Feldberg im Sc**	**3.73**	**233**	P		**Pn**	**01 17 19.8**	**+0.7**
FELD				S		**Sn**	**01 17 07.5**	**+4.5**
CDF	**Champ du Feu**	**3.82**	**244**	*e*Pn		**Pn**	**01 16 19.6**	**-0.8**
CDF	**Champ du Feu**	**3.82**	**244**	*e*Pg		**Pg**	**01 16 33.4**	**-1.5**
CDF				*e*Sg		**Sg**	**01 17 22.5**	**-1.9**
	comp=Z,37nm,0.7s							
CDF	**Champ du Feu**	**3.82**	**244**	*e*Pn		**Pn**	**01 16 19.6**	**-0.8**
CDF	**Champ du Feu**	**3.82**	**244**	*e*Pg		**Pg**	**01 16 33.4**	**-1.5**
CDF				*e*Sg		**Sg**	**01 17 22.5**	**-1.9**
	comp=Z,19nm,0.7s							
KLL	**Kalltalsperre**	**3.95**	**279**	*e*Pg		**Pb**	**01 16 30.2**	**-0.9**
ECH	**Echery**	**3.99**	**242**	P		**Pn**	**01 16 23.0**	**+0.4**
ECH				S		**Sn**	**01 17 13.9**	**+4.6**
ECH	**Echery**	**3.99**	**242**	P		**Pn**	**01 16 23.0**	**+0.4**
ECH				S		**Sn**	**01 17 13.9**	**+4.6**
MOF	**Molkenrain**	**4.21**	**238**	P		**Pn**	**01 16 26.3**	**+0.7**
MOF				S		**Sn**	**01 17 19.5**	**+4.8**
MOF	**Molkenrain**	**4.21**	**238**	P		**Pn**	**01 16 26.3**	**+0.7**
MOF				S		**Sn**	**01 17 19.5**	**+4.8**
HINF	**Hinteralfeld**	**4.38**	**239**	*e*Pn		**Pn**	**01 16 26.4**	**-1.6**
HINF	**Hinteralfeld**	**4.38**	**239**	*e*Pg		**Pg**	**01 16 42.5**	**-3.0**
HINF				*e*Sg		**Sg**	**01 17 38.7**	**-3.6**
	comp=Z,22nm,0.6s							
HINF	**Hinteralfeld**	**4.38**	**239**	*e*Pn		**Pn**	**01 16 26.4**	**-1.6**
HINF	**Hinteralfeld**	**4.38**	**239**	*e*Pg		**Pg**	**01 16 42.5**	**-3.0**
HINF				*e*Sg		**Sg**	**01 17 38.7**	**-3.6**
	comp=Z,11nm,0.6s							
VYHS	**Vyhne**	**4.51**	**110**	*e*SG		**Sb**	**01 17 37.7**	**+2.7**
VYHS				*e*LG		Lg	01 17 47.6	
KOGS	**Kog**	**4.53**	**144**	*i* Pn		**Pn**	**01 16 31.9**	**+1.9**
KOGS				*e*Sn		**Sg**	**01 17 50.9**	**+4.0**
KOGS	**Kog**	**4.53**	**144**	Pn		**Pn**	**01 16 31.9**	**+1.9**
HAU	**Haudompre**	**4.56**	**244**	*e*Sg		**Sg**	**01 17 45.3**	**-2.8**
	comp=Z,26nm,0.6s							
HAU	**Haudompre**	**4.56**	**244**	*e*Sg		**Sg**	**01 17 45.3**	**-2.8**
	comp=Z,13nm,0.6s							
LOMF	**Lomont**	**4.68**	**235**	P		**Pn**	**01 16 32.6**	**+0.5**
LOMF				S		**Sn**	**01 17 32.1**	**+5.8**
LOMF	**Lomont**	**4.68**	**235**	P		**Pn**	**01 16 32.6**	**+0.5**
LOMF				S		**Sn**	**01 17 32.1**	**+5.8**
LANS	**Liptovska Anna**	**4.68**	**100**	*e*Sg		**Sg**	**01 17 49.6**	**-2.2**
LANS	**Liptovska Anna**	**4.68**	**100**	*e*SG		**Sg**	**01 17 49.6**	**-2.2**
PAGF	**Fort de Pagny**	**4.69**	**252**	*e*Pn		**Pn**	**01 16 31.1**	**-1.0**
PAGF	**Fort de Pagny**	**4.69**	**252**	*e*Pg		**Pg**	**01 16 48.9**	**-2.5**
PAGF				*e*Sg		**Sg**	**01 17 48.8**	**-3.2**
	comp=Z,6.2nm,0.7s							
PAGF	**Fort de Pagny**	**4.69**	**252**	*e*Pn		**Pn**	**01 16 31.1**	**-1.0**
PAGF	**Fort de Pagny**	**4.69**	**252**	*e*Pg		**Pg**	**01 16 48.9**	**-2.5**
PAGF				*e*Sg		**Sg**	**01 17 48.8**	**-3.2**
	comp=Z,3.1nm,0.7s							
GIVF	**Givet**	**4.90**	**272**	*e*Pg		**Pg**	**01 16 52.9**	**-2.6**
GIVF	**Givet**	**4.90**	**272**	*e*Pg		**Pg**	**01 16 52.9**	**-2.6**
BAIF	**Baives**	**5.30**	**272**	*e*Sg		**Sg**	**01 18 06.8**	**-4.9**
	comp=Z,8.2nm,0.6s							
CABF	**La Chapelle**	**5.55**	**232**	*e*Pg		**Pg**	**01 17 04.8**	**-3.0**
CABF				*e*Sg		**Sg**	**01 18 16.4**	**-3.2**
	comp=Z,23nm,0.8s							
STHS	**Stebnicka Huta**	**5.75**	**94**	*e*Sg		**Sg**	**01 18 24.2**	**-1.9**
STHS	**Stebnicka Huta**	**5.75**	**94**	*e*SG		**Sg**	**01 18 24.2**	**-1.9**
STHS				*e*LG		Lg	01 18 28.5	
LPL	**La Plagne**	**6.05**	**222**	*e*Pg		**Pg**	**01 17 14.4**	**-3.2**
LPL				*e*Sg		**Sg**	**01 18 32.8**	**-3.1**
	comp=Z,3.9nm,0.8s							
LOR	**Lormes**	**6.39**	**246**	*e*Sg		**Sg**	**01 18 42.8**	**-3.8**
	comp=Z,10nm,0.7s							
SMF	**Signal de Mont**	**6.74**	**241**	*e*Sg		**Sg**	**01 18 53.2**	**-4.5**
	comp=Z,5.1nm,0.4s							

*IDC **03** 01:19:14.6±3.2, 36°.24N×70°.39E, h177km±29km, mb3.4/9, mb1 3.5/14, mb1mx3.3/60, mbtmp4.0/14, MS3.7/1, Ms1 3.7/1, ms1mx2.7/35, Error ellipse: s-maj=23.2km s-min=14.9km az=177.0*

*ISCJB **03** 01:19:17.0±0.4, 36°.61N±0°.03×70°.31E±0°.05, h204km, mb3.5/8, Error ellipse: s-maj=6.3km s-min=4.5km az=163.8*

*NNC **03** 01:19:19.5±5.6, 36°.98N×70°.40E, h0km, mb4.7, mpv4.3, Error ellipse: s-maj=50.9km s-min=41.3km az=111.0*

ISC 03 01:19:17.7±0.6, 36°.54N±0°.05×70°.36E±0°.06, h204km, n34, α2≧11/42, mb3.6/8, 5C-6D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CEP	**Cherat**	**2.99**	**154**	⇓P	**Pn**	**01 20 07.4**	**-0.3**
CEP				S	**S**	**01 20 44.0**	**-2.0**
CHCP	**Chirah Chowk**	**3.73**	**139**	⇓P	**Pn**	**01 20 16.6**	**+0.2**
THW	**Thamme Wali**	**3.91**	**163**	P	**Pn**	**01 20 17.9**	**-0.7**
SARP	**Sargodha**	**4.99**	**157**	P	**Pn**	**01 20 30.9**	**-1.2**
THN	**Thein Dam**	**6.03**	**131**	*ex*	**Pn**	**01 20 43.0**	**-2.4**
THN				*ex*	**S**	**01 21 49.0**	**-5.5**
MNAS	**Manas**	**6.17**	**15**	⇑Pn	**Pn**	**01 20 47.3**	**0.0**
	16nm,0.4s						
MNAS				⇑Sn	**S**	**01 21 54.7**	**-3.3**
	111nm,0.5s						
KK31	**Karatay Array**	**6.56**	**1**	⇓Pn	**Pn**	**01 20 51.6**	**-0.5**
	7.2nm,0.4s,baz=167,slow=8.9,SNR=253						
KK31				⇓Pg		01 21 05.3	
	4.6nm,0.3s,baz=193,slow=16,SNR=3.5						
KK31				⇑Sn	**S**	**01 22 03.4**	**-3.5**
	14nm,0.4s,baz=198,slow=28,SNR=8.9						
AAK	**Ala-Archa**	**6.88**	**26**	P	**Pn**	**01 20 56.7**	**+0.3**
	16nm,0.3s,baz=158,slow=3.3,SNR=60						
AAK				S	**S**	**01 22 11.5**	**-3.2**
	7.6nm,0.3s,baz=314,slow=19,SNR=26						
AAK	**Ala-Archa**	**6.88**	**26**	⇑Pn	**Pn**	**01 20 56.4**	**-0.1**
	12nm,0.3s						
AAK				⇓Sn	**S**	**01 22 11.9**	**-2.8**
	92nm,0.6s						
SDNR	**Sundarnagar**	**7.44**	**131**	*ex*	**Pn**	**01 21 08.0**	**+4.3**
TKM2	**Tokmak 2**	**7.54**	**31**	⇓Pn	**Pn**	**01 21 04.9**	**-0.2**
	43nm,0.5s						
TKM2				⇑Sn	**S**	**01 22 27.7**	**-2.8**
	31nm,0.8s						
GEYT	**Alibeck**	**9.86**	**282**	P	**Pn**	**01 21 33.3**	**-1.8**
	0.2nm,0.3s,baz=82,slow=10,SNR=4.1						
GEYT				S	**S**	**01 23 22.6**	**-2.9**
	0.8nm,0.3s,baz=118,slow=18,SNR=4.2						
PYUN	**Piuthan**	**13.59**	**125**	*e*P	**Pn**	**01 22 23.3**	**+0.7**
	9.8nm,0.3s						
GKN	**Gorkha**	**14.76**	**121**	*e*P	**P**	**01 22 39.2**	**+1.3**
	19nm,0.3s						
KURBB	**Kurchatov Arra**	**15.26**	**20**	P	**Pn**	**01 22 42.4**	**-0.3**
	0.2nm,0.3s,baz=208,slow=10,SNR=5.2						
DMN	**Daman**	**15.33**	**121**	*e*P	**P**	**01 22 46.3**	**+2.0**
KKN	**Kakani**	**15.34**	**120**	*e*P	**P**	**01 22 46.7**	**+2.4**
	27nm,0.5s						
PKIN	**Phulchoki**	**15.55**	**121**	*e*P	**Pn**	**01 22 49.2**	**+2.4**
	22nm,0.5s						
GUN	**Gumba**	**15.69**	**119**	*e*P	**Pn**	**01 22 50.6**	**+2.1**
	15nm,0.4s						
JIRN	**Jiri**	**16.06**	**119**	*e*P	**Pn**	**01 22 55.3**	**+2.4**
BVAR	**Borovoye Array**	**16.49**	**0**	P	**Pn**	**01 22 57.5**	**+0.1**
	1.4nm,0.3s,baz=180,slow=9.0,SNR=17						
AKTO	**Aktyubinsk**	**16.49**	**331**	P	**Pn**	**01 22 58.1**	**+0.6**
	1.4nm,0.3s,baz=151,slow=12,SNR=42						
AKTO				S	**S**	**01 26 00.0**	**+1.4**
	0.2nm,0.3s,baz=255,slow=20,SNR=4.5						
ODAN	**Odare**	**17.39**	**119**	*e*P	**Pn**	**01 23 08.3**	**-0.3**
	21nm,0.6s						
ZALV	**Zalesovo Beam**	**20.10**	**25**	P	**P**	**01 23 36.3**	**+0.7**
	8.0nm,0.5s,baz=213,slow=11,SNR=22						
ARU	**Arti**	**21.43**	**342**	P	**P**	**01 23 51.7**	**+2.1**
	3.8nm,0.6s,baz=151,slow=6.8,SNR=9.3						
SONM	**Songino Array**	**28.74**	**56**	P	**P**	**01 24 58.6**	**+2.4**
	0.6nm,0.6s,baz=260,slow=8.1,SNR=3.5						
BRTR	**Keskin Array B**	**28.93**	**288**	P	**P**	**01 25 00.1**	**+2.1**
	0.2nm,0.4s,baz=86,slow=11,SNR=2.7						
OBN	**Obninsk**	**29.57**	**320**	LR	LR	01 40 02.6	
	comp=Z,129nm,18.2s,baz=273,slow=42						
NB2	**NORSAR Subarra**	**44.04**	**323**	P	**P**	**01 27 05.9**	**+1.0**
	comp=Z,0.7nm,0.5s,baz=96,slow=7.9						
NOA	**NORSAR Array B**	**44.04**	**323**	P	**P**	**01 27 05.5**	**+0.6**
	comp=Z,0.7nm,0.5s,baz=116,slow=7.9,SNR=3.9						
TORD	**Torodi Ar. Bea**	**65.20**	**268**	P	**P**	**01 29 36.6**	**-0.8**
	comp=Z,1.2nm,0.8s,baz=49,slow=6.0,SNR=8.3						
YKA	**Yellowknife Ar**	**81.23**	**2**	P	**P**	**01 31 11.8**	**+1.4**
	comp=Z,0.4nm,0.6s,baz=351,slow=5.3,SNR=4.7						
WRA	**Warramunga Arr**	**82.45**	**121**	P	**P**	**01 31 16.0**	**-1.4**
	comp=Z,0.9nm,0.7s,baz=320,slow=4.7,SNR=11						
ASAR	**Alice Springs**	**84.70**	**124**	P	**P**	**01 31 27.6**	**-1.2**
	comp=Z,0.9nm,0.7s,baz=310,slow=4.8,SNR=10						

*MOS **03** 01:25:34.4±1.0, 52°.10N×171°.64W, h33km, mb5.2/69, MS4.7/22, Error ellipse: s-maj=7.3km s-min=5.2km az=76.4*

*BJI **03** 01:25:34.0, 52°.33N×171°.60W, h31km, mb4.9/35, mB5.0/28, Ms4.9/17, Ms7 4.6/15*

*NEIC **03** 01:25:36.4±0.0, 51°.93N×171°.58W, h48km, mb5.2/172, MS4.7/118, ML4.9(AEIC), After AEIC.*

*ISCJB **03** 01:25:37.5±0.3, 52°.13N±0°.03×171°.57W±0°.02, h64km±2km, mb5.0/226, Error ellipse: s-maj=5.2km s-min=2.3km az=178.7*

*IDC **03** 01:25:38.9±1.8, 52°.16N×171°.59W, h60km±15km, mb4.3/38, mb1 4.4/40, mb1mx4.3/62, mbtmp4.6/40, MS4.2/8, Ms1 4.2/8, ms1mx3.8/41, Error ellipse: s-maj=13.4km s-min=8.0km az=172.0*

ISC 03 01:25:37.6±0.7, 52°.01N±0°.07×171°.57W±0°.03, h49km±5km, n962, α0≧99/926, mb5.1/226, MS4.7/132, 6C-8D, Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KOSE	**Korovin Southe**	**1.56**	**283**	P	**Pn**	**01 26 03.6**	**+0.6**
KOFP	**Korovin Flat P**	**1.58**	**281**	P	**Pn**	**01 26 03.6**	**+0.4**
KONE	**Korovin Northe**	**1.62**	**285**	P	**Pn**	**01 26 04.5**	**+0.8**
ATKA	**Atka Island**	**1.63**	**278**	P	**Pn**	**01 26 02.8**	**-1.0**
ATKA				S	**Sn**	**01 26 21.9**	**-1.7**
KOKL	**Mount Kliuchef**	**1.65**	**282**	P	**Pn**	**01 26 04.6**	**+0.4**
NIKH	**Nikolski High**	**1.92**	**59**	P	**Pn**	**01 26 06.5**	**-1.2**
NIKH				S	**Sn**	**01 26 29.0**	**-1.7**
OKSO	**Okmok South**	**2.47**	**56**	P	**Pn**	**01 26 16.0**	**+0.6**
OKSO				S	**Sn**	**01 26 45.5**	**+1.1**
OKCE	**Okmok Cone E**	**2.51**	**54**	P	**Pn**	**01 26 16.6**	**+0.7**
OKTU	**Okmok Mt. Tuli**	**2.55**	**56**	P	**Pn**	**01 26 17.5**	**+1.1**
OKFG	**Magazine Ridge**	**2.63**	**56**	P	**Pn**	**01 26 17.8**	**+0.4**
OKFG				S	**Sn**	**01 26 51.3**	**+3.2**
GSMY	**Great Sitkin M**	**2.77**	**272**	P	**Pn**	**01 26 19.5**	**0.0**
GSTD	**Great Sitkin T**	**2.83**	**273**	P	**Pn**	**01 26 20.0**	**-0.3**
GSCK	**Great Sitkin C**	**2.84**	**272**	P	**Pn**	**01 26 20.0**	**-0.4**
ETKA	**Kagalaska Isla**	**3.00**	**269**	P	**Pn**	**01 26 21.8**	**-0.8**
ADAG	**Mount Adagdak**	**3.11**	**271**	P	**Pn**	**01 26 24.6**	**+0.5**
MGOD	**Makushin Gods**	**3.36**	**56**	P	**Pn**	**01 26 27.6**	**+0.1**
MCIR	**Makushin Cirqu**	**3.43**	**54**	P	**Pn**	**01 26 29.2**	**+0.7**
MSW	**Makushin Switc**	**3.46**	**55**	P	**Pn**	**01 26 29.4**	**+0.4**
KIKV	**Kanaga Island**	**3.47**	**270**	P	**Pn**	**01 26 29.1**	**+0.1**
MTBL	**Makushin Table**	**3.55**	**55**	P	**Pn**	**01 26 30.7**	**+0.6**
UNV	**Unalaska Valle**	**3.57**	**57**	P	**Pn**	**01 26 30.9**	**+0.5**
UNV				S	**Sn**	**01 27 13.5**	**+2.2**
TAPA	**Tanaga Point A**	**3.87**	**270**	P	**Pn**	**01 26 35.2**	**+0.7**
TAFL	**Tanaga Flats**	**3.93**	**269**	P	**Pn**	**01 26 36.4**	**+1.1**
AKRB	**Akutan Reef Bi**	**3.94**	**55**	P	**Pn**	**01 26 36.6**	**+1.1**
AKMO	**Akutan Morgan**	**3.95**	**56**	P	**Pn**	**01 26 36.1**	**+0.6**
AKGG	**Akutan Green G**	**4.01**	**55**	P	**Pn**	**01 26 37.4**	**+1.0**
AKLV	**Akutan Long Va**	**4.01**	**55**	P	**Pn**	**01 26 37.5**	**+1.0**
AKUT	**Akutan**	**4.09**	**56**	P	**Pn**	**01 26 38.8**	**+1.3**
WESP	**Westdahl Peak**	**4.80**	**56**	P	**Pn**	**01 26 48.2**	**+0.8**
WESE	**West Dahl East**	**4.86**	**57**	P	**Pn**	**01 26 48.7**	**+0.5**
SPIA	**Saint Paul Isl**	**5.23**	**8**	P	**Pn**	**01 26 54.3**	**+1.2**
DTNA	**Dutton South F**	**6.38**	**57**	P	**Pn**	**01 27 08.8**	**0.0**
DOL	**Dolgoi Island**	**6.58**	**58**	P	**Pn**	**01 27 12.0**	**+0.3**
SDPT	**Sand Point**	**7.39**	**59**	P	**Pn**	**01 27 22.6**	**0.0**
CHGN	**Chignik**	**8.83**	**56**	*e*Pn	**Pn**	**01 27 41.9**	**-0.5**
OHAK	**Old Harbor**	**11.80**	**57**	*e*Pn	**Pn**	**01 28 19.5**	**-3.4**
GAMB	**Gambell**	**11.80**	**360**	*e*Pn	**Pn**	**01 28 24.2**	**+1.3**
KDAK	**Kodiak Island**	**12.34**	**55**	*i* P	**Pn**	**01 28 27.5**	**-2.8**
SVW2	**Sparrevohn**	**12.64**	**38**	*e*Pn	**Pn**	**01 28 35.6**	**+1.2**
CNPM	**China Poot**	**13.65**	**49**	*e*Pn	**Pn**	**01 28 49.1**	**+0.8**
TTA	**Tatalina**	**13.73**	**31**	*e*P	**Pn**	**01 28 50.4**	**+1.1**
TTA	**Tatalina**	**13.73**	**31**	*e*Pn	**Pn**	**01 28 50.4**	**+1.1**
BRLK	**Bradley Lake**	**13.91**	**48**	*e*Pn	**Pn**	**01 28 53.1**	**+1.2**
RC01	**Rabbit Creek A**	**15.01**	**44**	*e*Pn	**Pn**	**01 29 07.5**	**+1.2**
PPLA	**Purkeypile**	**15.01**	**36**	*e*Pn	**Pn**	**01 29 07.2**	**+0.8**
	26nm,0.7s						
CAST	**Castle Rocks**	**15.38**	**34**	*e*Pn	**Pn**	**01 29 11.6**	**+0.5**
	28nm,0.7s						
PMR	**Palmer**	**15.51**	**43**	*e*P	**Pn**	**01 29 12.7**	**0.0**
PMR				pmax	pmax		
	comp=Z,39nm,1.1s						
PMR	**Palmer**	**15.51**	**43**	*e*Pn	**Pn**	**01 29 12.7**	**0.0**
	comp=Z,39nm,1.1s						
KTH	**Kantishna Hill**	**15.87**	**35**	*e*Pn	**Pn**	**01 29 17.0**	**-0.4**
	comp=Z,51nm,1.0s						
SML	**Sawmill**	**15.94**	**43**	*e*P	**Pn**	**01 29 19.0**	**+0.6**
SML				pmax	pmax		
	comp=Z,6.0nm,0.7s						
SML	**Sawmill**	**15.94**	**43**	*e*Pn	**Pn**	**01 29 18.9**	**+0.6**
	comp=Z,6.3nm,0.7s						
TRF	**Thorofare Moun**	**16.04**	**36**	*e*Pn	**Pn**	**01 29 20.6**	**+0.9**
	comp=Z,47nm,1.0s						
FID	**Port Fidalgo**	**16.32**	**48**	*e*Pn	**Pn**	**01 29 22.6**	**-0.6**
	comp=Z,62nm,0.9s						
SCM	**Sheep Creek Mo**	**16.38**	**44**	*e*P	**Pn**	**01 29 23.4**	**-0.5**
SCM				pmax	pmax		
	comp=Z,78nm,1.0s						
SCM	**Sheep Creek Mo**	**16.38**	**44**	*e*Pn	**Pn**	**01 29 23.4**	**-0.5**
	comp=Z,78nm,1.0s						
RND	**Reindeer**	**16.54**	**38**	*e*P	**P**	**01 29 27.6**	**-0.3**
RND				pmax	pmax		
	comp=Z,76nm,1.0s						
RND	**Reindeer**	**16.54**	**38**	*e*Pn	**P**	**01 29 27.6**	**-0.3**
	comp=Z,76nm,1.0s						
MCK	**McKinley**	**16.69**	**37**	*e*P	**Pn**	**01 29 26.9**	**-0.9**
MCK				pmax	pmax		
	comp=Z,67nm,1.1s						
MCK	**McKinley**	**16.69**	**37**	*e*Pn	**Pn**	**01 29 26.9**	**-0.9**
	comp=Z,67nm,1.1s						
DIV	**Divide**	**16.78**	**47**	*e*Pn	**Pn**	**01 29 26.6**	**-2.3**
	comp=Z,27nm,1.0s						
BMRM	**Bremner River**	**17.26**	**48**	*e*Pn	**Pn**	**01 29 33.7**	**-1.1**
	comp=Z,70nm,1.0s						
WRH	**Wood River Hil**	**17.42**	**35**	*e*Pn	**Pn**	**01 29 36.3**	**-0.5**
	comp=Z,48nm,1.1s						
HARP	**HAARP**	**17.55**	**43**	*e*Pn	**Pn**	**01 29 38.3**	**-0.1**
	comp=Z,103nm,1.3s						
CCB	**Clear Creek Bu**	**17.62**	**35**	*e*Pn	**Pn**	**01 29 38.2**	**-1.0**
	comp=Z,23nm,0.8s						
MDM	**Murphy Dome**	**17.65**	**34**	*e*Pn	**Pn**	**01 29 38.6**	**-1.1**
	comp=Z,26nm,0.7s						
PAX	**Paxson**	**17.66**	**41**	*e*P	**Pn**	**01 29 39.0**	**-0.8**
PAX				pmax	pmax		
	comp=Z,28nm,0.9s						
PAX	**Paxson**	**17.66**	**41**	*e*Pn	**Pn**	**01 29 39.0**	**-0.8**
	comp=Z,28nm,0.9s						
COLA	**College**	**17.74**	**34**	*e*P	**Pn**	**01 29 39.7**	**-0.9**
COLA				pmax	pmax		
	comp=Z,39nm,0.9s						
COLA	**College**	**17.74**	**34**	*e*Pn	**Pn**	**01 29 39.7**	**-0.9**
	comp=Z,39nm,0.9s						
ILAR	**Eielson Array**	**18.02**	**35**	P	**P**	**01 29 41.3**	**-2.8**
	comp=Z,0.7nm,0.3s,baz=230,slow=11,SNR=38						
ILAR				S	**Sn**	**01 33 03.0**	**-0.9**
	baz=196,slow=24,SNR=2.3						
ILAR				LR	LR	01 36 57.8	
	comp=Z,402nm,19.7s,baz=234,slow=38						
BALM	**Baldy**	**18.33**	**49**	*e*P	**Pn**	**01 29 48.7**	**+0.7**
BALM				pmax	pmax		
	comp=Z,47nm,0.7s						
BALM	**Baldy**	**18.33**	**49**	*e*P	**Pn**	**01 29 48.7**	**+0.7**
	comp=Z,47nm,0.7s						
COLD	**Coldfoot**	**18.52**	**27**	*e*P	**Pn**	**01 29 51.4**	**+1.2**
	comp=Z,24nm,1.0s						
DOT	**Dot Lake**	**18.53**	**40**	*e*P	**P**	**01 29 49.2**	**-0.5**
	comp=Z,45nm,0.9s						
PETK	**Petropavlovsk-**	**18.65**	**286**	P	**Pn**	**01 29 52.1**	**+0.3**
	comp=Z,0.7nm,0.3s,baz=84,slow=15,SNR=9.5						
PCA	**Pinnacle**	**19.11**	**53**	*e*P	**Pn**	**01 29 57.7**	**+0.3**
	comp=Z,178nm,0.7s						
FYU	**F

baz=303,SNR=14
NEW Newport 34.41 74 P **P 01 32 20.8 +0.8**
comp=Z,58nm,0.8s,baz=295,slow=7.6,SNR=91
NEW Newport 34.41 74 P **P 01 32 20.8 +0.8**
baz=297,SNR=59
NEW Newport 34.41 74 *e*P **P 01 32 20.8 +0.8**
comp=Z,63nm,0.9s
NEW LR LR
comp=Z,637nm,20.0s
K04D Chiloquin, OR 34.44 86 P **P 01 32 22.3 +1.9**
baz=303
M02C Callahan 34.45 88 P **P 01 32 22.1 +1.8**
baz=305,SNR=5.9
EDM Edmonton 34.53 64 *e*P **P 01 32 21.9 +1.0**
EDM pmax pmax
comp=Z,353nm,1.4s
EDM Edmonton 34.53 64 *e*P **P 01 32 21.9 +1.0**
comp=Z,353nm,1.4s
POHA Pohakuloa 34.55 153 PFAKE 01 32 30.0 +8.4
POHA LR LR
comp=Z,882nm,19.0s
KMRM Mail Ridge 34.60 91 *e*P **P 01 32 22.2 +0.6**
comp=Z,31nm,0.7s
E09A Wood Farm, Sta 34.62 77 *e*P **P 01 32 22.5 +0.8**
comp=Z,110nm,1.6s
N02D Trinity Center 34.78 89 P **P 01 32 25.4 +2.1**
baz=305,SNR=7.2
M04C Macdoel 34.85 87 P **P 01 32 25.8 +1.8**
baz=304,SNR=17
K05A Summer Lake 34.91 85 *e*P **P 01 32 26.5 +2.0**
comp=Z,52nm,0.8s
WDC Whiskeytown Da 35.11 89 *e*P **P 01 32 27.2 +1.2**
WDC pmax pmax
comp=Z,20nm,0.8s
WDC Whiskeytown Da 35.11 89 *e*P **P 01 32 27.2 +1.2**
comp=Z,20nm,0.8s
KLR Kul'dur 35.29 289 P **P 01 32 28.1 +0.6**
comp=Z,0.5nm,0.3s,baz=35,slow=16,SNR=2.9
F10A Beach Ranch, E 35.44 78 *e*P **P 01 32 29.6 +0.6**
comp=Z,15nm,1.0s
MOD Modoc Plateau 35.73 86 *e*P **P 01 32 33.1 +1.6**
comp=Z,28nm,0.8s
MOD *e*PcP **PcP 01 34 58.7 +0.1**
O03D Paynes Creek 35.73 89 P **P 01 32 32.4 +0.9**
baz=306,SNR=18
WALA Waterton Lakes 35.94 71 *e*P **P 01 32 33.9 +0.7**
comp=Z,87nm,1.1s
BMO Blue Mountains 35.97 79 *e*P **P 01 32 34.3 +0.9**
BMO pmax pmax
comp=Z,23nm,1.2s
BMO MLR MLR
comp=Z,1μm,20.0s
BMO Blue Mountains 35.97 79 *e*P **P 01 32 34.3 +0.9**
comp=Z,23nm,1.2s
BMO LR LR
comp=Z,1μm,20.0s
BSMT Bassoo Peak 35.99 74 *e*P **P 01 32 34.6 +0.9**
BLMT Blacktail Moun 36.16 73 *e*P **P 01 32 36.1 +0.9**
JTMT Jette 36.34 73 *e*P **P 01 32 37.4 +0.8**
H11N2 WAKE ISLAND Hy 36.35 216 T T 02 11 07.6
baz=21,slow=76,SNR=89
H11N3 WAKE ISLAND Hy 36.36 216 T T 02 11 08.4
baz=21,slow=76,SNR=97
ORV Oroville 36.36 90 *e*P **P 01 32 37.4 +0.7**
ORV pmax pmax
comp=Z,13nm,0.9s
ORV Oroville 36.36 90 *e*P **P 01 32 37.4 +0.7**
comp=Z,13nm,0.9s
H11N1 WAKE ISLAND Hy 36.37 216 T T 02 11 09.2
baz=21,slow=76,SNR=67
YBMT Yellow Bay 36.44 73 *e*P **P 01 32 38.5 +1.0**
WVOR Wild Horse Val 36.46 84 *e*P **P 01 32 39.1 +1.4**
WVOR pmax pmax
comp=Z,60nm,1.1s
WVOR MLR MLR
comp=Z,804nm,20.0s
WVOR Wild Horse Val 36.46 84 *e*P **P 01 32 39.1 +1.4**
comp=Z,60nm,1.1s
WVOR LR LR
comp=Z,804nm,20.0s
SWMT Swartz Lake 36.62 74 *e*P **P 01 32 39.4 +0.3**
MSO Missoula 36.99 75 P **P 01 32 42.5 +0.4**
baz=300,SNR=32
MSO Missoula 36.99 75 *e*P **P 01 32 42.6 +0.4**
comp=Z,62nm,1.3s
AFDM Forest Hills D 37.05 90 *e*P **P 01 32 43.7 +1.1**
comp=Z,20nm,1.4s
SLMT Seeley Lake 37.05 74 *e*P **P 01 32 43.0 +0.3**
CHMT Chamberlain Mo 37.36 74 *e*P **P 01 32 45.5 +0.1**
H11S1 WAKE ISLAND Hy 37.55 215 T T 02 12 34.8
baz=22,slow=76,SNR=202
H11S2 WAKE ISLAND Hy 37.56 215 T T 02 12 44.8
baz=22,slow=76,SNR=222
H11S3 WAKE ISLAND Hy 37.56 215 T T 02 12 36.1
baz=22,slow=76,SNR=65
PAHR Pah Rah Range 37.58 88 *e*P **P 01 32 48.6 +1.4**
comp=Z,54nm,0.8s
MFID Camas Ranch 37.64 80 *e*P **P 01 32 48.3 +0.7**
comp=Z,24nm,0.9s
USRK Ussuriysk Ar. 37.64 281 P **P 01 32 49.0 +1.5**
comp=Z,1.1nm,0.7s,baz=72,slow=6.8,SNR=4.4
USRK PcP **PcP 01 35 03.6 -0.5**
comp=Z,2.3nm,0.8s,baz=39,slow=9.3,SNR=3.0
PNTR Pine Nut 37.81 89 *e*P **P 01 32 51.1 +1.7**
comp=Z,85nm,0.8s
CMB Columbia Colle 37.98 91 *e*P **P 01 32 51.9 +1.4**
CMB *e* 01 35 04.9
CMB pmax pmax
comp=Z,33nm,1.3s
CMB Columbia Colle 37.98 91 *e*P **P 01 32 51.9 +1.4**
comp=Z,33nm,1.3s
CMB *e*PcP **PcP 01 35 04.9 -0.3**
YERR Yerington 38.10 89 *e*P **P 01 32 53.3 +1.6**
comp=Z,59nm,0.9s
SAO San Andreas Ge 38.12 93 *e*P **P 01 32 53.0 +1.3**
SAO pmax pmax
comp=Z,14nm,0.9s
SAO San Andreas Ge 38.12 93 *e*P **P 01 32 53.0 +1.3**
comp=Z,14nm,0.9s
WAKR Walker 38.27 90 *e*P **P 01 32 54.9 +1.8**
comp=Z,42nm,0.8s
HRY Holter Researc 38.30 74 *e*P **P 01 32 53.7 +0.5**
MAJO Matsushiro 38.33 266 *e*P **P 01 32 53.7 +0.3**
MAJO pmax pmax
comp=Z,56nm,0.9s
MAJO Matsushiro 38.33 266 *e*P **P 01 32 53.6 +0.2**
comp=Z,14nm,0.9s
MAT Matsushiro 38.33 266 P **P 01 32 55.0 +1.6**
MJAR Matsushiro Arr 38.33 266 P **P 01 32 54.0 +0.6**
comp=Z,3.0nm,0.6s,baz=45,slow=7.3,SNR=6.8
MJAR PcP **PcP 01 35 06.1 -0.3**
comp=Z,1.8nm,0.4s,baz=48,slow=1.1,SNR=4.3
MJAR LR LR 01 48 11.4
comp=Z,212nm,20.7s,baz=110,slow=35
HLID Hailey 38.41 79 P **P 01 32 55.1 +0.8**
baz=303,SNR=30
HLID Hailey 38.41 79 *e*P **P 01 32 55.2 +0.9**
comp=Z,23nm,1.0s
HLID *e*PcP **PcP 01 35 07.2 +0.4**
HLID LR LR
comp=Z,632nm,20.0s
BMN Battle Mountai 38.48 85 *e*P **P 01 32 56.3 +1.5**
BMN pmax pmax
comp=Z,65nm,1.4s
BMN Battle Mountai 38.48 85 *e*P **P 01 32 56.3 +1.5**
comp=Z,65nm,1.4s
DLMT Dillon 38.54 76 *e*P **P 01 32 55.9 +0.6**
comp=Z,17nm,1.0s
MCMT McKenzie Canyo 38.68 77 *e*P **P 01 32 57.1 +0.6**
TVH1 TV Hill, Hawth 38.72 89 *e*P **P 01 32 58.5 +1.4**
comp=Z,59nm,1.0s
TVH3 East Aurora ar 38.74 89 *e*P **P 01 32 58.7 +1.5**
comp=Z,30nm,1.0s
TVH2 Borealis Mine 38.77 89 *e*P **P 01 32 58.9 +1.5**
comp=Z,24nm,1.1s
EGMT Eagleton 38.86 71 P **P 01 32 58.3 +0.4**
baz=300,SNR=32
EGMT Eagleton 38.86 71 *e*P **P 01 32 58.3 +0.4**
comp=Z,109nm,0.8s
EGMT LR LR
comp=Z,562nm,19.0s
PMPB Monarch Peak 38.87 94 *e*P **P 01 32 59.8 +1.8**
comp=Z,26nm,0.9s
BOZ Bozeman (W) 39.00 75 P **P 01 32 59.5 +0.4**
baz=302,SNR=41
BOZ Bozeman (W) 39.00 75 *e*P **P 01 32 59.5 +0.4**
BOZ pmax pmax
comp=Z,75nm,1.4s
BOZ MLR MLR
comp=Z,804nm,20.0s
BOZ Bozeman (W) 39.00 75 *e*P **P 01 32 59.5 +0.4**
comp=Z,75nm,1.4s
BOZ LR LR
comp=Z,804nm,20.0s
MLAC Mammoth, Mammo 39.19 90 P **P 01 33 01.9 +1.0**
baz=309
PAGB Antelope Grade 39.53 94 *e*P **P 01 33 05.4 +1.9**
comp=Z,42nm,0.8s
QLMT Earthquake Lak 39.53 76 *e*P **P 01 33 04.5 +0.8**
YHB Horse Butte 39.71 76 *e*P **P 01 33 06.1 +1.0**
comp=Z,33nm,0.9s
RCTC Rector, Farmer 39.77 92 P **P 01 33 07.2 +1.7**
baz=310,SNR=6.2
YMR Madison River 39.89 76 *e*P **P 01 33 07.8 +1.2**
comp=Z,42nm,0.9s
YHH Holmes Hill 39.90 76 *e*P **P 01 33 07.3 +0.5**
comp=Z,77nm,1.2s
TIN Tinemaha, Big 39.92 90 P **P 01 33 08.9 +2.0**
baz=309,SNR=8.6
SMMC Simmler 39.95 94 P **P 01 33 08.7 +1.6**
baz=311
YNR Norris Junctio 40.04 76 *e*P **P 01 33 09.5 +1.6**
comp=Z,56nm,1.0s
FFC Flin Flon 40.06 58 *e*P **P 01 33 07.8 +0.2**
FFC pmax pmax
comp=Z,24nm,0.6s
FFC MLR MLR
comp=Z,612nm,21.0s
FFC Flin Flon 40.06 58 *e*P **P 01 33 07.8 +0.2**
comp=Z,24nm,0.6s
FFC LR LR
comp=Z,612nm,21.0s
GCMT Greycliff 40.06 74 *e*P **P 01 33 08.7 +0.7**
VES Vesta Richgr 40.17 93 P **P 01 33 09.6 +0.8**
baz=310,SNR=9.6
YPP Pitchstone Pla 40.21 76 *e*P **P 01 33 10.9 +1.6**
comp=Z,30nm,1.6s
H17A Grant Village 40.27 76 P **P 01 33 11.7 +1.9**
baz=303,SNR=12
H17A Grant Village 40.27 76 *e*P **P 01 33 11.9 +2.0**
comp=Z,75nm,1.3s
LKWY Lake 40.29 76 PFAKE 01 33 20.0 +10
LKWY LR LR
comp=Z,927nm,19.0s
IMW Indian Meadow 40.33 77 *e*P **P 01 33 11.5 +1.1**
comp=Z,28nm,1.0s
IMW *e*PcP **PcP 01 35 13.3 +0.3**
PKM Mcpherson Peak 40.35 94 P **P 01 33 12.0 +1.5**
baz=311,SNR=12
FLWY Flagg Ranch 40.37 76 *e*P **P 01 33 11.4 +0.7**
comp=Z,58nm,1.3s
CWC Cottonwood Cre 40.41 91 P **P 01 33 12.2 +1.3**
baz=310
HVU Hansel Valley 40.42 81 *e*P **P 01 33 11.9 +0.9**
HVU pmax pmax
comp=Z,28nm,1.0s
HVU Hansel Valley 40.42 81 *e*P **P 01 33 11.9 +0.9**
comp=Z,28nm,1.0s
FXWY Fox Creek 40.42 77 *e*P **P 01 33 12.0 +0.9**
GRAC Grapevine Rang 40.49 90 P **P 01 33 13.2 +1.7**
baz=310,SNR=6.4
MOOW Moose Ponds 40.53 77 *e*P **P 01 33 12.7 +0.8**
comp=Z,18nm,1.4s
TPAW Teton Pass 40.55 77 *e*P **P 01 33 13.4 +1.2**
comp=Z,42nm,1.3s
RLMT Red Lodge 40.66 74 P **P 01 33 13.8 +0.8**
baz=303,SNR=44
RLMT Red Lodge 40.66 74 *e*P **P 01 33 14.0 +1.0**
comp=Z,85nm,1.0s
RLMT LR LR
comp=Z,468nm,20.0s
ISA Isabella, Lake 40.67 92 P **P 01 33 13.8 +0.9**
baz=311,SNR=9.2
ISA Isabella, Lake 40.67 92 *e*P **P 01 33 13.9 +0.9**
ISA pmax pmax
comp=Z,32nm,0.9s
ISA Isabella, Lake 40.67 92 *e*P **P 01 33 13.9 +1.0**
comp=Z,32nm,0.9s
REDW Red Top Meadow 40.68 77 *e*P **P 01 33 14.1 +0.9**
SNOW Snow King Moun 40.69 77 *e*P **P 01 33 14.8 +1.5**
LOHW Long Hollow 40.69 77 *e*P **P 01 33 14.0 +0.7**
comp=Z,26nm,1.4s
SBC Santa Barbara 40.70 95 P **P 01 33 13.8 +0.6**
baz=312
R11A Troy Canyon, C 40.75 87 P **P 01 33 14.4 +0.7**
baz=308,SNR=45
R11A Troy Canyon, C 40.75 87 *e*P **P 01 33 14.5 +0.7**
R11A *e*PcP **PcP 01 35 14.7 +0.5**
BGU Big Grassy Mou 40.76 82 *e*P **P 01 33 14.7 +0.9**
comp=Z,32nm,1.3s
ARVC Arvin 40.80 93 P **P 01 33 13.7 -0.3**
baz=311
DAC Darwin (Calif) 40.81 91 *e*P **P 01 33 15.1 +0.8**
DAC pmax pmax
comp=Z,26nm,0.9s
DAC Darwin (Calif) 40.81 91 *e*P **P 01 33 15.1 +0.8**
comp=Z,26nm,0.9s
SPUT South Promonto 40.89 81 *e*P **P 01 33 15.8 +0.9**
comp=Z,15nm,1.0s
MPMC Manual Prospec 41.02 91 P **P 01 33 17.1 +1.0**
baz=310,SNR=25
BSC Santa Cruz Isl 41.05 95 P **P 01 33 16.9 +0.8**
baz=312
FURC Furnace Creek, 41.14 90 P **P 01 33 18.2 +1.4**
baz=310,SNR=44
BOD Bodaibo 41.16 308 *e*P **P 01 33 14.7 -2.0**
BOD pmax pmax
comp=Z,9.0nm,1.6s
TPNV Topopah Spring 41.21 89 P **P 01 33 18.7 +1.1**
baz=310,SNR=59
TPNV Topopah Spring 41.21 89 *e*P **P 01 33 18.7 +1.1**
TPNV pmax pmax
comp=Z,54nm,0.9s
TPNV Topopah Spring 41.21 89 *e*P **P 01 33 18.7 +1.1**
comp=Z,54nm,0.9s
HWUT Hardware Ranch 41.26 80 *e*P **P 01 33 18.2 +0.3**
comp=Z,19nm,1.1s
HWUT *e*PcP **PcP 01 35 16.4 +0.6**
HWUT LR LR
comp=Z,598nm,20.0s
LRMC Laurel Mtn Rad 41.27 92 P **P 01 33 18.8 +0.7**
baz=311,SNR=7.4
BLG Laguna Peak, P 41.33 95 P **P 01 33 18.9 +0.5**
baz=312
DUG Dugway, Tooele 41.33 83 P **P 01 33 19.2 +0.8**
baz=307,SNR=54
DUG Dugway, Tooele 41.33 83 *e*P **P 01 33 19.3 +0.8**
DUG pmax pmax
comp=Z,52nm,1.1s
DUG MLR MLR
comp=Z,1μm,20.0s
DUG Dugway, Tooele 41.33 83 *e*P **P 01 33 19.3 +0.9**
comp=Z,52nm,1.1s
DUG LR LR
comp=Z,1μm,20.0s
EDW2 Edwards Air Fo 41.47 93 P **P 01 33 20.1 +0.5**
baz=311,SNR=12
LAO LASA Array 41.61 70 P **P 01 33 21.3 +0.7**
baz=302,SNR=13
LAO LASA Array 41.61 70 *e*P **P 01 33 21.5 +0.9**
comp=Z,45nm,0.7s
LAO LR LR
comp=Z,618nm,21.0s
SNCC San Nicolas Is 41.62 96 P **P 01 33 21.5 +0.7**
baz=313
DECC Green Verdugo 41.68 94 P **P 01 33 21.9 +0.7**
baz=312
CN2 Changchun 41.80 285 *e*P **P 01 33 25.9 +3.8**
BW06 Boulder Array 41.80 77 P **P 01 33 22.7 +0.3**
baz=305,SNR=79
BW06 Boulder Array 41.80 77 *e*P **P 01 33 22.7 +0.3**
comp=Z,53nm,1.0s
BW06 LR LR
comp=Z,730nm,22.0s
PDAR Pinedale Array 41.80 77 P **P 01 33 22.9 +0.4**
comp=Z,34nm,0.8s,baz=301,slow=3.9,SNR=218
PDAR ScP **ScP 01 39 03.6 +0.1**
comp=Z,1.1nm,0.9s,baz=325,slow=1.8,SNR=3.9
DGMT Dagmar 41.84 67 P **P 01 33 23.2 +0.8**
baz=301,SNR=7.6
DGMT Dagmar 41.84 67 *e*P **P 01 33 23.1 +0.8**
DGMT LR LR
comp=Z,644nm,19.0s
MWC Mount Wilson 41.87 94 *e*P **P 01 33 24.3 +1.3**
MWC Mount Wilson 41.87 94 *e*P **P 01 33 24.3 +1.3**
SHOC Shoshone, Teco 41.87 90 P **P 01 33 24.1 +1.3**
baz=310
JLU Jordanelle 41.92 81 *e*P **P 01 33 24.3 +0.9**
NLU North Lily Min 41.92 82 *e*P **P 01 33 24.2 +0.7**
GSC Goldstone, Bar 41.93 91 P **P 01 33 24.5 +1.0**
baz=311,SNR=65
GSC Goldstone, Bar 41.93 91 *e*P **P 01 33 24.4 +1.0**
GSC Goldstone, Bar 41.93 91 *e*P **P 01 33 24.4 +1.0**
BFSC Mount Baldy Ra 42.11 93 P **P 01 33 25.9 +1.0**
baz=312,SNR=21
SHPR Sheep Range 42.17 89 *e*P **P 01 33 26.1 +0.8**
HIA Hailar 42.17 295 PFAKE 01 33 40.0 +15
HIA LR LR
comp=Z,636nm,21.0s
FCC Fort Churchill 42.20 49 *e*P **P 01 33 24.8 -0.4**
FCC pmax pmax
comp=Z,37nm,0.8s
FCC Fort Churchill 42.20 49 *e*P **P 01 33 24.8 -0.4**
comp=Z,37nm,0.8s
TUQ Turquoise Moun 42.39 90 P **P 01 33 28.0 +0.9**
baz=311,SNR=20
HEC Hector,Ludlow 42.53 91 P **P 01 33 29.2 +1.0**
baz=311,SNR=18
CCUT Cedar City 42.62 86 *e*P **P 01 33 30.1 +1.0**
MSU Marysvale 42.74 84 *e*P **P 01 33 31.2 +1.1**
MSU Marysvale 42.74 84 *e*P **P 01 33 31.2 +1.1**
SZCU Shurtz Canyon 42.76 86 *e*P **P 01 33 31.3 +1.1**
MURC Murrieta 42.82 94 P **P 01 33 31.0 +0.5**
baz=312,SNR=6.1
TMUT Trail Mountain 42.86 83 *e*P **P 01 33 32.2 +1.1**
GMRC Granite Mounta 42.98 91 P **P 01 33 32.7 +0.7**
baz=311,SNR=30
LCMT Little Creek M 43.03 87 *e*P **P 01 33 33.5 +1.2**
MTPU Mount Pierson 43.03 85 *e*P **P 01 33 33.9 +1.3**
LDFC Landfair 43.13 90 *e*P **P 01 33 33.7 +0.6**
PFO Pinyon Flats O 43.27 93 P **P 01 33 35.0 +0.7**
comp=Z,20nm,1.0s,baz=334,slow=6.8,SNR=13
PFO Pinyon Flats O 43.27 93 P **P 01 33 35.0 +0.7**
baz=312,SNR=11
PFO Pinyon Flats O 43.27 93 *e*P **P 01 33 34.9 +0.7**
PFO pmax pmax
comp=Z,25nm,1.1s
PFO MLR MLR
comp=Z,1μm,22.0s
PFO Pinyon Flats O 43.27 93 *e*P **P 01 33 34.9 +0.7**
comp=Z,25nm,1.1s
PFO LR LR
comp=Z,1μm,22.0s
TPFO Pinon Flats 43.27 93 P **P 01 33 35.2 +0.9**
baz=312,SNR=12
KNB Kanab 43.29 86 *e*P **P 01 33 35.7 +1.2**
KNB Kanab 43.29 86 *e*P **P 01 33 35.7 +1.2**
BELC Belle Mtn. Jos 43.29 92 P **P 01 33 35.0 +0.6**
baz=312,SNR=11
PKCU Pink Cliffs 43.33 85 *e*P **P 01 33 36.5 +1.5**
109C Camp Elliot, M 43.35 94 P **P 01 33 36.1 +1.3**
baz=313,SNR=5.2
SRU San Rafael Swe 43.39 82 *e*P **P 01 33 35.6 +0.3**
SRU San Rafael Swe 43.39 82 *e*P **P 01 33 35.6 +0.3**
K22A Casper 43.69 76 P **P 01 33 37.5 -0.2**
baz=306,SNR=17
K22A Casper 43.69 76 *e*P **P 01 33 37.4 -0.3**
comp=Z,37nm,0.9s
IRM Iron Mountain 43.71 91 P **P 01 33 38.7 +1.0**
baz=312,SNR=20
BAR Barrett 43.76 94 *e*P **P 01 33 39.0 +0.9**
MONP Monument Peak, 43.77 94 P **P 01 33 39.8 +1.4**
baz=313,SNR=8.4
BC3 Big Chuckawall 43.86 92 P **P 01 33 39.3 +0.3**
baz=312,SNR=11
KSRS Korea Array 44.10 275 P **P 01 33 41.3 +0.6**
comp=Z,8.6nm,1.1s,baz=54,slow=9.0,SNR=7.9
SWSC Sam W. Stewart 44.12 93 P **P 01 33 41.7 +0.7**
baz=313,SNR=6.5
KSAR Wonju Array Be 44.13 275 P **P 01 33 41.3 +0.3**
KSAR Wonju Array Be 44.13 275 P **P 01 33 41.3 +0.3**
IKP In-Ko-Pah, Jac 44.13 94 P **P 01 33 42.4 +1.3**
baz=313,SNR=7.6
O20A White River Ci 44.16 80 P **P 01 33 41.7 +0.3**
baz=308,SNR=60
O20A White River Ci 44.16 80 *e*P **P 01 33 41.8 +0.3**
comp=Z,82nm,0.9s
PDMCI Parker Dam,Lak 44.24 90 P **P 01 33 42.6 +0.7**
baz=312,SNR=10
RSSD Black Hills 44.32 72 P **P 01 33 42.7 0.0**
baz=305
RSSD Black Hills 44.32 72 *e*P **P 01 33 42.5 -0.2**
RSSD *e* 01 35 26.1
RSSD pmax pmax
comp=Z,21nm,0.6s
RSSD Black Hills 44.32 72 *e*P **P 01 33 42.5 -0.2**
comp=Z,21nm,0.6s
RSSD *e*PcP **PcP 01 35 26.1 0.0**
Y12C Blythe 44.37 91 P **P 01 33 43.7 +0.8**
baz=312,SNR=18
Y12C Blythe 44.37 91 *e*P **P 01 33 43.7 +0.8**
GLA Glamis 44.65 92 P **P 01 33 46.1 +0.8**
baz=313,SNR=17
GLA Glamis 44.65 92 *e*P **P 01 33 46.1 +0.8**
GLA Glamis 44.65 92 *e*P **P 01 33 46.1 +0.8**
PV10 Paradox Valley 44.76 82 *e*P **P 01 33 47.2 +0.9**
MDND Maddock 44.77 65 P **P 01 33 46.4 +0.5**
baz=303,SNR=20
MDND Maddock 44.77 65 *e*P **P 01 33 46.5 +0.5**
comp=Z,261nm,1.1s
PV04 Paradox Valley 44.83 82 *e*P **P 01 33 46.7 -0.1**
PV05 Paradox Valley 44.91 82 *e*P **P 01 33 48.2 +0.7**
N23A Red Feather La 45.09 77 P **P 01 33 49.3 +0.4**
baz=307,SNR=15
N23A Red Feather La 45.09 77 *e*P **P 01 33 49.5 +0.6**
JNU Nakatsue 45.10 269 P **P 01 33 50.4 +1.5**
comp=Z,12nm,0.9s,baz=63,slow=5.7,SNR=4.0
PHWY Pilot Hill 45.13 76 *e*P **P 01 33 48.7 -0.6**
comp=Z,11nm,0.9s
WUAZ Wupatki 45.15 87 P **P 01 33 50.4 +1.1**
baz=311,SNR=43
WUAZ Wupatki 45.15 87 *e*P **P 01 33 50.4 +1.1**
comp=Z,38nm,0.7s
WUAZ LR LR
comp=Z,1μm,20.0s
PV01 Paradox Valley 45.19 82 *e*P **P 01 33 49.9 +0.1**
ULM Lac du Bonnet 45.51 61 P **P 01 33 51.5 -0.3**
comp=Z,18nm,0.6s,baz=300,slow=8.3,SNR=32
A31A Linda, St. Vin 45.52 63 P **P 01 33 51.3 -0.6**
baz=309
SMCO Snowmass 45.52 80 *e*P **P 01 33 52.5 0.0**
comp=Z,5.4nm,0.6s
B31A Greenbush Farm 45.54 64 P **P 01 33 52.3 +0.2**
baz=304,SNR=22
MVCO Mesa Verde 45.82 83 P **P 01 33 54.8 +0.1**
baz=310,SNR=18
MVCO Mesa Verde 45.82 83 *e*P **P 01 33 55.0 +0.2**
MVCO LR LR
comp=Z,879nm,22.0s
C31A Landman Farms, 45.85 65 P **P 01 33 54.1 -0.4**
baz=304,SNR=9.7
A32A Rocking H Ranc 45.91 63 P **P 01 33 54.9 0.0**
baz=304,SNR=7.1
ISCO Idaho Springs 45.95 78 P **P 01 33 56.3 +0.5**
baz=308,SNR=13
ISCO Idaho Springs 45.95 78 *e*P **P 01 33 56.6 +0.8**
ISCO pmax pmax
comp=Z,16nm,1.1s
ISCO MLR MLR
comp=Z,1μm,20.0s
ISCO Idaho Springs 45.95 78 *e*P **P 01 33 56.6 +0.8**
comp=Z,16nm,1.1s
ISCO LR LR
comp=Z,1μm,20.0s
NRIK Noril'sk 46.09 331 P **P 01 33 56.3 +0.2**
comp=Z,2.7nm,0.4s,baz=81,slow=7.5,SNR=4.5
B32A Ashes, Strandq 46.17 63 P **P 01 33 56.5 -0.5**
baz=304,SNR=18
D31A Mcclaflin, Tow 46.28 65 P **P 01 33 57.4 -0.5**
baz=305,SNR=5.2
W18A Petrified Fore 46.42 86 P **P 01 34 00.0 +0.6**
baz=311,SNR=12
W18A Petrified Fore 46.42 86 *e*P **P 01 33 59.9 +0.5**
comp=Z,24nm,0.9s
E31A Nome 46.46 66 P **P 01 33 58.5 -0.8**
baz=305
A33A Warroad 46.50 62 P **P 01 33 59.1 -0.6**
baz=304,SNR=20
S22A 4UR Ranch, Cre 46.50 81 P **P 01 34 00.9 +0.8**
baz=310,SNR=26

AGMN Agassiz Nation 46.60 63 P P 01 33 59.8 -0.6
baz=304,SNR=25
AGMN Agassiz Nation 46.60 63 eP P 01 34 00.0 -0.4
comp=Z,93nm,1.1s
AGMN LR LR
comp=Z,712nm,22.0s
D32A Dogwood Acres, 46.62 65 P P 01 33 59.8 -0.8
baz=305
214A Organ Pipe Nat 46.64 92 P P 01 34 01.5 +0.5
baz=313,SNR=15
214A Organ Pipe Nat 46.64 92 eP P 01 34 01.2 +0.2
comp=Z,101nm,1.1s
F31A Hecla 46.66 67 P P 01 34 00.2 -0.7
baz=306
Q24A Divide 46.76 79 P P 01 34 01.2 -0.9
baz=309
B33A Robert and Kas 46.77 63 P P 01 34 01.3 -0.5
baz=305,SNR=6.7
C33A Trail 46.96 64 P P 01 34 02.7 -0.5
baz=305
G31A Conde 47.06 68 P P 01 34 03.3 -0.7
baz=306
SUSD Miller 47.09 69 P P 01 34 03.7 -0.6
baz=306,SNR=16
B34A Aery, Baudette 47.16 62 P P 01 34 04.2 -0.6
baz=305,SNR=30
D33A AnnSam, Waukun 47.27 64 P P 01 34 05.1 -0.6
baz=305,SNR=7.4
SDCO Great Sand Dun 47.31 80 P P 01 34 06.8 +0.3
baz=310,SNR=36
SDCO Great Sand Dun 47.31 80 eP P 01 34 07.1 +0.6
SDCO LR LR
comp=Z,998nm,19.0s
H31A Wolsey 47.34 69 P P 01 34 06.2 -0.1
baz=306,SNR=16
OGNE Ogallala 47.40 75 P P 01 34 07.0 +0.2
baz=308,SNR=9.6
OGNE Ogallala 47.40 75 eP P 01 34 07.4 +0.6
comp=Z,82nm,1.0s
OGNE LR LR
comp=Z,2µm,20.0s
G32A Webster 47.44 67 P P 01 34 06.4 -0.7
baz=306,SNR=11
C34A RKJ Ranch, Bem 47.50 63 P P 01 34 06.8 -0.6
baz=305,SNR=6.2
E33A Westby DABS, E 47.55 65 P P 01 34 06.9 -1.0
baz=306
I31A Royce, Wessing 47.58 69 P P 01 34 08.1 0.0
baz=307,SNR=8.2
TUC Tucson 47.65 90 P P 01 34 09.7 +0.7
baz=313
TUC Tucson 47.65 90 eP P 01 34 09.6 +0.7
TUC pmax pmax
comp=Z,44nm,1.0s
TUC MLR MLR
comp=Z,2µm,21.0s
TUC Tucson 47.65 90 eP P 01 34 09.6 +0.7
comp=Z,44nm,1.0s
TUC LR LR
comp=Z,2µm,21.0s
D34A Park Rapids 47.67 64 P P 01 34 08.2 -0.6
baz=306,SNR=23
B35A Bob, Littlefor 47.73 62 P P 01 34 08.7 -0.6
baz=305,SNR=19
F33A 5 Mile Ranch, 47.78 66 P P 01 34 08.8 -0.8
baz=306,SNR=12
J31A Geddes 47.90 70 P P 01 34 10.1 -0.6
baz=307,SNR=21
H32A Carlson Farm, 47.93 68 P P 01 34 10.5 -0.4
baz=307,SNR=21
C35A Jirik Farms, M 47.98 63 P P 01 34 10.4 -0.8
baz=306,SNR=19
E34A Wadena 48.02 65 P P 01 34 10.7 -0.7
baz=306
G33A Ortonville 48.08 67 P P 01 34 11.3 -0.7
baz=307,SNR=12
I32A Karley and Nic 48.20 69 P P 01 34 12.2 -0.7
baz=307
H33A Prehn Over Nor 48.22 67 P P 01 34 12.3 -0.8
baz=307,SNR=12
KSCO Kaye Shedlock' 48.25 77 P P 01 34 13.5 0.0
baz=309,SNR=12
KSCO Kaye Shedlock' 48.25 77 eP P 01 34 14.0 +0.4
comp=Z,96nm,1.0s
D35A Remer 48.30 63 P P 01 34 13.1 -0.6
baz=306,SNR=14
T25A Trinidad 48.37 80 P P 01 34 15.0 +0.4
baz=310,SNR=58
J32A Parkston 48.37 69 P P 01 34 13.6 -0.6
baz=308,SNR=9.1
F34A Alexandria 48.39 65 P P 01 34 13.6 -0.8
baz=307,SNR=8.1
E35A Pequot Lakes 48.42 64 P P 01 34 14.4 -0.2
baz=306,SNR=6.0
LAZ Ladron 48.49 85 eP P 01 34 16.5 +1.0
G34A Benson 48.51 66 P P 01 34 14.6 -0.7
baz=307
ANMO Albuquerque 48.55 84 P P 01 34 16.2 +0.3
comp=Z,14nm,1.2s,baz=316,slow=9.1,SNR=18
ANMO PcP PcP 01 35 41.6 +0.5
comp=Z,5.5nm,1.0s,baz=271,slow=3.1,SNR=5.1
ANMO Albuquerque 48.55 84 P P 01 34 15.3 -0.6
baz=312
ANMO Albuquerque 48.55 84 eP P 01 34 16.3 +0.3
ANMO e 01 35 41.4
ANMO pmax pmax
comp=Z,17nm,1.2s
ANMO MLR MLR
comp=Z,903nm,20.0s
ANMO Albuquerque 48.55 84 eP P 01 34 16.3 +0.3
comp=Z,17nm,1.2s
ANMO ePcP PcP 01 35 41.4 +0.2
ANMO LR LR
comp=Z,903nm,20.0s
I33A Coleman 48.57 68 P P 01 34 14.9 -0.8
baz=307,SNR=6.6
C36A Pine Crest Far 48.57 62 P P 01 34 15.1 -0.6
baz=306,SNR=17
D36A Goodland 48.73 63 P P 01 34 16.4 -0.6
baz=306,SNR=9.0
K32A Verdigre 48.74 70 P P 01 34 16.3 -0.7
baz=308,SNR=6.1
F35A Swanville 48.74 65 P P 01 34 16.4 -0.6
baz=307,SNR=7.8
H34A Spellman Lake, 48.78 67 P P 01 34 16.7 -0.6
baz=307
Y22D IRIS PASSCAL I 48.85 85 P P 01 34 19.3 +1.2
baz=312
ECSD EROS Data Cent 48.86 68 P P 01 34 17.0 -1.0
baz=308,SNR=24
ECSD EROS Data Cent 48.86 68 eP P 01 34 17.1 -1.0
comp=Z,16nm,0.6s
ECSD LR LR
comp=Z,519nm,19.0s
LPM Los Pinos Moun 48.87 85 eP P 01 34 19.6 +1.2
J33A Davis 48.91 69 P P 01 34 17.7 -0.7
baz=308,SNR=6.7
C37A Embarrass 48.94 62 P P 01 34 18.0 -0.6
baz=306,SNR=23
BNM Barren Site 48.98 85 eP P 01 34 20.1 +0.8
E36A McGregor 49.08 64 P P 01 34 19.1 -0.5
baz=307,SNR=18
L32A Elgin 49.12 71 P P 01 34 20.1 +0.1
baz=308,SNR=11
D37A Cotton 49.15 62 P P 01 34 19.4 -0.7
baz=307,SNR=10.0
EYMN Ely 49.19 61 P P 01 34 19.7 -0.7
baz=306,SNR=20
EYMN Ely 49.19 61 eP P 01 34 19.7 -0.7
EYMN LR LR
comp=Z,868nm,22.0s
H35A Sunnyside Ranc 49.29 66 P P 01 34 20.6 -0.7
baz=308,SNR=15
KBS Kingsbay 49.30 359 PFAKE 01 34 30.0 +9.1
KBS LR LR
comp=Z,214nm,19.0s
F36A Milaca 49.32 64 P P 01 34 20.7 -0.8
baz=307,SNR=10.0
K33A Hardington 49.33 70 P P 01 34 21.0 -0.6
baz=308,SNR=5.2
121A Cookes Peak, D 49.35 87 P P 01 34 21.6 -0.5
baz=313,SNR=17
121A Cookes Peak, D 49.35 87 eP P 01 34 22.3 +0.2
comp=Z,21nm,0.8s
BGNE Belgrade 49.41 72 P P 01 34 22.3 +0.1
baz=309,SNR=6.7
BGNE Belgrade 49.41 72 eP P 01 34 21.5 -0.7
comp=Z,223nm,1.1s

C38A Sawbill Land. 49.44 61 P P 01 34 21.7 -0.7
baz=307,SNR=12
L33A Hoskins 49.45 70 P P 01 34 21.9 -0.6
baz=308,SNR=6.1
TLY Talaya 49.45 305 PFAKE 01 34 30.0 +7.6
TLY LR LR
comp=Z,737nm,21.0s
J34A George 49.52 68 P P 01 34 22.3 -0.7
baz=308,SNR=12
G36A St. Michael 49.58 65 P P 01 34 22.8 -0.6
baz=308,SNR=8.4
BJT Baijiatuau 49.60 286 PFAKE 01 34 30.0 +6.3
BJT LR LR
comp=Z,1µm,22.0s
I35A Creekview Farm 49.72 67 P P 01 34 23.8 -0.7
baz=308
K34A Le Mars 49.81 69 P P 01 34 24.0 -1.2
baz=308,SNR=15
M33A Taylor Creek F 49.86 71 P P 01 34 25.1 -0.6
baz=309,SNR=6.2
H36A Jessenland, He 49.88 66 P P 01 34 25.7 0.0
baz=308,SNR=15
J35A Milford 49.90 68 P P 01 34 25.2 -0.7
baz=308
F37A Hinrichs Farm, 49.91 64 P P 01 34 25.3 -0.6
baz=308,SNR=6.7
ULN Ulaanbaatar 49.94 300↓ eP P 01 34 26.4 +0.1
ULN pmax pmax
comp=Z,3.0nm,0.6s
ULN Ulaanbaatar 49.94 300 eP P 01 34 26.4 +0.1
comp=Z,4.9nm,0.9s
ULN LR LR
comp=Z,526nm,22.0s
E38A The Farm, Brul 49.96 62 P P 01 34 25.5 -0.9
baz=307,SNR=24
SPITS Spitsbergen Ar 49.98 358 P P 01 34 25.5 -0.6
comp=Z,8.9nm,0.9s,baz=280,slow=10,SNR=4.6
C39A Grand Marais 50.00 60 P P 01 34 25.8 -0.8
baz=307,SNR=7.5
FRB Frobisher Bay 50.05 34 LR LR 01 56 54.7
comp=Z,316nm,19.6s,baz=284,slow=38
L34A Svendsen Farm, 50.09 70 P P 01 34 26.7 -0.7
baz=309,SNR=19
CBKS Cedar Bluff 50.11 75 P P 01 34 27.7 +0.1
baz=310,SNR=18
CBKS Cedar Bluff 50.11 75 eP P 01 34 28.1 +0.5
CBKS pmax pmax
comp=Z,107nm,0.9s
CBKS Cedar Bluff 50.11 75 eP P 01 34 28.1 +0.5
comp=Z,107nm,0.9s
SPMN Marine on St. 50.11 65 P P 01 34 26.7 -0.7
baz=308,SNR=7.1
SPMN Marine on St. 50.11 65 eP P 01 34 26.5 -1.0
comp=Z,41nm,1.3s
I36A Fitzsimmons Fa 50.17 67 P P 01 34 27.2 -0.8
baz=308,SNR=6.3
F38A Pierce , Schro 50.18 63 P P 01 34 27.4 -0.6
baz=308,SNR=27
N33A J Bar K, Exete 50.24 72 P P 01 34 27.8 -0.7
baz=309
K35A Storm Lake 50.28 69 P P 01 34 28.2 -0.6
baz=309,SNR=7.4
SONM Songino Array 50.31 300 P P 01 34 29.1 -0.1
comp=Z,2.2nm,0.8s,baz=60,slow=7.7,SNR=9.6
SONM ScP ScP 01 39 38.5 -0.3
comp=Z,1.6nm,0.8s,baz=66,slow=3.2,SNR=4.4
DAG Danmarks Havn 50.34 8 i P P 01 34 19.3 -9.4
J36A Seneca 1, Swea 50.42 67 P P 01 34 29.2 -0.6
baz=309,SNR=10
H37A Dierke Farm, C 50.44 65 P P 01 34 29.4 -0.6
baz=308,SNR=5.7
L35A Bielow Farm, R 50.48 69 P P 01 34 29.5 -0.8
baz=309
I37A Lemond, Waseca 50.52 66 P P 01 34 30.1 -0.5
baz=308,SNR=32
G38A Ridgeland 50.67 64 P P 01 34 30.8 -0.9
baz=308,SNR=15
N34A Lincoln 50.73 71 P P 01 34 31.7 -0.6
baz=310
H38A Maiden Rock 50.74 65 P P 01 34 32.3 0.0
baz=308,SNR=14
MOY Mondy 50.78 307 eP P 01 34 33.4 +0.8
K36A Gilmore City 50.78 68 P P 01 34 31.9 -0.7
baz=309
M35A Neola 50.80 70 P P 01 34 32.3 -0.5
baz=309,SNR=6.1
J37A Redenius Farm, 50.88 67 P P 01 34 32.4 -0.9
baz=309,SNR=34
G39A Holcombe 50.98 64 P P 01 34 33.3 -0.7
baz=308,SNR=12
L36A Harm Buss Farm 51.00 69 P P 01 34 33.6 -0.6
baz=309
O34A Beatrice 51.04 72 P P 01 34 33.9 -0.6
baz=310,SNR=31
I38A Scanlan Farm, 51.11 66 P P 01 34 34.3 -0.8
baz=309,SNR=11
F40A Park Falls 51.17 62 P P 01 34 34.7 -0.8
baz=308,SNR=20
K37A Belmond 51.17 68 P P 01 34 34.7 -0.8
baz=309,SNR=24
N35A Tabor 51.22 71 P P 01 34 35.6 -0.3
baz=310,SNR=15
H39A Augusta 51.30 64 P P 01 34 35.7 -0.7
baz=309,SNR=8.6
M36A Felix, Anita 51.33 70 P P 01 34 36.2 -0.5
baz=310,SNR=8.2
P34A Walnut Farm, R 51.37 73 P P 01 34 36.3 -0.7
baz=310,SNR=11
MNTX Cornudas Mount 51.41 86 P P 01 34 38.0 +0.6
baz=314,SNR=25
MNTX Cornudas Mount 51.41 86 eP P 01 34 37.8 +0.3
comp=Z,19nm,0.9s
MNTX LR LR
comp=Z,1µm,21.0s
O35A Humboldt 51.45 71 P P 01 34 36.8 -0.8
baz=310
MSTX Muleshoe 51.46 82 P P 01 34 38.0 0.0
baz=313,SNR=24
MSTX Muleshoe 51.46 82 eP P 01 34 37.7 -0.2
comp=Z,54nm,1.1s
J38A Wedel Dairy, R 51.48 66 P P 01 34 37.4 -0.4
baz=309,SNR=26
L37A Phoenix Point, 51.51 68 P P 01 34 37.4 -0.6
baz=310,SNR=28
SUMG Summit 51.51 16 i P P 01 34 37.2 -0.9
comp=Z,25nm,1.1s
SUMG Summit 51.51 16 eP P 01 34 37.3 -0.9
SUMG pmax pmax
comp=Z,21nm,1.0s
SUMG Summit 51.51 16 eP P 01 34 37.3 -0.8
comp=Z,21nm,1.0s
AMTX Amarillo 51.52 80 P P 01 34 38.4 +0.1
baz=312
AMTX Amarillo 51.52 80 eP P 01 34 38.2 -0.1
comp=Z,32nm,1.2s
G40A Rib Lake 51.53 63 P P 01 34 37.2 -0.9
baz=309,SNR=11
I39A Houston 51.68 65 P P 01 34 38.6 -0.8
baz=309,SNR=17
Q34A Chapman 51.71 73 P P 01 34 39.1 -0.5
baz=311,SNR=20
K38A Parkersburg 51.74 67 P P 01 34 39.2 -0.6
baz=310,SNR=9.5
HHC Hu-ho-hao-te 51.78 290 eP P 01 34 41.5 +1.3
HHC PP PP 01 36 35.8 -2.1
HHC S S 01 41 57.7 -0.8
HHC pmax pmax
comp=Z,28nm,1.2s
HHC pmax pmax
comp=Z,190nm,7.0s
HHC LR LR
comp=Z,240nm,16.0s
HHC LR LR
comp=Z,200nm,11.1s
HHC LR LR
comp=Z,300nm,13.6s
KSU1 Kansas State U 51.79 73 P P 01 34 39.4 -0.8
baz=311,SNR=13
KSU1 Kansas State U 51.79 73 eP P 01 34 39.1 -1.0
comp=Z,62nm,1.1s
KSU1 LR LR
comp=Z,785nm,19.0s
M37A Trindle Farm, 51.79 69 P P 01 34 40.2 0.0
baz=310,SNR=20
H40A Chili 51.83 64 P P 01 34 39.9 -0.5
baz=309,SNR=18
P35A Duane Minner, 51.86 72 P P 01 34 39.9 -0.7
baz=310,SNR=9.9

J39A Decorah 51.91 66 P P 01 34 39.9 -1.1
baz=309,SNR=30
R34A Isabella, Hill 51.93 74 P P 01 34 40.7 -0.6
baz=311,SNR=15
L38A Oak Wood Farm, 51.95 68 P P 01 34 40.7 -0.7
baz=310,SNR=16
SCIA State Center 51.96 68 eP P 01 34 40.7 -0.6
comp=Z,25nm,0.6s
SCIA LR LR
comp=Z,1µm,20.0s
O36A Bolckow 52.09 71 P P 01 34 41.8 -0.5
baz=310,SNR=6.1
N37A Lee Faris, Mou 52.12 70 P P 01 34 42.2 -0.4
baz=310,SNR=27
U32A Winter Ranch, 52.14 77 P P 01 34 42.4 -0.4
baz=312,SNR=5.6
I40A Norwalk 52.16 65 P P 01 34 42.4 -0.5
baz=309,SNR=6.4
K39A Oelwein 52.20 67 P P 01 34 42.0 -1.2
baz=310,SNR=22
H41A Junction City 52.24 63 P P 01 34 42.8 -0.6
baz=309,SNR=11
P36A Good Intent, A 52.27 72 P P 01 34 43.1 -0.7
baz=311,SNR=20
M38A Pleasantville 52.28 69 P P 01 34 43.3 -0.5
baz=310,SNR=16
Q35A Mercer Eighty, 52.28 73 P P 01 34 42.9 -0.9
baz=311
S34A Willow Spring 52.40 75 P P 01 34 44.2 -0.6
baz=311,SNR=6.3
J40A Soldiers Grove 52.41 65 P P 01 34 43.6 -1.1
baz=310,SNR=11
I41A Arkdale 52.48 64 P P 01 34 44.5 -0.7
baz=310,SNR=13
L39A Vinton 52.51 67 P P 01 34 44.9 -0.6
baz=310,SNR=24
R35A Emporia Munici 52.54 73 P P 01 34 45.5 -0.3
baz=311,SNR=8.7
O37A Wolven Farm, M 52.54 70 P P 01 34 45.3 -0.4
baz=311,SNR=12
Q36A Arnold C. Orve 52.55 72 P P 01 34 45.0 -0.8
baz=311,SNR=5.1
K40A Colesburg 52.63 66 P P 01 34 45.4 -1.0
baz=310,SNR=5.8
N38A Joes South For 52.66 69 P P 01 34 46.1 -0.5
baz=310,SNR=8.3
P37A Lathrop 52.80 71 P P 01 34 46.8 -0.8
baz=311,SNR=38
T34A McClaskey Farm 52.81 75 P P 01 34 47.2 -0.5
baz=312,SNR=20
M39A Webster 52.83 68 P P 01 34 47.3 -0.6
baz=310,SNR=42
W32A Sentinel 52.84 79 P P 01 34 48.3 +0.2
baz=312,SNR=14
J41A Loganville 52.84 65 P P 01 34 46.7 -1.2
baz=310,SNR=12
S35A Otter Creek Ra 52.89 74 P P 01 34 47.6 -0.7
baz=312,SNR=22
R36A Gordon, Harris 52.95 73 P P 01 34 48.1 -0.7
baz=311,SNR=20
O38A Galt 52.96 70 P P 01 34 48.0 -0.8
baz=311,SNR=18
L40A Anamosa 52.99 67 P P 01 34 48.1 -0.9
baz=310,SNR=9.9
JFWS Jewell Farm 53.00 65 eP P 01 34 47.7 -1.4
JFWS pmax pmax
comp=Z,56nm,1.1s
JFWS MLR MLR
comp=Z,659nm,21.0s
JFWS Jewell Farm 53.00 65 eP P 01 34 47.7 -1.4
comp=Z,56nm,1.1s
JFWS LR LR
comp=Z,659nm,21.0s
N39A Derby Farms, D 53.03 69 P P 01 34 48.5 -0.8
baz=311,SNR=35
K41A Shullsburg 53.16 66 P P 01 34 49.4 -0.8
baz=310,SNR=14
Q37A Longview Farm, 53.20 72 P P 01 34 49.5 -1.2
baz=311,SNR=6.0
NJ2 Nanjing 53.25 277 eP P 01 34 51.7 +0.7
NJ2 pmax pmax
comp=Z,25nm,0.6s
P38A Dawn 53.25 71 P P 01 34 49.8 -1.2
baz=311,SNR=45
M40A Post Highland 53.26 68 P P 01 34 50.1 -0.9
baz=311,SNR=12
SFJD Kangerlussuaq 53.28 25 PFAKE 01 35 00.0 +9.3
SFJD LR LR
comp=Z,695nm,20.0s
T35A Sooner Cattle 53.28 75 P P 01 34 50.5 -0.8
baz=312,SNR=13
X32A Elmer 53.28 79 P P 01 34 51.5 +0.2
baz=313,SNR=9.4
W33A Caddo, Fort Co 53.29 78 P P 01 34 51.9 +0.6
baz=312
S36A Lake Cedric, C 53.29 74 P P 01 34 50.5 -0.8
baz=312
R37A Teagarden Farm 53.35 73 P P 01 34 50.6 -1.2
baz=311,SNR=11
WMOK Wichita Mounta 53.38 79 P P 01 34 52.0 +0.1
baz=313,SNR=27
WMOK Wichita Mounta 53.38 79 eP P 01 34 51.6 -0.4
WMOK pmax pmax
comp=Z,36nm,1.2s
WMOK MLR MLR
comp=Z,1µm,21.0s
WMOK Wichita Mounta 53.38 79 eP P 01 34 51.6 -0.4
comp=Z,36nm,1.2s
WMOK LR LR
comp=Z,1µm,21.0s
L41A Preston 53.40 66 P P 01 34 50.8 -1.2
baz=310,SNR=9.2
V34A Guthrie 53.40 77 P P 01 34 51.7 -0.4
baz=312
V34A Guthrie 53.40 77 eP P 01 34 51.8 -0.4
comp=Z,46nm,0.9s
O39A Kirksville 53.41 69 P P 01 34 51.4 -0.7
baz=311,SNR=17
U35A Pawnee 53.51 76 P P 01 34 52.3 -0.7
baz=312,SNR=13
N40A Mertquake, Sal 53.55 68 P P 01 34 52.4 -0.8
baz=311,SNR=9.0
T36A Boggs Farm, Ca 53.56 74 P P 01 34 52.6 -0.7
baz=312,SNR=9.1
Q38A Cooks Store, C 53.64 71 P P 01 34 52.5 -1.3
baz=311,SNR=27
W34A Bridge Creek, 53.65 77 P P 01 34 54.0 0.0
baz=313,SNR=5.2
W34A Bridge Creek, 53.65 77 eP P 01 34 53.7 -0.3
comp=Z,60nm,1.3s
X33A Lawton 53.68 79 P P 01 34 53.8 -0.4
baz=313
S37A Fort Scott 53.72 73 P P 01 34 53.5 -0.9
baz=312,SNR=12
P39B Salisbury 53.79 70 P P 01 34 53.9 -1.1
baz=311,SNR=51
M41A Milan 53.83 67 P P 01 34 54.3 -0.9
baz=311,SNR=16
V35A Meyer Ranch, C 53.86 76 P P 01 34 55.3 -0.1
baz=312,SNR=7.8
O40A La Belle 53.89 69 P P 01 34 54.6 -1.0
baz=311,SNR=49
Q39A Willow Grove F 53.96 71 P P 01 34 55.0 -1.2
baz=312,SNR=36
Y33A Hilltop Ranch, 53.97 79 P P 01 34 56.4 +0.1
baz=313,SNR=6.6
R38A Fenwick Farm, 53.98 72 P P 01 34 54.6 -1.7
baz=312,SNR=24
X34A Smith Ranch, M 54.04 78 P P 01 34 57.4 +0.5
baz=313,SNR=7.0
N41A Harden Midland 54.09 68 P P 01 34 56.5 -0.6
baz=311
T37A Cheneyville 18 54.09 74 P P 01 34 56.4 -0.8
baz=312,SNR=33
U36A Oologah 54.10 75 P P 01 34 56.6 -0.6
baz=312,SNR=6.1
TXAR Lajitas Array 54.11 87 P P 01 34 57.6 +0.1
comp=Z,20nm,0.7s,baz=297,slow=5.2,SNR=211
TXAR PcP PcP 01 36 01.9 +0.2
comp=Z,2.3nm,0.6s,baz=265,slow=1.0,SNR=4.6
TXAR ScP ScP 01 39 54.9 -0.6
comp=Z,0.8nm,0.9s,baz=270,slow=3.4,SNR=4.6
P40A Paris 54.18 70 P P 01 34 56.8 -0.9
baz=312,SNR=61
W35A Tecumseh 54.25 77 P P 01 34 58.4 +0.1
baz=313,SNR=18
ABTX Abilene, Hawle 54.29 81 P P 01 34 58.9 +0.2
baz=314,SNR=9.0

ABTX Abilene, Hawle 54.29 81 *e*P P 01 34 58.3 -0.4
comp=Z,48nm,1.4s
S38A Stockton 54.35 73 P P 01 34 57.5 -1.6
baz=312,SNR=40
Z33A Whitaker Ranch 54.38 80 P P 01 34 58.6 -0.7
baz=314,SNR=11
V36A Jenks 54.38 76 P P 01 34 58.6 -0.6
baz=313,SNR=11
TUL1 Leonard 54.38 75 P P 01 34 58.8 -0.6
baz=313,SNR=11
TUL1 Leonard 54.38 75 *e*P P 01 34 58.4 -0.9
comp=Z,63nm,1.4s
R39A Chumby, Stover 54.41 71 P P 01 34 57.6 -1.9
baz=312,SNR=10
U37A Salina 54.45 75 P P 01 34 59.4 -0.4
baz=312,SNR=24
O41A Passleys Farm, 54.46 68 P P 01 34 59.2 -0.6
baz=312
Q40A Laux Farm, Aux 54.52 70 P P 01 34 59.3 -0.9
baz=312,SNR=8.3
T38A Diamond 54.52 73 P P 01 34 59.4 -0.9
baz=312,SNR=22
Y34A Reagan Ranch, 54.53 79 P P 01 35 00.5 +0.1
baz=313,SNR=18
W36A Wetumka 54.65 76 P P 01 35 00.7 -0.5
baz=313,SNR=5.7
S39A Bolivar 54.66 72 P P 01 34 59.1 -2.1
baz=312,SNR=18
X35A Drake 54.70 78 P P 01 35 01.4 -0.2
baz=313,SNR=18
133A Hamilton Ranch 54.75 81 P P 01 35 02.0 0.0
baz=314,SNR=16
V37A Hulbert 54.79 75 P P 01 35 01.5 -0.8
baz=313,SNR=22
Z34A Collier Ranch, 54.83 79 P P 01 35 02.1 -0.5
baz=314,SNR=13
U38A Gravette 54.87 74 P P 01 35 01.7 -1.1
baz=313,SNR=16
O42A Bath 54.87 68 P P 01 35 02.1 -0.6
baz=312,SNR=6.5
R40A Maddies Statio 54.87 71 P P 01 35 00.9 -1.9
baz=312,SNR=31
X36A Centrahoma 54.96 77 P P 01 35 03.0 -0.5
baz=313,SNR=7.2
Y35A Marietta 55.00 78 P P 01 35 04.1 +0.3
baz=313,SNR=20
Q41A Truxton 55.03 70 P P 01 35 03.1 -0.8
baz=312,SNR=19
T39A Clever 55.07 73 P P 01 35 02.7 -1.6
baz=312,SNR=38
HDIL Hopedale 55.08 67 P P 01 35 03.4 -0.8
baz=312,SNR=16
HDIL Hopedale 55.08 67 *e*P P 01 35 03.3 -1.0
comp=Z,51nm,0.7s
HDIL LR LR
comp=Z,738nm,21.0s
P42A Winchester 55.12 69 P P 01 35 03.5 -1.1
baz=312,SNR=11
W37B Quinton 55.12 76 P P 01 35 04.5 -0.2
baz=313,SNR=15
233A Rising Star 55.17 81 P P 01 35 04.9 -0.2
baz=314,SNR=18
S40A Lebanon 55.20 72 P P 01 35 03.4 -1.8
baz=312,SNR=7.4
V38A Canehill 55.24 75 P P 01 35 04.7 -0.8
baz=313,SNR=34
O43A Sugar Creek Fa 55.25 67 P P 01 35 04.6 -0.9
baz=312,SNR=6.2
Z35A Perchaven, San 55.26 79 P P 01 35 05.2 -0.4
baz=314
134A White-Moore Ra 55.28 80 P P 01 35 06.2 +0.3
baz=314,SNR=16
R41A Rosebud 55.39 70 P P 01 35 04.9 -1.6
baz=312,SNR=28
U39A Green Forest 55.44 73 P P 01 35 05.7 -1.3
baz=313,SNR=21
Y36A Durant 55.46 78 P P 01 35 07.4 +0.3
baz=314,SNR=18
Q42A Golden Eagle 55.46 69 P P 01 35 06.3 -0.8
baz=312,SNR=18
T40A Mansfield 55.49 72 P P 01 35 05.4 -1.9
baz=313,SNR=23
X37A Clayton 55.53 76 P P 01 35 07.3 -0.3
baz=313,SNR=21
P43A Skaggs, Pawnee 55.56 68 P P 01 35 06.8 -0.9
baz=312,SNR=14
333A Richland Sprin 55.60 82 P P 01 35 07.8 -0.4
baz=314,SNR=14
234A Clairette 55.64 81 P P 01 35 08.6 +0.2
baz=314,SNR=7.5
S41A Jilco Farms, 55.65 71 P P 01 35 06.6 -1.8
baz=313,SNR=42
JCT Junction City 55.69 83 P P 01 35 08.2 -0.7
baz=315,SNR=9.9
JCT Junction City 55.69 83 *e*P P 01 35 07.9 -0.9
JCT *e* 01 36 08.0
JCT pmax pmax
comp=Z,17nm,0.8s
JCT MLR MLR
comp=Z,1μm,21.0s
JCT Junction City 55.69 83 *e*P P 01 35 07.9 -0.9
comp=Z,17nm,0.8s
JCT *e*PcP PcP 01 36 08.0 +0.2
JCT LR LR
comp=Z,1μm,21.0s
135A Vickery Place, 55.70 80 P P 01 35 08.5 -0.3
baz=314
V39A Pettigrew 55.71 74 P P 01 35 07.6 -1.3
baz=313,SNR=20
W38A Poteau 55.72 75 P P 01 35 08.6 -0.3
baz=313,SNR=23
R42A Luebbering 55.74 70 P P 01 35 07.8 -1.3
baz=312,SNR=14
Z36A Blue Ridge 55.80 78 P P 01 35 09.0 -0.5
baz=314,SNR=9.7
X38A Whitesboro 55.81 76 P P 01 35 09.3 -0.2
baz=313,SNR=15
U40A Yellville 55.83 73 P P 01 35 08.2 -1.5
baz=313,SNR=32
Q43A New Douglas 55.93 69 P P 01 35 09.5 -0.8
baz=312,SNR=14
433A Art 55.93 82 P P 01 35 09.8 -0.8
baz=315,SNR=16
T41A Mountain View 56.01 72 P P 01 35 08.9 -2.1
baz=313,SNR=13
334A Lometa 56.05 81 P P 01 35 11.1 -0.3
baz=314,SNR=18
WHTX Lake Whitney, 56.07 80 P P 01 35 11.1 -0.3
baz=314,SNR=9.4
WHTX Lake Whitney, 56.07 80 *e*P P 01 35 11.6 +0.2
comp=Z,94nm,1.3s
W39A Magazine 56.07 75 P P 01 35 10.8 -0.6
baz=313,SNR=19
S42A Caledonia 56.08 70 P P 01 35 09.9 -1.6
baz=313,SNR=23
P44A Sand Creek, Wi 56.19 68 P P 01 35 11.6 -0.7
baz=312,SNR=25
V40A Witts Springs 56.23 74 P P 01 35 11.4 -1.2
baz=313,SNR=30
R43A Red Bud 56.24 69 P P 01 35 11.4 -1.2
baz=313,SNR=29
136A Ennis 56.29 79 P P 01 35 12.5 -0.5
baz=314
X39A Fountain Ranch 56.34 76 P P 01 35 12.9 -0.5
baz=314,SNR=26
Q44A Meyer Farm, Va 56.34 68 P P 01 35 12.5 -0.8
baz=313,SNR=11
U41A Viola 56.39 72 P P 01 35 12.1 -1.6
baz=313,SNR=17
434A Burnet 56.39 82 P P 01 35 13.6 -0.2
baz=315,SNR=19
T42A Van Buren 56.41 71 P P 01 35 11.7 -2.1
baz=313,SNR=15
SFIN Lafayette 56.44 66 P P 01 35 13.4 -0.6
baz=312,SNR=13
SFIN Lafayette 56.44 66 *e*P P 01 35 13.2 -0.8
comp=Z,95nm,1.2s
533A Kerrville 56.44 83 P P 01 35 13.5 -0.8
baz=315,SNR=8.8
W40A Ferguson Farm, 56.50 74 P P 01 35 13.7 -0.8
baz=314,SNR=20
335A Moody 56.58 81 P P 01 35 14.6 -0.5
baz=315
SCHQ Schefferville 56.62 42 P P 01 35 14.7 -0.4
comp=Z,12nm,1.0s,baz=303,slow=6.3,SNR=5.2
236A Katherine and 56.62 79 P P 01 35 15.8 +0.4
baz=314,SNR=6.5
V41A Mountainview 56.63 73 P P 01 35 14.0 -1.5
baz=313,SNR=27
S43A Fulton Ridge, 56.63 70 P P 01 35 14.3 -1.1
baz=313,SNR=61
MIAR Mount Ida 56.64 75 P P 01 35 15.2 -0.4
baz=314,SNR=40
MIAR Mount Ida 56.64 75 *e*P P 01 35 15.1 -0.4
MIAR pmax pmax
comp=Z,57nm,0.9s
MIAR MLR MLR
comp=Z,885nm,22.0s
MIAR Mount Ida 56.64 75 *e*P P 01 35 15.1 -0.4
comp=Z,57nm,0.9s
MIAR LR LR
comp=Z,885nm,22.0s
Y39A Lockesburg 56.75 76 P P 01 35 15.8 -0.5
baz=314
R44A Waltonville 56.75 69 P P 01 35 15.2 -1.1
baz=313,SNR=14
ZALV Zalesovo Beam 56.76 317 P P 01 35 15.7 -0.4
comp=Z,1.5nm,0.5s,baz=1.4,slow=5.9,SNR=4.5
ZALV ScP ScP 01 40 06.2 -0.3
comp=Z,1.2nm,0.6s,baz=43,slow=6.7,SNR=4.2
U42A Revenden 56.79 72 P P 01 35 14.6 -1.9
baz=313,SNR=13
633A Saathoff Ranch 56.79 83 P P 01 35 15.7 -1.0
baz=315,SNR=5.1
NVS Novosibirsk 56.80 318 *e*P P 01 35 13.5 -2.8
534A Blanco 56.82 82 P P 01 35 16.3 -0.5
baz=315,SNR=9.9
435B Jarrell 56.83 81 P P 01 35 17.2 +0.3
baz=315
T43A Greenville 56.84 71 P P 01 35 15.7 -1.2
baz=313,SNR=37
336A Riesel 56.86 80 P P 01 35 17.3 +0.2
baz=315,SNR=5.9
W41B Gary Mavity, V 57.00 74 P P 01 35 17.0 -1.0
baz=314,SNR=18
S44A Carbondale 57.03 70 P P 01 35 17.4 -0.8
baz=313,SNR=7.4
237A Washetta, Mont 57.06 79 P P 01 35 18.2 -0.3
baz=314
WHN Wuhan 57.06 279 ⇓P P 01 35 19.3 +0.8
V42A Cord 57.07 73 P P 01 35 16.5 -2.1
baz=314
X40A Basin Creek Fa 57.12 75 P P 01 35 18.3 -0.7
baz=314,SNR=18
832A Faith Ranch, C 57.13 85 P P 01 35 18.7 -0.3
baz=316,SNR=15
Y40A Okolona 57.19 75 P P 01 35 19.0 -0.4
baz=314
733A Divot King Ran 57.24 84 P P 01 35 20.1 +0.3
baz=316,SNR=5.8
T44A Benton 57.25 70 P P 01 35 18.6 -1.2
baz=313,SNR=13
U43A Rector 57.26 71 P P 01 35 19.2 -0.7
baz=314
X41A Kaden, Bauxite 57.31 74 P P 01 35 19.6 -0.6
baz=314,SNR=8.9
H06N1 SOCORRO T-PHAS 57.31 101 T T 02 37 46.3
SNR=3.6
535A Dale 57.37 82 P P 01 35 21.0 +0.3
baz=315
S45A Carrier Mills 57.43 69 P P 01 35 20.3 -0.7
baz=313,SNR=9.1
833A Chaparral WMA, 57.46 85 P P 01 35 21.7 +0.3
baz=316,SNR=9.8
238A Jacksonville 57.48 78 P P 01 35 21.9 +0.5
baz=315
V43A Jonesboro 57.58 72 P P 01 35 21.6 -0.5
baz=314
U44A Portageville 57.59 71 P P 01 35 21.6 -0.6
baz=314
734A La Parita Cree 57.60 84 P P 01 35 23.0 +0.7
baz=316,SNR=6.2
Z40A Long Farm, Mag 57.64 76 P P 01 35 22.9 +0.4
baz=314,SNR=7.9
Y41A Eaglette Beard 57.68 75 P P 01 35 22.9 +0.1
baz=314,SNR=18
635A Leesville 57.70 83 P P 01 35 23.4 +0.3
baz=315,SNR=7.3
SADO Sadowa 57.78 57 *e*P P 01 35 22.7 -0.7
comp=Z,55nm,1.3s
KEV Kevo 57.79 352 PFAKE 01 35 30.0 +6.9
KEV LR LR
comp=Z,383nm,22.0s
XAN Xi'an 57.90 285 P P 01 35 24.7 +0.3
XAN pmax pmax
comp=Z,11nm,1.0s
XAN pmax pmax
comp=Z,94nm,4.9s
U44B Burton Farm, H 57.90 71 P P 01 35 23.9 -0.5
baz=314,SNR=5.9
NATX Nacogdoches 57.92 78 PFAKE 01 35 40.0 +15
NATX LR LR
comp=Z,626nm,19.0s
140A Cam and Jess, 57.96 77 P P 01 35 25.3 +0.4
baz=315
Z41A Richland Creek 57.99 76 P P 01 35 25.3 +0.3
baz=314
933A Laredo 58.05 85 P P 01 35 26.1 +0.6
baz=316,SNR=5.9
636A Smothers Creek 58.07 82 P P 01 35 26.2 +0.6
baz=316
537A Green Hill Far 58.10 81 P P 01 35 26.3 +0.4
baz=315
ARCES ARCESS Array B 58.12 353 P P 01 35 23.9 -1.5
comp=Z,1.3nm,0.6s,baz=27,slow=8.4,SNR=4.3
ARCES ARCESS Array B 58.12 353 P P 01 35 24.0 -1.5
ARCES pmax pmax
comp=Z,1.0nm,0.6s
834A Tilden 58.12 84 P P 01 35 26.5 +0.5
baz=316
Y42A Garnett, Star 58.20 75 P P 01 35 26.1 -0.3
baz=314,SNR=7.1
U45A Rockin P Farm, 58.24 70 P P 01 35 26.4 -0.4
baz=314,SNR=6.5
X43A Marvell 58.26 73 P P 01 35 26.5 -0.5
baz=314,SNR=7.8
WCI Wyandotte Cave 58.36 67 *e*P P 01 35 26.2 -1.4
WCI Wyandotte Cave 58.36 67 *e*P P 01 35 26.2 -1.4
comp=Z,268nm,1.1s
736A Circle Diamond 58.44 82 P P 01 35 29.1 +0.8
baz=316
835A Beeville 58.45 83 P P 01 35 28.7 +0.4
baz=316
Z42A Norrel Spur, H 58.50 75 P P 01 35 28.4 -0.2
baz=315,SNR=7.6
934A Benavides 58.52 85 P P 01 35 29.6 +0.8
baz=316,SNR=7.3
V45A Humboldt 58.55 71 P P 01 35 28.5 -0.4
baz=314
Y43A Makayla and Ka 58.66 74 P P 01 35 29.3 -0.4
baz=314
X44A Crenshaw 58.71 73 P P 01 35 29.5 -0.6
baz=314,SNR=6.9
LVZ Lovozero 58.81 349 *de*P P 01 35 29.6 -0.7
LVZ pmax pmax
comp=Z,43nm,2.5s
LVZ Lovozero 58.81 349 PFAKE 01 35 40.0 +10
LVZ LR LR
comp=Z,343nm,19.0s
W45A Hickory Valley 58.82 72 P P 01 35 30.4 -0.4
baz=314,SNR=13
ACSO Alum Creek Sta 58.84 63 *e*P P 01 35 29.8 -1.0
comp=Z,37nm,1.2s
ACSO LR LR
comp=Z,956nm,21.0s
KVTX Kingsville 58.94 84 PFAKE 01 35 40.0 +8.3
KVTX LR LR
comp=Z,324nm,20.0s
Y44A Strider, Charl 59.05 73 P P 01 35 32.0 -0.4
baz=315
440A Kirbyville 59.06 79 P P 01 35 32.9 +0.4
baz=315
341A Kurthwood 59.13 78 P P 01 35 33.3 +0.4
baz=315
OXF Oxford 59.14 72 *e*P P 01 35 32.2 -0.8
OXF pmax pmax
comp=Z,221nm,1.1s
OXF Oxford 59.14 72 *e*P P 01 35 32.2 -0.8
comp=Z,221nm,1.1s
X45A UM Field Stati 59.21 72 P P 01 35 33.0 -0.5
baz=315,SNR=8.0
143A Socs Landing, 59.22 75 P P 01 35 33.9 +0.3
baz=315
242A Grayson 59.22 76 P P 01 35 33.8 +0.2
baz=315
035A Encino 59.25 85 P P 01 35 33.9 0.0
baz=316
Z44A Pea Ridge, Bel 59.40 74 P P 01 35 34.8 0.0
baz=315
GTA Gaotai 59.43 296 *e*P P 01 35 34.7 -0.4
GTA pP pP 01 35 50.2 +1.4
GTA S S 01 43 39.4 -1.1
GTA pmax pmax
comp=Z,5.0nm,1.4s
GTA pmax pmax
comp=Z,190nm,5.7s
GTA LR LR
comp=Z,240nm,20.2s
GTA LR LR
comp=Z,260nm,18.1s
GTA LR LR
comp=Z,450nm,17.3s
Y45A Yeager Farm, C 59.51 73 P P 01 35 35.3 -0.3
baz=315,SNR=11
342A Flagon Creek P 59.61 77 P P 01 35 36.6 +0.3
baz=315
035Z Hargill 59.62 85 P P 01 35 37.1 +0.7
baz=317
243A Waterproof 59.75 76 P P 01 35 37.5 +0.2
baz=315
M54A Oil Creek Stat 59.76 60 P P 01 35 36.8 -0.4
baz=314,SNR=8.5
Z45A Winona 59.77 73 P P 01 35 37.1 -0.3
baz=315
144A Alexander Plac 59.86 75 P P 01 35 38.0 +0.1
baz=315
Y46A Houston 59.90 73 P P 01 35 37.8 -0.5
baz=315,SNR=24
N54A Moraine State 59.97 61 P P 01 35 38.3 -0.4
baz=314,SNR=11
VBMS Vicksburg 60.09 75 P P 01 35 39.9 +0.3
baz=315
244A Avery, Jackson 60.12 75 P P 01 35 39.4 -0.3
baz=315,SNR=9.9
145A Houston Renfro 60.17 74 P P 01 35 39.8 -0.3
baz=315,SNR=5.4
ENH Enshi 60.21 282 PFAKE 01 35 50.0 +10
ENH LR LR
comp=Z,316nm,21.0s
LMQ La Malbaie 60.22 50 *e*P P 01 35 39.0 -1.2
LONY Lake Ozonia 60.22 55 *e*P P 01 35 39.0 -1.4
comp=Z,26nm,1.2s
LONY LR LR
comp=Z,521nm,20.0s
Z46A Louisville 60.34 73 P P 01 35 41.3 +0.1
baz=315,SNR=5.7
Y47A UCPARC, Winfie 60.48 72 P P 01 35 41.4 -0.8
baz=315,SNR=29
344A Westbrook Farm 60.51 76 P P 01 35 42.7 +0.3
baz=316
245A Little AP, Sta 60.59 75 P P 01 35 43.2 +0.2
baz=316,SNR=8.4
146A Union 60.66 74 P P 01 35 43.2 -0.3
baz=315,SNR=11
FUNA Funafuti 60.82 190 PFAKE 01 36 00.0 +15
FUNA LR LR
comp=Z,4μm,19.0s
Z47A Carrollton 60.85 73 P P 01 35 44.0 -0.7
baz=315,SNR=14
Z48A Northport 61.03 72 P P 01 35 44.9 -1.1
baz=315,SNR=23
TZTN Tazewell 61.10 67 *e*P P 01 35 46.0 -0.5
comp=Z,48nm,1.3s
147A Livingston 61.10 73 P P 01 35 45.9 -0.6
baz=316,SNR=9.7
BINY Binghamton 61.22 58 *e*P P 01 35 46.9 -0.3
comp=Z,69nm,1.3s
BINY LR LR
comp=Z,1μm,21.0s
O56A Blue Knob Stat 61.23 61 P P 01 35 46.7 -0.6
baz=315,SNR=11
346A Big Creek Wild 61.31 75 P P 01 35 48.3 +0.5
baz=316
BORG Borgarnes 61.32 14 PFAKE 01 36 00.0 +13
BORG LR LR
comp=Z,1μm,19.0s
SSPA Standing Stone 61.33 60 *e*P P 01 35 47.4 -0.5
comp=Z,225nm,1.3s
247A Quitman 61.34 74 P P 01 35 48.3 +0.2
baz=316,SNR=5.3
LRAL Lakeview Retre 61.60 72 *e*P P 01 35 48.3 -1.5
comp=Z,18nm,0.8s
KURK Kurchatov 61.73 317⇑ *e*P P 01 35 49.9 -0.5
KURK pmax pmax
comp=Z,35nm,0.8s
KURK Kurchatov 61.73 317 *e*P P 01 35 49.8 -0.7
comp=Z,68nm,0.8s
KURK LR LR
comp=Z,1μm,21.0s
248A Dixon Mills 61.83 73 P P 01 35 50.9 -0.5
baz=316,SNR=9.9
KURBB Kurchatov Arra 61.84 317 P P 01 35 50.9 -0.3
comp=Z,9.7nm,0.2s,baz=42,slow=7.1,SNR=31
347A Saraland 61.85 74 P P 01 35 51.3 -0.3
baz=316
PQI Presque Isle 61.95 49 *e*P P 01 35 50.7 -1.2
comp=Z,69nm,1.2s
N59A State Game Lan 62.25 58 P P 01 35 54.2 0.0
baz=315,SNR=5.9
PKME Peaks-Kenny Pk 62.37 51 *e*P P 01 35 54.4 -0.4
comp=Z,45nm,1.1s
PKME LR LR
comp=Z,930nm,22.0s
BLA Blacksburg 62.39 64 *e*P P 01 35 54.8 -0.3
BLA pmax pmax
comp=Z,111nm,1.1s
BLA MLR MLR
comp=Z,653nm,20.0s
BLA Blacksburg 62.39 64 *e*P P 01 35 54.8 -0.3
comp=Z,111nm,1.1s
BLA LR LR
comp=Z,653nm,20.0s
WMQ Urumqi 62.67 307 *e*P P 01 35 59.2 +2.2
WMQ pmax pmax
comp=Z,5.0nm,1.3s
WMQ pmax pmax
comp=Z,100nm,5.5s
WMQ LR LR
comp=Z,150nm,15.7s
WMQ LR LR
comp=Z,230nm,20.3s
WMQ LR LR
comp=Z,470nm,31.3s
BRAL Brewton 62.90 73 PFAKE 01 36 10.0 +11
BRAL LR LR
comp=Z,818nm,21.0s
QUA2 Belchertown 63.03 55 *e*P P 01 35 58.5 -0.8
comp=Z,36nm,1.2s
CD2 Chengdu 63.18 286 P P 01 36 01.1 +0.6
CD2 pP pP 01 36 13.2 -1.1
CD2 pmax pmax
comp=Z,20nm,1.2s
BVAR Borovoye Array 63.19 323 P P 01 35 59.4 -0.8
comp=Z,5.7nm,0.6s,baz=47,slow=6.4,SNR=20
BRVK Borovoye 63.21 323 *ce*P P 01 36 00.0 -0.3
BRVK pmax pmax
comp=Z,30nm,1.7s
BRVK Borovoye 63.21 323 *e*P P 01 35 59.8 -0.5
comp=Z,21nm,1.0s
BRVK LR LR
comp=Z,578nm,20.0s
CBN Corbin Frederi 63.35 62 *e*P P 01 36 01.4 0.0
comp=Z,61nm,1.1s
CBN LR LR
comp=Z,1μm,20.0s
SVE Sverdlovsk 63.36 331 *e*P P 01 35 59.3 -1.9
KMSC Kings Mountain 63.36 66 P P 01 36 01.1 -0.4
baz=316,SNR=25
KMSC Kings Mountain 63.36 66 *e*P P 01 36 01.0 -0.5
comp=Z,119nm,1.2s
GOGA Godfrey 63.39 69 *e*P P 01 36 00.3 -1.4
GOGA pmax pmax
comp=Z,77nm,1.1s
GOGA MLR MLR
comp=Z,662nm,21.0s
GOGA Godfrey 63.39 69 *e*P P 01 36 00.3 -1.4
comp=Z,77nm,1.1s
GOGA LR LR
comp=Z,662nm,21.0s
WES Weston 63.48 55 *e*P P 01 36 01.9 -0.3
WES pmax pmax
comp=Z,85nm,1.2s
WES Weston 63.48 55 *e*P P 01 36 01.9 -0.3
comp=Z,84nm,1.2s

BRYW Bryant College 63.71 55 *e*P **P 01 36 03.2 -0.6**
comp=Z,39nm,1.0s
ARU Arti 64.31 332 P **P 01 36 05.7 -1.7**
comp=Z,3.8nm,0.6s,baz=24,slow=4.6,SNR=6.1
ARU Arti 64.31 332 *d i*P **P 01 36 06.7 -0.7**
ARU *PP **pP 01 36 20.3 -0.9**
ARU 01 36 42.7
ARU 01 38 27.0
ARU S **S 01 44 41.9 +0.6**
ARU SS **SS 01 48 53.9 +3.3**
ARU pmax pmax
comp=Z,4.0nm,0.8s
ARU Arti 64.31 332 *e*P **P 01 36 05.8 -1.6**
comp=Z,5.9nm,0.8s
ARU LR LR
comp=Z,406nm,20.0s
GYA Guiyang 64.68 281 P **P 01 36 12.0 +1.5**
GYA PcP **PcP 01 36 46.8 +2.9**
GYA PP **PP 01 38 37.2 +4.3**
GYA S **S 01 44 46.5 -0.5**
GYA SKS **SKSac 01 45 59.0 -1.9**
GYA pmax pmax
comp=Z,20nm,0.8s
GYA pmax pmax
comp=Z,120nm,5.8s
KLMR Klimovskoe 64.76 344 *e*P **P 01 36 08.2 -2.1**
KLMR pmax pmax
comp=Z,9.0nm,1.3s
CNNC Cliffs of the 65.22 64 *e*P **P 01 36 13.9 +0.2**
comp=Z,18nm,0.4s
CNNC LR LR
comp=Z,653nm,20.0s
NHSC New Hope 65.50 67 *e*P **P 01 36 15.4 -0.1**
comp=Z,237nm,1.2s
NHSC LR LR
comp=Z,499nm,21.0s
FINES FINESS Array B 66.02 351 P **P 01 36 16.9 -1.6**
comp=Z,2.4nm,0.8s,baz=37,slow=9.8,SNR=7.1
TAOE Nuku Hiva Isla 66.36 146 *e*LR LR 01 56 20.2
comp=Z,338nm,21.9s
TAOE Nuku Hiva Isla 66.36 146 *e*T T 02 48 43.0
comp=Z,167nm,0.3s
PDGK Podgornoye 66.98 311 P **P 01 36 25.0 0.0**
PDGK pmax pmax
comp=Z,9.0nm,1.0s
NB2 NORSAR Subarra 67.28 359 P **P 01 36 25.7 -0.8**
comp=Z,1.5nm,0.8s,baz=2.6,slow=6.5
NOA NORSAR Array B 67.28 359 P **P 01 36 25.1 -1.4**
comp=Z,1.0nm,0.7s,baz=2.1,slow=6.5,SNR=3.5
KMI Kunming 68.04 283 P **P 01 36 33.6 +1.5**
KMI PP **PP 01 39 06.9 +4.6**
KMI S **S 01 45 28.7 +0.7**
KMI pmax pmax
comp=Z,10.0nm,0.9s
KMI LR LR
comp=Z,260nm,14.8s
KMI LR LR
comp=Z,240nm,12.8s
QIZ Qiongzhong 68.26 273 PFAKE 01 36 40.0 +6.8
QIZ LR LR
comp=Z,220nm,19.0s
KONO Kongsberg 68.69 359 PFAKE 01 36 50.0 +15
KONO LR LR
comp=Z,692nm,22.0s
FRU Bishkek 69.58 314 *e*P **P 01 36 42.0 +0.8**
FRU pmax pmax
comp=Z,22nm,1.7s
AAK Ala-Archa 69.79 314 *de*P **P 01 36 42.9 +0.2**
AAK pmax pmax
comp=Z,23nm,0.9s
AAK Ala-Archa 69.79 314 *e*P **P 01 36 42.4 -0.3**
comp=Z,11nm,0.9s
AAK LR LR
comp=Z,397nm,21.0s
ABKAR Akbulak array 70.01 327 *e*P **P 01 36 43.4 -0.2**
SLVN Son La 70.17 279 *e*P **P 01 36 45.5 +0.3**
comp=Z,7.5nm,0.9s
PMG Port Moresby 70.69 224 PFAKE 01 37 00.0 +12
PMG LR LR
comp=Z,276nm,19.0s
OBN Obninsk 70.71 343 PFAKE 01 37 00.0 +12
OBN LR LR
comp=Z,517nm,21.0s
KKAR Karatay Array 71.14 317 *e*P **P 01 36 50.1 -0.6**
KKAR pmax pmax
comp=Z,7.0nm,1.0s
KKAR Karatay Array 71.14 317 *e*P **P 01 36 50.1 -0.6**
comp=Z,6.5nm,1.0s
LSA Lhasa 71.38 294 *e*P **P 01 36 53.9 +1.0**
LSA pmax pmax
comp=Z,11nm,0.7s
LSA MLR MLR
comp=Z,297nm,20.0s
LSA Lhasa 71.38 294 *e*P **P 01 36 53.9 +1.0**
comp=Z,11nm,0.7s
LSA LR LR
comp=Z,297nm,20.0s
KSH Kashi 71.60 311 *e*P **P 01 36 57.2 +3.5**
KSH *epP PcP 01 37 11.0 -1.8
KSH *ePP **PP 01 39 37.4 +4.9**
KSH S **S 01 46 09.7 +0.4**
KSH ScS **ScS 01 46 54.3 -0.5**
KSH SS **SS 01 50 47.6 +3.3**
KSH pmax pmax
comp=Z,19nm,1.2s
KSH pmax pmax
comp=Z,56nm,4.3s
KSH LR LR
comp=Z,85nm,6.0s
KSH LR LR
comp=Z,140nm,6.0s
KSH LR LR
comp=Z,220nm,10.8s
PPT Papeete 71.89 158 LR LR 02 01 04.1
comp=Z,241nm,19.7s,baz=3.5,slow=30
PPT2 Papeete2 71.91 158 *e*LR LR 01 58 59.3
comp=Z,345nm,22.2s
TIAR Tiarei 71.93 158 *e*T T 02 55 38.2
comp=Z,1.9nm,0.2s
ESK Eskdalemuir 72.60 7 PFAKE 01 37 10.0 +11
ESK LR LR
comp=Z,637nm,19.0s
BBSR BB Station 74.51 57 PFAKE 01 37 20.0 +9.2
BBSR LR LR
comp=Z,336nm,20.0s
CHTO Chiang Mai 75.09 281 *e*P **P 01 37 14.3 -0.1**
CHTO pmax pmax
comp=Z,4.0nm,0.4s
CHTO MLR MLR
comp=Z,204nm,20.0s
CHTO Chiang Mai 75.09 281 *e*P **P 01 37 14.3 -0.1**
comp=Z,4.1nm,0.4s
CHTO LR LR
comp=Z,204nm,20.0s
CMAR Chiang Mai Arr 75.37 281 P **P 01 37 16.2 +0.3**
comp=Z,11nm,0.8s,baz=28,slow=6.6,SNR=23
CMAR LR LR 02 11 36.9
comp=Z,50nm,20.3s,baz=145,slow=37
GUN Gumba 75.69 297 *e*P **P 01 37 17.9 -0.2**
comp=Z,22nm,0.5s
JIRN Jiri 75.71 297 *e*P **P 01 37 18.4 +0.1**
comp=Z,195nm,0.7s
RAMN Ramite 76.04 296 *e*P **P 01 37 20.0 0.0**
comp=Z,32nm,0.6s
AKASG Malin Array Be 76.16 347 P **P 01 37 17.4 -2.5**
comp=Z,1.2nm,0.5s,baz=11,slow=5.1,SNR=5.4
KIEV Kiev 76.17 347 *e*P **P 01 37 18.6 -1.4**
KIEV pmax pmax
comp=Z,6.0nm,1.4s
KIEV Kiev 76.17 347 PFAKE 01 37 30.0 +10
KIEV LR LR
comp=Z,546nm,21.0s
GKN Gorkha 76.30 298 *e*P **P 01 37 21.2 -0.1**
comp=Z,29nm,0.8s
DMN Daman 76.35 297 *e*P **P 01 37 21.8 0.0**
CLL Collm 76.98 357 *i*P **P 01 37 24.0 -0.6**
CLL Collm 76.98 357 *i*P **P 01 37 24.0 -0.6**
PYUN Piuthan 77.12 299 *e*P **P 01 37 26.0 0.0**
BRG Berggiesshubel 77.38 356 *e*P **P 01 37 26.5 -0.4**
comp=Z,8.1nm,1.2s
BRG *e* 01 40 37.0
BRG *e* 01 42 09.0
comp=N,1μm,25.5s
comp=E,677nm,28.5s
comp=Z,1μm,27.6s
BRG Berggiesshubel 77.38 356 *e*P **P 01 37 26.5 -0.4**
BRG *e* 01 42 09.0
BRG pmax pmax
comp=Z,8.0nm,1.2s
BRG MLR MLR
comp=N,1μm,25.5s
BRG MLR MLR
comp=E,677nm,28.5s
BRG MLR MLR
comp=Z,1μm,27.6s
TBI Tubuai 77.50 159 *e*LR LR 02 01 23.0
comp=Z,213nm,25.2s
TBI Tubuai 77.50 159 *e*T T 03 02 34.6
comp=Z,6.1nm,0.3s
UPC Upice 77.65 355 *e*P **P 01 37 28.3 -0.1**
UPC Upice 77.65 355 *e*P **P 01 37 28.3 -0.1**
MOX Moxa 77.68 358 P **P 01 37 29.4 +0.8**
MOX pmax pmax
comp=Z,5.0nm,2.5s
PVCC Panska Ves 77.70 356 *e*P **P 01 37 28.7 0.0**
PVCC Panska Ves 77.70 356 *e*P **P 01 37 28.7 0.0**
MEM Membach 77.73 2 P **P 01 37 28.9 +0.1**
DPC Dobruska-Polom 77.79 355 *e*P **P 01 37 28.9 -0.3**
DPC Dobruska-Polom 77.79 355 *e*P **P 01 37 28.9 -0.3**
KRLC Kraliky 78.04 355 *e*P **P 01 37 29.9 -0.7**
KRLC Kraliky 78.04 355 *e*P **P 01 37 29.9 -0.7**
NKC Novy Kostel 78.07 357 *e*P **P 01 37 30.1 -0.7**
NKC Novy Kostel 78.07 357 ‖ *e*P **P 01 37 30.1 -0.7**
OKC Ostrava-Krasne 78.19 354 *e*P **P 01 37 31.5 +0.1**
OKC Ostrava-Krasne 78.19 354 *e*P **P 01 37 31.5 +0.1**
GIVF Givet 78.22 2 *e*P **P 01 37 31.2 -0.3**
GIVF pmax pmax
comp=Z,11nm,1.1s
BAIF Baives 78.24 3 *e*P **P 01 37 30.5 -1.1**
BAIF pmax pmax
comp=Z,5.0nm,1.0s
MTDJ Mount Denham 78.28 76 PFAKE 01 37 40.0 +7.5
MTDJ LR LR
comp=Z,291nm,20.0s
MORC Moravsky Berou 78.29 354 *e*P **P 01 37 31.8 -0.2**
MORC pmax pmax
comp=Z,12nm,0.9s
MORC Moravsky Berou 78.29 354 *e*P **P 01 37 31.8 -0.2**
comp=Z,12nm,0.9s
GOPC GO Pecny, Ondr 78.31 356 *e*P **P 01 37 32.2 +0.1**
GOPC GO Pecny, Ondr 78.31 356 *e*P **P 01 37 32.2 +0.1**
STHS Stebnicka Huta 78.36 351 *e*P **P 01 37 31.9 -0.5**
STHS pmax pmax
comp=Z,3.0nm,1.2s
STHS Stebnicka Huta 78.36 351 *e*P **P 01 37 31.9 -0.5**
GTBY Guantanamo Bay 78.41 73 PFAKE 01 37 40.0 +7.0
GTBY LR LR
comp=Z,345nm,21.0s
WLF Walferdange 78.68 2 PFAKE 01 37 40.0 +5.9
WLF LR LR
comp=Z,251nm,21.0s
LANS Liptovska Anna 78.78 353 *e*P **P 01 37 33.9 -0.8**
LANS Liptovska Anna 78.78 353 *e*P **P 01 37 33.8 -0.9**
CRVS Cervenica-Dubn 78.85 351 *e*P **P 01 37 35.1 0.0**
CRVS Cervenica-Dubn 78.85 351 *e*P **P 01 37 35.1 0.0**
KHC Kasperske Hory 79.14 357 *e*P **P 01 37 36.6 -0.1**
KHC Kasperske Hory 79.14 357 *e*P **P 01 37 36.6 -0.1**
FLN La Foliniere 79.31 6 *e*P **P 01 37 35.0 -2.6**
FLN pmax pmax
comp=Z,22nm,1.4s
GERES GERESS Array B 79.42 356 P **P 01 37 37.2 -1.0**
comp=Z,0.8nm,0.8s,baz=22,slow=4.3,SNR=8.0
VYHS Vyhne 79.48 353 *e*P **P 01 37 38.2 -0.3**
VYHS pmax pmax
comp=Z,6.0nm,2.0s
VYHS Vyhne 79.48 353 *e*P **P 01 37 38.2 -0.3**
GRTK Grand Turk 79.49 69 PFAKE 01 37 50.0 +11
GRTK LR LR
comp=Z,390nm,22.0s
LDF La Druitiere 79.51 6 *e*P **P 01 37 40.4 +1.8**
LDF pmax pmax
comp=Z,5.0nm,0.8s
STU Stuttgart 79.59 359 *e*P **P 01 37 38.6 -0.5**
STU pmax pmax
comp=Z,10.0nm,0.6s
STU Stuttgart 79.59 359 *e*P **P 01 37 38.6 -0.5**
comp=Z,9.6nm,0.6s
GRR Gorron 79.66 6 *e*P **P 01 37 37.9 -1.5**
GRR pmax pmax
comp=Z,19nm,1.3s
KVAR Kislovodsk Arr 79.93 336 P **P 01 37 38.6 -2.5**
comp=Z,2.0nm,0.4s,baz=347,slow=14,SNR=3.1
KIV Kislovodsk 79.93 336 ‖ *e*P **P 01 37 41.3 +0.2**
KIV *e* 01 37 49.4
KIV *e*PP **pP 01 37 53.6 -1.7**
KIV pmax pmax
comp=Z,7.0nm,1.2s
KIV MLR MLR
comp=Z,435nm,22.0s
KIV Kislovodsk 79.93 336 PFAKE 01 37 50.0 +8.9
KIV LR LR
comp=Z,530nm,22.0s
CDF Champ du Feu 79.95 1 *e*P **P 01 37 40.1 -1.0**
CDF pmax pmax
comp=Z,12nm,1.6s
PSZ Piszkesteto 79.97 352 PFAKE 01 37 50.0 +8.8
PSZ LR LR
comp=Z,798nm,22.0s
BFO Black Forest 80.04 0 PFAKE 01 37 50.0 +8.5
BFO LR LR
comp=Z,439nm,22.0s
KBZ Khabaz 80.09 335 P **P 01 37 40.3 -1.5**
comp=Z,1.9nm,0.8s,baz=65,slow=2.9,SNR=5.1
CONA Conrad Observa 80.23 355 *e*P **P 01 37 42.5 -0.2**
comp=Z,3.8nm,0.9s
ANN Anapa 80.37 340 *e*P P 01 37 32.6 -11
ANN *e*PP **PcP 01 37 47.2 -3.1**
ANN pmax pmax
comp=Z,33nm,0.9s
ANN MLR MLR
comp=N,1μm,21.0s
ANN MLR MLR
comp=Z,741nm,21.0s
ANN MLR MLR
comp=E,236nm,21.0s
MOA Molln 80.39 356 *e*P **P 01 37 44.3 +0.8**
comp=E,1.7nm,0.8s
GEYT Alibeck 80.50 322 P **P 01 37 42.7 -1.5**
comp=E,2.7nm,0.9s,baz=288,slow=0.9,SNR=6.1
GEYT LR LR 02 17 13.1
comp=E,238nm,19.2s,baz=65,slow=38
RETA Reutte 80.86 358 *i*P **P 01 37 45.7 -0.3**
comp=E,3.9nm,1.0s
ARSA Arzberg 80.93 355 *e*P **P 01 37 46.7 +0.4**
comp=E,5.0nm,1.4s
WATA Walderalm 80.99 358 *i*P **P 01 37 47.4 +0.6**
comp=E,10nm,1.2s
MOTA Moosalm 81.00 358 *e*P **P 01 37 46.5 -0.3**
comp=E,11nm,1.3s
KAPI Kappang 81.05 250 PFAKE 01 38 00.0 +13
KAPI LR LR
comp=Z,196nm,19.0s
WTTA Wattenberg 81.06 358 *i*P **P 01 37 47.4 +0.2**
comp=Z,6.4nm,1.1s
KBA Koelnbreinsper 81.20 357 *i*P **P 01 37 48.5 +0.5**
comp=Z,9.2nm,0.9s
FETA Feichten 81.33 358 *e*P **P 01 37 48.8 +0.2**
comp=Z,7.2nm,1.0s
SDDR Presa de Saban 81.39 70 *e*P **P 01 37 49.3 +0.1**
comp=Z,9.2nm,0.2s
SDDR LR LR
comp=Z,344nm,21.0s
AVF Avril sur Loir 81.48 4 *e*P **P 01 37 48.8 -0.4**
AVF pmax pmax
comp=Z,7.0nm,1.1s
SOKA Soboth 81.53 355 *i*P **P 01 37 49.6 0.0**
comp=Z,11nm,1.3s
KSM Kuching 81.53 262 PFAKE 01 38 00.0 +10
KSM LR LR
comp=Z,147nm,20.0s
ABTA Abfaltersbach 81.56 357 *e*P **P 01 37 49.5 -0.3**
comp=Z,8.4nm,1.4s
CABF La Chapelle 81.73 2 *e*P **P 01 37 50.9 +0.2**
CABF pmax pmax
comp=Z,11nm,1.2s
TUE Stuetta 81.89 359 PFAKE 01 38 00.0 +8.3
TUE LR LR
comp=Z,576nm,22.0s
GNI Garni 82.93 333 LR LR 02 21 13.3
comp=Z,155nm,18.6s,baz=30,slow=40
SSB Saint Sauveur 83.03 3 PFAKE 01 38 10.0 +13
SSB LR LR
comp=Z,508nm,20.0s
CAF Calviac 83.28 5 *e*P **P 01 37 58.8 +0.1**
CAF pmax pmax
comp=Z,13nm,1.4s
BNI Bardonecchia 83.30 1 *e*P **P 01 37 59.5 +0.6**
BNI pmax pmax
comp=Z,8.0nm,1.2s
BNI MLR MLR
comp=Z,308nm,21.0s
BNI Bardonecchia 83.30 1 *e*P **P 01 37 59.5 +0.6**
comp=Z,8.2nm,1.2s
BNI LR LR
comp=Z,308nm,21.0s
MBDF Montbardon 83.63 1 *e*P **P 01 38 00.4 -0.2**
MBDF pmax pmax
comp=Z,15nm,1.3s
VLC Villacollemand 84.19 359 PFAKE 01 38 10.0 +6.6
VLC LR LR
comp=Z,404nm,20.0s
SBF Sospel 84.50 1 *e*P **P 01 38 04.9 -0.1**
SBF pmax pmax
comp=Z,31nm,1.1s
KULM Kulim 84.50 272 *e*P **P 01 38 05.0 -0.3**
comp=Z,14nm,0.9s
KULM LR LR
comp=Z,216nm,19.0s
SJG San Juan 85.03 67 *e*P **P 01 38 08.0 +0.1**
SJG pmax pmax
comp=Z,24nm,1.1s
SJG MLR MLR
comp=Z,212nm,21.0s
SJG San Juan 85.03 67 *e*P **P 01 38 08.0 +0.1**
comp=Z,24nm,1.1s
SJG LR LR
comp=Z,212nm,21.0s
ETSF Etsaut 85.15 7 *e*P **P 01 38 11.1 +2.8**
ETSF pmax pmax
comp=Z,10.0nm,1.1s
WRAB Tennant Creek 85.72 230 *e*P **P 01 38 10.2 -0.9**
WRAB pmax pmax
comp=Z,19nm,1.3s
WRAB Tennant Creek 85.72 230 *e*P **P 01 38 10.2 -0.9**
comp=Z,19nm,1.3s
WRA Warramunga Arr 85.73 230 P **P 01 38 10.3 -0.9**
comp=Z,7.1nm,1.1s,baz=35,slow=5.4,SNR=25
CMLA Cha da Macela 85.81 26 PFAKE 01 38 20.0 +8.4
CMLA LR LR
comp=Z,668nm,19.0s
PGF Pioggiola 85.82 360 *e*P **P 01 38 11.4 -0.2**
PGF pmax pmax
comp=Z,50nm,1.5s
AQU L'Aquila 85.91 356 *e*P **P 01 38 13.8 +1.8**
AQU pmax pmax
comp=Z,6.0nm,0.8s
AQU MLR MLR
comp=Z,160nm,20.0s
AQU L'Aquila 85.91 356 *e*P **P 01 38 13.8 +1.8**
comp=Z,6.1nm,0.8s
AQU LR LR
comp=Z,160nm,20.0s
BRTR Keskin Array B 86.03 341 P **P 01 38 11.7 -1.2**
comp=Z,1.0nm,0.8s,baz=34,slow=3.0,SNR=4.6
BRTR Keskin Array B 86.03 341 *ce*P **P 01 38 12.6 -0.2**
BRTR pmax pmax
comp=Z,1.0nm,0.9s
ANTO Ankara 86.07 341 PFAKE 01 38 20.0 +7.1
ANTO LR LR
comp=Z,210nm,19.0s
TIR Tirane 86.49 351 PFAKE 01 38 30.0 +15
TIR LR LR
comp=Z,921nm,22.0s
MTE Manteigas 86.92 12 PFAKE 01 38 30.0 +13
MTE LR LR
comp=Z,321nm,21.0s
PSI Prapat 87.51 271 P **P 01 38 20.4 +0.1**
comp=Z,39nm,0.9s,baz=317,slow=2.9
ESDC Sonseca Array 88.05 10 P **P 01 38 21.2 -1.2**
comp=Z,3.1nm,0.9s,baz=350,slow=4.9,SNR=14
PAB San Pablo 88.14 10 PFAKE 01 38 30.0 +7.1
PAB LR LR
comp=Z,185nm,19.0s
CUC Castrocucco 88.14 354 PFAKE 01 38 30.0 +7.1
CUC LR LR
comp=Z,267nm,22.0s
VSL Villasalto 88.86 359 PFAKE 01 38 40.0 +14
VSL LR LR
comp=Z,466nm,22.0s
TIP Timpagrande 88.89 354 PFAKE 01 38 40.0 +14
TIP LR LR
comp=Z,559nm,22.0s
ASAR Alice Springs 89.14 228 P **P 01 38 27.6 +0.1**
comp=Z,18nm,0.8s,baz=34,slow=4.7,SNR=128
SDV Santo Domingo 89.73 76 PFAKE 01 38 40.0 +9.1
SDV LR LR
comp=Z,274nm,20.0s
CEL Celeste 89.87 354 PFAKE 01 38 40.0 +9.0
CEL LR LR
comp=Z,312nm,22.0s
FDF Fort de France 90.57 65 PFAKE 01 38 40.0 +5.4
FDF LR LR
comp=Z,301nm,21.0s
CLTB Caltabellotta 90.68 356 PFAKE 01 38 50.0 +15
CLTB LR LR
comp=Z,146nm,19.0s
CSS Mathiatis 90.69 340 PFAKE 01 38 50.0 +15
CSS LR LR
comp=Z,72nm,20.0s
SANT Santorini 90.73 346 PFAKE 01 38 50.0 +15
SANT LR LR
comp=Z,257nm,21.0s
WDD Wied Dalam 92.36 355 PFAKE 01 38 50.0 +7.5
WDD LR LR
comp=Z,313nm,22.0s
GRGR Grenville 92.39 67 PFAKE 01 38 50.0 +7.0
GRGR LR LR
comp=Z,262nm,22.0s
STKA Stephens Creek 93.06 218 P **P 01 38 45.6 +0.1**
comp=Z,2.0nm,0.3s,baz=5.8,slow=10,SNR=4.5
STKA LR LR 02 15 02.1
comp=Z,153nm,21.9s,baz=28,slow=32
RTC Rabat Centre 93.32 13 PFAKE 01 39 00.0 +13
RTC LR LR
comp=Z,2μm,21.0s
TAM Tamanrasset 105.48 3 PFAKE 01 44 10.0
TAM LR LR
comp=Z,515nm,20.0s
SACV Santiago Islan 107.73 33 PFAKE 01 44 10.0
SACV LR LR
comp=Z,295nm,21.0s
SAML Samuel 108.31 81 PFAKE 01 44 10.0
SAML LR LR
comp=Z,349nm,20.0s
TORD Torodi Ar. Bea 114.85 7 PKP PKPdf 01 44 11.1 -1.8
comp=Z,0.7nm,0.6s,baz=338,slow=2.2,SNR=11
TORD PKKPbc **PKKPbc 01 54 46.9 -0.7**
comp=Z,0.4nm,0.5s,baz=352,slow=4.3,SNR=8.1
RCBR Riachuelo 121.27 54 PFAKE 01 44 40.0 +15
RCBR LR LR
comp=Z,463nm,22.0s
KMBO Kilima Mbogo 123.83 325 PFAKE 01 44 40.0 +9.5
KMBO LR LR
comp=Z,231nm,21.0s
CPUP Villa Florida 125.07 89 PKP **PKPdf 01 44 31.2 -0.9**
comp=Z,3.0nm,0.8s,baz=308,slow=4.6,SNR=3.4
PLCA Paso Flores 126.92 111 PKP **PKPdf 01 44 34.5 -0.8**
comp=Z,6.6nm,0.9s,baz=16,slow=2.8,SNR=6.9
SBA Scott Base 130.29 186 PFAKE 01 44 50.0 +9.5
SBA LR LR
comp=Z,303nm,19.0s
VNDA Vanda 130.32 187 PKP **PKPdf 01 44 39.9 -0.7**
comp=Z,0.7nm,0.9s,baz=323,slow=5.8,SNR=3.5
TSUM Tsumeb 146.48 344 *e*PKPbc **PKPbc 01 45 13.5 +0.1**
TSUM LR LR
comp=Z,439nm,19.0s
MAW Mawson 149.75 218 PKPbc **PKPbc 01 45 19.7 -0.7**
comp=Z,18nm,1.0s,baz=73,slow=2.9,SNR=20
BOSA Boshof 153.47 325 PKPbc **PKPbc 01 45 29.9 -0.5**
comp=Z,9.5nm,1.0s,baz=0.1,slow=1.6,SNR=9.2

WEL 03 01:29:06.0±0.4, 36°.89S×179°.48E, h33km, ML3.8/12, 1C,
Error ellipse: s-maj=3.7km s-min=3.2km az=90.0, Off
east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WMGZ	**Waiomatatini S**	**1.26**	**222**	PN	Pn	01 29 26.8	-0.4
WMGZ				SN	Sn	01 29 41.9	-1.1
WMGZ				AML	AML	01 29 47.3	
PKGZ	**Pakihiroa**	**1.50**	**228**	⇑PN	Pn	01 29 30.1	-0.4
PKGZ				SN	Sn	01 29 46.9	-2.1
PUZ	**Puketiti**	**1.53**	**219**	PN	Pn	01 29 30.3	-0.7
PUZ				AML	AML	01 29 54.3	
PUZ				AML	AML	01 29 54.9	
HAZ	**Te Kaha**	**1.60**	**237**	PN	Pn	01 29 29.6	-2.3
HAZ				SN	Sn	01 29 50.9	-0.6
HAZ				AML	AML	01 29 54.4	
HAZ				AML	AML	01 29 54.4	
TWGZ	**Tauwhareparae**	**1.75**	**222**	PN	Pn	01 29 33.6	-0.4
TWGZ				AML	AML	01 29 59.7	
TWGZ				AML	AML	01 29 59.9	
RUGZ	**Raukumara Rang**	**1.79**	**233**	PN	Pn	01 29 34.3	-0.4
CNGZ	**Carnagh Statio**	**1.88**	**212**	PN	Pn	01 29 35.1	-0.7
TKGZ	**Te Karaka**	**2.02**	**219**	AML	AML	01 30 08.4	
TKGZ				AML	AML	01 30 17.0	
MWZ	**Matawai**	**2.12**	**226**	PN	Pn	01 29 38.6	-0.4
MWZ				AML	AML	01 30 08.4	
MWZ				AML	AML	01 30 09.0	
WHRZ	**Whale Island**	**2.21**	**243**	PN	Pn	01 29 39.9	-0.5
RIGZ	**Rimuhau**	**2.27**	**216**	PN	Pn	01 29 41.1	0.0
RIGZ				AML	AML	01 30 23.0	
RIGZ				AML	AML	01 30 27.5	
RAGZ	**Rawiri**	**2.29**	**225**	PN	Pn	01 29 40.9	-0.6
RAGZ				AML	AML	01 30 14.4	
RAGZ				AML	AML	01 30 26.8	
URZ	**Urewera**	**2.33**	**233**	PN	Pn	01 29 41.3	-0.6
URZ				SN	Sn	01 30 06.1	-3.2
URZ				AML	AML	01 30 10.3	
PRGZ	**Paritu Road**	**2.39**	**211**	PN	Pn	01 29 42.0	-0.8
MARZ	**Manawahe**	**2.48**	**243**	PN	Pn	01 29 43.2	-0.9
EDRZ	**Edgecumbe**	**2.49**	**240**	PN	Pn	01 29 43.4	-0.8
EDRZ				AML	AML	01 30 22.7	
OPRZ	**Ohinepanea**	**2.52**	**247**	PN	Pn	01 29 43.2	-1.3
SNGZ	**Shannon Statio**	**2.54**	**221**	AML	AML	01 30 16.6	
SNGZ				AML	AML	01 30 20.1	
KNZ	**Kokohu**	**2.56**	**213**	PN	Pn	01 29 43.5	-1.6
RTZ	**Ruatahuna**	**2.62**	**228**	PN	Pn	01 29 45.3	-0.8
TARZ	**Mount Tarawera**	**2.72**	**239**	PN	Pn	01 29 47.3	-0.1
PRRZ	**Plateau Road**	**2.93**	**236**	PN	Pn	01 29 49.2	-1.0
KUZ	**Kuaotunu**	**3.02**	**272**	PN	Pn	01 29 49.4	-2.0
ARHZ	**Aropaoanui**	**3.07**	**219**	PN	Pn	01 29 51.3	-0.9
BKZ	**Black Stump Fm**	**3.27**	**225**	PN	Pn	01 29 54.0	-1.0
GRZ	**Great Barrier**	**3.30**	**280**	PN	Pn	01 29 55.1	-0.2
MKAZ	**Moumakai**	**3.46**	**265**	PN	Pn	01 29 55.7	-1.8
KWHZ	**Kaweka Forest**	**3.49**	**223**	PN	Pn	01 29 56.3	-1.8
KWHZ				AML	AML	01 30 40.3	
KWHZ				AML	AML	01 30 47.8	
KAHZ	**Kahuranaki**	**3.55**	**214**	PN	Pn	01 29 56.6	-2.1
KRHZ	**Kereru**	**3.68**	**221**	PN	Pn	01 29 58.7	-1.9
BHHZ	**Black Hill Sta**	**3.74**	**225**	PN	Pn	01 30 00.2	-1.2
NGZ	**Ngauruhoe**	**3.82**	**232**	PN	Pn	01 30 01.0	-1.6
AWAZ	**Awhitu Peninsu**	**3.87**	**266**	PN	Pn	01 30 03.3	+0.1
WNVZ	**Wahianoa**	**3.91**	**230**	PN	Pn	01 30 02.4	-1.4
PRHZ	**Porangahau**	**4.04**	**213**	PN	Pn	01 30 03.6	-1.9
WCZ	**Waipu Caves**	**4.25**	**281**	PN	Pn	01 30 08.1	-0.2
WAZ	**Wanganui**	**4.54**	**230**	PN	Pn	01 30 11.7	-0.8
BFZ	**Birch Farm**	**4.55**	**213**	PN	Pn	01 30 08.9	-3.6
MRZ	**Mangatainoka R**	**4.84**	**218**	PN	Pn	01 30 12.9	-3.6
HOWZ	**Holdsworth Sta**	**5.06**	**216**	PN	Pn	01 30 15.4	-4.1

*ISCJB **03** 01:30:44.3±0.5, 6°.82N±0°.03×73°.04W±0°.04, h154km±5km, Error ellipse: s-maj=6.7km s-min=3.6km az=34.4*
*FUNV **03** 01:30:45.7, 6°.86N×73°.09W, h170km, MW2.8*
*RSNC **03** 01:30:46.1±0.5, 6°.80N×73°.06W, h146km±3km, ML3.1*

ISC 03 01:30:44.0±1.3, 6°.82N±0°.04×73°.02W±0°.04, h159km±7km, n27, σ1°.14/48, 2C-1D, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BARC	**Barichara**	**0.28**	**216**	*i* P	**Pn**	**01 31 06.0**	**+0.1**
BARC				*e*S	**Sn**	**01 31 20.9**	**-1.6**
BARC				*i*		01 31 22.8	
	comp=Z,389nm,0.3s						
GIRC	**Giron, Santand**	**0.31**	**326**	*e*P	**Pn**	**01 31 06.1**	**+0.2**
GIRC				*e*S	**Sn**	**01 31 21.8**	**-0.8**
PAMC	**Pamplona, Colo**	**0.61**	**31**	*e*P	**Pn**	**01 31 08.5**	**+1.0**
PAMC				*e*S	**Sn**	**01 31 25.4**	**-0.1**
BRRC	**Barranca, Sant**	**0.75**	**293**	⇑*i*P	**Pn**	**01 31 07.8**	**+0.1**
BRRC				*e*S	**Sn**	**01 31 25.0**	**-0.9**
BRRC				*i*		01 31 28.9	
	comp=Z,252nm,0.3s						
RUSC	**La Rusia**	**0.92**	**184**	⇓*i*P	**Pn**	**01 31 09.8**	**+0.2**
RUSC				*i*		01 31 10.7	
	comp=Z,64nm,0.3s						
RUSC				*e*S	**Sn**	**01 31 28.0**	**-1.2**
CAPV	**Capacho**	**1.25**	**34**	⇑*e*P	**Pn**	**01 31 13.9**	**+1.8**
CAPV				*e*S	**Sn**	**01 31 35.2**	**+1.5**
OCAC	**Ocana**	**1.44**	**348**	*e*P	**Pn**	**01 31 14.4**	**+0.6**
OCAC				*e*S	**Sn**	**01 31 37.1**	**+0.3**
OCAC				*i*		01 31 43.0	
	comp=Z,112nm,0.3s						
YOPC	**Yopal, Colombi**	**1.57**	**158**	*e*S	**Sn**	**01 31 38.4**	**-0.7**
ZARC	**Zaragoza, Cauc**	**1.95**	**290**	*e*P	**Pn**	**01 31 19.4**	**+0.4**
ZARC				*e*S	**Sn**	**01 31 45.1**	**-1.0**
ZARC				*i*		01 31 50.9	
	comp=Z,107nm,0.2s						
NORC	**Norcasia**	**2.22**	**236**	*e*P	**Pn**	**01 31 22.4**	**+0.1**
NORC				*e*S	**Sn**	**01 31 51.4**	**-0.5**
CHIC	**Chingaza**	**2.29**	**198**	*e*P	**Pn**	**01 31 24.1**	**+0.7**
CHIC				*e*S	**Sn**	**01 31 53.6**	**-0.3**
CHIC				*i*		01 32 02.9	
	comp=Z,57nm,0.6s						
ROSC	**El Rosal**	**2.35**	**213**	*e*P	**Pn**	**01 31 25.0**	**+0.8**
ROSC				*e*S	**Sn**	**01 31 55.1**	**-0.2**
ROSC				*i*		01 32 04.1	
	comp=Z,93nm,0.4s						
HELC	**Santa Helena**	**2.57**	**256**	*e*P	**Pn**	**01 31 27.2**	**+0.5**
HELC				*e*S	**Sn**	**01 31 59.4**	**-0.4**
HELC				*i*		01 32 04.6	
	comp=Z,47nm,0.4s						
SOCV	**Socops**	**2.59**	**56**	*e*P	**Pn**	**01 31 28.2**	**+1.5**
SOCV				*e*S	**Sn**	**01 32 00.4**	**+0.6**
VIGV	**El Vigia**	**2.59**	**39**	*e*P	**Pn**	**01 31 28.2**	**+1.5**
VIGV				*e*S	**Sn**	**01 31 59.5**	**-0.3**
VILC	**Villavicencio,**	**2.77**	**194**	*e*P	**Pn**	**01 31 29.6**	**+0.6**
VILC				*e*S	**Sn**	**01 32 03.2**	**-0.7**
VILC				*i*		01 32 07.7	
	comp=Z,38nm,0.4s						
GUYC	**Guyana, Colomb**	**2.84**	**236**	*e*S	**Sn**	**01 32 06.2**	**+0.3**
GUYC				*i*		01 32 13.3	
	comp=Z,93nm,0.4s						
CODC	**Agust˙n Codaz**	**3.13**	**352**	*e*P	**Pn**	**01 31 34.0**	**+0.7**
CODC				*e*S	**Sn**	**01 32 12.0**	**+0.3**
CODC				*i*		01 32 18.9	
	comp=Z,70nm,0.4s						
DBBC	**Dabeiba**	**3.18**	**274**	*e*P	**Pn**	**01 31 34.6**	**+0.6**
TOLC	**Tolima**	**3.19**	**226**	*e*P	**Pn**	**01 31 35.6**	**+1.2**
TOLC				*e*S	**Sn**	**01 32 13.8**	**+0.2**
PRAC	**Prado**	**3.60**	**211**	*e*P	**Pn**	**01 31 40.1**	**+0.7**
PRAC				*e*S	**Sn**	**01 32 22.1**	**-0.4**
VIRV	**Villa del Rosa**	**3.71**	**9**	*e*P	**Pn**	**01 31 40.8**	**0.0**
VIRV				*e*S	**Sn**	**01 32 22.0**	**-3.0**
QARV	**Quebrada Arrib**	**4.17**	**36**	*e*P	**Pn**	**01 31 48.0**	**+1.2**
CURV	**Curarigua**	**4.38**	**43**	*e*P	**Pn**	**01 31 50.6**	**+1.1**
CURV				*e*S	**Sn**	**01 32 38.3**	**-2.4**
BAUV	**El Baul**	**5.36**	**66**	*e*P	**Pn**	**01 32 02.9**	**+0.6**
BAUV				*e*S	**Sn**	**01 32 59.9**	**-3.8**
MAPV	**Macapo**	**5.41**	**56**	*e*P	**Pn**	**01 32 04.1**	**+1.0**
MONV	**Montecano**	**5.92**	**30**	*e*P	**Pn**	**01 32 10.0**	**+0.2**

*ISCJB **03** 01:33:12.7±0.5, 43°.17N±0°.03×13°.58E±0°.04, h1km±9km, Error ellipse: s-maj=5.2km s-min=3.2km az=138.2*
*CSEM **03** 01:33:12.9±0.1, 43°.16N×13°.58E, h2km, ML2.7/11, Error ellipse: s-maj=2.7km s-min=2.0km az=51.0*
*ROM **03** 01:33:13.8±0.2, 43°.15N×13°.48E, h20km±3km, Md2.3/20, Ml1.9/11, Error ellipse: s-maj=3.8km s-min=1.3km az=57.0*

ISC 03 01:33:12.3±0.9, 43°.16N±0°.02×13°.56E±0°.02, h13km±8km, n44, σ0°.60/73, 2C, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OFFI	**Offida**	**0.25**	**159**	Pg	**Pb**	**01 33 21.4**	**+2.8**
GUMA	**Gualdo di Mace**	**0.29**	**110**	⇑*i*Pg	**Pg**	**01 33 18.1**	**-0.3**
GUMA				Sg	**Sg**	**01 33 21.3**	**-1.1**
	477nm,0.2s						
GUMA	**Gualdo di Mace**	**0.29**	**110**	⇑*i*Pg	**Pg**	**01 33 18.1**	**-0.3**
GUMA				Sg	**Sg**	**01 33 21.3**	**-1.1**
	477nm,0.2s						
CING	**Cingoli**	**0.34**	**308**	Pg	**Pb**	**01 33 20.5**	**+0.2**
CING				Sg	**Sb**	**01 33 25.7**	**+0.1**
	28nm,0.1s						
CING	**Cingoli**	**0.34**	**308**	Pg	**Pb**	**01 33 20.5**	**+0.2**
CING				Sg	**Sb**	**01 33 25.7**	**+0.1**
	28nm,0.1s						
FDMO	**Fiordimonte**	**0.37**	**250**	Pg	**Pg**	**01 33 20.2**	**+0.4**
FDMO				Sg	**Sg**	**01 33 25.2**	**+0.4**
	152nm,0.2s						
FDMO	**Fiordimonte**	**0.37**	**250**	Pg	**Pg**	**01 33 20.2**	**+0.4**
FDMO				Sg	**Sg**	**01 33 25.2**	**+0.4**
	152nm,0.2s						
SNTG	**Esanatoglia**	**0.46**	**282**	Pg	**Pb**	**01 33 22.0**	**-0.3**
SNTG				Sg	**Sg**	**01 33 28.4**	**+0.7**
	94nm,0.2s						
SNTG	**Esanatoglia**	**0.46**	**282**	Pg	**Pb**	**01 33 22.0**	**-0.3**
SNTG				Sg	**Sg**	**01 33 28.4**	**+0.7**
	94nm,0.2s						
NRCA	**Norcia**	**0.47**	**225**	Pg	**Pb**	**01 33 22.1**	**-0.3**
NRCA				Sg	**Sb**	**01 33 28.6**	**-0.6**
	503nm,0.1s						
NRCA	**Norcia**	**0.47**	**225**	Pg	**Pb**	**01 33 22.1**	**-0.3**
NRCA				Sg	**Sb**	**01 33 28.6**	**-0.6**
	503nm,0.1s						
CESI	**CESI - Serrava**	**0.51**	**252**	Pg	**Pg**	**01 33 22.6**	**+0.3**
CESI				Sg	**Sg**	**01 33 29.5**	**+0.4**
	22nm,0.3s						
CESI	**CESI - Serrava**	**0.51**	**252**	Pg	**Pg**	**01 33 22.6**	**+0.3**
CESI				Sg	**Sg**	**01 33 29.5**	**+0.4**
	22nm,0.3s						
TERO	**Teramo**	**0.54**	**177**	Pg	**Pb**	**01 33 24.3**	**+0.6**
TERO				Sg	**Sn**	**01 33 33.2**	**-1.5**
TERO	**Teramo**	**0.54**	**177**	Pg	**Pb**	**01 33 24.3**	**+0.6**
SMA1	**SAN MARTINO**	**0.56**	**198**	Pg	**Pb**	**01 33 24.1**	**+0.1**
SMA1				Sg	**Sb**	**01 33 32.5**	**+0.6**
SMA1	**SAN MARTINO**	**0.56**	**198**	Pg	**Pb**	**01 33 24.1**	**+0.1**
SMA1				Sg	**Sb**	**01 33 32.5**	**+0.6**
ARVD	**Arcevia**	**0.56**	**307**	Pg	**Pg**	**01 33 23.5**	**+0.1**
ARVD				Sg	**Sb**	**01 33 32.7**	**+0.7**
ARVD	**Arcevia**	**0.56**	**307**	Pg	**Pg**	**01 33 23.5**	**+0.1**
ARVD				Sg	**Sb**	**01 33 32.7**	**+0.7**
SSFR	**Montelago di S**	**0.63**	**296**	Pg	**Pb**	**01 33 25.2**	**0.0**
SSFR				Sg	**Sb**	**01 33 34.2**	**+0.2**
	45nm,0.2s						
SSFR	**Montelago di S**	**0.63**	**296**	Pg	**Pb**	**01 33 25.2**	**0.0**
SSFR				Sg	**Sb**	**01 33 34.2**	**+0.2**
	45nm,0.2s						
CAMP	**Campotosto**	**0.64**	**190**	Pg	**Pb**	**01 33 25.7**	**+0.4**
CAMP	**Campotosto**	**0.64**	**190**	Pg	**Pb**	**01 33 25.7**	**+0.4**
ATCC	**AVT- Casa Cast**	**0.68**	**272**	Pg	**Pg**	**01 33 25.6**	**+0.1**
ATCC				Sg	**Sb**	**01 33 35.2**	**0.0**
	46nm,0.2s						
ATCC	**AVT- Casa Cast**	**0.68**	**272**	Pg	**Pg**	**01 33 25.6**	**+0.1**
ATCC				Sg	**Sb**	**01 33 35.2**	**0.0**
	46nm,0.2s						
LNSS	**Leonessa**	**0.68**	**215**	Pg	**Pb**	**01 33 25.8**	**-0.2**
LNSS				Sg	**Sb**	**01 33 35.8**	**+0.4**
LNSS	**Leonessa**	**0.68**	**215**	Pg	**Pb**	**01 33 25.8**	**-0.2**
LNSS				Sg	**Sb**	**01 33 35.8**	**+0.4**
FRON	**Frontone**	**0.71**	**300**	Pg	**Pb**	**01 33 26.7**	**+0.2**
FRON				Sg	**Sb**	**01 33 36.9**	**+0.8**
	24nm,0.5s						
FRON	**Frontone**	**0.71**	**300**	Pg	**Pb**	**01 33 26.7**	**+0.2**
FRON				Sg	**Sb**	**01 33 36.9**	**+0.8**
	24nm,0.5s						
MPAG	**Monte Paganucc**	**0.75**	**309**	Pg	**Pn**	**01 33 28.3**	**-0.3**
MPAG	**Monte Paganucc**	**0.75**	**309**	Pg	**Pn**	**01 33 28.3**	**-0.3**
MURB	**Monte Urbino**	**0.77**	**278**	Pg	**Pg**	**01 33 27.3**	**+0.1**
MURB				Sg	**Sb**	**01 33 38.2**	**+0.4**
	72nm,0.3s						
MURB	**Monte Urbino**	**0.77**	**278**	Pg	**Pg**	**01 33 27.3**	**+0.1**
MURB				Sg	**Sb**	**01 33 38.2**	**+0.4**
	72nm,0.3s						
FSSB	**Fossombrone**	**0.78**	**313**	Pg	**Pn**	**01 33 28.5**	**-0.5**
FSSB	**Fossombrone**	**0.78**	**313**	Pg	**Pn**	**01 33 28.5**	**-0.5**
T0104	**Madonna delle**	**0.82**	**192**	Pg	**Pb**	**01 33 28.7**	**+0.3**
PIEI	**Pieia**	**0.84**	**297**	Pg	**Pb**	**01 33 28.7**	**0.0**
PIEI				Sg	**Sb**	**01 33 40.7**	**+0.8**
	11nm,0.2s						
PIEI	**Pieia**	**0.84**	**297**	Pg	**Pb**	**01 33 28.7**	**0.0**
PIEI				Sg	**Sb**	**01 33 40.7**	**+0.8**
	11nm,0.2s						
ATPC	**Poggio Castell**	**0.87**	**292**	Pg	**Pg**	**01 33 29.2**	**+0.1**
ATPC	**Poggio Castell**	**0.87**	**292**	Pg	**Pg**	**01 33 29.2**	**+0.1**
NVLJ	**Novalja**	**1.69**	**34**	Sn	**Sb**	**01 34 05.0**	**+0.7**
NVLJ	**Novalja**	**1.69**	**34**	Sn	**Sb**	**01 34 05.0**	**+0.7**
UDBI	**Udbina**	**2.10**	**49**	Sn	**Sb**	**01 34 16.6**	**+0.5**
UDBI	**Udbina**	**2.10**	**49**	Sn	**Sb**	**01 34 16.6**	**+0.5**

*CSEM **03** 01:35:03.6, 43°.14N×13°.47E, h19km, MD1.8/2*

ROM 03 01:35:03.6±0.2, 43°.14N×13°.47E, h19km±1km, Md1.8/2, Ml1.1/3, 2C, Error ellipse: s-maj=2.1km s-min=1.4km az=66.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FDMO	**Fiordimonte**	**0.30**	**251**	Pg	Pg	01 35 10.1	-0.1
FDMO				Sg	Sb	01 35 15.0	+0.2
FDMO	**Fiordimonte**	**0.30**	**251**	Pg	Pg	01 35 10.1	-0.1
FDMO				Sg	Sb	01 35 15.0	+0.2
GUMA	**Gualdo di Mace**	**0.35**	**102**	⇑*i*Pg	Pg	01 35 07.9	-3.2
GUMA				Sg	Sg	01 35 11.1	-5.1
GUMA	**Gualdo di Mace**	**0.35**	**102**	⇑*i*Pg	Pg	01 35 07.9	-3.2
GUMA				Sg	Sg	01 35 11.1	-5.1
NRCA	**Norcia**	**0.40**	**221**	Pg	Pg	01 35 12.0	0.0
NRCA				Sg	Sb	01 35 18.3	+0.3
	251nm,0.1s						
NRCA	**Norcia**	**0.40**	**221**	Pg	Pg	01 35 12.0	0.0
NRCA				Sg	Sb	01 35 18.3	+0.3
	251nm,0.1s						
SNTG	**Esanatoglia**	**0.40**	**287**	Pg	Pg	01 35 11.9	-0.1
SNTG				Sg	Sb	01 35 18.3	+0.2
SNTG	**Esanatoglia**	**0.40**	**287**	Pg	Pg	01 35 11.9	-0.1
SNTG				Sg	Sb	01 35 18.3	+0.2
CESI	**CESI - Serrava**	**0.43**	**253**	Pg	Pb	01 35 12.7	0.0
CESI				Sg	Sb	01 35 19.4	+0.5
	1.0nm,0.4s						
CESI	**CESI - Serrava**	**0.43**	**253**	Pg	Pb	01 35 12.7	0.0
CESI				Sg	Sb	01 35 19.4	+0.5
	1.0nm,0.4s						
SSFR	**Montelago di S**	**0.58**	**301**	Pg	Pg	01 35 15.4	+0.1
SSFR				Sg	Sg	01 35 23.8	+0.6
	27nm,0.2s						
SSFR	**Montelago di S**	**0.58**	**301**	Pg	Pg	01 35 15.4	+0.1
SSFR				Sg	Sg	01 35 23.8	+0.6
	27nm,0.2s						

*IDC **03** 01:36:23.8±11.0, 51°.92N×171°.73W, h0km, mb3.5/4, mb1 3.8/5, mb1mx3.5/51, mbtmp3.4/5, ML3.7/1, MS4.3/3, Ms1 4.3/3, ms1mx3.6/34, Error ellipse: s-maj=210.0km s-min=61.8km az=86.0*
*NEIC **03** 01:36:29.6±0.0, 51°.71N×171°.47W, h43km, ML3.5(AEIC), After AEIC.*
*ISCJB **03** 01:36:30.3±1.0, 51°.9N±0°.1×171°.52W±0°.06, h61km±11km, mb3.3/4, Error ellipse: s-maj=22.1km s-min=4.0km az=165.8*

ISC 03 01:36:31.0±1.7, 51°.8N±0°.2×171°.52W±0°.05, h51km±19km, n34, σ0°.90/33, mb3.3/4, MS4.3/3, Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KOSE	**Korovin Southe**	**1.64**	**289**	P	**Pn**	**01 36 58.1**	**+0.6**
KOSE				S	**Sn**	**01 37 18.4**	**+0.9**
KOFP	**Korovin Flat P**	**1.65**	**286**	P	**Pn**	**01 36 57.8**	**+0.2**
ATKA	**Atka Island**	**1.69**	**284**	P	**Pn**	**01 36 57.1**	**-1.0**
ATKA				S	**Sn**	**01 37 16.9**	**-1.7**
KONE	**Korovin Northe**	**1.70**	**290**	P	**Pn**	**01 36 58.5**	**+0.3**
KONE				S	**Sn**	**01 37 20.3**	**+1.5**
KOKL	**Mount Kliuchef**	**1.73**	**288**	P	**Pn**	**01 36 58.8**	**+0.1**
NIKH	**Nikolski High**	**1.99**	**54**	P	**Pn**	**01 37 01.0**	**-1.2**
NIKH				S	**Sn**	**01 37 24.3**	**-1.6**
OKSP	**Okmok Steeple**	**2.43**	**53**	P	**Pn**	**01 37 08.5**	**+0.2**
OKSP				S	**Sn**	**01 37 35.7**	**-1.0**
OKSO	**Okmok South**	**2.55**	**52**	P	**Pn**	**01 37 10.4**	**+0.5**
OKCE	**Okmok Cone E**	**2.59**	**51**	P	**Pn**	**01 37 11.1**	**+0.6**
OKTU	**Okmok Mt. Tuli**	**2.63**	**52**	P	**Pn**	**01 37 12.0**	**+1.0**
OKFG	**Magazine Ridge**	**2.71**	**53**	P	**Pn**	**01 37 12.4**	**+0.4**
OKFG				S	**Sn**	**01 37 45.5**	**+2.0**
GSMY	**Great Sitkin M**	**2.82**	**276**	P	**Pn**	**01 37 13.3**	**-0.2**
GSTD	**Great Sitkin T**	**2.87**	**276**	P	**Pn**	**01 37 14.2**	**-0.1**
GSTD				S	**Sn**	**01 37 47.8**	**+0.2**
GSCK	**Great Sitkin C**	**2.88**	**275**	P	**Pn**	**01 37 14.5**	**+0.1**
ETKA	**Kagalaska Isla**	**3.03**	**272**	P	**Pn**	**01 37 16.1**	**-0.4**
ADAG	**Mount Adagdak**	**3.15**	**275**	P	**Pn**	**01 37 19.2**	**+1.1**
MREP	**Makushin Rep't**	**3.51**	**54**	P	**Pn**	**01 37 23.2**	**+0.2**
MSW	**Makushin Switc**	**3.55**	**52**	P	**Pn**	**01 37 24.0**	**+0.5**
UNV	**Unalaska Valle**	**3.65**	**55**	P	**Pn**	**01 37 25.2**	**+0.4**
UNV				S	**Sn**	**01 38 07.8**	**+1.2**
SPIA	**Saint Paul Isl**	**5.41**	**7**	P	**Pn**	**01 37 48.8**	**-0.1**
ILAR	**Eielson Array**	**18.14**	**35**	P	**P**	**01 40 37.7**	**-1.1**
	0.1nm,0.3s,baz=242,slow=12,SNR=4.6						
DLBC	**Dease Lake**	**24.30**	**58**	P	**P**	**01 41 43.0**	**-0.4**
	2.1nm,0.7s,baz=249,slow=8.6,SNR=2.8						
YKA	**Yellowknife Ar**	**31.59**	**48**	P	**P**	**01 42 47.9**	**-0.4**
	0.2nm,0.4s,baz=273,slow=7.9,SNR=3.2						
H11N2	**WAKE ISLAND Hy**	**36.23**	**216**	T	T	02 22 00.4	
	baz=21,slow=76,SNR=23						
H11N3	**WAKE ISLAND Hy**	**36.23**	**216**	T	T	02 21 59.8	
	baz=21,slow=76,SNR=16						
H11N1	**WAKE ISLAND Hy**	**36.24**	**216**	T	T	02 21 59.5	
	baz=21,slow=76,SNR=18						
H11S1	**WAKE ISLAND Hy**	**37.42**	**215**	T	T	02 23 30.7	
	baz=21,slow=76,SNR=14						
H11S2	**WAKE ISLAND Hy**	**37.43**	**215**	T	T	02 23 28.5	
	baz=21,slow=76,SNR=14						
H11S3	**WAKE ISLAND Hy**	**37.44**	**215**	T	T	02 23 29.1	
	baz=21,slow=76,SNR=13						
PDAR	**Pinedale Array**	**41.81**	**77**	P	**P**	**01 44 15.8**	**+0.1**
	0.2nm,0.4s,baz=323,slow=4.7,SNR=3.5						
TXAR	**Lajitas Array**	**54.09**	**87**	P	**P**	**01 45 51.3**	**+0.7**
	0.1nm,0.4s,baz=298,slow=6.6,SNR=3.7						
ARCES	**ARCESS Array B**	**58.30**	**353**	LR	LR	02 14 01.0	
	comp=Z,164nm,19.1s,baz=40,slow=39						
BORG	**Borgarnes**	**61.48**	**14**	LR	LR	02 16 03.4	
	comp=Z,204nm,20.3s,baz=8.6,slow=39						
FINES	**FINESS Array B**	**66.20**	**351**	LR	LR	02 21 23.7	
	comp=Z,270nm,18.9s,baz=44,slow=41						

NEIC 03 01:40:01.0±0.0, 51°.81N×171°.37W, h42km, ML3.7(AEIC), After AEIC., Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KOSE	**Korovin Southe**	**1.74**	**289**	P	Pn	01 40 30.0	+1.3
KOSE				S	Sn	01 40 51.3	+1.6
KOFP	**Korovin Flat P**	**1.75**	**286**	P	Pn	01 40 29.5	+0.6
ATKA	**Atka Island**	**1.79**	**284**	P	Pn	01 40 28.7	-0.7
ATKA				S	Sn	01 40 50.1	-0.7
KONE	**Korovin Northe**	**1.79**	**290**	P	Pn	01 40 30.7	+1.3
KOKL	**Mount Kliuchef**	**1.82**	**287**	P	Pn	01 40 30.9	+1.0
NIKH	**Nikolski High**	**1.93**	**52**	P	Pn	01 40 30.8	-0.5
NIKH				S	Sn	01 40 53.0	-1.4
OKSP	**Okmok Steeple**	**2.37**	**51**	P	Pn	01 40 38.3	+0.9
OKSO	**Okmok South**	**2.50**	**50**	P	Pn	01 40 40.1	+1.0
OKSO				S	Sn	01 41 10.0	+1.6
OKCE	**Okmok Cone E**	**2.54**	**49**	P	Pn	01 40 41.0	+1.3
OKTU	**Okmok Mt. Tuli**	**2.57**	**51**	P	Pn	01 40 41.4	+1.3
OKFG	**Magazine Ridge**	**2.65**	**51**	P	Pn	01 40 41.8	+0.6
OKFG				S	Sn	01 41 12.8	+0.8
GSMY	**Great Sitkin M**	**2.91**	**276**	P	Pn	01 40 46.1	+1.3
GSTD	**Great Sitkin T**	**2.96**	**277**	P	Pn	01 40 46.4	+0.8
GSTD				S	Sn	01 41 21.3	+1.3
GSCK	**Great Sitkin C**	**2.97**	**276**	P	Pn	01 40 45.9	+0.3
ETKA	**Kagalaska Isla**	**3.12**	**273**	P	Pn	01 40 48.1	+0.4
ADAG	**Mount Adagdak**	**3.24**	**275**	P	Pn	01 40 50.4	+1.1
MREP	**Makushin Rep't**	**3.45**	**53**	P	Pn	01 40 53.9	+1.7
MSW	**Makushin Switc**	**3.49**	**51**	P	Pn	01 40 53.4	+0.6
UNV	**Unalaska Valle**	**3.59**	**53**	P	Pn	01 40 54.9	+0.9
SPIA	**Saint Paul Isl**	**5.42**	**7**	P	Pn	01 41 20.0	+0.9

*ISCJB **03** 02:25:21.3±

BRG					Sg		Sb	02 25 59.5	+0.5
PRA	**Prague**	**1.26**	**97**	⫰	*e*SG		**Sb**	**02 26 03.0**	**+0.1**
	comp=Z,16nm,0.4s								
PRA	**Prague**	**1.26**	**97**		Sg		**Sb**	**02 26 03.0**	**+0.1**
	comp=Z,16nm,0.4s								
KHC	**Kasperske Hory**	**1.31**	**147**		*e*PG		**Pn**	**02 25 47.5**	**+0.3**
KHC					*e*SG		**Sb**	**02 26 04.3**	**-0.1**
	comp=Z,8.8nm,0.2s								
KHC	**Kasperske Hory**	**1.31**	**147**		Pg		**Pn**	**02 25 47.5**	**+0.3**
KHC					Sg		**Sb**	**02 26 04.3**	**-0.1**
	comp=Z,8.8nm,0.2s								
PRU	**Pruhonice**	**1.34**	**100**	⫰	*e*PG		**Pb**	**02 25 48.5**	**+0.4**
PRU					*e*SG		**Sg**	**02 26 05.9**	**-0.2**
	comp=Z,15nm,0.3s								
PRU	**Pruhonice**	**1.34**	**100**		Pg		**Pb**	**02 25 48.5**	**+0.4**
PRU					Sg		**Sg**	**02 26 05.9**	**-0.2**
	comp=Z,15nm,0.3s								
GOPC	**GO Pecny, Ondr**	**1.51**	**101**		*e*SG		**Sg**	**02 26 11.7**	**+0.1**
	comp=Z,16nm,0.2s								
GOPC	**GO Pecny, Ondr**	**1.51**	**101**		Sg		**Sg**	**02 26 11.7**	**+0.1**
	comp=Z,16nm,0.2s								
TREC	**Trest**	**2.16**	**115**	⫰	*e*SG		**Sb**	**02 26 30.4**	**+1.7**
	comp=Z,4.7nm,0.2s								
TREC	**Trest**	**2.16**	**115**		Sg		**Sb**	**02 26 30.4**	**+1.7**
	comp=Z,4.7nm,0.2s								
UPC	**Upice**	**2.27**	**82**	⫰	*e*SG		**Sg**	**02 26 35.0**	**-0.8**
UPC	**Upice**	**2.27**	**82**		Sg		**Sg**	**02 26 35.0**	**-0.8**
DPC	**Dobruska-Polom**	**2.46**	**86**		*e*SG		**Sg**	**02 26 40.1**	**-1.8**
	comp=Z,3.8nm,0.4s								
MOA	**Molln**	**2.66**	**153**		*e*Pg		**Pg**	**02 26 13.3**	**-0.5**
	comp=Z,0.3nm,0.1s								
MOA					*e*Sg		**Sg**	**02 26 46.8**	**-1.4**
	comp=Z,2.0nm,0.3s								
MOA	**Molln**	**2.66**	**153**		Pg		**Pg**	**02 26 13.3**	**-0.5**
	comp=Z,0.3nm,0.1s								
MOA					Sg		**Sg**	**02 26 46.8**	**-1.4**
	comp=Z,2.0nm,0.3s								
VRAC	**Vranov**	**2.82**	**108**		*e*Sg		**Sb**	**02 26 50.2**	**+2.5**
CONA	**Conrad Observa**	**3.20**	**135**		*e*Pg		**Pg**	**02 26 22.8**	**-1.4**
	comp=Z,0.4nm,0.2s								
CONA					*e*Sg		**Sg**	**02 27 05.5**	**-0.1**
	comp=Z,2.1nm,0.3s								
CONA	**Conrad Observa**	**3.20**	**135**		Pg		**Pg**	**02 26 22.8**	**-1.4**
	comp=Z,0.4nm,0.2s								
CONA					Sg		**Sg**	**02 27 05.5**	**-0.1**
	comp=Z,2.1nm,0.3s								
MORC	**Moravsky Berou**	**3.29**	**96**		*e*Sg		**Sg**	**02 27 06.6**	**-1.9**

MDD ***03*** *02:30:14.4±2.7, 43.°40N×16.°47W, h0km, mb4.2/14, Error ellipse: s-maj=27.0km s-min=20.0km az=59.0, PRXIMO*
INMG ***03*** *02:30:16.3±0.9, 43.°50N×16.°90W, h10km, ML2.6, Error ellipse: s-maj=7.5km s-min=5.1km az=75.0*
CSEM ***03*** *02:30:19.9±0.5, 43.°16N×15.°98W, h10km, ML3.1/6, Error ellipse: s-maj=10.6km s-min=7.5km az=50.0*

ISC 03 02:30:17.2±3.9, 43°24N±0.′09×16°1W±0.′2, h10km, n69, σ1°28/105, North Atlantic Ocean

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EMAZ	**Mazaricos**	**5.25**	**91**	P	**Pn**	**02 31 36.1**	**+0.3**
	3.7nm,0.1s,SNR=7.9						
EMAZ				S	**Sn**	**02 32 35.4**	**-1.0**
	0.9nm,0.1s,SNR=7.9						
EAGO	**Agolada(Pontev**	**5.92**	**92**	P	**Pn**	**02 31 45.2**	**+0.3**
	1.8nm,0.1s,SNR=7.9						
EAGO				S	**Sn**	**02 32 52.1**	**-0.6**
	0.6nm,0.1s,SNR=7.9						
EAGO	**Agolada(Pontev**	**5.92**	**92**	P	**Pn**	**02 31 45.2**	**+0.3**
	1.8nm,0.1s,SNR=7.9						
EAGO				S	**Sn**	**02 32 52.1**	**-0.6**
	0.6nm,0.1s,SNR=7.9						
PGAV	**Gavieira, Arco**	**5.95**	**100**	*e*Pn	**Pn**	**02 31 46.7**	**+1.4**
PGAV				*e*Sn	**Sn**	**02 32 54.1**	**+0.5**
PGAV				A	A	02 32 57.8	
	2.1nm,0.4s						
ELOB	**Lobios**	**6.12**	**100**	P	**Pn**	**02 31 49.3**	**+1.6**
	1.3nm,0.1s,SNR=12						
ELOB				S	**Sn**	**02 32 57.3**	**-0.6**
	0.5nm,0.2s,SNR=7.9						
ELOB	**Lobios**	**6.12**	**100**	P	**Pn**	**02 31 49.3**	**+1.6**
	1.3nm,0.1s,SNR=12						
ELOB				S	**Sn**	**02 32 57.3**	**-0.6**
	0.5nm,0.2s,SNR=7.9						
PCAB	**Cabril**	**6.19**	**102**	*e*Pn	**Pn**	**02 31 50.9**	**+2.3**
PCAB				*e*Sn	**Sn**	**02 33 01.7**	**+2.2**
PCAB				A	A	02 33 06.8	
	1.7nm,0.4s						
PCAB	**Cabril**	**6.19**	**102**	P	**Pn**	**02 31 50.9**	**+2.3**
PCAB				S	**Sn**	**02 33 01.7**	**+2.2**
	0.9nm,0.4s						
PCAB	**Cabril**	**6.19**	**102**	P	**Pn**	**02 31 50.9**	**+2.3**
PCAB				*e*Sn	**Sn**	**02 33 01.7**	**+2.2**
	1.7nm,0.4s						
POLO	**Lamas de Olo**	**6.46**	**104**	*e*Pn	**Pn**	**02 31 53.7**	**+1.3**
POLO				*e*Sn	**Sn**	**02 33 07.0**	**+0.7**
POLO	**Lamas de Olo**	**6.46**	**104**	*e*Pn	**Pn**	**02 31 53.7**	**+1.3**
POLO				*e*Sn	**Sn**	**02 33 07.0**	**+0.7**
PCAS	**Casmilo, Conde**	**6.55**	**117**	*e*Pn	**Pn**	**02 31 54.8**	**+1.2**
PCAS				*e*Sn	**Sn**	**02 33 08.9**	**+0.6**
PCAS				A	A	02 33 13.5	
	1.2nm,0.2s						
PCAS	**Casmilo, Conde**	**6.55**	**117**	*e*Pn	**Pn**	**02 31 54.8**	**+1.2**
PCAS				*e*Sn	**Sn**	**02 33 08.9**	**+0.6**
	1.2nm,0.2s						
EPON	**Pontenova**	**6.56**	**86**	P	**Pn**	**02 31 53.9**	**+0.2**
	1.0nm,0.2s,SNR=8.6						
EPON				S	**Sn**	**02 33 06.4**	**-2.2**
	0.4nm,0.1s,SNR=7.9						
EPON	**Pontenova**	**6.56**	**86**	P	**Pn**	**02 31 53.9**	**+0.2**
	1.0nm,0.2s,SNR=8.6						
EPON				S	**Sn**	**02 33 06.4**	**-2.2**
	0.4nm,0.1s,SNR=7.9						
PMAFR	**Mafra**	**6.72**	**127**	*e*Pn	**Pn**	**02 31 56.9**	**+1.0**
PMAFR				*e*Sn	**Sn**	**02 33 12.6**	**+0.1**
PMAFR				A	A	02 33 17.9	
	7.4nm,0.2s						
PMAFR	**Mafra**	**6.72**	**127**	P	**Pn**	**02 31 57.1**	**+1.2**
	1.3nm,0.2s,SNR=7.9						
PMAFR				S	**Sn**	**02 33 11.6**	**-0.8**
	4.6nm,0.2s,SNR=8.1						
PMAFR	**Mafra**	**6.72**	**127**	P	**Pn**	**02 31 57.1**	**+1.2**
	1.3nm,0.2s,SNR=7.9						
PTOM	**Tomar**	**6.84**	**119**	*e*Sn	**Sn**	**02 33 15.0**	**-0.5**
PTOM				A	A	02 33 19.7	
	4.0nm,0.3s						
PTOM	**Tomar**	**6.84**	**119**	S	**Sn**	**02 33 15.0**	**-0.5**
	2.0nm,0.3s						
PTOM	**Tomar**	**6.84**	**119**	S	**Sn**	**02 33 15.0**	**-0.5**
	2.0nm,0.3s						
PMST	**Lisbon--Monsan**	**6.92**	**128**	*e*Sn	**Sn**	**02 33 17.6**	**+0.1**
PMST				A	A	02 33 21.1	
	7.9nm,0.5s						
MTE	**Manteigas**	**7.02**	**111**	*e*Pn	**Pn**	**02 32 00.6**	**+0.5**
MTE				*e*Sn	**Sn**	**02 33 20.5**	**+0.6**
MTE				A	A	02 33 21.8	
	1.4nm,0.4s						
MTE	**Manteigas**	**7.02**	**111**	P	**Pn**	**02 32 00.6**	**+0.5**
MTE				S	**Sn**	**02 33 20.5**	**+0.6**
	0.7nm,0.4s						
MTE	**Manteigas**	**7.02**	**111**	P	**Pn**	**02 32 00.6**	**+0.5**
MTE				S	**Sn**	**02 33 20.5**	**+0.6**
	0.7nm,0.4s						
ECAL	**Calabor**	**7.06**	**97**	P	**Pn**	**02 32 01.9**	**+1.3**
	0.9nm,0.1s,SNR=8.7						
ECAL				S	**Sn**	**02 33 21.7**	**+0.7**
	0.5nm,0.1s,SNR=7.9						
ECAL	**Calabor**	**7.06**	**97**	P	**Pn**	**02 32 01.9**	**+1.3**
	0.9nm,0.1s,SNR=8.7						
MVO	**Moncorvo**	**7.08**	**104**	*e*Pn	**Pn**	**02 32 01.8**	**+1.0**
MVO				*e*Sn	**Sn**	**02 33 21.2**	**-0.1**
MVO				A	A	02 33 24.9	
	1.5nm,0.6s						
MVO	**Moncorvo**	**7.08**	**104**	P	**Pn**	**02 32 01.5**	**+0.7**
	1.7nm,0.2s,SNR=7.9						
MVO				S	**Sn**	**02 33 21.7**	**+0.3**
	0.5nm,0.2s,SNR=7.9						
MVO	**Moncorvo**	**7.08**	**104**	P	**Pn**	**02 32 01.5**	**+0.7**
	1.7nm,0.2s,SNR=7.9						
MVO	**Moncorvo**	**7.08**	**104**	*e*Pn	**Pn**	**02 32 01.8**	**+1.0**
MVO				*e*Sn	**Sn**	**02 33 21.2**	**-0.1**
	1.5nm,0.6s						
MVO				S	**Sn**	**02 33 21.7**	**+0.3**
	0.5nm,0.2s,SNR=7.9						
PBRG	**Braganca**	**7.09**	**98**	*e*Pn	**Pn**	**02 32 02.4**	**+1.4**
PBRG	**Braganca**	**7.09**	**98**	P	**Pn**	**02 32 02.4**	**+1.4**
PBRG	**Braganca**	**7.09**	**98**	P	**Pn**	**02 32 02.4**	**+1.4**
PMRV	**Marv??o**	**7.61**	**117**	*e*Pn	**Pn**	**02 32 08.6**	**+0.6**
PMRV				*e*Sn	**Sn**	**02 33 33.7**	**-0.6**
PMRV				A	A	02 33 38.3	
	1.5nm,0.4s						
PMRV	**Marv??o**	**7.61**	**117**	P	**Pn**	**02 32 08.6**	**+0.6**
PMRV				S	**Sn**	**02 33 33.7**	**-0.6**
	1.5nm,0.4s						
PMRV	**Marv??o**	**7.61**	**117**	P	**Pn**	**02 32 08.6**	**+0.6**
PMRV				S	**Sn**	**02 33 33.7**	**-0.6**
	1.5nm,0.4s						
PNCL	**Nicolau / Gran**	**7.73**	**129**	*e*Sn	**Sn**	**02 33 36.3**	**-0.9**
PNCL				A	A	02 33 41.9	
	2.3nm,0.5s						
PNCL	**Nicolau / Gran**	**7.73**	**129**	*e*Sn	**Sn**	**02 33 36.3**	**-0.9**
	2.3nm,0.5s						
EVO	**Evora**	**7.75**	**125**	*e*Sn	**Sn**	**02 33 36.1**	**-1.6**
EVO				A	A	02 33 42.8	
	2.9nm,0.3s						
EVO	**Evora**	**7.75**	**125**	S	**Sn**	**02 33 36.1**	**-1.6**
	2.9nm,0.3s						
EVO	**Evora**	**7.75**	**125**	S	**Sn**	**02 33 36.1**	**-1.6**
	2.9nm,0.3s						
PESTR	**Estremoz**	**7.80**	**121**	*e*Pn	**Pn**	**02 32 11.5**	**+0.8**
PESTR				*e*Sn	**Sn**	**02 33 37.9**	**-1.1**
PESTR				A	A	02 33 40.1	
	1.3nm,0.4s						
PESTR	**Estremoz**	**7.80**	**121**	*e*Pn	**Pn**	**02 32 11.5**	**+0.8**
PESTR				*e*Sn	**Sn**	**02 33 37.9**	**-1.1**
	1.3nm,0.4s						
EARI	**Arriondas**	**7.98**	**86**	P	**Pn**	**02 32 13.0**	**-0.2**
	0.7nm,0.1s,SNR=12						
EARI				S	**Sn**	**02 33 41.3**	**-2.2**
	0.2nm,0.2s,SNR=4.0						
MESJ	**Messejana**	**8.09**	**129**	*e*Sn	**Sn**	**02 33 45.3**	**-0.8**
MESJ				A	A	02 33 48.7	
	2.1nm,0.7s						
MESJ	**Messejana**	**8.09**	**129**	S	**Sn**	**02 33 45.3**	**-0.8**
	2.1nm,0.7s						
MESJ	**Messejana**	**8.09**	**129**	S	**Sn**	**02 33 45.3**	**-0.8**
	2.1nm,0.7s						
EPLA	**Plencia**	**8.17**	**109**	P	**Pn**	**02 32 17.2**	**+1.4**
	0.2nm,0.1s,SNR=7.9						
EBAD	**Badajoz**	**8.23**	**120**	P	**Pn**	**02 32 17.6**	**+1.0**
	0.6nm,0.1s,SNR=4.0						
EBAD				S	**Sn**	**02 33 47.9**	**-1.7**
	1.9nm,0.2s,SNR=6.6						
EBAD	**Badajoz**	**8.23**	**120**	P	**Pn**	**02 32 17.6**	**+1.0**
	0.6nm,0.1s,SNR=4.0						
EBAD				S	**Sn**	**02 33 47.9**	**-1.7**
	1.9nm,0.2s,SNR=6.6						
MORF	**Marmelete**	**8.24**	**134**	*e*Sn	**Sn**	**02 33 49.0**	**-0.9**
MORF				A	A	02 33 53.1	
	4.0nm,0.2s						
MORF	**Marmelete**	**8.24**	**134**	S	**Sn**	**02 33 49.0**	**-0.9**
	4.0nm,0.2s						
MORF	**Marmelete**	**8.24**	**134**	S	**Sn**	**02 33 49.0**	**-0.9**
	4.0nm,0.2s						
PBAR	**Barrancos**	**8.56**	**123**	*e*Sn	**Sn**	**02 33 56.2**	**-1.6**
PBAR				A	A	02 34 03.2	
	2.4nm,0.4s						
PBAR	**Barrancos**	**8.56**	**123**	S	**Sn**	**02 33 56.2**	**-1.6**
	2.4nm,0.4s						
PBAR	**Barrancos**	**8.56**	**123**	S	**Sn**	**02 33 56.2**	**-1.6**
	2.4nm,0.4s						
PVAQ	**Vaqueiros**	**8.68**	**129**	*e*Sn	**Sn**	**02 33 59.7**	**-1.0**
PVAQ				A	A	02 34 05.4	
	1.4nm,0.1s						
PVAQ	**Vaqueiros**	**8.68**	**129**	S	**Sn**	**02 33 59.7**	**-1.0**
	1.4nm,0.1s						
PVAQ	**Vaqueiros**	**8.68**	**129**	S	**Sn**	**02 33 59.7**	**-1.0**
	1.4nm,0.1s						
EGRO	**El Granado**	**8.72**	**128**	S	**Sn**	**02 33 59.9**	**-1.8**
	1.7nm,0.2s,SNR=7.9						
EGRO	**El Granado**	**8.72**	**128**	S	**Sn**	**02 33 59.9**	**-1.8**
	1.7nm,0.2s,SNR=7.9						
EMIN	**Mina Concepcio**	**9.05**	**124**	S	**Sn**	**02 34 06.6**	**-3.1**
	0.4nm,0.2s,SNR=7.9						
EMIN	**Mina Concepcio**	**9.05**	**124**	S	**Sn**	**02 34 06.6**	**-3.1**
	0.4nm,0.2s,SNR=7.9						
ELAN	**Lanestosa**	**9.28**	**86**	P	**Pn**	**02 32 30.9**	**0.0**
	0.1nm,0.1s,SNR=7.9						
ELAN				S	**Sn**	**02 34 14.5**	**-0.8**
	0.3nm,0.1s,SNR=4.0						
GUD	**Guadarrama**	**9.30**	**102**	P	**Pn**	**02 32 33.2**	**+1.8**
	0.3nm,0.1s,SNR=7.9						
ECAB	**El Cabril**	**9.64**	**119**	P	**Pn**	**02 32 36.4**	**+0.5**
	0.1nm,0.1s,SNR=7.9						
ECAB				S	**Sn**	**02 34 21.2**	**-3.1**
	0.8nm,0.3s,SNR=7.9						
ESDC	**Sonseca Array**	**9.81**	**107**	P	**Pn**	**02 32 39.2**	**+0.9**
	0.4nm,0.1s,baz=301,slow=13,SNR=6.6						
EADA	**Adamuz**	**10.13**	**116**	P	**Pn**	**02 32 43.5**	**+0.8**
	0.5nm,0.1s,SNR=7.9						
EADA				S	**Sn**	**02 34 34.2**	**-2.2**
	0.5nm,0.2s,SNR=7.9						

ISK ***03*** *02:32:58.6, 37.°60N×32.°20E, h5km, MD2.6*
DDA ***03*** *02:33:00.2, 37.°69N×32.°39E, h23km, Md2.5*

ISC 03 02:32:58.2±1.9, 37°62N±0.′04×32°1E±0.′1, h11km±8km, n8, σ0°68/14, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMER	**Konya-Meram**	**0.27**	**57**	*i* P	**Pb**	**02 33 04.3**	**-0.8**
KMER				*i* S	**Sb**	**02 33 08.8**	**-0.9**
KONT	**Konya--Tatoy**	**0.39**	**34**	PG	**Pb**	**02 33 07.2**	**+0.1**
KONT				SG	**Sb**	**02 33 13.6**	**+0.5**
KONT	**Konya--Tatoy**	**0.39**	**34**	*i* P	**Pb**	**02 33 06.9**	**-0.2**
KONT				*i* S	**Sb**	**02 33 13.4**	**+0.2**
LADK	**Ladik-KONYA**	**0.62**	**21**	*e*PG	**Pn**	**02 33 12.3**	**-0.7**
HDMB	**Hadim**	**0.73**	**154**	*e*PG	**Pg**	**02 33 12.2**	**-0.3**
HDMB				*e*SG	**Sb**	**02 33 23.5**	**+0.3**
KDHN	**Kadinhani**	**0.90**	**1**	*i* P	**Pg**	**02 33 15.9**	**+0.4**
KDHN				*i* S	**Sn**	**02 33 29.9**	**0.0**
ERMK	**Ermenek**	**1.18**	**146**	*i* P	**Pg**	**02 33 21.4**	**+0.5**
ERMK				*i* S	**Sn**	**02 33 38.2**	**+1.2**
BERE	**Bereket-Mersin**	**1.56**	**144**	*e*PN	**Pg**	**02 33 27.7**	**-0.6**

ISCJB ***03*** *02:35:23.6±0.3, 38.°10N±0.′02×23.°19E±0.′02, h6km±2km, Error ellipse: s-maj=2.7km s-min=2.3km az=176.1*
ATH ***03*** *02:35:23.8, 38.°11N×23.°18E, h6km±4km, ML2.0/13, Error ellipse: s-maj=4.9km s-min=0.5km az=109.0*
CSEM ***03*** *02:35:23.5±0.1, 38.°10N×23.°18E, h8km, ML2.0, Error ellipse: s-maj=1.7km s-min=1.4km az=16.0*
THE ***03*** *02:35:23.8, 38.°10N×23.°20E, h10km, ML2.2/21, Error ellipse: s-maj=0.9km s-min=0.4km az=173.0*

ISC 03 02:35:23.5±0.8, 38°11N±0.′01×23°19E±0.′01, h9km±5km, n90, σ0°50/155, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VILL	**Villia**	**0.11**	**59**	P	**Pg**	**02 35 26.2**	**-0.1**
VILL				S	**Sg**	**02 35 28.3**	**0.0**
VILL	**Villia**	**0.11**	**59**	P	**Pg**	**02 35 26.3**	**-0.1**
VILL				S	**Sg**	**02 35 28.4**	**+0.1**
VIL2	**Platees**	**0.12**	**31**	P	**Pg**	**02 35 26.2**	**-0.2**
VIL2				S	**Sg**	**02 35 28.6**	**+0.1**
VIL2				AML	AML	02 35 29.4	
	comp=N,2434μm,0.3s						
VIL2				AML	AML	02 35 30.1	
	comp=E,2342μm,0.2s						
LTK	**Loutraki**	**0.19**	**245**	P	**Pg**	**02 35 27.4**	**-0.2**
LTK				S	**Sg**	**02 35 30.4**	**+0.1**
LTK	**Loutraki**	**0.19**	**245**	P	**Pg**	**02 35 27.4**	**-0.2**
LTK				S	**Sg**	**02 35 30.4**	**+0.1**
LTK	**Loutraki**	**0.19**	**245**	P	**Pg**	**02 35 27.2**	**-0.4**
LTK				S	**Sg**	**02 35 30.2**	**-0.2**
LTK				AML	AML	02 35 32.9	
	comp=N,1079μm,0.3s						
LTK				AML	AML	02 35 35.6	
	comp=E,908μm,0.4s						
LOUT	**Loutraki**	**0.21**	**235**	P	**Pg**	**02 35 27.8**	**0.0**
LOUT				S	**Sg**	**02 35 31.8**	**+1.1**
LOUT	**Loutraki**	**0.21**	**235**	P	**Pg**	**02 35 27.9**	**+0.1**
LOUT				S	**Sg**	**02 35 31.3**	**+0.6**
LOUT	**Loutraki**	**0.21**	**235**	P	**Pg**	**02 35 27.8**	**+0.1**
LOUT				S	**Sg**	**02 35 31.7**	**+1.0**
LOUT				AML	AML	02 35 36.1	
	comp=N,790μm,0.3s						
LOUT				AML	AML	02 35 37.8	
	comp=E,859μm,0.3s						

PROD	**Prodromos**	**0.27**	**304**	P		**Pg**		**02 35 28.7**	**-0.3**
PROD				S		**Sg**		**02 35 33.0**	**+0.2**
PROD	**Prodromos**	**0.27**	**304**	P		**Pg**		**02 35 28.3**	**-0.8**
PROD				S		**Sg**		**02 35 33.0**	**+0.2**
PROD				AML		AML		02 35 35.4	
	comp=E,4128μm,0.3s								
PROD				AML		AML		02 35 36.6	
	comp=N,2782μm,0.3s								
THAL	**Thalero**	**0.42**	**261**	P		**Pg**		**02 35 31.7**	**-0.1**
THAL				S		**Sg**		**02 35 38.5**	**+1.2**
THAL	**Thalero**	**0.42**	**261**	P		**Pg**		**02 35 31.7**	**-0.1**
THAL				S		**Sg**		**02 35 37.2**	**-0.1**
THAL	**Thalero**	**0.42**	**261**	P		**Pg**		**02 35 32.2**	**+0.5**
THAL				S		**Sg**		**02 35 36.6**	**-0.7**
THAL				AML		AML		02 35 41.1	
	comp=E,678μm,0.3s								
THAL				AML		AML		02 35 41.5	
	comp=N,878μm,0.2s								
ATH	**Athens Observa**	**0.44**	**108**	P		**Pg**		**02 35 32.6**	**+0.5**
ATH				S		**Sb**		**02 35 39.6**	**-0.5**
ATH	**Athens Observa**	**0.44**	**108**	P		**Pg**		**02 35 32.6**	**+0.5**
ATH				S		**Sb**		**02 35 39.6**	**-0.5**
ATHU	**Athens Univers**	**0.49**	**106**	P		**Pg**		**02 35 32.8**	**-0.3**
ATHU				S		**Sg**		**02 35 40.1**	**+0.5**
ATHU	**Athens Univers**	**0.49**	**106**	P		**Pg**		**02 35 32.9**	**-0.2**
ATHU				S		**Sg**		**02 35 39.9**	**+0.3**
ATHU	**Athens Univers**	**0.49**	**106**	P		**Pg**		**02 35 32.5**	**-0.6**
ATHU				S		**Sg**		**02 35 39.6**	**0.0**
ATHU				AML		AML		02 35 41.4	
	comp=N,360μm,0.4s								
ATHU				AML		AML		02 35 44.8	
	comp=E,106μm,0.1s								
PTL	**Penteli**	**0.54**	**96**	P		**Pg**		**02 35 34.2**	**+0.2**
PTL				S		**Sg**		**02 35 41.9**	**+0.8**
PTL	**Penteli**	**0.54**	**96**	P		**Pg**		**02 35 34.2**	**+0.2**
PTL				S		**Sg**		**02 35 41.7**	**+0.6**
PTL	**Penteli**	**0.54**	**96**	P		**Pg**		**02 35 34.8**	**+0.8**
PTL				S		**Sg**		**02 35 41.7**	**+0.6**
PTL				AML		AML		02 35 43.8	
	comp=E,210μm,0.5s								
PTL				AML		AML		02 35 44.0	
	comp=N,288μm,0.4s								
VLY	**Voula,Athens**	**0.54**	**118**	P		**Pg**		**02 35 34.4**	**+0.3**
VLY				S		**Sg**		**02 35 41.0**	**-0.1**
VLY	**Voula,Athens**	**0.54**	**118**	P		**Pg**		**02 35 34.4**	**+0.3**
VLY				S		**Sg**		**02 35 41.1**	**-0.1**
VLY	**Voula,Athens**	**0.54**	**118**	P		**Pg**		**02 35 34.7**	**+0.6**
VLY				S		**Sg**		**02 35 40.2**	**-1.0**
VLY				AML		AML		02 35 43.0	
	comp=E,798μm,0.2s								
VLY				AML		AML		02 35 44.0	
	comp=N,398μm,0.3s								
LKR	**Lokris**	**0.56**	**345**	P		**Pg**		**02 35 34.0**	**-0.4**
LKR				S		**Sb**		**02 35 43.9**	**+0.2**
LKR	**Lokris**	**0.56**	**345**	P		**Pg**		**02 35 34.1**	**-0.4**
LKR				S		**Sb**		**02 35 43.2**	**-0.5**
LKR	**Lokris**	**0.56**	**345**	P		**Pg**		**02 35 33.7**	**-0.8**
LKR				S		**Sb**		**02 35 44.2**	**+0.5**
LKR				AML		AML		02 35 45.8	
	comp=E,443μm,0.2s								
LKR				AML		AML		02 35 48.3	
	comp=N,541μm,0.3s								
DID	**Didima**	**0.60**	**176**	P		**Pg**		**02 35 35.1**	**-0.1**
DID				S		**Sb**		**02 35 44.2**	**-0.6**
DID	**Didima**	**0.60**	**176**	P		**Pg**		**02 35 35.3**	**+0.2**
DID				S		**Sb**		**02 35 44.2**	**-0.6**
DID	**Didima**	**0.60**	**176**	P		**Pg**		**02 35 35.4**	**+0.2**
DID				S		**Sb**		**02 35 44.7**	**-0.1**
DID				AML		AML		02 35 49.1	
	comp=E,275μm,0.3s								
DID				AML		AML		02 35 49.1	
	comp=N,315μm,0.3s								
DSF	**Desfina**	**0.60**	**301**	P		**Pg**		**02 35 34.7**	**-0.5**
DSF				S		**Sb**		**02 35 45.1**	**+0.2**
DSF	**Desfina**	**0.60**	**301**	P		**Pg**		**02 35 34.7**	**-0.5**
DSF				S		**Sg**		**02 35 43.7**	**+0.5**
DSF	**Desfina**	**0.60**	**301**	P		**Pg**		**02 35 34.3**	**-1.0**
DSF				S		**Sg**		**02 35 43.9**	**+0.7**
DSF				AML		AML		02 35 47.4	
	comp=N,430μm,0.3s								
DSF				AML		AML		02 35 49.9	
	comp=E,582μm,0.3s								
EREA	**Eretria**	**0.66**	**62**	P		**Pg**		**02 35 36.6**	**+0.2**
EREA				S		**Sb**		**02 35 46.8**	**+0.2**
EREA	**Eretria**	**0.66**	**62**	P		**Pg**		**02 35 36.6**	**+0.2**
EREA				S		**Sg**		**02 35 45.8**	**+0.7**
EREA	**Eretria**	**0.66**	**62**	P		**Pg**		**02 35 36.8**	**+0.4**
EREA				S		**Sg**		**02 35 45.9**	**+0.8**
EREA				AML		AML		02 35 50.2	
	comp=N,246μm,0.3s								
EREA				AML		AML		02 35 50.4	
	comp=E,315μm,0.2s								
SMIA	**Simia**	**0.77**	**1**	P		**Pg**		**02 35 38.3**	**-0.1**
SMIA				S		**Sb**		**02 35 50.2**	**+0.5**
SMIA	**Simia**	**0.77**	**1**	P		**Pg**		**02 35 38.3**	**-0.1**
SMIA				S		**Sb**		**02 35 50.2

XOR	**Xorichti**	**1.26**	**0**	P	**Pn**	**02 35 47.2**	**0.0**
EVR	**Evrytania**	**1.35**	**307**	P	**Pn**	**02 35 48.9**	**+0.3**
EVR				S	**Sb**	**02 36 06.7**	**+0.2**
EVR	**Evrytania**	**1.35**	**307**	P	**Pn**	**02 35 48.9**	**+0.3**
EVR				S	**Sb**	**02 36 06.7**	**+0.2**
EVR	**Evrytania**	**1.35**	**307**	P	**Pn**	**02 35 49.0**	**+0.3**
VLI	**Velíai**	**1.40**	**188**	P	**Pn**	**02 35 48.9**	**-0.3**
VLI				S	**Sb**	**02 36 06.9**	**-0.9**
VLI	**Veliai**	**1.40**	**188**	P	**Pn**	**02 35 48.9**	**-0.3**
VLI				S	**Sb**	**02 36 06.9**	**-0.9**
THL	**Klokotos Trika**	**1.72**	**328**	P	**Pn**	**02 35 54.4**	**+0.8**
THL	**Klokotos Trika**	**1.72**	**328**	P	**Pn**	**02 35 54.4**	**+0.8**
PAIG	**Paliouri**	**1.86**	**12**	P	**Pn**	**02 35 55.1**	**-0.4**
PAIG	**Paliouri**	**1.86**	**12**	P	**Pn**	**02 35 55.1**	**-0.4**
APE	**Apeiranthos**	**2.13**	**118**	P	**Pn**	**02 35 58.8**	**-0.5**
APE	**Apeiranthos**	**2.13**	**118**	P	**Pn**	**02 35 58.8**	**-0.5**

*CSEM **03** 02:35:46.6, 34.96N × 23.88E, **h24**km ± 4km, **ML1.3**/2*
ATH 03 02:35:46.6, 34.96N × 23.88E, h24km ± 4km, **ML1.3**/2, **Error ellipse: s-maj=5.7km s-min=1.5km az=95.0, Crete**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GVD	**Gavdhos**	**0.20**	**124**	S	Sb	02 35 57.0	+1.0
GVD	**Gavdhos**	**0.20**	**124**	P	Pb	02 35 52.3	+0.1
GVD				S	Sb	02 35 56.2	+0.2
GVD	**Gavdhos**	**0.20**	**124**	P	Pb	02 35 52.4	+0.2
GVD				S	Sb	02 35 56.0	0.0
GVD				AML	AML	02 35 58.1	
	comp=N,215μm,0.2s						
GVD				AML	AML	02 35 58.9	
	comp=E,190μm,0.3s						
IMMV	**Iera Moni Meta**	**0.51**	**9**	P	Pb	02 35 57.0	0.0
IMMV				S	Sb	02 36 04.1	+0.1
IMMV	**Iera Moni Meta**	**0.51**	**9**	P	Pb	02 35 57.0	0.0
IMMV				S	Sb	02 36 03.6	-0.4
IMMV				AML	AML	02 36 07.8	
	comp=N,57μm,0.3s						
IMMV				AML	AML	02 36 08.2	
	comp=E,73μm,0.6s						
SIVA	**Sivas**	**0.76**	**85**	P	Pb	02 36 00.9	-0.3
SIVA	**Sivas**	**0.76**	**85**	P	Pb	02 36 00.3	-0.9
IDI	**Anoyia**	**0.89**	**68**	P	Pn	02 36 04.4	+0.8
IDI	**Anoyia**	**0.89**	**68**	P	Pn	02 36 05.1	+1.5

*ISCJB **03** 02:42:47.5±0.9, 50.23N±0.03 × 12.54E±0.04, h12**km** ± 7**km**, Error ellipse: s-maj=6.1km s-min=3.5km az=40.9*
*PRU **03** 02:42:49.0, 50.26N × 12.50E, h4**km**, West Bohemia Swarm*
*CSEM **03** 02:42:49.0±0.4, 50.23N × 12.56E, h5**km**, ML2.6/7, Error ellipse: s-maj=13.3km s-min=4.6km az=6.0*
*CLL **03** 02:42:49.5±0.3, 50.3N±0.8 × 1.2E±°, h8**km** ± 1**km**, ml2.1*
ISC 03 02:42:49.0±1.0, **50.24N**±0.03 × **12.50E**±0.03, **h10**km ± 6km, **n29**, σ0**88**/44, **5C, Germany**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NKC	**Novy Kostel**	**0.04**	**264** ⇑	*i*PG	**Pg**	**02 42 50.8**	**-0.1**
NKC				*e*SG	**Sg**	**02 42 51.9**	**-0.3**
	comp=Z,986nm,0.2s						
NKC	**Novy Kostel**	**0.04**	**264** ⇑	*i*Pg	**Pg**	**02 42 50.8**	**-0.1**
NKC				*i* Sg	**Sg**	**02 42 51.9**	**-0.3**
NKC	**Novy Kostel**	**0.04**	**264**	Pg	**Pg**	**02 42 50.8**	**-0.1**
NKC				Sg	**Sg**	**02 42 51.9**	**-0.3**
	986nm,0.2s						
WERN	**Wernitzgruen**	**0.10**	**302**	*i* Pg	**Pg**	**02 42 51.2**	**-0.3**
WERN				*i* Sg	**Sg**	**02 42 52.6**	**-0.7**
WERN				AML	AML	02 42 52.8	
	comp=E,2μm,0.2s						
ROHR	**Rohrbach**	**0.12**	**269**	*i* Pg	**Pg**	**02 42 51.4**	**-0.5**
ROHR				*i* Sg	**Sg**	**02 42 52.9**	**-1.0**
ROHR				AML	AML	02 42 53.0	
	comp=E,614nm,0.1s						
GUNZ	**Gunzen**	**0.17**	**319**	*i* Pg	**Pg**	**02 42 52.3**	**-0.3**
GUNZ				*i* Sg	**Sg**	**02 42 54.4**	**-0.8**
GUNZ				AML	AML	02 42 54.7	
	comp=N,442nm,0.2s						
TANN	**Tannenbergstha**	**0.18**	**352**	*i* Pg	**Pg**	**02 42 52.7**	**-0.2**
TANN				*i* Sg	**Sg**	**02 42 55.0**	**-0.5**
TANN				AML	AML	02 42 55.6	
	comp=N,568nm,0.2s						
MULD	**Muldenberg**	**0.19**	**340**	*i* Pg	**Pg**	**02 42 52.7**	**-0.2**
MULD				*i* Sg	**Sg**	**02 42 55.0**	**-0.6**
MULD				AML	AML	02 42 55.4	
	comp=N,348nm,0.1s						
WERD	**Werda**	**0.25**	**329**	*i* Pg	**Pg**	**02 42 53.6**	**-0.4**
WERD				*e*Sg	**Sg**	**02 42 56.6**	**-0.8**
WERD				AML	AML	02 42 56.8	
	comp=E,159nm,0.1s						
TRIB	**Obertriebel**	**0.26**	**296**	*i* Pg	**Pg**	**02 42 53.6**	**-0.6**
TRIB				*i* Sg	**Sg**	**02 42 56.7**	**-1.1**
TRIB				AML	AML	02 42 57.1	
	comp=E,142nm,0.1s						
PLN	**Plauen**	**0.33**	**318**	*i* Pg	**Pg**	**02 42 55.1**	**-0.5**
PLN				*i* Sg	**Sg**	**02 42 59.1**	**-0.9**
PLN				AML	AML	02 42 59.3	
	comp=E,93nm,0.1s						
SCHF	**Schoenfels**	**0.45**	**352**	*i* Pg	**Pg**	**02 42 57.4**	**-0.3**
SCHF				*i* Sg	**Sg**	**02 43 03.2**	**-0.3**
SCHF				AML	AML	02 43 03.7	
	comp=E,165nm,0.3s						
MLFH	**Mildenfurth**	**0.62**	**334**	*i* Pg	**Pg**	**02 43 00.3**	**-0.6**
MLFH				*e*Sg	**Sg**	**02 43 08.3**	**-0.6**
BRG	**Berggiesshubel**	**1.12**	**55**	PG	**Pg**	**02 43 10.4**	**0.0**
BRG				SG	**Sb**	**02 43 25.3**	**+0.3**
	comp=E,12nm,0.3s						
CLL	**Collm**	**1.12**	**16**	*i*	**Pn**	**02 43 12.0**	**+1.3**
CLL				*i* Sg	**Sb**	**02 43 25.1**	**+0.1**
	comp=Z,12nm,0.5s						
PRA	**Prague**	**1.25**	**97** ⇑	*e*SG	**Sb**	**02 43 29.5**	**+0.7**
	comp=Z,8.5nm,0.5s						
PRA	**Prague**	**1.25**	**97**	Sg	**Sb**	**02 43 29.5**	**+0.7**
	comp=Z,8.5nm,0.5s						
KHC	**Kasperske Hory**	**1.31**	**147**	*e*SG	**Sg**	**02 43 30.3**	**-0.7**
	comp=Z,8.6nm,0.3s						
KHC	**Kasperske Hory**	**1.31**	**147**	Sg	**Sg**	**02 43 30.3**	**-0.7**
	comp=Z,8.6nm,0.3s						
PRU	**Pruhonice**	**1.34**	**100** ⇑	*e*SG	**Sb**	**02 43 32.1**	**+0.9**
	comp=Z,6.2nm,0.2s						
PRU	**Pruhonice**	**1.34**	**100**	Sg	**Sb**	**02 43 32.1**	**+0.9**
	comp=Z,6.2nm,0.2s						
GOPC	**GO Pecny, Ondr**	**1.51**	**102**	*e*SG	**Sg**	**02 43 37.3**	**-0.1**
	comp=Z,5.9nm,0.3s						
GOPC	**GO Pecny, Ondr**	**1.51**	**102**	Sg	**Sg**	**02 43 37.3**	**-0.1**
	comp=Z,5.9nm,0.3s						
UPC	**Upice**	**2.26**	**82** ⇑	*e*SG	**Sg**	**02 44 00.5**	**-1.1**
	comp=Z,4.0nm,0.4s						
UPC	**Upice**	**2.26**	**82**	Sg	**Sg**	**02 44 00.5**	**-1.1**
	comp=Z,4.0nm,0.4s						
DPC	**Dobruska-Polom**	**2.45**	**86**	*e*SG	**Sg**	**02 44 06.4**	**-1.3**
	comp=Z,3.5nm,0.3s						
DPC	**Dobruska-Polom**	**2.45**	**86**	Sg	**Sg**	**02 44 06.4**	**-1.3**
	comp=Z,3.5nm,0.3s						
VRAC	**Vranov**	**2.81**	**108**	*e*Sg	**Sg**	**02 44 17.1**	**-2.1**
MORC	**Moravsky Berou**	**3.28**	**96**	*e*Sg	**Sg**	**02 44 31.6**	**-2.7**

*IASPEI **03** 02:52:43.0±0.8, 50.25N±0.02 × 12.46E±0.02, h15**km** ± 3**km**, Error ellipse: s-maj=3.3km s-min=2.9km az=72.7, GT5 selection from ISC bulletin GT5 identified by Bond˙ȷr and McLaughlin (2009) selection criteria Bond˙ȷr and McLaughlin, A new ground truth data set for seismic studies, Seism. Res. Let., 80, 465-472, 2009*
*CSEM **03** 02:52:43.3±0.1, 50.23N × 12.50E, h10**km**, ML2.7/6, Error ellipse: s-maj=1.3km s-min=1.1km az=29.0*
*BGR **03** 02:52:43.7±0.2, 50.25N × 12.45E, h11**km** ± 1**km**, ML2.2/6, Error ellipse: s-maj=2.2km s-min=2.2km az=108.0*
*CLL **03** 02:52:44.4±0.3, 50.3N±0.8 × 1.2E±°, h8**km** ± 1**km**, ml2.2*
*PRU **03** 02:52:44.4, 50.28N × 12.52E, h1**km**, West Bohemia Swarm*
ISC 03 02:52:42.7±0.8, **50.24N**±0.02 × **12.47E**±0.02, **h14**km ± 3km, **n62**, σ0**73**/109, **5C, Germany**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NKC	**Novy Kostel**	**0.02**	**244** ⇑	*i*PG	**Pg**	**02 52 45.8**	**+0.5**
NKC				*e*SG	**Sg**	**02 52 46.8**	**-0.2**
	comp=Z,1μm,0.2s						
NKC	**Novy Kostel**	**0.02**	**244** ⇑	*i*Pg	**Pg**	**02 52 45.8**	**+0.5**
NKC				*i* Sg	**Sg**	**02 52 46.8**	**-0.2**
NKC	**Novy Kostel**	**0.02**	**244**	Pg	**Pg**	**02 52 45.8**	**+0.5**
NKC				Sg	**Sg**	**02 52 46.9**	**-0.2**
WERN	**Wernitzgruen**	**0.08**	**306**	*i* Pg	**Pg**	**02 52 46.1**	**+0.4**
WERN				*i* Sg	**Sg**	**02 52 47.5**	**-0.2**
WERN				AML	AML	02 52 47.6	
	comp=E,2μm,0.2s						
WERN	**Wernitzgruen**	**0.08**	**306**	*e*Pg	**Pg**	**02 52 46.1**	**+0.4**
WERN				*e*Sg	**Sg**	**02 52 47.5**	**-0.2**
WERN	**Wernitzgruen**	**0.08**	**306**	Pg	**Pg**	**02 52 46.1**	**+0.4**
WERN				Sg	**Sg**	**02 52 47.5**	**-0.2**
ROHR	**Rohrbach**	**0.10**	**266**	*i* Pg	**Pb**	**02 52 46.3**	**-0.2**
ROHR				*i* Sg	**Sb**	**02 52 47.8**	**-1.1**
ROHR				AML	AML	02 52 48.0	
	comp=E,994nm,0.1s						
ROHR	**Rohrbach**	**0.10**	**266**	*e*Pg	**Pb**	**02 52 46.3**	**-0.2**
ROHR				*e*Sg	**Sb**	**02 52 47.8**	**-1.1**
ROHR	**Rohrbach**	**0.10**	**266**	Pg	**Pb**	**02 52 46.3**	**-0.2**
ROHR				Sg	**Sb**	**02 52 47.8**	**-1.1**
GUNZ	**Gunzen**	**0.15**	**323**	*i* Pg	**Pg**	**02 52 47.2**	**+0.6**
GUNZ				*i* Sg	**Sb**	**02 52 49.2**	**-1.3**
GUNZ				AML	AML	02 52 49.5	
	comp=N,511nm,0.2s						
GUNZ	**Gunzen**	**0.15**	**323**	*e*Pg	**Pg**	**02 52 47.2**	**+0.6**
GUNZ				*e*Sg	**Sb**	**02 52 49.2**	**-1.3**
GUNZ	**Gunzen**	**0.15**	**323**	Pg	**Pg**	**02 52 47.2**	**+0.6**
GUNZ				Sg	**Sb**	**02 52 49.2**	**-1.3**
TANN	**Tannenbergstha**	**0.17**	**357**	*i* Pg	**Pg**	**02 52 47.5**	**+0.6**
TANN				*i* Sg	**Sg**	**02 52 49.8**	**0.0**
TANN				AML	AML	02 52 50.4	
	comp=N,804nm,0.2s						
MULD	**Muldenberg**	**0.18**	**345**	*i* Pg	**Pg**	**02 52 47.6**	**+0.6**
MULD				*i* Sg	**Sg**	**02 52 49.8**	**0.0**
MULD				AML	AML	02 52 50.2	
	comp=N,419nm,0.1s						
MULD	**Muldenberg**	**0.18**	**345**	*e*Pg	**Pg**	**02 52 47.6**	**+0.6**
MULD				*e*Sg	**Sg**	**02 52 49.9**	**0.0**
MULD	**Muldenberg**	**0.18**	**345**	Pg	**Pg**	**02 52 47.6**	**+0.6**
MULD				Sg	**Sg**	**02 52 49.9**	**0.0**
TRIB	**Obertriebel**	**0.24**	**297**	*i* Pg	**Pg**	**02 52 48.5**	**+0.6**
TRIB				*i* Sg	**Sg**	**02 52 51.7**	**0.0**
TRIB				AML	AML	02 52 51.9	
	comp=E,152nm,0.1s						
TRIB	**Obertriebel**	**0.24**	**297**	*e*Pg	**Pg**	**02 52 48.6**	**+0.6**
TRIB				*e*Sg	**Sg**	**02 52 51.6**	**0.0**
TRIB	**Obertriebel**	**0.24**	**297**	Pg	**Pg**	**02 52 48.6**	**+0.6**
TRIB				Sg	**Sg**	**02 52 51.6**	**0.0**
PLN	**Plauen**	**0.32**	**320**	*i* Pg	**Pb**	**02 52 50.0**	**-0.2**
PLN				*i* Sg	**Sg**	**02 52 53.9**	**+0.2**
PLN				AML	AML	02 52 54.1	
	comp=E,160nm,0.2s						
PLN	**Plauen**	**0.32**	**320**	*e*Pg	**Pb**	**02 52 49.9**	**-0.2**
PLN				*e*Sg	**Sg**	**02 52 54.0**	**+0.2**
PLN	**Plauen**	**0.32**	**320**	Pg	**Pb**	**02 52 49.9**	**-0.2**
PLN				Sg	**Sg**	**02 52 54.0**	**+0.2**
SCHF	**Schoenfels**	**0.44**	**354**	*i* Pg	**Pb**	**02 52 52.3**	**+0.1**
SCHF				*i* Sg	**Sb**	**02 52 58.0**	**-0.6**
SCHF				AML	AML	02 52 58.5	
	comp=E,216nm,0.3s						
SCHF	**Schoenfels**	**0.44**	**354**	*e*Pg	**Pb**	**02 52 52.3**	**+0.1**
SCHF				*e*Sg	**Sb**	**02 52 58.1**	**-0.6**
SCHF	**Schoenfels**	**0.44**	**354**	Pg	**Pb**	**02 52 52.3**	**+0.1**
SCHF				Sg	**Sb**	**02 52 58.1**	**-0.6**
MLFH	**Mildenfurth**	**0.60**	**336**	*i* Pg	**Pb**	**02 52 55.2**	**+0.2**
MLFH				*i* Sg	**Sb**	**02 53 03.0**	**-0.4**
MOX	**Moxa**	**0.68**	**307**	*e*Pg	**Pg**	**02 52 56.6**	**+0.6**
MOX				*e*Sg	**Sg**	**02 53 06.0**	**+1.0**
MOX	**Moxa**	**0.68**	**307**	Pg	**Pg**	**02 52 56.6**	**+0.6**
MOX				Sg	**Sg**	**02 53 06.0**	**+1.0**
FBE	**Freiberg**	**0.88**	**39**	*e*Pg	**Pn**	**02 53 00.9**	**+0.3**
FBE				*e*Sg	**Sn**	**02 53 12.1**	**-1.1**
FBE	**Freiberg**	**0.88**	**39**	Pg	**Pn**	**02 53 00.9**	**+0.3**
FBE				Sg	**Sn**	**02 53 12.1**	**-1.1**
GRA1	**Grafenberg Arr**	**0.98**	**236**	Pg	**Pn**	**02 53 02.3**	**+0.3**
GRA1				Sg	**Sb**	**02 53 14.8**	**+0.7**
GRF	**Grafenberg Arr**	**0.98**	**236**	*e*Pg	**Pn**	**02 53 02.3**	**+0.3**
GRF				*e*Sg	**Sb**	**02 53 14.8**	**+0.7**
CLL	**Collm**	**1.12**	**17**	*e*Pg	**Pg**	**02 53 05.0**	**+0.7**
CLL				*e*Sg	**Sg**	**02 53 19.4**	**+0.5**
CLL	**Collm**	**1.12**	**17**	Pg	**Pg**	**02 53 05.0**	**+0.7**
CLL				Sg	**Sg**	**02 53 19.4**	**+0.5**
CLL	**Collm**	**1.12**	**17**	*i* Pg	**Pg**	**02 53 04.9**	**+0.7**
CLL				*i*		02 53 06.9	
CLL				*i*		02 53 08.3	
CLL				*i* Sg	**Sg**	**02 53 19.9**	**+1.0**
	comp=Z,25nm,0.3s						
CLL				*i*		02 53 23.9	
WET	**Wettzell**	**1.13**	**166**	*e*Pg	**Pg**	**02 53 05.4**	**+0.9**
WET				*e*Sg	**Sn**	**02 53 19.6**	**+0.3**
WET	**Wettzell**	**1.13**	**166**	Pg	**Pg**	**02 53 05.4**	**+0.9**
WET				Sg	**Sn**	**02 53 19.6**	**+0.3**
BRG	**Berggiesshubel**	**1.13**	**55**	PG	**Pg**	**02 53 05.4**	**+0.9**
BRG				SG	**Sg**	**02 53 20.2**	**+0.9**
	comp=Z,20nm,0.2s						
BRG	**Berggiesshubel**	**1.13**	**55**	*e*Pg	**Pg**	**02 53 05.4**	**+0.9**
BRG				*e*Sg	**Sg**	**02 53 19.8**	**+0.6**
BRG	**Berggiesshubel**	**1.13**	**55**	Pg	**Pg**	**02 53 05.4**	**+0.9**
BRG				Sg	**Sg**	**02 53 19.8**	**+0.6**
PRA	**Prague**	**1.27**	**97** ⇑	*e*SG	**Sg**	**02 53 23.9**	**+0.2**
PRA	**Prague**	**1.27**	**97**	Sg	**Sg**	**02 53 23.9**	**+0.2**
KHC	**Kasperske Hory**	**1.32**	**147**	*e*PG	**Pg**	**02 53 08.6**	**+0.5**
KHC				*e*SG	**Sg**	**02 53 25.7**	**+0.4**
	comp=Z,12nm,0.2s						
KHC	**Kasperske Hory**	**1.32**	**147**	Pg	**Pg**	**02 53 08.6**	**+0.5**
KHC				Sg	**Sg**	**02 53 25.7**	**+0.4**
	comp=Z,12nm,0.2s						
PRU	**Pruhonice**	**1.35**	**100** ⇑	*e*PG	**Pg**	**02 53 09.1**	**+0.4**
PRU				*e*SG	**Sg**	**02 53 26.9**	**+0.5**
	comp=Z,9.5nm,0.2s						
PRU	**Pruhonice**	**1.35**	**100**	Pg	**Pg**	**02 53 09.1**	**+0.4**
PRU				Sg	**Sg**	**02 53 26.9**	**+0.5**
	comp=Z,9.5nm,0.2s						
GOPC	**GO Pecny, Ondr**	**1.53**	**102**	*e*SG	**Sg**	**02 53 32.4**	**+0.6**
GOPC	**GO Pecny, Ondr**	**1.53**	**102**	Sg	**Sg**	**02 53 32.4**	**+0.6**
UPC	**Upice**	**2.28**	**82** ⇑	*e*SG	**Sg**	**02 53 55.2**	**-0.8**
	comp=Z,5.0nm,0.4s						
UPC	**Upice**	**2.28**	**82**	Sg	**Sg**	**02 53 55.2**	**-0.8**
	comp=Z,5.0nm,0.4s						
DPC	**Dobruska-Polom**	**2.47**	**86**	*e*SG	**Sg**	**02 54 01.2**	**-0.8**
	comp=Z,4.0nm,0.3s						
DPC	**Dobruska-Polom**	**2.47**	**86**	Sg	**Sg**	**02 54 01.2**	**-0.8**
	comp=Z,4.0nm,0.3s						
KSP	**Ksiaz**	**2.51**	**75**	*e*Pg	**Pg**	**02 53 30.8**	**0.0**
KSP				*e*Sg	**Sg**	**02 54 02.8**	**-0.5**
KSP	**Ksiaz**	**2.51**	**75**	*e*Pg	**Pg**	**02 53 30.8**	**0.0**
KSP				*e*Sg	**Sg**	**02 54 02.8**	**-0.5**
VRAC	**Vranov**	**2.83**	**108**	*e*Sg	**Sb**	**02 54 09.9**	**+2.5**
CONA	**Conrad Observa**	**3.21**	**135**	*i* Pn	**Pg**	**02 53 43.3**	**-0.9**
KBA	**Koelnbreinsper**	**3.22**	**169**	*e*Sg	**Sg**	**02 54 26.0**	**0.0**
	comp=Z,0.9nm,0.2s						
KBA	**Koelnbreinsper**	**3.22**	**169**	Sg	**Sg**	**02 54 26.0**	**0.0**
	comp=Z,0.9nm,0.2s						
MORC	**Moravsky Berou**	**3.30**	**96**	*e*Sg	**Sg**	**02 54 25.2**	**-3.5**
ARSA	**Arzberg**	**3.61**	**145**	*e*Sg	**Sg**	**02 54 37.7**	**-0.9**
	comp=Z,1.4nm,0.3s						
ARSA	**Arzberg**	**3.61**	**145**	Sg	**Sg**	**02 54 37.7**	**-0.9**
	comp=Z,1.4nm,0.3s						

*DDA **03** 02:54:40.9, 38.94N × 27.96E, h6**km**, Md2.7*
*ISK **03** 02:54:40.9, 38.89N × 27.93E, h10**km**, MD2.9*
*ISCJB **03** 02:54:41.1±0.5, 38.92N±0.02 × 27.95E±0.03, h3**km** ± 4**km**, Error ellipse: s-maj=4.1km s-min=3.4km az=175.8*
*CSEM **03** 02:54:41.3±0.1, 38.90N × 27.94E, h9**km** ± 1**km**, MD2.9, Error ellipse: s-maj=3.5km s-min=2.3km az=19.0*
ISC 03 02:54:41.2±1.0, **38.91N**±0.02 × **27.93E**±0.02, **h7**km ± 8km, **n37**, σ0**43**/63, **Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AKS	**Akhisar**	**0.10**	**251**	PG	**Pg**	**02 54 43.5**	**+0.1**
AKS	**Akhisar**	**0.10**	**251**	*i* Pg	**Pg**	**02 54 43.5**	**+0.1**
DEMI	**Demirci**	**0.62**	**78**	*i* P	**Pg**	**02 54 53.0**	**-0.2**
DEMI				*i* S	**Sg**	**02 55 01.3**	**0.0**
DEMI	**Demirci**	**0.62**	**78**	P	**Pg**	**02 54 53.0**	**-0.2**
DEMI				S	**Sg**	**02 55 01.3**	**0.0**
KULA	**Kula-Manisa**	**0.69**	**125**	PG	**Pb**	**02 54 54.8**	**-0.9**
KULA				*e*SG	**Sg**	**02 55 03.8**	**+0.2**
KULA	**Kula-Manisa**	**0.69**	**125**	*i* Pg	**Pb**	**02 54 54.8**	**-0.9**
KULA				*e*Sg	**Sg**	**02 55 03.8**	**+0.2**
BALB	**Balikesir**	**0.73**	**357**	*e*PG	**Pb**	**02 54 55.9**	**-0.3**
BALB				*e*SG	**Sb**	**02 55 07.2**	**+0.8**
BALB	**Balikesir**	**0.73**	**357**	*e*Pg	**Pb**	**02 54 55.9**	**-0.3**
BALB				*e*Sg	**Sb**	**02 55 07.2**	**+0.8**
DKL	**Dikili**	**0.82**	**282**	*e*PG	**Pb**	**02 54 57.4**	**-0.3**
DKL				*e*SG	**Sb**	**02 55 09.1**	**+0.2**
DKL	**Dikili**	**0.82**	**282**	*e*Pg	**Pb**	**02 54 57.4**	**-0.3**
DKL				*e*Sg	**Sb**	**02 55 09.1**	**+0.2**
SIMA	**Simav-Kutahya**	**0.83**	**78**	*e*PG	**Pb**	**02 54 58.0**	**-0.1**
SIMA	**Simav-Kutahya**	**0.83**	**78**	*e*Pg	**Pb**	**02 54 58.0**	**-0.1**
BALY	**Balya**	**0.86**	**344**	*i* P	**Pg**	**02 54 57.3**	**-0.5**
BALY				*i* S	**Sg**	**02 55 09.4**	**+0.4**
BALY	**Balya**	**0.86**	**344**	P	**Pg**	**02 54 57.3**	**-0.5**
BALY				S	**Sg**	**02 55 09.4**	**+0.4**
AYDB	**Zeytinkoy-Aydi**	**0.96**	**182**	*e*PG	**Pb**	**02 54 59.9**	**-0.4**
AYDB	**Zeytinkoy-Aydi**	**0.96**	**182**	*e*Pg	**Pb**	**02 54 59.9**	**-0.4**
AYVA	**Ayvalik**	**1.05**	**293**	*i* P	**Pn**	**02 55 01.6**	**-0.7**
AYVA				*i* S	**Sb**	**02 55 15.8**	**+0.3**
AYVA	**Ayvalik**	**1.05**	**293**	P	**Pn**	**02 55 01.6**	**-0.7**
AYVA				S	**Sb**	**02 55 15.8**	**+0.3**
GEDZ	**Gediz**	**1.16**	**83**	*e*PN	**Pn**	**02 55 03.6**	**-0.3**
GEDZ				*e*SN	**Sn**	**02 55 20.2**	**+0.1**
GEDZ	**Gediz**	**1.16**	**83**	*e*Pn	**Pn**	**02 55 03.6**	**-0.3**
GEDZ				*e*Sn	**Sn**	**02 55 20.2**	**+0.1**
DGB	**¨zmir**	**1.19**	**224**	*i* P	**Pn**	**02 55 04.1**	**-0.1**
DGB				*i* S	**Sn**	**02 55 21.4**	**+0.7**
TVSB	**Tavsanli**	**1.30**	**65**	*e*PN	**Pb**	**02 55 05.7**	**-0.4**
TVSB				*e*SN	**Sn**	**02 55 24.2**	**+0.5**
TVSB	**Tavsanli**	**1.30**	**65**	*e*Pn	**Pb**	**02 55 05.7**	**-0.4**
TVSB				*e*Sn	**Sn**	**02 55 24.2**	**+0.5**
ZEY	**¨zmir**	**1.31**	**240**	*i* P	**Pg**	**02 55 06.7**	**-0.4**
ZEY				*i* S	**Sn**	**02 55 24.0**	**+0.4**
KCTX	**Karacabey (Bur**	**1.39**	**13**	*e*PN	**Pn**	**02 55 07.0**	**-0.1**
KCTX				*e*SN	**Sn**	**02 55 25.8**	**+0.1**
KCTX	**Karacabey (Bur**	**1.39**	**13**	*e*Pn	**Pn**	**02 55 07.0**	**-0.1**
KCTX				*e*Sn	**Sn**	**02 55 25.8**	**+0.1**
KNL	**Bal¨–kesir**	**1.39**	**347**	*i* P	**Pb**	**02 55 07.5**	**-0.1**
KNL				*i* S	**Sg**	**02 55 26.4**	**+0.4**
EZN	**Ezine**	**1.55**	**307**	*e*PN	**Pn**	**02 55 08.5**	**-0.6**
EZN				*e*SN	**Sb**	**02 55 30.0**	**+0.1**
EZN	**Ezine**	**1.55**	**307**	*e*Pn	**Pn**	**02 55 08.5**	**-0.6**
EZN				*e*Sn	**Sb**	**02 55 30.0**	**+0.1**
KRBG	**Karabiga-Canak**	**1.56**	**342**	*e*PN	**Pn**	**02 55 08.8**	**-0.5**
KRBG	**Karabiga-Canak**	**1.56**	**342**	*e*Pn	**Pn**	**02 55 08.8**	**-0.5**
MDNY	**Mudanya-Bursa**	**1.63**	**26**	*e*PN	**Pn**	**02 55 10.6**	**+0.3**
MDNY				*e*SN	**Sb**	**02 55 32.8**	**+0.4**
MDNY	**Mudanya-Bursa**	**1.63**	**26**	*e*Pn	**Pn**	**02 55 10.6**	**+0.3**
MDNY				*e*Sn	**Sb**	**02 55 32.8**	**+0.4**
ARMT	**Armutlu**	**1.80**	**23**	*e*PN	**Pb**	**02 55 13.7**	**-0.8**
ARMT	**Armutlu**	**1.80**	**23**	*e*Pn	**Pb**	**02 55 13.7**	**-0.8**
BORA	**Eskisehir**	**2.18**	**63**	*i* P	**Pb**	**02 55 21.3**	**+0.3**
BORA				*i* S	**Sg**	**02 55 51.2**	**0.0**
BORA	**Eskisehir**	**2.18**	**63**	P	**Pb**	**02 55 21.3**	**+0.3**

*ISCJB **03** 03:01:47.4±0.9, 50.23N±0.03 × 12.54E±0.05, h13**km** ± 7**km**, Error ellipse: s-maj=6.2km s-min=3.8km az=41.7*
*CSEM **03** 03:01:48.9±0.4, 50.24N × 12.55E, h5**km**, ML2.5/6, Error ellipse: s-maj=12.8km s-min=4.5km az=4.0*
*PRU **03** 03:01:49.1, 50.26N × 12.51E, h4**km**, West Bohemia Swarm*
*CLL **03** 03:01:49.4±0.3, 50.3N±0.8 × 1.2E±°, h8**km** ± 1**km**, ml2.0*
ISC 03 03:01:48.9±1.1, **50.24N**±0.03 × **12.49E**±0.04, **h10**km ± 6km, **n28**, σ0**93**/41, **1C, Germany**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NKC	**Novy Kostel**	**0.03**	**262**	*e*PG	**Pg**	**03 01 50.7**	**-0.1**
NKC				*e*SG	**Sg**	**03 01 51.9**	**-0.2**
	comp=Z,457nm,0.2s						
NKC	**Novy Kostel**	**0.03**	**262** ⇑	*i*Pg	**Pg**

CLL	**Collm**	**1.10**	**16**	*i* Pg		**Pn**	**03 19 32.0**	**0.0**
CLL				*i*			03 19 35.1	
CLL				*i* Sg		**Sn**	**03 19 46.8**	**-0.5**
	comp=Z,5.0nm,0.6s							
CLL				*i*			03 19 50.7	
BRG	**Berggiesshubel**	**1.10**	**55**	PG		**Pn**	**03 19 32.5**	**+0.5**
BRG				SG		**Sn**	**03 19 47.5**	**+0.2**
	comp=Z,12nm,0.3s							
PRA	**Prague**	**1.25**	**98**	⇓*e*SG		**Sn**	**03 19 51.3**	**+0.5**
	comp=Z,3.7nm,0.2s							
PRA	**Prague**	**1.25**	**98**	Sg		**Sn**	**03 19 51.3**	**+0.5**
	comp=Z,3.7nm,0.2s							
KHC	**Kasperske Hory**	**1.32**	**148**	*e*PG		**Pn**	**03 19 34.6**	**-0.4**
KHC				*e*SG		**Sn**	**03 19 53.0**	**+0.4**
	comp=Z,3.9nm,0.2s							
KHC	**Kasperske Hory**	**1.32**	**148**	Pg		**Pn**	**03 19 34.6**	**-0.4**
KHC				Sg		**Sn**	**03 19 53.0**	**+0.4**
	comp=Z,3.9nm,0.2s							
PRU	**Pruhonice**	**1.33**	**101**	⇓*e*SG		**Sg**	**03 19 53.8**	**+0.6**
	comp=Z,4.6nm,0.2s							
PRU	**Pruhonice**	**1.33**	**101**	Sg		**Sg**	**03 19 53.8**	**+0.6**
	comp=Z,4.6nm,0.2s							
GOPC	**GO Pecny, Ondr**	**1.50**	**102**	*e*SG		**Sg**	**03 19 59.3**	**+0.6**
	comp=Z,5.9nm,0.2s							
GOPC	**GO Pecny, Ondr**	**1.50**	**102**	Sg		**Sg**	**03 19 59.3**	**+0.6**
	comp=Z,5.9nm,0.2s							
UPC	**Upice**	**2.25**	**82**	⇓*e*SG		**Sg**	**03 20 22.7**	**-0.1**
	comp=Z,3.0nm,0.6s							
UPC	**Upice**	**2.25**	**82**	Sg		**Sg**	**03 20 22.7**	**-0.1**
	comp=Z,3.0nm,0.6s							
DPC	**Dobruska-Polom**	**2.44**	**86**	*e*SG		**Sg**	**03 20 27.8**	**-1.1**
	comp=Z,1.5nm,0.3s							
DPC	**Dobruska-Polom**	**2.44**	**86**	Sg		**Sg**	**03 20 27.8**	**-1.1**
	comp=Z,1.5nm,0.3s							
VRAC	**Vranov**	**2.81**	**108**	*e*Sg		**Sg**	**03 20 39.1**	**-1.5**
MORC	**Moravsky Berou**	**3.28**	**96**	*e*Sg		**Sg**	**03 20 54.2**	**-1.4**

*ISCJB **03** 03:28:49.1±0.5,50°.23N±0°.02×12°.52E±0°.03, h13km±5km, Error ellipse: s-maj=3.7km s-min=3.2km az=43.8*
*IASPEI **03** 03:28:50.3±0.8,50°.24N±0°.02×12°.46E±0°.03, h11km±4km, Error ellipse: s-maj=3.8km s-min=2.7km az=95.7, GT5 selection from ISC bulletin GT5 identified by Bond˜ır and McLaughlin (2009) selection criteria Bond˜ır and McLaughlin, A new ground truth data set for seismic studies, Seism. Res. Let., 80, 465-472, 2009*
*BGR **03** 03:28:50.6±0.2,50°.25N×12°.44E, h10km±1km, ML2.2/6, Error ellipse: s-maj=2.2km s-min=2.2km az=103.0*
*CSEM **03** 03:28:50.1±0.1,50°.23N×12°.49E, h10km, ML2.8/6, Error ellipse: s-maj=1.6km s-min=1.2km az=32.0*
*PRU **03** 03:28:51.1,50°.26N×12°.53E, h0km, West Bohemia Swarm*

ISC 03 03:28:50.4±0.8, 50°.24N±0°.02×12°.47E±0°.02, h11km±4km, n49, σ0$66/86, 6D, Germany

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
NKC	**Novy Kostel**	**0.02**	**235**	⇓*i* Pg		**Pg**	**03 28 52.5**	**+0.1**
NKC				*e*SG		**Sg**	**03 28 53.4**	**-0.3**
	comp=Z,2µm,0.2s							
NKC	**Novy Kostel**	**0.02**	**235**	*e*Pg		**Pg**	**03 28 52.5**	**+0.1**
NKC				*e*Sg		**Sg**	**03 28 53.5**	**-0.3**
NKC	**Novy Kostel**	**0.02**	**235**	Pg		**Pg**	**03 28 52.5**	**+0.1**
NKC				Sg		**Sg**	**03 28 53.5**	**-0.3**
WERN	**Wernitzgruen**	**0.07**	**305**	*e*Pg		**Pg**	**03 28 52.9**	**0.0**
WERN				*e*Sg		**Sg**	**03 28 54.2**	**-0.4**
WERN	**Wernitzgruen**	**0.07**	**305**	Pg		**Pg**	**03 28 52.9**	**0.0**
WERN				Sg		**Sg**	**03 28 54.2**	**-0.4**
ROHR	**Rohrbach**	**0.10**	**264**	*e*Pg		**Pg**	**03 28 53.0**	**-0.1**
ROHR				*e*Sg		**Sg**	**03 28 54.5**	**-0.6**
ROHR	**Rohrbach**	**0.10**	**264**	Pg		**Pg**	**03 28 53.0**	**-0.1**
ROHR				Sg		**Sg**	**03 28 54.5**	**-0.6**
GUNZ	**Gunzen**	**0.15**	**323**	*e*Pg		**Pg**	**03 28 54.0**	**+0.1**
GUNZ				*e*Sg		**Sg**	**03 28 56.0**	**-0.3**
GUNZ	**Gunzen**	**0.15**	**323**	Pg		**Pg**	**03 28 54.0**	**+0.1**
GUNZ				Sg		**Sg**	**03 28 56.0**	**-0.3**
MULD	**Muldenberg**	**0.17**	**345**	*e*Pg		**Pg**	**03 28 54.4**	**+0.1**
MULD				*e*Sg		**Sg**	**03 28 56.7**	**-0.3**
MULD	**Muldenberg**	**0.17**	**345**	Pg		**Pg**	**03 28 54.4**	**+0.1**
MULD				Sg		**Sg**	**03 28 56.7**	**-0.3**
WERD	**Werda**	**0.23**	**333**	*e*Pg		**Pg**	**03 28 55.4**	**+0.1**
WERD				*e*Sg		**Sg**	**03 28 58.1**	**-0.4**
WERD	**Werda**	**0.23**	**333**	Pg		**Pg**	**03 28 55.4**	**+0.1**
WERD				Sg		**Sg**	**03 28 58.1**	**-0.4**
TRIB	**Obertriebel**	**0.24**	**297**	*e*Pg		**Pg**	**03 28 55.4**	**0.0**
TRIB				*e*Sg		**Sg**	**03 28 58.4**	**-0.4**
TRIB	**Obertriebel**	**0.24**	**297**	Pg		**Pg**	**03 28 55.4**	**0.0**
TRIB				Sg		**Sg**	**03 28 58.4**	**-0.4**
PLN	**Plauen**	**0.31**	**320**	*e*Pg		**Pg**	**03 28 56.8**	**0.0**
PLN				*e*Sg		**Sg**	**03 29 00.5**	**-0.5**
PLN	**Plauen**	**0.31**	**320**	Pg		**Pg**	**03 28 56.8**	**0.0**
PLN				Sg		**Sg**	**03 29 00.5**	**-0.5**
SCHF	**Schoenfels**	**0.44**	**354**	*e*Pg		**Pg**	**03 28 59.2**	**+0.2**
SCHF				*e*Sg		**Sg**	**03 29 04.8**	**0.0**
SCHF	**Schoenfels**	**0.44**	**354**	Pg		**Pg**	**03 28 59.2**	**+0.2**
SCHF				Sg		**Sg**	**03 29 04.8**	**0.0**
MOX	**Moxa**	**0.68**	**307**	*e*Pg		**Pg**	**03 29 03.5**	**-0.1**
MOX				*e*Sg		**Sg**	**03 29 11.9**	**-0.6**
MOX	**Moxa**	**0.68**	**307**	Pg		**Pg**	**03 29 03.5**	**-0.1**
MOX				Sg		**Sg**	**03 29 11.9**	**-0.6**
FBE	**Freiberg**	**0.88**	**39**	*e*Pg		**Pb**	**03 29 07.9**	**+0.1**
FBE				*e*Sg		**Sg**	**03 29 19.1**	**+0.2**
FBE	**Freiberg**	**0.88**	**39**	Pg		**Pb**	**03 29 07.9**	**+0.1**
FBE				Sg		**Sg**	**03 29 19.1**	**+0.2**
GRA1	**Grafenberg Arr**	**0.98**	**236**	Pg		**Sg**	**03 29 09.3**	**0.0**
GRA1				Sg		**Sg**	**03 29 21.6**	**-0.4**
GRF	**Grafenberg Arr**	**0.98**	**236**	*e*Pg		**Sg**	**03 29 09.3**	**0.0**
GRF				*e*Sg		**Sg**	**03 29 21.6**	**-0.4**
CLL	**Collm**	**1.12**	**17**	*e*Pg		**Pg**	**03 29 11.9**	**0.0**
CLL				*e*Sg		**Sb**	**03 29 26.3**	**0.0**
CLL	**Collm**	**1.12**	**17**	Pg		**Pg**	**03 29 11.9**	**0.0**
CLL				Sg		**Sb**	**03 29 26.3**	**0.0**
CLL	**Collm**	**1.12**	**17**	*i* Pg		**Pg**	**03 29 11.8**	**0.0**
CLL				*i*			03 29 14.4	
CLL				*i* Sg		**Sb**	**03 29 26.3**	**0.0**
	comp=Z,15nm,0.3s							
CLL				*i*			03 29 30.5	
BRG	**Berggiesshubel**	**1.13**	**56**	PG		**Pn**	**03 29 12.3**	**+0.1**
BRG				SG		**Sn**	**03 29 27.2**	**-0.5**
	comp=Z,22nm,0.3s							
BRG	**Berggiesshubel**	**1.13**	**56**	*e*Pg		**Pn**	**03 29 12.3**	**+0.1**
BRG				*e*Sg		**Sn**	**03 29 27.4**	**-0.3**
BRG	**Berggiesshubel**	**1.13**	**56**	Pg		**Pn**	**03 29 12.3**	**+0.1**
BRG				Sg		**Sn**	**03 29 27.4**	**-0.3**
WET	**Wettzell**	**1.13**	**166**	*e*Pg		**Pg**	**03 29 12.1**	**0.0**
WET				*e*Sg		**Sg**	**03 29 26.9**	**0.0**
WET	**Wettzell**	**1.13**	**166**	Pg		**Pg**	**03 29 12.1**	**0.0**
WET				Sg		**Sg**	**03 29 26.9**	**0.0**
PRA	**Prague**	**1.27**	**97**	⇓*e*SG		**Sb**	**03 29 30.6**	**-0.2**
	comp=Z,15nm,0.6s							
PRA	**Prague**	**1.27**	**97**	Sg		**Sb**	**03 29 30.6**	**-0.2**
	comp=Z,15nm,0.6s							
KHC	**Kasperske Hory**	**1.33**	**147**	⇓*i* PG		**Pn**	**03 29 15.0**	**+0.1**
KHC				*e*SG		**Sb**	**03 29 32.1**	**-0.3**
	comp=Z,7.8nm,0.2s							
KHC	**Kasperske Hory**	**1.33**	**147**	Pg		**Pn**	**03 29 15.0**	**+0.1**
KHC				Sg		**Sb**	**03 29 32.1**	**-0.3**
	comp=Z,7.8nm,0.2s							
PRU	**Pruhonice**	**1.36**	**100**	⇓*i* PG		**Pb**	**03 29 15.8**	**0.0**
PRU				*e*SG		**Sn**	**03 29 33.5**	**+0.2**
	comp=Z,15nm,0.2s							
PRU	**Pruhonice**	**1.36**	**100**	Pg		**Pb**	**03 29 15.8**	**0.0**
PRU				Sg		**Sn**	**03 29 33.5**	**+0.2**
	comp=Z,15nm,0.2s							
GOPC	**GO Pecny, Ondr**	**1.53**	**102**	*e*SG		**Sg**	**03 29 39.0**	**-0.5**
GOPC	**GO Pecny, Ondr**	**1.53**	**102**	Sg		**Sg**	**03 29 39.0**	**-0.5**
TREC	**Trest**	**2.17**	**115**	⇓*e*SG		**Sb**	**03 29 57.9**	**+1.2**
	comp=Z,4.6nm,0.2s							
TREC	**Trest**	**2.17**	**115**	Sg		**Sb**	**03 29 57.9**	**+1.2**
	comp=Z,4.6nm,0.2s							
UPC	**Upice**	**2.28**	**82**	⇓*e*SG		**Sg**	**03 30 02.4**	**-1.3**
	comp=Z,4.4nm,0.3s							
UPC	**Upice**	**2.28**	**82**	Sg		**Sg**	**03 30 02.4**	**-1.3**
	comp=Z,4.4nm,0.3s							
DPC	**Dobruska-Polom**	**2.47**	**86**	*e*SG		**Sg**	**03 30 07.6**	**-2.2**
	comp=Z,4.5nm,0.4s							
DPC	**Dobruska-Polom**	**2.47**	**86**	Sg		**Sg**	**03 30 07.6**	**-2.2**
	comp=Z,4.5nm,0.4s							
VRAC	**Vranov**	**2.83**	**108**	*e*Sg		**Sb**	**03 30 17.2**	**+1.6**
MORC	**Moravsky Berou**	**3.30**	**96**	*e*Sg		**Sb**	**03 30 32.7**	**+3.4**

*ISCJB **03** 03:43:13.6±1.0,5°.3S±0°.1×154°.1E±0°.2, h74km, mb3.7/10, Error ellipse: s-maj=32.5km s-min=15.5km az=8.0*
*IDC **03** 03:43:15.1±1.4,5°.26S×154°.08E, h74km±8km, mb3.7/10, mb1 3.8/10, mb1mx3.7/29, mbtmp4.0/10, Error ellipse: s-maj=39.8km s-min=18.9km az=99.0*

ISC 03 03:43:15.2±1.1, 5°.3S±0°.1×154°.1E±0°.3, h74km, n14, σ0$85/14, mb3.9/10, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**24.10**	**231**	P		**P**	**03 48 24.7**	**+0.6**
	1.2nm,0.7s,baz=54,slow=9.9,SNR=6.8							
WRA				pP		**pP**	**03 48 40.6**	**-0.6**
	0.5nm,0.4s,baz=54,slow=9.7,SNR=3.0							
ASAR	**Alice Springs**	**26.68**	**225**	P		**P**	**03 48 47.9**	**+0.4**
	0.2nm,0.3s,baz=58,slow=9.5,SNR=3.0							
ASAR				pP		**pP**	**03 49 05.4**	**+0.6**
	0.3nm,0.5s,baz=50,slow=9.8,SNR=1.7							
H11S3	**WAKE ISLAND Hy**	**26.69**	**28**	T		T	04 17 17.8	
	baz=208,slow=76,SNR=6.7							
H11S2	**WAKE ISLAND Hy**	**26.70**	**28**	T		T	04 17 15.1	
	baz=208,slow=76,SNR=6.7							
H11S1	**WAKE ISLAND Hy**	**26.71**	**28**	T		T	04 17 22.1	
	baz=208,slow=76,SNR=7.0							
STKA	**Stephens Creek**	**28.94**	**202**	P		**P**	**03 49 07.5**	**0.0**
	3.6nm,0.7s,baz=29,slow=10,SNR=3.4							
JNU	**Nakatsue**	**44.05**	**332**	P		**P**	**03 51 16.7**	**+0.8**
	2.6nm,0.4s,baz=79,slow=5.2,SNR=4.2							
CMAR	**Chiang Mai Arr**	**59.20**	**295**	P		**P**	**03 53 08.9**	**-0.2**
	0.9nm,0.3s,baz=90,slow=5.4,SNR=1.4							
SONM	**Songino Array**	**67.38**	**327**	P		**P**	**03 54 02.4**	**-0.4**
	0.7nm,0.4s,baz=150,slow=9.7,SNR=1.8							
VNDA	**Vanda**	**72.33**	**178**	P		**P**	**03 54 33.3**	**+0.8**
	0.5nm,0.6s,baz=329,slow=6.6,SNR=3.1							
ILAR	**Eielson Array**	**82.12**	**22**	P		**P**	**03 55 27.4**	**0.0**
	0.2nm,0.6s,baz=242,slow=5.0,SNR=2.2							
ZALV	**Zalesovo Beam**	**82.23**	**326**	P		**P**	**03 55 28.9**	**+0.7**
	1.0nm,0.6s,baz=96,slow=6.8,SNR=1.9							
MAW	**Mawson**	**85.63**	**203**	P		**P**	**03 55 44.6**	**-0.7**
	0.7nm,0.5s,baz=105,slow=12,SNR=2.3							
TORD	**Torodi Ar. Bea**	**151.64**	**288**	PKPbc		**PKPbc**	**04 03 00.1**	**-2.1**
	0.1nm,0.3s,baz=87,slow=2.6,SNR=1.8							
TORD				pPKPbc		**pPKPbc**	**04 03 22.9**	**-0.2**
	0.4nm,0.8s,baz=60,slow=3.1,SNR=2.5							

IDC 03 03:43:43.3±3.0, 3°.78S×151°.49E, h0km, mb3.8/3, mb1 4.0/3, mb1mx3.6/29, mbtmp3.8/3, Error ellipse: s-maj=101.3km s-min=47.1km az=107.0, New Ireland region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**23.19**	**225**	P		P	03 48 52.7	+0.7
	1.0nm,0.5s,baz=49,slow=9.8,SNR=3.9							
ASAR	**Alice Springs**	**26.07**	**219**	P		P	03 49 18.5	-0.3
	0.4nm,0.3s,baz=50,slow=8.2,SNR=3.1							
STKA	**Stephens Creek**	**29.46**	**197**	P		P	03 49 48.8	-0.3
	1.4nm,0.3s,baz=41,slow=11,SNR=1.8							
TORD	**Torodi Ar. Bea**	**148.74**	**289**	PKPbc		PKPbc	04 03 33.1	-0.7
	0.9nm,0.7s,baz=81,slow=3.1,SNR=5.6							

IDC 03 03:55:58.6±16.0, 10°.96S×165°.99E, h140km±175km, mb3.6/3, mb1 3.9/4, mb1mx3.4/30, mbtmp4.1/4, ML4.1/1, MS2.7/1, Ms1 2.7/1, ms1mx2.4/27, Error ellipse: s-maj=117.4km s-min=30.4km az=157.0, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
HNR	**Honiara**	**6.14**	**284**	LR		LR	04 00 04.0	
	comp=Z,70nm,20.6s,baz=37,slow=40							
DZM	**Mont Dzumac**	**11.05**	**178**	P		Pn	03 58 33.8	+1.0
	1.4nm,0.3s,baz=350,slow=6.1,SNR=52							
DZM				S		Sn	04 00 33.1	-1.9
	0.2nm,0.3s,baz=299,slow=19,SNR=2.4							
WRA	**Warramunga Arr**	**31.74**	**250**	P		P	04 02 09.1	-0.4
	4.2nm,0.9s,baz=80,slow=9.1,SNR=14							
ASAR	**Alice Springs**	**33.04**	**243**	P		P	04 02 21.3	+0.3
	1.5nm,0.6s,baz=68,slow=9.5,SNR=18							
ILAR	**Eielson Array**	**83.36**	**18**	P		P	04 08 09.5	-0.1
	0.4nm,0.6s,baz=240,slow=5.4,SNR=5.9							

*ISCJB **03** 03:58:31.4±1.6,50°.22N±0°.04×12°.55E±0°.08, h13km±12km, Error ellipse: s-maj=9.1km s-min=6.1km az=164.8*
*CSEM **03** 03:58:32.5±0.5,50°.21N×12°.56E, h5km, ML2.9/7, Error ellipse: s-maj=12.2km s-min=6.3km az=10.0*
*PRU **03** 03:58:33.1,50°.25N×12°.52E, h2km, West Bohemia Swarm*

ISC 03 03:58:32.6±0.9, 50°.22N±0°.04×12°.51E±0°.05, h8km±7km, n21, σ1$20/28, 5D, Germany

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
NKC	**Novy Kostel**	**0.04**	**293**	⇓*i* PG		**Pg**	**03 58 34.5**	**+0.1**
NKC				*e*SG		**Sg**	**03 58 35.4**	**-0.2**
	comp=Z,1µm,0.2s							
NKC	**Novy Kostel**	**0.04**	**293**	Pg		**Pg**	**03 58 34.5**	**+0.1**
NKC				Sg		**Sg**	**03 58 35.4**	**-0.2**
	1µm,0.2s							
BRG	**Berggiesshubel**	**1.12**	**54**	PG		**Pn**	**03 58 54.3**	**-0.3**
BRG				SG		**Sn**	**03 59 09.2**	**-1.0**
	13nm,0.2s							
BRG	**Berggiesshubel**	**1.12**	**54**	PG		**Pn**	**03 58 57.3**	**+2.6**
BRG				SG		**Sn**	**03 59 11.3**	**+1.0**
	19nm,0.3s							
CLL	**Collm**	**1.14**	**16**	*i* Pg		**Pb**	**03 58 54.0**	**-0.5**
CLL				*i* Sg		**Sb**	**03 59 08.7**	**-0.7**
	comp=Z,13nm,0.3s							
CLL				*i*			03 59 12.7	
PRA	**Prague**	**1.24**	**96**	⇓*e*SG		**Sn**	**03 59 12.8**	**-0.4**
	comp=Z,6.0nm,0.2s							
PRA	**Prague**	**1.24**	**96**	Sg		**Sn**	**03 59 12.8**	**-0.4**
	comp=Z,6.0nm,0.2s							
KHC	**Kasperske Hory**	**1.29**	**147**	*e*PG		**Pn**	**03 58 56.7**	**-0.2**
KHC				*e*SG		**Sn**	**03 59 14.5**	**+0.2**
	comp=Z,7.8nm,0.3s							
KHC	**Kasperske Hory**	**1.29**	**147**	Pg		**Pn**	**03 58 56.7**	**-0.2**
KHC				Sg		**Sn**	**03 59 14.5**	**+0.2**
	comp=Z,7.8nm,0.3s							
PRU	**Pruhonice**	**1.33**	**99**	⇓*e*SG		**Sg**	**03 59 16.0**	**+0.8**
	comp=Z,10nm,0.3s							
PRU	**Pruhonice**	**1.33**	**99**	Sg		**Sg**	**03 59 16.0**	**+0.8**
	comp=Z,10nm,0.3s							
PVCC	**Panska Ves**	**1.35**	**76**	⇓*e*SG		**Sg**	**03 59 16.4**	**+0.3**
	comp=Z,30nm,0.2s							
PVCC	**Panska Ves**	**1.35**	**76**	Sg		**Sg**	**03 59 16.4**	**+0.3**
	comp=Z,30nm,0.2s							
GOPC	**GO Pecny, Ondr**	**1.50**	**101**	*e*SG		**Sg**	**03 59 21.1**	**+0.4**
	comp=Z,10nm,0.2s							
GOPC	**GO Pecny, Ondr**	**1.50**	**101**	Sg		**Sg**	**03 59 21.1**	**+0.4**
	comp=Z,10nm,0.2s							
UPC	**Upice**	**2.26**	**81**	⇓*e*SG		**Sg**	**03 59 44.4**	**-0.8**
UPC	**Upice**	**2.26**	**81**	Sg		**Sg**	**03 59 44.4**	**-0.8**
DPC	**Dobruska-Polom**	**2.45**	**85**	*e*SG		**Sg**	**03 59 49.8**	**-1.4**
	comp=Z,3.4nm,0.3s							
DPC	**Dobruska-Polom**	**2.45**	**85**	Sg		**Sg**	**03 59 49.8**	**-1.4**
	comp=Z,3.4nm,0.3s							
VRAC	**Vranov**	**2.80**	**107**	*e*Sg		**Sb**	**03 59 59.0**	**+1.8**
MORC	**Moravsky Berou**	**3.27**	**96**	*e*Sg		**Sg**	**04 00 14.0**	**-3.7**

*ISCJB **03** 04:02:43.8±0.6,6°.82N±0°.03×73°.06W±0°.04, h150km±5km, Error ellipse: s-maj=7.0km s-min=4.2km az=33.7*
*RSNC **03** 04:02:45.7±0.5,6°.79N×73°.11W, h143km±3km, ML2.7*
*FUNV **03** 04:02:46.6, 7°.00N×73°.12W, h153km, MW2.8*

ISC 03 04:02:43.1±1.3, 6°.83N±0°.04×73°.04W±0°.04, h157km±8km, n23, σ1$53/41, 1C, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
BARC	**Barichara**	**0.27**	**210**	*i* P		**Pn**	**04 03 05.0**	**+0.2**
BARC				*e*S		**Sn**	**04 03 19.4**	**-1.9**
BARC				*i*			04 03 20.6	
	comp=Z,204nm,0.3s							
GIRC	**Giron, Santand**	**0.29**	**329**	*e*P		**Pn**	**04 03 05.1**	**+0.4**
GIRC				*e*S		**Sn**	**04 03 20.5**	**-0.6**
PAMC	**Pamplona, Colo**	**0.61**	**34**	*e*P		**Pn**	**04 03 07.9**	**+1.5**
PAMC				*e*S		**Sn**	**04 03 24.6**	**+0.3**
BRRC	**Barranca, Sant**	**0.72**	**293**	⇑*i* P		**Pn**	**04 03 06.9**	**+0.4**
BRRC				*i*			04 03 07.3	
	comp=Z,187nm,0.1s							
BRRC				*e*S		**Sn**	**04 03 23.4**	**-1.0**
RUSC	**La Rusia**	**0.93**	**182**	*e*P		**Pn**	**04 03 08.9**	**+0.3**
RUSC				*e*S		**Sn**	**04 03 27.1**	**-1.1**
RUSC				*i*			04 03 28.9	
	comp=Z,42nm,0.5s							
CAPV	**Capacho**	**1.26**	**35**	*e*P		**Pn**	**04 03 12.5**	**+1.4**
CAPV				*e*S		**Sn**	**04 03 31.9**	**-0.7**
OCAC	**Ocana**	**1.43**	**349**	*e*P		**Pn**	**04 03 13.7**	**+1.1**
OCAC				*e*S		**Sn**	**04 03 35.9**	**+0.5**
OCAC				*i*			04 03 38.9	
	comp=Z,110nm,0.4s							
YOPC	**Yopal, Colombi**	**1.59**	**157**	*e*S		**Sn**	**04 03 38.7**	**+0.3**
ZARC	**Zaragoza, Cauc**	**1.92**	**290**	*e*P		**Pn**	**04 03 17.9**	**+0.2**
ZARC				*e*S		**Sn**	**04 03 43.5**	**-0.8**
ZARC				*i*			04 03 49.9	
	comp=Z,55nm,0.4s							
NORC	**Norcasia**	**2.21**	**235**	*e*P		**Pn**	**04 03 21.0**	**-0.1**
NORC				*e*S		**Sn**	**04 03 49.5**	**-1.0**
CHIC	**Chingaza**	**2.29**	**197**	*e*P		**Pn**	**04 03 22.9**	**+0.5**
CHIC				*e*S		**Sn**	**04 03 52.4**	**-0.5**
CHIC				*i*			04 03 56.0	
	comp=Z,12nm,0.3s							
ROSC	**El Rosal**	**2.35**	**213**	*e*P		**Pn**	**04 03 23.8**	**+0.7**
ROSC				*i*			04 04 02.8	
	comp=Z,20nm,0.5s							
HELC	**Santa Helena**	**2.55**	**256**	*e*P		**Pn**	**04 03 26.6**	**+1.1**
HELC				*e*S		**Sn**	**04 03 58.0**	**-0.3**
HELC				*i*			04 04 04.0	
	comp=Z,29nm,0.6s							
VIGV	**El Vigia**	**2.60**	**40**	*e*P		**Pn**	**04 03 27.4**	**+1.6**
VIGV				*e*S		**Sn**	**04 03 58.0**	**-0.9**
SOCV	**Socops**	**2.60**	**56**	*e*P		**Pn**	**04 03 27.9**	**+2.0**
SOCV				*e*S		**Sn**	**04 03 58.6**	**-0.4**
CODC	**Agust˜ın Codaz**	**3.11**	**353**	*e*P		**Pn**	**04 03 33.7**	**+1.6**
CODC				*e*S		**Sn**	**04 04 11.8**	**+1.6**
CODC				*i*			04 04 16.7	
	comp=Z,30nm,0.7s							
PRAC	**Prado**	**3.60**	**211**	*e*P		**Pn**	**04 03 39.3**	**+0.9**
PRAC				*e*S		**Sn**	**04 04 21.3**	**-0.1**
SJAC	**San Juan de Ar**	**3.65**	**194**	*e*P		**Pn**	**04 03 39.9**	**+0.8**
VIRV	**Villa del Rosa**	**3.70**	**10**	*e*P		**Pn**	**04 03 40.4**	**+0.7**
VIRV				*e*S		**Sn**	**04 04 18.7**	**-5.1**
CURV	**Curarigua**	**4.39**	**44**	*e*P		**Pn**	**04 03 49.8**	**+1.1**
CURV				*e*S		**Sn**	**04 04 36.2**	**-3.8**
TEPV	**Terepaima**	**4.92**	**50**	*e*P		**Pn**	**04 03 57.2**	**+1.6**
BAUV	**El Baul**	**5.38**	**67**	*e*P		**Pn**	**04 04 02.8**	**+1.1**
BAUV				*e*S		**Sn**	**04 05 00.1**	**-3.0**
MAPV	**Macapo**	**5.43**	**56**	*e*P		**Pn**	**04 04 03.5**	**+1.2**

*BEO **03** 04:43:19.1±0.6,43°.35N×17°.04E, h10km±3km, M3.2/1*
*PDG **03** 04:43:23.5±0.6,43°.45N×17°.53E, h2km±1km, MD3.4/1, ML3.3/12, Error ellipse: s-maj=0.9km s-min=1.4km az=0.0*
*LDG **03** 04:43:23.7±0.2,43°.41N×17°.59E, h2km, Ml3.3/6, Error ellipse: s-maj=7.8km s-min=3.4km az=26.0*
*CSEM **03** 04:43:23.3±0.1,43°.45N×17°.59E, h2km, ML3.3, Error ellipse: s-maj=3.1km s-min=2.8km az=47.0*
*PRU **03** 04:43:26.7,43°.55N×17°.50E, h0km*
*ROM **03** 04:43:26.3±0.6,43°.24N×17°.49E, h10km, Ml3.0/20, Error ellipse: s-maj=12.2km s-min=3.5km az=6.0*

ISC 03 04:43:23.8±1.1, 43°.46N±0°.02×17°.55E±0°.02, h9km±9km, n167, σ1$83/233, 22C-6D, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
BRY	**Bratogost**	**0.92**	**127**	⇑*i* Pg		**Pg**	**04 43 40.0**	**-1.4**
BRY				*e*Sg		**Sb**	**04 43 54.9**	**+0.7**
BRY	**Bratogost**	**0.92**	**127**	⇑*i* Pg		**Pg**	**04 43 40.0**	**-1.4**
BRY				*e*Sg		**Sg**	**04 43 53.2**	**-0.1**
TREB	**Trebinje**	**0.95**	**141**	*e*Pg		**Pg**	**04 43 40.5**	**-1.5**
TREB	**Trebinje**	**0.95**	**141**	*e*Pg		**Pg**	**04 43 40.5**	**-1.5**
TREB				*e*

BBLS				*e*Sg	**Sb**	**04 44 07.3 -1.1**
BBLS				*e*Sn	**Sg**	**04 44 12.6 +3.5**
BUM	**Brajici-Budva**	**1.52**	**139**⇑	*i*Pg	**Pb**	**04 43 52.2 0.0**
BUM				*e*Sg	**Sg**	**04 44 14.9 +2.1**
BUM	**Brajici-Budva**	**1.52**	**139**⇑	*i*Pg	**Pb**	**04 43 52.2 0.0**
MRAK	**Mrakovica**	**1.62**	**344**	*e*Pn	**Pn**	**04 43 52.8 +0.2**
MRAK				*e*Sn	**Sn**	**04 44 13.6 -0.1**
PDG	**Podgorica**	**1.62**	**129**	*e*Pn	**Pn**	**04 43 51.0 -1.5**
PDG				*e*Sg	**Sg**	**04 44 17.8 +1.9**
PDG	**Podgorica**	**1.62**	**129**	Pn	**Pb**	**04 43 54.1 +0.2**
PDG	**Podgorica**	**1.62**	**129**	*e*Pn	**Pn**	**04 43 51.0 -1.5**
PDG				*e*Sn	**Sb**	**04 44 15.0 +0.6**
PDG				*e*Sg	**Sg**	**04 44 17.8 +1.9**
TTG	**Podgorica**	**1.62**	**129**⇑	*i*Pn	**Pb**	**04 43 53.6 -0.3**
TTG				*e*Sn	**Sg**	**04 44 18.5 +2.6**
UDBI	**Udbina**	**1.67**	**310**	*i*Pn	**Pb**	**04 43 55.2 +0.3**
UDBI				Sn	**Sg**	**04 44 21.3 +3.7**
UDBI	**Udbina**	**1.67**	**310**	*i*Pn	**Pb**	**04 43 55.1 +0.3**
DRME	**Dracevica, Mon**	**1.75**	**136**⇓	*i*Pn	**Pb**	**04 43 56.1 0.0**
DRME				*e*Sn	**Sg**	**04 44 22.3 +2.2**
DRME	**Dracevica, Mon**	**1.75**	**136**	*e*Pn	**Pb**	**04 43 55.5 -0.6**
DRME				*e*Sn	**Sb**	**04 44 18.2 0.0**
SJES	**Sjenica**	**1.78**	**96**	*e*Pn	**Pb**	**04 43 56.2 -0.5**
SJES				*e*Sn	**Sg**	**04 44 21.7 +0.6**
TEKS	**Tekeris**	**1.80**	**52**⇓	*i*Pn	**Pn**	**04 43 54.4 -0.6**
TEKS				*e*Sn	**Sn**	**04 44 18.0 0.0**
BEY	**Berane**	**1.81**	**108**⇑	*i*Pn	**Pb**	**04 43 57.4 +0.2**
BLJ	**Bijeljina**	**1.81**	**42**	*e*Pn	**Pn**	**04 43 53.9 -1.3**
BLJ				*e*Sn	**Sn**	**04 44 17.1 -1.2**
IVA	**Berane**	**1.81**	**108**⇑	*i*Pn	**Pb**	**04 43 57.4 +0.2**
IVA				*e*Sn	**Sg**	**04 44 23.5 +1.4**
DIVS	**Divibare**	**1.88**	**69**	*e*Pn	**Pn**	**04 43 55.8 -0.4**
DIVS				*e*Sn	**Sg**	**04 44 23.4 -0.9**
DIVS	**Divibare**	**1.88**	**69**	*e*Pn	**Pn**	**04 43 55.8 -0.4**
DIVS				*e*Sn	**Sn**	**04 44 20.3 +0.2**
IVAS	**Ivanjica**	**1.90**	**86**	*e*Pn	**Pn**	**04 43 55.6 -0.8**
IVAS				*e*Sn	**Sg**	**04 44 25.9 +1.1**
IVAS	**Ivanjica**	**1.90**	**86**	*e*Pn	**Pn**	**04 43 55.6 -0.8**
ULC	**Ulcinj**	**1.95**	**139**	*e*Pn	**Pb**	**04 43 58.7 -0.8**
ULC				*e*Sn	**Sg**	**04 44 26.6 +0.2**
ULC	**Ulcinj**	**1.95**	**139**	*e*Pn	**Pb**	**04 43 58.7 -0.8**
PVY	**Plav**	**1.97**	**115**⇑	*i*Pn	**Pb**	**04 43 59.4 -0.5**
PVY				*e*Sn	**Sg**	**04 44 27.1 0.0**
PVY	**Plav**	**1.97**	**115**⇑	*i*Pn	**Pb**	**04 43 59.4 -0.5**
MSAG	**Monte S. Angel** 257nm,0.5s	**2.12**	**215**	Pn	**Pn**	**04 44 00.6 +1.1**
MSAG	**Monte S. Angel** 257nm,0.5s	**2.12**	**215**	Pn	**Pn**	**04 44 00.6 +1.1**
SGRT	**San Giovanni R** 104nm,0.6s	**2.16**	**219**	Pn	**Pn**	**04 43 59.3 -0.8**
SGRT	**San Giovanni R** 104nm,0.6s	**2.16**	**219**	Pn	**Pn**	**04 43 59.3 -0.8**
TRUS	**Trudelj**	**2.21**	**69**	*e*Pn	**Pn**	**04 44 00.3 -0.3**
TRUS				*e*Sn	**Sg**	**04 44 33.7 -1.0**
TRUS	**Trudelj**	**2.21**	**69**	*e*Pn	**Pn**	**04 44 00.3 -0.3**
NVLJ	**Novalja**	**2.22**	**301**	*e*Pn	**Pn**	**04 44 02.3 +1.4**
NVLJ				Sn	**Sb**	**04 44 33.7 +1.9**
NVLJ	**Novalja**	**2.22**	**301**	*e*Pn	**Pn**	**04 44 02.2 +1.4**
NVLJ				Sn	**Sb**	**04 44 33.6 +1.9**
GRUS	**Gruza**	**2.34**	**78**	*e*Pn	**Pn**	**04 44 02.5 +0.1**
GRUS				*e*Sn	**Sb**	**04 44 35.2 +0.1**
GRUS	**Gruza**	**2.34**	**78**	*e*Pn	**Pn**	**04 44 02.5 +0.1**
GRUS				*e*Sn	**Sb**	**04 44 35.2 +0.1**
FGSL	**Fruska Gora**	**2.35**	**43**⇓	*i*Pn	**Pn**	**04 44 01.5 -1.1**
FRGS	**Fruska Gora**	**2.35**	**43**⇓	*i*Pn	**Pn**	**04 44 01.5 -1.1**
BAI	**Bari**	**2.40**	**192**	*e*Pn	**Pn**	**04 44 02.6 -0.6**
BAI				Sn	**Sn**	**04 44 32.5 -0.2**
CDT	**Castel del Mon**	**2.56**	**202**	*e*Pn	**Pn**	**04 44 05.1 -0.3**
FRES	**Fresagrandinar** 126nm,0.8s	**2.59**	**236**	Pn	**Pn**	**04 44 06.6 +0.7**
FRES	**Fresagrandinar** 126nm,0.8s	**2.59**	**236**	Pn	**Pn**	**04 44 06.6 +0.7**
MRVN	**Minervino Murg** 48nm,0.6s	**2.60**	**203**	Pn	**Pn**	**04 44 05.4 -0.6**
MRVN	**Minervino Murg** 48nm,0.6s	**2.60**	**203**	Pn	**Pn**	**04 44 05.4 -0.6**
SELS	**Selova**	**2.62**	**94**	*e*Pn	**Pn**	**04 44 06.4 +0.1**
SELS				*e*Sn	**Sb**	**04 44 42.7 -0.4**
SELS	**Selova**	**2.62**	**94**	*e*Pn	**Pn**	**04 44 06.4 +0.1**
SELS				*e*Sn	**Sb**	**04 44 42.7 -0.4**
OZLJ	**Ozalj**	**2.62**	**326**	*e*Pn	**Pb**	**04 44 09.5 -1.4**
OZLJ	**Ozalj**	**2.62**	**326**	*e*Pn	**Pb**	**04 44 09.4 -1.4**
BOJS	**Bojanci**	**2.62**	**322**	*i*Pn	**Pn**	**04 44 08.5 +2.2**
BOJS				*i*Sn	**Sb**	**04 44 44.0 +0.7**
BOJS	**Bojanci**	**2.62**	**322**	*i*Pn	**Pn**	**04 44 08.5 +2.2**
AMUR	**Altamura** 70nm,0.5s	**2.64**	**196**	Pn	**Pn**	**04 44 06.2 -0.4**
AMUR	**Altamura** 70nm,0.5s	**2.64**	**196**	Pn	**Pn**	**04 44 06.2 -0.4**
FASA	**Fasano**	**2.64**	**183**	*e*Pn	**Pn**	**04 44 06.0 -0.6**
FASA				Sn	**Sn**	**04 44 39.0 +0.2**
CIGN	**Sant'Elia a Pi** 56nm,0.8s	**2.66**	**228**	Pn	**Pn**	**04 44 07.3 +0.5**
CIGN	**Sant'Elia a Pi** 56nm,0.8s	**2.66**	**228**	Pn	**Pn**	**04 44 07.3 +0.5**
NOCI	**Noci** 104nm,0.3s	**2.69**	**188**	Pn	**Pn**	**04 44 06.7 -0.6**
NOCI	**Noci** 104nm,0.3s	**2.69**	**188**	Pn	**Pn**	**04 44 06.7 -0.6**
SG1	**Sgolgore (BA)**	**2.69**	**194**	*e*Pn	**Pn**	**04 44 07.7 +0.4**
MOCO	**Biccari - m.te** 44nm,0.6s	**2.74**	**221**	Pn	**Pn**	**04 44 08.8 +0.8**
GATE	**Gambatesa** 48nm,0.6s	**2.75**	**226**	Pn	**Pn**	**04 44 09.6 +1.5**
GATE	**Gambatesa** 48nm,0.6s	**2.75**	**226**	Pn	**Pn**	**04 44 09.6 +1.5**
TRIV	**Trivento** 82nm,0.8s	**2.78**	**234**	Pn	**Pn**	**04 44 08.6 0.0**
TRIV	**Trivento** 82nm,0.8s	**2.78**	**234**	Pn	**Pn**	**04 44 08.6 0.0**
CRES	**Cresnjev**	**2.80**	**329**	*e*Pn	**Pn**	**04 44 08.8 +0.1**
CRES				*e*Sn	**Sn**	**04 44 42.6 0.0**
SGTA	**Sant Agata di** 60nm,0.5s	**2.83**	**216**	Pn	**Pn**	**04 44 09.8 +0.6**
SGTA	**Sant Agata di** 60nm,0.5s	**2.83**	**216**	Pn	**Pn**	**04 44 09.8 +0.6**
MASS	**Massafra**	**2.84**	**186**	*e*Pn	**Pn**	**04 44 08.6 -0.7**
GBRS	**Gornja Briga**	**2.85**	**318**	*i*Pn	**Pb**	**04 44 12.4 -2.5**
BSSO	**Busso**	**2.90**	**230**	Pn	**Pn**	**04 44 11.3 +1.1**
BSSO	**Busso**	**2.90**	**230**	Pn	**Pn**	**04 44 11.3 +1.1**
SACR	**S. Croce Del S**	**2.94**	**227**	Pn	**Pn**	**04 44 12.0 +1.2**
SACR	**S. Croce Del S**	**2.94**	**227**	Pn	**Pn**	**04 44 12.0 +1.2**
TERO	**Teramo** 52nm,0.9s	**3.01**	**255**	Pn	**Pn**	**04 44 12.6 +0.9**
TERO	**Teramo** 52nm,0.9s	**3.01**	**255**	Pn	**Pn**	**04 44 12.6 +0.9**
MIDA	**Miranda** 50nm,0.8s	**3.04**	**234**	Pn	**Pn**	**04 44 12.0 -0.1**
MIDA	**Miranda** 50nm,0.8s	**3.04**	**234**	Pn	**Pn**	**04 44 12.0 -0.1**
INTR	**Introdacqua** 135nm,1.2s	**3.05**	**243**	Pn	**Pn**	**04 44 12.7 +0.5**
INTR	**Introdacqua** 135nm,1.2s	**3.05**	**243**	Pn	**Pn**	**04 44 12.7 +0.5**
RNI2	**Rionero Sannit** 130nm,1.4s	**3.06**	**236**	Pn	**Pn**	**04 44 13.8 +1.4**
RNI2	**Rionero Sannit** 130nm,1.4s	**3.06**	**236**	Pn	**Pn**	**04 44 13.8 +1.4**
BEHE	**Becsehely**	**3.06**	**350**	*e*Pn	**Pn**	**04 44 12.2 -0.1**
BEHE				*e*Sn	**Sn**	**04 44 49.0 -0.1**
BEHE	**Becsehely**	**3.06**	**350**	*ex*	**Pn**	**04 44 14.7 +2.4**
BEHE				*ex*	x	04 45 05.7
PTRJ	**Pietraroja** 68nm,0.5s	**3.06**	**228**	Pn	**Pn**	**04 44 12.5 +0.1**
PTRJ	**Pietraroja** 68nm,0.5s	**3.06**	**228**	Pn	**Pn**	**04 44 12.5 +0.1**
MRLC	**Muro Lucano** 47nm,0.7s	**3.10**	**210**	Pn	**Pn**	**04 44 13.1 +0.1**
MRLC	**Muro Lucano** 47nm,0.7s	**3.10**	**210**	Pn	**Pn**	**04 44 13.1 +0.1**
SGG	**Gregorio Mates** 33nm,0.5s	**3.13**	**230**	Pn	**Pn**	**04 44 14.7 +1.4**
SGG	**Gregorio Mates** 33nm,0.5s	**3.13**	**230**	Pn	**Pn**	**04 44 14.7 +1.4**
KUBS	**Kucevo**	**3.13**	**71**	*e*Pn	**Pn**	**04 44 14.8 +1.5**
KUBS	**Kucevo**	**3.13**	**71**	*e*Pn	**Pn**	**04 44 14.8 +1.5**
CEY	**Cerknica**	**3.19**	**317**	*e*Pn	**Pn**	**04 44 14.9 +0.8**
CEY				*e*Sn	**Sn**	**04 44 53.1 +0.8**
BARS	**Barje**	**3.19**	**100**	*e*Pn	**Pn**	**04 44 15.1 +1.0**
BARS				*e*Sn	**Sn**	**04 44 55.5 +3.2**
BARS	**Barje**	**3.19**	**100**	*e*Pn	**Pn**	**04 44 15.1 +1.0**
BARS				*e*Sn	**Sn**	**04 44 55.5 +3.2**
VAGA	**Valle Agricola** 41nm,0.5s	**3.19**	**231**	Pn	**Pn**	**04 44 15.2 +1.0**
VAGA	**Valle Agricola** 41nm,0.5s	**3.19**	**231**	Pn	**Pn**	**04 44 15.2 +1.0**
MCRV	**Calabrutti - M** 45nm,0.6s	**3.21**	**214**	Pn	**Pn**	**04 44 14.7 +0.2**
MCRV	**Calabrutti - M** 45nm,0.6s	**3.21**	**214**	Pn	**Pn**	**04 44 14.7 +0.2**
BOLS	**Boljevac**	**3.22**	**82**	*e*Pn	**Pn**	**04 44 13.6 -0.9**
BOLS	**Boljevac**	**3.22**	**82**	*e*Pn	**Pn**	**04 44 13.6 -0.9**
ZAGS	**Zajecar**	**3.42**	**82**	*e*Pn	**Pn**	**04 44 17.2 -0.1**
ZAGS				*e*Sn	**Sn**	**04 45 00.8 +2.9**
ZAGS	**Zajecar**	**3.42**	**82**	*e*Pn	**Pn**	**04 44 17.2 -0.1**
ZAGS				*e*Sn	**Sn**	**04 45 00.8 +2.9**
SOKA	**Soboth** 7.9nm,0.3s,SNR=24	**3.68**	**332**	*i*Pn	**Pn**	**04 44 22.7 +1.8**
SOKA	**Soboth** 7.9nm,0.3s,SNR=24	**3.68**	**332**	Pn	**Pn**	**04 44 22.7 +1.8**
ZAPS	**Zavoj**	**3.71**	**91**	*e*Sn	**Sn**	**04 45 09.5 +4.3**
OBKA	**Obir** 1.2nm,0.1s	**3.72**	**326**	*i*Pn	**Pn**	**04 44 24.8 +3.3**
OBKA	**Obir** 1.2nm,0.1s	**3.72**	**326**	Pn	**Pn**	**04 44 24.8 +3.3**
ARSA	**Arzberg** 14nm,0.3s	**4.05**	**340**	*i*Pn	**Pn**	**04 44 27.4 +1.4**
ARSA	**Arzberg** 14nm,0.3s	**4.05**	**340**	Pn	**Pn**	**04 44 27.4 +1.4**
MYKA	**Terra Mystica** 1.8nm,0.2s	**4.21**	**320**	*i*Pn	**Pn**	**04 44 31.6 +3.4**
MYKA	**Terra Mystica** 1.8nm,0.2s	**4.21**	**320**	Pn	**Pn**	**04 44 31.6 +3.4**
VTS	**Vitosha**	**4.24**	**100**	*e*Pn	**Pn**	**04 44 27.8 -0.9**
VTS	**Vitosha**	**4.24**	**100**	*e*Pn	**Pn**	**04 44 27.8 -0.9**
CONA	**Conrad Observa** 4.4nm,0.5s	**4.62**	**346**	*i*Pn	**Pn**	**04 44 35.4 +1.5**
CONA				*e*Sn	**Sn**	**04 45 28.6 +0.9**
CONA	**Conrad Observa** 4.4nm,0.5s	**4.62**	**346**	Pn	**Pn**	**04 44 35.4 +1.5**
CONA				Sn	**Sn**	**04 45 28.6 +0.9**
KBA	**Koelnbreinsper** 0.8nm,0.2s	**4.68**	**322**	*e*Pn	**Pn**	**04 44 37.6 +2.8**
KBA	**Koelnbreinsper** 0.8nm,0.2s	**4.68**	**322**	Pn	**Pn**	**04 44 37.6 +2.8**
PSZ	**Piszkesteto**	**4.75**	**19**	*e*Pn	**Pn**	**04 44 35.7 0.0**
PSZ	**Piszkesteto**	**4.75**	**19**	*ex*	**Pn**	**04 44 35.7 0.0**
PSZ				*ex*	x	04 45 57.3
ABTA	**Abfaltersbach** 2.1nm,0.3s,SNR=7.0	**4.85**	**314**	*e*Pn	**Pn**	**04 44 38.4 +1.4**
ABTA	**Abfaltersbach** 2.1nm,0.3s,SNR=7.0	**4.85**	**314**	Pn	**Pn**	**04 44 38.4 +1.4**
MOA	**Molln** 6.2nm,0.3s,SNR=6.1	**4.96**	**334**	*e*Pn	**Pn**	**04 44 41.8 +3.4**
MOA				*e*Sn	**Sn**	**04 45 38.4 +2.5**
MOA	**Molln** 5.8nm,0.3s	**4.96**	**334**	Pn	**Pn**	**04 44 41.8 +3.4**
MOA				Sn	**Sn**	**04 45 38.4 +2.5**
SMOL	**Smolenice** 6.2nm,0.3s,SNR=6.1	**5.06**	**359**	*e*Pn	**Pn**	**04 44 41.8 +2.0**
SMOL				*e*Sn	**Sn**	**04 45 37.3 -1.0**
SMOL	**Smolenice** 5.8nm,0.3s	**5.06**	**359**	*e*PN	**Pn**	**04 44 41.8 +2.0**
SMOL				*e*SN	**Sn**	**04 45 37.3 -1.0**
VYHS	**Vyhne** 3.3nm,0.2s	**5.12**	**10**	*e*Pn	**Pn**	**04 44 40.9 +0.3**
VYHS				*e*Sn	**Sn**	**04 45 39.8 +0.1**
VYHS	**Vyhne** 6.8nm,0.4s	**5.12**	**10**	*e*PN	**Pn**	**04 44 40.9 +0.3**
VYHS				*e*SN	**Sn**	**04 45 39.8 +0.1**
KECS	**Kecovo** 3.5nm,0.4s	**5.43**	**21**	*e*PN	**Pn**	**04 44 48.1 +3.3**
WATA	**Walderalm** 3.5nm,0.4s	**5.72**	**315**	*i*Pn	**Pn**	**04 44 52.4 +3.4**
MOTA	**Moosalm** 6.8nm,0.4s	**5.97**	**313**	*i*Pn	**Pn**	**04 44 54.9 +2.4**
MOTA	**Moosalm** 6.8nm,0.4s	**5.97**	**313**	Pn	**Pn**	**04 44 54.9 +2.4**
CRVS	**Cervenica-Dubn** 9.6nm,0.6s	**6.08**	**25**	*e*PN	**Pn**	**04 44 58.3 +4.4**
RETA	**Reutte** 1.6nm,0.3s,SNR=4.1	**6.24**	**313**	*i*Pn	**Pn**	**04 44 59.0 +2.8**
KHC	**Kasperske Hory** 3.5nm,0.4s	**6.30**	**336**	*e*PN	**Pn**	**04 44 59.5 +2.6**
KHC				*e*SN	**Sn**	**04 46 07.4 -1.6**
MORC	**Moravsky Berou**	**6.32**	**360**	*e*Sn	**Sn**	**04 46 09.6 +0.1**
FRF	**La Foret Royal**	**7.92**	**274**	*e*Pn	**Pn**	**04 45 18.3 -0.8**
FRF	**La Foret Royal**	**7.92**	**274**	*e*Pn	**Pn**	**04 45 18.3 -0.8**
LPG	**La Plagne** 3.5nm,0.4s	**7.99**	**289**	*e*P	**Pn**	**04 45 24.4 +4.2**
LPG				*e*Sn	**Sn**	**04 46 45.7 -5.1**
LPL	**La Plagne** 9.6nm,0.6s	**8.00**	**289**	*e*Pn	**Pn**	**04 45 19.4 -1.0**
LPL				*e*Sn	**Sn**	**04 46 45.6 -5.5**
LPL	**La Plagne** 9.6nm,0.6s	**8.00**	**289**	*e*Pn	**Pn**	**04 45 19.4 -1.0**
ORIF	**Oris-en-Rattie** 3.5nm,0.5s	**8.51**	**284**	*e*Pn	**Pn**	**04 45 26.0 -1.3**
ORIF	**Oris-en-Rattie** 3.5nm,0.5s	**8.51**	**284**	*e*P	**Pn**	**04 45 31.3 +4.0**
ORIF				*e*Sn	**Sn**	**04 46 57.3 -6.1**
ORIF	**Oris-en-Rattie** 1.0nm,0.4s	**8.51**	**284**	*e*Pn	**Pn**	**04 45 26.0 -1.3**
HINF	**Hinteralfeld** 3.4nm,0.5s	**8.67**	**304**	*e*Sn	**Sn**	**04 47 01.8 -5.3**
CABF	**La Chapelle**	**8.71**	**295**	*e*Pn	**Pn**	**04 45 28.5 -1.4**
CABF	**La Chapelle**	**8.71**	**295**	*e*P	**Pn**	**04 45 34.7 +4.8**
CABF				*e*Sn	**Sn**	**04 47 02.7 -5.5**
CABF	**La Chapelle** 1.0nm,0.4s	**8.71**	**295**	*e*Pn	**Pn**	**04 45 28.5 -1.4**
HAU	**Haudompre** 3.1nm,0.4s	**9.05**	**304**	*e*P	**Pn**	**04 45 39.4 +4.8**
HAU				*e*Sn	**Sn**	**04 47 10.7 -5.9**

MOS ***03*** *04:48:56.4±0.9,56˚.56S×26˚.94W,h83km,mb6.1/15, MS5.9/21,Error ellipse: s-maj=18.2km s-min=8.5km az=98.8*

ISCJB ***03*** *04:48:57.9±0.9,56˚.53S±0˚.03×27˚.06W±0˚.06,h94km±8km, mb6.0/96,Error ellipse: s-maj=5.6km s-min=3.8km az=147.2*

NEIC ***03*** *04:48:57.3±0.1,56˚.45S×26˚.85W,h84km,mb6.1/75, MW6.3,MW6.4,MW6.4, Error ellipse: s-maj=5.7km s-min=4.4km az=54.0,Moment Tensor Solution. s40 Moment tensor: Scale 10¹⁸Nm; Mrr4.10; Mθθ-1.36; Mφφ-2.75; Mrθ-1.86; Mrφ0.69; Mθφ0.78; Best double couple: M₀4.20000×10¹⁸ NP1:φs165.00000°,δ34.00000°, λ111.00000°. NP2:φs320.00000°,δ58.00000°,λ76.00000°. Principal axes: T 4.7200, Plg73.0000°, Azm194.0000°; N -1.3800, Plg12.0000°, Azm327.0000°; P -3.3400, Plg12.0000°, Azm60.0000°;*

GCMT ***03*** *04:48:57.3±0.0,56˚.57S×26˚.44W,h99km,MW6.4/146, Moment Tensor Solution. s146,c362; s140,c562; Duration: 3s7 Moment tensor: Scale 10¹⁸Nm; Mrr3.49±.02; Mθθ-0.23±.02; Mφφ-3.26±.02; Mrθ-2.01±.01; Mrφ1.81±.02; Mθφ1.05±.02; Best double couple: M₀4.45300×10¹⁸ NP1:φs316.00000°,δ61.00000°, λ69.00000°. NP2:φs174.00000°,δ36.00000°,λ123.00000°. Principal axes: T 4.3760, Plg67.0000°, Azm185.0000°; N 0.1500, Plg18.0000°, Azm327.0000°; P -4.5310, Plg13.0000°, Azm61.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*

BJI ***03*** *04:48:58.0,56˚.50S×27˚.00W,h100km,mB6.1/45*

IDC ***03*** *04:48:59.3±0.5,56˚.46S×26˚.85W,h102km±3km,mb5.6/18, mb1 5.6/19,mb1mx5.6/23,mbtmp5.9/19,MS5.8/22, Ms1 5.8/22,ms1mx5.7/26,Error ellipse: s-maj=9.1km s-min=8.6km az=39.0*

NEIC ***03*** *04:49:00.0±0.0,56˚.55S×26˚.86W,h110km,Moment Tensor Solution. s42 Moment tensor: Scale 10¹⁸Nm; Mrr3.37; Mθθ-0.39; Mφφ-2.98; Mrθ-2.25; Mrφ1.72; Mθφ1.87; Best double couple: M₀4.70000×10¹⁸ NP1:φs318.00000°, δ65.00000°,λ75.00000°. NP2:φs170.00000°,δ29.00000°, λ118.00000°. Principal axes: T 4.5600, Plg66.0000°, Azm201.0000°; N 0.1900, Plg13.0000°, Azm324.0000°; P -4.7500, Plg18.0000°, Azm59.0000°;*

NEIC ***03*** *04:49:11.2±0.0,56˚.46S×25˚.91W,h92km,Moment Tensor Solution. s60 Moment tensor: Scale 10¹⁸Nm; Mrr3.49; Mθθ-0.37; Mφφ-3.12; Mrθ-1.94; Mrφ1.82; Mθφ1.05; Best double couple: M₀4.40000×10¹⁸ NP1:φs172.00000°, δ35.00000°,λ121.00000°. NP2:φs316.00000°,δ60.00000°, λ70.00000°. Principal axes: T 4.3100, Plg68.0000°, Azm186.0000°; N 0.1400, Plg17.0000°, Azm326.0000°; P -4.4500, Plg13.0000°, Azm60.0000°;*

ISC 03 04:48:58.8±0.3,56˚.56S±0˚.03×26˚.92W±0˚.03, h96km±2km, h96km:pP-P,n1013,cS1981/1243,mb6.0/103,44C-13D,

South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPE	**Hope Point**	**5.91**	**289**	*e*Pn	**Pn**	**04 50 24.7**	**+1.1**
HOPE				*e*Sn	**Sn**	**04 51 28.8**	**-1.0**
VNA1	**Neumayer--Stat**	**16.27**	**158**	P	**P**	**04 52 41.9**	**-0.5**
VNA1	**Neumayer--Stat**	**16.27**	**158**	P	**ScP**	**05 00 55.7**	**+1.6**
VNA3	**Neumayer Olymp**	**16.46**	**160**	P	**Pn**	**04 52 43.7**	**+0.2**
VNA3	**Neumayer Olymp**	**16.46**	**160**	P	**ScP**	**05 00 54.7**	**+0.2**
SNAA	**Sanae**	**18.21**	**156**	P	**Pn**	**04 53 04.9**	**0.0**
SNAA				S	**Sn**	**04 56 38.0**	**+10**
SNAA	**Sanae**	**18.21**	**156**	P	**ScP**	**05 01 00.8**	**+2.6**
SNAA	**Sanae** 45nm,0.3s,baz=308,slow=9.7,SNR=586	**18.21**	**156**	P	**P**	**04 53 03.8**	**-0.1**
SNAA	3.1nm,0.3s,baz=180,slow=20,SNR=4.2			S	**S**	**04 56 24.6**	**-2.3**
SNAA	3.2nm,0.3s,baz=270,slow=6.1,SNR=3.8			PcP	**PcP**	**04 57 32.6**	**+0.7**
SNAA	comp=Z,6μm,18.1s,baz=322,slow=34			LR	LR	04 59 23.2	
SNAA	0.6nm,0.3s,baz=211,slow=7.3,SNR=5.6			ScP	**ScP**	**05 00 57.7**	**-0.5**
SNAA	**Sanae** 2μm,1.5s	**18.21**	**156**	*e*P	**P**	**04 53 03.8**	**-0.1**
SNAA				S	**S**	**04 56 24.6**	**-2.3**
SNAA				PcP	**PcP**	**04 57 32.6**	**+0.7**
SNAA				*e*ScP	**ScP**	**05 00 58.5**	**+0.3**
EFI	**East Falkland**	**18.80**	**272**	*e*P	**Pn**	**04 53 12.4**	**+0.6**
EFI	comp=Z,487nm,0.8s			pmax	pmax		
EFI	**East Falkland** comp=Z,487nm,0.8s	**18.80**	**272**	*e*P	**Pn**	**04 53 12.4**	**+0.6**
PMSA	**Palmer Station** comp=Z,25nm,0.3s,baz=70,slow=8.7,SNR=100	**19.68**	**230**	P	**Pn**	**04 53 23.5**	**+1.4**
PMSA	baz=293,slow=18,SNR=3.6			S	**Sn**	**04 57 03.3**	**+0.4**
PMSA	comp=Z,5.3nm,0.3s,baz=38,slow=2.5,SNR=5.8			PcP	**PcP**	**04 57 35.6**	**+1.1**
PMSA				ScP	**ScP**	**05 01 01.4**	**-0.1**
PMSA	**Palmer Station** comp=Z,4.3nm,0.3s,baz=52,slow=2.1,SNR=18	**19.68**	**230**	*e*P	**Pn**	**04 53 22.9**	**+0.7**
PMSA	comp=Z,977nm,0.8s			S	**Sn**	**04 57 03.3**	**+0.4**
PMSA				PcP	**PcP**	**04 57 35.6**	**+1.1**
PMSA				*e*ScP	**ScP**	**05 00 59.3**	**-2.1**
NVL	**N'lazarevskaya**	**21.75**	**146**⇑	*i*P	**P**	**04 53 43.3**	**+1.3**
NVL				*e**PP	**sP**	**04 54 07.3**	**-5.4**
NVL				*e**SP	pP	04 54 23.8	+23
NVL				*e*S	**S**	**04 57 38.2**	**+1.5**
NVL				*e**SS	sS	04 58 19.1	+11
TRIS	**Tristan da Cun** comp=Z,1μm,1.1s	**21.82**	**33**	*e*P	**P**	**04 53 45.5**	**+2.5**
USHA	**Ushuaia** comp=Z,601nm,0.9s,baz=87,slow=10,SNR=31	**23.21**	**257**	P	**P**	**04 53 58.1**	**+1.2**
USHA	comp=Z,82nm,0.6s,baz=99,slow=7.9,SNR=5.1			PcP	**PcP**	**04 57 41.5**	**-0.1**
USHA	comp=Z,91nm,0.8s,baz=282,slow=19,SNR=3.3			S	**S**	**04 58 09.0**	**+8.0**
USHA	comp=Z,159nm,0.8s,baz=111,slow=3.5,SNR=8.9			ScP	**ScP**	**05 01 09.4**	**-1.0**
CHRN	**Cochrane** comp=Z,63nm,1.1s	**29.17**	**269**	*e*P	**P**	**04 54 53.9**	**+3.3**
TRQA	**Tornquist** comp=Z,126nm,0.9s	**29.66**	**294**	*e*P	**P**	**04 54 54.2**	**-0.9**
TRQA				*e*PcP	**PcP**	**04 57 55.9**	**-1.1**
TRQA				*e*ScP	**ScP**	**05 01 27.9**	**-1.9**
SYO	**Syowa Base**	**31.09**	**140**⇓	*e*P	**P**	**04 55 05.2**	**-2.1**
PLCA	**Paso Flores** comp=Z,20nm,0.7s,baz=166,slow=8.4,SNR=27	**32.24**	**281**	P	**P**	**04 55 16.5**	**-1.3**
PLCA	comp=Z,55nm,1.0s,baz=123,slow=2.4,SNR=8.1			PcP	**PcP**	**04 58 03.5**	**-0.3**
PLCA	comp=Z,22nm,0.8s,baz=78,slow=1.6,SNR=8.7			ScP	**ScP**	**05 01 37.4**	**-1.1**
PLCA	comp=Z,18μm,20.2s,baz=148,slow=34			LR	LR	05 07 29.2	
QSPA	**South Pole Qui** comp=Z,4μm,1.6s	**33.69**	**180**	*e*P	**P**	**04 55 31.2**	**+0.9**
SUCO	**SUCO**	**34.82**	**296**	*e*P	**P**	**04 55 40.2**	**0.0**
PIL	**Pilar**	**35.68**	**298**	*e*P	**P**	**04 55 51.2**	**+3.6**
MRA	**San Martin**	**35.98**	**296**	*e*P	**P**	**04 55 49.7**	**-0.5**
SPB	**Sao Paulo** comp=Z,346nm,1.1s	**36.19**	**327**	*e*P	**P**	**04 55 52.8**	**+0.9**
TCA	**Tanti**	**36.30**	**298**⇓	*e*P	**P**	**04 55 53.1**	**+0.1**
ACAN	**Cantantal**	**36.83**	**294**	*e*P	**P**	**04 55 55.0**	**-2.4**
AAGR	**Agrelo**	**37.02**	**291**⇓	*e*P	**P**	**04 56 00.7**	**+1.5**
CPUP	**Villa Florida** comp=Z,208nm,1.0s,baz=153,slow=7.9,SNR=115	**37.26**	**311**	P	**P**	**04 56 00.1**	**-0.9**
CPUP	comp=Z,29nm,0.5s,baz=131,slow=2.6,SNR=8.2			PcP	**PcP**	**04 58 18.2**	**-0.3**
CPUP	comp=Z,7.1nm,1.0s,baz=277,slow=18,SNR=1.8			S	**S**	**05 01 36.9**	**-4.2**
CPUP	comp=Z,29nm,1.0s,baz=176,slow=4.9,SNR=5.8			ScP	**ScP**

comp=Z,24nm,0.8s,baz=258,slow=5.0,SNR=4.2
VNDA S **S** **05 03 49.9 0.0**
comp=Z,4.4nm,0.8s,baz=342,slow=16,SNR=1.8
VNDA LR LR 05 15 17.3
comp=Z,4µm,21.8s,baz=178,slow=34
PB04 IPOC Station P 46.52 299 ⇑*i* P **P** **04 57 16.8 +0.3**
PB04 IPOC Station P 46.52 299 *e*P **P** **04 57 15.8 -0.8**
comp=Z,594nm,1.2s
PB09 IPOC Station P 46.54 300 *e*P **P** **04 57 17.7 +0.9**
PB07 IPOC Station P 46.91 300 *i* P P 04 57 11.7 -7.9
PB01 IPOC Station P 47.30 301 ⇑*i*P **P** **04 57 23.0 +0.4**
PB01 IPOC Station P 47.30 301 *e*P **P** **04 57 22.3 -0.3**
comp=Z,373nm,0.8s
PB08 IPOC Station P 47.92 302 ⇑*i*P **P** **04 57 25.0 -2.7**
HMBC Humberstone 48.15 301 ⇑*i*P **P** **04 57 27.4 -1.7**
H10S2 ASCENSION HYDR 48.45 16 T T 05 50 15.1
baz=189,slow=74,SNR=47
H10S3 ASCENSION HYDR 48.45 16 T T 05 50 13.4
baz=189,slow=74,SNR=16
H10S1 ASCENSION HYDR 48.47 16 T T 05 50 17.3
baz=189,slow=74,SNR=39
PB11 IPOC Station P 48.48 301 ⇑*i*P **P** **04 57 32.1 +0.3**
PB11 IPOC Station P 48.48 301 *e*P **P** **04 57 31.2 -0.5**
comp=Z,499nm,1.0s
MNMC Minye Minye 48.99 302 ⇑*i*P **P** **04 57 35.9 +0.1**
LBTB Lobatse 49.02 73 S **S** **05 04 32.0 -0.9**
comp=Z,7.6nm,1.0s,baz=288,slow=20,SNR=3.2
LBTB LR LR 05 15 38.6
comp=Z,15µm,18.4s,baz=226,slow=33
MIR Mirnyy 49.26 153 ⇑*i*P **P** **04 57 35.5 -1.4**
MIR *i* 04 59 34.0
MIR *i*S **S** **05 04 32.0 -3.2**
MIR pmax pmax
comp=Z,48nm,1.5s
MIR smax smax
comp=E,4µm,15.0s
MIR MLR MLR
comp=Z,5µm,20.0s
ASCN Ascension 49.50 16 *e*P **P** **04 57 40.5 +1.1**
comp=Z,245nm,1.4s
ASCN *e*pP **pP** **04 58 05.5 +3.1**
H10N1 ASCENSION HYDR 49.57 16 T T 05 51 07.7
baz=188,slow=75,SNR=8.4
H10N3 ASCENSION HYDR 49.57 16 T T 05 51 20.2
baz=188,slow=75,SNR=85
H10N2 ASCENSION HYDR 49.58 16 T T 05 51 06.3
baz=188,slow=75,SNR=10
PB13 IPOC Station P 49.64 302 ⇑*i*P **P** **04 57 42.1 +1.0**
PB12 IPOC Station P 49.79 301 ⇑*i*P **P** **04 57 39.6 -2.1**
TSUM Tsumeb 49.80 60 S **S** **05 04 43.6 -0.5**
comp=Z,0.9nm,0.6s,baz=268,slow=20,SNR=4.5
TSUM LR LR 05 15 27.6
comp=Z,11µm,18.8s,baz=222,slow=32
TSUM Tsumeb 49.80 60 *e*P **P** **04 57 41.4 -0.4**
comp=Z,513nm,1.3s
TSUM *e*pP **pP** **04 58 07.2 +2.3**
TSUM S **S** **05 04 43.6 -0.5**
LPAZ La Paz 50.79 305 P **P** **04 57 50.0 +0.2**
comp=Z,700nm,1.1s,baz=142,slow=5.2,SNR=341
LPAZ PcP **PcP** **04 59 06.4 +0.9**
comp=Z,61nm,0.5s,baz=127,slow=2.5,SNR=1.4
LPAZ ScP **ScP** **05 02 51.7 -0.8**
comp=Z,8.6nm,0.7s,baz=117,slow=3.7,SNR=10
LPAZ S **S** **05 04 57.7 -1.0**
comp=Z,14nm,1.0s,baz=295,slow=17,SNR=8.2
LPAZ LR LR 05 21 59.0
comp=Z,2µm,18.1s,baz=154,slow=39
LPAZ PKPPKP P'P'df 05 28 18.8 -15
comp=Z,1.0nm,0.8s,baz=3.5,slow=6.2,SNR=5.3
RCBR Riachuelo 51.09 348 *e*P **P** **04 57 52.5 +1.1**
comp=Z,233nm,1.5s
PAF Port-aux-Franc 54.19 127 *e*P **P** **04 58 15.3 +1.5**
PAF pmax pmax
comp=Z,866nm,1.2s
PAF Port-aux-Franc 54.19 127 *e*P **P** **04 58 15.3 +1.5**
comp=Z,866nm,1.2s
MATP Matopo 54.30 72 *i* P **P** **04 58 14.2 -0.9**
MATP Matopo 54.30 72 S **S** **05 05 43.8 -1.8**
comp=Z,3.2nm,0.9s,baz=338,slow=19,SNR=3.4
BLWY Bulawayo 54.59 72 *i* P **P** **04 58 16.7 -0.6**
SAML Samuel 55.27 315 *e*P **P** **04 58 21.2 -0.8**
comp=Z,289nm,0.9s
SAML *e*pP **pP** **04 58 43.4 -2.1**
SAML *e*ScP **ScP** **05 03 09.0 -2.3**
LSZ Lusaka 58.42 68 P **P** **04 58 44.1 -0.3**
comp=Z,225nm,0.8s,baz=202,slow=8.4
LSZ S **S** **05 06 37.5 -2.6**
comp=Z,1.1nm,0.4s,baz=259,slow=16,SNR=2.1
LSZ LR LR 05 21 31.4
comp=Z,10µm,18.1s,baz=214,slow=34
LSZ Lusaka 58.42 68 *e*P **P** **04 58 43.5 -0.9**
LSZ S **S** **05 06 37.5 -2.6**
LSZ Lusaka 58.42 68 P **P** **04 58 44.2 -0.3**
SNR=42
LSZ Lusaka 58.42 68 P **P** **04 58 44.2 -0.3**
SNR=42
NNA Nana 58.62 299 *i* P **P** **04 58 46.4 +0.6**
NNA Nana 58.62 299 *e*P **P** **04 58 45.9 +0.1**
comp=Z,196nm,1.1s
RPN Rapa Nui 63.71 260 LR LR 05 23 06.2
comp=Z,4µm,21.6s,baz=134,slow=32
LIC Lamto 65.10 24 *e*P **P** **04 59 27.7 -1.3**
comp=Z,1µm,1.6s
KIC Kosan Boka 65.30 24 *e*P **P** **04 59 29.3 -1.0**
comp=Z,493nm,0.9s
TIC Toumodi 65.51 24 *e*P **P** **04 59 30.5 -1.2**
DBIC Dimbokro 65.57 24 P **P** **04 59 31.1 -0.9**
comp=Z,44nm,0.6s,baz=169,slow=7.0,SNR=60
DBIC pP **pP** **04 59 57.3 +1.1**
comp=Z,207nm,0.9s,baz=172,slow=7.9,SNR=12
DBIC S **S** **05 08 07.4 -2.3**
comp=Z,4.1nm,0.8s,baz=329,slow=16,SNR=1.9
DBIC LR LR 05 22 20.0
comp=Z,19µm,19.4s,baz=178,slow=31
DBIC PKP2bc 05 28 12.0
comp=Z,7.1nm,0.9s,baz=300,slow=6.3,SNR=3.2
ABPO Ambohimpanom 65.62 88 *e*P **P** **04 59 34.0 +1.4**
ABPO pmax pmax
comp=Z,109nm,1.0s
ABPO Ambohimpanom 65.62 88 *e*P **P** **04 59 34.0 +1.4**
comp=Z,109nm,1.0s
OPO Ambohidratompo 65.96 87 P **P** **04 59 35.7 +0.9**
comp=Z,65nm,0.9s,baz=220,slow=9.6,SNR=6.5
OPO LR LR 05 24 01.5
comp=Z,15µm,19.1s,baz=205,slow=32
RER Riviere de l'E 68.61 96 *e*P **P** **04 59 53.3 +1.9**
comp=Z,561nm,0.9s
MCQ Macquarie Isla 69.20 184 *e*P **P** **04 59 55.4 +1.0**
MCQ pmax pmax
comp=Z,538nm,1.4s
MCQ Macquarie Isla 69.20 184 *e*P **P** **04 59 55.4 +1.0**
comp=Z,538nm,1.4s
GUVC San Jose del G 69.54 310 *e*P **P** **04 59 57.3 +0.2**
MRIV Mauritius Mte 70.26 97 *e*P **P** **05 00 03.4 +1.8**
POPC Popayan, Colom 71.30 306 *e*P **P** **05 00 08.6 +0.5**
SACV Santiago Islan 71.31 3 *e*P **P** **05 00 07.8 +0.1**
comp=Z,165nm,1.1s
PRAC Prado 71.56 309 *e*P **P** **05 00 09.2 -0.2**
PRAC Prado 71.56 309 *e*P **P** **05 00 08.9 -0.5**
comp=Z,474nm,0.7s
ROSC El Rosal 72.32 310 P **P** **05 00 14.9 +0.6**
comp=Z,89nm,0.6s,baz=170,slow=2.5,SNR=76
ROSC S **S** **05 09 27.9 -2.3**
comp=Z,1.7nm,0.4s,baz=87,slow=19,SNR=4.6
ROSC LR LR 05 35 45.7
comp=Z,1µm,18.8s,baz=175,slow=39
ROSC El Rosal 72.32 310 *e*P **P** **05 00 14.8 +0.5**
TPP Pointe-a-Pierr 72.50 324 *e*P **P** **05 00 17.2 +2.3**
RUSC La Rusia 72.75 311 *e*P **P** **05 00 15.5 -1.5**
comp=Z,183nm,1.1s
TRN Trinidad (W) 72.80 324 *e*P **P** **05 00 18.2 +1.6**
TOSP Speyside 73.13 325 *e*P **P** **05 00 18.2 -0.4**
NORC Norcasia 73.21 309 *e*P **P** **05 00 16.7 -2.5**
NORC *e*P PcP 05 00 18.4 -17
TORD Torodi Ar. Bea 73.43 29 P **P** **05 00 19.7 -0.6**
comp=Z,156nm,0.6s,baz=199,slow=5.8,SNR=499
TORD pP **pP** **05 00 46.4 +1.4**
comp=Z,588nm,0.8s,baz=193,slow=5.9,SNR=19
TORD LR LR 05 27 44.4
comp=Z,10µm,18.8s,baz=230,slow=32
TORD PKPPKP **P'P'df** **05 27 58.3 +2.9**
comp=Z,1.4nm,1.0s,baz=315,slow=2.4,SNR=3.3
PAMC Pamplona, Colo 73.90 312 *e*P **P** **05 00 22.3 -1.4**
HELC Santa Helena 74.05 309 *e*P **P** **05 00 22.2 -2.3**
SDV Santo Domingo 74.48 315 *e*P **P** **05 00 26.7 0.0**
comp=Z,262nm,0.8s
SDV Santo Domingo 74.48 315 *e*P **P** **05 00 26.8 0.0**
OCAC Ocana 74.97 312 *e*P **P** **05 00 29.2 -0.3**
PAYG Puerto Ayora 75.05 292 *e*P **P** **05 00 30.4 +0.5**
KMBO Kilima Mbogo 75.08 69 P **P** **05 00 32.8 +2.4**
comp=Z,24nm,1.0s,baz=201,slow=5.8,SNR=26
KMBO LR LR 05 32 28.3
comp=Z,10µm,18.4s,baz=194,slow=35
KMBO Kilima Mbogo 75.08 69*c*e**P** **P** **05 00 34.0 +3.6**
KMBO pmax pmax
comp=Z,24nm,1.0s
KMBO Kilima Mbogo 75.08 69 *e*P **P** **05 00 33.5 +3.2**
comp=Z,105nm,1.4s
KMBO Kilima Mbogo 75.08 69 P **P** **05 00 34.3 +3.9**
SNR=17
KMBO Kilima Mbogo 75.08 69 P **P** **05 00 34.3 +3.9**
SNR=17
SVB Belmont 75.22 325 *e*P **P** **05 00 31.0 +0.3**
SVB Belmont 75.22 325 *e*P **P** **05 00 30.6 -0.1**
comp=Z,571nm,1.4s
SVV Soufriere Volc 75.25 325 *e*P **P** **05 00 32.9 +2.0**
SSV Crater Summit 75.25 325 *e*P **P** **05 00 32.3 +1.3**
SLDE Delcer 75.66 326 *e*P **P** **05 00 35.5 +2.3**
SLPA Patience 75.66 326 *e*P **P** **05 00 35.7 +2.4**
SLB Belfond 75.67 326 *e*P **P** **05 00 35.0 +1.6**
SLW Petit Monier 75.82 326 *e*P **P** **05 00 34.5 +0.3**
H05S1 Guadeloupe/Mar 76.17 326 P **P** **05 00 37.0 +0.9**
MVM Montagne Vaucl 76.31 326 *e*P **P** **05 00 38.5 +1.6**
TRMF Trois Ilets 76.34 326 *e*P **P** **05 00 38.1 +1.0**
ZAM Aeronautique 76.37 326 *e*P **P** **05 00 37.3 0.0**
MOTC Monteria, Cord 76.43 310 *e*P **P** **05 00 36.5 -1.2**
CODC Agust´›n Codaz 76.55 313 *e*P **P** **05 00 36.3 -2.0**
FDF Fort de France 76.56 326 *e*P **P** **05 00 39.1 +0.7**
FDF pmax pmax
comp=Z,1µm,1.7s
FDF Fort de France 76.56 326 *e*P **P** **05 00 39.1 +0.7**
comp=Z,1µm,1.7s
PML Morne Lenard 76.61 326 *e*P **P** **05 00 40.0 +1.3**
PCM Pelee Case Pet 76.66 326 *e*P **P** **05 00 39.8 +0.9**
PCM Pelee Case Pet 76.66 326 *e*P **P** **05 00 40.3 +1.4**
PYZ Puysegur Point 77.01 190 *e*P **P** **05 00 42.4 +1.8**
comp=Z,454nm,1.5s
CAPC Capurgana 77.03 309 *e*P **P** **05 00 40.7 -0.3**
WHZ Wether Hill Ro 77.16 191 *e*P **P** **05 00 42.2 +0.8**
comp=Z,204nm,0.9s
AZU Azuero 77.57 306 ⇑*i*P **P** **05 00 42.8 -1.3**
DCZ Deep Cove 77.66 190 *e*P **P** **05 00 45.2 +1.0**
comp=Z,130nm,0.7s
MLZ Mavora Lakes 77.66 191 *e*P **P** **05 00 45.5 +1.2**
comp=Z,153nm,0.7s
EAZ Earnscleugh 77.66 192 PN **P** **05 00 44.6 +0.3**
ODZ Otahua Downs 77.69 193 *e*P **P** **05 00 46.3 +1.8**
comp=Z,92nm,0.9s
TBG Guadaloupe-3 77.77 326 *e*P **P** **05 00 46.2 +1.2**
H05N1 Guadeloupe/Mar 78.02 327 P **P** **05 00 47.7 +1.2**
WKZ Wanaka 78.10 192 *e*P **P** **05 00 47.9 +1.2**
comp=Z,332nm,1.1s
WKZ Wanaka 78.10 192 PN **P** **05 00 47.5 +0.8**
GDHS Morne Mazeau, 78.20 326 *e*P **P** **05 00 48.2 +0.7**
PNME Penonome 78.20 306 ⇑*i*P **P** **05 00 48.1 +0.5**
FLAM Flamenco Islan 78.23 307 *e*P **P** **05 00 48.3 +0.6**
MSZ Milford Sound 78.36 191 PN **P** **05 00 50.1 +2.0**
LBZ Lake Benmore 78.40 192 *e*P **P** **05 00 49.6 +1.2**
comp=Z,161nm,0.9s
LBZ Lake Benmore 78.40 192 PN **P** **05 00 49.5 +1.2**
ZANG Zanguenga, Cho 78.42 306 ⇑*i*P **P** **05 00 49.4 +0.7**
FRIJ El Hiral 78.59 307 *e*P **P** **05 00 49.8 +0.1**
MQZ McQueen's Vall 78.75 194 *e*P **P** **05 00 51.3 +1.0**
comp=Z,149nm,0.9s
MQZ McQueen's Vall 78.75 194 PN **P** **05 00 50.6 +0.3**
JCZ Jackson Bay 78.87 191 *e*PN **P** **05 00 51.9 +0.9**
CRLZ Canterbury Las 78.88 194 *e*P **P** **05 00 51.9 +0.9**
comp=Z,424nm,1.7s
RPZ Rata Peaks 78.95 193 P **P** **05 00 52.3 +0.8**
comp=Z,126nm,0.7s,baz=194,slow=1.4,SNR=38
RPZ Rata Peaks 78.95 193 *e*P **P** **05 00 52.7 +1.2**
comp=Z,148nm,0.8s
RPZ Rata Peaks 78.95 193 PN **P** **05 00 51.7 +0.3**
OXZ Oxford 79.21 194 *e*P **P** **05 00 54.1 +1.3**
comp=Z,74nm,0.7s
OXZ Oxford 79.21 194 PN **P** **05 00 53.4 +0.6**
FOZ Fox Glacier 79.28 192 *e*P **P** **05 00 54.5 +1.3**
comp=Z,145nm,0.8s
FOZ Fox Glacier 79.28 192 PN **P** **05 00 53.4 +0.2**
ANWB Willy Bob 79.52 326 *e*P **P** **05 00 55.1 +0.4**
comp=Z,508nm,0.8s
TBS2 79.54 304 *e*P **P** **05 00 55.8 +0.7**
BRU2 Volcan 79.55 304 ⇑*i*P **P** **05 00 55.2 0.0**
WVZ Waitaha Valley 79.62 193 PN **P** **05 00 56.3 +1.2**
LTZ Lake Taylor 79.71 194 *e*P **P** **05 00 56.8 +1.2**
comp=Z,187nm,0.8s
LTZ Lake Taylor 79.71 194 PN **P** **05 00 56.0 +0.4**
SEUS St. Eustatius 79.73 325 *e*P **P** **05 00 56.6 +0.8**
SEUS St. Eustatius 79.73 325 *e*P **P** **05 00 56.4 +0.6**
INZ Inchbonnie 79.88 194 PN **P** **05 00 56.8 +0.4**
KHZ Kahutara 79.89 195 *e*P **P** **05 00 58.3 +1.8**
comp=Z,107nm,0.8s
KHZ Kahutara 79.89 195 PN **P** **05 00 56.1 -0.4**
SABA Saba 79.93 325 *e*P **P** **05 00 57.6 +0.8**
SABA Saba 79.93 325 *e*P **P** **05 00 57.4 +0.6**
comp=Z,936nm,0.9s
RKT Rikitea 80.37 243 *e*P **P** **05 01 00.5 +1.1**
comp=Z,181nm,1.0s
RKT *e*pP **pP** **05 01 23.8 -0.5**
comp=Z,144nm,1.0s
RKT *e*S **S** **05 10 54.5 -2.9**
comp=Z,6µm,35.5s
RKT Rikitea 80.37 243 *e*LQ LQ 05 22 23.2
comp=Z,5µm,38.8s
RKT *e*LR LR 05 26 08.2
comp=Z,12µm,33.2s,baz=153
RKT Rikitea 80.37 243 *e*T T 06 29 46.9
comp=Z,4.3nm,0.2s
CDVI St. Croix 80.55 324 *e*P **P** **05 01 00.5 +0.4**
comp=Z,610nm,1.3s
THZ Tophouse 80.62 195 *e*P **P** **05 01 01.1 +0.6**
comp=Z,281nm,0.6s
THZ Tophouse 80.62 195 PN **P** **05 01 00.7 +0.1**
BUS Buena Vista 80.71 303 *e*P **P** **05 01 02.2 +0.5**
TAU Tasmania Unive 80.78 176 *e*P **P** **05 01 01.3 +0.1**
TAU pmax pmax
comp=Z,1µm,1.0s
TAU Tasmania Unive 80.78 176 *e*P **P** **05 01 01.3 +0.1**
comp=Z,1µm,1.0s
QCR1 Quepos 80.79 303 *e*P **P** **05 01 02.4 +0.8**
SNZO South Karori 80.80 196 *e*P **P** **05 01 02.4 +1.0**
comp=Z,219nm,0.6s
MTW Mount Morrison 80.82 197 PN **P** **05 01 02.5 +0.9**
CAW Cannon Point 80.94 197 PN **P** **05 01 04.0 +1.9**
URSC Urasca 80.97 303 *e*P **P** **05 01 03.8 +1.0**
NNZ Nelson 81.09 195 PN **P** **05 01 02.6 -0.4**
BFZ Birch Farm 81.16 198 *e*P **P** **05 01 04.5 +1.2**
comp=Z,194nm,0.8s
BFZ Birch Farm 81.16 198 PN **P** **05 01 03.8 +0.5**
STVI Saint Thomas 81.17 324 *e*P **P** **05 01 02.6 -0.8**
comp=Z,356nm,0.9s
SJS Escuela Geolog 81.19 303 *e*P **P** **05 01 05.1 +1.2**
KIW Kapiti Island 81.20 197 PN **P** **05 01 05.0 +1.4**
OGWZ Otaki Gorge 81.20 197 PN **P** **05 01 04.4 +0.9**
HUMP Col San Antoni 81.27 323 *e*P **P** **05 01 03.2 -0.7**
comp=Z,269nm,0.9s
HDC Heredia 81.27 303 *e*P **P** **05 01 05.3 +1.0**
SJG San Juan 81.34 323 *e*P **P** **05 01 03.2 -1.2**
SJG pmax pmax
comp=Z,184nm,1.1s
SJG San Juan 81.34 323 *e*P **P** **05 01 03.2 -1.2**
comp=Z,184nm,1.1s
CBYP Canovanas 81.39 323 *e*P **P** **05 01 03.7 -1.0**
CGA2 Cerro Gallo 2 81.45 303 *e*P **P** **05 01 05.6 +0.4**
CELP Cerrillos 81.45 322 *e*P **P** **05 01 03.4 -1.6**
QRZ Quartz Range 81.59 195 PN **P** **05 01 04.8 -0.9**
MPR Mayaguez 81.77 322 *e*P **P** **05 01 06.6 0.0**
comp=Z,137nm,0.9s
AGP Aguadilla 81.95 322 *e*P **P** **05 01 06.2 -1.4**
comp=Z,332nm,1.2s
IDE Isla Desecheo 82.05 321 *e*P **P** **05 01 07.2 -0.9**
VCR Vista de Mar 82.09 302 *e*P **P** **05 01 08.6 0.0**
WAZ Wanganui 82.27 197 PN **P** **05 01 10.8 +1.6**
CUI Cuipilapa 82.33 303 *e*P **P** **05 01 08.9 -0.8**
BHHZ Black Hill Sta 82.35 198 *e*PN **P** **05 01 10.4 +0.7**
KWHZ Kaweka Forest 82.36 198 *e*PN **P** **05 01 10.4 +0.6**
COLC Colonia 82.36 302 *e*P **P** **05 01 09.8 -0.1**
MESS Mesas 82.42 303 *e*P **P** **05 01 09.8 -0.5**
GPS3 Bodega del ICE 82.51 302 *e*P **P** **05 01 09.9 -0.8**
WNVZ Wahianoa 82.59 197 PN **P** **05 01 11.1 +0.1**
BKZ Black Stump Fm 82.59 198 *e*P **P** **05 01 11.9 +0.9**
comp=Z,150nm,0.7s
TRVZ Turoa 82.62 197 PN **P** **05 01 11.9 +0.5**
FWVZ Far West T-bar 82.67 197 PN **P** **05 01 12.0 +0.5**
PKVZ Pokaka 82.67 197 PN **P** **05 01 12.2 +0.9**
NGZ Ngauruhoe 82.74 197 PN **P** **05 01 12.4 +0.6**
WTVZ West Tongariro 82.80 197 *e*PN **P** **05 01 12.0 -0.1**
RIGZ Rimuhau 82.82 199 *e*PN **P** **05 01 13.4 +1.3**
TWVZ Taurewa 82.87 197 PN **P** **05 01 12.6 +0.2**
KHEZ Kahui Hut 82.88 196 *e*PN **P** **05 01 12.3 -0.2**
CRZ1 La Cruz 82.92 302 *e*P **P** **05 01 11.3 -1.5**
SDD Santo Domingo 82.97 319 *e*P **P** **05 01 12.7 -0.2**
H01W2 Cape Leeuwin H 83.09 149 P **P** **05 01 14.6 +1.4**
baz=191,slow=8.0,SNR=6.8
H01W1 Cape Leeuwin H 83.10 149 P **P** **05 01 14.3 +1.0**
baz=191,slow=8.0,SNR=4.6
H01W3 Cape Leeuwin H 83.10 149 P **P** **05 01 14.7 +1.4**
baz=191,slow=8.0,SNR=7.0
MWZ Matawai 83.22 199 PN **P** **05 01 14.7 +0.5**
URZ Urewera 83.37 199 P **P** **05 01 15.2 +0.3**
comp=Z,110nm,0.7s,baz=209,slow=1.8,SNR=52
URZ Urewera 83.37 199 PN **P** **05 01 15.1 +0.2**
HIZ Hauiti 83.51 197 *e*P **P** **05 01 15.8 +0.2**
HIZ Hauiti 83.51 197 PN **P** **05 01 14.4 -1.2**
RUGZ Raukumara Rang 83.55 199 PN **P** **05 01 17.0 +1.0**
WMGZ Waiomatatini S 83.56 200 PN **P** **05 01 18.7 +2.8**
TAM Tamanrasset 83.66 30 *e*P **P** **05 01 17.5 +1.0**
TAM pmax pmax
comp=Z,57nm,1.2s
TAM Tamanrasset 83.66 30 *e*P **P** **05 01 17.5 +1.0**
comp=Z,57nm,1.2s
HAZ Te Kaha 83.73 199 PN **P** **05 01 16.9 +0.2**
SDDR Presa de Saban 83.96 318 *e*P **P** **05 01 17.8 -0.2**
SDDR Presa de Saban 83.96 318 *e*P **P** **05 01 17.3 -0.7**
SDDR Presa de Saban 83.96 318 *e*P **P** **05 01 18.0 0.0**
LGNH LGogne 84.02 317 *e*P **P** **05 01 19.1 +0.8**
MGAN Managua 84.14 302 *e*P **P** **05 01 18.6 -0.4**
COPN Copaltepe 84.33 302 *e*P **P** **05 01 17.5 -2.4**
MOMN Momotombo 84.50 302 *e*P **P** **05 01 19.3 -1.6**
ESTN Estel 85.03 303 *e*P **P** **05 01 23.3 -0.3**
HOJ Hope 85.18 313 ⇓*i*P **P** **05 01 26.7 +2.6**
STH Stony Hill 85.27 313 ⇑*i*P **P** **05 01 25.5 +1.0**
MCJ Malvern 85.49 312 ⇑*i*P **P** **05 01 27.9 +2.2**
MTDJ Mount Denham 85.70 313 *e*P **P** **05 01 27.3 +0.5**
comp=Z,107nm,0.6s
MTDJ Mount Denham 85.70 313 *e*P **P** **05 01 28.0 +1.2**
BBJ Bamboo Saint A 85.73 313 ⇑*i*P **P** **05 01 28.5 +1.6**
NWAO Narrogin (SRO) 85.81 150 *e*P **P** **05 01 27.4 +0.2**
NWAO Narrogin (SRO) 85.81 150 *e*P **P** **05 01 27.4 +0.2**
GRTK Grand Turk 86.22 319 *e*P **P** **05 01 28.6 -0.5**
comp=Z,116nm,0.9s
GRTK Grand Turk 86.22 319 *e*P **P** **05 01 29.5 +0.4**
GTBY Guantanamo Bay 86.27 315 *e*P **P** **05 01 29.3 -0.1**
comp=Z,90nm,0.9s
GTBY Guantanamo Bay 86.27 315 *e*P **P** **05 01 29.8 +0.3**
TGUH Tegucigalpa,Un 86.28 302 *e*P **P** **05 01 29.6 -0.1**
TGUH Tegucigalpa,Un 86.28 302 *e*P **P** **05 01 29.0 -0.6**
LFRS El Faro 86.75 301 *e*P **P** **05 01 30.2 -1.8**
TBI Tubuai 86.88 231 *e*P **P** **05 01 32.8 +0.2**
comp=Z,251nm,1.1s
TBI *e*pP **pP** **05 01 57.3 -0.6**
comp=Z,495nm,1.3s
TBI Tubuai 86.88 231 *e*PP PP 05 04 55.8 -0.1
comp=Z,438nm,29.2s
TBI *e*S **S** **05 11 59.2 -3.5**
comp=Z,4µm,33.8s
TBI Tubuai 86.88 231 *e*LQ LQ 05 25 34.7
comp=Z,6µm,30.0s
TBI *e*LR LR 05 29 14.1
comp=Z,28µm,30.2s,baz=156
LFU La Fuente 86.89 301 *e*P **P** **05 01 30.9 -1.8**
OUZ Omahuta 86.93 197 *e*P **P** **05 01 33.2 +0.5**
SBLS San Blas 87.21 300 *e*P **P** **05 01 34.5 +0.1**
MONT Ecomontaæa 87.24 300 *e*P **P** **05 01 34.7 +0.1**
RTR El Retiro 87.27 300 *e*P **P** **05 01 34.9 +0.2**
RBDL Robledal 87.47 300 *e*P **P** **05 01 34.8 -0.8**
CAN Canberra 88.41 177 *e*P **P** **05 01 40.5 +0.6**
CAN pmax pmax
comp=Z,131nm,0.8s
CAN Canberra 88.41 177 *e*P **P** **05 01 40.5 +0.6**
comp=Z,131nm,0.8s
ATD Arta Tunnel 88.73 67 P **P** **05 01 43.8 +2.3**
comp=Z,72nm,1.1s,baz=294,slow=1.8,SNR=13
FUL Funchal 89.27 8 *e*P **P** **05 01 45.6 +2.2**
FUL *e*pP **pP** **05 02 10.1 +1.3**
PMAR Madeira 89.34 8 *e*P **P** **05 01 46.0 +2.0**
PMAR *e*pP **pP** **05 02 10.7 +1.3**
PMOZ Porto Moniz, M 89.42 8 *e*P **P** **05 01 47.2 +2.9**
PMOZ *e*pP **pP** **05 02 08.4 -1.3**
PMOZ Porto Moniz, M 89.42 8 *e*SKSac **SKSac** **05 12 12.9 +7.7**
PMOZ Porto Moniz, M 89.42 8 *e*LR LR 05 29 52.1
PMPS Porto Santo 89.72 9 *e*P **P** **05 01 47.8 +2.3**
PMPS *e*pP **pP** **05 02 12.7 +1.8**
BBOO Buckleboo 89.81 166 *e*P **P** **05 01 46.5 +0.1**
comp=Z,114nm,0.7s
FORT Forrest 90.44 159 *e*P **P** **05 01 50.2 +0.9**
comp=Z,2µm,0.9s
CCIG Comitan 90.52 299 *e*P **P** **05 01 48.8 -1.1**
MDT Midelt 91.03 19 LR LR 05 38 23.5
comp=Z,10µm,19.0s,baz=198,slow=33
STKA Stephens Creek 91.37 170 P **P** **05 01 54.0 +0.4**
comp=Z,59nm,0.8s,baz=151,slow=4.0,SNR=53
STKA PP **PP** **05 05 29.7 -1.6**
comp=Z,39nm,0.9s,baz=164,slow=6.3,SNR=6.9
STKA LR LR 05 41 56.3
comp=Z,3µm,19.6s,baz=177,slow=35
TVO Taravao 91.68 234 *e*P **P** **05 01 56.0 +0.7**
comp=Z,48nm,1.0s
TVO *e*pP **pP** **05 02 20.2 -0.5**
comp=Z,40nm,0.9s
TIAR Tiarei 91.92 234 *e*P **P** **05 01 57.1 +0.7**
comp=Z,33nm,1.2s
PPT2 Papeete2 91.99 233 *e*PP PP 05 05 34.9 -2.0
comp=Z,1µm,25.0s
PPT2 *e*S **S** **05 12 47.0 -3.6**
comp=Z,4µm,25.2s
PPT2 Papeete2 91.99 233 *e*PS PS 05 14 13.9 +1.6
comp=Z,9µm,31.5s
PPT2 Papeete2 91.99 233 *e*LQ LQ 05 27 42.4
comp=Z,7µm,30.5s
PPT2 *e*LR LR 05 31 35.4
comp=Z,44µm,30.5s,baz=158
PPT Papeete 92.01 233 LR LR 05 33 24.6
comp=Z,4µm,20.0s,baz=166,slow=29
DAMY Dhamar 92.09 67 *e*P **P** **05 02 00.3 +3.0**
comp=Z,36nm,1.0s
LHI Lord Howe Isla 92.12 185 *e*P **P** **05 01 58.9 +1.8**
RAR Rarotonga 92.97 223 P **P** **05 02 00.0 -1.1**
comp=Z,18nm,0.8s,baz=252,slow=5.4,SNR=4.2
PSMN Pico do Norte, 93.22 1 *e*P pP 05 02 26.8 -0.3
comp=Z,187nm,1.2s
ARMA Armidale 93.36 179 *e*P **P** **05 02 03.6 +0.7**
PDA Ponta Delgada 93.95 1 *e*P pP 05 02 31.1 +0.7
comp=Z,86nm,2.1s
CMLA Cha da Macela 93.97 1 *e*P pP 05 02 29.7 -0.9
comp=Z,96nm,1.4s
PSET Sete Cidades 94.03 1 *e*P pP 05 02 30.1 -0.8
comp=Z,115nm,0.9s
PFVI Vila Bisbo 94.59 14 *e*P **P** **05 02 10.0 +2.0**
PFVI *e*pP **pP** **05 02 31.4 -2.0**
PFVI Vila Bisbo 94.59 14 *e*SKSac **SKSac** **05 12 35.7 +1.9**
PICO Pico 94.71 359 *e*P pP 05 02 33.7 -0.3
comp=Z,145nm,1.7s
MORF Marmelete 94.78 15 *e*P **P** **05 02 09.6 +0.6**
MORF *e*S **SKSac** **05 12 36.1 +1.1**
MORF AMS AMS 05 39 18.6
comp=Z,4µm,22.5s
MORF Marmelete 94.78 15 *e*P **P** **05 02 10.8 +1.9**
MORF *e*pP **pP** **05 02 31.1 -3.3**
MORF Marmelete 94.78 15 *e*SKSac **SKSac** **05 12 36.2 +1.2**
MORF Marmelete 94.78 15 *e*P **P** **05 02 09.5 +0.6**
MORF *e*S **SKSac** **05 12 36.0 +1.1**
TLIG Tlapa 94.79 295 *e*P **P** **05 02 09.1 -0.4**
PBDV Barranco-do-Ve 94.82 15 *e*P **P** **05 02 11.0 +1.9**
PBDV *e*pP **pP** **05 02 33.8 -0.7**
PBDV Barranco-do-Ve 94.82 15 *e*SKSac **SKSac** **05 12 38.1 +3.0**
PMAN Manadas 94.83 359 *e*P pP 05 02 35.0 +0.5
comp=Z,222nm,1.3s
ROSA Rosais 94.92 359 *e*P pP 05 02 35.4 +0.5
comp=Z,111nm,1.2s
PTEO Sao Teotonio 95.01 14 *e*P **P** **05 02 11.2 +1.3**
PTEO *e*pP **pP** **05 02 34.9 -0.4**
PVAQ Vaqueiros 95.01 15 *e*P **P** **05 02 11.9 +2.0**
PVAQ *e*pP **pP** **05 02 39.1 +3.7**

PVAQ eSKSac **SKSac** 05 12 36.9 +0.8
PVAQ Vaqueiros 95.01 15 eLQ LQ 05 28 58.7
PVAQ eLR LR 05 33 35.2
TAOE Nuku Hiva Isla 95.07 246 ePP PP 05 05 58.3 -2.9
comp=Z,914nm,25.4s
TAOE eS **S** 05 13 13.8 -4.0
comp=Z,7µm,32.3s
TAOE Nuku Hiva Isla 95.07 246 eLQ LQ 05 28 26.2
comp=Z,7µm,45.5s
TAOE eLR LR 05 32 55.5
comp=Z,9µm,33.6s,baz=157
PCVE Castro Verde 95.19 15 eP **P** 05 02 12.8 +2.1
PCVE epP **pP** 05 02 34.7 -1.5
PCVE Castro Verde 95.19 15 eSKSac **SKSac** 05 12 39.7 +2.7
PGRA Graciosa 95.23 359 eP pP 05 02 32.4 -3.9
comp=Z,124nm,1.3s
MESJ Messejana 95.37 15 eP **P** 05 02 12.2 +0.6
MESJ eS **SKSac** 05 12 38.9 +1.0
MESJ AMS AMS 05 42 57.3
comp=Z,6µm,17.6s
MESJ Messejana 95.37 15 eP **P** 05 02 13.7 +2.2
MESJ epP **pP** 05 02 34.4 -2.6
MESJ Messejana 95.37 15 eP **P** 05 02 12.1 +0.6
MESJ eS **SKSac** 05 12 38.9 +1.0
PNCL Nicolau / Gran 95.59 14 eP **P** 05 02 13.6 +1.1
PNCL epP **pP** 05 02 36.8 -1.2
PNCL Nicolau / Gran 95.59 14 eSKSac **SKSac** 05 12 42.9 +3.8
PBEJ Beja 95.60 15 eP **P** 05 02 14.6 +2.0
PBEJ epP **pP** 05 02 37.6 -0.5
PBAR Barrancos 95.87 16 eP **P** 05 02 15.6 +1.8
PBAR epP **pP** 05 02 37.0 -2.3
PBAR Barrancos 95.87 16 eSKSac **SKSac** 05 12 42.2 +1.6
EVO Evora 96.08 15 eP **P** 05 02 16.0 +1.3
EVO epP **pP** 05 02 39.4 -0.8
LIS Lisbon 96.10 14 eP **P** 05 02 15.4 +0.6
LIS eS **SKSac** 05 12 42.7 +0.9
LIS AMS AMS 05 41 18.4
comp=Z,7µm,19.1s
LIS Lisbon 96.10 14 eP **P** 05 02 16.8 +2.0
LIS epP **pP** 05 02 40.1 -0.2
LIS Lisbon 96.10 14 eP **P** 05 02 15.4 +0.6
LIS eS **SKSac** 05 12 42.6 +0.9
PMST Lisbon--Monsan 96.12 14 eP **P** 05 02 17.0 +2.1
PMST epP **pP** 05 02 39.4 -1.0
PMAFR Mafra 96.32 14 eP **P** 05 02 17.3 +1.5
PMAFR epP **pP** 05 02 40.6 -0.7
PMAFR Mafra 96.32 14 eSKSac **SKSac** 05 12 43.6 +0.7
PESTR Estremoz 96.47 15 eP **P** 05 02 18.5 +2.0
PESTR epP **pP** 05 02 40.6 -1.4
PESTR Estremoz 96.47 15 eSKSac **SKSac** 05 12 45.1 +1.4
KEST Kesra 96.95 29 P **P** 05 02 21.1 +2.2
comp=Z,6.3nm,0.7s,baz=140,slow=4.1,SNR=10
KEST LR LR 05 42 06.1
comp=Z,7µm,19.5s,baz=157,slow=33
PMRV Marv??o 97.05 15 eP Pdif 05 02 20.5 +1.3
PMRV epP pP 05 02 43.6 -1.0
PMRV Marv??o 97.05 15 eSKSac **SKSac** 05 12 48.9 +2.2
PMRV Marv??o 97.05 15 eLR LR 05 34 28.9
PTOM Tomar 97.09 14 eP Pdif 05 02 20.7 +1.3
PTOM epP pP 05 02 43.7 -1.1
PCBR Castelo Branco 97.44 15 eP Pdif 05 02 21.5 +0.6
PCBR epP pP 05 02 46.5 +0.2
PCAS Casmilo, Conde 97.50 14 eP Pdif 05 02 23.2 +2.0
PCAS epP pP 05 02 44.2 -2.5
PCAS Casmilo, Conde 97.50 14 eSKSac **SKSac** 05 12 51.6 +2.6
PAB San Pablo 97.63 17 eP Pdif 05 02 23.3 +1.4
PAB San Pablo 97.63 17 eP Pdif 05 02 23.2 +1.3
MBWA Marble Bar 97.63 149 eP **P** 05 02 22.3 -0.2
comp=Z,191nm,1.0s
ESDC Sonseca Array 97.82 18 P Pdif 05 02 23.3 +0.6
comp=Z,4.1nm,0.5s,baz=189,slow=4.6,SNR=37
ESDC pP pP 05 02 48.0 -0.2
comp=Z,9.2nm,0.8s,baz=187,slow=4.6,SNR=4.5
ESDC PP PP 05 06 08.1 -15
comp=Z,4.4nm,1.0s,baz=195,slow=8.1,SNR=4.2
ESDC PKKP **PKKPdf** 05 18 57.9 -1.5
comp=Z,1.4nm,0.6s,baz=7.8,slow=2.8,SNR=7.4
ESDC LR LR 05 42 57.8
comp=Z,5µm,19.9s,baz=200,slow=33
MOIG Morelia 97.89 294 eP Pdif 05 02 24.1 +0.3
MTE Manteigas 97.98 15 eP Pdif 05 02 24.3 +0.9
MTE epP pP 05 02 48.2 -0.7
MTE Manteigas 97.98 15 eSKSac **SKSac** 05 12 54.0 +2.5
MTE Manteigas 97.98 15 eLR LR 05 34 39.2
comp=Z,5µm,18.0s
MTE Manteigas 97.98 15 eP Pdif 05 02 26.4 +3.0
comp=Z,10nm,0.8s
EIDS Eidsvold 98.38 178 eP Pdif 05 02 25.8 +0.1
ASAR Alice Springs 98.46 162 P **P** 05 02 25.9 -0.3
comp=Z,37nm,0.7s,baz=190,slow=4.2,SNR=49
ASAR PP PP 05 06 13.0 -13
comp=Z,8.1nm,0.9s,baz=182,slow=6.6,SNR=4.5
ASAR PKKP **PKKPdf** 05 18 54.8 +0.1
comp=Z,3.5nm,0.6s,baz=22,slow=2.2,SNR=22
ASAR LR LR 05 45 55.6
comp=Z,3µm,18.5s,baz=194,slow=35
MVO Moncorvo 98.80 15 eP **P** 05 02 27.6 +0.6
MVO epP **pP** 05 02 50.7 -1.9
MVO Moncorvo 98.80 15 eSKSac **SKSac** 05 12 58.3 +2.7
MVO Moncorvo 98.80 15 eLQ LQ 05 30 05.2
MVO eLR LR 05 35 05.1
comp=Z,4µm,22.0s
PVRL Vila Real 98.81 15 eP **P** 05 02 29.0 +1.9
PVRL epP **pP** 05 02 54.0 +1.4
POLO Lamas de Olo 98.90 14 eP **P** 05 02 28.7 +1.2
POLO epP **pP** 05 02 51.0 -2.0
POLO Lamas de Olo 98.90 14 eSKSac **SKSac** 05 13 00.3 +4.1
PCAB Cabril 99.20 14 eP **Pdif** 05 02 31.7 +3.0
PCAB epP **pP** 05 02 55.4 +1.1
PGAV Gavieira, Arco 99.42 14 eP **Pdif** 05 02 30.2 +0.4
PGAV epP **pP** 05 02 55.1 -0.2
PGAV Gavieira, Arco 99.42 14 eSKSac **SKSac** 05 12 58.3 -0.4
PGAV Gavieira, Arco 99.42 14 eLR LR 05 35 11.9
comp=Z,9µm,18.0s
PBRG Braganca 99.47 15 eP **Pdif** 05 02 31.8 +1.8
PBRG epP **pP** 05 02 51.9 -3.6
PBRG Braganca 99.47 15 eSKSac **SKSac** 05 13 00.4 +1.5
DZM Mont Dzumac 100.87 193 P **Pdif** 05 02 38.4 +1.5
comp=Z,13nm,0.9s,baz=68,slow=9.5,SNR=6.4
DZM Mont Dzumac 100.87 193 ePdif **Pdif** 05 02 36.8 -0.2
comp=Z,576nm,23.4s
DZM Mont Dzumac 100.87 193 eSKSac **SKSac** 05 13 05.6 -1.7
comp=Z,3µm,26.6s
DZM Mont Dzumac 100.87 193 eLQ LQ 05 31 12.8
comp=Z,5µm,32.8s
DZM eLR LR 05 35 17.5
comp=Z,9µm,37.6s
FITZ Fitzroy Crossi 102.13 153 P **Pdif** 05 02 43.2 +0.7
comp=Z,6.8nm,0.8s,baz=261,slow=2.9,SNR=11
FITZ PP **PP** 05 06 47.0 -7.3
comp=Z,2.9nm,0.8s,baz=160,slow=12,SNR=2.4
FITZ PKKP **PKKPdf** 05 18 45.4 -2.7
comp=Z,1.6nm,0.7s,baz=358,slow=6.0,SNR=5.8
WRA Warramunga Arr 102.17 162 P **Pdif** 05 02 42.0 -0.7
comp=Z,12nm,0.8s,baz=194,slow=4.0,SNR=36
WRA PP PP 05 06 41.0 -14
comp=Z,7.1nm,0.8s,baz=191,slow=5.9,SNR=4.8
WRA PKKPbc **PKKPbc** 05 18 43.8 +1.4
comp=Z,4.7nm,0.3s,baz=356,slow=2.9,SNR=41
WRA PKPPKP **P'P'df** 05 27 03.5 -2.4
comp=Z,0.7nm,0.8s,baz=358,slow=2.0,SNR=4.6
WRA Warramunga Arr 102.17 162 P **Pdif** 05 02 42.0 -0.7
WRA pmax pmax
comp=Z,13nm,0.8s
WRAB Tennant Creek 102.18 162 *c* i*P* **Pdif** 05 02 42.9 +0.1
WRAB Tennant Creek 102.18 162 ePdif **Pdif** 05 02 42.2 -0.6
248A Dixon Mills 102.19 311 P **Pdif** 05 02 43.4 +1.1
baz=150
TIP Timpagrande 102.28 33 ePdif **Pdif** 05 02 44.6 +2.0
comp=Z,15nm,1.2s
KMSC Kings Mountain 102.31 317 P **Pdif** 05 02 44.4 +1.7
baz=153
346A Big Creek Wild 102.31 309 P **Pdif** 05 02 44.4 +1.6
baz=150
035A Encino 102.46 300 P **Pdif** 05 02 44.7 +1.1
baz=148
034A Hebbronville 102.85 300 P **Pdif** 05 02 45.9 +0.6
baz=147,SNR=5.4
147A Livingston 102.92 311 P **Pdif** 05 02 47.0 +1.6
baz=150
146A Union 103.22 310 P **Pdif** 05 02 48.5 +1.7
baz=150
934A Benavides 103.22 300 P **Pdif** 05 02 48.8 +1.8
baz=147,SNR=6.3

Z48A Northport 103.23 311 P **Pdif** 05 02 47.5 +0.7
baz=150
Z47A Carrollton 103.29 311 P **Pdif** 05 02 47.6 +0.5
baz=150
CTA Charters Tower 103.43 173 Pdiff **Pdif** 05 02 48.9 +0.6
comp=Z,5.3nm,0.6s,baz=170,slow=9.8,SNR=6.7
CTAO Charters Tower 103.43 173 eP **Pdif** 05 02 48.6 +0.3
CTAO Charters Tower 103.43 173 ePdif **Pdif** 05 02 48.5 +0.3
835A Beeville 103.47 301 P **Pdif** 05 02 50.4 +2.4
baz=148
342A Flagon Creek P 103.55 307 P **Pdif** 05 02 50.0 +1.7
baz=149
933A Laredo 103.59 300 P **Pdif** 05 02 50.3 +1.7
baz=147,SNR=8.0
736A Circle Diamond 103.67 302 P **Pdif** 05 02 50.8 +1.9
baz=148
834A Tilden 103.67 300 P **Pdif** 05 02 50.6 +1.6
baz=147
Y47A UCPARC, Winfie 103.80 312 P **Pdif** 05 02 50.0 +0.6
baz=150
636A Smothers Creek 104.11 302 P **Pdif** 05 02 51.7 +0.8
baz=148
Y46A Houston 104.21 311 P **Pdif** 05 02 51.8 +0.6
baz=150
537A Green Hill Far 104.26 303 P **Pdif** 05 02 52.3 +0.8
baz=148
143A Socs Landing, 104.28 308 P **Pdif** 05 02 52.6 +1.1
baz=149
734A La Parita Cree 104.28 301 P **Pdif** 05 02 53.0 +1.3
baz=147,SNR=5.7
Z44A Pea Ridge, Bel 104.35 309 P **Pdif** 05 02 52.4 +0.6
baz=149
635A Leesville 104.36 302 P **Pdif** 05 02 53.2 +1.2
baz=147
Y45A Yeager Farm, C 104.48 310 P **Pdif** 05 02 53.2 +0.8
baz=150
832A Faith Ranch, C 104.49 299 P **Pdif** 05 02 53.2 +0.6
baz=147
TRD Trivandrum 104.70 97 eP **Pdif** 05 02 52.3 -1.6
TRD IAmb IAmb 05 03 05.1
comp=Z,22nm,0.9s
633A Saathoff Ranch 105.09 301 P **PKiKP** 05 07 10.6 +1.3
baz=147
SSPA Standing Stone 105.95 322 ePKP **PKiKP** 05 07 10.5 0.0
JCT Junction City 106.24 301 eP **Pdif** 05 03 00.4 +0.1
JCT pmax pmax
comp=Z,24nm,1.3s
JCT Junction City 106.24 301 ePdif **Pdif** 05 03 00.4 +0.1
comp=Z,24nm,1.3s
WHTX Lake Whitney, 106.40 303 ePdif **Pdif** 05 03 01.2 +0.2
comp=Z,14nm,0.9s
WSAR Wadi Sarin 106.69 73 PKKPbc PKKPbc 05 18 30.9 +1.6
comp=Z,4.4nm,0.5s,baz=125,slow=1.7,SNR=11
234A Clairette 106.72 303 P **PKiKP** 05 07 12.4 +0.2
baz=147
WCI Wyandotte Cave 106.92 315 eP **Pdif** 05 03 03.3 +0.1
WCI pmax pmax
comp=Z,18nm,0.7s
WCI Wyandotte Cave 106.92 315 ePdif **Pdif** 05 03 03.3 +0.1
comp=Z,18nm,0.7s
TXAR Lajitas Array 107.16 297 Pdiff **Pdif** 05 03 04.3 -0.3
comp=Z,2.9nm,0.9s,baz=151,slow=7.5,SNR=16
TXAR PKiKP **PKiKP** 05 07 13.9 +0.7
comp=Z,1.9nm,0.7s,baz=164,slow=1.9,SNR=14
TXAR PKKPbc **PKKPbc** 05 18 30.4 +2.2
comp=Z,0.8nm,0.5s,baz=238,slow=0.5,SNR=13
ACSO Alum Creek Sta 107.40 318 ePKP **PKiKP** 05 07 12.0 -1.2
VTS Vitosha 107.42 36 ⇓*i*P **PP** 05 07 34.6 -0.1
DAVOX Davos/Dischmat 107.48 26 PKKPbc PKKPbc 05 18 29.8 +1.8
comp=Z,2.8nm,0.6s,baz=340,slow=5.1,SNR=4.1
DAVOX PKKP **PKKPdf** 05 18 41.8 +0.2
comp=Z,6.5nm,0.6s,baz=42,slow=5.7,SNR=8.0
V40A Witts Springs 107.53 309 P **PKiKP** 05 07 13.5 -0.1
baz=148
V39A Pettigrew 107.92 308 P **PKiKP** 05 07 13.8 -0.5
baz=148
ABTX Abilene, Hawle 107.94 302 P **PKiKP** 05 07 15.0 +0.5
baz=146
ABTX Abilene, Hawle 107.94 302 ePdif **Pdif** 05 03 08.8 +0.9
comp=Z,18nm,1.1s
U40A Yellville 108.01 309 P **PKiKP** 05 07 14.5 +0.1
baz=148
ABTA Abfaltersbach 108.09 27 *i* Pdiff **Pdif** 05 03 17.6 +9.4
comp=Z,1.6nm,0.7s
WTTA Wattenberg 108.36 27 *i* Pdiff **Pdif** 05 03 17.6 +8.1
comp=Z,3.5nm,0.5s
OBKA Obir 108.41 29 *i* PKiKP **PKiKP** 05 07 18.0 +3.0
comp=Z,5.1nm,1.1s
Q44A Meyer Farm, Va 108.58 313 P **PKiKP** 05 07 16.3 +0.9
baz=149
BRTR Keskin Array B 108.68 45 Pdiff **Pdif** 05 03 14.3 +3.2
comp=Z,0.9nm,0.9s,baz=112,slow=3.9,SNR=3.0
BRTR PKiKP **PKiKP** 05 07 16.3 +0.5
comp=Z,1.2nm,0.9s,baz=193,slow=5.9,SNR=2.9
BRTR PP **PP** 05 07 37.4 -6.6
comp=Z,7.1nm,1.2s,baz=182,slow=7.4,SNR=5.5
BRTR PKKPbc **PKKPbc** 05 18 24.2 +0.4
comp=Z,1.9nm,0.7s,baz=95,slow=3.4,SNR=6.1
BRTR PKKP **PKKPdf** 05 18 38.4 -0.5
comp=Z,2.7nm,0.8s,baz=63,slow=2.1,SNR=6.6
SOKA Soboth 108.69 29 *i* Pdiff **Pdif** 05 03 17.5 +6.6
comp=Z,1.3nm,0.7s
GOA Goa 108.70 90 eP **Pdif** 05 03 12.0 +0.4
GOA IAmb IAmb 05 04 18.5
comp=Z,735nm,2.6s
U38A Gravette 108.75 308 P **PKiKP** 05 07 14.3 -1.6
baz=147
TUL1 Leonard 108.92 307 ePKP **PKiKP** 05 07 15.6 -0.5
X33A Lawton 109.00 304 P **PKiKP** 05 07 16.4 0.0
baz=146
T38A Diamond 109.21 309 P **PKiKP** 05 07 15.5 -1.2
baz=147
W34A Bridge Creek, 109.25 305 ePKP **PKiKP** 05 07 17.1 +0.2
COEN Coen 109.26 170 ePKP **PKiKP** 05 07 17.6 0.0
WMOK Wichita Mounta 109.29 304 eP **Pdif** 05 03 13.3 -0.5
WMOK Wichita Mounta 109.29 304 ePdif **Pdif** 05 03 13.3 -0.5
S39A Bolivar 109.34 310 P **PKiKP** 05 07 16.1 -0.8
baz=148
MNTX Cornudas Mount 109.94 297 ePKP **PKiKP** 05 07 18.8 +0.5
CONA Conrad Observa 110.06 29 *i* PKiKP **PKiKP** 05 07 19.0 +1.0
comp=Z,5.5nm,1.2s
URV Uravakonda 110.16 93 ePdif **Pdif** 05 03 15.5 -2.7
URV ePKiKP **PKiKP** 05 07 18.0 -1.1
URV ePP **PP** 05 07 54.2 -0.2
URV IVMs_BB IVMs_BB 05 44 51.3
comp=Z,1µm,4.3s
LOT Lotru 110.16 35 ⇑*i*P PP 05 07 25.3 -29
MDRS Chennai 110.26 97 eP **PKiKP** 05 07 19.8 +0.6
MDRS IAmb IAmb 05 07 22.1
comp=Z,64nm,1.8s
MDRS IAMs_20 IAMs_20 05 46 50.1
comp=Z,6µm,17.6s
GERES GERESS Array B 110.34 27 PKiKP **PKiKP** 05 07 18.4 -0.1
comp=Z,1.9nm,0.8s,baz=197,slow=3.1,SNR=4.4
GERES PP PP 05 07 43.3 -12
comp=Z,2.8nm,0.8s,baz=196,slow=7.6,SNR=5.6
GERES PKKPbc **PKKPbc** 05 18 19.4 +0.7
comp=Z,1.3nm,0.6s,baz=17,slow=2.4,SNR=7.3
MSTX Muleshoe 110.53 301 P **PKiKP** 05 07 19.4 0.0
baz=145
MSTX Muleshoe 110.53 301 ePdif **Pdif** 05 03 19.9 +0.5
VOIR 110.56 36 ⇑*i*P pPKiKP 05 07 47.2 +1.7
KHC Kasperske Hory 110.57 27 ePDIFF **Pdif** 05 03 17.8 -1.4
KHC ePKP **PKiKP** 05 07 19.3 +0.4
KHC ePP **PP** 05 07 55.0 -2.3
KHC eSKS **SKSac** 05 13 50.0 +1.3
KHC eSP **SP** 05 17 16.4 +0.1
KHC eSS **SS** 05 23 20.2 +1.5
KHC AMS AMS 05 50 20.0
comp=Z,6µm,18.6s
KHC Kasperske Hory 110.57 27 eP **Pdif** 05 03 17.8 -1.4
KHC *e* 05 07 19.3
KHC *e* 05 07 55.0
KHC *e* 05 13 50.0
KHC eSP SP 05 17 16.4 +0.1
KHC eSS **SS** 05 23 20.2 +1.5
KHC MLR MLR
comp=Z,6µm,18.6s
P39B Salisbury 110.61 311 P **PKiKP** 05 07 19.7 +0.5
baz=147
Q37A Longview Farm, 110.82 309 P **PKiKP** 05 07 20.1 +0.5
baz=147
MLR Muntele Rosu 110.91 37 PKKPab PKKPab 05 18 23.5 -1.2
comp=Z,0.4nm,0.6s,baz=218,slow=9.0,SNR=3.6
MLR Muntele Rosu 110.91 37 ⇑*i*P **PKiKP** 05 07 21.2 +1.5
MLR Muntele Rosu 110.91 37 ⇑PKiKP **PKiKP** 05 07 21.2 +1.5

DRGR 111.02 34 ⇓*i*P **PKiKP** 05 07 18.2 -1.6
DRGR 111.02 34 ⇓PKiKP **PKiKP** 05 07 18.2 -1.6
POO Poona 111.18 88 eP **PKiKP** 05 07 19.7 -1.3
POO IAmb IAmb 05 07 28.1
comp=Z,2µm,5.0s
TREC Trest 111.22 28 eSP SP 05 17 28.0 +5.8
TREC AMS AMS 05 51 20.0
comp=Z,5µm,19.9s
NKC Novy Kostel 111.31 26 *ex* x 05 08 24.9
NKC eSKS **SKSac** 05 13 52.7 +1.0
NKC eSP **SP** 05 17 26.2 +3.2
NKC AMS AMS 05 50 40.0
comp=Z,4µm,18.2s
PSI Prapat 111.36 120 PKKPbc PKKPbc 05 18 16.3 +2.1
comp=Z,6.8nm,0.5s,baz=12,slow=5.8,SNR=8.3
PSI PKKPab **PKKPab** 05 18 26.6 -1.0
comp=Z,32nm,0.9s,baz=220,slow=1.9,SNR=10
VYHS Vyhne 111.40 31 eP **Pdif** 05 03 28.9 +6.1
VYHS *e* 05 07 19.2
VYHS *e* 05 08 03.9
VYHS eS **SP** 05 17 22.4 -1.5
VYHS eSS **SS** 05 23 23.9 -5.8
VYHS Vyhne 111.40 31 ePDIFF **Pdif** 05 03 28.9 +6.1
VYHS *e* 05 07 19.2
VYHS ePP **PP** 05 08 03.9 +0.6
VYHS eS **SP** 05 17 22.4 -1.5
VYHS eSS **SS** 05 23 23.9 -5.8
RCLA Racherla 111.51 95 ePdif **Pdif** 05 03 21.2 -2.9
RCLA ePKiKP **PKiKP** 05 07 22.0 +0.4
RCLA ePP **PP** 05 08 06.4 +2.3
RCLA IVMs_BB IVMs_BB 05 43 09.7
comp=Z,2µm,19.6s
GOPC GO Pecny, Ondr 111.60 28 ePDIFF **Pdif** 05 03 24.3 +0.6
GOPC eSKS **SKSac** 05 13 52.8 0.0
GOPC eSP **SP** 05 17 30.4 +4.7
GOPC AMS AMS 05 50 20.0
comp=Z,3µm,19.2s
GOPC GO Pecny, Ondr 111.60 28 eP **Pdif** 05 03 24.3 +0.6
GOPC *e* 05 13 52.8
GOPC eSP SP 05 17 30.4 +4.7
GOPC MLR MLR
comp=Z,3µm,19.2s
PRU Pruhonice 111.61 27 ePDIFF **Pdif** 05 03 25.0 +1.3
PRU eSKS **SKSac** 05 13 52.4 -0.4
PRU eSP **SP** 05 17 31.5 +5.8
PRU AMS AMS 05 50 50.0
comp=Z,6µm,18.2s
PRU Pruhonice 111.61 27 eP **Pdif** 05 03 25.0 +1.3
PRU *e* 05 13 52.4
PRU eSP SP 05 17 31.5 +5.8
PRU MLR MLR
comp=Z,6µm,18.2s
PRA Prague 111.66 27 *ex* x 05 08 33.8
PRA eSKS **SKSac** 05 13 54.2 +1.2
PRA eSP **SP** 05 17 31.6 +5.4
PRA AMS AMS 05 51 00.0
comp=Z,8µm,18.9s
121A Cookes Peak, D 111.80 296 P **PKiKP** 05 07 22.1 +0.1
baz=144
121A Cookes Peak, D 111.80 296 ePKP **PKiKP** 05 07 22.6 +0.7
SRLM Srisailam 112.00 94 ePdif **Pdif** 05 03 23.2 -3.0
SRLM ePP **PP** 05 08 09.9 +2.2
SRLM IVMs_BB IVMs_BB 05 43 26.0
comp=Z,2µm,18.2s
PVCC Panska Ves 112.11 27 eSP SP 05 17 36.9 +6.5
PVCC AMS AMS 05 51 20.0
comp=Z,8µm,18.8s
MORC Moravsky Berou 112.20 29 ePKiKP **PKiKP** 05 07 20.9 -1.1
MORC Moravsky Berou 112.20 29 ePKP **PKiKP** 05 07 20.9 -1.1
BRG Berggiesshubel 112.27 27 ePKiKP **PKiKP** 05 07 21.4 -0.6
BRG *e* 05 07 53.2
BRG 05 14 03.0
BRG SP SP 05 17 40.0 +8.2
BRG SS SS 05 23 56.0 +15
BRG pmax pmax
comp=Z,2.0nm,0.7s
BRG MLR MLR
comp=N,4µm,18.8s
BRG MLR MLR
comp=E,2µm,21.2s
BRG MLR MLR
comp=Z,4µm,19.0s
KLRI Killari 112.33 91 ePdif **Pdif** 05 03 30.1 +2.3
KLRI ePKiKP **PKiKP** 05 07 22.8 -0.4
KLRI ePP **PP** 05 08 12.4 +2.4
KLRI IVMs_BB IVMs_BB 05 51 44.1
comp=Z,2µm,5.3s
ADKI Addanki 112.38 95 ePdif **Pdif** 05 03 24.4 -3.6
ADKI ePKiKP **PKiKP** 05 07 22.8 -0.4
ADKI ePP **PP** 05 08 12.3 +2.0
ADKI IVMs_BB IVMs_BB 05 50 42.0
comp=Z,1µm,11.1s
P34A Walnut Farm, R 112.40 308 P **PKiKP** 05 07 22.3 -0.3
baz=146
DPC Dobruska-Polom 112.40 28 ePDIFF **Pdif** 05 03 23.0 -4.3
DPC eSKS **SKSac** 05 13 57.3 +1.2
DPC eSP **SP** 05 17 38.6 +5.5
DPC *ex* x 05 23 27.5
DPC AMS AMS 05 52 00.0
comp=Z,5µm,19.1s
DPC Dobruska-Polom 112.40 28 eP **Pdif** 05 03 23.0 -4.3
DPC *e* 05 13 57.3
DPC eSP SP 05 17 38.6 +5.5
DPC MLR MLR
comp=Z,5µm,19.1s
OKC Ostrava-Krasne 112.42 30 ePDIFF **Pdif** 05 03 30.7 +3.4
OKC eSKS **SKSac** 05 13 54.4 -1.7
OKC eSP **SP** 05 17 40.5 +7.2
OKC AMS AMS 05 51 50.0
comp=Z,5µm,19.0s
OKC Ostrava-Krasne 112.42 30 eP **Pdif** 05 03 30.7 +3.4
OKC *e* 05 13 54.4
OKC eSP SP 05 17 40.5 +7.2
OKC MLR MLR
comp=Z,5µm,19.0s
CLL Collm 112.44 26 eP **Pdif** 05 03 28.0 +0.7
CLL eSP SP 05 17 38.0 +4.6
UPC Upice 112.46 28 ePDIFF **Pdif** 05 03 30.0 +2.5
UPC eSKS **SKSac** 05 13 59.4 +3.2
UPC eSP **SP** 05 17 39.8 +6.2
UPC AMS AMS 05 52 00.0
comp=Z,5µm,19.4s
UPC Upice 112.46 28 eP **Pdif** 05 03 30.0 +2.5
UPC *e* 05 13 59.4
UPC eSP SP 05 17 39.8 +6.2
UPC MLR MLR
comp=Z,5µm,19.4s
CRVS Cervenica-Dubn 112.53 32 ePP PP 05 08 09.9 -1.4
CRVS *e* 05 08 33.1
CRVS eS **SP** 05 17 39.7 +5.4
CRVS eSS **SS** 05 23 39.0 -5.6
UZH Uzhgorod 112.53 33 ePKiKP **PKiKP** 05 07 22.0 -0.5
UZH *e* 05 07 48.6
UZH *e* 05 10 37.8
UZH *e* 05 14 00.0
UZH *i* 05 17 37.2
UZH MLR MLR
comp=N,600nm,20.0s
UZH MLR MLR
comp=E,900nm,20.0s
UZH MLR MLR
comp=Z,400nm,20.0s
BURAR Bucovina Array 112.54 35 ⇑PKiKP **PKiKP** 05 07 23.0 +0.3
NJS Nagarjunasagar 112.59 94 ePdif **Pdif** 05 03 27.8 -1.1
NJS ePKiKP **PKiKP** 05 07 22.9 -0.7
NJS ePP **PP** 05 08 09.2 -2.6
NJS IVMs_BB IVMs_BB 05 43 52.8
comp=Z,2µm,14.8s
NIE Niedzica 112.65 31 eP **Pdif** 05 03 31.6 +3.2
NIE *e* 05 08 11.2
NIE eSP SP 05 17 45.8 +10
NIE eSS SS 05 23 58.8 +12
BHJ Bhuj 112.66 82 eP **PKiKP** 05 07 24.5 +0.9
BHJ IAMs_20 IAMs_20 05 42 59.8
comp=Z,10µm,34.0s
KSP Ksiaz 112.84 28 eP **Pdif** 05 03 31.7 +2.6
KSP *e* 05 08 11.8
KSP eSP SP 05 17 43.7 +6.6
KSP eSS SS 05 24 05.7 +17
KAPI Kappang 112.86 144 PKKPbc PKKPbc 05 18 12.6 +3.4
comp=Z,5.2nm,0.4s,baz=108,slow=3.2,SNR=3.5
HYB Hyderabad 112.88 93 eP **PKiKP** 05 07 21.1 -3.2
HYB IAmb IAmb 05 07 26.3

HYB IAMs_20 IAMs_20 05 42 11.6
comp=Z,172nm,0.1s
HYBB Hyderabad (bro 112.88 93 ePdif Pdif 05 03 32.0 +1.8
HYBB ePKiKP PKiKP 05 07 24.4 +0.2
HYBB ePP PP 05 08 15.4 +1.4
HYBB IVMs_BB IVMs_BB 05 46 07.4
comp=Z,4µm,23.8s
ANMO Albuquerque 113.09 299 ||i PKIKP PKiKP 05 07 24.4 0.0
ANMO Albuquerque 113.09 299 ePKP PKiKP 05 07 23.9 -0.5
TUC Tucson 113.13 294 P PKiKP 05 07 24.3 0.0
baz=143
TUC Tucson 113.13 294 ePKIKP PKiKP 05 07 24.2 -0.2
TUC Tucson 113.13 294 ePKP PKiKP 05 07 24.2 -0.2
ESK Eskdalemuir 113.18 14 ePKIKP PKiKP 05 07 23.3 -0.2
ESK Eskdalemuir 113.18 14 ePKP PKiKP 05 07 23.3 -0.2
KIS Kishinev 113.19 38 ePKP 05 07 25.0
KIS epPKP PP 05 07 55.0 -21
KIS Kishinev 113.19 38 ePP PP 05 08 19.0 +3.0
KIS Kishinev 113.19 38 ePPP PPP 05 10 46.0
KIS eSKS SKSac 05 13 54.0 -5.2
KIS eSKKS SKKSac 05 15 06.0 -1.3
KIS Kishinev 113.19 38 ePS PS 05 17 50.0 -1.5
KIS Kishinev 113.19 38 ePPS PPS 05 18 56.0
KIS eSS SS 05 23 46.0 -7.4
KIS eSSS SSS 05 27 54.0
KIS eL L 05 42 22.0
KIS LRM MLR 05 56 52.0
comp=Z,2µm,19.0s
KIS Kishinev 113.19 38 eP Pdif 05 03 32.0 +1.2
KIS e 05 07 25.0
KIS e 05 07 55.0
KIS e 05 08 19.0
KIS ePPP PPP 05 10 46.0
KIS e SKSac 05 13 54.0 -5.2
KIS ePS PS 05 17 50.0 -1.5
KIS ePPS PPS 05 18 56.0
KIS eSS SS 05 23 48.0 -5.4
KIS MLR MLR
comp=Z,2µm,19.0s
KIS MLR MLR
comp=Z,2µm,19.0s
EKA Eskdalemuir Ar 113.20 15 PKiKP PKiKP 05 07 23.0 -0.6
comp=Z,1.0nm,0.5s,baz=219,slow=2.2,SNR=9.3
OJC Ojcow 113.23 31 eP Pdif 05 03 31.8 +0.9
OJC eSP SP 05 17 51.5 +11
OJC eSS SS 05 24 13.4 +20
SIM Simferopol' 113.33 43 i P Pdif 05 03 35.3 +3.9
SIM e 05 08 28.0
SIM e 05 13 59.0
SIM ePS PS 05 17 58.0 +5.1
SIM eSS SS 05 23 52.0 -3.3
SIM pmax pmax
comp=Z,190nm,3.4s
J39A Decorah 113.41 314 P PKiKP 05 07 23.8 -0.7
baz=147,SNR=5.9
KWP Kalwaria Pacla 113.55 33 eP Pdif 05 03 34.3 +2.0
KWP e 05 08 15.9
KWP eSP SP 05 17 54.0 +10
GNI Garni 113.66 53 PP PP 05 08 16.3 -3.4
comp=Z,10nm,0.8s,baz=192,slow=9.2,SNR=3.5
GNI Garni 113.66 53 ↑i PKIKP PKiKP 05 07 27.5 +2.3
K37A Belmond 113.72 312 P PKiKP 05 07 24.2 -0.8
baz=146,SNR=7.2
I39A Houston 113.78 314 P PKiKP 05 07 24.5 -0.6
baz=147,SNR=19
214A Organ Pipe Nat 113.88 292 ePKP PKiKP 05 07 25.5 -0.2
K36A Gilmore City 113.95 312 P PKiKP 05 07 25.3 -0.1
baz=146
L35A Bielow Farm, R 113.97 311 P PKiKP 05 07 25.0 -0.5
baz=146
H40A Chili 113.98 316 P PKiKP 05 07 24.9 -0.6
baz=147,SNR=7.8
SRSP Sriramsagar 113.98 92 ePdif Pdif 05 03 32.8 -2.2
SRSP ePP PP 05 08 22.7 +1.0
SRSP IVMs_BB IVMs_BB 05 51 22.7
comp=Z,2µm,24.5s
SORM Soroca 114.02 37 ↑i P PKPdf 05 07 46.1 +21
PMG Port Moresby 114.09 174 c iPKIKP PKPdf 05 07 25.8 -0.9
PMG Port Moresby 114.09 174 ePKP PKPdf 05 07 27.1 +0.4
J37A Redenius Farm, 114.14 313 P PKPdf 05 07 25.0 -0.8
baz=146
K35A Storm Lake 114.34 311 P PKPdf 05 07 25.9 -0.3
baz=146
KULM Kulim 114.36 120 ePKP PKPdf 05 07 26.2 -1.0
SOC Sochi 114.37 47 i PKIKP PKPdf 05 07 19.3 -6.9
SOC ePS PS 05 18 01.6 -0.8
SOC eSSS SSS 05 28 30.5
SOC MLR MLR
comp=Z,2µm,20.0s
H39A Augusta 114.37 315 P PKPdf 05 07 25.6 -0.6
baz=147,SNR=6.5
PVM Polavaram 114.44 96 ePdif Pdif 05 03 32.8 -4.3
PVM ePKPdf PKPdf 05 07 26.6 -0.5
PVM ePP PP 05 08 26.9 +2.0
PVM IVMs_BB IVMs_BB 05 42 57.0
comp=Z,2µm,32.2s
G40A Rib Lake 114.45 316 P PKPdf 05 07 25.6 -0.7
baz=147
RPR Rampur 114.45 93 ePdif Pdif 05 03 32.0 -5.1
RPR ePKPdf PKPdf 05 07 27.0 -0.2
RPR ePP PP 05 08 25.9 +0.8
RPR IVMs_BB IVMs_BB 05 46 06.1
comp=Z,2µm,18.2s
ANN Anapa 114.47 45 i P Pdif 05 03 37.9 +1.4
ANN e 05 10 58.7
ANN e 05 14 04.5
ANN eSS SS 05 24 20.8 +10
J36A Seneca 1, Swea 114.47 312 P PKPdf 05 07 26.4 0.0
baz=146,SNR=11
BGNE Belgrade 114.50 308 ePKP PKPdf 05 07 26.5 -0.1
I37A Lemond, Waseca 114.66 313 P PKPdf 05 07 26.2 -0.5
baz=146
AKL Akola 114.68 90 eP PKPdf 05 07 27.4 -0.1
L33A Hoskins 114.74 310 P PKPdf 05 07 26.6 -0.4
baz=145
G39A Holcombe 114.83 316 P PKPdf 05 07 26.1 -1.0
baz=147
SDCO Great Sand Dun 114.88 301 P PKPdf 05 07 28.2 +0.4
baz=143
SDCO Great Sand Dun 114.88 301 ePKPdf PKPdf 05 07 27.5 -0.3
K33A Hardington 114.99 310 P PKPdf 05 07 27.6 +0.1
baz=145
KSM Kuching 115.31 131 ePKPdf PKPdf 05 07 26.6 -2.5
NEY Neytrino 115.33 49 ↑i PKIKP PKPdf 05 07 31.0 +2.7
H36A Jessenland, He 115.34 313 P PKPdf 05 07 27.0 -1.0
baz=146,SNR=17
SPMN Marine on St. 115.42 314 ePKPdf PKPdf 05 07 27.6 -0.6
ZEI Tsey 115.45 50 ePKIKP PKPdf 05 07 30.4 +1.8
ZEI pmax pmax
comp=Z,15nm,0.5s
S22A 4UR Ranch, Cre 115.51 300 P PKPdf 05 07 29.2 +0.2
baz=143
J33A Davis 115.56 310 P PKPdf 05 07 28.4 -0.1
baz=145
F38A Pierce - Schro 115.67 315 P PKPdf 05 07 28.8 +0.2
baz=146
Q24A Divide 115.69 302 P PKPdf 05 07 28.9 -0.5
baz=143
SCHQ Schefferville 115.69 336 PKP PKPdf 05 07 27.2 -1.2
comp=Z,9.8nm,0.5s,baz=171,slow=2.5,SNR=12
ECSD EROS Data Cent 115.75 311 P PKPdf 05 07 27.9 -1.0
baz=145,SNR=10
ECSD EROS Data Cent 115.75 311 ePKPdf PKPdf 05 07 27.7 -1.2
VIS Vishakhapatnam 115.76 97 eP PKPdf 05 07 30.9 +1.2
VIS IAmb IAmb 05 07 35.9
comp=Z,22nm,1.1s
F37A Hinrichs Farm, 115.77 315 P PKPdf 05 07 28.1 -0.7
baz=146
GLA Glamis 115.79 291 P PKPdf 05 07 29.1 -0.2
baz=142,SNR=8.9
KBZ Khabaz 115.80 49 PKP PKPdf 05 07 28.8 -0.1
comp=Z,5.7nm,0.9s,baz=198,slow=3.1,SNR=7.0
KBZ PKKPab PKKPab 05 18 07.0 +3.5
comp=Z,3.5nm,0.9s,baz=180,slow=4.0,SNR=3.8
H35A Sunnyside Ranc 115.80 313 P PKPdf 05 07 28.2 -0.8
baz=145,SNR=10
G36A St. Michael 115.81 314 P PKPdf 05 07 28.3 -0.6
baz=146
KIV Kislovodsk 115.89 49 c iPKIKP PKPdf 05 07 28.8 -0.5
KIV e 05 07 56.8
KIV e 05 08 39.8
KIV i 05 14 14.7
KIV eSP SP 05 18 02.5 -3.0
KIV ePS PS 05 18 20.2 +3.6
KIV PPS PPS 05 19 22.0
KIV eSS SS 05 24 41.2 +12
KIV eSSS SSS 05 28 49.0
KIV pmax pmax
comp=Z,27nm,1.2s
KIV MLR MLR
comp=Z,3µm,19.0s
KIV Kislovodsk 115.89 49 ePKPdf PKPdf 05 07 29.2 -0.1
MVCO Mesa Verde 115.89 299 P PKPdf 05 07 29.8 +0.1
baz=142
MVCO Mesa Verde 115.89 299 ePKPdf PKPdf 05 07 29.4 -0.3
KVAR Kislovodsk Arr 115.90 49 PKP PKPdf 05 07 29.6 +0.2
comp=Z,8.9nm,0.7s,baz=19,slow=1.3,SNR=6.2
KVAR PP PP 05 08 35.2 -0.1
comp=Z,16nm,0.9s,baz=172,slow=2.3,SNR=3.9
J32A Parkston 115.97 310 P PKPdf 05 07 27.7 -1.6
baz=144,SNR=7.7
WUAZ Wupatki 115.97 295 P PKPdf 05 07 30.3 +0.4
baz=142
WUAZ Wupatki 115.97 295 ePKPdf PKPdf 05 07 29.8 0.0
I33A Coleman 116.08 311 P PKPdf 05 07 29.1 -0.4
baz=145,SNR=8.9
E38A The Farm, Brul 116.08 316 P PKPdf 05 07 28.5 -1.0
baz=146
Y12C Blythe 116.18 292 P PKPdf 05 07 30.1 +0.1
baz=142,SNR=10
SWSC Sam W. Stewart 116.21 290 P PKPdf 05 07 30.8 +0.7
baz=142
F36A Milaca 116.23 314 P PKPdf 05 07 29.5 -0.3
baz=146
J31A Geddes 116.29 309 P PKPdf 05 07 30.1 +0.1
baz=144,SNR=7.8
PDMCI Parker Dam,Lak 116.42 293 P PKPdf 05 07 30.6 +0.1
baz=142,SNR=16
MONP Monument Peak, 116.49 290 P PKPdf 05 07 31.7 +0.8
baz=142
KIEV Kiev 116.51 36 ||i PKIKP PKPdf 05 07 29.3 -0.8
KIEV Kiev 116.51 36 ePKPdf PKPdf 05 07 27.9 -2.1
AKASG Malin Array Be 116.53 36 PKHKP PKPpre 05 07 22.4
comp=Z,0.9nm,0.4s,baz=228,slow=1.1,SNR=5.2
AKASG PKP PKPdf 05 07 28.8 -1.3
comp=Z,4.5nm,0.6s,baz=239,slow=1.7,SNR=12
AKASG PP PP 05 08 52.4 +13
comp=Z,0.5nm,0.3s,baz=209,slow=6.0,SNR=3.5
AKASG PKKPab PKKPab 05 18 00.8 +1.1
comp=Z,1.6nm,0.6s,baz=33,slow=4.3,SNR=7.5
C39A Grand Marais 116.55 318 P PKPdf 05 07 29.3 -1.0
baz=146,SNR=6.3
ISCO Idaho Springs 116.57 302 P PKPdf 05 07 30.2 -0.8
baz=143
ISCO Idaho Springs 116.57 302 ePKIKP PKPdf 05 07 30.1 -0.9
ISCO Idaho Springs 116.57 302 ePKPdf PKPdf 05 07 30.1 -0.9
H33A Prehn Over Nor 116.57 312 P PKPdf 05 07 29.3 -1.2
baz=144,SNR=11
G34A Benson 116.58 313 P PKPdf 05 07 29.3 -1.1
baz=145
BC3 Big Chuckawall 116.58 291 P PKPdf 05 07 30.1 -0.9
baz=142,SNR=8.7
F35A Swanville 116.65 314 P PKPdf 05 07 29.5 -1.0
baz=145
PV01 Paradox Valley 116.66 299 ePKPdf PKPdf 05 07 31.3 +0.1
E36A McGregor 116.67 315 P PKPdf 05 07 29.6 -1.0
baz=145
H32A Carlson Farm, 116.72 311 P PKPdf 05 07 29.8 -1.0
baz=144
SMCO Snowmass 116.72 301 ePKPdf PKPdf 05 07 31.2 -0.2
CHLP Challavanipeta 116.80 97 ePdif Pdif 05 03 49.0 +1.5
CHLP ePKiKP PKiKP 05 07 32.2 +0.5
CHLP ePP PP 05 08 41.7 +0.2
CHLP IVMs_BB IVMs_BB 05 45 53.1
comp=Z,1µm,32.8s
IRM Iron Mountain 116.82 292 P PKPdf 05 07 31.5 +0.1
baz=142,SNR=13
G33A Ortonville 116.86 312 P PKPdf 05 07 29.7 -1.2
baz=144
F34A Alexandria 116.87 313 P PKPdf 05 07 30.2 -0.8
baz=145
D37A Cotton 116.88 316 P PKPdf 05 07 30.1 -0.8
baz=146,SNR=18
C38A Sawbill Land. 116.90 317 P PKPdf 05 07 30.0 -1.0
baz=146
BHPL Bhopal 116.93 88 eP PKPdf 05 07 31.8 -0.1
BHPL IAMs_20 IAMs_20 05 44 43.8
comp=Z,6µm,21.9s
PV04 Paradox Valley 117.03 299 ePKPdf PKPdf 05 07 32.5 +0.8
PFO Pinyon Flats O 117.07 290 PKKPab PKKPab 05 17 56.9 -2.3
comp=Z,4.0nm,0.8s,baz=42,slow=2.4,SNR=5.4
PFO PKKP PKKPdf 05 18 26.4 +3.8
comp=Z,5.9nm,0.9s,baz=319,slow=4.7,SNR=4.7
PFO Pinyon Flats O 117.07 290 ePKIKP PKPdf 05 07 31.4 -0.6
PFO 05 18 26.4
PFO Pinyon Flats O 117.07 290 ePKPdf PKPdf 05 07 31.4 -0.6
PFO PKKPab PKKPbc 05 17 56.9 +1.6
PFO PKKP PKKPdf 05 18 26.4 +3.8
H31A Wolsey 117.14 310 P PKPdf 05 07 31.7 +0.2
baz=144,SNR=6.8
BELC Belle Mtn. Jos 117.14 291 P PKPdf 05 07 32.3 +0.3
baz=142,SNR=15
MAK Makhachkala 117.15 53 i PKIKP PKPdf 05 07 31.2 -0.4
MAK e 05 07 59.6
MAK e 05 08 45.0
MAK e 05 14 15.5
MAK eSP SP 05 18 14.9 -2.0
MAK ePS PS 05 18 29.1 +1.3
MAK eSS SS 05 24 51.3 +5.8
MAK pmax pmax
comp=Z,96nm,0.2s
EYMN Ely 117.17 317 P PKPdf 05 07 30.7 -0.8
baz=146,SNR=7.5
EYMN Ely 117.17 317 ePKPdf PKPdf 05 07 30.2 -1.3
D36A Goodland 117.18 315 P PKPdf 05 07 30.8 -0.7
baz=145,SNR=7.9
DGPR DIGLIPUR 117.20 108 eP PKPdf 05 07 32.1 -0.4
DGPR IAmb IAmb 05 07 42.3
comp=Z,95nm,0.2s
DGPR IAMs_20 IAMs_20 05 44 54.8
comp=Z,4µm,21.0s
C37A Embarrass 117.25 316 P PKPdf 05 07 31.3 -0.4
baz=146
F33A 5 Mile Ranch, 117.33 313 P PKPdf 05 07 31.5 -0.4
baz=144
G32A Webster 117.35 311 P PKPdf 05 07 32.0 0.0
baz=144,SNR=16
D35A Remer 117.44 315 P PKPdf 05 07 30.7 -1.4
baz=145,SNR=15
C36A Pine Crest Far 117.53 316 P PKPdf 05 07 32.2 +0.1
baz=145
SUW Suwalki 117.56 31 eP Pdif 05 03 54.9 +4.9
SUW e 05 08 43.7
LUWI Luwuk 117.57 145 ePKPdf PKPdf 05 07 33.4 0.0
GMRC Granite Mounta 117.57 292 P PKPdf 05 07 33.0 +0.1
baz=141,SNR=16
N23A Red Feather La 117.59 303 P PKPdf 05 07 33.1 +0.2
baz=142,SNR=10
PHWY Pilot Hill 117.69 304 ePKPdf PKPdf 05 07 32.0 -1.1
E33A Westby DABS, E 117.75 313 P PKPdf 05 07 31.9 -0.8
baz=144
BBRC Big Bear Solar 117.82 291 P PKPdf 05 07 33.5 0.0
baz=141,SNR=5.6
D34A Park Rapids 117.90 314 P PKPdf 05 07 31.7 -1.3
baz=144,SNR=12
C35A Jirik Farms, M 117.92 315 P PKPdf 05 07 31.5 -1.5
baz=145,SNR=10
HOMB Hornborsund 117.94 20 ePP PP 05 08 47.7 -1.4
STAV Stavanger 118.05 18 ePKPdf PKPdf 05 07 34.2 +1.4
STAV ePP PP 05 08 49.3 -0.5
STAV ePS PS 05 18 38.8 +3.3
O20A White River Ci 118.07 301 P PKPdf 05 07 34.1 +0.3
baz=142,SNR=17
O20A White River Ci 118.07 301 ePKPdf PKPdf 05 07 32.9 -0.8
GEYT Alibeck 118.16 63 PKP PKPdf 05 07 34.3 +0.5
comp=Z,2.5nm,0.5s,baz=270,slow=7.0,SNR=4.0
GEYT pPKP pPKPdf 05 07 58.4 -1.9
comp=Z,11nm,1.1s,baz=251,slow=4.5,SNR=3.2
GEYT PP PP 05 08 49.9 -1.1
comp=Z,1.9nm,0.3s,baz=160,slow=4.6,SNR=2.5
GEYT PKKP PKKPdf 05 18 22.6 +2.1
comp=Z,1.3nm,0.4s,baz=50,slow=4.5,SNR=3.7
BFSC Mount Baldy Ra 118.18 290 P PKPdf 05 07 34.0 -0.1
baz=141,SNR=7.8
D33A AnnSam, Waubun 118.20 314 P PKPdf 05 07 32.6 -0.9
baz=144,SNR=23
TUQ Turquoise Moun 118.22 292 P PKPdf 05 07 34.3 +0.2
baz=141,SNR=17
C34A RKJ Ranch, Bem 118.25 315 P PKPdf 05 07 32.4 -1.2
baz=144,SNR=9.1
JBP Jabalpur 118.29 90 ||eP PKPdf 05 07 33.9 -0.5
JBP ex x 05 15 38.2
FAKI Fak Fak 118.34 156 ePKPdf PKPdf 05 07 34.0 -0.9
B35A Bob, Littlefor 118.36 316 P PKPdf 05 07 32.5 -1.3
baz=145,SNR=12
PASC Pasadena Art C 118.41 290 ePKPdf PKPdf 05 07 34.6 +0.3
GSC Goldstone, Bar 118.56 291 P PKPdf 05 07 35.1 +0.4
baz=141,SNR=13
BLS5 Blasjo 118.64 19 ePP PP 05 08 54.8 +0.8
BLS5 eSP SP 05 18 28.3 -1.3
SHOC Shoshone, Teco 118.75 292 P PKPdf 05 07 35.5 +0.5
baz=141,SNR=18
B34A Aery, Baudette 118.82 315 P PKPdf 05 07 33.5 -1.1
baz=144,SNR=21
B33A Robert and Kas 119.02 315 P PKPdf 05 07 33.9 -1.2
baz=144
AGMN Agassiz Nation 119.15 314 P PKPdf 05 07 34.1 -1.2
baz=144,SNR=14
AGMN Agassiz Nation 119.15 314 ePKPdf PKPdf 05 07 33.4 -1.9
LRMC Laurel Mtn Rad 119.16 291 P PKPdf 05 07 36.2 +0.3
baz=141,SNR=7.3
K22A Casper 119.24 304 P PKPdf 05 07 35.5 -0.3
baz=141,SNR=5.5
K22A Casper 119.24 304 ePKPdf PKPdf 05 07 35.5 -0.3
RSSD Black Hills 119.26 306 P PKPdf 05 07 35.6 -0.3
baz=142
RSSD Black Hills 119.26 306 ePKIKP PKPdf 05 07 34.8 -1.2
RSSD Black Hills 119.26 306 ePKPdf PKPdf 05 07 34.8 -1.2
BER Bergen 119.36 18 ePKPdf PKPdf 05 07 37.0 +1.8
BER ePP PP 05 08 59.2 +0.4
BER eSKSac SKSac 05 14 23.2 +1.7
BER eSP SP 05 18 38.6 +2.7
BER eSS SS 05 25 15.5 +2.1
MICGM Minsk 119.36 33 ePKP PKPdf 05 07 34.0 -1.5
MICGM epPKP pPKPdf 05 08 02.0 +0.1
MICGM ePP PP 05 08 56.0 -3.0
MICGM eSKS SKSdf 05 14 18.0 -20
MICGM ePS PKKPdf 05 18 24.0 +5.2
MICGM eSS SS 05 24 20.0 -54
MICGM eSSS SSS 05 28 12.0
MICGM eLQ LQ 05 38 24.0
MICGM eLR LR 05 45 40.0
MICGM LRM MLR 05 56 46.0
comp=Z,5.0nm,18.0s
MICGM LRM MLR 05 56 52.0
comp=Z,6.8nm,18.0s
MICGM LRM MLR 05 57 06.0
comp=E,2.3nm,18.0s
MNK Minsk 119.36 33 ePKIKP PKPdf 05 07 34.0 -1.5
MNK e 05 08 02.0
MNK e 05 08 56.0
MNK e 05 14 18.0
MNK MLR MLR
comp=Z,5µm,18.0s
MNK MLR MLR
comp=Z,7µm,18.0s
MNK MLR MLR
comp=E,3µm,18.0s
NACGM Naroch 119.38 32 ePKP PKPdf 05 07 35.0 -0.5
NACGM ePP PP 05 09 25.0 +26
NACGM eSKS SKSac 05 14 20.0 -1.9
NACGM eSKKS SKKSac 05 15 45.0 -3.2
NACGM ePS PS 05 18 52.0 +4.5
NACGM eSS SS 05 25 08.0 -5.9
NACGM eSSS SSS 05 29 15.0
NACGM eLQ LQ 05 46 17.0
KONO Kongsberg 119.44 20 ePKPdf PKPdf 05 07 37.7 +2.3
KONO ePP PP 05 09 00.1 +0.7
KONO eSKSac SKSac 05 14 22.6 +0.7
KONO eSS SS 05 25 17.2 +2.7
KONO Kongsberg 119.44 20 ePKIKP PKPdf 05 07 34.8 -0.6
KONO Kongsberg 119.44 20 ePKPdf PKPdf 05 07 34.8 -0.6
A33A Warroad 119.48 315 P PKPdf 05 07 34.8 -1.1
baz=144,SNR=17
ARVC Arvin 119.48 290 P PKPdf 05 07 37.0 +0.6
baz=140
C31A Landman Farms, 119.49 313 P PKPdf 05 07 35.4 -0.6
baz=143,SNR=10
B32A Ashes, Strandq 119.49 314 P PKPdf 05 07 34.4 -1.5
baz=143,SNR=12
FURC Furnace Creek, 119.50 292 P PKPdf 05 07 36.9 +0.6
baz=140,SNR=10.0
MPMC Manual Prospec 119.50 291 P PKPdf 05 07 36.7 0.0
baz=140,SNR=25
TPNV Topopah Spring 119.55 293 P PKPdf 05 07 37.0 +0.3
baz=140,SNR=32
IIGN Ignalina 119.60 32 eP PKPdf 05 07 33.7 -2.2
ISA Isabella, Lake 119.71 290 P PKPdf 05 07 37.3 +0.4
baz=140,SNR=7.9
IDID Didziasalis 119.72 32 eP PKPdf 05 07 34.0 -2.1
DAC Darwin (Calif) 119.72 291 ePKIKP PKPdf 05 07 36.8 -0.2
DAC Darwin (Calif) 119.72 291 ePKPdf PKPdf 05 07 36.8 -0.2
ISAL Salakas 119.76 32 eP PKPdf 05 07 33.5 -2.7
A32A Rocking H Ranc 119.89 315 P PKPdf 05 07 35.7 -0.9
baz=143,SNR=23
SUE Sulen 119.90 17 ePP PP 05 09 02.9 +0.3
OSL Oslo 119.92 21 ePKPdf PKPdf 05 07 40.3 +4.0
IZAR Zarasai 119.95 31 eP PKPdf 05 07 34.4 -2.1
B31A Greenbush Farm 119.96 313 P PKPdf 05 07 36.2 -0.6
baz=143
CWC Cottonwood Cre 120.10 291 P PKPdf 05 07 37.9 +0.2
baz=140
GRAC Grapevine Rang 120.16 292 P PKPdf 05 07 38.2 +0.5
baz=140,SNR=12
VES Vestal, Richgr 120.16 290 P PKPdf 05 07 37.1 -0.5
baz=140
SMMC Simmler 120.23 289 P PKPdf 05 07 38.3 +0.4
baz=140
HYA Hoyanger 120.24 18 eSS SS 05 25 27.0 +2.3
R11A Troy Canyon, C 120.29 294 P PKPdf 05 07 38.3 +0.2
baz=140,SNR=14
R11A Troy Canyon, C 120.29 294 ePKPdf PKPdf 05 07 37.7 -0.3
MDND Maddock 120.30 312 ePKPdf PKPdf 05 07 34.7 -2.8
DUG Dugway, Tooele 120.33 298 P PKPdf 05 07 38.0 0.0
baz=140,SNR=30
DUG Dugway, Tooele 120.33 298 ePKIKP PKPdf 05 07 37.4 -0.6
DUG Dugway, Tooele 120.33 298 ePKPdf PKPdf 05 07 37.4 -0.6
VSR Storozhevoye 120.42 42 ePKIKP PKPdf 05 07 36.4 -1.2
VSR eSP SP 05 18 47.7 +1.8
VSR pmax pmax
comp=Z,10.0nm,1.2s
VSR MLR MLR
comp=Z,3µm,19.0s
FOO Floro 120.45 17 ePKPdf PKPdf 05 07 38.8 +1.5
FOO ePP PP 05 09 05.7 -0.6
FOO eSKSac SKSac 05 14 26.9 +1.6
FOO eSS SS 05 25 29.6 +2.2
ULM Lac du Bonnet 120.72 316 PKP PKPdf 05 07 36.8 -1.5
comp=Z,33nm,0.5s,baz=145,slow=1.7,SNR=64
ULM PP PP 05 09 00.4 -8.1
comp=Z,17nm,0.9s,baz=144,slow=12,SNR=2.4
ULM SKP 05 11 04.1
comp=Z,7.4nm,0.7s,baz=31,slow=1.6,SNR=3.7
ULM PKKPbc PKKPbc 05 17 43.7 +1.4
comp=Z,7.6nm,0.7s,baz=30,slow=2.1,SNR=7.5
BW06 Boulder Array 120.74 302 P PKPdf 05 07 38.6 -0.3
baz=140,SNR=11
BW06 Boulder Array 120.74 302 ePKPdf PKPdf 05 07 37.8 -1.1
PDAR Pinedale Array 120.74 302 PKhKP PKPpre 05 07 25.9
comp=Z,1.2nm,0.6s,baz=104,slow=2.4,SNR=7.7
PDAR PKP PKPdf 05 07 37.9 -1.0
comp=Z,8.3nm,0.5s,baz=117,slow=3.6,SNR=9.1
PDAR PKKPab PKKPab 05 17 43.0 +0.3
comp=Z,1.6nm,0.7s,baz=353,slow=0.4,SNR=7.6
HWUT Hardware Ranch 120.81 300 ePKPdf PKPdf 05 07 38.4 -0.6
HWUT eSKPdf SKPdf 05 11 04.8 -0.4
NC602 NORSAR Array S 120.82 21 ePKPdf PKPdf 05 07 38.7 +0.7
NC602 ePP PP 05 09 05.8 -3.1
NB2 NORSAR Subarra 121.03 21 PKPdf PKPdf 05 07 37.5 -1.0
baz=202,slow=1.9
NB2 NORSAR Subarra 121.03 21 PKPdf PKPdf 05 07 37.5 -1.0
comp=Z,32nm,1.2s,baz=202,slow=1.9
NOA NORSAR Array B 121.03 21 PKP PKPdf 05 07 37.5 -1.0
comp=Z,8.1nm,0.7s,baz=203,slow=2.0,SNR=34
NOA pPKP pPKPdf 05 08 04.4 -0.6
comp=Z,9.4nm,0.8s,baz=198,slow=1.8,SNR=4.7
NOA SKP 05 11 05.7
comp=Z,1.8nm,0.7s,baz=204,slow=2.0,SNR=4.1
NOA PKKPbc PKKPbc 05 17 41.3 -0.2
comp=Z,14nm,1.0s,baz=26,slow=4.1,SNR=20
NOA PKKP PKKPdf 05 18 07.8 -8.0
comp=Z,5.1nm,0.9s,baz=25,slow=3.0,SNR=3.7
AKN Aaknes 121.32 18 ePKPdf PKPdf 05 07 40.1 +1.0
AKN epPKPdf pPKPdf 05 08 09.5 +4.0

AKN					*e*PP	**PP**	05 09 12.8	+0.4	
AKN					*e*SP	SP	05 18 56.3	+2.8	
AKN					*e*SS	**SS**	05 25 41.5	+2.8	
LPSR	**Galich'ya Gora**	**121.45**	**41**		*e*PKIKP	**PKPdf**	05 07 39.0	-0.5	
LPSR					*e*SP	SP	05 19 01.6	+6.5	
LPSR					pmax	pmax			
	comp=Z,20nm,0.8s								
DOMB	**Dombas**	**121.56**	**19**		*e*PKPdf	**PKPdf**	05 07 41.3	+1.8	
DOMB					*e*PP	**PP**	05 09 14.5	+0.6	
MOL	**Molde**	**121.78**	**18**		*e*SS	SS	05 25 46.9	+2.4	
REDW	**Red Top Meadow**	**121.81**	**301**		*e*PKPdf	**PKPdf**	05 07 40.8	-0.1	
SNOW	**Snow King Moun**	**121.84**	**302**		*e*PKPdf	**PKPdf**	05 07 40.3	-0.6	
KKM	**Kota Kinabalu**	**121.84**	**135**		*e*PKPdf	**PKPdf**	05 07 42.3	+0.5	
LOHW	**Long Hollow**	**121.88**	**302**		*e*PKPdf	**PKPdf**	05 07 40.1	-0.8	
LOHW					*e*SKPdf	**SKPdf**	05 11 06.8	-0.5	
TPAW	**Teton Pass**	**121.95**	**301**		*e*PKPdf	**PKPdf**	05 07 40.7	-0.5	
TPAW					*e*SKPdf	**SKPdf**	05 11 07.1	-0.4	
MOOW	**Moose Ponds**	**122.05**	**302**		*e*PKPdf	**PKPdf**	05 07 40.6	-0.8	
MOOW					*e*SKPdf	**SKiKP**	05 11 08.1	0.0	
BOK	**Bokaro**	**122.05**	**95**		*e*P	**PKPdf**	05 07 43.2	+1.5	
BOK					IAmb	IAmb	05 07 43.9		
BOK					IAMs_20	IAMs_20	05 46 40.9		
	comp=Z,5µm,27.7s								
SAO	**San Andreas Ge**	**122.10**	**289**		*e*PKIKP	**PKPdf**	05 07 41.8	+0.4	
SAO	**San Andreas Ge**	**122.10**	**289**		*e*PKPdf	**PKPdf**	05 07 41.8	+0.4	
LAO	**LASA Array**	**122.23**	**307**		P	**PKPdf**	05 07 40.8	-0.5	
	baz=140,SNR=29								
LAO	**LASA Array**	**122.23**	**307**		*e*PKPdf	**PKPdf**	05 07 40.6	-0.7	
LAO					*e*SKPdf	**SKPdf**	05 11 06.3	-1.3	
IMW	**Indian Meadow**	**122.25**	**302**		*e*PKPdf	**PKPdf**	05 07 41.9	+0.1	
FLWY	**Flagg Ranch**	**122.28**	**302**		*e*PKPdf	**PKPdf**	05 07 41.7	-0.1	
RLMT	**Red Lodge**	**122.41**	**304**		P	**PKPdf**	05 07 42.0	+0.1	
	baz=139,SNR=15								
RLMT	**Red Lodge**	**122.41**	**304**		*e*PKPdf	**PKPdf**	05 07 41.4	-0.5	
VSU	**Vasula**	**122.41**	**30***c*		*i*PKIKP	**PKPdf**	05 07 40.6	-0.6	
VSU					pmax	pmax			
	comp=Z,81nm,0.6s								
H17A	**Grant Village**	**122.46**	**302**		P	**PKPdf**	05 07 43.5	+1.3	
	baz=139,SNR=11								
H17A	**Grant Village**	**122.46**	**302**		*e*PKPdf	**PKPdf**	05 07 43.8	+1.7	
CMB	**Columbia Colle**	**122.50**	**291**		*e*PKIKP	**PKPdf**	05 07 42.1	0.0	
CMB	**Columbia Colle**	**122.50**	**291**		*e*PKPdf	**PKPdf**	05 07 42.1	0.0	
OBN	**Obninsk**	**122.66**	**38***ce*		PKIKP	**PKPdf**	05 07 41.2	-0.5	
OBN					*e*		05 08 05.5		
OBN					*i*		05 08 09.2		
OBN							05 09 24.0		
OBN					*i*		05 14 37.3		
OBN					*e*SP	SP	05 19 08.3	+2.7	
OBN					pmax	pmax			
	comp=Z,19nm,0.6s								
OBN					MLR	MLR			
	comp=Z,2µm,19.0s								
BMN	**Battle Mountai**	**122.70**	**295**		*e*PKIKP	**PKPdf**	05 07 42.5	-0.1	
BMN	**Battle Mountai**	**122.70**	**295**		*e*PKPdf	**PKPdf**	05 07 42.5	-0.1	
DGMT	**Dagmar**	**122.71**	**310**		P	**PKPdf**	05 07 42.4	+0.3	
	baz=140								
DGMT	**Dagmar**	**122.71**	**310**		*e*PKPdf	**PKPdf**	05 07 42.4	+0.3	
DDI	**Dehra Dun**	**122.82**	**84**		IAMs_20	IAMs_20	05 47 12.8		
	comp=Z,14µm,42.7s								
TBLU	**Trondheim**	**122.89**	**19**		*e*SKSac	**SKSac**	05 14 35.9	+2.5	
SMLA	**Simla**	**122.95**	**82**		*e*P	**PKPdf**	05 07 43.6	+0.5	
SMLA					IAmb	IAmb	05 07 46.6		
	comp=Z,23nm,1.1s								
SMLA					IAMs_20	IAMs_20	05 47 56.5		
	comp=Z,7µm,26.3s								
DHRM	**DHARAMSHALA**	**123.34**	**81**		*e*P	**PKPdf**	05 07 43.6	-0.6	
DHRM					IAmb	IAmb	05 07 45.4		
MOS	**Moscow**	**123.52**	**38**	*i*	PKIKP	**PKPdf**	05 07 42.0	-1.4	
MOS					*e*		05 08 06.3		
MOS					*e*		05 09 30.3		
MOS					*e*PPP	PPP	05 12 09.2		
MOS					*e*		05 14 34.4		
MOS					*e*PS	**PS**	05 19 22.1	-2.3	
MOS					pmax	pmax			
	comp=Z,62nm,1.1s								
MOS					MLR	MLR			
	comp=Z,2µm,21.0s								
HLID	**Hailey**	**123.66**	**299**		P	**PKPdf**	05 07 45.1	+0.8	
	baz=138								
HLID	**Hailey**	**123.66**	**299**		*e*PKPdf	**PKPdf**	05 07 44.7	+0.3	
PYUN	**Piuthan**	**123.83**	**89**		*e*P	**PKPdf**	05 07 43.9	-1.3	
	comp=Z,42nm,0.6s								
DLV	**T Lat**	**123.85**	**124**		*e*PKPdf	**PKPdf**	05 07 46.9	+1.2	
BOZ	**Bozeman (W)**	**123.86**	**303**		P	**PKPdf**	05 07 45.3	+0.6	
	baz=138								
BOZ	**Bozeman (W)**	**123.86**	**303**		*e*PKIKP	**PKPdf**	05 07 44.7	+0.1	
BOZ	**Bozeman (W)**	**123.86**	**303**		*e*PKPdf	**PKPdf**	05 07 44.7	+0.1	
KOLN	**Koldanda**	**123.91**	**90**		*e*P	**PKPdf**	05 07 44.2	-1.2	
	comp=Z,86nm,0.6s								
DLMT	**Dillon**	**124.14**	**302**		*e*PKPdf	**PKPdf**	05 07 44.8	-0.4	
MFID	**Camas Ranch**	**124.24**	**298**		*e*PKPdf	**PKPdf**	05 07 44.9	-0.5	
DZET	**Dzherino**	**124.27**	**70**		PKIKP	**PKPdf**	05 07 45.4	-0.2	
DZET					pmax	pmax			
	comp=Z,39nm,1.3s								
SFJD	**Kangerlussuaq**	**124.51**	**349**	*i*	P	**PKPdf**	05 07 47.5	+2.6	
SFJD	**Kangerlussuaq**	**124.51**	**349**		*e*PKIKP	**PKPdf**	05 07 44.0	-0.9	
SFJD	**Kangerlussuaq**	**124.51**	**349**		*e*PKPdf	**PKPdf**	05 07 44.0	-0.9	
DMN	**Daman**	**124.62**	**92**		*e*P	**PKPdf**	05 07 45.8	-1.0	
	comp=Z,63nm,0.8s								
CMAR	**Chiang Mai Arr**	**124.75**	**111**		PKP	**PKPdf**	05 07 46.4	-0.6	
	comp=Z,22nm,0.8s,baz=235,slow=3.7,SNR=45								
CMAR					pPKP	**pPKPdf**	05 08 12.7	-0.8	
	comp=Z,38nm,0.9s,baz=228,slow=3.8,SNR=7.0								
CMAR					PKKPab	**PKKPab**	05 17 30.1	+1.6	
	comp=Z,1.6nm,0.3s,baz=0.9,slow=3.5,SNR=7.1								
PKIN	**Phulchoki**	**124.76**	**92**		*e*P	**PKPdf**	05 07 45.9	-1.2	
	comp=Z,50nm,0.6s								
PKI	**Pulchoki**	**124.76**	**92**		*e*P	**PKPdf**	05 07 46.0	-1.2	
FINES	**FINESS Array B**	**124.77**	**28**		PKhKP	PKPpre	05 07 31.6		
	comp=Z,2.8nm,1.1s,baz=122,slow=2.9,SNR=4.0								
FINES					PKP	**PKPdf**	05 07 44.5	-1.1	
	comp=Z,43nm,0.6s,baz=170,slow=1.2,SNR=89								
FINES					PKKPbc	**PKKPbc**	05 17 27.2	+0.4	
	comp=Z,4.2nm,0.7s,baz=72,slow=6.2,SNR=7.6								
EGMT	**Eagleton**	**124.81**	**306**		P	**PKPdf**	05 07 46.9	+0.6	
	baz=138								
EGMT	**Eagleton**	**124.81**	**306**		*e*PKPdf	**PKPdf**	05 07 46.5	+0.2	
KKN	**Kakani**	**124.86**	**92**		*e*P	**PKPdf**	05 07 46.1	-1.1	
	comp=Z,36nm,0.6s								
WVOR	**Wild Horse Val**	**124.90**	**296**		*e*PKIKP	**PKPdf**	05 07 46.8	+0.1	
WVOR	**Wild Horse Val**	**124.90**	**296**		*e*PKPdf	**PKPdf**	05 07 46.8	+0.1	
O03D	**Paynes Creek**	**124.92**	**292**		P	**PKPdf**	05 07 46.8	+0.1	
	baz=138,SNR=14								
RAMN	**Ramite**	**124.94**	**93**		*e*P	**PKPdf**	05 07 46.8	-0.6	
	comp=Z,81nm,0.5s								
CHTO	**Chiang Mai**	**125.04**	**110**		*e*PKIKP	**PKPdf**	05 07 46.0	-1.6	
CHTO	**Chiang Mai**	**125.04**	**110**		*e*PKPdf	**PKPdf**	05 07 46.0	-1.6	
CHTO	**Chiang Mai**	**125.04**	**110**		P	**PKPdf**	05 07 47.2	-0.4	
	SNR=12								
CHTO	**Chiang Mai**	**125.04**	**110**		PKPdf	**PKPdf**	05 07 47.2	-0.4	
	SNR=12								
JIRN	**Jiri**	**125.26**	**92**		*e*P	**PKPdf**	05 07 47.3	-0.9	
	comp=Z,497nm,0.4s								
GUN	**Gumba**	**125.28**	**92**		*e*P	**PKPdf**	05 07 47.3	-0.9	
	comp=Z,86nm,0.6s								
ODAN	**Odare**	**125.30**	**94**		*e*P	**PKPdf**	05 07 47.6	-0.5	
MOD	**Modoc Plateau**	**125.34**	**294**		*e*PKPdf	**PKPdf**	05 07 47.2	-0.4	
MSO	**Missoula**	**125.85**	**302**		P	**PKPdf**	05 07 48.6	+0.3	
	baz=137								
TAPN	**Taplejung**	**125.86**	**94**		*e*P	**PKPdf**	05 07 48.5	-0.8	
N02D	**Trinity Center**	**125.89**	**292**		P	**PKPdf**	05 07 49.0	+0.5	
	baz=137,SNR=24								
BMO	**Blue Mountains**	**126.01**	**298**		*e*PKIKP	**PKPdf**	05 07 48.0	-0.7	
BMO	**Blue Mountains**	**126.01**	**298**		*e*PKPdf	**PKPdf**	05 07 48.0	-0.7	
M04C	**Macdoel**	**126.03**	**293**		P	**PKPdf**	05 07 49.3	+0.4	
	baz=137,SNR=18								
STOK	**Stokkvaagen**	**126.20**	**19**		*e*PKPdf	**PKPdf**	05 07 48.4	+0.2	
M02C	**Callahan**	**126.27**	**292**		P	**PKPdf**	05 07 49.7	+0.4	
	baz=137,SNR=14								
MOR8	**Moi Rana**	**126.31**	**19**		*e*PKPdf	**PKPdf**	05 07 48.4	0.0	
MOR8					*e*		05 08 12.9		
KONS	**Konsvik**	**126.36**	**19**		*e*PKPdf	**PKPdf**	05 07 50.3	+1.8	
FFC	**Flin Flon**	**126.55**	**316**		*e*PKIKP	**PKPdf**	05 07 48.8	-0.4	
FFC	**Flin Flon**	**126.55**	**316**		*e*PKPdf	**PKPdf**	05 07 48.8	-0.4	
SHL	**Shillong**	**126.75**	**99**		*e*P	**PKPdf**	05 07 50.4	-0.4	
SHL					IAmb	IAmb	05 07 52.5		
	comp=Z,24nm,0.7s								
FCC	**Fort Churchill**	**126.78**	**323**		*e*PKIKP	**PKPdf**	05 07 48.9	-0.6	
FCC	**Fort Churchill**	**126.78**	**323**		*e*PKPdf	**PKPdf**	05 07 48.9	-0.6	
J05D	**Fort Rock, OR**	**126.82**	**295**		P	**PKPdf**	05 07 51.1	+0.7	
	baz=136,SNR=20								
HUMO	**Hull Mountain**	**127.20**	**293**		*e*PKPdf	**PKPdf**	05 07 50.9	0.0	
L02D	**Cave Junction,**	**127.21**	**292**		P	**PKPdf**	05 07 51.7	+0.7	
	baz=136,SNR=5.5								
J04D	**Umpqua Nationa**	**127.23**	**294**		P	**PKPdf**	05 07 51.9	+0.7	
	baz=136								
IUG	**luzhnay**	**127.34**	**68**	*i*	PKP	**PKPdf**	05 07 50.8	-0.6	
IUG				*i*	PKiKP	**PKiKP**	05 07 51.7	-0.2	
IUG				*i*	pPKP	**pPKPdf**	05 08 14.5	-3.3	
IUG				*i*	PP	**PP**	05 09 51.7	-1.4	
IUG					LRM	MLR	06 02 57.8		
	comp=Z,578nm,18.3s								
WALA	**Waterton Lakes**	**127.45**	**304**		*e*PKPdf	**PKPdf**	05 07 50.4	-1.0	
AKTO	**Aktyubinsk**	**127.52**	**53**		PKIKP	**PKPdf**	05 07 48.7	-2.6	
AKTO					pmax	pmax			
	comp=Z,66nm,1.0s								
AB31	**Akbulak array**	**127.54**	**56**	*i*	PKIKP	**PKPdf**	05 07 51.5	+0.2	
AB31					pmax	pmax			
	comp=Z,48nm,1.1s								
ABKAR	**Akbulak array**	**127.54**	**56**		*e*PKPpre	PKPpre	05 07 39.5		
ABKAR					*e*PKPdf	**PKPdf**	05 07 51.0	-0.3	
I05D	**Terrebonne, OR**	**127.63**	**295**		P	**PKPdf**	05 07 52.3	+0.5	
	baz=136,SNR=16								
I04A	**Tendick Farm,**	**127.78**	**294**		P	**PKPdf**	05 07 52.2	+0.2	
	baz=136,SNR=13								
LOF	**Lofoten**	**127.90**	**18**		*e*PKPdf	**PKPdf**	05 07 51.3	-0.1	
LOF					*e*PP	**PP**	05 09 57.7	+1.5	
LOF					*e*SKSac	**SKSac**	05 14 51.0	+2.1	
LOF					*e*SS	**SS**	05 27 00.7	-0.4	
JMIC	**Jan Mayen**	**127.92**	**8**		*e*PKPdf	**PKPdf**	05 07 53.1	+1.7	
JMIC					*e*PP	**PP**	05 09 57.4	+1.2	
STEI	**Steigen**	**128.02**	**19**		*e*PKPdf	**PKPdf**	05 07 51.5	-0.2	
KLMR	**Klimovskoe**	**128.16**	**35**		*e*PKIKP	**PKPdf**	05 07 51.1	-1.0	
KLMR					*e*		05 10 01.4		
KLMR					*e*S	**SKKPdf**	05 21 32.5	+3.9	
KLMR					MLR	MLR			
	comp=Z,2µm,18.0s								
I03D	**Drain, OR**	**128.19**	**294**		P	**PKPdf**	05 07 53.5	+0.7	
	baz=136								
HAWA	**Hanford**	**128.21**	**298**		*e*PKPdf	**PKPdf**	05 07 52.3	-0.4	
G05D	**Wamic, OR**	**128.27**	**296**		P	**PKPdf**	05 07 53.5	+0.6	
	baz=135								
KK31	**Karatay Array**	**128.28**	**68**	*i*	PKIKP	**PKPdf**	05 07 52.3	-0.7	
KK31					pmax	pmax			
	comp=Z,23nm,1.0s								
KKAR	**Karatay Array**	**128.28**	**68**		*e*PKIKP	**PKPdf**	05 07 52.4	-0.6	
KKAR	**Karatay Array**	**128.28**	**68**		*e*PKPdf	**PKPdf**	05 07 52.4	-0.6	
NEW	**Newport**	**128.38**	**302**		P	**PKPdf**	05 07 53.2	+0.2	
	baz=135								
NEW	**Newport**	**128.38**	**302**		*e*PKIKP	**PKPdf**	05 07 52.1	-0.9	
NEW	**Newport**	**128.38**	**302**		*e*PKPdf	**PKPdf**	05 07 52.1	-0.9	
KSH	**Kashi**	**128.56**	**75**		*e*PKP	**PKPdf**	05 07 53.2	-0.6	
KSH					*es*PKP		05 08 30.0		
KSH					SKS	**SKSdf**	05 14 54.1	-2.3	
KSH					SKKS	**SKKSac**	05 16 38.1	-10	
KSH					AMB	AMB			
	comp=Z,160nm,3.7s								
KSH					LR	LR			
	comp=Z,2µm,19.5s								
KSH					LR	LR			
	comp=Z,1µm,17.2s								
KSH					LR	LR			
	comp=Z,2µm,19.3s								
COR	**Corvallis**	**128.80**	**294**		*e*PKIKP	**PKPdf**	05 07 54.2	+0.4	
COR	**Corvallis**	**128.80**	**294**		*e*PKPdf	**PKPdf**	05 07 54.2	+0.4	
MNAS	**Manas**	**128.87**	**70**		PKIKP	**PKPdf**	05 07 53.0	-1.3	
MNAS					pmax	pmax			
	comp=Z,43nm,1.3s								
SUMG	**Summit**	**129.10**	**356**	*i*	P	**PKPdf**	05 07 55.2	+1.1	
SUMG	**Summit**	**129.10**	**356**		*e*PKIKP	**PKPdf**	05 07 52.4	-1.7	
SUMG	**Summit**	**129.10**	**356**		*e*PKPdf	**PKPdf**	05 07 52.4	-1.7	
G03D	**McMinnville, O**	**129.22**	**295**		P	**PKPdf**	05 07 55.8	+1.1	
	baz=135								
LSA	**Lhasa**	**129.58**	**95**		PKP	**PKPdf**	05 07 57.0	+0.5	
LSA	**Lhasa**	**129.58**	**95**		*e*PKIKP	**PKPdf**	05 07 57.0	+0.5	
LSA	**Lhasa**	**129.58**	**95**		*e*PKPdf	**PKPdf**	05 07 57.0	+0.5	
SLVN	**Son La**	**129.69**	**114**		*e*PKPdf	**PKPdf**	05 07 57.2	+0.8	
F04D	**Rainier, OR**	**129.70**	**296**		P	**PKPdf**	05 07 57.3	+1.8	
	baz=134								
KIP	**Kipapa**	**129.90**	**246**	ǁ*i*	PKIKP	**PKPdf**	05 07 59.4	+2.7	
C06D	**Leavenworth**	**129.94**	**299**		P	**PKPdf**	05 07 56.9	+0.9	
	baz=134								
AAK	**Ala-Archa**	**130.01**	**71**		PKP	**PKPdf**	05 07 56.3	-0.2	
	comp=Z,14nm,0.4s,baz=170,slow=3.6,SNR=30								
AAK					SKPbc	**SKPbc**	05 11 12.2	+1.9	
	comp=Z,21nm,0.9s,baz=209,slow=6.0,SNR=4.8								
AAK	**Ala-Archa**	**130.01**	**71**		PKIKP	**PKPdf**	05 07 55.8	-0.7	
AAK					pmax	pmax			
	comp=Z,44nm,1.1s								
AAK	**Ala-Archa**	**130.01**	**71**		*e*PKPdf	**PKPdf**	05 07 55.7	-0.7	
AAK					SKPbc	**SKPbc**	05 11 12.2	+1.9	
AAK	**Ala-Archa**	**130.01**	**71**		P	**PKPdf**	05 07 56.5	0.0	
	SNR=23								
AAK	**Ala-Archa**	**130.01**	**71**		PKPdf	**PKPdf**	05 07 56.5	0.0	
	SNR=23								
EDM	**Edmonton**	**130.14**	**308**		*e*PKIKP	**PKPdf**	05 07 53.8	-2.4	
EDM	**Edmonton**	**130.14**	**308**		*e*PKPdf	**PKPdf**	05 07 53.8	-2.4	
TRO	**Tromso**	**130.17**	**19**		*e*PKPdf	**PKPdf**	05 07 57.0	+1.3	
TRO					*e*		05 08 21.4		
TRO					*e*PP	**PP**	05 10 11.9	+1.0	
TRO					*e*SS	SS	05 27 27.3	-1.8	
TMCR	**Tamitsa**	**130.23**	**31**		*e*PKIKP	**PKPdf**	05 07 55.4	-0.5	
TMCR					pmax	pmax			
	comp=Z,199nm,1.4s								
KTK1	**Kautokeino**	**130.47**	**21**		*e*PKPdf	**PKPdf**	05 07 55.8	-0.6	
KTK1					*e*		05 08 20.4		
QIZ	**Qiongzhong**	**130.65**	**121**		PKP	**PKPdf**	05 07 58.5	+0.3	
QIZ					PP	**PP**	05 10 15.2	+0.9	
QIZ					SS	SS	05 27 39.1	+3.7	
QIZ					LR	LR			
	comp=Z,940nm,22.8s								
QIZ					LR	LR			
	comp=Z,1µm,22.8s								
QIZ					LR	LR			
	comp=Z,3µm,26.6s								
B05A	**Bryant**	**130.76**	**299**		P	**PKPdf**	05 07 58.3	+0.9	
	baz=133								
TKM2	**Tokmak 2**	**130.78**	**71**		PKIKP	**PKPdf**	05 07 57.0	-1.0	
TKM2					pmax	pmax			
	comp=Z,27nm,1.0s								
BMNS	**Besmoynak**	**130.95**	**71**	*i*	PKP	**PKPdf**	05 07 57.6	-0.7	
BMNS				*i*	PP	**PP**	05 10 15.4	-1.4	
BMNS					LRM	MLR	06 05 10.6		
	comp=Z,708nm,20.1s								
NLWA	**Neilton Lookou**	**131.03**	**297**		*e*PKPdf	**PKPdf**	05 07 57.8	-0.3	
ARCES	**ARCESS Array B**	**131.36**	**22**		PKhKP	PKPpre	05 07 41.0		
	comp=Z,1.8nm,0.6s,baz=218,slow=2.2,SNR=7.2								
ARCES					PKP	**PKPdf**	05 07 57.6	-0.4	
	comp=Z,27nm,0.5s,baz=207,slow=1.4,SNR=28								
ARCES					SKPbc	**SKPbc**	05 11 13.7	-0.4	
	comp=Z,9.7nm,0.8s,baz=222,slow=2.9,SNR=3.8								
ARE0	**ARCESS Array S**	**131.36**	**22**		*e*PKPdf	**PKPdf**	05 07 57.1	-0.9	
ARE0					*e*		05 08 21.6		
ARE0					*e*PP	**PP**	05 10 17.9	-0.8	
A04D	**Lummi Island**	**131.37**	**299**		P	**PKPdf**	05 07 59.9	+1.3	
	baz=133								
APA	**Apatity**	**131.59**	**26**	ǁ*i*	PKIKP	**PKPdf**	05 07 57.5	-1.0	
APA				*i*	*PP	**pPKiKP**	05 08 28.0	+2.1	
APA				*i*	PPP	PPP	05 13 18.0		
APA				*i*	PS	**PS**	05 20 36.0	+1.4	
APA					pmax	pmax			
	comp=Z,20nm,0.7s								
PGC	**Sidney**	**131.69**	**298**		*e*PKPdf	**PKPdf**	05 07 59.6	+0.4	
KUU	**Kurty**	**131.85**	**71**	*i*	PKP	**PKPdf**	05 07 58.9	-0.9	
KUU				*i*	pPKP	**pPKPdf**	05 08 22.6	-3.6	
KUU				*i*	PP	**PP**	05 10 20.6	-1.7	
KUU					eSS	SS	05 27 51.2	+0.6	
KUU					LR	LR	06 07 36.9		
	comp=Z,740nm,16.6s								
HAMF	**Hammerfest**	**131.91**	**20**		*e*PKPdf	**PKPdf**	05 07 58.3	-0.7	
HAMF					*e*		05 08 22.4		
HAMF					*e*PP	**PP**	05 10 21.7	-0.4	
HAMF					*e*SP	SP	05 20 28.3	+2.6	
HAMF					*e*SS	**SS**	05 27 48.0	-2.2	
ARU	**Arti**	**131.93**	**48**		PKP	**PKPdf**	05 07 59.3	-0.1	
	comp=Z,20nm,0.7s,baz=249,slow=0.5,SNR=18								
ARU					SKP		05 11 22.0		
	comp=Z,18nm,0.8s,baz=219,slow=3.0,SNR=3.7								
ARU	**Arti**	**131.93**	**48**		PKIKP	**PKPdf**	05 07 59.3	-0.1	
ARU							05 10 21.0		
ARU					PPP	PPP	05 13 04.4		
ARU					SS	SS	05 27 32.1	-19	
ARU					MLR	MLR			
	comp=Z,4µm,19.8s								
LVZ	**Lovozero**	**132.15**	**27**	*d*	PKIKP	**PKPdf**	05 08 00.0	+0.4	
LVZ					pmax	pmax			
	comp=Z,42nm,0.6s								
LVZ	**Lovozero**	**132.15**	**27**		*e*PKPdf	**PKPdf**	05 07 59.0	-0.6	
KMI	**Kunming**	**132.22**	**110**	⇑	PKP	**PKPdf**	05 07 58.9	-2.4	
KMI					sPKP		05 08 40.3		
KMI					PP	**PP**	05 10 23.0	-1.8	
KMI					SKKS		05 17 06.4		
KMI					SS	**SS**	05 27 52.3	-2.9	
KMI					AMB	AMB			
	comp=Z,730nm,7.1s								
KMI					LR	LR			
	comp=Z,1µm,18.9s								
KMI					LR	LR			
	comp=Z,1µm,18.4s								
KMI					LR	LR			
	comp=Z,4µm,30.1s								
KULLO	**Kullorsuaq**	**132.42**	**349**	*i*	P	**PKPdf**	05 08 00.2	+0.4	
KULLO	**Kullorsuaq**	**132.42**	**349**	*i*	PKIKP	**PKPdf**	05 08 00.2	+0.4	
KULLO					MLR	MLR			
	comp=Z,3µm,22.0s								
UZB	**Uzunbulak**	**132.75**	**73**	*i*	PKP	**PKPdf**	05 08 01.1	-0.6	
UZB				*i*	PKiKP	**PKiKP**	05 08 02.4	-0.4	
UZB				*i*	PP	**PP**	05 10 26.8	-1.4	
UZB				*e*	SS	SS	05 28 04.1	+2.4	
UZB					LRM	MLR	06 05 04.0		
	comp=Z,482nm,17.2s								
KPKS	**Kokpek**	**132.79**	**73**	*i*	PKP	**PKPdf**	05 08 01.1	-0.6	
KPKS				*i*	PP	**PP**	05 10 26.9	-1.6	
KPKS				*i*	SS	SS	05 28 02.7	+0.6	
KPKS					LRM	MLR	06 05 33.1		
	comp=Z,1µm,19.4s								
SVE	**Sverdlovsk**	**133.05**	**49**	*e*	PKIKP	**PKPdf**	05 08 01.7	+0.2	
SVE					pmax	pmax			
	comp=Z,102nm,1.4s								
PDGK	**Podgornoye**	**133.12**	**74**		PKIKP	**PKPdf**	05 08 01.1	-1.2	
PDGK					pmax	pmax			
	comp=Z,39nm,0.9s								
DAG	**Danmarks Havn**	**133.17**	**3**	*i*	P	**PKPdf**	05 08 00.4	-0.8	
DAG	**Danmarks Havn**	**133.17**	**3**	*i*	PKIKP	**PKPdf**	05 08 00.4	-0.8	
DAG				*i*			05 08 26.4		
BJO	**Bjornoya**	**134.34**	**16**		*e*PKPdf	**PKPdf**	05 08 04.8	+1.4	
BJO					*e*PP	**PP**	05 10 37.5	-0.1	
BRVK	**Borovoye**	**134.90**	**58**	*ce*	PKIKP	**PKPdf**	05 08 05.7	+0.6	
BRVK					pmax	pmax			
	comp=Z,90nm,1.3s								
BRVK	**Borovoye**	**134.90**	**58**		*e*PKPdf	**PKPdf**	05 08 03.4	-1.7	
BRVK	**Borovoye**	**134.90**	**58**		P	**PKPdf**	05 08 04.6	-0.5	
	SNR=14								
BRVK	**Borovoye**	**134.90**	**58**		PKPdf	**PKPdf**

comp=E,10nm,0.8s,baz=215,slow=4.1,SNR=4.5
WHN Wuhan 142.53 117 *i* PKPbc **PKPdf 05 08 13.3 -6.5**
WHN pPKP sPKPdf 05 09 35.8 +39
WHN PP **PP 05 11 26.5 -2.1**
XAN Xi'an 142.54 108 PKP **PKPdf 05 08 15.3 -4.5**
XAN pPKP pPKPdf 05 08 42.5 -3.8
XAN sPKP 05 08 53.3
XAN PP **PP 05 11 27.0 -1.9**
XAN PKS **PKSdf 05 11 50.3 -5.3**
XAN SKS **SKSdf 05 15 15.0 -5.6**
XAN SKKS **SKKSac 05 18 07.3 -4.9**
XAN SS **SS 05 29 53.4 -3.8**
XAN LR LR
comp=E,840nm,19.6s
XAN LR LR
comp=E,1μm,19.1s
XAN LR LR
comp=E,1μm,19.2s
SKAG Skagway 143.63 305 *e*PKPdf PKPbc 05 08 18.9 +0.3
MIDW Midway 144.75 229 *e*PKPdf **PKPab 05 08 22.9 0.0**
JOW Kunigami 145.38 139 PKPbc **PKPab 05 08 26.0 +0.7**
baz=204,slow=5.8
JOW Kunigami 145.38 139 *e*PKPbc **PKPab 05 08 25.4 +0.1**
NJ2 Nanjing 145.95 121 *e*PKPbc **PKPab 05 08 27.0 -0.3**
NJ2 pPKP **pPKPdf 05 08 50.9 -1.3**
NJ2 PP **PP 05 11 52.3 +3.3**
NJ2 SKS **SKSdf 05 15 26.9 +1.2**
NJ2 SKKS **SKKSac 05 18 31.1 -0.4**
NJ2 SS **SS 05 30 41.5 +5.7**
NJ2 AMB AMB
comp=E,980nm,9.2s
NJ2 LR LR
comp=E,790nm,17.4s
NJ2 LR LR
comp=E,510nm,19.0s
NJ2 LR LR
comp=E,3μm,27.1s
SSE Sheshan 146.22 125 PKPbc **PKPdf 05 08 25.6 -0.6**
SSE PP **PP 05 11 53.4 +2.9**
SSE SS SS 05 30 40.6 +1.8
SSE AMB AMB
comp=E,490nm,12.0s
SSE LR LR
comp=E,1μm,29.7s
SSE LR LR
comp=E,2μm,29.7s
SSE LR LR
comp=E,3μm,29.7s
INK Inuvik 146.29 320 SKPbc **SKiKP 05 11 57.0 +0.5**
comp=E,36nm,0.7s,baz=76,slow=2.3,SNR=5.4
INK Inuvik 146.29 320 *e*PKP2 **PKPdf 05 08 25.8 +0.7**
INK 05 11 57.0
INK Inuvik 146.29 320 *e*PKPbc **PKPdf 05 08 25.8 +0.7**
INK SKPbc **SKiKP 05 11 57.0 +0.5**
TIY Taiyuan 147.19 108 PKPbc **PKPdf 05 08 25.9 -1.9**
TIY PKPab **PKiKP 05 08 38.4 +6.0**
TIY PP **PP 05 11 55.0 -1.5**
TIY SS SS 05 30 53.1 +2.8
TIY AMB AMB
comp=E,810nm,5.9s
TIY LR LR
comp=E,1μm,15.8s
TIY LR LR
comp=E,900nm,17.7s
TIY LR LR
comp=E,2μm,23.3s
DAWY Dawson 147.24 311 *e*PKPbc **PKPbc 05 08 28.5 -1.0**
BTO Baotou 147.98 101 *e*PKPbc **PKPdf 05 08 29.0 0.0**
EGAK Eagle 148.19 312 *e*PKPbc **PKPbc 05 08 31.5 -0.4**
TIA Tai'an 148.46 115 PKPbc **PKPdf 05 08 29.3 -0.5**
TIA SS SS 05 31 09.2 +4.9
TIA AMB AMB
comp=E,1μm,3.5s
TIA LR LR
comp=E,1μm,21.1s
TIA LR LR
comp=E,870nm,26.5s
TIA LR LR
comp=E,2μm,29.8s
BMRM Bremner River 148.48 304 *e*PKPdf **PKPdf 05 08 27.9 -1.1**
BMRM *e*PKPbc **PKPbc 05 08 32.6 -0.2**
BMRM *e*PKPab **PKPab 05 08 36.7 +0.2**
HHC Hu-ho-hao-te 148.99 103 *e*PKPbc **PKPdf 05 08 30.4 -0.3**
HHC pPKP pPKPdf 05 08 56.5 -0.7
HHC sPKP 05 09 08.2
HHC PP **PP 05 12 07.1 0.0**
HHC SS SS 05 31 13.7 +3.0
HHC AMB AMB
comp=E,510nm,7.5s
HHC LR LR
comp=E,1μm,17.5s
HHC LR LR
comp=E,1μm,20.0s
HHC LR LR
comp=E,2μm,22.2s
DIV Divide 149.07 304 *e*PKPbc **PKPbc 05 08 34.6 +0.3**
DOT Dot Lake 149.09 309 *e*PKPdf **PKPdf 05 08 28.5 -1.5**
DOT *e*PKPbc **PKPbc 05 08 34.3 +0.1**
NRIK Noril'sk 149.31 39 PKP **PKPdf 05 08 27.9 -2.2**
comp=E,2.7nm,0.4s,baz=295,slow=3.4,SNR=4.0
NRIK PKPbc **PKPbc 05 08 34.5 0.0**
comp=E,74nm,0.8s,baz=238,slow=1.4,SNR=43
PAX Paxson 149.50 308 *e*PKP2 **PKPbc 05 08 34.9 -0.5**
PAX Paxson 149.50 308 *e*PKPbc **PKPbc 05 08 34.9 -0.5**
PAX *e*PKPab **PKPab 05 08 39.6 -1.1**
CBIJ Chichi jima 149.54 161 *e*PKPbc **PKPbc 05 08 36.6 +0.2**
MOY Mondy 149.70 77 *e*PKHKP PKPpre 05 08 31.3
MOY pmax pmax
comp=Z,624nm,3.6s
ZAK Zakamensk 150.29 81 *e*PKIKP **PKPdf 05 08 31.5 -0.9**
ZAK pmax pmax
comp=Z,139nm,1.4s
SEW Seward 150.44 301 *e*PKPdf **PKPdf 05 08 32.4 +0.3**
SEW *e*PKPbc **PKPbc 05 08 37.6 +0.1**
SEW *e*PKPab **PKPab 05 08 44.3 -0.2**
SML Sawmill 150.45 305 *e*PKIKP **PKPbc 05 08 37.5 -0.1**
SML Sawmill 150.45 305 *e*PKPbc **PKPbc 05 08 37.5 -0.1**
ILAR Eielson Array 150.56 311 PKP **PKPdf 05 08 29.0 -3.2**
comp=Z,12nm,0.9s,baz=266,slow=0.6,SNR=42
ILAR PKPbc **PKPbc 05 08 36.4 -1.3**
comp=Z,189nm,0.9s,baz=348,slow=1.0,SNR=141
ILAR pPKPbc **pPKPbc 05 09 01.7 -2.4**
comp=Z,451nm,1.1s,baz=125,slow=1.4,SNR=6.1
ILAR Eielson Array 150.56 311 PKIKP **PKPdf 05 08 29.0 -3.2**
ILAR 05 09 01.7
ILAR pmax pmax
comp=Z,11nm,0.9s
SONM Songino Array 150.61 87 PKP **PKPdf 05 08 32.1 -1.0**
comp=Z,4.7nm,0.8s,baz=235,slow=1.6,SNR=34
SONM PKPbc **PKPbc 05 08 37.5 -1.1**
comp=Z,104nm,0.7s,baz=225,slow=2.8,SNR=166
SONM pPKPbc **pPKPbc 05 09 02.3 -2.6**
comp=Z,108nm,0.8s,baz=212,slow=2.7,SNR=4.5
PMR Palmer 150.75 304 *e*PKIKP **PKPdf 05 08 32.4 -0.2**
PMR Palmer 150.75 304 *e*PKPdf **PKPdf 05 08 32.4 -0.2**
PMR *e*PKPbc **PKPbc 05 08 38.0 -0.2**
BJT Baijiatuau 150.85 109 *e*PKIKP **PKPdf 05 08 33.7 +0.2**
BJT Baijiatuau 150.85 109 *e*PKPdf **PKPdf 05 08 33.7 +0.2**
BJT *e*PKPbc **PKPbc 05 08 38.8 -0.4**
BJI Beijing 150.87 109 PKPbc **PKPdf 05 08 32.7 -0.8**
BJI pPKP **pPKPbc 05 09 03.4 -2.2**
BJI PP **PP 05 12 18.0 +0.3**
BJI SS SS 05 31 35.8 +4.6
RC01 Rabbit Creek A 150.88 303 *e*PKPbc **PKPbc 05 08 38.8 +0.2**
RC01 *e*PKPab **PKPab 05 08 46.0 -0.4**
ULN Ulaanbaatar 150.99 88*ce*PKIKP **PKPdf 05 08 33.0 -0.6**
ULN pmax pmax
comp=Z,40nm,1.7s
ULN Ulaanbaatar 150.99 88 *e*PKPdf **PKPdf 05 08 32.7 -0.9**
ULN *e*PKPbc **PKPbc 05 08 38.9 -0.6**
ULN *e*PKPab **PKPab 05 08 48.2 +0.8**
ULN Ulaanbaatar 150.99 88 P **PKPdf 05 08 32.6 -1.1**
SNR=83
ULN Ulaanbaatar 150.99 88 PKPdf **PKPdf 05 08 32.6 -1.1**
SNR=83
COLA College 150.99 311 *e*PKIKP **PKPdf 05 08 31.9 -0.9**
COLA *e* 05 08 46.6
COLA College 150.99 311 *e*PKPdf **PKPdf 05 08 31.9 -0.9**
COLA *e*PKPbc **PKPbc 05 08 37.6 -1.1**
COLA *e*PKPab **PKPab 05 08 46.6 -0.1**
TLY Talaya 151.14 79*c i*PKIKP **PKPdf 05 08 32.6 -1.0**
TLY *e* 05 12 19.2
TLY pmax pmax
comp=Z,184nm,1.7s
TLY Talaya 151.14 79 *e*PKPdf **PKPdf 05 08 33.8 +0.2**
TLY *e*PKPbc **PKiKP 05 08 39.8 -0.2**
TLY Talaya 151.14 79 P **PKPdf 05 08 33.0 -0.6**
SNR=34
TLY Talaya 151.14 79 PKPdf **PKPdf 05 08 33.0 -0.6**
SNR=34
KDAK Kodiak Island 151.18 295 *i* PKIKP **PKPbc 05 08 38.8 -0.5**
KDAK Kodiak Island 151.18 295 *e*PKPbc **PKPbc 05 08 39.1 -0.2**
KDAK *e*PKPab **PKPab 05 08 47.1 -0.5**
MCK McKinley 151.21 308 *e*PKIKP **PKPbc 05 08 39.5 +0.2**
MCK McKinley 151.21 308 *e*PKPbc **PKPbc 05 08 39.5 +0.2**
OHAK Old Harbor 151.32 294 *e*PKPbc **PKPbc 05 08 39.4 -0.3**
TRF Thorofare Moun 151.74 308 *e*PKPbc **PKPbc 05 08 40.5 -0.2**
IRK Irkutsk 151.76 78 *e*PKIKP **PKPdf 05 08 33.8 -0.6**
IRK pmax pmax
comp=Z,367nm,4.2s
JNU Nakatsue 152.01 137 PKPbc **PKPbc 05 08 41.2 -0.9**
comp=Z,65nm,0.7s,baz=213,slow=5.5,SNR=29
JNU Nakatsue 152.01 137 *e*PKPdf **PKPdf 05 08 35.9 +0.4**
JNU *e*PKPbc **PKPbc 05 08 42.3 +0.1**
KTH Kantishna Hill 152.03 308 *e*PKPdf **PKPdf 05 08 34.0 -0.6**
KTH *e*PKPbc **PKPbc 05 08 40.7 -0.6**
COLD Coldfoot 152.29 316 *e*PKPdf **PKPdf 05 08 32.1 -2.7**
COLD *e*PKPbc **PKPbc 05 08 41.6 -0.1**
PPLA Purkeypile 152.46 306 *e*PKPdf **PKPdf 05 08 34.4 -0.9**
PPLA *e*PKPbc **PKPbc 05 08 42.1 -0.2**
DL2 Dalian 152.80 117⇑ *i*PKPbc **PKPdf 05 08 35.7 -0.7**
DL2 PP **PP 05 12 27.9 -0.7**
DL2 AMB AMB
comp=Z,2μm,8.3s
SDPT Sand Point 154.35 287 *e*PKPbc **PKPbc 05 08 45.9 -0.5**
SDPT *e*PKPab **PKPab 05 09 00.7 -0.4**
KSAR Wonju Array Be 154.54 128 PKIKP **PKPdf 05 08 38.8 -0.1**
KSAR 05 09 03.0
KSAR Wonju Array Be 154.54 128 PKP **PKPdf 05 08 38.8 -0.1**
KSAR PKPab **PKPab 05 09 03.0 +0.6**
KSRS Korea Array 154.57 128 PKP **PKPdf 05 08 38.8 -0.2**
comp=Z,5.7nm,0.7s,baz=256,slow=1.1,SNR=11
KSRS PKPab **PKPab 05 09 03.0 +0.5**
comp=Z,39nm,0.9s,baz=216,slow=4.2,SNR=20
KSRS Korea Array 154.57 128 PKIKP **PKPdf 05 08 38.8 -0.2**
KSRS 05 09 03.0
KSRS pmax pmax
comp=Z,5.0nm,0.7s
KSRS pmax pmax
comp=Z,39nm,0.9s
SNY Shenyang 155.98 115⇑ PKP **PKPdf 05 08 37.9 -2.8**
SNY pPKP **pPKPdf 05 09 04.6 -2.7**
SNY PP **PP 05 12 45.1 -1.4**
SNY SKKS 05 19 20.5
SNY SS **SS 05 32 29.4 +2.5**
SNY AMB AMB
comp=Z,1μm,9.4s
SNY LR LR
comp=Z,1μm,22.6s
SNY LR LR
comp=Z,1μm,26.5s
SNY LR LR
comp=Z,3μm,29.9s
AKUT Akutan 156.72 281 *e*PKPab **PKPab 05 09 11.4 0.0**
MAJO Matsushiro 157.61 147 *e*PKIKP **PKPdf 05 08 43.6 +0.5**
MAJO *e* 05 09 16.0
MAJO Matsushiro 157.61 147 *e*PKPdf **PKPdf 05 08 43.6 +0.5**
MAJO *e*PKPab **PKPab 05 09 15.9 +0.3**
MJAR Matsushiro Arr 157.61 147 PKP **PKPdf 05 08 43.2 +0.2**
comp=Z,8.8nm,1.1s,baz=137,slow=2.9,SNR=8.6
MJAR PKPab **PKPab 05 09 15.6 -0.1**
comp=Z,33nm,0.9s,baz=179,slow=4.5,SNR=15
MJAR Matsushiro Arr 157.61 147 PKIKP **PKPdf 05 08 43.2 +0.2**
MJAR 05 09 15.6
MJAR pmax pmax
comp=Z,6.0nm,0.9s
CN2 Changchun 158.36 114 *e*PKP **PKPdf 05 08 43.3 -0.4**
CN2 sPKP 05 09 17.7
CN2 PP **PP 05 12 59.0 -0.6**
CN2 SS SS 05 32 52.0 -0.4
CN2 AMB AMB
comp=Z,2μm,10.0s
CN2 LR LR
comp=Z,1μm,18.0s
CN2 LR LR
comp=Z,900nm,18.0s
CN2 LR LR
comp=Z,2μm,17.0s
BOD Bodaibo 158.99 70 *e*PKIKP **PKPdf 05 08 41.1 -2.9**
BOD pmax pmax
comp=Z,114nm,1.8s
MDJ Mudanjiang 161.00 119 PKP **PKPdf 05 08 45.8 -0.9**
MDJ pPKP pPKPdf 05 09 15.4 +2.1
MDJ sPKP 05 09 26.4
MDJ PP **PP 05 13 12.1 -1.8**
MDJ SKS **SKSdf 05 15 42.6 +0.1**
MDJ LR LR
comp=Z,1μm,29.7s
MDJ LR LR
comp=Z,2μm,34.6s
MDJ LR LR
comp=Z,3μm,32.2s
USRK Ussuriysk Ar. 161.82 124 PKP **PKPdf 05 08 48.3 +0.7**
comp=Z,7.5nm,1.0s,baz=197,slow=2.0,SNR=6.3
USRK PKPab **PKPab 05 09 32.7 -1.1**
comp=Z,31nm,0.8s,baz=205,slow=3.3,SNR=18
USRK pPKPab **pPKPab 05 10 00.1 +0.8**
comp=Z,38nm,0.9s,baz=228,slow=2.9,SNR=5.0
USRK PP **PP 05 13 16.2 -2.0**
comp=Z,4.4nm,1.0s,baz=226,slow=7.1,SNR=5.5
CLNS Chul'man 164.56 77 *e*PKIKP **PKPdf 05 08 47.8 -2.0**
CLNS pmax pmax
comp=Z,11nm,1.0s
CLNS pmax pmax
comp=E,10.0nm,1.0s
CLNS pmax pmax
comp=N,27nm,1.0s
KLR Kul'dur 165.23 111 PKP **PKPdf 05 08 49.9 -0.7**
comp=N,4.2nm,0.7s,baz=209,slow=1.8,SNR=13
KLR PKPab **PKPab 05 09 47.2 -1.4**
comp=N,33nm,1.1s,baz=262,slow=3.5,SNR=9.7
KLR PP **PP 05 13 34.2 -2.0**
comp=N,7.0nm,1.0s,baz=232,slow=4.6,SNR=4.7
HABR Khabarovsk 166.39 119 *e*PKIKP **PKPdf 05 08 52.0 +0.5**
HABR *e* 05 09 19.7
HABR pmax pmax
comp=N,25nm,2.3s
HABR pmax pmax
comp=E,63nm,2.3s
HABR pmax pmax
comp=Z,86nm,2.3s
YAK Yakutsk 166.90 56 *e*PKIKP **PKPdf 05 08 48.5 -2.9**
YAK *e* 05 09 54.3
YAK *e* 05 13 42.4
YAK pmax pmax
comp=E,171nm,4.1s
YAK pmax pmax
comp=Z,518nm,4.3s
YAK pmax pmax
comp=N,66nm,2.8s
YAK pmax pmax
comp=N,205nm,4.1s
YAK pmax pmax
comp=E,377nm,5.1s
BILL Bilibino 167.00 338⇑ *e*PKIKP **PKPdf 05 08 52.3 +0.9**
BILL *e* 05 09 19.0
BILL *e* 05 09 25.8
BILL *e* 05 13 45.2
BILL PPP PPP 05 17 40.0
BILL *e*SPP SPP 05 27 31.9
BILL SSS SSS 05 40 59.0
BILL pmax pmax
comp=Z,26nm,1.3s
KUR Kuril'sk 168.19 162 *i* PKIKP **PKPdf 05 08 54.5 +1.6**
KUR *i* 05 13 51.8
KUR *e* 05 15 41.1
YSS Yuzh-Sakhalins 168.46 142*c i*PKIKP **PKPdf 05 08 51.7 -1.3**
YSS *e* 05 09 17.5
YSS *e* 05 10 00.0
YSS *e* 05 15 44.0
YSS *e*PPP PPP 05 17 51.0
YSS *e*SS SS 05 34 40.0 +4.3
YSS pmax pmax
comp=Z,2μm,4.3s
YSS pmax pmax
comp=Z,70nm,2.3s
NKL Nikolayevsk 172.07 110 *i* PKIKP **PKPdf 05 08 54.0 -0.8**
NKL *e* 05 14 10.0
NKL *e* 05 18 28.0
NKL *e* 05 35 11.0
NKL pmax pmax
comp=Z,950nm,3.0s
NKL pmax pmax
comp=Z,3μm,12.0s
SEY Seymchan 173.60 3 PKPab **PKPab 05 10 25.3 +0.1**
comp=Z,12nm,1.0s,baz=9.4,slow=6.6,SNR=3.0
PET Petropavlovsk 175.21 225 *i* PKIKP **PKPdf 05 08 53.9 -2.1**
PET *e*PP **pPKPdf 05 09 18.4 -4.3**
PET *e* 05 14 21.9
PET pmax pmax
comp=Z,3μm,15.8s
PET pmax pmax
comp=Z,3μm,14.9s
PET Petropavlovsk 175.21 225 *e*PKPdf **PKPdf 05 08 56.5 +0.5**
PETK Petropavlovsk- 175.63 220 PKP **PKPdf 05 08 54.5 -1.6**
comp=Z,40nm,0.9s,baz=84,slow=3.9,SNR=22
PETK pPKP **pPKPdf 05 09 23.3 +0.5**
comp=Z,25nm,0.9s,baz=118,slow=2.5,SNR=4.9
PETK PKPab **PKPab 05 10 34.6 0.0**
comp=Z,18nm,0.8s,baz=106,slow=7.7,SNR=5.5
PETK Petropavlovsk- 175.63 220 PKIKP **PKPdf 05 08 54.6 -1.6**
PETK 05 09 23.3
PETK 05 10 34.7
PETK pmax pmax
comp=Z,39nm,0.9s
PETK pmax pmax
comp=Z,18nm,0.8s

ISCJB ***03*** *04:50:11.8±0.3, 4.°91S±0.°04×151.°43E±0.°05, h150km, mb4.6/77, Error ellipse: s-maj=7.7km s-min=4.9km az=19.1*
MOS ***03*** *04:50:13.8±1.2, 4.°82S×151.°36E, h167km, mb4.7/22, Error ellipse: s-maj=12.0km s-min=7.6km az=88.6*
NEIC ***03*** *04:50:15.7±0.6, 4.°91S×151.°33E, h172km±5km, mb4.7/33, Error ellipse: s-maj=6.5km s-min=4.8km az=93.0*
IDC ***03*** *04:50:15.5±0.8, 4.°95S×151.°32E, h169km±7km, mb4.3/18, mb1 4.4/19, mb1mx4.3/32, mbtmp4.8/19, MS3.2/1, Ms1 3.2/1, ms1mx2.9/47, Error ellipse: s-maj=14.6km s-min=8.6km az=95.0*

ISC 03 04:50:13.6±0.4, 4.°95S±0.°05×151.°36E±0.°06, h150km, n149, σ1s88/164, mb4.7/76, 7C-6D, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	Time h m s	Res ISC
RABL	**Rabaul**	**1.10**	**47**	*e*Pn		**Pn**	**04 50 42.8**	**+3.5**
MANU	**Manus Island**	**4.93**	**306**	*e*Pn		**Pn**	**04 51 27.4**	**+1.3**
PMG	**Port Moresby**	**6.08**	**223**	P		**Pn**	**04 51 43.7**	**+2.3**
	160nm,0.3s,baz=52,slow=5.7,SNR=94							
PMG				S		**Sn**	**04 52 52.5**	**+2.3**
	181nm,0.3s,baz=51,slow=20,SNR=13							
PMG				LR		LR	04 53 57.9	
	comp=Z,232nm,19.4s,baz=60,slow=37							
PMG	**Port Moresby**	**6.08**	**223**	*e*P		**Pn**	**04 51 43.2**	**+1.8**
PMG				*e*			04 52 51.7	
PMG	**Port Moresby**	**6.08**	**223**	*e*Pn		**Pn**	**04 51 43.2**	**+1.8**
PMG				*e*Sn		**Sn**	**04 52 51.7**	**+1.6**
COEN	**Coen**	**12.05**	**221**	*e*Pn		**Pn**	**04 53 02.5**	**+1.9**
CTA	**Charters Tower**	**15.85**	**198**	P		**P**	**04 53 52.3**	**+3.0**
	0.9nm,0.3s,baz=21,slow=13,SNR=11							
CTAO	**Charters Tower**	**15.85**	**198**	*e*P		**P**	**04 53 51.5**	**+2.2**
CTAO				pmax		pmax		
	comp=Z,85nm,0.8s							
CTAO	**Charters Tower**	**15.85**	**198**	*e*Pn		**P**	**04 53 51.5**	**+2.2**
	comp=Z,85nm,0.8s							
FAKI	**Fak Fak**	**19.18**	**275**	*e*P		**P**	**04 54 26.2**	**+0.4**
	comp=Z,29nm,0.9s							
MTN	**Manton Dam**	**21.45**	**247**	*e*P		**P**	**04 54 49.3**	**-1.0**
	comp=Z,22nm,0.9s							
MTN				*e*S		**S**	**04 58 34.1**	**-5.2**
WRAB	**Tennant Creek**	**22.27**	**227**	*c i*P		**P**	**04 54 58.3**	**-0.4**
WRAB				pmax		pmax		
	comp=Z,84nm,0.8s							
WRAB	**Tennant Creek**	**22.27**	**227**	*e*P		**P**	**04 54 58.2**	**-0.4**
	comp=Z,54nm,0.6s							
WRA	**Warramunga Arr**	**22.29**	**227**	P		**P**	**04 54 58.2**	**-0.6**
	comp=Z,37nm,0.6s,baz=51,slow=9.6,SNR=145							
WRA				S		**S**	**04 58 49.4**	**-3.8**
	comp=Z,7.6nm,0.8s,baz=52,slow=17,SNR=13							
WRA				ScP		**ScP**	**05 02 09.9**	**-2.9**
	comp=Z,1.3nm,0.6s,baz=49,slow=2.9,SNR=8.8							
DZM	**Mont Dzumac**	**22.43**	**141**	P		**P**	**04 55 01.1**	**+0.9**
	comp=Z,9.8nm,0.6s,baz=317,slow=8.8,SNR=19							
ASAR	**Alice Springs**	**25.09**	**220**	P		**P**	**04 55 24.4**	**-0.1**
	comp=Z,12nm,0.5s,baz=55,slow=8.6,SNR=174							
ASAR				pP		**pP**	**04 55 59.2**	**+3.4**
	comp=Z,13nm,0.9s,baz=46,slow=14,SNR=6.3							
ASAR				PcP		**PcP**	**04 58 55.1**	**0.0**
	comp=Z,4.8nm,0.8s,baz=58,slow=2.3,SNR=8.5							
ASAR				S		**S**	**04 59 33.7**	**-4.4**
	comp=Z,1.1nm,0.5s,baz=44,slow=15,SNR=5.3							
ASAR				ScP		**ScP**	**05 02 18.1**	**-2.3**
	comp=Z,3.2nm,0.8s,baz=50,slow=2.9,SNR=12							
STKA	**Stephens Creek**	**28.31**	**198**	P		**P**	**04 55 52.7**	**-0.5**
	comp=Z,5.8nm,0.6s,baz=356,slow=9.8,SNR=12							
FITZ	**Fitzroy Crossi**	**28.34**	**240**	P		**P**	**04 55 52.5**	**-1.0**
	comp=Z,13nm,0.6s,baz=57,slow=6.9,SNR=41							
FITZ	**Fitzroy Crossi**	**28.34**	**240**	*e*P		**P**	**04 55 52.6**	**-1.0**
	comp=Z,20nm,0.9s							
CAN	**Canberra**	**30.30**	**184**	*e*P		**P**	**04 56 11.5**	**+0.7**
CAN				pmax		pmax		
	comp=Z,5.0nm,0.7s							
CAN	**Canberra**	**30.30**	**184**	*e*P		**P**	**04 56 11.5**	**+0.7**
	comp=Z,5.2nm,0.7s							
BBOO	**Buckleboo**	**31.18**	**205**	*e*P		**P**	**04 56 18.2**	**-0.4**
	comp=Z,30nm,0.5s							
FORT	**Forrest**	**33.78**	**218**	*e*P		**P**	**04 56 40.4**	**-0.9**
MYLDM	**Lahad Datu**	**34.33**	**287**	*e*P		**P**	**04 56 45.6**	**-0.6**
	comp=Z,26nm,1.1s							
MBWA	**Marble Bar**	**34.66**	**239**	*e*P		**P**	**04 56 48.1**	**-0.9**
	comp=Z,20nm,0.6s							
KKM	**Kota Kinabalu**	**36.75**	**287**	*e*P		**P**	**04 57 06.7**	**-0.3**
	comp=Z,9.0nm,0.7s							
JOW	**Kunigami**	**38.70**	**326**	*e*P		**P**	**04 57 23.8**	**+0.7**
	comp=Z,65nm,0.9s							
URZ	**Urewera**	**40.59**	**148**	P		**P**	**04 57 40.0**	**+1.4**
	comp=Z,4.9nm,0.5s,baz=258,slow=4.6,SNR=3.0							
YULB	**Yu-li**	**40.68**	**315**	*e*P		**P**	**04 57 39.2**	**-0.3**
	comp=Z,22nm,0.7s							
NACB	**Ninganchiao**	**40.98**	**316**	*e*P		**P**	**04 57 41.9**	**0.0**
	comp=Z,53nm,1.1s							
TPUB	**Ta-pu**	**41.09**	**314**	*e*P		**P**	**04 57 42.8**	**-0.2**
	comp=Z,17nm,0.7s							
SSLB	**Suanglung**	**41.17**	**315**	*e*P		**P**	**04 57 43.1**	**-0.5**
	comp=Z,17nm,0.8s							
YHNB	**Yeheng**	**41.45**	**317**	*e*P		**P**	**04 57 46.8**	**+0.9**
	comp=Z,44nm,0.8s							
RPZ	**Rata Peaks**	**42.33**	**159**	P		**P**	**04 57 52.8**	**+0.1**
	comp=Z,21nm,0.8s,baz=273,slow=1.7,SNR=6.4							
JNU	**Nakatsue**	**42.56**	**334**	P		**P**	**04 57 55.2**	**+0.5**
	comp=Z,16nm,0.8s,baz=58,slow=3.0,SNR=7.4							
MJAR	**Matsushiro Arr**	**43.07**	**344**	P		**P**	**04 57 57.3**	**-1.4**
	comp=Z,3.7nm,0.8s,baz=169,slow=10,SNR=5.2							
MAJO	**Matsushiro**	**43.08**	**344**	*e*P		**P**	**04 57 58.0**	**-0.8**
MAJO				pmax		pmax		
	comp=Z,10.0nm,0.8s							
MAJO	**Matsushiro**	**43.08**	**344**	*e*P		**P**	**04 57 58.0**	**-0.8**
	comp=Z,10nm,0.8s							
DLV	**T Lat**	**45.82**	**292**	*e*P		**P**	**04 58 21.6**	**+0.4**
	comp=Z,26nm,0.8s							
KSRS	**Korea Array**	**47.51**	**335**	P		**P**	**04 58 33.9**	**+0.3**
	comp=Z,4.6nm,0.8s,baz=157,slow=8.8,SNR=7.9							
KSRS				PcP		**PcP**	**05 00 01.7**	**+0.3**
	comp=Z,2.6nm,0.7s,baz=158,slow=4.2,SNR=5.2							
KSAR	**Wonju Array Be**	**47.51**	**335**	P		**P**	**04 58 33.9**	**+0.2**
KSAR							05 00 01.7	
KSAR	**Wonju Array Be**	**47.51**	**335**	P		**P**	**04 58 33.9**	**+0.2**
KSAR				PcP		**PcP**	**05 00 01.7**	**+0.3**
NJ2	**Nanjing**	**48.07**	**322**	*e*P		**P**	**04 58 39.4**	**+1.3**
NJ2				pmax		pmax		
	comp=Z,12nm,0.7s							
WHN	**Wuhan**	**49.98**	**317**	P		**P**	**04 58 53.8**	**+1.1**
SKNT	**Sakolnakorn**	**51.63**	**296**	P		**P**	**04 59 06.0**	**+0.8**
	comp=Z,16nm,1.0s,comp=Z,3μm							
KULM	**Kulim**	**51.66**	**281**	*e*P		**P**	**04 59 04.3**	**-1.2**
	comp=Z,11nm,0.8s							
USRK	**Ussuriysk Ar.**	**51.94**	**342**	P		**P**	**04 59 08.0**	**+0.9**
	comp=Z,1.1nm,0.5s,baz=160,slow=4.6,SNR=3.1							
NONG	**Nongkai**	**52.76**	**297**	P		**P**	**04 59 14.1**	**+0.5**
	comp=Z,61nm,0.8s,comp=Z,3μm							
NAYO	**Nakonayok**	**53.19**	**292**	P		**P**	**04 59 18.3**	**+1.6**
	comp=Z,15nm,1.1s							
ENH	**Enshi**	**53.22**	**314**	*e*P		**P**	**04 59 16.9**	**+0.1**

comp=Z,37nm,1.1s
SLVN Son La 53.34 301 *e*P **P** **04 59 16.5 -1.3**
comp=Z,14nm,1.4s
GYA Guiyang 53.35 308 P **P** **04 59 20.0 +2.1**
GYA pP pP 04 59 58.3 +5.8
GYA sP sP 05 00 17.4 +8.3
GYA PP **PP** **05 01 22.9 +3.0**
GYA ScP **ScP** **05 04 05.8 -1.4**
GYA S **S** **05 06 46.0 +7.4**
GYA sS sS 05 07 43.2 +4.7
GYA pmax pmax
comp=Z,10.0nm,1.0s
CN2 Changchun 53.86 337 *e*P **P** **04 59 23.6 +2.5**
NANT Nan 55.19 297 P **P** **04 59 31.8 +0.6**
comp=Z,7.3nm,0.9s,comp=Z,260nm
XAN Xi'an 55.75 317 P **P** **04 59 35.0 0.0**
XAN pmax pmax
comp=Z,19nm,1.3s
XAN pmax pmax
comp=Z,74nm,4.6s
KMI Kunming 55.89 305 ⇑P **P** **04 59 38.0 +1.6**
KMI pmax pmax
comp=Z,13nm,0.8s
KLR Kul'dur 56.60 345⇑*e*P **P** **04 59 40.5 -0.1**
CMAR Chiang Mai Arr 56.65 296 P **P** **04 59 42.6 +1.0**
comp=Z,5.2nm,0.7s,baz=125,slow=5.8,SNR=18
CMMT Chiang Mai 56.76 296 P **P** **04 59 43.9 +1.5**
comp=Z,9.1nm,1.3s
CHTO Chiang Mai 56.77 296 P **P** **04 59 44.0 +1.6**
comp=Z,41nm,1.4s
CHTO Chiang Mai 56.77 296 *e*P **P** **04 59 42.8 +0.4**
CHTO pmax pmax
comp=Z,18nm,1.4s
CHTO Chiang Mai 56.77 296 *e*P **P** **04 59 42.8 +0.4**
comp=Z,18nm,1.4s
CD2 Chengdu 57.76 311 *e*P **P** **04 59 49.8 +0.6**
CD2 pmax pmax
comp=Z,30nm,0.8s
PETK Petropavlovsk- 58.09 4 P **P** **04 59 50.8 -0.2**
comp=Z,5.2nm,0.7s,baz=166,slow=6.6,SNR=7.2
PETK pP **pP** **05 00 30.6 +4.5**
comp=Z,10nm,1.1s,baz=152,slow=6.6,SNR=3.0
HHC Hu-ho-hao-te 58.34 325 *e*P **P** **04 59 55.7 +2.5**
HHC pmax pmax
comp=Z,30nm,1.0s
HHC pmax pmax
comp=Z,56nm,4.8s
LZH Lanzhou 60.35 317 *e*P **P** **05 00 08.4 +1.3**
LZH pP pP 05 00 47.4 +4.9
LZH sP sP 05 01 04.2 +5.3
LZH pmax pmax
comp=Z,39nm,1.3s
LZH pmax pmax
comp=Z,160nm,5.3s
LZH LR LR
comp=N,670nm,13.6s
LZH LR LR
comp=E,760nm,15.6s
LZH LR LR
comp=Z,1μm,18.5s
GTA Gaotai 64.80 318 P **P** **05 00 37.2 +0.6**
GTA pP PcP 05 01 08.9 +0.1
GTA sP sP 05 01 25.1 -3.6
GTA S **S** **05 09 05.8 +0.1**
GTA pmax pmax
comp=Z,7.0nm,1.1s
GTA pmax pmax
comp=Z,33nm,5.5s
GTA LR LR
comp=N,450nm,20.2s
GTA LR LR
comp=E,670nm,19.2s
GTA LR LR
comp=Z,680nm,19.5s
ULN Ulaanbaatar 65.38 329*de*P **P** **05 00 40.1 0.0**
ULN pmax pmax
comp=Z,8.0nm,1.1s
ULN Ulaanbaatar 65.38 329 *e*P **P** **05 00 40.0 -0.1**
comp=Z,20nm,1.4s
SONM Songino Array 65.70 329 P **P** **05 00 42.7 +0.5**
comp=Z,8.0nm,0.5s,baz=146,slow=5.0,SNR=43
LSA Lhasa 67.15 305 *e*P **P** **05 00 52.3 +0.1**
LSA pmax pmax
comp=Z,5.0nm,0.5s
LSA Lhasa 67.15 305 *e*P **P** **05 00 52.3 +0.1**
comp=Z,4.9nm,0.5s
SEY Seymchan 67.70 1⇑*e*P **P** **05 00 52.8 -1.5**
SEY *i* *PP **pP** **05 01 34.1 +3.6**
YAK Yakutsk 68.85 349 *e*P **P** **05 01 00.6 -0.9**
YAK pmax pmax
comp=Z,12nm,0.8s
ZAK Zakamensk 68.88 329 *e*P **P** **05 01 02.2 +0.1**
ZAK *e* 05 01 44.4
ZAK pmax pmax
comp=Z,13nm,0.9s
ZAK pmax pmax
comp=Z,5.0nm,1.2s
BOD Bodaibo 69.43 340 *e*P **P** **05 01 03.0 -2.2**
BOD pmax pmax
comp=Z,7.0nm,1.2s
TLY Talaya 69.50 331 *e*P **P** **05 01 05.7 -0.1**
TLY pmax pmax
comp=Z,6.0nm,0.9s
BILL Bilibino 73.58 6⇓*e*P **P** **05 01 30.4 +0.6**
BILL pmax pmax
comp=Z,7.0nm,0.6s
WMQ Urumqi 74.89 318 sS sS 05 12 08.4 +1.6
WMQ Urumqi 74.89 318 SS SS 05 15 51.8 -3.0
WMQ pmax pmax
comp=Z,5.0nm,1.1s
WMQ pmax pmax
comp=Z,35nm,3.6s
WMQ LR LR
comp=N,530nm,19.3s
WMQ LR LR
comp=E,420nm,19.3s
WMQ LR LR
comp=Z,380nm,25.1s
TIXI Tiksi 77.86 353⇑*e*P **P** **05 01 52.8 -1.3**
TIXI pmax pmax
comp=Z,9.0nm,0.9s
MK31 Makanchi Array 79.50 319 *i* P **P** **05 02 03.0 -0.7**
MK31 pmax pmax
comp=Z,16nm,1.2s
MAKZ Makanchi 79.71 319 *e*P **P** **05 02 04.3 -0.5**
MAKZ Makanchi 79.71 319 *e*P **P** **05 02 04.3 -0.5**
PDGK Podgornoye 80.35 315 P **P** **05 02 07.8 -0.7**
PDGK pmax pmax
comp=Z,11nm,0.8s
ZALV Zalesovo Beam 80.49 327 P **P** **05 02 07.5 -1.3**
comp=Z,10nm,0.7s,baz=113,slow=5.0,SNR=31
ZALV pP **pP** **05 02 49.2 +3.2**
comp=Z,2.3nm,0.6s,baz=137,slow=5.1,SNR=3.1
MCK McKinley 81.56 23 *e*P **P** **05 02 12.6 -1.6**
MCK pmax pmax
comp=Z,5.0nm,0.6s
MCK McKinley 81.56 23 *e*P **P** **05 02 12.6 -1.6**
comp=Z,4.6nm,0.6s
KSH Kashi 81.95 311 *e*P **P** **05 02 18.4 +1.4**
KSH *ep*P pP 05 02 58.7 +4.3
KSH *es*P sP 05 03 16.1 +5.8
KSH S **S** **05 12 15.8 -2.9**
KSH Kashi 81.95 311 SKS **S** **05 12 19.1 +0.4**
KSH Kashi 81.95 311 SS SS 05 17 41.7 +0.7
KSH pmax pmax
comp=Z,10.0nm,1.1s
KSH pmax pmax
comp=Z,37nm,3.1s
KSH LR LR
comp=N,200nm,9.1s
KSH LR LR
comp=E,360nm,12.9s
KSH LR LR
comp=Z,940nm,21.1s
CCB Clear Creek Bu 82.43 22 *e*P **P** **05 02 16.9 -1.8**
COLA College 82.53 22 *e*P **P** **05 02 17.6 -1.6**
COLA pmax pmax
comp=Z,4.0nm,0.6s
COLA College 82.53 22 *e*P **P** **05 02 17.6 -1.6**
comp=Z,4.0nm,0.6s
ILAR Eielson Array 82.84 22 P **P** **05 02 19.0 -1.9**
comp=Z,2.5nm,0.5s,baz=246,slow=5.2,SNR=64
TKM2 Tokmak 2 83.01 314 P **P** **05 02 22.0 -0.5**
TKM2 pmax pmax
comp=Z,8.0nm,0.6s
KURK Kurchatov 83.01 322*de*P **P** **05 02 20.6 -1.4**
KURK pmax pmax
comp=Z,54nm,1.0s
KURK Kurchatov 83.01 322 *e*P **P** **05 02 21.0 -1.0**
comp=Z,122nm,1.0s
DOT Dot Lake 83.44 24 *e*P **P** **05 02 23.6 -0.4**
AAK Ala-Archa 83.73 314*de*P **P** **05 02 25.5 -0.7**
AAK pmax pmax
comp=Z,30nm,0.9s
AAK Ala-Archa 83.73 314 *e*P **P** **05 02 26.4 +0.2**
comp=Z,11nm,0.8s
MAW Mawson 84.88 203 P **P** **05 02 31.2 0.0**
comp=Z,11nm,0.5s,baz=112,slow=5.0,SNR=6.6
MNAS Manas 85.14 313 P **P** **05 02 32.9 -0.3**
MNAS pmax pmax
comp=Z,47nm,1.0s
DAWY Dawson 85.51 24 *e*P **P** **05 02 34.4 -0.1**
comp=Z,2.5nm,0.5s
NRIK Noril'sk 85.65 341 P **P** **05 02 34.1 -0.8**
comp=Z,9.0nm,0.7s,baz=137,slow=6.4,SNR=4.8
KK31 Karatay Array 86.70 314 *i* P **P** **05 02 39.5 -1.2**
KK31 pmax pmax
comp=Z,8.0nm,1.1s
KKAR Karatay Array 86.70 314 *e*P **P** **05 02 39.9 -0.8**
KKAR pmax pmax
comp=Z,7.0nm,0.9s
KKAR Karatay Array 86.70 314 *e*P **P** **05 02 39.9 -0.8**
comp=Z,7.3nm,0.9s
BVA0 Borovoye Array 88.51 323 *i* P **P** **05 02 47.0 -2.1**
BVA0 pmax pmax
comp=Z,7.0nm,0.8s
BRVK Borovoye 88.58 323*de*P **P** **05 02 47.3 -2.0**
BRVK pmax pmax
comp=Z,19nm,1.0s
BRVK Borovoye 88.58 323 *e*P **P** **05 02 47.4 -2.0**
comp=Z,15nm,0.9s
INK Inuvik 89.11 21 *e*P **P** **05 02 50.5 -1.0**
INK Inuvik 89.11 21 *e*P **P** **05 02 50.5 -1.0**
TVH3 East Aurora ar 92.89 52 *e*P **P** **05 03 11.4 +1.3**
SYO Syowa Base 93.05 200⇑*i*P **P** **05 03 08.2 -1.6**
AB31 Akbulak array 94.64 319 *i* P P 05 03 14.5 -3.1
AB31 pmax pmax
comp=Z,3.0nm,1.1s
ABKAR Akbulak array 94.64 319 *e*P **P** **05 03 14.9 -2.6**
comp=Z,2.5nm,0.9s
TPNV Topopah Spring 94.85 53 *e*P **P** **05 03 19.7 +0.6**
TPNV Topopah Spring 94.85 53 *e*P **P** **05 03 19.7 +0.6**
ARU Arti 95.64 326*d* *i*P **P** **05 03 19.1 -2.8**
ARU 05 07 11.2
ARU S **SKSac** **05 13 38.1 -5.7**
ARU pmax pmax
comp=Z,7.0nm,1.2s
ARU Arti 95.64 326 *e*P **P** **05 03 20.2 -1.8**
comp=Z,2.9nm,0.5s
PDAR Pinedale Array 100.01 48 P **Pdif** **05 03 41.5 -0.7**
comp=Z,0.8nm,0.6s,baz=225,slow=2.4,SNR=9.3
KSCO Kaye Shedlock' 105.53 51 *e*PKP **PKiKP** **05 08 18.4 -1.1**
MICGM Minsk 112.97 328 *e* **PKiKP** **05 08 28.0 -4.8**
MICGM *e* 05 09 16.0
MNK Minsk 112.97 328 *e*PKIKP **PKiKP** **05 08 28.0 -4.8**
KIEV Kiev 113.79 324⇑*i*PKIKP **PKiKP** **05 08 35.1 +0.7**
BOSA Boshof 118.38 234 PKP **PKPdf** **05 08 43.5 -0.7**
comp=Z,3.5nm,0.6s,baz=142,slow=1.3,SNR=5.5
MATP Matopo 118.51 244 PKP **PKPdf** **05 08 43.5 -1.1**
comp=Z,7.8nm,1.0s,baz=150,slow=1.7,SNR=12
LBTB Lobatse 119.49 238 PKP **PKPdf** **05 08 45.7 -0.7**
comp=Z,5.0nm,0.7s,baz=170,slow=1.8,SNR=5.3
NIE Niedzica 119.50 326 *e*P **Pdif** **05 05 16.3 +7.8**
LSZ Lusaka 120.25 249 PKP **PKPdf** **05 08 47.7 -0.3**
comp=Z,2.9nm,0.5s,baz=106,slow=2.5,SNR=8.2
LSZ Lusaka 120.25 249 *e*PKIKP **PKPdf** **05 08 47.2 -0.9**
LSZ Lusaka 120.25 249 *e*PKPdf **PKPdf** **05 08 47.2 -0.9**
CLL Collm 122.28 330 *e*PKPdf **PKPdf** **05 08 49.0 -1.8**
GERES GERESS Array B 123.43 328 PKP **PKPdf** **05 08 52.3 -0.9**
comp=Z,4.2nm,0.7s,baz=74,slow=1.6,SNR=8.2
EKA Eskdalemuir Ar 125.75 342 PKP **PKPdf** **05 08 56.8 -0.5**
comp=Z,1.8nm,0.4s,baz=14,slow=2.8,SNR=16
STU Stuttgart 125.80 330 *e*PKIKP **PKPdf** **05 08 56.0 -1.6**
STU Stuttgart 125.80 330 *e*PKPdf **PKPdf** **05 08 56.0 -1.6**
AQU L'Aquila 127.30 321 *e*PKIKP **PKPdf** **05 09 01.2 +0.4**
AQU L'Aquila 127.30 321 *e*PKPdf **PKPdf** **05 09 01.2 +0.4**
LCO Las Campanas 127.34 132 *e*PKPdf **PKPdf** **05 09 01.3 -0.3**
TSUM Tsumeb 128.57 241 PKP **PKPdf** **05 09 03.8 -0.1**
comp=Z,2.0nm,0.7s,baz=100,slow=6.1,SNR=4.8
NNA Nana 129.20 110 *i* PKIKP **PKPdf** **05 09 01.4 -3.7**
BNI Bardonecchia 129.55 328 *e*PKIKP **PKPdf** **05 09 04.9 -0.2**
BNI Bardonecchia 129.55 328 *e*PKPdf **PKPdf** **05 09 04.8 -0.2**
KEST Kesra 133.53 316 PKP **PKPdf** **05 09 12.9 +0.1**
comp=Z,7.2nm,1.0s,baz=355,slow=1.1,SNR=3.9
ESDC Soneca Array 138.87 331 PP PP 05 12 15.1 -0.1
comp=Z,1.0nm,0.8s,baz=25,slow=5.8,SNR=5.4
SAML Samuel 142.89 112 *e*PKPdf **PKPdf** **05 09 29.9 -0.6**
TORD Torodi Ar. Bea 148.99 287 PKPbc **PKPdf** **05 09 43.6 +2.8**
comp=Z,22nm,0.7s,baz=121,slow=2.9,SNR=80

IDC 03 04:52:10.0±2.1, 29.80S×176.22W, h0km, mb4.0/2, mb1 4.3/2, mb1mx3.9/30, mbtmp4.0/2, MS4.4/1, Ms1 4.4/1, ms1mx3.2/40, Error ellipse: s-maj=89.2km s-min=33.9km az=14.0, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**1.58**	**290**	Pn	Pg	04 52 40.7	+0.5
	82nm,0.3s,baz=70,slow=19,SNR=6.9						
RAO				Sn	Sn	04 53 00.1	-0.2
	201nm,0.3s,baz=116,slow=22,SNR=8.3						
RAO				LR	LR	04 53 23.5	
	comp=Z,143nm,20.0s,baz=276,slow=46						
RPZ	**Rata Peaks**	**17.20**	**213**	LR	LR	05 04 47.0	
	comp=Z,1μm,18.4s,baz=68,slow=44						
ASAR	**Alice Springs**	**44.69**	**266**	P	P	05 00 24.2	-0.8
	1.1nm,0.6s,baz=97,slow=6.9,SNR=5.9						
WRA	**Warramunga Arr**	**45.62**	**271**	P	P	05 00 31.9	-0.5
	1.9nm,0.6s,baz=109,slow=7.7,SNR=4.8						
AKASG	**Malin Array Be**	**151.73**	**325**	PKPbc	PKPbc	05 12 06.2	0.0
	1.1nm,0.6s,baz=34,slow=2.0,SNR=3.6						

NEIC 03 05:09:34.4±0.0, 51.79N×171.53W, h41km, ML3.8(AEIC), After AEIC., Fox Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KOSE	**Korovin Southe**	**1.65**	**291**	P	Pn	05 10 02.3	+1.3
KOSE				S	Sn	05 10 23.1	+2.1
KOFP	**Korovin Flat P**	**1.66**	**288**	P	Pn	05 10 01.9	+0.9
ATKA	**Atka Island**	**1.70**	**285**	P	Pn	05 10 01.5	0.0
ATKA				S	Sn	05 10 21.2	-0.8
KONE	**Korovin Northe**	**1.71**	**292**	P	Pn	05 10 02.9	+1.2
KONE				S	Sn	05 10 23.8	+1.5
KOKL	**Mount Kliuchef**	**1.73**	**289**	P	Pn	05 10 03.1	+1.0
NIKH	**Nikolski High**	**2.03**	**53**	P	Pn	05 10 05.4	-0.6
NIKH				S	Sn	05 10 28.4	-1.8
OKSP	**Okmok Steeple**	**2.46**	**52**	P	Pn	05 10 12.9	+0.8
OKSP				S	Sn	05 10 41.1	+0.2
OKSO	**Okmok South**	**2.59**	**51**	P	Pn	05 10 14.4	+0.6
OKSO				S	Sn	05 10 46.0	+2.0
OKCE	**Okmok Cone E**	**2.63**	**50**	P	Pn	05 10 15.4	+1.0
OKTU	**Okmok Mt. Tuli**	**2.66**	**52**	P	Pn	05 10 16.3	+1.5
OKFG	**Magazine Ridge**	**2.74**	**52**	P	Pn	05 10 16.8	+0.9
OKFG				S	Sn	05 10 48.5	+0.7
GSMY	**Great Sitkin M**	**2.81**	**277**	P	Pn	05 10 17.6	+0.7
GSTD	**Great Sitkin T**	**2.87**	**277**	P	Pn	05 10 18.9	+1.2
GSCK	**Great Sitkin C**	**2.88**	**276**	P	Pn	05 10 18.8	+1.1
ETKA	**Kagalaska Isla**	**3.03**	**273**	P	Pn	05 10 20.1	+0.4
ADAG	**Mount Adagdak**	**3.15**	**276**	P	Pn	05 10 23.2	+1.7
MSW	**Makushin Switc**	**3.58**	**52**	P	Pn	05 10 28.2	+0.8
UNV	**Unalaska Valle**	**3.68**	**54**	P	Pn	05 10 29.6	+0.8
UNV				S	Sn	05 11 12.3	+1.5
TAFP	**Tanaga Falls P**	**4.00**	**274**	P	Pn	05 10 34.8	+1.6
WESP	**Westdahl Peak**	**4.92**	**54**	P	Pn	05 10 47.1	+1.3
SPIA	**Saint Paul Isl**	**5.46**	**7**	P	Pn	05 10 53.0	0.0

IDC 03 05:12:10.6±6.7, 28.40N×139.96E, h520km±90km, mb3.2/5, mb1 3.3/5, mb1mx2.9/63, mbtmp4.0/5, Error ellipse: s-maj=159.0km s-min=16.8km az=85.0, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KLR	**Kul'dur**	**21.73**	**345**	P	P	05 16 23.7	+0.1
	2.0nm,0.6s,baz=170,slow=6.1,SNR=4.4						
FITZ	**Fitzroy Crossi**	**48.26**	**198**	P	P	05 20 03.8	-0.4
	5.8nm,1.2s,baz=18,slow=12,SNR=2.3						
WRA	**Warramunga Arr**	**48.37**	**187**	P	P	05 20 04.9	-0.1
	0.9nm,0.3s,baz=6.5,slow=7.9,SNR=12						
ASAR	**Alice Springs**	**52.09**	**187**	P	P	05 20 32.4	+0.1
	0.9nm,0.5s,baz=10,slow=7.6,SNR=8.5						
FINES	**FINESS Array B**	**75.90**	**333**	P	P	05 23 03.2	-0.1
	1.3nm,0.9s,baz=72,slow=4.5,SNR=4.2						

*IDC **03** 05:13:51.2±1.1, 51.95N×171.64W, h0km, mb4.0/8, mb1 4.2/9, mb1mx3.8/63, mbtmp3.9/9, ML4.0/1, Error ellipse: s-maj=39.4km s-min=21.9km az=167.0*
*ISCJB **03** 05:13:56.9±0.8, 51.9N±0.1×171.44W±0.06, h58km±7km, mb3.9/8, Error ellipse: s-maj=18.6km s-min=3.2km az=164.5*
*NEIC **03** 05:13:56.5±0.0, 51.77N×171.40W, h42km, mb4.0/1, ML4.0(AEIC), After AEIC.*

ISC 03 05:13:57.9±1.7, 51.9N±0.2×171.44W±0.05, h49km±15km, n50, σ0.98/54, mb3.9/8, Fox Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KOSE	**Korovin Southe**	**1.68**	**287**	P	**Pn**	**05 14 25.4**	**+0.5**
KOSE				S	**Sn**	**05 14 47.5**	**+2.2**
KOFP	**Korovin Flat P**	**1.69**	**285**	P	**Pn**	**05 14 25.1**	**+0.1**
KONE	**Korovin Northe**	**1.73**	**288**	P	**Pn**	**05 14 26.0**	**+0.4**
ATKA	**Atka Island**	**1.74**	**282**	P	**Pn**	**05 14 24.5**	**-1.1**
ATKA				S	**Sn**	**05 14 45.1**	**-1.5**
KOKL	**Mount Kliuchef**	**1.76**	**286**	P	**Pn**	**05 14 26.1**	**+0.1**
KOKL				S	**Sn**	**05 14 49.1**	**+1.8**
NIKH	**Nikolski High**	**1.93**	**54**	P	**Pn**	**05 14 26.7**	**-1.5**
NIKH				S	**Sn**	**05 14 49.6**	**-1.6**
OKSP	**Okmok Steeple**	**2.36**	**53**	P	**Pn**	**05 14 34.1**	**-0.1**
OKSP				S	**Sn**	**05 15 02.2**	**+0.2**
OKSO	**Okmok South**	**2.49**	**52**	P	**Pn**	**05 14 36.3**	**+0.4**
OKSO				S	**Sn**	**05 15 05.9**	**+0.9**
OKCE	**Okmok Cone E**	**2.53**	**51**	P	**Pn**	**05 14 36.9**	**+0.4**
OKTU	**Okmok Mt. Tuli**	**2.56**	**53**	P	**Pn**	**05 14 37.7**	**+0.7**
OKFG	**Magazine Ridge**	**2.64**	**53**	P	**Pn**	**05 14 38.0**	**0.0**
OKFG				S	**Sn**	**05 15 08.3**	**-0.5**
GSMY	**Great Sitkin M**	**2.86**	**275**	P	**Pn**	**05 14 40.8**	**-0.2**
GSTD	**Great Sitkin T**	**2.92**	**275**	P	**Pn**	**05 14 41.8**	**-0.1**
GSTD				S	**Sn**	**05 15 15.4**	**-0.3**
GSCK	**Great Sitkin C**	**2.93**	**275**	P	**Pn**	**05 14 41.7**	**-0.3**
ETKA	**Kagalaska Isla**	**3.08**	**272**	P	**Pn**	**05 14 43.5**	**-0.6**
ADAG	**Mount Adagdak**	**3.20**	**274**	P	**Pn**	**05 14 46.3**	**+0.7**
MGOD	**Makushin Gods**	**3.37**	**53**	P	**Pn**	**05 14 47.9**	**-0.1**
MCIR	**Makushin Cirqu**	**3.45**	**51**	P	**Pn**	**05 14 50.2**	**+1.1**
MSW	**Makushin Switc**	**3.48**	**52**	P	**Pn**	**05 14 49.4**	**-0.1**
KIRH	**Kanaga Island**	**3.51**	**273**	P	**Pn**	**05 14 49.8**	**-0.1**
KIKV	**Kanaga Island**	**3.56**	**272**	P	**Pn**	**05 14 51.0**	**+0.4**
MTBL	**Makushin Table**	**3.56**	**52**	P	**Pn**	**05 14 50.9**	**+0.1**
UNV	**Unalaska Valle**	**3.58**	**55**	P	**Pn**	**05 14 51.0**	**+0.1**
UNV				S	**Sn**	**05 15 32.1**	**+0.2**
AKRB	**Akutan Reef Bi**	**3.95**	**53**	P	**Pn**	**05 14 56.8**	**+0.8**
TAPA	**Tanaga Point A**	**3.96**	**272**	P	**Pn**	**05 14 56.2**	**+0.1**
AKMO	**Akutan Morgan**	**3.96**	**54**	P	**Pn**	**05 14 56.2**	**+0.1**
AKMO				S	**Sn**	**05 15 44.7**	**+3.5**
AKGG	**Akutan Green G**	**4.03**	**53**	P	**Pn**	**05 14 57.2**	**+0.2**
TAFP	**Tanaga Falls P**	**4.06**	**273**	P	**Pn**	**05 14 57.3**	**-0.1**
AKUT	**Akutan**	**4.10**	**54**	P	**Pn**	**05 14 58.4**	**+0.4**
WESP	**Westdahl Peak**	**4.81**	**54**	P	**Pn**	**05 15 08.2**	**+0.3**
SPIA	**Saint Paul Isl**	**5.36**	**7**	P	**Pn**	**05 15 15.3**	**+0.1**
DT1	**Dutton Round H**	**6.35**	**56**	P	**Pn**	**05 15 28.4**	**-0.4**
SDPT	**Sand Point**	**7.39**	**58**	P	**Pn**	**05 15 42.3**	**-0.7**
ILAR	**Eielson Array**	**18.08**	**35**	P	**P**	**05 18 03.0**	**-2.2**
	0.2nm,0.3s,baz=225,slow=9.5,SNR=9.0						
EGAK	**Eagle**	**20.22**	**39**	*e*P	**P**	**05 18 27.7**	**-0.7**
	7.6nm,1.0s						
DLBC	**Dease Lake**	**24.23**	**58**	P	**P**	**05 19 11.6**	**+1.7**
	2.7nm,0.5s,baz=241,slow=8.8,SNR=7.5						
YKA	**Yellowknife Ar**	**31.52**	**48**	P	**P**	**05 20 14.2**	**-0.6**
	0.5nm,0.4s,baz=275,slow=9.2,SNR=5.3						
NEW	**Newport**	**34.37**	**74**	P	**P**	**05 20 41.2**	**+1.3**
	1.3nm,0.4s,baz=314,slow=6.3,SNR=4.1						
H11N2	**WAKE ISLAND Hy**	**36.29**	**216**	T	T	05 59 26.0	
	baz=22,slow=76,SNR=22						
H11N3	**WAKE ISLAND Hy**	**36.30**	**216**	T	T	05 59 25.5	
	baz=22,slow=76,SNR=30						
H11N1	**WAKE ISLAND Hy**	**36.31**	**216**	T	T	05 59 26.8	
	baz=22,slow=76,SNR=14						
H11S1	**WAKE ISLAND Hy**	**37.48**	**216**	T	T	06 00 56.9	
	baz=22,slow=76,SNR=12						
H11S2	**WAKE ISLAND Hy**	**37.50**	**215**	T	T	06 00 56.8	
	baz=22,slow=76,SNR=16						
H11S3	**WAKE ISLAND Hy**	**37.50**	**216**	T	T	06 01 02.8	
	baz=22,slow=76,SNR=14						
PDAR	**Pinedale Array**	**41.75**	**77**	P	**P**	**05 21 43.0**	**+0.7**
	0.8nm,0.6s,baz=279,slow=2.2,SNR=9.3						
ULM	**Lac du Bonnet**	**45.51**	**61**	P	**P**	**05 22 11.0**	**-1.1**
	5.9nm,1.0s,baz=301,slow=12,SNR=2.9						
TXAR	**Lajitas Array**	**54.04**	**87**	P	**P**	**05 23 17.9**	**+0.6**
	0.5nm,0.5s,baz=299,slow=5.6,SNR=8.6						
KURK	**Kurchatov**	**61.88**	**317**	P	**P**	**05 24 12.0**	**+0.2**
KURBB	**Kurchatov Arra**	**61.99**	**317**	P	**P**	**05 24 12.0**	**-0.5**
	0.4nm,0.5s,baz=47,slow=6.4,SNR=3.1						
ASAR	**Alice Springs**	**89.11**	**228**	P	**P**	**05 26 47.9**	**+0.1**
	0.9nm,0.5s,baz=31,slow=4.7,SNR=15						

*IDC **03** 05:14:26.5±10.0, 27.41N×140.37E, h475km±107km, mb3.5/8, mb1 3.5/9, mb1mx3.1/61, mbtmp4.4/9, Error ellipse: s-maj=116.1km s-min=12.5km az=74.0*
*ISCJB **03** 05:14:27.7±1.2, 27.3N±0.1×140.1E±0.3, h500km, mb3.8/8, Error ellipse: s-maj=35.4km s-min=15.7km az=166.7*

ISC 03 05:14:29.0±1.5, 27.4N±0.2×140.1E±0.3, h500km, n9, σ0.30/9, mb3.8/8, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JOW	**Kunigami**	**10.55**	**270**	P	**P**	**05 16 52.1**	**-0.1**
	5.2nm,0.3s,baz=90,slow=9.1,SNR=6.4						
FITZ	**Fitzroy Crossi**	**47.31**	**199**	P	**P**	**05 22 16.8**	**-0.1**
	2.1nm,1.0s,baz=37,slow=10,SNR=4.4						
WRA	**Warramunga Arr**	**47.34**	**187**	P	**P**	**05 22 17.3**	**+0.1**
	1.2nm,0.3s,baz=6.6,slow=7.7,SNR=17						
ZALV	**Zalesovo Beam**	**48.08**	**319**	P	**P**	**05 22 22.1**	**-0.2**
	1.3nm,0.3s,baz=108,slow=7.2,SNR=3.2						
ASAR	**Alice Springs**	**51.07**	**187**	P	**P**	**05 22 44.7**	**0.0**
	0.5nm,0.3s,baz=359,slow=4.5,SNR=6.6						
KURBB	**Kurchatov Arra**	**51.54**	**314**	P	**P**	**05 22 47.9**	**+0.1**
	4.9nm,0.4s,baz=91,slow=7.5,SNR=29						
BVAR	**Borovoye Array**	**56.60**	**317**	P	**P**	**05 23 24.1**	**+0.6**
	6.5nm,0.4s,baz=99,slow=6.8,SNR=24						
FINES	**FINESS Array B**	**76.89**	**333**	P	**P**	**05 25 28.9**	**+0.1**
	2.6nm,0.4s,baz=63,slow=5.2,SNR=29						
NOA	**NORSAR Array B**	**82.68**	**338**	P	**P**	**05 25 59.0**	**-0.3**
	0.9nm,0.6s,baz=45,slow=4.9,SNR=3.0						

*ISCJB **03** 05:33:57.6±1.1, 43.29N±0.08×146.19E±0.07, h80km±9km, Error ellipse: s-maj=14.5km s-min=6.1km az=150.7*
*JMA **03** 05:33:58.1±0.1, 43.27N×146.16E, h82km±1km, M3.5*
*SKHL **03** 05:33:58.3±0.2, 43.14N×146.27E, h58km±2km, mb4.4/3*

ISC 03 05:33:58.0±1.9, 43.27N±0.09×146.20E±0.07, h79km±12km, n13, σ0.42/22, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NEM2	**Nemuro 2**	**0.35**	**286**	P	**Pn**	**05 34 10.9**	**+0.4**
NEM2				*e*S	**Sn**	**05 34 20.2**	**+0.5**
SHO	**Shikotan**	**0.75**	**37**	*e*P	**Pn**	**05 34 14.0**	**-0.2**
SHO				AMB	AMB	05 34 14.4	
	120nm,0.2s						
SHO				*e*S	**Sn**	**05 34 26.0**	**-0.2**
SHO				A	A	05 34 26.4	
	1μm,0.3s						
YUK	**Yuzh-Kuril'sk**	**0.81**	**342**	*i* P	**Pn**	**05 34 14.5**	**-0.2**
YUK				AMB	AMB	05 34 14.7	
	180nm,0.2s						
YUK				*e*S	**Sn**	**05 34 26.5**	**-0.6**
YUK				A	A	05 34 26.8	
	740nm,0.3s						
YUK				A	A	05 34 26.8	
	710nm,0.3s						
JRA	**Rausu**	**1.03**	**311**	P	**Pn**	**05 34 17.5**	**+0.2**
JRA				*e*S	**Sn**	**05 34 32.2**	**+0.4**
JNK	**Nakash**	**1.13**	**287**	P	**Pn**	**05 34 18.2**	**-0.3**
JNK				*e*S	**Sn**	**05 34 32.9**	**-1.0**
JAK	**Akkeshi**	**1.14**	**257**	P	**Pn**	**05 34 18.6**	**0.0**
JAK				*e*S	**Sn**	**05 34 33.8**	**-0.3**
JOB	**Onbets**	**1.77**	**259**	P	**Pn**	**05 34 27.0**	**+0.2**
JAR	**Ashorobuto**	**1.78**	**272**	P	**Pn**	**05 34 27.0

JTKR	**Abashiri--Toko**	**1.81**	**294**	P		**Pn**	**05 34 27.6**	**+0.3**
JTKR				*e*S		**Sn**	**05 34 49.7**	**+0.2**
JCH	**Churui**	**2.19**	**254**	P		**Pn**	**05 34 32.0**	**-0.3**
JMP	**Maruseppu**	**2.19**	**291**	P		**Pn**	**05 34 32.7**	**+0.3**
HRK	**Horoka**	**2.25**	**276**	*e*P		**Pn**	**05 34 33.8**	**+0.5**
KUR	**Kuril'sk**	**2.30**	**31**	*e*P		**Pn**	**05 34 34.2**	**+0.4**
KUR					AMB	AMB	05 34 34.9	
	70nm,0.4s							
KUR				*i* S		**Sn**	**05 35 01.1**	**-0.1**
KUR				A		A	05 35 02.6	
	120nm,0.3s							

JMA 03 05:38:04.7, 35°.82N×136°.37E, h10km, M2.5, Western Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JFM	**Mihama**	**0.43**	**227**	P	Pg	05 38 13.2	+0.1
JFM				S	Sg	05 38 18.9	+0.1
JKG	**Kaga**	**0.46**	**356**	P	Pg	05 38 13.7	+0.1
JKG				S	Sg	05 38 19.9	+0.2
MAT	**Matsushiro**	**1.65**	**64**	P	Pb	05 38 35.6	+0.4
MAT				S	Sg	05 38 58.2	+0.4

*MOS **03** 05:41:10.5±1.2, 47°.99N×156°.34E, h14km, mb4.1/4, Error ellipse: s-maj=64.9km s-min=7.4km az=73.9*
*SKHL **03** 05:41:14.3±5.1, 47°.91N×155°.97E, h16km±3km, mb4.3/1*
*KRSC **03** 05:41:16.4±1.5, 48°.16N×156°.45E, h17km±26km, ML4.1*
*IDC **03** 05:41:17.7±5.1, 48°.13N×154°.56E, h53km±45km, mb3.6/5, mb1 3.9/6, mb1mx3.5/45, mbtmp3.9/6, ML2.8/1, MS3.9/1, Ms1 3.9/1, ms1mx3.5/41, Error ellipse: s-maj=45.1km s-min=27.0km az=127.0*

ISC 03 05:41:18.4±2.2, 48°.1N±0°.1×155°.7E±0°.2, h27km, n30, σ0s80/32, mb3.9/5, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**2.62**	**6**	PN	**Pn**	**05 41 58.0**	**-0.9**
SKR				S	**Sn**	**05 42 29.3**	**-0.4**
SKR	**Severo-Kuril's**	**2.62**	**6**	*e*P	**Pn**	**05 41 57.8**	**-1.1**
SKR				AMB	AMB	05 41 59.7	
	100nm,0.8s						
SKR				*e*S	**Sn**	**05 42 30.4**	**+0.7**
SKR				A	A	05 42 33.5	
	150nm,0.4s						
SKR				A	A	05 42 34.4	
	110nm,0.2s						
SKR	**Severo-Kuril's**	**2.62**	**6**	*e*P	**Pn**	**05 41 58.0**	**-0.9**
SKR				*e*S	**Sn**	**05 42 29.3**	**-0.4**
ASAK	**Asacha**	**4.53**	**17**	PN	**Pn**	**05 42 25.9**	**+0.6**
ASAK	**Asacha**	**4.53**	**17**	*e*P	**Pn**	**05 42 25.9**	**+0.6**
RUS	**Russkaya**	**4.71**	**22**	PN	**Pn**	**05 42 27.1**	**-0.6**
RUS	**Russkaya**	**4.71**	**22**	*e*P	**Pn**	**05 42 27.1**	**-0.6**
RUS	**Russkaya**	**4.71**	**22**	*e*P	**Pn**	**05 42 27.1**	**-0.6**
RUS				*e*S	**Sn**	**05 43 20.9**	**-0.5**
PETK	**Petropavlovsk-**	**5.19**	**14**	P	**Pn**	**05 42 35.2**	**+0.9**
	1.5nm,0.3s,baz=180,slow=13,SNR=24						
PETK				LR	LR	05 44 44.0	
	comp=Z,1μm,18.7s,baz=340,slow=38						
UGLR	**Uglovaya**	**5.50**	**20**	PN	**Pn**	**05 42 39.8**	**+1.2**
UGLR	**Uglovaya**	**5.50**	**20**	*e*P	**Pn**	**05 42 39.8**	**+1.2**
AVH	**Avacha**	**5.54**	**19**	PN	**Pn**	**05 42 40.3**	**+1.2**
AVH	**Avacha**	**5.54**	**19**	*e*P	**Pn**	**05 42 40.3**	**+1.2**
KRER	**Koryakskii**	**5.57**	**19**	PN	**Pn**	**05 42 40.8**	**+1.1**
KRER	**Koryakskii**	**5.57**	**19**	*e*P	**Pn**	**05 42 40.8**	**+1.1**
SDLR	**Sedlovina**	**5.58**	**20**	PN	**Pn**	**05 42 39.3**	**-0.4**
SDLR	**Sedlovina**	**5.58**	**20**	*e*P	**Pn**	**05 42 39.3**	**-0.4**
SPN	**Mys Shipunski**	**5.72**	**27**	PN	**Pn**	**05 42 42.0**	**+0.4**
SPN	**Mys Shipunski**	**5.72**	**27**	*e*P	**Pn**	**05 42 42.0**	**+0.4**
SPN	**Mys Shipunski**	**5.72**	**27**	*e*P	**Pn**	**05 42 42.0**	**+0.4**
GNL	**Ganaly**	**5.79**	**13**	PN	**Pn**	**05 42 43.9**	**+1.3**
GNL	**Ganaly**	**5.79**	**13**	*e*P	**Pn**	**05 42 43.9**	**+1.3**
MKZ	**Mys Kozlova**	**7.50**	**28**	PN	**Pn**	**05 43 05.8**	**-0.1**
MKZ	**Mys Kozlova**	**7.50**	**28**	*e*P	**Pn**	**05 43 05.8**	**-0.1**
MKZ	**Mys Kozlova**	**7.50**	**28**	*e*P	**Pn**	**05 43 05.8**	**-0.1**
ILAR	**Eielson Array**	**34.41**	**40**	P	**P**	**05 48 03.0**	**0.0**
	0.7nm,0.9s,baz=253,slow=6.8,SNR=5.6						
PDAR	**Pinedale Array**	**62.55**	**56**	P	**P**	**05 51 40.1**	**+0.2**
	0.6nm,0.7s,baz=276,slow=1.3,SNR=5.3						
FINES	**FINESS Array B**	**63.56**	**336**	P	P	05 51 39.8	-6.3
	4.4nm,1.2s,baz=46,slow=9.9,SNR=4.5						
WRA	**Warramunga Arr**	**70.37**	**201**	P	P	05 52 24.4	-5.3
	0.8nm,0.8s,baz=15,slow=6.4,SNR=3.7						
TXAR	**Lajitas Array**	**75.31**	**63**	P	**P**	**05 52 59.0**	**-0.3**
	0.9nm,0.7s,baz=301,slow=4.8,SNR=13						

JMA 03 05:44:24.5±0.3, 37°.07N×138°.13E, h27km±2km, M1.5, Near west coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JJN	**Nakama**	**0.04**	**39**	P	Pb	05 44 29.0	-0.1
JJN				S	Sb	05 44 32.4	+0.1
MAT	**Matsushiro**	**0.53**	**173**	P	Pb	05 44 34.5	-0.8
MAT				S	Sb	05 44 41.3	-1.3
MAT	**Matsushiro**	**0.53**	**173**	P	Pb	05 44 34.6	-0.7
MAT				S	Sb	05 44 41.5	-1.1

*GUC **03** 05:46:28.9±0.5, 31°.76S×69°.89W, h148km±9km, ML2.6*
*SJA **03** 05:46:28.6±0.5, 31°.70S×69°.63W, h115km±3km, MD2.6*
*ISCJB **03** 05:46:29.1±0.9, 31°.73S±0°.05×69°.55W±0°.06, h124km±9km, Error ellipse: s-maj=10.1km s-min=5.7km az=39.2*

ISC 03 05:46:29.9±1.7, 31°.73S±0°.05×69°.57W±0°.06, h117km±14km, n12, σ0s62/23, 1C, San Juan Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RTLS	**Leoncito**	**0.24**	**107**	*e*P	**Pn**	**05 46 46.5**	**-0.2**
RTLS				*e*S	**Sn**	**05 46 59.4**	**+0.1**
RTCV	**Cerro Valdivia**	**0.89**	**99**	*e*P	**Pn**	**05 46 50.6**	**0.0**
RTCV				*e*S	**Sn**	**05 47 06.2**	**-0.1**
ASAL	**Salagasta**	**1.06**	**144**	*e*P	**Pn**	**05 46 52.4**	**0.0**
AMOG	**MOGNA**	**1.21**	**50**	*e*P	**Pn**	**05 46 53.7**	**-0.3**
AAGR	**Agrelo**	**1.49**	**155**	*e*P	**Pn**	**05 46 57.5**	**+0.3**
PEL	**Peldehue**	**1.70**	**213**	*e*P	**Pn**	**05 46 59.1**	**-0.5**
PEL				*e*S	**Sn**	**05 47 21.8**	**-0.4**
FCH	**Farellones**	**1.71**	**201**	*e*P	**Pn**	**05 47 00.5**	**+0.6**
FCH				*e*S	**Sn**	**05 47 24.5**	**+1.6**
ROCH	**El Roble**	**1.74**	**224**	*e*P	**Pn**	**05 46 59.4**	**-0.8**
ROCH				*i* S	**Sn**	**05 47 23.3**	**0.0**
ROCH				IAML		05 47 25.0	
	comp=N,78nm,0.3s						
ROC1	**El Roble**	**1.75**	**224**	*e*P	**Pn**	**05 46 59.5**	**-0.8**
ROC1				*e*P	**Pn**	**05 46 59.7**	**-0.6**
ROC1				*e*S	**Sn**	**05 47 22.9**	**-0.6**
ROC1				*e*S	**Sn**	**05 47 23.1**	**-0.4**
CLCH	**Cerro Calan**	**1.85**	**206**	*e*P	**Pn**	**05 47 01.5**	**0.0**
CLCH				*i* S	**Sn**	**05 47 26.1**	**+0.5**
CLCH				IAML		05 47 33.0	
	comp=E,61nm,2.2s						
TLL	**Tololo Astrono**	**1.88**	**325**	↑*i*P	**Pn**	**05 47 02.3**	**+0.3**
TLL				*i* S	**Sn**	**05 47 27.5**	**+1.0**
TLL				IAML		05 47 28.7	
	comp=E,55nm,0.6s						
TLL				IAML		05 47 31.9	
	comp=N,53nm,0.8s						
ACLC	**CERRO LA CRUZ**	**3.22**	**45**	*e*P	**Pn**	**05 47 19.1**	**0.0**
ACLC				*e*S	**Sn**	**05 47 56.5**	**-0.6**

*IDC **03** 06:16:23.2±1.2, 52°.04N×171°.72W, h0km, mb3.9/9, mb1 4.0/10, mb1mx3.7/53, mbtmp3.8/10, ML3.6/1, Error ellipse: s-maj=36.4km s-min=20.5km az=1.0*
*ISCJB **03** 06:16:29.2±0.9, 52°.0N±0°.1×171°.50W±0°.06, h61km±6km, mb3.8/9, Error ellipse: s-maj=20.8km s-min=3.9km az=166.9*
*NEIC **03** 06:16:29.7±0.0, 52°.00N×171°.52W, h42km, ML3.8(AEIC), After AEIC.*

ISC 03 06:16:30.2±1.6, 51°.9N±0°.2×171°.50W±0°.05, h52km±14km, n34, σ1s02/42, mb4.0/9, Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KOSE	**Korovin Southe**	**1.62**	**285**	P	**Pn**	**06 16 56.8**	**+0.4**
KOSE				S	**Sn**	**06 17 16.8**	**+0.5**
KOFP	**Korovin Flat P**	**1.64**	**283**	P	**Pn**	**06 16 56.5**	**-0.1**
ATKA	**Atka Island**	**1.69**	**280**	P	**Pn**	**06 16 55.6**	**-1.5**
ATKA				S	**Sn**	**06 17 15.9**	**-1.8**
KOKL	**Mount Kliuchef**	**1.71**	**284**	P	**Pn**	**06 16 57.5**	**-0.1**
KOKL				S	**Sn**	**06 17 20.9**	**+2.6**
NIKH	**Nikolski High**	**1.92**	**56**	P	**Pn**	**06 16 58.9**	**-1.5**
NIKH				S	**Sn**	**06 17 22.5**	**-0.9**
OKSO	**Okmok South**	**2.48**	**54**	P	**Pn**	**06 17 07.8**	**-0.3**
OKSO				S	**Sn**	**06 17 37.8**	**+0.7**
OKAK	**Okmok**	**2.52**	**48**	P	**Pn**	**06 17 07.8**	**-0.7**
OKCE	**Okmok Cone E**	**2.52**	**52**	P	**Pn**	**06 17 09.0**	**+0.4**
OKTU	**Okmok Mt. Tuli**	**2.55**	**54**	P	**Pn**	**06 17 09.7**	**+0.6**
OKFG	**Magazine Ridge**	**2.63**	**55**	P	**Pn**	**06 17 10.3**	**+0.1**
OKFG				S	**Sn**	**06 17 41.1**	**+0.3**
GSTD	**Great Sitkin T**	**2.88**	**274**	P	**Pn**	**06 17 13.1**	**-0.5**
GSTD				S	**Sn**	**06 17 47.5**	**+0.6**
ADAG	**Mount Adagdak**	**3.16**	**273**	P	**Pn**	**06 17 17.6**	**+0.3**
MGOD	**Makushin Gods**	**3.36**	**55**	P	**Pn**	**06 17 19.8**	**-0.3**
MSW	**Makushin Switc**	**3.47**	**53**	P	**Pn**	**06 17 21.7**	**+0.1**
MTBL	**Makushin Table**	**3.55**	**53**	P	**Pn**	**06 17 23.0**	**+0.2**
UNV	**Unalaska Valle**	**3.58**	**56**	P	**Pn**	**06 17 22.9**	**-0.1**
UNV				S	**Sn**	**06 18 05.0**	**+0.9**
AKMO	**Akutan Morgan**	**3.95**	**55**	P	**Pn**	**06 17 28.4**	**+0.1**
AKUT	**Akutan**	**4.10**	**55**	*e*Pn	**Pn**	**06 17 31.3**	**+1.1**
WESP	**Westdahl Peak**	**4.81**	**55**	P	**Pn**	**06 17 39.3**	**-0.7**
SPIA	**Saint Paul Isl**	**5.30**	**7**	P	**Pn**	**06 17 47.2**	**+0.5**
DT1	**Dutton Round H**	**6.34**	**56**	P	**Pn**	**06 18 00.5**	**-0.5**
SDPT	**Sand Point**	**7.39**	**58**	*e*Pn	**Pn**	**06 18 14.1**	**-1.1**
RC01	**Rabbit Creek A**	**15.03**	**44**	*e*P	**Pn**	**06 20 00.1**	**+1.0**
ILAR	**Eielson Array**	**18.05**	**35**	P	**P**	**06 20 34.0**	**-2.8**
	0.1nm,0.3s,baz=222,slow=9.7,SNR=11						
DLBC	**Dease Lake**	**24.23**	**58**	P	**P**	**06 21 43.8**	**+2.1**
	3.3nm,0.7s,baz=296,slow=8.1,SNR=7.6						
INK	**Inuvik**	**24.43**	**34**	P	**P**	**06 21 42.5**	**-0.9**
	0.8nm,0.5s,baz=211,slow=5.4,SNR=5.4						
PDAR	**Pinedale Array**	**41.77**	**77**	P	**P**	**06 24 14.9**	**+0.5**
	0.3nm,0.5s,baz=322,slow=2.8,SNR=4.3						
TXAR	**Lajitas Array**	**54.07**	**87**	P	**P**	**06 25 49.9**	**+0.4**
	0.3nm,0.7s,baz=280,slow=5.3,SNR=4.5						
KURK	**Kurchatov**	**61.81**	**317**	P	**P**	**06 26 43.3**	**+0.1**
KURBB	**Kurchatov Arra**	**61.92**	**317**	P	**P**	**06 26 43.3**	**-0.6**
	1.5nm,0.7s,baz=46,slow=6.7,SNR=13						
BVAR	**Borovoye Array**	**63.28**	**323**	P	**P**	**06 26 52.3**	**-0.6**
	1.1nm,0.5s,baz=42,slow=6.8,SNR=5.7						
AKTO	**Aktyubinsk**	**69.71**	**329**	P	**P**	**06 27 32.8**	**-1.2**
	1.9nm,0.6s,baz=50,slow=8.2,SNR=5.8						
AAK	**Ala-Archa**	**69.87**	**314**	P	**P**	**06 27 34.8**	**-0.6**
	2.2nm,0.7s,baz=140,slow=6.8,SNR=4.5						
ASAR	**Alice Springs**	**89.12**	**228**	P	**P**	**06 29 20.1**	**+0.4**
	0.5nm,0.7s,baz=27,slow=5.2,SNR=5.1						

*ISCJB **03** 06:43:15.6±0.6, 50°.21N±0°.02×12°.54E±0°.04, h13km±6km, Error ellipse: s-maj=3.9km s-min=2.9km az=162.9*
*CSEM **03** 06:43:16.7±0.1, 50°.23N×12°.51E, h10km, ML2.5/8, Error ellipse: s-maj=2.0km s-min=1.4km az=46.0*
*VIE **03** 06:43:16.3±0.9, 50°.19N×12°.48E, h10km, mb1.8/2, ML1.9/3, Error ellipse: s-maj=16.4km s-min=3.5km az=51.0*
*IASPEI **03** 06:43:16.8±0.8, 50°.24N±0°.02×12°.48E±0°.03, h11km±4km, Error ellipse: s-maj=3.9km s-min=2.8km az=89.3, GT5 selection from ISC bulletin GT5 identified by Bond˚jr and McLaughlin (2009) selection criteria Bond˚jr and McLaughlin, A new ground truth data set for seismic studies, Seism. Res. Let., 80, 465-472, 2009*
*BGR **03** 06:43:17.1±0.2, 50°.24N×12°.45E, h11km±1km, ML2.0/5, Error ellipse: s-maj=2.2km s-min=1.1km az=91.0*
*PRU **03** 06:43:17.3, 50°.26N×12°.51E, h3km, West Bohemia Swarm*

ISC 03 06:43:16.8±0.8, 50°.23N±0°.02×12°.49E±0°.02, h11km±4km, n50, σ0s52/85, 4C, Germany

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NKC	**Novy Kostel**	**0.03**	**269**	↑*i*PG	**Pg**	**06 43 19.0**	**+0.2**
NKC				*e*SG	**Sg**	**06 43 19.9**	**-0.3**
	comp=Z,273nm,0.3s						
NKC	**Novy Kostel**	**0.03**	**269**	*e*Pg	**Pg**	**06 43 19.1**	**+0.2**
NKC				*e*Sg	**Sg**	**06 43 20.1**	**-0.1**
NKC	**Novy Kostel**	**0.03**	**269**	Pg	**Pg**	**06 43 19.0**	**+0.2**
NKC				Sg	**Sg**	**06 43 20.1**	**-0.1**
WERN	**Wernitzgruen**	**0.09**	**305**	*e*Pg	**Pg**	**06 43 19.6**	**+0.1**
WERN				*e*Sg	**Sg**	**06 43 20.9**	**-0.4**
WERN	**Wernitzgruen**	**0.09**	**305**	Pg	**Pg**	**06 43 19.6**	**+0.1**
WERN				Sg	**Sg**	**06 43 20.9**	**-0.4**
ROHR	**Rohrbach**	**0.11**	**270**	*e*Pg	**Pg**	**06 43 19.7**	**0.0**
ROHR				*e*Sg	**Sg**	**06 43 21.1**	**-0.7**
ROHR	**Rohrbach**	**0.11**	**270**	Pg	**Pg**	**06 43 19.7**	**0.0**
ROHR				Sg	**Sg**	**06 43 21.1**	**-0.7**
GUNZ	**Gunzen**	**0.17**	**321**	*e*Pg	**Pg**	**06 43 20.7**	**+0.2**
GUNZ				*e*Sg	**Sg**	**06 43 22.7**	**-0.4**
GUNZ	**Gunzen**	**0.17**	**321**	Pg	**Pg**	**06 43 20.7**	**+0.2**
GUNZ				Sg	**Sg**	**06 43 22.7**	**-0.4**
MULD	**Muldenberg**	**0.19**	**342**	*e*Pg	**Pg**	**06 43 21.1**	**+0.2**
MULD				*e*Sg	**Sg**	**06 43 23.5**	**-0.2**
MULD	**Muldenberg**	**0.19**	**342**	Pg	**Pg**	**06 43 21.1**	**+0.2**
MULD				Sg	**Sg**	**06 43 23.5**	**-0.2**
WERD	**Werda**	**0.24**	**331**	*e*Pg	**Pg**	**06 43 22.1**	**+0.2**
WERD				*e*Sg	**Sg**	**06 43 24.9**	**-0.4**
WERD	**Werda**	**0.24**	**331**	Pg	**Pg**	**06 43 22.1**	**+0.2**
WERD				Sg	**Sg**	**06 43 24.9**	**-0.4**
TRIB	**Obertriebel**	**0.26**	**297**	*e*Pg	**Pg**	**06 43 22.0**	**-0.1**
TRIB	**Obertriebel**	**0.26**	**297**	Pg	**Pg**	**06 43 22.0**	**-0.1**
PLN	**Plauen**	**0.33**	**320**	*e*Pg	**Pg**	**06 43 23.5**	**0.0**
PLN				*e*Sg	**Sg**	**06 43 27.6**	**-0.3**
PLN	**Plauen**	**0.33**	**320**	Pg	**Pg**	**06 43 23.5**	**0.0**
PLN				Sg	**Sg**	**06 43 27.6**	**-0.3**
SCHF	**Schoenfels**	**0.45**	**353**	*e*Pg	**Pg**	**06 43 25.9**	**+0.3**
SCHF				*e*Sg	**Sg**	**06 43 31.5**	**0.0**
SCHF	**Schoenfels**	**0.45**	**353**	Pg	**Pg**	**06 43 25.9**	**+0.3**
SCHF				Sg	**Sg**	**06 43 31.5**	**0.0**
ROTZ	**Rotzenmuhle**	**0.50**	**202**	*e*Pg	**Pg**	**06 43 27.1**	**+0.5**
ROTZ				*e*Sg	**Sg**	**06 43 33.5**	**+0.3**
ROTZ	**Rotzenmuhle**	**0.50**	**202**	Pg	**Pg**	**06 43 27.1**	**+0.5**
ROTZ				Sg	**Sg**	**06 43 33.5**	**+0.3**
MOX	**Moxa**	**0.70**	**307**	*e*Pg	**Pg**	**06 43 30.1**	**-0.2**
MOX				*e*Sg	**Sg**	**06 43 38.9**	**-0.5**
MOX	**Moxa**	**0.70**	**307**	Pg	**Pg**	**06 43 30.1**	**-0.2**
MOX				Sg	**Sg**	**06 43 38.9**	**-0.5**
FBE	**Freiberg**	**0.88**	**38**	*e*Pg	**Pb**	**06 43 34.5**	**+0.4**
FBE				*e*Sg	**Sb**	**06 43 45.9**	**0.0**
FBE	**Freiberg**	**0.88**	**38**	Pg	**Pb**	**06 43 34.5**	**+0.4**
FBE				Sg	**Sb**	**06 43 45.9**	**0.0**
WET	**Wettzell**	**1.12**	**167**	*e*Pg	**Pn**	**06 43 38.5**	**0.0**
WET				*e*Sg	**Sb**	**06 43 52.7**	**-0.1**
WET	**Wettzell**	**1.12**	**167**	Pg	**Pn**	**06 43 38.5**	**0.0**
WET				Sg	**Sb**	**06 43 52.7**	**-0.1**
CLL	**Collm**	**1.12**	**17**	*e*Pg	**Pg**	**06 43 38.3**	**0.0**
CLL				*e*Sg	**Sg**	**06 43 53.2**	**+0.2**
CLL	**Collm**	**1.12**	**17**	Pg	**Pg**	**06 43 38.3**	**0.0**
CLL				Sg	**Sg**	**06 43 53.2**	**+0.2**
CLL	**Collm**	**1.12**	**17**	*i* Pg	**Pg**	**06 43 38.4**	**0.0**
CLL				*i*		06 43 40.4	
CLL				*i*		06 43 41.8	
CLL				*i* Sg	**Sn**	**06 43 53.6**	**-0.4**
	comp=Z,12nm,0.5s						
CLL				*i*		06 43 57.0	
BRG	**Berggiesshubel**	**1.12**	**55**	PG	**Pn**	**06 43 38.9**	**+0.4**
BRG				SG	**Sn**	**06 43 53.8**	**-0.2**
	comp=Z,17nm,0.3s						
BRG	**Berggiesshubel**	**1.12**	**55**	*e*Pg	**Pn**	**06 43 39.0**	**+0.4**
BRG				*e*Sg	**Sg**	**06 43 53.4**	**+0.4**
BRG	**Berggiesshubel**	**1.12**	**55**	Pg	**Pn**	**06 43 39.0**	**+0.5**
BRG				Sg	**Sg**	**06 43 53.4**	**+0.4**
PRA	**Prague**	**1.26**	**97**	↑*e*SG	**Sn**	**06 43 57.3**	**0.0**
	comp=Z,5.9nm,0.2s						
PRA	**Prague**	**1.26**	**97**	Sg	**Sn**	**06 43 57.3**	**0.0**
	comp=Z,5.9nm,0.2s						
KHC	**Kasperske Hory**	**1.31**	**147**	*e*PG	**Pn**	**06 43 40.9**	**-0.2**
KHC				*e*SG	**Sb**	**06 43 58.4**	**+0.1**
	comp=Z,5.1nm,0.2s						
KHC	**Kasperske Hory**	**1.31**	**147**	Pg	**Pn**	**06 43 40.9**	**-0.2**
KHC				Sg	**Sb**	**06 43 58.4**	**+0.1**
	comp=Z,5.1nm,0.2s						
PRU	**Pruhonice**	**1.34**	**100**	↑*e*PG	**Pn**	**06 43 41.5**	**0.0**
PRU				*e*SG	**Sg**	**06 43 59.9**	**0.0**
	comp=Z,7.1nm,0.3s						
PRU	**Pruhonice**	**1.34**	**100**	Pg	**Pn**	**06 43 41.5**	**0.0**
PRU				Sg	**Sg**	**06 43 59.9**	**0.0**
	comp=Z,7.1nm,0.3s						
GOPC	**GO Pecny, Ondr**	**1.51**	**101**	*e*SG	**Sg**	**06 44 05.8**	**+0.4**
	comp=Z,8.2nm,0.2s						
GOPC	**GO Pecny, Ondr**	**1.51**	**101**	Sg	**Sg**	**06 44 05.8**	**+0.4**
	comp=Z,8.2nm,0.2s						
UPC	**Upice**	**2.27**	**82**	↑*e*SG	**Sg**	**06 44 28.8**	**-0.9**
UPC	**Upice**	**2.27**	**82**	Sg	**Sg**	**06 44 28.8**	**-0.9**
DPC	**Dobruska-Polom**	**2.46**	**86**	*e*SG	**Sg**	**06 44 34.3**	**-1.4**
	comp=Z,1.7nm,0.3s						
DPC	**Dobruska-Polom**	**2.46**	**86**	Sg	**Sg**	**06 44 34.3**	**-1.4**
	comp=Z,1.7nm,0.3s						
MOA	**Molln**	**2.66**	**153**	Sg	**Sg**	**06 44 41.6**	**-0.5**
	comp=Z,1.1nm,0.2s						
VRAC	**Vranov**	**2.81**	**108**	*e*Sg	**Sg**	**06 44 45.2**	**-2.0**
CONA	**Conrad Observa**	**3.20**	**135**	Sg	**Sg**	**06 45 00.2**	**+0.8**
	comp=Z,0.4nm,0.2s						
KBA	**Koelnbreinsper**	**3.21**	**170**	Sg	**Sg**	**06 44 59.0**	**-0.8**
	comp=Z,0.8nm,0.2s						
MORC	**Moravsky Berou**	**3.29**	**96**	*e*Sg	**Sg**	**06 45 00.2**	**-2.2**

DJA 03 07:05:05.2±1.5, 5°.N±9°.×9°.8E±°, h10km, M3.6/5, MLv3.6/5, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LHMI	**Lhok Sumawe**	**0.87**	**280**	P	Pg	07 05 21.9	-0.2
LHMI				S	Sb	07 05 34.3	+0.1
KCSI	**Kotacane, Aceh**	**1.54**	**181**	P	Pn	07 05 33.1	+0.4
KCSI				S	Sn	07 05 52.9	+0.1
MLSI	**Meulaboh, Aceh**	**1.61**	**240**	P	Pn	07 05 33.7	0.0
TSI	**Tuntungan**	**1.73**	**154**	P	Sn	07 06 02.1	+4.6
TPTI		**1.91**	**199**	P	Pn	07 05 37.9	+0.1

*IDC **03** 07:28:08.2±2.0, 5°.43S×102°.54E, h0km, mb3.9/6, mb1 4.1/6, mb1mx3.7/33, mbtmp3.9/6, Error ellipse: s-maj=81.5km s-min=21.0km az=52.0*
*DJA **03** 07:28:12.2±0.7, 6°.S±9°×10°.2E±°, h46km±106km, M4.4/7, mb4.7/1, MLv4.2/7*

ISC 03 07:28:13.0±1.0, 5°.5S±0°.1×102°.59E±0°.06, h34km, n23, σ1s20/18, mb4.0/6, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MNAI	**Manna**	**1.19**	**18**	P	**Pb**	**07 28 35.2**	**+0.1**
LWLI	**Liwa**	**1.54**	**72**	P	**Pb**	**07 28 40.2**	**-0.9**
MDSI	**Maura Dua**	**1.88**	**58**	P	**Pb**	**07 28 45.2**	**-1.5**
MDSI				S	**Sb**	**07 29 09.3**	**-0.6**
KASI	**Kota Agung**	**1.90**	**91**	P	**Pn**	**07 28 42.8**	**-0.2**
KASI				S	**Sn**	**07 29 07.3**	**+1.5**
MASI	**Maura Aman, Be**	**2.37**	**352**	P	Pb	07 29 04.5	+9.4
PPSI	**Pulau Pagai**	**3.74**	**317**	P	**Pn**	**07 29 07.9**	**-0.5**
CNJI	**Cibinong**	**4.86**	**112**	P	**Pn**	**07 29 24.3**	**+0.6**
PDSI	**Padang**	**5.03**	**335**	P	**Pn**	**07 29 26.3**	**+0.2**
SISI	**Saibi**	**5.42**	**320**	P	**Pn**	**07 29 30.6**	**-0.8**
PPI	**Padang Panjang**	**5.47**	**336**	P	**Pn**	**07 29 35.1**	**+3.0**
CMAR	**Chiang Mai Arr**	**24.08**	**351**	P	**P**	**07 33 23.9**	**-1.6**
	1.4nm,0.3s,baz=186,slow=8.2,SNR=8.7						
H08S2	**Diego Garcia H**	**29.97**	**264**	T	T	08 05 17.0	
	baz=88,slow=76,SNR=40						
H08S3	**Diego Garcia H**	**29.98**	**264**	T	T	08 05 17.5	
	baz=88,slow=76,SNR=30						
H08S1	**Diego Carcia H**	**29.99**	**264**	T	T	08 05 18.4	
	baz=88,slow=76,SNR=32						
H01W3	**Cape Leeuwin H**	**31.13**	**161**	T	T	08 07 13.3	
	baz=338,slow=76,SNR=10						
H01W2	**Cape Leeuwin H**	**31.14**	**161**	T	T	08 07 14.3	
	baz=338,slow=76,SNR=9.3						
H01W1	**Cape Leeuwin H**	**31.14**	**161**	T	T	08 07 12.6	
	baz=338,slow=76,SNR=8.0						
WRA	**Warramunga Arr**	**34.04**	**118**	P	**P**	**07 34 54.6**	**+0.4**
	0.6nm,1.0s,baz=308,slow=9.0,SNR=2.5						
ASAR	**Alice Springs**	**35.14**	**124**	P	**P**	**07 35 04.3**	**+0.6**
	0.2nm,0.5s,baz=302,slow=7.6,SNR=5.8						
SONM	**Songino Array**	**53.22**	**3**	P	**P**	**07 37 29.0**	**+0.9**
	1.6nm,0.7s,baz=180,slow=10,SNR=9.3						
ZALV	**Zalesovo Beam**	**61.09**	**348**	P	**P**	**07 38 22.2**	**-1.2**
	1.7nm,0.4s,baz=159,slow=4.6,SNR=5.1						
KBZ	**Khabaz**	**72.63**	**319**	P	**P**	**07 39 37.7**	**+0.6**
	1.0nm,0.4s,baz=193,slow=6.9,S

JMA 03 07:36:38.8±0.2, 37.90N×144.50E, h38km, M3.8, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OFUJ	**Ofunato**	**2.52**	**299**	P	Pn	07 37 18.8	+1.7
OFUJ				*e*S	Sn	07 37 48.5	+2.0
JIO	**Ouri**	**2.54**	**284**	P	Pn	07 37 19.3	+1.8
JIO				S	Sn	07 37 49.0	+1.8
MIYJ	**Miyakonagasawa**	**2.68**	**309**	P	Pn	07 37 20.8	+1.4
MIYJ				*e*S	Sn	07 37 52.1	+1.5
JMK	**Ichinoseki**	**2.78**	**293**	P	Pn	07 37 22.8	+2.0
JMK				*e*S	Sn	07 37 55.5	+2.4
JOM	**Ohasama**	**2.96**	**303**	P	Pn	07 37 25.4	+2.2
JOM				*e*S	Sn	07 38 00.2	+2.7
JOU	**Okura**	**3.06**	**280**	P	Pn	07 37 27.0	+2.4
JOU				S	Sn	07 38 02.9	+2.9
JFT	**Otama**	**3.32**	**265**	S	Sn	07 38 08.7	+2.2
JANG	**Nango**	**3.39**	**318**	P	Pn	07 37 31.2	+2.1
JANG				*e*S	Sn	07 38 09.7	+1.6
JYK	**Kaneyama**	**3.41**	**289**	P	Pn	07 37 32.2	+2.8
JYK				*e*S	Sn	07 38 11.2	+2.7
JCH	**Churui**	**4.79**	**350**	P	Pn	07 37 48.5	+0.2
JCH				*e*S	Sn	07 38 41.0	-1.5
JRY	**Ryogami san**	**4.86**	**249**	P	Pn	07 37 50.7	+1.3
JRY				*e*S	Sn	07 38 42.9	-1.5

*NIED **03** 07:42:00, 35.80N×140.70E, h53km, Mw4.5 Best double couple: M₀5.69000×10¹⁵ NP1:φ₀174.00000°, δ23.00000°, λ80.00000°. NP2:φ₀5.00000°, δ67.00000°, λ94.00000°.*

*ISCJB **03** 07:42:57.9±0.3, 35.69N±0.03×140.63E±0.05, h54km±3km, mb4.5/44, MS3.8/6, Error ellipse: s-maj=6.4km s-min=5.2km az=163.3*

*MOS **03** 07:42:58.9±0.9, 35.63N×140.54E, h64km, mb4.6/25, Error ellipse: s-maj=16.0km s-min=8.0km az=134.1*

*JMA **03** 07:42:58.0±0.1, 35.75N×140.66E, h48km±1km, M3.6 Broadband fault plane solution: P waves. NP1: φ₀11.00000°, δ85.00000°, λ87.00000°. NP2:φ₀225.00000°, δ6.00000°, λ124.00000°. Principal axes: T Plg50.0000°, Azm277.0000°; N Plg3.0000°, Azm11.0000°; P Plg40.0000°, Azm104.0000°;*

JMA Felt II J1.

*IDC **03** 07:43:00.1±1.8, 35.63N×140.56E, h60km±17km, mb3.8/15, mb1 4.0/19, mb1mx3.9/35, mbtmp4.0/19, MS3.5/10, Ms1 3.5/10, ms1mx3.2/45 Error ellipse: s-maj=21.0km s-min=10.5km az=80.0*

*NEIC **03** 07:43:00.2±0.5, 35.65N×140.57E, h61km±4km, mb4.9/15, Error ellipse: s-maj=5.1km s-min=4.4km az=120.0*

ISC 03 07:42:59.0±0.7, 35.69N±0.05×140.66E±0.05, h46km±6km, n112, σ1°26/105, mb4.5/44, MS3.8/6, 12C-4D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CHOJ	**Chosi**	**0.16**	**84**	⇑P	**Pn**	**07 43 05.8**	**-0.7**
CHOJ				S	**Sn**	**07 43 11.6**	**-0.3**
JCN	**Nagara**	**0.46**	**235**	⇓P	**Pn**	**07 43 09.9**	**+0.5**
JYT	**Yasato**	**0.66**	**325**	⇓P	**Pn**	**07 43 10.5**	**-1.5**
JYT				S	**Sn**	**07 43 19.8**	**-1.6**
BSO4	**Boso 4**	**0.74**	**201**	P	**Pn**	**07 43 13.4**	**+0.4**
BSO3	**Boso 3**	**0.89**	**188**	P	**Pn**	**07 43 15.2**	**+0.4**
JHO	**Hitachi**	**0.93**	**355**	⇓P	**Pn**	**07 43 14.2**	**-1.4**
BSO1	**Boso 1**	**1.06**	**166**	P	**Pn**	**07 43 17.3**	**+0.4**
JAG	**Ashikaga**	**1.23**	**307**	P	**Pn**	**07 43 18.6**	**-1.1**
MJAR	**Matsushiro Arr**	**2.16**	**294**	P	**Pn**	**07 43 33.0**	**+0.5**
	23nm,0.3s,baz=113,slow=8.4,SNR=80						
MJAR				LR	LR	07 44 32.5	
	comp=Z,971nm,20.0s,baz=115,slow=45						
MAJO	**Matsushiro**	**2.17**	**294**	*c* *i*P	**Pn**	**07 43 33.4**	**+0.9**
MAJO	**Matsushiro**	**2.17**	**294**	*e*Pn	**Pn**	**07 43 33.5**	**+1.0**
MAT	**Matsushiro**	**2.17**	**294**	P	**Pn**	**07 43 33.2**	**+0.7**
MAT				S	**Sn**	**07 43 58.4**	**+0.2**
JHJ	**Hachijo jima 2**	**2.66**	**196**	P	**Pn**	**07 43 38.8**	**-0.6**
	72nm,0.3s,baz=91,slow=0.9,SNR=10						
JHJ				S	**Sn**	**07 44 10.3**	**0.0**
	67nm,0.3s,baz=102,slow=19,SNR=7.0						
JHJ				LR	LR	07 44 30.6	
	comp=Z,206nm,21.9s,baz=294,slow=35						
JHJ2	**Mitsune**	**2.66**	**195**	*e*Pn	**Pn**	**07 43 40.6**	**+1.3**
ASAJ	**Asahikawa**	**8.55**	**9**	*e*Pn	**Pn**	**07 45 00.5**	**+0.5**
KSRS	**Korea Array**	**10.40**	**284**	P	**Pn**	**07 45 26.4**	**+1.1**
	0.3nm,0.3s,baz=98,slow=14,SNR=3.0						
KSRS				LR	LR	07 49 21.0	
	comp=Z,317nm,21.9s,baz=98,slow=37						
KS15	**Wonju Array Si**	**10.43**	**283**	*e*Pn	**Pn**	**07 45 26.4**	**+0.6**
KSAR	**Wonju Array Be**	**10.43**	**283**	P	**Pn**	**07 45 26.5**	**+0.7**
KSAR	**Wonju Array Be**	**10.43**	**283**	P	**Pn**	**07 45 26.4**	**+0.7**
USRK	**Ussuriysk Ar.**	**10.79**	**325**	P	**Pn**	**07 45 31.6**	**+0.8**
	0.3nm,0.3s,baz=150,slow=13,SNR=4.1						
USRK				LR	LR	07 49 22.4	
	comp=Z,220nm,19.5s,baz=115,slow=35						
JOW	**Kunigami**	**13.78**	**234**	LR	LR	07 51 26.7	
	comp=Z,128nm,20.9s,baz=308,slow=37						
KLR	**Kul'dur**	**15.03**	**337**	LR	LR	07 52 06.1	
	comp=Z,117nm,18.4s,baz=102,slow=36						
KLR	**Kul'dur**	**15.03**	**337**	*e*P	**P**	**07 46 35.3**	**+2.5**
PETK	**Petropavlovsk-**	**21.16**	**29**	P	**P**	**07 47 40.5**	**+0.5**
	4.3nm,0.9s,baz=183,slow=6.6,SNR=4.0						
PEA1	**Petropavlovsk-**	**21.16**	**29**	*e*P	**P**	**07 47 40.5**	**+0.5**
PET	**Petropavlovsk**	**21.48**	**31**	⇑*e*P	**P**	**07 47 49.2**	**+5.7**
PET				pmax	pmax		
	comp=Z,47nm,2.5s						
ENH	**Enshi**	**26.64**	**267**	*e*P	**P**	**07 48 31.6**	**-1.8**
	comp=Z,19nm,0.8s						
YAK	**Yakutsk**	**27.26**	**349**	*e*P	**P**	**07 48 43.7**	**+5.1**
YAK				pmax	pmax		
	comp=Z,12nm,0.9s						
ULN	**Ulaanbaatar**	**27.64**	**307**	*c* *e*P	**P**	**07 48 43.6**	**+1.3**
ULN				pmax	pmax		
	comp=Z,5.0nm,1.0s						
H11N2	**WAKE ISLAND Hy**	**28.02**	**118**	T	T	08 17 52.8	
	baz=311,slow=75,SNR=68						
H11N1	**WAKE ISLAND Hy**	**28.03**	**118**	T	T	08 17 52.1	
	baz=311,slow=75,SNR=36						
H11N3	**WAKE ISLAND Hy**	**28.04**	**118**	T	T	08 17 54.2	
	baz=311,slow=75,SNR=58						
SONA0	**Songino Array**	**28.06**	**306**	*e*P	**P**	**07 48 45.0**	**-1.1**
SONM	**Songino Array**	**28.06**	**306**	P	**P**	**07 48 45.0**	**-1.1**
	comp=Z,2.2nm,0.8s,baz=104,slow=9.0,SNR=9.1						
H11S1	**WAKE ISLAND Hy**	**28.08**	**120**	T	T	08 18 45.3	
	baz=312,slow=75,SNR=106						
H11S3	**WAKE ISLAND Hy**	**28.68**	**120**	T	T	08 18 47.8	
	baz=312,slow=75,SNR=75						
H11S2	**WAKE ISLAND Hy**	**28.69**	**120**	T	T	08 18 50.1	
	baz=312,slow=75,SNR=68						
CMAR	**Chiang Mai Arr**	**40.58**	**256**	LR	LR	08 08 12.9	
	comp=Z,60nm,20.8s,baz=45,slow=37						
ZAA1	**Zalesovo Array**	**42.39**	**313**	*e*P	**P**	**07 50 48.0**	**-0.6**
ZALV	**Zalesovo Beam**	**42.39**	**313**	P	**P**	**07 50 48.0**	**-0.6**
	comp=Z,3.2nm,0.8s,baz=90,slow=5.9,SNR=8.3						
MKAR	**Makanchi Array**	**44.33**	**303**	*e*P	**P**	**07 51 04.1**	**-0.4**
MKAR				pmax	pmax		
	comp=Z,21nm,0.7s						
MKAR	**Makanchi Array**	**44.33**	**303**	*e*P	**P**	**07 51 04.0**	**-0.4**
	comp=Z,20nm,0.7s						
MAKZ	**Makanchi**	**44.55**	**303**	*e*P	**P**	**07 51 05.9**	**-0.3**
MAKZ				pmax	pmax		
	comp=Z,4.0nm,0.9s						
MAKZ	**Makanchi**	**44.55**	**303**	*e*P	**P**	**07 51 05.9**	**-0.3**
	comp=Z,3.7nm,0.9s						
KURK	**Kurchatov**	**46.30**	**309**	*c* *e*P	**P**	**07 51 19.1**	**-0.8**
KURK				pmax	pmax		
	comp=Z,53nm,1.0s						
KURK	**Kurchatov**	**46.30**	**309**	*e*P	**P**	**07 51 19.1**	**-0.8**
RSO	**Redoubt South**	**48.34**	**37**	*e*P	**P**	**07 51 36.0**	**+0.2**
MTN	**Manton Dam**	**49.10**	**192**	*e*P	**P**	**07 51 41.5**	**-0.4**
	comp=Z,30nm,1.8s						
TRF	**Thorofare Moun**	**49.49**	**34**	*e*P	**P**	**07 51 45.4**	**+0.8**
	comp=Z,42nm,1.8s						
COLD	**Coldfoot**	**49.62**	**29**	*e*P	**P**	**07 51 47.0**	**+1.6**
	comp=Z,7.8nm,1.5s						
MDM	**Murphy Dome**	**50.38**	**32**	*e*P	**P**	**07 51 52.2**	**+1.0**
	comp=Z,19nm,1.5s						
COLA	**College**	**50.54**	**32**	*e*P	P	07 51 58.0	+5.7
COLA				pmax	pmax		
	comp=Z,3.0nm,1.0s						
CCB	**Clear Creek Bu**	**50.57**	**32**	*e*P	**P**	**07 51 53.4**	**+0.9**
	comp=Z,25nm,2.0s						
AAK	**Ala-Archa**	**50.60**	**299**	*e*P	**P**	**07 51 52.2**	**-1.2**
AAK				pmax	pmax		
	comp=Z,4.0nm,0.9s						
ILAR	**Eielson Array**	**50.96**	**32**	P	**P**	**07 51 55.8**	**+0.3**
	comp=Z,1.8nm,0.8s,baz=268,slow=6.4,SNR=19						
ILB	**Eielson Array**	**50.96**	**32**	*e*P	**P**	**07 51 55.8**	**+0.3**
BRVK	**Borovoye**	**51.10**	**313**	*c* *e*P	**P**	**07 51 56.9**	**+0.2**
BRVK				pmax	pmax		
	comp=Z,15nm,1.0s						
BRVK	**Borovoye**	**51.10**	**313**	*e*P	**P**	**07 51 57.0**	**+0.2**
HARP	**HAARP**	**51.88**	**35**	*e*P	**P**	**07 52 02.0**	**-0.5**
	comp=Z,163nm,2.0s						
DOT	**Dot Lake**	**52.26**	**33**	*e*P	**P**	**07 52 05.3**	**0.0**
	comp=Z,55nm,1.8s						
FITZ	**Fitzroy Crossi**	**55.36**	**197**	*e*P	**P**	**07 52 27.9**	**-0.4**
	comp=Z,11nm,1.5s						
WRAB	**Tennant Creek**	**55.64**	**187**	*c* *e*P	P	07 52 17.5	-13
WRAB				pmax	pmax		
	comp=Z,14nm,1.3s						
WR1	**Warramunga Arr**	**55.65**	**187**	*e*P	**P**	**07 52 28.9**	**-1.4**
WRA	**Warramunga Arr**	**55.65**	**187**	P	**P**	**07 52 28.9**	**-1.4**
	comp=Z,1.3nm,0.6s,baz=3.0,slow=7.6,SNR=25						
WRA	**Warramunga Arr**	**55.65**	**187**	P	**P**	**07 52 29.0**	**-1.4**
WRA				pmax	pmax		
	comp=Z,1.0nm,0.6s						
SVE	**Sverdlovsk**	**55.76**	**319**	*e*P	**P**	**07 52 30.6**	**-0.3**
SVE				pmax	pmax		
	comp=Z,17nm,1.1s						
ARU	**Arti**	**56.97**	**319**	*c* *i*P	**P**	**07 52 38.5**	**-1.0**
ARU						07 53 29.6	
ARU				S	**S**	**08 00 35.2**	**+5.0**
ARU				SS	**SS**	**08 04 19.4**	**+0.8**
ARU				pmax	pmax		
	comp=Z,12nm,1.0s						
ARU	**Arti**	**56.97**	**319**	*e*P	**P**	**07 52 38.6**	**-0.9**
	comp=Z,10nm,0.9s						
ABKAR	**Akbulak array**	**58.35**	**311**	*e*P	**P**	**07 52 48.3**	**-1.0**
	comp=Z,27nm,0.6s						
AS31	**Alice Springs**	**59.37**	**187**	*e*P	**P**	**07 52 55.6**	**-1.0**
ASAR	**Alice Springs**	**59.37**	**187**	P	**P**	**07 52 55.6**	**-1.0**
	comp=Z,0.7nm,0.6s,baz=19,slow=11,SNR=14						
KLMR	**Klimovskoe**	**64.57**	**328**	*e*P	**P**	**07 53 28.7**	**-2.4**
KLMR				pmax	pmax		
	comp=Z,6.0nm,1.0s						
ARCES	**ARCESS Array B**	**65.04**	**339**	P	**P**	**07 53 33.6**	**-0.4**
	comp=Z,2.7nm,0.8s,baz=62,slow=14,SNR=5.9						
AFI	**Afiamalu**	**66.75**	**129**	LR	LR	08 22 51.3	
	comp=Z,29nm,18.6s,baz=58,slow=36						
OBN	**Obninsk**	**68.81**	**323**	*e*P	**P**	**07 53 58.1**	**-0.1**
OBN						07 54 21.0	
OBN				pmax	pmax		
	comp=Z,4.0nm,0.6s						
OBN				MLR	MLR		
	comp=Z,47nm,18.0s						
FIA0	**FINESS Array S**	**69.72**	**332**	*e*P	**P**	**07 54 03.4**	**-0.3**
FIA0	**FINESS Array S**	**69.72**	**332**	*e*P	**P**	**07 54 03.4**	**-0.3**
FINES	**FINESS Array B**	**69.72**	**332**	P	**P**	**07 54 03.4**	**-0.3**
	comp=Z,1.9nm,0.7s,baz=67,slow=11,SNR=6.4						
FINES	**FINESS Array B**	**69.72**	**332**	*c* *e*P	**P**	**07 54 04.0**	**+0.3**
FINES				pmax	pmax		
	comp=Z,1.0nm,0.7s						
KBZ	**Khabaz**	**71.32**	**311**	P	**P**	**07 54 13.2**	**-0.5**
	comp=Z,3.0nm,0.8s,baz=92,slow=3.1,SNR=6.9						
KIV	**Kislovodsk**	**71.33**	**311**	⇑*e*P	**P**	**07 54 13.6**	**-0.4**
KIV				*e*		07 54 26.5	
KIV				pmax	pmax		
	comp=Z,8.0nm,1.3s						
KIV				MLR	MLR		
	comp=Z,51nm,19.0s						
SWMT	**Swartz Lake**	**73.68**	**43**	*e*P	**P**	**07 54 28.0**	**0.0**
SLMT	**Seeley Lake**	**74.12**	**43**	*e*P	**P**	**07 54 31.2**	**+0.7**
AKASG	**Malin Array Be**	**74.99**	**322**	P	**P**	**07 54 34.2**	**-1.1**
	comp=Z,1.6nm,0.6s,baz=46,slow=5.4,SNR=5.5						
AKASG				LR	LR	08 30 13.1	
	comp=Z,58nm,18.1s,baz=325,slow=38						
AKASG	**Malin Array Be**	**74.99**	**322**	P	**P**	**07 54 34.2**	**-1.1**
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.6s						
AKASG				MLR	MLR		
	comp=Z,58nm,18.1s						
AKBB	**Malin Array Si**	**74.99**	**322**	*e*P	**P**	**07 54 34.2**	**-1.1**
AKBB	**Malin Array Si**	**74.99**	**322**	*e*P	**P**	**07 54 34.2**	**-1.1**
KIEV	**Kiev**	**75.00**	**322**	*d* *i*P	**P**	**07 54 34.6**	**-0.8**
KIEV				pmax	pmax		
	comp=Z,3.0nm,1.0s						
NB2	**NORSAR Subarra**	**75.19**	**337**	P	**P**	**07 54 35.4**	**-0.9**
	comp=Z,1.2nm,0.6s,baz=41,slow=5.9						
NB200	**NORSAR Array S**	**75.19**	**337**	*e*P	**P**	**07 54 35.5**	**-0.8**
NOA	**NORSAR Array B**	**75.19**	**337**	P	**P**	**07 54 35.5**	**-0.8**
	comp=Z,3.2nm,0.9s,baz=40,slow=5.7,SNR=7.9						
DUG	**Dugway, Tooele**	**78.70**	**48**	*e*P	**P**	**07 54 55.8**	**-0.8**
DUG				pmax	pmax		
	comp=Z,11nm,1.8s						
DUG	**Dugway, Tooele**	**78.70**	**48**	*e*P	**P**	**07 54 55.8**	**-0.8**
	comp=Z,10nm,1.8s						
PD31	**Pinedale Array**	**79.05**	**45**	*e*P	**P**	**07 54 58.0**	**-0.5**
PDAR	**Pinedale Array**	**79.05**	**45**	P	**P**	**07 54 58.0**	**-0.5**
	comp=Z,0.5nm,0.6s,baz=275,slow=3.7,SNR=5.1						
BR101	**Keskin Array S**	**79.29**	**311**	*e*P	**P**	**07 54 60.0**	**+0.1**
BRTR	**Keskin Array B**	**79.29**	**311**	P	**P**	**07 54 60.0**	**+0.1**
	comp=Z,1.8nm,1.0s,baz=79,slow=6.4,SNR=6.7						
BRTR	**Keskin Array B**	**79.29**	**311**	*c* *e*P	**P**	**07 54 59.5**	**-0.3**
BRTR				pmax	pmax		
	comp=Z,2.0nm,1.0s						
CLL	**Collm**	**81.96**	**330**	*i* P	**P**	**07 55 13.4**	**-0.3**
CLL				pmax	pmax		
	comp=Z,5.0nm,0.9s						
CLL	**Collm**	**81.96**	**330**	*i* P	**P**	**07 55 13.4**	**-0.3**
	comp=Z,5.0nm,0.9s						
GERES	**GERESS Array B**	**83.53**	**328**	P	**P**	**07 55 21.7**	**-0.4**
	comp=Z,0.3nm,0.7s,baz=357,slow=4.5,SNR=4.4						
ECSD	**EROS Data Cent**	**85.35**	**38**	*e*P	**P**	**07 55 30.9**	**-0.3**
	comp=Z,20nm,1.9s						
ANMO	**Albuquerque**	**85.92**	**49**	*e*P	**P**	**07 55 33.8**	**-0.7**
ANMO				pmax	pmax		
	comp=Z,5.0nm,2.5s						
BFO	**Black Forest**	**86.18**	**330**	*c* *e*P	**P**	**07 55 35.6**	**+0.3**
LTX	**Lajitas**	**91.42**	**52**	*e*P	**P**	**07 56 01.3**	**+0.7**
LTX	**Lajitas**	**91.42**	**52**	*e*P	**P**	**07 56 01.3**	**+0.7**
TXAR	**Lajitas Array**	**91.42**	**52**	P	**P**	**07 56 01.3**	**+0.7**
	comp=Z,0.3nm,0.7s,baz=297,slow=2.9,SNR=5.2						
ESDC	**Sonseca Array**	**98.22**	**333**	LR	LR	08 44 20.2	
	comp=Z,55nm,18.6s,baz=175,slow=38						
SAML	**Samuel**	**145.63**	**45**	*e*PKPdf	**PKPdf**	**08 02 32.8**	**0.0**
LPAZ	**La Paz**	**147.89**	**60**	PKPbc	**PKPbc**	**08 02 40.3**	**0.0**
	comp=Z,1.1nm,0.7s,baz=27,slow=11,SNR=6.6						
PB11	**IPOC Station P**	**148.99**	**67**	*e*PKPbc	**PKPbc**	**08 02 42.5**	**0.0**
LVC	**Limon Verde**	**151.19**	**71**	*e*PKPbc	**PKPbc**	**08 02 46.0**	**-2.0**

*IDC **03** 08:04:20.2±4.5, 7.96S×116.96E, h264km±36km, mb3.4/5, mb1 3.5/7, mb1mx3.1/47, mbtmp4.0/7, Error ellipse: s-maj=70.5km s-min=13.7km az=65.0*

*ISCJB **03** 08:04:24.0±0.5, 8.03S±0.09×117.45E±0.05, h250km, mb3.9/4, Error ellipse: s-maj=12.0km s-min=6.6km az=6.8*

*DJA **03** 08:04:30.0±0.6, 8°S±22"×11°7E±°, h192km±6km, M3.9/2, MLv3.9/2*

ISC 03 08:04:23.8±0.9, 8.06S±0.09×117.49E±0.07, h250km, n20, σ2°65/20, mb3.9/4, Sumbawa region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PLAI	**Plampang**	**0.82**	**160**	P	**Pn**	**08 04 59.9**	**+2.0**
PLAI				S	**S**	**08 05 18.0**	**-6.8**
TWSI	**Taliwang, Sumb**	**0.91**	**222**	P	**Pn**	**08 04 59.6**	**+1.3**
TWSI				S	**S**	**08 05 18.8**	**-6.7**
SRBI	**Singaraja**	**2.26**	**269**	P	**Pn**	**08 05 07.7**	**-0.9**
DNP	**Denpasar**	**2.34**	**255**	P	**Pn**	**08 05 09.3**	**-0.1**
IGBI	**Denpasar**	**2.44**	**252**	P	**Pn**	**08 05 12.2**	**+1.8**
IGBI				S	S	08 05 37.2	-10
JAGI	**Jajag, Banyuwa**	**3.33**	**263**	P	**Pn**	**08 05 19.9**	**0.0**
JAGI				S	**S**	**08 06 02.7**	**-1.7**
BASI	**Baing, Sumba**	**3.73**	**125**	P	**Pn**	**08 05 26.8**	**+2.4**
KAPI	**Kappang**	**3.77**	**37**	P	**Pn**	**08 05 25.0**	**+0.1**
	2.9nm,0.3s,baz=216,slow=4.4,SNR=12						
GMJI	**Gumukmas**	**4.01**	**267**	P	**Pn**	**08 05 27.7**	**0.0**
TTSI	**Tana Toraja**	**5.49**	**25**	P	**Pn**	**08 05 46.0**	**+0.3**
PCJI	**Pacitan**	**6.25**	**268**	P	**Pn**	**08 05 54.2**	**-0.9**
SOEI	**Soe**	**6.91**	**105**	P	**Pn**	**08 06 04.5**	**+1.1**
FITZ	**Fitzroy Crossi**	**12.75**	**142**	P	**P**	**08 07 18.9**	**+0.1**
	0.3nm,0.3s,baz=333,slow=7.9,SNR=8.5						
LWLI	**Liwa**	**13.68**	**282**	P	**P**	**08 07 31.3**	**+2.0**
TPRI	**Tanjung Pinang**	**15.70**	**304**	P	**Pn**	**08 07 54.6**	**+2.1**
WRA	**Warramunga Arr**	**20.14**	**128**	P	**P**	**08 08 39.2**	**-0.3**
	0.6nm,0.4s,baz=303,slow=12,SNR=17						
ASAR	**Alice Springs**	**22.10**	**136**	P	**P**	**08 08 59.0**	**+0.2**
	4.1nm,0.7s,baz=308,slow=9.0,SNR=33						
USRK	**Ussuriysk Ar.**	**53.64**	**13**	P	P	08 13 14.8	-4.8
	2.0nm,0.7s,baz=212,slow=7.8,SNR=4.3						
SONM	**Songino Array**	**56.51**	**351**	P	P	08 13 34.6	-5.6
	1.9nm,0.5s,baz=171,slow=8.7,SNR=9.3						
ZALV	**Zalesovo Beam**	**67.64**	**340**	P	P	08 14 46.3	-7.4
	1.0nm,0.4s,baz=135,slow=5.8,SNR=3.4						

*ISCJB **03** 08:16:04.1±0.6, 24.95S±0.07×179.0W±0.1, h388km, mb3.8/11, Error ellipse: s-maj=13.7km s-min=8.8km az=172.0*

*IDC **03** 08:16:05.2±1.9, 24.82S×179.12W, h383km±21km, mb3.6/11, mb1 3.9/13, mb1mx3.7/25, mbtmp4.4/13, Error ellipse: s-maj=20.8km s-min=14.2km az=152.0*

ISC 03 08:16:05.2±0.7, 24.94S±0.08×179.0W±0.1, h388km, n18, σ1°27/20, mb3.9/11, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**4.40**	**168**	P	**Pn**	**08 17 21.8**	**+1.4**
	106nm,0.3s,baz=197,slow=2.0,SNR=8.6						
RAO				S	**S**	**08 18 18.0**	**-3.4**
	72nm,0.3s,baz=272,slow=22,SNR=4.1						
AFI	**Afiamalu**	**12.91**	**33**	P	P	08 18 48.9	-6.6
	4.6nm,0.3s,baz=126,slow=4.0,SNR=6.6						
AFI				S	S	08 20 59.1	-17
	1.5nm,0.3s,baz=30,slow=20,SNR=4.4						
DZM	**Mont Dzumac**	**13.65**	**279**	P	**Pn**	**08 19 05.7**	**-0.2**
	1.5nm,0.3s,baz=88,slow=16,SNR=14						
URZ	**Urewera**	**13.68**	**193**	P	**P**	**08 19 04.0**	**+0.4**
	2.9nm,0.3s,baz=295,slow=1.2,SNR=25						
URZ				S	**S**	**08 21 30.6**	**-0.7**
	1.8nm,0.3s,baz=18,slow=7.6,SNR=19						
STKA	**Stephens Creek**	**35.20**	**250**	P	**P**	**08 22 24.7**	**+0.2**
	5.6nm,0.5s,baz=97,slow=11,SNR=18						
ASAR	**Alice Springs**	**42.77**	**261**	P	**P**	**08 23 25.9**	**-0.8**
	12nm,0.8s,baz=95,slow=7.0,SNR=104						
ASAR				S	**S**	**08 29 20.6**	**-0.5**
	0.4nm,0.6s,baz=98,slow=14,SNR=5.6						
WRA	**Warramunga Arr**	**43.25**	**267**	P	**P**	**08 23 29.1**	**-1.3**
	8.3nm,0.3s,baz=99,slow=6.8,SNR=286						
VNDA	**Vanda**	**53.42**	**185**	P	P	08 24 47.4	+1.2
	0.6nm,0.8s,baz=6.0,slow=7.8,SNR=6.9						
MAW	**Mawson**	**77.09**	**200**	P	**P**	**08 27 17.8**	**+1.4**
	1.7nm,0.7s,baz=153,slow=4.5,SNR=4.7						
KSRS	**Korea Array**	**79.62**	**320**	P	**P**	**08 27 31.3**	**+0.8**
	1.1nm,0.5s,baz=131,slow=5.0,SNR=3.2						
PETK	**Petropavlovsk-**	**80.32**	**346**	P	**P**	**08 27 34.0**	**+0.1**
	2.5nm,0.7s,baz=138,slow=8.9,SNR=3.0						
TXAR	**Lajitas Array**	**90.21**	**58**	P	**P**	**08 28 23.6**	**+0.5**
	1.4nm,1.0s,baz=214,slow=5.3,SNR=12						
CMAR	**Chiang Mai Arr**	**90.74**	**290**	P	**P**	**08 28 26.5**	**+0.9**
	0.7nm,0.2s,baz=143,slow=3.2,SNR=4.1						
PDAR	**Pinedale Array**	**92.81**	**44**	P	**P**	**08 28 34.3**	**-0.6**
	0.5nm,0.8s,baz=220,slow=3.9,SNR=5.0						
ILAR	**Eielson Array**	**92.83**	**13**	P	**P**	**08 28 32.2**	**-2.0**
	0.3nm,0.9s,baz=220,slow=5.7,SNR=4.5						
ARCES	**ARCESS Array B**	**133.09**	**348**	SKPbc	**SKPbc**	**08 37 24.3**	**-1.0**
	2.3nm,1.0s,baz=16,slow=4.7,SNR=4.3						
FINES	**FINESS Array B**	**139.72**	**342**	PKhKP	PKPpre	08 34 38.9	
	1.0nm,0.9s,baz=54,slow=7.1,SNR=3.4						
FINES				SKPbc	**SKPbc**	**08 37 45.0**	**-0.3**
	0.9nm,0.7s,baz=30,slow=3.4,SNR=5.0						
AKASG	**Malin Array Be**	**146.34**	**327**	PKPbc	**PKPbc**	**08 35 00.9**	**+0.1**
	1.4nm,0.4s,baz=45,slow=3.9,SNR=6.0						

*ISCJB **03** 08:18:17.0±0.6, 41.97N±0.03×43.40E±0.03, h4km±5km, Error ellipse: s-maj=4.5km s-min=3.3km az=156.7*

*CSEM **03** 08:18:16.9±0.2, 41.97N×43.38E, h2km, ML2.0, Error ellipse: s-maj=3.6km s-min=2.4km az=146.0*

*TIF **03** 08:18:16.2, 41.97N×43.40E, h16km±1km*

*DDA **03** 08:18:18.0, 41.68N×43.47E, h7km, Ml3.1*

ISC 03 08:18:17.1±1.1, 41.97N±0.03×43.40E±0.02, h11km±10km, n24, σ0°50/48, Turkey-Georgia-Armenia border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AKH	**Akhalkalaki**	**0.56**	**173**	P	**Pg**	**08 18 28.3**	**+0.3**
AKH				S	**Sb**	**08 18 36.6**

IKL				*e*Sg	**Sn**	**08 48 41.1**	**-0.6**
BERE	**Bereket-Mersin**	**1.23**	**242**	*e*PN	**Pn**	**08 48 30.9**	**-0.2**
BERE	**Bereket-Mersin**	**1.23**	**242**	*e*Pn	**Pn**	**08 48 30.9**	**-0.2**

ISCJB ***03*** *09:28:10.8±0.5,50°.23N±0°.02×12°.52E±0°.03,h14km±5km, Error ellipse: s-maj=3.5km s-min=2.9km az=168.9*
CSEM ***03*** *09:28:11.9±0.1,50°.24N×12°.50E,h10km,ML2.8/9,Error ellipse: s-maj=1.7km s-min=1.4km az=44.0*
PRU ***03*** *09:28:12.9,50°.28N×12°.52E,h1km,West Bohemia Swarm*
BGR ***03*** *09:28:12.3±0.2,50°.26N×12°.44E,h11km±1km,ML2.2/6, Error ellipse: s-maj=2.2km s-min=1.1km az=101.0*
CLL ***03*** *09:28:13.0±0.3,50°.3N±0°.7×1°.2E±°,h7km±1km,ml2.1*

ISC 03 09:28:12.4±0.8,50°.24N±0°.02×12°.47E±0°.02,h11km±3km, n63,σ0°74/114,4C,Germany

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NKC	**Novy Kostel**	**0.02**	**231**	⇑*i*	**Pg**	**09 28 14.3**	**0.0**
NKC				*e*SG	**Sg**	**09 28 15.3**	**-0.4**
	comp=E,682nm,0.2s						
NKC	**Novy Kostel**	**0.02**	**231**	⇑*i*	**Pg**	**09 28 14.3**	**0.0**
NKC				*i* Sg	**Sg**	**09 28 15.3**	**-0.4**
NKC	**Novy Kostel**	**0.02**	**231**	*e*Pg	**Pg**	**09 28 14.3**	**0.0**
NKC				*e*SG	**Sg**	**09 28 15.4**	**-0.4**
NKC	**Novy Kostel**	**0.02**	**231**	Pg	**Pg**	**09 28 14.3**	**0.0**
	682nm,0.2s						
NKC				Sg	**Sg**	**09 28 15.3**	**-0.4**
	682nm,0.2s						
WERN	**Wernitzgruen**	**0.07**	**306**	*i* Pg	**Pg**	**09 28 14.6**	**-0.2**
WERN				*i* Sg	**Sg**	**09 28 15.9**	**-0.7**
WERN				AML	AML	09 28 16.1	
	comp=E,2μm,0.2s						
WERN	**Wernitzgruen**	**0.07**	**306**	*e*Pg	**Pg**	**09 28 14.6**	**-0.2**
WERN				*e*SG	**Sg**	**09 28 15.9**	**-0.7**
WERN	**Wernitzgruen**	**0.07**	**306**	Pg	**Pg**	**09 28 14.6**	**-0.2**
WERN				Sg	**Sg**	**09 28 15.9**	**-0.7**
ROHR	**Rohrbach**	**0.10**	**264**	*i* Pg	**Pg**	**09 28 14.8**	**-0.2**
ROHR				*i* Sg	**Sg**	**09 28 16.3**	**-0.7**
ROHR				AML	AML	09 28 16.5	
	comp=E,1μm,0.1s						
ROHR	**Rohrbach**	**0.10**	**264**	*e*Pg	**Pg**	**09 28 14.9**	**-0.2**
ROHR				*e*SG	**Sg**	**09 28 16.3**	**-0.7**
ROHR	**Rohrbach**	**0.10**	**264**	Pg	**Pg**	**09 28 14.9**	**-0.2**
ROHR				Sg	**Sg**	**09 28 16.3**	**-0.7**
GUNZ	**Gunzen**	**0.15**	**324**	*i* Pg	**Pg**	**09 28 15.7**	**-0.2**
GUNZ				*i* Sg	**Sg**	**09 28 17.6**	**-0.7**
GUNZ				AML	AML	09 28 17.9	
	comp=N,376nm,0.2s						
GUNZ	**Gunzen**	**0.15**	**324**	*e*Pg	**Pg**	**09 28 15.7**	**-0.2**
GUNZ				*e*SG	**Sg**	**09 28 17.6**	**-0.7**
GUNZ	**Gunzen**	**0.15**	**324**	Pg	**Pg**	**09 28 15.7**	**-0.2**
GUNZ				Sg	**Sg**	**09 28 17.6**	**-0.7**
TANN	**Tannenbergstha**	**0.17**	**358**	*i* Pg	**Pg**	**09 28 16.0**	**-0.2**
TANN				*i* Sg	**Sg**	**09 28 18.2**	**-0.7**
TANN				AML	AML	09 28 18.6	
	comp=N,661nm,0.2s						
MULD	**Muldenberg**	**0.17**	**346**	*i* Pg	**Pg**	**09 28 16.0**	**-0.2**
MULD				*i* Sg	**Sg**	**09 28 18.2**	**-0.7**
MULD				AML	AML	09 28 18.4	
	comp=E,441nm,0.2s						
MULD	**Muldenberg**	**0.17**	**346**	*e*Pg	**Pg**	**09 28 16.1**	**-0.2**
MULD				*e*SG	**Sg**	**09 28 18.2**	**-0.7**
MULD	**Muldenberg**	**0.17**	**346**	Pg	**Pg**	**09 28 16.1**	**-0.2**
MULD				Sg	**Sg**	**09 28 18.2**	**-0.7**
WERD	**Werda**	**0.23**	**333**	*i* Pg	**Pg**	**09 28 17.0**	**-0.2**
WERD				*i* Sg	**Sg**	**09 28 19.8**	**-0.7**
WERD				AML	AML	09 28 19.8	
	comp=E,132nm,0.2s						
WERD	**Werda**	**0.23**	**333**	*e*Pg	**Pg**	**09 28 17.0**	**-0.2**
WERD				*e*SG	**Sg**	**09 28 19.7**	**-0.7**
WERD	**Werda**	**0.23**	**333**	Pg	**Pg**	**09 28 17.0**	**-0.2**
WERD				Sg	**Sg**	**09 28 19.7**	**-0.7**
TRIB	**Obertriebel**	**0.24**	**297**	*i* Pg	**Pg**	**09 28 17.0**	**-0.3**
TRIB				*i* Sg	**Sg**	**09 28 20.0**	**-0.7**
TRIB				AML	AML	09 28 20.2	
	comp=E,173nm,0.1s						
TRIB	**Obertriebel**	**0.24**	**297**	*e*Pg	**Pg**	**09 28 17.1**	**-0.3**
TRIB				*e*SG	**Sg**	**09 28 20.2**	**-0.5**
TRIB	**Obertriebel**	**0.24**	**297**	Pg	**Pg**	**09 28 17.1**	**-0.3**
TRIB				Sg	**Sg**	**09 28 20.2**	**-0.5**
PLN	**Plauen**	**0.31**	**320**	*i* Pg	**Pg**	**09 28 18.5**	**-0.3**
PLN				*i* Sg	**Sg**	**09 28 22.4**	**-0.6**
PLN				AML	AML	09 28 22.5	
	comp=E,110nm,0.2s						
PLN	**Plauen**	**0.31**	**320**	*e*Pg	**Pg**	**09 28 18.4**	**-0.3**
PLN				*e*SG	**Sg**	**09 28 22.3**	**-0.6**
PLN	**Plauen**	**0.31**	**320**	Pg	**Pg**	**09 28 18.4**	**-0.3**
PLN				Sg	**Sg**	**09 28 22.3**	**-0.6**
SCHF	**Schoenfels**	**0.44**	**354**	*i* Pg	**Pg**	**09 28 20.8**	**-0.2**
SCHF				*i* Sg	**Sg**	**09 28 26.4**	**-0.3**
SCHF				AML	AML	09 28 26.6	
	comp=E,318nm,0.2s						
SCHF	**Schoenfels**	**0.44**	**354**	*e*Pg	**Pg**	**09 28 20.8**	**-0.2**
SCHF				*e*SG	**Sg**	**09 28 26.4**	**-0.3**
SCHF	**Schoenfels**	**0.44**	**354**	Pg	**Pg**	**09 28 20.8**	**-0.2**
SCHF				Sg	**Sg**	**09 28 26.4**	**-0.3**
ROTZ	**Rotzenmuhle**	**0.51**	**200**	*e*Pg	**Pg**	**09 28 22.5**	**+0.2**
ROTZ				*e*SG	**Sg**	**09 28 29.2**	**+0.3**
ROTZ	**Rotzenmuhle**	**0.51**	**200**	Pg	**Pg**	**09 28 22.5**	**+0.2**
ROTZ				Sg	**Sg**	**09 28 29.2**	**+0.3**
MLFH	**Mildenfurth**	**0.60**	**336**	*i* Pg	**Pg**	**09 28 23.7**	**-0.4**
MOX	**Moxa**	**0.68**	**307**	*e*Pg	**Pg**	**09 28 25.1**	**-0.4**
MOX				*e*SG	**Sg**	**09 28 33.5**	**-0.9**
MOX	**Moxa**	**0.68**	**307**	Pg	**Pg**	**09 28 25.1**	**-0.4**
MOX				Sg	**Sg**	**09 28 33.5**	**-0.9**
FBE	**Freiberg**	**0.88**	**39**	*e*Pg	**Pg**	**09 28 29.5**	**+0.1**
FBE				*e*SG	**Sg**	**09 28 40.7**	**-0.2**
FBE	**Freiberg**	**0.88**	**39**	Pg	**Pg**	**09 28 29.5**	**+0.1**
FBE				Sg	**Sg**	**09 28 40.7**	**-0.2**
GRA1	**Grafenberg Arr**	**0.98**	**236**	Pg	**Pg**	**09 28 31.0**	**-0.2**
GRA1				Sg	**Sg**	**09 28 43.4**	**-0.5**
GRF	**Grafenberg Arr**	**0.98**	**236**	*e*Pg	**Pg**	**09 28 31.0**	**-0.2**
GRF				*e*SG	**Sg**	**09 28 43.4**	**-0.5**
CLL	**Collm**	**1.12**	**17**	*e*Pg	**Pb**	**09 28 33.5**	**-0.3**
CLL				*e*SG	**Sg**	**09 28 47.8**	**-0.6**
CLL	**Collm**	**1.12**	**17**	Pg	**Pb**	**09 28 33.5**	**-0.3**
CLL				Sg	**Sg**	**09 28 47.8**	**-0.6**
CLL	**Collm**	**1.12**	**17**	*i* Pg	**Pb**	**09 28 33.4**	**-0.3**
CLL				*i*		09 28 35.5	
CLL				*i*		09 28 36.8	
CLL				*i* Sg	**Sg**	**09 28 48.3**	**-0.1**
	comp=Z,19nm,0.5s						
CLL				*i*		09 28 51.9	
BRG	**Berggiesshubel**	**1.13**	**56**	PG	**Pb**	**09 28 33.9**	**0.0**
BRG				SG	**Sb**	**09 28 48.7**	**0.0**
	comp=Z,23nm,0.3s						
BRG	**Berggiesshubel**	**1.13**	**56**	*e*Pg	**Pb**	**09 28 34.0**	**0.0**
BRG				*e*SG	**Sg**	**09 28 48.3**	**-0.5**
BRG	**Berggiesshubel**	**1.13**	**56**	Pg	**Pb**	**09 28 34.0**	**0.0**
BRG				Sg	**Sg**	**09 28 48.3**	**-0.5**
WET	**Wettzell**	**1.13**	**166**	*e*Pg	**Pb**	**09 28 33.9**	**-0.1**
WET				*e*SG	**Sb**	**09 28 48.4**	**-0.4**
WET	**Wettzell**	**1.13**	**166**	Pg	**Pb**	**09 28 33.9**	**-0.1**
WET				Sg	**Sb**	**09 28 48.4**	**-0.4**
KHC	**Kasperske Hory**	**1.33**	**147**	*e*PG	**Pn**	**09 28 36.9**	**0.0**
KHC				*e*SG	**Sb**	**09 28 54.6**	**+0.2**
	comp=Z,12nm,0.2s						
KHC	**Kasperske Hory**	**1.33**	**147**	Pg	**Pn**	**09 28 36.9**	**0.0**
KHC				Sg	**Sb**	**09 28 54.6**	**+0.2**
	comp=Z,12nm,0.2s						
PRU	**Pruhonice**	**1.36**	**100**	⇑*e*PG	**Pn**	**09 28 37.8**	**+0.5**
PRU				*e*SG	**Sn**	**09 28 55.7**	**+0.4**
	comp=Z,15nm,0.2s						
PRU	**Pruhonice**	**1.36**	**100**	Pg	**Pn**	**09 28 37.8**	**+0.5**
PRU				Sg	**Sn**	**09 28 55.7**	**+0.4**
	comp=Z,15nm,0.2s						
GOPC	**GO Pecny, Ondr**	**1.53**	**102**	*e*SG	**Sg**	**09 29 01.2**	**-0.4**
	comp=Z,10nm,0.2s						
GOPC	**GO Pecny, Ondr**	**1.53**	**102**	Sg	**Sg**	**09 29 01.2**	**-0.4**
	comp=Z,10nm,0.2s						
UPC	**Upice**	**2.28**	**82**	⇑*e*SG	**Sg**	**09 29 23.9**	**-1.8**
	comp=Z,13nm,0.6s						
UPC	**Upice**	**2.28**	**82**	Sg	**Sg**	**09 29 23.9**	**-1.8**
	comp=Z,13nm,0.6s						
DPC	**Dobruska-Polom**	**2.47**	**86**	*e*SG	**Sb**	**09 29 29.4**	**+2.0**
	comp=Z,5.3nm,0.4s						
DPC	**Dobruska-Polom**	**2.47**	**86**	Sg	**Sb**	**09 29 29.4**	**+2.0**
	comp=Z,5.3nm,0.4s						
MOA	**Molln**	**2.67**	**153**	*e*Pn	**Pb**	**09 29 02.3**	**+2.0**
	comp=Z,0.3nm,0.1s						
MOA				*e*Sg	**Sg**	**09 29 37.0**	**-1.2**
	comp=Z,1.2nm,0.1s						
MOA	**Molln**	**2.67**	**153**	Sg	**Sg**	**09 29 37.0**	**-1.2**
	comp=Z,1.2nm,0.1s						
VRAC	**Vranov**	**2.83**	**108**	*e*Sg	**Sb**	**09 29 39.6**	**+1.9**
CONA	**Conrad Observa**	**3.22**	**135**	*i* Pn	**Pg**	**09 29 12.3**	**-1.7**
	comp=Z,0.2nm,0.1s						
CONA				*e*Sg	**Sg**	**09 29 55.1**	**-0.6**
	comp=Z,1.4nm,0.2s						
MORC	**Moravsky Berou**	**3.31**	**96**	*e*Sg	**Sg**	**09 29 55.9**	**-2.6**
ARSA	**Arzberg**	**3.61**	**145**	*e*Sg	**Sg**	**09 30 06.5**	**-1.9**
	comp=Z,0.9nm,0.3s						
ARSA	**Arzberg**	**3.61**	**145**	Sg	**Sg**	**09 30 06.5**	**-1.9**
	comp=Z,0.9nm,0.3s						

GUC ***03*** *09:36:29.3±0.7,33°.23S×71°.58W,h47km±13km,ML3.0*
SJA ***03*** *09:36:33.1±1.0,32°.92S×71°.46W,h12km±14km,ML3.0, MW3.3*

ISC 03 09:36:31.0±3.1,33°.38S±0°.07×71°.4W±0°.1,h6km±12km,n16, σ0°85/21,1C-4D,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RCDM	**Rinconada Maip**	**0.51**	**103**	*e*P	**Pg**	**09 36 40.0**	**-0.9**
RCDM				*e*S	**Sb**	**09 36 49.6**	**-0.6**
ROC1	**El Roble**	**0.52**	**40**	*e*P	**Pg**	**09 36 41.4**	**+0.5**
ROC1				*e*S	**Sg**	**09 36 47.4**	**-0.3**
ROCH	**El Roble**	**0.52**	**40**	⇓*i*P	**Pg**	**09 36 41.1**	**+0.1**
ROCH				*i* S	**Sb**	**09 36 50.3**	**-0.2**
PEL	**Peldehue**	**0.65**	**69**	⇓*i*P	**Pg**	**09 36 44.1**	**+0.7**
PEL				*i* S	**Sb**	**09 36 55.2**	**+1.2**
PEL				IAML		09 37 01.2	
	comp=E,708nm,0.3s						
ANTU	**Antumapu**	**0.67**	**107**	⇓*i*P	**Pb**	**09 36 45.4**	**+0.3**
ANTU				*i* S	**Sn**	**09 36 57.6**	**-0.3**
ANTU				IAML		09 36 57.8	
	comp=N,770nm,0.3s						
CLCH	**Cerro Calan**	**0.73**	**92**	⇓*i*P	**Pb**	**09 36 46.0**	**-0.1**
CLCH				*i* S	**Sn**	**09 36 58.5**	**-0.8**
CLCH				IAML		09 37 02.8	
	comp=N,1μm,0.5s						
FCH	**Farellones**	**0.94**	**87**	⇑*i*P	**Pg**	**09 36 49.4**	**+0.4**
FCH				*i* S	**Sn**	**09 37 04.5**	**-0.3**
FCH				IAML		09 37 07.5	
	comp=E,768nm,0.3s						
AUSP	**Uspallata**	**2.05**	**56**	*e*P	**Pb**	**09 37 07.9**	**-0.9**
AAGR	**Agrelo**	**2.18**	**83**	*e*P	**Pb**	**09 37 11.8**	**+0.9**
ASAL	**Salagasta**	**2.30**	**71**	*e*P	**Pb**	**09 37 13.2**	**+0.3**
RTLS	**Leoncito**	**2.38**	**49**	*e*P	**Pn**	**09 37 11.9**	**+1.2**
RTLS				IAML		09 37 22.4	
	comp=Z,69nm,0.4s						
RTCV	**Cerro Valdivia**	**2.85**	**59**	*e*P	**Pb**	**09 37 20.1**	**-2.1**
AMOG	**MOGNA**	**3.47**	**46**	*e*P	**Pn**	**09 37 25.7**	**+0.2**
ACAN	**Cantantal**	**3.72**	**74**	*e*P	**Pn**	**09 37 29.3**	**+0.3**
MRA	**San Martin**	**4.88**	**80**	IAML		09 39 09.2	
	comp=Z,13nm,0.6s						
VCA	**Vinchina**	**5.38**	**32**	IAML		09 39 08.6	
	comp=Z,16nm,0.4s						

JMA 03 09:37:25.1±0.1,37°.62N×141°.73E,h45km±2km,M2.7, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JFK	**Kawauchi**	**0.73**	**250**	P	Pn	09 37 39.1	+0.1
JFK				S	Sn	09 37 48.8	-0.3
JMM	**Marumori**	**0.78**	**289**	P	Pn	09 37 39.8	0.0
JMM				*e*S	Sn	09 37 50.5	+0.1
JIO	**Ouri**	**0.89**	**340**	P	Pn	09 37 41.3	+0.1
JIO				S	Sn	09 37 52.7	-0.2
JOU	**Okura**	**1.12**	**312**	P	Pn	09 37 44.8	+0.4
JOU				S	Sn	09 37 59.2	+0.5
JMK	**Ichinoseki**	**1.39**	**343**	P	Pn	09 37 48.6	+0.6
JMK				*e*S	Sn	09 38 05.9	+0.7
MAT	**Matsushiro**	**3.02**	**250**	P	Pn	09 38 10.6	+0.2
MAT				S	Sn	09 38 49.1	+3.8

ISK ***03*** *09:41:47.2,37°.14N×27°.81E,h5km,MD2.3*
CSEM ***03*** *09:41:47.6±0.3,37°.13N×27°.89E,h5km,MD2.3,Error ellipse: s-maj=7.6km s-min=5.3km az=135.0*
DDA ***03*** *09:41:47.0,37°.19N×27°.82E,h7km,Md2.6,Suspected Mining explosion.*
ISCJB ***03*** *09:41:48.3±0.6,37°.14N±0°.03×27°.85E±0°.04,h0km,Error ellipse: s-maj=4.6km s-min=3.9km az=147.3*

ISC 03 09:41:48.1±1.0,37°.15N±0°.03×27°.88E±0°.03,h0km,n15, σ0°69/28,Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MLSB	**Milas**	**0.17**	**332**	*e*PG	**Pg**	**09 41 51.2**	**-0.2**
MLSB				*e*SG	**Sg**	**09 41 53.8**	**+0.2**
BDRM	**Kayabasi**	**0.35**	**257**	*i* P	**Pg**	**09 41 54.0**	**-0.9**
BDRM				*i* S	**Sg**	**09 42 00.6**	**+1.1**
BDRM	**Kayabasi**	**0.35**	**257**	P	**Pg**	**09 41 54.0**	**-0.9**
BDRM				S	**Sg**	**09 42 00.6**	**+1.1**
BODT	**Bodrum**	**0.46**	**260**	*e*PG	**Pg**	**09 41 56.1**	**-0.8**
BODT				*e*SG	**Sg**	**09 42 03.2**	**+0.4**
BODT	**Bodrum**	**0.46**	**260**	*e*Pg	**Pg**	**09 41 56.1**	**-0.8**
DAT	**Datca**	**0.48**	**210**	*e*PG	**Pg**	**09 41 57.4**	**+0.1**
DAT				*e*SG	**Sg**	**09 42 04.6**	**+1.1**
DAT	**Datca**	**0.48**	**210**	*i* P	**Pg**	**09 41 56.7**	**-0.6**
DAT				*i* S	**Sb**	**09 42 06.5**	**-0.6**
DAT	**Datca**	**0.48**	**210**	P	**Pg**	**09 41 56.7**	**-0.6**
DAT	**Datca**	**0.48**	**210**	*e*Pg	**Pg**	**09 41 57.4**	**+0.1**
DAT				*e*Sg	**Sg**	**09 42 04.6**	**+1.1**
DAT				S	**Sb**	**09 42 06.5**	**-0.6**
DALY	**Dalyan (Mu˘la**	**0.70**	**117**	*i* P	**Pg**	**09 42 01.2**	**-0.4**
DALY				*i* S	**Sb**	**09 42 13.4**	**-0.1**
DALY	**Dalyan (Mu˘la**	**0.70**	**117**	P	**Pg**	**09 42 01.2**	**-0.4**
AYDB	**Zeytinkoy-Aydi**	**0.80**	**1**	*e*PG	**Pg**	**09 42 03.6**	**+0.1**
AYDB				*e*SG	**Sb**	**09 42 16.3**	**-0.2**
AYDB	**Zeytinkoy-Aydi**	**0.80**	**1**	*e*Pg	**Pg**	**09 42 03.6**	**+0.1**
AYDB				*e*Sg	**Sb**	**09 42 16.3**	**-0.2**
DNZL	**Cakiroluk**	**1.08**	**59**	*i* P	**Pg**	**09 42 07.9**	**-0.9**
DNZL				*i* S	**Sn**	**09 42 26.7**	**+0.2**
DNZL	**Cakiroluk**	**1.08**	**59**	P	**Pg**	**09 42 07.9**	**-0.9**
DNZL				S	**Sn**	**09 42 26.7**	**+0.2**

IASPEI ***03*** *09:46:19.9±0.8,50°.25N±0°.02×12°.46E±0°.02,h11km±3km, Error ellipse: s-maj=3.5km s-min=2.5km az=99.5,GT5 selection from ISC bulletin GT5 identified by Bond˘jr and McLaughlin (2009) selection criteria Bond˘jr and McLaughlin, A new ground truth data set for seismic studies, Seism. Res. Let., 80, 465-472, 2009*
LDG ***03*** *09:46:19.8±0.1,50°.23N×12°.45E,h10km,Ml3.2/4, Error ellipse: s-maj=2.1km s-min=1.6km az=118.0*
VIE ***03*** *09:46:19.5±0.9,50°.19N×12°.50E,h10km,mb1.9/6,ML2.9/6, Error ellipse: s-maj=13.7km s-min=4.6km az=52.0*
CSEM ***03*** *09:46:19.9±0.1,50°.23N×12°.50E,h5km,ML3.4/9,Error ellipse: s-maj=2.4km s-min=1.9km az=37.0*
CLL ***03*** *09:46:20.9±0.3,50°.3N±0°.7×1°.2E±°,h7km±1km,ml2.7*
BGR ***03*** *09:46:20.1±0.2,50°.25N×12°.45E,h11km±1km,ML2.9/6, Error ellipse: s-maj=2.2km s-min=1.1km az=104.0*
PRU ***03*** *09:46:20.9,50°.26N×12°.51E,h1km,West Bohemia Swarm*

ISC 03 09:46:20.0±0.8,50°.24N±0°.01×12°.46E±0°.02,h13km±3km, n81,σ1°45/141,5C,Germany

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NKC	**Novy Kostel**	**0.01**	**230**	⇑*i*PG	**Pg**	**09 46 22.1**	**-0.2**
NKC				*e*SG	**Sg**	**09 46 23.2**	**-0.8**
	comp=Z,5μm,0.2s						
NKC	**Novy Kostel**	**0.01**	**230**	⇑*i*Pg	**Pg**	**09 46 22.2**	**-0.2**
NKC				*i* Sg	**Sg**	**09 46 23.2**	**-0.8**
NKC	**Novy Kostel**	**0.01**	**230**	*e*Pg	**Pg**	**09 46 22.2**	**-0.2**
NKC				*e*Sg	**Sg**	**09 46 23.2**	**-0.8**
NKC	**Novy Kostel**	**0.01**	**230**	Pg	**Pg**	**09 46 22.1**	**-0.2**
NKC				Sg	**Sg**	**09 46 23.2**	**-0.8**
	5μm,0.2s						
WERN	**Wernitzgruen**	**0.07**	**311**	*i* Pg	**Pg**	**09 46 22.5**	**-0.3**
WERN				*i* Sg	**Sg**	**09 46 23.9**	**-0.9**
WERN				AML	AML	09 46 24.1	
	comp=E,8μm,0.2s						
WERN	**Wernitzgruen**	**0.07**	**311**	*e*Pg	**Pg**	**09 46 22.5**	**-0.3**
WERN				*e*Sg	**Sg**	**09 46 23.9**	**-0.9**
WERN	**Wernitzgruen**	**0.07**	**311**	Pg	**Pg**	**09 46 22.5**	**-0.3**
WERN				Sg	**Sg**	**09 46 23.9**	**-0.9**
ROHR	**Rohrbach**	**0.09**	**266**	*i* Pg	**Pg**	**09 46 22.7**	**-0.3**
ROHR				*i* Sg	**Sg**	**09 46 24.2**	**-0.9**
ROHR				AML	AML	09 46 24.4	
	comp=E,4μm,0.2s						
ROHR	**Rohrbach**	**0.09**	**266**	*e*Pg	**Pg**	**09 46 22.7**	**-0.3**
ROHR				*e*Sg	**Sg**	**09 46 24.2**	**-0.9**
ROHR	**Rohrbach**	**0.09**	**266**	Pg	**Pg**	**09 46 22.7**	**-0.3**
ROHR				Sg	**Sg**	**09 46 24.2**	**-0.9**
GUNZ	**Gunzen**	**0.15**	**326**	*i* Pg	**Pg**	**09 46 23.6**	**-0.1**
GUNZ				*i* Sg	**Sg**	**09 46 25.6**	**-0.8**
GUNZ				AML	AML	09 46 25.9	
	comp=N,2μm,0.2s						
GUNZ	**Gunzen**	**0.15**	**326**	*e*Pg	**Pg**	**09 46 23.6**	**-0.1**
GUNZ				*e*Sg	**Sg**	**09 46 25.6**	**-0.8**
GUNZ	**Gunzen**	**0.15**	**326**	Pg	**Pg**	**09 46 23.6**	**-0.1**
GUNZ				Sg	**Sg**	**09 46 25.6**	**-0.8**
MULD	**Muldenberg**	**0.17**	**348**	*i* Pg	**Pg**	**09 46 24.1**	**-0.1**
MULD				*i* Sg	**Sg**	**09 46 26.2**	**-0.7**
MULD				AML	AML	09 46 26.6	
	comp=N,2μm,0.2s						
MULD	**Muldenberg**	**0.17**	**348**	*e*Pg	**Pg**	**09 46 24.0**	**-0.1**
MULD				*e*Sg	**Sg**	**09 46 26.3**	**-0.7**
MULD	**Muldenberg**	**0.17**	**348**	Pg	**Pg**	**09 46 24.0**	**-0.1**
MULD				Sg	**Sg**	**09 46 26.3**	**-0.7**
TANN	**Tannenbergstha**	**0.17**	**0**	*i* Pg	**Pg**	**09 46 24.0**	**-0.2**
TANN				*i* Sg	**Sg**	**09 46 26.2**	**-0.8**
TANN				AML	AML	09 46 26.8	
	comp=N,3μm,0.2s						
WERD	**Werda**	**0.23**	**334**	*i* Pg	**Pg**	**09 46 24.9**	**-0.1**
WERD				*i* Sg	**Sg**	**09 46 27.7**	**-0.7**
WERD				AML	AML	09 46 28.1	
	comp=E,546nm,0.1s						
WERD	**Werda**	**0.23**	**334**	*e*Pg	**Pg**	**09 46 24.9**	**-0.1**
WERD	**Werda**	**0.23**	**334**	Pg	**Pg**	**09 46 24.9**	**-0.1**
TRIB	**Obertriebel**	**0.24**	**298**	*i* Pg	**Pg**	**09 46 25.0**	**-0.1**
TRIB				*i* Sg	**Sg**	**09 46 27.9**	**-0.6**
TRIB				AML	AML	09 46 28.4	
	comp=E,439nm,0.1s						
TRIB	**Obertriebel**	**0.24**	**298**	*e*Pg	**Pg**	**09 46 25.0**	**-0.1**
TRIB				*e*Sg	**Sg**	**09 46 28.0**	**-0.6**
TRIB	**Obertriebel**	**0.24**	**298**	Pg	**Pg**	**09 46 25.0**	**-0.1**
TRIB				Sg	**Sg**	**09 46 28.0**	**-0.6**
PLN	**Plauen**	**0.31**	**322**	*i* Pg	**Pg**	**09 46 26.4**	**-0.1**
PLN				*i* Sg	**Sg**	**09 46 30.4**	**-0.4**
PLN				AML	AML	09 46 30.5	
	comp=E,555nm,0.2s						
PLN	**Plauen**	**0.31**	**322**	*e*Pg	**Pg**	**09 46 26.4**	**-0.1**
PLN				*e*Sg	**Sg**	**09 46 30.4**	**-0.4**
PLN	**Plauen**	**0.31**	**322**	Pg	**Pg**	**09 46 26.4**	**-0.1**
PLN				Sg	**Sg**	**09 46 30.4**	**-0.4**
SCHF	**Schoenfels**	**0.44**	**355**	*i* Pg	**Pg**	**09 46 28.8**	**0.0**
SCHF				*i* Sg	**Sg**	**09 46 34.5**	**-0.2**
SCHF				AML	AML	09 46 34.7	
	comp=E,1000nm,0.2s						
SCHF	**Schoenfels**	**0.44**	**355**	*e*Pg	**Pg**	**09 46 28.7**	**0.0**
SCHF				*e*Sg	**Sg**	**09 46 34.5**	**-0.2**
SCHF	**Schoenfels**	**0.44**	**355**	Pg	**Pg**	**09 46 28.7**	**0.0**
SCHF				Sg	**Sg**	**09 46 34.5**	**-0.2**
ROTZ	**Rotzenmuhle**	**0.50**	**199**	*e*Pg	**Pg**	**09 46 30.3**	**+0.4**
ROTZ				*e*Sg	**Sg**	**09 46 36.9**	**+0.3**
ROTZ	**Rotzenmuhle**	**0.50**	**199**	Pg	**Pg**	**09 46 30.3**	**+0.4**
ROTZ				Sg	**Sg**	**09 46 36.9**	**+0.3**
MLFH	**Mildenfurth**	**0.60**	**336**	*i* Pg	**Pg**	**09 46 31.6**	**-0.2**
MLFH				*i* Sg	**Sg**	**09 46 39.3**	**-0.4**
MOX	**Moxa**	**0.68**	**307**	*e*Pg	**Pg**	**09 46 33.0**	**-0.2**
MOX				*e*Sg	**Sg**	**09 46 42.2**	**+0.1**
MOX	**Moxa**	**0.68**	**307**	Pg	**Pg**	**09 46 33.0**	**-0.2**
MOX				Sg	**Sg**	**09 46 42.2**	**+0.1**
FBE	**Freiberg**	**0.89**	**40**	*e*Pg	**Pb**	**09 46 37.4**	**+0.1**
FBE				*e*Sg	**Sg**	**09 46 48.5**	**-0.3**
FBE	**Freiberg**	**0.89**	**40**	Pg	**Pb**	**09 46 37.4**	**+0.1**
FBE				Sg	**Sg**	**09 46 48.5**	**-0.3**
GRA1	**Grafenberg Arr**	**0.97**	**236**	Pg	**Pg**	**09 46 38.8**	**0.0**
GRA1				Sg	**Sg**	**09 46 51.3**	**-0.1**
GRF	**Grafenberg Arr**	**0.97**	**236**	*e*Pg	**Pg**

VYHS				eLG	Lg	09 48 49.5			
HAU	**Haudompre**	**4.59**	**243**	*e*Sg	**Sg**	**09 48 43.0**	**-4.5**		
	comp=Z,15nm,0.5s								
HAU	**Haudompre**	**4.59**	**243**	*e*Sg	**Sg**	**09 48 43.0**	**-4.5**		
	comp=Z,7.7nm,0.5s								
LANS	**Liptovska Anna**	**4.68**	**101**	*e*Sg	**Sg**	**09 48 48.6**	**-1.5**		
LANS	**Liptovska Anna**	**4.68**	**101**	*e*SG	**Sg**	**09 48 48.6**	**-1.5**		
STHS	**Stebnicka Huta**	**5.74**	**95**	*e*Sg	**Sg**	**09 49 24.2**	**-0.1**		
STHS	**Stebnicka Huta**	**5.74**	**95**	*e*SG	**Sg**	**09 49 24.2**	**-0.1**		
STHS				eLG	Lg	09 49 34.1			
LPG	**La Plagne**	**6.10**	**221**	*e*Pg	**Pg**	**09 48 13.5**	**-3.4**		
SMF	**Signal de Mont**	**6.77**	**241**	*e*Pg	**Pg**	**09 48 25.5**	**-4.0**		
SMF				*e*Sg	**Sg**	**09 49 51.8**	**-5.3**		
	comp=Z,3.8nm,0.5s								

*ISCJB **03** 10:02:14.8±1.3,37.42S±0.03×74.06W±0.08, h27km±9km, mb3.9/7, Error ellipse: s-maj=10.3km s-min=5.3km az=15.4*

*IDC **03** 10:02:15.6±1.8,37.58S×73.47W, h0km, mb3.9/5, mb1 4.0/7, mb1mx3.9/27, mbtmp3.8/7, ML3.7/2, MS3.6/1, Ms1 3.6/1, ms1mx3.0/18, Error ellipse: s-maj=46.6km s-min=19.9km az=64.0*

*NEIC **03** 10:02:16.0±0.0,37.46S×73.96W, h33km, mb4.1/3, ML4.3(GUC), After GUC.*

NEIC Felt [IV] at Lebu.

*GUC **03** 10:02:16.6±0.6,37.46S×73.96W, h33km±2km, ML4.3*

*SJA **03** 10:02:20.1±1.2,37.27S×73.76W, h55km±161km, ML4.0*

ISC 03 10:02:15.1±3.5,37.45S±0.05×73.97W±0.09, h10km±22km, n35, σ1s77/44, mb3.9/7, 3C-4D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CCSP	**San Pedro de C**	**0.92**	**49**	⇓*i*P	**Pb**	**10 02 32.9**	**-0.2**
CCSP				*i* S	**Sb**	**10 02 44.6**	**-0.7**
CCSP				IAML		10 02 47.0	
	comp=N,18μm,0.3s						
PSCH	**Puerto Saavedr**	**1.43**	**161**	⇓*i*P	**Pn**	**10 02 40.3**	**-0.8**
PSCH				*i* S	**Sn**	**10 02 57.9**	**-2.0**
COCH	**Cobquecura**	**1.62**	**36**	⇑*i*P	**Pn**	**10 02 43.9**	**+0.1**
COCH				*i* S	**Sn**	**10 03 03.6**	**-1.1**
COCH				IAML		10 03 11.9	
	comp=N,3μm,0.6s						
CCHI	**Chillan**	**1.74**	**62**	*i* P	**Pn**	**10 02 45.3**	**0.0**
CCHI				*i* S	**Sn**	**10 03 06.9**	**-0.7**
CCHI				IAML		10 03 15.7	
	comp=N,8μm,0.6s						
VLCH	**Valdivia**	**2.42**	**167**	⇑*i*P	**Pn**	**10 02 54.2**	**-0.6**
TALC	**Talca**	**2.78**	**43**	*e*P	**Pn**	**10 03 00.0**	**+0.3**
TALC				*i* S	**Sn**	**10 03 32.5**	**-0.9**
GO05	**HualaæØ**	**2.94**	**35**	*e*P	**Pn**	**10 03 02.3**	**+0.4**
GO05				*i* S	**Sn**	**10 03 36.3**	**-1.0**
GO05				IAML		10 03 55.8	
	comp=E,1μm,0.6s						
NICH	**Los Niches**	**3.30**	**43**	*e*P	**Pn**	**10 03 07.2**	**+0.4**
NICH				*i* S	**Sn**	**10 03 44.9**	**-1.1**
PLCA	**Paso Flores**	**4.23**	**142**	Pn	**Pn**	**10 03 18.4**	**-1.2**
	comp=E,0.8nm,0.3s,baz=340,slow=10,SNR=6.4						
PLCA				Lg	Lg	10 04 18.0	
	comp=E,3.3nm,0.3s,baz=292,slow=17,SNR=2.6						
CLCH	**Cerro Calan**	**4.92**	**36**	*e*P	**Pn**	**10 03 29.3**	**+0.1**
CLCH				*i* S	**Sn**	**10 04 24.7**	**-1.5**
PEL	**Peldehue**	**5.07**	**33**	⇑*i*P	**Pn**	**10 03 31.4**	**+0.2**
PEL				eS	**Sn**	**10 04 28.1**	**-1.7**
ROC1	**El Roble**	**5.08**	**29**	*e*P	**Pn**	**10 03 31.6**	**+0.1**
ROC1				eS	**Sn**	**10 04 25.9**	**-4.4**
ROCH	**El Roble**	**5.08**	**29**	⇓*i*P	**Pn**	**10 03 31.9**	**+0.4**
FCH	**Farellones**	**5.09**	**37**	*e*P	**Pn**	**10 03 32.5**	**+0.7**
AAGR	**Agrelo**	**6.05**	**46**	*e*P	**Pn**	**10 03 44.5**	**-0.3**
ASAL	**Salagasta**	**6.42**	**43**	*e*P	**Pn**	**10 03 50.7**	**+0.8**
AUSP	**Uspallata**	**6.43**	**37**	*e*P	**Pn**	**10 03 51.8**	**+1.6**
AUSP				eS	**Sn**	**10 05 08.9**	**+5.1**
RTLS	**Leoncito**	**6.83**	**36**	*e*P	**Pn**	**10 03 57.0**	**+1.4**
RTLS				⇓*e*S	Sn	10 05 23.0	+9.5
RTLS				IAML		10 05 51.2	
	comp=Z,34nm,0.6s						
ACAN	**Cantantal**	**7.60**	**49**	*e*P	**Pn**	**10 04 05.3**	**-0.7**
AMOG	**MOGNA**	**7.92**	**37**	*e*P	**Pn**	**10 04 09.7**	**-0.7**
LCO	**Las Campanas**	**8.85**	**19**	*e*Pn	Pn	10 04 20.6	-2.7
	comp=Z,50nm,1.2s						
AGUA	**GUANDACOL**	**9.16**	**32**	*e*P	**Pn**	**10 04 27.1**	**-0.4**
TRQA	**Tornquist**	**9.52**	**97**	*e*Pn	**Pn**	**10 04 30.8**	**-1.5**
	comp=Z,17nm,1.0s						
TRQA				eSn	**Sn**	**10 06 23.0**	**+3.6**
ACLC	**CERRO LA CRUZ**	**9.92**	**38**	*e*P	Pn	10 04 34.9	-3.0
LVC	**Limon Verde**	**15.42**	**18**	Pn	**P**	**10 05 58.9**	**+1.1**
	comp=Z,17nm,0.3s,baz=186,slow=14,SNR=2.9						
LVC	**Limon Verde**	**15.42**	**18**	Pn	Pn	10 05 45.2	-7.9
	comp=Z,4.7nm,1.0s						
CPUP	**Villa Florida**	**17.93**	**57**	P	**Pn**	**10 06 23.6**	**-1.0**
	comp=Z,0.1nm,0.3s,baz=236,slow=8.7,SNR=2.4						
CPUP				LR	LR	10 13 56.8	
	comp=Z,212nm,21.8s,baz=230,slow=40						
LPAZ	**La Paz**	**21.70**	**15**	P	**P**	**10 07 10.3**	**+3.3**
	comp=Z,2.3nm,0.8s,baz=149,slow=8.8,SNR=7.3						
SIV	**San Ignacio**	**24.23**	**32**	P	**P**	**10 07 32.3**	**+0.1**
	comp=Z,2.5nm,0.8s,baz=223,slow=11,SNR=4.1						
TXAR	**Lajitas Array**	**72.03**	**333**	P	**P**	**10 13 43.0**	**+3.7**
	comp=Z,0.5nm,0.7s,baz=149,slow=8.5,SNR=6.0						
WMOK	**Wichita Mounta**	**75.43**	**339**	P	**P**	**10 13 56.4**	**-2.6**
	comp=Z,3.7nm,1.6s						
DBIC	**Dimbokro**	**77.76**	**72**	P	**P**	**10 14 13.1**	**+0.4**
	comp=Z,3.2nm,0.7s,baz=200,slow=8.2,SNR=2.7						
SDCO	**Great Sand Dun**	**80.29**	**335**	*e*P	**P**	**10 14 24.0**	**-2.4**
	comp=Z,8.7nm,2.0s						
TORD	**Torodi Ar. Bea**	**86.84**	**71**	P	**P**	**10 15 00.0**	**-0.2**
	comp=Z,0.3nm,0.6s,baz=212,slow=4.0,SNR=2.2						
ABKAR	**Akbulak array**	**144.99**	**55**	*e*PKPbc	**PKPbc**	**10 21 52.2**	**+0.8**

*MAN **03** 10:08:04, 11.51N×125.81E, h1km, mb5.2, ML4.1, MS4.3*

MAN INTENSITY III - TACLOBAN CITY; INTENSITY II - BORONGAN CAN-AVID GENERAL MACARTHUR GUIUAN & ORAS EASTERN SAMAR; INTENSITY I - SAN POLICARPO EASTERN SAMAR.

*ISCJB **03** 10:08:08.7±0.9, 11.52N±0.04×125.78E±0.07, h62km±8km, mb4.3/22, Error ellipse: s-maj=12.3km s-min=5.8km az=160.6*

*IDC **03** 10:08:09.8±3.1, 11.45N×125.64E, h54km±28km, mb4.0/17, mb1 4.2/17, mb1mx4.0/33, mbtmp4.3/17, MS3.5/12, Ms1 3.6/12, ms1mx3.2/45, Error ellipse: s-maj=27.6km s-min=11.4km az=75.0*

*NEIC **03** 10:08:13.6±1.7, 11.45N×125.63E, h90km±15km, mb4.4/5, Error ellipse: s-maj=16.9km s-min=7.2km az=72.0*

NEIC Felt [II PIVS] at Borongan, Can-Avid, General MacArthur, Guiuan and Oras; [I PIVS] at San Policarpio. Felt [III PIVS] at Tacloban, Leyte.

ISC 03 10:08:09.5±1.4, 11.55N±0.05×125.72E±0.09, h50km±13km, n59, σ2s02/55, mb4.4/22, MS3.5/9, 6C-1D, Samar

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PLP	**Palo**	**0.82**	**243**	⇑*e*P	**Pn**	**10 08 22.5**	**-2.4**
PLP				eS	**Sn**	**10 08 31.0**	**-5.1**
SCPH	**Surigao**	**1.77**	**188**	*e*P	**Pn**	**10 08 37.2**	**-0.5**
SCPH				*i* S	**Sn**	**10 09 00.4**	**+1.3**
LLP	**Lapu-Lapu**	**2.12**	**235**	⇑*e*P	**Pn**	**10 08 42.6**	**+0.1**
LLP				*i* S	**Sn**	**10 09 10.9**	**+3.4**
MMPH	**Masbate**	**2.21**	**292**	⇑*e*P	**Pn**	**10 08 44.8**	**+1.1**
MMPH				*i* S	**Sn**	**10 09 10.9**	**+1.1**
PVCP	**Virac**	**2.55**	**323**	*e*P	**Pn**	**10 08 47.7**	**-0.8**
TBP	**Tagbilaran**	**2.60**	**225**	*e*P	**Pn**	**10 08 53.5**	**+4.4**
RCP	**Roxas**	**2.92**	**271**	⇑*e*P	**Pn**	**10 08 53.1**	**-0.4**
RCP				eS	**Sn**	**10 09 29.1**	**+1.7**
GUIM	**Jordan**	**3.21**	**254**	*e*P	**Pn**	**10 08 57.2**	**-0.3**
CGP	**Cagayan de Oro**	**3.24**	**198**	⇑*e*P	**Pn**	**10 08 58.3**	**+0.4**
CGP				eS	**Sn**	**10 09 42.3**	**+7.2**
SNPH	**Sibulan**	**3.28**	**228**	*e*P	**Pn**	**10 08 59.7**	**+1.2**
AUQP	**San Andres**	**3.46**	**301**	*e*P	**Pn**	**10 09 03.4**	**+2.4**
GQP	**Guinayangan**	**3.96**	**307**	⇓*e*P	**Pn**	**10 09 09.5**	**+1.6**
GQP				eS	**Sn**	**10 09 50.0**	**-3.1**
BOAC	**Boac**	**4.24**	**297**	*e*P	**Pn**	**10 09 13.6**	**+2.0**
PAGZ	**Pagadian**	**4.34**	**212**	*e*P	**Pn**	**10 09 14.2**	**+1.2**
CTBH	**Cotabato--PC H**	**4.54**	**199**	*e*P	**Pn**	**10 09 15.3**	**-0.5**
TGY	**Tagaytay City**	**5.32**	**299**	P	**Pn**	**10 09 30.9**	**+4.5**
	43nm,0.3s,baz=74,slow=6.1,SNR=3.7						
TGY				LR	LR	10 11 47.4	
	comp=Z,813nm,19.1s,baz=100,slow=41						
PCPH	**Palayan**	**6.01**	**312**	⇑*e*P	**Pn**	**10 09 39.0**	**+3.1**
CAUP	**Cauayan**	**6.56**	**325**	*e*P	**Pn**	**10 09 46.1**	**+2.6**
JOW	**Kunigami**	**15.39**	**9**	LR	LR	10 16 54.3	
	comp=Z,121nm,19.8s,baz=288,slow=34						
GUMO	**Guam**	**18.80**	**82**	LR	LR	10 18 17.3	
	comp=Z,116nm,20.0s,baz=260,slow=32						
SOEI	**Soe**	**21.21**	**184**	P	**P**	**10 12 51.6**	**+0.3**
	13nm,0.5s						
SLVN	**Son La**	**23.05**	**298**	*e*P	**P**	**10 13 09.9**	**-1.0**
	5.4nm,0.8s						
KSAR	**Wonju Array Be**	**25.86**	**4**	P	**P**	**10 13 36.3**	**-0.2**
KSRS	**Korea Array**	**25.87**	**4**	P	**P**	**10 13 36.3**	**-0.3**
	5.3nm,0.9s,baz=183,slow=11,SNR=8.2						
KSRS				LR	LR	10 23 02.9	
	comp=Z,61nm,21.1s,baz=196,slow=34						
CMAR	**Chiang Mai Arr**	**26.74**	**288**	P	**P**	**10 13 44.5**	**-0.3**
	1.8nm,0.3s,baz=98,slow=7.6,SNR=7.4						
CMAR				LR	LR	10 25 37.8	
	comp=Z,52nm,18.6s,baz=115,slow=39						
MJAR	**Matsushiro Arr**	**27.32**	**22**	LR	LR	10 22 52.6	
	comp=Z,82nm,20.8s,baz=205,slow=32						
PSI	**Prapat**	**27.95**	**254**	LR	LR	10 26 23.3	
	comp=Z,142nm,18.1s,slow=39						
FITZ	**Fitzroy Crossi**	**29.46**	**180**	P	**P**	**10 14 07.9**	**-1.0**
	4.7nm,0.8s,baz=31,slow=9.0,SNR=9.0						
WRA	**Warramunga Arr**	**32.42**	**165**	P	**P**	**10 14 32.6**	**-2.4**
	0.8nm,0.6s,baz=345,slow=9.2,SNR=8.9						
WRA				PcP	**PcP**	**10 17 20.3**	**-1.3**
	1.3nm,0.7s,baz=344,slow=3.2,SNR=8.0						
ASAR	**Alice Springs**	**35.90**	**167**	P	**P**	**10 15 04.3**	**-0.8**
	1.5nm,0.6s,baz=345,slow=7.4,SNR=31						
ASAR				PcP	**PcP**	**10 17 30.9**	**-0.6**
	1.0nm,0.6s,baz=338,slow=2.6,SNR=5.5						
ASAR				ScP	**ScP**	**10 21 11.8**	**-2.0**
	1.2nm,1.0s,baz=336,slow=2.7,SNR=6.0						
SONM	**Songino Array**	**39.64**	**340**	P	**P**	**10 15 37.3**	**+0.7**
	2.1nm,0.8s,baz=161,slow=7.7,SNR=13						
H11S3	**WAKE ISLAND Hy**	**40.09**	**75**	T	T	10 58 50.7	
	baz=265,slow=76,SNR=53						
H11S1	**WAKE ISLAND Hy**	**40.10**	**75**	T	T	10 58 45.4	
	baz=265,slow=76,SNR=27						
H11S2	**WAKE ISLAND Hy**	**40.11**	**75**	T	T	10 58 47.5	
	baz=265,slow=76,SNR=33						
H11N1	**WAKE ISLAND Hy**	**40.38**	**73**	T	T	10 59 10.8	
	baz=265,slow=74,SNR=125						
H11N2	**WAKE ISLAND Hy**	**40.39**	**73**	T	T	10 59 04.4	
	baz=265,slow=74,SNR=120						
H11N3	**WAKE ISLAND Hy**	**40.40**	**73**	T	T	10 59 13.3	
	baz=265,slow=74,SNR=146						
PALK	**Pallekele**	**44.58**	**269**	LR	LR	10 36 14.9	
	comp=Z,48nm,18.6s,baz=116,slow=38						
STKA	**Stephens Creek**	**45.78**	**161**	P	**P**	**10 16 26.3**	**0.0**
	4.9nm,0.7s,baz=342,slow=8.8,SNR=15						
PETK	**Petropavlovsk-**	**48.71**	**25**	P	**P**	**10 16 50.4**	**+1.4**
	6.1nm,0.8s,baz=217,slow=1.1,SNR=6.3						
YAK	**Yakutsk**	**50.48**	**2**	*e*P	**P**	**10 17 02.7**	**+0.5**
ZALV	**Zalesovo Beam**	**53.26**	**331**	P	**P**	**10 17 23.1**	**+0.1**
	3.0nm,0.6s,baz=128,slow=7.1,SNR=8.9						
ZALV				LR	LR	10 42 22.6	
	comp=Z,42nm,19.2s,baz=70,slow=38						
KURK	**Kurchatov**	**54.72**	**325**	*e*P	**P**	**10 17 34.0**	**+0.2**
BRVK	**Borovoye**	**60.39**	**325**	*e*P	**P**	**10 18 13.8**	**+0.2**
	17nm,0.9s						
NRIK	**Noril'sk**	**62.65**	**346**	P	**P**	**10 18 29.2**	**+0.7**
	5.5nm,0.9s,baz=127,slow=7.5,SNR=6.8						
GEYT	**Ailbeck**	**65.36**	**306**	LR	LR	10 51 56.4	
	comp=Z,68nm,19.3s,baz=0.0,slow=40						
ABKAR	**Akbulak array**	**65.56**	**319**	*e*P	**P**	**10 18 47.5**	**-0.6**
	2.6nm,0.7s						
ARU	**Arti**	**67.87**	**326**	*e*P	**P**	**10 19 01.3**	**-1.3**
	2.9nm,0.6s						
KBZ	**Khabaz**	**76.96**	**312**	P	**P**	**10 19 57.7**	**+0.7**
	2.7nm,0.9s,baz=182,slow=2.4,SNR=5.1						
ILAR	**Eielson Array**	**78.53**	**26**	P	**P**	**10 20 05.2**	**-0.2**
	1.2nm,0.7s,baz=240,slow=5.5,SNR=8.0						
ARCES	**ARCESS Array B**	**82.82**	**340**	P	**P**	**10 20 28.5**	**+0.3**
	3.2nm,0.6s,baz=79,slow=6.3,SNR=18						
BRTR	**Keskin Array B**	**84.31**	**309**	P	**P**	**10 20 35.6**	**-1.0**
	0.7nm,0.7s,baz=98,slow=5.1,SNR=4.4						
FINES	**FINESS Array B**	**84.52**	**332**	P	**P**	**10 20 36.6**	**-0.4**
	3.4nm,0.9s,baz=73,slow=3.9,SNR=10						
AKASG	**Malin Array Be**	**85.24**	**321**	P	**P**	**10 20 39.5**	**-1.3**
	3.0nm,0.6s,baz=62,slow=4.3,SNR=5.8						
VNDA	**Vanda**	**91.26**	**173**	P	**P**	**10 21 08.3**	**-0.7**
	7.4nm,1.4s,baz=309,slow=6.3,SNR=4.1						
NOA	**NORSAR Array B**	**91.38**	**334**	LR	LR	11 05 11.9	
	comp=Z,32nm,18.8s,baz=0.0,slow=37						
GERES	**GERESS Array B**	**95.36**	**322**	LR	LR	11 06 31.0	
	comp=Z,70nm,19.0s,baz=252,slow=37						
TXAR	**Lajitas Array**	**117.39**	**48**	PKP	**PKPdf**	**10 26 51.2**	**+0.7**
	0.5nm,0.7s,baz=257,slow=0.2,SNR=7.2						
PLCA	**Paso Flores**	**147.58**	**157**	PKPbc	**PKPbc**	**10 27 49.1**	**+0.4**
	3.0nm,0.6s,baz=236,slow=2.7,SNR=9.0						

*NNC **03** 10:18:31.0±2.8, 40.35N×72.06E, h0km, mb2.9, mpv2.5, Error ellipse: s-maj=20.5km s-min=13.7km az=5.0*

*KRNET **03** 10:18:32.4±0.1, 40.16N×72.01E, mb1.9*

ISC 03 10:18:35.7±1.9, 40.4N±0.1×71.7E±0.1, h10km, n6, σ1s10/9, 11C-1D, Tajikistan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BTK	**Batken**	**0.76**	**240**	⇑*i*P	**Pg**	**10 18 49.9**	**-0.5**
	baz=264						
BTK				⇑*i*S	**Sb**	**10 19 02.5**	**+1.0**
	baz=264						
ARK	**Arkit**	**1.37**	**9**	⇑*i*P	**Pn**	**10 19 00.3**	**-0.7**
	baz=359						
ARK				⇑*i*S	**Sn**	**10 19 20.8**	**+1.5**
	baz=359						
MNAS	**Manas**	**2.13**	**17**	⇑*i*P	**Pn**	**10 19 10.4**	**-1.2**
	baz=9.0						
MNAS				⇑*i*S	**Sn**	**10 19 38.2**	**0.0**
	baz=9.0						
MNAS	**Manas**	**2.13**	**17**	⇑Pg	**Pn**	**10 19 10.2**	**-1.3**
	1.9nm,0.3s						
MNAS				⇓Lg	Lg	10 19 40.9	
	2.6nm,0.4s						
KK31	**Karatay Array**	**2.80**	**342**	⇑Pg	**Pb**	**10 19 26.2**	**+0.4**
	0.4nm,0.3s,baz=160,slow=15,SNR=4.1						
KK31				⇑Lg	Lg	10 20 04.1	
	2.3nm,0.5s,baz=155,slow=32,SNR=6.2						
AAK	**Ala-Archa**	**3.05**	**43**	⇑Pg	**Pn**	**10 19 24.3**	**+0.2**
	1.2nm,0.4s						
AAK				⇑Lg	Lg	10 20 04.2	
	4.3nm,0.5s						

*ISCJB **03** 10:27:03.6±0.9, 36.72N±0.06×70.39E±0.09, h204km, mb3.7/3, Error ellipse: s-maj=10.1km s-min=7.5km az=158.1*

*IDC **03** 10:27:06.2±7.3, 36.83N×70.40E, h200km±53km, mb3.4/3, mb1 3.3/8, mb1mx3.0/57, mbtmp4.0/8, MS3.1/1, Ms1 3.1/1, ms1mx2.3/40, Error ellipse: s-maj=66.6km s-min=44.8km az=179.0*

*NNC **03** 10:27:06.2±5.0, 36.95N×70.80E, h0km, mb4.3, mpv4.0, Error ellipse: s-maj=40.2km s-min=19.2km az=176.0*

ISC 03 10:27:04.7±1.3, 36.71N±0.09×70.39E±0.08, h204km, n15, σ1s28/21, mb3.8/3, 4C-6D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZET	**Dzherino**	**2.43**	**330**	⇓Pn	**Pn**	**10 27 46.9**	**-1.2**
	136nm,0.5s						
DZET				⇑Sn	**S**	**10 28 19.1**	**-2.4**
	234nm,0.3s						
MNAS	**Manas**	**5.99**	**15**	⇓Pn	**Pn**	**10 28 31.9**	**0.0**
	3.7nm,0.6s						
MNAS				⇓Sn	**S**	**10 29 38.9**	**-1.9**
	94nm,1.0s						
THN	**Thein Dam**	**6.12**	**133**	*e*S	**S**	**10 29 42.0**	**-1.8**
KK31	**Karatay Array**	**6.38**	**1**	⇑Pn	**Pn**	**10 28 37.7**	**+0.9**
	3.0nm,0.3s,baz=191,slow=16,SNR=38						
KK31				⇓Sn	**S**	**10 29 47.9**	**-1.9**
	10nm,0.5s,baz=192,slow=25,SNR=10.0						
AAK	**Ala-Archa**	**6.71**	**27**	P	**Pn**	**10 28 41.6**	**+0.4**
	3.1nm,0.3s,baz=150,slow=2.4,SNR=10						
AAK				S	**S**	**10 29 56.6**	**-1.0**
	2.3nm,0.3s,baz=350,slow=22,SNR=9.9						
AAK	**Ala-Archa**	**6.71**	**27**	⇑Pn	**Pn**	**10 28 41.5**	**+0.3**
	2.7nm,0.4s						
AAK				⇑Sn	**S**	**10 29 56.8**	**-0.9**
	33nm,0.7s						
TKM2	**Tokmak 2**	**7.38**	**31**	⇓Pn	**Pn**	**10 28 49.8**	**-0.2**
	10.0nm,0.5s						
TKM2				⇓Sn	**S**	**10 30 12.6**	**-1.0**
	12nm,0.8s						
KURBB	**Kurchatov Arra**	**15.08**	**20**	P	**Pn**	**10 30 26.9**	**-0.6**
	0.1nm,0.3s,baz=208,slow=10.0,SNR=3.6						
BVAR	**Borovoye Array**	**16.31**	**360**	P	**Pn**	**10 30 42.5**	**+0.2**
	0.6nm,0.3s,baz=178,slow=7.9,SNR=7.8						
AKTO	**Aktyubinsk**	**16.35**	**331**	P	**Pn**	**10 30 43.2**	**+0.4**
	0.6nm,0.3s,baz=150,slow=12,SNR=5.6						
AKTO				S	**S**	**10 33 42.2**	**-0.6**
	0.1nm,0.3s,baz=291,slow=23,SNR=1.3						
WSAR	**Wadi Sarin**	**16.84**	**220**	LR	LR	10 38 04.0	
	comp=Z,53nm,18.2s,baz=277,slow=39						
ZALV	**Zalesovo Beam**	**19.93**	**26**	P	**P**	**10 31 21.7**	**+1.0**
	1.7nm,0.3s,baz=211,slow=11,SNR=12						
ARU	**Arti**	**21.27**	**342**	P	**P**	**10 31 37.1**	**+2.2**
	1.3nm,0.3s,baz=141,slow=10,SNR=1.5						
FINES	**FINESS Array B**	**37.03**	**326**	P	**P**	**10 33 54.8**	**+0.3**
	1.5nm,0.6s,baz=112,slow=8.5,SNR=3.9						
ARCES	**ARCESS Array B**	**40.76**	**338**	P	**P**	**10 34 26.2**	**+0.9**
	1.1nm,0.6s,baz=108,slow=7.8,SNR=2.7						

CASC 03 10:42:31.9±0.9, 11.50N×85.94W, h152km±5km, MD3.7, ML2.5, 2C, Nicaragua

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CONN	**Concepcion**	**0.31**	**78**	*e*P	Pn	10 42 52.5	-0.2
CRZ1	**La Cruz**	**0.52**	**145**	*e*P	Pn	10 42 54.0	+0.4
CRZ1				*e*S	Sn	10 43 10.3	+0.2
MGAN	**Managua**	**0.71**	**335**	*e*P	Pn	10 42 55.3	+0.7
ACON	**Acoyapa**	**0.88**	**58**	*e*P	Pn	10 42 55.7	-0.2
ACON				*e*S	Sn	10 43 14.9	+0.7
COPN	**Copaltepe**	**0.93**	**317**	*e*P	Pn	10 42 56.1	-0.2
GPS3	**Bodega del ICE**	**0.93**	**143**	*e*S	Sn	10 43 15.7	+0.7
MESS	**Mesas**	**1.05**	**136**	*e*P	Pn	10 42 57.5	+0.1
MESS				*e*S	Sn	10 43 17.9	+1.1
CUI	**Cuipilapa**	**1.13**	**138**	⇑*e*P	Pn	10 42 58.3	+0.2
CUI				*e*S	Sn	10 43 18.9	+0.9
CNGN	**Cerro Negro**	**1.24**	**323**	*e*P	Pn	10 42 59.4	+0.4
CNGN				AML	AML	10 43 18.8	
	comp=N,43nm,0.4s						
ESPN	**Las Esperanzas**	**1.75**	**67**	*e*P	Pn	10 43 03.2	-1.1
ESPN				*e*S	Sn	10 43 28.4	-0.6
CGA2	**Cerro Gallo 2**	**2.07**	**135**	*e*P	Pn	10 43 07.8	-0.3
URSC	**Urasca**	**2.69**	**128**	⇑*e*P	Pn	10 43 16.9	+1.2
QCR1	**Quepos**	**2.70**	**140**	*e*P	Pn	10 43 16.4	+0.8

IDC 03 10:52:46.0±2.5, 35.20S×106.43W, h0km, mb3.6/2, mb1 4.1/2, mb1mx3.7/15, mbtmp3.6/2, MS3.7/2, Ms1 3.7/2, ms1mx3.2/15, Error ellipse: s-maj=126.3km s-min=75.8km az=83.0, Southern East Pacific Rise

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LPAZ	**La Paz**	**39.00**	**71**	LR	LR	11 12 21.9	
	comp=Z,52nm,21.4s,baz=220,slow=30						
RPZ	**Rata Peaks**	**61.80**	**235**	LR	LR	11 26 03.8	
	comp=Z,96nm,18.1s,baz=84,slow=32						
TXAR	**Lajitas Array**	**64.24**	**3**	P	P	11 03 22.9	0.0
	0.4nm,0.8s,baz=178,slow=8.5,SNR=3.4						
PDAR	**Pinedale Array**	**77.64**	**358**	P	P	11 04 44.2	0.0
	0.7nm,0.8s,baz=156,slow=4.6,SNR=3.6						
BRTR	**Keskin Array B**	**148.17**	**70**	PKPbc	PKPbc	11 12 33.2	-0.7
	0.4nm,0.5s,baz=225,slow=1.8,SNR=2.1						
SONM	**Songino Array**	**152.58**	**308**	PKPbc	PKPbc	11 12 44.2	-0.1
	0.8nm,0.7s,baz=50,slow=2.3,SNR=2.6						

*ISK **03** 10:55:41.9, 36.47N×28.88E, h5km, ML2.0*

*CSEM **03** 10:55:42.8±0.4, 36.46N×28.85E, h5km, MD2.6, Error ellipse: s-maj=10.1km s-min=5.3km az=23.0*

*ISCJB **03** 10:55:43.3±0.7, 36.77N±0.05×29.08E±0.05, h0km, Error ellipse: s-maj=6.9km s-min=5.2km az=22.8*

*DDA **03** 10:55:43.4, 36.83N×29.05E, h7km, Md2.6, Suspected Mining explosion.*

ISC 03 10:55:40.5±1.0, 36.87N±0.06×29.11E±0.04, h0km, n16, σ1s50/30, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FETY	**Fethiye**	**0.23**	**185**	*e*PG	**Pb**	**10 55 47.4**	**+2.5**
FETY				*e*SG	**Sb**	**10 55 51.5**	**+3.6**

comp=Z,159nm,19.9s,baz=84,slow=33
MA2 Magadan 72.73 352 LR LR 11 56 47.2
comp=Z,15nm,21.1s,baz=97,slow=32
CMAR Chiang Mai Arr 73.04 294 P P 11 29 45.7 +0.1
0.5nm,0.3s,baz=82,slow=3.9,SNR=1.9

*CSEM **03** 11:20:45.7, 36°.48N × 54°.76E, h5km, ML3.0*
TEH 03 11:20:45.7, 36°.48N × 54°.76E, h5km, ML3.0, Northern and central Iran

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
IGLO	**Ghaloghah**	**0.75**	**272**	*e*Pg	Pg	11 20 58.6	-1.5
IGLO				*e*AMB	AMB	11 21 19.0	
	comp=Z,8μm,0.2s						
SHRO	**Shahrood**	**1.12**	**115**	*e*Pg	Pg	11 21 04.9	-2.3
IANJ	**Anjilo**	**1.22**	**215**	*e*Sg	Sg	11 21 23.5	-1.4
IANJ				*e*Pg	Pg	11 21 07.6	-1.5
IANJ				*e*AMB	AMB	11 21 29.7	
	comp=Z,2μm,0.1s						
ISHM	**Shahmirzad**	**1.36**	**241**	*e*AMB	AMB	11 21 40.9	
	comp=Z,3μm,0.2s						
MRVT	**Maraveh tapeh**	**1.59**	**42**	*e*Pg	Pn	11 21 10.5	-4.1
ILAS	**Lasjerd**	**1.82**	**234**	*e*Pn	Pn	11 21 18.7	+0.7
ILAS				*e*AMB	AMB	11 21 49.2	
	comp=E,2μm,0.2s						
ILAS	**Lasjerd**	**1.82**	**234**	*e*Pn	Pn	11 21 18.7	+0.7
IFIR	**Firoozkooh**	**1.83**	**244**	*e*Pn	Pn	11 21 17.6	-0.4
IFIR				*e*AMB	AMB	11 21 27.1	
	comp=Z,1μm,0.2s						
IFIR				*e*Sg	Sb	11 21 42.4	-0.7
IFIR	**Firoozkooh**	**1.83**	**244**	*e*Pn	Pn	11 21 17.6	-0.4
IFIR				*e*Sg	Sb	11 21 42.4	-0.7
IPRN	**Peran**	**1.97**	**264**	*e*Pn	Pn	11 21 20.3	+0.4
IPRN				*e*AMB	AMB	11 21 53.6	
	comp=Z,4μm,0.2s						
IDMV	**Damavand**	**2.39**	**249**	*e*Pn	Pb	11 21 28.6	-0.7
IDMV				*e*AMB	AMB	11 22 07.6	
	comp=N,2μm,0.2s						
IDMV	**Damavand**	**2.39**	**249**	*e*Pn	Pb	11 21 28.6	-0.7
ISFR	**Sfrayin**	**2.66**	**77**	*e*Pn	Pn	11 21 28.9	-0.7
ISFR				*e*AMB	AMB	11 22 13.8	
	comp=Z,452nm,0.2s						
ISFR	**Sfrayin**	**2.66**	**77**	*e*Pn	Pn	11 21 28.9	-0.7
IAKL	**Akhelmad**	**3.22**	**87**	*e*Pn	Pn	11 21 36.6	-0.6
IAKL				*e*AMB	AMB	11 22 28.7	
	comp=Z,110nm,0.2s						
TABS	**Tabas**	**3.42**	**145**	*e*Pn	Pn	11 21 41.9	+2.1
NASN	**Na'in**	**4.00**	**204**	*e*Pn	Pb	11 21 59.0	+2.0

*IDC **03** 11:25:47.1±1.2, 0°.26S × 132°.55E, h0km, mb4.2/4, mb1 4.2/6, mb1mx3.7/40, mbtmp4.0/6, ML3.8/2, MS3.3/3, Ms1 3.3/3, ms1mx2.7/28, Error ellipse: s-maj=31.0km s-min=20.7km az=88.0*
*ISCJB **03** 11:25:50.0±0.8, 0°.32S±0°.06 × 132°.54E±0°.08, h32km, mb3.9/5, MS3.3/3, Error ellipse: s-maj=11.5km s-min=8.9km az=5.5*
*NEIC **03** 11:25:50.7±0.8, 0°.33S × 133°.08E, h30km, mb4.0/3, Error ellipse: s-maj=20.2km s-min=12.2km az=86.0*
ISC 03 11:25:52.1±0.9, 0°.33S±0°.08 × 132°.41E±0°.10, h32km, n15, σ1§10/13, mb3.9/5, MS3.2/3, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SIJI	**Sorong**	**1.26**	**245**	Pn	**Pn**	**11 26 13.2**	**-0.4**
	24nm,0.3s,baz=270,slow=24,SNR=21						
SIJI				Sn	**Sb**	**11 26 30.6**	**-0.8**
	13nm,0.3s,baz=270,slow=24,SNR=11						
FAKI	**Fak Fak**	**2.58**	**184**	*e*Pn	**Pn**	**11 26 30.8**	**-0.9**
FAKI				*e*Sn	**Sn**	**11 27 02.7**	**+0.8**
PMG	**Port Moresby**	**17.23**	**122**	*e*P	Pn	11 29 41.2	-9.3
	26nm,1.1s						
FITZ	**Fitzroy Crossi**	**18.87**	**200**	P	**Pn**	**11 30 11.9**	**+1.2**
	0.2nm,0.3s,baz=24,slow=12,SNR=6.4						
WRAB	**Tennant Creek**	**19.57**	**175**	*e*P	**P**	**11 30 16.7**	**-1.0**
	2.1nm,0.6s						
WRA	**Warramunga Arr**	**19.58**	**175**	P	**P**	**11 30 16.6**	**-1.2**
	0.3nm,0.3s,baz=354,slow=11,SNR=12						
ASAR	**Alice Springs**	**23.24**	**177**	P	**P**	**11 30 56.0**	**-0.9**
	3.1nm,0.8s,baz=10,slow=9.7,SNR=26						
STKA	**Stephens Creek**	**32.56**	**165**	P	**P**	**11 32 21.8**	**+1.3**
	1.6nm,0.9s,baz=0.0,slow=12,SNR=3.9						
MJAR	**Matsushiro Arr**	**37.08**	**8**	LR	LR	11 46 55.8	
	comp=Z,29nm,19.4s,baz=140,slow=34						
KLR	**Kul'dur**	**49.37**	**359**	LR	LR	11 53 44.5	
	comp=Z,22nm,18.7s,baz=87,slow=34						
KURK	**Kurchatov**	**68.22**	**326**	P	**P**	**11 36 50.4**	**+0.9**
KURBB	**Kurchatov Arra**	**68.22**	**326**	P	**P**	**11 36 50.4**	**+0.8**
	1.2nm,0.4s,baz=120,slow=5.8,SNR=9.2						
ABKAR	**Akbulak array**	**78.87**	**320**	*e*P	**P**	**11 37 52.5**	**+0.3**
	1.8nm,1.0s						
ILAR	**Eielson Array**	**86.33**	**25**	P	**P**	**11 38 29.3**	**-1.5**
	0.5nm,0.8s,baz=254,slow=5.5,SNR=5.1						
FINES	**FINESS Array B**	**98.06**	**332**	LR	LR	12 29 37.9	
	comp=Z,18nm,18.7s,baz=189,slow=39						

*ISN **03** 11:33:24.6±0.3, 37°.75N × 43°.69E, h0km, ML3.3*
*ISK **03** 11:33:27.2, 37°.91N × 43°.64E, h2km, ML3.1*
*CSEM **03** 11:33:28.2±0.3, 37°.85N × 43°.71E, h5km, ML3.3, Error ellipse: s-maj=6.9km s-min=4.7km az=98.0*
*DDA **03** 11:33:28.7, 37°.83N × 43°.63E, h13km, Ml3.3*
ISC 03 11:33:28.7±1.1, 37°.84N±0°.02 × 43°.68E±0°.03, h3km±10km, n36, σ1§41/52, Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
HKR	**Hakkari**	**0.26**	**170**	PG	**Pg**	**11 33 34.4**	**+0.6**
HKR				*e*SG	**Sb**	**11 33 40.6**	**-0.5**
HKR	**Hakkari**	**0.26**	**170**	*i* Pg	**Pg**	**11 33 34.4**	**+0.6**
HKR				*e*Sg	**Sb**	**11 33 40.7**	**-0.5**
HAKT	**HAKKARI**	**0.28**	**176**	*i* P	**Pg**	**11 33 34.4**	**+0.2**
HAKT				*i* S	**Sg**	**11 33 39.1**	**+1.3**
HAKT	**HAKKARI**	**0.28**	**176**	P	**Pg**	**11 33 34.3**	**+0.2**
HAKT				S	**Sg**	**11 33 39.1**	**+1.3**
BASK	**Baskale_VAN**	**0.33**	**50**	*i* P	**Pb**	**11 33 36.1**	**-1.3**
BASK				*i* S	**Sb**	**11 33 42.8**	**-0.5**
BASK	**Baskale_VAN**	**0.33**	**50**	P	**Pb**	**11 33 36.1**	**-1.3**
GEVA	**Gevas**	**0.68**	**314**	*i* P	**Pg**	**11 33 41.9**	**+0.1**
GEVA				*i* S	**Sg**	**11 33 51.0**	**+0.3**
GEVA	**Gevas**	**0.68**	**314**	P	**Pg**	**11 33 41.9**	**+0.1**
GEVA				S	**Sg**	**11 33 51.0**	**+0.3**
SIRT	**Sirnak**	**1.04**	**252**	*e*PG	**Pg**	**11 33 48.2**	**-0.4**
SIRT				*e*SG	**Sb**	**11 34 02.5**	**-1.0**
SIRT	**Sirnak**	**1.04**	**252**	*e*Pg	**Pg**	**11 33 48.2**	**-0.4**
SIRT				*e*Sg	**Sb**	**11 34 02.5**	**-1.0**
SIRN	**S¨¬rnak**	**1.06**	**252**	*i* P	**Pg**	**11 33 48.9**	**-0.2**
SIRN				*i* S	**Sn**	**11 34 06.1**	**+0.2**
SIRN	**S¨¬rnak**	**1.06**	**252**	P	**Pg**	**11 33 48.9**	**-0.2**
VMUR	**Van-Muradiye**	**1.15**	**356**	*i* P	**Pb**	**11 33 49.6**	**-1.8**
VMUR				*i* S	**Sn**	**11 34 12.5**	**+4.2**
VMUR	**Van-Muradiye**	**1.15**	**356**	P	**Pb**	**11 33 49.6**	**-1.8**
CLDR	**Caldiran**	**1.32**	**8**	*e*PN	**Pn**	**11 33 52.0**	**-2.2**
CLDR	**Caldiran**	**1.32**	**8**	*i* P	**Pb**	**11 33 53.1**	**-1.1**
CLDR				*i* S	**Sn**	**11 34 16.1**	**+3.7**
CLDR	**Caldiran**	**1.32**	**8**	*e*Pn	**Pn**	**11 33 52.0**	**-2.2**
CLDR	**Caldiran**	**1.32**	**8**	P	**Pb**	**11 33 53.1**	**-1.1**
AGRB	**Hanur-Agry**	**1.82**	**343**	*e*PN	**Pn**	**11 33 59.1**	**-2.0**
AGRB	**Hanur-Agry**	**1.82**	**343**	*e*Pn	**Pn**	**11 33 59.1**	**-2.0**
EKAR	**Karacoban**	**1.90**	**319**	*i* P	**Pg**	**11 34 07.1**	**+1.9**
EKAR				*i* S	**Sg**	**11 34 33.7**	**+3.9**
BTMN	**Batman**	**1.91**	**272**	*i* P	**Pn**	**11 34 02.1**	**-0.1**
BTMN				*i* S	**Sg**	**11 34 29.6**	**-0.5**
BTMN	**Batman**	**1.91**	**272**	P	**Pn**	**11 34 02.1**	**-0.1**
SVAN	**Silvan-Diyarba**	**1.99**	**280**	*i* P	**Pb**	**11 34 04.8**	**-0.7**
SVAN				*i* S	**Sg**	**11 34 31.2**	**-1.3**
SVAN	**Silvan-Diyarba**	**1.99**	**280**	P	**Pb**	**11 34 04.8**	**-0.7**
VRTB	**Varto-Mus**	**2.19**	**308**	*e*PN	**Pn**	**11 34 05.5**	**-0.7**
VRTB	**Varto-Mus**	**2.19**	**308**	*e*Pn	**Pn**	**11 34 05.5**	**-0.7**
MARD	**Mardin**	**2.37**	**258**	*i* P	**Pb**	**11 34 11.9**	**-0.1**
MARD				*i* S	**Sb**	**11 34 39.8**	**-1.9**
MAZI	**Mazidag**	**2.60**	**263**	*e*PN	**Pn**	**11 34 11.8**	**+0.1**
MAZI	**Mazidag**	**2.60**	**263**	*e*Pn	**Pn**	**11 34 11.8**	**+0.1**
YEDI	**Yedisu-Bingol**	**2.93**	**304**	*e*PN	**Pn**	**11 34 15.8**	**-0.5**
YEDI	**Yedisu-Bingol**	**2.93**	**304**	*e*Pn	**Pn**	**11 34 15.8**	**-0.5**
SVRC	**Sivrice-ELAZIĞ**	**3.49**	**280**	*e*PN	**Pn**	**11 34 23.5**	**-0.6**
SVRC	**Sivrice-ELAZIĞ**	**3.49**	**280**	*e*Pn	**Pn**	**11 34 23.5**	**-0.6**
PTK	**Pertek**	**3.53**	**289**	*e*PN	**Pn**	**11 34 24.8**	**+0.2**
PTK	**Pertek**	**3.53**	**289**	*e*Pn	**Pn**	**11 34 24.8**	**+0.2**

*IDC **03** 11:41:03.8±2.0, 38°.31N × 143°.79E, h0km, mb3.8/3, mb1 3.8/5, mb1mx3.6/35, mbtmp3.7/5, ML3.3/2, Error ellipse: s-maj=52.9km s-min=28.1km az=74.0*
*ISCJB **03** 11:41:05.1±1.0, 38°.32N±0°.07 × 143°.48E±0°.08, h15km, mb3.7/3, Error ellipse: s-maj=11.6km s-min=7.7km az=142.5*
*JMA **03** 11:41:06.6±0.2, 38°.37N × 143°.48E, h35km, MS3.5*
ISC 03 11:41:06.4±1.3, 38°.43N±0°.07 × 143°.4E±0°.1, h15km, n16, σ1§24/22, mb3.5/3, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
OFUJ	**Ofunato**	**1.51**	**296**	P	**Pn**	**11 41 33.4**	**+0.4**
JIO	**Ouri**	**1.63**	**271**	P	**Pn**	**11 41 34.4**	**-0.1**
JIO				*e*S	**Sn**	**11 41 54.8**	**-0.4**
MIYJ	**Miyakonagasawa**	**1.69**	**313**	P	**Pn**	**11 41 35.4**	**0.0**
JMK	**Ichinoseki**	**1.80**	**287**	P	**Pn**	**11 41 37.3**	**+0.4**
JMM	**Marumori**	**2.15**	**256**	P	**Pn**	**11 41 41.4**	**-0.3**
JMM				*e*S	**Sn**	**11 42 07.3**	**-0.7**
JOU	**Okura**	**2.17**	**269**	P	**Pn**	**11 41 42.6**	**+0.6**
JFK	**Kawauchi**	**2.28**	**243**	P	**Pn**	**11 41 43.1**	**-0.4**
JFK				*e*S	**Sn**	**11 42 09.5**	**-1.8**
JYK	**Kaneyama**	**2.44**	**282**	P	**Pn**	**11 41 47.2**	**+1.4**
JFT	**Otama**	**2.60**	**250**	P	**Pn**	**11 41 48.7**	**+0.7**
JFT				*e*S	**Sn**	**11 42 19.1**	**-0.2**
MJAR	**Matsushiro Arr**	**4.55**	**247**	Pn	**Pn**	**11 42 17.0**	**+2.2**
	3.2nm,0.3s,baz=91,slow=26,SNR=15						
MAT	**Matsushiro**	**4.55**	**247**	P	**Pn**	**11 42 16.1**	**+1.3**
MAT				*e*S	**Sn**	**11 43 08.4**	**+0.9**
ASAJ	**Asahikawa**	**5.71**	**354**	Pn	**Pn**	**11 42 32.3**	**+1.6**
	0.5nm,0.3s,baz=208,slow=13,SNR=2.0						
ASAJ				Sn	**Sn**	**11 43 34.8**	**-1.2**
	0.2nm,0.3s,baz=253,slow=8.9,SNR=1.9						
KLR	**Kul'dur**	**13.67**	**326**	Pn	**P**	**11 44 26.4**	**-2.0**
	0.1nm,0.3s,baz=135,slow=17,SNR=2.9						
SONM	**Songino Array**	**28.37**	**301**	P	**P**	**11 47 02.2**	**+2.2**
	0.3nm,0.3s,baz=98,slow=9.4,SNR=2.4						
WRA	**Warramunga Arr**	**58.69**	**190**	P	**P**	**11 51 02.2**	**-1.1**
	1.7nm,0.6s,baz=8.4,slow=7.1,SNR=10						
ASAR	**Alice Springs**	**62.41**	**190**	P	**P**	**11 51 28.7**	**-0.1**
	0.3nm,0.7s,baz=13,slow=9.2,SNR=2.6						

*ISCJB **03** 11:47:30.5±0.4, 50°.23N±0°.02 × 12°.51E±0°.03, h13km±5km, Error ellipse: s-maj=3.4km s-min=3.0km az=160.8*
*CSEM **03** 11:47:31.4±0.1, 50°.23N × 12°.49E, h10km, ML2.7/6, Error ellipse: s-maj=1.5km s-min=1.3km az=37.0*
*IASPEI **03** 11:47:31.5±0.8, 50°.24N±0°.02 × 12°.46E±0°.02, h11km±3km, Error ellipse: s-maj=3.4km s-min=2.4km az=96.3, GT5 selection from ISC bulletin GT5 identified by Bond¨¡r and McLaughlin (2009) selection criteria Bond¨¡r and McLaughlin, A new ground truth data set for seismic studies, Seism. Res. Let., 80, 465-472, 2009*
*BGR **03** 11:47:31.7±0.2, 50°.24N × 12°.44E, h11km±1km, ML2.2/6, Error ellipse: s-maj=2.2km s-min=1.1km az=102.0*
*PRU **03** 11:47:32.2, 50°.26N × 12°.53E, h1km, West Bohemia Swarm*
*CLL **03** 11:47:32.5±0.3, 50°.2N±0°.8 × 1°.2E±¨, h7km±1km, ml2.0*
ISC 03 11:47:31.8±0.8, 50°.24N±0°.02 × 12°.50E±0°.02, h10km±4km, n61, σ0§73/113, 6C, Germany

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
NKC	**Novy Kostel**	**0.03**	**263**	*i* PG	**Pg**	**11 47 33.7**	**0.0**
NKC				*e*SG	**Sg**	**11 47 34.6**	**-0.5**
	comp=Z,508nm,0.2s						
NKC	**Novy Kostel**	**0.03**	**263**	⇑ *i* Pg	**Pg**	**11 47 33.7**	**0.0**
NKC				*i* Sg	**Sg**	**11 47 34.7**	**-0.4**
NKC	**Novy Kostel**	**0.03**	**263**	*e*Pg	**Pg**	**11 47 33.7**	**0.0**
NKC				*e*Sg	**Sg**	**11 47 34.7**	**-0.4**
NKC	**Novy Kostel**	**0.03**	**263**	Pg	**Pg**	**11 47 33.7**	**0.0**
NKC				Sg	**Sg**	**11 47 34.6**	**-0.5**
	508nm,0.2s						
WERN	**Wernitzgruen**	**0.09**	**304**	*i* Pg	**Pg**	**11 47 34.2**	**-0.2**
WERN				*i* Sg	**Sg**	**11 47 35.6**	**-0.6**
WERN				AML	AML	11 47 35.7	
	comp=E,1μm,0.2s						
WERN	**Wernitzgruen**	**0.09**	**304**	*e*Pg	**Pg**	**11 47 34.2**	**-0.2**
WERN				*e*Sg	**Sg**	**11 47 35.6**	**-0.6**
WERN	**Wernitzgruen**	**0.09**	**304**	Pg	**Pg**	**11 47 34.2**	**-0.2**
WERN				Sg	**Sg**	**11 47 35.6**	**-0.6**
ROHR	**Rohrbach**	**0.11**	**269**	*i* Pg	**Pg**	**11 47 34.3**	**-0.3**
ROHR				*i* Sg	**Sg**	**11 47 35.8**	**-0.9**
ROHR				AML	AML	11 47 35.9	
	comp=E,2μm,0.1s						
ROHR	**Rohrbach**	**0.11**	**269**	*e*Pg	**Pg**	**11 47 34.3**	**-0.3**
ROHR				*e*Sg	**Sg**	**11 47 35.8**	**-0.9**
ROHR	**Rohrbach**	**0.11**	**269**	Pg	**Pg**	**11 47 34.3**	**-0.3**
ROHR				Sg	**Sg**	**11 47 35.8**	**-0.9**
GUNZ	**Gunzen**	**0.16**	**321**	*i* Pg	**Pg**	**11 47 35.3**	**-0.1**
GUNZ				*i* Sg	**Sg**	**11 47 37.4**	**-0.6**
GUNZ				AML	AML	11 47 37.7	
	comp=N,242nm,0.2s						
GUNZ	**Gunzen**	**0.16**	**321**	*e*Pg	**Pg**	**11 47 35.3**	**-0.1**
GUNZ				*e*Sg	**Sg**	**11 47 37.4**	**-0.6**
GUNZ	**Gunzen**	**0.16**	**321**	Pg	**Pg**	**11 47 35.3**	**-0.1**
GUNZ				Sg	**Sg**	**11 47 37.4**	**-0.6**
TANN	**Tannenbergstha**	**0.18**	**353**	*i* Pg	**Pg**	**11 47 35.7**	**0.0**
TANN				*i* Sg	**Sg**	**11 47 38.0**	**-0.4**
TANN				AML	AML	11 47 38.4	
	comp=N,326nm,0.2s						
MULD	**Muldenberg**	**0.18**	**342**	*i* Pg	**Pg**	**11 47 35.7**	**0.0**
MULD				*i* Sg	**Sg**	**11 47 38.1**	**-0.4**
MULD				AML	AML	11 47 38.2	
	comp=E,329nm,0.2s						
MULD	**Muldenberg**	**0.18**	**342**	*e*Pg	**Pg**	**11 47 35.7**	**0.0**
MULD				*e*Sg	**Sg**	**11 47 38.1**	**-0.4**
MULD	**Muldenberg**	**0.18**	**342**	Pg	**Pg**	**11 47 35.7**	**0.0**
MULD				Sg	**Sg**	**11 47 38.1**	**-0.4**
WERD	**Werda**	**0.24**	**330**	*i* Pg	**Pg**	**11 47 36.7**	**-0.1**
WERD				*e*Sg	**Sg**	**11 47 39.6**	**-0.6**
WERD				AML	AML	11 47 40.1	
	comp=E,112nm,0.3s						
WERD	**Werda**	**0.24**	**330**	*e*Pg	**Pg**	**11 47 36.7**	**-0.1**
WERD				*e*Sg	**Sg**	**11 47 39.5**	**-0.7**
WERD	**Werda**	**0.24**	**330**	Pg	**Pg**	**11 47 36.7**	**-0.1**
WERD				Sg	**Sg**	**11 47 39.5**	**-0.7**
TRIB	**Obertriebel**	**0.26**	**297**	*i* Pg	**Pg**	**11 47 36.6**	**-0.4**
TRIB				*e*Sg	**Sg**	**11 47 39.7**	**-0.9**
TRIB				AML	AML	11 47 40.1	
	comp=E,98nm,0.1s						
TRIB	**Obertriebel**	**0.26**	**297**	*e*Pg	**Pg**	**11 47 36.6**	**-0.4**
TRIB				*e*Sg	**Sg**	**11 47 39.7**	**-0.9**
TRIB	**Obertriebel**	**0.26**	**297**	Pg	**Pg**	**11 47 36.6**	**-0.4**
TRIB				Sg	**Sg**	**11 47 39.7**	**-0.9**
PLN	**Plauen**	**0.33**	**319**	*i* Pg	**Pg**	**11 47 38.1**	**-0.2**
PLN				*e*Sg	**Sg**	**11 47 42.2**	**-0.6**
PLN				AML	AML	11 47 42.3	
	comp=E,101nm,0.2s						
PLN	**Plauen**	**0.33**	**319**	*e*Pg	**Pg**	**11 47 38.1**	**-0.2**
PLN				*e*Sg	**Sg**	**11 47 41.9**	**-0.8**
PLN	**Plauen**	**0.33**	**319**	Pg	**Pg**	**11 47 38.1**	**-0.2**
PLN				Sg	**Sg**	**11 47 41.9**	**-0.8**
SCHF	**Schoenfels**	**0.45**	**352**	*i* Pg	**Pg**	**11 47 40.5**	**+0.1**
SCHF				*i* Sg	**Sg**	**11 47 46.4**	**0.0**
SCHF				AML	AML	11 47 46.5	
	comp=E,285nm,0.2s						
SCHF	**Schoenfels**	**0.45**	**352**	*e*Pg	**Pg**	**11 47 40.6**	**+0.1**
SCHF				*e*Sg	**Sg**	**11 47 46.2**	**-0.2**
SCHF	**Schoenfels**	**0.45**	**352**	Pg	**Pg**	**11 47 40.6**	**+0.1**
SCHF				Sg	**Sg**	**11 47 46.2**	**-0.2**
ROTZ	**Rotzenmuhle**	**0.51**	**202**	*e*Pg	**Pg**	**11 47 41.7**	**+0.1**
ROTZ				*e*Sg	**Sg**	**11 47 48.1**	**-0.1**
ROTZ	**Rotzenmuhle**	**0.51**	**202**	Pg	**Pg**	**11 47 41.7**	**+0.1**
ROTZ				Sg	**Sg**	**11 47 48.2**	**-0.1**
MLFH	**Mildenfurth**	**0.61**	**335**	*i* Pg	**Pg**	**11 47 43.4**	**-0.3**
MLFH				*i* Sg	**Sg**	**11 47 51.1**	**-0.6**
MOX	**Moxa**	**0.69**	**306**	*e*Pg	**Pg**	**11 47 44.7**	**-0.5**
MOX				*e*Sg	**Sg**	**11 47 53.3**	**-1.0**
MOX	**Moxa**	**0.69**	**306**	Pg	**Pg**	**11 47 44.7**	**-0.5**
MOX				Sg	**Sg**	**11 47 53.3**	**-1.0**
FBE	**Freiberg**	**0.88**	**38**	*e*Pg	**Pb**	**11 47 48.9**	**-0.1**
FBE				*e*Sg	**Sb**	**11 48 00.5**	**-0.3**
FBE	**Freiberg**	**0.88**	**38**	Pg	**Pb**	**11 47 48.9**	**-0.1**
FBE				Sg	**Sb**	**11 48 00.5**	**-0.3**
GRA1	**Grafenberg Arr**	**0.99**	**237**	Pg	**Pg**	**11 47 50.4**	**-0.3**
GRA1				Sg	**Sg**	**11 48 02.4**	**-1.1**
GRF	**Grafenberg Arr**	**0.99**	**237**	*e*Pg	**Pg**	**11 47 50.4**	**-0.3**
GRF				*e*Sg	**Sg**	**11 48 02.4**	**-1.1**
CLL	**Collm**	**1.12**	**17**	*e*Pg	**Pb**	**11 47 53.0**	**-0.2**
CLL				*e*Sg	**Sb**	**11 48 07.8**	**0.0**
CLL	**Collm**	**1.12**	**17**	Pg	**Pb**	**11 47 53.0**	**-0.2**
CLL				Sg	**Sb**	**11 48 07.8**	**0.0**
CLL	**Collm**	**1.12**	**17**	*i* Pg	**Pb**	**11 47 53.0**	**-0.2**
CLL				*i*		11 47 55.0	
CLL				*i*		11 47 56.3	
CLL				*i* Sg	**Sb**	**11 48 08.4**	**+0.6**
	comp=Z,18nm,0.5s						
CLL				*i*		11 48 11.9	
BRG	**Berggiesshubel**	**1.12**	**55**	PG	**Pn**	**11 47 53.4**	**0.0**
BRG				SG	**Sn**	**11 48 08.3**	**-0.6**
	comp=Z,12nm,0.2s						
BRG	**Berggiesshubel**	**1.12**	**55**	PG	**Pn**	**11 47 56.4**	**+2.9**
BRG				SG	**Sn**	**11 48 09.7**	**+0.8**
	comp=Z,24nm,0.2s						
BRG	**Berggiesshubel**	**1.12**	**55**	*e*Pg	**Pn**	**11 47 53.6**	**+0.1**
BRG				*e*Sg	**Sb**	**11 48 08.0**	**+0.1**
BRG	**Berggiesshubel**	**1.12**	**55**	Pg	**Pn**	**11 47 53.6**	**+0.1**
BRG				Sg	**Sb**	**11 48 08.0**	**+0.1**
WET	**Wettzell**	**1.12**	**167**	*e*Pg	**Pg**	**11 47 53.2**	**-0.1**
WET				*e*Sg	**Sg**	**11 48 07.7**	**-0.2**
WET	**Wettzell**	**1.12**	**167**	Pg	**Pg**	**11 47 53.2**	**-0.1**
WET				Sg	**Sg**	**11 48 07.7**	**-0.2**
PRA	**Prague**	**1.26**	**97**	⇑ *e*SG	**Sn**	**11 48 12.2**	**-0.1**
PRA	**Prague**	**1.26**	**97**	Sg	**Sn**	**11 48 12.2**	**-0.1**
KHC	**Kasperske Hory**	**1.31**	**147**	⇑ *i*PG	**Pg**	**11 47 55.9**	**-1.0**
KHC				*e*SG	**Sg**	**11 48 13.1**	**-0.8**
	comp=Z,6.2nm,0.3s						
KHC	**Kasperske Hory**	**1.31**	**147**	Pg	**Pg**	**11 47 55.9**	**-1.0**
KHC				Sg	**Sg**	**11 48 13.1**	**-0.8**
	comp=Z,6.2nm,0.3s						
PRU	**Pruhonice**	**1.34**	**100**	⇑ *i*PG	**Pn**	**11 47 56.9**	**+0.4**
PRU				*e*SG	**Sb**	**11 48 14.3**	**+0.2**
	comp=Z,10nm,0.3s						
PRU	**Pruhonice**	**1.34**	**100**	Pg	**Pn**	**11 47 56.9**	**+0.4**
PRU				Sg	**Sb**	**11 48 14.3**	**+0.2**
	comp=Z,10nm,0.3s						
GOPC	**GO Pecny, Ondr**	**1.51**	**101**	*e*SG	**Sn**	**11 48 20.5**	**+1.9**
	comp=Z,13nm,0.2s						
GOPC	**GO Pecny, Ondr**	**1.51**	**101**	Sg	**Sn**	**11 48 20.5**	**+1.9**
	comp=Z,13nm,0.2s						
UPC	**Upice**	**2.27**	**82**	⇑ *e*SG	**Sg**	**11 48 43.4**	**-1.2**
	comp=Z,7.3nm,0.4s						
UPC	**Upice**	**2.27**	**82**	Sg	**Sg**	**11 48 43.4**	**-1.2**
	comp=Z,7.3nm,0.4s						
DPC	**Dobruska-Polom**	**2.46**	**86**	*e*SG	**Sg**	**11 48 48.7**	**-2.0**
	comp=Z,3.0nm,0.3s						
DPC	**Dobruska-Polom**	**2.46**	**86**	Sg	**Sg**	**11 48 48.7**	**-2.0**
	comp=Z,3.0nm,0.3s						
VRAC	**Vranov**	**2.81**	**108**	*e*Pn	**Pn**	**11 48 17.1**	**+0.3**
VRAC				*e*Sg	**Sb**	**11 48 58.6**	**+2.0**
MORC	**Moravsky Berou**	**3.29**	**96**	*e*Sg	**Sg**	**11 49 15.5**	**-1.8**

*ROM **03** 12:05:07.4±0.1, 42°.94N × 13°.73E, h24km±1km, Md2.8/24, Ml2.4/25, Error ellipse: s-maj=1.7km s-min=1.1km az=72.0*
*ISCJB **03** 12:05:08.1±0.4, 42°.91N±0°.03 × 13°.69E±0°.04, h30km±3km, Error ellipse: s-maj=5.0km s-min=4.7km az=139.3*
*CSEM **03** 12:05:08.0±0.1, 42°.93N × 13°.68E, h21km±1km, ML2.8/8, Error ellipse: s-maj=2.7km s-min=2.5km az=38.0*
ISC 03 12:05:07.6±0.9, 42°.94N±0°.02 × 13°.73E±0°.03, h27km±5km, n57, σ0§73/78, 4C-2D, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
OFFI	**Offida**	**0.03**	**256**	⇑ *i*Pg	**Pb**	**12 05 11.3**	**-0.9**
OFFI				Sg	**Sb**	**12 05 14.5**	**-0.8**
	5μm,0.4s						
OFFI	**Offida**	**0.03**	**256**	⇑ *i*Pg	**Pb**	**12 05 11.3**	**-0.9**
OFFI				Sg	**Sb**	**12 05

252nm,0.5s
FSSB Fossombrone 1.02 318 Pg **Pb 12 05 26.7 0.0**
252nm,0.5s
ATTE AVT- Monte Tez 1.04 285 Pg **Pb 12 05 27.5 +0.5**
35nm,0.6s
ATTE AVT- Monte Tez 1.04 285 Pg **Pb 12 05 27.5 +0.5**
35nm,0.6s
PIEI Pieia 1.05 305 Pg **Pb 12 05 27.0 -0.2**
39nm,0.3s
PIEI Pieia 1.05 305 Pg **Pb 12 05 27.0 -0.2**
39nm,0.3s
ATVO AVT- Monte Val 1.06 295 Pg **Pb 12 05 27.1 -0.3**
46nm,0.5s
ATVO AVT- Monte Val 1.06 295 Pg **Pb 12 05 27.1 -0.3**
46nm,0.5s
ATPC Poggio Castell 1.07 301 Pg **Pb 12 05 27.4 -0.2**
105nm,0.7s
ATPC Poggio Castell 1.07 301 Pg **Pb 12 05 27.4 -0.2**
105nm,0.7s
BADI Badiali 1.22 298 Pg **Pb 12 05 30.2 +0.1**
49nm,0.6s
BADI Badiali 1.22 298 Pg **Pb 12 05 30.2 +0.1**
49nm,0.6s
NVLJ Novalja 1.82 27 *e*Pn **Pn 12 05 38.2 +0.9**
NVLJ Sn **Sb 12 06 01.8 -0.9**
NVLJ Novalja 1.82 27 *e*Pn **Pn 12 05 38.1 +0.9**
NVLJ Sn **Sb 12 06 01.7 -0.9**
UDBI Udbina 2.17 42 *e*Pn **Pn 12 05 43.9 +1.8**
UDBI Sn **Sb 12 06 11.0 -1.7**
UDBI Udbina 2.17 42 *e*Pn **Pn 12 05 43.8 +1.8**
UDBI Sn **Sb 12 06 10.9 -1.7**

---

*ISCJB **03** 12:21:59.1±0.8,6.83N±0.05×73.07W±0.05,h152km±7km, Error ellipse: s-maj=10.3km s-min=5.9km az=43.8*
*FUNV **03** 12:22:00.4,7.10N×73.19W,h172km, MW2.6*
*RSNC **03** 12:22:00.8±0.8,6.78N×73.10W,h145km±5km, ML2.4*
ISC 03 12:21:57.6±1.6,**6.86N**±0.05×**73.06W**±0.06,**h164**km±9km, **n16**,σ1§**77**/**28**,**1C**,**Northern Colombia**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GIRC	**Giron, Santand**	**0.26**	**329**	*e*P	**Pn**	**12 22 20.3**	**+0.4**
GIRC				*e*S	**Sn**	**12 22 35.9**	**-1.1**
BARC	**Barichara**	**0.29**	**205**	*i* P	**Pn**	**12 22 20.2**	**+0.1**
BARC				*e*S	**Sn**	**12 22 35.1**	**-2.2**
BARC				*i*		12 22 38.1	
	comp=Z,66nm,0.4s						
PAMC	**Pamplona, Colo**	**0.60**	**37**	*e*P	**Pn**	**12 22 23.0**	**+1.3**
PAMC				*e*S	**Sn**	**12 22 39.9**	**-0.2**
BRRC	**Barranca, Sant**	**0.69**	**291**	⇑*i*P	**Pn**	**12 22 22.1**	**+0.5**
BRRC				*i*		12 22 22.4	
	comp=Z,82nm,0.1s						
BRRC				*e*S	**Sn**	**12 22 39.6**	**-0.3**
RUSC	**La Rusia**	**0.96**	**181**	*e*P	**Pn**	**12 22 24.4**	**+0.4**
RUSC				*e*S	**Sn**	**12 22 42.7**	**-1.6**
RUSC				*i*		12 22 43.7	
	comp=Z,26nm,0.2s						
CAPV	**Capacho**	**1.24**	**36**	*e*P	**Pn**	**12 22 27.8**	**+1.8**
CAPV				*e*S	**Sn**	**12 22 48.7**	**+0.7**
OCAC	**Ocana**	**1.39**	**349**	*e*P	**Pn**	**12 22 29.1**	**+1.7**
OCAC				*e*S	**Sn**	**12 22 51.4**	**+1.0**
OCAC				*i*		12 22 54.9	
	comp=Z,38nm,0.3s						
ZARC	**Zaragoza, Cauc**	**1.89**	**290**	*e*P	**Pn**	**12 22 34.2**	**+1.8**
ZARC				*e*S	**Sn**	**12 22 58.6**	**-0.6**
ZARC				*i*		12 23 04.8	
	comp=Z,29nm,0.3s						
NORC	**Norcasia**	**2.21**	**234**	*e*P	**Pn**	**12 22 36.3**	**+0.2**
NORC				*e*S	**Sn**	**12 23 04.7**	**-1.2**
CHIC	**Chingaza**	**2.31**	**197**	*e*P	**Pn**	**12 22 38.4**	**+0.7**
CHIC				*i*		12 22 41.1	
	comp=Z,10nm,0.2s						
HELC	**Santa Helena**	**2.54**	**255**	*e*P	**Pn**	**12 22 42.1**	**+1.8**
VIGV	**El Vigia**	**2.59**	**40**	*e*P	**Pn**	**12 22 42.1**	**+1.6**
VIGV				*e*S	**Sn**	**12 23 12.2**	**-1.7**
SOCV	**Socops**	**2.60**	**57**	*e*P	**Pn**	**12 22 45.5**	**+1.8**
SOCV				*e*S	**Sn**	**12 23 14.3**	**+0.2**
TOLC	**Tolima**	**3.19**	**225**	*e*P	**Pn**	**12 22 50.1**	**+1.8**
PRAC	**Prado**	**3.62**	**210**	*e*P	**Pn**	**12 22 54.1**	**+0.7**
VIRV	**Villa del Rosa**	**3.68**	**10**	*e*P	**Pn**	**12 22 53.5**	**-0.6**
VIRV				*e*S	**Sn**	**12 23 32.3**	**-5.9**

---

*NIED **03** 12:41:00,36.20N×141.00E,h23km,Mw4.1 Best double couple: M0=1.42000×10^15 NP1:φs=66.00000°,δ32.00000°, λ=44.00000°. NP2:φs=195.00000°,δ69.00000°, λ=114.00000°.*
*IDC **03** 12:41:03.6±0.7,36.10N×141.00E,h0km,mb3.9/14, mb1 4.1/17,mb1mx4.0/42,mbtmp3.9/17,ML3.8/2,MS3.2/8, Ms1 3.2/8,ms1mx2.9/41,Error ellipse: s-maj=20.5km s-min=14.4km az=107.0*
*ISCJB **03** 12:41:05.7±0.8,36.17N±0.03×141.08E±0.05,h28km±5km, mb4.0/22,MS3.3/5,Error ellipse: s-maj=7.5km s-min=5.2km az=18.1*
*JMA **03** 12:41:06.4,36.13N×141.00E,h40km±1km,M3.9*
JMA Felt II J1.
*NEIC **03** 12:41:08.4±2.0,36.13N×140.99E,h32km±14km,mb4.4/8, Error ellipse: s-maj=9.0km s-min=6.5km az=117.0*
NEIC Recorded [2 JMA] in Ibaraki.
ISC 03 12:41:05.2±1.5,**36.17N**±0.04×**140.96E**±0.05,**h8**km±9km, **n49**,σ1§**47**/**46**,**mb4.1**/22,**MS3.2**/5,**Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHOJ	**Chosi**	**0.47**	**190**	P	**Pb**	**12 41 16.2**	**+0.4**
JHO	**Hitachi**	**0.54**	**324**	P	**Pb**	**12 41 18.1**	**+1.1**
JYT	**Yasato**	**0.63**	**276**	P	**Pn**	**12 41 19.3**	**-1.1**
JYT				S	**Sb**	**12 41 29.2**	**+1.9**
ONAJ	**Iwakimizuishiy**	**0.94**	**352**	P	**Pg**	**12 41 23.3**	**0.0**
ONAJ				S	**Sg**	**12 41 35.3**	**-0.3**
JFK	**Kawauchi**	**1.20**	**357**	P	**Pg**	**12 41 26.8**	**-1.4**
JAG	**Ashikaga**	**1.25**	**282**	P	**Pb**	**12 41 28.3**	**-0.7**
JAG				S	**Sn**	**12 41 44.2**	**-1.7**
MJAR	**Matsushiro Arr**	**2.25**	**280**	Pn	**Pn**	**12 41 43.5**	**+0.6**
	40nm,0.3s,baz=300,slow=28,SNR=366						
MJAR				Sn	**Sg**	**12 42 19.8**	**+2.1**
	23nm,0.3s,baz=76,slow=17,SNR=6.2						
MJAR				LR	LR	12 42 47.0	
	comp=Z,384nm,18.2s,baz=110,slow=46						
MAJO	**Matsushiro**	**2.26**	**280**	*e*Pn	**Pn**	**12 41 43.7**	**+0.9**
MAT	**Matsushiro**	**2.26**	**280**	P	**Pn**	**12 41 43.4**	**+0.6**
MAT				S	**Sg**	**12 42 13.5**	**-4.3**
JHJ2	**Mitsune**	**3.19**	**198**	*e*Pn	**Pn**	**12 41 55.8**	**+0.1**
JHJ	**Hachijo jima 2**	**3.19**	**198**	Pn	**Pn**	**12 41 55.0**	**-0.7**
	22nm,0.3s,baz=84,slow=21,SNR=3.3						
JHJ				Sn	**Sn**	**12 42 34.1**	**+0.1**
	39nm,0.3s,baz=75,slow=22,SNR=3.4						
ERM	**Erimo**	**6.08**	**16**	*e*Pn	**Pn**	**12 42 36.0**	**+0.7**
ERM				*e*Sn	**Sn**	**12 43 43.6**	**-1.5**
ASAJ	**Asahikawa**	**8.04**	**8**	Pn	**Pn**	**12 43 02.2**	**+0.1**
	baz=267,slow=15						
KSRS	**Korea Array**	**10.54**	**281**	Pn	**Pn**	**12 43 40.0**	**+3.6**
	0.2nm,0.3s,baz=93,slow=14,SNR=3.7						
KSRS				LR	LR	12 47 45.8	
	comp=Z,58nm,21.8s,baz=87,slow=38						
USRK	**Ussuriysk Ar.**	**10.55**	**322**	Pn	**Pn**	**12 43 40.9**	**+4.2**
	0.8nm,0.3s,baz=136,slow=12,SNR=9.6						
KSAR	**Wonju Array Be**	**10.57**	**281**	Pn	**Pn**	**12 43 40.0**	**+3.1**
JOW	**Kunigami**	**14.26**	**233**	LR	LR	12 49 54.4	
	comp=Z,52nm,18.2s,baz=34,slow=37						
YAK	**Yakutsk**	**26.84**	**348**	LR	LR	12 57 41.9	
	comp=Z,66nm,18.2s,baz=349,slow=37						
YAK	**Yakutsk**	**26.84**	**348**	*e*P	**P**	**12 46 44.9**	**-0.8**
	6.6nm,0.4s						
ENH	**Enshi**	**26.91**	**266**	*e*P	**P**	**12 46 46.0**	**-0.9**
	6.4nm,0.5s						
ULN	**Ulaanbaatar**	**27.55**	**306**	*e*P	**P**	**12 46 52.8**	**+0.2**
	1.1nm,0.5s						
SEY	**Seymchan**	**27.71**	**11**	P	**P**	**12 46 55.6**	**+2.1**
	2.1nm,0.7s,baz=198,slow=9.8,SNR=4.3						
SONM	**Songino Array**	**27.98**	**305**	P	**P**	**12 46 56.2**	**-0.2**
	1.3nm,0.7s,baz=113,slow=10,SNR=6.8						
SONM				LR	LR	12 57 36.7	
	comp=Z,47nm,18.2s,baz=74,slow=35						
H11N2	**WAKE ISLAND Hy**	**28.03**	**119**	T	T	13 16 04.7	
	baz=311,slow=75,SNR=161						
H11N1	**WAKE ISLAND Hy**	**28.04**	**119**	T	T	13 16 05.9	
	baz=311,slow=75,SNR=186						
H11N3	**WAKE ISLAND Hy**	**28.05**	**119**	T	T	13 16 08.7	
	baz=311,slow=75,SNR=150						
H11S1	**WAKE ISLAND Hy**	**28.71**	**121**	T	T	13 17 01.5	
	baz=313,slow=76,SNR=309						
H11S3	**WAKE ISLAND Hy**	**28.71**	**121**	T	T	13 17 01.1	
	baz=313,slow=76,SNR=286						
H11S2	**WAKE ISLAND Hy**	**28.73**	**121**	T	T	13 17 02.3	
	baz=313,slow=76,SNR=227						
CMAR	**Chiang Mai Arr**	**40.93**	**256**	P	**P**	**12 48 48.7**	**+0.4**
	0.3nm,0.4s,baz=54,slow=6.8,SNR=3.0						
CMAR				LR	LR	13 06 44.0	
	comp=Z,54nm,19.2s,baz=182,slow=38						
ZALV	**Zalesovo Beam**	**42.23**	**313**	P	**P**	**12 48 58.2**	**-0.3**
	1.5nm,0.5s,baz=99,slow=7.7,SNR=6.0						
KURK	**Kurchatov**	**46.19**	**309**	*e*P	**P**	**12 49 29.6**	**-0.7**
	38nm,0.8s						
ILAR	**Eielson Array**	**50.42**	**32**	P	**P**	**12 50 02.9**	**+0.2**
	2.0nm,0.8s,baz=268,slow=6.2,SNR=21						
KKAR	**Karatay Array**	**53.25**	**301**	*e*P	**P**	**12 50 24.0**	**-0.2**
	1.9nm,0.5s						
INK	**Inuvik**	**55.32**	**27**	P	**P**	**12 50 39.3**	**+0.5**
	1.2nm,0.5s,baz=285,slow=6.9,SNR=4.5						
WRAB	**Tennant Creek**	**56.15**	**187**	*e*P	**P**	**12 50 44.5**	**-0.8**
	4.3nm,1.2s						
WRA	**Warramunga Arr**	**56.16**	**188**	P	**P**	**12 50 44.0**	**-1.3**
	0.8nm,0.5s,baz=5.2,slow=7.6,SNR=12						
ARU	**Arti**	**56.77**	**319**	*e*P	**P**	**12 50 48.8**	**-0.7**
	4.2nm,0.8s						
ABKAR	**Akbulak array**	**58.22**	**310**	*e*P	**P**	**12 50 59.3**	**-0.4**
	1.5nm,0.5s						
ASAR	**Alice Springs**	**59.88**	**187**	P	**P**	**12 51 10.6**	**-1.0**
	0.7nm,0.7s,baz=20,slow=6.6,SNR=11						
AFI	**Afiamalu**	**66.86**	**129**	LR	LR	13 20 17.9	
	comp=Z,7.8nm,18.7s,baz=87,slow=35						
FINES	**FINESS Array B**	**69.41**	**332**	P	**P**	**12 52 12.8**	**-0.5**
	1.3nm,0.7s,baz=61,slow=9.0,SNR=6.6						
AKASG	**Malin Array Be**	**74.76**	**322**	P	**P**	**12 52 44.8**	**-0.7**
	0.8nm,0.4s,baz=49,slow=6.2,SNR=3.8						
NB2	**NORSAR Subarra**	**74.84**	**337**	P	**P**	**12 52 45.8**	**-0.1**
	comp=Z,1.7nm,0.7s,baz=41,slow=5.9						
NOA	**NORSAR Array B**	**74.84**	**337**	P	**P**	**12 52 45.7**	**-0.1**
	comp=Z,0.8nm,0.6s,baz=39,slow=5.7,SNR=4.6						
PDAR	**Pinedale Array**	**78.53**	**45**	P	**P**	**12 53 06.9**	**-0.4**
	comp=Z,0.4nm,0.5s,baz=241,slow=0.8,SNR=6.1						
BRTR	**Keskin Array B**	**79.15**	**311**	P	**P**	**12 53 11.2**	**+0.5**
	comp=Z,0.6nm,0.7s,baz=90,slow=4.3,SNR=3.0						
RAR	**Rarotonga**	**79.95**	**125**	LR	LR	13 21 37.8	
	comp=Z,34nm,19.5s,baz=249,slow=30						
TXAR	**Lajitas Array**	**90.94**	**52**	P	**P**	**12 54 09.8**	**-0.2**
	comp=Z,0.2nm,0.7s,baz=305,slow=4.4,SNR=3.9						

IDC 03 13:07:24.2±9.5,**19.39S**×**177.65W**,**h559**km±103km, **mb2.9**/4,**mb1 3.2**/4,**mb1mx2.8**/34,**mbtmp3.9**/4,**Error ellipse: s-maj=157.4km s-min=43.2km az=158.0,Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**33.94**	**263**	P	P	13 13 22.0	+0.2
	5.4nm,0.9s,baz=80,slow=7.7,SNR=2.0						
WRA	**Warramunga Arr**	**45.09**	**261**	P	P	13 14 50.6	-0.7
	0.4nm,0.3s,baz=97,slow=8.3,SNR=2.5						
ASAR	**Alice Springs**	**45.10**	**256**	P	P	13 14 51.2	-0.1
	0.9nm,0.7s,baz=86,slow=7.9,SNR=6.4						
ASAR				PcP	PcP	13 16 19.6	-0.4
	0.3nm,0.8s,baz=100,slow=4.4,SNR=2.1						
TXAR	**Lajitas Array**	**86.19**	**57**	P	P	13 19 06.9	-0.2
	0.4nm,0.7s,baz=217,slow=6.7,SNR=5.2						
GERES	**GERESS Array B**	**149.22**	**345**	PKPbc	PKPbc	13 26 09.9	-0.2
	0.3nm,0.5s,baz=29,slow=3.0,SNR=3.5						

---

*ISCJB **03** 13:16:06.5±0.7,30.46S±0.07×138.50E±0.08,h10km, Error ellipse: s-maj=12.7km s-min=6.3km az=136.5*
*AUST **03** 13:16:07.7±0.0,30.54S×138.47E,h10km,Error ellipse: s-maj=0.5km s-min=0.1km az=337.0*
*IDC **03** 13:16:08.7±4.1,30.54S×138.45E,h0km,mb1 3.1/3, mb1mx3.0/26,mbtmp2.8/3,ML2.9/3,Error ellipse: s-maj=100.2km s-min=18.2km az=40.0*
ISC 03 13:16:08.2±1.0,**30.50S**±0.08×**138.48E**±0.07,**h10**km,**n8**, σ1§**74**/**13**,**South Australia**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HTT	**Hallett**	**2.95**	**173**	P	**Pn**	**13 16 55.5**	**+0.3**
	baz=2.9						
STKA	**Stephens Creek**	**3.00**	**118**	Pn	**Pn**	**13 16 56.6**	**+0.8**
	0.6nm,0.3s,baz=298,slow=14,SNR=3.2						
STKA				Pg	**Pg**	**13 17 04.6**	**-1.1**
	1.8nm,0.3s,baz=294,slow=15,SNR=6.9						
STKA				Sn	**Sn**	**13 17 32.1**	**+0.2**
	3.2nm,0.3s,baz=324,slow=20,SNR=6.0						
STKA				Lg	Lg	13 17 44.1	
	4.4nm,0.3s,baz=199,slow=23,SNR=4.7						
STKA	**Stephens Creek**	**3.00**	**118**	P	**Pn**	**13 16 56.2**	**+0.4**
	baz=3.0						
STKA				S	**Sn**	**13 17 31.8**	**-0.2**
	baz=3.0						
BBOO	**Buckleboo**	**3.10**	**221**	P	**Pn**	**13 16 57.2**	**+0.1**
	baz=3.1						
CMSA	**Cobar Meteorol**	**6.28**	**101**	P	**Pn**	**13 17 41.3**	**+0.4**
	baz=6.3						
ARPS	**Mount Arapiles**	**6.85**	**157**	P	**Pn**	**13 17 48.5**	**-0.2**
	baz=6.8						
ASAR	**Alice Springs**	**7.93**	**328**	Pn	**Pn**	**13 18 05.5**	**+1.8**
	0.2nm,0.3s,baz=151,slow=12,SNR=4.8						
ASAR				Sn	**Sn**	**13 19 32.5**	**-1.0**
	0.2nm,0.3s,baz=149,slow=22,SNR=4.4						
WRA	**Warramunga Arr**	**11.16**	**339**	Pn	**Pn**	**13 18 50.4**	**+2.5**
	0.1nm,0.3s,baz=162,slow=11,SNR=1.8						
WRA				Sn	**Sn**	**13 20 48.6**	**-4.2**
	0.1nm,0.3s,baz=140,slow=14,SNR=1.9						

NNC 03 13:39:06.8±5.3,**38.29N**×**71.99E**,**h0**km,**mb3.7**,**mpv3.3, 4C-3D**,**Error ellipse: s-maj=47.4km s-min=18.8km az=148.0,Afghanistan-Tajikistan border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZET	**Dzherino**	**2.54**	**283**	⇑Pg	Pb	13 39 52.8	-0.4
	2.1nm,0.3s						
DZET				⇑Lg	Lg	13 40 27.2	
	39nm,0.5s						
MNAS	**Manas**	**4.21**	**5**	⇑Pn	Pn	13 40 12.9	+0.6
	3.1nm,0.6s						
MNAS				⇑Sn	Sn	13 41 03.4	+1.1
	5.7nm,0.5s						
AAK	**Ala-Archa**	**4.75**	**23**	⇓Pn	Pn	13 40 18.5	-1.2
	2.6nm,0.3s						
AAK				⇓Sn	Sn	13 41 14.7	-0.8
	6.5nm,0.8s						
KK31	**Karatay Array**	**4.94**	**347**	Pn	Pn	13 40 24.7	+2.4
	2.4nm,0.3s,baz=169,slow=14,SNR=51						
KK31				⇓Sn	Sn	13 41 22.2	+2.1
	4.4nm,0.5s,baz=173,slow=24,SNR=17						

---

*TAP **03** 13:45:32.0,24.69N×121.98E,h61km,ML3.0,C*
*JMA **03** 13:45:31.5±0.1,24.71N×122.01E,h63km±2km,M2.2*
*ISCJB **03** 13:45:32.2±0.6,24.71N±0.04×122.05E±0.03,h59km±6km, Error ellipse: s-maj=6.5km s-min=3.4km az=161.0*
ISC 03 13:45:32.6±1.4,**24.71N**±0.05×**122.04E**±0.03,**h57**km±8km, **n32**,σ0§**71**/**55**,**1C-4D**,**Taiwan region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TWC	**Suao**	**0.20**	**239**	P	**Pn**	**13 45 41.6**	**-0.1**
	baz=232						
TWC				S	**Sn**	**13 45 48.4**	**+0.1**
	baz=232						
TWB1	**Santiao Chiao**	**0.30**	**351**	⇓*i*P	**Pn**	**13 45 42.4**	**0.0**
	baz=2.0						
TWB1				S	**Sn**	**13 45 49.3**	**-0.2**
	baz=2.0						
TWE	**Neicheng**	**0.34**	**271**	P	**Pn**	**13 45 42.8**	**+0.1**
	baz=285						
TWE				*e*S	**Sn**	**13 45 50.4**	**+0.3**
	baz=285						
ENA	**Nanau**	**0.40**	**224**	P	**Pn**	**13 45 43.2**	**-0.1**
	baz=219						
ENA				S	**Sn**	**13 45 51.3**	**+0.4**
	baz=219						
NWF	**Wu-fen Shan**	**0.43**	**326**	*e*P	**Pn**	**13 45 43.7**	**0.0**
	baz=329						
NWF				*e*S	**Sn**	**13 45 51.7**	**0.0**
	baz=329						
ENTT	**Nioudou**	**0.44**	**261**	P	**Pn**	**13 45 43.8**	**+0.1**
	baz=266						
ENTT				*e*S	**Sn**	**13 45 52.6**	**+0.9**
	baz=266						
TWA	**Mucha**	**0.49**	**303**	*e*P	**Pn**	**13 45 44.1**	**-0.2**
	baz=315						
TWA				*e*S	**Sn**	**13 45 52.4**	**-0.3**
	baz=315						
NSK	**Sanguang**	**0.62**	**267**	⇓P	**Pn**	**13 45 45.5**	**-0.4**
	baz=279						
NSK				S	**Sn**	**13 45 55.0**	**-0.4**
	baz=279						
NNS	**Nan Shan**	**0.67**	**246**	⇓P	**Pn**	**13 45 46.1**	**-0.3**
	baz=254						
NNS				S	**Sn**	**13 45 56.3**	**-0.2**
	baz=254						
TWS1	**Kuangyinshan**	**0.69**	**304**	⇓P	**Pn**	**13 45 46.2**	**-0.3**
	baz=315						
TWS1				*e*S	**Sn**	**13 45 56.8**	**+0.1**
	baz=315						
TWD	**Chiawan**	**0.75**	**213**	*e*P	**Pn**	**13 45 47.2**	**-0.1**
	baz=221						
TWD				*e*S	**Sn**	**13 45 57.9**	**-0.2**
	baz=221						
JYNG	**Yonagunijimaku**	**0.86**	**107**	P	**Pn**	**13 45 48.6**	**-0.1**
JYNG				S	**Sn**	**13 46 00.8**	**+0.2**
WHF	**Hehuan Shan**	**0.91**	**232**	*e*P	**Pn**	**13 45 49.6**	**-0.2**
	baz=224						
WHF				*e*S	**Sn**	**13 46 02.2**	**-0.1**
	baz=224						
TWT	**Tachien**	**0.91**	**240**	⇑P	**Pn**	**13 45 49.8**	**+0.2**
	baz=231						
TWT				*e*S	**Sn**	**13 46 02.4**	**+0.4**
	baz=231						
NSTT	**Nanjuang**	**0.95**	**265**	*e*P	**Pn**	**13 45 49.3**	**-0.6**
	baz=277						
NSTT				S	**Sn**	**13 46 02.2**	**-0.4**
	baz=277						
ESL	**Shilin**	**1.05**	**212**	*e*P	**Pn**	**13 45 51.0**	**-0.3**
	baz=216						
NSY	**Sanyi**	**1.20**	**256**	*e*P	**Pn**	**13 45 53.1**	**-0.2**
	baz=256						
NSY				*e*S	**Sn**	**13 46 08.8**	**+0.2**
	baz=256						
TWQ1	**Liyutan**	**1.21**	**253**	*e*P	**Pn**	**13 45 53.0**	**-0.3**
	baz=252						
TWQ1				*e*S	**Sn**	**13 46 08.9**	**0.0**
	baz=252						
TYC	**Yuchr**	**1.35**	**234**	*e*S	**Sn**	**13 46 12.4**	**+0.4**
	baz=224						
EHY	**Hungye**	**1.37**	**209**	*e*S	**Sn**	**13 46 10.9**	**-1.7**
	baz=204						
TWF1	**Yuli**	**1.52**	**207**	*e*S	**Sn**	**13 46 15.6**	**-0.6**
	baz=202						
YUS	**Yu-Shan**	**1.57**	**219**	*e*S	**Sn**	**13 46 17.3**	**-1.0**
	baz=208						
IRIF	**Iriomote-Funau**	**1.58**	**103**	P	**Pn**	**13 45 58.0**	**-0.3**
IRIF				*e*S	**Sn**	**13 46 17.7**	**-0.1**
ALS	**Alishan**	**1.65**	**224**	*e*P	**Pn**	**13 46 00.0**	**+0.5**
	baz=230						
ALS				*e*S	**Sn**	**13 46 21.6**	**+1.9**
	baz=230						
CHN5	**Tsauling**	**1.67**	**229**	*e*P	**Pn**	**13 45 59.3**	**-0.3**
	baz=236						
CHN5				*e*S	**Sn**	**13 46 20.1**	**+0.1**
	baz=236						
ELDTW	**Lidau**	**1.78**	**212**	*e*S	**Sn**	**13 46 20.6**	**-2.2**
	baz=197						
JKRS	**Kuro-shima**	**1.85**	**104**	P	**Pn**	**13 46 02.1**	**+0.1**
CHN4	**Tsaushan**	**1.90**	**225**	*e*P	**Pn**	**13 46 02.6**	**-0.1**
	baz=233						
CHN4				*e*S	**Sn**	**13 46 28.0**	**+2.6**
	baz=233						
JIJ	**Ishigaki jima**	**1.94**	**100**	P	**Pn**	**13 46 03.1**	**-0.2**
JIJ				*e*S	**Sn**	**13 46 26.6**	**0.0**
TWK	**Hsinying**	**2.02**	**225**	*e*S	**Sn**	**13 46 30.0**	**+1.4**
	baz=233						
CHN1	**Nanshi**	**2.06**	**223**	*e*S	**Sn**	**13 46 30.0**	**+0.6**
	baz=230						
JISG	**Ishigakijimahi**	**2.07**	**93**	P	**Pn**	**13 46 05.0**	**+0.1**
JISG				*e*S	**Sn**	**13 46 30.1**	**+0.5**

---

*ISCJB **03** 14:00:52.6±0.5,56.18S±0.07×25.56W±0.1,h10km, mb4.7/17,MS4.5/19,Error ellipse: s-maj=13.8km s-min=7.1km az=136.6*
*IDC **03** 14:00:52.9±0.6,56.17S×25.57W,h0km,mb4.4/10, mb1 4.5/11,mb1mx4.3/21,mbtmp4.4/11,ML4.1/1,MS4.5/19, Ms1 4.4/19,ms1mx4.4/21,Error ellipse: s-maj=20.3km s-min=17.4km az=58.0*
*NEIC **03** 14:00:58.0±0.4,56.23S×25.63W,h35km,mb5.0/10,Error ellipse: s-maj=13.0km s-min=8.7km az=217.0*
*GCMT **03** 14:00:58.0±0.3,56.23S×25.32W,h23km,MW5.0/68, Moment Tensor Solution. s28,c32; s68,c93; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr4.48±.28; Mθθ-1.39±.19; Mφφ-3.09±.17; Mrθ-0.67±.30; Mθφ1.53±.09; Mφr0.83±.22; Best double couple: M0=4.36800×10^16 NP1:φs328.00000°,δ52.00000°,λ88.00000°. NP2: φs151.00000°,δ38.00000°,λ93.00000°. Principal axes: T 4.6150, Plg83.0000°, Azm226.0000°; N -0.4940, Plg2.0000°, Azm329.0000°; P -4.1210, Plg7.0000°, Azm59.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*BJI **03** 14:00:59.2,56.20S×25.80W,h35km,mB5.3/7,Ms5.3/6, Ms7 4.8/4*
ISC 03 14:00:54.2±0.4,**56.11S**±0.09×**25.47W**±0.08,**h10**km,**n60**, σ2§**10**/**49**,**mb4.7**/17,**MS4.5**/19,**1C**,**South Sandwich Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPE	**Hope Point**	**6.57**	**282**	*e*Pn	**Pn**	**14 02 30.4**	**-0.2**
VNA1	**Neumayer--Stat**	**16.39**	**160**	P	**Pn**	**14 04 44.3**	**+0.4**
VNA3	**Neumayer Olymp**	**16.62**	**162**	P	**Pn**	**14 04 46.4**	**-0.5**
SNAA	**Sanae**	**18.30**	**157**	P	**P**	**14 05 08.0**	**+0.1**
SNAA	**Sanae**	**18.30**	**157**	P	**P**	**14 05 08.1**	**+0.2**
	0.7nm,0.3s,baz=309,slow=12,SNR=27						
SNAA				LR	LR	14 11 01.4	
	comp=Z,845nm,18.4s,baz=330,slow=33						
SNAA	**Sanae**	**18.30**	**157**	*e*P	**Pn**	**14 05 07.2**	**-0.7**
	12nm,0.9s						
PMSA	**Palmer Station**	**20.59**	**229**	P	**P**	**14 05 32.8**	**-0.1**
	27nm,0.9s,baz=58,slow=9.2,SNR=9.7						
PMSA				LR	LR	14 12 51.3	
	comp=Z,1μm,18.3s,baz=77,slow=35						
PMSA	**Palmer Station**	**20.59**	**229**	*e*P	**P**	**14 05 31.9**	**-1.0**
	25nm,0.7s						
USHA	**Ushuaia**	**24.10**	**255**	LR	LR

H10S2	**ASCENSION HYDR**	**47.80**	**15**	T		T		15 01 18.3	
	baz=188								
H10S3	**ASCENSION HYDR**	**47.81**	**14**	T		T		15 01 28.5	
	baz=188								
H10S1	**ASCENSION HYDR**	**47.82**	**15**	T		T		15 01 18.0	
	baz=188								
LBTB	**Lobatse**	**48.11**	**71**	P		**P**		**14 09 34.4**	**+0.3**
	comp=Z,2.8nm,0.8s,baz=204,slow=7.9,SNR=3.5								
H10N1	**ASCENSION HYDR**	**48.92**	**15**	T		T		15 02 51.6	
	baz=179								
H10N3	**ASCENSION HYDR**	**48.92**	**14**	T		T		15 02 38.7	
	baz=179,slow=74								
H10N2	**ASCENSION HYDR**	**48.94**	**15**	T		T		15 02 42.8	
	baz=179,slow=74								
PB11	**IPOC Station P**	**48.95**	**299**	*e*P		**P**		**14 09 39.3**	**-1.3**
	comp=Z,29nm,1.0s								
LPAZ	**La Paz**	**51.21**	**303**	P		**P**		**14 09 59.8**	**+1.4**
	comp=Z,5.0nm,0.5s,baz=126,slow=8.7,SNR=23								
LPAZ					LR		LR	14 31 10.9	
	comp=Z,135nm,21.9s,baz=152,slow=36								
SAML	**Samuel**	**55.54**	**313**	*e*P		**P**		**14 10 29.8**	**+0.3**
	comp=Z,13nm,1.4s								
DBIC	**Dimbokro**	**64.84**	**23**	P		**P**		**14 11 34.8**	**+1.7**
	comp=Z,3.0nm,0.6s,baz=199,slow=8.5,SNR=4.6								
DBIC					LR		LR	14 34 23.3	
	comp=Z,474nm,18.7s,baz=170,slow=31								
TORD	**Torodi Ar. Bea**	**72.65**	**28**	P		**P**		**14 12 22.8**	**+1.0**
	comp=Z,4.5nm,0.7s,baz=199,slow=6.0,SNR=37								
TORD					LR		LR	14 39 45.6	
	comp=Z,249nm,18.3s,baz=205,slow=32								
ROSC	**El Rosal**	**72.67**	**308**	LR		LR		14 45 59.9	
	comp=Z,153nm,19.6s,baz=254,slow=37								
KMBO	**Kilima Mbogo**	**74.17**	**67**	LR		LR		14 43 36.8	
	comp=Z,396nm,18.7s,baz=86,slow=34								
TBI	**Tubuai**	**87.78**	**230**	*e*LR		LR		14 41 32.6	
	comp=Z,240nm,30.2s,baz=155								
STKA	**Stephens Creek**	**91.67**	**169**	LR		LR		14 54 49.5	
	comp=Z,468nm,18.2s,baz=203,slow=35								
RAO	**Raoul Island**	**91.79**	**204**	LR		LR		14 47 52.2	
	comp=Z,196nm,22.0s,baz=353,slow=31								
PPT2	**Papeete2**	**92.91**	**232**	*e*LR		LR		14 43 55.0	
	comp=Z,392nm,28.2s,baz=149								
PPT	**Papeete**	**92.93**	**232**	LR		LR		14 48 26.5	
	comp=Z,152nm,18.7s,baz=160,slow=31								
KEST	**Kesra**	**96.17**	**28**	LR		LR		14 54 27.6	
	comp=Z,160nm,18.2s,baz=220,slow=33								
ESDC	**Sonseca Array**	**97.16**	**17**	LR		LR		14 55 18.8	
	comp=Z,113nm,18.2s,baz=190,slow=34								
ASAR	**Alice Springs**	**98.63**	**161**	P		**P**		**14 14 32.9**	**-0.5**
	comp=Z,0.6nm,0.8s,baz=177,slow=4.2,SNR=9.9								
ASAR					LR		LR	14 58 48.2	
	comp=Z,93nm,18.1s,baz=186,slow=35								
WRA	**Warramunga Arr**	**102.34**	**161**	P		**Pdif**		**14 14 50.0**	**0.0**
	comp=Z,0.7nm,0.9s,baz=198,slow=4.1,SNR=3.2								
PDAR	**Pinedale Array**	**121.19**	**301**	PKP		**PKPdf**		**14 19 45.6**	**-1.0**
	comp=Z,0.2nm,0.6s,baz=101,slow=1.8,SNR=2.3								
FINES	**FINESS Array B**	**124.00**	**27**	PKP		**PKPdf**		**14 19 50.4**	**-0.7**
	comp=Z,1.0nm,0.8s,baz=283,slow=4.6,SNR=2.9								
CMAR	**Chiang Mai Arr**	**124.14**	**109**	PKP		**PKPdf**		**14 19 53.0**	**+0.2**
	comp=Z,0.8nm,0.7s,baz=230,slow=4.2,SNR=3.7								
KSH	**Kashi**	**127.66**	**73**	*e*PKP		**PKPdf**		**14 19 59.9**	**+0.9**
KSH				*es*PKP				14 20 14.4	
KSH				*e*PP		**PP**		**14 22 02.2**	**+1.1**
KSH				PKS		**PKSdf**		**14 23 36.2**	**+0.6**
KSH				SKS		**SKSdf**		**14 27 06.6**	**-3.9**
KSH				SKKS		**SKKSac**		**14 28 50.1**	**-7.7**
KSH				SS		**SS**		**14 39 05.7**	**-7.0**
KSH				AMB		AMB			
	comp=Z,28nm,5.4s								
KSH					LR	LR			
	comp=Z,130nm,6.6s								
KSH					LR	LR			
	comp=Z,110nm,7.1s								
KSH					LR	LR			
	comp=Z,99nm,9.7s								
QIZ	**Qiongzhong**	**130.18**	**119**	PKP		**PKPdf**		**14 20 04.3**	**0.0**
QIZ					LR	LR			
	comp=Z,210nm,17.4s								
QIZ					LR	LR			
	comp=Z,180nm,14.7s								
KMI	**Kunming**	**131.60**	**108**	PKP		**PKPdf**		**14 20 08.4**	**+1.3**
GYA	**Guiyang**	**134.75**	**111**	*e*Pdif		**Pdif**		**14 17 14.6**	**+0.7**
GYA				PKP		**PKiKP**		**14 20 14.0**	**-0.3**
GYA				PP		**PP**		**14 22 52.8**	**+6.1**
GYA				AMB		AMB			
	comp=Z,120nm,7.9s								
WMQ	**Urumqi**	**136.98**	**77**	*e*PKP		**PKPdf**		**14 20 15.1**	**-1.3**
WMQ					LR	LR			
	comp=Z,59nm,5.9s								
WMQ					LR	LR			
	comp=Z,47nm,7.5s								
GTA	**Gaotai**	**140.76**	**91**	*e*PKP		**PKPdf**		**14 20 26.0**	**+2.5**
GTA				sPKP				14 20 40.6	
NJ2	**Nanjing**	**145.48**	**119**	*e*PKPbc		**PKPab**		**14 20 34.4**	**+2.3**
HHC	**Hu-ho-hao-te**	**148.29**	**100**	*e*PKP		PKPdf		14 20 23.4	-13
HHC				PP		PP		14 23 59.7	-9.5
SONM	**Songino Array**	**149.77**	**85**	PKPbc		**PKPbc**		**14 20 42.8**	**-0.6**
	comp=Z,1.5nm,0.6s,baz=232,slow=3.0,SNR=7.5								
ILAR	**Eielson Array**	**150.88**	**311**	PKPbc		**PKPbc**		**14 20 45.6**	**+0.3**
	comp=Z,3.4nm,0.7s,baz=145,slow=3.3,SNR=22								

DJA 03 14:08:51.9±0.7, **7°S**±6°×**107°E**±°, **h34**km±8km, **M3.8/8, MLv3.8/8, Jawa**

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op	ISC		h m s	ISC
CNJI	**Cibinong**	**0.47**	**69**	P		Pn	14 09 03.0	+0.8
SKJI	**Sukabumi**	**0.49**	**344**	P		Pn	14 09 03.2	+0.7
DBJI	**Dramaga**	**0.92**	**4**	P		Pn	14 09 08.5	0.0
CISI	**Cisompet, Garu**	**1.12**	**94**	P		Pn	14 09 11.2	0.0
LEM	**Lembang**	**1.13**	**55**	P		Pb	14 09 17.2	+4.2
CGJI	**Cibinong**	**1.31**	**311**	P		Pn	14 09 13.3	-0.5
CGJI				S		Sn	14 09 29.5	-0.7
CMJI	**Cimerak**	**1.77**	**100**	P		Pn	14 09 20.0	-0.1
KASI	**Kota Agung**	**2.92**	**312**	P		Pn	14 09 37.8	+1.8
MDSI	**Maura Dua**	**3.88**	**320**	P		Pn	14 09 50.1	+0.9
PCJI	**Pacitan**	**4.50**	**99**	P		Pn	14 09 57.9	+0.2

*FUNV **03** 14:49:55.5, 10°.33N×62°.52W, h5km, MW3.1*
*ISCJB **03** 14:49:56.2±0.6, 10°.43N±0°.04×62°.65W±0°.02, h10km±4km, Error ellipse: s-maj=6.6km s-min=3.2km az=154.2*
*TRN **03** 14:50:00.2, 10°.61N×62°.45W, h2km, MD3.7*
ISC 03 14:49:54.9±1.3, **10°.38N**±0°.04×**62°.63W**±0°.03, **h4**km±11km, **n17**,σ1§**02**/32, **3C**, **Near coast of Venezuela**

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op	ISC		h m s	ISC
GUNV	**Guanoco**	**0.38**	**236**	⇑*i*P		**Pb**	**14 50 03.5**	**-0.7**
GUNV				*e*S		**Sb**	**14 50 10.7**	**+0.3**
GUIV	**Guiria**	**0.48**	**56**	⇑*i*P		**Pg**	**14 50 03.6**	**-0.6**
GUIV				*e*S		**Sg**	**14 50 10.2**	**-0.2**
CRUV	**Carupano**	**0.67**	**296**	*e*P		**Pg**	**14 50 08.5**	**+0.7**
CRUV				*e*S		**Sb**	**14 50 19.3**	**+0.4**
TCE	**Chacachacare**	**0.92**	**69**	*e*P		**Pg**	**14 50 13.0**	**+0.5**
TPP	**Pointe-a-Pierr**	**1.16**	**93**	*e*P		**Pn**	**14 50 20.4**	**+2.4**
TPP				*e*S		**Sn**	**14 50 36.1**	**+1.9**
TRN	**Trinidad (W)**	**1.23**	**77**	⇑*i*P		**Pn**	**14 50 20.8**	**+1.8**
TRN				*e*S		**Sb**	**14 50 35.0**	**-0.1**
ORIV	**Oritupano**	**1.51**	**211**	*e*P		**Pn**	**14 50 22.2**	**-0.6**
ORIV				*e*S		**Sg**	**14 50 44.4**	**+0.9**
PCRV	**Puerto La Cruz**	**1.99**	**264**	*e*P		**Pn**	**14 50 30.1**	**+0.6**
PCRV				*e*S		**Sb**	**14 50 56.2**	**-0.8**
GRGR	**Grenville**	**1.99**	**29**	*e*P		**Pb**	**14 50 31.3**	**-0.5**
GRGR				*e*S		**Sn**	**14 50 54.0**	**-1.0**
GRGR	**Grenville**	**1.99**	**29**	*e*P		**Pn**	**14 50 29.6**	**+0.1**
GRGR				*e*S		**Sn**	**14 50 53.9**	**-1.0**
GRW	**Mount Saint Ca**	**2.01**	**28**	*e*P		**Pb**	**14 50 32.1**	**-0.1**
GRW				*e*S		**Sn**	**14 50 55.3**	**-0.2**
GRSS	**Sisters**	**2.15**	**27**	*e*P		**Pb**	**14 50 33.4**	**-1.2**
GRSS				*e*S		**Sn**	**14 50 57.8**	**-1.1**
TOSP	**Speyside**	**2.25**	**66**	*e*P		**Pb**	**14 50 35.1**	**-1.1**
TOSP				*e*S		**Sn**	**14 51 01.8**	**+0.6**
PRGV	**PARIAGUAN**	**2.56**	**231**	*e*P		**Pn**	**14 50 38.0**	**+0.8**
PRGV				*e*S		**Sn**	**14 51 09.4**	**+0.5**
CUPV	**Cœpira**	**3.13**	**264**	*e*P		**Pn**	**14 50 45.6**	**+0.4**
CUPV				*e*S		**Sn**	**14 51 23.4**	**+0.4**
BIRV	**Birongo**	**3.58**	**272**	*e*P		**Pn**	**14 50 52.0**	**+0.6**
BIRV				*e*S		**Sn**	**14 51 34.5**	**+0.2**
LUEV	**Luepa**	**4.65**	**166**	*e*P		**Pn**	**14 51 04.0**	**-2.2**

*DDA **03** 14:51:05.6, 37°.21N×28°.22E, h7km, Ml2.6, Suspected Mining explosion.*
*ISCJB **03** 14:51:06.4±0.6, 37°.32N±0°.04×28°.21E±0°.03, h0km, Error ellipse: s-maj=5.6km s-min=3.4km az=177.4*
*CSEM **03** 14:51:06.1±0.4, 37°.27N×28°.21E, h2km, MD2.6, Error ellipse: s-maj=9.2km s-min=6.0km az=4.0*
*ISK **03** 14:51:06.6, 37°.34N×28°.19E, h8km, MD2.6*
ISC 03 14:51:05.8±0.9, **37°.24N**±0°.03×**28°.19E**±0°.02, **h0**km, **n23**, σ1§**12**/37, **Turkey**

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op	ISC		h m s	ISC
MLSB	**Milas**	**0.33**	**280**	*e*PG		**Pg**	**14 51 12.8**	**+0.7**
MLSB				*e*SG		**Sb**	**14 51 19.4**	**-1.1**
MLSB	**Milas**	**0.33**	**280**	*e*Pg		**Pg**	**14 51 12.8**	**+0.7**
MLSB				*e*Sg		**Sb**	**14 51 19.4**	**-1.1**
DALY	**Dalyan (Mu˘la**	**0.56**	**138**	*i* P		**Pg**	**14 51 15.2**	**-1.4**
DALY				*i* S		**Sb**	**14 51 26.4**	**-0.7**
DALY	**Dalyan (Mu˘la**	**0.56**	**138**	P		**Pg**	**14 51 15.2**	**-1.4**
DALY				S		**Sb**	**14 51 26.4**	**-0.7**
BDRM	**Kayabasi**	**0.62**	**254**	*i* P		**Pg**	**14 51 16.8**	**-0.8**
BDRM				*i* S		**Sb**	**14 51 28.2**	**-0.5**
BDRM	**Kayabasi**	**0.62**	**254**	P		**Pg**	**14 51 16.8**	**-0.8**
BDRM				S		**Sb**	**14 51 28.2**	**-0.5**
DAT	**Datca**	**0.71**	**224**	*e*PG		**Pb**	**14 51 21.2**	**+0.1**
DAT	**Datca**	**0.71**	**224**	*i* P		**Pg**	**14 51 19.3**	**0.0**
DAT				*i* S		**Sn**	**14 51 34.1**	**-0.7**
DAT	**Datca**	**0.71**	**224**	P		**Pg**	**14 51 19.3**	**0.0**
DAT	**Datca**	**0.71**	**224**	*e*Pg		**Pb**	**14 51 21.2**	**+0.1**
DAT				S		**Sn**	**14 51 34.1**	**-0.7**
BODT	**Bodrum**	**0.72**	**256**	*e*PG		**Pb**	**14 51 21.0**	**-0.3**
BODT				*e*SG		**Sb**	**14 51 32.9**	**+1.2**
BODT	**Bodrum**	**0.72**	**256**	*e*Pg		**Pb**	**14 51 21.0**	**-0.3**
BODT				*e*Sg		**Sb**	**14 51 32.9**	**+1.2**
AYDB	**Zeytinkoy-Aydi**	**0.74**	**342**	*e*PG		**Pg**	**14 51 19.8**	**-0.3**
AYDB	**Zeytinkoy-Aydi**	**0.74**	**342**	*e*Pg		**Pg**	**14 51 19.8**	**-0.3**
DNZL	**Cakiroluk**	**0.82**	**56**	*i* P		**Pg**	**14 51 21.1**	**-0.4**
DNZL				*i* S		**Sb**	**14 51 33.7**	**-1.0**
DNZL	**Cakiroluk**	**0.82**	**56**	P		**Pg**	**14 51 21.1**	**-0.4**
DNZL				S		**Sb**	**14 51 33.7**	**-1.0**
FETY	**Fethiye**	**0.94**	**130**	*e*PG		**Pn**	**14 51 26.2**	**-0.1**
FETY				*e*SG		**Sn**	**14 51 41.0**	**+0.5**
FETY	**Fethiye**	**0.94**	**130**	P		**Pg**	**14 51 23.9**	**+0.1**
FETY	**Fethiye**	**0.94**	**130**	*e*Pg		**Pn**	**14 51 26.2**	**-0.1**
AKAS	**Kas**	**1.52**	**131**	*e*PN		**Pb**	**14 51 35.5**	**+0.6**
AKAS	**Kas**	**1.52**	**131**	*i* P		**Pn**	**14 51 33.9**	**-0.5**
AKAS				*i* S		**Sn**	**14 51 59.9**	**+5.0**
AKAS	**Kas**	**1.52**	**131**	P		**Pn**	**14 51 33.9**	**-0.5**
AKAS	**Kas**	**1.52**	**131**	*e*Pn		**Pb**	**14 51 35.6**	**+0.6**

SJA 03 15:14:51.2±0.4, **31°.33S**×**67°.73W**, **h72**km±20km, **ML2.2, MW3.9, San Juan Province**

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op	ISC		h m s	ISC
AMOG	**MOGNA**	**0.76**	**301**	*e*P		Pn	15 15 07.9	+0.9
RTCV	**Cerro Valdivia**	**0.87**	**232**	*e*P		Pn	15 15 09.1	+0.8
RTCV				*e*S		Sn	15 15 22.7	+1.8
ASAL	**Salagasta**	**1.57**	**217**	*e*P		Pn	15 15 18.8	+1.6
ASAL				*e*S		Sn	15 15 38.9	+2.1
ARCO	**CERRO ARCO**	**1.82**	**214**	*e*P		Pn	15 15 22.2	+1.6
ARCO				IAML			15 16 48.4	
	comp=Z,22nm,0.4s							

*IDC **03** 15:15:47.5±4.5, 22°.55S×179°.53W, h612km±51km, mb3.4/5, mb1 3.6/7, mb1mx3.2/23, mbtmp4.4/7, Error ellipse: s-maj=43.6km s-min=30.3km az=2.0*
ISC 03 15:15:45.2±1.2, **22°.5S**±0°.2×**179°.4W**±0°.2, **h579**km, **n9**, σ1§**25**/10, **mb4.2/5, South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op	ISC		h m s	ISC
DZM	**Mont Dzumac**	**13.14**	**269**	P		**P**	**15 18 37.6**	**+1.9**
	0.6nm,0.3s,baz=124,slow=21,SNR=6.6							
URZ	**Urewera**	**15.95**	**190**	P		**P**	**15 19 02.6**	**-0.3**
	0.6nm,0.3s,baz=291,slow=2.8,SNR=5.9							
URZ				S		**S**	**15 21 44.9**	**+0.9**
	0.6nm,0.3s,baz=186,slow=23,SNR=11							
STKA	**Stephens Creek**	**35.78**	**246**	P		**P**	**15 21 56.6**	**-0.1**
	3.1nm,0.5s,baz=98,slow=11,SNR=13							
ASAR	**Alice Springs**	**42.84**	**259**	P		**P**	**15 22 52.5**	**-1.1**
	8.0nm,0.8s,baz=101,slow=8.0,SNR=85							
ASAR				PcP		**PcP**	**15 24 30.5**	**-0.8**
	0.6nm,0.6s,baz=111,slow=3.3,SNR=3.7							
WRA	**Warramunga Arr**	**43.09**	**264**	P		**P**	**15 22 53.6**	**-2.0**
	4.0nm,0.3s,baz=95,slow=8.1,SNR=69							
TXAR	**Lajitas Array**	**89.23**	**58**	P		**P**	**15 27 40.9**	**+0.3**
	0.7nm,0.9s,baz=209,slow=7.2,SNR=6.0							
CMAR	**Chiang Mai Arr**	**89.60**	**290**	P		**P**	**15 27 42.4**	**0.0**
	1.3nm,0.8s,baz=153,slow=3.7,SNR=7.7							
AKASG	**Malin Array Be**	**144.13**	**329**	PKP		PKPbc	15 34 12.2	-2.9
	0.6nm,0.3s,baz=42,slow=4.0,SNR=5.6							
BRTR	**Keskin Array B**	**147.20**	**309**	PKPbc		**PKPdf**	**15 34 21.9**	**+0.7**
	0.4nm,0.4s,baz=156,slow=6.5,SNR=4.0							

SJA 03 15:22:37.3±0.3, **31°.99S**×**69°.26W**, **h66**km±12km, **ML2.6, MW3.5, San Juan Province**

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op	ISC		h m s	ISC
ARCO	**CERRO ARCO**	**0.90**	**162**	*e*P		Pn	15 22 55.5	+1.0
ARCO				*e*S		Sn	15 23 08.9	+1.8
ARCO				IAML			15 23 10.2	
	comp=Z,140nm,0.3s							
AMOG	**MOGNA**	**1.23**	**32**	*e*P		Pn	15 22 59.9	+1.2
AROD	**Rodeo**	**1.82**	**354**	*e*P		Pn	15 23 08.8	+2.0
AROD				*e*S		Sn	15 23 32.2	+3.1

*ISCJB **03** 15:52:15.1±1.2, 37°.02S±0°.06×178°.6E±0°.1, h168km±5km, mb3.8/3, Error ellipse: s-maj=15.4km s-min=7.2km az=150.4*
*WEL **03** 15:52:17.2±0.3, 36°.78S×178°.46E, h122km±3km, ML4.4/49, Error ellipse: s-maj=3.3km s-min=2.4km az=0.0*
*NEIC **03** 15:52:17.6±0.0, 36°.81S×178°.44E, h122km, MG4.3(WEL), After WEL.*
*IDC **03** 15:52:19.7±2.9, 37°.45S×178°.81E, h149km±17km, mb3.6/3, mb1 3.8/4, mb1mx3.5/24, mbtmp4.1/4, Error ellipse: s-maj=42.4km s-min=35.9km az=138.0*
ISC 03 15:52:20.1±1.1, **37°.12S**±0°.07×**178°.37E**±0°.08, **h141**km±6km, **n207**,σ1§**42**/209, **mb3.8/3, 4C-21D, Off east coast of North Island**

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op	ISC		h m s	ISC
WMGZ	**Waiomatatini S**	**0.70**	**177**	Pn		**Pn**	**15 52 39.8**	**-1.8**
WMGZ				Sn		**Sn**	**15 52 56.9**	**-1.1**
WMGZ	**Waiomatatini S**	**0.70**	**177**	⇓PN		**Pn**	**15 52 39.8**	**-1.8**
WMGZ				SN		**Sn**	**15 52 56.9**	**-1.1**
WMGZ				AML	AML		15 53 01.9	
HAZ	**Te Kaha**	**0.79**	**216**	⇓PN		**Pn**	**15 52 40.1**	**-2.2**
HAZ				SN		**Sn**	**15 52 57.9**	**-1.2**
HAZ				AML	AML		15 53 00.5	
HAZ				AML	AML		15 53 01.4	
PKGZ	**Pakihiroa**	**0.80**	**197**	⇓PN		**Pn**	**15 52 40.8**	**-1.6**
PUZ	**Puketiti**	**0.95**	**185**	Pn		**Pn**	**15 52 42.2**	**-1.5**
PUZ				Sn		**Sn**	**15 53 01.3**	**-0.3**
PUZ	**Puketiti**	**0.95**	**185**	⇑PN		**Pn**	**15 52 42.2**	**-1.5**
PUZ				SN		**Sn**	**15 53 01.3**	**-0.3**
PUZ				AML	AML		15 53 02.0	
RUGZ	**Raukumara Rang**	**1.00**	**213**	⇓PN		**Pn**	**15 52 42.9**	**-1.2**
WIZ	**White Island**	**1.02**	**246**	Pn		**Pn**	**15 52 42.1**	**-2.1**
WIZ				Sn		**Sn**	**15 53 00.4**	**-2.1**
WIZ	**White Island**	**1.02**	**246**	PN		**Pn**	**15 52 42.1**	**-2.1**
TWGZ	**Tauwhareparae**	**1.10**	**196**	Pn		**Pn**	**15 52 44.4**	**-0.5**
TWGZ	**Tauwhareparae**	**1.10**	**196**	⇓PN		**Pn**	**15 52 44.4**	**-0.5**
TWGZ				AML	AML		15 53 07.0	
TWGZ				AML	AML		15 53 07.9	
WHRZ	**Whale Island**	**1.33**	**236**	PN		**Pn**	**15 52 46.6**	**-0.6**
CNGZ	**Carnagh Statio**	**1.36**	**185**	Pn		**Pn**	**15 52 47.4**	**-0.2**
CNGZ	**Carnagh Statio**	**1.36**	**185**	⇓PN		**Pn**	**15 52 47.4**	**-0.2**
CNGZ				AML	AML		15 53 13.6	
CNGZ				AML	AML		15 53 15.0	
TKGZ	**Te Karaka**	**1.38**	**197**	Pn		**Pn**	**15 52 47.3**	**-0.3**
TKGZ	**Te Karaka**	**1.38**	**197**	⇓PN		**Pn**	**15 52 47.3**	**-0.3**
TKGZ				AML	AML		15 53 11.9	
TKGZ				AML	AML		15 53 14.4	
MWZ	**Matawai**	**1.38**	**209**	Pn		**Pn**	**15 52 47.3**	**-0.4**
MWZ	**Matawai**	**1.38**	**209**	PN		**Pn**	**15 52 47.7**	**-0.1**
MWZ				AML	AML		15 53 11.6	
MWZ				AML	AML		15 53 14.4	
URZ	**Urewera**	**1.51**	**221**	P		**Pn**	**15 52 48.6**	**-0.5**
	73nm,0.3s,baz=262,slow=3.7,SNR=2450							
URZ				S		**Sn**	**15 53 13.3**	**+2.0**
	151nm,0.3s,baz=98,slow=21,SNR=25							
URZ	**Urewera**	**1.51**	**221**	PN		**Pn**	**15 52 48.6**	**-0.5**
URZ				AML	AML		15 53 13.6	
URZ				AML	AML		15 53 16.7	
RAGZ	**Rawiri**	**1.56**	**208**	Pn		**Pn**	**15 52 49.8**	**+0.1**
RAGZ	**Rawiri**	**1.56**	**208**	⇓PN		**Pn**	**15 52 49.8**	**+0.1**
RAGZ				AML	AML		15 53 17.6	
RAGZ				AML	AML		15 53 20.2	
MARZ	**Manawahe**	**1.60**	**237**	Pn		**Pn**	**15 52 49.6**	**-0.4**
MARZ	**Manawahe**	**1.60**	**237**	⇓PN		**Pn**	**15 52 49.6**	**-0.4**
OPRZ	**Ohinepanea**	**1.61**	**243**	Pn		**Pn**	**15 52 49.3**	**-0.9**
OPRZ	**Ohinepanea**	**1.61**	**243**	PN		**Pn**	**15 52 49.3**	**-0.9**
EDRZ	**Edgecumbe**	**1.62**	**232**	Pn		**Pn**	**15 52 50.3**	**-0.1**
EDRZ	**Edgecumbe**	**1.62**	**232**	PN		**Pn**	**15 52 50.3**	**-0.1**
RIGZ	**Rimuhau**	**1.65**	**197**	PN		**Pn**	**15 52 50.5**	**-0.2**
RIGZ				AML	AML		15 53 18.6	
RIGZ				AML	AML		15 53 18.9	
TGRZ	**Tauranga**	**1.78**	**250**	Pn		**Pn**	**15 52 51.5**	**-0.6**
TGRZ	**Tauranga**	**1.78**	**250**	⇓PN		**Pn**	**15 52 51.5**	**-0.6**
LIRZ	**Lichensteins R**	**1.80**	**240**	Pn		**Pn**	**15 52 52.8**	**+0.4**
LIRZ	**Lichensteins R**	**1.80**	**240**	PN		**Pn**	**15 52 52.8**	**+0.4**
PRGZ	**Paritu Road**	**1.84**	**192**	Pn		**Pn**	**15 52 52.5**	**-0.3**
PRGZ	**Paritu Road**	**1.84**	**192**	PN		**Pn**	**15 52 52.5**	**-0.3**
PRGZ				AML	AML		15 53 22.4	
PRGZ				AML	AML		15 53 23.7	
SNGZ	**Shannon Statio**	**1.84**	**206**	Pn		**Pn**	**15 52 53.2**	**+0.3**
SNGZ	**Shannon Statio**	**1.84**	**206**	⇓PN		**Pn**	**15 52 53.2**	**+0.3**
SNGZ				AML	AML		15 53 22.9	
SNGZ				AML	AML		15 53 23.8	
TARZ	**Mount Tarawera**	**1.85**	**232**	Pn		**Pn**	**15 52 53.4**	**+0.4**
TARZ	**Mount Tarawera**	**1.85**	**232**	PN		**Pn**	**15 52 53.3**	**+0.4**
RTZ	**Ruatahuna**	**1.85**	**216**	PN		**Pn**	**15 52 52.8**	**-0.2**
MUGZ	**Murupara**	**1.85**	**223**	⇓PN		**Pn**	**15 52 52.8**	**-0.2**
OMRZ	**Omania**	**1.86**	**238**	Pn		**Pn**	**15 52 53.1**	**0.0**
OMRZ	**Omania**	**1.86**	**238**	PN		**Pn**	**15 52 53.1**	**0.0**
RRRZ	**Republican Roa**	**1.91**	**230**	Pn		**Pn**	**15 52 53.5**	**-0.1**
RRRZ	**Republican Roa**	**1.91**	**230**	PN		**Pn**	**15 52 53.5**	**-0.1**
KARZ	**Kaharoa**	**1.91**	**241**	Pn		**Pn**	**15 52 53.6**	**0.0**
KARZ	**Kaharoa**	**1.91**	**241**	PN		**Pn**	**15 52 53.6**	**0.0**
KNZ	**Kokohu**	**1.97**	**196**	Pn		**Pn**	**15 52 53.8**	**-0.5**
KNZ	**Kokohu**	**1.97**	**196**	⇓PN		**Pn**	**15 52 53.8**	**-0.5**
KNZ				AML	AML		15 53 24.3	
KNZ				AML	AML		15 53 27.9	
HSRZ	**Hossack Road**	**2.06**	**234**	PN		**Pn**	**15 52 56.2**	**+0.8**
MHGZ	**Mahia Peninsul**	**2.06**	**190**	Pn		**Pn**	**15 52 55.3**	**-0.1**
MHGZ	**Mahia Peninsul**	**2.06**	**190**	PN		**Pn**	**15 52 55.3**	**-0.1**
MHGZ				AML	AML		15 53 27.5	
MHGZ				AML	AML		15 53 28.1	
HRRZ	**Handcock Road**	**2.08**	**232**	Pn		**Pn**	**15 52 56.1**	**+0.4**
HRRZ	**Handcock Road**	**2.08**	**232**	PN		**Pn**	**15 52 56.1**	**+0.4**
PRRZ	**Plateau Road**	**2.08**	**228**	Pn		**Pn**	**15 52 55.9**	**+0.3**
PRRZ	**Plateau Road**	**2.08**	**228**	⇓PN		**Pn**	**15 52 55.9**	**+0.3**
WHHZ	**Waihua**	**2.15**	**204**	PN		**Pn**	**15 52 57.4**	**+0.9**
WHHZ				AML	AML		15 53 31.1	
WHHZ				AML	AML		15 53 32.3	
ALRZ	**Allen Road**	**2.15**	**227**	Pn		**Pn**	**15 52 57

WCZ	**Waipu Caves**	**3.45 289**	PN	**Pn**	**15 53 10.3**	**-2.5**
VRZ	**Vera Road**	**3.48 234**	Pn	**Pn**	**15 53 14.3**	**+1.1**
VRZ	**Vera Road**	**3.48 234**	PN	**Pn**	**15 53 14.3**	**+1.1**
TSZ	**Takapari Road**	**3.48 212**	Pn	**Pn**	**15 53 12.1**	**-1.3**
TSZ	**Takapari Road**	**3.48 212** ⇓	PN	**Pn**	**15 53 12.1**	**-1.3**
TSZ			AML	AML	15 53 58.6	
TSZ			AML	AML	15 53 59.5	
DVHZ	**Dannevirke**	**3.61 208**	Pn	**Pn**	**15 53 13.4**	**-1.6**
DVHZ	**Dannevirke**	**3.61 208**	PN	**Pn**	**15 53 13.4**	**-1.6**
DVHZ			AML	AML	15 54 01.2	
DVHZ			AML	AML	15 54 02.5	
ANWZ	**Angora Road**	**3.65 203**	PN	**Pn**	**15 53 14.7**	**-0.7**
ANWZ			AML	AML	15 54 03.6	
ANWZ			AML	AML	15 54 04.0	
WAZ	**Wanganui**	**3.73 224**	Pn	**Pn**	**15 53 16.8**	**+0.2**
WAZ	**Wanganui**	**3.73 224**	PN	**Pn**	**15 53 16.8**	**+0.2**
POWZ	**Post Office Ro**	**3.84 211**	PN	**Pn**	**15 53 18.8**	**+0.7**
OHWZ	**Ohakea**	**3.90 217**	PN	**Pn**	**15 53 18.8**	**+0.1**
PRWZ	**Pori Road**	**3.90 208**	Pn	**Pn**	**15 53 18.2**	**-0.6**
PRWZ	**Pori Road**	**3.90 208**	PN	**Pn**	**15 53 18.2**	**-0.6**
PRWZ			AML	AML	15 54 10.5	
PRWZ			AML	AML	15 54 16.6	
BFZ	**Birch Farm**	**3.92 204**	Pn	**Pn**	**15 53 17.4**	**-1.6**
BFZ	**Birch Farm**	**3.92 204**	PN	**Pn**	**15 53 17.4**	**-1.6**
BFZ			AML	AML	15 54 10.7	
BFZ			AML	AML	15 54 10.8	
BFZ			AML	AML	15 54 10.8	
NEZ	**North Egmont**	**3.99 236**	PN	**Pn**	**15 53 23.2**	**+3.2**
TIWZ	**Tintock**	**4.13 207**	Pn	**Pn**	**15 53 20.5**	**-1.4**
TIWZ	**Tintock**	**4.13 207**	PN	**Pn**	**15 53 20.5**	**-1.4**
TIWZ			AML	AML	15 54 15.2	
TIWZ			AML	AML	15 54 15.9	
CPWZ	**Castlepoint**	**4.14 203**	Pn	**Pn**	**15 53 21.3**	**-0.6**
CPWZ	**Castlepoint**	**4.14 203**	PN	**Pn**	**15 53 21.3**	**-0.6**
CPWZ			AML	AML	15 54 16.6	
CPWZ			AML	AML	15 54 16.8	
MRZ	**Mangatainoka R**	**4.15 211**	Pn	**Pn**	**15 53 20.1**	**-1.9**
MRZ	**Mangatainoka R**	**4.15 211**	PN	**Pn**	**15 53 20.1**	**-1.9**
MRZ			AML	AML	15 54 14.2	
MRZ			AML	AML	15 54 16.2	
HOWZ	**Holdsworth Sta**	**4.37 210**	Pn	**Pn**	**15 53 22.9**	**-2.1**
HOWZ	**Holdsworth Sta**	**4.37 210**	PN	**Pn**	**15 53 22.9**	**-2.1**
HOWZ			AML	AML	15 54 17.6	
HOWZ			AML	AML	15 54 19.2	
TMWZ	**Te Maipa**	**4.42 205**	Pn	**Pn**	**15 53 23.6**	**-2.0**
TMWZ	**Te Maipa**	**4.42 205**	PN	**Pn**	**15 53 23.6**	**-2.0**
TMWZ			AML	AML	15 54 19.9	
TMWZ			AML	AML	15 54 20.4	
OGWZ	**Otaki Gorge**	**4.45 213**	Pn	**Pn**	**15 53 24.3**	**-1.7**
OGWZ	**Otaki Gorge**	**4.45 213**	PN	**Pn**	**15 53 24.3**	**-1.7**
OGWZ			AML	AML	15 54 20.5	
OGWZ			AML	AML	15 54 24.5	
KIW	**Kapiti Island**	**4.60 215**	Pn	**Pn**	**15 53 26.2**	**-1.8**
KIW	**Kapiti Island**	**4.60 215**	PN	**Pn**	**15 53 26.2**	**-1.8**
KIW			AML	AML	15 54 24.6	
KIW			AML	AML	15 54 24.6	
MTW	**Mount Morrison**	**4.60 208**	Pn	**Pn**	**15 53 25.7**	**-2.3**
MTW	**Mount Morrison**	**4.60 208**	PN	**Pn**	**15 53 25.7**	**-2.3**
MTW			AML	AML	15 54 23.0	
MTW			AML	AML	15 54 23.1	
CAW	**Cannon Point**	**4.73 212**	Pn	**Pn**	**15 53 27.6**	**-2.2**
CAW	**Cannon Point**	**4.73 212**	PN	**Pn**	**15 53 27.6**	**-2.2**
CAW			AML	AML	15 54 26.6	
CAW			AML	AML	15 54 27.8	
TRWZ	**Traveller**	**4.75 205**	Pn	**Pn**	**15 53 27.8**	**-2.2**
TRWZ	**Traveller**	**4.75 205**	PN	**Pn**	**15 53 27.8**	**-2.2**
TRWZ			AML	AML	15 54 28.1	
PAWZ	**Paruwai Farm**	**4.83 207**	Pn	**Pn**	**15 53 28.7**	**-2.3**
PAWZ	**Paruwai Farm**	**4.83 207**	PN	**Pn**	**15 53 28.7**	**-2.3**
PAWZ			AML	AML	15 54 30.0	
PAWZ			AML	AML	15 54 31.6	
MSWZ	**Moikau Station**	**4.92 208**	Pn	**Pn**	**15 53 30.1**	**-2.2**
MSWZ	**Moikau Station**	**4.92 208**	PN	**Pn**	**15 53 30.1**	**-2.2**
MSWZ			AML	AML	15 54 30.8	
WEL	**Wellington**	**5.01 213**	Pn	**Pn**	**15 53 31.1**	**-2.3**
WEL	**Wellington**	**5.01 213**	PN	**Pn**	**15 53 31.1**	**-2.3**
WEL			AML	AML	15 54 33.2	
WEL			AML	AML	15 54 33.2	
WEL			AML	AML	15 54 33.9	
WEL			AML	AML	15 54 33.9	
PLWZ	**Palliser**	**5.05 208**	Pn	**Pn**	**15 53 31.5**	**-2.6**
PLWZ	**Palliser**	**5.05 208**	PN	**Pn**	**15 53 31.5**	**-2.6**
PLWZ			AML	AML	15 54 34.3	
PLWZ			AML	AML	15 54 35.0	
SNZO	**South Karori**	**5.06 213**	ePn	**Pn**	**15 53 34.9**	**-0.6**
SNZO			eSn	**Sn**	**15 54 32.1**	**+0.4**
TCW	**Tory Channel**	**5.17 217**	Pn	**Pn**	**15 53 33.2**	**-2.4**
TCW	**Tory Channel**	**5.17 217**	PN	**Pn**	**15 53 33.2**	**-2.4**
TCW			AML	AML	15 54 38.6	
TCW			AML	AML	15 54 38.6	
TUWZ	**Tuamarina**	**5.50 217**	Pn	**Pn**	**15 53 37.5**	**-2.5**
TUWZ	**Tuamarina**	**5.50 217**	PN	**Pn**	**15 53 37.5**	**-2.5**
TUWZ			AML	AML	15 54 44.8	
TUWZ			AML	AML	15 54 46.6	
NNZ	**Nelson**	**5.63 222**	Pn	**Pn**	**15 53 38.7**	**-3.0**
NNZ	**Nelson**	**5.63 222**	PN	**Pn**	**15 53 38.7**	**-3.0**
BSWZ	**Blackbirch Sta**	**5.75 216**	Pn	**Pn**	**15 53 40.7**	**-2.7**
BSWZ	**Blackbirch Sta**	**5.75 216**	PN	**Pn**	**15 53 40.7**	**-2.7**
QRZ	**Quartz Range**	**5.86 229**	Pn	**Pn**	**15 53 42.8**	**-2.0**
QRZ	**Quartz Range**	**5.86 229**	PN	**Pn**	**15 53 42.8**	**-2.0**
THZ	**Tophouse**	**6.27 221**	Pn	**Pn**	**15 53 47.5**	**-2.9**
THZ	**Tophouse**	**6.27 221**	PN	**Pn**	**15 53 47.5**	**-2.9**
KHZ	**Kahutara**	**6.46 214**	Pn	**Pn**	**15 53 50.0**	**-2.8**
KHZ	**Kahutara**	**6.46 214**	PN	**Pn**	**15 53 50.0**	**-2.8**
DSZ	**Denniston Nort**	**6.86 226**	Pn	**Pn**	**15 53 55.4**	**-2.9**
DSZ	**Denniston Nort**	**6.86 226**	PN	**Pn**	**15 53 55.3**	**-2.9**
LTZ	**Lake Taylor**	**7.34 218**	PN	Pn	15 54 00.7	-4.0
INZ	**Inchbonnie**	**7.72 221**	PN	**Pn**	**15 54 06.6**	**-3.0**
CRLZ	**Canterbury Las**	**7.79 212**	Pn	Pn	15 54 07.1	-3.5
CRLZ	**Canterbury Las**	**7.79 212**	PN	Pn	15 54 07.1	-3.5
OXZ	**Oxford**	**7.86 216**	Pn	Pn	15 54 07.1	-4.5
OXZ	**Oxford**	**7.86 216**	PN	Pn	15 54 07.1	-4.5
MQZ	**McQueen's Vall**	**7.89 212**	Pn	Pn	15 54 07.9	-4.0
MQZ	**McQueen's Vall**	**7.89 212**	PN	Pn	15 54 07.9	-4.0
RPZ	**Rata Peaks**	**8.62 218**	P	**Pn**	**15 54 19.3**	**-2.5**
	2.8nm,0.3s,baz=291,slow=0.7,SNR=17					
RPZ			S	**Sn**	**15 55 54.0**	**-3.5**
	1.5nm,0.3s,baz=221,slow=20,SNR=3.9					
ODZ	**Otahua Downs**	**9.82 214**	Pn	Pn	15 54 34.3	-3.5
ODZ	**Otahua Downs**	**9.82 214**	PN	Pn	15 54 34.3	-3.5
JCZ	**Jackson Bay**	**10.06 223**	PN	**Pn**	**15 54 39.7**	**-1.3**
EAZ	**Earnscleugh**	**10.59 217**	PN	**Pn**	**15 54 46.2**	**-1.8**
ASAR	**Alice Springs**	**40.28 277**	P	**P**	**15 59 45.1**	**+1.6**
	0.7nm,0.4s,baz=119,slow=7.8,SNR=30					
ASAR			PcP	**PcP**	**16 01 45.2**	**+0.7**
	0.5nm,1.0s,baz=117,slow=3.6,SNR=2.5					
WRA	**Warramunga Arr**	**41.89 282**	P	**P**	**15 59 57.6**	**+0.9**
	1.9nm,0.4s,baz=120,slow=7.8,SNR=28					
WRA			PcP	**PcP**	**16 01 50.3**	**+0.5**
	0.4nm,0.8s,baz=122,slow=3.0,SNR=2.6					
FITZ	**Fitzroy Crossi**	**49.76 277**	P	**P**	**16 01 00.9**	**+2.5**
	1.7nm,1.0s,baz=114,slow=12,SNR=4.1					
FINES	**FINESS Array B**	**150.12 333**	PKPbc	**PKPbc**	**16 11 52.2**	**-1.1**
	0.9nm,0.6s,baz=35,slow=5.1,SNR=6.6					

*ISCJB **03** 16:16:02.6±0.6, 19°.24S±0°.07×65°.94W±0°.08, h300km, mb3.7/6, Error ellipse: s-maj=11.5km s-min=8.4km az=36.5*

*IDC **03** 16:16:03.8±1.0, 19°.13S×65°.96W, h291km±9km, mb3.4/6, mb1 3.5/9, mb1mx3.4/36, mbtmp4.1/9, Error ellipse: s-maj=17.6km s-min=13.8km az=66.0*

ISC 03 16:16:03.9±0.6, 19°.21S±0°.07×65°.95W±0°.09, h300km, n15, σ1§99/19, mb3.9/6, Southern Bolivia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LPAZ	**La Paz**	**3.57 324**		P	**Pn**	**16 17 06.6**	**+0.4**
	6.1nm,0.3s,baz=112,slow=5.9,SNR=105						
LPAZ				S	**S**	**16 17 53.4**	**-2.6**
	baz=14,slow=19,SNR=2.7						
LVC	**Limon Verde**	**4.37 219**		P	**Pn**	**16 17 13.8**	**-0.8**
	1µm,0.3s,baz=38,slow=7.9,SNR=180						
LVC				S	**S**	**16 18 07.4**	**-3.8**
	486nm,0.3s,baz=64,slow=20,SNR=8.4						
SIV	**San Ignacio**	**5.64 56**		P	**Pn**	**16 17 29.9**	**+0.8**
	2.4nm,0.3s,baz=254,slow=6.9,SNR=25						
SIV				S	**S**	**16 18 32.6**	**-5.1**
	baz=255,slow=20,SNR=3.5						
PTGA	**Pitinga**	**19.28 18**		P	**P**	**16 20 07.4**	**+0.1**
	1.0nm,0.3s,baz=216,slow=12,SNR=6.8						

TXAR	**Lajitas Array**	**60.44 322**		P	**P**	**16 25 42.8**	**+0.2**
	0.2nm,0.5s,baz=146,slow=6.6,SNR=3.3						
SNAA	**Sanae**	**63.55 162**		P	**P**	**16 26 04.2**	**+1.7**
	0.9nm,0.6s,baz=255,slow=7.3,SNR=12						
DBIC	**Dimbokro**	**65.42 73**		P	**P**	**16 26 15.7**	**+0.2**
	5.1nm,0.8s,baz=277,slow=14,SNR=3.7						
PDAR	**Pinedale Array**	**73.58 328**		P	**P**	**16 27 04.9**	**+0.1**
	0.3nm,0.6s,baz=116,slow=5.7,SNR=3.2						
TORD	**Torodi Ar. Bea**	**73.96 70**		P	**P**	**16 27 07.0**	**-0.3**
	4.2nm,0.6s,baz=256,slow=5.7,SNR=30						
ULM	**Lac du Bonnet**	**74.04 341**		P	**P**	**16 27 07.0**	**+0.1**
	2.7nm,0.5s,baz=135,slow=9.0,SNR=6.1						
VYHS	**Vyhne**	**100.78 42**		*e*P	**Pdif**	**16 29 19.0**	**+0.5**
VYHS				*e*L	L	16 31 31.7	
ASAR	**Alice Springs**	**133.19 205**		PKP	**PKPdf**	**16 34 45.8**	**+0.9**
	0.3nm,0.4s,baz=159,slow=1.6,SNR=3.3						
WRA	**Warramunga Arr**	**136.30 208**		PKP	**PKPdf**	**16 34 52.0**	**+1.3**
	0.4nm,0.4s,baz=151,slow=2.0,SNR=4.2						
ZALV	**Zalesovo Beam**	**138.70 26**		PKP	**PKPdf**	**16 34 56.6**	**+2.6**
	0.7nm,0.6s,baz=283,slow=2.2,SNR=4.1						
ZALV				SKPbc	**SKiKP**	**16 38 02.3**	**-1.0**
	0.6nm,0.6s,baz=318,slow=2.0,SNR=4.4						
SONM	**Songino Array**	**150.77 11**		PKPbc	**PKPbc**	**16 35 21.8**	**+0.9**
	1.1nm,0.7s,baz=320,slow=2.2,SNR=6.7						

*NEIC **03** 16:20:41.0±0.0, 38°.44S×74°.91W, h12km, mb5.5/44, MS5.5/113, MW5.8, MW5.8, ML5.9(GUC), Moment Tensor Solution. s49 Moment tensor: Scale 10¹⁷Nm; Mrr3.05; Mθθ-0.44; Mφφ-2.62; Mrθ-0.49; Mφθ1.29; Mφr-4.52; Best double couple: M₀5.50000×10¹⁷ NP1:φs317.00000°, δ22.00000°, λ50.00000°. Principal axes: T 5.7400, Plg59.0000°, Azm109.0000°; N -0.4500, Plg14.0000°, Azm355.0000°; P -5.2800, Plg27.0000°, Azm258.0000°; After GUC.*

NEIC Felt [V] at Curanilahue and Tirua; [IV] at Concepcion, Contulmo, Lebu, Los Alamos, Parral, Puerto Saavedra and Tolten. Felt widely in central Chile from Tome to Valdivia.

*GCMT **03** 16:20:41.0±0.1, 38°.27S×74°.17W, h18km, MW5.8/131, Moment Tensor Solution. s112,c208; s131,c340; Duration: 2s0 Moment tensor: Scale 10¹⁷Nm; Mrr3.38±.05; Mθθ0.10±.03; Mφφ-3.48±.04; Mrθ-0.04±.08; Mθφ-0.15±.03; Mφr-5.47±.17; Best double couple: M₀6.45800×10¹⁷ NP1:φs181.00000°, δ74.00000°, λ89.00000°. NP2:φs4.00000°, δ16.00000°, λ93.00000°. Principal axes: T 6.4070, Plg61.0000°, Azm89.0000°; N 0.1030, Plg1.0000°, Azm181.0000°; P -6.5100, Plg29.0000°, Azm272.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*

*GUC **03** 16:20:43.2±0.6, 38°.31S×74°.75W, h17km±4km, ML5.8*

*IDC **03** 16:20:49.6±0.4, 38°.19S×73°.71W, h0km, mb4.8/17, mb1 4.9/21, mb1mx4.9/34, mbtmp4.8/21, ML5.1/4, MS5.6/14, Ms1 5.6/14, ms1mx5.3/24, Error ellipse: s-maj=18.4km s-min=11.1km az=78.0*

*ISCJB **03** 16:20:51.3±0.2, 38°.11S±0°.03×73°.50W±0°.04, h18km, mb5.2/57, MS5.5/146, Error ellipse: s-maj=4.7km s-min=3.6km az=177.2*

*NEIC **03** 16:20:52.0±0.0, 38°.45S×73°.86W, h15km, Moment Tensor Solution. s13 Moment tensor: Scale 10¹⁷Nm; Mrr3.30; Mθθ0.50; Mφφ-3.80; Mrθ-0.70; Mφθ0.10; Mφr-5.20; Best double couple: M₀6.00000×10¹⁷ NP1:φs186.00000°, δ72.00000°, λ95.00000°. NP2:φs350.00000°, δ17.00000°, λ74.00000°. Principal axes: T 6.1000, Plg61.0000°, Azm103.0000°; N 0.4000, Plg4.0000°, Azm5.0000°; P -6.6000, Plg27.0000°, Azm272.0000°;*

*MOS **03** 16:20:53.5±1.4, 38°.07S×73°.57W, h26km, mb5.3/25, MS5.5/25 Error ellipse: s-maj=14.9km s-min=7.4km az=96.7*

*BJI **03** 16:20:53.0, 38°.40S×74°.90W, h12km, mB5.7/44, Ms5.9/46, Ms7 5.7/47*

ISC 03 16:20:53.0±0.2, 38°.16S±0°.03×73°.70W±0°.05, h18km, n752, σ1§91/666, mb5.5/57, MS5.5/150, 19C-24D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CCSP	**San Pedro de C**	**1.39**	**20**	*e*P	**Pn**	**16 21 15.2**	**-2.4**
CCSP				*e*S	**Sg**	**16 21 40.4**	**+2.4**
CCSP				IAML		16 21 50.5	
	comp=N,112µm,0.4s						
VLCH	**Valdivia**	**1.69**	**168**	*e*P	**Pn**	**16 21 17.9**	**-3.7**
VLCH				*e*S	**Sn**	**16 21 41.4**	**-1.2**
CCHI	**Chillan**	**2.02**	**40**	*e*P	**Pn**	**16 21 26.7**	**+0.5**
CCHI				*e*S	**Sg**	**16 21 59.2**	**+1.1**
CCHI				IAML		16 22 08.5	
	comp=E,53µm,1.4s						
COCH	**Cobquecura**	**2.15**	**20**	*e*P	**Pn**	**16 21 26.1**	**-1.9**
COCH				IAML		16 22 17.5	
	comp=E,38µm,1.0s						
GO05	**HualaæØ**	**3.45**	**25**	*e*P	**Pn**	**16 21 44.1**	**-1.7**
PLCA	**Paso Flores**	**3.54**	**138**	Pn	**Pn**	**16 21 46.6**	**-0.6**
	comp=E,14nm,0.3s,baz=319,slow=9.8,SNR=38						
PLCA				Lg	Lg	16 22 42.5	
	comp=E,90nm,0.3s,baz=341,slow=8.4,SNR=4.1						
NICH	**Los Niches**	**3.72**	**33**	*e*P	**Pn**	**16 21 49.0**	**-0.6**
PEL	**Peldehue**	**5.57**	**27**	P	**Pn**	**16 22 14.0**	**-1.1**
ROC1	**El Roble**	**5.61**	**24**	*e*P	**Pn**	**16 22 12.7**	**-3.1**
ROC1				*e*S	**Sg**	**16 23 51.0**	**-2.2**
ROC1	**El Roble**	**5.61**	**24**	*e*Pn	**Pn**	**16 22 14.4**	**-1.4**
ROCH	**El Roble**	**5.62**	**24**	*e*P	**Pn**	**16 22 13.5**	**-2.4**
AAGR	**Agrelo**	**6.43**	**40**	*e*P	**Pn**	**16 22 27.6**	**+0.7**
ARCO	**CERRO ARCO**	**6.58**	**38**	*e*P	**Pn**	**16 22 29.2**	**+0.2**
ARCO				IAML		16 24 42.1	
	comp=Z,158nm,0.6s						
ASAL	**Salagasta**	**6.83**	**37**	*e*P	**Pn**	**16 22 32.4**	**0.0**
ASAL				*e*S	**Sg**	**16 24 26.1**	**-6.1**
AUSP	**Uspallata**	**6.89**	**32**	*e*P	**Pn**	**16 22 32.5**	**-1.0**
AUSP				*e*S	Sg	16 24 26.1	-8.1
RTLS	**Leoncito**	**7.30**	**31**	*e*P	**Pn**	**16 22 37.1**	**-1.9**
RTLS				*e*S	**Sb**	**16 24 34.6**	**+8.4**
RTCV	**Cerro Valdivia**	**7.57**	**36**	*e*P	**Pn**	**16 22 41.9**	**-0.6**
AMOG	**MOGNA**	**8.38**	**32**	*e*P	**Pn**	**16 22 51.5**	**-2.2**
AMOG				*e*S	Sb	16 24 59.2	+2.0
ACCO	**Cerro Coronel**	**8.46**	**28**	*e*P	**Pn**	**16 22 52.1**	**-3.0**
ACCO				*e*S	Sn	16 25 00.1	+30
AROD	**Rodeo**	**8.70**	**25**	*e*P	**Pn**	**16 22 54.1**	**-4.2**
ACDV	**Cuesta del Vie**	**8.82**	**27**	*e*P	**Pn**	**16 22 55.7**	**-4.1**
CHRN	**Cochrane**	**9.12**	**175**	*e*Pn	**Pn**	**16 23 03.1**	**-0.6**
TRQA	**Tornquist**	**9.24**	**93**	*e*Pn	**Pn**	**16 23 05.7**	**+0.3**
TRQA				*e*Sn	**Sn**	**16 24 45.6**	**-3.3**
LCO	**Las Campanas**	**9.46**	**16**	*e*Pn	**Pn**	**16 23 05.4**	**-3.2**
LCO				*e*Sn	**Sn**	**16 24 50.1**	**-4.5**
AGUA	**GUANDACOL**	**9.67**	**28**	*e*P	Pn	16 23 07.0	-4.3
AGUA				*e*S	Sn	16 25 26.1	+27
TCA	**Tanti**	**10.12**	**50**	*e*P	**Pn**	**16 23 18.6**	**+1.1**
TCA				IAML		16 26 38.8	
	comp=Z,28nm,0.6s						
ACLC	**CERRO LA CRUZ**	**10.36**	**35**	*e*P	**Pn**	**16 23 18.6**	**-2.3**
VCA	**Vinchina**	**10.45**	**28**	*e*P	Pn	16 23 17.0	-5.2
VCA				IAML		16 26 46.7	
	comp=Z,81nm,0.7s						
CYA	**Choya**	**11.72**	**37**	*e*P	**Pn**	**16 23 36.6**	**-2.7**
AHML	**Horco Molle**	**13.35**	**34**	*e*P	Pn	16 23 55.8	-5.9
FSA	**Cafayete**	**13.67**	**31**	*e*P	Pn	16 23 59.5	-6.6
PB10	**IPOC Station P**	**14.84**	**11**	*e*Pn	**Pn**	**16 24 20.1**	**-1.9**
LVC	**Limon Verde**	**16.03**	**16**	Pn	**Pn**	**16 24 36.7**	**-1.3**
	comp=Z,33nm,0.3s,baz=193,slow=13,SNR=6.8						
LVC				LR	LR	16 31 33.6	
	comp=Z,60µm,19.4s,baz=219,slow=40						
LVC	**Limon Verde**	**16.03**	**16**	Pn	**Pn**	**16 24 35.8**	**-2.2**
	comp=Z,90nm,1.1s						
PB04	**IPOC Station P**	**16.06**	**12**	*e*Pn	**Pn**	**16 24 37.0**	**-1.1**
	comp=Z,231nm,1.0s						
USHA	**Ushuaia**	**17.06**	**170**	P	**Pn**	**16 24 48.5**	**-1.9**
	comp=Z,28nm,0.3s,baz=308,slow=5.4,SNR=11						
USHA				LR	LR	16 31 21.6	
	comp=Z,87µm,20.8s,baz=324,slow=37						
EFI	**East Falkland**	**17.42**	**146**	*e*P	**Pn**	**16 24 55.1**	**+0.1**
EFI				pmax	pmax		
	comp=Z,37nm,0.5s						
EFI	**East Falkland**	**17.42**	**146**	*e*Pn	**P**	**16 24 56.0**	**-0.1**
	comp=Z,260nm,1.2s						
PB01	**IPOC Station P**	**17.44**	**13**	*e*Pn	**Pn**	**16 24 54.8**	**-0.7**
	comp=Z,507nm,1.5s						
CPUP	**Villa Florida**	**18.16**	**54**	P	**Pn**	**16 25 02.7**	**-1.5**
	comp=Z,1.0nm,0.3s,baz=232,slow=10,SNR=17						

CPUP				LR	LR	16 32 50.4	
	comp=Z,36µm,20.5s,baz=230,slow=40						
PB11	**IPOC Station P**	**18.66**	**12**	*e*P	**Pn**	**16 25 11.2**	**+0.6**
	comp=Z,339nm,0.9s						
LPAZ	**La Paz**	**22.33**	**14**	P	**P**	**16 25 50.9**	**+0.4**
	comp=Z,52nm,1.1s,baz=185,slow=7.8,SNR=42						
LPAZ				S	**S**	**16 29 59.8**	**+4.1**
	comp=Z,3.7nm,1.0s,baz=9.0,slow=19,SNR=1.8						
SIV	**San Ignacio**	**24.73**	**30**	P	**P**	**16 26 12.4**	**-1.1**
	comp=Z,7.9nm,0.6s,baz=225,slow=11,SNR=29						
SIV				S	**S**	**16 30 39.4**	**+4.7**
	comp=Z,0.9nm,0.5s,baz=253,slow=19,SNR=2.1						
SIV				LR	LR	16 37 50.0	
	comp=Z,26µm,19.6s,baz=223,slow=41						
NNA	**Nana**	**26.21**	**353**	P	**P**	**16 26 26.4**	**-0.5**
	comp=Z,7.6nm,0.5s,baz=235,slow=12,SNR=2.9						
NNA	**Nana**	**26.21**	**353**	*e*P	**P**	**16 26 24.7**	**-2.2**
NNA				pmax	pmax		
	comp=Z,50nm,1.1s						
NNA				MLR	MLR		
	comp=Z,5µm,20.0s						
NNA	**Nana**	**26.21**	**353**	*e*P	**P**	**16 26 24.7**	**-2.2**
	comp=Z,50nm,1.1s						
NNA				LR	LR		
	comp=Z,5µm,20.0s						
SPB	**Sao Paulo**	**26.70**	**65**	*e*P	**P**	**16 26 30.4**	**-0.8**
	comp=Z,108nm,1.0s						
SPB				LR	LR		
	comp=Z,62µm,20.0s						
PMSA	**Palmer Station**	**27.26**	**171**	PFAKE		16 26 40.0	+4.2
PMSA				LR	LR		
	comp=Z,16µm,19.0s						
HOPE	**Hope Point**	**29.95**	**135**	*e*P	**P**	**16 27 00.3**	**+0.5**
	comp=Z,137nm,1.1s						
HOPE				LR	LR		
	comp=Z,12µm,18.0s						
SAML	**Samuel**	**30.59**	**21**	*e*P	**P**	**16 27 03.2**	**-2.6**
	comp=Z,148nm,1.9s						
SAML				LR	LR		
	comp=Z,6µm,19.0s						
ATAH	**Atahualpa**	**31.17**	**351**	P	**P**	**16 27 11.4**	**-0.1**
	comp=Z,2.6nm,0.4s,baz=178,slow=10,SNR=4.6						
RPN	**Rapa Nui**	**31.78**	**280**	PFAKE		16 27 10.0	-6.3
RPN				LR	LR		
	comp=Z,7µm,19.0s						
CMBC	**Cumbal**	**39.09**	**353**	*e*P	**P**	**16 28 21.5**	**+1.8**
PTGA	**Pitinga**	**39.33**	**22**	P	**P**	**16 28 20.0**	**-1.2**
	comp=Z,10.0nm,0.7s,baz=200,slow=10,SNR=22						
PTGA	**Pitinga**	**39.33**	**22**	P	**P**	**16 28 20.0**	**-1.2**
PTGA				LR	LR		
	comp=Z,14µm,18.0s						
PAYG	**Puerto Ayora**	**40.30**	**334**	PFAKE		16 28 30.0	+0.7
PAYG				LR	LR		
	comp=Z,7µm,18.0s						
POPC	**Popayan, Colom**	**40.59**	**355**	*e*P	P	16 28 23.5	-8.4
BETC	**Betania**	**40.66**	**357**	*e*P	**P**	**16 28 34.2**	**+1.9**
SJAC	**San Juan de Ar**	**41.22**	**360**	*e*P	**P**	**16 28 37.0**	**0.0**
PRAC	**Prado**	**41.67**	**358**	*e*P	**P**	**16 28 40.4**	**-0.2**
PRAC	**Prado**	**41.67**	**358**	*e*P	**P**	**16 28 41.3**	**+0.7**
	comp=Z,221nm,1.3s						
PRAC				LR	LR		
	comp=Z,7µm,21.0s						
TOLC	**Tolima**	**42.55**	**358**	*e*P	**P**	**16 28 50.9**	**+2.8**
CHIC	**Chingaza**	**42.57**	**360**	*e*P	**P**	**16 28 47.2**	**-1.2**
ROSC	**El Rosal**	**42.78**	**359**	*e*P	**P**	**16 28 50.1**	**0.0**
RUSC	**La Rusia**	**43.83**	**1**	*e*P	**P**	**16 28 57.5**	**-1.1**
RUSC	**La Rusia**	**43.83**	**1**	*e*P	**P**	**16 28 59.1**	**+0.4**
	comp=Z,58nm,1.2s						
RUSC				LR	LR		
	comp=Z,2µm,21.0s						
HELC	**Santa Helena**	**44.15**	**357**	*e*P	**P**	**16 29 00.5**	**-0.6**
HELC	**Santa Helena**	**44.15**	**357**	*e*P	**P**	**16 29 01.2**	**+0.1**
	comp=Z,265nm,1.3s						
HELC				LR	LR		
	comp=Z,8µm,19.0s						
BARC	**Barichara**	**44.52**	**1**	*e*P	**P**	**16 29 02.4**	**-1.5**
BRRC	**Barranca, Sant**	**45.03**	**360**	*e*P	**P**	**16 29 05.2**	**-2.5**
ZARC	**Zaragoza, Cauc**	**45.42**	**358**	*e*P	**P**	**16 29 06.8**	**-4.1**
VNA3	**Neumayer Olymp**	**46.07**	**156**	P	**P**	**16 29 14.3**	**-1.0**
VNA1	**Neumayer--Stat**	**46.43**	**155**	P	**P**	**16 29 18.6**	**+0.5**
CAPC	**Capurgana**	**46.67**	**355**	*e*P	**P**	**16 29 19.6**	**-1.0**
**SDV

SJG pmax pmax
comp=Z,61nm,1.4s
SJG MLR MLR
comp=Z,4µm,19.0s
SJG San Juan 56.42 9 P P 16 30 27.7 -5.7
comp=Z,61nm,1.4s
SJG LR LR
comp=Z,4µm,19.0s
HUMP Col San Antoni 56.48 9 PFAKE 16 30 40.0 +6.1
HUMP LR LR
comp=Z,6µm,19.0s
CBYP Canovanas 56.61 9 *eP* **P 16 30 32.8 -2.1**
comp=Z,55nm,1.2s
CBYP LR LR
comp=Z,7µm,19.0s
ANWB Willy Bob 56.65 14 PFAKE 16 30 40.0 +4.9
ANWB LR LR
comp=Z,4µm,19.0s
SMRT St. Maarten 56.79 12 PFAKE 16 30 40.0 +3.9
SMRT LR LR
comp=Z,6µm,20.0s
STVI Saint Thomas 56.80 10 PFAKE 16 30 40.0 +3.8
STVI LR LR
comp=Z,6µm,19.0s
CCIG Comitan 56.85 339 PFAKE 16 30 40.0 +3.2
CCIG LR LR
comp=Z,3µm,20.0s
SDDR Presa de Saban 56.88 3 PFAKE 16 30 40.0 +3.2
SDDR LR LR
comp=Z,4µm,19.0s
GTBY Guantanamo Bay 57.79 358 *eP* **P 16 30 40.1 -3.0**
comp=Z,52nm,1.0s
GTBY LR LR
comp=Z,3µm,18.0s
SBA Scott Base 58.74 192 *eP* **P 16 30 51.0 +1.9**
SBA MLR MLR
comp=Z,2µm,18.0s
SBA Scott Base 58.74 192 *eP* **P 16 30 51.0 +1.9**
SBA LR LR
comp=Z,2µm,18.0s
GRTK Grand Turk 59.40 3 PFAKE 16 31 00.0 +5.7
GRTK LR LR
comp=Z,3µm,18.0s
VNDA Vanda 59.77 192 P **P 16 30 56.5 +0.2**
comp=Z,2.7nm,0.9s,baz=90,slow=2.8,SNR=22
TLIG Tlapa 60.14 332 PFAKE 16 31 00.0 +0.3
TLIG LR LR
comp=Z,4µm,19.0s
ASCN Ascension 61.15 77 PFAKE 16 31 10.0 +3.4
ASCN LR LR
comp=Z,6µm,20.0s
UNM Universidad Na 61.99 333 PFAKE 16 31 10.0 -2.4
UNM LR LR
comp=Z,4µm,20.0s
SYO Syowa Base 62.51 158 *eX* **P 16 31 12.8 -2.2**
MOIG Morelia 63.06 331 PFAKE 16 31 20.0 +0.5
MOIG LR LR
comp=Z,4µm,18.0s
SHEL Horse Pasture 63.08 90 PFAKE 16 31 30.0 +10
SHEL LR LR
comp=Z,8µm,18.0s
TBI Tubuai 65.12 259 *eS* S 16 39 49.2 -26
comp=Z,6µm,27.0s
TBI *eLQ* LQ 16 47 40.5
comp=Z,1µm,27.8s
TBI *eLR* LR 16 50 24.0
comp=Z,7µm,25.5s,baz=127
TBI Tubuai 65.12 259 *eT* T 17 41 52.9
comp=Z,12nm,0.2s
TAOE Nuku Hiva Isla 66.08 278 *eS* S 16 40 01.3 -26
comp=Z,1µm,21.8s
TAOE Nuku Hiva Isla 66.08 278 *eLR* LR 16 50 54.5
comp=Z,6µm,24.8s,baz=138
ZAIG Zacatecas 66.39 331 PFAKE 16 31 40.0 -1.2
ZAIG LR LR
comp=Z,4µm,19.0s
VAH Vaihoa 68.20 267 *eT* T 17 45 54.5
comp=Z,4.4nm,0.2s
TIAR Tiarei 68.23 264 *eT* T 17 45 49.0
comp=Z,14nm,0.3s
PAE Paea 68.35 264 *eT* T 17 45 55.6
comp=Z,2.0nm,0.3s
PPT2 Papeete2 68.39 264 *eS* S 16 40 28.0 -27
comp=Z,3µm,23.0s
PPT2 Papeete2 68.39 264 *eLR* LR 16 51 54.0
comp=Z,6µm,25.8s,baz=118
PPT Papeete 68.40 264 LR LR 16 54 58.0
comp=Z,3µm,18.0s,baz=110,slow=30
035A Encino 68.67 337 P **P 16 31 58.5 +3.3**
baz=161
MAW Mawson 69.58 164 P **P 16 31 59.7 -0.7**
comp=Z,7.2nm,0.8s,baz=229,slow=8.3,SNR=18
MAW LR LR 17 02 51.7
comp=Z,6µm,18.9s,baz=230,slow=36
933A Laredo 69.67 336 P **P 16 32 01.9 +0.5**
baz=160,SNR=7.5
834A Tilden 69.92 337 P **P 16 32 04.7 +1.8**
baz=160,SNR=5.7
833A Chaparral WMA, 70.37 336 P **P 16 32 06.7 +1.0**
baz=160
832A Faith Ranch, C 70.52 336 P **P 16 32 07.2 +0.6**
baz=159
BBSR BB Station 70.67 8 PFAKE 16 32 10.0 +2.6
BBSR LR LR
comp=Z,1µm,21.0s
SACV Santiago Islan 70.68 52 PFAKE 16 32 10.0 +2.1
SACV LR LR
comp=Z,7µm,19.0s
636A Smothers Creek 70.74 339 P **P 16 32 09.4 +1.5**
baz=162
NHSC New Hope 71.16 354 *eP* **P 16 32 09.7 -0.6**
comp=Z,102nm,1.3s
247A Quitman 71.22 347 P **P 16 32 11.8 +1.0**
baz=169
342A Flagon Creek P 71.32 343 P **P 16 32 13.1 +1.7**
baz=166
HPIG 71.34 330 PFAKE 16 32 10.0 -1.9
HPIG LR LR
comp=Z,8µm,18.0s
633A Saathoff Ranch 71.36 337 P **P 16 32 12.8 +1.1**
baz=160,SNR=8.1
341A Kurthwood 71.48 342 P **P 16 32 12.4 +0.1**
baz=165
VBMS Vicksburg 71.75 345 P **P 16 32 16.1 +2.2**
baz=167
147A Livingston 71.76 347 P **P 16 32 14.9 +0.9**
baz=169
GOGA Godfrey 71.78 351 *eP* **P 16 32 12.9 -1.2**
GOGA pmax pmax
comp=Z,52nm,1.4s
GOGA MLR MLR
comp=Z,2µm,21.0s
GOGA Godfrey 71.78 351 *eP* **P 16 32 12.9 -1.2**
comp=Z,52nm,1.4s
GOGA LR LR
comp=Z,2µm,21.0s
533A Kerrville 71.89 337 P **P 16 32 15.2 +0.3**
baz=160,SNR=7.3
LRAL Lakeview Retre 71.90 348 *eP* **P 16 32 13.9 -0.9**
comp=Z,36nm,1.0s
337A Centerville 72.15 340 P **P 16 32 17.5 +1.2**
baz=163
Z47A Carrollton 72.24 347 P **P 16 32 16.9 0.0**
baz=169
Z48A Northport 72.33 348 P **P 16 32 17.7 +0.3**
baz=170
434A Burnet 72.35 338 P **P 16 32 17.8 +0.2**
baz=161,SNR=12
JSC Jenkinsville 72.41 353 PFAKE 16 32 20.0 +2.1
JSC LR LR
comp=Z,2µm,21.0s
JCT Junction City 72.50 337 P **P 16 32 18.8 +0.2**
baz=160
JCT Junction City 72.50 337 P **P 16 32 14.9 -3.7**
JCT pmax pmax
comp=Z,87nm,1.1s
JCT Junction City 72.50 337 P **P 16 32 14.9 -3.7**
comp=Z,87nm,1.1s
433A Art 72.54 337 P **P 16 32 18.6 -0.2**
baz=160,SNR=12
TXAR Lajitas Array 72.75 333 P **P 16 32 20.4 +0.2**
comp=Z,1.6nm,0.5s,baz=154,slow=8.6,SNR=33
TXAR LR LR 16 59 29.0
comp=Z,3µm,18.0s,baz=0.0,slow=32
237A Washetta, Mont 72.78 340 P **P 16 32 20.6 +0.6**
baz=163
334A Lometa 72.82 338 P **P 16 32 19.6 -0.8**
baz=161,SNR=15
Y47A UCPARC, Winfie 72.89 348 P **P 16 32 20.0 -0.8**
baz=169
236A Katherine and 72.97 340 P **P 16 32 21.8 +0.6**
baz=162
333A Richland Sprin 73.04 338 P **P 16 32 20.8 -0.9**
baz=160,SNR=18
CNNC Cliffs of the 73.13 356 PFAKE 16 32 20.0 -2.1
CNNC LR LR
comp=Z,2µm,21.0s
138A Matatall Enter 73.22 341 P **P 16 32 23.6 +0.9**
baz=164
WHTX Lake Whitney, 73.22 339 P **P 16 32 22.9 +0.2**
baz=162,SNR=7.5
WHTX Lake Whitney, 73.22 339 *eP* **P 16 32 21.6 -1.1**
Z41A Richland Creek 73.24 343 P **P 16 32 23.6 +0.8**
baz=166
KMSC Kings Mountain 73.27 353 PFAKE 16 32 20.0 -3.0
KMSC LR LR
comp=Z,2µm,21.0s
234A Clairette 73.42 338 P **P 16 32 24.3 +0.3**
baz=161,SNR=17
233A Rising Star 73.66 338 P **P 16 32 25.5 +0.2**
baz=161,SNR=19
OXF Oxford 73.76 347 P **P 16 32 25.2 -0.6**
OXF Oxford 73.76 347 P **P 16 32 25.1 -0.6**
Y41A Eaglette Beard 73.80 344 P **P 16 32 26.9 +0.9**
baz=166,SNR=5.3
SWET Sewanee 73.88 350 *eP* **P 16 32 26.1 -0.5**
comp=Z,45nm,1.3s
CPCT Cooper Cave 73.92 351 *eP* **P 16 32 25.7 -1.1**
comp=Z,25nm,1.0s
CPCT LR LR
comp=Z,1µm,22.0s
134A White-Moore Ra 73.94 339 P **P 16 32 27.0 0.0**
baz=161,SNR=5.9
SUR Sutherland 74.01 119 *eP* **P 16 32 27.7 -0.3**
comp=Z,225nm,1.8s
SUR LR LR
comp=Z,6µm,18.0s
Z36A Blue Ridge 74.14 340 P **P 16 32 28.4 +0.2**
baz=163,SNR=6.5
133A Hamilton Ranch 74.22 338 P **P 16 32 28.8 +0.2**
baz=161,SNR=7.4
RAR Rarotonga 74.23 255 LR LR 16 56 41.1
comp=Z,1µm,21.2s,baz=158,slow=29
Y38A Idabel 74.33 342 P **P 16 32 29.5 +0.3**
baz=164,SNR=5.9
Z35A Perchaven, San 74.42 340 P **P 16 32 30.4 +0.7**
baz=162,SNR=7.3
ABTX Abilene, Hawle 74.45 337 P **P 16 32 30.1 +0.2**
baz=160,SNR=24
ABTX Abilene, Hawle 74.45 337 *eP* **P 16 32 29.8 -0.2**
SRIG Santa Rosalia 74.47 325 PFAKE 16 32 30.0 -0.1
SRIG LR LR
comp=Z,5µm,18.0s
Y37A Hugo 74.61 341 P **P 16 32 30.7 -0.1**
baz=163
Z34A Collier Ranch, 74.64 339 P **P 16 32 31.1 0.0**
baz=162,SNR=5.2
MIAR Mount Ida 74.65 343 P **P 16 32 31.3 +0.3**
baz=165,SNR=7.1
MIAR Mount Ida 74.65 343 *eP* **P 16 32 31.4 +0.3**
MIAR Mount Ida 74.65 343 *eP* **P 16 32 31.4 +0.3**
X39A Fountain Ranch 74.74 343 P **P 16 32 31.1 -0.5**
baz=164,SNR=5.7
TZTN Tazewell 74.89 352 *eP* **P 16 32 31.2 -1.2**
comp=Z,62nm,1.2s
TZTN LR LR
comp=Z,2µm,22.0s
Y35A Marietta 74.91 340 P **P 16 32 32.6 0.0**
baz=162
W41B Gary Mavity, V 74.96 344 P **P 16 32 32.6 -0.2**
baz=166,SNR=7.2
X301 Greenbrier Sit 75.06 344 *eP* **P 16 32 32.5 -0.9**
WVT Waverly 75.06 348 *eP* **P 16 32 32.6 -0.8**
WVT pmax pmax
comp=Z,77nm,1.4s
WVT MLR MLR
comp=Z,1µm,20.0s
WVT Waverly 75.06 348 *eP* **P 16 32 32.6 -0.8**
comp=Z,77nm,1.4s
WVT LR LR
comp=Z,1µm,20.0s
X38A Whitesboro 75.06 342 P **P 16 32 33.5 0.0**
baz=164
WHAR Wooly Hollow 75.08 344 *eP* **P 16 32 33.2 -0.3**
MIR Mirnyy 75.12 175 *i* P P 16 32 42.0 +8.5
MIR pmax pmax
comp=Z,5.0nm,1.7s
Y34A Reagan Ranch, 75.15 339 P **P 16 32 34.0 0.0**
baz=162,SNR=7.6
W40A Ferguson Farm, 75.16 344 P **P 16 32 33.9 -0.1**
baz=165
BLA Blacksburg 75.25 354 PFAKE 16 32 40.0 +5.5
BLA LR LR
comp=Z,2µm,20.0s
W39A Magazine 75.32 343 P **P 16 32 35.3 +0.4**
baz=165,SNR=7.3
X36A Centrahoma 75.35 341 P **P 16 32 34.4 -0.7**
baz=163,SNR=14
X35A Drake 75.36 340 P **P 16 32 35.0 -0.1**
baz=162
W38A Poteau 75.37 342 P **P 16 32 35.1 -0.1**
baz=164
V42A Cord 75.39 345 P **P 16 32 34.3 -1.0**
baz=167
Y33A Hilltop Ranch, 75.44 339 P **P 16 32 35.6 -0.1**
baz=161,SNR=7.5
MNTX Cornudas Mount 75.51 332 P **P 16 32 34.9 -1.2**
baz=156
MNTX Cornudas Mount 75.51 332 *eP* **P 16 32 34.4 -1.8**
MNTX LR LR
comp=Z,2µm,18.0s
V41A Mountainview 75.53 345 P **P 16 32 35.9 -0.3**
baz=165,SNR=14
V40A Witts Springs 75.69 344 P **P 16 32 38.7 +1.6**
baz=166,SNR=5.2
X34A Smith Ranch, M 75.78 340 P **P 16 32 38.0 +0.5**
baz=162,SNR=7.0
W36A Wetumka 75.86 341 P **P 16 32 36.6 -1.4**
baz=163
U42A Revenden 75.89 345 P **P 16 32 37.9 -0.3**
baz=167
V39A Pettigrew 75.91 343 P **P 16 32 38.2 -0.1**
baz=165,SNR=5.8
X32A Elmer 76.02 338 P **P 16 32 39.3 +0.4**
baz=161,SNR=5.9
U41A Viola 76.02 345 P **P 16 32 38.5 -0.4**
baz=166
W35A Tecumseh 76.04 341 P **P 16 32 39.2 +0.1**
baz=162
V38A Canehill 76.11 343 P **P 16 32 39.2 -0.2**
baz=164
PBMO Poplar Bluff 76.15 346 *eP* **P 16 32 38.9 -0.7**
PBMO LR LR
comp=Z,1µm,22.0s
WMOK Wichita Mounta 76.17 339 P **P 16 32 39.2 -0.6**
baz=161,SNR=6.5
WMOK Wichita Mounta 76.17 339 *eP* **P 16 32 38.9 -0.9**
WMOK Wichita Mounta 76.17 339 *eP* **P 16 32 38.9 -0.9**
U40A Yellville 76.23 344 P **P 16 32 39.7 -0.4**
baz=166,SNR=6.2
V37A Hulbert 76.30 342 P **P 16 32 39.9 -0.6**
baz=164,SNR=6.5
W34A Bridge Creek, 76.36 340 P **P 16 32 40.6 -0.2**
baz=162,SNR=5.6
W34A Bridge Creek, 76.36 340 *eP* **P 16 32 41.0 +0.2**
U39A Green Forest 76.39 344 P **P 16 32 40.7 -0.3**
baz=165
V36A Jenks 76.40 342 P **P 16 32 40.8 -0.2**
baz=163,SNR=13
T43A Greenville 76.42 346 P **P 16 32 40.7 -0.5**
baz=168
W33A Caddo, Fort Co 76.47 339 P **P 16 32 42.2 +0.7**
baz=161,SNR=19
TUL1 Leonard 76.48 342 P **P 16 32 41.2 -0.4**
baz=163,SNR=16
TUL1 Leonard 76.48 342 *eP* **P 16 32 40.5 -1.0**
T42A Van Buren 76.52 346 P **P 16 32 41.3 -0.4**
baz=167
V35A Meyer Ranch, C 76.61 341 P **P 16 32 42.0 -0.3**
baz=162,SNR=6.1
U38A Gravette 76.65 343 P **P 16 32 41.7 -0.8**
baz=164
W32A Sentinel 76.66 339 P **P 16 32 43.0 +0.4**
baz=161,SNR=19
T41A Mountain View 76.67 345 P **P 16 32 41.8 -0.8**
baz=166
MSTX Muleshoe 76.68 335 P **P 16 32 43.1 +0.3**
baz=158
MSTX Muleshoe 76.68 335 *eP* **P 16 32 41.0 -1.9**
comp=Z,53nm,1.2s
MSTX LR LR
comp=Z,1µm,18.0s
319A Douglas 76.72 329 PFAKE 16 32 40.0 -3.2
319A LR LR
comp=Z,2µm,18.0s
U37A Salina 76.79 342 P **P 16 32 43.0 -0.3**
baz=164,SNR=5.3
S44A Carbondale 76.83 347 P **P 16 32 43.0 -0.4**
baz=168
USIN University of 76.83 349 PFAKE 16 32 40.0 -3.4
USIN LR LR
comp=Z,2µm,21.0s
S43A Fulton Ridge, 76.86 347 P **P 16 32 42.9 -0.7**
baz=168,SNR=9.8
WCI Wyandotte Cave 76.89 350 PFAKE 16 32 50.0 +6.2
WCI LR LR
comp=Z,2µm,21.0s
T40A Mansfield 76.92 345 P **P 16 32 43.8 -0.2**
baz=166,SNR=5.8
T39A Clever 76.98 344 P **P 16 32 43.3 -1.0**
baz=165
U35A Pawnee 77.16 341 P **P 16 32 46.2 +0.9**
baz=163,SNR=7.2
121A Cookes Peak, D 77.16 331 P **P 16 32 47.1 +1.5**
baz=154
121A Cookes Peak, D 77.16 331 *eP* **P 16 32 45.7 0.0**
AMTX Amarillo 77.17 337 P **P 16 32 45.7 +0.2**
baz=159
AMTX Amarillo 77.17 337 *eP* **P 16 32 44.5 -1.1**
S42A Caledonia 77.18 346 P **P 16 32 44.5 -0.9**
baz=167,SNR=14
S41A Jilco Farms, 77.19 345 P **P 16 32 45.4 0.0**
baz=167,SNR=14
T38A Diamond 77.20 343 P **P 16 32 45.8 +0.2**
baz=165,SNR=6.0
SDMD Soldier's Deli 77.25 358 PFAKE 16 32 50.0 +4.3
SDMD LR LR
comp=Z,700nm,21.0s
S40A Lebanon 77.35 345 P **P 16 32 46.7 +0.3**
baz=166,SNR=19
LIC Lamto 77.36 72 *eP* **P 16 32 47.3 +0.3**
comp=Z,376nm,1.2s
T37A Cheneyville 18 77.43 343 P **P 16 32 46.3 -0.5**
baz=164,SNR=18
R43A Red Bud 77.51 347 P **P 16 32 47.1 -0.1**
baz=168
T36A Boggs Farm, Ca 77.60 342 P **P 16 32 47.5 -0.3**
baz=163,SNR=7.0
S39A Bolivar 77.61 344 P **P 16 32 47.6 -0.3**
baz=165,SNR=6.2
T35A Sooner Cattle 77.62 341 P **P 16 32 48.7 +0.8**
baz=163,SNR=7.5
MCWV Mont Chateau 77.64 355 PFAKE 16 32 50.0 +2.0
MCWV LR LR
comp=Z,1µm,20.0s
TIC Toumodi 77.64 71 *eP* **P 16 32 48.9 +0.3**
OLIL Olney 77.65 349 PFAKE 16 32 50.0 +2.0
OLIL LR LR
comp=Z,2µm,21.0s
KIC Kosan Boka 77.67 72 *eP* **P 16 32 49.2 +0.5**
comp=Z,332nm,1.1s
R42A Luebbering 77.67 346 P **P 16 32 47.9 -0.3**
baz=167
S38A Stockton 77.68 344 P **P 16 32 47.8 -0.4**
baz=165,SNR=16
PSUB Penn St. - Bra 77.72 359 *eP* **P 16 32 48.7 +0.3**
comp=Z,28nm,1.2s
PSUB LR LR
comp=Z,2µm,18.0s
U32A Winter Ranch, 77.77 339 P **P 16 32 49.6 +0.8**
baz=161,SNR=5.1
DBIC Dimbokro 77.78 71 P **P 16 32 48.9 -0.5**
comp=Z,38nm,0.8s,baz=217,slow=6.1,SNR=25
DBIC LR LR 17 05 31.1
comp=Z,3µm,18.2s,baz=218,slow=34
R41A Rosebud 77.80 346 P **P 16 32 48.3 -0.6**
baz=167,SNR=13
BLO Bloomington 77.85 350 PFAKE 16 32 50.0 +0.9
BLO LR LR
comp=Z,2µm,20.0s
T34A McClaskey Farm 77.89 341 P **P 16 32 49.2 -0.2**
baz=162,SNR=20
R40A Maddies Statio 77.97 345 P **P 16 32 49.8 0.0**
baz=166,SNR=6.2
S37A Fort Scott 78.02 343 P **P 16 32 50.3 +0.2**
baz=164
Q43A New Douglas 78.12 347 P **P 16 32 50.6 0.0**
baz=168
R39A Chumby, Stover 78.15 345 P **P 16 32 50.8 0.0**
baz=166,SNR=12
TUC Tucson 78.15 329 P **P 16 32 52.0 +0.9**
baz=152
TUC Tucson 78.15 329 *eP* **P 16 32 52.3 +1.2**
TUC MLR MLR
comp=Z,2µm,18.0s
TUC Tucson 78.15 329 *eP* **P 16 32 52.3 +1.2**
TUC LR LR
comp=Z,2µm,18.0s
Y22D IRIS PASSCAL I 78.21 332 PFAKE 16 32 50.0 -1.4
Y22D LR LR
comp=Z,3µm,19.0s
R38A Fenwick Farm, 78.22 344 P **P 16 32 50.2 -1.0**
baz=165
S35A Otter Creek Ra 78.30 342 P **P 16 32 51.3 -0.4**
baz=163,SNR=5.6
LUPA Lehigh Univers 78.39 359 PFAKE 16 32 50.0 -2.1
LUPA LR LR
comp=Z,2µm,19.0s
Q41A Truxton 78.41 346 P **P 16 32 52.2 0.0**
baz=167,SNR=16
BRNJ Basking Ridge 78.47 359 PFAKE 16 32 50.0 -2.5
BRNJ LR LR
comp=Z,2µm,19.0s
ACSO Alum Creek Sta 78.47 353 *eP* **P 16 32 50.1 -2.5**
comp=Z,53nm,1.0s
ACSO LR LR
comp=Z,2µm,20.0s
SSPA Standing Stone 78.51 357 *eP* **P 16 32 52.0 -0.7**
comp=Z,90nm,1.9s
SSPA LR LR
comp=Z,1µm,19.0s
R37A Teagarden Farm 78.54 343 P **P 16 32 52.4 -0.6**
baz=164
Q40A Laux Farm, Aux 78.61 345 P **P 16 32 53.3 -0.1**
baz=166,SNR=16
214A Organ Pipe Nat 78.70 327 P **P 16 32 55.4 +1.4**
baz=151,SNR=20
214A Organ Pipe Nat 78.70 327 *eP* **P 16 32 55.2 +1.2**
N59A State Game Lan 78.72 358 P **P 16 32 54.8 +0.9**
baz=179
P43A Skaggs, Pawnee 78.77 348 P **P 16 32 54.8 +0.6**
baz=168
PAL Palisades 78.78 360 PFAKE 16 33 00.0 +5.8
PAL LR LR
comp=Z,2µm,20.0s
ANMO Albuquerque 78.83 333 P **P 16 32 55.5 +0.6**
baz=155
ANMO Albuquerque 78.83 333 *d i* P **P 16 32 55.4 +0.6**
ANMO pmax pmax
comp=Z,17nm,1.4s
ANMO Albuquerque 78.83 333 *eP* **P 16 32 55.1 +0.2**
ANMO LR LR
comp=Z,2µm,21.0s
Q39A Willow Grove F 78.84 345 P **P 16 32 54.2 -0.4**
baz=166
ODNJ Ogdensburg 78.87 359 PFAKE 16 33 00.0 +5.3
ODNJ LR LR
comp=Z,2µm,19.0s
R35A Emporia Munici 78.88 342 P **P 16 32 54.7 -0.2**
baz=163,SNR=5.7
Q38A Cooks Store, C 78.90 344 P **P 16 32 54.8 -0.1**
baz=165,SNR=5.9
R34A Isabella, Hill 79.11 341 P **P 16 32 56.2 0.0**
baz=162,SNR=8.9
SFIN Lafayette 79.12 350 P **P 16 32 56.8 +0.7**
baz=170
SFIN Lafayette 79.12 350 PFAKE 16 33 00.0 +3.9
SFIN LR LR
comp=Z,2µm,18.0s
P40A Paris 79.12 346 P **P 16 32 56.3 +0.2**
baz=166,SNR=15

P39B Salisbury 79.22 345 P P 16 32 56.3 -0.4
baz=166
SNZO South Karori 79.28 225 PFAKE 16 32 50.0 -7.3
SNZO LR LR
comp=Z,3µm,19.0s
BOSA Boshof 79.33 118 P P 16 32 57.1 -0.8
comp=Z,40nm,0.8s,baz=217,slow=4.7,SNR=34
BOSA LR LR 17 04 45.6
comp=Z,3µm,20.2s,baz=227,slow=33
KSPA Keystone Colle 79.36 358 PFAKE 16 33 00.0 +2.6
KSPA LR LR
comp=Z,2µm,18.0s
TSUM Tsumeb 79.37 106 eP P 16 32 57.7 -0.7
comp=Z,126nm,2.0s
OXZ Oxford 79.38 223 PFAKE 16 32 50.0 -7.8
OXZ LR LR
comp=Z,4µm,19.0s
O41A Passleys Farm, 79.47 347 P P 16 32 57.5 -0.5
baz=167
P38A Dawn 79.52 345 P P 16 32 57.9 -0.4
baz=165
Q34A Chapman 79.62 342 P P 16 32 58.8 -0.1
baz=163,SNR=7.0
HDIL Hopedale 79.63 348 P P 16 32 58.3 -0.6
baz=169
HDIL Hopedale 79.63 348 eP P 16 32 57.6 -1.3
comp=Z,44nm,0.8s
RPZ Rata Peaks 79.64 222 LR LR 16 59 23.3
comp=Z,3µm,21.8s,baz=134,slow=29
O40A La Belle 79.66 346 P P 16 32 59.0 0.0
baz=167
BKZ Black Stump Fm 79.67 228 PFAKE 16 33 00.0 +0.4
BKZ LR LR
comp=Z,2µm,18.0s
KSU1 Kansas State U 79.71 342 P P 16 32 59.1 -0.3
baz=163
KSU1 Kansas State U 79.71 342 eP P 16 32 58.0 -1.4
comp=Z,11m,0.9s
X18A Snowflake 79.76 330 eP P 16 33 00.6 +0.6
X18A LR LR
comp=Z,2µm,20.0s
113A Mohawk Valley, 79.81 327 eP P 16 33 00.8 +0.8
113A LR LR
comp=Z,1µm,20.0s
URZ Urewera 79.90 229 LR LR 16 59 20.5
comp=Z,370nm,21.3s,baz=189,slow=29
URZ Urewera 79.90 229 PFAKE 16 33 00.0 -0.7
URZ LR LR
comp=Z,2µm,19.0s
O39A Kirksville 79.92 345 P P 16 33 00.1 -0.4
baz=166
THZ Tophouse 79.97 224 PFAKE 16 33 00.0 -1.2
THZ LR LR
comp=Z,2µm,21.0s
BINY Binghamton 80.00 358 PFAKE 16 33 00.0 -0.9
BINY LR LR
comp=Z,2µm,19.0s
N41A Harden Midland 80.04 347 P P 16 33 00.4 -0.7
baz=167
QUA2 Belchertown 80.07 1 eP P 16 33 00.9 -0.3
comp=Z,100nm,1.6s
T25A Trinidad 80.11 336 P P 16 33 03.2 +1.3
baz=157,SNR=16
T25A Trinidad 80.11 336 eP P 16 33 02.8 +0.9
T25A LR LR
comp=Z,1µm,19.0s
O37A Wolven Farm, M 80.17 344 P P 16 33 01.1 -0.7
baz=165
P34A Walnut Farm, R 80.19 342 P P 16 33 01.9 -0.1
baz=163,SNR=7.4
WES Weston 80.19 2 PFAKE 16 33 00.0 -1.8
WES LR LR
comp=Z,2µm,19.0s
W18A Petrified Fore 80.20 331 P P 16 33 03.8 +1.4
baz=153,SNR=7.7
W18A Petrified Fore 80.20 331 eP P 16 33 03.5 +1.2
W18A LR LR
comp=Z,4µm,18.0s
CBKS Cedar Bluff 80.25 340 PFAKE 16 33 00.0 -2.4
CBKS LR LR
comp=Z,800nm,20.0s
X16A Lo Mia Camp, P 80.26 329 eP P 16 33 03.5 +0.9
HRV Adam Dziewonsk 80.31 2 PFAKE 16 33 00.0 -2.5
HRV LR LR
comp=Z,1µm,19.0s
Y14A Wickenburg 80.49 328 eP P 16 33 08.4 +4.6
TRY Troy 80.51 0 eP P 16 33 03.1 -0.4
comp=Z,90nm,1.3s
TRY LR LR
comp=Z,3µm,19.0s
N39A Derby Farms, D 80.52 346 P P 16 33 02.6 -1.0
baz=166,SNR=15
GLA Glamis 80.52 326 PFAKE 16 33 00.0 -3.9
GLA LR LR
comp=Z,2µm,18.0s
M41A Milan 80.64 347 P P 16 33 03.3 -1.0
baz=168
O34A Beatrice 80.76 342 P P 16 33 05.0 0.0
baz=163,SNR=6.4
Y12C Blythe 80.98 327 PFAKE 16 33 10.0 +3.7
Y12C LR LR
comp=Z,1µm,18.0s
SDCO Great Sand Dun 81.02 335 P P 16 33 07.4 +0.6
baz=156,SNR=12
SDCO Great Sand Dun 81.02 335 eP P 16 33 06.9 +0.1
SDCO LR LR
comp=Z,2µm,18.0s
BAR Barrett 81.03 324 PFAKE 16 33 10.0 +3.3
BAR LR LR
comp=Z,2µm,19.0s
N35A Tabor 81.16 343 P P 16 33 06.3 -0.8
baz=164
ACCN Adirondack Com 81.16 0 PFAKE 16 33 10.0 +2.9
ACCN LR LR
comp=Z,2µm,20.0s
M38A Pleasantville 81.17 345 P P 16 33 06.5 -0.7
baz=166
WUAZ Wupatki 81.19 330 P P 16 33 08.9 +1.3
baz=152,SNR=11
WUAZ Wupatki 81.19 330 eP P 16 33 06.6 -1.0
WUAZ LR LR
comp=Z,2µm,19.0s
KSCO Kaye Shedlock' 81.27 338 PFAKE 16 33 10.0 +2.1
KSCO LR LR
comp=Z,1µm,19.0s
L41A Preston 81.31 347 P P 16 33 06.8 -1.0
baz=168
N34A Lincoln 81.34 343 P P 16 33 07.9 -0.2
baz=163
S22A 4UR Ranch, Cre 81.47 334 P P 16 33 09.3 +0.1
baz=155,SNR=8.5
S22A 4UR Ranch, Cre 81.47 334 PFAKE 16 33 10.0 +0.8
S22A LR LR
comp=Z,3µm,18.0s
MVCO Mesa Verde 81.58 333 P P 16 33 10.3 +0.5
baz=154,SNR=7.4
MVCO Mesa Verde 81.58 333 eP P 16 33 09.9 +0.1
MVCO LR LR
comp=Z,3µm,18.0s
TPFO Pinon Flats 81.71 325 P P 16 33 12.0 +1.7
baz=148,SNR=10
PFO Pinyon Flats O 81.72 325 P P 16 33 12.1 +1.7
baz=148,SNR=10
PFO Pinyon Flats O 81.72 325 eP P 16 33 10.7 +0.3
PFO MLR MLR
comp=Z,3µm,18.0s
PFO Pinyon Flats O 81.72 325 eP P 16 33 10.7 +0.3
PFO LR LR
comp=Z,3µm,18.0s
NCB Newcomb 81.75 360 eP P 16 33 08.5 -1.7
comp=Z,1.0nm,2.0s
MDV Middlebury 81.78 0 eP P 16 33 10.3 +0.1
W13A Hualapai Mount 81.86 328 eP P 16 33 12.2 +0.9
LBNH Lisbon 82.03 1 PFAKE 16 33 10.0 -1.6
LBNH LR LR
comp=Z,2µm,20.0s
JFWS Jewell Farm 82.08 348 eP P 16 33 11.3 -0.6
JFWS Jewell Farm 82.08 348 eP P 16 33 11.3 -0.6
L35A Bielow Farm, R 82.33 344 P P 16 33 13.2 -0.1
baz=164
U15A North Rim 82.34 329 eP P 16 33 15.1 +1.2
LDFC Landfair 82.36 327 PFAKE 16 33 10.0 -3.7
LDFC LR LR
comp=Z,1µm,20.0s
LONY Lake Ozonia 82.40 359 eP P 16 33 11.9 -1.6
comp=Z,62nm,1.4s
LONY LR LR
comp=Z,2µm,19.0s
PV01 Paradox Valley 82.43 333 eP P 16 33 15.0 +0.8
PV05 Paradox Valley 82.57 333 eP P 16 33 15.3 +0.4
K36A Gilmore City 82.60 345 P P 16 33 14.5 -0.2
baz=165
FRNY Flat Rock 82.61 0 eP P 16 33 15.2 +0.6
FRNY LR LR
comp=Z,2µm,20.0s
SADO Sadowa 82.69 356 eP P 16 33 13.9 -1.1
comp=Z,39nm,1.2s
PV04 Paradox Valley 82.78 333 eP P 16 33 15.5 -0.5
SMCO Snowmass 82.81 335 eP P 16 33 16.5 +0.2
SMCO LR LR
comp=Z,3µm,18.0s
PLVO Plevna 82.87 358 eP P 16 33 15.0 -1.0
comp=Z,56nm,1.3s
ISCO Idaho Springs 82.92 336 eP P 16 33 16.3 -0.5
ISCO MLR MLR
comp=Z,900nm,19.0s
ISCO Idaho Springs 82.92 336 eP P 16 33 16.3 -0.5
ISCO LR LR
comp=Z,900nm,19.0s
MWC Mount Wilson 82.96 324 PFAKE 16 33 20.0 +3.0
MWC LR LR
comp=Z,4µm,18.0s
J37A Redenius Farm, 83.07 346 P P 16 33 15.5 -1.6
baz=165
KNB Kanab 83.07 329 PFAKE 16 33 20.0 +2.5
KNB LR LR
comp=Z,2µm,18.0s
PKME Peaks-Kenny Pk 83.14 3 PFAKE 16 33 20.0 +2.7
PKME LR LR
comp=Z,1µm,19.0s
LCMT Little Creek M 83.23 329 eP P 16 33 21.8 +3.5
LCMT LR LR
comp=Z,2µm,18.0s
J36A Seneca 1, Swea 83.24 345 P P 16 33 17.7 -0.3
baz=165
GSC Goldstone, Bar 83.29 326 PFAKE 16 33 20.0 +1.5
GSC LR LR
comp=Z,2µm,22.0s
I38A Scanlan Farm, 83.54 347 P P 16 33 18.6 -0.8
baz=166
J34A George 83.54 344 P P 16 33 19.5 0.0
baz=164
OSI Osito Audit: C 83.59 324 PFAKE 16 33 20.0 0.0
OSI LR LR
comp=Z,3µm,18.0s
SHPR Sheep Range 83.59 328 eP P 16 33 21.5 +1.3
MTPU Mount Pierson 83.70 330 eP P 16 33 21.8 +0.8
I37A Lemond, Waseca 83.72 346 P P 16 33 20.4 0.0
baz=166
CCUT Cedar City 83.74 329 eP P 16 33 21.5 +0.5
LRMC Laurel Mtn Rad 83.83 325 P P 16 33 22.0 +0.7
baz=148
TRQ Mont Tremblant 84.00 359 eP P 16 33 19.9 -1.9
SRU San Rafael Swe 84.01 332 eP P 16 33 22.6 +0.4
SRU San Rafael Swe 84.01 332 eP P 16 33 22.6 +0.4
J32A Parkston 84.06 343 P P 16 33 23.2 +1.1
baz=162
O20A White River Ci 84.10 334 P P 16 33 22.6 -0.1
baz=154
O20A White River Ci 84.10 334 eP P 16 33 22.4 -0.3
MSU Marysvale 84.11 331 eP P 16 33 24.0 +1.2
MSU Marysvale 84.11 331 eP P 16 33 24.0 +1.2
ECSD EROS Data Cent 84.11 344 eP P 16 33 22.1 -0.3
baz=163
ECSD EROS Data Cent 84.11 344 eP P 16 33 21.8 -0.6
MPMC Manual Prospec 84.23 326 P P 16 33 24.2 +0.8
baz=148
PHWY Pilot Hill 84.23 337 eP P 16 33 23.1 -0.4
FURC Furnace Creek, 84.29 326 P P 16 33 25.4 +2.0
baz=148
TPNV Topopah Spring 84.43 327 P P 16 33 26.2 +1.8
baz=149
TPNV Topopah Spring 84.43 327 eP P 16 33 25.8 +1.4
TPNV Topopah Spring 84.43 327 eP P 16 33 25.8 +1.4
DAC Darwin (Calif) 84.45 326 eP P 16 33 24.3 -0.3
DAC e 16 33 29.0
DAC Darwin (Calif) 84.45 326 eP P 16 33 24.3 -0.3
DAC ePcP PcP 16 33 29.0 +0.8
G39A Holcombe 84.54 348 P P 16 33 25.3 +0.8
baz=167
G38A Ridgeland 84.55 347 P P 16 33 25.1 +0.5
baz=167
H35A Sunnyside Ranc 84.66 345 P P 16 33 24.6 -0.5
baz=164
F40A Park Falls 84.99 349 P P 16 33 25.7 -1.1
baz=168
H33A Prehn Over Nor 85.05 344 P P 16 33 26.1 -1.0
baz=163
F38A Pierce - Schro 85.31 347 P P 16 33 27.8 -0.6
baz=167
NLU North Lily Min 85.32 331 eP P 16 33 29.8 +0.9
R11A Troy Canyon, C 85.33 328 P P 16 33 30.2 +1.2
baz=149
R11A Troy Canyon, C 85.33 328 eP P 16 33 29.5 +0.5
R11A ePcP PcP 16 33 32.7 +0.7
F36A Milaca 85.52 346 P P 16 33 28.3 -1.2
baz=166
JLU Jordanelle 85.65 332 eP P 16 33 28.8 -1.8
F35A Swanville 85.72 346 P P 16 33 29.8 -0.6
baz=165
K22A Casper 85.79 336 P P 16 33 31.1 0.0
baz=156
DUG Dugway, Tooele 85.81 331 P P 16 33 32.0 +0.8
baz=151
DUG Dugway, Tooele 85.81 331 eP P 16 33 31.2 0.0
DUG Dugway, Tooele 85.81 331 eP P 16 33 31.2 0.0
VLDQ Val d'Or 85.96 357 eP P 16 33 32.7 +1.2
F33A 5 Mile Ranch, 86.05 344 P P 16 33 32.4 +0.3
baz=163
E36A McGregor 86.10 347 P P 16 33 32.6 +0.3
baz=166
RSSD Black Hills 86.38 339 eP P 16 33 33.2 -0.8
RSSD e 16 33 36.7
RSSD Black Hills 86.38 339 eP P 16 33 33.2 -0.8
RSSD ePcP PcP 16 33 36.7 +0.2
BGU Big Grassy Mou 86.53 331 eP P 16 33 37.7 +2.9
HWUT Hardware Ranch 86.58 333 eP P 16 33 34.8 -0.3
TVH3 East Aurora ar 86.72 326 eP P 16 33 37.1 +1.3
TVH1 TV Hill, Hawth 86.78 326 eP P 16 33 38.2 +1.9
D35A Remer 86.79 346 P P 16 33 35.0 -0.7
baz=165
C39A Grand Marais 86.84 349 P P 16 33 35.0 -0.9
baz=168
TORD Torodi Ar. Bea 86.87 71 P P 16 33 36.4 -0.4
comp=Z,6.3nm,0.6s,baz=225,slow=3.8,SNR=31
TORD LR LR 17 10 27.2
comp=Z,2µm,19.5s,baz=240,slow=34
BW06 Boulder Array 86.89 334 P P 16 33 36.5 -0.1
baz=154
BW06 Boulder Array 86.89 334 eP P 16 33 36.5 -0.1
PDAR Pinedale Array 86.89 334 P P 16 33 36.2 -0.4
comp=Z,2.3nm,0.9s,baz=159,slow=4.6,SNR=14
PDAR LR LR 17 08 17.5
comp=Z,3µm,18.4s,baz=152,slow=33
C38A Sawbill Land. 86.92 348 P P 16 33 36.1 -0.3
baz=167
WAKR Walker 87.12 326 eP P 16 33 39.0 +1.2
CMB Columbia Colle 87.16 325 eP P 16 33 38.4 +0.6
CMB Columbia Colle 87.16 325 eP P 16 33 38.4 +0.6
HVU Hansel Valley 87.17 332 eP P 16 33 37.3 -0.6
HVU Hansel Valley 87.17 332 eP P 16 33 37.3 -0.6
EYMN Ely 87.18 348 P P 16 33 38.1 +0.5
baz=167
EYMN Ely 87.18 348 eP P 16 33 35.9 -1.7
C36A Pine Crest Far 87.22 347 P P 16 33 37.3 -0.5
baz=166
JBNB Ben Lomond Mou 87.24 323 eP P 16 33 38.6 +0.4
B35A Bob, Littlefor 87.96 347 P P 16 33 40.9 -0.4
baz=165
LOHW Long Hollow 87.99 334 P P 16 33 41.1 -0.8
TPAW Teton Pass 88.01 334 eP P 16 33 41.5 -0.5
PMOZ Porto Moniz, M 88.03 45 eLR LR 17 05 32.5
comp=Z,5µm,20.0s
PAHR Pah Rah Range 88.09 326 eP P 16 33 45.0 +2.7
FXWY Fox Creek 88.16 334 eP P 16 33 42.5 -0.2
MOOW Moose Ponds 88.16 334 eP P 16 33 40.0 -2.6
comp=Z,28nm,1.7s
AGMN Agassiz Nation 88.31 345 eP P 16 33 40.9 -2.1
comp=Z,57nm,1.3s
FLWY Flagg Ranch 88.44 334 eP P 16 33 41.7 -2.3
comp=Z,35nm,1.1s
RLMT Red Lodge 88.88 336 P P 16 33 46.4 +0.4
baz=154
ORV Oroville 88.90 325 eP P 16 33 49.1 +3.1
ORV Oroville 88.90 325 eP P 16 33 49.1 +3.1
YHH Holmes Hill 89.11 335 eP P 16 33 47.8 +0.6
HLID Hailey 89.32 332 P P 16 33 48.4 +0.3
baz=150
HLID Hailey 89.32 332 eP P 16 33 47.6 -0.5
QLMT Earthquake Lak 89.35 334 eP P 16 33 51.1 +2.9
GCMT Greycliff 89.61 336 eP P 16 33 51.5 +2.1
MFID Camas Ranch 89.73 331 eP P 16 33 50.1 +0.2
LSZ Lusaka 89.75 109 eP P 16 33 52.6 +1.8
LSZ pmax pmax
comp=Z,23nm,1.0s
LSZ Lusaka 89.75 109 eP P 16 33 52.6 +1.8
comp=Z,23nm,1.0s
MCMT McKenzie Canyo 89.84 333 eP P 16 33 51.5 +1.0
WVOR Wild Horse Val 90.03 328 eP P 16 33 51.1 -0.3
WVOR Wild Horse Val 90.03 328 eP P 16 33 51.1 -0.3
ULM Lac du Bonnet 90.17 346 P P 16 33 52.6 +1.0
comp=Z,5.0nm,1.0s,baz=295,slow=6.1,SNR=2.0
DLMT Dillon 90.22 334 eP P 16 33 52.5 +0.4
MOD Modoc Plateau 90.29 327 eP P 16 33 53.4 +0.7
LRM Limekiln Ridge 90.56 334 eP P 16 33 56.9 +3.0
HRY Holter Researc 91.13 335 eP P 16 34 01.2 +4.8
BMO Blue Mountains 91.51 331 eP P 16 34 00.3 +2.1
BMO Blue Mountains 91.51 331 eP P 16 34 00.2 +2.1
CHMT Chamberlain Mo 91.79 334 eP P 16 34 02.2 +2.7
WALA Waterton Lakes 93.86 335 eP P 16 34 08.3 -0.6
D08A Wollman Farm, 93.97 331 eP P 16 34 11.3 +2.0
NEW Newport 94.31 333 P P 16 34 10.1 -0.8
comp=Z,2.5nm,0.8s,baz=104,slow=15,SNR=3.1
NEW Newport 94.31 333 eP P 16 34 09.8 -1.1
PFVI Vila Bisbo 95.87 47 eSKS SKSac 16 44 58.3 +4.8
MORF Marmelete 96.09 47 eP P 16 34 19.0 -0.4
MORF eS SKSac 16 44 55.0 +0.1
MORF AMS AMS 17 15 57.0
comp=Z,6µm,25.9s
MORF Marmelete 96.09 47 eSKS SKSac 16 44 57.6 +2.8
MORF Marmelete 96.09 47 eP P 16 34 19.0 -0.4
MORF eS SKSac 16 44 54.9 +0.1
PCVE Castro Verde 96.67 47 eSKS SKSac 16 45 07.5 +10
PVAQ Vaqueiros 96.70 47 eLR LR 17 09 34.2
comp=Z,5µm,20.0s
MESJ Messejana 96.71 46 eP P 16 34 21.9 -0.2
MESJ eS SKSac 16 44 58.2 +0.4
MESJ AMS AMS 17 16 23.6
comp=Z,5µm,19.4s
MESJ Messejana 96.71 46 eP P 16 34 21.8 -0.2
MESJ eS SKSac 16 44 58.2 +0.4
PNCL Nicolau / Gran 96.72 46 eSKS SKSac 16 45 08.9 +11
LIS Lisbon 96.79 45 eP P 16 34 22.1 -0.3
LIS AMS AMS 17 17 30.5
comp=Z,4µm,18.9s
LIS Lisbon 96.79 45 eP P 16 34 22.1 -0.3
PMAFR **Mafra** 96.88 45 eSKS SKSac 16 45 08.2 +9.5
EDM Edmonton 97.27 337 eP Pdif 16 34 29.8 +5.4
EDM Edmonton 97.27 337 eP Pdif 16 34 29.8 +5.4
PBAR Barrancos 97.62 47 eSKS SKSac 16 45 11.2 +8.7
DZM Mont Dzumac 97.71 234 ePP PP 16 38 02.0 -23
comp=Z,181nm,26.2s
DZM eSKSac SKSac 16 44 42.3 -22
comp=Z,1µm,26.7s
DZM Mont Dzumac 97.71 234 ePS PS 16 46 53.9 -23
comp=Z,941nm,24.7s
DZM eSS SS 16 52 04.2 -27
comp=Z,2µm,25.4s
DZM eLQ LQ 17 01 25.0
comp=Z,1µm,27.0s
DZM eLR LR 17 05 33.7
comp=Z,4µm,24.3s
PESTR Estremoz 97.78 46 eSKS SKSac 16 45 11.6 +8.2
PCAS Casmilo, Conde 98.08 45 eSKS SKSac 16 45 11.0 +6.2
MTE Manteigas 98.85 45 eLR LR 17 08 50.9
comp=Z,6µm,18.0s
PGAV Gavieira, Arco 99.52 43 eLR LR 17 09 17.3
comp=Z,5µm,18.0s
MVO Moncorvo 99.66 45 eSKS SKSac 16 45 22.3 +9.5
MVO Moncorvo 99.66 45 eLR LR 17 09 45.3
comp=Z,4µm,18.0s
ESDC Sonseca Array 100.40 47 P Pdif 16 34 38.7 0.0
comp=Z,0.2nm,0.3s,baz=250,slow=4.7,SNR=4.4
BFO Black Forest 112.66 46 ePKIKP PKiKP 16 39 28.3 +0.4
BFO Black Forest 112.66 46 ePKPdf PKiKP 16 39 28.2 +0.4
ASAR Alice Springs 113.26 208 PKiKP PKiKP 16 39 28.9 -1.1
comp=Z,0.4nm,0.6s,baz=138,slow=1.2,SNR=5.8
ASAR PKKPbc PKKPbc 16 50 14.0 -0.3
comp=Z,0.5nm,0.6s,baz=343,slow=2.6,SNR=8.5
CRNS Crni Vrh 114.98 50 ePP PP 16 40 32.5 +0.2
LJU Ljubljana 115.12 50 ePP PP 16 40 33.6 +0.4
LJU e 16 50 18.4
MOZS Mozjanca 115.19 50 ePP PP 16 40 34.0 +0.2
NKC Novy Kostel 115.95 45 eSP SP 16 50 24.7 +7.4
NKC AMS AMS 17 29 30.0
comp=Z,3µm,18.3s
KHC Kasperske Hory 116.06 47 ePP PP 16 40 38.4 -1.4
KHC eSP SP 16 50 25.3 +6.9
KHC AMS AMS 17 28 50.0
comp=Z,3µm,20.2s
WRA Warramunga Arr 116.49 210 PKP PKPdf 16 39 33.8 -2.4
comp=Z,1.1nm,0.7s,baz=166,slow=1.5,SNR=9.9
WRA PKKPbc PKKPbc 16 50 03.5 +0.3
comp=Z,0.6nm,0.9s,baz=335,slow=12,SNR=3.1
WRAB Tennant Creek 116.49 210 ePKIKP PKPdf 16 39 36.1 -0.1
CLL Collm 116.78 45 ePP PP 16 40 42.0 -2.7
comp=N,100nm,17.9s
CLL ePP PP 16 40 42.0 -2.7
comp=E,100nm,20.2s
CLL ePP PP 16 40 42.0 -2.7
comp=Z,300nm,20.0s
CLL ePPP PPP 16 43 30.0
CLL eSKKSac SKKSac 16 47 48.0 +4.2
CLL eSdif **Sdif** 16 48 42.0 +12
CLL ePS **PKKPdf** 16 50 31.0 +1.2
CLL ePPS PPS 16 51 51.0
CLL eSS **SS** 16 56 48.0 -2.7
CLL L L 17 26 00.0
comp=Z,3µm,20.5s
STAV Stavanger 116.80 35 IVMs_BB IVMs_BB 17 35 27.0
comp=Z,1µm,17.0s
PRA Prague 117.00 46 AMS AMS 17 31 00.0
comp=Z,3µm,17.7s
PRU Pruhonice 117.02 46 ePP PP 16 40 43.9 -2.6
PRU ex x 16 50 35.5
PRU AMS AMS 17 31 00.0
comp=Z,3µm,17.5s
BRG Berggiesshubel 117.09 45 ePKP PKPdf 16 39 45.3 +9.1
comp=Z,8.5nm,1.2s
BRG Berggiesshubel 117.09 45 ePKIKP PKPdf 16 39 45.3 +9.0
BRG pmax pmax
comp=Z,9.0nm,1.2s
BRG MLR MLR
comp=N,1µm,18.4s
BRG MLR MLR
comp=E,2µm,19.1s
BRG MLR MLR
comp=Z,2µm,18.3s
GOPC GO Pecny, Ondr 117.13 47 eSP SP 16 50 28.0 0.0
GOPC AMS AMS 17 31 00.0
comp=Z,3µm,18.0s
TREC Trest 117.24 47 AMS AMS 17 35 00.0
comp=Z,2µm,17.4s
PVCC Panska Ves 117.29 46 eSP SP 16 50 35.7 +6.3
PVCC AMS AMS 17 30 40.0
comp=Z,3µm,18.0s
BER Bergen 117.36 33 ePS PS 16 50 33.6 +1.4
BER IVMs_BB IVMs_BB 17 31 33.2
comp=Z,1µm,14.4s
BLS5 Blasjo 117.38 35 ePS PS 16 50 33.7 +1.1
BLS5 IVMs_BB IVMs_BB 17 35 19.9
comp=Z,2µm,16.7s
HOMB Homborsund 117.76 36 ePP PP 16 40 51.8 +0.5
HOMB IVMs_BB IVMs_BB 17 28 26.8
comp=Z,1µm,19.1s
FOO Floro 117.83 32 ePP PP 16 40 51.9 +0.2
FOO ePS **PS** **16 50 35.6 -0.9**
FOO eSS SS 16 57 05.3 +1.5
FOO IVMs_BB IVMs_BB 17 35 42.1
comp=Z,1µm,17.6s
VRAC Vranov 117.89 48 ||ePP PKPdf 16 39 46.5 +8.6
VRAC Vranov 117.89 48 ||ePKIKP PKPdf 16 39 46.5 +8.6
UPC Upice 118.10 46 eSP SP 16 50 43.7 +6.9
UPC AMS AMS 17 34 40.0
comp=Z,2µm,17.2s

DPC Dobruska-Polom 118.20 47 AMS AMS 17 29 30.0
comp=Z,2µm,19.7s
DPC Dobruska-Polom 118.20 47 *e*PKIKP PKPdf 16 39 47.5 +9.0
DPC *e*SP SP 16 50 46.9 +9.1
DPC MLR MLR
comp=Z,2µm,19.7s
MORC Moravsky Berou 118.66 48⇑ *i*P **PKPdf 16 39 38.0 -1.4**
MORC Moravsky Berou 118.66 48 ⇑PKIKP **PKPdf 16 39 38.0 -1.4**
VYHS Vyhne 118.86 49 *e*PKIKP **PKPdf 16 39 39.2 -0.6**
VYHS MLR MLR
comp=Z,2µm,19.7s
VYHS Vyhne 118.86 49 *e*PKIKP **PKPdf 16 39 39.2 -0.6**
VYHS Vyhne 118.86 49 *e*PKP **PKPdf 16 39 39.2 -0.6**
KONO Kongsberg 118.90 35 *e*PP PP 16 40 58.0 -1.2
KONO *e*SP SP 16 50 43.6 +0.1
KONO IVMs_BB IVMs_BB 17 28 31.0
comp=Z,956nm,23.4s
AKN Aaknes 118.92 32 *e*PS PS 16 50 45.7 -0.7
AKN *e*SS SS 16 57 19.4 +1.4
AKN IVMs_BB IVMs_BB 17 35 51.9
comp=Z,1µm,18.1s
MDVR Moldovita 119.00 54⇑ *i*P **PKPdf 16 39 40.6 +0.4**
OKC Ostrava-Krasne 119.03 48 AMS AMS 17 27 20.0
comp=Z,2µm,19.2s
PSZ Piszkesteto 119.24 50⇓ *i*P PKPdf 16 39 49.2 +8.6
PSZ Piszkesteto 119.24 50 ⇓PKIKP PKPdf 16 39 49.2 +8.6
PSZ Piszkesteto 119.24 50⇓ *i*P PKPdf 16 39 49.2 +8.6
BZS Buzias 119.31 53⇑ *i*P **PKPdf 16 39 47.8 +7.1**
BZS Buzias 119.31 53 ⇑PKIKP **PKPdf 16 39 47.8 +7.1**
MOL Molde 119.32 32 IVMs_BB IVMs_BB 17 29 08.0
comp=Z,1µm,19.3s
DOMB Dombas 119.73 33 IVMs_BB IVMs_BB 17 40 36.3
comp=Z,1µm,18.6s
NC602 NORSAR Array S 120.25 35 *e*SP SP 16 50 56.6 +1.1
NC602 *e*SS **SS 16 57 35.8 +0.6**
NC602 IVMs_BB IVMs_BB 17 36 57.1
comp=Z,1µm,19.3s
DRGR 120.50 52⇓ *i*P **PKPdf 16 39 42.7 -0.3**
DRGR 120.50 52 ⇓PKIKP **PKPdf 16 39 42.7 -0.3**
LOT Lotru 120.61 54⇓ *i*P **PKPdf 16 39 43.2 -0.2**
TBLU Trondheim 120.74 32 *e*SS SS 16 57 45.0 +3.6
TBLU IVMs_BB IVMs_BB 17 36 02.6
comp=Z,1µm,20.6s
UZH Uzhgorod 121.00 50 *e*PKIKP **PKPdf 16 39 45.4 +1.6**
UZH *e* 16 39 51.8
UZH *e* 16 41 12.2
UZH *e* 16 43 53.0
UZH *e* 16 46 55.0
UZH *e* 16 51 01.4
HUMR Humele 121.00 56⇓ *i*P **PKPdf 16 39 42.0 -2.0**
ARR Arges 121.13 55⇑ *i*P **PKPdf 16 39 45.1 +0.8**
FITZ Fitzroy Crossi 121.16 202 PKP **PKPdf 16 39 44.2 -1.0**
comp=Z,1.6nm,0.7s,baz=234,slow=19,SNR=3.3
VOIR 121.42 55⇓ *i*P **PKPdf 16 39 43.8 -1.1**
VOIR 121.42 55 ⇓PKIKP **PKPdf 16 39 43.8 -1.1**
MLR Muntele Rosu 122.02 55⇑ *i*P **PKPdf 16 39 45.8 -0.3**
MLR Muntele Rosu 122.02 55 ⇑PKIKP **PKPdf 16 39 45.8 -0.3**
MLR Muntele Rosu 122.02 55 *e*PKPdf **PKPdf 16 39 45.8 -0.3**
BURAR Bucovina Array 122.39 52⇓ *i*P **PKPdf 16 39 48.6 +1.9**
BURAR Bucovina Array 122.39 52 ⇓PKIKP **PKPdf 16 39 48.6 +1.9**
PLOR Plostina 122.62 55⇓ *i*P **PKPdf 16 39 46.3 -0.8**
PLOR Plostina 122.62 55 ⇓PKIKP **PKPdf 16 39 46.3 -0.8**
VRI Vrincioaia 122.67 55⇑ *i*P **PKPdf 16 39 46.0 -1.2**
VRI Vrincioaia 122.67 55 ⇑PKIKP **PKPdf 16 39 46.0 -1.2**
TLB Topalu 123.03 57⇑ *i*P **PKPdf 16 39 47.2 -0.6**
TLB Topalu 123.03 57 ⇑PKIKP **PKPdf 16 39 47.2 -0.6**
TIRR Tirgusor 123.22 57⇓ *i*P **PKPdf 16 39 47.6 -0.6**
TIRR Tirgusor 123.22 57 ⇓PKIKP **PKPdf 16 39 47.6 -0.6**
CFR Carcaliu 123.32 56⇑ *i*P **PKPdf 16 39 47.8 -0.6**
CFR Carcaliu 123.32 56 ⇑PKIKP **PKPdf 16 39 47.8 -0.6**
MOR8 Moi Rana 123.49 29 *e*PP PP 16 41 31.2 +0.8
MOR8 IVMs_BB IVMs_BB 17 44 23.4
comp=Z,1µm,17.1s
LOF Lofoten 123.80 27 *e*PP PP 16 41 32.2 -0.1
LOF *e*SP SP 16 51 26.6 0.0
LOF *e*SS **SS 16 58 24.6 +4.6**
LOF IVMsBB 17 47 48.2
comp=Z,483nm,14.1s
H11S2 WAKE ISLAND Hyl 124.29 267 T T 18 56 19.3
baz=126,slow=75,SNR=48
H11S1 WAKE ISLAND Hyl 124.31 267 T T 18 56 13.0
baz=126,slow=75,SNR=24
H11S3 WAKE ISLAND Hyl 124.31 267 T T 18 56 04.5
baz=126,slow=75,SNR=18
KIS Kishinev 124.44 54 *e*PKP **PKPdf 16 39 50.0 -0.5**
KIS Kishinev 124.44 54 *e*PP PP 16 41 34.0 -3.3
KIS Kishinev 124.44 54 *e*PPP PPP 16 44 16.0
KIS *e*SKKS **SKKSac 16 48 28.0 -6.1**
KIS Kishinev 124.44 54 *e*PS PS 16 51 30.0 -6.1
KIS *e*SS SS 16 58 29.0 -0.2
KIS *e*SSS SSS 17 01 20.0
KIS *e*L L 17 23 16.0
KIS LRM MLR 17 36 38.0
comp=Z,3µm,20.0s
KIS Kishinev 124.44 54 *e*PKIKP **PKPdf 16 39 50.0 -0.5**
KIS *e* 16 39 57.0
KIS *e* 16 40 03.0
KIS *e* 16 41 34.0
KIS *e*PPP PPP 16 44 16.0
KIS *e*PS **PS 16 51 30.0 -6.1**
KIS *e*SS SS 16 58 29.0 -0.2
BRTR Keskin Array B 124.95 64 PKP **PKPdf 16 39 51.5 -0.4**
comp=Z,3.3nm,0.7s,baz=203,slow=3.3,SNR=20
NACGM Naroch 125.81 44 *e*PKP PKPdf 16 40 01.0 +8.2
NACGM *e*PP **PP 16 41 40.0 -6.2**
NACGM *e*SKP 16 43 06.0
NACGM *e*PPP PPP 16 44 26.0
NACGM *e*SKKS 16 48 36.0
NACGM *e*PS **PS 16 51 54.0 +6.1**
NACGM *e*SS SS 16 58 36.0 -10
NACGM *e*LR LR 17 27 30.0
NACGM LRM MLR 17 36 15.0
comp=Z,4.2nm,20.0s
KIEV Kiev 125.93 50*d i*PKIKP **PKPdf 16 39 53.0 -0.2**
KIEV Kiev 125.93 50 *e*PKPdf **PKPdf 16 39 52.9 -0.2**
AKASG Malin Array Be 125.94 50 PKP **PKPdf 16 39 52.3 -0.9**
comp=Z,0.9nm,0.5s,baz=268,slow=2.9,SNR=7.8
TRO Tromso 126.08 26 *e*PP PP 16 41 47.4 -0.2
TRO *e*SP SP 16 51 46.8 +0.2
TRO *e*SS **SS 16 58 54.1 +5.4**
TRO IVMs_BB IVMs_BB 17 40 55.5
comp=Z,817nm,23.9s
KBS Kingsbay 126.30 14 *e*PP PP 16 41 48.9 0.0
KBS *e*SP SP 16 51 50.4 +2.2
KBS *e*SS **SS 16 58 53.4 +2.2**
KBS IVMs_BB IVMs_BB 17 34 57.9
comp=Z,563nm,21.2s
MICGM Minsk 126.31 45 *e* **PKPdf 16 39 55.0 +1.2**
MICGM *e* 16 41 35.0
MICGM *e*LR LR 17 28 14.0
MICGM LRM MLR 17 36 42.0
comp=Z,2.5nm,18.0s
MNK Minsk 126.31 45 *e*PKIKP **PKPdf 16 39 55.0 +1.2**
MNK MLR MLR
comp=Z,3µm,18.0s
HSPB Hornsund (broa 126.65 16 *e*PP PP 16 41 50.6 -0.6
HSPB *e*SS SS 16 58 59.1 +3.6
HSPB IVMs_BB IVMs_BB 17 37 29.7
comp=Z,511nm,15.8s
VSU Vasula 126.76 40 *e*PKIKP **PKPdf 16 39 54.7 +0.2**
SPA0 Spitsbergen Ar 127.03 15 *e*PP PP 16 41 53.6 -0.2
SPA0 *e*SS SS 16 59 02.0 +1.8
SPA0 IVMs_BB IVMs_BB 17 32 26.9
comp=Z,668nm,16.6s
FINES FINESS Array B 127.15 36 PKP **PKPdf 16 39 54.5 -0.8**
comp=Z,1.3nm,0.7s,baz=270,slow=0.8,SNR=5.2
HAMF Hammerfest 127.87 25 *e*PP PP 16 41 59.8 +0.4
HAMF *e*SS SS 16 59 12.4 +1.5
ARE0 ARCESS Array S 128.34 26 *e*PP PP 16 42 02.1 -0.4
ARE0 *e*SS SS 16 59 18.7 +1.9
ARE0 IVMs_BB IVMs_BB 17 34 52.8
comp=Z,754nm,16.4s
HOPEN Hopen 128.76 17 *e*SS SS 16 59 20.6 -1.1
ANN Anapa 129.38 59 *i* P **Pdif 16 36 48.0 +0.7**
ANN *i* 16 39 59.7
ANN *e**PP **PKiKP 16 40 03.1 +2.4**
ANN *e* 16 42 06.5
ANN *e* 16 47 07.0
ANN *e*SS SS 16 59 49.3 +18
ANN pmax pmax
comp=Z,34nm,1.0s
ANN MLR MLR
comp=N,1µm,23.0s
ANN MLR MLR
comp=Z,1µm,23.0s
ANN MLR MLR
comp=E,516nm,23.0s
JOF Joensuu 129.83 35 PKIKP **PKPdf 16 40 02.9 +2.6**
SOC Sochi 130.57 61 *i* PKIKP **PKPdf 16 39 59.8 -2.5**
SOC MLR MLR
comp=Z,629nm,19.0s
APA Apatity 131.08 29⇓ *i*PKIKP **PKPdf 16 40 06.0 +3.5**
APA MLR MLR
comp=Z,2µm,19.0s
OBN Obninsk 131.34 46*d i*PKIKP **PKPdf 16 40 03.8 +0.5**
OBN *e* 16 40 09.0
OBN *i* 16 40 11.6
OBN *i* 16 42 20.0
OBN *e* 16 47 16.8
OBN *e*PS **PS 16 52 30.2 -5.8**
OBN *e*SS SS 17 00 15.3 +21
OBN pmax pmax
comp=Z,31nm,1.8s
MOS Moscow 132.03 45 *e*PKIKP **PKPdf 16 40 05.2 +0.5**
MOS *e* 16 45 19.2
VSR Storozhevoye 132.15 51 *e*PKIKP **PKPdf 16 40 03.3 -1.7**
VSR pmax pmax
comp=Z,20nm,1.8s
LPSR Galich'ya Gora 132.26 50 *e*PKIKP **PKPdf 16 40 05.9 +0.7**
LPSR pmax pmax
comp=Z,9.0nm,0.6s
NEY Neytrino 132.56 63 *e*PKIKP **PKPdf 16 40 07.8 +1.5**
AKH Akhalkalaki 132.56 65 P **PKPdf 16 40 04.8 -1.6**
AKH Akhalkalaki 132.56 65 PKIKP **PKPdf 16 40 04.8 -1.6**
BGD Bogdanovka 132.59 66 P **PKPdf 16 40 08.1 +1.5**
KIV Kislovodsk 132.73 62*c i*PKIKP **PKPdf 16 40 06.1 -0.4**
KIV *e* 16 40 13.5
KIV *e* 16 40 15.6
KIV *i* 16 42 28.4
KIV pmax pmax
comp=Z,18nm,1.5s
KIV MLR MLR
comp=Z,839nm,22.0s
KIV Kislovodsk 132.73 62 *e*PKPdf **PKPdf 16 40 05.8 -0.8**
KBZ Khabaz 132.82 62 PKP **PKPdf 16 40 06.7 +0.2**
comp=Z,2.9nm,0.7s,baz=317,slow=2.2,SNR=7.0
ONI Oni 132.89 64 P **PKPdf 16 40 04.0 -2.8**
ONI Oni 132.89 64 PKIKP **PKPdf 16 40 04.0 -2.8**
GOF Gofitskoye 133.27 60⇓ *e*PKIKP **PKPdf 16 40 08.7 +1.3**
KLMR Klimovskoe 133.52 38 *e*PKIKP **PKPdf 16 40 05.5 -1.8**
KLMR *e* 16 42 36.5
KLMR pmax pmax
comp=Z,28nm,1.2s
TBLG Delisi 133.55 65 P **PKPdf 16 40 03.6 -4.4**
TBLG Delisi 133.55 65 PKIKP **PKPdf 16 40 03.6 -4.4**
MAK Makhachkala 135.86 64 *e*PKIKP **PKPdf 16 40 10.4 -1.9**
PET Petropavlovsk 141.37 310 *i* PKIKP **PKPdf 16 40 19.2 -2.8**
PET *e* 16 43 30.2
PET *e*SS SS 17 01 54.9 +0.7
PET pmax pmax
comp=Z,500nm,21.8s
GEYT Alibeck 142.40 75 PKhKP PKPpre 16 40 20.3
comp=Z,3.7nm,0.6s,baz=274,slow=4.3,SNR=8.5
SEY Seymchan 142.87 327 PKhKP PKPpre 16 40 20.5
comp=Z,3.5nm,0.8s,baz=41,slow=5.7,SNR=9.0
KSM Kuching 143.31 187 *e*PKPdf **PKPdf 16 40 27.6 +0.8**
ARU Arti 143.72 44 *i* PKIKP PKPab 16 40 22.9 0.0
ARU SSS SSS 17 07 36.9
ARU MLR MLR
comp=Z,4µm,23.0s
ARU Arti 143.72 44 *e*PKPpre PKPpre 16 40 23.0
AKTO Aktyubinsk 143.95 54 PKIKP **PKPab 16 40 23.5 -0.5**
AKTO pmax pmax
comp=Z,65nm,1.4s
TIXI Tiksi 144.50 348 PKP **PKPab 16 40 25.2 -0.3**
comp=Z,21nm,0.8s,baz=48,slow=3.0,SNR=6.0
MA2 Magadan 144.68 322 PKP **PKPab 16 40 25.9 -0.5**
comp=Z,13nm,0.8s,baz=105,slow=7.6,SNR=7.5
MA2 Magadan 144.68 322 *e*PKPdf **PKPdf 16 40 28.0 +0.3**
SVE Sverdlovsk 144.77 43 *e*PKIKP **PKPab 16 40 26.9 0.0**
SVE pmax pmax
comp=Z,83nm,1.4s
AB31 Akbulak array 145.21 56 PKIKP **PKPbc 16 40 27.8 -0.8**
AB31 pmax pmax
comp=Z,75nm,0.8s
ABKAR Akbulak array 145.21 56 *e*PKPdf **PKPbc 16 40 27.5 -1.2**
MYLDM Lahad Datu 145.35 202 *e*PKPdf **PKPdf 16 40 31.3 +1.0**
LHMI Lhok Sumawe 146.14 163 *e*PKPbc **PKPab 16 40 33.3 +0.2**
KKM Kota Kinabalu 146.79 198 *e*PKPbc **PKPab 16 40 35.4 -0.4**
KULM Kulim 146.88 170 *e*PKPdf **PKPdf 16 40 33.9 +0.9**
NRIK Noril'sk 147.16 12 PKPbc **PKPdf 16 40 32.5 +0.9**
comp=Z,8.0nm,0.8s,baz=298,slow=1.0,SNR=11
HYB Hyderabad 148.12 123 *i* PKP **PKPbc 16 40 39.0 +0.9**
SKLT Songkhla 148.73 169 PKP PKPab 16 40 53.3 +10
BRVK Borovoye 151.09 47 *e*PKIKP **PKPdf 16 40 38.3 -0.1**
BRVK *e* 16 40 44.3
BRVK *e* 16 40 51.9
BRVK Borovoye 151.09 47 *e*PKPdf **PKPdf 16 40 38.3 -0.1**
BRVK *e*PKPbc **PKPbc 16 40 44.3 0.0**
BRVK *e*PKPab **PKPab 16 40 51.9 -0.2**
BVA0 Borovoye Array 151.16 47 PKIKP **PKPbc 16 40 42.9 -1.6**
BVA0 pmax pmax
comp=Z,51nm,1.0s
YSS Yuzh-Sakhalins 151.95 300 *e*PKIKP **PKPdf 16 40 35.4 -4.5**
YSS *e* 16 40 55.0
YSS *e* 16 44 31.0
YSS pmax pmax
comp=Z,20nm,1.8s
NKL Nikolayevsk 152.00 314 *e*PKIKP **PKPbc 16 40 46.3 0.0**
NKL *e* 16 44 34.0
NKL pmax pmax
comp=Z,110nm,1.2s
NKL pmax pmax
comp=Z,500nm,8.0s
YAK Yakutsk 152.09 336 PKPbc **PKPbc 16 40 45.6 -0.7**
comp=Z,19nm,0.6s,baz=209,slow=0.4,SNR=5.0
YAK Yakutsk 152.09 336 *e*PKIKP **PKPbc 16 40 44.2 -2.1**
YAK *e* 16 40 54.3
YAK *e* 16 44 33.4
YAK *e* 16 47 42.2
YAK *e*SS SS 17 03 54.8 +0.4
YAK pmax pmax
comp=Z,22nm,0.9s
YAK pmax pmax
comp=E,3.0nm,1.0s
YAK pmax pmax
comp=N,4.0nm,1.4s
YAK pmax pmax
comp=Z,54nm,2.7s
YAK pmax pmax
comp=N,12nm,1.1s
YAK pmax pmax
comp=E,53nm,3.3s
YAK Yakutsk 152.09 336 *e*PKPbc **PKPbc 16 40 45.8 -0.5**
KK31 Karatay Array 152.53 68 *i* PKIKP **PKPbc 16 40 47.1 -0.9**
KK31 pmax pmax
comp=Z,14nm,0.9s
KKAR Karatay Array 152.53 68 *e*PKIKP **PKPdf 16 40 40.6 -0.4**
KKAR *e* 16 40 47.7
KKAR Karatay Array 152.53 68 *e*PKPdf **PKPdf 16 40 40.6 -0.4**
KKAR *e*PKPbc **pPKPdf 16 40 47.7 +0.5**
MNAS Manas 153.98 70 PKIKP **PKPdf 16 40 43.8 +0.5**
MNAS pmax pmax
comp=Z,24nm,1.4s
MJAR Matsushiro Arr 154.64 276 PKPbc **PKPbc 16 40 51.2 -1.5**
comp=Z,4.9nm,1.1s,baz=90,slow=2.4,SNR=6.0
AAK Ala-Archa 155.45 69 PP PP 16 44 49.7 +1.5
comp=Z,1.2nm,0.3s,baz=228,slow=5.9,SNR=7.7
AAK Ala-Archa 155.45 69 PKIKP **PKPdf 16 40 46.8 +1.5**
AAK pmax pmax
comp=Z,33nm,0.9s
AAK Ala-Archa 155.45 69 *e*PKPdf **PKPdf 16 40 45.2 -0.2**
AAK *e*PKPbc PKPbc 16 40 55.1
AAK PP **PP 16 44 49.7 +1.5**
FRU Bishkek 155.54 69 *e*PKIKP **PKPdf 16 40 46.0 +0.7**
FRU *e* 16 40 54.0
FRU *i* 16 44 46.0
FRU pmax pmax
comp=Z,60nm,2.0s
FRU MLR MLR
comp=E,2µm,18.0s
TKM2 Tokmak 2 156.26 69 PKIKP **PKPdf 16 40 45.7 -0.8**
TKM2 pmax pmax
comp=Z,37nm,1.5s
KSH Kashi 156.39 77 *e*PKP **PKPdf 16 40 46.6 0.0**
KSH PKS **PKSdf 16 44 20.7 +0.1**
KSH SKS **SKSdf 16 47 52.2 +0.2**
KSH AMB AMB
comp=Z,410nm,4.8s
KSH LR LR
comp=Z,840nm,18.0s
KSH LR LR
comp=Z,2µm,20.3s
KSH LR LR
comp=Z,2µm,19.5s
KURBB Kurchatov Arra 156.72 49 PP PP 16 44 58.5 +4.0
comp=Z,1.6nm,1.0s,baz=286,slow=6.2,SNR=6.8
KURK Kurchatov 156.74 48 *e*PKIKP **PKPdf 16 40 47.5 +1.0**
KURK 16 44 58.6
KURK Kurchatov 156.74 48 *e*PKPdf **PKPdf 16 40 47.5 +1.0**
KURK PP **PP 16 44 58.5 +3.9**
HABR Khabarovsk 156.80 306 *e*PKP2 **PKPab 16 41 15.2 -1.2**
HABR *e* 16 44 54.0
HABR *e* 16 47 51.7
HABR *e*SS SS 17 04 47.5 +0.4
HABR *e*SSS SSS 17 10 46.5
NVS Novosibirsk 157.14 36 *e*PKIKP PKPdf 16 40 38.3 -8.6
NVS pmax pmax
comp=Z,72nm,1.9s
PYUN Piuthan 158.11 110 *e*P **PKPab 16 41 22.5 -0.4**
ZALV Zalesovo Beam 158.42 36 PKP **PKPdf 16 40 47.2 -1.2**
comp=Z,2.4nm,0.7s,baz=260,slow=1.6,SNR=11
ZALV PKPab **PKPab 16 41 22.9 -0.3**
comp=Z,8.4nm,0.7s,baz=302,slow=5.7,SNR=9.1
KLR Kul'dur 158.63 309 PKP **PKPdf 16 40 47.5 -1.3**
comp=Z,0.8nm,0.8s,baz=350,slow=11,SNR=2.5
KLR PKPab **PKPab 16 41 24.0 -0.3**
comp=Z,0.8nm,0.5s,baz=23,slow=4.4,SNR=2.5
KLR Kul'dur 158.63 309 PKIKP **PKPdf 16 40 47.6 -1.3**
KLR 16 41 24.0
KLR pmax pmax
comp=Z,1.0nm,0.8s
KLR pmax pmax
comp=Z,1.0nm,0.5s
PDGK Podgornoye 159.08 67 PKIKP **PKPdf 16 40 50.8 +0.9**
PDGK pmax pmax
comp=Z,25nm,1.3s
GKN Gorkha 159.26 113 *e*P **PKPab 16 41 27.4 -0.5**
CMAR Chiang Mai Arr 159.35 160 PKP **PKPdf 16 40 50.6 -0.1**
comp=Z,0.9nm,0.8s,baz=246,slow=4.4,SNR=6.0
DMN Daman 159.37 114 *e*P **PKPab 16 41 27.8 -0.7**
PKIN Phulchoki 159.56 115 *e*P **PKPab 16 41 29.2 -0.1**
PKI Pulchoki 159.57 115 *e*P **PKPab 16 41 28.4 -1.0**
KKN Kakani 159.60 114 *e*P **PKPab 16 41 28.7 -0.7**
BOD Bodaibo 159.69 348 *e*PKP2 **PKPab 16 41 26.8 -1.7**
BOD pmax pmax
comp=Z,21nm,1.6s
CHTO Chiang Mai 159.69 160 PKP PKPdf 16 41 00.2 +9.1
CMMT Chiang Mai 159.69 160 PKP PKPdf 16 41 00.1 +9.0
NONG Nongkai 159.79 171 PKP PKPdf 16 41 00.2 +9.0
RAMN Ramite 160.03 118 *e*P **PKPab 16 41 30.6 -0.7**
GUN Gumba 160.10 115 *e*P **PKPab 16 41 32.4 +0.6**
MAKZ Makanchi 160.15 56 *e*PKIKP **PKPdf 16 40 50.0 -0.8**
MAKZ Makanchi 160.15 56 *e*PKPdf **PKPdf 16 40 50.0 -0.8**
JIRN Jiri 160.18 116 *e*P **PKPab 16 41 32.5 +0.4**
MK31 Makanchi Array 160.36 56 *i* PKIKP **PKPdf 16 40 50.3 -0.7**
MK31 pmax pmax
comp=Z,14nm,0.8s
MKAR Makanchi Array 160.36 56 *e*PKIKP **PKPdf 16 40 50.7 -0.4**
MKAR Makanchi Array 160.36 56 *e*PKPdf **PKPdf 16 40 50.6 -0.4**
ODAN Odare 160.52 120 *e*P **PKPab 16 41 32.7 -0.7**
QIZ Qiongzhong 160.69 190 PKP **PKPdf 16 40 52.0 -0.2**
QIZ PP **PP 16 45 15.0 -0.4**
QIZ SS SS 17 05 30.6 +4.1
QIZ LR LR
comp=Z,930nm,19.1s
QIZ LR LR
comp=Z,1µm,17.8s
MDJ Mudanjiang 161.40 298 PKP **PKPdf 16 40 53.1 +0.9**
MDJ pPKP pPKPdf 16 40 57.0 -1.4
MDJ sPKP 16 40 58.5
MDJ PKS **PKSdf 16 44 26.8 +1.5**
MDJ PP **PP 16 45 22.0 +1.6**
MDJ SKS **SKSdf 16 47 58.6 +2.5**
MDJ AMB AMB
comp=Z,430nm,8.2s
MDJ LR LR
comp=Z,350nm,20.2s
MDJ LR LR
comp=Z,920nm,22.0s
MDJ LR LR
comp=Z,1µm,20.2s
SHL Shillong 162.49 132 *e*P **PKPdf 16 40 57.0 +2.8**
KSRS Korea Array 162.90 274 PKP **PKPdf 16 40 53.7 -0.2**
comp=Z,0.9nm,0.9s,baz=108,slow=1.1,SNR=3.4
KSAR Wonju Array Be 162.92 274 PKIKP **PKPdf 16 40 53.7 -0.2**
KSAR Wonju Array Be 162.92 274 PKP **PKPdf 16 40 53.7 -0.2**
SLVN Son La 163.11 172 *e*PKPdf **PKPdf 16 40 54.6 -0.1**
QZH Quanzhou 163.19 222 *i* PKP **PKPdf 16 40 53.3 -1.3**
QZH PP **PP 16 45 34.1 +4.8**
QZH AMB AMB
comp=Z,960nm,11.4s
QZH LR LR
comp=Z,2µm,16.8s
CN2 Changchun 164.49 297 *e*PKP **PKPdf 16 40 55.9 +0.7**
CN2 PP **PP 16 45 41.3 +4.5**
CN2 SKKS 16 52 22.2
CN2 AMB AMB
comp=Z,200nm,7.0s
CN2 LR LR
comp=Z,800nm,17.0s
CN2 LR LR
comp=Z,700nm,17.0s
CN2 LR LR
comp=Z,700nm,19.0s
WMQ Urumqi 164.87 62 PKP **PKPdf 16 40 55.1 -0.5**
WMQ pPKP sPKPdf 16 41 04.9 +1.0
WMQ PKPab **PKPab 16 41 53.7 +1.8**
WMQ AMB AMB
comp=Z,390nm,6.7s
WMQ LR LR
comp=Z,760nm,20.7s
WMQ LR LR
comp=Z,1µm,19.3s
WMQ LR LR
comp=Z,1µm,22.1s
LSA Lhasa 164.87 119 PKP **PKPdf 16 40 58.2 +1.6**
LSA Lhasa 164.87 119 *e*PKIKP **PKPdf 16 40 58.1 +1.5**
LSA *e* 16 41 53.3
LSA Lhasa 164.87 119 *e*PKPdf **PKPdf 16 40 58.1 +1.5**
LSA *e*PKPab **PKPab 16 41 53.3 +0.5**
IRK Irkutsk 165.84 5 *e*PKIKP PKPdf 16 40 47.4 -8.7
IRK *e* 16 41 56.5
IRK *e* 16 45 43.0
IRK pmax pmax
comp=Z,38nm,2.9s
SSE Sheshan 165.87 245 PKP **PKPdf 16 40 58.0 +1.2**
SNY Shenyang 166.25 291 ⇓PKP **PKPdf 16 40 57.1 +0.4**
SNY PP **PP 16 45 48.9 +2.8**
SNY SKKS 16 52 32.8
SNY AMB AMB
comp=Z,630nm,8.4s
SNY LR LR
comp=Z,2µm,17.2s
SNY LR LR
comp=Z,670nm,19.6s
SNY LR LR
comp=Z,2µm,19.6s
TLY Talaya 166.35 7 *e*PKIKP **PKPdf 16 40 54.9 -1.6**
TLY *e* 16 45 45.7
TLY *e*SS SS 17 06 23.5 -1.4
TLY pmax pmax
comp=Z,9.0nm,2.3s
KMI Kunming 166.66 166 PKP **PKPdf 16 40 55.8 -2.1**
ZAK Zakamensk 167.59 9 *e*PKP2 **PKPab 16 42 02.4 -1.2**
ZAK pmax pmax
comp=Z,9.0nm,1.3s
DL2 Dalian 167.97 278 PKP **PKPdf 16 40 58.8 +0.7**
DL2 PP **PP 16 45 51.4 -3.7**
DL2 AMB AMB
comp=Z,500nm,5.1s
DL2 LR LR
comp=Z,860nm,18.6s
DL2 LR LR
comp=Z,1µm,17.5s
DL2 LR LR
comp=Z,2µm,18.2s
NJ2 Nanjing 168.06 243 *e*PKP **PKPdf 16 40 58.7 +0.3**
NJ2 PKPab **PKPab 16 42 07.8 +1.6**
NJ2 PP **PP 16 45 55.9 +0.7**

NJ2				AMB	AMB			
	comp=Z,420nm,5.4s							
NJ2				LR	LR			
	comp=Z,890nm,20.6s							
NJ2				LR	LR			
	comp=Z,840nm,20.6s							
NJ2				LR	LR			
	comp=Z,700nm,19.5s							
GYA	**Guiyang**	**168.33**	**182**	PKP	**PKPdf**	**16 40 58.9**	**0.0**	
GYA				PKPab	**PKPab**	**16 42 10.0**	**+2.6**	
GYA				PKS	**PKSdf**	**16 44 30.6**	**-1.1**	
GYA				PP	**PP**	**16 45 58.2**	**+2.8**	
GYA				SKKS		16 52 44.0		
GYA				SS	**SS**	**17 06 48.4**	**+3.4**	
GYA				AMB	AMB			
	comp=Z,160nm,8.4s							
GYA				LR	LR			
	comp=Z,180nm,21.8s							
GYA				LR	LR			
	comp=Z,150nm,22.0s							
GYA				LR	LR			
	comp=Z,170nm,22.4s							
WHN	**Wuhan**	**169.91**	**224**	⇓PKP	**PKPdf**	**16 41 02.2**	**+2.6**	
WHN				PKPab	**PKPab**	**16 42 17.2**	**+2.9**	
WHN				PP	**PP**	**16 46 08.1**	**+4.1**	
WHN				SKKS		16 52 52.1		
WHN				LR	LR			
	comp=Z,2μm,15.4s							
WHN				LR	LR			
	comp=Z,2μm,17.1s							
WHN				LR	LR			
	comp=Z,3μm,18.9s							
SONM	**Songino Array**	**170.33**	**360**	PKP	**PKPdf**	**16 40 59.3**	**-0.1**	
	comp=Z,0.4nm,0.5s,baz=231,slow=0.9,SNR=5.0							
SONM				PKPab	**PKPab**	**16 42 15.2**	**-0.5**	
	comp=Z,2.0nm,0.7s,baz=330,slow=4.4,SNR=6.0							
SONM				PP	**PP**	**16 46 09.8**	**+4.3**	
	comp=Z,2.5nm,1.1s,baz=2.9,slow=5.8,SNR=3.7							
ENH	**Enshi**	**171.71**	**199**	*e*PKPdf	**PKPdf**	**16 41 00.5**	**-0.1**	
BJI	**Beijing**	**172.09**	**287**	PKP	**PKPdf**	**16 41 01.6**	**+1.2**	
BJI				PP	**PP**	**16 46 17.2**	**+1.5**	
BJI				LR	LR			
	comp=Z,1μm,16.6s							
BJI				LR	LR			
	comp=Z,860nm,18.1s							
CD2	**Chengdu**	**172.47**	**163**	PKP	**PKPdf**	**16 41 01.3**	**+0.3**	
CD2				pPKP	sPKPdf	16 41 10.1	+0.8	
CD2				PKPab	**PKPab**	**16 42 23.5**	**-2.1**	
CD2				PKS	**PKSdf**	**16 44 28.2**	**-5.1**	
CD2				SKKS		16 53 05.5		
CD2				AMB	AMB			
	comp=Z,640nm,10.7s							
CD2				LR	LR			
	comp=Z,1μm,20.2s							
CD2				LR	LR			
	comp=Z,1μm,20.2s							
CD2				LR	LR			
	comp=Z,2μm,19.0s							
GTA	**Gaotai**	**174.78**	**74**	⇑PKP	**PKPdf**	**16 41 01.0**	**-0.7**	
GTA				pPKP	pPKPdf	16 41 06.7	-1.2	
GTA				sPKP		16 41 10.2		
GTA				SKS	**SKSdf**	**16 48 02.6**	**-1.3**	
GTA				AMB	AMB			
	comp=Z,1μm,10.7s							
GTA				LR	LR			
	comp=Z,1μm,20.0s							
GTA				LR	LR			
	comp=Z,1μm,17.6s							
GTA				LR	LR			
	comp=Z,1μm,20.0s							
HHC	**Hu-ho-hao-te**	**175.12**	**305**	*e*PKP	**PKPdf**	**16 40 57.2**	**-4.5**	
HHC				PP	**PP**	**16 46 25.1**	**-5.1**	
HHC				SKKS		16 53 12.2		
HHC				SS	**SS**	**17 07 50.7**	**-3.0**	
HHC				AMB	AMB			
	comp=Z,210nm,7.4s							
HHC				LR	LR			
	comp=Z,380nm,19.3s							
HHC				LR	LR			
	comp=Z,670nm,18.4s							
HHC				LR	LR			
	comp=Z,670nm,18.5s							
XAN	**Xi'an**	**175.38**	**208**	PKP	**PKPdf**	**16 41 02.0**	**+0.1**	
XAN				PKS	**PKSdf**	**16 44 33.2**	**-0.9**	
XAN				SKS	**SKSdf**	**16 48 04.1**	**0.0**	
XAN				AMB	AMB			
	comp=Z,350nm,10.0s							
XAN				LR	LR			
	comp=Z,1μm,19.7s							
XAN				LR	LR			
	comp=Z,950nm,19.7s							
XAN				LR	LR			
	comp=Z,2μm,18.9s							
LZH	**Lanzhou**	**177.15**	**136**	*e*PKP	**PKPdf**	**16 41 03.3**	**+0.9**	
LZH				pPKP	sPKPdf	16 41 11.9	+1.2	
LZH				PKS	**PKSdf**	**16 44 29.2**	**-5.4**	
LZH				PP	**PP**	**16 46 43.1**	**+3.5**	
LZH				SS	SS	17 08 10.0	-2.5	
LZH				AMB	AMB			
	comp=Z,690nm,4.9s							
LZH				LR	LR			
	comp=Z,410nm,15.4s							
LZH				LR	LR			
	comp=Z,2μm,18.6s							
LZH				LR	LR			
	comp=Z,2μm,19.8s							

*NIC **03** 16:21:17.9±0.2,35°.16N×32°.28E, h20km, ML2.9*
*ISCJB **03** 16:21:18.7±0.8,35°.20N±0°.03×32°.38E±0°.06, h13km±4km, Error ellipse: s-maj=8.5km s-min=5.8km az=0.1*
*CSEM **03** 16:21:18.8±0.3,35°.16N×32°.38E, h12km, ML2.9, Error ellipse: s-maj=7.2km s-min=5.2km az=86.0*
*ISK **03** 16:21:21.4,35°.25N×32°.59E, h17km, MD2.8*

ISC 03 16:21:18.4±1.1,35°.17N±0°.04×32°.37E±0°.05,h15km±8km, n24,σ0s61/40,Cyprus region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AKMC	**Akamas**	**0.14**	**194**	P	**Pg**	**16 21 22.5**	**+0.2**
AKMC	**Akamas**	**0.14**	**194**	P	**Pg**	**16 21 22.5**	**+0.2**
	baz=344						
ALFC	**Alefka**	**0.19**	**93**	P	**Pb**	**16 21 24.1**	**+0.5**
ALFC				S	**Sb**	**16 21 28.1**	**+1.1**
ALFC	**Alefka**	**0.19**	**93**	P	**Pb**	**16 21 24.1**	**+0.5**
	baz=270						
ALFC				S	**Sb**	**16 21 28.1**	**+1.1**
PPCY	**Paphos**	**0.28**	**184**	P	**Pg**	**16 21 24.0**	**-0.4**
PPCY	**Paphos**	**0.28**	**184**	P	**Pg**	**16 21 24.0**	**-0.4**
	baz=349						
LEF	**Lefka**	**0.43**	**96**	*e*PG	**Pg**	**16 21 26.8**	**-0.3**
LEF				*e*SG	**Sg**	**16 21 32.4**	**-0.5**
LEF	**Lefka**	**0.43**	**96**	*e*Pg	**Pg**	**16 21 26.8**	**-0.3**
LEF				*e*Sg	**Sg**	**16 21 32.4**	**-0.5**
AKDN	**Akdeniz- K¨–br**	**0.51**	**75**	*e*PG	**Pg**	**16 21 28.6**	**+0.1**
AKDN	**Akdeniz- K¨–br**	**0.51**	**75**	*e*Pg	**Pg**	**16 21 28.6**	**+0.1**
SZAC	**Souni**	**0.59**	**134**	P	**Pb**	**16 21 30.6**	**+0.2**
SZAC				S	**Sg**	**16 21 37.7**	**-0.1**
SZAC	**Souni**	**0.59**	**134**	P	**Pb**	**16 21 30.6**	**+0.2**
	baz=309						
SZAC				S	**Sg**	**16 21 37.7**	**-0.1**
CSS	**Mathiatis**	**0.81**	**104**	P	**Pb**	**16 21 34.1**	**-0.2**
CSS				S	**Sn**	**16 21 47.3**	**+0.2**
CSS	**Mathiatis**	**0.81**	**104**	P	**Pb**	**16 21 34.1**	**-0.2**
	baz=283						
CSS				S	**Sn**	**16 21 47.3**	**+0.2**
TEKE	**Tekeli-Mersin**	**1.15**	**32**	*e*PG	**Pb**	**16 21 40.3**	**+0.4**
TEKE				*e*SG	**Sn**	**16 21 55.2**	**-0.1**
TEKE	**Tekeli-Mersin**	**1.15**	**32**	*e*Pg	**Pb**	**16 21 40.3**	**+0.4**
TEKE				*e*Sg	**Sn**	**16 21 55.3**	**-0.1**
BERE	**Bereket-Mersin**	**1.37**	**30**	*e*PN	**Pb**	**16 21 44.6**	**+0.8**
BERE				*e*SN	**Sn**	**16 22 01.2**	**+0.2**
BERE	**Bereket-Mersin**	**1.37**	**30**	*e*Pn	**Pb**	**16 21 44.6**	**+0.8**
BERE				*e*Sn	**Sn**	**16 22 01.2**	**+0.2**
AKKU	**Akkuyu-Mersin**	**1.38**	**44**	*e*PN	**Pb**	**16 21 44.2**	**+0.3**
AKKU				*e*SN	**Sn**	**16 21 59.7**	**-1.4**
AKKU	**Akkuyu-Mersin**	**1.38**	**44**	*e*Pn	**Pb**	**16 21 44.2**	**+0.3**
AKKU				*e*Sn	**Sn**	**16 21 59.7**	**-1.4**
IKL	**Isikli**	**1.51**	**45**	*e*PN	**Pb**	**16 21 46.0**	**-0.2**
IKL				*e*SN	**Sn**	**16 22 03.1**	**-1.3**
IKL	**Isikli**	**1.51**	**45**	*e*Pn	**Pb**	**16 21 46.0**	**-0.2**
IKL				*e*Sn	**Sn**	**16 22 03.1**	**-1.3**
HDMB	**Hadim**	**1.80**	**3**	*e*PN	**Pb**	**16 21 51.2**	**0.0**
HDMB	**Hadim**	**1.80**	**3**	*e*Pn	**Pb**	**16 21 51.2**	**0.0**

DJA 03 16:28:14.5±0.3,3°S.5°×127°E.°,h10km,M4.2/8,mB5.2/2, mb4.8/4,MLv3.9/8,Mw(mB)4.5/2,Ceram Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NLAI	**Namlea**	**0.72**	**139**	P	Pg	16 28 24.6	-3.8
SANI	**Sanana**	**0.90**	**315**	P	Pg	16 28 31.4	-0.5
AAI	**Ambon**	**1.85**	**122**	P	Pn	16 28 46.7	+0.4
MSAI	**Masohi**	**2.39**	**106**	P	Pn	16 28 51.4	-2.3
LUWI	**Luwuk**	**4.19**	**293**	P	Pn	16 29 18.1	-0.4
BBSI	**Bau Bau**	**4.91**	**235**	P	Pn	16 29 28.6	+0.2
SWI	**Sorong**	**4.97**	**69**	P	Pn	16 29 29.9	+0.6
MRSI	**Marisa**	**5.65**	**304**	P	Pn	16 29 39.0	+0.5
	116nm,0.6s,7μm						
PCI	**Palu**	**7.02**	**285**	P	Pn	16 29 57.9	+0.5
	24nm,0.8s						

*ISCJB **03** 16:29:54.5±0.4,50°.22N±0°.02×12°.53E±0°.03, h13km±4km, Error ellipse: s-maj=3.1km s-min=2.8km az=149.0*
*PRU **03** 16:29:55.8,50°.27N×12°.47E, h10km, West Bohemia Swarm*
*CSEM **03** 16:29:55.4±0.1,50°.23N×12°.51E, h10km, ML3.1/10, Error ellipse: s-maj=1.9km s-min=1.4km az=33.0*
*BGR **03** 16:29:55.9±0.2,50°.25N×12°.45E, h12km±1km, ML2.5/6, Error ellipse: s-maj=2.2km s-min=1.1km az=102.0*
*IASPEI **03** 16:29:55.6±0.8,50°.24N±0°.02×12°.47E±0°.02, h12km±3km, Error ellipse: s-maj=2.9km s-min=2.4km az=79.5, GT5 selection from ISC bulletin GT5 identified by Bond¨jr and McLaughlin (2009) selection criteria Bond¨jr and McLaughlin, A new ground truth data set for seismic studies, Seism. Res. Let., 80, 465-472, 2009*
*CLL **03** 16:29:56.6±0.3,50°.3N±0°.8×1°2E±°, h8km±1km, ml2.3*

ISC 03 16:29:55.7±0.8,50°.23N±0°.02×12°.48E±0°.02,h12km±3km, n71,σ0s76/129,7C,Germany

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NKC	**Novy Kostel**	**0.02**	**268**	⇑*i*PG	**Pg**	**16 29 58.0**	**+0.1**
NKC				*e*SG	**Sg**	**16 29 59.0**	**-0.5**
	comp=Z,879nm,0.2s						
NKC	**Novy Kostel**	**0.02**	**268**	⇑*i*Pg	**Pg**	**16 29 58.0**	**+0.1**
NKC				*i* Sg	**Sg**	**16 29 59.1**	**-0.3**
NKC	**Novy Kostel**	**0.02**	**268**	*e*Pg	**Pg**	**16 29 58.0**	**+0.1**
NKC				*e*Sg	**Sg**	**16 29 59.2**	**-0.3**
NKC	**Novy Kostel**	**0.02**	**268**	Pg	**Pg**	**16 29 58.0**	**+0.1**
NKC				Sg	**Sg**	**16 29 59.2**	**-0.3**
WERN	**Wernitzgruen**	**0.09**	**308**	*i* Pg	**Pg**	**16 29 58.4**	**-0.1**
WERN				*i* Sg	**Sg**	**16 29 59.9**	**-0.6**
WERN				AML	AML	16 29 60.0	
	comp=N,823nm,0.1s						
WERN	**Wernitzgruen**	**0.09**	**308**	*e*Pg	**Pg**	**16 29 58.4**	**-0.1**
WERN				*e*Sg	**Sg**	**16 29 59.9**	**-0.6**
WERN	**Wernitzgruen**	**0.09**	**308**	Pg	**Pg**	**16 29 58.4**	**-0.1**
WERN				Sg	**Sg**	**16 29 59.9**	**-0.6**
ROHR	**Rohrbach**	**0.11**	**270**	*i* Pg	**Pg**	**16 29 58.5**	**-0.2**
ROHR				*i* Sg	**Sg**	**16 30 00.1**	**-0.8**
ROHR				AML	AML	16 30 00.2	
	comp=E,3μm,0.1s						
ROHR	**Rohrbach**	**0.11**	**270**	*e*Pg	**Pg**	**16 29 58.5**	**-0.2**
ROHR				*e*Sg	**Sg**	**16 30 00.1**	**-0.8**
ROHR	**Rohrbach**	**0.11**	**270**	Pg	**Pg**	**16 29 58.5**	**-0.2**
ROHR				Sg	**Sg**	**16 30 00.1**	**-0.8**
GUNZ	**Gunzen**	**0.16**	**323**	*i* Pg	**Pg**	**16 29 59.5**	**0.0**
GUNZ				*i* Sg	**Sg**	**16 30 01.5**	**-0.6**
GUNZ				AML	AML	16 30 01.8	
	comp=N,604nm,0.2s						
GUNZ	**Gunzen**	**0.16**	**323**	*e*Pg	**Pg**	**16 29 59.5**	**0.0**
GUNZ				*e*Sg	**Sg**	**16 30 01.6**	**-0.6**
GUNZ	**Gunzen**	**0.16**	**323**	Pg	**Pg**	**16 29 59.5**	**0.0**
GUNZ				Sg	**Sg**	**16 30 01.6**	**-0.6**
TANN	**Tannenbergstha**	**0.18**	**356**	*i* Pg	**Pg**	**16 29 59.8**	**-0.1**
TANN				*i* Sg	**Sg**	**16 30 02.1**	**-0.6**
TANN				AML	AML	16 30 02.7	
	comp=N,2μm,0.2s						
MULD	**Muldenberg**	**0.18**	**344**	*i* Pg	**Pg**	**16 29 59.8**	**-0.1**
MULD				*i* Sg	**Sg**	**16 30 02.1**	**-0.6**
MULD				AML	AML	16 30 02.3	
	comp=E,993nm,0.1s						
MULD	**Muldenberg**	**0.18**	**344**	*e*Pg	**Pg**	**16 29 59.8**	**-0.1**
MULD				*e*Sg	**Sg**	**16 30 02.2**	**-0.6**
MULD	**Muldenberg**	**0.18**	**344**	Pg	**Pg**	**16 29 59.8**	**-0.1**
MULD				Sg	**Sg**	**16 30 02.2**	**-0.6**
WERD	**Werda**	**0.24**	**332**	*i* Pg	**Pg**	**16 30 00.7**	**-0.1**
WERD				*i* Sg	**Sg**	**16 30 03.6**	**-0.7**
WERD				AML	AML	16 30 04.1	
	comp=E,321nm,0.3s						
WERD	**Werda**	**0.24**	**332**	*e*Pg	**Pg**	**16 30 00.7**	**-0.1**
WERD				*e*Sg	**Sg**	**16 30 03.6**	**-0.7**
WERD	**Werda**	**0.24**	**332**	Pg	**Pg**	**16 30 00.7**	**-0.1**
WERD				Sg	**Sg**	**16 30 03.6**	**-0.7**
TRIB	**Obertriebel**	**0.25**	**298**	*i* Pg	**Pg**	**16 30 00.8**	**-0.2**
TRIB				*i* Sg	**Sg**	**16 30 03.9**	**-0.6**
TRIB				AML	AML	16 30 04.1	
	comp=E,140nm,0.1s						
TRIB	**Obertriebel**	**0.25**	**298**	*e*Pg	**Pg**	**16 30 00.8**	**-0.2**
TRIB				*e*Sg	**Sg**	**16 30 03.8**	**-0.8**
TRIB	**Obertriebel**	**0.25**	**298**	Pg	**Pg**	**16 30 00.8**	**-0.2**
TRIB				Sg	**Sg**	**16 30 03.8**	**-0.8**
PLN	**Plauen**	**0.33**	**321**	*i* Pg	**Pg**	**16 30 02.2**	**-0.2**
PLN				*e*Sg	**Sg**	**16 30 06.3**	**-0.6**
PLN				AML	AML	16 30 06.4	
	comp=E,238nm,0.1s						
PLN	**Plauen**	**0.33**	**321**	*e*Pg	**Pg**	**16 30 02.2**	**-0.2**
PLN				*e*Sg	**Sg**	**16 30 06.2**	**-0.6**
PLN	**Plauen**	**0.33**	**321**	Pg	**Pg**	**16 30 02.2**	**-0.2**
PLN				Sg	**Sg**	**16 30 06.2**	**-0.6**
SCHF	**Schoenfels**	**0.45**	**354**	*i* Pg	**Pg**	**16 30 04.5**	**-0.1**
SCHF				*i* Sg	**Sg**	**16 30 10.3**	**-0.2**
SCHF				AML	AML	16 30 10.8	
	comp=E,355nm,0.3s						
SCHF	**Schoenfels**	**0.45**	**354**	*e*Pg	**Pg**	**16 30 04.5**	**-0.1**
SCHF				*e*Sg	**Sg**	**16 30 10.3**	**-0.2**
SCHF	**Schoenfels**	**0.45**	**354**	Pg	**Pg**	**16 30 04.5**	**-0.1**
SCHF				Sg	**Sg**	**16 30 10.4**	**-0.2**
ROTZ	**Rotzenmuhle**	**0.50**	**201**	*e*Pg	**Pg**	**16 30 05.9**	**+0.4**
ROTZ				*e*Sg	**Sg**	**16 30 12.3**	**+0.1**
ROTZ	**Rotzenmuhle**	**0.50**	**201**	Pg	**Pg**	**16 30 05.9**	**+0.4**
ROTZ				Sg	**Sg**	**16 30 12.3**	**+0.1**
MLFH	**Mildenfurth**	**0.61**	**335**	*i* Pg	**Pg**	**16 30 07.4**	**-0.3**
MLFH				*i* Sg	**Sg**	**16 30 15.2**	**-0.5**
MOX	**Moxa**	**0.69**	**307**	*e*Pg	**Pg**	**16 30 08.8**	**-0.3**
MOX				*e*Sg	**Sg**	**16 30 17.7**	**-0.5**
MOX	**Moxa**	**0.69**	**307**	Pg	**Pg**	**16 30 08.8**	**-0.3**
MOX				Sg	**Sg**	**16 30 17.7**	**-0.5**
FBE	**Freiberg**	**0.89**	**39**	*e*Pg	**Pb**	**16 30 13.1**	**+0.1**
FBE				*e*Sg	**Sg**	**16 30 24.3**	**-0.1**
FBE	**Freiberg**	**0.89**	**39**	Pg	**Pb**	**16 30 13.1**	**+0.1**
FBE				Sg	**Sg**	**16 30 24.3**	**-0.1**
GRA1	**Grafenberg Arr**	**0.98**	**237**	Pg	**Pg**	**16 30 14.4**	**-0.2**
GRA1				Sg	**Sg**	**16 30 26.9**	**-0.4**
GRF	**Grafenberg Arr**	**0.98**	**237**	*e*Pg	**Pg**	**16 30 14.4**	**-0.2**
GRF				*e*Sg	**Sg**	**16 30 26.9**	**-0.4**
WET	**Wettzell**	**1.12**	**167**	⇑*e*PG	**Pg**	**16 30 17.3**	**0.0**
WET	**Wettzell**	**1.12**	**167**	*e*Pg	**Pg**	**16 30 17.3**	**0.0**
WET				*e*Sg	**Sg**	**16 30 31.9**	**0.0**
WET	**Wettzell**	**1.12**	**167**	Pg	**Pg**	**16 30 17.3**	**0.0**
WET				Sg	**Sg**	**16 30 31.9**	**0.0**
CLL	**Collm**	**1.12**	**17**	*e*Pg	**Pb**	**16 30 16.6**	**-0.5**
CLL				*e*Sg	**Sb**	**16 30 31.4**	**-0.3**
CLL	**Collm**	**1.12**	**17**	Pg	**Pb**	**16 30 16.6**	**-0.5**
CLL				Sg	**Sb**	**16 30 31.4**	**-0.3**
CLL	**Collm**	**1.12**	**17**	*i* Pg	**Pb**	**16 30 17.0**	**-0.1**
CLL				*i*		16 30 19.2	
CLL				*i*		16 30 20.6	
CLL				*e*Sg	**Sb**	**16 30 32.0**	**+0.3**
	comp=Z,34nm,0.4s						
BRG	**Berggiesshubel**	**1.13**	**55**	PG	**Pn**	**16 30 17.5**	**+0.1**
BRG				SG	**Sg**	**16 30 32.3**	**+0.2**
	comp=Z,66nm,0.2s						
BRG	**Berggiesshubel**	**1.13**	**55**	*e*Pg	**Pn**	**16 30 17.5**	**+0.1**
BRG				*e*Sg	**Sg**	**16 30 32.4**	**+0.2**
BRG	**Berggiesshubel**	**1.13**	**55**	Pg	**Pn**	**16 30 17.5**	**+0.1**
BRG				Sg	**Sg**	**16 30 32.4**	**+0.2**
PRA	**Prague**	**1.27**	**97**	⇑*e*PG	**Pb**	**16 30 19.8**	**+0.3**
PRA				*e*SG	**Sn**	**16 30 36.3**	**+0.2**
	comp=Z,12nm,0.2s						
PRA	**Prague**	**1.27**	**97**	Pg	**Pb**	**16 30 19.8**	**+0.3**
PRA				Sg	**Sn**	**16 30 36.3**	**+0.2**
	comp=Z,12nm,0.2s						
KHC	**Kasperske Hory**	**1.31**	**147**	*e*PG	**Pn**	**16 30 20.1**	**+0.2**
KHC				*e*SG	**Sg**	**16 30 37.8**	**-0.2**
	comp=Z,27nm,0.2s						
KHC	**Kasperske Hory**	**1.31**	**147**	Pg	**Pn**	**16 30 20.1**	**+0.2**
KHC				Sg	**Sg**	**16 30 37.8**	**-0.2**
	comp=Z,27nm,0.2s						
PRU	**Pruhonice**	**1.35**	**100**	⇑*e*PG	**Pb**	**16 30 21.2**	**+0.3**
PRU				*e*SG	**Sn**	**16 30 38.8**	**+0.6**
	comp=Z,23nm,0.2s						
PRU	**Pruhonice**	**1.35**	**100**	Pg	**Pb**	**16 30 21.2**	**+0.3**
PRU				Sg	**Sn**	**16 30 38.8**	**+0.6**
	comp=Z,23nm,0.2s						
PVCC	**Panska Ves**	**1.37**	**77**	⇑*e*SG	**Sg**	**16 30 40.2**	**+0.4**
	comp=Z,98nm,0.2s						
PVCC	**Panska Ves**	**1.37**	**77**	Sg	**Sg**	**16 30 40.2**	**+0.4**
	comp=Z,98nm,0.2s						
GOPC	**GO Pecny, Ondr**	**1.52**	**101**	*e*SG	**Sg**	**16 30 44.5**	**-0.1**
	comp=Z,15nm,0.2s						
GOPC	**GO Pecny, Ondr**	**1.52**	**101**	Sg	**Sg**	**16 30 44.5**	**-0.1**
	comp=Z,15nm,0.2s						
UPC	**Upice**	**2.28**	**82**	⇑*e*SG	**Sg**	**16 31 07.6**	**-1.2**
	comp=Z,14nm,0.6s						
UPC	**Upice**	**2.28**	**82**	Sg	**Sg**	**16 31 07.6**	**-1.2**
	comp=Z,14nm,0.6s						
DPC	**Dobruska-Polom**	**2.46**	**86**	*e*SG	**Sb**	**16 31 12.8**	**+2.5**
	comp=Z,8.6nm,0.5s						
DPC	**Dobruska-Polom**	**2.46**	**86**	Sg	**Sb**	**16 31 12.8**	**+2.5**
	comp=Z,8.6nm,0.5s						
KSP	**Ksiaz**	**2.51**	**74**	*e*Pg	**Pg**	**16 30 43.4**	**-0.4**
KSP				*e*Sg	**Sg**	**16 31 15.1**	**-1.1**
KSP	**Ksiaz**	**2.51**	**74**	*e*Pg	**Pg**	**16 30 43.4**	**-0.4**
KSP				*e*Sg	**Sg**	**16 31 15.1**	**-1.1**
MOA	**Molln**	**2.66**	**153**	*i* Sg	**Sg**	**16 31 19.5**	**-1.6**
	comp=Z,1.8nm,0.1s						
MOA	**Molln**	**2.66**	**153**	Sg	**Sg**	**16 31 19.5**	**-1.6**
	comp=Z,1.8nm,0.1s						
VRAC	**Vranov**	**2.82**	**108**	*e*Pn	**Pn**	**16 30 41.1**	**+0.5**
VRAC				*e*Sg	**Sg**	**16 31 23.6**	**-2.7**
CONA	**Conrad Observa**	**3.20**	**135**	*e*Pg	**Pg**	**16 30 55.4**	**-1.7**
	comp=Z,0.8nm,0.2s						
CONA				Sg	**Sg**	**16 31 37.3**	**-1.3**
	comp=Z,5.5nm,0.3s						
CONA	**Conrad Observa**	**3.20**	**135**	Pg	**Pg**	**16 30 55.4**	**-1.7**
	comp=Z,0.8nm,0.2s						
CONA				Sg	**Sg**	**16 31 37.3**	**-1.3**
	comp=Z,5.5nm,0.3s						
MORC	**Moravsky Berou**	**3.30**	**96**	*e*Pn	**Pn**	**16 30 47.6**	**+0.4**
MORC				*e*Sg	**Sg**	**16 31 38.3**	**-3.2**
ARSA	**Arzberg**	**3.60**	**145**	*e*Sg	**Sg**	**16 31 49.4**	**-1.9**
	comp=Z,5.6nm,0.6s						
ARSA	**Arzberg**	**3.60**	**145**	Sg	**Sg**	**16 31 49.4**	**-1.9**
	comp=Z,5.6nm,0.6s						

*ISCJB **03** 16:31:09.5±0.8,50°.24N±0°.03×12°.53E±0°.04, h13km±7km, Error ellipse: s-maj=5.7km s-min=3.6km az=136.3*
*CSEM **03** 16:31:10.5±0.4,50°.25N×12°.54E, h10km, ML3.0/7, Error ellipse: s-maj=10.8km s-min=5.1km az=179.0*
*PRU **03** 16:31:10.4,50°.27N×12°.48E, h10km, West Bohemia Swarm*
*CLL **03** 16:31:11.4±0.3,50°.3N±0°.8×1°2E±°, h8km±1km, ml2.2*

ISC 03 16:31:10.7±0.9,50°.25N±0°.03×12°.49E±0°.03,h11km±5km, n29,σ0s81/46,1C,Germany

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NKC	**Novy Kostel**	**0.03**	**246**	*e*PG	**Pg**	**16 31 12.9**	**+0.1**
NKC				*e*SG	**Sg**	**16 31 13.9**	**-0.4**
	comp=Z,474nm,0.2s						
NKC	**Novy Kostel**	**0.03**	**246**	⇑*i*Pg	**Pg**	**16 31 12.9**	**+0.1**
NKC				*i* Sg	**Sg**	**16 31 14.0**	**-0.4**
NKC	**Novy Kostel**	**0.03**	**246**	Pg	**Pg**	**16 31 12.9**	**+0.1**
NKC				Sg	**Sg**	**16 31 13.9**	**-0.4**
	474nm,0.2s						
WERN	**Wernitzgruen**	**0.09**	**300**	*i* Pg	**Pg**	**16 31 13.2**	**-0.1**
WERN				*i* Sg	**Sg**	**16 31 14.7**	**-0.6**
WERN				AML	AML	16 31 15.0	
	comp=N,494nm,0.1s						
ROHR	**Rohrbach**	**0.11**	**264**	*i* Pg	**Pg**	**16 31 13.4**	**-0.2**
ROHR				*i* Sg	**Sg**	**16 31 14.9**	**-0.8**
ROHR				AML	AML	16 31 15.1	
	comp=E,3μm,0.1s						
GUNZ	**Gunzen**	**0.16**	**319**	*i* Pg	**Pg**	**16 31 14.3**	**0.0**
GUNZ				*i* Sg	**Sg**	**16 31 16.3**	**-0.6**
GUNZ				AML	AML	16 31 16.6	
	comp=N,402nm,0.3s						
TANN	**Tannenbergstha**	**0.17**	**354**	*i* Pg	**Pg**	**16 31 14.6**	**+0.1**
TANN				*i* Sg	**Sg**	**16 31 16.9**	**-0.4**
TANN				AML	AML	16 31 17.5	
	comp=N,1μm,0.2s						
MULD	**Muldenberg**	**0.18**	**342**	*i* Pg	**Pg**	**16 31 14.6**	**0.0**
MULD				*i* Sg	**Sg**	**16 31 16.9**	**-0.4**
MULD				AML	AML	16 31 17.1	
	comp=E,741nm,0.1s						
WERD	**Werda**	**0.23**	**330**	*i* Pg	**Pg**	**16 31 15.6**	**0.0**
WERD				*e*Sg	**Sg**	**16 31 18.5**	**-0.5**
WERD				AML	AML	16 31 18.5	
	comp=E,154nm,0.1s						
TRIB	**Obertriebel**	**0.25**	**295**	*i* Pg	**Pg**	**16 31 15.6**	**-0.3**
TRIB				*i* Sg	**Sg**	**16 31 18.9**	**-0.5**
TRIB				AML	AML	16 31 19.2	
	comp=E,119nm,0.1s						
PLN	**Plauen**	**0.32**	**318**	*i* Pg	**Pg**	**16 31 17

selection from ISC bulletin GT5 identified by Bond˜ı r and McLaughlin (2009) selection criteria Bond˜ı r and McLaughlin, A new ground truth data set for seismic studies, Seism. Res. Let., 80, 465-472, 2009

*BGR **03** 16:35:34.5±0.2, 50˚.25N×12˚.44E, h11km±1km, ML2.5/6, Error ellipse: s-maj=2.2km s-min=1.1km az=102.0*

*CLL **03** 16:35:35.1±0.3, 50˚.3N±0˚.8×1˚2E±˚, h8km±1km, ml2.4*

ISC 03 16:35:34.5±0.8, **50˚.24N**±0˚.01×**12˚.46E**±0˚.02, **h11**km±3km, **n68**, σ**0**s**66**/116, **1D**, **Germany**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NKC	**Novy Kostel**	**0.01**	**213**	*e*Pg	**Pg**	**16 35 36.5**	**0.0**
NKC				*e*SG	**Sg**	**16 35 37.5**	**-0.4**
	comp=Z,559nm,0.3s						
NKC	**Novy Kostel**	**0.01**	**213**	⇓*i* Pg	**Pg**	**16 35 36.5**	**0.0**
NKC				*i* Sg	**Sg**	**16 35 37.6**	**-0.2**
NKC	**Novy Kostel**	**0.01**	**213**	*e*P	**Pg**	**16 35 36.5**	**0.0**
NKC	**Novy Kostel**	**0.01**	**213**	*e*Pg	**Pg**	**16 35 36.6**	**0.0**
NKC				*e*SG	**Sg**	**16 35 37.6**	**-0.2**
NKC	**Novy Kostel**	**0.01**	**213**	Pg	**Pg**	**16 35 36.5**	**0.0**
	578nm,0.2s						
NKC				Sg	**Sg**	**16 35 37.5**	**-0.4**
	559nm,0.3s						
WERN	**Wernitzgruen**	**0.07**	**312**	*i* Pg	**Pg**	**16 35 36.9**	**0.0**
WERN				*i* Sg	**Sg**	**16 35 38.3**	**-0.4**
WERN				AML	AML	16 35 38.5	
	comp=E,4μm,0.2s						
WERN	**Wernitzgruen**	**0.07**	**312**	*e*Pg	**Pg**	**16 35 36.9**	**0.0**
WERN				*e*SG	**Sg**	**16 35 38.3**	**-0.4**
WERN	**Wernitzgruen**	**0.07**	**312**	Pg	**Pg**	**16 35 36.9**	**0.0**
WERN				Sg	**Sg**	**16 35 38.3**	**-0.4**
ROHR	**Rohrbach**	**0.09**	**266**	*i* Pg	**Pg**	**16 35 37.0**	**-0.1**
ROHR				*i* Sg	**Sg**	**16 35 38.6**	**-0.5**
ROHR				AML	AML	16 35 38.7	
	comp=E,4μm,0.1s						
ROHR	**Rohrbach**	**0.09**	**266**	*e*Pg	**Pg**	**16 35 37.0**	**-0.1**
ROHR				*e*Sg	**Sg**	**16 35 38.6**	**-0.5**
ROHR	**Rohrbach**	**0.09**	**266**	Pg	**Pg**	**16 35 37.0**	**-0.1**
ROHR				Sg	**Sg**	**16 35 38.6**	**-0.5**
GUNZ	**Gunzen**	**0.15**	**327**	*i* Pg	**Pg**	**16 35 37.9**	**0.0**
GUNZ				*i* Sg	**Sg**	**16 35 40.0**	**-0.4**
GUNZ				AML	AML	16 35 40.1	
	comp=E,783nm,0.4s						
GUNZ	**Gunzen**	**0.15**	**327**	*e*Pg	**Pg**	**16 35 37.9**	**0.0**
GUNZ				*e*Sg	**Sg**	**16 35 40.0**	**-0.4**
GUNZ	**Gunzen**	**0.15**	**327**	Pg	**Pg**	**16 35 37.9**	**0.0**
GUNZ				Sg	**Sg**	**16 35 40.0**	**-0.4**
MULD	**Muldenberg**	**0.17**	**349**	*i* Pg	**Pg**	**16 35 38.3**	**0.0**
MULD				*i* Sg	**Sg**	**16 35 40.6**	**-0.5**
MULD				AML	AML	16 35 40.8	
	comp=E,1μm,0.1s						
MULD	**Muldenberg**	**0.17**	**349**	*e*Pg	**Pg**	**16 35 38.3**	**0.0**
MULD				*e*Sg	**Sg**	**16 35 40.6**	**-0.5**
MULD	**Muldenberg**	**0.17**	**349**	Pg	**Pg**	**16 35 38.3**	**0.0**
MULD				Sg	**Sg**	**16 35 40.6**	**-0.5**
TANN	**Tannenbergstha**	**0.17**	**1**	*i* Pg	**Pg**	**16 35 38.3**	**-0.1**
TANN				*i* Sg	**Sg**	**16 35 40.6**	**-0.5**
TANN				AML	AML	16 35 41.1	
	comp=N,2μm,0.2s						
WERD	**Werda**	**0.23**	**335**	*i* Pg	**Pg**	**16 35 39.2**	**-0.1**
WERD				*i* Sg	**Sg**	**16 35 42.1**	**-0.5**
WERD				AML	AML	16 35 42.2	
	comp=N,289nm,0.1s						
WERD	**Werda**	**0.23**	**335**	*e*Pg	**Pg**	**16 35 39.2**	**-0.1**
WERD				*e*Sg	**Sg**	**16 35 42.0**	**-0.5**
WERD	**Werda**	**0.23**	**335**	Pg	**Pg**	**16 35 39.2**	**-0.1**
WERD				Sg	**Sg**	**16 35 42.0**	**-0.5**
TRIB	**Obertriebel**	**0.23**	**299**	*i* Pg	**Pg**	**16 35 39.3**	**-0.1**
TRIB				*e*Sg	**Sg**	**16 35 42.4**	**-0.3**
TRIB				AML	AML	16 35 42.6	
	comp=N,141nm,0.1s						
TRIB	**Obertriebel**	**0.23**	**299**	*e*Pg	**Pg**	**16 35 39.3**	**-0.1**
TRIB				*e*Sg	**Sg**	**16 35 42.4**	**-0.3**
TRIB	**Obertriebel**	**0.23**	**299**	Pg	**Pg**	**16 35 39.3**	**-0.1**
TRIB				Sg	**Sg**	**16 35 42.4**	**-0.3**
PLN	**Plauen**	**0.31**	**322**	*i* Pg	**Pg**	**16 35 40.7**	**0.0**
PLN	**Plauen**	**0.31**	**322**	*e*Pg	**Pg**	**16 35 40.6**	**-0.1**
PLN	**Plauen**	**0.31**	**322**	Pg	**Pg**	**16 35 40.6**	**-0.1**
MANZ	**Manzenberg**	**0.34**	**221**	*e*Pg	**Pg**	**16 35 41.3**	**0.0**
MANZ	**Manzenberg**	**0.34**	**221**	Pg	**Pg**	**16 35 41.3**	**0.0**
SCHF	**Schoenfels**	**0.44**	**356**	*i* Pg	**Pg**	**16 35 43.0**	**-0.1**
SCHF				*i* Sg	**Sg**	**16 35 48.8**	**-0.1**
SCHF				AML	AML	16 35 49.3	
	comp=E,377nm,0.3s						
SCHF	**Schoenfels**	**0.44**	**356**	*e*Pg	**Pg**	**16 35 43.0**	**-0.1**
SCHF				*e*Sg	**Sg**	**16 35 48.8**	**-0.1**
SCHF	**Schoenfels**	**0.44**	**356**	Pg	**Pg**	**16 35 43.0**	**-0.1**
SCHF				Sg	**Sg**	**16 35 48.8**	**-0.1**
ROTZ	**Rotzenmuhle**	**0.50**	**199**	*e*Pg	**Pg**	**16 35 44.5**	**+0.2**
ROTZ				*e*Sg	**Sg**	**16 35 51.2**	**+0.3**
ROTZ	**Rotzenmuhle**	**0.50**	**199**	Pg	**Pg**	**16 35 44.5**	**+0.2**
ROTZ				Sg	**Sg**	**16 35 51.2**	**+0.3**
MLFH	**Mildenfurth**	**0.60**	**337**	*i* Pg	**Pg**	**16 35 45.9**	**-0.2**
MLFH				*e*Sg	**Sg**	**16 35 53.7**	**-0.4**
MOX	**Moxa**	**0.67**	**307**	*e*Pg	**Pg**	**16 35 47.3**	**-0.2**
MOX				*e*Sg	**Sg**	**16 35 56.0**	**-0.3**
MOX	**Moxa**	**0.67**	**307**	Pg	**Pg**	**16 35 47.3**	**-0.2**
MOX				Sg	**Sg**	**16 35 56.0**	**-0.3**
FBE	**Freiberg**	**0.89**	**40**	*e*Pg	**Pg**	**16 35 51.6**	**0.0**
FBE				*e*Sg	**Sg**	**16 36 03.2**	**0.0**
FBE	**Freiberg**	**0.89**	**40**	Pg	**Pg**	**16 35 51.6**	**0.0**
FBE				Sg	**Sg**	**16 36 03.2**	**0.0**
GRA1	**Grafenberg Arr**	**0.97**	**236**	Pg	**Pg**	**16 35 53.0**	**-0.1**
GRA1				Sg	**Sg**	**16 36 05.4**	**-0.3**
GRF	**Grafenberg Arr**	**0.97**	**236**	*e*Pg	**Pg**	**16 35 53.0**	**-0.1**
GRF				*e*Sg	**Sg**	**16 36 05.4**	**-0.3**
CLL	**Collm**	**1.12**	**18**	*i* P	**Pb**	**16 35 55.6**	**-0.3**
CLL	**Collm**	**1.12**	**18**	*e*Pg	**Pb**	**16 35 55.6**	**-0.3**
CLL				*e*Sg	**Sb**	**16 36 10.2**	**-0.3**
CLL	**Collm**	**1.12**	**18**	Pg	**Pb**	**16 35 55.6**	**-0.3**
CLL				Sg	**Sb**	**16 36 10.2**	**-0.3**
CLL	**Collm**	**1.12**	**18**	*i* Pg	**Pb**	**16 35 55.6**	**-0.3**
CLL				*i*		16 35 57.7	
CLL				*i*		16 35 59.0	
CLL				*i* Sg	**Sg**	**16 36 10.9**	**+0.2**
	comp=Z,44nm,0.4s						
CLL				*i*		16 36 12.0	
WET	**Wettzell**	**1.13**	**166**	*e*Pg	**Pb**	**16 35 56.0**	**0.0**
WET				*e*Sg	**Sg**	**16 36 10.9**	**0.0**
WET	**Wettzell**	**1.13**	**166**	Pg	**Pb**	**16 35 56.0**	**0.0**
WET				Sg	**Sg**	**16 36 10.9**	**0.0**
BRG	**Berggiesshubel**	**1.14**	**56**	PG	**Pb**	**16 35 56.0**	**-0.2**
BRG				SG	**Sg**	**16 36 10.9**	**-0.3**
	comp=Z,67nm,0.3s						
BRG	**Berggiesshubel**	**1.14**	**56**	*e*Pg	**Pb**	**16 35 56.1**	**-0.1**
BRG				*e*Sg	**Sg**	**16 36 11.0**	**-0.3**
BRG	**Berggiesshubel**	**1.14**	**56**	Pg	**Pb**	**16 35 56.1**	**-0.1**
BRG				Sg	**Sg**	**16 36 11.0**	**-0.2**
PRA	**Prague**	**1.28**	**97**	*e*SG	**Sg**	**16 36 16.0**	**+0.2**
	comp=Z,16nm,0.3s						
KHC	**Kasperske Hory**	**1.33**	**146**	*e*PG	**Pn**	**16 35 58.8**	**-0.2**
KHC				*e*SG	**Sg**	**16 36 17.0**	**-0.2**
	comp=Z,17nm,0.3s						
KHC	**Kasperske Hory**	**1.33**	**146**	*e*P	**Pn**	**16 35 58.8**	**-0.2**
KHC	**Kasperske Hory**	**1.33**	**146**	Pg	**Pn**	**16 35 58.8**	**-0.2**
KHC				Sg	**Sg**	**16 36 17.0**	**-0.2**
	comp=Z,17nm,0.3s						
PRU	**Pruhonice**	**1.37**	**100**	*e*PG	**Pb**	**16 35 59.8**	**-0.2**
PRU				*e*SG	**Sg**	**16 36 18.2**	**-0.2**
	comp=Z,26nm,0.3s						
PRU	**Pruhonice**	**1.37**	**100**	*e*P	**Pb**	**16 35 59.8**	**-0.2**
PRU	**Pruhonice**	**1.37**	**100**	Pg	**Pb**	**16 35 59.8**	**-0.2**
GOPC	**GO Pecny, Ondr**	**1.54**	**101**	*e*SG	**Sg**	**16 36 23.2**	**-0.7**
	comp=Z,25nm,0.5s						
GOPC	**GO Pecny, Ondr**	**1.54**	**101**	Sg	**Sg**	**16 36 23.2**	**-0.7**
	comp=Z,25nm,0.5s						
DPC	**Dobruska-Polom**	**2.48**	**86**	*e*SG	**Sb**	**16 36 51.4**	**+1.8**
	comp=Z,7.0nm,0.3s						
DPC	**Dobruska-Polom**	**2.48**	**86**	Sg	**Sb**	**16 36 51.4**	**+1.8**
	comp=Z,7.0nm,0.3s						
MOA	**Molln**	**2.67**	**153**	Pg	**Pg**	**16 36 24.3**	**-1.4**
	comp=Z,0.8nm,0.1s						
MOA				Sg	**Sg**	**16 36 59.2**	**-1.1**
	comp=Z,4.9nm,0.2s						
VRAC	**Vranov**	**2.84**	**108**	*e*Pn	**Pn**	**16 36 19.5**	**-0.2**
CONA	**Conrad Observa**	**3.22**	**135**	Pg	**Pg**	**16 36 34.2**	**-1.9**
	comp=Z,0.4nm,0.1s						
CONA				Sg	**Sg**	**16 37 16.9**	**-0.9**
	comp=Z,8.3nm,0.3s						
KBA	**Koelnbreinsper**	**3.22**	**169**	Sg	**Sg**	**16 37 17.0**	**-0.8**
	comp=Z,5.9nm,0.5s						
MORC	**Moravsky Berou**	**3.31**	**96**	*e*Pn	**Pn**	**16 36 26.2**	**-0.1**
ARSA	**Arzberg**	**3.62**	**145**	Sg	**Sg**	**16 37 28.3**	**-2.2**
	comp=Z,7.2nm,0.5s						
VYHS	**Vyhne**	**4.52**	**110**	*e*SG	**Sb**	**16 37 53.0**	**+4.8**

*CSEM **03** 16:35:38.9, 50˚.25N×12˚.43E, h11km, ML2.6/6*

*CLL **03** 16:35:39.6±0.3, 50˚.3N±0˚.8×1˚2E±˚, h8km±1km, ml2.4*

BGR 03 16:35:38.9±0.3, **50˚.25N**×**12˚.43E**, **h11**km±1km, **ML2.6/6**, **1C**, **Error ellipse: s-maj=2.2km s-min=2.2km az=96.0, Germany**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NKC	**Novy Kostel**	**0.02**	**153**	⇑*i* Pg	**Pg**	**16 35 41.0**	**0.0**
NKC				*i* Sg	**Sg**	**16 35 42.1**	**-0.3**
WERN	**Wernitzgruen**	**0.05**	**314**	*i* Pg	**Pg**	**16 35 41.3**	**+0.1**
WERN				*i* Sg	**Sg**	**16 35 42.8**	**-0.1**
WERN				AML	AML	16 35 42.9	
	comp=E,3μm,0.2s						
WERN	**Wernitzgruen**	**0.05**	**314**	*e*Pg	**Pg**	**16 35 41.3**	**+0.1**
WERN				*e*Sg	**Sg**	**16 35 42.8**	**-0.1**
WERN	**Wernitzgruen**	**0.05**	**314**	Pg	**Pg**	**16 35 41.3**	**+0.1**
WERN				Sg	**Sg**	**16 35 42.8**	**-0.1**
ROHR	**Rohrbach**	**0.08**	**257**	*i* Pg	**Pg**	**16 35 41.5**	**+0.1**
ROHR				*i* Sg	**Sg**	**16 35 43.0**	**-0.2**
ROHR				AML	AML	16 35 43.2	
	comp=E,4μm,0.1s						
ROHR	**Rohrbach**	**0.08**	**257**	*e*Pg	**Pg**	**16 35 41.5**	**+0.1**
ROHR				*e*Sg	**Sg**	**16 35 43.0**	**-0.2**
ROHR	**Rohrbach**	**0.08**	**257**	Pg	**Pg**	**16 35 41.5**	**+0.1**
ROHR				Sg	**Sg**	**16 35 43.0**	**-0.3**
GUNZ	**Gunzen**	**0.13**	**330**	*i* Pg	**Pg**	**16 35 42.4**	**+0.2**
GUNZ				*i* Sg	**Sg**	**16 35 44.4**	**0.0**
GUNZ				AML	AML	16 35 44.6	
	comp=E,905nm,0.4s						
GUNZ	**Gunzen**	**0.13**	**330**	*e*Pg	**Pg**	**16 35 42.3**	**+0.2**
GUNZ				*e*Sg	**Sg**	**16 35 44.4**	**0.0**
GUNZ	**Gunzen**	**0.13**	**330**	Pg	**Pg**	**16 35 42.3**	**+0.2**
GUNZ				Sg	**Sg**	**16 35 44.4**	**0.0**
MULD	**Muldenberg**	**0.16**	**353**	*i* Pg	**Pg**	**16 35 42.8**	**+0.1**
MULD				*i* Sg	**Sg**	**16 35 45.0**	**-0.2**
MULD				AML	AML	16 35 45.2	
	comp=E,1μm,0.1s						
TANN	**Tannenbergstha**	**0.16**	**6**	*i* Pg	**Pg**	**16 35 42.7**	**0.0**
TANN				*i* Sg	**Sg**	**16 35 45.0**	**-0.3**
TANN				AML	AML	16 35 45.6	
	comp=N,2μm,0.2s						
WERD	**Werda**	**0.21**	**338**	*i* Pg	**Pg**	**16 35 43.7**	**+0.2**
WERD				*i* Sg	**Sg**	**16 35 46.5**	**0.0**
WERD				AML	AML	16 35 46.6	
	comp=N,235nm,0.1s						
TRIB	**Obertriebel**	**0.21**	**298**	*i* Pg	**Pg**	**16 35 43.7**	**+0.2**
TRIB				*e*Sg	**Sg**	**16 35 46.9**	**+0.3**
TRIB				AML	AML	16 35 47.0	
	comp=N,154nm,0.2s						
TRIB	**Obertriebel**	**0.21**	**298**	*e*Pg	**Pg**	**16 35 43.7**	**+0.2**
TRIB				*e*Sg	**Sg**	**16 35 46.8**	**+0.1**
TRIB	**Obertriebel**	**0.21**	**298**	Pg	**Pg**	**16 35 43.7**	**+0.2**
TRIB				Sg	**Sg**	**16 35 46.8**	**+0.2**
PLN	**Plauen**	**0.29**	**323**	*i* Pg	**Pg**	**16 35 45.2**	**+0.3**
PLN				*i* Sg	**Sg**	**16 35 49.1**	**+0.2**
PLN				AML	AML	16 35 49.3	
	comp=E,292nm,0.2s						
PLN	**Plauen**	**0.29**	**323**	*i* Sg	**Pg**	**16 35 44.7**	**-0.2**
PLN	**Plauen**	**0.29**	**323**	Sg	**Pg**	**16 35 44.7**	**-0.2**
PLN	**Plauen**	**0.29**	**323**	*e*Sg	**Pg**	**16 35 44.7**	**-0.2**
MANZ	**Manzenberg**	**0.34**	**218**	*e*Sg	**Sg**	**16 35 50.4**	**+0.2**
MANZ	**Manzenberg**	**0.34**	**218**	Sg	**Sg**	**16 35 50.4**	**+0.1**
SCHF	**Schoenfels**	**0.43**	**357**	*i* Pg	**Pg**	**16 35 47.5**	**+0.1**
SCHF				*i* Sg	**Sg**	**16 35 53.2**	**+0.2**
SCHF				AML	AML	16 35 53.4	
	comp=E,400nm,0.3s						
SCHF	**Schoenfels**	**0.43**	**357**	*e*Pg	**Pg**	**16 35 47.4**	**+0.1**
SCHF				*e*Sg	**Sg**	**16 35 53.2**	**+0.2**
SCHF	**Schoenfels**	**0.43**	**357**	Pg	**Pg**	**16 35 47.4**	**+0.1**
SCHF				Sg	**Sg**	**16 35 53.2**	**+0.2**
ROTZ	**Rotzenmuhle**	**0.51**	**197**	*e*Sg	**Sg**	**16 35 55.3**	**-0.2**
ROTZ	**Rotzenmuhle**	**0.51**	**197**	Sg	**Sg**	**16 35 55.3**	**-0.2**
MOX	**Moxa**	**0.65**	**307**	*e*Pg	**Pg**	**16 35 51.8**	**+0.2**
MOX				*e*Sg	**Sg**	**16 35 59.8**	**-0.5**
MOX	**Moxa**	**0.65**	**307**	Pg	**Pg**	**16 35 51.8**	**+0.2**
MOX				Sg	**Sg**	**16 35 59.8**	**-0.4**
GRA1	**Grafenberg Arr**	**0.96**	**235**	Pg	**Pb**	**16 35 57.8**	**+0.2**
GRF	**Grafenberg Arr**	**0.96**	**235**	*e*Pg	**Pb**	**16 35 57.8**	**+0.2**
CLL	**Collm**	**1.12**	**19**	*e*Pg	**Pb**	**16 36 00.1**	**-0.2**
CLL				*e*Sg	**Sb**	**16 36 14.6**	**-0.2**
CLL	**Collm**	**1.12**	**19**	Pg	**Pb**	**16 36 00.1**	**-0.1**
CLL				Sg	**Sb**	**16 36 14.6**	**-0.1**
CLL	**Collm**	**1.12**	**19**	*i* Pg	**Pb**	**16 36 00.1**	**-0.1**
CLL				*i*		16 36 02.1	
CLL				*e*		16 36 04.0	
CLL				*i* Sg	**Sb**	**16 36 14.6**	**-0.1**
	comp=Z,48nm,0.6s						
CLL				*i*		16 36 16.4	
BRG	**Berggiesshubel**	**1.15**	**57**	PG	**Pb**	**16 36 00.4**	**-0.3**
BRG				SG	**Sb**	**16 36 15.2**	**-0.3**
	comp=Z,64nm,0.4s						
BRG	**Berggiesshubel**	**1.15**	**57**	*e*Pg	**Pb**	**16 36 00.6**	**-0.1**
BRG				*e*Sg	**Sb**	**16 36 15.4**	**-0.2**
BRG	**Berggiesshubel**	**1.15**	**57**	Pg	**Pb**	**16 36 00.6**	**-0.1**
BRG				Sg	**Sb**	**16 36 15.4**	**-0.2**
WET	**Wettzell**	**1.15**	**165**	*e*Sg	**Sg**	**16 36 15.7**	**-0.1**
WET	**Wettzell**	**1.15**	**165**	Sg	**Sb**	**16 36 15.7**	**+0.1**

IDC 03 16:38:25.6±4.8, **24˚.79S**×**178˚.18W**, **h0**km, **mb3.8**/3, **mb1 4.0**/3, **mb1mx3.6**/30, **mbtmpg3.8**/3, **MS4.5**/1, **Ms1 4.5**/1, **ms1mx3.3**/35, **Error ellipse: s-maj=254.6km s-min=59.1km az=160.0, South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CTA	**Charters Tower**	**33.14**	**271**	P	P	16 45 05.2	+1.4
	6.7nm,1.0s,baz=102,slow=9.6,SNR=6.6						
CTA				LR	LR	16 56 32.7	
	comp=Z,754nm,19.4s,baz=132,slow=33						
ASAR	**Alice Springs**	**43.53**	**261**	P	P	16 46 31.2	-0.1
	0.5nm,0.8s,baz=94,slow=7.4,SNR=16						
WRA	**Warramunga Arr**	**44.01**	**266**	P	P	16 46 33.7	-1.4
	0.3nm,0.3s,baz=104,slow=8.6,SNR=7.6						
BRTR	**Keskin Array B**	**149.44**	**307**	PKPbc	PKPbc	16 58 16.6	-0.4
	0.5nm,0.6s,baz=46,slow=3.6,SNR=3.1						

*ISCJB **03** 16:38:30.7±0.4, 50˚.23N±0˚.02×12˚.52E±0˚.03, h13km±4km, Error ellipse: s-maj=3.3km s-min=2.9km az=156.6*

*BGR **03** 16:38:31.9±0.2, 50˚.25N×12˚.45E, h11km±1km, ML2.4/6, Error ellipse: s-maj=2.2km s-min=1.1km az=102.0*

*CSEM **03** 16:38:31.5±0.1, 50˚.24N×12˚.50E, h10km, ML3.1/6, Error ellipse: s-maj=1.7km s-min=1.3km az=30.0*

*IASPEI **03** 16:38:31.7±0.8, 50˚.25N±0˚.02×12˚.46E±0˚.02, h11km±3km, Error ellipse: s-maj=3.4km s-min=2.5km az=101.2, GT5 selection from ISC bulletin GT5 identified by Bond˜ı r and McLaughlin (2009) selection criteria Bond˜ı r and McLaughlin, A new ground truth data set for seismic studies, Seism. Res. Let., 80, 465-472, 2009*

*CLL **03** 16:38:32.6±0.3, 50˚.3N±0˚.8×1˚2E±˚, h8km±1km, ml2.4*

*PRU **03** 16:38:32.1, 50˚.25N×12˚.50E, h10km, West Bohemia Swarm*

ISC 03 16:38:31.8±0.8, **50˚.24N**±0˚.02×**12˚.47E**±0˚.02, **h11**km±3km, **n60**, σ**0**s**57**/114, **5C**, **Germany**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NKC	**Novy Kostel**	**0.02**	**247**	⇑*i* PG	**Pg**	**16 38 34.0**	**+0.2**
NKC				*e*SG	**Sg**	**16 38 35.0**	**-0.2**
	comp=Z,819nm,0.2s						
NKC	**Novy Kostel**	**0.02**	**247**	⇑*i* Pg	**Pg**	**16 38 34.0**	**+0.2**
NKC				*i* Sg	**Sg**	**16 38 35.1**	**-0.2**
NKC	**Novy Kostel**	**0.02**	**247**	*e*Pg	**Pg**	**16 38 34.0**	**+0.2**
NKC				*e*Sg	**Sg**	**16 38 35.1**	**-0.2**
NKC	**Novy Kostel**	**0.02**	**247**	Pg	**Pg**	**16 38 34.0**	**+0.2**
NKC				Sg	**Sg**	**16 38 35.1**	**-0.2**
WERN	**Wernitzgruen**	**0.08**	**307**	*i* Pg	**Pg**	**16 38 34.4**	**0.0**
WERN				*i* Sg	**Sg**	**16 38 35.8**	**-0.5**
WERN				AML	AML	16 38 35.9	
	comp=E,4μm,0.2s						
WERN	**Wernitzgruen**	**0.08**	**307**	*e*Pg	**Pg**	**16 38 34.4**	**0.0**
WERN				*e*Sg	**Sg**	**16 38 35.7**	**-0.5**
WERN	**Wernitzgruen**	**0.08**	**307**	Pg	**Pg**	**16 38 34.4**	**0.0**
WERN				Sg	**Sg**	**16 38 35.7**	**-0.5**
ROHR	**Rohrbach**	**0.10**	**267**	*i* Pg	**Pg**	**16 38 34.5**	**-0.1**
ROHR				*i* Sg	**Sg**	**16 38 36.1**	**-0.6**
ROHR				AML	AML	16 38 36.2	
	comp=E,4μm,0.1s						
ROHR	**Rohrbach**	**0.10**	**267**	*e*Pg	**Pg**	**16 38 34.5**	**-0.1**
ROHR				*e*Sg	**Sg**	**16 38 36.1**	**-0.6**
ROHR	**Rohrbach**	**0.10**	**267**	Pg	**Pg**	**16 38 34.5**	**-0.1**
ROHR				Sg	**Sg**	**16 38 36.1**	**-0.6**
GUNZ	**Gunzen**	**0.15**	**324**	*i* Pg	**Pg**	**16 38 35.4**	**+0.1**
GUNZ				*i* Sg	**Sg**	**16 38 37.4**	**-0.5**
GUNZ				AML	AML	16 38 37.6	
	comp=E,718nm,0.4s						
GUNZ	**Gunzen**	**0.15**	**324**	*e*Pg	**Pg**	**16 38 35.4**	**+0.1**
GUNZ				*e*Sg	**Sg**	**16 38 37.4**	**-0.5**
GUNZ	**Gunzen**	**0.15**	**324**	Pg	**Pg**	**16 38 35.4**	**+0.1**
GUNZ				Sg	**Sg**	**16 38 37.4**	**-0.5**
TANN	**Tannenbergstha**	**0.17**	**357**	*i* Pg	**Pg**	**16 38 35.7**	**0.0**
TANN				*i* Sg	**Sg**	**16 38 38.0**	**-0.4**
TANN				AML	AML	16 38 38.6	
	comp=N,2μm,0.2s						
MULD	**Muldenberg**	**0.18**	**345**	*i* Pg	**Pg**	**16 38 35.8**	**+0.1**
MULD				*i* Sg	**Sg**	**16 38 38.0**	**-0.4**
MULD				AML	AML	16 38 38.2	
	comp=E,973nm,0.1s						
MULD	**Muldenberg**	**0.18**	**345**	*e*Pg	**Pg**	**16 38 35.8**	**+0.1**
MULD				*e*Sg	**Sg**	**16 38 38.1**	**-0.4**
MULD	**Muldenberg**	**0.18**	**345**	Pg	**Pg**	**16 38 35.8**	**+0.1**
MULD				Sg	**Sg**	**16 38 38.1**	**-0.4**
WERD	**Werda**	**0.23**	**333**	*i* Pg	**Pg**	**16 38 36.7**	**0.0**
WERD				*i* Sg	**Sg**	**16 38 39.5**	**-0.5**
WERD				AML	AML	16 38 39.6	
	comp=N,250nm,0.1s						
WERD	**Werda**	**0.23**	**333**	*e*Pg	**Pg**	**16 38 36.7**	**0.0**
WERD				*e*Sg	**Sg**	**16 38 39.6**	**-0.5**
WERD	**Werda**	**0.23**	**333**	Pg	**Pg**	**16 38 36.7**	**0.0**
WERD				Sg	**Sg**	**16 38 39.6**	**-0.5**
TRIB	**Obertriebel**	**0.24**	**297**	*i* Pg	**Pg**	**16 38 36.7**	**-0.1**
TRIB				*e*Sg	**Sg**	**16 38 39.9**	**-0.5**
TRIB				AML	AML	16 38 40.1	
	comp=N,138nm,0.2s						
TRIB	**Obertriebel**	**0.24**	**297**	*e*Pg	**Pg**	**16 38 36.7**	**-0.1**
TRIB				*e*Sg	**Sg**	**16 38 39.8**	**-0.5**
TRIB	**Obertriebel**	**0.24**	**297**	Pg	**Pg**	**16 38 36.7**	**-0.1**
TRIB				Sg	**Sg**	**16 38 39.8**	**-0.5**
PLN	**Plauen**	**0.32**	**321**	*i* Pg	**Pg**	**16 38 38.2**	**0.0**
PLN				*i* Sg	**Sg**	**16 38 42.1**	**-0.3**
PLN				AML	AML	16 38 42.3	
	comp=E,220nm,0.2s						
PLN	**Plauen**	**0.32**	**321**	*e*Pg	**Pg**	**16 38 38.1**	**0.0**
PLN				*e*Sg	**Sg**	**16 38 42.2**	**-0.3**
PLN	**Plauen**	**0.32**	**321**	Pg	**Pg**	**16 38 38.1**	**-0.1**
PLN				Sg	**Sg**	**16 38 42.2**	**-0.3**
SCHF	**Schoenfels**	**0.44**	**354**	*i* Pg	**Pg**	**16 38 40.5**	**0.0**
SCHF				*i* Sg	**Sg**	**16 38 46.2**	**-0.1**
SCHF				AML	AML	16 38 46.7	
	comp=E,309nm,0.3s						
SCHF	**Schoenfels**	**0.44**	**354**	*e*Pg	**Pg**	**16 38 40.5**	**0.0**
SCHF				*e*Sg	**Sg**	**16 38 46.2**	**-0.1**
SCHF	**Schoenfels**	**0.44**	**354**	Pg	**Pg**	**16 38 40.5**	**0.0**
SCHF				Sg	**Sg**	**16 38 46.2**	**-0.1**
ROTZ	**Rotzenmuhle**	**0.50**	**200**	*e*Pg	**Pg**	**16 38 42.0**	**+0.4**
ROTZ				*e*Sg	**Sg**	**16 38 48.6**	**+0.3**
ROTZ	**Rotzenmuhle**	**0.50**	**200**	Pg	**Pg**	**16 38 42.0**	**+0.4**
ROTZ				Sg	**Sg**	**16 38 48.6**	**+0.3**
MLFH	**Mildenfurth**	**0.60**	**336**	*i* Pg	**Pg**	**16 38 43.5**	**0.0**
MLFH				*i*

*ISCJB **03** 16:53:16.8±0.8,50°.22N±0°.03×12°.56E±0°.05,h13km±7km, Error ellipse: s-maj=5.9km s-min=3.8km az=139.6*
*CSEM **03** 16:53:18.6±0.2,50°.21N×12°.59E,h5km,ML2.7/5, Error ellipse: s-maj=7.1km s-min=3.2km az=11.0*
*PRU **03** 16:53:18.0,50°.26N×12°.49E,h10km, West Bohemia Swarm*
*CLL **03** 16:53:19.0±0.3,50°.3N±0°.8×1°.2E±°,h8km±1km,ml2.1*
ISC 03 16:53:18.3±0.9,**50°.24N**±0°.03×**12°.48E**±0°.04,**h13**km±5km, **n25**,σ1§**10**/**44**,**1C**,**Germany**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
NKC	**Novy Kostel**	**0.02**	**266**	*e*Pg		**Pg**	**16 53 20.8**	**+0.2**
NKC				*e*Sg		**Sg**	**16 53 21.6**	**-0.6**
	comp=Z,237nm,0.2s							
NKC	**Novy Kostel**	**0.02**	**266**	⇑*i* Pg		**Pg**	**16 53 20.5**	**-0.1**
NKC				*i* Sg		**Sg**	**16 53 21.7**	**-0.6**
NKC	**Novy Kostel**	**0.02**	**266**	Pg		**Pg**	**16 53 20.8**	**+0.2**
NKC				Sg		**Sg**	**16 53 21.6**	**-0.6**
	237nm,0.2s							
WERN	**Wernitzgruen**	**0.09**	**308**	*i* Pg		**Pg**	**16 53 20.9**	**-0.3**
WERN				*i* Sg		**Sg**	**16 53 22.4**	**-0.8**
WERN				AML		AML	16 53 22.5	
	comp=E,2μm,0.2s							
ROHR	**Rohrbach**	**0.11**	**270**	*i* Pg		**Pg**	**16 53 21.0**	**-0.3**
ROHR				*i* Sg		**Sg**	**16 53 22.6**	**-0.9**
ROHR				AML		AML	16 53 22.7	
	comp=E,2μm,0.1s							
GUNZ	**Gunzen**	**0.16**	**323**	*i* Pg		**Pg**	**16 53 21.9**	**-0.2**
GUNZ				*i* Sg		**Sg**	**16 53 24.0**	**-0.8**
GUNZ				AML		AML	16 53 24.6	
	comp=E,268nm,0.3s							
TANN	**Tannenbergstha**	**0.18**	**356**	*i* Pg		**Pg**	**16 53 22.2**	**-0.2**
TANN				*i* Sg		**Sg**	**16 53 24.6**	**-0.8**
TANN				AML		AML	16 53 25.1	
	comp=N,720nm,0.2s							
MULD	**Muldenberg**	**0.18**	**344**	*i* Pg		**Pg**	**16 53 22.3**	**-0.2**
MULD				*i* Sg		**Sg**	**16 53 24.6**	**-0.8**
MULD				AML		AML	16 53 24.8	
	comp=E,490nm,0.1s							
WERD	**Werda**	**0.24**	**332**	*i* Pg		**Pg**	**16 53 23.2**	**-0.3**
WERD				*i* Sg		**Sg**	**16 53 26.1**	**-0.9**
WERD				AML		AML	16 53 26.2	
	comp=N,126nm,0.1s							
TRIB	**Obertriebel**	**0.25**	**298**	*i* Pg		**Pg**	**16 53 23.2**	**-0.4**
TRIB				*i* Sg		**Sg**	**16 53 26.4**	**-0.8**
TRIB				AML		AML	16 53 26.6	
	comp=N,38nm,0.2s							
PLN	**Plauen**	**0.33**	**321**	*i* Pg		**Pg**	**16 53 24.7**	**-0.3**
PLN				*i* Sg		**Sg**	**16 53 28.8**	**-0.6**
PLN				AML		AML	16 53 28.8	
	comp=E,123nm,0.1s							
SCHF	**Schoenfels**	**0.45**	**354**	*i* Pg		**Pg**	**16 53 26.9**	**-0.2**
SCHF				*i* Sg		**Sg**	**16 53 32.7**	**-0.4**
SCHF				AML		AML	16 53 33.0	
	comp=E,142nm,0.2s							
MLFH	**Mildenfurth**	**0.61**	**335**	*i* Pg		**Pg**	**16 53 29.9**	**-0.4**
MLFH				*i* Sg		**Sg**	**16 53 37.6**	**-0.7**
CLL	**Collm**	**1.12**	**17**	*i* Pg		**Pg**	**16 53 39.4**	**-0.6**
CLL				*i*			16 53 41.7	
CLL				*i*			16 53 43.1	
CLL				*i* Sg		**Sb**	**16 53 54.7**	**+0.5**
	comp=Z,14nm,0.6s							
BRG	**Berggiesshubel**	**1.13**	**55**	PG		**Pg**	**16 53 39.9**	**-0.2**
BRG				SG		**Sb**	**16 53 54.8**	**+0.4**
	comp=Z,38nm,0.2s							
KHC	**Kasperske Hory**	**1.31**	**147**	*e*PG		**Pn**	**16 53 42.6**	**+0.1**
KHC				*e*SG		**Sb**	**16 53 59.6**	**-0.1**
	comp=Z,10nm,0.2s							
KHC	**Kasperske Hory**	**1.31**	**147**	Pg		**Pn**	**16 53 42.6**	**+0.1**
KHC				Sg		**Sb**	**16 53 59.6**	**-0.1**
	comp=Z,10nm,0.2s							
PRU	**Pruhonice**	**1.35**	**100**	*e*PG		**Pn**	**16 53 43.4**	**+0.5**
PRU				*e*SG		**Sb**	**16 54 01.1**	**+0.5**
	comp=Z,7.5nm,0.2s							
PRU	**Pruhonice**	**1.35**	**100**	Pg		**Pn**	**16 53 43.4**	**+0.5**
PRU				Sg		**Sb**	**16 54 01.1**	**+0.5**
	comp=Z,7.5nm,0.2s							
UPC	**Upice**	**2.28**	**82**	*e*SG		**Sg**	**16 54 29.8**	**-1.6**
	comp=Z,7.5nm,0.4s							
UPC	**Upice**	**2.28**	**82**	Sg		**Sg**	**16 54 29.8**	**-1.6**
	comp=Z,7.5nm,0.4s							
DPC	**Dobruska-Polom**	**2.47**	**86**	*e*SG		**Sb**	**16 54 35.3**	**+2.5**
	comp=Z,2.6nm,0.2s							
DPC	**Dobruska-Polom**	**2.47**	**86**	Sg		**Sb**	**16 54 35.3**	**+2.5**
	comp=Z,2.6nm,0.2s							
VRAC	**Vranov**	**2.82**	**108**	*e*Sg		**Sb**	**16 54 46.5**	**+3.5**
MORC	**Moravsky Berou**	**3.30**	**96**	*e*Sg		**Sg**	**16 55 01.1**	**-3.0**

*CSEM **03** 16:54:05.7,50°.26N×12°.45E,h10km*
*PRU **03** 16:54:05.7,50°.26N×12°.45E,h10km, West Bohemia Swarm*
CLL 03 16:54:06.4±0.3,**50°.3N**±0°.8×**1°.2E**±°,**h8**km±1km,**ml2.1**,**1C**, **Germany**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
NKC	**Novy Kostel**	**0.02**	**178**	*e*PG		Pg	16 54 07.8	-0.1
NKC				*e*SG		Sg	16 54 09.0	0.0
	comp=Z,274nm,0.2s							
NKC	**Novy Kostel**	**0.02**	**178**	⇑*i* Pg		Pg	16 54 07.8	-0.1
NKC				*i* Sg		Sg	16 54 09.0	0.0
NKC	**Novy Kostel**	**0.02**	**178**	Pg		Pg	16 54 07.8	-0.1
NKC				Sg		Sg	16 54 09.0	0.0
	274nm,0.2s							
WERN	**Wernitzgruen**	**0.06**	**309**	*i* Pg		Pg	16 54 08.2	-0.1
WERN				*i* Sg		Sg	16 54 09.7	0.0
WERN				AML		AML	16 54 09.8	
	comp=E,1μm,0.2s							
ROHR	**Rohrbach**	**0.09**	**259**	*i* Pg		Pg	16 54 08.4	-0.2
ROHR				*i* Sg		Sg	16 54 10.0	-0.2
ROHR				AML		AML	16 54 10.1	
	comp=E,2μm,0.1s							
GUNZ	**Gunzen**	**0.14**	**327**	*i* Pg		Pg	16 54 09.3	-0.1
GUNZ				*i* Sg		Sg	16 54 11.3	-0.1
GUNZ				AML		AML	16 54 11.5	
	comp=E,343nm,0.4s							
MULD	**Muldenberg**	**0.16**	**350**	*i* Pg		Pg	16 54 09.7	-0.2
MULD				*i* Sg		Sg	16 54 12.0	-0.3
MULD				AML		AML	16 54 12.2	
	comp=E,434nm,0.1s							
TANN	**Tannenbergstha**	**0.16**	**3**	*i* Pg		Pg	16 54 09.6	-0.3
TANN				*i* Sg		Sg	16 54 12.0	-0.3
TANN				AML		AML	16 54 12.5	
	comp=N,555nm,0.2s							
TANN	**Tannenbergstha**	**0.16**	**3**	*i* Pg		Pg	16 54 12.8	+2.9
WERD	**Werda**	**0.22**	**335**	*i* Pg		Pg	16 54 10.6	-0.2
WERD				*i* Sg		Sg	16 54 13.4	-0.3
WERD				AML		AML	16 54 13.5	
	comp=N,117nm,0.1s							
WERD	**Werda**	**0.22**	**335**	*i* Pg		Pg	16 54 13.8	+3.0
TRIB	**Obertriebel**	**0.22**	**297**	*i* Pg		Pg	16 54 10.6	-0.3
TRIB				*e*Sg		Sg	16 54 13.8	-0.2
TRIB				AML		AML	16 54 14.0	
	comp=N,75nm,0.1s							
TRIB	**Obertriebel**	**0.22**	**297**	*i* Pg		Pg	16 54 13.8	+2.9
PLN	**Plauen**	**0.30**	**322**	*i* Pg		Pg	16 54 12.1	-0.3
PLN				*e*Sg		Sg	16 54 16.1	-0.2
PLN				AML		AML	16 54 16.2	
	comp=E,113nm,0.1s							
SCHF	**Schoenfels**	**0.43**	**356**	*i* Pg		Pg	16 54 14.3	-0.4
SCHF				*i* Sg		Sg	16 54 20.1	-0.2
SCHF				AML		AML	16 54 20.3	
	comp=E,143nm,0.2s							
MLFH	**Mildenfurth**	**0.59**	**337**	*i* Pg		Pg	16 54 17.3	-0.5
MLFH				*e*Sg		Sg	16 54 25.0	-0.5
CLL	**Collm**	**1.11**	**18**	*i* Pg		Pg	16 54 26.8	-1.0
CLL				*i* Sg		Sg	16 54 42.0	-0.3
BRG	**Berggiesshubel**	**1.14**	**56**	PG		Pg	16 54 27.7	-0.5
BRG				SG		Sg	16 54 42.0	-1.0
	comp=E,44nm,0.2s							
KHC	**Kasperske Hory**	**1.34**	**146**	*e*SG		Sb	16 54 48.2	-0.9
	comp=E,7.4nm,0.2s							
KHC	**Kasperske Hory**	**1.34**	**146**	Sg		Sb	16 54 48.2	-0.9
	comp=E,7.4nm,0.2s							
PRU	**Pruhonice**	**1.37**	**100**	*e*PG		Pn	16 54 31.1	-0.7
PRU				*e*SG		Sb	16 54 49.4	-0.6
	comp=E,6.7nm,0.2s							
PRU	**Pruhonice**	**1.37**	**100**	Pg		Pn	16 54 31.1	-0.7
PRU				Sg		Sb	16 54 49.4	-0.6
	comp=E,6.7nm,0.2s							
GOPC	**GO Pecny, Ondr**	**1.54**	**102**	*e*SG		Sn	16 54 54.4	0.0
GOPC	**GO Pecny, Ondr**	**1.54**	**102**	Sg		Sn	16 54 54.4	0.0
MOA	**Molln**	**2.69**	**153**	*e*Pn		Pn	16 54 46.5	-3.4
	comp=E,0.4nm,0.1s							
MOA				Sg		Sg	16 55 32.0	-0.6
	comp=E,5.1nm,0.2s							
KBA	**Koelnbreinsper**	**3.23**	**169**	*e*Sg		Sg	16 55 50.6	+0.5
	comp=E,5.9nm,0.4s							
CONA	**Conrad Observa**	**3.23**	**135**	*i* Pn		Pn	16 54 53.4	-4.0
	comp=E,0.4nm,0.2s							
CONA				*e*Sg		Sg	16 55 48.1	-2.0
	comp=E,5.9nm,0.3s							
ARSA	**Arzberg**	**3.63**	**145**	Sg		Sg	16 55 59.5	-3.4
	comp=E,6.5nm,0.6s							
VYHS	**Vyhne**	**4.53**	**110**	*e*SG		Sb	16 56 23.3	+2.5

*CSEM **03** 16:54:08.4,50°.27N×12°.48E,h10km*
*PRU **03** 16:54:08.4,50°.27N×12°.48E,h10km, West Bohemia Swarm*
CLL 03 16:54:09.7±0.3,**50°.3N**±0°.8×**1°.2E**±°,**h8**km±1km,**ml2.3**, **Germany**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
NKC	**Novy Kostel**	**0.02**	**171**	*e*SG		Sg	16 54 12.2	-0.1
	comp=Z,713nm,0.2s							
NKC	**Novy Kostel**	**0.02**	**171**	*e*Pg		Pg	16 54 11.2	0.0
NKC				*i* Sg		Sg	16 54 12.2	-0.1
NKC	**Novy Kostel**	**0.02**	**171**	Sg		Sg	16 54 12.2	-0.1
	713nm,0.2s							
WERN	**Wernitzgruen**	**0.06**	**310**	*i* Pg		Pg	16 54 11.4	-0.1
WERN				*i* Sg		Sg	16 54 12.9	0.0
WERN				AML		AML	16 54 13.1	
	comp=E,3μm,0.2s							
ROHR	**Rohrbach**	**0.08**	**258**	*i* Pg		Pg	16 54 11.7	-0.2
ROHR				*i* Sg		Sg	16 54 13.2	-0.3
ROHR				AML		AML	16 54 13.3	
	comp=E,4μm,0.1s							
GUNZ	**Gunzen**	**0.13**	**327**	*i* Pg		Pg	16 54 12.5	-0.2
GUNZ				*i* Sg		Sg	16 54 14.6	-0.1
GUNZ				AML		AML	16 54 14.8	
	comp=E,815nm,0.3s							
MULD	**Muldenberg**	**0.16**	**351**	*e*Pg		Pg	16 54 12.9	-0.3
MULD				*i* Sg		Sg	16 54 15.2	-0.3
MULD				AML		AML	16 54 15.4	
	comp=E,957nm,0.2s							
TANN	**Tannenbergstha**	**0.16**	**4**	*i* Sg		Sg	16 54 15.2	-0.4
TANN				AML		AML	16 54 15.5	
	comp=N,1μm,0.2s							
WERD	**Werda**	**0.21**	**336**	*i* Sg		Sg	16 54 16.7	-0.4
WERD				AML		AML	16 54 16.8	
	comp=N,168nm,0.1s							
TRIB	**Obertriebel**	**0.22**	**297**	*e*Sg		Sg	16 54 16.9	-0.3
TRIB				AML		AML	16 54 17.4	
	comp=N,78nm,0.1s							
PLN	**Plauen**	**0.30**	**322**	*i* Pg		Pg	16 54 15.3	-0.3
PLN				*i* Sg		Sg	16 54 19.3	-0.3
PLN				AML		AML	16 54 19.4	
	comp=E,210nm,0.2s							
SCHF	**Schoenfels**	**0.43**	**357**	*i* Pg		Pg	16 54 17.5	-0.5
SCHF				*i* Sg		Sg	16 54 23.4	-0.3
SCHF				AML		AML	16 54 23.5	
	comp=E,321nm,0.2s							
MLFH	**Mildenfurth**	**0.59**	**337**	*i* Pg		Pg	16 54 20.6	-0.5
MLFH				*i* Sg		Sg	16 54 28.4	-0.3
CLL	**Collm**	**1.11**	**18**	*i* Pg		Pg	16 54 30.0	-1.1
CLL				*i*			16 54 32.3	
CLL				*i*			16 54 33.8	
CLL				*i* Sg		Sg	16 54 45.4	-0.2
	comp=Z,33nm,0.3s							
BRG	**Berggiesshubel**	**1.14**	**56**	PG		Pg	16 54 30.5	-1.1
BRG				SG		Sg	16 54 45.3	-1.1
	comp=Z,98nm,0.2s							
KHC	**Kasperske Hory**	**1.34**	**146**	*e*SG		Sb	16 54 50.8	-1.6
	comp=Z,30nm,0.2s							
KHC	**Kasperske Hory**	**1.34**	**146**	Sg		Sb	16 54 50.8	-1.6
	comp=Z,30nm,0.2s							
PRU	**Pruhonice**	**1.38**	**100**	*e*SG		Sb	16 54 52.4	-1.0
	comp=Z,27nm,0.2s							
PRU	**Pruhonice**	**1.38**	**100**	Sg		Sb	16 54 52.4	-1.0
	comp=Z,27nm,0.2s							
GOPC	**GO Pecny, Ondr**	**1.55**	**102**	*e*SG		Sn	16 54 57.6	-0.2
	comp=Z,15nm,0.3s							
GOPC	**GO Pecny, Ondr**	**1.55**	**102**	Sg		Sn	16 54 57.6	-0.2
	comp=Z,15nm,0.3s							
UPC	**Upice**	**2.30**	**82**	*e*SG		Sb	16 55 20.6	+0.7
UPC	**Upice**	**2.30**	**82**	Sg		Sb	16 55 20.6	+0.7
DPC	**Dobruska-Polom**	**2.49**	**86**	*e*SG		Sb	16 55 25.5	+0.1
	comp=Z,7.4nm,0.3s							
DPC	**Dobruska-Polom**	**2.49**	**86**	Sg		Sb	16 55 25.5	+0.1
	comp=Z,7.4nm,0.3s							

*JMA **03** 17:03:11.5±0.2,37°.06N×142°.85E,h17km,M3.4*
*IDC **03** 17:03:31.0±2.4,34°.25N×138°.87E,h0km,mb3.7/3, mb1 3.9/3,mb1mx3.5/42,mbtmp3.7/3,ML2.5/1, Error ellipse: s-maj=102.8km s-min=23.1km az=75.0*
ISC 03 17:03:10.6±3.7,**37°.1N**±0°.1×**142°.8E**±0°.1,**h12**km±26km,**n11**, σ1§**33**/**18**,**mb3.7**/**3**,**Off east coast of Honshu**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
JFK	**Kawauchi**	**1.58**	**279**	P		**Pb**	**17 03 39.3**	**-0.5**
JFK				*e*S		**Sn**	**17 03 59.5**	**+0.6**
ONAJ	**Iwakimizuishiy**	**1.63**	**270**	P		**Pn**	**17 03 39.4**	**+0.3**
ONAJ				*e*S		**Sn**	**17 04 00.6**	**+0.5**
JMM	**Marumori**	**1.79**	**295**	P		**Pn**	**17 03 42.3**	**+1.1**
JMM				*e*S		**Sb**	**17 04 05.3**	**-0.3**
JHO	**Hitachi**	**1.89**	**255**	P		**Pn**	**17 03 43.6**	**+0.9**
JHO				*e*S		**Sn**	**17 04 06.9**	**+0.5**
JFT	**Otama**	**2.03**	**282**	P		**Pb**	**17 03 46.3**	**-1.1**
JFT				*e*S		**Sb**	**17 04 11.8**	**-0.9**
JOU	**Okura**	**2.12**	**306**	P		**Pb**	**17 03 48.3**	**-0.7**
JOU				*e*S		**Sb**	**17 04 15.7**	**+0.4**
MJAR	**Matsushiro Arr**	**3.76**	**262**	Pn		**Pn**	**17 04 10.9**	**+2.5**
	1.3nm,0.3s,baz=159,slow=8.8,SNR=11							
MJAR				Sn		**Sn**	**17 04 50.8**	**-1.7**
	0.8nm,0.3s,baz=355,slow=11,SNR=5.2							
MAT	**Matsushiro**	**3.76**	**262**	P		**Pn**	**17 04 11.2**	**+2.8**
MAT				*e*S		**Sn**	**17 04 51.9**	**-0.7**
SONM	**Songino Array**	**28.68**	**304**	P		P	17 09 21.3	+14
	1.1nm,0.8s,baz=92,slow=9.2,SNR=5.8							
WRA	**Warramunga Arr**	**57.32**	**190**	P		**P**	**17 12 57.5**	**-0.9**
	0.9nm,0.8s,baz=10,slow=7.7,SNR=5.5							
ASAR	**Alice Springs**	**61.05**	**189**	P		**P**	**17 13 23.9**	**-0.3**
	0.4nm,0.6s,baz=9.9,slow=8.1,SNR=6.6							

*NEIC **03** 17:09:19.8±1.2,33°.59S×179°.97W,h99km±10km,mb4.8/3, Error ellipse: s-maj=19.0km s-min=13.1km az=110.0*
*IDC **03** 17:09:28.9±6.0,34°.31S×179°.58E,h168km±47km,mb4.4/3, mb1 4.5/4,mb1mx3.7/27,mbtmp4.8/4, Error ellipse: s-maj=57.1km s-min=28.1km az=42.0*
*ISCJB **03** 17:09:31.7±0.9,34°.64S±0°.05×179°.3E±0°.1,h200km, mb4.3/6, Error ellipse: s-maj=14.0km s-min=6.5km az=172.8*
ISC 03 17:09:30.1±1.3,**34°.53S**±0°.08×**179°.5E**±0°.1,**h200**km,**n102**, σ1§**98**/**107**,**mb4.5**/**6**,**1D**,**South of Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
WMGZ	**Waiomatatini S**	**3.40**	**195**	PN		**Pn**	**17 10 26.1**	**+1.6**
WMGZ				SN		**Sn**	**17 11 09.4**	**+2.2**
HAZ	**Te Kaha**	**3.51**	**203**	PN		**Pn**	**17 10 27.5**	**+1.7**
PKGZ	**Pakihiroa**	**3.55**	**199**	PN		**Pn**	**17 10 27.5**	**+1.2**
PUZ	**Puketiti**	**3.68**	**195**	PN		**Pn**	**17 10 28.8**	**+0.9**
PUZ				SN		**Sn**	**17 11 14.9**	**+1.5**
RUGZ	**Raukumara Rang**	**3.73**	**203**	PN		**Pn**	**17 10 30.1**	**+1.4**
KUZ	**Kuaotunu**	**3.79**	**233**	PN		**Pn**	**17 10 31.1**	**+1.8**
TWGZ	**Tauwhareparae**	**3.84**	**198**	PN		**Pn**	**17 10 31.4**	**+1.4**
OPRZ	**Ohinepanea**	**4.08**	**215**	PN		**Pn**	**17 10 34.8**	**+2.0**
CNGZ	**Carnagh Statio**	**4.08**	**194**	PN		**Pn**	**17 10 34.1**	**+1.2**
MWZ	**Matawai**	**4.12**	**202**	PN		**Pn**	**17 10 34.4**	**+1.0**
MWZ				SN		**Sn**	**17 11 25.1**	**+1.9**
TKGZ	**Te Karaka**	**4.12**	**198**	PN		**Pn**	**17 10 34.1**	**+0.7**
TKGZ				SN		**Sn**	**17 11 26.1**	**+2.8**
MARZ	**Manawahe**	**4.14**	**213**	PN		**Pn**	**17 10 37.0**	**+3.4**
URZ	**Urewera**	**4.19**	**207**	P		**Pn**	**17 10 35.9**	**+1.7**
	8.0nm,0.3s,baz=266,slow=4.6,SNR=161							
URZ				S		**Sn**	**17 11 26.6**	**+1.8**
	19nm,0.3s,baz=44,slow=3.1,SNR=16							
URZ	**Urewera**	**4.19**	**207**	*e*Pn		**Pn**	**17 10 35.1**	**+0.8**
URZ				*e*Sn		**Sn**	**17 11 26.6**	**+1.8**
URZ	**Urewera**	**4.19**	**207**	PN		**Pn**	**17 10 34.6**	**+0.3**
URZ				SN		**Sn**	**17 11 26.4**	**+1.6**
RAGZ	**Rawiri**	**4.30**	**202**	PN		**Pn**	**17 10 36.6**	**+0.9**
MKAZ	**Moumakai**	**4.36**	**233**	PN		**Pn**	**17 10 38.9**	**+2.5**
RIGZ	**Rimuhau**	**4.40**	**198**	PN		**Pn**	**17 10 37.7**	**+0.8**
WCZ	**Waipu Caves**	**4.45**	**250**	PN		**Pn**	**17 10 37.9**	**+0.4**
MUGZ	**Murupara**	**4.51**	**208**	PN		**Pn**	**17 10 38.9**	**+0.6**
RTZ	**Ruatahuna**	**4.56**	**206**	*e*PN		**Pn**	**17 10 38.3**	**-0.6**
PRGZ	**Paritu Road**	**4.58**	**196**	PN		**Pn**	**17 10 40.1**	**+1.0**
SNGZ	**Shannon Statio**	**4.59**	**202**	PN		**Pn**	**17 10 40.0**	**+0.7**
KNZ	**Kokohu**	**4.72**	**198**	PN		**Pn**	**17 10 41.3**	**+0.4**
ALRZ	**Allen Road**	**4.76**	**211**	PN		**Pn**	**17 10 44.1**	**+2.6**
WHHZ	**Waihua**	**4.89**	**201**	PN		**Pn**	**17 10 43.4**	**+0.4**
OUZ	**Omahuta**	**4.90**	**260**	*e*Pn		**Pn**	**17 10 40.9**	**-2.3**
OUZ	**Omahuta**	**4.90**	**260**	PN		**Pn**	**17 10 42.2**	**-1.0**
TLZ	**Tolley Road**	**4.96**	**219**	PN		**Pn**	**17 10 46.4**	**+2.4**
MRHZ	**Matea Rd**	**4.96**	**209**	PN		**Pn**	**17 10 45.2**	**+1.2**
NMHZ	**Naumai**	**5.05**	**205**	PN		**Pn**	**17 10 45.7**	**+0.5**
ARHZ	**Aropaoanui**	**5.13**	**202**	PN		**Pn**	**17 10 46.4**	**+0.2**
BKZ	**Black Stump Fm**	**5.22**	**207**	*e*Pn		**Pn**	**17 10 47.6**	**+0.3**
BKZ	**Black Stump Fm**	**5.22**	**207**	PN		**Pn**	**17 10 47.1**	**-0.3**
RITZ	**Rihia Road**	**5.32**	**212**	PN		**Pn**	**17 10 51.1**	**+2.6**
MCHZ	**McNeill Hill**	**5.40**	**204**	*e*PN		**Pn**	**17 10 49.2**	**-0.4**
HIZ	**Hauiti**	**5.46**	**222**	*e*Pn		**Pn**	**17 10 54.2**	**+3.8**
KWHZ	**Kaweka Forest**	**5.47**	**206**	PN		**Pn**	**17 10 50.5**	**-0.1**
KRVZ	**Karewarewa**	**5.51**	**213**	PN		**Pn**	**17 10 53.9**	**+2.8**
OTVZ	**Oturere**	**5.55**	**212**	PN		**Pn**	**17 10 53.8**	**+2.1**
KAHZ	**Kahuranaki**	**5.66**	**201**	*e*PN		**Pn**	**17 10 52.5**	**-0.5**
BHHZ	**Black Hill Sta**	**5.67**	**208**	*e*PN		**Pn**	**17 10 52.6**	**-0.5**
FWVZ	**Far West T-bar**	**5.68**	**213**	*e*PN		**Pn**	**17 10 54.7**	**+1.3**
KRHZ	**Kereru**	**5.69**	**205**	PN		**Pn**	**17 10 52.9**	**-0.4**
RAO	**Raoul Island**	**5.70**	**23**	*e*Pn		Pn	17 10 27.7	-26
RAO				*e*Sn		Sn	17 11 23.4	-36
MOVZ	**Moawhango**	**5.72**	**211**	PN		**Pn**	**17 10 54.4**	**+0.6**
WNVZ	**Wahianoa**	**5.72**	**212**	PN		**Pn**	**17 10 55.3**	**+1.4**
PKVZ	**Pokaka**	**5.80**	**214**	PN		**Pn**	**17 10 56.6**	**+1.8**
MTVZ	**Mangateitei**	**5.82**	**212**	*e*PN		**Pn**	**17 10 55.3**	**+0.2**
PXZ	**Pawanui**	**5.88**	**200**	PN		**Pn**	**17 10 54.2**	**-1.5**
VRZ	**Vera Road**	**5.96**	**218**	PN		**Pn**	**17 10 59.6**	**+2.8**
PNHZ	**Pukenui**	**5.99**	**205**	PN		**Pn**	**17 10 57.6**	**+0.4**
WPHZ	**Waipukurau**	**6.04**	**203**	PN		**Pn**	**17 10 58.3**	**+0.4**
PRHZ	**Porangahau**	**6.17**	**201**	PN		**Pn**	**17 10 58.7**	**-0.8**
TSZ	**Takapari Road**	**6.20**	**206**	PN		**Pn**	**17 10 58.4**	**-1.5**
WAZ	**Wanganui**	**6.34**	**213**	PN		**Pn**	**17 11 02.7**	**+0.9**
ANWZ	**Angora Road**	**6.39**	**201**	PN		**Pn**	**17 11 02.7**	**+0.3**
POWZ	**Post Office Ro**	**6.56**	**206**	PN		**Pn**	**17 11 05.0**	**+0.4**
PRWZ	**Pori Road**	**6.64**	**204**	PN		**Pn**	**17 11 06.1**	**+0.6**
BFZ	**Birch Farm**	**6.66**	**202**	*e*Pn		**Pn**	**17 11 04.2**	**-1.7**
BFZ	**Birch Farm**	**6.66**	**202**	PN		**Pn**	**17 11 04.9**	**-1.0**
TIWZ	**Tintock**	**6.87**	**204**	PN		**Pn**	**17 11 07.2**	**-1.3**
MRZ	**Mangatainoka R**	**6.87**	**206**	*e*PN		**Pn**	**17 11 06.0**	**-2.6**
MRZ				*e*SN		**Sn**	**17 12 23.1**	**-3.6**
HOWZ	**Holdsworth Sta**	**7.10**	**205**	*e*PN		**Pn**	**17 11 09.6**	**-2.0**
OGWZ	**Otaki Gorge**	**7.16**	**207**	*e*PN		**Pn**	**17 11 10.5**	**-1.8**
TMWZ	**Te Maipa**	**7.16**	**202**	PN		**Pn**	**17 11 11.0**	**-1.4**
KIW	**Kapiti Island**	**7.29**	**209**	*e*PN		**Pn**	**17 11 11.9**	**-2.2**
MTW	**Mount Morrison**	**7.34**	**204**	PN		**Pn**	**17 11 13.3**	**-1.4**
PAWZ	**Paruwai Farm**	**7.56**	**204**	*e*PN		**Pn**	**17 11 15.9**	**-1.7**
WEL	**Wellington**	**7.71**	**208**	PN		**Pn**	**17 11 18.0**	**-1.5**
SNZO	**South Karori**	**7.76**	**208**	*e*Pn		**Pn**	**17 11 17.7**	**-2.4**
PLWZ	**Palliser**	**7.79**	**204**	*e*PN		**Pn**	**17 11 17.9**	**-2.6**
TCW	**Tory Channel**	**7.84**	**210**	*e*PN		**Pn**	**17 11 18.9**	**-2.4**
TUWZ	**Tuamarina**	**8.17**	**211**	*e*PN		**

AKGG Akutan Green G 4.02 53 P Pn 17 17 27.5 +1.1
TAFP Tanaga Falls P 4.06 273 ePn Pn 17 17 27.6 +0.7
TAFP eSn Sn 17 18 13.4 +0.2
AKUT Akutan 4.10 54 ePn Pn 17 17 29.2 +1.7
GAEA Gareloi East 4.54 272 ePn Pn 17 17 34.8 +1.2
WESP Westdahl Peak 4.81 54 ePn Pn 17 17 38.2 +0.9
SSLN Shishaldin Nor 5.33 54 ePn Pn 17 17 46.0 +1.5
SPIA Saint Paul Isl 5.35 7 ePn Pn 17 17 46.0 +1.3
SPIA eSn Sn 17 18 45.9 +1.1
DT1 Dutton Round H 6.34 56 ePn Pn 17 17 58.2 -0.1
DTNA Dutton South F 6.38 56 ePn Pn 17 17 58.8 0.0
SDPT Sand Point 7.38 58 ePn Pn 17 18 12.2 -0.3
SMY Shemya 8.91 281 eP Pn 17 18 31.8 -1.6
SMY Shemya 8.91 281 ePn Pn 17 18 31.8 -1.6
OHAK Old Harbor 11.80 56 ePn Pn 17 19 09.0 -3.9
KDAK Kodiak Island 12.35 54 ceP Pn 17 19 17.7 -2.6
KDAK Kodiak Island 12.35 54 ePn Pn 17 19 17.0 -3.3
SVW2 Sparrevohn 12.69 37 ePn Pn 17 19 27.8 +2.7
RSO Redoubt South 13.45 43 ePn Pn 17 19 36.6 +1.0
CNPM China Poot 13.68 48 ePn Pn 17 19 35.4 -3.1
TTA Tatalina 13.79 31 eP Pn 17 19 41.8 +1.7
TTA Tatalina 13.79 31 ePn Pn 17 19 41.8 +1.7
SPU Mount Spurr 14.12 41 ePn Pn 17 19 46.3 +1.7
SEW Seward 14.74 47 ePn Pn 17 19 49.3 -3.4
RC01 Rabbit Creek A 15.05 44 ePn Pn 17 19 57.2 +0.5
47nm,1.4s
PPLA Purkeypile 15.07 36 ePn P 17 20 00.3 -1.4
34nm,1.6s
CAST Castle Rocks 15.43 34 ePn P 17 20 04.8 -0.8
7.9nm,1.0s
KTH Kantishna Hill 15.93 35 ePn Pn 17 20 07.9 -0.3
MID Middleton Isla 15.97 52 eP P 17 20 10.1 -1.4
MID pmax pmax
comp=Z,484nm,1.1s
MID Middleton Isla 15.97 52 ePn P 17 20 10.1 -1.4
comp=Z,484nm,1.1s
SML Sawmill 15.98 43 eP P 17 20 11.1 -0.6
SML pmax pmax
comp=Z,30nm,1.2s
SML Sawmill 15.98 43 ePn P 17 20 11.1 -0.6
comp=Z,30nm,1.2s
TRF Thorofare Moun 16.09 36 ePn P 17 20 12.0 -1.0
comp=Z,47nm,1.8s
FID Port Fidalgo 16.35 47 ePn Pn 17 20 09.6 -3.8
comp=Z,66nm,1.3s
SCM Sheep Creek Mo 16.42 43 eP Pn 17 20 11.5 -2.9
SCM pmax pmax
comp=Z,32nm,1.1s
SCM Sheep Creek Mo 16.42 43 ePn Pn 17 20 11.5 -2.9
comp=Z,32nm,1.1s
RND Reindeer 16.59 37 eP Pn 17 20 13.4 -3.2
RND pmax pmax
comp=Z,21nm,1.6s
RND Reindeer 16.59 37 ePn Pn 17 20 13.4 -3.2
comp=Z,21nm,1.6s
EYAK Cordova Ski Ar 16.61 49 ePn Pn 17 20 13.8 -3.0
comp=Z,126nm,1.7s
MCK McKinley 16.75 36 eP P 17 20 19.7 -0.5
MCK pmax pmax
comp=Z,30nm,1.8s
MCK McKinley 16.75 36 ePn P 17 20 19.6 -0.5
comp=Z,30nm,1.8s
DHY Denali Highway 16.99 39 ePn Pn 17 20 20.4 -1.2
comp=Z,16nm,1.4s
BMRM Bremner River 17.28 48 ePn Pn 17 20 21.7 -3.5
comp=Z,26nm,1.1s
WRH Wood River Hil 17.48 35 ePn Pn 17 20 26.3 -1.2
comp=Z,36nm,1.9s
CCB Clear Creek Stu 17.68 35 ePn Pn 17 20 27.0 -2.9
comp=Z,17nm,1.6s
MDM Murphy Dome 17.71 33 ePn Pn 17 20 30.1 -0.3
comp=Z,18nm,1.4s
HDA Harding Lake 17.85 36 ePn P 17 20 32.3 0.0
comp=Z,6.4nm,1.0s
ILAR Eielson Array 18.07 35 P P 17 20 34.2 -0.6
comp=Z,0.3nm,0.3s,baz=230,slow=9.2,SNR=13
ILAR PcP PcP 17 25 06.5 -0.1
comp=Z,0.1nm,0.3s,baz=238,slow=4.1,SNR=4.5
ILB Eielson Array 18.07 35 eP P 17 20 34.2 -0.6
ILB ePcP PcP 17 25 06.5 -0.1
BALM Baldy 18.35 49 eP P 17 20 37.9 0.0
BALM pmax pmax
comp=Z,69nm,1.7s
BALM Baldy 18.35 49 ePn P 17 20 37.9 0.0
comp=Z,69nm,1.7s
MENT Mentasta 18.41 42 eP P 17 20 38.0 -0.5
comp=Z,43nm,2.0s
DOT Dot Lake 18.57 40 eP P 17 20 38.7 -1.6
comp=Z,23nm,1.3s
COLD Coldfoot 18.60 26 eP Pn 17 20 42.6 +1.4
comp=Z,4.3nm,1.0s
PEA1 Petropavlovsk- 18.76 286 eP Pn 17 20 43.3 +0.1
PETK Petropavlovsk- 18.77 286 P Pn 17 20 43.3 +0.1
comp=Z,0.7nm,0.3s,baz=77,slow=15,SNR=8.2
BILL Bilibino 19.47 335 eP Pn 17 20 53.6 +2.1
BILL pmax pmax
comp=Z,17nm,1.2s
EGAK Eagle 20.21 39 eP P 17 20 58.9 +0.8
comp=Z,5.0nm,0.9s
HYT Haines Junctio 20.60 51 eP Pn 17 21 05.0 -0.1
SKAG Skagway 21.50 55 eP P 17 21 12.2 +0.3
comp=Z,19nm,1.1s
WHY Whitehorse 21.84 52 eP P 17 21 17.6 +1.8
comp=Z,39nm,1.9s
SEY Seymchan 22.08 314 P P 17 21 18.1 0.0
comp=Z,3.1nm,0.5s,baz=97,slow=7.3,SNR=20
DLBC Dease Lake 24.23 58 P P 17 21 41.6 +2.1
comp=Z,4.2nm,0.5s,baz=262,slow=9.3,SNR=9.8
DLBC Dease Lake 24.23 58 eP P 17 21 42.4 +2.8
comp=Z,30nm,1.6s
INK Inuvik 24.45 33 P P 17 21 40.6 -0.8
comp=Z,4.6nm,0.4s,baz=239,slow=7.1,SNR=39
INK PcP PcP 17 25 19.6 +0.8
comp=Z,1.0nm,0.4s,baz=254,slow=1.8,SNR=5.1
ASAJ Asahikawa 31.28 274 eP P 17 22 44.1 +1.4
comp=Z,94nm,1.9s
YKA Yellowknife Ar 31.52 48 P P 17 22 44.9 +0.3
comp=Z,1.1nm,0.4s,baz=274,slow=9.2,SNR=6.7
YKB5 Yellowknife Ar 31.52 48 eP P 17 22 44.9 +0.3
YAK Yakutsk 32.53 311 eP P 17 22 52.5 -1.0
YAK pmax pmax
comp=Z,3.0nm,0.8s
YAK Yakutsk 32.53 311 eP P 17 22 52.4 -1.1
comp=Z,4.1nm,0.6s
YAK ePcP PcP 17 25 39.1 +0.1
B08A Colville Reser 33.00 75 eP P 17 22 59.3 +1.4
comp=Z,3.6nm,0.8s
NEW Newport 34.37 74 eP P 17 23 10.8 +1.1
NEW pmax pmax
comp=Z,3.0nm,0.6s
NEW Newport 34.37 74 eP P 17 23 10.8 +1.1
comp=Z,3.0nm,0.6s
EDM Edmonton 34.51 64 eP P 17 23 12.2 +1.3
EDM pmax pmax
comp=Z,9.0nm,0.9s
EDM Edmonton 34.51 64 eP P 17 23 12.2 +1.3
comp=Z,8.7nm,0.9s
K05A Summer Lake 34.84 85 eP P 17 23 15.8 +1.8
comp=Z,50nm,2.0s
KLR Kul'dur 35.41 289 iP P 17 23 18.0 -0.6
WALA Waterton Lakes 35.90 71 eP P 17 23 23.9 +0.8
comp=Z,17nm,1.4s
BSMT Bassoo Peak 35.95 73 eP P 17 23 24.5 +1.0
BLMT Blacktail Moun 36.12 73 eP P 17 23 25.7 +0.8
JTMT Jette 36.30 73 eP P 17 23 27.8 +1.5
H11N2 WAKE ISLAND Hy 36.30 216 T T 18 01 59.9
baz=21,slow=75,SNR=23
H11N3 WAKE ISLAND Hy 36.30 216 T T 18 02 03.4
baz=21,slow=75,SNR=24
H11N1 WAKE ISLAND Hy 36.31 216 T T 18 02 06.7
baz=21,slow=75,SNR=23
CHMT Chamberlain Mo 37.31 74 eP P 17 23 35.6 +0.5
H11S1 WAKE ISLAND Hy 37.49 215 T T 18 03 30.5
baz=22,slow=76,SNR=43
H11S2 WAKE ISLAND Hy 37.51 215 T T 18 03 36.2
baz=22,slow=76,SNR=46
H11S3 WAKE ISLAND Hy 37.51 216 T T 18 03 31.5
baz=22,slow=76,SNR=20
PNTR Pine Nut 37.73 89 eP P 17 23 41.6 +2.8
USRK Ussuriysk Ar. 37.74 281 LR LR 17 42 41.1
comp=Z,260nm,18.3s,baz=78,slow=42
WAKR Walker 38.19 90 eP P 17 23 45.2 +2.6
comp=Z,2.6nm,0.7s
MAJO Matsushiro 38.40 267 eP P 17 23 45.7 +1.5
MAJO pmax pmax
comp=Z,38nm,1.6s
MAJO Matsushiro 38.40 267 eP P 17 23 45.7 +1.5
comp=Z,38nm,1.6s
MJAR Matsushiro Arr 38.40 267 P P 17 23 45.5 +1.3
comp=Z,0.7nm,0.4s,baz=35,slow=6.8,SNR=6.5
MCMT McKenzie Canyo 38.62 77 eP P 17 23 47.1 +0.8
TVH1 TV Hill, Hawth 38.63 89 eP P 17 23 48.4 +1.8
comp=Z,3.0nm,0.9s
TVH3 East Aurora ar 38.66 89 eP P 17 23 48.6 +2.0
comp=Z,3.2nm,1.0s
YHH Holmes Hill 39.85 75 eP P 17 23 57.6 +1.0
comp=Z,14nm,1.7s
GCMT Greycliff 40.02 73 eP P 17 23 59.1 +1.4
FFC Flin Flon 40.06 58 eP P 17 23 58.0 +0.2
FFC pmax pmax
comp=Z,72nm,1.9s
FFC Flin Flon 40.06 58 eP P 17 23 58.0 +0.2
comp=Z,72nm,1.9s
R11A Troy Canyon, C 40.67 87 eP P 17 24 04.6 +1.4
comp=Z,7.4nm,1.8s
TPNV Topopah Spring 41.13 89 eP P 17 24 08.6 +1.5
TPNV pmax pmax
comp=Z,5.0nm,0.9s
TPNV Topopah Spring 41.13 89 eP P 17 24 08.6 +1.5
comp=Z,4.9nm,0.9s
BW06 Boulder Array 41.75 77 eP P 17 24 12.8 +0.7
comp=Z,2.6nm,0.9s
PD31 Pinedale Array 41.75 77 eP P 17 24 12.8 +0.7
PDAR Pinedale Array 41.75 77 P P 17 24 12.8 +0.7
comp=Z,1.6nm,0.7s,baz=294,slow=4.0,SNR=15
FCC Fort Churchill 42.23 49 eP P 17 24 16.1 +0.7
FCC Fort Churchill 42.23 49 eP P 17 24 16.1 +0.7
comp=Z,112nm,1.4s
CCUT Cedar City 42.54 86 eP P 17 24 19.8 +1.2
comp=Z,8.3nm,1.8s
MSU Marysvale 42.68 84 eP P 17 24 21.3 +1.6
MSU Marysvale 42.68 84 eP P 17 24 21.2 +1.6
LCMT Little Creek M 42.95 87 eP P 17 24 22.6 +0.7
comp=Z,5.6nm,1.4s
KNB Kanab 43.21 86 eP P 17 24 25.2 +1.2
KNB pmax pmax
comp=Z,6.0nm,1.4s
KNB Kanab 43.21 86 eP P 17 24 25.2 +1.2
comp=Z,6.1nm,1.4s
SRU San Rafael Swe 43.33 82 eP P 17 24 25.9 +1.0
SRU pmax pmax
comp=Z,3.0nm,0.7s
SRU San Rafael Swe 43.33 82 eP P 17 24 25.9 +1.0
comp=Z,3.0nm,0.7s
W13A Hualapai Mount 43.79 89 eP P 17 24 29.4 +0.7
comp=Z,2.2nm,0.8s
U15A North Rim 43.92 87 eP P 17 24 31.0 +1.2
comp=Z,5.5nm,1.2s
O20A White River Ci 44.10 80 eP P 17 24 31.3 +0.2
comp=Z,4.7nm,0.8s
KSRS Korea Array 44.19 276 P P 17 24 32.4 +0.8
comp=Z,2.6nm,0.7s,baz=57,slow=7.9,SNR=7.1
KSRS LR LR 17 42 59.1
comp=Z,666nm,20.0s,baz=88,slow=36
KS15 Wonju Array Si 44.22 276 eP P 17 24 32.4 +0.5
KS15 e 17 42 59.1
KSAR Wonju Array Be 44.22 276 P P 17 24 32.4 +0.5
KSAR Wonju Array Be 44.22 276 P P 17 24 32.4 +0.5
RSSD Black Hills 44.28 72 eP P 17 24 32.5 0.0
RSSD pmax pmax
comp=Z,8.0nm,1.3s
RSSD Black Hills 44.28 72 eP P 17 24 32.5 0.0
comp=Z,7.5nm,1.3s
PV09 Paradox Valley 44.56 82 eP P 17 24 35.0 +0.1
GLA Glamis 44.56 92 eP P 17 24 36.0 +1.3
GLA pmax pmax
comp=Z,4.0nm,0.9s
GLA Glamis 44.56 92 eP P 17 24 36.0 +1.3
comp=Z,3.7nm,0.9s
PV10 Paradox Valley 44.69 82 eP P 17 24 36.2 +0.3
WUAZ Wupatki 45.07 87 eP P 17 24 39.8 +1.0
PV01 Paradox Valley 45.13 82 eP P 17 24 39.7 +0.3
113A Mohawk Valley, 45.41 92 eP P 17 24 41.5 +0.1
comp=Z,4.7nm,1.3s
ULM Lac du Bonnet 45.50 61 P P 17 24 41.9 0.0
comp=Z,2.0nm,0.5s,baz=311,slow=7.7,SNR=4.7
X16A Lo Mia Camp, P 45.75 88 eP P 17 24 45.0 +0.7
comp=Z,10nm,1.8s
ANMO Albuquerque 48.48 84 iP P 17 25 04.5 -1.1
ANMO pmax pmax
comp=Z,1.0nm,0.9s
LENM Lemitar 48.68 85 eP P 17 25 07.5 +0.4
LPM Los Pinos Moun 48.80 85 eP P 17 25 08.9 +1.0
BNM Barren Site 48.91 85 eP P 17 25 09.2 +0.4
BGNE Belgrade 49.37 72 eP P 17 25 12.3 +0.3
comp=Z,33nm,0.5s
ULN Ulaanbaatar 50.08 300 ceP P 17 25 17.4 -0.1
ULN pmax pmax
comp=Z,6.0nm,1.3s
ULN Ulaanbaatar 50.08 300 eP P 17 25 16.4 -1.1
comp=Z,6.0nm,1.1s
SONA0 Songino Array 50.45 300 eP P 17 25 20.1 -0.2
SONA0 ePcP PcP 17 26 37.6 -0.4
SONM Songino Array 50.45 300 P P 17 25 20.1 -0.2
comp=Z,1.9nm,0.6s,baz=53,slow=6.8,SNR=14
SONM PcP PcP 17 26 37.6 -0.4
comp=Z,0.9nm,0.6s,baz=52,slow=4.1,SNR=4.9
DAG Danmarks Havn 50.45 8 iP P 17 25 18.3 -1.4
comp=Z,3.7nm,0.4s
DAG Danmarks Havn 50.45 8 iP P 17 25 18.3 -1.4
DAG pmax pmax
comp=Z,3.0nm,0.4s
ZAK Zakamensk 50.55 304 eP P 17 25 15.5 -5.5
ZAK e 17 26 38.0
ZAK pmax pmax
comp=Z,3.0nm,1.5s
SUMG Summit 51.61 16 iP P 17 25 28.6 -0.4
comp=Z,11nm,1.0s
SUMG Summit 51.61 16 iP P 17 25 28.6 -0.4
SUMG pmax pmax
comp=Z,11nm,1.0s
SUMG Summit 51.61 16 eP P 17 25 28.1 -0.9
comp=Z,12nm,1.1s
WMOK Wichita Mounta 53.32 79 eP P 17 25 42.1 +0.4
WMOK pmax pmax
comp=Z,16nm,1.8s
WMOK Wichita Mounta 53.32 79 eP P 17 25 42.1 +0.4
comp=Z,16nm,1.8s
LTX Lajitas 54.04 87 eP P 17 25 47.7 +0.6
LTX e 17 26 52.4
LTX Lajitas 54.04 87 eP P 17 25 47.6 +0.6
LTX ePcP PcP 17 26 52.4 +0.7
TXAR Lajitas Array 54.04 87 P P 17 25 47.6 +0.5
comp=Z,2.2nm,0.8s,baz=300,slow=5.5,SNR=20
TXAR PcP PcP 17 26 52.4 +0.7
comp=Z,0.9nm,0.6s,baz=236,slow=0.7,SNR=6.9
ZAA1 Zalesovo Array 56.91 317 eP P 17 26 06.2 -1.1
ZAA1 ePcP PcP 17 27 02.5 +0.3
ZALV Zalesovo Beam 56.91 317 P P 17 26 06.2 -1.1
comp=Z,1.1nm,0.5s,baz=61,slow=3.6,SNR=8.2
ZALV PcP PcP 17 27 02.5 +0.3
comp=Z,1.3nm,0.4s,baz=23,slow=4.3,SNR=6.0
ARA0 ARCESS Array S 58.26 353 eP P 17 26 14.4 -2.1
ARCES ARCESS Array B 58.26 353 P P 17 26 14.4 -2.2
comp=Z,1.6nm,0.5s,baz=24,slow=9.3,SNR=8.9
GTA Gaotai 59.56 296 eP P 17 26 25.2 -1.0
GTA pP pP 17 26 35.0 -4.3
GTA sP sP 17 26 38.9 -5.7
GTA pmax pmax
comp=Z,4.0nm,0.9s
SSPA Standing Stone 61.32 60 eP P 17 26 38.1 +0.1
comp=Z,26nm,1.5s
KURK Kurchatov 61.88 317 ceP P 17 26 40.9 -0.7
KURK Kurchatov 61.88 317 eP P 17 26 40.8 -0.7
comp=Z,9.5nm,0.7s
MK31 Makanchi Array 63.20 312 iP P 17 26 48.9 -1.6
MK31 pmax pmax
comp=Z,2.0nm,0.5s
MKAR Makanchi Array 63.20 312 eP P 17 26 48.8 -1.7
MKAR pmax pmax
comp=Z,31nm,0.9s
MKAR Makanchi Array 63.20 312 eP P 17 26 48.8 -1.7
comp=Z,31nm,0.9s
MAKZ Makanchi 63.33 313 eP P 17 26 49.8 -1.6
MAKZ pmax pmax
comp=Z,5.0nm,1.1s
MAKZ Makanchi 63.33 313 eP P 17 26 49.8 -1.6
comp=Z,5.1nm,1.1s
KMSC Kings Mountain 63.34 67 eP P 17 26 51.4 -0.2
comp=Z,8.0nm,0.8s
BVA0 Borovoye Array 63.34 323 iP P 17 26 50.6 -0.7
BVA0 pmax pmax
comp=Z,8.0nm,0.6s
BRVK Borovoye 63.36 324 ceP P 17 26 51.3 -0.1
BRVK pmax pmax
comp=Z,3.0nm,0.6s
BRVK Borovoye 63.36 324 eP P 17 26 51.0 -0.4
comp=Z,4.7nm,0.6s
ARU Arti 64.46 332 P P 17 26 56.8 -1.8
comp=Z,4.6nm,0.4s,baz=21,slow=3.3,SNR=13
ARU Arti 64.46 332 ciP P 17 26 58.4 -0.2
ARU S S 17 35 35.5 +1.9
ARU SS SS 17 39 44.6 +1.4
ARU pmax pmax
comp=Z,4.0nm,0.6s
ARU Arti 64.46 332 eP P 17 26 56.9 -1.7
comp=Z,6.3nm,0.6s
FIA0 FINESS Array S 66.16 351 eP P 17 27 07.6 -1.9
FIA0 FINESS Array S 66.16 351 eP P 17 27 07.5 -1.9
FINES FINESS Array B 66.16 351 P P 17 27 07.5 -1.9
comp=Z,2.7nm,0.6s,baz=12,slow=8.5,SNR=22
PDGK Podgornoye 67.12 312 P P 17 27 15.0 -1.1
PDGK pmax pmax
comp=Z,6.0nm,0.7s
NB2 NORSAR Subarra 67.41 359 P P 17 27 16.2 -1.3
NB2 pmax pmax
comp=Z,1.0nm,0.5s
NB2 NORSAR Subarra 67.41 359 P P 17 27 16.3 -1.2
comp=Z,1.8nm,0.6s,baz=3.0,slow=6.5
NB200 NORSAR Array S 67.41 359 eP P 17 27 16.4 -1.2
NOA NORSAR Array B 67.41 359 P P 17 27 16.4 -1.2
comp=Z,1.4nm,0.6s,baz=2.8,slow=6.4,SNR=8.3
VSU Vasula 69.02 350 ceP P 17 27 27.8 +0.3
VSU pmax pmax
comp=Z,26nm,1.3s
TKM2 Tokmak 2 69.22 314 P P 17 27 27.6 -1.8
TKM2 pmax pmax
comp=Z,5.0nm,1.2s
AKTO Aktyubinsk 69.78 329 P P 17 27 31.1 -1.3
comp=Z,9.1nm,0.5s,baz=54,slow=7.1,SNR=49
AAK Ala-Archa 69.94 314 ciP P 17 27 33.5 -0.2
AAK pmax pmax
comp=Z,15nm,0.9s
AAK Ala-Archa 69.94 314 eP P 17 27 33.8 +0.1
comp=Z,8.0nm,0.9s
AB31 Akbulak array 70.16 327 eP P 17 27 33.4 -1.4
AB31 pmax pmax
comp=Z,2.0nm,0.5s
OBN Obninsk 70.86 343 eP P 17 27 39.6 +0.7
OBN pmax pmax
comp=Z,3.0nm,0.9s
MNAS Manas 70.93 315 P P 17 27 38.2 -1.6
MNAS pmax pmax
comp=Z,2.0nm,0.5s
KK31 Karatay Array 71.29 317 iP P 17 27 40.8 -1.0
KK31 pmax pmax
comp=Z,1.0nm,0.5s
KKAR Karatay Array 71.29 317 eP P 17 27 41.1 -0.7
KKAR pmax pmax
comp=Z,24nm,0.6s
KKAR Karatay Array 71.29 317 eP P 17 27 41.1 -0.7
comp=Z,24nm,0.6s
LSA Lhasa 71.50 295 eP P 17 27 43.9 +0.1
LSA pmax pmax
comp=Z,11nm,0.8s
LSA Lhasa 71.50 295 eP P 17 27 43.9 +0.1
comp=Z,11nm,0.8s
KSH Kashi 71.75 311 P P 17 27 48.1 +3.4
KSH esP sP 17 28 03.4 -0.1
KSH ePP PP 17 30 28.7 +4.8
KSH S S 17 37 01.8 +0.5
KSH ScS ScS 17 37 46.2 -0.1
KSH Kashi 71.75 311 SS SS 17 41 40.2 +3.4
KSH pmax pmax
comp=Z,8.0nm,0.6s
KSH pmax pmax
comp=Z,92nm,4.1s
KSH LR LR
comp=N,320nm,12.5s
KSH LR LR
comp=E,850nm,15.5s
KSH LR LR
comp=Z,1μm,17.2s
EKA Eskdalemuir Ar 72.71 7 P P 17 27 48.6 -1.3
comp=Z,1.4nm,0.5s,baz=343,slow=4.5,SNR=11
TAPN Taplejung 75.24 295 eP P 17 28 05.6 0.0
comp=Z,26nm,0.8s
CM31 Chiang Mai Arr 75.47 281 eP P 17 28 07.2 +0.5
CMAR Chiang Mai Arr 75.47 281 P P 17 28 07.2 +0.5
comp=Z,4.6nm,0.7s,baz=26,slow=6.8,SNR=26
CMAR Chiang Mai Arr 75.47 281 ceP P 17 28 07.1 +0.4
CMAR pmax pmax
comp=Z,5.0nm,0.7s
ODAN Odare 75.80 295 eP P 17 28 08.6 -0.2
GUN Gumba 75.82 297 eP P 17 28 09.3 +0.3
comp=Z,21nm,0.5s
JIRN Jiri 75.84 297 eP P 17 28 09.3 +0.1
RAMN Ramite 76.17 296 eP P 17 28 10.9 0.0
comp=Z,42nm,0.7s
KKN Kakani 76.25 297 eP P 17 28 11.1 -0.2
comp=Z,11nm,0.6s
AKASG Malin Array Be 76.30 347 P P 17 28 09.2 -1.7
comp=Z,1.4nm,0.5s,baz=17,slow=6.0,SNR=2.4
AKBB Malin Array Si 76.30 347 eP P 17 28 09.2 -1.7
AKBB Malin Array Si 76.30 347 eP P 17 28 09.2 -1.7
KIEV Kiev 76.31 347 eP P 17 28 08.5 -2.4
KIEV pmax pmax
comp=Z,1.0nm,0.9s
KIEV Kiev 76.31 347 eP P 17 28 09.0 -1.9
comp=Z,2.7nm,0.7s
PKI Pulchoki 76.34 297 eP P 17 28 11.7 -0.3
PKIN Phulchoki 76.35 297 eP P 17 28 12.3 +0.4
GKN Gorkha 76.43 298 eP P 17 28 12.2 -0.1
DMN Daman 76.48 297 eP P 17 28 12.9 +0.2
CLL Collm 77.11 357 iP P 17 28 15.0 -0.5
CLL Collm 77.11 357 iP P 17 28 15.0 -0.5
PYUN Piuthan 77.25 299 eP P 17 28 16.9 0.0
comp=Z,32nm,0.8s
DPC Dobruska-Polom 77.93 355 eP P 17 28 19.8 -0.3
DPC Dobruska-Polom 77.93 355 eP P 17 28 19.8 -0.3
KRLC Kraliky 78.18 355 eP P 17 28 21.2 -0.3
KRLC Kraliky 78.18 355 eP P 17 28 21.2 -0.3
BAIF Baives 78.36 3 eP P 17 28 21.9 -0.6
BAIF pmax pmax
comp=Z,5.0nm,0.9s
PRU Pruhonice 78.38 356 eP P 17 28 22.4 -0.2
PRU Pruhonice 78.38 356 eP P 17 28 22.4 -0.2
VRAC Vranov 78.95 355 P P 17 28 25.3 -0.5
comp=Z,3.0nm,0.5s,baz=353,slow=5.2,SNR=6.6
KHC Kasperske Hory 79.27 357 eP P 17 28 27.5 0.0
KHC Kasperske Hory 79.27 357 eP P 17 28 27.5 0.0
FLN La Foliniere 79.43 6 eP P 17 28 28.0 -0.4
FLN pmax pmax
comp=Z,49nm,1.8s
GERES GERESS Array B 79.55 357 P P 17 28 28.6 -0.6
comp=Z,1.0nm,0.6s,baz=15,slow=5.5,SNR=13
LDF La Druitiere 79.62 6 eP P 17 28 28.2 -1.2
LDF pmax pmax
comp=Z,2.0nm,0.4s
GRR Gorron 79.78 6 eP P 17 28 29.4 -0.9
GRR pmax pmax
comp=Z,9.0nm,1.2s
SGMF Saint Gilles 79.79 8 eP P 17 28 29.3 -1.0
SGMF pmax pmax
comp=Z,20nm,1.4s
CONA Conrad Observa 80.37 355 iP P 17 28 32.9 -0.7
comp=Z,3.3nm,1.1s
MOA Molln 80.52 356 eP P 17 28 34.3 -0.1
comp=Z,1.3nm,0.6s
HINF Hinteralfeld 80.67 1 eP P 17 28 34.2 -0.9
HINF pmax pmax
comp=Z,2.0nm,0.6s
ARSA Arzberg 81.06 355 iPcP P 17 28 37.8 +0.5
comp=Z,1.6nm,0.6s
MOTA Moosalm 81.12 358 iPcP P 17 28 38.0 +0.3
comp=Z,3.0nm,0.8s
KBA Koelnbreinsper 81.33 357 iPcP P 17 28 39.7 +0.9
comp=Z,7.9nm,0.9s
FETA Feichten 81.46 359 iPcP P 17 28 40.1 +0.6
comp=Z,4.7nm,0.9s
AVF Avril sur Loir 81.60 4 eP P 17 28 39.3 -0.7
AVF pmax pmax
comp=Z,4.0nm,0.8s
MFF Saint Martin d 81.61 6 eP P 17 28 39.5 -0.6
MFF pmax pmax
comp=Z,4.0nm,0.7s
SOKA Soboth 81.66 356 iP P 17 28 39.7 -0.8

comp=Z,3.1nm,1.0s
ABTA Abfaltersbach 81.69 357 *i* PcP **P** **17 28 40.7 +0.1**
comp=Z,6.1nm,1.4s
DAVOX Davos/Dischmat 81.71 359 P **P** **17 28 40.2 -0.6**
comp=Z,2.0nm,0.6s,baz=350,slow=22,SNR=3.9
OBKA Obir 81.85 356 *i* PcP **P** **17 28 41.9 +0.5**
comp=Z,2.0nm,0.5s
CABF La Chapelle 81.86 2 *e*P **P** **17 28 43.1 +1.6**
CABF pmax pmax
comp=Z,4.0nm,0.9s
LFF La Frestale 83.32 6 *e*P **P** **17 28 48.5 -0.5**
LFF pmax pmax
comp=Z,43nm,1.8s
WR1 Warramunga Arr 85.71 230 *e*P **P** **17 29 00.6 -0.7**
WRA Warramunga Arr 85.71 230 P **P** **17 29 00.6 -0.7**
comp=Z,0.8nm,0.8s,baz=35,slow=6.0,SNR=7.9
WRA Warramunga Arr 85.71 230 *i* P **P** **17 29 01.7 +0.4**
WRA pmax pmax
comp=Z,1.0nm,0.5s
PGF Pioggiola 85.94 360 *e*P **P** **17 29 01.9 -0.5**
PGF pmax pmax
comp=Z,9.0nm,0.8s
BR101 Keskin Array S 86.18 341 *e*P **P** **17 29 03.6 -0.1**
BRTR Keskin Array B 86.18 341 P **P** **17 29 03.6 -0.1**
comp=Z,0.4nm,0.4s,baz=311,slow=0.9,SNR=4.0
ESDC Sonseca Array 88.16 10 P **P** **17 29 12.3 -0.9**
comp=Z,1.0nm,0.5s,baz=347,slow=4.5,SNR=11
AS31 Alice Springs 89.11 228 *e*P **P** **17 29 18.1 +0.5**
ASAR Alice Springs 89.11 228 P **P** **17 29 18.1 +0.5**
comp=Z,3.5nm,0.7s,baz=27,slow=4.9,SNR=38
PLCA Paso Flores 126.80 111 PKP **PKPdf** **17 35 26.4 +1.1**
comp=Z,3.9nm,1.1s,baz=283,slow=6.3,SNR=3.1
MAW Mawson 149.70 218 PKPbc **PKPbc** **17 36 11.1 +0.6**
comp=Z,6.6nm,0.9s,baz=73,slow=2.1,SNR=12
BOSA Boshof 153.62 325 PKPbc **PKPbc** **17 36 21.4 +0.5**
comp=Z,1.9nm,0.7s,baz=279,slow=1.2,SNR=5.8

*IASPEI **03** 17:21:35.2±0.8,50°.25N±0°.02×12°.45E±0°.03,h11km±3km, Error ellipse: s-maj=4.1km s-min=2.6km az=100.9,GT5 selection from ISC bulletin GT5 identified by Bond¨ji and McLaughlin (2009) selection criteria Bond¨ji and McLaughlin, A new ground truth data set for seismic studies, Seism. Res. Let., 80, 465-472, 2009*
*CSEM **03** 17:21:35.1±0.1,50°.24N×12°.50E,h10km, ML2.7/5, Error ellipse: s-maj=1.5km s-min=1.3km az=43.0*
*BGR **03** 17:21:35.4±0.2,50°.25N×12°.44E,h12km±1km, ML2.0/6, Error ellipse: s-maj=2.2km s-min=1.1km az=102.0*
*PRU **03** 17:21:35.2,50°.26N×12°.47E,h10km, West Bohemia Swarm*

ISC 03 17:21:35.3±0.8,50°.25N±0°.02×12°.46E±0°.02,h11km±4km, n46,σ0°.47/85,3D,Germany

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
NKC	**Novy Kostel**	**0.01**	**214**	*i*PG		**Pg**	**17 21 37.5**	**+0.1**
NKC				*e*SG		**Sg**	**17 21 38.6**	**-0.2**
	comp=Z,234nm,0.2s							
NKC	**Novy Kostel**	**0.01**	**214**	*e*Pg		**Pg**	**17 21 37.5**	**+0.1**
NKC				*e*Sg		**Sg**	**17 21 38.7**	**-0.2**
NKC	**Novy Kostel**	**0.01**	**214**	Pg		**Pg**	**17 21 37.5**	**+0.1**
NKC				Sg		**Sg**	**17 21 38.7**	**-0.2**
WERN	**Wernitzgruen**	**0.07**	**308**	*e*Pg		**Pg**	**17 21 37.9**	**+0.1**
WERN				*e*Sg		**Sg**	**17 21 39.3**	**-0.3**
WERN	**Wernitzgruen**	**0.07**	**308**	Pg		**Pg**	**17 21 37.9**	**+0.1**
WERN				Sg		**Sg**	**17 21 39.3**	**-0.3**
ROHR	**Rohrbach**	**0.09**	**263**	*e*Pg		**Pg**	**17 21 38.1**	**+0.1**
ROHR				*e*Sg		**Sg**	**17 21 39.6**	**-0.4**
ROHR	**Rohrbach**	**0.09**	**263**	Pg		**Pg**	**17 21 38.1**	**+0.1**
ROHR				Sg		**Sg**	**17 21 39.6**	**-0.4**
GUNZ	**Gunzen**	**0.14**	**325**	*e*Pg		**Pg**	**17 21 38.9**	**+0.2**
GUNZ				*e*Sg		**Sg**	**17 21 41.0**	**-0.2**
GUNZ	**Gunzen**	**0.14**	**325**	Pg		**Pg**	**17 21 38.9**	**+0.2**
GUNZ				Sg		**Sg**	**17 21 41.0**	**-0.2**
MULD	**Muldenberg**	**0.17**	**348**	*e*Pg		**Pg**	**17 21 39.3**	**+0.1**
MULD				*e*Sg		**Sg**	**17 21 41.6**	**-0.3**
MULD	**Muldenberg**	**0.17**	**348**	Pg		**Pg**	**17 21 39.3**	**+0.1**
MULD				Sg		**Sg**	**17 21 41.6**	**-0.3**
WERD	**Werda**	**0.23**	**334**	*e*Pg		**Pg**	**17 21 40.2**	**+0.1**
WERD				*e*Sg		**Sg**	**17 21 43.1**	**-0.3**
WERD	**Werda**	**0.23**	**334**	Pg		**Pg**	**17 21 40.2**	**+0.1**
WERD				Sg		**Sg**	**17 21 43.1**	**-0.3**
TRIB	**Obertriebel**	**0.23**	**297**	*e*Pg		**Pg**	**17 21 40.3**	**+0.1**
TRIB				*e*Sg		**Sg**	**17 21 43.3**	**-0.2**
TRIB	**Obertriebel**	**0.23**	**297**	Pg		**Pg**	**17 21 40.3**	**+0.1**
TRIB				Sg		**Sg**	**17 21 43.3**	**-0.2**
PLN	**Plauen**	**0.31**	**321**	*e*Pg		**Pg**	**17 21 41.6**	**0.0**
PLN				*e*Sg		**Sg**	**17 21 45.7**	**-0.1**
PLN	**Plauen**	**0.31**	**321**	Pg		**Pg**	**17 21 41.6**	**0.0**
PLN				Sg		**Sg**	**17 21 45.7**	**-0.1**
SCHF	**Schoenfels**	**0.43**	**355**	*e*Pg		**Pg**	**17 21 44.0**	**+0.1**
SCHF				*e*Sg		**Sg**	**17 21 49.8**	**+0.1**
SCHF	**Schoenfels**	**0.43**	**355**	Pg		**Pg**	**17 21 44.0**	**+0.1**
SCHF				Sg		**Sg**	**17 21 49.8**	**+0.1**
ROTZ	**Rotzenmuhle**	**0.51**	**199**	*e*Pg		**Pg**	**17 21 45.5**	**+0.3**
ROTZ				*e*Sg		**Sg**	**17 21 52.1**	**+0.2**
ROTZ	**Rotzenmuhle**	**0.51**	**199**	Pg		**Pg**	**17 21 45.5**	**+0.3**
ROTZ				Sg		**Sg**	**17 21 52.1**	**+0.2**
MOX	**Moxa**	**0.67**	**307**	*e*Pg		**Pg**	**17 21 48.3**	**-0.1**
MOX				*e*Sg		**Sg**	**17 21 57.0**	**-0.2**
MOX	**Moxa**	**0.67**	**307**	Pg		**Pg**	**17 21 48.3**	**-0.1**
MOX				Sg		**Sg**	**17 21 57.0**	**-0.2**
FBE	**Freiberg**	**0.89**	**40**	*e*Pg		**Pb**	**17 21 52.6**	**0.0**
FBE				*e*Sg		**Sg**	**17 22 03.5**	**-0.4**
FBE	**Freiberg**	**0.89**	**40**	Pg		**Pb**	**17 21 52.6**	**0.0**
FBE				Sg		**Sg**	**17 22 03.5**	**-0.4**
GRA1	**Grafenberg Arr**	**0.97**	**236**	Pg		**Pb**	**17 21 54.1**	**-0.1**
GRA1				Sg		**Sg**	**17 22 06.2**	**-0.5**
GRF	**Grafenberg Arr**	**0.97**	**236**	*e*Pg		**Pb**	**17 21 54.1**	**-0.1**
GRF				*e*Sg		**Sg**	**17 22 06.2**	**-0.5**
CLL	**Collm**	**1.12**	**18**	*e*Pg		**Pb**	**17 21 56.5**	**-0.1**
CLL				*e*Sg		**Sb**	**17 22 11.1**	**-0.1**
CLL	**Collm**	**1.12**	**18**	Pg		**Pb**	**17 21 56.5**	**-0.1**
CLL				Sg		**Sb**	**17 22 11.1**	**-0.1**
CLL	**Collm**	**1.12**	**18**	*i* Pg		**Pb**	**17 21 56.5**	**-0.1**
CLL				*i*			17 21 58.7	
CLL				*i*			17 22 00.0	
CLL				*i* Sg		**Sg**	**17 22 11.6**	**+0.2**
	comp=Z,11nm,0.4s							
CLL				*e*			17 22 13.0	
WET	**Wettzell**	**1.14**	**166**	*e*Pg		**Pn**	**17 21 57.0**	**-0.1**
WET				*e*Sg		**Sb**	**17 22 11.7**	**+0.1**
WET	**Wettzell**	**1.14**	**166**	Pg		**Pn**	**17 21 57.0**	**-0.1**
WET				Sg		**Sb**	**17 22 11.7**	**+0.1**
BRG	**Berggiesshubel**	**1.14**	**56**	PG		**Pn**	**17 21 57.0**	**-0.1**
BRG				SG		**Sg**	**17 22 11.8**	**-0.1**
	comp=Z,26nm,0.2s							
BRG	**Berggiesshubel**	**1.14**	**56**	*e*Pg		**Pn**	**17 21 57.1**	**0.0**
BRG				*e*Sg		**Sb**	**17 22 11.6**	**-0.1**
BRG	**Berggiesshubel**	**1.14**	**56**	Pg		**Pn**	**17 21 57.1**	**0.0**
BRG				Sg		**Sb**	**17 22 11.6**	**-0.1**
PRA	**Prague**	**1.28**	**97**	*e*SG		**Sn**	**17 22 16.0**	**-0.2**
	comp=Z,5.6nm,0.3s							
PRA	**Prague**	**1.28**	**97**	Sg		**Sn**	**17 22 16.0**	**-0.2**
	comp=Z,5.6nm,0.3s							
KHC	**Kasperske Hory**	**1.33**	**147**	*e*PG		**Pn**	**17 21 59.8**	**0.0**
KHC				*e*SG		**Sn**	**17 22 17.4**	**-0.1**
	comp=Z,9.5nm,0.2s							
KHC	**Kasperske Hory**	**1.33**	**147**	Pg		**Pn**	**17 21 59.8**	**0.0**
KHC				Sg		**Sn**	**17 22 17.4**	**-0.1**
	comp=Z,9.5nm,0.2s							
PRU	**Pruhonice**	**1.36**	**100**	*e*PG		**Pn**	**17 22 00.3**	**+0.1**
PRU				*e*SG		**Sg**	**17 22 18.9**	**-0.3**
	comp=Z,7.9nm,0.1s							
PRU	**Pruhonice**	**1.36**	**100**	Pg		**Pn**	**17 22 00.3**	**+0.1**
PRU				Sg		**Sg**	**17 22 18.9**	**-0.3**
	comp=Z,7.9nm,0.1s							
GOPC	**GO Pecny, Ondr**	**1.54**	**102**	*e*SG		**Sg**	**17 22 24.1**	**-0.6**
	comp=Z,6.1nm,0.3s							
GOPC	**GO Pecny, Ondr**	**1.54**	**102**	Sg		**Sg**	**17 22 24.1**	**-0.6**
	comp=Z,6.1nm,0.3s							
DPC	**Dobruska-Polom**	**2.48**	**86**	*e*SG		**Sb**	**17 22 52.4**	**+2.1**
	comp=Z,2.3nm,0.3s							
DPC	**Dobruska-Polom**	**2.48**	**86**	Sg		**Sb**	**17 22 52.4**	**+2.1**
	comp=Z,2.3nm,0.3s							
VRAC	**Vranov**	**2.84**	**108**	*e*Sg		**Sg**	**17 23 04.0**	**-2.4**

*IDC **03** 17:26:39.6±0.6,30°.11S×177°.46W,h0km,mb4.5/13, mb1 4.7/15,mb1mx4.5/27,mbtmp4.5/15,ML4.4/2,MS4.1/8, Ms1 4.1/8,ms1mx3.9/29,Error ellipse: s-maj=20.7km s-min=15.0km az=88.0*
*NEIC **03** 17:26:41.1±4.4,30°.26S×177°.55W,h11km±26km,mb4.8/42, Error ellipse: s-maj=10.7km s-min=8.7km az=118.0*
*ISCJB **03** 17:26:42.8±0.3,30°.50S±0°.03×177°.63W±0°.07,h33km, mb4.8/51,MS4.5/8, Error ellipse: s-maj=9.1km s-min=3.2km az=21.8*
*MOS **03** 17:26:44.0±1.1,30°.13S×177°.65W,h33km,mb5.2/13, Error ellipse: s-maj=13.3km s-min=10.4km az=94.6*

ISC 03 17:26:43.1±0.8,30°.31S±0°.04×177°.60W±0°.08,h25km±5km, h25km:pP-P,n243,σ2°.07/260,mb4.8/51,MS4.6/8,3C-6D, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
RAO	**Raoul Island**	**1.09**	**345**		Pn	**Pn**	**17 27 01.1**	**-1.6**
	1μm,0.3s,baz=193,slow=14,SNR=142							
RAO					Sn	**Sn**	**17 27 14.8**	**-2.2**
	4μm,0.3s,baz=287,slow=19,SNR=20							
RAO	**Raoul Island**	**1.09**	**345**	*i*	P	**Pn**	**17 27 01.5**	**-1.3**
RAO				*e*			17 27 14.5	
RAO	**Raoul Island**	**1.09**	**345**	*i*	Pn	**Pn**	**17 27 01.5**	**-1.3**
RAO				*e*	Sn	**Sn**	**17 27 14.5**	**-2.5**
WMGZ	**Waiomatatini S**	**8.19**	**203**		PN	**Pn**	**17 28 39.9**	**-0.4**
WMGZ					SN	**Sn**	**17 30 12.7**	**+0.6**
HAZ	**Te Kaha**	**8.36**	**206**		PN	**Pn**	**17 28 41.1**	**-1.5**
HAZ					SN	**Sn**	**17 30 20.1**	**+4.0**
PKGZ	**Pakihiroa**	**8.37**	**204**		PN	**Pn**	**17 28 40.9**	**-1.9**
PKGZ					SN	**Sn**	**17 30 15.1**	**-1.4**
PUZ	**Puketiti**	**8.47**	**203**		PN	**Pn**	**17 28 42.0**	**-2.3**
RUGZ	**Raukumara Rang**	**8.58**	**206**	*e*	PN	**Pn**	**17 28 44.7**	**-1.1**
TWGZ	**Tauwhareparae**	**8.66**	**204**		PN	**Pn**	**17 28 44.8**	**-2.0**
WCZ	**Waipu Caves**	**8.78**	**228**	*e*	PN	Pn	17 28 57.1	+8.6
OUZ	**Omahuta**	**8.88**	**234**	*e*	Pn	Pn	17 28 58.6	+8.7
OUZ	**Omahuta**	**8.88**	**234**	*e*	PN	**Pn**	17 28 58.9	+9.1
TKGZ	**Te Karaka**	**8.94**	**204**		PN	**Pn**	**17 28 48.8**	**-1.8**
MWZ	**Matawai**	**8.96**	**205**	*e*	PN	**Pn**	**17 28 49.2**	**-1.8**
URZ	**Urewera**	**9.06**	**207**		Pn	**Pn**	**17 28 49.1**	**-3.1**
	2.0nm,0.3s,baz=273,slow=4.0,SNR=18							
URZ					Sn	**Sn**	**17 30 34.1**	**+0.7**
	10nm,0.3s,baz=167,slow=18,SNR=13							
URZ	**Urewera**	**9.06**	**207**	*e*	Pn	**Pn**	**17 28 49.9**	**-2.4**
URZ				*e*	Sn	**Sn**	**17 30 27.4**	**-5.9**
URZ					Sn	Sn	17 30 34.1	+0.7
URZ	**Urewera**	**9.06**	**207**		PN	**Pn**	**17 28 49.7**	**-2.6**
MUGZ	**Murupara**	**9.38**	**208**		PN	**Pn**	**17 28 57.0**	**+0.3**
RTZ	**Ruatahuna**	**9.41**	**207**		PN	**Pn**	**17 28 53.4**	**-3.8**
RTZ					SN	**Sn**	**17 30 41.1**	**-1.2**
NMHZ	**Naumai**	**9.90**	**206**		PN	**Pn**	**17 29 03.4**	**-0.5**
BKZ	**Black Stump Fm**	**10.08**	**207**	*e*	Pn	**Pn**	**17 29 03.5**	**-2.8**
BKZ				*e*	Sn	**Sn**	**17 30 50.5**	**-8.1**
BKZ	**Black Stump Fm**	**10.08**	**207**		PN	**Pn**	**17 29 03.2**	**-3.1**
HIZ	**Hauiti**	**10.28**	**215**	*e*	Pn	**Pn**	**17 29 12.2**	**+3.2**
PXZ	**Pawanui**	**10.70**	**204**		PN	**Pn**	**17 29 13.9**	**-0.8**
TSZ	**Takapari Road**	**11.06**	**207**		PN	**Pn**	**17 29 18.0**	**-1.7**
BFZ	**Birch Farm**	**11.50**	**204**	*e*	Pn	**Pn**	**17 29 24.0**	**-1.7**
BFZ				*e*	Sn	**Sn**	**17 31 31.4**	**-1.9**
BFZ	**Birch Farm**	**11.50**	**204**		PN	**Pn**	**17 29 23.1**	**-2.6**
TIWZ	**Tintock**	**11.71**	**205**		PN	**Pn**	**17 29 25.8**	**-2.8**
MRZ	**Mangatainoka R**	**11.72**	**206**	*e*	PN	Pn	17 29 23.9	-4.9
SNZO	**South Karori**	**12.62**	**207**	*e*	Pn	**Pn**	**17 29 39.6**	**-1.4**
SNZO				*e*	Sn	Sn	17 31 46.9	-14
TUWZ	**Tuamarina**	**13.04**	**209**		PN	**Pn**	**17 29 50.6**	**+3.9**
NNZ	**Nelson**	**13.11**	**211**		PN	**P**	**17 29 53.8**	**-3.9**
MSVF	**Nonsavu**	**13.13**	**341**	*e*	P	**Pn**	**17 29 47.7**	**-0.5**
MSVF	**Nonsavu**	**13.13**	**341**	*e*	Pn	**Pn**	**17 29 47.7**	**-0.5**
THZ	**Tophouse**	**13.76**	**211**	*e*	Pn	**Pn**	**17 29 56.9**	**+0.3**
THZ				*e*	Sn	**Sn**	**17 32 25.3**	**-3.3**
THZ	**Tophouse**	**13.76**	**211**		PN	**Pn**	**17 29 55.0**	**-1.6**
KHZ	**Kahutara**	**14.02**	**208**	*e*	Pn	**Pn**	**17 29 59.2**	**-1.0**
KHZ				*e*	Sn	**Sn**	**17 32 28.4**	**-6.4**
KHZ	**Kahutara**	**14.02**	**208**		PN	**Pn**	**17 30 01.2**	**+1.1**
LTZ	**Lake Taylor**	**14.86**	**210**	*e*	Pn	**Pn**	**17 30 09.8**	**-1.8**
LTZ				*e*	Sn	Sn	17 32 46.1	-9.2
INZ	**Inchbonnie**	**15.19**	**212**		PN	**Pn**	**17 30 13.5**	**-2.4**
CRLZ	**Canterbury Las**	**15.36**	**208**	*e*	Pn	**Pn**	**17 30 15.8**	**-2.3**
	412nm,1.8s							
CRLZ				*e*	Sn	Sn	17 32 53.8	-14
OXZ	**Oxford**	**15.40**	**210**	*e*	Pn	**Pn**	**17 30 15.5**	**-3.2**
	40nm,0.6s							
OXZ				*e*	Sn	Sn	17 32 56.5	-12
OXZ	**Oxford**	**15.40**	**210**		PN	**Pn**	**17 30 16.1**	**-2.6**
MQZ	**McQueen's Vall**	**15.46**	**207**	*e*	Pn	**Pn**	**17 30 16.0**	**-3.4**
	294nm,1.8s							
RPZ	**Rata Peaks**	**16.14**	**211**		Pn	**P**	**17 30 30.0**	**-1.3**
	2.2nm,0.3s,baz=323,slow=20,SNR=9.5							
RPZ					Sn	**Sn**	**17 33 16.2**	**-10**
	1.5nm,0.3s,baz=135,slow=22,SNR=6.2							
RPZ	**Rata Peaks**	**16.14**	**211**	*e*	Pn	**Pn**	**17 30 27.4**	**-0.9**
RPZ				*e*	Sn	**Sn**	**17 33 16.2**	**-10**
DZM	**Mont Dzumac**	**16.49**	**296**		Pn	**P**	**17 30 39.3**	**+3.9**
	0.4nm,0.3s,baz=147,slow=6.9,SNR=6.6							
DZM					LR	LR	17 35 26.8	
	comp=Z,1μm,20.2s,baz=141,slow=32							
DZM	**Mont Dzumac**	**16.49**	**296**	*e*	P	**P**	**17 30 39.0**	**+3.6**
	144nm,1.1s							
DZM				*e*	LR	LR	17 34 32.7	
	2μm,23.8s							
FOZ	**Fox Glacier**	**16.57**	**214**	*e*	Pn	**Pn**	**17 30 31.6**	**-2.1**
	72nm,1.2s							
LBZ	**Lake Benmore**	**17.05**	**211**	*e*	Pn	**Pn**	**17 30 39.0**	**-0.8**
	50nm,1.4s							
AFI	**Afiamalu**	**17.18**	**19**		Pn	**Pn**	**17 30 38.5**	**-3.1**
	0.8nm,0.3s,baz=17,slow=19,SNR=2.4							
AFI					LR	LR	17 36 39.8	
	comp=Z,207nm,19.7s,baz=164,slow=35							
AFI	**Afiamalu**	**17.18**	**19**	*e*	P	**Pn**	**17 30 40.4**	**-1.2**
AFI					pmax	pmax		
	comp=Z,35nm,0.9s							
AFI	**Afiamalu**	**17.18**	**19**	*e*	Pn	**Pn**	**17 30 40.4**	**-1.2**
	comp=Z,35nm,0.9s							
ODZ	**Otahua Downs**	**17.38**	**209**	*e*	Pn	**Pn**	**17 30 43.7**	**-0.1**
	comp=Z,22nm,0.9s							
JCZ	**Jackson Bay**	**17.47**	**214**	*e*	PN	**Pn**	**17 30 43.6**	**-1.5**
WKZ	**Wanaka**	**17.92**	**212**	*e*	Pn	**Pn**	**17 30 49.6**	**-1.0**
	comp=Z,178nm,1.6s							
RAR	**Rarotonga**	**18.42**	**65**		LR	LR	17 35 34.7	
	comp=Z,600nm,21.0s,baz=250,slow=29							
MLZ	**Mavora Lakes**	**18.75**	**213**	*e*	P	**P**	**17 30 59.1**	**-1.0**
	comp=Z,86nm,1.6s							
WHZ	**Wether Hill Ro**	**19.22**	**212**	*e*	P	**P**	**17 31 01.6**	**-3.7**
	comp=Z,205nm,1.9s							
DCZ	**Deep Cove**	**19.28**	**214**	*e*	P	**P**	**17 31 03.4**	**-2.5**
	comp=Z,147nm,1.8s							
TBI	**Tubuai**	**26.01**	**81**	*e*	LR	LR	17 38 40.7	
	comp=Z,860nm,27.2s,baz=258							
TBI	**Tubuai**	**26.01**	**81**	*e*	T	T	17 58 58.0	
	comp=Z,9.4nm,0.2s							
ARMA	**Armidale**	**26.51**	**262**	*e*	P	**P**	**17 32 18.6**	**-0.2**
	comp=Z,11nm,0.9s							
EIDS	**Eidsvold**	**28.07**	**272**	*e*	P	**P**	**17 32 35.9**	**+3.1**
	comp=Z,28nm,1.3s							
CAN	**Canberra**	**28.43**	**251**	*e*	P	**P**	**17 32 37.0**	**+1.1**
CAN					pmax	pmax		
	comp=Z,44nm,1.3s							
CAN	**Canberra**	**28.43**	**251**	*e*	P	**P**	**17 32 37.0**	**+1.1**
	comp=Z,44nm,1.3s							
PAE	**Paea**	**28.44**	**70**	*e*	T	T	18 01 43.0	
	comp=Z,3.3nm,0.3s							
PPT2	**Papeete2**	**28.48**	**70**	*e*	LR	LR	17 39 45.9	
	comp=Z,789nm,26.8s,baz=226							
PPT	**Papeete**	**28.49**	**70**		LR	LR	17 42 29.9	
	comp=Z,89nm,18.5s,baz=206,slow=34							
VAH	**Vaihoa**	**31.32**	**68**	*e*	T	T	18 05 28.4	
	comp=Z,20nm,0.2s							
CTAO	**Charters Tower**	**34.12**	**279**	*e*	P	**P**	**17 33 29.0**	**+2.9**
CTAO					pmax	pmax		
	comp=Z,23nm,0.8s							
CTAO	**Charters Tower**	**34.12**	**279**	*e*	P	**P**	**17 33 29.0**	**+2.9**
	comp=Z,23nm,0.8s							
STKA	**Stephens Creek**	**34.83**	**257**		P	**P**	**17 33 35.0**	**+2.8**
	comp=Z,3.7nm,0.3s,baz=99,slow=10,SNR=41							
STKA					LR	LR	17 46 20.9	
	comp=Z,992nm,18.1s,baz=83,slow=34							
RKT	**Rikitea**	**38.57**	**90**	*e*	LR	LR	17 44 22.7	
	comp=Z,471nm,27.5s							
PMG	**Port Moresby**	**38.88**	**295**	*i*	P	**P**	**17 34 05.2**	**-1.5**
PMG					pmax	pmax		
	comp=Z,42nm,0.9s							
PMG	**Port Moresby**	**38.88**	**295**	*e*	P	**P**	**17 34 06.6**	**-0.1**
	comp=Z,54nm,1.5s							
BBOO	**Buckleboo**	**39.33**	**254**	*e*	P	**P**	**17 34 11.5**	**+1.2**
	comp=Z,14nm,0.8s							
COEN	**Coen**	**39.58**	**286**	*e*	P	**P**	**17 34 15.0**	**+2.4**
	comp=Z,67nm,1.8s							
TAOE	**Nuku Hiva Isla**	**40.95**	**66**	*e*	LR	LR	17 45 26.8	
	comp=Z,491nm,24.6s							
ASAR	**Alice Springs**	**43.46**	**267**		P	**P**	**17 34 45.1**	**+0.7**
	comp=Z,5.4nm,0.8s,baz=103,slow=7.7,SNR=44							
ASAR					PcP	**PcP**	**17 36 33.4**	**+1.0**
	comp=Z,1.9nm,0.9s,baz=110,slow=4.6,SNR=5.7							
ASAR					LR	LR	17 51 18.2	
	comp=Z,593nm,18.4s,baz=164,slow=34							
WRAB	**Tennant Creek**	**44.43**	**272**	*e*	P	**P**	**17 34 50.7**	**-1.5**
WRAB					pmax	pmax		
	comp=Z,28nm,0.9s							
WRAB	**Tennant Creek**	**44.43**	**272**	*e*	P	**P**	**17 34 53.5**	**+1.2**
	comp=Z,15nm,0.8s							
WRA	**Warramunga Arr**	**44.44**	**272**		P	**P**	**17 34 52.9**	**+0.6**
	comp=Z,12nm,0.4s,baz=111,slow=8.1,SNR=134							
WRA					LR	LR	17 52 59.4	
	comp=Z,416nm,18.7s,baz=135,slow=36							
FORT	**Forrest**	**46.40**	**255**	*e*	P	**P**	**17 35 09.5**	**+1.8**
	comp=Z,222nm,0.8s							
SBA	**Scott Base**	**48.16**	**184**	*e*	P	**P**	**17 35 23.5**	**+2.8**
SBA					pmax	pmax		
	comp=Z,31nm,1.4s							
SBA	**Scott Base**	**48.16**	**184**	*e*	P	**P**	**17 35 23.5**	**+2.8**
	comp=Z,31nm,1.4s							
VNDA	**Vanda**	**48.22**	**186**		LR	LR	17 53 52.4	
	comp=Z,139nm,20.4s,baz=150,slow=34							
MTN	**Manton Dam**	**50.31**	**279**	*e*	P	**P**	**17 35 38.0**	**0.0**
	comp=Z,1nm,0.9s							
FITZ	**Fitzroy Crossi**	**52.70**	**270**	*e*	P	**P**	**17 35 56.5**	**+0.6**
	comp=Z,13nm,1.1s							
MBWA	**Marble Bar**	**56.58**	**263**	*e*	P	**P**	**17 36 24.1**	**+0.2**
	comp=Z,26nm,1.3s							
QSPA	**South Pole Qui**	**59.80**	**180**	*e*	P	**P**	**17 36 49.4**	**+3.3**
MAW	**Mawson**	**72.52**	**200**		P	**P**	**17 38 09.9**	**+2.6**
	comp=Z,13nm,1.1s,baz=111,slow=9.0,SNR=18							
KKM	**Kota Kinabalu**	**72.86**	**288**	*e*	P	**P**	**17 38 09.8**	**-0.6**
	comp=Z,18nm,1.0s							
SYO	**Syowa Base**	**77.28**	**193**	*i*	P	**P**	**17 38 35.0**	**+0.1**
SYO	**Syowa Base**	**77.28**	**193**	*i*	PcP	**PcP**	**17 38 44.0**	**-1.4**
SNAA	**Sanae**	**78.24**	**178**		P	**P**	**17 38 41.9**	**+1.6**
SNAA	**Sanae**	**78.24**	**178**		P	**P**	**17 38 41.7**	**+1.4**
	comp=Z,3.0nm,0.9s,baz=183,slow=4.9,SNR=10							
SNAA	**Sanae**	**78.24**	**178**	*e*	P	**P**	**17 38 40.2**	**-0.1**
SNAA	**Sanae**	**78.24**	**178**	*e*	P	**P**	**17 38 40.8**	**+0.5**
	comp=Z,9.3nm,1.0s							
MJAR	**Matsushiro Arr**	**78.36**	**325**		P	**P**	**17 38 41.4**	**+0.1**
	comp=Z,4.3nm,0.9s,baz=162,slow=5.9,SNR=4.9							
VNA3	**Neumayer Olymp**	**78.37**	**176**		P	**P**	**17 38 42.3**	**+1.3**
VNA2	**Neumayer--Watz**	**78.81**	**177**		P	**P**	**17 38 44.5**	**+1.1**
VNA1	**Neumayer--Stat**	**79.04**	**176**		P	**P**	**17 38 46.7**	**+2.1**
ATKA	**Atka Island**	**82.21**	**2**	*e*	P	**P**	**17 39 00.8**	**-0.8**
	comp=Z,92nm,1.3s							
ASAJ	**Asahikawa**	**82.52**	**332**	*e*	P	**P**	**17 39 04.0**	**+0.6**
	comp=Z,36nm,1.3s							
YSS	**Yuzh-Sakhalins**	**84.81**	**334**	*e*	P	**P**	**17 39 16.2**	**+1.1**
YSS					pmax	pmax		
	comp=Z,30nm,0.9s							
PETK	**Petropavlovsk-**	**85.81**	**345**		P	**P**	**17 39 19.7**	**-0.3**
	comp=Z,14nm,0.9s,baz=123,slow=7.3,SNR=7.0							
NJ2	**Nanjing**	**86.45**	**310**	*e*	P	**P**	**17 39 24.7**	**+1.1**
CMB	**Columbia Colle**	**86.46**	**42**	*e*	P	**P**	**17 39 23.9**	**+0.3**
CMB					pmax	pmax		
	comp=Z,4.0nm,0.8s							
CMB	**Columbia

MKAR	**Makanchi Array**	**117.98 310**	*e*PKPdf	**PKPdf**	**17 45 26.1**	**-1.3**
ZALV	**Zalesovo Beam**	**118.19 318**	PKP	**PKPdf**	**17 45 26.7**	**-0.8**
	comp=Z,0.8nm,0.8s,baz=143,slow=3.0,SNR=3.1					
NRIK	**Noril'sk**	**119.69 336**	PKP	**PKPdf**	**17 45 30.2**	**+0.2**
	comp=Z,3.1nm,0.5s,baz=98,slow=5.0,SNR=3.6					
KSH	**Kashi**	**120.49 301**	*e*PKP	**PKPdf**	**17 45 33.1**	**+0.5**
KSH			*es*PKP		17 45 48.6	
KSH			*e*PP	PP	17 47 09.9	+10
KSH			PKS	**PKSdf**	**17 49 09.5**	**+0.2**
KSH			SKS	**SKSdf**	**17 52 39.7**	**-3.4**
KSH	**Kashi**	**120.49 301**	SS	SS	18 03 41.1	+13
KSH			AMB	AMB		
	comp=Z,86nm,6.5s					
KSH			LR	LR		
	comp=N,270nm,13.3s					
KSH			LR	LR		
	comp=E,120nm,8.1s					
KSH			LR	LR		
	comp=Z,290nm,13.5s					
KURK	**Kurchatov**	**121.23 314**	*e*PKIKP	**PKPdf**	**17 45 33.3**	**-0.1**
AAK	**Ala-Archa**	**122.35 304**	*e*PKIKP	**PKPdf**	**17 45 36.2**	**+0.1**
KKAR	**Karatay Array**	**125.31 304**	*e*PKIKP	**PKPdf**	**17 45 40.8**	**-0.8**
KKAR	**Karatay Array**	**125.31 304**	*e*PKPdf	**PKPdf**	**17 45 40.8**	**-0.8**
BRVK	**Borovoye**	**126.64 316**	*d i*PKIKP	**PKPdf**	**17 45 43.5**	**-0.3**
ARU	**Arti**	**133.24 321**	*i* PKIKP	**PKPdf**	**17 45 55.2**	**-1.0**
ARU					17 48 20.8	
GEYT	**Alibeck**	**133.83 295**	PKP	**PKPdf**	**17 45 59.2**	**+1.2**
	comp=Z,4.3nm,0.8s,baz=266,slow=2.4,SNR=8.5					
ARCES	**ARCESS Array B**	**138.57 348**	PKP	**PKPdf**	**17 46 05.0**	**-0.7**
	comp=Z,3.3nm,0.9s,baz=53,slow=3.5,SNR=5.9					
TBLG	**Delisi**	**144.24 300**	P	**PKPdf**	**17 46 18.1**	**+1.3**
TBLG	**Delisi**	**144.24 300**	PKIKP	**PKPdf**	**17 46 18.1**	**+1.3**
ZEI	**Tsey**	**144.75 302**	*i* PKIKP	**PKPab**	**17 46 15.7**	**-1.1**
ZEI			pmax	pmax		
	comp=Z,32nm,0.8s					
GOF	**Gofitskoye**	**145.01 306**	*i*ePKHKP	PKPpre	17 46 13.0	
GOF			pmax	pmax		
	comp=Z,15nm,1.0s					
ONI	**Oni**	**145.10 302**	P	**PKPdf**	**17 46 18.7**	**+0.4**
ONI	**Oni**	**145.10 302**	PKIKP	**PKPdf**	**17 46 18.7**	**+0.4**
FINES	**FINESS Array B**	**145.18 340**	PKPbc	**PKPbc**	**17 46 16.9**	**-0.5**
	comp=Z,28nm,0.9s,baz=53,slow=3.4,SNR=62					
AKH	**Akhalkalaki**	**145.19 300**	P	**PKPdf**	**17 46 19.5**	**+0.8**
AKH	**Akhalkalaki**	**145.19 300**	PKIKP	**PKPdf**	**17 46 19.5**	**+0.8**
LPSR	**Galich'ya Gora**	**145.26 320**	*e*PKIKP	**PKPbc**	**17 46 17.6**	**-0.3**
LPSR			pmax	pmax		
	comp=Z,20nm,1.0s					
OBN	**Obninsk**	**145.29 325**	*c i*PKIKP	**PKPbc**	**17 46 17.7**	**-0.2**
OBN			*i*		17 46 23.1	
OBN					17 46 32.0	
OBN					17 53 24.0	
OBN			pmax	pmax		
	comp=Z,43nm,0.9s					
OBN			MLR	MLR		
	comp=Z,138nm,16.0s					
OBN	**Obninsk**	**145.29 325**	*e*PKPbc	**PKPbc**	**17 46 17.6**	**-0.3**
KBZ	**Khabaz**	**145.34 304**	PKPbc	**PKPbc**	**17 46 18.4**	**-0.1**
	comp=Z,8.6nm,1.1s,baz=49,slow=1.5,SNR=10.0					
KIV	**Kislovodsk**	**145.46 305**	*d i*PKIKP	**PKPab**	**17 46 19.6**	**+0.4**
KIV			*i*		17 46 25.7	
KIV			*e*		17 46 31.5	
KIV			pmax	pmax		
	comp=Z,13nm,1.0s					
KIV			pmax	pmax		
	comp=Z,8.0nm,1.0s					
NEY	**Neytrino**	**145.54 303**	*d i*PKIKP	**PKPab**	**17 46 20.9**	**+1.2**
VSR	**Storozhevoye**	**145.70 318**	*e*PKP2	**PKPdf**	**17 46 18.8**	**-0.1**
VSR			pmax	pmax		
	comp=Z,30nm,0.9s					
VSU	**Vasula**	**147.28 336**	*e*PKIKP	**PKPdf**	**17 46 21.4**	**0.0**
NB2	**NORSAR Subarra**	**148.71 352**	PKP	**PKPbc**	**17 46 27.1**	**-0.5**
	comp=Z,3.6nm,0.7s,baz=13,slow=2.8					
NOA	**NORSAR Array B**	**148.71 352**	PKPbc	**PKPbc**	**17 46 27.2**	**-0.4**
	comp=Z,8.2nm,0.9s,baz=14,slow=4.3,SNR=18					
JHLN	**Al Jahlan**	**149.41 290**	*e*P	**PKPab**	**17 46 41.5**	**+6.6**
NACGM	**Naroch**	**149.86 332**	*e*	**PKPbc**	**17 46 30.0**	**-0.5**
RABH	**Abou Rabah**	**150.40 287**	*e*P	**PKPab**	**17 46 40.7**	**+1.6**
SALA	**Sala**	**150.70 284**	*e*P	**PKPbc**	**17 46 34.8**	**+1.3**
DRWC	**Darouich**	**150.83 292**	*e*P	**PKPbc**	**17 46 34.4**	**+0.8**
BTCH	**Batrach**	**151.02 290**	*e*P	**PKPbc**	**17 46 34.7**	**+0.7**
TCHB	**Talchebab**	**151.34 283**	*e*P	**PKPbc**	**17 46 36.0**	**+1.2**
BRBR	**Barbar**	**151.40 285**	*e*P	**PKPbc**	**17 46 36.4**	**+1.2**
AKASG	**Malin Array Be**	**151.43 323**	PKPbc	**PKPbc**	**17 46 34.2**	**-0.2**
	comp=Z,1.3nm,0.3s,baz=46,slow=2.5,SNR=16					
AKASG			PKPab	**sPKPdf**	**17 46 41.0**	**+1.5**
	comp=Z,9.4nm,0.7s,baz=48,slow=3.4,SNR=20					
BRTR	**Keskin Array B**	**152.86 299**	PKPbc	**PKPbc**	**17 46 38.1**	**-0.1**
	comp=Z,6.7nm,0.9s,baz=129,slow=3.3,SNR=27					
ANTO	**Ankara**	**153.47 299**	*e*PKIKP	**PKPdf**	**17 46 30.1**	**-1.7**
ANTO			*e*		17 46 39.7	
ANTO	**Ankara**	**153.47 299**	*e*PKPdf	**PKPdf**	**17 46 30.1**	**-1.7**
ANTO			*e*PKPbc	**PKPbc**	**17 46 39.7**	**+0.2**
CSS	**Mathiatis**	**153.60 288**	*e*PKPdf	**PKPdf**	**17 46 33.5**	**+1.5**
CSS			*e*PKPbc	**PKPbc**	**17 46 39.7**	**-0.1**
KWP	**Kalwaria Pacla**	**155.34 327**	*e*PKP	**PKPdf**	**17 46 60.0**	**+0.7**
KWP	**Kalwaria Pacla**	**155.34 327**	*e*PKP2	**PKPab**	**17 47 00.0**	**+0.7**
STHS	**Stebnicka Huta**	**156.17 329**	*e*PKIKP	**PKPdf**	**17 46 34.8**	**-0.3**
STHS	**Stebnicka Huta**	**156.17 329**	*e*PKP	**PKPdf**	**17 46 34.8**	**-0.3**
STHS			*e*		17 47 03.7	
CRVS	**Cervenica-Dubn**	**156.44 327**	*e*PKP2	**PKPab**	**17 47 03.5**	**-0.5**
CRVS	**Cervenica-Dubn**	**156.44 327**	*e*PKP	**PKPab**	**17 47 03.5**	**-0.5**
KSP	**Ksiaz**	**157.00 337**	*e*PKP	**PKPab**	**17 47 07.1**	**+0.7**
KSP	**Ksiaz**	**157.00 337**	*e*PKP2	**PKPab**	**17 47 07.1**	**+0.7**
KECS	**Kecovo**	**157.19 328**	*e*PKP2	**PKPab**	**17 47 07.6**	**+0.3**
KECS	**Kecovo**	**157.19 328**	*e*PKP	**PKPab**	**17 47 07.6**	**+0.3**
UPC	**Upice**	**157.38 337**	*e*PKPAB	**PKPab**	**17 47 08.6**	**+0.6**
UPC	**Upice**	**157.38 337**	*e*PKP2	**PKPab**	**17 47 08.6**	**+0.6**
DPC	**Dobruska-Polom**	**157.41 336**	*e*PKPAB	**PKPab**	**17 47 08.9**	**+0.7**
DPC			*ep*PKP	**pPKPab**	**17 47 14.2**	**-2.2**
DPC	**Dobruska-Polom**	**157.41 336**	*e*PKP2	**PKPab**	**17 47 08.9**	**+0.7**
CLL	**Collm**	**157.58 342**	*e*PKIKP	**PKPdf**	**17 46 36.3**	**-0.5**
CLL			*e*		17 47 07.0	
CLL	**Collm**	**157.58 342**	*e*PKPab	**PKPab**	**17 47 08.0**	**-0.8**
	comp=Z,10.0nm,1.1s					
CLL			*i* pPKPab	**pPKPab**	**17 47 14.5**	**-2.5**
CLL	**Collm**	**157.58 342**	*e*PKPdf	**PKPdf**	**17 46 36.3**	**-0.5**
CLL			*e*PKPab	**PKPab**	**17 47 07.0**	**-1.8**
PVCC	**Panska Ves**	**157.83 339**	*e*PKPAB	**PKPab**	**17 47 10.6**	**+0.7**
PVCC	**Panska Ves**	**157.83 339**	*e*PKP2	**PKPab**	**17 47 10.6**	**+0.7**
PSZ	**Piszkesteto**	**157.87 328**	*e*PKIKP	**PKPdf**	**17 46 38.8**	**+1.4**
PSZ			*e*		17 47 09.9	
PSZ	**Piszkesteto**	**157.87 328**	*e*PKPdf	**PKPdf**	**17 46 38.8**	**+1.4**
PSZ			*e*PKPab	**PKPab**	**17 47 09.9**	**-0.4**
VYHS	**Vyhne**	**157.92 330**	*e*PKP2	**PKPab**	**17 47 09.6**	**-0.8**
VYHS	**Vyhne**	**157.92 330**	*e*PKP	**PKPab**	**17 47 09.6**	**-0.8**
GOPC	**GO Pecny, Ondr**	**158.30 338**	*e*PKPAB	**PKPab**	**17 47 12.3**	**+0.3**
GOPC	**GO Pecny, Ondr**	**158.30 338**	*e*PKP2	**PKPab**	**17 47 12.3**	**+0.3**
PRU	**Pruhonice**	**158.31 338**	*e*PKPAB	**PKPab**	**17 47 12.5**	**+0.5**
PRU	**Pruhonice**	**158.31 338**	*e*PKP2	**PKPab**	**17 47 12.5**	**+0.5**
NKC	**Novy Kostel**	**158.71 342**	*e*PKPAB	**PKPab**	**17 47 14.0**	**+0.2**
NKC			*ep*PKP	**pPKPab**	**17 47 20.3**	**-1.6**
NKC	**Novy Kostel**	**158.71 342**	*e*PKP2	**PKPab**	**17 47 14.0**	**+0.2**
VTS	**Vitosha**	**159.31 312**	*e*PKIKP	**PKPdf**	**17 46 39.3**	**-0.1**
VTS			*e*		17 47 15.4	
VTS	**Vitosha**	**159.31 312**	*e*PKPdf	**PKPdf**	**17 46 39.3**	**-0.1**
VTS			*e*PKPab	**PKPab**	**17 47 15.4**	**-1.5**
KHC	**Kasperske Hory**	**159.37 339**	*e*PKPAB	**PKPab**	**17 47 17.2**	**+0.5**
KHC			*ep*PKP	**pPKPab**	**17 47 23.2**	**-1.7**
KHC			*ex*	x	17 47 31.2	
KHC	**Kasperske Hory**	**159.37 339**	*e*PKIKP	**PKPdf**	**17 46 36.4**	**-2.7**
KHC			*e*		17 47 17.1	
KHC	**Kasperske Hory**	**159.37 339**	*e*PKPdf	**PKPdf**	**17 46 36.4**	**-2.7**
KHC			*e*PKPab	**PKPab**	**17 47 17.1**	**+0.4**
GERES	**GERESS Array B**	**159.58 338**	PKP	**PKPdf**	**17 46 39.4**	**-0.1**
	comp=Z,0.1nm,0.2s,baz=267,slow=8.0,SNR=4.3					
GERES			PKPab	**PKPab**	**17 47 17.4**	**-0.3**
	comp=Z,2.3nm,0.9s,baz=34,slow=3.4,SNR=14					
CONA	**Conrad Observa**	**159.59 333**	*i* PKPab	**PKPab**	**17 47 18.1**	**+0.4**
	comp=Z,6.2nm,1.2s					
MOA	**Molln**	**160.25 336**	*e*PKPab	**PKPab**	**17 47 21.2**	**+0.7**
	comp=Z,7.2nm,1.3s					
ARSA	**Arzberg**	**160.28 333**	*i* PKPab	**PKPab**	**17 47 20.7**	**0.0**
	comp=Z,2.6nm,1.1s					
SOKA	**Soboth**	**160.94 333**	*i* PKPab	**PKPab**	**17 47 23.2**	**-0.4**
	comp=Z,6.2nm,1.1s					
KBA	**Koelnbreinsper**	**161.23 336**	*i* PKPab	**PKPab**	**17 47 24.9**	**-0.1**
	comp=Z,4.1nm,0.9s					
WTTA	**Wattenberg**	**161.62 340**	*i* PKPab	**PKPab**	**17 47 27.3**	**+0.5**
	comp=Z,11nm,1.2s					
RETA	**Reutte**	**161.67 342**	*i* PKPab	**PKPab**	**17 47 27.1**	**+0.3**
	comp=Z,11nm,1.1s,SNR=6.3					
MOTA	**Moosalm**	**161.71 341**	*i* PKPab	**PKPab**	**17 47 27.4**	**+0.3**
	comp=Z,8.7nm,1.0s					
ABTA	**Abfaltersbach**	**161.80 337**	*i* PKPab	**PKPab**	**17 47 26.8**	**-0.6**
	comp=Z,6.8nm,1.0s					
DAVA	**Damuels**	**162.09 343**	*i* PKPab	**PKPab**	**17 47 29.0**	**+0.2**
	comp=Z,5.0nm,1.0s					
FETA	**Feichten**	**162.11 341**	*i* PKPab	**PKPab**	**17 47 29.1**	**+0.3**
	comp=Z,7.2nm,1.2s					
FUORN	**Ofenpass-Fuorn**	**162.60 342**	*e*PKPab	**PKPab**	**17 47 31.4**	**+0.3**
TORD	**Torodi Ar. Bea**	**162.91 178**	PKP	**PKPdf**	**17 46 43.9**	**+0.1**
	comp=Z,1.7nm,1.1s,baz=318,slow=2.0,SNR=4.5					
TORD			PKPab	**PKPab**	**17 47 34.2**	**+1.4**
	comp=Z,1.5nm,0.9s,baz=164,slow=3.0,SNR=4.6					
TUE	**Stuetta**	**162.98 343**	*e*PKPab	**PKPab**	**17 47 32.6**	**-0.1**
ESDC	**Sonseca Array**	**169.30 27**	PKPab	**PKPab**	**17 47 59.9**	**-0.7**
	comp=Z,0.8nm,0.8s,baz=332,slow=4.8,SNR=4.8					

*IDC **03** 17:41:59.7±0.6, 44.65N×149.91E, h0km, mb4.5/19, mb1 4.5/22, mb1mx4.3/38, mbtmp4.4/22, ML3.1/3, Error ellipse: s-maj=17.9km s-min=14.6km az=97.0*

*BJI **03** 17:42:01.5, 44.84N×150.62E, h43km, mb4.6/9, mB5.1/8, Ms4.9/4, Ms7 4.6/4*

*ISCJB **03** 17:42:03.2±0.3, 44.62N±0.04×150.01E±0.05, h34km, mb4.5/45, MS4.6/1, Error ellipse: s-maj=6.8km s-min=3.5km az=149.1*

*JMA **03** 17:42:04.8±0.5, 44.72N×149.98E, h30km, M4.6*

*MOS **03** 17:42:04.3±1.3, 44.73N×149.91E, h40km, mb4.8/23, Error ellipse: s-maj=10.1km s-min=6.3km az=117.8*

*NEIC **03** 17:42:05.7±0.8, 44.70N×150.01E, h41km±7km, mb4.7/18, Error ellipse: s-maj=7.6km s-min=5.5km az=135.0*

*SKHL **03** 17:42:05.2±0.7, 44.55N×150.06E, h62km±7km, mb4.7/6*

ISC 03 17:42:05.0±0.6, 44°64N±0°06×149°97E±0°05, h34km, n175, σ1°34/188, mb4.6/49, 5C-2D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**1.60**	**292**	*i* PN		**Pn**	**Sb**	**17 42 31.9**	**+1.0**
KUR				*i* S		**Sb**		**17 42 52.2**	**-1.6**
KUR				pmax	pmax				
	comp=Z,300nm,0.4s								
KUR				pmax	pmax				
	comp=E,164nm,0.3s								
KUR				pmax	pmax				
	comp=N,139nm,0.2s								
KUR				smax	smax				
	comp=N,1.0nm,0.3s								
KUR				smax	smax				
	comp=E,1.0nm,0.4s								
KUR	**Kuril'sk**	**1.60**	**292**	*e*P		**Pn**		**17 42 31.9**	**+1.0**
KUR				AMB	AMB			17 42 34.7	
	comp=E,140nm,0.3s								
KUR				AMB	AMB			17 42 34.7	
	comp=E,160nm,0.3s								
KUR				AMB	AMB			17 42 34.7	
	comp=E,300nm,0.3s								
KUR				*e*S		**Sb**		**17 42 52.3**	**-1.6**
KUR				A	A			17 42 54.8	
	comp=E,1μm,0.3s								
KUR				A	A			17 42 54.8	
	comp=E,550nm,0.3s								
KUR				A	A			17 42 55.0	
	comp=E,3μm,1.0s								
KUR				A	A			17 42 55.0	
	comp=E,1μm,1.0s								
SHO	**Shikotan**	**2.38**	**252**	*e*PN		**Pn**		**17 42 41.0**	**-0.5**
SHO				*e*S		**Sn**		**17 43 07.3**	**-2.2**
SHO				pmax	pmax				
	comp=Z,44nm,0.5s								
SHO				pmax	pmax				
	comp=N,55nm,0.4s								
SHO				pmax	pmax				
	comp=E,35nm,0.4s								
SHO				smax	smax				
	comp=N,31nm,0.5s								
SHO	**Shikotan**	**2.38**	**252**	*e*P		**Pn**		**17 42 41.0**	**-0.5**
SHO				AMB	AMB			17 42 42.0	
	comp=N,550nm,0.5s								
SHO				AMB	AMB			17 42 42.0	
	comp=N,350nm,0.5s								
SHO				AMB	AMB			17 42 42.0	
	comp=N,440nm,0.5s								
SHO				*e*S		**Sn**		**17 43 07.3**	**-2.2**
SHO				A	A			17 43 19.5	
	comp=N,31nm,0.4s								
SHO				A	A			17 43 19.5	
	comp=N,600nm,0.4s								
YUK	**Yuzh-Kuril'sk**	**3.01**	**260**	*e*PN		**Pn**		**17 42 51.2**	**+1.1**
YUK				*e*S		**Sn**		**17 43 26.0**	**+1.1**
YUK				pmax	pmax				
	comp=E,51nm,0.4s								
YUK				pmax	pmax				
	comp=Z,128nm,0.4s								
YUK				pmax	pmax				
	comp=N,104nm,0.3s								
YUK				smax	smax				
	comp=E,742nm,0.5s								
YUK				smax	smax				
	comp=N,652nm,0.4s								
YUK	**Yuzh-Kuril'sk**	**3.01**	**260**	*e*P		**Pn**		**17 42 51.3**	**+1.1**
YUK				AMB	AMB			17 42 52.7	
	comp=N,100nm,0.4s								
YUK				AMB	AMB			17 42 52.7	
	comp=N,50nm,0.4s								
YUK				AMB	AMB			17 42 52.7	
	comp=N,130nm,0.4s								
YUK				*e*S		**Sn**		**17 43 26.1**	**+1.1**
YUK				A	A			17 43 28.5	
	comp=N,650nm,0.5s								
YUK				A	A			17 43 28.5	
	comp=N,740nm,0.5s								
NEM2	**Nemuro 2**	**3.30**	**249**	P		**Pn**		**17 42 54.1**	**-0.1**
NEM2				*e*S		**Sn**		**17 43 31.0**	**-1.2**
JRA	**Rausu**	**3.55**	**260**	P		**Pn**		**17 42 59.8**	**+2.2**
JRA				*e*S		**Sn**		**17 43 40.3**	**+2.0**
JNK	**Nakash**	**3.92**	**256**	P		**Pn**		**17 43 03.9**	**+1.2**
JAK	**Akkeshi**	**4.15**	**249**	P		**Pn**		**17 43 05.8**	**-0.1**
JTKR	**Abashiri--Toko**	**4.40**	**263**	P		**Pn**		**17 43 11.7**	**+2.4**
JAR	**Ashorobuto**	**4.67**	**255**	P		**Pn**		**17 43 14.8**	**+1.8**
JOB	**Onbets**	**4.77**	**251**	P		**Pn**		**17 43 15.5**	**+1.2**
JOB				*e*S		**Sn**		**17 44 07.6**	**-0.8**
JMP	**Maruseppu**	**4.78**	**265**	P		**Pn**		**17 43 17.3**	**+2.7**
JCH	**Churui**	**5.20**	**249**	P		**Pn**		**17 43 21.2**	**+0.9**
JCH				*e*S		**Sn**		**17 44 17.9**	**-1.2**
ASAJ	**Asahikawa**	**5.31**	**267**	*e*Pn		**Pn**		**17 43 23.8**	**+2.0**
MYR	**Moyori**	**5.40**	**247**	*e*P		**Pn**		**17 43 23.9**	**+0.9**
MYR				*e*S		**Sn**		**17 44 21.1**	**-2.8**
JFR	**Furan**	**5.53**	**257**	P		**Pn**		**17 43 27.3**	**+2.5**
YSS	**Yuzh-Sakhalins**	**5.55**	**297**	*e*PN		**Pn**		**17 43 26.3**	**+1.3**
YSS				pmax	pmax				
	comp=Z,10.0nm,0.4s								
YSS	**Yuzh-Sakhalins**	**5.55**	**297**	*e*P		**Pn**		**17 43 28.0**	**+3.0**
YSS				AMB	AMB			17 43 30.3	
	comp=Z,50nm,0.7s								
ERM	**Erimo**	**5.62**	**245**	*e*PN		**Pn**		**17 43 28.3**	**+2.3**
ERM	**Erimo**	**5.62**	**245**	*e*P		**Pn**		**17 43 28.3**	**+2.3**
ERM	**Erimo**	**5.62**	**245**	*e*Pn		**Pn**		**17 43 28.6**	**+2.6**
JNBK	**Urakawa-nobuka**	**5.75**	**248**	P		**Pn**		**17 43 28.0**	**+0.1**
JEW	**Eniwo**	**6.42**	**257**	P		**Pn**		**17 43 40.0**	**+2.9**
JNB	**Noboribetsu**	**6.84**	**255**	P		**Pn**		**17 43 44.0**	**+1.2**
JNB				*e*S		**Sn**		**17 44 58.9**	**-0.5**
UGL	**Uglegorsk**	**7.00**	**312**	*e*PN		**Pn**		**17 43 43.9**	**-1.1**
UGL	**Uglegorsk**	**7.00**	**312**	*e*P		**Pn**		**17 43 45.0**	**0.0**
JKB	**Kayabe**	**7.08**	**250**	P		**Pn**		**17 43 46.3**	**+0.3**
JKB				*e*S		**Sn**		**17 45 00.6**	**-4.6**
TYV	**Tymovskoe**	**7.94**	**324**	*e*P		**Pn**		**17 44 00.7**	**+2.9**
PETK	**Petropavlovsk-**	**9.88**	**28**	Pn		**Pn**		**17 44 23.4**	**-1.1**
	comp=Z,0.6nm,0.3s,baz=191,slow=12,SNR=6.3								
PEA1	**Petropavlovsk-**	**9.89**	**28**	*e*Pn		**Pn**		**17 44 23.4**	**-1.2**
HABR	**Khabarovsk**	**10.96**	**296**	*e*PN		**Pn**		**17 44 38.5**	**-0.7**
HABR				pmax	pmax				
	comp=E,5.0nm,1.0s								
HABR				pmax	pmax				
	comp=N,6.0nm,1.0s								
HABR				pmax	pmax				
	comp=Z,6.0nm,1.0s								
HABR				MLR	MLR				
	comp=Z,538nm,16.0s								
HABR	**Khabarovsk**	**10.96**	**296**	*e*P		**Pn**		**17 44 38.5**	**-0.7**
GRNR	**Gornyy**	**10.99**	**309**	*e*P		**Pn**		**17 44 41.8**	**+2.2**
USRK	**Ussuriysk Ar.**	**12.86**	**274**	Pn		**Pn**		**17 45 04.7**	**-0.6**
	comp=Z,0.4nm,0.3s,baz=77,slow=14,SNR=5.7								
KLR	**Kul'dur**	**13.26**	**297**	*e*PN		**Pn**		**17 45 11.1**	**+0.4**
KLR	**Kul'dur**	**13.26**	**297**	*e*P		**Pn**		**17 45 11.1**	**+0.4**
EKMR	**Ekimchan**	**13.99**	**313**	*e*P		**Pn**		**17 45 22.3**	**+1.6**
EKMR				AMB	AMB			17 45 25.0	
	comp=Z,8.0nm,0.9s								
BMKR	**Bomnak**	**16.92**	**314**	*e*P		**Pn**		**17 45 58.8**	**0.0**
BMKR				AMB	AMB			17 46 02.0	
	comp=Z,4.0nm,0.6s								
ZEA	**Zeya**	**17.35**	**310**	*e*P		**P**		**17 46 04.7**	**-0.6**
KROS	**Kirovskiy**	**17.78**	**312**	*e*P		**Pn**		**17 46 09.3**	**-0.2**
KROS				AMB	AMB			17 46 13.7	
	comp=Z,3.0nm,0.5s								
SEY	**Seymchan**	**18.38**	**4**	P		**P**		**17 46 15.2**	**-1.4**
	comp=Z,0.3nm,0.3s,baz=168,slow=9.9,SNR=11								
SEY	**Seymchan**	**18.38**	**4**	*ce*P		**P**		**17 46 15.8**	**-0.8**
SEY	**Seymchan**	**18.38**	**4**	*e*P		**P**		**17 46 15.8**	**-0.8**
YAK	**Yakutsk**	**21.05**	**333**	P		**P**		**17 46 44.5**	**-1.2**
	comp=Z,34nm,0.5s,baz=28,slow=0.4,SNR=14								
YAK	**Yakutsk**	**21.05**	**333**	*e*P		**P**		**17 46 44.8**	**-0.9**
YAK				pmax	pmax				
	comp=Z,37nm,0.9s								
YAK				pmax	pmax				
	comp=N,7.0nm,1.1s								
YAK				pmax	pmax				
	comp=E,4.0nm,1.1s								
YAK	**Yakutsk**	**21.05**	**333**	*e*P		**P**		**17 46 44.8**	**-0.9**
YAK	**Yakutsk**	**21.05**	**333**	*e*P		**P**		**17 46 44.8**	**-0.9**
	comp=E,41nm,0.7s								
H11N2	**WAKE ISLAND Hy**	**28.56**	**145**	T		T		18 18 56.7	
	baz=335,slow=76,SNR=132								
H11N1	**WAKE ISLAND Hy**	**28.57**	**145**	T		T		18 18 54.8	
	baz=335,slow=76,SNR=93								
H11N3	**WAKE ISLAND Hy**	**28.57**	**145**	T		T		18 18 56.4	
	baz=335,slow=76,SNR=86								
TIXI	**Tiksi**	**28.94**	**346**	*e*P		**P**		**17 47 58.7**	**-1.8**
TIXI				pmax	pmax				
	comp=Z,15nm,1.1s								
TIXI	**Tiksi**	**28.94**	**346**	*e*P		**P**		**17 47 58.7**	**-1.8**
ULN	**Ulaanbaatar**	**29.57**	**292**	*ce*P		**P**		**17 48 07.1**	**+0.5**
ULN				pmax	pmax				
	comp=Z,5.0nm,1.0s								
ULN	**Ulaanbaatar**	**29.57**	**292**	*e*P		**P**		**17 48 07.1**	**+0.5**
ULN	**Ulaanbaatar**	**29.57**	**292**	*e*P		**P**		**17 48 06.7**	**+0.1**
	comp=Z,4.3nm,0.9s								
H11S1	**WAKE ISLAND Hy**	**29.58**	**146**	T		T		18 20 11.1	
	baz=336,slow=76,SNR=104								
H11S3	**WAKE ISLAND Hy**	**29.59**	**146**	T		T		18 20 13.5	
	baz=336,slow=76,SNR=58								
H11S2	**WAKE ISLAND Hy**	**29.60**	**146**	T		T		18 20 15.5	
	baz=336,slow=76,SNR=67								
SONA0	**Songino Array**	**30.01**	**292**	*e*P		**P**		**17 48 10.1**	**-0.4**
SONM	**Songino Array**	**30.01**	**292**	P		**P**		**17 48 10.1**	**-0.4**
	comp=Z,2.8nm,0.7s,baz=80,slow=7.9,SNR=19								
SONM	**Songino Array**	**30.01**	**292**	*e*P		**P**		**17 48 11.0**	**+0.6**
SONM				pmax	pmax				
	comp=Z,3.0nm,0.7s								
GTA	**Gaotai**	**37.14**	**280**	*e*P		**P**		**17 49 13.7**	**+1.2**
GTA				pP	pP			17 49 23.7	+1.3
GTA				sP	sP			17 49 28.4	+1.9
GTA				pmax	pmax				
	comp=Z,8.0nm,1.1s								
COLD	**Coldfoot**	**38.31**	**33**	*e*P		**P**		**17 49 22.2**	**+0.3**
	comp=Z,2.0nm,0.6s								
ILAR	**Eielson Array**	**39.57**	**37**	P		**P**		**17 49 32.7**	**+0.2**
	comp=Z,0.6nm,0.5s,baz=267,slow=5.7,SNR=10.0								
ILAR	**Eielson Array**	**39.57**	**37**	*e*P		**P**		**17 49 35.1**	**+2.7**
ILAR				pmax	pmax				
	comp=Z,1.0nm,0.5s								
ILB	**Eielson Array**	**39.57**	**37**	*e*P		**P**		**17 49 32.6**	**+0.2**
ZAA1	**Zalesovo Array**	**42.08**	**307**	*e*P		**P**		**17 49 52.2**	**-1.0**
ZALV	**Zalesovo Beam**	**42.08**	**307**	P		**P**		**17 49 52.2**	**-1.0**
	comp=Z,1.6nm,0.4s,baz=67,slow=6.6,SNR=11								
INK	**Inuvik**	**44.61**	**31**	P		**P**		**17 50 14.3**	**+0.9**
	comp=Z,2.4nm,0.5s,baz=298,slow=7.4,SNR=20								
INK	**Inuvik**	**44.61**	**31**	*e*P		**P**		**17 50 14.3**	**+0.9**
	comp=Z,14nm,1.4s								
MK

GOF	**Gofitskoye**	**69.71**	**314**	⇑*iP*		**P**	**17 53 12.2**	**+1.0**
GOF				pmax	pmax			
	comp=Z,33nm,1.0s							
KIV	**Kislovodsk**	**70.66**	**313**	*d iP*		**P**	**17 53 18.8**	**+1.7**
KIV				*e*			17 53 29.9	
KIV							17 53 39.0	
KIV				pmax	pmax			
	comp=Z,24nm,1.2s							
KIV	**Kislovodsk**	**70.66**	**313**	*eP*		**P**	**17 53 18.1**	**+1.1**
KIV	**Kislovodsk**	**70.66**	**313**	*eP*		**P**	**17 53 18.2**	**+1.1**
	comp=Z,37nm,1.4s							
KBZ	**Khabaz**	**70.70**	**313**	P		**P**	**17 53 17.9**	**+0.7**
	comp=Z,5.3nm,0.9s,baz=43,slow=4.5,SNR=8.8							
ZEI	**Tsey**	**70.82**	**311**	*eP*		**P**	**17 53 16.5**	**-1.7**
ZEI				pmax	pmax			
	comp=Z,21nm,0.5s							
AKASG	**Malin Array Be**	**72.04**	**325**	P		**P**	**17 53 24.8**	**-0.3**
	comp=Z,2.6nm,0.5s,baz=38,slow=6.2,SNR=5.6							
AKASG	**Malin Array Be**	**72.04**	**325**	*eP*		**P**	**17 53 23.4**	**-1.7**
AKASG				pmax	pmax			
	comp=Z,3.0nm,0.5s							
AKBB	**Malin Array Si**	**72.04**	**325**	*eP*		**P**	**17 53 24.9**	**-0.3**
AKBB	**Malin Array Si**	**72.04**	**325**	*eP*		**P**	**17 53 24.9**	**-0.3**
KIEV	**Kiev**	**72.05**	**325**	*eP*		**P**	**17 53 23.8**	**-1.4**
KIEV				pmax	pmax			
	comp=Z,5.0nm,0.9s							
KIEV	**Kiev**	**72.05**	**325**	*eP*		**P**	**17 53 23.8**	**-1.4**
KIEV	**Kiev**	**72.05**	**325**	*eP*		**P**	**17 53 24.9**	**-0.3**
	comp=Z,6.3nm,0.8s							
STHS	**Stebnicka Huta**	**76.19**	**328**	*eP*		**P**	**17 53 50.8**	**+1.3**
STHS				pmax	pmax			
	comp=Z,3.0nm,0.7s							
STHS	**Stebnicka Huta**	**76.19**	**328**	*eP*		**P**	**17 53 50.8**	**+1.3**
CRVS	**Cervenica-Dubn**	**76.53**	**328**	*eP*		**P**	**17 53 53.3**	**+1.9**
CRVS	**Cervenica-Dubn**	**76.53**	**328**	*eP*		**P**	**17 53 53.2**	**+1.9**
STKA	**Stephens Creek**	**76.53**	**187**	P		**P**	**17 53 52.3**	**+1.0**
	comp=Z,3.7nm,1.2s,baz=80,slow=2.2,SNR=3.6							
LANS	**Liptovska Anna**	**77.07**	**329**	*eP*		**P**	**17 53 55.9**	**+1.4**
LANS	**Liptovska Anna**	**77.07**	**329**	*eP*		**P**	**17 53 55.8**	**+1.3**
DPC	**Dobruska-Polom**	**77.17**	**332**	*eP*		**P**	**17 53 55.8**	**+0.8**
DPC	**Dobruska-Polom**	**77.17**	**332**	*eP*		**P**	**17 53 55.8**	**+0.8**
MORC	**Moravsky Berou**	**77.23**	**331**	P		**P**	**17 53 56.0**	**+0.6**
KRLC	**Kraliky**	**77.25**	**331**	*eP*		**P**	**17 53 56.0**	**+0.6**
KRLC	**Kraliky**	**77.25**	**331**	*eP*		**P**	**17 53 56.0**	**+0.6**
CLL	**Collm**	**77.43**	**334**	*i* P		**P**	**17 53 55.7**	**-0.7**
CLL				pmax	pmax			
	comp=Z,8.0nm,0.7s							
CLL	**Collm**	**77.43**	**334**	*eP*		**P**	**17 53 55.7**	**-0.7**
CLL	**Collm**	**77.43**	**334**	*i* P		**P**	**17 53 55.7**	**-0.7**
	comp=Z,8.0nm,0.7s							
CLL				*i* pP		**sP**	**17 54 11.6**	**+0.6**
CLL				*es*P		pP	17 54 15.0	+8.0
CLL	**Collm**	**77.43**	**334**	*eP*		**P**	**17 53 56.1**	**-0.3**
	comp=Z,7.2nm,0.7s							
VYHS	**Vyhne**	**77.85**	**329**	*eP*		**P**	**17 53 59.4**	**+0.6**
VYHS				pmax	pmax			
	comp=Z,3.0nm,1.4s							
VYHS	**Vyhne**	**77.85**	**329**	*eP*		**P**	**17 53 59.4**	**+0.6**
GOPC	**GO Pecny, Ondr**	**78.06**	**332**	*eP*		**P**	**17 54 01.4**	**+1.5**
GOPC	**GO Pecny, Ondr**	**78.06**	**332**	*eP*		**P**	**17 54 01.4**	**+1.5**
PRU	**Pruhonice**	**78.08**	**332**	*eP*		**P**	**17 54 00.3**	**+0.3**
PRU				*ep*P		**sP**	**17 54 14.5**	**-0.1**
PRU	**Pruhonice**	**78.08**	**332**	*eP*		**P**	**17 54 00.3**	**+0.3**
PRU				*e*			17 54 14.5	
BR101	**Keskin Array S**	**78.37**	**315**	*eP*		**P**	**17 54 02.9**	**+0.9**
BRTR	**Keskin Array B**	**78.37**	**315**	P		**P**	**17 54 02.9**	**+0.9**
	comp=Z,3.9nm,0.8s,baz=75,slow=4.1,SNR=21							
ANTO	**Ankara**	**78.69**	**316**	*eP*		**P**	**17 54 04.8**	**+1.1**
ANTO				pmax	pmax			
	comp=Z,11nm,0.7s							
ANTO	**Ankara**	**78.69**	**316**	*eP*		**P**	**17 54 04.8**	**+1.1**
	comp=Z,11nm,0.7s							
KHC	**Kasperske Hory**	**79.13**	**333**	*eP*		**P**	**17 54 06.3**	**+0.5**
KHC				*ep*P		**sP**	**17 54 21.6**	**+1.1**
KHC	**Kasperske Hory**	**79.13**	**333**	*eP*		**P**	**17 54 06.4**	**+0.5**
KHC				pmax	pmax			
	comp=Z,1.0nm,0.6s							
KHC	**Kasperske Hory**	**79.13**	**333**	*eP*		**P**	**17 54 06.4**	**+0.5**
	comp=Z,1.4nm,0.6s							
BZS	**Buzias**	**79.17**	**326**	P		**P**	**17 54 08.0**	**+1.9**
BZS				pmax	pmax			
	comp=Z,4.0nm,0.9s							
GEC2	**GERESS Array S**	**79.34**	**332**	*eP*		**P**	**17 54 07.1**	**0.0**
GEC2	**GERESS Array S**	**79.34**	**332**	*eP*		**P**	**17 54 07.0**	**0.0**
GERES	**GERESS Array B**	**79.34**	**332**	P		**P**	**17 54 07.0**	**0.0**
	comp=Z,1.0nm,0.5s,baz=41,slow=5.1,SNR=13							
GERES	**GERESS Array B**	**79.34**	**332**	*eP*		**P**	**17 54 07.7**	**+0.6**
GERES				pmax	pmax			
	comp=Z,1.0nm,0.5s							
CONA	**Conrad Observa**	**79.39**	**331**	*i* P		**P**	**17 54 08.6**	**+1.2**
	comp=Z,1.6nm,0.5s							
MOA	**Molln**	**80.01**	**331**	*eP*		**P**	**17 54 11.5**	**+0.8**
	comp=Z,2.2nm,0.9s							
LTX	**Lajitas**	**80.47**	**58**	*eP*		**P**	**17 54 13.1**	**-0.4**
LTX	**Lajitas**	**80.47**	**58**	*eP*		**P**	**17 54 13.1**	**-0.4**
TXAR	**Lajitas Array**	**80.47**	**58**	P		**P**	**17 54 13.1**	**-0.4**
	comp=Z,2.1nm,0.4s,baz=300,slow=4.2,SNR=66							
SOKA	**Soboth**	**80.75**	**330**	*i* P		**P**	**17 54 14.8**	**0.0**
	comp=Z,4.2nm,0.9s							
VTS	**Vitosha**	**80.98**	**323**	*eP*		**P**	**17 54 16.5**	**+0.3**
VTS				pmax	pmax			
	comp=Z,10.0nm,0.9s							
VTS	**Vitosha**	**80.98**	**323**	*eP*		**P**	**17 54 16.5**	**+0.3**
	comp=Z,10nm,0.9s							
KBA	**Koelnbreinsper**	**80.99**	**332**	*i* PcP		**P**	**17 54 17.3**	**+1.2**
	comp=Z,6.8nm,0.8s							
WTTA	**Wattenberg**	**81.40**	**333**	*i* PcP		**P**	**17 54 19.6**	**+1.3**
	comp=Z,2.3nm,0.5s							
MOTA	**Moosalm**	**81.50**	**333**	*i* P		**P**	**17 54 18.9**	**+0.1**
	comp=Z,7.0nm,1.0s							
ABTA	**Abfaltersbach**	**81.56**	**332**	*i* PcP		**P**	**17 54 20.2**	**+1.1**
	comp=Z,2.9nm,1.2s							
FETA	**Feichten**	**81.91**	**333**	*i* PcP		**P**	**17 54 22.0**	**+1.0**
	comp=Z,4.1nm,0.9s							
PLCA	**Paso Flores**	**150.18**	**97**	PKPbc		**PKPbc**	**18 01 51.5**	**-0.4**
	comp=Z,2.0nm,0.9s,baz=253,slow=7.7,SNR=3.7							

*SJA **03** 17:44:08.3±0.4, 35°.35S×69°.97W, h209km±5km, ML3.9, MW3.6*
*ISCJB **03** 17:44:11.1±0.5, 35°.26S±0°.05×70°.05W±0°.09, h159km±6km, mb3.9/5, Error ellipse: s-maj=12.9km s-min=5.6km az=26.6*
*GUC **03** 17:44:13.5±0.6, 35°.24S×70°.17W, h150km, ML3.9*
*IDC **03** 17:44:14.9±2.7, 35°.45S×70°.21W, h177km±27km, mb3.7/5, mb1 3.9/8, mb1mx3.6/28, mbtmp4.3/8, Error ellipse: s-maj=41.5km s-min=15.3km az=72.0*

ISC 03 17:44:11.5±0.9, 35°30S±0°.06×69°.94W±0°.08, h152km±9km, n32, σ1°.963/48, mb3.9/5, 5C, Mendoza Province

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NICH	**Los Niches**	**1.09**	**285**	⇑*iP*	**Pn**	**17 44 37.2**	**0.0**
NICH				*i* S	**Sn**	**17 44 57.0**	**+0.1**
TALC	**Talca**	**1.39**	**266**	⇑*iP*	**Pn**	**17 44 39.7**	**-0.2**
TALC				*i* S	**Sn**	**17 45 00.2**	**-1.6**
ANTU	**Antumapu**	**1.82**	**342**	*eP*	**Pn**	**17 44 45.2**	**+0.5**
ANTU				*i* S	**Sn**	**17 45 09.5**	**-0.7**
ANTU				IAML		17 45 11.4	
	comp=N,965nm,0.2s						
CHPI	**Pichilemu**	**1.92**	**298**	*eP*	**Pn**	**17 44 45.0**	**-0.8**
CHPI				*es*	**Sn**	**17 45 09.3**	**-2.9**
RCDM	**Rinconada Maip**	**1.94**	**338**	⇑*iP*	**Pn**	**17 44 46.4**	**+0.2**
RCDM				*i* S	**Sn**	**17 45 11.5**	**-1.2**
RCDM				IAML		17 45 14.9	
	comp=E,1μm,0.2s						
CLCH	**Cerro Calan**	**1.96**	**345**	⇑*iP*	**Pn**	**17 44 47.2**	**+0.8**
CLCH				*i* S	**Sn**	**17 45 13.0**	**-0.2**
CLCH				IAML		17 45 20.3	
	comp=E,665nm,0.4s						
FCH	**Farellones**	**1.99**	**352**	*eP*	**Pn**	**17 44 48.4**	**+1.4**
FCH				*i* S	**Sn**	**17 45 15.1**	**+0.9**
FCH				IAML		17 45 19.9	
	comp=N,560nm,0.4s						
PEL	**Peldehue**	**2.24**	**344**	⇑*iP*	**Pn**	**17 44 50.0**	**+0.4**
PEL				*i* S	**Sn**	**17 45 18.7**	**-0.3**
PEL				IAML		17 45 22.5	
	comp=N,865nm,0.4s						
AAGR	**Agrelo**	**2.40**	**23**	*eP*	**Pn**	**17 44 53.0**	**+1.4**
ROC1	**El Roble**	**2.48**	**339**	*eP*	**Pn**	**17 44 53.8**	**+1.0**
ROCH	**El Roble**	**2.49**	**339**	*eP*	**Pn**	**17 44 52.8**	**+0.1**
ROCH				*i* S	**Sn**	**17 45 23.3**	**-1.2**
ROCH				IAML		17 45 25.3	
	comp=N,906nm,0.3s						
ARCO	**CERRO ARCO**	**2.59**	**19**	*eP*	**Pn**	**17 44 55.1**	**+1.1**
ARCO				IAML		17 44 59.9	
	comp=Z,80nm,0.3s						
ASAL	**Salagasta**	**2.86**	**19**	*eP*	**Pn**	**17 44 57.9**	**+0.7**
AUSP	**Uspallata**	**3.10**	**9**	*eP*	**Pn**	**17 45 01.5**	**+0.9**
RTLS	**Leoncito**	**3.53**	**9**	*eP*	**Pn**	**17 45 06.3**	**+0.2**
RTLS				*es*	**Sn**	**17 45 49.6**	**+1.3**
RTCV	**Cerro Valdivia**	**3.62**	**19**	*eP*	**Pn**	**17 45 07.3**	**+0.3**
RTCV				*es*	**Sn**	**17 45 50.6**	**+0.6**
AMOG	**MOGNA**	**4.52**	**16**	*eP*	**Pn**	**17 45 18.2**	**-0.5**
AMOG				*es*	**Sn**	**17 46 09.9**	**-1.1**
ACCO	**Cerro Coronel**	**4.76**	**9**	*eP*	**Pn**	**17 45 22.0**	**-0.1**
ACCO				IAML		17 45 24.5	
	comp=Z,261nm,0.2s						
ACCO				*es*	**Sn**	**17 46 16.4**	**-0.7**
AROD	**Rodeo**	**5.13**	**5**	*eP*	**Pn**	**17 45 26.5**	**-0.5**
AROD				*es*	**Sn**	**17 46 25.0**	**-0.9**
PLCA	**Paso Flores**	**5.44**	**185**	P	**Pn**	**17 45 30.9**	**+0.1**
	comp=Z,1.9nm,0.3s,baz=23,slow=11,SNR=47						
AGUA	**GUANDACOL**	**5.93**	**12**	*eP*	**Pn**	**17 45 36.1**	**-1.2**
ACLC	**CERRO LA CRUZ**	**6.38**	**24**	*eP*	**Pn**	**17 45 41.9**	**-1.6**
VCA	**Vinchina**	**6.71**	**13**	*eP*	**Pn**	**17 45 46.2**	**-1.6**
VCA				*es*	**Sn**	**17 46 58.6**	**-4.7**
CYA	**Choya**	**7.69**	**28**	*eP*	**Pn**	**17 45 58.6**	**-2.2**
CYA				*es*	**Sn**	**17 47 20.4**	**-6.3**
LVC	**Limon Verde**	**12.68**	**4**	P	**Pn**	**17 47 04.5**	**-2.4**
	comp=Z,28nm,0.3s,baz=183,slow=9.7,SNR=6.5						
LPAZ	**La Paz**	**19.00**	**5**	P	**Pn**	**17 48 26.9**	**+2.3**
	comp=Z,0.2nm,0.3s,baz=171,slow=7.4,SNR=17						
USHA	**Ushuaia**	**19.56**	**177**	P	**Pn**	**17 48 29.0**	**-1.1**
	comp=Z,56nm,0.3s,baz=339,slow=9.6,SNR=8.7						
SNAA	**Sanae**	**49.73**	**158**	P	**P**	**17 52 48.7**	**+0.9**
	comp=Z,1.9nm,0.8s,baz=179,slow=3.1,SNR=13						
TXAR	**Lajitas Array**	**71.72**	**329**	P	**P**	**17 55 17.9**	**+0.9**
	comp=Z,0.5nm,0.4s,baz=160,slow=8.5,SNR=14						
BOSA	**Boshof**	**77.94**	**116**	P	**P**	**17 55 53.7**	**+0.7**
	comp=Z,9.1nm,1.3s,baz=229,slow=5.5,SNR=4.3						
PDAR	**Pinedale Array**	**85.71**	**332**	P	**P**	**17 56 33.5**	**+0.2**
	comp=Z,0.5nm,0.6s,baz=153,slow=6.0,SNR=5.4						
ULM	**Lac du Bonnet**	**88.22**	**344**	P	**P**	**17 56 44.9**	**+0.1**
	comp=Z,3.1nm,0.8s,baz=149,slow=9.8,SNR=3.1						

*CSEM **03** 17:45:33.8±0.1, 46°.69N×10°.21E, h10km, ML1.8/7, Error ellipse: s-maj=1.3km s-min=1.1km az=159.0*
*VIE **03** 17:45:34.2±0.2, 46°.71N×10°.23E, h4km, mb0.9/2, ML1.7/8, Error ellipse: s-maj=1.4km s-min=1.0km az=24.0*
*ZUR **03** 17:45:34.1, 46°.69N×10°.20E, h7km±2km, ML1.8/7*

ROM 03 17:45:33.5±0.1, 46°.69N×10°.19E, h9km±1km, Md1.9/7, Ml1.5/2, 8C-4D, Error ellipse: s-maj=2.5km s-min=1.3km az=22.0, Northern Italy

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SZER	**Zernez**	**0.07**	**280**	⇑*iPg*	Pg	17 45 36.3	+0.6
SZER	**Zernez**	**0.07**	**280**	⇑*iPg*	Pg	17 45 36.3	+0.6
FUORN	**Ofenpass-Fuorn**	**0.08**	**143**	Pg	Pg	17 45 36.6	+0.6
FUORN				Sg	Sg	17 45 38.2	+0.4
	120nm,0.3s						
FUORN	**Ofenpass-Fuorn**	**0.08**	**143**	⇓*iPg*	Pg	17 45 36.6	+0.6
	464nm,0.3s						
FUORN				*i* Sg	Sg	17 45 38.2	+0.4
	464nm,0.3s						
FUORN	**Ofenpass-Fuorn**	**0.08**	**143**	⇓*iPg*	Pg	17 45 36.6	+0.6
	464nm,0.3s						
FUORN				Sg	Sg	17 45 38.2	+0.4
	120nm,0.3s						
STSP	**Tschierv**	**0.11**	**121**	⇓*iPg*	Pg	17 45 36.9	+0.6
STSP	**Tschierv**	**0.11**	**121**	⇓*iPg*	Pg	17 45 36.9	+0.6
SCUC	**Scuol-Clozza**	**0.14**	**34**	⇑*iPg*	Pg	17 45 36.9	+0.3
SCUC	**Scuol-Clozza**	**0.14**	**34**	⇑*iPg*	Pg	17 45 36.9	+0.3
DAVOX	**Davos/Dischmat**	**0.23**	**294**	Pg	Pg	17 45 39.1	+0.7
DAVOX				Sg	Sg	17 45 42.6	+1.0
	97nm,0.2s						
DAVOX	**Davos/Dischmat**	**0.23**	**294**	⇑*iPg*	Pg	17 45 39.1	+0.7
	369nm,0.1s						
DAVOX	**Davos/Dischmat**	**0.23**	**294**	⇑*iPg*	Pg	17 45 39.1	+0.7
	369nm,0.1s						
DAVOX				Sg	Sg	17 45 42.6	+1.0
	97nm,0.2s						
BRMO	**Bormio**	**0.24**	**149**	Pg	Pg	17 45 39.1	+0.6
BRMO				Sg	Sg	17 45 42.7	+0.9
BRMO	**Bormio**	**0.24**	**149**	Pg	Pg	17 45 39.1	+0.6
BRMO				Sg	Sg	17 45 42.7	+0.9
MOSI	**Grossmontoni**	**0.26**	**106**	Pg	Pg	17 45 39.5	+0.8
MOSI				Sg	Sg	17 45 43.2	+0.9
MOSI	**Grossmontoni**	**0.26**	**106**	*ePg*	Pg	17 45 39.2	+0.5
	503nm,0.6s						
MOSI	**Grossmontoni**	**0.26**	**106**	*ePg*	Pg	17 45 39.2	+0.5
	503nm,0.6s						
MOSI				Sg	Sg	17 45 43.2	+0.9
SCEL	**Celerina**	**0.29**	**233**	*i* Pg	Pb	17 45 40.5	-0.5
SCEL	**Celerina**	**0.29**	**233**	*i* Pg	Pb	17 45 40.5	-0.5
BERNI	**Berninapass**	**0.30**	**203**	Pg	Pb	17 45 40.5	-0.6
BERNI				Sg	Sg	17 45 44.8	+1.3
	28nm,0.2s						
BERNI	**Berninapass**	**0.30**	**203**	⇑*iPg*	Pb	17 45 40.5	-0.6
	138nm,0.1s						
BERNI	**Berninapass**	**0.30**	**203**	⇑*iPg*	Pb	17 45 40.5	-0.6
	138nm,0.1s						
BERNI				Sg	Sg	17 45 44.8	+1.3
	28nm,0.2s						
CARE	**Lago del Cares**	**0.43**	**127**	*ePg*	Pg	17 45 42.5	+0.4
CARE				*eSg*	Sg	17 45 48.4	+0.6
CARE	**Lago del Cares**	**0.43**	**127**	*ePg*	Pg	17 45 42.5	+0.4
CARE				*eSg*	Sg	17 45 48.4	+0.6
FETA	**Feichten**	**0.50**	**48**	Pg	Pg	17 45 43.3	+0.1
	4.9nm,0.1s						
FETA				Sg	Sg	17 45 49.9	+0.1
	3.2nm,0.1s						
VDL	**Val di Lei**	**0.55**	**249**	*ePg*	Pg	17 45 44.8	+0.6
	67nm,0.3s						
TUE	**Stuetta**	**0.62**	**250**	Pg	Pg	17 45 46.0	+0.5
TUE				Sg	Sg	17 45 54.6	+0.9
TUE	**Stuetta**	**0.62**	**250**	*ePg*	Pg	17 45 46.0	+0.5
	76nm,0.2s						
TUE	**Stuetta**	**0.62**	**250**	*ePg*	Pg	17 45 46.0	+0.5
	76nm,0.2s						
TUE				Sg	Sg	17 45 54.6	+0.9
DAVA	**Damuels**	**0.64**	**341**	*ePg*	Pb	17 45 46.7	-0.2
	45nm,0.4s						
DAVA	**Damuels**	**0.64**	**341**	*ePg*	Pb	17 45 46.7	-0.2
	45nm,0.4s						
DAVA				Sg	Sb	17 45 55.2	-0.8
	12nm,0.3s						
OZOL	**Ozolo**	**0.66**	**115**	*ePg*	Pg	17 45 46.0	-0.2
OZOL				*eSg*	Sg	17 45 55.3	+0.5
OZOL	**Ozolo**	**0.66**	**115**	*ePg*	Pg	17 45 46.0	-0.2
OZOL				*eSg*	Sg	17 45 55.3	+0.5
ABSI	**Aberstueckl**	**0.78**	**86**	Pg	Pg	17 45 48.9	+0.4
ABSI				Sg	Sg	17 45 59.0	+0.3
ABSI	**Aberstueckl**	**0.78**	**86**	Pg	Pg	17 45 48.9	+0.4
ABSI				Sg	Sg	17 45 59.0	+0.3
SQTA	**Sankt Quirin**	**0.88**	**52**	Pg	Pg	17 45 50.2	-0.2
RETA	**Reutte**	**0.89**	**26**	Pg	Pg	17 45 50.8	+0.1
	0.6nm,0.2s						
RETA				Sg	Sb	17 46 03.8	+0.6
	0.4nm,0.1s						
MOTA	**Moosalm**	**0.91**	**43**	Pg	Pg	17 45 50.7	-0.3
	1.5nm,0.2s						
MOTA				Sg	Sb	17 46 03.6	-0.2
	2.3nm,0.2s						

*ISCJB **03** 17:51:57.1±1.4, 4°.1S±0°.2×68°.4E±0°.3, h10km, mb3.8/10, MS4.1/2, Error ellipse: s-maj=48.7km s-min=9.2km az=145.8*
*IDC **03** 17:51:57.1±2.2, 4°.25S×68°.26E, h0km, mb3.7/8, mb1 3.8/8, mb1mx3.5/50, mbtmp3.7/8, MS4.2/3, Ms1 4.2/3, ms1mx3.6/53, Error ellipse: s-maj=73.6km s-min=24.8km az=52.0*
*NEIC **03** 17:51:59.5±1.3, 4°.05S×68°.42E, h10km, mb4.3/2, Error ellipse: s-maj=45.0km s-min=15.0km az=52.0*

ISC 03 17:51:59.1±1.9, 4°.1S±0°.3×68°.4E±0°.4, h10km, n24, σ0°.979/15, mb3.9/10, Chagos Archipelago region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
H08N2	**Diego Garcia H**	**3.39**	**130**	T	T	17 57 05.0	
	baz=310,slow=75,SNR=1089						
H08N3	**Diego Garcia H**	**3.40**	**131**	T	T	17 57 11.6	
	baz=310,slow=75,SNR=1148						
H08N1	**Diego Carcia H**	**3.41**	**130**	T	T	17 57 06.7	
	baz=310,slow=75,SNR=1031						
H08S3	**Diego Garcia H**	**5.35**	**131**	Pn	**Pn**	**17 53 18.7**	**-0.2**
H08S3				T	T	17 59 21.7	
	baz=310,slow=74,SNR=49						
H08S1	**Diego Garcia H**	**5.35**	**131**	Pn	**Pn**	**17 53 18.7**	**-0.2**
H08S1				T	T	17 59 18.2	
	baz=310,slow=74,SNR=81						
H08S2	**Diego Garcia H**	**5.37**	**131**	Pn	**Pn**	**17 53 18.9**	**-0.2**
H08S2				T	T	17 59 17.8	
	baz=310,slow=74,SNR=56						
PALK	**Pallekele**	**16.69**	**47**	LR	LR	18 00 55.6	
	comp=Z,1μm,20.1s,baz=295,slow=32						
KMBO	**Kilima Mbogo**	**31.26**	**275**	LR	LR	18 09 19.5	
	comp=Z,294nm,18.6s,baz=90,slow=34						
BOSA	**Boshof**	**47.64**	**234**	LR	LR	18 17 38.7	
	comp=Z,258nm,18.3s,baz=25,slow=32						
H01W3	**Cape Leeuwin H**	**52.19**	**132**	T	T	18 57 38.9	
	baz=296,slow=75						
H01W2	**Cape Leeuwin H**	**52.20**	**132**	T	T	18 57 39.5	
	baz=296						
H01W1	**Cape Leeuwin H**	**52.21**	**132**	T	T	18 57 41.0	
	baz=296,slow=75						
KBZ	**Khabaz**	**52.88**	**337**	P	**P**	**18 01 15.0**	**-0.2**
	0.5nm,0.3s,baz=69,slow=6.4,SNR=2.3						
ABKAR	**Akbulak array**	**53.66**	**353**	*eP*	**P**	**18 01 20.3**	**-0.6**
	2.0nm,0.9s						
BRTR	**Keskin Array B**	**54.09**	**327**	P	**P**	**18 01 24.5**	**+0.1**
	0.2nm,0.4s,baz=310,slow=4.7,SNR=3.6						
KURBB	**Kurchatov Arra**	**55.22**	**8**	P	**P**	**18 01 32.5**	**+0.3**
	0.2nm,0.3s,baz=205,slow=7.5,SNR=4.0						
KURK	**Kurchatov**	**55.32**	**8**	P	**P**	**18 01 32.5**	**-0.4**
BVAR	**Borovoye Array**	**56.96**	**1**	P	**P**	**18 01 45.3**	**+0.7**
	0.2nm,0.6s,baz=159,slow=6.1,SNR=2.5						
ZALV	**Zalesovo Beam**	**59.47**	**11**	P	**P**	**18 02 02.0**	**-0.1**
	0.9nm,0.6s,baz=190,slow=7.3,SNR=3.3						
SONM	**Songino Array**	**61.52**	**28**	P	**P**	**18 02 17.8**	**+1.4**
	1.0nm,0.9s,baz=216,slow=7.3,SNR=5.5						
ULN	**Ulaanbaatar**	**61.85**	**28**	P	**P**	**18 02 17.0**	**-1.7**
ASAR	**Alice Springs**	**65.94**	**114**	P	**P**	**18 02 45.9**	**-0.2**
	0.5nm,0.9s,baz=273,slow=6.4,SNR=3.6						
WRA	**Warramunga Arr**	**65.99**	**110**	P	**P**	**18 02 46.7**	**+0.3**
	0.4nm,0.3s,baz=281,slow=6.2,SNR=5.8						
WRAB	**Tennant Creek**	**66.00**	**110**	*eP*	**P**	**18 02 47.7**	**+1.2**
	3.1nm,1.0s						

*ISCJB **03** 18:05:01.8±0.8, 36°.28N±0°.06×70°.16E±0°.07, h100km, mb3.6/3, Error ellipse: s-maj=9.9km s-min=6.9km az=138.8*
*IDC **03** 18:05:02.8±4.9, 36°.26N×70°.11E, h87km±34km, mb3.5/4, mb1 3.5/9, mb1mx3.2/50, mbtmp3.9/9, Error ellipse: s-maj=50.9km s-min=18.2km az=150.0*
*NNC **03** 18:05:06.0±7.2, 36°.73N×70°.22E, h0km, mb4.2, mpv3.9, Error ellipse: s-maj=61.4km s-min=52.7km az=121.0*

ISC 03 18:05:02.5±0.9, 36°.27N±0°.07×70°.19E±0°.07, h100km, n14, σ2s76/21, mb3.4/3, 4C-3D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
THN	**Thein Dam**	**5.96**	**128**	*eP*	**Pn**	**18 06 28.0**	**-0.2**
THN				*es*	**Sn**	**18 07 31.8**	**-3.3**
MNAS	**Manas**	**6.46**	**15**	⇑Pn	**Pn**	**18 06 37.3**	**+2.1**
	3.7nm,0.5s						
MNAS				Sn	**Sn**	**18 07 48.2**	**+0.7**
KK31	**Karatay Array**	**6.83**	**2**	⇓Pn	**Pn**	**18 06 42.2**	**+2.2**
	5.0nm,0.4s,baz=198,slow=16,SNR=86						
KK31				⇑Sn	**Sn**	**18 07 57.1**	**+0.9**
	3.1nm,0.4s,baz=189,slow=23						
AAK	**Ala-Archa**	**7.18**	**26**	P	**Pn**	**18 06 46.4**	**+1.4**
	2.2nm,0.3s,baz=194,slow=9.2,SNR=14						
AAK				S	**Sn**	**18 08 04.9**	**0.0**
	1.3nm,0.3s,baz=339,slow=20,SNR=12						
AAK	**Ala-Archa**	**7.18**	**26**	⇑Pn	**Pn**	**18 06 46.3**	**+1.4**
	5.3nm,0.6s						
AAK				⇑Sn	**Sn**	**18 08 04.4**	**-0.5**
	14nm,0.7s						
TKM2	**Tokmak 2**	**7.85**	**30**	⇓Pn	**Pn**	**18 06 55.3**	**+1.3**
	5.6nm,0.6s						
TKM2			

	0.3nm,0.5s,baz=360,slow=15,SNR=11								
ILAR	**Eielson Array**	**62.60**	**29**	P	**P**	**18**	**17**	**16.1**	**-1.1**
	0.5nm,0.6s,baz=292,slow=9.9,SNR=8.2								
INK	**Inuvik**	**66.96**	**24**	P	**P**	**18**	**17**	**44.2**	**-1.2**
	1.4nm,1.0s,baz=309,slow=6.5,SNR=2.9								
BRTR	**Keskin Array B**	**75.63**	**307**	P	**P**	**18**	**18**	**38.3**	**+0.2**
	0.3nm,0.5s,baz=72,slow=4.7,SNR=3.0								

*ISCJB **03** 18:19:31.5±0.8,21.5N±0.1×143.1E±0.2,h311km, mb3.6/13, Error ellipse: s-maj=25.3km s-min=14.9km az=177.3*
*IDC **03** 18:19:31.6±5.2,21.56N×143.11E,h294km±54km, mb3.3/14,mb1 3.4/14,mb1mx3.2/57,mbtmp4.0/14,Error ellipse: s-maj=23.8km s-min=11.8km az=85.0*

ISC 03 18:19:33.1±1.1,21.6N±0.1×143.1E±0.2,h311km,n14, σ0°44/14,mb3.7/13,Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
KSRS	**Korea Array**	**20.58**	**324**	P		**P**		**18 23 48.4**	**-0.6**
	2.5nm,0.6s,baz=146,slow=8.9,SNR=13								
KLR	**Kul'dur**	**29.06**	**345**	P		**P**		**18 25 05.5**	**+0.3**
	3.2nm,0.6s,baz=163,slow=8.5,SNR=13								
SONM	**Songino Array**	**39.40**	**321**	P		**P**		**18 26 33.2**	**-0.3**
	0.2nm,0.4s,baz=134,slow=7.8,SNR=3.3								
CMAR	**Chiang Mai Arr**	**41.50**	**274**	P		**P**		**18 26 51.2**	**+0.4**
	0.6nm,0.3s,baz=81,slow=6.6,SNR=4.6								
WRA	**Warramunga Arr**	**42.11**	**192**	P		**P**		**18 26 55.8**	**+0.1**
	0.6nm,0.3s,baz=13,slow=9.6,SNR=16								
ASAR	**Alice Springs**	**45.82**	**192**	P		**P**		**18 27 24.6**	**-0.4**
	0.1nm,0.3s,baz=12,slow=7.1,SNR=14								
ZALV	**Zalesovo Beam**	**54.27**	**322**	P		**P**		**18 28 27.5**	**0.0**
	0.8nm,0.4s,baz=112,slow=7.8,SNR=4.6								
KURBB	**Kurchatov Arra**	**57.58**	**317**	P		**P**		**18 28 50.9**	**+0.1**
	2.2nm,0.5s,baz=94,slow=7.5,SNR=22								
ILAR	**Eielson Array**	**62.21**	**27**	P		**P**		**18 29 21.7**	**-0.3**
	0.4nm,0.6s,baz=258,slow=5.6,SNR=7.1								
BVAR	**Borovoye Array**	**62.73**	**320**	P		**P**		**18 29 26.0**	**+0.4**
	3.6nm,0.3s,baz=101,slow=7.8,SNR=45								
INK	**Inuvik**	**67.74**	**24**	P		**P**		**18 29 57.5**	**+0.3**
	1.3nm,0.8s,baz=270,slow=5.1,SNR=4.3								
ARU	**Arti**	**69.33**	**324**	P		**P**		**18 30 07.3**	**0.0**
	1.4nm,0.4s,baz=50,slow=4.2,SNR=3.6								
ARCES	**ARCESS Array B**	**79.04**	**341**	P		**P**		**18 31 03.3**	**+0.6**
	1.2nm,0.6s,baz=73,slow=8.1,SNR=5.8								
FINES	**FINESS Array B**	**83.28**	**334**	P		**P**		**18 31 24.3**	**-0.7**
	0.9nm,0.4s,baz=72,slow=3.5,SNR=24								

*IDC **03** 18:29:04.8±1.3,10.89S×73.04W,h0km,mb3.7/2, mb1 3.8/7,mb1mx3.7/32,mbtmp3.7/7,ML3.6/5,MS3.2/1, Ms1 3.2/1,ms1mx2.7/33,Error ellipse: s-maj=33.7km s-min=18.5km az=18.0*
*ISCJB **03** 18:29:07.6±0.6,10.95S±0.08×73.03W±0.05,h33km, mb3.7/2,Error ellipse: s-maj=12.4km s-min=6.0km az=16.5*

ISC 03 18:29:09.8±0.8,10.95S±0.10×73.05W±0.07,h35km,n8, σ1°21/11,Central Peru

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
NNA	**Nana**	**3.86**	**254**	Pn		**Pn**		**18 30 06.2**	**-0.6**
	12nm,0.3s,baz=77,slow=9.2,SNR=20								
NNA				Sn		**Sn**		**18 30 51.5**	**+0.5**
	20nm,0.3s,baz=221,slow=16,SNR=5.4								
NNA				LR		LR		18 31 52.3	
	comp=Z,281nm,18.0s,baz=72,slow=43								
ATAH	**Atahualpa**	**6.50**	**305**	Pn		**Pn**		**18 30 43.0**	**-0.4**
	0.8nm,0.3s,baz=290,slow=15,SNR=2.2								
ATAH				Sn		**Sn**		**18 31 58.9**	**+2.4**
	1.0nm,0.3s,baz=34,slow=11,SNR=1.4								
LPAZ	**La Paz**	**7.14**	**139**	Pn		**Pn**		**18 30 53.2**	**+0.8**
	0.2nm,0.3s,baz=312,slow=11,SNR=3.5								
LPAZ				Lg		Lg		18 32 46.3	
	1.7nm,0.3s,baz=12,slow=19,SNR=5.0								
SIV	**San Ignacio**	**12.68**	**115**	Pn		**Pn**		**18 32 07.4**	**-0.4**
	0.4nm,0.3s,baz=294,slow=11,SNR=4.1								
SIV				Sn		**Sn**		**18 34 29.2**	**+1.4**
	1.4nm,0.3s,baz=252,slow=19,SNR=2.9								
SIV				Lg		Lg		18 35 43.1	
	1.8nm,0.3s,baz=38,slow=23,SNR=4.2								
PTGA	**Pitinga**	**16.49**	**53**	Pn		**Pn**		**18 32 58.0**	**-0.6**
	0.4nm,0.3s,baz=241,slow=18,SNR=3.8								
TXAR	**Lajitas Array**	**49.76**	**324**	P		**P**		**18 37 58.9**	**-0.3**
	0.4nm,0.6s,baz=145,slow=9.0,SNR=5.9								
TORD	**Torodi Ar. Bea**	**77.93**	**74**	P		**P**		**18 41 04.8**	**0.0**
	1.0nm,1.0s,baz=244,slow=3.6,SNR=6.1								
WRA	**Warramunga Arr**	**139.15**	**221**	PKP		**PKPdf**		**18 48 32.6**	**-1.4**
	0.5nm,0.9s,baz=116,slow=1.9,SNR=3.2								

JMA 03 18:31:24.9±0.2,38.98N×143.27E,h4km±2km,M3.5,Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
OFUJ	**Ofunato**	**1.25**	**275**	P		Pg		18 31 48.4	-0.5
OFUJ						*e*S	Sg	18 32 05.3	+0.2
MIYJ	**Miyakonagasawa**	**1.27**	**298**	P		Pg		18 31 48.7	-0.6
MIYJ						*e*S	Sg	18 32 05.7	-0.1
JTH	**Tanohata**	**1.45**	**312**	P		Pn		18 31 51.7	-0.2
JTH						*e*S	Sg	18 32 11.7	+0.2
JIO	**Ouri**	**1.59**	**251**	P		Pn		18 31 54.0	+0.2
JIO						*e*S	Sn	18 32 14.6	-0.2
JMK	**Ichinoseki**	**1.60**	**270**	P		Pn		18 31 53.9	0.0
JMK						*e*S	Sn	18 32 15.0	0.0
JOM	**Ohasama**	**1.61**	**288**	P		Pn		18 31 54.2	+0.1
JOM						S	Sb	18 32 15.7	-0.2
JANG	**Nango**	**1.94**	**316**	P		Pn		18 31 59.6	+0.9
JRG	**Rokugo**	**2.09**	**282**	P		Pn		18 32 01.7	+1.0
JRG						*e*S	Sb	18 32 29.0	-0.7
JOU	**Okura**	**2.13**	**254**	P		Pb		18 32 02.9	-1.2
JOU						*e*S	Sn	18 32 29.4	+1.2
JMM	**Marumori**	**2.24**	**241**	*e*S		Sn		18 32 30.2	-0.7
JYK	**Kaneyama**	**2.27**	**269**	P		Pn		18 32 04.6	+1.4
JYK						*e*S	Sb	18 32 34.5	-0.4
JAH	**Hinai**	**2.37**	**301**	P		Pb		18 32 07.3	-0.8
JAH						S	Sb	18 32 35.9	-1.7

NEIC 03 18:38:23.8±0.0,52.22N×171.51W,h40km,ML2.7(AEIC), After AEIC., Fox Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
KOSE	**Korovin Southe**	**1.56**	**276**	P		Pn		18 38 50.5	+1.4
KOFP	**Korovin Flat P**	**1.59**	**273**	P		Pn		18 38 50.1	+0.6
KOFP						S	Sn	18 39 09.9	+1.1
ATKA	**Atka Island**	**1.65**	**271**	P		Pn		18 38 49.4	-0.8
ATKA						S	Sn	18 39 09.2	-0.9
KOKL	**Mount Kliuchef**	**1.66**	**275**	P		Pn		18 38 51.6	+1.2
KOWE	**Korovin West**	**1.69**	**276**	P		Pn		18 38 52.1	+1.4
NIKH	**Nikolski High**	**1.79**	**64**	P		Pn		18 38 52.3	+0.2
NIKH						S	Sn	18 39 14.9	+1.3
OKAK	**Okmok**	**2.35**	**53**	P		Pn		18 39 01.7	+1.9
OKTU	**Okmok Mt. Tuli**	**2.41**	**60**	P		Pn		18 39 03.2	+2.5
OKFG	**Magazine Ridge**	**2.49**	**60**	P		Pn		18 39 03.8	+2.1
OKFG						S	Sn	18 39 35.2	+4.3
GSMY	**Great Sitkin M**	**2.81**	**268**	P		Pn		18 39 05.5	-0.6
ADAG	**Mount Adagdak**	**3.15**	**268**	P		Pn		18 39 12.8	+2.0
MREP	**Makushin Rep't**	**3.29**	**59**	P		Pn		18 39 14.4	+1.6
UNV	**Unalaska Valle**	**3.44**	**60**	P		Pn		18 39 16.5	+1.8
UNV						S	Sn	18 39 58.3	+4.2

JMA 03 18:42:44.2±0.3,37.03N×142.37E,h0km,M3.5,Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
JFK	**Kawauchi**	**1.24**	**286**	P		Pg		18 43 08.2	+0.2
JMM	**Marumori**	**1.51**	**304**	P		Pn		18 43 11.9	-0.6
JIO	**Ouri**	**1.64**	**331**	P		Pn		18 43 14.5	+0.3
JFT	**Otama**	**1.69**	**287**	P		Pb		18 43 15.8	-0.4
JFT						*e*S	Sg	18 43 38.9	+0.3
JOU	**Okura**	**1.90**	**315**	P		Pb		18 43 19.1	-0.7
JMK	**Ichinoseki**	**2.12**	**335**	P		Pn		18 43 22.1	+1.2
JFY	**Yanaizu**	**2.16**	**281**	P		Pb		18 43 24.0	-0.2
JFY						*e*S	Sb	18 43 52.0	+0.4
JYS	**Shirataka**	**2.18**	**304**	P		Pb		18 43 23.3	-1.3
JAG	**Ashikaga**	**2.42**	**256**	P		Pn		18 43 25.9	+0.9
JAG						*e*S	Sn	18 43 56.1	+0.8
JYK	**Kaneyama**	**2.46**	**320**	P		Pn		18 43 27.0	+1.4
BSO1	**Boso 1**	**2.63**	**206**	P		Pn		18 43 29.5	+2.1
MAT	**Matsushiro**	**3.38**	**263**	P		Pb		18 43 42.3	-2.6
MAT						S	Sb	18 44 23.9	-2.7

*ISCJB **03** 18:52:17.9±0.5,39.13N±0.04×29.12E±0.04,h3km±7km, Error ellipse: s-maj=7.5km s-min=4.5km az=154.8*
*CSEM **03** 18:52:17.9±0.2,39.11N×29.15E,h5km,MD3.0,Error ellipse: s-maj=4.0km s-min=3.7km az=156.0*
*ISK **03** 18:52:17.6,39.14N×29.14E,h5km,MD3.0*
*DDA **03** 18:52:18.4,39.15N×29.06E,h7km,Md2.7*

ISC 03 18:52:18.0±0.9,39.10N±0.02×29.13E±0.02,h10km±7km, n30,σ1°33/45,Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SIMA	**Simav-Kutahya**	**0.11**	**260**	Pg			**Pg**	**18 52 21.1**	**+0.2**
SIMA	**Simav-Kutahya**	**0.11**	**260**	*i* Pg			**Pg**	**18 52 21.1**	**+0.2**
GEDZ	**Gediz**	**0.23**	**105**	*e*PG			**Pg**	**18 52 22.5**	**-0.3**
GEDZ				*e*SG			**Sg**	**18 52 26.6**	**+0.6**
GEDZ	**Gediz**	**0.23**	**105**	*e*Pg			**Pg**	**18 52 22.5**	**-0.3**
GEDZ				*e*Sg			**Sg**	**18 52 26.6**	**+0.6**
DEMI	**Demirci**	**0.33**	**259**	*i* P			**Pg**	**18 52 24.8**	**+0.2**
DEMI				*i* S			**Sg**	**18 52 29.3**	**+0.4**
DEMI	**Demirci**	**0.33**	**259**	P			**Pg**	**18 52 24.8**	**+0.2**
DEMI				S			**Sg**	**18 52 29.3**	**+0.4**
TVSB	**Tavsanli**	**0.43**	**37**	*e*PG			**Pg**	**18 52 26.1**	**-0.4**
TVSB				*e*SG			**Sg**	**18 52 31.2**	**-1.1**
TVSB	**Tavsanli**	**0.43**	**37**	*e*Pg			**Pg**	**18 52 26.1**	**-0.4**
TVSB				*e*Sg			**Sg**	**18 52 31.2**	**-1.1**
KULA	**Kula-Manisa**	**0.69**	**212**	*e*PG			**Pg**	**18 52 31.5**	**+0.1**
KULA	**Kula-Manisa**	**0.69**	**212**	*e*Pg			**Pg**	**18 52 31.5**	**+0.1**
MANT	**Manisa**	**0.76**	**216**	*i* P			Pg	18 52 25.3	-7.4
MANT				*i* S			**Sg**	**18 52 35.2**	**-7.4**
KHL	**Karahalli**	**0.84**	**158**	*e*PG			**Pg**	**18 52 34.1**	**-0.1**
KHL	**Karahalli**	**0.84**	**158**	*e*Pg			**Pg**	**18 52 34.1**	**-0.1**
BALB	**Balikesir**	**1.10**	**299**	*e*PN			**Pb**	**18 52 39.6**	**+0.4**
BALB				*e*SN			**Sn**	**18 52 54.8**	**-0.1**
BALB	**Balikesir**	**1.10**	**299**	*e*Pn			**Pb**	**18 52 39.6**	**+0.4**
BALB				*e*Sn			**Sn**	**18 52 54.8**	**-0.1**
IGD	**Bursa**	**1.16**	**3**	*i* P			**Pg**	**18 52 39.5**	**-0.9**
IGD				*i* S			**Sg**	**18 52 54.0**	**-1.4**
KCTX	**Karacabey (Bur**	**1.30**	**333**	*e*PN			**Pg**	**18 52 42.4**	**-0.7**
KCTX	**Karacabey (Bur**	**1.30**	**333**	*e*Pn			**Pg**	**18 52 42.4**	**-0.7**
BALY	**Balya**	**1.33**	**299**	*i* P			**Pg**	**18 52 43.3**	**-0.3**
BALY				*i* S			**Sg**	**18 52 59.7**	**-1.1**
BALY	**Balya**	**1.33**	**299**	P			**Pg**	**18 52 43.3**	**-0.3**
BALY				S			**Sg**	**18 52 59.7**	**-1.1**
GEMT	**Gemlik**	**1.33**	**2**	*e*PN			**Pg**	**18 52 43.2**	**-0.4**
GEMT				*e*SN			**Sn**	**18 53 01.5**	**+1.0**
GEMT	**Gemlik**	**1.33**	**2**	*e*Pn			**Pg**	**18 52 43.2**	**-0.4**
GEMT				*e*Sn			**Sn**	**18 53 01.5**	**+1.0**
ARMT	**Armutlu**	**1.48**	**352**	*e*PN			**Pb**	**18 52 45.4**	**-0.2**
ARMT				*e*SN			**Sg**	**18 53 05.2**	**-0.3**
ARMT	**Armutlu**	**1.48**	**352**	*e*Pn			**Pb**	**18 52 45.4**	**-0.2**
ARMT				*e*Sn			**Sg**	**18 53 05.2**	**-0.3**
AYDB	**Zeytinkoy-Aydi**	**1.51**	**220**	*e*PN			**Pb**	**18 52 46.7**	**+0.5**
AYDB	**Zeytinkoy-Aydi**	**1.51**	**220**	*e*Pn			**Pb**	**18 52 46.7**	**+0.5**
GULT	**Gulveren**	**1.71**	**38**	*e*PN			**Pb**	**18 52 48.9**	**-0.6**
GULT	**Gulveren**	**1.71**	**38**	*e*Pn			**Pb**	**18 52 48.9**	**-0.6**
CTKS	**Kestanelik-??a**	**2.18**	**348**	*e*PN			**Pn**	**18 52 55.6**	**+1.2**
CTKS	**Kestanelik-??a**	**2.18**	**348**	*e*Pn			**Pn**	**18 52 55.6**	**+1.2**

*ISCJB **03** 18:53:42.5±0.8,41.08N±0.05×38.68E±0.03,h7km±5km, Error ellipse: s-maj=8.5km s-min=3.9km az=177.2*
*DDA **03** 18:53:42.7,41.02N×38.67E,h7km,Md2.7*
*CSEM **03** 18:53:42.9±0.3,41.06N×38.68E,h5km,MD2.7,Error ellipse: s-maj=7.0km s-min=3.5km az=179.0*
*ISK **03** 18:53:43.5,41.03N×38.76E,h14km,MD2.7*

ISC 03 18:53:43.0±1.1,41.04N±0.05×38.68E±0.02,h14km±8km, n22,σ0°54/41,Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
ESPY	**Espiye-Giresun**	**0.13**	**164**	PG			**Pg**	**18 53 46.9**	**+0.3**
ESPY				SG			**Sb**	**18 53 50.1**	**0.0**
ESPY	**Espiye-Giresun**	**0.13**	**164**	*i* Pg			**Pg**	**18 53 46.9**	**+0.3**
ESPY				*i* Sg			**Sb**	**18 53 50.1**	**0.0**
GRSN	**GIRESUNGRSN**	**0.33**	**249**	*i* P			**Pg**	**18 53 49.5**	**-0.4**
GRSN				*i* S			**Sg**	**18 53 53.8**	**-0.8**
GRSN	**GIRESUNGRSN**	**0.33**	**249**	P			**Pg**	**18 53 49.5**	**-0.4**
GRSN				S			**Sg**	**18 53 53.8**	**-0.8**
ORDU	**Ordu-Boztepe**	**0.62**	**265**	*i* P			**Pg**	**18 53 54.5**	**-0.7**
ORDU				*i* S			**Sg**	**18 54 04.0**	**+0.5**
ORDU	**Ordu-Boztepe**	**0.62**	**265**	P			**Pg**	**18 53 54.5**	**-0.7**
ORDU				S			**Sg**	**18 54 04.0**	**+0.5**
KTUT	**Trabzon**	**0.82**	**94**	*e*PG			**Pb**	**18 53 59.0**	**-0.1**
KTUT				*e*SG			**Sb**	**18 54 10.3**	**+0.2**
KTUT	**Trabzon**	**0.82**	**94**	*e*Pg			**Pb**	**18 53 59.0**	**-0.1**
KTUT				*e*Sg			**Sb**	**18 54 10.3**	**+0.2**
MACK	**Trabzon**	**0.83**	**97**	*i* P			**Pb**	**18 53 58.8**	**-0.4**
MACK				*i* S			**Sb**	**18 54 10.7**	**+0.4**
MACK	**Trabzon**	**0.83**	**97**	P			**Pb**	**18 53 58.8**	**-0.4**
MACK				S			**Sb**	**18 54 10.7**	**+0.4**
GUMT	**Gumushane**	**0.84**	**134**	*e*PG			**Pg**	**18 53 59.0**	**-0.4**
GUMT				*e*SG			**Sg**	**18 54 10.2**	**-0.3**
GUMT	**Gumushane**	**0.84**	**134**	*e*Pg			**Pg**	**18 53 59.0**	**-0.4**
GUMT				*e*Sg			**Sg**	**18 54 10.2**	**-0.3**
SUSE	**Susehri**	**0.91**	**204**	*i* P			**Pb**	**18 54 00.2**	**-0.5**
SUSE				*i* S			**Sb**	**18 54 12.8**	**+0.1**
SUSE	**Susehri**	**0.91**	**204**	P			**Pb**	**18 54 00.2**	**-0.4**
KELT	**Kelkit**	**1.00**	**154**	*i* P			**Pb**	**18 54 01.7**	**-0.5**
KELT				*i* S			**Sb**	**18 54 15.1**	**-0.1**
KELT	**Kelkit**	**1.00**	**154**	P			**Pb**	**18 54 01.7**	**-0.5**
KELT				S			**Sb**	**18 54 15.1**	**-0.1**
CUZAR	**Zara_SIVAS**	**1.35**	**211**	*i* P			**Pn**	**18 54 07.2**	**-0.3**
CUZAR				*i* S			**Sg**	**18 54 26.3**	**-0.2**
CUZAR	**Zara_SIVAS**	**1.35**	**211**	P			**Pn**	**18 54 07.2**	**-0.3**
CUZAR				S			**Sg**	**18 54 26.3**	**-0.2**
SVSK	**Karacayir**	**1.71**	**229**	*e*PN			**Pb**	**18 54 14.5**	**+0.4**
SVSK				*e*SN			**Sb**	**18 54 36.5**	**+1.1**
SVSK	**Karacayir**	**1.71**	**229**	*e*Pn			**Pb**	**18 54 14.5**	**+0.4**
SVSK				*e*Sn			**Sb**	**18 54 36.5**	**+1.1**
PTK	**Pertek**	**2.22**	**165**	*e*PN			**Pn**	**18 54 20.6**	**+1.1**
PTK	**Pertek**	**2.22**	**165**	*e*Pn			**Pn**	**18 54 20.6**	**+1.1**

*IDC **03** 19:09:04.4±4.0,36.07N×71.20E,h53km±35km,mb3.6/8, mb1 3.7/13,mb1mx3.4/54,mbtmp3.9/13,ML3.9/5,Error ellipse: s-maj=27.8km s-min=22.1km az=17.0*
*ISCJB **03** 19:09:07.9±0.6,36.29N±0.04×71.63E±0.07,h100km, mb3.6/7,Error ellipse: s-maj=9.6km s-min=3.8km az=146.9*
*NNC **03** 19:09:16.9±7.8,37.53N×70.25E,h0km,mb4.3,mpv3.9, Error ellipse: s-maj=76.5km s-min=49.2km az=153.0*

ISC 03 19:09:06.7±0.7,36.16N±0.07×71.43E±0.07,h100km,n28, σ2°52/34,mb3.7/7,4C-3D,Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
THN	**Thein Dam**	**5.14**	**135**	*e*P			**Pn**	**19 10 22.2**	**+0.9**
THN				*e*S			Sn	19 11 28.0	+8.6
MNAS	**Manas**	**6.37**	**7**	⇓Pn			**Pn**	**19 10 37.9**	**-0.2**
	4.1nm,0.4s								
MNAS				⇓Lg			Lg	19 12 01.8	
	19nm,0.5s								
SDNR	**Sundarnagar**	**6.55**	**134**	*e*P			Pn	19 10 52.0	+12
SDNR				*e*S			**Sn**	**19 11 59.0**	**+5.3**
AAK	**Ala-Archa**	**6.89**	**19**	P			**Pn**	**19 10 46.3**	**+1.2**
	3.6nm,0.3s,baz=191,slow=9.4,SNR=23								
AAK				S			**Sn**	**19 11 59.8**	**-2.2**
	1.0nm,0.3s,baz=211,slow=11,SNR=3.8								
AAK	**Ala-Archa**	**6.89**	**19**	⇑Pn			**Pn**	**19 10 46.0**	**+0.9**
	7.4nm,0.5s								
AAK				⇑Sn			**Sn**	**19 11 59.3**	**-2.7**
	10nm,0.8s								
KK31	**Karatay Array**	**6.97**	**354**	⇓Pn			**Pn**	**19 10 44.7**	**-1.4**
	5.2nm,0.3s,baz=178,slow=14,SNR=288								
KK31				Lg			Lg	19 12 11.9	
	2.2nm,0.3s,baz=186,slow=35,SNR=3.7								
TKM2	**Tokmak 2**	**7.48**	**24**	⇑Pn			**Pn**	**19 10 54.2**	**+1.1**
	8.5nm,0.9s								
TKM2				⇑Sn			**Sn**	**19 12 16.5**	**+0.1**
	4.6nm,1.0s								
GEYT	**Alibeck**	**10.79**	**283**	P			**Pn**	**19 11 33.5**	**-4.6**
	1.3nm,0.3s,baz=83,slow=11,SNR=18								
GEYT				S			Sn	19 13 24.6	-12
	3.4nm,0.3s,baz=116,slow=16,SNR=11								
PYUN	**Piuthan**	**12.67**	**126**	*e*P			**P**	**19 12 06.8**	**-3.9**
	15nm,0.4s								
PYUN				*e*S			**Sn**	**19 14 21.5**	**-1.3**
GKN	**Gorkha**	**13.83**	**122**	*e*P			**P**	**19 12 21.9**	**-1.7**
	9.1nm,0.5s								
GKN				*e*S			**Sn**	**19 14 48.3**	**-2.6**
DMN	**Daman**	**14.40**	**122**	*e*P			**P**	**19 12 29.7**	**-0.3**
	11nm,0.7s								
DMN				*e*S			**Sn**	**19 15 02.7**	**-2.2**
KKN	**Kakani**	**14.41**	**122**	*e*S			**Sn**	**19 15 01.8**	**-3.1**
PKIN	**Phulchoki**	**14.62**	**122**	*e*P			**P**	**19 12 33.0**	**+0.5**
	5.0nm,0.3s								
PKIN				*e*S			**Sn**	**19 15 07.7**	**-2.5**
JIRN	**Jiri**	**15.12**	**120**	*e*P			**P**	**19 12 39.5**	**+1.4**
	86nm,0.3s								
JIRN				*e*S			**Sn**	**19 15 18.9**	**-3.5**
KURBB	**Kurchatov Arra**	**15.33**	**17**	P			**P**	**19 12 40.2**	**+0.3**
	0.1nm,0.3s,baz=205,slow=11,SNR=8.9								
RAMN	**Ramite**	**15.85**	**121**	*e*P			**P**	**19 12 48.2**	**+2.1**
	5.8nm,0.3s								
ODAN	**Odare**	**16.45**	**120**	*e*P			**P**	**19 12 56.5**	**+3.7**
	5.4nm,0.4s								
ODAN				*e*S			**Sn**	**19 15 49.8**	**-4.6**
BVAR	**Borovoye Array**	**16.88**	**358**	P			**P**	**19 12 56.7**	**-0.3**
	0.4nm,0.3s,baz=170,slow=12,SNR=4.8								
AKTO	**Aktyubinsk**	**17.24**	**330**	P			**Pn**	**19 13 00.7**	**-0.4**
	0.9nm,0.3s,baz=136,slow=14,SNR=13								
ZALV	**Zalesovo Beam**	**20.08**	**23**	P			Pn	19 13 33.4	-1.3
	2.9nm,0.3s,baz=208,slow=9.8,SNR=10								
ARU	**Arti**	**22.06**	**341**	P			**P**	**19 13 55.5**	**+2.4**
	1.8nm,0.4s,baz=113,slow=1.3,SNR=7.8								
FINES	**FINESS Array B**	**37.95**	**326**	P			**P**	**19 16 16.4**	**+2.2**
	0.6nm,0.3s,baz=117,slow=8.5,SNR=11								
ARCES	**ARCESS Array B**	**41.59**	**338**	P			**P**	**19 16 47.0**	**+2.8**
	0.8nm,0.6s,baz=110,slow=7.9,SNR=4.2								
NB2	**NORSAR Subarra**	**44.86**	**323**	P			**P**	**19 17 12.4**	**+1.7**
	comp=Z,0.5nm,0.5s,baz=93,slow=7.9								
NOA	**NORSAR Array B**	**44.86**	**323**	P			**P**	**19 17 12.7**	**+2.1**
	comp=Z,0.9nm,0.6s,baz=101,slow=7.3,SNR=5.3								
TORD	**Torodi Ar. Bea**	**66.06**	**269**	P			**P**	**19 19 44.8**	**+1.6**
	comp=Z,0.4nm,0.4s,baz=50,slow=5.8,SNR=9.6								
WRA	**Warramunga Arr**	**81.52**	**122**	P			P	19 21 17.6	+4.3
	comp=Z,0.6nm,1.0s,baz=326,slow=4.8,SNR=3.1								
ASAR	**Alice Springs**	**83.78**	**125**	P			P	19 21 28.3	+3.3
	comp=Z,0.3nm,0.8s,baz=316,slow=5.2,SNR=3.7								

IDC 03 19:24:31.0±2.8,22.90S×179.41W,h0km,mb4.1/4, mb1 4.5/4,mb1mx3.9/24,mbtmp4.1/4,Error ellipse: s-maj=210.4km s-min=27.0km az=160.0,South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**42.74**	**259**	P			P	19 32 30.6	+0.2
	3.5nm,0.8s,baz=97,slow=7.4,SNR=74								
WRA	**Warramunga Arr**	**43.02**	**265**	P			P	19 32 33.0	+0.3
	5.4nm,0.6s,baz=104,slow=8.5,SNR=51								
TXAR	**Lajitas Array**	**89.44**	**58**	P			P	19 37 31.1	+0.8
	0.4nm,0.7s,baz=202,slow=5.4,SNR=4.8								
PDAR	**Pinedale Array**	**91.60**	**44**	P			P	19 37 40.3	+0.1
	0.2nm,0.6s,baz=240,slow=1.5,SNR=2.7								
BRTR	**Keskin Array B**	**147.39**	**309**	PKPbc			PKPdf	19 44 14.5	-0.2
	0.4nm,0.6s,baz=110,slow=4.3,SNR=2.9								

**IDC 03 19:52:05.

GUNZ	**Gunzen**	**0.16**	**322**	*i* Pg	**Pb**	**20 03 52.5**	**-0.5**
GUNZ				*i* Sg	**Sg**	**20 03 54.4**	**+0.3**
GUNZ				AML	AML	20 03 54.5	
	comp=E,173nm,0.3s						
GUNZ	**Gunzen**	**0.16**	**322**	*e*Pg	**Pg**	**20 03 51.8**	**+0.2**
GUNZ				*e*Sg	**Sg**	**20 03 53.8**	**-0.4**
GUNZ	**Gunzen**	**0.16**	**322**	Pg	**Pg**	**20 03 51.8**	**+0.2**
GUNZ				Sg	**Sg**	**20 03 53.8**	**-0.4**
TANN	**Tannenbergstha**	**0.17**	**356**	*i* Pg	**Pg**	**20 03 52.1**	**+0.2**
TANN				*i* Sg	**Sg**	**20 03 54.3**	**-0.4**
TANN				AML	AML	20 03 54.8	
	comp=E,565nm,0.1s						
TANN	**Tannenbergstha**	**0.17**	**356**	*e*Pg	**Pb**	**20 03 53.0**	**-0.3**
TANN				*e*Sg	**Sg**	**20 03 55.1**	**+0.4**
TANN				AML	AML	20 03 55.5	
	comp=E,330nm,0.1s						
MULD	**Muldenberg**	**0.18**	**344**	*i* Pg	**Pg**	**20 03 52.2**	**+0.2**
MULD				*i* Sg	**Sg**	**20 03 54.3**	**-0.4**
MULD				AML	AML	20 03 54.5	
	comp=E,506nm,0.2s						
MULD	**Muldenberg**	**0.18**	**344**	*i* Pg	**Pb**	**20 03 52.9**	**-0.5**
MULD				*i* Sg	**Sg**	**20 03 55.0**	**+0.3**
MULD				AML	AML	20 03 55.2	
	comp=E,401nm,0.2s						
MULD	**Muldenberg**	**0.18**	**344**	*e*Pg	**Pg**	**20 03 52.2**	**+0.2**
MULD				*e*Sg	**Sg**	**20 03 54.3**	**-0.4**
MULD	**Muldenberg**	**0.18**	**344**	Pg	**Pg**	**20 03 52.2**	**+0.2**
MULD				Sg	**Sg**	**20 03 54.3**	**-0.4**
WERD	**Werda**	**0.24**	**332**	*i* Pg	**Pg**	**20 03 53.1**	**+0.2**
WERD				*i* Sg	**Sg**	**20 03 56.0**	**-0.3**
WERD				AML	AML	20 03 56.7	
	comp=E,121nm,0.1s						
WERD	**Werda**	**0.24**	**332**	*e*Pg	**Pg**	**20 03 53.1**	**+0.2**
WERD				*e*Sg	**Sg**	**20 03 55.8**	**-0.5**
WERD	**Werda**	**0.24**	**332**	Pg	**Pg**	**20 03 53.1**	**+0.2**
WERD				Sg	**Sg**	**20 03 55.8**	**-0.5**
TRIB	**Obertriebel**	**0.25**	**297**	*i* Pg	**Pg**	**20 03 53.2**	**0.0**
TRIB				*i* Sg	**Sg**	**20 03 56.3**	**-0.3**
TRIB				AML	AML	20 03 56.8	
	comp=E,155nm,0.1s						
TRIB	**Obertriebel**	**0.25**	**297**	*i* Pg	**Pg**	**20 03 53.9**	**+0.7**
TRIB				*i* Sg	**Sg**	**20 03 57.1**	**+0.5**
TRIB				AML	AML	20 03 57.5	
	comp=E,155nm,0.1s						
TRIB	**Obertriebel**	**0.25**	**297**	*e*Pg	**Pg**	**20 03 53.2**	**0.0**
TRIB				*e*Sg	**Sg**	**20 03 56.0**	**-0.6**
TRIB	**Obertriebel**	**0.25**	**297**	Pg	**Pg**	**20 03 53.2**	**0.0**
TRIB				Sg	**Sg**	**20 03 56.0**	**-0.6**
PLN	**Plauen**	**0.32**	**320**	*i* Pg	**Pg**	**20 03 54.6**	**+0.1**
PLN				*e*Sg	**Sg**	**20 03 58.5**	**-0.2**
PLN				AML	AML	20 03 58.9	
	comp=E,101nm,0.1s						
PLN	**Plauen**	**0.32**	**320**	*i* Pg	**Pb**	**20 03 55.4**	**-0.4**
PLN				*e*Sg	**Sg**	**20 03 59.3**	**+0.5**
PLN				AML	AML	20 03 59.3	
	comp=E,64nm,0.2s						
PLN	**Plauen**	**0.32**	**320**	*e*Pg	**Pg**	**20 03 54.6**	**+0.1**
PLN				*e*Sg	**Sg**	**20 03 58.6**	**-0.2**
PLN	**Plauen**	**0.32**	**320**	Pg	**Pg**	**20 03 54.6**	**+0.1**
PLN				Sg	**Sg**	**20 03 58.6**	**-0.2**
SCHF	**Schoenfels**	**0.44**	**354**	*i* Pg	**Pg**	**20 03 57.0**	**+0.3**
SCHF				*i* Sg	**Sg**	**20 04 02.7**	**+0.1**
SCHF				AML	AML	20 04 02.9	
	comp=E,477nm,0.2s						
SCHF	**Schoenfels**	**0.44**	**354**	*i* Pg	**Pb**	**20 03 57.6**	**-0.2**
SCHF				*e*Sg	**Sg**	**20 04 03.5**	**+0.9**
SCHF				AML	AML	20 04 03.5	
	comp=E,375nm,0.2s						
SCHF	**Schoenfels**	**0.44**	**354**	*e*Pg	**Pg**	**20 03 57.0**	**+0.3**
SCHF				*e*Sg	**Sg**	**20 04 02.0**	**-0.6**
SCHF	**Schoenfels**	**0.44**	**354**	Pg	**Pg**	**20 03 57.0**	**+0.3**
SCHF				Sg	**Sg**	**20 04 02.0**	**-0.6**
ROTZ	**Rotzenmuhle**	**0.51**	**201**	*e*Pg	**Pb**	**20 03 58.6**	**-0.3**
ROTZ				*e*Sg	**Sg**	**20 04 05.0**	**+0.5**
ROTZ	**Rotzenmuhle**	**0.51**	**201**	Pg	**Pb**	**20 03 58.6**	**-0.3**
ROTZ				Sg	**Sg**	**20 04 05.0**	**+0.5**
MLFH	**Mildenfurth**	**0.61**	**335**	*i* Pg	**Pg**	**20 03 59.9**	**+0.1**
MLFH				*i* Sg	**Sg**	**20 04 07.6**	**-0.2**
MLFH	**Mildenfurth**	**0.61**	**335**	*i* Pg	**Pb**	**20 04 00.7**	**+0.1**
MLFH				*e*Sg	**Sg**	**20 04 08.2**	**+0.4**
MOX	**Moxa**	**0.69**	**307**	*e*Pg	**Pg**	**20 04 01.3**	**0.0**
MOX				*e*Sg	**Sg**	**20 04 10.1**	**-0.2**
MOX	**Moxa**	**0.69**	**307**	Pg	**Pg**	**20 04 01.3**	**0.0**
MOX				Sg	**Sg**	**20 04 10.1**	**-0.2**
FBE	**Freiberg**	**0.88**	**39**	*e*Pg	**Pb**	**20 04 05.6**	**+0.3**
FBE				*e*Sg	**Sg**	**20 04 16.9**	**+0.4**
FBE	**Freiberg**	**0.88**	**39**	Pg	**Pb**	**20 04 05.6**	**+0.3**
FBE				Sg	**Sg**	**20 04 16.9**	**+0.4**
GRA1	**Grafenberg Arr**	**0.98**	**236**	Pg	**Pg**	**20 04 07.0**	**+0.1**
GRA1				Sg	**Sb**	**20 04 20.2**	**+0.3**
GRF	**Grafenberg Arr**	**0.98**	**236**	*e*Pg	**Pg**	**20 04 07.0**	**+0.1**
GRF				*e*Sg	**Sb**	**20 04 20.2**	**+0.3**
CLL	**Collm**	**1.12**	**17**	*e*Pg	**Pb**	**20 04 09.3**	**-0.1**
CLL				*e*Sg	**Sb**	**20 04 24.0**	**+0.1**
CLL	**Collm**	**1.12**	**17**	Pg	**Pb**	**20 04 09.3**	**-0.1**
CLL				Sg	**Sb**	**20 04 24.0**	**+0.1**
CLL	**Collm**	**1.12**	**17**	*i* Pg	**Pb**	**20 04 09.6**	**+0.2**
CLL				*i* Sg	**Sg**	**20 04 24.7**	**+0.6**
	comp=Z,16nm,0.6s						
CLL				*i*		20 04 28.1	
WET	**Wettzell**	**1.13**	**167**	⇓*e*PG	**Pg**	**20 04 09.9**	**+0.3**
WET	**Wettzell**	**1.13**	**167**	*e*Pg	**Pg**	**20 04 10.0**	**+0.3**
WET				*e*Sg	**Sg**	**20 04 24.7**	**+0.4**
WET	**Wettzell**	**1.13**	**167**	Pg	**Pg**	**20 04 10.0**	**+0.3**
WET				Sg	**Sg**	**20 04 24.7**	**+0.4**
BRG	**Berggiesshubel**	**1.13**	**55**	PG	**Pn**	**20 04 09.9**	**+0.2**
BRG				SG	**Sg**	**20 04 24.8**	**+0.4**
	comp=Z,34nm,0.3s						
BRG	**Berggiesshubel**	**1.13**	**55**	*e*Pg	**Pg**	**20 04 10.1**	**+0.4**
BRG				*e*Sg	**Sb**	**20 04 24.1**	**-0.1**
BRG	**Berggiesshubel**	**1.13**	**55**	Pg	**Pg**	**20 04 10.1**	**+0.4**
BRG				Sg	**Sb**	**20 04 24.1**	**-0.1**
PRA	**Prague**	**1.27**	**97**	⇓*e*SG	**Sg**	**20 04 29.3**	**+0.5**
	comp=Z,12nm,0.4s						
PRA	**Prague**	**1.27**	**97**	Sg	**Sg**	**20 04 29.3**	**+0.5**
	comp=Z,12nm,0.4s						
KHC	**Kasperske Hory**	**1.32**	**147**	*e*SG	**Sg**	**20 04 30.7**	**+0.2**
	comp=Z,10nm,0.2s						
KHC	**Kasperske Hory**	**1.32**	**147**	Sg	**Sg**	**20 04 30.7**	**+0.2**
	comp=Z,10nm,0.2s						
PRU	**Pruhonice**	**1.35**	**100**	⇓*e*SG	**Sg**	**20 04 32.0**	**+0.5**
	comp=Z,27nm,0.2s						
PRU	**Pruhonice**	**1.35**	**100**	Sg	**Sg**	**20 04 32.0**	**+0.5**
	comp=Z,27nm,0.2s						
GOPC	**GO Pecny, Ondr**	**1.52**	**102**	*e*SG	**Sg**	**20 04 37.2**	**+0.3**
	comp=Z,14nm,0.3s						
GOPC	**GO Pecny, Ondr**	**1.52**	**102**	Sg	**Sg**	**20 04 37.2**	**+0.3**
	comp=Z,14nm,0.3s						
UPC	**Upice**	**2.28**	**82**	⇓*e*SG	**Sg**	**20 05 00.1**	**-1.0**
UPC	**Upice**	**2.28**	**82**	Sg	**Sg**	**20 05 00.1**	**-1.0**
DPC	**Dobruska-Polom**	**2.47**	**86**	*e*SG	**Sg**	**20 05 05.5**	**-1.7**
	comp=Z,7.0nm,0.4s						
DPC	**Dobruska-Polom**	**2.47**	**86**	Sg	**Sg**	**20 05 05.5**	**-1.7**
	comp=Z,7.0nm,0.4s						
KSP	**Ksiaz**	**2.51**	**75**	*e*Pg	**Pg**	**20 04 35.7**	**-0.3**
KSP				*e*Sg	**Sg**	**20 05 08.3**	**-0.2**
KSP	**Ksiaz**	**2.51**	**75**	*e*Pg	**Pg**	**20 04 35.7**	**-0.3**
KSP				*e*Sg	**Sg**	**20 05 08.3**	**-0.2**
MOA	**Molln**	**2.67**	**153**	*e*Pg	**Pg**	**20 04 38.8**	**-0.2**
	comp=Z,0.5nm,0.1s						
MOA				*i* Sg	**Sg**	**20 05 13.3**	**-0.3**
	comp=Z,4.8nm,0.3s						
MOA	**Molln**	**2.67**	**153**	Pg	**Pg**	**20 04 38.8**	**-0.2**
	comp=Z,0.5nm,0.1s						
MOA				Sg	**Sg**	**20 05 13.3**	**-0.3**
	comp=Z,4.8nm,0.3s						
VRAC	**Vranov**	**2.83**	**108**	*e*Sg	**Sb**	**20 05 15.3**	**+2.3**
CONA	**Conrad Observa**	**3.21**	**135**	*e*Pg	**Pg**	**20 04 48.2**	**-1.2**
	comp=Z,0.8nm,0.3s						
CONA				*i* Sg	**Sg**	**20 05 30.5**	**-0.5**
	comp=Z,0.5nm,0.1s						
CONA	**Conrad Observa**	**3.21**	**135**	Pg	**Pg**	**20 04 48.2**	**-1.2**
	comp=Z,0.8nm,0.3s						
CONA				Sg	**Sg**	**20 05 30.5**	**-0.5**
	comp=Z,0.5nm,0.1s						
KBA	**Koelnbreinsper**	**3.22**	**169**	*e*Sg	**Sg**	**20 05 31.3**	**+0.1**
	comp=Z,0.9nm,0.2s						
KBA	**Koelnbreinsper**	**3.22**	**169**	Sg	**Sg**	**20 05 31.3**	**+0.1**
	comp=Z,0.9nm,0.2s						
MORC	**Moravsky Berou**	**3.30**	**96**	*e*Sg	**Sg**	**20 05 31.0**	**-2.9**
ARSA	**Arzberg**	**3.61**	**145**	*e*Sg	**Sg**	**20 05 43.2**	**-0.5**
ARSA	**Arzberg**	**3.61**	**145**	Sg	**Sg**	**20 05 43.2**	**-0.5**

TRN 03 20:12:51.2, 17°.16N×62°.18W, h26km, MD3.5, 1C, Leeward Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ANWB	**Willy Bob**	**0.63**	**37**	*e*P	Pn	20 13 05.7	+1.2
ANWB				*e*S	Sn	20 13 15.1	+1.4
SMRT	**St. Maarten**	**1.23**	**316**	*e*P	Pb	20 13 14.2	+0.5
SMRT				*e*S	Sb	20 13 29.9	+0.7
TBG	**Guadaloupe-3**	**1.40**	**158**	*e*P	Pb	20 13 16.9	+0.4
TBG				*e*S	Sb	20 13 34.9	+0.9
MGG	**Marie-Galante**	**1.48**	**146**	*e*P	Pb	20 13 18.4	+0.3
MGG				*e*S	Sb	20 13 37.7	+1.2
BBL	**Barber's Block**	**1.76**	**157**	*e*P	Pb	20 13 21.7	-1.1
BBL				*e*S	Sb	20 13 44.1	-0.4

JMA 03 20:17:35.6, 37°.10N×140°.57E, h12km±1km, M3.7, 3C-4D, Eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ONAJ	**Iwakimizuishiy**	**0.18**	**89**	⇓P	Pg	20 17 39.8	+0.1
ONAJ				S	Sg	20 17 42.6	0.0
JFK	**Kawauchi**	**0.36**	**42**	⇑P	Pg	20 17 42.8	-0.1
JFK				S	Sg	20 17 47.7	0.0
JFT	**Otama**	**0.46**	**336**	⇓P	Pg	20 17 44.9	+0.3
JFT				S	Sg	20 17 51.2	+0.5
JHO	**Hitachi**	**0.49**	**180**	⇑P	Pg	20 17 44.8	-0.4
JHO				S	Sg	20 17 51.2	-0.5
JSB	**Shiboa**	**0.54**	**256**	⇓P	Pb	20 17 46.7	-0.3
JSB				S	Sb	20 17 54.2	-0.5
JFY	**Yanaizu**	**0.76**	**294**	⇓P	Pg	20 17 50.1	-0.1
JFY				S	Sg	20 17 59.9	-0.2
JMM	**Marumori**	**0.79**	**13**	⇑P	Pg	20 17 50.1	-0.7
JMM				S	Sg	20 18 00.5	-0.6

*IDC **03** 20:34:52.4±8.0, 31°.50S×68°.34W, h58km±64km, mb3.4/1, mb1 3.8/3, mb1mx3.4/28, mbtmp3.8/3, ML3.9/2, Error ellipse: s-maj=81.2km s-min=46.2km az=15.0*
*ISCJB **03** 20:34:57.7±0.4, 31°.16S±0°.03×68°.27W±0°.05, h118km±4km, mb3.6/1, Error ellipse: s-maj=7.3km s-min=4.4km az=16.8*
*SJA **03** 20:34:57.8±0.3, 31°.18S×68°.31W, h113km±1km, ML4.1, MW4.1*
*GUC **03** 20:34:58.7±0.7, 30°.86S×68°.79W, h85km±205km, ML3.9*
*NEIC **03** 20:34:58.0±0.0, 31°.18S×68°.31W, h113km, MD4.1(SJA), After SJA.*
NEIC Felt [III] at San Juan.

ISC 03 20:34:57.7±0.8, 31°.11S±0°.05×68°.27W±0°.05, h108km±7km, n32, σ1§50/49, San Juan Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AMOG	**MOGNA**	**0.25**	**311**	*e*P	**Pn**	**20 35 14.4**	**+1.2**
AMOG				*e*S	**Sn**	**20 35 26.9**	**+2.2**
RTLL	**Cerro Villicun**	**0.28**	**218**	*e*P	**Pn**	**20 35 14.6**	**+1.4**
RTLL				*e*S	**Sn**	**20 35 26.4**	**+1.5**
SJA	**San Juan**	**0.49**	**210**	*e*P	**Pn**	**20 35 15.1**	**+0.8**
SJA				*e*S	**Sn**	**20 35 27.7**	**+0.9**
RTCV	**Cerro Valdivia**	**0.79**	**197**	*e*P	**Pn**	**20 35 17.2**	**+0.5**
ACCO	**Cerro Coronel**	**0.86**	**307**	*e*P	**Pn**	**20 35 19.8**	**+2.1**
ACCO				IAML		20 35 36.4	
	comp=Z,1μm,0.5s						
AUSP	**Uspallata**	**1.47**	**220**	*e*P	**Pn**	**20 35 25.1**	**+0.8**
AUSP				*e*S	**Sn**	**20 35 45.2**	**+0.7**
ACAN	**Cantantal**	**1.49**	**142**	*e*P	**Pn**	**20 35 25.1**	**+0.8**
ACAN				*e*S	**Sn**	**20 35 45.4**	**+0.9**
ASAL	**Salagasta**	**1.56**	**198**	*e*P	**Pn**	**20 35 25.4**	**+0.3**
ASAL				*e*S	**Sn**	**20 35 46.2**	**+0.1**
AGUA	**GUANDACOL**	**1.62**	**353**	*e*P	**Pn**	**20 35 28.4**	**+2.4**
AGUA				*e*S	**Sn**	**20 35 50.8**	**+3.2**
ARCO	**CERRO ARCO**	**1.82**	**198**	*e*P	**Pn**	**20 35 28.9**	**+0.4**
ARCO				*e*S	**Sn**	**20 35 51.8**	**-0.2**
ARCO				IAML		20 35 54.7	
	comp=Z,2μm,0.7s						
ACLC	**CERRO LA CRUZ**	**2.02**	**35**	*e*P	**Pn**	**20 35 33.7**	**+2.6**
ACLC				IAML		20 36 00.1	
	comp=Z,1μm,0.0s						
ACLC				IAML		20 36 00.1	
	comp=Z,1μm,0.0s						
ACLC				IAML		20 36 00.1	
	comp=Z,1μm,0.0s						
ACLC				IAML		20 36 00.1	
	comp=Z,1μm,0.0s						
ACLC				IAML		20 36 00.1	
	comp=Z,1μm,0.0s						
AAGR	**Agrelo**	**2.03**	**193**	*e*P	**Pn**	**20 35 31.6**	**+0.5**
AAGR				*e*S	**Sn**	**20 35 56.4**	**-0.3**
FCH	**Farellones**	**2.80**	**217**	*e*P	**Pn**	**20 35 43.3**	**+2.0**
FCH				*i* S	**Sn**	**20 36 16.6**	**+1.8**
FCH				IAML		20 36 43.9	
	comp=E,372nm,1.0s						
PEL	**Peldehue**	**2.89**	**225**	*e*P	**Pn**	**20 35 42.3**	**+0.2**
PEL				*i* S	**Sn**	**20 36 16.2**	**-0.2**
PEL				IAML		20 36 18.4	
	comp=E,287nm,0.4s						
LCO	**Las Campanas**	**2.96**	**314**	*e*Pn	**Pn**	**20 35 45.0**	**+1.6**
LCO				*e*Sn	**Sn**	**20 36 20.6**	**+2.0**
ROCH	**El Roble**	**2.98**	**231**	*e*P	**Pn**	**20 35 43.9**	**+0.4**
ROCH				*i* S	**Sn**	**20 36 18.1**	**-0.8**
ROCH				IAML		20 36 22.4	
	comp=E,414nm,0.3s						
CLCH	**Cerro Calan**	**2.98**	**219**	*e*P	**Pn**	**20 35 44.8**	**+1.3**
CLCH				*i* S	**Sn**	**20 36 20.0**	**+1.2**
CLCH				IAML		20 36 25.3	
	comp=E,463nm,0.3s						
ROC1	**El Roble**	**2.99**	**231**	*e*Pn	**Pn**	**20 35 43.4**	**-0.2**
ROC1				*e*Sn	**Sn**	**20 36 18.6**	**-0.4**
ANTU	**Antumapu**	**3.17**	**219**	*e*P	**Pn**	**20 35 46.8**	**+0.9**
ANTU				*i* S	**Sn**	**20 36 23.9**	**+0.8**
PB10	**IPOC Station P**	**7.83**	**344**	*e*Pn	**Pn**	**20 36 48.0**	**-0.9**
LVC	**Limon Verde**	**8.48**	**356**	P	**Pn**	**20 36 58.2**	**+0.2**
	comp=E,164nm,0.3s,baz=182,slow=11,SNR=40						
LVC				S	**Sn**	**20 38 29.0**	**-3.2**
	comp=E,22nm,0.3s,baz=315,slow=18,SNR=3.2						
TRQA	**Tornquist**	**8.66**	**145**	*e*Pn	**Pn**	**20 36 59.1**	**-1.0**
PB04	**IPOC Station P**	**8.89**	**349**	*e*Pn	**Pn**	**20 37 01.3**	**-2.2**
PB01	**IPOC Station P**	**10.08**	**353**	*e*Pn	**Pn**	**20 37 17.9**	**-1.6**
CPUP	**Villa Florida**	**10.72**	**66**	P	**Pn**	**20 37 25.9**	**-2.1**
	comp=E,0.3nm,0.3s,baz=249,slow=15,SNR=4.1						
PB11	**IPOC Station P**	**11.37**	**353**	*e*Pn	**Pn**	**20 37 34.0**	**-3.0**
LPAZ	**La Paz**	**14.75**	**1**	P	**Pn**	**20 38 23.1**	**+1.6**
	comp=E,0.1nm,0.3s,baz=195,slow=7.7,SNR=8.1						
LPAZ	**La Paz**	**14.75**	**1**	*e*Pn	**Pn**	**20 38 21.8**	**+0.3**
TOA1	**Torodi Ar. Sit**	**80.21**	**68**	*e*P	**P**	**20 46 58.1**	**+1.5**
TORD	**Torodi Ar. Bea**	**80.21**	**68**	P	**P**	**20 46 58.1**	**+1.5**
	comp=E,0.5nm,0.5s,baz=234,slow=7.4,SNR=11						
WR1	**Warramunga Arr**	**124.79**	**206**	*e*PKPdf	**PKPdf**	**20 53 45.2**	**-0.2**
WRA	**Warramunga Arr**	**124.79**	**206**	PKP	**PKPdf**	**20 53 45.2**	**-0.2**
	comp=E,0.5nm,0.9s,baz=148,slow=1.4,SNR=4.0						

SJA 03 20:40:28.5±0.3, 31°.55S×69°.55W, h128km±2km, ML2.6, MW3.5, San Juan Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RTLS	**Leoncito**	**0.33**	**140**	*e*P	Pn	20 40 47.8	+0.9
AUSP	**Uspallata**	**0.69**	**169**	*e*P	Pn	20 40 49.8	+0.9
RTCV	**Cerro Valdivia**	**0.92**	**110**	*e*P	Pn	20 40 51.1	+0.7
RTCV				*e*S	Sn	20 41 07.9	+0.8
ACCO	**Cerro Coronel**	**1.04**	**24**	*e*P	Pn	20 40 53.3	+1.3
ACCO				*e*S	Sn	20 41 11.4	+1.7
ACCO				IAML		20 41 12.1	
	comp=Z,78nm,0.3s						
AMOG	**MOGNA**	**1.09**	**57**	*e*P	Pn	20 40 52.9	+0.8
AMOG				*e*S	Sn	20 41 10.7	+0.6
ASAL	**Salagasta**	**1.21**	**150**	*e*P	Pn	20 40 54.0	+0.6
ASAL				*e*S	Sn	20 41 13.2	+1.0
ARCO	**CERRO ARCO**	**1.39**	**158**	*e*P	Pn	20 40 56.1	+0.6
ARCO				*e*S	Sn	20 41 16.8	+0.8
ARCO				IAML		20 41 19.6	
	comp=Z,50nm,0.4s						
AAGR	**Agrelo**	**1.65**	**159**	*e*P	Pn	20 40 59.4	+1.1
AAGR				*e*S	Sn	20 41 22.1	+1.0
APLL	**PUNTA DE LOS L**	**2.84**	**67**	*e*P	Pn	20 41 14.0	+1.0

*NIED **03** 20:52:00, 35°.90N×139°.60E, h89km, Mw4.9 Best double couple: M0 2.50000×10^16 NP1:φs195.00000°, δ38.00000°, λ169.00000°. NP2:φs294.00000°, δ83.00000°, λ52.00000°.*
*ISCJB **03** 20:52:47.8±0.2, 35°.79N±0°.02×139°.42E±0°.03, h100km±1km, mb4.7/136, Error ellipse: s-maj=3.8km s-min=3.4km az=13.0*
*MOS **03** 20:52:47.8±1.2, 35°.88N×139°.51E, h99km, mb4.6/40, Error ellipse: s-maj=7.5km s-min=5.3km az=99.2*
*BJI **03** 20:52:47.2, 35°.80N×139°.40E, h88km, mb4.5/44, mB4.8/28, Ms4.5/20, Ms7 4.1/17*
*IDC **03** 20:52:48.8±0.9, 35°.81N×139°.49E, h97km±9km, mb4.0/29, mb1 4.1/32, mb1mx4.0/49, mbtmp4.3/32, MS3.6/28, Ms1 3.6/28, ms1mx3.6/37, Error ellipse: s-maj=12.5km s-min=7.6km az=77.0*
*JMA **03** 20:52:48.5±0.2, 35°.87N×139°.61E, h90km±2km, M4.7 Broadband fault plane solution: P waves. NP1: φs324.00000°, δ67.00000°, λ73.00000°. NP2: φs181.00000°, δ28.00000°, λ124.00000°. Principal axes: T Plg64.0000°, Azm206.0000°; N Plg15.0000°, Azm330.0000°; P Plg20.0000°, Azm66.0000°;*
JMA Felt III J1.
*NEIC **03** 20:52:49.4±0.1, 35°.79N×139°.36E, mb4.8/100 Error ellipse: s-maj=3.4km s-min=2.3km az=134.0*
NEIC Felt [III] at Tokyo and Yokosuka. Felt in Chiba, Kanagawa and Tokyo. Recorded [3 JMA] in Kanagawa, Saitama, Tochigi and Tokyo.
*GCMT **03** 20:52:49.4±0.2, 35°.89N×139°.66E, h101km±3km, MW5.0/105, Moment Tensor Solution. s39,c46; s105,c155; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr1.87±.13; Mθθ-0.59±.14; Mφφ-1.27±.12; Mrθ-2.88±.08; Mrφ2.35±.12; Mθφ0.84±.08; Best double couple: M0 4.12600×10^16 NP1:φs291.00000°, δ74.00000°, λ61.00000°. NP2:φs173.00000°, δ33.00000°, λ148.00000°. Principal axes: T 3.8550, Plg53.0000°, Azm167.0000°; N 0.5490, Plg27.0000°, Azm299.0000°; P -4.3980, Plg23.0000°, Azm42.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

ISC 03 20:52:48.1±0.3, 35°.83N±0°.03×139°.54E±0°.04, h91km±2km, h91km:pP-P, n300, σ1§59/344, mb4.7/136, 10C-6D, Near south coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHU	**Hanno**	**0.21**	**277**	⇑P	**Pn**	**20 53 02.1**	**+0.9**
JHU				S	**Sn**	**20 53 12.0**	**+1.0**
TOK	**Tokyo**	**0.23**	**128**	P	**Pn**	**20 53 02.8**	**+1.6**
TOK				S	**Sn**	**20 53 13.3**	**+2.3**
JRY	**Ryogami san**	**0.55**	**290**	P	**Pn**	**20 53 04.6**	**+1.2**
JRY				S	**Sn**	**20 53 16.8**	**+2.1**
JAG	**Ashikaga**	**0.60**	**354**	⇑P	**Pn**	**20 53 03.8**	**0.0**
JAG				S	**Sn**	**20 53 15.2**	**-0.3**
JOD2	**Odawara 2**	**0.67**	**213**	⇓P	**Pn**	**20 53 04.8**	**+0.4**
JOD2				S	**Sn**	**20 53 16.9**	**+0.3**
JYN	**Shimodi**	**0.87**	**248**	⇓P	**Pn**	**20 53 07.3**	**+0.8**
JYN				S	**Sn**	**20 53 21.6**	**+1.3**
JKT	**Katashina**	**0.97**	**346**	⇑P	**Pn**	**20 53 07.8**	**+0.2**
JKT				S	**Sn**	**20 53 22.0**	**-0.2**
MJAR	**Matsushiro Arr**	**1.29**	**304**	P	**Pn**	**20 53 11.7**	**+0.4**
	156nm,0.3s,baz=101,slow=15,SNR=729						
MJAR				LR	LR	20 53 37.1	
	comp=Z,704nm,19.3s,baz=90,slow=39						
MAJO	**Matsushiro**	**1.29**	**304**	*d* P	**Pn**	**20 53 11.8**	**+0.5**
MAJO	**Matsushiro**	**1.29**	**304**	*e*Pn	**Pn**	**20 53 11.8**	**+0.5**
MAJO				*e*Sn	**Sn**	**20 53 30.4**	**+1.6**
MAT	**Matsushiro**	**1.29**	**304**	P	**Pn**	**20 53 11.8**	**+0.5**
MAT				S	**Sn**	**20 53 27.1**	**-1.7**
JHJ	**Hachijo jima 2**	**2.71**	**176**	P	**Pn**	**20 53 31.2**	**+1.4**
	3μm,0.3s,baz=8.1,slow=2.6,SNR=476						
JHJ				S	**Sn**	**20 54 02.8**	**+1.0**
	702nm,0.3s,baz=73,slow=23,SNR=14						
JHJ2	**Mitsune**	**2.72**	**175**	*e*Pn	**Pn**	**20 53 31.1**	**+1.2**
JHJ2				*e*Sn	**Sn**	**20 54 00.7**	**-1.3**
ERM	**Erimo**	**6.79**	**23**	*ce*P	**Pn**	**20 54 23.1**	**-2.0**
ERM				pmax	pmax		
	comp=Z,110nm,1.0s						
ERM	**Erimo**	**6.79**	**23**	*e*Pn	**Pn**	**20 54 23.3**	**-1.8**
ERM				*e*Sn	**Sn**	**20 55 38.7**	**-2.1**
JNU	**Nakatsue**	**7.64**	**252**	P	**Pn**	**20 54 38.8**	**+2.1**
	comp=Z,2.8nm,0.3s,baz=45,slow=5.4,SNR=37						
JNU	**Nakatsue**	**7.64**	**252**	*e*Pn	**Pn**	**20 54 37.3**	**+0.5**
ASAJ	**Asahikawa**	**8.61**	**15**	P	**Pn**	**20 54 48.4**	**-1.4**
	comp=Z,12nm,0.3s,baz=228,slow=12,SNR=17						
ASAJ	**Asahikawa**	**8.61**	**15**	*e*Pn	**Pn**	**20 54 48.3**	**-1.5**
CBIJ	**Chichi jima**	**8.99**	**165**	*e*Pn	Pn	20 54 48.6

comp=Z,126nm,2.0s
NACB Ninganchiao 19.36 238 *e*P **P 20 57 04.1 -2.5**
comp=Z,16nm,0.9s
SSLB Suanglung 20.06 238 *e*P **P 20 57 13.7 -0.5**
comp=Z,47nm,1.8s
YULB Yu-li 20.08 237 *e*P **P 20 57 12.1 -2.4**
comp=Z,58nm,2.0s
TPUB Ta-pu 20.60 238 *e*P **P 20 57 18.6 -1.4**
comp=Z,26nm,1.1s
TWG Pinlang 20.62 236 *e*P **P 20 57 18.8 -1.5**
comp=Z,78nm,0.7s
PETK Petropavlovsk- 21.49 31 P **P 20 57 29.2 -0.1**
comp=Z,18nm,0.9s,baz=224,slow=4.1,SNR=5.6
PETK LR LR 21 06 30.4
comp=Z,98nm,18.3s,baz=212,slow=38
PETK Petropavlovsk- 21.49 31 P **P 20 57 29.2 -0.1**
PETK pmax pmax
comp=Z,30nm,1.1s
PETK MLR MLR
comp=Z,98nm,18.3s
PEA1 Petropavlovsk- 21.50 31 *e*P **P 20 57 29.2 -0.1**
PEA1 *e* 21 06 30.4
WHN Wuhan 21.70 263 P **P 20 57 26.9 -4.8**
WHN sP **sP 20 57 56.1 -4.8**
WHN S **S 21 01 22.4 -4.4**
WHN LR LR
comp=Z,430nm,16.8s
PET Petropavlovsk 21.84 32⇧ *e*P **P 20 57 35.2 +2.3**
PET pmax pmax
comp=Z,80nm,1.3s
PET Petropavlovsk 21.84 32 *e*P **P 20 57 32.8 -0.1**
comp=Z,138nm,1.3s
HHC Hu-ho-hao-te 22.46 291 *e*P **P 20 57 39.3 -0.5**
HHC S **S 21 01 30.5 -10**
HHC SS **SnSn 21 02 22.3 +5.0**
HHC pmax pmax
comp=Z,13nm,0.8s
HHC pmax pmax
comp=Z,110nm,4.0s
HHC LR LR
comp=Z,140nm,11.1s
HHC LR LR
comp=Z,94nm,9.9s
GUMO Guam 22.66 166 LR LR 21 05 20.3
comp=Z,240nm,18.7s,baz=83,slow=33
GUMO Guam 22.66 166 *e*P **P 20 57 41.6 -0.3**
GUMO pmax pmax
comp=Z,244nm,1.1s
GUMO Guam 22.66 166 *e*P **P 20 57 41.6 -0.3**
comp=Z,244nm,1.1s
GUMO *e* 21 05 20.3
MA2 Magadan 24.86 14 P **P 20 58 01.8 -0.1**
comp=Z,21nm,0.6s,baz=199,slow=9.8,SNR=20
MA2 LR LR 21 07 40.9
comp=Z,88nm,20.1s,baz=198,slow=36
MA2 Magadan 24.86 14 *e*P **P 20 58 01.9 0.0**
ENH Enshi 25.73 266 *e*P **P 20 58 09.2 -0.9**
comp=Z,13nm,0.6s
ULN Ulaanbaatar 26.82 307 *ce*P **P 20 58 21.7 +1.8**
ULN pmax pmax
comp=Z,1.0nm,0.6s
ULN Ulaanbaatar 26.82 307 *e*P **P 20 58 18.9 -1.1**
YAK Yakutsk 26.95 350 P **P 20 58 20.4 -0.2**
comp=Z,12nm,0.4s,baz=163,slow=16,SNR=9.0
YAK LR LR 21 09 26.7
comp=Z,151nm,19.0s,baz=140,slow=37
YAK Yakutsk 26.95 350 *e*P **P 20 58 20.5 -0.2**
YAK *e**PP **pP 20 58 39.9 -1.2**
YAK *e* 20 59 07.4
YAK *e*S **S 21 02 51.9 +1.0**
YAK *e**SS **sS 21 03 30.0 +3.5**
YAK *e*SS **SnSn 21 04 09.6 +3.4**
YAK *e* 21 09 01.6
YAK pmax pmax
comp=Z,28nm,1.8s
YAK pmax pmax
comp=N,27nm,1.6s
YAK pmax pmax
comp=E,13nm,1.9s
YAK pmax pmax
comp=Z,13nm,1.6s
YAK pmax pmax
comp=N,29nm,2.3s
YAK pmax pmax
comp=E,42nm,2.5s
YAK smax smax
comp=N,128nm,4.5s
YAK smax smax
comp=E,83nm,4.1s
YAK MLR MLR
comp=Z,197nm,16.0s
YAK MLR MLR
comp=E,108nm,15.0s
YAK MLR MLR
comp=N,104nm,15.0s
YAK Yakutsk 26.95 350 *e*P **P 20 58 20.1 -0.6**
comp=N,20nm,0.6s
YAK *e* 21 09 26.7
SONA0 Songino Array 27.24 306 *e*P **P 20 58 22.8 -0.8**
SONA0 *e*PcP **PcP 21 01 41.9 +0.6**
SONA0 *e* 21 09 34.5
SONM Songino Array 27.24 306 P **P 20 58 22.8 -0.8**
comp=N,1.2nm,0.9s,baz=111,slow=9.3,SNR=7.3
SONM PcP **PcP 21 01 41.9 +0.6**
comp=N,0.5nm,0.5s,baz=103,slow=2.6,SNR=4.5
SONM LR LR 21 09 34.5
comp=N,138nm,19.6s,baz=105,slow=37
BOD Bodaibo 27.78 330 *e*P **P 20 58 28.2 0.0**
BOD pmax pmax
comp=Z,8.0nm,1.4s
SEY Seymchan 28.28 12 P **P 20 58 31.9 -0.6**
comp=Z,3.1nm,0.6s,baz=208,slow=8.9,SNR=19
SEY Seymchan 28.28 12 P **P 20 58 32.0 -0.6**
SEY pmax pmax
comp=Z,3.0nm,0.6s
LZH Lanzhou 28.80 281 *e*P **P 20 58 38.2 +0.5**
LZH pP pP 20 58 58.3 0.0
LZH sP sP 20 59 09.3 +0.5
LZH PP **PnPn 20 59 33.7 +0.6**
LZH *e*S **S 21 03 20.4 -0.5**
LZH sS sS 21 03 58.4 +1.8
LZH SS **SnSn 21 04 50.2 -1.5**
LZH pmax pmax
comp=Z,20nm,1.2s
LZH pmax pmax
comp=Z,110nm,5.2s
LZH LR LR
comp=Z,1μm,18.1s
LZH LR LR
comp=Z,1μm,15.0s
LZH LR LR
comp=Z,1μm,19.4s
H11N2 WAKE ISLAND Hy 28.90 116 T T 21 28 23.7
baz=308,slow=75,SNR=95
H11N1 WAKE ISLAND Hy 28.91 116 T T 21 28 19.7
baz=308,slow=75,SNR=94
H11N3 WAKE ISLAND Hy 28.92 116 T T 21 28 31.0
baz=308,slow=75,SNR=91
GYA Guiyang 29.53 261 *e*P **P 20 58 44.8 +0.6**
GYA pmax pmax
comp=Z,10.0nm,0.8s
TLY Talaya 30.01 313 LR LR 21 11 12.4
comp=Z,50nm,20.2s,baz=107,slow=37
GTA Gaotai 31.49 289 *e*P **P 20 59 02.3 +0.9**
GTA pP pP 20 59 24.3 +2.2
GTA sP sP 20 59 36.2 +3.6
GTA pmax pmax
comp=Z,4.0nm,1.0s
KMI Kunming 33.28 262 P **P 20 59 16.9 -0.4**
KMI pP pP 20 59 39.3 +1.2
KMI sP sP 20 59 48.8 +0.2
KMI pmax pmax
comp=Z,5.0nm,1.3s
PATS Pohnpei 33.60 145 *e*P **P 20 59 21.4 +1.5**
comp=Z,360nm,2.0s
SLVN Son La 34.25 255 *e*P **P 20 59 25.2 -0.4**
comp=Z,8.0nm,1.1s
BILL Bilibino 35.61 17⇩ *e*P **P 20 59 38.0 +1.4**
BILL *e* 21 02 06.4
BILL pmax pmax
comp=Z,5.0nm,0.5s
BILL MLR MLR
comp=Z,109nm,18.0s
TIXI Tiksi 36.32 354 *e*P **P 20 59 42.1 -0.5**
TIXI pmax pmax
comp=Z,12nm,0.7s
TIXI Tiksi 36.32 354 *e*P **P 20 59 42.1 -0.5**
comp=Z,12nm,0.7s
FAKI Fak Fak 39.14 192 *e*P **P 21 00 06.8 -0.2**
comp=Z,21nm,0.8s
CHTO Chiang Mai 39.53 256 *e*P **P 21 00 09.5 -0.7**
CHTO pmax pmax
comp=Z,5.0nm,1.0s
CHTO Chiang Mai 39.53 256 *e*P **P 21 00 09.5 -0.7**
comp=Z,4.9nm,1.0s
CM31 Chiang Mai Arr 39.73 255 *e*P **P 21 00 11.2 -0.7**
CM31 *e*PcP **PcP 21 02 17.7 +0.9**
CM31 *e* 21 16 51.7
CMAR Chiang Mai Arr 39.73 255 P **P 21 00 11.2 -0.7**
comp=Z,0.8nm,0.6s,baz=46,slow=8.6,SNR=6.5
CMAR PcP **PcP 21 02 17.7 +0.9**
comp=Z,1.0nm,0.7s,baz=29,slow=2.6,SNR=5.2
CMAR LR LR 21 16 51.7
comp=Z,97nm,18.5s,baz=360,slow=36
LUWI Luwuk 39.87 207 *e*P **P 21 00 11.2 -1.9**
comp=Z,26nm,0.7s
WMQ Urumqi 40.05 298 P **P 21 00 15.2 +0.8**
WMQ pP pP 21 00 38.3 +2.7
WMQ sP sP 21 00 48.4 +2.4
WMQ PP **PnPn 21 01 53.1 +0.9**
WMQ PcS **PcS 21 06 09.0 +1.1**
WMQ S **S 21 06 14.0 +0.4**
WMQ sS sS 21 06 53.1 +3.0
WMQ SS **SS 21 09 09.0 -4.9**
WMQ pmax pmax
comp=Z,3.0nm,0.7s
WMQ pmax pmax
comp=Z,45nm,4.3s
WMQ LR LR
comp=Z,38nm,6.9s
WMQ LR LR
comp=Z,70nm,6.1s
LSA Lhasa 40.81 276 *e*P **P 21 00 21.8 +0.5**
LSA pmax pmax
comp=Z,5.0nm,0.8s
LSA Lhasa 40.81 276 *e*P **P 21 00 21.8 +0.5**
comp=Z,4.9nm,0.8s
ZAA1 Zalesovo Array 41.62 313 *e*P **P 21 00 26.9 -0.2**
ZAA1 *e*PcP **PcP 21 02 21.9 -0.4**
ZAA1 *e* 21 19 08.2
ZALV Zalesovo Beam 41.62 313 P **P 21 00 26.9 -0.2**
comp=Z,4.3nm,0.7s,baz=94,slow=6.0,SNR=16
ZALV PcP **PcP 21 02 21.9 -0.4**
comp=Z,1.9nm,0.6s,baz=122,slow=2.9,SNR=3.3
ZALV LR LR 21 19 08.2
comp=Z,46nm,18.2s,baz=68,slow=38
SBUM Sibu 41.74 224 *e*P **P 21 00 27.9 -0.5**
comp=Z,15nm,1.6s
NVS Novosibirsk 42.59 315 *e*P **P 21 00 32.7 -2.2**
MK01 Makanchi Array 43.48 303 *e*P **P 21 00 42.0 -0.3**
MK31 Makanchi Array 43.49 303 *e*P **P 21 00 42.1 -0.2**
MK31 Makanchi Array 43.49 303 *e*P **P 21 00 42.1 -0.2**
MKAR Makanchi Array 43.49 303 *e*P **P 21 00 41.4 -0.9**
MKAR pmax pmax
comp=Z,23nm,0.6s
MKAR Makanchi Array 43.49 303 *e*P **P 21 00 41.4 -0.9**
comp=Z,23nm,0.6s
KSM Kuching 43.63 225 *e*P **P 21 00 43.2 -0.5**
comp=Z,9.1nm,0.6s
MAKZ Makanchi 43.70 303 *e*P **P 21 00 44.0 0.0**
MAKZ pmax pmax
comp=Z,4.0nm,0.9s
MAKZ Makanchi 43.70 303 *e*P **P 21 00 44.0 0.0**
comp=Z,4.1nm,0.9s
NRIK Noril'sk 43.74 336 P **P 21 00 43.6 -0.3**
comp=Z,2.7nm,0.5s,baz=100,slow=7.8,SNR=4.5
NRIK LR LR 21 20 14.8
comp=Z,99nm,21.3s,baz=101,slow=38
KAPI Kappang 44.67 209 *e*P **P 21 00 52.8 +0.8**
comp=Z,25nm,1.1s
SDPT Sand Point 44.72 45 *e*P **P 21 00 51.6 -0.4**
comp=Z,191nm,1.8s
ODAN Odare 44.98 274 *e*P **P 21 00 54.3 -0.4**
comp=Z,13nm,0.7s
KURK Kurchatov 45.50 309 *ce*P **P 21 00 57.9 -0.3**
KURK pmax pmax
comp=Z,40nm,0.7s
KURK Kurchatov 45.50 309 *e*P **P 21 00 57.8 -0.4**
KURBB Kurchatov Arra 45.56 309 P **P 21 00 58.3 -0.4**
comp=Z,7.2nm,0.7s,baz=85,slow=7.8,SNR=87
PMG Port Moresby 45.56 169 *e*P **P 21 00 58.8 -0.2**
PMG pmax pmax
comp=Z,22nm,1.0s
PMG Port Moresby 45.56 169 *e*P **P 21 00 58.8 -0.2**
comp=Z,22nm,1.0s
RAMN Ramite 45.58 274 *e*P **P 21 00 59.1 -0.4**
comp=Z,59nm,0.7s
JIRN Jiri 45.62 275 *e*P **P 21 00 59.9 0.0**
PDGK Podgornoye 46.01 299 P **P 21 01 02.5 0.0**
PDGK pmax pmax
comp=Z,9.0nm,0.7s
PKI Pulchoki 46.29 276 *e*P **P 21 01 05.0 -0.1**
PKIN Phulchoki 46.30 276 *e*P **P 21 01 05.1 0.0**
comp=Z,23nm,0.6s
KKN Kakani 46.30 276 *e*P **P 21 01 05.0 -0.1**
comp=Z,17nm,0.7s
DMN Daman 46.52 276 *e*P **P 21 01 06.7 -0.1**
GKN Gorkha 46.73 277 *e*P **P 21 01 08.3 -0.1**
comp=Z,24nm,0.7s
KULM Kulim 46.90 239 *e*P **P 21 01 10.6 +1.0**
comp=Z,27nm,1.6s
MMRI Maumere 47.13 204 *e*P **P 21 01 12.2 +0.9**
comp=Z,57nm,1.2s
TTA Tatalina 47.27 34 *e*P **P 21 01 13.8 +1.8**
TTA pmax pmax
comp=Z,14nm,1.4s
TTA Tatalina 47.27 34 *e*P **P 21 01 13.8 +1.8**
comp=Z,14nm,1.4s
SOEI Soe 47.57 201 *e*P **P 21 01 13.1 -1.8**
comp=Z,24nm,0.8s
PYUN Piuthan 48.02 277 *e*P **P 21 01 18.6 +0.1**
RSO Redoubt South 48.78 38 *e*P **P 21 01 25.2 +1.4**
JOHN Johnston Islan 48.89 99 *e*P **P 21 01 26.9 +1.9**
comp=Z,918nm,1.8s
KDAK Kodiak Island 49.00 41 *e*P **P 21 01 26.5 +1.2**
KDAK pmax pmax
comp=Z,153nm,1.9s
KDAK Kodiak Island 49.00 41 *e*P **P 21 01 26.5 +1.2**
comp=Z,153nm,1.9s
PPLA Purkeypile 49.02 34 *e*P **P 21 01 27.8 +2.2**
comp=Z,96nm,2.0s
MTN Manton Dam 49.05 191 *e*P **P 21 01 24.9 -1.2**
comp=Z,55nm,1.2s
CAST Castle Rocks 49.07 34 *e*P **P 21 01 27.7 +2.0**
comp=Z,22nm,1.6s
SPU Mount Spurr 49.10 37 *e*P **P 21 01 26.6 +0.5**
HOM Homer 49.37 39 *e*P **P 21 01 29.5 +1.5**
comp=Z,146nm,1.0s
KSH Kashi 49.52 294 *e*P **P 21 01 34.3 +4.6**
KSH *e*pP sP 21 01 58.1 -3.8
KSH *e*sP pP 21 02 10.0 +18
KSH *e*PP PP 21 03 33.4 +8.9
KSH *e*ScP **ScP 21 06 40.5 +3.1**
KSH PcS **PcS 21 06 50.7 +3.5**
KSH S **S 21 08 36.8 +6.1**
KSH SS **SS 21 12 08.0 +4.6**
KSH pmax pmax
comp=Z,3.0nm,0.8s
KSH pmax pmax
comp=Z,73nm,4.8s
KSH LR LR
comp=Z,84nm,7.7s
KSH LR LR
comp=Z,120nm,5.3s
KSH LR LR
comp=Z,170nm,5.4s
LHMI Lhok Sumawe 49.56 242 *e*P **P 21 01 28.2 -1.9**
comp=Z,36nm,0.9s
KTH Kantishna Hill 49.59 33 *e*P **P 21 01 32.0 +2.2**
comp=Z,13nm,1.1s
COEN Coen 49.63 175 *e*P **P 21 01 30.6 +0.1**
comp=Z,79nm,1.5s
AAK Ala-Archa 49.73 299 P **P 21 01 31.4 +0.1**
comp=Z,2.0nm,0.5s,baz=106,slow=7.2,SNR=9.5
AAK Ala-Archa 49.73 299 *e*P **P 21 01 31.6 +0.3**
AAK pmax pmax
comp=Z,6.0nm,0.8s
AAK Ala-Archa 49.73 299 *e*P **P 21 01 31.2 -0.1**
comp=Z,4.1nm,0.8s
PSI Prapat 49.87 238 *e*P **P 21 01 32.1 -0.5**
PSI pmax pmax
comp=Z,18nm,1.5s
PSI Prapat 49.87 238 *e*P **P 21 01 32.1 -0.5**
comp=Z,18nm,1.5s
COLD Coldfoot 49.94 29 *e*P **P 21 01 34.5 +2.3**
comp=Z,13nm,1.7s
BVAR Borovoye Array 50.27 313 P **P 21 01 34.6 -0.4**
comp=Z,1.6nm,0.6s,baz=74,slow=7.2,SNR=14
BRVK Borovoye 50.33 313 *ce*P **P 21 01 35.8 +0.4**
BRVK pmax pmax
comp=Z,10.0nm,1.3s
BRVK Borovoye 50.33 313 *e*P **P 21 01 35.4 0.0**
SEW Seward 50.45 38 *e*P **P 21 01 36.3 +0.2**
comp=Z,156nm,1.8s
MCK McKinley 50.47 33 *e*P **P 21 01 36.7 +0.3**
MCK pmax pmax
comp=Z,13nm,1.2s
MCK McKinley 50.47 33 *e*P **P 21 01 36.7 +0.3**
comp=Z,13nm,1.2s
PMR Palmer 50.49 36 *e*P **P 21 01 39.1 +2.6**
PMR pmax pmax
comp=Z,66nm,2.0s
PMR Palmer 50.49 36 *e*P **P 21 01 39.1 +2.6**
comp=Z,66nm,2.0s
RND Reindeer 50.52 34 *e*P **P 21 01 37.6 +0.8**
RND pmax pmax
comp=Z,39nm,1.6s
RND Reindeer 50.52 34 *e*P **P 21 01 37.6 +0.8**
comp=Z,39nm,1.6s
SMRI Semarang 50.67 219 *e*P **P 21 01 38.5 +0.1**
comp=Z,157nm,1.7s
MDM Murphy Dome 50.74 32 *e*P **P 21 01 39.8 +1.4**
comp=Z,28nm,1.2s
WRH Wood River Hil 50.81 32 *e*P **P 21 01 40.5 +1.6**
comp=Z,8.2nm,1.2s
COLA College 50.90 32 *e*P **P 21 01 41.3 +1.8**
COLA pmax pmax
comp=Z,10.0nm,1.0s
COLA College 50.90 32 *e*P **P 21 01 41.2 +1.8**
comp=Z,10.0nm,1.0s
CCB Clear Creek Bu 50.93 32 *e*P **P 21 01 40.8 +1.1**
comp=Z,22nm,2.0s
MNAS Manas 51.19 299 P **P 21 01 43.3 +1.0**
MNAS pmax pmax
comp=Z,8.0nm,0.8s
DHY Denali Highway 51.21 34 *e*P **P 21 01 42.9 +0.8**
comp=Z,38nm,1.8s
HDA Harding Lake 51.31 32 *e*P **P 21 01 43.8 +1.1**
comp=Z,24nm,1.4s
ILAR Eielson Array 51.32 32 P **P 21 01 43.1 +0.4**
comp=Z,3.4nm,0.8s,baz=274,slow=6.0,SNR=26
ILAR LR LR 21 26 24.6
comp=Z,72nm,18.4s,baz=212,slow=39
ILB Eielson Array 51.32 32 *e*P **P 21 01 43.1 +0.4**
ILB *e* 21 26 24.6
SCM Sheep Creek Mo 51.33 36 *e*P **P 21 01 44.4 +1.5**
SCM pmax pmax
comp=Z,75nm,1.6s
SCM Sheep Creek Mo 51.33 36 *e*P **P 21 01 44.4 +1.5**
comp=Z,75nm,1.6s
UGM Wanagama 51.37 218 *e*P **P 21 01 42.4 -1.2**
comp=Z,647nm,2.0s
FID Port Fidalgo 51.85 37 *e*P **P 21 01 48.4 +1.7**
comp=Z,91nm,1.4s
FYU Fort Yukon 51.91 29 *e*P **P 21 01 49.1 +2.1**
comp=Z,38nm,1.5s
DIV Divide 52.15 36 *e*P **P 21 01 50.5 +1.5**
comp=Z,42nm,1.5s
KKAR Karatay Array 52.42 300 *e*P **P 21 01 50.8 -0.5**
KKAR pmax pmax
comp=Z,41nm,0.8s
KKAR Karatay Array 52.42 300 *e*P **P 21 01 50.8 -0.5**
comp=Z,41nm,0.8s
DOT Dot Lake 52.64 33 *e*P **P 21 01 53.7 +1.1**
comp=Z,18nm,1.0s
BMRM Bremner River 52.73 36 *e*P **P 21 01 54.8 +1.5**
comp=Z,61nm,1.6s
EGAK Eagle 53.76 31 *e*P **P 21 02 01.7 +1.0**
comp=Z,31nm,1.8s
FITZ Fitzroy Crossi 55.23 196 *e*P **P 21 02 12.3 +0.5**
comp=Z,86nm,1.9s
WRAB Tennant Creek 55.67 186 *ce*P **P 21 02 15.2 +0.2**
WRAB pmax pmax
comp=Z,46nm,1.0s
WRAB Tennant Creek 55.67 186 *e*P **P 21 02 13.9 -1.1**
comp=Z,27nm,1.2s
WR1 Warramunga Arr 55.68 186 *e*P **P 21 02 14.4 -0.7**
WRA Warramunga Arr 55.68 186 P **P 21 02 14.4 -0.7**
comp=Z,5.4nm,0.3s,baz=1.2,slow=7.5,SNR=193
INK Inuvik 56.15 27 P **P 21 02 18.2 +0.5**
comp=Z,4.4nm,0.6s,baz=281,slow=5.7,SNR=16
INK Inuvik 56.15 27 *e*P **P 21 02 18.7 +1.0**
INK *e*pP **pP 21 02 41.7 +1.5**
ARU Arti 56.26 319 P **P 21 02 18.6 -0.2**
comp=Z,2.9nm,0.5s,baz=0.4,slow=6.0,SNR=7.7
ARU Arti 56.26 319 *c i*P **P 21 02 18.4 -0.4**
ARU *PP **pP 21 02 41.1 -0.1**
ARU 21 04 24.3
ARU S **S 21 10 03.0 +1.5**
ARU 21 11 56.9
ARU SS **SS 21 13 52.1 +3.2**
ARU pmax pmax
comp=Z,8.0nm,1.7s
ARU Arti 56.26 319 *e*P **P 21 02 18.4 -0.4**
comp=Z,10nm,0.9s
WHY Whitehorse 57.45 36 *e*P **P 21 02 28.8 +1.5**
comp=Z,24nm,1.5s
ABKAR Akbulak array 57.56 310 *e*P **P 21 02 28.4 +0.3**
comp=Z,44nm,0.6s
AKTO Aktyubinsk 58.35 312 P **P 21 02 33.7 0.0**
comp=Z,1.7nm,0.6s,baz=45,slow=6.7,SNR=6.8
AS31 Alice Springs 59.41 186 *e*P **P 21 02 40.9 -0.3**
AS31 *e* 21 29 19.5
ASAR Alice Springs 59.41 186 P **P 21 02 40.9 -0.3**
comp=Z,6.5nm,0.5s,baz=13,slow=9.7,SNR=99
ASAR LR LR 21 29 19.5
comp=Z,48nm,18.9s,baz=346,slow=37
MBWA Marble Bar 59.70 201 *e*P **P 21 02 42.2 -1.0**
comp=Z,34nm,1.4s
DLBC Dease Lake 60.50 37 P **P 21 02 48.8 +0.4**
comp=Z,4.8nm,0.8s,baz=251,slow=7.5,SNR=5.0
DLBC Dease Lake 60.50 37 *e*P **P 21 02 48.8 +0.4**
comp=Z,7.9nm,0.9s
PALK Pallekele 60.63 257 *e*P **P 21 02 49.4 -0.4**
PALK pmax pmax
comp=Z,33nm,1.3s
PALK Pallekele 60.63 257 *e*P **P 21 02 49.4 -0.4**
comp=Z,33nm,1.3s
EIDS Eidsvold 61.84 168 *e*P **P 21 02 57.1 -0.5**
comp=Z,30nm,1.3s
GEYT Alibeck 63.09 299 P **P 21 03 05.7 -0.4**
comp=Z,2.0nm,0.7s,baz=50,slow=7.7,SNR=5.9
GEYT LR LR 21 32 38.8
comp=Z,51nm,20.4s,baz=135,slow=38
ARA0 ARCESS Array S 64.59 339 *e*P **P 21 03 14.9 -0.3**
ARCES ARCESS Array B 64.59 339 P **P 21 03 15.0 -0.3**
comp=Z,1.3nm,0.7s,baz=64,slow=8.2,SNR=4.0
ARCES LR LR 21 34 56.8
comp=Z,56nm,18.2s,baz=49,slow=39
ARCES ARCESS Array B 64.59 339 P **P 21 03 15.0 -0.3**
ARCES pmax pmax
comp=Z,1.0nm,0.7s
ARCES MLR MLR
comp=Z,56nm,18.2s
ARMA Armidale 66.87 169 *e*P **P 21 03 31.3 +0.9**
comp=Z,50nm,1.8s
XMAS Kiritimati 67.10 105 *e*P **P 21 03 32.3 0.0**
comp=Z,95nm,1.0s
FORT Forrest 67.13 191 *e*P **P 21 03 32.2 +0.2**
STKA Stephens Creek 67.38 178 P **P 21 03 33.4 -0.2**
comp=Z,4.4nm,0.6s,baz=351,slow=6.8,SNR=8.7
AFI Afiamalu 67.56 128 LR LR 21 32 04.6
comp=Z,33nm,18.7s,baz=12,slow=35
OBN Obninsk 68.15 323 *e*P **P 21 03 39.6 +1.4**
OBN pmax pmax
comp=Z,4.0nm,0.8s
NLWA Neilton Lookou 68.64 46 *e*P **P 21 03 43.3 +1.8**
comp=Z,14nm,1.2s
FIA0 FINESS Array S 69.17 332 *e*P **P 21 03 44.1 -0.3**
FIA0 FINESS Array S 69.17 332 *e*P **P 21 03 44.1 -0.3**
FIA0 *e* 21 37 05.7
FINES FINESS Array B 69.17 332 P **P 21 03 44.1 -0.3**
comp=Z,1.3nm,0.8s,baz=78,slow=6.9,SNR=11
FINES LR LR 21 37 05.7
comp=Z,39nm,18.8s,baz=36,slow=38
F04A Amboy 70.25 47 *e*P **P 21 03 53.1 +1.8**
comp=Z,29nm,1.3s
KBZ Khabaz 70.53 310 P **P 21 03 53.0 -0.1**
comp=Z,2.2nm,0.8s,baz=26,slow=4.8,SNR=5.4

KBZ					LR	LR	21 35 41.4	
	comp=Z,29nm,18.6s,baz=62,slow=36							
KIV	**Kislovodsk**	**70.54**	**310**	⇓*e*P	**P**		**21 03 54.8**	**+1.5**
KIV				*e**PP	**pP**		**21 04 17.1**	**+0.5**
KIV				*SP	**sP**		**21 04 27.0**	**+0.5**
KIV				pmax	pmax			
	comp=Z,15nm,1.4s							
KIV				MLR	MLR			
	comp=Z,32nm,15.0s							
KIV	**Kislovodsk**	**70.54**	**310**	*e*P	**P**		**21 03 54.4**	**+1.0**
	comp=Z,8.4nm,0.7s							
LTY	**Liberty**	**70.58**	**45**	*e*P	**P**		**21 03 54.5**	**+1.0**
	comp=Z,27nm,1.8s							
B08A	**Colville Reser**	**70.76**	**44**	*e*P	**P**		**21 03 55.4**	**+0.9**
	comp=Z,6.0nm,1.0s							
E07A	**Sunnyside**	**71.42**	**46**	*e*P	**P**		**21 04 00.3**	**+1.7**
	comp=Z,6.5nm,0.9s							
D08A	**Wollman Farm,**	**71.69**	**45**	*e*P	**P**		**21 04 01.1**	**+0.9**
	comp=Z,9.0nm,1.3s							
SUMG	**Summit**	**71.88**	**359**	*i* P	**P**		**21 04 01.8**	**+0.5**
	comp=Z,6.2nm,0.7s							
SUMG				*i*			21 04 26.1	
SUMG	**Summit**	**71.88**	**359**	*i* P	**P**		**21 04 01.8**	**+0.5**
SUMG				*i*			21 04 26.1	
SUMG				pmax	pmax			
	comp=Z,6.0nm,0.7s							
SUMG	**Summit**	**71.88**	**359**	*e*P	**P**		**21 04 01.7**	**+0.4**
	comp=Z,18nm,1.2s							
NEW	**Newport**	**72.05**	**43**	*e*P	**P**		**21 04 03.5**	**+1.3**
NEW				pmax	pmax			
	comp=Z,13nm,1.5s							
NEW	**Newport**	**72.05**	**43**	*e*P	**P**		**21 04 03.5**	**+1.3**
	comp=Z,13nm,1.5s							
E09A	**Wood Farm, Sta**	**72.44**	**45**	*e*P	**P**		**21 04 05.2**	**+0.7**
	comp=Z,12nm,1.2s							
F10A	**Beach Ranch, E**	**73.27**	**45**	*e*P	**P**		**21 04 10.1**	**+0.5**
	comp=Z,17nm,1.6s							
MOD	**Modoc Plateau**	**73.70**	**50**	*e*P	**P**		**21 04 14.3**	**+2.0**
	comp=Z,17nm,1.7s							
BMO	**Blue Mountains**	**73.86**	**46**	*e*P	**P**		**21 04 14.4**	**+1.3**
BMO				pmax	pmax			
	comp=Z,8.0nm,1.3s							
BMO	**Blue Mountains**	**73.86**	**46**	*e*P	**P**		**21 04 14.4**	**+1.3**
	comp=Z,8.0nm,1.3s							
JTMT	**Jette**	**73.91**	**42**	*e*P	**P**		**21 04 14.8**	**+1.4**
YBMT	**Yellow Bay**	**73.99**	**42**	*e*P	**P**		**21 04 14.3**	**+0.5**
SWMT	**Swartz Lake**	**74.20**	**43**	*e*P	**P**		**21 04 15.2**	**+0.1**
ORV	**Oroville**	**74.23**	**53**	*e*P	**P**		**21 04 15.9**	**+0.7**
ORV				pmax	pmax			
	comp=Z,10.0nm,1.5s							
ORV	**Oroville**	**74.23**	**53**	*e*P	**P**		**21 04 15.9**	**+0.7**
	comp=Z,9.9nm,1.5s							
AKASG	**Malin Array Be**	**74.31**	**322**	P	**P**		**21 04 15.0**	**-0.4**
	comp=Z,0.4nm,0.3s,baz=49,slow=6.0,SNR=2.0							
AKASG				LR	LR		21 39 58.2	
	comp=Z,97nm,18.6s,baz=185,slow=38							
AKBB	**Malin Array Si**	**74.31**	**322**	*e*P	**P**		**21 04 14.6**	**-0.9**
AKBB	**Malin Array Si**	**74.31**	**322**	*e*P	**P**		**21 04 14.6**	**-0.9**
AKBB				*e*			21 39 58.2	
KIEV	**Kiev**	**74.33**	**322**	*i* P	**P**		**21 04 13.9**	**-1.6**
KIEV				pmax	pmax			
	comp=Z,2.0nm,0.9s							
KIEV	**Kiev**	**74.33**	**322**	*e*P	**P**		**21 04 14.6**	**-1.0**
	comp=Z,8.4nm,1.0s							
WVOR	**Wild Horse Val**	**74.43**	**49**	*e*P	**P**		**21 04 16.9**	**+0.4**
WVOR				pmax	pmax			
	comp=Z,14nm,1.7s							
WVOR	**Wild Horse Val**	**74.43**	**49**	*e*P	**P**		**21 04 16.9**	**+0.4**
	comp=Z,14nm,1.7s							
SLMT	**Seeley Lake**	**74.64**	**43**	*e*P	**P**		**21 04 18.5**	**+0.8**
NB2	**NORSAR Subarra**	**74.70**	**337**	P	**P**		**21 04 16.8**	**-0.8**
	comp=Z,5.2nm,0.9s,baz=40,slow=6.2							
NB200	**NORSAR Array S**	**74.70**	**337**	*e*P	**P**		**21 04 17.3**	**-0.3**
NB200				*e*			21 40 19.8	
NOA	**NORSAR Array B**	**74.70**	**337**	P	**P**		**21 04 17.3**	**-0.3**
	comp=Z,1.9nm,0.9s,baz=41,slow=5.8,SNR=6.3							
NOA				LR	LR		21 40 19.8	
	comp=Z,77nm,20.6s,baz=25,slow=38							
CHMT	**Chamberlain Mo**	**74.96**	**43**	*e*P	**P**		**21 04 20.6**	**+1.0**
PAHR	**Pah Rah Range**	**75.50**	**51**	*e*P	**P**		**21 04 24.1**	**+1.3**
MFID	**Camas Ranch**	**75.55**	**47**	*e*P	**P**		**21 04 24.0**	**+1.1**
CMB	**Columbia Colle**	**75.80**	**53**	*e*P	**P**		**21 04 25.6**	**+1.3**
CMB				pmax	pmax			
	comp=Z,7.0nm,1.1s							
CMB	**Columbia Colle**	**75.80**	**53**	*e*P	**P**		**21 04 25.6**	**+1.3**
	comp=Z,7.1nm,1.1s							
YERR	**Yerington**	**76.00**	**52**	*e*P	**P**		**21 04 27.0**	**+1.3**
	comp=Z,11nm,1.2s							
HLID	**Hailey**	**76.30**	**46**	*e*P	**P**		**21 04 29.0**	**+1.8**
	comp=Z,13nm,1.8s							
BMN	**Battle Mountai**	**76.44**	**50**	*e*P	**P**		**21 04 29.1**	**+1.0**
BMN				pmax	pmax			
	comp=Z,10.0nm,1.1s							
BMN	**Battle Mountai**	**76.44**	**50**	*e*P	**P**		**21 04 29.1**	**+1.0**
	comp=Z,10nm,1.1s							
TVH1	**TV Hill, Hawth**	**76.61**	**52**	*e*P	**P**		**21 04 30.3**	**+1.0**
	comp=Z,4.7nm,0.9s							
TVH3	**East Aurora ar**	**76.63**	**52**	*e*P	**P**		**21 04 30.9**	**+1.6**
	comp=Z,5.6nm,1.0s							
TVH2	**Borealis Mine**	**76.66**	**52**	*e*P	**P**		**21 04 30.9**	**+1.4**
	comp=Z,3.7nm,1.0s							
GCMT	**Greycliff**	**77.61**	**42**	*e*P	**P**		**21 04 35.9**	**+1.4**
IMW	**Indian Meadow**	**78.09**	**44**	*e*P	**P**		**21 04 38.4**	**+1.0**
	comp=Z,21nm,1.5s							
BR101	**Keskin Array S**	**78.50**	**311**	*e*P	**P**		**21 04 40.2**	**+0.7**
BR101				*e*			21 41 58.6	
BR131	**Keskin Array S**	**78.50**	**311**	*e*P	**P**		**21 04 40.0**	**+0.5**
BRTR	**Keskin Array B**	**78.50**	**311**	P	**P**		**21 04 40.2**	**+0.7**
	comp=Z,1.5nm,0.9s,baz=72,slow=4.7,SNR=5.9							
BRTR				LR	LR		21 41 58.7	
	comp=Z,19nm,18.1s,baz=30,slow=38							
R11A	**Troy Canyon, C**	**78.70**	**51**	*e*P	**P**		**21 04 42.3**	**+1.6**
	comp=Z,8.6nm,1.4s							
BR231	**Keskin MP Arra**	**78.96**	**311**	*e*P	**P**		**21 04 40.7**	**-1.4**
STHS	**Stebnicka Huta**	**79.06**	**324**	*e*	pP		21 05 07.5	+1.6
TPNV	**Topopah Spring**	**79.11**	**52**	*e*P	**P**		**21 04 42.9**	**0.0**
TPNV				pmax	pmax			
	comp=Z,5.0nm,0.9s							
TPNV	**Topopah Spring**	**79.11**	**52**	*e*P	**P**		**21 04 42.9**	**0.0**
	comp=Z,4.9nm,0.9s							
DUG	**Dugway, Tooele**	**79.29**	**48**	*e*P	**P**		**21 04 44.0**	**+0.2**
DUG				pmax	pmax			
	comp=Z,4.0nm,0.9s							
DUG	**Dugway, Tooele**	**79.29**	**48**	*e*P	**P**		**21 04 44.0**	**+0.2**
	comp=Z,4.1nm,0.9s							
BW06	**Boulder Array**	**79.59**	**44**	*e*P	**P**		**21 04 46.7**	**+1.1**
	comp=Z,18nm,1.0s							
PD31	**Pinedale Array**	**79.59**	**44**	*e*P	**P**		**21 04 46.5**	**+0.9**
PD31				*e*			21 40 03.9	
PDAR	**Pinedale Array**	**79.59**	**44**	P	**P**		**21 04 46.5**	**+0.9**
	comp=Z,0.6nm,0.5s,baz=298,slow=1.9,SNR=9.6							
PDAR				LR	LR		21 40 03.9	
	comp=Z,25nm,19.0s,baz=330,slow=36							
SHPR	**Sheep Range**	**80.08**	**52**	*e*P	**P**		**21 04 49.9**	**+1.7**
DPC	**Dobruska-Polom**	**80.66**	**327**	*e*P	**P**		**21 04 52.1**	**+1.2**
DPC				*e*x	x		21 05 22.1	
DPC	**Dobruska-Polom**	**80.66**	**327**	*e*P	**P**		**21 04 52.1**	**+1.2**
DPC				*e*			21 05 22.1	
SZCU	**Shurtz Canyon**	**80.72**	**50**	*e*P	**P**		**21 04 49.3**	**-2.4**
	comp=Z,5.8nm,1.4s							
VYHS	**Vyhne**	**80.84**	**325**	*e*P	**P**		**21 04 51.9**	**0.0**
VYHS	**Vyhne**	**80.84**	**325**	*e*P	**P**		**21 04 51.9**	**0.0**
LCMT	**Little Creek M**	**80.98**	**51**	*e*P	**P**		**21 04 54.3**	**+1.3**
	comp=Z,6.8nm,1.3s							
LCMT				*e*pP	**sP**		**21 05 22.6**	**-4.0**
ROA	**Roan Cliffs**	**81.09**	**47**	*e*P	**P**		**21 04 55.8**	**+2.0**
CLL	**Collm**	**81.37**	**329**	*i* P	**P**		**21 04 54.3**	**-0.3**
CLL	**Collm**	**81.37**	**329**	*i* P	**P**		**21 04 54.3**	**-0.3**
CLL				*i* sP	**sP**		**21 05 28.7**	**+0.5**
U15A	**North Rim**	**81.94**	**51**	*e*P	**P**		**21 04 60.0**	**+1.7**
	comp=Z,3.4nm,0.9s							
PV10	**Paradox Valley**	**82.70**	**48**	*e*P	**P**		**21 05 04.0**	**+1.9**
KHC	**Kasperske Hory**	**82.76**	**328**	*e*P	**P**		**21 05 02.1**	**+0.1**
KHC				*e*pP	**pP**		**21 05 25.6**	**-0.2**
KHC	**Kasperske Hory**	**82.76**	**328**	*e*P	**P**		**21 05 02.1**	**+0.1**
KHC				*e*			21 05 25.6	
PV05	**Paradox Valley**	**82.86**	**48**	*e*P	**P**		**21 05 02.5**	**-0.4**
PV05				*e*P	**PcP**		**21 05 05.8**	**-1.8**
GEC2	**GERESS Array S**	**82.92**	**327**	*e*P	**P**		**21 05 02.3**	**-0.6**
GEC2	**GERESS Array S**	**82.92**	**327**	*e*P	**P**		**21 05 02.3**	**-0.6**
GERES	**GERESS Array B**	**82.92**	**327**	P	**P**		**21 05 02.3**	**-0.6**
	comp=Z,0.5nm,0.8s,baz=48,slow=4.6,SNR=4.1							
GERES				LR	LR		21 44 54.9	
	comp=Z,44nm,19.3s,baz=52,slow=38							
PV01	**Paradox Valley**	**83.14**	**47**	*e*P	**P**		**21 05 05.7**	**+1.3**
RPZ	**Rata Peaks**	**84.20**	**158**	LR	LR		21 36 55.1	
	comp=Z,92nm,21.4s,baz=354,slow=31							
PPT	**Papeete**	**85.47**	**115**	LR	LR		21 34 13.4	
	comp=Z,34nm,21.9s,baz=184,slow=29							
SCHQ	**Schefferville**	**86.90**	**15**	LR	LR		21 48 43.5	
	comp=Z,40nm,18.2s,baz=326,slow=39							
LTX	**Lajitas**	**92.06**	**51**	*e*P	**P**		**21 05 48.2**	**+0.8**
LTX	**Lajitas**	**92.06**	**51**	*e*P	**P**		**21 05 48.2**	**+0.8**
LTX				*e*			21 47 14.0	
TXAR	**Lajitas Array**	**92.06**	**51**	P	**P**		**21 05 48.2**	**+0.8**
	comp=Z,0.2nm,0.6s,baz=304,slow=2.7,SNR=5.6							
TXAR				LR	LR		21 47 14.0	
	comp=Z,15nm,18.1s,baz=0.0,slow=36							
TOA1	**Torodi Ar. Sit**	**117.07**	**313**	*e*PKPdf	**PKPdf**		**21 11 21.9**	**-1.2**
TORD	**Torodi Ar. Bea**	**117.07**	**313**	PKP	**PKPdf**		**21 11 21.9**	**-1.2**
	comp=Z,0.6nm,0.6s,baz=46,slow=2.5,SNR=12							
SAML	**Samuel**	**146.16**	**43**	*e*PKPdf	**PKPbc**		**21 12 18.8**	**+0.3**
LPAZ	**La Paz**	**148.61**	**59**	PKPbc	**PKPbc**		**21 12 25.9**	**0.0**
	comp=Z,1.1nm,0.5s,baz=290,slow=1.9,SNR=7.2							

*NNC **03** 21:30:14.3±7.7, 43.°94N×83.°34E, h0km, mb2.9, mpv2.6, Error ellipse: s-maj=67.4km s-min=20.4km az=121.0*
*SOME **03** 21:30:18.0, 44.°20N×83.°27E, h20km*
ISC 03 21:30:18.8±1.7, 44.°22N±0.°07×83.°09E±0.°08, h17km, n13, σ2.9 09/24, 3C-3D, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
KTMS	**Ketmen**	**2.13**	**250**	*e*P		**Pb**		**21 30 57.7**	**+0.7**
	19nm,0.2s								
KTMS				*e*S		**Sg**		**21 31 26.2**	**-1.1**
	34nm,0.2s								
DJR	**Jarkent**	**2.37**	**274**	*e*P		**Pg**		**21 31 03.9**	**-0.5**
	38nm,0.5s								
DJR				*e*S		**Sg**		**21 31 37.2**	**+2.1**
	27nm,0.3s								
MK31	**Makanchi Array**	**2.63**	**348**	⇑Pg		**Pg**		**21 31 07.6**	**-1.6**
	0.4nm,0.2s,baz=164,slow=17,SNR=18								
MK31				⇑Sn		**Sg**		**21 31 40.9**	**-2.5**
	3.1nm,0.2s,baz=170,slow=24,SNR=20								
MAKZ	**Makanchi**	**2.70**	**344**	⇓Pg		**Pb**		**21 31 08.0**	**+1.2**
	2.3nm,0.7s								
MAKZ				⇑Lg		Lg		21 31 45.1	
	3.1nm,0.3s								
PDGK	**Podgornoye**	**2.76**	**252**	⇓Pg		**Pb**		**21 31 06.8**	**-0.9**
	1.2nm,0.4s								
PDGK				⇓Lg		Lg		21 31 45.1	
	6.9nm,0.6s								
SHLS	**Shalkode**	**2.84**	**249**	*e*P		**Pn**		**21 31 05.9**	**+2.4**
	8.2nm,0.5s								
SHLS				*e*S		**Sb**		**21 31 40.9**	**-2.7**
	26nm,0.3s								
UZB	**Uzynbulak**	**3.14**	**251**	*e*P		**Pb**		**21 31 15.6**	**+1.4**
	3.1nm,0.3s								
UZB				*e*S		**Sg**		**21 31 57.6**	**-2.1**
	3.5nm,0.1s								
KPKS	**Kokpek**	**3.28**	**258**	*e*P		**Pb**		**21 31 15.3**	**-1.3**
	4.8nm,0.1s								
KPKS				*e*S		**Sb**		**21 31 56.5**	**+0.3**
	17nm,0.3s								
MNBS	**Baschi**	**3.38**	**269**	*e*P		**Pb**		**21 31 18.6**	**+0.4**
	11nm,0.5s								
MNBS				*e*S		**Sb**		**21 32 02.1**	**+3.0**
	290nm,0.4s								
ZSN	**Zaisan**	**3.46**	**20**	*e*P		**Pb**		**21 31 21.4**	**+1.9**
	0.5nm,0.4s								
ZSN				*e*S		**Sg**		**21 32 07.6**	**-2.3**
	1.5nm,0.7s								
SATY	**Saty**	**3.59**	**253**	*e*P		**Pg**		**21 31 26.2**	**-1.5**
	3.8nm,0.1s								
SATY				*e*S		**Sg**		**21 32 15.7**	**+1.5**
	9.2nm,0.1s								
CHKK	**Chushkaly**	**4.42**	**267**	*e*P		**Pb**		**21 31 38.5**	**+2.6**
	2.8nm,0.6s								
CHKK				*e*S		**Sg**		**21 32 36.4**	**-4.1**
	5.1nm,0.2s								
TNSS	**Tian-Shan**	**4.61**	**257**	*e*P		**Pg**		**21 31 44.6**	**-2.6**
	1.7nm,0.4s								
TNSS				*e*S		**Sg**		**21 32 46.5**	**-0.5**
	2.9nm,0.4s								

WEL 03 21:40:57.4±0.6, 35.°82S×178.°25E, h194km±9km, ML3.8/7, Error ellipse: s-maj=8.8km s-min=7.6km az=90.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
HAZ	**Te Kaha**	**1.96**	**191**	PN		Pn		21 41 35.1	+0.1
HAZ				SN		Sn		21 42 02.3	-2.2
WMGZ	**Waiomatatini S**	**2.00**	**176**	PN		Pn		21 41 35.5	+0.2
WMGZ				AML		AML		21 42 05.9	
WMGZ				AML		AML		21 42 07.5	
PKGZ	**Pakihiroa**	**2.06**	**184**	PN		Pn		21 41 36.3	+0.2
RUGZ	**Raukumara Rang**	**2.19**	**192**	PN		Pn		21 41 37.2	-0.3
PUZ	**Puketiti**	**2.24**	**180**	PN		Pn		21 41 37.7	-0.3
PUZ				AML		AML		21 42 08.9	
PUZ				AML		AML		21 42 10.8	
TWGZ	**Tauwhareparae**	**2.36**	**185**	PN		Pn		21 41 39.9	+0.6
TWGZ				SN		Sn		21 42 12.4	+0.2
TWGZ				AML		AML		21 42 26.7	
MWZ	**Matawai**	**2.57**	**193**	PN		Pn		21 41 42.3	+0.6
MWZ				SN		Sn		21 42 14.6	-1.8
URZ	**Urewera**	**2.59**	**200**	PN		Pn		21 41 42.2	+0.2
TKGZ	**Te Karaka**	**2.63**	**187**	PN		Pn		21 41 42.4	+0.1
TKGZ				AML		AML		21 42 17.5	
TKGZ				AML		AML		21 42 18.8	
CNGZ	**Carnagh Statio**	**2.66**	**181**	PN		Pn		21 41 43.0	+0.4
MUGZ	**Murupara**	**2.90**	**204**	PN		Pn		21 41 46.2	+0.7
RIGZ	**Rimuhau**	**2.90**	**188**	PN		Pn		21 41 45.3	-0.2
RIGZ				AML		AML		21 42 23.3	
RIGZ				AML		AML		21 42 23.5	
KNZ	**Kokohu**	**3.23**	**188**	PN		Pn		21 41 48.8	-0.5
MHGZ	**Mahia Peninsul**	**3.33**	**185**	PN		Pn		21 41 50.4	-0.3
NMHZ	**Naumai**	**3.46**	**199**	PN		Pn		21 41 52.8	+0.5
NMHZ				AML		AML		21 42 51.3	
NMHZ				AML		AML		21 42 57.2	
BKZ	**Black Stump Fm**	**3.62**	**202**	PN		Pn		21 41 54.4	+0.3
MCHZ	**McNeill Hill**	**3.82**	**198**	PN		Pn		21 41 56.4	-0.2
KRHZ	**Kereru**	**4.09**	**201**	PN		Pn		21 41 59.4	-0.6
KAHZ	**Kahuranaki**	**4.11**	**195**	PN		Pn		21 41 59.7	-0.6
PNHZ	**Pukenui**	**4.39**	**201**	PN		Pn		21 42 03.2	-0.7
BFZ	**Birch Farm**	**5.10**	**197**	PN		Pn		21 42 11.6	-1.2
MRZ	**Mangatainoka R**	**5.27**	**203**	PN		Pn		21 42 13.2	-1.8
TIWZ	**Tintock**	**5.28**	**200**	PN		Pn		21 42 14.0	-1.2
HOWZ	**Holdsworth Sta**	**5.50**	**202**	PN		Pn		21 42 16.1	-1.9
KIW	**Kapiti Island**	**5.67**	**207**	PN		Pn		21 42 18.0	-2.2

*ISCJB **03** 21:44:13.6±1.0, 37.°41N±0.°05×38.°56E±0.°04, h2km±9km, Error ellipse: s-maj=9.3km s-min=4.6km az=157.0*
*CSEM **03** 21:44:13.9±0.2, 37.°41N×38.°58E, h5km, MD2.7, Error ellipse: s-maj=4.7km s-min=3.4km az=158.0*
*DDA **03** 21:44:13.7, 37.°38N×38.°58E, h7km, Md2.6*
*ISK **03** 21:44:13.0, 37.°36N×38.°56E, h6km, MD2.7*
ISC 03 21:44:14.0±1.0, 37.°37N±0.°04×38.°60E±0.°04, h10km±8km, n15, σ0.8 54/28, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
URFA	**Urfa**	**0.19**	**68**	*e*PG		**Pg**		**21 44 17.8**	**-0.3**
URFA				*e*SG		**Sg**		**21 44 21.3**	**+0.5**
URFA	**Urfa**	**0.19**	**68**	*e*Pg		**Pg**		**21 44 17.8**	**-0.3**
URFA				*e*Sg		**Sg**		**21 44 21.3**	**+0.5**
SURC	**SANLIURFA_SURC**	**0.49**	**179**	*i* P		**Pg**		**21 44 23.4**	**-0.1**
SURC				*i* S		**Sb**		**21 44 31.1**	**-0.9**
SURC	**SANLIURFA_SURC**	**0.49**	**179**	P		**Pg**		**21 44 23.4**	**-0.1**
SURC				S		**Sb**		**21 44 31.1**	**-0.9**
SVRC	**Sivrice-ELAZID**	**1.15**	**29**	*e*PN		**Pn**		**21 44 36.4**	**0.0**
SVRC				*e*SN		**Sn**		**21 44 52.7**	**+0.4**
SVRC	**Sivrice-ELAZID**	**1.15**	**29**	*e*Pn		**Pn**		**21 44 36.4**	**0.0**
SVRC				*e*Sn		**Sn**		**21 44 52.7**	**+0.4**
HCB	**Kahramanmara¯**	**1.35**	**269**	*i* P		**Pn**		**21 44 38.5**	**-0.4**
HCB				*i* S		**Sb**		**21 44 55.7**	**-1.0**
KUZU	**Kuzuini**	**1.36**	**244**	*i* P		**Pg**		**21 44 40.2**	**+0.2**
KUZU				*i* S		**Sn**		**21 44 58.3**	**+1.2**
KUZU	**Kuzuini**	**1.36**	**244**	P		**Pg**		**21 44 40.2**	**+0.2**
KUZU				S		**Sn**		**21 44 58.3**	**+1.2**
KMRS	**Kahramanmaras**	**1.36**	**276**	*e*PN		**Pn**		**21 44 38.8**	**-0.3**
KMRS				*e*SN		**Sn**		**21 44 57.4**	**+0.2**
KMRS	**Kahramanmaras**	**1.36**	**276**	*e*Pn		**Pn**		**21 44 38.8**	**-0.3**
KMRS				*e*Sn		**Sn**		**21 44 57.4**	**+0.2**
MAZI	**Mazidag**	**1.47**	**86**	*e*PN		**Pb**		**21 44 41.7**	**+0.1**
MAZI				*e*SN		**Sg**		**21 45 01.8**	**+0.4**
MAZI	**Mazidag**	**1.47**	**86**	*e*Pn		**Pb**		**21 44 41.7**	**+0.1**
MAZI				*e*Sn		**Sg**		**21 45 01.8**	**+0.4**
DARE	**Darende-Malaty**	**1.49**	**324**	*e*PN		**Pn**		**21 44 40.6**	**-0.3**
DARE	**Darende-Malaty**	**1.49**	**324**	*e*Pn		**Pn**		**21 44 40.6**	**-0.3**

*IDC **03** 22:13:26.4±2.5, 25.°25N×137.°99E, h0km, mb3.8/6, mb1 4.0/6, mb1mx3.5/49, mbtmp3.8/6, Error ellipse: s-maj=134.8km s-min=23.5km az=77.0*
*NEIC **03** 22:13:27.9±0.4, 25.°16N×137.°93E, h10km, mb4.3/9, Error ellipse: s-maj=11.4km s-min=9.0km az=73.0*
*ISCJB **03** 22:13:29.8±0.5, 25.°20N±0.°10×137.°9E±0.°1, h33km, mb4.2/16, Error ellipse: s-maj=14.5km s-min=14.2km az=22.6*
ISC 03 22:13:31.7±0.8, 25.°2N±0.°2×137.°9E±0.°1, h35km, n18, σ0.6 67/18, mb4.2/16, Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**4.26**	**63**	*e*Pn		**Pn**		**22 14 33.7**	**-0.4**
WRAB	**Tennant Creek**	**45.02**	**185**	*e*P		**P**		**22 21 44.0**	**0.0**
	1.2nm,0.4s								
WRA	**Warramunga Arr**	**45.03**	**185**	P		**P**		**22 21 44.5**	**+0.4**
	3.9nm,0.5s,baz=9.4,slow=8.6,SNR=36								
ASAR	**Alice Springs**	**48.76**	**185**	P		**P**		**22 22 12.8**	**-0.4**
	0.3nm,0.6s,baz=3.1,slow=5.3,SNR=2.4								
KURK	**Kurchatov**	**51.60**	**316**	P		**P**		**22 22 34.9**	**+0.5**
	2.4nm,0.6s								
KURBB	**Kurchatov Arra**	**51.65**	**316**	P		**P**		**22 22 34.0**	**-0.8**
	0.1nm,0.3s,baz=81,slow=7.3,SNR=2.6								
BRVK	**Borovoye**	**56.91**	**318**	P		**P**		**22 23 12.9**	**-0.2**
	1.3nm,0.5s								
POHA	**Pohakuloa**	**61.19**	**80**	P		**P**		**22 23 43.5**	**0.0**
	100nm,0.8s								
AKTO	**Aktyubinsk**	**64.70**	**316**	P		**P**		**22 24 05.8**	**-0.4**
	1.4nm,0.6s,baz=135,slow=5.7,SNR=3.8								
OBN	**Obninsk**	**75.85**	**324**	*e*P		**P**		**22 25 13.9**	**-0.3**
	6nm,0.5s								
FINES	**FINESS Array B**	**77.89**	**333**	P		**P**		**22 25 27.5**	**+1.9**
	0.4nm,0.3s,baz=62,slow=4.3,SNR=1.7								
NEW	**Newport**	**80.85**	**41**	*e*P		**P**		**22 25 42.2**	**+0.2**
WALA	**Waterton Lakes**	**82.33**	**39**	P		**P**		**22 25 50.8**	**+0.8**
	1.3nm,0.8s								
CMB	**Columbia Colle**	**83.39**	**51**	P		**P**		**22 25 56.3**	**+0.6**
	1.3nm,0.5s								
NOA	**NORSAR Array B**	**83.87**	**337**	P		**P**		**22 25 57.5**	**-0.1**
	0.3nm,0.5s,baz=50,slow=4.2,SNR=1.1								
FFC	**Flin Flon**	**85.32**	**30**	P		**P**		**22 26 05.0**	**+0.1**
	1.0nm,0.6s								
MORC	**Moravsky Berou**	**88.52**	**326**	*e*P		**P**		**22 26 20.9**	**+0.2**
	1.8nm,0.6s								
SDCO	**Great Sand Dun**	**93.61**	**45**	P		**P**		**22 26 44.4**	**-0.5**
	1.0nm,0.7s								

JMA 03 22:14:12.4±0.1, 37.°64N×141.°80E, h26km±2km, M3.7, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
JFK	**Kawauchi**	**0.79**	**250**	P		P	Pb	22 14 27.0	-0.5
JMM	**Marumori**	**0.83**	**286**	P		P	Pb	22 14 27.8	-0.4
JMM				*e*S		S	Sb	22 14 38.3	-0.6
JIO	**Ouri**	**0.89**	**336**	P		P	Pb	22 14 28.6	-0.6
JIO				*e*S		S	Sb	22 14 39.3	-1.3
ONAJ	**Iwakimizuishiy**	**0.96**	**236**	P		P	Pn	22 14 29.7	-0.6
ONAJ				*e*S		S	Sb	22 14 41.6	-1.2
JOU	**Okura**	**1.15**	**309**	P		P	Pb	22 14 33.4	-0.3
JOU				*e*S		S	Sb	22 14 48.1	-0.

1.2nm,0.7s,baz=98,slow=7.6,SNR=12
VNDA Vanda 58.12 185 P P 22 41 32.5 0.0
0.3nm,0.4s,baz=1.1,slow=7.9,SNR=2.0

*ISCJB **03** 22:41:26.5±0.4, 24°.41N±0°.03×122°.69E±0°.02, h75km±5km, Error ellipse: s-maj=5.5km s-min=2.4km az=173.6*
*JMA **03** 22:41:26.0±0.1, 24°.39N×122°.64E, h81km±1km, M2.5*
*TAP **03** 22:41:26.3, 24°.43N×122°.64E, h88km, ML3.5, C*
ISC 03 22:41:26.9±1.3, 24°38N±0°.04×122°69E±0°.02, h75km±9km, n45, σ0⁰92/78, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
JYNG	**Yonagunijimaku**	**0.24**	**74**	P		**Pn**	**22 41 38.4**	**+0.2**
JYNG				S		**Sn**	**22 41 47.4**	**+0.8**
YOJ	**Yonaguni jima**	**0.30**	**75**	P		**Pn**	**22 41 38.7**	**+0.1**
YOJ				S		**Sn**	**22 41 47.7**	**+0.5**
TWC	**Suao**	**0.80**	**287**	P		**Pn**	**22 41 42.7**	**-0.5**
	baz=288							
TWC				S		**Sn**	**22 41 54.1**	**-1.2**
	baz=288							
ENA	**Nanau**	**0.86**	**273**	*i* P		**Pn**	**22 41 44.1**	**+0.2**
	baz=270							
ENA				*i* S		**Sn**	**22 41 56.6**	**-0.1**
	baz=270							
ILA	**Ilan**	**0.94**	**294**	*e*S		**Sn**	**22 41 58.0**	**-0.2**
	baz=293							
IRIF	**Iriomote-Funau**	**0.95**	**93**	P		**Pn**	**22 41 45.0**	**0.0**
IRIF				S		**Sn**	**22 41 59.1**	**+0.6**
TWE	**Neicheng**	**0.99**	**290**	*i* P		**Pn**	**22 41 45.2**	**-0.2**
	baz=292							
TWE				*i* S		**Sn**	**22 41 58.8**	**-0.5**
	baz=292							
TWD	**Chiawan**	**1.04**	**253**	*e*P		**Pn**	**22 41 45.5**	**-0.6**
	baz=251							
TWD				*i* S		**Sn**	**22 41 59.8**	**-0.7**
	baz=251							
ENTT	**Nioudou**	**1.05**	**284**	*i* P		**Pn**	**22 41 46.4**	**+0.1**
	baz=286							
ENTT				S		**Sn**	**22 42 00.3**	**-0.5**
	baz=286							
HWA	**Hwalien**	**1.07**	**248**	*e*S		**Sn**	**22 42 01.6**	**+0.6**
	baz=245							
HATJ	**Hateruma jima**	**1.07**	**107**	P		**Pn**	**22 41 47.0**	**+0.5**
HATJ				S		**Sn**	**22 42 02.3**	**+1.2**
NWF	**Wu-fen Shan**	**1.07**	**310**	P		**Pn**	**22 41 46.2**	**-0.4**
	baz=303							
NWF				S		**Sn**	**22 41 60.0**	**-1.4**
	baz=303							
TWA	**Mucha**	**1.17**	**301**	*e*P		**Pn**	**22 41 48.0**	**+0.3**
	baz=300							
TWA				*i* S		**Sn**	**22 42 02.2**	**-1.1**
	baz=300							
NNS	**Nan Shan**	**1.20**	**273**	*e*P		**Pn**	**22 41 48.0**	**-0.2**
	baz=271							
NNS				*i* S		**Sn**	**22 42 03.6**	**-0.6**
	baz=271							
JKRS	**Kuro-shima**	**1.21**	**97**	P		**Pn**	**22 41 48.7**	**+0.4**
JKRS				S		**Sn**	**22 42 05.3**	**+1.0**
NSK	**Sanguang**	**1.25**	**284**	*i* P		**Pn**	**22 41 48.5**	**-0.2**
	baz=282							
NSK				S		**Sn**	**22 42 04.8**	**-0.4**
	baz=282							
ESL	**Shilin**	**1.28**	**244**	*e*P		**Pn**	**22 41 50.0**	**+0.9**
	baz=247							
ESL				*e*S		**Sn**	**22 42 05.4**	**-0.5**
	baz=247							
WHF	**Hehuan Shan**	**1.32**	**260**	*i* P		**Pn**	**22 41 49.7**	**-0.4**
	baz=258							
WHF				*e*S		**Sn**	**22 42 06.6**	**-0.8**
	baz=258							
JIJ	**Ishigaki jima**	**1.33**	**90**	P		**Pn**	**22 41 49.5**	**-0.2**
JIJ				S		**Sn**	**22 42 06.3**	**-0.6**
TWY	**Chenhua**	**1.33**	**312**	*e*P		**Pn**	**22 41 49.5**	**-0.2**
	baz=305							
TWY				*e*S		**Sn**	**22 42 07.9**	**+1.0**
	baz=305							
TWS1	**Kuangyinshan**	**1.36**	**302**	*e*P		**Pn**	**22 41 49.7**	**-0.4**
	baz=301							
TWS1				*e*S		**Sn**	**22 42 06.8**	**-0.9**
	baz=301							
TWT	**Tachien**	**1.39**	**265**	*i* P		**Pn**	**22 41 51.2**	**+0.5**
	baz=266							
TWT				S		**Sn**	**22 42 08.3**	**-0.2**
	baz=266							
JISG	**Ishigakijimahi**	**1.49**	**82**	P		**Pn**	**22 41 51.7**	**-0.2**
JISG				S		**Sn**	**22 42 10.1**	**-0.7**
NSTT	**Nanjuang**	**1.56**	**280**	P		**Pn**	**22 41 53.0**	**+0.3**
	baz=278							
NSTT				*e*S		**Sn**	**22 42 12.0**	**-0.3**
	baz=278							
TWF1	**Yuli**	**1.63**	**231**	*e*P		**Pn**	**22 41 53.9**	**+0.1**
	baz=238							
TWF1				*e*S		**Sn**	**22 42 13.3**	**-0.8**
	baz=238							
SMLT	**Sun Moon Lake**	**1.71**	**253**	*e*P		**Pn**	**22 41 55.2**	**+0.4**
	baz=249							
SMLT				*e*S		**Sn**	**22 42 15.7**	**-0.3**
	baz=249							
TYC	**Yuchr**	**1.74**	**254**	*e*P		**Pn**	**22 41 55.7**	**+0.6**
	baz=249							
TYC				*e*S		**Sn**	**22 42 17.5**	**+0.9**
	baz=249							
TWQ1	**Liyutan**	**1.75**	**269**	*e*P		**Pn**	**22 41 56.8**	**+1.6**
	baz=278							
TWQ1				*e*S		**Sn**	**22 42 17.7**	**+0.9**
	baz=278							
CHKT	**Chengkung**	**1.76**	**224**	*e*S		**Sn**	**22 42 15.2**	**-1.9**
	baz=216							
YUS	**Yu-Shan**	**1.82**	**241**	*e*S		**Sn**	**22 42 18.3**	**-0.9**
	baz=233							
TCU	**Taichung**	**1.85**	**263**	*e*S		**Sn**	**22 42 20.6**	**+1.4**
	baz=274							
JTJ	**Tarama**	**1.85**	**82**	P		**Pn**	**22 41 56.8**	**+0.2**
JTJ				S		**Sn**	**22 42 19.1**	**-0.2**
WNT	**Mingjian**	**1.90**	**255**	*e*S		**Sn**	**22 42 22.2**	**+1.8**
	baz=254							
ALS	**Alishan**	**1.93**	**244**	*e*P		**Pn**	**22 41 58.5**	**+0.6**
	baz=236							
ALS				*e*S		**Sn**	**22 42 21.7**	**+0.1**
	baz=236							
ELDTW	**Lidau**	**1.94**	**233**	*e*S		**Sn**	**22 42 20.1**	**-1.4**
	baz=226							
CHN5	**Tsauling**	**2.00**	**247**	*e*P		**Pn**	**22 41 59.5**	**+0.8**
	baz=239							
CHN5				*e*S		**Sn**	**22 42 24.5**	**+1.6**
	baz=239							
STYT	**Tauyuan**	**2.15**	**236**	*e*S		**Sn**	**22 42 27.3**	**+0.9**
	baz=230							
TWG	**Pinlang**	**2.15**	**224**	*e*S		**Sn**	**22 42 25.0**	**-1.3**
	baz=229							
CHN4	**Tsaushan**	**2.17**	**242**	*e*P		**Pn**	**22 42 01.6**	**+0.6**
	baz=234							
CHN4				*e*S		**Sn**	**22 42 29.1**	**+2.0**
	baz=234							
CHY	**Chiayi**	**2.25**	**247**	*e*S		**Sn**	**22 42 30.8**	**+2.0**
	baz=236							
TWK	**Hsinying**	**2.30**	**242**	*e*S		**Sn**	**22 42 31.2**	**+1.1**
	baz=240							
JIRB	**Irabujima**	**2.31**	**78**	P		**Pn**	**22 42 02.8**	**+0.1**
JIRB				S		**Sn**	**22 42 29.4**	**-0.7**
CHN1	**Nanshi**	**2.31**	**239**	*e*S		**Sn**	**22 42 31.7**	**+1.4**
	baz=238							
JIKM	**Ikemajima**	**2.39**	**76**	P		**Pn**	**22 42 04.1**	**+0.2**
JIKM				S		**Sn**	**22 42 31.5**	**-0.7**
LAY	**Lan-yu**	**2.56**	**204**	*e*P		**Pn**	**22 42 04.9**	**-1.3**
	baz=196							
LAY				*e*S		**Sn**	**22 42 33.4**	**-2.9**
	baz=196							

*ISCJB **03** 22:43:20.6±0.6, 24°.52S±0°.08×179°.7W±0°.1, h490km, mb3.8/9, Error ellipse: s-maj=15.7km s-min=8.4km az=25.4*
*IDC **03** 22:43:24.9±4.3, 24°.42S×179°.85W, h524km±45km, mb3.4/9, mb1 3.7/10, mb1mx3.4/29, mbtmp4.3/10, Error ellipse: s-maj=26.5km s-min=17.8km az=80.0*
ISC 03 22:43:21.1±0.6, 24°54S±0°.09×179°5W±0°.1, h490km, n34, σ1⁰02/35, mb3.9/9, 8C-3D, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**12.86**	**36**	S		**S**	**22 48 25.7**	**-1.7**
	5.0nm,0.3s,baz=222,slow=16,SNR=6.9							
DZM	**Mont Dzumac**	**13.13**	**278**	P		**P**	**22 46 13.4**	**+1.5**
	0.7nm,0.3s,baz=87,slow=17,SNR=9.3							
URZ	**Urewera**	**13.97**	**191**	P		**P**	**22 46 19.4**	**-1.0**
	1.3nm,0.3s,baz=4.1,slow=14,SNR=9.1							
URZ				S		**S**	**22 48 46.3**	**-2.0**
	3.2nm,0.3s,baz=38,slow=19,SNR=11							
STKA	**Stephens Creek**	**34.89**	**249**	P		**P**	**22 49 30.4**	**-0.4**
	3.6nm,0.5s,baz=83,slow=7.9,SNR=16							
ASAR	**Alice Springs**	**42.37**	**261**	P		**P**	**22 50 30.6**	**-1.1**
	2.7nm,0.3s,baz=92,slow=6.4,SNR=52							
WRA	**Warramunga Arr**	**42.80**	**267**	P		**P**	**22 50 33.6**	**-1.6**
	13nm,0.6s,baz=101,slow=8.2,SNR=149							
WRA				PcP		**PcP**	**22 52 15.2**	**-0.4**
	1.4nm,0.8s,baz=91,slow=3.4,SNR=5.0							
VNDA	**Vanda**	**53.78**	**185**	P		**P**	**22 51 58.4**	**+2.1**
	0.6nm,0.6s,baz=359,slow=7.1,SNR=5.9							
VNDA				PcP		**PcP**	**22 52 55.6**	**+1.1**
	0.5nm,0.9s,baz=342,slow=3.2,SNR=3.6							
MJAR	**Matsushiro Arr**	**72.67**	**325**	P		**P**	**22 53 57.4**	**-1.1**
	1.6nm,0.8s,baz=165,slow=3.9,SNR=3.7							
MAW	**Mawson**	**77.30**	**200**	P		**P**	**22 54 24.8**	**+0.8**
	3.1nm,0.6s,baz=130,slow=7.8,SNR=15							
CMAR	**Chiang Mai Arr**	**90.16**	**290**	P		**P**	**22 55 30.0**	**+1.0**
	0.5nm,0.3s,baz=138,slow=5.7,SNR=4.1							
TXAR	**Lajitas Array**	**90.40**	**58**	P		**P**	**22 55 31.6**	**+1.6**
	0.9nm,0.8s,baz=215,slow=7.1,SNR=11							
ILAR	**Eielson Array**	**92.55**	**13**	P		**P**	**22 55 38.5**	**-0.4**
	0.3nm,0.5s,baz=236,slow=4.7,SNR=3.1							
ARCES	**ARCESS Array B**	**132.60**	**348**	PKP		**PKPdf**	**23 01 38.2**	**-0.6**
	1.7nm,0.8s,baz=20,slow=2.9,SNR=4.2							
FINES	**FINESS Array B**	**139.19**	**341**	PKhKP	PKPpre	23 01 40.8		
	1.1nm,0.8s,baz=46,slow=4.4,SNR=7.6							
NB2	**NORSAR Subarra**	**142.78**	**351**	PKP	PKPpre	23 01 53.8		
	comp=Z,0.5nm,0.6s,baz=10,slow=3.5							
NOA	**NORSAR Array B**	**142.78**	**351**	PKhKP	PKPpre	23 01 54.4		
	comp=Z,0.3nm,0.8s,baz=15,slow=4.6,SNR=4.3							
AKASG	**Malin Array Be**	**145.75**	**327**	PKPbc	**PKPdf**	**23 02 03.3**	**+0.3**	
	comp=Z,2.4nm,0.5s,baz=40,slow=3.9,SNR=7.4							
SORM	**Soroca**	**147.78**	**324**	*i* P	**PKPbc**	**23 02 09.4**	**-0.7**	
BRTR	**Keskin Array B**	**148.31**	**307**	PKPbc	**PKPbc**	**23 02 11.3**	**-0.7**	
	comp=Z,1.8nm,0.7s,baz=140,slow=4.0,SNR=12							
CFR	**Carcaliu**	**149.60**	**320**	*i* P	**PKPbc**	**23 02 13.8**	**-0.9**	
BURAR	**Bucovina Array**	**149.75**	**326**	*i* P	**PKPbc**	**23 02 16.2**	**+1.1**	
TLB	**Topalu**	**149.98**	**319**	*i* P	**PKPbc**	**23 02 15.6**	**0.0**	
MLR	**Muntele Rosu**	**150.69**	**322**	*i* P	**PKPbc**	**23 02 16.6**	**-0.8**	
DOPR	**Dopca**	**150.71**	**323**	*i* P	**PKPbc**	**23 02 17.0**	**-0.3**	
CJR	**Cluj-Napoca**	**151.17**	**326**	*i* P	**PKPbc**	**23 02 18.5**	**+0.1**	
UPC	**Upice**	**151.42**	**339**	*e*P	**PKPbc**	**23 02 19.0**	**+0.2**	
DPC	**Dobruska-Polom**	**151.46**	**339**	*e*P	**PKPbc**	**23 02 19.1**	**+0.2**	
ARR	**Arges**	**151.49**	**323**	*i* P	**PKPbc**	**23 02 19.9**	**+0.7**	
DRGR		**151.56**	**327**	*i* P	**PKPbc**	**23 02 18.3**	**-1.0**	
BRG	**Berggiesshubel**	**151.73**	**342**	*i* P	**PKPbc**	**23 02 19.3**	**-0.2**	
	comp=Z,4.7nm,0.6s							
BZS	**Buzias**	**152.93**	**326**	*i* P	**PKPbc**	**23 02 21.4**	**-0.8**	
KHC	**Kasperske Hory**	**153.39**	**341**	*e*P	**PKPab**	**23 02 38.2**	**+0.5**	
VTS	**Vitosha**	**154.00**	**319**	*i* P	**PKPab**	**23 02 41.3**	**+0.5**	
TORD	**Torodi Ar. Bea**	**168.61**	**186**	PKP	**PKPdf**	**23 02 31.1**	**-0.9**	
	comp=Z,0.5nm,0.8s,baz=117,slow=0.3,SNR=4.0							
TORD				PKPab		**PKPab**	**23 03 44.9**	**+0.1**
	comp=Z,1.0nm,0.6s,baz=168,slow=5.1,SNR=12							

*BJI **03** 22:55:34.0, 20°.60S×169°.70E, h140km, mb6.5/21, mB6.8/57*
*IDC **03** 22:55:35.9±0.7, 20°.66S×169°.76E, h136km±5km, mb5.8/25, mb1 5.9/28, mb1mx5.9/28, mbtmp6.2/28, MS6.0/23, Ms1 6.0/23, ms1mx5.7/37, Error ellipse: s-maj=7.2km s-min=5.6km az=4.0*
*ISCJB **03** 22:55:36.0±0.5, 20°.62S±0°.02×169°.73E±0°.02, h146km±4km, mb6.3/265, Error ellipse: s-maj=3.1km s-min=2.4km az=30.4*
*NEIC **03** 22:55:36.0±0.0, 20°.48S×169°.59E, h160km, Moment Tensor Solution. s37 Moment tensor: Scale 10^{19}Nm; M_{rr}1.12; $M_{\theta\theta}$1.18; $M_{\phi\phi}$-2.30; $M_{r\theta}$2.64; $M_{\theta\phi}$1.42; $M_{\phi r}$-2.00; Best double couple: M_o4.10000×10^{19} NP1:ϕs127.00000°, δ80.00000°, λ,60.00000°. NP2:ϕs20.00000°, δ31.00000°, λ161.00000°. Principal axes: T 3.8300, Plg46.0000°, Azm6.0000°; N 0.5300, Plg29.0000°, Azm132.0000°; P -4.3600, Plg28.0000°, Azm240.0000°;*
*MOS **03** 22:55:38.6±0.9, 20°.66S×169°.71E, h173km, mb6.5/51, MS6.0/18 Error ellipse: s-maj=7.1km s-min=6.3km az=99.0*
*NEIC **03** 22:55:40.9±0.7, 20°.67S×169°.72E, h185km±6km, mb6.4/176, MW7.0, MW7.0, MW7.0, Error ellipse: s-maj=3.6km s-min=3.3km az=159.0, Moment Tensor Solution. s51 Moment tensor: Scale 10^{19}Nm; M_{rr}1.63; $M_{\theta\theta}$-0.03; $M_{\phi\phi}$-1.61; $M_{r\theta}$2.72; $M_{\theta\phi}$1.66; $M_{\phi r}$-1.79; Best double couple: M_o4.00000×10^{19} NP1:ϕs125.00000°, δ75.00000°, λ,71.00000°. NP2:ϕs359.00000°, δ24.00000°, λ142.00000°. Principal axes: T 3.6900, Plg56.0000°, Azm11.0000°; N 0.5500, Plg18.0000°, Azm130.0000°; P -4.2400, Plg28.0000°, Azm230.0000°;*
NEIC Felt at Isangel and Port-Vila. Felt [III] at Yate, New Caledonia. Also felt at Noumea, Tadine and We.
*GCMT **03** 22:55:40.9±0.1, 20°.79S×169°.72E, h152km, MW7.0/149, Moment Tensor Solution. s149,c408; s147,c715; Duration: 8ᵊ0 Moment tensor: Scale 10^{19}Nm; M_{rr}1.21±.02; $M_{\theta\theta}$1.08±.01; $M_{\phi\phi}$-2.29±.01; $M_{r\theta}$3.03±.01; $M_{\theta\phi}$1.34±.01; $M_{\phi r}$-2.08±.01; Best double couple: M_o4.37900×10^{19} NP1:ϕs127.00000°, δ81.00000°, λ63.00000°. NP2:ϕs19.00000°, δ29.00000°, λ160.00000°. Principal axes: T 4.2300, Plg48.0000°, Azm8.0000°; N 0.2980, Plg27.0000°, Azm132.0000°; P -4.5280, Plg30.0000°, Azm239.0000°; nsta1 refers to body waves, cutoff=50s. nsta2 refers to surface/mantle waves, cutoff=50s.*
*NEIC **03** 22:55:54.1±0.0, 20°.83S×170°.01E, h132km, Moment Tensor Solution. s24 Moment tensor: Scale 10^{19}Nm; M_{rr}1.13; $M_{\theta\theta}$1.18; $M_{\phi\phi}$-2.32; $M_{r\theta}$3.22; $M_{\theta\phi}$1.40; $M_{\phi r}$-2.27; Best double couple: M_o4.60000×10^{19} NP1:ϕs126.00000°, δ82.00000°, λ,63.00000°. NP2:ϕs20.00000°, δ28.00000°, λ162.00000°. Principal axes: T 4.4400, Plg47.0000°, Azm9.0000°; N 0.3700, Plg26.0000°, Azm131.0000°; P -4.8100, Plg31.0000°, Azm238.0000°;*
ISC 03 22:55:35.8±0.2, 20°63S±0°.03×169°78E±0°.03, h137km±1km, h137km:pP-P, n1944, σ1⁰67/2058, mb6.4/264, 152C-37D, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
I22FR	**PORTLAGUERRE I**	**3.14**	**240**	P		**Pn**	**22 56 26.8**	**+2.3**
	baz=51,slow=11							
I22FR				S		**Sn**	**22 57 04.9**	**+2.8**
	baz=63,slow=12							
DZM	**Mont Dzumac**	**3.42**	**245**	P		**Pn**	**22 56 28.7**	**+0.5**
	529nm,0.3s,baz=68,slow=15,SNR=1227							
DZM				S		**Sn**	**22 57 09.1**	**+0.3**
	2μm,0.3s,baz=74,slow=17,SNR=4.9							
DZM	**Mont Dzumac**	**3.42**	**245**	*e*Pn		**Pn**	**22 56 27.6**	**-0.6**
	82μm,1.4s							
DZM				*e*Sn		**Sn**	**22 57 08.7**	**-0.1**
	175μm,1.1s							
MSVF	**Nonsavu**	**8.33**	**71**	*e*P		**Pn**	**22 57 37.7**	**+4.0**
MSVF	**Nonsavu**	**8.33**	**71**	*e*Pn		**Pn**	**22 57 37.7**	**+4.0**
NFK	**Norfolk Island**	**8.54**	**191**	P		**Pn**	**22 57 38.0**	**+1.6**
	baz=8.6,SNR=84							
RAO	**Raoul Island**	**14.07**	**130**	P		**P**	**22 58 52.6**	**0.0**
	9.5nm,0.3s,baz=152,slow=12,SNR=9.5							
RAO				S		**Sn**	**23 01 28.7**	**+3.9**
	23nm,0.3s,baz=180,slow=19,SNR=1.3							
RAO	**Raoul Island**	**14.07**	**130**	*e*Pn		**P**	**22 58 51.5**	**-1.1**
RAO				S		**Sn**	**23 01 28.7**	**+3.9**
LHI	**Lord Howe Isla**	**14.49**	**219**	*e*Pn		**P**	**22 58 56.0**	**-1.3**
HNR	**Honiara**	**14.62**	**318**	P		**P**	**22 59 00.0**	**+1.2**
	48nm,0.3s,baz=164,slow=8.8,SNR=32							
HNR				S		**S**	**23 01 48.6**	**+1.1**
	48nm,0.3s,baz=114,slow=19,SNR=3.6							
HNR	**Honiara**	**14.62**	**318**	*e*P		**Pn**	**22 58 57.0**	**+0.8**
OUZ	**Omahuta**	**14.92**	**168**	*e*Pn		**P**	**22 59 01.8**	**-0.2**
OUZ	**Omahuta**	**14.92**	**168**	PN		**P**	**22 59 01.8**	**-0.2**
OUZ				*e*SN		**Sn**	**23 01 42.5**	**-2.6**
FUNA	**Funafuti**	**15.09**	**38**	*e*Pn		**P**	**22 59 03.4**	**-0.5**
	30μm,1.5s							
WCZ	**Waipu Caves**	**15.77**	**166**	PN		**P**	**22 59 12.6**	**+1.2**
GRZ	**Great Barrier**	**16.34**	**163**	*e*PN		**P**	**22 59 19.2**	**+1.6**
ABAZ	**Army Bay**	**16.52**	**166**	*e*PN		**P**	**22 59 22.0**	**+2.4**
WIAZ	**Waiheke Island**	**16.77**	**165**	PN		**Pn**	**22 59 23.8**	**+1.3**
ETAZ	**East Tamaki Re**	**16.88**	**166**	PN		**Pn**	**22 59 25.4**	**+1.6**
KUZ	**Kuaotunu**	**16.88**	**163**	PN		**Pn**	**22 59 25.4**	**+1.6**
AWAZ	**Awhitu Peninsu**	**16.92**	**167**	*e*PN		**Pn**	**22 59 25.9**	**+1.7**
TOZ	**Tahuroa Road**	**17.75**	**165**	PN		**Pn**	**22 59 34.6**	**+0.3**
EIDS	**Eidsvold**	**17.84**	**251**	P		**Pn**	**22 59 36.4**	**+0.8**
	baz=18,SNR=482							
EIDS	**Eidsvold**	**17.84**	**251**	*e*P		**Pn**	**22 59 36.6**	**+1.0**
	4μm,1.0s							
KMRZ	**Kaimai**	**17.97**	**164**	*e*PN		**Pn**	**22 59 37.6**	**+0.6**
OPRZ	**Ohinepanea**	**18.14**	**163**	PN		**Pn**	**22 59 39.1**	**+0.2**
WHRZ	**Whale Island**	**18.27**	**162**	PN		**Pn**	**22 59 42.3**	**+1.8**
OMRZ	**Omania**	**18.33**	**163**	*e*PN		**Pn**	**22 59 41.6**	**+0.4**
TLZ	**Tolley Road**	**18.33**	**165**	PN		**Pn**	**22 59 41.7**	**+0.4**
HIZ	**Hauiti**	**18.36**	**167**	*e*P		**Pn**	**22 59 42.3**	**+0.9**
	7μm,1.6s							
HIZ	**Hauiti**	**18.36**	**167**	PN		**Pn**	**22 59 42.2**	**+0.7**
MKRZ	**Makatiti**	**18.39**	**163**	PN		**Pn**	**22 59 47.9**	**+6.0**
HAZ	**Te Kaha**	**18.43**	**160**	PN		**Pn**	**22 59 42.6**	**+0.3**
EDRZ	**Edgecumbe**	**18.43**	**162**	PN		**Pn**	**22 59 43.0**	**+0.6**
HLRZ	**Highlands Stat**	**18.46**	**163**	PN		**Pn**	**22 59 45.2**	**+2.4**
TARZ	**Mount Tarawera**	**18.49**	**163**	*e*PN		**Pn**	**22 59 43.9**	**+0.8**
HSRZ	**Hossack Road**	**18.49**	**164**	*e*PN		**Pn**	**22 59 43.6**	**+0.5**
GRRZ	**Galatos Road**	**18.49**	**164**	*e*PN		**Pn**	**22 59 43.5**	**+0.4**
HRRZ	**Handcock Road**	**18.57**	**164**	PN		**Pn**	**22 59 46.1**	**+2.0**
RUGZ	**Raukumara Rang**	**18.59**	**160**	PN		**Pn**	**22 59 43.9**	**-0.4**
PKGZ	**Pakihiroa**	**18.64**	**159**	PN		**Pn**	**22 59 45.3**	**+0.4**
URZ	**Urewera**	**18.68**	**162**	P		**P**	**22 59 44.2**	**+0.9**
	16nm,0.3s,baz=359,slow=4.1,SNR=93							
URZ				S		**Sn**	**23 03 14.3**	**-0.9**
	1.8nm,0.3s,baz=279,slow=13,SNR=2.2							
URZ	**Urewera**	**18.68**	**162**	*e*P		**Pn**	**22 59 45.3**	**0.0**
	3μm,1.1s							
URZ				S		**Sn**	**23 03 14.3**	**-0.9**
URZ	**Urewera**	**18.68**	**162**	PN		**Pn**	**22 59 44.4**	**-0.9**
URZ				*e*SN		**Sn**	**23 03 18.1**	**+2.9**
WMGZ	**Waiomatatini S**	**18.70**	**158**	PN		**Pn**	**22 59 44.8**	**-0.7**
PRRZ	**Plateau Road**	**18.70**	**164**	*e*PN		**Pn**	**22 59 47.4**	**+1.8**
ALRZ	**Allen Road**	**18.75**	**164**	PN		**Pn**	**22 59 47.9**	**+1.8**
MUGZ	**Murupara**	**18.79**	**163**	PN		**Pn**	**22 59 46.6**	**0.0**
AFI	**Afiamalu**	**18.83**	**72**	P		**P**	**22 59 45.5**	**+0.2**
	12nm,0.3s,baz=262,slow=9.9,SNR=42							
AFI				S		**Sn**	**23 03 16.7**	**-2.6**
	1.6nm,0.3s,baz=0.0,slow=20,SNR=2.0							
AFI				ScP		**ScP**	**23 07 30.6**	**+1.0**
	2.3nm,0.3s,baz=275,slow=3.8,SNR=5.2							
AFI	**Afiamalu**	**18.83**	**72**	*e*P		**P**	**22 59 43.9**	**-1.3**
	3μm,1.0s							
AFI				S		**Sn**	**23 03 16.7**	**-2.6**
AFI				ScP		**ScP**	**23 07 30.6**	**+1.0**
PUZ	**Puketiti**	**18.87**	**159**	PN		**P**	**22 59 46.3**	**+0.8**
PUZ				*e*SN		**Sn**	**23 03 21.5**	**+1.6**
TWGZ	**Tauwhareparae**	**18.88**	**160**	PN		**Pn**	**22 59 47.2**	**-0.5**
MWZ	**Matawai**	**18.88**	**161**	PN		**Pn**	**22 59 46.8**	**-0.8**
MWZ				*e*SN		**Sn**	**23 03 22.4**	**+2.5**
DREZ	**Durham Road**	**18.89**	**169**	PN		**Pn**	**22 59 51.0**	**+3.3**
RATZ	**Rangitukua**	**18.90**	**165**	PN		**Pn**	**22 59 47.9**	**0.0**
NEZ	**North Egmont**	**18.95**	**170**	PN		**Pn**	**22 59 48.7**	**+0.2**
KHEZ	**Kahui Hut**	**18.96**	**170**	PN		**Pn**	**22 59 50.9**	**+2.3**
RTZ	**Ruatahuna**	**18.98**	**162**	PN		**Pn**	**22 59 48.0**	**-0.8**
KATZ	**Kakaramea**	**18.98**	**166**	PN		**Pn**	**22 59 49.0**	**0.0**
TWVZ	**Taurewa**	**19.02**	**166**	PN		**Pn**	**22 59 49.0**	**-0.3**
ARMA	**Armidale**	**19.04**	**236**	P		**Pn**	**22 59 49.2**	**-0.5**
	baz=19,SNR=960							
ARMA	**Armidale**	**19.04**	**236**	*e*P		**Pn**	**22 59 49.1**	**-0.6**
	6μm,0.9s							
TKGZ	**Te Karaka**	**19.07**	**160**	PN		**Pn**	**22 59 49.0**	**-0.8**
KRVZ	**Karewarewa**	**19.09**	**166**	PN		**Pn**	**22 59 49.7**	**-0.5**
WTVZ	**West Tongariro**	**19.09**	**166**	*e*PN		**Pn**	**22 59 50.0**	**-0.2**
NGZ	**Ngauruhoe**	**19.15**	**166**	*e*PN		**Pn**	**22 59 50.8**	**-0.2**
NIUE	**Niue**	**19.15**	**89**	P		**P**	**22 59 48.7**	**+0.1**
	baz=19,SNR=76							
OTVZ	**Oturere**	**19.16**	**166**	*e*PN		**Pn**	**22 59 51.1**	**+0.1**
LREZ	**Lake Rotokare**	**19.19**	**169**	PN		**Pn**	**22 59 52.6**	**+1.4**
PKVZ	**Pokaka**	**19.21**	**167**	*e*PN		**Pn**	**22 59 51.3**	**-0.2**
CNGZ	**Carnagh Statio**	**19.23**	**160**	PN		**Pn**	**22 59 50.5**	**-1.2**
SNGZ	**Shannon Statio**	**19.23**	**162**	PN		**Pn**	**22 59 51.0**	**-0.8**
TUVZ	**Tukino**	**19.25**	**166**	PN		**Pn**	**22 59 53.7**	**+1.6**
WHVZ	**Whangaehu Hut**	**19.25**	**166**	PN		**Pn**	**22 59 53.0**	**+0.8**
RIGZ

RPZ **Rata Peaks** **23.05 178** P **P** **23 00 29.0 -0.1**
comp=Z,373nm,0.9s,baz=354,slow=9.3,SNR=43
RPZ S **S** **23 04 29.1 -0.3**
comp=Z,63nm,0.8s,baz=294,slow=20,SNR=2.3
RPZ LR LR 23 08 42.6
comp=Z,95µm,20.8s,baz=3.0,slow=34
RPZ **Rata Peaks** **23.05 178** *eP* **P** **23 00 30.2 +1.2**
comp=Z,2µm,1.1s
RPZ S **S** **23 04 29.1 -0.3**
RPZ **Rata Peaks** **23.05 178** PN **P** **23 00 29.5 +0.5**
MQZ **McQueen's Vall** **23.14 175** *eP* **P** **23 00 30.8 +0.9**
comp=Z,3µm,1.9s
MQZ **McQueen's Vall** **23.14 175** PN **P** **23 00 30.0 +0.1**
CNB **Canberra Magne** **23.15 227** P **P** **23 00 30.7 +0.5**
baz=23,SNR=554
JCZ **Jackson Bay** **23.39 182** PN **P** **23 00 32.9 +0.6**
CAN **Canberra** **23.41 227** *eP* **P** **23 00 32.8 +0.3**
CAN pmax pmax
comp=Z,9µm,1.5s
CAN **Canberra** **23.41 227** *eP* **P** **23 00 32.8 +0.3**
comp=Z,9µm,1.5s
RABL **Rabaul** **23.68 311** *eP* **P** **23 00 35.2 +0.1**
comp=Z,3µm,0.6s
LBZ **Lake Benmore** **23.69 179** *eP* **P** **23 00 35.1 +0.1**
comp=Z,2µm,1.5s
LBZ **Lake Benmore** **23.69 179** PN **P** **23 00 35.3 +0.3**
MSZ **Milford Sound** **24.03 183** PN **P** **23 00 38.9 +0.9**
QLP **Quilpie** **24.12 251** P **P** **23 00 39.5 +0.5**
baz=24,SNR=215
MTSU **Mount Surprise** **24.14 272** P **P** **23 00 40.2 +0.9**
baz=24,SNR=758
WKZ **Wanaka** **24.14 181** *eP* **P** **23 00 39.9 +0.8**
comp=Z,4µm,1.4s
WKZ **Wanaka** **24.14 181** PN **P** **23 00 38.9 -0.1**
CMSA **Cobar Meteorol** **24.16 238** P **P** **23 00 39.4 +0.1**
baz=24,SNR=1000
MILA **Mila** **24.29 223** P **P** **23 00 41.4 +0.9**
baz=24,SNR=155
ODZ **Otahua Downs** **24.36 179** *eP* **P** **23 00 40.9 0.0**
comp=Z,721nm,1.1s
ODZ **Otahua Downs** **24.36 179** PN **P** **23 00 40.1 -0.9**
PMG **Port Moresby** **24.49 294** P **P** **23 00 42.8 +0.3**
comp=Z,1µm,1.0s,baz=102,slow=8.3,SNR=89
PMG S **S** **23 04 53.5 +0.4**
comp=Z,50nm,1.0s,baz=49,slow=19,SNR=1.5
PMG ScP **ScP** **23 07 44.5 +0.8**
comp=Z,277nm,1.1s,baz=175,slow=3.1,SNR=9.0
PMG LR LR 23 07 50.7
comp=Z,49µm,18.9s,baz=8.5,slow=30
PMG **Port Moresby** **24.49 294** *i* P **P** **23 00 43.4 +0.9**
PMG pmax pmax
comp=Z,3µm,0.7s
PMG **Port Moresby** **24.49 294** *eP* **P** **23 00 43.4 +0.9**
comp=Z,2µm,0.8s
PMG S **S** **23 04 53.5 +0.4**
PMG ScP **ScP** **23 07 44.5 +0.8**
EAZ **Earnscleugh** **24.54 181** PN **P** **23 00 42.5 -0.1**
MLZ **Mavora Lakes** **24.71 183** *eP* **P** **23 00 44.9 +0.6**
comp=Z,1µm,1.2s
MLZ **Mavora Lakes** **24.71 183** PN **P** **23 00 44.6 +0.4**
DCZ **Deep Cove** **24.86 184** *eP* **P** **23 00 46.2 +0.7**
comp=Z,2µm,1.3s
DCZ **Deep Cove** **24.86 184** PN **P** **23 00 45.7 +0.2**
WHZ **Wether Hill Ro** **25.24 183** *eP* **P** **23 00 49.2 +0.2**
comp=Z,1µm,1.3s
WHZ **Wether Hill Ro** **25.24 183** PN **P** **23 00 48.3 -0.7**
TUZ **Tuapeka** **25.26 180** PN **P** **23 00 49.3 +0.2**
PYZ **Puysegur Point** **25.60 185** *eP* **P** **23 00 53.0 +0.8**
comp=Z,3µm,1.8s
SYZ **Scrubby Hill** **25.85 181** PN **P** **23 00 55.2 +0.8**
APZ **The Paps** **26.18 183** PN **P** **23 00 58.8 +1.4**
COEN **Coen** **26.23 280** P **P** **23 00 59.4 +1.1**
baz=26,SNR=178
COEN **Coen** **26.23 280** *eP* **P** **23 00 59.8 +1.6**
comp=Z,4µm,1.8s
TOO **Toolangi** **27.00 226** P **P** **23 01 05.4 +0.5**
baz=27,SNR=90
STKA **Stephens Creek** **27.57 240** P **P** **23 01 10.3 +0.3**
comp=Z,672nm,0.8s,baz=84,slow=10,SNR=304
STKA S **S** **23 05 41.3 -0.1**
comp=Z,136nm,1.1s,baz=90,slow=20,SNR=2.3
STKA ScP **ScP** **23 07 53.0 +0.5**
comp=Z,369nm,1.1s,baz=58,slow=2.6,SNR=12
STKA LR LR 23 11 07.0
comp=Z,84µm,21.6s,baz=75,slow=34
STKA PKiKP **PKiKP** **23 12 00.7 -0.5**
comp=Z,16nm,0.9s,baz=333,slow=2.2,SNR=3.7
STKA P3KPbc 23 33 37.1
comp=Z,15nm,0.9s,baz=282,slow=3.9,SNR=16
STKA **Stephens Creek** **27.57 240** P **P** **23 01 10.1 0.0**
baz=28,SNR=367
QIS **Mount Isa** **28.23 265** P **P** **23 01 16.0 -0.1**
baz=28,SNR=116
RAR **Rarotonga** **28.43 97** P **P** **23 01 18.5 +0.7**
comp=Z,8.9nm,0.4s,baz=284,slow=7.6,SNR=19
RAR S **S** **23 05 56.3 +1.2**
comp=Z,15nm,0.9s,baz=37,slow=20,SNR=1.9
RAR **Rarotonga** **28.43 97** *eP* **P** **23 01 18.4 +0.6**
comp=Z,453nm,1.3s
RAR S **S** **23 05 56.3 +1.2**
MANU **Manus Island** **28.62 307** *eP* **P** **23 01 19.5 -0.1**
comp=Z,1µm,1.4s
MOO **Moorlands** **28.88 216** P **P** **23 01 22.0 +0.4**
baz=29,SNR=111
TAU **Tasmania Unive** **29.12 215** *eP* **P** **23 01 23.8 +0.1**
TAU pmax pmax
comp=Z,975nm,1.3s
TAU **Tasmania Unive** **29.12 215** *eP* **P** **23 01 23.8 +0.1**
comp=Z,975nm,1.3s
ARPS **Mount Arapiles** **29.17 231** P **P** **23 01 24.5 +0.3**
baz=29,SNR=129
KWAJ **Kwajalein Atol** **29.32 356** *i* P **P** **23 01 28.3 +2.6**
KWAJ **Kwajalein Atol** **29.32 356** *eP* **P** **23 01 25.4 -0.2**
comp=Z,3µm,1.7s
PATS **Pohnpei** **29.53 336** *eP* **P** **23 01 26.2 -1.3**
comp=Z,607nm,0.9s
HTT **Hallett** **30.18 239** P **P** **23 01 33.2 0.0**
baz=30,SNR=140
BBOO **Buckleboo** **32.33 241** P **P** **23 01 51.5 -0.6**
baz=32,SNR=213
BBOO **Buckleboo** **32.33 241** *eP* **P** **23 01 52.1 0.0**
comp=Z,1µm,1.0s
WRAB **Tennant Creek** **33.20 265** *d* iP **P** **23 01 58.4 -1.4**
WRAB pmax pmax
comp=Z,5µm,1.5s
WRAB **Tennant Creek** **33.20 265** *eP* **P** **23 01 58.3 -1.5**
comp=Z,8µm,2.0s
WRA **Warramunga Arr** **33.21 265** P **P** **23 01 59.1 -0.8**
comp=Z,233nm,0.5s,baz=92,slow=8.2,SNR=444
WRA PP **PP** **23 03 24.3 +6.6**
comp=Z,473nm,1.3s,baz=97,slow=11,SNR=6.5
WRA S **S** **23 07 09.8 -0.1**
comp=Z,90nm,1.1s,baz=92,slow=16,SNR=6.1
WRA ScP **ScP** **23 08 11.3 0.0**
comp=Z,158nm,1.1s,baz=90,slow=4.1,SNR=7.4
WRA PKiKP **PKiKP** **23 12 04.5 -0.7**
comp=Z,8.9nm,0.6s,baz=28,slow=0.2,SNR=12
WRA P3KPbc 23 33 13.0
comp=Z,7.9nm,0.9s,baz=292,slow=2.8,SNR=18
AS01 **Alice Springs** **33.27 258** *eP* **P** **23 01 57.9 -2.5**
AS31 **Alice Springs** **33.31 258** *eP* **P** **23 02 00.0 -0.8**
ASAR **Alice Springs** **33.31 258** P **P** **23 02 00.1 -0.7**
comp=Z,1µm,1.0s,baz=93,slow=8.6,SNR=2633
ASAR PcP **PcP** **23 04 39.2 -0.6**
comp=Z,99nm,0.9s,baz=117,slow=3.0,SNR=5.0
ASAR S **S** **23 07 11.6 +0.2**
comp=Z,107nm,1.1s,baz=86,slow=16,SNR=4.7
ASAR ScP **ScP** **23 08 11.3 -0.3**
comp=Z,111nm,1.0s,baz=101,slow=4.0,SNR=11
ASAR PKiKP **PKiKP** **23 12 04.7 -0.6**
comp=Z,16nm,1.1s,baz=83,slow=1.3,SNR=6.3
ASAR LR LR 23 15 15.9
comp=Z,45µm,19.3s,baz=96,slow=36
ASAR P3KPbc 23 33 12.7
comp=Z,9.6nm,0.6s,baz=277,slow=4.0,SNR=40
JAY **Jayapura** **33.58 299** P **P** **23 02 03.2 0.0**
comp=Z,21nm,0.7s,baz=98,slow=19,SNR=80
JAY S **S** **23 07 15.9 +0.2**
comp=Z,2.8nm,1.1s,baz=90,slow=20,SNR=3.9
JAY LR LR 23 16 02.1
comp=Z,438nm,18.6s,baz=86,slow=36
JAY **Jayapura** **33.58 299** P **P** **23 02 03.9 +0.8**
GENI **Genyem** **33.98 298** P **P** **23 02 07.5 +1.0**
MCQ **Macquarie Isla** **34.80 191** *eP* **P** **23 02 13.8 +0.7**
MCQ pmax pmax
comp=Z,2µm,1.5s
MCQ **Macquarie Isla** **34.80 191** *eP* **P** **23 02 13.8 +0.7**
comp=Z,2µm,1.5s
SMPI **Sarmi** **35.52 297** P **P** **23 02 20.3 +0.5**
KDU **Kakadu** **36.53 277** P **P** **23 02 28.6 +0.2**
baz=37,SNR=27
MTN **Manton Dam** **37.73 276** P **P** **23 02 37.9 -0.7**
baz=38,SNR=233
MTN **Manton Dam** **37.73 276** *eP* **P** **23 02 38.0 -0.6**
comp=Z,809nm,0.6s
TBI **Tubuai** **37.81 102** *eP* **P** **23 02 38.8 -0.3**
comp=Z,437nm,1.1s
TBI *eS* **S** **23 08 18.8 -1.3**
comp=Z,15µm,26.5s
TBI *eLQ* LQ 23 11 21.2
comp=Z,265µm,27.2s
TBI *eLR* LR 23 12 56.0
comp=Z,125µm,53.0s
WRKA **Warakurna** **38.38 255** P **P** **23 02 43.2 -0.8**
baz=38,SNR=1000
PAE **Paea** **38.44 93** *eP* **P** **23 02 44.0 -0.5**
comp=Z,118nm,1.4s
PPT2 **Papeete2** **38.46 93** *eP* **P** **23 02 44.5 -0.2**
comp=Z,492nm,1.4s
PPT2 *eS* **S** **23 08 29.1 -1.0**
comp=Z,34µm,28.5s
PPT2 *eLQ* LQ 23 11 38.9
comp=Z,346µm,25.8s
PPT2 *eLR* LR 23 13 12.4
comp=Z,428µm,41.0s
PPT **Papeete** **38.46 93** P **P** **23 02 45.0 +0.3**
comp=Z,85nm,0.4s,baz=54,slow=7.2,SNR=24
TIAR **Tiarei** **38.68 93** *eP* **P** **23 02 46.3 -0.2**
comp=Z,169nm,1.0s
TVO **Taravao** **38.72 93** *eP* **P** **23 02 46.6 -0.3**
comp=Z,51nm,0.8s
FORT **Forrest** **38.73 246** P **P** **23 02 46.1 -0.7**
baz=39,SNR=113
FORT **Forrest** **38.73 246** *eP* **P** **23 02 46.0 -0.7**
comp=Z,41µm,1.7s
H11S2 **WAKE ISLAND Hy** **38.99 355** P **P** **23 02 50.1 +1.4**
SNR=20
H11S3 **WAKE ISLAND Hy** **39.00 355** P **P** **23 02 50.2 +1.4**
SNR=11
H11S1 **WAKE ISLAND Hy** **39.01 355** P **P** **23 02 47.9 -1.0**
SNR=15
KNRA **Kununurra** **39.21 270** P **P** **23 02 50.4 -0.5**
baz=39,SNR=93
XMAS **Kiritimati** **39.23 59** *eP* **P** **23 02 51.1 +0.1**
comp=Z,2µm,1.1s
SAUI **Saumlaki** **39.23 283** P P 23 02 56.5 +5.4
SAUI **Saumlaki** **39.23 283** *eP* **P** **23 02 52.2 +1.1**
comp=Z,2µm,0.9s
RKPI **Ransiki, Papua** **39.60 294** P **P** **23 02 57.2 +3.0**
comp=Z,941nm,1.0s,comp=Z,15µm
H11N1 **WAKE ISLAND Hy** **40.19 356** P **P** **23 02 59.9 +1.3**
baz=182,slow=11,SNR=30
H11N3 **WAKE ISLAND Hy** **40.20 356** P **P** **23 03 00.2 +1.5**
baz=182,slow=11,SNR=26
H11N2 **WAKE ISLAND Hy** **40.21 356** P **P** **23 02 59.4 +0.7**
baz=182,slow=11,SNR=26
FAKI **Fak Fak** **40.57 291** P **P** **23 03 03.3 +1.1**
comp=Z,1µm,0.8s,comp=Z,15µmcomp=Z,38µm
FAKI **Fak Fak** **40.57 291** *eP* **P** **23 03 02.2 +0.1**
comp=Z,774nm,0.8s
VAH **Vaihoa** **40.79 90** *eP* **P** **23 03 03.6 -0.4**
comp=Z,1µm,1.2s
FITZ **Fitzroy Crossi** **41.63 266** P **P** **23 03 10.9 +0.2**
comp=Z,1µm,0.7s,baz=94,slow=10
FITZ S **S** **23 09 18.1 +0.9**
comp=Z,64nm,1.1s,baz=315,slow=16,SNR=3.9
FITZ **Fitzroy Crossi** **41.63 266** P **P** **23 03 10.4 -0.3**
baz=42,SNR=888
FITZ **Fitzroy Crossi** **41.63 266** *eP* **P** **23 03 10.6 -0.2**
comp=Z,3µm,1.0s
FITZ S **S** **23 09 18.1 +0.9**
GUMO **Guam** **41.90 322** P **P** **23 03 13.7 +0.8**
comp=Z,533nm,0.7s,baz=168,slow=8.7,SNR=20
GUMO **Guam** **41.90 322** *eP* **P** **23 03 14.0 +1.1**
GUMO pmax pmax
comp=Z,2µm,1.0s
GUMO **Guam** **41.90 322** *eP* **P** **23 03 14.0 +1.1**
comp=Z,2µm,1.0s
BNDI **Bandanaira** **41.92 287** P **P** **23 03 17.0 +3.8**
JOHN **Johnston Islan** **42.32 30** *eP* **P** **23 03 17.2 +1.0**
comp=Z,3µm,0.9s
SIJI **Sorong** **42.43 293** P **P** **23 03 18.4 +1.1**
comp=Z,65nm,0.3s,baz=0.1,slow=6.1,SNR=9.6
SIJI S **S** **23 09 31.1 +2.0**
comp=Z,76nm,0.3s,baz=268,slow=23,SNR=6.3
SWI **Sorong** **42.44 293** P **P** **23 03 17.8 +0.4**
comp=Z,1µm,1.1s,comp=Z,15µm
MSAI **Masohi** **43.31 288** P **P** **23 03 27.5 +3.1**
comp=Z,108nm,0.7s,comp=Z,2µm
AAI **Ambon** **43.82 287** P **P** **23 03 31.2 +2.7**
comp=Z,888nm,1.4s,comp=Z,16µm
NLAI **Namlea** **44.99 287** P **P** **23 03 39.2 +1.4**
comp=Z,2µm,1.6s,comp=Z,20µm
SOEI **Soe** **45.09 277** P **P** **23 03 40.0 +1.2**
comp=Z,1µm,0.9s,comp=Z,20µmcomp=Z,61µm
SOEI **Soe** **45.09 277** *eP* **P** **23 03 39.8 +1.0**
comp=Z,4µm,1.7s
BATI **Baumata** **45.51 276** P **P** **23 03 44.5 +2.6**
comp=Z,404nm,1.4s,comp=Z,7µm
SANI **Sanana** **46.51 288** P **P** **23 03 50.6 +0.8**
comp=Z,2µm,1.6s,comp=Z,23µmcomp=Z,42µm
MBWA **Marble Bar** **46.60 260** *eP* **P** **23 03 50.5 +0.1**
comp=Z,4µm,0.8s
MBWA **Marble Bar** **46.60 260** P **P** **23 03 50.8 +0.4**
SNR=98
MBWA P **P** **23 03 50.8 +0.4**
SNR=98
MEEK **Meekatharra** **47.01 252** P **P** **23 03 52.5 -1.1**
baz=47,SNR=233
MMRI **Maumere** **47.35 277** P **P** **23 03 56.5 +0.2**
comp=Z,1µm,1.2s,comp=Z,21µmcomp=Z,52µm
MMRI **Maumere** **47.35 277** *eP* **P** **23 03 56.3 0.0**
comp=Z,845nm,0.8s
KLBR **Kellerberrin** **47.59 246** P **P** **23 03 56.4 -1.5**
baz=48,SNR=193
NWAO **Narrogin (SRO)** **48.05 244** S **S** **23 10 49.6 +0.2**
comp=Z,34nm,0.9s,baz=169,slow=15,SNR=1.9
NWAO LR LR 23 23 46.0
comp=Z,75µm,19.2s,baz=326,slow=35
NWAO **Narrogin (SRO)** **48.05 244** P **P** **23 04 00.4 -1.0**
baz=48,SNR=87
NWAO P **P** **23 04 00.4 -1.0**
baz=48,SNR=87
NWAO **Narrogin (SRO)** **48.05 244** *eP* **P** **23 04 00.7 -0.7**
NWAO S **S** **23 10 49.7 +0.2**
NWAO pmax pmax
comp=Z,6µm,2.0s
NWAO **Narrogin (SRO)** **48.05 244** *eP* **P** **23 04 00.7 -0.7**
comp=Z,6µm,2.0s
NWAO S **S** **23 10 49.6 +0.2**
NWAO **Narrogin (SRO)** **48.05 244** P **P** **23 04 01.6 +0.1**
SNR=36
NWAO P **P** **23 04 01.6 +0.1**
SNR=36
BBSI **Bau Bau** **48.19 281** P **P** **23 04 05.0 +2.3**
comp=Z,228nm,0.9s,comp=Z,5µm
RKGY **Rocky Gully** **48.31 242** P **P** **23 04 02.7 -0.8**
baz=48,SNR=39
BASI **Baing, Sumba** **48.38 275** P **P** **23 04 06.6 +2.4**
comp=Z,3µm,1.7s,comp=Z,48µm
BLDU **Ballidu** **48.50 247** P **P** **23 04 03.9 -1.0**
baz=48,SNR=72
KDI **Kendari** **48.74 283** P **P** **23 04 08.1 +1.1**
comp=Z,617nm,0.9s,comp=Z,10µmcomp=Z,57µm
WSI **Waingapu** **48.82 275** P **P** **23 04 09.7 +2.1**
comp=Z,3µm,0.6s,comp=Z,54µmcomp=Z,70µm
MORW **Monawa** **49.13 249** P **P** **23 04 09.1 -0.7**
baz=49,SNR=198
KMSI **Cibinong** **49.49 289** P **P** **23 04 16.1 +3.4**
TAOE **Nuku Hiva Isla** **49.64 84** *eP* **P** **23 04 14.2 +0.3**
comp=Z,3µm,1.1s
TAOE *eS* **S** **23 11 11.5 -0.8**
comp=Z,92µm,28.6s
TAOE *eLQ* LQ 23 16 19.5
comp=Z,134µm,30.5s
TAOE *eLR* LR 23 18 27.4
comp=Z,134µm,33.8s
SGSI **Sangihe** **49.67 294** P P 23 04 26.7 +13
LUWI **Luwuk** **49.84 287** P **P** **23 04 17.1 +1.8**
comp=Z,2µm,1.7s,comp=Z,31µmcomp=Z,49µm
LUWI **Luwuk** **49.84 287** *eP* **P** **23 04 16.1 +0.8**
comp=Z,4µm,1.4s
BSSI **Bau Bau, Buton** **49.85 280** P **P** **23 04 18.8 +3.3**
MIDW **Midway** **50.12 15** *eP* **P** **23 04 16.6 -0.5**
comp=Z,2µm,1.5s
H01W1 **Cape Leeuwin H** **50.64 241** P **P** **23 04 21.9 +1.1**
baz=113,slow=9.0,SNR=89
H01W3 **Cape Leeuwin H** **50.66 241** P **P** **23 04 22.1 +1.1**
baz=113,slow=9.0,SNR=64
H01W2 **Cape Leeuwin H** **50.66 241** P **P** **23 04 22.3 +1.4**
baz=113,slow=9.0,SNR=53
MATI **Mati** **50.79 298** *eP* **P** **23 04 20.7 -1.8**
KAPI **Kappang** **50.96 281** P **P** **23 04 25.7 +2.0**
SNR=92
KAPI P **P** **23 04 25.7 +2.0**
SNR=92
RKT **Rikitea** **51.08 104** *eP* **P** **23 04 24.7 +0.2**
comp=Z,248nm,1.1s
RKT *eS* **S** **23 11 31.5 -0.4**
comp=Z,41µm,27.5s
RKT *eLQ* LQ 23 16 53.0
comp=Z,269µm,28.5s
RKT *eLR* LR 23 19 02.6
comp=Z,27µm,22.2s
MRSI **Marisa** **51.26 288** P **P** **23 04 26.8 +0.8**
comp=Z,438nm,1.0s,comp=Z,8µm
SPSI **Sidrap Palu** **51.35 282** P **P** **23 04 26.6 0.0**
comp=Z,405nm,1.0s,comp=Z,8µm
DAV **Davao City (W)** **51.42 298** ⇑ *eP* **P** **23 04 26.9 -0.2**
DAV **Davao City (W)** **51.42 298** *eP* **P** **23 04 29.6 +2.5**
comp=Z,630nm,0.6s
DAV **Davao City (W)** **51.42 298** P **P** **23 04 29.8 +2.7**
SNR=16
DAV P **P** **23 04 29.8 +2.7**
SNR=16
GIRL **Giralia** **51.42 257** P **P** **23 04 27.9 +0.8**
baz=51,SNR=36
PLAI **Plampang** **51.44 275** P **P** **23 04 28.5 +1.1**
comp=Z,823nm,1.0s,comp=Z,19µmcomp=Z,47µm
DMPH **Davao City--Mi** **51.48 298** ⇑ *eP* **P** **23 04 25.6 -2.0**
TTSI **Tana Toraja** **51.67 283** P **P** **23 04 30.5 +1.5**
comp=Z,741nm,1.4s,comp=Z,10µm
KEKH **Kekaha** **51.78 37** *eP* **P** **23 04 30.5 +0.9**
comp=Z,1µm,1.1s
KCP **Kidapawan** **51.79 297** ⇓ *eP* **P** **23 04 31.2 +1.2**
HON **Honolulu** **52.25 39** *eP* **P** **23 04 37.5 +4.4**
HON **Honolulu** **52.25 39** *eP* **P** **23 04 37.5 +4.4**
TWSI **Taliwang, Sumb** **52.31 275** P **P** **23 04 34.3 +0.5**
comp=Z,572nm,0.9s,comp=Z,14µm
KIP **Kipapa** **52.32 39** *ceP* **P** **23 04 34.3 +0.7**
KIP pmax pmax
comp=Z,894nm,0.9s
KIP **Kipapa** **52.32 39** *eP* **P** **23 04 33.9 +0.3**
comp=Z,579nm,1.1s
MLOA **Mauna Loa Obse** **52.39 43** *eP* **P** **23 04 35.9 +1.2**
comp=Z,593nm,1.2s
UWE **Uwekahuna** **52.48 43** *eP* **P** **23 04 38.8 +3.7**
comp=Z,365nm,0.9s
OPA **Opana** **52.53 39** *eP* **P** **23 04 36.1 +0.9**
OPA pmax pmax
comp=Z,1µm,1.0s
OPA **Opana** **52.53 39** *eP* **P** **23 04 36.1 +0.9**
comp=Z,1µm,1.0s
PCI **Palu** **52.54 285** P **P** **23 04 37.7 +2.2**
comp=Z,2µm,1.4s,comp=Z,37µmcomp=Z,53µm
POHA **Pohakuloa** **52.58 42** *eP* **P** **23 04 35.9 0.0**
comp=Z,2µm,1.9s
HPAH **Hawaii Prepara** **52.67 42** *eP* **P** **23 04 36.6 +0.2**
comp=Z,698nm,1.0s
HLK **Haleakala** **52.88 41** *eP* **P** **23 04 41.7 +3.6**
comp=Z,481nm,1.0s
CGP **Cagayan de Oro** **52.91 299** ⇓ *eP* **P** **23 04 39.2 +1.1**
SCPH **Surigao** **53.01 300** *eP* **P** **23 04 39.6 +0.7**
DNP **Denpasar** **53.89 274** P **P** **23 04 49.0 +3.7**
IGBI **Denpasar** **53.90 274** P **P** **23 04 46.1 +0.7**
comp=Z,2µm,1.4s,comp=Z,28µmcomp=Z,30µm
SRBI **Singaraja** **54.08 275** P **P** **23 04 47.4 +0.7**
comp=Z,1µm,1.1s,comp=Z,14µm
PLP **Palo** **54.21 302** ⇑ *eP* **P** **23 04 48.0 +0.4**
CBIJ **Chichi jima** **54.45 330** *eP* **P** **23 04 49.2 0.0**
comp=Z,2µm,1.3s
LLP **Lapu-Lapu** **54.54 300** *eP* **P** **23 04 51.7 +1.7**
JAGI **Jajag, Banyuwa** **54.94 274** P **P** **23 04 52.5 -0.5**
comp=Z,480nm,1.3s,comp=Z,13µmcomp=Z,54µm
JAGI **Jajag, Banyuwa** **54.94 274** *eP* **P** **23 04 51.8 -1.2**
comp=Z,2µm,1.5s
ABJI **Asem Bagus** **55.09 275** P **P** **23 04 57.6 +3.6**
KMMI **Kalianget** **55.59 276** P **P** **23 05 01.7 +4.1**
GMJI **Gumukmas** **55.67 274** P **P** **23 04 59.0 +0.8**
comp=Z,503nm,1.0s,comp=Z,10µmcomp=Z,57µm
RCP **Roxas** **56.23 300** ⇑ *eP* **P** **23 05 02.5 +0.4**
PVCP **Virac** **56.28 303** *eP* **P** **23 05 02.9 +0.5**
MYLDM **Lahad Datu** **56.48 291** *eP* **P** **23 05 05.9 +1.9**
MYLDM **Lahad Datu** **56.48 291** ⇑ P **P** **23 05 08.4 +4.5**
TSM **Tawau** **56.62 290** ⇑ P **P** **23 05 06.3 +1.4**
MTKI **Muara Teweh, K** **57.01 283** P **P** **23 05 08.6 +0.9**
comp=Z,542nm,0.9s,comp=Z,8µmcomp=Z,41µm
VNDA **Vanda** **57.07 182** P **P** **23 05 06.6 -0.5**
comp=Z,44nm,0.6s,baz=359,slow=7.8,SNR=110
VNDA S **S** **23 12 53.3 +2.4**
comp=Z,3.2nm,0.9s,baz=145,slow=17,SNR=3.0
VNDA LR LR 23 27 10.4
comp=Z,17µm,18.2s,baz=12,slow=33
PWJI **Pagerwojo** **57.28 274** P **P** **23 05 09.9 +0.3**
comp=Z,498nm,0.7s,comp=Z,21µm
AUQP **San Andres** **57.29 302** *eP* **P** **23 05 11.6 +2.0**
SBA **Scott Base** **57.29 181** *eP* **P** **23 05 09.4 +0.8**
SBA pmax pmax
comp=Z,513nm,0.8s
SBA **Scott Base** **57.29 181** *eP* **P** **23 05 09.4 +0.8**
comp=Z,513nm,0.8s
TBJI **Tambak Boyo** **57.65 275** P **P** **23 05 14.3 +2.1**
comp=Z,2µm,1.5s,comp=Z,35µm
GQP **Guinayangan** **57.80 302** ⇑ *eP* **P** **23 05 13.3 +0.1**
PCJI **Pacitan** **57.81 273** P **P** **23 05 14.7 +1.4**
comp=Z,2µm,1.1s,comp=Z,28µmcomp=Z,51µm
NGJI **Ngawi** **57.82 274** P **P** **23 05 18.1 +4.7**
SDKM **Sandakan** **57.84 291** ⇑ P **P** **23 05 15.5 +1.9**
BOAC **Boac** **58.03 302** *eP* **P** **23 05 15.5 +0.8**
WOJI **Wonogiri, Jawa** **58.17 274** P **P** **23 05 16.6 +0.8**
comp=Z,1µm,0.7s,comp=Z,20µm
UGM **Wanagama** **58.52 273** P **P** **23 05 20.5 +2.2**
comp=Z,1µm,0.9s,comp=Z,15µm
UGM **Wanagama** **58.52 273** *eP* **P** **23 05 18.9 +0.6**
comp=Z,2µm,1.3s
LQP **Lukban** **58.64 302** ⇑ *eP* **P** **23 05 21.1 +1.8**
KDM **Kudat** **58.77 292** ⇑ P **P** **23 05 22.6 +2.7**
SMRI **Semarang** **58.88 274** P **P** **23 05 22.6 +1.8**
comp=Z,570nm,0.9s,comp=Z,18µm
SMRI **Semarang** **58.88 274** *eP* **P** **23 05 21.6 +0.8**
KKM **Kota Kinabalu** **58.89 291** *eP* **P** **23 05 21.9 +0.9**
comp=Z,3µm,1.7s
KKM **Kota Kinabalu** **58.89 291** ⇓ P **P** **23 05 22.1 +1.2**
PBKI **Pangkalan Bun** **59.29 279** P **P** **23 05 26.1 +2.5**
comp=Z,901nm,1.1s,comp=Z,12µmcomp=Z,45µm
PCPH **Palayan** **59.82 303** ⇓ *eP* **P** **23 05 28.5 +1.4**
KPJI **Karang Pucung** **60.20 273** P **P** **23 05 30.6 +0.8**
comp=Z,580nm,1.0s,comp=Z,11µm
BTM **Bintulu** **60.39 286** ⇑ P **P** **23 05 31.6 +0.5**
CMJI **Cimerak** **60.50 273** P **P** **23 05 34.3 +2.5**
comp=Z,644nm,1.1s,comp=Z,11µm
STKI **Sintang** **60.54 282** P **P** **23 05 33.5 +1.4**
comp=Z,837nm,1.5s,comp=Z,14µm
JHJ2 **Mitsune** **60.62 331** *eP* **P** **23 05 35.0 +2.8**
JHJ **Hachijo jima 2** **60.64 331** LR LR 23 29 29.1
comp=Z,4µm,21.8s,baz=154,slow=34
SBUM **Sibu** **60.85 285** ⇓ P **P** **23 05 35.9 +1.7**
SCZP **Santa Cruz** **60.88 303** *eP* **P** **23 05 32.4 -1.9**
JCJI **Jatiwangi** **61.10 274** P **P** **23 05 37.0 +1.1**
comp=Z,2µm,1.7s,comp=Z,28µmcomp=Z,49µm
CISI **Cisompet, Garu** **61.17 273** P **P** **23 05 36.9 +0.5**
comp=Z,963nm,1.6s,comp=Z,24µmcomp=Z,59µm
CISI **Cisompet, Garu** **61.17 273** *eP* **P** **23 05 36.0 -0.5**
BOLP **Bolinao** **61.22 303** *eP* **P** **23 05 36.9 +0.3**
SZP **Santa** **61.48 305** *eP* **P** **23 05 39.0 +0.8**
CNJI **Cibinong** **61.89 273** P **P** **23 05 41.9 +0.7**
comp=Z,995nm,1.0s,comp=Z,14µm
JOW **Kunigami** **61.99 318** LR LR 23 28 48.5
comp=Z,6µm,21.9s,baz=146,slow=32
JOW **Kunigami** **61.99 318** *eP* **P** **23 05 42.4 +0.8**
KSM **Kuching** **62.18 283** *eP* **P** **23 05 43.2 +0.1**
KSM **Kuching** **62.18 283** ⇓ P **P** **23 05 43.4 +0.3**
XMIS **Christmas Isla** **62.27 269** *eP* **P** **23 05 44.1 +0.4**
CBJI **Citeko** **62.45 274** P **P** **23 05 44.2 -0.7**
comp=Z,2µm,0.8s,comp=Z,21µm
DBJI **Dramaga** **62.50 273** P **P** **23 05 45.4 +0.1**
comp=Z,2µm,1.1s,comp=Z,37µmcomp=Z,50µm
SKJI **Sukabumi** **62.53 273** P **P** **23 05 47.7 +2.2**
comp=Z,1µm,0.7s,comp=Z,16µmcomp=Z,48µm
TNG **Tangerang** **62.72 274** P P 23 05 53.3 +6.5
SBJI **Serang** **63.22 274** P **P** **23 05 50.5 +0.4**

comp=Z,2µm,1.5s,comp=Z,26µm
CGJI Cibinong 63.47 273 P **P** **23 05 51.2 -0.5**
comp=Z,2µm,1.4s,comp=Z,20µmcomp=Z,46µm
YOJ Yonaguni jima 63.87 312 *e*P **P** **23 05 54.8 +0.8**
YOJ Yonaguni jima 63.87 312 *e*P **P** **23 05 54.8 +0.8**
TWG Pinlang 64.20 310 *e*P **P** **23 05 54.6 -1.7**
MJAR Matsushiro Arr 64.21 332 P **P** **23 05 56.1 0.0**
comp=Z,369nm,0.9s,baz=167,slow=7.1,SNR=201
MJAR S **S** **23 14 23.1 +0.4**
comp=Z,9.6nm,1.2s,baz=113,slow=18,SNR=6.0
MJAR LR LR 23 29 22.7
comp=Z,4µm,20.1s,baz=145,slow=32
MJAR PKP2bc 23 34 48.8
comp=Z,22nm,1.2s,baz=309,slow=3.4,SNR=11
MAJO Matsushiro 64.21 332*c i*P **P** **23 05 55.5 -0.6**
MAJO pmax pmax
comp=Z,3µm,1.0s
MAJO Matsushiro 64.21 332 *e*P **P** **23 05 55.8 -0.2**
MAT Matsushiro 64.21 332 P **P** **23 05 55.6 -0.5**
MAT S **S** **23 14 25.0 +2.3**
BLSI Bandar Lampung 64.31 274 P **P** **23 05 56.2 -1.0**
YULB Yu-li 64.39 310 *e*P **P** **23 05 56.5 -1.0**
PPBI Pangkal Pinang 64.61 278 P **P** **23 06 00.7 +1.5**
comp=Z,293nm,1.0s,comp=Z,7µmcomp=Z,61µm
NACB Ninganchiao 64.67 311 *e*P **P** **23 05 58.8 -0.5**
TPUB Ta-pu 64.81 310 *e*P **P** **23 05 59.3 -1.0**
SSLB Suanglung 64.89 310 *e*P **P** **23 05 59.8 -0.9**
KASI Kota Agung 64.95 274 P **P** **23 06 00.8 -0.6**
comp=Z,1µm,0.9s,comp=Z,12µmcomp=Z,47µm
JNU Nakatsue 65.09 324 PKP2bc **P'P'bc** **23 34 47.4 -0.8**
comp=Z,20nm,1.0s,baz=19,slow=4.5,SNR=4.9
JNU Nakatsue 65.09 324 *e*P **P** **23 06 01.9 +0.1**
JNU ⇑*e* 23 34 47.4
YHNB Yeheng 65.14 311 *e*P **P** **23 06 02.0 -0.4**
TATO Taipei 65.26 312 *e*P **P** **23 06 03.5 +0.5**
TATO Taipei 65.26 312 P **P** **23 06 03.8 +0.7**
SNR=42
TATO P **P** **23 06 03.8 +0.7**
SNR=42
TATO Taipei 65.26 312 P **P** **23 06 03.8 +0.7**
SNR=42
LWLI Liwa 65.53 274 P **P** **23 06 05.9 +0.6**
comp=Z,1µm,0.9s,comp=Z,13µm
PMBI Palembang 65.61 276 P **P** **23 06 07.5 +1.9**
comp=Z,1µm,1.2s,comp=Z,15µmcomp=Z,51µm
MDSI Maura Dua 65.61 275 P **P** **23 06 04.4 -1.2**
MIR Mirnyy 66.00 205⇓*i*P **P** **23 06 07.0 -0.2**
MIR *i* S **S** **23 14 42.0 -1.7**
MIR pmax pmax
comp=Z,12µm,9.0s
MIR smax smax
comp=N,30µm,9.0s
ERM Erimo 67.02 339*d i*P **P** **23 06 15.7 +1.8**
ERM Erimo 67.02 339 *e*P **P** **23 06 17.8 +3.9**
JMBI JAMBI 67.13 277 P **P** **23 06 17.4 +2.1**
comp=N,3µm,1.4s,comp=N,31µm
TPRI Tanjung Pinang 67.26 280 P **P** **23 06 17.7 +1.6**
comp=N,625nm,1.6s,comp=N,37µmcomp=N,48µm
QZH Quanzhou 67.29 310⇑*i*P **P** **23 06 16.0 0.0**
QZH pP **pP** **23 06 47.0 -2.2**
QZH S **S** **23 14 59.9 -0.5**
QZH sS **sS** **23 15 52.2 -5.5**
QZH pmax pmax
comp=N,2µm,1.5s
QZH pmax pmax
comp=N,20µm,10.2s
QZH LR LR
comp=N,14µm,17.6s
QZH LR LR
comp=N,6µm,10.3s
QZH LR LR
comp=N,46µm,33.1s
MASI Maura Aman, Be 67.89 275 P **P** **23 06 21.0 +0.9**
comp=N,1µm,1.2s,comp=N,13µm
YUK Yuzh-Kuril'sk 67.98 342 *i*P **P** **23 06 22.8 +2.9**
MYKOM Kota Tinggi 68.22 281 *e*P **P** **23 06 22.8 +0.7**
DLV T Lat 68.39 293 *e*P **P** **23 06 24.4 +1.0**
KUR Kuril'sk 68.52 344 *i*P **P** **23 06 24.6 +1.4**
RGRI Rengat 68.81 278 P **P** **23 06 28.3 +2.5**
comp=N,819nm,1.6s,comp=N,34µmcomp=N,41µm
HKC Hong Kong Obse 69.03 305⇑P **P** **23 06 30.0 +3.1**
ASAJ Asahikawa 69.07 339 PKP2bc **P'P'bc** **23 34 35.1 -0.5**
comp=N,61nm,1.2s,baz=295,slow=4.2,SNR=7.0
ASAJ Asahikawa 69.07 339 *e*P **P** **23 06 28.0 +1.3**
ASAJ ⇑*e* 23 34 35.1
MCO Taipa Grande 69.40 305 P **P** **23 06 30.0 +0.8**
SSE Sheshan 69.42 317 P **P** **23 06 29.4 +0.2**
SSE pP **pP** **23 06 59.1 -3.4**
SSE S **S** **23 15 24.7 -0.8**
SSE sS **sS** **23 16 22.1 -0.9**
SSE LR LR
comp=N,13µm,31.1s
SSE LR LR
comp=N,12µm,32.6s
SSE LR LR
comp=N,14µm,32.8s
QSPA South Pole Qui 69.43 180 *e*P **P** **23 06 28.4 -0.6**
comp=N,3µm,0.9s
SDSI Sungai Dareh 69.44 277 P **P** **23 06 29.9 +0.2**
comp=N,205nm,1.6s
KSRS Korea Array 69.93 326 P **P** **23 06 32.9 +0.8**
comp=N,143nm,0.9s,baz=139,slow=5.9,SNR=68
KSRS PKiKP **PKiKP** **23 12 45.5 +1.2**
comp=N,5.9nm,1.0s,baz=134,slow=1.3,SNR=3.2
KSRS S **S** **23 15 31.9 +0.7**
comp=N,0.7nm,0.4s,baz=153,slow=16,SNR=2.9
KSRS PKP2bc 23 34 31.6
comp=N,10nm,0.9s,baz=317,slow=3.6,SNR=11
KSAR Wonju Array Be 69.94 326 P **P** **23 06 32.9 +0.7**
KSAR S **S** **23 15 31.9 +0.6**
KSAR Wonju Array Be 69.94 326 P **P** **23 06 32.9 +0.7**
KSAR PKiKP **PKiKP** **23 12 45.5 +1.2**
KSAR S **S** **23 15 31.9 +0.6**
KSAR ⇑*e* 23 34 31.6
COCO West Island 70.00 264*ce*P P 23 06 38.1 +5.1
COCO West Island 70.00 264 *e*P **P** **23 06 36.2 +3.2**
COCO West Island 70.00 264 P **P** **23 06 36.8 +3.8**
SNR=10
COCO West Island 70.00 264 P **P** **23 06 36.8 +3.8**
SNR=10
GZH Guangzhou 70.10 305 P **P** **23 06 34.7 +1.2**
GZH pmax pmax
comp=N,16µm,7.8s
PPSI Pulau Pagai 70.10 275 P **P** **23 06 38.4 +4.6**
BKNI Bangkinang 70.27 278 P **P** **23 06 36.6 +1.9**
comp=N,880nm,1.4s,comp=N,16µmcomp=N,47µm
BKNI Bangkinang 70.27 278 *e*P **P** **23 06 35.6 +0.9**
PDSI Padang 70.35 277 P **P** **23 06 34.7 -0.6**
comp=N,111nm,1.1s,comp=N,4µm
PPI Padang Panjang 70.57 277 P **P** **23 06 36.8 +0.2**
comp=N,147nm,0.8s,comp=N,6µmcomp=N,56µm
INCN Inchon 70.64 325 *e*P **P** **23 06 37.7 +1.2**
QIZ Qiongzhong 70.71 300 P **P** **23 06 38.4 +1.1**
QIZ pP **pP** **23 07 10.3 -0.4**
QIZ sP **sP** **23 07 23.7 -1.7**
QIZ S **S** **23 15 42.1 +1.2**
QIZ sS **sS** **23 16 38.6 -0.1**
QIZ Qiongzhong 70.71 300 *e*P **P** **23 06 38.3 +1.0**
comp=N,256nm,0.9s
SISI Saibi 71.47 276 P **P** **23 06 44.7 +2.7**
comp=N,672nm,1.6s,comp=N,12µm
YSS Yuzh-Sakhalins 71.55 341*c i*P **P** **23 06 43.0 +1.3**
YSS *e* 23 07 02.0
YSS *e* 23 09 22.0
YSS *e*S **S** **23 15 52.3 +2.8**
YSS *e* 23 16 12.0
YSS *e* 23 16 39.0
YSS *e*SS **SS** **23 20 20.0 -8.1**
YSS pmax pmax
comp=Z,330nm,2.1s
YSS pmax pmax
comp=Z,17µm,5.2s
YSS smax smax
comp=N,10µm,14.0s
YSS smax smax
comp=E,32µm,12.0s
YSS MLR MLR
comp=Z,5µm,20.0s
YSS MLR MLR
comp=N,5µm,21.0s
YSS MLR MLR
comp=E,4µm,21.0s
NJ2 Nanjing 71.55 316 *e*P **P** **23 06 42.5 +0.4**
NJ2 PcP **PcP** **23 07 00.3 -0.3**
NJ2 pP **pP** **23 07 18.1 +2.5**
NJ2 sP **sP** **23 07 28.1 -2.2**
NJ2 S **S** **23 15 53.6 +3.4**
NJ2 sS **sS** **23 16 45.1 -3.0**
NJ2 pmax pmax
comp=E,6µm,5.4s
NJ2 LR LR
comp=E,8µm,17.2s
NJ2 LR LR
comp=E,8µm,22.8s
NJ2 LR LR
comp=E,8µm,15.7s
MNSI Mandailing Nat 71.79 278 P **P** **23 06 43.6 -0.4**
comp=E,333nm,0.7s,comp=E,11µm
SKR Severo-Kuril's 72.01 351 *i*P **P** **23 06 45.9 +1.5**
MSHR Mys Shultsa 72.28 331*ce*P **P** **23 06 47.4 +1.3**
VLA Vladivostok 72.38 332*c i*P **P** **23 06 47.4 +0.7**
VLA pmax pmax
comp=Z,1µm,1.9s
KULM Kulim 72.53 283 *e*P **P** **23 06 48.6 +0.3**
comp=Z,713nm,1.4s
UBPT Khong Chiam 72.53 294 P **P** **23 06 49.2 +1.0**
comp=Z,206nm,1.6s,comp=Z,10µm
PBSI Pulau Batu 72.69 277 P **P** **23 06 53.7 +4.4**
RPN Rapa Nui 73.08 113 *e*P **P** **23 06 55.1 +3.7**
RPN Rapa Nui 73.08 113 *e*P **P** **23 06 55.1 +3.7**
SMY Shemya 73.14 3 *e*P **P** **23 06 51.3 +0.3**
SMY Shemya 73.14 3 *e*P **P** **23 06 51.3 +0.3**
USRK Ussuriysk Ar. 73.20 333 P **P** **23 06 52.3 +0.7**
comp=Z,129nm,0.6s,baz=145,slow=4.6,SNR=86
USRK S **S** **23 16 08.4 0.0**
comp=Z,2.1nm,0.9s,baz=259,slow=22,SNR=3.2
WHN Wuhan 73.65 312 P **P** **23 06 55.2 +0.7**
WHN pP **pP** **23 07 30.5 +2.2**
WHN S **S** **23 16 15.1 +1.0**
WHN LR LR
comp=Z,16µm,13.0s
WHN LR LR
comp=Z,12µm,17.3s
WHN LR LR
comp=Z,11µm,18.9s
TSI Tuntungan 73.75 280 P **P** **23 06 56.7 +1.2**
comp=Z,313nm,1.3s,comp=Z,10µm
PET Petropavlovsk 73.97 353*ce*P **P** **23 06 55.6 -0.3**
PET *e* 23 07 10.9
PET *e* 23 09 40.9
PET *e*S **S** **23 16 14.9 -1.8**
PET *e**SS **sS** **23 17 12.3 -2.7**
PET *e*SS **SS** **23 21 04.0 -0.8**
PET pmax pmax
comp=Z,17µm,10.7s
PET pmax pmax
comp=Z,19µm,20.4s
PET pmax pmax
comp=Z,256nm,1.2s
PET Petropavlovsk 73.97 353 *e*P **P** **23 06 56.7 +0.8**
comp=Z,194nm,0.8s
PETK Petropavlovsk- 74.17 352 P **P** **23 06 57.5 +0.4**
comp=Z,169nm,1.0s,baz=122,slow=5.4,SNR=32
PETK PKiKP **PKiKP** **23 12 50.0 0.0**
comp=Z,8.1nm,0.8s,baz=123,slow=4.1,SNR=4.0
PETK S **S** **23 16 19.7 +0.7**
comp=Z,12nm,1.0s,baz=128,slow=18,SNR=2.5
PETK LR LR 23 32 16.1
comp=Z,6µm,20.9s,baz=158,slow=30
TRTT Trang 74.42 285 P **P** **23 07 00.8 +1.4**
comp=Z,366nm,1.2s,comp=Z,10µm
DL2 Dalian 74.42 323⇑*i*P **P** **23 06 59.7 +0.9**
DL2 pP **pP** **23 07 36.2 +3.6**
DL2 S **S** **23 16 25.1 +2.7**
DL2 pmax pmax
comp=Z,2µm,1.1s
DL2 pmax pmax
comp=Z,14µm,9.9s
KCSI Kotacane, Aceh 74.49 280 P **P** **23 06 59.1 -0.7**
comp=Z,210nm,1.0s,comp=Z,6µmcomp=Z,64µm
MDJ Mudanjiang 74.58 331 P **P** **23 07 00.3 +0.7**
MDJ PcP **PcP** **23 07 14.1 +0.8**
MDJ pP pP 23 07 29.5 -3.9
MDJ sP sP 23 07 47.2 -0.8
MDJ PP **PP** **23 09 47.7 -0.8**
MDJ S **S** **23 16 28.1 +4.2**
MDJ ScS **ScS** **23 16 58.9 +0.6**
MDJ sS sS 23 17 19.4 -2.8
MDJ pmax pmax
comp=Z,12µm,9.8s
MDJ LR LR
comp=Z,26µm,37.7s
MDJ LR LR
comp=Z,24µm,35.2s
MDJ LR LR
comp=Z,7µm,27.6s
SKNT Sakolnakorn 74.58 295 P **P** **23 07 00.8 +0.6**
comp=Z,1µm,1.2s,comp=Z,13µm
TPTI 74.94 279 P **P** **23 07 03.3 +0.9**
comp=Z,295nm,1.2s,comp=Z,10µm
TYV Tymovskoe 75.08 343 *e*P **P** **23 07 03.1 +0.8**
TYV *e*S **S** **23 16 34.5 +5.3**
TYV pmax pmax
comp=Z,15µm,11.1s
TYV smax smax
comp=E,22µm,12.2s
TIA Tai'an 75.31 318⇑P **P** **23 07 04.0 0.0**
TIA pP **pP** **23 07 40.4 +2.5**
TIA pmax pmax
comp=E,12µm,6.0s
TIA LR LR
comp=E,6µm,21.5s
TIA LR LR
comp=E,9µm,23.3s
TIA LR LR
comp=E,18µm,25.5s
SNY Shenyang 75.41 326⇑P **P** **23 07 04.2 -0.2**
SNY S **S** **23 16 35.6 +2.4**
SNY pmax pmax
comp=E,13µm,12.0s
SNY LR LR
comp=E,10µm,23.5s
SNY LR LR
comp=E,13µm,26.5s
SNY LR LR
comp=E,13µm,32.4s
HABR Khabarovsk 75.47 337*c i*P **P** **23 07 04.3 -0.3**
HABR *e* 23 07 16.3
HABR *e**SP **sP** **23 07 50.5 -2.5**
HABR *e* 23 09 54.5
HABR *e*PPP PPP 23 11 41.4
HABR *e*S **S** **23 16 34.5 +0.9**
HABR *e*S **S** **23 16 34.5 +0.9**
HABR *e* 23 17 04.7
HABR *e**SS **sS** **23 17 30.9 -1.1**
HABR *e*SS **SS** **23 21 28.0 +0.3**
HABR pmax pmax
comp=Z,6µm,2.6s
HABR pmax pmax
comp=E,150nm,0.9s
HABR pmax pmax
comp=N,433nm,1.9s
HABR pmax pmax
comp=Z,3µm,1.9s
HABR MLR MLR
comp=Z,2µm,19.0s
NAYO Nakonayok 75.68 291 P **P** **23 07 08.0 +1.5**
comp=Z,213nm,0.9s,comp=Z,10µm
SURT Suratani 75.68 285 P **P** **23 07 08.3 +1.7**
comp=Z,186nm,1.5s,comp=Z,5µm
NONG Nongkai 75.79 296 P **P** **23 07 07.8 +0.7**
comp=Z,438nm,1.3s,comp=Z,7µm
CHAI Chaiyaphum 75.80 293 P **P** **23 07 07.6 +0.4**
comp=Z,106nm,0.9s,comp=Z,766nm
LHMI Lhok Sumawe 75.90 281 P **P** **23 07 10.0 +2.1**
comp=Z,571nm,1.4s,comp=Z,16µmcomp=Z,55µm
LHMI Lhok Sumawe 75.90 281 *e*P **P** **23 07 08.3 +0.5**
comp=Z,838nm,1.3s
CN2 Changchun 75.90 329⇑P **P** **23 07 07.7 +0.5**
CN2 *e*sP sP 23 07 55.4 -0.3
CN2 PP **PP** **23 10 00.2 +0.5**
CN2 *e*S **S** **23 16 38.9 +0.3**
CN2 SS **SS** **23 21 36.4 +1.9**
MLSI Meulaboh, Aceh 76.03 280 P **P** **23 07 09.9 +1.3**
comp=Z,1µm,1.4s,comp=Z,13µm
SLVN Son La 76.69 299 *e*P **P** **23 07 12.9 +0.7**
comp=Z,242nm,1.1s
UNV Unalaska Valle 76.94 14 *e*P **P** **23 07 12.1 -0.7**
comp=Z,542nm,1.0s
ENH Enshi 76.94 310 *e*P **P** **23 07 13.7 +0.2**
comp=Z,890nm,1.2s
PBKT Sadao Pong 76.97 293 P **P** **23 07 15.0 +1.2**
comp=Z,365nm,0.9s,comp=Z,10µm
GYA Guiyang 77.03 305⇑*i*P **P** **23 07 13.9 -0.2**
GYA PcP **PcP** **23 07 26.8 +2.3**
GYA pP pP 23 07 49.6 +1.5
GYA sP sP 23 08 04.2 +1.6
GYA PP **PP** **23 10 13.0 +3.4**
GYA S **S** **23 16 54.6 +2.8**
GYA SKS **SKSac** **23 17 11.8 -2.4**
GYA sS sS 23 17 51.9 +1.4
GYA LR LR
comp=Z,18µm,19.8s
GYA LR LR
comp=Z,22µm,20.0s
GYA LR LR
comp=Z,17µm,19.4s
KLR Kul'dur 77.34 336 PKPPKP **P'P'df** **23 34 18.2 -2.7**
comp=Z,7.6nm,1.1s,baz=307,slow=3.6,SNR=7.4
KLR Kul'dur 77.34 336*c i*P **P** **23 07 15.7 +0.6**
MAW Mawson 77.34 202 P **P** **23 07 15.0 0.0**
comp=Z,97nm,0.7s,baz=121,slow=6.7,SNR=85
MAW S **S** **23 16 54.3 +0.6**
comp=Z,12nm,1.3s,baz=293,slow=7.7,SNR=2.7
MAW LR LR 23 37 50.6
comp=Z,8µm,18.9s,baz=96,slow=33
MAW Mawson 77.34 202 P **P** **23 07 14.9 0.0**
baz=77,SNR=148
AKUT Akutan 77.37 14 *e*P **P** **23 07 13.8 -1.4**
comp=Z,288nm,0.8s
NKL Nikolayevsk 77.68 343 *i*P **P** **23 07 18.0 +1.1**
NKL *e* 23 10 14.0
NKL *e* 23 17 50.0
NKL pmax pmax
comp=N,100nm,1.0s
NKL pmax pmax
comp=E,50nm,1.0s
NKL pmax pmax
comp=Z,500nm,1.0s
NKL pmax pmax
comp=N,6µm,14.0s
NKL pmax pmax
comp=E,4µm,14.0s
NKL pmax pmax
comp=Z,17µm,14.0s
UTTA Uttaradit 77.84 294 P **P** **23 07 20.1 +1.5**
comp=Z,138nm,0.8s,comp=Z,985nm
BJT Baijiatuau 78.32 321 *e*P **P** **23 07 21.2 +0.4**
BJT pmax pmax
comp=Z,356nm,0.8s
BJT Baijiatuau 78.32 321 *e*P **P** **23 07 21.2 +0.4**
comp=Z,356nm,0.8s
BJI Beijing 78.33 321 P **P** **23 07 22.6 +1.8**
BJI S **S** **23 17 08.3 +3.3**
BJI LR LR
comp=Z,12µm,33.8s
BJI LR LR
comp=Z,9µm,28.0s
BJI LR LR
comp=Z,11µm,43.4s
UMPA Umpang Tak 78.64 292 P **P** **23 07 24.4 +1.3**
comp=Z,200nm,1.0s,comp=Z,2µm
LAMP Lampang 78.97 295 P **P** **23 07 26.4 +1.5**
comp=Z,355nm,0.9s,comp=Z,3µm
TIY Taiyuan 79.19 317 *e*P **P** **23 07 25.8 +0.1**
TIY pP **pP** **23 08 01.0 +1.1**
TIY sP **sP** **23 08 19.1 +4.7**
TIY S **S** **23 17 17.4 +2.9**
TIY sS **sS** **23 18 14.1 +0.7**
TIY pmax pmax
comp=Z,8µm,4.5s
TIY LR LR
comp=Z,16µm,23.2s
TIY LR LR
comp=Z,14µm,22.5s
TIY LR LR
comp=Z,21µm,49.1s
XAN Xi'an 79.42 312 P **P** **23 07 27.1 +0.1**
XAN pP pP 23 08 02.3 +1.1
XAN sP sP 23 08 17.5 +1.8
XAN PP **PP** **23 10 32.6 +3.2**
XAN S **S** **23 17 18.5 +1.6**
XAN SKS **SKSac** **23 17 26.5 -4.3**
XAN sS sS 23 18 20.1 +4.2
XAN pmax pmax
comp=Z,13µm,9.2s
XAN LR LR
comp=Z,4µm,22.0s
XAN LR LR
comp=Z,4µm,24.7s
XAN LR LR
comp=Z,7µm,18.9s
KMI Kunming 79.43 302⇑P **P** **23 07 28.8 +1.3**
KMI pP pP 23 08 04.7 +3.0
KMI sP sP 23 08 17.5 +1.3
KMI PP **PP** **23 10 33.0 +3.1**
KMI S **S** **23 17 20.4 +2.6**
KMI SKS **SKSac** **23 17 28.2 -3.5**
KMI sS sS 23 18 16.9 +0.1
KMI SS **SS** **23 22 30.2 +1.5**
KMI pmax pmax
comp=Z,7µm,3.7s
KMI LR LR
comp=Z,20µm,29.2s
KMI LR LR
comp=Z,11µm,25.0s
KMI LR LR
comp=Z,15µm,25.0s
CMAR Chiang Mai Arr 79.53 294 P **P** **23 07 29.4 +1.5**
comp=Z,347nm,1.0s,baz=135,slow=4.1,SNR=296
CMAR PKiKP **PKiKP** **23 12 58.6 -0.4**
comp=Z,2.8nm,0.8s,baz=209,slow=1.5,SNR=3.0
CMAR S **S** **23 17 18.9 +0.3**
comp=Z,0.6nm,0.3s,baz=90,slow=7.2,SNR=2.3
CMAR PKKPbc **PKKPbc** **23 26 15.4 -0.1**
comp=Z,7.7nm,0.7s,baz=287,slow=3.9,SNR=13
CMAR PKPPKP **P'P'df** **23 34 15.8 -4.1**
comp=Z,3.0nm,0.9s,baz=294,slow=4.2,SNR=8.2
CMAR Chiang Mai Arr 79.53 294*ce*P **P** **23 07 29.7 +1.8**
CMAR pmax pmax
comp=Z,347nm,1.0s
CMMT Chiang Mai 79.68 295 P **P** **23 07 29.8 +1.1**
comp=Z,514nm,0.9s,comp=Z,9µm
CHTO Chiang Mai 79.69 295 P **P** **23 07 29.8 +1.1**
comp=Z,2µm,0.9s,comp=Z,42µm
CHTO Chiang Mai 79.69 295 *e*P **P** **23 07 29.3 +0.6**
CHTO pmax pmax
comp=Z,431nm,0.9s
CHTO Chiang Mai 79.69 295 *e*P **P** **23 07 29.3 +0.6**
comp=Z,431nm,0.9s
CHTO Chiang Mai 79.69 295 P **P** **23 07 30.0 +1.2**
SNR=171
CHTO Chiang Mai 79.69 295 P **P** **23 07 30.0 +1.2**
SNR=171
SDPT Sand Point 79.80 17 *e*P **P** **23 07 27.9 -0.6**
comp=Z,2µm,1.5s
PAF Port-aux-Franc 80.61 221 *e*P **P** **23 07 34.4 +1.3**
PAF pmax pmax
comp=Z,824nm,1.0s
PAF Port-aux-Franc 80.61 221 *e*P **P** **23 07 34.4 +1.3**
comp=Z,824nm,1.0s
MA2 Magadan 81.42 350 LR LR 23 38 49.6
comp=Z,5µm,21.5s,baz=172,slow=32
MA2 Magadan 81.42 350 *e*P **P** **23 07 36.2 -0.8**
MA2 pmax pmax
comp=Z,2µm,1.6s
MA2 Magadan 81.42 350 *e*P **P** **23 07 36.2 -0.8**
comp=Z,2µm,1.6s
CD2 Chengdu 81.48 307⇑*i*P **P** **23 07 38.4 +0.3**
CD2 pP pP 23 08 14.7 +2.3
CD2 S **S** **23 17 35.5 -3.1**
CD2 sS sS 23 18 36.2 -1.6
CD2 SS **SS** **23 22 55.9 -2.8**
CD2 pmax pmax
comp=Z,10µm,7.1s
CD2 LR LR
comp=Z,15µm,22.6s
CD2 LR LR
comp=Z,8µm,20.2s
CD2 LR LR
comp=Z,14µm,26.2s
HHC Hu-ho-hao-te 81.60 319 *e*P **P** **23 07 39.5 +0.9**
HHC pP pP 23 08 09.9 -3.0
HHC PP **PP** **23 10 46.8 -0.5**
HHC S **S** **23 17 43.6 +4.1**
HHC sS sS 23 18 35.0 -3.8

BTO Baotou 82.41 318 eP P 23 07 43.5 +0.7
HIA Hailar 82.56 330 eP P 23 07 43.6 +0.3
HIA pmax pmax
comp=Z,542nm,1.4s
HIA Hailar 82.56 330 eP P 23 07 43.5 +0.3
comp=Z,542nm,1.4s
DGPR DIGLIPUR 82.63 287 eP P 23 07 44.3 0.0
DGPR IAmb IAmb 23 07 47.6
comp=Z,844nm,1.2s
OHAK Old Harbor 83.49 19 eP P 23 07 48.4 +0.7
comp=Z,4µm,1.6s
SYO Syowa Base 83.75 196‖ eP P 23 07 46.2 -2.9
LZH Lanzhou 84.03 312 eP P 23 07 53.0 +1.7
LZH pP pP 23 08 25.3 -0.5
LZH sP sP 23 08 38.1 -2.1
LZH PP PP 23 11 09.4 +2.0
LZH SKS S 23 18 00.0 -4.5
LZH eS SKSac 23 18 07.1 -0.4
LZH sS sS 23 19 00.3 -3.8
LZH pmax pmax
comp=Z,1µm,1.2s
LZH pmax pmax
comp=Z,9µm,4.6s
KDAK Kodiak Island 84.17 19 eP P 23 07 51.9 +0.7
KDAK pmax pmax
comp=Z,3µm,1.4s
KDAK Kodiak Island 84.17 19 eP P 23 07 51.9 +0.7
comp=Z,3µm,1.4s
SEY Seymchan 84.41 352 ceP P 23 07 52.0 -0.3
GAMB Gambell 85.36 8 eP P 23 07 57.6 +0.5
comp=Z,909nm,1.2s
PMSA Palmer Station 85.44 160 P P 23 07 57.7 +0.1
comp=Z,237nm,0.9s,baz=219,slow=4.1,SNR=48
PMSA LR LR 23 39 50.6
comp=Z,10µm,21.8s,baz=228,slow=31
PMSA Palmer Station 85.44 160 eP P 23 07 56.9 -0.8
comp=Z,379nm,0.9s
CLNS Chul'man 85.86 337 eP P 23 08 00.1 +0.3
CLNS e*PP pP 23 08 39.1 +4.7
CLNS e 23 11 21.3
CLNS eS SKSac 23 18 11.2 -1.2
CLNS eSS SS 23 24 00.9 -1.5
CLNS pmax pmax
comp=Z,1µm,1.2s
CLNS pmax pmax
comp=E,397nm,1.1s
CLNS pmax pmax
comp=N,789nm,1.2s
CLNS pmax pmax
comp=Z,46nm,1.3s
CLNS pmax pmax
comp=E,56nm,1.3s
CLNS pmax pmax
comp=N,97nm,1.1s
CLNS smax smax
comp=N,5µm,11.9s
CLNS smax smax
comp=E,12µm,17.9s
MCCM Marconi Confer 86.04 47 eP P 23 08 01.7 +0.7
comp=E,3µm,0.8s
SNCC San Nicolas Is 86.08 52 P P 23 08 02.3 +0.9
baz=242
HOPS Hopland Field 86.33 46 eP P 23 08 03.5 +1.0
comp=E,939nm,1.1s
BSC Santa Cruz Isl 86.35 52 P P 23 08 03.7 +1.0
baz=242,SNR=28
SAO San Andreas Ge 86.35 49 eP P 23 08 03.8 +1.1
SAO pmax pmax
comp=Z,628nm,0.9s
SAO San Andreas Ge 86.35 49 eP P 23 08 03.8 +1.1
comp=Z,628nm,0.9s
SBC Santa Barbara 86.50 51 P P 23 08 03.9 +0.6
baz=242,SNR=9.5
SCI San Clemente I 86.69 53 P P 23 08 05.5 +1.1
baz=243
SMMC Simmler 86.70 50 P P 23 08 05.5 +1.1
baz=242
BLG Laguna Peak, P 86.82 52 P P 23 08 05.4 +0.4
baz=242,SNR=12
CIS Catalina Islan 86.98 53 P P 23 08 06.1 +0.3
baz=243
SEW Seward 87.01 19 eP P 23 08 05.9 +0.7
comp=Z,173nm,1.2s
FMP Fort Macarthur 87.21 53 P P 23 08 07.7 +0.9
baz=243
OSI Osito Audit: C 87.30 52 P P 23 08 08.3 +1.0
baz=243
CIT Chita 87.34 329 eP P 23 08 07.5 +0.4
CIT eS S 23 18 39.1 +3.2
CIT pmax pmax
comp=Z,2µm,1.8s
DECC Green Verdugo 87.42 52 P P 23 08 08.4 +0.4
baz=243
ARVC Arvin 87.46 51 P P 23 08 08.7 +0.7
baz=243,SNR=108
PASC Pasadena Art C 87.50 52 eP P 23 08 08.8 +0.5
comp=Z,1µm,1.4s
NVL N'lazarevskaya 87.55 187 eP P 23 08 08.4 +0.5
NVL eS SKSac 23 18 22.0 -0.7
NVL eSS SS 23 24 28.8 +4.0
NVL eSSS SSS 23 28 01.5
N02D Trinity Center 87.57 44 P P 23 08 09.9 +1.4
baz=240,SNR=322
L02D Cave Junction, 87.58 43 P P 23 08 09.5 +1.0
baz=239,SNR=46
VES Vestal, Richgr 87.60 50 P P 23 08 09.1 +0.4
baz=242,SNR=194
M02C Callahan 87.68 44 P P 23 08 10.2 +1.1
baz=240,SNR=299
RCTC Rector, Farmer 87.70 50 P P 23 08 09.6 +0.5
baz=242
CMB Columbia Colle 87.70 48 eP P 23 08 09.8 +0.6
CMB pmax pmax
comp=Z,3µm,1.0s
CMB Columbia Colle 87.70 48 eP P 23 08 09.8 +0.6
comp=Z,3µm,1.0s
RC01 Rabbit Creek A 87.70 18 eP P 23 08 07.8 -0.7
comp=Z,156nm,1.0s
109C Camp Elliot, M 87.73 54 P P 23 08 09.8 +0.5
baz=244
SNAA Sanae 87.80 182 P P 23 08 08.0 -1.1
SNAA S S 23 18 38.2 -1.8
SNAA Sanae 87.80 182 P P 23 08 08.5 -0.6
comp=Z,82nm,0.7s,baz=205,slow=5.0,SNR=212
SNAA S SKSac 23 18 22.8 -1.6
comp=Z,2.2nm,0.8s,baz=137,slow=22,SNR=9.4
SNAA PKKPbc PKKPdf 23 25 52.8 +2.9
comp=Z,10nm,0.9s,baz=313,slow=2.0,SNR=8.3
SNAA LR LR 23 44 27.6
comp=Z,8µm,21.1s,baz=178,slow=33
SNAA Sanae 87.80 182 eP P 23 08 07.8 -1.4
comp=Z,15µm,1.0s
SNAA S SKSac 23 18 22.8 -1.6
SNAA PKKPbc PKKPdf 23 25 52.8 +2.9
O03D Paynes Creek 87.83 45 P P 23 08 10.2 +0.5
baz=241,SNR=406
BFSC Mount Baldy Ra 87.92 52 P P 23 08 11.0 +0.6
baz=243
ISA Isabella, Lake 87.96 51 P P 23 08 11.3 +0.8
baz=243,SNR=236
MURC Murrieta 87.98 53 P P 23 08 11.3 +0.7
baz=244
HUMO Hull Mountain 88.22 43 eP P 23 08 12.5 +1.0
comp=Z,16µm,1.9s
MONP Monument Peak, 88.25 54 P P 23 08 13.0 +0.9
baz=244
ULN Ulaanbaatar 88.28 323 ceP P 23 08 11.7 -0.1
ULN pmax pmax
comp=Z,848nm,1.3s
ULN Ulaanbaatar 88.28 323 eP P 23 08 11.9 +0.1
comp=Z,746nm,1.2s
ULN Ulaanbaatar 88.28 323 P P 23 08 11.9 +0.1
SNR=580
ULN Ulaanbaatar 88.28 323 P P 23 08 11.9 +0.1
SNR=580
PMR Palmer 88.28 18 eP P 23 08 10.2 -1.0
PMR pmax pmax
comp=Z,292nm,1.2s
PMR Palmer 88.28 18 eP P 23 08 10.2 -1.0
comp=Z,292nm,1.2s
YAK Yakutsk 88.34 342 LR LR 23 48 33.1
comp=Z,3µm,18.2s,baz=144,slow=36
YAK Yakutsk 88.34 342 eP P 23 08 11.0 -0.5
YAK e 23 11 46.9
YAK eS SKSac 23 18 24.7 -2.5
YAK e*SS sS 23 19 43.0 -2.0
YAK pmax pmax
comp=Z,459nm,1.1s
YAK pmax pmax
comp=N,105nm,1.1s
YAK pmax pmax
comp=E,115nm,1.5s
YAK pmax pmax
comp=E,218nm,1.8s
YAK pmax pmax
comp=Z,910nm,2.5s
YAK pmax pmax
comp=N,521nm,2.2s
YAK smax smax
comp=N,1µm,3.5s
YAK smax smax
comp=E,533nm,2.5s
YAK Yakutsk 88.34 342 eP P 23 08 11.3 -0.2
comp=E,495nm,0.9s
VNA3 Neumayer Olymp 88.37 180 P P 23 08 10.3 -1.5
IKP In-Ko-Pah, Jac 88.38 54 P P 23 08 13.6 +1.1
baz=244
BILL Bilibino 88.44 359 ciP P 23 08 11.0 -0.9
BILL i 23 11 41.4
BILL i 23 18 29.7
BILL i PS PnS 23 19 52.0 -15
BILL pmax pmax
comp=Z,158nm,1.2s
GTA Gaotai 88.44 313 ⇑P P 23 08 13.0 +0.2
GTA pP pP 23 08 48.7 +1.1
GTA sP sP 23 09 03.2 +1.2
GTA PP PP 23 11 44.3 +1.4
GTA SKS SKSac 23 18 26.4 -2.8
GTA S S 23 18 45.7 -1.4
GTA sS sS 23 19 47.6 +0.3
GTA SS SS 23 24 42.7 +1.7
GTA pmax pmax
comp=Z,6µm,10.2s
GTA LR LR
comp=Z,5µm,23.3s
GTA LR LR
comp=Z,6µm,22.8s
GTA LR LR
comp=Z,10µm,25.2s
SHL Shillong 88.45 298⇑ iP P 23 08 13.0 -0.2
SHL ex x 23 08 52.0
LRMC Laurel Mtn Rad 88.45 51 P P 23 08 13.8 +0.9
baz=243
BBRC Big Bear Solar 88.47 53 P P 23 08 14.9 +1.8
baz=244
PPLA Purkeypile 88.48 16 eP P 23 08 11.9 -0.4
comp=Z,166nm,1.4s
I03D Drain, OR 88.53 42 P P 23 08 13.9 +1.0
baz=239,SNR=88
PFO Pinyon Flats O 88.53 53 P P 23 08 14.5 +1.2
baz=244
PFO Pinyon Flats O 88.53 53 eP P 23 08 14.0 +0.7
PFO pmax pmax
comp=Z,1µm,1.5s
PFO Pinyon Flats O 88.53 53 eP P 23 08 14.0 +0.7
comp=Z,1µm,1.5s
M04C Macdoel 88.53 44 P P 23 08 14.5 +1.4
baz=240
TPFO Pinon Flats 88.53 53 P P 23 08 14.0 +0.7
baz=244
CWC Cottonwood Cre 88.60 50 P P 23 08 14.7 +1.1
baz=243
MLAC Mammoth, Mammo 88.60 49 P P 23 08 14.3 +0.6
baz=242
SONM Songino Array 88.63 323 P P 23 08 13.8 +0.4
comp=Z,329nm,1.0s,baz=137,slow=4.3,SNR=281
SONM PKiKP PKiKP 23 13 13.2 +0.2
comp=Z,8.0nm,1.0s,baz=132,slow=2.1,SNR=3.0
SONM S SKSac 23 18 32.0 +2.1
comp=Z,3.8nm,1.1s,baz=144,slow=20,SNR=4.1
SONM PKKPbc PKKPdf 23 25 53.0 +2.1
comp=Z,8.7nm,0.8s,baz=286,slow=2.8,SNR=10
SONM PKPPKP P'P'df 23 34 00.4 -0.8
comp=Z,2.5nm,1.0s,baz=270,slow=1.4,SNR=6.1
SONM LR LR 23 46 25.4
comp=Z,4µm,20.8s,baz=118,slow=34
VNA2 Neumayer--Watz 88.67 181 P P 23 08 11.9 -1.3
VNA2 S S 23 18 45.6 -2.5
RRX Edison Barstow 88.69 52 P P 23 08 14.9 +1.1
baz=244
SML Sawmill 88.69 18 eP P 23 08 12.3 -1.0
SML Sawmill 88.69 18 eP P 23 08 12.2 -1.0
comp=Z,26nm,1.0s
SWSC Sam W. Stewart 88.74 54 P P 23 08 15.5 +1.3
baz=244
TIN Tinemaha, Big 88.77 50 P P 23 08 15.5 +1.2
baz=243,SNR=97
H02N1 VAN INLET T-PH 88.80 31 P P 23 08 14.8 +0.8
SNR=24
H02S1 DAWSON INLET T 88.80 31 P P 23 08 15.3 +1.4
SNR=130
MPMC Manual Prospec 88.85 51 P P 23 08 15.9 +1.0
baz=243
DAC Darwin (Calif) 88.87 50 eP P 23 08 15.7 +0.7
DAC pmax pmax
comp=Z,2µm,1.6s
DAC Darwin (Calif) 88.87 50 eP P 23 08 15.7 +0.7
comp=Z,2µm,1.6s
DIV Divide 88.95 20 eP P 23 08 14.2 -0.4
comp=Z,191nm,1.1s
VNA1 Neumayer--Stat 88.96 181 P P 23 08 14.0 -0.5
VNA1 S S 23 18 50.2 -0.5
K04D Chiloquin, OR 89.00 43 P P 23 08 16.1 +0.8
baz=241,SNR=67
COR Corvallis 89.00 41 eP P 23 08 16.2 +1.1
COR pmax pmax
comp=Z,710nm,1.2s
COR Corvallis 89.00 41 eP P 23 08 16.2 +1.1
comp=Z,710nm,1.2s
GSC Goldstone, Bar 89.02 52 P P 23 08 16.5 +1.0
baz=244
BELC Belle Mtn. Jos 89.05 53 P P 23 08 16.3 +0.5
baz=244
J04D Umpqua Nationa 89.08 43 P P 23 08 16.6 +0.8
baz=240,SNR=124
HEC Hector,Ludlow 89.16 52 P P 23 08 16.5 +0.3
baz=244
I04A Tendick Farm, 89.16 42 P P 23 08 16.4 +0.5
baz=240,SNR=198
BMRM Bremner River 89.21 20 eP P 23 08 15.3 -0.4
comp=Z,611nm,1.6s
BC3 Big Chuckawall 89.31 54 P P 23 08 17.7 +0.7
baz=245
G03D McMinnville, O 89.35 41 P P 23 08 17.7 +1.0
baz=240,SNR=46
KTH Kantishna Hill 89.35 16 eP P 23 08 14.4 -1.9
comp=Z,396nm,1.3s
GRAC Grapevine Rang 89.36 50 P P 23 08 17.8 +0.8
baz=243,SNR=197
TRF Thorofare Moun 89.44 17 eP P 23 08 15.5 -1.4
comp=Z,112nm,0.7s
FURC Furnace Creek, 89.49 51 P P 23 08 18.2 +0.7
baz=244
GLA Glamis 89.53 54 P P 23 08 19.0 +1.1
baz=245
MOD Modoc Plateau 89.60 45 eP P 23 08 18.9 +0.8
comp=Z,863nm,1.2s
GMRC Granite Mounta 89.64 53 P P 23 08 19.2 +0.7
baz=244
J05D Fort Rock, OR 89.66 43 P P 23 08 19.6 +1.2
baz=241
SHOC Shoshone, Teco 89.67 51 P P 23 08 19.0 +0.6
baz=244
TUQ Turquoise Moun 89.72 52 P P 23 08 19.8 +0.9
baz=244
IRM Iron Mountain 89.75 53 P P 23 08 19.8 +0.8
baz=245
CRAG Craig 89.90 29 eP P 23 08 19.9 +0.9
comp=Z,380nm,1.2s
F04D Rainier, OR 89.94 40 P P 23 08 20.9 +1.5
baz=240,SNR=34
USHA Ushuaia 89.99 151 P P 23 08 20.1 +0.5
comp=Z,276nm,1.0s,baz=233,slow=3.5,SNR=12
USHA PKPPKP P'P'df 23 33 57.4 -3.0
comp=Z,96nm,0.9s,baz=3.6,slow=4.5,SNR=6.1
USHA LR LR 23 41 10.4
comp=Z,19µm,21.5s,baz=207,slow=30
MCK McKinley 90.03 17 eP P 23 08 18.6 -0.9
MCK pmax pmax
comp=Z,778nm,0.9s
MCK McKinley 90.03 17 eP P 23 08 18.6 -0.9
comp=Z,778nm,0.9s
Y12C Blythe 90.05 54 P P 23 08 21.1 +0.8
baz=245
NLWA Neilton Lookou 90.10 38 eP P 23 08 21.3 +1.1
comp=Z,1µm,1.3s
I05D Terrebonne, OR 90.10 42 P P 23 08 20.9 +0.5
baz=241,SNR=111
TPNV Topopah Spring 90.14 50 P P 23 08 21.1 +0.3
baz=244
BBB Bella Bella 90.36 33 LR LR 23 40 53.0
comp=Z,3µm,19.4s,baz=236,slow=30
NEE2 Needles Airpor 90.41 53 P P 23 08 22.6 +0.7
baz=245
PAX Paxson 90.44 19 eP P 23 08 22.0 +0.5
PAX pmax pmax
comp=Z,265nm,1.3s
PAX Paxson 90.44 19 eP P 23 08 22.0 +0.5
comp=Z,264nm,1.3s
G05D Wamic, OR 90.56 41 P P 23 08 23.3 +0.9
baz=241,SNR=42
PDMCI Parker Dam,Lak 90.57 53 P P 23 08 23.2 +0.5
baz=245
214A Organ Pipe Nat 90.63 56 P P 23 08 24.1 +1.0
baz=246
214A Organ Pipe Nat 90.63 56 eP P 23 08 23.8 +0.8
comp=Z,4µm,1.3s
LSA Lhasa 90.69 301 P P 23 08 24.3 +0.4
LSA Lhasa 90.69 301 eP P 23 08 24.0 +0.1
LSA pmax pmax
comp=Z,158nm,0.8s
LSA Lhasa 90.69 301 eP P 23 08 24.0 +0.1
comp=Z,158nm,0.8s
BOD Bodaibo 90.80 334 eP P 23 08 20.7 -2.4
BOD pmax pmax
comp=Z,760nm,1.6s
WRAK Wrangell Islan 90.83 28 eP P 23 08 24.0 +0.8
comp=Z,556nm,1.1s
WVOR Wild Horse Val 90.94 45 eP P 23 08 25.0 +0.6
WVOR pmax pmax
comp=Z,712nm,1.2s
WVOR Wild Horse Val 90.94 45 eP P 23 08 25.0 +0.6
comp=Z,712nm,1.2s
PGC Sidney 90.98 38 eP P 23 08 25.2 +1.0
comp=Z,832nm,1.1s
BMN Battle Mountai 90.99 47 eP P 23 08 25.3 +0.7
BMN pmax pmax
comp=Z,599nm,1.3s
BMN Battle Mountai 90.99 47 eP P 23 08 25.3 +0.7
comp=Z,599nm,1.3s
COLA College 91.22 17 eP P 23 08 23.4 -1.5
COLA pmax pmax
comp=Z,329nm,1.1s
COLA College 91.22 17 eP P 23 08 23.4 -1.5
comp=Z,328nm,1.1s
R11A Troy Canyon, C 91.22 49 P P 23 08 26.1 +0.3
baz=244,SNR=488
R11A Troy Canyon, C 91.22 49 eP P 23 08 25.9 +0.1
comp=Z,69nm,1.1s
DOT Dot Lake 91.37 19 eP P 23 08 24.8 -0.9
comp=Z,689nm,1.2s
ILAR Eielson Array 91.40 17 P P 23 08 24.3 -1.5
comp=Z,23nm,0.7s,baz=234,slow=4.9,SNR=108
ILAR S SKSac 23 18 44.0 -0.9
comp=Z,1.0nm,0.9s,baz=261,slow=3.4,SNR=3.4
ILAR PKKPbc PKKPdf 23 25 45.1 -1.3
comp=Z,8.2nm,0.9s,baz=354,slow=2.4,SNR=11
ILAR PKPPKP P'P'df 23 33 55.5 +0.8
comp=Z,1.7nm,0.9s,baz=334,slow=1.3,SNR=6.2
ILAR LR LR 23 46 07.3
comp=Z,7µm,18.8s,baz=224,slow=33
ILAR Eielson Array 91.40 17 P P 23 08 24.3 -1.5
ILAR S SKSac 23 18 44.1 -0.9
ILAR pmax pmax
comp=Z,22nm,0.7s
ILAR smax smax
comp=N,1.0nm,0.9s
A04D Lummi Island 91.44 38 P P 23 08 27.6 +1.3
baz=240
SKAG Skagway 91.49 25 eP P 23 08 26.7 +0.4
comp=N,868nm,1.2s
B05A Bryant 91.57 38 P P 23 08 27.7 +0.8
baz=240
BWNR Bhubaneshwar 91.63 291 eP P 23 08 27.7 -0.2
BWNR IAmb IAmb 23 08 31.6
comp=Z,1µm,2.2s
PALK Pallekele 91.67 277 iP P 23 08 28.2 0.0
SNR=17
PALK Pallekele 91.67 277 eP P 23 08 29.1 +0.9
PALK pmax pmax
comp=Z,326nm,1.3s
PALK Pallekele 91.67 277 eP P 23 08 29.1 +0.9
comp=Z,326nm,1.3s
PALK Pallekele 91.67 277 P P 23 08 32.4 +4.2
SNR=12
PALK Pallekele 91.67 277 P P 23 08 32.4 +4.2
SNR=12
ZAK Zakamensk 91.71 324 eP P 23 08 27.3 -0.4
ZAK e 23 12 09.3
ZAK e 23 18 48.8
ZAK pmax pmax
comp=Z,508nm,1.4s
ZAK pmax pmax
comp=Z,62nm,1.7s
C06D Leavenworth 92.11 39 P P 23 08 30.1 +0.6
baz=241,SNR=8.2
IRK Irkutsk 92.14 326 eP P 23 08 28.5 -1.0
IRK eS S 23 19 19.9 -0.3
IRK pmax pmax
comp=Z,863nm,3.0s
TLY Talaya 92.19 325 ciP P 23 08 29.2 -0.5
TLY eSS SS 23 25 36.6 +2.3
TLY pmax pmax
comp=Z,742nm,2.0s
TLY MLR MLR
comp=Z,3µm,15.0s
TLY Talaya 92.19 325 eP P 23 08 29.8 +0.1
comp=Z,226nm,0.9s
TLY Talaya 92.19 325 P P 23 08 29.6 -0.1
SNR=180
TLY Talaya 92.19 325 P P 23 08 29.6 -0.1
SNR=180
HAWA Hanford 92.20 41 eP P 23 08 30.5 +0.6
comp=Z,439nm,1.3s
TUC Tucson 92.34 56 P P 23 08 31.3 +0.3
baz=247
TUC Tucson 92.34 56 eP P 23 08 32.3 +1.3
TUC pmax pmax
comp=Z,2µm,1.6s
TUC Tucson 92.34 56 eP P 23 08 32.3 +1.3
comp=Z,2µm,1.6s
COLD Coldfoot 92.48 15 eP P 23 08 30.9 +0.1
comp=Z,120nm,0.9s
CHLP Challavanipeta 92.53 289 eP P 23 08 30.9 -1.1
CHLP e 23 09 08.4
CHLP ePP PP 23 12 14.2 -1.3
CHLP eSKSac SKSac 23 18 49.4 -3.9
CHLP IVMs_BB IVMs_BB 23 43 55.4
comp=Z,3µm,29.6s
TAPN Taplejung 92.58 298 eP P 23 08 32.3 -0.2
comp=Z,387nm,0.9s
ODAN Odare 92.67 298 eP P 23 08 32.8 -0.1
comp=Z,419nm,0.8s
BOK Bokaro 92.82 294 eP P 23 08 33.3 0.0
BOK IAmb IAmb 23 08 36.8
comp=Z,276nm,1.3s
BMO Blue Mountains 92.89 43 eP P 23 08 33.1 -0.2
BMO pmax pmax
comp=Z,116nm,1.0s
BMO Blue Mountains 92.89 43 eP P 23 08 33.1 -0.2
comp=Z,116nm,1.0s
VIS Vishakhapatnam 92.90 288 eP P 23 08 33.0 -0.8
VIS IAmb IAmb 23 08 37.9
comp=Z,1µm,2.3s
DLBC Dease Lake 93.04 27 S SKSac 23 18 59.7 +5.2
comp=Z,1.8nm,0.8s,baz=228,slow=27,SNR=7.0
DLBC Dease Lake 93.04 27 eP P 23 08 34.1 +0.6
comp=Z,434nm,1.2s
DLBC S SKSac 23 18 59.7 +5.2
EGAK Eagle 93.07 19 eP P 23 08 33.5 0.0
comp=Z,371nm,1.1s
DAWY Dawson 93.12 20 eP P 23 08 33.3 -0.5
comp=Z,285nm,1.2s
WUAZ Wupatki 93.14 53 P P 23 08 35.3 +0.6
baz=247
WUAZ Wupatki 93.14 53 eP P 23 08 35.6 +0.9
comp=Z,579nm,1.0s
MFID Camas Ranch 93.22 45 eP P 23 08 35.3 +0.4
comp=Z,235nm,1.0s
RAMN Ramite 93.36 297 eP P 23 08 35.9 -0.1

comp=Z,318nm,1.0s
MOY Mondy 93.61 324 *e*P P **23 08 36.5 +0.1**
MOY pmax pmax
comp=Z,976nm,3.0s
TOLK Toolik Lake Re 93.76 14 P P **23 08 37.3 +0.7**
baz=218
DUG Dugway, Tooele 93.94 49 P P **23 08 38.4 +0.1**
baz=246,SNR=73
DUG Dugway, Tooele 93.94 49 *e*P P **23 08 38.2 -0.1**
DUG pmax pmax
comp=Z,94nm,0.9s
DUG Dugway, Tooele 93.94 49 *e*P P **23 08 38.2 -0.1**
comp=Z,94nm,0.9s
JIRN Jiri 93.95 298 *e*P P **23 08 38.8 -0.1**
MDRS Chennai 94.08 282 *e*P P **23 08 39.5 +0.2**
MDRS IAmb IAmb 23 08 43.2
comp=Z,106nm,1.1s
DGAR Diego Garcia 94.22 261 *i*P P **23 08 39.5 -0.5**
HLID Hailey 94.22 45 P P **23 08 40.1 +0.6**
baz=246
HLID Hailey 94.22 45 *e*P P **23 08 39.8 +0.2**
comp=Z,14µm,0.6s
W18A Petrified Fore 94.22 54 P P **23 08 40.4 +0.6**
baz=248
W18A Petrified Fore 94.22 54 *e*P P **23 08 40.1 +0.4**
comp=Z,249nm,1.0s
PVM Polavaram 94.27 287 *e*P P **23 08 39.7 -0.4**
PVM *e* 23 09 14.7
PVM *e*SKSac **SKSac 23 18 58.0 -4.7**
PVM *e*SS **SS 23 26 00.1 -5.1**
PVM IVMs_BB IVMs_BB 23 44 24.3
comp=Z,4µm,34.9s
GUN Gumba 94.30 298 *e*P P **23 08 40.3 -0.2**
comp=Z,337nm,1.0s
NEW Newport 94.51 40 P P **23 08 40.6 0.0**
baz=244
NEW Newport 94.51 40 *e*P P **23 08 40.6 0.0**
NEW pmax pmax
comp=Z,775nm,2.6s
NEW Newport 94.51 40 *e*P P **23 08 40.6 0.0**
comp=Z,774nm,2.6s
PKI Pulchoki 94.57 298 *e*P P **23 08 41.2 -0.5**
comp=Z,503nm,1.0s
PKIN Phulchoki 94.58 298 *e*P P **23 08 41.3 -0.4**
comp=Z,173nm,0.6s
KKN Kakani 94.75 298 *e*P P **23 08 42.1 -0.3**
comp=Z,207nm,0.7s
121A Cookes Peak, D 94.78 57 P P **23 08 43.0 +0.6**
baz=249
121A Cookes Peak, D 94.78 57 *e*P P **23 08 43.2 +0.9**
comp=Z,142nm,0.9s
SKHT Srikalahasti 94.80 283 *e*P P **23 08 43.4 +0.8**
SKHT *e* 23 09 18.6
DMN Daman 94.83 298 *e*P P **23 08 42.7 -0.1**
comp=Z,478nm,0.9s
ADKI Addanki 95.28 285 *e*P P **23 08 43.9 -0.8**
ADKI *e* 23 09 19.9
ADKI *e*PP **PP 23 12 36.7 -0.3**
ADKI *e*SKSac **SKSac 23 19 04.0 -4.3**
ADKI *e*SS **SS 23 26 15.8 -3.8**
ADKI IVMs_BB IVMs_BB 23 43 33.9
comp=Z,6µm,55.0s
GKN Gorkha 95.36 298 *e*P P **23 08 44.3 -0.8**
comp=Z,291nm,0.8s
HWUT Hardware Ranch 95.37 48 *e*P P **23 08 45.1 +0.3**
comp=Z,90nm,0.9s
TRD Trivandrum 95.57 277 *e*P P **23 08 45.6 -0.5**
MSO Missoula 95.86 42 P P **23 08 46.7 -0.1**
baz=246
MVCO Mesa Verde 95.93 53 P P **23 08 46.9 -0.6**
baz=249
MVCO Mesa Verde 95.93 53 *e*P P **23 08 48.2 +0.6**
comp=Z,104nm,1.1s
Y22D IRIS PASSCAL I 96.00 56 P P **23 08 47.3 -0.6**
baz=249
PV04 Paradox Valley 96.06 51 *e*P P **23 08 48.8 +0.7**
RCLA Racherla 96.07 284 *e*P P **23 08 47.7 -0.7**
RCLA *e* 23 09 23.0
RCLA *e*PP **PP 23 12 42.0 -1.0**
RCLA *e*SKSac **SKSac 23 19 06.9 -5.6**
RCLA *e*SS **SS 23 26 32.5 +1.7**
RCLA IVMs_BB IVMs_BB 23 43 51.7
comp=Z,9µm,41.9s
NJS Nagarjunasagar 96.12 285 *e*P P **23 08 48.3 -0.2**
NJS *e* 23 09 22.9
NJS *e*PP **PP 23 12 41.6 -1.9**
NJS *e*SKSac **SKSac 23 19 08.1 -4.5**
NJS *e*SS **SS 23 26 32.3 +0.8**
NJS IVMs_BB IVMs_BB 23 44 07.2
comp=Z,6µm,43.5s
DLMT Dillon 96.14 44 *e*P P **23 08 48.3 +0.1**
comp=Z,90nm,0.8s
KOLN Koldanda 96.14 297 *e*P P **23 08 47.7 -1.0**
comp=Z,155nm,0.8s
TIXI Tiksi 96.20 348 P P **23 08 46.6 -1.1**
baz=136,slow=3.5
TIXI LR LR 23 50 20.0
comp=Z,2µm,19.1s,baz=122,slow=34
TIXI Tiksi 96.20 348 *ce*P P **23 08 47.7 +0.1**
TIXI pmax pmax
comp=Z,106nm,1.2s
TIXI MLR MLR
comp=Z,4µm,24.0s
TIXI Tiksi 96.20 348 *e*P P **23 08 46.4 -1.3**
comp=Z,88nm,1.1s
PV01 Paradox Valley 96.21 52 *e*P P **23 08 49.4 +0.6**
comp=Z,1µm,0.5s
SRLM Srisailam 96.34 285 *e*P P **23 08 51.2 +1.6**
SRLM *e* 23 09 24.8
SRLM *e*PP **PP 23 12 42.3 -2.9**
SRLM *e*SKSac **SKSac 23 19 10.2 -3.8**
SRLM *e*SS **SS 23 26 30.5 -4.2**
SRLM IVMs_BB IVMs_BB 23 44 05.8
comp=Z,7µm,53.5s
MNTX Cornudas Mount 96.39 59 P P **23 08 49.5 0.0**
baz=250
MNTX Cornudas Mount 96.39 59 *e*P P **23 08 49.8 +0.3**
comp=Z,66nm,1.1s
TPAW Teton Pass 96.50 46 *e*P P **23 08 50.7 +0.6**
comp=Z,83nm,0.7s
REDW Red Top Meadow 96.52 46 *e*P P **23 08 50.7 +0.6**
comp=Z,38nm,1.1s
SNOW Snow King Moun 96.63 46 *e*P P **23 08 51.7 +1.1**
comp=Z,105nm,1.0s
IMW Indian Meadow 96.67 46 *e*P P **23 08 50.9 +0.1**
comp=Z,68nm,0.7s
ANMO Albuquerque 96.67 55 P P **23 08 51.1 +0.1**
baz=250
ANMO Albuquerque 96.67 55 *ce*P P **23 08 50.9 0.0**
ANMO pmax pmax
comp=Z,79nm,1.0s
ANMO Albuquerque 96.67 55 *e*P P **23 08 51.1 +0.1**
comp=Z,136nm,1.2s
MOOW Moose Ponds 96.74 46 *e*P P **23 08 51.3 +0.2**
comp=Z,215nm,0.6s
EFI East Falkland 96.74 152 *e*P P **23 08 51.4 +0.7**
EFI pmax pmax
comp=Z,32nm,1.1s
EFI East Falkland 96.74 152 *e*P P **23 08 50.4 -0.4**
comp=Z,56nm,0.8s
PYUN Piuthan 96.76 297 *e*P P **23 08 50.7 -0.8**
comp=Z,358nm,1.0s
WALA Waterton Lakes 96.78 40 *e*P P **23 08 51.3 +0.4**
comp=Z,48nm,0.9s
LOHW Long Hollow 96.78 46 *e*P P **23 08 51.2 0.0**
comp=Z,171nm,0.6s
BOZ Bozeman (W) 96.85 44 P P **23 08 52.1 +0.7**
baz=248
BOZ Bozeman (W) 96.85 44 *e*P P **23 08 51.7 +0.2**
BOZ pmax pmax
comp=Z,133nm,1.3s
BOZ Bozeman (W) 96.85 44 *e*P P **23 08 51.6 +0.2**
comp=Z,133nm,1.3s
RPR Rampur 96.89 287 *e*P P **23 08 51.1 -1.0**
RPR *e* 23 09 25.6
RPR *e*PP **PP 23 12 45.8 -3.6**
RPR *e*SKSac **SKSac 23 19 12.4 -4.2**
RPR *e*SS **SS 23 26 41.7 -0.7**
RPR IVMs_BB IVMs_BB 23 46 15.6
comp=Z,4µm,28.2s
FLWY Flagg Ranch 96.89 46 *e*P P **23 08 52.2 +0.4**
comp=Z,128nm,1.1s
TXAR Lajitas Array 96.98 61 P P **23 08 53.2 +0.9**
comp=Z,46nm,0.9s,baz=232,slow=4.5,SNR=130
TXAR PP **PP 23 12 51.3 +1.3**
comp=Z,21nm,1.1s,baz=229,slow=5.8,SNR=6.3
TXAR PKKPbc **PKKPbc 23 25 31.9 -1.2**
comp=Z,8.4nm,1.0s,baz=73,slow=3.8,SNR=6.4
TXAR SKKPbc SKKPbc 23 28 58.9 -2.7
comp=Z,4.7nm,1.1s,baz=83,slow=2.8,SNR=3.4
TXAR PKPPKP P'P'df 23 33 39.1 -8.1
comp=Z,0.8nm,0.8s,baz=41,slow=1.7,SNR=3.6
TXAR LR LR 23 47 23.2
comp=Z,8µm,18.7s,baz=0.0,slow=32
HYB Hyderabad 97.08 286 *i*P Pdif 23 08 53.0 0.0
HYB *ep*P sP 23 09 44.0 +1.7
HYB *e*SKS **SKSac 23 19 18.0 +0.3**
HYB *e*S **S 23 20 00.0 -4.7**
HYB *e*SS **SS 23 26 40.0 -5.2**
HYB LR LR
comp=Z,16nm,24.0s
HYB Hyderabad 97.08 286 *e*P **P 23 08 51.4 -1.5**
HYB IAmb IAmb 23 08 57.5
comp=Z,754nm,2.4s
HYB IAMs_20 IAMs_20 23 43 22.2
comp=Z,31µm,39.7s
HYBB Hyderabad (bro 97.08 286 *e*P **P 23 08 52.2 -0.8**
HYBB *e* 23 09 26.5
HYBB *e*PP **PP 23 12 49.5 -1.5**
HYBB *e*SKSac **SKSac 23 19 09.7 -8.0**
HYBB *e*SS **SS 23 26 41.7 -3.5**
HYBB IVMs_BB IVMs_BB 23 43 42.9
comp=Z,4µm,37.9s
H17A Grant Village 97.09 45 P Pdif 23 08 53.5 +0.7
baz=248
H17A Grant Village 97.09 45 *e*P Pdif 23 08 53.1 +0.4
comp=Z,76nm,1.0s
O20A White River Ci 97.16 50 P Pdif 23 08 53.6 +0.5
baz=249,SNR=64
O20A White River Ci 97.16 50 *e*P Pdif 23 08 53.5 +0.3
comp=Z,276nm,1.1s
PLCA Paso Flores 97.16 138 P Pdif 23 08 54.1 +1.0
comp=Z,27nm,1.1s,baz=254,slow=5.5,SNR=17
PLCA PKPPKP P'P'df 23 33 37.5 -10
comp=Z,11nm,1.3s,baz=318,slow=3.8,SNR=3.1
PLCA LR LR 23 43 31.2
comp=Z,7µm,21.9s,baz=258,slow=30
BW06 Boulder Array 97.18 47 P **P 23 08 52.8 -0.3**
baz=249
BW06 Boulder Array 97.18 47 *e*P **P 23 08 53.1 0.0**
comp=Z,75nm,0.9s
PDAR Pinedale Array 97.18 47 P Pdif 23 08 53.2 0.0
comp=Z,9.1nm,0.6s,baz=204,slow=3.3,SNR=19
PDAR PP **PP 23 12 52.5 +1.0**
comp=Z,9.5nm,0.8s,baz=256,slow=6.0,SNR=4.1
PDAR PKiKP **PKiKP 23 13 28.1 +0.1**
comp=Z,9.3nm,1.0s,baz=202,slow=1.0,SNR=3.2
PDAR PKKPbc **PKKPbc 23 25 31.6 -1.7**
comp=Z,7.6nm,0.9s,baz=84,slow=4.3,SNR=6.9
PDAR SKKPbc SKKPbc 23 28 57.3 -5.2
comp=Z,3.2nm,1.0s,baz=88,slow=4.9,SNR=3.9
LKWY Lake 97.27 45 *e*P Pdif 23 08 53.7 +0.1
LKWY pmax pmax
comp=Z,41nm,0.8s
LKWY Lake 97.27 45 *e*P Pdif 23 08 53.7 +0.1
comp=Z,41nm,0.8s
S22A 4UR Ranch, Cre 97.36 53 P Pdif 23 08 54.4 +0.2
baz=250
URV Uravakonda 97.44 283 *e*P **P 23 08 54.1 -0.5**
URV *e*PP **PP 23 12 50.1 -3.5**
URV *e*SKSac **SKSac 23 19 14.8 -4.8**
URV *e*SS **SS 23 26 46.8 -3.5**
URV IVMs_BB IVMs_BB 23 44 25.6
comp=Z,8µm,32.7s
JBP Jabalpur 97.70 292 *e*P **P 23 08 55.3 -0.2**
JBP *ex* x 23 19 19.8
INK Inuvik 97.70 18 PKKPbc PKKPbc 23 25 29.8 -2.8
comp=Z,3.2nm,0.6s,baz=71,slow=3.8,SNR=4.4
INK Inuvik 97.70 18 *e*P **P 23 08 53.7 -0.8**
INK pmax pmax
comp=Z,383nm,1.4s
INK Inuvik 97.70 18 *e*P **P 23 08 53.6 -0.8**
comp=Z,383nm,1.4s
INK PKKPbc **PKKPbc 23 25 29.8 -2.8**
SMCO Snowmass 97.75 51 *e*P Pdif 23 08 56.1 +0.2
comp=Z,34nm,1.1s
SRSP Sriramsagar 97.77 287 *e*P **P 23 08 55.4 -0.6**
SRSP *e* 23 09 29.8
SRSP *e*PP **PP 23 12 51.9 -4.2**
SRSP *e*SKSac **SKSac 23 19 17.9 -3.3**
SRSP *e*SS **SS 23 26 48.2 -6.5**
SRSP IVMs_BB IVMs_BB 23 45 31.3
comp=Z,4µm,36.1s
NGP Nagpur 97.86 290 *e*P **P 23 08 55.7 -0.7**
NGP IAmb IAmb 23 08 58.8
comp=Z,43nm,0.9s
NGP *ex* x 23 19 52.5
RLMT Red Lodge 98.23 45 P Pdif 23 08 58.4 +0.7
baz=249
SDCO Great Sand Dun 98.35 53 P **P 23 08 58.4 -0.2**
baz=250
SDCO Great Sand Dun 98.35 53 *e*P Pdif 23 08 58.7 +0.1
comp=Z,41nm,1.1s
SDCO *e*PP **PP 23 13 02.2 +1.7**
WMQ Urumqi 98.53 314 P Pdif 23 08 59.3 +0.4
WMQ pP pP 23 09 34.4 +0.5
WMQ sP sP 23 09 47.5 -0.7
WMQ PP **PP 23 13 06.4 +4.9**
WMQ S **S 23 20 16.6 +0.6**
WMQ sS sS 23 21 17.6 +0.5
WMQ SS **SS 23 27 03.9 -0.7**
WMQ pmax pmax
comp=Z,2µm,5.3s
WMQ LR LR
comp=Z,5µm,23.5s
WMQ LR LR
comp=Z,2µm,25.1s
WMQ LR LR
comp=Z,4µm,34.5s
EDM Edmonton 98.74 36 *e*P **P 23 08 59.5 0.0**
EDM pmax pmax
comp=Z,27nm,0.6s
EDM Edmonton 98.74 36 *e*P **P 23 08 59.5 0.0**
comp=Z,27nm,0.6s
EGMT Eagleton 98.94 42 P **P 23 09 00.6 -0.1**
baz=249
EGMT Eagleton 98.94 42 *e*P Pdif 23 09 01.1 +0.5
comp=Z,73nm,1.1s
ISCO Idaho Springs 98.94 51 P **P 23 09 00.8 -0.4**
baz=251,SNR=16
ISCO Idaho Springs 98.94 51 *e*P Pdif 23 09 02.6 +1.4
ISCO pmax pmax
comp=Z,33nm,0.9s
ISCO Idaho Springs 98.94 51 *e*P Pdif 23 09 02.5 +1.4
comp=Z,33nm,0.9s
T25A Trinidad 98.97 54 P Pdif 23 09 01.4 +0.2
baz=251
Q24A Divide 99.01 52 P **Pdif 23 09 01.4 -0.1**
baz=251
KLRI Killari 99.06 286 *e*Pdif **Pdif 23 09 00.7 -1.2**
KLRI *e* 23 09 32.1
KLRI *e*PP **PP 23 13 05.8 -0.2**
KLRI *e*SKSac **SKSac 23 19 22.4 -5.3**
KLRI IVMs_BB IVMs_BB 23 45 43.3
comp=Z,8µm,42.8s
N23A Red Feather La 99.07 50 P **Pdif 23 09 01.6 0.0**
baz=251,SNR=25
MSTX Muleshoe 99.22 57 P **Pdif 23 09 02.5 +0.2**
baz=251
MSTX Muleshoe 99.22 57 *e*Pdif **Pdif 23 09 02.4 +0.2**
comp=Z,154nm,0.9s
K22A Casper 99.24 48 P **Pdif 23 09 02.1 -0.1**
baz=251
K22A Casper 99.24 48 *e*Pdif **Pdif 23 09 02.5 +0.3**
comp=Z,67nm,1.0s
PHWY Pilot Hill 99.55 50 *e*Pdif **Pdif 23 09 04.4 +0.6**
comp=Z,32nm,1.0s
832A Faith Ranch, C 99.71 63 P **Pdif 23 09 05.0 +0.5**
baz=252,SNR=21
BHPL Bhopal 99.95 291 *e*P **Pdif 23 09 02.9 -2.8**
BHPL IAmb IAmb 23 09 10.0
comp=Z,629nm,3.0s
933A Laredo 100.09 64 P **Pdif 23 09 06.5 +0.3**
baz=252,SNR=12
833A Chaparral WMA, 100.21 64 P **Pdif 23 09 07.2 +0.6**
baz=252,SNR=14
AMTX Amarillo 100.36 57 P **Pdif 23 09 07.5 +0.2**
baz=252
AMTX Amarillo 100.36 57 *e*Pdif **Pdif 23 09 07.1 -0.2**
comp=Z,109nm,1.0s
733A Divot King Ran 100.41 63 P **Pdif 23 09 08.0 +0.4**
baz=252
034A Hebbronville 100.42 65 P **Pdif 23 09 07.9 +0.3**
baz=252
JCT Junction City 100.53 61 P **Pdif 23 09 08.6 +0.5**
baz=252
JCT Junction City 100.53 61 *e*P **Pdif 23 09 09.1 +1.0**
JCT pmax pmax
comp=Z,66nm,1.0s
JCT Junction City 100.53 61 *e*Pdif **Pdif 23 09 09.1 +1.0**
comp=Z,66nm,1.0s
934A Benavides 100.73 65 P **Pdif 23 09 09.4 +0.5**
baz=252,SNR=11
633A Saathoff Ranch 100.73 63 P **Pdif 23 09 09.4 +0.4**
baz=252,SNR=21
LAO LASA Array 100.76 44 P **Pdif 23 09 09.9 +1.2**
baz=251
LAO LASA Array 100.76 44 *e*Pdif **Pdif 23 09 10.0 +1.2**
comp=Z,55nm,1.0s
035Z Hargill 100.77 66 P **Pdif 23 09 09.7 +0.6**
baz=252
834A Tilden 100.86 64 P **Pdif 23 09 10.3 +0.7**
baz=252,SNR=16
035A Encino 100.88 65 P **Pdif 23 09 10.2 +0.6**
baz=252
KSCO Kaye Shedlock' 100.89 52 P **Pdif 23 09 10.3 +0.6**
baz=252
KSCO Kaye Shedlock' 100.89 52 *e*Pdif **Pdif 23 09 10.8 +1.2**
comp=Z,122nm,1.1s
533A Kerrville 101.04 62 P **Pdif 23 09 10.7 +0.4**
baz=252,SNR=11
734A La Parita Cree 101.07 63 P **Pdif 23 09 11.4 +0.9**
baz=252
433A Art 101.19 61 P **Pdif 23 09 10.9 -0.1**
baz=253,SNR=35
ABTX Abilene, Hawle 101.30 59 P **Pdif 23 09 11.3 -0.1**
baz=253
ABTX Abilene, Hawle 101.30 59 *e*Pdif **Pdif 23 09 11.5 0.0**
comp=Z,96nm,0.8s
634A China Grove, S 101.40 63 P **Pdif 23 09 12.0 +0.1**
baz=253
RSSD Black Hills 101.43 47 P **Pdif 23 09 12.2 +0.2**
baz=252
RSSD Black Hills 101.43 47 *e*P **Pdif 23 09 11.3 -0.7**
RSSD pmax pmax
comp=Z,43nm,0.8s
RSSD Black Hills 101.43 47 *e*Pdif **Pdif 23 09 11.3 -0.7**
comp=Z,43nm,0.8s
333A Richland Sprin 101.45 61 P **Pdif 23 09 12.5 +0.4**
baz=253,SNR=18
534A Blanco 101.49 62 P **Pdif 23 09 12.8 +0.5**
baz=253,SNR=20
835A Beeville 101.51 64 P **Pdif 23 09 16.3 +3.9**
baz=253
DDI Dehra Dun 101.55 298 *e*P **Pdif 23 09 11.2 -1.5**
DDI IAmb IAmb 23 09 15.0
comp=Z,46nm,0.6s
DDI IAMs_20 IAMs_20 23 55 50.5
comp=Z,5µm,19.5s
ZSN Zaisan 101.59 316 *e*P **Pdif 23 09 12.8 +0.4**
comp=Z,91nm,1.4s
ZSN *i* PP **PP 23 13 25.4 +0.9**
ZSN *i* S **SKSac 23 19 37.0 -1.8**
YKA Yellowknife Ar 101.66 27 P **Pdif 23 09 12.1 -0.2**
comp=Z,6.8nm,0.8s,baz=251,slow=4.5,SNR=8.3
YKA PP PP 23 13 09.7 -15
comp=Z,24nm,1.0s,baz=252,slow=6.3,SNR=8.3
YKA PKiKP **PKiKP 23 13 35.5 +0.5**
comp=Z,3.1nm,0.6s,baz=258,slow=1.4,SNR=14
YKA PKKPbc **PKKPbc 23 25 18.9 -2.1**
comp=Z,2.2nm,0.8s,baz=68,slow=3.4,SNR=3.7
YKA Yellowknife Ar 101.66 27 P **Pdif 23 09 12.1 -0.2**
YKA pmax pmax
comp=Z,13nm,0.7s
POO Poona 101.68 285 *i*P **Pdif 23 09 11.0 -2.5**
comp=Z,30nm,1.9s
POO *e*PP PP 23 12 29.0 -57
POO *e*PPP PPP 23 14 24.0
POO *i* SKS 23 19 32.0
POO *i* S **SKSac 23 19 38.0 -2.5**
POO *e*SCS SKKSac 23 19 48.0 -30
POO *i* PS PS 23 20 44.0 -109
POO *e*PPS PPS 23 20 57.0
POO *e*SS SS 23 25 13.0 -156
POO *i* SSS SSS 23 28 41.0
POO *i* LQ LQ 23 32 08.0
POO *e*LR LR 23 36 09.0
POO Poona 101.68 285 *e*P **Pdif 23 09 13.3 -0.2**
POO IAmb IAmb 23 09 15.9
comp=Z,74nm,1.3s
735A Kenedy 101.70 64 P **Pdif 23 09 14.2 +0.9**
baz=253
233A Rising Star 101.72 60 P **Pdif 23 09 13.8 +0.5**
baz=253,SNR=21
NDI New Delhi 101.77 296 *e*P **Pdif 23 09 13.0 -0.6**
NDI *ex* x 23 19 44.0
133A Hamilton Ranch 101.88 60 P **Pdif 23 09 14.2 +0.2**
baz=253,SNR=28
635A Leesville 101.88 63 P **Pdif 23 09 15.0 +0.9**
baz=253
434A Burnet 101.89 61 P **Pdif 23 09 13.9 -0.2**
baz=253,SNR=19
OGNE Ogallala 101.90 51 P **Pdif 23 09 14.3 +0.3**
baz=253
334A Lometa 102.06 61 P **Pdif 23 09 14.7 -0.1**
baz=253,SNR=23
X32A Elmer 102.11 58 P **Pdif 23 09 15.5 +0.5**
baz=253,SNR=60
Z33A Whitaker Ranch 102.20 59 P **Pdif 23 09 16.6 +1.2**
baz=253,SNR=39
535A Dale 102.24 62 P **Pdif 23 09 16.4 +0.8**
baz=253
234A Clairette 102.34 60 P **Pdif 23 09 16.3 +0.2**
baz=253,SNR=20
W32A Sentinel 102.34 57 P **Pdif 23 09 16.7 +0.7**
baz=253,SNR=52
736A Circle Diamond 102.35 64 P **Pdif 23 09 16.9 +0.8**
baz=253
435B Jarrell 102.44 62 P **Pdif 23 09 17.7 +1.1**
baz=253
636A Smothers Creek 102.51 63 P **Pdif 23 09 17.2 +0.4**
baz=253
Y33A Hilltop Ranch, 102.51 58 P **Pdif 23 09 17.9 +1.1**
baz=254,SNR=16
SMLA Simla 102.52 299 *e*P **Pdif 23 09 16.4 -0.5**
SMLA IAmb IAmb 23 09 20.1
comp=Z,75nm,1.2s
134A White-Moore Ra 102.55 60 P **Pdif 23 09 17.6 +0.6**
baz=253,SNR=14
WMOK Wichita Mounta 102.59 58 P **Pdif 23 09 17.4 +0.3**
baz=254,SNR=11
WMOK Wichita Mounta 102.59 58 *e*P **Pdif 23 09 16.8 -0.4**
WMOK pmax pmax
comp=Z,94nm,0.9s
WMOK Wichita Mounta 102.59 58 *e*Pdif **Pdif 23 09 16.8 -0.4**
comp=Z,94nm,0.9s
DGMT Dagmar 102.60 43 P **Pdif 23 09 17.3 +0.4**
baz=253
DGMT Dagmar 102.60 43 *e*Pdif **Pdif 23 09 17.8 +1.0**
comp=Z,53nm,0.8s
536A Bastrop 102.67 63 P **Pdif 23 09 18.1 +0.5**
baz=253
335A Moody 102.71 61 P **Pdif 23 09 17.9 +0.2**
baz=254
X33A Lawton 102.76 58 P **Pdif 23 09 18.5 +0.6**
baz=254,SNR=9.1
737A Port Lavaca 102.82 64 P **Pdif 23 09 19.2 +0.9**
baz=253
U32A Winter Ranch, 102.88 56 P **Pdif 23 09 19.4 +1.0**
baz=254,SNR=6.9
WHTX Lake Whitney, 102.89 61 P **Pdif 23 09 19.0 +0.5**
baz=254
Z34A Collier Ranch, 102.90 59 P **Pdif 23 09 18.9 +0.4**
baz=254,SNR=9.2
W33A Caddo, Fort Co 102.96 57 P **Pdif 23 09 20.0 +1.2**
baz=254,SNR=9.7
CBKS Cedar Bluff 102.99 53 P **Pdif 23 09 19.1 +0.3**
baz=254
CBKS Cedar Bluff 102.99 53 *e*P **Pdif 23 09 19.8 +0.9**
CBKS pmax pmax
comp=Z,78nm,1.2s
CBKS Cedar Bluff 102.99 53 *e*Pdif **Pdif 23 09 19.8 +0.9**
comp=Z,78nm,1.2s
MK31 Makanchi Array 103.08 315 *i*P **Pdif 23 09 18.7 -0.3**
MK31 pmax pmax
comp=Z,24nm,0.5s
135A Vickery Place, 103.08 60 P **Pdif 23 09 19.7 +0.4**
baz=254,SNR=9.4
436A Wall Ranch, Ga 103.09 62 P **Pdif 23 09 20.5 +1.1**

baz=254
637A **Eagle Lake** 103.10 63 P Pdif 23 09 20.3 +0.8
baz=254
Y34A **Reagan Ranch,** 103.19 59 P Pdif 23 09 20.7 +0.8
baz=254,SNR=16
336A **Riesel** 103.22 61 P Pdif 23 09 21.2 +1.2
baz=254
537A **Green Hill Far** 103.30 63 P Pdif 23 09 21.7 +1.4
baz=254
X34A **Smith Ranch, M** 103.31 58 P Pdif 23 09 20.8 +0.5
baz=254,SNR=6.8
Z35A **Perchaven, San** 103.42 59 P Pdif 23 09 22.2 +1.3
baz=254
738A **Farr-Stevens R** 103.51 64 P Pdif 23 09 22.7 +1.4
baz=254
ZALV **Zalesovo Beam** 103.52 323 Pdiff Pdif 23 09 20.4 -0.3
comp=Z,12nm,0.7s,baz=118,slow=4.3,SNR=33
ZALV PKiKP PP 23 13 39.1 +0.3
comp=Z,17nm,0.7s,baz=134,slow=4.3,SNR=6.1
ZALV PKKPbc PKKPbc 23 25 14.9 -0.4
comp=Z,2.1nm,0.5s,baz=285,slow=2.9,SNR=5.7
ZALV PKPPKP P'P'df 23 33 30.9 -2.0
comp=Z,1.3nm,0.6s,baz=299,slow=3.1,SNR=5.6
W34A **Bridge Creek,** 103.53 57 P Pdif 23 09 22.3 +1.0
baz=254,SNR=5.1
W34A **Bridge Creek,** 103.53 57 *e*Pdif Pdif 23 09 22.5 +1.2
comp=Z,123nm,1.5s
236A **Katherine and** 103.65 61 P Pdif 23 09 23.4 +1.5
baz=254
437A **Phantom Ranch,** 103.65 62 P Pdif 23 09 22.5 +0.6
baz=254
Y35A **Marietta** 103.75 59 P Pdif 23 09 23.5 +1.2
baz=254
136A **Ennis** 103.78 60 P Pdif 23 09 23.7 +1.3
baz=254
638A **Rosharon** 103.84 64 P Pdif 23 09 22.5 -0.2
baz=254
X35A **Drake** 103.94 58 P Pdif 23 09 24.4 +1.3
baz=254
538A **Harpers Horsep** 104.02 63 P Pdif 23 09 24.4 +0.9
baz=254
SHLS **Shalkode** 104.03 311 *e*Pdif Pdif 23 09 20.9 -2.6
comp=Z,38nm,1.2s
SHLS *i* PP **PKiKP** 23 13 39.4 -0.7
SHLS *i* SS SS 23 28 14.3 -6.7
SHLS LRM MLR 23 56 30.5
comp=Z,506nm,17.4s
THN **Thein Dam** 104.07 300 *e*P Pdif 23 09 23.0 -0.7
THN *ex* x 23 13 39.0
Z36A **Blue Ridge** 104.07 60 P Pdif 23 09 25.1 +1.4
baz=254
438A **Sam Houston St** 104.18 62 P Pdif 23 09 25.2 +0.9
baz=254
W35A **Tecumseh** 104.22 58 P Pdif 23 09 25.3 +1.0
baz=255
237A **Washetta, Mont** 104.24 61 P Pdif 23 09 25.4 +0.9
baz=254
UZB **Uzynbulak** 104.34 311 *e*Pdif Pdif 23 09 23.2 -1.6
comp=Z,94nm,1.0s
UZB *i* PP **PP** 23 13 44.0 -1.3
UZB *i* SS SS 23 28 22.0 -3.3
UZB LRM MLR 23 57 35.2
comp=Z,1μm,23.5s
Y36A **Durant** 104.36 59 P Pdif 23 09 26.3 +1.4
baz=255
V35A **Meyer Ranch, C** 104.40 57 P Pdif 23 09 26.2 +1.1
baz=255
137A **Heron Place, G** 104.44 60 P Pdif 23 09 25.8 +0.5
baz=255
T34A **McClaskey Farm** 104.46 56 P Pdif 23 09 26.0 +0.7
baz=255
338A **Crockett** 104.47 62 P Pdif 23 09 26.2 +0.6
baz=254
X36A **Centrahoma** 104.48 58 P Pdif 23 09 26.8 +1.3
baz=255
539A **Cross D Ranch,** 104.63 63 P Pdif 23 09 26.8 +0.6
baz=254
U35A **Pawnee** 104.64 56 P Pdif 23 09 27.6 +1.4
baz=255
NVS **Novosibirsk** 104.66 323⇑ *i*P Pdif 23 09 27.0 +1.2
NVS *e* 23 20 37.7
NVS pmax pmax
comp=Z,177nm,1.9s
NVS pmax pmax
comp=N,39nm,1.8s
NVS pmax pmax
comp=E,62nm,1.7s
NVS smax smax
comp=E,184nm,1.8s
KPKS **Kokpek** 104.66 311 *e*Pdif Pdif 23 09 24.8 -1.4
comp=E,169nm,1.2s
KPKS *i* PP **PP** 23 13 46.2 -1.4
KPKS LRM MLR 23 57 15.4
comp=E,781nm,15.7s
S34A **Willow Spring** 104.69 55 P Pdif 23 09 27.3 +0.9
baz=255
Z37A **Pogue Cattle C** 104.70 60 P Pdif 23 09 26.9 +0.4
baz=255
K31A **O'Neill** 104.72 50 P Pdif 23 09 27.9 +1.5
baz=255
W36A **Wetumka** 104.72 58 P Pdif 23 09 27.7 +1.1
baz=255
R34A **Isabella, Hill** 104.74 54 P Pdif 23 09 27.8 +1.2
baz=255
238A **Jacksonville** 104.80 61 P Pdif 23 09 27.6 +0.6
baz=255
BGNE **Belgrade** 104.85 51 *e*Pdif Pdif 23 09 28.1 +1.1
comp=E,100nm,1.0s
TDK **Taldyqorghan** 105.23 313 *e*Pdif Pdif 23 09 27.6 -1.1
TDK *i* PP **PP** 23 13 50.9 -0.8
TDK *i* SKS **SKSdf** 23 20 36.7 -4.5
TDK LRM MLR 23 58 14.8
comp=E,1μm,24.2s
TUL1 **Leonard** 105.26 57 *e*Pdif Pdif 23 09 30.1 +1.1
comp=E,37nm,0.9s
SEM **Semipalatinsk** 105.32 318 *i* Pdif Pdif 23 09 28.0 -1.1
comp=E,158nm,0.8s
SEM *i* PP **PP** 23 13 51.5 -1.0
SEM *i* SS SS 23 28 35.7 -2.7
SEM LRM MLR 23 56 35.6
comp=E,1μm,19.1s
KSU1 **Kansas State U** 105.42 54 *e*Pdif Pdif 23 09 31.4 +1.8
comp=E,30nm,0.6s
KSH **Kashi** 105.67 307 *e*Pdif Pdif 23 09 30.6 -0.2
KSH *e*PP **PP** 23 13 58.7 +3.5
KSH S **Sdif** 23 21 11.0 -4.9
KSH SS **SS** 23 28 44.1 +0.6
KSH AMB AMB
comp=E,2μm,5.2s
KSH LR LR
comp=E,3μm,17.0s
KSH LR LR
comp=E,2μm,13.6s
KSH LR LR
comp=E,11μm,27.4s
AAA **Alma-Ata** 105.85 311 *i* P Pdif 23 09 33.4 +1.9
AAA pmax pmax
comp=Z,2μm,9.9s
KURK **Kurchatov** 106.40 319 *e*P Pdif 23 09 33.5 -0.1
KURK pmax pmax
comp=Z,39nm,1.0s
KURK **Kurchatov** 106.40 319 *e*Pdif Pdif 23 09 33.5 -0.1
comp=Z,39nm,1.0s
KURK PKKPbc PKKPbc 23 25 05.1 -1.3
NRIK **Noril'sk** 106.41 338 Pdiff Pdif 23 09 33.0 -0.2
comp=Z,40nm,0.9s,baz=124,slow=5.2,SNR=31
NRIK PKiKP PKiKP 23 13 43.7 +0.1
comp=Z,31nm,0.9s,baz=220,slow=1.8,SNR=9.8
NRIK PKKPbc PKKPbc 23 25 06.2 -0.8
comp=Z,3.4nm,0.4s,baz=254,slow=2.5,SNR=4.8
KUU **Kurty** 106.42 311 *e*Pdif Pdif 23 09 32.9 -1.0
comp=Z,180nm,1.1s
KUU *i* PP **PP** 23 13 59.5 -0.9
KUU *i* PS **PS** 23 23 21.6 -0.2
KUU *i* SS SS 23 28 50.4 -2.9
KUU LRM MLR 23 58 58.5
comp=Z,2μm,22.3s
KURBB **Kurchatov Arra** 106.44 318 PKKPbc PKKPbc 23 25 05.1 -1.2
comp=Z,9.5nm,0.8s,baz=280,slow=3.4,SNR=12
ECSD **EROS Data Cent** 106.50 49 *e*Pdif Pdif 23 09 34.4 +0.1
comp=Z,44nm,0.9s
MIAR **Mount Ida** 106.69 59 *e*P Pdif 23 09 37.0 +1.6
MIAR pmax pmax
comp=Z,16nm,0.9s
MIAR **Mount Ida** 106.69 59 *e*Pdif Pdif 23 09 37.0 +1.6
comp=Z,16nm,0.9s
FRU **Bishkek** 107.41 310 *e*P Pdif 23 09 40.0 +1.6
FRU *e* 23 20 06.0
FRU pmax pmax
comp=Z,40nm,2.0s
AAK **Ala-Archa** 107.46 310 PKKPbc PKKPbc 23 25 02.2 -0.8
comp=Z,10nm,1.0s,baz=223,slow=5.7,SNR=6.9
AAK **Ala-Archa** 107.46 310 *e*P Pdif 23 09 39.8 +1.0
AAK pmax pmax
comp=Z,7.0nm,0.8s
AAK **Ala-Archa** 107.46 310 *e*Pdif Pdif 23 09 39.8 +1.0
comp=Z,6.9nm,0.8s
AAK PKKPbc PKKPbc 23 25 02.2 -0.8
ULM **Lac du Bonnet** 108.31 42 Pdiff Pdif 23 09 46.5 +4.4
comp=Z,5.9nm,0.7s,baz=246,slow=4.1,SNR=7.1
ULM PKiKP PKiKP 23 13 45.7 -2.0
comp=Z,13nm,0.5s,baz=272,slow=2.6,SNR=13
ULM PKKPbc PKKPbc 23 24 59.8 -0.6
comp=Z,8.9nm,0.9s,baz=81,slow=5.6,SNR=4.7
LVC **Limon Verde** 108.42 124 PKKPbc PKKPbc 23 24 59.0 -0.5
comp=Z,62nm,0.8s,baz=359,slow=3.3,SNR=9.6
LVC **Limon Verde** 108.42 124 *e*Pdif Pdif 23 09 45.8 +1.9
comp=Z,46nm,1.5s
LVC PKKPbc PKKPbc 23 24 59.0 -0.5
SCIA **State Center** 108.56 51 *e*PKP PKiKP 23 13 47.5 -0.9
MAPC **Malpelo** 108.82 93 *e*P PKiKP 23 13 55.1 +5.4
SPMN **Marine on St.** 109.47 48 *e*PKP PKiKP 23 13 49.3 -0.7
BRZS **Berezniki** 110.01 317 *e*Pdif Pdif 23 09 48.2 -1.6
BRZS *e*PP PP 23 14 25.4 -1.0
OXF **Oxford** 110.04 60 *e*P Pdif 23 09 51.4 +1.2
OXF **Oxford** 110.04 60 *e*Pdif Pdif 23 09 51.4 +1.2
KK31 **Karatay Array** 110.42 310*c* *i*PKIKP PKiKP 23 13 50.7 -1.2
KK31 pmax pmax
comp=Z,12nm,0.5s
KKAR **Karatay Array** 110.42 310 *e*P Pdif 23 09 51.6 -0.2
KKAR **Karatay Array** 110.42 310 *e*Pdif Pdif 23 09 51.6 -0.2
FCC **Fort Churchill** 110.55 34 *e*PKIKP PKiKP 23 13 50.8 -0.8
FCC **Fort Churchill** 110.55 34 *e*PKP PKiKP 23 13 50.8 -0.8
IUG **luzhnay** 110.61 308 *e*Pdif Pdif 23 09 51.0 -1.8
IUG *i* PP **PP** 23 14 29.4 -1.8
IUG *i* PS **PS** 23 24 02.0 -1.2
IUG LRM MLR 00 01 36.3
comp=Z,1μm,20.6s
JFWS **Jewell Farm** 110.90 51 *e*P Pdif 23 09 54.8 +0.9
JFWS **Jewell Farm** 110.90 51 *e*Pdif Pdif 23 09 54.8 +0.9
RES **Resolute Bay** 111.14 16 PKiKP PKiKP 23 13 51.8 -0.5
comp=Z,31nm,0.7s,baz=280,slow=2.0,SNR=11
RES PKKPbc PKKPbc 23 24 51.0 -0.8
comp=Z,12nm,0.8s,baz=81,slow=3.2,SNR=3.9
RES **Resolute Bay** 111.14 16 *e*PKP PKiKP 23 13 50.8 -1.5
RES PKKPbc PKKPbc 23 24 51.0 -0.8
HDIL **Hopedale** 111.23 53 *e*PKP PKiKP 23 13 51.8 -1.7
ABPO **Ambohimpanom** 111.31 239 *e*PKIKP PKiKP 23 13 54.4 -0.1
ABPO **Ambohimpanom** 111.31 239 *e*PKP PKiKP 23 13 54.4 -0.1
OPO **Ambohidratompo** 111.57 239 PKiKP PKiKP 23 13 54.5 -0.5
comp=Z,16nm,0.9s,baz=90,slow=3.6,SNR=12
LRAL **Lakeview Retre** 111.72 62 *e*PKP PKiKP 23 13 53.5 -1.1
BVAR **Borovoye Array** 111.80 320 SKP SKPdf 23 17 16.5 -0.5
comp=Z,20nm,1.0s,baz=52,slow=2.4,SNR=3.9
BVAR PKKPbc PKKPbc 23 24 47.2 -2.0
comp=Z,6.3nm,0.9s,baz=310,slow=2.9,SNR=5.2
BRVK **Borovoye** 111.87 320*c* *i*PKIKP PKiKP 23 13 54.8 +0.5
BRVK pmax pmax
comp=Z,169nm,1.0s
LPAZ **La Paz** 112.35 118 Pdiff Pdif 23 10 04.1 +2.4
comp=Z,1.6nm,0.6s,baz=254,slow=5.2,SNR=5.8
LPAZ PKiKP PKiKP 23 13 56.7 -0.4
comp=Z,7.0nm,0.8s,baz=245,slow=0.2,SNR=7.2
LPAZ PKKPbc PKKPbc 23 24 45.3 -1.7
comp=Z,5.8nm,0.7s,baz=3.3,slow=2.4,SNR=5.0
WCI **Wyandotte Cave** 113.17 56 *e*PKIKP PKiKP 23 13 55.7 -1.6
WCI **Wyandotte Cave** 113.17 56 *e*PKP PKiKP 23 13 55.7 -1.6
TIGA **Tifton** 114.26 64 *e*PKP PKPdf 23 13 59.3 -0.3
CPUP **Villa Florida** 114.69 134 PKP PKPdf 23 14 00.1 -0.5
comp=Z,12nm,1.1s,baz=234,slow=2.4,SNR=8.8
CPUP PP PP 23 15 02.2 +2.9
comp=Z,13nm,1.0s,baz=245,slow=8.2,SNR=2.9
CPUP PKKPbc PKKPbc 23 24 37.8 -0.9
comp=Z,12nm,1.0s,baz=82,slow=2.8,SNR=6.7
GOGA **Godfrey** 114.70 62 *e*PKIKP PKPdf 23 13 58.8 -1.5
GOGA **Godfrey** 114.70 62 *e*PKP PKPdf 23 13 58.8 -1.5
TOLC **Tolima** 114.89 95 *e*P PKPdf 23 14 00.8 -0.9
TOLC **Tolima** 114.89 95⇑ *e*P PKKPbc 23 24 38.9 +1.0
GUYC **Guyana, Colomb** 115.05 94 *e*P PKPdf 23 14 00.8 -1.4
GUYC **Guyana, Colomb** 115.05 94 *e*P PKKPbc 23 24 40.1 +2.5
TZTN **Tazewell** 115.09 58 *e*PKPdf PKPdf 23 13 59.9 -1.2
HELC **Santa Helena** 115.25 93 *e*P PKPdf 23 14 00.2 -2.2
DWPF **Disney Wildern** 115.51 68 *e*PKPdf PKPdf 23 14 01.3 -0.7
NORC **Norcasia** 115.65 94 *e*P PKPdf 23 14 00.2 -2.6
NORC **Norcasia** 115.65 94 *e*P PKKPbc 23 24 33.8 -1.1
AAM **Ann Arbor** 115.66 52 *e*PKIKP PKPdf 23 14 00.7 -1.2
AAM **Ann Arbor** 115.66 52 *e*PKP PKPdf 23 14 00.7 -1.2
SJAC **San Juan de Ar** 115.71 96 *e*P PKKPbc 23 24 37.2 +2.4
ROSC **El Rosal** 115.92 95 PKP PKPdf 23 14 03.8 +0.1
comp=Z,24nm,0.9s,baz=112,slow=7.6,SNR=9.2
ROSC PP PP 23 15 12.8 +3.2
comp=Z,7.6nm,0.5s,baz=31,slow=12,SNR=3.5
ROSC PKKPbc PKKPbc 23 24 35.3 +0.8
comp=Z,10nm,0.8s,baz=114,slow=1.8,SNR=4.5
ACSO **Alum Creek Sta** 115.97 54 *e*PKPdf PKPdf 23 14 00.9 -1.6
MOTC **Monteria, Cord** 115.97 90 *e*P PKPdf 23 14 02.0 -1.4
MOTC **Monteria, Cord** 115.97 90 *e*P PKKPbc 23 24 36.1 +2.3
ZARC **Zaragoza, Cauc** 116.31 92 *e*P PKPdf 23 14 00.8 -3.2
ZARC **Zaragoza, Cauc** 116.31 92 *e*P PKKPbc 23 24 35.0 +2.4
CHIC **Chingaza** 116.39 95 *e*P PKPdf 23 14 03.1 -1.6
CHIC **Chingaza** 116.39 95 *e*P PKKPbc 23 24 33.8 +1.0
WSAR **Wadi Sarin** 116.63 286 PKP PKPdf 23 14 03.9 -0.4
comp=Z,27nm,0.9s,baz=60,slow=4.5,SNR=4.5
WSAR PP PP 23 15 18.8 +4.7
comp=Z,23nm,1.0s,baz=147,slow=5.4,SNR=4.4
WSAR PKKPbc PKKPbc 23 24 30.8 -0.9
comp=Z,24nm,0.6s,baz=269,slow=3.9,SNR=29
KMSC **Kings Mountain** 116.69 60 *e*PKPdf PKPdf 23 14 02.7 -1.4
SJCC **San Jacinto, C** 116.77 89 *e*P PKPdf 23 14 01.4 -3.5
SJCC **San Jacinto, C** 116.77 89 *e*P PKKPbc 23 24 34.4 +3.3
MTDJ **Mount Denham** 116.89 79 *e*PKPdf PKPdf 23 14 03.5 -1.5
JMDO **Jabal Madar** 116.92 285 P PKPdf 23 14 03.9 -1.0
SNR=13
JMDO **Jabal Madar** 116.92 285 PKPdf PKPdf 23 14 03.9 -1.0
SNR=13
BIDO **Bidbid** 117.14 287 P PKPdf 23 14 04.6 -0.7
SNR=9.1
BIDO **Bidbid** 117.14 287 PKPdf PKPdf 23 14 04.6 -0.7
SNR=9.1
NHSC **New Hope** 117.38 63 *e*PKPdf PKPdf 23 14 04.6 -0.9
RUSC **La Rusia** 117.44 94 *e*P PKPdf 23 14 03.7 -3.1
SVE **Sverdlovsk** 117.48 324 *e*PKIKP PKPdf 23 14 03.8 -1.1
SVE pmax pmax
comp=Z,107nm,0.8s
BARC **Barichara** 117.58 93 *e*P PKPdf 23 14 04.2 -2.5
BLA **Blacksburg** 117.66 58 *e*PKIKP PKPdf 23 14 04.7 -1.3
BLA **Blacksburg** 117.66 58 *e*PKPdf PKPdf 23 14 04.7 -1.3
GIRC **Giron, Santand** 117.73 93 *e*P PKPdf 23 14 03.7 -3.2
HOQ **Hoqain** 117.89 286 P PKPdf 23 14 05.7 -1.1
SNR=18
HOQ **Hoqain** 117.89 286 PKPdf PKPdf 23 14 05.7 -1.1
SNR=18
OCAC **Ocana** 117.99 92 *e*P PKKPbc 23 24 28.2 +1.3
AB31 **Akbulak array** 118.22 316*c* *i*PKIKP PKPdf 23 14 05.2 -1.4
AB31 pmax pmax
comp=Z,26nm,0.8s
ABKAR **Akbulak array** 118.22 316 *e*PKPdf PKPdf 23 14 06.0 -0.6
SIV **San Ignacio** 118.22 122 PKKPbc PKKPbc 23 24 25.5 -0.7
comp=Z,4.7nm,0.9s,baz=86,slow=3.7,SNR=4.2
ARU **Arti** 118.65 324 PKKPbc PKKPbc 23 24 24.6 -0.9
comp=Z,5.3nm,0.5s,baz=262,slow=6.1,SNR=11
ARU **Arti** 118.65 324 P Pdif 23 10 29.1 +1.1
ARU *i* 23 14 06.3
ARU 23 20 49.6
ARU SP SP 23 24 52.5 -6.5
SADO **Sadowa** 119.06 49 *e*PKPdf PKPdf 23 14 06.4 -1.9
HATD **Hatta, Dubai** 119.18 288 *i* P PKPdf 23 14 07.9 -1.3
SNR=80
HATD **Hatta, Dubai** 119.18 288 P PKPdf 23 14 08.0 -1.3
SNR=29
HATD **Hatta, Dubai** 119.18 288 PKPdf PKPdf 23 14 08.0 -1.3
SNR=29
GEYT **Alibeck** 119.19 303 Pdiff Pdif 23 10 33.4 +2.5
comp=Z,1.0nm,0.7s,baz=192,slow=1.3,SNR=3.1
GEYT PKP PKPdf 23 14 08.4 -0.5
comp=Z,69nm,0.8s,baz=226,slow=2.3,SNR=56
GEYT PP PP 23 15 39.4 +7.9
comp=Z,35nm,1.1s,baz=36,slow=5.5,SNR=3.7
GEYT SKP 23 17 31.6
comp=Z,21nm,1.1s,baz=141,slow=0.9,SNR=3.5
GEYT PKKPbc PKKPbc 23 24 22.8 -0.2
comp=Z,13nm,1.0s,baz=264,slow=5.8,SNR=9.0
ASHO **Ashiyiah** 119.22 287 P PKPdf 23 14 07.5 -1.9
AKTO **Aktyubinsk** 119.43 317 PKP PKPdf 23 14 08.4 -0.5
comp=Z,73nm,0.8s,baz=98,slow=1.9
AKTO PKKPbc PKKPab 23 24 21.1 -1.2
comp=Z,14nm,0.9s,baz=309,slow=5.2,SNR=7.7
SUR **Sutherland** 119.50 210 PKP PKPdf 23 14 09.7 -0.3
comp=Z,4.1nm,0.9s,baz=179,slow=1.7,SNR=14
SUR PKKPbc PKKPbc 23 24 20.4 -1.8
comp=Z,1.4nm,0.7s,baz=277,slow=5.6,SNR=6.7
CNNC **Cliffs of the** 119.51 60 *e*PKPdf PKPdf 23 14 08.3 -1.1
GTBY **Guantanamo Bay** 119.52 78 *e*PKPdf PKPdf 23 14 08.2 -1.8
NAZ **Nazwa, Dubai** 119.63 288 *i* P PKPdf 23 14 09.0 -1.1
SNR=37
NAZ **Nazwa, Dubai** 119.63 288 P PKPdf 23 14 08.8 -1.3
SNR=14
NAZ **Nazwa, Dubai** 119.63 288 PKPdf PKPdf 23 14 08.8 -1.3
SNR=14
FAQ **Al Faqa, Dubai** 119.65 287 *i* P PKPdf 23 14 08.6 -1.5
SNR=14
SSPA **Standing Stone** 119.87 54 *e*PKPdf PKPdf 23 14 08.5 -1.6
CBN **Corbin Frederi** 120.15 57 *e*PKPdf PKPdf 23 14 09.2 -1.4
SAML **Samuel** 120.22 114 *e*PKPdf PKPdf 23 14 10.1 -1.4
BOSA **Boshof** 120.25 216 *i* P PKPdf 23 14 13.2 +1.7
BOSA **Boshof** 120.25 216 PKP PKPdf 23 14 10.9 -0.5
comp=Z,41nm,0.9s,baz=131,slow=2.0,SNR=22
BOSA PKKPbc PKKPbc 23 24 17.2 -2.1
comp=Z,8.0nm,0.7s,baz=332,slow=3.6,SNR=10
URIC **Uribia, Colomb** 120.30 88 *e*P PKPdf 23 14 10.5 -1.1
URIC **Uribia, Colomb** 120.30 88 *e*P PKKPbc 23 24 19.1 +0.8
KULLO **Kullorsuaq** 120.56 13 *i* P PKPdf 23 14 08.8 -1.6
comp=Z,125nm,1.0s
KULLO *i* 23 15 38.1
KULLO **Kullorsuaq** 120.56 13 *i* PKIKP PKPdf 23 14 08.8 -1.6
KULLO *i* 23 15 38.1
KULLO pmax pmax
comp=Z,120nm,1.0s
SDV **Santo Domingo** 120.72 92 *e*PKPdf PKPdf 23 14 11.7 -1.0
KBS **Kingsbay** 120.75 355 *e*Pdif Pdif 23 10 40.2 +3.3
KBS *e*PKPdf PKiKP 23 14 12.3 +1.5
KBS *e*PP PP 23 15 41.9 +1.2
KBS *e*SKSac SKSac 23 20 57.0 +1.3
KBS *e*SS SS 23 32 04.0 +4.0
SPA0 **Spitsbergen Ar** 121.03 354 *e* PKPdf 23 14 10.1 -1.2
SPA0 *e*PKPdf PKiKP 23 14 12.3 +0.9
SPA0 *e*PP PP 23 15 43.4 +0.8
SPA0 *e*SP SP 23 25 20.9 +1.9
SPA0 *e*SS SS 23 32 06.7 +3.2
SPITS **Spitsbergen Ar** 121.03 354 PKKPbc PKKPbc 23 24 16.3 -1.0
comp=Z,3.3nm,0.5s,baz=152,slow=6.5,SNR=6.6
HOPEN **Hopen** 121.34 351 *e*Pdif Pdif 23 10 40.9 +1.4
HOPEN *e*PKPdf PKiKP 23 14 12.9 +0.9
HOPEN *e*PP PP 23 15 45.6 +0.9
HOPEN *e*SKSac SKSac 23 20 58.7 +1.1
HOPEN *e*SS SS 23 32 10.5 +3.0
BINY **Binghamton** 121.34 52 *e*PKPdf PKPdf 23 14 11.5 -1.4
HSPB **Hornsund (broa** 122.15 353 *e*Pdif Pdif 23 10 44.4 +1.3
HSPB *e*PKPdf PKPdf 23 14 12.1 -1.3
HSPB *e*PP PP 23 15 50.9 +0.7
HSPB *e*SKSac SKSac 23 21 01.5 +1.2
HSPB *e*SS SS 23 32 21.8 +4.0
HSPB **Hornsund (broa** 122.15 353 *e*PKIKP PKPdf 23 14 12.0 -1.3
HSPB *e* 23 15 51.5
HSPB *e* 23 21 01.5
HSPB *e*PS PS 23 25 43.7 -2.4
LONY **Lake Ozonia** 122.32 50 *e*PKPdf PKPdf 23 14 13.1 -1.6
LBTB **Lobatse** 122.81 219 PKP PKPdf 23 14 15.8 -0.7
comp=Z,46nm,0.9s,baz=155,slow=3.2,SNR=37
LBTB PKKPbc PKKPbc 23 24 09.6 0.0
comp=Z,14nm,0.9s,baz=286,slow=4.2,SNR=6.7
SDDR **Presa de Saban** 122.82 80 *e*P PKPdf 23 14 13.8 -2.6
SDDR **Presa de Saban** 122.82 80 *e* PKPdf 23 14 15.5 -0.9
SDDR **Presa de Saban** 122.82 80 *e* PP 23 15 53.3 -3.4
SDDR **Presa de Saban** 122.82 80 *e*PKPdf PKPdf 23 14 15.3 -1.1
SPB **Sao Paulo** 123.02 139 *e*PKPdf PKPdf 23 14 16.3 -0.4
GRTK **Grand Turk** 123.48 77 *e*PKPdf PKPdf 23 14 16.4 -1.2
YLE **Yale** 123.63 54 *e*PKPdf PKPdf 23 14 16.0 -1.2
DAG **Danmarks Havn** 123.66 2⇑ *i*P PKPdf 23 14 14.2 -2.1
comp=Z,131nm,1.0s
DAG *i* 23 15 58.6
DAG **Danmarks Havn** 123.66 2⇑ *i*PKIKP PKPdf 23 14 14.2 -2.1
DAG *i* 23 15 58.6
DAG pmax pmax
comp=Z,130nm,1.0s
BJO **Bjornoya** 123.83 351 *e*PKPdf PKPdf 23 14 17.8 +1.1
BJO *e*PP PP 23 16 01.2 -0.2
BJO *e*SS SS 23 32 42.2 +3.2
QUA2 **Belchertown** 124.03 52 *e*PKPdf PKPdf 23 14 17.0 -1.0
MATP **Matopo** 124.33 225 *i* P PKPdf 23 14 18.4 -1.0
MATP **Matopo** 124.33 225 PKP PKPdf 23 14 19.1 -0.4
comp=Z,123nm,0.9s,baz=159,slow=1.8,SNR=69
MATP PP PP 23 16 06.1 +0.4
comp=Z,42nm,1.2s,baz=151,slow=5.6,SNR=3.8
BLWY **Bulawayo** 124.45 226 *i* P PKPdf 23 14 19.7 0.0
FFD **Franklin Falls** 124.49 51 *e*PKPdf PKPdf 23 14 18.3 -0.5
HRV **Adam Dziewonsk** 124.61 52 *e*PKIKP PKPdf 23 14 17.9 -1.2
HRV **Adam Dziewonsk** 124.61 52 *e*PKPdf PKPdf 23 14 17.9 -1.2
BRYW **Bryant College** 124.66 53 *e*PKPdf PKPdf 23 14 18.2 -1.0
WES **Weston** 124.79 52 *e*PKIKP PKPdf 23 14 18.1 -1.3
WES **Weston** 124.79 52 *e*PKPdf PKPdf 23 14 18.1 -1.3
LMS **La Malbaie** 125.02 46 *e*PKPdf PKPdf 23 14 17.0 -1.5
LVZ **Lovozero** 125.13 341*c* *i*PKIKP PKPdf 23 14 17.7 -1.7
LVZ **Lovozero** 125.13 341 *e*PKPdf PKPdf 23 14 17.3 -2.1
ILULI **Ilulissat** 125.45 17 *i* P PKPdf 23 14 18.5 -1.4
comp=Z,281nm,1.0s
ILULI *i* 23 16 09.8
ILULI **Ilulissat** 125.45 17 *i* PKIKP PKPdf 23 14 18.5 -1.4
ILULI *i* 23 16 09.8
ILULI pmax pmax
comp=Z,280nm,1.0s
SUMG **Summit** 125.63 10 *i* P PKPdf 23 14 20.3 -0.4
SUMG *i* 23 16 12.1
SUMG **Summit** 125.63 10 *e*PKIKP PKPdf 23 14 20.3 -0.4
SUMG *i* 23 16 12.1
SUMG **Summit** 125.63 10 *e*PKPdf PKPdf 23 14 20.2 -0.5
APA **Apatity** 125.70 341⇓ *i*PKIKP PKPdf 23 14 18.7 -1.7
APA *i* 23 18 57.0
APA *i* 23 21 12.0
APA *i* PS PS 23 26 16.0 -1.7
APA *i* SS SS 23 32 57.0 -5.9
SCHQ **Schefferville** 125.72 37 PKP PKPdf 23 14 19.9 -1.0
comp=Z,160nm,1.1s,baz=314,slow=2.7,SNR=28
WVL **Waterville** 125.83 49 *e*PKPdf PKPdf 23 14 20.2 -1.2
KEV **Kevo** 126.01 345 *e*PKIKP PKPdf 23 14 20.0 -0.9
KEV **Kevo** 126.01 345 *e*PKPdf PKPdf 23 14 20.0 -0.9
PKME **Peaks-Kenny Pk** 126.01 48 *e*PKPdf PKPdf 23 14 20.8 -0.8
TMCR **Tamitsa** 126.02 336 *e*PKIKP PKPdf 23 14 18.5 -2.6
TMCR pmax pmax
comp=Z,269nm,1.1s
HAMF **Hammerfest** 126.11 347 *e*Pdif Pdif 23 11 00.1 -0.8
HAMF *e*PKPdf PKiKP 23 14 21.4 -0.2
HAMF *e*PP PP 23 16 15.5 -1.3
HAMF *e*SS SS 23 33 09.6 +1.8
ARCES **ARCESS Array B** 126.53 345 PKP PKPdf 23 14 21.4 -0.6
comp=Z,140nm,0.8s,baz=48,slow=1.8,SNR=72
ARCES PKKPbc PKKPbc 23 23 55.0 -0.9
comp=Z,1.4nm,0.5s,baz=177,slow=2.4,SNR=4.0
ARCES SKKPbc SKKPbc 23 27 35.0 -1.2
comp=Z,6.2nm,0.9s,baz=197,slow=3.8,SNR=3.8
ARE0 **ARCESS Array S** 126.53 345 *e* PKPdf 23 14 20.7 -1.3
ARE0 *e*PKPdf PKiKP 23 14 22.1 +0.6
ARE0 *e*PP PP 23 16 19.3 -0.3
ARE0 *e*SS SS 23 33 15.9 +2.7
PQI **Presque Isle** 126.71 47 *e*PKPdf PKPdf 23 14 21.9 -1.0
KLMR **Klimovskoe** 126.99 332 *e*PKIKP PKPdf 23 14 20.6 -2.5
KLMR *e*SS SS 23 33 18.3 -1.1
KLMR pmax pmax
comp=Z,527nm,1.3s
SFJD **Kangerlussuaq** 127.04 19 *i* P PKPdf 23 14 21.9 -1.1
SFJD **Kangerlussuaq** 127.04 19 *i* PKIKP PKPdf 23 14 21.9 -1.1
SFJD **Kangerlussuaq** 127.04 19 *e*PKPdf PKPdf 23 14 21.6 -1.4
MAK **Makhachkala** 127.23 309 *i* P Pdif 23 11 01.9 -4.5
MAK *i* 23 14 21.7
MAK *e* 23 16 24.1
MAK *e*PPP PPP 23 19 06.0
MAK *e* 23 21 20.9
MAK *e*PS PS 23 26 26.6 -5.4
MAK *e* 23 28 05.6
MAK *e*SS SS 23 33 19.0 -4.7
MAK pmax pmax
comp=Z,7μm,1.8s
EMMW **East Machias** 127.37 49 *e*PKPdf PKPdf 23 14 23.0 -1.3

SJG	San Juan	127.39	83	ePKIKP	PKPdf	23 14 23.8	-1.3		
SJG	San Juan	127.39	83	ePKPdf	PKPdf	23 14 23.8	-1.3		
KTK1	Kautokeino	127.46	346	ePKPdf	PKPdf	23 14 24.8	+1.0		
DAMY	Dhamar	127.79	273	ePKPdf	PKPdf	23 14 27.4	+1.0		
TRO	Tromso	127.91	348	ePdif	Pdif	23 11 07.3	-1.6		
TRO				ePKPdf	PKPdf	23 14 24.8	+0.2		
TRO				ePP	PP	23 16 28.4	-0.2		
TRO				eSS	SS	23 33 31.9	+1.8		
LSZ	Lusaka	128.07	230	PKhKP	PKPpre	23 14 19.2			
	comp=Z,2.0nm,0.5s,baz=171,slow=2.1,SNR=8.0								
LSZ				PKP	PKPdf	23 14 26.8	+0.1		
	comp=Z,71nm,0.9s,baz=155,slow=2.1,SNR=29								
LSZ				PP	PP	23 16 32.0	+1.3		
	comp=Z,37nm,1.1s,baz=125,slow=5.4,SNR=4.5								
LSZ	Lusaka	128.07	230	P	PKPdf	23 14 26.5	-0.2		
	SNR=20								
LSZ	Lusaka	128.07	230	PKPdf	PKPdf	23 14 26.5	-0.2		
	SNR=20								
ATD	Arta Tunnel	128.40	269	PKP	PKPdf	23 14 27.1	-0.2		
	comp=Z,38nm,1.0s,baz=43,slow=4.1,SNR=13								
GROC	Groznyy	128.44	309	*i* PKIKP	PKPdf	23 14 26.2	-0.2		
GROC				pmax	pmax				
	comp=Z,293nm,1.2s								
KMBO	Kilima Mbogo	128.77	251	PKP	PKPdf	23 14 28.2	0.0		
	comp=Z,64nm,1.0s,baz=56,slow=4.1,SNR=28								
KMBO				PP	PP	23 16 35.9	-0.2		
	comp=Z,4.2nm,0.8s,baz=122,slow=8.3,SNR=3.0								
KMBO				SKPbc	SKPbc	23 17 37.9			
	comp=Z,39nm,1.1s,baz=62,slow=5.1,SNR=6.6								
KMBO	Kilima Mbogo	128.77	251	*c i* PKIKP	PKPdf	23 14 29.2	+0.9		
KMBO				pmax	pmax				
	comp=Z,64nm,1.0s								
KMBO	Kilima Mbogo	128.77	251	ePKPdf	PKPdf	23 14 29.1	+0.9		
KMBO				PP	PP	23 16 35.9	-0.2		
KMBO	Kilima Mbogo	128.77	251	P	PKPdf	23 14 29.4	+1.1		
	SNR=21								
KMBO	Kilima Mbogo	128.77	251	PKPdf	PKPdf	23 14 29.4	+1.1		
	SNR=21								
SEAG	Tbilisi Sea	129.35	308	P	PKPdf	23 14 29.4	+1.2		
DUS	Dusheti	129.38	308	P	PKPdf	23 14 32.8	+4.4		
DUS	Dusheti	129.38	308	PKIKP	PKPdf	23 14 32.8	+4.4		
TBLG	Delisi	129.40	308	P	PKPdf	23 14 29.0	+0.6		
TBLG	Delisi	129.40	308	PKIKP	PKPdf	23 14 29.0	+0.6		
GUDG	Gudauri	129.50	308	P	PKPdf	23 14 28.9	+0.2		
GNI	Garni	129.58	305	PP	PP	23 16 41.9	+1.0		
	comp=Z,15nm,0.9s,baz=100,slow=2.0,SNR=3.7								
GNI				SKPbc	SKPbc	23 17 38.8	+0.3		
	comp=Z,127nm,1.2s,baz=303,slow=3.0,SNR=3.4								
GNI	Garni	129.58	305	*i* P	PKPdf	23 14 28.0	-0.9		
	SNR=17								
GNI	Garni	129.58	305	*c i* PKIKP	PKPdf	23 14 30.5	+1.6		
GNI				pmax	pmax				
	comp=Z,861nm,1.7s								
GNI	Garni	129.58	305	ePKPdf	PKPdf	23 14 29.1	+0.2		
GNI				PP	PP	23 16 41.9	+1.0		
GNI	Garni	129.58	305	P	PKPdf	23 14 29.6	+0.7		
	SNR=21								
GNI	Garni	129.58	305	PKPdf	PKPdf	23 14 29.6	+0.7		
	SNR=21								
JMIC	Jan Mayen	129.62	359	ePP	PP	23 16 41.2	+1.5		
JMIC				eSS	SS	23 33 56.4	+5.4		
SCO	Scoresbysund	129.65	5	*i* P	PKPdf	23 14 26.5	-1.4		
SCO	Scoresbysund	129.65	5	*i* PKIKP	PKPdf	23 14 26.5	-1.4		
TPP	Pointe-a-Pierr	129.75	94	*e*	PKPdf	23 14 32.1	+2.4		
TPP	Pointe-a-Pierr	129.75	94	*e*	SKPab	23 17 39.9	+0.8		
ZEI	Tsey	129.88	309	*i* PKIKP	PKPdf	23 14 31.0	+1.6		
ZEI				pmax	pmax				
	comp=Z,277nm,0.9s								
TRN	Trinidad (W)	129.90	93	eP	PKPdf	23 14 28.6	-1.4		
TRN	Trinidad (W)	129.90	93	*e*	SKPab	23 17 39.6	-0.1		
SABA	Saba	129.99	84	*e*	PKPdf	23 14 28.8	-1.3		
GOF	Gofitskoye	130.10	312	ePKIKP	PKPdf	23 14 27.2	-2.3		
GOF				pmax	pmax				
	comp=Z,109nm,0.9s								
GRGR	Grenville	130.11	91	eP	PKPdf	23 14 27.0	-3.4		
GRGR	Grenville	130.11	91	*e*	SKPab	23 17 36.8	-3.8		
GRGR	Grenville	130.11	91	eP	SKPab	23 17 42.4	+1.7		
GRGR	Grenville	130.11	91	ePKPdf	PKPdf	23 14 27.6	-2.8		
MOS	Moscow	130.12	327	α *i* P	Pdif	23 11 16.0	-3.0		
MOS				*i*		23 14 28.0			
MOS				ePS	PS	23 26 35.5	-21		
MOS				*e*		23 28 13.2			
MOS				pmax	pmax				
	comp=Z,386nm,1.2s								
MOS				pmax	pmax				
	comp=Z,1μm,2.0s								
SEUS	St. Eustatius	130.21	84	*e*	PKPdf	23 14 28.4	-2.1		
LOF	Lofoten	130.23	349	ePKPdf	PKPdf	23 14 28.9	-0.1		
LOF				ePP	PP	23 16 43.3	-0.4		
LOF				eSS	SS	23 34 00.9	+2.3		
ONI	Oni	130.23	309	P	PKPdf	23 14 30.4	+0.5		
ONI	Oni	130.23	309	PKIKP	PKPdf	23 14 30.4	+0.5		
SMRT	St. Maarten	130.24	83	*e*	PKPdf	23 14 27.4	-3.1		
BGD	Bogdanovka	130.31	307	P	PKPdf	23 14 29.9	-0.4		
BBSR	BB Station	130.33	63	ePKPdf	PKPdf	23 14 30.0	-0.3		
AKH	Akhalkalaki	130.37	307	P	PKPdf	23 14 31.3	+0.9		
AKH	Akhalkalaki	130.37	307	$\Downarrow$ *i* P	PKPdf	23 14 31.3	+0.9		
AKH	Akhalkalaki	130.37	307	PKIKP	PKPdf	23 14 31.3	+0.9		
KBZ	Khabaz	130.45	310	PKhKP	PKPpre	23 14 13.3			
	comp=Z,3.6nm,1.0s,baz=88,slow=3.9,SNR=3.2								
KBZ				PKP	PKPdf	23 14 29.8	-0.3		
	comp=Z,38nm,0.9s,baz=86,slow=3.3,SNR=5.3								
KBZ				SKPbc	SKPab	23 17 40.8	-0.4		
	comp=Z,46nm,1.0s,baz=70,slow=5.3,SNR=4.7								
KVAR	Kislovodsk Arr	130.55	311	SKPbc	SKPbc	23 17 41.3	-0.4		
	comp=Z,97nm,1.1s,baz=56,slow=3.2,SNR=3.1								
KIV	Kislovodsk	130.56	311	*i* P	PKPdf	23 14 29.6	-1.0		
	SNR=11								
KIV	Kislovodsk	130.56	311	*c i* PKIKP	PKPdf	23 14 29.5	-1.0		
KIV				*i*		23 16 47.6			
KIV				ePPP	PPP	23 19 38.2			
KIV				*i* PS	PS	23 26 57.5	-3.7		
KIV				pmax	pmax				
	comp=Z,34nm,1.2s								
KIV	Kislovodsk	130.56	311	ePKPdf	PKPdf	23 14 30.1	-0.4		
KIV	Kislovodsk	130.56	311	P	PKPdf	23 14 30.7	+0.1		
	SNR=23								
KIV	Kislovodsk	130.56	311	PKPdf	PKPdf	23 14 30.7	+0.1		
	SNR=23								
LPSR	Galich'ya Gora	130.63	323	ePKIKP	PKPdf	23 14 29.8	-0.4		
LPSR				pmax	pmax				
	comp=Z,390nm,1.0s								
NEY	Neytrino	130.66	310	*c i* PKIKP	PKPdf	23 14 32.8	+1.9		
FCV	Fort Charlotte	130.78	90	eP	PKPdf	23 14 28.2	-3.4		
MLYT	Lee's Yard	130.78	85	eP	PKPdf	23 14 30.6	-1.0		
MLYT	Lee's Yard	130.78	85	eP	SKPab	23 17 41.6	-1.9		
MLYT	Lee's Yard	130.78	85	*e*	SKPab	23 17 43.2	-0.2		
SVB	Belmont	130.80	90	*e*	PKPdf	23 14 30.2	-1.5		
SVB	Belmont	130.80	90	eP	PKPdf	23 14 31.9	+0.2		
SVV	Soufriere Volc	130.85	90	*e*	PKPdf	23 14 31.2	-0.6		
SSV	Crater Summit	130.87	90	*e*	PKPdf	23 14 32.4	+0.5		
TOSP	Speyside	130.91	93	*e*	PKPdf	23 14 31.5	-0.4		
BHS	Barnard House	130.93	90	*e*		23 17 49.1			
OBN	Obninsk	130.93	326	SKPbc	SKPbc	23 17 41.9	-0.6		
	comp=Z,54nm,0.6s,baz=86,slow=2.1,SNR=5.5								
OBN	Obninsk	130.93	326	$\Uparrow$ ePKIKP	PKPdf	23 14 29.6	-1.1		
OBN				*i*		23 16 50.6			
OBN				*i* PPS	PPS	23 28 41.7			
OBN				*i* SS	SS	23 33 57.9	-10		
OBN				pmax	pmax				
	comp=Z,205nm,1.9s								
OBN	Obninsk	130.93	326	ePKPdf	PKPdf	23 14 29.4	-1.3		
OBN				SKPbc	SKPbc	23 17 41.9	-0.6		
VSR	Storozhevoye	130.98	321	ePKIKP	PKPdf	23 14 30.5	-0.4		
VSR				*e*		23 16 49.1			
VSR				pmax	pmax				
	comp=Z,330nm,1.7s								
TBG	Guadaloupe-3	131.09	87	*e*	PKPdf	23 14 31.8	-0.4		
TBG	Guadaloupe-3	131.09	87	*e*	SKPab	23 17 42.0	-2.7		
SLB	Belfond	131.15	89	*e*	PKPdf	23 14 34.3	+1.9		
BBL	Barber's Block	131.17	87	eP	PKPdf	23 14 32.4	0.0		
BBL	Barber's Block	131.17	87	*e*	SKPab	23 17 45.1	0.0		
CHVG	Ch'k'valeri	131.21	309	P	PKPdf	23 14 33.5	+1.8		
MCLT	Moule a Chique	131.21	90	eP	PKPdf	23 14 32.1	-0.4		
MCLT	Moule a Chique	131.21	90	eP	PKPdf	23 14 32.9	+0.4		
MCLT	Moule a Chique	131.21	90	*e*	SKPab	23 17 45.5	+0.2		
MCLT	Moule a Chique	131.21	90	eP	SKPab	23 17 45.9	+0.6		
PCM	Pelee Case Pet	131.24	88	eP	PKPdf	23 14 31.3	-1.3		
PCM	Pelee Case Pet	131.24	88	eP	PKPdf	23 14 31.8	-0.8		
FDF	Fort de France	131.28	88	eP	PKPdf	23 14 31.2	-1.4		
FDF	Fort de France	131.28	88	eP	PKPdf	23 14 31.9	-0.7		
FDF	Fort de France	131.28	88	*e*	SKPab	23 17 45.5	-0.1		
FDF	Fort de France	131.28	88	eP	SKPab	23 17 47.1	+1.5		
FDF	Fort de France	131.28	88	eP	PKPdf	23 14 32.3	-0.3		
FDF	Fort de France	131.28	88	ePKPdf	PKPdf	23 14 32.3	-0.3		
CXM	Morne La Croix	131.28	88	eP	PKPdf	23 14 34.5	+1.7		
GBMF	Grand Be	131.28	88	eP	PKPdf	23 14 32.1	-0.6		
SLW	Petit Monier	131.29	89	*e*	PKPdf	23 14 32.6	0.0		
BIM	Bigot	131.30	89	eP	PKPdf	23 14 30.8	-1.8		
BAMF	Morne Balai	131.30	88	eP	PKPdf	23 14 32.4	-0.3		
TRMF	Trois Ilets	131.32	89	eP	PKPdf	23 14 31.5	-1.1		
DWS	Wesley	131.33	87	*e*	SKPab	23 17 44.8	-1.0		
DWS	Wesley	131.33	87	eP	SKPab	23 17 50.3	+4.5		
DLPL	La Plaine	131.34	87	eP	PKPdf	23 15 11.1	+38		
DLPL	La Plaine	131.34	87	*e*	SKPab	23 17 47.1	+1.3		
DLPL	La Plaine	131.34	87	eP	SKPab	23 17 49.5	+3.7		
ZAM	Aeronautique	131.35	88	eP	PKPdf	23 14 31.8	-0.9		
ANWB	Willy Bob	131.36	84	eP	PKPdf	23 14 32.3	-0.3		
ANWB	Willy Bob	131.36	84	eP	PKPdf	23 14 34.2	+1.5		
ANWB	Willy Bob	131.36	84	*e*	SKPab	23 17 45.9	+0.1		
ANWB	Willy Bob	131.36	84	eP	SKPab	23 17 47.5	+1.7		
ANWB	Willy Bob	131.36	84	ePKPdf	PKPdf	23 14 31.7	-0.9		
MGG	Marie-Galante	131.41	87	eP	PKPdf	23 14 32.6	-0.1		
MGG	Marie-Galante	131.41	87	*e*	SKPab	23 17 48.3	+2.2		
MVM	Montagne Vaucl	131.47	89	eP	PKPdf	23 14 32.6	-0.4		
PUL	Pulkovo	131.47	334	*c i* PKIKP	PKPdf	23 14 33.5	+1.9		
PUL				pmax	pmax				
	comp=Z,410nm,1.0s								
KONS	Konsvik	131.74	348	ePKPdf	PKPdf	23 14 32.3	+0.4		
DEG	La Desirade	131.74	86	eP	PKPdf	23 14 32.5	-1.0		
DEG	La Desirade	131.74	86	*e*	SKPab	23 17 46.3	-1.3		
MOR8	Moi Rana	131.75	347	ePKPdf	PKPdf	23 14 32.2	+0.2		
MOR8				ePP	PP	23 16 52.2	-1.3		
STOK	Stokkvaagen	131.90	348	ePKPdf	PKPdf	23 14 32.9	+0.7		
TSUM	Tsumeb	131.95	216	PKhKP	PKPpre	23 14 20.7			
	comp=Z,1.7nm,0.7s,baz=98,slow=3.6,SNR=5.5								
TSUM				PKP	PKiKP	23 14 34.7	-0.3		
	comp=Z,62nm,0.9s,baz=132,slow=2.2,SNR=30								
TSUM				PP	PP	23 17 00.5	+5.2		
	comp=Z,17nm,1.0s,baz=126,slow=7.1,SNR=7.8								
FINES	FINESS Array B	132.06	337	Pdiff	Pdif	23 11 29.6	+2.1		
	comp=Z,1.2nm,0.8s,baz=74,slow=5.1,SNR=2.4								
FINES				PKP	PKPpre	23 14 21.1			
	comp=Z,3.5nm,0.4s,baz=55,slow=3.5,SNR=16								
FINES				PKP	PKiKP	23 14 33.4	-0.3		
	comp=Z,70nm,0.8s,baz=96,slow=2.8,SNR=27								
FINES				SKPbc	SKPbc	23 17 45.8	-0.6		
	comp=Z,76nm,0.8s,baz=53,slow=2.6,SNR=12								
BBGH	Gun Hill	132.35	91	eP	PKPdf	23 14 35.4	+0.7		
BBGH	Gun Hill	132.35	91	eP	PKPdf	23 14 37.5	+2.9		
BBGH	Gun Hill	132.35	91	*e*	SKPab	23 17 52.3	+2.1		
BBGH	Gun Hill	132.35	91	eP	SKPab	23 17 55.8	+5.6		
BBGH	Gun Hill	132.35	91	ePKPdf	PKPdf	23 14 35.4	+0.7		
BBSP	Saint Philip	132.44	91	*e*	SKPab	23 17 55.5	+4.9		
BBSP	Saint Philip	132.44	91	eP	SKPab	23 17 56.8	+6.2		
NRS	Narsarsuaq	132.64	22	*i* P	PKPdf	23 14 31.6	-2.2		
NRS	Narsarsuaq	132.64	22	ePKIKP	PKPdf	23 14 31.6	-2.2		
SOC	Sochi	132.74	311	*c i* PKIKP	PKPdf	23 14 34.9	+0.4		
SOC				*i*		23 17 01.6			
SOC				ePPP	PPP	23 19 55.8			
SOC				ePS	PS	23 26 57.5	-22		
SOC				eSSS	SSS	23 39 25.5			
SOC				pmax	pmax				
	comp=Z,99nm,1.0s								
VSU	Vasula	133.74	334	*c i* PKIKP	PKPdf	23 14 36.4	+0.5		
ANN	Anapa	134.04	313	*c i* P	Pdif	23 11 42.3	+5.6		
ANN				*i*		23 14 37.5			
ANN				eSP	SP	23 27 15.2	+1.0		
ANN				eSS	SS	23 34 48.8	+2.2		
ANN				pmax	pmax				
	comp=N,53nm,1.0s								
ANN				pmax	pmax				
	comp=Z,146nm,1.0s								
ANN				pmax	pmax				
	comp=E,42nm,1.0s								
ANN				pmax	pmax				
	comp=N,413nm,6.9s								
ANN				pmax	pmax				
	comp=E,198nm,6.8s								
ANN				pmax	pmax				
	comp=Z,1μm,7.0s								
JHLN	Al Jahlan	135.00	300	eP	SKPab	23 18 01.2	0.0		
TBLU	Trondheim	135.18	347	ePKPdf	PKPdf	23 14 38.8	+0.3		
TBLU				ePP	PP	23 17 13.9	-1.4		
TBLU				eSS	SS	23 34 58.5	0.0		
BORG	Borgarnes	135.29	7	PP	PP	23 17 17.9	+2.1		
	comp=Z,40nm,1.1s,baz=288,slow=2.2,SNR=3.8								
BORG				SKPbc	SKPbc	23 17 56.3	-0.7		
	comp=Z,156nm,1.1s,baz=69,slow=1.1,SNR=8.6								
BORG	Borgarnes	135.29	7	ePKIKP	PKPdf	23 14 42.6	+4.0		
SLMH	Al Salmeh	135.35	301	eP	SKPab	23 18 01.0	-1.7		
MICGM	Minsk	135.59	329	$\Uparrow$ ePKP	PKPdf	23 14 34.0	-5.5		
MICGM				$\Uparrow$ ePKP	PKPdf	23 14 34.0	-5.5		
MICGM				PKPM		23 14 39.0			
	comp=Z,0.8nm,0.8s								
MICGM				PKPM		23 14 39.0			
	comp=Z,4.4nm,2.0s								
MICGM				ePKP	PKPdf	23 15 14.0	-2.0		
MICGM				ePP	PP	23 17 16.0	-2.3		
MICGM				PPM		23 17 18.0			
	comp=Z,6.9nm,8.0s								
MICGM				ePPP	PPP	23 20 10.0			
MICGM				ePS	PS	23 27 22.0	-21		
MICGM				ePPS	PPS	23 29 26.0			
MICGM				eSS	SS	23 35 04.0	-0.3		
MICGM				eLQ	LQ	23 48 48.0			
MICGM				LQM		23 59 24.0			
	comp=E,24nm,36.0s								
MICGM				LQM		23 59 40.0			
	comp=E,6.6nm,24.0s								
MICGM				eLR	LR	00 03 40.0			
MICGM				LRM	MLR	00 16 36.0			
	comp=Z,9.4nm,24.0s								
MICGM				LRM	MLR	00 16 38.0			
	comp=Z,5.2nm,22.0s								
MICGM				LRM	MLR	00 16 40.0			
	comp=E,8.2nm,22.0s								
MICGM				LRM	MLR	00 16 42.0			
	comp=E,2.6nm,22.0s								
MNK	Minsk	135.59	329	*ce* PKIKP	PKPdf	23 14 34.0	-5.5		
MNK				*e*		23 17 16.0			
MNK				ePS	PS	23 27 22.0	-21		
MNK				ePPS	PPS	23 29 26.0			
MNK				eSS	SS	23 35 04.0	-0.3		
MNK				pmax	pmax				
	comp=Z,4μm,7.0s								
MNK				pmax	pmax				
	comp=Z,790nm,0.8s								
MNK				pmax	pmax				
	comp=Z,7μm,8.0s								
MNK				MLR	MLR				
	comp=Z,9μm,24.0s								
MNK				MLR	MLR				
	comp=Z,5μm,22.0s								
MNK				MLR	MLR				
	comp=E,8μm,22.0s								
MNK				MLR	MLR				
	comp=E,3μm,22.0s								
IZAR	Zarasai	135.62	331	eP	PKPpre	23 14 29.0			
IZAR				IAmb	IAmb	23 14 43.4			
	comp=Z,106nm,1.2s								
IDID	Didziasalis	135.66	331	eP	PKPpre	23 14 27.9			
IDID				IAmb	IAmb	23 14 48.9			
	comp=Z,109nm,0.8s								
ISAL	Salakas	135.79	331	eP	PKPpre	23 14 28.6			
ISAL				IAmb	IAmb	23 14 43.7			
	comp=Z,111nm,1.2s								
IIGN	Ignalina	135.88	331	eP	PKPpre	23 14 28.1			
IIGN				IAmb	IAmb	23 14 49.0			
	comp=Z,113nm,0.7s								
NACGM	Naroch	135.88	330	eP	Pdif	23 11 46.0	+1.3		
NACGM				ePKHKP	PKPpre	23 14 20.0			
NACGM				ePKIKP	PKiKP	23 14 42.0	+0.3		
NACGM				ePP	PP	23 17 14.0	-6.1		
NACGM				eSKP		23 18 06.0			
NACGM				ePKS	PKSdf	23 18 12.0	-4.0		
NACGM				ePPP	PPP	23 20 20.0			
NACGM				eSKKKS		23 25 08.0			
NACGM				ePS	PS	23 27 32.0	-14		
NACGM				eSS	SS	23 34 44.0	-24		
NACGM				eSSS	SSS	23 40 28.0			
NACGM				eLQ	LQ	23 55 53.0			
DRWC	Darouich	136.30	302	eP	SKPbc	23 18 03.4	+2.2		
MOL	Molde	136.34	348	ePKPdf	PKPdf	23 14 41.1	+0.5		
MOL				ePP	PP	23 17 22.5	-0.1		
MOL				ePKSdf	PKSdf	23 18 16.6	0.0		
MOL				eSS	SS	23 35 13.9	+1.6		
DOMB	Dombas	136.51	347	ePdif	Pdif	23 11 46.4	-1.0		
DOMB				*e*		23 14 28.5			
DOMB				ePKPdf	PKPdf	23 14 41.8	+0.7		
DOMB				ePKSdf	PKSdf	23 18 17.1	0.0		
DOMB				eSS	SS	23 35 15.8	+1.3		
BTCH	Batrach	136.55	301	eP	SKPbc	23 18 03.9	+1.9		
ASF	Jabal al Asfar	136.56	295	PP	PP	23 17 30.4	+4.7		
	comp=Z,3.6nm,0.8s,baz=93,slow=3.5,SNR=3.3								
ASF				SKPbc	SKPbc	23 18 01.6	-0.5		
	comp=Z,71nm,1.1s,baz=25,slow=0.9,SNR=9.1								
MARH	Ras Al Marh	136.76	298	eP	SKPbc	23 18 08.0	+5.0		
AKN	Aaknes	136.81	348	ePKPdf	PKPdf	23 14 41.8	+0.2		
AKN				epPKPdf	pPKPdf	23 15 17.5	-0.6		
AKN				ePP	PP	23 17 25.4	-0.1		
AKN				ePKSdf	PKSdf	23 18 18.5	+1.0		
AKN				eSS	SS	23 35 22.3	+4.4		
AKASG	Malin Array Be	136.91	324	PKhKP	PKPpre	23 14 32.5			
	comp=Z,8.7nm,0.8s,baz=62,slow=2.9,SNR=12								
AKASG				PP	PP	23 17 26.7	0.0		
	comp=Z,15nm,0.9s,baz=54,slow=6.4,SNR=5.2								
AKASG				SKPbc	SKPbc	23 18 01.4	-1.0		
	comp=Z,124nm,0.9s,baz=51,slow=3.4,SNR=13								
AKASG				SKKPbc	SKKPbc	23 26 40.1	-18		
	comp=Z,3.8nm,0.9s,baz=239,slow=5.0,SNR=4.3								
NB2	NORSAR Subarra1	136.91	345	PKPdf	PKPpre	23 14 30.7			
	baz=31,slow=1.9								
NB2	NORSAR Subarra1	136.91	345	PKPdf	PKPpre	23 14 30.7			
	comp=Z,165nm,1.2s,baz=31,slow=1.9								
NOA	NORSAR Array B	136.91	345	PKhKP	PKPpre	23 14 30.3			
	comp=Z,4.8nm,0.7s,baz=34,slow=2.6,SNR=15								
NOA				PKP	PKPdf	23 14 41.8	0.0		
	comp=Z,51nm,0.9s,baz=38,slow=2.0,SNR=36								
NOA				SKPbc	SKPbc	23 18 02.0	-0.2		
	comp=Z,20nm,1.0s,baz=36,slow=2.2,SNR=5.0								
NOA				SKKPbc	SKKPbc	23 26 54.6	-3.6		
	comp=Z,3.0nm,0.9s,baz=193,slow=8.1,SNR=3.5								
KIEV	Kiev	136.92	324	*c i* PKIKP	PKPdf	23 14 40.6	-1.5		
ARNB	Al Arnab	136.97	301	eP	SKPbc	23 18 06.0	+2.7		
NC602	NORSAR Array S	137.09	344	ePKPdf	PKPdf	23 14 42.7	+0.5		
NC602				ePP	PP	23 17 28.4	+1.1		
NC602				eSS	SS	23 35 24.6	+3.2		
BRBR	Barbar	137.26	297	eP	SKPbc	23 18 06.3	+1.9		
BHL	Bhannes	137.46	298	eP	PKPpre	23 14 34.2			
FOO	Floro	137.70	349	ePKPdf	PKPdf	23 14 44.5	+1.3		
FOO				ePP	PP	23 17 31.2	+0.2		
FOO				eSS	SS	23 35 31.1	+2.7		
MMAI	Mount Meron Ar	137.76	297	PKhKP	PKPpre	23 14 35.6			
	comp=Z,7.6nm,0.7s,baz=87,slow=4.3,SNR=18								
MMAI				PKP	PKPdf	23 14 44.4	+0.1		
	comp=Z,65nm,0.8s,baz=59,slow=3.9,SNR=19								
MMAI				SKPbc	SKPbc	23 18 05.6	-0.1		
	comp=Z,169nm,1.0s,baz=67,slow=2.8,SNR=18								
HYA	Hoyanger	137.89	348	ePKPdf	PKPdf	23 14 44.1	+0.5		
HYA				ePP	PP	23 17 32.5	+0.3		
OSL	Oslo	137.99	344	ePP	PP	23 17 33.4	+0.6		
BRTR	Keskin Array B	138.06	307	PKhKP	PKPpre	23 14 36.4			
	comp=Z,16nm,0.9s,baz=150,slow=3.3,SNR=23								
BRTR				PKP	PKPdf	23 14 44.9	+0.1		
	comp=Z,63nm,0.9s,baz=127,slow=2.3,SNR=31								
BRTR				PP	PP	23 17 36.8	+2.1		
	comp=Z,16nm,1.0s,baz=116,slow=5.6,SNR=4.4								
BRTR				SKPbc	SKPbc	23 18 05.2	-1.1		
	comp=Z,34n

BEL	**Belsk**	**140.60 330**	*e*PKHKP	PKPpre	23 14 41.9			
BEL			*e*		23 17 50.8			
BEL			*e*		23 30 14.6			
BEL			*e*SS	SS	23 36 03.2	-0.1		
VRI	**Vrincioaia**	**140.68 318** ⇓	*i*P	PKPpre	23 14 38.1			
VRI	**Vrincioaia**	**140.68 318** ⇓	PKHKP	PKPpre	23 14 38.1			
BSD	**Bornholm Skovb**	**140.70 337** ⇑	*i*P	PKPpre	23 14 38.8			
BSD			*i*		23 17 46.5			
BSD	**Bornholm Skovb**	**140.70 337** ⇑	*i*PKHKP	PKPpre	23 14 38.8			
BSD			*i*		23 17 46.5			
PLOR	**Plostina**	**140.73 319** ⇑	*i*P	PKPpre	23 14 37.8			
PLOR	**Plostina**	**140.73 319** ⇑	PKHKP	PKPpre	23 14 37.8			
GRER		**140.74 318** ⇑	*i*P	PKPpre	23 14 45.9			
ISP	**Isparta**	**140.88 305**	*i*P	PKPpre	23 14 38.5			
ISP	**Isparta**	**140.88 305** ⇓	*i*P	PKPpre	23 14 43.6			
ISP	**Isparta**	**140.88 305** ⇓	PKHKP	PKPpre	23 14 43.6			
KWP	**Kalwaria Pacla**	**141.01 326**	*e*PKPdf	PKPpre	23 14 43.0			
KWP			*e*		23 14 52.0			
KWP			*e*PP	**PP**	**23 17 49.9**	**-2.1**		
KWP			*e*SS	SS	23 36 14.4	+6.0		
KWP	**Kalwaria Pacla**	**141.01 326**	*e*PKHKP	PKPpre	23 14 43.0			
KWP			*e*		23 14 52.0			
KWP			*e*		23 17 49.8			
ISK	**Istanbul-Kandi**	**141.02 310**	P	PKPpre	23 14 38.8			
COP	**Copenhagen**	**141.09 340** ⇑	*i*P	PKPpre	23 14 40.2			
COP			*i*		23 17 50.7			
COP	**Copenhagen**	**141.09 340** ⇑	*i*PKHKP	PKPpre	23 14 40.2			
COP			*i*		23 17 50.7			
ISR	**Istrita**	**141.13 318** ⇓	*i*P	PKPpre	23 14 44.2			
ISR	**Istrita**	**141.13 318** ⇓	PKHKP	PKPpre	23 14 44.2			
GKP	**Gorka Klasztor**	**141.19 334**	*e*PKPdf	PKPpre	23 14 43.6			
GKP			*e*PP	**PP**	23 30 26.9			
GKP			*e*		23 30 26.9			
GKP			*e*SS	SS	23 36 07.6	-2.3		
GKP	**Gorka Klasztor**	**141.19 334**	*e*PKHKP	PKPpre	23 14 43.6			
GKP			*e*		23 17 53.4			
GKP			*e*		23 30 26.9			
GKP			*e*SS	SS	23 36 07.6	-2.3		
MLR	**Muntele Rosu**	**141.34 318**	SKPbc	**SKPbc**	**23 18 15.5**	**+0.5**		
	comp=Z,14nm,1.0s,baz=342,slow=3.2,SNR=9.3							
MLR	**Muntele Rosu**	**141.34 318** ⇑	*i*P	PKPpre	23 14 43.1			
MLR	**Muntele Rosu**	**141.34 318** ⇑	PKHKP	PKPpre	23 14 43.1			
PRD	**Provadia**	**141.39 314**	*i*P	PKPpre	23 14 46.5			
MUD	**Monsted U'grnd**	**141.43 343**	*i*P	PKPpre	23 14 40.9			
MUD	**Monsted U'grnd**	**141.43 343**	*e*PKHKP	PKPpre	23 14 40.9			
DOPR	**Dopca**	**141.45 319** ⇑	*i*P	PKPpre	23 14 45.4			
LLD	**Lille Linde**	**141.45 340**	*i*P	PKPpre	23 14 45.3			
LLD			*i*		23 15 42.3			
LLD	**Lille Linde**	**141.45 340**	*i*PKIKP	PKPpre	23 14 45.3			
SECR		**141.47 318** ⇓	*i*P	PKPpre	23 14 46.6			
ARCR	**ARCALIA**	**141.51 321** ⇓	*i*P	PKPpre	23 14 45.9			
SULR		**141.51 317** ⇑	*i*P	PKPpre	23 14 46.2			
RGN	**Rugen**	**141.72 338**	*e*PKPdf	PKPpre	23 14 47.3			
UZH	**Uzhgorod**	**141.82 325**	*e*PKHKP	PKPpre	23 14 46.0			
UZH			*e*		23 17 53.0			
UZH			*e*		23 21 47.0			
UZH			*e*SS	SS	23 36 12.0	-5.7		
STHS	**Stebnicka Huta**	**141.91 326**	*e*PKIKP	PKPpre	23 14 47.2			
STHS	**Stebnicka Huta**	**141.91 326**	*e*PKP	PKPpre	23 14 47.2			
STHS			*e*		23 18 20.4			
VOIR		**141.92 319** ⇑	*i*P	PKPpre	23 14 47.3			
VOIR		**141.92 319** ⇑	PKIKP	PKPpre	23 14 47.3			
KSL	**Kastellorizon**	**142.01 303**	P	PKPpre	23 14 42.5			
MTUR	**Matau**	**142.01 318** ⇓	*i*P	**PKPdf**	**23 14 51.6**	**-0.1**		
MTUR	**Matau**	**142.01 318** ⇓	PKIKP	**PKPdf**	**23 14 51.6**	**-0.1**		
MLA1	**Latheron**	**142.04 354** ⇑	*e*P	PKPpre	23 14 45.0			
CRVS	**Cervenica-Dubn**	**142.10 326**	*e*PKIKP	PKPpre	23 14 46.9			
CRVS			*e*		23 18 01.1			
CRVS			*e*SS	SS	23 36 13.4	-7.7		
CRVS	**Cervenica-Dubn**	**142.10 326**	*e*PKP	PKPpre	23 14 46.9			
CRVS			*e*		23 14 54.8			
CRVS			*e*		23 18 01.1			
CRVS			*e*		23 18 16.6			
CRVS			*e*SS	SS	23 36 13.4	-7.7		
KULA	**Kula-Manisa**	**142.11 307**	P	PKPpre	23 14 41.4			
OJC	**Ojcow**	**142.13 328**	*e*PKPdf	PKPpre	23 14 44.6			
OJC			*e*PP	**PP**	**23 17 58.8**	**+0.1**		
OJC			*e*SS	SS	23 36 21.2	+0.1		
OJC	**Ojcow**	**142.13 328**	*e*PKHKP	PKPpre	23 14 44.6			
OJC			*e*		23 17 58.8			
OJC			*e*SS	SS	23 36 21.3	+0.1		
RSC	**Scourie**	**142.15 356** ⇑	*e*P	PKPpre	23 14 45.2			
CJR	**Cluj-Napoca**	**142.15 321** ⇑	*i*P	PKPpre	23 14 47.3			
CJR	**Cluj-Napoca**	**142.15 321** ⇑	PKIKP	PKPpre	23 14 47.3			
ARR	**Arges**	**142.21 319** ⇑	*i*P	PKPpre	23 14 44.7			
SZH	**Strazhica**	**142.34 315**	*i*P	PKPpre	23 14 48.2			
EDRB	**Edirne**	**142.37 313**	P	PKPpre	23 14 43.1			
NIE	**Niedzica**	**142.39 327**	*e*PKPdf	PKPpre	23 14 45.5			
NIE			*e*PP	**PP**	**23 18 02.4**	**+2.1**		
NIE			*e*SS	SS	23 36 23.0	-1.3		
NIE	**Niedzica**	**142.39 327**	*e*PKHKP	PKPpre	23 14 45.5			
NIE			*e*		23 18 02.4			
NIE			*e*SS	SS	23 36 23.0	-1.3		
HUMR	**Humele**	**142.39 317** ⇑	*i*P	PKPpre	23 14 47.1			
DRGR		**142.62 322** ⇑	*i*P	PKPpre	23 14 48.5			
DRGR		**142.62 322** ⇑	PKIKP	PKPpre	23 14 48.5			
RRH	**Rhenigidale**	**142.66 357**	*e*P	PKPpre	23 14 47.5			
RRR	**Rubha Reidh**	**142.68 356**	*e*P	PKPpre	23 14 46.7			
LOT	**Lotru**	**142.70 320** ⇑	*i*P	PKPpre	23 14 48.6			
MCD	**Coleburn Disti**	**142.74 354** ⇑	*e*P	PKPpre	23 14 46.8			
PVL	**Pavlikeni**	**142.75 315**	*i*P	PKPpre	23 14 49.3			
KECS	**Kecovo**	**142.87 326**	*e*PKIKP	PKPpre	23 14 49.4			
KECS	**Kecovo**	**142.87 326**	*e*PKP	PKPpre	23 14 49.4			
MME1	**Meikle Cairn**	**142.97 353** ⇑	*e*P	PKPpre	23 14 47.2			
LANS	**Liptovska Anna**	**142.98 327**	*e*PKIKP	**PKPdf**	**23 14 50.6**	**-2.6**		
LANS			*e*		23 18 10.1			
LANS	**Liptovska Anna**	**142.98 327**	*e*PKP	**PKPdf**	**23 14 50.6**	**-2.6**		
LANS			*e*		23 18 10.1			
LANS			*e*		23 18 27.9			
MDO	**Dochfour**	**142.98 355** ⇑	*e*P	PKPpre	23 14 47.6			
DEV	**Deva**	**142.99 321** ⇓	*i*P	PKPpre	23 14 49.7			
DEV	**Deva**	**142.99 321** ⇓	PKIKP	PKPpre	23 14 49.7			
RAC	**Raciborz**	**142.99 329**	*e*PKHKP	PKPpre	23 14 45.1			
RAC			*e*		23 18 03.0			
RAC			*e*SS	SS	23 36 33.0	+1.9		
KAC	**Achnashellach**	**143.00 356** ⇑	*e*P	PKPpre	23 14 48.2			
ARG	**Arkhangelos**	**143.14 303**	P	PKPab	23 14 50.4	+0.7		
ARG	**Arkhangelos**	**143.14 303**	PKIKP	PKPab	23 14 50.4	+0.7		
ARG	**Arkhangelos**	**143.14 303**	P	PKPab	23 14 50.4	+0.7		
OKC	**Ostrava-Krasne**	**143.18 329**	*e*PKP	PKPab	23 14 49.1	-0.3		
OKC			AMS	AMS	00 14 10.0			
	comp=Z,6µm,23.9s							
OKC	**Ostrava-Krasne**	**143.18 329**	*e*PKIKP	PKPab	23 14 49.1	-0.3		
OKC			MLR	MLR				
	comp=Z,6µm,23.9s							
ALN	**Alexandroupoli**	**143.22 312**	P	PKPab	23 14 47.6	-2.2		
ALN	**Alexandroupoli**	**143.22 312**	P	PKPab	23 14 47.6	-2.2		
CRAR	**CRAIOVA**	**143.23 318** ⇓	*i*P	PKPbc	23 14 52.1	+1.0		
CRAR	**CRAIOVA**	**143.23 318** ⇓	PKIKP	PKPbc	23 14 52.1	+1.0		
KSP	**Ksiaz**	**143.34 332**	*e*PKPdf	PKPab	23 14 49.0	-1.0		
KSP			*e*PP	**PP**	**23 18 04.0**	**-1.9**		
KSP			*e*PPP	PPP	23 21 13.4			
KSP			*e*SS	SS	23 36 42.9	+7.9		
KSP			*e*SSS	SSS	23 41 43.6			
SHEL	**Horse Pasture**	**143.38 187**	*e*PKIKP	PKPbc	23 14 53.4	+1.0		
SHEL	**Horse Pasture**	**143.38 187**	*e*PKPdf	PKPbc	23 14 53.4	+1.0		
SRE	**Strehaia**	**143.44 319** ⇑	*i*P	PKPbc	23 14 51.8	+0.1		
SRE	**Strehaia**	**143.44 319** ⇑	PKIKP	PKPbc	23 14 51.9	+0.2		
RDO	**Rodhopi**	**143.47 312**	P	PKPab	23 14 49.3	-1.5		
RDO	**Rodhopi**	**143.47 312**	P	PKPab	23 14 49.3	-1.5		
MORC	**Moravsky Berou**	**143.51 329** ⇑	*i*P	PKPab	23 14 50.5	-0.3		
MORC	**Moravsky Berou**	**143.51 329**	*e*PKIKP	PKPbc	23 14 51.6	-0.2		
MORC	**Moravsky Berou**	**143.51 329**	*e*PKPdf	PKPbc	23 14 51.6	-0.3		
SIRR	**Siria**	**143.51 322** ⇓	*i*P	PKPbc	23 14 51.9	0.0		
PSZ	**Piszkesteto**	**143.53 325** ⇑	*i*P	PKPab	23 14 49.8	-1.2		
PSZ	**Piszkesteto**	**143.53 325** ⇑	*e*PKPdf	PKPab	23 14 51.3	+0.3		
PSZ	**Piszkesteto**	**143.53 325**	*e*PKPdf	PKPbc	23 14 51.7	-0.3		
RCBR	**Riachuelo**	**143.56 133**	PKhKP	PKPpre	23 14 50.9			
	comp=Z,138nm,0.7s,baz=221,slow=3.3,SNR=21							
RCBR	**Riachuelo**	**143.56 133**	*e*PKPdf	PKPpre	23 14 51.0			
PRK	**Paraskevi**	**143.65 309**	P	PKPab	23 14 50.4	-1.2		
PRK	**Paraskevi**	**143.65 309**	PKIKP	PKPab	23 14 50.4	-1.2		
PRK	**Paraskevi**	**143.65 309**	P	PKPab	23 14 50.4	-1.2		
KRLC	**Kraliky**	**143.66 330**	*e*PKP	PKPbc	23 14 52.0	-0.3		
KRLC	**Kraliky**	**143.66 330**	*e*PKIKP	PKPbc	23 14 52.0	-0.3		
DPC	**Dobruska-Polom**	**143.68 331**	*e*PKP	PKPab	23 14 51.2	-0.2		
DPC			*e*SS	SS	23 36 30.4	-8.6		
DPC			AMS	AMS	00 10 00.0			
	comp=Z,15µm,33.4s							
DPC	**Dobruska-Polom**	**143.68 331**	*e*PKIKP	PKPab	23 14 51.2	-0.2		
DPC			*e*SS	SS	23 36 30.4	-8.6		
UPC	**Upice**	**143.71 332**	*e*PKP	PKPab	23 14 51.4	-0.1		
UPC			*e*PP	**PP**	**23 18 02.3**	**-5.8**		
UPC			*e*SS	SS	23 36 35.2	-4.0		
UPC			AMS	AMS	00 17 40.0			
	comp=Z,11µm,24.6s							
UPC	**Upice**	**143.71 332**	*e*PKIKP	PKPab	23 14 51.4	-0.1		
UPC			*e*SS	SS	23 36 35.2	-4.0		
UPC			MLR	MLR				
	comp=Z,11µm,24.6s							
SMG	**Samos**	**143.72 306**	P	PKPab	23 14 49.9	-2.1		
SMG	**Samos**	**143.72 306**	P	PKPab	23 14 49.9	-2.1		
VYHS	**Vyhne**	**143.72 327**	*e*PKIKP	PKPab	23 14 52.0	+0.4		
VYHS			*e*		23 18 07.1			
VYHS			*e*SS	SS	23 36 36.6	-3.0		
VYHS	**Vyhne**	**143.72 327**	*e*PKP	PKPab	23 14 52.0	+0.4		
VYHS			*e*		23 14 55.3			
VYHS			*e*		23 18 07.1			
VYHS			*e*SS	SS	23 36 36.6	-3.0		
MPEP	**Malo Peshtene**	**143.73 316**	*i*P	PKPab	23 14 51.7	-0.1		
EDU	**Dundee**	**143.73 353**	*e*P	PKPab	23 14 50.6	-0.7		
SMTH	**Samothraki Isl**	**143.74 311**	P	PKPab	23 14 49.9	-2.1		
SMTH	**Samothraki Isl**	**143.74 311**	P	PKPab	23 14 49.9	-2.1		
NIS1	**Nisyros Isl.**	**143.78 304**	P	**PKPdf**	**23 14 54.6**	**-0.4**		
NIS1	**Nisyros Isl.**	**143.78 304**	P	**PKPdf**	**23 14 54.6**	**-0.4**		
NISR	**Nisiros**	**143.81 304**	P	PKPab	23 14 48.3	-4.0		
NISR	**Nisiros**	**143.81 304**	P	PKPab	23 14 48.3	-4.0		
PGB	**Panagyurishte**	**143.82 315**	*i*P	PKPab	23 14 52.3	0.0		
RZN	**Rozhen**	**143.82 313**	*i*P	PKPab	23 14 52.0	-0.5		
BZS	**Buzias**	**143.90 321** ⇑	*i*P	PKPab	23 14 52.4	0.0		
BZS	**Buzias**	**143.90 321** ⇑	PKIKP	PKPab	23 14 52.4	0.0		
SIGR	**SIGRI**	**143.96 309**	P	PKPab	23 14 50.5	-2.3		
SIGR	**SIGRI**	**143.96 309**	P	PKPab	23 14 50.5	-2.3		
KARP	**Karpathos**	**144.06 302**	P	**PKPab**	**23 14 52.2**	**-1.2**		
KARP	**Karpathos**	**144.06 302**	P	**PKPab**	**23 14 52.2**	**-1.2**		
TIM	**Timisoara**	**144.06 322** ⇑	*i*P	PKPbc	23 14 54.0	+0.5		
TIM	**Timisoara**	**144.06 322** ⇑	PKIKP	PKPbc	23 14 54.0	+0.5		
CHOS	**Chios island**	**144.09 308**	P	**PKPab**	**23 14 52.6**	**-0.9**		
CHOS	**Chios island**	**144.09 308**	P	**PKPab**	**23 14 52.6**	**-0.9**		
LIA	**Limnos Island**	**144.20 310**	P	**PKPab**	**23 14 51.7**	**-2.0**		
LIA	**Limnos Island**	**144.20 310**	P	**PKPab**	**23 14 51.7**	**-2.0**		
EAB	**Aberfoyle**	**144.22 354**	*e*P	**PKPab**	**23 14 51.9**	**-1.4**		
KAVA	**Kavala**	**144.24 312**	P	**PKPab**	**23 14 52.6**	**-1.2**		
KAVA	**Kavala**	**144.24 312**	P	**PKPab**	**23 14 52.6**	**-1.2**		
BUD	**Budapest**	**144.26 325** ⇑	*e*PKPdf	PKPbc	23 14 54.0	-0.1		
VRAC	**Vranov**	**144.28 330** ⇑	*i*P	**PKPab**	**23 14 53.5**	**-0.2**		
VRAC	**Vranov**	**144.28 330** ⇑	PKIKP	**PKPab**	**23 14 53.6**	**-0.2**		
MDVR	**Moldovita**	**144.29 320** ⇑	*i*P	**PKPab**	**23 14 54.0**	**0.0**		
ESY	**Stoneypath**	**144.30 353**	*e*P	**PKPab**	**23 14 51.5**	**-2.1**		
BANR	**Banloc**	**144.31 321** ⇑	*i*P	PKPbc	23 14 54.9	+0.6		
PVCC	**Panska Ves**	**144.33 333**	*e*PKP	**PKPab**	**23 14 53.6**	**-0.2**		
PVCC			*e*SS	SS	23 36 49.9	+3.7		
PVCC			AMS	AMS	00 17 10.0			
	comp=Z,8µm,26.1s							
PVCC	**Panska Ves**	**144.33 333**	*e*PKIKP	**PKPab**	**23 14 53.6**	**-0.2**		
PVCC			*e*SS	SS	23 36 49.9	+3.7		
PVCC			MLR	MLR				
	comp=Z,8µm,26.1s							
BRG	**Berggiesshubel**	**144.33 334**	*i*PKP	**PKPab**	**23 14 53.6**	**-0.3**		
	comp=Z,2µm,1.3s							
BRG			*e*pPKP	**sPKPdf**	**23 15 44.0**	**-2.0**		
	comp=Z,594nm,1.1s							
BRG			SKP		23 18 25.0			
	comp=Z,713nm,1.6s							
BRG			*e*		23 28 28.0			
BRG			*e*		23 30 36.0			
BRG			SS	SS	23 36 56.0	+10		
BRG			*e*PKPPKP		23 42 42.9			
	comp=Z,7.0nm,1.5s							
BRG	**Berggiesshubel**	**144.33 334**	*i*PKIKP	**PKPab**	**23 14 53.6**	**-0.3**		
BRG			*e*		23 15 44.0			
BRG			*e*		23 30 36.0			
BRG			pmax	pmax				
	comp=Z,2µm,1.3s							
EDI	**Edinburgh**	**144.37 353**	*e*P	**PKPab**	**23 14 52.4**	**-1.3**		
CLL	**Collm**	**144.38 335** ⇑	*i*PKIKP	**PKPab**	**23 14 53.9**	**-0.1**		
CLL			pmax	pmax				
	comp=Z,2µm,1.5s							
CLL			MLR	MLR				
	comp=Z,4µm,20.8s							
CLL	**Collm**	**144.38 335** ⇑	*i*PKPdf	**PKPab**	**23 14 53.9**	**-0.1**		
	comp=Z,2µm,1.5s							
CLL			*e*PKPlp		23 14 55.0			
	comp=Z,14µm,21.9s							
CLL			*i* PKIKP	**PKiKP**	**23 14 58.2**	**-1.0**		
CLL			*e*		23 15 35.0			
CLL			*i* pPKPdf	**sPKPdf**	**23 15 44.6**	**-1.5**		
CLL			*e*PP	**PP**	**23 18 12.0**	**0.0**		
	comp=Z,6µm,16.9s							
CLL			*e*SKPbc	**SKiKP**	**23 18 24.0**	**+1.2**		
CLL			*i* PKSdf	**PKSdf**	**23 18 29.7**	**-1.2**		
CLL			*e*pPP		23 18 56.0			
CLL			*e*PPP	PPP	23 21 24.0			
CLL			*e*PSKS		23 28 24.0			
CLL			*e*PPPrev		23 29 24.0			
CLL			*e*PPS	PPS	23 30 44.0			
CLL			*e*		23 32 12.0			
CLL			*e*SS	**SS**	**23 36 51.0**	**+4.3**		
CLL			*e*PSPS		23 38 24.0			
CLL			*e*SSS	SSS	23 42 00.0			
CLL			L	L	00 14 00.0			
	comp=Z,4µm,20.8s							
SMOL	**Smolenice**	**144.42 328**	*e*PKIKP	PKPbc	23 14 54.8	+0.3		
SMOL	**Smolenice**	**144.42 328**	*e*PKP	PKPbc	23 14 54.8	+0.3		
VTS	**Vitosha**	**144.43 316**	P	**PKPab**	**23 14 53.8**	**-0.9**		
VTS	**Vitosha**	**144.43 316** ⇓	*i*P	PKPbc	23 14 55.0	0.0		
VTS	**Vitosha**	**144.43 316** ⇓	PKIKP	PKPbc	23 14 55.0	0.0		
VTS	**Vitosha**	**144.43 316**	*i*P	**PKPab**	**23 14 54.6**	**-0.1**		
VTS	**Vitosha**	**144.43 316**	P	**PKPab**	**23 14 53.8**	**-0.9**		
MMB	**Musomiste**	**144.53 314**	P	**PKPab**	**23 14 54.3**	**-0.7**		
NVR	**Nevrokopi**	**144.54 313**	P	**PKPab**	**23 14 53.8**	**-1.2**		
NVR	**Nevrokopi**	**144.54 313**	P	**PKPab**	**23 14 53.8**	**-1.2**		
PGBU	**Glenifferbraes**	**144.61 354**	*e*P	**PKPab**	**23 14 52.6**	**-2.1**		
GOPC	**GO Pecny, Ondr**	**144.68 332**	*e*PKP	**PKPab**	**23 14 54.6**	**-0.6**		
GOPC			AMS	AMS	00 13 10.0			
	comp=Z,9µm,30.3s							
GOPC	**GO Pecny, Ondr**	**144.68 332**	*e*PKIKP	**PKPab**	**23 14 54.6**	**-0.6**		
PRA	**Prague**	**144.72 332**	*e*PKP	PKPbc	23 14 55.5	+0.1		
PRA			*e*PP	**PP**	**23 18 15.3**	**+1.2**		
PRA			*ex*	x	23 36 38.1			
PRA			AMS	AMS	00 13 10.0			
	comp=Z,7µm,26.5s							
PRA	**Prague**	**144.72 332**	*e*PKIKP	PKPbc	23 14 55.5	+0.1		
PRA			*e*		23 18 15.3			
PRA			MLR	MLR				
	comp=Z,7µm,26.5s							
PRU	**Pruhonice**	**144.74 332**	*e*PKP	**PKPab**	**23 14 55.2**	**-0.2**		
PRU			*e*PP	**PP**	**23 18 16.0**	**+1.8**		
PRU			*e*SS	SS	23 36 43.6	-7.3		
PRU			AMS	AMS	00 13 10.0			
	comp=Z,8µm,26.6s							
PRU	**Pruhonice**	**144.74 332**	*e*PKIKP	**PKPab**	**23 14 55.2**	**-0.2**		
PRU			*e*		23 18 16.0			
PRU			*e*SS	SS	23 36 43.6	-7.3		
PRU			MLR	MLR				
	comp=Z,8µm,26.6s							
TREC	**Trest**	**144.81 330**	AMS	AMS	00 14 10.0			
	comp=Z,10µm,24.8s							
SRS	**Serrai**	**144.83 313**	P	**PKPab**	**23 14 53.8**	**-2.3**		
SRS	**Serrai**	**144.83 313**	PKIKP	**PKPab**	**23 14 53.8**	**-2.3**		
SRS	**Serrai**	**144.83 313**	P	**PKPab**	**23 14 53.8**	**-2.3**		
OUR	**Ouranopolis**	**144.88 312**	P	PKPbc	23 14 54.3	-1.9		
OUR	**Ouranopolis**	**144.88 312**	PKIKP	PKPbc	23 14 54.3	-1.9		
OUR	**Ouranopolis**	**144.88 312**	P	PKPbc	23 14 54.3	-1.9		
APE	**Apeiranthos**	**144.91 306**	P	PKPbc	23 14 54.3	-2.2		
APE	**Apeiranthos**	**144.91 306** ⇑	*i*P	PKPbc	23 14 54.3	-2.2		
APE	**Apeiranthos**	**144.91 306**	*e*PKIKP	PKPbc	23 14 56.4	-0.1		
APE	**Apeiranthos**	**144.91 306**	P	PKPbc	23 14 54.3	-2.2		
ESK	**Eskdalemuir**	**144.96 353**	*e*P	PKPbc	23 14 54.5	-1.5		
ESK	**Eskdalemuir**	**144.96 353**	*e*PKIKP	PKPbc	23 14 55.0	-1.0		
ESK	**Eskdalemuir**	**144.96 353**	*e*PKPbc	PKPbc	23 14 55.0	-1.0		
ECK	**Cauldkaine Hil**	**145.09 353** ⇑	*e*P	**PKPbc**	**23 14 55.0**	**-1.4**		
SOH	**Sokhos**	**145.12 313**	P	**PKPbc**	**23 14 54.9**	**-2.1**		
SOH	**Sokhos**	**145.12 313**	PKP2	**PKPbc**	**23 14 54.9**	**-2.1**		
SOH	**Sokhos**	**145.12 313**	P	**PKPbc**	**23 14 54.9**	**-2.1**		
THR8	**Santorini-Mono**	**145.14 305**	P	**PKPbc**	**23 14 55.4**	**-1.8**		
GMK	**Mull of Kintyr**	**145.16 355**	*e*P	**PKPbc**	**23 14 54.8**	**-1.8**		
SANT	**Santorini**	**145.17 304**	P	**PKPbc**	**23 14 55.1**	**-2.2**		
SANT	**Santorini**	**145.17 304**	*e*PKPbc	**PKPbc**	**23 14 55.9**	**-1.4**		
THR7	**Fira-Santorini**	**145.18 305**	P	**PKPbc**	**23 14 55.7**	**-1.6**		
BHH	**Howats Hill**	**145.18 353** ⇑	*e*P	**PKPbc**	**23 14 55.3**	**-1.4**		
THT1	**Athinios (Pele**	**145.19 305**	P	**PKPbc**	**23 14 55.2**	**-2.1**		
THR3	**Thira Island,**	**145.20 305**	P	**PKPbc**	**23 14 56.4**	**-1.0**		
THR3	**Thira Island,**	**145.20 305**	P	**PKPbc**	**23 14 56.4**	**-1.0**		
THR6	**Thira Island,**	**145.22 304**	P	**PKPbc**	**23 14 55.2**	**-2.2**		
THR6	**Thira Island,**	**145.22 304**	P	**PKPbc**	**23 14 55.2**	**-2.2**		
PLG	**Polygyros**	**145.24 312**	P	**PKPbc**	**23 14 54.8**	**-2.6**		
PLG	**Polygyros**	**145.24 312**	PKIKP	**PKPbc**	**23 14 54.8**	**-2.6**		
PLG	**Polygyros**	**145.24 312**	P	**PKPbc**	**23 14 54.8**	**-2.6**		
THR5	**Thira Island,**	**145.24 305**	P	**PKPbc**	**23 14 56.0**	**-1.5**		
PAIG	**Paliouri**	**145.26 311**	P	**PKPbc**	**23 14 55.1**	**-2.3**		
PAIG	**Paliouri**	**145.26 311**	PKIKP	**PKPbc**	**23 14 55.1**	**-2.3**		
PAIG	**Paliouri**	**145.26 311**	P	**PKPbc**	**23 14 55.1**	**-2.3**		
KNT	**Kendrikon**	**145.28 314**	P	**PKPdf**	**23 14 54.8**	**-2.7**		
KNT	**Kendrikon**	**145.28 314**	PKIKP	**PKPdf**	**23 14 54.8**	**-2.7**		
KNT	**Kendrikon**	**145.28 314**	P	**PKPdf**	**23 14 54.8**	**-2.7**		
NPS	**Neapolis**	**145.36 303**	P	**PKPdf**	**23 14 56.5**	**-1.3**		
NPS	**Neapolis**	**145.36 303**	PKP2	**PKPdf**	**23 14 56.5**	**-1.3**		
NPS	**Neapolis**	**145.36 303**	P	**PKPdf**	**23 14 56.5**	**-1.3**		
HORT	**Hortiatis**	**145.39 313**	P	**PKPdf**	**23 14 54.3**	**-3.5**		
HORT	**Hortiatis**	**145.39 313**	P	**PKPdf**	**23 14 54.3**	**-3.5**		
AOS	**Alonnisos**	**145.41 310**	P	**PKPdf**	**23 14 55.2**	**-2.5**		
KARY	**Karystos**	**145.41 308**	P	**PKPdf**	**23 14 56.2**	**-1.6**		
VAY	**Valandovo**	**145.43 314**	P	**PKPdf**	**23 14 56.4**	**-1.3**		
VAY	**Valandovo**	**145.43 314**	*i*P	**PKPdf**	**23 14 56.3**	**-1.4**		
VAY	**Valandovo**	**145.43 314**	PKIKP	**PKPdf**	**23 14 56.4**	**-1.3**		
VAY	**Valandovo**	**145.43 314**	P	**PKPdf**	**23 14 56.4**	**-1.3**		
NKC	**Novy Kostel**	**145.44 334**	*e*PKP	**PKPdf**	**23 14 57.0**	**-0.5**		
NKC			*e*PP	**PP**	**23 18 22.6**	**+4.3**		
NKC			*e*SS	SS	23 36 47.9	-11		
NKC	**Novy Kostel**	**145.44 334**	*e*PKP2	**PKPdf**	**23 14 57.0**	**-0.5**		
NKC			*e*		23 18 22.6			

VLI	Veliai	146.99 306	P	PKPdf	23 14 59.1	-1.4	
WPS	Cemaes, Angles	146.99 354⇑	*e*P	PKPdf	23 14 58.1	-1.8	
EVR	Evrytania	146.99 311	P	PKPdf	23 14 59.9	-0.6	
EVR	Evrytania	146.99 311	P	PKPdf	23 14 59.9	-0.6	
NKY	Niksic	147.00 319⇑	*i* PKP	PKPdf	23 14 59.5	-1.0	
STNC	Stoke	147.01 351	*e*P	PKPdf	23 14 58.2	-1.7	
SERG	Sergoula	147.01 310	P	PKPdf	23 15 00.6	+0.1	
ANX	Ano Chora	147.04 310	P	PKPdf	23 14 59.9	-0.7	
PDG	Podgorica	147.05 318	P	PKPdf	23 14 58.6	-1.8	
PDG	Podgorica	147.05 318⇑	*i* P	PKPbc	23 15 01.5	-1.1	
TTG	Podgorica	147.05 318	PKIKP	PKPdf	23 14 58.6	-1.8	
TTG	Podgorica	147.05 318⇑	*i* PKP	PKPdf	23 14 59.6	-0.8	
TTG	Podgorica	147.05 318	P	PKPdf	23 14 58.6	-1.8	
KYTH	Kithira	147.05 305	P	PKPdf	23 15 00.6	0.0	
KYTH	Kithira	147.05 305	P	PKPdf	23 15 00.6	0.0	
NKME	Niksic	147.06 319⇑	*i* PKP	PKPdf	23 14 59.5	-1.0	
WPM1	Penmaenmawr	147.07 353	*e*P	PKPdf	23 14 58.5	-1.6	
WLF1	Llynfaes	147.09 354	*e*P	PKPdf	23 14 58.9	-1.2	
KLV	Kalavryta, Ach	147.09 309	P	PKPdf	23 14 58.9	-1.8	
KLV	Kalavryta, Ach	147.09 309	P	PKPdf	23 14 58.9	-1.8	
LAKA	Lakka	147.14 309	P	PKPdf	23 14 59.9	-0.8	
LAKA	Lakka	147.14 309	P	PKPdf	23 14 59.9	-0.8	
VLX	Vlachokerasia	147.18 308	P	PKPdf	23 15 01.2	+0.3	
VLX	Vlachokerasia	147.18 308	P	PKPdf	23 15 01.2	+0.3	
CEME	Cevo	147.20 318⇑	*i* PKP	PKPdf	23 14 59.9	-0.8	
OBKA	Obir	147.21 328	*i* PKPdf	PKPdf	23 14 59.2	-1.4	
	comp=Z,266nm,1.2s,SNR=144						
OBKA			*i* pPKiKP	sPKPbc	23 15 53.4	+0.1	
	comp=Z,136nm,0.8s						
YLL	Llanberis	147.21 353	*e*P	PKPdf	23 15 00.8	+0.5	
TIR	Tirane	147.21 316⇑	*i* P	PKPbc	23 15 02.5	-0.6	
TIR	Tirane	147.21 316	⇑PKP2	PKPbc	23 15 02.5	-0.6	
TIR	Tirane	147.21 316	*e*PKPbc	PKPbc	23 15 02.6	-0.6	
DRME	Dracevica, Mon	147.22 318⇑	*i* PKP	PKPdf	23 15 00.1	-0.6	
BRY	Bratogost	147.24 319⇑	*i* PKP	PKPdf	23 14 59.7	-1.2	
IGLA	Glengowla, Co	147.26 359⇑	*e*P	PKPdf	23 14 57.5	-2.9	
UPR	University Cam	147.26 310	P	PKPab	23 15 05.1	-0.4	
ULC	Ulcinj	147.30 317⇑	*i* PKP	PKPdf	23 14 59.8	-1.1	
DSB	Dublin	147.31 356	*e*PKPdf	PKPdf	23 15 00.1	-0.4	
DSB			*e*PKPbc	PKPbc	23 15 02.3	-0.7	
PVO	Paravola	147.31 310	P	PKPdf	23 15 01.4	+0.4	
HGN	Heimansgroeve	147.34 341	*e*PKP	PKPdf	23 15 00.8	+0.3	
FOEL	Foel Wyifa	147.34 352	*e*P	PKPdf	23 14 59.1	-1.5	
OZLJ	Ozalj	147.34 326	P	PKPdf	23 14 59.3	-1.5	
BUM	Brajici-Budva	147.34 318⇑	*i* PKP	PKPdf	23 15 00.3	-0.7	
JAN	Janina	147.35 312	P	PKPdf	23 14 59.6	-1.4	
JAN	Janina	147.35 312	PKIKP	PKPdf	23 14 59.6	-1.4	
JAN	Janina	147.35 312	P	PKPdf	23 14 59.6	-1.4	
BEBN	Eben Emael	147.39 341	PKPbc	PKPbc	23 15 02.3	-1.0	
KBA	Koelnbreinsper	147.40 330	*i* PKPdf	PKPdf	23 14 59.1	-1.9	
	comp=Z,439nm,1.0s,SNR=214						
KBA			*i* pPKiKP	sPKPbc	23 15 53.6	-0.3	
	comp=Z,724nm,1.2s						
DSL	Palaion Diasel	147.40 311	P	PKPdf	23 15 00.1	-1.0	
DSL	Palaion Diasel	147.40 311	P	PKPdf	23 15 00.1	-1.0	
LLW	Llanuwchllyn	147.44 353⇑	*e*P	PKPdf	23 15 00.5	-0.2	
DRO	Drossia	147.45 309	P	PKPdf	23 15 01.7	+0.5	
MEM	Membach	147.45 341	PKPbc	PKPbc	23 15 03.0	-0.5	
HCY	Herceg Novi	147.51 319⇑	*i* PKP	PKPdf	23 15 00.3	-0.9	
BOJS	Bojanci	147.53 326	*i* PKPdf	PKPdf	23 14 59.6	-1.1	
BOJS			*i* PKPbc	PKPbc	23 15 03.2	-0.7	
LJU	Ljubljana	147.54 327	*i* PKPdf	PKPdf	23 14 60.0	-1.2	
LJU			*i* PKPbc	PKPbc	23 15 03.1	-0.8	
LJU			*e*		23 15 41.4		
LJU			*e*pPKPbc	sPKPbc	23 15 54.4	+0.3	
LJU			*e*		23 18 34.3		
LJU			*e*SS	SS	23 37 26.3	+3.3	
LJU			*e*		23 42 51.9		
LJU			*e*		23 56 36.1		
PDO	Prodromos	147.57 310	P	PKPdf	23 15 00.2	-1.2	
MYKA	Terra Mystica	147.57 329	*i* PKPdf	PKPdf	23 14 59.6	-1.7	
	comp=Z,339nm,1.0s,SNR=228						
MYKA			*i* pPKiKP	sPKPbc	23 15 53.9	-0.3	
	comp=Z,303nm,1.0s						
ITM	Ithomi	147.58 308	P	PKPdf	23 15 01.0	-0.5	
ITM	Ithomi	147.58 308	P	PKPdf	23 15 01.0	-0.5	
RLS	Riolos of Patr	147.58 309	P	PKPdf	23 15 00.6	-0.8	
RLS	Riolos of Patr	147.58 309	P	PKPdf	23 15 00.6	-0.8	
AXS	Araxos	147.59 310	P	PKPdf	23 15 00.4	-1.0	
AMT	Artemida-Makis	147.61 308	P	PKPdf	23 15 01.2	-0.3	
HLM1	Long Mynd	147.66 352	*e*P	PKPdf	23 14 58.9	-2.2	
IGT	Igoumenitsa	147.76 313	P	PKPdf	23 14 59.8	-1.9	
IGT	Igoumenitsa	147.76 313	PKIKP	PKPdf	23 14 59.8	-1.9	
IGT	Igoumenitsa	147.76 313	P	PKPdf	23 14 59.8	-1.9	
UCC	Uccle	147.77 343	PKPbc	PKPbc	23 15 03.1	-1.2	
SGD	Sagiada	147.79 313	P	PKPdf	23 15 00.6	-1.1	
PYL	PYLOS	147.82 307	P	PKPdf	23 15 00.9	-1.0	
PYL	PYLOS	147.82 307	P	PKPdf	23 15 00.9	-1.0	
BCLA	Clavier	147.84 341	PKPbc	PKPbc	23 15 03.9	-0.6	
LKD2	Lefkada island	147.86 311	P	PKPdf	23 14 59.9	-2.0	
UDBI	Udbina	147.88 324	P	PKPdf	23 15 01.1	-1.7	
STU	Stuttgart	147.89 336	*e*PKIKP	PKPdf	23 15 01.1	-0.5	
STU	Stuttgart	147.89 336	*e*PKPdf	PKPdf	23 15 01.1	-0.5	
WATA	Walderalm	148.02 332	*i* PKPdf	PKPdf	23 15 00.7	-1.4	
	comp=Z,174nm,0.5s,SNR=219						
WATA			*i* pPKiKP	sPKPbc	23 15 55.6	0.0	
	comp=Z,433nm,1.1s						
ABTA	Abfaltersbach	148.03 330	*i* PKPdf	PKPdf	23 15 00.1	-1.9	
	comp=Z,882nm,1.2s,SNR=243						
KEK	Kerkira	148.04 313	P	PKPdf	23 15 00.1	-2.0	
KEK	Kerkira	148.04 313	P	PKPdf	23 15 00.1	-2.0	
SSW	Stow on the Wo	148.05 350	*e*P	PKPdf	23 15 01.4	-0.3	
WTTA	Wattenberg	148.05 331	*i* PKPdf	PKPdf	23 15 00.8	-1.4	
	comp=Z,241nm,0.7s,SNR=106						
WTTA			*i* pPKiKP	sPKPbc	23 15 56.3	+0.6	
	comp=Z,547nm,1.1s						
KFL	Anninata	148.05 310	P	PKPdf	23 15 03.1	+0.9	
SNF	Seneffe	148.05 342	PKPbc	PKPbc	23 15 05.0	-0.1	
TRI	Trieste	148.16 327	*e*PKIKP	PKPdf	23 15 01.4	-0.7	
TRI	Trieste	148.16 327	*e*PKPdf	PKPdf	23 15 01.4	-0.7	
VLS	Valsamata	148.17 310	P	PKPdf	23 15 01.9	-0.5	
VLS	Valsamata	148.17 310	PKIKP	PKPdf	23 15 01.9	-0.5	
VLS	Valsamata	148.17 310	P	PKPdf	23 15 01.9	-0.5	
MCH1	Michaelchurch	148.19 352⇑	*e*P	PKPdf	23 14 59.6	-2.4	
IWEX	Carrickbyrne,	148.20 356⇑	*e*P	PKPdf	23 15 02.1	+0.1	
LPW	Lampeter	148.21 353	*e*P	PKPdf	23 14 59.0	-3.0	
ZKS	Zakynthos	148.22 309	P	PKPdf	23 15 01.5	-1.0	
MOTA	Moosalm	148.23 332	*i* PKPdf	PKPdf	23 15 00.9	-1.5	
	comp=Z,722nm,0.7s,SNR=328						
MOTA			*i* pPKiKP	sPKPbc	23 15 56.0	-0.1	
	comp=Z,620nm,1.0s						
WLF	Walferdange	148.23 340	PKPbc	PKPbc	23 15 04.7	-0.9	
WLF	Walferdange	148.23 340	*e*PKIKP	PKPdf	23 15 02.0	-0.1	
WLF			*e*		23 15 05.3		
WLF	Walferdange	148.23 340	*e*PKPdf	PKPdf	23 15 02.0	-0.1	
WLF			*e*PKPbc	PKPbc	23 15 05.3	-0.3	
RETA	Reutte	148.27 332	*i* PKPdf	PKPdf	23 15 00.9	-1.5	
	comp=Z,650nm,1.0s,SNR=117						
RETA			*i* pPKPab	sPKPbc	23 15 56.9	+0.8	
	comp=Z,290nm,1.0s						
STRD	Stroud	148.28 350⇑	*e*P	PKPdf	23 15 00.1	-2.0	
DOU	Dourbes	148.33 342	PKPbc	PKPbc	23 15 05.0	-0.9	
NVLJ	Novalja	148.35 325	P	PKPdf	23 15 00.9	-1.6	
OLDB	Oldbury-Upon-S	148.45 351⇑	*e*P	PKPdf	23 15 01.0	-1.4	
SWN1	Swindon	148.48 350⇑	*e*P	PKPdf	23 15 02.8	+0.4	
WOL	Wolverton	148.57 349	*e*P	PKPdf	23 15 00.2	-2.4	
BFO	Black Forest	148.59 336	*e*PKIKP	PKPdf	23 15 01.8	-1.0	
BFO			*e*		23 15 06.4		
BFO	Black Forest	148.59 336	*e*PKPdf	PKPdf	23 15 01.8	-1.0	
BFO			*e*PKPbc	PKPbc	23 15 06.4	-0.2	
BATH	Bath	148.63 350	*e*P	PKPdf	23 15 01.1	-1.5	
FETA	Feichten	148.64 332	*i* PKPdf	PKPdf	23 15 01.8	-1.3	
	comp=Z,997nm,1.2s,SNR=168						
FETA			*i* pPKPab	sPKPbc	23 15 56.8	-0.5	
	comp=Z,807nm,1.1s						
HMNX	Herstmonceux	148.70 347⇑	*e*P	PKPdf	23 15 02.0	-0.8	
VAL	Valentia	148.75 0	*e*P	PKPdf	23 15 02.7	-0.1	
DAVA	Damuels	148.80 333	*i* PKPdf	PKPdf	23 15 02.0	-1.3	
	comp=Z,1μm,1.0s,SNR=74						
DAVA			*i* pPKPab	sPKPbc	23 15 58.4	+0.8	
	comp=Z,502nm,1.4s						
ECH	Echery	149.12 337	PKP	PKPdf	23 15 05.1	+1.5	
DAVOX	Davos/Dischmat	149.19 333	PKP	PKPdf	23 15 03.5	-0.6	
	comp=Z,237nm,0.6s,baz=295,slow=0.2,SNR=29						
DAVOX			PKPbc	PKPbc	23 15 07.9	-0.5	
	comp=Z,317nm,0.5s,baz=113,slow=0.6,SNR=236						
HTL	Hartland	149.36 353⇑	*e*P	PKPdf	23 15 04.1	+0.2	
MOF	Molkenrain	149.43 337	PKP	PKPdf	23 15 04.6	+0.4	
THEF	They Montfort	149.52 338	PKP	PKPdf	23 15 04.4	+0.1	
TUE	Stuetta	149.66 333	*e*PKPdf	PKPdf	23 15 04.1	-0.7	
TUE			*e*PKPbc	PKPbc	23 15 09.8	+0.3	

DYA	Yadsworthy	149.84 352	*e*P	PKPdf	23 15 05.0	+0.3	
LOMF	Lomont	149.96 337	PKP	PKPdf	23 15 07.0	+1.9	
CCA1	Carnmenellis	150.24 354	*e*P	PKPdf	23 15 03.1	-2.2	
H10S2	ASCENSION HYDR	150.28 171	PKP	PKPbc	23 15 13.2	+1.8	
	baz=256,slow=4.1,SNR=49						
H10S3	ASCENSION HYDR	150.28 171	PKP	PKPbc	23 15 13.1	+1.6	
	baz=256,slow=4.1,SNR=26						
H10S1	ASCENSION HYDR	150.30 171	PKP	PKPbc	23 15 11.6	+0.1	
	baz=256,slow=4.1,SNR=70						
TIP	Timpagrande	150.36 315	P	PKPdf	23 15 04.9	-1.1	
TIP	Timpagrande	150.36 315	*e*PKPdf	PKPdf	23 15 05.7	-0.3	
TIP			*e*PKPbc	PKPbc	23 15 11.6	+0.3	
CUC	Castrocucco	150.55 317	*e*PKPdf	PKPdf	23 15 06.1	-0.1	
CUC			*e*PKPbc	PKPbc	23 15 10.4	-1.3	
AQU	L'Aquila	150.60 323	*e*PKIKP	PKPdf	23 15 05.6	-0.6	
AQU	L'Aquila	150.60 323	*e*PKPdf	PKPdf	23 15 05.6	-0.6	
AQU			*e*PKPbc	PKPbc	23 15 11.9	+0.2	
JQE	Queens East	150.75 349	*e*P	PKPdf	23 15 05.7	-0.4	
JRS	Jersey	150.77 349	*e*P	PKPdf	23 15 05.8	-0.3	
JSA	Saint Aubin	150.78 349⇑	*e*P	PKPdf	23 15 04.2	-1.9	
VLC	Villacollemand	150.94 329	*e*PKPdf	PKPdf	23 15 05.4	-1.3	
VLC			*e*PKPbc	PKPbc	23 15 11.9	-0.5	
ASCN	Ascension	151.33 171	*e*PKPbc	PKPbc	23 15 14.6	+0.4	
H10N1	ASCENSION HYDR	151.40 171	PKP	PKPbc	23 15 16.2	+2.2	
	baz=193,slow=4.7,SNR=20						
H10N3	ASCENSION HYDR	151.40 171	PKP	PKPbc	23 15 14.6	+0.6	
	baz=193,slow=4.7,SNR=14						
CEL	Celeste	151.41 314	*e*PKPdf	PKPdf	23 15 07.1	-0.4	
CEL			*e*PKPbc	PKPbc	23 15 13.4	-0.4	
H10N2	ASCENSION HYDR	151.41 171	PKP	PKPbc	23 15 16.8	+2.8	
	baz=193,slow=4.7,SNR=17						
BNI	Bardonecchia	151.92 334	*e*PKIKP	PKPdf	23 15 07.8	-0.5	
BNI	Bardonecchia	151.92 334	*e*PKPdf	PKPdf	23 15 07.8	-0.5	
BNI			*e*PKPbc	PKPbc	23 15 14.7	-0.1	
GDM	Grand'Maison	152.02 335	PKP	PKPdf	23 15 10.4	+2.0	
GRN	Grenoble	152.14 335	PKP	PKPdf	23 15 10.7	+2.2	
PLDF	La Plantade	152.29 339	PKP	PKPdf	23 15 08.6	-0.1	
AGO	Saint Agoulin	152.38 340	PKP	PKPdf	23 15 08.5	-0.2	
SSB	Saint Sauveur	152.56 337	PKP	PKPdf	23 15 09.5	+0.4	
SSB	Saint Sauveur	152.56 337	*e*PKIKP	PKPdf	23 15 09.5	+0.4	
SSB	Saint Sauveur	152.56 337	*e*PKPdf	PKPdf	23 15 09.5	+0.4	
SSB			*e*PKPbc	PKiKP	23 15 16.4	0.0	
PYM	Petit Puy Mans	152.68 340	PKP	PKPdf	23 15 08.5	-0.8	
VAE	Valguarnera	152.82 313	*e*PKPdf	PKPdf	23 15 09.3	-0.3	
	comp=Z,420nm,0.9s,baz=5.9,slow=1.2,SNR=15						
VAE			PKPbc	PKPbc	23 15 17.0	0.0	
	comp=Z,75nm,1.0s,baz=72,slow=3.2,SNR=20						
LBL	Lubilhac	153.06 339	PKP	PKPdf	23 15 09.3	-0.5	
WDD	Wied Dalam	153.55 310	*e*PKPdf	PKPdf	23 15 10.4	-0.3	
WDD			*e*PKPbc	PKPbc	23 15 17.9	-0.6	
H07N1	FLORES T-PHASE	153.89 39	*e*PKPdf	PKPdf	23 15 12.4	+1.3	
H07S1	FLORES T-PHASE	154.04 39	*e*LR	LR	00 07 38.8		
VSL	Villasalto	154.77 322	*e*PKPdf	PKPdf	23 15 11.6	-0.7	
VSL			*e*PKPbc	PKPbc	23 15 20.7	-0.3	
LRDF	Laroque-de-Fa	155.31 337	PKP	PKPdf	23 15 15.0	+2.0	
SJAF	Saint Jean de	155.57 336	PKP	PKPdf	23 15 14.2	+0.8	
FILF	Fillols	155.63 337	PKP	PKPdf	23 15 14.2	+0.7	
CARF	Carcanieres	155.66 338	PKP	PKPdf	23 15 15.1	+1.5	
VALF	Valcebollere	155.97 337	PKP	PKPdf	23 15 14.8	+0.7	
MELF	Melles	155.98 340	PKP	PKPdf	23 15 16.8	+2.8	
PCED	Cedros	156.00 38	*e*PKPdf	PKPdf	23 15 07.0	-7.0	
PCED	Cedros	156.00 38	*e*PKPab	PKPab	23 15 39.9	-1.9	
PCED	Cedros	156.00 38	*e*PP	PP	23 19 15.1	-4.1	
PGRA	Graciosa	156.13 36	*e*PKPdf	PKPdf	23 15 15.5	+1.3	
PGRA	Graciosa	156.13 36	*e*PKPab	PKPab	23 15 40.9	-1.5	
PGRA	Graciosa	156.13 36	*e*PP	PP	23 19 13.5	-6.3	
PGRA	Graciosa	156.13 36	*e*LQ	LQ	00 00 26.7		
PGRA			*e*LR	LR	00 08 17.7		
	comp=Z,1μm,20.4s						
RESF	Ens	156.17 340	PKP	PKPdf	23 15 16.3	+2.0	
ORDF	Ordiarp	156.17 343	PKP	PKPdf	23 15 14.8	+0.7	
ROSA	Rosais	156.20 37	*e*PKPdf	PKPdf	23 15 12.8	-1.5	
ROSA	Rosais	156.20 37	*e*PKPab	PKPab	23 15 42.9	+0.2	
ROSA	Rosais	156.20 37	*e*PP	PP	23 19 19.1	-1.2	
ROSA	Rosais	156.20 37	*e*LQ	LQ	23 59 52.1		
ROSA			*e*LR	LR	00 08 30.6		
	comp=Z,2μm,21.1s						
OSSF	Osses	156.22 344	PKP	PKPdf	23 15 15.0	+0.9	
ATE	Arette	156.23 343	PKP	PKPdf	23 15 15.5	+1.3	
PCAN	Candelaria	156.24 38	*e*PKPdf	PKPdf	23 15 13.1	-1.3	
PCAN	Candelaria	156.24 38	*e*PKPab	PKPab	23 15 42.9	0.0	
PCAN	Candelaria	156.24 38	*e*PP	PP	23 19 12.5	-8.0	
PICO	Pico	156.25 37	*e*PKPdf	PKPdf	23 15 09.5	-4.9	
PICO	Pico	156.25 37	*e*PKPab	PKPab	23 15 41.4	-1.6	
PICO	Pico	156.25 37	*e*PP	PP	23 19 18.6	-2.0	
PMAN	Manadas	156.34 37	*e*PKPdf	PKPdf	23 15 12.8	-1.7	
PMAN	Manadas	156.34 37	*e*PKPab	PKPab	23 15 44.9	+1.6	
PMAN	Manadas	156.34 37	*e*PP	PP	23 19 18.6	-2.5	
LARF	Larrau	156.35 343	PKP	PKPdf	23 15 15.1	+0.7	
ADH	Angra Heroismo	156.80 36	*e*PKPdf	PKPdf	23 15 14.1	-0.9	
ADH	Angra Heroismo	156.80 36	*e*PKPab	PKPab	23 15 43.4	-1.8	
ADH	Angra Heroismo	156.80 36	*e*PP	PP	23 19 24.1	+0.6	
KEST	Kesra	157.18 315	PKP	PKPdf	23 15 16.2	+0.4	
	comp=Z,38nm,1.0s,baz=151,slow=1.6,SNR=14						
CMAH	Djebel Manchou	157.84 320	P	PKPdf	23 15 16.2	-0.3	
ABSA	Djebel Ababsia	158.03 319	P	PKPdf	23 15 17.2	+0.4	
CAEH	'Ain El Ouahch	158.07 321	P	PKPdf	23 15 18.6	+1.9	
PSET	Sete Cidades	158.22 35	*e*PKPdf	PKPdf	23 15 14.3	-2.6	
PSET	Sete Cidades	158.22 35	*e*PKPab	PKPab	23 15 51.5	0.0	
PSET	Sete Cidades	158.22 35	*e*PP	PP	23 19 27.7	-3.7	
PSET	Sete Cidades	158.22 35	*e*LQ	LQ	00 00 02.9		
PSET			*e*LR	LR	00 08 50.1		
	comp=Z,1μm,19.6s						
PDA	Ponta Delgada	158.31 35	*e*PP	PP	23 19 33.2	+1.4	
PCALD	Caldeiras da R	158.37 34	*e*PKPdf	PKPdf	23 15 19.9	+2.9	
PCALD	Caldeiras da R	158.37 34	*e*PKPab	PKPab	23 15 53.5	+1.4	
CMLA	Cha da Macela	158.37 35	*e*PKIKP	PKPdf	23 15 17.1	0.0	
CMLA	Cha da Macela	158.37 35	*e*PKPdf	PKPdf	23 15 16.7	-0.3	
CMLA	Cha da Macela	158.37 35	*e*PKPab	PKPab	23 15 51.5	-0.6	
CMLA	Cha da Macela	158.37 35	*e*PP	PP	23 19 30.2	-1.9	
CMLA	Cha da Macela	158.37 35	*e*LQ	LQ	23 59 24.0		
CMLA			*e*LR	LR	00 09 07.4		
CMLA	Cha da Macela	158.37 35	*e*PKPdf	PKPdf	23 15 17.1	0.0	
CKFL	Kef-Lekhel	158.41 320	P	PKPdf	23 15 18.0	+0.7	
CASM	Ain Smara	158.64 320	P	PKPdf	23 15 19.0	+1.5	
PGAV	Gavieira, Arco	158.66 356	*e*PKPdf	PKPdf	23 15 16.4	-1.0	
PGAV	Gavieira, Arco	158.66 356	*e*PKPab	PKPab	23 15 56.0	+2.7	
PGAV			*e*SKPdf	SKPdf	23 18 38.4	+1.2	
PGAV	Gavieira, Arco	158.66 356	*e*PP	PP	23 19 35.1	+2.0	
PGAV	Gavieira, Arco	158.66 356	*e*SS	SS	23 39 25.8	+2.4	
PBRG	Braganca	158.68 353	*e*PKPdf	PKPdf	23 15 17.7	+0.4	
PBRG	Braganca	158.68 353	*e*PKPab	PKPab	23 15 55.6	+2.3	
PBRG	Braganca	158.68 353	*e*PP	PP	23 19 33.7	+0.5	
PBRG	Braganca	158.68 353	*e*SS	SS	23 39 29.0	+5.4	
DFRA	Djebel Bou Aff	158.81 322	P	PKPdf	23 15 19.4	+1.6	
CTEI	Djebel Teioual	158.82 320	P	PKPdf	23 15 18.0	+0.2	
PCAB	Cabril	158.90 355	*e*PKPdf	PKPdf	23 15 16.8	-0.8	
PCAB	Cabril	158.90 355	*e*PKPab	PKPab	23 15 54.9	+0.7	
PCAB	Cabril	158.90 355	*e*PP	PP	23 19 37.5	+3.2	
PSMA	Santa Maria	159.15 35	*e*PKPdf	PKPdf	23 15 16.5	-1.5	
PSMA	Santa Maria	159.15 35	*e*PKPab	PKPab	23 15 48.0	-7.5	
PSMA	Santa Maria	159.15 35	*e*PP	PP	23 19 35.3	-1.1	
PSMN	Pico do Norte,	159.18 35	*e*PKPdf	PKPdf	23 15 16.7	-2.3	
PSMN	Pico do Norte,	159.18 35	*e*PKPab	PKPab	23 15 53.5	-2.1	
PSMN	Pico do Norte,	159.18 35	*e*PP	PP	23 19 33.7	-2.8	
PSMN	Pico do Norte,	159.18 35	*e*LR	LR	00 09 52.7		
	comp=Z,1μm,18.9s						
POLO	Lamas de Olo	159.22 355	*e*PKPdf	PKPdf	23 15 18.3	+0.2	
POLO	Lamas de Olo	159.22 355	*e*PKPab	PKPab	23 15 56.9	+1.2	
POLO	Lamas de Olo	159.22 355	*e*PP	PP	23 19 38.9	+2.8	
POLO	Lamas de Olo	159.22 355	*e*SS	SS	23 39 34.6	+5.3	
PVRL	Vila Real	159.31 355	*e*PKPdf	PKPdf	23 15 16.1	-2.0	
PVRL	Vila Real	159.31 355	*e*PKPab	PKPab	23 15 56.0	0.0	
PVRL	Vila Real	159.31 355	*e*PP	PP	23 19 35.5	-1.1	
SET	Setif	159.32 322	P	PKPdf	23 15 19.0	+0.7	
MVO	Moncorvo	159.35 353	*e*PKPdf	PKPdf	23 15 17.4	-0.8	
MVO	Moncorvo	159.35 353	*e*PKPab	PKPab	23 15 58.0	+1.8	
MVO	Moncorvo	159.35 353	*e*PP	PP	23 19 36.1	-0.7	
MVO	Moncorvo	159.35 353	*e*SS	SS	23 39 24.9	-5.8	
CKHR	Kef el Ahmar	159.38 321	P	PKPdf	23 15 20.5	+2.0	
ABA	Alger-Bouzarea	160.16 327	P	PKPdf	23 15 20.0	+0.8	
ESDC	Sonseca Array	160.27 346	PKP	PKPdf	23 15 18.6	-0.6	
	comp=Z,18nm,1.0s,baz=1.9,slow=2.5,SNR=41						
ESDC			PKPab	PKPab	23 16 00.1	-0.2	
	comp=Z,56nm,0.8s,baz=14,slow=3.7,SNR=18						
ESDC			PP	PP	23 19 45.0	+3.1	
	comp=Z,12nm,1.1s,baz=35,slow=5.4,SNR=4.3						
PAB	San Pablo	160.48 346	*e*PKIKP	PKPdf	23 15 19.2	-0.3	
PAB	San Pablo	160.48 346	*e*PKPdf	PKPdf	23 15 19.2	-0.3	
PCAS	Casmilo, Conde	160.58 356	*e*PKPdf	PKPdf	23 15 18.1	-1.4	
PCAS	Casmilo, Conde	160.58 356	*e*PKPab	PKPab	23 16 04.1	+2.6	

PCAS	Casmilo, Conde	160.58 356	*e*PP	PP	23 19 46.5	+3.1	
PCAS	Casmilo, Conde	160.58 356	*e*SS	SS	23 39 45.8	+2.4	
EMHD	Djebel Mahouad	160.67 326	P	PKPdf	23 15 20.5	+0.6	
PCBR	Castelo Branco	160.71 354	*e*PKPdf	PKPdf	23 15 18.9	-0.7	
PCBR	Castelo Branco	160.71 354	*e*PKPab	PKPab	23 16 03.7	+1.6	
PCBR	Castelo Branco	160.71 354	*e*PP	PP	23 19 46.6	+2.6	
PTOM	Tomar	161.01 356	*e*PKPdf	PKPdf	23 15 19.2	-0.8	
PTOM	Tomar	161.01 356	*e*PKPab	PKPab	23 16 02.9	-0.5	
PTOM	Tomar	161.01 356	*e*PP	PP	23 19 47.3	+1.7	
PMRV	Marv??o	161.10 353	*e*PKPdf	PKPdf	23 15 19.2	-0.9	
PMRV	Marv??o	161.10 353	*e*PKPab	PKPab	23 16 06.4	+2.6	
PMRV	Marv??o	161.10 353	*e*PP	PP	23 19 49.1	+2.9	
PMRV	Marv??o	161.10 353	*e*SS	SS	23 39 34.0	-15	
EBNR	Beni Rached	161.31 329	P	PKPdf	23 15 21.0	+0.5	
ECHA	Ech Chlef	161.50 329	P	PKPdf	23 15 23.0	+2.4	
PESTR	Estremoz	161.68 353	*e*PKPdf	PKPdf	23 15 19.4	-1.3	
PESTR	Estremoz	161.68 353	*e*PKPab	PKPab	23 16 09.0	+2.6	
PESTR	Estremoz	161.68 353	*e*PP	PP	23 19 52.4	+3.1	
PESTR	Estremoz	161.68 353	*e*SS	SS	23 39 56.5	+1.5	
PMAFR	Mafra	161.72 358	*e*PKPdf	PKPdf	23 15 21.6	+0.9	
PMAFR	Mafra	161.72 358	*e*PKPab	PKPab	23 16

AYVA	**Ayvalik**	**0.59**	**92**	P		**Pg**	**22 57 33.0**	**-0.6**
CAND	**Candarli**	**0.77**	**119**	*e*PG		**Pg**	**22 57 37.2**	**+0.1**
DKL	**Dikili**	**0.80**	**109**	*e*PG		**Pg**	**22 57 37.1**	**-0.5**
DKL				*e*SG		**Sg**	**22 57 47.9**	**-0.1**
DKL	**Dikili**	**0.80**	**109**	*e*Pg		**Pg**	**22 57 37.1**	**-0.5**
DKL				*e*Sg		**Sg**	**22 57 47.9**	**-0.1**
GADA	**Gvkgeada**	**0.86**	**358**	*e*PG		**Pg**	**22 57 38.1**	**-0.7**
GADA				*e*SG		**Sg**	**22 57 50.2**	**+0.2**
GADA	**Gvkgeada**	**0.86**	**358**	*e*Pg		**Pg**	**22 57 38.1**	**-0.7**
GADA				*e*Sg		**Sg**	**22 57 50.2**	**+0.2**
KRBN	**Karaburun**	**0.88**	**146**	*e*PG		**Pg**	**22 57 38.5**	**-0.6**
KRBN				*e*SG		**Sb**	**22 57 51.4**	**-0.3**
KRBN	**Karaburun**	**0.88**	**146**	*e*Pg		**Pg**	**22 57 38.5**	**-0.6**
KRBN				*e*Sg		**Sb**	**22 57 51.4**	**-0.3**
CHOS	**Chios island**	**0.95**	**174**	P		**Pg**	**22 57 39.6**	**-0.8**
CHOS				S		**Sg**	**22 57 52.9**	**+0.2**
CHOS	**Chios island**	**0.95**	**174**	P		**Pg**	**22 57 39.5**	**-1.0**
CHOS				S		**Sb**	**22 57 53.1**	**-0.6**
URLA	**Izmir**	**1.10**	**152**	*e*PN		**Pg**	**22 57 42.0**	**-1.4**
URLA	**Izmir**	**1.10**	**152**	*i* P		**Pg**	**22 57 41.9**	**-1.4**
URLA				*i* S		**Sg**	**22 57 56.9**	**-0.7**
URLA	**Izmir**	**1.10**	**152**	P		**Pg**	**22 57 41.9**	**-1.4**
URLA				S		**Sg**	**22 57 56.9**	**-0.7**
ZEY	**˙zmir**	**1.18**	**158**	*i* P		**Sn**	**22 58 05.1**	**+3.9**
SMTH	**Samothraki Isl**	**1.18**	**345**	P		**Pb**	**22 57 44.2**	**-0.8**
SMTH				S		**Sn**	**22 58 01.1**	**-0.3**
SMTH	**Samothraki Isl**	**1.18**	**345**	P		**Pb**	**22 57 43.9**	**-1.0**
SMTH				S		**Sn**	**22 58 01.2**	**-0.2**
SMTH				AML	AML		22 58 02.0	
	comp=N,204µm,0.3s							
SMTH				AML	AML		22 58 02.2	
	comp=E,117µm,0.4s							
LPK	**Lapseki**	**1.22**	**31**	*e*PN		**Pn**	**22 57 45.1**	**-0.6**
LPK	**Lapseki**	**1.22**	**31**	*e*Pn		**Pn**	**22 57 45.1**	**-0.6**
BALY	**Balya**	**1.37**	**72**	*i* P		**Pn**	**22 57 46.4**	**-1.3**
BALY				*i* S		**Sg**	**22 58 06.1**	**-0.1**
BALY	**Balya**	**1.37**	**72**	P		**Pn**	**22 57 46.4**	**-1.3**
BALY				S		**Sg**	**22 58 06.1**	**-0.1**
ERIK	**Erikli-Kesan**	**1.41**	**18**	*e*PN		**Pn**	**22 57 48.3**	**0.0**
ERIK	**Erikli-Kesan**	**1.41**	**18**	*e*Pn		**Pn**	**22 57 48.3**	**0.0**
ENEZ	**Enez**	**1.42**	**7**	*e*PN		**Pn**	**22 57 48.3**	**0.0**
ENEZ	**Enez**	**1.42**	**7**	*e*Pn		**Pn**	**22 57 48.3**	**0.0**
KRBG	**Karabiga-Canak**	**1.49**	**44**	*e*PN		**Pn**	**22 57 49.0**	**-0.4**
KRBG	**Karabiga-Canak**	**1.49**	**44**	*e*Pn		**Pn**	**22 57 49.0**	**-0.4**
BALB	**Balikesir**	**1.54**	**78**	*e*PN		**Pb**	**22 57 50.7**	**-0.3**
BALB	**Balikesir**	**1.54**	**78**	*e*Pn		**Pb**	**22 57 50.7**	**-0.3**
KNL	**Bal˙kesir**	**1.55**	**52**	*i* P		**Pn**	**22 57 48.7**	**-1.4**
AYDB	**Zeytinkoy-Aydi**	**2.06**	**131**	*e*PN		**Pn**	**22 57 58.3**	**+0.9**
AYDB	**Zeytinkoy-Aydi**	**2.06**	**131**	*e*Pn		**Pn**	**22 57 58.3**	**+0.9**
KCTX	**Karacabey (Bur**	**2.09**	**63**	*e*PN		**Pn**	**22 57 58.1**	**+0.5**
KCTX	**Karacabey (Bur**	**2.09**	**63**	*e*Pn		**Pn**	**22 57 58.1**	**+0.5**
SBT3	**Marmara-Eregli**	**2.21**	**45**	*e*PN		**Pn**	**22 57 59.9**	**+0.9**
SBT3	**Marmara-Eregli**	**2.21**	**45**	*e*Pn		**Pn**	**22 57 59.9**	**+0.9**
KULA	**Kula-Manisa**	**2.28**	**110**	*e*PN		**Pn**	**22 58 01.2**	**+1.0**
KULA	**Kula-Manisa**	**2.28**	**110**	*e*Pn		**Pn**	**22 58 01.3**	**+1.0**
SIMA	**Simav-Kutahya**	**2.38**	**95**	*e*PN		**Pn**	**22 58 02.8**	**+1.1**
SIMA	**Simav-Kutahya**	**2.38**	**95**	*e*Pn		**Pn**	**22 58 02.8**	**+1.1**
ARMT	**Armutlu**	**2.57**	**60**	*e*PN		**Pn**	**22 58 04.9**	**+0.7**
ARMT	**Armutlu**	**2.57**	**60**	*e*Pn		**Pn**	**22 58 04.9**	**+0.7**
EDRB	**Edirne**	**2.59**	**14**	*e*PN		**Pn**	**22 58 05.5**	**+1.1**
EDRB	**Edirne**	**2.59**	**14**	*e*Pn		**Pn**	**22 58 05.6**	**+1.1**

*ISCJB **03** 22:59:13.5±1.5, 50˚.24N±0˚.04×12˚.56E±0˚.08, h12km±12km, Error ellipse: s-maj=9.1km s-min=6.0km az=166.1*
*CSEM **03** 22:59:13.3±0.5, 50˚.26N×12˚.49E, h15km, ML2.7/7, Error ellipse: s-maj=10.7km s-min=5.7km az=170.0*
*PRU **03** 22:59:14.1, 50˚.27N×12˚.47E, h10km, West Bohemia Swarm*

ISC 03 22:59:13.2±2.3, 50˚.22N±0˚.04×12˚.3E±0˚.1, h14km±6km, n18, σ0s95/28, 4D, Germany

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NKC	**Novy Kostel**	**0.07**	**78**	*i*PG	**Pb**	**22 59 16.4**	**+0.3**
NKC				*e*SG	**Sg**	**22 59 17.4**	**-0.6**
	comp=Z,921nm,0.2s						
NKC	**Novy Kostel**	**0.07**	**78**	Pg	**Pb**	**22 59 16.4**	**+0.3**
NKC				Sg	**Sg**	**22 59 17.4**	**-0.6**
	921nm,0.2s						
CLL	**Collm**	**1.17**	**21**	*i* Pg	**Pg**	**22 59 35.8**	**+0.1**
CLL				*e*		22 59 38.0	
CLL				*i* Sg	**Sg**	**22 59 50.2**	**-0.8**
	comp=Z,7.0nm,0.5s						
CLL				*i*		22 59 54.4	
BRG	**Berggiesshubel**	**1.22**	**57**	PG	**Pg**	**22 59 36.1**	**-0.5**
BRG				SG	**Sn**	**22 59 51.0**	**-1.1**
	comp=Z,12nm,0.2s						
KHC	**Kasperske Hory**	**1.35**	**143**	*e*PG	**Pg**	**22 59 38.8**	**-0.4**
KHC				*e*SG	**Sg**	**22 59 56.9**	**0.0**
	comp=Z,5.2nm,0.2s						
KHC	**Kasperske Hory**	**1.35**	**143**	Pg	**Pg**	**22 59 38.8**	**-0.4**
KHC				Sg	**Sg**	**22 59 56.9**	**0.0**
	comp=Z,5.2nm,0.2s						
PRA	**Prague**	**1.36**	**95**	*e*SG	**Sn**	**22 59 55.3**	**-0.2**
	comp=Z,4.1nm,0.2s						
PRA	**Prague**	**1.36**	**95**	Sg	**Sn**	**22 59 55.3**	**-0.2**
	comp=Z,4.1nm,0.2s						
PRU	**Pruhonice**	**1.44**	**98**	*e*PG	**Pb**	**22 59 39.4**	**-0.4**
PRU				*e*SG	**Sn**	**22 59 57.8**	**+0.2**
	comp=Z,10.0nm,0.2s						
PRU	**Pruhonice**	**1.44**	**98**	Pg	**Pb**	**22 59 39.4**	**-0.4**
PRU				Sg	**Sn**	**22 59 57.8**	**+0.2**
	comp=Z,10.0nm,0.2s						
GOPC	**GO Pecny, Ondr**	**1.61**	**100**	*e*PG	**Pg**	**22 59 43.1**	**-1.0**
GOPC				*e*SG	**Sb**	**23 00 03.1**	**+0.2**
	comp=Z,8.0nm,0.3s						
GOPC	**GO Pecny, Ondr**	**1.61**	**100**	Pg	**Pg**	**22 59 43.1**	**-1.0**
GOPC				Sg	**Sb**	**23 00 03.1**	**+0.2**
	comp=Z,8.0nm,0.3s						
UPC	**Upice**	**2.37**	**82**	*e*SG	**Sb**	**23 00 26.1**	**+1.3**
	comp=Z,6.3nm,0.6s						
UPC	**Upice**	**2.37**	**82**	Sg	**Sb**	**23 00 26.1**	**+1.3**
	comp=Z,6.3nm,0.6s						
DPC	**Dobruska-Polom**	**2.56**	**86**	*e*SG	**Sb**	**23 00 31.7**	**+1.4**
	comp=Z,2.2nm,0.3s						
DPC	**Dobruska-Polom**	**2.56**	**86**	Sg	**Sb**	**23 00 31.7**	**+1.4**
	comp=Z,2.2nm,0.3s						
VRAC	**Vranov**	**2.91**	**107**	*e*Sg	**Sb**	**23 00 40.6**	**+0.4**
MORC	**Moravsky Berou**	**3.39**	**96**	*e*Sg	**Sb**	**23 00 56.9**	**+2.8**

*ISCJB **03** 23:27:36.8±1.1, 37˚.20N±0˚.04×141˚.47E±0˚.05, h8km±6km, mb4.0/15, Error ellipse: s-maj=6.6km s-min=6.1km az=6.6*
*IDC **03** 23:27:36.9±0.8, 37˚.15N×141˚.37E, h0km, mb4.0/12, mb1 4.1/14, mb1mx4.0/39, mbtmp3.9/14, ML3.3/2, Error ellipse: s-maj=22.7km s-min=18.3km az=103.0*
*JMA **03** 23:27:38.5±0.1, 37˚.25N×141˚.39E, h22km±2km, M4.4*
JMA Felt I J1.
*NEIC **03** 23:27:39.5±3.4, 37˚.16N×141˚.39E, h16km±21km, mb4.4/3, Error ellipse: s-maj=11.1km s-min=6.8km az=128.0*
NEIC Recorded [1 JMA] in Fukushima.

ISC 03 23:27:37.5±1.8, 37˚.22N±0˚.05×141˚.44E±0˚.06, h3km±10km, n38, σ0s91/40, mb4.0/15, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JFK	**Kawauchi**	**0.47**	**288**	P	**Pg**	**23 27 47.0**	**+0.4**
JFK				S	**Sg**	**23 27 53.4**	**+0.6**
ONAJ	**Iwakimizuishiy**	**0.53**	**257**	P	**Pg**	**23 27 48.1**	**+0.5**
ONAJ				S	**Sg**	**23 27 55.1**	**+0.7**
JMM	**Marumori**	**0.82**	**322**	P	**Pg**	**23 27 53.1**	**-0.2**
JMM				S	**Sg**	**23 28 03.9**	**-0.1**
JHO	**Hitachi**	**0.92**	**229**	P	**Pg**	**23 27 54.5**	**-0.7**
JFT	**Otama**	**0.93**	**289**	P	**Pg**	**23 27 55.3**	**0.0**
JFT				S	**Sg**	**23 28 07.4**	**+0.1**
JIO	**Ouri**	**1.23**	**357**	P	**Pg**	**23 28 00.0**	**-1.2**
JOU	**Okura**	**1.30**	**332**	P	**Pn**	**23 28 01.6**	**-1.0**
JOU				S	**Sg**	**23 28 18.8**	**-0.5**
JFY	**Yanaizu**	**1.40**	**278**	P	**Pn**	**23 28 03.0**	**-0.9**
JFY				S	**Sb**	**23 28 21.2**	**-1.2**
JYS	**Shirataka**	**1.48**	**313**	P	**Pn**	**23 28 04.5**	**-0.5**
JYS				*e*S	**Sn**	**23 28 24.0**	**-0.9**
MJAR	**Matsushiro Arr**	**2.68**	**256**	Pn	**Pn**	**23 28 21.4**	**-0.1**
	4.1nm,0.3s,baz=89,slow=14,SNR=22						
MAJO	**Matsushiro**	**2.68**	**256**	*e*Pn	**Pn**	**23 28 21.6**	**+0.1**
MAT	**Matsushiro**	**2.68**	**256**	P	**Pn**	**23 28 21.8**	**+0.3**
MAT				S	**Sn**	**23 28 55.3**	**+0.8**
ASAJ	**Asahikawa**	**6.95**	**7**	Pn	**Pn**	**23 29 20.9**	**+0.7**
	0.6nm,0.3s,baz=209,slow=12,SNR=5.0						
USRK	**Ussuriysk Ar.**	**10.00**	**317**	Pn	**Pn**	**23 30 06.0**	**+4.0**
	0.3nm,0.3s,baz=246,slow=30,SNR=4.1						
SEY	**Seymchan**	**26.61**	**11**	P	**P**	**23 33 17.5**	**+0.7**
	1.8nm,0.4s,baz=196,slow=8.9,SNR=4.8						
SONM	**Songino Array**	**27.70**	**304**	P	**P**	**23 33 27.0**	**0.0**
	1.2nm,0.8s,baz=108,slow=9.3,SNR=3.4						
H11N2	**WAKE ISLAND Hy**	**28.23**	**121**	T	T	00 03 02.3	
	baz=314,slow=76,SNR=206						
H11N1	**WAKE ISLAND Hy**	**28.23**	**121**	T	T	00 03 06.5	
	baz=314,slow=76,SNR=177						
H11N3	**WAKE ISLAND Hy**	**28.24**	**121**	T	T	00 03 04.7	
	baz=314,slow=76,SNR=187						
H11S1	**WAKE ISLAND Hy**	**28.94**	**123**	T	T	00 03 57.7	
	baz=316,slow=76,SNR=156						
H11S3	**WAKE ISLAND Hy**	**28.94**	**123**	T	T	00 03 57.3	
	baz=316,slow=76,SNR=120						
H11S2	**WAKE ISLAND Hy**	**28.96**	**123**	T	T	00 04 01.0	
	baz=316,slow=76,SNR=120						
ZALV	**Zalesovo Beam**	**41.80**	**312**	P	**P**	**23 35 27.9**	**-0.2**
	1.5nm,0.7s,baz=75,slow=7.6,SNR=2.9						
KURK	**Kurchatov**	**45.83**	**308**	*e*P	**P**	**23 36 00.3**	**-0.3**
	19nm,0.9s						
COLA	**College**	**48.91**	**32**	*e*P	**P**	**23 36 24.8**	**+0.5**
	1.4nm,0.5s						
ILAR	**Eielson Array**	**49.33**	**32**	P	**P**	**23 36 28.2**	**+0.6**
	1.3nm,0.8s,baz=273,slow=6.6,SNR=9.6						
WRA	**Warramunga Arr**	**57.25**	**188**	P	**P**	**23 37 24.8**	**-1.5**
	1.5nm,0.9s,baz=3.4,slow=7.3,SNR=5.6						
ASAR	**Alice Springs**	**60.97**	**188**	P	**P**	**23 37 51.6**	**-0.5**
	0.9nm,0.8s,baz=18,slow=6.2,SNR=3.7						
FINES	**FINESS Array B**	**68.66**	**332**	P	**P**	**23 38 41.9**	**+0.1**
	2.9nm,0.8s,baz=54,slow=7.1,SNR=7.3						
MFID	**Camas Ranch**	**73.49**	**48**	P	**P**	**23 39 11.7**	**+0.1**
	3.2nm,1.0s						
NB2	**NORSAR Subarra**	**74.02**	**337**	P	**P**	**23 39 14.0**	**-0.3**
	comp=Z,2.5nm,0.8s,baz=39,slow=6.2						
NOA	**NORSAR Array B**	**74.02**	**337**	P	**P**	**23 39 14.4**	**+0.1**
	comp=Z,1.6nm,0.8s,baz=39,slow=5.8,SNR=5.2						
AKASG	**Malin Array Be**	**74.16**	**322**	P	**P**	**23 39 14.4**	**-0.8**
	comp=Z,2.2nm,0.8s,baz=47,slow=6.1,SNR=4.4						
PDAR	**Pinedale Array**	**77.52**	**45**	P	**P**	**23 39 35.4**	**+0.5**
	comp=Z,0.6nm,0.6s,baz=264,slow=1.1,SNR=4.1						
CLL	**Collm**	**80.95**	**330**	*i* P	**P**	**23 39 53.3**	**+0.2**
GERES	**GERESS Array B**	**82.56**	**328**	P	**P**	**23 40 02.0**	**+0.2**
	comp=Z,0.3nm,0.5s,baz=49,slow=4.1,SNR=4.1						
TXAR	**Lajitas Array**	**89.99**	**52**	P	**P**	**23 40 39.3**	**+0.5**
	comp=Z,0.6nm,0.6s,baz=294,slow=3.3,SNR=6.0						
LPAZ	**La Paz**	**146.58**	**59**	PKPbc	**PKPbc**	**23 47 21.7**	**+0.1**
	comp=Z,0.9nm,0.7s,baz=343,slow=3.6,SNR=4.2						

*ISCJB **03** 23:46:06.5±0.8, 14˚.05N±0˚.07×120˚.2E±0˚.1, h116km±7km, mb3.8/8, Error ellipse: s-maj=22.6km s-min=7.2km az=156.1*
*MAN **03** 23:46:07, 14˚.05N×120˚.22E, h94km, mb4.0, ML2.8, MS2.5*
*IDC **03** 23:46:08.6±1.0, 14˚.08N×120˚.71E, h124km±10km, mb3.4/8, mb1 3.5/8, mb1mx3.2/56, mbtmp3.8/8, Error ellipse: s-maj=57.9km s-min=15.6km az=70.0*

ISC 03 23:46:07.6±1.0, 14˚.06N±0˚.07×120˚.3E±0˚.1, h113km±8km, n18, σ1s00/23, mb3.7/8, 4C-1D, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TGY	**Tagaytay City**	**0.65**	**86**	P	**Pn**	**23 46 26.4**	**+0.6**
	262nm,0.3s,baz=315,slow=1.4,SNR=24						
TGY				S	**Sn**	**23 46 40.3**	**+0.7**
	734nm,0.3s,baz=49,slow=19,SNR=30						
TGY	**Tagaytay City**	**0.65**	**86**	*i* P	**Pn**	**23 46 26.2**	**+0.3**
TGY				*i* S	**Sn**	**23 46 39.7**	**0.0**
PGP	**Puerto Galera**	**0.86**	**130**	*e*P	**Pn**	**23 46 28.0**	**+0.3**
PGP				*i* S	**Sn**	**23 46 41.6**	**-1.2**
LQP	**Lukban**	**1.23**	**87**	*e*P	Pn	23 46 40.9	+9.2
BOAC	**Boac**	**1.64**	**111**	*e*P	**Pn**	**23 46 36.6**	**+0.3**
PCPH	**Palayan**	**1.70**	**28**	*e*P	**Pn**	**23 46 35.7**	**-1.2**
PCPH				*i* S	**Sn**	**23 46 59.7**	**+0.4**
SCZP	**Santa Cruz**	**1.74**	**349**	*e*P	**Pn**	**23 46 38.0**	**+0.4**
SCZP				*e*S	**Sn**	**23 46 59.0**	**-1.3**
GQP	**Guinayangan**	**2.12**	**94**	*e*P	**Pn**	**23 46 42.9**	**+0.7**
BOLP	**Bolinao**	**2.34**	**352**	*e*P	**Pn**	**23 46 45.4**	**+0.4**
BOLP				*e*S	**Sn**	**23 47 12.6**	**-1.1**
CAUP	**Cauayan**	**3.24**	**27**	*e*P	**Pn**	**23 46 57.3**	**+0.5**
SONM	**Songino Array**	**35.60**	**344**	P	**P**	**23 52 55.3**	**+0.9**
	1.7nm,0.6s,baz=164,slow=9.5,SNR=12						
KLR	**Kul'dur**	**36.32**	**13**	P	**P**	**23 52 59.5**	**-0.9**
	0.9nm,0.5s,baz=232,slow=11,SNR=3.1						
WRA	**Warramunga Arr**	**36.51**	**157**	P	**P**	**23 53 00.8**	**-1.5**
	0.4nm,0.5s,baz=337,slow=9.3,SNR=5.2						
ASAR	**Alice Springs**	**39.79**	**160**	P	**P**	**23 53 28.9**	**-0.9**
	0.3nm,0.5s,baz=337,slow=6.8,SNR=6.8						
KURBB	**Kurchatov Arra**	**49.66**	**326**	P	**P**	**23 54 49.2**	**+1.4**
	0.7nm,0.8s,baz=134,slow=7.7,SNR=9.7						
BVAR	**Borovoye Array**	**55.24**	**326**	P	**P**	**23 55 30.8**	**+1.8**
	1.1nm,0.5s,baz=107,slow=8.4,SNR=16						
FINES	**FINESS Array B**	**79.77**	**331**	P	**P**	**23 58 03.2**	**+0.1**
	0.7nm,0.8s,baz=72,slow=6.2,SNR=6.4						
NOA	**NORSAR Array B**	**86.75**	**333**	P	**P**	**23 58 38.2**	**-0.8**
	0.6nm,0.7s,baz=69,slow=4.7,SNR=2.3						

JMA 03 23:55:42.4±0.2, 37˚.98N×144˚.23E, h45km, M3.5, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OFUJ	**Ofunato**	**2.29**	**299**	P	Pn	23 56 18.8	+1.1
OFUJ				*e*S	Sn	23 56 45.9	+1.3
JIO	**Ouri**	**2.32**	**283**	P	Pn	23 56 19.3	+1.3
JIO				*e*S	Sn	23 56 46.9	+1.6
MIYJ	**Miyakonagasawa**	**2.47**	**311**	P	Pn	23 56 20.9	+0.8
MIYJ				*e*S	Sn	23 56 49.7	+0.7
JMK	**Ichinoseki**	**2.55**	**293**	S	Sn	23 56 52.9	+1.8
JOM	**Ohasama**	**2.74**	**304**	*e*S	Sn	23 56 57.6	+1.9
JOU	**Okura**	**2.84**	**279**	P	Pn	23 56 27.1	+1.9
JOU				*e*S	Sn	23 57 00.3	+2.2
JFT	**Otama**	**3.12**	**263**	P	Pn	23 56 30.9	+1.8
JFT				*e*S	Sn	23 57 07.4	+2.3
JRG	**Rokugo**	**3.15**	**298**	*e*S	Sn	23 57 08.5	+2.7
JYK	**Kaneyama**	**3.18**	**288**	P	Pn	23 56 32.2	+2.3
JYK				*e*S	Sn	23 57 09.5	+2.9
JCH	**Churui**	**4.68**	**352**	P	Pn	23 56 49.1	-1.3
JCH				*e*S	Sn	23 57 40.1	-3.3
JRY	**Ryogami san**	**4.69**	**247**	P	Pn	23 56 51.6	+0.9
MAT	**Matsushiro**	**5.01**	**255**	P	Pn	23 56 57.3	+2.2
MAT				*e*S	Sn	23 57 53.8	+2.0
NEM2	**Nemuro 2**	**5.50**	**12**	P	Pn	23 56 57.9	-3.8
NEM2				*e*S	Sn	23 57 55.8	-7.8

*ISCJB **03** 23:58:14.7±1.0, 34˚.58N±0˚.04×24˚.71E±0˚.04, h12km±5km, mb3.1/1, Error ellipse: s-maj=7.3km s-min=5.2km az=1.5*
*IDC **03** 23:58:15.4±2.0, 34˚.79N×24˚.32E, h0km, mb3.3/1, mb1 3.3/3, mb1mx3.1/44, mbtmp3.2/3, ML3.2/2, Error ellipse: s-maj=53.1km s-min=12.2km az=138.0*
*ATH **03** 23:58:16.4, 34˚.72N×24˚.70E, h33km±1km, ML3.0/4, Error ellipse: s-maj=2.7km s-min=1.2km az=354.0*
*CSEM **03** 23:58:16.5±0.3, 34˚.66N×24˚.71E, h20km, ML3.0, Error ellipse: s-maj=6.2km s-min=3.3km az=1.0*
*THE **03** 23:58:16.5, 34˚.65N×24˚.78E, h8km±2km, ML3.1/9, Error ellipse: s-maj=2.3km s-min=1.1km az=9.0*

ISC 03 23:58:16.5±1.2, 34˚.73N±0˚.05×24˚.73E±0˚.02, h15km±9km, n50, σ0s89/76, Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIVA	**Sivas**	**0.30**	**13**	P	**Pb**	**23 58 24.4**	**+0.8**
SIVA				S	**Sb**	**23 58 30.1**	**+1.8**
SIVA	**Sivas**	**0.30**	**13**	P	**Pb**	**23 58 24.4**	**+0.8**
SIVA				S	**Sb**	**23 58 30.1**	**+1.8**
SIVA	**Sivas**	**0.30**	**13**	P	**Pb**	**23 58 24.5**	**+0.8**
SIVA				S	**Sb**	**23 58 30.1**	**+1.8**
SIVA				AML	AML	23 58 32.4	
	comp=N,14025µm,0.5s						
SIVA				AML	AML	23 58 33.1	
	comp=E,25895µm,0.4s						
TMBK	**Timbaki Herakl**	**0.34**	**5**	P	**Pb**	**23 58 25.1**	**+0.7**
TMBK				S	**Sb**	**23 58 31.4**	**+1.7**
TMBK	**Timbaki Herakl**	**0.34**	**5**	P	**Pb**	**23 58 25.1**	**+0.7**
TMBK				S	**Sb**	**23 58 31.4**	**+1.7**
GVD	**Gavdhos**	**0.54**	**282**	P	**Pb**	**23 58 27.9**	**+0.2**
GVD				S	**Sb**	**23 58 37.6**	**+2.3**
GVD	**Gavdhos**	**0.54**	**282**	P	**Pb**	**23 58 27.9**	**+0.2**
GVD				S	**Sg**	**23 58 35.0**	**+0.5**
GVD	**Gavdhos**	**0.54**	**282**	P	**Pb**	**23 58 28.4**	**+0.7**
GVD				S	**Sg**	**23 58 34.4**	**0.0**
GVD				AML	AML	23 58 40.3	
	comp=E,7156µm,0.5s						
GVD				AML	AML	23 58 42.5	
	comp=N,6874µm,0.3s						
IDI	**Anoyia**	**0.57**	**13**	Pg	**Pb**	**23 58 28.6**	**+0.3**
	comp=N,36nm,0.3s,baz=210,slow=16,SNR=195						
IDI				Lg	Lg	23 58 38.0	
	comp=N,65nm,0.3s,baz=119,slow=19,SNR=23						
IDI	**Anoyia**	**0.57**	**13**	P	**Pb**	**23 58 28.5**	**+0.1**
IDI				S	**Sn**	**23 58 37.8**	**-1.7**
IDI	**Anoyia**	**0.57**	**13**	P	**Pb**	**23 58 28.5**	**+0.1**
IDI				S	**Sn**	**23 58 37.8**	**-1.7**
IDI	**Anoyia**	**0.57**	**13**	P	**Pb**	**23 58 27.9**	**-0.5**
IDI				S	**Sn**	**23 58 38.8**	**-0.7**
IDI				AML	AML	23 58 41.9	
	comp=N,1429µm,0.5s						
IDI				AML	AML	23 58 41.9	
	comp=E,1787µm,0.5s						
IACM	**Heraklion**	**0.64**	**26**	P	**Pb**	**23 58 30.1**	**+0.7**
IACM				S	**Sn**	**23 59 40.0**	**-1.0**
IACM	**Heraklion**	**0.64**	**26**	P	**Pb**	**23 58 30.1**	**+0.7**
IACM				S	**Sn**	**23 58 40.0**	**-1.0**
LAST	**Lasithi**	**0.75**	**55**	P	**Pb**	**23 58 31.6**	**+0.2**
LAST				S	**Sb**	**23 58 41.9**	**+0.4**
LAST	**Lasithi**	**0.75**	**55**	P	**Pb**	**23 58 31.6**	**+0.2**
LAST				S	**Sb**	**23 58 41.9**	**+0.4**
LAST	**Lasithi**	**0.75**	**55**	P	**Pb**	**23 58 31.2**	**-0.2**
VAM	**Vamos**	**0.81**	**327**	P	**Pg**	**23 58 31.5**	**-0.7**
VAM				S	**Sn**	**23 58 45.3**	**+0.2**
VAM	**Vamos**	**0.81**	**327**	P	**Pg**	**23 58 31.5**	**-0.7**
VAM				S	**Sn**	**23 58 45.3**	**+0.2**
NPS	**Neapolis**	**0.90**	**53**	P	**Pb**	**23 58 34.2**	**+0.3**
NPS				S	**Sn**	**23 58 47.5**	**+0.1**
NPS	**Neapolis**	**0.90**	**53**	P	**Pb**	**23 58 34.2**	**+0.3**
NPS				S	**Sn**	**23 58 47.5**	**+0.1**
NPS	**Neapolis**	**0.90**	**53**	P	**Pn**	**23 58 34.5**	**-0.1**
IMMV	**Iera Moni Meta**	**0.95**	**320**	P	**Pb**	**23 58 34.8**	**0.0**
IMMV				S	**Sn**	**23 58 51.4**	**+2.6**
IMMV	**Iera Moni Meta**	**0.95**	**320**	P	**Pb**	**23 58 34.8**	**0.0**
IMMV				S	**Sb**	**23 58 48.0**	**+0.7**
IMMV	**Iera Moni Meta**	**0.95**	**320**	P	**Pg**	**23 58 34.0**	**-1.0**
IMMV				S	**Sn**	**23 58 48.4**	**-0.4**
IMMV				AML	AML	23 58 53.8	
	comp=N,2447µm,0.7s						
IMMV				AML	AML	23 58 58.2	
	comp=E,2129µm,0.5s						
ZKR	**Zakros**	**1.28**	**72**	P	**Pg**	**23 58 41.1**	**-0.1**
ZKR	**Zakros**	**1.28**	**72**	P	**Pg**	**23 58 41.9**	**+0.6**
ANKY	**Antikythira Is**	**1.63**	**315**	P	**Pn**	**23 58 44.6**	**-0.1**
ANKY				S	**Sg**	**23 59 09.3**	**+0.2**
ANKY	**Antikythira Is**	**1.63**	**315**	P	**Pn**	**23 58 44.3**	**-0.1**
ANKY				S	**Sg**	**23 59 09.3**	**+0.2**
ANKY	**Antikythira Is**	**1.63**	**315**	P	**Pn**	**23 58 44.2**	**+0.5**
THR6	**Thira Island,**	**1.71**	**18**	P	**Pn**	**23 58 46.0**	**+0.1**
THR6	**Thira Island,**	**1.71**	**18**	P	**Pn**	**23 58 46.0**	**+0.1**
THR5	**Thira Island,**	**1.76**	**16**	P	**Pn**	**23 58 46.3**	**-0.2**
THR5	**Thira Island,**	**1.76**	**16**	P	**Pn**	**23 58 46.3**	**-0.2**
THR3	**Thira Island,**	**1.76**	**18**	P	**Pn**	**23 58 46.7**	**+0.2**
THR3	**Thira Island,**	**1.76**	**18**	P	**Pn**	**23 58 46.7**	**+0.2**
MHLO	**Agia Marina, M**	**1.98**	**352**	P	**Pn**	**23 58 50.2**	**+0.7**
MHLO		

mb1 3.9/11,mb1mx3.6/60,mbtmp3.8/11,ML4.3/1,Error ellipse: s-maj=29.5km s-min=17.8km az=57.0
*ISCJB **04** 00:56:05.1±0.4,30°.84N±0°.04×103°.47E±0°.05,h16km, mb3.7/11,Error ellipse: s-maj=5.8km s-min=5.5km az=25.4*
*BJI **04** 00:56:07.9,30°.83N×103°.38E,h22km,ML3.7/18,Ms3.7/2, Ms7 3.5/1*
*NEIC **04** 00:56:08.9±2.5,30°.87N×103°.49E,h29km±20km,mb4.0/2, Error ellipse: s-maj=9.4km s-min=8.3km az=201.0*

ISC 04 00:56:07.3±0.6,30°.83N±0°.04×103°.53E±0°.05,h16km,n22, σ1§58/31,mb3.9/10,1D,Sichuan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CD2	**Chengdu**	**0.22**	**68**	*i*Pg	**Pb**	**00 56 12.7**	**-0.2**
CD2				Sg	**Sb**	**00 56 18.4**	**+1.8**
CD2				smax	smax		
	comp=N,10μm,1.0s						
CD2				smax	smax		
	comp=E,9μm,1.0s						
GYA	**Guiyang**	**5.16**	**147**	Pn	**Pn**	**00 57 24.3**	**+0.4**
GYA				Pg	**Pg**	**00 57 44.5**	**-1.5**
GYA				Sn	**Sn**	**00 58 23.2**	**0.0**
GYA				Sg	**Sg**	**00 58 52.7**	**-0.1**
GYA				smax	smax		
	comp=N,200nm,0.9s						
GYA				smax	smax		
	comp=E,130nm,1.0s						
ENH	**Enshi**	**5.17**	**95**	*e*Pn	**Pn**	**00 57 24.7**	**+0.6**
	64nm,0.9s						
ENH				*e*Sn	**Sn**	**00 58 23.9**	**+0.4**
LZH	**Lanzhou**	**5.25**	**3**	*e*P	**Pg**	**00 57 49.9**	**+2.1**
LZH				pP	pP	00 58 01.4	
LZH				sP	sP	00 58 06.4	
LZH				pmax	pmax		
	comp=Z,27nm,1.0s						
LZH				pmax	pmax		
	comp=Z,130nm,4.3s						
XAN	**Xi'an**	**5.57**	**54**	Pn	**Pn**	**00 57 28.9**	**-0.7**
XAN				Pg	**Pb**	**00 57 48.5**	**+4.3**
XAN				Sn	**Sn**	**00 58 34.2**	**+0.9**
XAN				Sg	**Sg**	**00 59 01.0**	**-5.1**
XAN				smax	smax		
	comp=Z,140nm,0.9s						
XAN				smax	smax		
	comp=Z,130nm,0.8s						
KMI	**Kunming**	**5.73**	**187**	Pn	**Pn**	**00 57 33.4**	**+1.5**
KMI				Sn	**Sn**	**00 58 37.8**	**+0.4**
KMI				smax	smax		
	comp=Z,32nm,1.0s						
KMI				smax	smax		
	comp=Z,35nm,1.2s						
LSA	**Lhasa**	**10.76**	**267**	*e*Pn	**Pn**	**00 58 41.0**	**-0.1**
	comp=Z,1.2nm,0.4s						
CMAR	**Chiang Mai Arr**	**13.00**	**200**	Pn	**Pn**	**00 59 11.8**	**+0.4**
	comp=Z,0.6nm,0.3s,baz=21,slow=12,SNR=6.4						
SONM	**Songino Array**	**17.12**	**7**	P	**Pn**	**01 00 05.0**	**-1.0**
	baz=184,slow=11,SNR=2.7						
KSAR	**Wonju Array Be**	**21.18**	**65**	P	**P**	**01 00 53.0**	**+1.1**
KSRS	**Korea Array**	**21.22**	**65**	P	**P**	**01 00 53.0**	**+0.7**
	comp=Z,1.6nm,0.7s,baz=247,slow=9.5,SNR=6.8						
AAK	**Ala-Archa**	**25.95**	**305**	P	**P**	**01 01 39.5**	**+0.4**
	comp=Z,1.0nm,0.3s,baz=139,slow=9.3,SNR=3.6						
ZALV	**Zalesovo Beam**	**26.75**	**335**	P	**P**	**01 01 46.1**	**+0.1**
	comp=Z,0.8nm,0.5s,baz=123,slow=10,SNR=5.3						
KURBB	**Kurchatov Arra**	**27.16**	**324**	P	**P**	**01 01 49.0**	**-0.7**
	comp=Z,1.0nm,0.8s,baz=129,slow=9.5,SNR=14						
KURK	**Kurchatov**	**27.17**	**324**	*e*P	**P**	**01 01 48.9**	**-0.9**
	comp=Z,1.9nm,0.6s						
BVAR	**Borovoye Array**	**32.70**	**322**	PcP	**PcP**	**01 05 23.1**	**-1.0**
	comp=Z,0.4nm,0.5s,baz=96,slow=2.9,SNR=3.9						
FINES	**FINESS Array B**	**37.52**	**326**	P	**P**	**01 05 54.5**	**-1.0**
	comp=Z,1.5nm,0.9s,baz=111,slow=9.6,SNR=3.5						
WRA	**Warramunga Arr**	**58.53**	**146**	P	**P**	**01 06 02.5**	**-0.6**
	comp=Z,0.8nm,0.6s,baz=337,slow=7.5,SNR=5.0						
ASAR	**Alice Springs**	**61.52**	**148**	P	**P**	**01 06 24.2**	**+0.7**
	comp=Z,0.4nm,0.5s,baz=336,slow=7.1,SNR=4.3						
NOA	**NORSAR Array B**	**64.62**	**327**	P	**P**	**01 06 42.3**	**-1.5**
	comp=Z,0.8nm,0.7s,baz=74,slow=6.5,SNR=3.2						
ILAR	**Eielson Array**	**70.30**	**25**	P	**P**	**01 07 18.7**	**-0.9**
	comp=Z,0.4nm,0.8s,baz=297,slow=7.9,SNR=4.1						
LOHW	**Long Hollow**	**99.59**	**24**	P	**Pdif**	**01 09 49.5**	**-0.8**
	comp=Z,0.5nm,0.7s						

---

*ISCJB **04** 01:09:59.1±0.2,51°.89N±0°.04×171°.41W±0°.03,h44km, mb4.3/66,MS4.5/2,Error ellipse: s-maj=5.8km s-min=2.5km az=175.2*
*NEIC **04** 01:10:01.2±0.0,52°.02N×171°.46W,h54km,mb4.5/49, ML4.1(AEIC),After AEIC.*
*IDC **04** 01:10:05.2±4.8,52°.15N×171°.52W,h84km±41km,mb3.8/24, mb1 3.9/26,mb1mx3.7/67,mbtmp4.1/26,Error ellipse: s-maj=19.3km s-min=12.2km az=7.0*
*MOS **04** 01:10:05.8±0.9,52°.30N×171°.57W,h59km,mb4.4/26, Error ellipse: s-maj=13.0km s-min=9.2km az=64.2*

ISC 04 01:10:00.7±0.5,51°.94N±0°.10×171°.46W±0°.04,h44km, n345,σ1§05/347,mb4.4/66,1D,Fox Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KOSE	**Korovin Southe**	**1.65**	**285**	P	**Pn**	**01 10 28.6**	**+1.3**
KOFP	**Korovin Flat P**	**1.66**	**283**	P	**Pn**	**01 10 28.4**	**+1.0**
KONE	**Korovin Northe**	**1.70**	**287**	P	**Pn**	**01 10 29.3**	**+1.5**
ATKA	**Atka Island**	**1.71**	**280**	*e*Pn	**Pn**	**01 10 27.6**	**-0.4**
KOKV	**Korovin Volcan**	**1.72**	**285**	P	**Pn**	**01 10 29.7**	**+1.5**
KOKV				S	**Sn**	**01 10 50.3**	**+1.3**
KOKL	**Mount Kliuchef**	**1.73**	**284**	P	**Pn**	**01 10 29.4**	**+1.1**
NIKH	**Nikolski High**	**1.90**	**56**	*e*Pn	**Pn**	**01 10 30.1**	**-0.5**
OKSO	**Okmok South**	**2.46**	**53**	P	**Pn**	**01 10 39.5**	**+1.2**
OKSO				S	**Sn**	**01 11 08.5**	**+1.3**
OKCE	**Okmok Cone E**	**2.50**	**52**	P	**Pn**	**01 10 40.4**	**+1.6**
OKTU	**Okmok Mt. Tuli**	**2.54**	**54**	P	**Pn**	**01 10 41.0**	**+1.6**
OKFG	**Magazine Ridge**	**2.62**	**54**	P	**Pn**	**01 10 41.2**	**+0.7**
OKFG				S	**Sn**	**01 11 13.0**	**+2.1**
GSMY	**Great Sitkin M**	**2.84**	**274**	P	**Pn**	**01 10 44.2**	**+0.6**
GSTD	**Great Sitkin T**	**2.90**	**274**	P	**Pn**	**01 10 45.6**	**+1.2**
GSTD				S	**Sn**	**01 11 19.2**	**+1.2**
GSCK	**Great Sitkin C**	**2.91**	**273**	P	**Pn**	**01 10 45.4**	**+1.0**
ETKA	**Kagalaska Isla**	**3.06**	**271**	P	**Pn**	**01 10 46.7**	**+0.1**
ADAG	**Mount Adagdak**	**3.17**	**273**	P	**Pn**	**01 10 49.9**	**+1.7**
MGOD	**Makushin Gods**	**3.34**	**54**	P	**Pn**	**01 10 50.7**	**+0.2**
MCIR	**Makushin Cirqu**	**3.42**	**52**	P	**Pn**	**01 10 52.5**	**+1.0**
MSW	**Makushin Switc**	**3.46**	**53**	P	**Pn**	**01 10 52.7**	**+0.8**
MTBL	**Makushin Table**	**3.54**	**53**	P	**Pn**	**01 10 54.3**	**+1.2**
KICM	**Kanaga Island**	**3.55**	**272**	P	**Pn**	**01 10 54.2**	**+0.9**
UNV	**Unalaska Valle**	**3.56**	**56**	*e*Pn	**Pn**	**01 10 54.5**	**+1.2**
UNV				*e*Sn	**Sn**	**01 11 35.9**	**+1.8**
TAPA	**Tanaga Point A**	**3.94**	**271**	P	**Pn**	**01 10 59.9**	**+1.3**
TAFL	**Tanaga Flats**	**4.00**	**270**	P	**Pn**	**01 11 01.1**	**+1.7**
AKLV	**Akutan Long Va**	**4.00**	**54**	P	**Pn**	**01 10 59.2**	**-0.2**
AKGG	**Akutan Green G**	**4.00**	**53**	P	**Pn**	**01 11 00.5**	**+1.0**
TAFP	**Tanaga Falls P**	**4.04**	**272**	P	**Pn**	**01 11 01.1**	**+1.1**
AKUT	**Akutan**	**4.08**	**55**	*e*Pn	**Pn**	**01 11 01.3**	**+0.8**
AKUT				*e*Sn	**Sn**	**01 11 46.8**	**-0.1**
WESP	**Westdahl Peak**	**4.79**	**55**	P	**Pn**	**01 11 11.7**	**+1.4**
SVW2	**Sparrevohn**	**12.66**	**37**	*e*Pn	**Pn**	**01 13 00.9**	**+3.1**
RSO	**Redoubt South**	**13.42**	**43**	*e*Pn	**Pn**	**01 13 11.7**	**+3.3**
TTA	**Tatalina**	**13.76**	**31**	*e*P	**Pn**	**01 13 14.6**	**+1.7**
TTA	**Tatalina**	**13.76**	**31**	*e*Pn	**Pn**	**01 13 14.6**	**+1.7**
CAST	**Castle Rocks**	**15.40**	**34**	*e*Pn	**Pn**	**01 13 35.6**	**+0.8**
	4.8nm,0.7s						
KTH	**Kantishna Hill**	**15.89**	**35**	*e*Pn	**Pn**	**01 13 41.9**	**+0.8**
	36nm,1.7s						
MCK	**McKinley**	**16.71**	**36**	*e*P	**Pn**	**01 13 51.0**	**-0.4**
MCK				pmax	pmax		
	comp=Z,14nm,1.2s						
MCK	**McKinley**	**16.71**	**36**	*e*Pn	**Pn**	**01 13 51.0**	**-0.4**
	comp=Z,14nm,1.2s						
ILAR	**Eielson Array**	**18.04**	**35**	P	**Pn**	**01 14 05.8**	**-2.0**
	comp=Z,0.4nm,0.3s,baz=226,slow=8.7,SNR=21						
ILB	**Eielson Array**	**18.04**	**35**	*e*Pn	**Pn**	**01 14 06.2**	**-1.5**
COLD	**Coldfoot**	**18.56**	**26**	*e*P	**Pn**	**01 14 13.9**	**-0.2**
	comp=Z,3.2nm,0.7s						
PETK	**Petropavlovsk-**	**18.74**	**286**	P	**P**	**01 14 15.8**	**+0.3**
	comp=Z,0.3nm,0.3s,baz=90,slow=14,SNR=3.5						
BILL	**Bilibino**	**19.41**	**335**	*i*P	**Pn**	**01 14 27.2**	**+2.9**
BILL				pmax	pmax		
	comp=Z,17nm,0.5s						
TOLK	**Toolik Lake Re**	**19.75**	**24**	P	**Pn**	**01 14 28.0**	**-0.3**
	baz=223,SNR=7.2						
EGAK	**Eagle**	**20.18**	**39**	*e*P	**P**	**01 14 30.9**	**-0.3**
	comp=Z,12nm,1.4s						
HYT	**Haines Junctio**	**20.58**	**51**	*e*P	**P**	**01 14 35.8**	**+0.2**
	comp=Z,28nm,1.2s						
SKAG	**Skagway**	**21.48**	**55**	*e*P	**P**	**01 14 46.5**	**+1.3**
	comp=Z,8.2nm,0.7s						
SEY	**Seymchan**	**22.03**	**314**	P	**P**	**01 14 51.3**	**+0.2**
	comp=Z,4.7nm,0.7s,baz=117,slow=9.2,SNR=13						
DLBC	**Dease Lake**	**24.21**	**58**	P	**P**	**01 15 13.5**	**+0.5**
	comp=Z,6.9nm,0.7s,baz=273,slow=10,SNR=11						
DLBC	**Dease Lake**	**24.21**	**58**	*e*P	**P**	**01 15 14.3**	**+1.3**
	comp=Z,15nm,1.0s						
INK	**Inuvik**	**24.42**	**34**	P	**P**	**01 15 14.0**	**-0.6**
	comp=Z,3.0nm,0.5s,baz=254,slow=6.6,SNR=15						
INK	**Inuvik**	**24.42**	**34**	*e*P	**P**	**01 15 13.6**	**-1.0**
	comp=Z,3.1nm,0.4s						
B05A	**Bryant**	**31.39**	**77**	P	**P**	**01 16 18.3**	**+1.3**
	baz=296						
YKA	**Yellowknife Ar**	**31.49**	**48**	P	**P**	**01 16 17.5**	**-0.4**
	comp=Z,0.7nm,0.3s,baz=274,slow=9.1,SNR=10						
B08A	**Colville Reser**	**33.00**	**75**	*e*P	**P**	**01 16 33.2**	**+1.8**
	comp=Z,6.7nm,0.6s						
G05D	**Wamic, OR**	**33.27**	**81**	P	**P**	**01 16 33.9**	**+0.2**
	baz=300						
HAWA	**Hanford**	**33.79**	**78**	*e*P	**P**	**01 16 40.3**	**+2.1**
	comp=Z,6.6nm,0.7s						
J04D	**Umpqua Nationa**	**33.82**	**85**	P	**P**	**01 16 39.3**	**+0.6**
	baz=303						
J05D	**Fort Rock, OR**	**34.34**	**84**	P	**P**	**01 16 43.4**	**+0.3**
	baz=303						
NEW	**Newport**	**34.37**	**74**	P	**P**	**01 16 44.3**	**+1.1**
	baz=297,SNR=8.9						
NEW	**Newport**	**34.37**	**74**	*e*P	**P**	**01 16 44.5**	**+1.3**
NEW				pmax	pmax		
	comp=Z,7.0nm,0.8s						
NEW	**Newport**	**34.37**	**74**	*e*P	**P**	**01 16 44.5**	**+1.3**
	comp=Z,7.5nm,0.8s						
M02C	**Callahan**	**34.38**	**88**	P	**P**	**01 16 44.6**	**+1.2**
	baz=305						
EDM	**Edmonton**	**34.50**	**64**	*e*P	**P**	**01 16 45.9**	**+1.6**
EDM				pmax	pmax		
	comp=Z,12nm,0.6s						
EDM	**Edmonton**	**34.50**	**64**	*e*P	**P**	**01 16 45.9**	**+1.6**
	comp=Z,12nm,0.6s						
E09A	**Wood Farm, Sta**	**34.57**	**77**	*e*P	**P**	**01 16 46.3**	**+1.4**
	comp=Z,24nm,1.8s						
N02D	**Trinity Center**	**34.71**	**89**	P	**P**	**01 16 47.5**	**+1.2**
	baz=305						
M04C	**Macdoel**	**34.79**	**87**	P	**P**	**01 16 48.0**	**+1.0**
	baz=304						
O03D	**Paynes Creek**	**35.67**	**89**	P	**P**	**01 16 55.6**	**+1.1**
	baz=306						
WALA	**Waterton Lakes**	**35.90**	**71**	*e*P	**P**	**01 16 57.8**	**+1.4**
	comp=Z,20nm,1.6s						
BMO	**Blue Mountains**	**35.92**	**79**	*e*P	**P**	**01 16 59.1**	**+2.5**
BMO	**Blue Mountains**	**35.92**	**79**	*e*P	**P**	**01 16 59.1**	**+2.5**
BMO				*e*pP	**sP**	**01 17 14.4**	**+0.7**
BSMT	**Bassoo Peak**	**35.95**	**73**	*e*P	**P**	**01 16 58.4**	**+1.4**
H11N2	**WAKE ISLAND Hy**	**36.33**	**216**	T	T	01 55 28.0	
	baz=16,slow=75,SNR=50						
H11N3	**WAKE ISLAND Hy**	**36.34**	**216**	T	T	01 55 26.3	
	baz=16,slow=75,SNR=98						
H11N1	**WAKE ISLAND Hy**	**36.35**	**216**	T	T	01 55 28.4	
	baz=16,slow=75,SNR=59						
WVOR	**Wild Horse Val**	**36.40**	**84**	*e*P	**P**	**01 17 02.7**	**+1.9**
WVOR				pmax	pmax		
	comp=Z,6.0nm,0.9s						
WVOR	**Wild Horse Val**	**36.40**	**84**	*e*P	**P**	**01 17 02.7**	**+1.9**
	comp=Z,6.4nm,0.9s						
MSO	**Missoula**	**36.94**	**75**	P	**P**	**01 17 06.1**	**+0.7**
	baz=300						
PAHR	**Pah Rah Range**	**37.51**	**88**	*e*P	**P**	**01 17 12.6**	**+2.3**
	comp=Z,6.9nm,0.8s						
PNTR	**Pine Nut**	**37.75**	**89**	*e*P	**P**	**01 17 15.0**	**+2.6**
	comp=Z,9.7nm,0.6s						
YERR	**Yerington**	**38.03**	**89**	*e*P	**P**	**01 17 17.2**	**+2.4**
	comp=Z,6.3nm,0.7s						
HLID	**Hailey**	**38.36**	**79**	P	**P**	**01 17 18.0**	**+0.5**
	baz=303						
MCMT	**McKenzie Canyo**	**38.63**	**77**	*e*P	**P**	**01 17 21.0**	**+1.2**
TVH1	**TV Hill, Hawth**	**38.65**	**89**	*e*P	**P**	**01 17 22.5**	**+2.3**
	comp=Z,6.3nm,0.9s						
TVH3	**East Aurora ar**	**38.68**	**89**	*e*P	**P**	**01 17 22.3**	**+2.1**
	comp=Z,3.8nm,0.9s						
EGMT	**Eagleton**	**38.83**	**71**	P	**P**	**01 17 21.8**	**+0.6**
	baz=300,SNR=9.6						
EGMT	**Eagleton**	**38.83**	**71**	*e*P	**P**	**01 17 22.4**	**+1.2**
	comp=Z,15nm,0.8s						
BOZ	**Bozeman (W)**	**38.95**	**75**	P	**P**	**01 17 22.7**	**+0.3**
	baz=302,SNR=5.8						
BOZ	**Bozeman (W)**	**38.95**	**75**	*e*P	**P**	**01 17 23.6**	**+1.2**
BOZ				pmax	pmax		
	comp=Z,3.0nm,0.6s						
BOZ	**Bozeman (W)**	**38.95**	**75**	*e*P	**P**	**01 17 23.6**	**+1.2**
	comp=Z,3.2nm,0.6s						
YHH	**Holmes Hill**	**39.85**	**76**	*e*P	**P**	**01 17 31.4**	**+1.3**
	comp=Z,7.1nm,1.1s						
FFC	**Flin Flon**	**40.04**	**58**	*e*P	**P**	**01 17 31.0**	**-0.1**
FFC				pmax	pmax		
	comp=Z,4.0nm,0.6s						
FFC	**Flin Flon**	**40.04**	**58**	*e*P	**P**	**01 17 31.0**	**-0.1**
	comp=Z,4.2nm,0.6s						
VES	**Vestal, Richgr**	**40.10**	**93**	P	**P**	**01 17 32.8**	**+0.9**
	baz=311						
HVU	**Hansel Valley**	**40.36**	**81**	*e*P	**P**	**01 17 35.9**	**+1.8**
HVU				pmax	pmax		
	comp=Z,6.0nm,0.9s						
HVU	**Hansel Valley**	**40.36**	**81**	*e*P	**P**	**01 17 35.9**	**+1.8**
	comp=Z,5.8nm,0.9s						
RLMT	**Red Lodge**	**40.62**	**74**	P	**P**	**01 17 35.9**	**-0.4**
	baz=303,SNR=5.8						
RLMT	**Red Lodge**	**40.62**	**74**	*e*P	**P**	**01 17 37.9**	**+1.7**
	comp=Z,7.7nm,0.8s						
R11A	**Troy Canyon, C**	**40.68**	**87**	P	**P**	**01 17 38.0**	**+1.1**
	baz=308,SNR=6.1						
R11A	**Troy Canyon, C**	**40.68**	**87**	*e*P	**P**	**01 17 38.5**	**+1.7**
	comp=Z,7.7nm,0.8s						
SPUT	**South Promonto**	**40.84**	**81**	*e*P	P	01 17 34.4	-3.7
MPMC	**Manual Prospec**	**40.95**	**91**	P	**P**	**01 17 40.5**	**+1.4**
	baz=310						
FURC	**Furnace Creek,**	**41.08**	**90**	P	**P**	**01 17 41.7**	**+1.9**
	baz=310,SNR=5.4						
TPNV	**Topopah Spring**	**41.15**	**89**	P	**P**	**01 17 41.8**	**+1.1**
	baz=310,SNR=11						
TPNV	**Topopah Spring**	**41.15**	**89**	*e*P	**P**	**01 17 42.5**	**+1.8**
TPNV				pmax	pmax		
	comp=Z,7.0nm,0.8s						
TPNV	**Topopah Spring**	**41.15**	**89**	*e*P	**P**	**01 17 42.5**	**+1.8**
	comp=Z,7.2nm,0.8s						
DUG	**Dugway, Tooele**	**41.27**	**83**	P	**P**	**01 17 42.8**	**+1.2**
	baz=307,SNR=5.1						
DUG	**Dugway, Tooele**	**41.27**	**83**	*e*P	**P**	**01 17 43.4**	**+1.8**
DUG				pmax	pmax		
	comp=Z,7.0nm,1.1s						
DUG	**Dugway, Tooele**	**41.27**	**83**	*e*P	**P**	**01 17 43.4**	**+1.8**
	comp=Z,7.0nm,1.1s						
LAO	**LASA Array**	**41.57**	**70**	P	**P**	**01 17 44.9**	**+1.0**
	baz=302						
BW06	**Boulder Array**	**41.75**	**77**	P	**P**	**01 17 46.5**	**+0.8**
	baz=305,SNR=6.6						
BW06	**Boulder Array**	**41.75**	**77**	*e*P	**P**	**01 17 46.5**	**+0.8**
	comp=Z,4.7nm,0.9s						
PD31	**Pinedale Array**	**41.75**	**77**	*e*P	**P**	**01 17 46.9**	**+1.2**
PDAR	**Pinedale Array**	**41.75**	**77**	P	**P**	**01 17 46.5**	**+0.9**
	comp=Z,3.6nm,0.8s,baz=294,slow=4.5,SNR=25						
SHOC	**Shoshone, Teco**	**41.80**	**90**	P	**P**	**01 17 47.1**	**+1.2**
	baz=311						
GSC	**Goldstone, Bar**	**41.86**	**91**	P	**P**	**01 17 47.7**	**+1.2**
	baz=311,SNR=7.6						
GSC	**Goldstone, Bar**	**41.86**	**91**	*e*P	**P**	**01 17 48.2**	**+1.7**
GSC				pmax	pmax		
	comp=Z,10.0nm,0.8s						
GSC	**Goldstone, Bar**	**41.86**	**91**	*e*P	**P**	**01 17 48.2**	**+1.7**
	comp=Z,9.9nm,0.8s						
BFSC	**Mount Baldy Ra**	**42.03**	**93**	P	**P**	**01 17 48.9**	**+1.0**
	baz=312						
CCUT	**Cedar City**	**42.55**	**86**	*e*P	**P**	**01 17 54.1**	**+1.9**
	comp=Z,16nm,1.8s						
MSU	**Marysvale**	**42.69**	**84**	*e*P	**P**	**01 17 55.3**	**+2.0**
MSU	**Marysvale**	**42.69**	**84**	*e*P	**P**	**01 17 55.2**	**+2.0**
TMUT	**Trail Mountain**	**42.80**	**83**	*e*P	**P**	**01 17 56.1**	**+1.8**
	comp=Z,4.2nm,0.9s						
GMRC	**Granite Mounta**	**42.91**	**91**	P	**P**	**01 17 55.4**	**+0.3**
	baz=312						
LCMT	**Little Creek M**	**42.97**	**87**	*e*P	**P**	**01 17 57.6**	**+2.2**
	comp=Z,2.7nm,0.8s						
PFO	**Pinyon Flats O**	**43.20**	**93**	P	**P**	**01 17 57.6**	**+0.3**
	baz=312						
TPFO	**Pinon Flats**	**43.20**	**93**	P	**P**	**01 17 57.5**	**+0.1**
	baz=312						
BELC	**Belle Mtn. Jos**	**43.22**	**92**	P	**P**	**01 17 57.9**	**+0.3**
	baz=312						
SRU	**San Rafael Swe**	**43.33**	**82**	*e*P	**P**	**01 18 00.4**	**+1.9**
SRU				pmax	pmax		
	comp=Z,4.0nm,0.8s						
SRU	**San Rafael Swe**	**43.33**	**82**	*e*P	**P**	**01 18 00.4**	**+1.9**
	comp=Z,4.3nm,0.8s						
IRM	**Iron Mountain**	**43.64**	**91**	P	**P**	**01 18 02.0**	**+1.2**
	baz=312						
K22A	**Casper**	**43.65**	**76**	P	**P**	**01 18 01.1**	**+0.2**
	baz=306						
O20A	**White River Ci**	**44.10**	**80**	P	**P**	**01 18 05.1**	**+0.5**
	baz=308,SNR=6.7						
O20A	**White River Ci**	**44.10**	**80**	*e*P	**P**	**01 18 04.9**	**+0.3**
	comp=Z,21nm,1.2s						
RSSD	**Black Hills**	**44.27**	**72**	P	**P**	**01 18 06.3**	**+0.3**
	baz=305						
RSSD	**Black Hills**	**44.27**	**72**	*e*P	**P**	**01 18 05.8**	**-0.2**
RSSD				pmax	pmax		
	comp=Z,4.0nm,0.5s						
RSSD	**Black Hills**	**44.27**	**72**	*e*P	**P**	**01 18 05.8**	**-0.2**
	comp=Z,4.4nm,0.5s						
Y12C	**Blythe**	**44.30**	**91**	P	**P**	**01 18 06.9**	**+0.9**
	baz=312						
PV09	**Paradox Valley**	**44.56**	**82**	*e*P	**P**	**01 18 09.7**	**+1.2**
GLA	**Glamis**	**44.58**	**92**	P	**P**	**01 18 09.0**	**+0.6**
	baz=313						
PV10	**Paradox Valley**	**44.70**	**82**	*e*P	**P**	**01 18 11.2**	**+1.8**
N23A	**Red Feather La**	**45.04**	**77**	P	**P**	**01 18 12.1**	**0.0**
	baz=307						
WUAZ	**Wupatki**	**45.08**	**87**	P	**P**	**01 18 13.3**	**+0.9**
	baz=311,SNR=5.8						
WUAZ	**Wupatki**	**45.08**	**87**	*e*P	**P**	**01 18 14.2**	**+1.8**
	comp=Z,5.2nm,0.8s						
PV01	**Paradox Valley**	**45.14**	**82**	*e*P	**P**	**01 18 13.3**	**+0.4**
ULM	**Lac du Bonnet**	**45.49**	**61**	P	**P**	**01 18 15.3**	**+0.1**
	comp=Z,2.2nm,0.6s,baz=321,slow=10,SNR=4.9						
B31A	**Greenbush Farm**	**45.52**	**64**	P	**P**	**01 18 15.8**	**+0.3**
	baz=304						
MVCO	**Mesa Verde**	**45.77**	**83**	P	**P**	**01 18 17.8**	**-0.1**
	baz=310						
C31A	**Landman Farms,**	**45.82**	**64**	P	**P**	**01 18 17.7**	**-0.2**
	baz=304						
ISCO	**Idaho Springs**	**45.91**	**78**	P	**P**	**01 18 19.2**	**+0.1**
	baz=308						
AGMN	**Agassiz Nation**	**46.58**	**63**	P	**P**	**01 18 24.0**	**+0.1**
	baz=304						
B34A	**Aery, Baudette**	**47.13**	**62**	P	**P**	**01 18 27.7**	**-0.6**
	baz=305						
D33A	**AnnSam, Waubun**	**47.24**	**64**	P	**P**	**01 18 28.8**	**-0.3**
	baz=305						
H31A	**Wolsey**	**47.31**	**69**	P	**P**	**01 18 29.5**	**-0.1**
	baz=307						
TUC	**Tucson**	**47.59**	**90**	P	**P**	**01 18 32.3**	**+0.2**
	baz=313						
D34A	**Park Rapids**	**47.64**	**64**	P	**P**	**01 18 31.8**	**-0.4**
	baz=306						
B35A	**Bob, Littlefor**	**47.71**	**62**	P	**P**	**01 18 32.1**	**-0.6**
	baz=305						
J31A	**Geddes**	**47.87**	**70**	P	**P**	**01 18 33.9**	**-0.1**
	baz=307						
C35A	**Jirik Farms, M**	**47.95**	**63**	P	**P**	**01 18 34.2**	**-0.4**
	baz=306						
H33A	**Prehn Over Nor**	**48.18**	**67**	P	**P**	**01 18 36.0**	**-0.4**
	baz=307						
T25A	**Trinidad**	**48.31**	**80**	P	**P**	**01 18 38.1**	**+0.3**
	baz=310,SNR=5.2						
T25A	**Trinidad**	**48.31**	**80**	*e*P	**P**	**01 18 39.3**	**+1.5**
	comp=Z,8.4nm,1.0s						
LAZ	**Ladron**	**48.43**	**85**	*e*P	**P**	**01 18 40.3**	**+1.6**
ANMO	**Albuquerque**	**48.49**	**84**	P	**P**	**01 18 39.3**	**+0.1**
	baz=312						
C36A	**Pine Crest Far**	**48.55**	**62**	P	**P**	**01 18 38.7**	**-0.5**
	baz=306						
D36A	**Goodland**	**48.71**	**63**	P	**P**	**01 18 39.9**	**-0.5**
	baz=306						
ECSD	**EROS Data Cent**	**48.83**	**68**	P	**P**	**01 18 41.1**	**-0.2**
	baz=308						
ECSD	**EROS Data Cent**	**48.83**	**68**	*e*P	**P**	**01 18 41.2**	**-0.2**
	comp=Z,6.4nm,1.1s						
J33A	**Davis**	**48.88**	**69**	P	**P**	**01 18 41.6**	**-0.2**
	baz=308						
C37A	**Emmarrass**	**48.92**	**62**	P	**P**	**01 18 41.7**	**-0.4**
	baz=306						
E36A	**McGregor**	**49.05**	**64**	P	**P**	**01 18 42.8**	**-0.3**
	baz=307						
D37A	**Cotton**	**49.13**	**62**	P	**P**

baz=310
N37A Lee Faris, Mou 52.08 70 P P 01 19 05.7 -0.3
baz=310
K39A Oelwein 52.17 67 P P 01 19 06.1 -0.5
baz=310
H41A Junction City 52.21 63 P P 01 19 06.1 -0.8
baz=309
P36A Good Intent, A 52.23 72 P P 01 19 06.9 -0.2
baz=311
I41A Arkdale 52.45 64 P P 01 19 08.4 -0.2
baz=310
L39A Vinton 52.48 67 P P 01 19 08.6 -0.3
baz=310
O37A Wolven Farm, M 52.50 70 P P 01 19 09.0 -0.1
baz=311
P37A Lathrop 52.76 71 P P 01 19 10.6 -0.4
baz=311,SNR=6.2
T34A McClaskey Farm 52.76 75 P P 01 19 11.1 0.0
baz=312
W32A Sentinel 52.78 79 P P 01 19 11.1 -0.2
baz=312
M39A Webster 52.80 68 P P 01 19 11.2 0.0
baz=310,SNR=6.2
J41A Loganville 52.81 65 P P 01 19 11.1 -0.2
baz=310
S35A Otter Creek Ra 52.84 74 P P 01 19 11.4 -0.3
baz=312
R36A Gordon, Harris 52.91 73 P P 01 19 11.8 -0.3
baz=311,SNR=5.5
O38A Galt 52.92 70 P P 01 19 12.0 -0.2
baz=311
L40A Anamosa 52.96 67 P P 01 19 12.2 -0.3
baz=310
N39A Derby Farms, D 52.99 69 P P 01 19 12.5 -0.3
baz=311,SNR=5.8
K41A Shullsburg 53.13 66 P P 01 19 13.3 -0.4
baz=310
P38A Dawn 53.21 71 P P 01 19 13.8 -0.5
baz=311,SNR=7.1
M40A Post Highland 53.22 68 P P 01 19 13.6 -0.7
baz=311
T35A Sooner Cattle 53.23 75 P P 01 19 14.6 +0.1
baz=312
R37A Teagarden Farm 53.31 73 P P 01 19 14.2 -0.9
baz=312
WMOK Wichita Mounta 53.33 79 P P 01 19 15.6 +0.3
baz=313
WMOK Wichita Mounta 53.33 79 eP P 01 19 16.0 +0.7
WMOK pmax pmax
comp=Z,5.0nm,1.1s
WMOK Wichita Mounta 53.33 79 eP P 01 19 15.9 +0.7
comp=Z,5.0nm,1.1s
L41A Preston 53.37 66 P P 01 19 14.7 -0.8
baz=311
Q38A Cooks Store, C 53.60 71 P P 01 19 16.4 -0.8
baz=311
S37A Fort Scott 53.68 73 P P 01 19 17.3 -0.5
baz=312,SNR=5.6
P39B Salisbury 53.76 70 P P 01 19 17.7 -0.6
baz=311,SNR=6.4
O40A La Belle 53.85 69 P P 01 19 18.5 -0.5
baz=311,SNR=10
Q39A Willow Grove F 53.92 71 P P 01 19 18.8 -0.7
baz=312
R38A Fenwick Farm, 53.94 72 P P 01 19 18.6 -1.0
baz=312
T37A Cheneyville 18 54.05 74 P P 01 19 19.9 -0.6
baz=312
TX31 Lajitas Ar. Si 54.05 87 eP P 01 19 21.4 +0.7
TXAR Lajitas Array 54.05 87 P P 01 19 21.4 +0.7
comp=Z,2.8nm,0.7s,baz=300,slow=5.1,SNR=32
TXAR PcP PcP 01 20 25.9 +0.7
comp=Z,1.0nm,0.8s,baz=248,slow=1.4,SNR=4.8
P40A Paris 54.14 70 P P 01 19 20.6 -0.5
baz=312,SNR=8.0
ABTX Abilene, Hawle 54.24 81 P P 01 19 21.9 -0.1
baz=314
S38A Stockton 54.31 73 P P 01 19 21.4 -1.0
baz=312,SNR=6.4
U37A Salina 54.41 75 P P 01 19 23.0 -0.1
baz=312
O41A Passleys Farm, 54.43 68 P P 01 19 22.9 -0.3
baz=312
Y34A Reagan Ranch, 54.48 79 P P 01 19 23.8 +0.1
baz=313
Q40A Laux Farm, Aux 54.48 70 P P 01 19 22.9 -0.7
baz=312,SNR=5.0
T38A Diamond 54.48 73 P P 01 19 22.8 -0.8
baz=312
S39A Bolivar 54.61 72 P P 01 19 23.2 -1.4
baz=312
X35A Drake 54.65 78 P P 01 19 25.0 +0.1
baz=313
133A Hamilton Ranch 54.70 81 P P 01 19 24.6 -0.6
baz=314
V37A Hulbert 54.75 75 P P 01 19 25.0 -0.6
baz=313
U38A Gravette 54.82 74 P P 01 19 25.6 -0.6
baz=313
R40A Maddies Statio 54.83 71 P P 01 19 24.8 -1.4
baz=312,SNR=6.8
Y35A Marietta 54.95 78 P P 01 19 27.0 -0.1
baz=314
Q41A Truxton 54.99 70 P P 01 19 26.9 -0.4
baz=312
T39A Clever 55.03 73 P P 01 19 26.6 -1.0
baz=313,SNR=5.3
HDIL Hopedale 55.05 67 P P 01 19 27.0 -0.7
baz=312
P42A Winchester 55.09 69 P P 01 19 27.3 -0.7
baz=312
233A Rising Star 55.11 81 P P 01 19 28.0 -0.3
baz=314
V38A Canehill 55.20 75 P P 01 19 28.5 -0.3
baz=313,SNR=5.1
R41A Rosebud 55.35 70 P P 01 19 28.8 -1.1
baz=312
U39A Green Forest 55.40 74 P P 01 19 29.5 -0.8
baz=313
Q42A Golden Eagle 55.43 69 P P 01 19 30.2 -0.2
baz=312
T40A Mansfield 55.45 72 P P 01 19 29.2 -1.4
baz=313
X37A Clayton 55.49 76 P P 01 19 31.0 0.0
baz=313
P43A Skaggs, Pawnee 55.52 68 P P 01 19 30.6 -0.5
baz=312
333A Richland Sprin 55.54 82 P P 01 19 31.6 +0.2
baz=314
234A Clairette 55.59 81 P P 01 19 31.8 +0.1
baz=314
S41A Jillco Farms, 55.61 71 P P 01 19 30.6 -1.2
baz=313,SNR=5.2
V39A Pettigrew 55.67 74 P P 01 19 32.0 -0.3
baz=313
W38A Poteau 55.67 75 P P 01 19 31.8 -0.4
baz=313
U40A Yellville 55.79 73 P P 01 19 32.2 -0.9
baz=313,SNR=6.3
433A Art 55.87 82 P P 01 19 33.9 +0.1
baz=315
T41A Mountain View 55.97 72 P P 01 19 33.5 -0.8
baz=313
334A Lometa 55.99 81 P P 01 19 34.8 +0.2
baz=315
WHTX Lake Whitney, 56.01 80 P P 01 19 34.6 -0.1
baz=314
W39A Magazine 56.02 75 P P 01 19 34.8 0.0
baz=313
S42A Caledonia 56.04 71 P P 01 19 34.3 -0.6
baz=313
P44A Sand Creek, Wi 56.16 68 P P 01 19 35.5 -0.2
baz=312
V40A Witts Springs 56.18 74 P P 01 19 35.1 -0.9
baz=313,SNR=5.1
R43A Red Bud 56.20 70 P P 01 19 35.3 -0.7
baz=313
X39A Fountain Ranch 56.30 76 P P 01 19 36.7 0.0
baz=314
434A Burnet 56.34 82 P P 01 19 37.3 +0.2
baz=315
U41A Viola 56.35 73 P P 01 19 36.1 -1.0
baz=313
T42A Van Buren 56.37 71 P P 01 19 36.9 -0.3
baz=313
SFIN Lafayette 56.41 66 P P 01 19 37.1 -0.4
baz=312
W40A Ferguson Farm, 56.45 74 P P 01 19 37.9 +0.1
baz=314
V41A Mountainview 56.59 73 P P 01 19 38.4 -0.5
baz=313
MIAR Mount Ida 56.59 75 P P 01 19 38.8 0.0
baz=314
S43A Fulton Ridge, 56.60 70 P P 01 19 38.2 -0.6
baz=313,SNR=5.2
U42A Revenden 56.75 72 P P 01 19 39.1 -0.8
baz=313
T43A Greenville 56.80 71 P P 01 19 39.7 -0.6
baz=313,SNR=7.2
832A Faith Ranch, C 57.07 85 P P 01 19 42.9 +0.5
baz=316
X40A Basin Creek Fa 57.08 75 P P 01 19 41.9 -0.4
baz=314
T44A Benton 57.21 70 P P 01 19 42.6 -0.5
baz=313
S45A Carrier Mills 57.39 69 P P 01 19 43.5 -0.9
baz=313
636A Smothers Creek 58.02 82 P P 01 19 49.1 +0.1
baz=316
ARCES ARCESS Array B 58.20 353 P P 01 19 47.8 -1.9
comp=Z,1.4nm,0.8s,baz=13,slow=8.6,SNR=3.0
WCI Wyandotte Cave 58.33 67 eP P 01 19 50.8 -0.2
WCI pmax pmax
comp=Z,26nm,1.6s
WCI Wyandotte Cave 58.33 67 eP P 01 19 50.8 -0.2
comp=Z,26nm,1.6s
Y46A Houston 59.86 73 P P 01 20 01.4 -0.3
baz=315
442A Mamou 59.96 78 P P 01 20 02.3 -0.1
baz=316
244A Avery, Jackson 60.07 75 P P 01 20 03.3 +0.2
baz=315
Y47A UCPARC, Winfie 60.44 72 P P 01 20 05.2 -0.5
baz=315
245A Little AP, Sta 60.55 75 P P 01 20 05.7 -0.7
baz=316
146A Union 60.62 74 P P 01 20 06.6 -0.3
baz=316
Z47A Carrollton 60.81 73 P P 01 20 07.8 -0.3
baz=315
Z48A Northport 60.99 72 P P 01 20 08.6 -0.8
baz=316
KURK Kurchatov 61.83 317 P P 01 20 14.8 0.0
KURK pmax pmax
comp=Z,2.0nm,0.6s
KURK Kurchatov 61.83 317 eP P 01 20 14.8 0.0
comp=Z,3.6nm,0.6s
KURBB Kurchatov Arra 61.94 317 P P 01 20 14.8 -0.7
comp=Z,1.7nm,0.6s,baz=45,slow=6.9,SNR=12
645A Chauvin 61.97 77 P P 01 20 15.7 -0.3
baz=316
348A Jackson 62.18 74 P P 01 20 17.3 -0.1
baz=316
N59A State Game Lan 62.23 58 P P 01 20 16.9 -0.8
baz=316
BLA Blacksburg 62.36 64 eP P 01 20 19.3 +0.7
BLA pmax pmax
comp=Z,11nm,0.9s
BLA Blacksburg 62.36 64 eP P 01 20 19.3 +0.7
comp=Z,11nm,0.9s
WMQ Urumqi 62.77 307 eP P 01 20 22.9 +1.6
WMQ pP pP 01 20 33.7 -0.3
WMQ pmax pmax
comp=Z,4.0nm,0.7s
WMQ LR LR
comp=N,290nm,38.9s
WMQ LR LR
comp=E,260nm,38.8s
WMQ LR LR
comp=Z,210nm,22.9s
BVAR Borovoye Array 63.29 323 P P 01 20 24.0 -0.5
comp=Z,2.3nm,0.5s,baz=48,slow=6.8,SNR=18
ARU Arti 64.41 332 P P 01 20 30.8 -1.0
comp=Z,1.2nm,0.3s,baz=45,slow=11,SNR=4.2
ARU Arti 64.41 332 eP P 01 20 31.2 -0.6
ARU pmax pmax
comp=Z,1.0nm,0.4s
ARU Arti 64.41 332 eP P 01 20 31.1 -0.6
comp=Z,1.4nm,0.4s
FINES FINESS Array B 66.11 351 P P 01 20 40.5 -2.1
comp=Z,4.1nm,1.2s,baz=26,slow=6.7,SNR=5.8
NOA NORSAR Array B 67.35 359 P P 01 20 49.9 -0.8
comp=Z,0.5nm,0.8s,baz=2.5,slow=6.3,SNR=3.1
KMI Kunming 68.12 283 P P 01 20 56.9 +0.6
KMI pmax pmax
comp=Z,6.0nm,0.6s
AKTO Aktyubinsk 69.73 329 P P 01 21 04.8 -0.8
comp=Z,2.8nm,0.5s,baz=66,slow=11,SNR=17
AAK Ala-Archa 69.89 314 P P 01 21 06.0 -0.9
comp=Z,1.0nm,0.3s,baz=165,slow=4.8,SNR=4.2
AAK Ala-Archa 69.89 314 eP P 01 21 06.9 -0.1
AAK pmax pmax
comp=Z,2.0nm,0.6s
AAK Ala-Archa 69.89 314 eP P 01 21 06.8 -0.1
comp=Z,1.7nm,0.6s
ABKAR Akbulak array 70.11 327 eP P 01 21 07.7 -0.3
comp=Z,16nm,0.9s
KSH Kashi 71.70 311 eP P 01 21 21.4 +3.4
EKA Eskdalemuir Ar 72.66 7 P P 01 21 22.1 -1.1
comp=Z,0.7nm,0.7s,baz=348,slow=5.1,SNR=3.2
CMAR Chiang Mai Arr 75.45 281 P P 01 21 40.9 +0.7
comp=Z,1.8nm,0.5s,baz=29,slow=7.1,SNR=5.9
AKASG Malin Array Be 76.25 347 P P 01 21 41.3 -2.8
comp=Z,0.2nm,0.3s,baz=2.0,slow=5.0,SNR=2.7
GERES GERESS Array B 79.50 357 P P 01 21 59.3 -3.1
comp=Z,0.1nm,0.3s,baz=1.0,slow=5.9,SNR=2.7
WRA Warramunga Arr 85.73 230 P P 01 22 33.4 -1.6
comp=Z,0.7nm,0.7s,baz=33,slow=5.9,SNR=3.9
BRTR Keskin Array B 86.13 341 P P 01 22 35.3 -1.7
comp=Z,0.4nm,0.7s,baz=0.1,slow=5.7,SNR=2.5
ESDC Sonsec Array 88.11 10 P P 01 22 45.5 -1.0
comp=Z,0.3nm,0.6s,baz=341,slow=3.0,SNR=3.6
ASAR Alice Springs 89.14 228 P P 01 22 51.6 +0.4
comp=Z,2.7nm,0.7s,baz=30,slow=4.7,SNR=29
TORD Torodi Ar. Bea 114.92 7 PKP PKPdf 01 28 35.7 -1.1
comp=Z,0.4nm,0.8s,baz=8.1,slow=2.0,SNR=3.2
QSPA South Pole Qui 141.70 180 ePKPdf PKPdf 01 29 20.0 -5.8
BOSA Boshof 153.57 325 PKPbc PKPbc 01 29 54.8 +0.5
comp=Z,6.5nm,1.1s,baz=358,slow=1.5,SNR=5.9
SNAA Sanae 159.55 170 PKPab PKPab 01 30 31.1 -0.4
comp=Z,0.8nm,0.9s,baz=237,slow=4.1,SNR=7.9

IDC 04 01:12:52.8±1.6, 2°.75N×89°.82E, h0km, mb3.7/4, mb1 3.9/6, mb1mx3.5/62, mbtmp3.8/6, ML3.9/2, MS3.8/1, Ms1 3.8/1, ms1mx3.4/47, Error ellipse: s-maj=50.1km s-min=23.9km az=34.0, North Indian Ocean

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PSI	Prapat	9.09	89	Pn	Pn	01 15 05.4	-0.1
	1.4nm,0.3s,baz=271,slow=7.3,SNR=6.4						
PSI				Sn	Sn	01 16 41.7	-7.1
	0.1nm,0.3s,baz=231,slow=6.5,SNR=1.7						
PALK	Pallekele	10.13	297	Pn	Pn	01 15 21.0	+1.4
	1.0nm,0.3s,baz=115,slow=9.0,SNR=5.1						
PALK				Sn	Sn	01 17 02.3	-12
	1.8nm,0.3s,baz=296,slow=16,SNR=3.0						
PALK				LR	LR	01 18 56.6	
	comp=Z,534nm,19.9s,baz=296,slow=36						
H08S3	Diego Garcia H	20.14	239	T	T	01 38 04.1	
	baz=59,slow=75,SNR=160						
H08S2	Diego Garcia H	20.14	239	T	T	01 38 02.5	
	baz=59,slow=75,SNR=193						
H08S1	Diego Carcia H	20.15	239	T	T	01 38 05.8	
	baz=59,slow=75,SNR=150						
H01W3	Cape Leeuwin H	43.86	151	T	T	02 07 42.2	
	baz=325,slow=75,SNR=17						
H01W2	Cape Leeuwin H	43.86	151	T	T	02 07 43.9	
	baz=325,slow=75,SNR=15						
H01W1	Cape Leeuwin H	43.87	151	T	T	02 07 41.1	
	baz=325,slow=75,SNR=16						
SONM	Songino Array	47.13	15	P	P	01 21 27.6	+0.6
	1.7nm,0.8s,baz=195,slow=9.3,SNR=9.6						
KURBB	Kurchatov Arra	48.65	350	P	P	01 21 37.6	-0.8
	0.5nm,0.8s,baz=179,slow=6.9,SNR=2.9						
WRA	Warramunga Arr	49.17	119	P	P	01 21 42.9	-0.1
	0.6nm,0.8s,baz=297,slow=8.8,SNR=4.0						
BRTR	Keskin Array B	62.67	314	P	P	01 23 19.2	-0.5
	0.5nm,0.8s,baz=126,slow=7.3,SNR=3.6						
TXAR	Lajitas Array	145.58	21	PKPbc	PKPdf	01 32 33.2	-0.8
	0.2nm,0.4s,baz=25,slow=0.9,SNR=5.7						

IDC 04 01:18:45.0±2.1, 38°.50N×142°.57E, h0km, mb3.5/3,

mb1 3.6/4, mb1mx3.3/56, mbtmp3.4/4, ML3.1/1, Error ellipse: s-maj=46.0km s-min=34.6km az=60.0
JMA 04 01:18:54.3±0.1, 38°.27N×141°.95E, h48km±1km, M3.7
ISC 04 01:18:52.1±1.9, 38°.19N±0°.05×142°.08E±0°.09, h32km±11km, n16, σ1s22/28, mb3.7/3, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JIO	Ouri	0.63	295	P	Pb	01 19 05.7	+1.0
JIO				S	Sb	01 19 13.3	-0.1
OFUJ	Ofunato	0.94	340	P	Pn	01 19 10.0	+0.9
OFUJ				S	Sn	01 19 20.8	-0.7
JMK	Ichinoseki	1.01	319	P	Pn	01 19 11.0	+0.9
JMK				S	Sn	01 19 22.5	-0.8
JMM	Marumori	1.06	253	P	Pn	01 19 11.7	+0.9
JMM				S	Sb	01 19 24.4	-1.2
JOU	Okura	1.13	279	P	Pn	01 19 12.7	+1.0
JOU				S	Sn	01 19 25.9	-0.2
JFK	Kawauchi	1.26	230	P	Pb	01 19 15.0	-0.3
JOM	Ohasama	1.42	335	P	Pn	01 19 16.8	+1.1
JOM				eS	Sn	01 19 33.3	0.0
JYK	Kaneyama	1.53	299	P	Pn	01 19 18.1	+0.9
JYK				eS	Sn	01 19 35.4	-0.6
JFT	Otama	1.53	245	P	Pb	01 19 19.1	-0.8
JFT				eS	Sb	01 19 37.4	-1.5
JYS	Shirataka	1.59	272	P	Pn	01 19 19.1	+1.1
JYS				eS	Sn	01 19 37.4	0.0
JRG	Rokugo	1.65	317	P	Pn	01 19 20.3	+1.5
JRG				S	Sn	01 19 40.0	+1.0
JYA	Atsumi	1.90	283	P	Pn	01 19 23.5	+1.2
JYA				eS	Sn	01 19 45.9	+0.8
MJAR	Matsushiro Arr	3.49	243	Pn	Pn	01 19 47.8	+3.6
	1.1nm,0.3s,baz=60,slow=10,SNR=7.3						
MJAR				Sn	Sb	01 20 34.1	-1.1
	1.1nm,0.3s,baz=73,slow=17,SNR=4.8						
KURBB	Kurchatov Arra	45.72	307	P	P	01 27 08.4	-1.6
	0.4nm,0.6s,baz=80,slow=8.1,SNR=4.1						
WRA	Warramunga Arr	58.28	189	P	P	01 28 43.8	+0.1
	0.4nm,0.6s,baz=4.6,slow=6.9,SNR=5.3						
ASAR	Alice Springs	62.01	188	P	P	01 29 09.4	+0.3
	0.4nm,0.7s,baz=9.7,slow=6.6,SNR=5.5						

GUC 04 01:20:13.8±0.6, 37°.78S×74°.65W, h16km±6km, ML3.6, 1C, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CCSP	San Pedro de C	1.54	53	eS	Sn	01 20 58.9	-1.4
COCH	Cobquecura	2.22	43	eP	Pn	01 20 50.5	+0.6
COCH				IAML		01 21 23.4	
	comp=E,457nm,0.6s						
VLCH	Valdivia	2.30	152	eP	Pn	01 20 44.1	-7.0
VLCH				eS	Sn	01 21 12.8	-6.2
GO05	HualaæØ	3.53	39	iP	Pn	01 21 08.2	+0.3
GO05				eS	Sn	01 21 49.3	-0.1
GO05				IAML		01 22 02.0	
	comp=N,48nm,0.5s						

ISCJB 04 01:21:22.0±0.6, 38°.21N±0°.05×143°.72E±0°.05, h14km, mb4.0/12, Error ellipse: s-maj=7.5km s-min=4.7km az=140.3
IDC 04 01:21:21.3±0.8, 38°.11N×143°.83E, h0km, mb3.9/8, mb1 4.1/12, mb1mx3.7/62, mbtmp3.9/12, ML3.5/4, MS4.0/1, Ms1 4.0/1, ms1mx3.3/37, Error ellipse: s-maj=22.9km s-min=16.1km az=105.0
NEIC 04 01:21:24.7±3.4, 38°.18N×143°.79E, h21km±23km, mb4.1/3, Error ellipse: s-maj=16.8km s-min=8.7km az=118.0
JMA 04 01:21:24.6±0.2, 38°.31N×143°.67E, h39km, M3.9
ISC 04 01:21:23.9±0.9, 38°.23N±0°.05×143°.63E±0°.09, h14km, n33, σ2s24/44, mb4.0/12, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OFUJ	Ofunato	1.76	300	P	Pn	01 21 53.5	-0.4
JIO	Ouri	1.81	278	P	Pn	01 21 54.7	+0.1
JIO				eS	Sn	01 22 16.0	-1.3
MIYJ	Miyakonagasawa	1.96	314	P	Pn	01 21 55.7	-0.9
JMK	Ichinoseki	2.03	292	P	Pn	01 21 57.6	0.0
JOM	Ohasama	2.21	305	P	Pn	01 22 00.0	-0.1
JOM				eS	Sn	01 22 26.6	-0.7
JOU	Okura	2.34	274	P	Pn	01 22 02.6	+0.7
JOU				eS	Sn	01 22 31.0	+0.5
JRG	Rokugo	2.62	297	P	Pn	01 22 06.5	+0.8
JYK	Kaneyama	2.66	286	P	Pn	01 22 07.1	+0.8
JFT	Otama	2.70	256	P	Pn	01 22 08.1	+1.2
JFT				eS	Sn	01 22 39.5	+0.1
JAG	Ashikaga	3.79	243	P	Pn	01 22 21.9	+0.1
JAG				S	Sn	01 23 05.4	-0.7
ERM	Erimo	3.80	355	ePn	Pn	01 22 22.4	+0.5
JNBK	Urakawa-nobuka	4.11	351	P	Pn	01 22 25.7	-0.4
JNBK				S	Sn	01 23 11.3	-2.7
JRY	Ryogami san	4.38	241	P	Pn	01 22 30.4	+0.5
JRY				eS	Sn	01 23 17.4	-3.3
JCH	Churui	4.39	357	P	Pn	01 22 28.6	-1.4
JCH				eS	Sn	01 23 16.1	-4.8
MJAR	Matsushiro Arr	4.63	250	Pn	Pn	01 22 35.3	+1.9
	2.4nm,0.3s,baz=63,slow=8.8,SNR=10						
MJAR				Sn	Sn	01 23 28.9	+1.8
	1.1nm,0.3s,baz=152,slow=20,SNR=2.4						
MAJO	Matsushiro	4.64	250	ePn	Pn	01 22 35.1	+1.7
MAT	Matsushiro	4.64	250	P	Pn	01 22 35.6	+2.1
MAT				eS	Sn	01 23 30.3	+3.2
ASAJ	Asahikawa	5.94	353	Pn	Pn	01 22 51.2	-0.1
	1.5nm,0.3s,baz=206,slow=17,SNR=12						
ASAJ				Sn	Sn	01 23 53.3	-5.8
	0.7nm,0.3s,baz=78,slow=20,SNR=3.0						
JHJ	Hachijo jima 2	5.98	213	Pn	Pn	01 22 50.1	-1.9
	9.6nm,0.3s,baz=52,slow=19,SNR=5.7						
JHJ				Sn	Sn	01 23 51.8	-8.4
	28nm,0.3s,baz=253,slow=19,SNR=4.7						
USRK	Ussuriysk Ar.	10.61	308	Pn	Pn	01 23 58.7	+3.4
	0.5nm,0.3s,baz=117,slow=14,SNR=6.6						
JOW	Kunigami	17.20	233	LR	LR	01 31 40.5	
	comp=Z,513nm,21.2s,baz=108,slow=36						
SEY	Seymchan	25.31	9	P	P	01 26 51.3	+1.6
	1.8nm,0.7s,baz=188,slow=8.7,SNR=5.4						
ULN	Ulaanbaatar	28.18	302	eP	P	01 27 16.5	+0.5
	1.7nm,0.6s						
SONM	Songino Array	28.62	302	P	P	01 27 22.1	+2.2
	0.9nm,0.7s,baz=96,slow=11,SNR=5.4						
KURK	Kurchatov	46.59	308	eP	P	01 29 51.6	+0.4
	30nm,1.0s						
KURBB	Kurchatov Arra	46.67	307	P	P	01 29 52.2	+0.5
	0.8nm,0.5s,baz=82,slow=8.1,SNR=10						
ILAR	Eielson Array	47.54	33	P	P	01 29 58.4	-0.1
	0.6nm,0.8s,baz=263,slow=6.2,SNR=8.6						
ARU	Arti	56.64	318	eP	P	01 31 06.7	+0.5
	1.6nm,0.7s						
WRA	Warramunga Arr	58.51	190	P	P	01 31 18.7	-1.1
	4.5nm,0.7s,baz=10,slow=7.2,SNR=35						
ABKAR	Akbulak array	58.52	310	eP	P	01 31 19.4	-0.1
	1.6nm,0.8s						
ASAR	Alice Springs	62.24	190	P	P	01 31 44.5	-0.7
	0.8nm,0.7s,baz=14,slow=7.9,SNR=12						
FINES	FINESS Array B	68.57	333	P	P	01 32 25.4	-0.4
	1.0nm,0.6s,baz=38,slow=9.9,SNR=8.8						
PDAR	Pinedale Array	75.57	47	P	P	01 33 07.9	-0.4
	0.5nm,0.6s,baz=264,slow=0.9,SNR=4.6						

CSEM 04 01:26:02.4±0.4, 33°.34N×44°.14E, h10km, ML2.9, Error ellipse: s-maj=11.3km s-min=7.9km az=33.0
ISN 04 01:26:05.1±0.3, 33°.39N×44°.45E, h0km, ML2.4
TEH 04 01:26:06.4, 33°.38N×44°.44E, h15km, ML2.9, Iraq

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BHD	Baghdad	0.12	205	ePg	Pg	01 26 06.0	-3.9
	SNR=90						
BHD				eSg	Sg	01 26 11.0	-1.2
	SNR=90						
IGHG	Ghaleghazi	2.01	61	ePn	Pn	01 26 40.1	+0.1
IGHG				eAMB	AMB	01 27 31.8	
	comp=Z,830nm,0.3s						
IGHG	Ghaleghazi	2.01	61	ePn	Pn	01 26 40.1	+0.1
IVIS	Veis	2.30	60	ePn	Pn	01 26 43.8	-0.2
IVIS				eAMB	AMB	01 27 01.7	
	comp=Z,590nm,0.2s						
IVIS				eSg	Sg	01 27 18.7	-1.8
IVIS	Veis	2.30	60	ePn	Pn	01 26 43.8	-0.2

ILIN	**Lien**	**2.59**	**53**	*e*Pn	Pn	01 26 48.2	+0.1	
ILIN				*e*AMB	AMB	01 27 06.6		
	comp=Z,236nm,0.1s							
ILIN				*e*Sg	Sb	01 27 27.1	+2.6	
ILIN	**Lien**	**2.59**	**53**	*e*Pn	Pn	01 26 48.2	+0.1	
NSR	**Nassriya**	**2.77**	**148**	*e*Pn	Pn	01 26 50.2	0.0	
	SNR=39							
NSR				*e*Sn	Sn	01 27 25.2	+1.8	
	SNR=39							
RTB	**Rutbah**	**3.48**	**265**	*e*Pn	Pn	01 26 52.9	-7.3	
	SNR=39							
RTB				*e*Sn	Sn	01 27 29.0	-12	
	SNR=39							
IPIR	**Pirpir**	**5.46**	**96**	*e*Pn	Pn	01 27 26.7	-0.9	
IPIR				*e*AMB	AMB	01 28 42.1		
	comp=Z,144nm,0.4s							
IPIR	**Pirpir**	**5.46**	**96**	*e*Pn	Pn	01 27 26.7	-0.9	
IKLH	**Kolahrood**	**5.97**	**89**	*e*Pn	Pn	01 27 33.9	-0.6	
IKLH				*e*AMB	AMB	01 27 44.1		
	comp=Z,63nm,0.2s							
IKLH	**Kolahrood**	**5.97**	**89**	*e*Pn	Pn	01 27 33.9	-0.6	
IDMV	**Damavand**	**6.64**	**69**	*e*Pn	Pn	01 27 42.5	-1.2	
IDMV				*e*AMB	AMB	01 27 43.8		
	comp=Z,41nm,0.3s							
IDMV	**Damavand**	**6.64**	**69**	*e*Pn	Pn	01 27 42.5	-1.2	
IRAM	**Ramesheh**	**6.88**	**101**	*e*Pn	Pn	01 27 46.2	-0.8	
IRAM				*e*AMB	AMB	01 29 15.4		
	comp=N,32nm,0.2s							
IRAM	**Ramesheh**	**6.88**	**101**	*e*Pn	Pn	01 27 46.2	-0.8	

*ISCJB **04** 01:26:58.0±0.9, 8.°18S±0.°05×158.°26E±0.°05, h84km±9km, mb4.7/47, Error ellipse: s-maj=8.4km s-min=8.0km az=168.2*
*NEIC **04** 01:26:59.9±0.9, 8.°17S×158.°30E, h91km±8km, mb4.9/27, Error ellipse: s-maj=7.7km s-min=6.7km az=117.0*
*IDC **04** 01:27:00.5±0.5, 8.°23S×158.°32E, h95km±4km, mb4.2/16, mb1 4.3/18, mb1mx4.2/29, mbtmp4.5/18, Error ellipse: s-maj=13.9km s-min=7.7km az=43.0*
ISC 04 01:27:00.1±0.4, 8.°22S±0.°06×158.°42E±0.°06, h93km±3km, h93km:pP-P, n97, σ1s54/124, mb4.7/47, 1C, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**1.93**	**129**	P		P	**Pn**	**01 27 32.7**	**+1.3**
	452nm,0.3s,baz=225,slow=5.7,SNR=81								
HNR				S			**Sn**	**01 27 58.2**	**+2.9**
	692nm,0.3s,baz=122,slow=20,SNR=9.0								
HNR	**Honiara**	**1.93**	**129**	*i* P			**Pn**	**01 27 31.5**	**+0.1**
HNR				*i* S			**Sn**	**01 27 55.5**	**+0.2**
HNR	**Honiara**	**1.93**	**129**	*e*Pn			**Pn**	**01 27 31.8**	**+0.4**
HNR				*e*Sn			**Sn**	**01 27 55.0**	**-0.3**
RABL	**Rabaul**	**7.40**	**302**	*e*Pn			**Pn**	**01 28 45.4**	**-0.1**
PATS	**Pohnpei**	**14.96**	**360**	*e*Pn			**Pn**	**01 30 24.0**	**-2.7**
PATS				*e*Sn			Sn	01 32 54.4	-17
DZM	**Mont Dzumac**	**15.79**	**152**	P			**P**	**01 30 38.9**	**-0.3**
	0.1nm,0.3s,baz=66,slow=20,SNR=2.8								
COEN	**Coen**	**16.01**	**248**	*e*Pn			**P**	**01 30 44.0**	**+2.3**
	30nm,1.0s								
CTA	**Charters Tower**	**16.67**	**224**	P			**P**	**01 30 53.2**	**+4.2**
	0.5nm,0.3s,baz=41,slow=12,SNR=9.5								
CTAO	**Charters Tower**	**16.67**	**224**	*e*Pn			**Pn**	**01 30 47.3**	**-0.9**
EIDS	**Eidsvold**	**18.43**	**201**	*e*P			**Pn**	**01 31 10.8**	**+1.3**
	80nm,1.0s								
JAY	**Jayapura**	**18.52**	**287**	P			**P**	**01 31 07.9**	**-1.5**
	0.1nm,0.3s,baz=90,slow=20,SNR=4.6								
ARMA	**Armidale**	**22.98**	**195**	*e*P			**P**	**01 31 58.1**	**+1.1**
	30nm,0.9s								
WRAB	**Tennant Creek**	**26.05**	**241**	*e*P			**P**	**01 32 24.4**	**-0.6**
	17nm,0.8s								
WRAB				*e*pP			**pP**	**01 32 45.4**	**-0.3**
WB2	**Warramunga Arr**	**26.05**	**241**	*e*P			**P**	**01 32 25.0**	**-0.1**
	96nm,1.8s								
WB2				*e*pP			**pP**	**01 32 46.2**	**+0.5**
WRA	**Warramunga Arr**	**26.06**	**241**	P			**P**	**01 32 24.9**	**-0.2**
	13nm,0.7s,baz=65,slow=9.0,SNR=51								
WRA				pP			**pP**	**01 32 44.3**	**-1.6**
	15nm,0.8s,baz=66,slow=9.5,SNR=10								
WRA				PcP			**PcP**	**01 35 49.6**	**-1.3**
	2.0nm,0.8s,baz=64,slow=2.9,SNR=5.2								
MTN	**Manton Dam**	**27.21**	**258**	*e*P			**P**	**01 32 33.5**	**-1.9**
MTN				*e*pP			**pP**	**01 32 56.7**	**+0.4**
AS01	**Alice Springs**	**28.02**	**234**	*e*P			**P**	**01 32 41.5**	**-1.2**
AS31	**Alice Springs**	**28.06**	**234**	*e*P			**P**	**01 32 42.3**	**-0.7**
	1.8nm,1.0s								
ASAR	**Alice Springs**	**28.06**	**234**	P			**P**	**01 32 42.2**	**-0.8**
	4.1nm,0.8s,baz=64,slow=9.1,SNR=37								
ASAR				PcP			**PcP**	**01 35 54.5**	**-1.2**
	0.7nm,0.6s,baz=70,slow=2.5,SNR=4.3								
STKA	**Stephens Creek**	**28.27**	**211**	P			**P**	**01 32 45.0**	**+0.3**
	3.5nm,0.8s,baz=49,slow=14,SNR=8.4								
STKA	**Stephens Creek**	**28.27**	**211**	*e*P			**P**	**01 32 45.4**	**+0.7**
BBOO	**Buckleboo**	**32.06**	**217**	*e*P			**P**	**01 33 17.4**	**-0.8**
	83nm,1.6s								
RPZ	**Rata Peaks**	**37.04**	**165**	P			**P**	**01 34 00.6**	**-0.4**
	13nm,0.5s,baz=312,slow=12,SNR=8.7								
KAPI	**Kappang**	**38.53**	**272**	*e*P			**P**	**01 34 12.9**	**-1.1**
	13nm,0.7s								
JAGI	**Jajag, Banyuwa**	**43.79**	**266**	*e*P			**P**	**01 34 54.0**	**-3.0**
JAGI				*e*pP			**pP**	**01 35 17.3**	**-1.7**
CISI	**Cisompet, Garu**	**50.11**	**267**	*e*P			**P**	**01 35 43.7**	**-2.6**
	66nm,0.9s								
KSRS	**Korea Array**	**53.65**	**330**	P			**P**	**01 36 12.6**	**+0.5**
	1.0nm,0.6s,baz=138,slow=8.5,SNR=3.8								
KSAR	**Wonju Array Be**	**53.66**	**330**	P			**P**	**01 36 12.6**	**+0.4**
QIZ	**Qiongzhong**	**55.01**	**300**	P			**P**	**01 36 22.5**	**+0.1**
QIZ				pP			**pP**	**01 36 45.4**	**+0.3**
QIZ				sP			**sP**	**01 36 59.2**	**+3.8**
QIZ				S			**S**	**01 43 58.4**	**+0.5**
QIZ				LR			LR		
	comp=E,300nm,22.7s								
USRK	**Ussuriysk Ar.**	**57.40**	**338**	P			**P**	**01 36 39.2**	**+0.3**
	2.4nm,0.7s,baz=144,slow=8.0,SNR=4.5								
GYA	**Guiyang**	**60.90**	**306**	P			**P**	**01 37 04.8**	**+1.2**
GYA				pP			pP	01 37 29.2	+2.4
GYA				PP			**PP**	**01 39 22.0**	**+3.1**
GYA				ScP			**ScP**	**01 41 39.6**	**0.0**
GYA				S			**S**	**01 45 14.8**	**0.0**
GYA				sS			sS	01 45 54.4	0.0
GYA				pmax			pmax		
	comp=Z,10.0nm,1.0s								
BJI	**Beijing**	**61.87**	**324**	P			**P**	**01 37 09.2**	**-0.5**
BJI				pmax			pmax		
	comp=Z,8.0nm,0.6s								
KMI	**Kunming**	**63.52**	**303**	P			**P**	**01 37 24.2**	**+2.9**
KMI				pmax			pmax		
	comp=Z,11nm,0.5s								
CMAR	**Chiang Mai Arr**	**64.38**	**295**	P			**P**	**01 37 26.6**	**-0.2**
	0.6nm,0.3s,baz=100,slow=5.4,SNR=5.6								
CMAR				pP			**pP**	**01 37 49.4**	**-0.7**
	1.9nm,0.4s,baz=115,slow=5.0,SNR=3.2								
HHC	**Hu-ho-hao-te**	**65.11**	**322**	*e*P			**P**	**01 37 34.8**	**+3.6**
HHC				PP			**PP**	**01 39 58.0**	**+2.3**
HHC				S			**S**	**01 46 11.7**	**+4.9**
HHC				pmax			pmax		
	comp=Z,52nm,1.1s								
HHC				pmax			pmax		
	comp=Z,330nm,9.7s								
HHC				LR			LR		
	comp=N,240nm,13.6s								
HHC				LR			LR		
	comp=E,180nm,16.0s								
HHC				LR			LR		
	comp=Z,260nm,18.5s								
VNDA	**Vanda**	**69.29**	**179**	P			**P**	**01 37 57.5**	**+0.6**
	2.7nm,0.7s,baz=336,slow=6.1,SNR=16								
VNDA				pP			**pP**	**01 38 20.7**	**+0.1**
	1.9nm,0.8s,baz=334,slow=5.7,SNR=2.9								
VNDA	**Vanda**	**69.29**	**179**	*e*P			**P**	**01 37 56.7**	**-0.2**
	3.3nm,0.8s								
VNDA				pP			**pP**	**01 38 20.7**	**+0.1**
ULN	**Ulaanbaatar**	**71.88**	**326**	*e*P			**P**	**01 38 13.8**	**+0.5**
	10.0nm,1.0s								
SONM	**Songino Array**	**72.22**	**326**	P			**P**	**01 38 16.4**	**+1.1**
	9.3nm,0.8s,baz=136,slow=5.1,SNR=51								
SONM				pP			**pP**	**01 38 39.8**	**+0.7**
	8.7nm,1.0s,baz=134,slow=6.6,SNR=6.4								
SONA1	**Songino Array**	**72.22**	**326**	*e*P			**P**	**01 38 15.9**	**+0.6**
TLY	**Talaya**	**75.86**	**326**	P			**P**	**01 38 36.7**	**+0.4**
	2.7nm,0.5s,baz=177,slow=5.2,SNR=3.3								
TT01	**Tatalina**	**78.98**	**19**	*e*P			**P**	**01 38 53.6**	**+0.2**
CAST	**Castle Rocks**	**80.66**	**20**	*e*P			**P**	**01 39 03.1**	**+0.6**
	7.4nm,0.9s								
QSPA	**South Pole Qui**	**81.76**	**180**	*e*P			**P**	**01 39 08.6**	**0.0**
	18nm,1.6s								
QSPA				*e*pP			**pP**	**01 39 29.9**	**-2.9**
WMQ	**Urumqi**	**82.04**	**316**	*e*P			**P**	**01 39 10.4**	**+0.1**
WMQ				pmax			pmax		
	comp=Z,3.0nm,0.7s								
WMQ				LR			LR		
	comp=N,120nm,39.1s								
WMQ				LR			LR		
	comp=E,100nm,31.3s								
WMQ				LR			LR		
	comp=Z,83nm,23.7s								
WRH	**Wood River Hil**	**82.69**	**21**	*e*P			**P**	**01 39 12.2**	**-1.0**
	30nm,1.9s								
CCB	**Clear Creek Bu**	**82.89**	**20**	*e*P			**P**	**01 39 13.9**	**-0.3**
	4.7nm,1.0s								
COLA	**College**	**83.02**	**20**	*e*P			**P**	**01 39 13.8**	**-1.0**
	12nm,0.9s								
COLA				*e*pP			**pP**	**01 39 35.6**	**-3.5**
IL1	**Eielson Array**	**83.29**	**21**	*e*P			**P**	**01 39 16.7**	**+0.5**
ILAR	**Eielson Array**	**83.29**	**21**	P			**P**	**01 39 15.7**	**-0.5**
	0.8nm,0.6s,baz=257,slow=4.3,SNR=10								
DOT	**Dot Lake**	**83.68**	**22**	*e*P			**P**	**01 39 17.7**	**-0.6**
	22nm,0.9s								
MAW	**Mawson**	**84.58**	**203**	P			**P**	**01 39 23.0**	**+0.2**
	7.0nm,0.6s,baz=100,slow=6.1,SNR=23								
EGAK	**Eagle**	**85.35**	**22**	*e*P			**P**	**01 39 26.1**	**-0.5**
	9.2nm,1.1s								
EGAK				*e*pP			**pP**	**01 39 49.0**	**-2.1**
MK01	**Makanchi Array**	**86.56**	**318**	*e*P			**P**	**01 39 32.6**	**-0.5**
MK31	**Makanchi Array**	**86.57**	**318**	*e*P			**P**	**01 39 32.7**	**-0.4**
MKAR	**Makanchi Array**	**86.57**	**318**	*e*P			**P**	**01 39 32.7**	**-0.4**
	80nm,0.6s								
MAKZ	**Makanchi**	**86.78**	**318**	*e*P			**P**	**01 39 33.5**	**-0.7**
	8.0nm,0.7s								
ZAA0	**Zalesovo Array**	**87.10**	**325**	*e*P			**P**	**01 39 34.3**	**-1.1**
ZALV	**Zalesovo Beam**	**87.10**	**325**	P			**P**	**01 39 34.3**	**-1.1**
	3.0nm,0.4s,baz=118,slow=5.6,SNR=12								
AFDM	**Forest Hills D**	**87.87**	**50**	*e*P			**P**	**01 39 37.5**	**-2.1**
	12nm,1.6s								
MLAC	**Mammoth, Mammo**	**89.26**	**52**	*e*P			**P**	**01 39 46.8**	**+0.4**
KSH	**Kashi**	**89.39**	**310**	*e*P			**P**	**01 39 48.5**	**+1.7**
KSH				pP			pP	01 40 14.8	+3.3
KSH				PP			**PP**	**01 43 23.7**	**+4.5**
KSH				S			**S**	**01 50 26.1**	**-3.6**
KSH				sS			sS	01 51 10.1	-1.8
KSH				SS			**SS**	**01 56 27.4**	**+0.5**
KSH				pmax			pmax		
	comp=Z,3.0nm,1.0s								
KSH				pmax			pmax		
	comp=Z,100nm,5.6s								
KSH				LR			LR		
	comp=N,97nm,6.3s								
KSH				LR			LR		
	comp=E,91nm,5.7s								
KSH				LR			LR		
	comp=Z,430nm,20.0s								
KURK	**Kurchatov**	**89.90**	**321**	*e*P			**P**	**01 39 47.1**	**-1.6**
	42nm,1.3s								
KURBB	**Kurchatov Arra**	**89.94**	**321**	P			**P**	**01 39 47.6**	**-1.3**
	2.1nm,0.9s,baz=101,slow=3.7,SNR=17								
AAK	**Ala-Archa**	**91.07**	**313**	P			**P**	**01 39 53.9**	**-0.7**
	2.7nm,0.6s,baz=119,slow=4.4,SNR=7.4								
AAK	**Ala-Archa**	**91.07**	**313**	*e*P			**P**	**01 39 54.4**	**-0.2**
	3.4nm,0.7s								
TPNV	**Topopah Spring**	**91.17**	**53**	*e*P			**P**	**01 39 57.1**	**+1.9**
	9.7nm,1.0s								
R11A	**Troy Canyon, C**	**91.91**	**52**	*e*P			**P**	**01 40 00.9**	**+2.2**
R11A				*e*pP			**pP**	**01 40 24.4**	**+1.2**
SHPR	**Sheep Range**	**91.96**	**54**	*e*P			**P**	**01 40 01.3**	**+2.4**
	6.4nm,1.0s								
SYO	**Syowa Base**	**92.26**	**198**	*e*pP			pP	01 40 25.6	+1.6
HLID	**Hailey**	**93.55**	**47**	*e*P			**P**	**01 40 08.6**	**+2.5**
	4.7nm,1.3s								
LCMT	**Little Creek M**	**93.56**	**53**	*e*P			**P**	**01 40 07.3**	**+1.0**
	5.5nm,1.0s								
KKAR	**Karatay Array**	**94.03**	**313**	*e*P			**P**	**01 40 06.5**	**-1.6**
	21nm,1.2s								
BRVK	**Borovoye**	**95.39**	**323**	*e*P			**P**	**01 40 12.2**	**-1.8**
	7.1nm,0.8s								
PDAR	**Pinedale Array**	**96.99**	**48**	P			**P**	**01 40 23.3**	**+1.4**
	1.0nm,0.9s,baz=270,slow=1.5,SNR=4.4								
PDAR				pP			**pP**	**01 40 46.5**	**-0.2**
	0.3nm,0.5s,baz=285,slow=2.9,SNR=2.8								
NOA	**NORSAR Array B**	**121.94**	**342**	PKP			**PKPdf**	**01 45 41.5**	**-1.9**
	0.7nm,0.7s,baz=87,slow=2.1,SNR=3.3								
MORC	**Moravsky Berou**	**127.30**	**329**	*e*PKPdf			**PKPdf**	**01 45 54.0**	**0.0**
CLL	**Collm**	**128.47**	**333**	*e*PKPdf			**PKPdf**	**01 45 56.0**	**-0.1**
GERES	**GERESS Array B**	**129.83**	**330**	PKP			**PKPdf**	**01 45 58.3**	**-0.7**
	0.4nm,0.6s,baz=72,slow=3.2,SNR=6.7								
EKA	**Eskdalemuir Ar**	**130.78**	**346**	PKP			**PKPdf**	**01 46 00.9**	**+0.5**
	0.9nm,0.7s,baz=356,slow=2.1,SNR=3.7								
SAML	**Samuel**	**135.18**	**111**	*e*PKPdf			**PKPdf**	**01 46 09.4**	**-0.5**
MVO	**Moncorvo**	**144.74**	**341**	*e*PKPdf			PKPbc	01 46 25.8	+0.2
POLO	**Lamas de Olo**	**144.79**	**342**	*e*PKPdf			PKPbc	01 46 26.0	+0.2
PVRL	**Vila Real**	**144.86**	**342**	*e*PKPdf			PKPbc	01 46 26.3	+0.3
ESDC	**Sonseca Array**	**144.93**	**336**	PKP			**PKPab**	**01 46 25.8**	**-0.5**
	4.5nm,0.9s,baz=20,slow=3.0,SNR=19								
PCBR	**Castelo Branco**	**146.08**	**340**	*e*PKPab			**PKPbc**	**01 46 29.9**	**+0.1**
PCAS	**Casmilo, Conde**	**146.22**	**342**	*e*PKPab			**PKPbc**	**01 46 30.1**	**-0.1**
PMRV	**Marv??o**	**146.42**	**340**	*e*PKPab			**PKPbc**	**01 46 30.9**	**+0.1**
PTOM	**Tomar**	**146.58**	**341**	*e*PKPab			**PKPbc**	**01 46 31.6**	**+0.3**
PESTR	**Estremoz**	**146.99**	**340**	*e*PKPab			**PKPbc**	**01 46 32.7**	**+0.2**
EVO	**Evora**	**147.44**	**340**	*e*PKPab			**PKPbc**	**01 46 33.9**	**+0.2**
PNCL	**Nicolau / Gran**	**147.99**	**340**	*e*PKPab			**PKPbc**	**01 46 35.7**	**+0.5**
MESJ	**Messejana**	**148.13**	**340**	*e*PKPab			**PKPbc**	**01 46 36.3**	**+0.7**
PCVE	**Castro Verde**	**148.26**	**339**	*e*PKPdf			**PKPdf**	**01 46 30.4**	**-2.1**
PCVE	**Castro Verde**	**148.26**	**339**	*e*PKPab			**PKPbc**	**01 46 36.4**	**+0.5**
TAM	**Tamanrasset**	**150.22**	**302**	*e*PKPbc			**PKPbc**	**01 46 41.3**	**-0.1**
MDT	**Midelt**	**150.91**	**330**	PKPbc			**PKPbc**	**01 46 42.8**	**0.0**
	4.1nm,0.8s,baz=59,slow=2.3,SNR=9.5								
MDT				pPKPbc			**pPKPbc**	**01 47 10.1**	**+1.8**
	3.3nm,0.9s,baz=335,slow=4.9,SNR=3.6								

*ISCJB **04** 01:28:25.8±0.8, 37.°23N±0.°03×26.°82E±0.°05, h9km±6km, Error ellipse: s-maj=7.8km s-min=4.7km az=149.0*
*DDA **04** 01:28:25.4, 37.°23N×26.°82E, h7km, Md2.6*
*CSEM **04** 01:28:26.4±0.3, 37.°23N×26.°84E, h10km, MD2.8, Error ellipse: s-maj=5.3km s-min=4.2km az=40.0*
*ISK **04** 01:28:26.3, 37.°23N×26.°86E, h7km, MD2.8*
ISC 04 01:28:26.3±1.1, 37.°23N±0.°03×26.°85E±0.°04, h17km±8km, n28, σ1s10/43, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
YKAV	**Yalikavak-Bodr**	**0.36**	**106**	*e*PG			**Pg**	**01 28 33.5**	**-0.3**
YKAV	**Yalikavak-Bodr**	**0.36**	**106**	*e*Pg			**Pg**	**01 28 33.6**	**-0.3**
BODT	**Bodrum**	**0.41**	**114**	*e*PG			**Pb**	**01 28 35.1**	**+0.1**
BODT				*e*SG			**Sg**	**01 28 40.1**	**-0.1**
BODT	**Bodrum**	**0.41**	**114**	*e*Pg			**Pb**	**01 28 35.1**	**+0.1**
BODT				*e*Sg			**Sg**	**01 28 40.1**	**-0.1**
BDRM	**Kayabasi**	**0.50**	**108**	*i* P			**Pg**	**01 28 35.8**	**-0.6**
BDRM				*i* S			**Sg**	**01 28 43.3**	**+0.1**
BDRM	**Kayabasi**	**0.50**	**108**	P			**Pg**	**01 28 35.8**	**-0.6**
BDRM				S			**Sg**	**01 28 43.3**	**+0.1**
GCAM	**G?zelcaml?**	**0.56**	**33**	*i* P			**Pg**	**01 28 36.8**	**-0.7**
GCAM				*i* S			**Sg**	**01 28 45.2**	**+0.1**
GCAM	**G?zelcaml?**	**0.56**	**33**	P			**Pg**	**01 28 36.8**	**-0.7**
GCAM				S			**Sg**	**01 28 45.2**	**+0.1**
MLSB	**Milas**	**0.74**	**84**	*e*PG			**Pg**	**01 28 40.8**	**-0.1**
MLSB				*e*SG			**Sb**	**01 28 51.6**	**+0.8**
MLSB	**Milas**	**0.74**	**84**	*e*Pg			**Pg**	**01 28 40.8**	**-0.1**
MLSB				*e*Sg			**Sb**	**01 28 51.6**	**+0.8**
DAT	**Datca**	**0.77**	**130**	*e*PG			**Pg**	**01 28 41.2**	**-0.2**
DAT				*e*SG			**Sb**	**01 28 52.7**	**+1.2**
DAT	**Datca**	**0.77**	**130**	*i* P			**Pg**	**01 28 40.4**	**-1.0**
DAT				*i* S			**Sg**	**01 28 51.9**	**+0.4**
DAT	**Datca**	**0.77**	**130**	P			**Pg**	**01 28 40.3**	**-1.0**
DAT	**Datca**	**0.77**	**130**	*e*Pg			**Pg**	**01 28 41.2**	**-0.2**
DAT				S			**Sg**	**01 28 51.9**	**+0.4**
DAT				*e*Sg			**Sb**	**01 28 52.7**	**+1.2**
DATC	**Datca-Mugla**	**0.80**	**125**	*e*PG			**Pb**	**01 28 42.3**	**+0.5**
DATC	**Datca-Mugla**	**0.80**	**125**	*e*Pg			**Pb**	**01 28 42.3**	**+0.5**
DGB	**¯zmir**	**0.82**	**2**	*i* P			**Pg**	**01 28 42.1**	**-0.3**
DGB				*i* S			**Sg**	**01 28 53.0**	**-0.3**
ZEY	**¯zmir**	**1.05**	**345**	*i* P			**Pg**	**01 28 44.8**	**-1.8**
ZEY				*i* S			**Sg**	**01 28 59.6**	**-0.7**
APE	**Apeiranthos**	**1.06**	**262**	*e*PG			**Pb**	**01 28 47.1**	**+0.8**
APE	**Apeiranthos**	**1.06**	**262**	*e*Pg			**Pb**	**01 28 47.1**	**+0.8**
AYDB	**Zeytinkoy-Aydi**	**1.10**	**49**	*e*PN			**Pg**	**01 28 47.3**	**-0.3**
AYDB	**Zeytinkoy-Aydi**	**1.10**	**49**	*e*Pn			**Pg**	**01 28 47.3**	**-0.3**
TURN	**Turunc**	**1.45**	**104**	*i* P			**Pn**	**01 28 49.5**	**-2.2**
TURN				*i* S			**Sn**	**01 29 07.0**	**-3.3**
TURN	**Turunc**	**1.45**	**104**	P			**Pn**	**01 28 49.5**	**-2.2**
DALY	**Dalyan (Mu¨la**	**1.50**	**105**	*e*PN			**Pn**	**01 28 53.8**	**+1.3**
DALY	**Dalyan (Mu¨la**	**1.50**	**105**	*e*Pn			**Pn**	**01 28 53.8**	**+1.3**
KULA	**Kula-Manisa**	**1.93**	**48**	*e*PN			**Pn**	**01 29 00.5**	**+2.1**
KULA	**Kula-Manisa**	**1.93**	**48**	*e*Pn			**Pn**	**01 29 00.5**	**+2.1**

*ISK **04** 01:54:20.8, 34.°54N×33.°04E, h18km, MD3.3*
*CSEM **04** 01:54:21.7±0.3, 34.°64N×32.°92E, h15km, ML3.4, Error ellipse: s-maj=8.4km s-min=4.1km az=74.0*
*GII **04** 01:54:21.5±0.0, 34.°56N×33.°27E, h1km, MD2.4/3*
*ISCJB **04** 01:54:22.2±0.6, 34.°59N±0.°03×33.°03E±0.°06, h20km±7km, Error ellipse: s-maj=8.8km s-min=4.7km az=171.9*
*NIC **04** 01:54:22.2±0.2, 34.°87N×32.°87E, h25km, ML3.4*
ISC 04 01:54:22.6±1.1, 34.°65N±0.°03×33.°13E±0.°05, h11km±10km, n56, σ0s49/73, Cyprus region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SZAC	**Souni**	**0.23**	**298**	P			**Pg**	**01 54 27.3**	**-0.2**
SZAC				S			**Sg**	**01 54 31.1**	**+0.3**
SZAC	**Souni**	**0.23**	**298**	P			**Pg**	**01 54 27.3**	**-0.2**
	baz=356								
SZAC				S			**Sg**	**01 54 31.1**	**+0.3**
CSS	**Mathiatis**	**0.35**	**27**	Pg			**Pb**	**01 54 30.1**	**-0.9**
CSS	**Mathiatis**	**0.35**	**27**	P			**Pb**	**01 54 30.3**	**-0.7**
CSS				S			**Sb**	**01 54 36.7**	**+0.1**
CSS	**Mathiatis**	**0.35**	**27**	P			**Pb**	**01 54 30.3**	**-0.7**
	baz=256								
CSS				S			**Sb**	**01 54 36.7**	**+0.1**
LEF	**Lefka**	**0.51**	**337**	*e*PG			**Pg**	**01 54 32.9**	**+0.3**
LEF				*e*SG			**Sb**	**01 54 41.7**	**+0.6**
LEF	**Lefka**	**0.51**	**337**	*e*Pg			**Pg**	**01 54 32.9**	**+0.3**
LEF				*e*Sg			**Sb**	**01 54 41.7**	**+0.6**
MAMC	**Mammari**	**0.53**	**8**	P			**Pg**	**01 54 33.1**	**+0.2**
MAMC	**Mammari**	**0.53**	**8**	P			**Pg**	**01 54 33.1**	**+0.2**
	baz=223								
ALFC	**Alefka**	**0.67**	**319**	P			Pg	01 54 30.4	-5.3
ALFC				S			Sg	01 54 34.9	-10
ALFC	**Alefka**	**0.67**	**319**	P			Pg	01 54 30.4	-5.3
	baz=141								
ALFC				S			Sg	01 54 34.9	-10
PPCY	**Paphos**	**0.69**	**290**	P			Pg	01 54 30.7	-5.3
PPCY	**Paphos**	**0.69**	**290**	P			Pg	01 54 30.7	-5.3
	baz=91								
LFK	**Lefkose**	**0.71**	**27**	*e*PG			**Pb**	**01 54 37.2**	**+0.1**
LFK				*e*SG			**Sn**	**01 54 49.9**	**+0.2**
LFK	**Lefkose**	**0.71**	**27**	*e*Pg			**Pb**	**01 54 37.2**	**+0.1**
LFK				*e*Sg			**Sn**	**01 54 49.9**	**+0.2**
TEKE	**Tekeli-Mersin**	**1.49**	**359**	*e*PN			**Pn**	**01 54 49.0**	**-0.4**
AKKU	**Akkuyu-Mersin**	**1.55**	**13**	*e*PN			**Pn**	**01 54 50.2**	**0.0**
IKL	**Isikli**	**1.65**	**16**	*e*PN			**Pn**	**01 54 51.5**	**-0.1**
BERE	**Bereket-Mersin**	**1.70**	**2**	*e*PN			**Pn**	**01 54 51.9**	**-0.5**
BERE	**Bereket-Mersin**	**1.70**	**2**	*e*Pn			**Pn**	**01 54 51.9**	**-0.5**
TEVE	**T

PDAR	**Pinedale Array**	**41.77**	**77**	P	**P**	**02 07 26.1**	**+0.7**
	0.4nm,0.5s,baz=291,slow=3.0,SNR=5.5						
TXAR	**Lajitas Array**	**54.07**	**87**	P	**P**	**02 09 01.0**	**+0.6**
	0.2nm,0.4s,baz=300,slow=5.6,SNR=5.3						
KURK	**Kurchatov**	**61.80**	**317**	*eP*	**P**	**02 09 52.9**	**-1.3**
FINES	**FINESS Array B**	**66.08**	**351**	P	**P**	**02 10 19.9**	**-2.2**
	1.3nm,0.9s,baz=46,slow=8.1,SNR=2.9						
ABKAR	**Akbulak array**	**70.08**	**327**	*eP*	**P**	**02 10 45.4**	**-2.0**
	0.4nm,0.4s						
ASAR	**Alice Springs**	**89.14**	**228**	P	**P**	**02 12 31.2**	**+0.4**
	0.5nm,0.8s,baz=32,slow=4.7,SNR=3.7						

*ISCJB **04** 02:18:40.1±0.7, 10°.46N±0°.04×73°.68W±0°.04, h85km±9km, Error ellipse: s-maj=7.7km s-min=4.6km az=137.3*
*FUNV **04** 02:18:41.3, 10°.48N×73°.82W, h56km, MW3.0*
*RSNC **04** 02:18:41.7±0.5, 10°.48N×73°.74W, h68km±6km, ML2.5*

ISC 04 02:18:40.6±1.5, 10°.47N±0°.05×73°.71W±0°.05, h79km±13km, n21, σ1s 03/36, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CODC	**Agust`>n Codaz**	**0.59**	**154**	*eP*	**Pn**	**02 18 54.9**	**-0.3**
CODC				*eS*	**Sn**	**02 19 05.4**	**-0.5**
CODC				*i*		02 19 05.9	
	comp=Z,325nm,0.1s						
VIRV	**Villa del Rosa**	**1.28**	**89**	*eP*	**Pn**	**02 19 04.2**	**+1.1**
VIRV				*eS*	**Sn**	**02 19 20.7**	**+0.7**
SJCC	**San Jacinto, C**	**1.56**	**249**	*eP*	**Pn**	**02 19 06.2**	**-0.6**
SJCC				*i*		02 19 08.3	
	comp=Z,19nm,0.1s						
SJCC				*eS*	**Sn**	**02 19 26.3**	**-0.2**
URIC	**Uribia, Colomb**	**2.08**	**54**	*eP*	**Pn**	**02 19 14.1**	**+0.5**
URIC				*i*		02 19 17.0	
	comp=Z,26nm,0.3s						
URIC				*eS*	**Sn**	**02 19 39.5**	**+0.8**
OCAC	**Ocana**	**2.25**	**170**	*eP*	**Pn**	**02 19 16.8**	**+0.7**
OCAC				*eS*	**Sn**	**02 19 44.0**	**+0.9**
OCAC				*i*		02 19 49.8	
	comp=Z,58nm,0.2s						
VIGV	**El Vigia**	**2.82**	**125**	*eP*	**Pn**	**02 19 24.4**	**+0.8**
VIGV				*eS*	**Sn**	**02 19 56.4**	**-0.3**
CAPV	**Capacho**	**2.93**	**152**	*eP*	**Pn**	**02 19 25.9**	**+0.5**
CAPV				*eS*	**Sn**	**02 19 57.9**	**-1.8**
DABV	**Dabajuro**	**3.05**	**81**	*eP*	**Pn**	**02 19 27.5**	**+0.8**
DABV				*eS*	**Sn**	**02 20 01.9**	**-0.2**
QARV	**Quebrada Arrib**	**3.14**	**95**	*eP*	**Pn**	**02 19 28.8**	**+0.8**
QARV				*eS*	**Sn**	**02 20 03.9**	**-0.6**
BRRC	**Barranca, Sant**	**3.34**	**180**	*eP*	**Pn**	**02 19 30.9**	**+0.2**
BRRC				*eS*	**Sn**	**02 20 09.9**	**+0.5**
BRRC				*i*		02 20 14.1	
	comp=Z,13nm,0.1s						
GIRC	**Giron, Santand**	**3.41**	**171**	*eP*	**Pn**	**02 19 32.0**	**+0.3**
SOCV	**Socops**	**3.56**	**127**	*eP*	**Pn**	**02 19 34.1**	**+0.5**
SOCV				*eS*	**Sn**	**02 20 13.6**	**-1.0**
CURV	**Curarigua**	**3.71**	**97**	*eP*	**Pn**	**02 19 36.4**	**+0.6**
CURV				*eS*	**Sn**	**02 20 17.9**	**-0.6**
SIQV	**Siquisique**	**3.84**	**87**	*eP*	**Pn**	**02 19 38.2**	**+0.8**
BARC	**Barichara**	**3.89**	**172**	*eP*	**Pn**	**02 19 38.7**	**+0.4**
BARC				*eS*	**Sn**	**02 20 23.6**	**+0.6**
BARC				*i*		02 20 29.0	
	comp=Z,12nm,0.3s						
MONV	**Montecano**	**3.95**	**68**	*eP*	**Pn**	**02 19 39.4**	**+0.5**
MONV				*eS*	**Sn**	**02 20 22.4**	**-1.7**
RUSC	**La Rusia**	**4.59**	**172**	*eP*	**Pn**	**02 19 49.0**	**+0.8**
RUSC				*i*		02 20 53.8	
	comp=Z,2.8nm,0.3s						
NORC	**Norcasia**	**5.01**	**193**	*eP*	**Pn**	**02 19 54.2**	**+0.8**
MAPV	**Macapo**	**5.21**	**97**	*eP*	**Pn**	**02 19 56.5**	**+0.4**
TURV	**Turiamo**	**5.77**	**90**	*eP*	**Pn**	**02 20 04.6**	**+0.8**
BAUV	**El Baul**	**5.79**	**105**	*eP*	**Pn**	**02 20 04.2**	**+0.2**
BAUV				*eS*	**Sn**	**02 21 05.2**	**-3.9**

WEL 04 02:20:27.0±0.2, 39°.68S×174°.71E, h148km±1km, ML4.0/50, 26C-7D, Error ellipse: s-maj=0.9km s-min=0.7km az=90.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WAZ	**Wanganui**	**0.23**	**109**	PN	Pn	02 20 47.3	+0.2
WAZ				SN	Sn	02 21 02.0	-0.5
LREZ	**Lake Rotokare**	**0.33**	**313**	PN	Pn	02 20 47.4	0.0
LREZ				SN	Sn	02 21 01.9	-0.9
PREZ	**Palmer Road**	**0.55**	**309**	PN	Pn	02 20 48.2	-0.3
PREZ				SN	Sn	02 21 03.8	-0.9
VRZ	**Vera Road**	**0.56**	**4**	PN	Pn	02 20 48.1	-0.4
VRZ				SN	Sn	02 21 03.1	-1.6
NEZ	**North Egmont**	**0.63**	**311**	PN	Pn	02 20 48.7	-0.3
DREZ	**Durham Road**	**0.63**	**321**	PN	Pn	02 20 48.7	-0.2
PKVZ	**Pokaka**	**0.63**	**52**	PN	Pn	02 20 48.6	-0.4
PKVZ				SN	Sn	02 21 04.1	-1.5
MTVZ	**Mangateitei**	**0.66**	**63**	⇑PN	Pn	02 20 48.9	-0.2
KHEZ	**Kahui Hut**	**0.66**	**306**	PN	Pn	02 20 49.0	-0.2
MHEZ	**Mangahewa**	**0.68**	**334**	PN	Pn	02 20 49.3	+0.1
NMEZ	**Namu Road**	**0.70**	**292**	PN	Pn	02 20 49.0	-0.2
OHWZ	**Ohakea**	**0.70**	**138**	⇑PN	Pn	02 20 49.7	+0.5
PKE	**Pukeiti**	**0.74**	**311**	PN	Pn	02 20 49.2	-0.4
TRVZ	**Turoa**	**0.75**	**60**	PN	Pn	02 20 49.6	-0.3
NWEZ	**Newall Road**	**0.77**	**302**	PN	Pn	02 20 49.7	-0.1
WNVZ	**Wahianoa**	**0.78**	**63**	⇑PN	Pn	02 20 49.7	-0.4
DRZ	**Dome Shelter**	**0.78**	**59**	PN	Pn	02 20 50.2	-0.1
FWVZ	**Far West T-bar**	**0.78**	**57**	PN	Pn	02 20 49.7	-0.5
WHVZ	**Whangaehu Hut**	**0.79**	**60**	⇓PN	Pn	02 20 50.0	-0.2
TWVZ	**Taurewa**	**0.83**	**43**	⇑PN	Pn	02 20 49.8	-0.6
TUVZ	**Tukino**	**0.84**	**61**	PN	Pn	02 20 50.4	-0.2
MOVZ	**Moawhango**	**0.85**	**71**	PN	Pn	02 20 49.8	-0.7
NGZ	**Ngauruhoe**	**0.86**	**54**	⇑PN	Pn	02 20 50.2	-0.4
WTVZ	**West Tongariro**	**0.89**	**51**	⇑PN	Pn	02 20 50.4	-0.4
OTVZ	**Oturere**	**0.91**	**55**	PN	Pn	02 20 50.8	-0.2
KRVZ	**Karewarewa**	**0.93**	**51**	PN	Pn	02 20 50.8	-0.4
TSZ	**Takapari Road**	**1.03**	**112**	PN	Pn	02 20 51.5	-0.4
TSZ				AML	AML	02 21 09.0	
TSZ				AML	AML	02 21 10.9	
KATZ	**Kakaramea**	**1.04**	**48**	PN	Pn	02 20 51.9	-0.2
BHHZ	**Black Hill Sta**	**1.06**	**80**	⇑PN	Pn	02 20 51.4	-0.8
BHHZ				AML	AML	02 21 09.9	
BHHZ				AML	AML	02 21 11.9	
POWZ	**Post Office Ro**	**1.08**	**131**	⇑PN	Pn	02 20 52.0	-0.2
POWZ				AML	AML	02 21 17.8	
POWZ				AML	AML	02 21 20.6	
RATZ	**Rangitukua**	**1.16**	**46**	PN	Pn	02 20 53.9	+0.8
PNHZ	**Pukenui**	**1.17**	**102**	PN	Pn	02 20 52.9	-0.2
PNHZ				AML	AML	02 21 11.9	
PNHZ				AML	AML	02 21 12.5	
HIZ	**Hauiti**	**1.17**	**6**	⇑PN	Pn	02 20 52.5	-0.7
MRZ	**Mangatainoka R**	**1.18**	**146**	⇑PN	Pn	02 20 53.0	-0.2
MRZ				AML	AML	02 21 12.7	
MRZ				AML	AML	02 21 12.7	
KIW	**Kapiti Island**	**1.19**	**173**	⇑PN	Pn	02 20 53.1	-0.2
KIW				AML	AML	02 21 12.7	
KIW				AML	AML	02 21 13.3	
OGWZ	**Otaki Gorge**	**1.19**	**163**	PN	Pn	02 20 53.4	+0.1
OGWZ				AML	AML	02 21 12.9	
OGWZ				AML	AML	02 21 13.3	
WATZ	**Wairara**	**1.26**	**40**	PN	Pn	02 20 54.0	-0.1
DVHZ	**Dannevirke**	**1.28**	**119**	⇑PN	Pn	02 20 54.0	-0.2
DVHZ				AML	AML	02 21 13.6	
DVHZ				AML	AML	02 21 14.0	
KRHZ	**Kereru**	**1.28**	**89**	PN	Pn	02 20 52.0	-2.2
KRHZ				AML	AML	02 21 14.5	
KRHZ				AML	AML	02 21 16.5	
PRWZ	**Pori Road**	**1.30**	**132**	⇑PN	Pn	02 20 54.5	+0.1
PRWZ				AML	AML	02 21 14.1	
PRWZ				AML	AML	02 21 15.5	
KWHZ	**Kaweka Forest**	**1.35**	**79**	PN	Pn	02 20 54.9	0.0
KWHZ				AML	AML	02 21 16.1	
KWHZ				AML	AML	02 21 16.2	
HOWZ	**Holdsworth Sta**	**1.36**	**153**	⇑PN	Pn	02 20 54.8	-0.2
HOWZ				AML	AML	02 21 15.7	
HOWZ				AML	AML	02 21 15.7	
WPHZ	**Waipukurau**	**1.39**	**106**	PN	Pn	02 20 55.2	-0.1
WPHZ				AML	AML	02 21 15.4	
WPHZ				AML	AML	02 21 16.8	
TIWZ	**Tintock**	**1.42**	**141**	⇑PN	Pn	02 20 55.5	-0.1
TIWZ				AML	AML	02 21 16.0	
TIWZ				AML	AML	02 21 18.0	
CAW	**Cannon Point**	**1.45**	**169**	⇑PN	Pn	02 20 55.8	0.0
CAW				AML	AML	02 21 18.4	
CAW				AML	AML	02 21 20.2	
BKZ	**Black Stump Fm**	**1.48**	**70**	PN	Pn	02 20 55.7	-0.5
BKZ				AML	AML	02 21 15.8	
BKZ				AML	AML	02 21 16.9	
BFZ	**Birch Farm**	**1.54**	**131**	⇑PN	Pn	02 20 56.6	-0.3
BFZ				AML	AML	02 21 18.4	
BFZ				AML	AML	02 21 18.4	
BFZ				AML	AML	02 21 18.8	
BFZ				AML	AML	02 21 18.8	
MCHZ	**McNeill Hill**	**1.56**	**82**	PN	Pn	02 20 57.5	+0.4
MCHZ				SN	Sn	02 21 18.7	-1.3
MCHZ				AML	AML	02 21 23.8	
TCW	**Tory Channel**	**1.56**	**192**	⇑PN	Pn	02 20 57.1	0.0
TCW				AML	AML	02 21 19.9	
TCW				AML	AML	02 21 20.1	
ANWZ	**Angora Road**	**1.56**	**120**	⇑PN	Pn	02 20 57.3	+0.2
ANWZ				AML	AML	02 21 19.4	
ANWZ				AML	AML	02 21 20.5	
PRHZ	**Porangahau**	**1.59**	**112**	⇑PN	Pn	02 20 57.5	+0.1
PRHZ				AML	AML	02 21 20.5	
PRHZ				AML	AML	02 21 21.2	
MTW	**Mount Morrison**	**1.59**	**158**	⇑PN	Pn	02 20 57.1	-0.3
MTW				AML	AML	02 21 19.5	
MTW				AML	AML	02 21 19.8	
WEL	**Wellington**	**1.60**	**178**	PN	Pn	02 20 57.3	-0.2
WEL				AML	AML	02 21 20.2	
WEL				AML	AML	02 21 20.2	
WEL				AML	AML	02 21 21.9	
WEL				AML	AML	02 21 21.9	
KAHZ	**Kahuranaki**	**1.68**	**94**	PN	Pn	02 20 58.5	+0.1
KAHZ				AML	AML	02 21 22.6	
KAHZ				AML	AML	02 21 26.6	
TMWZ	**Te Maipa**	**1.68**	**148**	PN	Pn	02 20 58.2	-0.2
TMWZ				AML	AML	02 21 22.3	
TMWZ				AML	AML	02 21 22.3	
PXZ	**Pawanui**	**1.69**	**103**	PN	Pn	02 20 58.5	0.0
PXZ				AML	AML	02 21 23.3	
PXZ				AML	AML	02 21 23.3	
PXZ				AML	AML	02 21 23.6	
PXZ				AML	AML	02 21 23.6	
NMHZ	**Naumai**	**1.73**	**71**	PN	Pn	02 20 59.3	+0.3
NMHZ				AML	AML	02 21 24.4	
NMHZ				AML	AML	02 21 24.5	
MSWZ	**Moikau Station**	**1.78**	**167**	⇑PN	Pn	02 20 59.2	-0.3
MSWZ				AML	AML	02 21 23.6	
MSWZ				AML	AML	02 21 23.8	
PAWZ	**Paruwai Farm**	**1.78**	**162**	⇑PN	Pn	02 20 59.2	-0.3
PAWZ				AML	AML	02 21 22.0	
PAWZ				AML	AML	02 21 22.4	
ARHZ	**Aropaoanui**	**1.82**	**77**	PN	Pn	02 21 00.0	+0.1
ARHZ				AML	AML	02 21 25.2	
ARHZ				AML	AML	02 21 26.4	
CKHZ	**Cape Kidnapper**	**1.83**	**90**	AML	AML	02 21 26.2	
CKHZ				AML	AML	02 21 26.8	
NNZ	**Nelson**	**1.84**	**213**	PN	Pn	02 20 59.7	-0.4
TUWZ	**Tuamarina**	**1.84**	**198**	PN	Pn	02 21 00.2	+0.1
TUWZ				AML	AML	02 21 25.5	
TUWZ				AML	AML	02 21 25.5	
TRWZ	**Traveller**	**1.87**	**157**	PN	Pn	02 21 00.1	-0.4
TRWZ				AML	AML	02 21 25.5	
TRWZ				AML	AML	02 21 27.0	
PLWZ	**Palliser**	**1.93**	**168**	⇑PN	Pn	02 21 00.7	-0.5
PLWZ				AML	AML	02 21 25.5	
PLWZ				AML	AML	02 21 26.7	
MUGZ	**Murupara**	**2.01**	**54**	PN	Pn	02 21 01.1	-1.0
TARZ	**Mount Tarawera**	**2.01**	**45**	⇑PN	Pn	02 21 02.0	-0.2
QRZ	**Quartz Range**	**2.02**	**235**	PN	Pn	02 21 01.2	-1.1
WHHZ	**Waihua**	**2.05**	**74**	PN	Pn	02 21 02.4	-0.2
WHHZ				AML	AML	02 21 30.2	
WHHZ				AML	AML	02 21 34.5	
CMWZ	**Cape Campbell**	**2.10**	**190**	PN	Pn	02 21 03.5	+0.4
CMWZ				AML	AML	02 21 32.7	
CMWZ				AML	AML	02 21 36.4	
BSWZ	**Blackbirch Sta**	**2.13**	**197**	PN	Pn	02 21 03.7	+0.3
BSWZ				AML	AML	02 21 32.2	
BSWZ				AML	AML	02 21 33.0	
SNGZ	**Shannon Statio**	**2.23**	**67**	PN	Pn	02 21 04.4	-0.4
SNGZ				AML	AML	02 21 33.2	
SNGZ				AML	AML	02 21 35.0	
URZ	**Urewera**	**2.35**	**54**	⇓PN	Pn	02 21 04.9	-1.3
URZ				AML	AML	02 21 32.5	
URZ				AML	AML	02 21 35.2	
KNZ	**Kokohu**	**2.39**	**75**	PN	Pn	02 21 05.9	-0.8
KNZ				AML	AML	02 21 36.8	
RAGZ	**Rawiri**	**2.42**	**61**	PN	Pn	02 21 06.2	-0.9
RAGZ				AML	AML	02 21 37.7	
RAGZ				AML	AML	02 21 39.4	
TTHZ	**Tophouse**	**2.49**	**213**	PN	Pn	02 21 07.2	-0.7
MHGZ	**Mahia Peninsul**	**2.53**	**79**	PN	Pn	02 21 08.0	-0.4
MHGZ				AML	AML	02 21 39.9	
MHGZ				AML	AML	02 21 42.6	
RIGZ	**Rimuhau**	**2.57**	**69**	PN	Pn	02 21 08.1	-0.8
RIGZ				AML	AML	02 21 41.0	
RIGZ				AML	AML	02 21 42.0	
MWZ	**Matawai**	**2.58**	**59**	⇓PN	Pn	02 21 07.8	-1.2
MWZ				AML	AML	02 21 40.0	
MWZ				AML	AML	02 21 43.3	
PRGZ	**Paritu Road**	**2.58**	**74**	⇓PN	Pn	02 21 08.4	-0.7
PRGZ				AML	AML	02 21 41.1	
PRGZ				AML	AML	02 21 42.5	
TKGZ	**Te Karaka**	**2.74**	**64**	PN	Pn	02 21 10.3	-0.8
TKGZ				AML	AML	02 21 45.9	
TKGZ				AML	AML	02 21 46.4	
KHZ	**Kahutara**	**2.87**	**198**	⇓PN	Pn	02 21 12.3	-0.2
KHZ				AML	AML	02 21 46.8	
KHZ				AML	AML	02 21 46.8	
KHZ				AML	AML	02 21 46.9	
KHZ				AML	AML	02 21 46.9	
RUGZ	**Raukumara Rang**	**2.88**	**54**	PN	Pn	02 21 11.1	-1.8
TWGZ	**Tauwhareparae**	**2.96**	**61**	PN	Pn	02 21 13.0	-0.9
TWGZ				AML	AML	02 21 51.0	
TWGZ				AML	AML	02 21 51.2	
DSZ	**Denniston Nort**	**3.02**	**226**	⇓PN	Pn	02 21 13.3	-1.3
HAZ	**Te Kaha**	**3.08**	**52**	PN	Pn	02 21 13.4	-1.9
HAZ				AML	AML	02 21 49.9	
HAZ				AML	AML	02 21 54.3	
PKGZ	**Pakihiroa**	**3.18**	**57**	PN	Pn	02 21 15.5	-1.2
PUZ	**Puketiti**	**3.20**	**61**	PN	Pn	02 21 15.3	-1.6
WMGZ	**Waiomatatini S**	**3.44**	**58**	PN	Pn	02 21 18.5	-1.5
WMGZ				AML	AML	02 22 00.3	
WMGZ				AML	AML	02 22 00.4	
LTZ	**Lake Taylor**	**3.60**	**210**	⇑PN	Pn	02 21 28.1	-1.5
INZ	**Inchbonnie**	**3.91**	**218**	PN	Pn	02 21 24.5	-1.5
OXZ	**Oxford**	**4.16**	**208**	PN	Pn	02 21 26.7	-2.5
MQZ	**McQueen's Vall**	**4.30**	**200**	PN	Pn	02 21 28.6	-2.5
WVZ	**Waitaha Valley**	**4.52**	**220**	PN	Pn	02 21 32.0	-1.9
RPZ	**Rata Peaks**	**4.87**	**213**	⇓PN	Pn	02 21 37.6	-1.0
FOZ	**Fox Glacier**	**5.31**	**222**	PN	Pn	02 21 41.8	-2.7
LBZ	**Lake Benmore**	**5.78**	**214**	PN	Pn	02 21 48.3	-2.4
ODZ	**Otahua Downs**	**6.14**	**208**	PN	Pn	02 21 53.6	-1.9
JCZ	**Jackson Bay**	**6.23**	**223**	PN	Pn	02 21 53.6	-3.2
TUZ	**Tuapeka**	**7.29**	**209**	PN	Pn	02 22 09.3	-1.5

JMA 04 02:29:53.2, 37°.73N×141°.74E, h49km±2km, M3.6, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JMM	**Marumori**	**0.76**	**281**	P	Pn	02 30 07.8	+0.1
JMM				S	Sn	02 30 18.2	-0.1
JFK	**Kawauchi**	**0.78**	**242**	P	Pn	02 30 08.0	0.0
JFK				S	Sn	02 30 18.5	-0.2
JIO	**Ouri**	**0.79**	**337**	P	Pn	02 30 08.2	+0.2
JIO				S	Sn	02 30 18.5	-0.3
ONAJ	**Iwakimizuishiy**	**0.98**	**230**	P	Pn	02 30 10.6	0.0
ONAJ				S	Sn	02 30 23.5	0.0
JOU	**Okura**	**1.06**	**307**	P	Pn	02 30 11.8	+0.1
JOU				S	Sn	02 30 25.8	+0.4
JFT	**Otama**	**1.13**	**260**	P	Pn	02 30 13.7	+1.0
JFT				S	Sn	02 30 28.2	+1.0
JMK	**Ichinoseki**	**1.29**	**342**	P	Pn	02 30 15.3	+0.5
JMK				S	Sn	02 30 30.9	0.0
JYS	**Shirataka**	**1.41**	**291**	P	Pn	02 30 17.1	+0.6
JYS				S	Sn	02 30 35.6	+1.7
JYK	**Kaneyama**	**1.61**	**318**	P	Pn	02 30 19.7	+0.5
JFY	**Yanaizu**	**1.65**	**259**	P	Pn	02 30 20.5	+0.8
JFY				*eS*	Sn	02 30 40.6	+0.8
JOM	**Ohasama**	**1.77**	**349**	P	Pn	02 30 22.1	+0.6
JYA	**Atsumi**	**1.81**	**299**	P	Pn	02 30 22.6	+0.6

MEX 04 02:33:48.9±0.8, 16°.37N×94°.52W, h112km±17km, MD4.1, Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TGIG		**1.40**	**73**	*eP*	Pn	02 34 13.9	-0.8
TGIG				*i* S	Sn	02 34 31.8	-2.5
HUIG	**Huatulco**	**1.64**	**249**	*i* P	Pn	02 34 15.9	-1.7
HUIG				*i* S	Sn	02 34 38.0	-1.3
VHO	**Vista Hermosa**	**2.23**	**288**	*eP*	Pn	02 34 24.7	-0.4
VHO				*eS*	Sn	02 34 51.0	-1.8
CCIG	**Comitan**	**2.29**	**92**	*eP*	Pn	02 34 24.8	-1.0
CCIG				*i* S	Sn	02 34 52.3	-1.8
TPIG	**Tehuac#an**	**3.39**	**307**	*i* P	Pn	02 34 38.4	-2.0
TPIG				*eS*	Sn	02 35 18.8	-1.3
PNIG	**Pinotepa**	**3.46**	**271**	*eP*	Pn	02 34 39.3	-1.8
PNIG				*eS*	Sn	02 35 19.6	-2.0
TLIG	**Tlapa**	**4.05**	**288**	*eP*	Pn	02 34 48.6	-0.5
TLIG				*i* S	Sn	02 35 34.0	-1.7

KRSC 04 02:37:41.3±0.7, 55°.38N×163°.51E, h6km±5km, ML3.6, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBG	**Krutoberegovo**	**0.99**	**333**	*eP*	Pg	02 37 59.9	-0.3
KBG				*eS*	Sb	02 38 13.6	-0.5
MKZ	**Mys Kozlova**	**1.32**	**232**	*eP*	Pn	02 38 05.4	-0.8
MKZ				*eS*	Sb	02 38 22.7	-0.8
BKI	**Bering**	**1.42**	**96**	*eP*	Pb	02 38 07.9	-0.2
BKI				*eS*	Sg	02 38 27.2	+0.3
ZLN	**Zelenaya**	**1.66**	**294**	*eP*	Pn	02 38 11.6	+0.6
SMKR	**Semkarok**	**1.66**	**317**	*eP*	Pn	02 38 11.6	+0.5
SMKR				*eS*	Sb	02 38 34.0	+0.4
CIRR	**Tsirk**	**1.73**	**296**	*eP*	Pb	02 38 13.3	-0.2
LGNR	**Loginova**	**1.74**	**295**	*eP*	Pn	02 38 12.0	-0.3
BZMR	**Bezymyannaya**	**1.80**	**289**	*eP*	Pb	02 38 13.9	-0.8
SRKR	**Sorokina**	**1.83**	**315**	*eP*	Pn	02 38 14.3	+0.9
KRSR	**Krestovskiy**	**1.86**	**298**	P	Pn	02 38 13.7	-0.1
KLY	**Klyuchi**	**1.86**	**301**	*eP*	Pn	02 38 12.6	-1.1
KIRR	**Kirishev**	**1.88**	**289**	*eP*	Pb	02 38 15.3	-0.9
KIRR				*eS*	Sb	02 38 39.7	-0.3
KMNR	**Kamenistaya**	**1.90**	**283**	*eP*	Pb	02 38 15.7	-0.6
KMNR				*eS*	Sb	02 38 40.4	+0.1
KPT	**Kopyto**	**1.95**	**289**	*eP*	Pb	02 38 16.4	-0.9
KOZ	**Kozyrevsk**	**2.17**	**290**	*eP*	Pb	02 38 19.7	-1.2
KOZ				*eS*	Sb	02 38 47.1	-0.9
ESO	**Esso**	**2.78**	**283**	*eP*	Pn	02 38 27.6	+1.3
GNL	**Ganaly**	**3.66**	**245**	*eP*	Pn	02 38 42.0	+3.5

*CSEM **04** 02:44:37.6±0.3, 50°.22N×12°.51E, h10km, ML2.5/15, Error ellipse: s-maj=5.0km s-min=3.6km az=151.0*
*PRU **04** 02:44:38.7, 50°.23N×12°.53E, h0km, West Bohemia Swarm*

ISC 04 02:44:38.1±0.9, 50°.24N±0°.03×12°.50E±0°.04, h8km±6km, n39, σ1s 02/48, 7D, Germany

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NKC	**Novy Kostel**	**0.04**	**266**	⇓*i* PG	**Pg**	**02 44 39.9**	**+0.2**
NKC				*e*SG	**Sg**	**02 44 40.7**	**-0.2**
	comp=Z,1μm,0.2s						
NKC	**Novy Kostel**	**0.04**	**266**	Pg	**Pg**	**02 44 39.9**	**+0.2**
NKC				Sg	**Sg**	**02 44 40.7**	**-0.2**
	1μm,0.2s						
BRG	**Berggiesshubel**	**1.12**	**55**	PG	**Pb**	**02 44 59.7**	**+0.1**
BRG				SG	**Sb**	**02 45 14.6**	**+0.3**
	16nm,0.2s						
CLL	**Collm**	**1.12**	**16**	*i* Pg	**Pg**	**02 44 59.4**	**-0.2**
CLL				*i* Sg	**Sg**	**02 45 14.1**	**0.0**
	comp=Z,10.0nm,0.4s						
CLL				*i*		02 45 17.9	
WET	**Wettzell**	**1.12**	**167**	⇓*e*PG	**Pg**	**02 44 59.5**	**-0.1**
WET				*e*SG	**Sg**	**02 45 14.1**	**0.0**
PRA	**Prague**	**1.25**	**97**	⇓*e*SG	**Sb**	**02 45 18.3**	**+0.1**
	comp=Z,6.3nm,0.2s						
PRA	**Prague**	**1.25**	**97**	Sg	**Sb**	**02 45 18.3**	**+0.1**
	comp=Z,6.3nm,0.2s						
KHC	**Kasperske Hory**	**1.31**	**147**	*e*PG	**Pn**	**02 45 02.5**	**-0.2**
KHC				*e*SG	**Sg**	**02 45 19.7**	**-0.4**
	comp=Z,6.3nm,0.3s						
KHC	**Kasperske Hory**	**1.31**	**147**	Pg	**Pn**	**02 45 02.5**	**-0.2**
KHC				Sg	**Sg**	**02 45 19.7**	**-0.4**
	comp=Z,6.3nm,0.3s						
PRU	**Pruhonice**	**1.33**	**100**	⇓*e*PG	**Pg**	**02 45 03.9**	**+0.2**
PRU				*e*SG	**Sg**	**02 45 20.6**	**-0.4**
	comp=Z,11nm,0.2s						
PRU	**Pruhonice**	**1.33**	**100**	Pg	**Pg**	**02 45 03.9**	**+0.2**
PRU				Sg	**Sg**	**02 45 20.6**	**-0.4**
	comp=Z,11nm,0.2s						
PVCC	**Panska Ves**	**1.35**	**77**	⇓*e*SG	**Sn**	**02 45 22.8**	**+1.4**
	comp=Z,24nm,0.2s						
**PV

0.4nm,0.7s,baz=255,slow=4.7,SNR=6.5

*ISCJB **04** 02:49:36.8±0.2,50°.21N±0°.02×12°.57E±0°.02,h4km±3km, Error ellipse: s-maj=2.7km s-min=1.9km az=21.4*
*CSEM **04** 02:49:37.8±0.1,50°.22N×12°.51E,h5km,ML2.9/21,Error ellipse: s-maj=1.9km s-min=1.6km az=32.0*
*IASPEI **04** 02:49:37.8±0.8,50°.24N±0°.02×12°.47E±0°.02,h10km±3km, Error ellipse: s-maj=3.0km s-min=2.3km az=77.6,GT5 selection from ISC bulletin GT5 identified by Bond¨ jr and McLaughlin (2009) selection criteria Bond¨ jr and McLaughlin, A new ground truth data set for seismic studies, Seism. Res. Let., 80, 465-472, 2009*
*PRU **04** 02:49:38.8,50°.23N×12°.54E,h0km, West Bohemia Swarm*
*BGR **04** 02:49:38.1±0.2,50°.24N×12°.45E,h10km±1km,ML2.7/6, Error ellipse: s-maj=2.2km s-min=1.1km az=103.0*
*CLL **04** 02:49:38.9±0.3,50°.N±1°×1°.2E±°,h6km±1km,ml2.4*

ISC 04 02:49:37.9±0.8,50°.24N±0°.01×12°.51E±0°.02,h10km±4km, n100,σ0°98/179,9D,Germany

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NKC	**Novy Kostel**	**0.04**	**258**	⇓*i*Pg	**Pg**	**02 49 40.0**	**+0.2**
NKC				*e*Sg	**Sg**	**02 49 40.7**	**-0.5**
	comp=Z,3μm,0.2s						
NKC	**Novy Kostel**	**0.04**	**258**	⇓*i*Pg	**Pg**	**02 49 40.0**	**+0.2**
NKC				*i*Sg	**Sg**	**02 49 40.9**	**-0.3**
NKC	**Novy Kostel**	**0.04**	**258**	*e*Pg	**Pg**	**02 49 40.0**	**+0.2**
NKC				*e*Sg	**Sg**	**02 49 40.9**	**-0.3**
NKC	**Novy Kostel**	**0.04**	**258**	Pg	**Pg**	**02 49 40.0**	**+0.2**
NKC				Sg	**Sg**	**02 49 40.7**	**-0.5**
	3μm,0.2s						
WERN	**Wernitzgruen**	**0.10**	**298**	*i*Pg	**Pg**	**02 49 40.5**	**0.0**
WERN				*i*Sg	**Sg**	**02 49 41.8**	**-0.5**
WERN				AML	AML	02 49 42.1	
	comp=N,1μm,0.1s						
WERN	**Wernitzgruen**	**0.10**	**298**	*e*Pg	**Pg**	**02 49 40.5**	**0.0**
WERN				*e*Sg	**Sg**	**02 49 41.9**	**-0.5**
WERN	**Wernitzgruen**	**0.10**	**298**	Pg	**Pg**	**02 49 40.5**	**0.0**
WERN				Sg	**Sg**	**02 49 41.9**	**-0.5**
ROHR	**Rohrbach**	**0.12**	**267**	*i*Pg	**Pg**	**02 49 40.7**	**-0.2**
ROHR				*i*Sg	**Sg**	**02 49 42.1**	**-0.8**
ROHR				AML	AML	02 49 42.2	
	comp=E,6μm,0.2s						
ROHR	**Rohrbach**	**0.12**	**267**	*e*Pg	**Pg**	**02 49 40.7**	**-0.2**
ROHR				*e*Sg	**Sg**	**02 49 42.1**	**-0.8**
ROHR	**Rohrbach**	**0.12**	**267**	Pg	**Pg**	**02 49 40.7**	**-0.2**
ROHR				Sg	**Sg**	**02 49 42.1**	**-0.8**
TANN	**Tannenbergstha**	**0.18**	**350**	*i*Pg	**Pg**	**02 49 42.0**	**+0.3**
TANN				*i*Sg	**Sg**	**02 49 44.3**	**-0.1**
TANN				AML	AML	02 49 44.8	
	comp=E,1μm,0.2s						
MULD	**Muldenberg**	**0.18**	**339**	*i*Pg	**Pg**	**02 49 42.1**	**+0.3**
MULD				*i*Sg	**Sg**	**02 49 44.3**	**-0.2**
MULD				AML	AML	02 49 44.5	
	comp=E,964nm,0.1s						
MULD	**Muldenberg**	**0.18**	**339**	*e*Pg	**Pg**	**02 49 42.1**	**+0.3**
MULD				*e*Sg	**Sg**	**02 49 44.4**	**-0.2**
MULD	**Muldenberg**	**0.18**	**339**	Pg	**Pg**	**02 49 42.1**	**+0.3**
MULD				Sg	**Sg**	**02 49 44.4**	**-0.2**
WERD	**Werda**	**0.24**	**328**	*i*Pg	**Pg**	**02 49 43.0**	**+0.2**
WERD				*e*Sg	**Sg**	**02 49 45.9**	**-0.4**
WERD				AML	AML	02 49 46.0	
	comp=E,235nm,0.2s						
WERD	**Werda**	**0.24**	**328**	*e*Pg	**Pg**	**02 49 43.1**	**+0.2**
WERD				*e*Sg	**Sg**	**02 49 45.9**	**-0.4**
WERD	**Werda**	**0.24**	**328**	Pg	**Pg**	**02 49 43.1**	**+0.2**
WERD				Sg	**Sg**	**02 49 45.9**	**-0.4**
TRIB	**Obertriebel**	**0.26**	**295**	*i*Pg	**Pg**	**02 49 43.0**	**-0.2**
TRIB				*i*Sg	**Sg**	**02 49 46.2**	**-0.6**
TRIB				AML	AML	02 49 46.5	
	comp=E,271nm,0.1s						
TRIB	**Obertriebel**	**0.26**	**295**	*e*Pg	**Pg**	**02 49 43.1**	**-0.2**
TRIB				*e*Sg	**Sg**	**02 49 46.1**	**-0.7**
TRIB	**Obertriebel**	**0.26**	**295**	Pg	**Pg**	**02 49 43.1**	**-0.2**
TRIB				Sg	**Sg**	**02 49 46.1**	**-0.7**
PLN	**Plauen**	**0.33**	**317**	*i*Pg	**Pg**	**02 49 44.5**	**0.0**
PLN				*e*Sg	**Sg**	**02 49 48.5**	**-0.4**
PLN				AML	AML	02 49 48.7	
	comp=E,207nm,0.2s						
PLN	**Plauen**	**0.33**	**317**	*e*Pg	**Pg**	**02 49 44.6**	**0.0**
PLN				*e*Sg	**Sg**	**02 49 48.5**	**-0.4**
PLN	**Plauen**	**0.33**	**317**	Pg	**Pg**	**02 49 44.6**	**0.0**
PLN				Sg	**Sg**	**02 49 48.5**	**-0.4**
SCHF	**Schoenfels**	**0.44**	**351**	*i*Pg	**Pg**	**02 49 46.9**	**+0.4**
SCHF				*i*Sg	**Sg**	**02 49 52.7**	**+0.3**
SCHF				AML	AML	02 49 52.9	
	comp=E,1μm,0.2s						
SCHF	**Schoenfels**	**0.44**	**351**	*e*Pg	**Pg**	**02 49 46.9**	**+0.4**
SCHF				*e*Sg	**Sg**	**02 49 52.6**	**+0.3**
SCHF	**Schoenfels**	**0.44**	**351**	Pg	**Pg**	**02 49 46.9**	**+0.4**
SCHF				Sg	**Sg**	**02 49 52.6**	**+0.3**
ROTZ	**Rotzenmuhle**	**0.51**	**202**	*e*Pg	**Pg**	**02 49 48.2**	**+0.4**
ROTZ				*e*Sg	**Sg**	**02 49 54.7**	**+0.1**
ROTZ	**Rotzenmuhle**	**0.51**	**202**	Pg	**Pg**	**02 49 48.2**	**+0.4**
ROTZ				Sg	**Sg**	**02 49 54.7**	**+0.1**
MLFH	**Mildenfurth**	**0.61**	**334**	*i*Pg	**Pg**	**02 49 49.8**	**0.0**
MLFH				*i*Sg	**Sg**	**02 49 57.5**	**-0.3**
MOX	**Moxa**	**0.70**	**306**	*e*Pg	**Pg**	**02 49 51.2**	**-0.2**
MOX				*e*Sg	**Sg**	**02 50 00.1**	**-0.5**
MOX	**Moxa**	**0.70**	**306**	Pg	**Pg**	**02 49 51.2**	**-0.2**
MOX				Sg	**Sg**	**02 50 00.1**	**-0.5**
FBE	**Freiberg**	**0.87**	**38**	*e*Pg	**Pn**	**02 49 55.5**	**-0.7**
FBE				*e*Sg	**Sb**	**02 50 06.8**	**+0.1**
FBE	**Freiberg**	**0.87**	**38**	Pg	**Pn**	**02 49 55.5**	**-0.7**
FBE				Sg	**Sb**	**02 50 06.8**	**+0.1**
GRA1	**Grafenberg Arr**	**1.00**	**237**	Pg	**Pg**	**02 49 56.7**	**-0.3**
GRA1				Sg	**Sg**	**02 50 09.3**	**-0.7**
GRF	**Grafenberg Arr**	**1.00**	**237**	*e*Pg	**Pg**	**02 49 56.7**	**-0.3**
GRF				*e*Sg	**Sg**	**02 50 09.3**	**-0.7**
BRG	**Berggiesshubel**	**1.11**	**55**	PG	**Pn**	**02 49 59.9**	**+0.4**
BRG				SG	**Sn**	**02 50 14.8**	**-0.2**
	comp=E,61nm,0.5s						
BRG	**Berggiesshubel**	**1.11**	**55**	*e*Pg	**Pn**	**02 49 59.7**	**+0.2**
BRG				*e*Sg	**Sn**	**02 50 14.4**	**-0.6**
BRG	**Berggiesshubel**	**1.11**	**55**	Pg	**Pn**	**02 49 59.7**	**+0.2**
BRG				Sg	**Sn**	**02 50 14.4**	**-0.6**
CLL	**Collm**	**1.11**	**16**	*e*Pg	**Pb**	**02 49 59.1**	**-0.1**
CLL				*e*Sg	**Sb**	**02 50 14.0**	**+0.2**
CLL	**Collm**	**1.11**	**16**	Pg	**Pb**	**02 49 59.1**	**-0.1**
CLL				Sg	**Sb**	**02 50 14.0**	**+0.2**
CLL	**Collm**	**1.11**	**16**	*i*Pg	**Pn**	**02 49 59.5**	**-0.1**
CLL				*i*		02 50 01.5	
CLL				*i*Sg	**Sn**	**02 50 14.6**	**-0.4**
	comp=Z,48nm,0.4s						
CLL				*i*		02 50 17.9	
WET	**Wettzell**	**1.12**	**168**	⇓*e*PG	**Pg**	**02 49 59.6**	**+0.1**
WET	**Wettzell**	**1.12**	**168**	*e*Pg	**Pg**	**02 49 59.6**	**+0.1**
WET				*e*Sg	**Sg**	**02 50 13.8**	**-0.2**
WET	**Wettzell**	**1.12**	**168**	Pg	**Pg**	**02 49 59.6**	**+0.1**
WET				Sg	**Sg**	**02 50 13.8**	**-0.2**
PRA	**Prague**	**1.25**	**97**	⇓*e*PG	**Pg**	**02 50 02.4**	**+0.5**
PRA				*e*SG	**Sn**	**02 50 18.4**	**+0.1**
	comp=Z,40nm,0.4s						
PRA	**Prague**	**1.25**	**97**	Pg	**Pg**	**02 50 02.4**	**+0.5**
PRA				Sg	**Sn**	**02 50 18.4**	**+0.1**
	comp=Z,40nm,0.4s						
KHC	**Kasperske Hory**	**1.31**	**148**	*i*PG	**Pb**	**02 50 02.6**	**0.0**
KHC				*e*SG	**Sb**	**02 50 19.7**	**+0.2**
	comp=Z,20nm,0.3s						
KHC	**Kasperske Hory**	**1.31**	**148**	Pg	**Pb**	**02 50 02.6**	**0.0**
KHC				Sg	**Sb**	**02 50 19.7**	**+0.2**
	comp=Z,20nm,0.3s						
PRU	**Pruhonice**	**1.33**	**100**	⇓*e*PG	**Pg**	**02 50 03.6**	**+0.1**
PRU				*e*SG	**Sg**	**02 50 20.8**	**+0.1**
	comp=Z,48nm,0.4s						
PRU	**Pruhonice**	**1.33**	**100**	Pg	**Pg**	**02 50 03.6**	**+0.1**
PRU				Sg	**Sg**	**02 50 20.8**	**+0.1**
	comp=Z,48nm,0.4s						
PVCC	**Panska Ves**	**1.35**	**77**	⇓*e*PG	**Pg**	**02 50 04.6**	**+0.8**
PVCC				*e*SG	**Sg**	**02 50 22.9**	**+1.6**
	comp=Z,96nm,0.2s						
PVCC	**Panska Ves**	**1.35**	**77**	Pg	**Pg**	**02 50 04.6**	**+0.8**
PVCC				Sg	**Sg**	**02 50 22.9**	**+1.6**
	comp=Z,96nm,0.2s						
GOPC	**GO Pecny, Ondr**	**1.50**	**102**	*e*PG	**Pg**	**02 50 06.6**	**-0.1**
GOPC				*e*SG	**Sg**	**02 50 26.6**	**+0.4**
	comp=Z,53nm,0.2s						
GOPC	**GO Pecny, Ondr**	**1.50**	**102**	Pg	**Pg**	**02 50 06.6**	**-0.1**
GOPC				Sg	**Sg**	**02 50 26.6**	**+0.4**
	comp=Z,53nm,0.2s						
TREC	**Trest**	**2.15**	**115**	⇓*e*PN	**Pb**	**02 50 15.6**	**-1.3**
TREC				*e*Pg	**Pg**	**02 50 18.0**	**-1.1**
TREC				*e*SG	**Sg**	**02 50 45.7**	**-1.3**
	comp=Z,17nm,0.2s						
TREC	**Trest**	**2.15**	**115**	Pn	**Pb**	**02 50 15.6**	**-1.3**
TREC	**Trest**	**2.15**	**115**	Pg	**Pg**	**02 50 18.0**	**-1.1**
TREC				Sg	**Sg**	**02 50 45.7**	**-1.3**
	comp=Z,17nm,0.2s						
UPC	**Upice**	**2.26**	**82**	⇓*e*PG	**Pg**	**02 50 20.6**	**-0.6**
UPC				*e*SG	**Sg**	**02 50 49.2**	**-1.2**
	comp=Z,29nm,0.6s						
UPC	**Upice**	**2.26**	**82**	Pg	**Pg**	**02 50 20.6**	**-0.6**
UPC				Sg	**Sg**	**02 50 49.2**	**-1.2**
	comp=Z,29nm,0.6s						
DPC	**Dobruska-Polom**	**2.45**	**86**	*e*PG	**Pg**	**02 50 23.2**	**-1.6**
DPC				*e*SG	**Sg**	**02 50 55.2**	**-1.3**
	comp=Z,14nm,0.3s						
DPC	**Dobruska-Polom**	**2.45**	**86**	Pg	**Pg**	**02 50 23.2**	**-1.6**
DPC				Sg	**Sg**	**02 50 55.2**	**-1.3**
	comp=Z,14nm,0.3s						
KSP	**Ksiaz**	**2.49**	**75**	*e*Pg	**Pg**	**02 50 25.4**	**-0.1**
KSP				*e*Sg	**Sg**	**02 50 57.5**	**-0.3**
KSP	**Ksiaz**	**2.49**	**75**	*e*Pg	**Pg**	**02 50 25.4**	**-0.1**
KSP				*e*Sg	**Sg**	**02 50 57.5**	**-0.3**
MOA	**Molln**	**2.66**	**154**	*e*Pn	**Pn**	**02 50 21.2**	**+0.4**
	comp=Z,0.1nm,0.1s						
MOA				Sg	**Sg**	**02 51 02.3**	**-0.9**
	comp=Z,2.2nm,0.1s						
MOA	**Molln**	**2.66**	**154**	Pn	**Pn**	**02 50 21.2**	**+0.4**
	comp=Z,0.1nm,0.1s						
MOA				Sg	**Sg**	**02 51 02.3**	**-0.9**
	comp=Z,2.2nm,0.1s						
KRLC	**Kraliky**	**2.75**	**92**	*e*SG	**Sg**	**02 51 05.3**	**-1.0**
KRLC	**Kraliky**	**2.75**	**92**	Sg	**Sg**	**02 51 05.3**	**-1.0**
VRAC	**Vranov**	**2.81**	**108**	*e*Pn	**Pn**	**02 50 23.4**	**+0.5**
VRAC				*e*Sg	**Sg**	**02 51 05.7**	**-2.3**
WATA	**Walderalm**	**2.97**	**192**	Pn	**Pn**	**02 50 23.8**	**-1.5**
	comp=Z,0.4nm,0.2s						
WATA				Sn	**Sn**	**02 51 02.2**	**+1.1**
	comp=Z,3.5nm,0.1s						
WATA	**Walderalm**	**2.97**	**192**	Pn	**Pn**	**02 50 23.8**	**-1.5**
	comp=Z,0.4nm,0.2s						
WATA				Sn	**Sn**	**02 51 02.2**	**+1.1**
	comp=Z,3.5nm,0.1s						
RETA	**Reutte**	**2.99**	**203**	*e*Pn	**Pn**	**02 50 25.7**	**+0.3**
	comp=Z,0.7nm,0.2s						
RETA				Sn	**Sn**	**02 51 01.8**	**+0.5**
	comp=Z,1.3nm,0.2s						
RETA	**Reutte**	**2.99**	**203**	Pn	**Pn**	**02 50 25.7**	**+0.3**
	comp=Z,0.7nm,0.2s						
RETA				Sn	**Sn**	**02 51 01.8**	**+0.5**
	comp=Z,1.3nm,0.2s						
WTTA	**Wattenberg**	**3.04**	**191**	Sg	**Sg**	**02 51 13.0**	**-2.4**
	comp=Z,2.4nm,0.2s						
WTTA	**Wattenberg**	**3.04**	**191**	Sg	**Sg**	**02 51 13.0**	**-2.4**
	comp=Z,2.4nm,0.2s						
MOTA	**Moosalm**	**3.04**	**198**	*e*Pn	**Pn**	**02 50 25.5**	**-0.8**
	comp=Z,0.2nm,0.1s						
MOTA				Sg	**Sb**	**02 51 12.8**	**+3.3**
	comp=Z,2.2nm,0.3s						
MOTA	**Moosalm**	**3.04**	**198**	Pn	**Pn**	**02 50 25.5**	**-0.8**
	comp=Z,0.2nm,0.1s						
MOTA				Sg	**Sb**	**02 51 12.8**	**+3.3**
	comp=Z,2.2nm,0.3s						
CONA	**Conrad Observa**	**3.20**	**135**	*e*Pn	**Pn**	**02 50 29.6**	**+1.3**
	comp=Z,0.1nm,0.1s						
CONA				Sg	**Sg**	**02 51 19.0**	**-1.5**
	comp=Z,2.5nm,0.2s						
CONA	**Conrad Observa**	**3.20**	**135**	Pn	**Pn**	**02 50 29.6**	**+1.3**
	comp=Z,0.1nm,0.1s						
CONA				Sg	**Sg**	**02 51 19.0**	**-1.5**
	comp=Z,2.5nm,0.2s						
KBA	**Koelnbreinsper**	**3.21**	**170**	*i*Pn	**Pn**	**02 50 29.1**	**+0.5**
KBA				Sg	**Sg**	**02 51 19.0**	**-2.1**
	comp=Z,1.2nm,0.2s						
KBA	**Koelnbreinsper**	**3.21**	**170**	Pn	**Pn**	**02 50 29.1**	**+0.5**
KBA				Sg	**Sg**	**02 51 19.0**	**-2.1**
	comp=Z,1.2nm,0.2s						
MORC	**Moravsky Berou**	**3.28**	**96**	*e*Sg	**Sg**	**02 51 21.5**	**-1.7**
DAVA	**Damuels**	**3.43**	**211**	*e*Pn	**Pn**	**02 50 31.6**	**0.0**
	comp=Z,0.2nm,0.1s						
DAVA				*e*Sn	**Sn**	**02 51 12.3**	**-0.1**
	comp=Z,1.8nm,0.3s						
DAVA	**Damuels**	**3.43**	**211**	Pn	**Pn**	**02 50 31.6**	**0.0**
	comp=Z,0.2nm,0.1s						
DAVA				Sn	**Sn**	**02 51 12.3**	**-0.1**
	comp=Z,1.8nm,0.3s						
FETA	**Feichten**	**3.43**	**201**	*e*Sn	**Sn**	**02 51 11.7**	**-0.7**
	comp=Z,0.2nm,0.1s						
FETA	**Feichten**	**3.43**	**201**	Sn	**Sn**	**02 51 11.7**	**-0.7**
	comp=Z,0.2nm,0.1s						
ABTA	**Abfaltersbach**	**3.50**	**180**	*e*Sn	**Sn**	**02 51 14.8**	**+0.9**
	comp=Z,0.6nm,0.1s						
ABTA	**Abfaltersbach**	**3.50**	**180**	Sn	**Sn**	**02 51 14.8**	**+0.9**
	comp=Z,0.6nm,0.1s						
ARSA	**Arzberg**	**3.60**	**145**	Pn	**Pn**	**02 50 34.6**	**+0.9**
	comp=Z,0.5nm,0.2s						
ARSA				Sg	**Sg**	**02 51 32.8**	**-0.5**
	comp=Z,1.8nm,0.3s						
ARSA	**Arzberg**	**3.60**	**145**	Pn	**Pn**	**02 50 34.6**	**+0.9**
	comp=Z,0.5nm,0.2s						
ARSA				Sg	**Sg**	**02 51 32.8**	**-0.5**
	comp=Z,1.8nm,0.3s						
SMOL	**Smolenice**	**3.65**	**116**	*e*SG	**Sg**	**02 51 36.2**	**+1.2**
OKC	**Ostrava-Krasne**	**3.66**	**94**	⇓*e*SG	**Sg**	**02 51 31.3**	**-4.0**
	comp=Z,11nm,0.5s						
OKC	**Ostrava-Krasne**	**3.66**	**94**	Sg	**Sg**	**02 51 31.3**	**-4.0**
	comp=Z,11nm,0.5s						
MYKA	**Terra Mystica**	**3.69**	**168**	*e*Sn	**Sn**	**02 51 20.1**	**+1.4**
	comp=Z,0.3nm,0.1s						
MYKA	**Terra Mystica**	**3.69**	**168**	Sn	**Sn**	**02 51 20.1**	**+1.4**
	comp=Z,0.3nm,0.1s						
OBKA	**Obir**	**3.98**	**159**	*e*Pg	**Pn**	**02 50 42.0**	**+3.1**
	comp=Z,0.1nm,0.1s						
VYHS	**Vyhne**	**4.49**	**111**	*e*SG	**Sb**	**02 51 52.0**	**+1.1**
VYHS				*e*LG	Lg	02 52 04.0	
LANS	**Liptovska Anna**	**4.65**	**101**	*e*Sg	**Sg**	**02 52 05.9**	**-1.1**
LANS	**Liptovska Anna**	**4.65**	**101**	*e*SG	**Sg**	**02 52 05.9**	**-1.1**
STHS	**Stebnicka Huta**	**5.71**	**95**	*e*Sg	**Sg**	**02 52 42.7**	**+1.5**
STHS	**Stebnicka Huta**	**5.71**	**95**	*e*SG	**Sg**	**02 52 42.7**	**+1.5**
STHS				*e*LG	Lg	02 52 45.4	

*SJA **04** 02:49:36.1±0.3,29°.03S×70°.41W,h79km±2km,ML2.8, MW3.5*
*ISCJB **04** 02:49:37.2±1.0,29°.06S±0°.04×70°.33W±0°.06,h111km±9km, Error ellipse: s-maj=8.0km s-min=6.6km az=177.0*
*GUC **04** 02:49:38.2±0.4,29°.08S×70°.25W,h87km±22km,ML2.8*

ISC 04 02:49:39.0±1.9,29°.08S±0°.04×70°.29W±0°.06,h96km±16km, n15,σ0°90/25,2C-1D,Central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LCO	**Las Campanas**	**0.36**	**281**	⇓*i*P	**Pn**	**02 49 52.8**	**-1.1**
LCO				*i*S	**Sn**	**02 50 03.8**	**-1.2**
LCO				IAML		02 50 04.7	
	comp=N,734nm,0.2s						
VACH	**Vallenar**	**0.65**	**321**	⇑*i*P	**Pn**	**02 49 57.6**	**+1.9**
VACH				*i*S	**Sn**	**02 50 09.8**	**+1.7**
TLL	**Tololo Astrono**	**1.17**	**202**	⇑*i*P	**Pn**	**02 50 00.6**	**-0.8**
TLL				*i*S	**Sn**	**02 50 18.1**	**-0.1**
TLL				IAML		02 50 20.3	
	comp=N,304nm,0.6s						
AROD	**Rodeo**	**1.30**	**147**	*e*P	**Pn**	**02 50 02.0**	**-0.9**
AGUA	**GUANDACOL**	**1.62**	**105**	*e*P	**Pn**	**02 50 06.1**	**-0.6**
AGUA				*e*S	**Sn**	**02 50 28.3**	**+0.5**
CPCH	**Copiapo**	**1.72**	**358**	*e*P	**Pn**	**02 50 07.1**	**-0.7**
CPCH				*i*S	**Sn**	**02 50 28.7**	**-1.0**
ACCO	**Cerro Coronel**	**1.84**	**145**	*e*P	**Pn**	**02 50 09.7**	**0.0**
ACCO				*e*S	**Sn**	**02 50 34.5**	**+1.4**
ACCO				IAML		02 50 38.6	
	comp=Z,94nm,0.3s						
VCA	**Vinchina**	**1.86**	**80**	*e*P	**Pn**	**02 50 09.1**	**-0.7**
VCA				*e*S	**Sn**	**02 50 33.6**	**+0.4**
AMOG	**MOGNA**	**2.42**	**140**	*e*P	**Pn**	**02 50 16.6**	**-0.4**
AMOG				*e*S	**Sn**	**02 50 46.8**	**+0.6**
RTLS	**Leoncito**	**2.84**	**163**	*e*P	**Pn**	**02 50 22.9**	**0.0**
RTLS				*e*S	**Sn**	**02 50 57.3**	**+0.8**
ACLC	**CERRO LA CRUZ**	**2.94**	**98**	*e*P	**Pn**	**02 50 24.0**	**0.0**
ACLC				*e*S	**Sn**	**02 50 59.0**	**+0.4**
RTCV	**Cerro Valdivia**	**3.16**	**152**	*e*P	**Pn**	**02 50 26.3**	**-0.5**
AUSP	**Uspallata**	**3.23**	**166**	*e*P	**Pn**	**02 50 27.8**	**-0.2**
ASAL	**Salagasta**	**3.72**	**161**	*e*P	**Pn**	**02 50 34.1**	**-0.3**
CYA	**Choya**	**3.99**	**82**	*e*P	**Pn**	**02 50 37.7**	**-0.3**
CYA				IAML		02 51 24.4	
	comp=Z,8.0nm,0.2s						

*IDC **04** 02:50:28.9±6.6,51°.35N×171°.74W,h0km,mb3.8/3, mb1 3.8/4,mb1mx3.4/42,mbtmp3.6/4,ML3.5/1,MS3.6/1, Ms1 3.6/1,ms1mx2.7/37,Error ellipse: s-maj=140.9km s-min=57.4km az=172.0*
*ISCJB **04** 02:50:39.7±1.2,51°.8N±0°.2×171°.39W±0°.09,h71km±10km, mb3.5/3,Error ellipse: s-maj=29.3km s-min=4.8km az=164.4*
*NEIC **04** 02:50:40.8±0.0,51°.92N×171°.42W,h42km,ML3.4(AEIC), After AEIC.*

ISC 04 02:50:40.8±2.4,51°.9N±0°.3×171°.40W±0°.08,h60km±16km, n24,σ0°85/29,mb3.7/3,Fox Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KOSE	**Korovin Southe**	**1.71**	**288**	P	**Pn**	**02 51 09.0**	**+0.6**
KOFP	**Korovin Flat P**	**1.72**	**285**	P	**Pn**	**02 51 08.6**	**+0.2**
KONE	**Korovin Northe**	**1.76**	**289**	P	**Pn**	**02 51 09.6**	**+0.6**
ATKA	**Atka Island**	**1.76**	**282**	P	**Pn**	**02 51 07.9**	**-1.1**
ATKA				S	**Sn**	**02 51 28.5**	**-1.8**
KOKV	**Korovin Volcan**	**1.78**	**287**	P	**Pn**	**02 51 10.3**	**+1.0**
KOKV				S	**Sn**	**02 51 32.0**	**+1.1**
KOKL	**Mount Kliuchef**	**1.79**	**286**	P	**Pn**	**02 51 09.7**	**+0.2**
NIKH	**Nikolski High**	**1.92**	**53**	P	**Pn**	**02 51 10.1**	**-1.0**
NIKH				S	**Sn**	**02 51 32.9**	**-1.3**
OKAK	**Okmok**	**2.53**	**46**	P	**Pn**	**02 51 19.1**	**-0.3**
OKTU	**Okmok Mt. Tuli**	**2.55**	**52**	P	**Pn**	**02 51 21.1**	**+1.3**
OKFG	**Magazine Ridge**	**2.63**	**52**	P	**Pn**	**02 51 21.4**	**+0.5**
OKFG				S	**Sn**	**02 51 53.1**	**+1.5**
GSMY	**Great Sitkin M**	**2.89**	**275**	P	**Pn**	**02 51 24.4**	**+0.1**
GSTD	**Great Sitkin T**	**2.94**	**276**	P	**Pn**	**02 51 25.4**	**+0.2**
GSTD				S	**Sn**	**02 51 59.5**	**+0.2**
GSCK	**Great Sitkin C**	**2.95**	**275**	P	**Pn**	**02 51 25.4**	**+0.1**
ETKA	**Kagalaska Isla**	**3.10**	**272**	P	**Pn**	**02 51 27.5**	**+0.2**
ADAG	**Mount Adagdak**	**3.22**	**274**	P	**Pn**	**02 51 29.9**	**+1.0**
KIRH	**Kanaga Island**	**3.53**	**273**	P	**Pn**	**02 51 33.8**	**+0.7**
UNV	**Unalaska Valle**	**3.57**	**54**	P	**Pn**	**02 51 34.5**	**+0.8**
KIKV	**Kanaga Island**	**3.58**	**273**	P	**Pn**	**02 51 34.4**	**+0.6**
TAPA	**Tanaga Point A**	**3.98**	**272**	P	**Pn**	**02 51 39.7**	**+0.4**
TAFP	**Tanaga Falls P**	**4.08**	**273**	P	**Pn**	**02 51 41.0**	**+0.3**
ILAR	**Eielson Array**	**18.08**	**35**	P	**Pn**	**02 54 47.2**	**-0.3**
	0.1nm,0.3s,baz=231,slow=8.7,SNR=5.9						
INK	**Inuvik**	**24.46**	**33**	P	**P**	**02 55 53.4**	**-0.2**
	0.9nm,0.4s,baz=257,slow=6.2,SNR=9.7						
INK				LR	LR	03 06 33.6	
	comp=Z,143nm,21.2s,baz=138,slow=39						
YKA	**Yellowknife Ar**	**31.52**	**48**	P	**P**	**02 56 57.0**	**+0.3**
	0.7nm,0.7s,baz=275,slow=9.3,SNR=3.1						
FINES	**FINESS Array B**	**66.19**	**351**	P	**P**	**03 01 21.0**	**-0.5**
	0.9nm,0.9s,baz=23,slow=10,SNR=4.0						

WEL 04 02:56:52.2±0.1,43°.57S×172°.38E,h8km±1km,ML3.5/17, 6C-3D,Error ellipse: s-maj=0.8km s-min=0.7km az=90.0, South Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CRLZ	**Canterbury Las**	**0.18**	**91**	⇑PG	Pg	02 56 55.9	0.0
CRLZ				SG	Sg	02 56 58.5	+0.1
CRLZ				AML	AML	02 56 59.0	
CRLZ				AML	AML	02 56 59.1	
CRLZ				AML	AML	02 56 59.2	
MQZ	**McQueen's Vall**	**0.24**	**124**	⇓PG	Pg	02 56 57.0	-0.1
MQZ				SG	Sg	02 57 00.6	+0.2
MQZ				AML	AML	02 57 00.9	
OXZ	**Oxford**	**0.35**	**315**	⇑PG	Pg	02 56 58.8	-0.3
OXZ				SG	Sg	02 57 03.9	+0.2
OXZ				AML	AML	02 57 04.0	
OXZ				AML	AML	02 57 04.1	
OXZ				AML	AML	02 57 04.1	
LTZ	**Lake Taylor**	**0.79**	**354**	⇓P*	Pg	02 57 07.5	0.0
LTZ				S*	Sg	02 57 18.0	+0.2
RPZ	**Rata Peaks**	**0.97**	**261**	⇓P*

BRTR **Keskin Array B** 147.20 238 PKPbc PKPbc 03 27 01.9 -0.9
2.3nm,0.8s,baz=160,slow=4.6,SNR=13

*IDC **04** 03:15:18.4±0.8, 18°66S×167°50E, h0km, mb4.4/11, mb1 4.5/12, mb1mx4.2/34, mbtmp4.4/12, ML3.7/1, MS3.6/1, Ms1 3.6/1, ms1mx3.0/18, Error ellipse: s-maj=25.1km s-min=20.6km az=138.0*
*ISCJB **04** 03:15:21.3±0.5, 18°83S±0°06×167°44E±0°08, h28km, mb4.5/18, MS3.4/1, Error ellipse: s-maj=11.5km s-min=8.2km az=15.2*
*NEIC **04** 03:15:22.0±4.6, 18°78S×167°53E, h23km±31km, mb4.8/9, Error ellipse: s-maj=14.6km s-min=10.3km az=207.0*
ISC 04 03:15:22.7±0.6, **18°82S**±0°08×**167°5E**±0°1, **h28**km, **n58**, σ0§**81**/53, **mb4.5**/17, **Vanuatu Islands**

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**3.38**	**196**	Pn	**Pn**		**03 16 12.9**	**-0.8**
	6.2nm,0.3s,baz=90,slow=11,SNR=62							
DZM				Sn	**Sn**		**03 16 51.3**	**-1.6**
	23nm,0.3s,baz=271,slow=22,SNR=12							
CTA	**Charters Tower**	**20.05**	**263**	P	Pn		03 19 55.6	-0.1
	9.4nm,0.7s,baz=88,slow=11,SNR=8.8							
CTAO	**Charters Tower**	**20.05**	**263**	*e*P	Pn		03 19 56.0	+0.3
	43nm,0.5s							
URZ	**Urewera**	**21.11**	**159**	P	**P**		**03 20 06.0**	**+0.9**
	9.4nm,0.9s,baz=343,slow=5.0,SNR=3.7							
PMG	**Port Moresby**	**21.79**	**293**	LR	LR		03 26 41.7	
	comp=Z,144nm,18.6s,baz=48,slow=31							
PMG	**Port Moresby**	**21.79**	**293**	*e*P	**P**		**03 20 12.4**	**-0.1**
	11nm,0.7s							
COEN	**Coen**	**23.80**	**278**	*e*P	**P**		**03 20 35.1**	**+1.8**
	18nm,0.7s							
STKA	**Stephens Creek**	**26.68**	**236**	P	**P**		**03 21 00.7**	**+1.3**
	3.4nm,0.8s,baz=32,slow=9.0,SNR=8.6							
WRA	**Warramunga Arr**	**31.25**	**262**	P	**P**		**03 21 38.8**	**-1.4**
	1.0nm,0.6s,baz=81,slow=6.1,SNR=6.7							
BBOO	**Buckleboo**	**31.39**	**237**	*e*P	**P**		**03 21 42.1**	**+0.7**
	7.0nm,0.6s							
ASAR	**Alice Springs**	**31.61**	**255**	P	**P**		**03 21 43.3**	**-0.2**
	14nm,0.6s,baz=82,slow=8.8,SNR=283							
FORT	**Forrest**	**37.53**	**244**	*e*P	**P**		**03 22 34.3**	**-0.2**
FITZ	**Fitzroy Crossi**	**39.62**	**264**	P	**P**		**03 22 52.4**	**+0.2**
	7.0nm,0.6s,baz=107,slow=7.0,SNR=26							
KKM	**Kota Kinabalu**	**56.22**	**291**	*e*P	**P**		**03 25 00.3**	**-0.6**
	10.0nm,0.9s							
CMAR	**Chiang Mai Arr**	**76.81**	**295**	P	**P**		**03 27 13.2**	**+0.8**
	1.0nm,0.3s,baz=123,slow=4.8,SNR=4.4							
MAW	**Mawson**	**78.19**	**202**	P	**P**		**03 27 21.1**	**+1.9**
	3.9nm,0.8s,baz=129,slow=7.6,SNR=8.3							
ULN	**Ulaanbaatar**	**85.54**	**324**	*e*P	**P**		**03 27 58.5**	**+0.2**
	2.5nm,0.9s							
SONM	**Songino Array**	**85.89**	**324**	P	**P**		**03 27 59.0**	**-1.0**
	1.1nm,0.6s,baz=139,slow=5.1,SNR=6.5							
CMB	**Columbia Colle**	**88.13**	**49**	*e*P	**P**		**03 28 11.2**	**+0.2**
SNAA	**Sanae**	**89.50**	**183**	P	**P**		**03 28 17.3**	**+0.3**
SNAA	**Sanae**	**89.50**	**183**	*e*P	**P**		**03 28 16.9**	**-0.1**
MOD	**Modoc Plateau**	**89.85**	**45**	*e*P	**P**		**03 28 19.2**	**0.0**
	5.9nm,1.0s							
COLA	**College**	**90.13**	**17**	*e*P	**P**		**03 28 18.4**	**-1.3**
	5.9nm,1.0s							
VNA3	**Neumayer Olymp**	**90.15**	**181**	P	**P**		**03 28 20.1**	**+0.1**
ILAR	**Eielson Array**	**90.33**	**18**	P	**P**		**03 28 19.3**	**-1.4**
	1.5nm,0.7s,baz=232,slow=4.6,SNR=18							
VNA2	**Neumayer--Watz**	**90.42**	**182**	P	**P**		**03 28 21.7**	**+0.5**
	baz=158,slow=3.9							
VNA1	**Neumayer--Stk**	**90.72**	**181**	P	**P**		**03 28 23.3**	**+0.7**
WVOR	**Wild Horse Val**	**91.20**	**45**	*e*P	**P**		**03 28 25.6**	**+0.3**
	5.5nm,1.1s							
TXAR	**Lajitas Array**	**98.03**	**62**	P	Pdif		03 28 57.4	+0.4
	0.4nm,0.8s,baz=255,slow=4.8,SNR=3.7							
ARCES	**ARCESS Array B**	**124.23**	**345**	PKP	**PKPdf**		**03 34 18.4**	**+0.3**
	2.6nm,0.8s,baz=18,slow=3.1,SNR=6.1							
DAMY	**Dhamar**	**125.51**	**275**	*e*PKPdf	**PKPdf**		**03 34 22.1**	**-0.4**
FINES	**FINESS Array B**	**129.56**	**337**	PKP	**PKPdf**		**03 34 28.6**	**+0.1**
	1.2nm,0.8s,baz=56,slow=3.4,SNR=5.7							
MORC	**Moravsky Berou**	**140.85**	**329**	*e*PKPdf	**PKPdf**		**03 34 49.0**	**-1.0**
CONA	**Conrad Observa**	**142.91**	**328**	*i* PKPdf	**PKPdf**		**03 34 51.8**	**-1.9**
	3.2nm,1.1s							
KHC	**Kasperske Hory**	**143.17**	**331**	*e*PKP	**PKPdf**		**03 34 53.7**	**-0.4**
GERES	**GERESS Array B**	**143.32**	**331**	PKP	PKPbc		03 34 52.8	+1.2
	0.7nm,0.7s,baz=27,slow=1.1,SNR=8.3							
MOA	**Molln**	**143.75**	**329**	*i* PKPdf	PKPbc		03 34 53.4	+0.6
	3.6nm,0.7s							
SOKA	**Soboth**	**144.16**	**327**	*i* PKPdf	PKPbc		03 34 54.3	+0.2
	2.9nm,0.6s,SNR=5.5							
OBKA	**Obir**	**144.53**	**327**	*i* PKPdf	**PKPab**		**03 34 54.0**	**-1.1**
	4.7nm,0.9s							
KBA	**Koelnbreinsper**	**144.74**	**329**	*i* PKPdf	**PKPab**		**03 34 55.8**	**-0.1**
	12nm,1.3s,SNR=5.7							
MYKA	**Terra Mystica**	**144.90**	**328**	*i* PKPab	**PKPab**		**03 34 55.5**	**-0.9**
	5.5nm,0.8s							
STU	**Stuttgart**	**145.34**	**334**	*e*PKPbc	**PKPdf**		**03 34 58.4**	**+0.5**
ABTA	**Abfaltersbach**	**145.38**	**329**	*i* PKPdf	**PKPbc**		**03 34 57.7**	**-0.3**
	21nm,0.9s,SNR=12							
WATA	**Walderalm**	**145.40**	**331**	*i* PKPdf	**PKPab**		**03 34 58.4**	**+0.1**
	3.7nm,0.6s							
WTTA	**Wattenberg**	**145.42**	**331**	*i* PKPab	**PKPab**		**03 34 58.9**	**+0.5**
	12nm,1.6s							
MOTA	**Moosalm**	**145.61**	**331**	*i* PKPab	**PKPab**		**03 34 59.0**	**-0.1**
	18nm,0.8s,SNR=19							
RETA	**Reutte**	**145.66**	**332**	*i* PKPab	**PKPab**		**03 34 58.9**	**-0.2**
	9.7nm,0.9s,SNR=6.3							
WLF	**Walferdange**	**145.77**	**338**	*e*PKPbc	**PKPab**		**03 35 00.1**	**+0.7**
FETA	**Feichten**	**146.02**	**331**	*i* PKPab	**PKPbc**		**03 35 00.2**	**+0.1**
	20nm,0.9s,SNR=14							
BFO	**Black Forest**	**146.04**	**335**	*e*PKPbc	**PKPab**		**03 35 00.2**	**-0.3**
DAVA	**Damuels**	**146.20**	**332**	*i* PKPbc	**PKPdf**		**03 34 59.3**	**-0.3**
	14nm,1.4s							
TUE	**Stuetta**	**147.06**	**332**	*e*PKPbc	**PKPbc**		**03 35 03.5**	**+0.3**
TIP	**Timpagrande**	**147.55**	**315**	*e*PKPbc	**PKPbc**		**03 35 05.4**	**+0.8**
AQU	**L'Aquila**	**147.85**	**322**	*e*PKPbc	**PKPbc**		**03 35 06.1**	**+0.8**
CEL	**Celeste**	**148.60**	**314**	*e*PKPdf	**PKPdf**		**03 35 03.0**	**-0.7**
BNI	**Bardonecchia**	**149.34**	**333**	*e*PKPbc	**PKPbc**		**03 35 10.0**	**+0.8**
SSB	**Saint Sauveur**	**150.04**	**335**	*e*PKPbc	**PKPbc**		**03 35 11.3**	**+0.5**
TORD	**Torodi Ar. Bea**	**165.22**	**250**	PKP	**PKPdf**		**03 35 24.9**	**-0.4**
	1.7nm,1.1s,baz=48,slow=2.0,SNR=5.0							
TORD				PKPab	**PKPab**		**03 36 22.6**	**-0.1**
	1.7nm,1.1s,baz=106,slow=5.3,SNR=5.7							

*IDC **04** 03:18:13.7±4.0, 1°28N×125°75E, h50km±37km, mb3.8/10, mb1 3.9/12, mb1mx3.7/35, mbtmp4.0/12, ML3.9/2, Error ellipse: s-maj=36.4km s-min=16.4km az=80.0*
*ISCJB **04** 03:18:15.1±0.5, 1°22N±0°06×125°68E±0°05, h79km, mb4.0/12, Error ellipse: s-maj=8.4km s-min=7.0km az=36.3*
*DJA **04** 03:18:16.4±3.7, 1°N±5°×12°6E±°, h13km±31km, M4.5/11, mb4.7/5, mB5.5/3, MLv4.4/11, Mw(mB)4.9/3*
*NEIC **04** 03:18:17.6±1.2, 1.1°N×125.6°E, h89km±11km, mb4.2/2, Error ellipse: s-maj=13.4km s-min=10.1km az=46.0*
ISC 04 03:18:16.7±0.6, **1.1°19N**±0.0°07×**125.6°68E**±0.0°06, **h79**km, **n32**, σ1§**45**/32, **mb4.1**/12, **Northern Molucca Sea**

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
KMSI	**Cibinong**	**1.80**	**250**	P	**Pn**		**03 18 45.0**	**-0.9**
LBMI	**Labuha**	**2.57**	**135**	P	**Pn**		**03 18 57.0**	**+0.7**
GTOI	**Gorontalo**	**2.72**	**258**	P	**Pn**		**03 18 59.0**	**+0.7**
SANI	**Sanana**	**3.23**	**174**	P	**Pn**		**03 19 02.9**	**-2.3**
LUWI	**Luwuk**	**3.65**	**233**	P	**Pn**		**03 19 10.2**	**-0.7**
LUWI	**Luwuk**	**3.65**	**233**	*e*Pn	**Pn**		**03 19 12.7**	**+1.8**
LUWI				*e*Sn	**Sn**		**03 19 56.2**	**+3.4**
MRSI	**Marisa**	**3.80**	**259**	P	**Pn**		**03 19 12.9**	**0.0**
NLAI	**Namlea**	**4.62**	**152**	P	**Pn**		**03 19 23.2**	**-0.9**
AAI	**Ambon**	**5.46**	**153**	P	**Pn**		**03 19 35.9**	**+0.3**
MSAI	**Masohi**	**5.55**	**144**	P	**Pn**		**03 19 38.4**	**+1.5**
KDI	**Kendari**	**5.95**	**211**	P	**Pn**		**03 19 41.0**	**-1.3**
FAKI	**Fak Fak**	**7.73**	**122**	P	**Pn**		**03 20 08.4**	**+1.7**
FAKI	**Fak Fak**	**7.73**	**122**	*e*Pn	**Pn**		**03 20 07.9**	**+1.2**
KAPI	**Kappang**	**8.54**	**224**	P	**Pn**		**03 20 17.7**	**0.0**
	1.4nm,0.3s,baz=44,slow=8.9,SNR=4.3							
FITZ	**Fitzroy Crossi**	**19.17**	**180**	P	**P**		**03 22 33.4**	**-0.6**
	0.3nm,0.3s,baz=9.4,slow=10,SNR=12							
WRAB	**Tennant Creek**	**22.65**	**158**	*e*P	**P**		**03 23 10.1**	**-1.4**
	15nm,1.3s							
WRA	**Warramunga Arr**	**22.65**	**158**	P	**P**		**03 23 10.4**	**-1.1**
	4.1nm,0.5s,baz=337,slow=11,SNR=24							
WRA				S	**S**		**03 27 09.9**	**-4.1**
	1.0nm,0.8s,baz=335,slow=21,SNR=4.0							
ASAR	**Alice Springs**	**25.97**	**163**	P	**P**		**03 23 42.6**	**+0.5**
	1.1nm,0.4s,baz=344,slow=12,SNR=26							
ASAR				PcP	**PcP**		**03 27 10.1**	**+1.1**
	0.4nm,0.5s,baz=352,slow=2.6,SNR=6.9							
STKA	**Stephens Creek**	**36.18**	**157**	P	**P**		**03 25 12.7**	**+0.9**
	0.6nm,0.3s,baz=340,slow=6.3,SNR=5.7							
USRK	**Ussuriysk Ar.**	**43.20**	**7**	P	**P**		**03 26 08.2**	**-1.7**
	1.9nm,0.7s,baz=180,slow=4.3,SNR=3.5							
H11S3	**WAKE ISLAND Hy**	**43.75**	**64**	T	T		04 13 43.7	
	baz=249,slow=75							
H11S2	**WAKE ISLAND Hy**	**43.76**	**64**	T	T		04 13 29.6	
	baz=249,slow=75							
H11S1	**WAKE ISLAND Hy**	**43.76**	**64**	T	T		04 13 33.7	
	baz=249,slow=75							
KLR	**Kul'dur**	**48.15**	**5**	P	**P**		**03 26 48.5**	**-0.3**
	0.9nm,0.5s,baz=186,slow=10,SNR=2.9							
KURK	**Kurchatov**	**63.33**	**329**	*e*P	**P**		**03 28 36.6**	**-0.8**
	20nm,0.6s							
VNDA	**Vanda**	**81.06**	**173**	P	**P**		**03 30 23.4**	**+0.8**
	0.5nm,0.5s,baz=338,slow=8.0,SNR=5.1							
ILAR	**Eielson Array**	**87.84**	**25**	P	**P**		**03 30 57.4**	**+0.3**
	0.2nm,0.7s,baz=245,slow=4.8,SNR=4.7							
KMBO	**Kilima Mbogo**	**88.45**	**269**	P	**P**		**03 31 02.0**	**+0.7**
	1.8nm,0.8s,baz=65,slow=6.0,SNR=4.6							
KMBO	**Kilima Mbogo**	**88.45**	**269**	*e*P	**P**		**03 31 01.7**	**+0.3**
	1.7nm,0.8s							
ARCES	**ARCESS Array B**	**92.45**	**340**	P	**P**		**03 31 17.6**	**-1.0**
	1.3nm,0.8s,baz=88,slow=5.8,SNR=3.4							
FINES	**FINESS Array B**	**93.56**	**332**	P	**P**		**03 31 24.1**	**+0.3**
	1.2nm,0.8s,baz=70,slow=6.1,SNR=5.4							
TORD	**Torodi Ar. Bea**	**122.66**	**286**	PKP	**PKPdf**		**03 37 04.3**	**-0.2**
	0.4nm,0.6s,baz=89,slow=1.7,SNR=5.9							

*IDC **04** 03:43:59.3±0.6, 10°54S×164°95E, h56km±4km, mb4.2/14, mb1 4.3/14, mb1mx4.1/28, mbtmp4.4/14, MS4.0/19, Ms1 4.0/19, ms1mx3.8/34, Error ellipse: s-maj=19.1km s-min=12.2km az=107.0*
*ISCJB **04** 03:44:00.7±1.3, 10°62S±0°04×165°06E±0°05, h79km±11km, mb4.6/71, Error ellipse: s-maj=8.1km s-min=7.4km az=0.4*
*NEIC **04** 03:44:00.7±0.6, 10°57S×165°11E, h66km±5km, mb4.8/49, Error ellipse: s-maj=6.9km s-min=5.0km az=132.0*
*MOS **04** 03:44:01.1±0.9, 10°62S×164°96E, h84km, mb4.7/13, Error ellipse: s-maj=11.3km s-min=10.2km az=79.2*
ISC 04 03:43:59.5±0.4, **10°62S**±0°05×**165°17E**±0°06, **h53**km±3km, **h53**km:**pP-P**, **n161**/158, σ1§**41**/158, **mb4.8**/73, **MS4.1**/19, **2C-1D**, **Santa Cruz Islands**

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**5.28**	**283**	P	**Pn**		**03 45 17.4**	**+1.6**
	275nm,0.3s,baz=188,slow=7.3,SNR=44							
HNR				S	**Sn**		**03 46 16.8**	**+1.5**
	277nm,0.3s,baz=55,slow=23,SNR=10							
HNR	**Honiara**	**5.28**	**283**	*e*P	**Pn**		**03 45 17.0**	**+1.2**
HNR				*e*S	**Sn**		**03 46 16.0**	**+0.6**
HNR	**Honiara**	**5.28**	**283**	*e*P	**Pn**		**03 45 17.9**	**+2.1**
HNR				*e*			03 46 17.1	
HNR	**Honiara**	**5.28**	**283**	*e*Pn	**Pn**		**03 45 17.9**	**+2.1**
HNR				*e*Sn	**Sn**		**03 46 17.1**	**+1.7**
DZM	**Mont Dzumac**	**11.45**	**174**	P	**Pn**		**03 46 43.4**	**+3.0**
	11nm,0.3s,baz=312,slow=15,SNR=153							
DZM				S	**Sn**		**03 48 48.5**	**+1.6**
	9.5nm,0.3s,baz=110,slow=14,SNR=4.9							
DZM				LR	LR		03 50 47.2	
	comp=Z,935nm,18.1s,baz=349,slow=35							
DZM	**Mont Dzumac**	**11.45**	**174**	*e*Pn	**Pn**		**03 46 43.0**	**+2.6**
	518nm,1.4s							
DZM				*e*Sn	**Sn**		**03 48 44.8**	**-2.1**
	266nm,1.6s							
DZM				*e*LR	LR		03 49 20.7	
	3µm,26.1s							
TARA	**Tarawa**	**14.18**	**33**	*e*Pn	**Pn**		**03 47 18.8**	**+1.2**
TARA				*e*Sn	Sn		03 49 44.4	-9.1
MSVF	**Nonsavu**	**14.35**	**121**	*e*P	**P**		**03 47 28.1**	**+2.6**
MSVF	**Nonsavu**	**14.35**	**121**	*e*Pn	**P**		**03 47 28.1**	**+2.6**
PMG	**Port Moresby**	**17.78**	**272**	*e*P	**P**		**03 48 05.1**	**+1.6**
PMG				pmax	pmax			
	comp=Z,69nm,0.8s							
PMG	**Port Moresby**	**17.78**	**272**	*e*Pn	**P**		**03 48 05.5**	**+2.0**
PATS	**Pohnpei**	**18.64**	**338**	*e*P	**Pn**		**03 48 15.3**	**+1.5**
	comp=Z,116nm,1.0s							
KWAJ	**Kwajalein Atol**	**19.45**	**7**	*e*P	**Pn**		**03 48 27.0**	**+3.6**
KWAJ				pmax	pmax			
	comp=Z,371nm,0.6s							
KWAJ	**Kwajalein Atol**	**19.45**	**7**	*e*P	**Pn**		**03 48 27.0**	**+3.6**
	comp=Z,371nm,0.6s							
EIDS	**Eidsvold**	**19.84**	**220**	*e*P	**Pn**		**03 48 27.4**	**-0.5**
	comp=Z,80nm,1.0s							
CTA	**Charters Tower**	**20.50**	**240**	P	**P**		**03 48 31.4**	**-1.9**
	comp=Z,7.0nm,1.0s,baz=73,slow=15,SNR=4.9							
CTA				pP	**pP**		**03 48 45.0**	**-0.3**
	comp=Z,39nm,1.0s,baz=69,slow=12,SNR=8.6							
CTAO	**Charters Tower**	**20.50**	**240**	*e*P	Pn		03 48 44.7	+8.8
CTAO	**Charters Tower**	**20.50**	**240**	*e*P	Pn		03 48 44.7	+8.8
COEN	**Coen**	**21.74**	**259**	*e*P	**P**		**03 48 47.1**	**+0.5**
	comp=Z,29nm,1.1s							
ARMA	**Armidale**	**23.38**	**211**	*e*P	**P**		**03 49 04.6**	**+0.9**
	comp=Z,64nm,1.0s							
H11S2	**WAKE ISLAND Hy**	**28.97**	**3**	T	T		04 20 18.5	
	baz=184,slow=76,SNR=830							
H11S3	**WAKE ISLAND Hy**	**28.97**	**3**	T	T		04 20 20.4	
	baz=184,slow=76,SNR=96							
H11S1	**WAKE ISLAND Hy**	**28.99**	**3**	T	T		04 20 17.9	
	baz=184,slow=76,SNR=114							
URZ	**Urewera**	**29.53**	**161**	P	**P**		**03 49 58.4**	**-0.5**
	comp=Z,8.9nm,0.7s,baz=326,slow=2.6,SNR=5.7							
URZ				LR	LR		04 00 43.9	
	comp=Z,427nm,19.9s,baz=358,slow=34							
BKZ	**Black Stump Fm**	**30.16**	**162**	*e*P	**P**		**03 50 05.5**	**+0.8**
	comp=Z,28nm,1.0s							
H11N1	**WAKE ISLAND Hy**	**30.19**	**3**	T	T		04 21 47.3	
	baz=182,slow=76,SNR=109							
H11N3	**WAKE ISLAND Hy**	**30.20**	**3**	T	T		04 21 47.9	
	baz=182,slow=76,SNR=93							
H11N2	**WAKE ISLAND Hy**	**30.21**	**3**	T	T		04 21 48.3	
	baz=182,slow=76,SNR=86							
STKA	**Stephens Creek**	**30.36**	**222**	P	**P**		**03 50 06.7**	**+0.3**
	comp=Z,4.5nm,0.6s,baz=41,slow=7.9,SNR=16							
STKA				pP	**pP**		**03 50 18.3**	**-1.7**
	comp=Z,8.1nm,0.8s,baz=28,slow=12,SNR=8.2							
STKA				LR	LR		04 00 44.1	
	comp=Z,579nm,22.0s,baz=36,slow=33							
WRAB	**Tennant Creek**	**31.09**	**249**	*e*P	**P**		**03 50 12.2**	**-0.8**
WRAB				pmax	pmax			
	comp=Z,8.0nm,0.8s							
WRAB	**Tennant Creek**	**31.09**	**249**	*e*P	**P**		**03 50 12.2**	**-0.8**
	comp=Z,7.6nm,0.8s							
WRA	**Warramunga Arr**	**31.10**	**249**	P	**P**		**03 50 11.1**	**-2.1**
	comp=Z,1.4nm,0.9s,baz=82,slow=8.9,SNR=13							
WRA				pP	**pP**		**03 50 23.5**	**-3.1**
	comp=Z,2.4nm,0.5s,baz=80,slow=9.0,SNR=9.2							
WRA				PcP	**PcP**		**03 53 06.3**	**-1.4**
	comp=Z,0.6nm,0.7s,baz=75,slow=3.1,SNR=2.4							
WRA				LR	LR		04 01 59.3	
	comp=Z,429nm,21.1s,baz=85,slow=35							
ASAR	**Alice Springs**	**32.48**	**242**	P	**P**		**03 50 22.8**	**-2.5**
	comp=Z,1.3nm,0.3s,baz=63,slow=10,SNR=38							
ASAR				pP	**pP**		**03 50 36.5**	**-2.3**
	comp=Z,5.8nm,1.0s,baz=61,slow=10,SNR=9.6							
ASAR				PcP	**PcP**		**03 53 10.2**	**-1.2**
	comp=Z,0.4nm,0.5s,baz=82,slow=1.8,SNR=4.1							
ASAR				LR	LR		04 02 23.2	
	comp=Z,205nm,20.8s,baz=63,slow=34							
RPZ	**Rata Peaks**	**33.36**	**172**	LR	LR		04 02 36.5	
	comp=Z,316nm,20.9s,baz=152,slow=33							
BBOO	**Buckleboo**	**34.70**	**226**	*e*P	**P**		**03 50 45.0**	**+0.6**
	comp=Z,30nm,1.0s							
FITZ	**Fitzroy Crossi**	**38.94**	**254**	*e*P	**P**		**03 51 20.3**	**-0.4**
	comp=Z,7.5nm,0.7s							
FORT	**Forrest**	**39.82**	**234**	*e*P	**P**		**03 51 27.1**	**-0.7**
	comp=Z,218nm,0.9s							
PPT	**Papeete**	**44.35**	**104**	LR	LR		04 06 44.5	
	comp=Z,126nm,20.3s,baz=322,slow=31							
PPT2	**Papeete2**	**44.35**	**104**	*e*LR	LR		04 04 57.4	
	comp=Z,653nm,29.0s							
TBI	**Tubuai**	**45.02**	**112**	*e*LQ	LQ		04 03 18.2	
	comp=Z,898nm,29.0s							
TBI				*e*LR	LR		04 05 10.3	
	comp=Z,428nm,28.2s							
YULB	**Yu-li**	**54.63**	**309**	*e*P	**P**		**03 53 22.3**	**-0.8**
	comp=Z,10nm,0.8s							
TPUB	**Ta-pu**	**55.10**	**308**	*e*P	**P**		**03 53 25.1**	**-1.5**
	comp=Z,27nm,1.0s							
KSRS	**Korea Array**	**59.21**	**326**	pP	**pP**		**03 54 09.2**	**-0.7**
	comp=Z,3.9nm,0.9s,baz=139,slow=7.7,SNR=7.3							
KSRS				LR	LR		04 17 55.7	
	comp=Z,40nm,19.9s,baz=5.0,slow=34							
KSAR	**Wonju Array Be**	**59.22**	**326**	P	pP		03 54 09.2	-0.8
KSAR	**Wonju Array Be**	**59.22**	**326**	pP	pP		03 54 09.2	-0.8
YSS	**Yuzh-Sakhalins**	**60.72**	**343**	*e*P	**P**		**03 54 04.6**	**-0.8**
USRK	**Ussuriysk Ar.**	**62.32**	**334**	pP	pP		03 54 30.4	-0.5
	comp=Z,5.2nm,0.9s,baz=152,slow=8.6,SNR=4.5							
PETK	**Petropavlovsk-**	**63.80**	**355**	P	**P**		**03 54 25.3**	**-0.6**
	comp=Z,9.0nm,0.9s,baz=127,slow=6.7,SNR=4.4							
PETK				LR	LR		04 17 00.6	
	comp=Z,99nm,20.2s,baz=157,slow=31							
KLR	**Kul'dur**	**66.45**	**337**	*e*P	**P**		**03 54 42.9**	**-0.3**
VNDA	**Vanda**	**66.90**	**181**	P	**P**		**03 54 46.3**	**+0.6**
	comp=Z,4.7nm,1.1s,baz=345,slow=8.0,SNR=13							
VNDA				pP	**pP**		**03 55 01.7**	**+1.2**
	comp=Z,2.7nm,0.9s,baz=337,slow=9.7,SNR=6.2							
VNDA	**Vanda**	**66.90**	**181**	*e*P	**P**		**03 54 47.0**	**+1.2**
VNDA				pmax	pmax			
	comp=Z,9.0nm,1.1s							
VNDA	**Vanda**	**66.90**	**181**	*e*P	**P**		**03 54 47.0**	**+1.2**
	comp=Z,8.9nm,1.1s							
VNDA				pP	**pP**		**03 55 01.7**	**+1.2**
SBA	**Scott Base**	**67.22**	**180**	*e*P	**P**		**03 54 48.6**	**+0.9**
SBA				pmax	pmax			
	comp=Z,11nm,1.0s							
SBA	**Scott Base**	**67.22**	**180**	*e*P	**P**		**03 54 48.6**	**+0.9**
	comp=Z,11nm,1.0s							
SBA				*e*pP	**pP**		**03 55 03.5**	**+0.9**
GYA	**Guiyang**	**67.71**	**304**	P	**P**		**03 54 54.0**	**+2.1**
GYA				pP	pP		03 55 03.8	-2.9
GYA				PP	**PP**		**03 57 26.2**	**+4.3**
GYA				ScP			03 59 20.0	
GYA				S	**S**		**04 03 49.4**	**+3.5**
GYA				sS	pS		04 04 05.2	+1.4
GYA				SKS	**SKSac**		**04 04 45.5**	**-0.4**
GYA				pmax	pmax			
	comp=Z,10.0nm,1.0s							
GYA				pmax	pmax			
	comp=Z,120nm,5.8s							
BJI	**Beijing**	**67.80**	**321**	P	**P**		**03 54 52.5**	**+0.6**
BJI				pmax	pmax			
	comp=Z,6.0nm,1.2s							
SLVN	**Son La**	**68.01**	**298**	*e*P	**P**		**03 54 53.3**	**-0.4**
	comp=Z,5.5nm,0.9s							
KMI	**Kunming**	**70.42**	**301**	P	**P**		**03 55 09.6**	**+0.8**
KMI				sP	pP		03 55 25.4	+1.7
KMI				pmax	pmax			
	comp=Z,9.0nm,0.9s							
CMAR	**Chiang Mai Arr**	**71.42**	**294**	P	**P**		**03 55 13.1**	**-1.6**
	comp=Z,1.3nm,0.3s,baz=109,slow=4.9,SNR=5.1							
SEY	**Seymchan**	**74.00**	**354**	⇑*i*P	**P**		**03 55 28.4**	**-0.7**
LZH	**Lanzhou**	**74.06**	**312**	*e*P	**P**		**03 55 31.7**	**+1.5**
LZH				pP	PcP		03 55 41.7	-3.5
LZH				sP	pP		03 55 46.0	+0.7
LZH				pmax	pmax			
	comp=Z,29nm,1.2s							
LZH				pmax	pmax			
	comp=Z,59nm,4.4s							
YAK	**Yakutsk**	**77.53**	**344**	P	**P**		**03 55 48.3**	**-0.9**
	comp=Z,7.4nm,0.4s,baz=59,slow=2.7,SNR=5.1							
YAK	**Yakutsk**	**77.53**	**344**	*e*P	**P**		**03 55 48.4**	**-0.9**
YAK				pmax	pmax			
	comp=Z,21nm,0.9s							
YAK		

	comp=Z,6.6nm,1.2s								
PFO	**Pinyon Flats O**	**86.31**	**55**	LR	LR	04 28 51.4			
	comp=Z,76nm,18.1s,baz=312,slow=31								
DLBC	**Dease Lake**	**86.31**	**28**	LR	LR	04 30 16.9			
	comp=Z,134nm,18.4s,baz=270,slow=32								
WVOR	**Wild Horse Val**	**87.10**	**46**	*e*P	**P**	**03 56 39.7**	**-0.2**		
WVOR				pmax	pmax				
	comp=Z,8.0nm,1.1s								
WVOR	**Wild Horse Val**	**87.10**	**46**	*e*P	**P**	**03 56 39.6**	**-0.2**		
	comp=Z,7.8nm,1.1s								
Y12C	**Blythe**	**87.90**	**55**	*e*P	**P**	**03 56 43.9**	**+0.2**		
	comp=Z,9.7nm,1.2s								
SHPR	**Sheep Range**	**88.08**	**52**	*e*P	**P**	**03 56 45.4**	**+0.7**		
	comp=Z,5.4nm,1.2s								
R11A	**Troy Canyon, C**	**88.22**	**51**	*e*P	**P**	**03 56 45.0**	**-0.4**		
	comp=Z,8.6nm,1.8s								
W13A	**Hualapai Mount**	**88.74**	**54**	*e*P	**P**	**03 56 47.9**	**-0.1**		
INK	**Inuvik**	**89.69**	**19**	LR	LR	04 30 19.4			
	comp=Z,112nm,21.6s,baz=262,slow=31								
LCMT	**Little Creek M**	**89.69**	**52**	*e*P	**P**	**03 56 52.5**	**+0.2**		
	comp=Z,12nm,1.4s								
CCUT	**Cedar City**	**89.73**	**52**	*e*P	**P**	**03 56 52.8**	**+0.2**		
	comp=Z,6.9nm,1.1s								
SZCU	**Shurtz Canyon**	**89.95**	**52**	*e*P	**P**	**03 56 53.9**	**+0.3**		
	comp=Z,8.3nm,1.2s								
KNB	**Kanab**	**90.03**	**52**	*e*P	**P**	**03 56 54.2**	**+0.3**		
KNB	**Kanab**	**90.03**	**52**	*e*P	**P**	**03 56 54.2**	**+0.3**		
KNB				ppP	**pP**	**03 57 03.3**	**-6.0**		
U15A	**North Rim**	**90.31**	**53**	*e*P	**P**	**03 56 55.6**	**+0.2**		
HLID	**Hailey**	**90.39**	**46**	*e*P	**P**	**03 56 54.6**	**-0.8**		
	comp=Z,4.8nm,1.0s								
MTPU	**Mount Pierson**	**90.75**	**52**	*e*P	**P**	**03 56 58.3**	**+0.8**		
	comp=Z,4.9nm,1.0s								
DUG	**Dugway, Tooele**	**90.76**	**49**	*e*P	**P**	**03 56 57.5**	**+0.3**		
DUG				pmax	pmax				
	comp=Z,5.0nm,1.2s								
DUG	**Dugway, Tooele**	**90.76**	**49**	*e*P	**P**	**03 56 57.5**	**+0.3**		
	comp=Z,5.3nm,1.2s								
BGU	**Big Grassy Mou**	**90.76**	**49**	*e*P	**P**	**03 56 57.2**	**0.0**		
	comp=Z,6.0nm,1.2s								
MSU	**Marysvale**	**90.86**	**51**	*e*P	**P**	**03 56 58.9**	**+1.1**		
MSU	**Marysvale**	**90.86**	**51**	*e*P	**P**	**03 56 58.9**	**+1.1**		
HVU	**Hansel Valley**	**91.14**	**48**	*e*P	**P**	**03 56 58.9**	**-0.1**		
HVU	**Hansel Valley**	**91.14**	**48**	*e*P	**P**	**03 56 58.9**	**-0.1**		
MCMT	**McKenzie Canyo**	**91.78**	**45**	*e*P	**P**	**03 57 02.0**	**0.0**		
DLMT	**Dillon**	**92.08**	**44**	*e*P	**P**	**03 57 03.0**	**-0.2**		
	comp=Z,10nm,1.0s								
BOZ	**Bozeman (W)**	**92.79**	**44**	*e*P	**P**	**03 57 06.3**	**-0.2**		
BOZ				pmax	pmax				
	comp=Z,6.0nm,1.1s								
BOZ	**Bozeman (W)**	**92.79**	**44**	*e*P	**P**	**03 57 06.3**	**-0.2**		
	comp=Z,5.7nm,1.1s								
FXWY	**Fox Creek**	**92.81**	**46**	*e*P	**P**	**03 57 06.8**	**+0.1**		
	comp=Z,2.6nm,0.9s								
MK01	**Makanchi Array**	**92.82**	**317**	*e*P	**P**	**03 57 05.2**	**-1.2**		
MK31	**Makanchi Array**	**92.83**	**317**	*e*P	**P**	**03 57 06.2**	**-0.3**		
MK31	**Makanchi Array**	**92.83**	**317**	*e*P	**P**	**03 57 06.2**	**-0.3**		
MKAR	**Makanchi Array**	**92.83**	**317**	*e*P	**P**	**03 57 06.2**	**-0.3**		
MKAR	**Makanchi Array**	**92.83**	**317**	*e*P	**P**	**03 57 06.2**	**-0.3**		
	comp=Z,50nm,0.8s								
ZALV	**Zalesovo Beam**	**92.89**	**324**	P	**P**	**03 57 04.3**	**-2.2**		
	comp=Z,0.8nm,0.3s,baz=111,slow=7.9,SNR=4.7								
ZALV				pP	**pP**	**03 57 21.1**	**-0.8**		
	comp=Z,1.9nm,0.7s,baz=121,slow=5.2,SNR=2.4								
IMW	**Indian Meadow**	**92.92**	**46**	*e*P	**P**	**03 57 06.3**	**-1.0**		
	comp=Z,4.9nm,1.2s								
MAKZ	**Makanchi**	**93.04**	**317**	*e*P	**P**	**03 57 07.3**	**-0.2**		
MAKZ				pmax	pmax				
	comp=Z,10.0nm,0.9s								
MAKZ	**Makanchi**	**93.04**	**317**	*e*P	**P**	**03 57 07.3**	**-0.2**		
	comp=Z,10nm,0.9s								
BW06	**Boulder Array**	**93.69**	**47**	*e*P	**P**	**03 57 09.6**	**-1.2**		
PD31	**Pinedale Array**	**93.69**	**47**	*e*P	**P**	**03 57 10.7**	**-0.1**		
PDAR	**Pinedale Array**	**93.69**	**47**	P	**P**	**03 57 09.7**	**-1.1**		
	comp=Z,1.5nm,0.9s,baz=264,slow=2.7,SNR=9.8								
PDAR				LR	LR	04 32 40.7			
	comp=Z,74nm,21.9s,baz=168,slow=31								
ANMO	**Albuquerque**	**94.68**	**55**	LR	LR	04 32 38.6			
	comp=Z,69nm,18.7s,baz=323,slow=31								
YKA	**Yellowknife Ar**	**94.86**	**27**	LR	LR	04 32 46.6			
	comp=Z,10nm,20.2s,baz=180,slow=31								
NRIK	**Norilʹsk**	**95.53**	**340**	LR	LR	04 38 06.9			
	comp=Z,68nm,21.0s,baz=108,slow=34								
KURK	**Kurchatov**	**95.96**	**320**	*e*P	**P**	**03 57 19.3**	**-1.3**		
KURK	**Kurchatov**	**95.96**	**320**	*e*P	**P**	**03 57 19.3**	**-1.3**		
	comp=Z,53nm,1.4s								
KSH	**Kashi**	**96.05**	**309**	S	**S**	**04 08 36.6**	**0.0**		
KSH	**Kashi**	**96.05**	**309**	sS	sS	04 08 54.7	-8.1		
KSH	**Kashi**	**96.05**	**309**	SS	SS	04 15 15.2	+6.3		
KSH				pmax	pmax				
	comp=Z,4.0nm,1.0s								
KSH				pmax	pmax				
	comp=Z,75nm,4.9s								
KSH				LR	LR				
	comp=N,93nm,8.5s								
KSH				LR	LR				
	comp=E,98nm,6.2s								
KSH				LR	LR				
	comp=Z,130nm,5.6s								
TXAR	**Lajitas Array**	**96.13**	**61**	LR	LR	04 31 07.8			
	comp=Z,74nm,21.3s,baz=0.0,slow=29								
BVAR	**Borovoye Array**	**101.27**	**322**	P	**Pdif**	**03 57 43.0**	**-1.4**		
	comp=Z,0.3nm,0.3s,baz=72,slow=4.7,SNR=4.0								
BVAR				pP	**pPdif**	**03 57 59.0**	**-0.9**		
	comp=Z,1.4nm,0.8s,baz=96,slow=15,SNR=5.6								
SAML	**Samuel**	**128.11**	**110**	*e*PKPdf	**PKPdf**	**04 02 59.2**	**-1.6**		
KEST	**Kesra**	**146.74**	**323**	PKPbc	**PKPdf**	**04 03 33.8**	**-0.6**		
	comp=Z,4.3nm,0.8s,baz=61,slow=10,SNR=3.3								
KEST				pPKPbc	**pPKPdf**	**04 03 51.1**	**+0.7**		
	comp=Z,8.1nm,0.8s,baz=79,slow=2.9,SNR=4.9								
ESDC	**Sonseca Array**	**149.50**	**343**	PKPbc	**PKPbc**	**04 03 42.6**	**-0.7**		
	comp=Z,0.5nm,0.6s,baz=17,slow=1.5,SNR=4.1								
TORD	**Torodi Ar. Bea**	**163.63**	**280**	PKP	**PKPdf**	**04 03 56.3**	**-1.3**		
	comp=Z,0.6nm,0.9s,baz=144,slow=2.7,SNR=2.9								

*CSEM **04** 03:50:19.6±0.3,50.23N×12.55E,h2km,ML2.9/10,Error ellipse: s-maj=6.7km s-min=3.8km az=16.0*
*PRU **04** 03:50:19.9,50.23N×12.52E,h0km,West Bohemia Swarm*

ISC 04 03:50:19.4±0.9,50°22N±0.04×12°51E±0.04,h8km±7km, n27,σ0.9 91/42,8D,Germany

Code	Station Name	Δ°	AZ°	Phase	ID		Time		Res
				Op		ISC	h m s		ISC
NKC	**Novy Kostel**	**0.04**	**284**	*i* Pg		**Pg**	**03 50 21.2**		**+0.1**
NKC				*e*SG		**Sg**	**03 50 22.0**		**-0.3**
	comp=Z,1µm,0.2s								
NKC	**Novy Kostel**	**0.04**	**284**	Pg		**Pg**	**03 50 21.2**		**+0.1**
NKC				Sg		**Sg**	**03 50 22.0**		**-0.3**
	1µm,0.2s								
WET	**Wettzell**	**1.10**	**168**	*e*PG		**Pg**	**03 50 40.8**		**+0.2**
WET				*e*SG		**Sg**	**03 50 55.0**		**+0.1**
BRG	**Berggiesshubel**	**1.12**	**54**	PG		**Pg**	**03 50 41.0**		**+0.2**
BRG				SG		**Sb**	**03 50 55.9**		**+0.2**
	24nm,0.2s								
CLL	**Collm**	**1.13**	**16**	*i* Pg		**Pb**	**03 50 40.6**		**-0.5**
CLL				*e*			03 50 44.0		
CLL				*i* Sg		**Sb**	**03 50 55.2**		**-0.8**
	comp=Z,15nm,0.3s								
CLL				*e*			03 50 59.0		
PRA	**Prague**	**1.24**	**96**	*e*SG		**Sn**	**03 51 00.1**		**+0.1**
	comp=Z,12nm,0.3s								
PRA	**Prague**	**1.24**	**96**	Sg		**Sn**	**03 51 00.1**		**+0.1**
	comp=Z,12nm,0.3s								
KHC	**Kasperske Hory**	**1.29**	**147**	*e*PG		**Pn**	**03 50 43.7**		**-0.1**
KHC				*e*SG		**Sn**	**03 51 01.0**		**-0.3**
	comp=Z,8.8nm,0.2s								
KHC	**Kasperske Hory**	**1.29**	**147**	Pg		**Pn**	**03 50 43.7**		**-0.1**
KHC				Sg		**Sn**	**03 51 01.0**		**-0.3**
	comp=Z,8.8nm,0.2s								
PRU	**Pruhonice**	**1.33**	**99**	*e*PG		**Pg**	**03 50 44.8**		**0.0**
PRU				*e*SG		**Sg**	**03 51 02.0**		**0.0**
	comp=Z,12nm,0.2s								
PRU	**Pruhonice**	**1.33**	**99**	Pg		**Pg**	**03 50 44.8**		**0.0**
PRU				Sg		**Sg**	**03 51 02.0**		**0.0**
	comp=Z,12nm,0.2s								
PVCC	**Panska Ves**	**1.35**	**76**	*e*PG		**Pg**	**03 50 45.7**		**+0.4**
PVCC				*e*SG		**Sg**	**03 51 04.0**		**+1.2**
	comp=Z,29nm,0.2s								
PVCC	**Panska Ves**	**1.35**	**76**	Pg		**Pg**	**03 50 45.7**		**+0.4**
PVCC				Sg		**Sg**	**03 51 04.0**		**+1.2**
	comp=Z,29nm,0.2s								
GOPC	**GO Pecny, Ondr**	**1.50**	**101**	*e*SG		**Sg**	**03 51 07.8**		**+0.4**
	comp=Z,13nm,0.2s								
GOPC	**GO Pecny, Ondr**	**1.50**	**101**	Sg		**Sg**	**03 51 07.8**		**+0.4**
	comp=Z,13nm,0.2s								
TREC	**Trest**	**2.14**	**115**	*e*PN		**Pn**	**03 50 56.7**		**+1.3**
TREC				*e*PG		**Pb**	**03 50 59.0**		**+0.6**
TREC				*e*SG		**Sg**	**03 51 26.5**		**-1.6**
	comp=Z,4.1nm,0.2s								
TREC	**Trest**	**2.14**	**115**	Pn		**Pn**	**03 50 56.7**		**+1.3**
UPC	**Upice**	**2.26**	**81**	*e*SG		**Sg**	**03 51 31.1**		**-0.8**
	comp=Z,3.8nm,0.3s								
UPC	**Upice**	**2.26**	**81**	Sg		**Sg**	**03 51 31.1**		**-0.8**
	comp=Z,3.8nm,0.3s								
DPC	**Dobruska-Polom**	**2.45**	**86**	*e*PG		**Pg**	**03 51 06.4**		**+0.2**
DPC				*e*SG		**Sg**	**03 51 36.5**		**-1.4**
	comp=Z,3.8nm,0.4s								
DPC	**Dobruska-Polom**	**2.45**	**86**	Pg		**Pg**	**03 51 06.4**		**+0.2**
DPC				Sg		**Sg**	**03 51 36.5**		**-1.4**
	comp=Z,3.8nm,0.4s								
KRLC	**Kraliky**	**2.75**	**91**	*e*SG		**Sg**	**03 51 47.3**		**-0.3**
KRLC	**Kraliky**	**2.75**	**91**	Sg		**Sg**	**03 51 47.3**		**-0.3**
VRAC	**Vranov**	**2.80**	**108**	*e*SG		**Sg**	**03 51 46.7**		**-2.5**
MORC	**Moravsky Berou**	**3.27**	**96**	*e*SG		**Sg**	**03 52 03.2**		**-1.3**
OKC	**Ostrava-Krasne**	**3.65**	**94**	*e*SG		**Sg**	**03 52 14.7**		**-1.9**
	comp=Z,3.7nm,0.4s								
OKC	**Ostrava-Krasne**	**3.65**	**94**	Sg		**Sg**	**03 52 14.7**		**-1.9**
	comp=Z,3.7nm,0.4s								

*CSEM **04** 03:52:07.6,50.22N×12.44E,h4km*
*CLL **04** 03:52:07.4±0.4,50°N±1°×1°2E±°,h7km±1km,ml2.3*

PRU 04 03:52:07.6,50°22N×12°44E,h4km,7D,West Bohemia Swarm,Germany

Code	Station Name	Δ°	AZ°	Phase	ID		Time		Res
				Op		ISC	h m s		ISC
NKC	**Novy Kostel**	**0.01**	**21**	*i* PG		Pg	03 52 08.7		+0.2
NKC				*e*SG		Sg	03 52 09.5		+0.4
	comp=Z,2µm,0.2s								
NKC	**Novy Kostel**	**0.01**	**21**	*i* Pg		Pg	03 52 08.6		+0.2
NKC				*i* Sg		Sg	03 52 09.6		+0.6
NKC	**Novy Kostel**	**0.01**	**21**	Pg		Pg	03 52 08.7		+0.2
NKC				Sg		Sg	03 52 09.5		+0.4
	2µm,0.2s								
WERN	**Wernitzgruen**	**0.08**	**329**	*i* Pg		Pg	03 52 09.1		-0.2
WERN				*i* Sg		Sg	03 52 10.5		0.0
WERN				AML		AML	03 52 10.8		
	comp=N,924nm,0.3s								
ROHR	**Rohrbach**	**0.08**	**280**	*i* Pg		Pg	03 52 09.3		-0.1
ROHR				*i* Sg		Sg	03 52 10.7		+0.2
ROHR				AML		AML	03 52 10.9		
	comp=E,5µm,0.1s								
GUNZ	**Gunzen**	**0.16**	**334**	*i* Pg		Pg	03 52 10.3		-0.5
GUNZ				*e*Sg		Sg	03 52 12.4		-0.5
GUNZ				AML		AML	03 52 12.8		
	comp=E,334nm,0.2s								
MULD	**Muldenberg**	**0.19**	**353**	*i* Pg		Pg	03 52 10.7		-0.7
MULD				*i* Sg		Sg	03 52 13.1		-0.9
MULD				AML		AML	03 52 13.2		
	comp=E,755nm,0.2s								
TANN	**Tannenbergstha**	**0.20**	**4**	*i* Pg		Pg	03 52 10.7		-0.8
TANN				*i* Sg		Sg	03 52 13.0		-1.1
TANN				AML		AML	03 52 13.5		
	comp=E,754nm,0.3s								
TRIB	**Obertriebel**	**0.23**	**304**	*i* Pg		Pg	03 52 11.6		-0.5
TRIB				*i* Sg		Sg	03 52 14.9		-0.3
TRIB				AML		AML	03 52 15.1		
	comp=E,286nm,0.1s								
WERD	**Werda**	**0.24**	**339**	*i* Pg		Pg	03 52 11.6		-0.7
WERD				*e*Sg		Sg	03 52 14.6		-1.0
PLN	**Plauen**	**0.32**	**326**	*i* Pg		Pg	03 52 13.1		-0.7
SCHF	**Schoenfels**	**0.46**	**357**	*i* Pg		Pg	03 52 15.5		-0.9
SCHF				*i* Sg		Sg	03 52 21.4		-1.0
SCHF				AML		AML	03 52 21.7		
	comp=E,764nm,0.2s								
MLFH	**Mildenfurth**	**0.61**	**338**	*i* Pg		Pg	03 52 18.4		-1.0
MLFH				*i* Sg		Sg	03 52 26.3		-1.1
WET	**Wettzell**	**1.11**	**165**	*e*PG		Pg	03 52 28.2		-0.7
WET				*e*SG		Sg	03 52 42.5		-0.9
CLL	**Collm**	**1.15**	**18**	*i* Pg		Pg	03 52 28.2		-1.4
CLL				*i*			03 52 31.2		
CLL				*i* Sg		Sg	03 52 43.3		-1.1
	comp=Z,41nm,0.5s								
PRA	**Prague**	**1.29**	**96**	*e*PG		Pg	03 52 31.2		-1.1
PRA				*e*SG		Sg	03 52 47.5		-1.5
PRA	**Prague**	**1.29**	**96**	Pg		Pg	03 52 31.2		-1.1
PRA				Sg		Sg	03 52 47.5		-1.5
KHC	**Kasperske Hory**	**1.32**	**145**	*e*PG		Pn	03 52 31.2		-1.6
KHC				*e*SG		Sg	03 52 49.0		-0.9
KHC	**Kasperske Hory**	**1.32**	**145**	Pg		Pn	03 52 31.2		-1.6
KHC				Sg		Sg	03 52 49.0		-0.9
PRU	**Pruhonice**	**1.37**	**99**	*e*PG		Pn	03 52 32.6		-0.9
PRU				*e*SG		Sg	03 52 50.7		-1.0
PRU	**Pruhonice**	**1.37**	**99**	Pg		Pn	03 52 32.6		-0.9
PRU				Sg		Sg	03 52 50.7		-1.0
PVCC	**Panska Ves**	**1.40**	**76**	*e*PG		Pn	03 52 33.1		-0.8
PVCC				*e*SG		Sn	03 52 53.0		+0.2
PVCC	**Panska Ves**	**1.40**	**76**	Pg		Pn	03 52 33.1		-0.8
PVCC				Sg		Sn	03 52 53.0		+0.2
GOPC	**GO Pecny, Ondr**	**1.54**	**101**	*e*PG		Pn	03 52 35.9		0.0
GOPC				*e*SG		Sn	03 52 55.3		-1.1
GOPC	**GO Pecny, Ondr**	**1.54**	**101**	Pg		Pn	03 52 35.9		0.0
GOPC				Sg		Sn	03 52 55.3		-1.1
TREC	**Trest**	**2.18**	**114**	*e*PN		Pn	03 52 44.2		-0.5
TREC				*e*PG		Pb	03 52 47.5		-0.1
TREC	**Trest**	**2.18**	**114**	Pn		Pn	03 52 44.2		-0.5
DPC	**Dobruska-Polom**	**2.49**	**86**	*e*PG		Pb	03 52 52.1		-0.9
DPC	**Dobruska-Polom**	**2.49**	**86**	Pg		Pb	03 52 52.1		-0.9

*ISCJB **04** 03:52:09.8±0.5,50°23N±0°02×12°49E±0°03,h14km±5km, Error ellipse: s-maj=3.8km s-min=3.2km az=161.6*
*IASPEI **04** 03:52:10.9±0.9,50°24N±0°02×12°44E±0°02,h10km±3km, Error ellipse: s-maj=3.3km s-min=2.5km az=90.9,GT5 selection from ISC bulletin GT5 identified by Bondʺjr and McLaughlin (2009) selection criteria Bondʺjr and McLaughlin, A new ground truth data set for seismic studies, Seism. Res. Let., 80, 465-472, 2009*
*CSEM **04** 03:52:10.7±0.1,50°23N×12°47E,h10km,ML3.9/4, Error ellipse: s-maj=1.8km s-min=1.5km az=38.0*
*CLL **04** 03:52:11.7±0.3,50°3N±0°8×1°2E±°,h7km±1km,ml2.8*
*BGR **04** 03:52:11.1±0.2,50°25N×12°44E,h10km±1km,ML2.9/5, Error ellipse: s-maj=2.2km s-min=2.2km az=98.0*
*PRU **04** 03:52:11.5,50°24N×12°42E,h6km,West Bohemia Swarm*

ISC 04 03:52:10.9±0.8,50°24N±0°02×12°45E±0°02,h10km±3km, n60,σ0.8 40/107,Germany

Code	Station Name	Δ°	AZ°	Phase	ID		Time		Res
				Op		ISC	h m s		ISC
NKC	**Novy Kostel**	**0.01**	**171**	*e*PG		**Pg**	**03 52 12.9**		**+0.2**
NKC				*e*SG		**Sg**	**03 52 13.8**		**0.0**
	comp=Z,6µm,0.2s								
NKC	**Novy Kostel**	**0.01**	**171**	*i* Pg		**Pg**	**03 52 12.9**		**+0.2**
NKC				*i* Sg		**Sg**	**03 52 13.9**		**0.0**
NKC	**Novy Kostel**	**0.01**	**171**	*e*Pg		**Pg**	**03 52 12.9**		**+0.2**
NKC				*e*Sg		**Sg**	**03 52 13.9**		**0.0**
NKC	**Novy Kostel**	**0.01**	**171**	Pg		**Pg**	**03 52 12.9**		**+0.2**
NKC				Sg		**Sg**	**03 52 13.8**		**0.0**
	6µm,0.2s								
WERN	**Wernitzgruen**	**0.06**	**314**	*i* Pg		**Pg**	**03 52 13.3**		**+0.3**
WERN				*i* Sg		**Sg**	**03 52 14.6**		**+0.1**
WERN				AML		AML	03 52 14.8		
	comp=N,3µm,0.1s								
WERN	**Wernitzgruen**	**0.06**	**314**	*e*Pg		**Pg**	**03 52 13.3**		**+0.3**
WERN				*e*Sg		**Sg**	**03 52 14.7**		**+0.1**
WERN	**Wernitzgruen**	**0.06**	**314**	Pg		**Pg**	**03 52 13.3**		**+0.3**
WERN				Sg		**Sg**	**03 52 14.7**		**+0.1**
ROHR	**Rohrbach**	**0.08**	**263**	*i* Pg		**Pg**	**03 52 13.5**		**+0.2**
ROHR				*i* Sg		**Sg**	**03 52 14.9**		**-0.1**
ROHR				AML		AML	03 52 15.0		
	comp=E,9µm,0.1s								
ROHR	**Rohrbach**	**0.08**	**263**	*e*Pg		**Pg**	**03 52 13.5**		**+0.2**
ROHR				*e*Sg		**Sg**	**03 52 14.9**		**-0.1**
ROHR	**Rohrbach**	**0.08**	**263**	Pg		**Pg**	**03 52 13.5**		**+0.2**
ROHR				Sg		**Sg**	**03 52 14.9**		**-0.1**
GUNZ	**Gunzen**	**0.14**	**329**	*i* Pg		**Pg**	**03 52 14.5**		**+0.4**
GUNZ				*i* Sg		**Sg**	**03 52 16.5**		**+0.2**
GUNZ				AML		AML	03 52 16.9		
	comp=E,1µm,0.2s								
GUNZ	**Gunzen**	**0.14**	**329**	*e*Pg		**Pg**	**03 52 14.5**		**+0.4**
GUNZ				*e*Sg		**Sg**	**03 52 16.5**		**+0.2**
GUNZ	**Gunzen**	**0.14**	**329**	Pg		**Pg**	**03 52 14.5**		**+0.4**
GUNZ				Sg		**Sg**	**03 52 16.5**		**+0.2**
MULD	**Muldenberg**	**0.17**	**351**	*i* Pg		**Pg**	**03 52 14.9**		**+0.3**
MULD				*i* Sg		**Sg**	**03 52 17.2**		**+0.1**
MULD				AML		AML	03 52 17.4		
	comp=E,2µm,0.1s								
MULD	**Muldenberg**	**0.17**	**351**	*e*Pg		**Pg**	**03 52 14.9**		**+0.3**
MULD				*e*Sg		**Sg**	**03 52 17.2**		**+0.1**
MULD	**Muldenberg**	**0.17**	**351**	Pg		**Pg**	**03 52 14.9**		**+0.3**
MULD				Sg		**Sg**	**03 52 17.2**		**+0.1**
TANN	**Tannenbergstha**	**0.17**	**3**	*i* Pg		**Pg**	**03 52 14.9**		**+0.3**
TANN				*i* Sg		**Sg**	**03 52 17.2**		**0.0**
TANN				AML		AML	03 52 17.6		
	comp=E,3µm,0.2s								
WERD	**Werda**	**0.22**	**336**	*i* Pg		**Pg**	**03 52 15.8**		**+0.3**
WERD				*e*Sg		**Sg**	**03 52 18.7**		**0.0**
WERD				AML		AML	03 52 19.7		
	comp=E,634nm,0.2s								
WERD	**Werda**	**0.22**	**336**	*e*Pg		**Pg**	**03 52 15.8**		**+0.3**
WERD				*e*Sg		**Sg**	**03 52 18.6**		**0.0**
WERD	**Werda**	**0.22**	**336**	Pg		**Pg**	**03 52 15.8**		**+0.3**
WERD				Sg		**Sg**	**03 52 18.6**		**0.0**
TRIB	**Obertriebel**	**0.23**	**299**	*i* Pg		**Pg**	**03 52 15.8**		**+0.3**
TRIB				*i* Sg		**Sg**	**03 52 18.9**		**+0.2**
TRIB				AML		AML	03 52 19.4		
	comp=E,793nm,0.1s								
PLN	**Plauen**	**0.30**	**323**	*i* Pg		**Pg**	**03 52 17.3**		**+0.4**
PLN				*e*Sg		**Sg**	**03 52 21.3**		**+0.3**
PLN				AML		AML	03 52 21.5		
	comp=E,571nm,0.2s								
PLN	**Plauen**	**0.30**	**323**	*i* Sg		**Pg**	**03 52 17.3**		**+0.4**
SCHF	**Schoenfels**	**0.43**	**356**	*i* Pg		**Pg**	**03 52 19.7**		**+0.3**
SCHF				*i* Sg		**Sg**	**03 52 25.5**		**+0.3**
SCHF				AML		AML	03 52 25.7		
	comp=E,3µm,0.1s								
SCHF	**Schoenfels**	**0.43**	**356**	*e*Pg		**Pg**	**03 52 19.7**		**+0.3**
SCHF				*e*Sg		**Sg**	**03 52 25.5**		**+0.3**
SCHF	**Schoenfels**	**0.43**	**356**	Pg		**Pg**	**03 52 19.7**		**+0.3**
SCHF				Sg		**Sg**	**03 52 25.5**		**+0.3**
ROTZ	**Rotzenmuhle**	**0.50**	**198**	*e*Pg		**Pg**	**03 52 20.9**		**+0.3**
ROTZ				*e*Sg		**Sg**	**03 52 27.5**		**+0.3**
ROTZ	**Rotzenmuhle**	**0.50**	**198**	Pg		**Pg**	**03 52 20.9**		**+0.3**
ROTZ				Sg		**Sg**	**03 52 27.5**		**+0.3**
MLFH	**Mildenfurth**	**0.59**	**337**	*i* Pg		**Pg**	**03 52 22.6**		**+0.2**
MLFH				*i* Sg		**Sg**	**03 52 30.2**		**0.0**
MOX	**Moxa**	**0.67**	**307**	*e*Pg		**Pg**	**03 52 23.9**		**+0.2**
MOX				*e*Sg		**Sg**	**03 52 32.5**		**+0.1**
MOX	**Moxa**	**0.67**	**307**	Pg		**Pg**	**03 52 23.9**		**+0.2**
MOX				Sg		**Sg**	**03 52 32.5**		**+0.1**
FBE	**Freiberg**	**0.89**	**40**	*e*Pg		**Pb**	**03 52 28.4**		**-0.1**
FBE				*e*Sg		**Sg**	**03 52 39.6**		**0.0**
FBE	**Freiberg**	**0.89**	**40**	Pg		**Pb**	**03 52 28.4**		**-0.1**
FBE				Sg		**Sg**	**03 52 39.6**		**0.0**
GRA1	**Grafenberg Arr**	**0.96**	**235**	Pg		**Pg**	**03 52 29.6**		**+0.2**
GRF	**Grafenberg Arr**	**0.96**	**235**	*e*Pg		**Pg**	**03 52 29.6**		**+0.2**
CLL	**Collm**	**1.12**	**18**	*e*Pg		**Pb**	**03 52 32.3**		**-0.1**
CLL				*e*Sg		**Sg**	**03 52 47.0**		**0.0**
CLL	**Collm**	**1.12**	**18**	Pg		**Pb**	**03 52 32.3**		**-0.1**
CLL				Sg		**Sg**	**03 52 47.0**		**0.0**
CLL	**Collm**	**1.12**	**18**	*i* Pg		**Pb**	**03 52 32.3**		**-0.1**
CLL				*i*			03 52 35.4		
CLL

comp=N,32µm,0.3s
NKC Novy Kostel 0.09 103 ǁ *i* Pg **Pg 03 52 30.8 +0.2**
NKC *i* Sg **Sg 03 52 31.8 -1.0**
NKC Novy Kostel 0.09 103 *e*Pg **Pg 03 52 30.8 +0.2**
NKC *e*Sg **Sg 03 52 31.9 -1.0**
NKC Novy Kostel 0.09 103 Pg **Pg 03 52 30.8 +0.2**
NKC Sg **Sg 03 52 31.8 -1.0**
comp=N,32µm,0.3s
GUNZ Gunzen 0.11 8 *i* Pg **Pb 03 52 32.4 +1.4**
GUNZ *i* Sg **Sb 03 52 34.4 +0.9**
GUNZ AML AML 03 52 35.2
comp=N,18µm,0.4s
GUNZ Gunzen 0.11 8 *e*Pg **Pb 03 52 32.4 +1.4**
GUNZ *e*Sg **Sb 03 52 34.5 +0.9**
GUNZ Gunzen 0.11 8 Pg **Pb 03 52 32.4 +1.4**
GUNZ Sg **Sb 03 52 34.5 +0.9**
TRIB Obertriebel 0.15 312 *i* Pg **Pb 03 52 33.8 +2.2**
TRIB *i* Sg **Sb 03 52 36.8 +2.3**
TRIB AML AML 03 52 37.4
comp=N,7µm,0.4s
TRIB Obertriebel 0.15 312 *e*Pg **Pb 03 52 33.8 +2.2**
TRIB *e*Sg **Sb 03 52 36.8 +2.3**
TRIB Obertriebel 0.15 312 Pg **Pb 03 52 33.8 +2.2**
TRIB Sg **Sb 03 52 36.8 +2.3**
MULD Muldenberg 0.17 21 *i* Pg **Pb 03 52 32.9 +0.8**
MULD *i* Sg **Sb 03 52 35.1 -0.1**
MULD AML AML 03 52 35.9
comp=N,31µm,0.3s
MULD Muldenberg 0.17 21 *e*Pg **Pb 03 52 32.9 +0.8**
MULD *e*Sg **Sb 03 52 35.1 -0.1**
MULD Muldenberg 0.17 21 Pg **Pb 03 52 32.9 +0.8**
MULD Sg **Sb 03 52 35.1 -0.1**
TANN Tannenbergstha 0.19 32 *i* Pg **Pb 03 52 32.8 +0.5**
TANN *i* Sg **Sg 03 52 35.1 +0.1**
TANN AML AML 03 52 35.9
comp=N,31µm,0.3s
WERD Werda 0.19 360 *i* Pg **Pb 03 52 33.8 +1.3**
WERD *i* Sg **Sb 03 52 36.7 +0.8**
WERD AML AML 03 52 37.3
comp=N,6µm,0.2s
WERD Werda 0.19 360 *e*Pg **Pb 03 52 33.8 +1.3**
WERD *e*Sg **Sb 03 52 36.6 +0.7**
WERD Werda 0.19 360 Pg **Pb 03 52 33.8 +1.3**
WERD Sg **Sb 03 52 36.6 +0.7**
PLN Plauen 0.25 338 *i* Pg **Pn 03 52 35.3 -1.0**
PLN *e*Sg **Sb 03 52 39.3 +1.7**
PLN AML AML 03 52 39.8
comp=E,6µm,0.2s
PLN Plauen 0.25 338 *e*Pg **Pn 03 52 35.3 -1.0**
PLN *e*Sg **Sb 03 52 39.0 +1.4**
PLN Plauen 0.25 338 Pg **Pn 03 52 35.3 -1.0**
PLN Sg **Sb 03 52 39.0 +1.4**
SCHF Schoenfels 0.43 8 *i* Pg **Pn 03 52 37.8 -1.0**
SCHF *i* Sg **Sb 03 52 43.4 +0.8**
SCHF AML AML 03 52 43.6
comp=E,34µm,0.2s
SCHF Schoenfels 0.43 8 *e*Pg **Pn 03 52 37.7 -1.0**
SCHF *e*Sg **Sb 03 52 43.3 +0.6**
SCHF Schoenfels 0.43 8 Pg **Pn 03 52 37.7 -1.0**
SCHF Sg **Sb 03 52 43.3 +0.6**
ROTZ Rotzenmuhle 0.49 188 *e*Pg **Pn 03 52 39.0 -0.6**
ROTZ *e*Sg **Sb 03 52 45.5 +1.1**
ROTZ Rotzenmuhle 0.49 188 Pg **Pn 03 52 39.0 -0.6**
MLFH Mildenfurth 0.56 345 *i* Pg **Pn 03 52 40.5 0.0**
MLFH *i* Sg **Sn 03 52 48.2 -1.2**
MOX Moxa 0.59 312 *e*Pg **Pn 03 52 42.0 +1.0**
MOX *e*Sg **Sn 03 52 50.4 +0.1**
MOX Moxa 0.59 312 Pg **Pn 03 52 42.0 +1.0**
MOX Sg **Sn 03 52 50.4 +0.1**
GRA1 Grafenberg Arr 0.90 232 Pg **Pn 03 52 47.8 +2.6**
GRA1 Sg **Sn 03 53 00.3 +2.5**
GRF Grafenberg Arr 0.90 232 *e*Pg **Pn 03 52 47.8 +2.6**
GRF *e*Sg **Sn 03 53 00.3 +2.5**
GRFO Grafenberg 0.90 232 *e*Pg **Pn 03 52 47.1 +1.9**
GRFO *e*Sg **Sn 03 53 01.9 +4.0**
GRFO Grafenberg 0.90 232 *e*Pg **Pn 03 52 47.1 +1.9**
GRFO *e*Sg **Sn 03 53 01.9 +4.0**
FBE Freiberg 0.94 45 *e*Pg **Pn 03 52 46.4 +0.6**
FBE *e*Sg **Sb 03 52 57.6 +0.1**
FBE Freiberg 0.94 45 Pg **Pn 03 52 46.4 +0.6**
FBE Sg **Sb 03 52 57.6 +0.1**
CLL Collm 1.14 22 *e*Pg **Pg 03 52 50.4 +1.1**
CLL *e*Sg **Sg 03 53 04.7 +0.4**
CLL Collm 1.14 22 Pg **Pg 03 52 50.4 +1.1**
CLL Sg **Sg 03 53 04.7 +0.4**
CLL Collm 1.14 22 *i* Pg **Pg 03 52 50.3 +1.0**
CLL *i* 03 52 53.4
CLL *i* 03 52 54.7
CLL *i* Sg **Sg 03 53 04.9 +0.6**
comp=Z,1µm,0.6s
CLL *i* 03 53 09.0
WET Wettzell 1.17 161 ǁ *e*SG **Sg 03 53 05.4 +0.3**
WET Wettzell 1.17 161 *e*Sg **Sg 03 53 05.1 0.0**
WET Wettzell 1.17 161 Sg **Sg 03 53 05.1 0.0**
BRG Berggiesshubel 1.21 59 PG **Pg 03 52 50.6 0.0**
BRG SG **Sn 03 53 05.8 +0.2**
comp=Z,2µm,0.3s
BRG Berggiesshubel 1.21 59 *e*Pg **Pg 03 52 50.9 +0.3**
BRG *e*Sg **Sn 03 53 05.9 +0.2**
BRG Berggiesshubel 1.21 59 Pg **Pg 03 52 50.9 +0.3**
BRG Sg **Sn 03 53 05.9 +0.3**
PRA Prague 1.38 97 ǁ *e*SG **Sn 03 53 09.5 -0.2**
comp=Z,1µm,0.6s
PRA Prague 1.38 97 Sg **Sn 03 53 09.5 -0.2**
comp=Z,1µm,0.6s
KHC Kasperske Hory 1.40 143 ǁ *e*PG **Pb 03 52 53.2 +0.3**
KHC *e*SG **Sn 03 53 09.8 -0.3**
comp=Z,168nm,0.3s
KHC Kasperske Hory 1.40 143 Pg **Pb 03 52 53.2 +0.3**
KHC Sg **Sn 03 53 09.8 -0.3**
comp=Z,168nm,0.3s
KHC Kasperske Hory 1.40 143 *e*Pg **Pb 03 52 53.2 +0.3**
KHC *e*Sg **Sn 03 53 09.3 -0.8**
PRU Pruhonice 1.46 100 ǁ *e*PG **Pg 03 52 54.9 -0.5**
PRU *e*SG **Sn 03 53 11.7 0.0**
comp=Z,504nm,0.4s
PRU Pruhonice 1.46 100 Pg **Pg 03 52 54.9 -0.5**
PRU Sg **Sn 03 53 11.7 0.0**
comp=Z,504nm,0.4s
PVCC Panska Ves 1.47 78 ǁ *e*PG **Pg 03 52 55.5 -0.1**
PVCC *e*SG **Sb 03 53 13.7 +1.0**
comp=Z,1µm,0.4s
PVCC Panska Ves 1.47 78 Sg **Sb 03 53 13.7 +1.0**
comp=Z,1µm,0.4s
GOPC GO Pecny, Ondr 1.63 101 *e*SG **Sn 03 53 16.7 +0.7**
comp=Z,629nm,0.5s
GOPC GO Pecny, Ondr 1.63 101 Sg **Sn 03 53 16.7 +0.7**
comp=Z,629nm,0.5s
GERES GERESS Array B 1.68 147 Pg **Pb 03 52 57.7 -0.1**
comp=Z,41nm,0.3s,baz=331,slow=19,SNR=54
GERES Lg Lg 03 53 19.0
comp=Z,40nm,0.3s,baz=326,slow=30,SNR=11
TREC Trest 2.27 114 ǁ *e*PN **Pb 03 53 06.5 -1.4**
TREC *e*PG **Pb 03 53 08.9 +1.0**
TREC *e*SG **Sb 03 53 36.5 +0.8**
comp=Z,257nm,0.5s
TREC Trest 2.27 114 Pg **Pb 03 53 08.9 +1.0**
TREC Sg **Sb 03 53 36.5 +0.8**
comp=Z,257nm,0.5s
TOD Tromm 2.35 255 P **Pb 03 53 09.2 0.0**
TOD S **Sg 03 53 41.6 -1.3**
UPC Upice 2.39 82 ǁ *e*PG **Pb 03 53 11.3 +1.5**
UPC *e*SG **Sb 03 53 40.1 +1.2**
comp=Z,626nm,0.6s
UPC Upice 2.39 82 Pg **Pb 03 53 11.3 +1.5**
UPC Sg **Sb 03 53 40.1 +1.2**
comp=Z,626nm,0.6s
STU Stuttgart 2.51 235 *e*Pg **Pg 03 53 17.0 +1.6**
STU *e*Sg **Sg 03 53 49.9 +2.0**
STU Stuttgart 2.51 235 *e*Pg **Pg 03 53 17.0 +1.6**
STU *e*Sg **Sg 03 53 49.9 +2.0**
DPC Dobruska-Polom 2.58 86 *e*PG **Pb 03 53 14.2 +1.2**
DPC *e*SG **Sb 03 53 46.3 +1.8**
comp=Z,267nm,0.4s
DPC Dobruska-Polom 2.58 86 Pg **Pb 03 53 14.2 +1.2**
DPC Sg **Sb 03 53 46.3 +1.8**
comp=Z,267nm,0.4s
KSP Ksiaz 2.61 75 *e*Pg **Pb 03 53 15.4 +1.8**
KSP *e*Pg **Pg 03 53 15.8 -1.4**
KSP *e*Sg **Sb 03 53 48.2 +2.8**
KSP *e*Sg **Sg 03 53 48.5 -2.6**
KSP Ksiaz 2.61 75 *e*Pg **Pb 03 53 15.4 +1.8**
KSP Ksiaz 2.61 75 *e*Pb **Pg 03 53 15.8 -1.4**
KSP *e*Sg **Sg 03 53 48.5 -2.6**
MOA Molln 2.73 151 *i* Pg **Pb 03 53 14.2 -1.4**
comp=Z,2.3nm,0.1s
MOA Sg **Sg 03 53 53.8 -1.1**
comp=Z,36nm,0.3s
MOA Molln 2.73 151 Pg **Pb 03 53 14.2 -1.4**
comp=Z,2.3nm,0.1s
MOA Sg **Sg 03 53 53.8 -1.1**
comp=Z,36nm,0.3s
KRLC Kraliky 2.88 92 ǁ *e*PG **Pb 03 53 20.1 +1.8**
KRLC *e*SG **Sb 03 53 56.4 +3.1**
KRLC Kraliky 2.88 92 Pg **Pb 03 53 20.1 +1.8**
KRLC Sg **Sb 03 53 56.4 +3.1**
KTD Kalmit 2.89 253 P **Pb 03 53 16.6 -1.8**
KTD S **Sb 03 53 56.0 +2.5**
KRUC Moravsky 2.91 113 *e*Pn **Pn 03 53 14.0 +1.2**
KRUC *e*Sg **Sb 03 53 57.0 +2.9**
comp=Z,447nm,0.8s
VRAC Vranov 2.94 107 Pn **Pn 03 53 13.8 +0.7**
comp=Z,2.4nm,0.3s,baz=292,slow=16,SNR=9.7
VRAC Lg Lg 03 53 54.8
comp=Z,51nm,0.3s,baz=240,slow=12,SNR=19
VRAC Vranov 2.94 107 *e*Pn **Pn 03 53 14.3 +1.1**
VRAC *e*Sg **Sb 03 53 58.1 +3.4**
comp=Z,434nm,0.7s
KOE Koeppel 2.94 275 *e*Pn **Pb 03 53 19.3 +0.2**
KOE Koeppel 2.94 275 Pn **Pb 03 53 19.3 +0.2**
RETA Reutte 2.95 201 *e*Pg **Pg 03 53 25.6 +1.9**
comp=Z,10nm,0.2s,SNR=7.4
RETA *e*Sg **Sg 03 54 05.1 +3.1**
comp=Z,227nm,0.6s
RETA Reutte 2.95 201 Pg **Pg 03 53 25.6 +1.9**
comp=Z,10nm,0.2s,SNR=7.4
RETA Sg **Sg 03 54 05.1 +3.1**
comp=Z,227nm,0.6s
WATA Walderalm 2.96 190 *i* Pg **Pb 03 53 16.8 -2.8**
comp=Z,2.9nm,0.1s
WATA Sg **Sg 03 54 02.4 +0.1**
comp=Z,4.3nm,0.1s
MOTA Moosalm 3.02 196 *e*Pg **Pg 03 53 23.9 -1.1**
comp=Z,4.0nm,0.2s,SNR=8.9
MOTA Sg **Sg 03 54 06.6 +2.5**
comp=Z,160nm,0.6s
MOTA Moosalm 3.02 196 Pg **Pg 03 53 23.9 -1.1**
comp=Z,4.0nm,0.2s,SNR=8.9
MOTA Sg **Sg 03 54 06.6 +2.5**
comp=Z,160nm,0.6s
WTTA Wattenberg 3.02 189 *e*Pg **Pg 03 53 26.1 +0.9**
comp=Z,6.8nm,0.3s,SNR=7.7
WTTA Sg **Sg 03 54 06.0 +1.6**
comp=Z,41nm,0.3s
WTTA Wattenberg 3.02 189 Pg **Pg 03 53 26.1 +0.9**
comp=Z,6.8nm,0.3s,SNR=7.7
WTTA Sg **Sg 03 54 06.0 +1.6**
comp=Z,41nm,0.3s
SPAK Spaichingen-Ko 3.16 228 P **Pb 03 53 20.4 -2.6**
SPAK S **Sb 03 54 01.3 +0.1**
BGG Burgeitz 3.19 271 *e*Pn **Pb 03 53 22.6 -0.9**
BGG *e*Sn **Sb 03 54 01.2 -0.9**
comp=Z,124nm,1.0s
BGG Burgeitz 3.19 271 Pn **Pb 03 53 22.6 -0.9**
BGG Sn **Sb 03 54 01.2 -0.9**
comp=Z,124nm,1.0s
BFO Black Forest 3.24 235 *e*Pn **Pb 03 53 21.8 -2.5**
BFO Black Forest 3.24 235 *e*Pg **Pg 03 53 30.5 +1.3**
BFO Black Forest 3.24 235 *e*Pn **Pb 03 53 21.8 -2.5**
BFO *e*Pg **Pg 03 53 30.5 +1.3**
BFO *e*Sn **Sb 03 54 00.7 -2.8**
BFO *e*Sg **Sg 03 54 13.1 +1.9**
HOBG Hohbusch 3.25 285 *e*Pn **Pb 03 53 23.3 -1.2**
HOBG Hohbusch 3.25 285 Pn **Pb 03 53 23.3 -1.2**
KBA Koelnbreinsper 3.25 167 *i* Pn **Pn 03 53 20.8 +3.1**
comp=Z,9.2nm,0.5s,SNR=6.1
KBA Sg **Sg 03 54 10.3 -1.3**
comp=Z,110nm,0.7s
KBA Koelnbreinsper 3.25 167 Pn **Pn 03 53 20.8 +3.1**
comp=Z,9.2nm,0.5s,SNR=6.1
KBA Sg **Sg 03 54 10.3 -1.3**
comp=Z,110nm,0.7s
CONA Conrad Observa 3.30 134 *e*Pg **Pg 03 53 28.6 -1.8**
comp=Z,34nm,0.5s,SNR=12
CONA Sg **Sb 03 54 07.9 +2.6**
comp=Z,15nm,0.2s
CONA Conrad Observa 3.30 134 Pg **Pg 03 53 28.6 -1.8**
comp=Z,34nm,0.5s,SNR=12
CONA Sg **Sb 03 54 07.9 +2.6**
comp=Z,15nm,0.2s
DAVA Damuels 3.38 209 *i* Pn **Pb 03 53 24.3 -2.4**
DAVA Sg **Sb 03 54 11.1 +3.6**
comp=Z,63nm,0.5s
DAVA Damuels 3.38 209 Pn **Pb 03 53 24.3 -2.4**
DAVA Sg **Sb 03 54 11.1 +3.6**
comp=Z,63nm,0.5s
FETA Feichten 3.40 199 *e*Pn **Pn 03 53 22.7 +3.0**
comp=Z,0.8nm,0.2s
FETA Sg **Sg 03 54 18.6 +2.2**
comp=Z,60nm,0.6s
FETA Feichten 3.40 199 Pn **Pn 03 53 22.7 +3.0**
comp=Z,0.8nm,0.2s
FETA Sg **Sg 03 54 18.6 +2.2**
comp=Z,60nm,0.6s
MORC Moravsky Berou 3.41 96 *e*Pn **Pn 03 53 20.5 +0.7**
MORC Moravsky Berou 3.41 96 *e*Pg **Pg 03 53 30.7 -1.8**
MORC *e*Sg **Sg 03 54 12.9 -3.8**
MORC Moravsky Berou 3.41 96 *e*Pn **Pn 03 53 20.5 +0.7**
MORC *e*Pg **Pg 03 53 30.7 -1.8**
MORC *e*Sg **Sb 03 54 11.0 +2.5**
RUP Ruppelstein 3.43 263 P **Pb 03 53 24.4 -3.2**
RUP S **Sb 03 54 09.5 +0.4**
ABTA Abfaltersbach 3.51 178 *i* Pn **Pb 03 53 25.8 -3.2**
comp=Z,0.9nm,0.2s,SNR=7.0
ABTA Sg **Sg 03 54 21.4 +1.4**
comp=Z,449nm,0.9s
ABTA Abfaltersbach 3.51 178 Pn **Pb 03 53 25.8 -3.2**
comp=Z,0.9nm,0.2s,SNR=7.0
ABTA Sg **Sg 03 54 21.4 +1.4**
comp=Z,449nm,0.9s
STB Steinbach 3.51 278 *e*Pn **Pb 03 53 27.0 -1.9**
STB Steinbach 3.51 278 Pn **Pb 03 53 27.0 -1.9**
LAUG Laupendahl 3.58 290 *e*Pn **Pb 03 53 27.8 -2.2**
LAUG Laupendahl 3.58 290 Pn **Pb 03 53 27.8 -2.2**
HILG Hillesheim 3.61 273 *e*Pn **Pb 03 53 28.4 -2.2**
HILG Hillesheim 3.61 273 Pn **Pb 03 53 28.4 -2.2**
ARSA Arzberg 3.68 143 *i* Pn **Pn 03 53 26.4 +2.9**
comp=Z,16nm,0.5s,SNR=5.7
ARSA Sn **Sn 03 54 05.5 -1.0**
comp=Z,14nm,0.7s
ARSA Arzberg 3.68 143 Pn **Pn 03 53 26.4 +2.9**
comp=Z,16nm,0.5s,SNR=5.7
ARSA Sn **Sn 03 54 05.5 -1.0**
comp=Z,14nm,0.7s
FELD Feldberg im Sc 3.70 232 P **Pn 03 53 27.2 +3.4**
FELD S **Sb 03 54 15.6 -1.2**
MYKA Terra Mystica 3.73 166 *i* Pn **Pn 03 53 26.5 +2.3**
comp=Z,1.7nm,0.3s
MYKA Sg **Sg 03 54 27.1 0.0**
comp=Z,43nm,0.6s
MYKA Terra Mystica 3.73 166 Pn **Pn 03 53 26.5 +2.3**
comp=Z,1.7nm,0.3s
MYKA Sg **Sg 03 54 27.1 0.0**
comp=Z,43nm,0.6s
CDF Champ du Feu 3.77 243 *e*Pn **Pn 03 53 26.2 +1.5**
SNR=1.0
CDF Champ du Feu 3.77 243 *e*Pg **Pg 03 53 40.3 +0.9**
CDF *e*Sg **Sg 03 54 29.9 +1.6**
comp=Z,215nm,0.7s,SNR=1.0
CDF Champ du Feu 3.77 243 *e*Pn **Pn 03 53 26.2 +1.5**
SNR=1.0
CDF Champ du Feu 3.77 243 *e*Pg **Pg 03 53 40.3 +0.9**
CDF *e*Sg **Sg 03 54 29.9 +1.6**
comp=Z,107nm,0.7s,SNR=1.0
CDF Champ du Feu 3.77 243 *e*Pn **Pn 03 53 26.2 +1.5**
CDF *e*Pg **Pg 03 53 40.3 +0.9**
CDF *e*Sg **Sg 03 54 29.9 +1.6**
SMOL Smolenice 3.77 116 *e*Pg **Pg 03 53 37.7 -1.7**
SMOL *e*Sg **Sg 03 54 24.9 -3.4**
SMOL Smolenice 3.77 116 *e*PG **Pg 03 53 37.7 -1.7**
SMOL *e*SG **Sg 03 54 24.9 -3.4**
OKC Ostrava-Krasne 3.79 94 ǁ *e*SG **Sb 03 54 22.2 +3.0**
comp=Z,345nm,0.8s
RAC Raciborz 3.79 90 *e*Pg **Pg 03 53 38.1 -1.7**
RAC *e*Sg **Sg 03 54 25.3 -3.5**
DAVOX Davos/Dischmat 3.83 206 Pn **Pn 03 53 25.4 -0.2**
baz=11,slow=17
DAVOX Pg **Pg 03 53 42.6 +2.0**
comp=Z,1.7nm,0.3s,baz=16,slow=12,SNR=28
DAVOX Lg Lg 03 54 33.1
comp=Z,4.4nm,0.3s,baz=211,slow=23,SNR=7.2
KLL Kalltalsperre 3.85 278 *e*Pn **Pb 03 53 31.0 -3.7**
KLL Kalltalsperre 3.85 278 Pn **Pb 03 53 31.0 -3.7**
WTSB Winterswijk 3.87 298 *e*Pn **Pb 03 53 32.3 -2.7**
WTSB *e*Sn **Sg 03 54 31.9 +0.5**
ECH Echery 3.94 241 P **Pn 03 53 31.2 +4.2**
ECH S **Sb 03 54 21.6 -2.1**
ECH Echery 3.94 241 P **Pn 03 53 31.2 +4.2**
ECH S **Sb 03 54 21.6 -2.1**
SOKA Soboth 4.01 152 *i* Pn **Pn 03 53 26.2 -1.8**
comp=Z,1.7nm,0.3s
SOKA Sn **Sn 03 54 18.5 +3.8**
comp=Z,5.5nm,0.4s
SOKA Soboth 4.01 152 Pn **Pn 03 53 26.2 -1.8**
comp=Z,1.7nm,0.3s
SOKA Sn **Sn 03 54 18.5 +3.8**
comp=Z,5.5nm,0.4s
WLF Walferdange 4.02 264 *e*Pn **Pn 03 53 32.2 +4.2**
WLF Walferdange 4.02 264 *e*Pg **Pg 03 53 46.3 +2.2**
WLF Walferdange 4.02 264 *e*Pn **Pn 03 53 32.2 +4.2**
WLF *e*Pg **Pg 03 53 46.3 +2.2**
WLF *e*Sn **Sb 03 54 21.6 -4.3**
WLF *e*Sg **Sg 03 54 37.2 +1.1**
OBKA Obir 4.03 157 *i* Pn **Pn 03 53 31.7 +3.4**
comp=Z,6.9nm,0.6s,SNR=7.6
OBKA Sg **Sb 03 54 31.1 +4.6**
comp=Z,112nm,0.8s
OBKA Obir 4.03 157 Pn **Pn 03 53 31.7 +3.4**
comp=Z,6.9nm,0.6s,SNR=7.6
OBKA Sg **Sb 03 54 31.1 +4.6**
comp=Z,112nm,0.8s
PERS Pernice 4.08 152 *i* Pn **Pn 03 53 30.9 +2.0**
PERS Pernice 4.08 152 Pn **Pn 03 53 30.9 +2.0**
HGN Heimansgroeve 4.10 280 *e*Pn **Pb 03 53 36.2 -2.8**
HGN *e*Sn **Sb 03 54 31.6 +3.3**
HGN Heimansgroeve 4.10 280 *e*Pn **Pb 03 53 36.2 -2.8**
MOF Molkenrain 4.17 237 P **Pn 03 53 34.5 +4.3**
MOF S **Sb 03 54 27.3 -2.9**
MOF Molkenrain 4.17 237 P **Pn 03 53 34.5 +4.3**
MOF S **Sb 03 54 27.3 -2.9**
TUE Stuetta 4.27 209 *e*Pn **Pn 03 53 33.5 +1.8**
TUE *e*Sg **Sg 03 54 43.1 -1.1**
TUE Stuetta 4.27 209 *e*Pn **Pn 03 53 33.5 +1.8**
TUE *e*Sg **Sg 03 54 43.1 -1.1**
GKP Gorka Klasztor 4.30 43 *e*Pg **Pn 03 53 33.5 +1.6**
GKP *e*Sg **Sn 03 54 23.1 +1.4**
HINF Hinteralfeld 4.34 238 *e*Pn **Pn 03 53 34.2 +1.7**
SNR=1.0
HINF Hinteralfeld 4.34 238 *e*Pg **Pg 03 53 50.3 0.0**
HINF *e*Sn **Sn 03 54 17.8 -4.9**
SNR=1.0
HINF *e*Sg **Sg 03 54 46.0 -0.4**
comp=Z,135nm,0.6s,SNR=1.0
HINF Hinteralfeld 4.34 238 *e*Pn **Pn 03 53 34.2 +1.7**
SNR=1.0
HINF Hinteralfeld 4.34 238 *e*Pg **Pg 03 53 50.3 0.0**
HINF *e*Sn **Sn 03 54 17.8 -4.9**
SNR=1.0
HINF *e*Sg **Sg 03 54 46.0 -0.4**
comp=Z,68nm,0.6s,SNR=1.0
HINF Hinteralfeld 4.34 238 *e*Pn **Pn 03 53 34.2 +1.7**
HINF *e*Pg **Pg 03 53 50.3 0.0**
HINF *e*Sn **Sn 03 54 17.8 -4.9**
HINF *e*Sg **Sg 03 54 46.0 -0.4**
GROS Grobnik 4.35 149 *i* Pn **Pn 03 53 35.0 +2.3**
GROS Grobnik 4.35 149 *i* Pn **Pn 03 53 35.0 +2.3**
HAU Haudompre 4.51 242 *e*Pg **Pg 03 53 54.3 +0.7**
HAU *e*Sn **Sn 03 54 28.3 +1.3**
SNR=1.0
HAU *e*Sg **Sg 03 54 52.3 +0.3**
comp=Z,154nm,0.5s,SNR=1.0
HAU Haudompre 4.51 242 *e*Pg **Pg 03 53 54.3 +0.7**
HAU *e*Sn **Sn 03 54 28.3 +1.3**
SNR=1.0
HAU *e*Sg **Sg 03 54 52.3 +0.3**
comp=Z,77nm,0.5s,SNR=1.0
HAU Haudompre 4.51 242 *e*Pg **Pg 03 53 54.3 +0.7**
HAU *e*Sn **Sn 03 54 28.3 +1.3**
HAU *e*Sg **Sg 03 54 52.3 +0.3**
THEF They Montfort 4.61 246 P **Pn 03 53 40.2 +4.0**
THEF S **Sb 03 54 39.3 -3.6**
THEF They Montfort 4.61 246 P **Pn 03 53 40.2 +4.0**
VYHS Vyhne 4.62 110 *e*Pn **Pn 03 53 36.8 +0.5**
VYHS Vyhne 4.62 110 *e*PN **Pn 03 53 36.8 +0.5**
VYHS *e*SG **Sb 03 54 42.8 -0.3**
VYHS *e*LG Lg 03 55 02.0
DOBS Dobrina 4.62 152 *i* Pn **Pn 03 53 38.4 +2.1**
DOBS Dobrina 4.62 152 *i* Pn **Pn 03 53 38.4 +2.1**
PAGF Fort de Pagny 4.62 251 *e*Pg **Pg 03 53 56.0 +0.3**
baz=46
PAGF *e*Sg **Sg 03 54 56.2 +0.7**
comp=Z,86nm,0.9s
PAGF Fort de Pagny 4.62 251 *e*Pg **Pg 03 53 56.0 +0.3**
PAGF *e*Sg **Sg 03 54 56.2 +0.7**
comp=Z,43nm,0.9s
PAGF Fort de Pagny 4.62 251 *e*Pg **Pg 03 53 56.0 +0.3**
PAGF *e*Sg **Sg 03 54 56.2 +0.7**
KOGS Kog 4.63 144 *i* Pn **Pn 03 53 38.8 +2.4**
KOGS Kog 4.63 144 *i* Pn **Pn 03 53 38.8 +2.4**
LOMF Lomont 4.64 233 P **Pn 03 53 40.3 +3.6**
LOMF S **Sb 03 54 39.9 -4.0**
LOMF Lomont 4.64 233 P **Pn 03 53 40.3 +3.6**
LOMF S **Sb 03 54 39.9 -4.0**
TRI Trieste 4.65 167 *e*Pn **Pn 03 53 39.2 +2.5**
TRI *e*Sn **Sn 03 54 32.4 +2.1**
TRI Trieste 4.65 167 *e*Pn **Pn 03 53 39.2 +2.5**
TRI *e*Sn **Sn 03 54 32.4 +2.1**
LANS Liptovska Anna 4.78 101 *e*Pn **Pn 03 53 40.3 +1.8**
LANS *e*Sg **Sg 03 54 56.2 -4.3**
LANS Liptovska Anna 4.78 101 *e*PN **Pn 03 53 40.3 +1.8**
LANS *e*PG Pg 03 54 04.8 -6.2
LANS *e*SG **Sg 03 54 56.1 -4.4**
GIVF Givet 4.81 271 *e*Pg **Pg 03 53 59.5 +0.2**
GIVF *e*Sg **Sg 03 54 59.5 -2.1**
comp=Z,155nm,0.7s,SNR=1.0
GIVF Givet 4.81 271 *e*Pg **Pg 03 53 59.5 +0.2**
GIVF *e*Sg **Sg 03 54 59.5 -2.1**
comp=Z,77nm,0.7s,SNR=1.0
GIVF Givet 4.81 271 *e*Pg **Pg 03 53 59.5 +0.2**
GIVF *e*Sg **Sg 03 54 59.5 -2.1**
BEHE Becsehely 4.82 140 ǁ *e*P **Pn 03 53 42.1 +3.1**
BEHE *ex* x 03 55 01.7
MEZF Maizieres J'vi 5.05 252 *e*Pg **Pg 03 54 04.0 +0.1**
baz=46
MEZF *e*Sg **Sg 03 55 08.5 -0.8**
comp=Z,72nm,0.6s,SNR=1.0
MEZF Maizieres J'vi 5.05 252 *e*Pg **Pg 03 54 04.0 +0.1**
MEZF *e*Sg **Sg 03 55 08.5 -0.8**
comp=Z,36nm,0.6s,SNR=1.0
MEZF Maizieres J'vi 5.05 252 *e*Pg **Pg 03 54 04.0 +0.1**
MEZF *e*Sg **Sg 03 55 08.5 -0.8**
BSD Bornholm Skovb 5.12 17 *i* P **Pn 03 53 43.6 +0.5**
BSD *i* S **Sn 03 54 39.2 -2.6**
BSD Bornholm Skovb 5.12 17 *i* P **Pn 03 53 43.6 +0.5**
SNR=49
BSD *i* S **Sn 03 54 39.2 -2.6**
SFTF Sexfontaines 5.18 249 *e*Pg **Pg 03 54 06.4 0.0**
baz=67
SFTF *e*Sg **Sg 03 55 14.1 +0.6**
comp=Z,147nm,0.8s
SFTF Sexfontaines 5.18 249 *e*Pg **Pg 03 54 06.4 0.0**
SFTF *e*Sg **Sg 03 55 14.1 +0.6**
comp=Z,73nm,0.8s
SFTF Sexfontaines 5.18 249 *e*Pg **Pg 03 54 06.4 0.0**
SFTF *e*Sg **Sg 03 55 14.1 +0.6**
BAIF Baives 5.21 271 *e*Pn **Pn 03 53 48.7 +4.3**
SNR=1.0
BAIF *e*Sn **Sn 03 54 39.9 -4.2**
SNR=1.0
BAIF *e*Sg **Sg 03 55 14.0 -0.3**
comp=Z,54nm,0.6s,SNR=1.0
BAIF Baives 5.21 271 *e*Pn **Pn 03 53 48.7 +4.3**
SNR=1.0
BAIF *e*Sn **Sn 03 54 39.9 -4.2**
SNR=1.0
BAIF *e*Sg **Sg 03 55 14.0 -0.3**
comp=Z,27nm,0.6s,SNR=1.0
BAIF Baives 5.21 271 *e*Pn **Pn 03 53 48.7 +4.3**
BAIF *e*Sn **Sn 03 54 39.9 -4.2**
BAIF *e*Sg **Sg 03 55 14.0 -0.3**

BUD	**Budapest**	**5.23**	**119**	⇓*e*P		**Pn**	**03 53 46.4**	**+1.8**
BUD				*e*S		**Sn**	**03 54 48.7**	**+4.2**
BUD	**Budapest**	**5.23**	**119**	⇓*e*P		**Pn**	**03 53 46.4**	**+1.8**
BUD				*ex*		x	03 54 48.7	
LUNU	**Lund**	**5.43**	**7**	S		**Sn**	**03 54 46.8**	**-2.7**
LUNU	**Lund**	**5.43**	**7**	S		**Sn**	**03 54 46.8**	**-2.7**
PSZ	**Piszkesteto**	**5.50**	**112**	*e*Pn		**Pn**	**03 53 49.7**	**+1.1**
	comp=Z,6.7nm,0.7s							
PSZ	**Piszkesteto**	**5.50**	**112**	⇑*e*P		**Pn**	**03 53 50.0**	**+1.5**
PSZ				*e*S		**Sn**	**03 54 48.6**	**-2.9**
PSZ	**Piszkesteto**	**5.50**	**112**	⇑*ex*		**Pn**	**03 53 50.0**	**+1.5**
PSZ				*e*Sn		**Sn**	**03 54 48.6**	**-2.9**
PSZ	**Piszkesteto**	**5.50**	**112**	*e*Pn		**Pn**	**03 53 49.6**	**+1.1**
	comp=Z,6.7nm,0.7s							
CABF	**La Chapelle**	**5.51**	**231**	*e*Pn		**Pn**	**03 53 49.5**	**+0.8**
	SNR=1.0							
CABF	**La Chapelle**	**5.51**	**231**	*e*Pg		**Pg**	**03 54 12.7**	**-0.1**
CABF				*e*Sg		**Sg**	**03 55 23.4**	**-0.7**
	comp=Z,99nm,0.6s							
CABF	**La Chapelle**	**5.51**	**231**	*e*Pn		**Pn**	**03 53 49.5**	**+0.8**
	SNR=1.0							
CABF	**La Chapelle**	**5.51**	**231**	*e*Pg		**Pg**	**03 54 12.7**	**-0.1**
CABF				*e*Sg		**Sg**	**03 55 23.4**	**-0.7**
	comp=Z,50nm,0.6s							
CABF	**La Chapelle**	**5.51**	**231**	*e*Pn		**Pn**	**03 53 49.5**	**+0.8**
CABF				*e*Pg		**Pg**	**03 54 12.7**	**-0.1**
CABF				*e*Sg		**Sg**	**03 55 23.4**	**-0.7**
KECS	**Kecovo**	**5.63**	**105**	*e*Pn		**Pn**	**03 53 51.6**	**+1.4**
KECS	**Kecovo**	**5.63**	**105**	*e*PN		**Pn**	**03 53 51.6**	**+1.4**
KECS				*e*SG		**Sb**	**03 55 09.7**	**-2.5**
KECS				*e*LG		Lg	03 55 39.0	
STHS	**Stebnicka Huta**	**5.84**	**95**	*e*Pn		**Pn**	**03 53 55.3**	**+2.2**
STHS	**Stebnicka Huta**	**5.84**	**95**	*e*PN		**Pn**	**03 53 55.3**	**+2.2**
STHS				*e*PG		**Pg**	**03 54 18.6**	**-0.4**
STHS				*e*SG		**Sg**	**03 55 28.8**	**-5.8**
STHS				*e*LG		Lg	03 55 43.6	
BJUU	**Bjuv**	**5.85**	**4**	S		**Sn**	**03 54 57.0**	**-2.7**
BJUU	**Bjuv**	**5.85**	**4**	S		**Sn**	**03 54 57.0**	**-2.7**
LPL	**La Plagne**	**6.04**	**220**	*e*Pg		**Pg**	**03 54 22.5**	**-0.3**
LPL	**La Plagne**	**6.04**	**220**	*e*Pg		**Pg**	**03 54 22.5**	**-0.3**
LPL	**La Plagne**	**6.04**	**220**	*e*Pg		**Pg**	**03 54 22.5**	**-0.3**
LPG	**La Plagne**	**6.05**	**220**	*e*Pn		**Pn**	**03 53 58.7**	**+2.5**
	SNR=1.0							
LPG	**La Plagne**	**6.05**	**220**	*e*Pg		**Pg**	**03 54 23.6**	**+0.6**
LPG				*e*Sg		**Sg**	**03 55 41.3**	**0.0**
	comp=Z,68nm,0.9s							
LPG	**La Plagne**	**6.05**	**220**	*e*Pn		**Pn**	**03 53 58.7**	**+2.5**
	SNR=1.0							
LPG	**La Plagne**	**6.05**	**220**	*e*Pg		**Pg**	**03 54 23.6**	**+0.6**
LPG				*e*Sg		**Sg**	**03 55 41.3**	**0.0**
	comp=Z,34nm,0.9s							
LPG	**La Plagne**	**6.05**	**220**	*e*Pn		**Pn**	**03 53 58.7**	**+2.5**
LPG				*e*Pg		**Pg**	**03 54 23.6**	**+0.6**
LPG				*e*Sg		**Sg**	**03 55 41.3**	**0.0**
CRVS	**Cervenica-Dubn**	**6.11**	**99**	*e*Pn		**Pn**	**03 53 58.3**	**+1.6**
CRVS				*e*Sg		**Sg**	**03 55 39.5**	**-3.6**
CRVS	**Cervenica-Dubn**	**6.11**	**99**	*e*PN		**Pn**	**03 53 58.3**	**+1.6**
CRVS				*e*SG		**Sg**	**03 55 39.5**	**-3.6**
UDBI	**Udbina**	**6.19**	**156**	*i* Pn		**Pn**	**03 54 00.3**	**+2.3**
UDBI				Sn		**Sn**	**03 55 04.4**	**-4.0**
UDBI	**Udbina**	**6.19**	**156**	*i* Pn		**Pn**	**03 54 00.2**	**+2.3**
DEL	**Delary**	**6.30**	**8**	P		**Pn**	**03 53 59.0**	**-0.3**
DEL				S		**Sn**	**03 55 07.5**	**-3.3**
DEL	**Delary**	**6.30**	**8**	P		**Pn**	**03 53 59.0**	**-0.3**
DEL				S		**Sn**	**03 55 07.5**	**-3.3**
LOR	**Lormes**	**6.33**	**245**	*e*Pn		**Pn**	**03 54 00.3**	**+0.4**
	SNR=1.0							
LOR	**Lormes**	**6.33**	**245**	*e*Pg		**Pg**	**03 54 27.5**	**-0.9**
	baz=46							
LOR				*e*Sg		**Sg**	**03 55 49.4**	**-0.9**
	comp=Z,54nm,0.6s,SNR=1.0							
LOR	**Lormes**	**6.33**	**245**	*e*Pn		**Pn**	**03 54 00.3**	**+0.4**
	SNR=1.0							
LOR	**Lormes**	**6.33**	**245**	*e*Pg		**Pg**	**03 54 27.5**	**-0.9**
LOR				*e*Sg		**Sg**	**03 55 49.4**	**-0.9**
	comp=Z,27nm,0.6s,SNR=1.0							
LOR	**Lormes**	**6.33**	**245**	*e*Pn		**Pn**	**03 54 00.3**	**+0.4**
LOR				*e*Pg		**Pg**	**03 54 27.5**	**-0.9**
LOR				*e*Sg		**Sg**	**03 55 49.4**	**-0.9**
BLEU	**Blekinge**	**6.42**	**18**	P		**Pn**	**03 54 00.6**	**-0.3**
BLEU				S		**Sn**	**03 55 10.2**	**-3.5**
BLEU	**Blekinge**	**6.42**	**18**	P		**Pn**	**03 54 00.6**	**-0.3**
BLEU				S		**Sn**	**03 55 10.2**	**-3.5**
BNI	**Bardonecchia**	**6.44**	**218**	*e*Pn		**Pn**	**03 54 03.3**	**+1.8**
	comp=Z,6.6nm,0.6s							
BNI	**Bardonecchia**	**6.44**	**218**	*e*Pg		**Pg**	**03 54 28.9**	**-1.6**
BNI	**Bardonecchia**	**6.44**	**218**	*e*Pn		**Pn**	**03 54 03.3**	**+1.8**
	comp=Z,6.6nm,0.6s							
BNI				*e*Pg		**Pg**	**03 54 28.9**	**-1.6**
BNI				*e*Sn		**Sn**	**03 55 19.2**	**+4.5**
BNI				*e*Sg		**Sg**	**03 55 45.6**	**-8.3**
SSF	**Saint Saulge**	**6.65**	**245**	*e*Pn		**Pn**	**03 54 05.5**	**+1.4**
SSF	**Saint Saulge**	**6.65**	**245**	*e*Pg		**Pg**	**03 54 33.8**	**-0.6**
SSF				*e*Sg		**Sg**	**03 56 00.7**	**+0.3**
	comp=Z,39nm,0.6s,SNR=1.0							
SSF	**Saint Saulge**	**6.65**	**245**	*e*Pn		**Pn**	**03 54 05.5**	**+1.4**
SSF	**Saint Saulge**	**6.65**	**245**	*e*Pg		**Pg**	**03 54 33.8**	**-0.6**
SSF				*e*Sg		**Sg**	**03 56 00.7**	**+0.3**
	comp=Z,20nm,0.6s,SNR=1.0							
SSF	**Saint Saulge**	**6.65**	**245**	*e*Pn		**Pn**	**03 54 05.5**	**+1.4**
SSF				*e*Pg		**Pg**	**03 54 33.8**	**-0.6**
SSF				*e*Sg		**Sg**	**03 56 00.7**	**+0.3**
MBDF	**Montbardon**	**6.68**	**216**	*e*Pg		**Pg**	**03 54 38.1**	**+3.1**
MBDF	**Montbardon**	**6.68**	**216**	*e*Pg		**Pg**	**03 54 38.1**	**+3.1**
MBDF	**Montbardon**	**6.68**	**216**	*e*Pg		**Pg**	**03 54 38.1**	**+3.1**
SMF	**Signal de Mont**	**6.69**	**241**	*e*Pg		**Pg**	**03 54 34.3**	**-0.9**
SMF				*e*Sg		**Sg**	**03 55 59.9**	**-1.8**
	comp=Z,33nm,0.5s,SNR=1.0							
SMF	**Signal de Mont**	**6.69**	**241**	*e*Pg		**Pg**	**03 54 34.3**	**-0.9**
SMF				*e*Sg		**Sg**	**03 55 59.9**	**-1.8**
	comp=Z,17nm,0.5s,SNR=1.0							
SMF	**Signal de Mont**	**6.69**	**241**	*e*Pg		**Pg**	**03 54 34.3**	**-0.9**
SMF				*e*Sg		**Sg**	**03 55 59.9**	**-1.8**
FABU	**Falkenberg**	**6.76**	**2**	S		**Sn**	**03 55 19.2**	**-3.1**
VXJU	**Vaexsjoe**	**6.86**	**12**	P		**Pn**	**03 54 06.6**	**-0.4**
VXJU				S		**Sn**	**03 55 20.5**	**-4.2**
VXJU	**Vaexsjoe**	**6.86**	**12**	P		**Pn**	**03 54 06.6**	**-0.4**
VXJU				S		**Sn**	**03 55 20.5**	**-4.2**
ORIF	**Oris-en-Rattie**	**6.88**	**222**	*e*Sg		**Sg**	**03 56 06.7**	**-1.2**
	comp=Z,39nm,0.9s							
ORIF	**Oris-en-Rattie**	**6.88**	**222**	*e*Sg		**Sg**	**03 56 06.7**	**-1.2**
	comp=Z,20nm,0.9s							
ORIF	**Oris-en-Rattie**	**6.88**	**222**	*e*Sg		**Sg**	**03 56 06.7**	**-1.2**
AVF	**Avril sur Loir**	**6.88**	**243**	*e*Pn		**Pn**	**03 54 10.3**	**+2.9**
	SNR=1.0							
AVF				*e*Sg		**Sg**	**03 56 05.9**	**-2.0**
	comp=Z,78nm,0.9s							
AVF	**Avril sur Loir**	**6.88**	**243**	*e*Pn		**Pn**	**03 54 10.3**	**+2.9**
	SNR=1.0							
AVF				*e*Sg		**Sg**	**03 56 05.9**	**-2.0**
	comp=Z,39nm,0.9s							
AVF	**Avril sur Loir**	**6.88**	**243**	*e*Pn		**Pn**	**03 54 10.3**	**+2.9**
AVF				*e*Sg		**Sg**	**03 56 05.9**	**-2.0**
SBF	**Sospel**	**7.21**	**209**	*e*Sn		**Sn**	**03 55 35.1**	**+1.7**
	comp=Z,14nm,0.6s,SNR=1.0							
SBF	**Sospel**	**7.21**	**209**	*e*Sn		**Sn**	**03 55 35.1**	**+1.7**
	comp=Z,7.1nm,0.6s,SNR=1.0							
SBF	**Sospel**	**7.21**	**209**	*e*Sn		**Sn**	**03 55 35.1**	**+1.7**
SSB	**Saint Sauveur**	**7.22**	**229**	*e*Pn		**Pn**	**03 54 15.7**	**+3.7**
	comp=Z,6.4nm,0.6s							
SSB	**Saint Sauveur**	**7.22**	**229**	*e*Pg		**Pg**	**03 54 44.1**	**-1.2**
SSB	**Saint Sauveur**	**7.22**	**229**	*e*Pn		**Pn**	**03 54 15.7**	**+3.7**
	comp=Z,6.4nm,0.6s							
SSB				*e*Pg		**Pg**	**03 54 44.1**	**-1.2**
SSB				*e*Sg		Sg	03 56 09.9	-8.9
OSKU	**Oskarshamn**	**7.31**	**16**	P		**Pn**	**03 54 13.3**	**+0.1**
OSKU				S		**Sn**	**03 55 31.9**	**-3.8**
OSKU	**Oskarshamn**	**7.31**	**16**	P		**Pn**	**03 54 13.3**	**+0.1**
OSKU				S		**Sn**	**03 55 31.9**	**-3.8**
BORU	**Boraas**	**7.40**	**2**	P		**Pn**	**03 54 14.6**	**+0.2**
BORU				S		**Sn**	**03 55 34.7**	**-3.2**
BORU	**Boraas**	**7.40**	**2**	P		**Pn**	**03 54 14.6**	**+0.2**
BORU				S		**Sn**	**03 55 34.7**	**-3.2**
VIVF	**Saint-Julien-l**	**7.47**	**227**	*e*Sn		**Sn**	**03 55 39.1**	**-0.7**
	SNR=1.0							
VIVF				*e*Sg		**Sg**	**03 56 25.7**	**-1.0**
	comp=Z,17nm,0.6s,SNR=1.0							
VIVF	**Saint-Julien-l**	**7.47**	**227**	*e*Sn		**Sn**	**03 55 39.1**	**-0.7**
	SNR=1.0							
VIVF				*e*Sg		**Sg**	**03 56 25.7**	**-1.0**
	comp=Z,8.6nm,0.6s,SNR=1.0							
VIVF	**Saint-Julien-l**	**7.47**	**227**	*e*Sn		**Sn**	**03 55 39.1**	**-0.7**
VIVF				*e*Sg		**Sg**	**03 56 25.7**	**-1.0**

EKSU	**Eksjoe**	**7.54**	**12**	P		**Pn**	**03 54 16.6**	**+0.1**
EKSU				S		**Sn**	**03 55 37.1**	**-4.4**
EKSU	**Eksjoe**	**7.54**	**12**	P		**Pn**	**03 54 16.5**	**+0.1**
EKSU				S		**Sn**	**03 55 37.1**	**-4.4**
BYXU	**Byxelkrok**	**7.58**	**20**	P		**Pn**	**03 54 17.9**	**+1.1**
BYXU	**Byxelkrok**	**7.58**	**20**	P		**Pn**	**03 54 17.9**	**+1.1**
LNKU	**Linkoeping**	**8.20**	**12**	P		**Pn**	**03 54 26.4**	**+1.0**
LNKU				S		**Sn**	**03 55 55.0**	**-2.6**
LNKU	**Linkoeping**	**8.20**	**12**	P		**Pn**	**03 54 26.4**	**+1.0**
LNKU				S		**Sn**	**03 55 55.0**	**-2.6**
SGMF	**Saint Gilles**	**9.93**	**264**	*e*Pn		**Pn**	**03 54 53.4**	**+4.3**
	SNR=1.0							
SGMF	**Saint Gilles**	**9.93**	**264**	*e*Pn		**Pn**	**03 54 53.4**	**+4.3**
	SNR=1.0							
SGMF	**Saint Gilles**	**9.93**	**264**	*e*Pn		**Pn**	**03 54 53.4**	**+4.3**
EKA	**Eskdalemuir Ar**	**10.65**	**304**	Pn		**Pn**	**03 55 01.4**	**+2.5**
	baz=115,slow=14,SNR=13							
EKA				Sn		**Sn**	**03 56 59.5**	**+1.8**
	baz=116,slow=26,SNR=4.0							
MTSE	**Matsula**	**10.79**	**34**	*e*P		**Pn**	**03 55 00.6**	**-0.1**
	SNR=47							
AKASG	**Malin Array Be**	**10.79**	**81**	Pn		**Pn**	**03 55 02.8**	**+1.9**
	comp=Z,0.6nm,0.3s,baz=274,slow=12,SNR=4.7							
AKASG				Lg		Lg	03 58 01.8	
	comp=Z,0.9nm,0.3s,baz=266,slow=25,SNR=4.0							
NOA	**NORSAR Array B**	**10.83**	**357**	Pn		**Pn**	**03 55 00.2**	**-1.3**
	comp=Z,0.1nm,0.3s,baz=172,slow=12,SNR=3.2							
NOA				Sn		**Sn**	**03 56 55.7**	**-6.5**
	comp=Z,0.2nm,0.3s,baz=184,slow=14,SNR=2.3							
ETSF	**Etsaut**	**11.50**	**235**	*e*Sn		**Sn**	**03 57 12.4**	**-6.4**
	comp=Z,2.1nm,0.7s,SNR=1.0							
ETSF	**Etsaut**	**11.50**	**235**	*e*Sn		**Sn**	**03 57 12.4**	**-6.4**
RAF	**Rauma**	**12.03**	**23**	*e*P		**Pn**	**03 55 20.3**	**+2.6**
	SNR=47							
MEF	**Metsahovi**	**12.11**	**30**	*e*P		**Pn**	**03 55 18.2**	**-0.7**
	SNR=47							
FINES	**FINESS Array B**	**13.58**	**29**	Pn		**Pn**	**03 55 36.8**	**-2.2**
	comp=Z,0.2nm,0.3s,baz=216,slow=11,SNR=11							
FINES				Sn		Sn	03 57 57.5	-12
	comp=Z,0.2nm,0.3s,baz=224,slow=23,SNR=3.0							
TORD	**Torodi Ar. Bea**	**38.01**	**197**	P		**P**	**03 59 46.4**	**+2.0**
	comp=Z,0.4nm,0.8s,baz=12,slow=7.8,SNR=3.2							
TORD				LR		LR	04 18 38.5	
	comp=Z,95nm,18.3s,baz=305,slow=41							
WSAR	**Wadi Sarin**	**44.88**	**109**	LR		LR	04 22 24.7	
	comp=Z,67nm,18.1s,baz=208,slow=40							
TLY	**Talaya**	**53.79**	**50**	LR		LR	04 29 09.0	
	comp=Z,58nm,18.1s,baz=172,slow=41							

NNC 04 03:54:43.0±1.2, 51°.41N×81°.86E, h0km, mb3.2, mpv2.7, 3C-2D, Error ellipse: s-maj=10.7km s-min=6.7km az=45.0, Suspected Mining explosion., Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
KURK	**Kurchatov**	**2.16**	**253**	⇑Pn		Pn	03 55 20.1	-0.1
	2.6nm,0.8s							
KURK				⇑Lg		Lg	03 55 51.7	
	20nm,0.8s							
KURBB	**Kurchatov Arra**	**2.25**	**251**	⇓Pn		Pn	03 55 21.2	-0.2
	1.6nm,0.6s,baz=67,slow=16							
KURBB				⇓Lg		Lg	03 55 54.9	
	30nm,0.9s,baz=69,slow=27							
MK31	**Makanchi Array**	**4.63**	**176**	⇑Pn		Pn	03 55 54.6	+0.4
	3.7nm,0.7s,baz=7.8,slow=12,SNR=12							
MK31				Lg		Lg	03 57 08.2	
	8.6nm,0.8s,baz=96,slow=5.8,SNR=14							
WMQ	**Urumqi**	**8.55**	**150**	*e*P		Pn	03 56 47.0	-1.0
WMQ				pP		pP	03 56 56.7	
WMQ				sP		sP	03 57 02.1	
WMQ				pmax		pmax		
	comp=Z,4.0nm,0.7s							
WMQ				pmax		pmax		
	comp=Z,51nm,4.7s							
WMQ				LR		LR		
	comp=N,10.0nm,22.5s							
WMQ				LR		LR		
	comp=E,18nm,25.3s							
WMQ				LR		LR		
	comp=Z,21nm,28.1s							

*SOME **04** 03:56:32.0, 40°.37N×71°.75E, h10km*
*KRNET **04** 03:56:32.6±0.1, 40°.35N×71°.74E, h24km, mb1.9*
*NNC **04** 03:56:34.3±2.2, 40°.51N×71°.83E, h0km, mb2.9, mpv2.6, Error ellipse: s-maj=17.8km s-min=13.3km az=17.0*
ISC 04 03:56:31.8±1.4, 40°.41N±0°.05×71°.77E±0°.04, h1km±14km, n12, σ1.916/20, 10C-7D, Tajikistan

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
BTK	**Batken**	**0.81**	**245**	⇑*e*P		**Pg**	**03 56 47.6**	**+0.3**
	baz=248							
BTK				⇑*i*S		**Sg**	**03 56 57.7**	**-0.1**
	baz=248							
ARSB	**Arslanbob**	**1.30**	**45**	⇓*i*P		**Pg**	**03 56 57.2**	**+0.5**
	baz=43							
ARSB				⇓*e*S		**Sn**	**03 57 15.3**	**+0.1**
	baz=43							
ARK	**Arkit**	**1.40**	**6**	⇑*i*P		**Pg**	**03 56 58.7**	**+0.1**
	baz=7.0							
ARK				⇑*i*S		**Sg**	**03 57 17.8**	**+1.0**
	baz=7.0							
MNAS	**Manas**	**2.15**	**15**	⇑*i*P		**Pb**	**03 57 10.5**	**-1.1**
	baz=15							
MNAS				⇑*i*S		**Sb**	**03 57 38.1**	**-0.8**
	baz=15							
MNAS	**Manas**	**2.15**	**15**	⇓Pn		**Pb**	**03 57 11.5**	**-0.1**
	5.3nm,0.4s							
MNAS				⇓Lg		Lg	03 57 40.1	
	13nm,0.4s							
IUG	**Iuzhnay**	**2.18**	**324**	*e*P		**Pb**	**03 57 12.1**	**0.0**
	36nm,0.3s							
IUG				*e*S		**Sg**	**03 57 40.9**	**-1.0**
	37nm,0.3s							
MRKS	**Merke**	**2.58**	**25**	*e*P		**Pb**	**03 57 19.6**	**+0.7**
	3.2nm,0.3s							
MRKS				*e*S		**Sg**	**03 57 53.9**	**-0.8**
	20nm,0.3s							
KK31	**Karatay Array**	**2.86**	**341**	⇓Pn		**Pn**	**03 57 18.5**	**0.0**
	0.3nm,0.5s,baz=152,slow=14,SNR=9.7							
KK31				⇓Pg		**Pb**	**03 57 24.4**	**+0.8**
	0.8nm,0.2s,baz=144,slow=13,SNR=50							
KK31				⇑Lg		Lg	03 58 01.8	
	3.1nm,0.3s,baz=156,slow=30,SNR=9.2							
AAK	**Ala-Archa**	**3.02**	**42**	⇑Pn		**Pn**	**03 57 22.0**	**+1.1**
	1.0nm,0.5s							
AAK				⇓Lg		Lg	03 58 07.0	
	3.4nm,0.5s							
KSH	**Kashi**	**3.35**	**104**	*e*P		**Pn**	**03 57 24.1**	**-1.2**
KSH				sP		Pg	03 57 38.1	+2.1
KSH				PP			04 01 19.8	
TKM2	**Tokmak 2**	**3.81**	**47**	⇑Pg		**Pb**	**03 57 41.0**	**+1.0**
	2.7nm,1.2s							
TKM2				⇑Lg		Lg	03 58 31.2	
	3.3nm,0.8s							
DGS	**Degeres**	**4.12**	**45**	*e*P		**Pb**	**03 57 47.4**	**+2.2**
	1.1nm,0.8s							
DGS				*e*S		**Sg**	**03 58 41.5**	**-2.6**
	2.3nm,0.5s							

*ISCJB **04** 03:56:44.9±0.4, 50°.23N±0°.02×12°.51E±0°.03, h11km±5km, Error ellipse: s-maj=3.2km s-min=2.8km az=142.3*
*CSEM **04** 03:56:45.9±0.1, 50°.24N×12°.49E, h5km, ML3.1/8, Error ellipse: s-maj=1.8km s-min=1.3km az=24.0*
*BGR **04** 03:56:46.0±0.2, 50°.25N×12°.45E, h10km±1km, ML2.4/6, Error ellipse: s-maj=2.2km s-min=1.1km az=102.0*
*IASPEI **04** 03:56:45.9±0.9, 50°.24N±0°.02×12°.46E±0°.02, h9km±3km, Error ellipse: s-maj=3.2km s-min=2.5km az=96.8, GT5 selection from ISC bulletin GT5 identified by Bond˚jr and McLaughlin (2009) selection criteria Bond˚jr and McLaughlin, A new ground truth data set for seismic studies, Seism. Res. Let., 80, 465-472, 2009*
*PRU **04** 03:56:46.4, 50°.23N×12°.52E, h0km, West Bohemia Swarm*
*CLL **04** 03:56:46.7±0.3, 50°.3N±0°.9×1°.2E±°, h6km±1km, ml2.1*
ISC 04 03:56:46.3±0.8, 50°.24N±0°.02×12°.46E±0°.02, h9km±3km, n64, σ0.960/116, 1D, Germany

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
NKC	**Novy Kostel**	**0.01**	**229**	*e*PG		**Pg**	**03 56 47.8**	**-0.1**
NKC				*e*SG		**Sg**	**03 56 48.7**	**-0.3**
	comp=Z,2μm,0.3s							
NKC	**Novy Kostel**	**0.01**	**229**	⇓*i*Pg		**Pg**	**03 56 47.8**	**-0.1**
NKC				*i* Sg		**Sg**	**03 56 48.8**	**-0.3**
NKC	**Novy Kostel**	**0.01**	**229**	*e*Pg		**Pg**	**03 56 47.8**	**-0.1**
NKC				*e*Sg		**Sg**	**03 56 48.8**	**-0.3**
NKC	**Novy Kostel**	**0.01**	**229**	Pg		**Pg**	**03 56 47.8**	**-0.1**
NKC				Sg		**Sg**	**03 56 48.7**	**-0.3**
	2μm,0.3s							
WERN	**Wernitzgruen**	**0.07**	**309**	*i* Pg		**Pg**	**03 56 48.2**	**-0.2**
WERN				*i* Sg		**Sg**	**03 56 49.5**	**-0.5**
WERN				AML		AML	03 56 49.8	
	comp=N,1μm,0.2s							
WERN	**Wernitzgruen**	**0.07**	**309**	*e*Pg		**Pg**	**03 56 48.2**	**-0.2**
WERN				*e*Sg		**Sg**	**03 56 49.5**	**-0.5**
WERN	**Wernitzgruen**	**0.07**	**309**	Pg		**Pg**	**03 56 48.2**	**-0.2**
WERN				Sg		**Sg**	**03 56 49.5**	**-0.5**
ROHR	**Rohrbach**	**0.10**	**265**	*i* Pg		**Pg**	**03 56 48.5**	**-0.2**
ROHR				*i* Sg		**Sg**	**03 56 49.9**	**-0.6**
ROHR				AML		AML	03 56 50.0	
	comp=E,2μm,0.1s							
ROHR	**Rohrbach**	**0.10**	**265**	*e*Pg		**Pg**	**03 56 48.5**	**-0.2**
ROHR				*e*Sg		**Sg**	**03 56 49.9**	**-0.6**
ROHR	**Rohrbach**	**0.10**	**265**	Pg		**Pg**	**03 56 48.5**	**-0.2**
ROHR				Sg		**Sg**	**03 56 49.9**	**-0.6**
GUNZ	**Gunzen**	**0.15**	**325**	*i* Pg		**Pg**	**03 56 49.4**	**-0.2**
GUNZ				*i* Sg		**Sg**	**03 56 51.3**	**-0.6**
GUNZ				AML		AML	03 56 51.4	
	comp=E,195nm,0.3s							
GUNZ	**Gunzen**	**0.15**	**325**	*e*Pg		**Pg**	**03 56 49.4**	**-0.2**
GUNZ				*e*Sg		**Sg**	**03 56 51.2**	**-0.6**
GUNZ	**Gunzen**	**0.15**	**325**	Pg		**Pg**	**03 56 49.4**	**-0.2**
GUNZ				Sg		**Sg**	**03 56 51.2**	**-0.6**
TANN	**Tannenbergstha**	**0.17**	**360**	*i* Pg		**Pg**	**03 56 49.7**	**-0.3**
TANN				*i* Sg		**Sg**	**03 56 51.9**	**-0.7**
TANN				AML		AML	03 56 52.4	
	comp=E,533nm,0.1s							
MULD	**Muldenberg**	**0.17**	**347**	*i* Pg		**Pg**	**03 56 49.7**	**-0.3**
MULD				*i* Sg		**Sg**	**03 56 51.9**	**-0.6**
MULD				AML		AML	03 56 52.0	
	comp=E,537nm,0.2s							
MULD	**Muldenberg**	**0.17**	**347**	*e*Pg		**Pg**	**03 56 49.7**	**-0.3**
MULD				*e*Sg		**Sg**	**03 56 51.9**	**-0.6**
MULD	**Muldenberg**	**0.17**	**347**	Pg		**Pg**	**03 56 49.7**	**-0.3**
MULD				Sg		**Sg**	**03 56 51.9**	**-0.6**
WERD	**Werda**	**0.23**	**334**	*i* Pg		**Pg**	**03 56 50.7**	**-0.3**
WERD				*e*Sg		**Sg**	**03 56 53.5**	**-0.7**
WERD				AML		AML	03 56 53.6	
	comp=E,90nm,0.1s							
WERD	**Werda**	**0.23**	**334**	*e*Pg		**Pg**	**03 56 50.7**	**-0.3**
WERD				*e*Sg		**Sg**	**03 56 53.3**	**-0.8**
WERD	**Werda**	**0.23**	**334**	Pg		**Pg**	**03 56 50.7**	**-0.3**
WERD				Sg		**Sg**	**03 56 53.3**	**-0.8**
TRIB	**Obertriebel**	**0.24**	**298**	*i* Pg		**Pg**	**03 56 50.8**	**-0.4**
TRIB				*i* Sg		**Sg**	**03 56 54.0**	**-0.3**
TRIB				AML		AML	03 56 54.3	
	comp=E,195nm,0.1s							
TRIB	**Obertriebel**	**0.24**	**298**	*e*Pg		**Pg**	**03 56 50.7**	**-0.4**
TRIB				*e*Sg		**Sg**	**03 56 53.7**	**-0.7**
TRIB	**Obertriebel**	**0.24**	**298**	Pg		**Pg**	**03 56 50.7**	**-0.4**
TRIB				Sg		**Sg**	**03 56 53.7**	**-0.7**
PLN	**Plauen**	**0.31**	**321**	*i* Pg		**Pg**	**03 56 52.2**	**-0.3**
PLN				*e*Sg		**Sg**	**03 56 56.3**	**-0.5**
PLN				AML		AML	03 56 56.4	
	comp=E,81nm,0.1s							
PLN	**Plauen**	**0.31**	**321**	*e*Pg		**Pg**	**03 56 52

McLaughlin, A new ground truth data set for seismic studies, Seism. Res. Let., 80, 465-472, 2009

VIE ***04*** *04:02:35.0±0.4,50.12N×12.31E,h5km±4km,mb2.0/6, ML2.1/11,Error ellipse: s-maj=5.2km s-min=1.8km az=66.0*

CSEM ***04*** *04:02:35.2±0.1,50.21N×12.48E,h10km,ML2.7/12,Error ellipse: s-maj=2.1km s-min=1.8km az=64.0*

BGR ***04*** *04:02:35.7±0.2,50.24N×12.45E,h10km±1km,ML2.2/6, Error ellipse: s-maj=2.2km s-min=1.1km az=102.0*

PRU ***04*** *04:02:36.4,50.22N×12.52E,h0km,West Bohemia Swarm*

ISC 04 04:02:35.6±0.8,50°24N±0.01×12°48E±0.02,h11km±4km, n69,σ0s93/117,8D,Germany

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
NKC	**Novy Kostel**	**0.02**	**264**	⇓*i*	**Pg**	**Pg**	**04 02 37.7**	**+0.1**
NKC				*e*	SG	**Sg**	**04 02 38.4**	**-0.6**
	comp=Z,2μm,0.2s							
NKC	**Novy Kostel**	**0.02**	**264**	*e*	**Pg**	**Pg**	**04 02 37.6**	**+0.1**
NKC				*e*	Sg	**Sg**	**04 02 38.7**	**-0.3**
NKC	**Novy Kostel**	**0.02**	**264**		Pg	**Pg**	**04 02 37.7**	**+0.1**
NKC					Sg	**Sg**	**04 02 38.7**	**-0.3**
WERN	**Wernitzgruen**	**0.08**	**310**	*e*	**Pg**	**Pg**	**04 02 38.1**	**0.0**
WERN	**Wernitzgruen**	**0.08**	**310**		Pg	**Pg**	**04 02 38.1**	**0.0**
ROHR	**Rohrbach**	**0.10**	**270**	*e*	**Pg**	**Pg**	**04 02 38.2**	**-0.1**
ROHR				*e*	Sg	**Sg**	**04 02 39.7**	**-0.6**
ROHR	**Rohrbach**	**0.10**	**270**		Pg	**Pg**	**04 02 38.2**	**-0.1**
ROHR					Sg	**Sg**	**04 02 39.7**	**-0.6**
GUNZ	**Gunzen**	**0.16**	**324**	*e*	**Pg**	**Pg**	**04 02 39.3**	**+0.1**
GUNZ				*e*	Sg	**Sg**	**04 02 41.4**	**-0.3**
GUNZ	**Gunzen**	**0.16**	**324**		Pg	**Pg**	**04 02 39.3**	**+0.1**
GUNZ					Sg	**Sg**	**04 02 41.4**	**-0.3**
MULD	**Muldenberg**	**0.18**	**346**	*e*	**Pg**	**Pg**	**04 02 39.7**	**+0.1**
MULD				*e*	Sg	**Sg**	**04 02 42.0**	**-0.4**
MULD	**Muldenberg**	**0.18**	**346**		Pg	**Pg**	**04 02 39.7**	**+0.1**
MULD					Sg	**Sg**	**04 02 42.0**	**-0.4**
WERD	**Werda**	**0.24**	**333**	*e*	**Pg**	**Pg**	**04 02 40.6**	**+0.1**
WERD				*e*	Sg	**Sg**	**04 02 43.5**	**-0.4**
WERD	**Werda**	**0.24**	**333**		Pg	**Pg**	**04 02 40.6**	**+0.1**
WERD					Sg	**Sg**	**04 02 43.5**	**-0.4**
TRIB	**Obertriebel**	**0.25**	**298**	*e*	**Pg**	**Pg**	**04 02 40.6**	**-0.1**
TRIB				*e*	Sg	**Sg**	**04 02 43.6**	**-0.5**
TRIB	**Obertriebel**	**0.25**	**298**		Pg	**Pg**	**04 02 40.6**	**-0.1**
TRIB					Sg	**Sg**	**04 02 43.6**	**-0.5**
PLN	**Plauen**	**0.32**	**321**	*e*	**Pg**	**Pg**	**04 02 42.1**	**0.0**
PLN				*e*	Sg	**Sg**	**04 02 46.1**	**-0.3**
PLN	**Plauen**	**0.32**	**321**		Pg	**Pg**	**04 02 42.1**	**0.0**
PLN					Sg	**Sg**	**04 02 46.1**	**-0.3**
SCHF	**Schoenfels**	**0.45**	**354**	*e*	**Pg**	**Pg**	**04 02 44.5**	**+0.2**
SCHF				*e*	Sg	**Sg**	**04 02 50.2**	**0.0**
SCHF	**Schoenfels**	**0.45**	**354**		Pg	**Pg**	**04 02 44.5**	**+0.2**
SCHF					Sg	**Sg**	**04 02 50.2**	**0.0**
ROTZ	**Rotzenmuhle**	**0.50**	**200**	*e*	**Pg**	**Pg**	**04 02 45.8**	**+0.5**
ROTZ				*e*	Sg	**Sg**	**04 02 52.3**	**+0.4**
ROTZ	**Rotzenmuhle**	**0.50**	**200**		Pg	**Pg**	**04 02 45.8**	**+0.5**
ROTZ					Sg	**Sg**	**04 02 52.3**	**+0.4**
MOX	**Moxa**	**0.69**	**307**	*e*	**Pg**	**Pg**	**04 02 48.7**	**-0.1**
MOX				*e*	Sg	**Sg**	**04 02 57.6**	**-0.2**
MOX	**Moxa**	**0.69**	**307**		Pg	**Pg**	**04 02 48.7**	**-0.1**
MOX					Sg	**Sg**	**04 02 57.6**	**-0.2**
FBE	**Freiberg**	**0.89**	**39**	*e*	**Pg**	**Pg**	**04 02 53.1**	**+0.4**
FBE				*e*	Sg	**Sg**	**04 03 04.6**	**+0.4**
FBE	**Freiberg**	**0.89**	**39**		Pg	**Pg**	**04 02 53.1**	**+0.4**
FBE					Sg	**Sg**	**04 03 04.6**	**+0.4**
GRA1	**Grafenberg Arr**	**0.97**	**237**		Pg	**Pg**	**04 02 54.3**	**0.0**
GRA1					Sg	**Sg**	**04 03 06.9**	**-0.1**
GRF	**Grafenberg Arr**	**0.97**	**237**	*e*	**Pg**	**Pg**	**04 02 54.3**	**0.0**
GRF				*e*	Sg	**Sg**	**04 03 06.9**	**-0.1**
WET	**Wettzell**	**1.12**	**166**	⇓*e*	**PG**	**Pn**	**04 02 57.2**	**-0.1**
WET				*e*	SG	**Sg**	**04 03 11.3**	**-0.4**
WET	**Wettzell**	**1.12**	**166**	*e*	**Pg**	**Pn**	**04 02 57.1**	**-0.1**
WET				*e*	Sg	**Sg**	**04 03 11.3**	**-0.4**
WET	**Wettzell**	**1.12**	**166**		Pg	**Pn**	**04 02 57.1**	**-0.1**
WET					Sg	**Sg**	**04 03 11.3**	**-0.4**
CLL	**Collm**	**1.12**	**17**	*e*	**Pg**	**Pb**	**04 02 56.8**	**-0.2**
CLL				*e*	Sg	**Sb**	**04 03 11.7**	**0.0**
CLL	**Collm**	**1.12**	**17**		Pg	**Pb**	**04 02 56.8**	**-0.2**
CLL					Sg	**Sb**	**04 03 11.7**	**0.0**
CLL	**Collm**	**1.12**	**17**	*i*	Pg	**Pb**	**04 02 57.1**	**+0.1**
CLL				*i*			04 03 00.2	
CLL				*i*	Sg	**Sb**	**04 03 11.7**	**0.0**
	comp=Z,12nm,0.6s							
CLL				*i*			04 03 15.8	
BRG	**Berggiesshubel**	**1.13**	**55**		PG	**Pb**	**04 02 57.5**	**+0.3**
BRG					SG	**Sg**	**04 03 12.6**	**+0.6**
	comp=Z,16nm,0.5s							
BRG	**Berggiesshubel**	**1.13**	**55**	*e*	**Pg**	**Pb**	**04 02 57.5**	**+0.3**
BRG				*e*	Sg	**Sb**	**04 03 12.0**	**+0.1**
BRG	**Berggiesshubel**	**1.13**	**55**		Pg	**Pb**	**04 02 57.5**	**+0.3**
BRG					Sg	**Sb**	**04 03 12.0**	**+0.1**
PRA	**Prague**	**1.27**	**97**	⇓*e*	**SG**	**Sb**	**04 03 16.0**	**+0.2**
	comp=Z,16nm,0.4s							
PRA	**Prague**	**1.27**	**97**		Sg	**Sb**	**04 03 16.0**	**+0.2**
	comp=Z,16nm,0.4s							
KHC	**Kasperske Hory**	**1.32**	**147**	*e*	**PG**	**Pb**	**04 03 00.2**	**-0.1**
KHC				*e*	SG	**Sb**	**04 03 16.7**	**-0.5**
	comp=Z,10nm,0.2s							
KHC	**Kasperske Hory**	**1.32**	**147**		Pg	**Pb**	**04 03 00.2**	**-0.1**
KHC					Sg	**Sb**	**04 03 16.7**	**-0.5**
	comp=Z,10nm,0.2s							
PRU	**Pruhonice**	**1.35**	**100**	⇓*e*	**PG**	**Pg**	**04 03 01.4**	**-0.1**
PRU				*e*	SG	**Sb**	**04 03 18.3**	**+0.1**
	comp=Z,14nm,0.3s							
PRU	**Pruhonice**	**1.35**	**100**		Pg	**Pg**	**04 03 01.4**	**-0.1**
PRU					Sg	**Sb**	**04 03 18.3**	**+0.1**
	comp=Z,14nm,0.3s							
PVCC	**Panska Ves**	**1.37**	**77**	⇓*e*	**PG**	**Pg**	**04 03 02.4**	**+0.5**
PVCC				*e*	SG	**Sg**	**04 03 19.9**	**+0.2**
	comp=Z,27nm,0.2s							
PVCC	**Panska Ves**	**1.37**	**77**		Pg	**Pg**	**04 03 02.4**	**+0.5**
PVCC					Sg	**Sg**	**04 03 19.9**	**+0.2**
	comp=Z,27nm,0.2s							
TREC	**Trest**	**2.17**	**115**	⇓*e*	**PG**	**Pb**	**04 03 15.5**	**+0.7**
TREC				*e*	SG	**Sb**	**04 03 43.2**	**+1.5**
	comp=Z,4.4nm,0.2s							
TREC	**Trest**	**2.17**	**115**		Pg	**Pb**	**04 03 15.5**	**+0.7**
TREC					Sg	**Sb**	**04 03 43.2**	**+1.5**
	comp=Z,4.4nm,0.2s							
UPC	**Upice**	**2.28**	**82**	⇓*e*	**PG**	**Pg**	**04 03 19.6**	**+0.3**
UPC				*e*	SG	**Sg**	**04 03 47.5**	**-1.3**
	comp=Z,5.2nm,0.3s							
UPC	**Upice**	**2.28**	**82**		Pg	**Pg**	**04 03 19.6**	**+0.3**
UPC					Sg	**Sg**	**04 03 47.5**	**-1.3**
	comp=Z,5.2nm,0.3s							
DPC	**Dobruska-Polom**	**2.47**	**86**	*e*	**PG**	**Pg**	**04 03 23.1**	**+0.2**
DPC				*e*	SG	**Sg**	**04 03 52.8**	**-2.1**
	comp=Z,4.9nm,0.4s							
DPC	**Dobruska-Polom**	**2.47**	**86**		Pg	**Pg**	**04 03 23.1**	**+0.2**
DPC					Sg	**Sg**	**04 03 52.8**	**-2.1**
	comp=Z,4.9nm,0.4s							
MOA	**Molln**	**2.66**	**153**		Sg	**Sg**	**04 04 01.4**	**+0.4**
	comp=Z,1.9nm,0.1s							
KRLC	**Kraliky**	**2.77**	**92**	*e*	**SG**	**Sg**	**04 04 03.7**	**-0.9**
KRLC	**Kraliky**	**2.77**	**92**		Sg	**Sg**	**04 04 03.7**	**-0.9**
VRAC	**Vranov**	**2.83**	**108**	*e*	**SG**	**Sb**	**04 04 03.3**	**+2.7**
WATA	**Walderalm**	**2.96**	**192**		Sg	**Sg**	**04 04 08.8**	**-1.9**
	comp=Z,0.5nm,0.1s							
RETA	**Reutte**	**2.97**	**203**		Sg	**Sg**	**04 04 10.4**	**-0.6**
	comp=Z,2μm,0.0s							
WTTA	**Wattenberg**	**3.02**	**191**		Sg	**Sg**	**04 04 10.8**	**-1.9**
	comp=Z,1μm,0.0s							
MOTA	**Moosalm**	**3.03**	**198**		Pg	**Pb**	**04 03 30.6**	**+1.0**
	comp=Z,0.5nm,0.2s							
MOTA					Sg	**Sg**	**04 04 11.3**	**-1.6**
	comp=Z,1.0nm,0.2s							
CONA	**Conrad Observa**	**3.21**	**135**		Pg	**Pb**	**04 03 33.3**	**+0.8**
CONA					Sg	**Sg**	**04 04 19.7**	**+1.2**
	comp=Z,1.0nm,0.2s							
KBA	**Koelnbreinsper**	**3.21**	**169**		Sg	**Sg**	**04 04 19.0**	**+0.3**
MORC	**Moravsky Berou**	**3.30**	**96**	*e*	**Sg**	**Sg**	**04 04 19.6**	**-1.9**
DAVA	**Damuels**	**3.41**	**211**		Sg	**Sg**	**04 04 22.9**	**-2.2**
	comp=Z,0.2nm,0.0s							
FETA	**Feichten**	**3.42**	**200**		Sg	**Sg**	**04 04 24.2**	**-1.1**
	comp=Z,912nm,0.0s							
ABTA	**Abfaltersbach**	**3.49**	**180**		Sg	**Sg**	**04 04 27.4**	**-0.2**
	comp=Z,0.4nm,0.2s							
ARSA	**Arzberg**	**3.60**	**145**		Sg	**Sg**	**04 04 28.7**	**-2.5**
	comp=Z,0.7nm,0.3s							
OKC	**Ostrava-Krasne**	**3.68**	**94**	⇓*e*	**SG**	**Sg**	**04 04 29.5**	**-4.1**
	comp=Z,4.9nm,0.5s							
OKC	**Ostrava-Krasne**	**3.68**	**94**		Sg	**Sg**	**04 04 29.5**	**-4.1**
	comp=Z,4.9nm,0.5s							
MYKA	**Terra Mystica**	**3.69**	**167**		Sg	**Sg**	**04 04 33.3**	**-0.7**
	comp=Z,0.5nm,0.2s							
OBKA	**Obir**	**3.98**	**159**		Sg	**Sg**	**04 04 43.3**	**+0.1**
	comp=Z,0.3nm,0.1s							

ISCJB ***04*** *04:03:50.9±1.2,28.16S±0.05×70.27W±0.07,h123km±9km, Error ellipse: s-maj=9.9km s-min=8.8km az=23.9*

SJA ***04*** *04:03:51.4±0.6,28.19S×70.01W,h169km±6km,ML3.3, MW3.5*

GUC ***04*** *04:03:52.8±0.7,28.28S×69.97W,h80km±48km,ML3.3*

ISC 04 04:03:49.4±2.7,28°10S±0.08×70°30W±0.09, h136km±18km,n12,σ1s85/21,1C,Central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
VACH	**Vallenar**	**0.63**	**220**	*e*	**P**	**Pn**	**04 04 12.7**	**+2.7**
VACH				*i*	S	**Sn**	**04 04 24.7**	**-1.0**
CPCH	**Copiapo**	**0.74**	**356**	*i*	**P**	**Pn**	**04 04 12.0**	**+1.2**
CPCH				*i*	S	**Sn**	**04 04 26.1**	**-0.9**
LCO	**Las Campanas**	**0.98**	**201**	*e*	**P**	**Pn**	**04 04 12.7**	**-0.4**
LCO				*e*	S	**Sn**	**04 04 27.6**	**-3.4**
LCO					IAML		04 04 28.9	
	comp=N,1μm,0.8s							
VCA	**Vinchina**	**1.95**	**110**	*e*	**P**	**Pn**	**04 04 25.1**	**+1.8**
VCA				*e*	S	**Sn**	**04 04 50.1**	**+0.9**
VCA					IAML		04 04 54.2	
	comp=Z,171nm,0.2s							
AGUA	**GUANDACOL**	**2.10**	**132**	*e*	**P**	**Pn**	**04 04 26.6**	**+1.5**
AGUA				*e*	S	**Sn**	**04 04 53.0**	**+0.5**
TLL	**Tololo Astrono**	**2.11**	**192**	*e*	**P**	**Pn**	**04 04 26.0**	**+0.7**
TLL				*e*	S	**Sn**	**04 04 51.0**	**-1.8**
TLL					IAML		04 04 53.4	
	comp=E,311nm,0.5s							
ACLC	**CERRO LA CRUZ**	**3.22**	**115**	*e*	**P**	**Pn**	**04 04 39.8**	**+0.5**
ACLC				*e*	S	**Sn**	**04 05 15.6**	**-2.2**
AMOG	**MOGNA**	**3.24**	**151**	*e*	**P**	**Pn**	**04 04 40.6**	**+1.2**
AMOG				*e*	S	**Sn**	**04 05 18.0**	**-0.1**
RTLS	**Leoncito**	**3.79**	**167**	*e*	**P**	**Pn**	**04 04 49.4**	**+2.6**
CYA	**Choya**	**3.98**	**96**	*e*	**P**	**Pn**	**04 04 49.8**	**+0.7**
CYA				*e*	S	**Sn**	**04 05 32.2**	**-3.2**
RTCV	**Cerro Valdivia**	**4.05**	**158**	*e*	**P**	**Pn**	**04 04 51.4**	**+1.4**
TCA	**Tanti**	**5.92**	**124**	*e*	**P**	**Pn**	**04 05 14.5**	**-0.4**

IDC 04 04:10:19.3±4.5,35°76N×80°93E,h0km,mb3.6/4, mb1 3.8/6,mb1mx3.4/50,mbtmp3.8/6,ML2.8/2,Error ellipse: s-maj=98.6km s-min=36.1km az=113.0, Kashmir-Xizang border region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
AAK	**Ala-Archa**	**8.49**	**326**		Sn	Sn	04 14 06.1	+5.9
	0.4nm,0.3s,baz=202,slow=19,SNR=2.1							
KURBB	**Kurchatov Arra**	**14.96**	**354**		Pn	Pn	04 13 49.7	-2.2
	0.1nm,0.3s,baz=179,slow=9.7,SNR=4.5							
ZALV	**Zalesovo Beam**	**18.39**	**7**		P	Pn	04 14 34.5	-1.0
	0.1nm,0.3s,baz=200,slow=12,SNR=2.2							
BVAR	**Borovoye Array**	**18.80**	**340**		P	P	04 14 37.0	-3.1
	0.1nm,0.3s,baz=149,slow=9.2,SNR=4.5							
AKTO	**Aktyubinsk**	**22.12**	**319**		P	P	04 15 16.0	-0.2
	0.8nm,0.6s,baz=120,slow=8.1,SNR=3.0							
FINES	**FINESS Array B**	**42.67**	**325**		P	P	04 18 17.4	+0.1
	0.7nm,0.6s,baz=118,slow=15,SNR=3.8							
ARCES	**ARCESS Array B**	**45.01**	**336**		P	P	04 18 36.3	+0.2
	0.9nm,0.6s,baz=101,slow=9.3,SNR=2.8							
TORD	**Torodi Ar. Bea**	**73.77**	**275**		P	P	04 21 55.7	0.0
	0.3nm,0.4s,baz=50,slow=5.1,SNR=12							

ISCJB ***04*** *04:12:10.5±0.3,50.19N±0.01×12.51E±0.02,h14km±4km, Error ellipse: s-maj=2.4km s-min=2.2km az=16.6*

CSEM ***04*** *04:12:11.8±0.1,50.23N×12.48E,h15km,ML2.9/19,Error ellipse: s-maj=1.6km s-min=1.5km az=67.0*

IASPEI ***04*** *04:12:12.3±0.8,50.24N±0.02×12.46E±0.02,h11km±3km, Error ellipse: s-maj=2.9km s-min=2.4km az=97.5,GT5 selection from ISC bulletin GT5 identified by Bond¨jr and McLaughlin (2009) selection criteria Bond¨jr and McLaughlin, A new ground truth data set for seismic studies, Seism. Res. Let., 80, 465-472, 2009*

BGR ***04*** *04:12:12.6±0.2,50.25N×12.44E,h11km±1km,ML2.4/6, Error ellipse: s-maj=2.2km s-min=1.1km az=101.0*

VIE ***04*** *04:12:12.1±0.3,50.15N×12.35E,h7km±3km,mb1.9/4, ML2.4/14,Error ellipse: s-maj=4.0km s-min=1.6km az=64.0*

PRU ***04*** *04:12:13.2,50.24N×12.52E,h0km,West Bohemia Swarm*

CLL ***04*** *04:12:13.3±0.3,50.3N±0.8×1.2E±,h7km±1km,ml2.3*

ISC 04 04:12:12.3±0.8,50°24N±0.01×12°45E±0.02,h12km±3km, n90,σ0s85/159,9C,Germany

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
NKC	**Novy Kostel**	**0.01**	**208**	⇑*i*	**Pg**	**Pg**	**04 12 14.6**	**+0.1**
NKC				*e*	SG	**Sg**	**04 12 15.3**	**-0.6**
	comp=Z,700nm,0.2s							
NKC	**Novy Kostel**	**0.01**	**208**	⇑*i*	**Pg**	**Pg**	**04 12 14.6**	**+0.1**
NKC				*i*	Sg	**Sg**	**04 12 15.6**	**-0.3**
NKC	**Novy Kostel**	**0.01**	**208**	*e*	**Pg**	**Pg**	**04 12 14.6**	**+0.1**
NKC				*e*	Sg	**Sg**	**04 12 15.6**	**-0.3**
NKC	**Novy Kostel**	**0.01**	**208**		Pg	**Pg**	**04 12 14.6**	**+0.1**
NKC					Sg	**Sg**	**04 12 15.6**	**-0.3**
WERN	**Wernitzgruen**	**0.07**	**313**	*i*	**Pg**	**Pg**	**04 12 14.9**	**+0.1**
WERN				*i*	Sg	**Sg**	**04 12 16.3**	**-0.5**
WERN					AML	AML	04 12 16.4	
	comp=N,1μm,0.1s							
WERN	**Wernitzgruen**	**0.07**	**313**	*e*	**Pg**	**Pg**	**04 12 15.0**	**+0.1**
WERN	**Wernitzgruen**	**0.07**	**313**		Pg	**Pg**	**04 12 15.0**	**+0.1**
ROHR	**Rohrbach**	**0.09**	**266**	*i*	**Pg**	**Pg**	**04 12 15.2**	**+0.1**
ROHR				*i*	Sg	**Sg**	**04 12 16.6**	**-0.4**
ROHR					AML	AML	04 12 16.8	
	comp=E,2μm,0.1s							
ROHR	**Rohrbach**	**0.09**	**266**	*e*	**Pg**	**Pg**	**04 12 15.2**	**+0.1**
ROHR				*e*	Sg	**Sg**	**04 12 16.6**	**-0.4**
ROHR	**Rohrbach**	**0.09**	**266**		Pg	**Pg**	**04 12 15.2**	**+0.1**
ROHR					Sg	**Sg**	**04 12 16.6**	**-0.4**
GUNZ	**Gunzen**	**0.15**	**328**	*i*	**Pg**	**Pg**	**04 12 16.0**	**+0.1**
GUNZ				*i*	Sg	**Sg**	**04 12 17.9**	**-0.4**
GUNZ					AML	AML	04 12 18.4	
	comp=E,465nm,0.2s							
GUNZ	**Gunzen**	**0.15**	**328**	*e*	**Pg**	**Pg**	**04 12 16.0**	**+0.1**
GUNZ				*e*	Sg	**Sg**	**04 12 18.0**	**-0.4**
GUNZ	**Gunzen**	**0.15**	**328**		Pg	**Pg**	**04 12 16.0**	**+0.1**
GUNZ					Sg	**Sg**	**04 12 18.0**	**-0.4**
MULD	**Muldenberg**	**0.17**	**349**	*i*	**Pg**	**Pg**	**04 12 16.4**	**+0.1**
MULD				*i*	Sg	**Sg**	**04 12 18.6**	**-0.5**
MULD					AML	AML	04 12 18.8	
	comp=E,796nm,0.2s							
MULD	**Muldenberg**	**0.17**	**349**	*e*	**Pg**	**Pg**	**04 12 16.4**	**+0.1**
MULD				*e*	Sg	**Sg**	**04 12 18.6**	**-0.5**
MULD	**Muldenberg**	**0.17**	**349**		Pg	**Pg**	**04 12 16.4**	**+0.1**
MULD					Sg	**Sg**	**04 12 18.6**	**-0.5**
TANN	**Tannenbergstha**	**0.17**	**2**	*i*	**Pg**	**Pg**	**04 12 16.4**	**+0.1**
TANN				*i*	Sg	**Sg**	**04 12 18.6**	**-0.5**
TANN					AML	AML	04 12 18.8	
	comp=N,729nm,0.2s							
WERD	**Werda**	**0.23**	**336**	*i*	**Pg**	**Pg**	**04 12 17.3**	**+0.1**
WERD				*e*	Sg	**Sg**	**04 12 20.0**	**-0.4**
WERD					AML	AML	04 12 20.6	
	comp=E,227nm,0.2s							
WERD	**Werda**	**0.23**	**336**	*e*	**Pg**	**Pg**	**04 12 17.3**	**+0.1**
WERD				*e*	Sg	**Sg**	**04 12 20.1**	**-0.4**
WERD	**Werda**	**0.23**	**336**		Pg	**Pg**	**04 12 17.3**	**+0.1**
WERD					Sg	**Sg**	**04 12 20.1**	**-0.4**
TRIB	**Obertriebel**	**0.23**	**299**	*i*	**Pg**	**Pg**	**04 12 17.4**	**+0.1**
TRIB				*i*	Sg	**Sg**	**04 12 20.5**	**-0.1**
TRIB					AML	AML	04 12 20.6	
	comp=E,276nm,0.1s							
TRIB	**Obertriebel**	**0.23**	**299**	*e*	**Pg**	**Pg**	**04 12 17.4**	**+0.1**
TRIB				*e*	Sg	**Sg**	**04 12 20.4**	**-0.2**
TRIB	**Obertriebel**	**0.23**	**299**		Pg	**Pg**	**04 12 17.4**	**+0.1**
TRIB					Sg	**Sg**	**04 12 20.4**	**-0.2**
PLN	**Plauen**	**0.31**	**322**	*i*	**Pg**	**Pg**	**04 12 18.8**	**+0.1**
PLN				*i*	Sg	**Sg**	**04 12 22.7**	**-0.1**
PLN					AML	AML	04 12 22.9	
	comp=E,221nm,0.2s							
PLN	**Plauen**	**0.31**	**322**	*e*	**Pg**	**Pg**	**04 12 18.8**	**+0.1**
PLN				*e*	Sg	**Sg**	**04 12 22.8**	**-0.1**
PLN	**Plauen**	**0.31**	**322**		Pg	**Pg**	**04 12 18.8**	**+0.1**
PLN					Sg	**Sg**	**04 12 22.8**	**-0.1**
SCHF	**Schoenfels**	**0.44**	**356**	*i*	**Pg**	**Pg**	**04 12 21.2**	**+0.2**
SCHF				*i*	Sg	**Sg**	**04 12 26.9**	**0.0**
SCHF					AML	AML	04 12 27.1	
	comp=E,577nm,0.2s							
SCHF	**Schoenfels**	**0.44**	**356**	*e*	**Pg**	**Pg**	**04 12 21.2**	**+0.2**
SCHF				*e*	Sg	**Sg**	**04 12 27.0**	**+0.1**
SCHF	**Schoenfels**	**0.44**	**356**		Pg	**Pg**	**04 12 21.2**	**+0.2**
SCHF					Sg	**Sg**	**04 12 27.0**	**+0.1**
ROTZ	**Rotzenmuhle**	**0.50**	**199**	*e*	**Pg**	**Pg**	**04 12 22.8**	**+0.7**
ROTZ				*e*	Sg	**Sg**	**04 12 29.4**	**+0.6**
ROTZ	**Rotzenmuhle**	**0.50**	**199**		Pg	**Pg**	**04 12 22.8**	**+0.7**
ROTZ					Sg	**Sg**	**04 12 29.4**	**+0.6**
MLFH	**Mildenfurth**	**0.60**	**337**	*i*	**Pg**	**Pg**	**04 12 24.1**	**0.0**
MLFH				*i*	Sg	**Sg**	**04 12 31.6**	**-0.3**
MOX	**Moxa**	**0.67**	**307**	*e*	**Pg**	**Pg**	**04 12 25.4**	**0.0**
MOX				*e*	Sg	**Sg**	**04 12 34.2**	**0.0**
MOX	**Moxa**	**0.67**	**307**		Pg	**Pg**	**04 12 25.4**	**0.0**
MOX					Sg	**Sg**	**04 12 34.2**	**0.0**
FBE	**Freiberg**	**0.89**	**40**	*e*	**Pg**	**Pg**	**04 12 29.9**	**+0.3**
FBE				*e*	Sg	**Sg**	**04 12 41.0**	**-0.2**
FBE	**Freiberg**	**0.89**	**40**		Pg	**Pg**	**04 12 29.9**	**+0.3**
FBE					Sg	**Sg**	**04 12 41.0**	**-0.2**
GRA1	**Grafenberg Arr**	**0.97**	**236**		Pg	**Pg**	**04 12 31.2**	**+0.2**
GRA1					Sg	**Sg**	**04 12 43.6**	**+0.1**
GRF	**Grafenberg Arr**	**0.97**	**236**	*e*	**Pg**	**Pg**	**04 12 31.2**	**+0.2**
GRF				*e*	Sg	**Sg**	**04 12 43.6**	**+0.1**
CLL	**Collm**	**1.12**	**18**	*e*	**Pg**	**Pb**	**04 12 33.7**	**0.0**
CLL				*e*	Sg	**Sb**	**04 12 48.4**	**+0.1**
CLL	**Collm**	**1.12**	**18**		Pg	**Pb**	**04 12 33.7**	**0.0**
CLL					Sg	**Sb**	**04 12 48.4**	**+0.1**
CLL	**Collm**	**1.12**	**18**	*i*	**Pg**	**Pb**	**04 12 33.8**	**0.0**
CLL				*i*			04 12 35.7	
CLL				*i*			04 12 37.2	
CLL				*i*	Sg	**Sb**	**04 12 48.2**	**-0.1**
	comp=Z,28nm,0.5s							
CLL				*i*			04 12 52.3	
WET	**Wettzell**	**1.13**	**166**	⇑*e*	**PG**	**Pb**	**04 12 34.2**	**+0.3**
WET				*e*	SG	**Sb**	**04 12 48.6**	**0.0**
WET	**Wettzell**	**1.13**	**166**	*e*	**Pg**	**Pb**	**04 12 34.2**	**+0.3**
WET				*e*	Sg	**Sb**	**04 12 48.5**	**0.0**
WET	**Wettzell**	**1.13**	**166**		Pg	**Pb**	**04 12 34.2**	**+0.3**
WET					Sg	**Sb**	**04 12 48.5**	**0.0**
BRG	**Berggiesshubel**	**1.14**	**56**		PG	**Pb**	**04 12 34.3**	**+0.3**
BRG					SG	**Sb**	**04 12 49.1**	**+0.3**
	comp=Z,30nm,0.4s						

MD4.1(MEX), After MEX.
*MEX **04** 04:13:32.5±0.4, 13°.89N×92°.76W, h20km±137km, MD4.1*
ISC 04 04:13:34.5±1.5, 14°.1N±0°.1×92°.9W±0°.1, h37km, n21,
σ1§22/25, mb4.1/10, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CCIG	**Comitan**	**2.33**	**18**	*eP*	**Pn**	**04 14 09.5**	**-1.1**
CCIG				*i* S	**Sn**	**04 14 38.4**	**+0.4**
CCIG	**Comitan**	**2.33**	**18**	*eP*	**Pn**	**04 14 09.5**	**-1.1**
CCIG				*i* S	**Sn**	**04 14 38.4**	**+0.4**
TGIG		**2.72**	**355**	*eP*	**Pn**	**04 14 15.4**	**-0.4**
TGIG				*i* S	**Sn**	**04 14 48.1**	**+0.7**
TGIG		**2.72**	**355**	*eP*	**Pn**	**04 14 15.4**	**-0.4**
TGIG				*i* S	**Sn**	**04 14 48.1**	**+0.7**
CMIG	**Matias Romero**	**3.58**	**328**	Pn	**Pn**	**04 14 26.3**	**-1.3**
	2.0nm,0.3s,baz=152,slow=15,SNR=16						
CMIG				Sn	**Sn**	**04 15 08.4**	**-0.3**
	4.3nm,0.3s,baz=101,slow=16,SNR=5.3						
TXAR	**Lajitas Array**	**18.19**	**328**	P	**P**	**04 17 41.2**	**-3.1**
	0.0nm,0.3s,baz=145,slow=11,SNR=2.5						
MNTX	**Cornudas Mount**	**20.97**	**329**	*eP*	**P**	**04 18 14.7**	**+0.1**
	16nm,1.8s						
WMOK	**Wichita Mounta**	**21.27**	**347**	*eP*	**P**	**04 18 19.4**	**+1.6**
	1.4nm,0.6s						
AMTX	**Amarillo**	**22.21**	**341**	*eP*	**P**	**04 18 29.2**	**+1.3**
ANMO	**Albuquerque**	**24.14**	**332**	*eP*	**P**	**04 18 48.3**	**+1.0**
	0.9nm,0.8s						
TUC	**Tucson**	**24.45**	**321**	*eP*	**P**	**04 18 51.9**	**+1.9**
	3.1nm,1.0s						
WCI	**Wyandotte Cave**	**24.78**	**12**	*eP*	**P**	**04 18 50.6**	**-2.3**
	21nm,0.7s						
SJG	**San Juan**	**25.99**	**77**	LR	LR	04 28 48.3	
	comp=Z,61nm,21.3s,baz=60,slow=35						
PDAR	**Pinedale Array**	**32.02**	**337**	P	**P**	**04 19 57.9**	**+0.1**
	0.3nm,0.7s,baz=140,slow=8.9,SNR=2.8						
SNOW	**Snow King Moun**	**33.08**	**336**	*eP*	**P**	**04 20 08.2**	**+1.1**
	3.1nm,0.6s						
TPAW	**Teton Pass**	**33.18**	**336**	*eP*	**P**	**04 20 08.6**	**+0.6**
	7.3nm,1.4s						
HLID	**Hailey**	**34.72**	**332**	*eP*	**P**	**04 20 22.5**	**+1.2**
YKA	**Yellowknife Ar**	**50.78**	**347**	P	**P**	**04 22 30.4**	**-0.4**
	3.0nm,0.8s,baz=154,slow=7.3,SNR=6.0						
INK	**Inuvik**	**60.15**	**344**	P	**P**	**04 23 38.2**	**+0.2**
	2.6nm,0.8s,baz=133,slow=6.4,SNR=6.5						
ILAR	**Eielson Array**	**62.45**	**337**	P	**P**	**04 23 54.2**	**+0.4**
	0.7nm,0.9s,baz=141,slow=5.8,SNR=5.9						
CMAR	**Chiang Mai Arr**	**145.66**	**340**	PKPbc	**PKPdf**	**04 33 09.9**	**0.0**
	1.2nm,0.3s,baz=337,slow=3.9,SNR=6.0						

*NEIC **04** 04:13:39.5±0.0, 46°.41N×119°.26W, h3km, MD3.7(SEA), After SEA.*
NEIC Felt [III] at Eltopia, Pasco and Richland; [II] at Mesa and West Richland. Also felt at Kennewick and Prescott.
*PNSN **04** 04:13:39.5, 46°.41N×119°.26W, h2km, MD3.7, Fault plane solution: NP1:φs110.00000°, δ57.00000°, NP2: φs340.00000°, δ45.00000°, Principal axes: T Plg62.0000°, Azm326.0000°; P Plg7.0000°, Azm223.0000°;*
ISC 04 04:13:38.6±1.0, 46°.42N±0°.02×119°.24W±0°.01, h2km±9km, n83, σ1§30/135, 19C-12D, Washington

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WIW	**Wooded Island**	**0.04**	**292**	⇑P	**Pg**	**04 13 40.3**	**+0.9**
H2OWA	**Water**	**0.13**	**262**	⇓P	**Pg**	**04 13 41.0**	**-0.1**
E08A	**Dider Farm, El**	**0.14**	**58**	⇓P	**Pg**	**04 13 43.1**	**+1.7**
MJ2	**May Junction 2**	**0.17**	**330**	⇑P	**Pg**	**04 13 43.2**	**+1.4**
HAWA	**Hanford**	**0.21**	**264**	*ePg*	**Pg**	**04 13 43.4**	**+0.8**
HAWA				*e*Sg	**Sg**	**04 13 46.9**	**+1.6**
GBL	**Gable Mountain**	**0.24**	**320**	⇑P	**Pg**	**04 13 44.7**	**+1.5**
OT3	**Othello 3**	**0.25**	**1**	⇓P	**Pg**	**04 13 45.3**	**+1.8**
ET3	**Eltopia**	**0.26**	**52**	⇓P	**Pb**	**04 13 45.7**	**-0.4**
SNIWA	**Snively Ranch**	**0.30**	**280**	⇓P	**Pg**	**04 13 44.6**	**+0.3**
GBB	**Gable Butte**	**0.33**	**306**	⇑P	**Pg**	**04 13 44.4**	**-0.6**
PRW	**Prosser**	**0.37**	**237**	⇓P	**Pb**	**04 13 47.1**	**-0.8**
WAH2	**Wahluke Slope**	**0.41**	**326**	P	**Pb**	**04 13 48.3**	**-0.3**
MDW	**Midway**	**0.41**	**299**	⇑P	**Pb**	**04 13 48.0**	**-0.7**
YPT	**Yellepit**	**0.41**	**152**	⇑P	**Pb**	**04 13 48.7**	**+0.1**
CRF	**Corfu**	**0.42**	**346**	P	**Pb**	**04 13 48.7**	**-0.1**
E07A	**Sunnyside**	**0.45**	**289**	⇓P	**Pb**	**04 13 49.0**	**-0.2**
BRVW	**Black Rock Val**	**0.53**	**278**	⇓P	**Pb**	**04 13 50.8**	**+0.2**
BRVW				S	**Sb**	**04 13 59.7**	**+1.0**
FHE	**Frenchman Hill**	**0.57**	**342**	⇑P	**Pb**	**04 13 51.7**	**+0.4**
BVW	**Beverly**	**0.60**	**312**	⇑P	**Pb**	**04 13 52.0**	**+0.2**
D08A	**Wollman Farm,**	**0.68**	**19**	⇓P	**Pb**	**04 13 53.3**	**+0.1**
MXC	**Moxie City**	**0.75**	**283**	⇑P	**Pn**	**04 13 54.9**	**-1.4**
E09A	**Wood Farm, Sta**	**0.76**	**82**	⇑P	**Pn**	**04 13 54.9**	**-1.5**
VT2	**Vantage 2**	**0.76**	**317**	⇑P	**Pb**	**04 13 54.7**	**+0.1**
LNOR	**Lincton Mounta**	**0.86**	**129**	P	**Pn**	**04 13 56.7**	**-1.0**
YA2	**Yakima**	**0.90**	**278**	⇑P	**Pn**	**04 13 57.8**	**-0.6**
TRW	**Toppenish Ridg**	**0.91**	**263**	⇓P	**Pn**	**04 13 57.8**	**-0.7**
JBO	**Jordan Butte**	**1.04**	**204**	⇓P	**Pb**	**04 13 59.3**	**0.0**
EBG	**Ellensburg**	**1.04**	**299**	⇑P	**Pn**	**04 13 59.7**	**-0.6**
NAC	**Naches**	**1.14**	**287**	⇑P	**Pn**	**04 14 01.3**	**-0.4**
GL2	**New Goldendale**	**1.19**	**248**	⇓P	**Pg**	**04 14 01.8**	**+0.4**
TBM	**Table Mountain**	**1.20**	**309**	⇑P	**Pg**	**04 14 02.4**	**+0.8**
SAW	**Saint Andrews**	**1.29**	**355**	⇑P	**Pb**	**04 14 03.1**	**-0.6**
LTY	**Liberty**	**1.30**	**311**	⇑P	**Pb**	**04 14 03.4**	**-0.4**
TWW	**Teanaway**	**1.33**	**303**	⇑P	**Pg**	**04 14 04.7**	**+0.6**
WTV	**Waterville**	**1.38**	**339**	⇑P	**Pn**	**04 14 04.2**	**-0.7**
VGB	**Gordon Butte**	**1.40**	**231**	P	**Pb**	**04 14 05.4**	**-0.1**
F10A	**Beach Ranch, E**	**1.46**	**107**	*ePn*	**Pb**	**04 14 06.4**	**-0.2**
F10A				*e*Sn	**Sg**	**04 14 27.8**	**+2.2**
G06A	**Carlson Farm,**	**1.53**	**220**	*ePn*	**Pb**	**04 14 07.1**	**-0.7**
G06A				*e*Sn	**Sg**	**04 14 28.5**	**+0.7**
DPW	**Davenport**	**1.62**	**25**	*ePn*	**Pn**	**04 14 08.1**	**-0.2**
LON	**Longmire**	**1.81**	**282**	*ePn*	**Pb**	**04 14 11.7**	**-0.7**
LON				*e*Sn	**Sb**	**04 14 34.9**	**-0.7**
OBSR	**Observation Ro**	**1.84**	**286**	*ePn*	**Pb**	**04 14 12.4**	**-0.7**
G05D	**Wamic, OR**	**1.87**	**232**	P	**Pb**	**04 14 12.6**	**-0.9**
	baz=50,SNR=99						
G05D				S	**Sb**	**04 14 37.6**	**+0.3**
	baz=50						
B08A	**Colville Reser**	**1.95**	**358**	*ePn*	**Pn**	**04 14 11.8**	**-1.0**
B08A				*e*Sn	**Sg**	**04 14 40.9**	**-0.2**
D05A	**Enumclaw**	**2.04**	**293**	*ePn*	**Pb**	**04 14 14.8**	**-1.6**
D05A				*e*Sn	**Sb**	**04 14 41.5**	**-0.8**
TDL	**Tradedollar La**	**2.06**	**269**	*ePn*	**Pb**	**04 14 15.2**	**-1.6**
BMO	**Blue Mountains**	**2.07**	**138**	*ePn*	**Pn**	**04 14 15.1**	**+0.6**
BMO				*e*Sn	**Sn**	**04 14 40.8**	**0.0**
BMO				*e*Sg	**Sg**	**04 14 45.4**	**+0.4**
SHW	**Mount Saint He**	**2.09**	**265**	*ePn*	**Pb**	**04 14 17.0**	**-0.3**
B201	**Coldwater, Mou**	**2.10**	**268**	*ePn*	**Pn**	**04 14 15.7**	**+0.8**
B941	**Kapowsin**	**2.13**	**287**	*ePn*	**Pb**	**04 14 17.4**	**-0.5**
FL2	**Flat Top 2**	**2.17**	**265**	*ePn*	**Pb**	**04 14 17.1**	**-1.5**
LVP	**Lakeview Peak**	**2.23**	**262**	*ePn*	**Pn**	**04 14 17.4**	**+0.8**
NEW	**Newport**	**2.34**	**37**	P	**Pn**	**04 14 17.9**	**-0.3**
	baz=219						
NEW				Sb	**Sg**	**04 14 53.5**	**-0.3**
	baz=219						
NEW	**Newport**	**2.34**	**37**	*ePn*	**Pn**	**04 14 17.9**	**-0.3**
NEW				*e*Pg	**Pg**	**04 14 23.4**	**-0.1**
NEW				*e*Sn	**Sn**	**04 14 48.0**	**+0.5**
NEW				*e*Sg	**Sg**	**04 14 54.0**	**+0.2**
I05D	**Terrebonne, OR**	**2.55**	**216**	P	**Pn**	**04 14 22.3**	**+1.2**
	baz=34,SNR=28						
B06A	**Marblemount**	**2.60**	**325**	*ePn*	**Pb**	**04 14 26.9**	**+1.1**
B05A	**Bryant**	**2.68**	**315**	P	**Pn**	**04 14 23.4**	**+0.7**
	baz=133,SNR=39						
B05A				Sb	**Sg**	**04 15 02.9**	**-1.9**
	baz=133						
E03A	**Lebam**	**2.99**	**274**	*ePn*	**Pb**	**04 14 33.8**	**+1.2**
NLWA	**Neilton Lookou**	**3.32**	**289**	*ePg*	**Pb**	**04 14 38.4**	**+0.2**
NLWA				*e*Sn	**Sn**	**04 15 11.1**	**-0.6**
NLWA				*e*Sg	**Sg**	**04 15 23.1**	**-2.2**
BSMT	**Bassoo Peak**	**3.36**	**63**	*ePn*	**Pn**	**04 14 33.4**	**+1.1**
PGC	**Sidney**	**3.63**	**310**	*ePn*	**Pn**	**04 14 34.5**	**-1.3**
PGC				*e*Pg	**Pb**	**04 14 44.3**	**+0.9**
PGC				*e*Sn	**Sn**	**04 15 18.9**	**-0.1**
PGC				*e*Sg	**Sb**	**04 15 30.1**	**+2.3**
JTMT	**Jette**	**3.64**	**67**	*ePn*	**Pn**	**04 14 37.4**	**+1.3**
JTMT				*e*Pg	**Pg**	**04 14 47.2**	**-1.1**
JTMT				*e*Sg	**Sg**	**04 15 35.1**	**-0.3**
MSO	**Missoula**	**3.67**	**82**	*ePn*	**Pn**	**04 14 37.2**	**+0.7**
MSO				*e*Sg	**Sg**	**04 15 36.5**	**0.0**
BLMT	**Blacktail Moun**	**3.69**	**63**	*ePn*	**Pn**	**04 14 38.2**	**+1.4**
BLMT				*e*Sn	**Sn**	**04 15 21.2**	**+0.3**
BLMT				*e*Sg	**Sg**	**04 15 34.8**	**-2.2**
SWMT	**Swartz Lake**	**3.75**	**71**	*ePn*	**Pn**	**04 14 38.9**	**+1.3**
SWMT				*e*Pg	**Pg**	**04 14 50.2**	**-0.2**
SWMT				*e*Sg	**Sg**	**04 15 38.4**	**-0.7**
YBMT	**Yellow Bay**	**3.85**	**66**	*ePn*	**Pn**	**04 14 40.1**	**+1.1**
YBMT				*e*Pg	**Pg**	**04 14 52.2**	**-0.1**
MFID	**Camas Ranch**	**3.85**	**140**	*ePn*	**Pn**	**04 14 39.9**	**+0.8**
MFID				*e*Pg	**Pb**	**04 14 49.6**	**+2.2**
MFID				*e*Sg	**Sg**	**04 15 40.5**	**-2.0**
K05A	**Summer Lake**	**3.87**	**198**	*ePn*	**Pn**	**04 14 42.5**	**+3.1**
WVOR	**Wild Horse Val**	**4.00**	**174**	*ePn*	**Pn**	**04 14 41.8**	**+0.8**
WVOR				*e*Pg	**Pg**	**04 14 53.9**	**-1.4**
WVOR				*e*Sg	**Sg**	**04 15 47.1**	**-0.1**
SLMT	**Seeley Lake**	**4.03**	**76**	*ePn*	**Pn**	**04 14 42.0**	**+0.6**
SLMT				*e*Sg	**Sg**	**04 15 48.5**	**+0.5**
CHMT	**Chamberlain Mo**	**4.15**	**81**	*ePn*	**Pn**	**04 14 44.2**	**+1.0**
CHMT				*e*Sg	**Sg**	**04 15 51.5**	**-0.4**
HLID	**Hailey**	**4.45**	**128**	*ePn*	**Pn**	**04 14 48.7**	**+1.4**
HLID				*e*Pg	**Pg**	**04 15 03.0**	**-0.9**
HLID				*e*Sg	**Sg**	**04 16 00.2**	**-1.5**
WALA	**Waterton Lakes**	**4.46**	**52**	*ePn*	**Pn**	**04 14 48.5**	**+1.1**
WALA				*e*Pb	**Pb**	**04 14 58.4**	**+0.6**
WALA				*e*Pg	**Pg**	**04 15 04.0**	**-0.1**
WALA				*e*Sn	**Sn**	**04 15 41.0**	**+1.1**
WALA				*e*Sg	**Sg**	**04 15 59.5**	**-2.3**
LLLB	**Lillooet**	**4.55**	**338**	*ePg*	**Pg**	**04 15 05.0**	**-0.8**
LLLB				*e*Sg	**Sg**	**04 16 02.7**	**-2.0**
MOD	**Modoc Plateau**	**4.58**	**190**	*ePn*	**Pn**	**04 14 49.5**	**+0.6**
MOD				*e*Pg	**Pg**	**04 15 05.2**	**-1.1**
HUMO	**Hull Mountain**	**4.64**	**216**	*ePn*	**Pn**	**04 14 53.0**	**+3.2**
MCMT	**McKenzie Canyo**	**4.75**	**107**	*ePn*	**Pn**	**04 14 53.4**	**+1.8**
MCMT				*e*Sg	**Sg**	**04 16 11.8**	**+0.5**
DLMT	**Dillon**	**4.75**	**100**	*ePn*	**Pn**	**04 14 52.3**	**+0.9**
DLMT				*e*Sg	**Sg**	**04 16 09.8**	**-1.5**
LRM	**Limekiln Ridge**	**4.76**	**95**	*ePn*	**Pn**	**04 14 52.7**	**+1.1**
LRM				*e*Sg	**Sg**	**04 16 10.3**	**-1.0**
HRY	**Holter Researc**	**5.12**	**84**	*ePn*	**Pn**	**04 14 57.1**	**+0.7**
HRY				*e*Sg	**Sg**	**04 16 21.6**	**-1.3**
BOZ	**Bozeman (W)**	**5.36**	**96**	*ePn*	**Pn**	**04 15 00.6**	**+0.8**
	10nm,0.8s						
BOZ				*e*Pg	**Pg**	**04 15 19.3**	**-2.1**
BOZ				*e*Sn	**Sn**	**04 16 03.1**	**+0.9**
BOZ				*e*Sg	**Sg**	**04 16 24.4**	**-6.4**
YHH	**Holmes Hill**	**6.11**	**102**	*ePn*	**Pn**	**04 15 13.2**	**+3.1**
IMW	**Indian Meadow**	**6.38**	**110**	*ePn*	**Pn**	**04 15 13.6**	**-0.3**
IMW				*e*Sg	**Sg**	**04 17 02.2**	**-1.4**
EGMT	**Eagleton**	**6.66**	**73**	*ePn*	**Pn**	**04 15 17.5**	**+0.1**
EGMT				*e*Pg	**Pg**	**04 15 44.5**	**-1.6**
EGMT				*e*Sg	**Sg**	**04 17 08.3**	**-4.0**

*IDC **04** 04:13:42.3±0.7, 31°.18N×103°.57E, h0km, mb4.1/18, mb1 4.2/20, mb1mx4.0/50, mbtmp4.1/20, ML3.9/2, MS3.6/3, Ms1 3.6/3, ms1mx3.1/37, Error ellipse: s-maj=18.2km s-min=14.0km az=38.0*
*ISCJB **04** 04:13:43.5±0.2, 31°.22N±0°.02×103°.80E±0°.04, h16km, mb4.3/37, MS3.5/3, Error ellipse: s-maj=4.5km s-min=3.2km az=3.7*
*NEIC **04** 04:13:44.5±0.3, 31°.19N×103°.77E, h10km, mb4.5/16, Error ellipse: s-maj=8.6km s-min=6.1km az=81.0*
*BJI **04** 04:13:45.4, 31°.27N×103°.62E, h21km, mb4.3/7, mB4.4/1, ML4.6/22, Ms4.2/14, Ms7 4.0/12*
ISC 04 04:13:45.6±0.4, 31°.17N±0°.03×103°.70E±0°.04, h16km, n89, σ1§81/103, mb4.4/37, MS3.5/3, 2C, Sichuan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CD2	**Chengdu**	**0.27**	**168**	⇑*i*Pg	**Pg**	**04 13 51.4**	**-0.1**
CD2				Sg	**Sb**	**04 13 56.8**	**+0.4**
CD2				*s*max	*s*max		
	comp=N,60μm,0.7s						
LZH	**Lanzhou**	**4.90**	**1**	*e*Pn	**Pn**	**04 14 57.7**	**-1.1**
LZH				Pg	**Pb**	**04 15 09.3**	**-1.9**
LZH				Sn	**Sn**	**04 15 53.7**	**-1.6**
LZH				Sg	**Sb**	**04 16 11.4**	**+1.4**
LZH				*s*max	*s*max		
	comp=N,380nm,0.9s						
LZH				*s*max	*s*max		
	comp=E,430nm,1.1s						
LZH				LR	LR		
	comp=E,2μm,5.0s						
LZH				LR	LR		
	comp=Z,2μm,6.4s						
XAN	**Xi'an**	**5.25**	**56**	Pn	**Pn**	**04 15 01.9**	**-1.6**
XAN				Pg	**Pb**	**04 15 17.9**	**+0.8**
XAN				Sn	**Sn**	**04 16 02.2**	**-1.6**
XAN				Sg	**Sb**	**04 16 23.0**	**+3.0**
XAN				*s*max	*s*max		
	comp=N,1μm,0.8s						
XAN				*s*max	*s*max		
	comp=E,980nm,0.8s						
XAN				LR	LR		
	comp=N,3μm,7.7s						
XAN				LR	LR		
	comp=Z,1μm,7.9s						
GYA	**Guiyang**	**5.37**	**150**	Pn	**Pn**	**04 15 06.6**	**+1.4**
GYA				Pg	**Pg**	**04 15 27.7**	**-0.8**
GYA				Sn	**Sn**	**04 16 06.9**	**+0.1**
GYA				Sg	**Sg**	**04 16 35.0**	**-3.1**
GYA				*s*max	*s*max		
	comp=N,700nm,1.2s						
GYA				*s*max	*s*max		
	comp=E,910nm,1.0s						
KMI	**Kunming**	**6.08**	**188**	Pn	**Pn**	**04 15 15.8**	**+0.7**
KMI				Sn	**Sn**	**04 16 25.7**	**+1.1**
KMI				*s*max	*s*max		
	comp=N,110nm,1.7s						
KMI				*s*max	*s*max		
	comp=E,120nm,1.2s						
KMI				LR	LR		
	comp=E,2μm,10.5s						
KMI				LR	LR		
	comp=Z,1μm,12.5s						
GTA	**Gaotai**	**8.81**	**340**	*e*P	**Pn**	**04 15 53.2**	**+0.8**
GTA				pP		04 15 56.6	
GTA				sP		04 15 59.3	
GTA				S	**Sn**	**04 17 34.1**	**+2.7**
GTA				sS		04 17 38.8	
GTA				*p*max	*p*max		
	comp=Z,4.0nm,1.1s						
GTA				*p*max	*p*max		
	comp=Z,80nm,5.5s						
GTA				LR	LR		
	comp=N,520nm,11.9s						
GTA				LR	LR		
	comp=E,890nm,12.1s						
WHN	**Wuhan**	**9.18**	**91**	P	**Pn**	**04 15 56.7**	**-0.7**
WHN				LR	LR		
	comp=N,3μm,5.4s						
WHN				LR	LR		
	comp=E,3μm,10.2s						
WHN				LR	LR		
	comp=Z,2μm,5.6s						
SLVN	**Son La**	**9.80**	**179**	*ePn*	**Pn**	**04 16 05.7**	**-0.3**
	11nm,0.8s						
HHC	**Hu-ho-hao-te**	**11.56**	**31**	*e*P	**Pn**	**04 16 28.9**	**-1.2**
HHC				S	**Sn**	**04 18 34.6**	**-4.3**
HHC				LR	LR		
	comp=E,560nm,6.0s						
HHC				LR	LR		
	comp=Z,270nm,6.5s						
SHL	**Shillong**	**11.80**	**245**	*e*P	**Pn**	**04 16 34.0**	**+0.5**
TIA	**Tai'an**	**12.26**	**62**	⇑P	**Pn**	**04 16 37.9**	**-1.6**
TIA				S	**Sn**	**04 19 02.9**	**+7.1**
TIA				LR	LR		
	comp=N,450nm,4.5s						
TIA				LR	LR		
	comp=E,390nm,5.4s						
CMMT	**Chiang Mai**	**13.03**	**200**	P	**P**	**04 17 01.0**	**+0.4**
	10nm,0.8s,445nm						
CHTO	**Chiang Mai**	**13.04**	**200**	P	**P**	**04 17 01.0**	**+0.4**
	47nm,0.8s						
CHTO	**Chiang Mai**	**13.04**	**200**	*e*Pn	**Pn**	**04 16 51.3**	**+1.1**
NONG	**Nongkai**	**13.06**	**182**	P	**P**	**04 17 02.8**	**+2.0**
	17nm,1.4s,11μm						
CMAR	**Chiang Mai Arr**	**13.37**	**200**	Pn	**Pn**	**04 16 55.1**	**+0.3**
	0.6nm,0.3s,baz=12,slow=11,SNR=8.8						
CMAR				Lg	Lg	04 20 48.0	
	1.0nm,0.3s,baz=13,slow=28,SNR=5.8						
CM01	**Chiang Mai Arr**	**13.40**	**200**	*e*Pn	**Pn**	**04 16 56.5**	**+1.2**
SKNT	**Sakolnakorn**	**14.14**	**179**	P	**P**	**04 17 13.3**	**+0.5**
	32nm,1.1s						
PBKT	**Sadao Pong**	**14.75**	**190**	P	**P**	**04 17 19.4**	**-0.2**
	56nm,0.7s						
CHAI	**Chaiyaphum**	**15.28**	**186**	P	**P**	**04 17 24.9**	**-0.6**
	16nm,0.7s,167nm						
UMPA	**Umpang Tak**	**15.54**	**198**	P	**P**	**04 17 30.8**	**+2.4**
	14nm,0.8s,898nm						
JIRN	**Jiri**	**15.65**	**261**	*e*P	**Pn**	**04 17 27.0**	**+1.1**
	77nm,0.5s						
GUN	**Gumba**	**15.84**	**263**	*e*P	**P**	**04 17 30.5**	**-1.6**
	49nm,0.7s						
UBPT	**Khong Chiam**	**15.90**	**174**	P	**P**	**04 17 33.1**	**+0.7**
	40nm,0.8s						
PKIN	**Phulchoki**	**16.35**	**262**	*e*P	**Pn**	**04 17 33.8**	**-1.0**
	22nm,0.6s						
KKN	**Kakani**	**16.39**	**263**	*e*P	**Pn**	**04 17 35.3**	**+0.1**
	51nm,0.8s						
DMN	**Daman**	**16.59**	**262**	*e*P	**Pn**	**04 17 37.4**	**-0.4**
	68nm,0.8s						
SONM	**Songino Array**	**16.77**	**6**	Pn	**Pn**	**04 17 39.6**	**-0.2**
	0.1nm,0.3s,baz=190,slow=12,SNR=10						
SONA1	**Songino Array**	**16.78**	**6**	*e*Pn	**P**	**04 17 41.2**	**-0.9**
SONA1				*e*Sn	Sn	04 20 33.4	-13
ULN	**Ulaanbaatar**	**16.87**	**8**	*e*Pn	**Pn**	**04 17 39.7**	**-1.4**
	3.9nm,0.9s						
GKN	**Gorkha**	**16.88**	**264**	*e*P	**Pn**	**04 17 41.6**	**+0.3**
	108nm,0.9s						
NAYO	**Nakonayok**	**16.92**	**188**	P	**P**	**04 17 45.1**	**+1.4**
	17nm,0.9s,2μm						
SRDT	**SRDT**	**17.26**	**195**	P	**P**	**04 17 48.7**	**+1.2**
	86nm,2.1s,4μm						
KOLN	**Koldanda**	**17.82**	**264**	*e*P	**Pn**	**04 17 50.6**	**-2.6**
	21nm,0.7s						
WMQ	**Urumqi**	**17.86**	**319**	*e*P	**Pn**	**04 17 50.5**	**-3.0**
PYUN	**Piuthan**	**18.26**	**266**	*e*P	**Pn**	**04 17 55.5**	**-3.0**
PHET	**Kaeng Krachan**	**18.56**	**193**	P	**Pn**	**04 18 04.5**	**+2.5**
TLY	**Talaya**	**20.49**	**360**	P	**P**	**04 18 21.7**	**-1.0**
	0.8nm,0.4s,baz=221,slow=9.3,SNR=2.4						
KS15	**Wonju Array Si**	**20.91**	**66**	*e*P	**P**	**04 18 25.3**	**-2.0**
KSAR	**Wonju Array Be**	**20.91**	**66**	P	**P**	**04 18 27.3**	**0.0**
KS01	**Wonju Array Si**	**20.92**	**66**	*e*P	**P**	**04 18 25.5**	**-2.0**
KSRS	**Korea Array**	**20.94**	**66**	P	**P**	**04 18 27.3**	**-0.4**
	19nm,0.6s,baz=262,slow=10,SNR=62						
KSRS				LR	LR	04 26 59.5	
	comp=Z,86nm,18.6s,baz=282,slow=38						
JOW	**Kunigami**	**21.91**	**95**	P	**P**	**04 18 39.5**	**+1.2**
	14nm,0.7s,baz=262,slow=7.1,SNR=3.7						
MK01	**Makanchi Array**	**22.68**	**319**	*e*P	**P**	**04 18 46.2**	**-0.1**
MK31	**Makanchi Array**	**22.70**	**319**	*e*P	**P**	**04 18 49.9**	**+3.4**
MKAR	**Makanchi Array**	**22.70**	**319**	*e*P	**P**	**04 18 49.9**	**+3.4**
	40nm,0.8s						
MAKZ	**Makanchi**	**22.88**	**319**	*e*P	**P**	**04 18 49.9**	**+1.5**
	12nm,1.2s						
JNU	**Nakatsue**	**23.08**	**78**	P	**P**	**04 18 52.0**	**+1.4**
	5.3nm,0.8s,baz=309,slow=6.5,SNR=4.1						
KSH	**Kashi**	**24.03**	**298**	*e*P	**P**	**04 19 05.2**	**+5.3**
KSH				sP	sP	04 19 12.1	+5.3
KSH				PP	PnPn	04 19 40.0	+11
KSH				S	**S**	**04 23 21.1**	**+4.6**
KSH				sS	sS	04 23 28.1	+3.6
KSH				*p*max	*p*max		
	comp=Z,5.0nm,1.0s						
KSH				LR	LR		
	comp=N,140nm,7.8s						
KSH				LR	LR		
	comp=E,150nm,9.7s						
KSH				LR	LR		
	comp=Z,190nm,9.9s						
USRK	**Ussuriysk Ar.**	**25.75**	**52**	P	**P**	**04 19 15.8**	**+0.4**
	2.1nm,0.7s,baz=260,slow=8.1,SNR=3.9						
AAK	**Ala-Archa**	**25.88**	**304**	P	**P**	**04 19 18.6**	**+1.8**
	1.1nm,0.4s,baz=128,slow=5.9,SNR=4.1						
AAK	**Ala-Archa**	**25.88**	**304**	*e*P	**P**	**04 19 18.4**	**+1.6**
	3.7nm,0.8s						
ZAA0	**Zalesovo Array**	**26.51**	**335**	*e*P	**P**	**04 19 21.9**	**-0.3**
ZALV	**Zalesovo Beam**	**26.51**	**335**	P	**P**	**04 19 21.3**	**-0.9**
	8.2nm,0.8s,baz=142,slow=7.5,SNR=9.7						
KURBB	**Kurchatov Arra**	**26.97**	**323**	P	**P**	**04 19 25.6**	**-0.8**
	5.6nm,0.8s,baz=129,slow=9.2,SNR=27						
KURK	**Kurchatov**	**26.98**	**324**	*e*P	**P**	**04 19 24.9**	**-1.5**
	16nm,1.5s						
KKM	**Kota Kinabalu**	**27.62**	**152**	*e*P	**P**	**04 19 31.4**	**-1.2**
	13nm,0.9s						
KLR	**Kul'dur**	**27.77**	**41**	P	**P**	**04 19 33.9**	**+0.4**
	0.9nm,0.6s,baz=257,slow=11,SNR=2.4						
KLR				LR	LR	04 30 40.1	

	15nm,0.4s							
TRIV	**Trivento**	**0.83**	**242**	Pg	**Pg**	**04 14 20.2**	**+0.1**
	15nm,0.4s							
SGTA	**Sant Agata di**	**1.04**	**187**	Pg	**Pg**	**04 14 23.8**	**-0.2**
SGTA				Sg	**Sb**	**04 14 37.1**	**+0.4**
	22nm,0.6s							
SGTA	**Sant Agata di**	**1.04**	**187**	Pg	**Pg**	**04 14 23.8**	**-0.2**
SGTA				Sg	**Sb**	**04 14 37.1**	**+0.4**
	22nm,0.6s							
MIDA	**Miranda**	**1.09**	**242**	Pg	**Pb**	**04 14 23.8**	**-0.4**
MIDA				Sg	**Sb**	**04 14 38.1**	**0.0**
	18nm,0.6s							
MIDA	**Miranda**	**1.09**	**242**	Pg	**Pb**	**04 14 23.8**	**-0.4**
MIDA				Sg	**Sb**	**04 14 38.1**	**0.0**
	18nm,0.6s							
RNI2	**Rionero Sannit**	**1.13**	**246**	Pg	**Pn**	**04 14 24.7**	**-0.1**
	15nm,0.4s							
RNI2	**Rionero Sannit**	**1.13**	**246**	Pg	**Pn**	**04 14 24.7**	**-0.1**
	15nm,0.4s							
CAFE	**Carife**	**1.16**	**191**	Pg	**Pn**	**04 14 25.3**	**0.0**
CAFE	**Carife**	**1.16**	**191**	Pg	**Pn**	**04 14 25.3**	**0.0**
MRVN	**Minervino Murg**	**1.21**	**155**	Pg	**Pg**	**04 14 27.7**	**+0.4**
MRVN	**Minervino Murg**	**1.21**	**155**	Pg	**Pg**	**04 14 27.7**	**+0.4**
INTR	**Introdacqua**	**1.22**	**263**	Pg	**Pn**	**04 14 26.1**	**0.0**
INTR				Sg	**Sg**	**04 14 43.1**	**-0.3**
	28nm,0.6s							
INTR	**Introdacqua**	**1.22**	**263**	Pg	**Pn**	**04 14 26.1**	**0.0**
INTR				Sg	**Sg**	**04 14 43.1**	**-0.3**
	28nm,0.6s							
VAGA	**Valle Agricola**	**1.23**	**233**	Pg	**Pb**	**04 14 26.7**	**+0.2**
VAGA				Sg	**Sn**	**04 14 42.6**	**+0.3**
VAGA	**Valle Agricola**	**1.23**	**233**	Pg	**Pb**	**04 14 26.7**	**+0.2**
VAGA				Sg	**Sn**	**04 14 42.6**	**+0.3**
MCRV	**Calabrutti - M**	**1.41**	**191**	Pg	**Pb**	**04 14 29.3**	**-0.4**
MCRV				Sg	**Sn**	**04 14 46.9**	**0.0**
MCRV	**Calabrutti - M**	**1.41**	**191**	Pg	**Pb**	**04 14 29.3**	**-0.4**
MCRV				Sg	**Sn**	**04 14 46.9**	**0.0**
AMUR	**Altamura**	**1.50**	**147**	Pg	**Pb**	**04 14 31.4**	**+0.3**
AMUR				Sg	**Sg**	**04 14 52.6**	**+0.5**
	7.0nm,0.3s							
AMUR	**Altamura**	**1.50**	**147**	Pg	**Pb**	**04 14 31.4**	**+0.3**
AMUR				Sg	**Sg**	**04 14 52.6**	**+0.5**
	7.0nm,0.3s							
UDBI	**Udbina**	**2.37**	**4**	*i* Pn	**Pb**	**04 14 45.3**	**-0.7**
UDBI				Sn	**Sb**	**04 15 15.4**	**+0.5**
UDBI	**Udbina**	**2.37**	**4**	*i* Pn	**Pb**	**04 14 45.2**	**-0.7**
UDBI				Sn	**Sb**	**04 15 15.3**	**+0.5**
NVLJ	**Novalja**	**2.44**	**349**	Sn	**Sb**	**04 15 18.3**	**+1.3**
NVLJ	**Novalja**	**2.44**	**349**	Sn	**Sb**	**04 15 18.3**	**+1.3**

IDC 04 04:18:38.8±5.7, 29°.16S×176°.39W, h0km, mb3.5/2, mb1 3.7/2, mb1mx3.4/38, mbtmp3.5/2, Error ellipse: s-maj=328.5km s-min=79.6km az=164.0, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ASAR	**Alice Springs**	**44.59**	**265**	P	P	04 26 52.5	-0.5
	0.2nm,0.4s,baz=107,slow=7.9,SNR=2.6						
WRA	**Warramunga Arr**	**45.48**	**270**	P	P	04 27 00.3	+0.3
	1.0nm,0.8s,baz=110,slow=7.4,SNR=4.9						
FINES	**FINESS Array B**	**144.44**	**342**	PKP	PKPdf	04 38 15.8	-0.6
	1.5nm,0.9s,baz=71,slow=5.0,SNR=3.8						

*ISCJB **04** 04:19:15.2±1.0, 37°.89N±0°.05×142°.49E±0°.09, h14km, mb3.8/4, Error ellipse: s-maj=10.5km s-min=7.2km az=22.9*
*JMA **04** 04:19:17.0±0.3, 37°.94N×142°.44E, h36km±3km, M3.8*
*IDC **04** 04:19:21.8±8.2, 37°.73N×142°.48E, h70km±54km, mb3.5/4, mb1 3.6/8, mb1mx3.3/51, mbtmp3.8/8, ML2.9/3, Error ellipse: s-maj=105.0km s-min=20.9km az=70.0*
ISC 04 04:19:14.9±1.3, 37°.92N±0°.05×142°.52E±0°.09, h14km, n26, σ1§57/23, mb3.7/4, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JIO	**Ouri**	**1.06**	**300**	P	**Pn**	**04 19 35.1**	**-0.3**
JIO				S	**Sb**	**04 19 47.3**	**-1.5**
OFUJ	**Ofunato**	**1.33**	**330**	P	**Pn**	**04 19 39.0**	**-0.1**
JMM	**Marumori**	**1.36**	**268**	P	**Pn**	**04 19 39.1**	**-0.4**
JFK	**Kawauchi**	**1.42**	**247**	P	**Pn**	**04 19 39.8**	**-0.5**
JMK	**Ichinoseki**	**1.45**	**316**	P	**Pn**	**04 19 40.9**	**+0.2**
JOU	**Okura**	**1.53**	**287**	P	**Pb**	**04 19 42.3**	**-0.7**
JFT	**Otama**	**1.77**	**258**	P	**Pb**	**04 19 45.9**	**-1.3**
JFT				*e*S	**Sn**	**04 20 06.8**	**-0.8**
JOM	**Ohasama**	**1.82**	**329**	P	**Pn**	**04 19 46.6**	**+0.8**
JYS	**Shirataka**	**1.96**	**280**	P	**Pn**	**04 19 48.5**	**+0.8**
JYK	**Kaneyama**	**1.96**	**301**	P	**Pn**	**04 19 48.6**	**+0.8**
JRG	**Rokugo**	**2.08**	**316**	P	**Pb**	**04 19 51.7**	**-0.8**
MJAR	**Matsushiro Arr**	**3.70**	**249**	P	**Pn**	**04 20 14.8**	**+3.1**
	1.6nm,0.3s,baz=65,slow=9.1,SNR=11						
MJAR				S	**Sn**	**04 20 56.4**	**+1.2**
	1.1nm,0.3s,baz=72,slow=16,SNR=4.1						
MAT	**Matsushiro**	**3.71**	**249**	P	**Pn**	**04 20 14.8**	**+3.1**
MAT				*e*S	**Sn**	**04 20 55.4**	**+0.2**
JHJ	**Hachijo jima 2**	**5.29**	**206**	P	**Pn**	**04 20 34.8**	**+1.4**
	baz=90,slow=20,SNR=3.1						
JHJ				S	**Sn**	**04 21 30.4**	**-3.8**
	12nm,0.3s,baz=66,slow=20,SNR=3.4						
USRK	**Ussuriysk Ar.**	**10.12**	**312**	P	Pn	04 21 46.1	+6.3
	0.3nm,0.3s,baz=120,slow=14,SNR=3.0						
KSRS	**Korea Array**	**11.57**	**272**	P	Pn	04 22 05.4	+5.8
	0.2nm,0.3s,baz=92,slow=15,SNR=4.1						
H11N2	**WAKE ISLAND Hy**	**27.88**	**124**	T	T	04 54 16.8	
	baz=314,slow=75						
H11N1	**WAKE ISLAND Hy**	**27.89**	**124**	T	T	04 54 21.5	
	baz=314						
H11N3	**WAKE ISLAND Hy**	**27.90**	**124**	T	T	04 54 20.9	
	baz=314,slow=75						
SONM	**Songino Array**	**28.04**	**302**	P	**P**	**04 25 06.9**	**+1.2**
	0.4nm,0.4s,baz=93,slow=7.7,SNR=3.0						
H11S1	**WAKE ISLAND Hy**	**28.64**	**126**	T	T	04 55 13.1	
	baz=317						
H11S3	**WAKE ISLAND Hy**	**28.64**	**126**	T	T	04 55 25.8	
	baz=317						
H11S2	**WAKE ISLAND Hy**	**28.65**	**126**	T	T	04 55 26.8	
	baz=317						
ZALV	**Zalesovo Beam**	**41.97**	**312**	P	**P**	**04 27 06.5**	**+1.3**
	0.9nm,0.4s,baz=93,slow=7.7,SNR=3.1						
KURBB	**Kurchatov Arra**	**46.15**	**307**	P	**P**	**04 27 39.5**	**+0.7**
	1.8nm,0.4s,baz=83,slow=8.1,SNR=10						
WRA	**Warramunga Arr**	**58.07**	**189**	P	**P**	**04 29 06.7**	**-1.0**
	0.4nm,0.6s,baz=8.2,slow=7.3,SNR=3.9						

*ISCJB **04** 04:42:37.4±0.3, 50°.21N±0°.01×12°.52E±0°.02, h8km±4km, Error ellipse: s-maj=2.5km s-min=2.2km az=20.1*
*IASPEI **04** 04:42:38.7±0.8, 50°.25N±0°.02×12°.45E±0°.02, h10km±3km, Error ellipse: s-maj=3.2km s-min=2.3km az=101.0, GT5 selection from ISC bulletin GT5 identified by Bond¨¡r and McLaughlin (2009) selection criteria Bond¨¡r and McLaughlin, A new ground truth data set for seismic studies, Seism. Res. Let., 80, 465-472, 2009*
*BGR **04** 04:42:38.9±0.2, 50°.26N×12°.44E, h11km±1km, ML2.4/6, Error ellipse: s-maj=2.2km s-min=1.1km az=101.0*
*CSEM **04** 04:42:38.7±0.1, 50°.24N×12°.49E, h5km, ML2.7/19, Error ellipse: s-maj=1.4km s-min=1.2km az=53.0*
*VIE **04** 04:42:38.2±0.6, 50°.24N×12°.49E, h4km±12km, mb2.0/1, ML2.4/7, Error ellipse: s-maj=7.1km s-min=2.7km az=55.0*
*PRU **04** 04:42:39.5, 50°.24N×12°.51E, h0km, West Bohemia Swarm*
*CLL **04** 04:42:39.5±0.3, 50°.3N±0°.8×1°.2E±°, h7km±1km, ml2.2*
ISC 04 04:42:39.1±0.8, 50°.25N±0°.01×12°.47E±0°.02, h9km±3km, n83, σ0§75/147, 8D, Germany

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NKC	**Novy Kostel**	**0.02**	**214**	⇓*i* PG	**Pg**	**04 42 40.8**	**-0.1**
NKC				*e*SG	**Sg**	**04 42 41.5**	**-0.5**
	comp=Z,2μm,0.2s						
NKC	**Novy Kostel**	**0.02**	**214**	⇓*i* Pg	**Pg**	**04 42 40.8**	**-0.1**
NKC				*i* Sg	**Sg**	**04 42 41.8**	**-0.2**
NKC	**Novy Kostel**	**0.02**	**214**	*e*Pg	**Pg**	**04 42 40.8**	**-0.1**
NKC				*e*Sg	**Sg**	**04 42 41.8**	**-0.2**
NKC	**Novy Kostel**	**0.02**	**214**	Pg	**Pg**	**04 42 40.8**	**-0.1**
NKC				Sg	**Sg**	**04 42 41.5**	**-0.5**
	2μm,0.2s						
WERN	**Wernitzgruen**	**0.07**	**304**	*i* Pg	**Pg**	**04 42 41.1**	**-0.2**
WERN				*i* Sg	**Sg**	**04 42 42.4**	**-0.4**
WERN				AML	AML	04 42 42.5	
	comp=N,2μm,0.1s						
WERN	**Wernitzgruen**	**0.07**	**304**	*e*Pg	**Pg**	**04 42 41.1**	**-0.2**
WERN				*e*Sg	**Sg**	**04 42 42.4**	**-0.4**
WERN	**Wernitzgruen**	**0.07**	**304**	Pg	**Pg**	**04 42 41.1**	**-0.2**
WERN				Sg	**Sg**	**04 42 42.4**	**-0.4**
ROHR	**Rohrbach**	**0.10**	**261**	*i* Pg	**Pg**	**04 42 41.4**	**-0.2**
ROHR				*i* Sg	**Sg**	**04 42 42.8**	**-0.6**
ROHR				AML	AML	04 42 42.9	
	comp=E,2μm,0.1s						
ROHR	**Rohrbach**	**0.10**	**261**	*e*Pg	**Pg**	**04 42 41.4**	**-0.2**
ROHR				*e*Sg	**Sg**	**04 42 42.8**	**-0.6**
ROHR	**Rohrbach**	**0.10**	**261**	Pg	**Pg**	**04 42 41.4**	**-0.2**
ROHR				Sg	**Sg**	**04 42 42.8**	**-0.6**
GUNZ	**Gunzen**	**0.14**	**323**	*i* Pg	**Pg**	**04 42 42.2**	**-0.1**
GUNZ				*i* Sg	**Sg**	**04 42 44.1**	**-0.5**
GUNZ				AML	AML	04 42 44.5	
	comp=E,254nm,0.2s						
GUNZ	**Gunzen**	**0.14**	**323**	*e*Pg	**Pg**	**04 42 42.2**	**-0.1**
GUNZ				*e*Sg	**Sg**	**04 42 44.1**	**-0.5**
GUNZ	**Gunzen**	**0.14**	**323**	Pg	**Pg**	**04 42 42.2**	**-0.1**
GUNZ				Sg	**Sg**	**04 42 44.1**	**-0.5**
TANN	**Tannenbergstha**	**0.17**	**359**	*i* Pg	**Pg**	**04 42 42.6**	**-0.2**
TANN				*i* Sg	**Sg**	**04 42 44.8**	**-0.5**
TANN				AML	AML	04 42 44.9	
	comp=N,668nm,0.1s						
MULD	**Muldenberg**	**0.17**	**347**	*i* Pg	**Pg**	**04 42 42.6**	**-0.1**
MULD				*i* Sg	**Sg**	**04 42 44.8**	**-0.5**
MULD				AML	AML	04 42 44.9	
	comp=E,731nm,0.2s						
MULD	**Muldenberg**	**0.17**	**347**	*e*Pg	**Pg**	**04 42 42.6**	**-0.1**
MULD				*e*Sg	**Sg**	**04 42 44.8**	**-0.5**
MULD	**Muldenberg**	**0.17**	**347**	Pg	**Pg**	**04 42 42.6**	**-0.1**
MULD				Sg	**Sg**	**04 42 44.8**	**-0.5**
WERD	**Werda**	**0.22**	**333**	*i* Pg	**Pg**	**04 42 43.5**	**-0.2**
WERD				*e*Sg	**Sg**	**04 42 46.3**	**-0.6**
WERD				AML	AML	04 42 46.4	
	comp=E,138nm,0.1s						
WERD	**Werda**	**0.22**	**333**	*e*Pg	**Pg**	**04 42 43.5**	**-0.2**
WERD				*e*Sg	**Sg**	**04 42 46.2**	**-0.6**
WERD	**Werda**	**0.22**	**333**	Pg	**Pg**	**04 42 43.5**	**-0.2**
WERD				Sg	**Sg**	**04 42 46.2**	**-0.6**
TRIB	**Obertriebel**	**0.23**	**296**	*i* Pg	**Pg**	**04 42 43.6**	**-0.3**
TRIB				*i* Sg	**Sg**	**04 42 46.8**	**-0.4**
TRIB				AML	AML	04 42 46.8	
	comp=E,278nm,0.1s						
TRIB	**Obertriebel**	**0.23**	**296**	*e*Pg	**Pg**	**04 42 43.6**	**-0.3**
TRIB				*e*Sg	**Sg**	**04 42 46.5**	**-0.6**
TRIB	**Obertriebel**	**0.23**	**296**	Pg	**Pg**	**04 42 43.6**	**-0.3**
TRIB				Sg	**Sg**	**04 42 46.5**	**-0.6**
PLN	**Plauen**	**0.31**	**320**	*i* Pg	**Pg**	**04 42 45.0**	**-0.2**
PLN				*e*Sg	**Sg**	**04 42 49.0**	**-0.4**
PLN				AML	AML	04 42 49.0	
	comp=E,115nm,0.2s						
PLN	**Plauen**	**0.31**	**320**	*e*Pg	**Pg**	**04 42 45.0**	**-0.2**
PLN				*e*Sg	**Sg**	**04 42 48.9**	**-0.5**
PLN	**Plauen**	**0.31**	**320**	Pg	**Pg**	**04 42 45.0**	**-0.2**
PLN				Sg	**Sg**	**04 42 48.9**	**-0.5**
SCHF	**Schoenfels**	**0.43**	**355**	*i* Pg	**Pg**	**04 42 47.4**	**-0.2**
SCHF				*i* Sg	**Sg**	**04 42 53.0**	**-0.2**
SCHF				AML	AML	04 42 53.2	
	comp=E,677nm,0.2s						
SCHF	**Schoenfels**	**0.43**	**355**	*e*Pg	**Pg**	**04 42 47.3**	**-0.2**
SCHF				*e*Sg	**Sg**	**04 42 52.5**	**-0.7**
SCHF	**Schoenfels**	**0.43**	**355**	Pg	**Pg**	**04 42 47.3**	**-0.2**
SCHF				Sg	**Sg**	**04 42 52.5**	**-0.7**
ROTZ	**Rotzenmuhle**	**0.51**	**199**	*e*Pg	**Pg**	**04 42 49.0**	**0.0**
ROTZ				*e*Sg	**Sg**	**04 42 55.7**	**-0.1**
ROTZ	**Rotzenmuhle**	**0.51**	**199**	Pg	**Pg**	**04 42 49.0**	**0.0**
ROTZ				Sg	**Sg**	**04 42 55.7**	**-0.1**
MLFH	**Mildenfurth**	**0.59**	**336**	*i* Pg	**Pg**	**04 42 50.3**	**-0.4**
MLFH				*i* Sg	**Sg**	**04 42 57.8**	**-0.6**
MOX	**Moxa**	**0.67**	**306**	*e*Pg	**Pg**	**04 42 51.7**	**-0.4**
MOX				*e*Sg	**Sg**	**04 43 00.3**	**-0.6**
MOX	**Moxa**	**0.67**	**306**	Pg	**Pg**	**04 42 51.7**	**-0.4**
MOX				Sg	**Sg**	**04 43 00.3**	**-0.6**
FBE	**Freiberg**	**0.88**	**40**	*e*Pg	**Pg**	**04 42 56.0**	**0.0**
FBE				*e*Sg	**Sg**	**04 43 07.3**	**-0.2**
FBE	**Freiberg**	**0.88**	**40**	Pg	**Pg**	**04 42 56.0**	**0.0**
FBE				Sg	**Sg**	**04 43 07.3**	**-0.2**
GRA1	**Grafenberg Arr**	**0.98**	**236**	Pg	**Pg**	**04 42 57.6**	**-0.3**
GRA1				Sg	**Sg**	**04 43 09.8**	**-0.8**
GRF	**Grafenberg Arr**	**0.98**	**236**	*e*Pg	**Pg**	**04 42 57.6**	**-0.3**
GRF				*e*Sg	**Sg**	**04 43 09.8**	**-0.8**
CLL	**Collm**	**1.11**	**18**	*e*Pg	**Pg**	**04 42 59.6**	**-0.9**
CLL				*e*Sg	**Sg**	**04 43 14.3**	**-0.7**
CLL	**Collm**	**1.11**	**18**	Pg	**Pg**	**04 42 59.6**	**-0.9**
CLL				Sg	**Sg**	**04 43 14.3**	**-0.7**
CLL	**Collm**	**1.11**	**18**	*i* Pg	**Pg**	**04 43 00.0**	**-0.5**
CLL				*i* Sg	**Sg**	**04 43 14.5**	**-0.5**
	comp=Z,17nm,0.5s						
CLL				*i*		04 43 19.0	
BRG	**Berggiesshubel**	**1.13**	**56**	PG	**Pg**	**04 43 00.5**	**-0.3**
BRG				SG	**Sg**	**04 43 15.3**	**-0.1**
	comp=Z,24nm,0.4s						
BRG	**Berggiesshubel**	**1.13**	**56**	*e*Pg	**Pg**	**04 43 00.6**	**-0.3**
BRG				*e*Sg	**Sg**	**04 43 15.4**	**-0.1**
BRG	**Berggiesshubel**	**1.13**	**56**	Pg	**Pg**	**04 43 00.6**	**-0.2**
BRG				Sg	**Sg**	**04 43 15.4**	**-0.1**
WET	**Wettzell**	**1.14**	**166**	⇓*e*PG	**Pg**	**04 43 00.5**	**-0.5**
WET				*e*SG	**Sg**	**04 43 14.7**	**-1.0**
WET	**Wettzell**	**1.14**	**166**	*e*Pg	**Pg**	**04 43 00.4**	**-0.5**
WET				*e*Sg	**Sg**	**04 43 15.7**	**0.0**
WET	**Wettzell**	**1.14**	**166**	Pg	**Pg**	**04 43 00.4**	**-0.5**
WET				Sg	**Sg**	**04 43 15.7**	**0.0**
PRA	**Prague**	**1.28**	**97**	⇓*e*PG	**Pb**	**04 43 03.3**	**0.0**
PRA				*e*SG	**Sb**	**04 43 19.6**	**-0.2**
	comp=Z,28nm,0.6s						
PRA	**Prague**	**1.28**	**97**	Pg	**Pb**	**04 43 03.3**	**0.0**
PRA				Sg	**Sb**	**04 43 19.6**	**-0.2**
	comp=Z,28nm,0.6s						
KHC	**Kasperske Hory**	**1.33**	**147**	*e*PG	**Pn**	**04 43 03.4**	**-0.5**
KHC				*e*SG	**Sb**	**04 43 20.1**	**-1.3**
	comp=Z,11nm,0.2s						
KHC	**Kasperske Hory**	**1.33**	**147**	Pg	**Pn**	**04 43 03.4**	**-0.5**
KHC				Sg	**Sb**	**04 43 20.1**	**-1.3**
	comp=Z,11nm,0.2s						
PRU	**Pruhonice**	**1.36**	**100**	⇓*e*PG	**Pn**	**04 43 04.4**	**+0.1**
PRU				*e*SG	**Sn**	**04 43 22.3**	**-0.1**
	comp=Z,21nm,0.2s						
PRU	**Pruhonice**	**1.36**	**100**	Pg	**Pn**	**04 43 04.4**	**+0.1**
PRU				Sg	**Sn**	**04 43 22.3**	**-0.1**
	comp=Z,21nm,0.2s						
PVCC	**Panska Ves**	**1.38**	**77**	⇓*e*PG	**Pg**	**04 43 05.2**	**-0.3**
PVCC				*e*SG	**Sg**	**04 43 23.6**	**+0.3**
	comp=Z,46nm,0.2s						
PVCC	**Panska Ves**	**1.38**	**77**	Pg	**Pg**	**04 43 05.2**	**-0.3**
PVCC				Sg	**Sg**	**04 43 23.6**	**+0.3**
	comp=Z,46nm,0.2s						
GOPC	**GO Pecny, Ondr**	**1.53**	**102**	*e*PG	**Pb**	**04 43 07.6**	**-0.1**
GOPC				*e*SG	**Sb**	**04 43 27.5**	**+0.3**
	comp=Z,19nm,0.2s						
GOPC	**GO Pecny, Ondr**	**1.53**	**102**	Pg	**Pb**	**04 43 07.6**	**-0.1**
GOPC				Sg	**Sb**	**04 43 27.5**	**+0.3**
	comp=Z,19nm,0.2s						
TREC	**Trest**	**2.18**	**115**	⇓*e*SG	**Sb**	**04 43 46.6**	**+0.8**
	comp=Z,7.6nm,0.2s						
TREC	**Trest**	**2.18**	**115**	Sg	**Sb**	**04 43 46.6**	**+0.8**
	comp=Z,7.6nm,0.2s						
UPC	**Upice**	**2.29**	**82**	⇓*e*PG	**Pg**	**04 43 22.4**	**-0.5**
UPC				*e*SG	**Sb**	**04 43 49.9**	**+1.1**
	comp=Z,7.2nm,0.2s						
UPC	**Upice**	**2.29**	**82**	Pg	**Pg**	**04 43 22.4**	**-0.5**
DPC	**Dobruska-Polom**	**2.48**	**86**	*e*PG	**Pg**	**04 43 26.8**	**+0.3**
DPC				*e*SG	**Sb**	**04 43 56.1**	**+1.8**
	comp=Z,7.5nm,0.4s						
DPC	**Dobruska-Polom**	**2.48**	**86**	Sg	**Sb**	**04 43 56.1**	**+1.8**
	comp=Z,7.5nm,0.4s						
KSP	**Ksiaz**	**2.51**	**75**	*e*Pg	**Pg**	**04 43 26.5**	**-0.8**
KSP				*e*Sg	**Sg**	**04 43 58.7**	**-1.1**
KSP	**Ksiaz**	**2.51**	**75**	*e*Pg	**Pg**	**04 43 26.5**	**-0.8**
KSP				*e*Sg	**Sg**	**04 43 58.7**	**-1.1**
MOA	**Molln**	**2.68**	**153**	Sg	**Sg**	**04 44 03.8**	**-1.3**
	comp=Z,1.5nm,0.2s						
KRLC	**Kraliky**	**2.78**	**92**	*e*SG	**Sg**	**04 44 06.9**	**-1.5**
KRLC	**Kraliky**	**2.78**	**92**	Sg	**Sg**	**04 44 06.9**	**-1.5**
WATA	**Walderalm**	**2.98**	**192**	Sg	**Sg**	**04 44 15.8**	**+1.2**
	comp=Z,1.1nm,0.2s						
RETA	**Reutte**	**2.98**	**203**	Pg	**Pg**	**04 43 35.9**	**-0.4**
	comp=Z,0.3nm,0.2s						
RETA				Sg	**Sg**	**04 44 15.7**	**+0.8**
	comp=Z,3.3nm,0.3s						
WTTA	**Wattenberg**	**3.04**	**191**	Sg	**Sg**	**04 44 17.6**	**+1.0**
	comp=Z,0.5nm,0.1s						
MOTA	**Moosalm**	**3.04**	**198**	Pg	**Pg**	**04 43 36.6**	**-0.8**
	comp=Z,0.6nm,0.2s						
MOTA				Sg	**Sg**	**04 44 16.6**	**-0.2**
	comp=Z,1.0nm,0.2s						
CONA	**Conrad Observa**	**3.22**	**135**	Pn	**Pn**	**04 43 31.1**	**+1.2**
	comp=Z,0.1nm,0.1s						
CONA				Sn	**Sn**	**04 44 08.6**	**+0.2**
	comp=Z,0.3nm,0.2s						
KBA	**Koelnbreinsper**	**3.23**	**169**	Sg	**Sg**	**04 44 23.3**	**+0.6**
DAVA	**Damuels**	**3.42**	**211**	Sg	**Sg**	**04 44 28.6**	**-0.4**
	comp=Z,1.5nm,0.3s						
FETA	**Feichten**	**3.43**	**200**	Sg	**Sg**	**04 44 29.1**	**-0.1**
ABTA	**Abfaltersbach**	**3.50**	**179**	Sg	**Sg**	**04 44 30.8**	**-0.8**
	comp=Z,2.7nm,0.4s						
ARSA	**Arzberg**	**3.62**	**145**	Sg	**Sg**	**04 44 32.7**	**-2.6**
	comp=Z,0.2nm,0.1s						
SMOL	**Smolenice**	**3.68**	**116**	*e*Sg	**Sg**	**04 44 36.2**	**-1.0**
SMOL	**Smolenice**	**3.68**	**116**	*e*SG	**Sg**	**04 44 36.2**	**-1.0**
MYKA	**Terra Mystica**	**3.71**	**167**	Sg	**Sg**	**04 44 35.6**	**-2.5**
	comp=Z,0.1nm,0.1s						
OBKA	**Obir**	**3.99**	**159**	Sn	**Sn**	**04 44 28.9**	**+1.5**
	comp=Z,1.5nm,0.3s						
VYHS	**Vyhne**	**4.52**	**110**	*e*SG	**Sb**	**04 44 57.0**	**+3.9**

TRN 04 04:51:20.2, 17°.17N×62°.19W, h16km, MD3.7, 1C, Leeward Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BPA	**Boggy Peak**	**0.34**	**112**	*e*P	Pn	04 51 29.9	-0.6
BPA				*e*S	Sn	04 51 35.4	-1.7
MLYT	**Lee's Yard**	**0.45**	**180**	*e*P	Pb	04 51 30.3	+0.6
ANWB	**Willy Bob**	**0.63**	**38**	*e*P	Pn	04 51 35.0	+0.6
ANWB				*e*S	Sn	04 51 44.8	+0.7
SEUS	**St. Eustatius**	**0.82**	**293**	*e*P	Pn	04 51 38.2	+1.2
SABA	**Saba**	**1.10**	**294**	*e*P	Pg	04 51 42.0	+0.5
SSG	**Sans Toucher**	**1.18**	**156**	⇑*i*P	Pg	04 51 43.1	0.0
SMRT	**St. Maarten**	**1.22**	**316**	*e*P	Pg	04 51 44.0	+0.2
TBG	**Guadaloupe-3**	**1.41**	**158**	*e*P	Pg	04 51 47.0	-0.5
TBG				*e*S	Sg	04 52 06.0	+0.1
MGG	**Marie-Galante**	**1.50**	**146**	*e*P	Pg	04 51 48.9	-0.3
MGG				*e*S	Sg	04 52 09.2	+0.5
BBL	**Barber's Block**	**1.78**	**157**	*e*P	Pb	04 51 51.9	-0.5
DWS	**Wesley**	**1.80**	**152**	*e*P	Pb	04 51 53.3	+0.5
DWS				*e*S	Sb	04 52 15.9	+0.7
PCM	**Pelee Case Pet**	**2.52**	**158**	*e*P	Pn	04 52 02.3	+1.7
CXM	**Morne La Croix**	**2.54**	**157**	*e*P	Pn	04 52 03.1	+2.1
CXM				*e*S	Sn	04 52 34.0	+2.4
FDF	**Fort de France**	**2.62**	**157**	*e*P	Pb	04 52 04.5	-2.3
FDF				*e*S	Sn	04 52 36.0	+2.6
BIM	**Bigot**	**2.85**	**158**	*e*P	Pn	04 52 07.1	+2.1

*NEIC **04** 04:56:24.5±0.0, 17°.18N×62°.22W, h9km, MD4.2(TRN), After TRN.*
TRN 04 04:56:24.6, 17°.18N×62°.22W, h10km, MD4.2, 3C, Leeward Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BPA	**Boggy Peak**	**0.37**	**111**	*e*P	Pn	04 56 35.3	-0.8
BPA				*e*S	Sb	04 56 40.8	+1.6
BPA	**Boggy Peak**	**0.37**	**111**	*e*P	Pn	04 56 35.6	-0.5
BPA				*e*S	Sb	04 56 40.8	+1.6
BPA				*e*		04 58 38.6	
ANWB	**Willy Bob**	**0.64**	**40**	*e*P	Pn	04 56 40.4	+0.7
ANWB				*e*S	Sn	04 56 50.4	+0.5
ANWB	**Willy Bob**	**0.64**	**40**	*e*P	Pn	04 56 40.4	+0.7
ANWB				*e*S	Sn	04 56 50.4	+0.5
SEUS	**St. Eustatius**	**0.79**	**293**	*e*P	Pn	04 56 42.5	+0.7
SEUS	**St. Eustatius**	**0.79**	**293**	*e*	Pn	04 56 53.6	+12
SEUS				*e*S	Sn	04 56 56.0	+2.3
SEUS	**St. Eustatius**	**0.79**	**293**	*e*P	Pn	04 56 42.5	+0.7
S

SHO pmax pmax
comp=E,2µm,0.4s
SHO pmax pmax
comp=Z,5µm,0.4s
SHO pmax pmax
comp=N,1µm,0.2s
SHO smax smax
comp=N,78µm,0.7s
SHO smax smax
comp=E,81µm,0.7s
SHO Shikotan 0.85 262 *i* P **Pn 05 02 19.0 -0.7**
SHO AMB AMB 05 02 22.0
comp=E,1µm,0.3s
SHO AMB AMB 05 02 22.0
comp=E,2µm,0.3s
SHO AMB AMB 05 02 22.0
comp=E,5µm,0.3s
SHO *i* S **Sn 05 02 30.1 -0.8**
SHO A A 05 02 31.3
comp=E,78µm,0.7s
SHO A A 05 02 31.3
comp=E,81µm,0.7s
KUR Kuril'sk 1.25 356 *d i* PN **Pn 05 02 25.4 +0.2**
KUR *i* S **Sn 05 02 41.5 +0.7**
KUR pmax pmax
comp=N,2µm,0.4s
KUR pmax pmax
comp=Z,5µm,0.4s
KUR pmax pmax
comp=E,2µm,0.3s
KUR smax smax
comp=N,7µm,0.4s
KUR smax smax
comp=E,17µm,0.8s
KUR Kuril'sk 1.25 356 *i* P **Pn 05 02 25.4 +0.2**
KUR AMB AMB 05 02 26.3
comp=E,16µm,1.0s
KUR AMB AMB 05 02 27.5
comp=E,2µm,0.6s
KUR AMB AMB 05 02 27.5
comp=E,2µm,0.6s
KUR AMB AMB 05 02 27.5
comp=E,6µm,0.6s
KUR *i* S **Sn 05 02 42.0 +1.2**
KUR A A 05 02 46.2
comp=E,19µm,0.6s
KUR A A 05 02 46.2
comp=E,10µm,0.6s
KUR A A 05 02 46.2
comp=E,73µm,1.0s
KUR A A 05 02 46.2
comp=E,46µm,1.0s
YUK Yuzh-Kuril'sk 1.54 273 *d i* PN **Pn 05 02 29.1 -0.1**
YUK *i* S **Sn 05 02 49.0 +1.2**
YUK pmax pmax
comp=Z,3µm,0.2s
YUK pmax pmax
comp=N,1µm,0.1s
YUK smax smax
comp=N,9µm,0.4s
YUK smax smax
comp=E,26µm,0.4s
YUK Yuzh-Kuril'sk 1.54 273 *i* P **Pn 05 02 29.2 0.0**
YUK AMB AMB 05 02 31.6
comp=E,1µm,0.2s
YUK AMB AMB 05 02 31.6
comp=E,3µm,0.2s
YUK *i* S **Sn 05 02 49.1 +1.2**
YUK A A 05 02 51.3
comp=E,9µm,0.4s
YUK A A 05 02 51.3
comp=E,26µm,0.4s
YUK AMS AMS 05 03 12.0
comp=E,50µm,11.0s
NEM2 Nemuro 2 1.75 250 ⇓P **Pn 05 02 31.0 -1.0**
NEM2 *e*S **Sn 05 02 52.4 -0.6**
JRA Rausu 2.07 270 ⇓P **Pn 05 02 37.1 +0.6**
JNK Nakash 2.40 262 ⇓P **Pn 05 02 41.2 +0.1**
JAK Akkeshi 2.59 249 P **Pn 05 02 43.0 -0.7**
JTKR Abashiri--Toko 2.95 271 ⇓P **Pn 05 02 50.0 +1.4**
JAR Ashorobuto 3.14 259 ⇓P **Pn 05 02 51.9 +0.7**
JOB Onbets 3.21 252 P **Pn 05 02 52.5 +0.3**
JMP Maruseppu 3.34 272 ⇓P **Pn 05 02 55.7 +1.7**
HRK Horoka 3.56 263 *e*P **Pn 05 02 59.1 +2.0**
JCH Churui 3.65 250 P **Pn 05 02 58.2 0.0**
JKK2 Kamakawa 2 3.79 270 ⇓P **Pn 05 03 02.2 +2.0**
JKA Kamikawa-asahi 3.89 274 *e*P **Pn 05 03 03.4 +1.9**
ASAJ Asahikawa 3.89 274 Pn **Pn 05 03 03.4 +1.8**
comp=E,20nm,0.3s,baz=96,slow=13,SNR=32
ASAJ Asahikawa 3.89 274 *e*Pn **Pn 05 03 03.7 +2.1**
JSE Soyaes 3.99 286 P **Pn 05 03 04.6 +1.7**
JFR Furan 4.01 260 P **Pn 05 03 04.9 +1.7**
ERM Erimo 4.06 243 *de*PN **Pn 05 03 06.0 +2.2**
ERM pmax pmax
comp=Z,979nm,1.2s
ERM Erimo 4.06 243 *e*Pn **Pn 05 03 06.2 +2.4**
ERM *e*Sn **Sn 05 03 53.2 +3.2**
JNBK Urakawa-nobuka 4.20 248 P **Pn 05 03 05.7 0.0**
JWK2 Keihoku 4.55 289 P **Pn 05 03 13.9 +3.4**
YSS Yuzh-Sakhalins 4.73 311 ⇓ *i* PN **Pn 05 03 14.8 +1.8**
YSS *e*S **Sn 05 04 07.0 +0.4**
YSS pmax pmax
comp=Z,200nm,0.5s
YSS pmax pmax
comp=Z,700nm,3.0s
YSS smax smax
comp=N,170nm,1.1s
YSS smax smax
comp=E,310nm,1.2s
YSS MLR MLR
comp=Z,5µm,15.0s
YSS MLR MLR
comp=N,3µm,18.0s
YSS MLR MLR
comp=E,4µm,17.0s
YSS Yuzh-Sakhalins 4.73 311 *i* P **Pn 05 03 14.8 +1.8**
YSS AMB AMB 05 03 16.3
comp=E,290nm,0.5s
YSS AMB AMB 05 03 16.3
comp=E,700nm,3.0s
YSS *e*S **Sn 05 04 07.0 +0.4**
YSS A A 05 04 10.0
comp=E,170nm,1.0s
YSS AMS AMS 05 05 08.0
comp=E,3µm,17.0s
YSS AMS AMS 05 05 08.0
comp=E,4µm,17.0s
YSS AMS AMS 05 05 08.0
comp=E,5µm,17.0s
YSS Yuzh-Sakhalins 4.73 311 *e*Pn **Pn 05 03 14.8 +1.8**
JEW Eniwo 4.90 259 P **Pn 05 03 17.4 +2.0**
UGL Uglegorsk 6.53 323 *e*PN **Pn 05 03 40.4 +2.7**
UGL S Sn 05 05 00.5 +10
UGL pmax pmax
comp=Z,220nm,0.8s
UGL pmax pmax
comp=Z,600nm,1.6s
UGL smax smax
comp=N,1µm,3.0s
UGL smax smax
comp=E,2µm,3.0s
UGL MLR MLR
comp=N,2µm,14.0s
UGL MLR MLR
comp=E,3µm,14.0s
UGL MLR MLR
comp=Z,3µm,14.0s
UGL Uglegorsk 6.53 323 *e*P **Pn 05 03 40.4 +2.7**
UGL AMB AMB 05 03 42.0
comp=Z,220nm,0.8s
UGL AMB AMB 05 03 42.0
comp=Z,600nm,2.0s
UGL *e*S **Sn 05 04 52.6 +1.8**
UGL A A 05 05 09.0
comp=Z,1µm,3.0s
UGL A A 05 05 09.0
comp=Z,2µm,3.0s
UGL AMS AMS 05 06 40.0
comp=Z,2µm,14.0s
UGL AMS AMS 05 06 40.0
comp=Z,3µm,14.0s
UGL AMS AMS 05 06 40.0
comp=Z,3µm,14.0s
TYV Tymovskoe 7.77 334 *e*P **Pn 05 03 56.7 +1.9**
TYV AMB AMB 05 04 09.9
comp=Z,1µm,1.0s
TYV *e*S **Sn 05 05 22.9 +1.5**
TYV A A 05 05 44.9
comp=Z,670nm,1.0s
TYV AMS AMS 05 07 00.0
comp=Z,4µm,17.0s
TYV AMS AMS 05 07 00.0
comp=Z,4µm,17.0s
TEY Ternei 8.21 281 *e*P **Pn 05 04 03.9 +3.1**
TEY AMB AMB 05 04 08.2
comp=Z,40nm,0.9s
TEY AMB AMB 05 04 08.2
comp=Z,180nm,0.9s
TEY AMB AMB 05 04 08.2
comp=Z,80nm,0.9s
SKR Severo-Kuril's 8.68 37 *e*PN **Pn 05 04 07.2 +0.1**
SKR MLR MLR
comp=Z,4µm,12.0s
SKR Severo-Kuril's 8.68 37 *e*P **Pn 05 04 07.9 +0.8**
SKR AMB AMB 05 04 11.2
comp=Z,140nm,1.0s
SKR *e*S **Sn 05 05 40.6 -3.0**
SKR A A 05 06 04.0
comp=Z,220nm,0.9s
SKR A A 05 06 04.0
comp=Z,370nm,0.9s
SKR AMS AMS 05 07 20.0
comp=Z,4µm,12.0s
PAU Pauzhetka 9.55 35 *e*P **Pn 05 04 19.1 0.0**
PAU AMB AMB 05 04 35.2
comp=Z,290nm,0.7s
HABR Khabarovsk 10.02 301 *e*PN **Pn 05 04 24.3 -1.3**
HABR pmax pmax
comp=N,24nm,1.3s
HABR pmax pmax
comp=E,123nm,1.3s
HABR pmax pmax
comp=Z,185nm,1.3s
HABR MLR MLR
comp=Z,2µm,13.0s
OKH Okha 10.13 343 ⇑ *i* PN Pn 05 04 32.1 +5.0
OKH *i* S Sn 05 06 33.7 +14
OKH pmax pmax
comp=Z,200nm,4.0s
OKH smax smax
comp=N,1µm,6.0s
OKH smax smax
comp=Z,2µm,14.0s
OKH Okha 10.13 343 *i* P Pn 05 04 32.1 +5.0
OKH AMB AMB 05 04 34.0
comp=Z,200nm,4.0s
OKH A A 05 06 39.2
comp=Z,1µm,6.0s
OKH AMS AMS 05 10 00.2
comp=Z,2µm,14.0s
NKL Nikolayevsk 10.37 335 *i* PN **Pn 05 04 34.0 +3.7**
NKL *e* 05 06 36.0
NKL pmax pmax
comp=N,100nm,1.0s
NKL pmax pmax
comp=E,60nm,1.0s
NKL pmax pmax
comp=Z,120nm,1.0s
NKL pmax pmax
comp=Z,600nm,3.0s
NKL MLR MLR
comp=N,2µm,18.0s
NKL MLR MLR
comp=E,2µm,18.0s
NKL MLR MLR
comp=Z,3µm,18.0s
NKL Nikolayevsk 10.37 335 *e*P **Pn 05 04 34.0 +3.7**
NKL AMB AMB 05 04 36.0
comp=Z,600nm,3.0s
NKL AMS AMS 05 08 38.0
comp=Z,2µm,18.0s
NKL AMS AMS 05 08 38.0
comp=Z,3µm,18.0s
MJAR Matsushiro Arr 10.54 228 Pn **Pn 05 04 31.8 -0.9**
comp=Z,2.5nm,0.3s,baz=30,slow=13,SNR=41
MJAR Sn **Sn 05 06 28.8 -0.7**
comp=Z,0.8nm,0.3s,baz=23,slow=21,SNR=2.8
MJAR LR LR 05 09 00.4
comp=Z,961nm,19.6s,baz=65,slow=39
MJB9 Matsu-Tunnel 10.54 228 *e*Pn **Pn 05 04 32.6 -0.1**
MAJO Matsushiro 10.54 228 *d i* PN **Pn 05 04 32.0 -0.8**
MAJO Matsushiro 10.54 228 *e*P **Pn 05 04 32.6 -0.2**
MAJO Matsushiro 10.54 228 *e*Pn **Pn 05 04 32.2 -0.6**
MAT Matsushiro 10.54 228 P **Pn 05 04 31.5 -1.3**
MAT S **Sn 05 06 25.0 -4.5**
PEA0 Petropavlovsk- 11.16 32 *e*Pn **Pn 05 04 41.9 +0.7**
PEA0B Petropavlovsk- 11.16 32 *e*Pn **Pn 05 04 42.2 +1.1**
PETK Petropavlovsk- 11.16 32 Pn **Pn 05 04 40.4 -0.7**
comp=Z,3.5nm,0.3s,baz=202,slow=9.7,SNR=32
PET Petropavlovsk 11.47 34 *e*PN **Pn 05 04 43.6 -1.7**
USRK Ussuriysk Ar. 11.51 277 Pn **Pn 05 04 48.0 +2.0**
comp=Z,1.2nm,0.3s,baz=92,slow=13,SNR=20
USRK LR LR 05 09 27.9
comp=Z,3µm,18.2s,baz=74,slow=39
VLA Vladivostok 11.72 271 *e*PN **Pn 05 04 50.6 +1.7**
VLA Vladivostok 11.72 271 *e*P **Pn 05 04 50.6 +1.7**
KLR Kul'dur 12.33 301 Pn **Pn 05 05 00.4 +3.2**
comp=Z,0.5nm,0.3s,baz=105,slow=15,SNR=49
KLR Kul'dur 12.33 301 *e*P **Pn 05 05 00.1 +2.9**
MSHR Mys Shultsa 12.35 269 *e*PN **Pn 05 05 00.4 +2.9**
JHJ Hachijo jima 2 12.60 213 LR LR 05 09 18.0
comp=Z,346nm,19.2s,baz=15,slow=34
MDJ Mudanjiang 13.20 279 P **Pn 05 05 12.1 +3.0**
MDJ S **Sn 05 07 36.4 +2.0**
MDJ PcP **PcP 05 10 38.0 -0.1**
MDJ ScP **ScP 05 14 07.8 -0.7**
MDJ PcS **PcS 05 14 13.2 +0.7**
MDJ ScS **ScS 05 17 40.4 -4.6**
MDJ pmax pmax
comp=Z,96nm,1.0s
MDJ pmax pmax
comp=Z,280nm,4.7s
MDJ LR LR
comp=Z,200nm,9.4s
MDJ LR LR
comp=Z,2µm,18.2s
MDJ LR LR
comp=Z,3µm,20.1s
EKMR Ekimchan 13.46 318 *e*P **Pn 05 05 15.0 +2.3**
EKMR AMB AMB 05 05 21.5
comp=Z,50nm,0.9s
KBG Krutoberegovo 15.44 32 *e*P **Pn 05 05 39.0 -0.2**
MA2 Magadan 15.70 5 Pn **Pn 05 05 43.7 +1.1**
comp=Z,1.1nm,0.3s,baz=155,slow=7.6,SNR=14
MA2 Magadan 15.70 5 *e*P **Pn 05 05 42.9 +0.3**
MA2 pmax pmax
comp=Z,41nm,0.9s
MA2 Magadan 15.70 5 *e*P **Pn 05 05 43.6 +1.0**
MA2 Magadan 15.70 5 *e*Pn **Pn 05 05 42.9 +0.3**
comp=Z,41nm,0.9s
CN2 Changchun 16.25 277 *e*P **Pn 05 05 48.8 -0.9**
CN2 *e*PP **pP 05 06 02.7 +1.0**
CN2 *e*S **Sn 05 08 46.8 -1.9**
CN2 pmax pmax
comp=Z,30nm,0.8s
CN2 pmax pmax
comp=Z,200nm,4.0s
CN2 LR LR
comp=Z,900nm,14.0s
CN2 LR LR
comp=Z,2µm,14.0s
CN2 LR LR
comp=Z,2µm,16.0s
BMKR Bomnak 16.40 318 *e*P **Pn 05 05 51.9 +0.4**
BMKR AMB AMB 05 05 58.6
comp=Z,60nm,1.0s
KSRS Korea Array 16.54 254 Pn **Pn 05 05 52.1 -1.2**
comp=Z,0.6nm,0.3s,baz=62,slow=13,SNR=23
KSRS PcP **PcP 05 10 44.2 +1.3**
comp=Z,0.2nm,0.3s,baz=31,slow=1.5,SNR=7.3
KSRS LR LR 05 12 28.6
comp=Z,1µm,19.9s,baz=64,slow=38
KS01 Wonju Array Si 16.55 254 *e*Pn **Pn 05 05 51.7 -1.7**
KS01 *e*PcP **PcP 05 10 43.6 +0.7**
KS15 Wonju Array Si 16.57 254 *e*Pn **Pn 05 05 54.5 +0.8**
KSAR Wonju Array Be 16.57 254 P **Pn 05 05 52.1 -1.7**
KSAR Wonju Array Be 16.57 254 Pn **Pn 05 05 52.1 -1.7**
KSAR PcP **PcP 05 10 44.2 +1.3**
ZEA Zeya 16.72 313 *e*P **Pn 05 05 54.5 -1.0**
ZEA AMB AMB 05 06 05.9
comp=Z,110nm,1.0s
ZEA AMS AMS 05 06 13.3
comp=Z,600nm,14.0s
ZEA AMS AMS 05 06 13.3
comp=Z,1µm,14.0s
ZEA AMS AMS 05 06 13.3
comp=Z,2µm,14.0s
KROS Kirovskiy 17.19 315 *e*P **Pn 05 06 01.8 +0.3**
KROS AMB AMB 05 06 11.8
comp=Z,60nm,1.0s
KROS AMB AMB 05 06 11.8
comp=Z,170nm,1.0s
KROS AMB AMB 05 06 11.8
comp=Z,140nm,1.0s
JNU Nakatsue 17.19 237 P **P 05 06 03.0 +0.1**
comp=Z,1.9nm,0.3s,baz=54,slow=8.5,SNR=36
JNU Nakatsue 17.19 237 *e*Pn **Pn 05 06 01.8 +0.1**
comp=Z,114nm,0.9s
INCN Inchon 17.42 255 *e*Pn **P 05 06 05.7 +0.2**
comp=Z,69nm,1.1s
SNY Shenyang 18.00 272 ⇓P **P 05 06 12.1 +0.4**
SNY S **Sn 05 09 29.9 -1.2**
SNY pmax pmax
comp=Z,20nm,0.5s
SNY pmax pmax
comp=Z,610nm,4.8s
SNY LR LR
comp=Z,1µm,17.4s
SNY LR LR
comp=Z,2µm,19.0s
SNY LR LR
comp=Z,3µm,19.6s
SEY Seymchan 19.15 6 P **P 05 06 23.6 -0.7**
comp=Z,0.6nm,0.3s,baz=183,slow=8.8,SNR=24
CLNS Chul'man 19.42 320 *e*P **Pn 05 06 30.6 +1.9**
CLNS pmax pmax
comp=E,14nm,1.0s
CLNS pmax pmax
comp=Z,26nm,0.9s
CLNS pmax pmax
comp=N,19nm,1.1s
CLNS MLR MLR
comp=N,531nm,13.0s
CLNS MLR MLR
comp=Z,923nm,15.0s
CLNS MLR MLR
comp=E,598nm,14.0s
HIA Hailar 20.04 295 *e*P **P 05 06 33.4 -0.7**
HIA pmax pmax
comp=Z,100nm,1.3s
HIA Hailar 20.04 295 *e*P **P 05 06 33.4 -0.7**
comp=Z,100nm,1.3s
DL2 Dalian 20.36 265 P **P 05 06 37.6 0.0**
DL2 *e*S **S 05 10 23.6 -0.1**
DL2 pmax pmax
comp=Z,160nm,1.0s
DL2 pmax pmax
comp=Z,400nm,3.9s
DL2 LR LR
comp=Z,930nm,15.5s
DL2 LR LR
comp=Z,1µm,19.2s
DL2 LR LR
comp=Z,1µm,17.3s
YAK Yakutsk 21.03 336 P **P 05 06 42.1 -2.5**
comp=Z,96nm,0.7s,baz=136,slow=0.4,SNR=12
YAK Yakutsk 21.03 336 *e*P **P 05 06 41.9 -2.7**
YAK *e* 05 06 57.3
YAK *e*S S 05 10 25.4 -11
YAK *e*SS Sn 05 10 42.9 -0.8
YAK *e* 05 18 03.9
YAK pmax pmax
comp=E,16nm,1.0s
YAK pmax pmax
comp=Z,72nm,0.9s
YAK pmax pmax
comp=N,24nm,1.2s
YAK smax smax
comp=E,56nm,1.7s
YAK smax smax
comp=N,125nm,2.2s
YAK MLR MLR
comp=E,844nm,20.0s
YAK MLR MLR
comp=Z,2µm,20.0s
YAK MLR MLR
comp=N,1µm,19.0s
YAK Yakutsk 21.03 336 *e*P **P 05 06 42.3 -2.3**
comp=N,128nm,0.8s
JOW Kunigami 23.38 229 P **P 05 07 09.8 +0.1**
comp=N,80nm,1.0s,baz=28,slow=7.8,SNR=17
JOW Kunigami 23.38 229 *e*P **P 05 07 10.2 +0.5**
comp=N,101nm,1.0s
BJI Beijing 23.88 272 P **P 05 07 13.7 -0.7**
BJI pP **pP 05 07 24.4 -0.1**
BJI sP **sP 05 07 29.3 +0.4**
BJI S **S 05 11 26.9 -1.2**
BJI sS **sS 05 11 42.7 -2.2**
BJI pmax pmax
comp=N,160nm,1.3s
BJI pmax pmax
comp=N,520nm,3.5s
BJI LR LR
comp=N,2µm,19.9s
BJI LR LR
comp=N,2µm,21.3s
BJT Baijiatuan 23.90 272 *e*P **P 05 07 13.6 -0.9**
BJT pmax pmax
comp=Z,150nm,0.9s
BJT Baijiatuan 23.90 272 *e*P **P 05 07 13.6 -0.9**
comp=Z,150nm,0.9s
SSE Sheshan 24.72 248 P **P 05 07 23.2 +1.1**
SSE pP **pP 05 07 33.4 +1.1**
SSE S **S 05 11 42.4 +0.7**
SSE sS **sS 05 12 01.9 +3.4**
SSE pmax pmax
comp=Z,85nm,0.9s
SSE pmax pmax
comp=Z,390nm,4.7s
SSE LR LR
comp=Z,400nm,21.6s
SSE LR LR
comp=Z,520nm,21.7s
SSE LR LR
comp=Z,880nm,16.5s
TIA Tai'an 24.75 262 ⇑P **P 05 07 22.5 +0.1**
TIA S **S 05 11 48.6 +6.5**
TIA pmax pmax
comp=Z,150nm,0.8s
TIA pmax pmax
comp=Z,700nm,4.8s
TIA LR LR
comp=Z,330nm,13.7s
TIA LR LR
comp=Z,980nm,18.8s
TIA LR LR
comp=Z,850nm,19.0s
BOD Bodaibo 25.19 315 *e*P **P 05 07 21.9 -4.2**
BOD pmax pmax
comp=Z,18nm,1.8s
NJ2 Nanjing 25.73 252 *e*P **P 05 07 32.1 +0.9**
NJ2 S **S 05 12 05.0 +7.4**
NJ2 pmax pmax
comp=Z,110nm,0.9s
NJ2 LR LR
comp=Z,1µm,16.8s
NJ2 LR LR
comp=Z,1µm,16.8s
NJ2 LR LR
comp=Z,2µm,16.3s
BILL Bilibino 25.97 16 *e*P **P 05 07 32.0 -1.1**
BILL pmax pmax
comp=Z,21nm,1.1s
BILL MLR MLR
comp=Z,1µm,20.0s
HHC Hu-ho-hao-te 26.94 276 *e*P **P 05 07 42.0 -0.3**
HHC sP sP 05 07 58.1 +1.3
HHC PP **PnPn 05 08 29.2 +4.1**
HHC S **S 05 12 16.6 -0.3**
HHC sS sS 05 12 30.8 -3.0
HHC pmax pmax
comp=Z,29nm,0.9s
HHC pmax pmax
comp=Z,230nm,3.1s
HHC LR LR
comp=Z,550nm,12.7s
HHC LR LR
comp=Z,1µm,16.9s
HHC LR LR

comp=Z,1µm,17.8s
TIY Taiyuan 27.47 269 *e*P **P 05 07 50.1 +3.1**
TIY S **S 05 12 24.0 -1.2**
TIY pmax pmax
comp=Z,150nm,1.2s
TIY LR LR
comp=Z,550nm,14.1s
TIY LR LR
comp=Z,320nm,11.3s
TIY LR LR
comp=Z,810nm,17.5s
ULN Ulaanbaatar 28.50 292 *de*P **P 05 07 56.7 +0.5**
ULN pmax pmax
comp=Z,15nm,0.8s
ULN Ulaanbaatar 28.50 292 *e*P **P 05 07 56.7 +0.5**
ULN Ulaanbaatar 28.50 292 *e*P **P 05 07 56.1 -0.1**
comp=Z,16nm,0.9s
ULN Ulaanbaatar 28.50 292 P **P 05 07 56.7 +0.5**
SNR=7.9
ULN Ulaanbaatar 28.50 292 P **P 05 07 56.7 +0.5**
SNR=7.9
ULN MLR MLR
comp=Z,2µm,20.6s
TIXI Tiksi 29.25 348 *e*P **P 05 08 03.1 +0.7**
TIXI pmax pmax
comp=Z,12nm,1.1s
TIXI MLR MLR
comp=Z,491nm,17.0s
TIXI Tiksi 29.25 348 *e*P **P 05 08 03.1 +0.7**
WHN Wuhan 29.73 255⇑ *i*P **P 05 08 07.3 +0.3**
WHN pP **pP 05 08 18.4 +1.1**
WHN pmax pmax
comp=Z,87nm,0.7s
WHN LR LR
comp=Z,2µm,22.2s
WHN LR LR
comp=Z,3µm,18.4s
WHN LR LR
comp=Z,3µm,20.5s
H11S1 WAKE ISLAND Hy 29.87 142 T T 05 39 50.4
baz=332,slow=76,SNR=3857
H11S3 WAKE ISLAND Hy 29.88 142 T T 05 39 49.7
baz=332,slow=76,SNR=2532
H11S2 WAKE ISLAND Hy 29.89 142 T T 05 39 51.9
baz=332,slow=76,SNR=2918
TLY Talaya 30.35 301 *e*P **P 05 08 13.6 +1.1**
TLY pmax pmax
comp=Z,7.0nm,0.8s
TLY Talaya 30.35 301 *e*P **P 05 08 13.5 +1.1**
TPUB Ta-pu 30.50 236 *e*P **P 05 08 14.8 +0.7**
TPUB *ep*P **pP 05 08 25.8 +1.5**
ZAK Zakamensk 30.68 298 *e*P **P 05 08 14.0 -1.4**
ZAK pmax pmax
comp=Z,9.0nm,1.3s
XAN Xi'an 31.68 265 P **P 05 08 23.9 -0.5**
XAN pP pP 05 08 35.0 +0.3
XAN sP sP 05 08 41.4 +2.4
XAN pmax pmax
comp=Z,37nm,1.1s
XAN pmax pmax
comp=Z,130nm,7.1s
XAN LR LR
comp=Z,280nm,20.5s
XAN LR LR
comp=Z,710nm,17.3s
XAN LR LR
comp=Z,940nm,18.4s
LZH Lanzhou 34.37 272 *e*P **P 05 08 48.8 +0.8**
LZH pP pP 05 08 59.8 +1.5
LZH sP sP 05 09 03.5 +0.9
LZH PP **PP 05 10 05.1 -1.0**
LZH *e*S **S 05 14 12.6 -0.8**
LZH sS sS 05 14 29.1 -1.3
LZH pmax pmax
comp=Z,230nm,1.3s
LZH pmax pmax
comp=Z,1µm,5.0s
LZH LR LR
comp=Z,3µm,13.8s
LZH LR LR
comp=Z,3µm,14.8s
LZH LR LR
comp=Z,3µm,19.8s
SZP Santa 35.11 230 *e*P **P 05 08 55.4 +1.1**
comp=Z,96nm,1.0s
GTA Gaotai 35.85 280⇑P **P 05 09 00.8 +0.1**
GTA pP pP 05 09 11.6 +0.6
GTA sP sP 05 09 15.4 +0.1
GTA PP **PP 05 10 22.9 +0.5**
GTA PcP **PcP 05 11 28.3 +0.9**
GTA S **S 05 14 35.3 -0.7**
GTA sS sS 05 14 51.7 -1.4
GTA ScP **ScP 05 15 13.5 +2.9**
GTA PcS **PcS 05 15 16.2 +1.3**
GTA SS **SnSn 05 16 57.9 -2.6**
GTA pmax pmax
comp=Z,40nm,1.1s
GTA pmax pmax
comp=Z,250nm,6.4s
GTA LR LR
comp=Z,580nm,15.2s
GTA LR LR
comp=Z,720nm,14.7s
GTA LR LR
comp=Z,990nm,14.7s
TT01 Tatalina 36.86 39 *e*P **P 05 09 09.5 +0.8**
TTA Tatalina 36.86 39 *e*P **P 05 09 09.6 +0.7**
TTA pmax pmax
comp=Z,35nm,1.0s
TTA Tatalina 36.86 39 *e*P **P 05 09 09.6 +0.7**
comp=Z,35nm,1.0s
SVW2 Sparrevohn 36.98 42 *e*P **P 05 09 11.2 +1.3**
comp=Z,75nm,1.2s
CD2 Chengdu 37.03 265⇑ *i*P **P 05 09 10.6 -0.1**
CD2 pP pP 05 09 20.2 -0.9
CD2 sP sP 05 09 24.3 -1.1
CD2 S **S 05 14 45.6 -8.4**
CD2 pmax pmax
comp=Z,120nm,1.1s
CD2 pmax pmax
comp=Z,320nm,5.4s
CD2 LR LR
comp=Z,440nm,16.7s
CD2 LR LR
comp=Z,610nm,19.0s
CD2 LR LR
comp=Z,480nm,17.8s
GYA Guiyang 37.57 256⇑ *i*P **P 05 09 14.5 -0.9**
GYA pP sP 05 09 28.4 -1.7
GYA PP **PnPn 05 10 45.2 +2.7**
GYA PcP **PcP 05 11 34.0 +1.2**
GYA S **S 05 15 02.8 +0.4**
GYA sS sS 05 15 21.0 +1.5
GYA SS **SnSn 05 17 35.4 -6.9**
GYA pmax pmax
comp=Z,20nm,0.8s
GYA pmax pmax
comp=Z,120nm,5.2s
GYA LR LR
comp=Z,520nm,17.6s
GYA LR LR
comp=Z,550nm,18.0s
GYA LR LR
comp=Z,510nm,17.8s
TGY Tagaytay City 37.70 226 P **P 05 09 17.6 +1.2**
comp=Z,170nm,0.3s,baz=304,slow=11,SNR=4.7
OHAK Old Harbor 38.32 49 *e*P **P 05 09 21.3 +0.1**
comp=Z,141nm,1.5s
RSO Redoubt South 38.37 43 *e*P **P 05 09 22.4 +0.5**
PPLA Purkeypile 38.61 39 *e*P **P 05 09 25.3 +1.6**
comp=Z,187nm,1.4s

KDAK Kodiak Island 38.64 48 *e*P **P 05 09 23.7 -0.1**
KDAK pmax pmax
comp=Z,84nm,0.9s
KDAK Kodiak Island 38.64 48 *e*P **P 05 09 23.5 -0.3**
KDAK Kodiak Island 38.64 48 *e*P **P 05 09 23.7 -0.1**
comp=Z,84nm,0.9s
CAST Castle Rocks 38.66 39 *e*P **P 05 09 25.3 +1.2**
comp=Z,41nm,1.0s
SPU Mount Spurr 38.69 42 *e*P **P 05 09 25.4 +1.1**
KTH Kantishna Hill 39.19 38 *e*P **P 05 09 29.7 +1.2**
comp=Z,134nm,1.2s
CNPM China Poot 39.19 45 *e*P **P 05 09 28.8 +0.3**
comp=Z,36nm,0.9s
NRIK Noril'sk 39.34 331 PcP **PcP 05 11 37.6 +0.3**
comp=Z,18nm,0.9s,baz=119,slow=4.0,SNR=6.7
NRIK LR LR 05 27 06.3
comp=Z,734nm,18.5s,baz=114,slow=38
BRLK Bradley Lake 39.35 44 *e*P **P 05 09 30.2 +0.4**
comp=Z,36nm,0.7s
TRF Thorofare Moun 39.47 38 *e*P **P 05 09 31.8 +0.9**
comp=Z,38nm,1.2s
COLD Coldfoot 39.62 33 *e*P **P 05 09 32.5 +0.5**
comp=Z,25nm,0.7s
RC01 Rabbit Creek A 39.82 42 *e*P **P 05 09 34.1 +0.4**
comp=Z,52nm,1.0s
TOLK Toolik Lake Re 39.98 30 P **P 05 09 35.1 +0.1**
baz=265
SEW Seward 40.04 44 *e*P **P 05 09 36.4 +0.9**
comp=Z,34nm,0.7s
MCK McKinley 40.07 38 *e*P **P 05 09 36.5 +0.7**
MCK pmax pmax
comp=Z,50nm,1.0s
MCK McKinley 40.07 38 *e*P **P 05 09 36.5 +0.7**
MCK McKinley 40.07 38 *e*P **P 05 09 36.5 +0.7**
comp=Z,50nm,1.0s
PMR Palmer 40.08 41 *e*P **P 05 09 36.0 +0.2**
PMR *e**PP **pP 05 09 47.9 +1.7**
PMR Palmer 40.08 41 *e*P **P 05 09 36.0 +0.2**
PMR *ep*P **pP 05 09 47.9 +1.7**
MDM Murphy Dome 40.36 36 *e*P **P 05 09 39.0 +0.8**
comp=Z,60nm,0.8s
QIZ Qiongzhong 40.42 244 P **P 05 09 38.9 -0.2**
QIZ S **S 05 15 44.2 -0.9**
QIZ LR LR
comp=Z,370nm,17.4s
QIZ LR LR
comp=Z,300nm,20.9s
QIZ LR LR
comp=Z,480nm,20.2s
QIZ Qiongzhong 40.42 244 *e*P **P 05 09 40.1 +1.0**
WRH Wood River Hil 40.43 37 *e*P **P 05 09 39.2 +0.5**
comp=Z,44nm,1.0s
SML Sawmill 40.44 41 *e*P **P 05 09 39.0 +0.1**
SML pmax pmax
comp=Z,20nm,0.8s
SML Sawmill 40.44 41 *e*P **P 05 09 39.0 +0.1**
comp=Z,20nm,0.8s
COLA College 40.52 36 *e*P **P 05 09 40.5 +1.1**
COLA pmax pmax
comp=Z,93nm,0.8s
COLA College 40.52 36 *e*P **P 05 09 40.1 +0.7**
COLA College 40.52 36 *e*P **P 05 09 40.5 +1.1**
comp=Z,93nm,0.8s
CCB Clear Creek Bu 40.55 37 *e*P **P 05 09 40.0 +0.4**
comp=Z,24nm,0.9s
SCM Sheep Creek Mo 40.91 41 *e*P **P 05 09 43.6 +0.8**
SCM pmax pmax
comp=Z,101nm,1.4s
SCM Sheep Creek Mo 40.91 41 *e*P **P 05 09 43.6 +0.8**
comp=Z,101nm,1.4s
IL1 Eielson Array 40.94 36 *e*P **P 05 09 42.7 -0.2**
ILAR Eielson Array 40.94 36 P **P 05 09 42.9 0.0**
comp=Z,30nm,0.9s,baz=255,slow=6.9,SNR=175
ILAR LR LR 05 29 47.6
comp=Z,316nm,18.3s,baz=268,slow=41
ILB Eielson Array 40.94 36 *e*P **P 05 09 42.9 0.0**
KMI Kunming 41.16 258 P **P 05 09 45.7 +0.2**
KMI pP pP 05 09 55.4 -0.5
KMI sP sP 05 09 59.9 -0.3
KMI S **S 05 15 54.9 -1.6**
KMI sS sS 05 16 12.4 -1.4
KMI SS **SS 05 18 55.2 -4.8**
KMI pmax pmax
comp=Z,74nm,1.1s
KMI pmax pmax
comp=Z,300nm,4.2s
KMI LR LR
comp=Z,540nm,16.2s
KMI LR LR
comp=Z,540nm,14.9s
KMI LR LR
comp=Z,650nm,16.2s
ZAA0 Zalesovo Array 41.34 307 *e*P **P 05 09 46.1 -0.3**
ZAA0 *e*PcP **PcP 05 11 44.0 0.0**
ZALV Zalesovo Beam 41.34 307 P **P 05 09 45.1 -1.2**
comp=Z,3.5nm,0.6s,baz=75,slow=6.3,SNR=18
ZALV PcP **PcP 05 11 43.9 -0.2**
comp=Z,29nm,0.8s,baz=77,slow=2.8,SNR=26
ZALV pPcP 05 11 54.8
comp=Z,18nm,0.8s,baz=87,slow=2.4,SNR=7.9
ZALV LR LR 05 28 02.2
comp=Z,594nm,19.7s,baz=70,slow=38
FYU Fort Yukon 41.57 34 *e*P **P 05 09 49.6 +1.6**
comp=Z,99nm,0.9s
PAX Paxson 41.68 39 *e*P **P 05 09 50.4 +1.3**
PAX pmax pmax
comp=Z,22nm,1.0s
PAX Paxson 41.68 39 *e*P **P 05 09 50.4 +1.3**
comp=Z,22nm,1.0s
DIV Divide 41.73 42 *e*P **P 05 09 50.5 +1.0**
comp=Z,74nm,1.0s
HARP HAARP 41.88 40 *e*P **P 05 09 51.6 +0.9**
comp=Z,81nm,0.9s
NVS Novosibirsk 42.05 309 *e*P **P 05 09 50.8 -1.3**
NVS *e* 05 11 45.5
DOT Dot Lake 42.24 38 *e*P **P 05 09 52.4 -1.2**
comp=Z,64nm,0.9s
BMRM Bremner River 42.32 42 *e*P **P 05 09 55.5 +1.2**
comp=Z,68nm,0.8s
MENT Mentasta 42.48 39 *e*P **P 05 09 56.6 +1.1**
comp=Z,41nm,0.8s
WMQ Urumqi 42.57 292 P **P 05 09 57.2 +0.6**
WMQ sP sP 05 10 14.6 +3.2
WMQ PP **PP 05 11 38.8 +3.3**
WMQ S **S 05 16 17.3 +0.6**
WMQ sS sS 05 16 36.4 +2.3
WMQ ScS **ScS 05 19 49.4 -5.6**
WMQ pmax pmax
comp=Z,32nm,0.9s
WMQ pmax pmax
comp=Z,150nm,5.1s
WMQ LR LR
comp=Z,840nm,16.1s
WMQ LR LR
comp=Z,1µm,16.1s
WMQ LR LR
comp=Z,790nm,18.9s
SLVN Son La 42.80 253 *e*P **P 05 09 58.9 +0.1**
comp=Z,25nm,1.0s
BALM Baldy 43.39 42 *e*P **P 05 10 03.5 +0.4**
BALM pmax pmax
comp=Z,93nm,1.2s
BALM Baldy 43.39 42 *e*P **P 05 10 03.5 +0.4**
comp=Z,93nm,1.2s
DAWY Dawson 44.24 37 *e*P **P 05 10 10.3 +0.6**
comp=Z,19nm,0.9s
MK31 Makanchi Array 45.01 298 P **P 05 10 15.1 -1.0**
MK31 pmax pmax
comp=Z,27nm,0.8s
MAKZ Makanchi 45.21 298 P **P 05 10 16.9 -0.8**
MAKZ pmax pmax
comp=Z,34nm,1.2s
MAKZ Makanchi 45.21 298 *e*P **P 05 10 17.7 0.0**
comp=Z,22nm,0.8s
NONG Nongkai 45.56 250 P **P 05 10 21.5 +0.8**
comp=Z,77nm,1.0s,comp=Z,2µm
HYT Haines Junctio 45.75 41 *e*P **P 05 10 23.7 +1.8**
comp=Z,150nm,1.1s
SKNT Sakolnakorn 45.76 248 P **P 05 10 22.9 +0.6**
comp=Z,83nm,1.1s,comp=Z,3µm
INK Inuvik 45.89 30 *e*P **P 05 10 23.4 +0.7**
INK pmax pmax
comp=Z,38nm,0.9s
INK Inuvik 45.89 30 *e*P **P 05 10 23.4 +0.7**
comp=Z,38nm,0.9s
KURK Kurchatov 45.90 304 *de*P **P 05 10 23.0 0.0**

KURK pmax pmax
comp=Z,186nm,1.5s
KURK Kurchatov 45.90 304 *e*P **P 05 10 23.0 0.0**
KURK Kurchatov 45.90 304 *e*P **P 05 10 23.1 +0.1**
comp=Z,26nm,0.9s
KURK Kurchatov 45.90 304 P **P 05 10 23.0 0.0**
SNR=18
KURK Kurchatov 45.90 304 P **P 05 10 23.0 0.0**
SNR=18
KURK P **P 05 10 23.0 0.0**
SNR=18
UBPT Khong Chiam 46.00 245 P **P 05 10 25.1 +0.9**
comp=Z,50nm,1.0s
MYLDM Lahad Datu 46.54 222 *e*P **P 05 10 30.2 +1.7**
comp=Z,37nm,1.0s
MYLDM Lahad Datu 46.54 222⇑P **P 05 10 30.7 +2.3**
DLV T Lat 46.58 239 *e*P **P 05 10 29.9 +0.9**
comp=Z,50nm,1.2s
LSA Lhasa 46.79 272 *e*P **P 05 10 30.6 -0.3**
LSA pmax pmax
comp=Z,39nm,0.8s
LSA Lhasa 46.79 272 *e*P **P 05 10 30.6 -0.3**
comp=Z,39nm,0.8s
SDKM Sandakan 46.79 224⇓P **P 05 10 31.3 +0.9**
KKM Kota Kinabalu 46.95 226⇑P **P 05 10 32.9 +1.1**
WHY Whitehorse 47.04 41 *e*P **P 05 10 33.4 +1.4**
comp=Z,46nm,1.1s
SKAG Skagway 47.16 43 *e*P **P 05 10 33.9 +1.1**
comp=Z,26nm,1.0s
UTTA Uttaradit 47.55 252 P **P 05 10 37.3 +1.0**
comp=Z,18nm,0.9s,comp=Z,152nm
TSM Tawau 47.62 223⇑P **P 05 10 38.1 +1.3**
LAMP Lampang 47.65 254 P **P 05 10 38.0 +0.9**
comp=Z,32nm,0.8s,comp=Z,269nm
CHAI Chaiyaphum 47.87 249 P **P 05 10 39.1 +0.3**
comp=Z,40nm,0.8s,comp=Z,294nm
CHTO Chiang Mai 47.93 255 P **P 05 10 39.9 +0.6**
comp=Z,321nm,1.0s,comp=Z,3µm
CHTO Chiang Mai 47.93 255 *e*P **P 05 10 40.1 +0.8**
CHTO pmax pmax
comp=Z,67nm,1.0s
CHTO Chiang Mai 47.93 255 *e*P **P 05 10 40.1 +0.8**
comp=Z,67nm,1.0s
CHTO Chiang Mai 47.93 255 P **P 05 10 40.1 +0.8**
SNR=18
CHTO Chiang Mai 47.93 255 P **P 05 10 40.1 +0.8**
SNR=18
CHTO P **P 05 10 40.1 +0.8**
SNR=18
PBKT Sadao Pong 48.08 251 P **P 05 10 41.0 +0.6**
comp=Z,28nm,1.2s
CMAR Chiang Mai Arr 48.17 254 P **P 05 10 42.1 +0.9**
comp=Z,18nm,0.9s,baz=40,slow=7.6,SNR=69
CMAR pP **pP 05 10 51.6 -0.2**
comp=Z,12nm,0.8s,baz=48,slow=7.2,SNR=7.6
CMAR LR LR 05 33 06.0
comp=Z,564nm,18.8s,baz=53,slow=39
CM01 Chiang Mai Arr 48.19 254 *e*P **P 05 10 40.9 -0.3**
PDGK Podgornoye 48.22 294 P **P 05 10 40.1 -1.3**
PDGK pmax pmax
comp=Z,43nm,1.1s
SHL Shillong 48.66 267⇑ *i*P **P 05 10 44.5 -0.5**
MRSI Marisa 49.14 215 P **P 05 10 49.3 +0.8**
comp=Z,87nm,1.1s
NAYO Nakonayok 49.45 248 P **P 05 10 52.1 +1.2**
comp=Z,53nm,1.0s,comp=Z,1µm
UMPA Umpang Tak 49.78 252 P **P 05 10 56.1 +2.6**
comp=Z,20nm,1.1s
BVA0 Borovoye Array 49.82 309 P **P 05 10 51.6 -1.8**
BVA0 pmax pmax
comp=Z,19nm,1.3s
BRVK Borovoye 49.87 310 *de*P **P 05 10 53.8 +0.1**
BRVK pmax pmax
comp=Z,40nm,0.8s
BRVK Borovoye 49.87 310 *e*P **P 05 10 53.8 +0.1**
BRVK Borovoye 49.87 310 *e*P **P 05 10 53.9 +0.2**
comp=Z,22nm,0.8s
BRVK Borovoye 49.87 310 P **P 05 10 54.2 +0.5**
SNR=8.7
BRVK Borovoye 49.87 310 P **P 05 10 54.2 +0.5**
SNR=8.7
BRVK P **P 05 10 54.2 +0.5**
SNR=8.7
SANI Sanana 49.89 209 P **P 05 10 54.2 -0.1**
CHBT CHBT 49.91 246 P **P 05 10 56.1 +1.7**
comp=Z,144nm,1.0s,comp=Z,3µm
DLBC Dease Lake 50.09 43 *e*P **P 05 10 56.5 +1.1**
comp=Z,31nm,1.2s
TAPN Taplejung 50.61 272 *e*P **P 05 11 00.5 +0.4**
comp=Z,101nm,0.9s
PATY Pattaya 50.76 247 P **P 05 11 02.9 +2.1**
comp=Z,31nm,0.8s,comp=Z,3µm
SRDT SRDT 50.91 250 P **P 05 11 04.5 +2.5**
comp=Z,79nm,1.4s
TKM2 Tokmak 2 50.95 296 P **P 05 11 01.7 -0.6**
TKM2 pmax pmax
comp=Z,92nm,1.2s
BTM Bintulu 50.99 227⇓P **P 05 11 03.4 +0.7**
ODAN Odare 51.13 272 *e*P **P 05 11 04.1 +0.2**
comp=Z,48nm,0.8s
PCI Palu 51.28 217 P pP 05 11 17.5 +2.0
JIRN Jiri 51.53 273 *e*P **P 05 11 07.4 +0.4**
comp=Z,1µm,1.0s
PHET Kaeng Krachan 51.59 248 P **P 05 11 08.9 +1.8**
comp=Z,30nm,1.0s
GUN Gumba 51.61 274 *e*P **P 05 11 07.7 +0.1**
comp=Z,254nm,0.9s
FRU Bishkek 51.63 296 *e*P **P 05 11 07.0 -0.2**
FRU pmax pmax
comp=Z,80nm,1.8s
RAMN Ramite 51.65 272 *e*P **P 05 11 07.9 +0.1**
comp=Z,233nm,0.6s
AAK Ala-Archa 51.80 296 *c i*P **P 05 11 08.5 -0.1**
AAK pmax pmax
comp=Z,107nm,1.0s
AAK Ala-Archa 51.80 296 *e*P **P 05 11 08.5 -0.1**
AAK Ala-Archa 51.80 296 *e*P **P 05 11 08.9 +0.2**
comp=Z,42nm,1.0s
AAK Ala-Archa 51.80 296 P **P 05 11 08.9 +0.2**
SNR=18
AAK Ala-Archa 51.80 296 P **P 05 11 08.9 +0.2**
SNR=18
SBUM Sibu 52.08 228 *e*P **P 05 11 11.1 +0.3**
comp=Z,12nm,0.9s
KKN Kakani 52.11 274 *e*P **P 05 11 11.3 +0.1**
comp=Z,189nm,0.9s
PKI Pulchoki 52.14 274 *e*P **P 05 11 11.6 0.0**
comp=Z,159nm,1.0s
PKIN Phulchoki 52.15 274 *e*P **P 05 11 12.1 +0.6**
comp=Z,68nm,0.8s
DMN Daman 52.34 274 *e*P **P 05 11 13.3 +0.4**
comp=Z,211nm,0.9s
KSH Kashi 52.34 292⇑ *i*P **P 05 11 16.6 +4.0**
KSH pP sP 05 11 29.6 +2.0
KSH PcP **PcP 05 12 26.1 +2.7**
KSH PP **PP 05 13 17.9 +6.7**
KSH S **S 05 18 38.4 +2.7**
KSH sS sS 05 18 59.4 +6.0
KSH SS **SS 05 22 15.5 +2.2**
KSH pmax pmax
comp=Z,39nm,1.0s
KSH pmax pmax
comp=Z,150nm,2.8s
KSH LR LR
comp=Z,900nm,13.9s
KSH LR LR
comp=Z,320nm,11.5s
KSH LR LR
comp=Z,2µm,17.3s
GKN Gorkha 52.45 275 *e*P **P 05 11 13.7 +0.1**
comp=Z,214nm,0.9s
MNAS Manas 53.16 297 P **P 05 11 18.4 -0.3**
MNAS pmax pmax
comp=Z,101nm,1.0s
KOLN Koldanda 53.33 275 *e*P **P 05 11 20.6 +0.4**
comp=Z,163nm,0.8s
SVE Sverdlovsk 53.39 317⇑ *i*P **P 05 11 20.1 +0.2**
SVE pmax pmax
comp=Z,34nm,1.2s
PYUN Piuthan 53.58 276 *e*P **P 05 11 22.4 +0.4**
comp=Z,318nm,1.0s
MTKI Muara Teweh, K 53.61 223 P **P 05 11 22.6 +0.6**
KSM Kuching 53.93 229 *e*P **P 05 11 25.4 +1.0**
comp=Z,45nm,1.0s
KK31 Karatay Array 54.14 298 *i* P **P 05 11 25.0 -0.7**
KK31 pmax pmax
comp=Z,44nm,0.9s

KKAR Karatay Array 54.14 298 *e*P P 05 11 25.1 -0.6
KKAR pmax pmax
comp=Z,381nm,1.0s
KKAR Karatay Array 54.14 298 *e*P P 05 11 25.1 -0.6
comp=Z,381nm,1.0s
STKI Sintang 54.48 227 P P 05 11 29.7 +1.3
RES Resolute Bay 54.56 17 *e*P P 05 11 27.8 -0.4
RES Resolute Bay 54.56 17 *e*P P 05 11 27.8 -0.4
ARU Arti 54.59 317 *d i*P P 05 11 27.7 -1.0
ARU *PP pP 05 11 40.0 +0.5
ARU 05 12 29.4
ARU S S 05 19 05.4 -0.1
ARU SS SS 05 22 47.9 +0.1
ARU pmax pmax
comp=Z,30nm,1.2s
ARU MLR MLR
comp=Z,654nm,17.0s
ARU Arti 54.59 317 *e*P P 05 11 27.9 -0.8
ARU Arti 54.59 317 *e*P P 05 11 27.6 -1.1
comp=Z,18nm,0.6s
SKLT Songkhla 55.19 243 P P 05 11 35.4 +1.9
comp=Z,59nm,1.0s
YKA Yellowknife Ar 55.27 34 P P 05 11 33.7 +0.3
comp=Z,14nm,0.8s,baz=300,slow=6.8,SNR=19
YKA LR LR 05 39 34.5
comp=Z,13nm,18.4s,baz=0.0,slow=41
YKA Yellowknife Ar 55.27 34 *e*P P 05 11 33.6 +0.1
SDNR Sundarnagar 55.92 283 *e*P P 05 11 39.0 +0.3
THN Thein Dam 56.27 284 *e*P P 05 11 40.0 -1.1
BWNR Bhubaneshwar 56.30 266 *e*P P 05 11 39.9 -1.6
BWNR lAmb lAmb 05 11 41.3
KULM Kulim 56.60 241 *e*P P 05 11 43.9 +0.2
comp=Z,18nm,1.0s
IPM Ipoh 56.99 240 ⇓P P 05 11 47.5 +1.0
MMRI Maumere 57.34 211 P pP 05 12 07.3 +7.7
MMRI Maumere 57.34 211 *e*P P 05 11 48.2 -0.6
MMRI *e*pP sP 05 12 06.2 +2.3
NDI New Delhi 57.36 280 *e*P P 05 11 49.0 0.0
AB31 Akbulak array 57.39 309 P P 05 11 48.6 -0.2
AB31 pmax pmax
comp=Z,17nm,0.5s
ABKAR Akbulak array 57.39 309 *e*P P 05 11 48.3 -0.5
comp=Z,333nm,0.5s
DZET Dzherino 57.45 294 P P 05 11 49.2 -0.4
DZET pmax pmax
comp=Z,59nm,0.8s
KGM Kluang 57.51 236 ⇑P P 05 11 51.1 +1.1
SOEI Soe 57.66 208 P pP 05 12 04.4 +2.4
COEN Coen 57.83 186 *e*P P 05 11 53.3 +1.1
LLLB Lillooet 57.83 49 *e*P P 05 11 52.7 +0.7
comp=Z,18nm,0.9s
LVZ Lovozero 57.83 336 *e*P P 05 11 52.8 +1.1
LVZ pmax pmax
comp=Z,16nm,1.2s
AKTO Aktyubinsk 57.84 311 P P 05 11 51.0 -1.0
AKTO pmax pmax
comp=Z,17nm,0.9s
A04D Lummi Island 58.37 51 P P 05 11 55.3 -0.4
baz=302
NLWA Neilton Lookou 58.42 53 *e*P P 05 11 57.3 +1.1
comp=Z,23nm,1.0s
MTN Manton Dam 58.61 199 *e*P P 05 11 57.5 -0.1
comp=Z,50nm,0.9s
JBP Jabalpur 58.70 273 ⇑*e*P P 05 11 58.4 0.0
JBP lAmb lAmb 05 11 59.6
comp=Z,58nm,1.3s
JBP *ex* x 05 18 38.0
B05A Bryant 58.96 51 P P 05 11 59.9 +0.1
baz=303
E03A Lebam 59.05 54 *e*P P 05 12 01.7 +1.2
E03A *ep*P pP 05 12 12.1 +0.8
TMCR Tamitsa 59.06 331 *e*P P 05 11 59.5 -0.7
TMCR pmax pmax
comp=Z,46nm,1.0s
DAG Danmarks Havn 59.22 356 *i* P P 05 12 00.5 -0.7
DAG Danmarks Havn 59.22 356 *i* P P 05 12 00.5 -0.7
ARA0 ARCESS Array S 59.24 340 *e*P P 05 11 59.4 -2.1
ARCES ARCESS Array B 59.24 340 P P 05 11 59.2 -2.2
comp=Z,4.4nm,0.7s,baz=50,slow=7.2,SNR=9.9
ARCES LR LR 05 41 16.4
comp=Z,471nm,20.1s,baz=38,slow=40
ARCES ARCESS Array B 59.24 340 *e*P P 05 11 59.1 -2.3
ARE0 ARCESS Array S 59.24 340 *e*P P 05 12 02.1 +0.7
comp=Z,26nm,1.4s
PSI Prapat 59.60 241 *e*P P 05 12 05.6 +0.8
PSI pmax pmax
comp=Z,34nm,1.0s
PSI Prapat 59.60 241 *e*P P 05 12 05.6 +0.8
comp=Z,34nm,1.0s
D05A Enumclaw 59.61 52 *ep*P pP 05 12 16.9 +1.7
KBL Kabul 59.68 290 *e*P P 05 12 04.4 -0.9
KBL pmax pmax
comp=Z,86nm,0.9s
KBL Kabul 59.68 290 *e*P P 05 12 04.4 -0.9
comp=Z,86nm,0.9s
SRBI Singaraja 59.72 218 P P 05 12 06.1 +0.7
G03D McMinnville, O 59.95 55 P P 05 12 05.8 -0.9
baz=304
BKNI Bangkinang 60.22 237 P P 05 12 10.6 +1.7
comp=Z,188nm,0.9s,comp=Z,3µm
BKNI Bangkinang 60.22 237 *e*P P 05 12 10.6 +1.7
comp=Z,141nm,0.8s
B08A Colville Reser 60.45 50 *e*P P 05 12 10.3 +0.1
comp=Z,26nm,1.1s
KLMR Klimovskoe 60.56 328 *e*P P 05 12 07.5 -3.1
KLMR *e* 05 14 21.5
KLMR *e*S S 05 20 20.4 -3.2
KLMR *e*SS SS 05 24 22.1 +0.8
KLMR pmax pmax
comp=Z,56nm,1.1s
NGP Nagpur 60.64 272 *e*P P 05 12 11.2 -0.5
NGP lAmb lAmb 05 12 11.8
comp=Z,37nm,1.4s
I03D Drain, OR 60.75 56 P P 05 12 12.4 +0.2
baz=304
MSF Maaselka 60.81 336 P P 05 12 12.3 0.0
MSF pmax pmax
comp=Z,23nm,1.1s
SDSI Sungai Dareh 60.98 236 P P 05 12 15.3 +1.2
G05D Wamic, OR 61.08 54 P P 05 12 14.0 -0.5
baz=305
SMRI Semarang 61.08 224 P P 05 12 15.6 +0.9
SMRI Semarang 61.08 224 *e*P P 05 12 15.7 +0.9
comp=Z,106nm,0.9s
E07A Sunnyside 61.17 52 *e*P P 05 12 16.1 +1.0
comp=Z,19nm,1.0s
I04A Tendick Farm, 61.25 56 P P 05 12 15.3 -0.4
baz=305
D08A Wollman Farm, 61.41 51 *e*P P 05 12 16.8 +0.1
comp=Z,10.0nm,0.8s
HAWA Hanford 61.45 52 *e*P P 05 12 17.4 +0.5
L02D Cave Junction, 61.46 58 P P 05 12 17.2 +0.1
baz=305
G06A Carlson Farm, 61.48 54 *e*P P 05 12 17.7 +0.5
comp=Z,36nm,1.6s
I05D Terrebonne, OR 61.58 55 P P 05 12 17.6 -0.3
baz=305,SNR=5.2
HUMO Hull Mountain 61.60 57 *e*P P 05 12 18.7 +0.7
NEW Newport 61.72 49 P P 05 12 18.9 +0.2
baz=305,SNR=11
NEW Newport 61.72 49 *e*P P 05 12 19.2 +0.4
NEW pmax pmax
comp=Z,30nm,1.0s
NEW Newport 61.72 49 *e*P P 05 12 19.2 +0.4
comp=Z,30nm,1.0s
J04D Umpqua Nationa 61.75 56 P P 05 12 19.6 +0.4
baz=305,SNR=7.9
KPJI Karang Pucung 62.08 225 P P 05 12 21.1 -0.3
E09A Wood Farm, Sta 62.16 51 *e*P P 05 12 22.1 +0.4
comp=Z,30nm,0.9s
J05D Fort Rock, OR 62.24 56 P P 05 12 23.2 +0.7
baz=306,SNR=11
MDSI Maura Dua 62.26 231 P P 05 12 22.4 -0.2
K04D Chiloquin, OR 62.32 56 P P 05 12 22.9 0.0
baz=306
OUL Oulu 62.33 336 P P 05 12 20.9 -1.5
OUL pmax pmax
comp=Z,23nm,0.9s
M02C Callahan 62.36 58 P P 05 12 23.5 +0.2
baz=306
N02D Trinity Center 62.70 58 P P 05 12 26.1 +0.7
baz=306,SNR=6.4
M04C Macdoel 62.75 57 P P 05 12 26.6 +0.7
baz=306,SNR=7.7
K05A Summer Lake 62.77 56 *e*P P 05 12 27.6 +1.5
comp=Z,42nm,1.0s
F10A Beach Ranch, E 63.00 51 *e*P P 05 12 28.1 +0.7
comp=Z,8.4nm,0.9s
WDC Whiskeytown Da 63.03 59 *e*P P 05 12 28.6 +1.0
WDC pmax pmax
comp=Z,19nm,1.2s
WDC Whiskeytown Da 63.03 59 *e*P P 05 12 28.6 +1.0
comp=Z,19nm,1.2s
BSMT Bassoo Peak 63.23 48 *e*P P 05 12 29.9 +0.9
BLMT Blacktail Moun 63.36 48 *e*P P 05 12 30.7 +0.8
HYB Hyderabad 63.39 269 *i* P P 05 12 30.0 -0.3
JTMT Jette 63.56 48 *e*P P 05 12 31.8 +0.6
MOD Modoc Plateau 63.61 56 *e*P P 05 12 32.1 +0.5
comp=Z,11nm,0.8s
BMO Blue Mountains 63.62 52 *e*P P 05 12 32.3 +0.7
BMO pmax pmax
comp=Z,8.0nm,1.1s
BMO Blue Mountains 63.62 52 *e*P P 05 12 32.3 +0.7
comp=Z,7.9nm,1.1s
YBMT Yellow Bay 63.64 48 *e*P P 05 12 32.6 +0.9
O03D Paynes Creek 63.65 59 P P 05 12 32.0 +0.2
baz=307,SNR=13
SUMG Summit 63.65 2 ⇑*i*P P 05 12 31.8 +0.1
comp=Z,70nm,0.9s
SUMG Summit 63.65 2 ⇑*i*P P 05 12 31.8 +0.1
SUMG pmax pmax
comp=Z,70nm,0.9s
SUMG Summit 63.65 2 *e*P P 05 12 30.6 -1.1
comp=Z,73nm,0.9s
SWMT Swartz Lake 63.86 48 *e*P P 05 12 33.5 +0.4
ORV Oroville 64.28 59 *e*P P 05 12 35.7 -0.1
ORV pmax pmax
comp=Z,11nm,1.0s
ORV Oroville 64.28 59 *e*P P 05 12 35.7 -0.1
comp=Z,11nm,1.0s
WVOR Wild Horse Val 64.29 55 *e*P P 05 12 36.6 +0.6
WVOR pmax pmax
comp=Z,13nm,1.1s
WVOR Wild Horse Val 64.29 55 *e*P P 05 12 36.6 +0.6
comp=Z,13nm,1.1s
SLMT Seeley Lake 64.30 48 *e*P P 05 12 36.3 +0.3
MSO Missoula 64.30 49 P P 05 12 36.0 -0.1
baz=308,SNR=30
MSO Missoula 64.30 49 *e*P P 05 12 36.6 +0.5
comp=Z,48nm,1.1s
MOS Moscow 64.62 324 *e*P P 05 12 36.4 -1.3
MOS *e* 05 13 16.1
MOS pmax pmax
comp=Z,31nm,0.9s
CHMT Chamberlain Mo 64.63 49 *e*P P 05 12 38.4 +0.1
VAF Ylistaro 64.80 336 P P 05 12 39.0 +0.2
VAF pmax pmax
comp=Z,29nm,0.9s
WRAB Tennant Creek 64.82 194 *ce*P P 05 12 38.8 -0.6
WRAB pmax pmax
comp=Z,51nm,1.0s
WRAB Tennant Creek 64.82 194 *e*P P 05 12 38.8 -0.6
comp=Z,26nm,1.1s
WB2 Warramunga Arr 64.83 194 *e*P P 05 12 39.1 -0.4
WRA Warramunga Arr 64.83 194 P P 05 12 38.8 -0.8
comp=Z,11nm,0.7s,baz=12,slow=6.9,SNR=51
WRA pP pP 05 12 51.0 +0.5
comp=Z,14nm,0.9s,baz=12,slow=6.8,SNR=14
WRA PKP2bc 05 41 26.2
comp=Z,2.7nm,0.9s,baz=197,slow=2.8,SNR=11
GEYT Alibeck 64.86 299 P P 05 12 39.8 +0.1
comp=Z,45nm,0.8s,baz=28,slow=3.5,SNR=67
GEYT LR LR 05 43 01.2
comp=Z,578nm,20.8s,baz=65,slow=38
FIA1 FINESS Array S 64.94 333 *e*P P 05 12 38.3 -1.5
FINES FINESS Array B 64.94 333 P P 05 12 37.8 -2.0
comp=Z,21nm,0.6s,baz=42,slow=6.7,SNR=156
FINES LR LR 05 44 15.0
comp=Z,341nm,18.0s,baz=40,slow=39
FINES FINESS Array B 64.94 333 *e*P P 05 12 37.3 -2.4
AFDM Forest Hills D 64.97 59 *e*P P 05 12 41.0 +0.5
comp=Z,7.1nm,0.9s
MDRS Chennai 65.05 264 *ex* P 05 12 50.8 +10
FITZ Fitzroy Crossi 65.09 204 *e*P P 05 12 41.5 +0.4
comp=Z,16nm,0.8s
FFC Flin Flon 65.15 37 *e*P P 05 12 41.7 +0.5
FFC pmax pmax
comp=Z,75nm,0.9s
FFC Flin Flon 65.15 37 *e*P P 05 12 41.8 +0.5
FFC Flin Flon 65.15 37 *e*P P 05 12 41.7 +0.5
comp=Z,74nm,0.9s
MFID Camas Ranch 65.33 53 *e*P P 05 12 43.1 +0.3
comp=Z,38nm,1.9s
OBN Obninsk 65.48 324 *d i*P P 05 12 43.1 -0.2
OBN *e* 05 15 07.7
OBN *e*S S 05 21 36.4 +11
OBN pmax pmax
comp=Z,36nm,1.1s
OBN MLR MLR
comp=Z,394nm,15.0s
OBN Obninsk 65.48 324 *e*P P 05 12 43.1 -0.2
PAHR Pah Rah Range 65.49 58 *e*P P 05 12 44.7 +0.8
comp=Z,20nm,1.1s
FCC Fort Churchill 65.51 30 *e*P P 05 12 43.3 -0.2
FCC Fort Churchill 65.51 30 *e*P P 05 12 43.3 -0.2
HRY Holter Researc 65.52 48 *e*P P 05 12 44.3 +0.4
PNTR Pine Nut 65.73 59 *e*P P 05 12 46.7 +1.1
comp=Z,25nm,0.9s
LRM Limekiln Ridge 65.74 49 *e*P P 05 12 46.2 +0.7
EGMT Eagleton 65.79 46 P P 05 12 45.8 +0.1
baz=310,SNR=11
EGMT Eagleton 65.79 46 *e*P P 05 12 45.9 +0.3
comp=Z,55nm,0.9s
CMB Columbia Colle 65.89 60 *e*P P 05 12 46.7 +0.3
CMB pmax pmax
comp=Z,9.0nm,0.8s
CMB Columbia Colle 65.89 60 *e*P P 05 12 46.7 +0.3
comp=Z,9.1nm,0.8s
YERR Yerington 66.02 58 *e*P P 05 12 48.0 +0.6
comp=Z,30nm,1.0s
HLID Hailey 66.05 52 P P 05 12 47.6 0.0
baz=309,SNR=12
HLID Hailey 66.05 52 *e*P P 05 12 47.8 +0.3
comp=Z,25nm,1.6s
LPSR Galich'ya Gora 66.13 321 *e*P P 05 12 46.5 -1.1
LPSR pmax pmax
comp=Z,30nm,0.8s
MCMT McKenzie Canyo 66.14 50 *e*P P 05 12 48.3 +0.1
WAKR Walker 66.19 59 *e*P P 05 12 49.6 +1.1
comp=Z,14nm,1.0s
ILULI Ilulissat 66.24 7 *i* P P 05 12 47.1 -0.9
comp=Z,36nm,0.8s
ILULI Ilulissat 66.24 7 *i* P P 05 12 47.1 -0.9
ILULI pmax pmax
comp=Z,36nm,0.8s
BOZ Bozeman (W) 66.33 49 P P 05 12 49.0 -0.2
baz=309,SNR=19
BOZ Bozeman (W) 66.33 49 *e*P P 05 12 49.6 +0.4
BOZ pmax pmax
comp=Z,22nm,0.8s
BOZ Bozeman (W) 66.33 49 *e*P P 05 12 49.6 +0.4
comp=Z,22nm,0.8s
BMN Battle Mountai 66.35 56 *e*P P 05 12 50.3 +0.8
BMN pmax pmax
comp=Z,15nm,0.9s
BMN Battle Mountai 66.35 56 *e*P P 05 12 50.3 +0.8
comp=Z,15nm,0.9s
TVH1 TV Hill, Hawth 66.64 59 *e*P P 05 12 52.6 +1.1
comp=Z,13nm,0.8s
TVH3 East Aurora ar 66.67 59 *e*P P 05 12 52.7 +1.1
comp=Z,12nm,0.9s
TVH2 Borealis Mine 66.69 59 *e*P P 05 12 52.7 +1.0
comp=Z,7.4nm,0.9s
PMPB Monarch Peak 66.75 62 *e*P P 05 12 53.7 +1.8
comp=Z,9.3nm,0.9s
QLMT Earthquake Lak 66.92 49 *e*P P 05 12 54.0 +0.9
VSU Vasula 66.93 331 *ce*P P 05 12 52.2 -0.4
VSU pmax pmax
comp=Z,57nm,0.9s
VSR Storozhevoye 66.95 320 *e*P P 05 12 52.2 -0.6
VSR pmax pmax
comp=Z,60nm,0.9s
YHB Horse Butte 67.10 49 *e*P P 05 12 55.3 +1.0
comp=Z,16nm,0.9s
MLAC Mammoth, Mammo 67.10 59 P P 05 12 54.2 -0.2
baz=309
GCMT Greycliff 67.26 48 *e*P P 05 12 56.2 +1.0
YHH Holmes Hill 67.27 49 *e*P P 05 12 56.2 +0.8
comp=Z,19nm,1.1s
YMR Madison River 67.28 49 *e*P P 05 12 56.4 +1.0
comp=Z,16nm,0.9s
YNR Norris Junctio 67.41 49 *e*P P 05 12 58.2 +2.0
comp=Z,19nm,1.1s
YPP Pitchstone Pla 67.62 50 *e*P P 05 12 59.5 +1.8
comp=Z,8.8nm,1.0s
H17A Grant Village 67.67 49 P P 05 12 57.0 -0.9
baz=310
H17A Grant Village 67.67 49 *e*P P 05 13 00.8 +2.9
H17A *ep*P pP 05 13 08.1 -0.8
RCTC Rector, Farmer 67.67 61 P P 05 12 57.9 +0.2
baz=309
IMW Indian Meadow 67.79 50 *e*P P 05 12 59.8 +1.1
comp=Z,15nm,0.9s
FLWY Flagg Ranch 67.80 50 *e*P P 05 13 00.3 +1.6
comp=Z,17nm,1.0s
TIN Tinemaha, Big 67.84 60 P P 05 12 58.9 0.0
baz=309
FXWY Fox Creek 67.91 50 *e*P P 05 13 00.3 +0.9
comp=Z,18nm,1.2s
RLMT Red Lodge 67.91 48 P P 05 12 59.0 -0.4
baz=311
RLMT Red Lodge 67.91 48 *e*P P 05 13 00.0 +0.7
comp=Z,15nm,1.1s
MOOW Moose Ponds 67.99 50 *e*P P 05 13 00.9 +1.0
comp=Z,12nm,0.9s
TPAW Teton Pass 68.05 50 *e*P P 05 13 01.4 +1.1
comp=Z,29nm,1.0s
VES Vestal, Richgr 68.07 61 P P 05 12 59.7 -0.4
baz=309
HVU Hansel Valley 68.11 53 *e*P P 05 13 01.5 +0.9
HVU pmax pmax
comp=Z,10.0nm,0.9s
HVU Hansel Valley 68.11 53 *e*P P 05 13 01.5 +0.9
comp=Z,10nm,0.9s
LOHW Long Hollow 68.16 50 *e*P P 05 13 01.5 +0.5
comp=Z,14nm,1.0s
SNOW Snow King Moun 68.17 50 *e*P P 05 13 02.1 +1.1
comp=Z,15nm,0.9s
REDW Red Top Meadow 68.18 50 *e*P P 05 13 01.8 +0.7
comp=Z,16nm,0.9s
DGMT Dagmar 68.31 43 P P 05 13 01.3 -0.3
baz=312,SNR=6.9
DGMT Dagmar 68.31 43 *e*P P 05 13 01.7 +0.2
comp=Z,84nm,1.1s
CWC Cottonwood Cre 68.32 60 P P 05 13 02.4 +0.4
baz=309
GRAC Grapevine Rang 68.41 59 P P 05 13 03.0 +0.6
baz=310,SNR=15
SFJD Kangerlussuaq 68.44 8 *i* P P 05 13 01.2 -0.7
comp=Z,31nm,0.8s
SFJD Kangerlussuaq 68.44 8 *i* P P 05 13 01.2 -0.7
SFJD pmax pmax
comp=Z,31nm,0.8s
SFJD Kangerlussuaq 68.44 8 *e*P P 05 13 01.2 -0.7
comp=Z,41nm,0.9s
LAO LASA Array 68.48 45 P P 05 13 03.0 +0.3
baz=312,SNR=7.6
LAO LASA Array 68.48 45 *e*P P 05 13 03.1 +0.4
comp=Z,45nm,0.9s
BGU Big Grassy Mou 68.52 54 *e*P P 05 13 03.5 +0.4
comp=Z,4.9nm,0.9s
AS01 Alice Springs 68.54 194 *e*P P 05 13 02.4 -0.7
AS31 Alice Springs 68.55 194 *e*P P 05 13 03.6 +0.4
comp=Z,5.2nm,1.4s
ASAR Alice Springs 68.55 194 P P 05 13 03.3 +0.1
comp=Z,3.4nm,0.7s,baz=9.6,slow=5.7,SNR=53
ASAR PKP2bc 05 41 20.1
comp=Z,3.1nm,1.2s,baz=173,slow=1.6,SNR=7.8
ASAR LR LR 05 43 14.0
comp=Z,47nm,20.1s,baz=13,slow=36
SPUT South Promonto 68.60 53 *e*P P 05 13 04.7 +1.0
comp=Z,9.7nm,0.8s
R11A Troy Canyon, C 68.65 57 P P 05 13 04.4 +0.4
baz=310,SNR=21
R11A Troy Canyon, C 68.65 57 *e*P P 05 13 04.4 +0.4
comp=Z,17nm,1.1s
ARVC Arvin 68.68 61 P P 05 13 04.3 +0.2
baz=310
DAC Darwin (Calif) 68.73 60 *e*P P 05 12 59.8 -4.8
DAC pmax pmax
comp=Z,8.0nm,0.9s
DAC Darwin (Calif) 68.73 60 *e*P P 05 12 59.8 -4.7
comp=Z,7.8nm,0.9s
HWUT Hardware Ranch 68.92 52 *e*P P 05 13 06.2 +0.6
comp=Z,9.9nm,0.8s
MPMC Manual Prospec 68.93 60 P P 05 13 06.0 +0.2
baz=310,SNR=17
FURC Furnace Creek, 69.06 59 P P 05 13 07.1 +0.7
baz=310,SNR=13
DUG Dugway, Tooele 69.11 54 P P 05 13 07.2 +0.4
baz=310,SNR=18
DUG Dugway, Tooele 69.11 54 P P 05 13 07.4 +0.6
DUG pmax pmax
comp=Z,19nm,1.0s
GOF Gofitskoye 69.13 313 ⇑*i*P P 05 13 06.8 +0.1
GOF pmax pmax
comp=Z,339nm,1.1s
TPNV Topopah Spring 69.13 59 P P 05 13 07.0 0.0
baz=310,SNR=27
TPNV Topopah Spring 69.13 59 *e*P P 05 13 07.4 +0.3
TPNV pmax pmax
comp=Z,23nm,1.0s
TPNV Topopah Spring 69.13 59 *e*P P 05 13 07.4 +0.3
comp=Z,23nm,1.0s
IZAR Zarasai 69.14 329 *e*P P 05 13 06.7 +0.2
LRMC Laurel Mtn Rad 69.18 61 P P 05 13 07.9 +0.5
baz=310
IDID Didziasalis 69.28 329 *e*P P 05 13 07.5 +0.1
IDID lAmb lAmb 05 13 09.3
comp=Z,11nm,0.8s
BW06 Boulder Array 69.29 50 P P 05 13 07.8 -0.2
baz=311,SNR=21
BW06 Boulder Array 69.29 50 *e*P P 05 13 08.0 0.0
comp=Z,13nm,0.8s
PD31 Pinedale Array 69.29 50 *e*P P 05 13 08.0 0.0
PDAR Pinedale Array 69.29 50 P P 05 13 08.0 0.0
comp=Z,7.3nm,0.8s,baz=257,slow=2.3,SNR=54
PDAR PKP2bc 05 41 12.6
comp=Z,0.7nm,0.9s,baz=90,slow=3.6,SNR=6.5
PDAR LR LR 05 44 21.9
comp=Z,121nm,19.7s,baz=334,slow=37
ISAL Salakas 69.32 329 *e*P P 05 13 07.8 +0.2
ISAL lAmb lAmb 05 13 08.8
comp=Z,15nm,0.8s
SEKA Sheki 69.38 308 P P 05 13 06.4 -2.0
NC303 NORSAR Array S 69.40 339 *e*P P 05 13 07.5 -0.5
NC405 NORSAR Array S 69.41 339 *e*P P 05 13 07.2 -0.9
NC204 NORSAR Array S 69.51 340 *e*P P 05 13 08.4 -0.4
NB201 NORSAR Array S 69.57 339 *e*P P 05 13 08.2 -1.0
NACGM Naroch 69.58 328 *e*P P 05 13 09.0 -0.2
NACGM PM 05 13 10.0
comp=Z,0.1nm,0.8s
NACGM *e*LR LR 05 42 27.0
NB2 NORSAR Subarra 69.60 339 P P 05 13 08.9 -0.5
baz=30,slow=6.5
NB2 NORSAR Subarra 69.60 339 P P 05 13 08.8 -0.6
NB2 pmax pmax
comp=Z,22nm,1.0s
NB2 NORSAR Subarra 69.60 339 P P 05 13 08.9 -0.5
comp=Z,26nm,1.0s,baz=30,slow=6.5
NOA NORSAR Array B 69.60 339 P P 05 13 08.4 -0.9
comp=Z,20nm,0.8s,baz=32,slow=6.6,SNR=74
NOA LR LR 05 46 45.3
comp=Z,323nm,21.6s,baz=25,slow=39
NOA NORSAR Array B 69.60 339 P P 05 13 08.4 -0.9
NOA pmax pmax
comp=Z,13nm,0.5s
NOA MLR MLR
comp=Z,323nm,21.6s
JLU Jordanelle 69.64 53 *e*P P 05 13 11.1 +0.8
comp=Z,18nm,1.4s
NBO02 NORSAR Array S 69.68 339 *e*P P 05 13 09.3 -0.5
NLU North Lily Min 69.70 54 *e*P P 05 13 11.3 +0.7
comp=Z,12nm,0.9s
NBO00 NORSAR Array S 69.72 339 *e*P P 05 13 10.1 +0.1
MNGR Mingechevir, A 69.73 307 P P 05 13 08.7 -1.7
SHOC Shoshone, Teco 69.79 59 P P 05 13 11.3 +0.4
baz=310,SNR=7.3
GSC Goldstone, Bar 69.84 60 P P 05 13 11.1 -0.2
baz=310,SNR=5.9
GSC Goldstone, Bar 69.84 60 *e*P P 05 13 11.6 +0.2
GSC pmax pmax
comp=Z,7.0nm,0.9s
GSC Goldstone, Bar 69.84 60 *e*P P 05 13 11.6 +0.2
comp=Z,6.9nm,0.9s
NAO01 NORSAR Array S 69.85 339 *e*P P 05 13 10.6 -0.3
BFSC Mount Baldy Ra 69.99 62 P P 05 13 12.6 +0.3
baz=310

KIV	**Kislovodsk**	70.06	312	*i* P		P	05 13 13.1	+0.6	
	SNR=39								
KIV	**Kislovodsk**	70.06	312	*e*P		P	05 13 12.9	+0.4	
KIV				*e*		05 15 47.4			
KIV				*e*S		S	05 22 21.6	+0.9	
KIV				pmax		pmax			
	comp=Z,38nm,3.0s								
KIV				pmax		pmax			
	comp=Z,228nm,1.0s								
KIV				MLR		MLR			
	comp=Z,631nm,18.0s								
KIV	**Kislovodsk**	70.06	312	*e*P		P	05 13 12.9	+0.4	
KIV	**Kislovodsk**	70.06	312	*e*P		P	05 13 13.0	+0.4	
	comp=Z,210nm,1.0s								
KIV	**Kislovodsk**	70.06	312	P		P	05 13 13.4	+0.9	
	SNR=31								
KIV	**Kislovodsk**	70.06	312	P		P	05 13 13.4	+0.9	
	SNR=31								
KIV				P		P	05 13 13.4	+0.9	
	SNR=31								
GUDG	**Gudauri**	70.08	310	P		P	05 13 14.1	+1.2	
LKRN	**Lenkeran, Azer**	70.08	305	P		P	05 13 10.8	-1.8	
SHPR	**Sheep Range**	70.09	58	*e*P		P	05 13 13.7	+0.7	
	comp=Z,14nm,0.9s								
KBZ	**Khabaz**	70.10	312	P		P	05 13 13.1	+0.5	
	comp=Z,107nm,0.8s,baz=47,slow=4.2,SNR=176								
KBZ				LR		LR	05 48 10.4		
	comp=Z,748nm,20.4s,baz=38,slow=40								
ZEI	**Tsey**	70.18	311	*e*P		P	05 13 11.2	-2.3	
ZEI				pmax		pmax			
	comp=Z,209nm,0.9s								
GANJ	**Ganja**	70.25	308	P		P	05 13 11.7	-2.0	
TUQ	**Turquoise Moun**	70.31	60	P		P	05 13 14.6	+0.3	
	baz=311,SNR=11								
SEAG	**Tbilisi Sea**	70.36	309	P		P	05 13 15.6	+1.2	
TBLG	**Delisi**	70.42	309	P		P	05 13 15.7	+1.0	
TBLG	**Delisi**	70.42	309	P		P	05 13 15.7	+1.0	
HEC	**Hector,Ludlow**	70.44	60	P		P	05 13 15.1	+0.1	
	baz=311,SNR=5.1								
CCUT	**Cedar City**	70.50	56	*e*P		P	05 13 16.2	+0.7	
	comp=Z,14nm,1.1s								
NEY	**Neytrino**	70.51	312	*e*P		P	05 13 16.6	+1.2	
NEY				pmax		pmax			
	comp=Z,10.0nm,0.8s								
ONI	**Oni**	70.56	311	P		P	05 13 16.5	+0.9	
ONI	**Oni**	70.56	311	P		P	05 13 16.5	+0.9	
MSU	**Marysvale**	70.58	55	*e*P		P	05 13 16.9	+0.9	
MSU	**Marysvale**	70.58	55	*e*P		P	05 13 16.9	+0.9	
TMUT	**Trail Mountain**	70.64	54	*e*P		P	05 13 17.1	+0.7	
	comp=Z,9.7nm,0.8s								
SZCU	**Shurtz Canyon**	70.64	56	*e*P		P	05 13 17.0	+0.7	
MURC	**Murrieta**	70.69	62	P		P	05 13 16.4	-0.1	
	baz=311								
MTPU	**Mount Pierson**	70.89	55	*e*P		P	05 13 18.3	+0.3	
	comp=Z,9.8nm,1.0s								
GMRC	**Granite Mounta**	70.89	60	P		P	05 13 17.8	0.0	
	baz=311,SNR=11								
LCMT	**Little Creek M**	70.93	57	*e*P		P	05 13 18.8	+0.7	
	comp=Z,14nm,0.9s								
ULM	**Lac du Bonnet**	70.94	38	P		P	05 13 16.8	-0.9	
	comp=Z,5.8nm,0.6s,baz=321,slow=7.7,SNR=11								
ULM	**Lac du Bonnet**	70.94	38	*e*P		P	05 13 17.2	-0.5	
ULM				pmax		pmax			
	comp=Z,25nm,0.9s								
ULM	**Lac du Bonnet**	70.94	38	*e*P		P	05 13 17.2	-0.5	
	comp=Z,25nm,0.9s								
MDND	**Maddock**	70.96	41	P		P	05 13 17.6	-0.3	
	baz=315,SNR=6.0								
MDND	**Maddock**	70.96	41	*e*P		P	05 13 18.5	+0.7	
	comp=Z,93nm,0.9s								
K22A	**Casper**	71.03	49	P		P	05 13 18.2	-0.4	
	baz=313,SNR=6.6								
K22A	**Casper**	71.03	49	*e*P		P	05 13 18.8	+0.2	
	comp=Z,65nm,1.8s								
LDFC	**Landfair**	71.05	59	*e*P		P	05 13 19.3	+0.6	
	comp=Z,32nm,1.0s								
PFO	**Pinyon Flats O**	71.15	61	P		P	05 13 19.3	-0.1	
	baz=311								
SRU	**San Rafael Swe**	71.16	54	*e*P		P	05 13 20.1	+0.6	
SRU				pmax		pmax			
	comp=Z,32nm,0.8s								
SRU	**San Rafael Swe**	71.16	54	*e*P		P	05 13 20.1	+0.6	
	comp=Z,32nm,0.8s								
TPFO	**Pinon Flats**	71.16	61	P		P	05 13 19.1	-0.3	
	baz=311								
KNB	**Kanab**	71.18	57	*e*P		P	05 13 20.8	+1.2	
KNB				pmax		pmax			
	comp=Z,18nm,1.1s								
KNB	**Kanab**	71.18	57	*e*P		P	05 13 20.8	+1.2	
	comp=Z,18nm,1.1s								
BELC	**Belle Mtn. Jos**	71.19	61	P		P	05 13 19.7	0.0	
	baz=311,SNR=5.8								
109C	**Camp Elliot, M**	71.21	62	P		P	05 13 19.9	+0.3	
	baz=311								
BORG	**Borgarnes**	71.28	355	*e*P		P	05 13 21.1	+1.6	
BORG				pmax		pmax			
	comp=Z,69nm,0.9s								
BORG	**Borgarnes**	71.28	355	*e*P		P	05 13 21.1	+1.6	
	comp=Z,69nm,0.9s								
MMU	**Miners Mountai**	71.31	55	*e*P		P	05 13 20.2	-0.3	
AKH	**Akhalkalaki**	71.33	310	P		P	05 13 20.6	+0.1	
AKH	**Akhalkalaki**	71.33	310	⇑*i*P		P	05 13 21.7	+1.3	
AKH	**Akhalkalaki**	71.33	310	P		P	05 13 20.6	+0.1	
RSSD	**Black Hills**	71.35	46	P		P	05 13 20.1	-0.5	
	baz=314								
RSSD	**Black Hills**	71.35	46	*e*P		P	05 13 20.4	-0.2	
RSSD				pmax		pmax			
	comp=Z,19nm,0.9s								
RSSD	**Black Hills**	71.35	46	*e*P		P	05 13 20.4	-0.2	
	comp=Z,19nm,0.9s								
BGD	**Bogdanovka**	71.37	310	P		P	05 13 27.9	+7.2	
B31A	**Greenbush Farm**	71.47	40	P		P	05 13 20.8	-0.1	
	baz=316,SNR=7.6								
GNI	**Garni**	71.48	308	*i* P		P	05 13 22.8	+1.4	
	SNR=11								
GNI	**Garni**	71.48	308	*e*P		P	05 13 22.9	+1.6	
GNI				pmax		pmax			
	comp=Z,76nm,0.8s								
GNI	**Garni**	71.48	308	*e*P		P	05 13 22.9	+1.6	
	comp=Z,76nm,0.8s								
GNI	**Garni**	71.48	308	P		P	05 13 23.2	+1.9	
	SNR=15								
GNI	**Garni**	71.48	308	P		P	05 13 23.2	+1.9	
	SNR=15								
GNI				P		P	05 13 23.2	+1.9	
	SNR=15								
SUW	**Suwalki**	71.61	329	*e*P		P	05 13 20.7	-0.9	
SUW	**Suwalki**	71.61	329	*e*P		P	05 13 20.7	-0.9	
IRM	**Iron Mountain**	71.62	60	P		P	05 13 22.2	+0.1	
	baz=311,SNR=13								
A32A	**Rocking H Ranc**	71.64	39	P		P	05 13 21.4	-0.5	
	baz=317,SNR=7.8								
MONP	**Monument Peak,**	71.64	62	P		P	05 13 21.4	-1.1	
	baz=311								
EPOS	**Posof**	71.69	310	*i* P		P	05 13 23.8	+1.3	
AKASG	**Malin Array Be**	71.75	324	P		P	05 13 21.9	-0.7	
	comp=Z,50nm,0.8s,baz=38,slow=6.2,SNR=118								
AKASG				LR		LR	05 47 26.2		
	comp=Z,236nm,18.1s,baz=35,slow=38								
AKBB	**Malin Array Si**	71.75	324	*e*P		P	05 13 21.9	-0.6	
AKBB				pmax		pmax			
	comp=Z,92nm,1.0s								
AKBB	**Malin Array Si**	71.75	324	*e*P		P	05 13 21.9	-0.6	
	comp=Z,92nm,1.0s								
EAK	**Akyaka**	71.76	309	*i* P		P	05 13 24.3	+1.3	
BC3	**Big Chuckawall**	71.76	61	P		P	05 13 23.0	0.0	
	baz=311,SNR=7.6								
KIEV	**Kiev**	71.76	324	*c i*P		P	05 13 21.3	-1.3	
KIEV				pmax		pmax			
	comp=Z,76nm,0.9s								
KIEV	**Kiev**	71.76	324	*e*P		P	05 13 21.3	-1.3	
KIEV	**Kiev**	71.76	324	*e*P		P	05 13 21.8	-0.8	
	comp=Z,91nm,1.0s								
O20A	**White River Ci**	71.78	52	P		P	05 13 22.7	-0.5	
	baz=313,SNR=9.4								
O20A	**White River Ci**	71.78	52	*e*P		P	05 13 23.4	+0.2	
	comp=Z,15nm,0.9s								
AK11	**Malin Array Si**	71.79	324	*e*P		P	05 13 22.1	-0.6	
C31A	**Landman Farms,**	71.88	40	P		P	05 13 23.3	-0.1	
	baz=316,SNR=7.9								
SOC	**Sochi**	71.88	313	*c i*P		P	05 13 23.1	-0.4	
SOC				*e**SP		sP	05 13 38.8	+0.1	
SOC				*e*		05 15 58.2			
SOC				*e*S		S	05 22 40.2	-1.4	
SOC				*e*		05 23 24.8			
SOC				pmax		pmax			
	comp=Z,51nm,0.6s								
SOC				MLR		MLR			
	comp=Z,2μm,19.0s								
U15A	**North Rim**	71.89	57	*e*P		P	05 13 24.6	+0.7	
	comp=Z,18nm,0.9s								
B32A	**Ashes, Strandq**	72.00	39	P		P	05 13 23.7	-0.4	
	baz=317,SNR=11								
IKP	**In-Ko-Pah, Jac**	72.00	62	P		P	05 13 24.3	-0.2	
	baz=311								
SWSC	**Sam W. Stewart**	72.00	62	P		P	05 13 23.5	-0.9	
	baz=311								
A33A	**Warroad**	72.12	38	P		P	05 13 24.4	-0.4	
	baz=318,SNR=8.6								
PDMCI	**Parker Dam,Lak**	72.15	59	P		P	05 13 25.2	0.0	
	baz=312,SNR=10								
ANN	**Anapa**	72.21	316	*e*P		P	05 13 24.9	-0.5	
ANN				*e**PP		pP	05 13 36.9	+0.4	
ANN				*e*S		S	05 22 46.5	+1.2	
ANN				pmax		pmax			
	comp=Z,84nm,1.1s								
Y12C	**Blythe**	72.28	60	P		P	05 13 26.2	+0.1	
	baz=312								
Y12C	**Blythe**	72.28	60	*e*P		P	05 13 26.4	+0.4	
	comp=Z,13nm,0.8s								
ARTV	**Artvin**	72.35	310	*i* P		P	05 13 27.4	+0.8	
ARTV	**Artvin**	72.35	310	*e*P		P	05 13 27.3	+0.8	
	comp=Z,38nm,1.3s								
PV09	**Paradox Valley**	72.37	53	*e*P		P	05 13 27.4	+0.5	
AGMN	**Agassiz Nation**	72.38	39	P		P	05 13 25.7	-0.7	
	baz=317,SNR=6.6								
AGMN	**Agassiz Nation**	72.38	39	*e*P		P	05 13 25.7	-0.7	
	comp=Z,40nm,1.0s								
DBOC	**Borcka**	72.38	311	*i* P		P	05 13 27.5	+0.9	
C32A	**Crookston**	72.42	40	P		P	05 13 25.3	-1.3	
	baz=317								
DAGI	**Agillar**	72.43	310	*i* P		P	05 13 27.9	+0.9	
PV10	**Paradox Valley**	72.51	53	*e*P		P	05 13 28.3	+0.7	
B33A	**Robert and Kas**	72.52	39	P		P	05 13 26.6	-0.6	
	baz=318								
N23A	**Red Feather La**	72.55	50	P		P	05 13 27.5	-0.4	
	baz=314,SNR=10								
N23A	**Red Feather La**	72.55	50	*e*P		P	05 13 28.7	+0.8	
	comp=Z,25nm,1.0s								
GLA	**Glamis**	72.55	61	P		P	05 13 27.6	-0.1	
	baz=312,SNR=8.3								
GLA	**Glamis**	72.55	61	*e*P		P	05 13 28.1	+0.4	
GLA				pmax		pmax			
	comp=Z,13nm,0.9s								
GLA	**Glamis**	72.55	61	*e*P		P	05 13 28.1	+0.4	
	comp=Z,13nm,0.9s								
PV04	**Paradox Valley**	72.58	53	*e*P		P	05 13 27.7	-0.3	
PV05	**Paradox Valley**	72.68	54	*e*P		P	05 13 29.4	+0.7	
D32A	**Dogwood Acres,**	72.69	40	P		P	05 13 27.7	-0.6	
	baz=317,SNR=8.2								
E31A	**Nome**	72.70	41	P		P	05 13 27.8	-0.5	
	baz=317,SNR=12								
B34A	**Aery, Baudette**	72.78	38	P		P	05 13 28.2	-0.6	
	baz=318								
C33A	**Trail**	72.81	39	P		P	05 13 28.4	-0.6	
	baz=318								
PV01	**Paradox Valley**	72.94	53	*e*P		P	05 13 30.3	+0.1	
WUAZ	**Wupatki**	73.05	57	P		P	05 13 30.7	0.0	
	baz=312,SNR=7.2								
WUAZ	**Wupatki**	73.05	57	*e*P		P	05 13 31.8	+1.0	
	comp=Z,13nm,0.9s								
TUTA	**Tutak**	73.08	309	*i* P		P	05 13 32.6	+1.6	
Y14A	**Wickenburg**	73.10	59	*e*P		P	05 13 31.4	+0.4	
	comp=Z,45nm,0.9s								
SMCO	**Snowmass**	73.15	52	*e*P		P	05 13 31.8	+0.2	
	comp=Z,11nm,0.9s								
D33A	**AnnSam, Waubun**	73.23	40	P		P	05 13 30.7	-0.8	
	baz=318								
B35A	**Bob, Littlefor**	73.29	38	P		P	05 13 31.3	-0.5	
	baz=319,SNR=6.9								
113A	**Mohawk Valley,**	73.40	60	*e*P		P	05 13 33.2	+0.5	
	comp=Z,8.6nm,1.0s								
ISCO	**Idaho Springs**	73.48	50	P		P	05 13 32.8	-0.7	
	baz=314,SNR=12								
ISCO	**Idaho Springs**	73.48	50	*e*P		P	05 13 34.0	+0.5	
ISCO				pmax		pmax			
	comp=Z,10.0nm,0.8s								
ISCO	**Idaho Springs**	73.48	50	*e*P		P	05 13 34.0	+0.5	
	comp=Z,9.7nm,0.8s								
BSD	**Bornholm Skovb**	73.55	334	*i* P		P	05 13 32.2	-0.9	
	comp=Z,62nm,0.9s								
BSD	**Bornholm Skovb**	73.55	334	*i* P		P	05 13 32.2	-0.9	
BSD				pmax		pmax			
	comp=Z,62nm,0.9s								
F32A	**Veblen**	73.56	41	P		P	05 13 32.5	-0.9	
	baz=317								
D34A	**Park Rapids**	73.58	39	P		P	05 13 32.7	-0.8	
	baz=318,SNR=8.0								
EKAR	**Karacoban**	73.60	309	*i* P		P	05 13 36.0	+2.0	
MVCO	**Mesa Verde**	73.61	54	P		P	05 13 33.8	-0.4	
	baz=313,SNR=13								
MVCO	**Mesa Verde**	73.61	54	*e*P		P	05 13 34.3	+0.1	
	comp=Z,14nm,0.9s								
E33A	**Westby DABS, E**	73.63	40	P		P	05 13 33.4	-0.4	
	baz=318,SNR=6.0								
BANOM	**Banah**	73.64	290	*i* P		P	05 13 34.3	+0.2	
	SNR=7.0								
BANOM	**Banah**	73.64	290	P		P	05 13 34.4	+0.2	
	SNR=5.1								
BANOM	**Banah**	73.64	290	P		P	05 13 34.4	+0.2	
	SNR=5.1								
BANOM				P		P	05 13 34.4	+0.2	
	SNR=5.1								
C35A	**Jirik Farms, M**	73.67	38	P		P	05 13 33.4	-0.6	
	baz=319,SNR=6.0								
SUSD	**Miller**	73.71	43	P		P	05 13 34.1	-0.3	
	baz=316								
SIM	**Simferopol'**	73.75	317	*ce*P		P	05 13 34.5	0.0	
SIM				pmax		pmax			
	comp=Z,78nm,1.0s								
SIM				MLR		MLR			
	comp=Z,470nm,16.0s								
COP	**Copenhagen**	73.83	336	⇑*i*P		P	05 13 34.5	-0.2	
	comp=Z,51nm,0.8s								
COP	**Copenhagen**	73.83	336	⇑*i*P		P	05 13 34.5	-0.2	
COP				pmax		pmax			
	comp=Z,51nm,0.8s								
G32A	**Webster**	73.83	42	P		P	05 13 34.9	-0.2	
	baz=317								
H31A	**Wolsey**	73.92	43	P		P	05 13 35.2	-0.3	
	baz=317								
KOPT	**Kop Dagi**	73.94	310	*i* P		P	05 13 37.7	+1.6	
F33A	**S Nite Manch,**	73.98	41	P		P	05 13 35.3	-0.5	
	baz=318,SNR=9.5								
E34A	**Wadena**	74.01	40	P		P	05 13 35.4	-0.7	
	baz=318								
SORM	**Soroca**	74.05	323	‖*i*P		P	05 13 35.5	-0.7	
MUD	**Monsted U'grnd**	74.10	338	‖*i*P		P	05 13 35.9	-0.4	
	comp=Z,36nm,0.9s								
MUD	**Monsted U'grnd**	74.10	338	⇑*i*P		P	05 13 35.9	-0.4	
MUD				pmax		pmax			
	comp=Z,36nm,0.9s								
D35A	**Remer**	74.10	39	P		P	05 13 35.5	-1.0	
	baz=319								
C36A	**Pine Crest Far**	74.13	38	P		P	05 13 36.1	-0.7	
	baz=319,SNR=14								
LLD	**Lille Linde**	74.19	336	*i* P		P	05 13 36.7	-0.2	
	comp=Z,51nm,0.8s								
LLD	**Lille Linde**	74.19	336	*e*P		P	05 13 36.7	-0.2	
LLD				pmax		pmax			
	comp=Z,51nm,0.8s								
S22A	**4UR Ranch, Cre**	74.21	53	P		P	05 13 37.5	-0.2	
	baz=314,SNR=12								
S22A	**4UR Ranch, Cre**	74.21	53	*e*P		P	05 13 38.4	+0.6	
	comp=Z,12nm,0.9s								
BEL	**Belsk**	74.22	329	*e*P		P	05 13 37.2	+0.1	
BEL	**Belsk**	74.22	329	⇑*e*P		P	05 13 37.2	+0.1	
GKP	**Gorka Klasztor**	74.32	332	*e*P		P	05 13 36.9	-0.8	
GKP	**Gorka Klasztor**	74.32	332	⇑*e*P		P	05 13 36.9	-0.8	
BNGL	**BINGOL**	74.32	309	*i* P		P	05 13 39.8	+1.6	
Q24A	**Divide**	74.32	51	P		P	05 13 37.8	-0.6	
	baz=314								
Q24A	**Divide**	74.32	51	*e*P		P	05 13 38.8	+0.4	
	comp=Z,15nm,0.9s								
UOSS	**Minazif**	74.34	290	*e*P		P	05 13 38.3	-0.1	
	comp=Z,74nm,0.9s								
G33A	**Ortonville**	74.39	41	P		P	05 13 37.9	-0.4	
	baz=318,SNR=6.4								
H32A	**Carlson Farm,**	74.42	42	P		P	05 13 37.9	-0.6	
	baz=317								
C37A	**Embarrass**	74.44	37	P		P	05 13 38.0	-0.6	
	baz=320,SNR=9.5								
HATD	**Hatta, Dubai**	74.47	290	*i* P		P	05 13 39.3	+0.2	
	SNR=16								
HATD	**Hatta, Dubai**	74.47	290	P		P	05 13 39.4	+0.2	
	SNR=7.8								
HATD	**Hatta, Dubai**	74.47	290	P		P	05 13 39.4	+0.2	
	SNR=7.8								
HATD				P		P	05 13 39.4	+0.2	
	SNR=7.8								
HOQ	**Hoqain**	74.49	288	P		P	05 13 39.2	0.0	
	SNR=16								
HOQ	**Hoqain**	74.49	288	P		P	05 13 39.2	0.0	
	SNR=16								
F34A	**Alexandria**	74.50	40	P		P	05 13 38.4	-0.6	
	baz=318								
KELT	**Kelkit**	74.53	311	*i* P		P	05 13 40.4	+1.0	
214A	**Organ Pipe Nat**	74.55	61	P		P	05 13 39.7	+0.2	
	baz=313,SNR=5.8								
214A	**Organ Pipe Nat**	74.55	61	*e*P		P	05 13 39.8	+0.3	
	comp=Z,67nm,1.4s								
LVV	**L'vov**	74.57	326	*e*P		P	05 13 40.1	+0.9	
LVV				*e*		05 14 00.7			
LVV				*e*S		S	05 23 13.9	+2.0	
LVV				MLR		MLR			
	comp=N,180nm,16.0s								
LVV				MLR		MLR			
	comp=Z,270nm,16.0s								
LVV				MLR		MLR			
	comp=E,250nm,17.0s								
X18A	**Snowflake**	74.57	57	*e*P		P	05 13 40.0	+0.3	
	comp=E,8.7nm,0.9s								
EYMN	**Ely**	74.58	37	P		P	05 13 38.6	-0.8	
	baz=320								
EYMN	**Ely**	74.58	37	*e*P		P	05 13 39.1	-0.2	
EYMN				*e*pP		pP	05 13 49.8	-0.7	
ASHO	**Ashiyiah**	74.62	289	*i* P		P	05 13 40.0	0.0	
	SNR=13								
ASHO	**Ashiyiah**	74.62	289	P		P	05 13 39.9	0.0	
	SNR=8.1								
ASHO	**Ashiyiah**	74.62	289	P		P	05 13 39.9	0.0	
	SNR=8.1								
H33A	**Prehn Over Nor**	74.62	42	P		P	05 13 39.2	-0.4	
	baz=318,SNR=6.2								
OGNE	**Ogallala**	74.63	48	P		P	05 13 39.5	-0.4	
	baz=316,SNR=5.8								
OGNE	**Ogallala**	74.63	48	*e*P		P	05 13 40.3	+0.4	
	comp=E,77nm,0.9s								
J31A	**Geddes**	74.65	44	P		P	05 13 39.4	-0.5	
	baz=317,SNR=6.3								
NAZ	**Nazwa, Dubai**	74.69	290	P		P	05 13 40.2	-0.1	
KIS	**Kishinev**	74.71	322	⇑*i*P		P	05 13 39.0	-1.1	
	comp=E,300nm,1.0s								
KIS	**Kishinev**	74.71	322	*e*PcP		PcP	05 13 54.0	-0.2	
KIS	**Kishinev**	74.71	322	*e*PP		PP	05 15 23.0	-64	
KIS	**Kishinev**	74.71	322	⇑*i*P		P	05 13 39.0	-1.1	
KIS				*e*		05 13 54.0			
KIS				*e*S		S	05 23 10.0	-3.5	
KIS				pmax		pmax			
	comp=Z,270nm,1.0s								
KIS				MLR		MLR			
	comp=Z,600nm,20.0s								
KIS				MLR		MLR			
	comp=N,400nm,20.0s								
KIS				MLR		MLR			
	comp=Z,600nm,20.0s								
G34A	**Benson**	74.73	41	P		P	05 13 39.8	-0.4	
	baz=318,SNR=6.6								
JMDO	**Jabal Madar**	74.74	286	P		P	05 13 41.0	+0.3	
	SNR=7.9								
JMDO	**Jabal Madar**	74.74	286	P		P	05 13 41.0	+0.3	
	SNR=7.9								
D37A	**Cotton**	74.77	38	P		P	05 13 39.6	-0.8	
	baz=320								
F35A	**Swanville**	74.78	40	P		P	05 13 39.9	-0.6	
	baz=319,SNR=5.9								
C38A	**Sawbill Land.**	74.85	37	P		P	05 13 40.4	-0.6	
	baz=320,SNR=9.4								
E36A	**McGregor**	74.88	39	P		P	05 13 40.6	-0.5	
	baz=319,SNR=10								
FAQ	**Al Faqa, Dubai**	74.89	290	*i* P		P	05 13 41.5	0.0	
	SNR=18								
SDCO	**Great Sand Dun**	74.97	52	P		P	05 13 41.7	-0.5	
	baz=314								
J32A	**Parkston**	75.04	44	P		P	05 13 41.7	-0.4	
	baz=317								
I33A	**Coleman**	75.06	42	P		P	05 13 42.0	-0.2	
	baz=318								
H34A	**Spellman Lake,**	75.10	41	P		P	05 13 42.2	-0.1	
	baz=318								
K31A	**O'Neill**	75.13	45	P		P	05 13 42.4	-0.2	
	baz=317								
KWP	**Kalwaria Pacla**	75.25	327	*e*P		P	05 13 43.6	+0.5	
KWP	**Kalwaria Pacla**	75.25	327	⇑*e*P		P	05 13 43.6	+0.5	
F36A	**Milaca**	75.26	39	P		P	05 13 42.6	-0.7	
	baz=319								
C39A	**Grand Marais**	75.27	36	P		P	05 13 42.3	-1.0	
	baz=321								
MLA1	**Latheron**	75.33	345	*e*P		P	05 13 43.0	-0.4	
LEOM	**Leova**	75.36	322	‖*i*P		P	05 13 44.0	+0.2	
ECSD	**EROS Data Cent**	75.38	43	P		P	05 13 43.5	-0.5	
	baz=318,SNR=11								
ECSD	**EROS Data Cent**	75.38	43	*e*P		P	05 13 43.6	-0.5	
	comp=Z,37nm,1.0s								
K32A	**Verdigre**	75.50	44	P		P	05 13 44.4	-0.4	
	baz=317								
J33A	**Davis**	75.52	43	P		P	05 13 44.2	-0.7	
	baz=318								
H35A	**Sunnyside Ranc**	75.52	41	P		P	05 13 44.6	-0.2	
	baz=319,SNR=18								
I34A	**Hadley**	75.52	42	P		P	05 13 44.2	-0.6	
	ba

I35A Creekview Farm 76.08 42 P P 05 13 47.5 -0.5
baz=319

TLCR 76.09 320⇑ *i*P P 05 13 48.0 0.0
RRR Rubha Reidh 76.19 346 *e*P P 05 13 47.3 -1.1
UZH Uzhgorod 76.21 326⇑ *i*P P 05 13 48.4 -0.2
UZH *e* 05 14 03.2
UZH *e* 05 14 07.6
UZH *e* 05 18 24.2
UZH *e*S S 05 23 26.4 -3.6
UZH *e* 05 23 55.4
UZH *e* 05 31 40.8
UZH MLR MLR
comp=N,350nm,13.0s
UZH MLR MLR
comp=E,250nm,13.0s
UZH MLR MLR
comp=Z,130nm,13.0s
RRH Rhenigidale 76.29 346⇑ *e*P P 05 13 48.5 -0.3
CRVS Cervenica-Dubn 76.32 327 *e*P P 05 13 49.4 +0.1
CRVS Cervenica-Dubn 76.32 327 *e*P P 05 13 49.4 +0.1
MDO Dochfour 76.33 345⇑ *e*P P 05 13 48.4 -0.7
BGNE Belgrade 76.33 45 P P 05 13 48.8 -0.7
baz=317
LAZ Ladron 76.34 55 *e*P P 05 13 50.8 +0.9
NIE Niedzica 76.36 328 *e*P P 05 13 50.0 +0.5
NIE Niedzica 76.36 328⇑ *e*P P 05 13 50.0 +0.5
ANMO Albuquerque 76.37 55 P P 05 13 49.8 -0.2
baz=314
ANMO Albuquerque 76.37 55 *e*P P 05 13 48.9 -1.2
ANMO pmax pmax
comp=Z,6.0nm,0.9s
ANMO Albuquerque 76.37 55 *e*P P 05 13 50.6 +0.6
comp=Z,10nm,1.0s
CFR Carcaliu 76.40 321⇑ *i*P P 05 13 49.7 -0.1
K34A Le Mars 76.41 43 P P 05 13 49.5 -0.4
baz=318
I36A Fitzsimmons Fa 76.42 41 P P 05 13 49.5 -0.4
baz=319,SNR=5.6
ODBI Odobesti 76.44 322⇑ *i*P P 05 13 51.7 +1.7
KAC Achnashellach 76.44 346⇑ *e*P P 05 13 48.9 -0.9
BMR Baia Mare 76.48 325⇑ *i*P P 05 13 50.6 +0.4
VRI Vrincioaia 76.51 322⇑ *i*P P 05 13 50.6 +0.1
VRI Vrincioaia 76.51 322 P P 05 13 50.5 +0.1
H37A Dierke Farm, C 76.51 40 P P 05 13 50.1 -0.3
baz=320,SNR=8.5
TRPA Tarpa 76.51 326⇑ *e*P P 05 13 50.9 +0.6
G38A Ridgeland 76.55 39 P P 05 13 49.6 -1.1
baz=320
PLOR Plostina 76.55 322⇑ *i*P P 05 13 50.8 +0.1
PLOR Plostina 76.55 322 P P 05 13 50.5 -0.2
ARCR ARCALIA 76.58 324⇑ *i*P P 05 13 51.5 +0.7
RAC Raciborz 76.60 329 *e*P P 05 13 51.3 +0.5
KPL Plockton 76.66 346⇑ *e*P P 05 13 50.6 -0.3
KPL AMB AMB 05 13 51.7
comp=Z,62nm,0.9s
KSP Ksiaz 76.66 331 *e*P P 05 13 51.0 -0.1
KSP Ksiaz 76.66 331⇑ *e*P P 05 13 51.0 -0.1
M33A Taylor Creek F 76.69 44 P P 05 13 50.9 -0.6
baz=318
I37A Lemond, Waseca 76.71 41 P P 05 13 50.8 -0.8
baz=320,SNR=20
H38A Maiden Rock 76.73 40 P P 05 13 50.5 -1.1
baz=320
F40A Park Falls 76.74 38 P P 05 13 51.1 -0.6
baz=321
G39A Holcombe 76.76 39 P P 05 13 50.9 -0.9
baz=321
GRER 76.77 322⇓ *i*P P 05 13 54.0 +2.1
J36A Seneca 1, Swea 76.78 42 P P 05 13 51.5 -0.5
baz=319
ILGA Ilgaz 76.80 315 *e*P P 05 13 54.0 +1.5
comp=Z,99nm,1.0s
ILGA *e*pP **sP** 05 14 06.3 -1.4
K35A Storm Lake 76.81 43 P P 05 13 51.3 -0.9
baz=319
L34A Svendsen Farm, 76.81 44 P P 05 13 51.2 -1.0
baz=318
OKC Ostrava-Krasne 76.82 329⇑ *e*P P 05 13 52.3 +0.2
OKC AMS AMS 05 53 00.0
comp=Z,300nm,17.5s
OKC Ostrava-Krasne 76.82 329 *e*P P 05 13 52.3 +0.2
OKC MLR MLR
comp=Z,300nm,17.5s
BNM Barren Site 76.82 55 *e*P P 05 13 53.3 +0.6
BNM *e*PcP **PcP** 05 14 00.3 -3.5
TIRR Tirgusor 76.83 320⇑ *i*P P 05 13 52.2 0.0
TIRR Tirgusor 76.83 320 *e*P P 05 13 51.7 -0.5
TIRR pmax pmax
comp=Z,38nm,1.0s
TIRR Tirgusor 76.83 320 *e*P P 05 13 51.7 -0.5
comp=Z,38nm,1.0s
HARR Harsova 76.87 321⇓ *i*P P 05 13 52.3 -0.1
LANS Liptovska Anna 76.89 328 *e*P P 05 13 53.4 +0.8
LANS Liptovska Anna 76.89 328 *e*P P 05 13 53.4 +0.8
TLB Topalu 76.90 321⇓ *i*P P 05 13 52.6 0.0
EFOR EFORIE 77.01 320⇑ *i*P P 05 13 54.4 +1.2
DOPR Dopca 77.02 323⇓ *i*P P 05 13 53.8 +0.5
UPC Upice 77.04 331⇑ *i*P P 05 13 53.5 +0.2
UPC *ex* x 05 14 00.3
UPC *e*pP **sP** 05 14 08.1 -0.5
UPC AMS AMS 05 51 00.0
comp=Z,600nm,18.5s
UPC Upice 77.04 331⇑ *i*P P 05 13 53.5 +0.2
UPC *e* 05 14 08.1
UPC MLR MLR
comp=Z,600nm,18.5s
KECS Kecovo 77.04 327 *e*P P 05 13 53.7 +0.3
KECS pmax pmax
comp=Z,25nm,1.0s
KECS Kecovo 77.04 327 *e*P P 05 13 53.7 +0.3
M34A Aspy Farms, Fr 77.05 44 P P 05 13 53.1 -0.5
baz=318
DPC Dobruska-Polom 77.06 331 *e*P P 05 13 54.0 +0.5
DPC *ex* x 05 13 58.9
DPC *e*pP **pP** 05 14 05.6 +0.9
DPC *ex* x 05 14 08.7
DPC AMS AMS 05 50 20.0
comp=Z,400nm,20.7s
DPC Dobruska-Polom 77.06 331 *e*P P 05 13 54.0 +0.5
DPC *e* 05 14 05.6
DPC *e* 05 14 08.7
DPC MLR MLR
comp=Z,400nm,20.7s
MORC Moravsky Berou 77.09 330⇓ *i*P P 05 13 53.9 +0.2
MORC Moravsky Berou 77.09 330 *e*P P 05 13 53.7 0.0
MORC Moravsky Berou 77.09 330 *e*P P 05 13 53.7 0.0
comp=Z,411nm,1.0s
L35A Bielow Farm, R 77.11 43 P P 05 13 53.1 -0.8
baz=319
KRLC Kraliky 77.12 330⇑ *e*P P 05 13 54.0 +0.1
KRLC Kraliky 77.12 330 *e*P P 05 13 54.0 +0.1
PGOR Pogoanele 77.13 321⇑ *i*P P 05 13 55.3 +1.4
319A Douglas 77.14 59 *e*P P 05 13 55.0 +0.6
MLR Muntele Rosu 77.14 322⇑ *i*P P 05 13 54.1 -0.1
MLR Muntele Rosu 77.14 322 *e*P P 05 13 53.4 -0.8
MLR pmax pmax
comp=Z,50nm,1.1s
MLR Muntele Rosu 77.14 322 *e*P P 05 13 53.4 -0.8
comp=Z,50nm,1.1s
ISR Istrita 77.17 322⇓ *i*P P 05 13 54.9 +0.7
J37A Redenius Farm, 77.17 41 P P 05 13 53.8 -0.5
baz=320
H39A Augusta 77.18 39 P P 05 13 53.8 -0.4
baz=321,SNR=6.0
I38A Scanlan Farm, 77.19 40 P P 05 13 53.7 -0.6
baz=320,SNR=6.8
SCHQ Schefferville 77.19 20 P P 05 13 53.5 -0.7
comp=Z,34nm,1.1s,baz=341,slow=5.2,SNR=7.7
SCHQ LR LR 05 50 29.1
comp=Z,359nm,21.1s,baz=346,slow=38
SCHQ Schefferville 77.19 20 *e*P P 05 13 54.2 0.0
comp=Z,47nm,1.1s
CJR Cluj-Napoca 77.19 324⇓ *i*P P 05 13 54.8 +0.5
G40A Rib Lake 77.21 38 P P 05 13 53.6 -0.8
baz=321,SNR=7.1
K36A Gilmore City 77.25 42 P P 05 13 54.1 -0.5
baz=319
121A Cookes Peak, D 77.26 57 P P 05 13 54.9 -0.2
baz=314,SNR=11
121A Cookes Peak, D 77.26 57 *e*P P 05 13 55.9 +0.8
comp=Z,16nm,1.0s
F41A Three Lakes 77.33 37 P P 05 13 51.7 -3.3
baz=322
CLL Collm 77.38 333⇑ *i*P P 05 13 54.9 -0.3
CLL pmax pmax
comp=Z,161nm,1.0s
CLL MLR MLR
comp=Z,400nm,19.3s
CLL Collm 77.38 333⇑ *i*P P 05 13 54.9 -0.3
comp=Z,161nm,1.0s
CLL L L 05 52 00.0
comp=Z,400nm,19.3s
CLL Collm 77.38 333 *e*P P 05 13 54.6 -0.6
comp=Z,153nm,1.0s
CBKS Cedar Bluff 77.39 48 P P 05 13 55.1 -0.4
baz=317
CBKS Cedar Bluff 77.39 48 *e*P P 05 13 54.4 -1.2
CBKS pmax pmax
comp=Z,19nm,0.9s
CBKS Cedar Bluff 77.39 48 *e*P P 05 13 54.4 -1.2
comp=Z,19nm,0.9s
ESY Stoneypath 77.41 344⇑ *e*P P 05 13 54.7 -0.6
BRG Berggiesshubel 77.44 332⇑ *i*P P 05 13 55.3 -0.3
comp=Z,54nm,1.1s
BRG *e* 05 14 16.1
comp=Z,17nm,1.1s
comp=N,319nm,15.4s
comp=E,172nm,15.3s
comp=Z,415nm,16.1s
BRG Berggiesshubel 77.44 332⇑ *i*P P 05 13 55.3 -0.3
BRG *e* 05 14 16.0
BRG pmax pmax
comp=Z,54nm,1.1s
BRG MLR MLR
comp=N,319nm,15.4s
BRG MLR MLR
comp=E,172nm,15.3s
BRG MLR MLR
comp=Z,415nm,16.1s
EAB Aberfoyle 77.50 345 *e*P P 05 13 55.5 -0.3
DRGR 77.50 325⇑ *i*P P 05 13 55.9 -0.2
PVCC Panska Ves 77.52 332⇑ *e*P P 05 13 56.3 +0.3
PVCC AMS AMS 05 51 50.0
comp=Z,700nm,16.8s
PVCC Panska Ves 77.52 332 *e*P P 05 13 56.3 +0.3
PVCC MLR MLR
comp=Z,700nm,16.8s
M35A Neola 77.52 44 P P 05 13 55.5 -0.7
baz=319
PSN Preselentsi 77.53 320 *i*P P 05 13 57.3 +1.1
K37A Belmond 77.55 42 P P 05 13 55.6 -0.7
baz=320,SNR=14
L36A Harm Buss Farm 77.55 43 P P 05 13 55.6 -0.7
baz=319
VOIR 77.58 323⇓ *i*P P 05 13 56.8 +0.3
VOIR 77.58 323 P P 05 13 56.8 +0.3
N34A Lincoln 77.59 45 P P 05 13 55.4 -1.1
baz=318
O33A Hebron 77.60 46 P P 05 13 55.4 -1.3
baz=318
H40A Chili 77.63 39 P P 05 13 56.1 -0.7
baz=321,SNR=7.5
SULR 77.64 322⇓ *i*P P 05 13 56.5 -0.2
VYHS Vyhne 77.67 328 *e*P P 05 13 57.0 +0.1
VYHS pmax pmax
comp=Z,31nm,1.1s
VYHS Vyhne 77.67 328 *e*P P 05 13 57.0 +0.1
J38A Wedel Dairy, R 77.68 41 P P 05 13 56.0 -1.0
baz=320
G41A Antigo 77.71 37 P P 05 13 56.3 -0.9
baz=322
I39A Houston 77.71 40 P P 05 13 55.9 -1.3
baz=321,SNR=7.1
KSRV Kasrt alli 77.71 308 *e*P P 05 13 52.0 -5.3
PSZ Piszkesteto 77.73 327⇓ *i*P P 05 13 57.1 -0.2
PSZ Piszkesteto 77.73 327 *e*P P 05 13 57.5 +0.2
PSZ pmax pmax
comp=Z,71nm,1.0s
PSZ Piszkesteto 77.73 327⇑ *e*PKiKP P 05 13 57.7 +0.4
PSZ Piszkesteto 77.73 327 *e*P P 05 13 57.5 +0.2
comp=Z,71nm,1.0s
ARR Arges 77.81 323⇓ *i*P P 05 13 58.9 +1.1
BR131 Keskin Array S 77.82 314 *e*P P 05 13 58.4 +0.3
BRTR Keskin Array B 77.82 314 P P 05 13 58.1 +0.1
comp=Z,14nm,0.8s,baz=77,slow=4.2,SNR=74
BRTR LR LR 05 54 27.2
comp=Z,235nm,19.4s,baz=63,slow=40
VRAC Vranov 77.83 330⇓ *i*P P 05 13 57.9 +0.1
VRAC Vranov 77.83 330 P P 05 13 57.8 0.0
PGBU Glenifferbraes 77.88 345⇑ *e*P P 05 13 57.8 -0.2
PGBU AMB AMB 05 13 59.0
comp=Z,98nm,1.2s
PRA Prague 77.95 331⇑ *e*P P 05 13 58.8 +0.4
PRA Prague 77.95 331 *e*P P 05 13 58.8 +0.4
GOPC GO Pecny, Ondr 77.96 331 *e*P P 05 13 58.8 +0.3
GOPC *ex* x 05 14 01.6
GOPC *e*pP **sP** 05 14 13.6 -0.2
GOPC AMS AMS 05 51 40.0
comp=Z,600nm,19.7s
GOPC GO Pecny, Ondr 77.96 331 *e*P P 05 13 58.8 +0.3
GOPC *e* 05 14 13.6
GOPC MLR MLR
comp=Z,600nm,19.7s
H41A Junction City 77.96 38 P P 05 13 57.3 -1.3
baz=322
M36A Felix, Anita 77.97 43 P P 05 13 57.8 -0.9
baz=319
O34A Beatrice 77.97 45 P P 05 13 57.9 -0.9
baz=318,SNR=8.3
L37A Phoenix Point, 77.98 42 P P 05 13 57.5 -1.2
baz=320
PRU Pruhonice 77.98 331⇑ *e*P P 05 13 58.9 +0.3
PRU *ex* x 05 14 04.1
PRU AMS AMS 05 51 50.0
comp=Z,800nm,18.8s
PRU Pruhonice 77.98 331 *e*P P 05 13 58.9 +0.3
PRU *e* 05 14 04.1
PRU MLR MLR
comp=Z,800nm,18.8s
WIT Witteveen 78.00 337 P P 05 13 59.6 +1.0
N35A Tabor 78.00 44 P P 05 13 58.0 -0.9
baz=319
J39A Decorah 78.02 40 P P 05 13 58.1 -0.9
baz=321,SNR=5.5
K38A Parkersburg 78.05 41 P P 05 13 58.3 -0.8
baz=320
I40A Norwalk 78.09 39 P P 05 13 58.4 -0.9
baz=321
ESK Eskdalemuir 78.09 344⇑ *e*P P 05 13 58.8 -0.3
DEV Deva 78.15 324⇑ *i*P P 05 14 00.3 +0.7
ANTO Ankara 78.15 315 *e*P P 05 14 00.6 +0.8
ANTO pmax pmax
comp=Z,74nm,0.9s
ANTO Ankara 78.15 315 *e*P P 05 14 00.6 +0.8
comp=Z,74nm,0.9s
ANTO Ankara 78.15 315 P P 05 14 00.6 +0.8
SNR=14
ANTO Ankara 78.15 315 P P 05 14 00.6 +0.8
SNR=14
ANTO P P 05 14 00.6 +0.8
SNR=14
BR231 Keskin MP Arra 78.18 315 *e*P P 05 14 00.8 +0.8
SMOL Smolenice 78.18 329 *e*P P 05 14 00.4 +0.7
SMOL Smolenice 78.18 329 *e*P P 05 14 00.4 +0.7
ECK Cauldkaine Hil 78.21 344⇑ *e*P P 05 13 59.4 -0.4
TREC Trest 78.24 330⇑ *e*P P 05 14 00.3 +0.2
TREC AMS AMS 05 51 30.0
comp=Z,400nm,19.2s
TREC Trest 78.24 330 *e*P P 05 14 00.3 +0.2
TREC MLR MLR
comp=Z,400nm,19.2s
I41A Arkdale 78.30 39 P P 05 13 59.7 -0.7
baz=322
BHH Howats Hill 78.31 344 *e*P P 05 14 00.1 -0.2
L38A Oak Wood Farm, 78.35 42 P P 05 14 00.4 -0.4
baz=320
SIRR Siria 78.36 325⇑ *i*P P 05 14 00.8 0.0
M37A Trindle Farm, 78.38 43 P P 05 14 00.6 -0.3
baz=320
P34A Walnut Farm, R 78.38 46 P P 05 14 00.2 -0.8
baz=318
MOX Moxa 78.40 333 P P 05 14 00.6 -0.3
MOX pmax pmax
comp=Z,60nm,1.1s
SCIA State Center 78.40 42 *e*P P 05 14 01.0 0.0
comp=Z,69nm,0.9s
J40A Soldiers Grove 78.42 39 P P 05 14 00.2 -1.0
baz=321
K39A Oelwein 78.42 41 P P 05 14 00.2 -1.0
baz=321,SNR=6.8
BUD Budapest 78.42 327 P P 05 14 01.6 +0.5
BUD Budapest 78.42 327⇑ *e*PKiKP P 05 14 01.5 +0.5
DRWC Darouich 78.47 310 *e*P P 05 14 02.4 +0.8
NKC Novy Kostel 78.48 333⇑ *e*P P 05 14 01.3 -0.1
NKC AMS AMS 05 52 30.0
comp=Z,400nm,16.1s
NKC Novy Kostel 78.48 333 *e*P P 05 14 01.3 -0.1
NKC MLR MLR
comp=Z,400nm,16.1s
GMK Mull of Kintyr 78.53 345⇑ *e*P P 05 14 00.9 -0.6
WTSB Winterswijk 78.71 337 *i*P P 05 14 02.3 -0.2
comp=Z,86nm,0.8s
KESW Keswick, Cumbr 78.76 343⇑ *e*P P 05 14 02.4 -0.4
KESW AMB AMB 05 14 03.9
comp=Z,83nm,1.1s
J41A Loganville 78.78 39 P P 05 14 02.3 -0.8
baz=322,SNR=6.0
K40A Colesburg 78.78 40 P P 05 14 02.2 -0.9
baz=321
M38A Pleasantville 78.79 42 P P 05 14 02.8 -0.4
baz=320
Q34A Chapman 78.79 46 P P 05 14 02.6 -0.7
baz=318
N37A Lee Faris, Mou 78.79 43 P P 05 14 02.9 -0.3
baz=320
P35A Duane Minner, 78.81 45 P P 05 14 02.5 -0.9
baz=319
GAL1 Galloway 78.82 344⇑ *e*P P 05 14 02.4 -0.7
L39A Vinton 78.82 41 P P 05 14 02.6 -0.7
baz=321,SNR=16
KSU1 Kansas State U 78.83 46 P P 05 14 02.3 -1.1
baz=319
KSU1 Kansas State U 78.83 46 *e*P P 05 14 02.8 -0.7
comp=Z,29nm,1.0s
SZH Strazhica 78.89 321 *i*P P 05 14 03.7 0.0
GCL Cushendall 78.89 345⇑ *e*P P 05 14 02.9 -0.6
O36A Bolckow 78.89 44 P P 05 14 03.4 -0.4
baz=319
BZS Buzias 78.90 325⇑ *i*P P 05 14 03.2 -0.5
KHC Kasperske Hory 79.05 331⇑ *i*P P 05 14 04.9 +0.4
KHC *ex* x 05 14 08.1
KHC *e*pP **pP** 05 14 16.0 +0.3
KHC *ex* x 05 14 19.7
KHC AMS AMS 05 52 30.0
comp=Z,800nm,18.5s
KHC Kasperske Hory 79.05 331 *e*P P 05 14 04.7 +0.2
KHC pmax pmax
comp=Z,34nm,0.9s
KHC Kasperske Hory 79.05 331 *e*P P 05 14 04.7 +0.2
comp=Z,34nm,0.9s
R34A Isabella, Hill 79.09 47 P P 05 14 04.3 -0.7
baz=318
P36A Good Intent, A 79.15 45 P P 05 14 04.3 -0.9
baz=319
AMTX Amarillo 79.17 52 P P 05 14 04.7 -0.8
baz=317
AMTX Amarillo 79.17 52 *e*P P 05 14 06.3 +0.7
comp=Z,24nm,0.9s
MSTX Muleshoe 79.21 53 P P 05 14 05.4 -0.3
baz=316
L40A Anamosa 79.23 41 P P 05 14 04.8 -0.9
baz=321,SNR=6.5
M39A Webster 79.23 42 P P 05 14 05.1 -0.5
baz=321,SNR=17
K41A Shullsburg 79.24 40 P P 05 14 04.7 -0.9
baz=322
N38A Joes South For 79.25 43 P P 05 14 05.2 -0.6
baz=320
GEC2 GERESS Array S 79.25 331 *e*P P 05 14 05.6 -0.1
GEC2 pmax pmax
comp=Z,33nm,1.1s
GEC2 GERESS Array S 79.25 331 *e*P P 05 14 05.5 -0.1
comp=Z,33nm,1.1s
GERES GERESS Array B 79.25 331 P P 05 14 05.4 -0.3
comp=Z,18nm,0.8s,baz=33,slow=5.1,SNR=167
GERES pP **pP** 05 14 16.7 -0.2
comp=Z,3.0nm,0.5s,baz=51,slow=5.3,SNR=4.9
GERES LR LR 05 52 52.0
comp=Z,670nm,19.6s,baz=32,slow=38
GERES GERESS Array B 79.25 331 P P 05 14 05.4 -0.3
GERES *PP **pP** 05 14 16.7 -0.2
GERES pmax pmax
comp=Z,18nm,0.8s
GERES MLR MLR
comp=Z,670nm,19.6s
CONA Conrad Observa 79.25 329 *i*P P 05 14 06.1 +0.3
comp=Z,40nm,0.8s,SNR=46
GEA0 GERESS Array S 79.25 331 *e*P P 05 14 04.8 -1.0
O37A Wolven Farm, M 79.27 44 P P 05 14 04.6 -1.2
baz=320
WET Wettzell 79.27 332 P P 05 14 05.7 -0.1
WET pmax pmax
comp=Z,82nm,1.0s
MNTX Cornudas Mount 79.29 56 P P 05 14 05.4 -0.8
baz=316,SNR=16
MNTX Cornudas Mount 79.29 56 *e*P P 05 14 06.5 +0.3
comp=Z,8.6nm,0.8s
Q35A Mercer Eighty, 79.30 46 P P 05 14 04.9 -1.2
baz=319
GRF Grafenberg Arr 79.36 333 P P 05 14 06.6 +0.4
GRFO Grafenberg 79.36 333 *e*P P 05 14 06.1 -0.1
GRFO pmax pmax
comp=Z,122nm,0.9s
GRFO Grafenberg 79.36 333 *e*P P 05 14 06.1 -0.1
comp=Z,122nm,0.9s
ARNB Al Arnab 79.41 310 *e*P P 05 14 08.1 +1.3
WIM Isle of Man 79.49 344 *e*P P 05 14 06.4 -0.4
Q36A Arnold C. Orve 79.52 45 P P 05 14 06.8 -0.5
baz=319
MDVR Moldovita 79.53 324⇑ *i*P P 05 14 06.9 -0.4
N39A Derby Farms, D 79.54 42 P P 05 14 07.0 -0.3
baz=320,SNR=7.5
L41A Preston 79.56 40 P P 05 14 06.6 -0.8
baz=322,SNR=5.2
U32A Winter Ranch, 79.57 49 P P 05 14 07.2 -0.4
baz=318
M40A Post Highland 79.61 41 P P 05 14 07.3 -0.4
baz=321,SNR=8.5
P37A Lathrop 79.61 44 P P 05 14 07.0 -0.7
baz=320,SNR=8.2
R35A Emporia Munici 79.62 46 P P 05 14 07.3 -0.5
baz=319,SNR=6.1
O38A Galt 79.64 43 P P 05 14 07.5 -0.4
baz=320
GMM Mts of Mourne 79.65 345⇑ *e*P P 05 14 06.9 -0.8
WACR West Acre 79.65 341 *e*P P 05 14 07.4 -0.2
WACR AMB AMB 05 14 08.8
comp=Z,140nm,1.0s
CLNB Carlsbad 79.78 55 *e*P P 05 14 08.7 -0.2
MPEP Malo Peshtene 79.80 322 *i*P P 05 14 08.8 +0.1
MOA Molln 79.89 330 *i*P P 05 14 09.2 +0.1
comp=Z,22nm,0.8s,SNR=14
ROOS tl alroos 79.90 308 *e*P P 05 14 07.1 -2.4
ARSA Arzberg 79.94 329 *i*P P 05 14 09.7 +0.3
comp=Z,20nm,1.1s,SNR=17
BOLV Bolvadin 79.96 315 *e*P P 05 14 10.3 +0.6
comp=Z,100nm,1.0s
VLDQ Val d'Or 79.96 29 *e*P P 05 14 08.0 -1.4
comp=Z,34nm,0.8s
N40A Mertquake, Sal 79.97 42 P P 05 14 09.4 -0.3
baz=321
R36A Gordon, Harris 79.98 46 P P 05 14 09.2 -0.5
baz=319,SNR=11
P38A Dawn 79.99 44 P P 05 14 09.1 -0.6
baz=320
O39A Kirksville 80.00 43 P P 05 14 09.1 -0.7
baz=321
BEO Beograd 80.03 325 P P 05 14 10.4 +0.5
BEO pmax pmax
comp=Z,9.0nm,0.8s
HGN Heimansgroeve 80.03 337 *i*P P 05 14 09.5 -0.3
comp=Z,77nm,0.9s
S35A Otter Creek Ra 80.04 47 P P 05 14 09.8 -0.3
baz=319,SNR=10.0
T34A McClaskey Farm 80.07 48 P P 05 14 10.0 -0.3
baz=318,SNR=8.1
BEBN Eben Emael 80.08 337 P P 05 14 09.9 -0.1
comp=Z,36nm,1.1s
M41A Milan 80.09 41 P P 05 14 09.6 -0.7
baz=322,SNR=5.5
Q37A Longview Farm, 80.10 45 P P 05 14 09.2 -1.2
baz=320
BEHE Becsehely 80.13 328⇑ *e*PKiKP P 05 14 10.4 0.0
MEM Membach 80.15 337 P P 05 14 10.2 -0.2
comp=Z,51nm,1.2s
MEM Membach 80.15 337 P P 05 14 10.4 0.0

R37A **Teagarden Farm** 80.33 45 P P 05 14 10.5 -1.2
baz=320
PLD **Plovdiv** 80.36 321 P P 05 14 12.9 +1.2
W32A **Sentinel** 80.36 50 P P 05 14 11.9 0.0
baz=318,SNR=7.7
FOEL **Foel Wylfa** 80.37 343⇑ *e*P P 05 14 11.7 +0.1
FOEL AMB AMB 05 14 12.3
comp=Z,88nm,1.1s
S36A **Lake Cedric, C** 80.39 46 P P 05 14 11.5 -0.5
baz=319,SNR=5.5
M42A **Sheffield** 80.39 40 P P 05 14 11.1 -0.8
baz=322
O40A **La Belle** 80.42 42 P P 05 14 11.7 -0.4
baz=321,SNR=14
Q38A **Cooks Store, C** 80.45 44 P P 05 14 11.6 -0.7
baz=320,SNR=12
N41A **Harden Midland** 80.46 41 P P 05 14 11.8 -0.5
baz=321,SNR=11
MARH **Ras Al Marh** 80.46 308 *e*P P 05 14 13.1 +0.2
P39B **Salisbury** 80.48 43 P P 05 14 12.2 -0.2
baz=320,SNR=7.1
LLW **Llanuwychllyn** 80.50 343⇑ *e*P P 05 14 12.2 -0.1
T35A **Sooner Cattle** 80.51 47 P P 05 14 12.2 -0.5
baz=319,SNR=14
BCLA **Clavier** 80.52 337 P P 05 14 12.1 -0.3
comp=Z,38nm,1.2s
RAR **Rarotonga** 80.59 132 LR LR 05 48 02.5
comp=Z,84nm,19.0s,baz=270,slow=34
SOKA **Soboth** 80.61 329 *i* P P 05 14 13.1 0.0
comp=Z,59nm,0.9s,SNR=57
PERS **Pernice** 80.61 329 *i* P P 05 14 12.8 -0.3
VTS **Vitosha** 80.64 322 P P 05 14 12.4 -1.0
VTS **Vitosha** 80.64 322 ǁ *i*P P 05 14 12.6 -0.8
VTS **Vitosha** 80.64 322 *e*P P 05 14 13.7 +0.2
VTS pmax pmax
comp=Z,55nm,0.9s
VTS **Vitosha** 80.64 322 *i* P P 05 14 13.5 +0.1
VTS **Vitosha** 80.64 322 *e*P P 05 14 13.7 +0.2
comp=Z,55nm,0.9s
HLM1 **Long Mynd** 80.65 342⇑ *e*P P 05 14 13.0 -0.1
HLM1 AMB AMB 05 14 14.2
comp=Z,45nm,1.1s
DSB **Dublin** 80.67 345 *e*P P 05 14 13.0 -0.2
comp=Z,28nm,0.8s
ALN **Alexandroupoli** 80.69 319 P P 05 14 13.3 -0.2
ALN **Alexandroupoli** 80.69 319 P P 05 14 13.3 -0.2
ALN **Alexandroupoli** 80.69 319 P P 05 14 13.3 -0.2
Q39A **Willow Grove F** 80.71 44 P P 05 14 13.1 -0.6
baz=320,SNR=5.3
SNF **Seneffe** 80.73 337 P P 05 14 13.1 -0.4
RDO **Rodhopi** 80.73 320 P P 05 14 13.9 +0.2
T36A **Boggs Farm, Ca** 80.73 47 P P 05 14 13.5 -0.3
baz=319,SNR=13
N42A **Yates City** 80.75 41 P P 05 14 13.2 -0.6
baz=322,SNR=13
S37A **Fort Scott** 80.75 46 P P 05 14 13.2 -0.7
baz=320,SNR=17
W33A **Caddo, Fort Co** 80.77 50 P P 05 14 13.7 -0.4
baz=318
P40A **Paris** 80.80 43 P P 05 14 13.7 -0.4
baz=321,SNR=14
U35A **Pawnee** 80.80 48 P P 05 14 13.9 -0.3
baz=319,SNR=7.6
DIVS **Divibare** 80.81 325 P P 05 14 12.9 -1.3
STU **Stuttgart** 80.81 334 *e*P P 05 14 13.9 -0.1
STU pmax pmax
comp=Z,67nm,0.9s
STU **Stuttgart** 80.81 334 *e*P P 05 14 13.9 -0.1
comp=Z,67nm,0.9s
ISP **Isparta** 80.86 315 *c i*P P 05 14 13.9 -0.7
ISP pmax pmax
comp=Z,17nm,0.8s
X32A **Elmer** 80.86 51 P P 05 14 13.7 -0.9
baz=318,SNR=5.2
KBA **Koelnbreinsper** 80.88 330 *i* P P 05 14 14.6 -0.1
comp=Z,67nm,1.1s,SNR=47
KBA **Koelnbreinsper** 80.88 330 P P 05 14 14.8 +0.2
R38A **Fenwick Farm,** 80.90 45 P P 05 14 13.4 -1.3
baz=320,SNR=9.2
WMOK **Wichita Mounta** 80.90 50 P P 05 14 14.6 -0.3
baz=318,SNR=7.5
WMOK **Wichita Mounta** 80.90 50 *e*P P 05 14 14.5 -0.3
WMOK pmax pmax
comp=Z,10.0nm,0.8s
WMOK **Wichita Mounta** 80.90 50 *e*P P 05 14 14.5 -0.3
comp=Z,10nm,0.8s
O41A **Passleys Farm,** 80.91 42 P P 05 14 13.4 -1.3
baz=322
OBKA **Obir** 80.93 329 *i* P P 05 14 14.3 -0.5
comp=Z,22nm,0.7s,SNR=20
SSW **Stow on the Wo** 80.93 342 *e*P P 05 14 14.4 -0.2
GIVF **Givet** 80.94 337 *e*P P 05 14 13.6 -1.1
GIVF pmax pmax
comp=Z,32nm,1.0s
WLF **Walferdange** 80.95 336 P P 05 14 15.1 +0.3
comp=Z,23nm,1.6s
WLF AP sP 05 14 29.4 -0.7
WLF **Walferdange** 80.95 336 *e*P P 05 14 14.8 0.0
WLF *e**PP sP 05 14 29.7 -0.4
WLF pmax pmax
comp=Z,26nm,0.9s
WLF **Walferdange** 80.95 336 *e*P P 05 14 14.8 0.0
comp=Z,26nm,0.9s
WLF *e*pP sP 05 14 29.7 -0.4
DOU **Dourbes** 81.01 337 P P 05 14 14.5 -0.6
comp=Z,16nm,1.3s
DOU AP pP 05 14 26.6 +0.3
W34A **Bridge Creek,** 81.09 49 P P 05 14 15.1 -0.7
baz=318
W34A **Bridge Creek,** 81.09 49 *e*pP pP 05 14 27.5 +0.5
comp=Z,20nm,0.9s
BAIF **Baives** 81.15 337 *e*P P 05 14 14.8 -1.0
BAIF pmax pmax
comp=Z,21nm,0.9s
MYKA **Terra Mystica** 81.16 330 *i* P P 05 14 15.4 -0.6
comp=Z,26nm,1.0s,SNR=17
MCH1 **Michaelchurch** 81.16 342⇑ *e*P P 05 14 15.6 -0.3
MCH1 AMB AMB 05 14 16.4
comp=Z,56nm,0.9s
P41A **Barry, Barry** 81.16 42 P P 05 14 15.8 -0.3
baz=321,SNR=15
STRD **Stroud** 81.18 342⇑ *e*P P 05 14 15.8 -0.1
STRD AMB AMB 05 14 16.5
comp=Z,107nm,1.1s
T37A **Cheneyville 18** 81.19 46 P P 05 14 15.5 -0.7
baz=320,SNR=14
Q40A **Laux Farm, Aux** 81.20 43 P P 05 14 16.0 -0.3
baz=321,SNR=7.9
V35A **Meyer Ranch, C** 81.20 48 P P 05 14 16.1 -0.2
baz=319
X33A **Lawton** 81.20 50 P P 05 14 15.8 -0.6
baz=318
MMB **Musomiste** 81.21 321 *i* P P 05 14 16.5 +0.2
BRBR **Barbar** 81.22 308 *e*P P 05 14 16.9 +0.2
O42A **Bath** 81.23 41 P P 05 14 16.1 -0.2
baz=322
R39A **Chumby, Stover** 81.24 44 P P 05 14 16.0 -0.5
baz=320,SNR=7.6
MONM **Monmouth** 81.27 342⇑ *e*P P 05 14 16.2 -0.2
MONM AMB AMB 05 14 17.0
comp=Z,64nm,1.1s
KULA **Kula-Manisa** 81.27 316 P P 05 14 15.8 -1.0
KULA **Kula-Manisa** 81.27 316 P P 05 14 15.8 -1.0
WATA **Walderalm** 81.27 332 *i* P P 05 14 16.9 +0.2
comp=Z,69nm,1.1s,SNR=13
KKB **Krupnik** 81.28 322 *i* P P 05 14 16.9 +0.2
LPW **Lampeter** 81.28 343⇑ *e*P P 05 14 15.9 -0.5
LPW AMB AMB 05 14 17.0
comp=Z,43nm,0.9s
SALA **Sala** 81.28 307 *e*P P 05 14 15.9 -1.1
HDIL **Hopedale** 81.31 40 P P 05 14 16.2 -0.6
baz=322,SNR=11
HDIL **Hopedale** 81.31 40 *e*P P 05 14 16.6 -0.3
comp=Z,80nm,0.9s
U36A **Ologah** 81.31 47 P P 05 14 16.3 -0.6
baz=319
WTTA **Wattenberg** 81.32 332 *i* P P 05 14 17.2 +0.3
comp=Z,50nm,0.9s,SNR=18
S38A **Stockton** 81.33 45 P P 05 14 15.7 -1.3
baz=320,SNR=6.8
LJU **Ljubljana** 81.33 329 *e*P P 05 14 16.0 -0.9
NVR **Nevrokopi** 81.34 321 P P 05 14 16.9 -0.1
OZLJ **Ozalj** 81.34 328 P P 05 14 16.3 -0.6
SWN1 **Swindon** 81.34 341⇑ *e*P P 05 14 16.3 -0.4
SWN1 AMB AMB 05 14 18.1
comp=Z,171nm,1.1s

WOL **Wolverton** 81.40 341 *e*P P 05 14 16.9 -0.2
WOL AMB AMB 05 14 17.5
comp=Z,89nm,1.0s
RETA **Reutte** 81.42 332 *i* P P 05 14 17.5 +0.1
comp=Z,58nm,1.0s,SNR=28
VISS **Visnje** 81.42 329 *i* P P 05 14 16.5 -0.8
MOTA **Moosalm** 81.43 332 *i* P P 05 14 17.6 +0.1
comp=Z,87nm,1.0s,SNR=80
HMNX **Herstmonceux** 81.43 340 *e*P P 05 14 17.6 +0.3
HGH **Gray Hill** 81.45 342⇑ *e*P P 05 14 16.7 -0.6
ABTA **Abfaltersbach** 81.46 331 *i* P P 05 14 17.1 -0.5
comp=Z,21nm,1.1s,SNR=11
BFO **Black Forest** 81.47 334 *e*P P 05 14 17.3 -0.3
BFO pmax pmax
comp=Z,37nm,0.9s
BFO **Black Forest** 81.47 334 *e*P P 05 14 17.3 -0.3
comp=Z,37nm,0.9s
BOJS **Bojanci** 81.52 329 *e*P P 05 14 16.4 -1.4
O43A **Sugar Creek Fa** 81.52 41 P P 05 14 17.1 -0.9
baz=322,SNR=6.1
CSS **Mathiatis** 81.52 311 P P 05 14 17.1 -1.0
CSS **Mathiatis** 81.52 311 *e*P P 05 14 17.9 -0.2
comp=Z,6.3nm,0.8s
CSS *e*pP pP 05 14 29.9 +0.6
X34A **Smith Ranch, M** 81.53 50 P P 05 14 18.0 -0.1
baz=318,SNR=6.2
Y33A **Hilltop Ranch,** 81.53 50 P P 05 14 18.0 -0.1
baz=318,SNR=7.5
S39A **Bolivar** 81.58 45 P P 05 14 17.4 -0.9
baz=320,SNR=15
IWEX **Carrickbyrne,** 81.58 345 *e*P P 05 14 17.9 -0.1
P42A **Winchester** 81.58 42 P P 05 14 17.7 -0.6
baz=322,SNR=11
T38A **Diamond** 81.58 46 P P 05 14 17.8 -0.6
baz=320,SNR=26
JAVS **Javornik** 81.63 329 *i* P P 05 14 17.2 -1.4
U37A **Salina** 81.63 47 P P 05 14 18.0 -0.6
baz=320,SNR=9.5
W35A **Tecumseh** 81.64 49 P P 05 14 18.2 -0.5
baz=319
Q41A **Truxton** 81.64 43 P P 05 14 18.4 -0.2
baz=321,SNR=22
R40A **Maddies Statio** 81.64 44 P P 05 14 18.0 -0.7
baz=321,SNR=13
SRS **Serrai** 81.65 321 P P 05 14 18.2 -0.4
TUL1 **Leonard** 81.65 47 P P 05 14 18.5 -0.2
baz=319,SNR=5.9
TUL1 **Leonard** 81.65 47 *e*P P 05 14 18.9 +0.2
comp=Z,21nm,0.8s
V36A **Jenks** 81.66 48 P P 05 14 18.5 -0.2
baz=319,SNR=6.2
CDF **Champ du Feu** 81.73 335 *e*P P 05 14 18.0 -1.0
TCHB **Talchebab** 81.75 308 *e*P P 05 14 19.7 +0.3
FETA **Feichten** 81.83 332 *i* P P 05 14 19.7 0.0
comp=Z,40nm,1.1s,SNR=19
DAVA **Damuels** 81.89 333 *i* P P 05 14 20.0 0.0
comp=Z,66nm,1.0s,SNR=23
TRI **Trieste** 81.90 330 *e*P P 05 14 18.5 -1.3
TRI pmax pmax
comp=Z,36nm,0.9s
TRI **Trieste** 81.90 330 *e*P P 05 14 18.5 -1.3
comp=Z,36nm,0.9s
SKO **Skopje** 81.92 323 P P 05 14 20.4 +0.4
SKO **Skopje** 81.92 323 *i* P P 05 14 20.5 +0.4
SKO **Skopje** 81.92 323 P P 05 14 20.4 +0.4
SKO **Skopje** 81.92 323 P P 05 14 20.4 +0.4
KNT **Kendrikon** 81.93 321 P P 05 14 19.6 -0.5
P43A **Skaggs, Pawnee** 81.93 41 P P 05 14 19.6 -0.5
baz=322,SNR=5.5
ECH **Echery** 81.94 335⇑ *e*P P 05 14 19.8 -0.3
VAY **Valandovo** 81.95 322 P P 05 14 20.4 +0.2
VAY **Valandovo** 81.95 322 *i* P P 05 14 20.2 +0.1
ABTX **Abilene, Hawle** 81.98 52 P P 05 14 19.4 -1.2
baz=318
ABTX **Abilene, Hawle** 81.98 52 *e*P P 05 14 20.9 +0.4
ABTX *e*pP pP 05 14 33.0 +1.2
Z33A **Whitaker Ranch** 81.98 51 P P 05 14 19.9 -0.7
baz=318
U38A **Gravette** 81.99 46 P P 05 14 20.0 -0.5
baz=320,SNR=13
W36A **Wetumka** 82.00 48 P P 05 14 20.2 -0.3
baz=319,SNR=7.0
TX31 **Lajitas Ar. Si** 82.01 57 *e*P P 05 14 21.1 +0.2
TXAR **Lajitas Array** 82.01 57 P P 05 14 21.0 +0.2
comp=Z,16nm,0.8s,baz=297,slow=4.0,SNR=157
TXAR PKKPbc PKKPbc 05 32 50.7 +2.5
comp=Z,1.6nm,0.9s,baz=143,slow=3.2,SNR=12
TXAR LR LR 05 50 25.2
comp=Z,98nm,19.0s,baz=0.0,slow=35
V37A **Hulbert** 82.01 47 P P 05 14 20.1 -0.5
baz=320,SNR=13
Q42A **Golden Eagle** 82.02 42 P P 05 14 20.4 -0.2
baz=322,SNR=9.4
Y34A **Reagan Ranch,** 82.05 50 P P 05 14 20.3 -0.5
baz=319
T39A **Clever** 82.06 45 P P 05 14 19.6 -1.2
baz=320,SNR=6.1
S40A **Lebanon** 82.06 44 P P 05 14 20.1 -0.8
baz=321,SNR=15
R41A **Rosebud** 82.08 43 P P 05 14 20.3 -0.6
baz=321,SNR=11
UDBI **Udbina** 82.14 328 P P 05 14 20.2 -1.0
X35A **Drake** 82.15 49 P P 05 14 20.8 -0.6
baz=319,SNR=9.5
MOF **Molkenrain** 82.27 335⇑ *e*P P 05 14 21.5 -0.3
MOF **Molkenrain** 82.27 335 *e*P P 05 14 21.6 -0.3
THEF **They Montfort** 82.29 335⇑ *e*P P 05 14 21.5 -0.3
PLG **Polygyros** 82.31 321 P P 05 14 21.6 -0.5
HHAR **Hobbs** 82.34 46 *e*P P 05 14 21.7 -0.7
comp=Z,11nm,0.9s
FUORN **Ofenpass-Fuorn** 82.34 332 *e*P P 05 14 22.7 +0.2
comp=Z,67nm,1.0s
X36A **Centrahoma** 82.36 49 P P 05 14 22.2 -0.3
baz=319,SNR=6.0
R42A **Luebbering** 82.38 43 P P 05 14 22.1 -0.4
baz=322,SNR=5.7
Q43A **New Douglas** 82.39 42 P P 05 14 22.0 -0.6
baz=322
Z34A **Collier Ranch,** 82.40 50 P P 05 14 22.1 -0.6
baz=319
T40A **Mansfield** 82.40 45 P P 05 14 21.9 -0.7
baz=321,SNR=5.2
133A **Hamilton Ranch** 82.40 52 P P 05 14 22.1 -0.6
baz=318
V38A **Canehill** 82.42 47 P P 05 14 22.3 -0.5
baz=320,SNR=17
W37B **Quinton** 82.42 48 P P 05 14 22.4 -0.4
baz=320,SNR=8.1
AAM **Ann Arbor** 82.43 36 *e*P P 05 14 22.4 -0.3
AAM pmax pmax
comp=Z,60nm,1.4s
AAM **Ann Arbor** 82.43 36 *e*P P 05 14 22.4 -0.3
comp=Z,60nm,1.4s
S41A **Jillco Farms,** 82.45 44 P P 05 14 22.3 -0.6
baz=321,SNR=7.7
NVLJ **Novalja** 82.46 328 P P 05 14 21.6 -1.1
SFIN **Lafayette** 82.47 39 P P 05 14 22.4 -0.5
baz=324,SNR=6.7
SFIN **Lafayette** 82.47 39 *e*P P 05 14 22.6 -0.3
comp=Z,36nm,1.0s
Y35A **Marietta** 82.48 50 P P 05 14 22.4 -0.7
baz=319
PDG **Podgorica** 82.48 324 P P 05 14 22.3 -0.6
PDG **Podgorica** 82.48 324 ǁ *i*P P 05 14 22.3 -0.6
TTG **Podgorica** 82.48 324 P P 05 14 22.3 -0.6
TTG **Podgorica** 82.48 324 P P 05 14 22.3 -0.6
P44A **Sand Creek, Wi** 82.49 41 P P 05 14 22.6 -0.5
baz=323,SNR=5.8
U39A **Green Forest** 82.50 46 P P 05 14 22.5 -0.7
baz=320,SNR=25
HPIG 82.50 60 *e*P P 05 14 23.6 0.0
HPIG *e*pP pP 05 14 35.3 +0.4
AKAS **Kas** 82.54 314 *e*P P 05 14 24.5 +0.9
comp=Z,34nm,1.2s
PAIG **Paliouri** 82.56 320 P P 05 14 22.3 -1.1
TRQ **Mont Tremblant** 82.59 28 *e*P P 05 14 23.1 -0.5
KSL **Kastellorizon** 82.62 314 P P 05 14 22.1 -1.6
KSL **Kastellorizon** 82.62 314 P P 05 14 22.1 -1.6
BIA **Bitola** 82.74 322 *i* P P 05 14 24.3 -0.1
Q44A **Meyer Farm, Va** 82.75 41 P P 05 14 23.8 -0.7
baz=323
TUE **Stuetta** 82.78 333 *e*P P 05 14 24.6 -0.1
comp=Z,40nm,0.9s
S42A **Caledonia** 82.78 43 P P 05 14 24.1 -0.5
baz=322,SNR=18
Z35A **Perchaven, San** 82.79 50 P P 05 14 24.4 -0.3
baz=319
LMQ **La Malbaie** 82.80 25 *e*pP pP 05 14 35.2 -0.6
R43A **Red Bud** 82.81 42 P P 05 14 24.0 -0.7
baz=322
LOMF **Lomont** 82.81 335⇑ *e*P P 05 14 24.5 -0.2
LOMF **Lomont** 82.81 335 *e*P P 05 14 25.1 +0.4
V39A **Pettigrew** 82.83 46 P P 05 14 24.3 -0.7
baz=320,SNR=16
DYA **Yadsworthy** 82.83 342⇑ *e*P P 05 14 24.1 -0.5
DYA AMB AMB 05 14 25.1
comp=Z,121nm,1.2s
DYA **Yadsworthy** 82.83 342 *e*P P 05 14 24.8 +0.2
comp=Z,132nm,1.1s
U40A **Yellville** 82.84 45 P P 05 14 24.4 -0.5
baz=321,SNR=22
233A **Rising Star** 82.85 52 P P 05 14 24.5 -0.6
baz=318
T41A **Mountain View** 82.86 44 P P 05 14 24.3 -0.7
baz=321,SNR=11
Y36A **Durant** 82.90 49 P P 05 14 24.9 -0.4
baz=319
134A **White-Moore Ra** 82.90 51 P P 05 14 24.3 -1.0
baz=319
OHR **Ohrid** 82.90 323 *i* P P 05 14 24.8 -0.4
FNA **Florina** 82.91 322 P P 05 14 24.2 -1.1
FNA **Florina** 82.91 322 P P 05 14 24.6 -0.7
W38A **Poteau** 82.96 47 P P 05 14 25.0 -0.5
baz=320,SNR=8.3
LIT **Litokhoron** 82.96 321 P P 05 14 24.4 -1.1
X38A **Whitesboro** 83.10 48 P P 05 14 25.8 -0.5
baz=320,SNR=8.0
TIR **Tirane** 83.11 323 ⇑ *i*P P 05 14 25.8 -0.4
TIR **Tirane** 83.11 323 *e*P P 05 14 25.5 -0.7
TIR pmax pmax
comp=Z,53nm,0.8s
TIR **Tirane** 83.11 323 *e*P P 05 14 25.5 -0.7
comp=Z,53nm,0.8s
KZN **Kozani** 83.12 322 P P 05 14 25.6 -0.8
Y37A **Hugo** 83.20 49 P P 05 14 26.4 -0.5
baz=320
T42A **Van Buren** 83.21 44 P P 05 14 26.0 -0.8
baz=322,SNR=6.6
XOR **Xorichti** 83.23 320 P P 05 14 25.5 -1.4
R44A **Waltonville** 83.24 42 P P 05 14 26.4 -0.5
baz=323
W39A **Magazine** 83.25 47 P P 05 14 26.7 -0.3
baz=320,SNR=5.4
NEO **Neokhori** 83.27 320 P P 05 14 25.8 -1.3
V40A **Witts Springs** 83.28 46 P P 05 14 26.5 -0.8
baz=321,SNR=5.3
135A **Vickery Place,** 83.29 51 P P 05 14 26.9 -0.4
baz=319
S43A **Fulton Ridge,** 83.29 43 P P 05 14 26.7 -0.6
baz=322
234A **Clairette** 83.29 51 P P 05 14 27.0 -0.3
baz=319
Z36A **Blue Ridge** 83.29 50 P P 05 14 26.8 -0.5
baz=319,SNR=5.4
333A **Richland Sprin** 83.31 52 P P 05 14 27.4 -0.1
baz=318,SNR=6.9
FYTO **Fytoko, Volos** 83.31 320 P P 05 14 26.5 -0.8
OLIL **Olney** 83.32 41 *e*P P 05 14 27.4 0.0
OLIL *e*pP pP 05 14 38.7 +0.1
TAOE **Nuku Hiva Isla** 83.32 109 *e*LR LR 05 40 18.0
comp=Z,514nm,25.0s
U41A **Viola** 83.33 45 P P 05 14 26.7 -0.7
baz=321,SNR=6.5
NEST **Nestorio** 83.36 322 P P 05 14 25.7 -2.0
JCT **Junction City** 83.47 54 P P 05 14 28.0 -0.3
baz=318,SNR=12
JCT **Junction City** 83.47 54 *e*P P 05 14 28.3 -0.1
JCT pmax pmax
comp=Z,25nm,1.0s
JCT **Junction City** 83.47 54 *e*P P 05 14 28.2 -0.1
comp=Z,25nm,1.0s
PENT **Pentalofos** 83.49 322 P P 05 14 27.2 -1.2
SENIN **Lac Senin/Sane** 83.54 334 *e*P P 05 14 28.4 -0.3
comp=Z,28nm,0.8s
JQE **Queens East** 83.56 341 *e*P P 05 14 28.3 -0.1
T43A **Greenville** 83.57 43 P P 05 14 28.3 -0.4
baz=322,SNR=5.7
FLN **La Foliniere** 83.58 340 *e*P P 05 14 27.6 -0.9
FLN pmax pmax
comp=Z,46nm,1.0s
S44A **Carbondale** 83.59 42 P P 05 14 28.5 -0.2
baz=323,SNR=11
JSA **Saint Aubin** 83.60 341 *e*P P 05 14 28.1 -0.5
X39A **Fountain Ranch** 83.60 47 P P 05 14 28.6 -0.3
baz=320,SNR=9.6
SMIA **Simia** 83.61 320 P P 05 14 28.4 -0.5
PPT **Papeete** 83.62 122 LR LR 05 45 27.1
comp=Z,172nm,21.8s,baz=346,slow=31
W40A **Ferguson Farm,** 83.63 46 P P 05 14 28.5 -0.5
baz=321,SNR=5.9
PPT2 **Papeete2** 83.64 122 *e*LR LR 05 40 31.9
comp=Z,563nm,23.0s,baz=316
PPT2 **Papeete2** 83.64 122 *e*T T 06 46 49.8
comp=Z,4.5nm,0.3s
V41A **Mountainview** 83.64 45 P P 05 14 28.3 -0.8
baz=321,SNR=11
U42A **Revenden** 83.67 44 P P 05 14 28.2 -0.9
baz=322
433A **Art** 83.67 53 P P 05 14 29.0 -0.4
baz=318,SNR=7.8
WHTX **Lake Whitney,** 83.68 51 P P 05 14 29.1 -0.3
baz=319
WHTX **Lake Whitney,** 83.68 51 *e*P P 05 14 29.7 +0.4
comp=Z,100nm,1.9s
PAE **Paea** 83.69 122 *e*T T 06 46 52.8
comp=Z,0.9nm,0.3s
CABF **La Chapelle** 83.70 335 *e*P P 05 14 28.4 -0.9
CABF pmax pmax
comp=Z,19nm,0.9s
BLO **Bloomington** 83.70 40 *e*P P 05 14 29.5 +0.2
BLO *e**PP pP 05 14 41.3 +0.7
BLO **Bloomington** 83.70 40 *e*P P 05 14 29.5 +0.2
BLO *e*pP pP 05 14 41.3 +0.7
Y38A **Idabel** 83.72 48 P P 05 14 29.1 -0.3
baz=320
334A **Lometa** 83.73 52 P P 05 14 29.3 -0.3
baz=319,SNR=7.5
PBMO **Poplar Bluff** 83.74 43 *e*P P 05 14 28.8 -0.7
comp=Z,72nm,1.3s
TIAR **Tiarei** 83.76 122 *e*T T 06 46 57.9
comp=Z,4.1nm,0.3s
Z37A **Pogue Cattle C** 83.79 49 P P 05 14 29.4 -0.5
baz=320
136A **Ennis** 83.84 50 P P 05 14 29.4 -0.7
baz=319
MIAR **Mount Ida** 83.86 47 P P 05 14 29.7 -0.5
baz=321,SNR=15
MIAR **Mount Ida** 83.86 47 *e*P P 05 14 30.2 0.0
MIAR pmax pmax
comp=Z,34nm,0.9s
MIAR **Mount Ida** 83.86 47 *e*P P 05 14 30.2 0.0
comp=Z,34nm,0.9s
LKR **Lokris** 83.89 320 P P 05 14 28.9 -1.4
T44A **Benton** 83.91 43 P P 05 14 29.8 -0.6
baz=322
S45A **Carrier Mills** 83.93 42 P P 05 14 30.2 -0.3
baz=323,SNR=14
X301 **Greenbrier Sit** 83.94 46 *e*P P 05 14 30.4 -0.2
comp=Z,25nm,1.2s
WHAR **Wooly Hollow** 83.96 46 *e*P P 05 14 30.6 -0.1
comp=Z,50nm,1.1s
V42A **Cord** 84.02 45 P P 05 14 30.1 -0.9
baz=322,SNR=9.0
GRR **Gorron** 84.02 340 *e*P P 05 14 30.2 -0.6
GRR pmax pmax
comp=Z,120nm,1.1s
Y39A **Lockesburg** 84.05 48 P P 05 14 30.9 -0.3
baz=320,SNR=5.8
JAN **Janina** 84.06 322 P P 05 14 31.1 -0.1
W41B **Gary Mavity, V** 84.07 46 P P 05 14 30.9 -0.4
baz=321,SNR=7.9
U43A **Rector** 84.07 44 P P 05 14 30.8 -0.4
baz=322
ERPA **Erie** 84.09 34 *e*P P 05 14 31.2 0.0
comp=Z,35nm,0.8s
434A **Burnet** 84.10 52 P P 05 14 31.2 -0.4
baz=319
USIN **University of** 84.14 41 *e*P P 05 14 31.9 +0.3
USIN *e*pP pP 05 14 44.2 +1.4
236A **Katherine and** 84.19 50 P P 05 14 31.4 -0.5
baz=319
533A **Kerrville** 84.21 53 P P 05 14 32.0 -0.1
baz=318,SNR=8.4

EVR	Evrytania	84.23	321	P		P		05 14 30.9	-1.3
335A	Moody	84.23	51	P		P		05 14 31.8	-0.4
	baz=319								
X40A	Basin Creek Fa	84.29	46	P		P		05 14 32.0	-0.4
	baz=321,SNR=8.0								
DSF	Desfina	84.31	320	P		P		05 14 30.5	-2.0
U44A	Portageville	84.32	43	P		P		05 14 32.1	-0.4
	baz=322								
AVF	Avril sur Loir	84.36	336	eP		P		05 14 31.8	-0.7
AVF					pmax	pmax			
	comp=Z,38nm,0.9s								
RSL	Roselend	84.36	334⇑	eP		P		05 14 34.6	+1.9
SGD	Sagiada	84.37	322	P		P		05 14 32.2	-0.5
LTK	Loutraki	84.41	319	P		P		05 14 30.5	-2.5
LTK	Loutraki	84.41	319	P		P		05 14 30.5	-2.5
ACSO	Alum Creek Sta	84.42	37	eP		P		05 14 33.0	+0.1
	comp=Z,29nm,0.8s								
ALLY	Alegheny Colle	84.42	34	eP		P		05 14 32.9	-0.1
	comp=Z,58nm,0.8s								
Y40A	Okolona	84.42	47	P		P		05 14 32.6	-0.5
	baz=321								
ANX	Ano Chora	84.44	320	P		P		05 14 32.3	-0.9
VLC	Villacollemand	84.45	331	eP		P		05 14 33.4	+0.3
	comp=Z,37nm,0.9s								
X41A	Kaden, Bauxite	84.45	46	P		P		05 14 33.0	-0.2
	baz=321								
V43A	Jonesboro	84.46	44	P		P		05 14 32.5	-0.7
	baz=322								
LPL	La Plagne	84.47	334	eP		P		05 14 32.9	-0.5
LPL					pmax	pmax			
	comp=Z,41nm,0.8s								
336A	Riesel	84.48	51	P		P		05 14 32.7	-0.7
	baz=319								
LPG	La Plagne	84.49	334	eP		P		05 14 33.1	-0.5
LPG					pmax	pmax			
	comp=Z,46nm,0.8s								
KALE	Kalithea	84.50	320	P		P		05 14 31.7	-1.8
435B	Jarrell	84.52	52	P		P		05 14 33.6	0.0
	baz=319								
SERG	Sergoula	84.52	320	P		P		05 14 32.3	-1.3
Z39A	Irene McRaven,	84.54	48	P		P		05 14 32.9	-0.8
	baz=320								
THAL	Thalero	84.55	320	P		P		05 14 32.1	-1.5
534A	Blanco	84.57	53	P		P		05 14 33.6	-0.4
	baz=319,SNR=6.7								
WCI	Wyandotte Cave	84.57	40	eP		P		05 14 33.6	-0.2
WCI					pmax	pmax			
	comp=Z,37nm,0.9s								
WCI	Wyandotte Cave	84.57	40	eP		P		05 14 33.6	-0.2
	comp=Z,37nm,0.9s								
633A	Saathoff Ranch	84.58	54	P		P		05 14 33.9	-0.1
	baz=318								
U44B	Burton Farm, H	84.62	43	P		P		05 14 33.6	-0.4
	baz=323,SNR=5.7								
ROSF	Rostrenen	84.66	341	eP		P		05 14 33.5	-0.5
ROSF					pmax	pmax			
	comp=Z,71nm,0.9s								
NCB	Newcomb	84.67	29	eP		P		05 14 33.9	-0.3
	comp=Z,0.2nm,0.9s								
LAKA	Lakka	84.70	320	P		P		05 14 33.4	-1.0
GLAT	Glass	84.70	43	eP		P		05 14 35.6	+1.2
BGF	Bois d'Agland	84.71	337	eP		P		05 14 34.1	-0.2
BGF					pmax	pmax			
	comp=Z,37nm,1.2s								
M54A	Oil Creek Stat	84.74	34	P		P		05 14 34.1	-0.4
	baz=328,SNR=5.2								
H06N1	SOCORRO T-PHAS	84.74	69	T		T		06 48 44.9	
	SNR=8.0								
WLAR	White Oak Lake	84.76	47	eP		P		05 14 35.8	+1.0
	comp=Z,49nm,1.1s								
PDO	Prodromos	84.77	321	P		P		05 14 34.0	-0.8
KLV	Kalavryta, Ach	84.78	320	P		P		05 14 33.5	-1.4
H06E1	SOCORRO T-PHAS	84.84	69	T		T		06 48 40.3	
	SNR=4.0								
UTMT	University of	84.85	43	eP		P		05 14 35.8	+0.6
	comp=Z,106nm,1.1s								
LKD2	Lefkada island	84.86	321	P		P		05 14 34.2	-1.0
Y41A	Eaglette Beard	84.88	47	P		P		05 14 35.2	-0.2
	baz=321								
U45A	Rockin P Farm,	84.90	43	P		P		05 14 34.7	-0.7
	baz=323								
BNI	Bardonecchia	84.91	334	eP		P		05 14 35.6	+0.1
BNI					pmax	pmax			
	comp=Z,19nm,0.8s								
BNI	Bardonecchia	84.91	334	eP		P		05 14 35.5	+0.1
	comp=Z,19nm,0.8s								
GDM	Grand'Maison	84.95	334⇑	eP		P		05 14 36.0	+0.2
436A	Wall Ranch, Ga	84.97	51	P		P		05 14 35.2	-0.7
	baz=319								
832A	Faith Ranch, C	84.99	55	P		P		05 14 35.9	-0.2
	baz=318,SNR=7.7								
PLDF	La Plantade	85.02	336⇑	eP		P		05 14 37.0	+1.0
OG22	Abries	85.03	333⇑	eP		P		05 14 35.9	-0.3
GRN	Grenoble	85.03	334⇑	eP		P		05 14 36.6	+0.5
DRO	Drossia	85.06	320	P		P		05 14 35.8	-0.4
733A	Divot King Ran	85.06	54	P		P		05 14 36.3	-0.1
	baz=318								
N54A	Moraine State	85.06	34	P		P		05 14 35.9	-0.4
	baz=328,SNR=7.3								
RLS	Riolos of Patr	85.08	320	P		P		05 14 36.0	-0.3
535A	Dale	85.09	52	P		P		05 14 36.4	-0.1
	baz=319								
AGO	Saint Agoulin	85.09	336⇑	eP		P		05 14 37.8	+1.5
634A	China Grove, S	85.12	53	P		P		05 14 36.6	-0.1
	baz=319								
PKME	Peaks-Kenny Pk	85.16	25	eP		P		05 14 36.0	-0.5
	comp=Z,33nm,1.5s								
ORIF	Oris-en-Rattie	85.28	334	eP		P		05 14 37.6	+0.3
ORIF					pmax	pmax			
	comp=Z,41nm,0.9s								
X43A	Marvell	85.28	45	P		P		05 14 36.9	-0.5
	baz=322								
V45A	Humboldt	85.28	43	P		P		05 14 36.6	-0.7
	baz=323								
CCAR	Cane Creek	85.29	46	eP		P		05 14 38.3	+0.8
	comp=Z,47nm,0.9s								
140A	Cam and Jess,	85.32	48	P		P		05 14 36.4	-1.2
	baz=321								
Y42A	Garnett, Star	85.34	46	P		P		05 14 37.1	-0.6
	baz=322,SNR=5.6								
SSB	Saint Sauveur	85.37	335	eP		P		05 14 37.9	+0.2
SSB	Saint Sauveur	85.37	335	eP		P		05 14 37.5	-0.2
SSB					pmax	pmax			
	comp=Z,36nm,1.0s								
SSB	Saint Sauveur	85.37	335	eP		P		05 14 37.5	-0.2
	comp=Z,36nm,1.0s								
ACCN	Adirondack Com	85.38	29	eP		P		05 14 37.5	-0.2
	comp=Z,26nm,1.0s								
AMT	Artemida-Makis	85.40	320	P		P		05 14 36.8	-1.2
734A	La Parita Cree	85.40	54	P		P		05 14 38.0	-0.1
	baz=319								
PYM	Petit Puy Mans	85.40	336⇑	eP		P		05 14 39.2	+1.3
LAST	Lasithi	85.48	316	P		P		05 14 37.8	-0.7
LAST	Lasithi	85.48	316	P		P		05 14 37.8	-0.7
WVT	Waverly	85.53	42	eP		P		05 14 38.7	+0.1
WVT					pmax	pmax			
	comp=Z,17nm,0.9s								
WVT	Waverly	85.53	42	eP		P		05 14 38.7	+0.1
	comp=Z,17nm,0.9s								
W45A	Hickory Valley	85.63	44	P		P		05 14 39.0	-0.2
	baz=323								
240A	Hunter Patters	85.69	49	P		P		05 14 39.3	-0.2
	baz=321								
Z42A	Norrel Spur, H	85.70	47	P		P		05 14 38.2	-1.2
	baz=321								
141A	Papa Simpson,	85.71	48	P		P		05 14 39.1	-0.5
	baz=321								
VIVF	Saint-Julien-l	85.71	335	eP		P		05 14 39.1	-0.3
VIVF					pmax	pmax			
	comp=Z,51nm,1.0s								
Y43A	Makayla and Ka	85.73	46	P		P		05 14 38.5	-1.1
	baz=322								
537A	Green Hill Far	85.76	52	P		P		05 14 39.5	-0.4
	baz=320								
636A	Smothers Creek	85.79	52	P		P		05 14 39.6	-0.4
	baz=319								
LBL	Lubilhac	85.80	336⇑	eP		P		05 14 41.3	+1.4
735A	Kenedy	85.83	53	P		P		05 14 40.1	-0.1
	baz=319								
933A	Laredo	85.90	55	P		P		05 14 40.6	0.0
	baz=318,SNR=11								
PYL	PYLOS	85.90	320	P		P		05 14 38.8	-1.6
PYL	PYLOS	85.90	320	P		P		05 14 38.8	-1.6
834A	Tilden	85.94	54	P		P		05 14 40.2	-0.6
	baz=319								
CUC	Castrocucco	85.94	325	eP		P		05 14 38.3	-2.3
	comp=Z,5.0nm,0.8s								
URZ	Urewera	86.01	157	LR		LR		05 47 42.5	
	comp=Z,90nm,19.2s,baz=5.5,slow=32								
OXF	Oxford	86.03	44	eP		P		05 14 41.2	+0.1
OXF					pmax	pmax			
	comp=Z,83nm,1.3s								
OXF	Oxford	86.03	44	eP		P		05 14 41.2	+0.1
	comp=Z,83nm,1.3s								
Y44A	Strider, Charl	86.06	45	P		P		05 14 41.2	0.0
	baz=322								
X45A	UM Field Stati	86.11	44	P		P		05 14 41.4	-0.1
	baz=323								
736A	Circle Diamond	86.18	53	P		P		05 14 41.3	-0.6
	baz=319								
KSPA	Keystone Colle	86.21	31	eP		P		05 14 41.7	-0.1
	comp=Z,20nm,0.8s								
MCWV	Mont Chateau	86.22	35	eP		P		05 14 42.6	+0.7
	comp=Z,19nm,0.8s								
O56A	Blue Knob Stat	86.23	34	P		P		05 14 41.4	-0.7
	baz=328,SNR=11								
TIP	Timpagrande	86.24	324	P		P		05 14 41.7	-0.4
TIP	Timpagrande	86.24	324	eP		P		05 14 41.5	-0.6
	comp=Z,60nm,1.5s								
835A	Beeville	86.24	54	P		P		05 14 42.1	-0.2
	baz=319								
142A	Monroe	86.26	47	P		P		05 14 42.1	-0.1
	baz=322								
934A	Benavides	86.35	55	P		P		05 14 42.1	-0.7
	baz=319								
CAF	Calviac	86.43	336	eP		P		05 14 43.0	+0.1
CAF					pmax	pmax			
	comp=Z,74nm,1.0s								
Y45A	Yeager Farm, C	86.48	45	P		P		05 14 42.5	-0.8
	baz=323,SNR=5.4								
Z44A	Pea Ridge, Bel	86.48	46	P		P		05 14 42.9	-0.5
	baz=322								
034A	Hebronville	86.66	55	P		P		05 14 44.3	0.0
	baz=319								
Y46A	Houston	86.81	44	P		P		05 14 44.7	-0.3
	baz=323,SNR=6.6								
SWET	Sewanee	87.18	41	eP		P		05 14 46.3	-0.5
	comp=Z,9.4nm,0.9s								
LUPA	Lehigh Univers	87.19	32	eP		P		05 14 46.9	+0.2
LUPA					epP	pP		05 14 58.5	+0.5
TZTN	Tazewell	87.20	39	eP		P		05 14 47.2	+0.3
	comp=Z,46nm,1.2s								
VBMS	Vicksburg	87.27	46	P		P		05 14 46.8	-0.4
	baz=322								
Y47A	UCPARC, Winfie	87.30	44	P		P		05 14 46.5	-0.8
	baz=324								
Z46A	Louisville	87.31	45	P		P		05 14 47.1	-0.3
	baz=323								
244A	Avery, Jackson	87.32	47	P		P		05 14 47.1	-0.3
	baz=322								
MVL	Millersville	87.33	33	eP		P		05 14 47.6	+0.2
	comp=Z,19nm,0.8s								
CPCT	Coper Cave	87.65	40	eP		P		05 14 49.2	+0.2
	comp=Z,17nm,1.0s								
146A	Union	87.70	45	P		P		05 14 48.6	-0.6
	baz=323,SNR=7.5								
245A	Little AP, Sta	87.74	46	P		P		05 14 48.4	-1.1
	baz=322								
Z47A	Carrollton	87.75	44	P		P		05 14 48.2	-1.3
	baz=323								
344A	Westbrook Farm	87.76	47	P		P		05 14 48.4	-1.2
	baz=322								
TKL	Tuckaleechee C	87.83	40	eP		P		05 14 49.8	-0.1
TKL					pmax	pmax			
	comp=Z,29nm,0.9s								
TKL	Tuckaleechee C	87.83	40	eP		P		05 14 49.8	-0.1
	comp=Z,29nm,0.9s								
Z48A	Northport	87.86	44	P		P		05 14 48.6	-1.5
	baz=324								
147A	Livingston	88.07	45	P		P		05 14 50.7	-0.3
	baz=323,SNR=5.4								
TBI	Tubuai	88.10	125	eLR		LR		05 42 41.8	
	comp=Z,537nm,25.8s,baz=318								
TBI	Tubuai	88.10	125	eT		T		06 52 22.2	
	comp=Z,4.6nm,0.3s								
247A	Quitman	88.39	45	P		P		05 14 51.9	-0.7
	baz=323								
CBN	Corbin Frederi	88.47	34	eP		P		05 14 53.2	+0.4
	comp=Z,23nm,0.8s								
346A	Big Creek Wild	88.47	46	P		P		05 14 52.4	-0.6
	baz=323								
EPF	Esparros	88.66	337	eP		P		05 14 53.3	-0.4
EPF					pmax	pmax			
	comp=Z,15nm,1.0s								
JSRW	J. Sargeant Re	88.70	35	eP		P		05 14 53.9	0.0
JSRW					epP	pP		05 15 05.8	+0.6
VALF	Valcebollere	88.75	336⇑	eP		P		05 14 54.7	+0.4
248A	Dixon Mills	88.80	45	P		P		05 14 53.9	-0.6
	baz=324								
RESF	Ens	88.86	337⇑	eP		P		05 14 55.5	+0.7
URVA	University of	88.95	35	eP		P		05 14 55.3	+0.2
URVA					epP	pP		05 15 07.2	+0.8
JSC	Jenkinsville	90.12	39	eP		P		05 15 00.9	+0.3
JSC					e*PP	pP		05 15 12.3	+0.3
JSC	Jenkinsville	90.12	39	eP		P		05 15 00.9	+0.3
JSC					epP	pP		05 15 12.3	+0.3
KEST	Kesra	92.20	327	P		P		05 15 09.3	-1.1
	comp=Z,6.1nm,0.8s,baz=336,slow=1.7,SNR=6.4								
KEST				LR		LR		06 01 36.4	
	comp=Z,457nm,18.2s,baz=334,slow=39								
ES19	SONSECA Array	92.92	339	eP		P		05 15 12.7	-0.9
ESDC	Sonseca Array	92.96	339	P		P		05 15 12.3	-1.5
	comp=Z,7.1nm,0.9s,baz=19,slow=3.8,SNR=32								
ESDC				LR		LR		06 01 19.8	
	comp=Z,188nm,22.0s,baz=15,slow=38								
ESLA	Sonseca Array	92.96	339	eP		P		05 15 13.2	-0.6
	comp=Z,9.8nm,1.0s								
RKT	Rikitea	96.96	115	eLR		LR		05 46 35.8	
	comp=Z,356nm,35.0s,baz=322								
TORD	Torodi Ar. Bea	115.38	323	PKP		PKPdf		05 20 41.3	-1.2
	comp=Z,1.5nm,0.5s,baz=14,slow=2.0,SNR=27								
TORD				PP		PP		05 21 42.9	0.0
	comp=Z,1.6nm,0.9s,baz=18,slow=7.2,SNR=3.7								
TORD				PKKPbc		PKKPbc		05 31 14.9	+0.1
	comp=Z,0.7nm,0.9s,baz=191,slow=6.0,SNR=3.7								
VNDA	Vanda	121.54	176	PKP		PKPdf		05 20 52.5	0.0
	comp=Z,2.1nm,0.8s,baz=309,slow=4.0,SNR=12								
VNDA				PKKPbc		PKKPbc		05 30 53.5	-0.2
	comp=Z,2.4nm,1.1s,baz=187,slow=3.6,SNR=5.9								
VNDA	Vanda	121.54	176	ePKPdf		PKPdf		05 20 53.0	+0.6
VNDA				PKKPbc		PKKPbc		05 30 53.5	-0.2
DBIC	Dimbokro	123.93	327	PKP		PKPdf		05 20 58.0	-1.0
	comp=Z,8.5nm,0.8s,baz=330,slow=3.2,SNR=7.1								
MAW	Mawson	128.00	209	PKP		PKPdf		05 21 05.0	0.0
	comp=Z,3.5nm,0.8s,baz=293,slow=4.4,SNR=6.9								
PTGA	Pitinga	130.26	38	ePKPdf		PKPdf		05 21 10.9	-0.2
BOSA	Boshof	132.29	269	PKP		PKPdf		05 21 13.7	-0.9
	comp=Z,4.2nm,0.9s,baz=154,slow=6.2,SNR=3.9								
QSPA	South Pole Qui	133.72	180	ePKPdf		PKPdf		05 21 16.0	0.0
SAML	Samuel	135.82	47	ePKPdf		PKPdf		05 21 21.5	0.0
LPAZ	La Paz	138.84	59	PKP		PKPdf		05 21 27.2	-0.5
	comp=Z,1.6nm,0.6s,baz=43,slow=4.5,SNR=9.8								
LPAZ	La Paz	138.84	59	ePKPdf		PKPdf		05 21 27.9	+0.1
YJA	Yavi	144.85	63	eP		PKPbc		05 21 37.5	+0.3
NVL	N'lazarevskaya	145.64	204	ePKP2		PKPab		05 21 39.6	+1.5
HJA	Humahuaca	145.65	64	eP		PKPbc		05 21 40.0	+0.2
LCO	Las Campanas	145.83	77	ePKPdf		PKPab		05 21 40.6	+0.2
FSA	Cafayete	147.26	68	eP		PKPdf		05 21 42.1	+0.3
VCA	Vinchina	147.41	74	eP		PKPdf		05 21 43.0	+1.1
AGUA	GUANDACOL	147.67	76	eP		PKPdf		05 21 42.4	+0.2
ROC1	El Roble	147.82	83	ePKPbc		PKPbc		05 21 46.1	+0.5
AHML	Horco Molle	148.14	69	eP		PKPbc		05 21 46.4	+0.1
AMOG	MOGNA	148.51	78	eP		PKPbc		05 21 47.3	+0.2
AUSP	Uspallata	148.59	81	eP		PKPbc		05 21 48.6	+0.9
ACLC	CERRO LA CRUZ	148.70	74	eP		PKPbc		05 21 47.0	-0.8
SNAA	Sanae	148.86	197	PKP		PKPbc		05 21 46.9	0.0
SNAA	Sanae	148.86	197	ePKHKP		PKPdf		05 21 40.2	-2.7
SNAA	Sanae	148.86	197	ePKPdf		PKPdf		05 21 41.6	-1.3
CYA	Choya	148.89	71	eP		PKPbc		05 21 48.3	+0.1
RTCV	Cerro Valdivia	148.99	79	eP		PKPbc		05 21 48.0	-0.4
ASAL	Salagasta	149.18	81	eP		PKPbc		05 21 48.6	-0.3
VNA2	Neumayer--Watz	150.38	196	PKP		PKPbc		05 21 51.0	+0.5
	baz=84,slow=0.9								
VNA3	Neumayer Olymp	150.56	194	PKP		PKPbc		05 21 50.9	0.0
VNA1	Neumayer--Stat	150.78	196	PKP		PKPbc		05 21 52.0	+0.6
MRA	San Martin	151.30	78	eP		PKPbc		05 21 53.2	-0.8
TCA	Tanti	151.47	75	eP		PKPbc		05 21 54.4	0.0
PLCA	Paso Flores	151.51	97	PKP		PKPdf		05 21 47.5	-0.5
	comp=Z,5.2nm,1.1s,baz=269,slow=13,SNR=3.3								
PLCA				PKPbc		PKPbc		05 21 54.2	+0.1
	comp=Z,16nm,0.8s,baz=283,slow=3.3,SNR=27								
PLCA	Paso Flores	151.51	97	PKIKP		PKPdf		05 21 47.5	-0.5
PLCA					pmax	pmax			
	comp=Z,3.0nm,1.0s								
PLCA	Paso Flores	151.51	97	ePKPdf		PKPdf		05 21 48.5	+0.6
PLCA				PKPbc		PKPbc		05 21 54.2	+0.1
CPUP	Villa Florida	152.98	58	PKPbc		PKPbc		05 21 57.5	-0.3
	comp=Z,4.4nm,0.9s,baz=313,slow=2.7,SNR=6.1								

NIED ***04*** *05:25:00,35°.90N×141°.00E,h20km,Mw3.7 Best double couple: M0=4.72000×10^14 NP1:φs=346.00000°,δ45.00000°, λ=-127.00000°. NP2:φs=213.00000°,δ56.00000°, λ=-59.00000°.*

IDC ***04*** *05:25:02.8±1.0,35°.74N×140°.86E,h0km,mb3.5/4, mb1 3.7/7,mb1mx3.5/36,mbtmp3.6/7,ML3.3/3,MS3.6/1, Ms1 3.6/1,ms1mx2.8/28,Error ellipse: s-maj=30.4km s-min=19.5km az=92.0*

ISCJB ***04*** *05:25:03.9±0.8,35°.84N±0°.04×141°.01E±0°.08,h25km±5km, mb3.5/4,MS3.4/1,Error ellipse: s-maj=10.8km s-min=6.0km az=169.8*

JMA ***04*** *05:25:04.9±0.1,35°.83N×140°.95E,h15km±1km,M3.9*

JMA Felt I J1

ISC 04 05:25:04.8±1.2,35°.81N±0°.04×140°.95E±0°.08,h19km±3km, n23,σ1s04/23,mb3.5/4,3C,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
CHOJ	Chosi	0.13	213	⇑P			Pg	05 25 08.6	-0.3
CHOJ				S			Sg	05 25 11.2	-0.4
JCN	Nagara	0.72	237	P			Pn	05 25 19.8	-0.2
JCN				S			Sn	05 25 31.3	+0.7
JYT	Yasato	0.74	304	⇑P			Pb	05 25 18.4	-0.6
JYT				S			Sb	05 25 28.3	-0.4
JHO	Hitachi	0.85	339	⇑P			Pb	05 25 20.2	-0.9
JHO				S			Sb	05 25 32.0	-0.1
BSO4	Boso 4	0.96	211	P			Pg	05 25 23.9	+0.5
BSO4				eX				05 25 38.5	
BSO3	Boso 3	1.07	200	P			Pb	05 25 24.6	0.0
BSO1	Boso 1	1.16	179	P			Pn	05 25 24.9	-0.6
MJAR	Matsushiro Arr	2.33	289	Pn			Pn	05 25 42.0	-0.2
	21nm,0.3s,baz=100,slow=8.4,SNR=127								
MJAR					Sn		Sn	05 26 09.1	-1.2
	9.9nm,0.3s,baz=103,slow=20,SNR=5.2								
MAT	Matsushiro	2.33	289	P			Pn	05 25 42.3	+0.1
MAT				eS			Sb	05 26 15.5	+0.8
JHJ	Hachijo jima 2	2.85	200	Pn			Pn	05 25 50.4	+1.1
	3.5nm,0.3s,baz=41,slow=19,SNR=3.0								
JHJ					Sn		Sn	05 26 20.2	-3.0
	15nm,0.3s,baz=60,slow=20,SNR=2.7								
ASAJ	Asahikawa	8.39	8	Pn			Pn	05 27 05.4	0.0
	0.5nm,0.3s,baz=204,slow=20,SNR=4.5								
YAK	Yakutsk	27.18	348	LR			LR	05 41 59.2	
	comp=Z,101nm,18.1s,baz=236,slow=37								
H11N2	WAKE ISLAND Hy 27.88	118		T			T	05 59 55.5	
	baz=311,slow=75,SNR=149								
H11N1	WAKE ISLAND Hy 27.88	118		T			T	05 59 53.8	
	baz=311,slow=75,SNR=152								
H11N3	WAKE ISLAND Hy 27.89	118		T			T	05 59 54.8	
	baz=311,slow=75,SNR=131								
H11S1	WAKE ISLAND Hy 28.54	120		T			T	06 00 41.6	
	baz=312,slow=75,SNR=210								
H11S2	WAKE ISLAND Hy 28.54	120		T			T	06 00 48.3	
	baz=312,slow=75,SNR=134								
H11S2	WAKE ISLAND Hy 28.56	120		T			T	06 00 43.6	
	baz=312,slow=75,SNR=106								
ZALV	Zalesovo Beam	42.47	313	P			P	05 32 58.8	+0.4
	0.3nm,0.3s,baz=94,slow=8.7,SNR=2.4								
ILAR	Eielson Array	50.73	32	P			P	05 34 05.2	+2.1
	0.4nm,0.7s,baz=267,slow=5.5,SNR=5.4								
WRA	Warramunga Arr	55.80	188	P			P	05 34 40.4	-0.4
	0.7nm,0.5s,baz=5.6,slow=7.5,SNR=7.9								
ASAR	Alice Springs	59.53	187	P			P	05 35 06.7	-0.3
	0.3nm,0.7s,baz=9.7,slow=7.7,SNR=3.4								
LPAZ	La Paz	147.63	61	PKPbc			PKPab	05 44 50.6	-0.8
	0.6nm,0.7s,baz=256,slow=4.2,SNR=3.7								

CSEM ***04*** *05:25:40.8,38°.11N×26°.49W,h3km,ML1.8*

PDA 04 05:25:40.8±1.0,38°.11N×26°.49W,h3km±9km,MD3.5, ML1.8,Error ellipse: s-maj=11.6km s-min=2.3km az=33.0,Azores Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
PSET	Sete Cidades	0.67	115	eP			Pg	05 25 52.1	-1.6
PSET				eS			Sg	05 26 01.1	-1.3
PSET				A			A	05 26 02.0	
	14nm,0.2s								
PSET	Sete Cidades	0.67	115	eP			Pg	05 25 52.1	-1.6
PSET				eS			Sg	05 26 01.1	-1.3
PDA	Ponta Delgada	0.75	119	eS			Sg	05 26 02.7	-2.2
PDA				A			A	05 26 04.0	
	9.8nm,0.1s								
PDA	Ponta Delgada	0.75	119	eS			Sg	05 26 02.7	-2.2
ADH	Angra Heroismo	0.80	313	eP			Pg	05 25 53.7	-2.4
ADH				eS

ACAN eS Sn 05 41 51.0 -2.1

MEX 04 05:47:59.4±0.3, 14°89N×93°24W, h16km±27km, MD3.9, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CCIG	**Comitan**	**1.74**	**37**	*eP*	Pn	05 48 26.1	-3.0
CCIG				*eS*	Sn	05 48 45.6	-5.6
TGIG		**1.88**	**3**	*eP*	Pn	05 48 27.1	-3.8
TGIG				*eS*	Sn	05 48 49.6	-4.9

DJA 04 05:50:15.8±1.9, 3°N±11°×97°6E±2°↑, h12km±16km, M3.5/3, MLv3.5/3, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TPTI		**1.45**	**59**	P	Pn	05 50 40.8	-1.1
TPTI				S	Sb	05 51 01.3	+0.1
MLSI	**Meulaboh, Aceh**	**1.81**	**15**	P	Pn	05 50 43.6	-3.3
MLSI				S	Sn	05 50 56.5	-13
KCSI	**Kotacane, Aceh**	**2.09**	**61**	P	Pn	05 50 51.5	+0.8
KCSI				S	Sn	05 51 17.2	+0.5
PBSI	**Pulau Batu**	**3.45**	**137**	P	Pn	05 51 09.5	+0.1

*ISCJB **04** 06:06:46.7±1.0, 8°.4S±0°.1×123°.76E±0°.06, h200km, mb3.4/1, Error ellipse: s-maj=16.7km s-min=7.3km az=19.4*
*DJA **04** 06:06:47.4±0.7, 8°S±9°×12°4E±°, h198km±8km, M4.1/6, mb4.1/4, mB4.8/3, MLv4.1/6, Mw(mB)4.1/3*
*IDC **04** 06:06:50.0±4.1, 7°.60S×125°.10E, h186km±30km, mb3.2/1, mb1 3.4/3, mb1mx3.1/37, mbtmp3.9/3, Error ellipse: s-maj=185.9km s-min=23.3km az=67.0*
ISC 04 06:06:47.9±1.2, 8°.6S±0°.1×123°.79E±0°.08, h200km, n10, σ3s45/14, Flores region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SOEI	**Soe**	**1.28**	**158**	P	**Pn**	**06 07 19.4**	**-0.5**
MMRI	**Maumere**	**1.53**	**267**	P	**Pn**	**06 07 20.7**	**-1.2**
BATI	**Baumata**	**1.64**	**184**	P	**Pn**	**06 07 23.9**	**+1.0**
BASI	**Baing, Sumba**	**3.57**	**242**	P	**Pn**	**06 07 45.0**	**+0.6**
WSI	**Waingapu**	**3.62**	**252**	S	**Sn**	**06 08 29.6**	**-0.1**
PLAI	**Plampang**	**5.95**	**267**	P	**Pn**	**06 08 14.5**	**0.0**
PLAI				S	**Sn**	**06 09 21.1**	**-1.9**
TWSI	**Taliwang, Sumb**	**6.83**	**268**	P	**Pn**	**06 08 25.3**	**-0.7**
WRA	**Warramunga Ar**	**15.24**	**139**	P	**P**	**06 10 14.8**	**+1.3**
	0.9nm,0.3s,baz=318,slow=12,SNR=33						
WRA				S	**S**	**06 12 53.3**	**-9.1**
	0.3nm,0.3s,baz=317,slow=22,SNR=4.3						
ASAR	**Alice Springs**	**17.87**	**148**	P	**Pn**	**06 10 47.9**	**+3.4**
	0.4nm,0.3s,baz=330,slow=12,SNR=20						
ASAR				S	**S**	**06 13 56.2**	**-1.2**
	0.1nm,0.3s,baz=315,slow=20,SNR=2.5						
ASAR				ScP	**ScP**	**06 18 30.7**	**+5.0**
	baz=321,slow=2.4,SNR=2.7						
SONM	**Songino Array**	**58.23**	**346**	P	**P**	**06 16 20.6**	**-0.7**
	0.6nm,0.6s,baz=150,slow=6.1,SNR=3.0						

*GUC **04** 06:10:03.5±0.8, 28°.20S×68°.90W, h110km, ML3.3*
*SJA **04** 06:10:10.3±0.7, 28°.35S×68°.56W, h10km±9km, ML2.9, MW3.4*
ISC 04 06:10:03.6±1.5, 28°.24S±0°.04×68°.86W±0°.04, h6km±14km, n15, σ0s93/20, 2C, La Rioja Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VCA	**Vinchina**	**0.76**	**131**	*eP*	**Pn**	**06 10 20.3**	**-0.7**
VCA				*eS*	**Sg**	**06 10 27.8**	**-0.3**
VCA				IAML		06 10 39.2	
	comp=Z,277nm,0.3s						
AGUA	**GUANDACOL**	**1.29**	**166**	*eP*	**Pn**	**06 10 29.5**	**+1.3**
CPCH	**Copiapo**	**1.59**	**303**	*↑iP*	**Pn**	**06 10 31.1**	**-1.2**
CPCH				*i* S	**Sn**	**06 10 52.0**	**-1.2**
VACH	**Vallenar**	**1.71**	**258**	*↑iP*	**Pg**	**06 10 36.5**	**+0.2**
VACH				*i* S	**Sb**	**06 10 58.3**	**+1.1**
LCO	**Las Campanas**	**1.79**	**244**	*eP*	**Pn**	**06 10 35.2**	**-0.1**
LCO				*eS*	**Sn**	**06 10 58.3**	**-0.3**
LCO				IAML		06 10 59.2	
	comp=E,207nm,0.3s						
ACLC	**CERRO LA CRUZ**	**2.05**	**126**	*eP*	**Pg**	**06 10 43.4**	**+0.5**
CDCH	**Caldera**	**2.10**	**303**	*eP*	**Pn**	**06 10 39.6**	**+0.4**
CDCH				*i* S	**Sn**	**06 11 05.9**	**+0.3**
TLL	**Tololo Astrono**	**2.57**	**221**	*eP*	**Pb**	**06 10 50.9**	**+0.6**
TLL				*i* S	**Sb**	**06 11 22.7**	**+0.6**
TLL				IAML		06 11 28.9	
	comp=E,190nm,0.5s						
CYA	**Choya**	**2.70**	**95**	*eP*	**Pb**	**06 10 52.5**	**+0.2**
CYA				IAML		06 11 32.6	
	comp=Z,64nm,0.4s						
AMOG	**MOGNA**	**2.71**	**173**	*eP*	**Pg**	**06 10 54.7**	**-0.9**
RTLL	**Cerro Villicun**	**3.10**	**174**	*eP*	**Pb**	**06 11 00.2**	**+1.0**
FSA	**Cafayete**	**3.33**	**51**	*eP*	**Pb**	**06 11 03.4**	**+0.3**
FSA				IAML		06 11 50.3	
	comp=Z,38nm,0.8s						
RTLS	**Leoncito**	**3.57**	**186**	*eP*	**Pb**	**06 11 07.0**	**-0.3**
RTLS				IAML		06 11 59.3	
	comp=Z,42nm,0.7s						
RTCV	**Cerro Valdivia**	**3.62**	**176**	*eP*	**Pb**	**06 11 06.1**	**-2.0**
MRA	**San Martin**	**4.97**	**148**	IAML		06 12 49.7	
	comp=Z,19nm,0.7s						

*IDC **04** 06:13:58.2±0.6, 51°.52N×177°.35W, h0km, mb3.9/15, mb1 4.1/16, mb1mx3.9/52, mbtmp3.9/16, ML3.7/1, MS3.1/1, Ms1 3.1/1, ms1mx2.4/35, Error ellipse: s-maj=23.5km s-min=13.6km az=164.0*
*ISCJB **04** 06:14:02.4±0.3, 51°.45N±0°.06×177°.41W±0°.05, h45km, mb4.2/27, Error ellipse: s-maj=8.3km s-min=4.1km az=176.6*
*NEIC **04** 06:14:03.3±0.0, 51°.49N×177°.39W, h25km, mb4.3/16, ML4.2(AEIC), After AEIC.*
ISC 04 06:14:04.9±0.6, 51°.6N±0°.1×177°.47W±0°.04, h45km, n135, σ0s91/132, mb4.2/27, Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TAPA	**Tanaga Point A**	**0.29**	**313**	P	**Pn**	**06 14 12.5**	**-1.1**
TAFL	**Tanaga Flats**	**0.30**	**298**	P	**Pn**	**06 14 12.3**	**-1.3**
KIKV	**Kanaga Island**	**0.32**	**35**	P	**Pn**	**06 14 12.5**	**-1.3**
KICM	**Kanaga Island**	**0.35**	**29**	P	**Pn**	**06 14 13.2**	**-0.9**
KIRH	**Kanaga Island**	**0.37**	**39**	P	**Pn**	**06 14 13.2**	**-1.1**
TAFP	**Tanaga Falls P**	**0.43**	**312**	P	**Pn**	**06 14 14.3**	**-0.8**
ADAG	**Mount Adagdak**	**0.65**	**56**	P	**Pn**	**06 14 17.1**	**-0.8**
ETKA	**Kagalaska Isla**	**0.71**	**69**	P	**Pn**	**06 14 16.5**	**-2.0**
GAEA	**Gareloi East**	**0.81**	**282**	P	**Pn**	**06 14 19.8**	**-0.3**
GALAA	**Gareloi Lava P**	**0.82**	**281**	P	**Pn**	**06 14 19.9**	**-0.3**
GANE	**Gareloi Northe**	**0.84**	**285**	P	**Pn**	**06 14 20.4**	**0.0**
GSCK	**Great Sitkin C**	**0.90**	**63**	P	**Pn**	**06 14 19.9**	**-1.3**
GSTD	**Great Sitkin T**	**0.93**	**61**	P	**Pn**	**06 14 20.5**	**-1.2**
GSMY	**Great Sitkin M**	**0.98**	**63**	P	**Pn**	**06 14 21.1**	**-1.2**
ATKA	**Atka Island**	**2.11**	**73**	P	**Pn**	**06 14 36.0**	**-1.8**
ATKA				S	**Sn**	**06 15 02.1**	**-0.6**
KOKL	**Mount Kliuchef**	**2.14**	**69**	P	**Pn**	**06 14 38.6**	**+0.4**
KOKL				S	**Sn**	**06 15 05.0**	**+1.4**
KOFP	**Korovin Flat P**	**2.19**	**71**	P	**Pn**	**06 14 39.8**	**+0.9**
UNV	**Unalaska Valle**	**7.03**	**67**	P	**Pn**	**06 15 47.2**	**+2.1**
PETK	**Petropavlovsk-**	**15.22**	**285**	LR	LR	06 21 54.5	
	comp=Z,82nm,21.8s,baz=92,slow=31						
KTH	**Kantishna Hill**	**18.41**	**39**	*eP*	**Pn**	**06 18 17.9**	**+1.4**
	13nm,0.9s						
TRF	**Thorofare Moun**	**18.62**	**40**	*eP*	**Pn**	**06 18 19.1**	**+0.1**
	6.5nm,0.8s						
MCK	**McKinley**	**19.28**	**40**	*eP*	**Pn**	**06 18 27.2**	**+0.3**
	4.8nm,0.7s						
SEY	**Seymchan**	**19.63**	**317**	P	**Pn**	**06 18 30.9**	**-0.1**
	0.2nm,0.3s,baz=137,slow=18,SNR=3.0						
PAX	**Paxson**	**20.44**	**44**	*eP*	**P**	**06 18 39.3**	**+1.1**
	7.8nm,1.1s						
ILAR	**Eielson Array**	**20.54**	**38**	P	**P**	**06 18 38.4**	**-0.8**
	0.6nm,0.7s,baz=225,slow=8.9,SNR=5.8						
ILAR				PcP	**PcP**	**06 22 47.6**	**-1.0**
	0.6nm,0.4s,baz=273,slow=3.1,SNR=8.9						
COLD	**Coldfoot**	**20.63**	**30**	*eP*	Pn	06 18 42.0	-0.8
	4.6nm,1.0s						
DOT	**Dot Lake**	**21.26**	**43**	*eP*	**P**	**06 18 46.9**	**-0.1**
	12nm,0.6s						
TOLK	**Toolik Lake Re**	**21.67**	**28**	P	**P**	**06 18 52.9**	**+1.5**
	baz=232						
INK	**Inuvik**	**26.79**	**35**	P	**P**	**06 19 39.9**	**-0.3**
	0.9nm,0.4s,baz=265,slow=7.4,SNR=8.7						
INK				PcP	**PcP**	**06 23 01.9**	**+0.1**
	2.5nm,0.8s,baz=333,slow=3.3,SNR=6.1						
BBB	**Bella Bella**	**29.99**	**69**	P	**P**	**06 20 10.2**	**+1.4**
	3.4nm,0.8s,baz=277,slow=12,SNR=3.7						
KLR	**Kul'dur**	**31.91**	**286**	P	**P**	**06 20 26.0**	**+0.2**
	0.9nm,0.4s,baz=58,slow=10,SNR=4.2						
USRK	**Ussuriysk Ar.**	**34.09**	**278**	P	**P**	**06 20 44.3**	**-0.6**
	2.1nm,0.8s,baz=57,slow=8.8,SNR=2.7						
H11N2	**WAKE ISLAND Hy**	**34.11**	**207**	T	T	06 57 08.8	
	baz=18,slow=76,SNR=4904						
H11N3	**WAKE ISLAND Hy**	**34.12**	**207**	T	T	06 57 09.5	
	baz=18,slow=76,SNR=5020						
H11N1	**WAKE ISLAND Hy**	**34.13**	**207**	T	T	06 57 10.2	
	baz=18,slow=76,SNR=4290						
YKA	**Yellowknife Ar**	**34.46**	**47**	P	**P**	**06 20 47.1**	**-0.8**
	1.0nm,0.9s,baz=276,slow=8.6,SNR=2.8						
YKA				PcP	**PcP**	**06 23 22.1**	**0.0**
	1.7nm,0.6s,baz=279,slow=3.0,SNR=6.7						
MJAR	**Matsushiro Arr**	**34.64**	**262**	P	**P**	**06 20 50.2**	**+0.4**
	1.5nm,0.7s,baz=30,slow=6.5,SNR=3.7						
B05A	**Bryant**	**35.07**	**73**	P	**P**	**06 20 54.7**	**+1.4**
	baz=297						
H11S1	**WAKE ISLAND Hy**	**35.32**	**207**	T	T	06 58 39.5	
	baz=18,slow=76,SNR=2053						
H11S2	**WAKE ISLAND Hy**	**35.34**	**207**	T	T	06 58 40.8	
	baz=18,slow=76,SNR=882						
H11S3	**WAKE ISLAND Hy**	**35.34**	**207**	T	T	06 58 43.2	
	baz=18,slow=76,SNR=858						
HAWA	**Hanford**	**37.50**	**74**	*eP*	**P**	**06 21 15.3**	**+1.2**
	5.6nm,0.6s						
NEW	**Newport**	**38.02**	**71**	P	**P**	**06 21 18.9**	**+0.4**
	baz=298						
NEW	**Newport**	**38.02**	**71**	*eP*	**P**	**06 21 19.1**	**+0.6**
	10nm,0.8s						
WVOR	**Wild Horse Val**	**40.14**	**79**	*eP*	**P**	**06 21 37.6**	**+1.3**
	1.9nm,0.8s						
KSRS	**Korea Array**	**40.47**	**272**	P	**P**	**06 21 39.9**	**+1.0**
	1.2nm,0.7s,baz=57,slow=7.5,SNR=3.3						
KSAR	**Wonju Array Be**	**40.50**	**272**	P	**P**	**06 21 39.9**	**+0.8**
MSO	**Missoula**	**40.60**	**71**	P	**P**	**06 21 40.3**	**+0.2**
	baz=301						
HLID	**Hailey**	**42.08**	**75**	P	**P**	**06 21 52.7**	**+0.4**
	baz=304						
HLID	**Hailey**	**42.08**	**75**	*eP*	**P**	**06 21 52.9**	**+0.5**
	1.2nm,0.8s						
BOZ	**Bozeman (W)**	**42.62**	**71**	P	**P**	**06 21 56.8**	**+0.1**
	baz=303						
BOZ	**Bozeman (W)**	**42.62**	**71**	*eP*	**P**	**06 21 56.8**	**+0.1**
	8.6nm,0.7s						
IMW	**Indian Meadow**	**43.97**	**73**	*eP*	**P**	**06 22 08.7**	**+1.0**
	1.6nm,0.6s						
RLMT	**Red Lodge**	**44.27**	**70**	P	**P**	**06 22 10.7**	**+0.7**
	baz=304						
RLMT	**Red Lodge**	**44.27**	**70**	*eP*	**P**	**06 22 10.7**	**+0.7**
	14nm,1.0s						
R11A	**Troy Canyon, C**	**44.43**	**82**	P	**P**	**06 22 11.6**	**+0.2**
	baz=308						
TPNV	**Topopah Spring**	**44.89**	**84**	P	**P**	**06 22 15.6**	**+0.5**
	baz=309						
DUG	**Dugway, Tooele**	**45.01**	**78**	P	**P**	**06 22 16.6**	**+0.6**
	baz=307,SNR=6.3						
DUG	**Dugway, Tooele**	**45.01**	**78**	*eP*	**P**	**06 22 16.5**	**+0.6**
	3.9nm,0.9s						
LAO	**LASA Array**	**45.16**	**67**	P	**P**	**06 22 17.4**	**+0.5**
	baz=304						
BW06	**Boulder Array**	**45.44**	**73**	P	**P**	**06 22 19.8**	**+0.3**
	baz=306						
BW06	**Boulder Array**	**45.44**	**73**	*eP*	**P**	**06 22 19.8**	**+0.3**
	11nm,1.1s						
PDAR	**Pinedale Array**	**45.44**	**73**	P	**P**	**06 22 19.7**	**+0.2**
	4.4nm,0.7s,baz=298,slow=4.1,SNR=54						
SONM	**Songino Array**	**47.28**	**297**	P	**P**	**06 22 35.0**	**+1.3**
	0.4nm,0.6s,baz=46,slow=6.2,SNR=2.2						
SONM				PcP	**PcP**	**06 24 04.5**	**+0.4**
	1.3nm,0.5s,baz=100,slow=3.1,SNR=6.1						
K22A	**Casper**	**47.32**	**72**	P	**P**	**06 22 33.9**	**-0.2**
	baz=307						
O20A	**White River Ci**	**47.82**	**75**	P	**P**	**06 22 38.1**	**+0.1**
	baz=308,SNR=6.1						
O20A	**White River Ci**	**47.82**	**75**	*eP*	**P**	**06 22 38.3**	**+0.3**
	5.8nm,0.7s						
PV04	**Paradox Valley**	**48.50**	**78**	*eP*	**P**	**06 22 43.4**	**+0.1**
WUAZ	**Wupatki**	**48.83**	**82**	P	**P**	**06 22 46.6**	**+0.8**
	baz=311						
PV01	**Paradox Valley**	**48.87**	**78**	*eP*	**P**	**06 22 46.6**	**+0.4**
	288nm,0.7s						
O34A	**Beatrice**	**54.62**	**68**	P	**P**	**06 23 28.4**	**-0.4**
	baz=311						
Q34A	**Chapman**	**55.30**	**69**	P	**P**	**06 23 33.9**	**+0.2**
	baz=312						
O37A	**Wolven Farm, M**	**56.09**	**67**	P	**P**	**06 23 39.3**	**0.0**
	baz=312						
S35A	**Otter Creek Ra**	**56.49**	**70**	P	**P**	**06 23 41.3**	**-0.9**
	baz=312						
R36A	**Gordon, Harris**	**56.54**	**69**	P	**P**	**06 23 41.8**	**-0.7**
	baz=312,SNR=8.3						
T36A	**Boggs Farm, Ca**	**57.17**	**70**	P	**P**	**06 23 46.3**	**-0.7**
	baz=313						
Q38A	**Cooks Store, C**	**57.20**	**67**	P	**P**	**06 23 45.9**	**-1.3**
	baz=312						
S37A	**Fort Scott**	**57.31**	**69**	P	**P**	**06 23 47.2**	**-0.8**
	baz=313						
P39B	**Salisbury**	**57.34**	**66**	P	**P**	**06 23 47.4**	**-0.8**
	baz=312,SNR=7.8						
O40A	**La Belle**	**57.41**	**65**	P	**P**	**06 23 48.3**	**-0.4**
	baz=312						
Q39A	**Willow Grove F**	**57.51**	**67**	P	**P**	**06 23 48.3**	**-1.1**
	baz=313						
R38A	**Fenwick Farm,**	**57.56**	**68**	P	**P**	**06 23 48.1**	**-1.6**
	baz=313						
T37A	**Cheneyville 18**	**57.69**	**70**	P	**P**	**06 23 49.8**	**-0.9**
	baz=313,SNR=6.8						
P40A	**Paris**	**57.72**	**66**	P	**P**	**06 23 49.3**	**-1.5**
	baz=313						
TXAR	**Lajitas Array**	**57.80**	**82**	P	**P**	**06 23 51.3**	**-0.3**
	1.1nm,0.6s,baz=308,slow=5.5,SNR=26						
S38A	**Stockton**	**57.94**	**69**	P	**P**	**06 23 50.9**	**-1.5**
	baz=313,SNR=9.3						
Q40A	**Laux Farm, Aux**	**58.06**	**66**	P	**P**	**06 23 52.8**	**-0.4**
	baz=313						
U37A	**Salina**	**58.07**	**70**	P	**P**	**06 23 52.8**	**-0.5**
	baz=313,SNR=6.2						
T38A	**Diamond**	**58.12**	**69**	P	**P**	**06 23 52.9**	**-0.8**
	baz=313						
S39A	**Bolivar**	**58.23**	**68**	P	**P**	**06 23 52.8**	**-1.7**
	baz=313						
V37A	**Hulbert**	**58.41**	**71**	P	**P**	**06 23 54.9**	**-0.8**
	baz=314						
R40A	**Maddies Statio**	**58.43**	**67**	P	**P**	**06 23 54.4**	**-1.4**
	baz=313,SNR=7.0						
U38A	**Gravette**	**58.47**	**70**	P	**P**	**06 23 55.2**	**-1.0**
	baz=313,SNR=5.2						
T39A	**Clever**	**58.66**	**69**	P	**P**	**06 23 55.8**	**-1.7**
	baz=313,SNR=7.9						
W37B	**Quinton**	**58.75**	**72**	P	**P**	**06 23 58.4**	**+0.3**
	baz=314						
V38A	**Canehill**	**58.86**	**70**	P	**P**	**06 23 58.0**	**-0.9**
	baz=314						
R41A	**Rosebud**	**58.94**	**66**	P	**P**	**06 23 58.3**	**-1.1**
	baz=313						
Q42A	**Golden Eagle**	**59.00**	**65**	P	**P**	**06 23 59.2**	**-0.6**
	baz=313						
U39A	**Green Forest**	**59.04**	**69**	P	**P**	**06 23 58.9**	**-1.2**
	baz=314						
P43A	**Skaggs, Pawnee**	**59.07**	**64**	P	**P**	**06 23 58.9**	**-1.4**
	baz=313						
T40A	**Mansfield**	**59.07**	**68**	P	**P**	**06 23 58.7**	**-1.6**
	baz=314,SNR=5.9						
X37A	**Clayton**	**59.17**	**72**	P	**P**	**06 24 01.5**	**+0.6**
	baz=314						
S41A	**Jillco Farms,**	**59.22**	**67**	P	**P**	**06 23 59.7**	**-1.6**
	baz=314,SNR=11						
V39A	**Pettigrew**	**59.32**	**70**	P	**P**	**06 24 01.0**	**-1.1**
	baz=314,SNR=6.3						
W38A	**Poteau**	**59.34**	**71**	P	**P**	**06 24 02.4**	**+0.2**
	baz=314,SNR=5.8						
U40A	**Yellville**	**59.42**	**69**	P	**P**	**06 24 01.7**	**-1.1**
	baz=314,SNR=8.1						
X38A	**Whitesboro**	**59.43**	**72**	P	**P**	**06 24 02.7**	**-0.1**
	baz=314						
T41A	**Mountain View**	**59.58**	**68**	P	**P**	**06 24 02.3**	**-1.6**
	baz=314						
S42A	**Caledonia**	**59.63**	**66**	P	**P**	**06 24 03.0**	**-1.2**
	baz=314						
W39A	**Magazine**	**59.68**	**71**	P	**P**	**06 24 04.6**	**0.0**
	baz=314						
P44A	**Sand Creek, Wi**	**59.69**	**64**	P	**P**	**06 24 04.2**	**-0.4**
	baz=314						
V40A	**Witts Springs**	**59.82**	**69**	P	**P**	**06 24 05.1**	**-0.5**
	baz=314,SNR=11						
X39A	**Fountain Ranch**	**59.97**	**71**	P	**P**	**06 24 06.8**	**+0.3**
	baz=314						
U41A	**Viola**	**59.97**	**68**	P	**P**	**06 24 05.2**	**-1.3**
	baz=314						
T42A	**Van Buren**	**59.98**	**67**	P	**P**	**06 24 05.1**	**-1.4**
	baz=314						
W40A	**Ferguson Farm,**	**60.11**	**70**	P	**P**	**06 24 07.2**	**-0.2**
	baz=314						
533A	**Kerrville**	**60.12**	**78**	P	**P**	**06 24 06.9**	**-0.8**
	baz=315						
V41A	**Mountainview**	**60.23**	**69**	P	**P**	**06 24 07.4**	**-0.9**
	baz=314,SNR=5.2						
MIAR	**Mount Ida**	**60.26**	**71**	P	**P**	**06 24 08.5**	**0.0**
	baz=314						
T43A	**Greenville**	**60.40**	**67**	P	**P**	**06 24 08.6**	**-0.9**
	baz=314,SNR=8.6						
W41B	**Gary Mavity, V**	**60.60**	**70**	P	**P**	**06 24 10.0**	**-0.8**
	baz=314						
X40A	**Basin Creek Fa**	**60.74**	**71**	P	**P**	**06 24 11.7**	**0.0**
	baz=315						
H06E1	**SOCORRO T-PHAS**	**60.97**	**96**	T	T	07 30 16.9	
	SNR=5.1						
Z47A	**Carrollton**	**64.43**	**68**	P	**P**	**06 24 36.4**	**0.0**
	baz=316						
Z48A	**Northport**	**64.60**	**68**	P	**P**	**06 24 37.3**	**-0.2**
	baz=316						
FINES	**FINESS Array B**	**65.73**	**348**	P	**P**	**06 24 44.2**	**-0.1**
	0.7nm,0.7s,baz=6.9,slow=4.6,SNR=2.1						
NOA	**NORSAR Array B**	**67.48**	**355**	P	**P**	**06 24 55.3**	**-0.3**
	0.8nm,0.8s,baz=349,slow=5.0,SNR=2.6						
AKTO	**Aktyubinsk**	**67.97**	**325**	P	**P**	**06 24 58.9**	**0.0**
	1.5nm,0.6s,baz=31,slow=6.1,SNR=5.8						
WRA	**Warramunga Arr**	**82.77**	**225**	P	**P**	**06 26 22.6**	**-1.4**
	0.6nm,0.7s,baz=33,slow=5.4,SNR=5.3						
ASAR	**Alice Springs**	**86.23**	**224**	P	**P**	**06 26 41.2**	**-0.2**
	1.1nm,0.8s,baz=34,slow=5.0,SNR=8.8						
TORD	**Torodi Ar. Bea**	**115.50**	**1**	PKP	**PKPdf**	**06 32 40.9**	**-1.2**
	0.5nm,0.6s,baz=327,slow=2.4,SNR=9.4						
DBIC	**Dimbokro**	**121.60**	**9**	PKP	**PKPdf**	**06 32 52.7**	**-1.1**
	2.3nm,0.9s,baz=315,slow=4.3,SNR=3.5						
MAW	**Mawson**	**147.18**	**218**	PKPbc	**PKPbc**	**06 33 41.7**	**+0.1**
	1.8nm,0.5s,baz=49,slow=7.5,SNR=5.4						
LBTB	**Lobatse**	**148.13**	**318**	PKPbc	**PKPbc**	**06 33 45.5**	**-0.2**
	4.3nm,0.5s,baz=346,slow=2.7,SNR=12						
BOSA	**Boshof**	**151.41**	**315**	PKPbc	**PKPbc**	**06 33 53.4**	**-0.3**
	5.9nm,0.5s,baz=11,slow=2.5,SNR=19						

*IDC **04** 06:27:24.4±0.7, 57°.93S×25°.36W, h0km, mb4.2/6, mb1 4.3/7, mb1mx4.0/28, mbtmp4.2/7, ML4.3/1, Error ellipse: s-maj=27.5km s-min=22.3km az=77.0*
*NEIC **04** 06:27:29.7±2.9, 57°.96S×25°.49W, h37km±26km, mb4.8/2, Error ellipse: s-maj=21.1km s-min=12.3km az=223.0*
ISC 04 06:27:30.6±0.6, 58°.2S±0°.1×25°.3W±0°.2, h49km, n28, σ2s31/25, mb4.2/8, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNA1	**Neumayer--Stat**	**14.42**	**157**	P	**P**	**06 30 56.0**	**-1.2**
VNA3	**Neumayer Olymp**	**14.62**	**160**	P	**Pn**	**06 30 56.9**	**+2.7**
VNA2	**Neumayer--Watz**	**14.81**	**157**	P	**Pn**	**06 30 58.7**	**+2.1**
	baz=323,slow=13						
SNAA	**Sanae**	**16.36**	**155**	P	**P**	**06 31 19.4**	**+0.6**
SNAA	**Sanae**	**16.36**	**155**	Pn	**Pn**	**06 31 19.1**	**+2.6**
	1.1nm,0.3s,baz=323,slow=14,SNR=59						
SNAA				Sn	**Sn**	**06 34 11.2**	**-5.6**
	0.0nm,0.3s,baz=319,slow=20,SNR=2.7						
SNAA	**Sanae**	**16.36**	**155**	*eP*	**Pn**	**06 31 19.2**	**+2.6**
SNAA				Sn	**Sn**	**06 34 11.2**	**-5.6**
SNAA				*eS*	S	06 34 15.3	-12
TRQA	**Tornquist**	**31.13**	**294**	*eP*	**P**	**06 33 41.5**	**-2.8**
	18nm,1.6s						
PLCA	**Paso Flores**	**33.41**	**281**	P	**P**	**06 34 04.0**	**-0.3**
	2.1nm,0.9s,baz=148,slow=4.1,SNR=2.8						
VNDA	**Vanda**	**44.47**	**182**	P	**P**	**06 35 39.8**	**+3.6**
	2.5nm,0.6s,baz=186,slow=7.0,SNR=19						
LVC	**Limon Verde**	**47.27**	**300**	*eP*	**P**	**06 35 58.0**	**-1.3**
	32nm,1.7s						
H10S2	**ASCENSION HYDR**	**49.80**	**14**	T	T	07 30 50.5	
	baz=188,slow=75,SNR=54						
H10S3	**ASCENSION HYDR**	**49.80**	**14**	T	T	07 30 51.3	
	baz=188,slow=75,SNR=48						
H10S1	**ASCENSION HYDR**	**49.82**	**14**	T	T	07 30 52.3	
	baz=188,slow=75,SNR=56						
H10N1	**ASCENSION HYDR**	**50.92**	**14**	T	T	07 32 15.8	
	baz=190,slow=71,SNR=3.8						
H10N3	**ASCENSION HYDR**	**50.92**	**14**	T	T	07 32 15.1	
	baz=190,slow=71,SNR=7.8						
H10N2	**ASCENSION HYDR**	**50.94**	**14**	T	T	07 32 16.7	
	baz=190,slow=71,SNR=6.3						
LPAZ	**La Paz**	**52.45**	**305**	P	**P**	**06 36 37.7**	**-1.3**
	1.2nm,0.5s,baz=132,slow=5.0,SNR=12						
DBIC	**Dimbokro**	**66.73**	**22**	P	**P**	**06 38 15.9**	**-0.5**
	4.2nm,0.8s,baz=178,slow=7.6,SNR=3.6						
TORD	**Torodi Ar. Bea**	**74.46**	**27**	P	**P**	**06 39 03.7**	**+0.2**
	1.4nm,0.5s,baz=198,slow=6.4,SNR=26						
ASAR	**

JOU				S		**Sb**	**06 47 07.0**	**-0.2**
JMK	**Ichinoseki**	**1.28**	**333**	P		**Pg**	**06 46 55.7**	**+0.2**
JMK				S		**Sb**	**06 47 10.7**	**0.0**
JFT	**Otama**	**1.31**	**258**	P		**Pg**	**06 46 55.7**	**-0.4**
JFT				S		**Sn**	**06 47 10.9**	**-0.7**
JYS	**Shirataka**	**1.55**	**286**	P		**Pb**	**06 46 58.5**	**-0.5**
JYS				*e*S		**Sn**	**06 47 17.1**	**-0.2**
JYK	**Kaneyama**	**1.68**	**312**	P		**Pb**	**06 47 00.6**	**-0.6**
JYK				*e*S		**Sn**	**06 47 20.8**	**+0.3**
JOM	**Ohasama**	**1.75**	**343**	P		**Pb**	**06 47 02.8**	**+0.5**
JFY	**Yanaizu**	**1.83**	**258**	P		**Pn**	**06 47 02.5**	**+1.0**
JFY				S		**Sn**	**06 47 23.7**	**-0.6**
JRG	**Rokugo**	**1.90**	**327**	P		**Pb**	**06 47 04.6**	**-0.3**
JRG				*e*S		**Sn**	**06 47 27.1**	**+1.2**
JYA	**Atsumi**	**1.93**	**295**	P		**Pn**	**06 47 03.9**	**+1.0**
JYA				*e*S		**Sn**	**06 47 27.0**	**+0.2**
MJAR	**Matsushiro Arr**	**3.25**	**248**	Pn		**Pn**	**06 47 23.1**	**+2.1**
	1.2nm,0.3s,baz=59,slow=12,SNR=8.2							
MJAR				Sn		**Sn**	**06 48 01.7**	**+2.5**
	1.9nm,0.3s,baz=49,slow=24,SNR=5.0							
MAT	**Matsushiro**	**3.25**	**248**	P		**Pn**	**06 47 23.0**	**+2.0**
MAT				*e*S		**Sn**	**06 48 02.3**	**+3.0**
SONM	**Songino Array**	**27.72**	**303**	P		**P**	**06 52 16.4**	**-1.9**
	0.5nm,0.6s,baz=108,slow=9.2,SNR=2.6							
H11N2	**WAKE ISLAND Hy**	**28.19**	**123**	T		T	07 22 42.8	
	baz=315,slow=75,SNR=14							
H11N1	**WAKE ISLAND Hy**	**28.20**	**123**	T		T	07 22 43.4	
	baz=315,slow=75,SNR=8.0							
H11N3	**WAKE ISLAND Hy**	**28.20**	**123**	T		T	07 22 44.1	
	baz=315,slow=75,SNR=12							
H11S1	**WAKE ISLAND Hy**	**28.93**	**125**	T		T	07 23 45.2	
	baz=318,slow=74							
H11S3	**WAKE ISLAND Hy**	**28.93**	**125**	T		T	07 23 44.9	
	baz=318,slow=74							
H11S2	**WAKE ISLAND Hy**	**28.95**	**125**	T		T	07 23 45.7	
	baz=318							
WRA	**Warramunga Arr**	**57.88**	**188**	P		**P**	**06 56 20.8**	**-1.0**
	0.4nm,0.4s,baz=5.3,slow=7.2,SNR=12							

NIED ***04*** *06:53:00,37˚.50N×142˚.00E,h26km,Mw4.0 Best double couple: M₀1.14000×10¹⁵ NP1:φ₀329.00000°,δ6.00000°, λ-134.00000°. NP2:φ₀194.00000°,δ86.00000°, λ-86.00000°.*
IDC ***04*** *06:53:28.1±0.7,37˚.43N×142˚.15E,h0km,mb4.0/11, mb1 4.1/15,mb1mx4.0/33,mbtmp4.0/15,ML3.2/4,MS3.3/3, Ms1 3.3/3,ms1mx2.8/32,Error ellipse: s-maj=20.4km s-min=14.8km az=111.0*
ISCJB ***04*** *06:53:29.8±0.8,37˚.45N±0˚.03×142˚.15E±0˚.04,h19km±5km, mb4.2/28,MS3.3/3,Error ellipse: s-maj=5.7km s-min=4.0km az=28.6*
JMA ***04*** *06:53:32.0±0.2,37˚.50N×142˚.03E,h28km±3km,M4.2*
MOS ***04*** *06:53:32.5±1.2,37˚.38N×142˚.20E,h49km,mb4.3/16,Error ellipse: s-maj=10.6km s-min=8.2km az=97.5*
NEIC ***04*** *06:53:33.6±0.4,37˚.38N×142˚.20E,h35km,mb4.5/10,Error ellipse: s-maj=8.8km s-min=5.8km az=125.0*

ISC 04 06:53:33.9±0.5,37˚.47N±0˚.04×142˚.11E±0˚.05,h35km±3km, n88,σ1ᵍ76/94,mb4.3/28,MS3.3/3,2D,Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
JFK	**Kawauchi**	**0.99**	**264**	P		**Pn**	**06 53 48.8**	**-2.4**
JFK				S		**Sn**	**06 54 00.9**	**-3.0**
ONAJ	**Iwakimizuishiy**	**1.11**	**251**	P		**Pn**	**06 53 50.6**	**-2.3**
ONAJ				*e*S		**Sn**	**06 54 04.0**	**-2.9**
JMM	**Marumori**	**1.11**	**291**	P		**Pn**	**06 53 50.7**	**-2.2**
JMM				S		**Sn**	**06 54 04.1**	**-2.9**
JIO	**Ouri**	**1.15**	**329**	P		**Pn**	**06 53 51.3**	**-2.1**
JIO				S		**Sn**	**06 54 05.0**	**-2.9**
JFT	**Otama**	**1.41**	**272**	P		**Pn**	**06 53 55.8**	**-1.2**
JFT				*e*S		**Sn**	**06 54 12.7**	**-1.6**
JOU	**Okura**	**1.45**	**308**	P		**Pn**	**06 53 56.2**	**-1.3**
JOU				S		**Sn**	**06 54 13.9**	**-1.4**
JMK	**Ichinoseki**	**1.63**	**335**	P		**Pn**	**06 53 59.1**	**-1.0**
JMK				*e*S		**Sn**	**06 54 18.1**	**-1.7**
JYS	**Shirataka**	**1.78**	**295**	P		**Pn**	**06 54 01.2**	**-0.9**
JYS				S		**Sn**	**06 54 23.7**	**+0.2**
JFY	**Yanaizu**	**1.91**	**269**	P		**Pn**	**06 54 03.4**	**-0.5**
JFY				*e*S		**Sn**	**06 54 26.2**	**-0.6**
JYK	**Kaneyama**	**1.99**	**317**	P		**Pn**	**06 54 03.9**	**-1.1**
JOM	**Ohasama**	**2.10**	**343**	P		**Pn**	**06 54 05.9**	**-0.6**
JOM				*e*S		**Sn**	**06 54 30.4**	**-0.9**
MJAR	**Matsushiro Arr**	**3.25**	**255**	Pn		**Pn**	**06 54 21.8**	**-0.6**
	6.0nm,0.3s,baz=80,slow=15,SNR=50							
MJAR				Sn		**Sn**	**06 55 01.6**	**+1.7**
	4.5nm,0.3s,baz=79,slow=26,SNR=4.4							
MJAR				LR		LR	06 55 55.7	
	comp=Z,520nm,18.0s,baz=80,slow=45							
MAJO	**Matsushiro**	**3.26**	**255**	‖*e*P		**Pn**	**06 54 23.8**	**+1.4**
MAJO	**Matsushiro**	**3.26**	**255**	*e*Pn		**Pn**	**06 54 23.4**	**+1.0**
MAJO				*e*Sn		**Sn**	**06 55 01.5**	**+1.6**
MAT	**Matsushiro**	**3.26**	**255**	P		**Pn**	**06 54 22.4**	**0.0**
MAT				S		**Sn**	**06 55 01.5**	**+1.6**
MJB9	**Matsu-Tunnel**	**3.26**	**255**	*e*Pn		**Pn**	**06 54 23.7**	**+1.3**
ERM	**Erimo**	**4.61**	**10**	*e*P		**Pn**	**06 54 43.2**	**+2.3**
ERM				*e*			06 55 34.7	
ERM	**Erimo**	**4.61**	**10**	*e*Pn		**Pn**	**06 54 43.2**	**+2.3**
ERM				*e*Sn		**Sn**	**06 55 34.7**	**+1.5**
JHJ2	**Mitsune**	**4.74**	**204**	*e*Pn		**Pn**	**06 54 42.5**	**-0.3**
JHJ2				*e*Sn		**Sn**	**06 55 34.9**	**-1.6**
JHJ	**Hachijo jima 2**	**4.74**	**204**	Pn		**Pn**	**06 54 41.4**	**-1.4**
	6.0nm,0.3s,baz=323,slow=20,SNR=5.2							
JHJ				Sn		**Sn**	**06 55 33.4**	**-3.2**
	23nm,0.3s,baz=22,slow=18,SNR=3.9							
JHJ				LR		LR	06 56 33.0	
	comp=Z,150nm,20.1s,baz=56,slow=39							
ASAJ	**Asahikawa**	**6.65**	**3**	Pn		**Pn**	**06 55 09.1**	**+0.2**
	baz=180,slow=20							
ASAJ	**Asahikawa**	**6.65**	**3**	*e*Pn		**Pn**	**06 55 10.6**	**+1.7**
KUR	**Kuril'sk**	**8.88**	**27**	P		**Pn**	**06 55 40.4**	**+0.9**
KUR				*e*S		**Sn**	**06 57 12.0**	**-6.2**
KUR				smax		smax		
	comp=N,14nm,0.6s							
KUR				smax		smax		
	comp=E,34nm,0.6s							
JNU	**Nakatsue**	**10.15**	**248**	Pn		**Pn**	**06 55 57.5**	**+0.4**
	comp=E,0.2nm,0.3s,baz=53,slow=20,SNR=2.8							
USRK	**Ussuriysk Ar.**	**10.19**	**314**	Pn		**Pn**	**06 55 56.8**	**-0.7**
	comp=E,0.3nm,0.3s,baz=128,slow=13,SNR=3.1							
CBIJ	**Chichi jima**	**10.35**	**180**	*e*Pn		**Pn**	**06 55 59.4**	**-0.3**
KSRS	**Korea Array**	**11.27**	**274**	Pn		**Pn**	**06 56 16.1**	**+3.7**
	comp=E,0.3nm,0.3s,baz=84,slow=14,SNR=4.6							
KS15	**Wonju Array Si**	**11.31**	**274**	*e*Pn		**Pn**	**06 56 14.6**	**+1.8**
KSAR	**Wonju Array Be**	**11.31**	**274**	P		**Pn**	**06 56 16.1**	**+3.3**
KSAR	**Wonju Array Be**	**11.31**	**274**	Pn		**Pn**	**06 56 16.1**	**+3.3**
MDJ	**Mudanjiang**	**11.83**	**311**	P		**Pn**	**06 56 21.6**	**+1.6**
MDJ				pmax		pmax		
	comp=Z,7.0nm,0.6s							
MDJ				pmax		pmax		
	comp=Z,130nm,4.6s							
KLR	**Kul'dur**	**13.94**	**331**	Pn		**Pn**	**06 56 52.6**	**+3.8**
	comp=Z,0.2nm,0.3s,baz=145,slow=16,SNR=3.1							
PEA0	**Petropavlovsk-**	**19.03**	**30**	*e*P		**Pn**	**06 57 54.2**	**+0.6**
BJI	**Beijing**	**20.36**	**285**	P		**P**	**06 58 08.3**	**+1.1**
BJI				pmax		pmax		
	comp=Z,5.0nm,0.7s							
YOJ	**Yonaguni jima**	**20.84**	**237**	*e*P		**P**	**06 58 12.5**	**0.0**
YOJ				pmax		pmax		
	comp=Z,94nm,1.1s							
YOJ	**Yonaguni jima**	**20.84**	**237**	*e*P		**P**	**06 58 12.5**	**0.0**
	comp=Z,94nm,1.1s							
TATO	**Taipei**	**21.53**	**241**	*e*P		**P**	**06 58 19.9**	**-0.1**
	comp=Z,174nm,1.8s							
NACB	**Ninganchiao**	**21.98**	**239**	*e*P		**P**	**06 58 24.3**	**-0.5**
	comp=Z,13nm,0.9s							
MA2	**Magadan**	**22.81**	**11**	*e*P		**P**	**06 58 34.2**	**+0.9**
MA2				pmax		pmax		
	comp=Z,24nm,1.2s							
MA2	**Magadan**	**22.81**	**11**	*e*P		**P**	**06 58 34.2**	**+0.9**
	comp=Z,24nm,1.2s							
HHC	**Hu-ho-hao-te**	**23.86**	**288**	*e*P		**P**	**06 58 44.6**	**+0.6**
HHC				S		**S**	**07 02 52.0**	**-5.7**
HHC				pmax		pmax		
	comp=Z,35nm,1.0s							
HHC				pmax		pmax		
	comp=Z,100nm,4.4s							
HHC				LR		LR		
	comp=N,120nm,16.0s							
HHC				LR		LR		
	comp=E,130nm,12.3s							
HHC				LR		LR		
	comp=Z,85nm,11.9s							
WHN	**Wuhan**	**23.97**	**261**	‖P		P	06 58 53.2	+8.3
SEY	**Seymchan**	**26.26**	**11**	P		**P**	**06 59 06.6**	**+1.2**
	comp=Z,2.1nm,0.7s,baz=163,slow=19,SNR=4.6							
XAN	**Xi'an**	**27.07**	**273**	P		**P**	**06 59 14.2**	**+1.1**
XAN				pmax		pmax		
	comp=Z,6.0nm,0.7s							
XAN				pmax		pmax		
	comp=Z,92nm,5.3s							
BOD	**Bodaibo**	**27.46**	**327**	*e*P		**P**	**06 59 16.9**	**+0.6**
BOD				pmax		pmax		
	comp=Z,4.0nm,1.0s							
ULN	**Ulaanbaatar**	**27.57**	**303**	*e*P		**P**	**06 59 16.6**	**-1.0**
ULN				pmax		pmax		
	comp=Z,6.0nm,1.9s							
ULN	**Ulaanbaatar**	**27.57**	**303**	*e*P		**P**	**06 59 17.9**	**+0.4**
	comp=Z,2.3nm,0.7s							
H11N2	**WAKE ISLAND Hy**	**27.91**	**122**	T		T	07 28 29.9	
	baz=315,slow=75,SNR=135							
H11N1	**WAKE ISLAND Hy**	**27.92**	**122**	T		T	07 28 31.8	
	baz=315,slow=75,SNR=107							
H11N3	**WAKE ISLAND Hy**	**27.93**	**122**	T		T	07 28 31.2	
	baz=315,slow=75,SNR=136							
SONA1	**Songino Array**	**28.00**	**303**	*e*P		**P**	**06 59 21.9**	**+0.5**
SONM	**Songino Array**	**28.00**	**303**	P		**P**	**06 59 20.8**	**-0.6**
	comp=Z,1.4nm,0.7s,baz=101,slow=8.9,SNR=7.2							
H11S1	**WAKE ISLAND Hy**	**28.64**	**125**	T		T	07 29 30.0	
	baz=317,slow=76,SNR=83							
H11S3	**WAKE ISLAND Hy**	**28.64**	**125**	T		T	07 29 27.7	
	baz=317,slow=76,SNR=86							
H11S2	**WAKE ISLAND Hy**	**28.66**	**125**	T		T	07 29 28.0	
	baz=317,slow=76,SNR=70							
TLY	**Talaya**	**30.46**	**310**	LR		LR	07 12 34.3	
	comp=Z,66nm,18.7s,baz=48,slow=38							
KMI	**Kunming**	**35.57**	**261**	P		**P**	**07 00 31.7**	**+3.5**
KMI				pmax		pmax		
	comp=Z,8.0nm,0.7s							
WMQ	**Urumqi**	**41.14**	**297**	*e*P		**P**	**07 01 15.9**	**+1.3**
WMQ				pP		pP	07 01 26.1	+1.2
WMQ				pmax		pmax		
	comp=Z,4.0nm,0.7s							
WMQ				pmax		pmax		
	comp=Z,46nm,4.7s							
WMQ				LR		LR		
	comp=N,20nm,17.7s							
WMQ				LR		LR		
	comp=Z,18nm,17.7s							
ZAA0	**Zalesovo Array**	**42.03**	**312**	*e*P		**P**	**07 01 21.8**	**+0.2**
ZALV	**Zalesovo Beam**	**42.03**	**312**	P		**P**	**07 01 21.2**	**-0.4**
	comp=Z,1.5nm,0.6s,baz=90,slow=6.5,SNR=4.3							
MK01	**Makanchi Array**	**44.35**	**302**	*e*P		**P**	**07 01 40.4**	**-0.2**
MK31	**Makanchi Array**	**44.35**	**302**	*e*P		**P**	**07 01 40.7**	**+0.2**
MK31	**Makanchi Array**	**44.35**	**302**	*e*P		**P**	**07 01 40.8**	**+0.2**
MKAR	**Makanchi Array**	**44.35**	**302**	*e*P		**P**	**07 01 40.8**	**+0.2**
MKAR				pmax		pmax		
	comp=Z,22nm,1.1s							
MKAR	**Makanchi Array**	**44.35**	**302**	*e*P		**P**	**07 01 40.8**	**+0.2**
	comp=Z,22nm,1.1s							
MAKZ	**Makanchi**	**44.56**	**302**	*e*P		P	07 01 47.1	+4.9
MAKZ				pmax		pmax		
	comp=Z,5.0nm,1.1s							
MAKZ	**Makanchi**	**44.56**	**302**	*e*P		P	07 01 47.1	+4.9
	comp=Z,4.7nm,1.1s							
KURK	**Kurchatov**	**46.10**	**308**	*i* P		**P**	**07 01 55.3**	**+1.0**
KURK				pmax		pmax		
	comp=Z,6.0nm,0.5s							
KURK	**Kurchatov**	**46.10**	**308**	*e*P		**P**	**07 01 54.7**	**+0.5**
	comp=Z,14nm,1.0s							
ILAR	**Eielson Array**	**48.83**	**33**	P		**P**	**07 02 15.2**	**-0.2**
	comp=Z,1.4nm,0.7s,baz=265,slow=6.3,SNR=20							
KSH	**Kashi**	**50.73**	**294**	*e*P		P	07 02 35.1	+4.8
BRVK	**Borovoye**	**50.74**	**312**	*i* P		**P**	**07 02 30.1**	**+0.1**
BRVK				pmax		pmax		
	comp=Z,8.0nm,2.1s							
KKAR	**Karatay Array**	**53.38**	**300**	*e*P		**P**	**07 02 48.3**	**-1.6**
KKAR				pmax		pmax		
	comp=Z,1.0nm,0.4s							
KKAR	**Karatay Array**	**53.38**	**300**	*e*P		**P**	**07 02 48.3**	**-1.6**
	comp=Z,1.1nm,0.4s							
ARU	**Arti**	**56.40**	**318**	P		P	07 03 18.3	+6.9
WRA	**Warramunga Arr**	**57.57**	**189**	P		**P**	**07 03 18.6**	**-1.5**
	comp=Z,3.5nm,0.9s,baz=8.1,slow=7.0,SNR=17							
ABKAR	**Akbulak array**	**58.08**	**310**	*e*P		**P**	**07 03 23.4**	**+0.1**
	comp=Z,0.8nm,0.4s							
ASAR	**Alice Springs**	**61.30**	**189**	P		**P**	**07 03 45.2**	**-0.5**
	comp=Z,2.0nm,0.8s,baz=5.1,slow=6.2,SNR=20							
YKA	**Yellowknife Ar**	**63.15**	**30**	P		**P**	**07 03 56.4**	**-1.3**
	comp=Z,0.9nm,0.6s,baz=303,slow=6.1,SNR=3.3							
FINES	**FINESS Array B**	**68.68**	**332**	P		**P**	**07 04 32.6**	**-0.7**
	comp=Z,0.8nm,0.8s,baz=23,slow=11,SNR=4.0							
FINES	**FINESS Array B**	**68.68**	**332**	*i* P		**P**	**07 04 33.2**	**-0.1**
FINES				pmax		pmax		
	comp=Z,1.0nm,0.8s							
KIV	**Kislovodsk**	**71.03**	**311**	*e*P		**P**	**07 04 48.1**	**-0.1**
KIV				pmax		pmax		
	comp=Z,6.0nm,1.0s							
NOA	**NORSAR Array B**	**73.99**	**337**	P		**P**	**07 05 04.3**	**-1.2**
	comp=Z,0.7nm,0.9s,baz=49,slow=7.6,SNR=2.9							
AKASG	**Malin Array Be**	**74.29**	**323**	*i* P		**P**	**07 05 05.5**	**-1.7**
AKASG				pmax		pmax		
	comp=Z,1.0nm,0.3s							
PDAR	**Pinedale Array**	**76.97**	**46**	P		**P**	**07 05 23.4**	**+0.4**
	comp=Z,1.1nm,0.6s,baz=261,slow=2.5,SNR=14							
TUE	**Stuetta**	**86.30**	**329**	P		**P**	**07 06 12.3**	**+0.1**
	comp=Z,9.5nm,0.8s							
TXAR	**Lajitas Array**	**89.42**	**53**	P		**P**	**07 06 27.4**	**+0.1**
	comp=Z,0.2nm,0.5s,baz=299,slow=2.3,SNR=4.4							
LPAZ	**La Paz**	**146.00**	**60**	PKPbc		**PKPdf**	**07 13 10.6**	**+0.3**
	comp=Z,1.7nm,0.8s,baz=4.7,slow=6.8,SNR=8.1							

MDD ***04*** *06:59:40.6±2.2,37˚.37N×14˚.36W,h0km,mb3.7/12,Error ellipse: s-maj=22.1km s-min=16.5km az=29.0,PRXIMO*
IGIL ***04*** *06:59:41.3,37˚.35N×14˚.36W,h1km,ML1.8*
INMG ***04*** *06:59:42.6±1.1,37˚.18N×14˚.66W,h0km,ML2.2,Error ellipse: s-maj=9.4km s-min=7.1km az=19.0*
CSEM ***04*** *06:59:44.6±0.4,37˚.51N×14˚.02W,h10km,mb3.7,Error ellipse: s-maj=8.6km s-min=6.3km az=39.0*

ISC 04 06:59:41.2±3.6,37˚.47N±0˚.10×14˚.2W±0˚.2,h10km,n66, σ1ᵍ35/114,Azores-Cape St. Vincent Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
PMAFR	**Mafra**	**4.18**	**68**	*e*Pn		**Pn**	**07 00 46.9**	**+1.9**
PMAFR	**Mafra**	**4.18**	**68**	P		**Pn**	**07 00 46.5**	**+1.5**
	8.3nm,0.3s,SNR=7.9							
PMAFR				S		**Sn**	**07 01 34.7**	**+0.9**
	0.1nm,0.0s,SNR=7.9							
PMAFR	**Mafra**	**4.18**	**68**	P		**Pn**	**07 00 46.5**	**+1.5**
	8.3nm,0.3s,SNR=7.9							
PMAFR	**Mafra**	**4.18**	**68**	*e*Pn		**Pn**	**07 00 46.9**	**+1.9**
PMAFR				S		**Sn**	**07 01 34.7**	**+0.9**
	0.1nm,0.0s,SNR=7.9							
PFVI	**Vila Bisbo**	**4.33**	**93**	*e*Pn		**Pn**	**07 00 47.3**	**+0.3**
PFVI				*e*Sn		**Sn**	**07 01 36.1**	**-1.4**
PFVI				A		A	07 01 38.3	
	2.0nm,0.7s							
PFVI	**Vila Bisbo**	**4.33**	**93**	P		**Pn**	**07 00 47.3**	**+0.3**
	1.5nm,0.1s,SNR=8.5							
PFVI				S		**Sn**	**07 01 35.4**	**-2.1**
	0.7nm,0.1s,SNR=7.9							
PFVI	**Vila Bisbo**	**4.33**	**93**	P		**Pn**	**07 00 47.3**	**+0.3**
	1.5nm,0.1s,SNR=8.5							
PFVI				S		**Sn**	**07 01 35.4**	**-2.1**
	0.7nm,0.1s,SNR=7.9							
PFVI				*e*Sn		Sb	07 01 36.1	-13
	2.0nm,0.7s							
PTEO	**Sao Teotonio**	**4.38**	**87**	*e*Sn		**Sn**	**07 01 37.8**	**-1.1**
PTEO	**Sao Teotonio**	**4.38**	**87**	S		**Sn**	**07 01 37.8**	**-1.1**
PTEO	**Sao Teotonio**	**4.38**	**87**	S		**Sn**	**07 01 37.8**	**-1.1**
MORF	**Marmelete**	**4.45**	**90**	*e*P		**Pn**	**07 00 49.4**	**+0.6**
MORF				*e*S		**Sn**	**07 01 38.8**	**-1.9**
MORF				AML		AML	07 01 39.8	
	comp=N,2.4nm,0.4s							
MORF	**Marmelete**	**4.45**	**90**	*e*Pn		**Pn**	**07 00 49.4**	**+0.6**
MORF				*e*Sn		**Sn**	**07 01 39.6**	**-1.1**
MORF				A		A	07 01 44.1	
	comp=N,2.4nm,0.8s							
MORF	**Marmelete**	**4.45**	**90**	P		**Pn**	**07 00 49.4**	**+0.6**
MORF				S		**Sn**	**07 01 39.6**	**-1.1**
	comp=N,2.4nm,0.8s							
MORF	**Marmelete**	**4.45**	**90**	P		**Pn**	**07 00 49.4**	**+0.6**
MORF				S		**Sn**	**07 01 39.6**	**-1.1**
	comp=N,2.4nm,0.8s							
PNCL	**Nicolau / Gran**	**4.57**	**80**	*e*Pn		**Pn**	**07 00 51.0**	**+0.7**
PNCL				*e*Sn		**Sn**	**07 01 42.8**	**-0.6**
PNCL				A		A	07 01 49.2	
	comp=N,2.1nm,0.8s							
PNCL	**Nicolau / Gran**	**4.57**	**80**	*e*Pn		**Pn**	**07 00 51.0**	**+0.7**
PNCL				*e*Sn		**Sn**	**07 01 42.8**	**-0.6**
	comp=N,2.1nm,0.8s							
MESJ	**Messejana**	**4.79**	**84**	*e*S		**Sn**	**07 01 47.4**	**-1.5**
MESJ				AML		AML	07 01 48.9	
	comp=E,1.3nm,0.3s							
MESJ	**Messejana**	**4.79**	**84**	*e*Sn		**Sn**	**07 01 48.9**	**0.0**
MESJ				A		A	07 01 50.9	
	comp=E,1.7nm,0.8s							
MESJ	**Messejana**	**4.79**	**84**	S		**Sn**	**07 01 48.9**	**0.0**
	comp=E,1.7nm,0.8s							
MESJ	**Messejana**	**4.79**	**84**	S		**Sn**	**07 01 48.9**	**0.0**
	comp=E,1.7nm,0.8s							
PCVE	**Castro Verde**	**4.93**	**86**	*e*Pn		**Pn**	**07 00 56.2**	**+0.9**
PCVE				*e*Sn		**Sn**	**07 01 51.9**	**-0.5**
PCVE				A		A	07 02 01.6	
	comp=E,1.6nm,0.9s							
PCVE	**Castro Verde**	**4.93**	**86**	P		**Pn**	**07 00 56.2**	**+0.9**
PCVE				S		**Sn**	**07 01 51.9**	**-0.5**
	comp=E,1.6nm,0.9s							
PCVE	**Castro Verde**	**4.93**	**86**	P		**Pn**	**07 00 56.2**	**+0.9**
PCVE				S		**Sn**	**07 01 51.9**	**-0.5**
	comp=E,1.6nm,0.9s							
PBDV	**Barranco-do-Ve**	**5.03**	**91**	*e*Pn		**Pn**	**07 00 57.7**	**+1.0**
PBDV				*e*Sn		**Sn**	**07 01 55.5**	**+0.6**
PBDV				A		A	07 02 09.3	
	comp=E,2.5nm,0.9s							
PBDV	**Barranco-do-Ve**	**5.03**	**91**	P		**Pn**	**07 00 57.7**	**+1.0**
PBDV				S		**Sn**	**07 01 55.5**	**+0.6**
	comp=E,2.5nm,0.9s							
PBDV	**Barranco-do-Ve**	**5.03**	**91**	P		**Pn**	**07 00 57.7**	**+1.0**
PBDV				S		**Sn**	**07 01 55.5**	**+0.6**
	comp=E,2.5nm,0.9s							
EVO	**Evora**	**5.03**	**76**	*e*Pn		**Pn**	**07 00 57.5**	**+0.8**
EVO				*e*Sn		**Sn**	**07 01 54.2**	**-0.7**
EVO	**Evora**	**5.03**	**76**	P		**Pn**	**07 00 57.5**	**+0.8**
EVO				S		**Sn**	**07 01 54.2**	**-0.7**
EVO	**Evora**	**5.03**	**76**	P		**Pn**	**07 00 57.5**	**+0.8**
EVO				S		**Sn**	**07 01 54.2**	**-0.7**
PVAQ	**Vaqueiros**	**5.19**	**89**	*e*Pn		**Pn**	**07 01 00.5**	**+1.6**
PVAQ				*e*Sn		**Sn**	**07 01 57.9**	**-0.9**
PVAQ				A		A	07 02 03.1	
	comp=E,1.6nm,0.5s							
PVAQ	**Vaqueiros**	**5.19**	**89**	P		**Pn**	**07 01 00.5**	**+1.6**
PVAQ				S		**Sn**	**07 01 57.9**	**-0.9**
	comp=E,1.6nm,0.5s							
PVAQ	**Vaqueiros**	**5.19**	**89**	P		**Pn**	**07 01 00.5**	**+1.6**
PVAQ				S		**Sn**	**07 01 57.9**	**-0.9**
	comp=E,1.6nm,0.5s							
EGRO	**El Granado**	**5.37**	**87**	P		**Pn**	**07 01 01.3**	**-0.1**
	comp=E,0.4nm,0.1s,SNR=7.9							
EGRO				S		**Sn**	**07 02 02.0**	**-1.2**
	comp=E,0.3nm,0.1s,SNR=7.9							
EGRO	**El Granado**	**5.37**	**87**	P		**Pn**	**07 01 01.3**	**-0.1**
	comp=E,0.4nm,0.1s,SNR=7.9							
EGRO				S		**Sn**	**07 02 02.0**	**-1.2**
	comp=E,0.3nm,0.1s,SNR=7.9							
PESTR	**Estremoz**	**5.42**	**73**	*e*Pn		**Pn**	**07 01 04.0**	**+1.9**
PESTR				*e*Sn		**Sn**	**07 02 05.8**	**+1.2**
PESTR				A		A	07 02 15.7	
	comp=E,1.4nm,0.8s							
PESTR	**Estremoz**	**5.42**	**73**	*e*Pn		**Pn**	**07 01 04.0**	**+1.9**
PESTR				*e*Sn		**Sn**	**07 02 05.8**	**+1.2**
	comp=E,1.4nm,0.8s							
PMRV	**Marv??o**	**5.72**	**68**	*e*Pn		**Pn**	**07 01 08.0**	**+1.8**
PMRV				*e*Sn		**Sn**	**07 02 12.1**	**+0.2**
PMRV				A		A	07 02 19.3	
	comp=E,1.2nm,0.6s							
PMRV	**Marv??o**	**5.72**	**68**	P		**Pn**	**07 01 08.0**	**+1.8**
PMRV				S		**Sn**	**07 02 12.1**	**+0.2**
	comp=E,1.2nm,0.6s							
PMRV	**Marv??o**	**5.72**	**68**	P		**Pn**	**07 01 08.0**	**+1.8**
PMRV				S		**Sn**	**07 02 12.1**	**+0.2**
	comp=E,1.2nm,0.6s							
PBAR	**Barrancos**	**5.74**	**81**	*e*Pn		**Pn**

ellipse: s-maj=9.9km s-min=6.5km az=92.1
*JMA **04** 07:01:43.4±0.1, 39.78N×142.67E, h41km±1km, M4.3*
JMA Felt I J1.
*ISCJB **04** 07:01:43.0±0.5, 39.78N±0.03×142.66E±0.05, h51km±4km, mb4.5/39, MS3.4/2, Error ellipse: s-maj=6.7km s-min=4.5km az=23.7*
*NEIC **04** 07:01:44.6±0.7, 39.78N×142.57E, h52km±6km, mb4.4/13, Error ellipse: s-maj=8.1km s-min=5.4km az=122.0*
NEIC Recorded [1 JMA] in Aomori and Iwate.
*IDC **04** 07:01:45.1±2.1, 39.72N×142.59E, h56km±19km, mb3.9/15, mb1 4.1/20, mb1mx3.9/41, mbtmp4.2/20, ML3.6/4, MS3.1/4, Ms1 3.1/4, ms1mx2.8/42, Error ellipse: s-maj=19.3km s-min=13.2km az=95.0*

ISC 04 07:01:44.0±0.8, 39.76N±0.04×142.63E±0.06, h43km±7km, n127, σ1§62/131, mb4.5/39, 6C-3D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JTH	**Tanohata**	**0.62**	**287**	P	**Pn**	**07 01 56.2**	**-0.2**
JTH				*e*S	**Sn**	**07 02 05.3**	**0.0**
MIYJ	**Miyakonagasawa**	**0.65**	**254**	P	**Pn**	**07 01 56.7**	**-0.2**
MIYJ				S	**Sn**	**07 02 06.1**	**0.0**
OFUJ	**Ofunato**	**1.01**	**228**	P	**Pn**	**07 02 01.7**	**0.0**
OFUJ				S	**Sn**	**07 02 14.9**	**+0.1**
JKZ	**Kuzumaki**	**1.03**	**283**	P	**Pn**	**07 02 02.4**	**+0.4**
JKZ				S	**Sn**	**07 02 15.6**	**+0.4**
JANG	**Nango**	**1.05**	**306**	P	**Pn**	**07 02 01.9**	**-0.4**
JANG				S	**Sn**	**07 02 15.8**	**0.0**
JOM	**Ohasama**	**1.07**	**255**	P	**Pn**	**07 02 03.1**	**+0.5**
JOM				S	**Sn**	**07 02 17.1**	**+0.8**
JMK	**Ichinoseki**	**1.36**	**234**	P	**Pn**	**07 02 07.0**	**+0.5**
JMK				S	**Sn**	**07 02 24.2**	**+0.8**
JTM	**Tenmabayashi**	**1.57**	**311**	P	**Pn**	**07 02 09.7**	**+0.3**
JTM				*e*S	**Sn**	**07 02 29.9**	**+1.3**
JRG	**Rokugo**	**1.59**	**257**	P	**Pn**	**07 02 10.3**	**+0.7**
JAH	**Hinai**	**1.59**	**286**	P	**Pn**	**07 02 10.5**	**+0.8**
JAH				S	**Sn**	**07 02 32.0**	**+3.0**
JIO	**Ouri**	**1.65**	**218**	P	**Pn**	**07 02 10.3**	**-0.1**
ERM	**Erimo**	**2.29**	**10**	*ce*P	**Pn**	**07 02 19.0**	**-0.2**
ERM				pmax	pmax		
	comp=Z,268nm,1.0s						
ERM	**Erimo**	**2.29**	**10**	*e*Pn	**Pn**	**07 02 19.0**	**-0.2**
ASAJ	**Asahikawa**	**4.35**	**360**	P	**Pn**	**07 02 47.7**	**+0.2**
	baz=270,slow=20						
ASAJ				S	**Sn**	**07 03 36.1**	**-0.8**
	comp=Z,6.2nm,0.3s,baz=108,slow=20,SNR=2.3						
ASAJ	**Asahikawa**	**4.35**	**360**	*e*Pn	**Pn**	**07 02 47.2**	**-0.3**
ASAJ				S	**Sn**	**07 03 36.1**	**-0.8**
MAJO	**Matsushiro**	**4.74**	**229**‖	*e*P	**Pn**	**07 02 55.2**	**+2.2**
MAJO	**Matsushiro**	**4.74**	**229**	*e*Pn	**Pn**	**07 02 55.4**	**+2.4**
MAT	**Matsushiro**	**4.74**	**229**	P	**Pn**	**07 02 55.3**	**+2.3**
MAT				*e*S	**Sn**	**07 03 51.8**	**+5.1**
MJAR	**Matsushiro Arr**	**4.74**	**229**	P	**Pn**	**07 02 54.8**	**+1.8**
	comp=Z,2.6nm,0.3s,baz=45,slow=11,SNR=28						
MJAR				LR	LR	07 05 06.5	
	comp=Z,140nm,21.6s,baz=30,slow=43						
MJB9	**Matsu-Tunnel**	**4.74**	**229**	*e*Pn	**Pn**	**07 02 55.4**	**+2.4**
YUK	**Yuzh-Kuril'sk**	**4.90**	**28**	*e*P	**Pn**	**07 02 54.7**	**-0.4**
KUR	**Kuril'sk**	**6.70**	**34**	*e*P	**Pn**	**07 03 19.0**	**-0.7**
KUR				*e*S	**Sn**	**07 04 28.3**	**-6.3**
KUR				pmax	pmax		
	comp=Z,61nm,0.5s						
KUR				pmax	pmax		
	comp=E,28nm,0.2s						
KUR				pmax	pmax		
	comp=N,28nm,0.6s						
KUR				smax	smax		
	comp=E,164nm,0.3s						
KUR				smax	smax		
	comp=N,124nm,0.4s						
JHJ	**Hachijo jima 2**	**7.02**	**200**	P	**Pn**	**07 03 23.1**	**-1.1**
	comp=N,21nm,0.3s,baz=86,slow=22,SNR=6.4						
JHJ				S	**Sn**	**07 04 35.5**	**-7.1**
	comp=N,17nm,0.3s,baz=60,slow=20,SNR=3.7						
YSS	**Yuzh-Sakhalins**	**7.19**	**1**	*e*P	**Pn**	**07 03 21.7**	**-4.8**
YSS				pmax	pmax		
	comp=Z,20nm,0.5s						
YSS	**Yuzh-Sakhalins**	**7.19**	**1**	*e*Pn	**Pn**	**07 03 26.6**	**+0.1**
USRK	**Ussuriysk Ar.**	**9.08**	**303**	P	**Pn**	**07 03 54.3**	**+1.9**
	comp=Z,1.3nm,0.3s,baz=111,slow=14,SNR=19						
USRK				LR	LR	07 07 22.7	
	comp=Z,159nm,19.0s,baz=135,slow=37						
MDJ	**Mudanjiang**	**10.82**	**301**	P	**Pn**	**07 04 19.9**	**+3.7**
MDJ				pmax	pmax		
	comp=Z,16nm,0.8s						
MDJ				pmax	pmax		
	comp=Z,110nm,3.9s						
JNU	**Nakatsue**	**11.55**	**239**	*e*Pn	**Pn**	**07 04 25.9**	**-0.4**
KSRS	**Korea Array**	**11.74**	**263**	P	Pn	07 04 34.3	+5.5
	comp=Z,0.7nm,0.3s,baz=70,slow=14,SNR=4.6						
KS15	**Wonju Array Si**	**11.77**	**263**	*e*Pn	**Pn**	**07 04 29.5**	**+0.2**
KSAR	**Wonju Array Be**	**11.77**	**263**	P	Pn	07 04 34.3	+5.1
KSAR	**Wonju Array Be**	**11.77**	**263**	P	Pn	07 04 34.3	+5.1
KLR	**Kul'dur**	**12.23**	**324**	P	**Pn**	**07 04 35.6**	**+0.2**
	comp=Z,0.2nm,0.3s,baz=119,slow=14,SNR=4.7						
KLR	**Kul'dur**	**12.23**	**324**‖	*e*P	**Pn**	**07 04 35.4**	**-0.1**
CBIJ	**Chichi jima**	**12.64**	**182**	*e*Pn	**Pn**	**07 04 40.6**	**-0.5**
INCN	**Inchon**	**12.72**	**265**	*e*Pn	**Pn**	**07 04 41.0**	**-1.2**
PETK	**Petropavlovsk-**	**16.86**	**33**	LR	LR	07 12 43.3	
	comp=Z,39nm,18.5s,baz=213,slow=39						
HIA	**Hailar**	**18.82**	**308**	*e*P	**P**	**07 05 58.4**	**-1.6**
HIA				pmax	pmax		
	comp=Z,12nm,0.9s						
HIA	**Hailar**	**18.82**	**308**	*e*P	**P**	**07 05 58.4**	**-1.6**
	comp=Z,12nm,0.9s						
BJI	**Beijing**	**20.28**	**279**	P	**P**	**07 06 15.9**	**0.0**
BJI				pmax	pmax		
	comp=Z,10.0nm,0.8s						
BJT	**Baijiatuan**	**20.29**	**279**	*e*P	**P**	**07 06 14.2**	**-1.8**
BJT				pmax	pmax		
	comp=Z,11nm,1.0s						
BJT	**Baijiatuan**	**20.29**	**279**	*e*P	**P**	**07 06 14.2**	**-1.8**
	comp=Z,10nm,1.0s						
YOJ	**Yonaguni jima**	**22.49**	**233**	*e*P	**P**	**07 06 37.8**	**-1.9**
YOJ				pmax	pmax		
	comp=Z,58nm,0.9s						
YOJ	**Yonaguni jima**	**22.49**	**233**	*e*P	**P**	**07 06 37.8**	**-1.9**
	comp=Z,58nm,0.9s						
YAK	**Yakutsk**	**23.66**	**345**	P	**P**	**07 06 49.1**	**-2.1**
	comp=Z,33nm,0.5s,baz=148,slow=4.0,SNR=7.5						
YAK	**Yakutsk**	**23.66**	**345**	*e*P	**P**	**07 06 49.0**	**-2.1**
YAK				pmax	pmax		
	comp=Z,34nm,1.2s						
YAK				pmax	pmax		
	comp=N,14nm,1.0s						
YAK				pmax	pmax		
	comp=E,6.0nm,0.9s						
YAK	**Yakutsk**	**23.66**	**345**	*e*P	**P**	**07 06 49.6**	**-1.5**
HHC	**Hu-ho-hao-te**	**23.66**	**283**	*e*P	**P**	**07 06 50.5**	**-1.1**
HHC				pmax	pmax		
	comp=Z,28nm,0.9s						
HHC				pmax	pmax		
	comp=Z,100nm,3.8s						
SEY	**Seymchan**	**23.93**	**11**	P	**P**	**07 06 53.4**	**-0.3**
	comp=Z,15nm,1.0s,baz=204,slow=7.3,SNR=16						
YULB	**Yu-li**	**24.33**	**234**	*e*P	**P**	**07 06 59.1**	**+1.4**
	comp=Z,38nm,1.8s						
SMY	**Shemya**	**25.10**	**48**	*e*P	**P**	**07 07 04.7**	**+0.3**
SMY	**Shemya**	**25.10**	**48**	*e*P	**P**	**07 07 04.7**	**+0.3**
	comp=Z,108nm,1.0s						
BOD	**Bodaibo**	**25.81**	**324**	*e*P	**P**	**07 07 09.3**	**-1.5**
BOD				pmax	pmax		
	comp=Z,8.0nm,1.1s						
ULN	**Ulaanbaatar**	**26.73**	**299**‖	*e*P	**P**	**07 07 19.0**	**-0.5**
ULN				pmax	pmax		
	comp=Z,3.0nm,0.6s						
ULN	**Ulaanbaatar**	**26.73**	**299**	*e*P	**P**	**07 07 17.6**	**-1.9**
	comp=Z,3.5nm,0.6s						
SONA1	**Songino Array**	**27.17**	**299**	*e*P	**P**	**07 07 21.2**	**-2.1**
SONM	**Songino Array**	**27.17**	**299**	P	**P**	**07 07 23.3**	**-0.1**
	comp=Z,2.0nm,0.6s,baz=100,slow=9.2,SNR=10						
SONM				LR	LR	07 18 04.0	
	comp=Z,56nm,21.8s,baz=108,slow=36						
SONM	**Songino Array**	**27.17**	**299**	P	**P**	**07 07 23.3**	**-0.1**
SONM				pmax	pmax		
	comp=Z,3.0nm,0.7s						
SONM				MLR	MLR		
	comp=Z,56nm,21.8s						
ENH	**Enshi**	**28.61**	**261**	*e*P	**P**	**07 07 35.4**	**-0.9**
	comp=Z,9.3nm,0.8s						
H11N2	**WAKE ISLAND Hy**	**28.86**	**127**	T	T	07 38 20.2	
	baz=319,slow=75,SNR=1323						
H11N1	**WAKE ISLAND Hy**	**28.87**	**127**	T	T	07 38 21.0	
	baz=319,slow=75,SNR=1557						
H11N3	**WAKE ISLAND Hy**	**28.88**	**127**	T	T	07 38 21.6	
	baz=319,slow=75,SNR=358						
SZP	**Santa**	**29.32**	**227**	*e*P	**P**	**07 07 41.9**	**-0.7**
	comp=Z,42nm,1.0s						
TLY	**Talaya**	**29.36**	**307**	*e*P	**P**	**07 07 42.1**	**-0.6**
TLY				pmax	pmax		
	comp=Z,4.0nm,0.7s						
TLY	**Talaya**	**29.36**	**307**	*e*P	**P**	**07 07 42.1**	**-0.6**
	comp=Z,4.1nm,0.7s						
ZAK	**Zakamensk**	**29.43**	**304**	*e*P	**P**	**07 07 42.3**	**-1.1**
ZAK				pmax	pmax		
	comp=Z,4.0nm,1.4s						
H11S1	**WAKE ISLAND Hy**	**29.67**	**129**	T	T	07 39 14.6	
	baz=320,slow=76,SNR=92						
H11S3	**WAKE ISLAND Hy**	**29.68**	**129**	T	T	07 39 19.7	
	baz=320,slow=76,SNR=61						
H11S2	**WAKE ISLAND Hy**	**29.69**	**129**	T	T	07 39 15.9	
	baz=320,slow=76,SNR=61						
KMI	**Kunming**	**36.38**	**259**	P	**P**	**07 08 46.2**	**+1.7**
KMI				pmax	pmax		
	comp=Z,16nm,0.5s						
WMQ	**Urumqi**	**40.53**	**294**	*e*P	**P**	**07 09 20.1**	**+1.2**
WMQ				pmax	pmax		
	comp=Z,4.0nm,0.7s						
WMQ				pmax	pmax		
	comp=Z,37nm,3.9s						
ZAA0	**Zalesovo Array**	**40.84**	**310**	*e*P	**P**	**07 09 20.6**	**-0.7**
ZALV	**Zalesovo Beam**	**40.84**	**310**	P	**P**	**07 09 20.9**	**-0.2**
	comp=Z,4.8nm,0.4s,baz=95,slow=8.8,SNR=13						
ZALV	**Zalesovo Beam**	**40.84**	**310**	P	**P**	**07 09 21.0**	**-0.2**
ZALV				pmax	pmax		
	comp=Z,5.0nm,0.4s						
NRIK	**Noril'sk**	**41.22**	**334**	P	**P**	**07 09 25.8**	**+1.7**
	comp=Z,2.2nm,0.4s,baz=124,slow=7.6,SNR=6.2						
MK01	**Makanchi Array**	**43.53**	**300**	*e*P	**P**	**07 09 43.0**	**-0.3**
MK31	**Makanchi Array**	**43.54**	**300**	*e*P	**P**	**07 09 43.3**	**0.0**
MK31	**Makanchi Array**	**43.54**	**300**	*e*P	**P**	**07 09 43.3**	**0.0**
MKAR	**Makanchi Array**	**43.54**	**300**	*e*P	**P**	**07 09 43.3**	**0.0**
MKAR	**Makanchi Array**	**43.54**	**300**	*e*P	**P**	**07 09 43.3**	**0.0**
	comp=Z,33nm,0.5s						
MAKZ	**Makanchi**	**43.74**	**300**	*e*P	**P**	**07 09 44.8**	**-0.2**
MAKZ				pmax	pmax		
	comp=Z,17nm,1.8s						
MAKZ	**Makanchi**	**43.74**	**300**	*e*P	**P**	**07 09 44.8**	**-0.2**
	comp=Z,17nm,1.8s						
KDAK	**Kodiak Island**	**44.45**	**44**	*i* P	**P**	**07 09 51.0**	**+0.6**
KTH	**Kantishna Hill**	**44.96**	**36**	*e*P	**P**	**07 09 55.8**	**+1.2**
	comp=Z,6.0nm,0.9s						
KURK	**Kurchatov**	**45.05**	**306**	*d* iP	**P**	**07 09 55.0**	**-0.3**
KURK	**Kurchatov**	**45.05**	**306**	*e*P	**P**	**07 09 54.8**	**-0.6**
	comp=Z,71nm,0.5s						
IL1	**Eielson Array**	**46.69**	**34**	*e*P	**P**	**07 10 08.0**	**-0.1**
ILAR	**Eielson Array**	**46.69**	**34**	P	**P**	**07 10 08.2**	**+0.2**
	comp=Z,2.3nm,0.7s,baz=263,slow=6.1,SNR=38						
ILAR	**Eielson Array**	**46.69**	**34**	P	**P**	**07 10 08.3**	**+0.2**
ILAR				pmax	pmax		
	comp=Z,3.0nm,0.7s						
ILB	**Eielson Array**	**46.69**	**34**	*e*P	**P**	**07 10 08.3**	**+0.2**
BRVK	**Borovoye**	**49.53**	**311**	*ce*P	**P**	**07 10 30.2**	**0.0**
BRVK				pmax	pmax		
	comp=Z,7.0nm,0.8s						
BRVK	**Borovoye**	**49.53**	**311**	*e*P	**P**	**07 10 31.1**	**+1.0**
	comp=Z,4.3nm,1.1s						
KSH	**Kashi**	**50.21**	**292**	*e*P	P	07 10 43.2	+7.5
INK	**Inuvik**	**51.53**	**28**	P	**P**	**07 10 46.0**	**+1.1**
	comp=Z,3.6nm,0.9s,baz=328,slow=9.2,SNR=6.1						
INK	**Inuvik**	**51.53**	**28**	*e*P	**P**	**07 10 46.0**	**+1.1**
	comp=Z,2.3nm,0.6s						
KKAR	**Karatay Array**	**52.62**	**299**	*e*P	**P**	**07 10 53.2**	**-0.4**
KKAR				pmax	pmax		
	comp=Z,16nm,0.6s						
KKAR	**Karatay Array**	**52.62**	**299**	*e*P	**P**	**07 10 53.2**	**-0.4**
	comp=Z,16nm,0.6s						
ARU	**Arti**	**54.97**	**318**	*d* iP	**P**	**07 11 10.8**	**+0.3**
ARU						07 13 11.7	
ARU				S	**S**	**07 18 50.0**	**+0.9**
ARU				SS	**SS**	**07 22 28.5**	**-4.0**
ARU				pmax	pmax		
	comp=Z,9.0nm,1.7s						
ARU	**Arti**	**54.97**	**318**	*e*P	**P**	**07 11 11.2**	**+0.7**
	comp=Z,15nm,1.7s						
ABKAR	**Akbulak array**	**56.94**	**309**	*e*P	**P**	**07 11 24.2**	**-0.4**
	comp=Z,39nm,0.5s						
WRA	**Warramunga Arr**	**59.90**	**189**	P	**P**	**07 11 44.4**	**-1.1**
	comp=Z,4.0nm,0.6s,baz=6.9,slow=6.9,SNR=47						
YKA	**Yellowknife Ar**	**60.98**	**31**	*ce*P	**P**	**07 11 54.0**	**+1.6**
YKA				pmax	pmax		
	comp=Z,1.0nm,0.4s						
ASAR	**Alice Springs**	**63.62**	**189**	P	**P**	**07 12 10.2**	**-0.4**
	comp=Z,0.8nm,0.7s,baz=1.0,slow=5.1,SNR=11						
FINES	**FINESS Array B**	**66.85**	**332**	P	**P**	**07 12 30.7**	**-0.3**
	comp=Z,1.3nm,0.5s,baz=38,slow=7.5,SNR=14						
FINES	**FINESS Array B**	**66.85**	**332**	*i* P	**P**	**07 12 33.0**	**+2.0**
FINES				pmax	pmax		
	comp=Z,1.0nm,0.5s						
KIV	**Kislovodsk**	**69.85**	**311**	*e*P	**P**	**07 12 53.4**	**+3.2**
KIV				pmax	pmax		
	comp=Z,6.0nm,0.9s						
KIV				MLR	MLR		
	comp=Z,39nm,17.0s						
KBZ	**Khabaz**	**69.86**	**310**	P	**P**	**07 12 50.7**	**+0.6**
	comp=Z,1.1nm,0.6s,baz=8.1,slow=7.1,SNR=3.3						
NB2	**NORSAR Subarra**	**72.04**	**337**	P	**P**	**07 13 02.4**	**-0.8**
	comp=Z,1.9nm,0.8s,baz=38,slow=6.2						
NOA	**NORSAR Array B**	**72.04**	**337**	P	**P**	**07 13 02.3**	**-0.8**
	comp=Z,1.5nm,0.7s,baz=40,slow=6.1,SNR=6.0						
ANN	**Anapa**	**72.33**	**314**	*e*P	**P**	**07 13 03.7**	**-1.4**
AKASG	**Malin Array Be**	**72.73**	**322**	P	**P**	**07 13 05.9**	**-1.4**
	comp=Z,1.3nm,0.5s,baz=45,slow=6.1,SNR=5.9						
AKASG	**Malin Array Be**	**72.73**	**322**	P	**P**	**07 13 05.9**	**-1.4**
AKASG				pmax	pmax		
	comp=Z,2.0nm,0.4s						
KIEV	**Kiev**	**72.74**	**322**	*i* P	**P**	**07 13 08.3**	**+0.9**
KIEV				pmax	pmax		
	comp=Z,2.0nm,0.5s						
PDAR	**Pinedale Array**	**75.08**	**47**	P	**P**	**07 13 21.8**	**+0.2**
	comp=Z,1.0nm,0.7s,baz=265,slow=2.5,SNR=11						
KHC	**Kasperske Hory**	**80.71**	**329**	*e*P	**P**	**07 13 55.9**	**+3.4**
KHC				*ep*P	**pP**	**07 14 06.5**	**+1.2**
KHC	**Kasperske Hory**	**80.71**	**329**	*e*P	**P**	**07 13 55.9**	**+3.4**
KHC				*e*		07 14 06.5	
GERES	**GERESS Array B**	**80.89**	**329**	P	**P**	**07 13 53.0**	**-0.6**
	comp=Z,0.4nm,0.6s,baz=35,slow=7.4,SNR=3.8						
GERES	**GERESS Array B**	**80.89**	**329**	P	**P**	**07 13 53.0**	**-0.6**
ANMO	**Albuquerque**	**82.11**	**51**	*ce*P	**P**	**07 14 00.9**	**+0.5**
ANMO				pmax	pmax		
	comp=Z,2.0nm,1.2s						
TXAR	**Lajitas Array**	**87.71**	**53**	P	**P**	**07 14 28.9**	**+0.4**
	comp=Z,0.6nm,0.7s,baz=296,slow=3.7,SNR=9.4						
JCT	**Junction City**	**89.22**	**50**	*e*P	**P**	**07 14 36.2**	**+0.7**
JCT	**Junction City**	**89.22**	**50**	*e*P	**P**	**07 14 36.2**	**+0.7**
	comp=Z,4.8nm,0.3s						
TORD	**Torodi Ar. Bea**	**116.04**	**317**	PKP	**PKPdf**	**07 20 20.9**	**-1.8**
	comp=Z,0.3nm,0.7s,baz=76,slow=1.2,SNR=3.3						
SNAA	**Sanae**	**143.63**	**198**	*e*PKIKP	PKPab	07 21 09.5	-0.2
SNAA	**Sanae**	**143.63**	**198**	*e*PKPdf	PKPab	07 21 09.5	-0.2
LPAZ	**La Paz**	**144.46**	**58**	PKP	**PKPab**	**07 21 15.1**	**+0.1**
	comp=Z,0.5nm,0.6s,baz=281,slow=5.2,SNR=4.0						
VNA2	**Neumayer--Watz**	**145.20**	**197**	PKP	**PKPbc**	**07 21 15.0**	**-0.3**
	baz=78,slow=1.7						

*ISCJB **04** 07:09:17.9±0.6, 6.79N±0.03×73.07W±0.04, h150km±5km, Error ellipse: s-maj=7.3km s-min=4.4km az=30.5*
*RSNC **04** 07:09:19.8±0.5, 6.76N×73.11W, h143km±3km, ML2.7*
*FUNV **04** 07:09:21.7, 6.90N×72.92W, h150km, MW2.6*

ISC 04 07:09:16.9±1.4, 6.81N±0.04×73.02W±0.04, h159km±8km, n22, σ1§48/39, 2D, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BARC	**Barichara**	**0.27**	**217**	*i* P	**Pn**	**07 09 39.1**	**+0.3**
BARC				*i*		07 09 39.5	
	comp=Z,111nm,0.1s						
BARC				*e*S	**Sn**	**07 09 53.9**	**-1.5**
GIRC	**Giron, Santand**	**0.32**	**327**	*e*P	**Pn**	**07 09 39.2**	**+0.5**
GIRC				*e*S	**Sn**	**07 09 54.1**	**-1.4**
PAMC	**Pamplona, Colo**	**0.61**	**31**	*e*P	**Pn**	**07 09 42.0**	**+1.6**
PAMC				*e*S	**Sn**	**07 09 59.1**	**+0.6**
BRRC	**Barranca, Sant**	**0.75**	**293**‖	*e*P	**Pn**	**07 09 41.1**	**+0.4**
BRRC				*e*S	**Sn**	**07 09 58.0**	**-0.9**
BRRC				*i*		07 09 59.4	
	comp=Z,142nm,0.2s						
RUSC	**La Rusia**	**0.91**	**184**‖	*i*P	**Pn**	**07 09 43.0**	**+0.5**
RUSC				*e*S	**Sn**	**07 10 00.7**	**-1.3**
RUSC				*i*		07 10 03.3	
	comp=Z,31nm,0.5s						
CAPV	**Capacho**	**1.26**	**34**	*e*P	**Pn**	**07 09 46.9**	**+1.8**
CAPV				*e*S	**Sn**	**07 10 06.3**	**-0.5**
OCAC	**Ocana**	**1.45**	**348**	*e*P	**Pn**	**07 09 47.9**	**+1.0**
OCAC				*e*S	**Sn**	**07 10 10.4**	**+0.5**
OCAC				*i*		07 10 13.4	
	comp=Z,80nm,0.5s						
YOPC	**Yopal, Colombi**	**1.56**	**158**	*e*S	**Sn**	**07 10 12.1**	**+0.2**
ZARC	**Zaragoza, Cauc**	**1.94**	**291**	*e*P	**Pn**	**07 09 52.2**	**+0.2**
ZARC				*e*S	**Sn**	**07 10 18.3**	**-0.7**
ZARC				*i*		07 10 23.9	
	comp=Z,80nm,0.5s						
NORC	**Norcasia**	**2.22**	**236**	*e*P	**Pn**	**07 09 55.2**	**0.0**
NORC				*e*S	**Sn**	**07 10 23.4**	**-1.3**
CHIC	**Chingaza**	**2.28**	**198**	*e*P	**Pn**	**07 09 57.0**	**+0.7**
CHIC				*e*S	**Sn**	**07 10 26.1**	**-0.6**
CHIC				*i*		07 10 33.0	
	comp=Z,14nm,0.4s						
HELC	**Santa Helena**	**2.57**	**256**	*e*P	**Pn**	**07 10 00.3**	**+0.7**
HELC				*e*S	**Sn**	**07 10 31.7**	**-0.9**
HELC				*i*		07 10 38.0	
	comp=Z,48nm,0.5s						
SOCV	**Socops**	**2.60**	**56**	*e*P	**Pn**	**07 10 01.8**	**+2.1**
SOCV				*e*S	**Sn**	**07 10 30.8**	**-2.0**
VILC	**Villavicencio,**	**2.76**	**194**	*e*S	**Sn**	**07 10 36.4**	**-0.3**
VILC				*i*		07 10 43.0	
	comp=Z,13nm,0.3s						
GUYC	**Guyana, Colomb**	**2.83**	**236**	*e*P	**Pn**	**07 10 04.4**	**+1.4**
GUYC				*e*S	**Sn**	**07 10 37.7**	**-1.0**
GUYC				*i*		07 10 46.3	
	comp=Z,32nm,0.4s						
TOLC	**Tolima**	**3.18**	**226**	*e*P	**Pn**	**07 10 08.3**	**+1.1**
PRAC	**Prado**	**3.59**	**211**	*e*P	**Pn**	**07 10 13.0**	**+0.8**
PRAC				*e*S	**Sn**	**07 10 54.4**	**-0.8**
SJAC	**San Juan de Ar**	**3.63**	**195**	*e*P	**Pn**	**07 10 14.2**	**+1.4**
SJAC				*e*S	**Sn**	**07 10 55.6**	**-0.7**
VIRV	**Villa del Rosa**	**3.72**	**9**	*e*P	**Pn**	**07 10 15.5**	**+1.7**
VIRV				*e*S	**Sn**	**07 10 55.6**	**-2.5**
CURV	**Curarigua**	**4.39**	**43**	*e*P	**Pn**	**07 10 24.2**	**+1.6**
TEPV	**Terepaima**	**4.92**	**50**	*e*P	**Pn**	**07 10 31.1**	**+1.7**
BAUV	**El Baul**	**5.37**	**66**	*e*P	**Pn**	**07 10 36.0**	**+0.7**
BAUV				*e*S	**Sn**	**07 11 31.7**	**-5.0**

MEX 04 07:22:09.4±0.6, 13.76N×92.99W, h19km±92km, MD4.0, Off coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CCIG	**Comitan**	**2.63**	**18**	*e*P	Pn	07 22 49.5	-1.6
CCIG				*e*S	Sn	07 23 19.2	-3.5
TGIG		**3.00**	**358**	*i* P	Pn	07 22 53.3	-2.7
TGIG				*i* S	Sn	07 23 27.9	-3.7

*ISK **04** 07:30:10.5, 36.94N×29.23E, h5km, MD2.9*
*DDA **04** 07:30:12.4, 36.94N×29.20E, h7km, Md2.7*
*CSEM **04** 07:30:12.0±0.2, 36.93N×29.25E, h5km, MD2.9, Error ellipse: s-maj=5.3km s-min=4.4km az=168.0*

ISC 04 07:30:12.2±1.1, 36.94N±0.03×29.25E±0.02, h5km±10km, n38, σ1§76/53, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FETI	**Fethiye-Mugla**	**0.28**	**206**	*e*PG	**Pg**	**07 30 17.1**	**-0.4**
FETI				*e*SG	**Sg**	**07 30 21.9**	**+0.7**
FETI	**Fethiye-Mugla**	**0.28**	**206**	*e*Pg	**Pg**	**07 30 17.1**	**-0.4**
FETI				*e*Sg	**Sg**	**07 30 21.9**	**+0.7**
FETY	**Fethiye**	**0.33**	**204**	*e*PG	**Pg**	**07 30 17.9**	**-0.7**
FETY				*e*SG	**Sg**	**07 30 23.8**	**+0.9**
FETY	**Fethiye**	**0.33**	**204**	P	**Pg**	**07 30 16.1**	**-2.5**
FETY	**Fethiye**	**0.33**	**204**	*e*Pg	**Pg**	**07 30 17.9**	**-0.7**
FETY				S	**Sg**	**07 30 23.4**	**+0.5**
GOLH	**Golhisar**	**0.39**	**40**	*i* P	**Pg**	**07 30 19.7**	**-0.1**
GOLH				*i* S	**Sb**	**07 30 27.0**	**-1.0**
GOLH	**Golhisar**	**0.39**	**40**	P	**Pg**	**07 30 19.7**	**-0.1**
GOLH				S	**Sb**	**07 30 27.0**	**-1.0**
DALY	**Dalyan (Mu¨la**	**0.49**	**256**	*e*PG	**Pg**	**07 30 21.0**	**-0.6**
DALY				*e*SG	**Sg**	**07 30 28.8**	**+0.8**
DALY	**Dalyan (Mu¨la**	**0.49**	**256**	*i* P	**Pg**	**07 30 21.0**	**-0.6**
DALY				*i* S	**Sg**	**07 30 28.3**	**+0.3**
DALY	**Dalyan (Mu¨la**	**0.49**	**256**	P	**Pg**	**07 30 21.0**	**-0.6**
DALY				S	**Sg**	**07 30 28.3**	**+0.3**
ELL	**Elmali**	**0

0.3nm,0.6s,baz=96,slow=4.3,SNR=2.6

IDC ***04*** *07:41:53.5±1.4, 43˚.56S×172˚.46E, h0km, mb3.8/2, mb1 4.1/3, mb1mx3.8/26, mbtmp3.9/3, ML3.8/1, MS3.3/2, Ms1 3.3/2, ms1mx2.8/31, Error ellipse: s-maj=48.7km s-min=12.7km az=165.0*

ISCJB ***04*** *07:41:54.0±0.4, 43˚.60S±0˚.03×172˚.45E±0˚.04, h22km±3km, mb3.8/2, MS3.2/1, Error ellipse: s-maj=6.3km s-min=3.8km az=142.0*

NEIC ***04*** *07:41:55.0±0.0, 43˚.57S×172˚.39E, h8km, ML4.4(WEL), After WEL.*

NEIC Felt in Canterbury.

WEL ***04*** *07:41:55.0±0.1, 43˚.56S×172˚.39E, h7km, ML4.3/61, Mw3.9, Error ellipse: s-maj=0.5km s-min=0.5km az=90.0*

WEL Felt in the Canterbury region, maximum reported intensity MM 6.

ISC 04 07:41:54.9±0.9, 43˚.56S±0˚.03×172˚.42E±0˚.03, h14km±6km, n129, σ1s30/115, 14C-3D, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CRLZ	**Canterbury Las**	**0.15**	**95**	Pg	**Pg**	**07 41 58.5**	**-0.2**
CRLZ	**Canterbury Las**	**0.15**	**95**	PG	**Pg**	**07 41 58.5**	**-0.2**
CRLZ				SG	**Sg**	**07 42 01.2**	**-0.1**
CRLZ				AML	AML	07 42 01.4	
CRLZ				AML	AML	07 42 01.5	
CRLZ				AML	AML	07 42 01.5	
MQZ	**McQueen's Vall**	**0.22**	**130**	Pg	**Pg**	**07 41 59.8**	**0.0**
MQZ				Sg	**Sg**	**07 42 03.7**	**+0.5**
MQZ	**McQueen's Vall**	**0.22**	**130**	⇓PG	**Pg**	**07 41 59.8**	**0.0**
MQZ				SG	**Sg**	**07 42 03.7**	**+0.5**
MQZ				SG		07 42 03.8	
MQZ				AML	AML	07 42 03.8	
OXZ	**Oxford**	**0.36**	**311**	Pg	**Pg**	**07 42 01.6**	**-0.8**
OXZ	**Oxford**	**0.36**	**311**	⇑PG	**Pg**	**07 42 01.5**	**-0.8**
OXZ				SG	**Sg**	**07 42 06.7**	**-0.6**
OXZ				AML	AML	07 42 07.6	
OXZ				AML	AML	07 42 07.6	
OXZ				AML	AML	07 42 08.5	
LTZ	**Lake Taylor**	**0.79**	**352**	⇑P*	**Pg**	**07 42 10.2**	**-0.1**
LTZ	**Lake Taylor**	**0.79**	**352**	⇑P*	**Pg**	**07 42 10.2**	**-0.1**
LTZ				AML	AML	07 42 22.2	
RPZ	**Rata Peaks**	**1.00**	**261**	Pg	**Pg**	**07 42 13.7**	**-0.6**
RPZ	1μm,0.3s,baz=171,slow=2.4,SNR=693			Lg	Lg	07 42 27.2	
	785nm,0.3s,baz=170,slow=18,SNR=18						
RPZ				LR	LR	07 42 49.4	
	comp=Z,516nm,19.9s,baz=230,slow=54						
RPZ	**Rata Peaks**	**1.00**	**261**	P*	**Pg**	**07 42 13.6**	**-0.6**
RPZ				AML	AML	07 42 32.2	
RPZ				AML	AML	07 42 37.3	
INZ	**Inchbonnie**	**1.10**	**319**	⇑P*	**Pg**	**07 42 14.7**	**-1.4**
WVZ	**Waitaha Valley**	**1.32**	**291**	P*	**Pn**	**07 42 18.5**	**-0.4**
WVZ	**Waitaha Valley**	**1.32**	**291**	P*	**Pn**	**07 42 18.5**	**-0.4**
WVZ				AML	AML	07 42 40.9	
WVZ				AML	AML	07 42 42.3	
KHZ	**Kahutara**	**1.41**	**36**	Pn	**Pn**	**07 42 19.3**	**-0.8**
KHZ	**Kahutara**	**1.41**	**36**	⇓PN	**Pn**	**07 42 19.3**	**-0.8**
KHZ				AML	AML	07 42 41.5	
KHZ				AML	AML	07 42 44.7	
KHZ				AML	AML	07 42 46.7	
KHZ				AML	AML	07 42 46.7	
LBZ	**Lake Benmore**	**1.81**	**242**	Pn	**Pn**	**07 42 25.1**	**-0.5**
LBZ	**Lake Benmore**	**1.81**	**242**	⇑PN	**Pn**	**07 42 25.1**	**-0.5**
LBZ				AML	AML	07 43 00.1	
LBZ				AML	AML	07 43 00.1	
LBZ				AML	AML	07 43 05.3	
LBZ				AML	AML	07 43 05.3	
THZ	**Tophouse**	**1.83**	**11**	Pn	**Pn**	**07 42 25.3**	**-0.7**
THZ	**Tophouse**	**1.83**	**11**	⇑PN	**Pn**	**07 42 25.3**	**-0.7**
THZ				AML	AML	07 43 03.1	
THZ				AML	AML	07 43 03.6	
DSZ	**Denniston Nort**	**1.87**	**346**	Pn	**Pn**	**07 42 25.9**	**-0.6**
DSZ	**Denniston Nort**	**1.87**	**346**	⇑PN	**Pn**	**07 42 25.9**	**-0.6**
DSZ				AML	AML	07 42 57.3	
DSZ				AML	AML	07 42 57.3	
DSZ				AML	AML	07 42 59.6	
DSZ				AML	AML	07 42 59.7	
FOZ	**Fox Glacier**	**1.89**	**270**	Pn	**Pn**	**07 42 27.5**	**+0.8**
FOZ	**Fox Glacier**	**1.89**	**270**	PN	**Pn**	**07 42 27.5**	**+0.8**
FOZ				AML	AML	07 42 56.2	
FOZ				AML	AML	07 43 03.8	
FOZ				AML	AML	07 43 05.0	
FOZ				AML	AML	07 43 05.0	
ODZ	**Otahua Downs**	**1.95**	**220**	Pn	**Pn**	**07 42 26.6**	**-1.0**
ODZ	**Otahua Downs**	**1.95**	**220**	⇑PN	**Pn**	**07 42 26.6**	**-1.0**
ODZ				AML	AML	07 42 59.0	
ODZ				AML	AML	07 42 59.1	
ODZ				AML	AML	07 43 08.9	
ODZ				AML	AML	07 43 08.9	
BSWZ	**Blackbirch Sta**	**2.14**	**31**	Pn	**Pn**	**07 42 29.8**	**-0.4**
BSWZ	**Blackbirch Sta**	**2.14**	**31**	PN	**Pn**	**07 42 29.7**	**-0.4**
BSWZ				AML	AML	07 42 57.3	
BSWZ				AML	AML	07 43 16.2	
CMWZ	**Cape Campbell**	**2.25**	**37**	Pn	**Pn**	**07 42 32.1**	**+0.5**
CMWZ	**Cape Campbell**	**2.25**	**37**	PN	**Pn**	**07 42 32.1**	**+0.5**
CMWZ				AML	AML	07 43 03.5	
CMWZ				AML	AML	07 43 21.9	
TUWZ	**Tuamarina**	**2.41**	**28**	AML	AML	07 43 15.1	
TUWZ				AML	AML	07 43 24.5	
NNZ	**Nelson**	**2.45**	**17**	Pn	**Pn**	**07 42 34.5**	**+0.1**
NNZ	**Nelson**	**2.45**	**17**	PN	**Pn**	**07 42 34.5**	**+0.1**
NNZ				AML	AML	07 43 05.0	
NNZ				AML	AML	07 43 05.1	
NNZ				AML	AML	07 43 10.0	
NNZ				AML	AML	07 43 10.0	
HHSZ	**Highcliff Hill**	**2.66**	**209**	AML	AML	07 43 31.6	
HHSZ				AML	AML	07 43 35.3	
JCZ	**Jackson Bay**	**2.68**	**258**	Pn	**Pn**	**07 42 37.4**	**-0.3**
JCZ	**Jackson Bay**	**2.68**	**258**	PN	**Pn**	**07 42 37.4**	**-0.3**
JCZ				AML	AML	07 43 26.8	
JCZ				AML	AML	07 43 27.9	
TCW	**Tory Channel**	**2.73**	**31**	Pn	**Pn**	**07 42 38.2**	**0.0**
TCW	**Tory Channel**	**2.73**	**31**	PN	**Pn**	**07 42 38.2**	**0.0**
TCW				AML	AML	07 43 16.2	
TCW				AML	AML	07 43 23.0	
QRZ	**Quartz Range**	**2.74**	**2**	Pn	**Pn**	**07 42 38.2**	**-0.2**
QRZ	**Quartz Range**	**2.74**	**2**	PN	**Pn**	**07 42 38.2**	**-0.2**
QRZ				AML	AML	07 42 47.4	
QRZ				AML	AML	07 42 47.4	
QRZ				AML	AML	07 43 24.8	
QRZ				AML	AML	07 43 24.8	
WKZ	**Wanaka**	**2.75**	**241**	Pn	**Pn**	**07 42 37.9**	**-0.8**
WKZ	**Wanaka**	**2.75**	**241**	PN	**Pn**	**07 42 37.9**	**-0.8**
WKZ				AML	AML	07 43 28.8	
WKZ				AML	AML	07 43 28.8	
WKZ				AML	AML	07 43 33.9	
WKZ				AML	AML	07 43 34.0	
EAZ	**Earnscleugh**	**2.78**	**232**	Pn	**Pn**	**07 42 38.1**	**-1.0**
EAZ	**Earnscleugh**	**2.78**	**232**	⇑PN	**Pn**	**07 42 38.1**	**-1.0**
EAZ				AML	AML	07 43 29.3	
EAZ				AML	AML	07 43 29.3	
EAZ				AML	AML	07 43 29.8	
EAZ				AML	AML	07 43 29.9	
WEL	**Wellington**	**2.87**	**38**	AML	AML	07 43 13.4	
WEL				AML	AML	07 43 13.4	
WEL				AML	AML	07 43 13.4	
WEL				AML	AML	07 43 13.4	
PLWZ	**Palliser**	**2.89**	**47**	AML	AML	07 43 57.7	
PLWZ				AML	AML	07 44 12.9	
MSWZ	**Moikau Station**	**3.00**	**45**	AML	AML	07 43 16.9	
MSWZ				AML	AML	07 43 17.1	
TUZ	**Tuapeka**	**3.11**	**219**	Pn	**Pn**	**07 42 42.4**	**-1.0**
TUZ	**Tuapeka**	**3.11**	**219**	⇑PN	**Pn**	**07 42 42.4**	**-1.0**
TUZ				AML	AML	07 43 47.0	
TUZ				AML	AML	07 43 47.0	
TUZ				AML	AML	07 43 47.0	
TUZ				AML	AML	07 43 47.0	
PAWZ	**Paruwai Farm**	**3.12**	**47**	AML	AML	07 43 30.2	
PAWZ				AML	AML	07 43 51.1	
CAW	**Cannon Point**	**3.14**	**40**	Pn	**Pn**	**07 42 42.4**	**-1.6**
CAW	**Cannon Point**	**3.14**	**40**	PN	**Pn**	**07 42 42.4**	**-1.6**
CAW				AML	AML	07 43 21.1	
CAW				AML	AML	07 43 25.5	
TRWZ	**Traveller**	**3.25**	**49**	Pn	**Pn**	**07 42 43.7**	**-1.7**
TRWZ	**Traveller**	**3.25**	**49**	PN	**Pn**	**07 42 43.7**	**-1.7**
TRWZ				AML	AML	07 43 24.1	
TRWZ				AML	AML	07 43 37.1	
KIW	**Kapiti Island**	**3.27**	**35**	Pn	**Pn**	**07 42 44.8**	**-1.0**
KIW	**Kapiti Island**	**3.27**	**35**	PN	**Pn**	**07 42 44.8**	**-1.0**
KIW				AML	AML	07 43 26.6	
KIW				AML	AML	07 43 34.5	
MTW	**Mount Morrison**	**3.32**	**45**	Pn	**Pn**	**07 42 44.7**	**-1.7**
MTW	**Mount Morrison**	**3.32**	**45**	PN	**Pn**	**07 42 44.7**	**-1.7**
MTW				AML	AML	07 43 31.5	
MTW				AML	AML	07 43 40.4	
MSZ	**Milford Sound**	**3.42**	**250**	AML	AML	07 43 46.3	
MSZ				AML	AML	07 43 47.9	
OGWZ	**Otaki Gorge**	**3.42**	**38**	AML	AML	07 43 29.5	
OGWZ				AML	AML	07 43 30.3	
HOWZ	**Holdsworth Sta**	**3.52**	**42**	AML	AML	07 43 31.2	
HOWZ				AML	AML	07 43 40.3	
TMWZ	**Te Maipa**	**3.56**	**48**	AML	AML	07 43 38.5	
TMWZ				AML	AML	07 43 39.1	
MLZ	**Mavora Lakes**	**3.57**	**238**	Pn	**Pn**	**07 42 48.8**	**-1.1**
MLZ	**Mavora Lakes**	**3.57**	**238**	PN	**Pn**	**07 42 48.8**	**-1.1**
MLZ				AML	AML	07 43 53.0	
MLZ				AML	AML	07 44 04.9	
MRZ	**Mangatainoka R**	**3.73**	**40**	AML	AML	07 43 38.8	
MRZ				AML	AML	07 43 44.0	
SYZ	**Scrubby Hill**	**3.77**	**217**	Pn	**Pn**	**07 42 52.2**	**-0.4**
SYZ	**Scrubby Hill**	**3.77**	**217**	⇑PN	**Pn**	**07 42 52.2**	**-0.4**
SYZ				AML	AML	07 44 02.5	
SYZ				AML	AML	07 44 10.0	
TIWZ	**Tintock**	**3.79**	**44**	AML	AML	07 43 39.2	
TIWZ				AML	AML	07 43 39.7	
WHZ	**Wether Hill Ro**	**3.95**	**232**	Pn	**Pn**	**07 42 52.9**	**-2.1**
WHZ	**Wether Hill Ro**	**3.95**	**232**	⇑PN	**Pn**	**07 42 52.9**	**-2.1**
WHZ				AML	AML	07 44 11.8	
WHZ				AML	AML	07 44 13.8	
POWZ	**Post Office Ro**	**4.04**	**39**	AML	AML	07 44 27.8	
POWZ				AML	AML	07 44 28.4	
BFZ	**Birch Farm**	**4.05**	**46**	Pn	**Pn**	**07 42 54.7**	**-1.7**
BFZ	**Birch Farm**	**4.05**	**46**	PN	**Pn**	**07 42 54.7**	**-1.7**
BFZ				AML	AML	07 43 44.5	
DCZ	**Deep Cove**	**4.22**	**241**	Pn	**Pn**	**07 42 57.6**	**-1.1**
DCZ	**Deep Cove**	**4.22**	**241**	PN	**Pn**	**07 42 57.6**	**-1.1**
DCZ				AML	AML	07 44 10.9	
DCZ				AML	AML	07 44 16.2	
WAZ	**Wanganui**	**4.26**	**28**	Pn	**Pn**	**07 43 01.1**	**+1.7**
WAZ	**Wanganui**	**4.26**	**28**	PN	**Pn**	**07 43 01.1**	**+1.7**
WAZ				AML	AML	07 44 12.8	
WAZ				AML	AML	07 44 14.9	
NMEZ	**Namu Road**	**4.29**	**15**	Pn	**Pn**	**07 43 00.7**	**+1.0**
NMEZ	**Namu Road**	**4.29**	**15**	PN	**Pn**	**07 43 00.7**	**+1.0**
DVHZ	**Dannevirke**	**4.30**	**42**	AML	AML	07 43 48.1	
DVHZ				AML	AML	07 43 57.4	
ANWZ	**Angora Road**	**4.33**	**46**	PN	**Pn**	**07 42 58.6**	**-1.6**
ANWZ				AML	AML	07 43 56.3	
ANWZ				AML	AML	07 43 59.9	
TSZ	**Takapari Road**	**4.39**	**38**	Pn	**Pn**	**07 42 59.8**	**-1.3**
TSZ	**Takapari Road**	**4.39**	**38**	PN	**Pn**	**07 42 59.8**	**-1.3**
TSZ				AML	AML	07 43 54.8	
TSZ				AML	AML	07 44 28.6	
PREZ	**Palmer Road**	**4.42**	**18**	Pn	**Pn**	**07 43 02.8**	**+1.3**
PREZ	**Palmer Road**	**4.42**	**18**	PN	**Pn**	**07 43 02.8**	**+1.3**
PREZ				AML	AML	07 43 58.3	
PREZ				AML	AML	07 44 02.6	
NWEZ	**Newall Road**	**4.42**	**15**	Pn	**Pn**	**07 43 04.0**	**+2.4**
NWEZ	**Newall Road**	**4.42**	**15**	PN	**Pn**	**07 43 04.0**	**+2.4**
KHEZ	**Kahui Hut**	**4.43**	**16**	Pn	**Pn**	**07 43 02.8**	**+1.0**
KHEZ	**Kahui Hut**	**4.43**	**16**	PN	**Pn**	**07 43 02.8**	**+1.0**
NEZ	**North Egmont**	**4.47**	**17**	Pn	**Pn**	**07 43 05.0**	**+2.7**
NEZ	**North Egmont**	**4.47**	**17**	PN	**Pn**	**07 43 05.0**	**+2.7**
PKE	**Pukeiti**	**4.52**	**16**	Pn	**Pn**	**07 43 04.0**	**+1.0**
PKE	**Pukeiti**	**4.52**	**16**	PN	**Pn**	**07 43 04.0**	**+1.0**
PKE				AML	AML	07 44 01.0	
PKE				AML	AML	07 44 01.1	
PNHZ	**Pukenui**	**4.62**	**39**	Pn	**Pn**	**07 43 02.9**	**-1.4**
PNHZ	**Pukenui**	**4.62**	**39**	PN	**Pn**	**07 43 02.9**	**-1.4**
PNHZ				AML	AML	07 44 02.3	
PNHZ				AML	AML	07 44 40.1	
MTVZ	**Mangateitei**	**4.76**	**30**	AML	AML	07 44 06.6	
MTVZ				AML	AML	07 44 07.5	
VRZ	**Vera Road**	**4.77**	**22**	Pn	**Pn**	**07 43 07.3**	**+1.0**
VRZ	**Vera Road**	**4.77**	**22**	⇑PN	**Pn**	**07 43 07.3**	**+1.0**
VRZ				AML	AML	07 44 03.7	
VRZ				AML	AML	07 44 05.5	
PKVZ	**Pokaka**	**4.80**	**28**	Pn	**Pn**	**07 43 09.0**	**+2.1**
WNVZ	**Wahianoa**	**4.86**	**31**	Pn	**Pn**	**07 43 09.3**	**+1.6**
WNVZ	**Wahianoa**	**4.86**	**31**	PN	**Pn**	**07 43 09.3**	**+1.6**
BHHZ	**Black Hill Sta**	**4.90**	**35**	Pn	**Pn**	**07 43 08.1**	**-0.2**
BHHZ	**Black Hill Sta**	**4.90**	**35**	PN	**Pn**	**07 43 08.1**	**-0.2**
FWVZ	**Far West T-bar**	**4.91**	**30**	Pn	**Pn**	**07 43 10.8**	**+2.4**
FWVZ	**Far West T-bar**	**4.91**	**30**	⇑PN	**Pn**	**07 43 10.8**	**+2.4**
FWVZ				AML	AML	07 44 11.4	
FWVZ				AML	AML	07 44 40.5	
KRHZ	**Kereru**	**4.91**	**38**	AML	AML	07 44 04.6	
KRHZ				AML	AML	07 44 05.0	
TUVZ	**Tukino**	**4.93**	**31**	Pn	**Pn**	**07 43 10.3**	**+1.5**
TUVZ	**Tukino**	**4.93**	**31**	PN	**Pn**	**07 43 10.3**	**+1.5**
KAHZ	**Kahuranaki**	**5.03**	**43**	Pn	**Pn**	**07 43 09.4**	**-0.6**
KAHZ	**Kahuranaki**	**5.03**	**43**	PN	**Pn**	**07 43 09.4**	**-0.6**
WTVZ	**West Tongariro**	**5.04**	**29**	Pn	**Pn**	**07 43 10.8**	**+0.6**
WTVZ	**West Tongariro**	**5.04**	**29**	PN	**Pn**	**07 43 10.8**	**+0.6**
WTVZ				AML	AML	07 44 40.6	
WTVZ				AML	AML	07 44 55.4	
KWHZ	**Kaweka Forest**	**5.11**	**37**	*e*PN	**Pn**	**07 43 11.4**	**+0.3**
KWHZ				AML	AML	07 44 13.1	
KWHZ				AML	AML	07 44 14.4	
MCHZ	**McNeill Hill**	**5.22**	**39**	AML	AML	07 44 14.4	
MCHZ				AML	AML	07 44 31.8	
BKZ	**Black Stump Fm**	**5.36**	**36**	Pn	**Pn**	**07 43 14.4**	**0.0**
BKZ	**Black Stump Fm**	**5.36**	**36**	⇓PN	**Pn**	**07 43 14.5**	**0.0**
BKZ				AML	AML	07 45 11.1	
HIZ	**Hauiti**	**5.37**	**21**	Pn	**Pn**	**07 43 14.3**	**-0.3**
HIZ	**Hauiti**	**5.37**	**21**	PN	**Pn**	**07 43 14.3**	**-0.3**
HIZ				AML	AML	07 44 15.8	
HIZ				AML	AML	07 44 19.0	
NMHZ	**Naumai**	**5.55**	**38**	AML	AML	07 44 24.8	
NMHZ				AML	AML	07 44 24.9	
TLZ	**Tolley Road**	**5.74**	**25**	Pn	**Pn**	**07 43 19.7**	**0.0**
TLZ	**Tolley Road**	**5.74**	**25**	PN	**Pn**	**07 43 19.7**	**0.0**
TLZ				AML	AML	07 44 28.0	
TLZ				AML	AML	07 44 30.4	
HRRZ	**Handcock Road**	**5.94**	**31**	Pn	**Pn**	**07 43 23.8**	**+1.3**
HRRZ	**Handcock Road**	**5.94**	**31**	PN	**Pn**	**07 43 23.8**	**+1.3**
URZ	**Urewera**	**6.38**	**35**	Pn	**Pn**	**07 43 27.1**	**-1.4**
	2.0nm,0.3s,baz=240,slow=5.9,SNR=6.3						
URZ				Sn	**Sn**	**07 44 35.6**	**-5.4**
	3.3nm,0.3s,baz=206,slow=16,SNR=7.0						
URZ				LR	LR	07 46 31.2	
	comp=Z,193nm,20.5s,baz=248,slow=44						
DZM	**Mont Dzumac**	**22.00**	**345**	LR	LR	07 55 33.2	
	comp=Z,81nm,18.5s,baz=32,slow=37						
ASAR	**Alice Springs**	**37.28**	**290**	P	**P**	**07 49 07.2**	**+0.7**
	2.0nm,1.0s,baz=129,slow=7.3,SNR=6.4						
WRA	**Warramunga Arr**	**39.54**	**294**	P	**P**	**07 49 25.8**	**+0.3**
	1.4nm,1.0s,baz=134,slow=7.6,SNR=15						
TORD	**Torodi Ar. Bea**	**148.66**	**198**	PKPbc	**PKPdf**	**08 01 41.3**	**+3.1**
	0.3nm,0.5s,baz=176,slow=3.0,SNR=3.1						
ARCES	**ARCESS Array B**	**148.99**	**338**	PKPbc	**PKPbc**	**08 01 42.7**	**+1.6**
	4.1nm,1.1s,baz=35,slow=3.3,SNR=3.6						
FINES	**FINESS Array B**	**153.25**	**324**	PKPbc	**PKPbc**	**08 01 52.9**	**+1.7**
	0.4nm,0.6s,baz=35,slow=5.1,SNR=3.5						

MEX 04 07:52:41.2±0.7, 14˚.01N×92˚.87W, h41km±179km, MD4.0, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CCIG	**Comitan**	**2.36**	**17**	*e*P	Pn	07 53 16.9	-0.8
CCIG				*i* S	Sn	07 53 44.4	-1.2
TGIG		**2.76**	**355**	*e*P	Pn	07 53 21.3	-1.7
TGIG				*i* S	Sn	07 53 53.6	-1.6

IDC 04 08:00:01.7±2.8, 13˚.25N×143˚.51E, h125km±23km, mb3.4/6, mb1 3.7/6, mb1mx3.3/44, mbtmp3.7/6, MS2.9/1, Ms1 2.9/1, ms1mx2.4/19, Error ellipse: s-maj=62.2km s-min=18.8km az=111.0, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**1.36**	**76**	P	Pn	08 00 27.9	0.0
	91nm,0.3s,baz=314,slow=21,SNR=88						
GUMO				S	Sn	08 00 45.7	-2.2
	123nm,0.3s,baz=196,slow=23,SNR=38						

ISCJB ***04*** *08:02:02.4±1.0, 10˚.2S±0˚.1×161˚.2E±0˚.1, h67km, mb3.9/5, Error ellipse: s-maj=22.4km s-min=10.9km az=44.2*

IDC ***04*** *08:02:04.1±2.7, 10˚.13S×161˚.24E, h71km±19km, mb3.9/5, mb1 4.1/6, mb1mx3.7/41, mbtmp4.2/6, MS3.2/1, Ms1 3.2/1, ms1mx2.4/28, Error ellipse: s-maj=25.9km s-min=21.4km az=76.0*

ISC 04 08:02:03.7±1.1, 10˚.1S±0˚.1×161˚.2E±0˚.1, h67km, n13, σ0s82/12, mb4.1/6, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**1.40**	**299**	P	**Pn**	**08 02 27.5**	**+0.3**
	64nm,0.3s,baz=188,slow=9.3,SNR=25						
HNR				S	**Sn**	**08 02 46.6**	**+1.6**
	628nm,0.3s,baz=216,slow=13,SNR=14						
HNR				LR	LR	08 03 03.3	
	comp=Z,112nm,21.9s,baz=99,slow=41						
HNR	**Honiara**	**1.40**	**299**	*i* P	**Pn**	**08 02 26.0**	**-1.3**
HNR				*i* S	**Sn**	**08 02 45.0**	**0.0**
DZM	**Mont Dzumac**	**12.91**	**158**	P	**Pn**	**08 05 05.0**	**+0.5**
	0.2nm,0.3s,baz=52,slow=19,SNR=5.1						
WRA	**Warramunga Arr**	**27.68**	**246**	P	**P**	**08 07 46.3**	**+0.6**
	2.8nm,0.5s,baz=75,slow=9.0,SNR=28						
WRA				pP	**pP**	**08 08 00.8**	**-0.9**
	0.7nm,0.7s,baz=76,slow=8.8,SNR=2.8						
WRA				PcP	**PcP**	**08 11 01.1**	**-0.4**
	0.1nm,0.5s,baz=69,slow=2.8,SNR=3.5						
ASAR	**Alice Springs**	**29.31**	**239**	P	**P**	**08 08 00.2**	**+0.1**
	0.9nm,0.4s,baz=62,slow=10,SNR=30						
H11N1	**WAKE ISLAND Hy**	**30.16**	**11**	T	T	08 38 45.8	
	baz=193,slow=76,SNR=6.2						
H11N3	**WAKE ISLAND Hy**	**30.18**	**11**	T	T	08 38 51.1	
	baz=193,slow=76,SNR=3.6						
H11N2	**WAKE ISLAND Hy**	**30.18**	**11**	T	T	08 38 45.8	
	baz=193,slow=76,SNR=4.3						
FITZ	**Fitzroy Crossi**	**35.33**	**253**	P	**P**	**08 08 52.8**	**0.0**
	2.7nm,0.7s,baz=96,slow=7.5,SNR=14						
PPT	**Papeete**	**48.26**	**104**	LR	LR	08 29 26.6	
	comp=Z,22nm,18.5s,baz=23,slow=34						
SONM	**Songino Array**	**75.31**	**325**	P	**P**	**08 13 40.3**	**+0.4**
	1.9nm,0.6s,baz=137,slow=5.1,SNR=8.3						
ILAR	**Eielson Array**	**84.11**	**20**	P	**P**	**08 14 26.8**	**-0.2**
	0.3nm,0.4s,baz=244,slow=5.1,SNR=6.3						
KURBB	**Kurchatov Arra**	**93.12**	**321**	pP	pP	08 15 27.4	-1.5
	0.3nm,0.4s,baz=107,slow=5.0,SNR=2.0						

NIED ***04*** *08:09:00, 37˚.40N×141˚.40E, h44km, Mw3.7 Best double couple: M03.68000×10^14 NP1:φs165.00000˚, δ45.00000˚, λ5.00000˚. NP2:φs72.00000˚, δ87.00000˚, λ134.00000˚.*

IDC ***04*** *08:09:22.0±1.0, 37˚.40N×141˚.21E, h0km, mb3.8/8, mb1 3.9/10, mb1mx3.7/41, mbtmp3.8/10, ML3.6/2, MS3.1/2, Ms1 3.2/2, ms1mx2.4/43, Error ellipse: s-maj=20.9km s-min=16.6km az=126.0*

ISCJB ***04*** *08:09:24.4±0.9, 37˚.34N±0˚.03×141˚.48E±0˚.06, h32km±5km, mb3.8/9, MS3.5/1, Error ellipse: s-maj=7.8km s-min=5.1km az=8.9*

NEIC ***04*** *08:09:24.9±3.3, 37˚.40N×141˚.21E, h19km±21km, mb4.4/2, Error ellipse: s-maj=14.2km s-min=6.1km az=109.0*

NEIC Recorded [1 JMA] in Fukushima and Miyagi.

JMA ***04*** *08:09:26.8±0.1, 37˚.39N×141˚.32E, h35km±1km, M3.8*

JMA Felt I J1.

ISC 04 08:09:24.3±1.4, 37˚.34N±0˚.03×141˚.39E±0˚.06, h18km±7km, n35, σ1s39/41, mb3.8/9, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JFK	**Kawauchi**	**0.41**	**274**	P	**Pn**	**08 09 35.2**	**-0.2**
JFK				S	**Sb**	**08 09 40.8**	**+1.7**
ONAJ	**Iwakimizuishiy**	**0.53**	**243**	P	**Pn**	**08 09 37.2**	**+0.2**
ONAJ				S	**Sn**	**08 09 44.5**	**-1.1**
JMM	**Marumori**	**0.71**	**318**	P	**Pg**	**08 09 39.0**	**+0.8**
JMM				*e*S	**Sb**	**08 09 47.8**	**+0.3**
JFT	**Otama**	**0.86**	**282**	P	**Pn**	**08 09 42.2**	**+0.7**
JFT				S	**Sg**	**08 09 52.7**	**+0.4**
JHO	**Hitachi**	**0.98**	**222**	P	**Pg**	**08 09 43.4**	**+0.1**
JHO				*e*S	**Sg**	**08 09 55.9**	**-0.3**
JIO	**Ouri**	**1.11**	**358**	P	**Pn**	**08 09 45.1**	**+0.1**
JIO				S	**Sb**	**08 09 58.1**	**-1.1**
JOU	**Okura**	**1.17**	**331**	P	**Pb**	**08 09 46.4**	**+0.3**
JOU				S	**Sb**	**08 10 01.0**	**0.0**
JFY	**Yanaizu**	**1.34**	**273**	P	**Pb**	**08 09 49.5**	**+0.5**
JFY				S	**Sb**	**08 10 06.0**	**+0.1**
JYS	**Shirataka**	**1.37**	**310**	P	**Pb**	**08 09 49.5**	**+0.1**
JYS				S	**Sb**	**08 10 06.8**	**+0.2**
MJAR	**Matsushiro Arr**	**2.67**	**254**	Pn	**Pn**	**08 10 04.5**	**-2.0**
	3.1nm,0.3s,baz=79,slow=16,SNR=21						
MJAR				Lg	Lg	08 10 42.0	
	13nm,0.3s,baz=78,slow=29,SNR=9.1						
MAJO	**Matsushiro**	**2.67**	**254**	*e*Pn	**Pn**	**08 10 05.9**	**-0.6**
MAT	**Matsushiro**	**2.67**	**254**	P	**Pb**	**08 10 10.1**	**-1.5**
MAT				S

FINES	**FINESS Array B**	**68.53**	**332**	P		**P**	**08 20 25.0**	**-0.4**
	1.4nm,0.6s,baz=32,slow=8.5,SNR=12							
NOA	**NORSAR Array B**	**73.90**	**337**	P		**P**	**08 20 57.8**	**-0.2**
	0.6nm,0.6s,baz=40,slow=5.8,SNR=3.4							

MEX 04 08:27:41.7±0.6, 17°32N×101°29W, h13km±5km, MD3.9, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZIIG	**Zihuatanejo**	**0.33**	**330**	*e*P	Pg	08 27 48.1	-0.4
ZIIG				*e*S	Sg	08 27 53.2	+0.2
CAIG	**El Cayaco**	**1.02**	**105**	*e*P	Pb	08 27 57.6	-3.6
CAIG				*i* S	Sb	08 28 10.9	-3.6
ARIG	**Puente Sto Nin**	**1.31**	**43**	*e*P	Pn	08 28 01.7	-4.1
ARIG				*e*S	Sb	08 28 17.3	-5.8
MEIG	**Mezcala**	**1.71**	**69**	*e*P	Pn	08 28 08.2	-3.1
MEIG				*e*S	Sn	08 28 28.8	-4.2
PLIG	**Platanillo**	**2.01**	**58**	*e*P	Pn	08 28 12.3	-3.2
PLIG				*i* S	Sn	08 28 35.5	-5.1
MAVM	**Malinalco, Edo**	**2.36**	**46**	*e*P	Pn	08 28 18.0	-2.4
MAVM				*e*S	Sn	08 28 45.5	-3.9
MZVM		**2.70**	**46**	*e*P	Pn	08 28 21.3	-3.6
MZVM				*e*S	Sn	08 28 53.8	-3.7

*ISCJB **04** 08:55:19.5±0.9, 38°.52N±0°.05×38°.66E±0°.05, h6km±7km, Error ellipse: s-maj=9.0km s-min=6.4km az=156.9*
*CSEM **04** 08:55:19.5±0.2, 38°.50N×38°.67E, h5km, MD2.5, Error ellipse: s-maj=3.9km s-min=3.2km az=166.0*
*DDA **04** 08:55:19.7, 38°.53N×38°.73E, h21km, Md2.5*
*ISK **04** 08:55:19.3, 38°.54N×38°.68E, h10km, MD2.8*
ISC 04 08:55:19.8±1.1, 38°.55N±0°.04×38°.69E±0°.04, h14km±9km, n16, σ1§06/25, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ELZG	**Elazig**	**0.24**	**103**	*i* P	**Pg**	**08 55 25.0**	**0.0**
ELZG				*i* S	**Sg**	**08 55 28.7**	**+0.1**
ELZG	**Elazig**	**0.24**	**103**	P	**Pg**	**08 55 25.0**	**0.0**
ELZG				S	**Sg**	**08 55 28.7**	**+0.1**
SVRC	**Sivrice-ELAZID**	**0.52**	**109**	*e*PG	**Pg**	**08 55 29.8**	**-0.2**
SVRC				*e*SG	**Sb**	**08 55 37.8**	**-0.4**
SVRC	**Sivrice-ELAZID**	**0.52**	**109**	*e*Pg	**Pg**	**08 55 29.8**	**-0.2**
SVRC				*e*Sg	**Sb**	**08 55 37.8**	**-0.4**
PTK	**Pertek**	**0.65**	**58**	*e*PG	**Pg**	**08 55 32.4**	**-0.1**
PTK				*e*SG	**Sb**	**08 55 42.2**	**+0.2**
PTK	**Pertek**	**0.65**	**58**	*e*Pg	**Pg**	**08 55 32.4**	**-0.1**
PTK				*e*Sg	**Sb**	**08 55 42.2**	**+0.2**
TNCL	**Tunceli-Merkez**	**0.87**	**50**	*i* P	**Pg**	**08 55 32.6**	**-4.1**
TNCL				*i* S	**Sg**	**08 55 48.5**	**+0.4**
DARE	**Darende-Malaty**	**0.94**	**272**	*e*PG	**Pb**	**08 55 37.7**	**-0.3**
DARE	**Darende-Malaty**	**0.94**	**272**	*e*Pg	**Pb**	**08 55 37.7**	**-0.3**
URFA	**Urfa**	**1.11**	**175**	*e*PN	**Pn**	**08 55 40.8**	**-0.2**
URFA	**Urfa**	**1.11**	**175**	*e*Pn	**Pn**	**08 55 40.8**	**-0.2**
KELT	**Kelkit**	**1.65**	**15**	*i* P	**Pb**	**08 55 50.4**	**+0.2**
KELT				*i* S	**Sb**	**08 56 12.5**	**+1.5**
KELT	**Kelkit**	**1.65**	**15**	P	**Pb**	**08 55 50.4**	**+0.2**
KELT				S	**Sb**	**08 56 12.5**	**+1.5**
MAZI	**Mazidag**	**1.77**	**128**	*e*PN	**Pn**	**08 55 50.6**	**+0.6**
MAZI	**Mazidag**	**1.77**	**128**	*e*Pn	**Pn**	**08 55 50.6**	**+0.6**
SARI	**SarD1z-Kayseri**	**1.79**	**266**	*e*PN	**Pn**	**08 55 51.1**	**+0.7**

*IDC **04** 08:55:45.8±1.3, 5°.88S×151°.36E, h0km, mb4.0/5, mb1 4.2/6, mb1mx3.8/35, mbtmp4.0/6, ML1.4/1, Error ellipse: s-maj=71.1km s-min=21.7km az=124.0*
*ISCJB **04** 08:55:50.7±1.3, 5°.9S×151°.1E±0°.3, h41km, mb3.8/5, Error ellipse: s-maj=53.6km s-min=13.8km az=44.7*
ISC 04 08:55:52.2±1.3, 5°.9S±0°.3×151°.2E±0°.4, h41km, n8, σ0§91/9, mb3.9/5, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.30**	**228**	Pn	**Pn**	**08 57 09.9**	**+1.0**
	0.8nm,0.3s,baz=55,slow=12,SNR=2.9						
PMG				Sn	**Sn**	**08 58 07.5**	**-1.3**
	1.1nm,0.3s,baz=112,slow=19,SNR=4.4						
WRA	**Warramunga Arr**	**21.52**	**228**	P	**P**	**09 00 37.4**	**-0.6**
	5.3nm,0.9s,baz=53,slow=11,SNR=25						
ASAR	**Alice Springs**	**24.27**	**221**	P	**P**	**09 01 05.4**	**-0.4**
	4.6nm,0.8s,baz=54,slow=9.4,SNR=35						
STKA	**Stephens Creek**	**27.37**	**198**	P	**P**	**09 01 33.8**	**+0.1**
	0.8nm,0.7s,baz=15,slow=12,SNR=2.1						
FITZ	**Fitzroy Crossi**	**27.73**	**242**	P	**P**	**09 01 37.7**	**+0.7**
	1.9nm,0.8s,baz=78,slow=7.9,SNR=3.8						
ILAR	**Eielson Array**	**83.77**	**22**	P	**P**	**09 08 15.9**	**-0.9**
	0.8nm,0.6s,baz=244,slow=5.0,SNR=14						
GERES	**GERESS Array B**	**124.11**	**327**	PKP	**PKPdf**	**09 14 47.3**	**+0.8**
	0.6nm,0.6s,baz=64,slow=2.3,SNR=3.8						
TORD	**Torodi Ar. Bea**	**149.07**	**286**	PKPbc	**PKPbc**	**09 15 37.2**	**+0.1**
	1.0nm,0.6s,baz=66,slow=3.0,SNR=13						

*ISCJB **04** 09:04:10.8±0.4, 24°.52N±0°.02×122°.11E±0°.02, h5km±3km, Error ellipse: s-maj=3.5km s-min=2.4km az=179.0*
*JMA **04** 09:04:11.5±0.1, 24°.48N×122°.05E, h22km, M2.5*
*TAP **04** 09:04:11.4, 24°.54N×122°.04E, h13km, ML3.4, B*
ISC 04 09:04:11.0±0.9, 24°.52N±0°.02×122°.08E±0°.02, h12km±8km, n46, σ0§66/74, 6C-2D, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TWC	**Suao**	**0.23**	**294**	⇑*i*P	**Pg**	**09 04 15.7**	**-0.2**
	baz=286						
TWC				*i* S	**Sg**	**09 04 18.5**	**-0.6**
	baz=286						
ENA	**Nanau**	**0.32**	**254**	⇑*i*P	**Pg**	**09 04 17.7**	**+0.2**
	baz=253						
ENA				S	**Sg**	**09 04 21.5**	**-0.4**
	baz=253						
EHP	**Heping Village**	**0.37**	**236**	*e*P	**Pb**	**09 04 19.3**	**-0.2**
	baz=229						
ILA	**Ilan**	**0.39**	**310**	*e*P	**Pg**	**09 04 19.2**	**+0.4**
	baz=304						
ILA				*e*S	**Sg**	**09 04 24.6**	**+0.7**
	baz=304						
TWE	**Neicheng**	**0.42**	**299**	P	**Pg**	**09 04 19.6**	**+0.2**
	baz=299						
TWE				S	**Sg**	**09 04 25.1**	**0.0**
	baz=299						
ENTT	**Nioudou**	**0.48**	**285**	⇑*i*P	**Pg**	**09 04 20.6**	**+0.2**
	baz=284						
ENTT				S	**Sg**	**09 04 26.7**	**-0.2**
	baz=284						
TWB1	**Santiao Chiao**	**0.49**	**351**	*e*P	**Pg**	**09 04 21.0**	**+0.3**
	baz=346						
TWB1				*e*S	**Sb**	**09 04 29.4**	**+0.5**
	baz=346						
NWF	**Wu-fen Shan**	**0.61**	**334**	*e*P	**Pb**	**09 04 23.7**	**-0.1**
	baz=331						
NWF				*e*S	**Sb**	**09 04 32.3**	**-0.1**
	baz=331						
TWD	**Chiawan**	**0.62**	**225**	*e*P	**Pg**	**09 04 23.1**	**0.0**
	baz=229						
TWD				*e*S	**Sb**	**09 04 31.5**	**-0.9**
	baz=229						
TWA	**Mucha**	**0.64**	**316**	*e*P	**Pg**	**09 04 23.5**	**-0.1**
	baz=317						
NNS	**Nan Shan**	**0.65**	**263**	⇑*i*P	**Pg**	**09 04 23.5**	**-0.1**
	baz=261						
NNS				S	**Sb**	**09 04 32.5**	**-0.9**
	baz=261						
NSK	**Sanguang**	**0.67**	**284**	⇑*i*P	**Pb**	**09 04 24.3**	**-0.5**
	baz=288						
NSK				S	**Sg**	**09 04 32.7**	**-0.3**
	baz=288						
HWA	**Hwalien**	**0.69**	**219**	*e*P	**Pn**	**09 04 28.0**	**+1.4**
	baz=223						
TAP1	**Taipei**	**0.72**	**316**	*e*P	**Pn**	**09 04 26.6**	**-0.4**
	baz=316						
TAP1				*e*S	**Sg**	**09 04 35.4**	**+0.9**
	baz=316						
TAP	**Taipei**	**0.73**	**315**	*e*P	**Pg**	**09 04 25.9**	**+0.6**
	baz=316						
TAP				*e*S	**Sb**	**09 04 34.9**	**-0.8**
	baz=316						
JYNG	**Yonagunijimaku**	**0.79**	**95**	P	**Pb**	**09 04 26.7**	**-0.1**
JYNG				*e*S	**Sg**	**09 04 38.4**	**+1.6**
WHF	**Hehuan Shan**	**0.83**	**243**	⇑*i*P	**Pg**	**09 04 27.1**	**0.0**
	baz=242						
WHF				*i* S	**Sg**	**09 04 38.5**	**+0.4**
	baz=242						
TWS1	**Kuangyinshan**	**0.83**	**314**	*e*P	**Pn**	**09 04 28.6**	**0.0**
	baz=315						
TWS1				*e*S	**Sg**	**09 04 39.0**	**+0.9**
	baz=315						
YOJ	**Yonaguni jima**	**0.85**	**94**	⇓*i*P	**Pb**	**09 04 27.6**	**-0.2**
	baz=94						
YOJ	**Yonaguni jima**	**0.85**	**94**	P	**Pb**	**09 04 27.6**	**-0.2**
YOJ				*e*S	**Sb**	**09 04 39.1**	**-0.1**
TWT	**Tachien**	**0.86**	**252**	*e*P	**Pn**	**09 04 28.2**	**-0.9**
	baz=244						
TWT				*e*S	**Sg**	**09 04 39.5**	**+0.4**
	baz=244						
TWY	**Chenhua**	**0.87**	**330**	*e*P	**Pn**	**09 04 28.6**	**-0.5**
	baz=324						
TWY				*e*S	**Sg**	**09 04 39.5**	**+0.3**
	baz=324						
ESL	**Shilin**	**0.92**	**220**	*e*P	**Pg**	**09 04 28.6**	**-0.1**
	baz=223						
NCU	**National Centr**	**0.93**	**299**	*e*P	**Pn**	**09 04 30.2**	**+0.3**
	baz=299						
NSTT	**Nanjuang**	**0.99**	**277**	P	**Pg**	**09 04 30.7**	**+0.7**
	baz=270						
NSTT				*e*S	**Sn**	**09 04 43.0**	**-1.5**
	baz=270						
HSN	**Hsinchu**	**1.05**	**286**	*e*P	**Pg**	**09 04 32.4**	**+1.2**
	baz=282						
HSN				*e*S	**Sn**	**09 04 47.5**	**+1.4**
	baz=282						
PCYT	**Pengchaiyu**	**1.11**	**360**	*e*P	**Pn**	**09 04 31.9**	**-0.4**
	baz=11						
WDT	**Danda**	**1.15**	**229**	*e*P	**Pg**	**09 04 33.6**	**+0.4**
	baz=236						
WDT				*e*S	**Sg**	**09 04 48.1**	**-0.1**
	baz=236						
TWQ1	**Liyutan**	**1.20**	**262**	⇓*i*P	**Pg**	**09 04 35.0**	**+0.9**
	baz=262						
TWQ1				S	**Sg**	**09 04 50.7**	**+0.9**
	baz=262						
NSY	**Sanyi**	**1.20**	**265**	*e*P	**Pg**	**09 04 35.2**	**+1.0**
	baz=263						
EHY	**Hungye**	**1.22**	**215**	*e*P	**Pb**	**09 04 33.9**	**-0.1**
	baz=212						
SMLT	**Sun Moon Lake**	**1.25**	**240**	*e*P	**Pg**	**09 04 35.3**	**+0.3**
	baz=237						
TYC	**Yuchr**	**1.27**	**241**	*e*P	**Pg**	**09 04 35.4**	**-0.1**
	baz=239						
TWF1	**Yuli**	**1.36**	**212**	*e*P	**Pb**	**09 04 35.8**	**-0.7**
	baz=224						
YUS	**Yu-Shan**	**1.45**	**225**	*e*P	**Pg**	**09 04 39.3**	**+0.3**
	baz=223						
IRIF	**Iriomote-Funau**	**1.52**	**97**	P	**Pn**	**09 04 37.0**	**-1.0**
IRIF				*e*S	**Sn**	**09 04 57.9**	**+0.2**
ALS	**Alishan**	**1.54**	**229**	*e*P	**Pg**	**09 04 40.8**	**+0.2**
	baz=227						
CHN5	**Tsauling**	**1.57**	**235**	*e*P	**Pg**	**09 04 42.1**	**+0.8**
	baz=240						
CHN5				*e*S	**Sg**	**09 05 03.7**	**+2.0**
	baz=240						
HATJ	**Hateruma jima**	**1.64**	**106**	P	**Pn**	**09 04 39.8**	**+0.1**
HATJ				*e*S	**Sn**	**09 05 00.9**	**+0.1**
JKRS	**Kuro-shima**	**1.78**	**99**	P	**Pn**	**09 04 41.3**	**-0.4**
JKRS				S	**Sn**	**09 05 03.9**	**-0.4**
CHN4	**Tsaushan**	**1.79**	**230**	*e*P	**Pg**	**09 04 45.5**	**+0.1**
	baz=228						
JIJ	**Ishigaki jima**	**1.89**	**94**	P	**Pn**	**09 04 42.4**	**-0.7**
JIJ				*e*S	**Sn**	**09 05 06.2**	**-0.7**
TWK	**Hsinying**	**1.92**	**230**	*e*P	**Pb**	**09 04 46.2**	**+0.3**
	baz=228						
CHN1	**Nanshi**	**1.94**	**227**	*e*P	**Pb**	**09 04 46.8**	**+0.4**
	baz=226						
JISG	**Ishigakijimahi**	**2.04**	**88**	P	**Pn**	**09 04 44.3**	**-0.8**
JISG				S	**Sn**	**09 05 09.9**	**-0.6**
JTJ	**Tarama**	**2.39**	**87**	P	**Pn**	**09 04 50.2**	**+0.2**

*CSEM **04** 09:07:54.3, 45°.57N×26°.43E, h125km, MD3.5/6*
BUC 04 09:07:54.3±1.0, 45°.57N×26°.43E, h125km±8km, MD3.5/6, 21C-24D, Error ellipse: s-maj=6.9km s-min=5.5km az=359.0, Romania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLOR	**Plostina**	**0.33**	**29**	⇑*i*P	Pn	09 08 11.9	-0.1
PLOR	**Plostina**	**0.33**	**29**	⇑*i*P	Pn	09 08 11.9	-0.1
PLOR				*i* S	Sn	09 08 24.5	-0.9
PLOR	**Plostina**	**0.33**	**29**	⇑*i*P	Pn	09 08 11.9	-0.1
PLOR				*i* S	Sn	09 08 24.5	-0.9
MLR	**Muntele Rosu**	**0.34**	**258**	⇑*i*P	Pn	09 08 12.1	-0.1
MLR	**Muntele Rosu**	**0.34**	**258**	⇑*i*P	Pn	09 08 12.1	-0.1
MLR				*i* S	Sn	09 08 24.5	-1.1
MLR	**Muntele Rosu**	**0.34**	**258**	⇑*i*P	Pn	09 08 12.1	-0.1
MLR				*i* S	Sn	09 08 24.5	-1.1
VRI	**Vrincioaia**	**0.37**	**35**	⇑*i*P	Pn	09 08 12.1	0.0
VRI	**Vrincioaia**	**0.37**	**35**	⇑*i*P	Pn	09 08 12.1	0.0
VRI				*i* S	Sn	09 08 24.8	-0.8
VRI	**Vrincioaia**	**0.37**	**35**	⇑*i*P	Pn	09 08 12.1	0.0
VRI				*i* S	Sn	09 08 24.8	-0.8
GRER		**0.43**	**115**	S	Sn	09 08 25.8	-0.2
GRER		**0.43**	**115**	*i* S	Sn	09 08 25.8	-0.2
GRER		**0.43**	**115**	*i* S	Sn	09 08 25.8	-0.2
ISR	**Istrita**	**0.45**	**169**	⇓*i*P	Pn	09 08 12.2	-0.4
ISR	**Istrita**	**0.45**	**169**	⇓*i*P	Pn	09 08 12.2	-0.4
ISR				*i* S	Sn	09 08 25.5	-0.9
ISR	**Istrita**	**0.45**	**169**	⇓*i*P	Pn	09 08 12.2	-0.4
ISR				*i* S	Sn	09 08 25.5	-0.9
ODBI	**Odobesti**	**0.48**	**66**	⇑*i*P	Pn	09 08 13.5	+0.9
ODBI	**Odobesti**	**0.48**	**66**	⇑*i*P	Pn	09 08 13.5	+0.9
ODBI	**Odobesti**	**0.48**	**66**	⇑*i*P	Pn	09 08 13.5	+0.9
SECR		**0.59**	**206**	⇑*i*P	Pn	09 08 13.9	+0.5
SECR		**0.59**	**206**	⇑*i*P	Pn	09 08 13.9	+0.5
SECR				*i* S	Sn	09 08 27.4	-0.3
SECR		**0.59**	**206**	⇑*i*P	Pn	09 08 13.9	+0.5
SECR				*i* S	Sn	09 08 27.4	-0.3
DOPR	**Dopca**	**0.83**	**299**	⇓*i*P	Pn	09 08 15.0	-0.2
DOPR	**Dopca**	**0.83**	**299**	⇓*i*P	Pn	09 08 15.0	-0.2
DOPR				*i* S	Sn	09 08 29.9	-1.1
DOPR	**Dopca**	**0.83**	**299**	⇓*i*P	Pn	09 08 15.0	-0.2
DOPR				*i* S	Sn	09 08 29.9	-1.1
SULR		**0.90**	**188**	⇓*i*P	Pn	09 08 16.0	+0.3
SULR		**0.90**	**188**	⇓*i*P	Pn	09 08 16.0	+0.3
SULR				*i* S	Sn	09 08 32.0	+0.1
SULR		**0.90**	**188**	⇓*i*P	Pn	09 08 16.0	+0.3
SULR				*i* S	Sn	09 08 32.0	+0.1
VOIR		**0.98**	**263**	⇑*i*P	Pn	09 08 16.6	0.0
VOIR		**0.98**	**263**	⇑*i*P	Pn	09 08 16.6	0.0
VOIR				*i* S	Sn	09 08 32.2	-1.2
VOIR		**0.98**	**263**	⇑*i*P	Pn	09 08 16.6	0.0
VOIR				*i* S	Sn	09 08 32.2	-1.2
BUC1	**Bucharest**	**1.25**	**193**	S	Sn	09 08 38.1	-0.1
BUC1	**Bucharest**	**1.25**	**193**	*i* S	Sn	09 08 38.1	-0.1
BUC1	**Bucharest**	**1.25**	**193**	*i* S	Sn	09 08 38.1	-0.1
CFR	**Carcaliu**	**1.27**	**107**	⇓*i*P	Pn	09 08 19.2	-0.2
CFR	**Carcaliu**	**1.27**	**107**	⇓*i*P	Pn	09 08 19.2	-0.2
CFR				*i* S	Sn	09 08 36.7	-1.8
CFR	**Carcaliu**	**1.27**	**107**	⇓*i*P	Pn	09 08 19.2	-0.2
CFR				*i* S	Sn	09 08 36.7	-1.8
ARR	**Arges**	**1.28**	**262**	⇑*i*P	Pn	09 08 19.8	+0.2
ARR	**Arges**	**1.28**	**262**	⇑*i*P	Pn	09 08 19.8	+0.2
ARR				*i* S	Sn	09 08 38.4	-0.4
ARR	**Arges**	**1.28**	**262**	⇑*i*P	Pn	09 08 19.8	+0.2
ARR				*i* S	Sn	09 08 38.4	-0.4
HARR	**Harsova**	**1.38**	**129**	⇓*i*P	Pn	09 08 20.5	-0.1
HARR	**Harsova**	**1.38**	**129**	⇓*i*P	Pn	09 08 20.5	-0.1
HARR	**Harsova**	**1.38**	**129**	⇓*i*P	Pn	09 08 20.5	-0.1
HUMR	**Humele**	**1.46**	**225**	S	Sn	09 08 41.5	-0.7
HUMR	**Humele**	**1.46**	**225**	*i* S	Sn	09 08 41.5	-0.7
HUMR	**Humele**	**1.46**	**225**	*i* S	Sn	09 08 41.5	-0.7
TLB	**Topalu**	**1.51**	**130**	⇓*i*P	Pn	09 08 22.0	-0.1
TLB	**Topalu**	**1.51**	**130**	⇓*i*P	Pn	09 08 22.0	-0.1
TLB				*i* S	Sn	09 08 42.9	-0.3
TLB	**Topalu**	**1.51**	**130**	⇓*i*P	Pn	09 08 22.0	-0.1
TLB				*i* S	Sn	09 08 42.9	-0.3
TLCR		**1.73**	**102**	⇓*i*P	Pn	09 08 25.1	+0.5
TLCR		**1.73**	**102**	⇓*i*P	Pn	09 08 25.1	+0.5
TLCR				*i* S	Sn	09 08 46.9	-0.9
TLCR		**1.73**	**102**	⇓*i*P	Pn	09 08 25.1	+0.5
TLCR				*i* S	Sn	09 08 46.9	-0.9
TIRR	**Tirgusor**	**1.79**	**127**	⇓*i*P	Pn	09 08 25.4	0.0
TIRR	**Tirgusor**	**1.79**	**127**	⇓*i*P	Pn	09 08 25.4	0.0
TIRR				*i* S	Sn	09 08 48.1	-1.1
TIRR	**Tirgusor**	**1.79**	**127**	⇓*i*P	Pn	09 08 25.4	0.0
TIRR				*i* S	Sn	09 08 48.1	-1.1
MILM	**Milestii Mici**	**2.14**	**50**	S	Sn	09 08 55.7	-1.1
MILM	**Milestii Mici**	**2.14**	**50**	⇑*i*P	Pn	09 08 55.7	-1.1
MILM	**Milestii Mici**	**2.14**	**50**	*i* S	Sn	09 08 55.7	-1.1

*ISCJB **04** 09:14:42.1±0.8, 23°.8S±0°.1×179°.9E±0°.2, h518km, mb3.5/6, Error ellipse: s-maj=23.2km s-min=13.9km az=10.9*
*IDC **04** 09:14:43.2±5.1, 23°.69S×179°.94E, h517km±56km, mb3.1/6, mb1 3.4/7, mb1mx3.2/24, mbtmp4.0/7, Error ellipse: s-maj=28.9km s-min=23.7km az=29.0*
ISC 04 09:14:43.0±0.9, 23°.9S±0°.1×180°.0E±0°.2, h518km, n11, σ1§20/12, mb3.6/6, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**14.58**	**189**	P	**P**	**09 17 49.1**	**+0.8**
	1.1nm,0.3s,baz=301,slow=12,SNR=10						
URZ				S	**S**	**09 20 19.3**	**-1.9**
	0.6nm,0.3s,baz=71,slow=21,SNR=8.6						
ASAR	**Alice Springs**	**42.03**	**261**	P	**P**	**09 21 49.4**	**+0.3**
	0.6nm,0.4s,baz=92,slow=8.4,SNR=11						
WRA	**Warramunga Arr**	**42.39**	**266**	P	**P**	**09 21 51.6**	**-0.3**
	1.8nm,0.5s,baz=93,slow=8.5,SNR=57						
VNDA	**Vanda**	**54.43**	**185**	P	**P**	**09 23 22.5**	**+1.8**
	0.7nm,0.8s,baz=360,slow=8.4,SNR=4.9						
MAW	**Mawson**	**77.79**	**200**	P	**P**	**09 25 46.9**	**+0.8**
	1.5nm,0.4s,baz=115,slow=7.4,SNR=3.9						
SNAA	**Sanae**	**84.72**	**179**	P	**P**	**09 26 20.0**	**-1.8**
VNA2	**Neumayer--Watz**	**85.35**	**178**	P	**P**	**09 26 24.4**	**-0.4**
	baz=179,slow=3.5						
TXAR	**Lajitas Array**	**90.42**	**58**	P	**P**	**09 26 49.9**	**+0.5**
	0.6nm,0.7s,baz=211,slow=5.4,SNR=8.9						
PDAR	**Pinedale Array**	**92.66**	**44**	P	**P**	**09 26 58.9**	**-0.7**
	0.3nm,0.7s,baz=197,slow=1.5,SNR=3.2						
BRTR	**Keskin Array B**	**147.53**	**307**	PKPbc	**PKPbc**	**09 33 28.4**	**-0.8**
	0.4nm,0.3s,baz=122,slow=4.4,SNR=3.0						
TORD	**Torodi Ar. Bea**	**169.24**	**189**	PKPab	**PKPab**	**09 35 06.9**	**-0.1**
	0.4nm,0.6s,baz=174,slow=1.4,SNR=4.9						

*NIED **04** 09:44:00, 39°.60N×143°.70E, h26km, Mw3.9 Best double couple: M0 6.85000×10^14 NP1:φs177.00000°, δ36.00000°, λ54.00000°. NP2:φs40.00000°, δ62.00000°, λ113.00000°.*
*JMA **04** 09:44:21.0±0.3, 39°.65N×143°.68E, h7km±4km, M3.8*
*ISCJB **04** 09:44:22.2±0.7, 39°.63N±0°.04×143°.65E±0°.07, h11km, mb3.7/7, Error ellipse: s-maj=7.8km s-min=5.7km az=31.1*
*IDC **04** 09:44:23.0±1.3, 39°.66N×143°.47E, h0km, mb3.7/7, mb1 3.7/10, mb1mx3.6/54, mbtmp3.7/10, ML2.8/2, MS3.0/1, Ms1 3.0/1, ms1mx2.5/34, Error ellipse: s-maj=29.8km s-min=22.0km az=108.0*
ISC 04 09:44:24.8±0.9, 39°.68N±0°.05×143°.52E±0°.07, h11km, n24, σ1§37/29, mb3.8/7, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTH	**Tanohata**	**1.30**	**282**	P	**Pn**	**09 44 47.3**	**-1.7**
JTH				S	**Sn**	**09 45 07.0**	**+0.6**
MIYJ	**Miyakonagasawa**	**1.32**	**266**	P	**Pn**	**09 44 47.5**	**-1.7**
MIYJ				*e*S	**Sb**	**09 45 07.0**	**+0.5**
OFUJ	**Ofunato**	**1.56**	**248**	P	**Pn**	**09 44 50.6**	**-1.8**
JANG	**Nango**	**1.69**	**295**	P	**Pn**	**09 44 52.4**	**-1.9**
JOM	**Ohasama**	**1.74**	**264**	P	**Pn**	**09 44 53.8**	**-1.1**
JMK	**Ichinoseki**	**1.93**	**249**	P	**Pn**	**09 44 56.2**	**-1.3**
JIO	**Ouri**	**2.09**	**235**	P	**Pn**	**09 44 58.0**	**-1.7**
JTM	**Tenmabayashi**	**2.18**	**301**	P	**Pn**	**09 45 00.6**	**-0.4**
JOT	**Ohata**	**2.54**	**313**	P	**Pn**	**09 45 05.5**	**-0.5**
JOT				*e*S	**Sn**	**09 45 38.0**	**+1.1**
JYK	**Kaneyama**	**2.57**	**254**	P	**Pn**	**09 45 05.7**	**-0.7**
JNBK	**Urakawa-nobuka**	**2.66**	**348**	P	**Pn**	**09 45 08.0**	**+0.3**
JNBK				*e*S	**Sn**	**09 45 39.4**	**-0.5**
JCH	**Churui**	**2.94**	**358**	P	**Pn**	**09 45 10.6**	**-0.8**
JFT	**Otama**	**3.30**	**230**	P	**Pn**	**09 45 15.2**	**-1.2**
ASAJ	**Asahikawa**	**4.49**	**351**	Pn	**Pn**	**09 45 32.9**	**+0.2**
	baz=209,slow=9.9						
MAT	**Matsushiro**	**5.23**	**235**	P	**Pn**	**09 45 42.5**	**-0.5**
MAT				*e*S	**Sn**	**09 46 47.9**	**+4.6**
MJAR	**Matsushiro Arr**	**5.23**	**235**	Pn	**Pn**	**09 45 43.5**	**+0.5**
	0.3nm,0.3s,baz=38,slow=12,SNR=9.1						
KLR	**Kul'dur**	**12.71**	**323**	Pn	**Pn**	**09 47 26.0**	**+0.6**
	0.1nm,0.3s,baz=117,slow=14,SNR=2.3						
KLR				LR	LR	09 52 47.3	
	comp=Z,66nm,18.3s,baz=96,slow=40						
SEY	**Seymchan**	**23.89**	**10**	P	**P**	**09 49 39.1**	**+0.9**
	2.7nm,0.8s,baz=186,slow=19,SNR=5.9						
SONM	**Songino Array**	**27.81**	**299**	P	**P**	**09 50 14.1**	**+0.1**
	1.1nm,0.8s,baz=85,slow=7.5,SNR=4.2						
ZALV	**Zalesovo Beam**	**41.42**	**310**	P	**P**	**09 52 10.3**	**-

TVSB	**Tavsanli**	**0.52**	**279**	*e*Pg	Pn	10 28 49.1	+0.1
TVSB				*e*Sg	Sn	10 28 57.2	+0.3
ESKT	**Eskisehir**	**0.58**	**75**	*e*PG	Pn	10 28 50.1	+0.1
ESKT				*e*SG	Sn	10 28 59.3	+0.7
ESKT	**Eskisehir**	**0.58**	**75**	*e*Pg	Pn	10 28 50.1	+0.1
ESKT				*e*Sg	Sn	10 28 59.3	+0.6
SVRH	**Sivrihisar-ESK**	**1.09**	**85**	*e*PN	Pn	10 28 57.3	+0.4
SVRH	**Sivrihisar-ESK**	**1.09**	**85**	*e*Pn	Pn	10 28 57.3	+0.4
GULT	**Gulveren**	**1.11**	**16**	*e*PN	Pn	10 28 56.5	-0.6
GULT				*e*SN	Sb	10 29 12.3	+0.2
GULT	**Gulveren**	**1.11**	**16**	*e*Pn	Pn	10 28 56.5	-0.6
GULT				*e*Sn	Sb	10 29 12.3	+0.1
MDNY	**Mudanya-Bursa**	**1.38**	**317**	*e*PN	Pn	10 29 00.9	+0.1
MDNY	**Mudanya-Bursa**	**1.38**	**317**	*e*Pn	Pn	10 29 00.9	+0.1
MANT	**Manisa**	**1.50**	**235**	S	Sb	10 29 28.1	+4.5
MANT	**Manisa**	**1.50**	**235**	*i* S	Sb	10 29 28.1	+4.5
ARMT	**Armutlu**	**1.54**	**321**	*e*PN	Pn	10 29 03.7	+0.7
ARMT	**Armutlu**	**1.54**	**321**	*e*Pn	Pn	10 29 03.7	+0.7

*ISCJB **04** 10:29:13.0±0.8, 39.°08N±0.°05×29.°01E±0.°07, h11km±6km, Error ellipse: s-maj=10.9km s-min=5.8km az=41.2*
*ISK **04** 10:29:12.7, 39.°09N×29.°00E, h10km, MD2.7*
*DDA **04** 10:29:12.7, 38.°83N×28.°65E, h7km, Ml2.6*
*CSEM **04** 10:29:13.2±0.1, 39.°10N×28.°98E, h8km, MD2.7, Error ellipse: s-maj=3.6km s-min=2.0km az=117.0*

ISC 04 10:29:12.7±0.9, **39.°07N**±0.°05×**29.°00E**±0.°05, **h13**km±6km, **n13**, σ0**9**18/20, **Turkey**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SIMA	**Simav-Kutahya**	**0.02**	**303**	*e*PG	**Pg**	**10 29 15.2**	**+0.1**
SIMA				*e*SG	**Sg**	**10 29 16.6**	**-0.1**
SIMA	**Simav-Kutahya**	**0.02**	**303**	*e*Pg	**Pg**	**10 29 15.2**	**+0.1**
SIMA				*e*Sg	**Sg**	**10 29 16.6**	**-0.1**
DEMI	**Demirci**	**0.22**	**262**	*i* P	**Pg**	**10 29 17.8**	**+0.2**
DEMI				*i* S	**Sg**	**10 29 20.9**	**+0.1**
DEMI	**Demirci**	**0.22**	**262**	P	**Pg**	**10 29 17.8**	**+0.2**
DEMI				S	**Sg**	**10 29 21.0**	**+0.1**
TVSB	**Tavsanli**	**0.52**	**43**	*e*PG	**Pg**	**10 29 23.2**	**+0.3**
TVSB				*e*SG	**Sg**	**10 29 29.9**	**0.0**
TVSB	**Tavsanli**	**0.52**	**43**	*e*Pg	**Pg**	**10 29 23.2**	**+0.3**
TVSB				*e*Sg	**Sg**	**10 29 29.9**	**0.0**
KULA	**Kula-Manisa**	**0.62**	**206**	*e*PG	**Pb**	**10 29 25.6**	**+0.1**
KULA				*e*SG	**Sb**	**10 29 33.9**	**-0.2**
KULA	**Kula-Manisa**	**0.62**	**206**	*e*Pg	**Pb**	**10 29 25.6**	**+0.1**
KULA				*e*Sg	**Sb**	**10 29 33.9**	**-0.2**
MANT	**Manisa**	**0.68**	**211**	*i* P	Pg	10 29 19.4	-6.6
KHL	**Karahalli**	**0.85**	**151**	*e*PG	**Pn**	**10 29 30.4**	**-0.2**
KHL	**Karahalli**	**0.85**	**151**	*e*Pg	**Pn**	**10 29 30.4**	**-0.2**
ARMT	**Armutlu**	**1.49**	**356**	*e*PN	**Pb**	**10 29 40.3**	**-0.1**
ARMT	**Armutlu**	**1.49**	**356**	*e*Pn	**Pb**	**10 29 40.3**	**-0.1**

*ISCJB **04** 10:30:30.8±0.6, 37.°05N±0.°03×27.°95E±0.°04, h0km, Error ellipse: s-maj=5.1km s-min=4.2km az=25.7*
*CSEM **04** 10:30:31.3±0.3, 37.°03N×27.°95E, h2km, MD2.4, Error ellipse: s-maj=5.1km s-min=5.0km az=61.0*
*ISK **04** 10:30:31.9, 37.°06N×27.°83E, h12km, MD2.4*
*DDA **04** 10:30:32.3, 37.°07N×27.°82E, h7km, Ml2.6, Suspected Mining explosion.*

ISC 04 10:30:29.3±1.0, **36.°98N**±0.°04×**27.°99E**±0.°03, **h0**km, **n17**, σ0**9**66/30, **Dodecanese Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DATC	**Datca-Mugla**	**0.34**	**231**	*e*PG	**Pb**	**10 30 38.7**	**+0.4**
DATC	**Datca-Mugla**	**0.34**	**231**	*e*Pb	**Pb**	**10 30 38.7**	**+0.4**
MLSB	**Milas**	**0.36**	**331**	*e*PG	**Pg**	**10 30 37.3**	**+1.0**
MLSB				*e*SG	**Sg**	**10 30 41.2**	**+0.2**
MLSB	**Milas**	**0.36**	**331**	*e*Pg	**Pg**	**10 30 37.3**	**+1.0**
MLSB				*e*Sg	**Sg**	**10 30 41.2**	**+0.2**
DAT	**Datca**	**0.41**	**234**	*e*PG	**Pb**	**10 30 39.9**	**+0.3**
DAT				*e*SG	**Sb**	**10 30 46.2**	**-0.3**
DAT	**Datca**	**0.41**	**234**	*i* P	**Pb**	**10 30 40.0**	**+0.4**
DAT				*i* S	**Sb**	**10 30 46.7**	**+0.2**
DAT	**Datca**	**0.41**	**234**	*e*Pg	**Pb**	**10 30 39.9**	**+0.3**
DAT				*e*Sg	**Sb**	**10 30 46.2**	**-0.3**
BDRM	**Kayabasi**	**0.45**	**282**	*i* P	**Pg**	**10 30 38.2**	**+0.3**
BDRM				*i* S	**Sg**	**10 30 43.1**	**-0.7**
BDRM	**Kayabasi**	**0.45**	**282**	P	**Pg**	**10 30 38.2**	**+0.3**
BDRM				S	**Sg**	**10 30 43.1**	**-0.7**
TURN	**Turunc**	**0.50**	**102**	*i* P	**Pb**	**10 30 41.1**	**+0.2**
TURN				*i* S	**Sb**	**10 30 48.4**	**-0.3**
TURN	**Turunc**	**0.50**	**102**	P	**Pb**	**10 30 41.1**	**+0.2**
TURN				S	**Sb**	**10 30 48.4**	**-0.3**
BODT	**Bodrum**	**0.55**	**279**	*e*PG	**Pg**	**10 30 40.8**	**+0.9**
BODT				*e*SG	**Sg**	**10 30 46.6**	**-0.5**
BODT	**Bodrum**	**0.55**	**279**	*e*Pg	**Pg**	**10 30 40.8**	**+0.9**
BODT				*e*Sg	**Sg**	**10 30 46.6**	**-0.5**
GCAM	**G?zelcaml?**	**0.94**	**320**	*i* P	**Pg**	**10 30 49.5**	**-0.3**
GCAM				*i* S	**Sg**	**10 30 58.1**	**-1.6**
GCAM	**G?zelcaml?**	**0.94**	**320**	P	**Pg**	**10 30 49.5**	**-0.3**
GCAM				S	**Sg**	**10 30 58.1**	**-1.6**
AYDB	**Zeytinkoy-Aydi**	**0.97**	**355**	*e*PG	**Pb**	**10 30 49.4**	**+0.2**
AYDB	**Zeytinkoy-Aydi**	**0.97**	**355**	*e*Pg	**Pb**	**10 30 49.4**	**+0.2**

*ISCJB **04** 10:46:24.5±0.6, 39.°10N±0.°04×29.°02E±0.°05, h9km±4km, Error ellipse: s-maj=7.5km s-min=5.8km az=145.4*
*ISK **04** 10:46:24.3, 39.°13N×29.°02E, h8km, MD2.9*
*CSEM **04** 10:46:24.6±0.1, 39.°10N×29.°02E, h8km, MD2.9, Error ellipse: s-maj=3.7km s-min=2.7km az=102.0*
*DDA **04** 10:46:27.3, 38.°95N×28.°67E, h7km, Ml2.7*

ISC 04 10:46:23.9±1.0, **39.°03N**±0.°03×**29.°04E**±0.°04, **h13**km±6km, **n29**, σ1**5**20/37, **Turkey**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SIMA	**Simav-Kutahya**	**0.07**	**320**	*e*PG	**Pg**	**10 46 26.8**	**+0.1**
SIMA				*e*SG	**Sg**	**10 46 28.3**	**-0.3**
SIMA	**Simav-Kutahya**	**0.07**	**320**	*e*Pg	**Pg**	**10 46 26.8**	**+0.1**
SIMA				*e*Sg	**Sg**	**10 46 28.3**	**-0.4**
DEMI	**Demirci**	**0.26**	**274**	*i* P	**Pg**	**10 46 29.1**	**-0.2**
DEMI				*i* S	**Sg**	**10 46 32.5**	**-0.5**
DEMI	**Demirci**	**0.26**	**274**	P	**Pg**	**10 46 29.1**	**-0.2**
DEMI				S	**Sg**	**10 46 32.5**	**-0.5**
TVSB	**Tavsanli**	**0.53**	**37**	*e*PG	**Pg**	**10 46 34.3**	**-0.1**
TVSB				*e*SG	**Sg**	**10 46 40.8**	**-0.7**
TVSB	**Tavsanli**	**0.53**	**37**	*e*Pg	**Pg**	**10 46 34.3**	**-0.1**
TVSB				*e*Sg	**Sg**	**10 46 40.8**	**-0.7**
KULA	**Kula-Manisa**	**0.59**	**210**	*e*PG	**Pb**	**10 46 37.1**	**+0.9**
KULA	**Kula-Manisa**	**0.59**	**210**	*e*Pg	**Pb**	**10 46 37.1**	**+0.9**
MANT	**Manisa**	**0.66**	**216**	*i* P	Pg	10 46 30.8	-5.9
MANT				*i* S	**Sg**	**10 46 39.4**	**-6.0**
KHL	**Karahalli**	**0.80**	**152**	*e*PG	**Pn**	**10 46 41.6**	**+0.7**
KHL	**Karahalli**	**0.80**	**152**	*e*Pg	**Pn**	**10 46 41.6**	**+0.7**
ORLT	**Orhaneli**	**1.02**	**354**	*e*PG	**Pg**	**10 46 42.7**	**-0.9**
ORLT	**Orhaneli**	**1.02**	**354**	*e*Pg	**Pg**	**10 46 42.7**	**-0.9**
BALB	**Balikesir**	**1.09**	**305**	*e*PG	**Pb**	**10 46 44.6**	**0.0**
BALB				*e*SG	**Sg**	**10 46 58.9**	**-0.2**
BALB	**Balikesir**	**1.09**	**305**	*e*Pg	**Pb**	**10 46 44.6**	**0.0**
BALB				*e*Sg	**Sg**	**10 46 58.9**	**-0.2**
KCTX	**Karacabey (Bur**	**1.35**	**337**	*e*PN	**Pn**	**10 46 48.7**	**+0.3**
KCTX	**Karacabey (Bur**	**1.35**	**337**	*e*Pn	**Pn**	**10 46 48.7**	**+0.3**
MDNY	**Mudanya-Bursa**	**1.35**	**355**	*e*PN	**Pn**	**10 46 48.7**	**+0.3**
MDNY	**Mudanya-Bursa**	**1.35**	**355**	*e*Pn	**Pn**	**10 46 48.7**	**+0.3**
AYDB	**Zeytinkoy-Aydi**	**1.41**	**220**	*e*PN	**Pg**	**10 46 51.6**	**+0.7**
AYDB	**Zeytinkoy-Aydi**	**1.41**	**220**	*e*Pn	**Pg**	**10 46 51.6**	**+0.7**
ADVT	**Abdulvahap**	**1.50**	**21**	*e*PN	**Pn**	**10 46 50.6**	**0.0**
ADVT	**Abdulvahap**	**1.50**	**21**	*e*Pn	**Pn**	**10 46 50.6**	**0.0**
ARMT	**Armutlu**	**1.54**	**355**	*e*PN	**Pn**	**10 46 51.6**	**+0.5**
ARMT	**Armutlu**	**1.54**	**355**	*e*Pn	**Pn**	**10 46 51.6**	**+0.5**
EDC	**Edincik**	**1.60**	**326**	*e*PN	**Pn**	**10 46 52.7**	**+0.8**
EDC	**Edincik**	**1.60**	**326**	*e*Pn	**Pn**	**10 46 52.7**	**+0.8**
SBT3	**Marmara-Eregli**	**2.03**	**336**	*e*PN	**Pn**	**10 46 58.6**	**+1.0**
SBT3	**Marmara-Eregli**	**2.03**	**336**	*e*Pn	**Pn**	**10 46 58.6**	**+1.0**

MEX 04 10:50:37.8±0.7, **15.°76N×94.°02W, h16**km±12km, **MD4.1, Near coast of Oaxaca**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TGIG		**1.33**	**40**	*i* P	Pn	10 50 58.0	-3.8
TGIG				*e*S	Sn	10 51 13.7	-5.5
HUIG	**Huatulco**	**2.01**	**270**	*e*P	Pn	10 51 07.0	-4.2
HUIG				*e*S	Sn	10 51 30.8	-5.2
PANG	**Puerto Angel**	**2.37**	**268**	*i* P	Pn	10 51 12.6	-3.4
PANG				*i* S	Sn	10 51 39.5	-5.1
VHO	**Vista Hermosa**	**2.91**	**297**	*e*P	Pn	10 51 21.6	-2.1
VHO				*e*S	Sn	10 51 55.2	-3.2

KRSC 04 10:53:55.6±0.8, **55.°87N×163.°63E, h15**km±14km, **ML3.8, Off east coast of Kamchatka Peninsula**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KBG	**Krutoberegovo**	**0.64**	**307**	*e*P	Pg	10 54 07.3	-0.9
KBG				*e*S	Sg	10 54 15.4	-1.3
SMKR	**Semkarok**	**1.40**	**301**	*e*P	Pn	10 54 20.9	+0.3
SMKR				*e*S	Sn	10 54 38.7	-0.1
BKI	**Bering**	**1.49**	**116**	*e*P	Pb	10 54 23.0	+0.1
BKI				*e*S	Sb	10 54 42.1	+0.5
SRKR	**Sorokina**	**1.58**	**301**	*e*P	Pb	10 54 23.9	-0.6
SRKR				*e*S	Sn	10 54 43.5	+0.2
ZLN	**Zelenaya**	**1.59**	**276**	*e*P	Pn	10 54 23.6	+0.3
CIRR	**Tsirk**	**1.64**	**280**	*e*P	Pn	10 54 23.4	-0.5
LGNR	**Loginova**	**1.66**	**278**	*e*P	Pb	10 54 26.2	+0.1
MKZ	**Mys Kozlova**	**1.71**	**220**	*e*P	Pb	10 54 26.1	-0.5
MKZ				*e*S	Sb	10 54 47.5	-0.4
KLY	**Klyuchi**	**1.73**	**286**	*e*P	Pn	10 54 24.7	-0.3
KRSR	**Krestovskiy**	**1.75**	**283**	*e*P	Pb	10 54 27.4	-0.1
BZMR	**Bezymyannaya**	**1.77**	**273**	*e*P	Pb	10 54 27.3	-0.4
KIRR	**Kirishev**	**1.85**	**274**	*e*P	Pn	10 54 27.3	+0.4
KMNR	**Kamenistaya**	**1.92**	**268**	*e*P	Pb	10 54 29.9	-0.4
KPT	**Kopyto**	**1.92**	**274**	*e*P	Pb	10 54 29.5	-0.8
KPT				*e*S	Sb	10 54 54.3	+0.2
TUMR	**Tumrok**	**2.06**	**255**	*e*P	Pn	10 54 31.1	+1.3
KOZ	**Kozyrevsk**	**2.12**	**277**	*e*P	Pb	10 54 32.7	-0.9
KOZ				*e*S	Sb	10 54 59.7	0.0
ESO	**Esso**	**2.77**	**273**	*e*P	Pn	10 54 41.4	+1.9
AVH	**Avacha**	**3.86**	**229**	*e*P	Pn	10 54 58.7	+4.2
GNL	**Ganaly**	**3.95**	**239**	*e*P	Pn	10 54 58.6	+2.9
RUS	**Russkaya**	**4.57**	**223**	*e*P	Pn	10 55 07.2	+3.1

*ATH **04** 11:09:36.0, 38.°36N×19.°70E, h16km±4km, ML3.2/7, Error ellipse: s-maj=4.3km s-min=1.1km az=63.0*
*ISCJB **04** 11:09:36.8±0.6, 38.°38N±0.°02×19.°66E±0.°03, h21km±4km, Error ellipse: s-maj=4.4km s-min=2.6km az=44.0*
*CSEM **04** 11:09:37.3±0.1, 38.°38N×19.°75E, h10km, ML3.2, Error ellipse: s-maj=3.4km s-min=1.8km az=39.0*
*THE **04** 11:09:38.5, 38.°41N×19.°82E, h10km±1km, ML3.2/29, Error ellipse: s-maj=1.8km s-min=0.9km az=223.0*

ISC 04 11:09:37.3±1.1, **38.°39N**±0.°02×**19.°77E**±0.°03, **h10**km±9km, **n145**, σ0**9**99/234, **Ionian Sea**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VLS	**Valsamata**	**0.68**	**108**	P	**Pg**	**11 09 49.3**	**-1.1**
VLS				S	**Sg**	**11 09 59.5**	**+0.2**
VLS	**Valsamata**	**0.68**	**108**	P	**Pg**	**11 09 49.3**	**-1.1**
VLS				S	**Sg**	**11 09 59.5**	**+0.2**
LKD2	**Lefkada island**	**0.80**	**60**	P	**Pg**	**11 09 52.4**	**-0.3**
LKD2				S	**Sb**	**11 10 04.7**	**+0.6**
LKD2	**Lefkada island**	**0.80**	**60**	P	**Pg**	**11 09 52.4**	**-0.3**
LKD2				S	**Sb**	**11 10 04.4**	**+0.3**
LKD2	**Lefkada island**	**0.80**	**60**	P	**Pg**	**11 09 52.2**	**-0.5**
LKD2				S	**Sb**	**11 10 04.4**	**+0.3**
LKD2				AML	AML	11 10 06.5	
	comp=E,3698μm,0.4s						
LKD2				AML	AML	11 10 07.2	
	comp=N,2905μm,0.3s						
KFL	**Anninata**	**0.85**	**109**	P	**Pg**	**11 09 52.5**	**-1.1**
KFL				S	**Sb**	**11 10 05.9**	**+0.4**
KFL	**Anninata**	**0.85**	**109**	P	**Pg**	**11 09 52.9**	**-0.7**
KFL				S	**Sb**	**11 10 05.9**	**+0.4**
KFL	**Anninata**	**0.85**	**109**	P	**Pg**	**11 09 52.9**	**-0.7**
KFL				S	**Sg**	**11 10 05.5**	**+0.8**
ZKS	**Zakynthos**	**1.06**	**131**	P	**Pg**	**11 09 57.3**	**-0.3**
ZKS				S	**Sn**	**11 10 14.2**	**+1.3**
ZKS	**Zakynthos**	**1.06**	**131**	P	**Pg**	**11 09 57.3**	**-0.3**
ZKS				S	**Sg**	**11 10 11.3**	**-0.1**
ZKS	**Zakynthos**	**1.06**	**131**	P	**Pg**	**11 09 55.6**	**-2.1**
ZKS				S	**Sg**	**11 10 11.3**	**-0.1**
ZKS				AML	AML	11 10 19.5	
	comp=N,7244μm,0.5s						
ZKS				AML	AML	11 10 19.6	
	comp=E,7453μm,0.5s						
PDO	**Prodromos**	**1.12**	**79**	P	**Pb**	**11 09 58.5**	**-0.3**
PDO				S	**Sn**	**11 10 14.8**	**+0.3**
PDO	**Prodromos**	**1.12**	**79**	P	**Pb**	**11 09 58.5**	**-0.3**
PDO				S	**Sn**	**11 10 14.8**	**+0.3**
PDO	**Prodromos**	**1.12**	**79**	P	**Pb**	**11 09 58.0**	**-0.8**
PDO				S	**Sn**	**11 10 15.2**	**+0.7**
IGT	**Igoumenitsa**	**1.22**	**21**	P	**Pn**	**11 10 00.0**	**-0.4**
IGT				S	**Sg**	**11 10 16.9**	**+0.3**
IGT	**Igoumenitsa**	**1.22**	**21**	P	**Pn**	**11 10 00.0**	**-0.4**
IGT				S	**Sg**	**11 10 16.9**	**+0.3**
IGT	**Igoumenitsa**	**1.22**	**21**	P	**Pn**	**11 10 00.0**	**-0.4**
IGT				S	**Sb**	**11 10 16.5**	**+0.3**
IGT				AML	AML	11 10 21.6	
	comp=N,868μm,0.3s						
IGT				AML	AML	11 10 22.2	
	comp=E,1046μm,0.6s						
SGD	**Sagiada**	**1.27**	**16**	P	**Pn**	**11 10 01.2**	**+0.2**
SGD				S	**Sn**	**11 10 18.3**	**+0.2**
SGD	**Sagiada**	**1.27**	**16**	P	**Pn**	**11 10 01.2**	**+0.2**
SGD				S	**Sn**	**11 10 18.3**	**+0.2**
SGD	**Sagiada**	**1.27**	**16**	P	**Pb**	**11 10 01.7**	**+0.4**
DSL	**Palaion Diasel**	**1.27**	**54**	P	**Pn**	**11 10 01.5**	**+0.4**
DSL				S	**Sb**	**11 10 17.8**	**+0.1**
DSL	**Palaion Diasel**	**1.27**	**54**	P	**Pn**	**11 10 01.5**	**+0.4**
DSL				S	**Sg**	**11 10 19.3**	**+1.0**
DSL	**Palaion Diasel**	**1.27**	**54**	P	**Pb**	**11 10 01.8**	**+0.5**
DSL				S	**Sg**	**11 10 19.1**	**+0.9**
DSL				AML	AML	11 10 21.2	
	comp=E,2472μm,0.3s						
DSL				AML	AML	11 10 22.0	
	comp=N,2504μm,0.9s						
AXS	**Araxos**	**1.28**	**98**	P	**Pn**	**11 10 01.0**	**-0.1**
AXS	**Araxos**	**1.28**	**98**	P	**Pn**	**11 10 01.2**	**+0.1**
AXS	**Araxos**	**1.28**	**98**	P	**Pb**	**11 10 01.5**	**+0.1**
KEK	**Kerkira**	**1.32**	**1**	P	**Pn**	**11 10 01.4**	**-0.3**
KEK				S	**Sg**	**11 10 21.3**	**+1.5**
KEK	**Kerkira**	**1.32**	**1**	P	**Pn**	**11 10 01.4**	**-0.3**
KEK				S	**Sg**	**11 10 21.3**	**+1.5**
RLS	**Riolos of Patr**	**1.38**	**104**	P	**Pb**	**11 10 03.0**	**0.0**
RLS				S	**Sn**	**11 10 20.6**	**-0.1**
RLS	**Riolos of Patr**	**1.38**	**104**	P	**Pb**	**11 10 03.0**	**0.0**
RLS				S	**Sn**	**11 10 20.6**	**-0.1**
RLS	**Riolos of Patr**	**1.38**	**104**	AML	AML	11 10 30.4	
	comp=E,662μm,0.6s						
RLS				AML	AML	11 10 31.5	
	comp=N,1016μm,0.5s						
PVO	**Paravola**	**1.39**	**80**	P	**Pn**	**11 10 03.3**	**+0.6**
PVO				S	**Sb**	**11 10 22.1**	**+0.9**
PVO	**Paravola**	**1.39**	**80**	P	**Pn**	**11 10 03.3**	**+0.6**
PVO				S	**Sb**	**11 10 22.1**	**+0.9**
PVO	**Paravola**	**1.39**	**80**	P	**Pg**	**11 10 04.1**	**+0.1**
PVO				S	**Sg**	**11 10 22.5**	**+0.4**
PVO				AML	AML	11 10 27.6	
	comp=E,1750μm,0.6s						
PVO				AML	AML	11 10 28.4	
	comp=N,1297μm,0.4s						
JAN	**Janina**	**1.52**	**33**	P	**Pn**	**11 10 04.9**	**+0.4**
JAN				S	**Sn**	**11 10 24.9**	**+0.6**
JAN	**Janina**	**1.52**	**33**	P	**Pn**	**11 10 04.9**	**+0.4**
JAN				S	**Sn**	**11 10 24.9**	**+0.6**
UPR	**University Cam**	**1.59**	**93**	P	**Pb**	**11 10 06.7**	**0.0**
UPR				S	**Sn**	**11 10 26.6**	**+0.7**
UPR	**University Cam**	**1.59**	**93**	P	**Pb**	**11 10 06.7**	**0.0**
UPR				S	**Sn**	**11 10 26.6**	**+0.7**
DRO	**Drossia**	**1.59**	**105**	P	**Pn**	**11 10 06.1**	**+0.6**
DRO	**Drossia**	**1.59**	**105**	P	**Pn**	**11 10 06.0**	**+0.6**
DRO				AML	AML	11 10 36.6	
	comp=E,2161μm,0.5s						
DRO				AML	AML	11 10 38.8	
	comp=N,1270μm,0.4s						
EVR	**Evrytania**	**1.68**	**71**	P	**Pn**	**11 10 07.2**	**+0.5**
EVR				S	**Sn**	**11 10 27.8**	**-0.5**
EVR	**Evrytania**	**1.68**	**71**	P	**Pn**	**11 10 07.2**	**+0.5**
EVR				S	**Sn**	**11 10 27.8**	**-0.5**
ANX	**Ano Chora**	**1.70**	**83**	P	**Pn**	**11 10 07.2**	**+0.2**
ANX				S	**Sn**	**11 10 28.1**	**-0.7**
ANX	**Ano Chora**	**1.70**	**83**	P	**Pn**	**11 10 07.2**	**+0.2**
ANX				S	**Sn**	**11 10 28.1**	**-0.7**
LAKA	**Lakka**	**1.74**	**94**	P	**Pn**	**11 10 08.3**	**+0.8**
LAKA				S	**Sb**	**11 10 31.6**	**+0.4**
LAKA	**Lakka**	**1.74**	**94**	P	**Pn**	**11 10 08.3**	**+0.8**
LAKA				S	**Sb**	**11 10 31.6**	**+0.4**
AMT	**Artemida-Makis**	**1.75**	**119**	P	**Pn**	**11 10 08.1**	**+0.4**
AMT				S	**Sb**	**11 10 32.2**	**+0.6**
AMT	**Artemida-Makis**	**1.75**	**119**	P	**Pn**	**11 10 08.1**	**+0.4**
AMT				S	**Sb**	**11 10 32.2**	**+0.6**
SERG	**Sergoula**	**1.79**	**89**	P	**Pn**	**11 10 09.0**	**+0.7**
SERG				S	**Sb**	**11 10 32.6**	**-0.1**
SERG	**Sergoula**	**1.79**	**89**	P	**Pn**	**11 10 09.0**	**+0.7**
SERG				S	**Sb**	**11 10 32.6**	**-0.1**
KALE	**Kalithea**	**1.86**	**89**	P	**Pn**	**11 10 10.3**	**+1.1**
KALE				S	**Sn**	**11 10 33.7**	**+0.9**
KALE	**Kalithea**	**1.86**	**89**	P	**Pn**	**11 10 10.3**	**+1.1**
KALE				S	**Sn**	**11 10 33.7**	**+0.9**
KLV	**Kalavryta, Ach**	**1.90**	**100**	P	**Pn**	**11 10 10.3**	**+0.5**
KLV	**Kalavryta, Ach**	**1.90**	**100**	P	**Pn**	**11 10 10.3**	**+0.5**
KPRO	**Kipourio**	**1.99**	**38**	P	**Pn**	**11 10 12.0**	**+1.0**
KPRO				S	**Sn**	**11 10 35.3**	**-0.7**
KPRO	**Kipourio**	**1.99**	**38**	P	**Pn**	**11 10 12.0**	**+1.0**
KPRO				S	**Sn**	**11 10 35.3**	**-0.7**
PENT	**Pentalofos**	**2.09**	**30**	P	**Pn**	**11 10 13.6**	**+1.2**
PENT				S	**Sn**	**11 10 38.6**	**+0.1**
PENT	**Pentalofos**	**2.09**	**30**	P	**Pn**	**11 10 13.6**	**+1.2**
PENT				S	**Sn**	**11 10 38.6**	**+0.1**
ITM	**Ithomi**	**2.09**	**125**	P	**Pn**	**11 10 11.7**	**-0.7**
ITM				S	**Sb**	**11 10 40.3**	**-1.0**
ITM	**Ithomi**	**2.09**	**125**	P	**Pn**	**11 10 11.7**	**-0.7**
ITM				S	**Sb**	**11 10 40.3**	**-1.0**
AGG	**Agios Georgios**	**2.10**	**72**	P	**Pn**	**11 10 13.9**	**+1.5**
AGG				S	**Sn**	**11 10 39.8**	**+1.2**
AGG	**Agios Georgios**	**2.10**	**72**	P	**Pn**	**11 10 13.9**	**+1.5**
AGG				S	**Sn**	**11 10 39.8**	**+1.2**
THL	**Klokotos Trika**	**2.10**	**55**	P	**Pn**	**11 10 13.5**	**+1.0**
THL				S	**Sn**	**11 10 38.1**	**-0.5**
THL	**Klokotos Trika**	**2.10**	**55**	P	**Pn**	**11 10 13.5**	**+1.0**
THL				S	**Sn**	**11 10 38.1**	**-0.5**
PYL	**PYLOS**	**2.16**	**133**	P	**Pn**	**11 10 12.2**	**-1.1**
PYL				S	**Sn**	**11 10 40.8**	**+0.7**
PYL	**PYLOS**	**2.16**	**133**	P	**Pn**	**11 10 12.2**	**-1.1**
PYL				S	**Sn**	**11 10 40.8**	**+0.7**
DSF	**Desfina**	**2.16**	**89**	P	**Pn**	**11 10 14.0**	**+0.6**
DSF				S	**Sn**	**11 10 41.2**	**+0.9**
DSF	**Desfina**	**2.16**	**89**	P	**Pn**	**11 10 14.0**	**+0.6**
DSF				S	**Sn**	**11 10 41.2**	**+0.9**
NEST	**Nestorio**	**2.25**	**26**	P	**Pn**	**11 10 16.0**	**+1.4**
NEST				S	**Sn**	**11 10 43.6**	**+1.2**
NEST	**Nestorio**	**2.25**	**26**	P	**Pn**	**11 10 16.0**	**+1.4**
NEST				S	**Sn**	**11 10 43.6**	**+1.2**
THAL	**Thalero**	**2.30**	**98**	P	**Pn**	**11 10 15.6**	**+0.4**
THAL	**Thalero**	**2.30**	**98**	P	**Pn**	**11 10 15.6**	**+0.4**
TIP	**Timpagrande**	**2.48**	**289**	P	**Pn**	**11 10 18.8**	**+1.0**
TIP				S	**Sn**	**11 10 48.9**	**+0.7**
TIP	**Timpagrande**	**2.48**	**289**	P	**Pn**	**11 10 18.8**	**+1.0**
TIP				S	**Sn**	**11 10 48.9**	**+0.7**
LKR	**Lokris**	**2.54**	**83**	P	**Pn**	**11 10 19.1**	**+0.6**
LKR	**Lokris**	**2.54**	**83**	P	**Pn**	**11 10 19.1**	**+0.6**
LTK	**Loutraki**	**2.54**	**97**	P	**Pn**	**11 10 18.1**	**-0.5**
LTK				S	**Sn**	**11 10 50.5**	**+0.9**
LTK	**Loutraki**	**2.54**	**97**	P	**Pn**	**11 10 18.1**	**-0.5**
LTK				S	**Sn**	**11 10 50.5**	**+0.9**
FNA	**Florina**	**2.69**	**27**	P	**Pn**	**11 10 21.7**	**+1.1**
FNA				S	**Sn**	**11 10 52.8**	**-0.5**
**FN

MOA	**Molln**	**10.27 339**	*e*P		**Pn**	**11 12 04.7 +0.1**
	comp=N,1.3nm,0.2s					
MOA	**Molln**	**10.27 339**	P		**Pn**	**11 12 04.7 +0.1**
	comp=N,1.3nm,0.2s					

*ISCJB **04** 11:10:21.6±0.5, 50°.23N±0°.02×12°.53E±0°.03, h14km±5km, Error ellipse: s-maj=3.2km s-min=3.0km az=144.6*
*BGR **04** 11:10:22.9±0.2, 50°.24N×12°.46E, h11km±1km, ML2.1/6, Error ellipse: s-maj=2.2km s-min=1.1km az=103.0*
*CSEM **04** 11:10:22.6±0.1, 50°.23N×12°.51E, h10km, ML2.9/8, Error ellipse: s-maj=1.5km s-min=1.2km az=26.0*
*PRU **04** 11:10:23.7, 50°.23N×12°.53E, h0km, West Bohemia Swarm*
*CLL **04** 11:10:23.7±0.3, 50°.2N±0°.8×1°.2E±°, h8km±1km, ml2.1*
ISC 04 11:10:22.7±0.8, **50°.23N**±0°.02×**12°.49E**±0°.02, **h11**km±4km, **n66**, σ**0.56**/118, **1C-7D, Germany**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NKC	**Novy Kostel**	**0.03**	**273**	⇓*e*PG	**Pg**	**11 10 25.0**	**+0.2**
NKC				*e*SG	**Sg**	**11 10 25.8**	**-0.5**
	comp=Z,556nm,0.3s						
NKC	**Novy Kostel**	**0.03**	**273**	⇑*i*Pg	**Pg**	**11 10 25.0**	**+0.2**
NKC				*i* Sg	**Sg**	**11 10 26.1**	**-0.2**
NKC	**Novy Kostel**	**0.03**	**273**	*e*Pg	**Pg**	**11 10 25.0**	**+0.2**
NKC				*e*Sg	**Sg**	**11 10 26.1**	**-0.2**
NKC	**Novy Kostel**	**0.03**	**273**	Pg	**Pg**	**11 10 25.0**	**+0.2**
NKC				Sg	**Sg**	**11 10 26.1**	**-0.2**
WERN	**Wernitzgruen**	**0.09**	**308**	*i* Pg	**Pg**	**11 10 25.5**	**+0.1**
WERN				*i* Sg	**Sg**	**11 10 27.0**	**-0.4**
WERN				AML	AML	11 10 27.1	
	comp=E,1µm,0.2s						
WERN	**Wernitzgruen**	**0.09**	**308**	*e*Pg	**Pg**	**11 10 25.5**	**+0.1**
WERN				*e*Sg	**Sg**	**11 10 27.0**	**-0.4**
WERN	**Wernitzgruen**	**0.09**	**308**	Pg	**Pg**	**11 10 25.5**	**+0.1**
WERN				Sg	**Sg**	**11 10 27.0**	**-0.4**
ROHR	**Rohrbach**	**0.11**	**271**	*i* Pg	**Pg**	**11 10 25.6**	**-0.1**
ROHR				*i* Sg	**Sg**	**11 10 27.1**	**-0.6**
ROHR				AML	AML	11 10 27.2	
	comp=E,2µm,0.1s						
ROHR	**Rohrbach**	**0.11**	**271**	*e*Pg	**Pg**	**11 10 25.6**	**-0.1**
ROHR				*e*Sg	**Sg**	**11 10 27.1**	**-0.6**
ROHR	**Rohrbach**	**0.11**	**271**	Pg	**Pg**	**11 10 25.6**	**-0.1**
ROHR				Sg	**Sg**	**11 10 27.1**	**-0.6**
GUNZ	**Gunzen**	**0.17**	**323**	*i* Pg	**Pg**	**11 10 26.6**	**+0.1**
GUNZ				*i* Sg	**Sg**	**11 10 28.8**	**-0.3**
GUNZ				AML	AML	11 10 29.1	
	comp=N,324nm,0.2s						
GUNZ	**Gunzen**	**0.17**	**323**	*e*Pg	**Pg**	**11 10 26.6**	**+0.1**
GUNZ				*e*Sg	**Sg**	**11 10 28.8**	**-0.3**
GUNZ	**Gunzen**	**0.17**	**323**	Pg	**Pg**	**11 10 26.6**	**+0.1**
GUNZ				Sg	**Sg**	**11 10 28.8**	**-0.3**
TANN	**Tannenbergstha**	**0.18**	**355**	*i* Pg	**Pg**	**11 10 27.0**	**+0.2**
TANN				*i* Sg	**Sg**	**11 10 29.4**	**-0.2**
TANN				AML	AML	11 10 29.9	
	comp=N,722nm,0.2s						
MULD	**Muldenberg**	**0.19**	**343**	*i* Pg	**Pg**	**11 10 27.0**	**+0.1**
MULD				*i* Sg	**Sg**	**11 10 29.4**	**-0.3**
MULD				AML	AML	11 10 29.6	
	comp=E,461nm,0.2s						
MULD	**Muldenberg**	**0.19**	**343**	*e*Pg	**Pg**	**11 10 27.0**	**+0.1**
MULD				*e*Sg	**Sg**	**11 10 29.5**	**-0.3**
MULD	**Muldenberg**	**0.19**	**343**	Pg	**Pg**	**11 10 27.0**	**+0.1**
MULD				Sg	**Sg**	**11 10 29.5**	**-0.3**
WERD	**Werda**	**0.24**	**332**	*i* Pg	**Pg**	**11 10 27.9**	**+0.1**
WERD				*e*Sg	**Sg**	**11 10 30.9**	**-0.4**
WERD				AML	AML	11 10 31.4	
	comp=E,136nm,0.2s						
WERD	**Werda**	**0.24**	**332**	*e*Pg	**Pg**	**11 10 28.0**	**+0.1**
WERD				*e*Sg	**Sg**	**11 10 30.9**	**-0.4**
WERD	**Werda**	**0.24**	**332**	Pg	**Pg**	**11 10 28.0**	**+0.1**
WERD				Sg	**Sg**	**11 10 30.9**	**-0.4**
TRIB	**Obertriebel**	**0.26**	**298**	*i* Pg	**Pg**	**11 10 27.9**	**-0.1**
TRIB				*i* Sg	**Sg**	**11 10 31.1**	**-0.5**
TRIB				AML	AML	11 10 31.3	
	comp=N,222nm,0.2s						
TRIB	**Obertriebel**	**0.26**	**298**	*e*Pg	**Pg**	**11 10 27.9**	**-0.1**
TRIB				*e*Sg	**Sg**	**11 10 31.1**	**-0.5**
TRIB	**Obertriebel**	**0.26**	**298**	Pg	**Pg**	**11 10 27.9**	**-0.1**
TRIB				Sg	**Sg**	**11 10 31.1**	**-0.5**
PLN	**Plauen**	**0.33**	**320**	*i* Pg	**Pg**	**11 10 29.4**	**0.0**
PLN				*i* Sg	**Sg**	**11 10 33.5**	**-0.3**
PLN				AML	AML	11 10 33.9	
	comp=E,61nm,0.2s						
PLN	**Plauen**	**0.33**	**320**	*e*Pg	**Pg**	**11 10 29.4**	**0.0**
PLN				*e*Sg	**Sg**	**11 10 33.6**	**-0.3**
PLN	**Plauen**	**0.33**	**320**	Pg	**Pg**	**11 10 29.4**	**0.0**
PLN				Sg	**Sg**	**11 10 33.6**	**-0.3**
SCHF	**Schoenfels**	**0.45**	**353**	*i* Pg	**Pg**	**11 10 31.8**	**+0.1**
SCHF				*i* Sg	**Sg**	**11 10 37.7**	**+0.1**
SCHF				AML	AML	11 10 37.8	
	comp=E,182nm,0.3s						
SCHF	**Schoenfels**	**0.45**	**353**	*e*Pg	**Pg**	**11 10 31.7**	**+0.1**
SCHF				*e*Sg	**Sg**	**11 10 37.7**	**+0.1**
SCHF	**Schoenfels**	**0.45**	**353**	Pg	**Pg**	**11 10 31.7**	**+0.1**
SCHF				Sg	**Sg**	**11 10 37.7**	**+0.1**
ROTZ	**Rotzenmuhle**	**0.50**	**201**	*e*Pg	**Pg**	**11 10 32.9**	**+0.4**
ROTZ				*e*Sg	**Sg**	**11 10 39.3**	**+0.2**
ROTZ	**Rotzenmuhle**	**0.50**	**201**	Pg	**Pg**	**11 10 32.9**	**+0.4**
ROTZ				Sg	**Sg**	**11 10 39.3**	**+0.2**
MLFH	**Mildenfurth**	**0.62**	**335**	*i* Pg	**Pg**	**11 10 34.6**	**-0.1**
MLFH				*i* Sg	**Sg**	**11 10 42.9**	**0.0**
MOX	**Moxa**	**0.69**	**307**	*e*Pg	**Pg**	**11 10 36.0**	**-0.2**
MOX				*e*Sg	**Sg**	**11 10 44.8**	**-0.5**
MOX	**Moxa**	**0.69**	**307**	Pg	**Pg**	**11 10 36.0**	**-0.2**
MOX				Sg	**Sg**	**11 10 44.8**	**-0.5**
FBE	**Freiberg**	**0.88**	**38**	*e*Pg	**Pb**	**11 10 40.3**	**+0.2**
FBE				*e*Sg	**Sg**	**11 10 51.5**	**+0.2**
FBE	**Freiberg**	**0.88**	**38**	Pg	**Pb**	**11 10 40.3**	**+0.2**
FBE				Sg	**Sg**	**11 10 51.5**	**+0.2**
GRA1	**Grafenberg Arr**	**0.98**	**237**	Pg	**Pg**	**11 10 41.4**	**-0.2**
GRA1				Sg	**Sg**	**11 10 54.3**	**-0.1**
GRF	**Grafenberg Arr**	**0.98**	**237**	*e*Pg	**Pg**	**11 10 41.4**	**-0.2**
GRF				*e*Sg	**Sg**	**11 10 54.3**	**-0.1**
WET	**Wettzell**	**1.12**	**167**	⇓*e*PG	**Pb**	**11 10 44.2**	**+0.2**
WET				*e*SG	**Sb**	**11 10 58.5**	**-0.1**
WET	**Wettzell**	**1.12**	**167**	*e*Pg	**Pb**	**11 10 44.3**	**+0.2**
WET				*e*Sg	**Sb**	**11 10 58.2**	**-0.4**
WET	**Wettzell**	**1.12**	**167**	Pg	**Pb**	**11 10 44.3**	**+0.2**
WET				Sg	**Sb**	**11 10 58.2**	**-0.4**
CLL	**Collm**	**1.13**	**17**	*e*Pg	**Pb**	**11 10 44.2**	**0.0**
CLL				*e*Sg	**Sb**	**11 10 58.8**	**0.0**
CLL	**Collm**	**1.13**	**17**	Pg	**Pb**	**11 10 44.2**	**0.0**
CLL				Sg	**Sb**	**11 10 58.8**	**0.0**
CLL	**Collm**	**1.13**	**17**	*i* Pg	**Pb**	**11 10 44.3**	**0.0**
CLL				*i*		11 10 46.4	
CLL				*i*		11 10 47.8	
CLL				*i* Sg	**Sb**	**11 10 59.0**	**+0.2**
	comp=Z,20nm,0.4s						
CLL				*i*		11 11 03.0	
BRG	**Berggiesshubel**	**1.13**	**55**	*e*Pg	**Pb**	**11 10 44.5**	**+0.2**
BRG				*e*Sg	**Sb**	**11 10 58.9**	**0.0**
BRG	**Berggiesshubel**	**1.13**	**55**	Pg	**Pb**	**11 10 44.5**	**+0.2**
BRG				Sg	**Sb**	**11 10 58.9**	**0.0**
PRA	**Prague**	**1.26**	**97**	⇓*e*SG	**Sg**	**11 11 03.6**	**+0.3**
	comp=Z,10nm,0.4s						
PRA	**Prague**	**1.26**	**97**	Sg	**Sg**	**11 11 03.6**	**+0.3**
	comp=Z,10nm,0.4s						
KHC	**Kasperske Hory**	**1.31**	**147**	*e*PG	**Pn**	**11 10 47.3**	**+0.3**
KHC				*e*SG	**Sg**	**11 11 04.9**	**0.0**
	comp=Z,8.2nm,0.2s						
KHC	**Kasperske Hory**	**1.31**	**147**	Pg	**Pn**	**11 10 47.3**	**+0.3**
KHC				Sg	**Sg**	**11 11 04.9**	**0.0**
	comp=Z,8.2nm,0.2s						
PRU	**Pruhonice**	**1.34**	**100**	⇓*e*PG	**Pb**	**11 10 48.3**	**+0.4**
PRU				*e*SG	**Sn**	**11 11 05.5**	**+0.2**
	comp=Z,12nm,0.2s						
PRU	**Pruhonice**	**1.34**	**100**	Pg	**Pb**	**11 10 48.3**	**+0.4**
PRU				Sg	**Sn**	**11 11 05.5**	**+0.2**
	comp=Z,12nm,0.2s						
PVCC	**Panska Ves**	**1.36**	**77**	⇓*e*SG	**Sg**	**11 11 07.4**	**+0.7**
	comp=Z,25nm,0.2s						
PVCC	**Panska Ves**	**1.36**	**77**	Sg	**Sg**	**11 11 07.4**	**+0.7**
	comp=Z,25nm,0.2s						
GOPC	**GO Pecny, Ondr**	**1.52**	**101**	*e*PG	**Pb**	**11 10 51.4**	**+0.6**
GOPC				*e*SG	**Sg**	**11 11 11.3**	**-0.2**
	comp=Z,14nm,0.2s						
GOPC	**GO Pecny, Ondr**	**1.52**	**101**	Pg	**Pb**	**11 10 51.4**	**+0.6**
GOPC				Sg	**Sg**	**11 11 11.3**	**-0.2**
	comp=Z,14nm,0.2s						
UPC	**Upice**	**2.27**	**82**	⇓*e*SG	**Sg**	**11 11 34.5**	**-1.2**
	comp=Z,5.0nm,0.2s						
UPC	**Upice**	**2.27**	**82**	Sg	**Sg**	**11 11 34.5**	**-1.2**
	comp=Z,5.0nm,0.2s						
DPC	**Dobruska-Polom**	**2.46**	**86**	*e*SG	**Sg**	**11 11 39.9**	**-1.9**
	comp=Z,3.4nm,0.3s						
DPC	**Dobruska-Polom**	**2.46**	**86**	Sg	**Sg**	**11 11 39.9**	**-1.9**
	comp=Z,3.4nm,0.3s						
KRLC	**Kraliky**	**2.77**	**92**	*e*SG	**Sg**	**11 11 51.4**	**-0.1**
KRLC	**Kraliky**	**2.77**	**92**	Sg	**Sg**	**11 11 51.4**	**-0.1**
VRAC	**Vranov**	**2.82**	**108**	*e*SG	**Sg**	**11 11 51.1**	**-2.1**
MORC	**Moravsky Berou**	**3.29**	**96**	*e*SG	**Sg**	**11 12 06.7**	**-1.7**
OKC	**Ostrava-Krasne**	**3.67**	**94**	⇓*e*SG	**Sg**	**11 12 18.4**	**-2.1**
	comp=Z,4.3nm,0.4s						
OKC	**Ostrava-Krasne**	**3.67**	**94**	Sg	**Sg**	**11 12 18.4**	**-2.1**
	comp=Z,4.3nm,0.4s						

*ISCJB **04** 11:15:08.6±0.5, 32°.85S±0°.05×138°.74E±0°.07, h10km, mb4.2/2, Error ellipse: s-maj=10.2km s-min=4.7km az=138.6*
*NEIC **04** 11:15:11.0±0.0, 33°.08S×138°.71E, h2km, mb4.1/3, ML3.8(AUST), After AUST.*
NEIC Felt at Adelaide and Jamestown.
*AUST **04** 11:15:11.3±0.5, 33°.08S×138°.71E, h2km±4km, Error ellipse: s-maj=4.3km s-min=3.1km az=16.0*
*IDC **04** 11:15:14.0±2.8, 32°.56S×138°.51E, h0km, mb4.1/1, mb1 4.2/6, mb1mx3.9/33, mbtmp4.0/6, ML4.0/5, MS2.4/1, Ms1 2.4/1, ms1mx2.3/28, Error ellipse: s-maj=48.3km s-min=23.7km az=14.0*
ISC 04 11:15:10.3±0.7, **32°.90S**±0°.05×**138°.69E**±0°.04, **h10**km, **n30**, σ**2.95**/39, **Near coast of South Australia**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HTT	**Hallett**	**0.57**	**160**	P	**Pg**	**11 15 19.0**	**-2.3**
	baz=0.4						
BBOO	**Buckleboo**	**2.22**	**271**	P	**Pn**	**11 15 49.6**	**+2.4**
	baz=2.2,SNR=28						
BBOO	**Buckleboo**	**2.22**	**271**	*e*Pn	**Pb**	**11 15 50.4**	**-0.1**
BBOO				*e*Sn	**Sb**	**11 16 19.6**	**+1.6**
STKA	**Stephens Creek**	**2.66**	**68**	Pn	**Pb**	**11 15 58.2**	**+0.3**
	28nm,0.3s,baz=249,slow=14,SNR=51						
STKA				Sn	**Sg**	**11 16 32.5**	**-3.1**
	38nm,0.3s,baz=272,slow=15,SNR=5.2						
STKA				LR	LR	11 16 54.4	
	comp=Z,75nm,19.4s,baz=212,slow=37						
STKA	**Stephens Creek**	**2.66**	**68**	P	**Pb**	**11 15 56.9**	**-1.0**
	baz=2.7						
ARPS	**Mount Arapiles**	**4.65**	**147**	P	**Pn**	**11 16 20.4**	**-0.1**
	baz=4.5,SNR=28						
CMSA	**Cobar Meteorol**	**6.08**	**79**	P	**Pn**	**11 16 42.2**	**+2.0**
	baz=6.1						
TOO	**Toolangi**	**7.26**	**132**	P	**Pn**	**11 16 56.1**	**-0.3**
	baz=7.1,SNR=8.8						
QLP	**Quilpie**	**7.92**	**39**	P	Pn	11 17 10.1	+4.5
	baz=8.1						
CAN	**Canberra**	**8.88**	**109**	P	**Pn**	**11 17 18.5**	**-0.2**
	baz=8.8						
CAN	**Canberra**	**8.88**	**109**	*e*Pn	**Pn**	**11 17 18.5**	**-0.2**
CNB	**Canberra Magne**	**9.17**	**108**	P	**Pn**	**11 17 22.7**	**0.0**
	baz=9.1,SNR=5.8						
FORT	**Forrest**	**9.29**	**280**	*e*Pn	**Pn**	**11 17 27.9**	**+3.6**
FORT				*e*Sn	**Sn**	**11 19 05.3**	**-3.5**
AS01	**Alice Springs**	**10.10**	**334**	*e*Pn	**Pn**	**11 17 38.0**	**+2.6**
AS01				*e*Sn	**Sn**	**11 19 28.7**	**-0.1**
AS31	**Alice Springs**	**10.12**	**334**	*e*Pn	**Pn**	**11 17 38.1**	**+2.5**
AS31				*e*Sn	**Sn**	**11 19 29.1**	**-0.2**
ASAR	**Alice Springs**	**10.12**	**334**	Pn	**Pn**	**11 17 36.8**	**+1.1**
	1.2nm,0.3s,baz=171,slow=9.5,SNR=79						
ASAR				Sn	**Sn**	**11 19 28.3**	**-1.0**
	2.3nm,0.3s,baz=163,slow=23,SNR=11						
MGCD	**Mangrove Creek**	**10.43**	**95**	P	**Pn**	**11 17 41.3**	**+1.5**
	baz=10,SNR=8.5						
WRKA	**Warakurna**	**12.00**	**308**	P	**Pn**	**11 18 02.3**	**+0.8**
	baz=12,SNR=4.6						
WB2	**Warramunga Arr**	**13.47**	**342**	P	**Pn**	**11 18 21.4**	**-0.1**
	baz=14						
WB2	**Warramunga Arr**	**13.47**	**342**	*e*Pn	**Pn**	**11 18 21.6**	**0.0**
WRA	**Warramunga Arr**	**13.47**	**342**	Pn	**Pn**	**11 18 21.4**	**-0.2**
	0.7nm,0.3s,baz=169,slow=12,SNR=22						
WRA				Sn	**Sn**	**11 20 47.5**	**-4.0**
	0.9nm,0.3s,baz=174,slow=24,SNR=5.6						
WRAB	**Tennant Creek**	**13.48**	**342**	*e*Pn	**Pn**	**11 18 22.2**	**+0.5**
WRAB				*e*Sn	**Sn**	**11 20 47.6**	**-4.1**
CTA	**Charters Tower**	**14.43**	**30**	Pn	**Pn**	**11 18 36.2**	**+1.5**
	0.2nm,0.3s,baz=214,slow=13,SNR=2.2						
MEEK	**Meekatharra**	**18.50**	**284**	P	**Pn**	**11 19 28.5**	**+1.7**
	baz=18						
FITZ	**Fitzroy Crossi**	**18.84**	**318**	P	**P**	**11 19 29.6**	**-0.8**
	0.5nm,0.3s,baz=149,slow=12,SNR=11						
FITZ				S	**Sn**	**11 22 52.1**	**-10**
	0.1nm,0.3s,baz=102,slow=19,SNR=2.9						
FITZ	**Fitzroy Crossi**	**18.84**	**318**	P	**P**	**11 19 30.2**	**-0.1**
	baz=19						
FITZ	**Fitzroy Crossi**	**18.84**	**318**	*e*P	**P**	**11 19 30.1**	**-0.3**
	4.4nm,1.0s						
FITZ				S	**Sn**	**11 22 52.1**	**-10**
MBWA	**Marble Bar**	**20.51**	**300**	*e*P	**P**	**11 19 49.8**	**+1.2**
	7.0nm,0.8s						
MTN	**Manton Dam**	**21.12**	**339**	*e*P	**P**	**11 19 57.3**	**+2.0**
	36nm,1.5s						
CMAR	**Chiang Mai Arr**	**63.65**	**317**	P	**P**	**11 25 45.5**	**+3.7**
	0.5nm,0.3s,baz=139,slow=8.4,SNR=5.5						

*DDA **04** 11:23:44.2, 38°.36N×31°.81E, h7km, Ml2.6*
*ISK **04** 11:23:44.6, 38°.45N×31°.74E, h6km, MD2.7*
*ISCJB **04** 11:23:45.1±0.8, 38°.44N±0°.04×31°.76E±0°.07, h4km±8km, Error ellipse: s-maj=10.3km s-min=4.5km az=144.6*
*CSEM **04** 11:23:45.2±0.2, 38°.43N×31°.77E, h10km, MD2.7, Error ellipse: s-maj=6.1km s-min=4.1km az=40.0*
ISC 04 11:23:44.8±1.2, **38°.42N**±0°.03×**31°.77E**±0°.03, **h7**km±14km, **n21**, σ**0.37**/32, **Turkey**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KDHN	**Kadinhani**	**0.29**	**69**	*i* P	**Pg**	**11 23 50.5**	**0.0**
KDHN				*i* S	**Sg**	**11 23 54.3**	**0.0**
KDHN	**Kadinhani**	**0.29**	**69**	P	**Pg**	**11 23 50.5**	**0.0**
KDHN				S	**Sg**	**11 23 54.3**	**0.0**
KIZT	**Kizilcal**	**0.47**	**10**	*e*PG	**Pg**	**11 23 54.1**	**+0.2**
KIZT				*e*SG	**Sg**	**11 24 00.0**	**0.0**
KIZT	**Kizilcal**	**0.47**	**10**	*e*Pg	**Pg**	**11 23 54.1**	**+0.2**
KIZT				*e*Sg	**Sg**	**11 24 00.0**	**0.0**
LADK	**Ladik-KONYA**	**0.51**	**115**	*e*PG	**Pb**	**11 23 55.9**	**-0.3**
LADK				*e*SG	**Sb**	**11 24 03.2**	**-0.6**
LADK	**Ladik-KONYA**	**0.51**	**115**	*e*Pg	**Pb**	**11 23 55.9**	**-0.3**
LADK				*e*Sg	**Sb**	**11 24 03.2**	**-0.6**
KONT	**Konya--Tatoy**	**0.66**	**135**	*e*PG	**Pb**	**11 23 58.3**	**-0.3**
KONT				*e*SG	**Sb**	**11 24 08.6**	**+0.6**
KONT	**Konya--Tatoy**	**0.66**	**135**	*i* P	**Pb**	**11 23 58.8**	**+0.2**
KONT				*i* S	**Sb**	**11 24 08.8**	**+0.9**
KONT	**Konya--Tatoy**	**0.66**	**135**	*e*Pg	**Pb**	**11 23 58.3**	**-0.3**
KONT				*e*Sg	**Sb**	**11 24 08.6**	**+0.6**
BOLV	**Bolvadin**	**0.71**	**295**	*i* P	**Pb**	**11 23 59.6**	**0.0**
BOLV				*i* S	**Sb**	**11 24 09.9**	**+0.3**
BOLV	**Bolvadin**	**0.71**	**295**	P	**Pb**	**11 23 59.6**	**0.0**
BOLV				S	**Sb**	**11 24 09.9**	**+0.3**
CHBY	**Cihanbeyli**	**0.89**	**79**	*e*PG	**Pb**	**11 24 02.9**	**+0.3**
CHBY	**Cihanbeyli**	**0.89**	**79**	*e*Pg	**Pb**	**11 24 02.9**	**+0.3**
SVRH	**Sivrihisar-ESK**	**1.05**	**349**	*e*PG	**Pb**	**11 24 05.0**	**-0.2**
SVRH	**Sivrihisar-ESK**	**1.05**	**349**	*e*Pg	**Pb**	**11 24 05.0**	**-0.2**
SUTC	**Sutluce-Ispart**	**1.12**	**213**	*e*PN	**Pg**	**11 24 06.2**	**-0.1**
SUTC	**Sutluce-Ispart**	**1.12**	**213**	*e*Pn	**Pg**	**11 24 06.2**	**-0.1**
ESKT	**Eskisehir**	**1.31**	**327**	*e*PN	**Pb**	**11 24 09.4**	**-0.4**
ESKT	**Eskisehir**	**1.31**	**327**	*e*Pn	**Pb**	**11 24 09.4**	**-0.4**
AFSR	**Afˇar-Bala (A**	**1.44**	**44**	*e*PN	**Pg**	**11 24 12.2**	**-0.2**
AFSR	**Afˇar-Bala (A**	**1.44**	**44**	*e*Pn	**Pg**	**11 24 12.2**	**-0.2**

*ISCJB **04** 11:27:16.0±0.8, 31°.30S±0°.04×68°.73W±0°.05, h110km±9km, Error ellipse: s-maj=7.0km s-min=5.8km az=177.4*
*SJA **04** 11:27:15.4±0.6, 31°.27S×68°.71W, h109km±3km, ML3.5, MW3.6*
*GUC **04** 11:27:17.0±0.5, 31°.34S×68°.90W, h110km, ML3.4*
ISC 04 11:27:16.6±1.5, **31°.30S**±0°.04×**68°.72W**±0°.05, **h105**km±10km, **n20**, σ**0.49**/27, **2C-2D, San Juan Province**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RTLL	**Cerro Villicun**	**0.21**	**99**	*e*P	**Pn**	**11 27 31.6**	**+0.1**
RTLL				*e*S	**Sn**	**11 27 42.9**	**+0.3**
SJA	**San Juan**	**0.27**	**150**	*e*P	**Pn**	**11 27 31.6**	**-0.1**
SJA				IAML		11 27 31.9	
	comp=Z,1µm,0.2s						
AMOG	**MOGNA**	**0.41**	**28**	*e*P	**Pn**	**11 27 32.3**	**-0.1**
RTCV	**Cerro Valdivia**	**0.58**	**165**	*e*P	**Pn**	**11 27 33.5**	**-0.1**
RTLS	**Leoncito**	**0.70**	**225**	*e*P	**Pn**	**11 27 35.1**	**+0.3**
RTLS				IAML		11 27 49.5	
	comp=Z,611nm,0.3s						
AUSP	**Uspallata**	**1.08**	**212**	*e*P	**Pn**	**11 27 39.1**	**+0.4**
ASAL	**Salagasta**	**1.29**	**184**	*e*P	**Pn**	**11 27 41.4**	**+0.6**
ARCO	**CERRO ARCO**	**1.55**	**187**	*e*P	**Pn**	**11 27 44.4**	**+0.5**
ARCO				IAML		11 28 08.3	
	comp=Z,516nm,0.3s						
ACAN	**Cantantal**	**1.63**	**127**	*e*P	**Pn**	**11 27 45.2**	**+0.6**
AAGR	**Agrelo**	**1.79**	**183**	*e*P	**Pn**	**11 27 47.3**	**+0.5**
APLL	**PUNTA DE LOS L**	**2.09**	**65**	*e*P	**Pn**	**11 27 50.4**	**-0.1**
TLL	**Tololo Astrono**	**2.12**	**302**	⇓*i*P	**Pn**	**11 27 51.2**	**+0.1**
TLL				⇓*i*P	**Pn**	**11 27 51.2**	**+0.1**
TLL				*i* S	**Sn**	**11 28 17.4**	**-0.1**
TLL				*i* S	**Sn**	**11 28 17.7**	**+0.1**
TLL				IAML		11 28 20.0	
	comp=N,398nm,0.6s						
TLL				IAML		11 28 20.0	
	comp=N,395nm,0.6s						
ACLC	**CERRO LA CRUZ**	**2.41**	**40**	*e*P	**Pn**	**11 27 54.7**	**-0.1**
PEL	**Peldehue**	**2.48**	**222**	*e*P	**Pn**	**11 27 55.7**	**0.0**
PEL				*i* S	**Sn**	**11 28 24.5**	**-1.1**
PEL				IAML		11 28 28.5	
	comp=N,100nm,0.4s						
ROCH	**El Roble**	**2.56**	**229**	⇑*i*P	**Pn**	**11 27 56.9**	**0.0**
ROCH				*i* S	**Sn**	**11 28 27.4**	**-0.4**
ROCH				IAML		11 28 30.3	
	comp=N,115nm,0.3s						
VCA	**Vinchina**	**2.59**	**10**	IAML		11 28 32.5	
	comp=Z,258nm,0.2s						
CLCH	**Cerro Calan**	**2.60**	**216**	*i* S	**Sn**	**11 28 27.9**	**-0.5**
MRA	**San Martin**	**2.79**	**114**	*e*P	**Pn**	**11 27 59.5**	**-0.2**
MRA				IAML		11 28 32.2	
	comp=Z,186nm,0.2s						
LCO	**Las Campanas**	**2.85**	**322**	⇑*i*P	**Pn**	**11 28 00.1**	**-0.6**
LCO				*i* S	**Sn**	**11 28 34.5**	**-0.3**
LCO				IAML		11 28 38.3	
	comp=N,165nm,0.1s						
VACH	**Vallenar**	**3.24**	**326**	*e*P	**Pn**	**11 28 06.7**	**+1.1**
VACH				*i* S	**Sn**	**11 28 44.2**	**+0.6**

DJA 04 11:34:15.5±1.1, **0°S**±3°×**12°2E**±°, **h22**km±11km, **M3.6/6, MLv3.6/6, Minahassa Peninsula, Sulawesi**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MRSI	**Marisa**	**0.86**	**354**	P	Pb	**11 34 31.2**	-0.5
LUWI	**Luwuk**	**0.99**	**132**	P	Pb	11 34 33.5	-0.5
LUWI				S	Sn	11 34 47.4	0.0
GTOI	**Gorontalo**	**1.41**	**44**	P	Pn	11 34 39.4	-0.4
GTOI				S	Sb	11 34 59.0	+0.4
KMSI	**Cibinong**	**2.17**	**64**	P	Pb	11 34 56.5	+2.4
KMSI				S	Sb	11 35 30.8	+10
PCI	**Palu**	**2.25**	**257**	P	Pn	11 34 53.1	+1.6
PCI				S	Sn	11 35 17.9	-0.8
TTSI	**Tana Toraja**	**3.45**	**220**	P	Pn	11 35 08.6	+0.7
SPSI	**Sidrap Palu**	**4.22**	**212**	P	Pn	11 35 18.8	+0.3

GUC 04 11:40:44.7±0.4, **38°.10S**×**73°.85W**, **h38**km±2km, **ML3.9, 1C, Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CCHI	**Chillan**	**2.06**	**44**	*e*P	Pn	11 41 18.1	+1.4
CCHI				*i* S	Sn	11 41 42.7	+1.7
CCHI				IAML		11 41 52.6	
	comp=N,849nm,0.5s						
COCH	**Cobquecura**	**2.14**	**24**	⇑*i*P	Pn	11 41 18.5	+0.7
COCH				*e*S	Sn	11 41 44.4	+1.4
COCH				IAML		11 41 57.2	
	comp=E,738nm,0.6s

WERD					*e*Sg	**Sg**	11 47 53.2	-0.8
WERD					AML	AML	11 47 54.0	
	comp=N,970nm,0.2s							
WERD	**Werda**	**0.24**	**341**	*e*Pg	**Pg**	11 47 50.4	-0.1
WERD				*e*Sg	**Sg**	11 47 53.0	-0.9
WERD	**Werda**	**0.24**	**341**	Pg	**Pg**	11 47 50.4	-0.1
WERD				Sg	**Sg**	11 47 53.0	-0.9
PLN	**Plauen**	**0.32**	**327**	*i* Pg	**Pg**	11 47 51.8	0.0
PLN				*e*Sg	**Sg**	11 47 55.8	-0.4
PLN				AML	AML	11 47 56.5	
	comp=E,914nm,0.2s						
PLN	**Plauen**	**0.32**	**327**	*e*Pg	**Pg**	11 47 51.8	0.0
PLN				*e*Sg	**Sg**	11 47 55.9	-0.4
PLN	**Plauen**	**0.32**	**327**	Pg	**Pg**	11 47 51.8	0.0
PLN				Sg	**Sg**	11 47 55.9	-0.3
SCHF	**Schoenfels**	**0.46**	**358**	*i* Pg	**Pg**	11 47 54.2	-0.2
SCHF				*i* Sg	**Sg**	11 47 60.0	-0.6
SCHF				AML	AML	11 48 00.5	
	comp=E,4μm,0.2s						
SCHF	**Schoenfels**	**0.46**	**358**	*e*Pg	**Pg**	11 47 54.2	-0.2
SCHF				*e*Sg	**Sg**	11 48 00.0	-0.6
SCHF	**Schoenfels**	**0.46**	**358**	Pg	**Pg**	11 47 54.2	-0.2
SCHF				Sg	**Sg**	11 48 00.0	-0.6
ROTZ	**Rotzenmuhle**	**0.47**	**198**	*e*Pg	**Pb**	11 47 55.5	0.0
ROTZ				*e*Sg	**Sg**	11 48 02.0	+1.2
ROTZ	**Rotzenmuhle**	**0.47**	**198**	Pg	**Pb**	11 47 55.5	0.0
ROTZ				Sg	**Sg**	11 48 02.0	+1.2
MLFH	**Mildenfurth**	**0.62**	**339**	*i* Pg	**Pg**	11 47 57.0	-0.2
MLFH				*i* Sg	**Sg**	11 48 04.7	-0.7
MOX	**Moxa**	**0.68**	**310**	*e*Pg	**Pg**	11 47 58.4	0.0
MOX				*e*Sg	**Sg**	11 48 07.3	0.0
MOX	**Moxa**	**0.68**	**310**	Pg	**Pg**	11 47 58.4	0.0
MOX				Sg	**Sg**	11 48 07.3	0.0
FBE	**Freiberg**	**0.92**	**39**	*e*Pg	**Pg**	11 48 02.8	-0.2
FBE				*e*Sg	**Sg**	11 48 14.4	-0.6
FBE	**Freiberg**	**0.92**	**39**	Pg	**Pg**	11 48 02.8	-0.2
FBE				Sg	**Sg**	11 48 14.4	-0.6
GRA1	**Grafenberg Arr**	**0.94**	**237**	Pg	**Pb**	11 48 03.9	+0.4
GRA1				Sg	**Sb**	11 48 16.8	+0.9
GRF	**Grafenberg Arr**	**0.94**	**237**	*e*Pg	**Pb**	11 48 03.9	+0.4
GRF				*e*Sg	**Sb**	11 48 16.8	+0.9
WET	**Wettzell**	**1.11**	**165**	⇓*e*PG	**Pn**	11 48 06.9	+0.2
WET				*e*SG	**Sb**	11 48 21.1	+0.2
WET	**Wettzell**	**1.11**	**165**	*e*Pg	**Pb**	11 48 06.7	+0.3
WET				*e*Sg	**Sb**	11 48 21.1	+0.2
WET	**Wettzell**	**1.11**	**165**	Pg	**Pb**	11 48 06.7	+0.3
WET				Sg	**Sb**	11 48 21.1	+0.2
CLL	**Collm**	**1.15**	**18**	*e*Pg	**Pb**	11 48 06.3	-0.8
CLL				*e*Sg	**Sb**	11 48 21.5	-0.5
CLL	**Collm**	**1.15**	**18**	Pg	**Pb**	11 48 06.3	-0.8
CLL				Sg	**Sb**	11 48 21.5	-0.5
CLL	**Collm**	**1.15**	**18**	*i* Pg	**Pb**	11 48 06.8	-0.3
CLL				*i*		11 48 09.9	
CLL				*i* Sg	**Sb**	11 48 21.7	-0.3
	comp=Z,399nm,0.6s						
CLL				*i*		11 48 25.7	
BRG	**Berggiesshubel**	**1.17**	**55**	PG	**Pb**	11 48 07.2	-0.2
BRG				SG	**Sb**	11 48 22.3	-0.2
	comp=Z,508nm,0.4s						
BRG	**Berggiesshubel**	**1.17**	**55**	*e*Pg	**Pb**	11 48 06.4	-1.0
BRG				*e*Sg	**Sb**	11 48 21.7	-0.8
BRG	**Berggiesshubel**	**1.17**	**55**	Pg	**Pb**	11 48 06.4	-1.0
BRG				Sg	**Sb**	11 48 21.7	-0.8
PRA	**Prague**	**1.30**	**96**	⇓*e*PG	**Pb**	11 48 09.8	+0.2
PRA				*e*SG	**Sb**	11 48 25.6	-0.5
	comp=Z,550nm,0.4s						
PRA	**Prague**	**1.30**	**96**	Pg	**Pb**	11 48 09.8	+0.2
PRA				Sg	**Sb**	11 48 25.6	-0.5
	comp=Z,550nm,0.4s						
KHC	**Kasperske Hory**	**1.32**	**145**	⇓*i*PG	**Pn**	11 48 09.8	+0.3
KHC				*e*SG	**Sb**	11 48 26.7	-0.1
	comp=Z,324nm,0.3s						
KHC	**Kasperske Hory**	**1.32**	**145**	Pg	**Pn**	11 48 09.8	+0.3
KHC				Sg	**Sb**	11 48 26.7	-0.1
	comp=Z,324nm,0.3s						
PRU	**Pruhonice**	**1.38**	**99**	⇓*e*PG	**Pb**	11 48 11.0	0.0
PRU				*e*SG	**Sb**	11 48 28.0	-0.5
	comp=Z,544nm,0.3s						
PRU	**Pruhonice**	**1.38**	**99**	Pg	**Pb**	11 48 11.0	0.0
PVCC	**Panska Ves**	**1.40**	**76**	⇓*e*PG	**Pb**	11 48 11.5	+0.1
PVCC				*e*SG	**Sb**	11 48 29.6	+0.3
	comp=Z,994nm,0.5s						
PVCC	**Panska Ves**	**1.40**	**76**	Pg	**Pb**	11 48 11.5	+0.1
PVCC				Sg	**Sb**	11 48 29.6	+0.3
	comp=Z,994nm,0.5s						
GOPC	**GO Pecny, Ondr**	**1.55**	**100**	*e*PG	**Pb**	11 48 13.9	0.0
GOPC				*e*SG	**Sb**	11 48 34.0	+0.6
	comp=Z,479nm,0.2s						
GOPC	**GO Pecny, Ondr**	**1.55**	**100**	Pg	**Pb**	11 48 13.9	0.0
GOPC				Sg	**Sb**	11 48 34.0	+0.6
	comp=Z,479nm,0.2s						
TREC	**Trest**	**2.19**	**114**	⇓*e*PN	**Pn**	11 48 22.2	+0.8
TREC				*e*PG	**Pb**	11 48 25.2	+0.5
TREC				*e*SG	**Sb**	11 48 52.7	+0.9
	comp=Z,200nm,0.3s						
TREC				AMS	AMS	11 49 10.0	
	comp=Z,300nm,4.2s						
TREC	**Trest**	**2.19**	**114**	Pn	**Pn**	11 48 22.2	+0.8
TREC	**Trest**	**2.19**	**114**	Pg	**Pb**	11 48 25.2	+0.5
TREC				Sg	**Sb**	11 48 52.7	+0.9
	comp=Z,200nm,0.3s						
UPC	**Upice**	**2.31**	**81**	⇓*e*PN	**Pn**	11 48 24.3	+1.1
UPC				*e*PG	**Pb**	11 48 27.8	+0.9
UPC				*e*SG	**Sb**	11 48 56.7	+1.3
	comp=Z,214nm,0.4s						
UPC				AMS	AMS	11 49 20.0	
	comp=Z,300nm,4.1s						
UPC	**Upice**	**2.31**	**81**	Pn	**Pn**	11 48 24.3	+1.1
UPC	**Upice**	**2.31**	**81**	Pg	**Pb**	11 48 27.8	+0.9
UPC				Sg	**Sb**	11 48 56.7	+1.3
	comp=Z,214nm,0.4s						
TOD	**Tromm**	**2.42**	**257**	P	**Pn**	11 48 25.1	+0.4
TOD				S	**Sb**	11 48 57.2	-1.4
DPC	**Dobruska-Polom**	**2.50**	**85**	*e*PN	**Pn**	11 48 26.6	+0.8
DPC				*e*PG	**Pb**	11 48 30.6	+0.5
DPC				*e*SN	**Sn**	11 48 56.6	+0.4
DPC				*e*SG	**Sb**	11 49 02.6	+1.8
	comp=Z,132nm,0.4s						
DPC	**Dobruska-Polom**	**2.50**	**85**	Pn	**Pn**	11 48 26.6	+0.8
DPC	**Dobruska-Polom**	**2.50**	**85**	Pg	**Pb**	11 48 30.6	+0.5
DPC				Sn	**Sn**	11 48 56.6	+0.4
DPC				Sg	**Sb**	11 49 02.6	+1.8
	comp=Z,132nm,0.4s						
KSP	**Ksiaz**	**2.54**	**74**	*e*Pn	**Pn**	11 48 27.7	+1.3
KSP				*e*Pg	**Pb**	11 48 32.2	+1.4
KSP				*e*Sg	**Sg**	11 49 04.7	-2.2
KSP	**Ksiaz**	**2.54**	**74**	*e*Pn	**Pn**	11 48 27.7	+1.3
MOA	**Molln**	**2.66**	**152**	Pn	**Pn**	11 48 28.4	+0.5
	comp=Z,1.3nm,0.1s,SNR=14						
MOA				Sg	**Sg**	11 49 12.1	+1.5
	comp=Z,47nm,0.2s						
KRLC	**Kraliky**	**2.80**	**91**	⇓*e*PG	**Pb**	11 48 36.6	+1.3
KRLC				*ex*	x	11 48 38.9	
KRLC				*e*SG	**Sg**	11 49 12.9	-2.3
KRLC	**Kraliky**	**2.80**	**91**	Pg	**Pb**	11 48 36.6	+1.3
KRLC				Sg	**Sg**	11 49 12.9	-2.3
KRUC	**Moravsky**	**2.82**	**113**	*e*Pn	**Pn**	11 48 30.7	+0.5
KRUC				*e*Sg	**Sg**	11 49 13.7	-2.2
	comp=Z,362nm,0.6s						
VRAC	**Vranov**	**2.85**	**107**	⇓*i*P	**Pn**	11 48 30.2	-0.3
VRAC	**Vranov**	**2.85**	**107**	S	**Sb**	11 49 11.4	+0.6
VRAC	**Vranov**	**2.85**	**107**	⇓*i*P	**Pn**	11 48 30.2	-0.3
VRAC	**Vranov**	**2.85**	**107**	*e*Pn	**Pn**	11 48 30.6	+0.1
VRAC				*e*Sg	**Sg**	11 49 14.0	-2.7
	comp=Z,278nm,0.6s						
WATA	**Walderalm**	**2.94**	**191**	Pn	**Pn**	11 48 31.7	-0.2
	comp=Z,3.4nm,0.2s						
WATA				Sg	**Sg**	11 49 19.7	+0.1
	comp=Z,35nm,0.2s						
RETA	**Reutte**	**2.94**	**203**	Pn	**Pn**	11 48 31.2	-0.7
	comp=Z,0.6nm,0.1s						
RETA				Sg	**Sg**	11 49 20.0	+0.2
	comp=Z,188nm,0.4s						
KTD	**Kalmit**	**2.96**	**254**	P	**Pn**	11 48 32.8	+0.7
KTD				S	**Sn**	11 49 11.1	+3.6
WTTA	**Wattenberg**	**3.00**	**190**	Pn	**Pn**	11 48 32.8	0.0
	comp=Z,0.5nm,0.1s						
WTTA				Sg	**Sg**	11 49 21.9	+0.3
	comp=Z,74nm,0.3s						
MOTA	**Moosalm**	**3.00**	**197**	Pn	**Pn**	11 48 32.5	-0.3
	comp=Z,0.3nm,0.1s						
MOTA				Sg	**Sg**	11 49 21.9	+0.2
	comp=Z,21nm,0.2s						

KOE	**Koeppel**	**3.02**	**276**	*e*Pn	**Pn**	11 48 33.3	+0.4
KOE	**Koeppel**	**3.02**	**276**	Pn	**Pn**	11 48 33.3	+0.4
SPAK	**Spaichingen-Ko**	**3.19**	**230**	P	**Pn**	11 48 35.7	+0.4
SPAK				S	**Sb**	11 49 17.9	-2.9
KBA	**Koelnbreinsper**	**3.20**	**169**	Pn	**Pn**	11 48 35.5	0.0
	comp=Z,11nm,0.3s,SNR=17						
KBA				Sg	**Sg**	11 49 28.9	+1.0
	comp=Z,29nm,0.4s						
CONA	**Conrad Observa**	**3.21**	**134**	Pn	**Pn**	11 48 35.8	+0.2
	comp=Z,5.2nm,0.3s						
CONA				Sn	**Sn**	11 49 16.6	+2.7
	comp=Z,10nm,0.2s						
BGG	**Burgeitz**	**3.27**	**272**	*e*Pn	**Pn**	11 48 37.1	+0.8
BGG	**Burgeitz**	**3.27**	**272**	Pn	**Pn**	11 48 37.1	+0.8
MORC	**Moravsky Berou**	**3.33**	**96**	⇓*i*P	**Pn**	11 48 37.4	+0.2
MORC	**Moravsky Berou**	**3.33**	**96**	S	**Sb**	11 49 26.4	+1.8
MORC	**Moravsky Berou**	**3.33**	**96**	*e*Pn	**Pn**	11 48 37.3	+0.1
MORC				*e*Sg	**Sg**	11 49 29.1	-3.0
	comp=Z,266nm,0.7s						
HOBG	**Hohbusch**	**3.34**	**285**	*e*Pn	**Pn**	11 48 37.8	+0.6
HOBG	**Hohbusch**	**3.34**	**285**	Pn	**Pn**	11 48 37.8	+0.6
DAVA	**Damuels**	**3.38**	**211**	Pn	**Pn**	11 48 37.4	-0.6
	comp=Z,0.5nm,0.1s						
DAVA				Sg	**Sg**	11 49 34.3	+0.4
	comp=Z,57nm,0.4s						
FETA	**Feichten**	**3.39**	**200**	Pn	**Pn**	11 48 37.8	-0.3
	comp=Z,0.3nm,0.1s						
FETA				Sg	**Sg**	11 49 34.4	+0.3
	comp=Z,44nm,0.6s						
ABTA	**Abfaltersbach**	**3.47**	**179**	Pn	**Pn**	11 48 39.3	+0.1
	comp=Z,5.6nm,0.2s,SNR=23						
ABTA				Sg	**Sg**	11 49 36.3	-0.4
	comp=Z,61nm,0.4s						
RUP	**Ruppelstein**	**3.51**	**264**	P	**Pn**	11 48 40.2	+0.6
RUP				S	**Sn**	11 49 25.6	+4.6
STB	**Steinbach**	**3.60**	**278**	*e*Pn	**Pn**	11 48 40.7	-0.1
STB	**Steinbach**	**3.60**	**278**	Pn	**Pn**	11 48 40.7	-0.1
ARSA	**Arzberg**	**3.60**	**144**	Pn	**Pn**	11 48 41.5	+0.6
	comp=Z,6.7nm,0.3s,SNR=24						
ARSA				Sn	**Sn**	11 49 25.4	+2.0
	comp=Z,6.6nm,0.4s						
LAUG	**Laupendahl**	**3.66**	**290**	*e*Pn	**Pn**	11 48 41.9	+0.2
LAUG	**Laupendahl**	**3.66**	**290**	Pn	**Pn**	11 48 41.9	+0.2
MYKA	**Terra Mystica**	**3.68**	**167**	Pn	**Pn**	11 48 44.0	+2.0
	comp=Z,1.5nm,0.2s						
MYKA				Sn	**Sn**	11 49 27.7	+2.4
	comp=Z,4.5nm,0.2s						
SMOL	**Smolenice**	**3.68**	**116**	*e*Pg	**Pg**	11 48 54.8	-1.0
SMOL				*e*Sg	**Sg**	11 49 41.7	-1.8
SMOL	**Smolenice**	**3.68**	**116**	*e*PG	**Pg**	11 48 54.8	-1.0
SMOL				*e*SG	**Sg**	11 49 41.7	-1.8
OKC	**Ostrava-Krasne**	**3.71**	**94**	⇓*e*PN	**Pn**	11 48 44.9	+2.6
OKC				*e*PG	**Pg**	11 48 56.5	+0.3
OKC				*e*SG	**Sb**	11 49 38.5	+3.0
	comp=Z,122nm,0.5s						
OKC	**Ostrava-Krasne**	**3.71**	**94**	Pn	**Pn**	11 48 44.9	+2.6
OKC				Sg	**Sb**	11 49 38.5	+3.0
	comp=Z,122nm,0.5s						
SOP	**Sopron**	**3.72**	**131**	*e*Pn	**Pn**	11 48 44.2	+1.7
SOP	**Sopron**	**3.72**	**131**	*ex*	**Pn**	11 48 44.2	+1.7
SOP				*ex*	x	11 49 41.6	
FELD	**Feldberg im Sc**	**3.74**	**233**	P	**Pn**	11 48 43.5	+0.6
FELD				S	**Sn**	11 49 31.1	+4.3
CDF	**Champ du Feu**	**3.83**	**244**	*e*Pn	**Pn**	11 48 44.2	+0.2
CDF	**Champ du Feu**	**3.83**	**244**	*e*Pg	**Pg**	11 48 57.6	-0.9
CDF				*e*Sg	**Sg**	11 49 46.3	-1.7
	comp=Z,128nm,0.7s						
CDF	**Champ du Feu**	**3.83**	**244**	*e*Pn	**Pn**	11 48 44.2	+0.2
CDF	**Champ du Feu**	**3.83**	**244**	*e*Pg	**Pg**	11 48 57.6	-0.9
CDF				*e*Sg	**Sg**	11 49 46.3	-1.7
	comp=Z,64nm,0.7s						
KLL	**Kalltalsperre**	**3.94**	**279**	*e*Pn	**Pn**	11 48 45.6	+0.1
KLL	**Kalltalsperre**	**3.94**	**279**	Pn	**Pn**	11 48 45.6	+0.1
SOKA	**Soboth**	**3.94**	**153**	Pn	**Pn**	11 48 46.2	+0.6
	comp=Z,3.3nm,0.4s,SNR=12						
SOKA				Sg	**Sg**	11 49 50.4	-1.4
	comp=Z,20nm,0.4s						
OBKA	**Obir**	**3.97**	**158**	Pn	**Pn**	11 48 47.1	+1.1
	comp=Z,1.9nm,0.3s						
OBKA				Sg	**Sg**	11 49 52.6	-0.1
	comp=Z,12nm,0.3s						
ECH	**Echery**	**3.99**	**242**	P	**Pn**	11 48 46.6	+0.3
ECH				S	**Sn**	11 49 37.6	+4.6
ECH	**Echery**	**3.99**	**242**	P	**Pn**	11 48 46.6	+0.3
ECH				S	**Sn**	11 49 37.6	+4.6
PERS	**Pernice**	**4.00**	**152**	*i* Pn	**Pn**	11 48 47.5	+1.0
PERS	**Pernice**	**4.00**	**152**	Pn	**Pn**	11 48 47.5	+1.0
MOF	**Molkenrain**	**4.21**	**238**	P	**Pn**	11 48 50.4	+1.0
MOF				S	**Sn**	11 49 43.3	+4.8
MOF	**Molkenrain**	**4.21**	**238**	P	**Pn**	11 48 50.4	+1.0
MOF				S	**Sn**	11 49 43.3	+4.8
GROS	**Grobnik**	**4.28**	**150**	*i* Pn	**Pn**	11 48 51.7	+1.4
GROS	**Grobnik**	**4.28**	**150**	*i* Pn	**Pn**	11 48 51.7	+1.4
HINF	**Hinteralfeld**	**4.39**	**239**	*e*Pn	**Pn**	11 48 50.3	-1.4
HINF	**Hinteralfeld**	**4.39**	**239**	*e*Pg	**Pg**	11 49 06.5	-2.7
HINF				*e*Sg	**Sg**	11 50 02.1	-3.9
	comp=Z,83nm,0.6s						
HINF	**Hinteralfeld**	**4.39**	**239**	*e*Pn	**Pn**	11 48 50.3	-1.4
HINF	**Hinteralfeld**	**4.39**	**239**	*e*Pg	**Pg**	11 49 06.5	-2.7
HINF				*e*Sg	**Sg**	11 50 02.1	-3.9
	comp=Z,42nm,0.6s						
VYHS	**Vyhne**	**4.53**	**110**	*e*Pn	**Pn**	11 48 53.2	-0.4
VYHS	**Vyhne**	**4.53**	**110**	*e*PN	**Pn**	11 48 53.2	-0.4
VYHS				*e*SG	**Sb**	11 49 58.2	-0.9
VYHS				*e*LG	Lg	11 50 11.1	
KOGS	**Kog**	**4.55**	**145**	*i* Pn	**Pn**	11 48 55.1	+1.3
KOGS	**Kog**	**4.55**	**145**	*i* Pn	**Pn**	11 48 55.2	+1.3
HAU	**Haudompre**	**4.57**	**243**	*e*Pn	**Pn**	11 48 53.3	-0.9
HAU	**Haudompre**	**4.57**	**243**	*e*Pg	**Pg**	11 49 09.9	-2.8
HAU				*e*Sg	**Sg**	11 50 08.2	-3.6
	comp=Z,69nm,0.5s						
HAU	**Haudompre**	**4.57**	**243**	*e*Pn	**Pn**	11 48 53.3	-0.9
HAU	**Haudompre**	**4.57**	**243**	*e*Pg	**Pg**	11 49 09.9	-2.8
HAU				*e*Sg	**Sg**	11 50 08.2	-3.6
	comp=Z,34nm,0.5s						
THEF	**They Montfort**	**4.67**	**247**	P	**Pn**	11 48 56.4	+0.8
THEF				S	**Sn**	11 49 55.3	+5.7
THEF	**They Montfort**	**4.67**	**247**	P	**Pn**	11 48 56.4	+0.8
THEF				S	**Sn**	11 49 55.3	+5.7
LOMF	**Lomont**	**4.68**	**234**	P	**Pn**	11 48 56.6	+0.8
LOMF				S	**Sn**	11 49 55.6	+5.5
LOMF	**Lomont**	**4.68**	**234**	P	**Pn**	11 48 56.6	+0.8
LOMF				S	**Sn**	11 49 55.6	+5.5
PAGF	**Fort de Pagny**	**4.69**	**252**	*e*Pg	**Pg**	11 49 12.7	-2.2
	baz=58						
PAGF				*e*Sg	**Sg**	11 50 12.1	-3.5
	comp=Z,42nm,1.1s						
PAGF	**Fort de Pagny**	**4.69**	**252**	*e*Pg	**Pg**	11 49 12.7	-2.2
PAGF				*e*Sg	**Sg**	11 50 12.1	-3.5
	comp=Z,21nm,1.1s						
LANS	**Liptovska Anna**	**4.69**	**100**	*e*Pn	**Pn**	11 48 56.6	+0.7
LANS				*e*Sg	**Sg**	11 50 11.6	-4.2
LANS	**Liptovska Anna**	**4.69**	**100**	*e*PN	**Pn**	11 48 56.6	+0.7
LANS				*e*SG	**Sg**	11 50 11.6	-4.2
BEHE	**Becsehely**	**4.74**	**141**	*e*Pn	**Pn**	11 48 58.4	+1.9
BEHE	**Becsehely**	**4.74**	**141**	*ex*	**Pn**	11 48 58.4	+1.9
BEHE				*ex*	x	11 50 13.6	
CRES	**Cresnjev**	**4.84**	**154**	*i* Pn	**Pn**	11 48 58.4	+0.5
CRES	**Cresnjev**	**4.84**	**154**	*i* Pn	**Pn**	11 48 58.4	+0.5
GIVF	**Givet**	**4.89**	**272**	*e*Pg	**Pg**	11 49 16.4	-2.5
GIVF				*e*Sg	**Sg**	11 50 18.3	-3.9
	comp=Z,107nm,0.8s						
GIVF	**Givet**	**4.89**	**272**	*e*Pg	**Pg**	11 49 16.4	-2.5
GIVF				*e*Sg	**Sg**	11 50 18.3	-3.9
	comp=Z,54nm,0.8s						
OZLJ	**Ozalj**	**5.04**	**155**	*e*Pn	**Pn**	11 49 00.8	+0.3
OZLJ				Sn	**Sn**	11 49 56.9	-1.8
OZLJ	**Ozalj**	**5.04**	**155**	*e*Pn	**Pn**	11 49 00.8	+0.3
OZLJ				Sn	**Sn**	11 49 56.8	-1.8
BSD	**Bornholm Skovb**	**5.13**	**16**	*i* P	Pn	11 48 53.8	-8.1
BSD				*i* S	**Sn**	11 49 57.6	-3.4
BSD	**Bornholm Skovb**	**5.13**	**16**	*i* S	**Sn**	11 49 57.6	-3.4
BUD	**Budapest**	**5.14**	**120**	*e*Pn	**Pn**	11 49 03.1	+1.1
BUD	**Budapest**	**5.14**	**120**	*ex*	**Pn**	11 49 03.1	+1.1
SFTF	**Sexfontaines**	**5.25**	**250**	*e*Pn	**Pn**	11 49 03.2	-0.3
SFTF	**Sexfontaines**	**5.25**	**250**	*e*Pg	**Pg**	11 49 23.4	-2.3
	baz=59						
SFTF	**Sexfontaines**	**5.25**	**250**	*e*Pn	**Pn**	11 49 03.2	-0.3
SFTF	**Sexfontaines**	**5.25**	**250**	*e*Pg	**Pg**	11 49 23.4	-2.3
BAIF	**Baives**	**5.29**	**271**	*e*Sg	**Sg**	11 50 30.6	-4.4
	comp=Z,48nm,0.9s						
PSZ	**Piszkesteto**	**5.42**	**112**	*ex*	Pn	11 49 00.2	-5.7
PSZ				*ex*	x	11 50 30.7	

KECS	**Kecovo**	**5.54**	**105**	*e*Pn	**Pn**	11 49 07.6	0.0
KECS	**Kecovo**	**5.54**	**105**	*e*PN	**Pn**	11 49 07.5	0.0
KECS				*e*LG	Lg	11 50 52.7	
CABF	**La Chapelle**	**5.55**	**232**	*e*Pg	**Pg**	11 49 28.2	-3.4
CABF				*e*Sg	**Sg**	11 50 40.4	-3.0
	comp=Z,54nm,0.7s						
STHS	**Stebnicka Huta**	**5.76**	**95**	*e*Pn	**Pn**	11 49 11.4	+0.8
STHS	**Stebnicka Huta**	**5.76**	**95**	*e*PN	**Pn**	11 49 11.4	+0.8
STHS				*e*PG	**Pg**	11 49 34.0	-1.5
STHS				*e*SG	**Sg**	11 50 46.1	-4.0
STHS				*e*LG	Lg	11 50 59.3	
NVLJ	**Novalja**	**5.89**	**163**	*e*Pn	**Pn**	11 49 11.8	-0.6
NVLJ				Sn	**Sn**	11 50 18.9	-0.8
NVLJ	**Novalja**	**5.89**	**163**	*e*Pn	**Pn**	11 49 11.7	-0.6
NVLJ				Sn	**Sn**	11 50 18.9	-0.8
LPL	**La Plagne**	**6.07**	**221**	*e*Pg	**Pg**	11 49 38.4	-3.0
LPG	**La Plagne**	**6.07**	**221**	*e*Pg	**Pg**	11 49 38.6	-2.9
LPG				*e*Sg	**Sg**	11 50 56.9	-3.2
	comp=Z,20nm,0.7s						
LOR	**Lormes**	**6.39**	**246**	*e*Pn	**Pn**	11 49 18.5	-0.7
LOR	**Lormes**	**6.39**	**246**	*e*Pg	**Pg**	11 49 43.9	-3.6
	baz=48						
LOR				*e*Sg	**Sg**	11 51 06.1	-4.1
	comp=Z,36nm,0.7s						
LOR	**Lormes**	**6.39**	**246**	*e*Pn	**Pn**	11 49 18.5	-0.7
SSF	**Saint Saulge**	**6.70**	**245**	*e*Pg	**Pg**	11 49 49.7	-3.8
SSF				*e*Sg	**Sg**	11 51 15.5	-4.8
	comp=Z,26nm,0.6s						
SMF	**Signal de Mont**	**6.74**	**241**	*e*Pg	**Pg**	11 49 50.4	-3.8
SMF				*e*Sg	**Sg**	11 51 16.8	-4.6
	comp=Z,20nm,0.5s						
ORIF	**Oris-en-Rattie**	**6.91**	**222**	*e*Sg	**Sg**	11 51 24.1	-2.7
	comp=Z,17nm,0.8s						
AVF	**Avril sur Loir**	**6.94**	**244**	*e*Sg	**Sg**	11 51 22.6	-5.1
	comp=Z,30nm,0.8s						
VIVF	**Saint-Julien-l**	**7.50**	**227**	*e*Sg	**Sg**	11 51 41.4	-4.5
	comp=Z,8.2nm,0.5s						

ISCJB ***04*** *11:50:52.3±0.5, 50°.24N×0°.02×12°.52E±0°.03, h14km±5km, Error ellipse: s-maj=3.2km s-min=2.9km az=143.5*
CSEM ***04*** *11:50:53.3±0.1, 50°.24N×12°.50E, h10km, ML3.3/9, Error ellipse: s-maj=1.9km s-min=1.4km az=26.0*
PRU ***04*** *11:50:53.7, 50°.25N×12°.48E, h10km, West Bohemia Swarm*
BGR ***04*** *11:50:53.7±0.2, 50°.25N×12°.44E, h11km±1km, ML2.6/6, Error ellipse: s-maj=2.2km s-min=1.1km az=101.0*
IASPEI ***04*** *11:50:53.5±0.8, 50°.25N±0°.02×12°.46E±0°.02, h11km±3km, Error ellipse: s-maj=2.9km s-min=2.3km az=82.3, GT5 selection from ISC bulletin GT5 identified by Bond˙jr and McLaughlin (2009) selection criteria Bond˙jr and McLaughlin, A new ground truth data set for seismic studies, Seism. Res. Let., 80, 465-472, 2009*
CLL ***04*** *11:50:54.5±0.3, 50°.3N±0°.8×1°.2E±°, h7km±1km, ml2.4*
ISC 04 11:50:53.6±0.8, 50°.25N±0°.02×12°.47E±0°.02, h11km±3km, n68, σ0°.67/125, 1C, Germany

| Code | Station Name | Δ° | AZ° | Phase | ID Op | ID ISC | Time h m s | Res ISC |
|---|---|---|---|---|---|---|---

CLL					*i*				11 51 16.8	
CLL					*i*				11 51 18.3	
CLL					*i* Sg		**Sg**		**11 51 29.3**	**-0.2**
	comp=Z,54nm,0.6s									
CLL					*i*				11 51 33.8	
BRG	**Berggiesshubel**	**1.13**	**56**	PG		**Pg**			**11 51 15.3**	**0.0**
BRG				SG		**Sb**			**11 51 30.1**	**+0.4**
	comp=Z,47nm,0.3s									
BRG	**Berggiesshubel**	**1.13**	**56**	*e*Pg		**Pn**			**11 51 15.4**	**+0.1**
BRG				*e*Sg		**Sb**			**11 51 30.1**	**+0.4**
BRG	**Berggiesshubel**	**1.13**	**56**	Pg		**Pn**			**11 51 15.4**	**+0.1**
BRG				Sg		**Sb**			**11 51 30.1**	**+0.4**
WET	**Wettzell**	**1.14**	**166**	*e*PG		**Pb**			**11 51 15.4**	**+0.2**
WET				*e*SG		**Sb**			**11 51 29.7**	**-0.2**
WET	**Wettzell**	**1.14**	**166**	*e*Pg		**Pb**			**11 51 15.4**	**+0.2**
WET				*e*Sg		**Sb**			**11 51 29.6**	**-0.3**
WET	**Wettzell**	**1.14**	**166**	Pg		**Pb**			**11 51 15.4**	**+0.2**
WET				Sg		**Sb**			**11 51 29.6**	**-0.3**
PRA	**Prague**	**1.27**	**97**	*e*PG		**Pg**			**11 51 18.1**	**+0.1**
PRA				*e*SG		**Sg**			**11 51 34.5**	**0.0**
	comp=Z,28nm,0.5s									
PRA	**Prague**	**1.27**	**97**	Pg		**Pg**			**11 51 18.1**	**+0.1**
PRA				Sg		**Sg**			**11 51 34.5**	**0.0**
	comp=Z,28nm,0.5s									
KHC	**Kasperske Hory**	**1.33**	**147**	*e*PG		**Pb**			**11 51 18.9**	**+0.4**
KHC				*e*SG		**Sb**			**11 51 35.4**	**-0.1**
	comp=Z,38nm,0.2s									
KHC	**Kasperske Hory**	**1.33**	**147**	Pg		**Pb**			**11 51 18.9**	**+0.4**
KHC				Sg		**Sb**			**11 51 35.4**	**-0.1**
	comp=Z,38nm,0.2s									
PRU	**Pruhonice**	**1.36**	**100**	*e*PG		**Pb**			**11 51 19.2**	**+0.3**
PRU				*e*SG		**Sg**			**11 51 37.1**	**-0.1**
	comp=Z,32nm,0.2s									
PRU	**Pruhonice**	**1.36**	**100**	Pg		**Pb**			**11 51 19.2**	**+0.3**
PRU				Sg		**Sg**			**11 51 37.1**	**-0.1**
	comp=Z,32nm,0.2s									
PVCC	**Panska Ves**	**1.37**	**77**	*e*SG		**Sg**			**11 51 38.3**	**+0.6**
	comp=Z,59nm,0.2s									
PVCC	**Panska Ves**	**1.37**	**77**	Sg		**Sg**			**11 51 38.3**	**+0.6**
	comp=Z,59nm,0.2s									
GOPC	**GO Pecny, Ondr**	**1.53**	**102**	*e*PG		**Pb**			**11 51 22.3**	**+0.4**
GOPC				*e*SG		**Sg**			**11 51 42.4**	**-0.3**
	comp=Z,25nm,0.3s									
GOPC	**GO Pecny, Ondr**	**1.53**	**102**	Pg		**Pb**			**11 51 22.3**	**+0.4**
GOPC				Sg		**Sg**			**11 51 42.4**	**-0.3**
	comp=Z,25nm,0.3s									
TREC	**Trest**	**2.17**	**115**	*e*PG		**Pb**			**11 51 33.5**	**+0.6**
TREC				*e*SG		**Sg**			**11 52 02.0**	**-1.4**
	comp=Z,10nm,0.2s									
TREC	**Trest**	**2.17**	**115**	Pg		**Pb**			**11 51 33.5**	**+0.6**
TREC				Sg		**Sg**			**11 52 02.0**	**-1.4**
	comp=Z,10nm,0.2s									
UPC	**Upice**	**2.28**	**82**	*e*SG		**Sg**			**11 52 05.0**	**-1.8**
	comp=Z,17nm,0.3s									
UPC	**Upice**	**2.28**	**82**	Sg		**Sg**			**11 52 05.0**	**-1.8**
	comp=Z,17nm,0.3s									
DPC	**Dobruska-Polom**	**2.47**	**86**	*e*SG		**Sg**			**11 52 11.0**	**-1.9**
	comp=Z,14nm,0.4s									
DPC	**Dobruska-Polom**	**2.47**	**86**	Sg		**Sg**			**11 52 11.0**	**-1.9**
	comp=Z,14nm,0.4s									
KRLC	**Kraliky**	**2.78**	**92**	*e*SG		**Sg**			**11 52 21.7**	**-1.0**
KRLC	**Kraliky**	**2.78**	**92**	Sg		**Sg**			**11 52 21.7**	**-1.0**
VRAC	**Vranov**	**2.83**	**108**	*e*Sg		**Sb**			**11 52 21.6**	**+2.9**
OKC	**Ostrava-Krasne**	**3.68**	**94**	*e*SG		**Sg**			**11 52 48.9**	**-2.8**
	comp=Z,8.9nm,0.6s									
OKC	**Ostrava-Krasne**	**3.68**	**94**	Sg		**Sg**			**11 52 48.9**	**-2.8**
	comp=Z,8.9nm,0.6s									

*ISCJB **04** 11:52:37.1±0.5,50°.23N±0°.02×12°.51E±0°.03, h14km±5km, Error ellipse: s-maj=3.4km s-min=3.0km az=168.2*
*CSEM **04** 11:52:38.1±0.1,50°.23N×12°.49E, h10km, ML3.0/6, Error ellipse: s-maj=1.3km s-min=1.1km az=40.0*
*PRU **04** 11:52:38.4,50°.24N×12°.47E, h10km, West Bohemia Swarm*
*BGR **04** 11:52:38.4±0.2,50°.24N×12°.45E, h11km±1km, ML2.2/6, Error ellipse: s-maj=2.2km s-min=1.1km az=102.0*
*CLL **04** 11:52:39.1±0.3,50°.2N±0°.8×1°.2E±°, h7km±1km, ml2.0*
ISC 04 11:52:38.3±0.9,**50°.24N**±0°.02×**12°.46E**±0°.02,**h10**km±3km, **n59,σ0°44/110,5C-2D,Germany**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NKC	**Novy Kostel**	**0.01**	**253**	⇑*i*Pg	**Pg**	**11 52 40.4**	**+0.2**
NKC				*e*SG	**Sg**	**11 52 41.2**	**-0.3**
	comp=Z,512nm,0.2s						
NKC	**Novy Kostel**	**0.01**	**253**	⇑*i*Pg	**Pg**	**11 52 40.4**	**+0.2**
NKC				*i* Sg	**Sg**	**11 52 41.4**	**-0.2**
NKC	**Novy Kostel**	**0.01**	**253**	*e*Pg	**Pg**	**11 52 40.4**	**+0.2**
NKC				*e*Sg	**Sg**	**11 52 41.3**	**-0.2**
NKC	**Novy Kostel**	**0.01**	**253**	Pg	**Pg**	**11 52 40.4**	**+0.2**
NKC				Sg	**Sg**	**11 52 41.3**	**-0.3**
WERN	**Wernitzgruen**	**0.07**	**314**	*i* Pg	**Pg**	**11 52 40.8**	**+0.1**
WERN				*i* Sg	**Sg**	**11 52 42.2**	**-0.2**
WERN				AML	AML	11 52 42.4	
	comp=E,1μm,0.2s						
WERN	**Wernitzgruen**	**0.07**	**314**	*e*Pg	**Pg**	**11 52 40.8**	**+0.1**
WERN				*e*Sg	**Sg**	**11 52 42.2**	**-0.2**
WERN	**Wernitzgruen**	**0.07**	**314**	Pg	**Pg**	**11 52 40.8**	**+0.1**
WERN				Sg	**Sg**	**11 52 42.2**	**-0.2**
ROHR	**Rohrbach**	**0.09**	**269**	*i* Pg	**Pg**	**11 52 40.9**	**0.0**
ROHR				*i* Sg	**Sg**	**11 52 42.4**	**-0.4**
ROHR				AML	AML	11 52 42.5	
	comp=E,2μm,0.1s						
ROHR	**Rohrbach**	**0.09**	**269**	*e*Pg	**Pg**	**11 52 40.9**	**0.0**
ROHR				*e*Sg	**Sg**	**11 52 42.4**	**-0.4**
ROHR	**Rohrbach**	**0.09**	**269**	Pg	**Pg**	**11 52 40.9**	**0.0**
ROHR				Sg	**Sg**	**11 52 42.4**	**-0.4**
GUNZ	**Gunzen**	**0.15**	**327**	*i* Pg	**Pg**	**11 52 42.0**	**+0.2**
GUNZ				*i* Sg	**Sg**	**11 52 44.1**	**-0.2**
GUNZ				AML	AML	11 52 44.4	
	comp=N,261nm,0.2s						
GUNZ	**Gunzen**	**0.15**	**327**	*e*Pg	**Pg**	**11 52 42.0**	**+0.2**
GUNZ				*e*Sg	**Sg**	**11 52 44.1**	**-0.2**
GUNZ	**Gunzen**	**0.15**	**327**	Pg	**Pg**	**11 52 42.0**	**+0.2**
GUNZ				Sg	**Sg**	**11 52 44.1**	**-0.2**
MULD	**Muldenberg**	**0.18**	**348**	*i* Pg	**Pg**	**11 52 42.4**	**+0.1**
MULD				*i* Sg	**Sg**	**11 52 44.8**	**-0.2**
MULD				AML	AML	11 52 44.9	
	comp=E,337nm,0.2s						
MULD	**Muldenberg**	**0.18**	**348**	*e*Pg	**Pg**	**11 52 42.4**	**+0.1**
MULD				*e*Sg	**Sg**	**11 52 44.8**	**-0.2**
MULD	**Muldenberg**	**0.18**	**348**	Pg	**Pg**	**11 52 42.4**	**+0.1**
MULD				Sg	**Sg**	**11 52 44.8**	**-0.2**
TANN	**Tannenbergstha**	**0.18**	**0**	*i* Pg	**Pg**	**11 52 42.4**	**+0.1**
TANN				*i* Sg	**Sg**	**11 52 44.7**	**-0.3**
TANN				AML	AML	11 52 45.1	
	comp=N,291nm,0.2s						
WERD	**Werda**	**0.23**	**335**	*i* Pg	**Pg**	**11 52 43.3**	**+0.1**
WERD				*e*Sg	**Sg**	**11 52 46.4**	**-0.1**
WERD				AML	AML	11 52 46.7	
	comp=E,117nm,0.1s						
WERD	**Werda**	**0.23**	**335**	*e*Pg	**Pg**	**11 52 43.4**	**+0.1**
WERD				*e*Sg	**Sg**	**11 52 46.0**	**-0.5**
WERD	**Werda**	**0.23**	**335**	Pg	**Pg**	**11 52 43.3**	**+0.1**
WERD				Sg	**Sg**	**11 52 46.0**	**-0.5**
TRIB	**Obertriebel**	**0.24**	**299**	*i* Pg	**Pg**	**11 52 43.3**	**0.0**
TRIB				*i* Sg	**Sg**	**11 52 46.4**	**-0.2**
TRIB				AML	AML	11 52 46.6	
	comp=N,68nm,0.2s						
TRIB	**Obertriebel**	**0.24**	**299**	*e*Pg	**Pg**	**11 52 43.3**	**0.0**
TRIB	**Obertriebel**	**0.24**	**299**	Pg	**Pg**	**11 52 43.3**	**0.0**
PLN	**Plauen**	**0.32**	**322**	*i* Pg	**Pg**	**11 52 44.8**	**+0.1**
PLN				*i* Sg	**Sg**	**11 52 48.8**	**-0.2**
PLN				AML	AML	11 52 49.0	
	comp=E,132nm,0.2s						
PLN	**Plauen**	**0.32**	**322**	*e*Pg	**Pg**	**11 52 44.8**	**+0.1**
PLN				*e*Sg	**Sg**	**11 52 48.8**	**-0.2**
PLN	**Plauen**	**0.32**	**322**	Pg	**Pg**	**11 52 44.8**	**+0.1**
PLN				Sg	**Sg**	**11 52 48.8**	**-0.2**
SCHF	**Schoenfels**	**0.44**	**355**	*i* Pg	**Pg**	**11 52 47.2**	**+0.1**
SCHF				*i* Sg	**Sg**	**11 52 53.0**	**+0.1**
SCHF				AML	AML	11 52 53.2	
	comp=E,287nm,0.2s						
SCHF	**Schoenfels**	**0.44**	**355**	*e*Pg	**Pg**	**11 52 47.1**	**+0.1**
SCHF				*e*Sg	**Sg**	**11 52 52.8**	**-0.1**
SCHF	**Schoenfels**	**0.44**	**355**	Pg	**Pg**	**11 52 47.1**	**+0.1**
SCHF				Sg	**Sg**	**11 52 52.8**	**-0.1**
ROTZ	**Rotzenmuhle**	**0.50**	**199**	*e*Pg	**Pg**	**11 52 48.4**	**+0.4**
ROTZ				*e*Sg	**Sg**	**11 52 54.7**	**+0.1**
ROTZ	**Rotzenmuhle**	**0.50**	**199**	Pg	**Pg**	**11 52 48.4**	**+0.4**
ROTZ				Sg	**Sg**	**11 52 54.7**	**+0.1**
MLFH	**Mildenfurth**	**0.61**	**337**	*i* Pg	**Pg**	**11 52 50.1**	**0.0**
MLFH				*i* Sg	**Sg**	**11 52 57.8**	**-0.3**
MOX	**Moxa**	**0.68**	**307**	*e*Pg	**Pg**	**11 52 51.4**	**-0.1**
MOX				*e*Sg	**Sg**	**11 53 00.3**	**-0.1**
MOX	**Moxa**	**0.68**	**307**	Pg	**Pg**	**11 52 51.4**	**-0.1**
MOX				Sg	**Sg**	**11 53 00.3**	**-0.1**
FBE	**Freiberg**	**0.89**	**39**	*e*Pg	**Pb**	**11 52 55.8**	**-0.1**
FBE				*e*Sg	**Sg**	**11 53 07.1**	**0.0**
FBE	**Freiberg**	**0.89**	**39**	Pg	**Pb**	**11 52 55.8**	**-0.1**
FBE				Sg	**Sg**	**11 53 07.1**	**0.0**
GRA1	**Grafenberg Arr**	**0.97**	**236**	Pg	**Pg**	**11 52 57.0**	**+0.1**
GRA1				Sg	**Sg**	**11 53 09.2**	**-0.3**
GRF	**Grafenberg Arr**	**0.97**	**236**	*e*Pg	**Pg**	**11 52 57.0**	**+0.1**
GRF				*e*Sg	**Sg**	**11 53 09.2**	**-0.3**
WET	**Wettzell**	**1.13**	**166**	⇓*e*PG	**Pb**	**11 52 59.7**	**-0.2**
WET				*e*SG	**Sg**	**11 53 14.2**	**-0.4**
WET	**Wettzell**	**1.13**	**166**	*e*Pg	**Pb**	**11 52 60.0**	**+0.1**
WET				*e*Sg	**Sg**	**11 53 14.2**	**-0.4**
WET	**Wettzell**	**1.13**	**166**	Pg	**Pb**	**11 53 00.0**	**+0.1**
WET				Sg	**Sg**	**11 53 14.2**	**-0.4**
CLL	**Collm**	**1.13**	**18**	*e*Pg	**Pb**	**11 52 59.8**	**-0.1**
CLL				*e*Sg	**Sg**	**11 53 14.4**	**-0.2**
CLL	**Collm**	**1.13**	**18**	Pg	**Pb**	**11 52 59.8**	**-0.1**
CLL				Sg	**Sg**	**11 53 14.4**	**-0.2**
CLL	**Collm**	**1.13**	**18**	*i* Pg	**Pb**	**11 52 59.7**	**-0.1**
CLL				*i*		11 53 01.7	
CLL				*i*		11 53 02.9	
CLL				*i* Sg	**Sg**	**11 53 14.5**	**-0.2**
	comp=Z,18nm,0.5s						
CLL				*i*		11 53 18.5	
BRG	**Berggiesshubel**	**1.14**	**55**	PG	**Pb**	**11 53 00.1**	**0.0**
BRG				SG	**Sg**	**11 53 14.9**	**-0.1**
	comp=Z,29nm,0.3s						
BRG	**Berggiesshubel**	**1.14**	**55**	*e*Pg	**Pg**	**11 53 00.2**	**0.0**
BRG				*e*Sg	**Sb**	**11 53 14.7**	**-0.3**
BRG	**Berggiesshubel**	**1.14**	**55**	Pg	**Pg**	**11 53 00.2**	**0.0**
BRG				Sg	**Sb**	**11 53 14.7**	**-0.3**
KHC	**Kasperske Hory**	**1.32**	**146**	⇓*e*PG	**Pb**	**11 53 03.2**	**0.0**
KHC				*e*SG	**Sb**	**11 53 20.0**	**-0.2**
	comp=Z,9.0nm,0.2s						
KHC	**Kasperske Hory**	**1.32**	**146**	Pg	**Pb**	**11 53 03.2**	**0.0**
KHC				Sg	**Sb**	**11 53 20.0**	**-0.2**
	comp=Z,9.0nm,0.2s						
PRU	**Pruhonice**	**1.36**	**100**	⇑*e*PG	**Pb**	**11 53 03.9**	**0.0**
PRU				*e*SG	**Sb**	**11 53 21.2**	**-0.1**
	comp=Z,8.4nm,0.2s						
PRU	**Pruhonice**	**1.36**	**100**	Pg	**Pb**	**11 53 03.9**	**0.0**
PRU				Sg	**Sb**	**11 53 21.2**	**-0.1**
	comp=Z,8.4nm,0.2s						
PVCC	**Panska Ves**	**1.38**	**77**	⇑*e*SG	**Sg**	**11 53 23.5**	**+0.7**
	comp=Z,29nm,0.2s						
PVCC	**Panska Ves**	**1.38**	**77**	Sg	**Sg**	**11 53 23.5**	**+0.7**
	comp=Z,29nm,0.2s						
GOPC	**GO Pecny, Ondr**	**1.53**	**101**	*e*PG	**Pb**	**11 53 06.9**	**+0.1**
GOPC				*e*SG	**Sg**	**11 53 26.9**	**-0.7**
	comp=Z,11nm,0.2s						
GOPC	**GO Pecny, Ondr**	**1.53**	**101**	Pg	**Pb**	**11 53 06.9**	**+0.1**
GOPC				Sg	**Sg**	**11 53 26.9**	**-0.7**
	comp=Z,11nm,0.2s						
UPC	**Upice**	**2.29**	**82**	⇑*e*SG	**Sg**	**11 53 50.1**	**-1.8**
	comp=Z,6.7nm,0.3s						
UPC	**Upice**	**2.29**	**82**	Sg	**Sg**	**11 53 50.1**	**-1.8**
	comp=Z,6.7nm,0.3s						
DPC	**Dobruska-Polom**	**2.48**	**86**	*e*SG	**Sb**	**11 53 55.5**	**+2.0**
	comp=Z,2.9nm,0.3s						
DPC	**Dobruska-Polom**	**2.48**	**86**	Sg	**Sb**	**11 53 55.5**	**+2.0**
	comp=Z,2.9nm,0.3s						

*ISCJB **04** 11:58:54.8±0.5,35°.48N±0°.05×26°.43E±0°.04, h29km±7km, Error ellipse: s-maj=8.8km s-min=4.1km az=155.7*
*ATH **04** 11:58:54.3,35°.44N×26°.47E, h32km±1km, ML2.6/4, Error ellipse: s-maj=5.2km s-min=1.0km az=159.0*
*CSEM **04** 11:58:55.0±0.1,35°.46N×26°.44E, h26km±2km, ML2.6, Error ellipse: s-maj=4.3km s-min=1.9km az=155.0*
*THE **04** 11:58:55.8,35°.45N×26°.44E, h24km±3km, ML2.9/6, Error ellipse: s-maj=4.0km s-min=0.8km az=143.0*
ISC 04 11:58:54.9±1.0,**35°.46N**±0°.04×**26°.44E**±0°.03,**h25**km±12km, **n36,σ0°43/66,Crete**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZKR	**Zakros**	**0.39**	**208**	P	**Pb**	**11 59 09.2**	**-0.1**
ZKR				S	**Sb**	**11 59 09.3**	**+0.3**
ZKR	**Zakros**	**0.39**	**208**	P	**Pb**	**11 59 03.1**	**-0.1**
ZKR				S	**Sb**	**11 59 09.0**	**0.0**
ZKR				AML	AML	11 59 09.8	
	comp=E,2246μm,0.1s						
ZKR				AML	AML	11 59 10.2	
	comp=N,995μm,0.1s						
KARP	**Karpathos**	**0.60**	**81**	P	**Pb**	**11 59 06.7**	**0.0**
KARP				S	**Sb**	**11 59 15.1**	**+0.2**
KARP	**Karpathos**	**0.60**	**81**	P	**Pb**	**11 59 06.6**	**-0.2**
KARP				S	**Sb**	**11 59 14.7**	**-0.2**
KARP	**Karpathos**	**0.60**	**81**	P	**Pb**	**11 59 06.8**	**0.0**
KARP				S	**Sb**	**11 59 14.3**	**-0.6**
KARP				AML	AML	11 59 16.1	
	comp=E,3337μm,0.2s						
KARP				AML	AML	11 59 16.4	
	comp=N,2157μm,0.1s						
NPS	**Neapolis**	**0.70**	**254**	P	**Pn**	**11 59 09.1**	**-0.1**
NPS				S	**Sb**	**11 59 18.2**	**+0.4**
NPS	**Neapolis**	**0.70**	**254**	P	**Pn**	**11 59 09.0**	**-0.1**
NPS				S	**Sn**	**11 59 18.7**	**-0.5**
NPS	**Neapolis**	**0.70**	**254**	P	**Pn**	**11 59 09.2**	**+0.1**
NPS				S	**Sb**	**11 59 17.9**	**+0.1**
NPS				AML	AML	11 59 19.8	
	comp=N,1332μm,0.3s						
NPS				AML	AML	11 59 21.2	
	comp=E,1605μm,0.2s						
LAST	**Lasithi**	**0.84**	**249**	P	**Pn**	**11 59 11.2**	**+0.1**
LAST				S	**Sn**	**11 59 22.4**	**-0.3**
LAST	**Lasithi**	**0.84**	**249**	P	**Pn**	**11 59 11.2**	**+0.1**
LAST				S	**Sn**	**11 59 22.4**	**-0.3**
LAST	**Lasithi**	**0.84**	**249**	P	**Pn**	**11 59 11.5**	**+0.3**
THR6	**Thira Island,**	**1.23**	**317**	P	**Pn**	**11 59 16.2**	**-0.2**
THR6	**Thira Island,**	**1.23**	**317**	P	**Pn**	**11 59 16.2**	**-0.2**
THR3	**Thira Island,**	**1.27**	**319**	P	**Pn**	**11 59 17.1**	**+0.2**
THR3				S	**Sn**	**11 59 33.8**	**+0.7**
THR3	**Thira Island,**	**1.27**	**319**	P	**Pn**	**11 59 17.1**	**+0.2**
THR3				S	**Sn**	**11 59 33.8**	**+0.7**
IDI	**Anoyia**	**1.27**	**263**	P	**Pn**	**11 59 16.7**	**-0.4**
IDI				S	**Sn**	**11 59 33.8**	**+0.3**
IDI	**Anoyia**	**1.27**	**263**	P	**Pn**	**11 59 17.0**	**+0.5**
IDI				S	**Sn**	**11 59 33.8**	**+0.3**
IDI	**Anoyia**	**1.27**	**263**	P	**Pn**	**11 59 17.2**	**+0.1**
IDI				S	**Sb**	**11 59 34.5**	**+0.2**
IDI				AML	AML	11 59 36.1	
	comp=N,306μm,0.3s						
IDI				AML	AML	11 59 38.5	
	comp=E,270μm,0.2s						
THR5	**Thira Island,**	**1.30**	**318**	P	**Pn**	**11 59 17.4**	**0.0**
THR5	**Thira Island,**	**1.30**	**318**	P	**Pn**	**11 59 17.4**	**0.0**
SIVA	**Sivas**	**1.40**	**252**	P	**Pn**	**11 59 19.2**	**+0.4**
SIVA				S	**Sn**	**11 59 36.7**	**+0.2**
SIVA	**Sivas**	**1.40**	**252**	P	**Pn**	**11 59 19.2**	**+0.4**
SIVA				S	**Sn**	**11 59 36.7**	**+0.2**
SIVA	**Sivas**	**1.40**	**252**	P	**Pn**	**11 59 20.6**	**+0.2**
ARG	**Arkhangelos**	**1.57**	**61**	P	**Pn**	**11 59 21.7**	**+0.6**
ARG				S	**Sn**	**11 59 40.2**	**-0.4**
ARG	**Arkhangelos**	**1.57**	**61**	P	**Pn**	**11 59 21.7**	**+0.6**
ARG				S	**Sn**	**11 59 40.2**	**-0.4**
APE	**Apeiranthos**	**1.77**	**336**	P	**Pn**	**11 59 23.8**	**-0.1**
APE				S	**Sn**	**11 59 44.9**	**-0.6**
APE	**Apeiranthos**	**1.77**	**336**	P	**Pn**	**11 59 23.8**	**-0.1**
APE				S	**Sn**	**11 59 44.9**	**-0.6**
VAM	**Vamos**	**1.83**	**269**	P	**Pn**	**11 59 24.1**	**-0.6**
VAM				S	**Sn**	**11 59 46.1**	**-0.9**
VAM	**Vamos**	**1.83**	**269**	P	**Pn**	**11 59 24.1**	**-0.6**
VAM				S	**Sn**	**11 59 46.1**	**-0.9**
IMMV	**Iera Moni Meta**	**2.00**	**271**	P	**Pn**	**11 59 27.2**	**+0.1**
IMMV				S	**Sn**	**11 59 51.1**	**-0.3**
IMMV	**Iera Moni Meta**	**2.00**	**271**	P	**Pn**	**11 59 27.2**	**+0.1**
IMMV				S	**Sn**	**11 59 51.1**	**-0.3**
CHOS	**Chios island**	**2.94**	**354**	P	**Pn**	**11 59 39.8**	**-0.2**
CHOS				S	**Sn**	**12 00 15.0**	**+0.5**
CHOS	**Chios island**	**2.94**	**354**	P	**Pn**	**11 59 39.8**	**-0.2**
CHOS				S	**Sn**	**12 00 15.0**	**+0.5**
VLI	**Veliai**	**3.10**	**295**	P	**Pn**	**11 59 42.6**	**+0.4**
VLI				S	**Sn**	**12 00 17.3**	**-1.1**
VLI	**Veliai**	**3.10**	**295**	P	**Pn**	**11 59 42.6**	**+0.4**
VLI				S	**Sn**	**12 00 17.3**	**-1.1**
KLV	**Kalavryta, Ach**	**4.30**	**308**	P	**Pn**	**11 59 59.1**	**+0.4**
KLV				S	**Sn**	**12 00 48.5**	**+0.4**

*ISCJB **04** 12:06:03.5±0.8,31°.21N±0°.06×115°.93W±0°.05, h13km±7km, Error ellipse: s-maj=12.3km s-min=4.2km az=31.5*
*MEX **04** 12:06:03.9±0.9,31°.47N×115°.19W, h16km±18km, MD3.9*
*ECX **04** 12:06:04.7±0.7,31°.26N×115°.89W, h5km, MD2.5, ML2.8*
ISC 04 12:06:03.3±1.2,**31°.21N**±0°.07×**115°.93W**±0°.05,**h16**km±9km, **n21,σ0°55/30,3C-2D,Baja California**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPIG	**San Pedro Mart**	**0.43**	**112**	*e*P	**Pb**	**12 06 12.6**	**-0.1**
SPIG				*e*S	**Sg**	**12 06 18.4**	**+0.4**
SPIG	**San Pedro Mart**	**0.43**	**112**	*e*P	**Pb**	**12 06 12.6**	**-0.1**
SPIG				*e*S	**Sg**	**12 06 18.0**	**0.0**
ZAX	**El Zacaton**	**0.43**	**316**	*e*P	**Pg**	**12 06 12.0**	**0.0**
ZAX				*e*S	**Sg**	**12 06 18.1**	**+0.2**
ZAX				⇑*e*		12 06 19.6	
ZAX				IAML		12 06 19.6	
	comp=N,998nm,0.4s						
SPX	**San Pedro Mart**	**0.43**	**112**	⇑*i*P	**Pb**	**12 06 12.6**	**-0.1**
SPX				*e*S	**Sg**	**12 06 18.3**	**+0.2**
ECNX	**Esteban Cantu**	**0.73**	**308**	*e*P	**Pg**	**12 06 17.5**	**-0.1**
ECBX	**El Chinero**	**0.79**	**70**	⇑*i*P	**Pb**	**12 06 18.3**	**-0.4**
ECBX				*e*S	**Sb**	**12 06 28.1**	**-1.1**
ECBX				IAML		12 06 28.5	
	comp=N,355nm,0.3s						
ECBX				⇓*e*		12 06 28.5	
PBX	**Punta Banda**	**0.87**	**308**	*e*P	**Pb**	**12 06 19.9**	**-0.1**
CBX	**Cerro Bola**	**1.27**	**331**	*e*P	**Pn**	**12 06 26.3**	**-0.3**
CBX				*e*S	**Sb**	**12 06 42.5**	**-0.6**
CBX				IAML		12 06 48.2	
	comp=E,156nm,0.3s						
CBX				⇓*e*		12 06 48.2	
TJIG	**Tijuana**	**1.38**	**333**	*e*P	**Pn**	**12 06 27.8**	**-0.2**
TJIG	**Tijuana**	**1.38**	**333**	*e*P	**Pn**	**12 06 27.9**	**-0.1**
TJIG				*i* S	**Sn**	**12 06 46.0**	**+0.1**
RMX	**La Rumorosa**	**1.40**	**355**	*e*P	**Pn**	**12 06 28.4**	**0.0**
IKP	**In-Ko-Pah, Jac**	**1.45**	**354**	P	**Pb**	**12 06 29.7**	**-0.3**
	baz=180						
IKP				S	**Sb**	**12 06 48.2**	**-0.1**
	baz=180						
BAR	**Barrett**	**1.60**	**337**	*e*P	**Pn**	**12 06 31.6**	**+0.5**
MONP	**Monument Peak,**	**1.73**	**346**	P	**Pb**	**12 06 34.2**	**-0.7**
	baz=170						
MONP				S	**Sn**	**12 06 55.7**	**+0.8**
	baz=170						
SWSC	**Sam W. Stewart**	**1.74**	**3**	P	**Pb**	**12 06 35.0**	**+0.2**
	baz=190						
SDRC	**San Diego Road**	**1.75**	**331**	*e*P	**Pb**	**12 06 34.2**	**-1.0**
109C	**Camp Elliot, M**	**1.95**	**329**	P	**Pn**	**12 06 37.1**	**+1.3**
	baz=151						
109C				Sb	**Sb**	**12 07 01.9**	**-0.8**
	baz=151						
113A	**Mohawk Valley,**	**2.41**	**49**	*e*P	Pn	12 06 29.8	-12
PFO	**Pinyon Flats O**	**2.44**	**349**	Pb	**Pb**	**12 06 47.2**	**+0.2**
	baz=173						
PFO				Sb	**Sb**	**12 07 17.7**	**+0.8**
	baz=173						
MURC	**Murrieta**	**2.62**	**336**	Pb	**Pb**	**12 06 49.5**	**-0.4**
	baz=158						
214A	**Organ Pipe Nat**	**2.76**	**73**	*e*P	Pn	12 06 37.8	-9.2

JMA 04 12:15:55.6,38°.75N×142°.06E, h52km±1km**, M3.5, Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OFUJ	**Ofunato**	**0.45**	**317**	P	Pn	12 16 06.6	+0.2
OFUJ				S	Sn	12 16 14.3	+0.1
JIO	**Ouri**	**0.63**	**242**	P	Pn	12 16 08.5	0.0
JIO				S	Sn	12 16 17.5	-0.4
JMK	**Ichinoseki**	**0.69**	**287**	P	Pn	12 16 09.4	+0.2
JMK				S	Sn	12 16 19.4	+0.3
JOM	**Ohasama**	**0.94**

	comp=N,19nm,0.4s									
YSS	**Yuzh-Sakhalins**	**8.55**	**2**	*e*P		**Pn**	**12 24 05.1**	**+2.5**		
YSS	**Yuzh-Sakhalins**	**8.55**	**2**	*e*Pn		**Pn**	**12 24 05.1**	**+2.5**		
KLR	**Kul'dur**	**13.23**	**328**	LR		LR	12 30 26.8			
	comp=N,57nm,18.4s,baz=114,slow=38									
MA2	**Magadan**	**21.87**	**12**	LR		LR	12 36 28.8			
	comp=N,21nm,19.1s,baz=142,slow=40									
SEY	**Seymchan**	**25.31**	**11**	P		**P**	**12 27 27.0**	**+1.7**		
	comp=N,4.3nm,0.8s,baz=194,slow=9.7,SNR=11									
SONA1	**Songino Array**	**27.64**	**302**	*e*P		**P**	**12 27 48.1**	**+1.3**		
H11N2	**WAKE ISLAND Hy**	**28.27**	**124**	T		T	12 58 08.8			
	baz=316,slow=75,SNR=173									
H11N1	**WAKE ISLAND Hy**	**28.28**	**124**	T		T	12 58 09.5			
	baz=316,slow=75,SNR=154									
H11N3	**WAKE ISLAND Hy**	**28.29**	**124**	T		T	12 58 10.2			
	baz=316,slow=75,SNR=115									
H11S1	**WAKE ISLAND Hy**	**29.04**	**126**	T		T	12 59 08.8			
	baz=318,slow=76,SNR=49									
H11S3	**WAKE ISLAND Hy**	**29.04**	**126**	T		T	12 59 10.2			
	baz=318,slow=76,SNR=69									
H11S2	**WAKE ISLAND Hy**	**29.06**	**126**	T		T	12 59 10.9			
	baz=318,slow=76,SNR=42									
TT01	**Tatalina**	**43.88**	**36**	*e*P		**P**	**12 30 07.7**	**+2.4**		
KURK	**Kurchatov**	**45.67**	**307**	P		**P**	**12 30 20.4**	**+0.8**		
KURK				pmax	pmax					
	comp=Z,1.0nm,0.4s									
KURK	**Kurchatov**	**45.67**	**307**	*e*P		**P**	**12 30 20.4**	**+0.8**		
CAST	**Castle Rocks**	**45.69**	**35**	*e*P		**P**	**12 30 21.4**	**+1.7**		
	comp=Z,8.6nm,1.6s									
KURBB	**Kurchatov Arra**	**45.74**	**307**	P		**P**	**12 30 20.4**	**+0.3**		
	comp=Z,1.0nm,0.2s,baz=82,slow=8.3,SNR=6.8									
PMR	**Palmer**	**47.10**	**37**	*e*P		**P**	**12 30 30.0**	**-0.7**		
PMR				pmax	pmax					
	comp=Z,26nm,1.6s									
PMR	**Palmer**	**47.10**	**37**	*e*P		**P**	**12 30 30.0**	**-0.7**		
	comp=Z,26nm,1.6s									
ILAR	**Eielson Array**	**47.95**	**33**	P		**P**	**12 30 37.5**	**+0.2**		
	comp=Z,0.4nm,0.6s,baz=267,slow=6.2,SNR=8.0									
ILB	**Eielson Array**	**47.95**	**33**	*e*P		**P**	**12 30 37.5**	**+0.2**		
MTN	**Manton Dam**	**52.04**	**194**	*e*P		**P**	**12 31 09.5**	**+0.7**		
	comp=Z,18nm,1.2s									
INK	**Inuvik**	**52.84**	**28**	*e*P		**P**	**12 31 15.3**	**+1.1**		
INK				pmax	pmax					
	comp=Z,13nm,1.6s									
INK	**Inuvik**	**52.84**	**28**	*e*P		**P**	**12 31 15.3**	**+1.1**		
	comp=Z,13nm,1.6s									
MLOA	**Mauna Loa Obse**	**56.47**	**91**	*e*P		**P**	**12 31 40.7**	**-1.0**		
	comp=Z,142nm,1.4s									
FITZ	**Fitzroy Crossi**	**58.35**	**199**	*e*P		**P**	**12 31 55.0**	**+0.8**		
	comp=Z,29nm,2.0s									
WRAB	**Tennant Creek**	**58.51**	**189**	*e*P		**P**	**12 31 55.2**	**-0.2**		
WRAB				pmax	pmax					
	comp=Z,28nm,1.9s									
WRAB	**Tennant Creek**	**58.51**	**189**	*e*P		**P**	**12 31 55.2**	**-0.2**		
	comp=Z,28nm,1.9s									
WB2	**Warramunga Arr**	**58.52**	**189**	*e*P		**P**	**12 31 55.0**	**-0.4**		
	comp=Z,10.0nm,1.3s									
WR1	**Warramunga Arr**	**58.52**	**189**	*e*P		**P**	**12 31 55.1**	**-0.4**		
	comp=Z,34nm,2.0s									
WRA	**Warramunga Arr**	**58.52**	**189**	P		**P**	**12 31 55.1**	**-0.4**		
	comp=Z,3.2nm,0.8s,baz=6.2,slow=7.2,SNR=34									
AS01	**Alice Springs**	**62.24**	**189**	*e*P		**P**	**12 32 21.3**	**+0.4**		
AS31	**Alice Springs**	**62.24**	**189**	*e*P		**P**	**12 32 20.9**	**0.0**		
	comp=Z,1.2nm,1.1s									
ASAR	**Alice Springs**	**62.24**	**189**	P		**P**	**12 32 20.9**	**0.0**		
	comp=Z,1.4nm,0.7s,baz=12,slow=6.4,SNR=22									
ASAR	**Alice Springs**	**62.24**	**189**	P		**P**	**12 32 21.0**	**0.0**		
ASAR				pmax	pmax					
	comp=Z,1.0nm,0.7s									
FIA1	**FINESS Array S**	**67.94**	**332**	*e*P		**P**	**12 32 57.6**	**+0.1**		
SFJD	**Kangerlussuaq**	**74.46**	**5**	*e*P		**P**	**12 33 37.8**	**+0.9**		
SFJD				pmax	pmax					
	comp=Z,174nm,1.9s									
SFJD	**Kangerlussuaq**	**74.46**	**5**	*e*P		**P**	**12 33 37.8**	**+0.9**		
	comp=Z,174nm,1.9s									
PD31	**Pinedale Array**	**76.20**	**46**	*e*P		**P**	**12 33 48.2**	**+0.6**		
PDAR	**Pinedale Array**	**76.20**	**46**	P		**P**	**12 33 48.8**	**+1.1**		
	comp=Z,0.2nm,0.4s,baz=309,slow=4.3,SNR=2.8									
WMOK	**Wichita Mounta**	**87.81**	**46**	*e*P		**P**	**12 34 47.9**	**-0.7**		
WMOK				pmax	pmax					
	comp=Z,6.0nm,0.9s									
WMOK	**Wichita Mounta**	**87.81**	**46**	*e*P		**P**	**12 34 47.9**	**-0.7**		
	comp=Z,5.8nm,0.9s									
PAYG	**Puerto Ayora**	**118.97**	**65**	*e*PKPdf		**PKPdf**	**12 40 46.6**	**-1.8**		
PB10	**IPOC Station P**	**148.34**	**72**	*e*PKPbc		**PKPbc**	**12 41 45.6**	**-0.1**		

*ISCJB **04** 12:26:51.3±0.5, 50°.23N±0°.02×12°.52E±0°.03, h13km±5km, Error ellipse: s-maj=3.3km s-min=3.1km az=151.6*
*IASPEI **04** 12:26:52.4±0.8, 50°.24N±0°.02×12°.47E±0°.02, h11km±4km, Error ellipse: s-maj=3.3km s-min=2.5km az=97.2, GT5 selection from ISC bulletin GT5 identified by Bond¨ jr and McLaughlin (2009) selection criteria Bond¨jr and McLaughlin, A new ground truth data set for seismic studies, Seism. Res. Let., 80, 465-472, 2009*
*BGR **04** 12:26:52.6±0.2, 50°.24N×12°.45E, h10km±1km, ML2.1/6, Error ellipse: s-maj=2.2km s-min=1.1km az=102.0*
*CSEM **04** 12:26:52.3±0.1, 50°.23N×12°.50E, h10km, ML2.9/7, Error ellipse: s-maj=1.7km s-min=1.4km az=28.0*
*PRU **04** 12:26:52.6, 50°.23N×12°.48E, h10km, West Bohemia Swarm*

ISC 04 12:26:52.4±0.8, 50°.24N±0°.02×12°.48E±0°.02, h11km±4km, n54, σ0°.58/96, 8D, Germany

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
NKC	**Novy Kostel**	**0.02**	**249**	⇓*i*	PG	**Pg**	**12 26 54.6**	**+0.2**
NKC				*e*	SG	**Sg**	**12 26 55.3**	**-0.5**
	comp=Z,1μm,0.2s							
NKC	**Novy Kostel**	**0.02**	**249**	*e*	Pg	**Pg**	**12 26 54.6**	**+0.2**
NKC				*e*	Sg	**Sg**	**12 26 55.6**	**-0.2**
NKC	**Novy Kostel**	**0.02**	**249**	*i*	Pg	**Pg**	**12 26 54.6**	**+0.2**
NKC				*i*	Sg	**Sg**	**12 26 55.6**	**-0.2**
WERN	**Wernitzgruen**	**0.08**	**306**	*e*	Pg	**Pg**	**12 26 55.1**	**+0.1**
WERN				*e*	Sg	**Sg**	**12 26 56.4**	**-0.4**
WERN	**Wernitzgruen**	**0.08**	**306**	*i*	Pg	**Pg**	**12 26 55.1**	**+0.1**
WERN				*i*	Sg	**Sg**	**12 26 56.4**	**-0.4**
ROHR	**Rohrbach**	**0.10**	**267**	*e*	Pg	**Pg**	**12 26 55.2**	**0.0**
ROHR				*e*	Sg	**Sg**	**12 26 56.6**	**-0.6**
ROHR	**Rohrbach**	**0.10**	**267**	*i*	Pg	**Pg**	**12 26 55.2**	**0.0**
ROHR				*i*	Sg	**Sg**	**12 26 56.6**	**-0.6**
GUNZ	**Gunzen**	**0.15**	**323**	*e*	Pg	**Pg**	**12 26 56.2**	**+0.2**
GUNZ				*e*	Sg	**Sg**	**12 26 58.3**	**-0.2**
GUNZ	**Gunzen**	**0.15**	**323**	*i*	Pg	**Pg**	**12 26 56.2**	**+0.2**
GUNZ				*i*	Sg	**Sg**	**12 26 58.3**	**-0.2**
MULD	**Muldenberg**	**0.18**	**344**	*e*	Pg	**Pg**	**12 26 56.6**	**+0.3**
MULD				*e*	Sg	**Sg**	**12 26 58.9**	**-0.2**
MULD	**Muldenberg**	**0.18**	**344**	*i*	Pg	**Pg**	**12 26 56.6**	**+0.3**
MULD				*i*	Sg	**Sg**	**12 26 58.9**	**-0.2**
WERD	**Werda**	**0.23**	**332**	*e*	Pg	**Pg**	**12 26 57.6**	**+0.2**
WERD				*e*	Sg	**Sg**	**12 27 00.3**	**-0.3**
WERD	**Werda**	**0.23**	**332**	*i*	Pg	**Pg**	**12 26 57.6**	**+0.2**
WERD				*i*	Sg	**Sg**	**12 27 00.3**	**-0.3**
TRIB	**Obertriebel**	**0.25**	**297**	*e*	Pg	**Pg**	**12 26 57.5**	**0.0**
TRIB				*e*	Sg	**Sg**	**12 27 00.6**	**-0.4**
TRIB	**Obertriebel**	**0.25**	**297**	*i*	Pg	**Pg**	**12 26 57.5**	**0.0**
TRIB				*i*	Sg	**Sg**	**12 27 00.6**	**-0.4**
PLN	**Plauen**	**0.32**	**320**	*e*	Pg	**Pg**	**12 26 59.0**	**+0.1**
PLN				*e*	Sg	**Sg**	**12 27 02.9**	**-0.3**
PLN	**Plauen**	**0.32**	**320**	*i*	Pg	**Pg**	**12 26 59.0**	**+0.1**
PLN				*i*	Sg	**Sg**	**12 27 02.9**	**-0.3**
SCHF	**Schoenfels**	**0.44**	**354**	*e*	Pg	**Pg**	**12 27 00.5**	**-0.6**
SCHF				*e*	Sg	**Sg**	**12 27 07.0**	**+0.1**
SCHF	**Schoenfels**	**0.44**	**354**	*i*	Pg	**Pg**	**12 27 00.5**	**-0.6**
SCHF				*i*	Sg	**Sg**	**12 27 07.1**	**+0.1**
ROTZ	**Rotzenmuhle**	**0.51**	**200**	*e*	Pg	**Pg**	**12 27 02.6**	**+0.3**
ROTZ				*e*	Sg	**Sg**	**12 27 09.1**	**+0.1**
ROTZ	**Rotzenmuhle**	**0.51**	**200**	*i*	Pg	**Pg**	**12 27 02.6**	**+0.3**
ROTZ				*i*	Sg	**Sg**	**12 27 09.1**	**+0.1**
MOX	**Moxa**	**0.68**	**307**	*e*	Pg	**Pg**	**12 27 05.6**	**-0.1**
MOX				*e*	Sg	**Sg**	**12 27 14.4**	**-0.3**
MOX	**Moxa**	**0.68**	**307**	*i*	Pg	**Pg**	**12 27 05.6**	**-0.1**
MOX				*i*	Sg	**Sg**	**12 27 14.4**	**-0.3**
FBE	**Freiberg**	**0.88**	**39**	*e*	Pg	**Pb**	**12 27 10.0**	**+0.3**
FBE				*e*	Sg	**Sb**	**12 27 21.4**	**-0.1**
FBE	**Freiberg**	**0.88**	**39**	*i*	Pg	**Pb**	**12 27 10.0**	**+0.3**
FBE				*i*	Sg	**Sb**	**12 27 21.4**	**-0.1**
GRA1	**Grafenberg Arr**	**0.98**	**236**	*i*	Pg	**Pg**	**12 27 11.2**	**-0.1**
GRA1				*i*	Sg	**Sg**	**12 27 24.0**	**0.0**
GRF	**Grafenberg Arr**	**0.98**	**236**	*e*	Pg	**Pg**	**12 27 11.2**	**-0.1**
GRF				*e*	Sg	**Sg**	**12 27 24.0**	**0.0**
CLL	**Collm**	**1.12**	**17**	*e*	Pg	**Pb**	**12 27 13.6**	**-0.2**
CLL				*e*	Sg	**Sg**	**12 27 28.7**	**+0.2**
CLL	**Collm**	**1.12**	**17**	*i*	Pg	**Pb**	**12 27 13.6**	**-0.2**
CLL				*i*	Sg	**Sg**	**12 27 28.7**	**+0.2**
CLL	**Collm**	**1.12**	**17**	*i*	Pg	**Pg**	**12 27 14.0**	**+0.1**
CLL				*i*			12 27 17.2	
CLL				*i*	Sg	**Sg**	**12 27 28.7**	**+0.2**
	comp=Z,12nm,0.4s							
CLL				*i*			12 27 32.7	
BRG	**Berggiesshubel**	**1.13**	**55**	P	G	**Pn**	**12 27 14.3**	**+0.2**
BRG				S	G	**Sn**	**12 27 29.5**	**-0.2**
	comp=Z,17nm,0.3s							
BRG	**Berggiesshubel**	**1.13**	**55**	*e*	Pg	**Pn**	**12 27 14.4**	**+0.2**
BRG				*e*	Sg	**Sg**	**12 27 29.0**	**+0.2**
BRG	**Berggiesshubel**	**1.13**	**55**	P	g	**Pn**	**12 27 14.4**	**+0.2**
BRG				S	g	**Sg**	**12 27 29.0**	**+0.2**
WET	**Wettzell**	**1.13**	**167**	⇓*e*	PG	**Pb**	**12 27 14.0**	**+0.1**
WET				*e*	SG	**Sb**	**12 27 28.2**	**-0.4**
WET	**Wettzell**	**1.13**	**167**	*e*	Pg	**Pb**	**12 27 14.1**	**+0.1**
WET				*e*	Sg	**Sb**	**12 27 28.3**	**-0.4**
WET	**Wettzell**	**1.13**	**167**	P	g	**Pb**	**12 27 14.1**	**+0.1**
WET				S	g	**Sb**	**12 27 28.3**	**-0.4**
PRA	**Prague**	**1.27**	**97**	⇓*e*	SG	**Sb**	**12 27 32.9**	**+0.2**
	comp=Z,7.8nm,0.2s							
PRA	**Prague**	**1.27**	**97**	S	g	**Sb**	**12 27 32.9**	**+0.2**
	comp=Z,7.8nm,0.2s							
KHC	**Kasperske Hory**	**1.32**	**147**	⇓*e*	PG	**Pn**	**12 27 17.1**	**+0.2**
KHC				*e*	SG	**Sb**	**12 27 34.3**	**+0.1**
	comp=Z,8.0nm,0.2s							
KHC	**Kasperske Hory**	**1.32**	**147**	P	g	**Pn**	**12 27 17.1**	**+0.2**
KHC				S	g	**Sb**	**12 27 34.3**	**+0.1**
	comp=Z,8.0nm,0.2s							
PRU	**Pruhonice**	**1.35**	**100**	⇓*e*	PG	**Pg**	**12 27 18.4**	**0.0**
PRU				*e*	SG	**Sg**	**12 27 36.0**	**+0.1**
	comp=Z,12nm,0.3s							
PRU	**Pruhonice**	**1.35**	**100**	P	g	**Pg**	**12 27 18.4**	**0.0**
PRU				S	g	**Sg**	**12 27 36.0**	**+0.1**
	comp=Z,12nm,0.3s							
PVCC	**Panska Ves**	**1.37**	**77**	⇓*e*	SG	**Sg**	**12 27 37.4**	**+0.9**
	comp=Z,20nm,0.2s							
PVCC	**Panska Ves**	**1.37**	**77**	S	g	**Sg**	**12 27 37.4**	**+0.9**
	comp=Z,20nm,0.2s							
GOPC	**GO Pecny, Ondr**	**1.52**	**102**	*e*	PG	**Pg**	**12 27 21.8**	**+0.2**
GOPC				*e*	SG	**Sg**	**12 27 41.1**	**-0.3**
	comp=Z,13nm,0.2s							
GOPC	**GO Pecny, Ondr**	**1.52**	**102**	P	g	**Pg**	**12 27 21.8**	**+0.2**
GOPC				S	g	**Sg**	**12 27 41.1**	**-0.3**
	comp=Z,13nm,0.2s							
UPC	**Upice**	**2.28**	**82**	⇓*e*	SG	**Sg**	**12 28 04.4**	**-1.2**
	comp=Z,5.2nm,0.4s							
UPC	**Upice**	**2.28**	**82**	S	g	**Sg**	**12 28 04.4**	**-1.2**
	comp=Z,5.2nm,0.4s							
DPC	**Dobruska-Polom**	**2.47**	**86**	*e*	SG	**Sg**	**12 28 09.7**	**-2.0**
	comp=Z,2.6nm,0.3s							
DPC	**Dobruska-Polom**	**2.47**	**86**	S	g	**Sg**	**12 28 09.7**	**-2.0**
	comp=Z,2.6nm,0.3s							
KRLC	**Kraliky**	**2.77**	**92**	⇓*e*	SG	**Sg**	**12 28 20.4**	**-1.0**
KRLC	**Kraliky**	**2.77**	**92**	S	g	**Sg**	**12 28 20.4**	**-1.0**
VRAC	**Vranov**	**2.83**	**108**	*e*	Sg	**Sb**	**12 28 20.1**	**+2.6**
MORC	**Moravsky Berou**	**3.30**	**96**	*e*	Sg	**Sg**	**12 28 36.3**	**-2.0**

*GEN **04** 12:39:10.7, 44°.42N×7°.31E, h13km, ML0.8*

CSEM 04 12:39:10.7, 44°.42N×7°.31E, h13km, ML0.8, Northern Italy

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
STV	**Sant Anna di V**	**0.17**	**176**	P		Pg	12 39 14.7	-0.1
STV				S		Sg	12 39 16.8	-0.8
ENR	**Entracque**	**0.21**	**157**	P		Pg	12 39 15.3	-0.1
ENR				S		Sg	12 39 18.2	-0.3
BHB	**Bricherasio**	**0.42**	**356**	P		Pg	12 39 18.8	-0.4
BHB				S		Sg	12 39 24.0	-0.9
NEGI	**Seborga**	**0.64**	**153**	P		Pg	12 39 23.3	+0.2
NEGI				S		Sg	12 39 31.1	-0.5
IMI	**Imperia**	**0.66**	**140**	P		Pg	12 39 23.4	-0.2
IMI				S		Sg	12 39 32.0	-0.3

*ISCJB **04** 12:39:41.6±0.2, 46°.57N±0°.01×10°.91E±0°.01, h0km±1km, Error ellipse: s-maj=1.8km s-min=1.4km az=2.0*
*ROM **04** 12:39:41.6±0.1, 46°.54N×10°.89E, h6km±2km, Ml2.9/22, Error ellipse: s-maj=2.6km s-min=1.3km az=8.0*
*VIE **04** 12:39:42.4±0.3, 46°.54N×10°.91E, h6km, mb2.3/11, ML3.1/14, Error ellipse: s-maj=3.0km s-min=1.5km az=20.0*
*CSEM **04** 12:39:42.7±0.1, 46°.55N×10°.95E, h2km, ML3.3/34, Error ellipse: s-maj=1.9km s-min=1.5km az=177.0*
*ZUR **04** 12:39:42.9, 46°.51N×10°.80E, h18km±2km, ML2.5/8*
*LDG **04** 12:39:44.9±0.2, 46°.57N×11°.06E, h10km, Ml3.0/13*
*BGR **04** 12:39:44.9±0.3, 46°.57N×10°.90E, h10km, ML3.1/21, Error ellipse: s-maj=6.7km s-min=3.3km az=1.0*
*PRU **04** 12:39:46.9, 46°.60N×11°.15E, h3km*

ISC 04 12:39:42.5±0.8, 46°.54N±0°.01×10°.91E±0°.01, h11km±5km, n266, σ1°.51/409, 13C-2D, Northern Italy

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
OZOL	**Ozolo**	**0.17**	**145**	⇑*i*	Pg	**Pg**	**12 39 46.4**	**+0.1**
OZOL				*i*	Sg	**Sg**	**12 39 48.8**	**-0.2**
OZOL	**Ozolo**	**0.17**	**145**	*i*	Pg	**Pg**	**12 39 46.4**	**+0.1**
OZOL				*i*	Sg	**Sg**	**12 39 48.8**	**-0.2**
CARE	**Lago del Cares**	**0.19**	**233**	⇑*i*	Pg	**Pg**	**12 39 46.5**	**-0.3**
CARE				*i*	Sg	**Sg**	**12 39 49.5**	**-0.3**
CARE	**Lago del Cares**	**0.19**	**233**	*i*	Pg	**Pg**	**12 39 46.5**	**-0.3**
CARE				*i*	Sg	**Sg**	**12 39 49.5**	**-0.3**
APPI	**Appiano**	**0.23**	**106**	P	g	**Pg**	**12 39 47.6**	**+0.3**
APPI				S	g	**Sg**	**12 39 50.9**	**+0.3**
	4μm,0.6s							
APPI	**Appiano**	**0.23**	**106**	P	g	**Pg**	**12 39 47.6**	**+0.3**
APPI				S	g	**Sg**	**12 39 50.9**	**+0.3**
	4μm,0.6s							
MOSI	**Grossmontoni**	**0.26**	**287**	P	g	**Pg**	**12 39 48.0**	**0.0**
MOSI				S	g	**Sg**	**12 39 51.6**	**-0.1**
	6μm,0.3s							
MOSI	**Grossmontoni**	**0.26**	**287**	⇑*i*	Pg	**Pg**	**12 39 48.0**	**0.0**
	2μm,0.3s							
MOSI				*e*	Sg	**Sg**	**12 39 51.8**	**+0.1**
	2μm,0.3s							
MOSI	**Grossmontoni**	**0.26**	**287**	⇑*i*	Pg	**Pg**	**12 39 48.0**	**0.0**
	2μm,0.3s							
MOSI				*e*	Sg	**Sg**	**12 39 51.8**	**+0.1**
	2μm,0.3s							
KOSI	**Kohlern**	**0.33**	**103**	P	g	**Pg**	**12 39 49.6**	**+0.4**
KOSI				S	g	**Sg**	**12 39 54.1**	**+0.4**
	1μm,0.7s							
KOSI	**Kohlern**	**0.33**	**103**	P	g	**Pg**	**12 39 49.6**	**+0.4**
KOSI				S	g	**Sg**	**12 39 54.1**	**+0.4**
	1μm,0.7s							
ABSI	**Aberstueckl**	**0.34**	**56**	P	g	**Pg**	**12 39 49.6**	**+0.2**
ABSI				S	g	**Sg**	**12 39 54.3**	**+0.3**
	1μm,0.4s							
ABSI	**Aberstueckl**	**0.34**	**56**	P	g	**Pg**	**12 39 49.6**	**+0.2**
ABSI				S	g	**Sg**	**12 39 54.3**	**+0.3**
	1μm,0.4s							
BRMO	**Bormio**	**0.38**	**261**	P	g	**Pg**	**12 39 49.9**	**-0.2**
BRMO				S	g	**Sg**	**12 39 54.7**	**-0.5**
	817nm,0.2s							
BRMO	**Bormio**	**0.38**	**261**	P	g	**Pg**	**12 39 49.9**	**-0.2**
BRMO				S	g	**Sg**	**12 39 54.7**	**-0.5**
	817nm,0.2s							
STSP	**Tschierv**	**0.41**	**282**	⇑*i*	Pg	**Pg**	**12 39 48.7**	**-2.0**
STSP	**Tschierv**	**0.41**	**282**	⇑*i*	Pg	**Pg**	**12 39 48.7**	**-2.0**
FUORN	**Ofenpass-Fuorn**	**0.46**	**280**	P	g	**Pg**	**12 39 51.3**	**-0.2**
FUORN				S	g	**Sg**	**12 39 57.2**	**-0.4**
	1μm,0.4s							
FUORN	**Ofenpass-Fuorn**	**0.46**	**280**	⇑*i*	Pg	**Pg**	**12 39 49.6**	**-1.9**
	232nm,0.5s							
FUORN	**Ofenpass-Fuorn**	**0.46**	**280**	P	g	**Pg**	**12 39 51.3**	**-0.2**
FUORN				S	g	**Sg**	**12 39 57.2**	**-0.4**
	1μm,0.4s							
FETA	**Feichten**	**0.50**	**345**	P	g	**Pg**	**12 39 52.4**	**+0.1**
	SNR=199							
FETA				S	g	**Sg**	**12 39 58.8**	**-0.1**
	97nm,0.1s							
MABI	**Malga Bissina**	**0.56**	**210**	P	g	**Pg**	**12 39 53.1**	**-0.3**
MABI				S	g	**Sg**	**12 40 00.1**	**-0.7**
	367nm,0.2s							
MABI	**Malga Bissina**	**0.56**	**210**	⇑*i*	Pg	**Pg**	**12 39 49.6**	**-3.8**
	84nm,0.2s							
MABI	**Malga Bissina**	**0.56**	**210**	P	g	**Pg**	**12 39 53.1**	**-0.3**
MABI				S	g	**Sg**	**12 40 00.1**	**-0.7**
	367nm,0.2s							

PANI	**Panarotta**	**0.57**	**149**	*e*	Pg	**Pg**	**12 39 53.7**	**0.0**
PANI				*e*	Sg	**Sg**	**12 40 01.5**	**+0.3**
PANI	**Panarotta**	**0.57**	**149**	*e*	Pg	**Pg**	**12 39 53.7**	**0.0**
PANI				*e*	Sg	**Sg**	**12 40 01.5**	**+0.3**
RNI	**Roncone**	**0.59**	**200**	⇑*e*	Pg	**Pg**	**12 39 53.8**	**-0.3**
BERNI	**Berninapass**	**0.63**	**259**	P	g	**Pg**	**12 39 54.2**	**-0.6**
BERNI				S	g	**Sg**	**12 40 02.7**	**-0.4**
	271nm,0.2s							
BERNI	**Berninapass**	**0.63**	**259**	⇑*i*	Pg	**Pg**	**12 39 50.5**	**-4.3**
	67nm,0.6s							
BERNI	**Berninapass**	**0.63**	**259**	P	g	**Pg**	**12 39 54.2**	**-0.6**
BERNI				S	g	**Sg**	**12 40 02.7**	**-0.4**
	271nm,0.2s							
DDS	**Dosso del Somm**	**0.69**	**164**	*e*	Pg	**Pg**	**12 39 55.7**	**-0.1**
DDS	**Dosso del Somm**	**0.69**	**164**	*e*	Pg	**Pg**	**12 39 55.7**	**-0.1**
SQTA	**Sankt Quirin**	**0.71**	**16**	P	g	**Pg**	**12 39 56.4**	**+0.1**
DAVOX	**Davos/Dischmat**	**0.75**	**289**	P	g	**Pg**	**12 39 56.6**	**-0.5**
DAVOX				S	g	**Sg**	**12 40 06.2**	**-0.8**
	492nm,0.5s							
DAVOX	**Davos/Dischmat**	**0.75**	**289**	⇑*i*	Pg	**Pg**	12 39 51.4	-5.7
	2μm,0.5s							
DAVOX	**Davos/Dischmat**	**0.75**	**289**	P	g	**Pg**	**12 39 56.6**	**-0.5**
DAVOX				S	g	**Sg**	**12 40 06.2**	**-0.8**
	492nm,0.5s							
MAGA	**Magasa**	**0.79**	**195**	P	g	**Pg**	**12 39 57.0**	**-0.8**
	1μm,0.5s							
MAGA	**Magasa**	**0.79**	**195**	P	g	**Pg**	**12 39 57.0**	**-0.8**
	1μm,0.5s							
MOTA	**Moosalm**	**0.82**	**9**	P	g	**Pg**	**12 39 58.2**	**-0.1**
	15nm,0.2s,SNR=89							
MOTA				S	g	**Sg**	**12 40 08.7**	**-0.3**
	71nm,0.2s							
AGOR	**Agordo**	**0.82**	**108**	P	g	**Pg**	**12 39 58.4**	**0.0**
	286nm,0.3s							
AGOR	**Agordo**	**0.82**	**108**	⇑*e*	Pg	**Pg**	**12 39 58.4**	**0.0**
WTTA	**Wattenberg**	**0.88**	**34**	*e*	Pg	**Pg**	**12 39 59.2**	**-0.3**
WTTA				*e*	SG	**Sg**	**12 40 10.5**	**-0.4**
WTTA	**Wattenberg**	**0.88**	**34**	*e*	Pg	**Pg**	**12 39 59.1**	**-0.3**
WTTA				*e*	Sg	**Sn**	**12 40 12.7**	**-1.0**
WTTA	**Wattenberg**	**0.88**	**34**	P	g	**Pg**	**12 39 59.3**	**-0.3**
	7.6nm,0.2s,SNR=20							
WTTA				S	g	**Sn**	**12 40 12.7**	**-1.0**
	37nm,0.2s							
RISI	**Rein**	**0.90**	**63**	P	g	**Pg**	**12 39 59.7**	**-0.2**
RISI				S	g	**Sg**	**12 40 11.5**	**-0.1**
	445nm,0.4s							
RISI	**Rein**	**0.90**	**63**	P	g	**Pg**	**12 39 59.7**	**-0.2**
RISI				S	g	**Sg**	**12 40 11.5**	**-0.1**
	445nm,0.4s							
ROVR	**Rover¨¤ Verone**	**0.90**	**173**	P	g	**Pg**	**12 39 59.7**	**-0.2**
	247nm,0.3s							
ROVR	**Rover¨¤ Verone**	**0.90**	**173**	P	g	**Pg**	**12 39 59.7**	**-0.2**
	247nm,0.3s							
CGRP	**Cima Grappa**	**0.90**	**137**	P	g	**Pg**	**12 40 00.0**	**0.0**
	153nm,0.4s							
CGRP	**Cima Grappa**	**0.90**	**137**	*e*	Pg	**Pg**	**12 39 59.9**	**0.0**
CGRP	**Cima Grappa**	**0.90**	**137**	*e*	Pg	**Pg**	**12 39 59.9**	**0.0**
WATA	**Walderalm**	**0.92**	**29**	P	g	**Pg**	**12 40 00.1**	**-0.1**
	32nm,0.2s,SNR=30							
WATA				S	g	**Sb**	**12 40 13.5**

RJOB					Sg	Sg	12 40 41.6	+2.6	
ACOM	**Acomizza, Ital**	**1.79**	**89**		Pg	Pb	12 40 15.6	+0.2	
	257nm,0.5s								
ACOM	**Acomizza, Ital**	**1.79**	**89**	*e*Pn		Pb	12 40 15.4	-0.1	
ACOM	**Acomizza, Ital**	**1.79**	**89**	Pg		Pb	12 40 15.6	+0.2	
	257nm,0.5s								
LSR	**Lussari**	**1.81**	**91**	*e*Pn		Pb	12 40 15.6	-0.1	
LSR	**Lussari**	**1.81**	**91**	*e*Pn		Pb	12 40 15.6	-0.1	
ROBS	**Robic**	**1.82**	**98**	*i* Pn		Pg	12 40 16.6	-0.8	
ROBS				*i* Sn		Sg	12 40 41.5	+0.5	
	comp=Z,12nm,0.1s								
ROBS	**Robic**	**1.82**	**98**	Pn		Pg	12 40 16.6	-0.8	
ROBS				*i* Sn		Sg	12 40 41.5	+0.5	
	comp=Z,12nm,0.1s								
MYKA	**Terra Mystica**	**1.88**	**86**	Pn		Pb	12 40 17.0	+0.1	
	comp=Z,13nm,0.3s,SNR=22								
MYKA					Sg	Sg	12 40 43.5	+0.5	
	comp=Z,28nm,0.3s								
DRE	**Drenchia**	**1.93**	**100**	*e*Pn		Pb	12 40 17.2	-0.4	
DRE	**Drenchia**	**1.93**	**100**	*e*Pn		Pb	12 40 17.2	-0.4	
SABO	**M.te Sabotino**	**1.95**	**106**	*e*Pn		Pb	12 40 17.2	-0.8	
SABO	**M.te Sabotino**	**1.95**	**106**	*e*Pn		Pb	12 40 17.2	-0.8	
CADS	**Cadrg**	**1.98**	**98**	*i* Pn		Pb	12 40 19.2	+0.7	
CADS				*i* Sn		Sg	12 40 46.0	-0.1	
	comp=Z,16nm,0.2s								
CADS	**Cadrg**	**1.98**	**98**	*i* Pn		Pb	12 40 19.2	+0.7	
CADS				*i* Sn		Sg	12 40 46.0	-0.1	
	comp=Z,16nm,0.2s								
SLE	**Schleitheim**	**2.06**	**307**	*e*Pn		Pb	12 40 19.1	-0.8	
SLE				*e*Sg		Sg	12 40 49.1	+0.5	
SLE	**Schleitheim**	**2.06**	**307**	Pn		Pb	12 40 19.1	-0.8	
SLE				Sg		Sg	12 40 49.1	+0.5	
VOJS	**Vojsko**	**2.12**	**103**	*i* Pn		Pn	12 40 19.4	+1.5	
VOJS				*i* Sn		Sg	12 40 50.8	+0.2	
	comp=Z,41nm,0.3s								
VOJS	**Vojsko**	**2.12**	**103**	*i* Pn		Pn	12 40 19.4	+1.5	
VOJS				*i* Sn		Sg	12 40 50.8	+0.2	
	comp=Z,41nm,0.3s								
GRAM	**Graiana**	**2.13**	**197**	P		Pb	12 40 20.2	-1.0	
GRAM				S		Sb	12 40 46.8	-0.8	
SULZ	**Cheisacher**	**2.16**	**298**	*e*Pn		Pn	12 40 19.7	+1.3	
SULZ				*e*Pg		Pg	12 40 24.2	+0.4	
SULZ				*e*Sg		Sg	12 40 52.1	+0.3	
SULZ	**Cheisacher**	**2.16**	**298**	Pn		Pn	12 40 19.7	+1.3	
SATI	**Passo dei Sala**	**2.22**	**254**	P		Pb	12 40 21.8	-0.9	
SATI				S		Sb	12 40 50.8	+0.5	
JAVS	**Javornik**	**2.28**	**105**	*i* Pn		Pb	12 40 21.9	-1.8	
JAVS				*i* Sn		Sg	12 40 55.2	-0.5	
	comp=Z,22nm,0.3s								
JAVS	**Javornik**	**2.28**	**105**	*i* Pn		Pb	12 40 21.9	-1.8	
BALST	**Balsthal**	**2.34**	**291**	*e*Pn		Pb	12 40 23.5	-1.3	
BALST				*e*Sg		Sg	12 40 57.6	-0.2	
BALST	**Balsthal**	**2.34**	**291**	Pn		Pb	12 40 23.5	-1.3	
BALST				Sg		Sg	12 40 57.6	-0.2	
SKDS	**Skadanscina**	**2.38**	**114**	*i* Pn		Pb	12 40 23.5	-1.8	
	comp=Z,7.0nm,0.1s								
SKDS	**Skadanscina**	**2.38**	**114**	*i* Pn		Pb	12 40 23.5	-1.8	
	comp=Z,7.0nm,0.1s								
TRAV	**Traversella**	**2.43**	**246**	P		Pn	12 40 24.0	+1.8	
TRAV				S		Sn	12 40 53.4	+1.4	
BFO	**Black Forest**	**2.51**	**317**	*e*Pn		Pb	12 40 25.6	-1.9	
BFO				*e*Sn		Sb	12 40 56.7	-1.7	
BFO	**Black Forest**	**2.51**	**317**	Pn		Pb	12 40 25.6	-1.9	
BFO				Sn		Sb	12 40 56.7	-1.7	
OBKA	**Obir**	**2.51**	**89**	*e*Pn		Pb	12 40 26.2	-1.4	
OBKA				*e*Sg		Sg	12 41 03.1	0.0	
OBKA	**Obir**	**2.51**	**89**	Pn		Pb	12 40 26.2	-1.4	
	comp=Z,0.3nm,0.1s								
OBKA					Sg	Sg	12 41 03.1	0.0	
	comp=Z,38nm,0.5s								
STU	**Stuttgart**	**2.52**	**333**	*e*Sg		Sg	12 41 04.1	+0.7	
STU	**Stuttgart**	**2.52**	**333**	Sg		Sg	12 41 04.1	+0.7	
PCP	**Piancastagn**	**2.60**	**221**	P		Pn	12 40 26.4	+1.9	
PCP				S		Sb	12 40 59.0	-2.1	
MOA	**Molln**	**2.63**	**59**	*e*Pn		Pb	12 40 27.3	-2.4	
MOA				*e*Pg		Pg	12 40 31.8	-1.2	
MOA				*e*Sg		Sg	12 41 05.9	-1.2	
MOA	**Molln**	**2.63**	**59**	Pn		Pb	12 40 27.3	-2.4	
MOA	**Molln**	**2.63**	**59**	Pg		Pg	12 40 31.8	-1.2	
MOA				Sg		Sg	12 41 06.2	-0.9	
	comp=Z,30nm,0.4s								
SOKA	**Soboth**	**2.84**	**86**	Pn		Pn	12 40 30.0	+2.2	
	comp=Z,0.5nm,0.3s								
SOKA					Sg	Sg	12 41 12.6	-1.2	
	comp=Z,7.8nm,0.4s								
RSP	**Reno Superiore**	**2.91**	**243**	P		Pn	12 40 29.1	+0.4	
WET	**Wettzell**	**2.92**	**26**	*e*Pn		Pn	12 40 30.3	+1.4	
WET				*e*Pg		Pg	12 40 40.0	+1.5	
WET	**Wettzell**	**2.92**	**26**	Pn		Pn	12 40 30.3	+1.4	
GEC2	**GERESS Array S**	**2.98**	**38**	*e*Pn		Pn	12 40 31.7	+2.0	
GEC2				*e*Pg		Pg	12 40 39.1	-0.4	
GEC2				*e*Sn		Sn	12 41 08.3	+2.9	
GEC2				*e*Sg		Sg	12 41 18.2	+0.1	
GEC2	**GERESS Array S**	**2.98**	**38**	Pn		Pn	12 40 31.7	+2.0	
HINF	**Hinteralfeld**	**3.05**	**296**	*e*Pn		Pb	12 40 33.9	-2.9	
	SNR=1.0								
HINF				*e*Sn		Sn	12 41 06.8	-0.3	
HINF				*e*Sg		Sg	12 41 21.9	+1.5	
	comp=Z,45nm,0.7s								
HINF	**Hinteralfeld**	**3.05**	**296**	*e*Pn		Pb	12 40 33.9	-2.9	
	SNR=1.0								
HINF				*e*Sn		Sn	12 41 06.8	-0.3	
HINF				*e*Sg		Sg	12 41 21.9	+1.5	
	comp=Z,22nm,0.7s								
LPG	**La Plagne**	**3.08**	**252**	*e*Pn		Pn	12 40 33.4	+2.1	
LPG	**La Plagne**	**3.08**	**252**	*e*P		Pb	12 40 36.4	-1.1	
	SNR=1.0								
LPG				*e*Sn		Sn	12 41 09.5	+1.2	
	comp=Z,14nm,0.5s								
LPG	**La Plagne**	**3.08**	**252**	*e*Pn		Pn	12 40 33.4	+2.1	
LPG	**La Plagne**	**3.08**	**252**	*e*P		Pb	12 40 36.4	-1.1	
	SNR=1.0								
LPG				*e*Sn		Sn	12 41 09.5	+1.2	
	comp=Z,6.9nm,0.5s								
LPL	**La Plagne**	**3.09**	**252**	*e*P		Pb	12 40 36.4	-1.1	
	SNR=1.0								
LPL				*e*Sn		Sn	12 41 09.4	+1.1	
	comp=Z,13nm,0.5s								
LPL	**La Plagne**	**3.09**	**252**	*e*P		Pb	12 40 36.4	-1.1	
	SNR=1.0								
LPL				*e*Sn		Sn	12 41 09.4	+1.1	
	comp=Z,6.6nm,0.5s								
CDF	**Champ du Feu**	**3.10**	**309**	*e*Pn		Pn	12 40 33.9	+2.5	
	SNR=1.0								
CDF				*e*Sg		Sg	12 41 23.9	+1.9	
	comp=Z,18nm,0.4s								
CDF	**Champ du Feu**	**3.10**	**309**	*e*Pn		Pn	12 40 33.9	+2.5	
	SNR=1.0								
CDF				*e*Sg		Sg	12 41 23.9	+1.9	
	comp=Z,8.9nm,0.4s								
KHC	**Kasperske Hory**	**3.15**	**34**	*e*PN		Pn	12 40 34.8	+2.7	
KHC				*e*PG		Pg	12 40 41.2	-1.7	
KHC				*e*SN		Sn	12 41 12.1	+2.4	
KHC				*e*SG		Sg	12 41 21.7	-2.0	
	comp=Z,23nm,0.6s								
KHC	**Kasperske Hory**	**3.15**	**34**	Pn		Pn	12 40 34.8	+2.7	
KHC	**Kasperske Hory**	**3.15**	**34**	Pg		Pg	12 40 41.2	-1.7	
KHC				Sn		Sn	12 41 12.1	+2.4	
KHC				Sg		Sg	12 41 21.7	-2.0	
	comp=Z,23nm,0.6s								
GRA1	**Grafenberg Arr**	**3.16**	**4**	Pg		Pg	12 40 43.1	+0.1	
GRA1				Sg		Sg	12 41 23.6	-0.4	
GRF	**Grafenberg Arr**	**3.16**	**4**	*e*Pg		Pg	12 40 43.1	+0.1	
GRF				*e*Sg		Sg	12 41 23.6	-0.4	
OZLJ	**Ozalj**	**3.30**	**105**	*e*Pn		Pn	12 40 35.0	+1.0	
OZLJ				Sn		Sn	12 41 15.8	+2.6	
OZLJ	**Ozalj**	**3.30**	**105**	*e*Pn		Pn	12 40 35.0	+1.0	
OZLJ				Sn		Sn	12 41 15.8	+2.6	
RRL	**Rocca Remolon**	**3.31**	**242**	P		Pn	12 40 35.9	+1.5	
CABF	**La Chapelle**	**3.33**	**273**	*e*Pn		Pn	12 40 37.4	+2.9	
	SNR=1.0								
CABF	**La Chapelle**	**3.33**	**273**	*e*Pn		Pn	12 40 37.4	+2.9	
	SNR=1.0								
ROTZ	**Rotzenmuhle**	**3.34**	**15**	*e*Pn		Pn	12 40 35.1	+0.4	
ROTZ				*e*Pg		Pg	12 40 45.6	-0.9	
ROTZ				*e*Sn		Sn	12 41 15.1	+0.8	
ROTZ				*e*Sg		Sg	12 41 27.9	-1.9	
ROTZ	**Rotzenmuhle**	**3.34**	**15**	Pn		Pn	12 40 35.1	+0.4	
NVLJ	**Novalja**	**3.41**	**124**	*e*Pn		Pn	12 40 35.2	-0.3	
NVLJ				Sn		Sn	12 41 16.2	+0.2	
NVLJ	**Novalja**	**3.41**	**124**	*e*Pn		Pn	12 40 35.2	-0.3	
NVLJ				Sn		Sn	12 41 16.1	+0.2	
MBDF	**Montbardon**	**3.42**	**240**	*e*Pn		Pn	12 40 37.6	+1.7	
MBDF				*e*Sn		Sn	12 41 18.0	+1.5	
	comp=Z,22nm,0.7s								
MBDF	**Montbardon**	**3.42**	**240**	*e*Pn		Pn	12 40 37.6	+1.7	
MBDF				*e*Sn		Sn	12 41 18.0	+1.5	
	comp=Z,11nm,0.7s								
HAU	**Haudompre**	**3.44**	**297**	*e*Pn		Pn	12 40 38.2	+2.2	
	SNR=1.0								
HAU				*e*Sn		Sn	12 41 16.3	-0.3	
HAU				*e*Sg		Sg	12 41 34.1	+1.3	
	comp=Z,26nm,0.3s,SNR=1.0								
HAU	**Haudompre**	**3.44**	**297**	*e*Pn		Pn	12 40 38.2	+2.2	
	SNR=1.0								
HAU				*e*Sn		Sn	12 41 16.3	-0.3	
HAU				*e*Sg		Sg	12 41 34.1	+1.3	
	comp=Z,13nm,0.3s,SNR=1.0								
MANZ	**Manzenberg**	**3.54**	**13**	*e*Pn		Pn	12 40 37.6	+0.2	
MANZ				*e*Sn		Sn	12 41 19.7	+0.5	
MANZ				*e*Sg		Sg	12 41 34.5	-1.6	
MANZ	**Manzenberg**	**3.54**	**13**	Pn		Pn	12 40 37.6	+0.2	
MANZ				Sn		Sn	12 41 19.7	+0.5	
MANZ				Sg		Sg	12 41 34.5	-1.6	
ORIF	**Oris-en-Rattie**	**3.88**	**247**	*e*P		Pn	12 40 46.0	+3.9	
	SNR=1.0								
ORIF	**Oris-en-Rattie**	**3.88**	**247**	*e*P		Pn	12 40 46.0	+3.9	
	SNR=1.0								
TNS	**Taunus Mts**	**4.04**	**337**	*e*Pn		Pn	12 40 46.8	+2.6	
TNS				*e*Sg		Sg	12 41 51.6	-0.4	
TNS	**Taunus Mts**	**4.04**	**337**	Pn		Pn	12 40 46.8	+2.6	
TNS				Sg		Sg	12 41 51.6	-0.4	
PAGF	**Fort de Pagny**	**4.05**	**302**	*e*Pn		Pn	12 40 46.6	+2.2	
PAGF				*e*Sg		Sg	12 41 53.8	+1.3	
	comp=Z,4.2nm,0.6s								
PAGF	**Fort de Pagny**	**4.05**	**302**	*e*Pn		Pn	12 40 46.6	+2.2	
PAGF				*e*Sg		Sg	12 41 53.8	+1.3	
	comp=Z,2.1nm,0.6s								
TREC	**Trest**	**4.13**	**46**	*e*PG		Pg	12 40 59.0	-2.6	
TREC				*e*SN		Sn	12 41 35.1	+1.4	
TREC				*e*SG		Sg	12 41 52.0	-3.0	
	comp=Z,9.1nm,0.4s								
TREC	**Trest**	**4.13**	**46**	Pg		Pg	12 40 59.0	-2.6	
TREC				Sn		Sn	12 41 35.1	+1.4	
TREC				Sg		Sg	12 41 52.0	-3.0	
	comp=Z,9.1nm,0.4s								
MOX	**Moxa**	**4.13**	**6**	*e*Pn		Pn	12 40 48.6	+3.1	
MOX				*e*Pg		Pg	12 41 03.2	+1.6	
MOX				*e*Sn		Sn	12 41 33.8	0.0	
MOX				*e*Sg		Sg	12 41 54.3	-0.9	
MOX	**Moxa**	**4.13**	**6**	Pn		Pn	12 40 48.6	+3.1	
PRU	**Pruhonice**	**4.22**	**34**	*e*PG		Pg	12 41 01.0	-2.2	
PRU				*e*SN		Sn	12 41 36.7	+0.9	
PRU				*e*SG		Sg	12 41 56.8	-1.0	
	comp=Z,8.4nm,0.5s								
PRU	**Pruhonice**	**4.22**	**34**	Pg		Pg	12 41 01.0	-2.2	
PRU				Sn		Sn	12 41 36.7	+0.9	
PRU				Sg		Sg	12 41 56.8	-1.0	
	comp=Z,8.4nm,0.5s								
PGF	**Pioggiola**	**4.22**	**200**	*e*Pn		Pn	12 40 49.0	+2.2	
	SNR=1.0								
PGF	**Pioggiola**	**4.22**	**200**	*e*Pn		Pn	12 40 49.0	+2.2	
	SNR=1.0								
FRF	**La Foret Royal**	**4.24**	**227**	*e*Pn		Pn	12 40 49.5	+2.5	
	SNR=1.0								
FRF	**La Foret Royal**	**4.24**	**227**	*e*Pn		Pn	12 40 49.5	+2.5	
	SNR=1.0								
GOPC	**GO Pecny, Ondr**	**4.25**	**36**	*e*SN		Sn	12 41 37.5	+0.7	
GOPC				*ex*		x	12 41 52.0		
GOPC	**GO Pecny, Ondr**	**4.25**	**36**	Sn		Sn	12 41 37.5	+0.7	
SFTF	**Sexfontaines**	**4.33**	**295**	*e*Pn		Pn	12 40 50.0	+1.9	
	baz=115								
SFTF	**Sexfontaines**	**4.33**	**295**	*e*Pn		Pn	12 40 50.0	+1.9	
MEZF	**Maizieres J'vi**	**4.43**	**298**	*e*Pn		Pn	12 40 53.5	+3.9	
	baz=123,SNR=1.0								
MEZF				*e*Sg		Sg	12 42 05.6	+0.9	
	comp=Z,6.0nm,0.3s								
MEZF	**Maizieres J'vi**	**4.43**	**298**	*e*Pn		Pn	12 40 53.5	+3.9	
	SNR=1.0								
MEZF				*e*Sg		Sg	12 42 05.6	+0.9	
	comp=Z,3.0nm,0.3s								
LMR	**La Mourre**	**4.48**	**226**	*e*Pn		Pn	12 40 52.0	+1.8	
	SNR=1.0								
LMR				*e*Sn		Sn	12 41 44.7	+2.4	
	comp=Z,4.3nm,0.6s,SNR=1.0								
LMR	**La Mourre**	**4.48**	**226**	*e*Pn		Pn	12 40 52.0	+1.8	
	SNR=1.0								
LMR				*e*Sn		Sn	12 41 44.7	+2.4	
	comp=Z,2.2nm,0.6s,SNR=1.0								
SMRF	**Simiane la Rot**	**4.56**	**238**	*e*Pn		Pn	12 40 53.8	+2.4	
	SNR=1.0								
SMRF	**Simiane la Rot**	**4.56**	**238**	*e*Pn		Pn	12 40 53.8	+2.4	
	SNR=1.0								
VIVF	**Saint-Julien-l**	**4.69**	**251**	*e*Pn		Pn	12 40 56.5	+3.4	
	SNR=1.0								
VIVF	**Saint-Julien-l**	**4.69**	**251**	*e*Pn		Pn	12 40 56.5	+3.4	
	SNR=1.0								
VRAC	**Vranov**	**4.72**	**52**	*e*Pg		Pg	12 41 09.2	-3.6	
SMF	**Signal de Mont**	**4.88**	**274**	*e*Pn		Pn	12 40 58.6	+2.9	
	SNR=1.0								
SMF				*e*Sn		Sn	12 41 51.6	-0.5	
	comp=Z,7.1nm,0.4s								
SMF	**Signal de Mont**	**4.88**	**274**	*e*Pn		Pn	12 40 58.6	+2.9	
	SNR=1.0								
SMF				*e*Sn		Sn	12 41 51.6	-0.5	
	comp=Z,3.5nm,0.4s								
LOR	**Lormes**	**4.89**	**281**	*e*Pn		Pn	12 40 58.4	+2.5	
	baz=101,SNR=1.0								
LOR				*e*Sn		Sn	12 41 52.0	-0.5	
	comp=Z,6.4nm,0.5s								
LOR	**Lormes**	**4.89**	**281**	*e*Pn		Pn	12 40 58.4	+2.5	
	SNR=1.0								
LOR				*e*Sn		Sn	12 41 52.0	-0.5	
	comp=Z,3.2nm,0.5s								
CLL	**Collm**	**4.97**	**15**	*e*R(Pg)		Pg	12 41 17.0	-0.6	
CLL				*i*			12 41 21.7		
CLL				*i* Sg		Sg	12 42 20.9	-0.9	
	comp=Z,13nm,0.7s								
SSF	**Saint Saulge**	**5.11**	**279**	*e*Pn		Pn	12 41 01.0	+2.0	
	SNR=1.0								
SSF	**Saint Saulge**	**5.11**	**279**	*e*Pn		Pn	12 41 01.0	+2.0	
	SNR=1.0								
AVF	**Avril sur Loir**	**5.21**	**275**	*e*Pn		Pn	12 41 02.5	+2.2	
	SNR=1.0								
AVF	**Avril sur Loir**	**5.21**	**275**	*e*Pn		Pn	12 41 02.5	+2.2	
	SNR=1.0								
UPC	**Upice**	**5.22**	**39**	*e*PG		Pg	12 41 19.9	-2.5	
UPC				*e*SN		Sn	12 42 00.2	-0.3	
UPC				*ex*		x	12 42 25.4		
	comp=Z,11nm,0.5s								
UPC	**Upice**	**5.22**	**39**	Pg		Pg	12 41 19.9	-2.5	
UPC				Sn		Sn	12 42 00.2	-0.3	
UPC				Sg		Sg	12 42 25.4	-4.5	
	comp=Z,11nm,0.5s								
DPC	**Dobruska-Polom**	**5.24**	**41**	*e*PG		Pg	12 41 20.1	-2.7	
DPC				*e*SN		Sn	12 42 01.1	-0.1	
DPC				*ex*		x	12 42 12.0		
DPC				*e*SG		Sg	12 42 29.1	-1.6	
	comp=Z,7.5nm,0.5s								
DPC	**Dobruska-Polom**	**5.24**	**41**	Pg		Pg	12 41 20.1	-2.7	
DPC				Sn		Sn	12 42 01.1	-0.1	
DPC				Sg		Sg	12 42 29.1	-1.6	
	comp=Z,7.5nm,0.5s								
KRLC	**Kraliky**	**5.28**	**46**	*e*SN		Sn	12 42 02.5	+0.5	
KRLC	**Kraliky**	**5.28**	**46**	Sn		Sn	12 42 02.5	+0.5	
GIVF	**Givet**	**5.40**	**313**	*e*Pn		Pn	12 41 05.5	+2.6	
	SNR=1.0								
GIVF	**Givet**	**5.40**	**313**	*e*Pn		Pn	12 41 05.5	+2.6	
	SNR=1.0								
LASF	**Ste Croix**	**5.55**	**246**	*e*Pn		Pn	12 41 07.2	+2.2	
	SNR=1.0								
LASF	**Ste Croix**	**5.55**	**246**	*e*Pn		Pn	12 41 07.2	+2.2	
	SNR=1.0								
BGF	**Bois d'Agland**	**5.57**	**273**	*e*Pn		Pn	12 41 07.0	+1.8	
	SNR=1.0								
BGF				*e*Sn		Sn	12 42 07.8	-1.3	
	comp=Z,5.0nm,0.3s,SNR=1.0								
BGF	**Bois d'Agland**	**5.57**	**273**	*e*Pn		Pn	12 41 07.0	+1.8	
	SNR=1.0								
BAIF	**Baives**	**5.69**	**311**	*e*Pn		Pn	12 41 10.5	+3.6	
	SNR=1.0								
BAIF				*e*Sn		Sn	12 42 09.3	-2.9	
	comp=Z,3.3nm,0.6s								
BAIF	**Baives**	**5.69**	**311**	*e*Pn		Pn	12 41 10.5	+3.6	
	SNR=1.0								
VYHS	**Vyhne**	**5.71**	**67**	*e*PG		Pg	12 41 28.4	-3.4	
VYHS				*e*SG		Sg	12 42 45.7	0.0	
TCF	**Toulx Ste Croi**	**6.02**	**271**	*e*Pn		Pn	12 41 13.1	+1.6	
	SNR=1.0								
TCF	**Toulx Ste Croi**	**6.02**	**271**	*e*Pn		Pn	12 41 13.1	+1.6	
	SNR=1.0								
CAF	**Calviac**	**6.40**	**259**	*e*Pn		Pn	12 41 19.7	+3.0	
CAF	**Calviac**	**6.40**	**259**	*e*Pn		Pn	12 41 19.7	+3.0	
RJF	**Les Rejaudoux**	**6.67**	**263**	*e*Pn		Pn	12 41 22.4	+2.0	
	SNR=1.0								
RJF	**Les Rejaudoux**	**6.67**	**263**	*e*Pn		Pn	12 41 22.4	+2.0	
	SNR=1.0								
MTLF	**Montolieu**	**6.95**	**246**	*e*Pn		Pn	12 41 25.1	+0.9	
	SNR=1.0								
MTLF	**Montolieu**	**6.95**	**246**	*e*Pn		Pn	12 41 25.1	+0.9	
	SNR=1.0								
LFF	**La Frestale**	**7.30**	**261**	*e*Pn		Pn	12 41 29.6	+0.7	
	SNR=1.0								
LFF	**La Frestale**	**7.30**	**261**	*e*Pn		Pn	12 41 29.6	+0.7	
	SNR=1.0								
MFF	**Saint Martin d**	**7.62**	**274**	*e*Pn		Pn	12 41 36.6	+3.2	
	SNR=1.0								
MFF	**Saint Martin d**	**7.62**	**274**	*e*Pn		Pn	12 41 36.6	+3.2	
	SNR=1.0								
LDF	**La Druitiere**	**7.74**	**289**	*e*Pn		Pn	12 41 37.6	+2.6	
	SNR=1.0								
LDF	**La Druitiere**	**7.74**	**289**	*e*Pn		Pn	12 41 37.6	+2.6	
	SNR=1.0								
FLN	**La Foliniere**	**8.01**	**290**	*e*Pn		Pn	12 41 41.6	+2.9	
	baz=109,SNR=1.0								
FLN	**La Foliniere**	**8.01**	**290**	*e*Pn		Pn	12 41 41.6	+2.9	
	SNR=1.0								
GRR	**Gorron**	**8.19**	**287**	*e*Pn		Pn	12 41 44.0	+2.8	
	SNR=1.0								
GRR	**Gorron**	**8.19**	**287**	*e*Pn		Pn	12 41 44.0	+2.8	
	SNR=1.0								
SGMF	**Saint Gilles**	**9.30**	**286**	*e*Pn		Pn	12 41 58.7	+2.4	
	SNR=1.0								
SGMF	**Saint Gilles**	**9.30**	**286**	*e*Pn		Pn	12 41 58.7	+2.4	
	SNR=1.0								

MOS ***04*** *12:40:57.3±1.2,52°.10N×171°.56W,h33km,mb4.6/36, Error ellipse: s-maj=9.8km s-min=6.8km az=54.8*
IDC ***04*** *12:40:58.6±2.8,52°.05N×171°.49W,h35km±21km,mb4.0/17, mb1 4.2/19,mb1mx4.0/45,mbtmp4.2/19,ML4.4/2,MS3.3/9, Ms1 3.3/9,ms1mx3.0/41,Error ellipse: s-maj=24.4km s-min=12.9km az=163.0*
NEIC ***04*** *12:40:58.8±0.0,51°.80N×171°.37W,h40km,mb4.6/138, ML4.4(AEIC),After AEIC.*
ISCJB ***04*** *12:41:00.6±0.4,52°.13N±0°.04×171°.50W±0°.03,h69km±3km, mb4.5/138,Error ellipse: s-maj=6.6km s-min=2.6km az=168.9*

ISC 04 12:41:00.9±0.7,52°08N±0°08×171°47W±0°03,h49km±5km, n506,σ1s22/518,mb4.6/138,MS3.3/10,4C,Fox Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time			Res
				Op	ISC	h	m	s	ISC
KOSE	**Korovin Southe**	**1.61**	**280**	P	Pn	**12**	**41**	**28.0**	**+1.1**
KOFP	**Korovin Flat P**	**1.63**	**278**	P	Pn	**12**	**41**	**27.9**	**+0.7**
KONE	**Korovin Northe**	**1.66**	**282**	P	Pn	**12**	**41**	**28.4**	**+0.8**
ATKA	**Atka Island**	**1.68**	**275**	P	Pn	**12**	**41**	**26.9**	**-0.9**
ATKA				S	Sn	**12**	**41**	**47.9**	**-0.4**
KOKL	**Mount Kliuchef**	**1.70**	**279**	P	Pn	**12**	**41**	**28.6**	**+0.5**
NIKH	**Nikolski High**	**1.83**	**60**	P	Pn	**12**	**41**	**28.7**	**-1.2**
NIKH				S	Sn	**12**	**41**	**50.9**	**-0.9**
OKSO	**Okmok South**	**2.38**	**56**	P	Pn	**12**	**41**	**38.1**	**+0.7**
OKSO				S	Sn	**12**	**42**	**07.6**	**+2.1**
OKCE	**Okmok Cone E**	**2.42**	**55**	P	Pn	**12**	**41**	**38.8**	**+0.8**
OKCE				S	Sn	**12**	**42**	**11.0**	**+4.7**
OKTU	**Okmok Mt. Tuli**	**2.46

	comp=Z,22nm,1.5s								
COLA	**College**	**17.64**	**34**	*e*P	**Pn**	**12 45 02.5**	**-0.3**		
COLA				pmax	pmax				
	comp=Z,11nm,0.4s								
COLA	**College**	**17.64**	**34**	*e*Pn	**Pn**	**12 45 02.5**	**-0.3**		
	comp=Z,11nm,0.4s								
HDA	**Harding Lake**	**17.71**	**36**	*e*Pn	**Pn**	**12 45 02.4**	**-1.2**		
	comp=Z,22nm,1.4s								
IL1	**Eielson Array**	**17.93**	**35**	*e*Pn	**P**	**12 45 06.3**	**0.0**		
ILAR	**Eielson Array**	**17.93**	**35**	P	**Pn**	**12 45 03.2**	**-3.1**		
	comp=Z,1.0nm,0.3s,baz=236,slow=11,SNR=63								
ILAR				LR	LR	12 53 00.5			
	comp=Z,77nm,19.4s,baz=270,slow=40								
ILAR				ScP	**ScP**	**12 53 09.7**	**-0.6**		
	comp=Z,0.0nm,0.3s,baz=260,slow=4.0,SNR=4.9								
ILB	**Eielson Array**	**17.93**	**35**	*e*Pn	**Pn**	**12 45 04.0**	**-2.2**		
PET	**Petropavlovsk**	**18.14**	**285**	*e*P	**Pn**	**12 45 09.9**	**+1.0**		
PET				pmax	pmax				
	comp=Z,95nm,1.5s								
PET	**Petropavlovsk**	**18.14**	**285**	*e*Pn	**Pn**	**12 45 09.9**	**+1.0**		
	comp=Z,95nm,1.5s								
BALM	**Baldy**	**18.24**	**49**	*e*P	**Pn**	**12 45 11.8**	**+1.6**		
BALM				pmax	pmax				
	comp=Z,23nm,0.6s								
BALM	**Baldy**	**18.24**	**49**	*e*P	**Pn**	**12 45 11.8**	**+1.6**		
	comp=Z,23nm,0.6s								
MENT	**Mentasta**	**18.28**	**43**	*e*P	**P**	**12 45 09.6**	**-0.7**		
	comp=Z,15nm,1.3s								
COLD	**Coldfoot**	**18.44**	**27**	*e*P	**Pn**	**12 45 14.2**	**+1.7**		
	comp=Z,6.9nm,1.0s								
DOT	**Dot Lake**	**18.44**	**40**	*e*P	**P**	**12 45 11.2**	**-0.9**		
	comp=Z,12nm,0.8s								
PEA0	**Petropavlovsk-**	**18.69**	**285**	*e*P	**Pn**	**12 45 15.4**	**-0.2**		
PEA0B	**Petropavlovsk-**	**18.69**	**285**	*e*P	**Pn**	**12 45 15.3**	**-0.3**		
	comp=Z,244nm,1.9s								
PETK	**Petropavlovsk-**	**18.69**	**285**	P	**Pn**	**12 45 15.3**	**-0.3**		
	comp=Z,2.0nm,0.3s,baz=85,slow=13,SNR=26								
FYU	**Fort Yukon**	**19.51**	**32**	*e*P	**Pn**	**12 45 24.7**	**-0.5**		
	comp=Z,74nm,1.6s								
TOLK	**Toolik Lake Re**	**19.62**	**24**	P	**Pn**	**12 45 29.8**	**+3.1**		
	baz=223,SNR=16								
DHAK	**Deception Hill**	**19.89**	**56**	*e*P	**Pn**	**12 45 29.7**	**-0.2**		
	comp=Z,182nm,1.4s								
EGAK	**Eagle**	**20.07**	**39**	*e*P	**P**	**12 45 29.7**	**-0.1**		
	comp=Z,13nm,0.4s								
HYT	**Haines Junctio**	**20.49**	**51**	*e*P	**P**	**12 45 35.6**	**+1.1**		
	comp=Z,52nm,0.5s								
DAWY	**Dawson**	**20.50**	**42**	*e*P	**P**	**12 45 34.2**	**-0.3**		
	comp=Z,35nm,1.8s								
SKAG	**Skagway**	**21.40**	**56**	*e*P	**P**	**12 45 45.1**	**+1.0**		
	comp=Z,31nm,0.7s								
WHY	**Whitehorse**	**21.74**	**52**	*e*P	**P**	**12 45 48.6**	**+0.7**		
	comp=Z,14nm,1.0s								
SEY	**Seymchan**	**21.93**	**314**	P	**P**	**12 45 51.2**	**+1.6**		
	comp=Z,2.1nm,0.5s,baz=97,slow=11,SNR=14								
CRAG	**Craig**	**22.71**	**66**	*e*P	**P**	**12 45 59.1**	**+0.9**		
	comp=Z,230nm,2.0s								
DLBC	**Dease Lake**	**24.14**	**58**	P	**P**	**12 46 14.2**	**+2.3**		
	comp=Z,20nm,0.5s,baz=264,slow=7.2,SNR=62								
DLBC	**Dease Lake**	**24.14**	**58**	*e*P	**P**	**12 46 14.3**	**+2.3**		
	comp=Z,23nm,0.6s								
INK	**Inuvik**	**24.30**	**34**	P	**P**	**12 46 12.7**	**-0.6**		
	comp=Z,7.5nm,0.4s,baz=240,slow=6.6,SNR=96								
INK	**Inuvik**	**24.30**	**34**	*e*P	**P**	**12 46 12.7**	**-0.6**		
	comp=Z,9.9nm,0.6s								
LLLB	**Lilloet**	**30.53**	**73**	*e*P	**P**	**12 47 10.8**	**+1.6**		
	comp=Z,4.1nm,0.6s								
NLWA	**Neilton Lookou**	**30.67**	**80**	*e*P	**P**	**12 47 12.8**	**+2.3**		
	comp=Z,9.5nm,1.3s								
ASAJ	**Asahikawa**	**31.24**	**274**	*e*P	**P**	**12 47 16.2**	**+0.7**		
	comp=Z,152nm,1.7s								
B05A	**Bryant**	**31.36**	**77**	P	**P**	**12 47 18.2**	**+1.7**		
	baz=295,SNR=6.0								
YKA	**Yellowknife Ar**	**31.40**	**48**	P	**P**	**12 47 16.6**	**-0.1**		
	comp=Z,2.4nm,0.4s,baz=275,slow=9.1,SNR=24								
YKA				LR	LR	13 00 07.4			
	comp=Z,11nm,19.4s,baz=180,slow=37								
D05A	**Enumclaw**	**31.91**	**79**	*e*P	**P**	**12 47 23.8**	**+2.4**		
	comp=Z,12nm,1.1s								
ERM	**Erimo**	**32.03**	**270**	*e*P	**P**	**12 47 23.6**	**+1.1**		
ERM				pmax	pmax				
	comp=Z,55nm,1.3s								
ERM	**Erimo**	**32.03**	**270**	*e*P	**P**	**12 47 23.6**	**+1.1**		
	comp=Z,55nm,1.3s								
LON	**Longmire**	**32.22**	**79**	*e*P	**P**	**12 47 26.2**	**+2.0**		
LON				pmax	pmax				
	comp=Z,26nm,2.0s								
LON	**Longmire**	**32.22**	**79**	*e*P	**P**	**12 47 26.2**	**+2.0**		
	comp=Z,26nm,2.0s								
F04A	**Amboy**	**32.24**	**81**	*e*P	**P**	**12 47 25.2**	**+0.9**		
	comp=Z,23nm,1.4s								
TIXI	**Tiksi**	**32.32**	**329**	*e*P	**P**	**12 47 22.3**	**-2.4**		
TIXI				pmax	pmax				
	comp=Z,5.0nm,1.0s								
LTY	**Liberty**	**32.67**	**78**	*e*P	**P**	**12 47 29.2**	**+1.1**		
	comp=Z,18nm,1.8s								
B08A	**Colville Reser**	**32.97**	**75**	*e*P	**P**	**12 47 31.6**	**+0.8**		
	comp=Z,6.3nm,0.6s								
HUMO	**Hull Mountain**	**33.64**	**87**	*e*P	**P**	**12 47 37.9**	**+1.3**		
	comp=Z,33nm,1.8s								
G06A	**Carlson Farm,**	**33.67**	**81**	*e*P	**P**	**12 47 37.7**	**+0.8**		
	comp=Z,20nm,1.4s								
I05D	**Terrebonne, OR**	**33.70**	**83**	P	**P**	**12 47 37.0**	**-0.2**		
	baz=301								
HAWA	**Hanford**	**33.77**	**79**	*e*P	**P**	**12 47 38.7**	**+1.0**		
	comp=Z,5.9nm,0.8s								
D08A	**Wollman Farm,**	**33.82**	**77**	*e*P	**P**	**12 47 38.7**	**+0.6**		
	comp=Z,26nm,1.9s								
J05D	**Fort Rock, OR**	**34.33**	**84**	P	**P**	**12 47 43.4**	**+0.7**		
	baz=302								
NEW	**Newport**	**34.33**	**74**	P	**P**	**12 47 42.7**	**+0.2**		
	baz=297,SNR=9.4								
NEW	**Newport**	**34.33**	**74**	*e*P	**P**	**12 47 42.9**	**+0.3**		
NEW				pmax	pmax				
	comp=Z,7.0nm,0.7s								
NEW	**Newport**	**34.33**	**74**	*e*P	**P**	**12 47 42.9**	**+0.3**		
	comp=Z,6.9nm,0.7s								
EDM	**Edmonton**	**34.44**	**65**	*e*P	**P**	**12 47 44.5**	**+1.0**		
EDM				pmax	pmax				
	comp=Z,22nm,0.6s								
EDM	**Edmonton**	**34.44**	**65**	*e*P	**P**	**12 47 44.5**	**+1.0**		
	comp=Z,22nm,0.6s								
N02D	**Trinity Center**	**34.72**	**89**	P	**P**	**12 47 46.9**	**+0.9**		
	baz=305								
M04C	**Macdoel**	**34.79**	**87**	P	**P**	**12 47 47.0**	**+0.3**		
	baz=304								
K05A	**Summer Lake**	**34.84**	**85**	*e*P	**P**	**12 47 48.7**	**+1.5**		
	comp=Z,7.2nm,0.8s								
MOD	**Modoc Plateau**	**35.66**	**86**	*e*P	**P**	**12 47 54.8**	**+0.5**		
	comp=Z,4.1nm,0.8s								
O03D	**Paynes Creek**	**35.67**	**89**	P	**P**	**12 47 54.0**	**-0.2**		
	baz=306								
WALA	**Waterton Lakes**	**35.86**	**71**	*e*P	**P**	**12 47 56.4**	**+0.6**		
	comp=Z,13nm,1.4s								
BSMT	**Bassoo Peak**	**35.91**	**74**	*e*P	**P**	**12 47 57.0**	**+0.7**		
BLMT	**Blacktail Moun**	**36.09**	**73**	*e*P	**P**	**12 47 58.5**	**+0.6**		
YBMT	**Yellow Bay**	**36.36**	**73**	*e*P	**P**	**12 48 01.4**	**+1.3**		
WVOR	**Wild Horse Val**	**36.39**	**84**	*e*P	**P**	**12 48 01.4**	**+1.0**		
WVOR				pmax	pmax				
	comp=Z,4.0nm,0.8s								
WVOR	**Wild Horse Val**	**36.39**	**84**	*e*P	**P**	**12 48 01.4**	**+1.0**		
	comp=Z,4.4nm,0.8s								
H11N2	**WAKE ISLAND Hy**	**36.44**	**216**	T	T	13 26 30.5			
	baz=21,slow=76,SNR=43								
H11N3	**WAKE ISLAND Hy**	**36.45**	**216**	T	T	13 26 35.4			
	baz=21,slow=76,SNR=28								
H11N1	**WAKE ISLAND Hy**	**36.46**	**216**	T	T	13 26 31.0			
	baz=21,slow=76,SNR=31								
MSO	**Missoula**	**36.91**	**75**	P	**P**	**12 48 04.4**	**-0.3**		
	baz=300								
MSO	**Missoula**	**36.91**	**75**	*e*P	**P**	**12 48 05.1**	**+0.3**		
	comp=Z,19nm,1.8s								
SLMT	**Seeley Lake**	**36.97**	**74**	*e*P	**P**	**12 48 05.9**	**+0.5**		
AFDM	**Forest Hills D**	**36.99**	**90**	*e*P	**P**	**12 48 03.9**	**-1.5**		
	comp=Z,3.3nm,1.3s								
CHMT	**Chamberlain Mo**	**37.28**	**74**	*e*P	**P**	**12 48 07.6**	**-0.4**		
PAHR	**Pah Rah Range**	**37.51**	**88**	*e*P	**P**	**12 48 10.2**	**+0.3**		
	comp=Z,5.0nm,0.8s								
MFID	**Camas Ranch**	**37.56**	**81**	*e*P	**P**	**12 48 10.8**	**+0.5**		
	comp=Z,2.7nm,0.9s								
H11S1	**WAKE ISLAND Hy**	**37.64**	**215**	T	T	13 28 59.1			
	baz=22,slow=76,SNR=145								
H11S2	**WAKE ISLAND Hy**	**37.65**	**215**	T	T	13 28 39.4			
	baz=22,slow=76,SNR=130								
H11S3	**WAKE ISLAND Hy**	**37.66**	**215**	T	T	13 28 49.1			
	baz=22,slow=76,SNR=47								
PNTR	**Pine Nut**	**37.75**	**89**	*e*P	**P**	**12 48 13.4**	**+1.3**		
	comp=Z,13nm,0.7s								
YERR	**Yerington**	**38.04**	**89**	*e*P	**P**	**12 48 15.6**	**+1.1**		
	comp=Z,7.1nm,0.9s								
WAKR	**Walker**	**38.21**	**90**	*e*P	**P**	**12 48 17.2**	**+1.3**		
	comp=Z,4.6nm,0.8s								
HRY	**Holter Researc**	**38.22**	**74**	*e*P	**P**	**12 48 16.9**	**+1.1**		
HLID	**Hailey**	**38.34**	**80**	P	**P**	**12 48 16.8**	**-0.2**		
	baz=303								
HLID	**Hailey**	**38.34**	**80**	*e*P	**P**	**12 48 17.6**	**+0.6**		
	comp=Z,2.2nm,0.9s								
MJAR	**Matsushiro Arr**	**38.39**	**266**	P	**P**	**12 48 16.8**	**-0.5**		
	comp=Z,2.1nm,0.8s,baz=54,slow=7.9,SNR=6.3								
MJAR				LR	LR	13 02 13.8			
	comp=Z,35nm,21.1s,baz=50,slow=33								
BMN	**Battle Mountai**	**38.41**	**86**	*e*P	**P**	**12 48 18.5**	**+1.0**		
BMN				pmax	pmax				
	comp=Z,3.0nm,0.7s								
BMN	**Battle Mountai**	**38.41**	**86**	*e*P	**P**	**12 48 18.5**	**+1.0**		
	comp=Z,3.0nm,0.7s								
MCMT	**McKenzie Canyo**	**38.60**	**77**	*e*P	**P**	**12 48 19.4**	**+0.2**		
TVH1	**TV Hill, Hawth**	**38.65**	**89**	*e*P	**P**	**12 48 20.2**	**+0.4**		
	comp=Z,5.5nm,0.9s								
TVH3	**East Aurora ar**	**38.68**	**89**	*e*P	**P**	**12 48 21.0**	**+1.1**		
	comp=Z,3.0nm,0.9s								
TVH2	**Borealis Mine**	**38.71**	**89**	*e*P	**P**	**12 48 21.1**	**+1.0**		
	comp=Z,1.5nm,0.7s								
EGMT	**Eagleton**	**38.78**	**71**	P	**P**	**12 48 20.2**	**-0.3**		
	baz=299,SNR=7.1								
EGMT	**Eagleton**	**38.78**	**71**	*e*P	**P**	**12 48 20.5**	**0.0**		
	comp=Z,12nm,0.8s								
BOZ	**Bozeman (W)**	**38.92**	**75**	P	**P**	**12 48 21.5**	**-0.3**		
	baz=301,SNR=5.4								
BOZ	**Bozeman (W)**	**38.92**	**75**	*e*P	**P**	**12 48 21.9**	**+0.1**		
BOZ				pmax	pmax				
	comp=Z,3.0nm,0.6s								
BOZ	**Bozeman (W)**	**38.92**	**75**	*e*P	**P**	**12 48 21.9**	**+0.1**		
	comp=Z,2.6nm,0.6s								
PAGB	**Antelope Grade**	**39.47**	**94**	*e*P	**P**	**12 48 27.8**	**+1.5**		
	comp=Z,12nm,1.4s								
YHH	**Holmes Hill**	**39.82**	**76**	*e*P	**P**	**12 48 29.8**	**+0.3**		
	comp=Z,12nm,1.3s								
FFC	**Flin Flon**	**39.97**	**58**	*e*P	**P**	**12 48 30.6**	**+0.4**		
FFC				pmax	pmax				
	comp=Z,10.0nm,0.6s								
FFC	**Flin Flon**	**39.97**	**58**	*e*P	**P**	**12 48 30.6**	**+0.4**		
	comp=Z,9.7nm,0.6s								
GCMT	**Greycliff**	**39.98**	**74**	*e*P	**P**	**12 48 31.2**	**+0.6**		
IMW	**Indian Meadow**	**40.26**	**77**	*e*P	**P**	**12 48 33.8**	**+0.7**		
	comp=Z,7.7nm,0.9s								
FLWY	**Flagg Ranch**	**40.30**	**77**	*e*P	**P**	**12 48 37.1**	**+3.8**		
	comp=Z,6.8nm,1.4s								
HVU	**Hansel Valley**	**40.35**	**81**	*e*P	**P**	**12 48 34.7**	**+1.0**		
HVU				pmax	pmax				
	comp=Z,3.0nm,0.8s								
HVU	**Hansel Valley**	**40.35**	**81**	*e*P	**P**	**12 48 34.7**	**+1.0**		
	comp=Z,2.8nm,0.8s								
CWC	**Cottonwood Cre**	**40.35**	**91**	P	**P**	**12 48 34.5**	**+0.8**		
	baz=310								
RLMT	**Red Lodge**	**40.58**	**74**	P	**P**	**12 48 36.0**	**+0.3**		
	baz=303,SNR=7.2								
RLMT	**Red Lodge**	**40.58**	**74**	*e*P	**P**	**12 48 36.4**	**+0.7**		
	comp=Z,12nm,1.0s								
R11A	**Troy Canyon, C**	**40.68**	**87**	P	**P**	**12 48 36.6**	**+0.1**		
	baz=308,SNR=7.5								
R11A	**Troy Canyon, C**	**40.68**	**87**	*e*P	**P**	**12 48 36.9**	**+0.4**		
	comp=Z,3.4nm,0.9s								
MPMC	**Manual Prospec**	**40.96**	**91**	P	**P**	**12 48 37.5**	**-1.3**		
	baz=310								
FURC	**Furnace Creek,**	**41.08**	**90**	P	**P**	**12 48 40.4**	**+0.9**		
	baz=310,SNR=7.5								
TPNV	**Topopah Spring**	**41.15**	**89**	P	**P**	**12 48 39.9**	**-0.5**		
	baz=309,SNR=12								
TPNV	**Topopah Spring**	**41.15**	**89**	*e*P	**P**	**12 48 41.1**	**+0.7**		
TPNV				pmax	pmax				
	comp=Z,7.0nm,0.8s								
TPNV	**Topopah Spring**	**41.15**	**89**	*e*P	**P**	**12 48 41.0**	**+0.7**		
	comp=Z,6.8nm,0.8s								
DUG	**Dugway, Tooele**	**41.26**	**83**	P	**P**	**12 48 41.3**	**+0.1**		
	baz=307								
DUG	**Dugway, Tooele**	**41.26**	**83**	*e*P	**P**	**12 48 41.8**	**+0.6**		
DUG				pmax	pmax				
	comp=Z,8.0nm,1.3s								
DUG	**Dugway, Tooele**	**41.26**	**83**	*e*P	**P**	**12 48 41.8**	**+0.6**		
	comp=Z,8.2nm,1.3s								
LAO	**LASA Array**	**41.53**	**71**	*e*P	**P**	**12 48 44.1**	**+0.9**		
	comp=Z,12nm,0.4s								
BW06	**Boder Array**	**41.73**	**77**	P	**P**	**12 48 44.9**	**-0.2**		
	baz=305,SNR=8.8								
BW06	**Boulder Array**	**41.73**	**77**	*e*P	**P**	**12 48 45.1**	**0.0**		
	comp=Z,5.5nm,0.9s								
PD31	**Pinedale Array**	**41.73**	**77**	*e*P	**P**	**12 48 45.0**	**-0.1**		
PDAR	**Pinedale Array**	**41.73**	**77**	P	**P**	**12 48 45.0**	**-0.1**		
	comp=Z,2.6nm,0.6s,baz=298,slow=4.7,SNR=24								
SHOC	**Shoshone, Teco**	**41.81**	**90**	P	**P**	**12 48 45.7**	**+0.1**		
	baz=310								
NLU	**North Lily Min**	**41.86**	**83**	*e*P	**P**	**12 48 46.6**	**+0.4**		
	comp=Z,2.9nm,0.9s								
GSC	**Goldstone, Bar**	**41.87**	**91**	P	**P**	**12 48 46.6**	**+0.4**		
	baz=311,SNR=7.8								
GSC	**Goldstone, Bar**	**41.87**	**91**	*e*P	**P**	**12 48 46.9**	**+0.7**		
GSC				pmax	pmax				
	comp=Z,7.0nm,0.8s								
GSC	**Goldstone, Bar**	**41.87**	**91**	*e*P	**P**	**12 48 46.9**	**+0.7**		
	comp=Z,7.2nm,0.8s								
BFSC	**Mount Baldy Ra**	**42.05**	**93**	P	**P**	**12 48 47.6**	**-0.1**		
	baz=312								
FCC	**Fort Churchill**	**42.11**	**49**	*e*P	**P**	**12 48 47.9**	**+0.2**		
FCC				pmax	pmax				
	comp=Z,63nm,1.4s								
FCC	**Fort Churchill**	**42.11**	**49**	*e*P	**P**	**12 48 47.9**	**+0.2**		
	comp=Z,63nm,1.4s								
CCUT	**Cedar City**	**42.55**	**86**	*e*P	**P**	**12 48 51.5**	**-0.4**		
	comp=Z,1.8nm,0.7s								
MSU	**Marysvale**	**42.68**	**84**	*e*P	**P**	**12 48 53.6**	**+0.7**		
MSU	**Marysvale**	**42.68**	**84**	*e*P	**P**	**12 48 53.6**	**+0.7**		
TMUT	**Trail Mountain**	**42.79**	**83**	*e*P	**P**	**12 48 54.6**	**+0.8**		
	comp=Z,22nm,2.0s								
GMRC	**Granite Mounta**	**42.92**	**91**	P	**P**	**12 48 53.0**	**-1.7**		
	baz=311								
LCMT	**Little Creek M**	**42.97**	**87**	*e*P	**P**	**12 48 55.9**	**+0.8**		
	comp=Z,2.5nm,0.9s								
MTPU	**Mount Pierson**	**42.97**	**85**	*e*P	**P**	**12 48 56.1**	**+0.7**		
	comp=Z,13nm,2.0s								
P18A	**Preston Nutter**	**43.17**	**82**	*e*P	**P**	**12 48 57.6**	**+0.6**		
	comp=Z,4.1nm,0.9s								
KNB	**Kanab**	**43.22**	**86**	*e*P	**P**	**12 48 58.1**	**+0.9**		
KNB				pmax	pmax				
	comp=Z,18nm,2.0s								
KNB	**Kanab**	**43.22**	**86**	*e*P	**P**	**12 48 58.1**	**+0.9**		
	comp=Z,18nm,2.0s								
BELC	**Belle Mtn. Jos**	**43.23**	**92**	P	**P**	**12 48 56.9**	**-0.4**		
	baz=312								
SRU	**San Rafael Swe**	**43.32**	**82**	*e*P	**P**	**12 48 58.5**	**+0.5**		
SRU				pmax	pmax				
	comp=Z,5.0nm,0.7s								
SRU	**San Rafael Swe**	**43.32**	**82**	*e*P	**P**	**12 48 58.5**	**+0.5**		
	comp=Z,5.4nm,0.7s								
U15A	**North Rim**	**43.93**	**87**	*e*P	**P**	**12 49 03.6**	**+0.6**		
	comp=Z,6.1nm,1.1s								
O20A	**White River Ci**	**44.08**	**80**	P	**P**	**12 49 04.5**	**+0.4**		
	baz=307								
O20A	**White River Ci**	**44.08**	**80**	*e*P	**P**	**12 49 03.8**	**-0.3**		
	comp=Z,9.6nm,0.9s								
KSRS	**Korea Array**	**44.15**	**275**	P	**P**	**12 49 04.3**	**-0.1**		
	comp=Z,3.6nm,0.9s,baz=54,slow=8.6,SNR=6.2								
KSRS				LR	LR	13 05 14.5			
	comp=Z,36nm,21.4s,baz=48,slow=33								
PDMCI	**Parker Dam,Lak**	**44.18**	**90**	P	**P**	**12 49 04.0**	**-0.6**		
	baz=312								
KSAR	**Wonju Array Be**	**44.18**	**275**	P	**P**	**12 49 04.4**	**-0.3**		
KSAR	**Wonju Array Be**	**44.18**	**275**	P	**P**	**12 49 04.3**	**-0.3**		
RSSD	**Black Hills**	**44.24**	**72**	P	**P**	**12 49 04.7**	**-0.6**		
	baz=305								
RSSD	**Black Hills**	**44.24**	**72**	*e*P	**P**	**12 49 05.1**	**-0.3**		
RSSD				pmax	pmax				
	comp=Z,5.0nm,0.6s								
RSSD	**Black Hills**	**44.24**	**72**	*e*P	**P**	**12 49 05.1**	**-0.3**		
	comp=Z,4.9nm,0.6s								
Y12C	**Blythe**	**44.31**	**91**	P	**P**	**12 49 04.7**	**-1.0**		
	baz=312								
Y12C	**Blythe**	**44.31**	**91**	*e*P	**P**	**12 49 06.1**	**+0.4**		
	comp=Z,7.4nm,1.0s								
PV09	**Paradox Valley**	**44.55**	**82**	*e*P	**P**	**12 49 08.0**	**0.0**		
GLA	**Glamis**	**44.59**	**92**	P	**P**	**12 49 07.7**	**-0.4**		
	baz=312								
PV10	**Paradox Valley**	**44.69**	**82**	*e*P	**P**	**12 49 09.6**	**+0.6**		
PV04	**Paradox Valley**	**44.76**	**82**	*e*P	**P**	**12 49 09.1**	**-0.4**		
N23A	**Red Feather La**	**45.01**	**77**	P	**P**	**12 49 10.9**	**-0.7**		
	baz=307								
N23A	**Red Feather La**	**45.01**	**77**	*e*P	**P**	**12 49 12.2**	**+0.5**		
	comp=Z,7.1nm,1.2s								
WUAZ	**Wupatki**	**45.08**	**87**	P	**P**	**12 49 11.9**	**-0.2**		
	baz=311								
WUAZ	**Wupatki**	**45.08**	**87**	*e*P	**P**	**12 49 12.8**	**+0.7**		
	comp=Z,4.3nm,0.9s								
PV01	**Paradox Valley**	**45.12**	**82**	*e*P	**P**	**12 49 12.6**	**+0.1**		
ULM	**Lac du Bonnet**	**45.42**	**61**	P	**P**	**12 49 13.8**	**-0.7**		
	comp=Z,3.0nm,0.5s,baz=276,slow=5.9,SNR=6.5								
ULM				LR	LR	13 08 36.3			
	comp=Z,68nm,18.3s,baz=305,slow=36								
ULM	**Lac du Bonnet**	**45.42**	**61**	*e*P	**P**	**12 49 14.5**	**+0.1**		
	comp=Z,50nm,2.0s								
SMCO	**Snowmass**	**45.44**	**80**	*e*P	**P**	**12 49 15.4**	**+0.2**		
	comp=Z,11nm,2.0s								
B31A	**Greenbush Farm**	**45.46**	**64**	P	**P**	**12 49 14.5**	**-0.2**		
	baz=303								
MVCO	**Mesa Verde**	**45.76**	**83**	P	**P**	**12 49 17.0**	**-0.5**		
	baz=310								
MVCO	**Mesa Verde**	**45.76**	**83**	*e*P	**P**	**12 49 17.5**	**0.0**		
	comp=Z,15nm,1.8s								
C31A	**Landman Farms,**	**45.76**	**65**	P	**P**	**12 49 16.8**	**-0.3**		
	baz=304								
X16A	**Lo Mia Camp, P**	**45.77**	**88**	*e*P	**P**	**12 49 18.2**	**+0.7**		
	comp=Z,2.5nm,0.8s								
A32A	**Rocking H Ranc**	**45.82**	**63**	P	**P**	**12 49 17.3**	**-0.3**		
	baz=304								
ISCO	**Idaho Springs**	**45.88**	**78**	P	**P**	**12 49 17.3**	**-1.3**		
	baz=308								
B32A	**Ashes, Strandq**	**46.09**	**63**	P	**P**	**12 49 19.4**	**-0.3**		
	baz=304								
E31A	**Nome**	**46.38**	**66**	P	**P**	**12 49 21.5**	**-0.5**		
	baz=305								
A33A	**Warroad**	**46.41**	**62**	P	**P**	**12 49 21.8**	**-0.4**		
	baz=304								
C32A	**Crookston**	**46.41**	**64**	P	**P**	**12 49 22.0**	**-0.3**		
	baz=304								
S22A	**4UR Ranch, Cre**	**46.43**	**81**	P	**P**	**12 49 22.3**	**-0.6**		
	baz=309								
S22A	**4UR Ranch, Cre**	**46.43**	**81**	*e*P	**P**	**12 49 22.7**	**-0.2**		
	comp=Z,16nm,2.0s								
AGMN	**Agassiz Nation**	**46.52**	**63**	P	**P**	**12 49 22.6**	**-0.4**		
	baz=304								
AGMN	**Agassiz Nation**	**46.52**	**63**	*e*P	**P**	**12 49 22.6**	**-0.5**		
	comp=Z,11nm,0.8s								
214A	**Organ Pipe Nat**	**46.58**	**92**	P	**P**	**12 49 22.9**	**-0.9**		
	baz=313								
B33A	**Robert and Kas**	**46.68**	**63**	P	**P**	**12 49 23.5**	**-0.9**		
	baz=304								
B34A	**Aery, Baudette**	**47.07**	**62**	P	**P**	**12 49 26.3**	**-1.1**		
	baz=305								
D33A	**AnnSam, Waubun**	**47.19**	**64**	P	**P**	**12 49 27.2**	**-1.1**		
	baz=305								
SDCO	**Great Sand Dun**	**47.24**	**80**	P	**P**	**12 49 27.6**	**-1.6**		
	baz=310								
SDCO	**Great Sand Dun**	**47.24**	**80**	*e*P	**P**	**12 49 29.6**	**+0.4**		
	comp=Z,5.3nm,1.5s								
D34A	**Park Rapids**	**47.58**	**64**	P	**P**	**12 49 30.3**	**-1.1**		
	baz=305								
TUC	**Tucson**	**47.59**	**90**	P	**P**	**12 49 31.4**	**-0.4**		
	baz=313								
TUC	**Tucson**	**47.59**	**90**	*e*P	**P**	**12 49 31.6**	**-0.1**		
TUC		

baz=308
O34A **Beatrice** 50.96 72 P P 12 49 56.2 -1.0
baz=310
I38A **Scanlan Farm,** 51.03 66 P P 12 49 57.0 -0.7
baz=308
F40A **Park Falls** 51.08 63 P P 12 49 57.0 -1.0
baz=308
K37A **Belmond** 51.09 68 P P 12 49 56.8 -1.4
baz=309
N35A **Tabor** 51.14 71 P P 12 49 57.9 -0.6
baz=310
H39A **Augusta** 51.21 64 P P 12 49 58.0 -1.1
baz=308
P34A **Walnut Farm, R** 51.29 73 P P 12 49 58.4 -1.3
baz=310
MNTX **Cornudas Mount** 51.34 86 P P 12 50 00.1 -0.1
baz=314
MNTX **Cornudas Mount** 51.34 86 *e*P P 12 50 00.5 +0.3
comp=Z,1.9nm,0.8s
MSTX **Muleshoe** 51.39 82 P P 12 49 59.7 -1.0
baz=312
L37A **Phoenix Point,** 51.43 68 P P 12 49 59.5 -1.2
baz=309
SUMG **Summit** 51.43 16 *i* P P 12 50 00.7 -0.1
comp=Z,7.8nm,0.9s
SUMG **Summit** 51.43 16 *i* P P 12 50 00.7 -0.1
SUMG pmax pmax
comp=Z,8.0nm,0.9s
G40A **Rib Lake** 51.44 63 P P 12 49 59.7 -1.1
baz=308
I39A **Houston** 51.60 65 P P 12 50 00.9 -1.1
baz=309
Q34A **Chapman** 51.63 74 P P 12 50 01.4 -0.9
baz=310
KSU1 **Kansas State U** 51.71 73 P P 12 50 01.6 -1.3
baz=310
M37A **Trindle Farm,** 51.71 69 P P 12 50 01.8 -1.1
baz=310
H40A **Chili** 51.74 64 P P 12 50 01.9 -1.2
baz=309
P35A **Duane Minner,** 51.78 72 P P 12 50 02.0 -1.4
baz=310
HHC **Hu-ho-hao-te** 51.81 290 *e*P P 12 50 03.3 -0.4
HHC S S 12 57 19.3 -3.0
HHC pmax pmax
comp=Z,30nm,1.0s
HHC pmax pmax
comp=Z,68nm,4.2s
HHC LR LR
comp=N,72nm,13.6s
HHC LR LR
comp=E,87nm,12.3s
HHC LR LR
comp=Z,140nm,12.3s
J39A **Decorah** 51.82 66 P P 12 50 02.5 -1.2
baz=309,SNR=6.2
L38A **Oak Wood Farm,** 51.87 68 P P 12 50 03.0 -1.1
baz=310
N37A **Lee Faris, Mou** 52.04 70 P P 12 50 04.3 -1.0
baz=310
K39A **Oelwein** 52.12 67 P P 12 50 04.5 -1.4
baz=310
H41A **Junction City** 52.16 64 P P 12 50 04.9 -1.2
baz=309
P36A **Good Intent, A** 52.20 72 P P 12 50 05.3 -1.1
baz=310
L39A **Vinton** 52.43 67 P P 12 50 07.0 -1.2
baz=310
O37A **Wolven Farm, M** 52.46 71 P P 12 50 07.3 -1.1
baz=310
K40A **Colesburg** 52.55 66 P P 12 50 07.9 -1.1
baz=310
N38A **Joes South For** 52.58 69 P P 12 50 08.3 -1.0
baz=310
P37A **Lathrop** 52.72 71 P P 12 50 09.1 -1.3
baz=311,SNR=5.8
T34A **McClaskey Farm** 52.73 75 P P 12 50 09.4 -1.0
baz=312
M39A **Webster** 52.75 68 P P 12 50 09.6 -1.0
baz=310,SNR=9.4
J41A **Loganville** 52.75 65 P P 12 50 09.5 -1.1
baz=310
S35A **Otter Creek Ra** 52.81 74 P P 12 50 10.1 -1.0
baz=311
R36A **Gordon, Harris** 52.87 73 P P 12 50 10.4 -1.1
baz=311
O38A **Galt** 52.88 70 P P 12 50 10.5 -1.0
baz=311,SNR=5.8
JFWS **Jewell Farm** 52.91 66 *e*P P 12 50 14.0 +2.3
JFWS pmax pmax
comp=Z,61nm,2.0s
JFWS **Jewell Farm** 52.91 66 *e*P P 12 50 14.0 +2.3
comp=Z,61nm,2.0s
L40A **Anamosa** 52.91 67 P P 12 50 10.5 -1.2
baz=310
N39A **Derby Farms, D** 52.95 69 P P 12 50 11.0 -1.1
baz=310,SNR=9.0
K41A **Shullsburg** 53.08 66 P P 12 50 11.6 -1.3
baz=310
P38A **Dawn** 53.17 71 P P 12 50 12.4 -1.3
baz=311,SNR=8.0
M40A **Post Highland** 53.17 68 P P 12 50 12.6 -1.0
baz=310
L41A **Preston** 53.31 66 P P 12 50 13.1 -1.6
baz=310
Q38A **Cooks Store, C** 53.56 71 P P 12 50 15.0 -1.5
baz=311,SNR=5.2
P39B **Salisbury** 53.71 70 P P 12 50 16.3 -1.3
baz=311,SNR=7.3
M41A **Milan** 53.74 67 P P 12 50 16.7 -1.2
baz=311
O40A **La Belle** 53.80 69 P P 12 50 17.2 -1.1
baz=311,SNR=7.3
Q39A **Willow Grove F** 53.88 71 P P 12 50 17.4 -1.5
baz=311
R38A **Fenwick Farm,** 53.90 72 P P 12 50 17.0 -2.0
baz=312
TX31 **Lajitas Ar. Si** 54.05 87 *e*P P 12 50 19.9 -0.4
TXAR **Lajitas Array** 54.05 87 P P 12 50 19.8 -0.5
comp=Z,3.0nm,0.8s,baz=302,slow=5.3,SNR=23
TXAR LR LR 13 10 30.9
comp=Z,24nm,20.4s,baz=0.0,slow=33
P40A **Paris** 54.09 70 P P 12 50 19.5 -0.9
baz=311,SNR=5.3
S38A **Stockton** 54.27 73 P P 12 50 19.8 -1.9
baz=312,SNR=6.4
U37A **Salina** 54.38 75 P P 12 50 21.5 -1.1
baz=312
O41A **Passleys Farm,** 54.38 69 P P 12 50 21.1 -1.4
baz=311
N42A **Yates City** 54.39 67 P P 12 50 21.3 -1.2
baz=311
Q40A **Laux Farm, Aux** 54.44 70 P P 12 50 21.5 -1.4
baz=312,SNR=5.6
T38A **Diamond** 54.44 74 P P 12 50 21.6 -1.4
baz=312
Y34A **Reagan Ranch,** 54.45 79 P P 12 50 21.8 -1.3
baz=313
P41A **Barry, Barry** 54.57 69 P P 12 50 22.8 -1.1
baz=312
V37A **Hulbert** 54.72 75 P P 12 50 23.8 -1.2
baz=312
U38A **Gravette** 54.79 74 P P 12 50 24.1 -1.4
baz=312
R40A **Maddies Statio** 54.79 71 P P 12 50 23.3 -2.2
baz=312,SNR=5.3
Q41A **Truxton** 54.95 70 P P 12 50 25.5 -1.1
baz=312
T39A **Clever** 54.99 73 P P 12 50 24.9 -2.1
baz=312
HDIL **Hopedale** 54.99 67 P P 12 50 25.9 -1.0
baz=312
HDIL **Hopedale** 54.99 67 *e*P P 12 50 26.0 -1.0
comp=Z,18nm,0.8s
P42A **Winchester** 55.04 69 P P 12 50 26.2 -1.1
baz=312
V38A **Canehill** 55.17 75 P P 12 50 27.2 -1.1
baz=313
Z35A **Perchaven, San** 55.19 79 P P 12 50 27.5 -1.0
baz=314
134A **White-Moore Ra** 55.21 80 P P 12 50 27.7 -0.9
baz=314
R41A **Rosebud** 55.30 71 P P 12 50 27.6 -1.6
baz=312
U39A **Green Forest** 55.37 74 P P 12 50 28.0 -1.7
baz=313
Q42A **Golden Eagle** 55.38 69 P P 12 50 28.7 -1.0
baz=312
T40A **Mansfield** 55.41 72 P P 12 50 27.9 -2.1
baz=312
X37A **Clayton** 55.46 76 P P 12 50 29.2 -1.1
baz=313
P43A **Skaggs, Pawnee** 55.48 68 P P 12 50 29.3 -1.1
baz=312
333A **Richland Sprin** 55.53 82 P P 12 50 29.9 -1.0
baz=314
S41A **Jillco Farms,** 55.57 71 P P 12 50 29.0 -2.1
baz=312,SNR=6.4
JCT **Junction City** 55.62 83 P P 12 50 30.5 -1.1
baz=315
V39A **Pettigrew** 55.64 74 P P 12 50 30.7 -1.0
baz=313
W38A **Poteau** 55.64 75 P P 12 50 30.5 -1.1
baz=313
R42A **Luebbering** 55.66 70 P P 12 50 30.3 -1.4
baz=312
U40A **Yellville** 55.75 73 P P 12 50 30.7 -1.7
baz=313,SNR=6.0
Q43A **New Douglas** 55.84 69 P P 12 50 32.0 -1.1
baz=312,SNR=5.3
433A **Art** 55.86 82 P P 12 50 32.2 -1.1
baz=314
T41A **Mountain View** 55.93 72 P P 12 50 32.5 -1.3
baz=313
334A **Lometa** 55.98 81 P P 12 50 33.1 -1.1
baz=314
S42A **Caledonia** 56.00 71 P P 12 50 32.5 -1.8
baz=312
P44A **Sand Creek, Wi** 56.11 68 P P 12 50 33.7 -1.2
baz=312,SNR=6.2
V40A **Witts Springs** 56.15 74 P P 12 50 33.5 -1.8
baz=313,SNR=5.1
R43A **Red Bud** 56.16 70 P P 12 50 33.7 -1.6
baz=312,SNR=7.9
X39A **Fountain Ranch** 56.27 76 P P 12 50 35.3 -0.9
baz=313
U41A **Viola** 56.31 73 P P 12 50 34.6 -1.9
baz=313
434A **Burnet** 56.32 82 P P 12 50 35.6 -1.0
baz=315
T42A **Van Buren** 56.33 71 P P 12 50 34.4 -2.1
baz=313
SFIN **Lafayette** 56.36 66 P P 12 50 35.8 -0.9
baz=312
SFIN **Lafayette** 56.36 66 *e*P P 12 50 35.9 -0.8
comp=Z,67nm,1.9s
W40A **Ferguson Farm,** 56.42 74 P P 12 50 36.2 -1.0
baz=313
S43A **Fulton Ridge,** 56.55 70 P P 12 50 36.7 -1.4
baz=313,SNR=7.3
V41A **Mountainview** 56.56 73 P P 12 50 36.5 -1.7
baz=313
MIAR **Mount Ida** 56.56 75 P P 12 50 37.4 -0.8
baz=314
MIAR **Mount Ida** 56.56 75 *e*P P 12 50 37.9 -0.4
MIAR pmax pmax
comp=Z,28nm,1.8s
MIAR **Mount Ida** 56.56 75 *e*P P 12 50 37.9 -0.4
comp=Z,28nm,1.8s
ZALV **Zalesovo Beam** 56.76 317 LR LR 13 16 59.1
comp=Z,37nm,18.1s,baz=70,slow=38
T43A **Grenville** 56.76 71 P P 12 50 38.2 -1.4
baz=313,SNR=9.1
X301 **Greenbrier Sit** 56.79 74 *e*P P 12 50 39.4 -0.4
comp=Z,20nm,1.5s
WHAR **Wooly Hollow** 56.82 74 *e*P P 12 50 39.4 -0.7
comp=Z,37nm,1.8s
OLIL **Olney** 56.90 68 *e*P P 12 50 39.6 -1.0
comp=Z,14nm,0.6s
W41B **Gary Mavity, V** 56.92 74 P P 12 50 39.5 -1.3
baz=313
S44A **Carbondale** 56.95 70 P P 12 50 39.6 -1.3
baz=313
832A **Faith Ranch, C** 57.07 85 P P 12 50 41.2 -0.7
baz=316
T44A **Benton** 57.17 70 P P 12 50 41.1 -1.4
baz=313
USIN **University of** 57.68 68 *e*P P 12 50 45.2 -0.9
comp=Z,25nm,0.6s
ARCES **ARCESS Array B** 58.06 353 P P 12 50 47.4 -0.9
comp=Z,1.9nm,0.8s,baz=27,slow=10,SNR=3.3
ARCES **ARCESS Array B** 58.06 353 P P 12 50 47.4 -0.9
ARCES pmax pmax
comp=Z,1.0nm,0.6s
WVT **Waverly** 58.85 70 *e*P P 12 50 53.5 -0.8
WVT pmax pmax
comp=Z,7.0nm,1.0s
WVT **Waverly** 58.85 70 *e*P P 12 50 53.5 -0.8
comp=Z,6.5nm,1.0s
ALLY **Allegheny Colle** 59.32 61 *e*P P 12 50 57.0 -0.5
comp=Z,44nm,1.4s
LZH **Lanzhou** 59.49 291 *e*P P 12 51 01.5 +2.6
LZH pP pP 12 51 08.9 -3.7
LZH sP sP 12 51 11.6 -6.6
LZH pmax pmax
comp=Z,22nm,1.2s
Y46A **Houston** 59.82 73 P P 12 51 00.2 -0.8
baz=315
N54A **Moraine State** 59.88 61 P P 12 51 00.7 -0.6
baz=314
Y47A **UCPARC, Winfie** 60.40 72 P P 12 51 03.9 -1.1
baz=315
Z47A **Carrollton** 60.77 73 P P 12 51 06.4 -1.1
baz=315
Z48A **Northport** 60.95 72 P P 12 51 07.5 -1.2
baz=315
TZTN **Tazewell** 61.02 67 *e*P P 12 51 08.6 -0.5
comp=Z,26nm,1.5s
BINY **Binghamton** 61.13 58 *e*P P 12 51 10.1 +0.3
comp=Z,38nm,1.5s
O56A **Blue Knob Stat** 61.14 61 P P 12 51 08.4 -1.6
baz=315
CPCT **Cooper Cave** 61.24 68 *e*P P 12 51 08.9 -1.8
comp=Z,28nm,2.0s
SSPA **Standing Stone** 61.24 60 *e*P P 12 51 10.5 -0.1
comp=Z,6.5nm,0.8s
LRAL **Lakeview Retre** 61.52 72 *e*P P 12 51 11.6 -1.0
comp=Z,39nm,1.8s
TKL **Tuckaleechee C** 61.52 68 *e*P P 12 51 12.0 -0.6
TKL pmax pmax
comp=Z,48nm,1.9s
TKL **Tuckaleechee C** 61.52 68 *e*P P 12 51 12.0 -0.6
comp=Z,48nm,1.9s
KURK **Kurchatov** 61.72 317 *e*P P 12 51 13.2 -0.4
KURK pmax pmax
comp=Z,3.0nm,0.6s
KURK **Kurchatov** 61.72 317 *e*P P 12 51 13.2 -0.4
comp=Z,2.7nm,0.6s
248A **Dixon Mills** 61.75 73 P P 12 51 13.8 -0.3
baz=316
PQI **Presque Isle** 61.85 49 *e*P P 12 51 14.1 -0.5
comp=Z,45nm,1.6s
N59A **State Game Lan** 62.16 59 P P 12 51 16.5 -0.3
baz=316
BLA **Blacksburg** 62.30 64 *e*P P 12 51 17.8 -0.1
BLA pmax pmax
comp=Z,15nm,0.8s
BLA **Blacksburg** 62.30 64 *e*P P 12 51 17.8 -0.1
comp=Z,15nm,0.8s
LUPA **Lehigh Univers** 62.60 59 *e*P P 12 51 19.9 +0.1
comp=Z,9.9nm,0.8s
WMQ **Urumqi** 62.68 307 *e*P P 12 51 22.6 +2.3
WMQ pP pP 12 51 33.3 -0.8
WMQ S S 12 59 46.9 +2.0
WMQ pmax pmax
comp=Z,2.0nm,0.7s
WMQ pmax pmax
comp=Z,40nm,3.9s
WMQ LR LR
comp=N,16nm,20.3s
WMQ LR LR
comp=E,8.0nm,22.7s
WMQ LR LR
comp=Z,8.0nm,18.1s
MK31 **Makanchi Array** 63.05 312 *e*P P 12 51 21.4 -1.3
MK31 **Makanchi Array** 63.05 312 *e*P P 12 51 21.4 -1.3
MKAR **Makanchi Array** 63.05 312 *e*P P 12 51 21.4 -1.3
MKAR pmax pmax
comp=Z,10.0nm,0.3s
MKAR **Makanchi Array** 63.05 312 *e*P P 12 51 21.4 -1.3
comp=Z,9.9nm,0.3s
MK01 **Makanchi Array** 63.07 312 *e*P P 12 51 21.6 -1.1
BRVK **Borovoye** 63.19 323 *ce*P P 12 51 23.0 -0.4
BRVK pmax pmax
comp=Z,7.0nm,1.2s
KMSC **Kings Mountain** 63.28 67 P P 12 51 23.5 -0.7
baz=316
KMSC **Kings Mountain** 63.28 67 *e*P P 12 51 23.6 -0.7
comp=Z,12nm,0.8s
GOGA **Godfrey** 63.30 69 *e*P P 12 51 23.1 -1.4
GOGA pmax pmax
comp=Z,7.0nm,0.8s
GOGA **Godfrey** 63.30 69 *e*P P 12 51 23.1 -1.4
comp=Z,6.9nm,0.8s
JSRW **J. Sargeant Re** 63.36 62 *e*P P 12 51 24.4 -0.4
WES **Weston** 63.39 55 *e*P P 12 51 25.0 +0.1
WES pmax pmax
comp=Z,112nm,1.8s
WES **Weston** 63.39 55 *e*P P 12 51 25.0 +0.1
comp=Z,112nm,1.8s
GGN **Saint George** 63.55 50 *e*P P 12 51 25.4 -0.6
comp=Z,46nm,1.8s
EMMW **East Machias** 63.57 51 *e*P P 12 51 25.4 -0.7
comp=Z,21nm,0.8s
URVA **University of** 63.63 62 *e*P P 12 51 26.5 -0.1
JSC **Jenkinsville** 63.94 67 *e*P P 12 51 28.0 -0.7
JSC pmax pmax
comp=Z,7.0nm,0.9s
JSC **Jenkinsville** 63.94 67 *e*P P 12 51 28.0 -0.7
comp=Z,7.4nm,0.9s
LMN **Caledonia Moun** 63.95 48 *e*P P 12 51 28.3 -0.3
comp=Z,20nm,0.8s
ARU **Arti** 64.28 332 *c i*P P 12 51 28.8 -1.7
ARU 12 52 03.7
ARU S S 13 00 04.6 +0.4
ARU SS SS 13 04 10.8 -2.5
ARU pmax pmax
comp=Z,7.0nm,2.5s
DRLN **Deer Lake** 64.52 42 *e*P P 12 51 31.7 -0.5
comp=Z,108nm,1.9s
FIA1 **FINESS Array S** 65.96 351 *e*P P 12 51 39.8 -1.6
FINES **FINESS Array B** 65.96 351 P P 12 51 39.9 -1.5
comp=Z,0.7nm,0.5s,baz=28,slow=8.6,SNR=6.2
FINES **FINESS Array B** 65.96 351 *i* P P 12 51 40.4 -0.9
FINES pmax pmax
comp=Z,1.0nm,0.5s
NC303 **NORSAR Array S** 67.02 359 *e*P P 12 51 47.7 -0.5
NC405 **NORSAR Array S** 67.13 358 *e*P P 12 51 48.5 -0.4
NB2 **NORSAR Subarra** 67.21 359 P P 12 51 48.7 -0.7
comp=Z,0.7nm,0.6s,baz=0.8,slow=6.5
NOA **NORSAR Array B** 67.21 359 P P 12 51 48.6 -0.7
comp=Z,1.1nm,0.7s,baz=2.0,slow=6.3,SNR=4.3
KMI **Kunming** 68.08 283 P P 12 51 55.4 -0.3
KMI pP pP 12 52 03.7 -5.9
KMI pmax pmax
comp=Z,5.0nm,1.1s
AAK **Ala-Archa** 69.78 314 *e*P P 12 52 05.1 -0.8
AAK pmax pmax
comp=Z,3.0nm,0.8s
ABKAR **Akbulak array** 69.99 327 *e*P P 12 52 06.4 -0.4
comp=Z,10nm,0.4s
KSH **Kashi** 71.61 311 *e*P P 12 52 20.1 +3.1
KSH pP **pP** 12 52 30.0 -1.0
KSH PP **PP** 12 55 01.0 +5.2
KSH S **S** 13 01 35.1 +2.6
KSH sS **SKiKP** 13 01 52.0 +0.9
KSH **Kashi** 71.61 311 SS SS 13 06 13.1 +5.6
KSH pmax pmax
comp=Z,3.0nm,0.6s
KSH pmax pmax
comp=Z,140nm,5.3s
KSH LR LR
comp=N,74nm,6.8s
KSH LR LR
comp=E,88nm,5.7s
KSH LR LR
comp=Z,120nm,5.6s
CMAR **Chiang Mai Arr** 75.41 281 P P 12 52 39.2 -0.2
comp=Z,1.8nm,0.7s,baz=26,slow=6.5,SNR=9.7
CMAR LR LR 13 27 16.1
comp=Z,13nm,20.0s,baz=55,slow=37
CM01 **Chiang Mai Arr** 75.43 281 *e*P P 12 52 39.2 -0.4
GERES **GERESS Array B** 79.36 357 P P 12 53 01.1 -0.1
comp=Z,0.4nm,0.7s,baz=26,slow=6.4,SNR=5.1
WB2 **Warramunga Arr** 85.81 230 *e*P P 12 53 34.1 -0.8
comp=Z,18nm,1.6s
WRA **Warramunga Arr** 85.82 230 P P 12 53 32.9 -2.1
comp=Z,1.1nm,1.2s,baz=34,slow=5.8,SNR=3.1
PSI **Prapat** 87.57 271 P P 12 53 41.8 -2.1
comp=Z,2.4nm,0.4s,baz=329,slow=18,SNR=3.0
ES19 **SONSECA Array** 87.95 10 *e*P P 12 53 44.6 -0.7
ESDC **Sonseca Array** 87.97 10 P P 12 53 44.5 -0.9
comp=Z,1.0nm,0.7s,baz=347,slow=4.9,SNR=5.8
FITZ **Fitzroy Crossi** 88.60 238 *e*P P 12 53 47.7 -0.6
comp=Z,22nm,1.7s
AS01 **Alice Springs** 89.20 228 *e*P P 12 53 50.2 -1.0
ASAR **Alice Springs** 89.23 228 P P 12 53 50.4 -0.9
comp=Z,1.3nm,0.6s,baz=30,slow=4.7,SNR=31
LBTB **Lobatse** 150.01 328 *e*PKHKP PKPdf 13 00 42.3 +1.5
LBTB **Lobatse** 150.01 328 *e*PKPdf PKPdf 13 00 42.3 +1.5
CRZF **Crozet Islands** 151.50 264 *e*PKPdf PKPdf 13 00 45.2 +3.0

SJA ***04*** *12:41:43.7±1.6,30°.85S×72°.62W,h14km±42km,ML3.6, MW3.7*
GUC ***04*** *12:41:48.9±0.3,31°.45S×72°.67W,h5km±3km,ML3.4*
ISC 04 12:41:49.5±4.9,31.25±0°.1×72°.3W±0°.2,h3km±25km,n16,
σ1s99/16,Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
					Op ISC	h m s	ISC
ROCH	**El Roble**	2.06	147	*i* P	**Pb**	**12 42 26.1**	**-1.6**
ROCH				*i* S	**Sg**	**12 42 54.6**	**-1.1**
ROCH				IAML		12 43 05.4	
	comp=N,371nm,0.4s						
ROC1	**El Roble**	2.06	147	*e*P	**Pb**	**12 42 26.6**	**-1.1**
ROC1				*e*S	**Sg**	**12 42 59.0**	**+3.2**
PEL	**Peldehue**	2.36	144	*i* P	**Pb**	**12 42 30.8**	**-1.9**
PEL				*i* S	**Sb**	**12 43 02.6**	**+0.4**
PEL				IAML		12 43 09.7	
	comp=E,183nm,0.4s						
CLCH	**Cerro Calan**	2.63	145	*i* P	**Pn**	**12 42 34.6**	**+1.6**
CLCH				*i* S	**Sb**	**12 43 09.2**	**-1.1**
CLCH				IAML		12 43 20.7	
	comp=E,254nm,0.6s						
RTLS	**Leoncito**	2.65	103	*e*P	**Pn**	**12 42 33.2**	**-0.2**
RTLS				IAML		12 43 09.9	
	comp=Z,121nm,0.5s						
AUSP	**Uspallata**	2.69	112	*e*P	**Pn**	**12 42 35.2**	**+1.1**
FCH	**Farellones**	2.71	141	*i* P	**Pb**	**12 42 36.5**	**-2.3**
FCH				*i* S	**Sb**	**12 43 12.7**	**+0.2**
ANTU	**Antumapu**	2.73	149	*i* S	**Sb**	**12 43 10.9**	**-2.0**
ASAL	**Salagasta**	3.27	115	*e*P	**Pn**	**12 42 43.2**	**+1.5**
RTCV	**Cerro Valdivia**	3.30	102	*e*P	**Pn**	**12 42 43.8**	**+1.7**
ARCO	**CERRO ARCO**	3.30	120	IAML		12 43 41.0	
	comp=Z,67nm,0.3s						
AMOG	**MOGNA**	3.31	86	*e*P	Pn	12 42 40.8	-1.5
AAGR	**Agrelo**	3.50	123	*e*P	**Pn**	**12 42 47.9**	**+3.0**
AGUA	**GUANDACOL**	3.75	63	*e*P	Pn	12 42 45.0	-3.4
VCA	**Vinchina**	4.36	56	*e*P	Pn	12 42 54.0	-2.9
VCA				IAML		12 43 58.1	
	comp=Z,56nm,0.5s						
MRA	**San Martin**	5.75	104	IAML		12 44 49.1	
	comp=Z,26nm,0.5s						

NNC 04 13:05:02.9±17.0,37.89N×72.03E,h0km,mb3.6,mpv3.2,
6C-3D,Error ellipse: s-maj=143.8km s-min=44.9km
az=156.0,Tajikistan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
					Op ISC	h m s	ISC
DZET	**Dzherino**	2.68	291	⇓S	Sb	13 06 23.1	-2.3
	61nm,0.3s						
MNAS	**Manas**	4.61	4	⇑P	Pn	13 06 13.2	-0.9
	1.9nm,0.4s						
MNAS				⇑S	Sn	13 07 10.2	+1.9
	9.9nm,0.7s						
AAK	**Ala-Archa**	5.11	21	⇑P	Pn	13 06 19.1	-1.7
	2.2nm,0.4s						
AAK				⇓S	Sn	13 07 21.8	+1.2
	6.8nm,0.9s						
KK31	**Karatay Array**	5.34	348	⇑P	Pn	13 06 22.0	-1.9
	0.8nm,0.5s,baz=186,slow=18,SNR=6.5						
KK31				⇓S	Sn	13 07 26.4	+0.3
	0.7nm,0.2s,baz=184,slow=21,SNR=11						
MAKZ	**Makanchi**	11.55	36	⇑Pn	Pn	13 07 50.0	+0.9
	0.4nm,0.2s						
MK31	**Makanchi Array**	11.69	37	⇑Pn	Pn	13 07 50.2	-0.7
	1.0nm,0.2s,baz=190,slow=16,SNR=76						

WEL 04 13:08:23.2±0.2, 38°21S×178°35E, h17km±1km, ML3.6/23, 5C-5D, Error ellipse: s-maj=2.7km s-min=0.9km az=90.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PUZ	**Puketiti**	**0.15**	**330**	P*	Pg	13 08 26.5	-0.9
PUZ				S*	Sb	13 08 30.7	+0.1
PUZ				AML	AML	13 08 31.2	
TWGZ	**Tauwhareparae**	**0.29**	**275**	⇓P*	Pg	13 08 29.4	-0.2
TWGZ				AML	AML	13 08 37.4	
TWGZ				AML	AML	13 08 38.4	
CNGZ	**Carnagh Statio**	**0.30**	**202**	P*	Pb	13 08 30.0	-0.2
CNGZ				AML	AML	13 08 40.0	
CNGZ				AML	AML	13 08 41.0	
PKGZ	**Pakihiroa**	**0.38**	**325**	⇓P*	Pg	13 08 31.0	-0.2
WMGZ	**Waiomatatini S**	**0.39**	**7**	P*	Pg	13 08 31.3	+0.1
WMGZ				AML	AML	13 08 44.0	
WMGZ				AML	AML	13 08 44.3	
TKGZ	**Te Karaka**	**0.46**	**239**	P*	Pg	13 08 32.5	0.0
TKGZ				AML	AML	13 08 44.2	
TKGZ				AML	AML	13 09 44.7	
RUGZ	**Raukumara Rang**	**0.58**	**294**	⇓P*	Pg	13 08 34.3	-0.5
HAZ	**Te Kaha**	**0.64**	**315**	⇓P*	Pg	13 08 35.3	-0.5
HAZ				eS*	Sb	13 08 44.9	+0.4
HAZ				AML	AML	13 08 46.8	
HAZ				AML	AML	13 08 46.9	
HAZ				AML	AML	13 08 47.0	
MWZ	**Matawai**	**0.66**	**259**	⇓P*	Pg	13 08 35.7	-0.5
MWZ				eS*	Sg	13 08 44.4	-0.7
MWZ				AML	AML	13 08 48.0	
RIGZ	**Rimuhau**	**0.68**	**223**	⇑P*	Pg	13 08 36.4	-0.3
RIGZ				AML	AML	13 08 49.4	
RIGZ				AML	AML	13 08 49.7	
RAGZ	**Rawiri**	**0.79**	**248**	⇑P*	Pb	13 08 38.2	-0.4
RAGZ				AML	AML	13 08 55.7	
RAGZ				AML	AML	13 08 56.4	
PRGZ	**Paritu Road**	**0.81**	**207**	P*	Pb	13 08 37.8	-1.1
PRGZ				AML	AML	13 09 54.6	
PRGZ				AML	AML	13 09 02.2	
KNZ	**Kokohu**	**0.97**	**213**	P*	Pb	13 08 39.5	-2.1
KNZ				AML	AML	13 09 05.6	
KNZ				AML	AML	13 09 06.9	
URZ	**Urewera**	**0.98**	**266**	⇑P*	Pb	13 08 41.2	-0.5
URZ				AML	AML	13 09 05.2	
URZ				AML	AML	13 09 05.4	
SNGZ	**Shannon Statio**	**0.98**	**234**	P*	Pb	13 08 40.8	-1.0
SNGZ				AML	AML	13 09 08.7	
SNGZ				AML	AML	13 09 08.9	
MHGZ	**Mahia Peninsul**	**1.01**	**200**	AML	AML	13 09 05.5	
MHGZ				AML	AML	13 09 30.1	
WHRZ	**Whale Island**	**1.14**	**287**	PN	Pb	13 08 44.7	+0.1
RTZ	**Ruatahuna**	**1.15**	**249**	PN	Pn	13 08 43.6	-1.1
MUGZ	**Murupara**	**1.27**	**257**	PN	Pn	13 08 45.4	-0.8
MARZ	**Manawahe**	**1.34**	**279**	AML	AML	13 08 54.4	
MARZ				AML	AML	13 08 55.9	
TARZ	**Mount Tarawera**	**1.46**	**268**	⇑PN	Pn	13 08 49.0	+0.2
OPRZ	**Ohinepanea**	**1.47**	**284**	⇑PN	Pn	13 08 47.8	-1.1
OPRZ				AML	AML	13 09 18.4	
OPRZ				AML	AML	13 09 26.3	
NMHZ	**Naumai**	**1.50**	**233**	PN	Pb	13 08 51.0	+0.3
NMHZ				AML	AML	13 09 23.1	
NMHZ				AML	AML	13 09 27.6	
MRHZ	**Matea Rd**	**1.64**	**247**	PN	Pn	13 08 50.3	-1.1
MRHZ				AML	AML	13 09 00.9	
MRHZ				AML	AML	13 09 05.6	
BKZ	**Black Stump Fm**	**1.74**	**236**	PN	Pn	13 08 51.1	-1.7
BKZ				AML	AML	13 09 32.3	
BKZ				AML	AML	13 09 33.8	
MCHZ	**McNeill Hill**	**1.79**	**226**	AML	AML	13 09 44.8	
MCHZ				AML	AML	13 09 47.8	
KWHZ	**Kaweka Forest**	**1.94**	**230**	AML	AML	13 09 08.8	
KWHZ				AML	AML	13 09 43.9	
KAHZ	**Kahuranaki**	**1.96**	**215**	PN	Pn	13 08 52.8	-3.0
KAHZ				AML	AML	13 09 57.5	
BHHZ	**Black Hill Sta**	**2.20**	**234**	PN	Pn	13 08 57.2	-1.9
BHHZ				AML	AML	13 09 49.6	

*IDC **04** 13:12:24.5±2.4, 4°.85N×125°.34E, h0km, mb4.3/5, mb1 4.4/5, mb1mx3.7/51, mbtmp4.3/5, Error ellipse: s-maj=76.1km s-min=40.1km az=68.0*
*ISCJB **04** 13:12:44.6±0.6, 4°.54N±0°.05×125°.8E±0°.2, h176km, mb4.1/5, Error ellipse: s-maj=21.8km s-min=6.4km az=174.6*
*MAN **04** 13:12:47, 4°.52N×126°.02E, h125km, mb4.6, ML3.5, MS3.4*
ISC 04 13:12:45.9±0.8, 4°.55N±0°.07×125°.7E±0°.2, h176km, n11, σ1°73/15, mb4.2/5, 3C-1D, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GSPH	**General Santos**	**1.69**	**334**	⇑*i*P	**Pn**	**13 13 18.8**	**-0.7**
GSPH				*i* S	**Sn**	**13 13 43.4**	**-2.3**
MATI	**Mati**	**2.45**	**13**	*e*P	**Pn**	**13 13 26.9**	**-0.9**
MATI				*e*S	**Sn**	**13 13 56.9**	**-3.4**
KCP	**Kidapawan**	**2.51**	**346**	⇓*e*P	**Pn**	**13 13 29.9**	**+0.3**
KCP				*i* S	**Sn**	**13 14 02.6**	**+0.8**
DMPH	**Davao City--Mi**	**2.52**	**356**	⇑*e*P	**Pn**	**13 13 31.9**	**+3.3**
BIPH	**Bislig**	**3.67**	**11**	⇑*i*P	**Pn**	**13 13 44.8**	**+2.1**
BIPH				*i* S	**Sn**	**13 14 26.6**	**-0.5**
FITZ	**Fitzroy Crossi**	**22.51**	**180**	P	**P**	**13 17 30.7**	**-0.3**
	1.8nm,0.4s,baz=358,slow=8.0,SNR=23						
WRA	**Warramunga Arr**	**25.79**	**161**	P	**P**	**13 18 00.1**	**-0.7**
	2.3nm,0.4s,baz=331,slow=11,SNR=46						
ASAR	**Alice Springs**	**29.17**	**164**	P	**P**	**13 18 30.8**	**-0.1**
	1.9nm,0.5s,baz=345,slow=7.4,SNR=68						
NWAO	**Narrogin (SRO)**	**38.13**	**192**	P	**P**	**13 19 48.2**	**+0.3**
	2.6nm,0.4s,baz=353,slow=8.1,SNR=5.0						
STKA	**Stephens Creek**	**39.27**	**158**	P	**P**	**13 19 57.6**	**+0.1**
	2.8nm,0.3s,baz=335,slow=9.7,SNR=6.6						
TORD	**Torodi Ar. Bea**	**121.67**	**288**	PKP	**PKPdf**	**13 31 20.3**	**+0.5**
	0.2nm,0.4s,baz=70,slow=1.6,SNR=4.4						

*DDA **04** 13:17:56.5, 38°.98N×44°.76E, h6km, Md2.7*
*CSEM **04** 13:17:57.7±0.4, 38°.93N×44°.68E, h2km, MD2.7, Error ellipse: s-maj=18.0km s-min=6.2km az=20.0*
*TEH **04** 13:17:58.3, 38°.88N×44°.61E, h1km, ML2.8*
ISC 04 13:17:57.0±1.1, 39°08N±0°.05×44°77E±0°.03, h10km±11km, n18, σ1°8/27, Iran-Armenia-Azerbaijan border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CLDR	**Caldiran**	**0.67**	**276**	*i* P	**Pg**	**13 18 09.0**	**-0.9**
CLDR				*i* S	**Sg**	**13 18 18.9**	**+0.2**
CLDR	**Caldiran**	**0.67**	**276**	P	**Pg**	**13 18 09.0**	**-0.9**
CLDR				S	**Sg**	**13 18 18.9**	**+0.2**
IMRD	**Marand**	**0.81**	**116**	*e*Pg	**Pn**	**13 18 13.7**	**-1.0**
IMRD				*e*AMB	AMB	13 18 28.2	
	comp=Z,36μm,0.1s						
IMRD	**Marand**	**0.81**	**116**	*e*Pg	**Pn**	**13 18 13.7**	**-1.0**
VMUR	**Van-Muradiye**	**0.94**	**265**	*i* P	**Pg**	**13 18 13.5**	**-1.5**
VMUR				*i* S	**Sg**	**13 18 28.1**	**+0.8**
VMUR	**Van-Muradiye**	**0.94**	**265**	P	**Pg**	**13 18 13.5**	**-1.5**
VMUR				S	**Sg**	**13 18 28.1**	**+0.8**
DYDN	**Diyadin**	**0.96**	**299**	*i* P	**Pn**	**13 18 15.9**	**-0.8**
DYDN				*i* S	**Sn**	**13 18 30.8**	**+0.2**
DYDN	**Diyadin**	**0.96**	**299**	P	**Pn**	**13 18 15.9**	**-0.8**
DYDN				S	**Sn**	**13 18 30.8**	**+0.2**
ISHB	**Shabestar**	**1.03**	**140**	*e*Pg	**Pg**	**13 18 16.4**	**-0.4**
ISHB				*e*AMB	AMB	13 18 20.5	
	comp=Z,5μm,0.1s						
ITBZ	**Tabriz**	**1.37**	**128**	*e*Pg	**Pb**	**13 18 22.5**	**-0.2**
ITBZ				*e*AMB	AMB	13 18 42.3	
	comp=Z,2μm,0.1s						
ITBZ	**Tabriz**	**1.37**	**128**	*e*Pg	**Pb**	**13 18 22.5**	**-0.2**
GEVA	**Gevas**	**1.54**	**241**	*i* P	**Pn**	**13 18 25.4**	**+0.7**
GEVA				*i* S	**Sg**	**13 18 48.7**	**+2.2**
GEVA	**Gevas**	**1.54**	**241**	P	**Pn**	**13 18 25.4**	**+0.7**
GEVA				S	**Sg**	**13 18 48.7**	**+2.2**
EAK	**Akyaka**	**1.84**	**331**	*i* P	**Pg**	**13 18 32.9**	**+0.6**
EAK	**Akyaka**	**1.84**	**331**	P	**Pg**	**13 18 32.9**	**+0.6**
IHRS	**Heris**	**1.93**	**112**	*e*Pn	**Pg**	**13 18 33.5**	**-0.5**
IHRS				*e*AMB	AMB	13 18 37.6	
	comp=Z,1μm,0.1s						
IHRS				*e*Sg	**Sg**	**13 19 00.4**	**+1.3**
IHRS	**Heris**	**1.93**	**112**	*e*Pn	**Pg**	**13 18 33.5**	**-0.5**
IHRS				*e*Sg	**Sg**	**13 19 00.4**	**+1.3**
IBST	**Bostanabad**	**2.16**	**129**	*e*AMB	AMB	13 18 44.5	
	comp=Z,252nm,0.1s						

*ISCJB **04** 13:22:45.0±1.4, 36°.79N±0°.05×141°.45E±0°.07, h7km±6km, mb3.6/3, MS3.3/2, Error ellipse: s-maj=10.5km s-min=8.2km az=32.1*
*IDC **04** 13:22:45.1±3.7, 35°.42N×141°.46E, h53km±38km, mb3.4/3, mb1 3.5/5, mb1mx3.2/60, mbtmp3.6/5, ML3.1/2, MS3.0/4, Ms1 3.0/4, ms1mx2.6/28, Error ellipse: s-maj=43.1km s-min=21.9km az=45.0*
*JMA **04** 13:22:47.0±0.1, 36°.80N×141°.35E, h35km±1km, M3.3*
ISC 04 13:22:45.6±2.8, 36°.75N±0°.09×141°38E±0°.09, h2km±15km, n16, σ1°10/18, mb3.6/3, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ONAJ	**Iwakimizuishiy**	**0.58**	**307**	P	**Pg**	**13 22 57.7**	**+1.0**
ONAJ				S	**Sg**	**13 23 05.7**	**+1.4**
JHO	**Hitachi**	**0.66**	**258**	P	**Pb**	**13 22 59.4**	**-0.5**
JHO				S	**Sb**	**13 23 09.1**	**-0.4**
JFK	**Kawauchi**	**0.73**	**327**	P	**Pg**	**13 22 59.9**	**+0.2**
JFK				*e*S	**Sg**	**13 23 09.5**	**+0.3**
JYT	**Yasato**	**1.09**	**242**	P	**Pn**	**13 23 06.3**	**-1.5**
JFT	**Otama**	**1.13**	**313**	P	**Pg**	**13 23 07.0**	**-0.3**
JFT				S	**Sg**	**13 23 21.0**	**-0.9**
JMM	**Marumori**	**1.21**	**337**	P	**Pn**	**13 23 08.1**	**-1.3**
JFY	**Yanaizu**	**1.49**	**297**	P	**Pn**	**13 23 12.7**	**-0.6**
MJAR	**Matsushiro Arr**	**2.56**	**266**	P	**Pn**	**13 23 28.8**	**+0.8**
	2.8nm,0.3s,baz=103,slow=12,SNR=12						
MJAR				S	**Sn**	**13 24 01.1**	**+1.4**
	2.2nm,0.3s,baz=123,slow=14,SNR=5.1						
MJAR				LR	LR	13 24 52.7	
	comp=Z,109nm,19.9s,baz=100,slow=45						
MAT	**Matsushiro**	**2.56**	**266**	P	**Pn**	**13 23 28.6**	**+0.6**
MAT				S	**Sb**	**13 24 01.9**	**-2.2**
JHJ	**Hachijo jima 2**	**3.85**	**200**	P	Pn	13 23 25.3	-21
	9.2nm,0.3s,baz=237,slow=18,SNR=3.0						
KSRS	**Korea Array**	**10.77**	**278**	LR	LR	13 28 43.8	
	comp=Z,38nm,20.2s,baz=130,slow=32						
SONM	**Songino Array**	**27.92**	**304**	P	**P**	**13 28 37.0**	**-0.1**
	0.5nm,0.7s,baz=90,slow=8.6,SNR=3.5						
NRIK	**Noril'sk**	**43.51**	**335**	LR	LR	13 48 51.9	
	comp=Z,32nm,18.4s,baz=49,slow=35						
KURBB	**Kurchatov Arra**	**46.15**	**308**	P	**P**	**13 31 11.4**	**+0.2**
	0.9nm,0.5s,baz=83,slow=8.1,SNR=6.1						
ILAR	**Eielson Array**	**49.75**	**32**	P	**P**	**13 31 39.9**	**+0.9**
	0.5nm,0.7s,baz=262,slow=5.2,SNR=5.4						
AAK	**Ala-Archa**	**50.60**	**299**	LR	LR	13 53 21.9	
	comp=Z,32nm,19.8s,baz=76,slow=36						

*ISCJB **04** 13:24:11.8±0.8, 23°.1N±0°.1×141°.8E±0°.3, h250km, mb3.9/9, Error ellipse: s-maj=33.5km s-min=12.9km az=163.9*
*IDC **04** 13:24:13.4±5.1, 23°.10N×141°.66E, h245km±49km, mb3.7/9, mb1 3.7/11, mb1mx3.3/59, mbtmp4.2/11, Error ellipse: s-maj=32.5km s-min=11.1km az=80.0*
ISC 04 13:24:13.9±0.9, 23°.1N±0°.1×141°.7E±0°.2, h250km, n12, σ0°73/12, mb4.1/9, Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JNU	**Nakatsue**	**13.79**	**319**	P	**P**	**13 27 21.1**	**+0.7**
	0.6nm,0.3s,baz=112,slow=6.0,SNR=7.5						
KSRS	**Korea Array**	**18.57**	**324**	P	**P**	**13 28 12.1**	**-0.4**
	0.4nm,0.3s,baz=142,slow=11,SNR=7.7						
SONM	**Songino Array**	**37.38**	**320**	P	**P**	**13 31 02.6**	**-0.2**
	1.2nm,0.6s,baz=136,slow=7.2,SNR=5.6						
WRA	**Warramunga Arr**	**43.36**	**190**	P	**P**	**13 31 51.8**	**-0.1**
	3.6nm,0.3s,baz=8.1,slow=8.5,SNR=149						
ASAR	**Alice Springs**	**47.08**	**190**	P	**P**	**13 32 20.8**	**-0.2**
	0.7nm,0.3s,baz=16,slow=6.6,SNR=46						
ZALV	**Zalesovo Beam**	**52.25**	**321**	P	**P**	**13 32 59.4**	**-0.1**
	2.9nm,0.3s,baz=100,slow=6.9,SNR=9.7						
STKA	**Stephens Creek**	**54.65**	**180**	P	**P**	**13 33 16.9**	**-0.1**
	3.1nm,0.5s,baz=1.2,slow=8.5,SNR=7.5						
KURBB	**Kurchatov Arra**	**55.55**	**316**	P	**P**	**13 33 23.4**	**0.0**
	5.6nm,0.7s,baz=95,slow=7.6,SNR=40						
ILAR	**Eielson Array**	**61.45**	**28**	P	**P**	**13 34 03.1**	**-0.6**
	0.3nm,0.8s,baz=268,slow=6.2,SNR=3.9						
ARCES	**ARCESS Array B**	**77.16**	**341**	P	**P**	**13 35 40.1**	**+0.5**
	1.3nm,0.6s,baz=74,slow=7.0,SNR=3.7						
FINES	**FINESS Array B**	**81.33**	**334**	P	**P**	**13 36 01.4**	**-0.8**
	2.4nm,0.4s,baz=61,slow=5.3,SNR=12						
LPAZ	**La Paz**	**151.18**	**82**	PKPbc	**PKPbc**	**13 43 40.7**	**+1.7**
	0.6nm,0.8s,baz=262,slow=1.5,SNR=4.6						

JMA 04 13:24:46.4, 32°54N×131°98E, h32km±1km, M0.6, Kyushu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JKIT	**Kitakata**	**0.45**	**281**	P	Pb	13 24 56.0	-0.2
JKIT				eS	Sb	13 25 02.9	0.0
JTSN	**Tsuno**	**0.50**	**234**	P	Pb	13 24 56.8	-0.1
JTSN				*e*S	Sb	13 25 04.4	+0.3
JUS	**Usuki**	**0.56**	**340**	P	Pb	13 24 57.6	-0.3
JUS				*e*S	Sb	13 25 05.9	+0.1

*CRAAG **04** 13:36:46.0, 32°.70N×0°.31W, Ml3.6*
*CSEM **04** 13:36:49.3±0.5, 33°.11N×0°.52W, h10km, mb2.3, Error ellipse: s-maj=10.7km s-min=8.4km az=149.0*
*MDD **04** 13:36:52.6±3.1, 33°.41N×0°.66W, h270km±32km, mb2.3/3, Error ellipse: s-maj=30.6km s-min=20.9km az=38.0, PRIXIMO*
ISC 04 13:36:48.7±1.9, 33°07N±0°.09×0°29W±0°.05, h10km, n43, σ2°34/57, Northern Algeria

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
OTSS	**Djebel Tessala**	**2.24**	**349**	P	Pg	13 37 37.0	+5.2
OTSS	**Djebel Tessala**	**2.24**	**349**	P	Pg	13 37 37.0	+5.2
OTSS	**Djebel Tessala**	**2.24**	**349**	P	Pg	13 37 37.0	+5.2
ODJA	**Bouhanifia**	**2.26**	**3**	P	**Pg**	**13 37 35.0**	**+3.0**
ODJA	**Bouhanifia**	**2.26**	**3**	P	**Pg**	**13 37 35.0**	**+3.0**
ODJA	**Bouhanifia**	**2.26**	**3**	P	**Pg**	**13 37 35.0**	**+3.0**
OLHC	**Oulhaca**	**2.37**	**337**	P	**Pg**	**13 37 38.0**	**+3.9**
OLHC	**Oulhaca**	**2.37**	**337**	P	**Pg**	**13 37 38.0**	**+3.9**
OLHC	**Oulhaca**	**2.37**	**337**	P	**Pg**	**13 37 38.0**	**+3.9**
OJGS	**Djebel Guires**	**2.58**	**19**	P	**Pg**	**13 37 39.0**	**+0.9**
OJGS	**Djebel Guires**	**2.58**	**19**	P	**Pg**	**13 37 39.0**	**+0.9**
OJGS	**Djebel Guires**	**2.58**	**19**	P	**Pg**	**13 37 39.0**	**+0.9**
ETRT	**Tiaret**	**2.66**	**29**	P	**Pn**	**13 37 30.0**	**-1.8**
ETRT	**Tiaret**	**2.66**	**29**	P	**Pn**	**13 37 30.0**	**-1.8**
ETRT	**Tiaret**	**2.66**	**29**	P	**Pn**	**13 37 30.0**	**-1.8**
OKGL	**Djebel Kef Gue**	**3.06**	**14**	P	**Pn**	**13 37 38.0**	**+0.8**
OKGL	**Djebel Kef Gue**	**3.06**	**14**	P	**Pn**	**13 37 38.0**	**+0.8**
OKGL	**Djebel Kef Gue**	**3.06**	**14**	P	**Pn**	**13 37 38.0**	**+0.8**
EANR	**'Ain N'Sour**	**3.09**	**21**	P	**Pn**	**13 37 35.5**	**-2.2**
EANR	**'Ain N'Sour**	**3.09**	**21**	P	**Pn**	**13 37 35.5**	**-2.2**
EANR	**'Ain N'Sour**	**3.09**	**21**	P	**Pn**	**13 37 35.5**	**-2.2**
ECHF	**Ech Chlef**	**3.36**	**23**	P	**Pg**	**13 37 57.1**	**+4.0**
ECHF	**Ech Chlef**	**3.36**	**23**	P	**Pg**	**13 37 57.1**	**+4.0**
ECHA	**Ech Chlef**	**3.36**	**24**	P	**Pg**	**13 37 57.1**	**+4.0**
EBNR	**Beni Rached**	**3.54**	**25**	P	**Pn**	**13 37 44.9**	**+1.0**
EBNR	**Beni Rached**	**3.54**	**25**	P	**Pn**	**13 37 44.9**	**+1.0**
CZD	**Col de Zad**	**3.99**	**271**	*e*P	**Pn**	**13 37 48.0**	**-2.3**
CZD				*i* S	**Sn**	**13 38 39.0**	**+1.7**
ENIJ	**Nijar**	**4.20**	**339**	P	**Pn**	**13 37 51.2**	**-1.6**
	0.9nm,0.2s,SNR=7.9						
ENIJ				S	**Sn**	**13 38 39.4**	**-2.5**
	1.7nm,0.2s,SNR=7.9						
ENIJ	**Nijar**	**4.20**	**339**	P	**Pn**	**13 37 51.2**	**-1.6**
	0.9nm,0.2s,SNR=7.9						
ENIJ				S	**Sn**	**13 38 39.4**	**-2.5**
	1.7nm,0.2s,SNR=7.9						
EBER	**Berja**	**4.37**	**332**	P	**Pn**	**13 37 54.3**	**-1.1**
	22nm,1.2s						
EBER				S	**Sn**	**13 38 45.1**	**-1.4**
	3.9nm,0.4s,SNR=5.7						
EBER	**Berja**	**4.37**	**332**	P	**Pn**	**13 37 54.3**	**-1.1**
	22nm,1.2s						
EBER				S	**Sn**	**13 38 45.1**	**-1.4**
	3.9nm,0.4s,SNR=5.7						
EMUR	**La Murta**	**4.82**	**351**	P	**Pn**	**13 38 01.1**	**-0.3**
	9.8nm,0.8s						
EMUR				S	**Sn**	**13 38 56.0**	**-1.4**
	3.1nm,0.4s,SNR=6.1						
EMUR	**La Murta**	**4.82**	**351**	P	**Pn**	**13 38 01.1**	**-0.3**
	9.8nm,0.8s						
EMUR				S	**Sn**	**13 38 56.0**	**-1.4**
	3.1nm,0.4s,SNR=6.1						
EMIJ	**Mijas**	**5.07**	**315**	P	**Pn**	**13 38 02.8**	**-2.1**
	0.4nm,0.3s,SNR=7.9						
EMIJ				S	**Sn**	**13 38 59.2**	**-4.3**
	0.6nm,0.2s,SNR=7.9						
EMIJ	**Mijas**	**5.07**	**315**	P	**Pn**	**13 38 02.8**	**-2.1**
	0.4nm,0.3s,SNR=7.9						
EMIJ				S	**Sn**	**13 38 59.2**	**-4.3**
	0.6nm,0.2s,SNR=7.9						
EQES	**Quesada**	**5.24**	**335**	P	**Pn**	**13 38 07.8**	**+0.6**
	0.4nm,0.2s,SNR=7.9						
EQES				S	**Sn**	**13 39 04.7**	**-3.0**
	1.2nm,0.3s,SNR=7.9						
EQES	**Quesada**	**5.24**	**335**	P	**Pn**	**13 38 07.8**	**+0.6**
	0.4nm,0.2s,SNR=7.9						
EQES				S	**Sn**	**13 39 04.7**	**-3.0**
	1.2nm,0.3s,SNR=7.9						
SESP	**Santiago Espad**	**5.36**	**341**	P	**Pn**	**13 38 08.6**	**-0.3**
	0.7nm,0.1s,SNR=7.9						
SESP				S	**Sn**	**13 39 09.2**	**-1.7**
	1.3nm,0.1s,SNR=7.9						
SESP	**Santiago Espad**	**5.36**	**341**	P	**Pn**	**13 38 08.6**	**-0.3**
	0.7nm,0.1s,SNR=7.9						
SESP				S	**Sn**	**13 39 09.2**	**-1.7**
	1.3nm,0.1s,SNR=7.9						
ETOB	**Tobarra**	**5.65**	**350**	P	**Pn**	**13 38 13.5**	**+0.6**
	1.2nm,0.4s,SNR=7.8						
ETOB				S	**Sn**	**13 39 15.7**	**-2.2**
	3.8nm,0.5s						
ETOB	**Tobarra**	**5.65**	**350**	P	**Pn**	**13 38 13.5**	**+0.6**
	1.2nm,0.4s,SNR=7.8						
ETOB				S	**Sn**	**13 39 15.7**	**-2.2**
	3.8nm,0.5s						
EIBI	**Ibiza**	**6.09**	**12**	P	**Pn**	**13 38 18.7**	**-0.1**
	0.7nm,0.1s,SNR=7.9						
EIBI				S	**Sn**	**13 39 24.9**	**-3.6**
	0.9nm,0.2s,SNR=7.9						
EIBI	**Ibiza**	**6.09**	**12**	P	**Pn**	**13 38 18.7**	**-0.1**
	0.7nm,0.1s,SNR=7.9						
EIBI				S	**Sn**	**13 39 24.9**	**-3.6**
	0.9nm,0.2s,SNR=7.9						

*ISCJB **04** 13:47:52.6±0.6, 50°.17N±0°.02×12°.57E±0°.04, h11km±8km, Error ellipse: s-maj=4.5km s-min=3.0km az=39.1*
*CSEM **04** 13:47:53.9±0.3, 50°.22N×12°.53E, h10km, ML2.7/18, Error ellipse: s-maj=4.2km s-min=2.7km az=151.0*
*PRU **04** 13:47:54.3, 50°.24N×12°.50E, h10km, West Bohemia Swarm*
ISC 04 13:47:54.0±0.9, 50°23N±0°.03×12°53E±0°.03, h9km±6km, n43, σ0°83/62, 7D, Germany

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
NKC	**Novy Kostel**	**0.05**	**278**	⇓*i*PG	**Pg**	**13 47 56.2**	**+0.3**
NKC				*e*SG	**Sg**	**13 47 56.9**	**-0.4**
	comp=Z,2μm,0.2s						
NKC	**Novy Kostel**	**0.05**	**278**	Pg	**Pg**	**13 47 56.2**	**+0.3**
NKC				Sg	**Sg**	**13 47 56.9**	**-0.4**
	2μm,0.2s						
WET	**Wettzell**	**1.11**	**168**	⇓*e*PG	**Pn**	**13 48 15.8**	**+0.2**
WET				*e*SG	**Sb**	**13 48 30.2**	**+0.4**
BRG	**Berggiesshubel**	**1.11**	**54**	PG	**Pn**	**13 48 16.1**	**+0.4**
BRG				SG	**Sn**	**13 48 30.9**	**-0.2**
	17nm,0.3s						
CLL	**Collm**	**1.12**	**15**	*i* Pg	**Pn**	**13 48 15.8**	**-0.1**
CLL				*i*		13 48 18.5	
CLL				*i*		13 48 19.7	
CLL				*i* Sg	**Sb**	**13 48 30.4**	**+0.1**
	comp=Z,15nm,0.6s						
CLL				*i*		13 48 34.3	
KHC	**Kasperske Hory**	**1.29**	**148**	*e*PG	**Pg**	**13 48 18.9**	**+0.1**
KHC				*e*SG	**Sg**	**13 48 36.2**	**+0.7**
	comp=Z,15nm,0.2s						
KHC	**Kasperske Hory**	**1.29**	**148**	Pg	**Pg**	**13 48 18.9**	**+0.1**
KHC				Sg	**Sg**	**13 48 36.2**	**+0.7**
	comp=Z,15nm,0.2s						
PRU	**Pruhonice**	**1.32**	**100**	⇓*e*PG	**Pg**	**13 48 20.0**	**+0.7**
PRU				*e*SG	**Sg**	**13 48 37.1**	**+0.7**
	comp=Z,23nm,0.3s						
PRU	**Pruhonice**	**1.32**	**100**	Pg	**Pg**	**13 48 20.0**	**+0.7**
PRU				Sg	**Sg**	**13 48 37.1**	**+0.7**
	comp=Z,23nm,0.3s						
PVCC	**Panska Ves**	**1.34**	**76**	⇓*e*SG	**Sg**	**13 48 39.3**	**+2.2**
	comp=Z,30nm,0.2s						
PVCC	**Panska Ves**	**1.34**	**76**	Sg	**Sg**	**13 48 39.3**	**+2.2**
	comp=Z,30nm,0.2s						
GOPC	**GO Pecny, Ondr**	**1.49**	**101**	*e*PG	**Pg**	**13 48 23.2**	**+0.7**
GOPC				*e*SG	**Sg**	**13 48 42.7**	**+0.8**
	comp=Z,24nm,0.2s						
GOPC	**GO Pecny, Ondr**	**1.49**	**101**	Pg	**Pg**	**13 48 23.2**	**+0.7**
GOPC				Sg	**Sg**	**13 48 42.7**	**+0.8**
	comp=Z,24nm,0.2s						
TREC	**Trest**	**2.13**	**115**	⇓*e*SG	**Sg**	**13 49 01.6**	**-0.9**
	comp=Z,8.8nm,0.2s						
TREC	**Trest

*ISCJB **04** 13:53:12.5±0.4,36°.52N±0°.03×71°.53E±0°.06,h114km, mb3.7/9, Error ellipse: s-maj=7.0km s-min=3.8km az=162.5*
*BJI **04** 13:53:13.9,36°.70N×71°.40E,h93km, mb4.2/5, mB4.3/3*
*NEIC **04** 13:53:13.5±1.1,36°.59N×71°.38E, h97km±11km, mb4.4/4, Error ellipse: s-maj=14.9km s-min=10.1km az=137.0*
*NNC **04** 13:53:17.5±2.9,36°.86N×71°.13E,h124km±28km, mb3.8, mpv4.8, Error ellipse: s-maj=24.6km s-min=16.9km az=33.0*

ISC 04 13:53:13.1±0.6,**36°.47N**±0°.05×**71°.52E**±0°.06,**h114**km,**n62,** σ**2**^{2}**95**/71,**mb3.8**/9,**8C-5D, Afghanistan-Tajikistan border region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CEP	**Cherat**	**2.66**	**173**	P	**Pn**	**13 53 57.9**	**+3.0**
KBL	**Kabul**	**2.79**	**227**	*e*Pn	**Pn**	**13 53 57.1**	**+0.5**
CHCP	**Chirah Chowk**	**3.15**	**152**	P	**Pn**	**13 54 05.5**	**+4.3**
THW	**Thamme Wali**	**3.67**	**177**	P	**Pn**	**13 54 10.4**	**+2.3**
SARP	**Sargodha**	**4.63**	**168**	P	**Pn**	**13 54 22.5**	**+1.5**
KSH	**Kashi**	**4.65**	**48**	P	**Pn**	**13 54 19.6**	**-1.8**
KSH				S	**Sn**	**13 55 05.9**	**-8.5**
KSH	comp=Z,200nm,0.6s			pmax	pmax		
KSH	comp=N,550nm,0.7s			smax	smax		
KSH	comp=E,280nm,0.4s			smax	smax		
PONG	**Pong**	**5.81**	**140**	*e*S	**Sn**	**13 55 39.5**	**-2.7**
MNAS	**Manas** 65nm,0.8s	**6.06**	**7**	⇓P	**Pn**	**13 54 40.7**	**+0.3**
MNAS	16nm,0.4s			⇓S	**Sn**	**13 55 45.2**	**-3.2**
AAK	**Ala-Archa** 24nm,0.3s,baz=192,slow=8.5,SNR=97	**6.58**	**20**	P	**Pn**	**13 54 48.9**	**+1.5**
AAK	0.4nm,0.3s,baz=317,slow=20,SNR=6.5			S	**Sn**	**13 56 01.3**	**+0.3**
AAK	**Ala-Archa** 33nm,0.5s	**6.58**	**20**	⇓P	**Pn**	**13 54 48.8**	**+1.5**
AAK	28nm,0.8s			⇑S	**Sn**	**13 56 00.7**	**-0.3**
KK31	**Karatay Array** 48nm,0.3s	**6.67**	**354**	⇑P	**Pn**	**13 54 47.8**	**-0.7**
KK31	13nm,0.4s,baz=184,slow=25,SNR=5.5			⇑S	**Sn**	**13 55 57.7**	**-5.4**
KKAR	**Karatay Array**	**6.67**	**354**	*e*Pn	**Pn**	**13 54 48.0**	**-0.5**
SDNR	**Sundarnagar**	**6.71**	**136**	*e*P	Pn	13 54 55.0	+5.9
SDNR				*e*S	**Sn**	**13 56 02.0**	**-2.1**
TKM2	**Tokmak 2** 27nm,0.5s	**7.17**	**25**	⇓P	**Pn**	**13 54 56.9**	**+1.5**
KKR	**Kurukshetra**	**7.86**	**144**	*e*S	**Sn**	**13 56 29.5**	**-2.6**
KKR	comp=Z,141nm,0.3s			IAML		13 56 46.9	
KHET	**Khetri**	**9.12**	**155**	*e*P	**Pn**	**13 55 21.4**	**-0.3**
KHET				*e*S	**Sn**	**13 56 57.0**	**-5.7**
PDGK	**Podgornoye** comp=Z,18nm,1.3s	**9.19**	**39**	⇑P	**Pn**	**13 55 23.8**	**+1.2**
KALG	**Kalgarh**	**9.22**	**137**	*e*P	Pn	13 55 28.3	+5.2
KALG				*e*S	**Sn**	**13 57 00.3**	**-4.8**
BISR	**Bishrakh**	**9.32**	**146**	*e*S	**Sn**	**13 57 01.3**	**-6.2**
BISR	comp=Z,106nm,0.6s			IAML		13 57 06.3	
JASL	**Jaisalmer**	**9.53**	**183**	*e*S	**Sn**	**13 57 06.5**	**-6.0**
GEYT	**Ailbeck** comp=Z,1.9nm,0.3s,baz=120,slow=12,SNR=16	**10.79**	**282**	P	Pn	13 55 39.2	-5.1
GEYT	comp=Z,2.7nm,0.3s,baz=104,slow=12,SNR=7.0			S	Sn	13 57 31.1	-12
PYUN	**Piuthan** comp=Z,19nm,0.4s	**12.79**	**127**	*e*P	**Pn**	**13 56 10.5**	**-0.5**
PYUN				*e*S	**Sn**	**13 58 25.4**	**-6.5**
MAKZ	**Makanchi**	**12.95**	**34**	*e*Pn	**Pn**	**13 56 12.6**	**-0.1**
MK01	**Makanchi Array**	**13.06**	**35**	*e*Pn	**Pn**	**13 56 13.1**	**-1.1**
MK31	**Makanchi Array** comp=Z,3.2nm,0.6s,baz=203,slow=9.5,SNR=20	**13.08**	**35**	P	**Pn**	**13 56 14.0**	**-0.4**
MK31	**Makanchi Array**	**13.08**	**35**	*e*Pn	**Pn**	**13 56 14.2**	**-0.2**
MKAR	**Makanchi Array**	**13.08**	**35**	*e*Pn	**Pn**	**13 56 14.3**	**-0.1**
KOLN	**Koldanda** comp=Z,8.2nm,0.3s	**13.41**	**127**	*e*P	**Pn**	**13 56 18.7**	**-0.3**
GKN	**Gorkha** comp=Z,18nm,0.4s	**13.94**	**124**	*e*P	**Pn**	**13 56 25.6**	**-0.2**
GKN				*e*S	**Sn**	**13 58 52.5**	**-7.0**
DMN	**Daman** comp=Z,11nm,0.4s	**14.51**	**124**	*e*P	**Pn**	**13 56 33.1**	**-0.1**
DMN				*e*S	**Sn**	**13 59 06.7**	**-6.7**
KKN	**Kakani** comp=Z,12nm,0.6s	**14.51**	**123**	*e*P	**Pn**	**13 56 32.9**	**-0.2**
PKIN	**Phulchoki** comp=Z,13nm,0.5s	**14.72**	**123**	*e*P	**Pn**	**13 56 36.5**	**+0.6**
PKI	**Pulchoki** comp=Z,9.1nm,0.3s	**14.73**	**123**	*e*P	**Pn**	**13 56 36.0**	**-0.1**
GUN	**Gumba** comp=Z,12nm,0.3s	**14.84**	**121**	*e*P	**Pn**	**13 56 37.6**	**+0.1**
KURBB	**Kurchatov Arra** comp=Z,0.1nm,0.3s,baz=210,slow=12,SNR=8.4	**15.03**	**17**	P	**Pn**	**13 56 37.8**	**-1.5**
KURBB	**Kurchatov Arra** comp=Z,5.7nm,0.6s	**15.03**	**17**	⇑P	**P**	**13 56 42.1**	**+0.2**
KURK	**Kurchatov** comp=Z,34nm,0.8s	**15.13**	**18**	*e*Pn	**Pn**	**13 56 41.7**	**+1.1**
JIRN	**Jiri** comp=Z,119nm,0.3s	**15.21**	**121**	*e*P	**Pn**	**13 56 42.5**	**+0.3**
AB31	**Akbulak array** comp=Z,1.3nm,0.3s,baz=139,slow=12,SNR=138	**15.32**	**330**	P	**Pn**	**13 56 40.0**	**-3.0**
AB31	comp=Z,2.3nm,0.4s,baz=152,slow=23,SNR=10			S	Sn	13 59 20.6	-12
ABKAR	**Akbulak array** comp=Z,65nm,0.4s	**15.32**	**330**	*e*Pn	**Pn**	**13 56 39.3**	**-3.7**
RAMN	**Ramite** comp=Z,9.5nm,0.4s	**15.94**	**122**	*e*P	**Pn**	**13 56 51.7**	**+0.5**
TAPN	**Taplejung**	**16.46**	**119**	*e*P	**P**	**13 56 58.6**	**+0.3**
ODAN	**Odare** comp=Z,16nm,0.5s	**16.54**	**121**	*e*P	**P**	**13 57 00.1**	**+0.9**
BVA0	**Borovoye Array** comp=Z,4.0nm,0.8s,baz=269,slow=39,SNR=17	**16.58**	**358**	⇑P	**P**	**13 56 58.9**	**-0.2**
BVAR	**Borovoye Array** comp=Z,0.6nm,0.3s,baz=158,slow=12,SNR=15	**16.58**	**358**	P	**Pn**	**13 56 57.0**	**-1.5**
BRVK	**Borovoye** comp=Z,4.3nm,0.7s	**16.61**	**357**	*e*Pn	**P**	**13 56 60.0**	**+0.5**
AKTO	**Aktyubinsk** comp=Z,0.7nm,0.3s,baz=138,slow=13,SNR=11	**17.02**	**329**	P	**Pn**	**13 57 03.2**	**-0.8**
AKTO	comp=Z,0.4nm,0.3s,baz=243,slow=20,SNR=6.3			S	Sn	14 00 01.6	-12
AKTO	**Aktyubinsk** comp=Z,5.5nm,0.8s	**17.02**	**329**	⇓P	**Pn**	**13 57 02.6**	**-1.4**
AKTO	comp=Z,6.6nm,0.8s			⇑S	**Sn**	**14 00 06.6**	**-6.7**
ZAA0	**Zalesovo Array** comp=Z,1.7nm,0.8s	**19.77**	**24**	⇑P	**P**	**13 57 35.2**	**+1.2**
ZAA0	**Zalesovo Array**	**19.77**	**24**	*e*P	**P**	**13 57 34.7**	**+0.7**
ZALV	**Zalesovo Beam** comp=Z,2.7nm,0.3s,baz=208,slow=11,SNR=37	**19.77**	**24**	P	**Pn**	**13 57 35.3**	**-1.3**
ARU	**Arti** comp=Z,2.8nm,0.4s,baz=133,slow=10,SNR=5.7	**21.80**	**340**	P	**P**	**13 57 56.1**	**+0.4**
ARU	**Arti** comp=Z,20nm,1.7s	**21.80**	**340**	*e*P	**P**	**13 57 56.1**	**+0.4**
GTA	**Gaotai**	**22.47**	**74**	*e*P	**P**	**13 58 08.4**	**+5.4**
GTA	comp=Z,5.0nm,1.3s			pmax	pmax		
SONM	**Songino Array** comp=Z,0.4nm,0.6s,baz=240,slow=8.1,SNR=2.9	**28.01**	**55**	P	**P**	**13 58 57.1**	**+3.8**
AKASG	**Malin Array Be** comp=Z,0.7nm,0.5s,baz=83,slow=6.5,SNR=5.4	**33.29**	**309**	P	**P**	**13 59 41.1**	**+1.5**
FINES	**FINESS Array B** comp=Z,4.1nm,0.9s,baz=120,slow=8.2,SNR=11	**37.74**	**326**	P	**P**	**14 00 19.4**	**+1.9**
ARCES	**ARCESS Array B** comp=Z,1.0nm,0.5s,baz=122,slow=6.7,SNR=5.3	**41.34**	**337**	P	**P**	**14 00 49.4**	**+2.3**
NB2	**NORSAR Subarra** comp=Z,2.0nm,0.5s,baz=97,slow=7.9	**44.66**	**323**	P	**P**	**14 01 15.5**	**+1.4**
NOA	**NORSAR Array B** comp=Z,2.1nm,0.5s,baz=96,slow=7.8,SNR=12	**44.66**	**323**	P	**P**	**14 01 15.3**	**+1.2**
TORD	**Torodi Ar. Bea** comp=Z,0.4nm,0.5s,baz=52,slow=5.3,SNR=6.0	**66.13**	**269**	P	**P**	**14 03 48.3**	**-0.2**
WRA	**Warramunga Arr** comp=Z,0.1nm,0.3s,baz=325,slow=4.9,SNR=7.3	**81.62**	**122**	P	**P**	**14 05 21.4**	**+2.8**

SJA 04 14:00:41.2±0.5,**31°.80S**×**67°.77W**,**h109**km±6km,**ML2.3, MW3.9,San Juan Province**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RTCV	**Cerro Valdivia**	**0.66**	**264**	*e*P	Pn	14 00 60.0	+0.8
RTCV				*e*S	Sn	14 01 13.5	+0.8
AMOG	**MOGNA**	**1.06**	**324**	*e*P	Pn	14 01 03.7	+0.7
AMOG				*e*S	Sn	14 01 20.7	+1.3
ASAL	**Salagasta**	**1.20**	**229**	*e*P	Pn	14 01 05.8	+1.3
ASAL				*e*S	Sn	14 01 23.3	+1.1
ARCO	**CERRO ARCO** comp=Z,77nm,0.2s	**1.43**	**223**	IAML		14 01 24.8	
AUSP	**Uspallata**	**1.43**	**252**	*e*P	Pn	14 01 08.6	+1.1
APLL	**PUNTA DE LOS L**	**1.76**	**38**	*e*P	Pn	14 01 12.1	+0.8
MRA	**San Martin**	**1.85**	**110**	*e*P	Pn	14 01 13.5	+1.1
MRA	comp=Z,6.8nm,0.2s			IAML		14 01 37.9	

*NIED **04** 14:05:00,36°.70N×140°.60E,h71km,Mw3.6 Best double couple: M₀3.22000×10¹⁴ NP1:φ₀62.00000°,δ24.00000°,λ61.00000°. NP2:φ₀273.00000°,δ70.00000°,λ102.00000°.*
JMA 04 14:05:07.4±0.1,**36°.76N**×**140°.57E**,**h59**km±1km,**M3.6, 3C-5D Broadband fault plane solution: P waves. NP1:**φ₀323.00000°,δ67.00000°,λ119.00000°. **NP2:** φ₀88.00000°,δ36.00000°,λ42.00000°. **Principal axes:** T Plg58.0000°, Azm273.0000°; N Plg26.0000°, Azm131.0000°; P Plg17.0000°, Azm32.0000°; **Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JHO	**Hitachi**	**0.15**	**180**	⇑P	Pn	14 05 16.6	+0.1
JHO				S	Sn	14 05 22.8	-0.2
ONAJ	**Iwakimizuishiy**	**0.39**	**28**	⇑P	Pn	14 05 18.1	-0.1
ONAJ				S	Sn	14 05 25.9	-0.2
JSB	**Shiboa**	**0.56**	**292**	⇓P	Pn	14 05 20.1	+0.1
JSB				S	Sn	14 05 29.3	+0.1
JFK	**Kawauchi**	**0.65**	**22**	⇓P	Pn	14 05 20.9	-0.2
JFK				S	Sn	14 05 30.5	-0.5
JFT	**Otama**	**0.78**	**346**	⇓P	Pn	14 05 22.6	0.0
JFT				S	Sn	14 05 33.6	-0.1
JFY	**Yanaizu**	**0.95**	**313**	⇑P	Pn	14 05 25.1	+0.4
JAG	**Ashikaga**	**0.96**	**250**	⇓P	Pn	14 05 25.1	+0.2
JAG				S	Sn	14 05 37.6	-0.2
JKT	**Katashina**	**1.06**	**271**	P	Pn	14 05 26.8	+0.5
JKT				S	Sn	14 05 41.2	+0.9
JMM	**Marumori**	**1.12**	**9**	⇓P	Pn	14 05 26.8	-0.2
JMM				S	Sn	14 05 41.2	-0.3
JHK	**Hiroka**	**1.33**	**292**	P	Pn	14 05 30.2	+0.4
MAT	**Matsushiro**	**1.91**	**264**	P	Pn	14 05 38.7	+1.0
MAT				S	Sn	14 06 03.7	+3.0

*PRU **04** 14:09:42.5,50°.24N×12°.49E,h10km, West Bohemia Swarm*
*CSEM **04** 14:09:42.3±0.3,50°.26N×12°.53E,h10km,ML2.5/16, Error ellipse: s-maj=4.6km s-min=2.6km az=151.0*
ISC 04 14:09:43.0±1.1,**50°.22N**±0°.02×**12°.56E**±0°.02,**h2**km±11km, **n46,**σ**1**^{1}**30**/55,**6D,Germany**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NKC	**Novy Kostel**	**0.07**	**277**	*i*PG	**Pg**	**14 09 44.6**	**+0.1**
NKC	comp=Z,1μm,0.2s			*e*SG	**Sg**	**14 09 45.4**	**-0.1**
NKC	**Novy Kostel** 1μm,0.2s	**0.07**	**277**	Pg	**Pg**	**14 09 44.6**	**+0.1**
NKC				Sg	**Sg**	**14 09 45.4**	**-0.1**
BRG	**Berggiesshubel** 11nm,0.2s	**1.09**	**53**	PG	**Pn**	**14 10 04.5**	**-0.9**
BRG				SG	**Sb**	**14 10 19.3**	**-0.1**
BRG	**Berggiesshubel** 17nm,0.2s	**1.09**	**53**	PG	Pn	14 10 11.0	+5.6
BRG				SG	**Sn**	**14 10 26.2**	**+5.1**
WET	**Wettzell**	**1.10**	**169**	⇓*e*PG	**Pg**	**14 10 04.1**	**+0.1**
WET				*e*SG	**Sg**	**14 10 18.4**	**+0.1**
CLL	**Collm**	**1.12**	**14**	*i* Pg	**Pg**	**14 10 04.1**	**-0.3**
CLL				*i*		14 10 07.1	
CLL	comp=Z,15nm,0.3s			*i* Sg	**Sg**	**14 10 18.8**	**-0.2**
PRA	**Prague** comp=Z,10nm,0.4s	**1.21**	**97**	⇓*e*SG	**Sn**	**14 10 23.4**	**-0.6**
PRA	**Prague** comp=Z,10nm,0.4s	**1.21**	**97**	Sg	**Sn**	**14 10 23.4**	**-0.6**
KHC	**Kasperske Hory**	**1.28**	**149**	*e*PG	**Pn**	**14 10 07.2**	**-0.7**
KHC	comp=Z,8.5nm,0.3s			*e*SG	**Sb**	**14 10 24.6**	**-0.1**
KHC	**Kasperske Hory** comp=Z,8.5nm,0.3s	**1.28**	**149**	Pg	**Pn**	**14 10 07.2**	**-0.7**
KHC				Sg	**Sb**	**14 10 24.6**	**-0.1**
PRU	**Pruhonice** comp=Z,13nm,0.3s	**1.30**	**100**	⇓*e*PG	**Pg**	**14 10 08.5**	**+0.7**
PRU				*e*SG	**Sn**	**14 10 25.4**	**-0.7**
PRU	**Pruhonice** comp=Z,13nm,0.3s	**1.30**	**100**	Pg	**Pg**	**14 10 08.5**	**+0.7**
PRU				Sg	**Sn**	**14 10 25.4**	**-0.7**
GOPC	**GO Pecny, Ondr** comp=Z,16nm,0.2s	**1.47**	**101**	*e*SG	**Sg**	**14 10 31.2**	**+1.2**
GOPC	**GO Pecny, Ondr** comp=Z,16nm,0.2s	**1.47**	**101**	Sg	**Sg**	**14 10 31.2**	**+1.2**
TREC	**Trest** comp=Z,4.0nm,0.2s	**2.11**	**115**	⇓*e*SG	**Sg**	**14 10 50.4**	**-0.4**
TREC	**Trest** comp=Z,4.0nm,0.2s	**2.11**	**115**	Sg	**Sg**	**14 10 50.4**	**-0.4**
UPC	**Upice**	**2.23**	**81**	⇓*e*SG	**Sg**	**14 10 54.4**	**-0.1**
UPC	**Upice**	**2.23**	**81**	Sg	**Sg**	**14 10 54.4**	**-0.1**
DPC	**Dobruska-Polom** comp=Z,4.5nm,0.3s	**2.41**	**86**	*e*SG	**Sg**	**14 10 59.8**	**-0.7**
DPC	**Dobruska-Polom** comp=Z,4.5nm,0.3s	**2.41**	**86**	Sg	**Sg**	**14 10 59.8**	**-0.7**
MOA	**Molln** comp=Z,0.3nm,0.1s	**2.63**	**154**	Sg	**Sg**	**14 11 09.0**	**+1.7**
MOA	**Molln** comp=Z,0.3nm,0.1s	**2.63**	**154**	Sg	**Sg**	**14 11 09.0**	**+1.7**
KRLC	**Kraliky**	**2.72**	**92**	*e*SG	**Sg**	**14 11 10.6**	**+0.4**
KRLC	**Kraliky**	**2.72**	**92**	Sg	**Sg**	**14 11 10.6**	**+0.4**
VRAC	**Vranov**	**2.77**	**108**	*e*SG	**Sg**	**14 11 10.4**	**-1.5**
WATA	**Walderalm** comp=Z,1.4nm,0.1s	**2.96**	**193**	Sg	**Sg**	**14 11 19.1**	**+1.0**
WATA	**Walderalm** comp=Z,1.4nm,0.1s	**2.96**	**193**	Sg	**Sg**	**14 11 19.1**	**+1.0**
RETA	**Reutte** comp=Z,0.1nm,0.1s	**2.99**	**204**	*e*Sg	**Sg**	**14 11 19.3**	**+0.5**
RETA	**Reutte** comp=Z,0.1nm,0.1s	**2.99**	**204**	Sg	**Sg**	**14 11 19.3**	**+0.5**
WTTA	**Wattenberg** comp=Z,0.5nm,0.2s	**3.02**	**192**	Sg	**Sg**	**14 11 20.7**	**+0.6**
WTTA	**Wattenberg** comp=Z,0.5nm,0.2s	**3.02**	**192**	Sg	**Sg**	**14 11 20.7**	**+0.6**
MOTA	**Moosalm** comp=Z,0.6nm,0.1s	**3.04**	**199**	Sg	**Sg**	**14 11 21.4**	**+0.8**
MOTA	**Moosalm** comp=Z,0.6nm,0.1s	**3.04**	**199**	Sg	**Sg**	**14 11 21.4**	**+0.8**
CONA	**Conrad Observa** comp=Z,1.3nm,0.2s	**3.16**	**135**	Sg	**Sg**	**14 11 26.5**	**+2.1**
CONA	**Conrad Observa** comp=Z,1.3nm,0.2s	**3.16**	**135**	Sg	**Sg**	**14 11 26.5**	**+2.1**
KBA	**Koelnbreinsper** comp=Z,0.3nm,0.1s	**3.19**	**170**	Sg	**Sg**	**14 11 26.2**	**+0.8**
KBA	**Koelnbreinsper** comp=Z,0.3nm,0.1s	**3.19**	**170**	Sg	**Sg**	**14 11 26.2**	**+0.8**
MORC	**Moravsky Berou**	**3.24**	**96**	*e*Sg	**Sg**	**14 11 26.6**	**-0.5**
FETA	**Feichten**	**3.43**	**201**	*e*Sg	**Sg**	**14 11 32.7**	**-0.4**
FETA	**Feichten**	**3.43**	**201**	Sg	**Sg**	**14 11 32.7**	**-0.4**
ABTA	**Abfaltersbach** comp=Z,0.3nm,0.1s	**3.48**	**181**	*e*Sg	**Sg**	**14 11 34.8**	**+0.1**
ABTA	**Abfaltersbach** comp=Z,0.3nm,0.1s	**3.48**	**181**	Sg	**Sg**	**14 11 34.8**	**+0.1**
ARSA	**Arzberg** comp=Z,0.1nm,0.1s	**3.56**	**146**	*e*Sg	**Sg**	**14 11 37.1**	**-0.2**
ARSA	**Arzberg** comp=Z,0.1nm,0.1s	**3.56**	**146**	Sg	**Sg**	**14 11 37.1**	**-0.2**
OBKA	**Obir** comp=Z,2.6nm,0.3s	**3.95**	**160**	Sg	**Sg**	**14 11 45.9**	**-3.8**
OBKA	**Obir** comp=Z,2.6nm,0.3s	**3.95**	**160**	Sg	**Sg**	**14 11 45.9**	**-3.8**

*ISCJB **04** 14:13:39.4±0.2,50°.20N±0°.01×12°.56E±0°.02,h4km±4km, Error ellipse: s-maj=2.2km s-min=1.9km az=153.2*
*PRU **04** 14:13:40.9,50°.24N×12°.49E,h10km, West Bohemia Swarm*
*BGR **04** 14:13:40.9±0.2,50°.25N×12°.45E,h10km±1km,ML2.8/6, Error ellipse: s-maj=2.2km s-min=1.1km az=102.0*
*IASPEI **04** 14:13:40.7±0.8,50°.24N±0°.02×12°.47E±0°.02,h9km±3km, Error ellipse: s-maj=3.1km s-min=2.3km az=93.5,GT5 selection from ISC bulletin GT5 identified by Bond˙ĵr and McLaughlin (2009) selection criteria Bond˙ĵr and McLaughlin, A new ground truth data set for seismic studies, Seism. Res. Let., 80, 465-472, 2009*

*VIE **04** 14:13:40.2±0.4,50°.22N×12°.47E,h8km,mb2.1/2,ML2.8/11, Error ellipse: s-maj=4.1km s-min=1.8km az=61.0*
*CSEM **04** 14:13:40.5±0.1,50°.23N×12°.51E,h8km,ML3.1/23,Error ellipse: s-maj=1.9km s-min=1.8km az=41.0*
*CLL **04** 14:13:41.7±0.3,50°.3N±0°.9×1°2E±1°,h6km±1km,ml2.5*
ISC 04 14:13:40.8±0.8,**50°.24N**±0°.01×**12°.48E**±0°.02,**h10**km±3km, **n91,**σ**0**^{2}**92**/171,**9D,Germany**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NKC	**Novy Kostel**	**0.02**	**262**	⇓*i*PG	**Pg**	**14 13 42.7**	**+0.1**
NKC	comp=Z,3μm,0.3s			*e*SG	**Sg**	**14 13 43.6**	**-0.3**
NKC	**Novy Kostel**	**0.02**	**262**	⇓*i*Pg	**Pg**	**14 13 42.6**	**+0.1**
NKC				*i* Sg	**Sg**	**14 13 43.6**	**-0.3**
NKC	**Novy Kostel**	**0.02**	**262**	*e*Pg	**Pg**	**14 13 42.7**	**+0.1**
NKC				*e*Sg	**Sg**	**14 13 43.6**	**-0.3**
NKC	**Novy Kostel** 3μm,0.3s	**0.02**	**262**	Pg	**Pg**	**14 13 42.7**	**+0.1**
NKC				Sg	**Sg**	**14 13 43.6**	**-0.3**
WERN	**Wernitzgruen**	**0.08**	**308**	*i* Pg	**Pg**	**14 13 43.2**	**0.0**
WERN				*i* Sg	**Sg**	**14 13 44.5**	**-0.4**
WERN	comp=E,952nm,0.2s			AML	AML	14 13 44.7	
WERN	**Wernitzgruen**	**0.08**	**308**	*e*Pg	**Pg**	**14 13 43.2**	**0.0**
WERN				*e*Sg	**Sg**	**14 13 44.5**	**-0.4**
WERN	**Wernitzgruen**	**0.08**	**308**	Pg	**Pg**	**14 13 43.2**	**0.0**
WERN				Sg	**Sg**	**14 13 44.5**	**-0.4**
ROHR	**Rohrbach**	**0.10**	**269**	*i* Pg	**Pg**	**14 13 43.4**	**-0.1**
ROHR				*i* Sg	**Sg**	**14 13 44.8**	**-0.6**
ROHR	comp=E,4μm,0.1s			AML	AML	14 13 45.0	
ROHR	**Rohrbach**	**0.10**	**269**	*e*Pg	**Pg**	**14 13 43.4**	**-0.1**
ROHR				*e*Sg	**Sg**	**14 13 44.8**	**-0.6**
ROHR	**Rohrbach**	**0.10**	**269**	Pg	**Pg**	**14 13 43.4**	**-0.1**
ROHR				Sg	**Sg**	**14 13 44.8**	**-0.6**
GUNZ	**Gunzen**	**0.16**	**324**	*i* Pg	**Pg**	**14 13 44.4**	**+0.1**
GUNZ				*i* Sg	**Sg**	**14 13 46.4**	**-0.4**
GUNZ	comp=E,612nm,0.3s			AML	AML	14 13 46.6	
GUNZ	**Gunzen**	**0.16**	**324**	*e*Pg	**Pg**	**14 13 44.4**	**+0.1**
GUNZ				*e*Sg	**Sg**	**14 13 46.5**	**-0.3**
GUNZ	**Gunzen**	**0.16**	**324**	Pg	**Pg**	**14 13 44.4**	**+0.1**
GUNZ				Sg	**Sg**	**14 13 46.5**	**-0.3**
TANN	**Tannenbergstha**	**0.18**	**357**	*i* Pg	**Pg**	**14 13 44.8**	**+0.1**
TANN				*i* Sg	**Sg**	**14 13 47.0**	**-0.3**
TANN	comp=E,1μm,0.2s			AML	AML	14 13 47.6	
MULD	**Muldenberg**	**0.18**	**345**	*i* Pg	**Pg**	**14 13 44.8**	**+0.1**
MULD				*i* Sg	**Sg**	**14 13 47.0**	**-0.4**
MULD	comp=E,1μm,0.1s			AML	AML	14 13 47.3	
MULD	**Muldenberg**	**0.18**	**345**	*e*Pg	**Pg**	**14 13 44.8**	**+0.1**
MULD				*e*Sg	**Sg**	**14 13 47.1**	**-0.4**
MULD	**Muldenberg**	**0.18**	**345**	Pg	**Pg**	**14 13 44.8**	**+0.1**
MULD				Sg	**Sg**	**14 13 47.1**	**-0.4**
WERD	**Werda**	**0.24**	**333**	*i* Pg	**Pg**	**14 13 45.8**	**+0.1**
WERD				*e*Sg	**Sg**	**14 13 48.6**	**-0.4**
WERD	comp=E,316nm,0.2s			AML	AML	14 13 48.8	
WERD	**Werda**	**0.24**	**333**	*e*Pg	**Pg**	**14 13 45.8**	**+0.1**
WERD				*e*Sg	**Sg**	**14 13 48.6**	**-0.4**
WERD	**Werda**	**0.24**	**333**	Pg	**Pg**	**14 13 45.8**	**+0.1**
WERD				Sg	**Sg**	**14 13 48.6**	**-0.4**
TRIB	**Obertriebel**	**0.25**	**298**	*i* Pg	**Pg**	**14 13 45.8**	**-0.1**
TRIB				*i* Sg	**Sg**	**14 13 48.9**	**-0.3**
TRIB	comp=E,300nm,0.3s			AML	AML	14 13 49.4	
TRIB	**Obertriebel**	**0.25**	**298**	*e*Pg	**Pg**	**14 13 45.8**	**-0.1**
TRIB				*e*Sg	**Sg**	**14 13 48.8**	**-0.5**
TRIB	**Obertriebel**	**0.25**	**298**	Pg	**Pg**	**14 13 45.8**	**-0.1**
TRIB				Sg	**Sg**	**14 13 48.8**	**-0.5**
PLN	**Plauen**	**0.32**	**321**	*i* Pg	**Pg**	**14 13 47.3**	**0.0**
PLN				*i* Sg	**Sg**	**14 13 51.3**	**-0.3**
PLN	comp=E,329nm,0.2s			AML	AML	14 13 51.5	
PLN	**Plauen**	**0.32**	**321**	*e*Pg	**Pg**	**14 13 47.3**	**0.0**
PLN				*e*Sg	**Sg**	**14 13 51.2**	**-0.4**
PLN	**Plauen**	**0.32**	**321**	Pg	**Pg**	**14 13 47.3**	**0.0**
PLN				Sg	**Sg**	**14 13 51.2**	**-0.4**
SCHF	**Schoenfels**	**0.45**	**354**	*i* Pg	**Pg**	**14 13 49.6**	**+0.1**
SCHF				*i* Sg	**Sg**	**14 13 55.5**	**0.0**
SCHF	comp=E,2μm,0.2s			AML	AML	14 13 55.7	
SCHF	**Schoenfels**	**0.45**	**354**	*e*Pg	**Pg**	**14 13 49.6**	**+0.1**
SCHF				*e*Sg	**Sg**	**14 13 55.4**	**0.0**
SCHF	**Schoenfels**	**0.45**	**354**	Pg	**Pg**	**14 13 49.6**	**+0.1**
SCHF				Sg	**Sg**	**14 13 55.4**	**0.0**
ROTZ	**Rotzenmuhle**	**0.50**	**201**	*e*Pg	**Pg**	**14 13 50.9**	**+0.3**
ROTZ				*e*Sg	**Sg**	**14 13 57.5**	**+0.4**
ROTZ	**Rotzenmuhle**	**0.50**	**201**	Pg	**Pg**	**14 13 50.9**	**+0.3**
ROTZ				Sg	**Sg**	**14 13 57.5**	**+0.4**
MLFH	**Mildenfurth**	**0.61**	**336**	*i* Pg	**Pg**	**14 13 52.5**	**-0.1**
MLFH				*i* Sg	**Sg**	**14 14 00.3**	**-0.4**
MOX	**Moxa**	**0.69**	**307**	*e*Pg	**Pg**	**14 13 53.9**	**-0.2**
MOX				*e*Sg	**Sg**	**14 14 02.4**	**-0.7**
MOX	**Moxa**	**0.69**	**307**	Pg	**Pg**	**14 13 53.9**	**-0.2**
MOX				Sg	**Sg**	**14 14 02.4**	**-0.7**
FBE	**Freiberg**	**0.89**	**39**	*e*Pg	**Pg**	**14 13 58.2**	**+0.4**
FBE				*e*Sg	**Sg**	**14 14 09.6**	**+0.2**
FBE	**Freiberg**	**0.89**	**39**	Pg	**Pg**	**14 13 58.2**	**+0.4**
FBE				Sg	**Sg**	**14 14 09.6**

	comp=Z,18nm,0.4s							
TREC	**Trest**	**2.17**	**115**		Pn	**Pn**	**14 14 18.3**	**+1.3**
UPC	**Upice**	**2.28**	**82**	‖	*e*PG	**Pb**	**14 14 23.0**	**+0.9**
UPC					*e*SG	**Sb**	**14 14 52.0**	**+1.7**
	comp=Z,49nm,0.6s							
UPC	**Upice**	**2.28**	**82**		Pg	**Pb**	**14 14 23.0**	**+0.9**
UPC					Sg	**Sb**	**14 14 52.0**	**+1.7**
	comp=Z,49nm,0.6s							
DPC	**Dobruska-Polom**	**2.47**	**86**		*e*PN	**Pn**	**14 14 22.0**	**+0.8**
DPC					*e*PG	**Pb**	**14 14 26.0**	**+0.7**
DPC					*e*SN	**Sn**	**14 14 50.9**	**-0.5**
DPC					*e*SG	**Sb**	**14 14 57.9**	**+2.1**
	comp=Z,23nm,0.4s							
DPC	**Dobruska-Polom**	**2.47**	**86**		Pn	**Pn**	**14 14 22.0**	**+0.8**
DPC	**Dobruska-Polom**	**2.47**	**86**		Pg	**Pb**	**14 14 26.0**	**+0.7**
DPC					Sn	**Sn**	**14 14 50.9**	**-0.5**
DPC					Sg	**Sb**	**14 14 57.9**	**+2.1**
	comp=Z,23nm,0.4s							
KSP	**Ksiaz**	**2.51**	**75**		*e*Pg	**Pg**	**14 14 28.2**	**-0.7**
KSP					*e*Sg	**Sg**	**14 15 00.2**	**-1.2**
KSP	**Ksiaz**	**2.51**	**75**		*e*Pg	**Pg**	**14 14 28.2**	**-0.7**
KSP					*e*Sg	**Sg**	**14 15 00.2**	**-1.2**
MOA	**Molln**	**2.66**	**153**		Pn	**Pn**	**14 14 24.0**	**+0.2**
	comp=Z,0.4nm,0.2s							
MOA					Sg	**Sg**	**14 15 07.7**	**+1.4**
	comp=Z,3.9nm,0.2s							
KRLC	**Kraliky**	**2.77**	**92**		*e*SG	**Sg**	**14 15 08.0**	**-1.8**
KRLC	**Kraliky**	**2.77**	**92**		Sg	**Sg**	**14 15 08.0**	**-1.8**
VRAC	**Vranov**	**2.83**	**108**		*e*Sg	**Sb**	**14 15 08.5**	**+2.5**
WATA	**Walderalm**	**2.96**	**192**		Pn	**Pn**	**14 14 28.1**	**0.0**
	comp=Z,0.1nm,0.1s							
WATA					Sg	**Sg**	**14 15 17.6**	**+1.6**
	comp=Z,6.2nm,0.3s							
RETA	**Reutte**	**2.98**	**203**		Pg	**Pg**	**14 14 36.7**	**-1.1**
	comp=Z,0.5nm,0.1s							
RETA					Sg	**Sg**	**14 15 17.3**	**+1.0**
	comp=Z,4.9nm,0.3s							
WTTA	**Wattenberg**	**3.03**	**191**		Pg	**Pg**	**14 14 37.4**	**-1.4**
	comp=Z,0.2nm,0.1s							
WTTA					Sg	**Sg**	**14 15 20.1**	**+2.1**
	comp=Z,12nm,0.4s							
MOTA	**Moosalm**	**3.03**	**198**		Pn	**Pn**	**14 14 28.4**	**-0.6**
	comp=Z,0.2nm,0.1s							
MOTA					Sg	**Sg**	**14 15 20.5**	**+2.3**
	comp=Z,1.0nm,0.1s							
CONA	**Conrad Observa**	**3.21**	**135**		Pn	**Pn**	**14 14 32.3**	**+0.9**
CONA					Sg	**Sg**	**14 15 22.4**	**-1.4**
	comp=Z,1.4nm,0.2s							
KBA	**Koelnbreinsper**	**3.21**	**169**		Pn	**Pn**	**14 14 30.0**	**-1.5**
	comp=Z,0.2nm,0.1s							
KBA					Sg	**Sg**	**14 15 26.1**	**+2.2**
	comp=Z,4.3nm,0.4s							
MORC	**Moravsky Berou**	**3.30**	**96**		*e*Pn	**Pn**	**14 14 33.2**	**+0.6**
MORC					*e*Sg	**Sg**	**14 15 24.0**	**-2.7**
DAVA	**Damuels**	**3.42**	**211**		Pn	**Pn**	**14 14 33.6**	**-0.7**
	comp=Z,0.1nm,0.1s							
DAVA					Sg	**Sg**	**14 15 29.0**	**-1.5**
	comp=Z,7.3nm,0.4s							
FETA	**Feichten**	**3.42**	**200**		Pn	**Pn**	**14 14 34.0**	**-0.4**
	comp=Z,0.1nm,0.1s							
FETA					Sg	**Sg**	**14 15 30.0**	**-0.6**
	comp=Z,2.2nm,0.3s							
ABTA	**Abfaltersbach**	**3.49**	**180**		Pn	**Pn**	**14 14 34.6**	**-0.7**
ABTA					Sg	**Sg**	**14 15 32.4**	**-0.5**
	comp=Z,23nm,0.6s							
ARSA	**Arzberg**	**3.60**	**145**		Sg	**Sg**	**14 15 35.6**	**-0.9**
	comp=Z,5.3nm,0.4s							
OKC	**Ostrava-Krasne**	**3.68**	**94**	‖	*e*SG	**Sg**	**14 15 35.4**	**-3.4**
	comp=Z,17nm,0.5s							
OKC	**Ostrava-Krasne**	**3.68**	**94**		Sg	**Sg**	**14 15 35.4**	**-3.4**
	comp=Z,17nm,0.5s							
MYKA	**Terra Mystica**	**3.69**	**167**		Sg	**Sg**	**14 15 40.4**	**+1.1**
SOKA	**Soboth**	**3.94**	**154**		Sg	**Sg**	**14 15 46.9**	**-0.6**
	comp=Z,0.7nm,0.2s							
OBKA	**Obir**	**3.98**	**159**		Pg	**Pg**	**14 14 56.6**	**-0.4**
	comp=Z,0.7nm,0.3s							
OBKA					Sg	**Sg**	**14 15 48.4**	**-0.1**
	comp=Z,4.5nm,0.5s							
VYHS	**Vyhne**	**4.51**	**110**		*e*SG	**Sb**	**14 15 52.5**	**-1.9**
VYHS					eLG	Lg	14 16 06.7	
LANS	**Liptovska Anna**	**4.67**	**101**		*e*Sg	**Sg**	**14 16 07.7**	**-2.8**
LANS	**Liptovska Anna**	**4.67**	**101**		*e*SG	**Sg**	**14 16 07.7**	**-2.8**
STHS	**Stebnicka Huta**	**5.73**	**95**		*e*Sg	**Sg**	**14 16 43.7**	**-1.0**
STHS	**Stebnicka Huta**	**5.73**	**95**		*e*SG	**Sg**	**14 16 43.7**	**-1.0**
STHS					eLG	Lg	14 16 54.5	

MEX 04 14:54:25.9±0.4, **14°22N**×**92°33W**, **h26**±19km, **MD3.9,**
Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CCIG	**Comitan**	**2.06**	**5**	*e*P	Pn	14 54 57.7	-1.3
CCIG				*e*S	Sn	14 55 21.3	-2.6
TGIG		**2.65**	**343**	*e*P	Pn	14 55 04.8	-2.3
TGIG				*e*S	Sn	14 55 36.0	-2.5

*NEIC **04** 14:58:44.4±2.4, 19°.33N×109°.09W, h10km, mb4.1/16,*
Error ellipse: s-maj=34.8km s-min=26.7km az=138.0
*ISCJB **04** 14:58:45.8±0.6, 19°.42N±0°.05×109°.14W±0°.05, h26km,*
mb3.9/12, MS3.5/13, Error ellipse: s-maj=9.0km
s-min=4.4km az=138.6
*IDC **04** 14:58:45.1±1.0, 19°.54N×109°.22W, h0km, mb3.6/4,*
mb1 4.1/9, mb1mx3.9/29, mbtmp3.9/9, ML3.6/5, MS3.6/18,
Ms1 3.6/18, ms1mx3.4/33, Error ellipse: s-maj=23.4km
s-min=16.6km az=125.0

ISC 04 14:58:48.0±0.8, **19°.44N**±0°.09×**109°.20W**±0°.07, **h26**km, **n80,**
σ**0s95/71, mb3.9**/12, **MS3.6**/13, **Revilla Gigedo Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H06E1	**SOCORRO T-PHAS**	**1.76**	**248**	Pn	**Pn**	**14 59 16.2**	**-0.6**
H06E1				Sn	**Sn**	**14 59 37.8**	**-0.6**
H06E1				T	T	15 01 23.3	
	SNR=5.6						
H06N1	**SOCORRO T-PHAS**	**1.79**	**251**	Pn	**Pn**	**14 59 16.3**	**-0.9**
H06N1				Sn	**Sn**	**14 59 38.2**	**-0.8**
H06N1				T	T	15 01 06.8	
	SNR=9.3						
H06S1	**SOCORRO T**	**1.81**	**247**	Pn	**Pn**	**14 59 16.5**	**-1.0**
H06S1				Sn	**Sn**	**14 59 38.4**	**-1.1**
H06S1				T	T	15 01 14.4	
	SNR=7.2						
LPIG	**La Paz**	**4.75**	**348**	Pn	**Pn**	**14 59 55.5**	**-2.5**
	18nm,0.3s,baz=162,slow=6.8,SNR=12						
LPIG				LR	LR	15 01 22.0	
	comp=Z,774nm,19.6s,baz=166,slow=34						
TXAR	**Lajitas Array**	**11.06**	**26**	Pn	**Pn**	**15 01 22.9**	**-1.7**
	0.1nm,0.3s,baz=201,slow=14,SNR=11						
TXAR				LR	LR	15 05 07.0	
	comp=Z,259nm,19.3s,baz=0.0,slow=35						
MNTX	**Cornudas Mount**	**12.68**	**15**	P	**Pn**	**15 01 46.3**	**-0.5**
	baz=196						
214A	**Organ Pipe Nat**	**12.88**	**346**	P	**Pn**	**15 01 49.9**	**+0.4**
	baz=164						
214A	**Organ Pipe Nat**	**12.88**	**346**	*e*P	**Pn**	**15 01 47.9**	**-1.6**
	36nm,1.0s						
TUC	**Tucson**	**12.89**	**354**	P	**Pn**	**15 01 50.4**	**+0.7**
	baz=173						
TUC	**Tucson**	**12.89**	**354**	*e*P	**Pn**	**15 01 50.3**	**+0.6**
	28nm,1.2s						
121A	**Cookes Peak, D**	**13.10**	**5**	P	**Pn**	**15 01 52.8**	**+0.2**
	baz=185,SNR=6.4						
121A	**Cookes Peak, D**	**13.10**	**5**	*e*P	**Pn**	**15 01 52.3**	**-0.3**
	20nm,1.0s						
CMIG	**Matias Romero**	**13.80**	**97**	Pn	**Pn**	**15 02 01.0**	**-1.1**
	0.1nm,0.3s,baz=257,slow=10,SNR=4.1						
CMIG				LR	LR	15 07 00.9	
	comp=Z,183nm,18.4s,baz=261,slow=36						
GLA	**Glamis**	**14.46**	**341**	P	**Pn**	**15 02 11.1**	**0.0**
	baz=158						
Y12C	**Blythe**	**15.02**	**343**	P	**Pn**	**15 02 18.7**	**+0.1**
	baz=160						
BC3	**Big Chuckawall**	**15.21**	**340**	P	**Pn**	**15 02 21.3**	**0.0**
	baz=157						
PDMCI	**Parker Dam,Lak**	**15.44**	**344**	P	**Pn**	**15 02 24.1**	**-0.1**
	baz=162						
PFO	**Pinyon Flats O**	**15.53**	**337**	Pn	**Pn**	**15 02 25.8**	**+0.4**
	0.1nm,0.3s,baz=148,slow=15,SNR=4.4						
PFO				LR	LR	15 07 27.3	
	comp=Z,378nm,21.1s,baz=154,slow=34						
MSTX	**Muleshoe**	**15.56**	**20**	P	**Pn**	**15 02 25.2**	**-0.6**
	baz=203						
IRM	**Iron Mountain**	**15.58**	**341**	P	**Pn**	**15 02 26.5**	**+0.5**
	baz=158,SNR=6.4						
W18A	**Petrified Fore**	**15.62**	**358**	*e*P	**Pn**	**15 02 26.5**	**-0.2**
ANMO	**Albuquerque**	**15.63**	**8**	Pn	**Pn**	**15 02 26.1**	**-0.7**
	0.1nm,0.3s,baz=212,slow=13,SNR=3.2						
ANMO				LR	LR	15 08 23.2	
	comp=Z,215nm,18.0s,baz=198,slow=37						
ANMO	**Albuquerque**	**15.63**	**8**	P	**Pn**	**15 02 26.4**	**-0.5**
	baz=189						
ANMO	**Albuquerque**	**15.63**	**8**	*e*P	**Pn**	**15 02 25.7**	**-1.2**
	5.4nm,1.1s						
BELC	**Belle Mtn. Jos**	**15.71**	**339**	P	**Pn**	**15 02 28.6**	**+0.7**
	baz=156						
MURC	**Murrieta**	**15.80**	**335**	P	**Pn**	**15 02 29.1**	**+0.2**
	baz=151						
WUAZ	**Wupatki**	**16.13**	**354**	P	**Pn**	**15 02 33.8**	**+0.6**
	baz=172,SNR=7.6						
WUAZ	**Wupatki**	**16.13**	**354**	*e*Pn	**Pn**	**15 02 33.7**	**+0.6**
	13nm,1.1s						
GMRC	**Granite Mounta**	**16.32**	**341**	P	**Pn**	**15 02 36.6**	**+1.0**
	baz=158						
HEC	**Hector,Ludlow**	**16.58**	**339**	P	**Pn**	**15 02 39.5**	**+0.6**
	baz=156						
TUQ	**Turquoise Moun**	**17.00**	**341**	P	**P**	**15 02 45.4**	**-0.5**
	baz=158,SNR=17						
GSC	**Goldstone, Bar**	**17.17**	**338**	P	**Pn**	**15 02 46.2**	**0.0**
	baz=155						
MVCO	**Mesa Verde**	**17.71**	**2**	P	**Pn**	**15 02 53.1**	**-0.1**
	baz=182,SNR=5.6						
MVCO	**Mesa Verde**	**17.71**	**2**	*e*P	**Pn**	**15 02 52.8**	**-0.4**
	11nm,0.9s						
MPMC	**Manual Prospec**	**18.09**	**338**	P	**P**	**15 02 58.4**	**+0.4**
	baz=154						
T25A	**Trinidad**	**18.12**	**12**	P	**Pn**	**15 02 58.2**	**0.0**
	baz=194						
FURC	**Furnace Creek,**	**18.25**	**340**	P	**P**	**15 02 59.9**	**+0.4**
	baz=156						
S22A	**4UR Ranch, Cre**	**18.36**	**6**	P	**P**	**15 03 00.5**	**-0.4**
	baz=187						
TPNV	**Topopah Spring**	**18.50**	**342**	P	**P**	**15 03 02.5**	**0.0**
	baz=158,SNR=6.9						
VES	**Vestal, Richgr**	**18.52**	**334**	P	**P**	**15 03 02.5**	**+0.1**
	baz=149						
SDCO	**Great Sand Dun**	**18.52**	**9**	P	**P**	**15 03 02.3**	**-0.5**
	baz=191,SNR=8.5						
PV01	**Paradox Valley**	**18.63**	**2**	*e*P	**Pn**	**15 03 05.3**	**+0.9**
	373nm,1.1s						
CWC	**Cottonwood Cre**	**18.65**	**337**	P	**P**	**15 03 04.0**	**-0.1**
	baz=153						
R11A	**Troy Canyon, C**	**19.64**	**345**	P	**P**	**15 03 15.0**	**0.0**
	baz=162						
SMCO	**Snowmass**	**19.76**	**5**	*e*P	**P**	**15 03 16.4**	**-0.1**
	18nm,1.3s						
U35A	**Pawnee**	**20.11**	**30**	P	**P**	**15 03 18.8**	**-1.1**
	baz=216						
ISCO	**Idaho Springs**	**20.52**	**8**	P	**P**	**15 03 24.4**	**-0.2**
	baz=189						
ISCO	**Idaho Springs**	**20.52**	**8**	*e*P	**P**	**15 03 24.5**	**-0.2**
	7.9nm,1.3s						
O20A	**White River Ci**	**20.64**	**2**	P	**P**	**15 03 25.4**	**-0.4**
	baz=182						
O20A	**White River Ci**	**20.64**	**2**	*e*P	**P**	**15 03 25.5**	**-0.4**
	9.8nm,0.9s						
DUG	**Dugway, Tooele**	**20.92**	**352**	P	**P**	**15 03 28.6**	**-0.2**
	baz=170,SNR=10						
DUG	**Dugway, Tooele**	**20.92**	**352**	*e*P	**P**	**15 03 27.9**	**-0.8**
	27nm,1.3s						
CMB	**Columbia Colle**	**20.93**	**335**	*e*P	**P**	**15 03 28.9**	**+0.1**
	25nm,1.2s						
PHWY	**Pilot Hill**	**22.02**	**8**	*e*P	**P**	**15 03 40.2**	**-0.6**
	14nm,1.3s						
HWUT	**Hardware Ranch**	**22.19**	**355**	P	**P**	**15 03 43.0**	**+0.6**
	9.3nm,1.3s						
K22A	**Cuspsn**	**23.25**	**5**	*e*P	**P**	**15 03 53.5**	**0.0**
	18nm,1.0s						
PDAR	**Pinedale Array**	**23.25**	**359**	P	**P**	**15 03 52.9**	**-0.8**
	0.7nm,0.7s,baz=157,slow=7.6,SNR=6.0						
PDAR				LR	LR	15 11 43.1	
	comp=Z,70nm,21.9s,baz=170,slow=34						
LOHW	**Long Hollow**	**24.13**	**358**	*e*P	**P**	**15 04 00.7**	**-1.3**
	3.8nm,1.0s						
WVOR	**Wild Horse Val**	**24.27**	**343**	*e*P	**P**	**15 04 03.5**	**+0.2**
	5.2nm,1.1s						
MOD	**Modoc Plateau**	**24.30**	**340**	*e*P	**P**	**15 04 04.7**	**+1.2**
	9.7nm,1.1s						
IMW	**Indian Meadow**	**24.43**	**357**	*e*P	**P**	**15 04 02.4**	**-2.5**
	2.6nm,0.9s						
HLID	**Hailey**	**24.45**	**351**	*e*P	**P**	**15 04 05.0**	**+0.1**
	2.4nm,0.8s						
FLWY	**Flagg Ranch**	**24.60**	**357**	*e*P	**P**	**15 04 06.5**	**+0.1**
JTS	**JuntasAbangare**	**25.11**	**108**	LR	LR	15 11 30.8	
	baz=258,SNR=3.1						
TKL	**Tuckaleechee C**	**27.61**	**49**	LR	LR	15 17 43.4	
	comp=Z,57nm,19.2s,baz=270,slow=41						
NEW	**Newport**	**29.46**	**349**	LR	LR	15 16 49.6	
	comp=Z,74nm,20.5s,baz=208,slow=37						
ULM	**Lac du Bonnet**	**32.52**	**16**	LR	LR	15 17 47.4	
	comp=Z,122nm,18.0s,baz=47,slow=35						
YKA	**Yellowknife Ar**	**43.18**	**356**	P	**P**	**15 06 45.4**	**-0.9**
	1.2nm,0.7s,baz=175,slow=7.4,SNR=4.6						
YKA				LR	LR	15 23 03.7	
	comp=Z,6.9nm,19.2s,baz=180,slow=34						
SCHQ	**Schefferville**	**47.68**	**32**	LR	LR	15 25 05.7	
	comp=Z,66nm,18.0s,baz=288,slow=33						
RKT	**Rikitea**	**49.22**	**212**	*e*T	T	16 00 20.0	
	1.8nm,0.3s						
ILAR	**Eielson Array**	**51.76**	**341**	P	**P**	**15 07 55.0**	**+1.9**
	0.8nm,0.7s,baz=152,slow=4.1,SNR=4.1						
ILAR				LR	LR	15 28 18.2	
	comp=Z,41nm,18.6s,baz=130,slow=34						
LPAZ	**La Paz**	**53.77**	**129**	P	**P**	**15 08 09.8**	**+0.6**
	1.0nm,0.9s,baz=289,slow=5.0,SNR=4.1						
LPAZ				LR	LR	15 27 54.2	
	comp=Z,99nm,19.0s,baz=326,slow=32						
PPT	**Papeete**	**54.09**	**230**	LR	LR	15 25 25.2	
	comp=Z,68nm,18.6s,baz=22,slow=30						
PPT2	**Papeete2**	**54.10**	**230**	*e*LR	LR	15 23 51.5	
	124nm,26.0s						
TBI	**Tubuai**	**57.90**	**225**	*e*LR	LR	15 25 30.2	
	80nm,28.8s						
PLCA	**Paso Flores**	**69.82**	**150**	LR	LR	15 33 54.4	
	comp=Z,103nm,18.0s,baz=308,slow=30						
ARCES	**ARCESS Array B**	**85.63**	**15**	LR	LR	15 49 50.0	
	comp=Z,39nm,19.9s,baz=278,slow=36						
NRIK	**Noril'sk**	**90.65**	**354**	LR	LR	15 54 01.5	
	comp=Z,40nm,18.1s,baz=106,slow=37						
WRA	**Warramunga Arr**	**120.52**	**258**	PKP	**PKPdf**	**15 17 40.8**	**+2.6**
	0.6nm,0.9s,baz=80,slow=1.8,SNR=3.1						
ASAR	**Alice Springs**	**121.57**	**254**	PKP	**PKPdf**	**15 17 43.1**	**+3.0**
	0.4nm,0.9s,baz=56,slow=2.3,SNR=3.6						

*ISCJB **04** 15:04:25.3±0.6, 39°.12N±0°.03×31°.56E±0°.05, h5km±5km,*
Error ellipse: s-maj=7.1km s-min=4.1km az=144.0
*ISK **04** 15:04:25.5, 39°.18N×31°.69E, h5km, MD2.7*
*DDA **04** 15:04:25.5, 39°.09N×31°.52E, h9km, Md2.5*
*CSEM **04** 15:04:25.3±0.3, 39°.14N×31°.57E, h5km, MD2.7, Error*
ellipse: s-maj=8.0km s-min=4.6km az=53.0

ISC 04 15:04:25.4±1.0, **39°.12N**±0°.03×**31°.52E**±0°.03, **h10**km±9km,
n20, σ**0s89/37, Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SVRH	**Sivrihisar-ESK**	**0.33**	**1**	*e*PG	**Pg**	**15 04 31.9**	**-0.1**
SVRH				*e*SG	**Sg**	**15 04 36.7**	**+0.3**
SVRH	**Sivrihisar-ESK**	**0.33**	**1**	*e*Pg	**Pg**	**15 04 31.9**	**-0.1**
SVRH				*e*Sg	**Sg**	**15 04 36.7**	**+0.3**
KIZT	**Kizilcal**	**0.37**	**130**	*e*PG	**Pg**	**15 04 32.6**	**-0.1**
KIZT				*e*SG	**Sg**	**15 04 37.6**	**0.0**
KIZT	**Kizilcal**	**0.37**	**130**	*e*Pg	**Pg**	**15 04 32.6**	**-0.1**
KIZT				*e*Sg	**Sg**	**15 04 37.6**	**0.0**
BOLV	**Bolvadin**	**0.60**	**228**	*i* P	**Pg**	**15 04 37.4**	**+0.4**
BOLV				*i* S	**Sg**	**15 04 45.2**	**+0.3**
BOLV	**Bolvadin**	**0.60**	**228**	P	**Pg**	**15 04 37.3**	**+0.4**
BOLV				S	**Sg**	**15 04 45.2**	**+0.3**
KDHN	**Kadinhani**	**0.76**	**142**	*i* P	**Pg**	**15 04 40.0**	**0.0**
KDHN				*i* S	**Sg**	**15 04 49.2**	**-0.7**
KDHN	**Kadinhani**	**0.76**	**142**	P	**Pg**	**15 04 40.0**	**0.0**
KDHN				S	**Sg**	**15 04 49.2**	**-0.7**
KKUL	**Konya-Kulu**	**1.09**	**87**	*i* P	**Sn**	**15 05 04.9**	**+3.0**
BORA	**Eskisehir**	**1.12**	**313**	*i* P	**Pb**	**15 04 46.8**	**-0.1**
BORA				*i* S	**Sn**	**15 05 02.6**	**-0.1**
BORA	**Eskisehir**	**1.12**	**313**	P	**Pb**	**15 04 46.8**	**-0.1**
BORA				S	**Sn**	**15 05 02.6**	**-0.1**
LADK	**Ladik-KONYA**	**1.13**	**144**	*e*PN	**Pb**	**15 04 46.7**	**-0.3**
LADK				*e*SN	**Sn**	**15 05 02.3**	**-0.6**
LADK	**Ladik-KONYA**	**1.13**	**144**	*e*Pn	**Pb**	**15 04 46.7**	**-0.3**
LADK				*e*Sn	**Sn**	**15 05 02.3**	**-0.6**
CHBY	**Cihanbeyli**	**1.20**	**116**	*e*PN	**Pb**	**15 04 47.6**	**-0.6**
CHBY				*e*SN	**Sb**	**15 05 02.9**	**-0.8**
CHBY	**Cihanbeyli**	**1.20**	**116**	*e*Pn	**Pb**	**15 04 47.6**	**-0.6**
CHBY				*e*Sn	**Sb**	**15 05 02.9**	**-0.8**
KONT	**Konya--Tatoy**	**1.34**	**150**	*e*PN	**Pg**	**15 04 52.0**	**+0.8**
KONT				*e*SN	**Sg**	**15 05 10.9**	**+2.3**
KONT	**Konya--Tatoy**	**1.34**	**150**	*i* P	**Pg**	**15 04 51.3**	**+0.2**
KONT				*i* S	**Sb**	**15 05 07.2**	**-0.8**
KONT	**Konya--Tatoy**	**1.34**	**150**	*e*Pn	**Pg**	**15 04 52.0**	**+0.8**
KONT				*e*Sn	**Sg**	**15 05 10.9**	**+2.3**
SUTC	**Sutluce-Ispart**	**1.69**	**194**	*e*PN	**Pg**	**15 04 57.5**	**-0.3**
SUTC	**Sutluce-Ispart**	**1.69**	**194**	*e*Pn	**Pg**	**15 04 57.5**	**-0.3**

IDC 04 15:15:58.2±16.0, **0°.57N**×**125°.76E**, **h0**km, **mb3.3**/3,
mb1 3.6/3, **mb1mx3.3**/33, **mbtmp3.4**/3, **ML4.6**/1, **MS2.8**/1,
Ms1 2.8/1, **ms1mx3.2**/20, **Error ellipse: s-maj=254.1km**
s-min=57.4km az=152.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIJI	**Sorong**	**5.69**	**104**	Pn	Pn	15 17 23.7	-0.4
	15nm,0.3s,baz=360,slow=19,SNR=2.0						
WRA	**Warramunga Arr**	**22.05**	**158**	P	P	15 20 55.1	+0.4
	0.4nm,0.5s,baz=335,slow=11,SNR=6.8						
GUMO	**Guam**	**22.93**	**55**	LR	LR	15 27 29.4	
	comp=Z,26nm,20.8s,baz=130,slow=30						
ASAR	**Alice Springs**	**25.35**	**162**	P	P	15 21 26.9	-0.3
	0.2nm,0.7s,baz=348,slow=7.1,SNR=4.8						
STKA	**Stephens Creek**	**35.58**	**156**	P	P	15 22 57.6	0.0
	2.3nm,0.8s,baz=343,slow=14,SNR=4.3						

*ISCJB **04** 15:35:20.1±0.8, 19°.38N±0°.07×109°.15W±0°.06, h10km,*
mb3.8/7, MS3.3/2, Error ellipse: s-maj=12.1km
s-min=4.6km az=138.1
*NEIC **04** 15:35:23.4±1.7, 19°.52N×108°.95W, h10km, mb4.0/21,*
Error ellipse: s-maj=25.0km s-min=10.8km az=213.0
*IDC **04** 15:35:27.5±2.2, 20°.19N×109°.07W, h0km, mb3.3/2,*
mb1 3.7/3, mb1mx3.6/29, mbtmp3.3/3, ML3.5/1, MS3.2/3,
Ms1 3.2/3, ms1mx3.1/8, Error ellipse: s-maj=97.6km
s-min=35.6km az=106.0

ISC 04 15:35:21.3±1.5, **19°.3N**±0°.2×**109°.1W**±0°.1, **h10**km, **n42,**
σ**1s81/42, mb4.1/8, Revilla Gigedo Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H06E1	**SOCORRO T-PHAS**	**1.84**	**254**	Pn	**Pn**	**15 35 52.0**	**-0.9**
	SNR=264						
H06E1				Sn	**Sn**	**15 36 14.4**	**-1.8**
H06E1				T	T	15 37 44.8	
	SNR=4.2						
H06N1	**SOCORRO T-PHAS**	**1.87**	**256**	Pn	**Pn**	**15 35 52.0**	**-1.3**
	SNR=55						
H06N1				Sn	**Sn**	**15 36 13.8**	**-3.2**
H06N1				T	T	15 37 45.2	
	SNR=5.3						
H06S1	**SOCORRO T**	**1.88**	**253**	Pn	**Pn**	**15 35 52.1**	**-1.4**
	SNR=34						
H06S1				Sn	**Sn**	**15 36 14.5**	**-2.8**
H06S1				T	T	15 37 46.9	
	SNR=3.8						
ZAIG	**Zacatecas**	**6.98**	**59**	*e*Pn	**Pn**	**15 37 00.4**	**-3.5**
HSIG		**9.82**	**350**	*e*Pn	**Pn**	**15 37 42.5**	**-0.1**
TLIG	**Tlapa**	**10.12**	**98**	*e*Pn	Pn	15 37 50.5	+3.7
TXAR	**Lajitas Array**	**11.12**	**25**	Pn	**Pn**	**15 37 59.1**	**-1.5**
	0.1nm,0.3s,baz=204,slow=13,SNR=3.7						
TXAR				LR	LR	15 41 12.5	
	comp=Z,72nm,22.0s,baz=0.0,slow=33						
319A	**Douglas**	**12.02**	**359**	*e*Pn	**Pn**	**15 38 13.0**	**+0.2**
TUC	**Tucson**	**13.04**	**354**	*e*Pn	**Pn**	**15 38 26.6**	**-0.1**
121A	**Cookes Peak, D**	**13.22**	**5**	*e*P	**Pn**	**15 38 30.5**	**+1.2**
	6.9nm,0.8s						
113A	**Mohawk Valley,**	**14.05**	**343**	*e*Pn	**Pn**	**15 38 40.5**	**0.0**
GLA	**Glamis**	**14.62**	**340**	*e*Pn	Pn	15 38 46.8	-1.5
BNM	**Barren Site**	**14.94**	**8**	*e*Pn	**Pn**	**15 38 51.6**	**-1.3**
Y14A	**Wickenburg**	**14.99**	**347**	*e*Pn	**Pn**	**15 38 54.0**	**+0.7**
X18A	**Snowflake**	**15.18**	**357**	*e*Pn	**Pn**	**15 38 55.3**	**-0.7**
X16A	**Lo Mia Camp, P**	**15.20**	**352**	*e*Pn	**Pn**	**15 38 55.7**	**-0.5**
ANMO	**Albuquerque**	**15.74**	**8**	*e*Pn	**Pn**	**15 39 02.0**	**-1.4**
	4.5nm,1.1s						
WUAZ	**Wupatki**	**16.27**	**353**	*e*Pn	**Pn**	**15 39 09.7**	**-0.5**
	12nm,1.4s						
LDFC	**Landfair**	**16.59**	**342**	*e*Pn	**

0.2nm,0.3s,baz=0.5,slow=9.9,SNR=2.5
CTA Charters Tower 20.71 250 P P 16 15 57.7 +1.4
4.3nm,0.8s,baz=61,slow=19,SNR=3.0
STKA Stephens Creek 29.28 228 P P 16 17 14.8 +0.9
1.5nm,0.5s,baz=44,slow=9.9,SNR=3.6
WRA Warramunga Arr 31.73 255 P P 16 17 34.1 -1.5
0.6nm,0.5s,baz=86,slow=9.4,SNR=5.2
ASAR Alice Springs 32.68 248 P P 16 17 42.7 -1.1
0.9nm,0.5s,baz=74,slow=9.5,SNR=42
CMAR Chiang Mai Arr 74.36 294 P P 16 22 46.0 +0.5
0.5nm,0.6s,baz=130,slow=5.6,SNR=4.4

MEX 04 16:36:16.1±0.3, 15°92'N×96°94'W, h15km±6km, MD3.5, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PANG	**Puerto Angel**	**0.52**	**119**	*i* P	Pg	16 36 24.8	-1.6
PANG				*eS*	Sg	16 36 31.6	-1.6
HUIG	**Huatulco**	**0.82**	**100**	*eP*	Pg	16 36 29.3	-2.7
HUIG				*eS*	Sg	16 36 39.3	-3.5
VHO	**Vista Hermosa**	**1.17**	**10**	*eP*	Pn	16 36 34.2	-3.9
VHO				*eS*	Sb	16 36 48.8	-4.4
PNIG	**Pinotepa**	**1.23**	**293**	*eP*	Pn	16 36 35.5	-3.3
PNIG				*eS*	Sb	16 36 50.0	-4.9
TLIG	**Tlapa**	**2.26**	**317**	*eP*	Pn	16 36 48.9	-4.2
TLIG				*eS*	Sn	16 37 17.4	-3.3

IDC ***04*** *16:41:43.9±0.9, 28°.07'N×59°.88'E, h0km, mb3.8/15, mb1 3.9/16, mb1mx3.7/47, mbtmp3.8/16, ML4.2/1, MS3.2/2, Ms1 3.2/2, ms1mx2.5/52, Error ellipse: s-maj=19.7km s-min=17.1km az=167.0*

ISCJB ***04*** *16:41:43.7±0.4, 28°.04'N±0°.03×60°.08'E±0°.05, h10km, mb3.8/15, MS3.1/2, Error ellipse: s-maj=6.7km s-min=3.7km az=25.7*

NEIC ***04*** *16:41:45.4±0.4, 28°.07'N×59°.89'E, h10km, mb4.4/1, Error ellipse: s-maj=9.5km s-min=7.9km az=124.0*

CSEM ***04*** *16:41:46.2±0.3, 28°.07'N×60°.04'E, h15km, ML3.4, Error ellipse: s-maj=9.6km s-min=5.7km az=119.0*

DSN ***04*** *16:41:48.1±2.6, 27°.61'N×60°.16'E, h15km, ML3.8/8, Error ellipse: s-maj=56.6km s-min=16.8km az=167.0*

TEH ***04*** *16:42:06.8, 28°.10'N×58°.44'E, h19km, ML3.4*

ISC 04 16:41:45.1±0.6, 28°.04'N±0°.03×59°.98'E±0°.04, h10km, n66, σ1s66/71, mb3.9/15, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ZHSF	**Zahedan**	**1.71**	**24**	*eP*g	**Pn**	**16 42 16.6**	**+1.4**
ZHSF				*eS*g	**Sb**	**16 42 39.2**	**+0.7**
CHBR	**Chabahar**	**2.48**	**169**	*eP*n	**Pn**	**16 42 27.8**	**+2.2**
CHBR				*eS*g	**Sg**	**16 43 04.8**	**0.0**
CHMN	**Cheshme madani**	**2.80**	**311**	*eP*n	**Pb**	**16 42 33.0**	**-2.4**
CHMN				*eS*g	**Sb**	**16 43 09.1**	**-0.8**
CHMN	**Cheshme madani**	**2.80**	**311**	*eP*n	**Pb**	**16 42 33.0**	**-2.4**
CHMN				*eS*g	**Sb**	**16 43 09.1**	**-0.8**
NIAN	**Nian**	**2.82**	**261**	*eP*n	**Pb**	**16 42 33.2**	**-2.4**
NIAN	**Nian**	**2.82**	**261**	*eP*n	**Pb**	**16 42 33.2**	**-2.4**
KHSK	**Kohestak**	**2.90**	**244**	*eP*n	**Pb**	**16 42 34.7**	**-2.2**
KHSK	**Kohestak**	**2.90**	**244**	*eP*n	**Pb**	**16 42 34.7**	**-2.2**
IBND	**Bandar-abas**	**3.10**	**260**	*eP*n	**Pb**	**16 42 37.1**	**-3.2**
IBND				*e*AMB	AMB	16 42 42.0	
	comp=Z,3μm,0.1s						
IBND	**Bandar-abas**	**3.10**	**260**	*eP*n	**Pb**	**16 42 37.1**	**-3.2**
NGRK	**Negar Kerman**	**3.26**	**300**	*eP*n	**Pb**	**16 42 41.5**	**-1.8**
NGRK	**Negar Kerman**	**3.26**	**300**	*eP*n	**Pb**	**16 42 41.5**	**-1.8**
TVBK	**TV Kerman**	**3.42**	**305**	*eP*n	**Pb**	**16 42 45.3**	**-0.6**
TVBK	**TV Kerman**	**3.42**	**305**	*eP*n	**Pb**	**16 42 45.3**	**-0.6**
BNDS	**Bandar-Abbas**	**3.43**	**260**	*eP*n	**Pn**	**16 42 40.7**	**+1.9**
KHGB	**Koh Gabri**	**3.84**	**308**	*eP*n	**Pb**	**16 42 51.9**	**-1.2**
KHGB	**Koh Gabri**	**3.84**	**308**	*eP*n	**Pb**	**16 42 51.9**	**-1.2**
BANOM	**Banah**	**3.90**	**238**	*i* P	**Pn**	**16 42 46.2**	**+1.1**
	SNR=12						
BANOM				S	**Sn**	**16 43 32.4**	**+1.4**
BANOM	**Banah**	**3.90**	**238**	P	**Pn**	**16 42 46.2**	**+1.1**
	SNR=12						
BANOM				S	**Sn**	**16 43 32.4**	**+1.4**
UOSS	**Minazif**	**4.58**	**228**	P	**Pn**	**16 42 53.5**	**-0.9**
HATD	**Hatta, Dubai**	**4.71**	**228**	P	**Pn**	**16 42 55.7**	**-0.5**
HATD	**Hatta, Dubai**	**4.71**	**228**	P	**Pn**	**16 42 55.7**	**-0.5**
ASHO	**Ashiyiah**	**4.85**	**227**	*i* P	**Pn**	**16 42 59.9**	**+1.7**
	SNR=16						
ASHO	**Ashiyiah**	**4.85**	**227**	P	**Pn**	**16 42 59.9**	**+1.7**
	SNR=16						
NAZ	**Nazwa, Dubai**	**4.92**	**233**	P	**Pn**	**16 43 00.6**	**+1.5**
NAZ	**Nazwa, Dubai**	**4.92**	**233**	P	**Pn**	**16 43 00.6**	**+1.5**
WSAR	**Wadi Sarin**	**4.94**	**195**	Pn	**Pn**	**16 42 59.9**	**+0.5**
	comp=Z,9.1nm,0.3s,baz=36,slow=11,SNR=91						
WSAR				Sn	**Sn**	**16 43 54.9**	**-1.7**
	comp=Z,14nm,0.3s,baz=59,slow=21,SNR=11						
ITEG	**Tejag**	**4.95**	**348**	*e*Pn	**Pb**	**16 43 07.4**	**-4.6**
ITEG				*e*AMB	AMB	16 44 35.2	
	comp=Z,1μm,0.3s						
ITEG	**Tejag**	**4.95**	**348**	*e*Pn	**Pb**	**16 43 07.4**	**-4.6**
FAQ	**Al Faqa, Dubai**	**5.12**	**231**	P	**Pn**	**16 43 04.0**	**+2.1**
FAQ	**Al Faqa, Dubai**	**5.12**	**231**	P	**Pn**	**16 43 04.0**	**+2.1**
IBAF	**Bafgh**	**5.21**	**314**	*e*Sg	**Sb**	**16 44 19.8**	**+0.7**
IBAF				*e*AMB	AMB	16 44 45.3	
	comp=Z,458nm,0.3s						
IBAF	**Bafgh**	**5.21**	**314**	*e*Sg	**Sb**	**16 44 19.8**	**+0.7**
SHRT	**Shahrakht**	**5.59**	**3**	*e*Pn	**Pn**	**16 43 09.8**	**+1.4**
IMEH	**Mehriz**	**5.73**	**307**	*e*Pn	Pb	16 43 18.6	-6.8
IMEH				*e*Sg	**Sb**	**16 44 32.7**	**-1.5**
IMEH				*e*AMB	AMB	16 44 52.6	
	comp=Z,351nm,0.4s						
IMEH	**Mehriz**	**5.73**	**307**	*e*Pn	Pb	16 43 18.6	-6.8
IMEH				*e*Sg	**Sb**	**16 44 32.7**	**-1.5**
TABS	**Tabas**	**6.10**	**337**	*e*Pn	**Pn**	**16 43 16.8**	**+1.3**
ISRV	**Sarvestan**	**6.17**	**284**	*e*Pn	**Pn**	**16 43 18.3**	**+1.7**
ISRV				*e*AMB	AMB	16 45 43.0	
	comp=Z,299nm,0.4s						
ISRV	**Sarvestan**	**6.17**	**284**	*e*Pn	**Pn**	**16 43 18.3**	**+1.7**
IPAR	**Pars**	**6.33**	**288**	*e*Pn	**Pn**	**16 43 20.4**	**+1.6**
IPAR	**Pars**	**6.33**	**288**	*e*Pn	**Pn**	**16 43 20.4**	**+1.6**
ISAD	**Sadrabad**	**6.68**	**307**	*e*Pn	**Pb**	**16 43 43.3**	**+1.8**
ISAD				*e*AMB	AMB	16 45 18.8	
	comp=Z,216nm,0.4s						
ISAD	**Sadrabad**	**6.68**	**307**	*e*Pn	**Pb**	**16 43 43.3**	**+1.8**
KKAR	**Karatay Array**	**17.28**	**27**	*e*Pn	**Pn**	**16 45 46.2**	**-0.2**
KKAR	**Karatay Array**	**17.28**	**27**	*e*Pn	**Pn**	**16 45 46.2**	**-0.2**
ASF	**Jabal al Asfar**	**20.38**	**287**	P	**P**	**16 46 20.3**	**-1.8**
	comp=Z,1.1nm,0.6s,baz=35,slow=18,SNR=1.8						
KVAR	**Kislovodsk Arr**	**21.09**	**323**	P	**P**	**16 46 30.3**	**+0.6**
	comp=Z,8.7nm,0.9s,baz=108,slow=3.2,SNR=4.2						
ABKAR	**Akbulak array**	**21.18**	**360**	*e*P	**P**	**16 46 31.5**	**+1.0**
	comp=Z,12nm,0.7s						
ABKAR	**Akbulak array**	**21.18**	**360**	*e*P	**P**	**16 46 31.6**	**+1.0**
	comp=Z,12nm,0.7s						
MMAI	**Mount Meron Ar**	**21.72**	**289**	LR	LR	16 56 06.3	
	comp=Z,37nm,19.6s,baz=185,slow=40						
EIL	**Elat**	**21.97**	**280**	P	**P**	**16 46 38.8**	**-0.4**
	comp=Z,2.9nm,0.6s,baz=76,slow=5.5,SNR=4.9						
AKTO	**Aktyubinsk**	**22.41**	**357**	P	**P**	**16 46 44.4**	**+0.6**
	comp=Z,2.2nm,0.8s,baz=179,slow=12,SNR=5.6						
BRTR	**Keskin Array B**	**24.68**	**305**	P	**P**	**16 47 06.6**	**+0.2**
	comp=Z,0.5nm,0.8s,baz=95,slow=10,SNR=2.6						
BVAR	**Borovoye Array**	**26.12**	**14**	P	**P**	**16 47 19.9**	**+0.8**
	comp=Z,2.2nm,0.8s,baz=198,slow=8.6,SNR=11						
KURBB	**Kurchatov Arra**	**26.58**	**27**	P	**P**	**16 47 23.7**	**+0.4**
	comp=Z,0.5nm,0.3s,baz=225,slow=9.2,SNR=8.3						
KURK	**Kurchatov**	**26.69**	**27**	P	**P**	**16 47 23.7**	**-0.6**
KURK	**Kurchatov**	**26.69**	**27**	P	**P**	**16 47 23.7**	**-0.6**
ZALV	**Zalesovo Beam**	**31.64**	**28**	P	**P**	**16 48 07.9**	**-0.3**
	comp=Z,0.9nm,0.6s,baz=246,slow=11,SNR=4.6						
AKASG	**Malin Array Be**	**32.44**	**323**	P	**P**	**16 48 14.6**	**-0.7**
	comp=Z,0.6nm,0.4s,baz=125,slow=8.8,SNR=2.6						
TLY	**Talaya**	**40.18**	**42**	LR	LR	17 06 19.9	
	comp=Z,44nm,18.5s,baz=44,slow=37						
FINES	**FINESS Array B**	**40.30**	**336**	P	**P**	**16 49 21.9**	**-0.4**
	comp=Z,1.1nm,0.5s,baz=132,slow=8.5,SNR=13						
SONM	**Songino Array**	**40.88**	**48**	P	**P**	**16 49 28.2**	**+0.9**
	comp=Z,0.3nm,0.5s,baz=273,slow=8.8,SNR=3.9						
TORD	**Torodi Ar. Bea**	**56.05**	**267**	P	**P**	**16 51 24.0**	**-0.6**
	comp=Z,0.8nm,0.6s,baz=63,slow=7.0,SNR=11						
SEY	**Seymchan**	**66.49**	**30**	P	**P**	**16 52 34.4**	**-0.2**
	comp=Z,1.9nm,0.7s,baz=265,slow=23,SNR=9.3						
WRA	**Warramunga Arr**	**86.24**	**115**	P	**P**	**16 54 28.6**	**+1.2**
	comp=Z,0.4nm,0.7s,baz=312,slow=3.8,SNR=6.0						
ASAR	**Alice Springs**	**87.84**	**118**	P	**P**	**16 54 36.2**	**+1.2**
	comp=Z,0.4nm,0.8s,baz=300,slow=5.0,SNR=6.3						

DJA 04 16:55:25.0±0.5, 0°S×123°E, h58km±15km, M3.6/6, MLv3.6/6, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KMSI	**Cibinong**	**0.97**	**21**	P	Pn	16 55 43.5	+0.9
KMSI				S	Sn	16 55 58.8	+3.1
LUWI	**Luwuk**	**1.11**	**231**	P	Pn	16 55 44.8	+0.4
LUWI				S	Sn	16 55 58.9	+0.1
GTOI	**Gorontalo**	**1.15**	**327**	P	Pn	16 55 46.6	+1.6
GTOI				S	Sn	16 56 02.8	+3.0
MRSI	**Marisa**	**1.87**	**296**	P	Pn	16 55 53.7	-1.0
MRSI				S	Sn	16 56 14.4	-2.9
SANI	**Sanana**	**2.91**	**126**	P	Pn	16 56 08.7	-0.1
SANI				S	Sn	16 56 42.1	-0.5
KDI	**Kendari**	**3.73**	**196**	P	Pn	16 56 19.9	-0.3
PCI	**Palu**	**3.83**	**262**	P	Pn	16 56 22.3	+0.7
PCI				S	Sn	16 57 06.2	+0.8
TTSI	**Tana Toraja**	**4.66**	**235**	P	Pn	16 56 32.7	-0.2
TTSI				S	Sn	16 57 26.0	-0.7
BBSI	**Bau Bau**	**5.22**	**192**	P	Pn	16 56 43.6	+3.0
BBSI				S	Sn	16 57 39.4	-0.1
SPSI	**Sidrap Palu**	**5.28**	**227**	P	Pn	16 56 42.0	+0.7
SPSI				S	Sn	16 57 39.3	-1.6

TRN 04 16:56:12.6, 16°.59N×61°.26W, h19km, MD3.6, 1D, Leeward Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DEG	**La Desirade**	**0.33**	**144**	*eP*	Pn	16 56 21.6	-0.9
DEG				*eS*	Sn	16 56 27.1	-1.7
SSG	**Sans Toucher**	**0.63**	**219**	*eP*	Pn	16 56 27.7	+1.0
MGG	**Marie-Galante**	**0.67**	**184**	*eP*	Pn	16 56 27.7	+0.8
MLG	**Mont-d'or**	**0.67**	**220**	*eP*	Pn	16 56 28.3	+1.1
BPA	**Boggy Peak**	**0.73**	**309**	*eP*	Pn	16 56 29.4	+1.5
BPA				*eS*	Sn	16 56 41.1	+2.6
TBG	**Guadaloupe-3**	**0.82**	**207**	*eP*	Pn	16 56 30.5	+1.4
TBG				*eS*	Sn	16 56 43.4	+2.8
MLYT	**Lee's Yard**	**0.90**	**279**	*eP*	Pn	16 56 32.0	+1.7
MLYT				*eS*	Sn	16 56 46.6	+3.9
DWS	**Wesley**	**1.01**	**183**	*eP*	Pg	16 56 33.6	+1.3
DWS				*eS*	Sg	16 56 48.1	+2.4
DWS				*eS*	Sn	16 56 48.2	+2.7
BBL	**Barber's Block**	**1.07**	**191**	*eP*	Pg	16 56 34.7	+1.3
BBL				*eS*	Sg	16 56 50.2	+2.7
ANWB	**Willy Bob**	**1.19**	**335**	*eP*	Pb	16 56 35.1	+0.5
ANWB				*eS*	Sg	16 56 52.9	+1.7
PCM	**Pelee Case Pet**	**1.76**	**178**	*eP*	Pb	16 56 43.7	-0.6
PCM	**Pelee Case Pet**	**1.76**	**178**	*eP*	Pb	16 56 44.4	+0.1
CXM	**Morne La Croix**	**1.77**	**177**	*eP*	Pb	16 56 44.6	+0.1
GBMF	**Grand Be**	**1.78**	**177**	*eP*	Pb	16 56 43.9	-0.8
PML	**Morne Lenard**	**1.79**	**178**	*eP*	Pb	16 56 44.6	-0.3
FDF	**Fort de France**	**1.84**	**177**	*eP*	Pb	16 56 44.7	-1.0
FDF				*eS*	Sb	16 57 08.6	+0.1
TRMF	**Trois Ilets**	**2.05**	**174**	*eP*	Pb	16 56 48.1	-1.1
MVM	**Montagne Vaucl**	**2.05**	**170**	*eP*	Pn	16 56 47.5	+1.5

ISCJB ***04*** *16:56:30.1±0.5, 50°.23N±0°.02×12°.52E±0°.03, h12km±5km, Error ellipse: s-maj=3.3km s-min=3.1km az=163.0*

IASPEI ***04*** *16:56:31.0±0.8, 50°.24N±0°.02×12°.48E±0°.02, h10km±4km, Error ellipse: s-maj=3.4km s-min=2.4km az=80.5, GT5 selection from ISC bulletin GT5 identified by Bond˚jr and McLaughlin (2009) selection criteria Bond˚jr and McLaughlin, A new ground truth data set for seismic studies, Seism. Res. Let., 80, 465-472, 2009*

CSEM ***04*** *16:56:31.0±0.1, 50°.23N×12°.49E, h10km, ML3.0/6, Error ellipse: s-maj=1.4km s-min=1.3km az=38.0*

BGR ***04*** *16:56:31.3±0.2, 50°.24N×12°.45E, h10km±1km, ML2.1/6, Error ellipse: s-maj=2.2km s-min=1.1km az=102.0*

PRU ***04*** *16:56:31.2, 50°.24N×12°.48E, h10km, West Bohemia Swarm*

ISC 04 16:56:31.1±0.8, 50°.24N±0°.02×12°.48E±0°.02, h10km±4km, n51, σ0s53/91, 6D, Germany

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
NKC	**Novy Kostel**	**0.02**	**264**	*i*PG	**Pg**	**16 56 33.1**	**+0.2**
NKC				*e*SG	**Sg**	**16 56 33.9**	**-0.3**
	comp=Z,1μm,0.2s						
NKC	**Novy Kostel**	**0.02**	**264**	*eP*g	**Pg**	**16 56 33.1**	**+0.2**
NKC				*e*Sg	**Sg**	**16 56 34.1**	**-0.1**
NKC	**Novy Kostel**	**0.02**	**264**	Pg	**Pg**	**16 56 33.1**	**+0.2**
NKC				Sg	**Sg**	**16 56 34.1**	**-0.1**
WERN	**Wernitzgruen**	**0.09**	**308**	*eP*g	**Pg**	**16 56 33.7**	**+0.2**
WERN				*e*Sg	**Sg**	**16 56 35.0**	**-0.2**
WERN	**Wernitzgruen**	**0.09**	**308**	Pg	**Pg**	**16 56 33.7**	**+0.2**
WERN				Sg	**Sg**	**16 56 35.0**	**-0.2**
ROHR	**Rohrbach**	**0.10**	**269**	*eP*g	**Pg**	**16 56 33.8**	**+0.1**
ROHR				*e*Sg	**Sg**	**16 56 35.2**	**-0.5**
ROHR	**Rohrbach**	**0.10**	**269**	Pg	**Pg**	**16 56 33.8**	**+0.1**
ROHR				Sg	**Sg**	**16 56 35.2**	**-0.5**
GUNZ	**Gunzen**	**0.16**	**323**	*eP*g	**Pg**	**16 56 34.9**	**+0.3**
GUNZ				*e*Sg	**Sg**	**16 56 37.0**	**-0.1**
GUNZ	**Gunzen**	**0.16**	**323**	Pg	**Pg**	**16 56 34.9**	**+0.3**
GUNZ				Sg	**Sg**	**16 56 37.0**	**-0.1**
MULD	**Muldenberg**	**0.18**	**344**	*eP*g	**Pg**	**16 56 35.3**	**+0.3**
MULD				*e*Sg	**Sg**	**16 56 37.6**	**-0.1**
MULD	**Muldenberg**	**0.18**	**344**	Pg	**Pg**	**16 56 35.3**	**+0.3**
MULD				Sg	**Sg**	**16 56 37.6**	**-0.1**
WERD	**Werda**	**0.24**	**332**	*eP*g	**Pg**	**16 56 36.2**	**+0.2**
WERD				*e*Sg	**Sg**	**16 56 39.0**	**-0.3**
WERD	**Werda**	**0.24**	**332**	Pg	**Pg**	**16 56 36.2**	**+0.2**
WERD				Sg	**Sg**	**16 56 39.0**	**-0.3**
TRIB	**Obertriebel**	**0.25**	**298**	*eP*g	**Pg**	**16 56 36.2**	**+0.1**
TRIB				*e*Sg	**Sg**	**16 56 39.3**	**-0.3**
TRIB	**Obertriebel**	**0.25**	**298**	Pg	**Pg**	**16 56 36.2**	**+0.1**
TRIB				Sg	**Sg**	**16 56 39.3**	**-0.3**
PLN	**Plauen**	**0.33**	**320**	*eP*g	**Pg**	**16 56 37.7**	**+0.2**
PLN				*e*Sg	**Sg**	**16 56 41.8**	**-0.1**
PLN	**Plauen**	**0.33**	**320**	Pg	**Pg**	**16 56 37.7**	**+0.2**
PLN				Sg	**Sg**	**16 56 41.8**	**-0.1**
SCHF	**Schoenfels**	**0.45**	**354**	*eP*g	**Pg**	**16 56 40.1**	**+0.3**
SCHF				*e*Sg	**Sg**	**16 56 45.8**	**+0.1**
SCHF	**Schoenfels**	**0.45**	**354**	Pg	**Pg**	**16 56 40.1**	**+0.3**
SCHF				Sg	**Sg**	**16 56 45.8**	**+0.1**
ROTZ	**Rotzenmuhle**	**0.50**	**201**	*eP*g	**Pg**	**16 56 41.3**	**+0.5**
ROTZ				*e*Sg	**Sg**	**16 56 47.8**	**+0.4**
ROTZ	**Rotzenmuhle**	**0.50**	**201**	Pg	**Pg**	**16 56 41.3**	**+0.5**
ROTZ				Sg	**Sg**	**16 56 47.8**	**+0.4**
MOX	**Moxa**	**0.69**	**307**	*eP*g	**Pg**	**16 56 44.3**	**0.0**
MOX				*e*Sg	**Sg**	**16 56 52.7**	**-0.7**
MOX	**Moxa**	**0.69**	**307**	Pg	**Pg**	**16 56 44.3**	**0.0**
MOX				Sg	**Sg**	**16 56 52.7**	**-0.7**
FBE	**Freiberg**	**0.88**	**39**	*eP*g	**Pb**	**16 56 48.7**	**+0.2**
FBE				*e*Sg	**Sg**	**16 56 60.0**	**+0.4**
FBE	**Freiberg**	**0.88**	**39**	Pg	**Pb**	**16 56 48.7**	**+0.2**
FBE				Sg	**Sg**	**16 57 00.0**	**+0.4**
GRA1	**Grafenberg Arr**	**0.98**	**237**	Pg	**Pg**	**16 56 50.8**	**+0.1**
GRA1				Sg	**Sg**	**16 57 03.1**	**0.0**
GRF	**Grafenberg Arr**	**0.98**	**237**	*eP*g	**Pg**	**16 56 50.0**	**+0.1**
GRF				*e*Sg	**Sb**	**16 57 03.1**	**0.0**
WET	**Wettzell**	**1.12**	**167**	*eP*G	**Pb**	**16 56 52.7**	**+0.1**
WET				*e*SG	**Sg**	**16 57 07.0**	**-0.3**
WET	**Wettzell**	**1.12**	**167**	*eP*g	**Pb**	**16 56 52.7**	**+0.1**
WET				*e*Sg	**Sg**	**16 57 06.9**	**-0.3**
WET	**Wettzell**	**1.12**	**167**	Pg	**Pb**	**16 56 52.7**	**+0.1**
WET				Sg	**Sg**	**16 57 06.9**	**-0.3**
CLL	**Collm**	**1.12**	**17**	*eP*g	**Pb**	**16 56 52.2**	**-0.4**
CLL				*e*Sg	**Sg**	**16 57 07.1**	**-0.1**
CLL	**Collm**	**1.12**	**17**	Pg	**Pb**	**16 56 52.2**	**-0.4**
CLL				Sg	**Sg**	**16 57 07.1**	**-0.1**
CLL	**Collm**	**1.12**	**17**	*i* Pg	**Pg**	**16 56 52.8**	**+0.2**
CLL				*i* Sg	**Sb**	**16 57 07.3**	**0.0**
	comp=Z,8.0nm,0.5s						
CLL				*i*		16 57 11.1	
BRG	**Berggiesshubel**	**1.13**	**55**	PG	**Pn**	**16 56 53.0**	**0.0**
BRG				SG	**Sg**	**16 57 07.8**	**+0.4**
	comp=Z,13nm,0.2s						
BRG	**Berggiesshubel**	**1.13**	**55**	*eP*g	**Pn**	**16 56 53.0**	**0.0**
BRG				*e*Sg	**Sg**	**16 57 08.0**	**+0.6**
BRG	**Berggiesshubel**	**1.13**	**55**	Pg	**Pn**	**16 56 53.0**	**0.0**
BRG				Sg	**Sg**	**16 57 08.0**	**+0.6**
PRA	**Prague**	**1.27**	**97**	*i*eSG	**Sb**	**16 57 11.5**	**+0.1**
PRA	**Prague**	**1.27**	**97**	Sg	**Sb**	**16 57 11.5**	**+0.1**
KHC	**Kasperske Hory**	**1.32**	**147**	*eP*G	**Pn**	**16 56 55.7**	**+0.2**
KHC				*e*SG	**Sn**	**16 57 13.4**	**+0.2**
	comp=Z,5.9nm,0.2s						
KHC	**Kasperske Hory**	**1.32**	**147**	Pg	**Pn**	**16 56 55.7**	**+0.2**
KHC				Sg	**Sn**	**16 57 13.4**	**+0.2**
	comp=Z,5.9nm,0.2s						
PRU	**Pruhonice**	**1.35**	**100**	*i*PG	**Pg**	**16 56 57.1**	**+0.2**
PRU				*e*SG	**Sb**	**16 57 13.4**	**-0.4**
	comp=Z,14nm,0.2s						
PRU	**Pruhonice**	**1.35**	**100**	Pg	**Pg**	**16 56 57.1**	**+0.2**
PRU				Sg	**Sb**	**16 57 13.4**	**-0.4**
	comp=Z,14nm,0.2s						
PVCC	**Panska Ves**	**1.37**	**77**	*i*eSG	**Sg**	**16 57 16.2**	**+1.1**
	comp=Z,24nm,0.1s						
PVCC	**Panska Ves**	**1.37**	**77**	Sg	**Sg**	**16 57 16.2**	**+1.1**
	comp=Z,24nm,0.1s						
GOPC	**GO Pecny, Ondr**	**1.52**	**101**	*e*SG	**Sg**	**16 57 19.8**	**-0.1**
	comp=Z,14nm,0.2s						
GOPC	**GO Pecny, Ondr**	**1.52**	**101**	Sg	**Sg**	**16 57 19.8**	**-0.1**
	comp=Z,14nm,0.2s						
UPC	**Upice**	**2.28**	**82**	*i*eSG	**Sg**	**16 57 43.0**	**-1.2**
	comp=Z,4.1nm,0.3s						
UPC	**Upice**	**2.28**	**82**	Sg	**Sg**	**16 57 43.0**	**-1.2**
	comp=Z,4.1nm,0.3s						
DPC	**Dobruska-Polom**	**2.47**	**86**	*e*SG	**Sg**	**16 57 48.3**	**-2.0**
	comp=Z,3.5nm,0.3s						
DPC	**Dobruska-Polom**	**2.47**	**86**	Sg	**Sg**	**16 57 48.3**	**-2.0**
	comp=Z,3.5nm,0.3s						
VRAC	**Vranov**	**2.82**	**108**	*e*Sg	**Sg**	**16 57 59.3**	**-2.4**

NIED ***04*** *16:57:00, 37°.20N×144°.20E, h5km, Mw3.4 Best double couple: M0 1.65000×10^14 NP1:φs18.00000°, δ30.00000°, λ-124.00000°. NP2:φs236.00000°, δ65.00000°, λ-72.00000°.*

ISCJB ***04*** *16:57:53.7±1.1, 37°.12N±0°.05×144°.38E±0°.08, h26km, mb3.5/2, Error ellipse: s-maj=9.6km s-min=7.7km az=173.2*

IDC ***04*** *16:57:54.5±3.8, 36°.57N×144°.37E, h0km, mb3.4/2, mb1 3.7/4, mb1mx3.4/47, mbtmp3.6/4, ML3.5/2, Error ellipse: s-maj=69.4km s-min=33.2km az=12.0*

JMA ***04*** *16:57:57.0±0.2, 37°.23N×144°.25E, h48km, M4.0*

ISC 04 16:57:52.8±1.6, 37°.11N±0°.06×144°.5E±0°.1, h26km, n20, σ2s50/19, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JIO	**Ouri**	**2.84**	**299**	P	**Pb**	**16 58 38.0**	**-4.7**
JFK	**Kawauchi**	**2.91**	**276**	S	**Sn**	**16 59 10.8**	**-0.7**
OFUJ	**Ofunato**	**2.98**	**312**	P	**Pn**	**16 58 39.6**	**+1.3**
JMK	**Ichinoseki**	**3.18**	**306**	S	**Sn**	**16 59 17.4**	**-0.7**
JOM	**Ohasama**	**3.46**	**314**	P	**Pn**	**16 58 46.8**	**+1.9**
JOM				S	**Sn**	**16 59 24.1**	**-0.9**
JYK	**Kaneyama**	**3.74**	**300**	P	**Pn**	**16 58 51.2**	**+2.5**
JRY	**Ryogami san**	**4.64**	**258**	P	**Pn**	**16 59 03.4**	**+2.2**
JRY				S	**Sn**	**16 59 53.5**	**-0.8**
JOT	**Ohata**	**5.04**	**329**	S	**Sn**	**17 00 02.6**	**-1.3**
MJAR	**Matsushiro Arr**	**5.08**	**265**	Pn	**Pn**	**16 59 10.6**	**+3.4**
	1.2nm,0.3s,baz=81,slow=9.5,SNR=14						
MJAR				Sn	**Sn**	**17 00 07.7**	**+2.5**
	1.0nm,0.3s,baz=115,slow=28,SNR=5.0						
MAT	**Matsushiro**	**5.08**	**265**	P	**Pn**	**16 59 10.9**	**+3.6**
MAT				S	**Sn**	**17 00 06.2**	**+1.0**
JHJ2	**Mitsune**	**5.54**	**225**	S	**Sn**	**17 00 18.2**	**+1.8**
JHJ	**Hachijo jima 2**	**5.55**	**226**	Pn	**Pn**	**16 59 10.7**	**-3.0**
	9.5nm,0.3s,baz=90,slow=20,SNR=2.8						
JHJ				Sn	**

TGIG				*i* S		**Sn**	**17 05 53.3**	**-0.5**
TGIG		**3.85**	**313**	*e*P		**Pn**	**17 05 07.6**	**-0.9**
TGIG				*i* S		**Sn**	**17 05 53.3**	**-0.5**
MOMN	**Momotombo**	**3.94**	**116**	*e*P		**Pn**	**17 05 10.7**	**+1.1**
COPN	**Copaltepe**	**4.01**	**119**	*e*P		**Pn**	**17 05 10.5**	**0.0**
COPN				*e*S		**Sn**	**17 05 59.3**	**+1.7**
COPN				AML	AML		17 06 02.5	
	comp=Z,94nm,0.6s							
MGAN	**Managua**	**4.32**	**117**	*e*P		**Pn**	**17 05 14.8**	**+0.1**
BOAB	**BOACO BROADBAN**	**4.71**	**111**	*e*P		**Pn**	**17 05 19.2**	**-1.0**
CONN	**Concepcion**	**5.13**	**120**	*e*P		**Pn**	**17 05 26.6**	**+0.6**
ACON	**Acoyapa**	**5.34**	**114**	*e*P		**Pn**	**17 05 29.5**	**+0.7**
CMIG	**Matias Romero**	**5.39**	**303**	Pn		**Pn**	**17 05 30.5**	**+1.0**
	comp=Z,1.9nm,0.3s,baz=101,slow=12,SNR=14							
CMIG				Sn		**Sn**	**17 06 35.6**	**+3.9**
	comp=Z,3.1nm,0.3s,baz=70,slow=6.6,SNR=3.5							
CMIG				Lg	Lg		17 06 55.8	
	comp=Z,7.5nm,0.3s,baz=200,slow=23,SNR=7.8							
JTS	**JuntasAbangare**	**6.39**	**126**	Pn		**Pn**	**17 05 44.9**	**+1.6**
	comp=Z,2.5nm,0.3s,baz=323,slow=15,SNR=9.3							
JTS				Sn		**Sn**	**17 06 58.4**	**+2.0**
	comp=Z,0.6nm,0.3s,baz=328,slow=21,SNR=1.6							
JTS				Lg	Lg		17 07 13.5	
	comp=Z,0.5nm,0.3s,baz=262,slow=17,SNR=2.1							
PAYG	**Puerto Ayora**	**14.74**	**180**	*e*Pn		Pn	17 07 28.2	-10
TXAR	**Lajitas Array**	**19.59**	**323**	Pn		**Pn**	**17 08 40.3**	**+1.4**
	comp=Z,0.1nm,0.3s,baz=140,slow=11,SNR=5.1							
SDV	**Santo Domingo**	**19.84**	**103**	P		**P**	**17 08 39.7**	**-0.8**
	comp=Z,0.4nm,0.3s,baz=340,slow=18,SNR=4.1							
SDV				LR		LR	17 17 49.4	
	comp=Z,43nm,21.0s,baz=274,slow=41							
LPIG	**La Paz**	**21.41**	**300**	LR		LR	17 17 20.0	
	comp=Z,57nm,19.0s,baz=78,slow=37							
W34A	**Bridge Creek,**	**22.07**	**343**	*e*P		**P**	**17 09 03.9**	**-0.3**
	comp=Z,30nm,0.9s							
SJG	**San Juan**	**23.40**	**77**	LR		LR	17 18 08.1	
	comp=Z,54nm,18.5s,baz=261,slow=36							
ANMO	**Albuquerque**	**25.37**	**327**	LR		LR	17 21 06.0	
	comp=Z,29nm,19.3s,baz=83,slow=40							
ULM	**Lac du Bonnet**	**36.29**	**354**	LR		LR	17 27 55.1	
	comp=Z,55nm,19.1s,baz=3.0,slow=39							
YKA	**Yellowknife Ar**	**51.29**	**346**	P		**P**	**17 13 13.8**	**+0.9**
	comp=Z,1.1nm,0.7s,baz=147,slow=7.1,SNR=4.0							
YKA				LR		LR	17 38 12.5	
	comp=Z,4.8nm,18.0s,baz=180,slow=40							
ILAR	**Eielson Array**	**63.39**	**336**	P		**P**	**17 14 39.0**	**+0.6**
	comp=Z,0.8nm,1.1s,baz=145,slow=4.7,SNR=4.8							
SEY	**Seymchan**	**89.33**	**336**	LR		LR	18 01 22.4	
	comp=Z,254nm,20.3s,baz=150,slow=38							
WRA	**Warramunga Arr**	**137.15**	**256**	PKP		**PKPdf**	**17 23 29.7**	**-3.7**
	comp=Z,0.4nm,0.9s,baz=85,slow=2.6,SNR=3.3							
ASAR	**Alice Springs**	**137.39**	**250**	PKP		**PKPdf**	**17 23 29.6**	**-4.3**
	comp=Z,0.3nm,0.9s,baz=99,slow=2.9,SNR=2.9							

*IDC **04** 17:06:47.6±5.6, 28.°93S×67.°29W, h100km±44km, mb3.7/4, mb1 3.7/6, mb1mx3.4/32, mbtmp3.9/6, Error ellipse: s-maj=47.2km s-min=33.8km az=57.0*

*ISCJB **04** 17:06:51.9±0.5, 28.°71S±0.°06×67.°22W±0.°09, h129km, mb3.6/4, Error ellipse: s-maj=12.1km s-min=6.6km az=27.9*

*SJA **04** 17:06:51.0±0.7, 28.°77S×67.°25W, h152km±4km, ML3.6, MW3.9*

ISC 04 17:06:51.9±0.8, 28.°74S±0.°07×67.°20W±0.°07, h129km, n24, σ1§47/23, mb3.5/4, La Rioja Province

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
ACLC	**CERRO LA CRUZ**	**0.71**	**162**	*e*P		**Pn**	**17 07 14.5**	**+2.1**
VCA	**Vinchina**	**0.89**	**270**	*e*P		**Pn**	**17 07 15.6**	**+1.8**
VCA				IAML			17 07 35.9	
	comp=Z,1μm,0.2s							
CYA	**Choya**	**1.26**	**77**	*e*P		**Pn**	**17 07 19.7**	**+2.3**
CYA				IAML			17 07 39.6	
	comp=Z,284nm,0.4s							
AGUA	**GUANDACOL**	**1.35**	**237**	*e*P		**Pn**	**17 07 19.5**	**+1.1**
APLL	**PUNTA DE LOS L**	**1.75**	**161**	*e*P		**Pn**	**17 07 24.2**	**+1.5**
ACDV	**Cuesta del Vie**	**2.20**	**229**	*e*P		**Pn**	**17 07 29.1**	**+0.8**
AROD	**Rodeo**	**2.44**	**234**	*e*P		**Pn**	**17 07 32.6**	**+1.0**
ACCO	**Cerro Coronel**	**2.45**	**221**	*e*P		**Pn**	**17 07 32.2**	**+0.5**
AMOG	**MOGNA**	**2.46**	**207**	*e*P		**Pn**	**17 07 32.0**	**+0.5**
AHML	**Horco Molle**	**2.56**	**41**	*e*P		**Pn**	**17 07 33.9**	**+1.1**
AHML				IAML			17 07 34.1	
	comp=Z,209nm,0.2s							
RTLL	**Cerro Villicun**	**2.80**	**203**	*e*P		**Pn**	**17 07 36.7**	**+0.8**
FSA	**Cafayete**	**2.84**	**23**	*e*P		**Pn**	**17 07 38.8**	**+2.2**
FSA				IAML			17 07 39.1	
	comp=Z,61nm,0.4s							
RTCV	**Cerro Valdivia**	**3.32**	**200**	*e*P		**Pn**	**17 07 42.8**	**+0.2**
RTLS	**Leoncito**	**3.54**	**210**	IAML			17 08 33.3	
	comp=Z,55nm,0.5s							
MRA	**San Martin**	**3.88**	**161**	*e*P		**Pn**	**17 07 50.7**	**+0.7**
MRA				IAML			17 08 36.1	
	comp=Z,44nm,0.4s							
CPUP	**Villa Florida**	**9.08**	**77**	P		**Pn**	**17 08 57.2**	**-2.6**
	comp=Z,0.2nm,0.3s,baz=267,slow=12,SNR=3.9							
LPAZ	**La Paz**	**12.43**	**356**	P		**Pn**	**17 09 44.6**	**-0.4**
	comp=Z,0.1nm,0.3s,baz=170,slow=6.1,SNR=3.3							
PTGA	**Pitinga**	**28.70**	**15**	P		**P**	**17 12 36.8**	**-0.2**
	comp=Z,0.8nm,0.3s,baz=198,slow=20,SNR=3.5							
TORD	**Torodi Ar. Bea**	**78.47**	**68**	P		**P**	**17 18 38.9**	**-0.1**
	comp=Z,0.3nm,0.7s,baz=260,slow=6.1,SNR=5.2							
PDAR	**Pinedale Array**	**81.13**	**330**	P		**P**	**17 18 52.5**	**-0.5**
	comp=Z,0.2nm,0.6s,baz=147,slow=9.3,SNR=2.2							
SCHQ	**Schefferville**	**83.23**	**0**	P		**P**	**17 19 03.2**	**-0.2**
	comp=Z,4.0nm,0.5s,baz=249,slow=14,SNR=2.2							
ASAR	**Alice Springs**	**124.07**	**203**	PKP		**PKPdf**	**17 25 34.0**	**-1.6**
	comp=Z,0.3nm,0.5s,baz=139,slow=1.8,SNR=9.9							
WRA	**Warramunga Arr**	**127.32**	**206**	PKP		**PKPdf**	**17 25 40.6**	**-1.3**
	comp=Z,0.7nm,0.6s,baz=160,slow=1.8,SNR=14							
ZALV	**Zalesovo Beam**	**147.59**	**31**	PKPbc		**PKPdf**	**17 26 20.1**	**+2.4**
	comp=Z,1.1nm,0.4s,baz=302,slow=5.5,SNR=5.4							

MEX 04 17:13:26.9±0.5, 16.°16N×93.°53W, h131km±14km, MD3.9, Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
TGIG		**0.73**	**32**	*i* P		Pn	17 13 46.6	-1.2
TGIG				*i* S		Sn	17 14 01.5	-2.1
CCIG	**Comitan**	**1.34**	**84**	*e*P		Pn	17 13 52.3	-1.3
CCIG				*e*S		Sn	17 14 12.0	-1.9

IDC 04 17:31:35.9±1.4, 18.°89N×146.°33E, h0km, mb3.5/4, mb1 3.8/4, mb1mx3.4/58, mbtmp3.5/4, Error ellipse: s-maj=179.5km s-min=24.7km az=114.0, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**40.34**	**198**	P		P	17 39 16.2	+0.8
	0.5nm,0.4s,baz=20,slow=8.9,SNR=8.0							
FITZ	**Fitzroy Crossi**	**42.01**	**210**	P		P	17 39 28.7	-0.4
	0.5nm,0.3s,baz=17,slow=8.4,SNR=12							
ASAR	**Alice Springs**	**44.00**	**197**	P		P	17 39 44.4	-0.9
	0.5nm,1.1s,baz=19,slow=7.0,SNR=4.1							
ILAR	**Eielson Array**	**63.21**	**26**	P		P	17 42 05.7	0.0
	0.3nm,0.4s,baz=254,slow=5.7,SNR=6.9							

*NIED **04** 17:35:00, 36.°80N×141.°30E, h5km, Mw3.9 Best double couple: M0 6.71000×10^14 NP1: ϕ=219.00000°, δ=41.00000°, λ=-61.00000°. NP2: ϕ=4.00000°, δ=55.00000°, λ=-112.00000°.*

*IDC **04** 17:35:56.3±0.8, 36.°89N×141.°15E, h0km, mb4.0/11, mb1 4.0/12, mb1mx3.8/56, mbtmp4.0/12, ML3.3/1, MS3.0/7, Ms1 3.0/7, ms1mx2.7/43, Error ellipse: s-maj=23.1km s-min=17.6km az=100.0*

*JMA **04** 17:35:57.4±0.1, 36.°84N×141.°32E, h27km±1km, M3.9*

JMA Felt I J1.

ISC 04 17:35:57.4±2.1, 36.°84N±0.°05×141.°30E±0.°07, h10km±12km, n35, σ1§31/35, mb3.9/12, MS2.9/3, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
ONAJ	**Iwakimizuishiy**	**0.47**	**303**	P		**Pb**	**17 36 07.4**	**-0.5**
ONAJ				S		**Sb**	**17 36 15.1**	**+0.2**
JFK	**Kawauchi**	**0.62**	**327**	P		**Pb**	**17 36 09.9**	**-0.5**
JFK				S		**Sb**	**17 36 18.7**	**-0.5**
JHO	**Hitachi**	**0.63**	**249**	P		**Pb**	**17 36 09.8**	**-0.6**
JHO				S		**Sb**	**17 36 18.6**	**-0.7**
JFT	**Otama**	**1.02**	**312**	P		**Pg**	**17 36 16.8**	**-0.2**
JFT				S		**Sb**	**17 36 30.5**	**-0.1**
JYT	**Yasato**	**1.08**	**236**	P		**Pb**	**17 36 16.9**	**-1.2**
JMM	**Marumori**	**1.10**	**339**	P		**Pb**	**17 36 17.4**	**-1.0**
JMM				S		**Sb**	**17 36 32.0**	**-0.8**
JSB	**Shiboa**	**1.11**	**277**	P		**Pg**	**17 36 18.4**	**-0.3**
JSB				S		**Sn**	**17 36 33.7**	**-0.7**
MJAR	**Matsushiro Arr**	**2.50**	**264**	Pn		**Pn**	**17 36 38.5**	**+0.5**
	8.0nm,0.3s,baz=86,slow=14,SNR=28							
MJAR				Sn		**Sb**	**17 37 14.2**	**+1.1**
	8.4nm,0.3s,baz=78,slow=29,SNR=4.8							
MJAR				LR		LR	17 37 38.2	
	comp=Z,99nm,20.4s,baz=75,slow=43							
MAT	**Matsushiro**	**2.50**	**264**	P		**Pn**	**17 36 39.1**	**+1.0**
MAT				S		**Sb**	**17 37 11.7**	**-1.5**
ASAJ	**Asahikawa**	**7.33**	**7**	Pn		**Pn**	**17 37 43.6**	**-0.8**
	baz=215,slow=12							
ASAJ				Sn		**Sn**	**17 39 07.5**	**-0.2**
	0.6nm,0.3s,baz=194,slow=12,SNR=3.3							
USRK	**Ussuriysk Ar.**	**10.20**	**319**	Pn		**Pn**	**17 38 27.5**	**+3.7**
	0.1nm,0.3s,baz=114,slow=11,SNR=5.4							
USRK				LR		LR	17 42 00.8	
	comp=Z,73nm,18.4s,baz=150,slow=36							
KSRS	**Korea Array**	**10.69**	**277**	Pn		**Pn**	**17 38 34.5**	**+4.0**
	0.1nm,0.3s,baz=86,slow=17,SNR=2.7							
KSRS				LR		LR	17 42 17.9	
	comp=Z,80nm,19.7s,baz=73,slow=36							
KLR	**Kul'dur**	**14.20**	**334**	LR		LR	17 44 28.2	
	comp=Z,48nm,19.9s,baz=144,slow=36							
YAK	**Yakutsk**	**26.24**	**348**	P		**P**	**17 41 31.9**	**-0.3**
	2.6nm,0.4s,baz=132,slow=0.5,SNR=4.8							
SEY	**Seymchan**	**27.00**	**11**	P		**P**	**17 41 39.8**	**+0.7**
	2.8nm,0.9s,baz=211,slow=7.8,SNR=4.3							
SONM	**Songino Array**	**27.81**	**304**	P		**P**	**17 41 45.8**	**-0.9**
	1.2nm,0.7s,baz=111,slow=9.5,SNR=8.5							
SONM				LR		LR	17 53 07.4	
	comp=Z,34nm,19.7s,baz=135,slow=37							
H11N2	**WAKE ISLAND Hy**	**28.13**	**120**	T		T	18 11 18.9	
	baz=313,slow=75,SNR=192							
H11N1	**WAKE ISLAND Hy**	**28.14**	**120**	T		T	18 11 19.9	
	baz=313,slow=75,SNR=200							
H11N3	**WAKE ISLAND Hy**	**28.15**	**120**	T		T	18 11 20.2	
	baz=313,slow=75,SNR=153							
H11S1	**WAKE ISLAND Hy**	**28.84**	**122**	T		T	18 12 11.6	
	baz=315,slow=75,SNR=104							
H11S3	**WAKE ISLAND Hy**	**28.84**	**122**	T		T	18 12 12.3	
	baz=315,slow=75,SNR=99							
H11S2	**WAKE ISLAND Hy**	**28.85**	**122**	T		T	18 12 12.3	
	baz=315,slow=75,SNR=99							
TLY	**Talaya**	**30.39**	**311**	LR		LR	17 53 27.1	
	comp=Z,26nm,18.0s,baz=22,slow=35							
ZALV	**Zalesovo Beam**	**41.97**	**313**	P		**P**	**17 43 48.1**	**-0.2**
	2.5nm,0.6s,baz=95,slow=6.8,SNR=13							
ILAR	**Eielson Array**	**49.71**	**32**	P		**P**	**17 44 50.5**	**+1.3**
	1.3nm,0.8s,baz=265,slow=6.0,SNR=14							
ARU	**Arti**	**56.44**	**319**	P		**P**	**17 45 37.4**	**-1.6**
	2.7nm,0.7s,baz=67,slow=3.0,SNR=8.8							
WRA	**Warramunga Arr**	**56.86**	**188**	P		**P**	**17 45 42.2**	**0.0**
	0.9nm,0.7s,baz=5.7,slow=7.4,SNR=5.1							
ASAR	**Alice Springs**	**60.59**	**188**	P		**P**	**17 46 08.8**	**+0.6**
	0.8nm,1.0s,baz=13,slow=7.1,SNR=5.6							
NB2	**NORSAR Subarra**	**74.33**	**337**	P		**P**	**17 47 34.7**	**0.0**
	comp=Z,0.9nm,0.7s,baz=39,slow=6.2							
NOA	**NORSAR Array B**	**74.33**	**337**	P		**P**	**17 47 35.0**	**+0.3**
	comp=Z,1.3nm,0.7s,baz=40,slow=6.0,SNR=5.6							
AKASG	**Malin Array Be**	**74.39**	**322**	P		**P**	**17 47 35.0**	**-0.2**
	comp=Z,0.2nm,0.3s,baz=44,slow=5.4,SNR=3.0							
PDAR	**Pinedale Array**	**77.87**	**45**	P		**P**	**17 47 56.3**	**+0.8**
	comp=Z,0.3nm,0.6s,baz=280,slow=5.4,SNR=2.7							
BRTR	**Keskin Array B**	**78.91**	**312**	P		**P**	**17 47 58.8**	**-2.4**
	comp=Z,0.5nm,0.9s,baz=49,slow=6.5,SNR=2.7							
SADO	**Sadowa**	**90.91**	**28**	LR		LR	18 32 11.8	
	comp=Z,39nm,18.1s,baz=74,slow=37							
LPAZ	**La Paz**	**146.87**	**60**	PKPbc		**PKPbc**	**17 55 41.8**	**+0.7**
	comp=Z,1.4nm,0.8s,baz=330,slow=2.5,SNR=5.5							

*NIC **04** 17:41:15.5±0.0, 36.°04N×30.°86E, h16km, mb4.5, ML4.2*

*IDC **04** 17:41:16.7±0.9, 36.°01N×31.°29E, h0km, mb3.8/13, mb1 3.9/21, mb1mx3.8/46, mbtmp3.8/21, ML3.9/7, MS2.9/6, Ms1 2.8/6, ms1mx2.5/51, Error ellipse: s-maj=21.6km s-min=13.2km az=29.0*

*DDA **04** 17:41:18.4, 35.°72N×31.°14E, h24km, Ml4.2*

*ISK **04** 17:41:18.1, 35.°77N×31.°15E, h5km, ML4.0*

*HLW **04** 17:41:18.6, 35.°93N×31.°07E, h33km±22km, Md3.7, Ml3.6*

*NEIC **04** 17:41:18.0±0.0, 35.°74N×31.°15E, h9km, ML4.2(ISK), ML4.4(THE), After ISK.*

*GII **04** 17:41:22.7±0.0, 35.°77N×31.°25E, h30km, MD3.1/5*

*CSEM **04** 17:41:22.1±0.1, 35.°74N×31.°10E, h40km, ML3.9, Error ellipse: s-maj=2.6km s-min=1.5km az=29.0*

*THE **04** 17:41:23.3, 35.°77N×31.°05E, h46km±2km, ML4.4/12, Error ellipse: s-maj=2.5km s-min=0.9km az=92.0*

*ATH **04** 17:41:23.1, 35.°98N×30.°86E, h70km±6km, ML3.9/5, Error ellipse: s-maj=7.8km s-min=3.7km az=332.0*

*NSSC **04** 17:41:25.3±1.4, 35.°63N×33.°93E, h399km±24km, MD2.1, ML3.4*

ISC 04 17:41:20.5±0.8, 35.°82N±0.°02×31.°19E±0.°02, h33km±4km, n388, σ1§86/527, mb3.8/14, 6C-2D, Cyprus region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
ANTB	**Antalya**	**1.16**	**338**	*e*PN		**Pb**	**17 41 40.8**	**-1.3**
ANTB				*e*SN		**Sb**	**17 41 57.9**	**+1.0**
ANTB	**Antalya**	**1.16**	**338**	*e*Pn		**Pb**	**17 41 40.8**	**-1.3**
ANTB				*e*Sn		**Sb**	**17 41 57.9**	**+1.0**
AKMC	**Akamas**	**1.22**	**130**	P		**Pb**	**17 41 42.0**	**-1.1**
AKMC	**Akamas**	**1.22**	**130**	P		**Pb**	**17 41 42.0**	**-1.1**
	baz=310							
ALFC	**Alefka**	**1.33**	**119**	P		**Pb**	**17 41 43.5**	**-1.4**
ALFC	**Alefka**	**1.33**	**119**	P		**Pb**	**17 41 43.5**	**-1.4**
	baz=302							
PPCY	**Paphos**	**1.33**	**134**	P		**Pb**	**17 41 45.0**	**+0.1**
PPCY	**Paphos**	**1.33**	**134**	P		**Pb**	**17 41 45.0**	**+0.1**
	baz=314							
KSL	**Kastellorizon**	**1.34**	**285**	P		**Pb**	**17 41 43.6**	**-1.6**
KSL				S		**Sn**	**17 41 59.4**	**-0.3**
KSL	**Kastellorizon**	**1.34**	**285**	P		**Pb**	**17 41 43.6**	**-1.6**
KSL				S		**Sn**	**17 41 59.4**	**-0.3**
KSL	**Kastellorizon**	**1.34**	**285**	P		**Pn**	**17 41 43.1**	**+0.1**
KSL				S		**Sn**	**17 41 56.4**	**-3.3**
KSL				AML	AML		17 42 10.5	
	comp=E,5895μm,0.6s							
KSL				AML	AML		17 42 14.8	
	comp=N,3981μm,0.5s							
KSL	**Kastellorizon**	**1.34**	**285**	P		**Pb**	**17 41 43.6**	**-1.6**
KSL				S		**Sn**	**17 41 59.4**	**-0.3**
AKAS	**Kas**	**1.35**	**288**	*i* P		**Pb**	**17 41 43.5**	**-1.8**
AKAS				*i* S		**Sb**	**17 42 01.3**	**-1.0**
AKAS	**Kas**	**1.35**	**288**	P		**Pb**	**17 41 43.5**	**-1.8**
AKAS				S		**Sb**	**17 42 01.3**	**-1.0**
KORT	**Korkueli**	**1.36**	**330**	*e*PN		**Pb**	**17 41 44.2**	**-1.3**
KORT	**Korkueli**	**1.36**	**330**	*i* P		**Pb**	**17 41 44.9**	**-0.7**
KORT				*i* S		**Sb**	**17 42 09.7**	**+7.0**
KORT	**Korkueli**	**1.36**	**330**	*e*Pn		**Pb**	**17 41 44.2**	**-1.3**
KORT	**Korkueli**	**1.36**	**330**	P		**Pb**	**17 41 44.9**	**-0.7**
ELL	**Elmali**	**1.39**	**312**	*e*PN		**Pb**	**17 41 45.5**	**-0.5**
ELL	**Elmali**	**1.39**	**312**	*e*Pn		**Pb**	**17 41 45.5**	**-0.5**
HDMB	**Hadim**	**1.55**	**42**	*e*PN		**Pb**	**17 41 47.6**	**-1.2**
HDMB	**Hadim**	**1.55**	**42**	*e*Pn		**Pb**	**17 41 47.6**	**-1.2**
LEF	**Lefka**	**1.55**	**116**	*e*PN		**Pn**	**17 41 46.5**	**+0.6**
LEF	**Lefka**	**1.55**	**116**	*e*Pn		**Pn**	**17 41 46.5**	**+0.6**
TEKE	**Tekeli-Mersin**	**1.59**	**78**	*e*PN		**Pb**	**17 41 47.8**	**-1.6**
TEKE	**Tekeli-Mersin**	**1.59**	**78**	*e*Pn		**Pb**	**17 41 47.8**	**-1.6**
BCK	**Bucak**	**1.71**	**344**	*e*PN		**Pb**	**17 41 50.4**	**-1.0**
BCK	**Bucak**	**1.71**	**344**	*e*Pn		**Pb**	**17 41 50.4**	**-1.0**
BERE	**Bereket-Mersin**	**1.73**	**72**	*e*PN		**Pb**	**17 41 49.8**	**-2.0**
BERE	**Bereket-Mersin**	**1.73**	**72**	*e*Pn		**Pb**	**17 41 49.8**	**-2.0**
SZAC	**Souni**	**1.75**	**127**	P		**Pb**	**17 41 51.0**	**-1.0**
SZAC	**Souni**	**1.75**	**127**	P		**Pb**	**17 41 51.0**	**-1.0**
	baz=308							
SZAC				S		**Sb**	**17 42 18.1**	**+4.6**
MAMC	**Mammari**	**1.78**	**111**	P		**Pn**	**17 41 49.5**	**+0.5**
MAMC	**Mammari**	**1.78**	**111**	P		**Pn**	**17 41 49.5**	**+0.5**
	baz=295							
FETY	**Fethiye**	**1.89**	**296**	*e*PN		**Pb**	**17 41 51.9**	**-2.5**
FETY	**Fethiye**	**1.89**	**296**	*e*Pn		**Pb**	**17 41 51.9**	**-2.5**
FETI	**Fethiye-Mugla**	**1.90**	**298**	*e*PN		**Pb**	**17 41 52.2**	**-2.4**
FETI	**Fethiye-Mugla**	**1.90**	**298**	*e*Pn		**Pb**	**17 41 52.2**	**-2.4**
TEVE	**Tevekalti-Mers**	**1.93**	**71**	*e*PN		**Pb**	**17 41 53.7**	**-1.4**
TEVE				*e*SN		**Sb**	**17 42 18.8**	**0.0**
TEVE	**Tevekalti-Mers**	**1.93**	**71**	*e*Pn		**Pb**	**17 41 53.7**	**-1.4**
TEVE				*e*Sn		**Sb**	**17 42 18.8**	**0.0**
GOLH	**Golhisar**	**1.93**	**318**	*i* P		**Pb**	**17 41 54.1**	**-1.0**
GOLH				*i* S		**Sb**	**17 42 21.9**	**+3.0**
GOLH	**Golhisar**	**1.93**	**318**	P		**Pb**	**17 41 54.1**	**-1.0**
AKKU	**Akkuyu-Mersin**	**1.94**	**79**	*e*PN		**Pb**	**17 41 53.6**	**-1.7**
AKKU				*e*SN		**Sb**	**17 42 19.1**	**-0.1**
AKKU	**Akkuyu-Mersin**	**1.94**	**79**	*e*Pn		**Pb**	**17 41 53.6**	**-1.7**
AKKU				*e*Sn		**Sb**	**17 42 19.1**	**-0.1**
CSS	**Mathiatis**	**1.95**	**115**	P		**Pn**	**17 41 52.0**	**+0.7**
CSS				S		**Sb**	**17 42 18.4**	**-0.9**
CSS	**Mathiatis**	**1.95**	**115**	Pn		**Pn**	**17 41 51.6**	**+0.3**
CSS	**Mathiatis**	**1.95**	**115**	Pn		**Pn**	**17 41 51.6**	**+0.3**
CSS	**Mathiatis**	**1.95**	**115**	P		**Pn**	**17 41 52.0**	**+0.7**
CSS				S		**Sb**	**17 42 18.4**	**-0.9**
CSS	**Mathiatis**	**1.95**	**115**	P		**Pn**	**17 41 52.0**	**+0.7**
CSS				S		**Sb**	**17 42 18.4**	**-0.9**
CSS	**Mathiatis**	**1.95**	**115**	P		**Pn**	**17 41 52.0**	**+0.7**
	baz=298							
CSS				S		**Sb**	**17 42 20.3**	**+1.0**
LFK	**Lefkose**	**1.98**	**105**	*e*PN		**Pb**	**17 41 53.8**	**-2.3**
LFK				*e*SN		**Sb**	**17 42 18.8**	**-1.7**
LFK	**Lefkose**	**1.98**	**105**	*e*Pn		**Pb**	**17 41 53.8**	**-2.3**
LFK				*e*Sn		**Sb**	**17 42 18.8**	**-1.7**
IKL	**Isikli**	**2.07**	**78**	*e*PN		**Pb**	**17 41 55.7**	**-1.7**
IKL				*e*SN		**Sb**	**17 42 21.8**	**-0.9**
IKL	**Isikli**	**2.07**	**78**	*e*Pn		**Pb**	**17 41 55.7**	**-1.7**
IKL				*e*Sn		**Sb**	**17 42 21.8**	**-0.9**
ISP	**Isparta**	**2.07**	**345**	*e*PN		**Pb**	**17 41 55.5**	**-2.0**
ISP	**Isparta**	**2.07**	**345**	P		**Pb**	**17 41 55.5**	**-2.0**
ISP				S		**Sb**	**17 42 21.0**	**-1.9**
ISP	**Isparta**	**2.07**	**345**	Pn		**Pb**	**17 41 55.7**	**-1.9**
ISP	**Isparta**	**2.07**	**345**	P		**Pb**	**17 41 55.5**	**-2.0**
ISP				S		**Sb**	**17 42 21.0**	**-1.9**
ISP	**Isparta**	**2.07**	**345**	P		**Pb**	**17 41 55.5**	**-2.0**
ISP				S		**Sb**	**17 42 21.0**	**-1.9**
KMER	**Konya-Meram**	**2.16**	**26**	*i* P		**Pb**	**17 41 57.6**	**-1.6**
KMER				*i* S		**Sb**	**17 42 24.5**	**-1.1**
KMER	**Konya-Meram**	**2.16**	**26**	P		**Pb**	**17 41 57.6**	**-1.6**
KMER				S		**Sb**	**17 42 24.5**	**-1.1**
DALY	**Dalyan (Mu¨la**	**2.28**	**297**	*e*PN		**Pn**	**17 41 57.1**	**+1.3**
DALY	**Dalyan (Mu¨la**	**2.28**	**297**	*e*Pn		**Pn**	**17 41 57.1**	**+1.3**
KONT	**Konya--Tatoy**	**2.32**	**24**	*e*PN		**Pb**	**17 41 59.9**	**-1.9**
KONT	**Konya--Tatoy**	**2.32**	**24**	*e*Pn		**Pb**	**17 41 59.9**	**-1.9**
TURN	**Turunc**	**2.34**	**298**	*i* P		**Pb**	**17 42 00.9**	**-1.1**
TURN				*i* S		**Sb**	**17 42 29.0**	**-1.5**
TURN	**Turunc**	**2.34**	**298**	P		**Pb**	**17 42 00.9**	**-1.1**
TURN				S		**Sb**	**17 42 29.0**	**-1.5**
KIZK	**Mersin**	**2.48**	**74**	*i* P		**Pb**	**17 42 02.5**	**-1.9**
KIZK				*i* S		**Sb**	**17 42 33.1**	**-1.5**
KIZK	**Mersin**	**2.48**	**74**	P		**Pb**	**17 42 02.5**	**-1.9**
KIZK				S		**Sb**	**17 42 33.1**	**-1.5**
ARG	**Arkhangelos**	**2.52**	**280**	P		**Pn**	**17 41 59.6**	**+0.5**
ARG				S		**Sn**	**17 42 26.7**	**-1.9**
ARG	**Arkhangelos**	**2.52**	**280**	P		**Pn**	**17 41 59.6**	**+0.5**
ARG				S		**Sn**	**17 42 26.7**	**-1.9**
ARG	**Ark

MMA0B	**Mount Meron ar**	**4.47 128**	Pn	**Pn**	**17 42 26.9 +0.9**
MMA0B			Sn	**Sn**	**17 43 18.1 +1.2**
MMA0B	**Mount Meron ar**		Pn	**Pn**	**17 42 26.9 +0.9**
MMA0B			Sn	**Sn**	**17 43 18.1 +1.2**
MMAI	**Mount Meron Ar**	**4.47 128**	Pn	**Pn**	**17 42 27.5 +1.5**
	comp=E,8.1nm,0.3s,baz=303,slow=11,SNR=48				
MMAI			Sn	**Sn**	**17 43 16.3 -0.6**
	comp=E,25nm,0.3s,baz=311,slow=23,SNR=10				
RCY	**Rachaya**	**4.47 120**	*eP*	**Pn**	**17 42 28.1 +1.9**
RCY	**Rachaya**	**4.47 120**	*eP*	**Pn**	**17 42 28.1 +1.9**
OFRI	**'Ofer**	**4.48 134**	Pn	**Pn**	**17 42 27.5 +1.3**
OFRI	**'Ofer**	**4.48 134**	Pn	**Pn**	**17 42 27.5 +1.3**
DRWC	**Darouich**	**4.50 78**	*eP*	**Pn**	**17 42 26.8 +0.3**
DRWC			*eS*	**Sn**	**17 43 11.1 -6.6**
DRWC			AML	AML	17 43 34.6
	comp=E,174nm,0.6s				
DRWC			AML	AML	17 43 37.3
	comp=N,158nm,0.7s				
DRWC	**Darouich**	**4.50 78**	*eP*	**Pn**	**17 42 26.8 +0.3**
	SNR=145				
KSDI	**Kefar Szold**	**4.53 124**	Pn	**Pn**	**17 42 28.3 +1.5**
KSDI	**Kefar Szold**	**4.53 124**	Pn	**Pn**	**17 42 28.3 +1.5**
FKH	**Fakeheh**	**4.56 109**	*eP*	**Pn**	**17 42 30.1 +2.7**
FKH	**Fakeheh**	**4.56 109**	*eP*	**Pn**	**17 42 30.1 +2.7**
NPS	**Neapolis**	**4.58 265**	P	**Pn**	**17 42 28.5 +0.9**
NPS			S	**Sn**	**17 43 16.2 -3.4**
NPS	**Neapolis**	**4.58 265**	P	**Pn**	**17 42 28.4 +0.9**
NPS			S	**Sn**	**17 43 16.6 -3.0**
NPS	**Neapolis**	**4.58 265**	P	**Pn**	**17 42 28.0 +0.5**
NPS			S	**Sn**	**17 43 16.5 -3.1**
NPS			AML	AML	17 43 19.8
	comp=E,1369μm,0.3s				
NPS			AML	AML	17 43 21.8
	comp=N,1309μm,0.3s				
NPS	**Neapolis**	**4.58 265**	P	**Pn**	**17 42 28.5 +0.9**
NPS			S	**Sn**	**17 43 16.2 -3.4**
SANT	**Santorini**	**4.67 278**	P	**Pn**	**17 42 29.2 +0.4**
SANT	**Santorini**	**4.67 278**	P	**Pn**	**17 42 29.2 +0.4**
SANT	**Santorini**	**4.67 278**	P	**Pn**	**17 42 29.2 +0.4**
THT1	**Athinios (Pele**	**4.70 279**	P	**Pn**	**17 42 29.2 +0.1**
THT1	**Athinios (Pele**	**4.70 279**	P	**Pn**	**17 42 29.2 +0.1**
MARH	**Ras Al Marh**	**4.70 111**	*eP*	**Pn**	**17 42 29.3 -0.2**
MARH			*eS*	**Sn**	**17 43 14.9 -8.1**
MARH			AML	AML	17 43 33.9
	comp=N,125nm,0.7s				
MARH			AML	AML	17 43 38.8
	comp=E,70nm,0.7s				
MARH	**Ras Al Marh**	**4.70 111**	*eP*	**Pn**	**17 42 29.3 -0.2**
	SNR=143				
LAST	**Lasithi**	**4.71 264**	P	**Pn**	**17 42 30.0 +0.7**
LAST			S	**Sn**	**17 43 20.9 -1.9**
LAST	**Lasithi**	**4.71 264**	P	**Pn**	**17 42 30.0 +0.7**
LAST			S	**Sn**	**17 43 20.9 -1.9**
LAST	**Lasithi**	**4.71 264**	P	**Pn**	**17 42 29.9 +0.5**
LAST	**Lasithi**	**4.71 264**	P	**Pn**	**17 42 30.0 +0.7**
LAST			S	**Sn**	**17 43 20.9 -1.9**
THR6	**Thira Island,**	**4.72 278**	P	**Pn**	**17 42 29.9 +0.5**
THR6	**Thira Island,**	**4.72 278**	P	**Pn**	**17 42 29.9 +0.5**
THR6	**Thira Island,**	**4.72 278**	P	**Pn**	**17 42 29.9 +0.5**
SAP1	**Santorini-Akro**	**4.72 278**	P	**Pn**	**17 42 29.9 +0.4**
SAP1	**Santorini-Akro**	**4.72 278**	P	**Pn**	**17 42 29.5 +0.1**
THR3	**Thira Island,**	**4.72 279**	P	**Pn**	**17 42 29.9 +0.5**
THR3	**Thira Island,**	**4.72 279**	P	**Pn**	**17 42 29.9 +0.5**
THR3	**Thira Island,**	**4.72 279**	P	**Pn**	**17 42 29.9 +0.5**
APE	**Apeiranthos**	**4.73 287**	P	**Pn**	**17 42 30.4 +0.8**
APE			S	**Sn**	**17 43 21.6 -1.7**
APE	**Apeiranthos**	**4.73 287**	P	**Pn**	**17 42 30.4 +0.8**
APE			S	**Sn**	**17 43 21.6 -1.7**
APE	**Apeiranthos**	**4.73 287**	P	**Pn**	**17 42 30.4 +0.8**
APE			S	**Sn**	**17 43 21.6 -1.7**
KSHT	**Keshet**	**4.75 125**	Pn	**Pn**	**17 42 32.5 +2.5**
KSHT	**Keshet**	**4.75 125**	Pn	**Pn**	**17 42 32.5 +2.5**
THR5	**Thira Island,**	**4.77 279**	P	**Pn**	**17 42 30.7 +0.6**
THR5	**Thira Island,**	**4.77 279**	P	**Pn**	**17 42 30.7 +0.6**
QASN	**Qassioun**	**4.77 117**	*eP*	**Pn**	**17 42 31.2 +1.0**
QASN			*eS*	**Sn**	**17 43 17.3 -7.2**
QASN			AML	AML	17 43 35.2
	comp=N,224nm,0.6s				
QASN			AML	AML	17 43 37.6
	comp=E,348nm,0.6s				
QASN	**Qassioun**	**4.77 117**	*eP*	**Pn**	**17 42 31.2 +1.0**
	SNR=141				
SLTI	**Sal'it**	**4.79 137**	Pn	**Pn**	**17 42 31.8 +1.4**
SLTI			Sn	**Sn**	**17 43 25.2 +0.4**
SLTI	**Sal'it**	**4.79 137**	Pn	**Pn**	**17 42 31.8 +1.4**
SLTI			Sn	**Sn**	**17 43 25.2 +0.4**
CHOS	**Chios island**	**4.84 304**	P	**Pn**	**17 42 31.3 +0.2**
CHOS			S	**Sn**	**17 43 24.2 -1.8**
CHOS	**Chios island**	**4.84 304**	P	**Pn**	**17 42 31.3 +0.2**
CHOS			S	**Sn**	**17 43 24.2 -1.8**
CHOS	**Chios island**	**4.84 304**	P	**Pn**	**17 42 31.3 +0.2**
CHOS			S	**Sn**	**17 43 24.2 -1.8**
MMLI	**Mount Malkishu**	**4.87 133**	Pn	**Pn**	**17 42 33.1 +1.6**
MMLI			Sn	**Sn**	**17 43 27.8 +1.1**
MMLI	**Mount Malkishu**	**4.87 133**	Pn	**Pn**	**17 42 33.1 +1.6**
MMLI			Sn	**Sn**	**17 43 27.8 +1.1**
KMRS	**Kahramanmaras**	**4.89 68**	*ePn*	**Pn**	**17 42 34.7 +2.9**
KMRS	**Kahramanmaras**	**4.89 68**	*ePn*	**Pn**	**17 42 34.7 +2.9**
TOTH	**TOTAH**	**4.97 118**	*eP*	**Pn**	**17 42 32.9 0.0**
TOTH			*eS*	**Sn**	**17 43 21.2 -8.0**
TOTH			AML	AML	17 43 38.8
	comp=E,148nm,0.7s				
TOTH			AML	AML	17 43 45.3
	comp=N,75nm,0.5s				
TOTH	**TOTAH**	**4.97 118**	*eP*	**Pn**	**17 42 32.9 0.0**
	SNR=139				
TCHB	**Talchebab**	**5.05 127**	*eP*	**Pn**	**17 42 36.5 +2.4**
TCHB			*eS*	**Sn**	**17 43 26.0 -5.3**
TCHB			AML	AML	17 43 46.6
	comp=N,139nm,0.5s				
TCHB			AML	AML	17 43 47.4
	comp=E,218nm,0.5s				
TCHB	**Talchebab**	**5.05 127**	*eP*	**Pn**	**17 42 36.5 +2.4**
	SNR=136				
HMDT	**Nahal Hemdat**	**5.06 133**	Pn	**Pn**	**17 42 36.1 +2.0**
HMDT	**Nahal Hemdat**	**5.06 133**	Pn	**Pn**	**17 42 36.1 +2.0**
IDI	**Anoyia**	**5.16 266**	Pn	**Pn**	**17 42 36.1 +0.6**
	comp=E,12nm,0.3s,baz=52,slow=6.3,SNR=36				
IDI			Sn	**Sn**	**17 43 28.5 -5.5**
	comp=E,18nm,0.3s,baz=33,slow=12,SNR=5.0				
IDI	**Anoyia**	**5.16 266**	P	**Pn**	**17 42 35.5 -0.1**
IDI			S	**Sn**	**17 43 30.2 -3.8**
IDI	**Anoyia**	**5.16 266**	P	**Pn**	**17 42 35.5 -0.1**
IDI			S	**Sn**	**17 43 31.1 -2.9**
IDI	**Anoyia**	**5.16 266**	P	**Pn**	**17 42 36.0 +0.4**
IDI			S	**Sn**	**17 43 31.5 -2.5**
IDI	**Anoyia**	**5.16 266**	P	**Pn**	**17 42 35.5 -0.1**
IDI			S	**Sn**	**17 43 30.2 -3.8**
PRK	**Paraskevi**	**5.19 313**	P	**Pn**	**17 42 36.5 +0.6**
PRK			S	**Sn**	**17 43 34.3 -0.4**
PRK	**Paraskevi**	**5.19 313**	P	**Pn**	**17 42 36.5 +0.6**
PRK			S	**Sn**	**17 43 34.3 -0.4**
PRK	**Paraskevi**	**5.19 313**	P	**Pn**	**17 42 36.5 +0.6**
PRK			S	**Sn**	**17 43 34.3 -0.4**
SIVA	**Sivas**	**5.27 263**	P	**Pn**	**17 42 38.1 +1.1**
SIVA			S	**Sn**	**17 43 33.7 -2.9**
SIVA	**Sivas**	**5.27 263**	P	**Pn**	**17 42 37.7 +0.7**
SIVA			S	**Sn**	**17 43 33.7 -2.9**
SIVA	**Sivas**	**5.27 263**	P	**Pn**	**17 42 37.0 0.0**
SIVA	**Sivas**	**5.27 263**	P	**Pn**	**17 42 38.1 +1.1**
SIVA			S	**Sn**	**17 43 33.7 -2.9**
AMAZ	**Amatzia**	**5.28 143**	Pn	**Pn**	**17 42 38.2 +1.0**
AMAZ	**Amatzia**	**5.28 143**	Pn	**Pn**	**17 42 38.2 +1.0**
RSH		**5.29 156**	P	**Pn**	**17 42 37.9 +0.7**
	baz=155				
RSH		**5.29 156**	P	**Pn**	**17 42 37.9 +0.7**
SIGR	**SIGRI**	**5.43 310**	P	**Pn**	**17 42 39.4 +0.3**
SIGR			S	**Sn**	**17 43 38.9 -1.5**
SIGR	**SIGRI**	**5.43 310**	P	**Pn**	**17 42 39.4 +0.3**
SIGR			S	**Sn**	**17 43 38.9 -1.5**
SIGR	**SIGRI**	**5.43 310**	P	**Pn**	**17 42 39.4 +0.3**
SIGR			S	**Sn**	**17 43 38.9 -1.5**
DSI	**Dead Sea**	**5.49 139**	Pn	**Pn**	**17 42 41.6 +1.6**
DSI	**Dead Sea**	**5.49 139**	Pn	**Pn**	**17 42 41.6 +1.6**
YTIR	**Yattir**	**5.52 142**	Pn	**Pn**	**17 42 42.5 +2.0**
YTIR	**Yattir**	**5.52 142**	Pn	**Pn**	**17 42 42.5 +2.0**
SALA	**Sala**	**5.54 122**	*eP*	**Pn**	**17 42 39.5 -1.4**
SALA			*eS*	Sn	17 43 33.1 -10
SALA			AML	AML	17 43 57.8
	comp=E,7.6nm,0.7s				
SALA			AML	AML	17 44 01.7
	comp=N,91nm,0.6s				
MATC	**Matruh**	**5.55 218**	P	**Pn**	**17 42 42.5 +1.6**
	baz=217				
KZIT	**Kziot**	**5.58 150**	Pn	**Pn**	**17 42 42.7 +1.4**
KZIT			Sn	**Sn**	**17 43 44.8 +0.4**
KZIT	**Kziot**	**5.58 150**	Pn	**Pn**	**17 42 42.7 +1.4**
KZIT			Sn	**Sn**	**17 43 44.8 +0.4**
MZDA	**Masada**	**5.69 141**	Pn	**Pn**	**17 42 44.0 +1.3**
MZDA	**Masada**	**5.69 141**	Pn	**Pn**	**17 42 44.0 +1.3**
VAM	**Vamos**	**5.71 268**	P	**Pn**	**17 42 43.2 +0.2**
VAM	**Vamos**	**5.71 268**	P	**Pn**	**17 42 43.2 +0.2**
VAM	**Vamos**	**5.71 268**	P	**Pn**	**17 42 43.2 +0.2**
HMAT	**Matruh**	**5.82 217**	P	**Pn**	**17 42 42.5 -2.1**
IMMV	**Iera Moni Meta**	**5.88 269**	P	**Pn**	**17 42 46.3 +0.9**
IMMV	**Iera Moni Meta**	**5.88 269**	P	**Pn**	**17 42 46.3 +0.9**
GVD	**Gavdhos**	**5.89 263**	P	**Pn**	**17 42 45.7 +0.2**
GVD			S	**Sn**	**17 43 48.8 -3.0**
GVD	**Gavdhos**	**5.89 263**	P	**Pn**	**17 42 45.7 +0.2**
GVD			S	**Sn**	**17 43 48.8 -3.0**
GVD	**Gavdhos**	**5.89 263**	P	**Pn**	**17 42 45.7 +0.2**
GVD			S	**Sn**	**17 43 48.8 -3.0**
HHAG	**Hagoal**	**5.90 172**	P	**Pn**	**17 42 46.2 +0.5**
	baz=171				
HHAG			S	**Sn**	**17 43 50.1 -2.1**
	baz=171				
HHAG	**Hagoal**	**5.90 172**	P	**Pn**	**17 42 46.2 +0.5**
HHAG			S	**Sn**	**17 43 50.1 -2.1**
KOT	**Kottamia**	**5.90 175**	P	**Pn**	**17 42 46.5 +0.8**
	baz=173				
KOT			AMP		17 43 00.0
	comp=N,80μm,0.3s,logA/T=5.5,baz=173				
KOT			S	**Sn**	**17 43 48.2 -3.9**
	baz=173				
KOT	**Kottamia**	**5.90 175**	P	**Pn**	**17 42 46.5 +0.8**
ASF	**Jabal al Asfar**	**5.97 126**	Pn	**Pn**	**17 42 48.6 +1.8**
	comp=N,0.4nm,0.3s,baz=37,slow=5.1,SNR=3.3				
ASF			Sn	**Sn**	**17 43 57.4 +3.3**
	comp=N,1.6nm,0.3s,baz=307,slow=5.1,SNR=3.2				
SUZ	**Suez**	**6.12 166**	P	**Pn**	**17 42 49.6 +0.9**
	baz=165				
SUZ	**Suez**	**6.12 166**	P	**Pn**	**17 42 49.6 +0.9**
HSAF	**As Saff**	**6.19 177**	P	**Pn**	**17 42 50.3 +0.6**
	baz=176				
HSAF	**As Saff**	**6.19 177**	P	**Pn**	**17 42 50.3 +0.6**
GLL	**Jalalah**	**6.24 176**	P	**Pn**	**17 42 50.5 +0.2**
	baz=174				
GLL	**Jalalah**	**6.24 176**	P	**Pn**	**17 42 50.5 +0.2**
LIA	**Limnos Island**	**6.26 312**	P	**Pn**	**17 42 51.4 +0.9**
LIA			S	**Sn**	**17 43 59.1 -1.7**
LIA	**Limnos Island**	**6.26 312**	P	**Pn**	**17 42 51.4 +0.9**
LIA	**Limnos Island**	**6.26 312**	P	**Pn**	**17 42 51.4 +0.9**
LIA			S	**Sn**	**17 43 59.1 -1.7**
VLY	**Voula,Athens**	**6.27 291**	P	**Pn**	**17 42 51.1 +0.4**
VLY	**Voula,Athens**	**6.27 291**	P	**Pn**	**17 42 51.1 +0.4**
VLY	**Voula,Athens**	**6.27 291**	P	**Pn**	**17 42 51.1 +0.4**
PRNI	**Paran**	**6.32 149**	Pn	**Pn**	**17 42 52.4 +0.9**
PRNI	**Paran**	**6.32 149**	Pn	**Pn**	**17 42 52.4 +0.9**
ANKY	**Antikythira Is**	**6.41 273**	P	**Pn**	**17 42 53.0 +0.4**
ANKY			S	**Sn**	**17 44 00.4 -4.2**
ANKY	**Antikythira Is**	**6.41 273**	P	**Pn**	**17 42 53.0 +0.4**
ANKY	**Antikythira Is**	**6.41 273**	P	**Pn**	**17 42 53.0 +0.4**
ALN	**Alexandroupoli**	**6.48 323**	P	**Pn**	**17 42 54.2 +0.6**
ALN			S	**Sn**	**17 44 07.2 +0.8**
ALN	**Alexandroupoli**	**6.48 323**	P	**Pn**	**17 42 54.2 +0.6**
ALN			S	**Sn**	**17 44 07.2 +0.8**
ALN	**Alexandroupoli**	**6.48 323**	P	**Pn**	**17 42 54.2 +0.6**
SLUM	**Salum**	**6.59 231**	P	**Pn**	**17 42 54.3 -0.8**
	baz=230				
DID	**Didima**	**6.61 287**	P	**Pn**	**17 42 56.7 +1.3**
DID	**Didima**	**6.61 287**	P	**Pn**	**17 42 56.7 +1.3**
DID	**Didima**	**6.61 287**	P	**Pn**	**17 42 56.7 +1.3**
HRFI	**Mount Harif**	**6.61 150**	Pn	**Pn**	**17 42 56.5 +1.1**
HRFI	**Mount Harif**	**6.61 150**	Pn	**Pn**	**17 42 56.5 +1.1**
KYTH	**Kithira**	**6.61 276**	P	**Pn**	**17 42 55.8 +0.4**
KYTH			S	**Sn**	**17 44 05.6 -4.1**
KYTH	**Kithira**	**6.61 276**	P	**Pn**	**17 42 55.8 +0.4**
ZAF	**Zafarana**	**6.62 170**	P	**Pn**	**17 42 56.4 +0.9**
	baz=168				
ZAF	**Zafarana**	**6.62 170**	P	**Pn**	**17 42 56.4 +0.9**
AOS	**Alonnisos**	**6.70 302**	P	**Pn**	**17 42 57.3 +0.6**
AOS	**Alonnisos**	**6.70 302**	P	**Pn**	**17 42 57.3 +0.6**
AOS	**Alonnisos**	**6.70 302**	P	**Pn**	**17 42 57.3 +0.6**
VILL	**Villia**	**6.72 293**	P	**Pn**	**17 42 57.9 +0.9**
VILL	**Villia**	**6.72 293**	P	**Pn**	**17 42 57.9 +0.9**
VLI	**Veliai**	**6.73 280**	P	**Pn**	**17 42 57.3 +0.3**
VLI			S	**Sn**	**17 44 09.4 -3.1**
VLI	**Veliai**	**6.73 280**	P	**Pn**	**17 42 57.3 +0.3**
VLI			S	**Sn**	**17 44 09.4 -3.1**
VLI	**Veliai**	**6.73 280**	P	**Pn**	**17 42 57.3 +0.3**
MBRI	**Mt Berech**	**6.78 151**	Pn	**Pn**	**17 42 58.8 +1.0**
MBRI			Sn	**Sn**	**17 44 15.0 +1.2**
MBRI	**Mt Berech**	**6.78 151**	Pn	**Pn**	**17 42 58.8 +1.0**
MBRI			Sn	**Sn**	**17 44 15.0 +1.2**
EIL	**Elat**	**6.90 152**	Pn	**Pn**	**17 43 00.9 +1.5**
	comp=N,7.7nm,0.3s,baz=333,slow=6.6,SNR=64				
EIL			Sn	**Sn**	**17 44 15.1 -1.7**
	comp=N,2.5nm,0.3s,baz=14,slow=7.4,SNR=3.6				
EIL	**Elat**	**6.90 152**	Pn	**Pn**	**17 43 00.3 +0.9**
EIL	**Elat**	**6.90 152**	Pn	**Pn**	**17 43 00.3 +0.9**
EIL			Sn	**Sn**	**17 44 15.1 -1.7**
EDRB	**Edirne**	**6.95 331**	P	**Pn**	**17 43 01.1 +1.1**
EDRB			S	**Sn**	**17 44 17.2 -0.6**
EDRB	**Edirne**	**6.95 331**	P	**Pn**	**17 43 01.1 +1.1**
EDRB	**Edirne**	**6.95 331**	P	**Pn**	**17 43 01.1 +1.1**
EDRB			S	**Sn**	**17 44 17.2 -0.6**
SKIA	**Skiathos**	**6.99 301**	P	**Pn**	**17 43 01.6 +1.0**
SKIA	**Skiathos**	**6.99 301**	P	**Pn**	**17 43 01.6 +1.0**
HBST	**Basata**	**7.23 155**	P	**Pn**	**17 43 05.1 +1.1**
	baz=154				
HBST	**Basata**	**7.23 155**	P	**Pn**	**17 43 05.1 +1.1**
NUB		**7.37 156**	P	**Pn**	**17 43 07.7 +1.8**
	baz=155				
DSF	**Desfina**	**7.39 293**	P	**Pn**	**17 43 07.5 +1.4**
DSF	**Desfina**	**7.39 293**	P	**Pn**	**17 43 07.5 +1.4**
DSF	**Desfina**	**7.39 293**	P	**Pn**	**17 43 07.5 +1.4**
KLV	**Kalavryta, Ach**	**7.57 290**	P	**Pn**	**17 43 10.3 +1.7**
KLV			S	**Sn**	**17 44 31.3 -2.0**
KLV	**Kalavryta, Ach**	**7.57 290**	P	**Pn**	**17 43 10.3 +1.7**
KLV			S	**Sn**	**17 44 31.3 -2.0**
KLV	**Kalavryta, Ach**	**7.57 290**	P	**Pn**	**17 43 10.3 +1.7**
KLV			S	**Sn**	**17 44 31.3 -2.0**
GRB	**Gharib**	**7.65 169**	P	**Pn**	**17 43 10.3 +0.6**
	baz=168				
GRB	**Gharib**	**7.65 169**	P	**Pn**	**17 43 10.3 +0.6**
HDHB	**Dhahab**	**7.65 157**	P	**Pn**	**17 43 10.7 +1.0**
	baz=156				
HDHB	**Dhahab**	**7.65 157**	P	**Pn**	**17 43 10.6 +1.0**
PYL	**PYLOS**	**7.70 281**	P	**Pn**	**17 43 10.0 -0.3**
PYL			S	**Sn**	**17 44 34.5 -1.9**
PYL	**PYLOS**	**7.70 281**	P	**Pn**	**17 43 10.0 -0.3**
PYL			S	**Sn**	**17 44 34.5 -1.9**
PYL	**PYLOS**	**7.70 281**	P	**Pn**	**17 43 10.0 -0.3**
PYL			S	**Sn**	**17 44 34.5 -1.9**
SERG	**Sergoula**	**7.74 292**	P	**Pn**	**17 43 11.1 +0.2**
SERG			S	**Sn**	**17 44 36.1 -1.4**
SERG	**Sergoula**	**7.74 292**	P	**Pn**	**17 43 11.1 +0.2**
SERG			S	**Sn**	**17 44 36.1 -1.4**
LAKA	**Lakka**	**7.75 291**	P	**Pn**	**17 43 13.1 +2.0**
LAKA			S	**Sn**	**17 44 36.3 -1.5**
LAKA	**Lakka**	**7.75 291**	P	**Pn**	**17 43 13.1 +2.0**
LAKA			S	**Sn**	**17 44 36.3 -1.5**
LAKA	**Lakka**	**7.75 291**	P	**Pn**	**17 43 13.1 +2.0**
LAKA			S	**Sn**	**17 44 36.3 -1.5**
DRO	**Drossia**	**7.89 288**	P	**Pn**	**17 43 15.3 +2.4**
DRO			S	**Sn**	**17 44 37.8 -3.3**
DRO	**Drossia**	**7.89 288**	P	**Pn**	**17 43 15.3 +2.4**
ANX	**Ano Chora**	**7.90 293**	P	**Pn**	**17 43 14.4 +1.3**
ANX	**Ano Chora**	**7.90 293**	P	**Pn**	**17 43 14.4 +1.3**
SWA2		**8.15 218**	P	**Pn**	**17 43 16.2 -0.3**
	baz=217				
THL	**Klokotos Trika**	**8.18 300**	P	**Pn**	**17 43 19.2 +2.3**
THL	**Klokotos Trika**	**8.18 300**	P	**Pn**	**17 43 19.2 +2.3**
SH2	**Sharm el Sheik**	**8.29 162**	P	**Pn**	**17 43 19.3 +0.9**
	baz=161				
SH2	**Sharm el Sheik**	**8.29 162**	P	**Pn**	**17 43 19.3 +0.9**
PDO	**Prodromos**	**8.45 292**	P	**Pn**	**17 43 23.3 +2.7**
PDO			S	**Sn**	**17 44 53.4 -1.5**
PDO	**Prodromos**	**8.45 292**	P	**Pn**	**17 43 23.3 +2.7**
PDO			S	**Sn**	**17 44 53.4 -1.5**
ZKS	**Zakynthos**	**8.56 286**	P	**Pn**	**17 43 23.6 +1.5**
ZKS			S	**Sn**	**17 44 54.5 -3.0**
ZKS	**Zakynthos**	**8.56 286**	P	**Pn**	**17 43 23.6 +1.5**
KFL	**Anninata**	**8.63 288**	P	**Pn**	**17 43 24.6 +1.5**
KFL	**Anninata**	**8.63 288**	P	**Pn**	**17 43 24.6 +1.5**
DSL	**Palaion Diasel**	**8.68 295**	P	Pn	17 43 28.6 +4.8
DSL			S	**Sn**	**17 44 59.0 -1.5**
DSL	**Palaion Diasel**	**8.68 295**	P	Pn	17 43 28.6 +4.8
DSL			S	**Sn**	**17 44 59.0 -1.5**
VLS	**Valsamata**	**8.80 289**	P	**Pn**	**17 43 26.0 +0.5**
VLS			S	**Sn**	**17 45 00.2 -3.3**
VLS	**Valsamata**	**8.80 289**	P	**Pn**	**17 43 26.0 +0.5**
VLS	**Valsamata**	**8.80 289**	P	**Pn**	**17 43 26.0 +0.5**
HHRG	**Al Ghardaqah**	**8.81 166**	P	**Pn**	**17 43 28.9 +3.3**
	baz=165				
LKD2	**Lefkada island**	**8.90 293**	P	**Pn**	**17 43 28.6 +1.8**
LKD2			S	**Sn**	**17 45 03.8 -2.1**
LKD2	**Lefkada island**	**8.90 293**	P	**Pn**	**17 43 28.6 +1.8**
LKD2			S	**Sn**	**17 45 03.8 -2.1**
LKD2	**Lefkada island**	**8.90 293**	P	**Pn**	**17 43 28.6 +1.8**
HFRF	**Wahat Farafira**	**8.98 197**	P	**Pn**	**17 43 28.1 +0.1**
	baz=196				
HFRF	**Wahat Farafira**	**8.98 197**	P	**Pn**	**17 43 28.1 +0.1**
VTS	**Vitosha**	**9.17 320** ⇑	*iP*	**Pn**	**17 43 32.1 +1.5**
VTS	**Vitosha**	**9.17 320** ⇑	*iP*	**Pn**	**17 43 32.1 +1.5**
HSFG		**9.52 165**	P	**Pn**	**17 43 36.5 +1.2**
	baz=164				
HSFG		**9.52 165**	P	**Pn**	**17 43 36.5 +1.2**
CFR	**Carcaliu**	**9.63 347** ⇓	*iP*	**Pn**	**17 43 39.1 +2.3**
CFR	**Carcaliu**	**9.63 347** ⇓	*iP*	**Pn**	**17 43 39.1 +2.3**
KEK	**Kerkira**	**9.82 297**	P	**Pn**	**17 43 41.2 +1.8**
KEK			S	**Sn**	**17 45 25.8 -2.7**
KEK	**Kerkira**	**9.82 297**	P	**Pn**	**17 43 41.2 +1.8**
KEK	**Kerkira**	**9.82 297**	P	**Pn**	**17 43 41.2 +1.8**
KEK			S	**Sn**	**17 45 25.8 -2.7**
HDK1	**Dakhla**	**10.36 189**	P	**Pn**	**17 43 48.4 +1.6**
	baz=189				
HDK1	**Dakhla**	**10.36 189**	P	**Pn**	**17 43 48.4 +1.6**
MLR	**Muntele Rosu**	**10.45 339**	Pn	**Pn**	**17 43 48.4 +0.3**
	baz=84,slow=18				
MLR	**Muntele Rosu**	**10.45 339** ⇑	*iP*	Pn	17 43 55.2 +7.1
VOIR		**10.68 336** ⇑	*iP*	**Pn**	**17 43 54.0 +2.8**
VOIR		**10.68 336** ⇑	*iP*	**Pn**	**17 43 54.0 +2.8**
GNI	**Garni**	**11.53 64**	LR	LR	17 49 29.3
	comp=N,26nm,20.6s,baz=289,slow=43				
KBZ	**Khabaz**	**11.97 45**	LR	LR	17 49 16.9
	comp=N,27nm,20.3s,baz=165,slow=41				
KVAR	**Kislovodsk Arr**	**12.00 44**	Pn	Pn	17 44 14.8 +5.5
	baz=205,slow=18,SNR=4.9				
KVAR			LR	LR	17 49 41.5
	comp=N,20nm,19.0s,baz=35,slow=43				
BURAR	**Bucovina Array**	**12.60 341** ⇑	*iP*	**P**	**17 44 31.7 +3.2**
AKASG	**Malin Array Be**	**14.94 355**	Pn	**Pn**	**17 44 51.0 +1.7**
	comp=N,0.8nm,0.3s,baz=178,slow=9.5,SNR=3.8				
AKASG	**Malin Array Be**	**14.94 355**	Pn	**Pn**	**17 44 51.0 +1.7**
SOKA	**Soboth**	**16.26 317**	*i* pP	**P**	**17 45 14.9 +5.8**
	comp=N,3.0nm,1.2s				
ARSA	**Arzberg**	**16.34 319**	*i* P	**P**	**17 45 12.4 +2.4**
	comp=N,3.1nm,1.1s				
ARSA	**Arzberg**	**16.34 319**	P	**P**	**17 45 12.4 +2.4**
	comp=N,3.1nm,1.1s				
OBKA	**Obir**	**16.43 316**	*i* P	**P**	**17 45 13.8 +2.8**
	comp=N,7.2nm,1.3s				
OBKA	**Obir**	**16.43 316**	P	**P**	**17 45 13.9 +2.8**
	comp=N,7.2nm,1.3s				
MYKA	**Terra Mystica**	**17.02 315**	*i* Pn	**P**	**17 45 18.7 +1.2**
	comp=N,0.7nm,0.4s				
MYKA	**Terra Mystica**	**17.02 315**	P	**P**	**17 45 18.7 +1.2**
	comp=N,0.7nm,0.4s				
KBA	**Koelnbreinsper**	**17.43 316**	*i* Pn	**P**	**17 45 23.8 +1.5**
	comp=N,4.2nm,0.9s				
KBA	**Koelnbreinsper**	**17.43 316**	P	**P**	**17 45 23.8 +1.5**
	comp=N,4.2nm,0.9s				
KEST	**Kesra**	**17.73 276**	P	**P**	**17 45 26.1 +0.6**
	comp=N,0.2nm,0.3s,baz=30,slow=8.1,SNR=3.5				
ABTA	**Abfaltersbach**	**17.74 314**	*i* Pn	**P**	**17 45 26.9 +1.4**
	comp=N,3.3nm,1.0s				
ABTA	**Abfaltersbach**	**17.74 314**	P	**P**	**17 45 26.9 +1.4**
	comp=N,3.3nm,1.0s				
GERES	**GERESS Array B**	**18.29 321**	P	**Pn**	**17 45 32.2 +0.6**
	comp=N,0.1nm,0.3s,baz=129,slow=13,SNR=6.4				
WTTA	**Wattenberg**	**18.52 314**	*i* P	**Pn**	**17 45 35.2 +0.7**
	com

OFUJ	**Ofunato**	**2.76**	**316**	P	**Pn**	17 44 41.7	**+0.4**	
OFUJ				*e*S	**Sn**	17 45 12.6	**-0.9**	
JMM	**Marumori**	**2.77**	**287**	P	**Pn**	17 44 42.0	**+0.6**	
JMK	**Ichinoseki**	**2.94**	**309**	P	**Pn**	17 44 44.5	**+0.7**	
JFT	**Otama**	**3.06**	**278**	P	**Pn**	17 44 46.6	**+1.1**	
JOM	**Ohasama**	**3.25**	**317**	P	**Pn**	17 44 48.9	**+0.9**	
JOM				*e*S	**Sn**	17 45 25.4	**0.0**	
JYK	**Kaneyama**	**3.48**	**302**	P	**Pn**	17 44 52.6	**+1.3**	
JYK				*e*S	**Sn**	17 45 32.8	**+1.5**	
BSO1	**Boso 1**	**3.56**	**227**	P	**Pn**	17 44 51.0	**-0.9**	
JRY	**Ryogami san**	**4.36**	**257**	P	**Pn**	17 45 03.2	**-0.2**	
JRY				*e*S	**Sn**	17 45 50.5	**-2.5**	
MJAR	**Matsushiro Arr**	**4.80**	**265**	Pn	**Pn**	17 45 10.8	**+1.4**	
	2.1nm,0.3s,baz=86,slow=14,SNR=19							
MJAR				Sn	**Sn**	17 46 04.2	**+0.5**	
	1.1nm,0.3s,baz=89,slow=29,SNR=3.7							
MAT	**Matsushiro**	**4.80**	**265**	P	**Pn**	17 45 11.1	**+1.7**	
MAT				S	**Sn**	17 46 05.4	**+1.6**	
JHJ2	**Mitsune**	**5.35**	**223**	P	**Pn**	17 45 16.6	**-0.3**	
JHJ	**Hachijo jima 2**	**5.36**	**223**	Pn	**Pn**	17 45 14.6	**-2.6**	
	6.8nm,0.3s,baz=75,slow=20,SNR=7.2							
JHJ				Sn	**Sn**	17 46 11.1	**-6.6**	
	15nm,0.3s,baz=57,slow=18,SNR=4.5							
NEM2	**Nemuro 2**	**6.35**	**11**	P	**Pn**	17 45 28.9	**-1.7**	
NEM2				*e*S	**Sn**	17 46 35.7	**-6.2**	
JTKR	**Abashiri--Toko**	**6.84**	**359**	P	**Pn**	17 45 37.1	**-0.2**	
JTKR				*e*S	**Sn**	17 46 50.2	**-3.7**	
KSRS	**Korea Array**	**12.93**	**276**	LR	LR	17 51 24.4		
	comp=Z,14nm,19.4s,baz=45,slow=34							
H11N2	**WAKE ISLAND Hy**	**26.36**	**125**	T	T	18 16 29.9		
	baz=317,slow=76,SNR=30							
H11N1	**WAKE ISLAND Hy**	**26.37**	**125**	T	T	18 16 32.1		
	baz=317,slow=76,SNR=16							
H11N3	**WAKE ISLAND Hy**	**26.38**	**125**	T	T	18 16 31.0		
	baz=317,slow=76,SNR=23							
H11S1	**WAKE ISLAND Hy**	**27.12**	**127**	T	T	18 17 24.0		
	baz=318,slow=74,SNR=7.9							
H11S3	**WAKE ISLAND Hy**	**27.12**	**127**	T	T	18 17 24.1		
	baz=318							
H11S2	**WAKE ISLAND Hy**	**27.14**	**127**	T	T	18 17 24.7		
	baz=318,slow=74,SNR=8.1							
KAPI	**Kappang**	**47.70**	**214**	LR	LR	18 15 00.2		
	comp=Z,49nm,18.3s,baz=183,slow=39							
ILAR	**Eielson Array**	**48.25**	**32**	P	**P**	**17 52 38.8**	**+2.2**	
	0.2nm,0.6s,baz=261,slow=5.4,SNR=3.4							
WRA	**Warramunga Arr**	**57.51**	**191**	P	**P**	**17 53 45.2**	**-0.2**	
	0.6nm,0.5s,baz=10,slow=7.2,SNR=9.7							
ASAR	**Alice Springs**	**61.23**	**191**	P	**P**	**17 54 10.9**	**-0.2**	
	0.2nm,0.5s,baz=3.4,slow=6.7,SNR=12							

GUC 04 17:48:23.8±0.6, 35.26S×72.46W, h23km±2km, ML3.7, 2C-2D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TALC	**Talca**	**0.69**	**102**	↑*i* P	Pb	17 48 36.3	-0.9
TALC				*i* S	Sb	17 48 45.1	-1.1
COCH	**Cobquecura**	**0.91**	**197**	↑*i* P	Pb	17 48 39.2	-1.6
COCH				*i* S	Sb	17 48 51.2	-1.3
COCH				IAML		17 48 53.5	
	comp=E,3μm,0.7s						
LNCH	**Linares**	**0.91**	**130**	↓*i* P	Pn	17 48 45.0	+3.8
LNCH				*i* S	Sn	17 48 56.5	+2.9
CHPI	**Pichilemu**	**0.95**	**23**	*i* P	Pb	17 48 40.3	-1.2
CHPI				*i* S	Sb	17 48 52.2	-1.4
CHPI				IAML		17 48 56.0	
	comp=E,2μm,0.3s						
NICH	**Los Niches**	**1.04**	**76**	↓*i* P	Pn	17 48 42.0	-1.0
NICH				*i* S	Sb	17 48 55.3	-1.1
CCHI	**Chillan**	**1.37**	**167**	*i* P	Pn	17 48 47.0	-0.5
CCHI				*i* S	Sn	17 49 04.4	-0.5
ANTU	**Antumapu**	**2.27**	**42**	*e*P	Pn	17 49 00.4	+0.6
ANTU				*i* S	Sn	17 49 28.4	+1.3
ANTU				IAML		17 49 33.3	
	comp=E,901nm,0.4s						
CLCH	**Cerro Calan**	**2.45**	**41**	*e*P	Pn	17 49 03.1	+0.7
CLCH				*i* S	Sn	17 49 33.4	+1.7
CLCH				IAML		17 49 41.3	
	comp=E,983nm,0.8s						
PEL	**Peldehue**	**2.58**	**35**	*e*P	Pn	17 49 04.9	+0.7
PEL				*i* S	Sn	17 49 35.8	+1.0
PEL				IAML		17 49 44.1	
	comp=E,343nm,0.7s						
ROCH	**El Roble**	**2.58**	**28**	*e*P	Pn	17 49 04.8	+0.5
ROCH				*i* S	Sn	17 49 36.9	+1.7
ROCH				IAML		17 49 48.9	
	comp=N,510nm,0.5s						
FCH	**Farellones**	**2.64**	**44**	*e*P	Pn	17 49 06.2	+0.9

*ISCJB **04** 17:58:31.9±0.7, 24.39S×0.08×179.8W×0.1, h490km, mb3.8/6, Error ellipse: s-maj=14.4km s-min=8.4km az=28.0*

*IDC **04** 17:58:31.8±2.3, 24.39S×179.73W, h477km±28km, mb3.2/6, mb1 3.3/9, mb1mx3.1/37, mbtmp4.2/9, Error ellipse: s-maj=24.0km s-min=19.5km az=108.0*

ISC 04 17:58:32.3±0.9, 24.43S±0.10×179.7W±0.1, h490km, n12, σ0≥95/15, mb3.8/6, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**12.84**	**37**	P	**P**	**18 01 20.7**	**+0.7**
	1.0nm,0.3s,baz=46,slow=23,SNR=2.5						
AFI				S	**S**	**18 03 37.1**	**-1.2**
	1.5nm,0.3s,baz=48,slow=20,SNR=3.3						
DZM	**Mont Dzumac**	**12.99**	**278**	P	**P**	**18 01 22.0**	**+0.4**
	0.3nm,0.3s,baz=93,slow=17,SNR=3.5						
URZ	**Urewera**	**14.06**	**191**	P	**P**	**18 01 33.6**	**+1.0**
	0.7nm,0.3s,baz=305,slow=2.5,SNR=7.2						
URZ				S	**S**	**18 03 59.6**	**-1.6**
	0.2nm,0.3s,baz=75,slow=20,SNR=4.4						
RPZ	**Rata Peaks**	**20.69**	**199**	P	**P**	**18 02 37.1**	**-0.4**
	5.8nm,0.5s,baz=27,slow=6.5,SNR=7.2						
HNR	**Honiara**	**24.50**	**304**	P	**P**	**18 03 10.5**	**-1.6**
	27nm,0.5s,baz=130,slow=17,SNR=3.2						
CTA	**Charters Tower**	**31.79**	**271**	P	**P**	**18 04 16.3**	**+0.5**
	1.5nm,0.3s,baz=83,slow=11,SNR=6.9						
STKA	**Stephens Creek**	**34.82**	**249**	P	**P**	**18 04 41.5**	**+0.2**
	1.6nm,0.6s,baz=106,slow=8.2,SNR=6.9						
ASAR	**Alice Springs**	**42.26**	**261**	P	**P**	**18 05 41.8**	**-0.2**
	0.3nm,0.3s,baz=93,slow=6.3,SNR=37						
ASAR				PcP	**PcP**	**18 07 24.8**	**-0.1**
	0.2nm,0.6s,baz=97,slow=5.2,SNR=2.4						
WRA	**Warramunga Arr**	**42.68**	**267**	P	**P**	**18 05 44.8**	**-0.6**
	1.2nm,0.3s,baz=99,slow=8.2,SNR=28						
FITZ	**Fitzroy Crossi**	**51.10**	**266**	P	**P**	**18 06 48.9**	**-0.2**
	1.5nm,0.6s,baz=101,slow=9.0,SNR=8.6						
BRTR	**Keskin Array B**	**148.14**	**307**	PKPbc	**PKPbc**	**18 17 22.9**	**+0.2**
	0.3nm,0.6s,baz=83,slow=4.5,SNR=2.5						
MMAI	**Mount Meron Ar**	**148.20**	**294**	PKPbc	**PKPbc**	**18 17 24.1**	**+1.1**
	0.9nm,0.4s,baz=71,slow=8.9,SNR=4.4						

*ISCJB **04** 18:09:53.6±0.5, 50.22N±0.02×12.51E±0.03, h14km±5km, Error ellipse: s-maj=3.4km s-min=3.2km az=167.6*

*IASPEI **04** 18:09:54.7±0.8, 50.23N±0.02×12.46E±0.02, h11km±4km, Error ellipse: s-maj=3.5km s-min=2.5km az=86.4, GT5 selection from ISC bulletin GT5 identified by Bond˙jr and McLaughlin (2009) selection criteria Bond˙jr and McLaughlin, A new ground truth data set for seismic studies, Seism. Res. Let., 80, 465-472, 2009*

*CSEM **04** 18:09:54.7±0.1, 50.23N×12.49E, h10km, ML2.9/6, Error ellipse: s-maj=1.7km s-min=1.4km az=53.0*

*BGR **04** 18:09:54.8±0.2, 50.24N×12.45E, h12km±1km, ML2.1/6, Error ellipse: s-maj=2.2km s-min=1.1km az=102.0*

*PRU **04** 18:09:54.9, 50.24N×12.48E, h10km, West Bohemia Swarm*

ISC 04 18:09:54.7±0.8, 50.23N±0.02×12.47E±0.02, h11km±4km, n44, σ0≥47/78, 6D, Germany

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NKC	**Novy Kostel**	**0.02**	**272**	↓*e*PG	**Pg**	**18 09 56.9**	**+0.2**
NKC				*e*SG	**Sg**	**18 09 57.7**	**-0.4**
	comp=Z,395nm,0.2s						
NKC	**Novy Kostel**	**0.02**	**272**	*e*Pg	**Pg**	**18 09 56.9**	**+0.2**
NKC				*e*Sg	**Sg**	**18 09 58.0**	**-0.1**
NKC	**Novy Kostel**	**0.02**	**272**	Pg	**Pg**	**18 09 56.9**	**+0.2**
WERN	**Wernitzgruen**	**0.08**	**311**	*e*Pg	**Pg**	**18 09 57.4**	**+0.1**
WERN				*e*Sg	**Sg**	**18 09 58.8**	**-0.3**
ROHR	**Rohrbach**	**0.10**	**271**	*e*Pg	**Pg**	**18 09 57.5**	**0.0**
ROHR				*e*Sg	**Sg**	**18 09 59.0**	**-0.5**
GUNZ	**Gunzen**	**0.16**	**325**	*e*Pg	**Pg**	**18 09 58.6**	**+0.2**
GUNZ				*e*Sg	**Sg**	**18 10 00.7**	**-0.2**
GUNZ	**Gunzen**	**0.16**	**325**	Pg	**Pg**	**18 09 58.6**	**+0.2**
MULD	**Muldenberg**	**0.18**	**346**	*e*Pg	**Pg**	**18 09 59.0**	**+0.2**
MULD				*e*Sg	**Sg**	**18 10 01.4**	**-0.2**
WERD	**Werda**	**0.24**	**334**	*e*Pg	**Pg**	**18 09 59.9**	**+0.2**
WERD				*e*Sg	**Sg**	**18 10 02.8**	**-0.3**
WERD	**Werda**	**0.24**	**334**	Pg	**Pg**	**18 09 59.9**	**+0.2**
TRIB	**Obertriebel**	**0.25**	**299**	*e*Pg	**Pg**	**18 09 59.9**	**0.0**
TRIB				*e*Sg	**Sg**	**18 10 03.0**	**-0.3**
TRIB	**Obertriebel**	**0.25**	**299**	Pg	**Pg**	**18 09 59.9**	**0.0**
TRIB				Sg	**Sg**	**18 10 03.0**	**-0.3**
PLN	**Plauen**	**0.32**	**321**	*e*Pg	**Pg**	**18 10 01.3**	**+0.1**
PLN				*e*Sg	**Sg**	**18 10 05.4**	**-0.2**
PLN	**Plauen**	**0.32**	**321**	Pg	**Pg**	**18 10 01.3**	**+0.1**
PLN				Sg	**Sg**	**18 10 05.4**	**-0.2**
SCHF	**Schoenfels**	**0.45**	**354**	*e*Pg	**Pg**	**18 10 03.7**	**+0.2**
SCHF				*e*Sg	**Sg**	**18 10 09.7**	**+0.2**
SCHF	**Schoenfels**	**0.45**	**354**	Pg	**Pg**	**18 10 03.7**	**+0.2**
SCHF				Sg	**Sg**	**18 10 09.7**	**+0.2**
ROTZ	**Rotzenmuhle**	**0.50**	**200**	*e*Pg	**Pg**	**18 10 04.8**	**+0.4**
ROTZ				*e*Sg	**Sg**	**18 10 11.4**	**+0.4**
ROTZ	**Rotzenmuhle**	**0.50**	**200**	Pg	**Pg**	**18 10 04.8**	**+0.4**
ROTZ				Sg	**Sg**	**18 10 11.4**	**+0.4**
MOX	**Moxa**	**0.69**	**307**	*e*Pg	**Pg**	**18 10 07.9**	**-0.1**
MOX				*e*Sg	**Sg**	**18 10 16.5**	**-0.6**
FBE	**Freiberg**	**0.89**	**39**	*e*Pg	**Pb**	**18 10 12.3**	**+0.1**
FBE				*e*Sg	**Sg**	**18 10 23.5**	**0.0**
FBE	**Freiberg**	**0.89**	**39**	Pg	**Pb**	**18 10 12.3**	**+0.1**
FBE				Sg	**Sg**	**18 10 23.5**	**0.0**
GRF	**Grafenberg Arr**	**0.97**	**237**	*e*Pg	**Pg**	**18 10 13.5**	**0.0**
GRF				*e*Sg	**Sg**	**18 10 25.7**	**-0.4**
WET	**Wettzell**	**1.12**	**166**	↓*e*PG	**Pb**	**18 10 16.1**	**-0.1**
WET				*e*SG	**Sg**	**18 10 30.3**	**-0.5**
WET	**Wettzell**	**1.12**	**166**	*e*Pg	**Pb**	**18 10 16.0**	**-0.1**
WET				*e*Sg	**Sg**	**18 10 30.3**	**-0.5**
WET	**Wettzell**	**1.12**	**166**	Pg	**Pb**	**18 10 16.0**	**-0.1**
WET				Sg	**Sg**	**18 10 30.3**	**-0.5**
CLL	**Collm**	**1.13**	**17**	*e*Pg	**Pb**	**18 10 15.8**	**-0.5**
CLL				*e*Sg	**Sg**	**18 10 30.8**	**-0.3**
CLL	**Collm**	**1.13**	**17**	Pg	**Pb**	**18 10 15.8**	**-0.5**
CLL				Sg	**Sg**	**18 10 30.8**	**-0.3**
CLL	**Collm**	**1.13**	**17**	*i* Pg	**Pb**	**18 10 16.2**	**-0.1**
CLL				*i*		18 10 18.4	
CLL				*i* Sg	**Sb**	**18 10 31.4**	**+0.5**
	comp=Z,11nm,0.3s						
BRG	**Berggiesshubel**	**1.14**	**55**	PG	**Pg**	**18 10 16.6**	**0.0**
BRG				SG	**Sg**	**18 10 31.4**	**0.0**
	comp=Z,29nm,0.2s						
BRG	**Berggiesshubel**	**1.14**	**55**	*e*Pg	**Pn**	**18 10 16.7**	**+0.1**
BRG				*e*Sg	**Sb**	**18 10 31.1**	**-0.1**
BRG	**Berggiesshubel**	**1.14**	**55**	Pg	**Pn**	**18 10 16.7**	**+0.1**
BRG				Sg	**Sb**	**18 10 31.1**	**-0.1**
PRA	**Prague**	**1.27**	**97**	↓*e*SG	**Sn**	**18 10 36.0**	**+0.5**
	comp=Z,4.4nm,0.2s						
PRA	**Prague**	**1.27**	**97**	Sg	**Sn**	**18 10 36.0**	**+0.5**
	comp=Z,4.4nm,0.2s						
KHC	**Kasperske Hory**	**1.32**	**147**	*e*PG	**Pg**	**18 10 20.2**	**+0.2**
KHC				*e*SG	**Sb**	**18 10 35.9**	**-0.5**
	comp=Z,8.9nm,0.2s						
KHC	**Kasperske Hory**	**1.32**	**147**	Pg	**Pg**	**18 10 20.2**	**+0.2**
KHC				Sg	**Sb**	**18 10 35.9**	**-0.5**
	comp=Z,8.9nm,0.2s						
PRU	**Pruhonice**	**1.35**	**100**	↓*e*PG	**Pb**	**18 10 20.3**	**+0.2**
PRU				*e*SG	**Sg**	**18 10 38.1**	**-0.2**
	comp=Z,14nm,0.2s						
PRU	**Pruhonice**	**1.35**	**100**	Pg	**Pb**	**18 10 20.3**	**+0.2**
PRU				Sg	**Sg**	**18 10 38.1**	**-0.2**
	comp=Z,14nm,0.2s						
PVCC	**Panska Ves**	**1.37**	**77**	↓*e*SG	**Sg**	**18 10 39.3**	**+0.4**
	comp=Z,18nm,0.2s						
PVCC	**Panska Ves**	**1.37**	**77**	Sg	**Sg**	**18 10 39.3**	**+0.4**
	comp=Z,18nm,0.2s						
GOPC	**GO Pecny, Ondr**	**1.52**	**101**	*e*PG	**Pb**	**18 10 23.3**	**+0.3**
GOPC				*e*SG	**Sg**	**18 10 43.7**	**0.0**
	comp=Z,4.7nm,0.2s						
GOPC	**GO Pecny, Ondr**	**1.52**	**101**	Pg	**Pb**	**18 10 23.3**	**+0.3**
GOPC				Sg	**Sg**	**18 10 43.7**	**0.0**
	comp=Z,4.7nm,0.2s						
UPC	**Upice**	**2.28**	**82**	↓*e*SG	**Sg**	**18 11 06.2**	**-1.8**
	comp=Z,2.9nm,0.2s						
UPC	**Upice**	**2.28**	**82**	Sg	**Sg**	**18 11 06.2**	**-1.8**
	comp=Z,2.9nm,0.2s						
DPC	**Dobruska-Polom**	**2.47**	**86**	*e*SG	**Sg**	**18 11 12.1**	**-2.0**
	comp=Z,1.8nm,0.3s						

*IDC **04** 18:15:53.4±1.2, 38.38N×21.73E, h0km, mb3.6/4, mb1 3.4/9, mb1mx3.3/44, mbtmp3.2/9, ML3.3/5, MS2.8/2, Ms1 2.8/2, ms1mx2.3/31, Error ellipse: s-maj=21.4km s-min=17.7km az=80.0*

*ATH **04** 18:15:53.8, 38.41N×21.82E, h16km±1km, ML3.1/21, Error ellipse: s-maj=1.2km s-min=0.6km az=191.0*

*ISCJB **04** 18:15:54.1±0.2, 38.41N±0.01×21.81E±0.01, h6km±2km, mb3.6/4, Error ellipse: s-maj=1.9km s-min=1.7km az=140.3*

*THE **04** 18:15:54.4, 38.41N×21.82E, h4km, ML3.2/46, Error ellipse: s-maj=0.8km s-min=0.4km az=226.0*

*CSEM **04** 18:15:54.2±0.1, 38.40N×21.82E, h5km, ML3.4, Error ellipse: s-maj=1.6km s-min=1.5km az=57.0*

ISC 04 18:15:54.6±0.7, 38.41N±0.01×21.81E±0.01, h10km±4km, n209, σ0≥90/342, mb3.7/4, 2C-5D, Greece

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
UPR	**University Cam**	**0.12**	**189**	P	**Pg**	**18 15 12.0**	**-0.5**
UPR				S	**Sg**	**18 15 59.5**	**-0.1**
UPR	**University Cam**	**0.12**	**189**	P	**Pg**	**18 15 56.8**	**-0.7**
UPR				S	**Sg**	**18 15 59.5**	**-0.1**
UPR	**University Cam**	**0.12**	**189**	P	**Pg**	**18 15 56.9**	**-0.7**
UPR				S	**Sg**	**18 16 00.3**	**+0.8**
SERG	**Sergoula**	**0.19**	**88**	P	**Pg**	**18 15 58.2**	**-0.5**
SERG				S	**Sg**	**18 16 01.5**	**+0.1**
SERG	**Sergoula**	**0.19**	**88**	P	**Pg**	**18 15 58.0**	**-0.7**
SERG				S	**Sg**	**18 16 01.5**	**+0.1**
ANX	**Ano Chora**	**0.20**	**25**	P	**Pg**	**18 15 58.3**	**-0.6**
ANX				S	**Sg**	**18 16 01.9**	**0.0**
ANX	**Ano Chora**	**0.20**	**25**	P	**Pg**	**18 15 58.3**	**-0.6**
ANX				S	**Sg**	**18 16 01.9**	**0.0**
ANX	**Ano Chora**	**0.20**	**25**	S	**Sg**	**18 16 02.5**	**+0.6**
ANX				AML	AML	18 16 02.8	
	comp=N,22244μm,0.4s						
ANX				AML	AML	18 16 03.5	
	comp=E,32262μm,0.3s						
TRIZ	**Trizonia**	**0.21**	**101**	P	**Pg**	**18 15 58.2**	**-0.7**
TRIZ				S	**Sg**	**18 16 02.2**	**+0.3**
LAKA	**Lakka**	**0.21**	**142**	P	**Pg**	**18 15 58.2**	**-0.8**
LAKA				S	**Sg**	**18 16 01.7**	**-0.3**
LAKA	**Lakka**	**0.21**	**142**	P	**Pg**	**18 15 58.2**	**-0.8**
LAKA				S	**Sg**	**18 16 01.6**	**-0.4**
LAKA	**Lakka**	**0.21**	**142**	P	**Pg**	**18 15 58.2**	**-0.8**
LAKA				S	**Sg**	**18 16 01.5**	**-0.5**
LAKA				AML	AML	18 16 07.5	
	comp=E,9730μm,0.6s						
LAKA				AML	AML	18 16 09.5	
	comp=N,8695μm,0.7s						
KALE	**Kalithea**	**0.26**	**93**	P	**Pg**	**18 15 59.2**	**-0.6**
KALE				S	**Sg**	**18 16 03.7**	**+0.3**
KALE	**Kalithea**	**0.26**	**93**	P	**Pg**	**18 15 59.1**	**-0.7**
KALE				S	**Sg**	**18 16 03.7**	**+0.3**
KALE	**Kalithea**	**0.26**	**93**	P	**Pg**	**18 15 59.5**	**-0.3**
KALE				S	**Sg**	**18 16 04.1**	**+0.7**
KALE				AML	AML	18 16 05.6	
	comp=N,10854μm,0.2s						
KALE				AML	AML	18 16 05.8	
	comp=E,7088μm,0.2s						
PVO	**Paravola**	**0.31**	**313**	P	**Pg**	**18 16 00.1**	**-0.6**
PVO				S	**Sg**	**18 16 04.9**	**0.0**
PVO	**Paravola**	**0.31**	**313**	P	**Pg**	**18 16 00.1**	**-0.6**
PVO				S	**Sg**	**18 16 04.9**	**0.0**
PVO	**Paravola**	**0.31**	**313**	P	**Pg**	**18 15 59.8**	**-0.9**
PVO				S	**Sb**	**18 16 06.2**	**-1.1**
PVO				AML	AML	18 16 08.9	
	comp=E,23991μm,0.5s						
PVO				AML	AML	18 16 11.3	
	comp=N,15614μm,0.6s						
AXS	**Araxos**	**0.40**	**239**	P	**Pg**	**18 16 01.4**	**-1.1**
AXS				S	**Sg**	**18 16 07.5**	**-0.3**
AXS	**Araxos**	**0.40**	**239**	P	**Pg**	**18 16 01.6**	**-0.9**
AXS				S	**Sg**	**18 16 07.5**	**-0.3**
AXS	**Araxos**	**0.40**	**239**	P	**Pg**	**18 16 01.0**	**-1.4**
AXS				S	**Sg**	**18 16 07.5**	**-0.3**
RLS	**Riolos of Patr**	**0.44**	**218**	P	**Pg**	**18 16 02.6**	**-0.6**
RLS				S	**Sg**	**18 16 09.9**	**+0.9**
RLS	**Riolos of Patr**	**0.44**	**218**	P	**Pg**	**18 16 02.6**	**-0.6**
RLS				S	**Sg**	**18 16 09.9**	**+0.9**
RLS	**Riolos of Patr**	**0.44**	**218**	S	**Sb**	**18 16 10.5**	**-0.6**
RLS				AML	AML	18 16 11.5	
	comp=E,10351μm,0.5s						
RLS				AML	AML	18 16 15.3	
	comp=N,6988μm,0.6s						
KLV	**Kalavryta, Ach**	**0.45**	**144**	P	**Pg**	**18 16 02.4**	**-1.0**
KLV				S	**Sg**	**18 16 09.1**	**-0.2**
KLV	**Kalavryta, Ach**	**0.45**	**144**	P	**Pg**	**18 16 02.4**	**-1.0**
KLV				S	**Sg**	**18 16 09.1**	**-0.2**
KLV	**Kalavryta, Ach**	**0.45**	**144**	P	**Pg**	**18 16 02.0**	**-1.3**
KLV				S	**Sg**	**18 16 08.4**	**-0.9**
KLV				AML	AML	18 16 11.8	
	comp=E,2653μm,0.2s						
KLV				AML	AML	18 16 15.1	
	comp=N,2549μm,0.5s						
DRO	**Drossia**	**0.46**	**190**	P	**Pg**	**18 16 02.7**	**-0.9**
DRO				S	**Sg**	**18 16 10.3**	**+0.6**
DRO	**Drossia**	**0.46**	**190**	P	**Pg**	**18 16 02.7**	**-0.9**
DRO				S	**Sg**	**18 16 09.9**	**+0.2**
DRO	**Drossia**	**0.46**	**190**	P	**Pg**	**18 16 02.7**	**-0.9**
DRO				S	**Sb**	**18 16 11.6**	**-0.1**
DRO				AML	AML	18 16 14.1	
	comp=E,23502μm,0.4s						
DRO				AML	AML	18 16 16.3	
	comp=N,20192μm,0.7s						
EVR	**Evrytania**	**0.51**	**360**	P	**Pg**	**18 16 03.6**	**-1.0**
EVR				S	**Sg**	**18 16 11.0**	**-0.3**
EVR	**Evrytania**	**0.51**	**360**	P	**Pg**	**18 16 03.7**	**-0.8**
EVR				S	**Sg**	**18 16 11.0**	**-0.3**
EVR	**Evrytania**	**0.51**	**360**	P	**Pg**	**18 16 03.5**	**-1.0**
EVR				AML	AML	18 16 18.6	
	comp=N,9002μm,1.0s						
PDO	**Prodromos**	**0.53**	**291**	P	**Pg**	**18 16 03.5**	**-1.4**
PDO				S	**Sg**	**18 16 12.1**	**+0.3**
PDO	**Prodromos**	**0.53**	**291**	P	**Pg**	**18 16 03.5**	**-1.4**
PDO				S	**Sg**	**18 16 12.1**	**+0.3**
PDO	**Prodromos**	**0.53**	**291**	P	**Pg**	**18 16 02.7**	**-2.2**
PDO				S	**Sg**	**18 16 12.2**	**+0.3**
DSF	**Desfina**	**0.56**	**89**	P	**Pg**	**18 16 04.1**	**-1.4**
DSF				S	**Sg**	**18 16 12.3**	**-0.6**
DSF	**Desfina**	**0.56**	**89**	P	**Pg**	**18 16 04.7**	**-0.8**
DSF				S	**Sg**	**18 16 12.3**	**-0.6**
DSF	**Desfina**	**0.56**	**89**	P	**Pg**	**18 16 04.8**	**-0.7**
VTN	**Vitineika**	**0.69**	**225**	P	**Pg**	**18 16 07.1**	**-0.9**
VTN	**Vitineika**	**0.69**	**225**	P	**Pg**	**18 16 06.8**	**-1.1**
AGG	**Agios Georgios**	**0.74**	**33**	P	**Pg**	**18 16 07.3**	**-1.5**
AGG				S	**Sb**	**18 16 19.1**	**-0.6**
AGG	**Agios Georgios**	**0.74**	**33**	P	**Pg**	**18 16 07.7**	**-1.1**
AGG				S	**Sb**	**18 16 19.0**	**-0.6**
AGG	**Agios Georgios**	**0.74**	**33**	P	**Pg**	**18 16 07.5**	**-1.3**
AGG				S	**Sb**	**18 16 19.9**	**+0.2**
AGG				AML	AML	18 16 21.2	
	comp=E,15917μm,0.3s						
AGG				AML	AML	18 16 23.1	
	comp=N,6980μm,0.4s						
THAL	**Thalero**	**0.77**	**119**	P	**Pg**	**18 16 08.7**	**-0.6**
THAL				S	**Sb**	**18 16 20.6**	**+0.2**
THAL	**Thalero**	**0.77**	**119**	P	**Pg**	**18 16 08.5**	**-0.8**
THAL				S	**Sg**	**18 16 18.9**	**-0.4**
THAL	**Thalero**	**0.77**	**119**	P	**Pg**	**18 16 08.6**	**-0.8**
THAL				S	**Sg**	**18 16 18.7**	**-0.6**
THAL				AML	AML	18 16 25.3	
	comp=N,5381μm,0.2s						
THAL				AML	AML	18 16 32.8	
	comp=E,3573μm,0.3s						
KFL	**Anninata**	**0.86**	**250**	P	**Pg**	**18 16 10.4**	**-0.7**
KFL				S	**Sb**	**18 16 24.4**	**+1.2**
KFL	**Anninata**	**0.86**	**250**	P	**Pg**	**18 16 10.8**	**-0.3**
KFL				S	**Sb**	**18 16 23.3**	**+0.1**
KFL	**Anninata**	**0.86**	**250**	P	**Pg**	**18 16 11.1**	**0.0**
KFL				S	**Sb**	**18 16 24.0**	**+0.9**
PROD	**Prodromos**	**0.87**	**99**	P	**Pg**	**18 16 10.6**	**-0.7**
PROD	**Prodromos**	**0.87**	**99**	P	**Pg**	**18 16 10.9**	**-0.4**
AMT	**Artemida-Makis**	**0.88**	**185**	P	**Pg**	**18 16 10.9**	**-0.6**
AMT				S	**Sb**	**18 16 23.9**	**+0.2**
AMT	**Artemida-Makis**	**0.88**	**185**	P	**Pg**	**18 16 10.9**	**-0.6**
AMT				S	**Sb**	**18 16 23.9**	**+0.2**
AMT	**Artemida-Makis**	**0.88**	**185**	P	**Pg**	**18 16 10.2**	**-1.3**
DSL

SMIA	**Simia**	**1.19**	**66**	P	**Pb**	**18 16 16.6**	**-0.7**
SMIA				S	**Sn**	**18 16 34.6**	**+1.0**
SMIA	**Simia**	**1.19**	**66**	P	**Pb**	**18 16 16.6**	**-0.7**
SMIA				S	**Sn**	**18 16 34.6**	**+1.0**
SMIA	**Simia**	**1.19**	**66**	P	**Pb**	**18 16 17.0**	**-0.2**
VILL	**Villia**	**1.21**	**101**	P	**Pb**	**18 16 16.7**	**-0.8**
VILL				S	**Sn**	**18 16 34.1**	**+0.1**
VILL	**Villia**	**1.21**	**101**	P	**Pb**	**18 16 17.0**	**-0.5**
VILL				S	**Sn**	**18 16 33.8**	**-0.2**
ITM	**Ithomi**	**1.23**	**176**	P	**Pn**	**18 16 17.1**	**-0.7**
ITM				S	**Sn**	**18 16 36.0**	**+1.5**
ITM	**Ithomi**	**1.23**	**176**	P	**Pn**	**18 16 17.1**	**-0.7**
ITM				S	**Sn**	**18 16 36.0**	**+1.5**
FYTO	**Fytoko, Volos**	**1.33**	**41**	P	**Pb**	**18 16 19.5**	**-0.2**
FYTO				S	**Sb**	**18 16 36.7**	**-0.1**
FYTO	**Fytoko, Volos**	**1.33**	**41**	P	**Pb**	**18 16 19.5**	**-0.2**
FYTO				S	**Sb**	**18 16 36.7**	**-0.1**
FYTO	**Fytoko, Volos**	**1.33**	**41**	P	**Pg**	**18 16 20.2**	**0.0**
FYTO				S	**Sg**	**18 16 37.3**	**-0.1**
FYTO				AML	AML	18 16 40.8	
	comp=N,1033µm,0.8s						
FYTO				AML	AML	18 16 45.1	
	comp=E,366µm,0.5s						
NEO	**Neokhori**	**1.42**	**50**	P	**Pn**	**18 16 20.5**	**0.0**
NEO				S	**Sb**	**18 16 39.6**	**+0.2**
NEO	**Neokhori**	**1.42**	**50**	P	**Pn**	**18 16 20.5**	**0.0**
NEO				S	**Sb**	**18 16 39.6**	**+0.2**
DID	**Didima**	**1.44**	**128**	P	**Pn**	**18 16 20.8**	**0.0**
DID				S	**Sb**	**18 16 40.5**	**+0.6**
DID	**Didima**	**1.44**	**128**	P	**Pn**	**18 16 20.8**	**0.0**
DID				S	**Sb**	**18 16 40.5**	**+0.6**
DID	**Didima**	**1.44**	**128**	P	**Pb**	**18 16 21.4**	**-0.2**
DID				S	**Sg**	**18 16 42.5**	**+1.6**
DID				AML	AML	18 16 46.5	
	comp=E,924µm,0.6s						
DID				AML	AML	18 16 49.5	
	comp=N,1104µm,0.9s						
XOR	**Xorichti**	**1.44**	**48**	P	**Pn**	**18 16 20.9**	**+0.1**
XOR				S	**Sn**	**18 16 39.7**	**-0.1**
XOR	**Xorichti**	**1.44**	**48**	P	**Pn**	**18 16 20.9**	**+0.1**
XOR				S	**Sn**	**18 16 39.7**	**-0.1**
JAN	**Janina**	**1.46**	**329**	P	**Pb**	**18 16 21.9**	**+0.1**
JAN	**Janina**	**1.46**	**329**	S	**Sg**	**18 16 41.2**	**+0.3**
JAN	**Janina**	**1.46**	**329**	S	**Sb**	**18 16 40.8**	**+0.4**
JAN				AML	AML	18 16 55.1	
	comp=E,819µm,0.7s						
SKIA	**Skiathos**	**1.50**	**59**	P	**Pn**	**18 16 21.2**	**-0.4**
SKIA				S	**Sb**	**18 16 41.6**	**0.0**
SKIA	**Skiathos**	**1.50**	**59**	P	**Pn**	**18 16 21.5**	**-0.1**
SKIA				S	**Sb**	**18 16 41.6**	**0.0**
SKIA	**Skiathos**	**1.50**	**59**	P	**Pn**	**18 16 21.1**	**-0.5**
PYL	**PYLOS**	**1.51**	**182**	P	**Pn**	**18 16 21.7**	**0.0**
PYL				S	**Sg**	**18 16 43.4**	**+0.3**
PYL	**PYLOS**	**1.51**	**182**	P	**Pn**	**18 16 21.7**	**0.0**
PYL				S	**Sg**	**18 16 43.4**	**+0.3**
ATH	**Athens Observa**	**1.56**	**106**	P	**Pn**	**18 16 21.6**	**-0.8**
ATH				S	**Sb**	**18 16 43.2**	**-0.2**
ATH	**Athens Observa**	**1.56**	**106**	P	**Pn**	**18 16 21.6**	**-0.8**
ATH				S	**Sb**	**18 16 43.2**	**-0.2**
KPRO	**Kipourio**	**1.58**	**347**	P	**Pb**	**18 16 23.7**	**-0.3**
KPRO	**Kipourio**	**1.58**	**347**	P	**Pb**	**18 16 24.1**	**+0.1**
KPRO	**Kipourio**	**1.58**	**347**	P	**Pg**	**18 16 24.8**	**-0.2**
IGT	**Igoumenitsa**	**1.61**	**315**	P	**Pn**	**18 16 23.2**	**+0.1**
IGT				S	**Sn**	**18 16 43.5**	**-0.4**
IGT	**Igoumenitsa**	**1.61**	**315**	P	**Pn**	**18 16 23.2**	**+0.1**
IGT				S	**Sn**	**18 16 43.5**	**-0.4**
IGT	**Igoumenitsa**	**1.61**	**315**	P	**Pg**	**18 16 25.7**	**+0.3**
ATHU	**Athens Univers**	**1.61**	**105**	P	**Pn**	**18 16 22.5**	**-0.7**
ATHU				S	**Sn**	**18 16 44.2**	**+0.2**
ATHU	**Athens Univers**	**1.61**	**105**	P	**Pn**	**18 16 23.1**	**0.0**
ATHU				S	**Sb**	**18 16 44.8**	**-0.1**
ATHU	**Athens Univers**	**1.61**	**105**	P	**Pn**	**18 16 22.4**	**-0.7**
ATHU				S	**Sn**	**18 16 44.1**	**0.0**
ATHU				AML	AML	18 16 54.4	
	comp=E,93µm,0.6s						
ATHU				AML	AML	18 16 55.6	
	comp=N,224µm,0.5s						
PTL	**Penteli**	**1.66**	**102**	P	**Pn**	**18 16 23.7**	**0.0**
PTL				S	**Sb**	**18 16 45.8**	**-0.3**
PTL	**Penteli**	**1.66**	**102**	P	**Pn**	**18 16 23.7**	**0.0**
PTL				S	**Sb**	**18 16 45.8**	**-0.3**
PTL	**Penteli**	**1.66**	**102**	P	**Pn**	**18 16 23.1**	**-0.6**
VLY	**Voula,Athens**	**1.66**	**109**	P	**Pn**	**18 16 23.8**	**+0.1**
VLY				S	**Sn**	**18 16 45.6**	**+0.5**
VLY	**Voula,Athens**	**1.66**	**109**	P	**Pn**	**18 16 23.8**	**+0.1**
VLY				S	**Sn**	**18 16 45.6**	**+0.5**
VLY	**Voula,Athens**	**1.66**	**109**	P	**Pn**	**18 16 23.2**	**-0.5**
EREA	**Eretria**	**1.67**	**89**	P	**Pn**	**18 16 24.3**	**+0.4**
EREA				S	**Sn**	**18 16 45.0**	**-0.3**
EREA	**Eretria**	**1.67**	**89**	P	**Pn**	**18 16 24.3**	**+0.4**
EREA				S	**Sn**	**18 16 45.0**	**-0.3**
EREA	**Eretria**	**1.67**	**89**	P	**Pn**	**18 16 24.2**	**+0.4**
SGD	**Sagiada**	**1.72**	**315**	P	**Pb**	**18 16 26.2**	**-0.1**
SGD	**Sagiada**	**1.72**	**315**	P	**Pb**	**18 16 26.2**	**-0.1**
LIT	**Litokhoron**	**1.77**	**17**	P	**Pn**	**18 16 26.0**	**+0.7**
LIT				S	**Sn**	**18 16 48.0**	**+0.1**
LIT	**Litokhoron**	**1.77**	**17**	P	**Pn**	**18 16 26.0**	**+0.7**
LIT				S	**Sn**	**18 16 48.0**	**+0.1**
LIT	**Litokhoron**	**1.77**	**17**	P	**Pb**	**18 16 26.4**	**-0.7**
AOS	**Alonnisos**	**1.79**	**64**	P	**Pn**	**18 16 25.0**	**-0.5**
AOS				S	**Sn**	**18 16 48.9**	**+0.6**
AOS	**Alonnisos**	**1.79**	**64**	P	**Pn**	**18 16 25.0**	**-0.5**
AOS				S	**Sn**	**18 16 48.9**	**+0.6**
PENT	**Pentalofos**	**1.86**	**344**	P	**Pb**	**18 16 28.1**	**-0.7**
PENT				S	**Sb**	**18 16 51.8**	**-0.3**
PENT	**Pentalofos**	**1.86**	**344**	P	**Pb**	**18 16 28.1**	**-0.7**
PENT				S	**Sb**	**18 16 51.8**	**-0.3**
KZN	**Kozani**	**1.90**	**359**	P	**Pn**	**18 16 27.7**	**+0.6**
KZN				S	**Sb**	**18 16 53.6**	**+0.4**
VLI	**Veliai**	**1.91**	**152**	P	**Pn**	**18 16 27.7**	**+0.5**
VLI				S	**Sn**	**18 16 52.0**	**+0.8**
VLI	**Veliai**	**1.91**	**152**	P	**Pn**	**18 16 27.7**	**+0.5**
VLI				S	**Sn**	**18 16 52.0**	**+0.8**
KEK	**Kerkira**	**2.04**	**310**	P	**Pn**	**18 16 30.0**	**+1.0**
KEK				S	**Sn**	**18 16 54.7**	**+0.2**
KEK	**Kerkira**	**2.04**	**310**	P	**Pn**	**18 16 30.0**	**+1.0**
KEK				S	**Sn**	**18 16 54.7**	**+0.2**
NEST	**Nestorio**	**2.09**	**344**	P	**Pb**	**18 16 33.0**	**+0.3**
NEST	**Nestorio**	**2.09**	**344**	P	**Pb**	**18 16 31.3**	**-1.4**
NEST	**Nestorio**	**2.09**	**344**	P	**Pb**	**18 16 32.0**	**-0.7**
KARY	**Karystos**	**2.10**	**99**	P	**Pn**	**18 16 29.9**	**+0.1**
KARY				S	**Sn**	**18 16 56.5**	**+0.5**
KARY	**Karystos**	**2.10**	**99**	P	**Pn**	**18 16 29.9**	**+0.1**
KARY				S	**Sn**	**18 16 56.5**	**+0.5**
PAIG	**Paliouri**	**2.10**	**43**	P	**Pn**	**18 16 29.1**	**-0.7**
PAIG				S	**Sn**	**18 16 56.5**	**+0.5**
PAIG	**Paliouri**	**2.10**	**43**	P	**Pn**	**18 16 29.1**	**-0.7**
PAIG				S	**Sn**	**18 16 56.5**	**+0.5**
PLG	**Polygyros**	**2.34**	**32**	P	**Pn**	**18 16 32.7**	**-0.4**
PLG				S	**Sn**	**18 17 01.5**	**-0.4**
PLG	**Polygyros**	**2.34**	**32**	P	**Pn**	**18 16 32.7**	**-0.4**
PLG				S	**Sn**	**18 17 01.5**	**-0.4**
KYTH	**Kithira**	**2.35**	**155**	P	**Pn**	**18 16 33.0**	**-0.3**
KYTH				S	**Sn**	**18 17 03.1**	**+0.8**
HORT	**Hortiatis**	**2.40**	**24**	P	**Pn**	**18 16 33.1**	**-1.0**
HORT	**Hortiatis**	**2.40**	**24**	P	**Pn**	**18 16 33.1**	**-1.0**
BIA	**Bitola**	**2.64**	**352**	*e*Pn	**Pb**	**18 16 41.5**	**-0.5**
BIA	**Bitola**	**2.64**	**352**	*e*Pn	**Pb**	**18 16 41.4**	**-0.5**
SOH	**Sokhos**	**2.69**	**26**	P	**Pn**	**18 16 38.1**	**+0.1**
SOH				S	**Sn**	**18 17 13.0**	**+2.4**
ANKY	**Antikythira Is**	**2.80**	**154**	P	**Pn**	**18 16 41.2**	**+1.8**
ANKY				S	**Sn**	**18 17 14.4**	**+1.1**
ANKY	**Antikythira Is**	**2.80**	**154**	P	**Pn**	**18 16 41.2**	**+1.8**
ANKY				S	**Sn**	**18 17 14.4**	**+1.1**
OHR	**Ohrid**	**2.81**	**344**	*e*Pn	**Pb**	**18 16 43.8**	**-1.1**
OHR	**Ohrid**	**2.81**	**344**	*e*Pn	**Pb**	**18 16 43.8**	**-1.1**
KNT	**Kendrikon**	**2.88**	**17**	P	**Pn**	**18 16 41.1**	**+0.6**
KNT	**Kendrikon**	**2.88**	**17**	P	**Pn**	**18 16 41.1**	**+0.6**
VAY	**Valandovo**	**2.97**	**11**	*e*Pn	**Pn**	**18 16 42.5**	**+0.7**
VAY	**Valandovo**	**2.97**	**11**	*e*Pn	**Pn**	**18 16 42.4**	**+0.7**
KRUS	**Krusevo**	**2.99**	**352**	*e*Pn	**Pn**	**18 16 43.8**	**+1.7**
KRUS	**Krusevo**	**2.99**	**352**	*e*Pn	**Pn**	**18 16 43.8**	**+1.7**
SRS	**Serrai**	**3.04**	**26**	P	**Pn**	**18 16 43.0**	**+0.3**
SRS				S	**Sn**	**18 17 19.2**	**+0.1**
SRS	**Serrai**	**3.04**	**26**	P	**Pn**	**18 16 43.0**	**+0.3**
SRS				S	**Sn**	**18 17 19.2**	**+0.1**
APE	**Apeiranthos**	**3.24**	**113**	⇓*i*P	**Sn**	**18 17 21.3**	**-2.8**
CHOS	**Chios island**	**3.33**	**89**	P	**Pn**	**18 16 47.3**	**+0.5**
CHOS	**Chios island**	**3.33**	**89**	P	**Pn**	**18 16 47.3**	**+0.5**
NVR	**Nevrokopi**	**3.34**	**28**	P	**Pn**	**18 16 47.3**	**+0.5**
NVR				S	**Sn**	**18 17 26.9**	**+0.4**
NVR	**Nevrokopi**	**3.34**	**28**	P	**Pn**	**18 16 47.3**	**+0.5**
NVR				S	**Sn**	**18 17 26.9**	**+0.4**
IMMV	**Iera Moni Meta**	**3.42**	**149**	P	**Pn**	**18 16 48.1**	**+0.2**
IMMV	**Iera Moni Meta**	**3.42**	**149**	P	**Pn**	**18 16 48.1**	**+0.2**
VAM	**Vamos**	**3.55**	**147**	P	**Pn**	**18 16 50.2**	**+0.4**
VAM	**Vamos**	**3.55**	**147**	P	**Pn**	**18 16 50.2**	**+0.4**
SKO	**Skopje**	**3.57**	**356**	*e*Pn	**Pn**	**18 16 51.5**	**+1.4**
SKO	**Skopje**	**3.57**	**356**	*e*Pn	**Pn**	**18 16 51.4**	**+1.4**
IDI	**Anoyia**	**3.97**	**141**	Pn	**Pn**	**18 16 56.3**	**+0.7**
	comp=N,0.6nm,0.3s,baz=97,slow=6.0,SNR=10						
IDI				Sn	**Sn**	**18 17 44.0**	**+1.7**
	comp=N,1.6nm,0.3s,baz=302,slow=19,SNR=3.0						
IDI	**Anoyia**	**3.97**	**141**	P	**Pn**	**18 16 55.7**	**+0.1**
IDI				S	**Sn**	**18 17 43.8**	**+1.5**
IDI	**Anoyia**	**3.97**	**141**	P	**Pn**	**18 16 55.7**	**+0.1**
IDI				S	**Sn**	**18 17 43.8**	**+1.5**
VTS	**Vitosha**	**4.31**	**14**	P	**Pn**	**18 17 00.8**	**+0.4**
VTS	**Vitosha**	**4.31**	**14**	P	**Pn**	**18 17 00.8**	**+0.4**
LAST	**Lasithi**	**4.38**	**137**	P	**Pn**	**18 17 01.8**	**+0.6**
LAST				S	**Sn**	**18 17 53.5**	**+1.2**
LAST	**Lasithi**	**4.38**	**137**	P	**Pn**	**18 17 01.8**	**+0.6**
LAST				S	**Sn**	**18 17 53.5**	**+1.2**
BARS	**Barje**	**4.41**	**0**	*e*Pn	**Pn**	**18 17 05.6**	**+4.1**
PDG	**Podgorica**	**4.47**	**335**	⇑*i*P	**Pn**	**18 17 04.2**	**+1.9**
PDG	**Podgorica**	**4.47**	**335**	⇑*i*P	**Pn**	**18 17 04.2**	**+1.9**
BOVS	**Bovan**	**5.22**	**359**	*e*Pn	**Pn**	**18 17 13.8**	**+1.1**
IVAS	**Ivanjica**	**5.32**	**347**	*e*Pn	**Pn**	**18 17 18.9**	**+4.9**
MDVR	**Moldovita**	**6.37**	**359**	⇓*i*P	**Pn**	**18 17 31.2**	**+2.7**
MDVR	**Moldovita**	**6.37**	**359**	⇓*i*P	**Pn**	**18 17 31.2**	**+2.7**
TEKS	**Tekeris**	**6.37**	**345**	*e*Pn	**Pn**	**18 17 29.9**	**+1.4**
VOIR		**7.43**	**18**	⇓*i*P	Pn	18 17 48.0	+4.9
UDBI	**Udbina**	**7.62**	**325**	*e*Pn	**Pn**	**18 17 47.2**	**+1.5**
UDBI				Sn	**Sn**	**18 19 11.5**	**-0.5**
UDBI	**Udbina**	**7.62**	**325**	*e*Pn	**Pn**	**18 17 47.1**	**+1.5**
UDBI				Sn	**Sn**	**18 19 11.5**	**-0.5**
MLR	**Muntele Rosu**	**7.72**	**22**	Pn	**Pn**	**18 17 49.8**	**+2.7**
	comp=N,0.0nm,0.3s,baz=144,slow=19,SNR=2.4						
MLR	**Muntele Rosu**	**7.72**	**22**	⇓*i*P	Pn	18 17 52.6	+5.5
NVLJ	**Novalja**	**8.06**	**322**	*i* Pn	**Pn**	**18 17 52.5**	**+0.9**
NVLJ				Sn	**Sn**	**18 19 19.9**	**-2.8**
NVLJ	**Novalja**	**8.06**	**322**	*i* Pn	**Pn**	**18 17 52.5**	**+0.9**
BRTR	**Keskin Array B**	**9.29**	**78**	Pn	**Pn**	**18 18 10.9**	**+2.1**
	comp=N,0.1nm,0.3s,baz=255,slow=13,SNR=4.0						
VRAC	**Vrsov**	**11.53**	**343**	LR	LR	18 23 40.9	
	comp=N,42nm,20.2s,baz=214,slow=40						
GERES	**GERESS Array B**	**11.97**	**333**	Pn	**Pn**	**18 18 46.1**	**+0.9**
	comp=N,0.1nm,0.3s,baz=164,slow=14,SNR=3.8						
GERES				LR	LR	18 24 22.2	
	comp=N,61nm,21.2s,baz=126,slow=42						
ESDC	**Sonseca Array**	**20.04**	**282**	P	**P**	**18 20 28.1**	**+0.3**
	comp=N,0.2nm,0.3s,baz=85,slow=12,SNR=4.4						
FINES	**FINESS Array B**	**23.21**	**5**	P	**P**	**18 21 02.6**	**+1.1**
	comp=N,1.2nm,0.7s,baz=169,slow=13,SNR=3.0						
NB2	**NORSAR Subarra**	**23.61**	**347**	P	**P**	**18 21 04.8**	**-0.7**
	comp=N,2.0nm,1.0s,SNR=6.3						
NB2	**NORSAR Subarra**	**23.61**	**347**	P	**P**	**18 21 04.8**	**-0.7**
	comp=Z,2.0nm,1.0s,baz=159,slow=9.3						
NOA	**NORSAR Array B**	**23.61**	**347**	P	**P**	**18 21 06.0**	**+0.5**
	comp=Z,1.7nm,0.8s,baz=154,slow=9.2,SNR=5.8						
EKA	**Eskdalemuir Ar**	**23.84**	**323**	P	**P**	**18 21 07.5**	**-0.2**
	comp=Z,2.2nm,0.8s,baz=120,slow=12,SNR=8.1						
TORD	**Torodi Ar. Bea**	**30.86**	**221**	P	**P**	**18 22 11.0**	**-0.1**
	comp=Z,0.7nm,0.6s,baz=30,slow=8.0,SNR=5.6						

*KRNET **04** 18:43:30.6±0.1,38.°91N×73.°84E,mb3.3*
*NNC **04** 18:43:40.5±1.7,39.°31N×73.°17E,h0km,mb3.6,mpv3.2, Error ellipse: s-maj=14.5km s-min=12.9km az=27.0*
ISC 04 18:43:33.5±3.0,39.°0N±0.°1×73.°78E±0.°09,h10km,n7, σ2§21/13,10C-6D,Tajikistan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
					Op	ISC	h m s	ISC
ARSB	**Arslanbob**	**2.37**	**345**	⇓*e*P	**Pb**	**18 44 15.2**	**-1.3**
	baz=345						
ARSB				⇓*i*S	**Sb**	**18 44 47.7**	**+1.8**
	baz=345						
BTK	**Batken**	**2.51**	**295**	⇑*e*P	**Pb**	**18 44 16.5**	**-2.2**
	baz=297						
BTK				⇑*e*S	**Sb**	**18 44 50.0**	**+0.3**
	baz=297						
ARK	**Arkit**	**3.09**	**334**	⇑*e*P	**Pn**	**18 44 24.2**	**+1.6**
	baz=334						
ARK				⇑*i*S	**Sb**	**18 45 04.0**	**-2.6**
	baz=334						
MNAS	**Manas**	**3.59**	**345**	⇑Pn	**Pn**	**18 44 32.0**	**+2.6**
	7.0nm,0.6s						
MNAS				⇑Sn	**Sn**	**18 45 13.1**	**+1.2**
	6.9nm,0.6s						
MNAS				⇓Lg	Lg	18 45 24.9	
	19nm,1.0s						
AAK	**Ala-Archa**	**3.65**	**8**	⇑Pn	**Pb**	**18 44 35.3**	**-2.9**
	7.7nm,0.6s						
AAK				⇑Lg	Lg	18 45 29.2	
	22nm,0.9s						
TKM2	**Tokmak 2**	**4.13**	**19**	⇓Pn	**Pb**	**18 44 45.0**	**-1.4**
	3.5nm,0.6s						
TKM2				⇓Lg	Lg	18 45 49.0	
	9.3nm,0.7s						
KK31	**Karatay Array**	**4.76**	**330**	Pn	**Pn**	**18 44 47.3**	**+1.9**
	2.0nm,0.6s,baz=140,slow=13,SNR=11						
KK31				⇑Pg	**Pb**	**18 44 57.7**	**+0.7**
	1.9nm,0.5s,baz=148,slow=19,SNR=7.1						
KK31				⇑Sn	**Sn**	**18 45 38.0**	**-2.6**
	7.9nm,0.7s,baz=149,slow=22,SNR=9.4						
KK31				⇓Lg	Lg	18 45 57.4	
	11nm,0.9s,baz=329,slow=42,SNR=3.5						

*ISCJB **04** 18:44:12.9±1.0, 18.°7S±0.°1×169.°2E±0.°2,h240km,mb4.1/7, Error ellipse: s-maj=22.3km s-min=12.3km az=26.3*
*IDC **04** 18:44:15.0±2.3, 18.°70S×169.°32E,h256km±21km,mb3.8/8, mb1 3.9/9,mb1mx3.5/35,mbtmp4.4/9, Error ellipse: s-maj=21.6km s-min=19.6km az=179.0*
ISC 04 18:44:13.6±1.0,18.°7S±0.°1×169.°3E±0.°2,h240km,n11, σ1§71/12,mb4.2/7,Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
					Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**4.27**	**218**	P	**Pn**	**18 45 22.0**	**+1.7**
	2.3nm,0.3s,baz=53,slow=16,SNR=24						
DZM				S	**S**	**18 46 10.1**	**-3.1**
	1.7nm,0.3s,baz=120,slow=20,SNR=3.1						
URZ	**Urewera**	**20.63**	**162**	P	**P**	**18 48 35.8**	**+0.9**
	5.4nm,0.8s,baz=68,slow=19,SNR=2.9						
CTA	**Charters Tower**	**21.77**	**263**	P	**P**	**18 48 47.3**	**+0.9**
	5.3nm,0.6s,baz=85,slow=12,SNR=6.9						
STKA	**Stephens Creek**	**28.17**	**237**	P	**P**	**18 49 44.6**	**+0.7**
	7.0nm,0.6s,baz=63,slow=8.9,SNR=17						
WRA	**Warramunga Arr**	**32.97**	**262**	P	**P**	**18 50 25.9**	**-0.3**
	2.7nm,0.6s,baz=82,slow=6.1,SNR=55						
ASAR	**Alice Springs**	**33.30**	**255**	P	**P**	**18 50 29.2**	**+0.2**
	22nm,0.6s,baz=81,slow=8.9,SNR=563						
ASAR				ScP	**ScP**	**18 56 24.3**	**-2.4**
	0.1nm,0.9s,baz=101,slow=4.9,SNR=4.1						
PETK	**Petropavlovsk-**	**72.23**	**353**	P	**P**	**18 55 13.2**	**+0.9**
	4.2nm,0.7s,baz=130,slow=7.9,SNR=5.4						
SONM	**Songino Array**	**86.83**	**323**	P	**P**	**18 56 31.6**	**+0.6**
	0.7nm,0.6s,baz=154,slow=3.2,SNR=5.2						
ILAR	**Eielson Array**	**89.72**	**17**	P	**P**	**18 56 42.0**	**-2.1**
	0.8nm,0.9s,baz=226,slow=4.8,SNR=6.2						
KHC	**Kasperske Hory**	**143.90**	**333**	*e*P	PKPab	19 03 18.0	0.0
GERES	**GERESS Array B**	**144.06**	**332**	PKP	**PKPab**	**19 03 18.2**	**-0.6**
	1.0nm,0.7s,baz=43,slow=4.5,SNR=12						

KRSC 04 19:22:46.7±1.4,49.°86N×157.°16E,h49km±27km,ML3.7, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
					Op	ISC	h m s	ISC
SKR	**Severo-Kuril's**	**1.06**	**321**	*e*P	Pn	19 23 05.8	+0.6
SKR				*e*S	Sn	19 23 18.6	-0.3
ASAK	**Asacha**	**2.57**	**10**	*e*P	Pn	19 23 29.4	+3.5
MTVR	**Mutnovka**	**2.71**	**13**	*e*S	Sn	19 24 03.8	+4.4
RUS	**Russkaya**	**2.71**	**18**	*e*P	Pn	19 23 30.9	+3.1
RUS				*e*S	Sn	19 24 02.9	+3.5
KRMR	**Karymshinskiy**	**3.04**	**11**	*e*P	Pn	19 23 35.7	+3.5
KRMR				*e*S	Sn	19 24 12.8	+5.5
DALK	**Dalny**	**3.33**	**17**	*e*P	Pn	19 23 40.1	+3.9
DALK				*e*S	Sn	19 24 18.3	+3.8
UGLR	**Uglovaya**	**3.51**	**17**	*e*P	Pn	19 23 41.9	+3.0
AVH	**Avacha**	**3.55**	**15**	*e*P	Pn	19 23 44.1	+4.8
SDLR	**Sedlovina**	**3.59**	**17**	*e*P	Pn	19 23 43.5	+3.6
KRER	**Koryakskii**	**3.59**	**15**	*e*P	Pn	19 23 44.3	+4.3
SPN	**Mys Shipunski**	**3.70**	**28**	*e*P	Pn	19 23 45.4	+4.0
SPN				*e*S	Sn	19 24 27.8	+4.1
GNL	**Ganaly**	**3.87**	**7**	*e*P	Pn	19 23 47.3	+3.5
MKZ	**Mys Kozlova**	**5.48**	**29**	*e*P	Pn	19 24 08.7	+3.0

*ISCJB **04** 19:26:17.7±0.8,39.°08N±0.°06×29.°01E±0.°08,h13km±7km, Error ellipse: s-maj=12.7km s-min=5.9km az=40.5*
*CSEM **04** 19:26:17.9±0.1,39.°11N×28.°96E,h12km,MD2.3, Error ellipse: s-maj=2.7km s-min=1.2km az=123.0*
*ISK **04** 19:26:17.2,39.°13N×28.°93E,h11km,MD2.3*
*DDA **04** 19:26:17.1,39.°12N×28.°72E,h30km,Md2.7*
ISC 04 19:26:15.0±2.1,38.°97N±0.°05×29.°18E±0.°09,h3km±17km, n13,σ1§77/20,Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
					Op	ISC	h m s	ISC
SIMA	**Simav-Kutahya**	**0.20**	**307**	*e*PG	**Pg**	**19 26 20.6**	**+1.8**
SIMA	**Simav-Kutahya**	**0.20**	**307**	*e*Pg	**Pg**	**19 26 20.6**	**+1.8**
DEMI	**Demirci**	**0.37**	**282**	*i* P	**Pg**	**19 26 23.0**	**+0.8**
DEMI				*i* S	**Sg**	**19 26 26.2**	**-0.9**
DEMI	**Demirci**	**0.37**	**282**	P	**Pg**	**19 26 23.0**	**+0.8**
DEMI				S	**Sg**	**19 26 26.2**	**-0.9**
TVSB	**Tavsanli**	**0.53**	**24**	*e*PG	**Pb**	**19 26 28.1**	**+1.1**
TVSB				*e*SG	**Sb**	**19 26 34.9**	**-0.3**
TVSB	**Tavsanli**	**0.53**	**24**	*e*Pg	**Pb**	**19 26 28.1**	**+1.1**
TVSB				*e*Sg	**Sb**	**19 26 34.9**	**-0.3**
KULA	**Kula-Manisa**	**0.61**	**222**	*e*PG	**Pn**	**19 26 30.6**	**0.0**
KULA				*e*SG	**Sb**	**19 26 38.8**	**+1.5**
KULA	**Kula-Manisa**	**0.61**	**222**	*e*Pg	**Pn**	**19 26 30.6**	**0.0**
KULA				*e*Sg	**Sb**	**19 26 38.8**	**+1.5**
MANT	**Manisa**	**0.68**	**226**	*i* P	Pg	19 26 24.4	-3.7
MANT				*i* S	**Sg**	**19 26 33.2**	**-3.7**
MANT	**Manisa**	**0.68**	**226**	P	Pg	19 26 24.4	-3.7
MANT				S	**Sg**	**19 26 33.2**	**-3.7**
IGD	**Bursa**	**1.30**	**1**	*i* P	**Pn**	**19 26 40.0**	**0.0**
IGD				*i* S	**Sb**	**19 26 54.9**	**-2.2**
KCTX	**Karacabey (Bur**	**1.45**	**334**	*e*PN	**Pn**	**19 26 41.1**	**-1.0**
KCTX	**Karacabey (Bur**	**1.45**	**334**	*e*Pn	**Pn**	**19 26 41.2**	**-1.0**

*IDC **04** 19:55:55.4±7.0,26.°71N×56.°31E,h0km,mb3.3/3, mb1 3.4/3,mb1mx3.1/39,mbtmp3.3/3,Error ellipse: s-maj=138.4km s-min=54.9km az=114.0*
*OMAN **04** 19:56:01.1,26.°99N×55.°97E,h19km*
*ISCJB **04** 19:56:01.8±0.5,26.°99N±0.°03×55.°89E±0.°07,h14km, mb3.2/3,Error ellipse: s-maj=9.6km s-min=4.8km az=170.5*
*TEH **04** 19:56:01.1,26.°99N×55.°97E,h19km,ML3.0*
*DSN **04** 19:56:02.6±0.1,26.°97N×56.°06E,h15km,ML3.2/7,Error ellipse: s-maj=7.4km s-min=2.3km az=253.0*
*CSEM **04** 19:56:03.4±0.2,26.°97N×56.°02E,h20km,ML3.0,Error ellipse: s-maj=9.6km s-min=4.8km az=84.0*
ISC 04 19:56:01.1±0.7,26.°95N±0.°03×55.°97E±0.°05,h14km,n36, σ1§44/41,mb3.3/3,Southern Iran

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
					Op	ISC	h m s	ISC
IBND	**Bandar-abas**	**0.71**	**45**	*e*Pg	**

ASAR	**Alice Springs**	**42.97**	**269**	P	**P**	**20 04 48.3**	**+0.4**
	3.0nm,0.6s,baz=110,slow=7.3,SNR=33						
ASAR				PcP	**PcP**	**20 06 38.0**	**-0.3**
	0.2nm,0.7s,baz=108,slow=3.5,SNR=2.4						
ASAR				LR	LR	20 22 57.7	
	comp=Z,80nm,18.5s,baz=91,slow=36						
WRAB	**Tennant Creek**	**44.14**	**274**	*e*P	**P**	**20 04 57.2**	**0.0**
	1.6nm,0.5s						
WRA	**Warramunga Arr**	**44.14**	**274**	P	**P**	**20 04 57.8**	**+0.5**
	6.1nm,0.6s,baz=113,slow=8.0,SNR=105						
FITZ	**Fitzroy Crossi**	**52.32**	**271**	P	**P**	**20 06 00.9**	**+0.5**
	1.3nm,0.5s,baz=127,slow=5.9,SNR=10						
QSPA	**South Pole Qui**	**57.69**	**180**	P	P	20 06 44.5	+5.6
KURK	**Kurchatov**	**122.38**	**313**	PKP	**PKPdf**	**20 15 43.0**	**-0.1**
KURBB	**Kurchatov Arra**	**122.42**	**313**	PKP	**PKPdf**	**20 15 43.0**	**-0.2**
	0.7nm,0.7s,baz=108,slow=2.1,SNR=6.4						
FINES	**FINESS Array B**	**147.01**	**339**	PKPbc	**PKPab**	**20 16 31.4**	**-0.5**
	2.4nm,0.5s,baz=50,slow=3.9,SNR=29						
NOA	**NORSAR Array B**	**150.73**	**351**	PKPbc	**PKPbc**	**20 16 40.4**	**+0.4**
	1.1nm,0.8s,baz=16,slow=4.0,SNR=2.7						
BRTR	**Keskin Array B**	**153.44**	**295**	PKPbc	**PKPbc**	**20 16 47.5**	**+0.5**
	1.4nm,0.9s,baz=80,slow=3.5,SNR=5.8						
TORD	**Torodi Ar. Bea**	**160.81**	**179**	PKPab	**PKPab**	**20 17 32.3**	**+1.2**
	1.2nm,1.0s,baz=170,slow=2.8,SNR=4.0						

MEX 04 20:02:18.9±0.6, 16.47N×92.42W, h16km±8km, MD3.8, Chiapas

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CCIG	**Comitan**	**0.33**	**124**	*e*P	Pg	20 02 24.5	-1.3
CCIG				*i* S	Sg	20 02 29.9	-0.7
TGIG		**0.74**	**295**	*e*P	Pg	20 02 30.5	-3.0
TGIG				*e*S	Sg	20 02 40.1	-3.2

*ISCJB **04** 20:09:44.5±0.5, 28.01N±0.03×60.06E±0.06, h10km, mb3.7/10, Error ellipse: s-maj=7.8km s-min=4.4km az=16.3*
*CSEM **04** 20:09:44.4±0.6, 27.93N×60.26E, h10km, ML3.5, Error ellipse: s-maj=19.4km s-min=6.0km az=115.0*
*IDC **04** 20:09:44.7±1.0, 28.01N×59.87E, h0km, mb3.7/11, mb1 3.8/11, mb1mx3.6/42, mbtmp3.8/11, Error ellipse: s-maj=25.1km s-min=21.0km az=15.0*
*DSN **04** 20:09:47.1±1.3, 27.75N×60.17E, h15km, ML3.9/5, Error ellipse: s-maj=60.9km s-min=11.0km az=150.0*
*THR **04** 20:09:47.0±0.4, 28.09N×59.95E, h18km±5km, ML3.5*
*TEH **04** 20:09:51.1, 28.22N×59.95E, h23km, ML3.9*

ISC 04 20:09:46.0±0.7, 28.00N±0.04×59.95E±0.05, h10km, n45, σ1s61/48, mb3.7/10, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ZHSF	**Zahedan**	**1.76**	**24**	*e*Pg	**Pb**	**20 10 18.0**	**-0.5**
ZHSF				*e*Sg	**Sb**	**20 10 40.6**	**-0.2**
ZHSF	**Zahedan**	**1.76**	**24**	*e*Pg	**Pb**	**20 10 18.0**	**-0.5**
ZHSF				*e*Sg	**Sb**	**20 10 40.6**	**-0.2**
CHBR	**Chabahar**	**2.44**	**169**	*e*Pn	**Pb**	**20 10 29.2**	**-0.8**
CHBR				*e*Sg	**Sg**	**20 11 06.0**	**+1.7**
CHBR				AML	AML	20 11 17.0	
	comp=E,224nm,0.6s						
CHBR				AML	AML	20 11 18.1	
	comp=N,155nm,0.6s						
CHMN	**Cheshme madani**	**2.81**	**312**	*e*P	**Pn**	**20 10 32.4**	**+1.0**
CHMN	**Cheshme madani**	**2.81**	**312**	*e*P	**Pn**	**20 10 32.4**	**+1.0**
IBND	**Bandar-abas**	**3.07**	**261**	*e*Pn	**Pb**	**20 10 38.5**	**-2.3**
IBND				*e*AMB	AMB	20 11 50.7	
	comp=Z,5μm,0.4s						
IBND	**Bandar-abas**	**3.07**	**261**	*e*Pn	**Pb**	**20 10 38.5**	**-2.3**
NGRK	**Negar Kerman**	**3.27**	**301**	*e*P	**Pn**	**20 10 40.4**	**+2.7**
NGRK	**Negar Kerman**	**3.27**	**301**	*e*P	**Pn**	**20 10 40.4**	**+2.7**
BNDS	**Bandar-Abbas**	**3.41**	**261**	*e*Pn	**Pn**	**20 10 41.7**	**+2.4**
BNDS				AML	AML	20 11 45.1	
	comp=E,102nm,0.5s						
BNDS				AML	AML	20 11 51.4	
	comp=N,96nm,0.6s						
BNDS	**Bandar-Abbas**	**3.41**	**261**	*e*Pn	**Pn**	**20 10 41.7**	**+2.4**
KHGB	**Koh Gabri**	**3.85**	**309**	*e*P	**Pn**	**20 10 46.6**	**+1.0**
KHGB	**Koh Gabri**	**3.85**	**309**	*e*P	**Pn**	**20 10 46.6**	**+1.0**
BANOM	**Banah**	**3.86**	**238**	*i* P	**Pn**	**20 10 46.6**	**+1.1**
	SNR=9.3						
BANOM	**Banah**	**3.86**	**238**	P	**Pn**	**20 10 46.6**	**+1.1**
	SNR=9.3						
UOSS	**Minazif**	**4.53**	**229**	P	**Pn**	**20 10 54.2**	**-0.5**
	SNR=5.4						
HATD	**Hatta, Dubai**	**4.66**	**228**	P	**Pn**	**20 10 56.9**	**+0.4**
HATD	**Hatta, Dubai**	**4.66**	**228**	P	**Pn**	**20 10 56.9**	**+0.4**
IDAH	**Dahanechah**	**4.73**	**359**	*e*Pn	**Pn**	**20 10 57.7**	**+0.1**
IDAH				*e*AMB	AMB	20 11 26.6	
	comp=Z,701nm,0.3s						
IDAH	**Dahanechah**	**4.73**	**359**	*e*Pn	**Pn**	**20 10 57.7**	**+0.1**
ASHO	**Ashiyiah**	**4.80**	**228**	*i* P	**Pn**	**20 10 60.0**	**+1.5**
	SNR=14						
ASHO	**Ashiyiah**	**4.80**	**228**	P	**Pn**	**20 11 00.0**	**+1.5**
	SNR=14						
ITEG	**Tejag**	**4.99**	**348**	*e*Pn	**Pn**	**20 11 01.3**	**+0.1**
ITEG				*e*AMB	AMB	20 11 20.9	
	comp=Z,2μm,0.2s						
ITEG	**Tejag**	**4.99**	**348**	*e*Pn	**Pn**	**20 11 01.3**	**+0.1**
FAQ	**Al Faqa, Dubai**	**5.08**	**231**	P	**Pn**	**20 11 02.2**	**0.0**
FAQ	**Al Faqa, Dubai**	**5.08**	**231**	P	**Pn**	**20 11 02.2**	**0.0**
IBAF	**Bafgh**	**5.23**	**314**	*e*Pn	**Pn**	**20 11 00.3**	**-4.1**
IBAF				*e*AMB	AMB	20 11 26.8	
	comp=Z,630nm,0.2s						
IMEH	**Mehriz**	**5.75**	**307**	*e*Pn	**Pb**	**20 11 25.6**	**-0.9**
IMEH				*e*AMB	AMB	20 12 54.1	
	comp=Z,566nm,0.4s						
TABS	**Tabas**	**6.14**	**337**	*e*Pn	**Pn**	**20 11 17.9**	**+1.0**
TABS	**Tabas**	**6.14**	**337**	*e*P	**Pn**	**20 11 18.0**	**+1.1**
ISRV	**Sarvestan**	**6.16**	**285**	*e*Pn	**Pn**	**20 11 19.4**	**+2.0**
ISRV				*e*Sg	**Sn**	**20 12 25.1**	**-3.0**
ISRV				*e*AMB	AMB	20 12 40.4	
	comp=Z,254nm,0.4s						
ISRV	**Sarvestan**	**6.16**	**285**	*e*Pn	**Pn**	**20 11 19.4**	**+2.0**
ICHK	**Chekchek**	**6.40**	**313**	*e*AMB	AMB	20 13 08.5	
	comp=Z,372nm,0.3s						
ISAD	**Sadrabad**	**6.69**	**307**	*e*Pn	**Pb**	**20 11 46.7**	**+4.1**
ISAD				*e*AMB	AMB	20 13 20.4	
	comp=Z,324nm,0.3s						
ASF	**Jabal al Asfar**	**20.37**	**287**	P	**P**	**20 14 23.6**	**+0.7**
	comp=Z,1.1nm,0.4s,baz=136,slow=16,SNR=3.2						
AKTO	**Aktyubinsk**	**22.46**	**357**	P	**P**	**20 14 45.1**	**0.0**
	comp=Z,1.1nm,0.5s,baz=177,slow=16,SNR=4.7						
BRTR	**Keskin Array B**	**24.69**	**305**	P	**P**	**20 15 07.6**	**+0.2**
	comp=Z,0.6nm,0.8s,baz=98,slow=10,SNR=2.8						
BVAR	**Borovoye Array**	**26.18**	**14**	P	**P**	**20 15 21.3**	**+0.8**
	comp=Z,1.4nm,0.7s,baz=189,slow=8.7,SNR=6.0						
KURBB	**Kurchatov Arra**	**26.64**	**27**	P	**P**	**20 15 25.8**	**+1.1**
	comp=Z,0.7nm,0.8s,baz=221,slow=9.2,SNR=6.5						
AKASG	**Malin Array Be**	**32.46**	**323**	P	**P**	**20 16 15.0**	**-1.3**
	comp=Z,0.6nm,0.5s,baz=134,slow=6.6,SNR=3.3						
FINES	**FINESS Array B**	**40.33**	**336**	P	**P**	**20 17 22.1**	**-1.3**
	comp=Z,0.8nm,0.4s,baz=130,slow=9.0,SNR=4.5						
TORD	**Torodi Ar. Bea**	**56.03**	**267**	P	**P**	**20 19 25.2**	**-0.1**
	comp=Z,0.3nm,0.4s,baz=62,slow=6.9,SNR=16						
SEY	**Seymchan**	**66.54**	**30**	P	**P**	**20 20 36.5**	**+0.6**
	comp=Z,2.2nm,0.7s,baz=94,slow=22,SNR=4.5						
WRA	**Warramunga Arr**	**86.24**	**115**	P	**P**	**20 22 27.4**	**-0.8**
	comp=Z,2.1nm,1.0s,baz=314,slow=3.8,SNR=8.5						
ASAR	**Alice Springs**	**87.84**	**118**	P	**P**	**20 22 37.9**	**+2.0**
	comp=Z,0.3nm,0.9s,baz=307,slow=5.0,SNR=3.2						

*ISCJB **04** 20:17:57.8±0.2, 50.18N±0.01×12.54E±0.02, h2km±4km, Error ellipse: s-maj=2.3km s-min=1.9km az=147.0*
*VIE **04** 20:17:58.9±0.4, 50.20N×12.40E, h8km, mb2.2/2, ML2.8/9, Error ellipse: s-maj=4.8km s-min=2.1km az=56.0*
*PRU **04** 20:17:59.5, 50.24N×12.48E, h10km, West Bohemia Swarm*
*BGR **04** 20:17:59.4±0.2, 50.25N×12.44E, h10km±1km, ML2.8/6, Error ellipse: s-maj=2.2km s-min=1.1km az=91.0*
*IASPEI **04** 20:17:59.2±0.8, 50.24N±0.02×12.45E±0.02, h10km±3km, Error ellipse: s-maj=3.3km s-min=2.4km az=90.2, GT5 selection from ISC bulletin GT5 identified by Bond¨ jr and McLaughlin (2009) selection criteria Bond¨ jr and McLaughlin, A new ground truth data set for seismic studies, Seism. Res. Let., 80, 465-472, 2009*
*CSEM **04** 20:17:59.0±0.1, 50.23N×12.48E, h10km, ML3.0/21, Error ellipse: s-maj=2.1km s-min=1.8km az=52.0*

*CLL **04** 20:18:00.1±0.3, 50.2N±0.9×1.2E±°, h7km±1km, ml2.5*

ISC 04 20:17:59.5±0.8, 50.24N±0.01×12.46E±0.02, h10km±3km, n91, σ0s87/164, 9D, Germany

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
NKC	**Novy Kostel**	**0.01**	**235**	*i* Pg	**Pg**	**20 18 01.3**	**0.0**
NKC				*e*SG	**Sg**	**20 18 02.1**	**-0.5**
	comp=Z,4μm,0.2s						
NKC	**Novy Kostel**	**0.01**	**235**	*i* Pg	**Pg**	**20 18 01.2**	**0.0**
NKC				*i* Sg	**Sg**	**20 18 02.2**	**-0.3**
NKC	**Novy Kostel**	**0.01**	**235**	*e*Pg	**Pg**	**20 18 01.3**	**0.0**
NKC				*e*Sg	**Sg**	**20 18 02.3**	**-0.3**
NKC	**Novy Kostel**	**0.01**	**235**	Pg	**Pg**	**20 18 01.3**	**0.0**
NKC				Sg	**Sg**	**20 18 02.3**	**-0.3**
WERN	**Wernitzgruen**	**0.07**	**313**	*i* Pg	**Pg**	**20 18 01.8**	**0.0**
WERN				*i* Sg	**Sg**	**20 18 03.1**	**-0.4**
WERN				AML	AML	20 18 03.2	
	comp=N,1μm,0.1s						
WERN	**Wernitzgruen**	**0.07**	**313**	*e*Pg	**Pg**	**20 18 01.8**	**0.0**
WERN				*e*Sg	**Sg**	**20 18 03.1**	**-0.4**
WERN	**Wernitzgruen**	**0.07**	**313**	Pg	**Pg**	**20 18 01.8**	**0.0**
WERN				Sg	**Sg**	**20 18 03.1**	**-0.4**
ROHR	**Rohrbach**	**0.09**	**267**	*i* Pg	**Pg**	**20 18 01.9**	**-0.2**
ROHR				*i* Sg	**Sg**	**20 18 03.3**	**-0.6**
ROHR				AML	AML	20 18 03.4	
	comp=E,6μm,0.2s						
ROHR	**Rohrbach**	**0.09**	**267**	*e*Pg	**Pg**	**20 18 01.9**	**-0.2**
ROHR				*e*Sg	**Sg**	**20 18 03.3**	**-0.6**
ROHR	**Rohrbach**	**0.09**	**267**	Pg	**Pg**	**20 18 01.9**	**-0.2**
ROHR				Sg	**Sg**	**20 18 03.3**	**-0.6**
GUNZ	**Gunzen**	**0.15**	**327**	*i* Pg	**Pg**	**20 18 02.9**	**0.0**
GUNZ				*i* Sg	**Sg**	**20 18 05.0**	**-0.3**
GUNZ				AML	AML	20 18 05.2	
	comp=E,431nm,0.1s						
GUNZ	**Gunzen**	**0.15**	**327**	*e*Pg	**Pg**	**20 18 02.9**	**0.0**
GUNZ				*e*Sg	**Sg**	**20 18 05.0**	**-0.3**
GUNZ	**Gunzen**	**0.15**	**327**	Pg	**Pg**	**20 18 02.9**	**0.0**
GUNZ				Sg	**Sg**	**20 18 05.0**	**-0.3**
MULD	**Muldenberg**	**0.18**	**348**	*i* Pg	**Pg**	**20 18 03.3**	**0.0**
MULD				*i* Sg	**Sg**	**20 18 05.7**	**-0.3**
MULD				AML	AML	20 18 05.8	
	comp=E,1μm,0.2s						
MULD	**Muldenberg**	**0.18**	**348**	*e*Pg	**Pg**	**20 18 03.4**	**0.0**
MULD				*e*Sg	**Sg**	**20 18 05.7**	**-0.3**
MULD	**Muldenberg**	**0.18**	**348**	Pg	**Pg**	**20 18 03.4**	**0.0**
MULD				Sg	**Sg**	**20 18 05.7**	**-0.3**
TANN	**Tannenbergstha**	**0.18**	**0**	*i* Pg	**Pg**	**20 18 03.3**	**0.0**
TANN				*i* Sg	**Sg**	**20 18 05.6**	**-0.4**
TANN				AML	AML	20 18 06.1	
	comp=E,1μm,0.2s						
WERD	**Werda**	**0.23**	**335**	*i* Pg	**Pg**	**20 18 04.3**	**0.0**
WERD				*e*Sg	**Sg**	**20 18 07.2**	**-0.3**
WERD				AML	AML	20 18 08.2	
	comp=E,376nm,0.2s						
WERD	**Werda**	**0.23**	**335**	*e*Pg	**Pg**	**20 18 04.3**	**0.0**
WERD				*e*Sg	**Sg**	**20 18 07.1**	**-0.4**
WERD	**Werda**	**0.23**	**335**	Pg	**Pg**	**20 18 04.3**	**0.0**
WERD				Sg	**Sg**	**20 18 07.1**	**-0.4**
TRIB	**Obertriebel**	**0.24**	**299**	*i* Pg	**Pg**	**20 18 04.2**	**-0.1**
TRIB				*i* Sg	**Sg**	**20 18 07.3**	**-0.4**
TRIB				AML	AML	20 18 07.6	
	comp=E,368nm,0.1s						
TRIB	**Obertriebel**	**0.24**	**299**	*e*Pg	**Pg**	**20 18 04.3**	**-0.1**
TRIB				*e*Sg	**Sg**	**20 18 07.3**	**-0.4**
TRIB	**Obertriebel**	**0.24**	**299**	Pg	**Pg**	**20 18 04.3**	**-0.1**
TRIB				Sg	**Sg**	**20 18 07.3**	**-0.4**
PLN	**Plauen**	**0.31**	**322**	*i* Pg	**Pg**	**20 18 05.8**	**-0.1**
PLN				*e*Sg	**Sg**	**20 18 09.8**	**-0.3**
PLN				AML	AML	20 18 09.9	
	comp=E,202nm,0.2s						
PLN	**Plauen**	**0.31**	**322**	*e*Pg	**Pg**	**20 18 05.7**	**-0.1**
PLN				*e*Sg	**Sg**	**20 18 09.7**	**-0.3**
PLN	**Plauen**	**0.31**	**322**	Pg	**Pg**	**20 18 05.7**	**-0.1**
PLN				Sg	**Sg**	**20 18 09.7**	**-0.3**
SCHF	**Schoenfels**	**0.44**	**355**	*i* Pg	**Pg**	**20 18 08.2**	**0.0**
SCHF				*i* Sg	**Sg**	**20 18 14.0**	**0.0**
SCHF				AML	AML	20 18 14.2	
	comp=E,1μm,0.1s						
SCHF	**Schoenfels**	**0.44**	**355**	*e*Pg	**Pg**	**20 18 08.2**	**0.0**
SCHF				*e*Sg	**Sg**	**20 18 13.4**	**-0.6**
SCHF	**Schoenfels**	**0.44**	**355**	Pg	**Pg**	**20 18 08.2**	**0.0**
SCHF				Sg	**Sg**	**20 18 13.4**	**-0.6**
ROTZ	**Rotzenmuhle**	**0.50**	**199**	*e*Pg	**Pg**	**20 18 09.3**	**+0.1**
ROTZ				*e*Sg	**Sg**	**20 18 15.8**	**0.0**
ROTZ	**Rotzenmuhle**	**0.50**	**199**	Pg	**Pg**	**20 18 09.3**	**+0.1**
ROTZ				Sg	**Sg**	**20 18 15.8**	**0.0**
MLFH	**Mildenfurth**	**0.60**	**337**	*i* Pg	**Pg**	**20 18 11.0**	**-0.2**
MLFH				*i* Sg	**Sg**	**20 18 18.8**	**-0.4**
MOX	**Moxa**	**0.68**	**307**	*e*Pg	**Pg**	**20 18 12.4**	**-0.2**
MOX				*e*Sg	**Sg**	**20 18 20.9**	**-0.5**
MOX	**Moxa**	**0.68**	**307**	Pg	**Pg**	**20 18 12.4**	**-0.2**
MOX				Sg	**Sg**	**20 18 20.9**	**-0.5**
FBE	**Freiberg**	**0.89**	**39**	*e*Pg	**Pg**	**20 18 16.7**	**+0.1**
FBE				*e*Sg	**Sg**	**20 18 28.1**	**-0.1**
FBE	**Freiberg**	**0.89**	**39**	Pg	**Pg**	**20 18 16.7**	**+0.1**
FBE				Sg	**Sg**	**20 18 28.1**	**-0.1**
GRA1	**Grafenberg Arr**	**0.97**	**236**	Pg	**Pg**	**20 18 18.0**	**-0.1**
GRF	**Grafenberg Arr**	**0.97**	**236**	*e*Pg	**Pg**	**20 18 18.0**	**-0.1**
CLL	**Collm**	**1.12**	**18**	*e*Pg	**Pb**	**20 18 20.2**	**-0.8**
CLL	**Collm**	**1.12**	**18**	Pg	**Pb**	**20 18 20.2**	**-0.8**
CLL	**Collm**	**1.12**	**18**	*i* Pg	**Pb**	**20 18 20.8**	**-0.2**
CLL				*i*		20 18 23.6	
CLL				*i* Sg	**Sb**	**20 18 35.5**	**-0.2**
	comp=Z,60nm,0.4s						
CLL				*i*		20 18 39.7	
WET	**Wettzell**	**1.13**	**166**	*i* Pg	**Pb**	**20 18 20.7**	**-0.4**
WET				*e*SG	**Sg**	**20 18 34.8**	**-1.0**
WET	**Wettzell**	**1.13**	**166**	*e*Pg	**Pb**	**20 18 20.7**	**-0.4**
WET				*e*Sg	**Sg**	**20 18 35.7**	**-0.1**
WET	**Wettzell**	**1.13**	**166**	Pg	**Pb**	**20 18 20.7**	**-0.4**
WET				Sg	**Sg**	**20 18 35.7**	**-0.1**
BRG	**Berggiesshubel**	**1.14**	**56**	PG	**Pb**	**20 18 21.1**	**-0.2**
BRG				SG	**Sb**	**20 18 36.3**	**+0.1**
	comp=Z,94nm,0.3s						
BRG	**Berggiesshubel**	**1.14**	**56**	*e*Pg	**Pb**	**20 18 21.1**	**-0.2**
BRG				*e*Sg	**Sb**	**20 18 36.3**	**+0.1**
BRG	**Berggiesshubel**	**1.14**	**56**	Pg	**Pb**	**20 18 21.1**	**-0.2**
BRG				Sg	**Sb**	**20 18 36.3**	**+0.1**
PRA	**Prague**	**1.28**	**97**	*e*PG	**Pb**	**20 18 23.8**	**+0.1**
PRA				*e*SG	**Sb**	**20 18 39.9**	**-0.3**
	comp=Z,48nm,0.4s						
PRA	**Prague**	**1.28**	**97**	Pg	**Pb**	**20 18 23.8**	**+0.1**
PRA				Sg	**Sb**	**20 18 39.9**	**-0.3**
	comp=Z,48nm,0.4s						
KHC	**Kasperske Hory**	**1.32**	**146**	*e*PG	**Pn**	**20 18 23.7**	**-0.4**
KHC				*e*SG	**Sb**	**20 18 41.0**	**-0.5**
	comp=Z,29nm,0.2s						
KHC	**Kasperske Hory**	**1.32**	**146**	Pg	**Pn**	**20 18 23.7**	**-0.4**
KHC				Sg	**Sb**	**20 18 41.0**	**-0.5**
	comp=Z,29nm,0.2s						
PRU	**Pruhonice**	**1.36**	**100**	*e*PG	**Pb**	**20 18 25.0**	**-0.1**
PRU				*e*SG	**Sb**	**20 18 42.0**	**-0.6**
	comp=Z,46nm,0.3s						
PRU	**Pruhonice**	**1.36**	**100**	Pg	**Pb**	**20 18 25.0**	**-0.1**
PRU				Sg	**Sb**	**20 18 42.0**	**-0.6**
	comp=Z,46nm,0.3s						
PVCC	**Panska Ves**	**1.38**	**77**	*e*PG	**Pb**	**20 18 25.8**	**+0.4**
PVCC				*e*SG	**Sn**	**20 18 43.5**	**+0.3**
	comp=Z,90nm,0.3s						
PVCC	**Panska Ves**	**1.38**	**77**	Pg	**Pb**	**20 18 25.8**	**+0.4**
PVCC				Sg	**Sn**	**20 18 43.5**	**+0.3**
	comp=Z,90nm,0.3s						
GOPC	**GO Pecny, Ondr**	**1.53**	**101**	*e*PG	**Pg**	**20 18 28.7**	**-0.2**
GOPC				*e*SG	**Sb**	**20 18 47.6**	**+0.1**
	comp=Z,41nm,0.2s						
GOPC	**GO Pecny, Ondr**	**1.53**	**101**	Pg	**Pg**	**20 18 28.7**	**-0.2**
GOPC				Sg	**Sb**	**20 18 47.6**	**+0.1**
	comp=Z,41nm,0.2s						
TREC	**Trest**	**2.18**	**115**	*e*PN	**Pn**	**20 18 36.6**	**+0.8**
TREC				*e*PG	**Pb**	**20 18 38.9**	**-0.1**
TREC				*e*SG	**Sb**	**20 19 06.5**	**+0.4**
	comp=Z,13nm,0.2s						
TREC	**Trest**	**2.18**	**115**	Pn	**Pn**	**20 18 36.6**	**+0.8**
TREC	**Trest**	**2.18**	**115**	Pg	**Pb**	**20 18 38.9**	**-0.1**
TREC				Sg	**Sb**	**20 19 06.5**	**+0.4**
	comp=Z,13nm,0.2s						
UPC	**Upice**	**2.29**	**82**	*e*PG	**Pg**	**20 18 42.8**	**-0.6**
UPC				*e*SG	**Sb**	**20 19 11.0**	**+1.7**
	comp=Z,22nm,0.4s						
UPC	**Upice**	**2.29**	**82**	Pg	**Pg**	**20 18 42.8**	**-0.6**
UPC				Sg	**Sb**	**20 19 11.0**	**+1.7**
	comp=Z,22nm,0.4s						
DPC	**Dobruska-Polom**	**2.48**	**86**	*e*PN	**Pn**	**20 18 40.4**	**+0.4**
DPC				*e*PG	**Pb**	**20 18 44.7**	**+0.5**
DPC				*e*SG	**Sb**	**20 19 16.4**	**+1.6**
	comp=Z,12nm,0.4s						
DPC	**Dobruska-Polom**	**2.48**	**86**	Pn	**Pn**	**20 18 40.4**	**+0.4**
KSP	**Ksiaz**	**2.52**	**75**	*e*Pg	**Pg**	**20 18 46.6**	**-1.2**
KSP				*e*Sg	**Sg**	**20 19 18.8**	**-1.6**
KSP	**Ksiaz**	**2.52**	**75**	*e*Pg	**Pg**	**20 18 46.6**	**-1.2**
KSP				*e*Sg	**Sg**	**20 19 18.8**	**-1.6**
MOA	**Molln**	**2.67**	**153**	Pn	**Pn**	**20 18 42.4**	**-0.2**
	comp=Z,0.2nm,0.1s						
MOA				Sg	**Sg**	**20 19 26.0**	**+0.8**
	comp=Z,0.6nm,0.1s						
KRLC	**Kraliky**	**2.78**	**92**	*e*SG	**Sg**	**20 19 27.2**	**-1.7**
KRLC	**Kraliky**	**2.78**	**92**	Sg	**Sg**	**20 19 27.2**	**-1.7**
VRAC	**Vranov**	**2.84**	**108**	*e*Pn	**Pn**	**20 18 44.8**	**-0.1**
VRAC				*e*Sg	**Sb**	**20 19 26.9**	**+1.9**
RETA	**Reutte**	**2.97**	**203**	Pn	**Pn**	**20 18 45.3**	**-1.5**
	comp=Z,0.3nm,0.1s						
RETA				Sg	**Sg**	**20 19 35.6**	**+0.7**
	comp=Z,14nm,0.4s						
WTTA	**Wattenberg**	**3.03**	**191**	Sg	**Sg**	**20 19 37.4**	**+0.7**
	comp=Z,2.0nm,0.2s						
MOTA	**Moosalm**	**3.03**	**198**	Pn	**Pn**	**20 18 46.0**	**-1.7**
	comp=Z,0.2nm,0.1s						
MOTA				Sg	**Sg**	**20 19 35.7**	**-1.1**
	comp=Z,1.0nm,0.1s						
CONA	**Conrad Observa**	**3.22**	**135**	Pn	**Pn**	**20 18 50.3**	**+0.2**
	comp=Z,0.2nm,0.1s						
CONA				Sg	**Sg**	**20 19 43.2**	**+0.4**
	comp=Z,3.0nm,0.2s						
KBA	**Koelnbreinsper**	**3.22**	**169**	Pn	**Pn**	**20 18 49.0**	**-1.2**
	comp=Z,0.2nm,0.2s						
KBA				Sg	**Sg**	**20 19 42.4**	**-0.4**
	comp=Z,1.1nm,0.2s						
MORC	**Moravsky Berou**	**3.31**	**96**	*e*Pn	**Pn**	**20 18 51.5**	**+0.1**
MORC				*e*Sg	**Sb**	**20 19 42.0**	**+3.3**
DAVA	**Damuels**	**3.41**	**211**	Pn	**Pn**	**20 18 52.7**	**-0.2**
	comp=Z,0.1nm,0.1s						
DAVA				Sg	**Sg**	**20 19 49.9**	**+0.9**
	comp=Z,3.4nm,0.3s						
FETA	**Feichten**	**3.42**	**200**	Pg	**Pb**	**20 19 02.2**	**+2.0**
	comp=Z,785nm,0.0s						
FETA				Sg	**Sg**	**20 19 48.3**	**-0.9**
	comp=Z,2.5nm,0.3s						
ABTA	**Abfaltersbach**	**3.49**	**179**	Pg	**Pg**	**20 19 04.8**	**-1.6**
	comp=Z,0.6nm,0.2s						
ABTA				Sg	**Sg**	**20 19 51.2**	**-0.5**
	comp=Z,13nm,0.5s						
ARSA	**Arzberg**	**3.61**	**145**	Sg	**Sg**	**20 19 53.9**	**-1.6**
	comp=Z,1.6nm,0.3s						
SMOL	**Smolenice**	**3.68**	**116**	*e*Sg	**Sg**	**20 19 57.8**	**+0.3**
SMOL	**Smolenice**	**3.68**	**116**	*e*SG	**Sg**	**20 19 57.8**	**+0.3**
OKC	**Ostrava-Krasne**	**3.69**	**94**	*e*SG	**Sb**	**20 19 53.9**	**+4.4**
	comp=Z,10nm,0.6s						
OKC	**Ostrava-Krasne**	**3.69**	**94**	Sg	**Sb**	**20 19 53.9**	**+4.4**
	comp=Z,10nm,0.6s						
MYKA	**Terra Mystica**	**3.70**	**167**	Sg	**Sg**	**20 19 57.9**	**-0.2**
	comp=Z,2.4nm,0.3s						
SOKA	**Soboth**	**3.95**	**153**	Sg	**Sg**	**20 20 05.7**	**-0.7**
	comp=Z,0.9nm,0.2s						
OBKA	**Obir**	**3.98**	**159**	Pn	**Pn**	**20 19 01.0**	**+0.3**
	comp=Z,0.2nm,0.1s						
OBKA				Sg	**Sg**	**20 20 06.7**	**-0.7**
	comp=Z,0.7nm,0.3s						
VYHS	**Vyhne**	**4.52**	**110**	*e*SG	**Sb**	**20 20 13.8**	**+0.5**
VYHS				*e*LG	Lg	20 20 32.4	
LANS	**Liptovska Anna**	**4.68**	**101**	*e*Sg	**Sg**	**20 20 30.0**	**+0.4**
LANS	**Liptovska Anna**	**4.68**	**101**	*e*SG	**Sg**	**20 20 30.0**	**+0.4**
STHS	**Stebnicka Huta**	**5.74**	**95**	*e*SG	**Sg

DHUB			AML	AML	20 54 36.0	
	comp=E,407nm,0.2s					
DHUB			AML	AML	20 54 36.1	
	comp=N,394nm,0.2s					
GTK	**Tadong**	**5.38 294**	*e*P	**Pn**	**20 54 12.5**	**+2.0**
GTK			*e*S	**Sn**	**20 55 10.7**	**-1.6**
GTK			AML	AML	20 55 48.1	
	comp=N,72nm,0.4s					
GTK			AML	AML	20 55 48.2	
	comp=E,67nm,0.2s					
TAPN	**Taplejung**	**6.14 292**	*e*Pn	**Pn**	**20 54 22.2**	**+1.2**
TAPN			*e*Sn	**Sn**	**20 55 33.7**	**+2.6**
	comp=E,146nm,0.6s					
ODAN	**Odare**	**6.28 287**	*e*Pn	**Pn**	**20 54 24.2**	**+1.4**
ODAN			*e*Sn	**Sn**	**20 55 34.0**	**-0.3**
	comp=E,193nm,0.4s					
RAMN	**Ramite**	**6.98 286**	*e*Pn	**Pn**	**20 54 33.7**	**+1.1**
RAMN			*e*Sn	**Sn**	**20 55 51.5**	**-0.3**
	comp=E,90nm,0.4s					
JIRN	**Jiri**	**7.52 291**	*e*Pn	**Pn**	**20 54 41.8**	**+1.8**
JIRN			*e*Sn	**Sn**	**20 56 05.2**	**0.0**
	comp=E,468nm,0.3s					
GUN	**Gumba**	**7.86 292**	*e*Pn	**Pn**	**20 54 46.5**	**+1.8**
GUN			*e*Sn	**Sn**	**20 56 13.8**	**+0.4**
	comp=E,86nm,0.3s					
CMAR	**Chiang Mai Arr**	**8.06 145**	Pn	**Pn**	**20 54 44.1**	**-3.0**
	comp=E,0.4nm,0.3s,baz=317,slow=12,SNR=33					
CMAR			Lg	Lg	20 56 54.3	
	comp=E,0.1nm,0.3s,baz=319,slow=31,SNR=3.5					
PKI	**Pulchoki**	**8.16 289**	*e*Pn	**Pn**	**20 54 49.7**	**+0.9**
PKI			*e*Sn	**Sn**	**20 56 21.0**	**+0.1**
	comp=E,45nm,0.6s					
PKIN	**Phulchoki**	**8.17 289**	*e*Pn	**Pn**	**20 54 49.9**	**+1.0**
PKIN			*e*Sn	**Sn**	**20 56 21.4**	**+0.3**
	comp=E,47nm,0.5s					
KKN	**Kakani**	**8.33 290**	*e*Pn	**Pn**	**20 54 51.8**	**+0.8**
KKN			*e*Sn	**Sn**	**20 56 24.0**	**-0.9**
	comp=E,23nm,0.4s					
DMN	**Daman**	**8.43 289**	*e*Pn	**Pn**	**20 54 53.1**	**+0.7**
DMN			*e*Sn	**Sn**	**20 56 25.9**	**-1.5**
	comp=E,23nm,0.3s					
GKN	**Gorkha**	**8.93 290**	*e*Pn	**Pn**	**20 55 00.1**	**+0.8**
GKN			*e*Sn	**Sn**	**20 56 38.7**	**-1.0**
	comp=E,71nm,0.4s					
KOLN	**Koldanda**	**9.77 288**	*e*Pn	**Pn**	**20 55 11.1**	**+0.4**
KOLN			*e*Sn	**Sn**	**20 56 58.9**	**-1.3**
PYUN	**Piuthan**	**10.37 289**	*e*Pn	**Pn**	**20 55 19.6**	**+0.7**
PYUN			*e*Sn	**Sn**	**20 57 13.0**	**-1.9**
SMLA	**Simla**	**16.07 295**	*e*P	**Pn**	**20 56 34.5**	**-1.5**
SONM	**Songino Array**	**24.60 20**	P	P	20 58 02.3	-7.9
	comp=E,0.1nm,0.5s,baz=195,slow=9.5,SNR=2.5					
WRA	**Warramunga Arr**	**59.52 135**	P	P	21 02 46.4	-7.1
	comp=E,0.6nm,0.4s,baz=323,slow=7.4,SNR=16					
ASAR	**Alice Springs**	**62.01 138**	P	P	21 03 03.6	-6.8
	comp=E,0.6nm,0.5s,baz=321,slow=6.7,SNR=13					

IDC 04 20:53:07.2±25.0, 4°13'N×126°29'E, h0km, mb3.7/4, mb1 3.9/4, mb1mx3.5/42, mbtmp3.8/4, Error ellipse: s-maj=421.9km s-min=103.1km az=147.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**22.10**	**182**	P	P	20 58 03.0	-1.2
	1.5nm,0.8s,baz=359,slow=11,SNR=3.5						
WRA	**Warramunga Arr**	**25.19**	**162**	P	P	20 58 34.7	0.0
	3.0nm,0.7s,baz=343,slow=10,SNR=14						
ASAR	**Alice Springs**	**28.61**	**165**	P	P	20 59 07.2	+1.8
	0.2nm,0.3s,baz=349,slow=8.0,SNR=5.1						
STKA	**Stephens Creek**	**38.66**	**159**	P	P	21 00 31.2	-1.3
	1.1nm,0.6s,baz=337,slow=9.9,SNR=3.9						

*ISCJB **04** 20:54:02.7±0.5, 38°.99N±0°.03×27°.60E±0°.03, h6km±5km, Error ellipse: s-maj=5.0km s-min=4.0km az=136.9*
*CSEM **04** 20:54:02.9±0.1, 38°.98N×27°.60E, h10km, MD2.8, Error ellipse: s-maj=3.9km s-min=2.6km az=36.0*
*DDA **04** 20:54:02.4, 38°.98N×27°.62E, h7km, Ml2.7*
*ISK **04** 20:54:02.3, 38°.98N×27°.57E, h8km, MD2.8*
ISC 04 20:54:02.7±0.9, 38°97N±0°.03×27°61E±0°.02, h14km±6km, n28, σ1°919/43, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AKS	**Akhisar**	**0.18**	**119**	*e*PG	**Pg**	**20 54 06.9**	**0.0**
AKS				*e*SG	**Sg**	**20 54 10.5**	**+0.7**
AKS	**Akhisar**	**0.18**	**119**	*e*Pg	**Pg**	**20 54 06.9**	**0.0**
AKS				*e*Sg	**Sg**	**20 54 10.5**	**+0.7**
DKL	**Dikili**	**0.56**	**281**	*e*PG	**Pg**	**20 54 13.5**	**-0.3**
DKL	**Dikili**	**0.56**	**281**	*e*Pg	**Pg**	**20 54 13.5**	**-0.3**
BALB	**Balikesir**	**0.70**	**17**	*e*PG	**Pg**	**20 54 16.2**	**-0.2**
BALB	**Balikesir**	**0.70**	**17**	*e*Pg	**Pg**	**20 54 16.2**	**-0.2**
BALY	**Balya**	**0.77**	**0**	*i* P	**Pg**	**20 54 17.3**	**-0.5**
BALY				*i* S	**Sg**	**20 54 27.7**	**-0.3**
BALY	**Balya**	**0.77**	**0**	P	**Pg**	**20 54 17.3**	**-0.5**
BALY				S	**Sg**	**20 54 27.7**	**-0.3**
AYVA	**Ayvalik**	**0.80**	**296**	*i* P	**Pb**	**20 54 17.9**	**-0.5**
AYVA				*i* S	**Sb**	**20 54 29.7**	**+0.7**
AYVA	**Ayvalik**	**0.80**	**296**	P	**Pb**	**20 54 17.9**	**-0.5**
AYVA				S	**Sb**	**20 54 29.7**	**+0.7**
DEMI	**Demirci**	**0.86**	**85**	*i* P	**Pb**	**20 54 19.6**	**0.0**
DEMI				*i* S	**Sb**	**20 54 31.4**	**+0.4**
DEMI	**Demirci**	**0.86**	**85**	P	**Pb**	**20 54 19.6**	**0.0**
DEMI				S	**Sb**	**20 54 31.4**	**+0.4**
MANT	**Manisa**	**0.88**	**122**	*i* P	Pg	20 54 13.1	-6.7
MANT				*i* S	**Sg**	**20 54 24.4**	**-6.9**
KULA	**Kula-Manisa**	**0.94**	**119**	*e*PG	**Pg**	**20 54 21.0**	**+0.2**
KULA				*e*SG	**Sn**	**20 54 35.4**	**+0.6**
KULA	**Kula-Manisa**	**0.94**	**119**	*e*Pg	**Pg**	**20 54 21.0**	**+0.2**
KULA				*e*Sg	**Sn**	**20 54 35.4**	**+0.6**
AYDB	**Zeytinkoy-Aydi**	**1.04**	**168**	*e*PG	**Pb**	**20 54 23.0**	**+0.3**
AYDB				*e*SG	**Sn**	**20 54 38.0**	**+0.5**
AYDB	**Zeytinkoy-Aydi**	**1.04**	**168**	*e*Pg	**Pb**	**20 54 23.0**	**+0.3**
AYDB				*e*Sg	**Sn**	**20 54 38.0**	**+0.5**
SIMA	**Simav-Kutahya**	**1.07**	**83**	*e*PN	**Pn**	**20 54 24.0**	**+0.5**
SIMA	**Simav-Kutahya**	**1.07**	**83**	*e*Pn	**Pn**	**20 54 24.0**	**+0.5**
DGB	**˙zmir**	**1.08**	**212**	*i* P	**Pg**	**20 54 23.2**	**-0.4**
DGB				*i* S	**Sb**	**20 54 38.4**	**+1.2**
EZN	**Ezine**	**1.32**	**311**	*e*PN	**Pn**	**20 54 26.8**	**+0.1**
EZN	**Ezine**	**1.32**	**311**	*e*Pn	**Pn**	**20 54 26.8**	**+0.1**
KCTX	**Karacabey (Bur**	**1.42**	**24**	*e*PN	**Pn**	**20 54 28.2**	**0.0**
KCTX				*e*SN	**Sg**	**20 54 48.4**	**-0.1**
KCTX	**Karacabey (Bur**	**1.42**	**24**	*e*Pn	**Pn**	**20 54 28.2**	**0.0**
KCTX				*e*Sn	**Sg**	**20 54 48.4**	**-0.1**
BOZC	**Bozcaada**	**1.49**	**306**	*e*PN	**Pb**	**20 54 30.0**	**-0.2**
BOZC	**Bozcaada**	**1.49**	**306**	*e*Pn	**Pb**	**20 54 30.0**	**-0.2**
TVSB	**Tavsanli**	**1.51**	**71**	*e*PN	**Pg**	**20 54 31.6**	**-0.3**
TVSB	**Tavsanli**	**1.51**	**71**	*e*Pn	**Pg**	**20 54 31.6**	**-0.3**

*NIED **04** 21:31:00, 36°.30N×141°.20E, h35km, Mw3.9 Best double couple: M0 6.77000×10^14 NP1: φs 226.00000°, δ4.00000°, λ125.00000°. NP2: φs 11.00000°, δ87.00000°, λ88.00000°.*
*IDC **04** 21:31:38.3±1.2, 36°.38N×141°.23E, h0km, mb3.7/5, mb1 3.8/7, mb1mx3.6/42, mbtmp3.7/7, ML3.4/2, MS2.6/2, Ms1 2.6/2, ms1mx2.5/37, Error ellipse: s-maj=30.7km s-min=23.7km az=94.0*
*ISCJB **04** 21:31:42.2±0.8, 36°.27N±0°.03×141°.12E±0°.08, h42km±8km, mb3.6/5, MS4.4/1, Error ellipse: s-maj=10.2km s-min=5.3km az=2.6*
*JMA **04** 21:31:42.3±0.1, 36°.24N×141°.08E, h46km±2km, M3.4*
JMA Felt I J1.
ISC 04 21:31:41.9±1.4, 36°31N±0°.03×141°12E±0°.07, h24km±10km, n23, σ0°64/24, mb3.6/5, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JHO	**Hitachi**	**0.54**	**305**	P	**Pn**	**21 31 53.8**	**-0.2**
JHO				S	**Sn**	**21 32 01.9**	**-0.4**
CHOJ	**Chosi**	**0.64**	**199**	P	**Pb**	**21 31 54.1**	**-0.3**
CHOJ				S	**Sb**	**21 32 02.1**	**-0.8**
JYT	**Yasato**	**0.75**	**264**	P	**Pb**	**21 31 56.2**	**-0.1**
JYT				S	**Sb**	**21 32 05.8**	**-0.3**
ONAJ	**Iwakimizuishiy**	**0.83**	**342**	P	**Pb**	**21 31 57.9**	**+0.2**
ONAJ				S	**Sb**	**21 32 09.1**	**+0.5**
JFK	**Kawauchi**	**1.07**	**350**	P	**Pn**	**21 32 01.3**	**-0.2**
JFK				*e*S	**Sb**	**21 32 15.0**	**-0.5**
JAG	**Ashikaga**	**1.35**	**275**	P	**Pn**	**21 32 05.2**	**0.0**
JAG				S	**Sn**	**21 32 22.1**	**-0.2**
JFT	**Otama**	**1.36**	**333**	P	**Pb**	**21 32 06.8**	**+0.1**
JFT				S	**Sb**	**21 32 24.2**	**+0.5**
MJAR	**Matsushiro Arr**	**2.36**	**277**	Pn	**Pn**	**21 32 20.2**	**+1.1**
	6.9nm,0.3s,baz=109,slow=8.0,SNR=44						
MJAR				LR	LR	21 33 25.4	
	comp=Z,154nm,20.0s,baz=130,slow=44						
MAT	**Matsushiro**	**2.36**	**277**	P	**Pn**	**21 32 20.4**	**+1.3**
MAT				S	**Sn**	**21 32 46.9**	**-0.4**
JHJ	**Hachijo jima 2**	**3.37**	**199**	Pn	**Pn**	**21 32 34.3**	**+1.4**
	11nm,0.3s,baz=333,slow=23,SNR=7.3						
JHJ				Sn	**Sn**	**21 33 11.7**	**-0.4**
	24nm,0.3s,baz=122,slow=24,SNR=11						
KSRS	**Korea Array**	**10.63**	**280**	LR	LR	21 38 23.0	
	comp=Z,32nm,20.9s,baz=62,slow=38						
H11N2	**WAKE ISLAND Hy**	**27.99**	**119**	T	T	22 06 49.0	
	baz=312,slow=75,SNR=23						
H11N1	**WAKE ISLAND Hy**	**28.00**	**119**	T	T	22 06 47.1	
	baz=312,slow=75,SNR=21						
SONM	**Songino Array**	**28.00**	**305**	P	**P**	**21 37 30.7**	**-0.2**
	0.5nm,0.6s,baz=99,slow=7.9,SNR=4.1						
H11N3	**WAKE ISLAND Hy**	**28.01**	**119**	T	T	22 06 47.9	
	baz=312,slow=75,SNR=20						
H11S1	**WAKE ISLAND Hy**	**28.68**	**121**	T	T	22 07 39.1	
	baz=313,slow=75,SNR=30						
H11S3	**WAKE ISLAND Hy**	**28.68**	**121**	T	T	22 07 32.2	
	baz=313,slow=75,SNR=20						
H11S2	**WAKE ISLAND Hy**	**28.69**	**121**	T	T	22 07 38.9	
	baz=313,slow=75,SNR=19						
ZALV	**Zalesovo Beam**	**42.23**	**313**	P	**P**	**21 39 33.0**	**+0.2**
	1.0nm,0.5s,baz=102,slow=8.2,SNR=5.3						
ILAR	**Eielson Array**	**50.23**	**32**	P	**P**	**21 40 35.8**	**+0.2**
	0.5nm,0.7s,baz=264,slow=7.0,SNR=6.5						
WRA	**Warramunga Arr**	**56.31**	**188**	P	**P**	**21 41 21.0**	**+0.3**
	0.4nm,0.6s,baz=4.7,slow=7.4,SNR=6.4						
WSAR	**Wadi Sarin**	**70.83**	**285**	LR	LR	22 17 26.6	
	comp=Z,216nm,20.4s,slow=39						
NOA	**NORSAR Array B**	**74.76**	**337**	P	**P**	**21 43 18.7**	**-0.9**
	0.7nm,0.7s,baz=39,slow=6.0,SNR=3.7						

*ISCJB **04** 21:44:17.7±0.8, 19°.16S±0°.02×168°.67E±0°.02, h42km±6km, mb5.7/313, MS5.4/371, Error ellipse: s-maj=3.6km s-min=3.0km az=177.4*
*MOS **04** 21:44:18.6±1.1, 19°.11S×168°.68E, h48km, mb5.9/84, MS5.3/85, Error ellipse: s-maj=6.7km s-min=6.3km az=89.3*
*NEIC **04** 21:44:18.1±0.1, 19°.18S×168°.71E, h37km, mb5.7/248, ME5.7, MS5.4/297, MW5.9, MW5.8, Error ellipse: s-maj=4.2km s-min=3.5km az=140.0, Moment Tensor Solution. s39 Moment tensor: Scale 10^17 Nm; M_rr 9.67; M_θθ -6.81; M_φφ -2.85; M_rθ 0.87; M_θφ 4.47; M_φr -0.45; Best double couple: M0 9.70000×10^17 NP1: φs 122.00000°, δ48.00000°, λ89.00000°. NP2: φs 304.00000°, δ42.00000°, λ91.00000°. Principal axes: T 9.7200, Plg87.0000°, Azm22.0000°; N 0.0600, Plg1.0000°, Azm123.0000°; P -9.7700, Plg3.0000°, Azm213.0000°; Broadband fault plane solution: P waves. NP1: φs 345.00000°, δ45.00000°, λ90.00000°. NP2: φs 165.00000°, δ45.00000°, λ90.00000°. Principal axes: T Plg90.0000°, Azm0.0000°; N Plg0.0000°, Azm0.0000°; P Plg0.0000°, Azm75.0000°; Depth from synthetics of broadband displacement seismograms. Energy computed from BB mechanism.*
NEIC Felt at Noumea, New Caledonia.
*GCMT **04** 21:44:18.1±0.1, 19°.20S×168°.42E, h49km, MW5.9/140, Moment Tensor Solution. s140, c286; s136, c375; Duration: 2s1 Moment tensor: Scale 10^18 Nm; M_rr 0.73±.01; M_θθ 0.03±.01; M_φφ -0.75±.01; M_rθ -0.02±.01; M_θφ 0.28±.01; M_φr -0.02±.01; Best double couple: M0 0.78500×10^18 NP1: φs 164.00000°, δ45.00000°, λ93.00000°. NP2: φs 340.00000°, δ45.00000°, λ87.00000°. Principal axes: T 0.7270, Plg88.0000°, Azm151.0000°; N 0.1150, Plg2.0000°, Azm342.0000°; P -0.8420, Plg0.0000°, Azm252.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*
*IDC **04** 21:44:19.8±1.6, 19°.26S×168°.77E, h53km±13km, mb5.3/31, mb1 5.3/33, mb1mx5.3/38, mbtmp5.5/33, ML4.8/2, MS5.2/22, Ms1 5.2/22, ms1mx5.2/23 Error ellipse: s-maj=11.2km s-min=9.0km az=104.0*
*BJI **04** 21:44:21.2, 18°.72S×168°.62E, h59km, mb5.6/79, mB5.8/65, Ms5.4/75, Ms7 5.2/70*
*NEIC **04** 21:44:24.7±0.0, 19°.15S×168°.46E, h50km, Moment Tensor Solution. s35 Moment tensor: Scale 10^17 Nm; M_rr 6.98; M_θθ -1.24; M_φφ -5.74; M_rθ 0.49; M_θφ 1.78; M_φr 0.23; Best double couple: M0 6.70000×10^17 NP1: φs 345.00000°, δ45.00000°, λ96.00000°. NP2: φs 157.00000°, δ45.00000°, λ84.00000°. Principal axes: T 7.0200, Plg85.0000°, Azm337.0000°; N -0.6600, Plg4.0000°, Azm160.0000°; P -6.3600, Plg0.0000°, Azm70.0000°;*
ISC 04 21:44:19.8±0.3, 19°18S±0°.03×168°71E±0°.03, h53km±2km, h52km: pP-P, n1469, σ1°50/1382, mb5.7/306, MS5.4/388, 63C-29D, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**3.58**	**216**	P	**Pn**	**21 45 12.4**	**-0.5**
	137nm,0.3s,baz=51,slow=12,SNR=474						
DZM				S	**Sn**	**21 45 51.7**	**-2.2**
	988nm,0.3s,baz=142,slow=15,SNR=8.4						
DZM				LR	LR	21 46 31.8	
	comp=E,65µm,21.6s,baz=108,slow=37						
DZM	**Mont Dzumac**	**3.58**	**216**	*e*Pn	**Pn**	**21 45 10.2**	**-2.7**
	2µm,0.7s						
DZM				*e*Sn	**Sn**	**21 45 51.0**	**-3.0**
	11µm,1.0s						
MSVF	**Nonsavu**	**8.98**	**82**	*e*P	**Pn**	**21 46 31.0**	**+4.1**
MSVF	**Nonsavu**	**8.98**	**82**	*e*Pn	**Pn**	**21 46 31.0**	**+4.1**
HNR	**Honiara**	**12.88**	**318**	*e*P	**Pn**	**21 47 20.0**	**-0.2**
HNR	**Honiara**	**12.88**	**318**	*e*P	**Pn**	**21 47 21.5**	**+1.2**
HNR	**Honiara**	**12.88**	**318**	*e*Pn	**Pn**	**21 47 21.5**	**+1.2**
FUNA	**Funafuti**	**14.68**	**45**	*e*Pn	**Pn**	**21 47 45.6**	**+1.2**
LHI	**Lord Howe Isla**	**15.06**	**213**	*e*Pn	**Pn**	**21 47 47.3**	**-1.9**
	1µm,1.9s						
LHI				*e*Sn	**Sn**	**21 50 40.2**	**+5.2**
RAO	**Raoul Island**	**15.77**	**132**	LR	LR	21 52 54.3	
	comp=Z,9µm,19.0s,baz=281,slow=33						
OUZ	**Omahuta**	**16.55**	**166**	*e*Pn	**P**	**21 48 09.5**	**-0.6**
	246nm,1.0s						
OUZ				*e*Sn	**Sn**	**21 51 05.7**	**-5.5**
OUZ	**Omahuta**	**16.55**	**166**	*e*PN	**P**	**21 48 09.9**	**-0.2**
EIDS	**Eidsvold**	**17.43**	**246**	P	**P**	**21 48 22.0**	**+2.0**
	baz=18,SNR=22						
EIDS	**Eidsvold**	**17.43**	**246**	*e*Pn	**P**	**21 48 22.2**	**+2.2**
	645nm,1.9s						
EIDS				*e*Sn	**Sn**	**21 51 33.1**	**+0.4**
KUZ	**Kuaotunu**	**18.55**	**162**	*e*PN	**Pn**	**21 48 34.4**	**+1.5**
ARMA	**Armidale**	**19.10**	**231**	P	**Pn**	**21 48 41.9**	**+2.3**
	baz=19,SNR=20						
ARMA	**Armidale**	**19.10**	**231**	*e*P	**Pn**	**21 48 40.9**	**+1.2**
ARMA				*e*Sn	**S**	**21 52 08.9**	**-3.4**
AFI	**Afiamalu**	**19.42**	**77**	P	**P**	**21 48 41.5**	**-0.4**
	2.1nm,0.3s,baz=24,slow=22,SNR=30						
AFI				LR	LR	21 56 00.0	
	comp=Z,2µm,18.6s,baz=236,slow=36						
AFI	**Afiamalu**	**19.42**	**77**	*e*P	**Pn**	**21 48 43.0**	**-0.5**
AFI				*e*S	S	21 52 07.0	-12
AFI				pmax	pmax		
	comp=Z,1µm,1.6s						
AFI	**Afiamalu**	**19.42**	**77**	*e*P	**Pn**	**21 48 43.0**	**-0.5**
	comp=Z,1µm,1.6s						
AFI				*e*S	S	21 52 07.0	-12
RMQ	**Roma**	**19.76**	**245**	P	**Pn**	**21 48 48.5**	**+1.0**
	baz=20,SNR=28						
MARZ	**Manawahe**	**19.98**	**161**	*e*PN	**Pn**	**21 48 50.6**	**+0.7**
HIZ	**Hauiti**	**19.99**	**166**	*e*P	**Pn**	**21 48 50.7**	**+0.7**
	comp=Z,297nm,1.0s						
HIZ				*e*S	S	21 52 17.8	-12
HIZ	**Hauiti**	**19.99**	**166**	*e*PN	**Pn**	**21 48 50.1**	**+0.1**
HAZ	**Te Kaha**	**20.13**	**159**	*e*PN	**P**	**21 48 49.9**	**+0.5**
NIUE	**Niue**	**20.18**	**93**	P	**P**	**21 48 50.4**	**+0.2**
	baz=20,SNR=5.0						
RUGZ	**Raukumara Rang**	**20.28**	**159**	*e*PN	Pn	21 48 53.5	-0.1
URZ	**Urewera**	**20.37**	**161**	P	**P**	**21 48 52.2**	**+0.2**
	comp=Z,79nm,0.7s,baz=339,slow=3.3,SNR=31						
URZ	**Urewera**	**20.37**	**161**	*e*P	Pn	21 48 53.4	-1.0
URZ				*e*S	**S**	**21 52 32.6**	**-4.7**
URZ				LR	LR		
	comp=Z,8µm,20.0s						
URZ	**Urewera**	**20.37**	**161**	*e*PN	Pn	21 48 54.2	-0.3
TWGZ	**Tauwhareparae**	**20.58**	**159**	*e*PN	**P**	**21 48 55.4**	**+1.1**
PUZ	**Puketiti**	**20.58**	**158**	*e*PN	**P**	**21 48 54.0**	**-0.3**
WTVZ	**West Tongariro**	**20.74**	**165**	*e*PN	**P**	**21 48 57.4**	**+1.3**
TARA	**Tarawa**	**20.82**	**12**	*e*P	**P**	**21 48 57.7**	**+0.7**
	comp=Z,902nm,1.4s						
TARA				LR	LR		
	comp=Z,6µm,20.0s						
WNVZ	**Wahianoa**	**20.94**	**165**	*e*PN	Pn	21 49 01.2	-0.2
RIGZ	**Rimuhau**	**20.98**	**160**	*e*PN	**P**	**21 48 58.6**	**-0.1**
BKZ	**Black Stump Fm**	**21.02**	**163**	*e*P	**P**	**21 49 00.4**	**+1.3**
	comp=Z,231nm,0.8s						
MGCD	**Mangrove Creek**	**21.05**	**225**	P	**P**	**21 49 03.6**	**+4.2**
	baz=21,SNR=13						
CTA	**Charters Tower**	**21.17**	**264**	P	**P**	**21 49 03.4**	**+2.5**
	comp=Z,33nm,0.6s,baz=88,slow=12,SNR=34						
CTA				LR	LR	21 56 03.3	
	comp=Z,14µm,21.8s,baz=109,slow=33						
CTAO	**Charters Tower**	**21.17**	**264**	*e*P	**P**	**21 49 03.1**	**+2.3**
CTAO				pmax	pmax		
	comp=Z,1µm,1.6s						
CTAO	**Charters Tower**	**21.17**	**264**	*e*P	**P**	**21 49 03.1**	**+2.3**
	comp=Z,1µm,1.6s						
KNZ	**Kokohu**	**21.24**	**160**	*e*PN	**P**	**21 49 01.0**	**-0.4**
KWHZ	**Kaweka Forest**	**21.25**	**163**	*e*PN	**P**	**21 49 03.7**	**+2.2**
MCHZ	**McNeill Hill**	**21.34**	**163**	*e*PN	**P**	**21 49 04.9**	**+2.5**
RIV	**Riverview**	**21.39**	**224**	P	**P**	**21 49 07.6**	**+4.5**
	baz=22						
MHGZ	**Mahia Peninsul**	**21.44**	**160**	*e*PN	**P**	**21 49 05.1**	**+1.6**
QRZ	**Quartz Range**	**21.82**	**172**	*e*PN	**P**	**21 49 09.7**	**+2.1**
PXZ	**Pawanui**	**21.93**	**163**	*e*PN	**P**	**21 49 09.8**	**+1.1**
RABL	**Rabaul**	**21.98**	**311**	*e*P	**P**	**21 49 09.3**	**-0.2**
	comp=Z,1µm,1.4s						
RABL				*e*S	**S**	**21 53 09.1**	**-0.2**
MRZ	**Mangatainoka R**	**22.20**	**166**	*e*PN	**P**	**21 49 11.7**	**0.0**
BFZ	**Birch Farm**	**22.38**	**165**	*e*P	**P**	**21 49 12.4**	**-1.2**
	comp=Z,168nm,1.0s						
BFZ				LR	LR		
	comp=Z,9µm,19.0s						
BFZ	**Birch Farm**	**22.38**	**165**	*e*PN	**P**	**21 49 13.8**	**+0.2**
SNZO	**South Karori**	**22.64**	**168**	*e*P	**P**	**21 49 15.9**	**-0.5**
	comp=Z,554nm,1.5s						
SNZO				LR	LR		
	comp=Z,12µm,20.0s						
THZ	**Tophouse**	**22.79**	**172**	*e*P	**P**	**21 49 19.7**	**+1.6**
	comp=Z,186nm,0.9s						
THZ				LR	LR		
	comp=Z,9µm,20.0s						
THZ	**Tophouse**	**22.79**	**172**	*e*PN	**P**	**21 49 19.2**	**+1.2**
PMG	**Port Moresby**	**23.01**	**292**	P	**P**	**21 49 22.4**	**+2.0**
	comp=Z,152nm,0.9s,baz=110,slow=8.4,SNR=21						
PMG				LR	LR	21 57 13.1	
	comp=Z,10µm,19.9s,baz=143,slow=34						
PMG	**Port Moresby**	**23.01**	**292**	*e*P	**P**	**21 49 21.3**	**+0.9**
PMG				pmax	pmax		
	comp=Z,838nm,0.8s						
PMG	**Port Moresby**	**23.01**	**292**	*e*P	**P**	**21 49 21.1**	**+0.7**
	comp=Z,325nm,1.0s						
MTSU	**Mount Surprise**	**23.14**	**269**	P	**P**	**21 49 22.9**	**+1.2**
	baz=23,SNR=65						
CNB	**Canberra Magne**	**23.47**	**223**	P	**P**	**21 49 26.0**	**+1.1**
	baz=24,SNR=65						
KHZ	**Kahutara**	**23.52**	**171**	*e*P	**P**	**21 49 25.5**	**+0.4**
	comp=Z,199nm,0.9s						
KHZ				LR	LR		
	comp=Z,9µm,20.0s						
KHZ	**Kahutara**	**23.52**	**171**	*e*PN	**P**	**21 49 25.0**	**-0.1**
INZ	**Inchbonnie**	**23.59**	**175**	PN	**P**	**21 49 25.2**	**-0.5**
QLP	**Quilpie**	**23.70**	**247**	P	**P**	**21 49 27.1**	**+0.2**
	baz=24,SNR=131						
CAN	**Canberra**	**23.71**	**223**	P	**P**	**21 49 28.1**	**+1.1**
	baz=24						
CAN	**Canberra**	**23.71**	**223**	*e*P	**P**	**21 49 26.9**	**-0.1**
CAN				*e*		21 53 05.2	
CAN				*e*S	**S**	**21 53 35.5**	**-2.9**
CAN				pmax	pmax		
	comp=Z,881nm,1.7s						
CAN	**Canberra**	**23.71**	**223**	*e*P	**P**	**21 49 26.9**	**-0.1**
	comp=Z,881nm,1.7s						
CAN				*e*PcP	**PcP**	**21 53 05.2**	**-4.8**
CAN				*e*S	**S**	**21 53 35.5**	**-2.9**
LTZ	**Lake Taylor**	**23.72**	**173**	*e*P	**P**	**21 49 27.1**	**+0.1**
	comp=Z,254nm,1.0s						
LTZ				LR	LR		
	comp=Z,10µm,21.0s						
LTZ	**Lake Taylor**	**23.72**	**173**	*e*PN	**P**	**21 49 26.4**	**-0.6**
CMSA	**Cobar Meteorol**	**24.11**	**235**	P	**P**	**21 49 30.5**	**-0.1**
	baz=24,SNR=24						
OXZ	**Oxford**	**24.24**	**174**	*e*P	**P**	**21 49 32.0**	**+0.3**
	comp=Z,918nm,1.8s						
OXZ				LR	LR		
	comp=Z,11µm,20.0s						
FOZ	**Fox Glacier**	**24.30**	**178**	*e*P	**P**	**21 49 31.4**	**-0.7**
	comp=Z,589nm,1.2s						
FOZ	**Fox Glacier**	**24.30**	**178**	*e*PN	**P**	**21 49 31.7**	**-0.5**
RPZ	**Rata Peaks**	**24.54**	**176**	P	**P**	**21 49 34.4**	**0.0**
	comp=Z,119nm,0.8s,baz=317,slow=3.1,SNR=43						
RPZ	**Rata Peaks**	**24.54**	**176**	*e*P	**P**	**21 49

comp=Z,196nm,1.1s
KWAJ Kwajalein Atol 27.82 358 PFAKE 21 50 20.0 +16
KWAJ LR LR
comp=Z,4µm,21.0s
ARPS Mount Arapiles 29.35 228 P **P** **21 50 19.5 +1.8**
baz=30,SNR=7.7
RAR Rarotonga 29.62 99 PFAKE 21 50 30.0 +10
RAR LR LR
comp=Z,6µm,21.0s
TAU Tasmania Unive 29.76 213 *e*P **P** **21 50 23.4 +2.2**
TAU pmax pmax
comp=Z,211nm,1.6s
TAU MLR MLR
comp=Z,9µm,18.0s
TAU Tasmania Unive 29.76 213 *e*P **P** **21 50 23.4 +2.2**
comp=Z,211nm,1.6s
TAU LR LR
comp=Z,9µm,18.0s
HTT Hallett 30.12 236 P **P** **21 50 25.6 +1.0**
baz=30,SNR=20
JAY Jayapura 32.02 298 P **P** **21 50 41.9 +0.4**
comp=Z,2.5nm,0.8s,baz=271,slow=22,SNR=9.8
JAY LR LR 22 02 49.7
comp=Z,185nm,21.9s,baz=165,slow=35
JAY Jayapura 32.02 298 P **P** **21 50 42.2 +0.7**
WR0 Warramunga Arr 32.18 263 PFAKE 21 50 50.0 +7.1
WR0 LR LR
comp=Z,8µm,20.0s
BBOO Buckleboo 32.19 239 P **P** **21 50 43.9 +1.1**
baz=32,SNR=15
BBOO Buckleboo 32.19 239 *e*P **P** **21 50 43.0 +0.2**
comp=Z,417nm,1.8s
BBOO LR LR
comp=Z,8µm,19.0s
WR9 Warramunga Arr 32.20 263 PFAKE 21 50 50.0 +6.9
WR9 LR LR
comp=Z,8µm,21.0s
WR8 Warramunga Arr 32.22 263 PFAKE 21 51 00.0 +17
WR8 LR LR
comp=Z,8µm,20.0s
WR7 Warramunga Arr 32.24 263 PFAKE 21 51 00.0 +17
WR7 LR LR
comp=Z,8µm,20.0s
WR6 Warramunga Arr 32.26 263 PFAKE 21 51 00.0 +16
WR6 LR LR
comp=Z,9µm,18.0s
WR5 Warramunga Arr 32.28 263 PFAKE 21 51 00.0 +16
WR5 LR LR
comp=Z,8µm,21.0s
WR4 Warramunga Arr 32.30 263 PFAKE 21 51 00.0 +16
WR4 LR LR
comp=Z,8µm,21.0s
WR3 Warramunga Arr 32.32 263 PFAKE 21 51 00.0 +16
WR3 LR LR
comp=Z,9µm,18.0s
WB0 Warramunga Arr 32.33 263 PFAKE 21 51 00.0 +16
WB0 LR LR
comp=Z,9µm,18.0s
WC3 Warramunga Arr 32.34 263 PFAKE 21 51 00.0 +16
WC3 LR LR
comp=Z,8µm,20.0s
WB9 Warramunga Arr 32.34 263 PFAKE 21 51 00.0 +16
WB9 LR LR
comp=Z,19µm,18.0s
WB8 Warramunga Arr 32.34 263 PFAKE 21 51 00.0 +16
WB8 LR LR
comp=Z,9µm,18.0s
WC2 Warramunga Arr 32.34 263 PFAKE 21 51 00.0 +16
WC2 LR LR
comp=Z,11µm,18.0s
WR2 Warramunga Arr 32.34 263 PFAKE 21 51 00.0 +16
WR2 LR LR
comp=Z,7µm,21.0s
WB5 Warramunga Arr 32.35 263 PFAKE 21 51 00.0 +16
WB5 LR LR
comp=Z,10µm,18.0s
WB6 Warramunga Arr 32.35 263 PFAKE 21 51 00.0 +16
WB6 LR LR
comp=Z,7µm,21.0s
WB4 Warramunga Arr 32.35 263 PFAKE 21 51 00.0 +16
WB4 LR LR
comp=Z,9µm,18.0s
WB3 Warramunga Arr 32.35 263 PFAKE 21 51 00.0 +16
WB3 LR LR
comp=Z,7µm,21.0s
WB2 Warramunga Arr 32.36 263 *e*P **P** **21 50 44.0 -0.5**
WB2 *e*PP **PnPn** **21 51 50.0 -2.7**
WB2 *e*PcP **PcP** **21 53 30.1 -1.3**
WB2 LR LR
comp=Z,8µm,20.0s
WRAB Tennant Creek 32.36 263 *c i*P **P** **21 50 43.8 -0.7**
WRAB pmax pmax
comp=Z,73nm,1.0s
WRAB Tennant Creek 32.36 263 *e*P **P** **21 50 44.1 -0.4**
comp=Z,124nm,1.4s
WRAB *e*PP **PnPn** **21 51 50.0 -2.7**
WRAB LR LR
comp=Z,8µm,20.0s
WC4 Warramunga Arr 32.37 263 PFAKE 21 51 00.0 +15
WC4 LR LR
comp=Z,8µm,21.0s
WR1 Warramunga Arr 32.37 263 *e*P **P** **21 50 43.7 -0.9**
comp=Z,205nm,1.6s
WR1 *e*PP **PnPn** **21 51 55.4 +2.6**
WR1 *e*PcP **PcP** **21 53 32.2 +0.9**
WR1 *e*ScS ScS 22 00 58.1 -12
WR1 *e* 22 22 10.1
WRA Warramunga Arr 32.37 263 P **P** **21 50 43.7 -0.9**
comp=Z,22nm,0.9s,baz=88,slow=8.4,SNR=48
WRA PP **PnPn** **21 51 55.4 +2.6**
comp=Z,22nm,1.1s,baz=93,slow=12,SNR=7.7
WRA PcP **PcP** **21 53 32.2 +0.9**
comp=Z,9.6nm,0.6s,baz=88,slow=2.9,SNR=7.5
WRA PKiKP **PKiKP** **22 00 58.1 -1.0**
comp=Z,2.9nm,0.7s,baz=358,slow=0.3,SNR=19
WRA LR LR 22 02 52.9
comp=Z,8µm,21.7s,baz=95,slow=34
WRA P3KPbc 22 22 10.1
comp=Z,1.6nm,0.9s,baz=295,slow=2.7,SNR=7.4
WC1 Warramunga Arr 32.37 263 PFAKE 21 51 00.0 +15
WC1 LR LR
comp=Z,8µm,18.0s
GENI Genyem 32.42 297 P **P** **21 50 46.2 +1.2**
GENI S pP 21 51 11.5 +13
AS01 Alice Springs 32.62 256 *e*P **P** **21 50 45.0 -1.7**
AS01 *e*PcP **PcP** **21 53 31.6 -0.4**
AS31 Alice Springs 32.66 256 *e*P **P** **21 50 46.3 -0.8**
comp=Z,53nm,0.7s
AS31 *e*PcP **PcP** **21 53 31.9 -0.3**
AS31 *e*S **S** **21 55 59.4 -0.4**
AS31 *e*ScS ScS 22 00 58.3 -13
AS31 *e* 22 22 09.3
ASAR Alice Springs 32.66 256 P **P** **21 50 46.2 -1.0**
comp=Z,60nm,0.7s,baz=84,slow=9.0,SNR=177
ASAR PcP **PcP** **21 53 31.9 -0.2**
comp=Z,9.6nm,0.8s,baz=98,slow=3.5,SNR=5.1
ASAR S **S** **21 55 59.4 -0.4**
comp=Z,6.2nm,1.0s,baz=86,slow=17,SNR=4.4
ASAR PKiKP **PKiKP** **22 00 58.3 -0.9**
comp=Z,2.4nm,0.9s,baz=136,slow=0.9,SNR=10
ASAR LR LR 22 03 42.8
comp=Z,13µm,20.3s,baz=101,slow=36
ASAR P3KPbc 22 22 09.3
comp=Z,0.7nm,0.6s,baz=265,slow=4.0,SNR=7.2
KDU Kakadu 35.39 275 P **P** **21 51 11.5 +0.7**
baz=36,SNR=6.5
MTN Manton Dam 36.61 274 *e*P **P** **21 51 21.0 -0.2**
comp=Z,251nm,0.6s
MTN LR LR
comp=Z,12µm,22.0s
H11S2 WAKE ISLAND Hy 37.49 357 T T 22 30 51.4
baz=180,slow=77,SNR=9.0
H11S3 WAKE ISLAND Hy 37.49 357 T T 22 30 51.7
baz=180,slow=77,SNR=8.2
H11S1 WAKE ISLAND Hy 37.51 357 T T 22 31 00.0
baz=180,slow=77,SNR=7.3
WRKA Warakurna 37.80 254 P **P** **21 51 31.3 +0.1**
baz=38,SNR=39
KNRA Kununurra 38.22 269 P **P** **21 51 34.4 -0.4**
baz=38,SNR=12
FORT Forrest 38.42 244 P **P** **21 51 37.3 +0.8**
baz=38,SNR=17
FORT Forrest 38.42 244 *e*P **P** **21 51 36.4 0.0**
comp=Z,5µm,1.5s
FORT LR LR
comp=Z,92µm,20.0s

TBI Tubuai 39.10 104 *e*P **P** **21 51 43.9 +1.7**
comp=Z,309nm,1.1s
TBI *e*S **S** **21 57 38.7 +0.5**
comp=Z,1µm,33.5s
TBI *e*LQ LQ 22 00 42.2
comp=Z,10µm,32.8s
TBI *e*LR LR 22 02 21.0
comp=Z,10µm,30.2s,baz=263
FAKI Fak Fak 39.13 290 P **P** **21 51 42.2 -0.3**
FAKI S pP 21 52 09.6 +13
FAKI Fak Fak 39.13 290 *e*P **P** **21 51 42.4 -0.2**
comp=Z,88nm,0.8s
FAKI LR LR
comp=Z,4µm,21.0s
PPT2 Papeete2 39.55 95 *e*S **S** **21 57 46.2 +1.0**
comp=Z,2µm,29.5s
PPT2 *e*LQ LQ 22 00 52.4
comp=Z,10µm,28.8s
PPT2 *e*LR LR 22 02 34.2
comp=Z,12µm,27.0s,baz=253
PPT Papeete 39.55 95 LR LR 22 06 45.1
comp=Z,2µm,18.1s,baz=252,slow=34
TIAR Tiarei 39.77 95 *e*P **P** **21 51 50.0 +2.2**
comp=Z,20nm,1.0s
GUMO Guam 40.15 322 LR LR 22 06 49.3
comp=Z,3µm,21.3s,baz=137,slow=34
FITZ Fitzroy Crossi 40.75 264 LR LR 22 09 00.7
comp=Z,1µm,18.6s,baz=86,slow=36
FITZ Fitzroy Crossi 40.75 264 P **P** **21 51 55.4 -0.6**
baz=41,SNR=89
FITZ Fitzroy Crossi 40.75 264 *e*P **P** **21 51 55.0 -1.0**
comp=Z,540nm,1.6s
FITZ LR LR
comp=Z,7µm,20.0s
SWI Sorong 40.96 292 P **P** **21 51 57.9 +0.2**
NLAI Namlea 43.62 286 P **P** **21 52 20.4 +1.0**
NLAI S pP 21 52 46.3 +13
SOEI Soe 43.94 276 P **P** **21 52 24.2 +2.1**
SOEI S pP 21 52 50.2 +14
SOEI Soe 43.94 276 *e*P **P** **21 52 24.1 +2.1**
comp=Z,417nm,1.1s
SOEI LR LR
comp=Z,6µm,22.0s
BATI Baumata 44.37 275 P **P** **21 52 27.6 +2.2**
LBMI Labuha 44.39 290 P sP 21 52 49.6 +3.9
MBWA Marble Bar 45.88 259 *e*P **P** **21 52 37.2 -0.1**
comp=Z,130nm,1.0s
MBWA LR LR
comp=Z,6µm,20.0s
MBWA Marble Bar 45.88 259 P **P** **21 52 38.4 +1.1**
SNR=14
MMRI Maumere 46.19 276 *e*P **P** **21 52 39.9 +0.1**
comp=Z,243nm,1.0s
MEEK Meekatharra 46.51 251 P **P** **21 52 41.3 -0.9**
baz=47,SNR=84
BBSI Bau Bau 46.93 281 P **P** **21 52 47.3 +1.7**
BBSI S pP 21 53 11.9 +12
BASI Baing, Sumba 47.28 274 P pP 21 53 02.4 0.0
KLBR Kellerberrin 47.29 244 P **P** **21 52 47.8 -0.4**
baz=47,SNR=17
KDI Kendari 47.45 283 P **P** **21 52 50.5 +0.9**
comp=Z,50nm,1.1s,comp=Z,1µm
WSI Waingapu 47.70 274 P pP 21 53 05.7 0.0
NWAO Narrogin (SRO) 47.80 243 P **P** **21 52 52.3 +0.1**
comp=Z,62nm,0.9s,baz=316,slow=8.1,SNR=13
NWAO LR LR 22 13 42.4
comp=Z,9µm,19.2s,baz=323,slow=37
NWAO Narrogin (SRO) 47.80 243 P **P** **21 52 52.5 +0.3**
baz=48,SNR=6.1
NWAO P **P** **21 52 52.5 +0.3**
baz=48,SNR=6.1
NWAO Narrogin (SRO) 47.80 243 *e*P **P** **21 52 51.5 -0.6**
comp=Z,315nm,1.5s
NWAO LR LR
comp=Z,9µm,19.0s
BLDU Ballidu 48.16 246 P **P** **21 52 54.8 -0.1**
baz=48,SNR=9.5
MORW Morawa 48.73 248 P **P** **21 52 59.2 -0.2**
baz=49,SNR=10
KAPI Kappang 49.72 280 *e*P **P** **21 53 07.6 +0.5**
KAPI Kappang 49.72 280 P **P** **21 53 08.1 +1.1**
SNR=19
DAV Davao City (W) 49.86 297 ⇑ *i*P **P** **21 53 07.0 -1.2**
DAV Davao City (W) 49.86 297 *e*P **P** **21 53 07.9 -0.3**
comp=Z,307nm,0.4s
MRSI Marisa 49.86 288 P pP 21 53 20.5 -1.9
SPSI Sidrap Palu 50.08 281 P **P** **21 53 09.9 +0.1**
TTSI Tana Toraja 50.37 282 P **P** **21 53 14.2 +2.2**
comp=Z,94nm,1.4s,comp=Z,3µm
TAOE Nuu Hiva Isla 50.51 86 *e*S **S** **22 00 25.4 +1.6**
comp=Z,2µm,26.6s
TAOE *e*LR LR 22 07 50.2
comp=Z,3µm,28.6s
TWSI Taliwang, Sumb 51.19 274 P **P** **21 53 19.9 +1.7**
PCI Palu 51.20 285 P **P** **21 53 20.6 +2.4**
comp=Z,391nm,1.2s,comp=Z,6µm
KEKH Kekaha 51.26 39 *e*P **P** **21 53 16.7 -1.7**
comp=Z,127nm,1.0s
HON Honolulu 51.78 41 PFAKE 21 53 30.0 +7.6
HON LR LR
comp=Z,4µm,20.0s
KIP Kipapa 51.85 41 ⇓ *e*P **P** **21 53 23.5 +0.6**
KIP pmax pmax
comp=Z,1µm,2.5s
KIP Kipapa 51.85 41 *e*P **P** **21 53 23.5 +0.6**
comp=Z,101nm,1.1s
KIP LR LR
comp=Z,4µm,20.0s
MWH Moku'aweowe 51.98 44 *e*P **P** **21 53 25.6 +1.0**
comp=Z,153nm,1.0s
AIN Ainahou 51.99 45 *e*P **P** **21 53 22.0 -2.2**
comp=Z,180nm,1.0s
MLOA Mauna Loa Obse 52.03 44 *e*P **P** **21 53 26.0 +1.2**
comp=Z,112nm,0.9s
OPA Opana 52.05 40 *e*P **P** **21 53 25.1 +0.7**
OPA pmax pmax
comp=Z,162nm,1.0s
OPA MLR MLR
comp=Z,4µm,19.0s
OPA Opana 52.05 40 *e*P **P** **21 53 25.1 +0.7**
comp=Z,162nm,1.0s
OPA LR LR
comp=Z,4µm,19.0s
SDHHI Sand Hill 52.11 45 *e*P **P** **21 53 20.5 -4.6**
comp=Z,130nm,1.1s
MLH Mauna Loa 52.12 44 *e*P **P** **21 53 26.6 +1.3**
MLH pmax pmax
comp=Z,86nm,0.8s
MLH Mauna Loa 52.12 44 *e*P **P** **21 53 26.6 +1.3**
comp=Z,86nm,0.8s
UWE Uwekahuna 52.13 45 PFAKE 21 53 40.0 +15
UWE LR LR
comp=Z,2µm,21.0s
PUH Pauahi 52.15 45 *e*P **P** **21 53 26.6 +1.3**
POHA Pohakuloa 52.22 44 *e*P **P** **21 53 26.8 +0.8**
comp=Z,288nm,1.5s
POHA LR LR
comp=Z,3µm,20.0s
STCH Steam Cracks 52.22 45 *e*P **P** **21 53 24.2 -1.6**
comp=Z,116nm,0.8s
NPOC North of Pu'u 52.24 45 *e*P **P** **21 53 24.3 -1.6**
comp=Z,112nm,0.8s
HPAH Hawaii Prepara 52.30 44 *e*P **P** **21 53 26.1 -0.3**
comp=Z,245nm,1.0s
HPAH LR LR
comp=Z,2µm,19.0s
RKT Rikitea 52.40 105 *e*P **P** **21 53 29.2 +2.1**
comp=Z,129nm,1.4s
RKT *e*S **S** **22 00 50.6 +1.1**
comp=Z,2µm,27.2s
RKT *e*LQ LQ 22 06 17.6
comp=Z,1µm,35.5s
RKT *e*LR LR 22 08 30.0
comp=Z,7µm,30.8s,baz=260
HLK Haleakala 52.47 43 PFAKE 21 53 40.0 +12
HLK LR LR
comp=Z,3µm,20.0s
CBIJ Chichi jima 52.70 330 *e*P **P** **21 53 28.6 -0.6**
comp=Z,260nm,0.9s
DNP Denpasar 52.79 274 P pP 21 53 45.7 +1.3
IGBI Denpasar 52.81 273 P **P** **21 53 32.9 +2.7**
comp=Z,259nm,1.4s,comp=Z,4µm
SRBI Singaraja 52.96 274 P **P** **21 53 32.6 +1.2**
ABJI Asem Bagus 53.98 274 P **P** **21 53 39.6 +0.8**
KMMI Kalianget 54.46 275 P **P** **21 53 43.1 +0.8**
BLJI Banyuglugur 54.59 274 P **P** **21 53 44.5 +1.2**
RCP Roxas 54.63 300 ⇓ *e*P **P** **21 53 45.4 +1.9**

MYLDM Lahad Datu 55.03 291 *e*P **P** **21 53 49.2 +2.8**
comp=Z,153nm,1.1s
TSM Tawau 55.19 290 ⇑ P **P** **21 53 46.6 -1.0**
MTKI Muara Teweh, K 55.72 282 P **P** **21 53 52.3 +0.9**
PWJI Pagerwojo 56.20 273 P **P** **21 53 55.6 +0.8**
NGJI Ngawi 56.72 274 P **P** **21 54 01.5 +2.9**
PCJI Pacitan 56.74 273 P **P** **21 53 59.7 +1.0**
WOJI Wonogiri, Jawa 57.09 273 P **P** **21 54 02.4 +1.3**
KDM Kudat 57.30 292 ⇑ P **P** **21 54 03.8 +1.2**
KKM Kota Kinabalu 57.45 291 *e*P **P** **21 54 03.9 +0.1**
KKM *e*PcP **PcP** **21 54 57.8 +0.7**
KKM Kota Kinabalu 57.45 291 ⇑ P **P** **21 54 02.5 -1.3**
TGY Tagaytay City 57.51 302 P **P** **21 54 05.6 +1.5**
comp=Z,268nm,0.6s,baz=141,slow=5.6,SNR=10.0
TGY LR LR 22 16 28.3
comp=Z,914nm,20.9s,baz=122,slow=34
PBKI Pangkalan Bun 58.07 279 P **P** **21 54 09.8 +1.7**
VNDA Vanda 58.47 182 P **P** **21 54 09.9 +0.1**
comp=Z,18nm,0.9s,baz=0.6,slow=7.1,SNR=89
VNDA LR LR 22 15 20.6
comp=Z,2µm,21.9s,baz=16,slow=32
VNDA Vanda 58.47 182 P **P** **21 54 10.0 +0.1**
VNDA pmax pmax
comp=Z,18nm,0.9s
VNDA MLR MLR
comp=Z,2µm,21.9s
VNDA Vanda 58.47 182 *e*P **P** **21 54 09.2 -0.7**
comp=Z,51nm,1.2s
SBA Scott Base 58.72 180 *e*P **P** **21 54 11.8 +0.2**
SBA pmax pmax
comp=Z,200nm,1.0s
SBA MLR MLR
comp=Z,2µm,20.0s
SBA Scott Base 58.72 180 *e*P **P** **21 54 11.8 +0.2**
comp=Z,200nm,1.0s
SBA LR LR
comp=Z,2µm,20.0s
JHJ Hachijo jima 2 58.89 332 P **P** **21 54 14.0 +0.6**
comp=Z,199nm,1.0s,baz=192,slow=11,SNR=3.9
BTM Bintulu 59.02 286 ⇑ P **P** **21 54 14.8 0.0**
KPJI Karang Pucung 59.12 273 P **P** **21 54 16.2 +0.8**
STKI Sintang 59.26 282 P **P** **21 54 17.9 +1.5**
SBUM Sibu 59.51 285 *e*P **P** **21 54 17.8 -0.3**
comp=Z,129nm,1.4s
SBUM Sibu 59.51 285 ⇑ P **P** **21 54 18.5 +0.5**
SZP Santa 59.84 305 *e*P **P** **21 54 21.4 +1.3**
comp=Z,221nm,1.2s
JCJI Jatiwangi 60.00 274 P **P** **21 54 22.3 +0.8**
CISI Cisompet, Garu 60.10 272 *e*P **P** **21 54 22.2 0.0**
comp=Z,231nm,1.0s
JOW Kunigami 60.25 318 P **P** **21 54 23.6 +0.8**
comp=Z,98nm,0.9s,baz=145,slow=8.6,SNR=17
JOW Kunigami 60.25 318 *e*P **P** **21 54 23.0 +0.1**
comp=Z,175nm,1.1s
CNJI Cibinong 60.83 272 P **P** **21 54 27.8 +0.7**
KSM Kuching 60.88 283 *e*P **P** **21 54 26.9 -0.6**
comp=Z,170nm,0.8s
XMIS Christmas Isla 61.30 268 *e*P **P** **21 54 31.7 +1.3**
comp=Z,294nm,1.3s
XMIS LR LR
comp=Z,5µm,20.0s
CBJI Citeko 61.36 273 P **P** **21 54 30.5 -0.2**
DBJI Dramaga 61.42 273 P **P** **21 54 31.9 +0.8**
SKJI Sukabumi 61.46 272 P **P** **21 54 34.6 +3.2**
comp=Z,269nm,1.0s,comp=Z,4µm
SBJI Serang 62.14 273 P **P** **21 54 36.8 +0.8**
YOJ Yonaguni jima 62.16 312 *e*P **P** **21 54 37.4 +1.6**
YOJ pmax pmax
comp=Z,221nm,0.8s
YOJ Yonaguni jima 62.16 312 *e*P **P** **21 54 37.4 +1.6**
comp=Z,221nm,0.8s
CGJI Cibinong 62.40 273 P **P** **21 54 37.7 0.0**
MJAR Matsushiro Arr 62.47 333 P **P** **21 54 37.9 +0.2**
comp=Z,75nm,1.1s,baz=162,slow=7.0,SNR=68
MJAR LR LR 22 23 25.2
comp=Z,389nm,18.6s,baz=160,slow=38
MJAR PKP2bc 22 23 46.6
comp=Z,2.3nm,0.9s,baz=340,slow=4.4,SNR=4.3
MAJO Matsushiro 62.47 333 *c i*P **P** **21 54 37.9 +0.2**
MAJO Matsushiro 62.47 333 *e*P **P** **21 54 38.5 +0.8**
comp=Z,220nm,1.3s
MAT Matsushiro 62.47 333 P **P** **21 54 38.0 +0.3**
MAT S **S** **22 03 00.8 -0.3**
MJB9 Matsu-Tunnel 62.48 333 *e*P **P** **21 54 38.5 +0.8**
comp=Z,56nm,1.3s
YULB Yu-li 62.70 310 *e*P **P** **21 54 39.5 0.0**
comp=Z,108nm,1.2s
NACB Ninganchiao 62.97 311 *e*P **P** **21 54 41.8 +0.5**
comp=Z,225nm,1.0s
TPUB Ta-pu 63.12 310 *e*P **P** **21 54 42.6 +0.3**
comp=Z,212nm,0.9s
SSLB Suanglung 63.19 311 *e*P **P** **21 54 42.6 -0.1**
comp=Z,144nm,0.9s
SSLB LR LR
comp=Z,1µm,19.0s
BLSI Bandar Lampung 63.21 274 P **P** **21 54 42.9 -0.2**
JNU Nakatsue 63.33 325 P **P** **21 54 44.5 +1.0**
comp=Z,73nm,0.9s,baz=125,slow=2.9,SNR=31
JNU Nakatsue 63.33 325 *e*P **P** **21 54 44.8 +1.3**
comp=Z,103nm,0.9s
PPBI Pangkal Pinang 63.43 277 P **P** **21 54 45.6 +1.0**
YHNB Yeheng 63.44 312 *e*P **P** **21 54 44.0 -0.4**
comp=Z,288nm,0.9s
TATO Taipei 63.55 312 *e*P **P** **21 54 46.4 +1.4**
comp=Z,539nm,1.2s
TATO Taipei 63.55 312 P **P** **21 54 45.8 +0.7**
SNR=10
TATO Taipei 63.55 312 P **P** **21 54 45.8 +0.7**
SNR=10
KASI Kota Agung 63.87 273 P **P** **21 54 47.1 -0.3**
LWLI Liwa 64.44 274 P **P** **21 54 51.7 +0.3**
MDSI Maura Dua 64.50 274 P **P** **21 54 50.6 -1.0**
comp=Z,128nm,1.1s,comp=Z,2µm
ERM Erimo 65.31 339 PFAKE 21 55 10.0 +14
ERM LR LR
comp=Z,3µm,20.0s
QZH Quanzhou 65.59 310 ⇑ *i*P **P** **21 54 59.0 +0.6**
QZH S **S** **22 03 43.3 +3.2**
QZH pmax pmax
comp=Z,190nm,0.7s
QZH pmax pmax
comp=Z,2µm,4.2s
QZH LR LR
comp=Z,5µm,27.4s
QZH LR LR
comp=Z,2µm,20.1s
TPRI Tanjung Pinang 66.03 280 P **P** **21 55 02.7 +1.2**
MASI Maura Aman, Be 66.77 275 P **P** **21 55 06.1 -0.2**
KUR Kuril'sk 66.86 344 *c i*P **P** **21 55 06.3 +0.3**
KUR *e*S **S** **22 03 55.2 +0.6**
KUR *e*SS **SS** **22 08 10.5 -3.7**
KUR pmax pmax
comp=Z,373nm,1.4s
KUR MLR MLR
comp=Z,1µm,18.0s
KUR MLR MLR
comp=N,667nm,15.0s
KUR MLR MLR
comp=E,520nm,14.0s
MIR Mirnyy 66.88 205 *i* P **P** **21 55 07.0 +1.0**
MIR pmax pmax
comp=Z,20nm,1.3s
DLV T Lat 66.91 293 *e*P **P** **21 55 09.3 +2.0**
comp=Z,165nm,1.5s
MYKOM Kota Tinggi 66.97 281 *e*P **P** **21 55 08.8 +1.2**
comp=Z,68nm,0.8s
MYKOM Kota Tinggi 66.97 281 ⇑ P **P** **21 55 07.1 -0.4**
ASAJ Asahikawa 67.37 340 P **P** **21 55 10.8 +1.4**
comp=Z,248nm,0.8s,baz=222,slow=11,SNR=64
ASAJ Asahikawa 67.37 340 *e*P **P** **21 55 10.7 +1.3**
comp=Z,302nm,0.9s
HKC Hong Kong Obse 67.38 305 ⇑ P **P** **21 55 12.0 +2.1**
KGM Kluang 67.55 281 ⇑ P **P** **21 55 10.9 -0.3**
SSE Sheshan 67.69 317 P **P** **21 55 11.9 +0.3**
SSE pP **pP** **21 55 24.3 -2.2**
SSE S **S** **22 04 07.3 +2.1**
SSE ScS **SKiKP** **22 05 03.1 -1.6**
SSE pmax pmax
comp=Z,71nm,1.1s
SSE pmax pmax
comp=Z,540nm,5.7s
SSE LR LR
comp=Z,810nm,30.6s
SSE LR LR
comp=Z,930nm,31.1s
SSE LR LR

comp=Z,910nm,23.6s
KSRS Korea Array 68.18 326 P **P** **21 55 16.0 +1.4**
comp=Z,33nm,1.1s,baz=144,slow=6.5,SNR=43
KSRS PKP2bc 22 23 30.8
comp=Z,5.6nm,1.0s,baz=324,slow=3.6,SNR=7.1
KS15 Wonju Array Si 68.19 326 *e*P **P** **21 55 16.8 +2.2**
KSAR Wonju Array Be 68.19 326 P **P** **21 55 16.0 +1.4**
KSAR Wonju Array Be 68.19 326 P **P** **21 55 16.0 +1.4**
KS01 Wonju Array Si 68.21 326 *e*P **P** **21 55 15.3 +0.5**
GZH Guangzhou 68.45 305 P **P** **21 55 18.3 +1.7**
GZH S **S** **22 04 17.0 +2.4**
GZH pmax pmax
comp=Z,2μm,5.3s
INCN Inchon 68.89 325 *e*P **P** **21 55 20.9 +1.8**
comp=Z,328nm,1.2s
BKNI Bangkinang 69.07 278 *e*P **P** **21 55 21.6 +0.9**
comp=Z,587nm,0.9s
QIZ Qiongzhong 69.12 300 P **P** **21 55 21.0 +0.1**
QIZ pP **pP** **21 55 35.7 0.0**
QIZ S **S** **22 04 26.0 +3.2**
QIZ pmax pmax
comp=Z,43nm,1.5s
QIZ pmax pmax
comp=Z,860nm,7.3s
QIZ LR LR
comp=Z,470nm,19.3s
QIZ LR LR
comp=Z,640nm,21.9s
QIZ LR LR
comp=Z,1μm,21.2s
QIZ Qiongzhong 69.12 300 *e*P **P** **21 55 22.3 +1.4**
comp=Z,153nm,1.5s
QIZ LR LR
comp=Z,800nm,20.0s
NJ2 Nanjing 69.82 316 *e*P **P** **21 55 26.4 +1.5**
NJ2 pP **pP** **21 55 37.8 -2.0**
NJ2 S **S** **22 04 33.3 +2.8**
NJ2 pmax pmax
comp=Z,100nm,1.2s
NJ2 LR LR
comp=Z,1μm,22.8s
NJ2 LR LR
comp=Z,310nm,21.7s
NJ2 LR LR
comp=Z,3μm,25.5s
YSS Yuzh-Sakhalins 69.86 341 *i* P **P** **21 55 26.0 +1.2**
YSS *e**PP pP **21 55 37.0 -2.7**
YSS *e* 21 55 46.2
YSS *e*PPP PPP 21 59 42.0
YSS *e*S **S** **22 04 38.0 +7.6**
YSS pmax pmax
comp=Z,2μm,6.0s
YSS pmax pmax
comp=Z,200nm,1.0s
YSS Yuzh-Sakhalins 69.86 341 *e*P **P** **21 55 27.1 +2.3**
comp=Z,278nm,1.0s
YSS LR LR
comp=Z,1μm,20.0s
SKR Severo-Kuril's 70.44 352 *e*P P 21 55 22.3 -5.9
SKR *e* 21 55 48.1
SKR pmax pmax
comp=Z,900nm,5.4s
SKR pmax pmax
comp=Z,500nm,13.3s
SKR MLR MLR
comp=Z,1μm,17.0s
SKR MLR MLR
comp=Z,1μm,18.0s
MSHR Mys Shultsa 70.53 331 *ce*P **P** **21 55 29.9 +0.9**
IPM Ipoh 70.58 282 *e*P **P** **21 55 30.3 +0.3**
comp=Z,105nm,0.7s
VLA Vladivostok 70.64 332 *c i*P **P** **21 55 31.0 +1.4**
VLA pmax pmax
comp=Z,250nm,1.8s
QSPA South Pole Qui 70.87 180 *e*P **P** **21 55 30.1 -0.9**
QSPA LR LR
comp=Z,2μm,19.0s
UBPT Khong Chiam 71.03 294 P **P** **21 55 34.3 +1.7**
comp=Z,63nm,1.5s,comp=Z,1μm
KULM Kulim 71.23 283 *e*P **P** **21 55 34.2 +0.3**
comp=Z,92nm,1.0s
USRK Ussuriysk Ar. 71.46 333 P **P** **21 55 35.7 +1.1**
comp=Z,115nm,0.9s,baz=132,slow=4.4,SNR=100
SMY Shemya 71.76 3 *e*P **P** **21 55 36.3 +0.1**
SMY pmax pmax
comp=Z,666nm,1.8s
SMY MLR MLR
comp=Z,2μm,22.0s
SMY Shemya 71.76 3 *e*P **P** **21 55 36.3 +0.1**
comp=Z,666nm,1.8s
SMY LR LR
comp=Z,2μm,22.0s
PSI Prapat 71.92 280 P **P** **21 55 38.5 +0.2**
comp=Z,121nm,0.9s,baz=128,slow=3.4,SNR=70
PSI Prapat 71.92 280 *e*P **P** **21 55 34.6 -3.6**
PSI LR LR
comp=Z,3μm,20.0s
WHN Wuhan 71.94 312 ⇓ *i*P **P** **21 55 39.5 +1.7**
WHN pP **pP** **21 55 51.0 -1.8**
WHN S **S** **22 04 59.3 +4.1**
WHN pmax pmax
comp=Z,340nm,1.0s
WHN LR LR
comp=Z,2μm,17.2s
WHN LR LR
comp=Z,4μm,23.6s
WHN LR LR
comp=Z,5μm,20.8s
PET Petropavlovsk 72.43 354 *ce*P **P** **21 55 37.4 -2.8**
PET *e*S **S** **22 04 56.5 -3.3**
PET *e*PS **PnS** **22 05 28.9 -8.0**
PET *e*SS **SS** **22 09 35.5 -4.2**
PET pmax pmax
comp=Z,1μm,7.9s
PET pmax pmax
comp=Z,115nm,1.4s
PET pmax pmax
comp=Z,700nm,15.6s
PET Petropavlovsk 72.43 354 *e*P **P** **21 55 40.8 +0.6**
comp=Z,171nm,1.3s
PET LR LR
comp=Z,2μm,21.0s
PEA0 Petropavlovsk- 72.61 353 *e*P **P** **21 55 41.5 +0.1**
PEA0B Petropavlovsk- 72.61 353 *e*P **P** **21 55 42.4 +1.1**
comp=Z,291nm,1.4s
PEA0B LR LR
comp=Z,2μm,22.0s
PETK Petropavlovsk- 72.61 353 P **P** **21 55 42.3 +1.0**
comp=Z,53nm,0.8s,baz=137,slow=7.4,SNR=42
PETK LR LR 22 22 27.0
comp=Z,2μm,21.5s,baz=169,slow=32
PETK Petropavlovsk- 72.61 353 P **P** **21 55 42.3 +1.0**
PETK pmax pmax
comp=Z,55nm,0.8s
PETK MLR MLR
comp=Z,2μm,21.5s
PEA1 Petropavlovsk- 72.62 353 *e*P **P** **21 55 42.3 +0.9**
ATKA Atka Island 72.63 11 PFAKE 21 55 50.0 +8.6
ATKA LR LR
comp=Z,3μm,21.0s
GSI Gunungsitoli 72.66 278 PFAKE 21 55 50.0 +7.5
GSI LR LR
comp=Z,2μm,18.0s
DL2 Dalian 72.67 323 P **P** **21 55 41.4 -0.6**
DL2 pP **pP** **21 55 56.9 0.0**
DL2 S **S** **22 05 01.0 -2.2**
DL2 sS **sS** **22 05 29.6 +1.2**
DL2 pmax pmax
comp=Z,310nm,1.1s
DL2 pmax pmax
comp=Z,1μm,6.1s
DL2 LR LR
comp=Z,770nm,23.9s
DL2 LR LR
comp=Z,1μm,26.1s
DL2 LR LR
comp=Z,2μm,30.2s
MDJ Mudanjiang 72.84 332 P **P** **21 55 43.7 +0.9**
MDJ pP pP 21 55 58.1 +0.3
MDJ PcP **PcP** **21 55 59.9 +0.2**
MDJ sP sP 21 56 04.0 +0.2
MDJ PP **PP** **21 58 22.6 -3.2**
MDJ S **SKiKP** **22 05 09.1 -2.7**
MDJ sS sS 22 05 29.4 -0.7
MDJ pmax pmax
comp=Z,250nm,1.1s
MDJ pmax pmax
comp=Z,670nm,6.3s
MDJ LR LR
comp=Z,1μm,11.5s
MDJ LR LR
comp=Z,500nm,15.0s
MDJ LR LR
comp=Z,2μm,16.8s
TRTT Trang 73.08 285 P **P** **21 55 46.2 +1.2**
comp=Z,87nm,1.5s,comp=Z,2μm
TYV Tymovskoe 73.41 343 *e*P **P** **21 55 46.2 +0.1**
TYV pmax pmax
comp=Z,900nm,21.3s
TIA Tai'an 73.57 319 ⇑P **P** **21 55 48.5 +1.1**
TIA S **S** **22 05 17.7 +4.1**
TIA pmax pmax
comp=Z,120nm,1.1s
TIA pmax pmax
comp=Z,2μm,5.8s
TIA LR LR
comp=Z,810nm,20.6s
TIA LR LR
comp=Z,900nm,20.6s
TIA LR LR
comp=Z,1μm,19.9s
SNY Shenyang 73.66 326 ⇓P **P** **21 55 49.0 +1.3**
SNY pP **sP** **21 56 09.6 +0.9**
SNY S **S** **22 05 16.8 +2.5**
SNY SKS **SKSac** **22 05 43.7 -6.2**
SNY pmax pmax
comp=Z,54nm,1.7s
SNY pmax pmax
comp=Z,700nm,6.4s
SNY LR LR
comp=Z,630nm,20.9s
SNY LR LR
comp=Z,520nm,17.5s
SNY LR LR
comp=Z,930nm,20.6s
KRAB Krabi 73.68 285 P **P** **21 55 50.2 +1.7**
comp=Z,77nm,0.9s,comp=Z,1μm
HABR Khabarovsk 73.75 337 *e*P **P** **21 55 47.2 -0.9**
HABR *e* 21 56 02.4
HABR *e**PP **PcP** **21 56 03.9 +0.4**
HABR *e**SP **sP** **21 56 10.7 +1.6**
HABR *e* 21 58 31.9
HABR *e*S **SKiKP** **22 05 13.6 +0.6**
HABR *e**SS **sS** **22 05 42.3 +2.0**
HABR *e* 22 05 51.2
HABR *e*SS **SS** **22 09 58.3 -1.9**
HABR *e*SSS SSS 22 13 18.9
HABR pmax pmax
comp=Z,907nm,2.7s
HABR pmax pmax
comp=E,34nm,1.2s
HABR pmax pmax
comp=N,72nm,1.2s
HABR pmax pmax
comp=Z,271nm,1.2s
HABR MLR MLR
comp=Z,249nm,19.0s
CN2 Changchun 74.15 329 *e*P **P** **21 55 50.0 -0.6**
CN2 *ep*P pP 21 56 06.4 +0.8
CN2 *e*PP **PP** **21 58 38.8 +1.8**
CN2 *e*S **S** **22 05 18.6 -1.2**
CN2 pmax pmax
comp=Z,20nm,0.9s
CN2 pmax pmax
comp=Z,200nm,4.0s
CN2 LR LR
comp=Z,200nm,25.0s
CN2 LR LR
comp=Z,900nm,25.0s
CN2 LR LR
comp=Z,900nm,26.0s
NAYO Nakonayok 74.22 292 P **P** **21 55 53.4 +1.8**
comp=Z,39nm,1.5s,comp=Z,5μm
NONG Nongkai 74.26 296 P **P** **21 55 52.9 +1.1**
comp=Z,67nm,1.5s
CHAI Chaiyaphum 74.31 293 P **P** **21 55 53.0 +0.9**
comp=Z,13nm,0.8s,comp=Z,132nm
SURT Suratani 74.33 285 P **P** **21 55 54.4 +2.1**
comp=Z,37nm,1.7s,comp=Z,710nm
NIKH Nikolski High 74.44 14 *e*P **P** **21 55 52.3 +0.3**
comp=Z,256nm,0.8s
NIKH LR LR
comp=Z,2μm,21.0s
LHMI Lhok Sumawe 74.64 281 *e*P **P** **21 55 55.4 +1.3**
comp=Z,280nm,1.2s
SLVN Son La 75.11 299 *e*P **P** **21 55 57.4 +0.7**
comp=Z,142nm,1.5s
PHET Kaeng Krachan 75.14 290 P **P** **21 55 59.5 +2.6**
comp=Z,17nm,1.5s,comp=Z,330nm
ENH Enshi 75.25 310 *e*P **P** **21 55 57.5 +0.1**
comp=Z,236nm,1.0s
ENH LR LR
comp=Z,1μm,22.0s
GYA Guiyang 75.38 305 ⇑ *i*P **P** **21 55 59.6 +1.4**
GYA pP PcP 21 56 11.2 -0.1
GYA PP **PP** **21 58 52.4 +4.5**
GYA S **S** **22 05 33.3 -1.1**
GYA SKS **SKSac** **22 06 00.8 -3.0**
GYA sS SKSac 22 06 03.2 -1.0
GYA pmax pmax
comp=Z,70nm,1.2s
GYA pmax pmax
comp=Z,160nm,6.2s
GYA LR LR
comp=Z,1μm,23.2s
GYA LR LR
comp=Z,430nm,21.4s
GYA LR LR
comp=Z,1μm,23.5s
PBKT Sadao Pong 75.48 294 P **P** **21 56 00.5 +1.7**
comp=Z,67nm,1.1s,comp=Z,1μm
KLR Kul'dur 75.61 336 P **P** **21 55 59.7 +0.8**
comp=Z,82nm,1.0s,baz=124,slow=2.9,SNR=115
UNV Unalaska Valle 75.80 15 *e*P **P** **21 55 59.6 -0.2**
comp=Z,77nm,1.0s
UNV LR LR
comp=Z,2μm,21.0s
SRDT SRDT 76.17 291 P **P** **21 56 05.2 +2.4**
comp=Z,183nm,1.5s,comp=Z,4μm
AKUT Akutan 76.24 15 *e*P **P** **21 56 01.1 -1.2**
comp=Z,99nm,1.2s
AKUT LR LR
comp=Z,2μm,21.0s
UTTA Uttaradit 76.34 294 P **P** **21 56 06.2 +2.5**
comp=Z,9.8nm,1.1s,comp=Z,137nm
BJT Baijiatuau 76.57 321 *e*P **P** **21 56 06.2 +1.6**
BJT pmax pmax
comp=Z,190nm,1.2s
BJT Baijiatuau 76.57 321 *e*P **P** **21 56 06.2 +1.6**
comp=Z,190nm,1.2s
BJI Beijing 76.58 321 P **P** **21 56 03.9 -0.7**
BJI pP **PcP** **21 56 17.3 +1.4**
BJI sP **sP** **21 56 26.1 +0.5**
BJI PP **PP** **21 59 00.1 +2.5**
BJI S **S** **22 05 47.8 +1.0**
BJI sS **SKSac** **22 06 09.2 -2.6**
BJI pmax pmax
comp=Z,100nm,1.4s
BJI pmax pmax
comp=Z,2μm,4.3s
BJI LR LR
comp=Z,730nm,27.3s
BJI LR LR
comp=Z,750nm,32.0s
BJI LR LR
comp=Z,2μm,36.1s
SUKH Sukhothai 77.02 294 P **P** **21 56 09.4 +1.8**
comp=Z,12nm,0.9s,comp=Z,122nm
UMPA Umpang Tak 77.16 292 P **P** **21 56 10.3 +1.9**
comp=Z,17nm,1.1s,comp=Z,1μm
LAMP Lampang 77.46 295 P **P** **21 56 12.0 +2.0**
comp=Z,28nm,0.8s,comp=Z,284nm
XAN Xi'an 77.70 313 P **P** **21 56 11.6 +0.5**
XAN pP pP 21 56 28.3 +2.0
XAN sP sP 21 56 35.1 +2.9
XAN PP **PP** **21 59 11.4 +4.1**
XAN S **S** **22 06 00.7 +1.3**
XAN SKS **SKSac** **22 06 11.1 -9.4**
XAN sS pS 22 06 18.4 +0.2
XAN pmax pmax
comp=Z,150nm,1.5s
XAN pmax pmax
comp=Z,1μm,8.8s
XAN LR LR
comp=Z,830nm,22.8s
XAN LR LR
comp=Z,1μm,22.5s
XAN LR LR
comp=Z,2μm,23.3s
KMI Kunming 77.82 302 P **P** **21 56 13.6 +1.4**
KMI pP pP 21 56 26.5 -0.8
KMI sP sP 21 56 30.8 -2.5
KMI S **S** **22 06 04.8 +3.4**
KMI sS sS 22 06 25.7 -1.1
KMI pmax pmax
comp=Z,220nm,1.0s
KMI pmax pmax
comp=Z,1μm,5.2s
KMI LR LR
comp=Z,770nm,18.6s
KMI LR LR
comp=Z,880nm,24.0s
KMI LR LR
comp=Z,1μm,29.9s
CM01 Chiang Mai Arr 78.00 294 *e*P **P** **21 56 12.8 -0.2**
CM31 Chiang Mai Arr 78.03 294 *e*P **P** **21 56 14.9 +1.7**
CM31 *e*PKiKP **PKiKP** **22 01 51.0 -0.2**
CM31 *e*PKKPbc **PKKPbc** **22 15 13.1 -0.2**
CM31 *e*P'P'df **P'P'df** **22 23 15.8 -0.4**
CMAR Chiang Mai Arr 78.03 294 P **P** **21 56 14.4 +1.2**
comp=Z,26nm,0.9s,baz=132,slow=4.2,SNR=110
CMAR PKiKP **PKiKP** **22 01 51.0 -0.2**
comp=Z,0.8nm,0.7s,baz=202,slow=1.2,SNR=4.4
CMAR PKKPbc **PKKPbc** **22 15 13.1 -0.2**
comp=Z,1.5nm,0.7s,baz=283,slow=4.9,SNR=7.3
CMAR PKPPKP **P'P'df** **22 23 15.8 -0.4**
comp=Z,0.6nm,0.4s,baz=270,slow=5.4,SNR=4.6
CMAR Chiang Mai Arr 78.03 294 P **P** **21 56 14.4 +1.2**
CMAR pmax pmax
comp=Z,27nm,0.9s
CHTO Chiang Mai 78.18 295 P **P** **21 56 15.5 +1.4**
comp=Z,318nm,1.8s,comp=Z,6μm
CHTO Chiang Mai 78.18 295 *e*P **P** **21 56 15.4 +1.4**
CHTO pmax pmax
comp=Z,141nm,1.4s
CHTO Chiang Mai 78.18 295 *e*P **P** **21 56 15.4 +1.4**
comp=Z,141nm,1.4s
CHTO Chiang Mai 78.18 295 P **P** **21 56 15.5 +1.4**
SNR=34
CHTO Chiang Mai 78.18 295 P **P** **21 56 15.5 +1.4**
SNR=34
MAW Mawson 78.30 202 P **P** **21 56 14.2 +0.4**
comp=Z,64nm,0.9s,baz=113,slow=6.9,SNR=56
MAW LR LR 22 27 14.5
comp=Z,3μm,19.6s,baz=88,slow=33
MAW Mawson 78.30 202 *e*P **P** **21 56 15.1 +1.2**
comp=Z,26nm,1.0s
SDPT Sand Point 78.72 17 *e*P **P** **21 56 15.6 -0.5**
comp=Z,95nm,1.0s
SDPT LR LR
comp=Z,1μm,20.0s
CD2 Chengdu 79.81 308 ⇓ *i*P **P** **21 56 24.5 +1.7**
CD2 pP pP 21 56 36.3 -1.6
CD2 sP sP 21 56 46.4 +2.5
CD2 PP **PP** **21 59 23.3 -1.6**
CD2 S **S** **22 06 22.5 +0.5**
CD2 sS sS 22 06 45.7 -1.9
CD2 SS **SS** **22 11 29.5 -3.0**
CD2 pmax pmax
comp=Z,120nm,1.3s
CD2 pmax pmax
comp=Z,1μm,6.5s
CD2 LR LR
comp=Z,1μm,22.6s
CD2 LR LR
comp=Z,2μm,22.6s
CD2 LR LR
comp=Z,2μm,25.0s
MA2 Magadan 79.83 351 P **P** **21 56 21.9 -0.2**
comp=Z,83nm,0.9s,baz=151,slow=4.7,SNR=33
MA2 Magadan 79.83 351 *e*P **P** **21 56 22.0 -0.2**
MA2 pmax pmax
comp=Z,105nm,0.9s
MA2 MLR MLR
comp=Z,2μm,21.0s
MA2 Magadan 79.83 351 *e*P **P** **21 56 21.9 -0.2**
comp=Z,105nm,0.9s
MA2 LR LR
comp=Z,2μm,21.0s
HHC Hu-ho-hao-te 79.85 320 *e*P **P** **21 56 24.5 +1.6**
HHC pP sP 21 56 43.6 -0.3
HHC PP **PP** **21 59 23.5 -1.7**
HHC S **S** **22 06 20.1 -2.1**
HHC sS sS 22 06 48.4 +0.6
HHC pmax pmax
comp=Z,80nm,1.0s
HHC LR LR
comp=Z,730nm,17.8s
HHC LR LR
comp=Z,620nm,17.1s
HHC LR LR
comp=Z,990nm,20.2s
CHGN Chignik 80.13 18 *e*P **P** **21 56 23.4 -0.4**
comp=Z,40nm,0.9s
CHGN LR LR
comp=Z,2μm,22.0s
BTO Baotou 80.66 319 *e*P **P** **21 56 29.0 +1.8**
HIA Hailar 80.81 330 *e*P **P** **21 56 28.3 +0.6**
HIA pmax pmax
comp=Z,163nm,1.3s
HIA MLR MLR
comp=Z,900nm,21.0s
HIA Hailar 80.81 330 *e*P **P** **21 56 28.3 +0.6**
comp=Z,163nm,1.3s
HIA LR LR
comp=Z,900nm,21.0s
LZH Lanzhou 82.32 312 *e*P **P** **21 56 38.9 +2.7**
LZH pP pP 21 56 51.0 -0.4
LZH sP sP 21 56 56.4 -0.9
LZH PP **PP** **21 59 51.0 +5.3**
LZH *e*S **S** **22 06 48.2 0.0**
LZH sS sS 22 07 15.4 +1.5
LZH SS **SS** **22 12 04.5 -5.6**
LZH pmax pmax
comp=Z,200nm,1.4s
LZH pmax pmax
comp=Z,850nm,5.0s
LZH LR LR
comp=Z,1μm,14.3s
LZH LR LR
comp=Z,1μm,14.0s
LZH LR LR
comp=Z,2μm,18.6s
OHAK Old Harbor 82.47 20 *e*P **P** **21 56 36.5 +0.3**
comp=Z,60nm,0.8s
OHAK LR LR
comp=Z,2μm,21.0s
SEY Seymchan 82.84 353 P **P** **21 56 38.1 +0.1**
comp=Z,39nm,1.0s,baz=157,slow=5.8,SNR=50
KDAK Kodiak Island 83.14 20 *e*P **P** **21 56 40.6 +0.9**
KDAK pmax pmax
comp=Z,72nm,1.0s
KDAK MLR MLR
comp=Z,2μm,22.0s
KDAK Kodiak Island 83.14 20 *e*P **P** **21 56 40.6 +0.9**
comp=Z,72nm,1.0s
KDAK LR LR
comp=Z,2μm,22.0s
GAMB Gambell 84.09 9 *e*P **P** **21 56 45.7 +1.3**
comp=Z,75nm,0.9s
CLNS Chul'man 84.15 338 *e*P **P** **21 56 44.6 -0.3**
CLNS *e**PP **pP** **21 56 55.9 -4.3**
CLNS *e* 22 00 00.5
CLNS *e*S **S** **22 07 03.1 -2.4**
CLNS *e*SS **SS** **22 12 32.5 -3.5**
CLNS pmax pmax
comp=Z,186nm,1.1s
CLNS pmax pmax
comp=N,80nm,1.2s
CLNS pmax pmax
comp=E,25nm,1.0s
CLNS pmax pmax
comp=Z,7.0nm,1.1s
CLNS pmax pmax
comp=E,14nm,1.5s
CLNS pmax pmax
comp=N,17nm,1.4s
CLNS smax smax

comp=E,271nm,12.3s
CLNS smax smax
comp=N,348nm,11.6s
CLNS MLR MLR
comp=N,201nm,17.0s
CLNS MLR MLR
comp=E,239nm,16.0s
CLNS MLR MLR
comp=Z,375nm,17.0s
SYO Syowa Base 84.85 196 *eP* **P 21 56 46.6 -1.8**
SYO Syowa Base 84.85 196 *eX* **P 21 56 50.5 +2.1**
IMP Imphal 84.88 298 *i* P **P 21 56 49.5 +0.1**
IMP *eS* **pP 21 57 02.0 -2.7**
HOM Homer 84.94 19 *eP* **P 21 56 49.5 +0.7**
comp=Z,261nm,1.0s
HOM LR LR
comp=Z,2µm,22.0s
CNPM China Poot 84.96 19 *eP* **P 21 56 49.6 +0.6**
comp=Z,98nm,1.0s
CNPM LR LR
comp=Z,3µm,22.0s
SVW2 Sparrevohn 84.98 17 *eP* **P 21 56 49.4 +0.4**
comp=Z,102nm,1.3s
SVW2 LR LR
comp=Z,2µm,20.0s
BRLK Bradley Lake 85.26 19 *eP* **P 21 56 51.1 +0.6**
comp=E,66nm,1.0s
BRLK LR LR
comp=Z,3µm,21.0s
CIT Chita 85.59 329 *eP* **P 21 56 53.3 +1.0**
CIT *e* 21 57 05.3
CIT pmax pmax
comp=Z,154nm,1.4s
MCCM Marconi Confer 85.79 47 *eP* **P 21 56 54.5 +1.0**
comp=Z,51nm,0.9s
KCPM Cahto Peak 86.04 46 *eP* **P 21 56 56.1 +1.1**
comp=Z,85nm,0.9s
KCPM LR LR
comp=Z,2µm,20.0s
HOPS Hopland Field 86.06 46 *eP* **P 21 56 55.8 +0.9**
comp=Z,48nm,1.0s
HOPS LR LR
comp=Z,2µm,19.0s
SAO San Andreas Ge 86.16 49 *eP* **P 21 56 56.5 +1.1**
SAO pmax pmax
comp=Z,41nm,1.0s
SAO MLR MLR
comp=Z,3µm,20.0s
SAO San Andreas Ge 86.16 49 *eP* **P 21 56 56.5 +1.1**
comp=Z,40nm,1.0s
SAO LR LR
comp=Z,3µm,20.0s
GDXM Geysers 86.16 47 *eP* **P 21 56 57.2 +1.7**
comp=Z,33nm,1.1s
KMRM Mail Ridge 86.22 45 *eP* **P 21 56 57.2 +1.5**
comp=Z,88nm,0.9s
KMRM LR LR
comp=Z,4µm,18.0s
JCC Jacoby Creek, 86.29 45 *eP* **P 21 56 56.4 +0.5**
comp=Z,38nm,1.0s
JCC LR LR
comp=Z,2µm,20.0s
FIGC Figueroa Mtn. 86.31 51 *eP* **P 21 56 54.6 -1.7**
PMPB Monarch Peak 86.38 50 *eP* **P 21 56 57.8 +1.2**
comp=Z,69nm,1.1s
PMPB LR LR
comp=Z,3µm,20.0s
TT01 Tatalina 86.39 15 *eP* **P 21 56 56.1 +0.2**
TTA Tatalina 86.41 15 *eP* **P 21 56 56.1 0.0**
TTA pmax pmax
comp=Z,45nm,1.5s
TTA MLR MLR
comp=Z,2µm,21.0s
TTA Tatalina 86.41 15 *eP* **P 21 56 56.1 0.0**
comp=Z,44nm,1.5s
TTA LR LR
comp=Z,2µm,21.0s
KHMM Horse Mountain 86.52 45 *eP* **P 21 56 58.8 +1.5**
comp=Z,74nm,0.9s
KHMM LR LR
comp=Z,3µm,19.0s
ULN Ulaanbaatar 86.52 324 *c i* P **P 21 56 57.5 +0.4**
ULN pmax pmax
comp=Z,199nm,1.2s
ULN Ulaanbaatar 86.52 324 *eP* **P 21 56 56.1 -1.0**
comp=Z,286nm,1.3s
ULN Ulaanbaatar 86.52 324 P **P 21 56 57.0 -0.1**
SNR=92
ULN Ulaanbaatar 86.52 324 P **P 21 56 57.0 -0.1**
SNR=92
PAGB Antelope Grade 86.56 50 *eP* **P 21 56 58.7 +1.2**
comp=Z,165nm,1.9s
PAGB LR LR
comp=Z,3µm,20.0s
SMMC Simmler 86.56 51 P **P 21 56 58.7 +1.2**
baz=244
RC01 Rabbit Creek A 86.66 19 PFAKE 21 57 10.0 +13
RC01 LR LR
comp=Z,2µm,22.0s
YAK Yakutsk 86.67 343 *c i* P **P 21 56 56.7 -0.6**
YAK *e* 21 57 09.6
YAK *e* 22 00 29.7
YAK *eS* **SKSac 22 07 12.5 -6.6**
YAK *e* 22 07 29.9
YAK pmax pmax
comp=E,57nm,1.3s
YAK pmax pmax
comp=Z,304nm,0.9s
YAK pmax pmax
comp=N,101nm,1.5s
YAK pmax pmax
comp=Z,19nm,0.8s
YAK smax smax
comp=N,108nm,2.0s
YAK smax smax
comp=E,75nm,3.0s
YAK Yakutsk 86.67 343 *eP* **P 21 56 56.6 -0.6**
comp=E,310nm,0.9s
YAK LR LR
comp=Z,2µm,22.0s
KRMB Red Mountain 86.71 44 *eP* **P 21 57 00.0 +1.8**
comp=Z,56nm,1.2s
GTA Gaotai 86.73 314 ⇑P **P 21 56 58.3 0.0**
GTA pP pP 21 57 11.2 -2.5
GTA sP sP 21 57 16.5 -3.0
GTA PP **PP 22 00 23.6 +2.1**
GTA SKS **SKSac 22 07 18.4 -2.5**
GTA S **SKKSac 22 07 30.1 +0.8**
GTA sS pS 22 07 52.9 +1.6
GTA SS **SS 22 13 15.2 +0.3**
GTA pmax pmax
comp=Z,61nm,2.3s
GTA pmax pmax
comp=Z,740nm,8.1s
GTA LR LR
comp=Z,540nm,21.9s
GTA LR LR
comp=Z,540nm,20.9s
GTA LR LR
comp=Z,580nm,20.9s
KBO Bosley Butte 86.84 43 *eP* **P 21 57 00.4 +1.6**
comp=Z,71nm,1.3s
SONA0 Songino Array 86.88 323 *eP* **P 21 56 58.0 -0.9**
comp=Z,239nm,1.3s
SONA0 *e*PKKPbc **PKKPbc 22 14 52.7 -1.7**
SONA0 *eP'P'df* **P'P'df 22 22 56.3 -1.3**
SONM Songino Array 86.88 323 P **P 21 56 58.0 -0.9**
comp=Z,63nm,1.0s,baz=138,slow=3.9,SNR=187
SONM PKKPbc **PKKPbc 22 14 52.7 -1.7**
comp=Z,3.3nm,0.9s,baz=279,slow=3.1,SNR=13
SONM PKPPKP **P'P'df 22 22 56.3 -1.3**
comp=Z,1.7nm,1.0s,baz=200,slow=1.6,SNR=6.3
SONM LR LR 22 36 07.0
comp=Z,167nm,19.5s,baz=126,slow=36
SONM Songino Array 86.88 323 P **P 21 56 58.0 -0.9**
SONM pmax pmax
comp=Z,63nm,1.0s
SONM pmax pmax
comp=Z,3.0nm,0.9s
SONA1 Songino Array 86.88 323 *eP* **P 21 56 59.0 +0.2**
BILL Bilibino 86.98 359 *c i* P **P 21 56 58.8 +0.1**
BILL *i* 21 57 10.9
BILL *i* 22 00 24.2
BILL pmax pmax
comp=Z,231nm,1.0s
BILL MLR MLR
comp=Z,803nm,19.0s
KEBM Edson Butte 87.10 43 *eP* **P 21 57 01.9 +1.9**
comp=Z,58nm,1.0s
PMSA Palmer Station 87.14 160 *eP* **P 21 56 59.8 +0.1**
comp=Z,81nm,1.0s
WDC Whiskeytown Da 87.17 45 *eP* **P 21 57 01.3 +1.0**
WDC pmax pmax
comp=Z,53nm,1.1s
WDC MLR MLR
comp=Z,3µm,19.0s
WDC Whiskeytown Da 87.17 45 *eP* **P 21 57 01.3 +1.0**
comp=Z,53nm,1.1s
WDC LR LR
comp=Z,3µm,19.0s
OSI Osito Audit: C 87.19 52 PFAKE 21 57 10.0 +9.4
OSI LR LR
comp=Z,2µm,19.0s
L02D Cave Junction, 87.22 44 P **P 21 57 01.2 +0.7**
baz=241,SNR=9.1
PMR Palmer 87.23 19 *eP* **P 21 57 00.2 +0.2**
PMR pmax pmax
comp=Z,79nm,1.8s
PMR MLR MLR
comp=Z,2µm,20.0s
PMR Palmer 87.23 19 *eP* **P 21 57 00.2 +0.2**
comp=Z,79nm,1.8s
PMR LR LR
comp=Z,2µm,20.0s
N02D Trinity Center 87.25 45 P **P 21 57 01.6 +0.9**
baz=242,SNR=33
DECC Green Verdugo 87.33 52 P **P 21 57 01.8 +0.5**
baz=245
ARVC Arvin 87.34 51 P **P 21 57 01.7 +0.5**
baz=244,SNR=8.6
M02C Callahan 87.35 44 P **P 21 57 01.8 +0.6**
baz=242,SNR=63
PPLA Purkeypile 87.38 17 PFAKE 21 57 10.0 +9.0
PPLA LR LR
comp=Z,1µm,20.0s
ORV Oroville 87.40 47 *eP* **P 21 57 01.8 +0.4**
ORV pmax pmax
comp=Z,42nm,0.9s
ORV MLR MLR
comp=Z,1µm,20.0s
ORV Oroville 87.40 47 *eP* **P 21 57 01.8 +0.4**
comp=Z,42nm,0.9s
ORV LR LR
comp=Z,1µm,20.0s
PASC Pasadena Art C 87.41 53 *eP* **P 21 57 02.3 +0.7**
comp=Z,28nm,0.8s
PASC LR LR
comp=Z,2µm,21.0s
FID Port Fidalgo 87.43 20 PFAKE 21 57 10.0 +9.0
FID LR LR
comp=Z,2µm,20.0s
VES Vestal, Richgr 87.46 51 P **P 21 57 02.2 +0.5**
baz=244,SNR=12
CMB Columbia Colle 87.49 48 *eP* **P 21 57 02.2 +0.3**
CMB pmax pmax
comp=Z,45nm,0.9s
CMB MLR MLR
comp=Z,2µm,19.0s
CMB Columbia Colle 87.49 48 *eP* **P 21 57 02.2 +0.3**
comp=Z,45nm,0.9s
CMB LR LR
comp=Z,2µm,19.0s
AFDM Forest Hills D 87.49 47 *eP* **P 21 57 02.2 +0.3**
comp=Z,55nm,1.0s
AFDM LR LR
comp=Z,800nm,18.0s
EYAK Cordova Ski Ar 87.52 21 PFAKE 21 57 10.0 +8.6
EYAK LR LR
comp=Z,2µm,20.0s
MWC Mount Wilson 87.53 53 *eP* **P 21 56 59.4 -3.0**
MWC MLR MLR
comp=Z,2µm,20.0s
MWC Mount Wilson 87.53 53 *eP* **P 21 56 59.4 -3.0**
MWC LR LR
comp=Z,2µm,20.0s
O03D Paynes Creek 87.54 46 P **P 21 57 02.7 +0.5**
baz=242,SNR=45
RCTC Rector, Farmer 87.54 50 P **P 21 57 02.9 +0.7**
baz=244
SML Sawmill 87.64 19 *eP* **P 21 57 03.2 +1.1**
SML pmax pmax
comp=Z,25nm,1.1s
SML Sawmill 87.64 19 *eP* **P 21 57 03.2 +1.1**
comp=Z,25nm,1.1s
109C Camp Elliot, M 87.69 54 P **P 21 57 03.5 +0.6**
baz=245,SNR=5.3
ISA Isabella, Lake 87.83 51 P **P 21 57 04.3 +0.6**
baz=244,SNR=7.5
ISA Isabella, Lake 87.83 51 *eP* **P 21 57 05.0 +1.3**
ISA pmax pmax
comp=Z,33nm,0.9s
ISA MLR MLR
comp=Z,2µm,20.0s
ISA Isabella, Lake 87.83 51 *eP* **P 21 57 05.0 +1.3**
comp=Z,33nm,0.9s
ISA LR LR
comp=Z,2µm,20.0s
CAST Castle Rocks 87.83 17 *eP* **P 21 57 01.3 -1.7**
comp=Z,15nm,0.8s
CAST LR LR
comp=Z,1µm,22.0s
BFSC Mount Baldy Ra 87.83 53 P **P 21 57 04.2 +0.4**
baz=245,SNR=8.9
HUMO Hull Mountain 87.86 43 *eP* **P 21 57 04.5 +0.9**
comp=Z,52nm,1.0s
HUMO LR LR
comp=Z,2µm,22.0s
MURC Murrieta 87.92 53 P **P 21 57 04.6 +0.5**
baz=245,SNR=6.0
BAR Barrett 87.94 54 *eP* **P 21 57 05.1 +0.9**
comp=Z,16nm,0.8s
BAR LR LR
comp=Z,1µm,19.0s
DIV Divide 87.94 20 *eP* **P 21 57 04.5 +1.0**
comp=Z,24nm,1.0s
DIV LR LR
comp=Z,2µm,22.0s
SCM Sheep Creek Mo 87.97 19 *eP* **P 21 57 03.3 -0.4**
SCM pmax pmax
comp=Z,52nm,1.4s
SCM Sheep Creek Mo 87.97 19 *eP* **P 21 57 03.3 -0.4**
comp=Z,52nm,1.4s
DIB Dawson Inlet, 88.08 31 *eP* **P 21 57 05.8 +1.6**
comp=Z,56nm,1.1s
I03D Drain, OR 88.13 42 P **P 21 57 05.6 +0.8**
baz=241
M04C Macdoel 88.20 44 P **P 21 57 06.4 +1.0**
baz=242,SNR=28
BMRM Bremner River 88.21 21 *eP* **P 21 57 06.2 +1.4**
comp=Z,129nm,1.9s
BMRM *ep*P **pP 21 57 18.5 -1.7**
BMRM LR LR
comp=Z,1µm,20.0s
MONP Monument Peak, 88.22 54 P **P 21 57 06.4 +0.6**
baz=246,SNR=21
KTH Kantishna Hill 88.25 17 *eP* **P 21 57 04.0 -1.0**
comp=Z,22nm,1.0s
KTH LR LR
comp=Z,1µm,20.0s
LRMC Laurel Mtn Rad 88.34 52 P **P 21 57 06.7 +0.5**
baz=245,SNR=16
TRF Thorofare Moun 88.35 17 *eP* **P 21 57 04.0 -1.5**
comp=Z,22nm,1.0s
TRF LR LR
comp=Z,1µm,20.0s
IKP In-Ko-Pah, Jac 88.36 55 P **P 21 57 07.2 +0.9**
baz=246,SNR=8.3
WAKR Walker 88.36 48 *eP* **P 21 57 07.0 +0.7**
comp=Z,77nm,1.3s
WAKR LR LR
comp=Z,2µm,20.0s
CWC Cottonwood Cre 88.45 51 P **P 21 57 07.2 +0.5**
baz=245
PFO Pinyon Flats O 88.48 54 P **P 21 57 07.5 +0.6**
baz=246,SNR=7.7
PFO Pinyon Flats O 88.48 54 *eP* **P 21 57 07.5 +0.6**
PFO pmax pmax
comp=Z,22nm,1.0s
PFO MLR MLR
comp=Z,2µm,21.0s
PFO Pinyon Flats O 88.48 54 *eP* **P 21 57 07.5 +0.6**
comp=Z,22nm,1.0s
PFO LR LR
comp=Z,2µm,21.0s
TPFO Pinon Flats 88.48 54 P **P 21 57 07.5 +0.7**
baz=246,SNR=8.7
PNTR Pine Nut 88.51 48 *eP* **P 21 57 08.4 +1.4**
comp=Z,44nm,1.1s
COR Corvallis 88.58 42 PFAKE 21 57 20.0 +13
COR LR LR
comp=Z,2µm,19.0s
K04D Chiloquin, OR 88.65 44 P **P 21 57 08.5 +1.1**
baz=242
J04D Umpqua Nationa 88.70 43 P **P 21 57 09.0 +1.2**
baz=242,SNR=9.0
YERR Yerington 88.71 48 *eP* **P 21 57 08.3 +0.4**
comp=Z,52nm,1.3s
YERR LR LR
comp=Z,2µm,19.0s
SWSC Sam W. Stewart 88.72 55 P **P 21 57 08.7 +0.9**
baz=246,SNR=17
RND Reindeer 88.72 18 *eP* **P 21 57 06.0 -1.2**
RND pmax pmax
comp=Z,32nm,0.9s
RND MLR MLR
comp=Z,2µm,21.0s
RND Reindeer 88.72 18 *eP* **P 21 57 06.0 -1.2**
comp=Z,32nm,0.9s
RND LR LR
comp=Z,2µm,21.0s
MPMC Manual Prospec 88.72 51 P **P 21 57 08.9 +0.9**
baz=245,SNR=27
DAC Darwin (Calif) 88.74 51 PFAKE 21 57 20.0 +12
DAC LR LR
comp=Z,2µm,21.0s
TVH3 East Aurora ar 88.74 49 *eP* **P 21 57 09.4 +1.3**
comp=Z,42nm,1.4s
TVH3 LR LR
comp=Z,1µm,20.0s
I04A Tendick Farm, 88.77 43 P **P 21 57 08.8 +1.0**
baz=242,SNR=13
TVH2 Borealis Mine 88.79 49 *eP* **P 21 57 09.6 +1.2**
comp=Z,39nm,1.4s
TVH2 LR LR
comp=Z,1µm,20.0s
TVH1 TV Hill, Hawth 88.82 49 *eP* **P 21 57 09.4 +0.7**
comp=Z,114nm,1.7s
TVH1 LR LR
comp=Z,2µm,20.0s
NVL N'lazarevskaya 88.85 187 *eP* **P 21 57 06.9 -0.9**
NVL *e**PP **pP 21 57 23.8 +0.6**
NVL *eS* **SKSac 22 07 30.4 -2.2**
NVL *e**SS **ScS 22 07 59.9 +3.8**
NVL *eSP* **SP 22 09 01.0 +7.0**
NVL MLR MLR
comp=Z,2µm,25.0s
DHY Denali Highway 88.90 18 *eP* **P 21 57 07.4 -0.8**
comp=Z,56nm,1.7s
DHY LR LR
comp=Z,2µm,22.0s
G03D McMinnville, O 88.91 41 P **P 21 57 09.4 +1.0**
baz=241
GSC Goldstone, Bar 88.91 52 P **P 21 57 09.4 +0.6**
baz=246,SNR=13
GSC Goldstone, Bar 88.91 52 *eP* **P 21 57 09.9 +1.1**
GSC pmax pmax
comp=Z,45nm,1.4s
GSC MLR MLR
comp=Z,1µm,20.0s
GSC Goldstone, Bar 88.91 52 *eP* **P 21 57 09.9 +1.1**
comp=Z,45nm,1.4s
GSC LR LR
comp=Z,1µm,20.0s
PAHR Pah Rah Range 88.93 47 *eP* **P 21 57 08.7 -0.1**
comp=Z,76nm,1.3s
MCK McKinley 88.95 17 *eP* **P 21 57 07.7 -0.5**
MCK pmax pmax
comp=Z,38nm,1.4s
MCK MLR MLR
comp=Z,2µm,21.0s
MCK McKinley 88.95 17 *eP* **P 21 57 07.7 -0.5**
comp=Z,38nm,1.4s
MCK LR LR
comp=Z,2µm,21.0s
BELC Belle Mtn. Jos 88.99 53 P **P 21 57 09.9 +0.6**
baz=246,SNR=29
BALM Baldy 89.03 22 *eP* **P 21 57 08.4 -0.4**
BALM pmax pmax
comp=Z,47nm,1.3s
BALM MLR MLR
comp=Z,1µm,19.0s
BALM Baldy 89.03 22 *eP* **P 21 57 08.4 -0.4**
comp=Z,47nm,1.3s
BALM LR LR
comp=Z,1µm,19.0s
BOD Bodaibo 89.06 334 *eP* **P 21 57 08.8 0.0**
BOD pmax pmax
comp=Z,141nm,1.8s
HEC Hector,Ludlow 89.07 53 P **P 21 57 10.0 +0.4**
baz=246
LSA Lhasa 89.08 302 P **P 21 57 11.2 +1.0**
LSA pmax pmax
comp=Z,35nm,0.8s
LSA Lhasa 89.08 302 *eP* **P 21 57 11.1 +0.9**
LSA pmax pmax
comp=Z,30nm,0.8s
LSA MLR MLR
comp=Z,500nm,20.0s
LSA Lhasa 89.08 302 *eP* **P 21 57 11.1 +0.9**
comp=Z,30nm,0.8s
LSA LR LR
comp=Z,500nm,20.0s
SNAA Sanae 89.20 183 P **P 21 57 09.7 +0.1**
SNAA S **S 22 07 52.6 -1.8**
SNAA Sanae 89.20 183 P **P 21 57 07.5 -2.1**
comp=Z,62nm,0.8s,baz=208,slow=4.9,SNR=253
SNAA Sanae 89.20 183 *eP* **P 21 57 07.3 -2.3**
SNAA pmax pmax
comp=Z,229nm,1.4s
SNAA MLR MLR
comp=Z,1µm,20.0s
SNAA Sanae 89.20 183 *eP* **P 21 57 07.2 -2.3**
comp=Z,229nm,1.4s
SNAA LR LR
comp=Z,1µm,20.0s
GRAC Grapevine Rang 89.20 50 P **P 21 57 10.9 +0.9**
baz=245,SNR=6.2
DHAK Deception Hill 89.23 24 PFAKE 21 57 20.0 +10
DHAK LR LR
comp=Z,2µm,20.0s
K05A Summer Lake 89.26 44 *eP* **P 21 57 10.4 0.0**
comp=Z,82nm,1.0s
K05A LR LR
comp=Z,3µm,21.0s
BC3 Big Chuckawall 89.27 54 P **P 21 57 10.9 +0.4**
baz=246,SNR=16
MOD Modoc Plateau 89.28 45 *eP* **P 21 57 10.8 +0.3**
comp=Z,61nm,1.0s
MOD LR LR
comp=Z,2µm,20.0s
J05D Fort Rock, OR 89.29 43 P **P 21 57 11.3 +0.9**
baz=243,SNR=54
FURC Furnace Creek, 89.35 51 P **P 21 57 11.5 +0.9**
baz=245,SNR=14
E03A Lebam 89.37 40 *eP* **P 21 57 12.0 +1.5**
comp=Z,122nm,1.1s
E03A LR LR
comp=Z,2µm,21.0s
PAX Paxson 89.40 19 PFAKE 21 57 20.0 +10
PAX LR LR
comp=Z,900nm,21.0s
GLA Glamis 89.51 55 P **P 21 57 12.1 +0.5**
baz=247,SNR=20
GLA Glamis 89.51 55 *eP* **P 21 57 12.6 +1.0**
GLA pmax pmax
comp=Z,47nm,1.0s
GLA MLR MLR
comp=Z,1µm,19.0s
GLA Glamis 89.51 55 *eP* **P 21 57 12.6 +1.0**
comp=Z,47nm,1.0s
GLA LR LR
comp=Z,1µm,19.0s
SHOC Shoshone, Teco 89.55 52 P **P 21 57 12.4 +0.7**
baz=246,SNR=19
GMRC Granite Mounta 89.56 53 P **P 21 57 12.4 +0.5**
baz=246,SNR=13
NLWA Neilton Lookou 89.60 39 *eP* **P 21 57 12.8 +1.1**
comp=Z,84nm,1.4s
TUQ Turquoise Moun 89.62 52 P **P 21 57 12.8 +0.6**
baz=246,SNR=19
BBB Bella Bella 89.70 33 *eP* **P 21 57 13.2 +1.4**
comp=Z,119nm,1.6s

IRM **Iron Mountain** 89.70 54 P P 21 57 13.4 +0.9
baz=246,SNR=29
I05D **Terrebonne, OR** 89.71 42 P P 21 57 13.0 +0.8
baz=242
WRH **Wood River Hil** 89.76 17 eP P 21 57 10.8 -1.1
comp=Z,29nm,1.2s
WRH LR LR
comp=Z,2μm,21.0s
F04A **Amboy** 89.77 41 eP P 21 57 13.7 +1.2
comp=Z,93nm,1.0s
F04A LR LR
comp=Z,1μm,22.0s
VNA3 **Neumayer Olymp** 89.81 181 P P 21 57 10.2 -2.2
MENT **Mentasta** 89.93 20 eP P 21 57 12.1 -0.8
comp=Z,13nm,1.1s
MENT LR LR
comp=Z,2μm,22.0s
ZAK **Zakamensk** 89.96 324 eP P 21 57 12.3 -1.1
ZAK pmax pmax
comp=Z,61nm,1.5s
CCB **Clear Creek Bu** 89.97 17 eP P 21 57 11.4 -1.5
comp=Z,16nm,1.2s
CCB LR LR
comp=Z,2μm,21.0s
TPNV **Topopah Spring** 90.00 51 P P 21 57 14.3 +0.3
baz=246,SNR=45
TPNV **Topopah Spring** 90.00 51 eP P 21 57 14.1 +0.1
TPNV pmax pmax
comp=Z,47nm,0.9s
TPNV MLR MLR
comp=Z,2μm,20.0s
TPNV **Topopah Spring** 90.00 51 eP P 21 57 14.1 +0.1
comp=Z,47nm,0.9s
TPNV LR LR
comp=Z,2μm,20.0s
Y12C **Blythe** 90.02 54 P P 21 57 14.9 +1.0
baz=247,SNR=19
Y12C **Blythe** 90.02 54 eP P 21 57 15.0 +1.1
comp=Z,58nm,1.1s
Y12C LR LR
comp=Z,1μm,20.0s
WRAK **Wrangell Islan** 90.03 28 eP P 21 57 14.3 +1.0
comp=Z,53nm,1.1s
WRAK LR LR
comp=Z,2μm,19.0s
HDA **Harding Lake** 90.03 18 eP P 21 57 12.5 -0.7
comp=Z,28nm,1.0s
VFP **Flag Point** 90.08 41 P P 21 57 14.7 +0.5
MDM **Murphy Dome** 90.09 17 eP P 21 57 12.0 -1.6
comp=Z,36nm,1.3s
MDM LR LR
comp=Z,1μm,22.0s
LDFC **Landfair** 90.09 53 PFAKE 21 57 30.0 +16
LDFC LR LR
comp=Z,2μm,21.0s
VNA2 **Neumayer--Watz** 90.09 181 P P 21 57 12.0 -1.6
baz=171,slow=3.9
VNA2 S S 22 08 00.6 -2.0
baz=171,slow=3.9
TDL **Tradedollar La** 90.10 40 eP P 21 57 14.8 +0.7
COLA **College** 90.13 17 eP P 21 57 12.8 -0.8
COLA pmax pmax
comp=Z,19nm,0.8s
COLA MLR MLR
comp=Z,2μm,20.0s
COLA **College** 90.13 17 eP P 21 57 12.8 -0.8
comp=Z,19nm,0.8s
COLA LR LR
comp=Z,2μm,20.0s
G05D **Wamic, OR** 90.14 42 P P 21 57 15.0 +0.8
baz=242
113A **Mohawk Valley,** 90.22 55 eP P 21 57 15.8 +1.0
comp=Z,67nm,1.4s
113A LR LR
comp=Z,1μm,20.0s
IL1 **Eielson Array** 90.32 17 eP P 21 57 12.6 -2.0
ILAR **Eielson Array** 90.32 17 P P 21 57 12.9 -1.7
comp=Z,5.8nm,0.7s,baz=236,slow=5.5,SNR=61
ILAR LR LR 22 33 13.5
comp=Z,1μm,19.8s,baz=234,slow=32
ILB **Eielson Array** 90.32 17 eP P 21 57 12.6 -2.0
DOT **Dot Lake** 90.33 19 eP P 21 57 14.0 -0.7
comp=Z,36nm,0.9s
NEE2 **Needles Airpor** 90.34 53 P P 21 57 16.4 +1.0
baz=247,SNR=5.8
VNA1 **Neumayer--Stat** 90.39 181 P P 21 57 15.2 +0.2
IRK **Irkutsk** 90.39 326 eP P 21 57 15.5 +0.3
IRK e 21 57 27.0
IRK pmax pmax
comp=Z,98nm,2.7s
BLN **Blyn Mountain** 90.43 39 eP P 21 57 16.9 +1.4
TLY **Talaya** 90.43 326 i P P 21 57 15.8 +0.4
TLY pmax pmax
comp=Z,72nm,1.5s
TLY **Talaya** 90.43 326 eP P 21 57 16.0 +0.6
comp=Z,43nm,1.0s
TLY LR LR
comp=Z,699nm,22.0s
TLY **Talaya** 90.43 326 P P 21 57 15.3 -0.1
SNR=16
TLY **Talaya** 90.43 326 P P 21 57 15.3 -0.1
SNR=16
PGC **Sidney** 90.46 38 eP P 21 57 16.3 +0.8
comp=Z,56nm,1.0s
PGC LR LR
comp=Z,1μm,20.0s
PALK **Pallekele** 90.49 277 eP P 21 57 19.0 +2.4
PALK e*PP pP 21 57 30.6 -1.4
PALK MLR MLR
comp=Z,2μm,21.0s
PALK **Pallekele** 90.49 277 eP P 21 57 19.0 +2.4
PALK epP pP 21 57 30.6 -1.4
PALK LR LR
comp=Z,2μm,21.0s
PDMCI **Parker Dam,Lak** 90.52 54 P P 21 57 16.6 +0.4
baz=247,SNR=9.7
G06A **Carlson Farm,** 90.56 42 eP P 21 57 16.8 +0.5
comp=Z,40nm,1.1s
VTHM **Trough** 90.58 42 P P 21 57 17.1 +0.7
SKAG **Skagway** 90.61 25 eP P 21 57 15.9 -0.1
comp=Z,45nm,1.1s
SKAG LR LR
comp=Z,2μm,20.0s
SHPR **Sheep Range** 90.62 51 eP P 21 57 17.4 +0.6
comp=Z,28nm,1.0s
WVOR **Wild Horse Val** 90.62 45 eP P 21 57 17.1 +0.4
WVOR pmax pmax
comp=Z,78nm,1.1s
WVOR **Wild Horse Val** 90.62 45 eP P 21 57 17.1 +0.4
comp=Z,78nm,1.1s
D05A **Enumclaw** 90.63 40 eP P 21 57 16.8 +0.4
comp=Z,187nm,1.1s
D05A LR LR
comp=Z,1μm,21.0s
HYT **Haines Junctio** 90.63 23 eP P 21 57 16.1 -0.2
comp=Z,76nm,1.9s
214A **Organ Pipe Nat** 90.66 56 P P 21 57 17.4 +0.4
baz=248
BMN **Battle Mountai** 90.74 47 eP P 21 57 17.9 +0.6
BMN pmax pmax
comp=Z,43nm,0.9s
BMN MLR MLR
comp=Z,900nm,20.0s
BMN **Battle Mountai** 90.74 47 eP P 21 57 17.9 +0.6
comp=Z,43nm,0.9s
BMN LR LR
comp=Z,900nm,20.0s
A04D **Lummi Island** 90.92 38 P P 21 57 18.8 +1.1
baz=242
TAPN **Taplejung** 91.02 299 eP P 21 57 19.7 +0.6
comp=Z,112nm,1.4s
W13A **Hualapai Mount** 91.03 53 eP P 21 57 19.5 +0.6
comp=Z,33nm,0.9s
R11A **Troy Canyon, C** 91.05 50 P P 21 57 19.1 +0.3
baz=246,SNR=25
R11A **Troy Canyon, C** 91.05 50 eP P 21 57 18.8 0.0
comp=Z,11nm,0.9s
R11A LR LR
comp=Z,2μm,20.0s
B05A **Bryant** 91.07 39 P P 21 57 19.3 +0.9
baz=242
HSIG 91.07 60 eP P 21 57 18.5 -0.4
comp=Z,97nm,1.2s
HSIG epP pP 21 57 33.5 -0.8
ODAN **Odare** 91.11 298 eP P 21 57 20.0 +0.5
comp=Z,101nm,1.1s
Y14A **Wickenburg** 91.25 55 eP P 21 57 20.1 +0.4
comp=Z,78nm,0.9s
Y14A LR LR
comp=Z,5μm,20.0s
COLD **Coldfoot** 91.34 15 eP P 21 57 19.7 +0.4
comp=Z,18nm,1.0s
COLD LR LR
comp=Z,2μm,20.0s
MBW **Mount Baker** 91.42 38 P P 21 57 21.1 +0.8
LTY **Liberty** 91.46 40 eP P 21 57 20.4 0.0
comp=Z,46nm,1.1s
LTY LR LR
comp=Z,1μm,21.0s
WHY **Whitehorse** 91.53 24 eP P 21 57 19.9 -0.5
comp=Z,19nm,1.0s
WHY LR LR
comp=Z,2μm,20.0s
B06A **Marblemount** 91.55 39 eP P 21 57 21.1 +0.5
comp=Z,30nm,0.9s
B06A LR LR
comp=Z,900nm,20.0s
E07A **Sunnyside** 91.64 41 eP P 21 57 22.2 +1.0
comp=Z,61nm,1.0s
HAWA **Hanford** 91.77 41 eP P 21 57 22.3 +0.5
comp=Z,79nm,1.1s
RAMN **Ramite** 91.80 298 eP P 21 57 23.2 +0.5
comp=Z,40nm,1.0s
GBB **Gable Butte** 91.81 41 P P 21 57 21.0 -0.8
MOY **Mondy** 91.85 325 eP P 21 57 23.4 +1.3
MOY pmax pmax
comp=Z,111nm,2.3s
EGAK **Eagle** 92.03 19 eP P 21 57 22.3 -0.2
comp=Z,18nm,0.9s
EGAK LR LR
comp=Z,1μm,20.0s
DAWY **Dawson** 92.11 20 eP P 21 57 22.2 -0.8
comp=Z,51nm,1.8s
FYU **Fort Yukon** 92.12 17 PFAKE 21 57 30.0 +7.2
FYU LR LR
comp=Z,1μm,21.0s
DLBC **Dease Lake** 92.22 27 P P 21 57 23.3 -0.3
comp=Z,36nm,1.0s,baz=229,slow=4.7,SNR=30
DLBC **Dease Lake** 92.22 27 eP P 21 57 24.1 +0.5
comp=Z,53nm,1.1s
DLBC LR LR
comp=Z,3μm,22.0s
LCMT **Little Creek M** 92.23 52 eP P 21 57 22.4 -1.9
comp=Z,40nm,0.9s
LCMT LR LR
comp=Z,1μm,20.0s
CCUT **Cedar City** 92.35 51 eP P 21 57 25.7 +0.7
comp=Z,29nm,1.0s
PSUT **Pine Spring** 92.37 50 PFAKE 21 57 40.0 +15
PSUT LR LR
comp=Z,1μm,22.0s
TUC **Tucson** 92.39 57 P P 21 57 25.3 +0.2
baz=249
TUC **Tucson** 92.39 57 eP P 21 57 25.9 +0.9
TUC pmax pmax
comp=Z,42nm,1.0s
TUC MLR MLR
comp=Z,900nm,22.0s
TUC **Tucson** 92.39 57 eP P 21 57 25.9 +0.9
comp=Z,42nm,1.0s
TUC LR LR
comp=Z,900nm,22.0s
JIRN **Jiri** 92.39 298 eP P 21 57 26.2 +0.7
comp=Z,652nm,1.2s
D08A **Wollman Farm,** 92.44 41 eP P 21 57 25.9 +1.0
comp=Z,113nm,1.9s
BMO **Blue Mountains** 92.52 43 eP P 21 57 25.0 -0.4
BMO pmax pmax
comp=Z,39nm,1.6s
BMO **Blue Mountains** 92.52 43 eP P 21 57 25.0 -0.4
comp=Z,39nm,1.6s
KNB **Kanab** 92.55 52 eP P 21 57 26.2 +0.4
KNB pmax pmax
comp=Z,38nm,1.0s
KNB **Kanab** 92.55 52 eP P 21 57 26.1 +0.4
comp=Z,38nm,1.0s
SZCU **Shurtz Canyon** 92.57 51 eP P 21 57 27.1 +1.2
comp=Z,32nm,1.2s
SZCU LR LR
comp=Z,2μm,22.0s
TOLK **Toolik Lake Re** 92.60 14 P P 21 57 26.7 +1.5
baz=219
X16A **Lo Mia Camp, P** 92.64 55 eP P 21 57 27.2 +0.9
comp=Z,43nm,0.9s
X16A LR LR
comp=Z,1μm,21.0s
E09A **Wood Farm, Sta** 92.69 41 eP P 21 57 25.8 -0.2
comp=Z,27nm,1.1s
E09A LR LR
comp=Z,1μm,19.0s
U15A **North Rim** 92.73 52 eP P 21 57 27.2 +0.4
comp=Z,43nm,0.8s
U15A LR LR
comp=Z,1μm,21.0s
GUN **Gumba** 92.73 298 eP P 21 57 27.5 +0.4
comp=Z,16nm,0.5s
B08A **Colville Reser** 92.75 39 eP P 21 57 25.4 -0.8
comp=Z,26nm,1.1s
MFID **Camas Ranch** 92.91 45 eP P 21 57 27.7 +0.4
comp=Z,18nm,0.9s
MFID LR LR
comp=Z,2μm,20.0s
PKI **Pulchoki** 93.01 298 eP P 21 57 28.8 +0.4
comp=Z,118nm,1.1s
PKIN **Phulchoki** 93.02 298 eP P 21 57 28.6 +0.3
comp=Z,31nm,0.9s
F10A **Beach Ranch, E** 93.04 42 eP P 21 57 28.1 +0.4
comp=Z,100nm,1.9s
F10A LR LR
comp=Z,1μm,20.0s
WUAZ **Wupatki** 93.08 54 P P 21 57 28.6 +0.3
baz=249
WUAZ **Wupatki** 93.08 54 eP P 21 57 28.9 +0.6
comp=Z,34nm,1.0s
WUAZ LR LR
comp=Z,2μm,21.0s
PKCU **Pink Cliffs** 93.09 51 eP P 21 57 30.6 +2.1
comp=Z,19nm,0.9s
PKCU LR LR
comp=Z,1μm,19.0s
KKN **Kakani** 93.19 298 eP P 21 57 29.5 +0.5
comp=Z,100nm,1.2s
319A **Douglas** 93.25 58 eP P 21 57 30.4 +1.3
comp=Z,75nm,0.8s
319A LR LR
comp=Z,900nm,18.0s
DMN **Daman** 93.28 298 eP P 21 57 30.0 +0.5
comp=Z,168nm,1.1s
MTPU **Mount Pierson** 93.40 51 eP P 21 57 31.0 +1.0
MTPU LR LR
comp=Z,2μm,22.0s
TCRU **Three Creeks R** 93.42 50 PFAKE 21 57 40.0 +10
TCRU LR LR
comp=Z,2μm,20.0s
MSU **Marysvale** 93.58 51 eP P 21 57 31.8 +1.2
MSU **Marysvale** 93.58 51 eP P 21 57 31.8 +1.2
DUG **Dugway, Tooele** 93.74 49 P P 21 57 31.6 +0.4
baz=248
DUG **Dugway, Tooele** 93.74 49 eP P 21 57 31.9 +0.7
DUG pmax pmax
comp=Z,27nm,1.6s
DUG **Dugway, Tooele** 93.74 49 eP P 21 57 31.9 +0.7
comp=Z,27nm,1.6s
GKN **Gorkha** 93.80 298 eP P 21 57 31.7 -0.1
comp=Z,95nm,1.2s
X18A **Snowflake** 93.83 55 eP P 21 57 32.4 +0.6
comp=Z,25nm,1.0s
X18A LR LR
comp=Z,1μm,20.0s
BGU **Big Grassy Mou** 93.86 48 eP P 21 57 32.4 +0.6
comp=Z,35nm,1.9s
BGU LR LR
comp=Z,1μm,20.0s
HLID **Hailey** 93.91 45 P P 21 57 32.5 +0.5
baz=247
HLID **Hailey** 93.91 45 eP P 21 57 32.3 +0.4
comp=Z,13nm,0.9s
NEW **Newport** 94.05 40 P P 21 57 33.2 +0.9
baz=246
NEW **Newport** 94.05 40 eP P 21 57 33.2 +0.9
NEW pmax pmax
comp=Z,13nm,0.3s
NEW **Newport** 94.05 40 eP P 21 57 33.2 +0.9
comp=Z,13nm,0.3s
NLU **North Lily Min** 94.18 49 eP P 21 57 34.2 +0.9
comp=Z,8.3nm,1.0s
NLU LR LR
comp=Z,2μm,19.0s
W18A **Petrified Fore** 94.20 54 PFAKE 21 57 40.0 +6.5
W18A LR LR
comp=Z,1μm,22.0s
HVU **Hansel Valley** 94.36 47 eP P 21 57 34.4 +0.4
HVU pmax pmax
comp=Z,22nm,1.1s
HVU MLR MLR
comp=Z,600nm,19.0s
HVU **Hansel Valley** 94.36 47 eP P 21 57 34.4 +0.4
comp=Z,22nm,1.1s
HVU LR LR
comp=Z,600nm,19.0s
SPUT **South Promonto** 94.41 48 eP P 21 57 34.7 +0.4
comp=Z,16nm,1.3s
SPUT LR LR
comp=Z,900nm,21.0s
TMUT **Trail Mountain** 94.57 50 eP P 21 57 36.5 +1.3
comp=Z,14nm,1.1s
TMUT LR LR
comp=Z,2μm,20.0s
TIXI **Tiksi** 94.58 348 c iP P 21 57 33.2 -0.9
TIXI pmax pmax
comp=Z,31nm,1.1s
TIXI **Tiksi** 94.58 348 eP P 21 57 33.4 -0.7
comp=Z,25nm,1.0s
TIXI LR LR
comp=Z,900nm,21.0s
KOLN **Koldanda** 94.59 298 eP P 21 57 35.3 -0.2
comp=Z,30nm,1.0s
121A **Cookes Peak, D** 94.84 57 P P 21 57 37.1 +0.6
baz=250
JLU **Jordanelle** 94.86 49 eP P 21 57 37.6 +1.2
comp=Z,12nm,1.2s
JLU LR LR
comp=Z,2μm,20.0s
SRU **San Rafael Swe** 95.00 50 eP P 21 57 37.8 +0.7
SRU pmax pmax
comp=Z,15nm,1.2s
SRU MLR MLR
comp=Z,2μm,21.0s
SRU **San Rafael Swe** 95.00 50 eP P 21 57 37.8 +0.7
comp=Z,15nm,1.2s
SRU LR LR
comp=Z,2μm,21.0s
HWUT **Hardware Ranch** 95.14 48 eP P 21 57 37.8 +0.2
comp=Z,9.2nm,1.1s
HWUT LR LR
comp=Z,900nm,21.0s
PYUN **Piuthan** 95.21 298 eP P 21 57 38.0 -0.3
comp=Z,61nm,1.0s
RSUT **Red Spur Mount** 95.25 48 eP P 21 57 37.0 -1.3
BSMT **Bassoo Peak** 95.32 41 eP P 21 57 38.8 +0.4
P18A **Preston Nutter** 95.38 50 eP P 21 57 39.7 +0.8
comp=Z,38nm,1.9s
P18A LR LR
comp=Z,2μm,21.0s
MCMT **McKenzie Canyo** 95.43 44 eP P 21 57 39.6 +0.7
PV05 **Paradox Valley** 95.69 52 eP P 21 57 41.6 +1.3
HYB **Hyderabad** 95.72 286 i P P 21 57 42.0 +1.4
DLMT **Dillon** 95.79 44 eP P 21 57 41.1 +0.7
comp=Z,11nm,0.9s
DLMT LR LR
comp=Z,2μm,21.0s
PV09 **Paradox Valley** 95.81 51 eP P 21 57 41.8 +0.9
PV10 **Paradox Valley** 95.84 52 eP P 21 57 43.0 +2.0
Y22D **IRIS PASSCAL I** 96.03 56 PFAKE 21 57 50.0 +8.2
Y22D LR LR
comp=Z,1μm,20.0s
LRM **Limekiln Ridge** 96.05 44 eP P 21 57 42.6 +0.9
ZAIG **Zacatecas** 96.09 68 eP P 21 57 44.0 +1.5
comp=Z,9.1nm,1.0s
PV01 **Paradox Valley** 96.10 52 eP P 21 57 42.6 +0.4
TPAW **Teton Pass** 96.23 46 eP P 21 57 43.2 +0.6
comp=Z,6.4nm,1.1s
TPAW LR LR
comp=Z,2μm,20.0s
REDW **Red Top Meadow** 96.25 46 eP P 21 57 43.2 +0.5
comp=Z,12nm,1.1s
REDW LR LR
comp=Z,1μm,20.0s
BNM **Barren Site** 96.29 56 eP P 21 57 43.9 +0.8
WALA **Waterton Lakes** 96.32 40 PFAKE 21 57 50.0 +7.3
WALA LR LR
comp=Z,1μm,21.0s
SNOW **Snow King Moun** 96.35 46 PFAKE 21 57 50.0 +6.8
SNOW LR LR
comp=Z,2μm,21.0s
IMW **Indian Meadow** 96.38 46 eP P 21 57 43.8 +0.4
comp=Z,7.7nm,1.0s
IMW LR LR
comp=Z,2μm,19.0s
MOOW **Moose Ponds** 96.46 46 eP P 21 57 44.5 +0.9
comp=Z,5.5nm,1.3s
MOOW LR LR
comp=Z,2μm,20.0s
MNTX **Cornudas Mount** 96.50 59 P P 21 57 44.0 +0.2
baz=252
MNTX **Cornudas Mount** 96.50 59 eP P 21 57 43.9 0.0
comp=Z,13nm,1.0s
LOHW **Long Hollow** 96.51 46 eP P 21 57 44.2 +0.4
comp=Z,7.6nm,1.2s
LOHW LR LR
comp=Z,1μm,20.0s
BOZ **Bozeman (W)** 96.51 44 P P 21 57 44.3 +0.6
baz=249
BOZ **Bozeman (W)** 96.51 44 eP P 21 57 44.4 +0.6
BOZ pmax pmax
comp=Z,17nm,1.4s
BOZ **Bozeman (W)** 96.51 44 eP P 21 57 44.4 +0.6
comp=Z,17nm,1.4s
YPP **Pitchstone Pla** 96.60 45 PFAKE 21 58 00.0 +16
YPP LR LR
comp=Z,2μm,22.0s
FLWY **Flagg Ranch** 96.60 46 eP P 21 57 45.1 +0.9
comp=Z,8.2nm,1.0s
YMR **Madison River** 96.63 45 PFAKE 21 58 00.0 +16
YMR LR LR
comp=Z,2μm,20.0s
YFT **Old Faithful** 96.64 45 PFAKE 21 58 00.0 +16
YFT LR LR
comp=Z,3μm,20.0s
INK **Inuvik** 96.65 18 P P 21 57 42.5 -1.1
comp=Z,16nm,1.1s,baz=273,slow=6.0,SNR=11
INK **Inuvik** 96.65 18 eP P 21 57 43.3 -0.3
INK pmax pmax
comp=Z,27nm,1.1s
INK MLR MLR
comp=Z,1μm,22.0s
INK **Inuvik** 96.65 18 eP P 21 57 43.3 -0.3
comp=Z,27nm,1.1s
INK LR LR
comp=Z,1μm,22.0s
ANMO **Albuquerque** 96.67 55 P P 21 57 44.8 0.0
baz=251
ANMO **Albuquerque** 96.67 55 ceP P 21 57 44.8 0.0
ANMO pmax pmax
comp=Z,9.0nm,0.9s
ANMO **Albuquerque** 96.67 55 eP P 21 57 44.9 +0.1
comp=Z,7.4nm,0.8s
ANMO LR LR
comp=Z,900nm,20.0s
YHH **Holmes Hill** 96.75 45 eP P 21 57 49.8 +4.8
comp=Z,14nm,1.7s
YHH LR LR
comp=Z,2μm,20.0s
H17A **Grant Village** 96.79 45 P P 21 57 45.7 +0.5
baz=250
H17A **Grant Village** 96.79 45 eP P 21 57 47.1 +2.0
comp=Z,5.5nm,0.8s
H17A LR LR
comp=Z,3μm,20.0s
WMQ **Urumqi** 96.81 314 P P 21 57 46.2 +1.2
WMQ pP pP 21 57 58.0 -2.5
WMQ sP sP 21 58 09.4 +3.1
WMQ PP PP 22 01 42.9 +2.0
WMQ SKS SKSac 22 08 16.1 -1.4
WMQ S S 22 09 00.8 -2.0
WMQ SS SS 22 15 37.3 -2.3
WMQ pmax pmax
comp=Z,16nm,1.7s
WMQ pmax pmax
comp=Z,200nm,5.3s
WMQ LR LR
comp=Z,270nm,21.7s

WMQ LR LR
comp=Z,400nm,20.3s
WMQ LR LR
comp=Z,640nm,21.7s
YNR Norris Junctio 96.83 45 PFAKE 21 58 00.0 +15
YNR LR LR
comp=Z,2µm,20.0s
BW06 Boulder Array 96.94 47 P **P 21 57 46.5 +0.6**
baz=250
BW06 Boulder Array 96.94 47 *e*P **P 21 57 45.5 -0.4**
BW06 LR LR
comp=Z,1µm,19.0s
PD31 Pinedale Array 96.94 47 *e*P **P 21 57 46.0 +0.2**
PD31 *e*PP **PP 22 01 39.3 -2.9**
PD31 *e*P'P'df **P'P'df 22 22 42.7 +2.8**
PDAR Pinedale Array 96.94 47 P **P 21 57 44.0 -1.9**
comp=Z,3.7nm,1.0s,baz=270,slow=2.5,SNR=17
PDAR PP **PP 22 01 39.3 -2.9**
comp=Z,1.6nm,0.9s,baz=249,slow=4.1,SNR=5.9
PDAR PKPPKP **P'P'df 22 22 42.0 +2.1**
comp=Z,2.4nm,1.0s,baz=135,slow=1.0,SNR=11
PDAR LR LR 22 36 34.6
comp=Z,860nm,19.6s,baz=264,slow=32
LKWY Lake 96.97 45 PFAKE 21 58 00.0 +14
LKWY LR LR
comp=Z,3µm,20.0s
O20A White River Ci 97.00 50 P **P 21 57 46.7 +0.6**
baz=251
O20A White River Ci 97.00 50 *e*P **P 21 57 47.2 +1.0**
comp=Z,21nm,1.4s
O20A LR LR
comp=Z,3µm,20.0s
LTX Lajitas 97.17 62 *e*P Pdif 21 57 47.3 +0.2
LTX Lajitas 97.17 62 *e*P Pdif 21 57 47.3 +0.1
LTX *e*PKKPbc **PKKPbc 22 14 27.9 +1.0**
TX31 Lajitas Ar. Si 97.17 62 *e*P Pdif 21 57 47.7 +0.6
TXAR Lajitas Array 97.17 62 P Pdif 21 57 47.3 +0.1
comp=Z,6.7nm,0.8s,baz=227,slow=5.0,SNR=23
TXAR PKKPbc **PKKPbc 22 14 27.9 +1.0**
comp=Z,2.3nm,0.9s,baz=120,slow=5.0,SNR=7.0
TXAR LR LR 22 34 15.3
comp=Z,2µm,19.5s,baz=0.0,slow=31
S22A 4UR Ranch, Cre 97.28 53 P Pdif 21 57 48.1 +0.4
baz=251
S22A 4UR Ranch, Cre 97.28 53 *e*P Pdif 21 57 48.5 +0.8
comp=Z,6.7nm,1.0s
S22A LR LR
comp=Z,1µm,20.0s
SMCO Snowmass 97.62 51 *e*P Pdif 21 57 50.1 +0.8
comp=Z,4.4nm,0.8s
SMCO *e*S **S 22 09 12.4 +1.6**
SMCO LR LR
comp=Z,900nm,19.0s
RLMT Red Lodge 97.92 45 P Pdif 21 57 50.8 +0.6
baz=251
RLMT Red Lodge 97.92 45 *e*P Pdif 21 57 50.9 +0.7
comp=Z,20nm,1.7s
EGMT Eagleton 98.55 42 P Pdif 21 57 53.2 +0.4
baz=251
ISCO Idaho Springs 98.82 51 P Pdif 21 57 54.5 +0.1
baz=252
N23A Red Feather La 98.91 50 P **P 21 57 54.5 -0.2**
baz=252
N23A Red Feather La 98.91 50 *e*P Pdif 21 57 55.8 +1.0
comp=Z,25nm,1.6s
N23A LR LR
comp=Z,3µm,20.0s
PLCA Paso Flores 98.91 139 LR LR 22 32 28.7
comp=Z,598nm,21.6s,baz=279,slow=29
T25A Trinidad 98.93 54 P **P 21 57 54.7 -0.2**
baz=253
T25A Trinidad 98.93 54 PFAKE 21 58 10.0 +15
T25A LR LR
comp=Z,1µm,22.0s
MSTX Muleshoe 99.28 57 P **Pdif 21 57 56.4 -0.1**
baz=253
MSTX Muleshoe 99.28 57 *e*P **Pdif 21 57 56.5 +0.1**
comp=Z,26nm,1.4s
PHWY Pilot Hill 99.38 50 PFAKE 21 58 10.0 +13
PHWY LR LR
comp=Z,2µm,21.0s
ZSN Zaisan 99.85 317 *e*P **Pdif 21 57 58.3 -0.2**
comp=Z,30nm,2.0s
832A Faith Ranch, C 99.96 64 P **Pdif 21 57 59.7 +0.3**
baz=254
KSCO Kaye Shedlock' 100.81 52 PFAKE 21 58 10.0 +6.9
KSCO LR LR
comp=Z,1µm,20.0s
YKA Yellowknife Ar 100.84 27 P **Pdif 21 58 02.5 0.0**
comp=Z,4.7nm,0.7s,baz=256,slow=4.6,SNR=15
YKB5 Yellowknife Ar 100.84 27 *e*Pdif **Pdif 21 58 02.5 +0.1**
YKW3 Yellowknife Ar 100.86 27 PFAKE 21 58 10.0 +7.4
YKW3 LR LR
comp=Z,2µm,20.0s
RSSD Black Hills 101.18 47 *e*P **Pdif 21 58 04.9 +0.1**
RSSD MLR MLR
comp=Z,1µm,20.0s
RSSD Black Hills 101.18 47 *e*Pdif **Pdif 21 58 04.9 +0.1**
RSSD LR LR
comp=Z,1µm,20.0s
MK01 Makanchi Array 101.33 316 *e*Pdif **Pdif 21 58 05.4 +0.3**
ABTX Abilene, Hawle 101.43 59 *e*Pdif **Pdif 21 58 06.6 +0.7**
MAKZ Makanchi 101.56 316 *e*P **Pdif 21 58 06.9 +0.8**
MAKZ Makanchi 101.56 316 *e*Pdif **Pdif 21 58 06.9 +0.8**
ZAA0 Zalesovo Array 101.77 323 *e*Pdif **Pdif 21 58 06.9 +0.1**
ZALV Zalesovo Beam 101.77 323 P **Pdif 21 58 06.3 -0.5**
comp=Z,3.1nm,0.8s,baz=104,slow=4.7,SNR=14
ZALV PKKPbc **PKKPbc 22 14 12.2 -2.4**
comp=Z,1.6nm,0.5s,baz=275,slow=1.8,SNR=7.9
ZAA1 Zalesovo Array 101.77 323 *e*Pdif **Pdif 21 58 06.3 -0.6**
ZAA1 *e*PKKPbc **PKKPbc 22 14 12.2 -2.4**
SHLS Shalkode 102.33 311 *e*PP PP 22 02 19.0 -4.0
WMOK Wichita Mounta 102.67 57 PFAKE 21 58 20.0 +8.6
WMOK LR LR
comp=Z,800nm,18.0s
NVS Novosibirsk 102.90 324 *e*P **Pdif 21 58 12.4 +0.6**
NVS pmax pmax
comp=N,6.0nm,1.2s
NVS pmax pmax
comp=E,8.0nm,1.2s
NVS pmax pmax
comp=Z,17nm,1.2s
KPKS Kokpek 102.96 312 *e*P **Pdif 21 58 11.3 -1.3**
comp=Z,60nm,1.7s
KPKS *e*PP **PP 22 02 25.8 -1.8**
WHTX Lake Whitney, 103.05 60 PFAKE 21 58 20.0 +6.9
WHTX LR LR
comp=Z,2µm,22.0s
SATY Saty 103.05 311 *e*Pdif **Pdif 21 58 11.7 -1.3**
comp=Z,48nm,1.5s
SATY *e*PP **PP 22 02 26.5 -1.9**
KURK Kurchatov 104.66 319 *e*P **Pdif 21 58 20.0 +0.3**
KURK MLR MLR
comp=Z,699nm,20.0s
KURK Kurchatov 104.66 319 *e*Pdif **Pdif 21 58 20.0 +0.3**
KURK LR LR
comp=Z,699nm,20.0s
NRIK Noril'sk 104.70 339 Pdiff **Pdif 21 58 19.7 +0.2**
comp=Z,17nm,0.9s,baz=115,slow=5.6,SNR=17
NRIK PKKPbc **PKKPbc 22 14 02.5 -3.8**
comp=Z,3.3nm,0.7s,baz=98,slow=2.8,SNR=4.5
KUU Kurty 104.71 312 *e*Pdif **Pdif 21 58 19.0 -1.2**
comp=Z,34nm,1.5s
KUU *e*PP **PP 22 02 38.7 -2.0**
BMNS Besmoynak 105.02 311 *e*Pdif **Pdif 21 58 20.2 -1.5**
BMNS *e*PP **PP 22 02 40.6 -2.5**
FFC Flin Flon 105.03 37 PFAKE 22 02 50.0
FFC LR LR
comp=Z,2µm,22.0s
MDND Maddock 105.08 44 PFAKE 22 02 50.0
MDND LR LR
comp=Z,2µm,21.0s
AAK Ala-Archa 105.77 310 PFAKE 22 02 50.0
AAK LR LR
comp=Z,600nm,22.0s
WLAR White Oak Lake 107.00 60 PFAKE 22 02 50.0
WLAR LR LR
comp=Z,2µm,20.0s
TGUH Tegucigalpa,Un 107.51 81 PFAKE 22 02 50.0
TGUH LR LR
comp=Z,1µm,22.0s
X301 Greenbrier Sit 107.88 58 PFAKE 22 02 50.0
X301 LR LR
comp=Z,1µm,22.0s
ULM Lac du Bonnet 107.92 42 PKKPbc PKKPbc 22 13 54.2 -1.5
comp=Z,4.1nm,0.8s,baz=5.5,slow=3.1,SNR=5.4
ULM PKPPKP **P'P'df 22 22 19.4 +1.0**
comp=Z,2.6nm,0.8s,baz=329,slow=7.4,SNR=3.9
WHAR Wooly Hollow 107.98 58 PFAKE 22 02 50.0
WHAR LR LR
comp=Z,1µm,21.0s
KBL Kabul 108.38 301 PFAKE 22 02 50.0
KBL LR LR
comp=Z,500nm,21.0s
SPMN Marine on St. 109.24 48 PFAKE 22 03 00.0
SPMN LR LR
comp=Z,1µm,20.0s
FCC Fort Churchill 109.90 33 PFAKE 22 03 00.0
FCC LR LR
comp=Z,2µm,20.0s
BRVK Borovoye 110.12 321 *d i* PKIKP **PKiKP 22 02 45.2 -0.1**
BRVK Borovoye 110.12 321 PFAKE 22 03 00.0
BRVK LR LR
comp=Z,1µm,22.0s
MSEY Mahe Island 110.19 257 PFAKE 22 03 00.0
MSEY LR LR
comp=Z,2µm,20.0s
PVMO Portageville 110.25 57 PFAKE 22 03 00.0
PVMO LR LR
comp=Z,1µm,21.0s
HALT Halls 110.46 58 PFAKE 22 03 00.0
HALT LR LR
comp=Z,1276µm,20.0s
USIN University of 112.08 56 PFAKE 22 03 00.0
USIN LR LR
comp=Z,2µm,19.0s
SFIN Lafayette 112.81 53 PFAKE 22 03 00.0
SFIN LR LR
comp=Z,1µm,22.0s
SWET Sewanee 113.10 59 PFAKE 22 03 00.0
SWET LR LR
comp=Z,400nm,22.0s
WCI Wyandotte Cave 113.19 56 PFAKE 22 03 00.0
WCI LR LR
comp=Z,1µm,18.0s
LPAZ La Paz 113.92 118 PKiKP **PKiKP 22 02 52.8 -1.7**
comp=Z,2.3nm,0.8s,baz=230,slow=3.4,SNR=8.5
LPAZ La Paz 113.92 118 *e*PKiKP **PKiKP 22 02 54.5 +0.1**
TKL Tuckaleechee C 114.91 59 PFAKE 22 03 10.0 +15
TKL LR LR
comp=Z,1µm,21.0s
TZTN Tazewell 115.18 58 PFAKE 22 03 10.0 +14
TZTN LR LR
comp=Z,900nm,21.0s
WSAR Wadi Sarin 115.25 287 PKKPbc PKKPbc 22 13 29.7 -1.0
comp=Z,2.5nm,0.7s,baz=275,slow=7.7,SNR=4.7
SVE Sverdlovsk 115.72 325 *e*PKIKP **PKPdf 22 02 56.2 +0.3**
SVE pmax pmax
comp=Z,20nm,1.4s
PRAC Prado 116.13 95 PFAKE 22 03 10.0 +12
PRAC LR LR
comp=Z,600nm,19.0s
HELC Santa Helena 116.32 93 *e*PKPdf **PKPdf 22 02 57.4 -1.4**
CPUP Villa Florida 116.41 134 PKP **PKPdf 22 02 57.1 -1.1**
comp=Z,4.4nm,0.9s,baz=350,slow=1.1,SNR=5.5
ABKAR Akbulak array 116.49 316 *e*PKPdf **PKPdf 22 02 57.7 +0.1**
ABKAR LR LR
comp=Z,200nm,22.0s
KMSC Kings Mountain 116.84 60 PFAKE 22 03 10.0 +11
KMSC LR LR
comp=Z,1µm,20.0s
ARU Arti 116.90 324 *i* PKIKP **PKPdf 22 02 57.7 -0.5**
ARU 22 04 05.3
ARU 22 10 04.4
ARU SP SP 22 13 40.4 -4.1
ARU PS **PS 22 13 48.9 -2.8**
ARU MLR MLR
comp=Z,717nm,23.0s
ARU Arti 116.90 324 *e*PKPdf **PKPdf 22 02 57.5 -0.6**
ARU LR LR
comp=Z,700nm,21.0s
GEYT Alibeck 117.57 303 PKP **PKPdf 22 02 59.0 -1.1**
comp=Z,8.1nm,0.7s,baz=259,slow=1.5,SNR=18
GEYT PP **PP 22 04 15.2 +2.0**
comp=Z,8.8nm,1.1s,baz=52,slow=5.8,SNR=4.4
GEYT PKKPbc **PKKPbc 22 13 23.9 +0.9**
comp=Z,2.8nm,0.8s,baz=298,slow=3.2,SNR=5.1
MTDJ Mount Denham 117.60 79 PFAKE 22 03 10.0 +9.2
MTDJ LR LR
comp=Z,1µm,20.0s
UOSS Minazif 117.74 289 *e*PKPdf **PKPdf 22 03 00.4 -0.4**
UOSS LR LR
comp=Z,500nm,21.0s
HATD Hatta, Dubai 117.78 288 *i* P **PKPdf 22 03 00.7 -0.2**
SNR=7.6
ASHO Ashiyiah 117.83 288 *i* P **PKPdf 22 03 00.4 -0.6**
SNR=6.2
ALLY Alegheny Colle 118.14 52 PFAKE 22 03 10.0 +8.9
ALLY LR LR
comp=Z,17µm,19.0s
RUSC La Rusia 118.53 94 *e*PKPdf **PKPdf 22 03 01.9 -1.4**
SADO Sadowa 118.88 49 PFAKE 22 03 10.0 +7.6
SADO LR LR
comp=Z,2µm,20.0s
KBS Kingsbay 119.23 355 *e*PP PP 22 04 24.8 +1.5
KBS *e*SP SP 22 14 06.2 +1.9
KBS Kingsbay 119.23 355 PFAKE 22 03 10.0 +7.9
KBS LR LR
comp=Z,400nm,22.0s
SPA0 Spitsbergen Ar 119.48 354 *e*PKPdf **PKPdf 22 03 02.0 -0.7**
SPA0 *e*PP **PP 22 04 24.3 -0.7**
SPA0 IAMs_20 IAMs_20 22 51 21.2
comp=Z,721nm,22.9s
SPA0 Spitsbergen Ar 119.48 354 *e*PKPdf **PKPdf 22 03 02.4 -0.2**
SSPA Standing Stone 119.83 54 PFAKE 22 03 20.0 +16
SSPA LR LR
comp=Z,1µm,19.0s
IP05 Hopewell Churc 119.88 57 *e*PKPdf **PKPdf 22 03 03.5 -1.0**
VLDQ Val d'Or 119.89 45 PFAKE 22 03 20.0 +16
VLDQ LR LR
comp=Z,1µm,21.0s
SUR Sutherland 120.23 211 PKP **PKPdf 22 03 06.3 +0.6**
comp=Z,1.8nm,0.9s,baz=150,slow=2.8,SNR=14
SUR Sutherland 120.23 211 *e*PKPdf **PKPdf 22 03 07.0 +1.2**
PLVO Plevna 120.34 49 PFAKE 22 03 20.0 +15
PLVO LR LR
comp=Z,2µm,20.0s
HSPB Hornsund (broa 120.60 353 *e*PP PP 22 04 33.1 +0.4
HSPB IAMs_20 IAMs_20 22 52 04.6
comp=Z,826nm,18.0s
SDMD Soldier's Deli 120.63 55 PFAKE 22 03 20.0 +14
SDMD LR LR
comp=Z,500nm,20.0s
BOSA Boshof 120.80 218 *i* P **PKPdf 22 03 06.2 -0.6**
BOSA Boshof 120.80 218 PKP **PKPdf 22 03 07.5 +0.6**
comp=Z,43nm,0.8s,baz=139,slow=1.6,SNR=47
BOSA PKKPbc **PKKPbc 22 13 10.8 -0.5**
comp=Z,5.8nm,1.0s,baz=323,slow=8.7,SNR=3.7
BOSA Boshof 120.80 218 *e*PKPdf **PKPdf 22 03 07.5 +0.6**
BOSA *e*PKPdf **PKiKP 22 03 07.6 +0.7**
BOSA *e*PKKPbc **PKKPbc 22 13 10.8 -0.5**
KSPA Keystone Colle 121.43 53 PFAKE 22 03 20.0 +13
KSPA LR LR
comp=Z,2µm,20.0s
PSUB Penn St. - Bra 121.70 54 PFAKE 22 03 20.0 +12
PSUB LR LR
comp=Z,1µm,18.0s
SAML Samuel 121.72 114 *e*PKPdf **PKPdf 22 03 07.4 -1.4**
SAML LR LR
comp=Z,500nm,22.0s
SDV Santo Domingo 121.76 91 *e*PKPdf **PKPdf 22 03 07.8 -1.3**
DAG Danmarks Havn 122.25 2 *i* P **PKPdf 22 03 06.1 -1.8**
DAG Danmarks Havn 122.25 2 *i* PKIKP **PKPdf 22 03 06.1 -1.8**
ODNJ Ogdensburg 122.32 53 *e*PKPdf **PKPdf 22 03 08.6 -0.5**
ODNJ LR LR
comp=Z,900nm,21.0s
BRNJ Basking Ridge 122.36 54 PFAKE 22 03 20.0 +11
BRNJ LR LR
comp=Z,2µm,21.0s
NCB Newcomb 122.44 50 *e*PKPdf **PKPdf 22 03 08.0 -1.3**
FRNY Flat Rock 122.82 49 PFAKE 22 03 20.0 +10
FRNY LR LR
comp=Z,3µm,20.0s
PAL Palisades 122.85 53 PFAKE 22 03 20.0 +10
PAL LR LR
comp=Z,900nm,21.0s
TRY Troy 122.93 51 *e*PKPdf **PKPdf 22 03 09.8 -0.4**
TRY LR LR
comp=Z,2µm,19.0s
LBTB Lobatse 123.27 221 PKP **PKPdf 22 03 12.1 +0.5**
comp=Z,39nm,0.7s,baz=152,slow=3.5,SNR=52
LBTB Lobatse 123.27 221 *e*PKPdf **PKPdf 22 03 11.8 +0.2**
LVZ Lovozero 123.44 341 *e*PKIKP **PKPdf 22 03 10.2 -0.3**
LVZ MLR MLR
comp=Z,1µm,22.0s
LVZ Lovozero 123.44 341 *e*PKPdf **PKPdf 22 03 10.2 -0.3**
LVZ LR LR
comp=Z,1µm,22.0s
SDDR Presa de Saban 123.56 80 *e*PKPdf **PKPdf 22 03 12.2 0.0**
APA Apatity 124.02 341 *i* PKIKP **PKPdf 22 03 10.2 -1.3**
APA pmax pmax
comp=Z,23nm,0.9s
LBNH Lisbon 124.06 49 *e*PKIKP **PKPdf 22 03 12.0 -0.3**
LBNH Lisbon 124.06 49 *e*PKPdf **PKPdf 22 03 12.0 -0.3**
TMCR Tamitsa 124.30 336 *e*PKIKP **PKPdf 22 03 11.2 -0.9**
TMCR pmax pmax
comp=Z,63nm,1.1s
ILULI Ilulissat 124.35 16 *i* P **PKPdf 22 03 11.0 -1.1**
ILULI Ilulissat 124.35 16 *i* PKIKP **PKPdf 22 03 11.0 -1.1**
KEV Kevo 124.36 345 PFAKE 22 03 20.0 +7.9
KEV LR LR
comp=Z,900nm,22.0s
SUMG Summit 124.38 10 *i* P **PKPdf 22 03 12.4 -0.3**
SUMG Summit 124.38 10 *i* PKIKP **PKPdf 22 03 12.4 -0.3**
SUMG Summit 124.38 10 *e*PKPdf **PKPdf 22 03 12.1 -0.6**
HAMF Hammerfest 124.48 347 *e*PKPdf **PKPdf 22 03 11.4 -0.9**
HAMF IAMs_20 IAMs_20 22 48 55.8
comp=Z,2µm,28.0s
HRV Adam Dziewonsk 124.50 51 PFAKE 22 03 30.0 +17
HRV LR LR
comp=Z,1µm,20.0s
MATP Matopo 124.60 227 *i* P **PKPdf 22 03 14.3 0.0**
MATP Matopo 124.60 227 PKP **PKPdf 22 03 13.2 -1.2**
comp=Z,66nm,0.9s,baz=144,slow=1.7,SNR=80
BLWY Bulawayo 124.72 227 *i* P **PKPdf 22 03 14.9 +0.3**
LMQ La Malbaie 124.72 45 *e*PKPdf **PKPdf 22 03 12.2 -1.3**
SDD Santo Domingo 124.74 80 PFAKE 22 03 30.0 +16
SDD LR LR
comp=Z,200nm,18.0s
ARA0 ARCESS Array S 124.88 345 *e*PKPdf **PKPdf 22 03 12.3 -0.9**
ARCES ARCESS Array B 124.88 345 PKhKP PKPpre 22 03 10.3
comp=Z,31nm,0.7s,baz=22,slow=1.3,SNR=62
ARCES PKP **PKPdf 22 03 12.8 -0.4**
comp=Z,31nm,0.7s,baz=48,slow=1.3,SNR=61
ARE0 ARCESS Array S 124.88 345 *e*PKPdf **PKPdf 22 03 13.2 0.0**
ARE0 *e*PP **PP 22 05 00.7 -1.0**
ARE0 IAMs_20 IAMs_20 22 50 55.8
comp=Z,1µm,28.0s
ARE0 ARCESS Array S 124.88 345 *e*PKPdf **PKPdf 22 03 13.1 0.0**
ARE0 LR LR
comp=Z,700nm,21.0s
SCHQ Schefferville 125.15 36 PKP **PKPdf 22 03 12.3 -1.8**
comp=Z,9.0nm,0.7s,baz=264,slow=4.3,SNR=4.3
SCHQ Schefferville 125.15 36 *e*PKPdf **PKPdf 22 03 12.3 -1.8**
SCHQ LR LR
comp=Z,2µm,20.0s
KLMR Klimovskoe 125.25 332 *e*PKIKP **PKPdf 22 03 11.2 -2.9**
KLMR pmax pmax
comp=Z,117nm,1.3s
KLMR MLR MLR
comp=Z,378nm,21.0s
MAK Makhachkala 125.54 310 *i* PKIKP **PKPdf 22 03 15.3 +0.1**
PKME Peaks-Kenny Pk 125.79 48 *e*PKPdf **PKPdf 22 03 15.2 -0.3**
KTK1 Kautokeino 125.82 345 *e*PKPdf **PKPdf 22 03 14.5 -0.4**
SEKA Sheki 125.95 307 PKIKP **PKPdf 22 03 15.9 -0.3**
MNGR Mingechevir, A 126.08 307 PKIKP **PKPdf 22 03 16.2 -0.1**
TRO Tromso 126.29 347 *e*PKPdf **PKPdf 22 03 16.8 +1.0**
TRO *e*PP **PP 22 05 11.6 +0.6**
TRO IAMs_20 IAMs_20 22 49 30.6
comp=Z,1µm,26.3s
PQI Presque Isle 126.43 46 *e*PKPdf **PKPdf 22 03 15.3 -1.5**
GANJ Ganja 126.67 307 PKIKP **PKPdf 22 03 17.3 -0.2**
DAMY Dhamar 126.70 274 *e*PKPdf **PKPdf 22 03 20.9 +2.3**
DAMY LR LR
comp=Z,2µm,22.0s
GROC Groznyy 126.75 310 *i* PKIKP **PKPdf 22 03 16.5 -1.0**
GROC pmax pmax
comp=Z,61nm,1.3s
EMMW East Machias 127.17 48 PFAKE 22 03 30.0 +12
EMMW LR LR
comp=Z,3µm,18.0s
MPR Mayaguez 127.28 81 *e*PKPdf **PKPdf 22 03 17.7 -1.5**
NAX Nakhchivan 127.44 305 PKIKP **PKPdf 22 03 18.8 -0.3**
GGN Saint George 127.53 47 *e*PKPdf **PKPdf 22 03 18.1 -0.8**
GGN LR LR
comp=Z,2µm,20.0s
TBLG Delisi 127.73 308 P **PKPdf 22 03 19.2 -0.3**
TBLG Delisi 127.73 308 PKIKP **PKPdf 22 03 19.2 -0.3**
CELP Cerrillos 127.78 82 *e*PKPdf **PKPdf 22 03 18.8 -1.4**
GNI Garni 127.92 306 *i* P **PKPdf 22 03 21.1 +1.0**
SNR=8.9
GNI Garni 127.92 306 *e*PKIKP **PKPdf 22 03 21.7 +1.6**
GNI MLR MLR
comp=Z,500nm,20.0s
GNI Garni 127.92 306 *e*PKPdf **PKPdf 22 03 21.7 +1.6**
GNI LR LR
comp=Z,500nm,20.0s
GNI Garni 127.92 306 PKPdf **PKPdf 22 03 21.4 +1.3**
SNR=6.4
GNI Garni 127.92 306 P **PKPdf 22 03 21.4 +1.3**
SNR=6.4
ZEI Tsey 128.19 310 *e*PKIKP **PKPdf 22 03 19.7 -0.9**
ZEI pmax pmax
comp=Z,29nm,0.8s
SJG San Juan 128.19 82 *e*PKIKP **PKPdf 22 03 19.5 -1.5**
SJG MLR MLR
comp=Z,1µm,22.0s
SJG San Juan 128.19 82 *e*PKPdf **PKPdf 22 03 19.5 -1.5**
SJG LR LR
comp=Z,1µm,22.0s
LSZ Lusaka 128.22 231 PKP **PKPdf 22 03 21.7 +0.4**
comp=Z,28nm,1.0s,baz=221,slow=2.3,SNR=5.1
LSZ Lusaka 128.22 231 *e*PKIKP **PKPdf 22 03 22.2 +0.9**
LSZ MLR MLR
comp=Z,1µm,20.0s
LSZ Lusaka 128.22 231 *e*PKPdf **PKPdf 22 03 22.2 +0.9**
LSZ LR LR
comp=Z,1µm,20.0s
LSZ Lusaka 128.22 231 PKPdf **PKPdf 22 03 22.8 +1.5**
SNR=11
LSZ Lusaka 128.22 231 P **PKPdf 22 03 22.8 +1.5**
SNR=11
KMBO Kilima Mbogo 128.27 253 PKP **PKPdf 22 03 22.4 +0.8**
comp=Z,11nm,0.9s,baz=73,slow=3.3,SNR=22
KMBO Kilima Mbogo 128.27 253 *e*PKPdf **PKPdf 22 03 23.9 +2.2**
KMBO LR LR
comp=Z,2µm,20.0s
KMBO Kilima Mbogo 128.27 253 PKPdf **PKPdf 22 03 23.4 +1.7**
SNR=8.3
KMBO Kilima Mbogo 128.27 253 P **PKPdf 22 03 23.4 +1.7**
SNR=8.3
PTGA Pitinga 128.31 107 *e*PKPdf **PKPdf 22 03 20.0 -1.4**
MOS Moscow 128.36 327 *i* PKIKP **PKPdf 22 03 18.9 -1.3**
MOS *e* 22 03 32.0
MOS *e* 22 05 25.0
MOS pmax pmax
comp=Z,77nm,1.1s
MOS MLR MLR
comp=Z,1µm,23.0s
GOF Gofitskoye 128.39 313 *i* PKIKP **PKPdf 22 03 21.3 +0.7**
GOF pmax pmax
comp=Z,61nm,1.4s
STEI Steigen 128.46 348 *e*PKPdf **PKPdf 22 03 19.9 -0.1**
CBYP Canovanas 128.49 82 *e*PKPdf **PKPdf 22 03 20.5 -1.1**
CBYP LR LR
comp=Z,1µm,21.0s
ONI Oni 128.55 310 P **PKPdf 22 03 19.8 -1.3**
ONI Oni 128.55 310 PKIKP **PKPdf 22 03 19.8 -1.3**
LOF Lofoten 128.62 348 *e*PP PP 22 05 26.4 +0.1
LOF IAMs_20 IAMs_20 22 49 18.1
comp=Z,1µm,28.0s
AKH Akhalkalaki 128.70 308 P **PKPdf 22 03 21.7 +0.2**
AKH Akhalkalaki 128.70 308 PKIKP **PKPdf 22 03 21.7 +0.2**
KBZ Khabaz 128.75 311 PKP **PKPdf 22 03 21.8 +0.5**
comp=Z,3.8nm,0.9s,baz=67,slow=22,SNR=5.8
LMN Caledonia Moun 128.78 46 *e*PKPdf **PKPdf 22 03 20.0 -1.3**
KIV Kislovodsk 128.86 311 *i* P **PKPdf 22 03 22.1 +0.4**
SNR=8.1
KIV Kislovodsk 128.86 311 *i* PKIKP **PKPdf 22 03 22.0 +0.4**
KIV *e* 22 05 28.5
KIV *e*PPP PPP 22 08 15.5
KIV *e*PS **PS 22 15 37.6 -0.9**
KIV *e*SS SS 22 22 43.6 -0.4
KIV *e*SSS SSS 22 27 29.7
KIV pmax pmax

comp=Z,29nm,1.1s
KIV MLR MLR
comp=Z,522nm,21.0s
KIV Kislovodsk 128.86 311 *e*PKPdf **PKPdf 22 03 22.3 +0.7**
KIV LR LR
comp=Z,600nm,21.0s
KIV Kislovodsk 128.86 311 PKPdf **PKPdf 22 03 21.6 -0.1**
SNR=6.2
KIV Kislovodsk 128.86 311 P **PKPdf 22 03 21.6 -0.1**
SNR=6.2
LPSR Galich'ya Gora 128.88 323 *e*PKIKP **PKPdf 22 03 22.5 +1.2**
NEY Neytrino 128.96 311 *d i*PKIKP **PKPdf 22 03 23.4 +1.4**
VORR Voronezh 129.05 322 *e*PKIKP **PKPdf 22 03 19.0 -2.6**
VORR pmax pmax
comp=Z,250nm,1.2s
OBN Obninsk 129.17 327 *d i*PKIKP **PKPdf 22 03 22.0 +0.3**
OBN *i* 22 03 33.4
OBN *i* 22 05 30.4
OBN *i* PS **PS 22 15 32.9 -7.5**
OBN *e*SS SS 22 22 48.1 +1.5
OBN pmax pmax
comp=Z,51nm,1.1s
OBN Obninsk 129.17 327 *e*PKPdf **PKPdf 22 03 22.2 +0.5**
OBN LR LR
comp=Z,900nm,22.0s
VSR Storozhevoye 129.23 321 *e*PKIKP **PKPdf 22 03 21.7 -0.3**
VSR pmax pmax
comp=Z,60nm,1.3s
CDVI St. Croix 129.42 82 *e*PKPdf **PKPdf 22 03 22.2 -1.1**
ARTV Artvin 129.90 308 *e*PKPdf **PKPdf 22 03 25.3 +1.4**
KONS Konsvik 130.12 347 *e*PKPdf **PKPdf 22 03 23.4 +0.2**
MOR8 Moi Rana 130.12 347 *e*PKPdf **PKPdf 22 03 23.0 -0.2**
MOR8 IAMs_20 IAMs_20 22 52 01.3
comp=Z,2µm,28.5s
STOK Stokkvaagen 130.28 347 *e*PKPdf **PKPdf 22 03 23.1 -0.4**
FIA1 FINESS Array S 130.34 338 *e*PKPdf **PKPdf 22 03 23.3 -0.4**
FIA1 *e*PKPdf **PKiKP 22 03 23.8 -0.8**
FIA0 FINESS Array S 130.34 338 *e*PKIKP PKPpre 22 03 14.5
FIA0 *e* 22 03 23.9
FIA0 FINESS Array S 130.34 338 *e*PKPpre PKPpre 22 03 14.5
FIA0 *e*PKPdf **PKPdf 22 03 23.9 +0.1**
FIA0 *e*SKPbc **SKPab 22 06 41.5 -1.1**
FINES FINESS Array B 130.34 338 PKhKP PKPpre 22 03 14.5
comp=Z,2.5nm,0.9s,baz=90,slow=3.8,SNR=4.6
FINES PKP **PKPdf 22 03 23.9 +0.1**
comp=Z,30nm,1.0s,baz=61,slow=2.3,SNR=28
FINES SKPbc **SKPab 22 06 41.5 -1.1**
comp=Z,4.4nm,0.8s,baz=76,slow=8.0,SNR=5.0
FURI Furi 130.61 265 PFAKE 22 03 40.0 +14
FURI LR LR
comp=Z,1µm,21.0s
SOC Sochi 131.04 312 *c i*PKIKP **PKPdf 22 03 25.2 -0.5**
SOC *i* 22 05 42.5
SOC *e*PPP PPP 22 08 28.4
SOC *e* 22 10 34.3
SOC *e*PS **PS 22 15 55.3 -1.9**
SOC pmax pmax
comp=Z,45nm,1.1s
KOPT Kop Dagi 131.16 307 PFAKE 22 03 40.0 +14
KOPT LR LR
comp=Z,1µm,22.0s
MARD Mardin 131.33 303 *e*PKPdf **PKPdf 22 03 27.7 +1.1**
SVB Belmont 131.79 89 *e*PKPdf **PKPdf 22 03 26.0 -1.9**
SVB LR LR
comp=Z,800nm,22.0s
GDHS Morne Mazeau, 131.96 85 *e*PKPdf **PKPdf 22 03 28.3 0.0**
FDF Fort de France 132.22 87 *e*PKIKP **PKPdf 22 03 29.4 +0.7**
FDF Fort de France 132.22 87 *e*PKPdf **PKPdf 22 03 29.4 +0.7**
ANN Anapa 132.32 314 *e*P **Pdif 22 00 23.4 +0.5**
ANN *i* 22 03 28.3
ANN *e* 22 03 46.2
ANN *e* 22 05 51.5
ANN *e* 22 10 37.9
ANN *e*SP SP 22 15 57.9 -3.0
ANN pmax pmax
comp=Z,38nm,1.5s
TSUM Tsumeb 132.49 218 PKhKP PKPpre 22 03 17.1
comp=Z,2.0nm,0.8s,baz=144,slow=4.1,SNR=3.8
TSUM PKP **PKiKP 22 03 29.9 -0.5**
comp=Z,28nm,0.9s,baz=137,slow=2.6,SNR=25
TSUM PP **PP 22 05 51.8 -0.3**
comp=Z,3.2nm,0.9s,baz=80,slow=8.2,SNR=3.5
TSUM Tsumeb 132.49 218 *e*PKPpre PKPpre 22 03 17.1
TSUM *e*PKPdf **PKiKP 22 03 29.9 -0.5**
TSUM *e*PKPdf **PKPdf 22 03 30.1 +0.8**
TSUM *e*PP **PP 22 05 51.8 -0.3**
TSUM LR LR
comp=Z,2µm,20.0s
IZAR Zarasai 133.88 331 *e*P **PKPdf 22 03 30.8 +0.2**
IZAR IAmb IAmb 22 03 33.2
comp=Z,12nm,0.9s
IDID Didziasalis 133.91 331 *e*P **PKPdf 22 03 30.6 -0.1**
IDID IAmb IAmb 22 03 33.2
comp=Z,26nm,0.9s
ISAL Salakas 134.04 331 *e*P **PKPdf 22 03 30.7 -0.2**
ISAL IAmb IAmb 22 03 33.5
comp=Z,16nm,1.0s
TOKA Tokat 134.12 308 PFAKE 22 03 40.0 +8.3
TOKA LR LR
comp=Z,600nm,21.0s
IIGN Ignalina 134.13 331 *e*P **PKPdf 22 03 30.5 -0.6**
IIGN IAmb IAmb 22 03 33.3
comp=Z,26nm,0.9s
NACGM Naroch 134.13 330 *e* **PKPdf 22 03 32.0 +0.9**
IZAR eLR LR 22 53 42.0
ROOS tl_alroos 134.51 299 *e*P **PKPdf 22 03 31.6 -1.0**
SIM Simferopol' 134.52 315 *ce*PKIKP **PKPdf 22 03 32.2 0.0**
SIM 22 06 04.7
SIM SS SS 22 23 56.4 +3.8
SIM pmax pmax
comp=Z,45nm,8.4s
RABH Abou Rabah 134.55 300 *e*P **PKPdf 22 03 31.1 -1.6**
DRWC Darouich 134.69 303 *e*P **PKPdf 22 03 32.8 -0.1**
DOMB Dombas 134.88 347 *e*PKPdf **PKPdf 22 03 32.6 +0.2**
DOMB *e*PP **PP 22 06 07.1 +0.4**
DOMB IAMs_20 IAMs_20 22 55 20.0
comp=Z,1µm,26.1s
BTCH Batrach 134.94 302 *e*P PKPdf 22 03 25.4 -8.0
NC303 NORSAR Array S 135.06 345 *e*PKPdf **PKPdf 22 03 33.0 +0.3**
AKASG Malin Array Be 135.15 324 PKhKP PKPpre 22 03 25.9
comp=Z,0.6nm,0.4s,baz=60,slow=2.1,SNR=4.1
AKASG PKP **PKPdf 22 03 32.5 -0.7**
comp=Z,17nm,1.0s,baz=59,slow=2.5,SNR=22
AKASG PP **PP 22 06 07.7 -1.2**
comp=Z,0.4nm,0.3s,baz=49,slow=6.6,SNR=9.9
AKBB Malin Array Si 135.15 324 *e*PKIKP PKPpre 22 03 26.0
AKBB *e* 22 06 08.7
AKBB MLR MLR
comp=Z,600nm,20.0s
AKBB Malin Array Si 135.15 324 *e*PKPpre PKPpre 22 03 25.9
AKBB *e*PKPdf **PKPdf 22 03 33.2 0.0**
AKBB *e*PP **PP 22 06 08.7 -0.3**
AKBB LR LR
comp=Z,600nm,20.0s
KIEV Kiev 135.16 324 *e*PKIKP PKPpre 22 03 27.0
KIEV MLR MLR
comp=Z,500nm,20.0s
KIEV Kiev 135.16 324 *e*PKPpre PKPpre 22 03 27.0
KIEV LR LR
comp=Z,500nm,20.0s
AKN Aaknes 135.19 348 *e* PKPpre 22 03 22.7
AKN *e*PKPdf **PKPdf 22 03 33.2 +0.2**
AKN *e*PKSdf **PKSdf 22 07 08.6 -0.3**
AKN IAMs_20 IAMs_20 22 54 32.2
comp=Z,995nm,25.1s
AK11 Malin Array Si 135.20 324 *e*PKPdf **PKPdf 22 03 33.2 0.0**
NB2 NORSAR Subarra 135.26 345 PKPdf **PKPdf 22 03 32.9 -0.2**
baz=31,slow=1.9
NB2 NORSAR Subarra 135.26 345 PKPdf **PKPdf 22 03 32.9 -0.2**
comp=Z,16nm,0.9s,baz=31,slow=1.9
NB200 NORSAR Array S 135.26 345 *e*PKPdf **PKPdf 22 03 33.1 0.0**
NB200 *e*PP **PP 22 06 12.0 +2.9**
NOA NORSAR Array B 135.26 345 PKP **PKPdf 22 03 33.1 0.0**
comp=Z,13nm,0.9s,baz=35,slow=2.0,SNR=8.9
NOA PP **PP 22 06 12.0 +2.9**
comp=Z,3.0nm,0.9s,baz=33,slow=6.0,SNR=4.8
NBO02 NORSAR Array S 135.34 345 *e*PKPpre PKPpre 22 03 22.6
NBO00 NORSAR Array S 135.37 345 *e*PKPpre PKPpre 22 03 24.2
NC602 NORSAR Array S 135.44 344 *e* PKPpre 22 03 23.6
NC602 *e*PKPdf **PKPdf 22 03 34.1 +0.7**
NC602 IAMs_20 IAMs_20 22 58 38.3
comp=Z,2µm,25.8s
NC602 NORSAR Array S 135.44 344 *e*PKPpre PKPpre 22 03 26.6
NAO01 NORSAR Array S 135.51 345 *e*PKPpre PKPpre 22 03 25.7

TCHB Talchebab 135.77 297 *e*P **PKPdf 22 03 31.9 -3.0**
ILGA Ilgaz 135.98 310 *e*PKPdf **PKPdf 22 03 36.6 +1.3**
ILGA LR LR
comp=Z,700nm,21.0s
FOO Floro 136.10 349 *e*PKPdf **PKPdf 22 03 34.8 +0.2**
FOO *e*PP **PP 22 06 14.8 +0.6**
FOO *e*PKSdf **PKSdf 22 07 11.0 +0.6**
FOO IAMs_20 IAMs_20 22 54 26.9
comp=Z,1µm,27.9s
MMAI Mount Meron Ar 136.21 298 SKP **SKPdf 22 07 08.1 +1.6**
comp=Z,3.4nm,0.8s,baz=132,slow=2.4,SNR=4.3
HYA Hoyanger 136.28 348 *e*PKPdf **PKPdf 22 03 35.1 +0.1**
SUW Suwalki 136.35 331 *e*PKP **PKPdf 22 03 35.8 +0.5**
SUW Suwalki 136.35 331 *e*PKIKP **PKPdf 22 03 35.8 +0.5**
BR101 Keskin Array S 136.38 308 *e*PKPpre PKPpre 22 03 29.0
BR101 *e*PKPdf **PKPdf 22 03 36.5 +0.4**
BR101 *e*PP **PP 22 06 18.1 +0.6**
BR131 Keskin Array S 136.38 308 *e*PKPdf **PKPdf 22 03 35.1 -0.9**
BRTR Keskin Array B 136.38 308 PKhKP PKPpre 22 03 29.0
comp=Z,1.5nm,0.9s,baz=183,slow=2.5,SNR=5.5
BRTR PKP **PKPdf 22 03 36.4 +0.4**
comp=Z,4.4nm,0.9s,baz=131,slow=3.4,SNR=12
BRTR PP **PP 22 06 18.1 +0.6**
comp=Z,7.3nm,1.2s,baz=119,slow=4.4,SNR=9.7
BRTR Keskin Array B 136.38 308 *i* PKHKP PKPpre 22 03 29.0
BRTR 22 03 36.4
BRTR 22 06 18.2
BRTR pmax pmax
comp=Z,2.0nm,0.9s
BRTR pmax pmax
comp=Z,3.0nm,0.7s
BRTR pmax pmax
comp=Z,7.0nm,1.2s
KONO Kongsberg 136.87 345 *e*PKPdf **PKPdf 22 03 35.8 -0.3**
KONO *e*PP **PP 22 06 22.2 +3.0**
KONO IAMs_20 IAMs_20 22 57 45.5
comp=Z,1µm,25.4s
KONO Kongsberg 136.87 345 PFAKE 22 03 50.0 +14
KONO LR LR
comp=Z,1µm,22.0s
SORM Soroca 136.89 321 ⇑ *i*P **PKPdf 22 03 33.1 -3.4**
SORM Soroca 136.89 321 ⇑PKIKP **PKPdf 22 03 33.1 -3.4**
ANTO Ankara 136.98 308 *e*PKIKP **PKPdf 22 03 39.3 +2.3**
ANTO MLR MLR
comp=Z,600nm,20.0s
ANTO Ankara 136.98 308 *e*PKPdf **PKPdf 22 03 39.3 +2.3**
ANTO LR LR
comp=Z,600nm,20.0s
ANTO Ankara 136.98 308 PKPdf **PKPdf 22 03 38.1 +1.0**
SNR=9.7
ANTO Ankara 136.98 308 P **PKPdf 22 03 38.1 +1.0**
SNR=9.7
BR231 Keskin MP Arra 137.00 308 *e*PKPpre PKPpre 22 03 27.8
BR231 *e*PKPdf **PKiKP 22 03 39.6 +0.6**
KIS Kishinev 137.13 320 *e*PKHKP PKPpre 22 03 33.0
KIS Kishinev 137.13 320 *e*PKIKP **PKPdf 22 03 38.0 +1.0**
KIS Kishinev 137.13 320 *e*PP PP 22 06 20.0 -1.5
KIS Kishinev 137.13 320 *e*PPP PPP 22 09 33.0
KIS Kishinev 137.13 320 *e*PS PS 22 16 23.0 -26
KIS Kishinev 137.13 320 *e*PKIKP **PKPdf 22 03 33.0 -4.0**
KIS *e* 22 03 50.0
KIS *e* 22 06 20.0
KIS *e*PPP PPP 22 09 33.0
KIS *e*PPS PPS 22 18 20.0
BER Bergen 137.16 348 *e*PKSdf PKSdf 22 07 12.5 0.0
BER IAMs_20 IAMs_20 23 02 13.1
comp=Z,1µm,26.7s
ODD1 Odda 137.33 347 *e*PKPdf **PKPdf 22 03 37.2 +0.2**
CSS Mathiatis 137.63 301 P **PKPdf 22 03 36.6 -1.7**
CSS Mathiatis 137.63 301 *e*PKPdf **PKPdf 22 03 36.6 -1.7**
CSS LR LR
comp=Z,300nm,21.0s
BLS5 Blasjo 137.81 347 IAMs_20 IAMs_20 23 03 48.6
comp=Z,1µm,22.3s
HOMB Homborsund 138.35 344 *e*PKPdf **PKPdf 22 03 40.0 +1.1**
HOMB *e*PP **PP 22 06 30.4 +2.1**
HOMB IAMs_20 IAMs_20 23 00 01.7
comp=Z,2µm,25.3s
CFR Carcaliu 138.35 317 ⇑ *i*P **PKPdf 22 03 39.9 +0.6**
CFR Carcaliu 138.35 317 ⇑PKIKP **PKPdf 22 03 39.9 +0.6**
STAV Stavanger 138.41 347 *e*PKPdf **PKPdf 22 03 40.5 +1.6**
STAV *e*PP **PP 22 06 31.3 +2.7**
STAV IAMs_20 IAMs_20 23 04 06.4
comp=Z,1µm,20.5s
LVV L'vov 138.45 326 *e*PKIKP **PKPdf 22 03 40.6 +1.3**
LVV MLR MLR
comp=E,450nm,20.0s
TIRR Tirgusor 138.48 316 ⇑ *i*P **PKPdf 22 03 41.9 +2.4**
TIRR Tirgusor 138.48 316 *e*PKIKP **PKPdf 22 03 41.5 +2.0**
TIRR Tirgusor 138.48 316 *e*PKPdf **PKPdf 22 03 41.5 +2.0**
PRAR RASCA 138.52 321 ⇓ *i*P **PKPdf 22 03 40.0 +0.4**
BOLV Bolvadin 138.66 307 PFAKE 22 03 50.0 +10
BOLV LR LR
comp=Z,600nm,21.0s
TLB Topalu 138.67 317 ⇑ *i*P **PKPdf 22 03 40.3 +0.4**
ODBI Odobesti 138.78 319 ⇑ *i*P **PKPdf 22 03 41.5 +1.5**
BEL Belsk 138.85 330 *e*PKP **PKPdf 22 03 40.6 +0.6**
BEL Belsk 138.85 330 *e*PKIKP **PKPdf 22 03 40.6 +0.6**
PSN Preselentsi 138.95 315 P **PKPdf 22 03 40.2 -0.2**
PSN P **PKPdf 22 03 40.2 -0.2**
BUR08 Bucovina Ar. S 138.98 322 *e*PKPpre PKPpre 22 03 36.3
BURAR Bucovina Array 138.98 322 ⇓ *i*P **PKPdf 22 03 42.0 +1.5**
BURAR Bucovina Array 138.98 322 ⇓PKIKP **PKPdf 22 03 42.0 +1.5**
BSD Bornholm Skovb 138.98 337 *i* P **PKPdf 22 03 42.4 +2.3**
comp=Z,1µm,27.0s
BSD Bornholm Skovb 138.98 337 *i* PKIKP **PKPdf 22 03 42.4 +2.3**
BSD MLR MLR
comp=Z,1µm,27.0s
ISP Isparta 139.23 306 P **PKPdf 22 03 38.8 -2.5**
ISP Isparta 139.23 306 *e*PKIKP **PKPdf 22 03 38.8 -2.5**
ISP MLR MLR
comp=Z,700nm,22.0s
ISP Isparta 139.23 306 *e*PKPdf **PKPdf 22 03 38.8 -2.5**
ISP *e*PKPdf **PKiKP 22 03 43.0 -0.6**
ISP LR LR
comp=Z,700nm,22.0s
KWP Kalwaria Pacla 139.26 326 *e*PKP **PKPdf 22 03 41.0 +0.2**
KWP *e*PP **PP 22 06 35.0 +0.5**
KWP Kalwaria Pacla 139.26 326 *e*PKIKP **PKPdf 22 03 41.0 +0.2**
KWP *e* 22 06 35.0
GKP Gorka Klasztor 139.46 334 *e*PKP **PKPdf 22 03 40.8 -0.2**
GKP Gorka Klasztor 139.46 334 *e*PKIKP **PKPdf 22 03 40.8 -0.2**
MLR Muntele Rosu 139.59 319 ⇑ *i*P **PKPdf 22 03 40.9 -0.8**
MLR Muntele Rosu 139.59 319 ⇑PKIKP **PKPdf 22 03 40.9 -0.8**
MLR Muntele Rosu 139.59 319 *e*PKPpre PKPpre 22 03 34.1
MLR LR LR
comp=Z,800nm,21.0s
PRD Provadia 139.66 315 P **PKPdf 22 03 42.5 +0.8**
DOPR Dopca 139.71 320 ⇓ *i*P PKPpre 22 03 34.4
MUD Monsted U'grnd 139.75 343 *i* P PKPpre 22 03 35.8
MUD Monsted U'grnd 139.75 343 *i* PKHKP PKPpre 22 03 35.8
ARCR ARCALIA 139.76 322 ⇓ *i*P PKPpre 22 03 37.3
RGN Rugen 140.00 338 PFAKE 22 03 50.0 +8.0
RGN LR LR
comp=Z,800nm,20.0s
UZH Uzhgorod 140.06 325 *e*PKHKP PKPpre 22 03 37.0
UZH *i* 22 03 42.6
STHS Stebnicka Huta 140.15 327 *e*PKIKP **PKPdf 22 03 38.9 -3.6**
STHS Stebnicka Huta 140.15 327 *e*PKP **PKPdf 22 03 38.9 -3.6**
STHS *e* 22 03 43.7
VOIR 140.17 319 ⇑ *i*P PKPpre 22 03 38.3
VOIR 140.17 319 ⇑PKIKP PKPpre 22 03 38.3
TRPA Tarpa 140.22 324 *e*PKPdf **PKPdf 22 03 42.9 +0.3**
MTUR Matau 140.27 319 ⇓ *i*P **PKPdf 22 03 46.8 +3.9**
MTUR Matau 140.27 319 ⇓PKIKP **PKPdf 22 03 46.8 +3.9**
CRVS Cervenica-Dubn 140.35 326 *e*PKIKP PKPpre 22 03 38.7
CRVS Cervenica-Dubn 140.35 326 *e*PKP PKPpre 22 03 38.7
CRVS *e* 22 03 42.5
CRVS *e* 22 07 18.3
OJC Ojcow 140.38 329 *e*PKP PKPpre 22 03 37.1
OJC Ojcow 140.38 329 *e*PKIKP **PKPdf 22 03 43.5 +0.6**
OJC Ojcow 140.38 329 *e*PKPdf **PKPdf 22 03 43.5 +0.6**
CJR Cluj-Napoca 140.40 322 ⇓ *i*P PKPpre 22 03 38.0
CJR Cluj-Napoca 140.40 322 ⇓PKIKP PKPpre 22 03 38.0
ARR Arges 140.46 319 ⇓ *i*P PKPpre 22 03 38.6
NIE Niedzica 140.63 327 *e*PKP **PKPdf 22 03 43.9 +0.5**
NIE Niedzica 140.63 327 *e*PKIKP **PKPdf 22 03 43.9 +0.5**
HUMR Humele 140.65 318 ⇑ *i*P PKPpre 22 03 38.1
DRGR 140.87 323 ⇑ *i*P PKPpre 22 03 38.8
DRGR 140.87 323 ⇑PKHKP PKPpre 22 03 38.9
LOT Lotru 140.95 320 ⇑ *i*P PKPpre 22 03 39.7
KECS Kecovo 141.12 326 *e*PKHKP PKPpre 22 03 39.0

KECS Kecovo 141.12 326 *e*PKP PKPpre 22 03 39.0
LANS Liptovska Anna 141.23 328 *e*PKIKP **PKPdf 22 03 41.2 -3.3**
LANS Liptovska Anna 141.23 328 *e*PKP **PKPdf 22 03 41.2 -3.3**
LANS *e* 22 03 45.6
DIM Dimitrovgrad 141.39 314 P **PKPdf 22 03 44.6 -0.3**
OKC Ostrava-Krasne 141.43 329 *e*PKP PKPpre 22 03 38.9
OKC *e*PP **PP 22 06 50.1 +2.4**
OKC AMS AMS 23 04 10.0
comp=Z,1µm,23.4s
OKC Ostrava-Krasne 141.43 329 *e*PKHKP PKPpre 22 03 38.9
OKC *e* 22 06 50.1
OKC MLR MLR
comp=Z,1µm,23.4s
KAC Achnashellach 141.48 355 *e*P PKPpre 22 03 38.8
KSP Ksiaz 141.60 332 *e*PKP PKPpre 22 03 40.8
KSP Ksiaz 141.60 332 *e*PKIKP PKPpre 22 03 40.8
KDZ Kurdzhali 141.64 314 P PKPpre 22 03 40.2
KPL Plockton 141.67 355 *e*P PKPpre 22 03 39.1
MORC Moravsky Berou 141.76 330 ⇓ *i*P **PKPdf 22 03 42.2 -3.2**
MORC Moravsky Berou 141.76 330 ⇓PKIKP **PKPdf 22 03 42.2 -3.2**
RDO Rodhopi 141.76 313 P PKPpre 22 03 39.6
RDO Rodhopi 141.76 313 *e*PKPpre PKPpre 22 03 39.6
SIRR Siria 141.76 322 ⇑ *i*P PKPpre 22 03 41.3
PSZ Piszkesteto 141.77 326 ⇓ *i*P **PKPdf 22 03 42.2 -3.3**
PSZ Piszkesteto 141.77 326 *e*PKIKP **PKPdf 22 03 43.4 -2.1**
PSZ MLR MLR
comp=Z,900nm,20.0s
PSZ Piszkesteto 141.77 326 ⇓ *e*PKPdf **PKPdf 22 03 46.2 +0.7**
PSZ Piszkesteto 141.77 326 *e*PKPdf **PKPdf 22 03 43.4 -2.1**
PSZ LR LR
comp=Z,900nm,20.0s
DPC Dobruska-Polom 141.94 331 *e*PKP PKPpre 22 03 41.0
DPC *ex* x 22 03 54.0
DPC *e*PP **PP 22 06 54.2 +3.4**
DPC *e*SS SS 22 25 26.9 +7.7
DPC AMS AMS 23 06 10.0
comp=Z,1µm,24.7s
DPC Dobruska-Polom 141.94 331 *e*PKHKP PKPpre 22 03 41.0
DPC *e* 22 06 54.2
DPC *e*SS SS 22 25 26.9 +7.7
DPC MLR MLR
comp=Z,1µm,24.7s
UPC Upice 141.96 332 *e*PKP PKPpre 22 03 40.3
UPC *ex* x 22 03 53.1
UPC *e*PP **PP 22 06 53.9 +3.0**
UPC *e*SS SS 22 25 24.9 +5.4
UPC AMS AMS 23 03 40.0
comp=Z,2µm,25.2s
UPC Upice 141.96 332 *e*PKHKP PKPpre 22 03 40.3
UPC *e* 22 06 53.9
UPC *e*SS SS 22 25 24.9 +5.4
UPC MLR MLR
comp=Z,2µm,25.2s
VYHS Vyhne 141.97 327 *e*PKHKP PKPpre 22 03 41.1
VYHS *e* 22 06 47.3
VYHS Vyhne 141.97 327 *e*PKP PKPpre 22 03 41.1
VYHS *e* 22 06 47.3
MPEP Malo Peshtene 141.99 317 P **PKPdf 22 03 46.3 +0.3**
SMTH Samothraki Isl 142.03 312 P PKPpre 22 03 41.2
SMTH Samothraki Isl 142.03 312 *e*PKPpre PKPpre 22 03 41.2
RZN Rozhen 142.10 314 P PKPpre 22 03 40.2
BZS Buzias 142.15 322 ⇑ *i*P PKPpre 22 03 42.8
BZS Buzias 142.15 322 ⇑PKIKP PKPpre 22 03 42.8
EDU Dundee 142.18 353 *e*P PKPpre 22 03 40.5
BUD Budapest 142.50 326 ⇓ *e*PKPdf PKPpre 22 03 42.6
KAVA Kavala 142.53 313 P PKPpre 22 03 41.6
KAVA Kavala 142.53 313 *e*PKPpre PKPpre 22 03 41.6
VRAC Vranov 142.53 330 ⇓ *i*P **PKPdf 22 03 44.0 -2.8**
VRAC Vranov 142.53 330 ⇓PKIKP **PKPdf 22 03 44.0 -2.8**
MDVR Moldovita 142.54 320 ⇑ *i*P **PKPdf 22 03 45.5 -1.5**
BANR Banloc 142.56 322 ⇓ *i*P **PKPdf 22 03 45.2 -1.7**
PVCC Panska Ves 142.59 333 *e*PKP PKPpre 22 03 41.0
PVCC *ep*PKP pPKPdf 22 03 59.2 -3.5
PVCC *e*PP **PP 22 06 57.4 +2.8**
PVCC AMS AMS 23 06 20.0
comp=Z,1µm,21.4s
PVCC Panska Ves 142.59 333 *e*PKHKP PKPpre 22 03 41.0
PVCC *e* 22 06 57.4
PVCC MLR MLR
comp=Z,1µm,21.4s
BRG Berggiesshubel 142.60 334 *e*PKP **PKPdf 22 03 43.5 -3.3**
comp=Z,7.7nm,1.5s
BRG SKP 22 06 59.0
BRG SS SS 22 25 44.0 +17
comp=N,704nm,23.9s
comp=E,804nm,22.6s
comp=Z,707nm,24.9s
BRG Berggiesshubel 142.60 334 *e*PKIKP **PKPdf 22 03 43.5 -3.3**
BRG 22 06 59.0
BRG pmax pmax
comp=Z,8.0nm,1.5s
BRG MLR MLR
comp=N,704nm,23.9s
BRG MLR MLR
comp=E,804nm,22.6s
BRG MLR MLR
comp=Z,707nm,24.9s
CLL Collm 142.65 335 *i* PKIKP PKPpre 22 03 43.1
CLL *e* 22 06 56.0
CLL pmax pmax
comp=Z,23nm,1.0s
CLL MLR MLR
comp=Z,800nm,21.1s
CLL Collm 142.65 335 *i* PKPdf PKPpre 22 03 43.1
comp=Z,23nm,1.0s
CLL *e*PP **PP 22 06 56.0 +1.1**
comp=Z,300nm,10.4s
CLL *e*PSKS 22 17 05.0
CLL *e*SS SS 22 25 36.0 +8.8
CLL *e*SSS SSS 22 30 48.0
CLL L L 23 07 00.0
comp=Z,800nm,21.1s
CLL Collm 142.65 335 *e*PKPpre PKPpre 22 03 42.9
CLL LR LR
comp=Z,1µm,22.0s
EAB Aberfoyle 142.68 354 *e*P **PKPdf 22 03 43.5 -3.2**
VTS Vitosha 142.70 316 P PKPpre 22 03 42.5
VTS Vitosha 142.70 316 ⇑ *i*P **PKPdf 22 03 44.0 -3.4**
VTS Vitosha 142.70 316 *e*PKHKP PKPpre 22 03 42.5
VTS MLR MLR
comp=Z,600nm,21.0s
VTS Vitosha 142.70 316 P PKPpre 22 03 43.5
VTS Vitosha 142.70 316 *e*PKPpre PKPpre 22 03 42.5
VTS *e*PKPpre PKPpre 22 03 43.5
VTS LR LR
comp=Z,600nm,21.0s
ESY Stoneypath 142.74 352 *e*P PKPpre 22 03 42.2
MMB Musomiste 142.81 315 P PKPpre 22 03 43.3
NVR Nevrokopi 142.82 314 P PKPpre 22 03 43.2
NVR Nevrokopi 142.82 314 P PKPpre 22 03 43.2
GOPC GO Pecny, Ondr 142.94 332 *e*PKP PKPpre 22 03 42.8
GOPC *ex* x 22 03 48.1
GOPC *ep*PKP pPKPdf 22 03 58.2 -5.2
GOPC *e*PP **PP 22 06 59.7 +2.9**
GOPC AMS AMS 23 03 10.0
comp=Z,2µm,26.4s
GOPC GO Pecny, Ondr 142.94 332 *e*PKHKP PKPpre 22 03 42.8
GOPC *e* 22 03 48.1
GOPC *e* 22 03 58.2
GOPC *e* 22 06 59.7
GOPC MLR MLR
comp=Z,2µm,26.4s
PRA Prague 142.98 332 *e*PKP PKPpre 22 03 43.0
PRA *ep*PKP pPKPdf 22 03 58.3 -5.2
PRA AMS AMS 23 03 10.0
comp=Z,1µm,21.9s
PRA Prague 142.98 332 *e*PKHKP PKPpre 22 03 43.0
PRA MLR MLR
comp=Z,1µm,21.9s
PRU Pruhonice 142.99 332 *e*PKP PKPpre 22 03 43.5
PRU *ep*PKP pPKPdf 22 03 58.2 -5.3
PRU *ex* x 22 04 03.9
PRU *e*PP **PP 22 06 59.2 +2.1**
PRU *e*SS SS 22 25 27.4 -3.9
PRU AMS AMS 23 03 10.0
comp=Z,2µm,27.8s
PRU Pruhonice 142.99 332 *e*PKHKP PKPpre 22 03 43.5
PRU *e* 22 06 59.2
PRU *e*SS SS 22 25 27.4 -3.9
PRU MLR MLR
comp=Z,2µm,27.8s
TREC Trest 143.06 331 *e*PKP PKPab 22 03 43.8 +0.7
TREC *ep*PKP pPKPdf 22 03 58.3 -5.4

TREC ePP PP 22 06 59.7 +2.1
TREC AMS AMS 23 02 10.0
comp=Z,1µm,27.0s
TREC Trest 143.06 331 ePKIKP PKPab 22 03 43.8 +0.7
TREC e 22 03 58.3
TREC e 22 06 59.7
TREC MLR MLR
comp=Z,1µm,27.0s
SRS Serrai 143.11 314 P PKPab 22 03 42.6 -1.0
SRS Serrai 143.11 314 ePKHKP PKPab 22 03 42.6 -1.0
SRS Serrai 143.11 314 ePKPpre PKPab 22 03 42.6 -1.0
KKB Krupnik 143.12 315 P PKPab 22 03 42.8 -0.8
OUR Ouranopolis 143.17 313 P PKPab 22 03 41.8 -2.0
OUR Ouranopolis 143.17 313 ePKHKP PKPab 22 03 41.8 -2.0
OUR Ouranopolis 143.17 313 ePKPpre PKPab 22 03 41.8 -2.0
SOH Sokhos 143.40 314 P PKPab 22 03 41.6 -3.2
SOH Sokhos 143.40 314 PKHKP PKPab 22 03 41.6 -3.2
SOH Sokhos 143.40 314 P PKPab 22 03 41.6 -3.2
ESK Eskdalemuir 143.41 352 eP PKPbc 22 03 45.0 -0.3
ESK Eskdalemuir 143.41 352 ePKIKP PKPbc 22 03 45.6 +0.3
ESK Eskdalemuir 143.41 352 ePKPpre PKPab 22 03 45.6 +1.4
ECK Cauldkaine Hil 143.53 352 eP PKPbc 22 03 46.2 +0.5
PLG Polygyros 143.53 313 P PKPab 22 03 43.0 -2.3
PLG Polygyros 143.53 313 PKHKP PKPab 22 03 43.0 -2.3
PLG Polygyros 143.53 313 P PKPab 22 03 43.0 -2.3
PAIG Paliouri 143.55 312 P PKPab 22 03 43.2 -2.1
PAIG Paliouri 143.55 312 ePKHKP PKPab 22 03 43.2 -2.1
PAIG Paliouri 143.55 312 ePKPpre PKPab 22 03 43.2 -2.1
KNT Kendrikon 143.56 314 P PKPab 22 03 44.4 -0.9
KNT Kendrikon 143.56 314 PKHKP PKPab 22 03 44.4 -0.9
KNT Kendrikon 143.56 314 P PKPab 22 03 44.4 -0.9
SOP Sopron 143.65 328‖ ePKPdf **PKPdf 22 03 47.6 -1.1**
HORT Hortiatis 143.67 313 P PKPab 22 03 42.1 -3.8
HORT Hortiatis 143.67 313 P PKPab 22 03 42.1 -3.8
NKC Novy Kostel 143.71 334 ePKP PKPbc 22 03 46.2 -0.2
NKC epPKP pPKPdf 22 03 58.7 -6.1
NKC ePP **PP 22 07 03.7 +2.4**
NKC AMS AMS 23 08 20.0
comp=Z,1µm,22.6s
NKC Novy Kostel 143.71 334 ePKIKP PKPbc 22 03 46.2 -0.2
NKC e 22 03 58.7
NKC e 22 07 03.7
NKC MLR MLR
comp=Z,1µm,22.6s
VAY Valandovo 143.71 315 P PKPab 22 03 43.9 -2.0
VAY Valandovo 143.71 315 *i* PKP PKPab 22 03 45.4 -0.5
VAY Valandovo 143.71 315 ePKHKP PKPab 22 03 43.9 -2.0
VAY Valandovo 143.71 315 ePKPpre PKPab 22 03 43.9 -2.0
AOS Alonnisos 143.71 311 P PKPab 22 03 45.3 -0.7
AOS Alonnisos 143.71 311 ePKPpre PKPab 22 03 45.3 -0.7
NPS Neapolis 143.73 304 P PKPbc 22 03 48.1 +1.1
NPS Neapolis 143.73 304 PKIKP PKPbc 22 03 48.1 +1.1
NPS Neapolis 143.73 304 P PKPbc 22 03 48.1 +1.1
THE Thessaloniki 143.75 314 P PKPab 22 03 44.8 -1.2
THE Thessaloniki 143.75 314 ePKHKP PKPab 22 03 44.8 -1.2
THE Thessaloniki 143.75 314 ePKPpre PKPab 22 03 44.8 -1.2
CONA Conrad Observa 143.83 329 *i* PKPdf **PKPdf 22 03 48.2 -1.0**
comp=Z,38nm,1.1s,SNR=49
LAST Lasithi 143.86 304 P PKPbc 22 03 47.6 +0.1
LAST Lasithi 143.86 304 P PKPbc 22 03 47.6 +0.1
DIVS Divibare 143.95 321 P PKPab 22 03 46.3 -0.5
EREA Eretria 143.96 310 P PKPab 22 03 44.9 -2.1
SKIA Skiathos 144.01 311 P **PKPab 22 03 45.5 -1.6**
GAL1 Galloway 144.02 354 eP PKPbc 22 03 47.1 -0.1
KHC Kasperske Hory 144.05 332 ePKP PKPbc 22 03 47.3 -0.2
KHC ex x 22 03 53.8
KHC epPKP pPKPdf 22 04 01.2 -4.2
KHC ePP **PP 22 07 06.1 +2.6**
KHC eSS SS 22 25 51.8 +8.2
KHC AMS AMS 23 02 50.0
comp=Z,2µm,27.2s
KHC Kasperske Hory 144.05 332 ePKIKP PKPbc 22 03 47.3 -0.2
KHC e 22 04 01.2
KHC e 22 07 06.1
KHC eSS SS 22 25 51.8 +8.2
KHC MLR MLR
comp=Z,2µm,27.2s
KHC Kasperske Hory 144.05 332 ePKPdf PKPbc 22 03 48.4 +0.8
KHC LR LR
comp=Z,400nm,22.0s
XOR Xorichti 144.12 312 P **PKPab 22 03 45.1 -2.5**
XOR Xorichti 144.12 312 P **PKPab 22 03 45.1 -2.5**
NEO Neokhori 144.13 311 P **PKPab 22 03 44.2 -3.4**
NEO Neokhori 144.13 311 P **PKPab 22 03 44.2 -3.4**
SKO Skopje 144.15 317 P **PKPab 22 03 47.4 -0.2**
SKO Skopje 144.15 317 *i* PKP PKPbc 22 03 48.0 0.0
SKO Skopje 144.15 317 ePKIKP **PKPab 22 03 47.4 -0.2**
SKO Skopje 144.15 317 ePKPdf **PKPab 22 03 47.4 -0.2**
PTL Penteli 144.15 309 P **PKPab 22 03 46.5 -1.2**
PTL Penteli 144.15 309 P **PKPab 22 03 46.5 -1.2**
GEC2 GERESS Array S 144.20 332 ePKIKP PKPbc 22 03 47.9 -0.2
GEC2 MLR MLR
comp=Z,800nm,21.0s
GEC2 GERESS Array S 144.20 332 ePKPdf PKPbc 22 03 47.9 -0.1
GEC2 LR LR
comp=Z,800nm,21.0s
GERES GERESS Array B 144.20 332 PKP PKPbc 22 03 48.4 +0.3
comp=Z,28nm,0.8s,baz=45,slow=2.9,SNR=163
GERES PKKP **PKKPdf 22 13 04.3 +4.2**
comp=Z,0.4nm,0.8s,baz=222,slow=1.8,SNR=3.4
ATHU Athens Univers 144.24 309 P **PKPab 22 03 45.6 -2.4**
ATHU Athens Univers 144.24 309 P **PKPab 22 03 45.6 -2.4**
VLY Voula,Athens 144.27 309 P **PKPab 22 03 46.3 -1.9**
VLY Voula,Athens 144.27 309 P **PKPab 22 03 46.3 -1.9**
FYTO Fytoko, Volos 144.28 312 P **PKPab 22 03 46.7 -1.4**
FYTO Fytoko, Volos 144.28 312 P **PKPab 22 03 46.7 -1.4**
ATH Athens Observa 144.29 309 P **PKPab 22 03 46.7 -1.5**
ATH Athens Observa 144.29 309 PKHKP **PKPab 22 03 46.7 -1.5**
ATH Athens Observa 144.29 309 P **PKPab 22 03 46.7 -1.5**
IDI Anoyia 144.29 304 PKP PKPbc 22 03 49.2 +0.5
comp=Z,39nm,0.5s,baz=54,slow=2.6
IDI Anoyia 144.29 304 P PKPbc 22 03 49.4 +0.7
IDI Anoyia 144.29 304 ePKPdf PKPbc 22 03 49.4 +0.7
LIT Litokhoron 144.31 313 P **PKPab 22 03 46.7 -1.5**
LIT Litokhoron 144.31 313 PKHKP **PKPab 22 03 46.7 -1.5**
LIT Litokhoron 144.31 313 P **PKPab 22 03 46.7 -1.5**
SMIA Simia 144.31 311 P **PKPab 22 03 46.7 -1.6**
WTSB Winterswijk 144.34 341 ePKP **PKPab 22 03 48.0 +0.2**
BEHE Becsehely 144.34 326‖ ePKPdf PKPbc 22 03 48.6 +0.2
SIVA Sivas 144.43 304 P **PKPab 22 03 47.6 -1.2**
SIVA Sivas 144.43 304 P **PKPab 22 03 47.6 -1.2**
KTI Kastanea 144.43 314 P **PKPab 22 03 48.5 -0.3**
ARSA Arzberg 144.46 328 *i* PKPdf **PKPdf 22 03 49.9 -0.4**
comp=Z,41nm,0.9s,SNR=52
VILL Villia 144.51 310 P **PKPab 22 03 46.2 -2.9**
LKR Lokris 144.55 310 P **PKPab 22 03 47.4 -1.7**
LKR Lokris 144.55 310 P **PKPab 22 03 47.4 -1.7**
KRUS Krusevo 144.56 316 ePKP **PKPab 22 03 47.2 -2.0**
GRFO Grafenberg 144.63 335 ePKIKP PKPbc 22 03 49.3 +0.1
GRFO MLR MLR
comp=Z,600nm,22.0s
GRFO Grafenberg 144.63 335 ePKPdf PKPbc 22 03 49.2 0.0
GRFO LR LR
comp=Z,600nm,22.0s
SHEL Horse Pasture 144.66 189 ePKIKP **PKPdf 22 03 51.9 +0.4**
SHEL Horse Pasture 144.66 189 ePKPdf **PKPdf 22 03 51.9 +0.4**
MOA Molln 144.66 330 *i* PKPdf **PKPdf 22 03 50.2 -0.4**
comp=Z,255nm,0.9s,SNR=101
IVA Berane 144.67 319‖ *i*P **PKPab 22 03 48.9 -0.7**
BIA Bitola 144.68 315 P **PKPdf 22 03 50.4 -0.4**
BIA Bitola 144.68 315 ePKP **PKPab 22 03 49.4 -0.1**
BIA Bitola 144.68 315 ePKPdf **PKPdf 22 03 50.4 -0.4**
KZN Kozani 144.71 314 P **PKPab 22 03 47.9 -1.9**
KZN Kozani 144.71 314 PKIKP **PKPab 22 03 47.9 -1.9**
KZN Kozani 144.71 314 P **PKPab 22 03 47.9 -1.9**
PLE Pljevlja 144.73 320‖ *i*P **PKPab 22 03 49.0 -0.8**
FNA Florina 144.76 315 P **PKPab 22 03 48.6 -1.3**
FNA Florina 144.76 315 PKIKP **PKPab 22 03 48.6 -1.3**
FNA Florina 144.76 315 P **PKPab 22 03 48.6 -1.3**
PVY Plav 144.78 318 eP **PKPab 22 03 49.0 -1.0**
VAM Vamos 144.79 305 P **PKPab 22 03 50.0 -0.2**
VAM Vamos 144.79 305 PKIKP **PKPab 22 03 50.0 -0.2**
VAM Vamos 144.79 305 P **PKPab 22 03 50.0 -0.2**
DID Didima 144.81 309 P **PKPab 22 03 47.9 -2.3**
DID Didima 144.81 309 P **PKPab 22 03 47.9 -2.3**
LTK Loutraki 144.82 310 P **PKPab 22 03 47.8 -2.4**
LTK Loutraki 144.82 310 P **PKPab 22 03 47.8 -2.4**
LOUT Loutraki 144.82 309 P **PKPab 22 03 47.6 -2.6**
THL Klokotos Trika 144.87 312 P **PKPab 22 03 48.3 -2.0**
AGG Agios Georgios 144.88 311 P **PKPab 22 03 48.3 -2.1**
AGG Agios Georgios 144.88 311 ePKIKP **PKPab 22 03 49.5 -0.9**
AGG Agios Georgios 144.88 311 ePKPbc **PKPab 22 03 49.5 -0.9**
IMMV Iera Moni Meta 144.94 305 P **PKPab 22 03 50.2 -0.5**
DSF Desfina 144.98 310 P PKPbc 22 03 48.8 -2.0
DSF Desfina 144.98 310 P PKPbc 22 03 48.8 -2.0
OHR Ohrid 144.99 316 *i* PKP PKPbc 22 03 50.2 -0.5
THAL Thalero 145.03 310 P **PKPbc 22 03 48.8 -2.1**
GVD Gavdhos 145.05 304 P **PKPbc 22 03 50.4 -0.7**
GVD Gavdhos 145.05 304 ePKPbc **PKPbc 22 03 50.4 -0.7**
PERS Pernice 145.09 328 ePKPdf **PKPbc 22 03 49.0 -1.9**
PERS ePKPbc pPKPab 22 04 02.9 -3.6
UPM Unac-Piva 145.10 320 eP **PKPbc 22 03 49.8 -1.4**
SOKA Soboth 145.10 328 *i* PKPdf **PKPab 22 03 51.2 +0.2**
comp=Z,253nm,1.3s,SNR=74
KPRO Kipourio 145.15 313 P **PKPbc 22 03 49.2 -2.1**
NEST Nestorio 145.15 314 P **PKPbc 22 03 50.2 -1.2**
PENT Pentalofos 145.19 314 P **PKPbc 22 03 48.8 -2.7**
SISC Sisak 145.20 325 P **PKPdf 22 03 51.6 +0.1**
BLY Banja Luka 145.20 323 ePKPbc **PKPdf 22 03 51.5 0.0**
WACR West Acre 145.26 347 eP **PKPbc 22 03 50.5 -0.6**
NKY Niksic 145.26 319‖ *i*P **PKPbc 22 03 50.5 -1.1**
KALE Kalithea 145.27 311 P **PKPbc 22 03 50.0 -1.8**
KALE Kalithea 145.27 311 P **PKPbc 22 03 50.0 -1.8**
RCBR Riachuelo 145.28 133 ePKPbc **PKPbc 22 03 51.0 -1.4**
RCBR LR LR
comp=Z,700nm,19.0s
EVR Evrytania 145.29 312 P **PKPbc 22 03 50.9 -0.9**
EVR Evrytania 145.29 312 P **PKPbc 22 03 50.9 -0.9**
PDG Podgorica 145.31 319 P **PKPbc 22 03 49.4 -2.3**
PDG Podgorica 145.31 319‖ *i*P **PKPbc 22 03 51.3 -0.3**
TTG Podgorica 145.31 319 PKP2 **PKPbc 22 03 49.4 -2.2**
TTG Podgorica 145.31 319‖ *i*P **PKPbc 22 03 51.0 -0.6**
TTG Podgorica 145.31 319 P **PKPbc 22 03 49.4 -2.2**
NKME Niksic 145.31 319‖ *i*P **PKPbc 22 03 50.8 -0.9**
SERG Sergoula 145.32 311 P **PKPbc 22 03 49.9 -2.0**
VLI Veliai 145.32 307 P **PKPbc 22 03 49.5 -2.4**
VLI Veliai 145.32 307 P **PKPbc 22 03 49.5 -2.4**
ANKY Antikythira Is 145.34 306 P **PKPbc 22 03 49.9 -2.1**
ANKY Antikythira Is 145.34 306 P **PKPbc 22 03 49.9 -2.1**
ANX Ano Chora 145.34 311 P **PKPbc 22 03 51.6 -0.4**
KYTH Kithira 145.40 307 P **PKPbc 22 03 52.0 -0.2**
KYTH Kithira 145.40 307 ePKPdf **PKPbc 22 03 52.0 -0.2**
KLV Kalavryta, Ach 145.40 310 P **PKPbc 22 03 50.9 -1.3**
KLV Kalavryta, Ach 145.40 310 ePKPdf **PKPbc 22 03 50.9 -1.3**
WME Myndd Eilian 145.42 353 eP **PKPdf 22 03 51.4 -0.2**
STNC Stoke 145.43 350 eP **PKPdf 22 03 50.1 -1.5**
WPS Cemaes, Angles 145.44 350 eP **PKPdf 22 03 49.8 -1.8**
LAKA Lakka 145.45 310 P **PKPdf 22 03 51.3 -0.9**
LAKA Lakka 145.45 310 ePKPdf **PKPdf 22 03 51.3 -0.9**
CEME Cevo 145.45 319‖ *i*P **PKPdf 22 03 51.6 -0.5**
OBKA Obir 145.46 328 *i* PKPab **PKPab 22 03 52.4 0.0**
comp=Z,136nm,1.0s,SNR=23
DRME Dracevica, Mon 145.48 318‖ *i*P **PKPdf 22 03 51.7 -0.4**
TIR Tirane 145.48 317‖ *i*P **PKPab 22 03 53.0 +0.5**
TIR Tirane 145.48 317 ePKIKP **PKPab 22 03 52.6 +0.1**
TIR MLR MLR
comp=Z,900nm,22.0s
TIR Tirane 145.48 317 ePKPdf **PKPab 22 03 52.6 +0.1**
TIR LR LR
comp=Z,900nm,22.0s
BRY Bratogost 145.49 320‖ *i*P **PKPdf 22 03 51.4 -0.9**
VLX Vlachokerasia 145.50 309 P **PKPdf 22 03 51.3 -1.1**
VLX Vlachokerasia 145.50 309 ePKPdf **PKPdf 22 03 51.3 -1.1**
WLF1 Llynfaes 145.54 353 eP **PKPdf 22 03 50.4 -1.4**
ULC Ulcinj 145.56 318‖ *i*P **PKPdf 22 03 51.8 -0.5**
UPR University Cam 145.57 311 P **PKPab 22 03 55.4 +2.5**
OZLJ Ozalj 145.59 326 P **PKPdf 22 03 52.2 +0.1**
BUM Brajići-Budva 145.60 319‖ *i*P **PKPdf 22 03 52.4 0.0**
CWF Charnwood Fore 145.62 349 eP **PKPdf 22 03 48.9 -3.0**
CWF Charnwood Fore 145.62 349 ePKPdf **PKPdf 22 03 50.7 -1.2**
PVO Paravola 145.62 311 P **PKPdf 22 03 51.8 -0.6**
JAN Janina 145.63 313 P **PKPdf 22 03 50.6 -1.9**
JAN Janina 145.63 313 PKIKP **PKPdf 22 03 50.6 -1.9**
JAN Janina 145.63 313 P **PKPdf 22 03 50.6 -1.9**
KBA Koelnbreinsper 145.65 330 *i* PKPab **PKPab 22 03 53.1 -0.1**
comp=Z,226nm,1.2s,SNR=60
HGN Heimansgroeve 145.65 341 ePKP **PKPdf 22 03 51.1 -1.0**
HGN eX 22 03 53.0
HGN epPKP **pPKPdf 22 04 06.0 -2.0**
DSL Palaion Diasel 145.70 312 P **PKPdf 22 03 49.9 -2.7**
DSL Palaion Diasel 145.70 312 P **PKPdf 22 03 49.9 -2.7**
BEBN Eben Emael 145.70 341 PKP **PKPab 22 03 53.4 +0.4**
BEBN APKP **pPKPdf 22 04 05.7 -2.5**
DRO Drossia 145.76 310 P **PKPdf 22 03 51.3 -1.4**
MEM Membach 145.76 340 PKP **PKPbc 22 03 52.9 +0.1**
MEM APKP **pPKPdf 22 04 05.8 -2.5**
HCY Herceg Novi 145.77 319‖ *i*P **PKPbc 22 03 53.2 +0.1**
FOEL Foel Wylfa 145.77 351 eP **PKPdf 22 03 51.7 -0.6**
BOJS Bojanci 145.77 326 ePKPdf **PKPdf 22 03 51.7 -0.8**
BOJS *i* PKPbc **pPKPdf 22 04 06.0 -2.5**
DSB Dublin 145.79 355 ePKPdf **PKPdf 22 03 51.9 -0.4**
LJU Ljubljana 145.79 327 ePKPdf **PKPdf 22 03 52.6 +0.1**
LJU *e* 22 04 07.5
VISS Visnje 145.79 327 *i* PKPdf **PKPdf 22 03 51.7 -0.8**
VISS *i* PKPbc **pPKPdf 22 04 05.8 -2.7**
MYKA Terra Mystica 145.82 329 *i* PKPab **PKPbc 22 03 53.4 +0.1**
comp=Z,67nm,0.8s,SNR=39
PDO Prodromos 145.87 311 P **PKPdf 22 03 52.9 0.0**
LLW Llanuwychllyn 145.88 352 eP **PKPbc 22 03 52.9 -0.2**
RLS Riolos of Patr 145.89 310 P **PKPab 22 03 54.5 +0.4**
RLS Riolos of Patr 145.89 310 P **PKPab 22 03 54.5 +0.4**
AXS Araxos 145.90 311 P **PKPab 22 03 54.5 +0.4**
ITM Ithomi 145.90 309 P **PKPdf 22 03 50.8 -2.2**
ITM Ithomi 145.90 309 P **PKPdf 22 03 50.8 -2.2**
AMT Artemida-Makis 145.93 309 P **PKPdf 22 03 52.4 -0.7**
IGT Igoumenitsa 146.04 313 P **PKPdf 22 03 51.6 -1.6**
IGT Igoumenitsa 146.04 313 ePKIKP **PKPdf 22 03 51.6 -1.6**
IGT Igoumenitsa 146.04 313 ePKPdf **PKPdf 22 03 51.6 -1.6**
SGD Gegiada 146.08 314 P **PKPdf 22 03 52.0 -1.2**
HLM1 Long Mynd 146.09 351 eP **PKPdf 22 03 52.2 -0.6**
UCC Uccle 146.09 342 PKP **PKPab 22 03 54.4 0.0**
UCC APKP **pPKPdf 22 04 07.1 -1.7**
JAVS Javornik 146.13 328 ePKPdf **PKPdf 22 03 53.3 0.0**
JAVS ePKPbc **pPKPdf 22 04 06.3 -2.9**
UDBI Udbina 146.13 324 P **PKPdf 22 03 53.3 +0.1**
BCLA Clavier 146.15 341 PKP **PKPbc 22 03 53.7 -0.3**
BCLA APKP **pPKPdf 22 04 07.0 -2.0**
PYL PYLOS 146.15 308 P **PKPdf 22 03 51.5 -1.9**
PYL PYLOS 146.15 308 ePKPdf **PKPdf 22 03 51.5 -1.9**
LKD2 Lefkada island 146.15 312 P **PKPdf 22 03 52.5 -0.9**
LKD2 Lefkada island 146.15 312 P **PKPdf 22 03 52.5 -0.9**
STU Stuttgart 146.17 335 ePKIKP **PKPdf 22 03 52.5 -0.6**
STU MLR MLR
comp=Z,800nm,22.0s
STU Stuttgart 146.17 335 ePKPdf **PKPdf 22 03 52.5 -0.6**
STU LR LR
comp=Z,800nm,22.0s
WATA Walderalm 146.28 332 *i* PKPbc **PKPdf 22 03 53.9 +0.4**
comp=Z,65nm,0.8s,SNR=58
ABTA Abfaltersbach 146.28 330 *i* PKPbc **PKPdf 22 03 53.3 -0.1**
comp=Z,186nm,1.4s,SNR=33
WTTA Wattenberg 146.31 331 *i* PKPbc **PKPdf 22 03 54.0 +0.3**
comp=Z,179nm,1.2s,SNR=42
KEK Kerkira 146.32 314 P **PKPdf 22 03 51.8 -1.8**
KEK Kerkira 146.32 314 P **PKPdf 22 03 51.8 -1.8**
KFL Anninata 146.35 311 P **PKPdf 22 03 54.1 +0.4**
SNF Seneffe 146.38 342 PKP **PKPab 22 03 55.1 -0.4**
SNF APKP **pPKPdf 22 04 07.8 -1.5**
TRI Trieste 146.41 328 ePKP2 **PKPab 22 03 55.4 -0.4**
TRI MLR MLR
comp=Z,800nm,21.0s
TRI Trieste 146.41 328 ePKPdf **PKPab 22 03 55.4 -0.4**
TRI LR LR
comp=Z,800nm,21.0s
SSW Stow on the Wo 146.45 349 eP **PKPbc 22 03 54.2 -0.6**
VLS Valsamata 146.47 311 P **PKPab 22 03 56.1 -0.3**
VLS Valsamata 146.47 311 PKP2 **PKPab 22 03 56.1 -0.3**
VLS Valsamata 146.47 311 P **PKPab 22 03 56.1 -0.3**
MOTA Mooselm 146.48 332 *i* PKPdf **PKPdf 22 03 53.4 -0.5**
comp=Z,198nm,0.9s,SNR=174
RETA Reutte 146.53 333 *i* PKPbc **PKPdf 22 03 54.0 +0.2**
comp=Z,125nm,1.3s,SNR=33
WLF Walferdange 146.53 339 PKP **PKPbc 22 03 55.6 +0.5**
WLF APKP **pPKPdf 22 04 09.0 -0.7**
WLF Walferdange 146.53 339 ePKP2 **PKPbc 22 03 54.5 -0.7**
WLF MLR MLR
comp=Z,1µm,22.0s
WLF Walferdange 146.53 339 ePKPdf **PKPbc 22 03 54.5 -0.7**
WLF LR LR
comp=Z,1µm,22.0s
ZKS Zakynthos 146.53 310 P **PKPdf 22 03 53.8 -0.3**
GIVF Givet 146.57 341 ePKP2 **PKPbc 22 03 54.5 -0.8**
GIVF pmax pmax
comp=Z,255nm,1.1s
NVLJ Novalja 146.60 325 P **PKPdf 22 03 52.3 -1.6**
MCH1 Michaelchurch 146.61 351 eP **PKPbc 22 03 55.0 -0.2**
DOU Dourbes 146.65 341 PKP **PKPbc 22 03 55.3 -0.2**
DOU APKP **pPKPdf 22 04 08.8 -1.0**
LPW Lampeter 146.65 352 eP **PKPdf 22 03 52.6 -1.1**
STRD Stroud 146.69 350 eP **PKPbc 22 03 54.8 -0.7**
MONM Monmouth 146.73 350 eP **PKPdf 22 03 54.2 +0.3**
BAIF Baives 146.80 342 ePKIKP **PKPdf 22 03 53.8 -0.3**
BAIF pmax pmax
comp=Z,243nm,1.0s
BFO Black Forest 146.86 336 ePKIKP **PKPdf 22 03 54.2 -0.1**
BFO MLR MLR
comp=Z,800nm,22.0s
BFO Black Forest 146.86 336 ePKPdf **PKPdf 22 03 54.2 -0.1**
BFO LR LR
comp=Z,800nm,22.0s
OLDB Oldbury-Upon-S 146.86 350 eP **PKPbc 22 03 56.2 +0.2**
SWN1 Swindon 146.88 349 eP **PKPbc 22 03 55.5 -0.6**
FETA Feichten 146.90 332 *i* PKPbc **PKPdf 22 03 55.1 +0.5**
comp=Z,212nm,1.2s,SNR=62
WOL Wolverton 146.96 348 eP **PKPdf 22 03 55.3 +1.0**
DAVA Damuels 147.06 333 *i* PKPbc **PKPdf 22 03 55.1 +0.3**
comp=Z,240nm,1.3s,SNR=66
ECH Echery 147.40 337 PKP **PKPdf 22 03 54.8 -0.4**
FUORN Ofenpass-Fuorn 147.41 332 ePKPdf **PKPdf 22 03 55.9 +0.4**
FUORN LR LR
comp=Z,900nm,21.0s
MOF Molkenrain 147.71 337 PKP **PKPdf 22 03 55.3 -0.5**
HTL Hartland 147.80 352 eP **PKPbc 22 03 58.8 +0.2**
THEF They Montfort 147.81 338 PKP **PKPdf 22 03 56.3 +0.4**
TUE Stuetta 147.93 333 ePKPdf **PKPdf 22 03 55.7 -0.6**
TUE LR LR
comp=Z,700nm,22.0s
LOMF Lomont 148.24 336 PKP **PKPdf 22 03 56.6 -0.1**
DYA Yadsworthy 148.27 351 ePKPbc **PKPbc 22 04 00.3 +0.4**
TIP Timpagrande 148.63 315 P **PKPdf 22 03 57.3 -0.3**
TIP Timpagrande 148.63 315 ePKPdf **PKPdf 22 03 57.3 -0.3**
TIP ePKPdf **PKPbc 22 03 58.0 -3.3**
TIP LR LR
comp=Z,600nm,22.0s
CUC Castrocucco 148.81 317 ePKPdf **PKPdf 22 03 57.4 -0.4**
CUC LR LR
comp=Z,700nm,22.0s
AQU L'Aquila 148.84 323 ePKP2 **PKPbc 22 04 01.5 -0.3**
AQU L'Aquila 148.84 323 ePKPbc **PKPbc 22 04 01.5 -0.3**
SENIN Lac Senin/Sane 148.87 335 ePKPdf **PKPdf 22 03 58.3 +0.4**
SENIN LR LR
comp=Z,800nm,21.0s
CABF La Chapelle 149.14 336 ePKIKP **PKPdf 22 03 58.2 0.0**
CABF pmax pmax
comp=Z,319nm,1.0s
VLC Villacollemand 149.19 329 ePKPbc **PKPbc 22 04 02.5 -0.1**
VLC LR LR
comp=Z,700nm,20.0s
FLN La Foliniere 149.22 346 ePKIKP **PKPdf 22 03 58.7 +0.6**
FLN pmax pmax
comp=Z,309nm,1.1s
GRR Gorron 149.66 346 ePKHKP PKPpre 22 04 01.6
GRR pmax pmax
comp=Z,292nm,1.0s
CEL Celeste 149.69 315 ePKPbc **PKPbc 22 04 04.1 +0.1**
CEL LR LR
comp=Z,500nm,22.0s
LPL La Plagne 149.79 334 ePKHKP PKPpre 22 04 00.3
LPL pmax pmax
comp=Z,197nm,1.0s
LPG La Plagne 149.80 334 ePKHKP PKPpre 22 03 59.3
LPG pmax pmax
comp=Z,222nm,1.0s
AVF Avril sur Loir 149.95 340 ePKIKP **PKPdf 22 03 58.7 -0.6**
AVF pmax pmax
comp=Z,104nm,1.0s
BNI Bardonecchia 150.19 334 ePKIKP **PKPdf 22 04 00.4 +0.4**
BNI MLR MLR
comp=Z,1µm,22.0s
BNI Bardonecchia 150.19 334 ePKPdf **PKPdf 22 04 00.4 +0.4**
BNI LR LR
comp=Z,1µm,22.0s
SSB Saint Sauveur 150.84 337 ePKIKP **PKPdf 22 04 01.9 +1.0**
SSB MLR MLR
comp=Z,800nm,20.0s
SSB Saint Sauveur 150.84 337 ePKPdf **PKPdf 22 04 01.9 +1.0**
SSB LR LR
comp=Z,800nm,20.0s
VIVF Saint-Julien-l 151.15 336 ePKIKP **PKPdf 22 04 01.2 -0.1**
VIVF pmax pmax
comp=Z,165nm,1.0s
CLTB Caltabellotta 151.84 316 ePKPbc **PKPbc 22 04 09.2 +0.1**
WDD Wied Dalam 151.85 311 PFAKE 22 04 10.0 +1.0
WDD LR LR
comp=Z,900nm,21.0s
CAF Calviac 152.02 340 ePKIKP **PKPdf 22 04 02.8 +0.2**
CAF pmax pmax
comp=Z,48nm,1.1s
ASCN Ascension 152.89 173 PFAKE 22 04 20.0 -3.0
ASCN LR LR
comp=Z,1µm,21.0s
VSL Villasalto 153.02 323 ePKPdf **PKPdf 22 04 04.8 +0.5**
VSL LR LR
comp=Z,400nm,22.0s
MTLF Montolieu 153.36 338 ePKIKP **PKPdf 22 04 04.4 -0.2**
MTLF pmax pmax
comp=Z,34nm,0.9s
VALF Valcebollere 154.25 337 PKP **PKPdf 22 04 05.7 -0.4**
REYF Montagne du Re 154.47 341 PKP **PKPdf 22 04 05.6 -0.7**
RESF Ens 154.48 340 PKP **PKPdf 22 04 05.6 -0.8**
SJPF Ste Jean 154.67 343 ePKIKP **PKPdf 22 04 06.7 +0.2**
SJPF pmax pmax
comp=Z,42nm,1.4s
KEST Kesra 155.44 316 PKP **PKPdf 22 04 07.7 -0.1**
comp=Z,10nm,0.9s,baz=251,slow=4.2,SNR=7.9
KEST PKPab **PKPab 22 04 35.0 +1.4**
comp=Z,30nm,0.9s,baz=293,slow=2.2,SNR=10
KEST Kesra 155.44 316 ePKPdf **PKPdf 22 04 09.0 +1.2**
KEST ePKPab **PKPab 22 04 35.0 +1.4**
KEST LR LR
comp=Z,2µm,22.0s
CMAH Djebel Manchou 156.09 320 P **PKPdf 22 04 08.3 -0.4**
CAEH `Ain El Ouahch 156.32 322 P **PKPdf 22 04 11.4 +2.5**
DFRA Djebel Bou Aff 157.05 322 P **PKPdf 22 04 11.2 +1.2**
PBRG Braganca 157.12 351 ePKPab **PKPab 22 04 40.7 +0.3**
PGAV Gavieira, Arco 157.14 354 ePKPab **PKPab 22 04 40.4 -0.2**
PGAV Gavieira, Arco 157.14 354 eLR LR 22 58 41.4
comp=Z,783nm,20.0s
PCAB Cabril 157.37 354 ePKPab **PKPab 22 04 43.4 +1.9**
SET Setif 157.57 323 P **PKPdf 22 04 13.0 +2.4**
POLO Lamas de Olo 157.68 353 ePKPdf **PKPdf 22 04 11.2 +0.6**
POLO Lamas de Olo 157.68 353 ePKPab **PKPab 22 04 43.6 +0.7**
MVO Moncorvo 157.79 351 ePKPdf **PKPdf 22 04 10.1 -0.6**
MVO Moncorvo 157.79 351 ePKPab **PKPab 22 04 43.8 +0.5**
MVO Moncorvo 157.79 351 eLR LR 22 58 27.9
comp=Z,871nm,22.0s
ES19 SONSECA Array 158.58 344 ePKPdf **PKPdf 22 04 11.9 +0.2**
ESDC Sonseca Array 158.62 344 PKP **PKPdf 22 04 11.6 -0.2**
comp=Z,1.5nm,0.9s,baz=355,slow=3.6,SNR=7.6
ESDC PKPab **PKPab 22 04 47.4 +0.4**
comp=Z,18nm,0.8s,baz=15,slow=3.8,SNR=38
ESLA Sonseca Array 158.62 344 ePKPab **PKPab 22 04 47.7 +0.7**
ESLA LR LR
comp=Z,900nm,21.0s
PAB San Pablo 158.84 345 ePKIKP **PKPdf 22 04 12.3 +0.3**
PAB MLR MLR
comp=Z,900nm,22.0s
PAB San Pablo 158.84 345 ePKPdf **PKPdf 22 04 12.3 +0.3**
PAB LR LR
comp=Z,900nm,22.0s
PCAS Casmilo, Conde 159.06 354 ePKPab **PKPab 22 04 49.3 +0.5**
PCBR Castelo Branco 159.15 352 ePKPdf **PKPdf 22 04 12.6 +0.3**
PCBR Castelo Branco 159.15 352 ePKPab **PKPab 22 04 49.4 +0.6**
PTOM Tomar 159.48 354 ePKPdf **PKPdf 22 04 12.6 -0.1**
PTOM Tomar 159.48 354 ePKPab **PKPab 22 04 51.1 +0.5**
PMRV Marv??o 159.54 351 ePKPdf **PKPdf 22 04 11.9 -0.9**
PMRV Marv??o 159.54 351 ePKPab **PKPab 22 04 50.4 -0.5**
PMRV Marv??o 159.54 351 eLR LR 22 59 47.9
comp=Z,909nm,20.0s
PESTR Estremoz 160.12 351 ePKPab **PKPab 22 04 54.0 +0.5**
PMAFR Mafra 160.22 355 ePKPab **PKPab 22 04 54.8 +0.9**
LIS Lisbon 160.44 355 eP **PKPdf 22 04 13.1 -0.7**
LIS ePP **PP 22 08 37.5 +1.3**
LIS AMS AMS 23 15 03.1
comp=Z,1µm,22.2s
LIS Lisbon 160.44 355 ePKIKP **PKPdf 22 04 13.0 -0.7**

LIS				*e*		22 08 37.4	
EVO	**Evora**	**160.51**	**352**	*e*PKPdf	**PKPdf**	**22 04 13.0**	**-0.9**
EVO	**Evora**	**160.51**	**352**	*e*PKPab	**PKPab**	**22 04 55.6**	**+0.5**
PBAR	**Barrancos**	**160.71**	**350**	*e*PKPab	**PKPab**	**22 04 56.5**	**+0.5**
PBEJ	**Beja**	**160.99**	**352**	*e*PKPdf	**PKPdf**	**22 04 14.8**	**+0.4**
PBEJ	**Beja**	**160.99**	**352**	*e*PKPab	**PKPab**	**22 04 57.7**	**+0.5**
MESJ	**Messejana**	**161.22**	**352**	*e*P	**PKPdf**	**22 04 14.0**	**-0.7**
MESJ				*e*PP	**PP**	**22 08 41.7**	**+1.4**
MESJ				AMS	AMS	23 16 36.1	
	comp=Z,1μm,16.6s						
MESJ	**Messejana**	**161.22**	**352**	*e*PKPdf	**PKPdf**	**22 04 14.0**	**-0.7**
MESJ	**Messejana**	**161.22**	**352**	*e*PKPab	**PKPab**	**22 04 58.4**	**+0.2**
MESJ	**Messejana**	**161.22**	**352**	*e*PKIKP	**PKPdf**	**22 04 13.9**	**-0.7**
MESJ				*e*		22 08 41.7	
PCVE	**Castro Verde**	**161.40**	**352**	*e*PKPab	**PKPab**	**22 04 59.9**	**+0.9**
PVAQ	**Vaqueiros**	**161.58**	**351**	*e*PKPdf	**PKPdf**	**22 04 14.5**	**-0.5**
PVAQ	**Vaqueiros**	**161.58**	**351**	*e*PKPab	**PKPab**	**22 04 59.7**	**-0.1**
PVAQ	**Vaqueiros**	**161.58**	**351**	*e*LR	LR	23 01 20.1	
	comp=Z,1μm,22.0s						
PBDV	**Barranco-do-Ve**	**161.76**	**351**	*e*PKPdf	**PKPdf**	**22 04 14.3**	**-1.0**
PBDV	**Barranco-do-Ve**	**161.76**	**351**	*e*PKPab	**PKPab**	**22 05 01.2**	**+0.5**
MORF	**Marmelete**	**161.79**	**353**	*e*P	**PKPdf**	**22 04 14.6**	**-0.7**
MORF				*e*PP	**PP**	**22 08 44.9**	**+1.4**
MORF				AMS	AMS	23 15 20.1	
	comp=Z,935nm,18.2s						
MORF	**Marmelete**	**161.79**	**353**	*e*PKIKP	**PKPdf**	**22 04 14.6**	**-0.7**
MORF				*e*		22 08 44.8	
TAM	**Tamanrasset**	**163.90**	**286**	*e*PKIKP	**PKPdf**	**22 04 19.2**	**+1.2**
TAM	**Tamanrasset**	**163.90**	**286**	*e*PKPdf	**PKPdf**	**22 04 19.2**	**+1.2**
TAM				*e*PKPab	**PKPab**	**22 05 12.7**	**+1.8**
MDT	**Midelt**	**165.16**	**338**	PP	PP	22 09 02.2	+0.6
	comp=Z,5.5nm,1.1s,baz=35,slow=9.4,SNR=3.6						
PMOZ	**Porto Moniz, M**	**165.42**	**20**	*e*LR	LR	23 04 11.2	
	comp=Z,839nm,20.0s						
KIC	**Kosan Boka**	**165.75**	**207**	*e*PKIKP	**PKPdf**	**22 04 19.2**	**-0.4**
	comp=Z,194nm,1.7s						
KIC	**Kosan Boka**	**165.75**	**207**	*e*PKP2	**PKPab**	**22 05 19.6**	**+0.8**
	comp=Z,145nm,1.0s						
LIC	**Lamto**	**165.75**	**206**	*e*PKIKP	**PKPdf**	**22 04 19.1**	**-0.5**
	comp=Z,184nm,1.7s						
LIC	**Lamto**	**165.75**	**206**	*e*PKP2	**PKPab**	**22 05 19.6**	**+0.8**
	comp=Z,265nm,1.4s						
DBIC	**Dimbokro**	**166.08**	**208**	PKP	**PKPdf**	**22 04 19.6**	**-0.2**
	comp=Z,16nm,1.0s,baz=27,slow=3.5,SNR=7.5						
DBIC				PKPab	**PKPab**	**22 05 21.2**	**+1.0**
	comp=Z,36nm,0.9s,baz=132,slow=5.7,SNR=18						
DBIC	**Dimbokro**	**166.08**	**208**	PKIKP	**PKPdf**	**22 04 19.6**	**-0.2**
DBIC						22 05 21.2	
DBIC				pmax	pmax		
	comp=Z,18nm,1.1s						
DBIC				pmax	pmax		
	comp=Z,36nm,0.9s						
DBIC	**Dimbokro**	**166.08**	**208**	*e*PKPdf	**PKPdf**	**22 04 20.1**	**+0.2**
DBIC				*e*PKPab	**PKPab**	**22 05 21.7**	**+1.5**
TIC	**Toumodi**	**166.13**	**207**	*e*PKIKP	**PKPdf**	**22 04 19.4**	**-0.5**
TIC	**Toumodi**	**166.13**	**207**	*e*PKP2	**PKPab**	**22 05 21.3**	**+0.9**
TOA0	**Torodi Ar. Sit**	**166.17**	**246**	*e*PKPdf	**PKPdf**	**22 04 18.0**	**-1.9**
TOA0				*e*PKPdf	**PKPdf**	**22 04 18.6**	**-1.3**
TORD	**Torodi Ar. Bea**	**166.17**	**246**	PKP	**PKPdf**	**22 04 19.1**	**-0.8**
	comp=Z,28nm,0.9s,baz=3.6,slow=0.7,SNR=104						
TORD				PKPab	**PKPab**	**22 05 20.7**	**-0.1**
	comp=Z,29nm,1.0s,baz=107,slow=3.8,SNR=13						
TOA1	**Torodi Ar. Sit**	**166.17**	**246**	*e*PKPdf	**PKPdf**	**22 04 19.1**	**-0.8**
TOA1				*e*PKPab	**PKPab**	**22 05 20.7**	**-0.1**
BBTS	**Babate**	**173.26**	**131**	PKPab	**PKPab**	**22 05 52.3**	**+0.2**
	comp=Z,41nm,0.9s,baz=232,slow=3.4,SNR=5.0						

NIED ***04*** *21:57:00.37˚.30N×141˚.90E, h83km, Mw3.9 Best double couple: M0 7.05000×10^14 NP1:ϕs=36.00000°, δ32.00000°, λ-123.00000°. NP2:ϕs=253.00000°, δ64.00000°, λ-71.00000°.*

JMA 04 21:57:33.7±0.2, 37˚.33N×141˚.86E, h38km±4km, M3.5, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JFK	**Kawauchi**	**0.79**	**273**	P	Pn	21 57 48.5	+0.2
JFK				S	Sn	21 57 58.5	-0.4
ONAJ	**Iwakimizuishiy**	**0.88**	**255**	P	Pn	21 57 49.8	+0.2
ONAJ				S	Sn	21 58 01.0	-0.2
JMM	**Marumori**	**1.00**	**303**	P	Pn	21 57 51.4	+0.2
JMM				S	Sn	21 58 04.0	-0.1
JIO	**Ouri**	**1.19**	**340**	P	Pn	21 57 53.6	-0.2
JIO				S	Sn	21 58 07.2	-1.6
JFT	**Otama**	**1.23**	**279**	P	Pn	21 57 55.7	+1.4
JFT				S	Sn	21 58 11.0	+1.3
JOU	**Okura**	**1.40**	**318**	P	Pn	21 57 57.6	+0.9
JOU				S	Sn	21 58 15.1	+1.1
JYS	**Shirataka**	**1.68**	**303**	P	Pn	21 58 02.2	+1.7
JYS				*e*S	Sn	21 58 23.1	+2.3
JMK	**Ichinoseki**	**1.70**	**343**	P	Pn	21 58 01.5	+0.8

IDC ***04*** *22:08:02.5±0.9, 1˚.33N×96˚.96E, h0km, mb4.2/14, mb1 4.3/16, mb1mx4.0/37, mbtmp4.1/16, ML3.8/2, MS4.7/4, Ms1 4.6/4, ms1mx3.8/33, Error ellipse: s-maj=25.4km s-min=16.3km az=46.0*

DJA ***04*** *22:08:04.1±1.4, 1˚.1N±6˚×9˚.7E±1˚.4, h10km, M4.2/6, MLv4.2/6*

ISCJB ***04*** *22:08:05.5±0.4, 1˚.32N±0˚.04×97˚.00E±0˚.04, h28km, mb4.2/18, MS4.7/4, Error ellipse: s-maj=7.3km s-min=5.0km az=45.0*

NEIC ***04*** *22:08:07.9±0.4, 1˚.42N×97˚.07E, h35km, mb4.5/6, Error ellipse: s-maj=8.8km s-min=6.8km az=48.0*

ISC 04 22:08:06.9±0.6, 1˚.34N±0˚.05×96˚.93E±0˚.07, h28km, n61, σ1ŝ40/57, mb4.2/19, MS4.7/4, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TPTI		**1.93**	**7**	P	**Pn**	**22 08 35.7**	**-2.2**
TPTI				S	**Sb**	**22 09 07.0**	**+1.9**
PBSI	**Pulau Batu**	**1.93**	**136**	P	**Pn**	**22 08 37.9**	**0.0**
KCSI	**Kotacane, Aceh**	**2.33**	**21**	P	**Pn**	**22 08 42.6**	**-0.8**
KCSI				S	**Sb**	**22 09 20.0**	**+3.4**
PSI	**Prapat**	**2.47**	**54**	Pn	**Pn**	**22 08 42.5**	**-2.9**
	4.5nm,0.3s,baz=222,slow=6.2,SNR=48						
TSI	**Tunungan**	**2.70**	**37**	P	**Pn**	**22 08 48.9**	**+0.4**
MNSI	**Mandailing Nat**	**2.70**	**101**	P	**Pn**	**22 08 48.0**	**-0.5**
MLSI	**Meulaboh, Aceh**	**2.96**	**350**	P	**Pn**	**22 08 51.7**	**-0.4**
LHMI	**Lhok Sumawe**	**3.87**	**0**	P	Pb	22 09 19.9	+5.4
LHMI				S	**Sn**	**22 09 49.8**	**+0.7**
PPI	**Padang Panjang**	**3.90**	**117**	P	**Pn**	**22 09 05.2**	**+0.2**
BKNI	**Bangkinang**	**4.23**	**104**	*e*Pn	**Pn**	**22 09 07.3**	**-2.2**
BKNI				*e*Sn	**Sn**	**22 09 57.9**	**-0.2**
IPM	**Ipoh**	**5.14**	**53**	*e*Pn	**Pn**	**22 09 21.5**	**-0.7**
	24nm,0.6s						
IPM				*e*Sn	**Sn**	**22 10 21.9**	**+1.2**
KULM	**Kulim**	**5.41**	**43**	*e*Pn	**Pn**	**22 09 24.2**	**-1.5**
	53nm,0.9s						
CHAI	**Chaiyaphum**	**15.31**	**19**	P	**P**	**22 11 47.4**	**+1.6**
	4.8nm,0.9s						
PBKT	**Sadao Pong**	**15.65**	**14**	P	**P**	**22 11 48.2**	**-1.3**
	12nm,0.8s						
UBPT	**Khong Chiam**	**16.22**	**31**	P	**P**	**22 11 54.9**	**-0.9**
	18nm,1.6s						
SUKH	**Sukhothai**	**16.26**	**9**	P	**P**	**22 11 57.0**	**+0.7**
	4.1nm,0.9s						
CMAR	**Chiang Mai Arr**	**17.13**	**6**	P	**Pn**	**22 12 03.0**	**-1.5**
	0.4nm,0.3s,baz=198,slow=11,SNR=22						
LAMP	**Lampang**	**17.29**	**9**	P	**P**	**22 12 09.4**	**+1.7**
	3.8nm,1.1s						
CHTO	**Chiang Mai**	**17.48**	**6**	P	**P**	**22 12 10.3**	**+0.4**
	29nm,1.1s						
CHTO	**Chiang Mai**	**17.48**	**6**	*e*Pn	**Pn**	**22 12 06.7**	**-2.2**
	2.4nm,0.6s						
NONG	**Nongkai**	**17.71**	**20**	P	**Pn**	**22 12 11.8**	**+0.1**
GMJI	**Gumukmas**	**19.03**	**120**	S	**S**	**22 16 04.4**	**+3.0**
SLVN	**Son La**	**21.01**	**18**	*e*P	**P**	**22 12 47.3**	**-1.2**
	30nm,0.8s						
H08S2	**Diego Garcia H**	**25.96**	**250**	T	T	22 40 45.9	
	baz=71,slow=76,SNR=1427						
H08S3	**Diego Garcia H**	**25.96**	**250**	T	T	22 40 33.6	
	baz=71,slow=76,SNR=1318						
H08S1	**Diego Garcia H**	**25.98**	**250**	T	T	22 40 45.6	
	baz=71,slow=76,SNR=1909						
ODAN	**Odare**	**26.98**	**341**	*e*P	**P**	**22 13 48.1**	**+1.3**
	36nm,1.0s						
RAMN	**Ramite**	**27.33**	**340**	*e*P	**P**	**22 13 51.6**	**+1.7**
	20nm,0.8s						
TAPN	**Taplejung**	**27.34**	**342**	*e*P	**P**	**22 13 51.7**	**+1.7**
	62nm,1.0s						
JIRN	**Jiri**	**28.13**	**339**	*e*P	**P**	**22 13 58.8**	**+1.7**
	169nm,0.8s						
GUN	**Gumba**	**28.47**	**339**	*e*P	**P**	**22 14 01.7**	**+1.6**
	27nm,0.8s						
DMN	**Daman**	**28.48**	**338**	*e*P	**P**	**22 14 01.9**	**+1.8**
KKN	**Kakani**	**28.57**	**338**	*e*P	**P**	**22 14 02.3**	**+1.3**
GKN	**Gorkha**	**29.01**	**337**	*e*P	**P**	**22 14 06.4**	**+1.6**
	18nm,0.7s						
KOLN	**Koldanda**	**29.22**	**335**	*e*P	**P**	**22 14 08.5**	**+1.8**
	20nm,0.7s						
DANN	**Dangsing**	**29.67**	**336**	*e*P	**P**	**22 14 12.8**	**+2.0**
PYUN	**Piuthan**	**29.77**	**335**	*e*P	**P**	**22 14 13.2**	**+1.6**
ENH	**Enshi**	**31.15**	**21**	*e*P	**P**	**22 14 22.0**	**-1.6**
	12nm,0.7s						
H01W3	**Cape Leeuwin H**	**39.47**	**158**	T	T	22 57 18.4	
	baz=333,slow=76,SNR=15						
H01W2	**Cape Leeuwin H**	**39.48**	**158**	T	T	22 57 22.7	
	baz=333,slow=76,SNR=17						
H01W1	**Cape Leeuwin H**	**39.49**	**157**	T	T	22 57 18.9	
	baz=333,slow=76,SNR=18						
WRA	**Warramunga Arr**	**42.33**	**122**	P	**P**	**22 15 57.8**	**-1.1**
	1.1nm,0.7s,baz=301,slow=9.1,SNR=19						
WRAB	**Tennant Creek**	**42.34**	**122**	*e*P	**P**	**22 15 57.9**	**-1.0**
	4.7nm,1.0s						
ASAR	**Alice Springs**	**43.69**	**127**	P	**P**	**22 16 09.5**	**-0.3**
	1.3nm,0.8s,baz=305,slow=7.3,SNR=10.0						
KSAR	**Wonju Array Be**	**45.86**	**35**	P	**P**	**22 16 26.5**	**-0.3**
KSRS	**Korea Array**	**45.89**	**35**	P	**P**	**22 16 26.5**	**-0.6**
	6.2nm,0.8s,baz=224,slow=9.4,SNR=10						
SONM	**Songino Array**	**47.04**	**9**	P	**P**	**22 16 36.6**	**+0.5**
	5.7nm,0.8s,baz=192,slow=9.0,SNR=22						
ULN	**Ulaanbaatar**	**47.17**	**9**	*e*P	**P**	**22 16 36.2**	**-0.9**
	4.1nm,0.9s						
MJAR	**Matsushiro Arr**	**51.77**	**43**	P	**P**	**22 17 11.4**	**-1.0**
	1.2nm,0.7s,baz=195,slow=6.3,SNR=4.2						
USRK	**Ussuriysk Ar.**	**52.79**	**31**	P	**P**	**22 17 19.4**	**-0.3**
	17nm,0.9s,baz=232,slow=5.9,SNR=20						
ZALV	**Zalesovo Beam**	**53.38**	**351**	P	**P**	**22 17 24.4**	**+0.5**
	5.3nm,0.5s,baz=181,slow=6.7,SNR=28						
ZALV				LR	LR	22 42 17.5	
	comp=Z,671nm,21.9s,baz=71,slow=38						
STKA	**Stephens Creek**	**53.65**	**132**	P	**P**	**22 17 26.5**	**+0.3**
	2.5nm,0.8s,baz=305,slow=8.3,SNR=4.9						
ABKAR	**Akbulak array**	**57.27**	**332**	*e*P	**P**	**22 17 50.8**	**-1.2**
	4.2nm,0.8s						
KBZ	**Khabza**	**63.80**	**319**	P	**P**	**22 18 36.2**	**-0.4**
	2.0nm,0.9s,baz=163,slow=10,SNR=3.6						
BRTR	**Keskin Array B**	**68.82**	**312**	P	**P**	**22 19 09.1**	**-0.1**
	0.4nm,0.8s,baz=145,slow=5.3,SNR=3.0						
MAW	**Mawson**	**72.78**	**193**	LR	LR	22 46 40.9	
	comp=Z,272nm,19.9s,baz=65,slow=32						
BOSA	**Boshof**	**74.61**	**240**	LR	LR	22 48 13.2	
	comp=Z,762nm,18.5s,baz=132,slow=32						
FINES	**FINESS Array B**	**79.76**	**333**	P	**P**	**22 20 12.2**	**0.0**
	1.4nm,0.8s,baz=114,slow=4.8,SNR=5.6						
FINES				LR	LR	22 59 31.8	
	comp=Z,322nm,19.7s,baz=54,slow=39						
ARCES	**ARCESS Array B**	**82.32**	**340**	P	**P**	**22 20 26.1**	**+0.4**
	2.1nm,0.8s,baz=72,slow=4.0,SNR=3.9						
GERES	**GERESS Array B**	**84.53**	**319**	P	**P**	**22 20 38.2**	**+0.5**
	0.5nm,0.7s,baz=103,slow=6.0,SNR=4.1						
NOA	**NORSAR Array B**	**86.76**	**331**	P	**P**	**22 20 48.2**	**-0.1**
	1.1nm,0.8s,baz=92,slow=4.9,SNR=3.3						

IDC 04 22:40:54.8±2.0, 4˚.32S×144˚.23E, h0km, mb3.3/2, mb1 3.6/3, mb1mx3.5/23, mbtmp3.3/3, ML3.4/1, Error ellipse: s-maj=128.8km s-min=32.0km az=117.0, Near north coast of New Guinea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**18.28**	**211**	P	Pn	22 45 09.2	-0.9
	0.1nm,0.3s,baz=33,slow=12,SNR=3.5						
ASAR	**Alice Springs**	**21.67**	**206**	P	P	22 45 47.9	+0.7
	0.4nm,0.8s,baz=37,slow=9.9,SNR=1.9						
ILAR	**Eielson Array**	**85.04**	**24**	P	P	22 53 31.9	-0.1
	0.4nm,0.6s,baz=254,slow=4.9,SNR=3.2						

IDC ***04*** *22:42:57.2±1.0, 21˚.21S×168˚.25E, h0km, mb4.1/10, mb1 4.3/11, mb1mx4.1/23, mbtmp4.1/11, ML4.1/1, Error ellipse: s-maj=26.6km s-min=19.9km az=131.0*

ISCJB ***04*** *22:43:00.4±0.4, 21˚.24S±0˚.06×168˚.20E±0˚.07, h35km, mb4.4/19, Error ellipse: s-maj=9.7km s-min=8.3km az=138.8*

NEIC ***04*** *22:43:03.8±1.9, 21˚.27S×168˚.16E, h49km±17km, mb4.6/15, Error ellipse: s-maj=13.4km s-min=8.6km az=210.0*

ISC 04 22:43:01.9±0.5, 21˚.23S±0˚.08×168˚.27E±0˚.09, h35km, n50, σ1ŝ32/49, mb4.5/19, 2D, Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**1.89**	**243**	Pn	**Pn**	**22 43 31.3**	**-0.5**
	167nm,0.3s,baz=72,slow=8.5,SNR=229						
DZM				Sn	**Sn**	**22 43 57.4**	**+2.9**
	370nm,0.3s,baz=103,slow=19,SNR=5.3						
OUZ	**Omahuta**	**14.70**	**163**	*e*Pn	**Pn**	**22 46 28.8**	**+1.4**
ARMA	**Armidale**	**17.54**	**235**	*e*Pn	**P**	**22 47 04.2**	**-0.5**
	22nm,1.4s						
URZ	**Urewera**	**18.61**	**158**	P	**Pn**	**22 47 17.8**	**+1.1**
	0.6nm,0.3s,baz=5.8,slow=15,SNR=3.8						
URZ	**Urewera**	**18.61**	**158**	*e*P	**Pn**	**22 47 17.8**	**+1.1**
	33nm,1.5s						
BKZ	**Black Stump Fm**	**19.22**	**160**	*e*P	**Pn**	**22 47 23.3**	**-0.9**
	17nm,1.0s						
BFZ	**Birch Farm**	**20.54**	**162**	*e*P	**P**	**22 47 37.7**	**+0.4**
	47nm,1.2s						
CTA	**Charters Tower**	**20.63**	**269**	P	Pn	22 47 39.0	-1.9
	8.1nm,0.9s,baz=102,slow=11,SNR=3.0						
LBZ	**Lake Benmore**	**23.15**	**177**	*e*P	**P**	**22 48 06.3**	**+1.2**
	74nm,1.7s						
STKA	**Stephens Creek**	**26.04**	**240**	P	**P**	**22 48 33.8**	**+1.8**
	1.2nm,0.6s,baz=112,slow=14,SNR=2.0						
STKA	**Stephens Creek**	**26.04**	**240**	*e*P	**P**	**22 48 33.8**	**+1.8**
	12nm,2.0s						
WB2	**Warramunga Arr**	**31.75**	**266**	*e*P	**P**	**22 49 22.1**	**-0.8**
WR1	**Warramunga Arr**	**31.75**	**266**	*e*P	**P**	**22 49 21.8**	**-1.2**
	10.0nm,1.4s						
WRA	**Warramunga Arr**	**31.76**	**266**	P	**P**	**22 49 21.8**	**-1.2**
	2.0nm,0.9s,baz=101,slow=8.1,SNR=7.0						
AS01	**Alice Springs**	**31.77**	**259**	*e*P	**P**	**22 49 22.7**	**-0.4**
AS31	**Alice Springs**	**31.81**	**259**	*e*P	**P**	**22 49 21.6**	**-1.9**
	2.6nm,0.8s						
ASAR	**Alice Springs**	**31.81**	**259**	P	**P**	**22 49 23.6**	**+0.1**
	5.9nm,0.7s,baz=84,slow=9.1,SNR=33						
FITZ	**Fitzroy Crossi**	**40.18**	**267**	*e*P	**P**	**22 50 35.3**	**+0.2**
	17nm,0.9s						
MBWA	**Marble Bar**	**45.11**	**261**	*e*P	**P**	**22 51 15.2**	**+0.1**
	105nm,2.0s						
VNDA	**Vanda**	**56.42**	**182**	P	**P**	**22 52 39.4**	**-0.1**
	1.5nm,1.0s,baz=356,slow=7.1,SNR=5.3						
SBA	**Scott Base**	**56.67**	**180**	*e*P	**P**	**22 52 42.7**	**+1.4**
	9.4nm,0.9s						
KSM	**Kuching**	**60.95**	**284**	*e*P	**P**	**22 53 10.0**	**-2.0**
	11nm,1.3s						
QSPA	**South Pole Qui**	**68.83**	**180**	*e*P	**P**	**22 54 02.6**	**-0.1**
USRK	**Ussuriysk Ar.**	**73.09**	**334**	P	**P**	**22 54 29.3**	**+0.8**
	0.6nm,0.4s,baz=134,slow=52,SNR=1.8						
PETK	**Petropavlovsk-**	**74.59**	**353**	P	**P**	**22 54 37.3**	**+0.2**
	3.7nm,0.7s,baz=125,slow=7.4,SNR=4.2						
PEA1	**Petropavlovsk-**	**74.60**	**353**	*e*P	**P**	**22 54 37.3**	**+0.2**
CM31	**Chiang Mai Arr**	**78.50**	**295**	*e*P	**P**	**22 55 01.0**	**+1.0**
CMAR	**Chiang Mai Arr**	**78.50**	**295**	P	**P**	**22 55 01.0**	**+1.0**
	0.8nm,0.3s,baz=133,slow=4.0,SNR=1.7						
SYO	**Syowa Base**	**82.78**	**196**	‖*e*P	**P**	**22 55 20.0**	**-2.0**
SYO	**Syowa Base**	**82.78**	**196**	‖*e*PcP	**PcP**	**22 55 24.8**	**-2.0**
SNAA	**Sanae**	**87.14**	**183**	P	**P**	**22 55 43.2**	**-0.8**
SNAA	**Sanae**	**87.14**	**183**	*e*P	**P**	**22 55 43.1**	**-0.9**
	7.5nm,1.0s						
VNA3	**Neumayer Olymp**	**87.76**	**181**	P	**P**	**22 55 45.5**	**-1.4**
VNA2	**Neumayer--Watz**	**88.04**	**181**	P	**P**	**22 55 47.2**	**-1.1**
	baz=174,slow=3.9						
SONA0	**Songino Array**	**88.27**	**324**	*e*P	**P**	**22 55 50.1**	**+0.4**
	3.3nm,1.1s						
SONM	**Songino Array**	**88.27**	**324**	P	**P**	**22 55 50.1**	**+0.4**
	0.8nm,0.8s,baz=152,slow=6.5,SNR=2.5						
BAKC	**Calstate**	**88.83**	**51**	*e*P	**P**	**22 55 50.3**	**-2.2**
CHFC	**Chilao Flat St**	**89.17**	**53**	*e*P	**P**	**22 55 54.2**	**-0.2**
FL2	**Flat Top 2**	**91.76**	**41**	*e*P	**P**	**22 56 07.0**	**+0.9**
ILAR	**Eielson Array**	**92.39**	**18**	P	**P**	**22 56 11.1**	**+2.6**
	0.2nm,0.7s,baz=240,slow=5.5,SNR=1.6						
ILB	**Eielson Array**	**92.39**	**18**	*e*P	**P**	**22 56 11.1**	**+2.6**
KNB	**Kanab**	**94.14**	**52**	*e*P	**P**	**22 56 17.8**	**+0.4**
	15nm,2.0s						
BRG	**Berggiesshubel**	**144.22**	**332**	*e*P	PKPdf	23 02 43.4	+9.4
	3.9nm,0.9s						
CLL	**Collm**	**144.31**	**333**	*e*PKPdf	**PKPdf**	**23 02 33.0**	**-1.1**
CLL				*e*		23 02 43.0	
NKC	**Novy Kostel**	**145.34**	**332**	*e*PKP	**PKPdf**	**23 02 35.5**	**-0.5**
KHC	**Kasperske Hory**	**145.63**	**330**	*e*PKP	**PKPab**	**23 02 37.1**	**0.0**
KHC				*ex*	x	23 02 41.1	
KHC				*ex*	x	23 02 46.3	
KHC	**Kasperske Hory**	**145.63**	**330**	*e*PKPdf	**PKPab**	**23 02 36.5**	**-0.7**
GERES	**GERESS Array B**	**145.78**	**330**	PKPbc	**PKPab**	**23 02 37.2**	**-0.5**
	1.5nm,0.8s,baz=47,slow=2.5,SNR=9.4						
TORD	**Torodi Ar. Bea**	**164.87**	**240**	PKPab	**PKPab**	**23 03 57.3**	**-1.9**
	0.5nm,1.0s,baz=131,slow=5.9,SNR=2.3						
TOA1	**Torodi Ar. Sit**	**164.88**	**240**	*e*PKPab	**PKPab**	**23 03 57.3**	**-2.0**

WEL 04 22:47:56.3±0.1, 43˚.46S×172˚.11E, h5km, ML2.8/4, 1C-2D, Error ellipse: s-maj=0.7km s-min=0.5km az=90.0, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OXZ	**Oxford**	**0.14**	**338**	*e*P	Pg	22 47 58.9	-0.3
	1μm,0.5s						
OXZ	**Oxford**	**0.14**	**338**	‖PG	Pg	22 47 59.1	0.0
OXZ				SG	Sg	22 48 01.2	0.0
OXZ				AML	AML	22 48 01.5	
OXZ				AML	AML	22 48 01.6	
OXZ				AML	AML	22 48 01.6	
CRLZ	**Canterbury Las**	**0.39**	**107**	PG	Pg	22 48 04.3	+0.5
CRLZ				SG	Sg	22 48 09.5	+0.6
MQZ	**McQueen's Vall**	**0.46**	**122**	PG	Pg	22 48 05.6	+0.3
MQZ				SG	Sg	22 48 12.5	+1.2
MQZ				AML	AML	22 48 15.6	
LTZ	**Lake Taylor**	**0.69**	**10**	↑P*	Pg	22 48 09.9	+0.4
LTZ				SG	Sg	22 48 19.4	+1.0
RPZ	**Rata Peaks**	**0.81**	**251**	‖P*	Pg	22 48 12.0	+0.1
RPZ				S*	Sb	22 48 24.1	+0.1
INZ	**Inchbonnie**	**0.88**	**326**	P*	Pg	22 48 13.4	+0.1
KHZ	**Kahutara**	**1.48**	**46**	PN	Pn	22 48 21.9	-1.6
LBZ	**Lake Benmore**	**1.67**	**236**	PN	Pn	22 48 25.1	-1.1
DSZ	**Denniston Nort**	**1.73**	**352**	PN	Pn	22 48 26.8	-0.3
ODZ	**Otahua Downs**	**1.90**	**213**	PN	Pn	22 48 27.6	-1.8
JCZ	**Jackson Bay**	**2.49**	**255**	PN	Pn	22 48 36.6	-0.9

IDC 04 23:12:40.7±5.8, 30.80S×177.97W, h0km, mb3.8/3, mb1 4.0/3, mb1mx3.7/25, mbtmp3.8/3, Error ellipse: s-maj=227.7km s-min=51.3km az=152.0, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**34.41**	**258**	P	P	23 19 29.9	-0.1
	1.9nm,0.9s,baz=106,slow=6.0,SNR=3.3						
ASAR	**Alice Springs**	**43.12**	**267**	P	P	23 20 43.1	0.0
	0.2nm,0.3s,baz=102,slow=8.6,SNR=3.0						
WRA	**Warramunga Arr**	**44.14**	**273**	P	P	23 20 50.7	-0.6
	1.9nm,0.9s,baz=110,slow=8.0,SNR=14						
FINES	**FINESS Array B**	**145.53**	**340**	PKPbc	PKPdf	23 32 19.9	-0.3
	1.3nm,0.8s,baz=58,slow=5.5,SNR=7.9						

TIR ***04*** *23:13:53.9, 39˚.62N×21˚.88E, h2km, ML3.4*

IDC ***04*** *23:13:56.5±0.9, 39˚.64N×21˚.67E, h0km, mb3.8/7, mb1 3.8/13, mb1mx3.6/41, mbtmp3.6/13, ML3.4/5, Error ellipse: s-maj=15.8km s-min=12.4km az=128.0*

PDG ***04*** *23:13:58.4±0.6, 39˚.69N×21˚.73E, h11km±1km, ML3.5/13, Error ellipse: s-maj=0.6km s-min=0.8km az=0.0*

ISCJB ***04*** *23:13:58.8±0.4, 39˚.732N±0˚.008×21˚.75E±0˚.01, h13km±2km, mb3.8/8, Error ellipse: s-maj=1.8km s-min=1.3km az=154.1*

NEIC ***04*** *23:13:58.4±0.0, 39˚.74N×21˚.77E, h

FYTO	Fytoko, Volos	0.97 108	P	Pn	23 14 18.3 +0.3
FYTO			S	Sb	23 14 28.8 -1.3
FYTO			AML	AML	23 14 36.8
	comp=N,11441µm,0.7s				
FYTO			AML	AML	23 14 38.2
	comp=E,6685µm,0.5s				
FNA	Florina	1.11 345	P	Pb	23 14 19.0 -0.9
FNA	Florina	1.11 345	P	Pb	23 14 19.0 -0.9
PVO	Paravola	1.11 189	P	Pb	23 14 18.9 -1.0
PVO			S	Sn	23 14 35.6 +0.6
PVO	Paravola	1.11 189	P	Pb	23 14 19.7 -0.2
PVO			S	Sn	23 14 35.6 +0.6
PVO	Paravola	1.11 189	P	Pb	23 14 19.5 -0.4
IGT	Igoumenitsa	1.11 261	P	Pb	23 14 19.2 -0.7
IGT			S	Sn	23 14 35.1 0.0
IGT	Igoumenitsa	1.11 261	P	Pb	23 14 19.7 -0.2
IGT			S	Sn	23 14 35.1 0.0
IGT	Igoumenitsa	1.11 261	P	Pb	23 14 19.6 -0.3
ANX	Ano Chora	1.13 173	P	Pb	23 14 19.7 -0.5
ANX			S	Sn	23 14 36.1 +0.5
ANX	Ano Chora	1.13 173	P	Pb	23 14 19.7 -0.5
ANX			S	Sn	23 14 36.1 +0.5
XOR	Xorichti	1.17 107	P	Pg	23 14 21.4 -0.1
XOR			S	Sg	23 14 37.5 +0.8
XOR	Xorichti	1.17 107	P	Pg	23 14 21.4 -0.1
XOR			S	Sg	23 14 37.5 +0.8
SGD	Sagiada	1.18 266	P	Pn	23 14 20.6 -0.3
SGD			S	Sn	23 14 36.5 -0.1
SGD	Sagiada	1.18 266	P	Pn	23 14 20.6 -0.3
SGD			S	Sn	23 14 36.5 -0.1
SGD	Sagiada	1.18 266	P	Pn	23 14 20.1 -0.7
PDO	Prodromos	1.20 202	P	Pn	23 14 21.3 +0.1
PDO			S	Sg	23 14 39.0 +1.3
PDO	Prodromos	1.20 202	P	Pg	23 14 22.1 0.0
PDO			S	Sg	23 14 39.0 +1.3
PDO	Prodromos	1.20 202	P	Pg	23 14 22.6 +0.5
NEO	Neokhori	1.21 109	P	Pg	23 14 22.1 -0.2
NEO			S	Sg	23 14 40.4 +2.3
NEO	Neokhori	1.21 109	P	Pg	23 14 22.1 -0.2
NEO			S	Sn	23 14 37.7 +0.2
NEO	Neokhori	1.21 109	P	Pn	23 14 20.4 -1.0
NEO			S	Sb	23 14 37.4 +0.3
NEO			AML	AML	23 14 46.5
	comp=N,10976µm,0.5s				
NEO			AML	AML	23 14 48.1
	comp=E,12428µm,0.8s				
LKD2	Lefkada island	1.25 223	P	Pn	23 14 20.7 -1.3
LKD2			S	Sb	23 14 38.2 -0.2
LKD2	Lefkada island	1.25 223	P	Pn	23 14 20.7 -1.3
LKD2			S	Sb	23 14 38.2 -0.2
THE	Thessaloniki	1.31 45	P	Pn	23 14 22.4 -0.3
THE			S	Sg	23 14 40.8 -0.4
THE	Thessaloniki	1.31 45	P	Pn	23 14 22.8 +0.1
THE			S	Sn	23 14 40.1 +0.2
THE	Thessaloniki	1.31 45	P	Pb	23 14 23.0 -0.2
THE			S	Sn	23 14 40.0 +0.1
THE			AML	AML	23 14 49.2
	comp=E,2197µm,0.9s				
THE			AML	AML	23 14 49.5
	comp=N,1550µm,0.7s				
SERG	Sergoula	1.32 170	P	Pn	23 14 22.9 0.0
SERG			S	Sn	23 14 40.6 +0.3
SERG	Sergoula	1.32 170	P	Pn	23 14 22.9 0.0
SERG			S	Sn	23 14 40.6 +0.3
BIA	Bitola	1.34 346	P	Pn	23 14 23.1 -0.2
BIA			S	Sn	23 14 40.9 0.0
BIA	Bitola	1.34 346	i Pn	Pn	23 14 23.1 -0.2
BIA			i Sn	Sg	23 14 45.2 +2.8
BIA	Bitola	1.34 346	P	Pn	23 14 23.1 -0.2
BIA			S	Sn	23 14 40.9 0.0
BIA			i Sn	Sg	23 14 45.2 +2.8
KALE	Kalithea	1.35 167	P	Pn	23 14 23.6 +0.2
KALE			S	Sb	23 14 41.8 +0.5
KALE	Kalithea	1.35 167	P	Pn	23 14 24.4 +0.3
KALE			S	Sb	23 14 41.8 +0.5
KALE	Kalithea	1.35 167	P	Pb	23 14 24.2 +0.1
HORT	Hortiatis	1.36 49	P	Pn	23 14 23.0 -0.5
HORT			S	Sg	23 14 43.1 +0.2
HORT	Hortiatis	1.36 49	P	Pn	23 14 23.1 -0.5
HORT			S	Sg	23 14 43.1 +0.2
HORT	Hortiatis	1.36 49	P	Pn	23 14 22.5 -1.0
TRIZ	Trizonia	1.37 169	S	Sg	23 14 43.3 +0.1
TRIZ	Trizonia	1.37 169	S	Sg	23 14 42.8 -0.4
SMIA	Simia	1.41 126	P	Pn	23 14 24.4 +0.3
SMIA			S	Sb	23 14 43.1 +0.4
SMIA	Simia	1.41 126	P	Pb	23 14 24.9 -0.1
SMIA			S	Sb	23 14 43.1 +0.4
SMIA	Simia	1.41 126	P	Pb	23 14 24.9 -0.1
SMIA			S	Sb	23 14 43.1 +0.4
SMIA			AML	AML	23 14 55.5
	comp=E,13385µm,0.6s				
SMIA			AML	AML	23 14 56.4
	comp=N,13937µm,0.7s				
UPR	University Cam	1.43 179	P	Pg	23 14 27.0 +0.5
UPR			S	Sg	23 14 46.0 +0.9
UPR	University Cam	1.43 179	P	Pb	23 14 25.8 +0.5
UPR			S	Sg	23 14 46.0 +0.9
UPR	University Cam	1.43 179	P	Pg	23 14 26.1 -0.4
DSF	Desfina	1.44 155	P	Pn	23 14 24.6 +0.1
DSF			S	Sb	23 14 43.5 -0.1
DSF	Desfina	1.44 155	P	Pb	23 14 25.7 +0.2
DSF			S	Sg	23 14 44.6 -0.7
DSF	Desfina	1.44 155	P	Pb	23 14 25.9 +0.4
DSF			S	Sb	23 14 43.9 +0.3
DSF			AML	AML	23 14 47.3
	comp=N,5994µm,0.4s				
DSF			AML	AML	23 14 49.1
	comp=E,4909µm,0.5s				
SKIA	Skiathos	1.44 112	P	Pb	23 14 25.1 -0.4
SKIA			S	Sb	23 14 44.2 +0.6
SKIA	Skiathos	1.44 112	P	Pb	23 14 25.1 -0.4
SKIA			S	Sb	23 14 44.2 +0.6
SKIA	Skiathos	1.44 112	P	Pb	23 14 25.5 0.0
SKIA			S	Sb	23 14 43.6 0.0
SKIA			AML	AML	23 14 53.5
	comp=N,7368µm,1.0s				
SKIA			AML	AML	23 14 54.7
	comp=E,3660µm,0.6s				
LKR	Lokris	1.44 137	P	Pn	23 14 24.8 +0.3
LKR			S	Sb	23 14 43.8 +0.2
LKR	Lokris	1.44 137	P	Pn	23 14 25.0 +0.5
LKR			S	Sb	23 14 43.8 +0.2
LKR	Lokris	1.44 137	P	Pn	23 14 24.6 +0.1
LKR			S	Sb	23 14 44.2 +0.6
LKR			AML	AML	23 14 48.5
	comp=E,1565µm,0.3s				
LKR			AML	AML	23 14 52.9
	comp=N,1536µm,0.6s				
PLG	Polygyros	1.46 63	P	Pn	23 14 24.8 0.0
PLG			S	Sb	23 14 44.8 +0.6
PLG	Polygyros	1.46 63	P	Pn	23 14 25.8 -0.1
PLG			S	Sb	23 14 44.8 +0.6
PLG	Polygyros	1.46 63	P	Pb	23 14 26.4 +0.5
PLG			S	Sg	23 14 45.2 -0.8
PLG			AML	AML	23 14 52.4
	comp=N,2423µm,0.9s				
PLG			AML	AML	23 14 57.1
	comp=E,1619µm,0.6s				
LAKA	Lakka	1.48 173	P	Pb	23 14 25.9 -0.4
LAKA			S	Sg	23 14 46.8 0.0
LAKA	Lakka	1.48 173	P	Pb	23 14 25.9 -0.4
LAKA			S	Sg	23 14 46.8 0.0
PAIG	Paliouri	1.50 81	P	Pn	23 14 25.1 -0.3
PAIG			S	Sb	23 14 45.7 +0.3
PAIG	Paliouri	1.50 81	P	Pn	23 14 25.1 -0.3
PAIG			S	Sb	23 14 45.7 +0.3
KEK	Kerkira	1.51 271	P	Pn	23 14 25.6 +0.1
KEK			S	Sb	23 14 46.1 +0.5
KEK	Kerkira	1.51 271	P	Pn	23 14 25.6 +0.1
KEK			S	Sb	23 14 46.1 +0.5
AXS	Araxos	1.54 191	P	Pb	23 14 26.9 -0.4
AXS			S	Sb	23 14 47.0 +0.4
AXS	Araxos	1.54 191	P	Pb	23 14 26.9 -0.4
AXS			S	Sb	23 14 47.0 +0.4
AXS	Araxos	1.54 191	P	Pb	23 14 26.9 -0.4
OHR	Ohrid	1.57 333	i Pn	Pn	23 14 27.2 -0.7
OHR			i Sn	Sg	23 14 50.5 +0.7
OHR	Ohrid	1.57 333	i Pn	Pn	23 14 27.1 -0.7
OHR			i Sn	Sg	23 14 50.4 +0.7
SOH	Sokhos	1.65 47	P	Pb	23 14 28.4 -0.8
SOH			S	Sn	23 14 47.8 -0.7
SOH	Sokhos	1.65 47	P	Pb	23 14 28.4 -0.8
SOH			S	Sn	23 14 48.8 +0.3
SOH	Sokhos	1.65 47	P	Pb	23 14 29.2 +0.1
SOH			S	Sn	23 14 48.1 -0.4
SOH			AML	AML	23 15 00.3
	comp=E,3558µm,0.7s				
SOH			AML	AML	23 15 01.9
	comp=N,2889µm,0.7s				
RLS	Riolos of Patr	1.67 188	P	Pb	23 14 28.7 -0.7
RLS			S	Sn	23 14 49.2 +0.4
RLS	Riolos of Patr	1.67 188	P	Pb	23 14 28.7 -0.7
RLS			S	Sn	23 14 49.2 +0.4
KNT	Kendrikon	1.69 31	P	Pn	23 14 28.4 +0.4
KNT	Kendrikon	1.69 31	P	Pn	23 14 28.4 +0.4
KLV	Kalavryta, Ach	1.70 169	P	Pn	23 14 28.6 +0.5
KLV			S	Sg	23 14 52.6 -1.1
KLV	Kalavryta, Ach	1.70 169	P	Pn	23 14 28.6 +0.5
KLV			S	Sg	23 14 52.5 -1.1
KLV	Kalavryta, Ach	1.70 169	P	Pb	23 14 30.8 +0.8
KLV			S	Sg	23 14 53.3 -0.3
KLV			AML	AML	23 14 58.3
	comp=E,3271µm,0.6s				
KLV			AML	AML	23 14 59.1
	comp=N,3338µm,0.6s				
KRUS	Krusevo	1.70 347	i Pn	Pn	23 14 28.7 +0.5
KRUS			i Sn	Sg	23 14 54.4 +0.7
KRUS	Krusevo	1.70 347	i Pn	Pn	23 14 28.7 +0.5
KRUS			i Sn	Sg	23 14 54.3 +0.7
PROD	Prodromos	1.71 148	P	Pn	23 14 29.0 +0.8
PROD	Prodromos	1.71 148	P	Pn	23 14 28.6 +0.4
VAY	Valandovo	1.72 21	P	Pn	23 14 29.1 +0.7
VAY			S	Sb	23 14 51.4 -0.4
VAY	Valandovo	1.72 21	i Pn	Pb	23 14 29.6 -0.8
VAY			i Sn	Sg	23 14 57.5 +3.0
VAY	Valandovo	1.72 21	P	Pn	23 14 29.1 +0.7
VAY	Valandovo	1.72 21	i Pn	Pb	23 14 29.5 -0.8
VAY			S	Sb	23 14 51.4 -0.4
AOS	Alonnisos	1.74 108	P	Pn	23 14 28.6 0.0
AOS			S	Sb	23 14 51.7 -0.5
AOS	Alonnisos	1.74 108	P	Pn	23 14 28.6 0.0
AOS			S	Sb	23 14 51.7 -0.5
DRO	Drossia	1.76 181	P	Pb	23 14 30.6 -0.4
DRO			S	Sb	23 14 54.0 +1.1
DRO	Drossia	1.76 181	P	Pn	23 14 29.8 +0.8
DRO			S	Sb	23 14 54.0 +1.1
DRO	Drossia	1.76 181	P	Pn	23 14 29.4 +0.4
KFL	Anninata	1.77 205	P	Pb	23 14 30.8 -0.3
KFL			S	Sn	23 14 52.1 +0.8
KFL	Anninata	1.77 205	P	Pb	23 14 30.3 -0.8
KFL			S	Sn	23 14 52.1 +0.8
KFL	Anninata	1.77 205	P	Pb	23 14 30.2 -1.0
VLS	Valsamata	1.78 211	P	Pn	23 14 30.1 +0.8
VLS			S	Sb	23 14 54.0 +0.5
VLS	Valsamata	1.78 211	P	Pn	23 14 30.1 +0.8
VLS			S	Sb	23 14 54.0 +0.5
THAL	Thalero	1.82 157	P	Pn	23 14 30.1 +0.4
THAL			S	Sb	23 14 53.7 -0.9
THAL	Thalero	1.82 157	P	Pb	23 14 31.2 -0.8
THAL			S	Sb	23 14 53.7 -0.9
THAL	Thalero	1.82 157	P	Pb	23 14 31.4 -0.6
THAL			S	Sb	23 14 56.0 +1.5
THAL			AML	AML	23 15 07.7
	comp=N,4966µm,0.4s				
THAL			AML	AML	23 15 09.1
	comp=E,6456µm,0.5s				
OUR	Ouranopolis	1.82 69	P	Pn	23 14 30.6 +0.8
OUR			S	Sn	23 14 53.2 +0.6
OUR	Ouranopolis	1.82 69	P	Pn	23 14 30.6 +0.8
OUR			S	Sn	23 14 53.6 +1.0
OUR	Ouranopolis	1.82 69	P	Pb	23 14 31.2 -0.8
OUR			S	Sn	23 14 53.4 +0.8
OUR			AML	AML	23 15 05.4
	comp=E,3297µm,0.8s				
OUR			AML	AML	23 15 06.1
	comp=N,1769µm,0.5s				
VIL2	Platees	1.91 141	P	Pb	23 14 33.1 -0.4
LTK	Loutraki	1.94 150	P	Pn	23 14 31.5 +0.1
LTK			S	Sn	23 14 56.5 +1.0
LTK	Loutraki	1.94 150	P	Pb	23 14 32.9 -1.1
LTK			S	Sn	23 14 56.5 +1.0
LTK	Loutraki	1.94 150	P	Pb	23 14 33.2 -0.8
VILL	Villia	1.97 141	P	Pn	23 14 32.2 +0.3
VILL			S	Sn	23 14 57.2 +0.9
VILL	Villia	1.97 141	P	Pn	23 14 33.0 +1.1
VILL			S	Sn	23 14 57.2 +0.9
LOUT	Loutraki	1.97 151	P	Pn	23 14 32.2 +0.4
LOUT			S	Sn	23 14 57.1 +0.8
LOUT	Loutraki	1.97 151	P	Pn	23 14 32.2 +0.4
LOUT			S	Sn	23 14 57.1 +0.8
SRS	Serrai	1.98 44	P	Pn	23 14 32.4 +0.3
SRS			S	Sn	23 14 57.1 +0.4
SRS	Serrai	1.98 44	P	Pn	23 14 32.4 +0.3
SRS			S	Sn	23 14 57.1 +0.4
EREA	Eretria	2.13 127	P	Pn	23 14 34.7 +0.6
EREA			S	Sn	23 15 00.9 +0.6
EREA	Eretria	2.13 127	P	Pn	23 14 35.1 +1.0
EREA			S	Sn	23 15 00.9 +0.6
EREA	Eretria	2.13 127	P	Pn	23 14 35.0 +0.9
ZKS	Zakynthos	2.15 201	P	Pn	23 14 35.6 +1.3
ZKS			S	Sn	23 15 00.0 -0.8
ZKS	Zakynthos	2.15 201	P	Pn	23 14 35.6 +1.3
TIR	Tirane	2.17 319	i PN	Pg	23 14 41.4 +0.7
TIR			i SN	Sg	23 15 13.6 +4.7
TIR	Tirane	2.17 319	ePn	Pn	23 14 32.2 -2.4
TIR	Tirane	2.17 319	i Pn	Pg	23 14 41.4 +0.7
TIR			i Sn	Sg	23 15 13.6 +4.7
TIR	Tirane	2.17 319	ePn	Pn	23 14 32.2 -2.4
AMT	Artemida-Makis	2.18 181	P	Pb	23 14 37.6 -0.5
AMT	Artemida-Makis	2.18 181	P	Pb	23 14 37.6 -0.5
SKO	Skopje	2.27 354	ePn	Pn	23 14 36.0 +0.1
SKO			eSn	Sg	23 15 11.7 -0.2
SKO	Skopje	2.27 354	ePn	Pn	23 14 36.0 +0.1
NVR	Nevrokopi	2.29 44	P	Pn	23 14 37.0 +0.7
NVR			S	Sb	23 15 07.2 -1.1
NVR	Nevrokopi	2.29 44	P	Pn	23 14 37.0 +0.7
NVR			S	Sb	23 15 07.2 -1.1
ATH	Athens Observa	2.32 138	P	Pn	23 14 37.3 +0.7
ATH			S	Sn	23 15 05.1 +0.2
ATH	Athens Observa	2.32 138	P	Pn	23 14 37.3 +0.7
ATH			S	Sn	23 15 05.1 +0.2
PTL	Penteli	2.34 135	P	Pn	23 14 37.5 +0.5
PTL			S	Sn	23 15 04.6 -0.9
PTL	Penteli	2.34 135	P	Pn	23 14 38.1 +1.1
PTL	Penteli	2.34 135	P	Pn	23 14 38.0 +1.1
ATHU	Athens Univers	2.36 137	P	Pn	23 14 37.2 0.0
ATHU			S	Sn	23 15 02.9 -3.0
ATHU	Athens Univers	2.36 137	P	Pn	23 14 37.2 0.0
VLX	Vlachokerasia	2.39 168	P	Pn	23 14 39.0 +1.3
VLX			S	Sn	23 15 07.2 +0.4
VLX	Vlachokerasia	2.39 168	P	Pn	23 14 39.0 +1.3
VLX			S	Sn	23 15 07.2 +0.4
VLY	Voula,Athens	2.45 139	P	Pn	23 14 38.8 +0.4
VLY			S	Sn	23 15 07.9 -0.2
VLY	Voula,Athens	2.45 139	P	Pn	23 14 39.9 +1.5
VLY			S	Sn	23 15 07.9 -0.2
VLY	Voula,Athens	2.45 139	P	Pn	23 14 40.0 +1.5
KAVA	Kavala	2.47 58	P	Pn	23 14 38.6 -0.1
KAVA			S	Sn	23 15 08.3 -0.3
KAVA	Kavala	2.47 58	P	Pn	23 14 38.6 -0.1
KAVA			S	Sn	23 15 08.3 -0.3
ITM	Ithomi	2.53 177	P	Pn	23 14 41.4 +1.8
ITM	Ithomi	2.53 177	P	Pn	23 14 41.4 +1.8
SCTE	Santa Cesarea	2.55 279	P	Pn	23 14 40.9 +1.1
SCTE	Santa Cesarea	2.55 279	P	Pn	23 14 40.7 +0.8
LIA	Limnos Island	2.65 85	P	Pn	23 14 41.3 +0.1
LIA			S	Sn	23 15 12.7 -0.3
LIA	Limnos Island	2.65 85	P	Pn	23 14 41.3 +0.1
LIA			S	Sn	23 15 12.7 -0.3
KARY	Karystos	2.69 128	P	Pn	23 14 42.2 +0.5
KARY			S	Sn	23 15 13.2 -0.7
KARY	Karystos	2.69 128	P	Pn	23 14 42.6 +0.9
KARY			S	Sn	23 15 15.3 +1.4
KARY	Karystos	2.69 128	P	Pn	23 14 42.2 +0.5
KARY			S	Sn	23 15 15.1 +1.1
KARY			AML	AML	23 15 20.5
	comp=E,597µm,0.5s				
KARY			AML	AML	23 15 24.9
	comp=N,400µm,0.4s				
PYL	PYLOS	2.81 180	P	Pn	23 14 45.0 +1.5
PYL			S	Sn	23 15 19.9 +2.8
PYL	PYLOS	2.81 180	P	Pn	23 14 45.0 +1.5
PYL			S	Sn	23 15 19.9 +2.8
PYL	PYLOS	2.81 180	P	Pn	23 14 44.9 +1.5
ULC	Ulcinj	2.94 321	ePn	Pn	23 14 47.0 +1.8
ULC			eSn	Sn	23 15 23.1 +2.8
ULC	Ulcinj	2.94 321	ePn	Pn	23 14 47.0 +1.8
ULC			eSn	Sn	23 15 23.1 +2.8
SMTH	Samothraki Isl	3.00 74	P	Pn	23 14 46.8 +0.9
SMTH	Samothraki Isl	3.00 74	P	Pn	23 14 46.8 +0.9
VTS	Vitosha	3.08 20	P	Pn	23 14 48.3 +1.1
VTS			S	Sn	23 15 24.8 +1.0
VTS	Vitosha	3.08 20⇑	i P	Pn	23 14 49.7 +2.5
VTS	Vitosha	3.08 20	P	Pn	23 14 48.3 +1.1
VTS			S	Sn	23 15 24.8 +1.0
BARS	Barje	3.10 1⇑	i Pn	Pn	23 14 48.2 +0.8
VLI	Veliai	3.13 162	P	Pn	23 14 47.8 0.0
VLI			S	Sn	23 15 26.0 +1.0
VLI	Veliai	3.13 162	P	Pn	23 14 47.8 0.0
VLI			S	Sn	23 15 26.0 +1.0
DRME	Dracevica, Mon	3.14 323⇑	i Pn	Pn	23 14 50.0 +2.0
DRME			eSn	Sn	23 15 28.4 +3.2
DRME	Dracevica, Mon	3.14 323⇑	i Pn	Pn	23 14 50.0 +2.0
DRME			eSn	Sn	23 15 28.4 +3.2
PVY	Plav	3.18 335⇓	i Pn	Pn	23 14 50.1 +1.5
PVY			eSn	Sn	23 15 29.3 +3.0
PVY	Plav	3.18 335⇓	i Pn	Pn	23 14 50.1 +1.5
PVY			eSn	Sn	23 15 29.3 +3.0
SIGR	SIGRI	3.22 98	P	Pn	23 14 49.1 +0.2
SIGR	SIGRI	3.22 98	P	Pn	23 14 49.1 +0.2
RDO	Rodhopi	3.22 62	P	Pn	23 14 49.4 +0.3
RDO			S	Sn	23 15 26.7 -0.5
RDO	Rodhopi	3.22 62	P	Pn	23 14 49.4 +0.3
RDO			S	Sn	23 15 26.7 -0.5
RDO	Rodhopi	3.22 62	P	Pn	23 14 48.7 -0.4
PDG	Podgorica	3.31 326	P	Pn	23 14 50.9 +0.7
PDG			S	Sn	23 15 29.7 +0.5
PDG	Podgorica	3.31 326⇑	i P	Pn	23 14 50.7 +0.5
PDG	Podgorica	3.31 326	P	Pn	23 14 50.9 +0.7
PDG	Podgorica	3.31 326	ePn	Pn	23 14 51.5 +1.3
PDG			S	Sn	23 15 29.7 +0.5
PDG			eSn	Sn	23 15 32.3 +3.1
TTG	Podgorica	3.31 326	ePn	Pn	23 14 51.5 +1.3
TTG			eSn	Sn	23 15 32.3 +3.1
BUM	Brajici-Budva	3.37 321	ePn	Pn	23 14 52.4 +1.3
BUM			eSn	Sn	23 15 34.4 +3.5
BUM	Brajici-Budva	3.37 321	ePn	Pn	23 14 52.4 +1.3
BUM			eSn	Sn	23 15 34.4 +3.5
CGL1	Ceglie Messapi	3.41 287	ePn	Pn	23 14 52.5 +0.9
BEY	Berane	3.45 337	ePn	Pn	23 14 53.8 +1.5
BEY			eSn	Sn	23 15 35.8 +2.9
IVA	Berane	3.45 337	ePn	Pn	23 14 53.8 +1.5
IVA			eSn	Sn	23 15 35.8 +2.9
ALN	Alexandroupoli	3.49 69	P	Pn	23 14 53.2 +0.5
ALN	Alexandroupoli	3.49 69	P	Pn	23 14 53.2 +0.5
PRK	Paraskevi	3.53 96	P	Pn	23 14 54.8 +1.5
PRK			S	Sn	23 15 34.6 -0.1
PRK	Paraskevi	3.53 96	P	Pn	23 14 54.8 +1.5
PRK			S	Sn	23 15 34.6 -0.1
FASA	Fasano	3.54 290	ePn	Pn	23 14 54.4 +1.0
CEME	Cevo	3.55 324⇓	i Pn	Pn	23 14 54.5 +0.9
CEME			eSn	Sn	23 15 38.3 +3.0
CEME	Cevo	3.55 324⇓	i Pn	Pn	23 14 54.5 +0.9
CEME			eSn	Sn	23 15 38.3 +3.0
KYTH	Kithira	3.59 163	P	Pn	23 14 55.1 +0.9
KYTH			S	Sn	23 15 38.0 +1.7
CHOS	Chios island	3.60 110	P	Pn	23 14 56.0 +1.6
CHOS			S	Sn	23 15 36.2 -0.5
CHOS	Chios island	3.60 110	P	Pn	23 14 56.0 +1.6
CHOS			S	Sn	23 15 36.2 -0.5
MASS	Massafra	3.65 286	ePn	Pn	23 14 55.9 +1.0
MHLO	Agia Marina, M	3.67 145	P	Pn	23 14 56.9 +1.7
MHLO	Agia Marina, M	3.67 145	P	Pn	23 14 56.9 +1.7
HCY	Herceg Novi	3.68 319⇑	i Pn	Pn	23 14 56.6 +1.3
HCY			eSn	Sn	23 15 41.3 +2.9
HCY	Herceg Novi	3.68 319⇑	i Pn	Pn	23 14 56.6 +1.3
HCY			eSn	Sn	23 15 41.3 +2.9
NKME	Niksic	3.71 326⇑	i Pn	Pn	23 14 57.0 +1.2
NKME			eSn	Sn	23 15 42.1 +2.9
NKME	Niksic	3.71 326⇑	i Pn	Pn	23 14 57.0 +1.2
NKME			eSn	Sn	23 15 42.1 +2.9
NKY	Niksic	3.73 327⇓	i Pn	Pn	23 14 57.8 +1.7
NKY			eSn	Sn	23 15 42.4 +2.6
NKY	Niksic	3.73 327⇓	i Pn	Pn	23 14 57.8 +1.7
NKY			eSn	Sn	23 15 42.4 +2.6
NOCI	Noci	3.74 288	P	Pn	23 14 57.4 +1.2
NOCI	Noci	3.74 288	P	Pn	23 14 57.0 +0.7
TIP	Timpagrande	3.90 264	P	Pn	23 14 58.7 +0.2
TIP			S	Sn	23 15 44.1 +0.1
TIP	Timpagrande	3.90 264	ePn	Pn	23 14 58.4 -0.1
TIP	Timpagrande	3.90 264	P	Pn	23 14 58.7 +0.2
TIP			eSn	Sn	23 15 42.4 -1.6
TIP			S	Sn	23 15 44.1 +0.1
TIP	Timpagrande	3.90 264	ePn	Pn	23 14 58.4 -0.1
TIP			eSn	Sn	23 15 42.4 -1.6
BOVS	Bovan	3.92 360	ePn	Pn	23 14 59.1 +0.5
TREB	Trebinje	3.95 321	ePn	Pn	23 14 58.9 -0.1
BAI	Bari	3.97 292	ePn	Pn	23 14 59.9 +0.6
APE	Apeiranthos	3.97 130	P	Pn	23 15 00.3 +0.9
APE			S	Sn	23 15 43.2 -2.6
APE	Apeiranthos	3.97 130⇑	i P	Pn	23 15 00.6 +1.2
APE	Apeiranthos	3.97 130	P	Pn	23 15 00.3 +0.9
BRY	Bratogost	4.00 324	ePn	Pn	23 15 01.4 +1.5
BRY			eSn	Sn	23 15 48.6 +2.1
BRY	Bratogost	4.00 324	ePn	Pn	23 15 01.4 +1.5
BRY			eSn	Sn	23 15 48.6 +2.1
PLE	Pljevlja	4.02 335⇑	i Pn	Pn	23 15 02.1 +1.9
PLE			eSn	Sn	23 15 49.4 +2.3
PLE	Pljevlja	4.02 335⇑	i Pn	Pn	23 15 02.1 +1.9
PLE			eSn	Sn	23 15 49.4 +2.3
ANKY	Antikythira Is	4.03 162	P	Pn	23 15 01.7 +1.5
ANKY	Antikythira Is	4.03 162	P	Pn	23 15 01.7 +1.5
SG1	Sgolgore (BA)	4.04 288	ePn	Pn	23 14 58.9 -1.4
IVAS	Ivanjica	4.04 343	ePn	Pn	23 15 02.5 +2.1
UPM	Unac-Piva	4.09 329⇑	i Pn	Pn	23 15 03.0 +1.9
UPM			eSn	Sn	23 15 51.0 +2.2
UPM	Unac-Piva	4.09 329⇑	i Pn	Pn	23 15 03.0 +1.9
UPM			eSn	Sn	23 15 51.0 +2.2
ZAGS	Zajecar	4.11 5	ePn	Pn	23 15 01.6 +0.3
BOLS	Boljevac	4.11 2⇑	i Pn	Pn	23 15 00.7 -0.6
GRUS	Gruza	4.24 350	ePn	Pn	23 15 03.5 +0.4
EDRB	Edirne	4.35 59	P	Pn	23 15 04.4 -0.1
EDRB	Edirne	4.35 59	P	Pn	23 15 04.4 -0.1
CDT	Castel del Mon	4.40 290	ePn	Pn	23 15 06.6 +1.3
SMG	Samos	4.45 115	P	Pn	23 15 07.3 +1.3
SMG			S	Sn	23 15 55.7 -1.9
SMG	Samos	4.45 115	P	Pn	23 15 07.3 +1.3
BBLS	Lazići	4.50 338	ePn	Pn	23 15 07.2 +0.5
DIVS	Divibare	4.57 344	P	Pn	23 15 08.3 +0.6
DIVS	Divibare	4.57 344	P	Pn	23 15 08.3 +0.6
CUC	Castrocucco	4.58 275	ePn	Pn	23 15 07.7 0.0
CUC	Castrocucco	4.58 275	ePn	Pn	23 15 07.7 0.0
IMMV	Iera Moni Meta	4.60 157	P	Pn	23 15 10.4 +2.4
IMMV			S	Sn	23 16 03.3 +2.1
IMMV	Iera Moni Meta	4.60 157	P	Pn	23 15 10.4 +2.4
IMMV			S	Sn	23 16 03.3 +2.1
TRUS	Trudelj	4.62 348⇑	i Pn	Pn	23 15 09.0 +0.8
KUBS	Kucevo	4.70 359	ePn	Pn	23 15 08.4 -0.9
VAM	Vamos	4.72 155	P	Pn	23 15 11.1 +1.5
VAM			S	Sn	23 16 05.0 +0.9
VAM	Vamos	4.72 155	P	Pn	23 15 11.1 +1.5
VAM			S	Sn	23 16 05.0 +0.9
CEL	Celeste	4.79 254	ePn	Pn	23 15 09.2 -1.4
CEL			eSn	Sn	23 16 04.7 -1.2
CEL	Celeste	4.79 254	ePn	Pn	23 15 09.2 -1.4
CEL			eSn	Sn	23 16 04.7 -1.2
IDI	Anoyia	5.07 150	Pn	Pn	23 15 15.4 +0.8
	comp=N,0.7nm,0.3s,baz=330,slow=8.0,SNR=7.0				
IDI			Sn	Sn	23 16 12.6 -0.4
	comp=N,3.8nm,0.3s,baz=131,slow=23,SNR=3.3				
IDI	Anoyia	5.07 150	P	Pn	23 15 15.6 +1.0
IDI			S	Sn	23 16 13.5 +0.6
IDI	Anoyia	5.07 150	P	Pn	23 15 15.6 +1.0
IDI			eSn	Sn	23 16 11.9 -1.0
IDI			S	Sn	23 16 13.5 +0.6
IDI	Anoyia	5.07 150	P	Pn	23 15 15.5 +0.9
IDI			eSn	Sn	23 16 11.9 -1.0
IDI			Sn	Sn	23 16 12.6 -0.4
TEKS	Tekeris	5.11 342	ePn	Pn	23 15 15.3 +0.3
GVD	Gavdhos	5.21 158	P	Pn	23 15 17.7 +1.3

GVD	Gavdhos	5.21	158	P		Pn	23 15 17.7	+1.3
LAST	Lasithi	5.43	146	P		Pn	23 15 20.6	+1.2
LAST				S		Sn	23 16 21.9	+0.2
LAST	Lasithi	5.43	146	P		Pn	23 15 20.6	+1.2
LAST				S		Sn	23 16 21.9	+0.2
FGSL	Fruska Gora	5.63	346	*e*Pn		Pn	23 15 22.4	+0.3
BZS	Buzias	5.90	359	⇑*i*P		Pn	23 15 26.5	+0.7
BZS	Buzias	5.90	359	⇑*i*P		Pn	23 15 26.5	+0.7
LOT	Lotru	5.92	14	⇑*i*P		Pn	23 15 27.7	+1.5
LOT	Lotru	5.92	14	⇑*i*P		Pn	23 15 27.7	+1.5
ARR	Arges	6.04	20	⇑*i*P		Pn	23 15 29.9	+2.1
ARR	Arges	6.04	20	⇑*i*P		Pn	23 15 29.9	+2.1
BLY	Banja Luka	6.07	328	*e*Pn		Pn	23 15 28.1	0.0
VAE	Valguarnera	6.17	251	Pn		Pn	23 15 29.4	-0.2
	comp=N,0.5nm,0.3s,baz=112,slow=16,SNR=2.4							
VAE				Sn		Sn	23 16 40.7	+0.8
	comp=N,0.9nm,0.3s,baz=138,slow=6.8,SNR=3.7							
VOIR		6.21	22	⇓*i*P		Pn	23 15 31.9	+1.7
VOIR		6.21	22	⇓*i*P		Pn	23 15 31.9	+1.7
ISR	Istrita	6.46	32	⇑*i*P		Pn	23 15 36.9	+3.3
ISR	Istrita	6.46	32	⇑*i*P		Pn	23 15 36.9	+3.3
MLR	Muntele Rosu	6.55	27	Pn		Pn	23 15 36.8	+1.9
	baz=205,slow=8.7							
MLR				Sn		Sn	23 16 53.0	+3.7
	comp=N,0.0nm,0.3s,baz=147,slow=13,SNR=2.3							
MLR				Lg		Lg	23 17 32.9	
	baz=111,slow=15,SNR=3.5							
MLR	Muntele Rosu	6.55	27	⇑*i*P		Pn	23 15 37.8	+2.9
MLR	Muntele Rosu	6.55	27	⇑*i*P		Pn	23 15 37.8	+2.9
MLR				Sn		Sn	23 16 53.0	+3.7
UDBI	Udbina	6.55	319	*e*Pn		Pn	23 15 36.5	+1.6
UDBI				Sn		Sn	23 16 49.6	+0.3
UDBI	Udbina	6.55	319	*e*Pn		Pn	23 15 36.4	+1.6
UDBI				Sn		Sn	23 16 49.6	+0.3
NVLJ	Novalja	7.04	316	*e*Pn		Pn	23 15 41.8	+0.3
NVLJ				Sn		Sn	23 16 58.4	-2.9
NVLJ	Novalja	7.04	316	*e*Pn		Pn	23 15 41.7	+0.3
DRGR		7.11	5	⇑*i*P		Pn	23 15 43.4	+0.9
DRGR		7.11	5	⇑*i*P		Pn	23 15 43.4	+0.9
ODBI	Odobesti	7.20	31	⇑*i*P		Pn	23 15 46.9	+3.3
ODBI	Odobesti	7.20	31	⇑*i*P		Pn	23 15 46.9	+3.3
CFR	Carcaliu	7.22	39	⇑*i*P		Pn	23 15 46.6	+2.7
CFR	Carcaliu	7.22	39	⇑*i*P		Pn	23 15 46.6	+2.7
BOJS	Bojanci	7.51	322	*i* Pn		Pn	23 15 50.0	+2.0
BOJS	Bojanci	7.51	322	*i* Pn		Pn	23 15 50.0	+2.0
CRES	Cresnjev	7.66	325	*i* Pn		Pn	23 15 51.7	+1.6
CRES	Cresnjev	7.66	325	*i* Pn		Pn	23 15 51.7	+1.6
BURAR	Bucovina Array	8.29	16	⇓*i*P		Pn	23 16 01.6	+2.9
BURAR	Bucovina Array	8.29	16	⇓*i*P		Pn	23 16 01.6	+2.9
PSZ	Piszkesteto	8.31	351	⇓*i*P		Pn	23 15 59.6	+0.6
PSZ	Piszkesteto	8.31	351	⇓*e*P		Pn	23 15 59.8	+0.8
PSZ				*e*Sn		Sn	23 17 34.7	+2.1
PSZ	Piszkesteto	8.31	351	⇑*e*Pn		Pn	23 15 59.8	+0.8
PSZ				*e*Sn		Sn	23 17 34.7	+2.1
PSZ	Piszkesteto	8.31	351	*e*Pn		Pn	23 15 56.9	-2.1
	comp=N,12nm,0.6s							
JAVS	Javornik	8.37	320	*i* Pn		Pn	23 16 01.1	+1.3
JAVS	Javornik	8.37	320	*i* Pn		Pn	23 16 01.1	+1.3
SOKA	Soboth	8.51	327	*i* Pn		Pn	23 16 03.5	+1.7
	comp=N,1.6nm,0.5s							
SOKA	Soboth	8.51	327	Pn		Pn	23 16 03.5	+1.7
	comp=N,1.6nm,0.5s							
OBKA	Obir	8.59	325	*i* Pn		Pn	23 16 08.5	+5.6
	comp=N,0.5nm,0.3s							
ARSA	Arzberg	8.79	331	*i* Pn		Pn	23 16 08.3	+2.8
	comp=N,2.5nm,0.7s							
ARSA	Arzberg	8.79	331	Pn		Pn	23 16 08.3	+2.8
	comp=N,2.5nm,0.7s							
KIS	Kishinev	8.91	33	*e*		Pg	23 17 01.5	+12
VYHS	Vyhne	9.02	348	*e*Pn		Pn	23 16 10.1	+1.4
VYHS	Vyhne	9.02	348	*e*PN		Pn	23 16 10.1	+1.4
VYHS				*e*SN		Sn	23 17 44.2	-5.8
BRTR	Keskin Array B	9.16	86	Pn		Pn	23 16 13.6	+2.9
	comp=N,0.2nm,0.3s,baz=264,slow=12,SNR=9.3							
CONA	Conrad Observa	9.24	335	*i* Pn		Pn	23 16 17.3	+5.5
	comp=N,0.3nm,0.2s							
KBA	Koelnbreinsper	9.57	323	*i* Pn		Pn	23 16 20.1	+3.9
	comp=N,0.6nm,0.4s							
LANS	Liptovska Anna	9.57	351	*e*PN		Pn	23 16 24.5	+8.2
ABTA	Abfaltersbach	9.73	319	*i* Pn		Pn	23 16 19.0	+0.5
	comp=N,0.9nm,0.4s							
ABTA	Abfaltersbach	9.73	319	Pn		Pn	23 16 19.0	+0.5
	comp=N,0.9nm,0.4s							
MOA	Molln	9.76	329	*i* Pn		Pn	23 16 20.1	+1.2
	comp=N,0.8nm,0.3s							
MOA	Molln	9.76	329	Pn		Pn	23 16 20.1	+1.2
	comp=N,0.8nm,0.3s							
KEST	Kesra	10.60	252	Pn		Pn	23 16 31.4	+1.0
	comp=N,0.2nm,0.3s,baz=153,slow=3.8,SNR=8.3							
WATA	Walderalm	10.60	319	*i* Pn		Pn	23 16 34.3	+3.8
	comp=N,0.6nm,0.2s							
GERES	GERESS Array B	10.79	330	Pn		Pn	23 16 34.5	+1.5
	comp=N,0.1nm,0.3s,baz=160,slow=12,SNR=2.2							
MOTA	Moosalm	10.85	318	*i* Pn		Pn	23 16 36.6	+2.7
	comp=N,0.1nm,0.1s							
MOTA	Moosalm	10.85	318	Pn		Pn	23 16 36.6	+2.7
	comp=N,0.1nm,0.1s							
RETA	Reutte	11.12	318	*i* Pn		Pn	23 16 37.7	+0.3
	comp=N,0.3nm,0.2s							
RETA	Reutte	11.12	318	Pn		Pn	23 16 37.7	+0.3
	comp=N,0.3nm,0.2s							
DAVA	Damuels	11.46	315	*i* Pn		Pn	23 16 42.2	0.0
	comp=N,0.2nm,0.3s							
DAVA	Damuels	11.46	315	Pn		Pn	23 16 42.2	0.0
	comp=N,0.2nm,0.3s							
MMAI	Mount Meron Ar	12.87	117	Pn		Pn	23 17 03.5	+2.1
	comp=N,9nm,0.3s,baz=299,slow=12,SNR=11							
ESDC	Sonseca Array	19.77	278	P		P	23 18 27.7	-0.8
	comp=N,0.1nm,0.3s,baz=84,slow=11,SNR=3.2							
FINES	FINESS Array B	21.92	6	P		P	23 18 52.0	+0.6
	comp=N,1.6nm,0.8s,baz=174,slow=9.6,SNR=5.7							
NB2	NORSAR Subarra	22.33	346	P		P	23 18 55.5	-0.4
	comp=N,2.7nm,0.9s,SNR=9.8							
NB2	NORSAR Subarra	22.33	346	P		P	23 18 55.5	-0.4
	comp=Z,2.7nm,0.9s,baz=159,slow=9.3							
NOA	NORSAR Array B	22.33	346	P		P	23 18 55.5	-0.4
	comp=Z,3.1nm,0.7s,baz=161,slow=11,SNR=8.5							
EKA	Eskdalemuir Ar	22.77	322	P		P	23 18 59.9	-0.8
	comp=Z,2.9nm,0.8s,baz=123,slow=10,SNR=9.1							
TORD	Torodi Ar. Bea	31.82	219	P		P	23 20 23.0	-0.2
	comp=Z,1.5nm,0.7s,baz=31,slow=9.1,SNR=11							
ZALV	Zalesovo Beam	43.96	49	P		P	23 22 05.1	-0.1
	comp=Z,0.8nm,0.5s,baz=271,slow=8.3,SNR=4.2							
TIXI	Tiksi	57.88	21	P		P	23 23 47.7	-1.9
	comp=Z,0.6nm,0.4s							
SONM	Songino Array	58.75	52	P		P	23 23 55.6	-0.7
	comp=Z,0.6nm,0.7s,baz=294,slow=7.7,SNR=3.6							
ULM	Lac du Bonnet	75.03	324	P		P	23 25 38.0	-1.7
	comp=Z,2.3nm,0.7s,baz=86,slow=6.9,SNR=3.1							

IDC 04 23:19:11.8±5.2, 16°.87S×168°.62E, h221km±61km, mb3.3/6, mb1 3.5/7, mb1mx3.4/27, mbtmpg3.9/7, Error ellipse: s-maj=74.1km s-min=32.0km az=151.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**5.57**	**201**	P	Pn	23 20 34.6	+0.6
	2.6nm,0.3s,baz=7.2,slow=13,SNR=4.7						
DZM				S	S	23 21 39.0	-0.1
	1.5nm,0.3s,baz=308,slow=23,SNR=2.2						
CTA	**Charters Tower**	**21.45**	**258**	P	P	23 23 43.3	+0.2
	4.2nm,0.8s,baz=84,slow=13,SNR=1.5						
STKA	**Stephens Creek**	**28.69**	**234**	P	P	23 24 48.7	+0.2
	2.1nm,0.5s,baz=64,slow=9.6,SNR=3.3						
WRA	**Warramunga Arr**	**32.63**	**259**	P	P	23 25 23.1	-0.2
	0.4nm,0.6s,baz=89,slow=8.1,SNR=2.7						
ASAR	**Alice Springs**	**33.20**	**252**	P	P	23 25 27.9	-0.2
	3.0nm,0.5s,baz=80,slow=9.1,SNR=24						
SONM	**Songino Array**	**84.98**	**323**	P	P	23 31 23.1	+0.7
	0.4nm,0.6s,baz=107,slow=1.5,SNR=1.7						
ILAR	**Eielson Array**	**88.16**	**17**	P	P	23 31 36.6	-0.7
	0.3nm,0.7s,baz=243,slow=4.0,SNR=1.9						

JMA 04 23:21:29.5±0.2, 38°.03N×144°.53E, h40km, M3.6, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OFUJ	**Ofunato**	**2.48**	**296**	P	Pn	23 22 08.7	+1.4
JIO	**Ouri**	**2.54**	**281**	P	Pn	23 22 09.7	+1.5
JIO				S	Sn	23 22 39.6	+1.7
MIYJ	**Miyakonagasawa**	**2.62**	**307**	P	Pn	23 22 10.3	+1.0
MIYJ				*e*S	Sn	23 22 40.6	+0.7
JMK	**Ichinoseki**	**2.76**	**291**	P	Pn	23 22 12.8	+1.7
JMK				*e*S	Sn	23 22 45.4	+2.2
JOM	**Ohasama**	**2.91**	**301**	P	Pn	23 22 15.4	+2.1
JOM				*e*S	Sn	23 22 48.9	+1.8
JOU	**Okura**	**3.06**	**277**	P	Pn	23 22 17.5	+2.1
JOU				*e*S	Sn	23 22 53.1	+2.3
JRG	**Rokugo**	**3.34**	**295**	P	Pn	23 22 21.6	+2.4
JRG				*e*S	Sn	23 23 00.4	+2.8
JFT	**Otama**	**3.36**	**263**	*e*S	Sn	23 22 59.5	+1.3
JYK	**Kaneyama**	**3.39**	**286**	*e*S	Sn	23 23 01.6	+2.7
JTM	**Tenmabayashi**	**3.84**	**317**	*e*S	Sn	23 23 10.5	+0.5
JRY	**Ryogami san**	**4.93**	**248**	P	Pn	23 22 42.2	+1.1
JRY				*e*S	Sn	23 23 35.7	-1.2
JTKR	**Abashiri--Toko**	**5.95**	**356**	*e*S	Sn	23 23 58.7	-3.2

IDC 04 23:28:37.5±5.1, 61°.71S×154°.93E, h0km, mb4.0/3, mb1 4.2/4, mb1mx3.9/25, mbtmpg4.0/4, ML3.8/1, MS4.1/13, Ms1 4.1/13, ms1mx4.0/23, Error ellipse: s-maj=337.7km s-min=38.8km az=76.0, Balleny Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VNDA	**Vanda**	**16.05**	**175**	Pn	Pn	23 32 24.4	+0.2
	0.4nm,0.3s,baz=350,slow=13,SNR=15						
VNDA				LR	LR	23 38 00.3	
	comp=Z,1µm,19.8s,baz=358,slow=35						
RPZ	**Rata Peaks**	**20.39**	**35**	LR	LR	23 39 55.9	
	comp=Z,640nm,19.4s,baz=188,slow=33						
URZ	**Urewera**	**27.19**	**41**	LR	LR	23 45 14.9	
	comp=Z,309nm,19.0s,baz=182,slow=37						
STKA	**Stephens Creek**	**31.08**	**338**	P	P	23 34 57.9	+0.8
	1.7nm,0.7s,baz=153,slow=11,SNR=3.2						
STKA				LR	LR	23 44 32.2	
	comp=Z,280nm,20.5s,baz=163,slow=31						
MAW	**Mawson**	**36.34**	**220**	LR	LR	23 50 40.5	
	comp=Z,588nm,19.4s,baz=86,slow=36						
H01W1	**Cape Leeuwin H**	**37.13**	**297**	T	T	00 14 58.2	
	baz=148,slow=75,SNR=54						
H01W2	**Cape Leeuwin H**	**37.14**	**297**	T	T	00 14 57.4	
	baz=148,slow=75,SNR=44						
H01W3	**Cape Leeuwin H**	**37.15**	**297**	T	T	00 14 58.3	
	baz=148,slow=75,SNR=55						
NWAO	**Narrogin (SRO)**	**37.56**	**302**	LR	LR	23 47 29.7	
	comp=Z,362nm,19.9s,baz=146,slow=30						
ASAR	**Alice Springs**	**40.65**	**330**	P	P	23 36 19.2	0.0
	1.8nm,0.9s,baz=165,slow=7.8,SNR=13						
ASAR				LR	LR	23 52 29.1	
	comp=Z,121nm,18.3s,baz=153,slow=35						
WRA	**Warramunga Arr**	**44.13**	**332**	P	P	23 36 46.9	-0.7
	2.7nm,1.0s,baz=165,slow=6.9,SNR=9.5						
WRA				LR	LR	23 52 44.0	
	comp=Z,170nm,21.7s,baz=175,slow=33						
SNAA	**Sanae**	**46.02**	**190**	LR	LR	23 56 51.8	
	comp=Z,481nm,21.7s,baz=142,slow=37						
PMG	**Port Moresby**	**52.51**	**350**	LR	LR	23 57 31.8	
	comp=Z,247nm,18.5s,baz=163,slow=33						
PPT	**Papeete**	**58.58**	**67**	LR	LR	23 59 23.1	
	comp=Z,70nm,18.0s,baz=188,slow=32						
CMAR	**Chiang Mai Arr**	**91.36**	**308**	LR	LR	00 22 43.2	
	comp=Z,50nm,18.1s,baz=228,slow=36						
LPAZ	**La Paz**	**95.12**	**139**	LR	LR	00 15 05.9	
	comp=Z,81nm,21.0s,baz=35,slow=29						

IDC 04 23:30:02.0±1.8, 17°.55S×178°.59W, h495km±24km, mb3.2/7, mb1 3.5/8, mb1mx3.2/27, mbtmpg4.1/8, Error ellipse: s-maj=37.3km s-min=14.0km az=146.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**7.49**	**62**	P	P	23 31 55.0	+1.8
	1.3nm,0.3s,baz=197,slow=14,SNR=2.3						
AFI				S	S	23 33 22.6	-1.6
	1.1nm,0.3s,baz=173,slow=22,SNR=2.1						
URZ	**Urewera**	**20.97**	**189**	P	P	23 34 08.6	-0.9
	4.9nm,0.5s,baz=5.5,slow=3.7,SNR=3.2						
STKA	**Stephens Creek**	**38.65**	**241**	P	P	23 36 43.6	+1.2
	0.7nm,0.5s,baz=308,slow=24,SNR=3.3						
WRA	**Warramunga Arr**	**44.53**	**259**	P	P	23 37 28.8	-0.4
	0.9nm,0.5s,baz=93,slow=7.3,SNR=14						
ASAR	**Alice Springs**	**44.73**	**254**	P	P	23 37 30.5	-0.2
	7.8nm,0.6s,baz=88,slow=8.0,SNR=87						
ILAR	**Eielson Array**	**85.58**	**13**	P	P	23 41 46.0	-0.9
	0.6nm,0.5s,baz=228,slow=5.0,SNR=12						
TXAR	**Lajitas Array**	**85.95**	**58**	P	P	23 41 51.1	+1.5
	0.7nm,0.7s,baz=289,slow=2.8,SNR=3.0						
PDAR	**Pinedale Array**	**87.21**	**44**	P	P	23 41 55.6	+0.1
	0.4nm,0.5s,baz=204,slow=4.9,SNR=4.8						
BRTR	**Keskin Array B**	**144.41**	**315**	PKP	PKPbc	23 48 41.5	-0.1
	0.5nm,0.7s,baz=162,slow=7.3,SNR=4.0						
GERES	**GERESS Array B**	**147.23**	**345**	PKPbc	PKPbc	23 48 48.6	-0.8
	0.6nm,0.5s,baz=33,slow=2.5,SNR=9.4						

*ISCJB **04** 23:48:53.1±1.1, 33°.09S±0°.07×138°.47E±0°.10, h10km, Error ellipse: s-maj=13.6km s-min=7.2km az=144.1*
*AUST **04** 23:48:56.4±0.4, 33°.08S×138°.70E, h0km, Error ellipse: s-maj=4.3km s-min=2.9km az=31.0*
*IDC **04** 23:49:02.1±6.4, 32°.34S×138°.71E, h0km, mb1 3.3/3, mb1mx3.2/29, mbtmpg3.1/3, ML3.3/3, Error ellipse: s-maj=79.1km s-min=18.9km az=18.0*

ISC 04 23:48:54.4±0.9, 32°.95S±0°.05×138°.66E±0°.05, h10km, n8, σ2s40/12, Near coast of South Australia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HTT	**Hallett**	**0.52**	**155**	P	**Pg**	**23 49 03.8**	**-0.8**
	baz=0.4						
HTT				S	**Sg**	**23 49 09.6**	**-2.0**
	baz=0.4						
BBOO	**Buckleboo**	**2.19**	**273**	P	**Pb**	**23 49 34.7**	**+0.5**
	baz=2.2						
STKA	**Stephens Creek**	**2.70**	**67**	Pn	**Pb**	**23 49 43.0**	**+0.1**
	5.0nm,0.3s,baz=242,slow=12,SNR=5.2						
STKA				Sn	**Sb**	**23 50 16.1**	**0.0**
	6.1nm,0.3s,baz=260,slow=12,SNR=3.1						
STKA				Lg	Lg	23 50 22.2	
	15nm,0.3s,baz=329,slow=21,SNR=6.9						
STKA	**Stephens Creek**	**2.70**	**67**	P	**Pb**	**23 49 42.8**	**-0.1**
	baz=2.7						
ARPS	**Mount Arapiles**	**4.62**	**146**	P	**Pn**	**23 50 05.4**	**+1.2**
	baz=4.5						
CMSA	**Cobar Meteorol**	**6.12**	**79**	P	**Pn**	**23 50 26.8**	**+1.9**
	baz=6.1						
ASAR	**Alice Springs**	**10.15**	**334**	Pn	**Pn**	**23 51 23.4**	**+3.1**
	0.2nm,0.3s,baz=174,slow=9.1,SNR=6.2						
ASAR				Sn	**Sn**	**23 53 10.8**	**-3.5**
	0.3nm,0.3s,baz=151,slow=22,SNR=4.9						
WRA	**Warramunga Arr**	**13.52**	**342**	Pn	**Pn**	**23 52 07.3**	**+1.0**
	0.1nm,0.3s,baz=156,slow=12,SNR=6.3						
WRA				Sn	**Sn**	**23 54 32.4**	**-4.4**
	0.1nm,0.3s,baz=174,slow=24,SNR=3.9						

BJI 05 00:04:10.6, 39°.63N×118°.26E, h7km, ML3.5/7, Northeastern China

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TIA	**Tai'an**	**3.53**	**195**	Pg	Pb	00 05 12.7	-0.7
TIA				Sg	Sb	00 05 59.5	+3.1
TIA				smax	smax		
	comp=N,70nm,0.6s						
TIA				smax	smax		
	comp=E,70nm,0.7s						

*IDC **05** 00:36:30.4±2.1, 18°.72S×167°.63E, h0km, mb4.0/3, mb1 4.2/4, mb1mx3.8/30, mbtmpg3.9/4, ML3.2/1, Error ellipse: s-maj=57.7km s-min=33.5km az=129.0*
*ISCJB **05** 00:36:32.8±1.6, 18°.81S±0°.10×167°.5E±0°.3, h25km, mb3.9/3, Error ellipse: s-maj=37.2km s-min=12.6km az=8.8*

ISC 05 00:36:35.3±1.3, 18°.9S±0°.1×167°.6E±0°.3, h25km, n9, σ1s12/10, mb3.9/3, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**3.36**	**198**	Pn	**Pn**	**00 37 26.4**	**+0.1**
	2.1nm,0.3s,baz=49,slow=19,SNR=18						
DZM				Sn	**Sn**	**00 38 05.3**	**-0.2**
	5.7nm,0.3s,baz=107,slow=14,SNR=8.1						
WRA	**Warramunga Arr**	**31.33**	**262**	P	**P**	**00 42 53.1**	**-0.8**
	0.3nm,0.6s,baz=82,slow=6.1,SNR=8.1						
ASAR	**Alice Springs**	**31.68**	**255**	P	**P**	**00 42 57.1**	**0.0**
	4.1nm,0.6s,baz=83,slow=8.5,SNR=43						
ILAR	**Eielson Array**	**90.35**	**18**	P	**P**	**00 49 32.3**	**-1.5**
	0.6nm,0.7s,baz=224,slow=3.8,SNR=5.2						
MYKA	**Terra Mystica**	**144.99**	**328**	*e*PKPdf	**PKPdf**	**00 56 11.7**	**+1.2**
	9.3nm,1.4s						
ABTA	**Abfaltersbach**	**145.46**	**329**	*e*PKPdf	**PKPbc**	**00 56 11.4**	**+0.1**
	7.1nm,0.9s						
MOTA	**Moosalm**	**145.69**	**331**	*e*PKPdf	**PKPab**	**00 56 13.5**	**+1.1**
	5.0nm,0.9s						
SQTA	**Sankt Quirin**	**145.73**	**331**	*e*PKPdf	**PKPab**	**00 56 13.8**	**+1.2**
FETA	**Feichten**	**146.10**	**331**	*e*PKPdf	**PKPab**	**00 56 15.4**	**+1.3**
	7.0nm,1.0s						

*ISCJB **05** 00:40:26.3±0.6, 37°.32N±0°.04×31°.29E±0°.04, h6km±8km, Error ellipse: s-maj=7.1km s-min=5.1km az=15.5*
*CSEM **05** 00:40:26.4±0.2, 37°.34N×31°.28E, h10km, MD2.9, Error ellipse: s-maj=4.6km s-min=2.9km az=4.0*
*DDA **05** 00:40:27.0, 37°.69N×30°.85E, h7km, Md2.5*
*ISK **05** 00:40:26.0, 37°.30N×31°.28E, h8km, MD2.9*

ISC 05 00:40:26.4±1.3, 37°.35N±0°.03×31°.27E±0°.02, h10km±11km, n21, σ0s49/34, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SUTC	**Sutluce-Ispart**	**0.25**	**302**	PG	**Pg**	**00 40 31.9**	**+0.3**
SUTC				*e*SG	**Sb**	**00 40 36.8**	**-0.9**
SUTC	**Sutluce-Ispart**	**0.25**	**302**	*i* Pg	**Pg**	**00 40 31.9**	**+0.3**
SUTC				*e*Sg	**Sb**	**00 40 36.8**	**-0.9**
BCK	**Bucak**	**0.55**	**282**	*e*PG	**Pg**	**00 40 37.3**	**+0.1**
BCK				*e*SG	**Sb**	**00 40 46.5**	**+0.2**
BCK	**Bucak**	**0.55**	**282**	*e*Pg	**Pg**	**00 40 37.3**	**+0.1**
BCK				*e*Sg	**Sb**	**00 40 46.5**	**+0.2**
ANTB	**Antalya**	**0.66**	**228**	*e*PG	**Pg**	**00 40 38.6**	**-0.6**
ANTB	**Antalya**	**0.66**	**228**	*e*Pg	**Pg**	**00 40 38.6**	**-0.6**
ISP	**Isparta**	**0.76**	**309**	*e*PG	**Pg**	**00 40 41.0**	**-0.2**
ISP	**Isparta**	**0.76**	**309**	*e*Pg	**Pg**	**00 40 41.0**	**-0.2**
KORT	**Korkueli**	**0.81**	**245**	*i* P	**Pb**	**00 40 42.5**	**-0.2**
KORT				*i* S	**Sb**	**00 40 53.8**	**+0.1**
KORT	**Korkueli**	**0.81**	**245**	P	**Pb**	**00 40 42.5**	**-0.2**
KORT				S	**Sb**	**00 40 53.8**	**+0.1**
HDMB	**Hadim**	**1.04**	**111**	*e*PG	**Pg**	**00 40 46.1**	**-0.4**
HDMB				*e*SG	**Sb**	**00 41 00.9**	**+0.3**
HDMB	**Hadim**	**1.04**	**111**	*e*Pg	**Pg**	**00 40 46.1**	**-0.4**
HDMB				*e*Sg	**Sb**	**00 41 00.9**	**+0.3**
KONT	**Konya--Tatoy**	**1.05**	**55**	*e*PN	**Pb**	**00 40 46.8**	**0.0**
KONT				*e*SN	**Sn**	**00 41 02.9**	**+0.7**
KONT	**Konya--Tatoy**	**1.05**	**55**	*i* P	**Pb**	**00 40 47.0**	**+0.2**
KONT				*i* S	**Sn**	**00 41 01.7**	**-0.4**
KONT	**Konya--Tatoy**	**1.05**	**55**	*e*Pn	**Pb**	**00 40 46.8**	**0.0**
KONT				*e*Sn	**Sn**	**00 41 02.9**	**+0.7**
KDHN	**Kadinhani**	**1.35**	**29**	*i* P	**Pn**	**00 40 51.6**	**+0.1**
KDHN				*i* S	**Sb**	**00 41 08.5**	**-0.9**
KDHN	**Kadinhani**	**1.35**	**29**	P	**Pn**	**00 40 51.6**	**+0.1**
KDHN				S	**Sb**	**00 41 08.5**	**-0.9**
BOZY	**Bozyazi-Mersin**	**1.85**	**131**	*e*PN	**Pn**	**00 40 58.2**	**0.0**
BOZY	**Bozyazi-Mersin**	**1.85**	**131**	*e*Pn	**Pn**	**00 40 58.2**	**0.0**
BERE	**Bereket-Mersin**	**1.86**	**122**	*e*PN	**Pn**	**00 40 59.2**	**+0.7**
BERE	**Bereket-Mersin**	**1.86**	**122**	*e*Pn	**Pn**	**00 40 59.2**	**+0.7**

SOME 05 00:42:54.6, 42°.18N×81°.18E, h0km, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
UZB	**Uzynbulak**	**1.86**	**302**	*e*P	Pn	00 43 28.4	+0.5
	1.4nm,0.5s						
UZB				*e*S	Sb	00 43 53.8	+0.3
	2.7nm,0.3s						
SATY	**Saty**	**2.23**	**294**	*e*P	Pb	00 43 36.5	+0.7
	3.1nm,0.2s						
SATY				*e*S	Sg	00 44 05.6	-0.6
	5.8nm,0.1s						
KPKS	**Kokpek**	**2.24**	**306**	*e*P	Pb	00 43 36.5	+0.5
	7.2nm,0.2s						
KPKS				*e*S	Sg	00 44 05.9	-0.7
	8.7nm,0.2s						
DJR	**Jarkent**	**2.38**	**335**	*e*P	Pb	00 43 38.8	+0.5
	1.3nm,0.2s						
DJR				*e*S	Sg	00 44 10.7	-0.3
	2.8nm,0.4s						

*KRSC **05** 00:49:01.1±1.1, 56°.15N×163°.24E, h20km±7km, ML4.4, FELT [II-III] at Krutoberegovo; [II] at Ust-Kamchatsk.*
*ISCJB **05** 00:49:02.2±0.7, 56°.18N±0°.03×163°.16E±0°

TUMR	**Tumrok**	**1.91**	**243**	*e*P	**Pn**	**00 49 35.7**	**+0.2**
TUMR				*e*S	**Sb**	**00 50 00.0**	**-1.7**
ESO	**Esso**	**2.50**	**266**	PN	**Pn**	**00 49 44.0**	**+0.5**
ESO				S	**Sn**	**00 50 14.6**	**+0.3**
ESO	**Esso**	**2.50**	**266**	*e*P	**Pn**	**00 49 44.0**	**+0.5**
ESO				*e*S	**Sn**	**00 50 14.6**	**+0.3**
KII	**Karymskiy**	**3.01**	**226**	PN	**Pn**	**00 49 51.3**	**+0.7**
KII	**Karymskiy**	**3.01**	**226**	*e*P	**Pn**	**00 49 51.3**	**+0.7**
OSSR	**Ossora**	**3.08**	**359**	PN	**Pn**	**00 49 52.4**	**+1.0**
OSSR				S	**Sn**	**00 50 27.5**	**-1.2**
OSSR	**Ossora**	**3.08**	**359**	*e*P	**Pn**	**00 49 52.4**	**+1.0**
OSSR				*e*S	**Sn**	**00 50 27.5**	**-1.2**
SPN	**Mys Shipunski**	**3.57**	**212**	PN	**Pn**	**00 49 57.7**	**-0.5**
SPN	**Mys Shipunski**	**3.57**	**212**	*e*P	**Pn**	**00 49 57.7**	**-0.5**
SPN				*e*S	**Sn**	**00 50 38.9**	**-1.9**
SDLR	**Sedlovina**	**3.81**	**222**	PN	**Pn**	**00 50 03.1**	**+1.6**
SDLR				S	**Sn**	**00 50 47.5**	**+0.7**
SDLR	**Sedlovina**	**3.81**	**222**	*e*P	**Pn**	**00 50 03.1**	**+1.6**
SDLR				*e*S	**Sn**	**00 50 47.5**	**+0.7**
KRX	**Arik**	**3.83**	**224**	PN	**Pn**	**00 50 03.1**	**+1.2**
KRX	**Arik**	**3.83**	**224**	P	**Pn**	**00 50 03.1**	**+1.2**
KRER	**Koryakskii**	**3.84**	**223**	PN	**Pn**	**00 50 04.0**	**+2.0**
KRER	**Koryakskii**	**3.84**	**223**	*e*P	**Pn**	**00 50 04.0**	**+2.0**
AVH	**Avacha**	**3.87**	**223**	PN	**Pn**	**00 50 03.7**	**+1.3**
AVH	**Avacha**	**3.87**	**223**	*e*P	**Pn**	**00 50 03.7**	**+1.3**
UGLR	**Uglovaya**	**3.88**	**222**	PN	**Pn**	**00 50 03.8**	**+1.2**
UGLR	**Uglovaya**	**3.88**	**222**	*e*P	**Pn**	**00 50 03.8**	**+1.2**
UGLR				*e*S	**Sn**	**00 50 47.9**	**-0.7**
GNL	**Ganaly**	**3.89**	**232**	PN	**Pn**	**00 50 04.2**	**+1.5**
GNL	**Ganaly**	**3.89**	**232**	*e*P	**Pn**	**00 50 04.2**	**+1.5**
KOK	**Koryaka**	**3.89**	**224**	PN	**Pn**	**00 50 03.4**	**+0.7**
KOK	**Koryaka**	**3.89**	**224**	P	**Pn**	**00 50 03.4**	**+0.7**
PET	**Petropavlovsk**	**4.09**	**221**	*e*PN	**Pn**	**00 50 06.0**	**+0.7**
PET				*e*S	**Sn**	**00 50 55.0**	**+1.4**
PET	comp=Z,50nm,0.6s			pmax	pmax		
PET	comp=E,133nm,0.6s			smax	smax		
PET	comp=N,177nm,0.6s			smax	smax		
PET	**Petropavlovsk**	**4.09**	**221**	*e*Pn	**Pn**	**00 50 06.0**	**+0.7**
PETK	**Petropavlovsk-**	**4.41**	**228**	Pn	**Pn**	**00 50 10.9**	**+1.3**
PETK	comp=N,3.5nm,0.3s,baz=66,slow=16,SNR=22			Sn	**Sb**	**00 51 06.8**	**-6.6**
KRMR	**Karymshinskiy**	**4.44**	**223**	PN	**Pn**	**00 50 13.5**	**+3.4**
KRMR				S	**Sn**	**00 51 05.7**	**+3.5**
KRMR	**Karymshinskiy**	**4.44**	**223**	*e*P	**Pn**	**00 50 13.5**	**+3.4**
KRMR				*e*S	**Sn**	**00 51 05.7**	**+3.5**
RUS	**Russkaya**	**4.62**	**218**	PN	**Pn**	**00 50 13.6**	**+1.0**
RUS	**Russkaya**	**4.62**	**218**	*e*P	**Pn**	**00 50 13.6**	**+1.0**
RUS				*e*S	**Sn**	**00 51 06.9**	**+0.2**
MTVR	**Mutnovka**	**4.70**	**220**	PN	**Pn**	**00 50 14.6**	**+0.8**
MTVR	**Mutnovka**	**4.70**	**220**	*e*P	**Pn**	**00 50 14.6**	**+0.8**
MTVR				*e*S	**Sn**	**00 51 08.8**	**0.0**
APC	**Apacha**	**4.76**	**229**	PN	**Pn**	**00 50 15.4**	**+0.9**
APC	**Apacha**	**4.76**	**229**	*e*P	**Pn**	**00 50 15.4**	**+0.9**
ASAK	**Asacha**	**4.88**	**221**	PN	**Pn**	**00 50 18.2**	**+1.9**
ASAK	**Asacha**	**4.88**	**221**	*e*P	**Pn**	**00 50 18.2**	**+1.9**
MA2	**Magadan**	**7.42**	**302**	LR	LR	00 53 56.6	
	comp=N,133nm,18.5s,baz=114,slow=41						
KLR	**Kul'dur**	**20.11**	**263**	LR	LR	01 01 59.3	
	comp=N,64nm,18.9s,baz=99,slow=39						
COLD	**Coldfoot**	**24.07**	**44**	*e*P	**P**	**00 54 18.8**	**+0.7**
	comp=N,4.9nm,0.8s						
MCK	**McKinley**	**24.61**	**52**	P	**P**	**00 54 24.7**	**+1.6**
MCK	comp=Z,1.0nm,0.5s			pmax	pmax		
MCK	**McKinley**	**24.61**	**52**	P	**P**	**00 54 24.7**	**+1.6**
	comp=Z,1.5nm,0.5s						
ILAR	**Eielson Array**	**25.43**	**50**	P	**P**	**00 54 30.6**	**+0.2**
	comp=Z,1.5nm,0.9s,baz=264,slow=7.4,SNR=14						
INK	**Inuvik**	**30.36**	**41**	LR	LR	01 08 35.0	
	comp=Z,27nm,18.7s,baz=148,slow=39						
H11N2	**WAKE ISLAND Hy**	**36.50**	**174**	T	T	01 34 54.9	
	baz=357,slow=76,SNR=327						
H11N3	**WAKE ISLAND Hy**	**36.51**	**174**	T	T	01 34 56.0	
	baz=357,slow=76,SNR=308						
H11N1	**WAKE ISLAND Hy**	**36.52**	**174**	T	T	01 34 54.9	
	baz=357,slow=76,SNR=317						
YKA	**Yellowknife Ar**	**39.72**	**46**	P	**P**	**00 56 35.5**	**+0.5**
	comp=Z,0.6nm,0.4s,baz=338,slow=21,SNR=4.8						
KURK	**Kurchatov**	**47.63**	**301**	P	**P**	**00 57 37.8**	**-1.0**
KURK	**Kurchatov**	**47.63**	**301**	P	**P**	**00 57 37.8**	**-1.0**
KURBB	**Kurchatov Arra**	**47.73**	**301**	P	**P**	**00 57 37.8**	**-1.8**
	comp=Z,0.5nm,0.5s,baz=56,slow=7.8,SNR=4.4						
BMO	**Blue Mountains**	**49.10**	**68**	*e*P	**P**	**00 57 52.1**	**+1.7**
BMO	comp=Z,2.0nm,0.4s			pmax	pmax		
BMO	**Blue Mountains**	**49.10**	**68**	*e*P	**P**	**00 57 52.1**	**+1.7**
	comp=Z,1.7nm,0.4s						
PDAR	**Pinedale Array**	**54.54**	**65**	P	**P**	**00 58 31.8**	**+0.7**
	comp=Z,0.6nm,0.6s,baz=304,slow=2.0,SNR=6.1						
FINES	**FINESS Array B**	**57.97**	**337**	P	**P**	**00 58 55.5**	**+0.5**
	comp=Z,1.7nm,0.9s,baz=53,slow=7.1,SNR=3.3						
TXAR	**Lajitas Array**	**67.87**	**70**	P	**P**	**01 00 03.0**	**+1.5**
	comp=Z,2.9nm,0.7s,baz=300,slow=4.4,SNR=16						

IDC ***05*** *00:52:13.2±0.9,35˚15N×58˚01E,h0km,mb3.9/9, mb1 4.0/15,mb1mx3.8/45,mbtmp3.9/15,ML3.7/5,MS2.9/7, Ms1 2.9/7,ms1mx2.7/38,Error ellipse: s-maj=16.3km s-min=15.4km az=100.0*

NEIC ***05*** *00:52:14.0±0.0,35˚24N×58˚00E,h18km,mb4.2/13, ML4.1(THR),After THR.*

THR ***05*** *00:52:14.6±0.5,35˚24N×58˚01E,h18km±8km,ML4.1*

CSEM ***05*** *00:52:14.0±0.2,35˚28N×58˚10E,h2km,mb4.1/12,Error ellipse: s-maj=6.5km s-min=4.7km az=152.0*

ISCJB ***05*** *00:52:14.8±0.3,35˚32N±0˚03×58˚06E±0˚03,h18km, mb4.0/21,MS2.8/2,Error ellipse: s-maj=4.5km s-min=3.6km az=148.1*

TEH ***05*** *00:52:16.0,35˚23N×58˚04E,h5km,ML4.1*

MOS ***05*** *00:52:17.1±1.4,35˚46N×58˚07E,h33km,mb4.3/15,Error ellipse: s-maj=8.3km s-min=6.2km az=121.9*

ISC 05 00:52:16.2±0.5,**35˚29N**±0˚03×**58˚12E**±0˚04,**h18**km,**n141,** σ1**s54**/156,**mb4.0**/21,**3C-4D**,**Northern and central Iran**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IMOG	**Moghan**	**1.28**	**50**	*e*Pg	**Pn**	**00 52 38.2**	**-1.4**
IMOG				*e*AMB	AMB	00 53 02.1	
	comp=Z,8μm,0.3s						
IMOG	**Moghan**	**1.28**	**50**	*e*Pg	**Pn**	**00 52 38.2**	**-1.4**
IPAY	**Payeh**	**1.36**	**31**	*e*Pg	**Pn**	**00 52 39.7**	**-0.8**
IPAY				*e*Sg	**Sg**	**00 53 01.1**	**+0.8**
IPAY				*e*AMB	AMB	00 53 07.7	
	comp=Z,20μm,0.3s						
IPAY	**Payeh**	**1.36**	**31**	*e*Pg	**Pn**	**00 52 39.7**	**-0.8**
IPAY				*e*Sg	**Sg**	**00 53 01.1**	**+0.8**
IAKL	**Akhelmad**	**1.41**	**21**	*e*Pn	**Pn**	**00 52 40.2**	**-1.0**
IAKL				*e*AMB	AMB	00 53 05.6	
	comp=Z,17μm,0.3s						
IKRD	**Kardeh**	**1.52**	**12**	*e*Pn	**Pg**	**00 52 50.0**	**+4.5**
IKRD				*e*Sg	Sg	00 53 17.2	+12
IKRD				*e*AMB	AMB	00 53 25.9	
	comp=Z,11μm,0.3s						
IKRD	**Kardeh**	**1.52**	**12**	*e*Pn	**Pg**	**00 52 50.0**	**+4.5**
IKRD				*e*Sg	Sg	00 53 17.2	+12
ISFR	**Sfrayin**	**1.76**	**357**	*e*Pn	**Pb**	**00 52 47.6**	**-0.6**
ISFR				*e*AMB	AMB	00 53 29.2	
	comp=Z,19μm,0.4s						
ISFR	**Sfrayin**	**1.76**	**357**	*e*Pn	**Pb**	**00 52 47.6**	**-0.6**
TABS	**Tabas**	**1.83**	**207**	*e*Pg	**Pn**	**00 52 46.6**	**-0.3**
TABS				*e*Sg	**Sn**	**00 53 09.8**	**0.0**
TABS				AML	AML	00 53 26.6	
	comp=N,2μm,0.6s						
IMYA	**Miami**	**1.92**	**56**	*e*Pn	**Pb**	**00 52 50.6**	**-0.3**
IMYA				*e*AMB	AMB	00 52 52.6	
	comp=Z,21μm,0.3s						
IMYA				*e*Sg	**Sg**	**00 53 19.2**	**+1.0**
IMYA	**Miami**	**1.92**	**56**	*e*Pn	**Pb**	**00 52 50.6**	**-0.3**
IMYA				*e*Sg	**Sg**	**00 53 19.2**	**+1.0**
IEMG	**Emamgholi**	**2.16**	**11**	*e*Pn	**Pb**	**00 52 54.0**	**-1.0**
IEMG				*e*AMB	AMB	00 52 57.0	
	comp=Z,5μm,0.3s						
IEMG	**Emamgholi**	**2.16**	**11**	*e*Pn	**Pb**	**00 52 54.0**	**-1.0**
SHRT	**Shahrakht**	**2.43**	**132**	*e*Pn	**Pn**	**00 52 55.9**	**+0.8**
SHRT				*e*Sg	**Sb**	**00 53 31.9**	**+2.7**
SHRT				AML	AML	00 53 35.5	
	comp=E,996nm,0.4s						
SHRT				AML	AML	00 53 41.6	
	comp=N,950nm,0.4s						
ITEG	**Tejag**	**2.45**	**167**	*e*Pn	**Pn**	**00 52 55.9**	**+0.5**
ITEG				*e*AMB	AMB	00 53 37.1	
	comp=Z,15μm,0.3s						
ITEG	**Tejag**	**2.45**	**167**	*e*Pn	**Pn**	**00 52 55.9**	**+0.5**
GEYT	**Alibeck**	**2.63**	**360**	Pn	**Pn**	**00 52 59.8**	**+1.9**
	comp=Z,23nm,0.3s,baz=189,slow=19,SNR=182						
GEYT				LR	LR	00 53 39.6	
	comp=Z,108nm,19.2s,baz=185,slow=31						
GEYT				Lg	Lg	00 53 40.9	
	comp=Z,11nm,0.3s,baz=182,slow=30,SNR=7.1						
IDAH	**Dahanechah**	**2.93**	**150**	*e*AMB	AMB	00 53 18.2	
	comp=Z,6μm,0.3s						
IDAH				*e*Pn	**Pn**	**00 53 02.2**	**0.0**
IANJ	**Anjilo**	**3.44**	**274**	*e*Pn	**Pn**	**00 53 08.3**	**-0.8**
IANJ				*e*AMB	AMB	00 54 13.5	
	comp=Z,4μm,0.4s						
IANJ	**Anjilo**	**3.44**	**274**	*e*Pn	**Pn**	**00 53 08.3**	**-0.8**
IGLO	**Ghaloghah**	**3.68**	**290**	*e*Pn	**Pn**	**00 53 14.1**	**+1.6**
IGLO				*e*AMB	AMB	00 53 15.9	
	comp=Z,4μm,0.3s						
ISHM	**Shahmirzad**	**3.97**	**279**	*e*Pn	**Pn**	**00 53 16.4**	**-0.1**
ISHM				*e*AMB	AMB	00 54 34.3	
	comp=Z,3μm,0.3s						
ILAS	**Lasjerd**	**4.22**	**273**	*e*Pn	**Pn**	**00 53 20.0**	**+0.1**
ILAS				*e*AMB	AMB	00 54 35.7	
	comp=E,6μm,0.4s						
ILAS	**Lasjerd**	**4.22**	**273**	*e*Pn	**Pn**	**00 53 20.0**	**+0.1**
IBAF	**Bafgh**	**4.26**	**211**	*e*Pn	**Pn**	**00 53 20.0**	**-0.4**
IBAF				*e*AMB	AMB	00 54 42.6	
	comp=Z,2μm,0.4s						
IBAF	**Bafgh**	**4.26**	**211**	*e*Pn	**Pn**	**00 53 20.0**	**-0.4**
ICHK	**Chekchek**	**4.33**	**227**	*e*Pn	**Pn**	**00 53 21.3**	**-0.1**
ICHK				*e*AMB	AMB	00 54 40.3	
	comp=Z,4μm,0.5s						
ICHK	**Chekchek**	**4.33**	**227**	*e*Pn	**Pn**	**00 53 21.3**	**-0.1**
IFIR	**Firoozkooh**	**4.39**	**276**	*e*Pn	**Pn**	**00 53 21.7**	**-0.6**
IFIR				*e*AMB	AMB	00 54 18.6	
	comp=Z,744nm,0.2s						
IFIR	**Firoozkooh**	**4.39**	**276**	*e*Pn	**Pn**	**00 53 21.7**	**-0.6**
IPRN	**Peran**	**4.79**	**283**	*e*Pn	**Pn**	**00 53 28.3**	**+0.6**
IPRN				*e*AMB	AMB	00 54 29.7	
	comp=Z,2μm,0.3s						
IMEH	**Mehriz**	**4.87**	**218**	*e*Pn	**Pn**	**00 53 28.4**	**-0.5**
IMEH				*e*AMB	AMB	00 54 59.5	
	comp=Z,1μm,0.3s						
IMEH	**Mehriz**	**4.87**	**218**	*e*Pn	**Pn**	**00 53 28.4**	**-0.5**
IDMV	**Damavand**	**4.98**	**275**	*e*Pn	**Pn**	**00 53 28.6**	**-1.7**
IDMV				*e*AMB	AMB	00 55 10.1	
	comp=Z,1μm,0.4s						
IDMV	**Damavand**	**4.98**	**275**	*e*Pn	**Pn**	**00 53 28.6**	**-1.7**
ISAD	**Sadrabad**	**5.00**	**229**	*e*Pn	**Pn**	**00 53 30.2**	**-0.5**
ISAD				*e*AMB	AMB	00 55 02.3	
	comp=Z,3μm,0.3s						
ISAD	**Sadrabad**	**5.00**	**229**	*e*Pn	**Pn**	**00 53 30.2**	**-0.5**
NASN	**Na'in**	**5.06**	**242**	*e*Pn	**Pn**	**00 53 30.9**	**-0.6**
NASN				AML	AML	00 55 04.4	
	comp=N,176nm,0.9s						
IZEF	**Zefreh**	**5.36**	**245**	*e*Pn	**Pn**	**00 53 34.5**	**-1.1**
IZEF				*e*AMB	AMB	00 55 07.7	
	comp=Z,1μm,0.2s						
IZEF	**Zefreh**	**5.36**	**245**	*e*Pn	**Pn**	**00 53 34.5**	**-1.1**
GHVR	**GHOM**	**5.67**	**264**	*e*Pn	**Pn**	**00 53 39.2**	**-0.4**
LKRN	**Lenkeran, Azer**	**8.21**	**297**	P	**Pn**	**00 54 15.1**	**+0.7**
LKRN	**Lenkeran, Azer**	**8.21**	**297**	P	**Pn**	**00 54 15.1**	**+0.7**
MNGR	**Mingechevir, A**	**10.28**	**305**	P	**Pn**	**00 54 42.8**	**+0.1**
MNGR	**Mingechevir, A**	**10.28**	**305**	P	**Pn**	**00 54 42.8**	**+0.1**
SEKA	**Sheki**	**10.42**	**308**	P	**Pn**	**00 54 44.7**	**-0.1**
SEKA	**Sheki**	**10.42**	**308**	P	**Pn**	**00 54 44.7**	**-0.1**
GANJ	**Ganja**	**10.73**	**303**	P	**Pn**	**00 54 49.1**	**+0.1**
GANJ	**Ganja**	**10.73**	**303**	P	**Pn**	**00 54 49.1**	**+0.1**
NAX	**Nakhchivan**	**10.78**	**295**	P	**Pn**	**00 54 50.4**	**+0.6**
NAX	**Nakhchivan**	**10.78**	**295**	P	**Pn**	**00 54 50.4**	**+0.6**
GNI	**Garni**	**11.65**	**299**	Pn	**Pn**	**00 55 02.6**	**+0.9**
	comp=Z,0.1nm,0.3s,baz=242,slow=17,SNR=2.3						
GNI				LR	LR	01 00 25.0	
	comp=Z,43nm,20.4s,baz=128,slow=42						
GNI	**Garni**	**11.65**	**299**	*e*Pn	**Pn**	**00 55 03.5**	**+1.8**
GNI	**Garni**	**11.65**	**299**	*e*Pn	**Pn**	**00 55 03.5**	**+1.8**
WSAR	**Wadi Sarin**	**12.02**	**178**	Pn	**Pn**	**00 55 06.0**	**-0.7**
	comp=Z,0.1nm,0.3s,baz=45,slow=8.6,SNR=2.3						
KKAR	**Karatay Array**	**12.37**	**47**	*e*P	**Pn**	**00 55 10.9**	**-0.5**
KKAR	**Karatay Array**	**12.37**	**47**	*e*P	**Pn**	**00 55 10.9**	**-0.5**
KKAR	**Karatay Array**	**12.37**	**47**	*e*Pn	**Pn**	**00 55 10.9**	**-0.5**
ABKAR	**Akbulak array**	**14.02**	**5**	*e*Pn	**Pn**	**00 55 31.2**	**-2.6**
ABKAR				*e*Sn	**Sn**	**00 58 04.7**	**-4.2**
ABKAR	**Akbulak array**	**14.02**	**5**	*e*Pn	**Pn**	**00 55 31.2**	**-2.6**
ABKAR				*e*Sn	**Sn**	**00 58 04.7**	**-4.2**
KBZ	**Khabaz**	**14.44**	**310**	Pn	**Pn**	**00 55 36.8**	**-2.9**
	comp=Z,0.3nm,0.3s,baz=108,slow=11,SNR=6.8						
KBZ				LR	LR	01 01 56.3	
	comp=Z,57nm,19.6s,baz=66,slow=40						
KVAR	**Kislovodsk Ar**	**14.68**	**311**	Pn	**Pn**	**00 55 40.4**	**-2.6**
	baz=41,slow=1.9,SNR=8.0						
KVAR				LR	LR	01 03 07.5	
	comp=Z,32nm,19.4s,baz=342,slow=44						
AAK	**Ala-Archa**	**14.69**	**55**	Pn	**Pn**	**00 55 42.6**	**-0.6**
	comp=Z,0.5nm,0.3s,baz=232,slow=9.5,SNR=17						
AAK	**Ala-Archa**	**14.69**	**55**	*d*/*i*P	**Pn**	**00 55 42.4**	**-0.7**
AAK				pmax	pmax		
	comp=Z,17nm,0.9s						
AAK	**Ala-Archa**	**14.69**	**55**	*e*Pn	**Pn**	**00 55 42.5**	**-0.7**
KIV	**Kislovodsk**	**14.69**	**311**	*e*P	**Pn**	**00 55 40.3**	**-2.8**
KIV	comp=Z,11nm,1.1s			pmax	pmax		
KIV	**Kislovodsk**	**14.69**	**311**	*e*P	**Pn**	**00 55 40.3**	**-2.8**
	comp=Z,11nm,1.1s						
KIV	**Kislovodsk**	**14.69**	**311**	*e*Pn	**Pn**	**00 55 41.0**	**-2.2**
KIV	**Kislovodsk**	**14.69**	**311**	*e*Pn	**Pn**	**00 55 41.0**	**-2.2**
FRU	**Bishkek**	**14.85**	**55**	*e*P	**Pn**	**00 55 44.0**	**-1.3**
FRU				*e*		00 58 27.0	
FRU	**Bishkek**	**14.85**	**55**	*e*P	**Pn**	**00 55 44.0**	**-1.3**
FRU				*e*S	**Sn**	**00 58 27.0**	**-2.3**
AKTO	**Aktyubinsk**	**15.13**	**360**	Pn	**Pn**	**00 55 46.0**	**-3.0**
	comp=Z,0.8nm,0.3s,baz=176,slow=13,SNR=21						
AKTO				LR	LR	01 02 55.5	
	comp=Z,119nm,18.8s,baz=176,slow=42						
AKTO	**Aktyubinsk**	**15.13**	**360**	P	**Pn**	**00 55 46.0**	**-3.0**
AKTO	**Aktyubinsk**	**15.13**	**360**	Pn	**Pn**	**00 55 46.0**	**-3.0**
BRVK	**Borovoye**	**19.74**	**22**	*e*P	**P**	**00 56 44.9**	**+0.1**
BRVK				pmax	pmax		
	comp=Z,8.0nm,0.9s						
BRVK	**Borovoye**	**19.74**	**22**	*e*P	**P**	**00 56 44.9**	**+0.1**
	comp=Z,8.0nm,0.9s						
BRVK	**Borovoye**	**19.74**	**22**	*e*P	**P**	**00 56 45.0**	**+0.2**
	comp=Z,3.0nm,0.6s						
BVAR	**Borovoye Array**	**19.74**	**22**	P	**P**	**00 56 45.6**	**+0.8**
	comp=Z,0.6nm,0.3s,baz=203,slow=11,SNR=27						
BR131	**Keskin Array S**	**19.90**	**290**	*e*P	**Pn**	**00 56 47.4**	**-1.1**
BR131	**Keskin Array S**	**19.90**	**290**	*e*P	**Pn**	**00 56 47.4**	**-1.1**
BRTR	**Keskin Array B**	**19.90**	**290**	P	**P**	**00 56 47.0**	**+0.2**
	comp=Z,0.1nm,0.3s,baz=96,slow=10,SNR=11						
SIM	**Simferopol'**	**20.67**	**305**	*e*P	**P**	**00 56 55.5**	**+0.5**
SIM	comp=Z,29nm,1.3s			pmax	pmax		
SIM	**Simferopol'**	**20.67**	**305**	*e*P	**P**	**00 56 55.5**	**+0.5**
	comp=Z,29nm,1.3s						
VSR	**Storozhevoye**	**20.97**	**325**	*e*P	**P**	**00 56 58.5**	**+0.3**
VSR	comp=Z,3.0nm,0.5s			pmax	pmax		
VSR	**Storozhevoye**	**20.97**	**325**	*e*P	**P**	**00 56 58.5**	**+0.3**
	comp=Z,3.0nm,0.5s						
ARU	**Arti**	**21.14**	**1**	P	**P**	**00 57 00.7**	**+0.7**
	comp=Z,16nm,0.7s,baz=176,slow=6.6,SNR=26						
ARU				LR	LR	01 06 54.3	
	comp=Z,22nm,18.6s,baz=232,slow=41						
ARU	**Arti**	**21.14**	**1**	*d*/*i*P	**P**	**00 57 01.1**	**+1.1**
ARU						00 57 20.5	
ARU				S	**S**	**01 00 56.4**	**+2.1**
ARU				SS	**SnSn**	**01 01 17.5**	**+1.2**
ARU	comp=Z,25nm,1.0s			pmax	pmax		
ARU	**Arti**	**21.14**	**1**	*e*P	**P**	**00 57 00.1**	**+0.1**
	comp=Z,19nm,0.8s						
ARU	**Arti**	**21.14**	**1**	*e*P	**P**	**00 57 00.1**	**+0.1**
	comp=Z,19nm,0.8s						
MAKZ	**Makanchi**	**21.27**	**50**	*e*P	**P**	**00 57 01.3**	**-0.2**
MAKZ	comp=Z,3.0nm,0.8s			pmax	pmax		
MAKZ	**Makanchi**	**21.27**	**50**	*e*P	**P**	**00 57 01.3**	**-0.2**
	comp=Z,3.0nm,0.8s						
MAKZ	**Makanchi**	**21.27**	**50**	*e*P	**P**	**00 57 01.3**	**-0.2**
	comp=Z,3.0nm,0.8s						
KURBB	**Kurchatov Arra**	**21.29**	**38**	P	**P**	**00 57 02.9**	**+1.2**
	comp=Z,2.9nm,0.9s,baz=234,slow=12,SNR=18						
KURBB				PcP	**PcP**	**01 01 05.8**	**+0.1**
	comp=Z,0.2nm,0.6s,baz=235,slow=2.2,SNR=3.2						
KURK	**Kurchatov**	**21.40**	**38**	*e*P	**P**	**00 57 03.3**	**+0.5**
KURK				pmax	pmax		
	comp=Z,13nm,1.0s						
KURK	**Kurchatov**	**21.40**	**38**	*e*P	**P**	**00 57 03.1**	**+0.3**
	comp=Z,10nm,1.4s						
KURK	**Kurchatov**	**21.40**	**38**	*e*P	**P**	**00 57 03.1**	**+0.3**
	comp=Z,10nm,1.4s						
KURK				PcP	**PcP**	**01 01 05.8**	**-0.1**
MK01	**Makanchi Array**	**21.46**	**50**	*e*P	**P**	**00 57 04.1**	**+0.6**
MK01	**Makanchi Array**	**21.46**	**50**	*e*P	**P**	**00 57 04.1**	**+0.6**
MK31	**Makanchi Array**	**21.46**	**50**	*e*P	**P**	**00 57 03.8**	**+0.2**
MK31	**Makanchi Array**	**21.46**	**50**	*e*P	**P**	**00 57 03.8**	**+0.2**
MK31	**Makanchi Array**	**21.46**	**50**	*e*P	**P**	**00 57 03.8**	**+0.2**
MKAR	**Makanchi Array**	**21.46**	**50**	*e*P	**P**	**00 57 03.8**	**+0.3**
MKAR	comp=Z,12nm,0.7s			pmax	pmax		
MKAR	**Makanchi Array**	**21.46**	**50**	*e*P	**P**	**00 57 03.8**	**+0.3**
	comp=Z,12nm,0.7s						
MKAR	**Makanchi Array**	**21.46**	**50**	*e*P	**P**	**00 57 03.8**	**+0.3**
	comp=Z,12nm,0.7s						
SVE	**Sverdlovsk**	**21.61**	**4**	*e*P	**P**	**00 57 06.3**	**+1.3**
SVE	comp=Z,12nm,1.1s			pmax	pmax		
SVE	**Sverdlovsk**	**21.61**	**4**	*e*P	**P**	**00 57 06.3**	**+1.3**
	comp=Z,12nm,1.1s						
LPSR	**Galich'ya Gora**	**22.03**	**328**	*e*P	**P**	**00 57 11.3**	**+1.8**
LPSR	comp=Z,10.0nm,0.8s			pmax	pmax		
LPSR	**Galich'ya Gora**	**22.03**	**328**	*e*P	**P**	**00 57 11.3**	**+1.8**
	comp=Z,10.0nm,0.8s						
WMQ	**Urumqi**	**24.24**	**60**	P	**P**	**00 57 33.3**	**+1.2**
WMQ				pP	sP	00 57 43.0	+3.1
WMQ	comp=Z,3.0nm,0.8s			pmax	pmax		
OBN	**Obninsk**	**24.78**	**330**	*e*P	**P**	**00 57 35.0**	**-1.8**
OBN				*e**PP	**sP**	**00 57 44.1**	**-0.4**
OBN				*e**SP	**pP**	**00 57 47.7**	**+5.4**
OBN						01 01 13.0	
OBN	comp=Z,4.0nm,1.1s			pmax	pmax		
OBN	**Obninsk**	**24.78**	**330**	*e*P	**P**	**00 57 35.0**	**-1.8**
	comp=Z,4.0nm,1.1s						
OBN	**Obninsk**	**24.78**	**330**	*e*P	**P**	**00 57 38.5**	**+1.7**
	comp=Z,5.3nm,1.0s						
AKASG	**Malin Array Be**	**25.93**	**315**	P	**P**	**00 57 47.5**	**+0.3**
	comp=Z,1.2nm,0.6s,baz=119,slow=9.3,SNR=2.6						
AKBB	**Malin Array Si**	**25.93**	**315**	*e*P	**P**	**00 57 49.2**	**+1.9**
AKBB	comp=Z,6.0nm,0.6s			pmax	pmax		
AKBB	**Malin Array Si**	**25.93**	**315**	*e*P	**P**	**00 57 49.2**	**+1.9**
	comp=Z,6.0nm,0.6s						
AKBB	**Malin Array Si**	**25.93**	**315**	*e*P	**P**	**00 57 49.1**	**+1.9**
	comp=Z,6.0nm,0.6s						
KIEV	**Kiev**	**25.94**	**315**	*e*P	**P**	**00 57 46.3**	**-1.0**
KIEV	comp=Z,3.0nm,0.7s			pmax	pmax		
KIEV	**Kiev**	**25.94**	**315**	*e*P	**P**	**00 57 46.3**	**-1.0**
	comp=Z,3.0nm,0.7s						
KIEV	**Kiev**	**25.94**	**315**	*e*P	**P**	**00 57 48.0**	**+0.8**
	comp=Z,5.8nm,0.6s						
ZALV	**Zalesovo Beam**	**26.38**	**37**	P	**P**	**00 57 52.4**	**+1.1**
	comp=Z,0.4nm,0.3s,baz=259,slow=12,SNR=2.0						
MLR	**Muntele Rosu**	**26.38**	**303**	P	**P**	**00 57 52.3**	**+0.8**
	comp=Z,1.0nm,0.8s,baz=279,slow=1.0						
MLR	**Muntele Rosu**	**26.38**	**303**	⇑*i*P	**P**	**00 57 53.

MULD	**Muldenberg**	**0.17**	**345**	*e*Pg		**Pg**	**00 58 48.5**	**+0.3**
MULD				*e*Sg		**Sg**	**00 58 50.7**	**-0.2**
MULD	**Muldenberg**	**0.17**	**345**	Pg		**Pg**	**00 58 48.5**	**+0.3**
MULD				Sg		**Sg**	**00 58 50.7**	**-0.2**
WERD	**Werda**	**0.23**	**332**	*i* Pg		**Pg**	**00 58 49.5**	**+0.3**
WERD				*i* Sg		**Sg**	**00 58 52.2**	**-0.2**
WERD				AML	AML	AML	00 58 52.6	
	comp=E,104nm,0.1s							
WERD	**Werda**	**0.23**	**332**	*e*Pg		**Pg**	**00 58 49.5**	**+0.3**
WERD				*e*Sg		**Sg**	**00 58 52.1**	**-0.3**
WERD	**Werda**	**0.23**	**332**	Pg		**Pg**	**00 58 49.5**	**+0.3**
WERD				Sg		**Sg**	**00 58 52.1**	**-0.3**
TRIB	**Obertriebel**	**0.24**	**296**	*i* Pg		**Pg**	**00 58 49.5**	**+0.1**
TRIB				*i* Sg		**Sg**	**00 58 52.6**	**-0.2**
TRIB				AML	AML	AML	00 58 52.7	
	comp=E,165nm,0.1s							
TRIB	**Obertriebel**	**0.24**	**296**	*e*Pg		**Pg**	**00 58 49.5**	**+0.1**
TRIB				*e*Sg		**Sg**	**00 58 52.5**	**-0.2**
TRIB	**Obertriebel**	**0.24**	**296**	Pg		**Pg**	**00 58 49.5**	**+0.1**
TRIB				Sg		**Sg**	**00 58 52.5**	**-0.2**
PLN	**Plauen**	**0.31**	**320**	*i* Pg		**Pg**	**00 58 51.0**	**+0.2**
PLN				*i* Sg		**Sg**	**00 58 54.8**	**-0.1**
PLN				AML	AML	AML	00 58 55.0	
	comp=E,94nm,0.2s							
PLN	**Plauen**	**0.31**	**320**	*e*Pg		**Pg**	**00 58 50.9**	**+0.2**
PLN				*e*Sg		**Sg**	**00 58 54.8**	**-0.1**
PLN	**Plauen**	**0.31**	**320**	Pg		**Pg**	**00 58 50.9**	**+0.2**
PLN				Sg		**Sg**	**00 58 54.8**	**-0.1**
SCHF	**Schoenfels**	**0.43**	**354**	*i* Pg		**Pg**	**00 58 53.3**	**+0.3**
SCHF				*i* Sg		**Sg**	**00 58 58.9**	**+0.3**
SCHF				AML	AML	AML	00 58 59.1	
	comp=E,276nm,0.2s							
SCHF	**Schoenfels**	**0.43**	**354**	*e*Pg		**Pg**	**00 58 53.3**	**+0.3**
SCHF				*e*Sg		**Sg**	**00 58 58.4**	**-0.3**
SCHF	**Schoenfels**	**0.43**	**354**	Pg		**Pg**	**00 58 53.3**	**+0.3**
SCHF				Sg		**Sg**	**00 58 58.4**	**-0.3**
ROTZ	**Rotzenmuhle**	**0.51**	**200**	*e*Pg		**Pg**	**00 58 55.0**	**+0.6**
ROTZ				*e*Sg		**Sg**	**00 59 01.7**	**+0.5**
ROTZ	**Rotzenmuhle**	**0.51**	**200**	Pg		**Pg**	**00 58 55.0**	**+0.6**
ROTZ				Sg		**Sg**	**00 59 01.7**	**+0.5**
MLFH	**Mildenfurth**	**0.60**	**335**	*i* Pg		**Pg**	**00 58 56.2**	**+0.1**
MLFH				*i* Sg		**Sg**	**00 59 03.7**	**-0.2**
MOX	**Moxa**	**0.68**	**306**	*e*Pg		**Pg**	**00 58 57.6**	**0.0**
MOX				*e*Sg		**Sg**	**00 59 06.4**	**-0.1**
MOX	**Moxa**	**0.68**	**306**	Pg		**Pg**	**00 58 57.6**	**0.0**
MOX				Sg		**Sg**	**00 59 06.4**	**-0.1**
GRA1	**Grafenberg Arr**	**0.98**	**236**	Pg		**Pg**	**00 59 03.4**	**+0.1**
GRA1				Sg		**Sg**	**00 59 16.0**	**-0.1**
GRF	**Grafenberg Arr**	**0.98**	**236**	*e*Pg		**Pg**	**00 59 03.4**	**+0.1**
GRF				*e*Sg		**Sg**	**00 59 16.0**	**-0.1**
CLL	**Collm**	**1.11**	**17**	*i* P		**Pb**	**00 59 05.9**	**+0.2**
CLL				*i*			00 59 20.4	
CLL	**Collm**	**1.11**	**17**	*e*Pg		**Pb**	**00 59 05.6**	**-0.1**
CLL				*e*Sg		**Sb**	**00 59 20.4**	**+0.2**
CLL	**Collm**	**1.11**	**17**	Pg		**Pb**	**00 59 05.6**	**-0.1**
CLL	**Collm**	**1.11**	**17**	*i* P		**Pb**	**00 59 05.9**	**+0.2**
CLL				Sg		**Sb**	**00 59 20.4**	**+0.2**
CLL	**Collm**	**1.11**	**17**	*i* Pg		**Pb**	**00 59 05.9**	**+0.2**
CLL				*i*			00 59 07.9	
CLL				*i*			00 59 09.2	
CLL				*i* Sg		**Sb**	**00 59 20.4**	**+0.2**
	comp=Z,14nm,0.5s							
CLL				*i*			00 59 24.8	
BRG	**Berggiesshubel**	**1.13**	**56**	PG		**Pn**	**00 59 06.4**	**+0.3**
BRG				SG		**Sg**	**00 59 21.3**	**+0.5**
	comp=Z,17nm,0.3s							
BRG	**Berggiesshubel**	**1.13**	**56**	P		**Pn**	**00 59 06.4**	**+0.2**
BRG							00 59 21.3	
BRG	**Berggiesshubel**	**1.13**	**56**	*e*Pg		**Pn**	**00 59 06.5**	**+0.3**
BRG				*e*SG		**Sg**	**00 59 21.3**	**+0.5**
BRG	**Berggiesshubel**	**1.13**	**56**	P		**Pn**	**00 59 06.4**	**+0.3**
BRG	**Berggiesshubel**	**1.13**	**56**	Pg		**Pn**	**00 59 06.5**	**+0.3**
BRG				Sg		**Sg**	**00 59 21.3**	**+0.5**
WET	**Wettzell**	**1.14**	**166**	*e*Pg		**Pg**	**00 59 06.5**	**+0.2**
WET				*e*Sg		**Sb**	**00 59 20.9**	**0.0**
WET	**Wettzell**	**1.14**	**166**	Pg		**Pg**	**00 59 06.5**	**+0.2**
WET				Sg		**Sb**	**00 59 20.9**	**0.0**
PRA	**Prague**	**1.27**	**97**⇑	*e*PG		**Pg**	**00 59 09.1**	**+0.2**
PRA				*e*SG		**Sn**	**00 59 25.6**	**+0.4**
	comp=Z,15nm,0.6s							
PRA	**Prague**	**1.27**	**97**	*e*P		**Pg**	**00 59 09.1**	**+0.2**
PRA				*e*			00 59 25.6	
PRA	**Prague**	**1.27**	**97**	Sg		**Sn**	**00 59 25.6**	**+0.4**
	comp=Z,15nm,0.6s							
KHC	**Kasperske Hory**	**1.33**	**147**	*e*PG		**Pn**	**00 59 09.3**	**+0.3**
KHC				*e*SG		**Sb**	**00 59 26.4**	**0.0**
	comp=Z,8.4nm,0.2s							
KHC	**Kasperske Hory**	**1.33**	**147**	*e*P		**Pg**	**00 59 09.9**	**0.0**
KHC				pmax		pmax		
	comp=Z,3.0nm,1.1s							
KHC	**Kasperske Hory**	**1.33**	**147**	*e*P		**Pg**	**00 59 09.9**	**-0.1**
	comp=Z,3.0nm,1.1s							
KHC				Sg		**Sb**	**00 59 26.4**	**0.0**
	comp=Z,8.4nm,0.2s							
KHC	**Kasperske Hory**	**1.33**	**147**	*e*P		**Pg**	**00 59 09.9**	**0.0**
	comp=Z,3.0nm,1.1s							
PRU	**Pruhonice**	**1.36**	**100**⇑	*e*PG		**Pb**	**00 59 10.3**	**+0.5**
PRU				*e*SG		**Sg**	**00 59 28.1**	**0.0**
	comp=Z,11nm,0.2s							
PRU	**Pruhonice**	**1.36**	**100**	*e*P		**Pb**	**00 59 10.3**	**+0.5**
PRU				*e*			00 59 28.1	
PRU	**Pruhonice**	**1.36**	**100**	Pg		**Pb**	**00 59 10.3**	**+0.5**
PRU				Sg		**Sg**	**00 59 28.1**	**0.0**
	comp=Z,11nm,0.2s							
GOPC	**GO Pecny, Ondr**	**1.53**	**102**	*e*SG		**Sg**	**00 59 33.8**	**+0.2**
	comp=Z,9.9nm,0.2s							
GOPC	**GO Pecny, Ondr**	**1.53**	**102**	Sg		**Sg**	**00 59 33.8**	**+0.2**
	comp=Z,9.9nm,0.2s							
GEC2	**GERESS Array S**	**1.62**	**150**	*e*P		**Pn**	**00 59 09.9**	**-3.1**
GEC2				pmax		pmax		
	comp=Z,5.0nm,0.4s							
GEC2	**GERESS Array S**	**1.62**	**150**	*e*P		**Pn**	**00 59 09.9**	**-3.1**
	comp=Z,5.0nm,0.4s							
GEC2	**GERESS Array S**	**1.62**	**150**	*e*P		**Pn**	**00 59 09.9**	**-3.1**
	comp=Z,5.2nm,0.4s							
GEA0	**GERESS Array S**	**1.62**	**150**	*e*P		**Pn**	**00 59 10.1**	**-3.0**
GEA0	**GERESS Array S**	**1.62**	**150**	*e*P		**Pn**	**00 59 10.1**	**-3.0**
TREC	**Trest**	**2.17**	**115**⇑	*e*SG		**Sg**	**00 59 53.2**	**-1.1**
	comp=Z,4.0nm,0.2s							
TREC	**Trest**	**2.17**	**115**	Sg		**Sg**	**00 59 53.2**	**-1.1**
	comp=Z,4.0nm,0.2s							
UPC	**Upice**	**2.28**	**82**⇑	*e*SG		**Sg**	**00 59 56.7**	**-1.0**
	comp=Z,5.9nm,0.5s							
UPC	**Upice**	**2.28**	**82**	Sg		**Sg**	**00 59 56.7**	**-1.0**
	comp=Z,5.9nm,0.5s							
DPC	**Dobruska-Polom**	**2.47**	**86**	*e*SG		**Sg**	**01 00 01.9**	**-1.9**
	comp=Z,5.3nm,0.6s							
DPC	**Dobruska-Polom**	**2.47**	**86**	Sg		**Sg**	**01 00 01.9**	**-1.9**
	comp=Z,5.3nm,0.6s							
KSP	**Ksiaz**	**2.51**	**75**	*e*Pg		**Pg**	**00 59 32.5**	**0.0**
KSP				*e*Sg		**Sg**	**01 00 04.5**	**-0.5**
KSP	**Ksiaz**	**2.51**	**75**	*e*Pg		**Pg**	**00 59 32.5**	**0.0**
KSP				*e*Sg		**Sg**	**01 00 04.5**	**-0.5**
MOA	**Molln**	**2.67**	**153**	*e*Pg		**Pg**	**00 59 35.3**	**-0.4**
	comp=Z,0.4nm,0.2s							
MOA				Sg		**Sg**	**01 00 09.5**	**-0.9**
	comp=Z,0.9nm,0.1s							
MOA	**Molln**	**2.67**	**153**	Pg		**Pg**	**00 59 35.3**	**-0.4**
	comp=Z,0.4nm,0.2s							
MOA				Sg		**Sg**	**01 00 09.5**	**-0.9**
	comp=Z,0.9nm,0.1s							
CONA	**Conrad Observa**	**3.22**	**135**	*e*Pg		**Pg**	**00 59 45.1**	**-1.0**
	comp=Z,0.7nm,0.4s							
CONA				Sg		**Sb**	**01 00 23.9**	**+3.1**
	comp=Z,0.8nm,0.2s							
CONA	**Conrad Observa**	**3.22**	**135**	Pg		**Pg**	**00 59 45.1**	**-1.0**
	comp=Z,0.7nm,0.4s							
CONA				Sg		**Sb**	**01 00 23.9**	**+3.1**
	comp=Z,0.8nm,0.2s							
KBA	**Koelnbreinsper**	**3.23**	**169**	Sg		**Sg**	**01 00 29.3**	**+1.3**
	comp=Z,1.4nm,0.3s							
KBA	**Koelnbreinsper**	**3.23**	**169**	Sg		**Sg**	**01 00 29.3**	**+1.3**
	comp=Z,1.4nm,0.3s							
ABTA	**Abfaltersbach**	**3.50**	**180**	Sg		**Sg**	**01 00 38.8**	**+1.9**
	comp=Z,5.1nm,0.6s							
ABTA	**Abfaltersbach**	**3.50**	**180**	Sg		**Sg**	**01 00 38.8**	**+1.9**
	comp=Z,5.1nm,0.6s							
ARSA	**Arzberg**	**3.62**	**145**	Sg		**Sg**	**01 00 41.0**	**+0.5**
	comp=Z,2.5nm,0.7s							
ARSA	**Arzberg**	**3.62**	**145**	Sg		**Sg**	**01 00 41.0**	**+0.5**
	comp=Z,2.5nm,0.7s							

*ISCJB **05** 01:13:59.5±0.9, 31°.43S±0°.03×69°.44W±0°.05, h110km±10km, Error ellipse: s-maj=7.7km s-min=4.1km az=19.5*
*GUC **05** 01:13:59.9±0.5, 31°.40S×69°.82W, h134km±10km, ML3.4*
*SJA **05** 01:13:59.2±1.1, 31°.44S×69°.47W, h101km±7km, ML3.5, MW3.6*

ISC 05 01:14:00.5±1.7, **31°.43S**±0°.03×**69°.47W**±0°.06, **h101**km±17km, **n19**, σ0.**71**/33, **5C-17D**, **San Juan Province**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SJA	**San Juan**	**0.78**	**97**⇓	*e*P	**Pn**	**01 14 18.3**	**-0.5**
SJA				⇓*e*S	**Sn**	**01 14 32.0**	**-0.5**
AUSP	**Uspallata**	**0.79**	**175**⇓	*e*P	**Pn**	**01 14 19.0**	**-0.2**
RTCV	**Cerro Valdivia**	**0.90**	**119**⇓	*e*P	**Pn**	**01 14 19.0**	**-1.0**
RTCV				⇓*e*S	**Sn**	**01 14 34.5**	**-0.1**
ACCO	**Cerro Coronel**	**0.91**	**22**⇓	*e*P	**Pn**	**01 14 20.7**	**+0.2**
ACCO				⇓*e*S	**Sn**	**01 14 36.4**	**+1.1**
ACCO				IAML		01 14 39.0	
	comp=Z,779nm,0.5s						
AMOG	**MOGNA**	**0.97**	**60**⇓	*e*P	**Pn**	**01 14 20.4**	**-0.4**
AMOG				⇓*e*S	**Sn**	**01 14 35.3**	**-0.7**
AROD	**Rodeo**	**1.26**	**360**⇓	*e*P	**Pn**	**01 14 24.8**	**+0.5**
AROD				*e*S	**Sn**	**01 14 43.7**	**+1.4**
ASAL	**Salagasta**	**1.27**	**155**⇓	*e*P	**Pn**	**01 14 24.1**	**0.0**
ASAL				⇓*e*S	**Sn**	**01 14 43.0**	**+0.9**
ARCO	**CERRO ARCO**	**1.48**	**162**	*e*P	**Pn**	**01 14 26.2**	**-0.5**
ARCO				*e*S	**Sn**	**01 14 47.2**	**+0.7**
ARCO				IAML		01 14 48.2	
	comp=Z,685nm,0.3s						
AAGR	**Agrelo**	**1.73**	**162**⇓	*e*P	**Pn**	**01 14 29.6**	**-0.2**
PEL	**Peldehue**	**1.99**	**211**⇑	*i*P	**Pn**	**01 14 32.6**	**-0.4**
PEL				*i* S	**Sn**	**01 14 57.8**	**-0.1**
PEL				IAML		01 14 59.8	
	comp=E,217nm,0.8s						
FCH	**Farellones**	**2.01**	**200**⇓	*i*P	**Pn**	**01 14 34.2**	**+0.7**
FCH				*i* S	**Sn**	**01 15 00.5**	**+1.7**
FCH				IAML		01 15 05.0	
	comp=E,326nm,0.2s						
ROCH	**El Roble**	**2.02**	**220**⇑	*i*P	**Pn**	**01 14 32.7**	**-0.8**
ROCH				*i* S	**Sn**	**01 14 58.4**	**-0.2**
ROC1	**El Roble**	**2.02**	**220**	*e*P	**Pn**	**01 14 33.0**	**-0.6**
ROC1				⇓*e*S	**Sn**	**01 14 58.5**	**-0.4**
ACAN	**Cantantal**	**2.11**	**114**⇓	*e*P	**Pn**	**01 14 34.8**	**+0.2**
AGUA	**GUANDACOL**	**2.12**	**24**⇓	*e*P	**Pn**	**01 14 35.1**	**+0.4**
CLCH	**Cerro Calan**	**2.15**	**204**⇑	*i*P	**Pn**	**01 14 35.4**	**+0.2**
CLCH				*i* S	**Sn**	**01 15 02.1**	**+0.4**
CLCH				IAML		01 15 08.3	
	comp=E,252nm,0.5s						
ANTU	**Antumapu**	**2.34**	**204**⇑	*i*P	**Pn**	**01 14 37.6**	**-0.1**
ANTU				*e*S	**Sn**	**01 15 06.2**	**+0.1**
ANTU				IAML		01 15 08.9	
	comp=E,254nm,0.5s						
LCO	**Las Campanas**	**2.64**	**336**⇑	*i*P	**Pn**	**01 14 41.4**	**-0.4**
LCO				*i* S	**Sn**	**01 15 12.2**	**-1.2**
VCA	**Vinchina**	**2.90**	**22**	*e*P	**Pn**	**01 14 44.7**	**-0.4**
VCA				IAML		01 15 30.0	
	comp=Z,81nm,0.3s						

*ISCJB **05** 01:32:29.4±0.3, 43°.73N±0°.01×22°.05E±0°.02, h6km±2km, Error ellipse: s-maj=2.4km s-min=2.2km az=142.5*
*CSEM **05** 01:32:29.9±0.1, 43°.73N×22°.11E, h5km, ML3.2, Error ellipse: s-maj=2.3km s-min=2.2km az=82.0*
*BEO **05** 01:32:30.5±0.2, 43°.76N×22°.10E, h4km±2km, M3.2/1*
*SOF **05** 01:32:30.8, 43°.68N×22°.09E, h10km, MD3.2*
*THE **05** 01:32:31.2, 43°.71N×22°.06E, h15km±17km, ML3.1/3, Error ellipse: s-maj=23.6km s-min=2.3km az=348.0*
*PRU **05** 01:32:32.4, 43°.52N×21°.92E, h36km*

ISC 05 01:32:30.0±0.8, **43°.76N**±0°.01×**22°.13E**±0°.01, **h14**km±4km, **n170**, σ1.**50**/237, **26C-16D**, **Northwestern Balkan Peninsula**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ZAGS	**Zajecar**	**0.09**	**57**	*e*Pg	**Pg**	**01 32 33.3**	**+0.2**
ZAGS				*e*Sg	**Sg**	**01 32 35.2**	**0.0**
ZAGS	**Zajecar**	**0.09**	**57**	*e*Pg	**Pg**	**01 32 33.3**	**+0.2**
ZAGS				*e*Sg	**Sg**	**01 32 35.2**	**0.0**
BOLS	**Boljevac**	**0.14**	**298**⇑	*i*Pg	**Pg**	**01 32 32.7**	**-1.0**
BOLS				*e*Sg	**Sg**	**01 32 35.4**	**-0.8**
BOLS	**Boljevac**	**0.14**	**298**⇑	*i*Pg	**Pg**	**01 32 32.7**	**-1.0**
BOLS				*e*Sg	**Sg**	**01 32 35.4**	**-0.8**
BOVS	**Bovan**	**0.33**	**248**	*e*Pg	**Pg**	**01 32 37.0**	**+0.2**
BOVS				*e*Sg	**Sg**	**01 32 41.5**	**+0.1**
BOVS	**Bovan**	**0.33**	**248**	*e*Pg	**Pg**	**01 32 37.0**	**+0.2**
BOVS				*e*Sg	**Sg**	**01 32 41.5**	**+0.1**
ZAPS	**Zavoj**	**0.61**	**143**⇑	*i*Pg	**Pg**	**01 32 42.1**	**+0.1**
ZAPS				*e*Sg	**Sg**	**01 32 50.0**	**-0.1**
KUBS	**Kucevo**	**0.73**	**334**	*i* Pg	**Pg**	**01 32 42.9**	**-1.2**
KUBS	**Kucevo**	**0.73**	**334**	*i* Pg	**Pg**	**01 32 42.9**	**-1.2**
SELS	**Selova**	**0.91**	**234**⇑	*i*Pg	**Pg**	**01 32 46.8**	**-0.8**
SELS				*e*Sg	**Sg**	**01 32 58.6**	**-1.0**
DJES	**Djerdap**	**0.95**	**17**⇑	*i*Pg	**Pg**	**01 32 48.8**	**+0.5**
DJES				*e*Sg	**Sg**	**01 33 01.4**	**+0.7**
BARS	**Barje**	**0.97**	**194**	*e*Pg	**Pb**	**01 32 47.6**	**-0.9**
BARS				*e*Sg	**Sb**	**01 33 00.0**	**-1.2**
BARS	**Barje**	**0.97**	**194**	*e*Pg	**Pb**	**01 32 47.6**	**-0.9**
BARS				*e*Sg	**Sb**	**01 33 00.0**	**-1.2**
GRUS	**Gruza**	**1.03**	**278**	*e*Pg	**Pg**	**01 32 49.9**	**+0.1**
GRUS				*e*Sg	**Sg**	**01 33 03.2**	**-0.1**
GRUS	**Gruza**	**1.03**	**278**	*e*Pg	**Pg**	**01 32 49.9**	**+0.1**
GRUS				*e*Sg	**Sg**	**01 33 03.2**	**-0.1**
MDVR	**Moldovita**	**1.06**	**344**⇓	*i*P	**Pb**	**01 32 50.3**	**+0.2**
MDVR	**Moldovita**	**1.06**	**344**⇓	*i*P	**Pb**	**01 32 50.3**	**+0.2**
MDVR				S	**Sn**	**01 33 05.9**	**+0.9**
SRE	**Strehaia**	**1.19**	**40**⇓	*i*P	**Pg**	**01 32 53.1**	**+0.2**
SRE	**Strehaia**	**1.19**	**40**⇓	*i*P	**Pg**	**01 32 53.1**	**+0.2**
SRE				S	**Sg**	**01 33 11.2**	**+2.8**
MPEP	**Malo Peshtene**	**1.24**	**109**	P	**Pb**	**01 32 53.7**	**+0.6**
SMRK	**Smrekonice**	**1.24**	**225**	P	**Pb**	**01 32 53.3**	**+0.1**
SMRK				S	**Sg**	**01 33 10.3**	**+0.2**
TRUS	**Trudelj**	**1.32**	**291**	*e*Pg	**Pb**	**01 32 54.6**	**0.0**
TRUS				*e*Sg	**Sg**	**01 33 12.9**	**+0.2**
TRUS	**Trudelj**	**1.32**	**291**	*e*Pg	**Pb**	**01 32 54.6**	**0.0**
TRUS				*e*Sg	**Sg**	**01 33 12.9**	**+0.2**
CRAR	**CRAIOVA**	**1.33**	**64**⇓	*i*P	**Pg**	**01 32 56.6**	**+1.0**
CRAR	**CRAIOVA**	**1.33**	**64**⇓	*i*P	**Pg**	**01 32 56.6**	**+1.0**
CRAR				S	**Sg**	**01 33 15.3**	**+2.4**
VTS	**Vitosha**	**1.41**	**146**	P	**Pn**	**01 32 55.5**	**+0.2**
VTS				S	**Sb**	**01 33 14.8**	**+0.8**
VTS	**Vitosha**	**1.41**	**146**⇑	*i*P	**Pn**	**01 32 55.5**	**+0.2**
VTS	**Vitosha**	**1.41**	**146**	P	**Pn**	**01 32 55.6**	**+0.2**
VTS	**Vitosha**	**1.41**	**146**	P	**Pn**	**01 32 55.5**	**+0.2**
VTS				S	**Sb**	**01 33 14.8**	**+0.8**
IVAS	**Ivanjica**	**1.44**	**263**	*e*Pg	**Pn**	**01 32 56.2**	**+0.5**
IVAS				*e*Sg	**Sb**	**01 33 15.0**	**+0.1**
IVAS	**Ivanjica**	**1.44**	**263**	*e*Pg	**Pn**	**01 32 56.2**	**+0.5**
IVAS				*e*Sg	**Sb**	**01 33 15.0**	**+0.1**
DIVS	**Divibare**	**1.58**	**283**	*e*Pg	**Pg**	**01 32 59.9**	**-0.4**
DIVS				*e*Sg	**Sn**	**01 33 18.3**	**+0.5**
DIVS	**Divibare**	**1.58**	**283**	*e*Pn	**Pn**	**01 32 58.4**	**+0.8**
DIVS	**Divibare**	**1.58**	**283**	*e*Pg	**Pg**	**01 32 59.9**	**-0.4**
DIVS				*e*Sg	**Sn**	**01 33 18.3**	**+0.5**
BEO	**Beograd**	**1.58**	**312**	*e*Pg	**Pg**	**01 33 00.6**	**+0.2**
SJES	**Sjenica**	**1.64**	**253**	*e*Sg	**Sg**	**01 33 22.8**	**-0.1**
ZATK	**Zatriq**	**1.71**	**220**	P	**Pg**	**01 33 03.1**	**+0.2**
ZATK				S	**Sg**	**01 33 25.2**	**+0.1**
PEJK	**Peje**	**1.75**	**231**	P	**Pg**	**01 33 04.2**	**+0.6**
BANR	**Banloc**	**1.77**	**337**⇑	*i*P	**Pn**	**01 33 00.7**	**+0.6**
BANR	**Banloc**	**1.77**	**337**⇑	*i*P	**Pn**	**01 33 00.7**	**+0.6**
BANR				S	**Sg**	**01 33 26.7**	**-0.2**
SKO	**Skopje**	**1.86**	**196**	*i* Pn	**Pn**	**01 33 02.3**	**+0.9**
SKO				*i* Sn	**Sb**	**01 33 28.1**	**+1.3**
SKO	**Skopje**	**1.86**	**196**	*i* Pn	**Pn**	**01 33 02.2**	**+0.9**
SKO				*i* Sn	**Sb**	**01 33 28.0**	**+1.3**
BZS	**Buzias**	**1.89**	**349**	*e*Pn	**Pn**	**01 33 02.1**	**+0.3**
BZS				*e*Sg	**Sb**	**01 33 29.2**	**+1.6**
BZS	**Buzias**	**1.89**	**349**⇑	*i*P	**Pn**	**01 33 02.3**	**+0.5**
BZS	**Buzias**	**1.89**	**349**	*e*Pn	**Pn**	**01 33 02.1**	**+0.3**
BZS	**Buzias**	**1.89**	**349**⇑	*i*P	**Pn**	**01 33 02.3**	**+0.5**
BZS				*e*Sg	**Sb**	**01 33 29.2**	**+1.6**
BZS				S	**Sg**	**01 33 30.1**	**-0.7**
PGB	**Panagyurishte**	**1.92**	**128**	P	**Pb**	**01 33 05.3**	**+0.5**
BBLS	**Lazići**	**1.97**	**274**	*e*Pn	**Pn**	**01 33 03.4**	**+0.4**
BBLS				*e*Sg	**Sg**	**01 33 33.9**	**+0.5**
BBLS	**Lazići**	**1.97**	**274**	*e*Pn	**Pn**	**01 33 03.4**	**+0.4**
BBLS				*e*Sg	**Sg**	**01 33 33.9**	**+0.5**
KKB	**Krupnik**	**2.02**	**159**	P	**Pn**	**01 33 04.7**	**+1.1**

TEKS	**Tekeris**	**2.03**	**294**	*e*Pg		**Pb**	**01 33 07.0**	**+0.4**
TEKS				*e*Sg		**Sg**	**01 33 34.6**	**-0.6**
TEKS	**Tekeris**	**2.03**	**294**	*e*Pn		**Pn**	**01 33 04.1**	**+0.4**
TEKS	**Tekeris**	**2.03**	**294**	*e*Pg		**Pb**	**01 33 07.0**	**+0.4**
TEKS				*e*Sg		**Sg**	**01 33 34.6**	**-0.6**
LOT	**Lotru**	**2.05**	**34**⇓	*i*P		**Pn**	**01 33 04.7**	**+0.6**
LOT	**Lotru**	**2.05**	**34**⇓	*i*P		**Pn**	**01 33 04.7**	**+0.6**
LOT				S		**Sg**	**01 33 34.8**	**-1.2**
FGSL	**Fruska Gora**	**2.17**	**311**	*e*Pn		**Pn**	**01 33 07.4**	**+1.8**
FGSL				*e*Sg		**Sg**	**01 33 38.8**	**-0.8**
FRGS	**Fruska Gora**	**2.17**	**311**	*e*Pn		**Pn**	**01 33 07.4**	**+1.8**
FRGS				*e*Sg		**Sg**	**01 33 38.8**	**-0.8**
DEV	**Deva**	**2.19**	**14**⇑	*i*P		**Pb**	**01 33 08.4**	**-0.9**
DEV	**Deva**	**2.19**	**14**⇑	*i*P		**Pb**	**01 33 08.4**	**-0.9**
DEV				S		**Sg**	**01 33 39.3**	**-1.1**
HUMR	**Humele**	**2.19**	**69**⇓	*i*P		**Pn**	**01 33 07.1**	**+1.2**
HUMR	**Humele**	**2.19**	**69**	S		**Sg**	**01 33 41.2**	**+0.8**
HUMR	**Humele**	**2.19**	**69**⇓	*i*P		**Pn**	**01 33 07.1**	**+1.2**
ZIMR		**2.35**	**91**⇑	*i*P		**Pn**	**01 33 08.0**	**-0.1**
ZIMR		**2.35**	**91**	S		**Sg**	**01 33 44.4**	**-1.1**
ZIMR		**2.35**	**91**⇑	*i*P		**Pn**	**01 33 08.0**	**-0.1**
PVL	**Pavlikeni**	**2.40**	**102**	P		**Pb**	**01 33 13.5**	**+0.7**
UPM	**Unac-Piva**	**2.41**	**258**	*e*Pn		**Pn**	**01 33 10.4**	**+1.3**
VAY	**Valandovo**	**2.46**	**172**	*e*Pn		**Pb**	**01 33 14.1**	**+0.1**
VAY				*i* Sn		**Sb**	**01 33 44.8**	**+0.7**
VAY	**Valandovo**	**2.46**	**172**	*e*Pn		**Pb**	**01 33 14.0**	**+0.1**
VAY				*i* Sn		**Sb**	**01 33 44.8**	**+0.7**
MMB	**Musomiste**	**2.47**	**151**	P		**Pn**	**01 33 11.6**	**+1.8**
KRUS	**Krusevo**	**2.48**	**195**	*i* Pn		**Pn**	**01 33 10.3**	**+0.3**
KRUS				*e*Sn		**Sn**	**01 33 35.4**	**-4.6**
KRUS	**Krusevo**	**2.48**	**195**	*i* Pn		**Pn**	**01 33 10.2**	**+0.3**
PDG	**Podgorica**	**2.48**	**239**	*e*Pn		**Pn**	**01 33 10.0**	**+0.4**
PLD	**Plovdiv**	**2.52**	**130**	P		**Pb**	**01 33 15.5**	**+0.7**
SIRR	**Siria**	**2.53**	**353**⇓	*i*P		**Pn**	**01 33 11.2**	**+0.7**
SIRR	**Siria**	**2.53**	**353**	S		**Sb**	**01 33 48.8**	**+2.8**
SIRR	**Siria**	**2.53**	**353**⇓	*i*P		**Pn**	**01 33 11.2**	**+0.7**
KNT	**Kendrikon**	**2.66**	**167**	P		**Pn**	**01 33 12.6**	**+0.2**
KNT	**Kendrikon**	**2.66**	**167**	P		**Pn**	**01 33 12.6**	**+0.2**
DRME	**Dracevica, Mon**	**2.67**	**235**	*e*Pn		**Pn**	**01 33 14.1**	**+1.6**
VOIR		**2.68**	**50**⇓	*i*P		**Pn**	**01 33 13.9**	**+1.2**
**VO

1.6nm,0.4s
MOA Molln 6.85 309 *e*Pn **Pn 01 34 12.2 +2.3**
0.7nm,0.4s
MOA *e*Sn **Sn 01 35 26.0 -1.5**
1.9nm,0.3s
MOA Molln 6.85 309 Pn **Pn 01 34 12.2 +2.3**
0.7nm,0.4s
KBA Koelnbreinsper 7.01 301 *e*Sn **Sn 01 35 28.2 -3.6**
1.6nm,0.3s
ABTA Abfaltersbach 7.41 297 *e*Pn **Pn 01 34 19.4 +1.7**
0.4nm,0.2s
ABTA Sn **Sn 01 35 39.8 -1.7**
1.3nm,0.4s
ABTA Abfaltersbach 7.41 297 Pn **Pn 01 34 19.4 +1.7**
0.4nm,0.2s
KHC Kasperske Hory 7.98 315 *e*PN **Pn 01 34 29.5 +4.1**
KHC *e*PG Pg 01 34 55.5 -7.1
KHC *ex* x 01 36 03.5

IDC 05 01:35:52.1±8.7,**2°.53N**×**127°.45E, h0**km,**mb3.7**/3,
mb1 3.9/3,**mb1mx3.5**/28,**mbtmp3.7**/3,**Error ellipse: s-maj=179.9km s-min=135.9km az=78.0,Northern Molucca Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.33**	**163**	P	P	01 41 01.0	-1.1
	1.0nm,0.5s,baz=342,slow=10,SNR=5.3						
ASAR	**Alice Springs**	**26.78**	**167**	P	P	01 41 35.7	+1.7
	0.3nm,0.4s,baz=340,slow=10,SNR=5.8						
STKA	**Stephens Creek**	**36.76**	**160**	P	P	01 43 00.5	-1.0
	1.6nm,0.7s,baz=355,slow=9.0,SNR=4.1						

*KRNET **05** 01:40:11.1±0.1,40°.33N×72°.15E,h11km,mb2.1*
*SOME **05** 01:40:12.4,40°.48N×72°.12E,h0km*
*NNC **05** 01:40:18.6±6.3,40°.59N×72°.17E,h0km,mb2.6,mpv2.3, Error ellipse: s-maj=49.3km s-min=32.9km az=168.0*
ISC 05 01:40:11.4±2.0,**40°.32N**±0°.08×**72°.16E**±0°.06,**h2**km±14km,
n8,σ0**s75**/14,**6C-8D,Kyrgyzstan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BTK	**Batken**	**1.06**	**256**	⇑*e*P	**Pg**	**01 40 31.8**	**0.0**
	baz=256						
BTK				⇑*i*S	**Sb**	**01 40 47.0**	**+0.1**
	baz=256						
ARSB	**Arslanbob**	**1.18**	**32**	⇓*i*P	**Pg**	**01 40 34.3**	**+0.2**
	baz=32						
ARSB				⇓*i*S	**Sn**	**01 40 51.2**	**-0.7**
	baz=32						
ARK	**Arkit**	**1.48**	**354**	⇓*e*P	**Pn**	**01 40 39.1**	**-0.2**
	baz=355						
ARK				⇓*i*S	**Sn**	**01 41 00.0**	**+0.6**
	baz=355						
MNAS	**Manas**	**2.18**	**7**	⇑*e*P	**Pb**	**01 40 50.7**	**-1.0**
	baz=7.0						
MNAS				⇑*e*S	**Sb**	**01 41 19.8**	**+0.5**
	baz=7.0						
MNAS	**Manas**	**2.18**	**7**	⇑Pn	**Pb**	**01 40 50.3**	**-1.4**
	0.9nm,0.4s						
MNAS				⇓Sn	**Sb**	**01 41 19.8**	**+0.5**
	1.5nm,0.5s						
IUG	**luzhnay**	**2.43**	**319**	*e*P	**Pb**	**01 40 56.5**	**+0.5**
	15nm,0.3s						
IUG				*e*S	**Sg**	**01 41 29.4**	**-0.2**
	11nm,0.3s						
AAK	**Ala-Archa**	**2.91**	**36**	⇓Pn	**Pb**	**01 41 04.9**	**+0.8**
	1.4nm,0.6s						
AAK				⇑Lg	Lg	01 41 43.5	
	1.3nm,0.4s						
KK31	**Karatay Array**	**3.04**	**337**	⇓Pg	**Pg**	**01 41 10.0**	**+0.2**
	0.2nm,0.2s,baz=157,slow=14,SNR=8.0						
KK31				⇓Lg	Lg	01 41 46.1	
	0.4nm,0.3s,baz=150,slow=29						

*ISCJB **05** 02:01:36.0±0.5,8°.20S±0°.04×107°.30E±0°.03,h49km±7km, mb4.2/9,MS3.1/2,Error ellipse: s-maj=7.4km s-min=5.0km az=19.0*
*NEIC **05** 02:01:36.6±1.3,8°.01S×107°.26E,h48km±11km,mb4.2/3, Error ellipse: s-maj=14.4km s-min=13.1km az=84.0*
NEIC Felt [III] at Pangalengan.
*DJA **05** 02:01:36.4±0.8,8°.S±4°.×10°.7E±°,h22km±8km,M4.5/13, MLv4.5/13*
*IDC **05** 02:01:40.0±14.0,7°.87S×107°.45E,h75km±129km,mb3.6/7, mb1 3.8/7,mb1mx3.5/43,mbtmp4.0/7,MS3.3/2,Ms1 3.3/2, ms1mx2.7/36,Error ellipse: s-maj=51.4km s-min=29.2km az=74.0*
ISC 05 02:01:37.0±1.1,**8°.19S**±0°.05×**107°.29E**±0°.04,**h45**km±11km,
n35,σ1**s67**/40,**mb4.2**/9,**Jawa**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CISI	**Cisompet, Garu**	**0.82**	**40**	*e*Pn	**Pn**	**02 01 51.4**	**-0.9**
CISI				*e*S	**Sn**	**02 02 01.0**	**-2.2**
CNJI	**Cibinong**	**0.89**	**350**	P	**Pn**	**02 01 52.6**	**-0.5**
CNJI				S	**Sn**	**02 02 03.4**	**-1.5**
CMJI	**Cimerak**	**1.22**	**71**	P	**Pn**	**02 01 57.3**	**-0.3**
CMJI				S	**Sn**	**02 02 11.2**	**-1.7**
SKJI	**Sukabumi**	**1.38**	**328**	P	**Pn**	**02 02 00.0**	**+0.1**
LEM	**Lembang**	**1.39**	**14**	P	Pn	02 02 06.4	+6.2
LEM				S	**Sn**	**02 02 22.5**	**+5.1**
DBJI	**Dramaga**	**1.71**	**342**	P	**Pn**	**02 02 05.2**	**+0.8**
DBJI				S	**Sn**	**02 02 27.3**	**+2.2**
KPJI	**Karang Pucung**	**1.83**	**63**	P	**Pn**	**02 02 07.0**	**+0.9**
KPJI				S	**Sn**	**02 02 29.4**	**+1.3**
CGJI	**Cibinong**	**2.23**	**315**	P	**Pn**	**02 02 11.6**	**+0.1**
CGJI				S	**Sn**	**02 02 36.0**	**-1.7**
SBJI	**Serang**	**2.35**	**331**	P	**Pn**	**02 02 14.4**	**+1.2**
SBJI				S	**Sn**	**02 02 42.9**	**+2.0**
XMIS	**Christmas Isla**	**2.79**	**215**	*e*Pn	**Pn**	**02 02 20.0**	**+0.7**
XMIS				*e*S	**Sn**	**02 02 49.9**	**-1.9**
BLSI	**Bandar Lampung**	**3.46**	**324**	P	**Pn**	**02 02 29.3**	**+0.9**
KASI	**Kota Agung**	**3.83**	**314**	P	**Pn**	**02 02 34.7**	**+1.2**
KASI				S	**Sn**	**02 03 15.5**	**-1.9**
PCJI	**Pacitan**	**3.85**	**90**	P	**Pn**	**02 02 34.6**	**+0.9**
PCJI				S	**Sn**	**02 03 15.9**	**-1.8**
PWJI	**Pagerwojo**	**4.47**	**88**	P	**Pn**	**02 02 43.0**	**+0.7**
MBWA	**Marble Bar**	**17.62**	**138**	*e*Pn	**Pn**	**02 05 39.5**	**+0.2**
FITZ	**Fitzroy Crossi**	**20.39**	**121**	P	**P**	**02 06 11.3**	**+1.1**
	5.2nm,0.7s,baz=289,slow=6.9,SNR=13						
FITZ				S	S	02 09 42.4	-14
	3.1nm,1.1s,baz=108,slow=13,SNR=2.1						
FITZ				LR	LR	02 15 10.7	
	comp=Z,79nm,20.2s,baz=292,slow=40						
FITZ	**Fitzroy Crossi**	**20.39**	**121**	*e*P	**P**	**02 06 11.4**	**+1.1**
	3.5nm,0.6s						
H01W3	**Cape Leeuwin H**	**27.30**	**168**	T	T	02 36 51.7	
	baz=347,slow=76,SNR=12						
H01W1	**Cape Leeuwin H**	**27.32**	**168**	T	T	02 36 53.1	
	baz=347,slow=76,SNR=8.9						
H01W2	**Cape Leeuwin H**	**27.32**	**168**	T	T	02 36 51.4	
	baz=347,slow=76,SNR=11						
WRA	**Warramunga Arr**	**28.67**	**117**	P	**P**	**02 07 28.6**	**-1.3**
	0.4nm,0.4s,baz=292,slow=11,SNR=5.2						
WRAB	**Tennant Creek**	**28.68**	**117**	*e*P	**P**	**02 07 31.2**	**+1.3**
	6.4nm,1.1s						
ASAR	**Alice Springs**	**29.78**	**124**	P	**P**	**02 07 39.9**	**+0.2**
	0.2nm,0.4s,baz=302,slow=9.3,SNR=3.3						
ASAR				LR	LR	02 20 53.2	
	comp=Z,53nm,18.8s,baz=24,slow=39						
H08S2	**Diego Garcia H**	**34.46**	**268**	T	T	02 45 34.7	
	baz=93,slow=76,SNR=34						
H08S3	**Diego Garcia H**	**34.47**	**268**	T	T	02 45 42.1	
	baz=93,slow=76,SNR=13						
H08S1	**Diego Carcia H**	**34.48**	**268**	T	T	02 45 30.9	
	baz=93,slow=76,SNR=40						
STKA	**Stephens Creek**	**39.64**	**131**	P	**P**	**02 09 06.5**	**+1.8**
	3.0nm,0.4s,baz=306,slow=8.2,SNR=16						
SONM	**Songino Array**	**55.78**	**359**	P	**P**	**02 11 07.8**	**-1.8**
	0.4nm,0.4s,baz=175,slow=8.5,SNR=3.3						
SONM				PcP	**PcP**	**02 12 06.5**	**-1.7**
	0.8nm,0.4s,baz=185,slow=4.1,SNR=5.6						
MAW	**Mawson**	**66.32**	**197**	P	**P**	**02 12 22.6**	**+2.1**
	1.7nm,0.5s,baz=101,slow=5.2,SNR=2.5						
ABKAR	**Akbulak array**	**70.57**	**329**	*e*P	**P**	**02 12 45.1**	**-2.3**
	4.1nm,0.4s						
BRTR	**Keskin Array B**	**82.83**	**312**	P	**P**	**02 13 55.5**	**-1.5**
	1.0nm,0.6s,baz=139,slow=7.5,SNR=8.7						
SNAA	**Sanae**	**88.48**	**197**	*e*P	**P**	**02 14 26.3**	**+1.9**
	67nm,0.7s						
TXAR	**Lajitas Array**	**144.12**	**50**	PKP	**PKPab**	**02 21 05.7**	**-0.6**
	0.3nm,0.5s,baz=259,slow=0.9,SNR=3.5						
JCT	**Junction City**	**146.33**	**45**	*e*PKPbc	**PKPdf**	**02 21 12.8**	**+0.5**
MIAR	**Mount Ida**	**147.50**	**33**	*e*PKPbc	**PKPbc**	**02 21 15.5**	**-1.2**

*MOS **05** 02:17:17.6±0.7,52°.80N×169°.14E,h13km,mb4.4/1,Error ellipse: s-maj=15.7km s-min=6.4km az=33.8*
*IDC **05** 02:17:19.2±3.9,53°.07N×169°.21E,h0km,mb3.5/2, mb1 4.0/3,mb1mx3.4/46,mbtmp3.7/3,ML3.4/1,MS3.2/1, Ms1 3.3/1,ms1mx2.3/31,Error ellipse: s-maj=134.0km s-min=33.4km az=169.0*
*KRSC **05** 02:17:23.3±2.0,52°.96N×168°.24E,h16km±34km,ML4.4*
ISC 05 02:17:22.5±1.4,**52°.85N**±0°.07×**168°.88E**±0°.08,**h35**km,**n57,**
σ**2s00**/82,**South of Aleutian Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BKI	**Bering**	**2.92**	**325**	P	**Pn**	**02 18 05.4**	**-1.0**
BKI				S	**Sn**	**02 18 37.4**	**-2.8**
BKI	**Bering**	**2.92**	**325**	*e*P	**Pn**	**02 18 05.4**	**-1.0**
BKI				*e*S	**Sn**	**02 18 37.4**	**-2.8**
MKZ	**Mys Kozlova**	**4.58**	**295**	P	**Pn**	**02 18 29.9**	**+0.7**
MKZ				S	**Sn**	**02 19 19.7**	**-1.4**
MKZ	**Mys Kozlova**	**4.58**	**295**	*e*P	**Pn**	**02 18 29.9**	**+0.7**
MKZ				*e*S	**Sn**	**02 19 19.7**	**-1.4**
SPN	**Mys Shipunski**	**5.36**	**276**	P	**Pn**	**02 18 41.4**	**+1.5**
SPN				S	**Sn**	**02 19 38.2**	**-2.1**
SPN	**Mys Shipunski**	**5.36**	**276**	*e*P	**Pn**	**02 18 41.4**	**+1.5**
SPN				*e*S	**Sn**	**02 19 38.2**	**-2.1**
ZLN	**Zelenaya**	**5.69**	**307**	P	**Pn**	**02 18 47.1**	**+2.7**
ZLN				S	**Sn**	**02 19 47.9**	**-0.6**
ZLN	**Zelenaya**	**5.69**	**307**	*e*P	**Pn**	**02 18 47.1**	**+2.7**
ZLN				*e*S	**Sn**	**02 19 47.9**	**-0.6**
SMKR	**Semkarok**	**5.70**	**314**	P	**Pn**	**02 18 46.7**	**+2.1**
SMKR				S	**Sn**	**02 19 50.6**	**+1.8**
SMKR	**Semkarok**	**5.70**	**314**	*e*P	**Pn**	**02 18 46.7**	**+2.1**
SMKR				*e*S	**Sn**	**02 19 50.6**	**+1.8**
KII	**Karymskiy**	**5.76**	**286**	P	**Pn**	**02 18 46.9**	**+1.4**
KII	**Karymskiy**	**5.76**	**286**	*e*P	**Pn**	**02 18 46.9**	**+1.4**
LGNR	**Loginova**	**5.77**	**307**	P	**Pn**	**02 18 48.1**	**+2.3**
LGNR	**Loginova**	**5.77**	**307**	*e*P	**Pn**	**02 18 48.1**	**+2.3**
BZMR	**Bezymyannaya**	**5.80**	**306**	P	**Pn**	**02 18 47.9**	**+1.9**
BZMR	**Bezymyannaya**	**5.80**	**306**	*e*P	**Pn**	**02 18 47.9**	**+1.9**
SRKR	**Sorokina**	**5.87**	**314**	P	**Pn**	**02 18 49.2**	**+2.2**
SRKR				S	**Sn**	**02 19 55.8**	**+2.7**
SRKR	**Sorokina**	**5.87**	**314**	*e*P	**Pn**	**02 18 49.2**	**+2.2**
SRKR				*e*S	**Sn**	**02 19 55.8**	**+2.7**
KIRR	**Kirishev**	**5.88**	**305**	P	**Pn**	**02 18 50.2**	**+3.0**
KIRR	**Kirishev**	**5.88**	**305**	*e*P	**Pn**	**02 18 50.2**	**+3.0**
KRSR	**Krestovskiy**	**5.90**	**308**	P	**Pn**	**02 18 48.7**	**+1.3**
KRSR				S	**Sn**	**02 19 53.7**	**-0.1**
KRSR	**Krestovskiy**	**5.90**	**308**	*e*P	**Pn**	**02 18 48.7**	**+1.3**
KRSR				*e*S	**Sn**	**02 19 53.7**	**-0.1**
KPT	**Kopyto**	**5.95**	**305**	P	**Pn**	**02 18 50.1**	**+2.1**
KPT	**Kopyto**	**5.95**	**305**	*e*P	**Pn**	**02 18 50.1**	**+2.1**
SDLR	**Sedlovina**	**6.04**	**278**	P	**Pn**	**02 18 51.2**	**+1.8**
SDLR				S	**Sn**	**02 19 56.4**	**-1.0**
SDLR	**Sedlovina**	**6.04**	**278**	*e*P	**Pn**	**02 18 51.2**	**+1.8**
SDLR				*e*S	**Sn**	**02 19 56.4**	**-1.0**
UGLR	**Uglovaya**	**6.08**	**277**	P	**Pn**	**02 18 51.8**	**+1.9**
UGLR	**Uglovaya**	**6.08**	**277**	*e*P	**Pn**	**02 18 51.8**	**+1.9**
KRER	**Koryakskii**	**6.13**	**278**	P	**Pn**	**02 18 52.3**	**+1.7**
KRER	**Koryakskii**	**6.13**	**278**	*e*P	**Pn**	**02 18 52.3**	**+1.7**
DALK	**Dalny**	**6.13**	**276**	P	**Pn**	**02 18 51.8**	**+1.4**
DALK	**Dalny**	**6.13**	**276**	*e*P	**Pn**	**02 18 51.8**	**+1.4**
AVH	**Avacha**	**6.13**	**278**	P	**Pn**	**02 18 52.5**	**+1.9**
AVH	**Avacha**	**6.13**	**278**	*e*P	**Pn**	**02 18 52.5**	**+1.9**
KOZ	**Kozyrevsk**	**6.16**	**305**	P	**Pn**	**02 18 51.9**	**+1.0**
KOZ				S	**Sn**	**02 19 57.4**	**-2.7**
KOZ	**Kozyrevsk**	**6.16**	**305**	*e*P	**Pn**	**02 18 51.9**	**+1.0**
KOZ				*e*S	**Sn**	**02 19 57.4**	**-2.7**
KRX	**Arik**	**6.19**	**279**	P	**Pn**	**02 18 53.1**	**+1.7**
KRX	**Arik**	**6.19**	**279**	*e*P	**Pn**	**02 18 53.1**	**+1.7**
PET	**Petropavlovsk**	**6.19**	**276**	P	**Pn**	**02 18 52.6**	**+1.3**
KOK	**Koryaka**	**6.19**	**278**	P	**Pn**	**02 18 53.4**	**+2.0**
KOK	**Koryaka**	**6.19**	**278**	*e*P	**Pn**	**02 18 53.4**	**+2.0**
RUS	**Russkaya**	**6.33**	**270**	P	**Pn**	**02 18 55.0**	**+1.8**
RUS				S	**Sn**	**02 20 03.0**	**-1.1**
RUS	**Russkaya**	**6.33**	**270**	*e*P	**Pn**	**02 18 55.0**	**+1.8**
RUS				*e*S	**Sn**	**02 20 03.0**	**-1.1**
KRMR	**Karymshinskiy**	**6.52**	**274**	*e*S	**Sn**	**02 20 05.7**	**-3.1**
MTVR	**Mutnovka**	**6.52**	**271**	P	**Pn**	**02 18 57.6**	**+1.6**
MTVR				S	**Sn**	**02 20 06.8**	**-2.3**
MTVR	**Mutnovka**	**6.52**	**271**	*e*P	**Pn**	**02 18 57.6**	**+1.6**
MTVR				*e*S	**Sn**	**02 20 06.8**	**-2.3**
GNL	**Ganaly**	**6.62**	**282**	P	**Pn**	**02 18 59.9**	**+2.6**
GNL	**Ganaly**	**6.62**	**282**	*e*P	**Pn**	**02 18 59.9**	**+2.6**
ESO	**Esso**	**6.70**	**301**	P	**Pn**	**02 18 58.8**	**+0.5**
ESO	**Esso**	**6.70**	**301**	*e*P	**Pn**	**02 18 58.8**	**+0.5**
ASAK	**Asacha**	**6.71**	**270**	P	**Pn**	**02 19 01.4**	**+2.9**
ASAK	**Asacha**	**6.71**	**270**	*e*P	**Pn**	**02 19 01.4**	**+2.9**
PETK	**Petropavlovsk-**	**6.76**	**277**	Pn	**Pn**	**02 19 02.0**	**+2.8**
	3.4nm,0.3s,baz=88,slow=19,SNR=32						
PETK				Sn	**Sn**	**02 20 11.0**	**-3.8**
	baz=61,slow=20,SNR=2.1						
APC	**Apacha**	**7.10**	**275**	P	**Pn**	**02 19 06.4**	**+2.7**
APC				S	**Sn**	**02 20 21.8**	**-1.3**
APC	**Apacha**	**7.10**	**275**	*e*P	**Pn**	**02 19 06.4**	**+2.7**
APC				*e*S	**Sn**	**02 20 21.8**	**-1.3**
ILAR	**Eielson Array**	**25.23**	**45**	P	**P**	**02 22 43.6**	**-1.0**
	1.7nm,0.7s,baz=252,slow=7.4,SNR=26						
ILAR				LR	LR	02 32 20.3	
	comp=Z,56nm,19.0s,baz=207,slow=36						
PDAR	**Pinedale Array**	**52.88**	**66**	P	**P**	**02 26 34.8**	**-0.1**
	0.2nm,0.6s,baz=309,slow=5.7,SNR=2.9						

*NIED **05** 02:17:00,38°.30N×141°.90E,h65km,Mw3.9 Best double couple: M0 6.98000×10^14 NP1:ϕs310.00000°,δ54.00000°, λ145.00000°. NP2:ϕs63.00000°,δ62.00000°,λ42.00000°.*
JMA 05 02:17:42.7±0.1,**38°.29N**×**141°.92E,h46**km±1km,**M3.8,**
Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIO	**Ouri**	**0.48**	**290**	P	Pn	02 17 53.4	0.0
JIO				S	Sn	02 18 00.6	-0.5
OFUJ	**Ofunato**	**0.81**	**346**	P	Pn	02 17 57.9	+0.1
OFUJ				S	Sn	02 18 08.6	-0.2
JMK	**Ichinoseki**	**0.86**	**321**	P	Pn	02 17 58.8	+0.4
JMK				S	Sn	02 18 10.0	+0.1
JMM	**Marumori**	**0.98**	**245**	P	Pn	02 17 59.6	-0.5
JMM				*e*S	Sn	02 18 12.5	-0.4
JOU	**Okura**	**0.99**	**275**	P	Pn	02 18 00.6	+0.4
JOU				S	Sn	02 18 13.2	+0.1
JOM	**Ohasama**	**1.28**	**338**	P	Pn	02 18 04.7	+0.6
JOM				*e*S	Sn	02 18 21.2	+1.1
JYK	**Kaneyama**	**1.37**	**298**	P	Pn	02 18 05.9	+0.5
JYK				S	Sn	02 18 23.5	+1.0
JYS	**Shirataka**	**1.46**	**268**	P	Pn	02 18 07.1	+0.5
JFT	**Otama**	**1.47**	**239**	P	Pn	02 18 07.4	+0.6
JRG	**Rokugo**	**1.49**	**318**	P	Pn	02 18 08.0	+0.9
JRG				S	Sn	02 18 27.7	+2.3

CASC 05 02:21:40.9±1.4,**11°.45N**×**85°.83W,h177**km±6km,**MD3.6,**
ML2.9,4C,Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CONN	**Concepcion**	**0.23**	**60**	*e*P	Pn	02 22 04.6	0.0
CRZ1	**La Cruz**	**0.42**	**153**	⇑*e*P	Pn	02 22 05.6	+0.5
CRZ1				*e*S	Sn	02 22 24.3	+0.5
MGAN	**Managua**	**0.80**	**330**	*e*P	Pn	02 22 07.8	+0.8
MGAN				*e*S	Sn	02 22 28.3	+1.0
TISN	**Laguna Tiscapa**	**0.81**	**328**	*e*P	Pn	02 22 07.7	+0.6
ACON	**Acoyapa**	**0.83**	**51**	*e*P	Pn	02 22 07.9	+0.8
ACON				*e*S	Sn	02 22 28.2	+0.8
GPS3	**Bodega del ICE**	**0.83**	**146**	⇑*i*P	Pn	02 22 07.8	+0.5
GPS3				*e*S	Sn	02 22 28.5	+0.9
XAVN	**Gruta Xavier**	**0.85**	**325**	*e*P	Pn	02 22 07.2	-0.1
MESS	**Mesas**	**0.94**	**138**	⇑*i*P	Pn	02 22 08.8	+0.8
MESS				*e*S	Sn	02 22 29.1	+0.1
COLC	**Colonia**	**0.99**	**141**	*e*P	Pn	02 22 09.4	+1.0
COLC				*e*S	Sn	02 22 31.3	+1.7
BOAB	**BOACO BROADBAN**	**1.01**	**9**	*e*P	Pn	02 22 09.3	+0.8
BOAB				*e*S	Sn	02 22 30.4	+0.6
CUI	**Cuipilapa**	**1.02**	**140**	⇑*i*P	Pn	02 22 09.6	+0.9
CUI				*e*S	Sn	02 22 30.7	+0.7
COPN	**Copaltepe**	**1.04**	**314**	*e*P	Pn	02 22 07.9	-0.7
COPN				AML	AML	02 22 33.6	
	comp=Z,129nm,0.2s						
MOMN	**Momotombo**	**1.18**	**324**	*e*P	Pn	02 22 09.3	-0.5
CNGN	**Cerro Negro**	**1.35**	**321**	*e*P	Pn	02 22 11.6	+0.3
CGA2	**Cerro Gallo 2**	**1.96**	**137**	*e*P	Pn	02 22 18.4	+0.9
CGA2				*e*S	Sn	02 22 46.2	+0.3
URSC	**Urasca**	**2.58**	**128**	*e*P	Pn	02 22 25.1	+0.5

*IDC **05** 02:34:10.0±1.3,15°.11S×168°.21E,h0km,mb4.3/7, mb1 4.5/8,mb1mx4.1/26,mbtmp4.3/8,ML4.4/1,MS3.5/4, Ms1 3.4/4,ms1mx3.0/24,Error ellipse: s-maj=32.4km s-min=25.4km az=118.0*
*ISCJB **05** 02:34:14.2±1.0,15°.27S±0°.07×168°.1E±0°.1,h33km, mb4.3/11,MS3.4/4,Error ellipse: s-maj=19.6km s-min=10.7km az=177.2*
*NEIC **05** 02:34:15.5±0.7,15°.18S×168°.17E,h35km,mb4.5/3,Error ellipse: s-maj=14.8km s-min=12.8km az=72.0*
ISC 05 02:34:15.6±1.1,**15°.2S**±0°.1×**168°.2E**±0°.2,**h35**km,**n15,**
σ**0s68**/14,**mb4.3**/11,**MS3.5**/4,**Vanuatu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**7.03**	**193**	Pn	**Pn**	**02 35 55.5**	**-0.6**
	7.1nm,0.3s,baz=43,slow=18,SNR=42						
DZM				Sn	**Sn**	**02 37 14.5**	**-0.3**
	4.3nm,0.3s,baz=317,slow=22,SNR=7.1						
CTA	**Charters Tower**	**21.45**	**254**	P	**P**	**02 39 01.6**	**+0.6**
	4.7nm,0.7s,baz=56,slow=9.3,SNR=3.9						
URZ	**Urewera**	**24.28**	**163**	P	**P**	**02 39 30.0**	**+0.4**
	7.9nm,0.9s,baz=315,slow=6.7,SNR=3.6						
STKA	**Stephens Creek**	**29.37**	**231**	P	**P**	**02 40 15.7**	**+0.2**
	4.0nm,0.7s,baz=39,slow=7.1,SNR=6.6						
STKA				LR	LR	02 52 22.6	
	comp=Z,65nm,18.3s,baz=27,slow=37						
WRAB	**Tennant Creek**	**32.56**	**257**	*e*P	**P**	**02 40 43.3**	**-0.5**
	2.1nm,0.6s						
WRA	**Warramunga Arr**	**32.57**	**257**	P	**P**	**02 40 43.1**	**-0.8**
	3.4nm,0.6s,baz=87,slow=9.2,SNR=28						
ASAR	**Alice Springs**	**33.34**	**250**	P	**P**	**02 40 50.2**	**-0.3**
	9.1nm,0.8s,baz=79,slow=9.2,SNR=58						
ASAR				LR	LR	02 53 16.0	
	comp=Z,123nm,19.4s,baz=96,slow=34						
PPT	**Papeete**	**40.53**	**99**	LR	LR	02 57 20.9	
	comp=Z,16nm,18.4s,baz=231,slow=34						
FITZ	**Fitzroy Crossi**	**40.80**	**260**	*e*P	**P**	**02 41 53.8**	**-0.1**
	6.4nm,0.7s						
MBWA	**Marble Bar**	**46.28**	**255**	*e*P	**P**	**02 42 38.6**	**+0.5**
	17nm,0.7s						
NWAO	**Narrogin (SRO)**	**49.27**	**240**	LR	LR	03 02 49.4	
	comp=Z,104nm,18.2s,baz=276,slow=35						
QSPA	**South Pole Qui**	**74.83**	**180**	*e*P	**P**	**02 45 53.4**	**+1.0**
	11nm,0.9s						
SONM	**Songino Array**	**83.40**	**323**	P	**P**	**02 46 39.9**	**+0.5**
	1.3nm,0.9s,baz=139,slow=4.9,SNR=6.0						
ILAR	**Eielson Array**	**86.71**	**18**	P	**P**	**02 46 54.5**	**-0.9**
	0.6nm,0.8s,baz=238,slow=5.0,SNR=6.4						
TORD	**Torodi Ar. Bea**	**166.74**	**263**	PKPab	**PKPab**	**02 55 20.7**	**-0.7**
	0.3nm,0.9s,baz=110,slow=2.5,SNR=2.3						

DJA 05 02:36:24.1±0.5,**8°.S**±5°.×**10°.7E**±°,**h56**km±8km,**M3.8/**10,
MLv3.8/10,**Jawa**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CNJI	**Cibinong**	**0.49**	**349**	P	Pn	02 36 37.1	+1.5
CNJI				S	Sn	02 36 46.5	+2.6
SKJI	**Sukabumi**	**1.02**	**320**	P	Pn	02 36 43.1	+0.8
SKJI				S	Sn	02 36 57.0	+1.3
LEM	**Lembang**	**1.03**	**22**	P	Pn	02 36 47.1	+4.5
LEM				S	Sn	02 37 02.2	+5.9
CMJI	**Cimerak**	**1.22**	**90**	P	Pn	02 36 45.5	+0.6
CMJI				S	Sn	02 37 01.1	+0.7
DBJI	**Dramaga**	**1.31**	**339**	P	Pn	02 36 46.9	+0.7
DBJI				S	Sn	02 37 03.8	+1.0
JCJI	**Jatiwangi**	**1.66**	**39**	P	Pn	02 36 47.8	-3.1
JCJI				S	Sn	02 37 06.4	-4.7
KPJI	**Karang Pucung**	**1.76**	**75**	P	Pn	02 36 52.5	+0.3
KPJI				S	Sn	02 37 14.4	+0.9
CGJI	**Cibinong**	**1.91**	**308**	P	Pn	02 36 54.8	+0.5
CGJI				S	Sn	02 37 16.9	-0.4
KASI	**Kota Agung**	**3.52**	**310**	P	Pn	02 37 15.1	-1.2
KASI				S	Sn	02 37 55.1	-1.6
PCJI	**Pacitan**	**3.94**	**96**	P	Pn	02 37 22.6	+0.5

JMA 05 02:43:39.4,37°.00N×140°.49E,h6km±2km,**M3.2,7C**
Broadband fault plane solution: P waves. NP1: ϕs116.00000°,δ58.00000°,λ-70.00000°. **NP2:** ϕs262.00000°,δ37.00000°,λ-118.00000°. **Principal axes:** T Plg11.0000°, Azm192.0000°; N Plg17.0000°, Azm285.0000°; P Plg70.0000°, Azm70.0000°; **Eastern Honshu**

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

WATA				Sg	Sg	02 45 50.8	0.0	
	58nm,0.1s							
ABSI	**Aberstueckl**	**0.34**	**176**	Pg	Pg	02 45 46.3	-0.1	
ABSI				Sg	Sg	02 45 51.2	0.0	
	130nm,0.4s							
ABSI	**Aberstueckl**	**0.34**	**176**	Pg	Pg	02 45 46.3	-0.1	
ABSI				Sg	Sg	02 45 51.2	0.0	
	130nm,0.4s							
FETA	**Feichten**	**0.38**	**263**	Pg	Pg	02 45 46.4	-0.7	
	9.5nm,0.1s,SNR=117							
FETA				Sg	Sg	02 45 51.5	-0.8	
	70nm,0.1s							
RETA	**Reutte**	**0.55**	**320**	Pg	Pg	02 45 49.2	-0.9	
	2.0nm,0.1s,SNR=17							
RETA				Sg	Sg	02 45 57.2	-0.2	
	19nm,0.1s							
RISI	**Rein**	**0.56**	**103**	⇑*i*Pg	Pg	02 45 49.9	-0.4	
RISI				Sg	Sg	02 45 57.4	-0.4	
	430nm,0.4s							
RISI	**Rein**	**0.56**	**103**	⇑*i*Pg	Pg	02 45 49.9	-0.4	
RISI				Sg	Sg	02 45 57.4	-0.4	
	430nm,0.4s							
APPI	**Appiano**	**0.59**	**184**	Pg	Pg	02 45 50.8	-0.2	
	103nm,0.8s							
APPI	**Appiano**	**0.59**	**184**	Pg	Pg	02 45 50.8	-0.2	
	103nm,0.8s							
KOSI	**Kohlern**	**0.61**	**174**	Pg	Pg	02 45 51.3	0.0	
KOSI				Sg	Sg	02 45 59.5	0.0	
	29nm,0.4s							
KOSI	**Kohlern**	**0.61**	**174**	Pg	Pg	02 45 51.3	0.0	
KOSI				Sg	Sg	02 45 59.5	0.0	
	29nm,0.4s							
MOSI	**Grossmontoni**	**0.68**	**228**	Pg	Pg	02 45 51.9	-0.7	
	149nm,0.6s							
MOSI	**Grossmontoni**	**0.68**	**228**	Pg	Pg	02 45 51.9	-0.7	
	149nm,0.6s							
OBER	**Oberstdorf**	**0.75**	**297**	*e*Pg	Pg	02 45 53.4	-0.5	
OBER				eSg	Sg	02 46 02.5	-1.4	
OBER	**Oberstdorf**	**0.75**	**297**	Pg	Pg	02 45 53.4	-0.5	
OBER				Sg	Sg	02 46 02.5	-1.4	
FUORN	**Ofenpass-Fuorn**	**0.83**	**238**	Pg	Pg	02 45 54.7	-0.8	
	34nm,0.5s							
FUORN	**Ofenpass-Fuorn**	**0.83**	**238**	Pg	Pg	02 45 54.7	-0.8	
	34nm,0.5s							
BRMO	**Bormio**	**0.86**	**227**	Pg	Pg	02 45 54.9	-1.1	
BRMO				Sg	Sg	02 46 05.7	-1.7	
	28nm,0.4s							
BRMO	**Bormio**	**0.86**	**227**	Pg	Pg	02 45 54.9	-1.1	
BRMO				Sg	Sg	02 46 05.7	-1.7	
	28nm,0.4s							
ABTA	**Abfaltersbach**	**0.90**	**111**	Pg	Pg	02 45 56.3	-0.5	
	2.6nm,0.1s,SNR=19							
ABTA				Sg	Sg	02 46 07.8	-0.8	
	5.3nm,0.1s							
AGOR	**Agordo**	**0.95**	**146**	Pg	Pb	02 45 57.9	+0.3	
	100nm,0.4s							
DAVA	**Damuels**	**0.98**	**283**	*e*Pg	Pg	02 45 57.5	-0.7	
DAVA	**Damuels**	**0.98**	**283**	Pg	Pg	02 45 57.7	-0.6	
	2.3nm,0.2s,SNR=48							
DAVA				Sg	Sn	02 46 12.5	-0.1	
	19nm,0.3s							
DAVOX	**Davos/Dischmat**	**1.00**	**254**	Pg	Pg	02 45 57.4	-1.3	
	31nm,0.6s							
DAVOX	**Davos/Dischmat**	**1.00**	**254**	Pg	Pg	02 45 57.4	-1.3	
	31nm,0.6s							
BERNI	**Berninapass**	**1.09**	**233**	Pg	Pg	02 45 59.0	-1.3	
	14nm,0.5s							
BERNI	**Berninapass**	**1.09**	**233**	Pg	Pg	02 45 59.0	-1.3	
	14nm,0.5s							
FUR	**Furstenfeldbru**	**1.09**	**360**	*e*Pg	Pn	02 46 00.7	+0.4	
FUR				eSg	Sb	02 46 15.1	+0.9	
FUR	**Furstenfeldbru**	**1.09**	**360**	Pg	Pn	02 46 00.7	+0.4	
FUR				Sg	Sb	02 46 15.1	+0.9	
FVI	**Forni Avoltri**	**1.13**	**114**	Pg	Pb	02 46 00.3	-0.4	
	49nm,0.3s							
FVI	**Forni Avoltri**	**1.13**	**114**	Pg	Pb	02 46 00.3	-0.4	
	49nm,0.3s							
MABI	**Malga Bissina**	**1.15**	**208**	Pg	Pb	02 46 00.4	-0.6	
MABI	**Malga Bissina**	**1.15**	**208**	Pg	Pb	02 46 00.4	-0.6	
RJOB	**Jochberg**	**1.23**	**57**	*e*Pg	Pb	02 46 02.4	+0.1	
RJOB				eSg	Sn	02 46 20.3	+1.8	
RJOB	**Jochberg**	**1.23**	**57**	Pg	Pb	02 46 02.4	+0.1	
MAGA	**Magasa**	**1.37**	**199**	Pg	Pb	02 46 05.1	+0.2	
MAGA	**Magasa**	**1.37**	**199**	Pg	Pb	02 46 05.1	+0.2	
KBA	**Koelnbreinsper**	**1.41**	**89**	*e*Pn	Pn	02 46 05.2	+0.5	
KBA				eSg	Sb	02 46 22.7	-0.7	
KBA	**Koelnbreinsper**	**1.41**	**89**	Pn	Pn	02 46 05.2	+0.5	
KBA				Sg	Sb	02 46 22.7	-0.7	
	3.5nm,0.1s							
ACOM	**Acomizza, Ital**	**1.62**	**108**	Pg	Pb	02 46 09.3	+0.2	
	79nm,0.7s							
ACOM	**Acomizza, Ital**	**1.62**	**108**	Pg	Pb	02 46 09.3	+0.2	
	79nm,0.7s							
MYKA	**Terra Mystica**	**1.68**	**104**	Pg	Pb	02 46 10.1	+0.1	
	1.2nm,0.2s							
MYKA				Sg	Sg	02 46 32.2	-1.1	
	3.7nm,0.3s							
TEOL	**Teolo**	**1.73**	**171**	Pg	Pg	02 46 11.6	-1.0	
	79nm,0.8s							
TEOL	**Teolo**	**1.73**	**171**	Pg	Pg	02 46 11.6	-1.0	
	79nm,0.8s							
MOA	**Molln**	**2.17**	**68**	*e*Pg	Pb	02 46 19.5	+1.1	
MOA				eSg	Sg	02 46 48.4	-0.6	
MOA	**Molln**	**2.17**	**68**	Pg	Pb	02 46 19.5	+1.1	
MOA				Sg	Sg	02 46 48.3	-0.7	
	6.1nm,0.2s							
STU	**Stuttgart**	**2.21**	**321**	*e*Sg	Sb	02 46 48.3	+2.1	
STU	**Stuttgart**	**2.21**	**321**	Sg	Sb	02 46 48.3	+2.1	
OBKA	**Obir**	**2.31**	**103**	*e*Pg	Pb	02 46 21.7	+0.8	
OBKA				eSn	Sn	02 46 43.6	-1.8	
OBKA				eSg	Sg	02 46 51.3	-2.3	
OBKA	**Obir**	**2.31**	**103**	Pg	Pb	02 46 21.7	+0.8	
OBKA				Sn	Sn	02 46 43.6	-1.8	
OBKA				Sg	Sg	02 46 54.2	+0.5	
	3.3nm,0.3s							
WET	**Wettzell**	**2.33**	**27**	*e*Pn	Pn	02 46 17.8	+0.5	
WET				eSn	Sn	02 46 45.9	+0.1	
WET				eSg	Sg	02 46 53.0	-1.3	
WET	**Wettzell**	**2.33**	**27**	Pn	Pn	02 46 17.8	+0.5	
WET				Sn	Sn	02 46 45.9	+0.1	
WET				Sg	Sg	02 46 53.0	-1.3	
BFO	**Black Forest**	**2.36**	**303**	*e*Pn	Pn	02 46 18.7	+1.0	
BFO				eSg	Sg	02 46 53.6	-1.5	
BFO	**Black Forest**	**2.36**	**303**	Pn	Pn	02 46 18.7	+1.0	
BFO				Sg	Sg	02 46 53.6	-1.5	
GEC2	**GERESS Array S**	**2.41**	**42**	*e*Pn	Pn	02 46 19.5	+1.1	
GEC2				eSn	Sn	02 46 48.7	+1.0	
GEC2				eSg	Sg	02 46 55.0	-1.6	
GEC2	**GERESS Array S**	**2.41**	**42**	Pn	Pn	02 46 19.5	+1.1	
GEC2				Sn	Sn	02 46 48.7	+1.0	
KHC	**Kasperske Hory**	**2.57**	**36**	*e*PG	Pb	02 46 26.6	+1.4	
KHC				eSN	Sn	02 46 52.2	+0.5	
KHC				eSG	Sg	02 46 59.8	-2.1	
	comp=Z,12nm,0.4s							
KHC	**Kasperske Hory**	**2.57**	**36**	Pg	Pb	02 46 26.6	+1.4	
KHC				Sn	Sn	02 46 52.2	+0.5	
KHC				Sg	Sg	02 46 59.8	-2.1	
	12nm,0.4s							
GRA1	**Grafenberg Arr**	**2.62**	**359**	Sg	Sg	02 47 02.0	-1.6	
GRF	**Grafenberg Arr**	**2.62**	**359**	eSg	Sg	02 47 02.0	-1.6	
ARSA	**Arzberg**	**2.90**	**85**	*e*Pg	Pb	02 46 32.5	+1.8	
ARSA	**Arzberg**	**2.90**	**85**	Pg	Pb	02 46 32.6	+1.8	
	2.1nm,0.2s							
ARSA				Sg	Sg	02 47 13.5	+1.1	
	0.7nm,0.2s							
MANZ	**Manzenberg**	**2.97**	**10**	eSn	Sn	02 47 00.2	-1.3	
MANZ				eSg	Sg	02 47 12.8	-1.7	
MANZ	**Manzenberg**	**2.97**	**10**	Sn	Sn	02 47 00.2	-1.3	
MANZ				Sg	Sg	02 47 12.9	-1.7	
CDF	**Champ du Feu**	**3.02**	**298**	*e*Pn	Pn	02 46 27.6	+0.8	
CDF	**Champ du Feu**	**3.02**	**298**	*e*Pg	Pg	02 46 38.0	+0.9	
CDF				eSn	Sn	02 47 02.5	-0.3	
	4.5nm,0.3s							
CDF				eSg	Sg	02 47 17.6	+1.4	
	3.8nm,0.3s							
CDF	**Champ du Feu**	**3.02**	**298**	*e*Pn	Pn	02 46 27.6	+0.8	
CDF	**Champ du Feu**	**3.02**	**298**	*e*Pg	Pg	02 46 38.0	+0.9	
CDF				eSn	Sn	02 47 02.5	-0.3	
	2.2nm,0.3s							
CDF				eSg	Sg	02 47 17.6	+1.4	
	1.9nm,0.3s							
HINF	**Hinteralfeld**	**3.10**	**286**	*e*Pn	Pn	02 46 28.3	+0.5	
HINF				eSg	Sg	02 47 18.8	+0.1	
	2.7nm,0.2s							
HINF	**Hinteralfeld**	**3.10**	**286**	*e*Pn	Pn	02 46 28.3	+0.5	
HINF				eSg	Sg	02 47 18.8	+0.1	
	1.4nm,0.2s							
CONA	**Conrad Observa**	**3.22**	**73**	Sn	Sn	02 47 08.0	+0.2	
	0.9nm,0.1s							
NKC	**Novy Kostel**	**3.26**	**13**	*e*SN	Sn	02 47 08.2	-0.4	
NKC	**Novy Kostel**	**3.26**	**13**	Sn	Sn	02 47 08.2	-0.4	
HAU	**Haudompre**	**3.47**	**287**	*e*Pn	Pn	02 46 34.0	+1.1	
HAU				eSg	Sg	02 47 30.1	-0.6	
	7.2nm,0.4s							
HAU	**Haudompre**	**3.47**	**287**	*e*Pn	Pn	02 46 34.0	+1.1	
HAU				eSg	Sg	02 47 30.1	-0.6	
	3.6nm,0.4s							
LPG	**La Plagne**	**3.51**	**245**	*e*P	Pn	02 46 36.1	+2.3	
LPG				eSg	Sg	02 47 28.9	-3.2	
	1.3nm,0.3s							
LPG	**La Plagne**	**3.51**	**245**	*e*P	Pn	02 46 36.1	+2.3	
LPG				eSg	Sg	02 47 28.9	-3.2	
	0.6nm,0.3s							
LPL	**La Plagne**	**3.52**	**245**	*e*P	Pn	02 46 36.5	+2.7	
LPL	**La Plagne**	**3.52**	**245**	*e*P	Pn	02 46 36.5	+2.7	
MOX	**Moxa**	**3.58**	**3**	eSn	Sn	02 47 15.0	-1.6	
MOX	**Moxa**	**3.58**	**3**	Sn	Sn	02 47 15.0	-1.6	
TREC	**Trest**	**3.59**	**50**	*e*SN	Sn	02 47 17.8	+1.1	
TREC				eSG	Sg	02 47 30.9	-3.5	
	comp=Z,7.3nm,0.5s							
TREC	**Trest**	**3.59**	**50**	Sn	Sn	02 47 17.8	+1.1	
TREC				Sg	Sg	02 47 30.9	-3.5	
	7.3nm,0.5s							
CABF	**La Chapelle**	**3.59**	**265**	*e*Pn	Pn	02 46 35.0	+0.3	
CABF	**La Chapelle**	**3.59**	**265**	*e*Pg	Pg	02 46 46.9	-1.3	
CABF	**La Chapelle**	**3.59**	**265**	*e*Pn	Pn	02 46 35.0	+0.3	
CABF	**La Chapelle**	**3.59**	**265**	*e*Pg	Pg	02 46 46.9	-1.3	
TNS	**Taunus Mts**	**3.67**	**330**	*e*Pn	Pn	02 46 36.5	+0.8	
TNS	**Taunus Mts**	**3.67**	**330**	Pn	Pn	02 46 36.5	+0.8	
ORIF	**Oris-en-Rattie**	**4.34**	**242**	*e*P	Pn	02 46 47.5	+2.6	
ORIF	**Oris-en-Rattie**	**4.34**	**242**	*e*P	Pn	02 46 47.5	+2.6	
DPC	**Dobruska-Polom**	**4.68**	**44**	*e*SB	Sg	02 48 05.2	-4.2	
	3.0nm,0.5s							
DPC	**Dobruska-Polom**	**4.68**	**44**	Sg	Sg	02 48 05.2	-4.2	
	3.0nm,0.5s							
SMF	**Signal de Mont**	**5.12**	**268**	*e*Pn	Pn	02 46 54.8	-0.8	
SMF	**Signal de Mont**	**5.12**	**268**	*e*Pn	Pn	02 46 54.8	-0.8	
BGF	**Bois d'Agland**	**5.81**	**268**	*e*Pn	Pn	02 47 05.7	+0.6	
BGF	**Bois d'Agland**	**5.81**	**268**	*e*Pn	Pn	02 47 05.7	+0.6	
CAF	**Calviac**	**6.77**	**255**	*e*Pn	Pn	02 47 19.3	+1.0	
CAF	**Calviac**	**6.77**	**255**	*e*Pn	Pn	02 47 19.3	+1.0	

*ISK **05** 03:06:19.0, 35°.03N×26°.57E, h7km, MD3.7*
*ISCJB **05** 03:06:20.1±1.0, 35°.01N±0°.06×26°.68E±0°.03, h12km±5km, Error ellipse: s-maj=10.8km s-min=3.5km az=167.5*
*ATH **05** 03:06:20.5, 35°.11N×26°.64E, h29km±1km, ML2.8/5, Error ellipse: s-maj=3.5km s-min=1.2km az=162.0*
*CSEM **05** 03:06:21.3±0.3, 35°.08N×26°.61E, h12km, ML2.8, Error ellipse: s-maj=8.2km s-min=3.0km az=168.0*
*THE **05** 03:06:21.6, 35°.16N×26°.60E, h1km±2km, ML2.9/4, Error ellipse: s-maj=8.4km s-min=1.2km az=159.0*

ISC 05 03:06:21.0±1.3, 35°.09N±0°.06×26°.62E±0°.03, h13km±9km, n62, σ0s93/88, Crete

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ZKR	**Zakros**	**0.33**	**274**	P	**Pg**	**03 06 28.2**	**+0.5**
ZKR				S	**Sb**	**03 06 34.0**	**0.0**
ZKR	**Zakros**	**0.33**	**274**	P	**Pg**	**03 06 27.7**	**0.0**
ZKR				S	**Sb**	**03 06 33.4**	**-0.6**
ZKR				AML	AML	03 06 34.9	
	comp=N,3430μm,0.3s						
ZKR				AML	AML	03 06 35.0	
	comp=E,9151μm,0.2s						
KARP	**Karpathos**	**0.64**	**44**	*e*PG	**Pg**	**03 06 32.9**	**-0.6**
KARP				eSG	**Sb**	**03 06 43.5**	**+0.6**
KARP	**Karpathos**	**0.64**	**44**	P	**Pg**	**03 06 32.8**	**-0.6**
KARP				S	**Sb**	**03 06 42.7**	**-0.2**
KARP	**Karpathos**	**0.64**	**44**	*e*Pg	**Pg**	**03 06 32.9**	**-0.6**
KARP				S	**Sb**	**03 06 42.6**	**-0.3**
KARP				eSg	**Sb**	**03 06 43.5**	**+0.6**
KARP	**Karpathos**	**0.64**	**44**	P	**Pg**	**03 06 32.4**	**-1.0**
KARP				S	**Sb**	**03 06 43.1**	**+0.2**
KARP				AML	AML	03 06 43.6	
	comp=N,3082μm,0.3s						
KARP				AML	AML	03 06 45.0	
	comp=E,3101μm,0.1s						
NPS	**Neapolis**	**0.84**	**282**	P	**Pb**	**03 06 37.7**	**+0.2**
NPS				S	**Sb**	**03 06 49.5**	**+0.7**
NPS	**Neapolis**	**0.84**	**282**	P	**Pb**	**03 06 37.7**	**+0.2**
NPS				S	**Sb**	**03 06 49.5**	**+0.7**
NPS	**Neapolis**	**0.84**	**282**	P	**Pb**	**03 06 38.0**	**+0.5**
NPS				S	**Sn**	**03 06 50.4**	**-0.5**
NPS				AML	AML	03 06 53.1	
	comp=E,1438μm,0.5s						
NPS				AML	AML	03 06 53.4	
	comp=N,1179μm,0.6s						
LAST	**Lasithi**	**0.94**	**275**	P	**Pg**	**03 06 39.0**	**-0.1**
LAST				S	**Sb**	**03 06 52.5**	**+0.9**
LAST	**Lasithi**	**0.94**	**275**	P	**Pg**	**03 06 39.3**	**+0.2**
LAST				S	**Sb**	**03 06 52.5**	**+0.9**
LAST	**Lasithi**	**0.94**	**275**	P	**Pb**	**03 06 39.6**	**+0.4**
IDI	**Anoyia**	**1.43**	**278**	P	**Pb**	**03 06 47.9**	**+0.3**
IDI				S	**Sg**	**03 07 06.8**	**-0.3**
IDI	**Anoyia**	**1.43**	**278**	P	**Pb**	**03 06 47.9**	**+0.3**
IDI				S	**Sg**	**03 07 06.8**	**-0.3**
IDI	**Anoyia**	**1.43**	**278**	P	**Pb**	**03 06 47.4**	**-0.2**
IDI				S	**Sn**	**03 07 04.7**	**-0.8**
IDI				AML	AML	03 07 13.4	
	comp=N,458μm,0.4s						
IDI				AML	AML	03 07 16.6	
	comp=E,278μm,0.3s						
SIVA	**Sivas**	**1.48**	**268**	P	**Pn**	**03 06 47.3**	**-0.2**
SIVA	**Sivas**	**1.48**	**268**	P	**Pn**	**03 06 47.1**	**-0.4**
THR6	**Thira Island,**	**1.60**	**322**	P	**Pn**	**03 06 49.3**	**+0.2**
THR6	**Thira Island,**	**1.60**	**322**	P	**Pn**	**03 06 49.3**	**+0.2**
SAP1	**Santorini-Akro**	**1.61**	**322**	P	**Pn**	**03 06 49.6**	**+0.4**
SAP1	**Santorini-Akro**	**1.61**	**322**	P	**Pb**	**03 06 50.3**	**-0.3**
THR5	**Thira Island,**	**1.68**	**322**	P	**Pn**	**03 06 50.2**	**+0.1**
THR5	**Thira Island,**	**1.68**	**322**	P	**Pn**	**03 06 50.2**	**+0.1**
DAT	**Datca**	**1.81**	**25**	*e*PN	**Pn**	**03 06 52.9**	**+0.8**
DAT				*e*SN	**Sb**	**03 07 16.8**	**0.0**
DAT	**Datca**	**1.81**	**25**	*i* P	**Pn**	**03 06 51.7**	**-0.4**
DAT				*i* S	**Sb**	**03 07 17.1**	**+0.3**
DAT	**Datca**	**1.81**	**25**	P	**Pn**	**03 06 51.7**	**-0.4**
DAT	**Datca**	**1.81**	**25**	*e*Pn	**Pn**	**03 06 52.9**	**+0.8**
DAT				*e*Sn	**Sb**	**03 07 16.8**	**0.0**
DAT				S	**Sb**	**03 07 17.1**	**+0.3**
BODT	**Bodrum**	**2.04**	**16**	*e*PN	**Pn**	**03 06 56.0**	**+0.8**
BODT	**Bodrum**	**2.04**	**16**	*e*Pn	**Pn**	**03 06 56.0**	**+0.8**
BDRM	**Kayabasi**	**2.08**	**19**	*i* P	**Pn**	**03 06 54.8**	**-0.9**
BDRM	**Kayabasi**	**2.08**	**19**	P	**Pn**	**03 06 54.8**	**-0.9**
APE	**Apeiranthos**	**2.16**	**336**	*e*PN	**Pn**	**03 06 56.7**	**-0.1**
APE				*e*SN	**Sn**	**03 07 24.6**	**+1.1**
APE	**Apeiranthos**	**2.16**	**336**	P	**Pn**	**03 06 56.3**	**-0.5**
APE	**Apeiranthos**	**2.16**	**336**	*e*Pn	**Pn**	**03 06 56.7**	**-0.1**
APE				S	**Sn**	**03 07 22.5**	**-1.0**
APE				*e*Sn	**Sn**	**03 07 24.6**	**+1.1**
APE	**Apeiranthos**	**2.16**	**336**	P	**Pn**	**03 06 56.0**	**-0.8**
APE				S	**Sn**	**03 07 21.9**	**-1.6**
APE				AML	AML	03 07 26.4	
	comp=E,400μm,0.6s						
APE				AML	AML	03 07 27.8	
	comp=N,268μm,0.5s						
IMMV	**Iera Moni Meta**	**2.19**	**280**	P	**Pn**	**03 06 56.3**	**-0.9**
IMMV	**Iera Moni Meta**	**2.19**	**280**	P	**Pn**	**03 06 56.3**	**-1.9**
DALY	**Dalyan (Mu¨la**	**2.39**	**43**	*e*PN	**Pn**	**03 07 00.9**	**+1.0**
DALY	**Dalyan (Mu¨la**	**2.39**	**43**	*i* P	**Pn**	**03 07 01.4**	**+1.6**
DALY	**Dalyan (Mu¨la**	**2.39**	**43**	*e*Pn	**Pn**	**03 07 00.9**	**+1.0**
DALY	**Dalyan (Mu¨la**	**2.39**	**43**	P	**Pn**	**03 07 01.4**	**+1.6**
TURN	**Turunc**	**2.40**	**42**	*i* P	**Pn**	**03 06 57.3**	**-2.7**
TURN	**Turunc**	**2.40**	**42**	P	**Pn**	**03 06 57.3**	**-2.7**
KSL	**Kastellorizon**	**2.64**	**66**	P	**Pn**	**03 07 02.1**	**-1.2**
KSL				S	**Sn**	**03 07 34.0**	**-1.2**
AKAS	**Kas**	**2.69**	**64**	*e*PN	**Pn**	**03 07 04.3**	**+0.2**
AKAS	**Kas**	**2.69**	**64**	*i* P	**Pn**	**03 07 03.7**	**-0.4**
AKAS				*i* S	**Sn**	**03 07 36.1**	**-0.5**
AKAS	**Kas**	**2.69**	**64**	P	**Pn**	**03 07 03.7**	**-0.4**
AKAS	**Kas**	**2.69**	**64**	*e*Pn	**Pn**	**03 07 04.3**	**+0.2**
AKAS				S	**Sn**	**03 07 36.1**	**-0.5**
AYDB	**Zeytinkoy-Aydi**	**3.03**	**19**	*e*PN	**Pn**	**03 07 10.1**	**+1.3**
AYDB	**Zeytinkoy-Aydi**	**3.03**	**19**	*e*Pn	**Pn**	**03 07 10.1**	**+1.3**
ELL	**Elmali**	**3.14**	**57**	*e*PN	**Pn**	**03 07 11.4**	**+1.0**
ELL	**Elmali**	**3.14**	**57**	*e*Pn	**Pn**	**03 07 11.4**	**+1.0**
GOLH	**Golhisar**	**3.20**	**47**	*i* P	**Pn**	**03 07 11.9**	**+0.7**
GOLH	**Golhisar**	**3.20**	**47**	P	**Pn**	**03 07 11.9**	**+0.7**
KORT	**Korkueli**	**3.57**	**57**	*e*PN	**Pn**	**03 07 17.5**	**+1.2**
KORT	**Korkueli**	**3.57**	**57**	*e*Pn	**Pn**	**03 07 17.5**	**+1.2**
KULA	**Kula-Manisa**	**3.79**	**25**	*e*PN	**Pn**	**03 07 20.9**	**+1.7**
KULA	**Kula-Manisa**	**3.79**	**25**	*e*Pn	**Pn**	**03 07 20.9**	**+1.7**
SUTC	**Sutluce-Ispart**	**4.26**	**55**	*e*PN	**Pn**	**03 07 27.1**	**+1.3**
SUTC	**Sutluce-Ispart**	**4.26**	**55**	*e*Pn	**Pn**	**03 07 27.1**	**+1.3**
HDMB	**Hadim**	**5.11**	**67**	*e*PN	**Pn**	**03 07 39.1**	**+1.6**
HDMB	**Hadim**	**5.11**	**67**	*e*Pn	**Pn**	**03 07 39.1**	**+1.6**

*IDC **05** 03:18:13.5±1.6, 30°.85S×72°.00W, h0km, mb4.2/2, mb1 4.0/7, mb1mx3.8/27, mbtmp4.0/7, ML3.9/5, MS3.5/3, Ms1 3.4/3, ms1mx3.1/26, Error ellipse: s-maj=49.3km s-min=26.4km az=105.0*
*SJA **05** 03:18:14.7±1.1, 30°.67S×72°.30W, h21km±16km, ML4.3, MW4.1*
*GUC **05** 03:18:15.8±0.7, 30°.81S×72°.09W, h30km±4km, ML4.3*
*NEIC **05** 03:18:15.0±0.0, 30°.81S×72°.09W, h30km, mb4.4/1, ML4.3(GUC), After GUC.*

ISC 05 03:18:12.5±2.2, 30°.84S±0°.04×72°.21W±0°.06, h1km±13km, n36, σ1s65/51, mb4.2/4, 4C-20D, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TLL	**Tololo Astrono**	**1.38**	**61**	⇓*i*P	**Pn**	**03 18 38.9**	**-0.3**
TLL				*i* S	**Sb**	**03 18 55.9**	**-1.7**
TLL				IAML		03 18 59.4	
	comp=N,11μm,0.6s						
LCO	**Las Campanas**	**2.24**	**36**	⇑*i*P	**Pn**	**03 18 51.6**	**+0.6**
LCO				*i* S	**Sn**	**03 19 19.1**	**-0.4**
LCO				IAML		03 19 25.6	
	comp=E,1μm,0.2s						
LCO	**Las Campanas**	**2.24**	**36**	⇓*e*P	**Pn**	**03 18 52.0**	**+1.0**
LCO	**Las Campanas**	**2.24**	**36**	*e*Pn	**Pn**	**03 18 51.7**	**+0.6**
LCO				eS	**Sn**	**03 19 17.9**	**-1.6**
ROCH	**El Roble**	**2.36**	**155**	*e*P	**Pn**	**03 18 53.5**	**+0.9**
ROCH				eS	**Sn**	**03 19 23.4**	**+1.1**
ROC1	**El Roble**	**2.36**	**155**	⇓*e*P	**Pn**	**03 18 53.4**	**+0.7**
ROC1				⇓*e*S	**Sg**	**03 19 29.7**	**+1.4**
AROD	**Rodeo**	**2.45**	**75**	⇓*e*P	**Pb**	**03 18 57.4**	**-0.2**
AROD				⇑*e*S	Sg	03 20 01.1	+30
PEL	**Peldehue**	**2.64**	**151**	⇓*i*P	**Pn**	**03 18 57.5**	**+1.2**
PEL				*i* S	**Sn**	**03 19 29.1**	**+0.2**
PEL				IAML		03 19 38.0	
	comp=N,2μm,0.5s						
ACCO	**Cerro Coronel**	**2.72**	**86**	⇓*e*P	**Pb**	**03 19 01.5**	**-0.6**
ACCO				⇓*e*S	**Sb**	**03 19 36.1**	**0.0**
ACCO				IAML		03 19 38.6	
	comp=Z,1μm,0.7s						
ACDV	**Cuesta del Vie**	**2.75**	**77**	⇓*e*P	**Pb**	**03 19 01.9**	**-0.6**
ACDV				⇓*e*S	**Sb**	**03 19 36.1**	**-0.7**
AUSP	**Uspallata**	**2.77**	**121**	⇓*e*P	**Pb**	**03 19 02.9**	**-0.2**
AUSP				*e*S	**Sb**	**03 19 36.8**	**-0.9**
CLCH	**Cerro Calan**	**2.92**	**151**	⇑*i*P	**Pn**	**03 19 01.6**	**+1.5**
CLCH				*i* S	**Sn**	**03 19 35.7**	**-0.2**
CLCH				IAML		03 19 48.6	
	comp=E,2μm,0.7s						
FCH	**Farellones**	**2.97**	**147**	*e*P	**Pn**	**03 19 02.6**	**+1.6**
FCH				*e*S	**Sn**	**03 19 37.9**	**+0.4**
FCH				IAML		03 19 48.9	
	comp=E,825nm,0.4s						
AMOG	**MOGNA**	**3.19**	**93**	⇓*e*P	**Pb**	**03 19 08.5**	**-1.5**
AMOG				⇑*e*S	**Sg**	**03 19 57.5**	**+2.4**
RTLL	**Cerro Villicun**	**3.24**	**100**	⇓*e*P	**Pn**	**03 19 07.6**	**+3.0**
RTCV	**Cerro Valdivia**	**3.30**	**109**	⇓*e*P	**Pb**	**03 19 10.4**	**-1.4**
ASAL	**Salagasta**	**3.36**	**122**	⇓*e*S	**Sg**	**03

WERN Wernitzgruen 0.07 305 *e*Pg **Pg** 03 20 41.3 -0.3
WERN *e*Sg **Sg** 03 20 42.6 -1.0
WERN Wernitzgruen 0.07 305 Pg **Pg** 03 20 41.3 -0.3
WERN Sg **Sg** 03 20 42.6 -1.0
ROHR Rohrbach 0.10 262 *i* Pg **Pg** 03 20 41.5 -0.3
ROHR *i* Sg **Sg** 03 20 42.9 -1.1
ROHR AML AML 03 20 43.3
comp=E,13µm,0.2s
ROHR Rohrbach 0.10 262 *e*Pg **Pg** 03 20 41.5 -0.3
ROHR *e*Sg **Sg** 03 20 42.8 -1.1
ROHR Rohrbach 0.10 262 Pg **Pg** 03 20 41.5 -0.3
ROHR Sg **Sg** 03 20 42.8 -1.1
GUNZ Gunzen 0.14 324 *i* Pg **Pg** 03 20 42.4 -0.1
GUNZ *i* Sg **Sg** 03 20 44.5 -0.5
GUNZ AML AML 03 20 44.7
comp=E,1µm,0.3s
GUNZ Gunzen 0.14 324 *e*Pg **Pg** 03 20 42.4 -0.1
GUNZ *e*Sg **Sg** 03 20 44.4 -0.6
GUNZ Gunzen 0.14 324 Pg **Pg** 03 20 42.4 -0.1
GUNZ Sg **Sg** 03 20 44.4 -0.6
MULD Muldenberg 0.17 347 *i* Pg **Pg** 03 20 42.8 0.0
MULD *i* Sg **Sg** 03 20 45.0 -0.7
MULD AML AML 03 20 45.3
comp=E,2µm,0.2s
MULD Muldenberg 0.17 347 *e*Pg **Pg** 03 20 42.8 0.0
MULD *e*Sg **Sg** 03 20 44.9 -0.7
MULD Muldenberg 0.17 347 Pg **Pg** 03 20 42.8 0.0
MULD Sg **Sg** 03 20 44.9 -0.7
WERD Werda 0.22 333 *i* Pg **Pg** 03 20 43.8 +0.1
WERD *i* Sg **Sg** 03 20 46.8 -0.3
WERD AML AML 03 20 47.7
comp=E,718nm,0.2s
WERD Werda 0.22 333 *e*Pg **Pg** 03 20 43.8 +0.1
WERD *e*Sg **Sg** 03 20 46.4 -0.7
WERD Werda 0.22 333 Pg **Pg** 03 20 43.8 +0.1
WERD Sg **Sg** 03 20 46.4 -0.7
TRIB Obertriebel 0.23 297 *i* Pg **Pg** 03 20 43.8 0.0
TRIB *i* Sg **Sg** 03 20 46.8 -0.5
TRIB AML AML 03 20 47.6
comp=N,957nm,0.2s
TRIB Obertriebel 0.23 297 *e*Pg **Pg** 03 20 43.8 0.0
TRIB *e*Sg **Sg** 03 20 47.1 -0.2
TRIB Obertriebel 0.23 297 Pg **Pg** 03 20 43.8 0.0
TRIB Sg **Sg** 03 20 47.1 -0.2
PLN Plauen 0.31 321 *i* Pg **Pg** 03 20 45.2 +0.2
PLN *e*Sg **Sg** 03 20 49.1 -0.3
PLN AML AML 03 20 49.6
comp=N,325nm,0.1s
PLN Plauen 0.31 321 *e*Pg **Pg** 03 20 45.3 +0.2
PLN *e*Sg **Sg** 03 20 49.3 -0.1
PLN Plauen 0.31 321 Pg **Pg** 03 20 45.3 +0.2
PLN Sg **Sg** 03 20 49.3 -0.1
SCHF Schoenfels 0.43 355 *i* Pg **Pb** 03 20 47.7 -0.4
SCHF *i* Sg **Sg** 03 20 53.3 +0.2
SCHF AML AML 03 20 53.7
comp=E,4µm,0.2s
ROTZ Rotzenmuhle 0.51 199 *e*Sg **Sg** 03 20 55.8 +0.3
ROTZ Rotzenmuhle 0.51 199 Sg **Sg** 03 20 55.8 +0.3
MLFH Mildenfurth 0.59 336 *i* Pg **Pb** 03 20 50.6 -0.2
MLFH *i* Sg **Sg** 03 20 58.3 +0.1
MOX Moxa 0.67 307 *e*Pg **Pb** 03 20 52.0 -0.2
MOX *e*Sg **Sg** 03 21 00.7 0.0
MOX Moxa 0.67 307 Pg **Pb** 03 20 52.0 -0.2
MOX Sg **Sg** 03 21 00.7 0.0
GRA1 Grafenberg Arr 0.98 236 Pg **Pb** 03 20 57.7 +0.4
GRA1 Sg **Sg** 03 21 10.2 -0.1
GRF Grafenberg Arr 0.98 236 *e*Pg **Pb** 03 20 57.7 +0.4
GRF *e*Sg **Sg** 03 21 10.2 -0.1
CLL Collm 1.11 18 *e*Pg **Pn** 03 20 60.0 +0.2
CLL *e*Sg **Sn** 03 21 14.8 -0.2
CLL Collm 1.11 18 Pg **Pn** 03 21 00.0 +0.2
CLL Sg **Sn** 03 21 14.8 -0.2
CLL Collm 1.11 18 *i* Pg **Pn** 03 21 00.3 +0.5
CLL *i* Sg **Sn** 03 21 15.1 +0.1
comp=Z,171nm,0.5s
CLL *i* 03 21 18.9
BRG Berggiesshubel 1.13 56 PG **Pn** 03 21 00.8 +0.7
BRG SG **Sn** 03 21 15.8 +0.4
comp=Z,209nm,0.4s
BRG Berggiesshubel 1.13 56 *e*Pg **Pn** 03 21 00.7 +0.7
BRG *e*Sg **Sb** 03 21 14.7 +0.1
BRG Berggiesshubel 1.13 56 Pg **Pn** 03 21 00.7 +0.7
BRG Sg **Sb** 03 21 14.7 +0.1
WET Wettzell 1.14 166 *e*SG **Sg** 03 21 15.3 -0.1
WET Wettzell 1.14 166 *e*Pg **Pg** 03 21 00.5 -0.1
WET *e*Sg **Sg** 03 21 15.4 0.0
WET Wettzell 1.14 166 Pg **Pg** 03 21 00.5 -0.1
WET Sg **Sg** 03 21 15.4 0.0
PRA Prague 1.28 97 *e*PG **Pg** 03 21 03.2 -0.1
PRA *e*SG **Sn** 03 21 19.5 +0.5
comp=Z,233nm,0.6s
PRA Prague 1.28 97 Pg **Pg** 03 21 03.2 -0.1
PRA Sg **Sn** 03 21 19.5 +0.5
comp=Z,233nm,0.6s
KHC Kasperske Hory 1.33 147 *e*PG **Pb** 03 21 03.6 +0.2
KHC *e*SG **Sg** 03 21 21.5 -0.1
comp=Z,95nm,0.2s
KHC Kasperske Hory 1.33 147 Pg **Pb** 03 21 03.6 +0.2
KHC Sg **Sg** 03 21 21.5 -0.1
comp=Z,95nm,0.2s
PRU Pruhonice 1.36 100 *e*PG **Pg** 03 21 05.0 +0.1
PRU *e*SG **Sg** 03 21 22.6 0.0
comp=Z,193nm,0.3s
PRU Pruhonice 1.36 100 Pg **Pg** 03 21 05.0 +0.1
PRU Sg **Sg** 03 21 22.6 0.0
comp=Z,193nm,0.3s
GOPC GO Pecny, Ondr 1.53 102 *e*PG **Pg** 03 21 07.7 -0.4
GOPC *e*SG **Sg** 03 21 27.7 -0.4
GOPC GO Pecny, Ondr 1.53 102 Pg **Pg** 03 21 07.7 -0.4
GOPC Sg **Sg** 03 21 27.7 -0.4
TREC Trest 2.18 115 *e*SG **Sb** 03 21 46.6 +1.9
comp=Z,59nm,0.3s
TREC Trest 2.18 115 Sg **Sb** 03 21 46.6 +1.9
comp=Z,59nm,0.3s
UPC Upice 2.29 82 *e*SG **Sg** 03 21 50.8 -1.3
comp=Z,129nm,0.6s
UPC Upice 2.29 82 Sg **Sg** 03 21 50.8 -1.3
comp=Z,129nm,0.6s
TOD Tromm 2.45 256 P **Pn** 03 21 19.6 +1.4
TOD S **Sb** 03 21 51.7 -0.8
DPC Dobruska-Polom 2.48 86 eSG **Sg** 03 21 56.4 -1.8
comp=Z,43nm,0.2s
DPC Dobruska-Polom 2.48 86 Sg **Sg** 03 21 56.4 -1.8
comp=Z,43nm,0.2s
KSP Ksiaz 2.52 75 *e*Pg **Pg** 03 21 26.3 -0.6
KSP *e*Sg **Sg** 03 21 58.5 -0.9
KSP Ksiaz 2.52 75 *e*Pg **Pg** 03 21 26.3 -0.6
KSP *e*Sg **Sg** 03 21 58.5 -0.9
MOA Molln 2.68 153 Pn **Pn** 03 21 21.6 +0.3
comp=Z,1.3nm,0.2s
MOA Sg **Sg** 03 22 02.5 -2.2
comp=Z,6.4nm,0.1s
KRUC Moravsky 2.82 113 *e*Pn **Pn** 03 21 24.3 +1.1
KRUC *e*Sg **Sg** 03 22 06.9 -2.2
comp=Z,90nm,0.5s
VRAC Vranov 2.84 108 *e*Pn **Pn** 03 21 24.7 +1.2
VRAC *e*Sg **Sg** 03 22 07.2 -2.6
comp=Z,99nm,0.6s
WATA Walderalm 2.97 192 Pn **Pn** 03 21 26.3 +0.8
comp=Z,2.6nm,0.2s
RETA Reutte 2.98 203 Sg **Sg** 03 22 15.5 +1.1
comp=Z,35nm,0.5s
KTD Kalmit 2.99 254 S **Sb** 03 22 05.7 -2.2
WTTA Wattenberg 3.04 191 Sg **Sg** 03 22 16.0 -0.2
comp=Z,17nm,0.5s
CONA Conrad Observa 3.22 135 Pn **Pn** 03 21 29.9 +1.0
comp=Z,1.7nm,0.3s
CONA Sg **Sg** 03 22 20.5 -1.6
comp=Z,12nm,0.2s
KBA Koelnbreinsper 3.23 169 Pn **Pn** 03 21 30.6 +1.6
comp=Z,2.8nm,0.3s
SPAK Spaichingen-Ko 3.23 230 P **Pn** 03 21 30.6 +1.6
SPAK S **Sn** 03 22 11.7 +4.5
BGG Burgeitz 3.29 271 *e*Pn **Pn** 03 21 33.5 +3.8
BGG *e*Sn **Sb** 03 22 13.6 -3.0
comp=Z,22nm,0.7s
BGG Burgeitz 3.29 271 Pn **Pn** 03 21 33.5 +3.8
BGG Sn **Sb** 03 22 13.6 -3.0
comp=Z,22nm,0.7s
MORC Moravsky Berou 3.31 96 *e*Pn **Pn** 03 21 31.1 +1.1
MORC *e*Sg **Sg** 03 22 22.2 -2.7
comp=Z,66nm,0.6s

HOBG Hohbusch 3.35 285 *e*Pn **Pn** 03 21 31.1 +0.6
HOBG Hohbusch 3.35 285 Pn **Pn** 03 21 31.1 +0.6
DAVA Damuels 3.42 211 Pn **Pn** 03 21 31.7 0.0
comp=Z,1.2nm,0.2s
FETA Feichten 3.43 200 Pn **Pn** 03 21 31.7 -0.1
comp=Z,0.6nm,0.2s
FETA Sg **Sg** 03 22 29.3 +0.6
comp=Z,17nm,0.6s
ABTA Abfaltersbach 3.50 179 Pn **Pn** 03 21 35.4 +2.7
comp=Z,1.7nm,0.3s
ABTA Sg **Sg** 03 22 31.6 +0.5
comp=Z,96nm,0.8s
RUP Ruppelstein 3.53 263 S **Sn** 03 22 19.1 +4.5
STB Steinbach 3.61 278 *e*Pn **Pn** 03 21 35.9 +1.8
STB *e*Sn **Sn** 03 22 19.5 +3.0
comp=Z,25nm,0.4s
STB Steinbach 3.61 278 Pn **Pn** 03 21 35.9 +1.8
STB Sn **Sn** 03 22 19.5 +3.0
comp=Z,25nm,0.4s
ARSA Arzberg 3.62 145 Pn **Pn** 03 21 36.8 +2.5
comp=Z,2.2nm,0.2s
ARSA Sg **Sg** 03 22 32.4 -2.4
comp=Z,14nm,0.5s
SMOL Smolenice 3.68 116 *e*Sg **Sg** 03 22 34.4 -2.4
SMOL Smolenice 3.68 116 *e*SG **Sg** 03 22 34.4 -2.4
OKC Ostrava-Krasne 3.69 94 *e*SG **Sg** 03 22 34.8 -2.2
comp=Z,38nm,0.5s
OKC Ostrava-Krasne 3.69 94 Sg **Sg** 03 22 34.8 -2.2
comp=Z,38nm,0.5s
MYKA Terra Mystica 3.71 167 Pn **Pn** 03 21 38.5 +3.0
comp=Z,0.9nm,0.3s
FELD Feldberg im Sc 3.77 233 P **Pn** 03 21 37.3 +0.8
FELD S **Sn** 03 22 24.9 +4.2
CDF Champ du Feu 3.86 244 *e*Pn **Pn** 03 21 35.8 -1.8
CDF Champ du Feu 3.86 244 *e*Pg **Pg** 03 21 50.1 -2.4
CDF *e*Sg **Sg** 03 22 39.7 -2.8
comp=Z,62nm,0.7s
CDF Champ du Feu 3.86 244 *e*Pn **Pn** 03 21 35.8 -1.8
CDF Champ du Feu 3.86 244 *e*Pg **Pg** 03 21 50.1 -2.4
CDF *e*Sg **Sg** 03 22 39.7 -2.8
comp=Z,31nm,0.7s
KLL Kalltalsperre 3.95 278 *e*Pn **Pn** 03 21 40.3 +1.5
KLL Kalltalsperre 3.95 278 Pn **Pn** 03 21 40.3 +1.5
SOKA Soboth 3.96 153 Pn **Pn** 03 21 40.8 +1.8
comp=Z,1.2nm,0.4s
SOKA Sg **Sg** 03 22 45.6 -0.2
comp=Z,9.3nm,0.6s
OBKA Obir 3.99 159 Pn **Pn** 03 21 42.2 +2.8
comp=Z,3.1nm,0.6s
OBKA Sg **Sg** 03 22 44.2 -2.6
comp=Z,22nm,0.5s
DREG Dreilaegerbach 4.00 278 *e*Pn **Pn** 03 21 41.1 +1.6
DREG Dreilaegerbach 4.00 278 Pn **Pn** 03 21 41.1 +1.6
ECH Echery 4.03 242 P **Pn** 03 21 41.1 +1.2
ECH S **Sn** 03 22 31.9 +5.1
ECH Echery 4.03 242 P **Pn** 03 21 41.1 +1.2
ECH S **Sn** 03 22 31.9 +5.1
MOF Molkenrain 4.25 238 P **Pn** 03 21 43.6 +0.7
MOF S **Sn** 03 22 37.9 +5.6
MOF Molkenrain 4.25 238 P **Pn** 03 21 43.6 +0.7
MOF S **Sn** 03 22 37.9 +5.6
HINF Hinteralfeld 4.42 239 *e*Pn **Pn** 03 21 43.9 -1.4
HINF Hinteralfeld 4.42 239 *e*Pg **Pg** 03 22 00.6 -2.7
HINF *e*Sg **Sg** 03 22 56.0 -4.5
comp=Z,25nm,0.4s
HINF Hinteralfeld 4.42 239 *e*Pn **Pn** 03 21 43.9 -1.4
HINF Hinteralfeld 4.42 239 *e*Pg **Pg** 03 22 00.6 -2.7
HAU Haudompre 4.60 243 *e*Pn **Pn** 03 21 46.5 -1.2
HAU Haudompre 4.60 243 *e*Pg **Pg** 03 22 05.0 -1.7
HAU *e*Sg **Sg** 03 23 02.4 -3.8
comp=Z,20nm,0.3s
HAU Haudompre 4.60 243 *e*Pn **Pn** 03 21 46.5 -1.2
HAU Haudompre 4.60 243 *e*Pg **Pg** 03 22 05.0 -1.7
HAU *e*Sg **Sg** 03 23 02.4 -3.8
comp=Z,9.8nm,0.3s
LANS Liptovska Anna 4.68 101 *e*Sg **Sg** 03 23 06.3 -2.4
LANS Liptovska Anna 4.68 101 *e*SG **Sg** 03 23 06.3 -2.4
THEF They Montfort 4.70 247 P **Pn** 03 21 50.0 +0.9
THEF S **Sn** 03 22 48.8 +5.4
THEF They Montfort 4.70 247 P **Pn** 03 21 50.0 +0.9
PAGF Fort de Pagny 4.71 252 *e*Pg **Pg** 03 22 06.1 -2.8
baz=74
PAGF *e*Sg **Sg** 03 23 06.7 -3.2
comp=Z,10nm,0.7s
PAGF Fort de Pagny 4.71 252 *e*Pg **Pg** 03 22 06.1 -2.8
PAGF *e*Sg **Sg** 03 23 06.7 -3.2
comp=Z,5.2nm,0.7s
LOMF Lomont 4.72 234 P **Pn** 03 21 50.6 +1.2
LOMF Lomont 4.72 234 P **Pn** 03 21 50.6 +1.2
GIVF Givet 4.91 271 *e*Sg **Sb** 03 23 09.8 +6.5
comp=Z,28nm,0.6s
GIVF Givet 4.91 271 *e*Sg **Sb** 03 23 09.8 +6.5
comp=Z,14nm,0.6s
BSD Bornholm Skovb 5.10 16 *i* P **Pn** 03 21 55.7 +1.3
BSD *i* S **Sn** 03 22 50.2 -2.8
BSD Bornholm Skovb 5.10 16 *i* P **Pn** 03 21 55.8 +1.3
SNR=49
BSD *i* S **Sn** 03 22 50.2 -2.8
CABF La Chapelle 5.59 232 *e*Pg **Pg** 03 22 22.8 -2.8
CABF *e*Sg **Sg** 03 23 33.5 -4.5
comp=Z,27nm,0.8s
CABF La Chapelle 5.59 232 *e*Pg **Pg** 03 22 22.8 -2.8
CABF *e*Sg **Sg** 03 23 33.5 -4.5
comp=Z,13nm,0.8s
NVLJ Novalja 5.92 163 *i* Pn **Pn** 03 22 06.3 +0.5
NVLJ Sn **Sn** 03 23 10.6 -2.7
NVLJ Novalja 5.92 163 *i* Pn **Pn** 03 22 06.3 +0.5
LPL La Plagne 6.10 221 *e*Pg **Pg** 03 22 32.4 -3.1
LPL La Plagne 6.10 221 *e*Pg **Pg** 03 22 32.4 -3.1
LPG La Plagne 6.11 221 *e*Pn **Pn** 03 22 08.5 -0.2
LPG La Plagne 6.11 221 *e*Pg **Pg** 03 22 33.2 -2.4
LPG *e*Sg **Sg** 03 23 51.3 -3.4
comp=Z,18nm,0.9s
LPG La Plagne 6.11 221 *e*Pn **Pn** 03 22 08.5 -0.2
LPG La Plagne 6.11 221 *e*Pg **Pg** 03 22 33.2 -2.4
LPG *e*Sg **Sg** 03 23 51.3 -3.4
comp=Z,8.9nm,0.9s
LOR Lormes 6.42 246 *e*Pg **Pg** 03 22 37.6 -3.9
baz=52
LOR *e*Sg **Sg** 03 23 59.6 -5.0
comp=Z,7.2nm,0.5s
LOR Lormes 6.42 246 *e*Pg **Pg** 03 22 37.6 -3.9
LOR *e*Sg **Sg** 03 23 59.6 -5.0
comp=Z,3.6nm,0.5s
SMF Signal de Mont 6.77 241 *e*Pg **Pg** 03 22 44.2 -4.0
SMF *e*Sg **Sg** 03 24 09.7 -6.2
comp=Z,10.0nm,0.5s
SMF Signal de Mont 6.77 241 *e*Pg **Pg** 03 22 44.2 -4.0

*BGR **05** 03:25:37.0±0.3,50°.26N×12°.43E,h10km±1km,ML2.5/2,*
Error ellipse: s-maj=3.3km s-min=2.2km az=83.0
*CSEM **05** 03:25:36.6±0.1,50°.24N×12°.52E,h2km,ML2.5,Error*
ellipse: s-maj=3.1km s-min=2.4km az=48.0
*CLL **05** 03:25:37.5±0.3,50°.3N±0°.7×1°.2E±°,h7km±1km,ml2.6*
ISC 05 03:25:37.5±0.8,**50°.25N**±0°.02×**12°.49E**±0°.02,**h9**km±4km,
n91,σ1s**22**/140,**4D**,**Germany**

Code	Station Name	Δ°	AZ°	Phase	ID		Time		Res
					Op	ISC	h m s		ISC
NKC	**Novy Kostel**	**0.03**	**235**	↓*i*	PG	**Pg**	**03 25 38.7**	**-0.5**	
NKC					*e*SG	**Sg**	**03 25 39.6**	**-0.8**	
comp=Z,8µm,0.2s									
NKC	**Novy Kostel**	**0.03**	**235**	↓	*i*Pg	**Pg**	**03 25 38.7**	**-0.5**	
NKC					*i* Sg	**Sg**	**03 25 39.7**	**-0.6**	
NKC	**Novy Kostel**	**0.03**	**235**		*e*Pg	**Pg**	**03 25 38.7**	**-0.5**	
NKC					*e*Sg	**Sg**	**03 25 39.8**	**-0.6**	
NKC	**Novy Kostel**	**0.03**	**235**		Pg	**Pg**	**03 25 38.7**	**-0.5**	
NKC					Sg	**Sg**	**03 25 39.8**	**-0.6**	
WERN	**Wernitzgruen**	**0.08**	**295**		*i* Pg	**Pg**	**03 25 39.1**	**-0.6**	
WERN					*i* Sg	**Sg**	**03 25 40.3**	**-1.0**	
WERN					AML	AML	03 25 40.6		
comp=N,4µm,0.2s									
WERN	**Wernitzgruen**	**0.08**	**295**		*e*Pg	**Pg**	**03 25 39.1**	**-0.6**	
WERN					*e*Sg	**Sg**	**03 25 40.4**	**-1.0**	
WERN	**Wernitzgruen**	**0.08**	**295**		Pg	**Pg**	**03 25 39.1**	**-0.6**	
WERN					Sg	**Sg**	**03 25 40.4**	**-0.9**	
ROHR	**Rohrbach**	**0.11**	**261**		*i* Pg	**Pg**	**03 25 39.3**	**-0.8**	
ROHR					*i* Sg	**Sg**	**03 25 40.7**	**-1.3**	
ROHR					AML	AML	03 25 40.9		
comp=E,8µm,0.1s									
ROHR	**Rohrbach**	**0.11**	**261**		*e*Pg	**Pg**	**03 25 39.3**	**-0.8**	
ROHR					*e*Sg	**Sg**	**03 25 40.8**	**-1.3**	

ROHR Rohrbach 0.11 261 Pg **Pg** 03 25 39.3 -0.8
ROHR Sg **Sg** 03 25 40.8 -1.3
GUNZ Gunzen 0.15 317 *i* Pg **Pg** 03 25 40.2 -0.6
GUNZ *i* Sg **Sg** 03 25 42.1 -0.9
GUNZ AML AML 03 25 42.9
comp=N,978nm,0.4s
GUNZ Gunzen 0.15 317 *e*Pg **Pg** 03 25 40.2 -0.6
GUNZ *e*Sg **Sg** 03 25 42.2 -0.9
GUNZ Gunzen 0.15 317 Pg **Pg** 03 25 40.2 -0.6
GUNZ Sg **Sg** 03 25 42.2 -0.8
MULD Muldenberg 0.17 341 *i* Pg **Pg** 03 25 40.5 -0.5
MULD *i* Sg **Sg** 03 25 42.7 -0.8
MULD AML AML 03 25 42.9
comp=E,1µm,0.3s
MULD Muldenberg 0.17 341 *e*Pg **Pg** 03 25 40.6 -0.5
MULD *e*Sg **Sg** 03 25 42.7 -0.8
MULD Muldenberg 0.17 341 Pg **Pg** 03 25 40.6 -0.5
MULD Sg **Sg** 03 25 42.7 -0.8
WERD Werda 0.23 329 *i* Pg **Pg** 03 25 41.5 -0.6
WERD *e*Sg **Sg** 03 25 44.4 -0.8
WERD AML AML 03 25 45.0
comp=N,297nm,0.3s
WERD Werda 0.23 329 *e*Pg **Pg** 03 25 41.5 -0.6
WERD *e*Sg **Sg** 03 25 43.7 -1.5
WERD Werda 0.23 329 Pg **Pg** 03 25 41.5 -0.6
WERD Sg **Sg** 03 25 43.7 -1.5
TRIB Obertriebel 0.25 294 *i* Pg **Pg** 03 25 41.6 -0.9
TRIB *i* Sg **Sg** 03 25 44.4 -1.4
TRIB AML AML 03 25 45.2
comp=E,478nm,0.1s
TRIB Obertriebel 0.25 294 *e*Pg **Pg** 03 25 41.6 -0.9
TRIB *e*SG **Sg** 03 25 44.5 -1.3
TRIB Obertriebel 0.25 294 Pg **Pg** 03 25 41.6 -0.9
TRIB Sg **Sg** 03 25 44.5 -1.3
PLN Plauen 0.32 317 *i* Pg **Pg** 03 25 43.0 -0.7
PLN *e*Sg **Sg** 03 25 46.9 -1.0
PLN AML AML 03 25 47.4
comp=E,228nm,0.2s
PLN Plauen 0.32 317 *e*Pg **Pg** 03 25 43.0 -0.7
PLN *e*SG **Sg** 03 25 47.0 -1.0
PLN Plauen 0.32 317 Pg **Pg** 03 25 43.0 -0.7
PLN Sg **Sg** 03 25 47.0 -1.0
SCHF Schoenfels 0.43 352 *i* Pg **Pg** 03 25 45.3 -0.5
SCHF *i* Sg **Sg** 03 25 51.0 -0.5
SCHF AML AML 03 25 51.2
comp=E,1µm,0.2s
SCHF Schoenfels 0.43 352 *e*Pg **Pg** 03 25 45.4 -0.5
SCHF *e*Sg **Sg** 03 25 50.7 -0.8
SCHF Schoenfels 0.43 352 Pg **Pg** 03 25 45.4 -0.5
SCHF Sg **Sg** 03 25 50.7 -0.8
ROTZ Rotzenmuhle 0.52 201 *e*Pg **Pg** 03 25 47.0 -0.5
ROTZ *e*Sg **Sg** 03 25 53.6 -0.7
ROTZ Rotzenmuhle 0.52 201 Pg **Pg** 03 25 47.0 -0.5
ROTZ Sg **Sg** 03 25 53.7 -0.7
MLFH Mildenfurth 0.60 334 *i* Pg **Pg** 03 25 48.2 -0.8
MLFH *i* Sg **Sg** 03 25 55.9 -1.0
MOX Moxa 0.68 305 *e*Pg **Pg** 03 25 49.7 -1.0
MOX *e*Sg **Sg** 03 25 58.1 -1.5
MOX Moxa 0.68 305 Pg **Pg** 03 25 49.7 -1.0
MOX Sg **Sg** 03 25 58.1 -1.5
GRA1 Grafenberg Arr 0.99 236 Pg **Pg** 03 25 55.5 -1.0
GRF Grafenberg Arr 0.99 236 *e*Pg **Pg** 03 25 55.5 -1.0
CLL Collm 1.10 17 *e*Pg **Pg** 03 25 57.6 -1.0
CLL Collm 1.10 17 Pg **Pg** 03 25 57.6 -1.0
CLL Collm 1.10 17 *i* Pg **Pg** 03 25 58.0 -0.7
CLL *i* 03 26 01.0
BRG Berggiesshubel 1.11 56 *e*Pg **Pg** 03 25 58.4 -0.5
BRG Berggiesshubel 1.11 56 Pg **Pg** 03 25 58.4 -0.5
WET Wettzell 1.14 167 *e*Pg **Pg** 03 25 58.4 -0.9
WET Wettzell 1.14 167 Pg **Pg** 03 25 58.4 -0.9
KHC Kasperske Hory 1.33 147 *e*PG **Pn** 03 26 01.3 -0.9
KHC Kasperske Hory 1.33 147 Pg **Pn** 03 26 01.3 -0.9
PRU Pruhonice 1.35 101 *e*PG **Pn** 03 26 02.3 -0.1
PRU *e*SG **Sn** 03 26 20.7 +0.3
PRU Pruhonice 1.35 101 Pg **Pn** 03 26 02.3 -0.1
PRU Sg **Sn** 03 26 20.7 +0.3
GOPC GO Pecny, Ondr 1.52 102 *e*SG **Sb** 03 26 25.6 +0.5
GOPC GO Pecny, Ondr 1.52 102 Sg **Sb** 03 26 25.6 +0.5
UPC Upice 2.27 82 *e*SG **Sb** 03 26 48.6 +1.9
comp=E,92nm,0.6s
UPC Upice 2.27 82 Sg **Sb** 03 26 48.6 +1.9
comp=E,92nm,0.6s
DPC Dobruska-Polom 2.46 86 *e*SG **Sb** 03 26 54.0 +1.8
comp=E,56nm,0.4s
DPC Dobruska-Polom 2.46 86 Sg **Sb** 03 26 54.0 +1.8
comp=E,56nm,0.4s
KSP Ksiaz 2.50 75 *e*Pg **Pg** 03 26 24.1 -1.2
KSP *e*Sg **Sg** 03 26 56.1 -1.4
KSP Ksiaz 2.50 75 *e*Pg **Pg** 03 26 24.1 -1.2
KSP *e*Sg **Sg** 03 26 56.1 -1.4
MOA Molln 2.67 153 *e*Pn **Pn** 03 26 20.2 -0.5
comp=E,0.4nm,0.1s
MOA Sg **Sg** 03 27 02.3 -1.0
comp=E,53nm,0.5s
MOA Molln 2.67 153 Pn **Pn** 03 26 20.2 -0.5
comp=E,0.4nm,0.1s
MOA Sg **Sg** 03 27 02.3 -1.0
comp=E,53nm,0.5s
VRAC Vranov 2.82 108 *e*Pn **Pn** 03 26 22.2 -0.5
WATA Walderalm 2.98 192 *i* Pn **Pn** 03 26 24.2 -0.9
comp=E,0.9nm,0.2s
WATA Walderalm 2.98 192 Pn **Pn** 03 26 24.2 -0.9
comp=E,0.9nm,0.2s
RETA Reutte 2.99 203 Pn **Pn** 03 26 24.5 -0.7
comp=E,0.4nm,0.1s
RETA *e*Sg **Sg** 03 27 13.3 -0.3
comp=E,222nm,0.7s
RETA Reutte 2.99 203 Pn **Pn** 03 26 24.5 -0.7
comp=E,0.4nm,0.1s
RETA Sg **Sg** 03 27 13.3 -0.3
comp=E,222nm,0.7s
WTTA Wattenberg 3.04 191 Pg **Pg** 03 26 34.3 -1.4
comp=E,2.3nm,0.3s
WTTA Sg **Sg** 03 27 13.9 -1.3
comp=E,98nm,0.8s
WTTA Wattenberg 3.04 191 Pg **Pg** 03 26 34.3 -1.4
comp=E,2.3nm,0.3s
WTTA Sg **Sg** 03 27 13.9 -1.3
comp=E,98nm,0.8s
MOTA Moosalm 3.05 198 *e*Pn **Pn** 03 26 24.0 -2.1
comp=E,0.3nm,0.1s
MOTA Moosalm 3.05 198 Pn **Pn** 03 26 24.0 -2.1
comp=E,0.3nm,0.1s
CONA Conrad Observa 3.21 135 *e*Pn **Pn** 03 26 28.9 +0.7
comp=E,0.4nm,0.2s
CONA Conrad Observa 3.21 135 Pn **Pn** 03 26 28.9 +0.7
comp=E,0.4nm,0.2s
KBA Koelnbreinsper 3.23 170 *e*Pn **Pn** 03 26 28.5 0.0
comp=E,1.2nm,0.3s
KBA Koelnbreinsper 3.23 170 Pn **Pn** 03 26 28.5 0.0
comp=E,1.2nm,0.3s
DAVA Damuels 3.43 211 *e*Pn **Pn** 03 26 31.0 -0.3
comp=E,1.3nm,0.2s
DAVA Damuels 3.43 211 Pn **Pn** 03 26 31.0 -0.3
comp=E,1.3nm,0.2s
FETA Feichten 3.44 201 *e*Pn **Pn** 03 26 33.6 +2.2
comp=E,0.5nm,0.2s
FETA Feichten 3.44 201 Pn **Pn** 03 26 33.6 +2.2
comp=E,0.5nm,0.2s
ABTA Abfaltersbach 3.51 180 Pn **Pn** 03 26 33.6 +1.4
comp=E,0.4nm,0.2s
ABTA Sg **Sg** 03 27 29.4 -0.7
comp=E,186nm,0.9s
ABTA Abfaltersbach 3.51 180 Pn **Pn** 03 26 33.6 +1.4
comp=E,0.4nm,0.2s
ABTA Sg **Sg** 03 27 29.4 -0.7
comp=E,186nm,0.9s
ARSA Arzberg 3.61 145 *e*Pn **Pn** 03 26 35.6 +2.0
comp=E,1.7nm,0.3s
ARSA Arzberg 3.61 145 Pn **Pn** 03 26 35.6 +2.0
comp=E,1.7nm,0.3s
SMOL Smolenice 3.67 116 *e*Pg **Pg** 03 26 46.2 -1.4
SMOL *e*Sg **Sg** 03 27 34.8 -0.3
SMOL Smolenice 3.67 116 *e*PG **Pg** 03 26 46.2 -1.4
SMOL *e*SG **Sg** 03 27 34.8 -0.3
MYKA Terra Mystica 3.71 168 Pg **Pg** 03 26 47.0 -1.4
comp=E,1.9nm,0.2s
MYKA Terra Mystica 3.71 168 Pg **Pg** 03 26 47.0 -1.4
comp=E,1.9nm,0.2s
SOKA Soboth 3.96 154 Pg **Pb** 03 26 49.7 +2.3
comp=E,1.8nm,0.3s
SOKA Soboth 3.96 154 Pg **Pb** 03 26 49.7 +2.3
comp=E,1.8nm,0.3s
OBKA Obir 3.99 159 Pn **Pn** 03 26 40.4 +1.6

	comp=E,0.7nm,0.2s							
OBKA	**Obir**	**3.99**	**159**		Pn	**Pn**	**03 26 40.4**	**+1.6**
	comp=E,0.7nm,0.2s							
VYHS	**Vyhne**	**4.50**	**111**	*e*PG		**Pb**	**03 26 56.4**	**-0.3**
VYHS				*e*SG		**Sg**	**03 27 57.5**	**-4.5**
VYHS				*e*LG		Lg	03 28 14.1	
LANS	**Liptovska Anna**	**4.66**	**101**	*e*PG		**Pb**	**03 26 59.8**	**+0.5**
LANS				*e*SG		**Sg**	**03 28 06.0**	**-1.0**
KECS	**Kecovo**	**5.51**	**106**	*e*Sg		**Sg**	**03 28 30.8**	**-3.6**
KECS	**Kecovo**	**5.51**	**106**	*e*SG		**Sg**	**03 28 30.8**	**-3.6**
KECS	**Kecovo**	**5.51**	**106**	*e*SG		**Sg**	**03 28 32.0**	**-2.4**
KECS				*e*LG		Lg	03 28 38.6	
STHS	**Stebnicka Huta**	**5.72**	**95**	*e*SG		**Sg**	**03 28 42.9**	**+1.8**
STHS				*e*LG		Lg	03 28 55.3	

CSEM ***05*** *03:25:47.9±0.2,50°22'N×12°47'E,h5km,ML3.8/19,Error ellipse: s-maj=3.6km s-min=2.9km az=166.0*

PRU ***05*** *03:25:47.9,50°27'N×12°46'E,h10km, West Bohemia Swarm*

IASPEI ***05*** *03:25:47.8±0.8,50°24'N±0°02'×12°44'E±0°03,h11km±3km, Error ellipse: s-maj=3.7km s-min=2.7km az=79.5,GT5 selection from ISC bulletin GT5 identified by Bond"jr and McLaughlin (2009) selection criteria Bond"jr and McLaughlin, A new ground truth data set for seismic studies, Seism. Res. Let., 80, 465-472, 2009*

IPEC ***05*** *03:25:48.5±0.1,50°24'N×12°45'E,h9km,ML3.2/8,Error ellipse: s-maj=0.6km s-min=0.4km az=41.0*

BNS ***05*** *03:25:48.0±0.9,51°30'N×12°60'E,h10km,ML3.3*

BGR ***05*** *03:25:48.4±0.2,50°25'N×12°45'E,h10km±1km,ML3.6/6, Error ellipse: s-maj=2.2km s-min=2.2km az=96.0*

CLL ***05*** *03:25:49.3±0.3,50°3'N±0°8'×1°2'E±', h6km±1km,ml3.2*

STR ***05*** *03:25:50.9±0.3,50°36'N×12°33'E,h10km,Ml3.8,Error ellipse: s-maj=0.0km s-min=0.0km az=0.0*

LDG ***05*** *03:25:50.5±0.3,50°36'N×12°32'E,h10km,Ml3.7/17,Error ellipse: s-maj=5.2km s-min=4.4km az=151.0*

ISC 05 03:25:48.0±0.7,**50°25'N**±0°02'×**12°42'E**±0°01,**h14**km±3km, **n132**,σ1ᵗ**73**/205,**4D**,**Germany**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
NKC	**Novy Kostel**	**0.03**	**129**	↓*i*	PG	**Pg**		**03 25 50.3**	**-0.2**
NKC					SG	**Sg**		**03 25 51.2**	**-0.9**
	comp=Z,16μm,0.4s								
NKC	**Novy Kostel**	**0.03**	**129**	*i*	Pg	**Pg**		**03 25 50.2**	**-0.2**
NKC				*i*	Sg	**Sg**		**03 25 51.2**	**-0.9**
NKC	**Novy Kostel**	**0.03**	**129**	*e*	Pg	**Pg**		**03 25 50.3**	**-0.2**
NKC				*e*	Sg	**Sg**		**03 25 51.3**	**-0.9**
NKC	**Novy Kostel**	**0.03**	**129**		Pg	**Pg**		**03 25 50.3**	**-0.2**
NKC					Sg	**Sg**		**03 25 51.3**	**-0.9**
WERN	**Wernitzgruen**	**0.05**	**325**	*i*	Pg	**Pg**		**03 25 50.8**	**0.0**
WERN				*i*	Sg	**Sg**		**03 25 52.0**	**-0.5**
WERN					AML	AML		03 25 52.3	
	comp=N,10μm,0.2s								
WERN	**Wernitzgruen**	**0.05**	**325**	*e*	Pg	**Pg**		**03 25 50.7**	**0.0**
WERN				*e*	Sg	**Sg**		**03 25 52.0**	**-0.5**
WERN	**Wernitzgruen**	**0.05**	**325**		Pg	**Pg**		**03 25 50.7**	**0.0**
WERN					Sg	**Sg**		**03 25 52.0**	**-0.5**
ROHR	**Rohrbach**	**0.07**	**257**	*i*	Pg	**Pg**		**03 25 51.0**	**+0.2**
ROHR				*i*	Sg	**Sg**		**03 25 52.4**	**-0.3**
ROHR					AML	AML		03 25 52.5	
	comp=E,23μm,0.2s								
ROHR	**Rohrbach**	**0.07**	**257**	*e*	Pg	**Pg**		**03 25 51.0**	**+0.2**
ROHR				*e*	Sg	**Sg**		**03 25 52.4**	**-0.3**
ROHR	**Rohrbach**	**0.07**	**257**		Pg	**Pg**		**03 25 51.0**	**+0.2**
ROHR					Sg	**Sg**		**03 25 52.4**	**-0.3**
GUNZ	**Gunzen**	**0.13**	**334**	*i*	Pg	**Pg**		**03 25 51.9**	**+0.4**
GUNZ				*i*	Sg	**Sg**		**03 25 53.8**	**-0.1**
GUNZ					AML	AML		03 25 54.6	
	comp=N,5μm,0.5s								
GUNZ	**Gunzen**	**0.13**	**334**	*e*	Pg	**Pg**		**03 25 51.8**	**+0.4**
GUNZ				*e*	Sg	**Sg**		**03 25 53.9**	**-0.1**
GUNZ	**Gunzen**	**0.13**	**334**		Pg	**Pg**		**03 25 51.8**	**+0.3**
GUNZ					Sg	**Sg**		**03 25 53.9**	**0.0**
MULD	**Muldenberg**	**0.16**	**357**	*i*	Pg	**Pg**		**03 25 52.3**	**+0.3**
MULD				*i*	Sg	**Sg**		**03 25 54.4**	**-0.4**
MULD					AML	AML		03 25 54.6	
	comp=E,6μm,0.2s								
MULD	**Muldenberg**	**0.16**	**357**	*e*	Pg	**Pg**		**03 25 52.3**	**+0.3**
MULD				*e*	Sg	**Sg**		**03 25 54.4**	**-0.4**
MULD	**Muldenberg**	**0.16**	**357**		Pg	**Pg**		**03 25 52.3**	**+0.3**
MULD					Sg	**Sg**		**03 25 54.4**	**-0.4**
TRIB	**Obertriebel**	**0.21**	**300**	*i*	Pg	**Pg**		**03 25 53.3**	**+0.6**
TRIB				*i*	Sg	**Sg**		**03 25 56.3**	**+0.4**
TRIB					AML	AML		03 25 56.7	
	comp=E,2μm,0.2s								
TRIB	**Obertriebel**	**0.21**	**300**	*e*	Pg	**Pg**		**03 25 53.3**	**+0.6**
TRIB				*e*	Sg	**Sg**		**03 25 56.2**	**+0.4**
TRIB	**Obertriebel**	**0.21**	**300**		Pg	**Pg**		**03 25 53.3**	**+0.6**
TRIB					Sg	**Sg**		**03 25 56.2**	**+0.4**
WERD	**Werda**	**0.21**	**340**	*i*	Pg	**Pg**		**03 25 53.3**	**+0.5**
WERD				*i*	Sg	**Sg**		**03 25 56.1**	**+0.1**
WERD					AML	AML		03 25 56.4	
	comp=E,2μm,0.1s								
WERD	**Werda**	**0.21**	**340**	*e*	Pg	**Pg**		**03 25 53.2**	**+0.5**
WERD				*e*	Sg	**Sg**		**03 25 55.9**	**-0.1**
WERD	**Werda**	**0.21**	**340**		Pg	**Pg**		**03 25 53.2**	**+0.5**
WERD					Sg	**Sg**		**03 25 55.9**	**-0.1**
PLN	**Plauen**	**0.29**	**325**	*i*	Pg	**Pg**		**03 25 54.8**	**+0.7**
PLN				*i*	Sg	**Sg**		**03 25 58.7**	**+0.5**
PLN					AML	AML		03 25 58.9	
	comp=E,1μm,0.2s								
PLN	**Plauen**	**0.29**	**325**	*e*	Pg	**Pg**		**03 25 54.8**	**+0.7**
PLN				*e*	Sg	**Sg**		**03 25 58.7**	**+0.5**
PLN	**Plauen**	**0.29**	**325**		Pg	**Pg**		**03 25 54.8**	**+0.7**
PLN					Sg	**Sg**		**03 25 58.7**	**+0.5**
SCHF	**Schoenfels**	**0.43**	**359**	*i*	Pg	**Pg**		**03 25 57.2**	**+0.6**
SCHF				*i*	Sg	**Sg**		**03 26 02.7**	**+0.3**
SCHF					AML	AML		03 26 03.0	
	comp=E,8μm,0.2s								
ROTZ	**Rotzenmuhle**	**0.50**	**196**	*e*	Sg	**Sg**		**03 26 05.0**	**+0.4**
ROTZ	**Rotzenmuhle**	**0.50**	**196**		Sg	**Sg**		**03 26 05.0**	**+0.4**
MLFH	**Mildenfurth**	**0.58**	**338**	*i*	Pg	**Pb**		**03 26 00.1**	**+0.1**
MLFH				*i*	Sg	**Sg**		**03 26 07.6**	**+0.4**
MOX	**Moxa**	**0.65**	**308**	*e*	Sg	**Sg**		**03 26 10.3**	**+1.0**
MOX	**Moxa**	**0.65**	**308**		Sg	**Sg**		**03 26 10.3**	**+1.0**
GRA1	**Grafenberg Arr**	**0.95**	**235**		Pg	**Pb**		**03 26 07.2**	**+0.8**
GRA1					Sg	**Sb**		**03 26 20.0**	**+1.1**
GRF	**Grafenberg Arr**	**0.95**	**235**	*e*	Pg	**Pb**		**03 26 07.2**	**+0.8**
GRF				*e*	Sg	**Sb**		**03 26 20.0**	**+1.1**
CLL	**Collm**	**1.12**	**19**	*e*	Pg	**Pg**		**03 26 09.8**	**+0.1**
CLL				*e*	Sg	**Sg**		**03 26 24.0**	**-0.3**
CLL	**Collm**	**1.12**	**19**		Pg	**Pg**		**03 26 09.8**	**+0.1**
CLL					Sg	**Sg**		**03 26 24.0**	**-0.3**
CLL	**Collm**	**1.12**	**19**	*i*	Pg	**Pg**		**03 26 09.8**	**+0.1**
CLL				*i*				03 26 12.5	
CLL				*i*	Sg	**Sg**		**03 26 24.2**	**-0.1**
	comp=Z,532nm,0.4s								
CLL				*i*				03 26 28.2	
WET	**Wettzell**	**1.15**	**165**	*e*	Pg	**Pb**		**03 26 10.1**	**+0.4**
WET				*e*	Sg	**Sb**		**03 26 24.5**	**+0.1**
WET	**Wettzell**	**1.15**	**165**		Pg	**Pb**		**03 26 10.1**	**+0.4**
WET					Sg	**Sb**		**03 26 24.5**	**+0.1**
BRG	**Berggiesshubel**	**1.16**	**57**		PG	**Pg**		**03 26 10.2**	**-0.1**
BRG					SG	**Sg**		**03 26 25.0**	**-0.3**
	comp=Z,394nm,0.3s								
BRG	**Berggiesshubel**	**1.16**	**57**	*e*	Pg	**Pg**		**03 26 10.3**	**-0.1**
BRG				*e*	Sg	**Sb**		**03 26 24.6**	**-0.1**
BRG	**Berggiesshubel**	**1.16**	**57**		Pg	**Pg**		**03 26 10.3**	**0.0**
BRG					Sg	**Sb**		**03 26 24.6**	**-0.1**
PRA	**Prague**	**1.31**	**97**	↓*e*	SG	**Sb**		**03 26 28.5**	**-0.6**
	comp=Z,478nm,0.5s								
PRA	**Prague**	**1.31**	**97**		Sg	**Sb**		**03 26 28.5**	**-0.6**
	comp=Z,478nm,0.5s								
KHC	**Kasperske Hory**	**1.35**	**146**	*e*	SG	**Sn**		**03 26 31.0**	**+0.7**
	comp=Z,177nm,0.3s								
KHC	**Kasperske Hory**	**1.35**	**146**		Sg	**Sn**		**03 26 31.0**	**+0.7**
	comp=Z,177nm,0.3s								
PRU	**Pruhonice**	**1.39**	**100**	↓*e*	SG	**Sb**		**03 26 32.0**	**+0.5**
	comp=Z,330nm,0.3s								
PRU	**Pruhonice**	**1.39**	**100**		Sg	**Sb**		**03 26 32.0**	**+0.5**
	comp=Z,330nm,0.3s								
GOPC	**GO Pecny, Ondr**	**1.56**	**101**	*e*	SG	**Sb**		**03 26 37.1**	**+0.7**
GOPC	**GO Pecny, Ondr**	**1.56**	**101**		Sg	**Sb**		**03 26 37.1**	**+0.7**
UPC	**Upice**	**2.32**	**82**	↓*e*	SG	**Sb**		**03 27 00.0**	**+1.9**
	comp=Z,303nm,0.6s								
UPC	**Upice**	**2.32**	**82**		Sg	**Sb**		**03 27 00.0**	**+1.9**
	comp=Z,303nm,0.6s								
TOD	**Tromm**	**2.42**	**256**		P	**Pn**		**03 26 30.0**	**+2.7**
TOD					S	**Sb**		**03 27 02.2**	**+1.0**
DPC	**Dobruska-Polom**	**2.51**	**86**	*e*	SG	**Sb**		**03 27 05.6**	**+2.0**
	comp=Z,108nm,0.3s								
DPC	**Dobruska-Polom**	**2.51**	**86**		Sg	**Sb**		**03 27 05.6**	**+2.0**
	comp=Z,108nm,0.3s								
KSP	**Ksiaz**	**2.54**	**75**	*e*	Pg	**Pg**		**03 26 35.7**	**-1.1**
KSP				*e*	Sg	**Sg**		**03 27 07.8**	**-1.9**
KSP	**Ksiaz**	**2.54**	**75**	*e*	Pg	**Pg**		**03 26 35.7**	**-1.1**
KSP				*e*	Sg	**Sg**		**03 27 07.8**	**-1.9**
KRUC	**Moravsky**	**2.84**	**113**	*e*	Pn	**Pn**		**03 26 33.7**	**+0.6**
KRUC				*e*	Sg	**Sg**		**03 27 17.0**	**-2.4**
	comp=Z,167nm,0.5s								
VRAC	**Vranov**	**2.87**	**108**	*e*	Pn	**Pn**		**03 26 33.8**	**+0.4**
VRAC				*e*	Sg	**Sg**		**03 27 17.5**	**-2.5**
KOE	**Koeppel**	**3.01**	**275**	*e*	Pn	**Pn**		**03 26 37.2**	**+1.9**
KOE	**Koeppel**	**3.01**	**275**		Pn	**Pn**		**03 26 37.2**	**+1.9**
SPAK	**Spaichingen-Ko**	**3.21**	**229**		P	**Pn**		**03 26 41.6**	**+3.5**
BGG	**Burgeitz**	**3.26**	**271**	*e*	Pn	**Pn**		**03 26 41.2**	**+2.4**
BGG				*e*	Sn	**Sn**		**03 27 21.1**	**+3.7**
	comp=Z,56nm,3.6s								
BGG	**Burgeitz**	**3.26**	**271**		Pn	**Pn**		**03 26 41.2**	**+2.4**
BGG					Sn	**Sn**		**03 27 21.1**	**+3.7**
	comp=Z,56nm,3.6s								
HOBG	**Hohbusch**	**3.32**	**285**	*e*	Pn	**Pn**		**03 26 38.6**	**-1.0**
HOBG	**Hohbusch**	**3.32**	**285**		Pn	**Pn**		**03 26 38.6**	**-1.0**
MORC	**Moravsky Berou**	**3.34**	**96**	*e*	Pn	**Pn**		**03 26 40.5**	**+0.6**
MORC				*e*	Sg	**Sg**		**03 27 32.6**	**-2.6**
	comp=Z,119nm,0.6s								
RUP	**Ruppelstein**	**3.50**	**263**		P	**Pn**		**03 26 44.9**	**+2.8**
RUP					S	**Sb**		**03 27 29.0**	**-3.3**
STB	**Steinbach**	**3.58**	**278**	*e*	Pn	**Pn**		**03 26 43.6**	**+0.4**
STB				*e*	Sn	**Sn**		**03 27 27.0**	**+1.7**
	comp=Z,51nm,0.6s								
STB	**Steinbach**	**3.58**	**278**		Pn	**Pn**		**03 26 43.6**	**+0.4**
STB					Sn	**Sn**		**03 27 27.0**	**+1.7**
	comp=Z,51nm,0.6s								
LAUG	**Laupendahl**	**3.64**	**290**	*e*	Pn	**Pn**		**03 26 41.5**	**-2.5**
SOP	**Sopron**	**3.75**	**132**	*e*	Pn	**Pn**		**03 26 45.6**	**+0.2**
SOP	**Sopron**	**3.75**	**132**	*ex*		**Pn**		**03 26 45.6**	**+0.2**
SOP				*ex*		x		03 27 35.9	
FELD	**Feldberg im Sc**	**3.75**	**232**		P	**Pn**		**03 26 49.1**	**+3.5**
CDF	**Champ du Feu**	**3.83**	**243**	*e*	Pn	**Pn**		**03 26 47.8**	**+1.1**
CDF	**Champ du Feu**	**3.83**	**243**	*e*	Pg	**Pg**		**03 27 01.6**	**+0.2**
CDF				*e*	Sg	**Sg**		**03 27 50.5**	**-0.5**
	comp=Z,85nm,0.4s								
CDF	**Champ du Feu**	**3.83**	**243**	*e*	Pn	**Pn**		**03 26 47.8**	**+1.1**
CDF	**Champ du Feu**	**3.83**	**243**	*e*	Pg	**Pg**		**03 27 01.6**	**+0.2**
CDF				*e*	Sg	**Sg**		**03 27 50.5**	**-0.5**
	comp=Z,42nm,0.4s								
KLL	**Kalltalsperre**	**3.92**	**278**	*e*	Pn	**Pn**		**03 26 48.2**	**+0.3**
KLL	**Kalltalsperre**	**3.92**	**278**		Pn	**Pn**		**03 26 48.2**	**+0.3**
DREG	**Dreilaegerbach**	**3.97**	**278**	*e*	Pn	**Pn**		**03 26 48.8**	**+0.2**
DREG	**Dreilaegerbach**	**3.97**	**278**		Pn	**Pn**		**03 26 48.8**	**+0.2**
ECH	**Echery**	**4.00**	**241**		P	**Pn**		**03 26 51.8**	**+2.8**
ECH					S	**Sb**		**03 27 42.5**	**-4.1**
ECH	**Echery**	**4.00**	**241**		P	**Pn**		**03 26 51.8**	**+2.8**
MOF	**Molkenrain**	**4.22**	**237**		P	**Pn**		**03 26 55.3**	**+3.2**
MOF					S	**Sb**		**03 27 48.5**	**-4.5**
MOF	**Molkenrain**	**4.22**	**237**		P	**Pn**		**03 26 55.3**	**+3.2**
HINF	**Hinteralfeld**	**4.40**	**239**	*e*	Pn	**Pn**		**03 26 55.6**	**+1.2**
HINF	**Hinteralfeld**	**4.40**	**239**	*e*	Pg	**Pg**		**03 27 11.6**	**-0.6**
HINF				*e*	Sg	**Sg**		**03 28 07.7**	**-1.4**
	comp=Z,56nm,0.4s								
HINF	**Hinteralfeld**	**4.40**	**239**	*e*	Pn	**Pn**		**03 26 55.6**	**+1.2**
HINF	**Hinteralfeld**	**4.40**	**239**	*e*	Pg	**Pg**		**03 27 11.6**	**-0.6**
HINF				*e*	Sg	**Sg**		**03 28 07.7**	**-1.4**
	comp=Z,28nm,0.4s								
HAU	**Haudompre**	**4.57**	**243**	*e*	Pg	**Pg**		**03 27 14.9**	**-0.7**
HAU				*e*	Sg	**Sg**		**03 28 14.2**	**-0.6**
	comp=Z,65nm,0.4s								
HAU	**Haudompre**	**4.57**	**243**	*e*	Pg	**Pg**		**03 27 14.9**	**-0.7**
HAU				*e*	Sg	**Sg**		**03 28 14.2**	**-0.6**
	comp=Z,32nm,0.4s								
THEF	**They Montfort**	**4.67**	**247**		P	**Pn**		**03 27 01.6**	**+3.4**
THEF					S	**Sn**		**03 27 59.2**	**+6.9**
THEF	**They Montfort**	**4.67**	**247**		P	**Pn**		**03 27 01.6**	**+3.4**
PAGF	**Fort de Pagny**	**4.69**	**251**	*e*	Pg	**Pg**		**03 27 17.2**	**-0.6**
	baz=57								
PAGF				*e*	Sg	**Sg**		**03 28 16.7**	**-1.7**
	comp=Z,24nm,0.7s								
PAGF	**Fort de Pagny**	**4.69**	**251**	*e*	Pg	**Pg**		**03 27 17.2**	**-0.6**
PAGF				*e*	Sg	**Sg**		**03 28 16.7**	**-1.7**
	comp=Z,12nm,0.7s								
LOMF	**Lomont**	**4.70**	**234**		P	**Pn**		**03 27 01.9**	**+3.3**
LOMF					S	**Sb**		**03 28 00.9**	**-5.7**
LOMF	**Lomont**	**4.70**	**234**		P	**Pn**		**03 27 01.9**	**+3.3**
BEHE	**Becsehely**	**4.77**	**141**	*e*	Pn	**Pn**		**03 27 01.9**	**+2.4**
BEHE	**Becsehely**	**4.77**	**141**	*ex*		**Pn**		**03 27 01.9**	**+2.4**
BEHE				*ex*		x		03 28 22.7	
GIVF	**Givet**	**4.88**	**271**	*e*	Pg	**Pg**		**03 27 21.2**	**-0.3**
GIVF				*e*	Sg	**Sg**		**03 28 21.5**	**-3.2**
	comp=Z,55nm,0.5s								
GIVF	**Givet**	**4.88**	**271**	*e*	Pg	**Pg**		**03 27 21.2**	**-0.3**
GIVF				*e*	Sg	**Sg**		**03 28 21.5**	**-3.2**
	comp=Z,28nm,0.5s								
OZLJ	**Ozalj**	**5.07**	**155**	*e*	Pn	**Pn**		**03 27 04.1**	**+0.5**
OZLJ	**Ozalj**	**5.07**	**155**	*e*	Pn	**Pn**		**03 27 04.1**	**+0.5**
BSD	**Bornholm Skovb**	**5.10**	**16**	*i*	P	**Pn**		**03 27 03.0**	**-1.0**
BSD				*i*	S	**Sn**		**03 27 58.1**	**-4.7**
BSD	**Bornholm Skovb**	**5.10**	**16**	*i*	P	**Pn**		**03 27 03.1**	**-1.0**
	SNR=49								
BSD	**Bornholm Skovb**	**5.10**	**16**	*i*	Pg	**Pn**		**03 27 06.9**	**+2.8**
	SNR=90								
BSD				*i*	S	**Sn**		**03 27 58.1**	**-4.7**
	SNR=49								
MEZF	**Maizieres J'vi**	**5.12**	**253**	*e*	Sg	**Sg**		**03 28 30.2**	**-2.1**
	comp=Z,57nm,0.7s								
MEZF	**Maizieres J'vi**	**5.12**	**253**	*e*	Sg	**Sg**		**03 28 30.2**	**-2.1**
	comp=Z,28nm,0.7s								
BUD	**Budapest**	**5.16**	**120**	*e*	Pn	**Pn**		**03 27 03.3**	**-1.6**
BUD	**Budapest**	**5.16**	**120**	*ex*		**Pn**		**03 27 03.3**	**-1.6**
SFTF	**Sexfontaines**	**5.25**	**250**	*e*	Sg	**Sg**		**03 28 34.0**	**-2.5**
	comp=Z,30nm,0.4s								
SFTF	**Sexfontaines**	**5.25**	**250**	*e*	Sg	**Sg**		**03 28 34.0**	**-2.5**
	comp=Z,15nm,0.4s								
BAIF	**Baives**	**5.28**	**271**	*e*	Sg	**Sg**		**03 28 34.2**	**-3.3**
	comp=Z,20nm,0.5s								
BAIF	**Baives**	**5.28**	**271**	*e*	Sg	**Sg**		**03 28 34.2**	**-3.3**
	comp=Z,10nm,0.5s								
PSZ	**Piszkesteto**	**5.44**	**113**	*ex*		**Pn**		**03 27 05.6**	**-3.2**
PSZ				*ex*		x		03 28 29.9	
CABF	**La Chapelle**	**5.57**	**232**	*e*	Pg	**Pg**		**03 27 33.4**	**-1.2**
CABF				*e*	Sg	**Sg**		**03 28 45.2**	**-1.4**
	comp=Z,61nm,0.8s								
CABF	**La Chapelle**	**5.57**	**232**	*e*	Pg	**Pg**		**03 27 33.4**	**-1.2**
CABF				*e*	Sg	**Sg**		**03 28 45.2**	**-1.4**
	comp=Z,30nm,0.8s								
LPL	**La Plagne**	**6.08**	**221**	*e*	Pg	**Pg**		**03 27 43.9**	**-0.6**
LPL				*e*	Sg	**Sg**		**03 29 03.9**	**+0.6**
	comp=Z,14nm,0.7s								
LPL	**La Plagne**	**6.08**	**221**	*e*	Pg	**Pg**		**03 27 43.9**	**-0.6**
LPL				*e*	Sg	**Sg**		**03 29 03.9**	**+0.6**
	comp=Z,7.1nm,0.7s								
LPG	**La Plagne**	**6.09**	**221**	*e*	Pg	**Pg**		**03 27 45.0**	**+0.3**
LPG				*e*	Sg	**Sg**		**03 29 03.8**	**+0.3**
	comp=Z,24nm,0.8s								
LPG	**La Plagne**	**6.09**	**221**	*e*	Pg	**Pg**		**03 27 45.0**	**+0.3**
LPG				*e*	Sg	**Sg**		**03 29 03.8**	**+0.3**
	comp=Z,12nm,0.8s								
LOR	**Lormes**	**6.40**	**245**	*e*	Pn	**Pn**		**03 27 21.3**	**-0.6**
LOR	**Lormes**	**6.40**	**245**	*e*	Pg	**Pg**		**03 27 48.8**	**-1.6**
	baz=56								
LOR				*e*	Sg	**Sg**		**03 29 09.9**	**-3.3**
	comp=Z,16nm,0.4s								
LOR	**Lormes**	**6.40**	**245**	*e*	Pn	**Pn**		**03 27 21.3**	**-0.6**
LOR	**Lormes**	**6.40**	**245**	*e*	Pg	**Pg**		**03 27 48.8**	**-1.6**
SSF	**Saint Saulge**	**6.71**	**245**	*e*	Pg	**Pg**		**03 27 55.6**	**-0.8**
SSF				*e*	Sg	**Sg**		**03 29 20.3**	**-2.9**
	comp=Z,26nm,0.7s								
SSF	**Saint Saulge**	**6.71**	**245**	*e*	Pg	**Pg**		**03 27 55.6**	**-0.8**
SMF	**Signal de Mont**	**6.75**	**241**	*e*	Pg	**Pg**		**03 27 54.3**	**-2.8**
SMF				*e*	Sg	**Sg**		**03 29 21.4**	**-3.1**
	comp=Z,28nm,0.6s								
ORIF	**Oris-en-Rattie**	**6.92**	**222**	*e*	Sg	**Sg**		**03 29 28.2**	**-2.0**
	comp=Z,13nm,0.6s								
ORIF	**Oris-en-Rattie**	**6.92**	**222**	*e*	Sg	**Sg**		**03 29 28.2**	**-2.0**
	comp=Z,6.5nm,0.6s								
VIVF	**Saint-Julien-l**	**7.52**	**227**	*e*	Sg	**Sg**		**03 29 47.5**	**-1.7**
	comp=Z,6.9nm,0.5s								
VIVF	**Saint-Julien-l**	**7.52**	**227**	*e*	Sg	**Sg**		**03 29 47.5**	**-1.7**
	comp=Z,3.5nm,0.5s								

MEX 05 03:41:35.5±0.5,**13°96N**×**92°50W**,**h21**km±75km,**MD4.1**, **Off coast of Chiapas**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CCIG	**Comitan**	**2.33**	**9**	*e*	P	Pn		03 42 10.9	-1.9
CCIG				*e*	S	Sn		03 42 38.3	-2.7
TGIG		**2.87**	**348**	*e*	P	Pn		03 42 17.7	-2.3
TGIG				*e*	S	Sn		03 42 51.5	-2.4

IDC 05 04:04:53.3±2.9,**15°80S**×**176°81W**,**h376**km±103km, **mb3.3**/3,**mb1 3.6**/4,**mb1mx3.1**/29,**mbtmp4.1**/4,**Error ellipse: s-maj=311.1km s-min=22.9km az=145.0,Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**5.22**	**70**		P	Pn		04 06 16.0	-0.6
	2.3nm,0.3s,baz=130,slow=4.7,SNR=5.5								
AFI					S	S		04 07 25.1	+0.8
	1.4nm,0.3s,baz=18,slow=20,SNR=2.4								
WRA	**Warramunga Arr**	**46.55**	**257**		P	P		04 12 44.6	-0.7
	0.7nm,0.3s,baz=92,slow=7.0,SNR=19								
ASAR	**Alice Springs**	**46.86**	**252**		P	P		04 12 47.6	0.0
	5.8nm,0.4s,baz=87,slow=7.8,SNR=88								
FITZ	**Fitzroy Crossi**	**54.91**	**259**		P	P		04 13 47.4	+0.5
	baz=112,slow=5.4								
ILAR	**Eielson Array**	**83.50**	**12**		P	P		04 16 39.3	-0.1
	0.3nm,0.5s,baz=218,slow=5.0,SNR=9.5								

ISCJB ***05*** *04:22:13.1±0.7,14°81S±0°07'×167°37E±0°10,h150km, mb4.5/14,Error ellipse: s-maj=14.3km s-min=7.6km az=152.5*

NEIC ***05*** *04:22:17.9±1.2,14°89S×167°23E,h177km±11km,mb4.8/4, Error ellipse: s-maj=11.1km s-min=8.6km az=218.0*

IDC ***05*** *04:22:17.3±2.5,14°85S×167°25E,h171km±22km, mb4.0/12,mb1 4.1/14,mb1mx3.9/32,mbtmp4.6/14,MS3.1/3, Ms1 3.1/3,ms1mx2.8/38,Error ellipse: s-maj=17.6km s-min=14.1km az=41.0*

ISC 05 04:22:15.1±0.7,**14°84S**±0°08'×**167°35E**±0°09,**h150**km,**n27**, σ1ᵗ**35**/31,**mb4.5**/14,**Vanuatu Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**7.24**	**187**		P	**Pn**		**04 23 59.1**	**+0.7**
	7.9nm,0.3s,baz=35,slow=8.2,SNR=43								
DZM					S	**Sn**		**04 25 19.8**	**+0.2**
	6.8nm,0.3s,baz=160,slow=23,SNR=8.8								
DZM					LR	LR		04 26 37.9	
	comp=Z,96nm,18.2s,baz=354,slow=36								
HNR	**Honiara**	**9.01**	**306**		P	**Pn**		**04 24 25.1**	**+3.1**
	38nm,0.3s,baz=221,slow=9.3,SNR=3.4								
HNR					S	**Sn**		**04 26 00.8**	**-1.4**
	23

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**10.85**	**40**	P	**P**	**04 36 55.2**	**+3.0**
	8.3nm,0.3s,baz=39,slow=19,SNR=12						
AFI				S	**S**	**04 38 51.1**	**-1.7**
	0.7nm,0.3s,baz=225,slow=19,SNR=2.5						
URZ	**Urewera**	**16.20**	**191**	P	**P**	**04 37 51.7**	**+3.0**
	1.1nm,0.3s,baz=263,slow=3.8,SNR=6.4						
URZ				S	**S**	**04 40 33.0**	**-3.1**
	0.3nm,0.3s,baz=37,slow=20,SNR=2.4						
STKA	**Stephens Creek**	**36.16**	**246**	P	**P**	**04 40 48.0**	**+1.6**
	1.7nm,0.4s,baz=96,slow=11,SNR=6.0						
ASAR	**Alice Springs**	**43.21**	**259**	P	**P**	**04 41 43.7**	**+0.3**
	2.9nm,0.5s,baz=91,slow=8.2,SNR=27						
ASAR				PcP	**PcP**	**04 43 21.1**	**-1.0**
	0.8nm,0.5s,baz=111,slow=3.3,SNR=6.2						
WRA	**Warramunga Arr**	**43.45**	**264**	P	**P**	**04 41 44.8**	**-0.5**
	1.6nm,0.3s,baz=95,slow=8.0,SNR=24						
WRA				PcP	**PcP**	**04 43 22.3**	**-0.7**
	0.2nm,0.4s,baz=98,slow=3.2,SNR=3.6						
TXAR	**Lajitas Array**	**88.84**	**58**	P	**P**	**04 46 28.9**	**+1.1**
	0.9nm,0.8s,baz=274,slow=4.9,SNR=3.8						
CMAR	**Chiang Mai Arr**	**89.86**	**290**	P	**P**	**04 46 33.9**	**+1.2**
	0.9nm,0.4s,baz=119,slow=2.2,SNR=5.5						
ILAR	**Eielson Array**	**90.32**	**13**	P	**P**	**04 46 32.4**	**-1.3**
	0.3nm,0.7s,baz=224,slow=5.0,SNR=4.2						
PDAR	**Pinedale Array**	**90.94**	**44**	P	**P**	**04 46 36.9**	**-0.6**
	0.3nm,0.8s,baz=237,slow=2.8,SNR=3.0						
FINES	**FINESS Array B**	**137.26**	**343**	PKP	**PKPdf**	**04 52 51.4**	**-1.4**
	2.8nm,0.9s,baz=158,slow=4.5,SNR=3.4						
AKASG	**Malin Array Be**	**144.14**	**329**	PKP	PKPbc	04 53 02.4	-2.5
	2.0nm,0.4s,baz=44,slow=4.1,SNR=4.4						
BRTR	**Keskin Array B**	**147.34**	**310**	PKPbc	**PKPbc**	**04 53 13.4**	**-1.3**
	1.1nm,0.6s,baz=143,slow=4.7,SNR=8.1						
CLL	**Collm**	**149.62**	**345**	*i* PKP	**PKPbc**	**04 53 19.3**	**-0.5**
	comp=Z,8.0nm,0.9s						
BRG	**Berggiesshubel**	**149.79**	**344**	*i* P	**PKPbc**	**04 53 19.7**	**-0.5**
	comp=Z,4.5nm,0.6s						
BRG	**Berggiesshubel**	**149.79**	**344**	*i* P	**PKPbc**	**04 53 19.7**	**-0.5**
	comp=Z,4.5nm,0.6s						
GERES	**GERESS Array B**	**151.69**	**342**	PKPbc	**PKPbc**	**04 53 23.4**	**-1.4**
	comp=Z,0.6nm,0.4s,baz=29,slow=3.0,SNR=4.8						
TORD	**Torodi Ar. Bea**	**170.82**	**184**	PKP	**PKPdf**	**04 53 36.9**	**-1.6**
	comp=Z,0.6nm,0.8s,baz=70,slow=1.7,SNR=3.8						
TORD				PKPab	**PKPab**	**04 54 59.7**	**-0.1**
	comp=Z,0.6nm,1.1s,baz=180,slow=2.6,SNR=3.1						

DJA 05 04:37:14.2±0.8, 8°S±5°×10°7E±°, h26km±5km, M3.6/7, MLv3.6/7, Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKJI	**Sukabumi**	**0.54**	**352**	P	**Pn**	04 37 26.7	+0.5
SKJI				S	Sn	04 37 35.2	+0.8
CNJI	**Cibinong**	**0.55**	**65**	P	**Pb**	04 37 25.7	+0.5
CNJI				S	Sn	04 37 33.9	-0.7
DBJI	**Dramaga**	**0.99**	**7**	P	**Pb**	04 37 32.6	-0.1
DBJI				S	Sn	04 37 45.5	0.0
LEM	**Lembang**	**1.21**	**54**	P	**Pb**	04 37 40.9	+4.4
LEM				S	Sb	04 37 56.0	+4.2
CGJI	**Cibinong**	**1.31**	**315**	P	Pn	04 37 36.8	0.0
CGJI				S	Sn	04 37 52.7	-0.7
CMJI	**Cimerak**	**1.82**	**98**	P	Pn	04 37 44.5	+0.7
CMJI				S	Sn	04 38 00.9	-5.1
KPJI	**Karang Pucung**	**2.29**	**85**	P	Pb	04 37 55.0	+0.1
KPJI				S	Sn	04 38 17.8	+0.1

*ISCJB **05** 04:43:09.9±0.5, 17°.63N±0°.06×121°.56E±0°.07, h40km, mb3.7/6, Error ellipse: s-maj=11.1km s-min=6.3km az=35.4*
*MAN **05** 04:43:09, 17°.71N×121°.52E, h39km, mb4.2, ML3.1, MS2.8*
*IDC **05** 04:43:11.7±3.0, 17°.55N×121°.62E, h46km±34km, mb3.5/7, mb1 3.8/8, mb1mx3.5/46, mbtmp3.9/8, ML4.1/2, Error ellipse: s-maj=32.4km s-min=16.5km az=78.0*
ISC 05 04:43:11.3±0.8, 17°.65N±0°.06×121°.62E±0°.08, h40km, n20, σ0s98/16, mb3.8/6, 1D, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CVP	**Callao Caves**	**0.20**	**73**	*i*P	**Pn**	**04 43 16.8**	**-1.8**
CVP				*i* S	**Sn**	**04 43 23.5**	**-0.2**
SGCP	**Mt. Cagua**	**0.72**	**34**	*e*P	**Pn**	**04 43 24.4**	**-0.6**
SGCP				*e*S	**Sn**	**04 43 35.9**	**+1.0**
CAUP	**Cauayan**	**0.72**	**164**	*e*P	**Pn**	**04 43 25.9**	**+0.8**
BOLP	**Bolinao**	**2.06**	**233**	*e*P	**Pn**	**04 43 41.8**	**-1.6**
SCZP	**Santa Cruz**	**2.48**	**222**	*e*P	**Pn**	**04 43 49.1**	**0.0**
TGY	**Tagaytay City**	**3.58**	**191**	P	**Pn**	**04 44 03.8**	**-0.6**
	64nm,0.3s,baz=42,slow=14,SNR=1.7						
JNU	**Nakatsue**	**17.52**	**27**	P	**P**	**04 47 13.7**	**+0.3**
	0.3nm,0.3s,baz=208,slow=5.3,SNR=3.5						
KSRS	**Korea Array**	**20.50**	**14**	P	**P**	**04 47 46.4**	**+0.5**
	3.5nm,0.7s,baz=193,slow=11,SNR=9.1						
CMAR	**Chiang Mai Arr**	**21.57**	**276**	P	**P**	**04 47 57.4**	**-0.2**
	1.3nm,0.3s,baz=84,slow=9.1,SNR=4.3						
SONM	**Songino Array**	**32.59**	**341**	P	**P**	**04 49 40.0**	**+1.0**
	0.6nm,0.5s,baz=154,slow=9.0,SNR=4.6						
WRA	**Warramunga Arr**	**39.39**	**161**	P	**P**	**04 50 35.6**	**-1.7**
	0.4nm,0.7s,baz=344,slow=8.8,SNR=2.7						
H11S3	**WAKE ISLAND Hy**	**42.77**	**82**	T	T	05 36 27.2	
	baz=277,slow=74,SNR=29						
ASAR	**Alice Springs**	**42.78**	**163**	P	**P**	**04 51 04.9**	**-0.3**
	0.3nm,0.5s,baz=331,slow=7.1,SNR=3.2						
H11S1	**WAKE ISLAND Hy**	**42.78**	**82**	T	T	05 36 27.9	
	baz=277,slow=74,SNR=17						
H11S2	**WAKE ISLAND Hy**	**42.79**	**82**	T	T	05 36 28.5	
	baz=277,slow=74,SNR=28						
H11N1	**WAKE ISLAND Hy**	**42.84**	**80**	T	T	05 36 30.6	
	baz=274						
H11N2	**WAKE ISLAND Hy**	**42.85**	**80**	T	T	05 36 30.9	
	baz=274						
H11N3	**WAKE ISLAND Hy**	**42.86**	**80**	T	T	05 36 29.6	
	baz=274						
KURBB	**Kurchatov Arra**	**47.48**	**324**	P	**P**	**04 51 42.7**	**+0.5**
	1.1nm,0.5s,baz=122,slow=7.7,SNR=6.0						
FINES	**FINESS Array B**	**77.29**	**331**	P	**P**	**04 55 01.6**	**+0.2**
	0.7nm,0.5s,baz=49,slow=5.8,SNR=5.1						

*IDC **05** 04:44:59.7±0.6, 17°.50N×121°.59E, h0km, mb4.3/20, mb1 4.4/22, mb1mx4.3/46, mbtmp4.4/22, ML4.1/2, MS3.5/8, Ms1 3.5/8, ms1mx3.1/46, Error ellipse: s-maj=19.9km s-min=13.5km az=83.0*
*MAN **05** 04:45:04, 17°.77N×121°.51E, h25km, mb5.2, ML4.1, MS4.3*
MAN INTENSITY III - TUGUEGARAO CITY.
*MOS **05** 04:45:05.2±1.3, 17°.54N×121°.53E, h48km, mb4.9/19, Error ellipse: s-maj=12.0km s-min=7.0km az=109.1*
*ISCJB **05** 04:45:05.4±0.2, 17°.71N±0°.02×121°.55E±0°.03, h40km, mb4.5/55, MS3.7/14, Error ellipse: s-maj=4.3km s-min=3.3km az=13.6*
*NEIC **05** 04:45:06.8±0.6, 17°.61N×121°.57E, h44km±6km, mb4.7/23, Error ellipse: s-maj=7.7km s-min=5.2km az=103.0*
NEIC Felt [III PIVS] at Tuguegarao.
*BJI **05** 04:45:07.5, 17°.92N×121°.41E, h32km, mb4.5/41, mB4.8/24, Ms4.1/26, Ms7 3.9/23*
ISC 05 04:45:06.7±0.4, 17°.70N±0°.03×121°.56E±0°.04, h40km, n134, σ1s96/152, mb4.6/55, MS3.5/14, 7C-8D, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CVP	**Callao Caves**	**0.25**	**90**	*i*P	**Pn**	**04 45 11.3**	**-3.1**
CVP				*i* S	**Sn**	**04 45 18.4**	**-1.4**
SGCP	**Mt. Cagua**	**0.70**	**41**	*e*P	**Pn**	**04 45 19.0**	**-1.2**
SGCP				*e*S	**Sn**	**04 45 29.3**	**-0.7**
BOLP	**Bolinao**	**2.06**	**230**	*e*P	**Pn**	**04 45 36.3**	**-2.5**
PCPH	**Palayan**	**2.18**	**192**	*e*P	**Pn**	**04 45 40.8**	**+0.4**
PCPH				*e*S	**Sn**	**04 46 08.0**	**+1.8**
SCZP	**Santa Cruz**	**2.49**	**220**	*e*P	**Pn**	**04 45 43.0**	**-1.7**
SCZP				*e*S	**Sn**	**04 46 15.1**	**+1.3**
LQP	**Lukban**	**3.57**	**180**	*e*P	Pn	04 46 12.7	+13
TGY	**Tagaytay City**	**3.63**	**190**	Pn	**Pn**	**04 46 02.4**	**+1.8**
	54nm,0.3s,baz=346,slow=17,SNR=1.6						
TGY				LR	LR	04 47 38.0	
	comp=Z,619nm,20.2s,baz=45,slow=46						
GQP	**Guinayangan**	**3.87**	**167**	*e*P	**Pn**	**04 46 03.0**	**-0.8**
GQP				*e*S	**Sn**	**04 46 47.0**	**-1.0**
BOAC	**Boac**	**4.23**	**176**	*e*P	**Pn**	**04 46 12.0**	**+3.3**
TWG	**Pinlang**	**5.11**	**355**	*e*Pn	**Pn**	**04 46 21.0**	**+0.2**
TPUB	**Ta-pu**	**5.64**	**351**	*e*Pn	**Pn**	**04 46 28.9**	**+0.9**
YULB	**Yu-li**	**5.67**	**358**	*e*Pn	**Pn**	**04 46 30.4**	**+2.0**
YULB				*e*Sn	**Sn**	**04 47 26.7**	**-5.6**
SSLB	**Suanglung**	**6.08**	**355**	*e*Pn	**Pn**	**04 46 35.3**	**+1.2**
SSLB				*e*Sn	**Sn**	**04 47 41.0**	**-1.5**
NACB	**Ninganchiao**	**6.44**	**0**	*e*Pn	**Pn**	**04 46 39.6**	**+0.6**
NACB				*e*Sn	**Sn**	**04 47 51.6**	**+0.4**
YHNB	**Yeheng**	**6.93**	**359**	*e*Pn	**Pn**	**04 46 47.1**	**+1.2**
YHNB				*e*Sn	**Sn**	**04 48 01.7**	**-1.9**
MCO	**Taipa Grande**	**8.72**	**302**	P	**Pn**	**04 47 08.0**	**-2.3**
GZH	**Guangzhou**	**9.38**	**306**	P	**Pn**	**04 47 18.0**	**-1.4**
GZH				S	**Sn**	**04 49 00.9**	**-2.8**
GZH				pmax	pmax		
	comp=Z,33nm,0.8s						
JOW	**Kunigami**	**11.00**	**33**	Pn	**Pn**	**04 47 41.3**	**-0.3**
	1.4nm,0.3s,baz=270,slow=16,SNR=5.3						
JOW				Sn	**Sn**	**04 49 41.8**	**-1.5**
	1.2nm,0.3s,baz=294,slow=20,SNR=3.0						
QIZ	**Qiongzhong**	**11.21**	**279**	P	**Pn**	**04 47 45.1**	**+0.7**
QIZ				S	**Sn**	**04 49 48.3**	**-0.2**
QIZ				LR	LR		
	comp=N,280nm,9.5s						
QIZ				LR	LR		
	comp=E,120nm,6.8s						
QIZ				LR	LR		
	comp=Z,200nm,10.4s						
KKM	**Kota Kinabalu**	**12.71**	**205**	*e*Pn	**Pn**	**04 48 04.0**	**-1.1**
GYA	**Guiyang**	**16.32**	**305**	*e*P	**Pn**	**04 48 54.0**	**+0.9**
GYA				pP	pP	04 49 01.4	-4.1
GYA				S	**Sn**	**04 51 52.2**	**-1.0**
GYA				SS	**SnSn**	**04 52 12.0**	**+5.4**
GYA				pmax	pmax		
	comp=Z,20nm,0.8s						
GYA				pmax	pmax		
	comp=Z,120nm,4.7s						
GYA				LR	LR		
	comp=N,490nm,13.2s						
GYA				LR	LR		
	comp=E,430nm,14.4s						
GYA				LR	LR		
	comp=Z,460nm,13.5s						
ENH	**Enshi**	**16.66**	**321**	*e*Pn	**Pn**	**04 48 58.3**	**+0.9**
SLVN	**Son La**	**17.03**	**285**	*e*Pn	**Pn**	**04 49 02.5**	**+0.4**
	10nm,1.2s						
JNU	**Nakatsue**	**17.49**	**27**	P	**P**	**04 49 08.8**	**+0.3**
	0.9nm,0.3s,baz=169,slow=7.8,SNR=7.1						
JNU	**Nakatsue**	**17.49**	**27**	*e*Pn	**P**	**04 49 09.0**	**+0.5**
	19nm,0.9s						
KMI	**Kunming**	**19.00**	**296**	P	**Pn**	**04 49 28.1**	**+1.7**
KMI				pP	pP	04 49 36.2	+0.9
KMI				sP	sP	04 49 41.0	+0.6
KMI				S	**Sn**	**04 52 54.9**	**-3.6**
KMI				pmax	pmax		
	comp=Z,9.0nm,1.1s						
KMI				pmax	pmax		
	comp=Z,230nm,9.6s						
KMI				LR	LR		
	comp=N,250nm,15.8s						
KMI				LR	LR		
	comp=E,230nm,16.3s						
KMI				LR	LR		
	comp=Z,210nm,13.8s						
XAN	**Xi'an**	**19.82**	**328**	P	**Pn**	**04 49 35.3**	**-0.5**
XAN				pP	pP	04 49 43.8	-0.2
XAN				S	**S**	**04 53 07.8**	**-7.4**
XAN				sS	Sn	04 53 20.3	+2.6
XAN				SS	**SnSn**	**04 53 35.3**	**+2.8**
XAN				pmax	pmax		
	comp=Z,8.0nm,1.2s						
XAN				pmax	pmax		
	comp=Z,75nm,5.7s						
XAN				LR	LR		
	comp=N,130nm,11.3s						
XAN				LR	LR		
	comp=E,130nm,10.0s						
XAN				LR	LR		
	comp=Z,200nm,10.9s						
KS15	**Wonju Array Si**	**20.43**	**15**	*e*P	Pn	04 49 42.0	-0.9
KSAR	**Wonju Array Be**	**20.43**	**15**	P	**P**	**04 49 40.9**	**+0.3**
KSAR	**Wonju Array Be**	**20.43**	**15**	P	**P**	**04 49 40.9**	**+0.3**
KSRS	**Korea Array**	**20.45**	**15**	P	**P**	**04 49 40.9**	**+0.1**
	16nm,0.8s,baz=194,slow=11,SNR=30						
KS01	**Wonju Array Si**	**20.47**	**15**	*e*P	**P**	**04 49 41.2**	**+0.2**
CD2	**Chengdu**	**20.85**	**312**	*i*P	**P**	**04 49 46.2**	**+1.0**
CD2				pP	pP	04 49 52.2	-3.0
CD2				sP	sP	04 49 59.2	-1.1
CD2				S	**S**	**04 53 26.2**	**-9.4**
CD2				pmax	pmax		
	comp=Z,30nm,0.9s						
CD2				pmax	pmax		
	comp=Z,300nm,7.0s						
CD2				LR	LR		
	comp=N,440nm,19.0s						
CD2				LR	LR		
	comp=E,330nm,14.3s						
CD2				LR	LR		
	comp=Z,350nm,14.3s						
CHTO	**Chiang Mai**	**21.51**	**276**	*e*P	**P**	**04 49 52.5**	**+0.1**
CHTO				pmax	pmax		
	comp=Z,14nm,1.3s						
CHTO	**Chiang Mai**	**21.51**	**276**	*e*P	**P**	**04 49 52.5**	**+0.1**
	comp=Z,14nm,1.3s						
CMAR	**Chiang Mai Arr**	**21.52**	**275**	P	**P**	**04 49 52.8**	**+0.3**
	comp=Z,2.0nm,0.3s,baz=85,slow=9.0,SNR=15						
CMAR				LR	LR	04 57 50.6	
	comp=Z,99nm,19.2s,baz=118,slow=36						
KAPI	**Kappang**	**22.64**	**185**	LR	LR	04 59 13.1	
	comp=Z,68nm,18.6s,baz=23,slow=38						
BJI	**Beijing**	**22.74**	**349**	P	**P**		
BJI				pmax	pmax		
	comp=Z,8.0nm,1.1s						
GUMO	**Guam**	**22.80**	**97**	LR	LR	04 57 20.9	
	comp=Z,143nm,20.5s,baz=285,slow=33						
MAJO	**Matsushiro**	**23.84**	**35**	*e*P	**P**	**04 50 17.3**	**+1.1**
MAJO				pmax	pmax		
	comp=Z,4.0nm,0.4s						
MAJO	**Matsushiro**	**23.84**	**35**	*e*P	**P**	**04 50 17.3**	**+1.1**
	comp=Z,4.4nm,0.4s						
MJAR	**Matsushiro Arr**	**23.84**	**35**	P	**P**	**04 50 16.4**	**+0.1**
	comp=Z,2.8nm,0.6s,baz=211,slow=7.5,SNR=4.1						
MJAR				LR	LR	05 00 10.5	
	comp=Z,40nm,19.0s,baz=215,slow=38						
IPM	**Ipoh**	**24.02**	**239**	*e*P	**P**	**04 50 15.8**	**-2.3**
	comp=Z,35nm,1.5s						
LZH	**Lanzhou**	**24.11**	**323**	*e*P	**P**	**04 50 18.0**	**-1.0**
LZH				pP	pP	04 50 27.9	-2.0
LZH				sP	sP	04 50 33.2	-1.5
LZH				pmax	pmax		
	comp=Z,27nm,1.2s						
HHC	**Hu-ho-hao-te**	**24.62**	**342**	*e*P	**P**	**04 50 25.0**	**+1.5**
HHC				pP	pP	04 50 34.4	-0.1
HHC				sP	sP	04 50 38.3	-1.0
HHC				S	**S**	**04 54 39.7**	**-2.5**
HHC				PcS	**PcS**	**04 57 43.3**	**+2.8**
HHC				pmax	pmax		
	comp=Z,16nm,1.0s						
HHC				pmax	pmax		
	comp=Z,120nm,5.4s						
HHC				LR	LR		
	comp=Z,71nm,9.9s						
HHC				LR	LR		
	comp=Z,170nm,9.9s						
HHC				LR	LR		
	comp=Z,28nm,8.6s						
CN2	**Changchun**	**26.22**	**6**	*e*P	**P**	**04 50 41.3**	**+3.5**
CN2				*e*pP	pP	04 50 51.3	+2.5
CN2				*e*S	**S**	**04 55 08.9**	**+1.6**
CN2				pmax	pmax		
	comp=Z,10.0nm,0.6s						
CN2				LR	LR		
	comp=Z,400nm,15.0s						
CN2				LR	LR		
	comp=Z,300nm,15.0s						
CN2				LR	LR		
	comp=Z,600nm,14.0s						
PSI	**Prapat**	**26.70**	**239**	P	**P**	**04 50 41.2**	**-1.3**
	comp=Z,1.8nm,0.3s,baz=54,slow=3.1,SNR=3.6						
USRK	**Ussuriysk Ar.**	**27.84**	**16**	P	**P**	**04 50 54.4**	**+2.1**
	comp=Z,2.8nm,0.8s,baz=212,slow=8.9,SNR=4.9						
GTA	**Gaotai**	**28.71**	**323**	*e*P	**P**	**04 51 01.4**	**+1.0**
GTA				pP	pP	04 51 07.9	-3.5
GTA				sP	sP	04 51 11.1	-5.1
GTA				S	**S**	**04 55 48.2**	**+1.2**
GTA				sS	sS	04 56 02.0	-3.3
GTA				SS	**SnSn**	**04 57 15.8**	**+5.7**
GTA				pmax	pmax		
	comp=Z,4.0nm,1.3s						
GTA				pmax	pmax		
	comp=Z,99nm,5.5s						
GTA				LR	LR		
	comp=Z,100nm,15.4s						
GTA				LR	LR		
	comp=Z,180nm,16.9s						
GTA				LR	LR		
	comp=Z,140nm,15.4s						
ULN	**Ulaanbaatar**	**32.34**	**342**	*e*P	**P**	**04 51 33.6**	**+1.3**
ULN				pmax	pmax		
	comp=Z,12nm,1.2s						
ULN	**Ulaanbaatar**	**32.34**	**342**	*e*P	**P**	**04 51 33.3**	**+0.9**
	comp=Z,7.2nm,0.9s						
KLR	**Kul'dur**	**32.51**	**12**	*e*P	**P**	**04 51 35.7**	**+2.1**
SONM	**Songino Array**	**32.52**	**341**	P	**P**	**04 51 34.8**	**+1.0**
	comp=Z,2.5nm,0.5s,baz=160,slow=8.7,SNR=20						
SONM				LR	LR	05 06 52.2	
	comp=Z,80nm,18.0s,baz=98,slow=40						
SONA1	**Songino Array**	**32.53**	**341**	*e*P	**P**	**04 51 34.8**	**+0.9**
ZAK	**Zakamensk**	**35.74**	**340**	*e*P	**P**	**04 52 02.3**	**+0.6**
ZAK				pmax	pmax		
	comp=Z,5.0nm,1.1s						
TLY	**Talaya**	**36.75**	**341**	P	**P**	**04 52 11.3**	**+1.1**
	comp=Z,5.6nm,0.5s,baz=148,slow=4.4,SNR=8.7						
TLY	**Talaya**	**36.75**	**341**	*e*P	**P**	**04 52 11.8**	**+1.6**
TLY				pmax	pmax		
	comp=Z,6.0nm,0.7s						
TLY				MLR	MLR		
	comp=Z,49nm,12.0s						
TLY	**Talaya**	**36.75**	**341**	*e*P	**P**	**04 52 11.4**	**+1.1**
	comp=Z,9.7nm,0.8s						
WMQ	**Urumqi**	**38.61**	**320**	P	**P**	**04 52 27.5**	**+1.4**
WMQ				pP	pP	04 52 37.7	+0.4
WMQ				pmax	pmax		
	comp=Z,5.0nm,0.7s						
WMQ				pmax	pmax		
	comp=Z,64nm,3.9s						
WMQ				LR	LR		
	comp=Z,31nm,19.3s						
WMQ				LR	LR		
	comp=Z,68nm,18.5s						
WMQ				LR	LR		
	comp=Z,28nm,17.7s						
WRAB	**Tennant Creek**	**39.45**	**161**	*e*P	**P**	**04 52 34.3**	**+1.0**
WRAB				pmax	pmax		
	comp=Z,5.0nm,0.8s						
WRAB	**Tennant Creek**	**39.45**	**161**	*e*P	**P**	**04 52 34.3**	**+1.0**
	comp=Z,4.6nm,0.8s						
WRA	**Warramunga Arr**	**39.46**	**161**	P	**P**	**04 52 29.8**	**-3.5**
	comp=Z,1.5nm,0.8s,baz=346,slow=9.0,SNR=6.2						
WRA				PcP	**PcP**	**04 54 38.9**	**-1.9**
	comp=Z,0.9nm,0.6s,baz=345,slow=3.2,SNR=6.4						
BOD	**Bodaibo**	**40.45**	**354**	*e*P	**P**	**04 52 36.5**	**-4.6**
BOD				pmax	pmax		
	comp=Z,10.0nm,1.7s						
H11S3	**WAKE ISLAND Hy**	**42.81**	**82**	T	T	05 38 22.2	
	baz=277,slow=75,SNR=158						
H11S1	**WAKE ISLAND Hy**	**42.82**	**82**	T	T	05 38 23.0	
	baz=277,slow=75,SNR=88						
H11S2	**WAKE ISLAND Hy**	**42.83**	**82**	T	T	05 38 23.5	
	baz=277,slow=75,SNR=86						
ASAR	**Alice Springs**	**42.85**	**163**	P	**P**	**04 52 58.2**	**-3.0**
	comp=Z,1.1nm,0.6s,baz=342,slow=7.8,SNR=5.7						
ASAR				PcP	**PcP**	**04 54 50.5**	**-1.3**
	comp=Z,0.2nm,0.3s,baz=335,slow=4.1,SNR=3.1						
H11N1	**WAKE ISLAND Hy**	**42.88**	**80**	T	T	05 38 24.6	
	baz=274						
H11N2	**WAKE ISLAND Hy**	**42.89**	**80**	T	T	05 38 21.0	
	baz=274						
H11N3	**WAKE ISLAND Hy**	**42.90**	**80**	T	T	05 38 19.9	
	baz=274						
MK01	**Makanchi Array**	**43.38**	**321**	*e*P	**P**	**04 53 05.9**	**+0.6**
MK31	**Makanchi Array**	**43.40**	**321**	*e*P	**P**	**04 53 06.4**	**+1.0**
MK31	**Makanchi Array**	**43.40**	**321**	*e*P	**P**	**04 53 06.4**	**+1.0**
MKAR	**Makanchi Array**	**43.40**	**321**	*e*P	**P**	**04 53 06.4**	**+1.0**
MKAR				pmax	pmax		
	comp=Z,28nm,0.6s						
MKAR	**Makanchi Array**	**43.40**	**321**	*e*P	**P**	**04 53 06.4**	**+1.0**
	comp=Z,28nm,0.6s						
MAKZ	**Makanchi**	**43.59**	**321**	*e*P	**P**	**04 53 08.0**	**+1.0**
MAKZ				pmax	pmax		
	comp=Z,5.0nm,1.0s						
MAKZ	**Makanchi**	**43.59**	**321**	*e*P	**P**	**04 53 08.0**	**+1.0**
	comp=Z,4.7nm,1.0s						
YAK	**Yakutsk**	**44.65**	**5**	*e*P	**P**	**04 53 15.4**	**+0.3**
YAK	**Yakutsk**	**44.65**	**5**	*e*P	**P**	**04 53 15.4**	**+0.3**
	comp=Z,93nm,0.5s						
KSH	**Kashi**	**44.97**	**309**	*e*P	**P**	**04 53 20.8**	**+2.6**
KSH				sP	sP	04 53 34.9	+0.6
KSH				PP	**PP**	**04 55 06.9**	**+3.2**
KSH				S	**S**	**04 59 55.4**	**+1.4**
KSH				sS	sS	05 00 11.4	-1.5
KSH				SS	**ScS**	**05 03 08.3**	**-4.2**
KSH				pmax	pmax		
	comp=Z,6.0nm,1.0s						
KSH				pmax	pmax		
	comp=Z,81nm,4.0s						
KSH				LR	LR		
	comp=Z,100nm,4.7s						
KSH				LR	LR		
	comp=Z,120nm,4.1s						
KSH				LR	LR		
	comp=Z,88nm,6.5s						
ZAA0	**Zalesovo Array**	**45.95**	**331**	*e*P	**P**	**04 53 25.4**	**-0.2**
ZALV	**Zalesovo Beam**	**45.95**	**331**	P	**P**	**04 53 25.4**	**-0.2**
	comp=Z,1.6nm,0.5s,baz=117,slow=8.0,SNR=5.9						
HNR	**Honiara**	**46.52**	**122**	LR	LR	05 09 21.0	
	comp=Z,63nm,21.3s,baz=293,slow=32						
MA2	**Magadan**	**46.87**	**20**	*e*P	**P**	**04 53 33.9**	**+1.2**
AAK	**Ala-Archa**	**46.91**	**312**	*e*P	**P**	**04 53 35.2**	**+1.6**
KURK	**Kurchatov**	**47.40**	**324**	*e*P	**P**	**04 53 37.4**	**+0.4**
KURK				pmax	pmax		
	comp=Z,15nm,1.0s						
KURK	**Kurchatov**	**47.40**	**324**	*e*P	**P**	**04 53 37.4**	**+0.4**
	comp=Z,15nm,1.0s						
KURBB	**Kurchatov Arra**	**47.40**	**324**	P	**P**	**04 53 37.4**	**+0.3**
	comp=Z,9.7nm,0.8s,baz=122,slow=7.8,SNR=30						
KBL	**Kabul**	**49.50**	**301**	*e*P	**P**	**04 53 54.5**	**+0.7**
KBL				pmax	pmax		
	comp=Z,8.0nm,1.0s						
KBL	**Kabul**	**49.50**	**301**	*e*P	**P**	**04 53 54.5**	**+0.7**
	comp=Z,7.9n

comp=Z,60nm,21.3s,baz=231,slow=30
KDAK Kodiak Island 73.01 34 *i* P **P 04 56 33.7 +1.5**
MCK McKinley 74.08 28 *e*P **P 04 56 39.7 +1.3**
MCK pmax pmax
comp=Z,12nm,1.0s
MCK McKinley 74.08 28 *e*P **P 04 56 39.7 +1.3**
comp=Z,12nm,1.0s
RND Reindeer 74.16 28 *e*P **P 04 56 39.9 +1.0**
RND pmax pmax
comp=Z,15nm,1.1s
RND Reindeer 74.16 28 *e*P **P 04 56 39.9 +1.0**
comp=Z,15nm,1.1s
MDM Murphy Dome 74.21 26 *e*P **P 04 56 41.1 +1.9**
comp=Z,12nm,1.2s
ILAR Eielson Array 74.81 26 P **P 04 56 41.7 -0.9**
comp=Z,1.1nm,0.9s,baz=281,slow=5.8,SNR=8.5
ARCES ARCESS Array B 75.67 339 P **P 04 56 46.9 -0.5**
comp=Z,2.7nm,0.6s,baz=72,slow=8.0,SNR=6.1
ARCES ARCESS Array B 75.67 339 P **P 04 56 47.0 -0.5**
SIM Simferopol' 75.94 313 P **P 04 56 52.5 +3.0**
SIM pmax pmax
comp=Z,9.0nm,0.9s
SIM MLR MLR
comp=Z,400nm,17.0s
EGAK Eagle 77.21 26 *e*P **P 04 56 56.8 +0.5**
comp=Z,5.8nm,1.0s
FIA1 FINESS Array S 77.21 331 *e*P **P 04 56 56.5 +0.1**
FINES FINESS Array B 77.22 331 P **P 04 56 55.8 -0.6**
comp=Z,2.3nm,0.5s,baz=55,slow=5.5,SNR=18
FINES FINESS Array B 77.22 331 *i* P **P 04 56 56.4 +0.1**
FINES pmax pmax
comp=Z,2.0nm,0.5s
VSU Vasula 77.59 328‖ *e*P **P 04 56 58.4 -0.1**
VSU pmax pmax
comp=Z,22nm,0.7s
KIEV Kiev 77.97 319‖ *e*P **P 04 57 02.3 +1.5**
KIEV pmax pmax
comp=Z,9.0nm,2.3s
KIEV Kiev 77.97 319 *e*P **P 04 56 59.7 -1.1**
comp=Z,2.5nm,0.8s
CRVS Cervenica-Dubn 83.29 319 *e*P **P 04 57 31.0 +1.6**
CRVS Cervenica-Dubn 83.29 319 *e*P **P 04 57 31.0 +1.6**
NC405 NORSAR Array S 83.85 333 *e*P **P 04 57 32.5 +0.5**
NB2 NORSAR Subarra 84.10 333 P **P 04 57 32.8 -0.5**
comp=Z,0.9nm,0.5s,baz=64,slow=5.3
NOA NORSAR Array B 84.10 333 P **P 04 57 32.1 -1.2**
comp=Z,1.2nm,0.8s,baz=64,slow=5.0,SNR=3.8
VYHS Vyhne 85.07 319 *e*P **P 04 57 38.1 -0.3**
VYHS Vyhne 85.07 319 *e*P **P 04 57 38.1 -0.3**
YKA Yellowknife Ar 88.78 23 P **P 04 57 57.3 +1.2**
comp=Z,0.9nm,0.7s,baz=309,slow=5.0,SNR=3.4
D08A Wollman Farm, 95.77 37 *e*P **P 04 58 27.7 -1.1**
comp=Z,5.4nm,1.1s
SDV Santo Domingo 150.96 25 *e*PKPbc **PKPbc 05 04 56.3 -0.2**

IDC 05 04:50:37.1±3.8, 31°13S×178°58W, h0km, mb3.9/2, mb1 4.1/2, mb1mx3.7/35, mbtmp3.9/2, Error ellipse: s-maj=181.2km s-min=50.5km az=161.0, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ASAR	**Alice Springs**	**42.58**	**268**	P	P	04 58 33.7	-1.3
	0.3nm,0.3s,baz=109,slow=8.0,SNR=4.1						
WRA	**Warramunga Arr**	**43.63**	**273**	P	P	04 58 44.5	+0.9
	1.4nm,0.5s,baz=113,slow=8.1,SNR=20						
FINES	**FINESS Array B**	**145.66**	**339**	PKPbc	PKPab	05 10 17.2	-0.1
	0.8nm,0.5s,baz=36,slow=3.5,SNR=6.0						
BRTR	**Keskin Array B**	**152.50**	**297**	PKPbc	PKPbc	05 10 34.2	-1.3
	0.3nm,0.3s,baz=57,slow=5.3,SNR=3.7						

NIED ***05*** *04:57:00, 38°.40N×142°.20E, h47km, Mw3.8 Best double couple: M₀4.77000×10¹⁴ NP1:φ₁355.00000°, δ45.00000°, λ49.00000°. NP2:φ₂226.00000°, δ58.00000°, λ123.00000°.*
IDC ***05*** *04:57:15.6±9.9, 40°.45N×142°.17E, h0km, mb3.9/2, mb1 4.0/3, mb1mx3.5/50, mbtmp3.8/3, ML3.3/1, Error ellipse: s-maj=242.2km s-min=75.5km az=156.0*
JMA ***05*** *04:57:33.3±0.1, 38°.45N×142°.20E, h29km±1km, M3.8*
JMA Felt I J1.
NEIC ***05*** *04:57:36.5±0.9, 38°.09N×142°.57E, h35km, mb4.0/1, Error ellipse: s-maj=20.7km s-min=13.0km az=119.0*
NEIC Recorded [1 JMA] in Miyagi.
ISC 05 04:57:29.5±1.9, 38°34N±0°.04×142°27E±0°.07, h6km±11km, n21, σ1°s40/25, mb4.1/3, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JIO	**Ouri**	**0.73**	**279**	P	**Pn**	**04 57 46.2**	**-0.2**
JIO				S	**Sb**	**04 57 54.8**	**-0.1**
OFUJ	**Ofunato**	**0.87**	**327**	P	**Pb**	**04 57 47.6**	**+0.6**
OFUJ				*e*S	**Sg**	**04 57 57.6**	**0.0**
JMK	**Ichinoseki**	**1.02**	**307**	P	**Pb**	**04 57 50.1**	**+0.5**
JMK				S	**Sg**	**04 58 01.9**	**-0.5**
JMM	**Marumori**	**1.26**	**248**	P	**Pg**	**04 57 54.1**	**+0.4**
JMM				S	**Sg**	**04 58 09.7**	**-0.3**
JOU	**Okura**	**1.27**	**271**	P	**Pg**	**04 57 54.6**	**+0.8**
JOU				S	**Sg**	**04 58 10.1**	**-0.1**
JOM	**Ohasama**	**1.36**	**326**	P	**Pn**	**04 57 55.2**	**+0.2**
JOM				S	**Sb**	**04 58 11.2**	**-1.8**
JFK	**Kawauchi**	**1.48**	**229**	P	**Pb**	**04 57 57.2**	**-0.1**
JFK				S	**Sn**	**04 58 14.7**	**-1.5**
JYK	**Kaneyama**	**1.60**	**292**	P	**Pb**	**04 57 59.1**	**-0.4**
JYK				*e*S	**Sn**	**04 58 18.7**	**-0.6**
JRG	**Rokugo**	**1.66**	**310**	P	**Pb**	**04 58 00.1**	**-0.3**
MJAR	**Matsushiro Arr**	**3.70**	**242**	Pn	**Pb**	**04 58 31.6**	**-3.7**
	1.2nm,0.3s,baz=34,slow=16,SNR=5.0						
MJAR				Sn	**Sb**	**04 59 23.4**	**+3.1**
	1.2nm,0.3s,baz=55,slow=30,SNR=3.4						
MAJO	**Matsushiro**	**3.70**	**242**	*e*Pn	**Pb**	**04 58 33.5**	**-1.7**
ERM	**Erimo**	**3.73**	**10**	*e*Pn	**Pb**	**04 58 34.5**	**-1.2**
ERM				*e*S	**Sn**	**04 59 10.7**	**-1.0**
H11N2	**WAKE ISLAND Hy**	**28.27**	**124**	T	T	05 33 44.6	
	baz=316						
H11N1	**WAKE ISLAND Hy**	**28.28**	**124**	T	T	05 33 50.0	
	baz=316						
H11N3	**WAKE ISLAND Hy**	**28.29**	**124**	T	T	05 33 44.6	
	baz=316						
H11S1	**WAKE ISLAND Hy**	**29.04**	**126**	T	T	05 34 41.0	
	baz=318,slow=76,SNR=73						
H11S3	**WAKE ISLAND Hy**	**29.04**	**126**	T	T	05 34 38.1	
	baz=318,slow=76,SNR=80						
H11S2	**WAKE ISLAND Hy**	**29.05**	**126**	T	T	05 34 45.0	
	baz=318,slow=76,SNR=84						
WRAB	**Tennant Creek**	**58.44**	**189**	*e*P	**P**	**05 07 27.4**	**+1.4**
	0.8nm,0.6s						
WRA	**Warramunga Arr**	**58.45**	**189**	P	**P**	**05 07 26.9**	**+0.8**
	1.1nm,0.7s,baz=6.9,slow=6.9,SNR=12						
ASAR	**Alice Springs**	**62.18**	**189**	P	**P**	**05 07 53.0**	**+1.4**
	1.0nm,0.8s,baz=12,slow=7.0,SNR=8.2						

IDC ***05*** *05:04:22.7±1.1, 32°.54S×178°.28W, h0km, mb4.6/2, mb1 4.7/3, mb1mx4.0/32, mbtmp4.5/3, ML4.2/1, MS3.6/6, Ms1 3.6/6, ms1mx3.3/28, Error ellipse: s-maj=40.8km s-min=29.3km az=130.0*
ISCJB ***05*** *05:04:25.2±1.5, 32°.54S±0°.08×178°.3W±0°.3, h33km, mb4.5/3, MS3.6/3, Error ellipse: s-maj=33.1km s-min=7.9km az=16.6*
NEIC ***05*** *05:04:27.9±0.7, 32°.49S×178°.30W, h35km, mb4.6/1, Error ellipse: s-maj=25.2km s-min=9.6km az=104.0*
ISC 05 05:04:27.5±1.0, 32°.5S±0°.1×178°.3W±0°.2, h33km, n21, σ0s98/16, mb4.6/3, MS3.6/3, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**3.27**	**6**	Sn	**Sn**	**05 05 52.5**	**-1.6**
	170nm,0.3s,baz=260,slow=21,SNR=4.4						
RAO				LR	LR	05 06 02.8	
	comp=Z,297nm,19.3s,baz=128,slow=30						
URZ	**Urewera**	**6.84**	**212**	Pn	**Pn**	**05 06 03.9**	**-1.5**
	4.1nm,0.3s,baz=247,slow=3.8,SNR=25						
URZ				Sn	**Sn**	**05 07 21.7**	**-0.3**
	4.2nm,0.3s,baz=77,slow=21,SNR=13						
DZM	**Mont Dzumac**	**17.05**	**304**	LR	LR	05 13 59.1	
	comp=Z,476nm,18.1s,baz=162,slow=34						
DZM	**Mont Dzumac**	**17.05**	**304**	*e*LR	LR	05 12 48.0	
	324nm,22.8s						
RAR	**Rarotonga**	**19.98**	**60**	LR	LR	05 17 26.2	
	comp=Z,111nm,18.1s,baz=262,slow=39						
TBI	**Tubuai**	**27.02**	**78**	*e*LR	LR	05 16 42.1	
	76nm,30.5s						
PPT2	**Papeete2**	**29.86**	**67**	*e*LR	LR	05 18 11.2	
	82nm,24.5s						
PPT	**Papeete**	**29.87**	**67**	LR	LR	05 22 12.2	
	comp=Z,86nm,18.5s,baz=234,slow=36						
STKA	**Stephens Creek**	**33.79**	**260**	LR	LR	05 23 44.6	
	comp=Z,105nm,18.6s,baz=128,slow=34						
ASAR	**Alice Springs**	**42.76**	**269**	P	**P**	**05 12 22.1**	**+0.1**
	4.4nm,0.8s,baz=111,slow=7.8,SNR=26						
WRAB	**Tennant Creek**	**43.94**	**275**	*e*P	**P**	**05 12 32.8**	**+1.3**
	7.4nm,0.7s						
WRA	**Warramunga Arr**	**43.94**	**275**	P	**P**	**05 12 32.4**	**+0.8**
	10nm,0.8s,baz=113,slow=8.0,SNR=84						
WRA				LR	LR	05 29 14.8	
	comp=Z,138nm,21.0s,baz=275,slow=34						
SNAA	**Sanae**	**76.06**	**179**	*e*P	**P**	**05 16 11.6**	**+0.4**
SNAA				*e*PcP	**PcP**	**05 16 22.9**	**-0.5**
KURK	**Kurchatov**	**122.29**	**313**	PKP	**PKPdf**	**05 23 18.6**	**+0.1**
KURBB	**Kurchatov Arra**	**122.33**	**313**	PKP	**PKPdf**	**05 23 18.6**	**0.0**
	0.6nm,0.3s,baz=126,slow=2.2,SNR=4.3						
KBZ	**Khabaz**	**146.01**	**301**	PKPbc	**PKPab**	**05 24 05.6**	**+1.4**
	4.7nm,1.1s,baz=209,slow=4.5,SNR=4.0						
FINES	**FINESS Array B**	**147.02**	**339**	PKPbc	**PKPbc**	**05 24 06.5**	**+0.6**
	5.6nm,0.7s,baz=41,slow=3.6,SNR=24						
NOA	**NORSAR Array B**	**150.79**	**350**	PKPbc	**PKPbc**	**05 24 15.4**	**-0.3**
	1.2nm,0.7s,baz=15,slow=4.2,SNR=4.6						
AKASG	**Malin Array Be**	**152.77**	**320**	PKPbc	**PKPbc**	**05 24 19.6**	**-0.9**
	0.8nm,0.5s,baz=56,slow=2.9,SNR=6.7						
BRTR	**Keskin Array B**	**153.29**	**295**	PKPbc	**PKPbc**	**05 24 22.8**	**+0.5**
	1.5nm,0.7s,baz=154,slow=2.4,SNR=7.5						
TORD	**Torodi Ar. Bea**	**160.72**	**180**	PKPab	**PKPab**	**05 25 07.4**	**+1.0**
	0.1nm,0.3s,baz=202,slow=43,SNR=3.2						

IDC ***05*** *05:05:34.8±0.4, 59°.12N×30°.85W, h0km, mb4.4/35, mb1 4.6/40, mb1mx4.5/59, mbtmp4.5/40, ML3.6/4, MS4.2/32, Ms1 4.2/32, ms1mx4.1/43, Error ellipse: s-maj=12.5km s-min=8.9km az=3.0*
MOS ***05*** *05:05:35.6±1.0, 59°.25N×30°.87W, h10km, mb5.1/71, MS4.3/10, Error ellipse: s-maj=7.0km s-min=6.5km az=104.7*
BJI ***05*** *05:05:35.7, 59°.66N×30°.84W, h6km, mb5.0/36, mB5.2/21, Ms4.9/13, Ms7 4.5/10*
ISCJB ***05*** *05:05:35.6±1.0, 59°.27N±0°.02×30°.93W±0°.02, h11km±6km, mb4.8/224, MS4.2/45, Error ellipse: s-maj=3.4km s-min=1.7km az=166.8*
REY ***05*** *05:05:36.5, 58°.43N×27°.64W, h4km*
GCMT ***05*** *05:05:37.2±0.2, 59°.18N×30°.64W, h14km±1km, MW5.0/103, Moment Tensor Solution. s34,c36; s103,c160; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr=4.15±.26; Mθθ0.54±.16; Mφφ3.61±.16; Mrθ1.60±.40; Mrφ1.53±.08; Mθφ-0.97±.28; Best double couple: M₀4.56400×10¹⁶ NP1:φ₁2.00000°, δ51.00000°, λ-118.00000°. NP2: φ₂222.00000°, δ47.00000°, λ-60.00000°. Principal axes: T 4.2540, Plg2.0000°, Azm112.0000°; N 0.6240, Plg21.0000°, Azm21.0000°; P -4.8740, Plg69.0000°, Azm207.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
NEIC ***05*** *05:05:37.2±0.1, 59°.14N×30°.82W, h10km, mb4.9/148 Error ellipse: s-maj=4.6km s-min=2.4km az=178.0*
CSEM ***05*** *05:05:37.1±0.1, 59°.25N×30°.85W, h10km, mb4.9/99, Error ellipse: s-maj=3.5km s-min=2.2km az=176.0*
ISC 05 05:05:37.5±0.8, 59°12N±0°.04×30°83W±0°.03, h15km±4km, n1014, σ1s30/1065, mb4.9/224, MS4.3/45, 17C-22D, Reykjanes Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IRNE	**Reykjanes**	**6.11**	**36**	P	**Pn**	**05 07 05.6**	**-1.6**
	baz=22						
IRNE				S	**Sn**	**05 08 16.6**	**-0.1**
	baz=22						
IRNE	**Reykjanes**	**6.11**	**36**	P	**Pn**	**05 07 05.6**	**-1.6**
	baz=22						
IRNE				S	**Sn**	**05 08 16.6**	**-0.1**
	baz=22						
IRNE	**Reykjanes**	**6.11**	**36**	P	**Pn**	**05 07 05.6**	**-1.6**
IRNE				S	**Sn**	**05 08 16.6**	**-0.1**
IGRV	**Grindav??k**	**6.22**	**37**	P	**Pn**	**05 07 09.0**	**+0.4**
	baz=22						
IGRV				S	**Sn**	**05 08 18.5**	**-0.8**
	baz=22						
IGRV	**Grindav??k**	**6.22**	**37**	P	**Pn**	**05 07 09.0**	**+0.4**
	baz=22						
IGRV				S	**Sn**	**05 08 18.5**	**-0.8**
	baz=22						
IGRV	**Grindav??k**	**6.22**	**37**	P	**Pn**	**05 07 09.0**	**+0.4**
IGRV				S	**Sn**	**05 08 18.5**	**-0.8**
INYL	**Nylenda**	**6.22**	**35**	P	**Pn**	**05 07 08.9**	**+0.3**
	baz=21						
INYL				S	**Sn**	**05 08 20.7**	**+1.4**
	baz=21						
INYL	**Nylenda**	**6.22**	**35**	P	**Pn**	**05 07 08.9**	**+0.3**
	baz=21						
INYL				S	**Sn**	**05 08 20.7**	**+1.4**
	baz=21						
INYL	**Nylenda**	**6.22**	**35**	P	**Pn**	**05 07 08.9**	**+0.3**
IVOG	**Vogar**	**6.32**	**36**	P	**Pn**	**05 07 09.8**	**-0.2**
	baz=22						
IVOG				S	**Sn**	**05 08 22.6**	**+0.9**
	baz=22						
IVOG	**Vogar**	**6.32**	**36**	P	**Pn**	**05 07 09.8**	**-0.2**
	baz=22						
IVOG				S	**Sn**	**05 08 22.6**	**+0.9**
	baz=22						
IVOG	**Vogar**	**6.32**	**36**	P	**Pn**	**05 07 09.8**	**-0.2**
IVOG				S	**Sn**	**05 08 22.6**	**+0.9**
IKRI	**Krysuvik**	**6.35**	**38**	P	**Pn**	**05 07 09.5**	**-0.9**
	baz=24						
IKRI				S	**Sn**	**05 08 21.8**	**-0.8**
	baz=24						
IKRI	**Krysuvik**	**6.35**	**38**	P	**Pn**	**05 07 09.5**	**-0.9**
	baz=24						
IKRI				S	**Sn**	**05 08 21.8**	**-0.8**
	baz=24						
IKRI	**Krysuvik**	**6.35**	**38**	P	**Pn**	**05 07 09.5**	**-0.9**
IKRI				S	**Sn**	**05 08 21.8**	**-0.8**
IVOS	**Vogsosar**	**6.45**	**39**	P	**Pn**	**05 07 08.8**	**-3.0**
	baz=25						
IVOS				S	**Sn**	**05 08 23.4**	**-1.6**
	baz=25						
IVOS	**Vogsosar**	**6.45**	**39**	P	**Pn**	**05 07 08.8**	**-3.0**
	baz=25						
IVOS				S	**Sn**	**05 08 23.4**	**-1.6**
	baz=25						
IVOS	**Vogsosar**	**6.45**	**39**	P	**Pn**	**05 07 08.8**	**-3.0**
IVOS				S	**Sn**	**05 08 23.4**	**-1.6**
IKAS	**Kald??rsel**	**6.52**	**37**	P	**Pn**	**05 07 10.5**	**-2.3**
	baz=24						
IKAS				S	**Sn**	**05 08 26.7**	**-0.1**
	baz=24						
IKAS	**Kald??rsel**	**6.52**	**37**	P	**Pn**	**05 07 10.5**	**-2.3**
	baz=24						
IKAS				S	**Sn**	**05 08 26.7**	**-0.1**
	baz=24						
IKAS	**Kald??rsel**	**6.52**	**37**	P	**Pn**	**05 07 10.5**	**-2.3**
IKAS				S	**Sn**	**05 08 26.7**	**-0.1**
ISAN	**Sandskeio**	**6.63**	**38**	P	**Pn**	**05 07 11.8**	**-2.5**
	baz=25						
ISAN				S	**Sn**	**05 08 28.8**	**-0.8**
	baz=25						
ISAN	**Sandskeio**	**6.63**	**38**	P	**Pn**	**05 07 11.8**	**-2.5**
	baz=25						
ISAN				S	**Sn**	**05 08 28.8**	**-0.8**
	baz=25						
ISAN	**Sandskeio**	**6.63**	**38**	P	**Pn**	**05 07 11.8**	**-2.5**
ISAN				S	**Sn**	**05 08 28.8**	**-0.8**
IBJA	**Bjarnastaoir**	**6.64**	**39**	P	**Pn**	**05 07 11.1**	**-3.4**
	baz=26						
IBJA				S	**Sn**	**05 08 27.8**	**-2.0**
	baz=26						
IBJA	**Bjarnastaoir**	**6.64**	**39**	P	**Pn**	**05 07 11.1**	**-3.4**
	baz=26						
IBJA				S	**Sn**	**05 08 27.8**	**-2.0**
	baz=26						
IBJA	**Bjarnastaoir**	**6.64**	**39**	P	**Pn**	**05 07 11.1**	**-3.4**
IBJA				S	**Sn**	**05 08 27.8**	**-2.0**
IKUD	**Kuludalsa**	**6.73**	**35**	P	**Pn**	**05 07 14.2**	**-1.4**
	baz=23						
IKUD				S	**Sn**	**05 08 33.0**	**+1.1**
	baz=23						
IKUD	**Kuludalsa**	**6.73**	**35**	P	**Pn**	**05 07 14.2**	**-1.4**
IKUD				S	**Sn**	**05 08 33.0**	**+1.1**
ISOL	**Solvholt**	**6.75**	**40**	P	**Pn**	**05 07 12.3**	**-3.5**
	baz=28						
ISOL				S	**Sn**	**05 08 29.9**	**-2.5**
	baz=28						
ISOL	**Solvholt**	**6.75**	**40**	P	**Pn**	**05 07 12.3**	**-3.5**
	baz=28						
ISOL				S	**Sn**	**05 08 29.9**	**-2.5**
	baz=28						
ISOL	**Solvholt**	**6.75**	**40**	P	**Pn**	**05 07 12.4**	**-3.5**
ISOL				S	**Sn**	**05 08 29.9**	**-2.5**
IASM	**Asmuli**	**6.80**	**42**	P	**Pn**	**05 07 14.1**	**-2.5**
	baz=29						
IASM				S	**Sn**	**05 08 30.6**	**-3.0**
	baz=29						
IASM	**Asmuli**	**6.80**	**42**	P	**Pn**	**05 07 14.1**	**-2.5**
	baz=29						
IASM				S	**Sn**	**05 08 30.6**	**-3.0**
	baz=29						
IASM	**Asmuli**	**6.80**	**42**	P	**Pn**	**05 07 14.1**	**-2.5**
IASM				S	**Sn**	**05 08 30.6**	**-3.0**
IKRO	**Krokur**	**6.81**	**39**	P	**Pn**	**05 07 14.6**	**-2.1**
	baz=26						
IKRO				S	**Sn**	**05 08 32.5**	**-1.3**
	baz=26						
IKRO	**Krokur**	**6.81**	**39**	P	**Pn**	**05 07 14.6**	**-2.1**
	baz=26						
IKRO				S	**Sn**	**05 08 32.5**	**-1.3**
	baz=26						
IKRO	**Krokur**	**6.81**	**39**	P	**Pn**	**05 07 14.6**	**-2.1**
IKRO				S	**Sn**	**05 08 32.5**	**-1.3**
IHEI	**Heioarbar**	**6.84**	**38**	P	**Pn**	**05 07 15.6**	**-1.5**
	baz=25						
IHEI				S	**Sn**	**05 08 34.6**	**0.0**
	baz=25						
IHEI	**Heioarbar**	**6.84**	**38**	P	**Pn**	**05 07 15.6**	**-1.5**
	baz=25						
IHEI				S	**Sn**	**05 08 34.6**	**0.0**
	baz=25						
IHEI	**Heioarbar**	**6.84**	**38**	P	**Pn**	**05 07 15.6**	**-1.5**
IHEI				S	**Sn**	**05 08 34.6**	**0.0**
ISAU	**Saurbar**	**6.97**	**41**	P	**Pn**	**05 07 15.4**	**-3.5**
	baz=29						
ISAU				S	**Sn**	**05 08 35.4**	**-2.4**
	baz=29						
ISAU	**Saurbar**	**6.97**	**41**	P	**Pn**	**05 07 15.4**	**-3.5**
	baz=29						
ISAU				S	**Sn**	**05 08 35.4**	**-2.4**
	baz=29						
ISAU	**Saurbar**	**6.97**	**41**	P	**Pn**	**05 07 15.4**	**-3.5**
ISAU				S	**Sn**	**05 08 35.4**	**-2.4**
IHAU	**Haukadalur**	**7.11**	**42**	S	**Sn**	**05 08 38.1**	**-3.1**
	baz=30						
IHAU	**Haukadalur**	**7.11**	**42**	S	**Sn**	**05 08 38.1**	**-3.1**
	baz=30						
IHAU	**Haukadalur**	**7.11**	**42**	S	**Sn**	**05 08 38.1**	**-3.1**
BORG	**Borgarnes**	**7.21**	**34**	Pn	**Pn**	**05 07 22.6**	**+0.5**
	22nm,0.3s,baz=204,slow=6.5,SNR=70						
BORG				Sn	**Sn**	**05 08 44.1**	**+0.5**
	5.4nm,0.3s,baz=71,slow=21,SNR=15						
BORG				LR	LR	05 09 24.5	
	comp=Z,2μm,18.4s,baz=203,slow=32						
BORG	**Borgarnes**	**7.21**	**34**	*e*P	**Pn**	**05 07 23.5**	**+1.3**
BORG				*e*		05 08 48.0	
BORG	**Borgarnes**	**7.21**	**34**	*e*P	**Pn**	**05 07 23.5**	**+1.3**
BORG	**Borgarnes**	**7.21**	**34**	*e*Pn	**Pn**	**05 07 23.4**	**+1.3**
BORG				*e*Sn	**Sn**	**05 08 48.0**	**+4.4**
IASB	**`sbjarnarst**	**7.21**	**34**	P	**Pn**	**05 07 21.9**	**-0.2**
	baz=23						
IASB				S	**Sn**	**05 08 44.4**	**+0.8**
	baz=23						
IASB	**`sbjarnarst**	**7.21**	**34**	P	**Pn**	**05 07 21.9**	**-0.2**
	baz=23						
IASB				S	**Sn**	**05 08 44.4**	**+0.8**
	baz=23						
IASB	**`sbjarnarst**	**7.21**	**34**	P	**Pn**	**05 07 21.9**	**-0.2**
IASB				S	**Sn**	**05 08 44.4**	**+0.8**
IGYG	**Gygjarholskot**	**7.22**	**40**	P	**Pn**	**05 07 19.3**	**-3.1**
	baz=28						
IGYG				S	**Sn**	**05 08 43.9**	**-0.2**
	baz=28						
IGYG	**Gygjarholskot**	**7.22**	**40**	P	**Pn**	**05 07 19.3**	**-3.1**
IGYG				S	**Sn**	**05 08 43.9**	**-0.2**
	baz=28						
IGYG	**Gygjarholskot**	**7.22**	**40**	P	**Pn**	**05 07 19.3**	**-3.1**
IGYG				S	**Sn**	**05 08 43.9**	**-0.2**
IRJU	**Rjupnafell**	**7.38**	**47**	S	**Sn**	**05 08 42.8**	**-5.0**
	baz=36						
IRJU	**Rjupnafell**	**7.38**	**47**	S	**Sn**	**05 08 42.8**	**-5.0**
	baz=36						
IRJU	**Rjupnafell**	**7.38**	**47**	S	**Sn**	**05 08 42.8**	**-5.0**
SFJD	**Kangerlussuaq**	**11.90**	**320**	Pn	**Pn**	**05 08 25.8**	**-0.6**
	0.5nm,0.3s,baz=134,slow=9.0,SNR=5.0						
SFJD				LR	LR	05 12 21.6	
	comp=Z,3μm,18.5s,baz=124,slow=34						
SFJD	**Kangerlussuaq**	**11.90**	**320**	*i* P	**Pn**	**05 08 27.6**	**+1.2**
SFJD	**Kangerlussuaq**	**11.90**	**320**	*e*P	**Pn**	**05 08 27.6**	**+1.2**
SFJD	**Kangerlussuaq**	**11.90**	**320**	*e*Pn	**Pn**	**05 08 26.8**	**+0.5**
SFJD				*e*Sn	**Sn**	**05 10 38.5**	**-0.2**
VAL	**Valentia**	**13.65**	**113**	*e*P	**P**	**05 08 55.0**	**-4.2**
VAL	**Valentia**	**13.65**	**113**‖	*i*/S	**S**	**05 11 52.4**	**+7.9**
SUMG	**Summit**	**13.85**	**350**	*i* P	**Pn**	**05 08 54.0**	**+0.7**
SUMG	**Summit**	**13.85**	**350**	*e*P	**Pn**	**05 08 54.0**	**+0.7**
SUMG	**Summit**	**13.85**	**350**	*e*P	**Pn**	**05 08 54.0**	**+0.7**
	SNR=45						
SUMG	**Summit**	**13.85**	**350**	*e*Pn	**Pn**	**05 08 53.0**	**-0.3**
JMIC	**Jan Mayen**	**15.04**	**29**	LR	LR	05 13 24.2	
	comp=Z,526nm,20.3s,baz=244,slow=31						
ESK	**Eskdalemuir**	**15.38**	**92**	*i* P	**Pn**	**05 09 15.3**	**+1.5**
EKA	**Eskdalemuir Ar**	**15.40**	**92**	Pn	**Pn**	**05 09 12.6**	**-1.4**
	baz=296,slow=12,SNR=19						
EKA				LR	LR	05 14 14.6	
	comp=Z,1μm,18.1s,baz=270,slow=34						
CWF	**Charnwood Fore**	**17.63**	**98**	*e*Pn	**Pn**	**05 09 42.8**	**+0.5**
	148nm,1.1s						
BER	**Bergen**	**18.12**	**70**	P	**P**	**05 09 50.8**	**+2.2**
BER				pmax	pmax		
	comp=Z,13nm,1.7s						
BER	**Bergen**	**18.12**	**70**	P	**P**	**05 09 50.8**	**+2.2**
	comp=Z,13nm,1.7s						
DAG	**Danmarks Havn**	**18.23**	**9**	*i* P	**P**	**05 09 53.3**	**+3.6**
DAG	**Danmarks Havn**	**18.23**	**9**	P	**P**	**05 09 52.7**	**+3.0**
DAG				pmax	pmax		
	comp=Z,15nm,1.3s						
DRLN	**Deer Lake**	**18.34**	**249**	*e*Pn	**Pn**	**05 09 50.2**	**-0.9**
	comp=Z,103nm,1.5s						
FRB	**Frobisher Bay**	**18.42**	**301**	P	**P**	**05 09 51.7**	**-0.1**
	comp=Z,0.4nm,0.3s,baz=114,slow=13,SNR=3.4						
FRB				LR	LR	05 16 04.7	
	comp=Z,2μm,19.2s,baz=86,slow=34						
ROSF	**Rostrenen**	**19.40**	**112**	*e*P	**Pn**	**05 10 05.6**	**+1.7**
ROSF				pmax	pmax		
	comp=Z

FLN La Foliniere 20.47 107 *e*P Pn 05 10 15.6 -0.9
comp=Z,137nm,1.2s
GRR Gorron 20.53 108 *e*P Pn 05 10 19.0 +1.7
GRR pmax pmax
comp=Z,213nm,1.5s
NC204 NORSAR Array S 20.53 66 *e*P **P 05 10 15.3 +0.3**
NBO00 NORSAR Array S 20.60 67 *e*P **P 05 10 15.8 +0.1**
NBO02 NORSAR Array S 20.63 67 *e*P **P 05 10 15.6 -0.5**
NAO01 NORSAR Array S 20.69 67 *e*P Pn 05 10 19.1 0.0
NB2 NORSAR Subarra 20.80 67 P **P 05 10 17.6 -0.3**
comp=Z,34nm,1.4s,SNR=7.5
NB2 NORSAR Subarra 20.80 67 P **P 05 10 17.6 -0.3**
comp=Z,34nm,1.4s,baz=282,slow=11
NB200 NORSAR Array S 20.80 67 *e*P **P 05 10 17.2 -0.7**
NOA NORSAR Array B 20.80 67 P **P 05 10 17.2 -0.7**
comp=Z,8.2nm,1.1s,baz=283,slow=10,SNR=4.9
NOA LR LR 05 17 11.3
comp=Z,608nm,21.0s,baz=285,slow=34
NC303 NORSAR Array S 20.83 66 *e*P Pn 05 10 19.7 -1.0
NC405 NORSAR Array S 21.02 66 *e*P **P 05 10 22.1 +1.9**
NC602 NORSAR Array S 21.03 67 *e*P **P 05 10 22.4 +2.0**
SNF Seneffe 21.76 98 P **P 05 10 29.1 +0.9**
BAIF Baives 21.99 99 *e*P **P 05 10 29.8 -1.0**
BAIF pmax pmax
comp=Z,136nm,1.0s
BAIF Baives 21.99 99 *e*P **P 05 10 29.8 -1.0**
comp=Z,136nm,1.0s
DOU Dourbes 22.17 98 P **P 05 10 34.0 +1.4**
comp=Z,48nm,1.5s
PGAV Gavieira, Arco 22.18 131 *e*P **P 05 10 34.4 +1.4**
comp=Z,139nm,1.7s
PGAV Gavieira, Arco 22.18 131 *e*P **P 05 10 34.4 +1.4**
comp=Z,139nm,1.7s
GIVF Givet 22.28 98 *e*P **P 05 10 34.5 +0.6**
GIVF pmax pmax
comp=Z,87nm,1.2s
GIVF Givet 22.28 98 *e*P **P 05 10 34.5 +0.6**
comp=Z,87nm,1.2s
BCLA Clavier 22.34 97 P **P 05 10 34.3 -0.1**
comp=Z,99nm,1.4s
PCAB Cabril 22.50 131 *e*P **P 05 10 37.6 +1.3**
comp=Z,76nm,1.7s
PCAB Cabril 22.50 131 *e*P **P 05 10 37.6 +1.3**
comp=Z,76nm,1.7s
MEM Membach 22.58 96 P **P 05 10 37.7 +0.6**
comp=Z,40nm,1.3s
POLO Lamas de Olo 22.87 131 *e*P **P 05 10 40.9 +0.6**
comp=Z,40nm,1.6s
POLO Lamas de Olo 22.87 131 *e*P **P 05 10 40.9 +0.6**
comp=Z,40nm,1.6s
PBRG Braganca 22.93 128 *e*P **P 05 10 43.3 +2.5**
comp=Z,72nm,1.5s
PBRG Braganca 22.93 128 *e*P **P 05 10 43.3 +2.5**
comp=Z,72nm,1.5s
PVRL Vila Real 22.99 131 *e*P **P 05 10 44.2 +2.8**
comp=Z,81nm,1.7s
PVRL Vila Real 22.99 131 *e*P **P 05 10 44.2 +2.8**
comp=Z,81nm,1.7s
WLF Walferdange 23.23 98 P **P 05 10 45.1 +1.4**
comp=Z,45nm,2.0s
WLF Walferdange 23.23 98 *e*P **P 05 10 46.2 +2.4**
WLF pmax pmax
comp=Z,83nm,1.5s
WLF Walferdange 23.23 98 *e*P **P 05 10 46.2 +2.4**
comp=Z,83nm,1.5s
WLF Walferdange 23.23 98 *e*P **P 05 10 46.2 +2.4**
comp=Z,83nm,1.5s
MVO Moncorvo 23.35 130 *e*P **P 05 10 46.7 +1.5**
comp=Z,135nm,1.4s
MVO Moncorvo 23.35 130 *e*P **P 05 10 46.7 +1.5**
comp=Z,135nm,1.4s
TCF Toulx Ste Croi 23.49 108 *e*P **P 05 10 47.5 +1.0**
TCF pmax pmax
comp=Z,49nm,1.2s
TCF Toulx Ste Croi 23.49 108 *e*P **P 05 10 47.5 +1.0**
comp=Z,49nm,1.2s
RUP Ruppelstein 23.67 97 *e*P **P 05 10 49.5 +1.3**
PCAS Casmilo, Conde 23.75 134 *e*P **P 05 10 49.2 +0.2**
comp=Z,73nm,1.3s
PCAS Casmilo, Conde 23.75 134 *e*P **P 05 10 49.2 +0.2**
comp=Z,73nm,1.3s
THEF They Montfort 24.06 101 *e*P **P 05 10 52.5 +0.6**
THEF They Montfort 24.06 101 *e*P **P 05 10 52.5 +0.6**
AGO Saint Agoulin 24.11 108 *e*P **P 05 10 53.4 +1.0**
AGO Saint Agoulin 24.11 108 *e*P **P 05 10 53.4 +1.0**
PYM Petit Puy Mans 24.27 108 *e*P **P 05 10 55.0 +1.1**
PYM Petit Puy Mans 24.27 108 *e*P **P 05 10 55.0 +1.1**
PCBR Castelo Branco 24.32 132 *e*P **P 05 10 55.6 +1.3**
comp=Z,56nm,1.7s
PCBR Castelo Branco 24.32 132 *e*P **P 05 10 55.6 +1.3**
comp=Z,56nm,1.7s
CAF Calviac 24.41 111 *e*P **P 05 10 56.3 +1.2**
CAF pmax pmax
comp=Z,27nm,1.2s
CAF Calviac 24.41 111 *e*P **P 05 10 56.3 +1.2**
comp=Z,27nm,1.2s
PLDF La Plantade 24.41 107 *e*P **P 05 10 56.6 +1.4**
PLDF La Plantade 24.41 107 *e*P **P 05 10 56.6 +1.4**
SPA0 Spitsbergen Ar 24.42 21 *e*P **P 05 10 55.5 +0.6**
SPITS Spitsbergen Ar 24.42 21 P **P 05 10 55.3 +0.4**
comp=Z,53nm,1.1s,baz=274,slow=12,SNR=6.7
CDF Champ du Feu 24.59 99 *e*P **P 05 10 57.9 +1.0**
CDF pmax pmax
comp=Z,11nm,0.8s
CDF Champ du Feu 24.59 99 *e*P **P 05 10 57.9 +1.0**
comp=Z,11nm,0.8s
ECH Echery 24.66 99 *e*P **P 05 10 58.3 +0.9**
ECH Echery 24.66 99 *e*P **P 05 10 58.3 +0.9**
PMRV Marv??o 24.71 133 *e*P **P 05 10 59.7 +1.8**
comp=Z,66nm,1.5s
PMRV Marv??o 24.71 133 *e*P **P 05 10 59.7 +1.8**
comp=Z,66nm,1.5s
LBL Lubilhac 24.76 109 *e*P **P 05 11 03.8 +5.5**
MOF Molkenrain 24.89 100 *e*P **P 05 11 00.7 +1.2**
MOF Molkenrain 24.89 100 *e*P **P 05 11 00.7 +1.2**
VIEF Viey 24.99 117 *e*P **P 05 11 03.8 +3.3**
VIEF Viey 24.99 117 *e*P **P 05 11 03.8 +3.3**
LOMF Lomont 25.06 101 *e*P **P 05 11 02.7 +1.6**
LOMF Lomont 25.06 101 *e*P **P 05 11 02.7 +1.6**
PESTR Estremoz 25.12 133 *e*P **P 05 11 02.8 +1.2**
comp=Z,70nm,1.4s
PESTR Estremoz 25.12 133 *e*P **P 05 11 02.8 +1.2**
comp=Z,70nm,1.4s
BFO Black Forest 25.18 98 *i* P **P 05 11 04.3 +2.2**
BFO Black Forest 25.18 98 *i* P **P 05 11 04.3 +2.2**
BFO Black Forest 25.18 98 *e*P **P 05 11 03.5 +1.4**
comp=Z,33nm,1.1s
CABF La Chapelle 25.19 103 *e*P **P 05 11 03.1 +0.8**
CABF pmax pmax
comp=Z,34nm,1.2s
CABF La Chapelle 25.19 103 *e*P **P 05 11 03.1 +0.8**
comp=Z,34nm,1.2s
RESF Ens 25.20 117 *e*P **P 05 11 06.2 +3.8**
RESF Ens 25.20 117 *e*P **P 05 11 06.2 +3.8**
PQI Presque Isle 25.29 257 *e*P **P 05 11 03.8 +0.8**
comp=Z,36nm,1.0s
FELD Feldberg im Sc 25.31 99 *e*P **P 05 11 03.5 +0.1**
PNCL Nicolau / Gran 25.44 136 *e*P **P 05 11 05.8 +1.3**
comp=Z,70nm,1.4s
PNCL Nicolau / Gran 25.44 136 *e*P **P 05 11 05.8 +1.3**
comp=Z,70nm,1.4s
MOX Moxa 25.45 91 *e*P **P 05 11 06.3 +1.8**
MOX pmax pmax
comp=Z,32nm,1.1s
MOX Moxa 25.45 91 *e*P **P 05 11 06.3 +1.8**
comp=Z,32nm,1.1s
ARA0 ARCESS Array S 25.51 43 *e*P **P 05 11 04.3 -0.5**
ARCES ARCESS Array B 25.51 43 P **P 05 11 04.3 -0.5**
comp=Z,21nm,0.8s,baz=268,slow=9.1,SNR=38
ARCES LR LR 05 19 17.7
comp=Z,244nm,19.4s,baz=272,slow=32
ARE0 ARCESS Array S 25.51 43 *e*P **P 05 11 04.0 -0.9**
comp=Z,42nm,1.1s
SPAK Spaichingen-Ko 25.57 98 *e*P **P 05 11 05.3 -0.3**
VIVF Saint-Julien-l 25.73 108 *e*P **P 05 11 09.5 +2.4**
VIVF pmax pmax
comp=Z,27nm,1.3s
VIVF Saint-Julien-l 25.73 108 *e*P **P 05 11 09.5 +2.4**
comp=Z,27nm,1.3s
CLL Collm 25.78 88 *i* P **P 05 11 08.7 +1.2**
CLL pmax pmax
comp=Z,25nm,1.2s
CLL MLR MLR
comp=Z,800nm,20.5s
CLL Collm 25.78 88 *i* P **P 05 11 08.7 +1.2**
comp=Z,800nm,20.5s
CLL Collm 25.78 88 *i* P **P 05 11 08.7 +1.2**
comp=Z,25nm,1.2s
CLL *e*PcP **PcP 05 14 36.0 -0.6**
CLL Lm MLR 05 20 00.0
comp=Z,800nm,20.5s
CLL Collm 25.78 88 *e*P **P 05 11 09.2 +1.7**
comp=Z,28nm,1.3s
GGN Saint George 25.79 253 *e*P **P 05 11 08.5 +1.0**
comp=Z,64nm,1.3s
MESJ Messejana 25.80 136 *e*P **P 05 11 09.4 +1.7**
comp=Z,58nm,1.6s
MESJ Messejana 25.80 136 *e*P **P 05 11 09.4 +1.7**
comp=Z,58nm,1.6s
PAB San Pablo 25.81 128 *e*P **P 05 11 09.9 +2.0**
PAB pmax pmax
comp=Z,93nm,1.8s
PAB San Pablo 25.81 128 *e*P **P 05 11 09.9 +2.0**
comp=Z,93nm,1.8s
PAB San Pablo 25.81 128 *e*P **P 05 11 09.8 +2.0**
comp=Z,93nm,1.8s
ESDC Sonseca Array 25.86 127 P **P 05 11 09.1 +0.8**
comp=Z,13nm,1.0s,baz=326,slow=8.6,SNR=24
ESDC LR LR 05 19 36.2
comp=Z,271nm,19.1s,baz=275,slow=32
ESLA Sonseca Array 25.86 127 *e*P **P 05 11 10.0 +1.7**
comp=Z,31nm,1.1s
ES19 SONSECA Array 25.86 127 *e*P **P 05 11 10.2 +1.8**
LMQ La Malbaie 25.87 261 *e*P **P 05 11 09.8 +1.5**
PTEO Sao Teotonio 25.88 137 *e*P **P 05 11 10.6 +2.2**
comp=Z,166nm,1.6s
PTEO Sao Teotonio 25.88 137 *e*P **P 05 11 10.6 +2.2**
comp=Z,166nm,1.6s
PCVE Castro Verde 26.05 136 *e*P **P 05 11 12.4 +2.4**
comp=Z,63nm,1.9s
PCVE Castro Verde 26.05 136 *e*P **P 05 11 12.4 +2.4**
comp=Z,63nm,1.9s
CARF Carcanieres 26.09 114 *e*P **P 05 11 11.9 +1.4**
CARF Carcanieres 26.09 114 *e*P **P 05 11 11.9 +1.4**
NKC Novy Kostel 26.12 91 *e*P **P 05 11 12.4 +1.8**
NKC AMS AMS 05 21 40.0
comp=Z,1μm,15.9s
NKC Novy Kostel 26.12 91 *e*P **P 05 11 12.4 +1.8**
NKC MLR MLR
comp=Z,1μm,15.9s
NKC Novy Kostel 26.12 91 *e*P **P 05 11 12.4 +1.8**
comp=Z,1μm,15.9s
LPL La Plagne 26.27 104 *e*P **P 05 11 13.6 +1.3**
LPL pmax pmax
comp=Z,30nm,1.2s
LPL La Plagne 26.27 104 *e*P **P 05 11 13.6 +1.3**
comp=Z,30nm,1.2s
LPG La Plagne 26.30 104 *e*P **P 05 11 14.1 +1.6**
LPG pmax pmax
comp=Z,33nm,1.2s
LPG La Plagne 26.30 104 *e*P **P 05 11 14.1 +1.6**
comp=Z,33nm,1.2s
OUL Oulu 26.37 53 *e*P **P 05 11 12.4 -0.3**
OUL Oulu 26.37 53 *e*P **P 05 11 12.4 -0.3**
BRG Berggiesshubel 26.52 88 *e*P **P 05 11 16.5 +2.4**
BRG *e* 05 22 06.0
BRG pmax pmax
comp=Z,25nm,1.5s
BRG MLR MLR
comp=N,886nm,18.5s
BRG MLR MLR
comp=E,679nm,17.4s
BRG MLR MLR
comp=Z,788nm,19.8s
BRG Berggiesshubel 26.52 88 *e*P **P 05 11 16.5 +2.4**
comp=Z,25nm,1.5s
BNI Bardonecchia 26.58 105 *e*P **P 05 11 15.6 +0.7**
BNI pmax pmax
comp=Z,47nm,1.6s
BNI Bardonecchia 26.58 105 *e*P **P 05 11 15.6 +0.7**
comp=Z,47nm,1.6s
BNI Bardonecchia 26.58 105 *e*P **P 05 11 15.6 +0.7**
comp=Z,47nm,1.6s
TUE Stuetta 26.93 100 *e*P **P 05 11 20.2 +2.1**
comp=Z,18nm,1.0s
DAVOX Davos/Dischmat 27.00 99 LR LR 05 21 30.1
comp=Z,834nm,20.1s,baz=317,slow=35
PVCC Panska Ves 27.04 88 AMS AMS 05 23 10.0
comp=Z,700nm,14.6s
PRA Prague 27.24 89 AMS AMS 05 23 00.0
comp=Z,2μm,15.5s
PRU Pruhonice 27.35 89 *e*P **P 05 11 26.8 +5.2**
PRU AMS AMS 05 22 50.0
comp=Z,1μm,15.5s
PRU Pruhonice 27.35 89 *e*P **P 05 11 26.8 +5.2**
PRU MLR MLR
comp=Z,1μm,15.5s
KHC Kasperske Hory 27.38 92 *e*P **P 05 11 23.0 +1.1**
KHC *e*pP **sP 05 11 27.6 -0.7**
KHC *ex* x 05 12 03.0
KHC AMS AMS 05 21 50.0
comp=Z,1μm,18.7s
KHC Kasperske Hory 27.38 92 *e*P **P 05 11 23.7 +1.8**
KHC pmax pmax
comp=Z,10.0nm,1.6s
KHC Kasperske Hory 27.38 92 *e*P **P 05 11 23.7 +1.8**
comp=Z,10.0nm,1.6s
KHC Kasperske Hory 27.38 92 *e*P **P 05 11 23.7 +1.8**
comp=Z,10.0nm,1.6s
GOPC GO Pecny, Ondr 27.52 89 AMS AMS 05 23 00.0
comp=Z,1μm,15.2s
FIA0 FINESS Array S 27.55 61 *e*P **P 05 11 23.2 0.0**
FIA0 FINESS Array S 27.55 61 *e*P **P 05 11 23.2 0.0**
FIA0 FINESS Array S 27.55 61 *e*P **P 05 11 23.2 0.0**
FINES FINESS Array B 27.55 61 P **P 05 11 23.2 0.0**
comp=Z,7.2nm,0.9s,baz=297,slow=8.4,SNR=20
FINES LR LR 05 21 47.8
comp=Z,487nm,18.3s,baz=279,slow=35
FIA1 FINESS Array S 27.55 61 *e*P **P 05 11 23.4 +0.2**
GEC2 GERESS Array S 27.62 92 *e*P **P 05 11 25.1 +0.9**
GEC2 *e* 05 14 39.9
GEC2 pmax pmax
comp=Z,18nm,1.6s
GEC2 GERESS Array S 27.62 92 *e*P **P 05 11 25.1 +0.9**
comp=Z,18nm,1.6s
GEC2 GERESS Array S 27.62 92 *e*P **P 05 11 25.1 +0.9**
comp=Z,18nm,1.6s
GEC2 *e*PcP **PcP 05 14 39.9 -1.2**
GERES GERESS Array B 27.62 92 P **P 05 11 25.1 +0.9**
comp=Z,0.7nm,0.7s,baz=294,slow=9.9,SNR=5.8
GERES PcP **PcP 05 14 39.9 -1.2**
comp=Z,0.2nm,0.2s,baz=15,slow=5.5,SNR=4.0
GERES LR LR 05 22 26.2
comp=Z,942nm,18.4s,baz=295,slow=37
GEA0 GERESS Array S 27.62 92 *e*P **P 05 11 25.5 +1.3**
RES Resolute Bay 27.65 329 P **P 05 11 24.0 -0.1**
comp=Z,7.2nm,0.9s,baz=153,slow=5.9,SNR=2.7
RES LR LR 05 21 24.3
comp=Z,413nm,20.5s,baz=80,slow=34
RES Resolute Bay 27.65 329 *e*P **P 05 11 24.0 -0.1**
RES pmax pmax
comp=Z,24nm,1.1s
RES Resolute Bay 27.65 329 *e*P **P 05 11 24.0 -0.1**
comp=Z,24nm,1.1s
RES Resolute Bay 27.65 329 *e*P **P 05 11 23.9 -0.1**
comp=Z,24nm,1.1s
KSP Ksiaz 27.75 86 *e*P **P 05 11 25.9 +0.7**
KSP Ksiaz 27.75 86 *e*P **P 05 11 25.9 +0.7**
KSP Ksiaz 27.75 86 *e*P **P 05 11 25.9 +0.7**
UPC Upice 27.80 87 *e*P **P 05 11 27.0 +1.4**
UPC *ep*P **sP 05 11 33.5 +1.5**
UPC AMS AMS 05 23 00.0
comp=Z,800nm,15.3s
UPC Upice 27.80 87 *e*P **P 05 11 27.0 +1.4**
UPC *e* 05 11 33.5
UPC MLR MLR
comp=Z,800nm,15.3s
UPC Upice 27.80 87 *e*P **P 05 11 27.0 +1.4**
comp=Z,800nm,15.3s
DPC Dobruska-Polom 28.05 87 *e*P **P 05 11 28.4 +0.4**
DPC AMS AMS 05 22 50.0
comp=Z,700nm,17.0s
DPC Dobruska-Polom 28.05 87 *e*P **P 05 11 28.4 +0.4**
DPC MLR MLR
comp=Z,700nm,17.0s
TREC Trest 28.26 90 AMS AMS 05 23 20.0
comp=Z,1μm,14.8s
APA Apatity 28.70 46 *i*P **P 05 11 31.7 -1.8**
VRAC Vranov 28.82 89 P **P 05 11 34.4 -0.4**
comp=Z,2.3nm,0.4s,baz=313,slow=13,SNR=4.4
VRAC LR LR 05 23 35.8
comp=Z,726nm,18.3s,baz=304,slow=38
VRAC Vranov 28.82 89 *e*P **P 05 11 37.1 +2.3**
LVZ Lovozero 29.07 45 *ce*P **P 05 11 36.2 -0.7**
LVZ pmax pmax
comp=Z,37nm,1.0s
LVZ Lovozero 29.07 45 *e*P **P 05 11 37.6 +0.7**
comp=Z,40nm,1.1s
OKC Ostrava-Krasne 29.30 87 AMS AMS 05 24 50.0
comp=Z,700nm,14.6s
OJC Ojcow 29.92 85 *e*P **P 05 11 45.3 +0.8**
OJC Ojcow 29.92 85 *e*P **P 05 11 45.3 +0.8**
OJC Ojcow 29.92 85 *e*P **P 05 11 45.3 +0.8**
VYHS Vyhne 30.49 88 *e*P **P 05 11 51.7 +2.2**
VYHS Vyhne 30.49 88 *e*P **P 05 11 51.7 +2.2**
VYHS Vyhne 30.49 88 *e*P **P 05 11 51.6 +2.1**
NIE Niedzica 30.66 86 *e*P **P 05 11 53.1 +2.0**
NIE Niedzica 30.66 86 *e*P **P 05 11 53.1 +2.0**
NIE Niedzica 30.66 86 *e*P **P 05 11 53.1 +2.0**
PLVO Plevna 31.01 264 *e*P **P 05 11 55.5 +1.3**
comp=Z,11nm,0.9s
PLVO Plevna 31.01 264 *e*P **P 05 11 55.5 +1.3**
comp=Z,11nm,0.9s
TMCR Tamitsa 31.62 51 *e*P **P 05 11 59.0 -0.3**
TMCR pmax pmax
comp=Z,37nm,0.9s
UZH Uzhgorod 32.18 85 *e*P P 05 12 09.2 +4.8
UZH *e* 05 13 11.6
UZH *e*S **S 05 17 20.7 +4.3**
UZH MLR MLR
comp=Z,200nm,11.0s
SADO Sadowa 32.26 265 P **P 05 12 05.5 +0.3**
comp=Z,11nm,0.8s,baz=60,slow=11,SNR=5.3
SADO Sadowa 32.26 265 *e*P **P 05 12 05.0 -0.1**
comp=Z,19nm,1.1s
SADO Sadowa 32.26 265 *e*P **P 05 12 05.0 -0.1**
comp=Z,19nm,1.1s
LUPA Lehigh Univers 33.35 256 *e*P **P 05 12 15.4 +0.6**
comp=Z,18nm,1.2s
LUPA Lehigh Univers 33.35 256 *e*P **P 05 12 15.4 +0.6**
comp=Z,18nm,1.2s
DRGR 33.59 87 ⇓ *i*P **P 05 12 18.7 +1.9**
DRGR 33.59 87 ⇓P **P 05 12 18.7 +1.9**
DRGR 33.59 87 ⇓ *i*P **P 05 12 18.7 +1.9**
KLMR Klimovskoe 33.70 56 *e*P **P 05 12 15.6 -1.9**
KLMR 05 13 26.1
KLMR *e* 05 14 54.6
KLMR *e*SS SS 05 19 38.3 -27
KLMR pmax pmax
comp=Z,63nm,1.4s
BZS Buzias 33.81 90 ⇓ *i*P **P 05 12 18.4 -0.3**
BZS Buzias 33.81 90 ⇓P **P 05 12 18.4 -0.3**
BZS Buzias 33.81 90 ⇓ *i*P **P 05 12 18.4 -0.3**
MVL Millersville 34.30 257 *e*P **P 05 12 24.0 +1.1**
MVL Millersville 34.30 257 *e*P **P 05 12 24.1 +1.1**
BUR08 Bucovina Ar. S 34.31 84 *e*P **P 05 12 23.6 +0.5**
BUR08 Bucovina Ar. S 34.31 84 *e*P **P 05 12 23.6 +0.5**
BURAR Bucovina Array 34.33 84 ⇓ *i*P **P 05 12 25.1 +1.8**
BURAR Bucovina Array 34.33 84 ⇓P **P 05 12 25.1 +1.8**
BURAR Bucovina Array 34.33 84 ⇓ *i*P **P 05 12 25.1 +1.8**
AK11 Malin Array Si 34.41 77 *e*P **P 05 12 23.9 +0.1**
AK11 Malin Array Si 34.41 77 *e*P **P 05 12 23.9 +0.1**
KIEV Kiev 34.42 77 ⇑ *i*P **P 05 12 23.9 0.0**
KIEV pmax pmax
comp=Z,21nm,1.6s
KIEV Kiev 34.42 77 *e*P **P 05 12 24.4 +0.5**
comp=Z,13nm,1.1s
KIEV Kiev 34.42 77 *e*P **P 05 12 24.4 +0.5**
comp=Z,13nm,1.1s
AKASG Malin Array Be 34.42 77 P **P 05 12 23.3 -0.6**
comp=Z,3.4nm,0.8s,baz=309,slow=8.0,SNR=13
AKASG PcP **PcP 05 14 57.1 -1.9**
comp=Z,2.8nm,0.8s,baz=293,slow=3.1,SNR=8.1
AKASG LR LR 05 25 39.0
comp=Z,215nm,20.5s,baz=300,slow=35
AKBB Malin Array Si 34.42 77 *e*P **P 05 12 24.4 +0.5**
AKBB pmax pmax
comp=Z,13nm,1.1s
AKBB Malin Array Si 34.42 77 *e*P **P 05 12 24.4 +0.5**
comp=Z,13nm,1.1s
AKBB Malin Array Si 34.42 77 *e*P **P 05 12 24.4 +0.5**
comp=Z,13nm,1.1s
SSPA Standing Stone 34.59 259 *e*P **P 05 12 27.0 +1.5**
comp=Z,10nm,0.9s
SSPA Standing Stone 34.59 259 *e*P **P 05 12 27.0 +1.5**
comp=Z,10nm,0.9s
M54A Oil Creek Stat 34.85 262 P **P 05 12 26.4 -1.3**
baz=43
KEST Kesra 35.04 114 P **P 05 12 30.2 +0.7**
comp=Z,13nm,1.1s,baz=273,slow=0.6,SNR=4.7
KEST LR LR 05 26 20.1
comp=Z,738nm,18.1s,baz=234,slow=36
O56A Blue Knob Stat 35.21 259 P **P 05 12 30.7 -0.2**
baz=41,SNR=5.2
N54A Moraine State 35.42 261 P **P 05 12 32.4 -0.2**
baz=42
SORM Soroca 35.60 81 ⇑ *i*P **P 05 12 34.6 +0.5**
SORM Soroca 35.60 81 ⇑P **P 05 12 34.6 +0.5**
SORM Soroca 35.60 81 ⇑ *i*P **P 05 12 34.6 +0.5**
VOIR 35.70 87 ⇓ *i*P **P 05 12 34.8 -0.3**
VOIR 35.70 87 ⇓P **P 05 12 34.8 -0.3**
VOIR 35.70 87 ⇓ *i*P **P 05 12 34.8 -0.3**
MLR Muntele Rosu 36.12 86 ⇑ *i*P P 05 12 48.0 +9.2
MLR Muntele Rosu 36.12 86 ⇑P P 05 12 48.0 +9.2
EYMN Ely 36.48 280 P **P 05 12 40.1 -1.6**
baz=49
EYMN Ely 36.48 280 *e*P **P 05 12 41.5 -0.1**
comp=Z,23nm,1.1s
EYMN Ely 36.48 280 *e*P **P 05 12 41.5 -0.1**
comp=Z,23nm,1.1s
KIS Kishinev 36.59 82 *e*P **P 05 12 40.0 -2.5**
KIS LRM MLR 05 28 40.0
comp=Z,500nm,16.0s
KIS Kishinev 36.59 82 *e*P **P 05 12 40.0 -2.5**
KIS *e* 05 14 06.0
KIS *e* 05 18 30.0
KIS MLR MLR
comp=E,200nm,15.0s
KIS MLR MLR
comp=Z,300nm,15.0s
KIS MLR MLR
comp=Z,500nm,16.0s
IP04 Greensprings 36.63 256 *e*P **P 05 12 43.5 +0.5**
IP04 Greensprings 36.63 256 *e*P **P 05 12 43.5 +0.5**
IP06 Yanceyville 36.70 256 *e*P **P 05 12 45.0 +1.4**
IP06 Yanceyville 36.70 256 *e*P **P 05 12 45.0 +1.4**
VTS Vitosha 36.74 92 *e*P **P 05 12 45.1 +1.0**
VTS pmax pmax
comp=Z,7.0nm,1.1s
VTS Vitosha 36.74 92 *e*P **P 05 12 45.1 +1.0**
comp=Z,6.9nm,1.1s
VTS Vitosha 36.74 92 *e*P **P 05 12 45.1 +1.0**
comp=Z,6.9nm,1.1s
ULM Lac du Bonnet 37.20 286 P **P 05 12 47.8 +0.1**
comp=Z,12nm,0.8s,baz=56,slow=7.5,SNR=12
ULM PcP **PcP 05 15 04.6 -2.6**
comp=Z,4.2nm,0.9s,baz=59,slow=5.9,SNR=3.3
ULM LR LR 05 26 42.2
comp=Z,765nm,19.8s,baz=48,slow=34
ULM Lac du Bonnet 37.20 286 *e*P **P 05 12 49.1 +1.3**
ULM pmax pmax
comp=Z,22nm,1.0s
ULM Lac du Bonnet 37.20 286 *e*P **P 05 12 49.0 +1.3**
comp=Z,22nm,1.0s
ULM Lac du Bonnet 37.20 286 *e*P **P 05 12 49.0 +1.3**
comp=Z,22nm,1.0s
C36A Pine Crest Far 37.28 280 P **P 05 12 47.3 -1.2**
baz=49
B35A Bob, Littlefor 37.34 282 P **P 05 12 48.7 -0.2**
baz=49
B35A S **S 05 18 35.1 -0.8**
baz=49
FFC Flin Flon 37.39 295 *e*P **P 05 12 49.4 +0.1**
FFC pmax pmax
comp=Z,47nm,1.7s
FFC Flin Flon 37.39 295 *e*P **P 05 12 49.4 +0.1**
comp=Z,47nm,1.7s
FFC Flin Flon 37.39 295 *e*P **P 05 12 49.4 +0.1**
comp=Z,47nm,1.7s
D37A Cotton 37.47 279 P **P 05 12 48.5 -1.6**
baz=48
ACSO Alum Creek Sta 37.49 263 *e*P **P 05 12 52.3 +2.0**
comp=Z,21nm,1.1s
ACSO Alum Creek Sta 37.49 263 *e*P **P 05 12 52.3 +2.0**
comp=Z,21nm,1.1s
B34A Aery, Baudette 37.72 283 P **P 05 12 51.7 -0.5**
baz=49

H41A **Junction City** 37.78 274 P P 05 12 51.7 -1.0
baz=46
A33A **Warroad** 37.80 284 P P 05 12 52.3 -0.5
baz=49
D36A **Goodland** 37.84 280 P P 05 12 52.8 -0.4
baz=48
C35A **Jirik Farms, M** 37.90 281 P P 05 12 53.2 -0.5
baz=48
F38A **Pierce - Schro** 38.00 277 P P 05 12 54.1 -0.5
baz=47
H40A **Chili** 38.16 275 P P 05 12 55.5 -0.4
baz=46
YKW3 **Yellowknife Ar** 38.27 312 eP P 05 12 58.1 +1.5
comp=Z,11nm,0.8s
YKW3 **Yellowknife Ar** 38.27 312 eP P 05 12 58.1 +1.5
comp=Z,11nm,0.8s
I41A **Arkdale** 38.28 274 P P 05 12 56.5 -0.4
baz=45
YKA **Yellowknife Ar** 38.30 312 P P 05 12 56.4 -0.5
comp=Z,10nm,0.8s,baz=56,slow=9.2,SNR=16
YKA PcP PcP 05 15 09.4 -1.0
comp=Z,4.3nm,1.0s,baz=45,slow=3.7,SNR=5.2
YKA LR LR 05 27 58.2
comp=Z,64nm,18.1s,baz=0.0,slow=35
YKA **Yellowknife Ar** 38.30 312 i P P 05 12 59.2 +2.3
YKA pmax pmax
comp=Z,11nm,0.8s
YKB5 **Yellowknife Ar** 38.30 312 eP P 05 12 55.5 -1.4
YKB5 **Yellowknife Ar** 38.30 312 eP P 05 12 55.5 -1.4
E36A **McGregor** 38.32 279 P P 05 12 56.6 -0.7
baz=47
B33A **Robert and Kas** 38.33 283 P P 05 12 56.6 -0.7
baz=49
D35A **Remer** 38.35 280 P P 05 12 57.4 -0.1
baz=48
A32A **Rocking H Ranc** 38.36 284 P P 05 12 57.5 -0.1
baz=49
C34A **RKJ Ranch, Bem** 38.40 282 P P 05 12 58.3 +0.4
baz=48
AGMN **Agassiz Nation** 38.45 283 P P 05 12 57.5 -0.9
baz=49
AGMN **Agassiz Nation** 38.45 283 eP P 05 12 57.8 -0.6
AGMN **Agassiz Nation** 38.45 283 eP P 05 12 57.8 -0.6
G38A **Ridgeland** 38.53 277 P P 05 12 58.6 -0.4
baz=46
F37A **Hinrichs Farm,** 38.54 278 P P 05 12 58.7 -0.5
baz=47
H39A **Augusta** 38.57 276 P P 05 12 58.6 -0.8
baz=46
A31A **Linda, St. Vin** 38.70 285 P P 05 12 59.7 -0.7
baz=49
B32A **Ashes, Strandq** 38.73 284 P P 05 12 59.8 -0.8
baz=49
C33A **Trail** 38.77 283 P P 05 13 00.3 -0.6
baz=48
I40A **Norwalk** 38.78 274 P P 05 13 00.7 -0.4
baz=45
J41A **Loganville** 38.84 273 P P 05 13 01.3 -0.4
baz=45
E35A **Pequot Lakes** 38.88 280 P P 05 13 01.5 -0.5
baz=47
F36A **Milaca** 38.91 279 P P 05 13 01.8 -0.4
baz=47
AGG **Agios Georgios** 38.91 97 eP P 05 13 03.2 +0.9
AGG **Agios Georgios** 38.91 97 eP P 05 13 03.2 +0.9
AGG **Agios Georgios** 38.91 97 eP P 05 13 03.2 +0.9
D34A **Park Rapids** 38.93 281 P P 05 13 01.3 -1.0
baz=48
SPMN **Marine on St.** 38.98 277 P P 05 13 01.5 -1.2
baz=46
SPMN **Marine on St.** 38.98 277 eP P 05 13 02.4 -0.4
comp=Z,19nm,1.3s
SPMN **Marine on St.** 38.98 277 eP P 05 13 02.4 -0.4
comp=Z,19nm,1.3s
D33A **AnnSam, Waubun** 39.22 282 P P 05 13 03.5 -1.3
baz=48
B31A **Greenbush Farm** 39.27 285 P P 05 13 04.8 -0.4
baz=48
I39A **Houston** 39.27 275 P P 05 13 05.2 -0.1
baz=45
G36A **St. Michael** 39.45 278 P P 05 13 06.1 -0.7
baz=46
H37A **Dierke Farm, C** 39.48 277 P P 05 13 06.3 -0.7
baz=46
I38A **Scanlan Farm,** 39.56 276 P P 05 13 07.3 -0.3
baz=45
C31A **Landman Farms,** 39.73 284 P P 05 13 08.5 -0.5
baz=48
E33A **Westby DABS, E** 39.73 281 P P 05 13 08.5 -0.5
baz=47
G35A **Watkins** 39.84 279 P P 05 13 09.6 -0.3
baz=46
K40A **Colesburg** 39.90 273 P P 05 13 09.9 -0.5
baz=44
I37A **Lemond, Waseca** 40.12 276 P P 05 13 12.0 -0.4
baz=45
J38A **Wedel Dairy, R** 40.14 275 P P 05 13 12.0 -0.5
baz=45
K39A **Oelwein** 40.28 274 P P 05 13 13.1 -0.6
baz=44
F33A **5 Mile Ranch,** 40.33 281 P P 05 13 13.2 -0.9
baz=46
H35A **Sunnyside Ranc** 40.38 278 P P 05 13 14.5 0.0
baz=46
L40A **Anamosa** 40.40 273 P P 05 13 14.2 -0.4
baz=44
G34A **Benson** 40.41 280 P P 05 13 14.1 -0.6
baz=46
HDIL **Hopedale** 40.50 269 P P 05 13 15.0 -0.5
baz=42
M41A **Milan** 40.54 271 P P 05 13 15.5 -0.4
baz=43
KMSC **Kings Mountain** 40.55 257 P P 05 13 15.7 -0.3
baz=38
MDND **Maddock** 40.62 285 P P 05 13 15.7 -0.7
baz=48
MDND **Maddock** 40.62 285 eP P 05 13 16.8 +0.3
comp=Z,56nm,1.2s
MDND **Maddock** 40.62 285 eP P 05 13 16.8 +0.3
comp=Z,56nm,1.2s
E31A **Nome** 40.64 283 P P 05 13 16.0 -0.6
baz=47
N42A **Yates City** 40.68 270 P P 05 13 16.7 -0.3
baz=43
WCI **Wyandotte Cave** 40.69 264 eP P 05 13 17.6 +0.5
WCI pmax pmax
comp=Z,13nm,0.9s
WCI **Wyandotte Cave** 40.69 264 eP P 05 13 17.6 +0.5
comp=Z,14nm,0.9s
WCI **Wyandotte Cave** 40.69 264 eP P 05 13 17.6 +0.5
comp=Z,14nm,0.9s
J37A **Redenius Farm,** 40.70 276 P P 05 13 16.4 -0.7
baz=44
L39A **Vinton** 40.75 273 P P 05 13 17.2 -0.3
baz=44
G33A **Ortonville** 40.85 280 P P 05 13 17.9 -0.5
baz=46
H34A **Spellman Lake,** 40.88 279 P P 05 13 18.6 0.0
baz=45
P44A **Sand Creek, Wi** 40.96 268 P P 05 13 18.4 -0.9
baz=42
M40A **Post Highland** 41.02 272 P P 05 13 19.3 -0.5
baz=43
I35A **Creekview Farm** 41.05 278 P P 05 13 19.5 -0.5
baz=45
J36A **Seneca 1, Swea** 41.09 276 P P 05 13 19.9 -0.4
baz=44
K37A **Belmond** 41.13 275 P P 05 13 20.1 -0.6
baz=44
INK **Inuvik** 41.13 327 P P 05 13 20.2 -0.1
comp=Z,2.1nm,0.7s,baz=14,slow=12,SNR=4.6
INK **Inuvik** 41.13 327 eP P 05 13 20.3 -0.1
INK pmax pmax
comp=Z,15nm,1.1s
INK **Inuvik** 41.13 327 eP P 05 13 20.2 -0.1
comp=Z,15nm,1.1s
INK **Inuvik** 41.13 327 eP P 05 13 20.2 -0.1
comp=Z,15nm,1.1s
P43A **Skaggs, Pawnee** 41.29 269 P P 05 13 22.1 +0.1
baz=42
F31A **Hecla** 41.31 282 P P 05 13 21.7 -0.4
baz=46
M39A **Webster** 41.31 273 P P 05 13 21.7 -0.5
baz=43
G32A **Webster** 41.35 281 P P 05 13 22.2 -0.3
baz=46
H33A **Prehn Over Nor** 41.36 280 P P 05 13 22.5 -0.2
baz=45

N40A **Mertquake, Sal** 41.44 272 P P 05 13 22.3 -0.9
baz=43
SCIA **State Center** 41.53 274 eP P 05 13 25.0 +1.0
comp=Z,27nm,0.3s
SCIA **State Center** 41.53 274 eP P 05 13 25.0 +1.0
comp=Z,27nm,0.3s
SOKR **Solikamsk** 41.54 50 eP P 05 13 22.4 -1.4
SOKR pmax pmax
comp=Z,25nm,0.9s
Q44A **Meyer Farm, Va** 41.58 267 P P 05 13 24.2 -0.2
baz=41
USIN **University of** 41.60 265 eP P 05 13 25.2 +0.7
comp=Z,29nm,1.1s
USIN **University of** 41.60 265 eP P 05 13 25.2 +0.7
comp=Z,29nm,1.1s
NHSC **New Hope** 41.60 254 eP P 05 13 25.3 +0.7
comp=Z,40nm,1.0s
NHSC **New Hope** 41.60 254 eP P 05 13 25.3 +0.7
comp=Z,40nm,1.0s
K36A **Gilmore City** 41.64 276 P P 05 13 24.4 -0.4
baz=44
O41A **Passleys Farm,** 41.64 270 P P 05 13 24.8 -0.1
baz=42
P42A **Winchester** 41.76 269 P P 05 13 25.4 -0.4
baz=42
H32A **Carlson Farm,** 41.84 280 P P 05 13 25.6 -0.9
baz=45
M38A **Pleasantville** 41.88 274 P P 05 13 26.4 -0.4
baz=43
N39A **Derby Farms, D** 41.92 272 P P 05 13 26.7 -0.4
baz=43
ECSD **EROS Data Cent** 41.97 279 P P 05 13 27.2 -0.3
baz=45
ECSD **EROS Data Cent** 41.97 279 eP P 05 13 26.7 -0.9
comp=Z,20nm,1.4s
ECSD **EROS Data Cent** 41.97 279 eP P 05 13 26.7 -0.9
comp=Z,20nm,1.4s
P41A **Barry, Barry** 42.06 270 P P 05 13 27.9 -0.4
baz=42
R44A **Waltonville** 42.11 267 P P 05 13 28.5 -0.2
baz=41
O40A **La Belle** 42.15 271 P P 05 13 28.1 -0.9
baz=42
I32A **Karley and Nic** 42.19 280 P P 05 13 29.3 0.0
baz=45
S45A **Carrier Mills** 42.28 266 P P 05 13 29.8 -0.3
baz=40
M37A **Trindle Farm,** 42.34 274 P P 05 13 30.1 -0.4
baz=43
Q42A **Golden Eagle** 42.36 269 P P 05 13 31.2 +0.5
baz=41
DGMT **Dagmar** 42.46 289 P P 05 13 31.6 +0.1
baz=47
DGMT **Dagmar** 42.46 289 eP P 05 13 33.3 +1.7
DGMT **Dagmar** 42.46 289 eP P 05 13 33.3 +1.7
R43A **Red Bud** 42.53 268 P P 05 13 31.7 -0.5
baz=41
L35A **Bielow Farm, R** 42.58 276 P P 05 13 31.9 -0.7
baz=43
P40A **Paris** 42.68 271 P P 05 13 32.6 -0.7
baz=42
Q41A **Truxton** 42.69 269 P P 05 13 33.0 -0.5
baz=41
SWET **Sewanee** 42.82 261 eP P 05 13 35.8 +1.2
comp=Z,32nm,1.7s
SWET **Sewanee** 42.82 261 eP P 05 13 35.8 +1.2
comp=Z,32nm,1.7s
O38A **Galt** 42.98 272 P P 05 13 35.3 -0.4
baz=42
Q40A **Laux Farm, Aux** 43.09 270 P P 05 13 36.3 -0.4
baz=41
S43A **Fulton Ridge,** 43.13 267 P P 05 13 36.5 -0.6
baz=40
R41A **Rosud** 43.26 269 P P 05 13 37.5 -0.5
baz=41,SNR=5.7
S42A **Caledonia** 43.35 268 P P 05 13 38.5 -0.3
baz=40
Q39A **Willow Grove F** 43.52 271 P P 05 13 39.6 -0.6
baz=41
EDM **Edmonton** 43.54 300 eP P 05 13 40.1 -0.1
EDM pmax pmax
comp=Z,34nm,0.8s
EDM **Edmonton** 43.54 300 eP P 05 13 40.1 -0.1
comp=Z,34nm,0.8s
EDM **Edmonton** 43.54 300 eP P 05 13 40.1 -0.1
comp=Z,34nm,0.8s
M34A **Aspy Farms, Fr** 43.56 276 P P 05 13 39.8 -0.6
baz=43
T43A **Greenville** 43.62 267 P P 05 13 40.6 -0.3
baz=40
BR231 **Keskin MP Arra** 43.68 87 eP P 05 13 41.0 -0.6
BR231 **Keskin MP Arra** 43.68 87 eP P 05 13 41.0 -0.6
R40A **Maddies Statio** 43.72 270 P P 05 13 42.0 +0.2
baz=41
M33A **Taylor Creek F** 43.82 277 P P 05 13 42.1 -0.5
baz=43
Q38A **Cooks Store, C** 43.91 271 P P 05 13 42.1 -1.2
baz=41
L32A **Elgin** 43.92 278 P P 05 13 43.0 -0.4
baz=43
PBMO **Poplar Bluff** 43.92 267 eP P 05 13 43.1 -0.3
comp=Z,16nm,0.9s
PBMO **Poplar Bluff** 43.92 267 eP P 05 13 43.1 -0.3
comp=Z,16nm,0.9s
S41A **Jillco Farms,** 43.98 269 P P 05 13 43.4 -0.5
baz=40,SNR=7.4
R39A **Chumby, Stover** 44.10 270 P P 05 13 44.2 -0.6
baz=41
BR101 **Keskin Array S** 44.21 86 eP P 05 13 46.3 +0.5
BR101 **Keskin Array S** 44.21 86 eP P 05 13 46.4 +0.5
BRTR **Keskin Array B** 44.21 86 P P 05 13 46.4 +0.5
comp=Z,3.3nm,0.9s,baz=316,slow=6.9,SNR=8.7
P36A **Good Intent, A** 44.24 273 P P 05 13 44.7 -1.3
baz=42
ARU **Arti** 44.33 53 eP P 05 13 46.5 +0.1
ARU pmax pmax
comp=Z,22nm,1.0s
ARU **Arti** 44.33 53 eP P 05 13 46.5 +0.1
comp=Z,22nm,1.0s
ARU **Arti** 44.33 53 eP P 05 13 46.5 +0.1
comp=Z,22nm,1.0s
S40A **Lebanon** 44.36 269 P P 05 13 46.3 -0.7
baz=40
T41A **Mountain View** 44.41 268 P P 05 13 46.2 -1.1
baz=40
NRIK **Noril'sk** 44.45 26 P P 05 13 47.9 +0.6
comp=Z,1.9nm,0.3s,baz=324,slow=9.4,SNR=7.9
NRIK LR LR 05 34 36.2
comp=Z,64nm,18.3s,baz=298,slow=39
TAM **Tamanrasset** 44.49 129 eP P 05 13 48.9 +0.6
TAM pmax pmax
comp=Z,21nm,1.4s
TAM **Tamanrasset** 44.49 129 eP P 05 13 48.9 +0.6
comp=Z,21nm,1.4s
TAM **Tamanrasset** 44.49 129 eP P 05 13 48.9 +0.6
comp=Z,21nm,1.4s
R38A **Fenwick Farm,** 44.64 271 P P 05 13 47.9 -1.3
baz=41
U42A **Revenden** 44.67 267 P P 05 13 48.8 -0.6
baz=40,SNR=8.3
LAO **LASA Array** 44.69 289 P P 05 13 48.1 -1.4
baz=45
LAO **LASA Array** 44.69 289 eP P 05 13 51.3 +1.8
comp=Z,34nm,1.2s
LAO **LASA Array** 44.69 289 eP P 05 13 51.3 +1.8
comp=Z,34nm,1.2s
T40A **Mansfield** 44.72 269 P P 05 13 48.6 -1.2
baz=40
S39A **Bolivar** 44.72 270 P P 05 13 48.7 -1.1
baz=40
Y47A **UCPARC, Winfie** 44.83 262 P P 05 13 50.3 -0.4
baz=38
S38A **Stockton** 45.07 270 P P 05 13 51.6 -0.9
baz=40
TOLK **Toolik Lake Re** 45.07 333 P P 05 13 51.6 -0.7
baz=40
Z48A **Northport** 45.10 261 P P 05 13 52.3 -0.5
baz=37
O33A **Hebron** 45.12 276 P P 05 13 52.0 -1.0
baz=42
P34A **Walnut Farm, R** 45.13 275 P P 05 13 52.4 -0.7
baz=42
V42A **Cord** 45.16 267 P P 05 13 53.1 -0.2
baz=39
Q35A **Mercer Eighty,** 45.24 273 P P 05 13 53.4 -0.5
baz=41
T39A **Clever** 45.25 269 P P 05 13 53.7 -0.3
baz=40

KSU1 **Kansas State U** 45.35 274 P P 05 13 54.3 -0.5
baz=41
KSU1 **Kansas State U** 45.35 274 eP P 05 13 55.8 +1.0
KSU1 **Kansas State U** 45.35 274 eP P 05 13 55.8 +1.0
Y46A **Houston** 45.36 263 P P 05 13 54.7 -0.2
baz=38
R36A **Gordon, Harris** 45.36 272 P P 05 13 55.2 +0.2
baz=41
RSSD **Black Hills** 45.44 285 P P 05 13 54.5 -1.2
baz=44
S37A **Fort Scott** 45.44 271 P P 05 13 54.4 -1.2
baz=40,SNR=9.0
EGMT **Eagleton** 45.45 292 P P 05 13 55.7 +0.1
baz=45,SNR=7.6
EGMT **Eagleton** 45.45 292 eP P 05 13 56.4 +0.8
comp=Z,31nm,1.3s
EGMT **Eagleton** 45.45 292 eP P 05 13 56.4 +0.8
comp=Z,31nm,1.3s
U40A **Yellville** 45.49 268 P P 05 13 55.0 -1.0
baz=40,SNR=6.5
Z47A **Carrollton** 45.50 261 P P 05 13 55.7 -0.4
baz=37
V41A **Mountainview** 45.58 267 P P 05 13 55.7 -1.0
baz=39
FYU **Fort Yukon** 45.58 329 eP P 05 13 57.1 +0.9
comp=Z,99nm,1.9s
FYU **Fort Yukon** 45.58 329 eP P 05 13 57.1 +0.9
comp=Z,99nm,1.9s
Q34A **Chapman** 45.66 274 P P 05 13 56.0 -1.3
baz=41
KIV **Kislovodsk** 45.71 75 eP P 05 13 57.3 -0.4
KIV eS S 05 20 40.6 +0.4
KIV pmax pmax
comp=Z,12nm,1.1s
KIV MLR MLR
comp=Z,246nm,16.0s
T38A **Diamond** 45.72 270 P P 05 13 56.8 -0.9
baz=40
EGAK **Eagle** 45.79 326 eP P 05 13 59.3 +1.4
comp=Z,31nm,1.7s
EGAK **Eagle** 45.79 326 eP P 05 13 59.3 +1.4
comp=Z,31nm,1.7s
DAWY **Dawson** 45.80 324 eP P 05 13 58.8 +0.7
comp=Z,28nm,1.3s
DAWY **Dawson** 45.80 324 eP P 05 13 58.8 +0.7
comp=Z,28nm,1.3s
U39A **Green Forest** 45.80 269 P P 05 13 56.8 -1.6
baz=40,SNR=5.2
V40A **Witts Springs** 45.90 268 P P 05 13 58.7 -0.5
baz=39,SNR=6.8
Z46A **Louisville** 45.95 262 P P 05 13 59.3 -0.3
baz=37
T37A **Cheneyville 18** 45.97 271 P P 05 13 59.2 -0.6
baz=40
KBZ **Khabaz** 45.98 75 P P 05 14 00.8 +1.1
comp=Z,3.4nm,0.9s,baz=15,slow=3.8,SNR=4.2
Y44A **Strider, Charl** 45.99 264 P P 05 13 59.3 -0.6
baz=38
WHAR **Wooly Hollow** 46.03 267 eP P 05 14 01.1 +1.0
comp=Z,16nm,1.0s
WHAR **Wooly Hollow** 46.03 267 eP P 05 14 01.1 +1.0
comp=Z,16nm,1.0s
W41B **Gary Mavity, V** 46.10 267 P P 05 14 00.1 -0.6
baz=39
X301 **Greenbrier Sit** 46.12 267 eP P 05 14 00.6 -0.3
comp=Z,16nm,1.0s
X301 **Greenbrier Sit** 46.12 267 eP P 05 14 00.6 -0.3
comp=Z,16nm,1.0s
248A **Dixon Mills** 46.21 260 P P 05 14 01.3 -0.4
baz=37
U38A **Gravette** 46.22 270 P P 05 14 01.2 -0.5
baz=40
R34A **Isabella, Hill** 46.28 274 P P 05 14 00.7 -1.5
baz=41
V39A **Pettigrew** 46.30 269 P P 05 14 01.4 -1.0
baz=39,SNR=5.1
COLD **Coldfoot** 46.32 332 eP P 05 14 03.4 +1.3
comp=Z,19nm,1.7s
COLD **Coldfoot** 46.32 332 eP P 05 14 03.4 +1.3
comp=Z,19nm,1.7s
UALR **University of** 46.45 267 eP P 05 14 03.7 +0.1
comp=Z,8.4nm,0.8s
UALR **University of** 46.45 267 eP P 05 14 03.6 +0.1
comp=Z,8.4nm,0.8s
W40A **Ferguson Farm,** 46.50 268 P P 05 14 03.0 -0.9
baz=39
T36A **Boggs Farm, Ca** 46.52 272 P P 05 14 02.6 -1.4
baz=40
U37A **Salina** 46.62 270 P P 05 14 04.0 -0.8
baz=40
WALA **Waterton Lakes** 46.67 296 eP P 05 14 04.9 -0.4
comp=Z,22nm,0.9s
WALA **Waterton Lakes** 46.67 296 eP P 05 14 04.9 -0.4
comp=Z,22nm,0.9s
V38A **Canehill** 46.68 269 P P 05 14 03.9 -1.4
baz=39
DLBC **Dease Lake** 46.74 315 eP P 05 14 08.5 +2.9
comp=Z,34nm,1.6s
W39A **Magazine** 46.87 268 P P 05 14 06.0 -0.8
baz=39,SNR=6.0
X40A **Basin Creek Fa** 46.93 267 P P 05 14 06.6 -0.6
baz=38,SNR=6.2
GCMT **Greycliff** 47.00 290 eP P 05 14 08.5 +0.6
GCMT **Greycliff** 47.00 290 eP P 05 14 08.5 +0.6
V37A **Hulbert** 47.04 270 P P 05 14 06.4 -1.7
baz=39
T34A **McClaskey Farm** 47.22 273 P P 05 14 08.3 -1.3
baz=40
MIAR **Mount Ida** 47.27 267 P P 05 14 09.0 -0.9
baz=38,SNR=6.6
MIAR **Mount Ida** 47.27 267 eP P 05 14 10.9 +1.0
MIAR pmax pmax
comp=Z,20nm,1.3s
MIAR **Mount Ida** 47.27 267 eP P 05 14 10.9 +1.0
comp=Z,20nm,1.3s
MIAR **Mount Ida** 47.27 267 eP P 05 14 10.9 +1.0
comp=Z,20nm,1.3s
RLMT **Red Lodge** 47.29 289 P P 05 14 09.1 -1.2
baz=43
RLMT **Red Lodge** 47.29 289 eP P 05 14 11.0 +0.7
comp=Z,38nm,1.5s
RLMT **Red Lodge** 47.29 289 eP P 05 14 11.0 +0.7
comp=Z,38nm,1.5s
W38A **Poteau** 47.35 269 P P 05 14 09.6 -0.9
baz=39
TUL1 **Leonard** 47.35 271 P P 05 14 09.8 -0.8
baz=39
TUL1 **Leonard** 47.35 271 eP P 05 14 11.8 +1.2
comp=Z,11nm,0.9s
TUL1 **Leonard** 47.35 271 eP P 05 14 11.8 +1.2
comp=Z,11nm,0.9s
HRY **Holter Researc** 47.38 293 eP P 05 14 12.3 +1.5
HRY **Holter Researc** 47.38 293 eP P 05 14 12.3 +1.5
IL1 **Eielson Array** 47.40 328 eP P 05 14 10.3 -0.2
IL1 **Eielson Array** 47.40 328 eP P 05 14 10.3 -0.2
ILAR **Eielson Array** 47.40 328 P P 05 14 10.8 +0.3
comp=Z,4.5nm,0.9s,baz=34,slow=5.4,SNR=29
ILAR PcP PcP 05 15 39.8 -1.0
comp=Z,2.7nm,1.0s,baz=5.5,slow=2.8,SNR=6.2
ILAR LR LR 05 34 45.7
comp=Z,194nm,18.5s,baz=46,slow=37
ILB **Eielson Array** 47.40 328 eP P 05 14 10.6 0.0
ILB **Eielson Array** 47.40 328 eP P 05 14 10.6 0.0
DOT **Dot Lake** 47.48 326 eP P 05 14 13.2 +1.9
comp=Z,19nm,0.8s
DOT **Dot Lake** 47.48 326 eP P 05 14 13.2 +1.9
comp=Z,19nm,0.8s
Y40A **Okolona** 47.53 267 P P 05 14 11.5 -0.5
baz=38
X39A **Fountain Ranch** 47.57 268 P P 05 14 11.8 -0.5
baz=38
COLA **College** 47.57 329 i/P P 05 14 12.3 +0.4
YBMT **Yellow Bay** 47.58 295 eP P 05 14 14.5 +2.1
YBMT **Yellow Bay** 47.58 295 eP P 05 14 14.5 +2.1
HYT **Haines Junctio** 47.60 321 eP P 05 14 14.2 +1.9
HYT **Haines Junctio** 47.60 321 eP P 05 14 14.2 +1.9
MDM **Murphy Dome** 47.61 329 eP P 05 14 12.8 +0.6
comp=Z,10nm,1.0s
MDM **Murphy Dome** 47.61 329 eP P 05 14 12.8 +0.6
comp=Z,10nm,1.0s
CCB **Clear Creek Bu** 47.74 329 eP P 05 14 14.0 +0.8
comp=Z,15nm,1.8s
CCB **Clear Creek Bu** 47.74 329 eP P 05 14 14.0 +0.8
comp=Z,15nm,1.8s
K22A **Casper** 47.75 285 P P 05 14 13.6 -0.2
baz=42
SLMT **Seeley Lake** 47.78 294 eP P 05 14 13.3 -0.7

SLMT Seeley Lake 47.78 294 eP P 05 14 13.3 -0.7
JTMT Jette 47.79 295 eP P 05 14 14.6 +0.6
JTMT Jette 47.79 295 eP P 05 14 14.6 +0.6
SWMT Swartz Lake 47.83 295 eP P 05 14 13.6 -0.7
SWMT Swartz Lake 47.83 295 eP P 05 14 13.6 -0.7
CHMT Chamberlain Mo 47.91 294 eP P 05 14 15.4 +0.4
CHMT Chamberlain Mo 47.91 294 eP P 05 14 15.4 +0.4
BSMT Bassoo Peak 47.95 296 eP P 05 14 17.8 +2.5
BSMT Bassoo Peak 47.95 296 eP P 05 14 17.8 +2.5
CBYP Canovanas 48.06 227 eP P 05 14 17.6 +1.4
comp=Z,19nm,0.9s
CBYP Canovanas 48.06 227 eP P 05 14 17.6 +1.4
comp=Z,19nm,0.9s
BOZ Bozeman (W) 48.09 291 P P 05 14 16.1 -0.3
baz=43,SNR=9.3
BOZ Bozeman (W) 48.09 291 eP P 05 14 17.2 +0.8
BOZ pmax pmax
comp=Z,21nm,1.3s
BOZ Bozeman (W) 48.09 291 eP P 05 14 17.2 +0.8
comp=Z,21nm,1.3s
BOZ Bozeman (W) 48.09 291 eP P 05 14 17.2 +0.8
comp=Z,21nm,1.3s
X37A Clayton 48.16 269 P P 05 14 16.4 -0.4
baz=38
W36A Wetumka 48.17 270 P P 05 14 15.7 -1.3
baz=39
HUMP Col San Antoni 48.18 227 eP P 05 14 18.3 +1.2
comp=Z,21nm,1.3s
HUMP Col San Antoni 48.18 227 eP P 05 14 18.3 +1.2
comp=Z,21nm,1.3s
PHWY Pilot Hill 48.22 283 eP P 05 14 19.7 +2.1
comp=Z,5.3nm,0.9s
PHWY Pilot Hill 48.22 283 eP P 05 14 19.7 +2.1
comp=Z,5.3nm,0.9s
MSO Missoula 48.29 294 P P 05 14 16.7 -1.1
baz=43
MSO Missoula 48.29 294 eP P 05 14 20.5 +2.6
MSO Missoula 48.29 294 eP P 05 14 20.4 +2.6
AKTO Aktyubinsk 48.30 59 i P P 05 14 17.4 -0.3
AKTO pmax pmax
comp=Z,26nm,0.8s
LRM Limekiln Ridge 48.32 292 eP P 05 14 19.0 +0.8
LRM Limekiln Ridge 48.32 292 eP P 05 14 19.0 +0.8
PAX Paxson 48.41 326 eP P 05 14 18.9 +0.4
PAX pmax pmax
comp=Z,10.0nm,1.0s
PAX Paxson 48.41 326 eP P 05 14 18.9 +0.4
comp=Z,10nm,1.0s
PAX Paxson 48.41 326 eP P 05 14 18.9 +0.4
comp=Z,10nm,1.0s
H17A Grant Village 48.46 290 P P 05 14 19.9 +0.5
baz=43
H17A Grant Village 48.46 290 eP P 05 14 21.3 +1.9
comp=Z,12nm,1.1s
H17A Grant Village 48.46 290 eP P 05 14 21.3 +1.9
comp=Z,12nm,1.1s
W35A Tecumseh 48.50 271 P P 05 14 18.4 -1.0
baz=39
KSCO Kaye Shedlock' 48.50 279 P P 05 14 18.8 -0.8
baz=41
KSCO Kaye Shedlock' 48.50 279 eP P 05 14 20.7 +1.1
comp=Z,20nm,1.1s
KSCO Kaye Shedlock' 48.50 279 eP P 05 14 20.7 +1.1
comp=Z,20nm,1.1s
YHB Horse Butte 48.50 290 eP P 05 14 21.3 +1.7
comp=Z,9.7nm,1.2s
YHB Horse Butte 48.50 290 eP P 05 14 21.3 +1.7
comp=Z,9.7nm,1.2s
CELP Cerrillos 48.52 228 eP P 05 14 22.0 +2.3
CELP Cerrillos 48.52 228 eP P 05 14 22.0 +2.3
YFT Old Faithful 48.55 290 eP P 05 14 20.3 +0.3
comp=Z,14nm,1.2s
YFT Old Faithful 48.55 290 eP P 05 14 20.3 +0.3
comp=Z,14nm,1.2s
QLMT Earthquake Lak 48.56 291 eP P 05 14 21.5 +1.5
QLMT Earthquake Lak 48.56 291 eP P 05 14 21.6 +1.5
MPR Mayaguez 48.61 229 eP P 05 14 21.6 +1.2
comp=Z,25nm,1.3s
MPR Mayaguez 48.61 229 eP P 05 14 21.6 +1.2
comp=Z,25nm,1.3s
YPP Pitchstone Pla 48.66 290 eP P 05 14 23.1 +2.1
comp=Z,32nm,1.7s
YPP Pitchstone Pla 48.66 290 eP P 05 14 23.1 +2.1
comp=Z,32nm,1.7s
NEW Newport 48.73 297 P P 05 14 22.5 +1.4
comp=Z,3.8nm,0.9s,baz=31,slow=6.5,SNR=9.0
NEW Newport 48.73 297 P P 05 14 22.5 +1.4
baz=43
NEW Newport 48.73 297 eP P 05 14 22.7 +1.6
NEW pmax pmax
comp=Z,6.0nm,1.0s
NEW Newport 48.73 297 eP P 05 14 22.7 +1.6
comp=Z,6.1nm,1.0s
NEW Newport 48.73 297 eP P 05 14 22.7 +1.6
comp=Z,6.1nm,1.0s
DLMT Dillon 48.73 292 eP P 05 14 21.7 +0.5
comp=Z,25nm,1.7s
DLMT Dillon 48.73 292 eP P 05 14 21.7 +0.5
comp=Z,25nm,1.7s
TIXI Tiksi 48.75 8 d i P P 05 14 21.3 +0.4
TIXI pmax pmax
comp=Z,17nm,1.0s
TIXI Tiksi 48.75 8 eP P 05 14 21.5 +0.6
comp=Z,26nm,1.1s
TIXI Tiksi 48.75 8 eP P 05 14 21.5 +0.6
comp=Z,26nm,1.1s
FLWY Flagg Ranch 48.75 289 eP P 05 14 23.0 +1.4
comp=Z,45nm,1.9s
FLWY Flagg Ranch 48.75 289 eP P 05 14 23.0 +1.4
comp=Z,45nm,1.9s
N23A Red Feather La 48.76 283 P P 05 14 21.7 -0.1
baz=41
N23A Red Feather La 48.76 283 eP P 05 14 21.7 -0.1
comp=Z,17nm,1.3s
N23A Red Feather La 48.76 283 eP P 05 14 21.7 -0.1
comp=Z,17nm,1.3s
IMW Indian Meadow 49.01 289 eP P 05 14 23.4 -0.2
comp=Z,32nm,1.9s
IMW Indian Meadow 49.01 289 eP P 05 14 23.4 -0.2
comp=Z,32nm,1.9s
MOOW Moose Ponds 49.02 289 eP P 05 14 23.2 -0.4
comp=Z,8.4nm,1.4s
MOOW Moose Ponds 49.02 289 eP P 05 14 23.2 -0.4
comp=Z,8.4nm,1.4s
LOHW Long Hollow 49.05 289 eP P 05 14 23.3 -0.6
comp=Z,10nm,1.4s
LOHW Long Hollow 49.05 289 eP P 05 14 23.3 -0.6
comp=Z,10nm,1.4s
X35A Drake 49.13 270 P P 05 14 23.1 -1.2
baz=38
LLLB Lillooet 49.14 303 eP P 05 14 25.8 +1.6
LLLB Lillooet 49.14 303 eP P 05 14 25.8 +1.6
BW06 Boulder Array 49.17 287 P P 05 14 23.3 -1.4
baz=42
BW06 Boulder Array 49.17 287 eP P 05 14 23.4 -1.4
BW06 Boulder Array 49.17 287 eP P 05 14 23.4 -1.4
PD31 Pinedale Array 49.17 287 eP P 05 14 23.5 -1.3
PD31 Pinedale Array 49.17 287 eP P 05 14 23.5 -1.3
PDAR Pinedale Array 49.17 287 P P 05 14 23.4 -1.4
comp=Z,1.8nm,0.8s,baz=55,slow=7.8,SNR=12
PDAR LR LR 05 34 16.9
comp=Z,710nm,18.1s,baz=32,slow=35
Y36A Durant 49.17 269 P P 05 14 25.8 +1.2
baz=38
SNOW Snow King Moun 49.24 289 eP P 05 14 25.3 0.0
comp=Z,9.8nm,1.3s
SNOW Snow King Moun 49.24 289 eP P 05 14 25.3 0.0
comp=Z,9.8nm,1.3s
MCMT McKenzie Canyo 49.24 292 eP P 05 14 26.2 +0.9
MCMT McKenzie Canyo 49.24 292 eP P 05 14 26.2 +0.9
TPAW Teton Pass 49.31 289 eP P 05 14 27.0 +1.1
comp=Z,7.8nm,1.1s
TPAW Teton Pass 49.31 289 eP P 05 14 27.0 +1.1
comp=Z,7.8nm,1.1s
REDW Red Top Meadow 49.36 289 eP P 05 14 27.3 +1.0
comp=Z,9.1nm,1.1s
REDW Red Top Meadow 49.36 289 eP P 05 14 27.3 +1.0
comp=Z,9.1nm,1.1s
X34A Smith Ranch, M 49.42 271 P P 05 14 25.9 -0.6
baz=38
ISCO Idaho Springs 49.42 282 P P 05 14 26.8 -0.1
baz=41
ISCO Idaho Springs 49.42 282 eP P 05 14 27.2 +0.4
ISCO pmax pmax
comp=Z,18nm,1.6s
ISCO Idaho Springs 49.42 282 eP P 05 14 27.2 +0.4
comp=Z,18nm,1.6s
ISCO Idaho Springs 49.42 282 eP P 05 14 27.2 +0.4
comp=Z,18nm,1.6s
GNI Garni 49.55 77 ce P P 05 14 29.4 +1.7
GNI pmax pmax
comp=Z,45nm,1.3s
B08A Colville Reser 49.66 299 eP P 05 14 27.8 -0.5
comp=Z,16nm,1.3s
B08A Colville Reser 49.66 299 eP P 05 14 27.8 -0.5
comp=Z,16nm,1.3s
WMOK Wichita Mounta 49.80 272 P P 05 14 28.3 -1.2
baz=39,SNR=6.5
WMOK Wichita Mounta 49.80 272 eP P 05 14 28.8 -0.7
WMOK pmax pmax
comp=Z,9.0nm,1.1s
WMOK Wichita Mounta 49.80 272 eP P 05 14 28.8 -0.7
comp=Z,9.2nm,1.1s
WMOK Wichita Mounta 49.80 272 eP P 05 14 28.8 -0.7
comp=Z,9.2nm,1.1s
CAST Castle Rocks 49.85 330 eP P 05 14 29.7 +0.2
comp=Z,21nm,1.6s
CAST Castle Rocks 49.85 330 eP P 05 14 29.7 +0.2
comp=Z,21nm,1.6s
AB31 Akbulak array 50.01 59 ce P P 05 14 30.6 -0.2
AB31 pmax pmax
comp=Z,16nm,0.8s
ABKAR Akbulak array 50.01 59 eP P 05 14 30.8 0.0
comp=Z,120nm,0.8s
ABKAR Akbulak array 50.01 59 eP P 05 14 30.8 0.0
comp=Z,120nm,0.8s
Y33A Hilltop Ranch, 50.29 271 P P 05 14 32.7 -0.5
baz=38
X32A Elmer 50.31 272 P P 05 14 32.5 -0.8
baz=38
F10A Beach Ranch, E 50.46 296 eP P 05 14 33.6 -0.8
comp=Z,13nm,1.2s
F10A Beach Ranch, E 50.46 296 eP P 05 14 33.6 -0.8
comp=Z,13nm,1.2s
O20A White River Ci 50.49 284 P P 05 14 33.5 -1.3
baz=41
O20A White River Ci 50.49 284 eP P 05 14 36.0 +1.2
comp=Z,22nm,1.5s
O20A White River Ci 50.49 284 eP P 05 14 36.0 +1.2
comp=Z,22nm,1.5s
SMCO Snowmass 50.58 282 eP P 05 14 36.5 +0.8
comp=Z,25nm,1.8s
SMCO Snowmass 50.58 282 eP P 05 14 36.5 +0.8
comp=Z,25nm,1.8s
T25A Trinidad 50.84 279 P P 05 14 36.2 -1.3
baz=40
T25A Trinidad 50.84 279 eP P 05 14 37.2 -0.3
comp=Z,11nm,1.0s
T25A Trinidad 50.84 279 eP P 05 14 37.2 -0.3
comp=Z,11nm,1.0s
SDCO Great Sand Dun 50.93 280 P P 05 14 37.0 -1.2
baz=40
SDCO Great Sand Dun 50.93 280 eP P 05 14 37.7 -0.5
comp=Z,4.5nm,1.2s
SDCO Great Sand Dun 50.93 280 eP P 05 14 37.7 -0.5
comp=Z,4.5nm,1.2s
Z33A Whitaker Ranch 50.93 271 P P 05 14 37.2 -0.8
baz=38
HLID Hailey 50.94 292 P P 05 14 36.6 -1.5
baz=41
HLID Hailey 50.94 292 eP P 05 14 38.2 +0.1
comp=Z,16nm,1.6s
HLID Hailey 50.94 292 eP P 05 14 38.2 +0.1
comp=Z,16nm,1.6s
HWUT Hardware Ranch 51.02 288 eP P 05 14 38.4 -0.4
comp=Z,42nm,2.0s
HWUT Hardware Ranch 51.02 288 eP P 05 14 38.4 -0.4
comp=Z,42nm,2.0s
LTY Liberty 51.08 299 eP P 05 14 39.0 0.0
comp=Z,8.7nm,1.2s
LTY Liberty 51.08 299 eP P 05 14 39.0 0.0
comp=Z,8.7nm,1.2s
134A White-Moore Ra 51.14 270 P P 05 14 38.7 -0.8
baz=38
AMTX Amarillo 51.18 275 P P 05 14 39.0 -0.9
baz=39
AMTX Amarillo 51.18 275 eP P 05 14 40.3 +0.3
comp=Z,31nm,1.5s
AMTX Amarillo 51.18 275 eP P 05 14 40.3 +0.3
comp=Z,31nm,1.5s
HAWA Hanford 51.21 297 eP P 05 14 41.8 +1.9
HAWA Hanford 51.21 297 eP P 05 14 41.9 +1.9
TTA Tatalina 51.26 331 eP P 05 14 40.4 +0.3
TTA Tatalina 51.26 331 eP P 05 14 40.4 +0.3
TTA Tatalina 51.26 331 eP P 05 14 40.4 +0.3
TT01 Tatalina 51.28 331 eP P 05 14 40.3 +0.1
TT01 Tatalina 51.28 331 eP P 05 14 40.3 +0.1
BMO Blue Mountains 51.34 295 eP P 05 14 39.8 -1.2
BMO pmax pmax
comp=Z,41nm,2.0s
BMO Blue Mountains 51.34 295 eP P 05 14 39.8 -1.2
comp=Z,41nm,2.0s
BMO Blue Mountains 51.34 295 eP P 05 14 39.8 -1.2
comp=Z,41nm,2.0s
BRVK Borovoye 51.46 49 d i P P 05 14 41.6 -0.1
BRVK pmax pmax
comp=Z,72nm,2.5s
BRVK Borovoye 51.46 49 eP P 05 14 42.3 +0.6
BRVK Borovoye 51.46 49 eP P 05 14 42.3 +0.6
HVU Hansel Valley 51.48 289 eP P 05 14 43.1 +0.9
HVU pmax pmax
comp=Z,11nm,1.4s
HVU Hansel Valley 51.48 289 eP P 05 14 43.1 +0.9
comp=Z,11nm,1.4s
HVU Hansel Valley 51.48 289 eP P 05 14 43.1 +0.9
comp=Z,11nm,1.4s
BVA0 Borovoye Array 51.53 49 P P 05 14 42.3 +0.1
BVA0 pmax pmax
comp=Z,14nm,1.0s
133A Hamilton Ranch 51.54 270 P P 05 14 41.9 -0.7
baz=38
S22A 4UR Ranch, Cre 51.60 281 P P 05 14 42.1 -1.2
baz=40
S22A 4UR Ranch, Cre 51.60 281 eP P 05 14 43.5 +0.2
comp=Z,14nm,1.4s
S22A 4UR Ranch, Cre 51.60 281 eP P 05 14 43.5 +0.2
comp=Z,14nm,1.4s
234A Clairette 51.62 269 P P 05 14 42.8 -0.4
baz=37
SPUT South Promonto 51.68 288 eP P 05 14 43.8 +0.1
comp=Z,19nm,1.3s
SPUT South Promonto 51.68 288 eP P 05 14 43.8 +0.1
comp=Z,19nm,1.3s
SPU Mount Spurr 51.69 328 eP P 05 14 43.2 -0.2
SPU Mount Spurr 51.69 328 eP P 05 14 43.2 -0.2
MFID Camas Ranch 51.72 292 eP P 05 14 44.0 0.0
comp=Z,12nm,1.4s
MFID Camas Ranch 51.72 292 eP P 05 14 44.0 0.0
comp=Z,12nm,1.4s
JLU Jordanelle 51.73 287 eP P 05 14 43.3 -0.9
comp=Z,16nm,1.6s
JLU Jordanelle 51.73 287 eP P 05 14 43.3 -0.9
comp=Z,16nm,1.6s
335A Moody 51.83 268 P P 05 14 44.1 -0.6
baz=37
P18A Preston Nutter 51.87 285 eP P 05 14 45.6 +0.2
comp=Z,12nm,1.4s
P18A Preston Nutter 51.87 285 eP P 05 14 45.6 +0.2
comp=Z,12nm,1.4s
TOA1 Torodi Ar. Sit 51.88 138 eP P 05 14 43.1 -2.0
comp=Z,8.0nm,0.9s
TOA0 Torodi Ar. Sit 51.88 138 eP P 05 14 43.9 -1.3
TOA0 Torodi Ar. Sit 51.88 138 eP P 05 14 43.9 -1.3
TORD Torodi Ar. Bea 51.88 138 P P 05 14 43.1 -2.1
comp=Z,2.6nm,0.9s,baz=338,slow=6.3,SNR=14
TORD LR LR 05 35 02.2
comp=Z,104nm,20.3s,baz=110,slow=34
ABTX Abilene, Hawle 51.90 271 P P 05 14 44.8 -0.6
baz=38
ABTX Abilene, Hawle 51.90 271 eP P 05 14 45.7 +0.4
comp=Z,33nm,1.5s
ABTX Abilene, Hawle 51.90 271 eP P 05 14 45.7 +0.4
comp=Z,33nm,1.5s
233A Rising Star 52.00 270 P P 05 14 45.6 -0.5
baz=37
PV01 Paradox Valley 52.18 283 eP P 05 14 46.8 -0.8
PV01 Paradox Valley 52.18 283 eP P 05 14 46.8 -0.8
334A Lometa 52.20 269 P P 05 14 47.2 -0.3
baz=37
BGU Big Grassy Mou 52.26 288 eP P 05 14 48.7 +0.7
comp=Z,6.6nm,1.4s
BGU Big Grassy Mou 52.26 288 eP P 05 14 48.7 +0.7
comp=Z,6.6nm,1.4s
638A Rosharon 52.30 265 P P 05 14 47.8 -0.4
baz=36
SRU San Rafael Swe 52.41 285 eP P 05 14 49.2 0.0
SRU pmax pmax
comp=Z,12nm,1.5s
SRU San Rafael Swe 52.41 285 eP P 05 14 49.2 0.0
comp=Z,12nm,1.5s
SRU San Rafael Swe 52.41 285 eP P 05 14 49.2 0.0
comp=Z,12nm,1.5s
NLWA Neilton Lookou 52.41 301 eP P 05 14 49.3 +0.4
comp=Z,49nm,1.6s
NLWA Neilton Lookou 52.41 301 eP P 05 14 49.3 +0.4
comp=Z,49nm,1.6s
MSTX Muleshoe 52.46 275 P P 05 14 47.9 -1.6
baz=38
MSTX Muleshoe 52.46 275 eP P 05 14 50.4 +0.9
comp=Z,14nm,1.4s
MSTX Muleshoe 52.46 275 eP P 05 14 50.4 +0.9
comp=Z,14nm,1.4s
PV05 Paradox Valley 52.49 283 eP P 05 14 50.1 +0.3
PV05 Paradox Valley 52.49 283 eP P 05 14 50.1 +0.3
333A Richland Sprin 52.59 270 P P 05 14 48.2 -2.2
baz=37
TMUT Trail Mountain 52.61 286 eP P 05 14 51.4 +0.6
comp=Z,5.9nm,0.9s
TMUT Trail Mountain 52.61 286 eP P 05 14 51.4 +0.6
comp=Z,5.9nm,0.9s
434A Burnet 52.63 269 P P 05 14 48.6 -2.1
baz=37
DUG Dugway, Tooele 52.71 288 P P 05 14 50.2 -1.2
baz=40
MVCO Mesa Verde 52.86 282 P P 05 14 51.6 -1.0
baz=39
MVCO Mesa Verde 52.86 282 eP P 05 14 54.3 +1.7
comp=Z,13nm,1.1s
MVCO Mesa Verde 52.86 282 eP P 05 14 54.3 +1.7
comp=Z,13nm,1.1s
G05D Wamic, OR 52.90 298 P P 05 14 51.1 -1.4
baz=40
E03A Lebam 52.92 300 eP P 05 14 52.7 +0.1
comp=Z,100nm,1.5s
E03A Lebam 52.92 300 eP P 05 14 52.7 +0.1
comp=Z,100nm,1.5s
636A Smothers Creek 53.08 267 P P 05 14 53.2 -0.7
baz=36
433A Art 53.10 269 P P 05 14 53.1 -1.1
baz=37
534A Blanco 53.37 268 P P 05 14 54.9 -1.3
baz=36
ANMO Albuquerque 53.58 279 P P 05 14 57.4 -0.5
comp=Z,1.3nm,0.9s,baz=52,slow=7.6,SNR=5.8
ANMO Albuquerque 53.58 279 P P 05 14 56.8 -1.1
baz=38
ANMO Albuquerque 53.58 279 i P P 05 14 56.8 -1.1
ANMO pmax pmax
comp=Z,11nm,2.5s
ANMO Albuquerque 53.58 279 eP P 05 14 58.1 +0.2
comp=Z,4.9nm,1.1s
ANMO Albuquerque 53.58 279 eP P 05 14 58.1 +0.2
comp=Z,4.9nm,1.1s
533A Kerrville 53.62 269 P P 05 14 57.0 -1.0
baz=36
JCT Junction City 53.69 270 P P 05 14 57.8 -0.7
baz=36
JCT Junction City 53.69 270 eP P 05 14 59.3 +0.8
JCT Junction City 53.69 270 eP P 05 14 59.3 +0.8
JCT Junction City 53.69 270 eP P 05 14 59.3 +0.8
WVOR Wild Horse Val 53.80 294 eP P 05 14 59.8 +0.5
WVOR pmax pmax
comp=Z,17nm,1.3s
WVOR Wild Horse Val 53.80 294 eP P 05 14 59.8 +0.5
comp=Z,17nm,1.3s
WVOR Wild Horse Val 53.80 294 eP P 05 14 59.8 +0.5
comp=Z,17nm,1.3s
MTPU Mount Pierson 54.06 285 eP P 05 15 02.9 +1.3
comp=Z,21nm,1.9s
MTPU Mount Pierson 54.06 285 eP P 05 15 02.9 +1.3
comp=Z,21nm,1.9s
LAZ Ladron 54.35 279 eP P 05 15 04.8 +1.2
LAZ Ladron 54.35 279 eP P 05 15 04.8 +1.2
J05D Fort Rock, OR 54.37 296 P P 05 15 03.2 -0.3
baz=39
PKCU Pink Cliffs 54.59 285 eP P 05 15 04.9 -0.5
comp=Z,29nm,1.6s
PKCU Pink Cliffs 54.59 285 eP P 05 15 04.9 -0.5
comp=Z,29nm,1.6s
NVS Novosibirsk 54.75 40 eP P 05 15 06.4 +0.6
NVS e 05 17 07.0
NVS pmax pmax
comp=N,11nm,1.5s
NVS pmax pmax
comp=E,6.0nm,1.5s
NVS pmax pmax
comp=Z,38nm,1.5s
J04D Umpqua Nationa 54.80 297 P P 05 15 06.5 -0.2
baz=39
SZCU Shurtz Canyon 54.85 286 eP P 05 15 07.7 +0.5
comp=Z,9.8nm,1.5s
SZCU Shurtz Canyon 54.85 286 eP P 05 15 07.7 +0.5
comp=Z,9.8nm,1.5s
MOD Modoc Plateau 55.00 294 eP P 05 15 07.7 -0.4
comp=Z,15nm,1.1s
MOD Modoc Plateau 55.00 294 eP P 05 15 07.7 -0.4
comp=Z,15nm,1.1s
CCUT Cedar City 55.03 286 eP P 05 15 07.5 -0.9
comp=Z,8.2nm,1.5s
CCUT Cedar City 55.03 286 eP P 05 15 07.5 -0.9
comp=Z,8.2nm,1.5s
KNB Kanab 55.17 285 eP P 05 15 09.0 -0.4
KNB pmax pmax
comp=Z,17nm,1.4s
KNB Kanab 55.17 285 eP P 05 15 09.0 -0.4
comp=Z,17nm,1.4s
KNB Kanab 55.17 285 eP P 05 15 09.0 -0.4
comp=Z,17nm,1.4s
U15A North Rim 55.37 284 eP P 05 15 11.2 +0.2
comp=Z,12nm,1.6s
U15A North Rim 55.37 284 eP P 05 15 11.2 +0.2
comp=Z,12nm,1.6s
LCMT Little Creek M 55.39 285 eP P 05 15 11.6 +0.7
comp=Z,24nm,1.9s
LCMT Little Creek M 55.39 285 eP P 05 15 11.6 +0.7
comp=Z,24nm,1.9s
R11A Troy Canyon, C 55.50 288 P P 05 15 11.9 +0.1
baz=38
R11A Troy Canyon, C 55.50 288 eP P 05 15 11.6 -0.2
comp=Z,12nm,1.4s
R11A Troy Canyon, C 55.50 288 eP P 05 15 11.6 -0.2
comp=Z,12nm,1.4s
832A Faith Ranch, C 55.54 268 P P 05 15 11.9 0.0
baz=36
MNTX Cornudas Mount 55.59 275 P P 05 15 11.5 -0.8
baz=37
MNTX Cornudas Mount 55.59 275 eP P 05 15 12.7 +0.4
comp=Z,8.0nm,1.4s
MNTX Cornudas Mount 55.59 275 eP P 05 15 12.7 +0.4
comp=Z,8.0nm,1.4s
WUAZ Wupatki 55.62 283 P P 05 15 11.4 -1.3
baz=38
933A Laredo 55.73 267 P P 05 15 13.2 -0.1
baz=35
M04C Macdoel 55.81 295 P P 05 15 13.1 -0.8
baz=38
DBIC Dimbokro 55.98 148 P P 05 15 14.9 -0.2
comp=Z,8.3nm,1.1s,baz=334,slow=3.7,SNR=4.0
DBIC LR LR 05 36 30.8
comp=Z,357nm,19.7s,baz=342,slow=33
DBIC Dimbokro 55.98 148 eP P 05 15 15.0 -0.2
DBIC pmax pmax
comp=Z,24nm,1.4s
DBIC Dimbokro 55.98 148 eP P 05 15 14.9 -0.2
comp=Z,24nm,1.4s
DBIC Dimbokro 55.98 148 eP P 05 15 14.9 -0.2
comp=Z,24nm,1.4s
ZAA1 Zalesovo Array 56.01 40 eP P 05 15 13.9 -1.1
ZAA1 Zalesovo Array 56.01 40 eP P 05 15 13.8 -1.1
ZAA1 eP cP P cP 05 16 12.5 -0.6
ZAA0 Zalesovo Array 56.01 40 eP P 05 15 15.0 0.0
ZAA0 Zalesovo Array 56.01 40 eP P 05 15 15.0 0.0
ZALV Zalesovo Beam 56.01 40 P P 05 15 13.8 -1.1
comp=Z,1.1nm,0.7s,baz=320,slow=4.4,SNR=5.8
ZALV PcP P cP 05 16 12.5 -0.6
comp=Z,3.8nm,0.8s,baz=332,slow=5.9,SNR=9.0
ZALV LR LR 05 41 03.4
comp=Z,77nm,18.8s,baz=258,slow=38
121A Cookes Peak, D 56.16 278 P P 05 15 16.6 0.0
baz=37
L02D Cave Junction, 56.34 297 P P 05 15 17.4 -0.1

baz=38
KURK Kurchatov 56.49 46 *d* iP **P** 05 15 17.0 -1.4
KURK pmax pmax
comp=Z,49nm,1.0s
KURK Kurchatov 56.49 46 *e*P **P** 05 15 17.5 -0.9
KURK Kurchatov 56.49 46 *e*P **P** 05 15 17.5 -0.9
KURK *e*PcP **PcP** 05 16 15.2 +0.2
X16A Lo Mia Camp, P 56.52 282 *e*P **P** 05 15 18.8 -0.3
comp=Z,5.2nm,1.1s
X16A Lo Mia Camp, P 56.52 282 *e*P **P** 05 15 18.8 -0.3
comp=Z,5.2nm,1.1s
KURBB Kurchatov Arra 56.53 46 P **P** 05 15 18.3 -0.4
comp=Z,3.4nm,0.3s,baz=322,slow=7.0,SNR=42
KURBB PcP **PcP** 05 16 15.2 0.0
comp=Z,1.2nm,0.4s,baz=314,slow=4.2,SNR=6.8
LTX Lajitas 56.60 272 *e*P **P** 05 15 18.9 -0.8
LTX Lajitas 56.60 272 *e*P **P** 05 15 18.9 -0.8
LTX Lajitas 56.60 272 *e*P **P** 05 15 18.9 -0.8
TX31 Lajitas Ar. Si 56.60 272 *e*P **P** 05 15 19.7 +0.1
TX31 Lajitas Ar. Si 56.60 272 *e*P **P** 05 15 19.7 +0.1
TXAR Lajitas Array 56.60 272 P **P** 05 15 18.9 -0.8
comp=Z,1.5nm,0.8s,baz=72,slow=4.1,SNR=7.4
TXAR LR LR 05 38 56.6
comp=Z,441nm,18.7s,baz=0.0,slow=35
SHPR Sheep Range 56.74 286 *e*P **P** 05 15 22.6 +2.0
SHPR Sheep Range 56.74 286 *e*P **P** 05 15 22.6 +2.0
N02D Trinity Center 56.85 295 P **P** 05 15 20.6 -0.6
baz=38
TPNV Topopah Spring 56.92 288 P **P** 05 15 22.0 +0.1
baz=38
TPNV Topopah Spring 56.92 288 *e*P **P** 05 15 22.7 +0.8
TPNV pmax pmax
comp=Z,11nm,1.3s
TPNV Topopah Spring 56.92 288 *e*P **P** 05 15 22.7 +0.8
comp=Z,11nm,1.3s
TPNV Topopah Spring 56.92 288 *e*P **P** 05 15 22.7 +0.8
comp=Z,11nm,1.3s
O03D Paynes Creek 56.96 294 P **P** 05 15 21.5 -0.6
baz=38
GRAC Grapevine Rang 57.43 289 P **P** 05 15 25.6 +0.2
baz=38
GEYT Alibeck 57.87 69 LR LR 05 40 48.6
comp=Z,152nm,21.7s,baz=320,slow=36
TUC Tucson 57.87 280 P **P** 05 15 28.1 -0.5
baz=37
TUC Tucson 57.87 280 *e*P **P** 05 15 30.2 +1.7
TUC pmax pmax
comp=Z,16nm,1.9s
TUC Tucson 57.87 280 *e*P **P** 05 15 30.2 +1.7
comp=Z,16nm,1.9s
TUC Tucson 57.87 280 *e*P **P** 05 15 30.2 +1.7
comp=Z,16nm,1.9s
TUQ Turquoise Moun 57.96 286 P **P** 05 15 29.1 -0.1
baz=37
MPMC Manual Prospec 58.24 288 P **P** 05 15 30.9 -0.3
baz=37
YAK Yakutsk 58.25 11⇓ *e*P **P** 05 15 29.5 -1.1
YAK pmax pmax
comp=Z,18nm,0.7s
SEY Seymchan 58.25 358 P **P** 05 15 29.3 -1.4
comp=Z,1.2nm,0.2s,baz=323,slow=5.6,SNR=7.3
SEY Seymchan 58.25 358⇑ *i*P **P** 05 15 30.9 +0.2
GMRC Granite Mounta 58.35 286 P **P** 05 15 32.3 +0.4
baz=37
SDV Santo Domingo 58.46 228 *e*P **P** 05 15 32.7 -0.3
comp=Z,9.5nm,1.0s
SDV Santo Domingo 58.46 228 *e*P **P** 05 15 32.6 -0.3
comp=Z,9.5nm,1.0s
GSC Goldstone, Bar 58.50 287 P **P** 05 15 33.1 +0.2
baz=37
GSC Goldstone, Bar 58.50 287 *e*P **P** 05 15 33.6 +0.7
GSC pmax pmax
comp=Z,9.0nm,1.1s
GSC Goldstone, Bar 58.50 287 *e*P **P** 05 15 33.6 +0.7
comp=Z,9.2nm,1.1s
GSC Goldstone, Bar 58.50 287 *e*P **P** 05 15 33.6 +0.7
comp=Z,9.2nm,1.1s
Y12C Blythe 58.60 284 P **P** 05 15 34.4 +0.9
baz=37
Y12C Blythe 58.60 284 *e*P **P** 05 15 34.5 +0.9
comp=Z,18nm,1.5s
Y12C Blythe 58.60 284 *e*P **P** 05 15 34.5 +0.9
comp=Z,18nm,1.5s
113A Mohawk Valley, 59.01 283 *e*P **P** 05 15 35.3 -1.1
comp=Z,10nm,1.3s
BELC Belle Mtn. Jos 59.14 285 P **P** 05 15 37.5 0.0
baz=37
BC3 Big Chuckawall 59.14 285 P **P** 05 15 37.3 -0.2
baz=37
214A Organ Pipe Nat 59.18 281 P **P** 05 15 37.8 +0.2
baz=36
VES Vestal, Richgr 59.19 289 P **P** 05 15 38.0 +0.4
baz=37
KK31 Karatay Array 59.40 57 *ce*P **P** 05 15 38.7 -0.3
KK31 pmax pmax
comp=Z,6.0nm,1.0s
KKAR Karatay Array 59.40 57 *e*P **P** 05 15 39.4 +0.4
KKAR pmax pmax
comp=Z,30nm,0.9s
KKAR Karatay Array 59.40 57 *e*P **P** 05 15 39.4 +0.4
comp=Z,30nm,0.9s
KKAR Karatay Array 59.40 57 *e*P **P** 05 15 39.4 +0.4
comp=Z,30nm,0.9s
ARVC Arvin 59.64 288 P **P** 05 15 39.7 -1.0
baz=36
PFO Pinyon Flats O 59.68 285 P **P** 05 15 40.8 -0.4
baz=36
PFO Pinyon Flats O 59.68 285 *e*P **P** 05 15 41.3 +0.1
PFO pmax pmax
comp=Z,33nm,1.8s
PFO Pinyon Flats O 59.68 285 *e*P **P** 05 15 41.3 +0.1
comp=Z,33nm,1.8s
PFO Pinyon Flats O 59.68 285 *e*P **P** 05 15 41.3 +0.1
comp=Z,33nm,1.8s
TPFO Pinon Flats 59.68 285 P **P** 05 15 39.9 -1.3
baz=36
SWSC Sam W. Stewart 59.89 284 P **P** 05 15 41.2 -1.2
baz=36
MURC Murrieta 60.05 286 P **P** 05 15 43.2 -0.4
baz=36
BOD Bodaibo 60.13 21 *e*P P 05 15 35.1 -8.6
HSIG 60.59 278 *e*P **P** 05 15 48.3 +1.0
comp=Z,19nm,1.4s
HSIG 60.59 278 *e*P **P** 05 15 48.3 +1.0
comp=Z,19nm,1.4s
MNAS Manas 60.76 56 *i* P **P** 05 15 48.6 +0.1
MNAS pmax pmax
comp=Z,12nm,1.4s
MAKZ Makanchi 60.97 46 *e*P **P** 05 15 49.7 0.0
MAKZ pmax pmax
comp=Z,13nm,1.1s
MAKZ Makanchi 60.97 46 *e*P **P** 05 15 49.7 0.0
comp=Z,13nm,1.1s
MAKZ Makanchi 60.97 46 *e*P **P** 05 15 49.7 0.0
comp=Z,13nm,1.1s
MK31 Makanchi Array 61.10 46 *ce*P **P** 05 15 49.4 -1.2
MK31 pmax pmax
comp=Z,5.0nm,0.6s
MK31 Makanchi Array 61.10 46 *e*P **P** 05 15 50.2 -0.4
MK31 Makanchi Array 61.10 46 *e*P **P** 05 15 50.1 -0.4
MKAR Makanchi Array 61.10 46 *e*P **P** 05 15 50.2 -0.4
MKAR pmax pmax
comp=Z,39nm,0.7s
MKAR Makanchi Array 61.10 46 *e*P **P** 05 15 50.2 -0.4
comp=Z,39nm,0.7s
MKAR Makanchi Array 61.10 46 *e*P **P** 05 15 50.1 -0.4
comp=Z,39nm,0.7s
MK01 Makanchi Array 61.12 46 *e*P **P** 05 15 50.1 -0.6
MK01 Makanchi Array 61.12 46 *e*P **P** 05 15 50.1 -0.6
BRRC Barranca, Sant 61.29 230 *e*P **P** 05 15 49.2 -2.9
FRU Bishkek 61.36 54 *e*P **P** 05 15 55.0 +2.6
ZAIG Zacatecas 61.39 267 *e*P **P** 05 15 54.6 +1.5
comp=Z,10nm,1.0s
ZAIG Zacatecas 61.39 267 *e*P **P** 05 15 54.6 +1.5
comp=Z,10nm,1.0s
AAK Ala-Archa 61.47 54 P **P** 05 15 53.2 -0.1
comp=Z,3.5nm,0.8s,baz=267,slow=3.7,SNR=7.3
AAK Ala-Archa 61.47 54 *d* iP **P** 05 15 53.9 +0.6
AAK pmax pmax
comp=Z,23nm,1.4s
MA2 Magadan 61.64 359 *ce*P **P** 05 15 54.2 +0.2
RUSC La Rusia 62.15 229 *e*P **P** 05 15 59.1 +0.6
comp=Z,8.0nm,1.5s
HELC Santa Helena 62.85 232 *e*P **P** 05 16 01.4 -1.7
HELC Santa Helena 62.85 232 *e*P **P** 05 16 01.6 -1.4
comp=Z,32nm,0.8s
NORC Norcasia 63.15 231 *e*P **P** 05 16 03.2 -1.5

TLY Talaya 63.55 30 *e*P **P** 05 16 07.1 +0.2
TLY pmax pmax
comp=Z,6.0nm,0.6s
TLY MLR MLR
comp=Z,72nm,17.0s
CHIC Chingaza 63.56 229 *e*P **P** 05 16 05.7 -2.1
ROSC El Rosal 63.59 230 P **P** 05 16 08.0 0.0
comp=Z,6.1nm,0.7s,baz=87,slow=7.2,SNR=14
ROSC El Rosal 63.59 230 *e*P **P** 05 16 07.7 -0.4
ROSC El Rosal 63.59 230 *e*P **P** 05 16 08.2 +0.2
comp=Z,14nm,1.1s
ROSC El Rosal 63.59 230 *e*P **P** 05 16 08.2 +0.2
comp=Z,14nm,1.1s
TLIG Tlapa 63.68 260 *e*P **P** 05 16 08.6 +0.3
comp=Z,70nm,2.0s
TLIG Tlapa 63.68 260 *e*P **P** 05 16 08.6 +0.3
comp=Z,70nm,2.0s
ZAK Zakamensk 64.64 31 *e*P **P** 05 16 13.4 -0.8
ZAK pmax pmax
comp=Z,8.0nm,1.2s
KSH Kashi 64.69 55⇑ *i*P **P** 05 16 16.9 +2.2
KSH sP sP 05 16 24.1 +2.9
KSH PP **PP** 05 18 41.0 +4.6
KSH S **S** 05 24 54.0 -0.1
KSH sS sS 05 25 01.1 -0.9
KSH SS **SS** 05 29 06.1 +1.9
KSH pmax pmax
comp=Z,17nm,1.0s
KSH pmax pmax
comp=Z,200nm,4.1s
KSH LR LR
comp=Z,100nm,5.5s
KSH LR LR
comp=Z,110nm,5.4s
KSH LR LR
comp=Z,190nm,6.6s
PRAC Prado 64.85 230 *e*P **P** 05 16 13.8 -2.1
PRAC Prado 64.85 230 *e*P **P** 05 16 15.0 -0.8
comp=Z,18nm,0.7s
WMQ Urumqi 65.62 44 P **P** 05 16 23.2 +2.6
WMQ sP sP 05 16 30.2 +3.1
WMQ pmax pmax
comp=Z,14nm,0.7s
WMQ pmax pmax
comp=Z,25nm,3.7s
WMQ LR LR
comp=Z,48nm,26.9s
WMQ LR LR
comp=Z,48nm,24.9s
UOSS Minazif 67.45 79 *e*P **P** 05 16 31.3 -1.1
comp=Z,18nm,1.2s
UOSS Minazif 67.45 79 *e*P **P** 05 16 31.3 -1.1
comp=Z,18nm,1.2s
SONA1 Songino Array 67.78 30 *e*P **P** 05 16 34.0 -0.4
SONA1 Songino Array 67.78 30 *e*P **P** 05 16 34.0 -0.4
SONA0 Songino Array 67.79 30 *e*P **P** 05 16 33.6 -0.9
comp=Z,21nm,1.3s
SONA0 Songino Array 67.79 30 *e*P **P** 05 16 33.6 -0.9
comp=Z,21nm,1.3s
SONM Songino Array 67.79 30 P **P** 05 16 33.6 -0.9
comp=Z,13nm,1.2s,baz=320,slow=5.7,SNR=29
SONM LR LR 05 47 07.8
comp=Z,135nm,20.9s,baz=4.5,slow=37
PEA1 Petropavlovsk- 67.91 354 *e*P **P** 05 16 34.9 -0.1
PEA1 Petropavlovsk- 67.91 354 *e*P **P** 05 16 34.9 -0.1
PEA0 Petropavlovsk- 67.92 354 *e*P **P** 05 16 34.9 -0.1
PEA0 Petropavlovsk- 67.92 354 *e*P **P** 05 16 34.9 -0.1
PETK Petropavlovsk- 67.92 354 P **P** 05 16 34.9 -0.1
comp=Z,4.6nm,0.9s,baz=57,slow=9.0,SNR=4.8
PETK LR LR 05 48 36.6
comp=Z,93nm,18.8s,baz=17,slow=38
ULN Ulaanbaatar 67.93 29 *d* iP **P** 05 16 35.4 0.0
ULN pmax pmax
comp=Z,39nm,1.7s
ULN Ulaanbaatar 67.93 29 *e*P **P** 05 16 34.6 -0.8
comp=Z,28nm,1.2s
ULN Ulaanbaatar 67.93 29 *e*P **P** 05 16 34.6 -0.8
comp=Z,28nm,1.2s
H10S1 ASCENSION HYDR 69.07 163 T T 06 31 19.3
baz=350,slow=75,SNR=6.0
H10S3 ASCENSION HYDR 69.08 163 T T 06 31 20.6
baz=350,slow=75,SNR=5.5
H10S2 ASCENSION HYDR 69.09 163 T T 06 31 23.8
baz=350,slow=75,SNR=7.1
KLR Kul'dur 71.08 12⇑ *e*P **P** 05 16 55.0 +0.5
SAML Samuel 72.66 214 *e*P **P** 05 17 02.1 -2.2
comp=Z,4.3nm,1.0s
GTA Gaotai 73.66 38 ⇑P **P** 05 17 10.2 -0.1
GTA pP sP 05 17 16.2 -0.7
GTA sP pP 05 17 19.6 +4.5
GTA S **S** 05 26 40.2 +0.1
GTA sS sS 05 26 51.9 +3.8
GTA pmax pmax
comp=Z,21nm,1.1s
GTA pmax pmax
comp=Z,84nm,5.5s
GTA LR LR
comp=Z,110nm,16.6s
GTA LR LR
comp=Z,130nm,16.6s
GTA LR LR
comp=Z,130nm,15.7s
BTO Baotou 75.47 30 *e*P **P** 05 17 20.4 -0.4
CN2 Changchun 75.58 18 *e*P **P** 05 17 21.3 +0.1
CN2 pmax pmax
comp=Z,10.0nm,0.7s
HHC Hu-ho-hao-te 75.63 29 *e*P **P** 05 17 21.7 0.0
HHC S **S** 05 26 59.8 -2.3
HHC pmax pmax
comp=Z,12nm,1.0s
HHC pmax pmax
comp=Z,110nm,7.0s
HHC LR LR
comp=Z,140nm,16.7s
HHC LR LR
comp=Z,160nm,17.3s
BJI Beijing 77.48 25 P **P** 05 17 30.4 -1.6
BJI pmax pmax
comp=Z,13nm,1.4s
BJI pmax pmax
comp=Z,130nm,3.8s
LZH Lanzhou 77.96 36 *e*P **P** 05 17 33.0 -2.0
LZH pP pP 05 17 38.6 -1.2
LZH sP sP 05 17 41.8 +0.2
LZH pmax pmax
comp=Z,22nm,1.0s
KMBO Kilima Mbogo 79.88 110 LR LR 05 54 10.7
comp=Z,178nm,18.7s,baz=314,slow=36
LPAZ La Paz 81.07 216 P **P** 05 17 52.5 +0.1
comp=Z,1.0nm,0.7s,baz=332,slow=4.7,SNR=3.7
LPAZ LR LR 05 52 03.1
comp=Z,35nm,20.0s,baz=65,slow=34
XAN Xi'an 81.35 33 P **P** 05 17 52.1 -1.2
XAN pmax pmax
comp=Z,24nm,1.0s
XAN pmax pmax
comp=Z,88nm,3.7s
KS01 Wonju Array Si 82.15 17 *e*P **P** 05 17 56.7 -0.6
KS01 Wonju Array Si 82.15 17 *e*P **P** 05 17 56.7 -0.6
KSRS Korea Array 82.17 17 P **P** 05 17 56.6 -0.8
comp=Z,3.2nm,0.9s,baz=333,slow=4.5,SNR=6.9
KSRS LR LR 05 53 25.0
comp=Z,57nm,18.1s,baz=20,slow=35
KS15 Wonju Array Si 82.18 17 *e*P **P** 05 17 56.6 -0.9
KS15 Wonju Array Si 82.18 17 *e*P **P** 05 17 56.6 -0.9
MJAR Matsushiro Arr 84.26 9 P **P** 05 18 07.6 -0.7
comp=Z,2.1nm,0.6s,baz=337,slow=5.0,SNR=4.5
ENH Enshi 85.05 34 *e*P **P** 05 18 12.0 -0.4
comp=Z,23nm,1.0s
ENH Enshi 85.05 34 *e*P **P** 05 18 12.0 -0.4
comp=Z,23nm,1.0s
KMI Kunming 87.74 41 P **P** 05 18 27.0 +1.1
KMI pmax pmax
comp=Z,7.0nm,0.5s
GYA Guiyang 87.78 37 *e*P **P** 05 18 27.0 +1.0
GYA pmax pmax
comp=Z,10.0nm,1.0s
SLVN Son La 91.64 41 *e*P **P** 05 18 43.9 -0.1
comp=Z,6.0nm,1.2s
SLVN Son La 91.64 41 *e*P **P** 05 18 43.9 -0.1
comp=Z,6.0nm,1.2s
CM31 Chiang Mai Arr 92.50 47 *e*P **P** 05 18 48.3 +0.3
CM31 Chiang Mai Arr 92.50 47 *e*P **P** 05 18 48.3 +0.3
CMAR Chiang Mai Arr 92.50 47 P **P** 05 18 47.8 -0.2
comp=Z,1.5nm,0.4s,baz=325,slow=5.6,SNR=14
CMAR LR LR 06 00 49.2
comp=Z,60nm,18.9s,baz=275,slow=36
CM01 Chiang Mai Arr 92.54 47 *e*P **P** 05 18 47.8 -0.4
CM01 Chiang Mai Arr 92.54 47 *e*P **P** 05 18 47.8 -0.4
QIZ Qiongzhong 95.73 37 P **P** 05 19 01.4 -1.4
QIZ S **S** 05 30 19.2 -0.5
QIZ pmax pmax
comp=Z,110nm,6.9s
PPT2 Papeete2 119.60 286 *e*LR LR 06 01 11.5
comp=Z,187nm,22.2s
TBI Tubuai 124.39 282 *e*LR LR 06 03 21.3
comp=Z,173nm,25.0s
SNAA Sanae 131.96 168 *e*PKIKP **PKPdf** 05 24 47.5 -1.0
SNAA Sanae 131.96 168 *e*PKPdf **PKPdf** 05 24 47.5 -1.0
WR1 Warramunga Arr 139.43 22 *e*PKIKP **PKPdf** 05 25 02.8 -1.2
WR1 Warramunga Arr 139.43 22 *e*PKPdf **PKPdf** 05 25 02.8 -1.2
WRA Warramunga Arr 139.43 22 PKP **PKPdf** 05 25 02.8 -1.2
comp=Z,2.6nm,1.0s,baz=337,slow=2.4,SNR=9.1
WB2 Warramunga Arr 139.43 22 *e*PKIKP **PKPdf** 05 25 02.3 -1.6
WB2 Warramunga Arr 139.43 22 *e*PKPdf **PKPdf** 05 25 02.4 -1.6
DZM Mont Dzumac 140.98 334 *e*LR LR 06 11 07.3
comp=Z,93nm,22.1s
ASAR Alice Springs 142.96 24 PKhKP PKPpre 05 25 04.3
comp=Z,2.2nm,0.9s,baz=360,slow=2.7,SNR=13
FORT Forrest 148.25 36 *e*PKPbc **PKPbc** 05 25 22.0 -0.3
FORT Forrest 148.25 36 *e*PKPbc **PKPbc** 05 25 22.0 -0.3
ARMA Armidale 151.25 356 *e*PKPdf **PKPdf** 05 25 24.4 +0.4
ARMA *e*PKPbc **PKiKP** 05 25 30.2 -0.2
STKA Stephens Creek 152.28 14 PKPbc **PKPbc** 05 25 30.1 -1.9
comp=Z,7.7nm,1.1s,baz=74,slow=7.8,SNR=3.1
VNDA Vanda 161.02 188 PKPab **PKPab** 05 26 18.0 -0.4
comp=Z,4.5nm,0.9s,baz=164,slow=2.9,SNR=14
VNDA Vanda 161.02 188 *e*PKIKP **PKPdf** 05 25 37.0 +1.8
VNDA *e* 05 26 18.0
VNDA Vanda 161.02 188 *e*PKIKP **PKPdf** 05 25 37.0 +1.8
VNDA Vanda 161.02 188 *e*PKPdf **PKPdf** 05 25 37.0 +1.8
VNDA *e*PKPab **PKPab** 05 26 18.0 -0.4

*ISCJB **05** 05:18:26.6±0.7, 11°.45N±0°.03×60°.03W±0°.05, h91km±8km, Error ellipse: s-maj=9.1km s-min=3.8km az=19.6*
*FUNV **05** 05:18:27.4, 11°.22N×59°.93W, h9km, MW2.9*
*TRN **05** 05:18:27.5, 11°.52N×59°.97W, h54km, MD3.9*
ISC 05 05:18:25.4±1.6, **11°.39N**±0°.04×**59°.87W**±0°.08, **h81**km±14km, **n36,** σ1°76/55, **North Atlantic Ocean**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
						ISC	h m s	ISC
TOSP	**Speyside**	**0.66**	**262**	*i* P		**Pn**	**05 18 40.9**	**+0.2**
TOSP						eS	**Sn**	**05 18 51.8**	**-0.2**
TRN	**Trinidad (W)**	**1.68**	**244**	*e*P		**Pn**	**05 18 55.7**	**+2.7**
BBSP	**Saint Philip**	**1.75**	**13**	*e*P		**Pn**	**05 18 55.4**	**+1.4**
GRGR	**Grenville**	**1.90**	**293**	*e*P		**Pn**	**05 18 57.0**	**+1.0**
GRGR						eS	**Sn**	**05 19 18.2**	**-1.0**
FCV	**Fort Charlotte**	**2.21**	**323**	*e*P		**Pn**	**05 19 01.4**	**+1.3**
FCV						eS	**Sn**	**05 19 25.0**	**-1.7**
SVB	**Belmont**	**2.31**	**324**	*e*P		**Pn**	**05 19 01.9**	**+0.5**
SVB						eS	**Sn**	**05 19 27.8**	**-1.2**
SSV	**Crater Summit**	**2.32**	**326**	*e*P		**Pn**	**05 19 02.7**	**+1.0**
GUIV	**Guiria**	**2.43**	**253**	*e*P		**Pn**	**05 19 05.9**	**+2.9**
GUIV						eS	**Sn**	**05 19 32.6**	**+0.7**
MCLT	**Moule a Chique**	**2.53**	**336**	*e*P		**Pn**	**05 19 07.4**	**+2.9**
MCLT						eS	**Sn**	**05 19 33.2**	**-1.2**
SLB	**Belfond**	**2.68**	**335**	*e*P		**Pn**	**05 19 08.3**	**+1.9**
SLB						eS	**Sn**	**05 19 37.7**	**-0.3**
SLW	**Petit Monier**	**2.81**	**338**	*e*P		**Pn**	**05 19 09.8**	**+1.5**
SLW						eS	**Sn**	**05 19 38.9**	**-2.4**
GUNV	**Guanoco**	**3.26**	**248**	*e*P		**Pn**	**05 19 16.9**	**+2.6**
GUNV						eS	**Sn**	**05 19 51.6**	**-0.4**
MVM	**Montagne Vaucl**	**3.30**	**342**	*e*P		**Pn**	**05 19 16.5**	**+1.6**
BIM	**Bigot**	**3.32**	**339**	*e*P		**Pn**	**05 19 16.1**	**+0.9**
BIM						eS	**Sn**	**05 19 52.1**	**-1.5**
TRMF	**Trois Ilets**	**3.33**	**340**	*e*P		**Pn**	**05 19 16.2**	**+0.9**
ZAM	**Aeronautique**	**3.36**	**340**	*e*P		**Pn**	**05 19 16.8**	**+1.2**
CRUV	**Carupano**	**3.38**	**258**	*e*P		**Pn**	**05 19 18.1**	**+2.2**
CRUV						eS	**Sn**	**05 19 54.9**	**-0.1**
FDF	**Fort de France**	**3.55**	**340**	*e*P		**Pn**	**05 19 19.5**	**+1.2**
FDF						eS	**Sn**	**05 19 57.2**	**-2.0**
PML	**Morne Lenard**	**3.61**	**339**	*e*P		**Pn**	**05 19 20.2**	**+1.1**
GBMF	**Grand Be**	**3.62**	**340**	*e*P		**Pn**	**05 19 20.6**	**+1.4**
BAMF	**Morne Balai**	**3.63**	**340**	*e*P		**Pn**	**05 19 20.8**	**+1.5**
CXM	**Morne La Croix**	**3.63**	**340**	*e*P		**Pn**	**05 19 20.9**	**+1.5**
CXM						eS	**Sn**	**05 20 00.6**	**-0.6**
PCM	**Pelee Case Pet**	**3.65**	**339**	*e*P		**Pn**	**05 19 19.9**	**+0.3**
PCM	**Pelee Case Pet**	**3.65**	**339**	*e*P		**Pn**	**05 19 21.2**	**+1.6**
RIOV	**Rio Grande**	**3.82**	**210**	*e*P		**Pn**	**05 19 22.9**	**+1.0**
RIOV						eS	**Sn**	**05 20 04.9**	**-0.7**
ORIV	**Oritupano**	**4.18**	**237**	*e*P		**Pn**	**05 19 28.1**	**+1.3**
ORIV						eS	**Sn**	**05 20 12.8**	**-1.6**
DWS	**Wesley**	**4.38**	**342**	*e*S		**Sn**	**05 20 17.4**	**-2.0**
PCRV	**Puerto La Cruz**	**4.84**	**256**	*e*P		**Pn**	**05 19 37.4**	**+1.6**
PCRV						eS	**Sn**	**05 20 28.8**	**-1.8**
LUEV	**Luepa**	**5.73**	**196**	*e*P		**Pn**	**05 19 49.2**	**+1.1**
LUEV						eS	**Sn**	**05 20 47.9**	**-4.7**
CUPV	**Cœpira**	**5.96**	**258**	*e*P		**Pn**	**05 19 52.6**	**+1.4**
CUPV						eS	**Sn**	**05 20 56.8**	**-1.5**
BIRV	**Birongo**	**6.35**	**262**	*e*P		**Pn**	**05 19 58.5**	**+2.1**
MERV	**Las Mercedes**	**6.67**	**252**	*e*P		**Pn**	**05 20 01.2**	**+0.4**
TURV	**Turiamo**	**7.88**	**264**	*e*P		**Pn**	**05 20 18.9**	**+1.6**
BAUV	**El Baul**	**8.40**	**254**	*e*P		**Pn**	**05 20 24.5**	**0.0**
BAUV						eS	**Sn**	**05 21 53.0**	**-4.7**
MAPV	**Macapo**	**8.58**	**260**	*e*P		**Pn**	**05 20 27.2**	**+0.3**
TEPV	**Terepaima**	**9.27**	**262**	*e*P		**Pn**	**05 20 37.0**	**+0.6**

*NEIC **05** 05:20:19.2±0.0, 28°.14N×112°.54W, h5km, MD4.0(MEX), After MEX.*
MEX 05 05:20:19.2±0.4, **28°.14N×112°.54W, h5**km, **MD4.0, Gulf of California**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
						ISC	h m s	ISC
SRIG	**Santa Rosalia**	**0.86**	**162**	*i* P		Pg	05 20 33.6	-2.1
SRIG						eS	Sg	05 20 45.7	-1.2
SRIG	**Santa Rosalia**	**0.86**	**162**	*i* P		Pg	05 20 33.6	-2.1
SRIG						eS	Sg	05 20 45.7	-1.2
GUYB	**Guaymas**	**1.49**	**99**	*i* P		Pn	05 20 43.4	-3.3
GUYB						eS	Sn	05 21 02.4	-4.1
HSIG		**1.65**	**58**	*i* P		Pn	05 20 44.8	-4.1
HSIG						eS	Sn	05 21 05.2	-5.2
HSIG		**1.65**	**58**	*i* P		Pn	05 20 44.8	-4.1
HSIG						eS	Sn	05 21 05.2	-5.2
SPIG	**San Pedro Mart**	**3.85**	**319**	*i* P		Pn	05 21 17.1	-2.4
SPIG						*i* S	Sn	05 22 02.4	-3.0
SPIG	**San Pedro Mart**	**3.85**	**319**	*i* P		Pn	05 21 17.1	-2.4
SPIG						*i* S	Sn	05 22 02.4	-3.0
TUC	**Tucson**	**4.42**	**20**	*e*Pn		Pn	05 21 25.7	-1.3
TUC						*e*Sn	Sn	05 22 19.4	+0.4
121A	**Cookes Peak, D** 2.5nm,0.3s	**6.00**	**42**	*e*Pn		Pn	05 21 49.3	+0.5
121A						*e*Sn	Sn	05 22 56.4	-1.6

*IDC **05** 05:44:06.1±0.6, 58°.91N×30°.83W, h0km, mb3.9/15, mb1 4.1/18, mb1mx4.0/45, mbtmp4.0/18, ML3.6/3, MS4.0/29, Ms1 4.0/29, ms1mx3.8/48, Error ellipse: s-maj=19.0km s-min=13.1km az=8.0*
*MOS **05** 05:44:06.9±1.5, 59°.22N×30°.83W, h10km, mb4.8/36, Error ellipse: s-maj=11.4km s-min=9.5km az=89.8*
*ISCJB **05** 05:44:07.5±0.2, 59°.17N×0°.03×30°.73W±0°.06, h17km, mb4.5/68, MS3.9/28, Error ellipse: s-maj=5.2km s-min=3.3km az=44.4*
*GCMT **05** 05:44:07.8±0.3, 59°.27N×30°.58W, h14km±1km, MW4.9/84, Moment Tensor Solution. s15,c15; s84,c115; Duration: 0 Moment tensor: Scale 10^16 Nm; Mrr-2.14±.16; Mθθ 0.55±.10; Mφφ 1.59±.11; Mrθ 1.03±.25; Mrφ 0.78±.06; Mθφ-0.74±.23; Best double couple: Mo2.35800×10^16 NP1:φs5.00000°, δ52.00000°, λ-121.00000°. NP2: φs229.00000°, δ47.00000°, λ-57.00000°. Principal axes: T 2.0140, Plg3.0000°, Azm116.0000°; N 0.6910, Plg24.0000°, Azm25.0000°; P -2.7030, Plg66.0000°, Azm213.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*CSEM **05** 05:44:07.5±0.1, 59°.06N×30°.74W, h10km, mb4.7/37 Error ellipse: s-maj=6.2km s-min=5.1km az=148.0*
*NEIC **05** 05:44:07.8±0.2, 58°.96N×30°.79W, h10km, mb4.7/22, Error ellipse: s-maj=7.1km s-min=5.0km az=5.0*
*REY **05** 05:44:08.4, 58°.53N×28°.10W, h10km*
ISC 05 05:44:09.0±0.4, **59°.04N**±0°.06×**30°.71W**±0°.05, **h17**km, **n228,**

σ1§50/248, mb4.6/68, MS4.0/28, 8C-7D, Reykjanes Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	ISC	Res
IRNE	**Reykjanes**	**6.14**	**35**	P	**Pn**	**05 45 38.6**		**-0.1**
	baz=24							
IRNE	**Reykjanes**	**6.14**	**35**	P	**Pn**	**05 45 38.6**		**-0.1**
	baz=24							
IRNE	**Reykjanes**	**6.14**	**35**	P	**Pn**	**05 45 38.7**		**-0.1**
IGRV	**Grindav??k**	**6.25**	**36**	P	**Pn**	**05 45 40.0**		**-0.2**
	baz=25							
IGRV				S	**Sn**	**05 46 50.9**		**-0.2**
	baz=25							
IGRV	**Grindav??k**	**6.25**	**36**	P	**Pn**	**05 45 40.0**		**-0.2**
	baz=25							
IGRV				S	**Sn**	**05 46 50.9**		**-0.2**
	baz=25							
IGRV	**Grindav??k**	**6.25**	**36**	P	**Pn**	**05 45 40.0**		**-0.2**
IGRV				S	**Sn**	**05 46 50.9**		**-0.2**
INYL	**Nylenda**	**6.25**	**34**	P	**Pn**	**05 45 40.1**		**-0.1**
	baz=23							
INYL				S	**Sn**	**05 46 51.8**		**+0.7**
	baz=23							
INYL	**Nylenda**	**6.25**	**34**	P	**Pn**	**05 45 40.1**		**-0.1**
	baz=23							
INYL				S	**Sn**	**05 46 51.8**		**+0.7**
	baz=23							
INYL	**Nylenda**	**6.25**	**34**	P	**Pn**	**05 45 40.1**		**-0.1**
INYL				S	**Sn**	**05 46 51.8**		**+0.7**
IVOG	**Vogar**	**6.35**	**35**	P	**Pn**	**05 45 40.9**		**-0.7**
	baz=24							
IVOG				S	**Sn**	**05 46 54.1**		**+0.5**
	baz=24							
IVOG	**Vogar**	**6.35**	**35**	P	**Pn**	**05 45 40.9**		**-0.7**
	baz=24							
IVOG				S	**Sn**	**05 46 54.1**		**+0.5**
	baz=24							
IVOG	**Vogar**	**6.35**	**35**	P	**Pn**	**05 45 40.9**		**-0.7**
IVOG				S	**Sn**	**05 46 54.1**		**+0.5**
IVOS	**Vogsosar**	**6.48**	**38**	P	**Pn**	**05 45 40.0**		**-3.4**
	baz=28							
IVOS	**Vogsosar**	**6.48**	**38**	P	**Pn**	**05 45 40.0**		**-3.4**
	baz=28							
IKAS	**Kald??rsel**	**6.55**	**36**	P	**Pn**	**05 45 41.9**		**-2.5**
	baz=26							
IKAS				S	**Sn**	**05 46 58.7**		**+0.2**
	baz=26							
IKAS	**Kald??rsel**	**6.55**	**36**	P	**Pn**	**05 45 41.9**		**-2.5**
	baz=26							
IKAS				S	**Sn**	**05 46 58.7**		**+0.2**
	baz=26							
IKAS	**Kald??rsel**	**6.55**	**36**	P	**Pn**	**05 45 41.9**		**-2.5**
IKAS				S	**Sn**	**05 46 58.7**		**+0.2**
ISAN	**Sandskeio**	**6.66**	**37**	P	**Pn**	**05 45 43.1**		**-2.8**
	baz=27							
ISAN				S	**Sn**	**05 47 00.0**		**-1.3**
	baz=27							
ISAN	**Sandskeio**	**6.66**	**37**	P	**Pn**	**05 45 43.1**		**-2.8**
	baz=27							
ISAN				S	**Sn**	**05 47 00.0**		**-1.3**
	baz=27							
ISAN	**Sandskeio**	**6.66**	**37**	P	**Pn**	**05 45 43.1**		**-2.8**
ISAN				S	**Sn**	**05 47 00.0**		**-1.3**
IBJA	**Bjarnastaoir**	**6.67**	**38**	S	**Sn**	**05 46 59.5**		**-2.0**
	baz=28							
IBJA				P	**Pn**	**05 45 42.5**		**-3.5**
	baz=28							
IBJA	**Bjarnastaoir**	**6.67**	**38**	S	**Sn**	**05 46 59.5**		**-2.0**
	baz=28							
IBJA				P	**Pn**	**05 45 42.5**		**-3.5**
	baz=28							
IBJA	**Bjarnastaoir**	**6.67**	**38**	S	**Sn**	**05 46 59.5**		**-2.0**
IKUD	**Kuludalsa**	**6.76**	**35**	P	**Pn**	**05 45 47.2**		**0.0**
	baz=25							
IKUD				S	**Sn**	**05 47 05.2**		**+1.5**
	baz=25							
IKUD	**Kuludalsa**	**6.76**	**35**	P	**Pn**	**05 45 47.2**		**0.0**
	baz=25							
IKUD				S	**Sn**	**05 47 05.2**		**+1.5**
	baz=25							
IKUD	**Kuludalsa**	**6.76**	**35**	P	**Pn**	**05 45 47.2**		**0.0**
IKUD				S	**Sn**	**05 47 05.2**		**+1.5**
ISOL	**Solvholt**	**6.77**	**39**	P	**Pn**	**05 45 45.1**		**-2.3**
	baz=30							
ISOL				S	**Sn**	**05 47 01.7**		**-2.3**
	baz=30							
ISOL	**Solvholt**	**6.77**	**39**	P	**Pn**	**05 45 45.1**		**-2.3**
	baz=30							
ISOL				S	**Sn**	**05 47 01.7**		**-2.3**
	baz=30							
ISOL	**Solvholt**	**6.77**	**39**	P	**Pn**	**05 45 45.1**		**-2.3**
IASM	**Asmuli**	**6.82**	**41**	S	**Sn**	**05 47 02.9**		**-2.3**
	baz=31							
IASM	**Asmuli**	**6.82**	**41**	S	**Sn**	**05 47 02.9**		**-2.3**
	baz=31							
IKRO	**Krokur**	**6.83**	**38**	P	**Pn**	**05 45 46.1**		**-2.2**
	baz=28							
IKRO				S	**Sn**	**05 47 04.4**		**-1.1**
	baz=28							
IKRO	**Krokur**	**6.83**	**38**	P	**Pn**	**05 45 46.1**		**-2.2**
	baz=28							
IKRO				S	**Sn**	**05 47 04.4**		**-1.1**
	baz=28							
IKRO	**Krokur**	**6.83**	**38**	P	**Pn**	**05 45 46.1**		**-2.2**
IKRO				S	**Sn**	**05 47 04.4**		**-1.1**
IHEI	**Heioarbar**	**6.87**	**37**	P	**Pn**	**05 45 46.3**		**-2.4**
	baz=27							
IHEI				S	**Sn**	**05 47 06.4**		**0.0**
	baz=27							
IHEI	**Heioarbar**	**6.87**	**37**	P	**Pn**	**05 45 46.3**		**-2.4**
	baz=27							
IHEI				S	**Sn**	**05 47 06.4**		**0.0**
	baz=27							
IHEI	**Heioarbar**	**6.87**	**37**	P	**Pn**	**05 45 46.3**		**-2.4**
IHEI				S	**Sn**	**05 47 06.4**		**0.0**
ISAU	**Saurbar**	**6.99**	**40**	P	**Pn**	**05 45 46.9**		**-3.5**
	baz=31							
ISAU				S	**Sn**	**05 47 06.6**		**-2.8**
	baz=31							
ISAU	**Saurbar**	**6.99**	**40**	P	**Pn**	**05 45 46.9**		**-3.5**
	baz=31							
ISAU				S	**Sn**	**05 47 06.6**		**-2.8**
	baz=31							
BORG	**Borgarnes**	**7.24**	**34**	Pn	**Pn**	**05 45 54.6**		**+0.8**
	6.4nm,0.3s,baz=196,slow=9.5,SNR=22							
BORG				Sn	**Sn**	**05 47 15.2**		**-0.2**
	3.9nm,0.3s,baz=33,slow=19,SNR=15							
BORG				LR	LR	05 47 55.7		
	comp=Z,870nm,19.6s,baz=225,slow=31							
BORG	**Borgarnes**	**7.24**	**34**	*e*P	**Pn**	**05 45 55.3**		**+1.5**
BORG				*e*		05 47 16.9		
BORG	**Borgarnes**	**7.24**	**34**	*e*P	**Pn**	**05 45 55.3**		**+1.5**
BORG				*e*S	**Sn**	**05 47 16.9**		**+1.5**
BORG	**Borgarnes**	**7.24**	**34**	*e*Pn	**Pn**	**05 45 55.3**		**+1.5**
BORG				*e*Sn	**Sn**	**05 47 16.9**		**+1.5**
SFJD	**Kangerlussuaq**	**12.00**	**320**	LR	LR	05 50 53.7		
	comp=Z,2µm,18.5s,baz=122,slow=34							
SUMG	**Summit**	**13.94**	**350**	*i* P	**Pn**	**05 47 25.4**		**-0.3**
	16nm,1.0s							
SUMG	**Summit**	**13.94**	**350**	*i* P	**Pn**	**05 47 25.4**		**-0.3**
SUMG				pmax	pmax			
	comp=Z,16nm,1.0s							
SUMG	**Summit**	**13.94**	**350**	*e*Pn	**Pn**	**05 47 25.5**		**-0.3**
SUMG	**Summit**	**13.94**	**350**	*e*Pn	**Pn**	**05 47 25.5**		**-0.3**
JMIC	**Jan Mayen**	**15.08**	**28**	LR	LR	05 51 55.3		
	comp=Z,407nm,18.5s,baz=242,slow=31							
EKA	**Eskdalemuir Ar**	**15.33**	**92**	Pn	**Pn**	**05 47 44.6**		**+0.3**
	baz=196,slow=26,SNR=3.4							
FRB	**Frobisher Bay**	**18.51**	**301**	LR	LR	05 54 36.8		
	comp=Z,1µm,19.3s,baz=74,slow=34							
SCHQ	**Schefferville**	**19.98**	**274**	P	**P**	**05 48 38.6**		**-1.6**
	comp=Z,0.5nm,0.3s,baz=4.5,slow=1.4,SNR=5.1							
SCHQ				LR	LR	05 55 07.3		
	comp=Z,567nm,18.9s,baz=83,slow=33							
SCHQ	**Schefferville**	**19.98**	**274**	*e*P	**P**	**05 48 38.6**		**-1.6**
	comp=Z,18nm,1.1s							
FLN	**La Foliniere**	**20.38**	**107**	*e*P	**P**	**05 48 45.6**		**+1.0**
FLN				pmax	pmax			
	comp=Z,98nm,1.6s							
FLN	**La Foliniere**	**20.38**	**107**	*e*P	**P**	**05 48 45.6**		**+1.0**
	comp=Z,98nm,1.6s							
GRR	**Gorron**	**20.45**	**108**	*e*P	**P**	**05 48 45.1**		**-0.2**
GRR				pmax	pmax			
	comp=Z,56nm,1.4s							
GRR	**Gorron**	**20.45**	**108**	*e*P	**P**	**05 48 45.1**		**-0.2**
	comp=Z,56nm,1.4s							
LDF	**La Druitiere**	**20.67**	**107**	*e*P	**P**	**05 48 47.7**		**0.0**
LDF				pmax	pmax			
	comp=Z,149nm,2.1s							
LDF	**La Druitiere**	**20.67**	**107**	*e*P	**P**	**05 48 47.7**		**0.0**
	comp=Z,149nm,2.1s							
NB200	**NORSAR Array S**	**20.78**	**66**	*e*P	Pn	05 48 50.3		-1.0
NB200	**NORSAR Array S**	**20.78**	**66**	*e*P	Pn	05 48 50.4		-0.9
NOA	**NORSAR Array B**	**20.78**	**66**	P	Pn	05 48 50.4		-0.9
	comp=Z,1.2nm,0.8s,baz=285,slow=9.7,SNR=3.4							
NOA				LR	LR	05 56 02.3		
	comp=Z,271nm,19.3s,baz=280,slow=34							
BAIF	**Baives**	**21.92**	**99**	*e*P	**P**	**05 49 04.8**		**+3.7**
BAIF				pmax	pmax			
	comp=Z,39nm,1.2s							
BCLA	**Clavier**	**22.26**	**97**	P	**P**	**05 49 05.3**		**+0.5**
	comp=Z,21nm,1.9s							
MEM	**Membach**	**22.51**	**96**	AP	pP	05 49 10.3		-2.0
TCF	**Toulx Ste Croi**	**23.41**	**108**	*e*P	**P**	**05 49 19.7**		**+2.9**
TCF				pmax	pmax			
	comp=Z,33nm,1.6s							
SSF	**Saint Saulge**	**23.51**	**105**	*e*P	**P**	**05 49 21.4**		**+3.6**
SSF				pmax	pmax			
	comp=Z,44nm,1.6s							
BGF	**Bois d'Agland**	**23.53**	**107**	*e*P	**P**	**05 49 19.0**		**+1.0**
BGF				pmax	pmax			
	comp=Z,27nm,1.2s							
BGF	**Bois d'Agland**	**23.53**	**107**	*e*P	**P**	**05 49 19.0**		**+1.0**
	comp=Z,27nm,1.2s							
LOR	**Lormes**	**23.55**	**105**	*e*P	**P**	**05 49 18.1**		**0.0**
LOR				pmax	pmax			
	comp=Z,14nm,1.1s							
LOR	**Lormes**	**23.55**	**105**	*e*P	**P**	**05 49 18.1**		**0.0**
	comp=Z,14nm,1.1s							
AVF	**Avril sur Loir**	**23.62**	**106**	*e*P	**P**	**05 49 18.4**		**-0.4**
AVF				pmax	pmax			
	comp=Z,14nm,1.0s							
AVF	**Avril sur Loir**	**23.62**	**106**	*e*P	**P**	**05 49 18.4**		**-0.4**
	comp=Z,14nm,1.0s							
LFF	**La Frestale**	**23.67**	**113**	*e*P	**P**	**05 49 22.3**		**+2.9**
LFF				pmax	pmax			
	comp=Z,64nm,1.8s							
CAF	**Calviac**	**24.32**	**111**	*e*P	**P**	**05 49 29.4**		**+3.9**
CAF				pmax	pmax			
	comp=Z,12nm,1.0s							
ETSF	**Etsaut**	**24.62**	**118**	*e*P	**P**	**05 49 31.1**		**+2.8**
ETSF				pmax	pmax			
	comp=Z,16nm,1.4s							
CABF	**La Chapelle**	**25.11**	**103**	*e*P	**P**	**05 49 36.2**		**+3.5**
CABF				pmax	pmax			
	comp=Z,39nm,1.6s							
ARA0	**ARCESS Array S**	**25.52**	**43**	*e*P	**P**	**05 49 36.2**		**0.0**
ARA0	**ARCESS Array S**	**25.52**	**43**	*e*P	**P**	**05 49 36.1**		**0.0**
ARCES	**ARCESS Array B**	**25.52**	**43**	P	**P**	**05 49 35.8**		**-0.3**
	comp=Z,3.9nm,0.7s,baz=270,slow=9.2,SNR=12							
ARCES				LR	LR	05 57 49.3		
	comp=Z,96nm,19.1s,baz=258,slow=32							
ESDC	**Sonseca Array**	**25.76**	**127**	P	**P**	**05 49 37.5**		**-1.1**
	comp=Z,1.8nm,0.8s,baz=331,slow=9.4,SNR=5.7							
ESDC				LR	LR	05 57 49.4		
	comp=Z,135nm,19.9s,baz=310,slow=32							
ES19	**SONSECA Array**	**25.76**	**127**	*e*P	**P**	**05 49 39.8**		**+1.2**
ES19	**SONSECA Array**	**25.76**	**127**	*e*P	**P**	**05 49 39.8**		**+1.2**
ORIF	**Oris-en-Rattie**	**26.19**	**106**	*e*P	**P**	**05 49 46.0**		**+3.5**
ORIF				pmax	pmax			
	comp=Z,21nm,1.4s							
DAVOX	**Davos/Dischmat**	**26.92**	**99**	LR	LR	06 00 01.2		
	comp=Z,425nm,19.8s,baz=290,slow=35							
FIA0	**FINESS Array S**	**27.53**	**60**	*e*P	**P**	**05 49 56.1**		**+1.8**
FIA0	**FINESS Array S**	**27.53**	**60**	*e*P	**P**	**05 49 56.1**		**+1.8**
FIA0	**FINESS Array S**	**27.53**	**60**	*e*P	**P**	**05 49 56.1**		**+1.8**
FINES	**FINESS Array B**	**27.53**	**60**	P	**P**	**05 49 56.1**		**+1.8**
	comp=Z,3.4nm,0.7s,baz=302,slow=11,SNR=14							
FINES				LR	LR	06 00 18.8		
	comp=Z,232nm,18.1s,baz=269,slow=35							
GERES	**GERESS Array B**	**27.55**	**92**	LR	LR	06 01 06.3		
	comp=Z,499nm,18.1s,baz=294,slow=37							
RES	**Resolute Bay**	**27.75**	**329**	LR	LR	06 00 26.5		
	comp=Z,218nm,18.1s,baz=66,slow=35							
VRAC	**Vranov**	**28.76**	**89**	LR	LR	06 02 06.6		
	comp=Z,376nm,18.3s,baz=302,slow=38							
VSU	**Vasula**	**29.02**	**66**‖	*e*P	**P**	**05 50 08.3**		**+0.7**
VSU				pmax	pmax			
	comp=Z,19nm,0.8s							
VSU	**Vasula**	**29.02**	**66**	*e*P	**P**	**05 50 08.3**		**+0.7**
	comp=Z,19nm,0.8s							
KLMR	**Klimovskoe**	**33.70**	**56**	*e*P	**P**	**05 50 47.1**		**-1.5**
KLMR				pmax	pmax			
	comp=Z,33nm,1.4s							
KLMR	**Klimovskoe**	**33.70**	**56**	*e*P	**P**	**05 50 47.1**		**-1.5**
	comp=Z,33nm,1.4s							
KIEV	**Kiev**	**34.38**	**77**‖	*e*P	**P**	**05 50 54.1**		**-0.5**
KIEV				pmax	pmax			
	comp=Z,5.0nm,1.3s							
KIEV	**Kiev**	**34.38**	**77**	*e*P	**P**	**05 50 54.1**		**-0.5**
	comp=Z,5.0nm,1.3s							
KIEV	**Kiev**	**34.38**	**77**	*e*P	**P**	**05 50 54.6**		**0.0**
	comp=Z,7.0nm,1.2s							
AKASG	**Malin Array Be**	**34.38**	**77**	P	**P**	**05 50 54.5**		**-0.1**
	comp=Z,0.7nm,0.5s,baz=306,slow=8.3,SNR=7.0							
AKASG				LR	LR	06 04 54.6		
	comp=Z,128nm,18.0s,baz=300,slow=36							
AKBB	**Malin Array Si**	**34.38**	**77**	*e*P	**P**	**05 50 54.4**		**-0.3**
AKBB				pmax	pmax			
	comp=Z,7.0nm,1.2s							
AKBB	**Malin Array Si**	**34.38**	**77**	*e*P	**P**	**05 50 54.4**		**-0.3**
	comp=Z,7.0nm,1.2s							
AKBB	**Malin Array Si**	**34.38**	**77**	*e*P	**P**	**05 50 54.4**		**-0.3**
	comp=Z,7.4nm,1.2s							
KEST	**Kesra**	**34.95**	**114**	LR	LR	06 04 51.6		
	comp=Z,422nm,18.4s,baz=255,slow=36							
OBN	**Obninsk**	**35.38**	**66**‖	*e*P	**P**	**05 51 05.0**		**+1.8**
OBN				pmax	pmax			
	comp=Z,9.0nm,0.5s							
OBN				MLR	MLR			
	comp=Z,209nm,16.0s							
OBN	**Obninsk**	**35.38**	**66**	*e*P	**P**	**05 51 05.0**		**+1.8**
	comp=Z,209nm,16.0s							
ULM	**Lac du Bonnet**	**37.28**	**286**	P	**P**	**05 51 20.5**		**+0.9**
	comp=Z,3.5nm,0.7s,baz=51,slow=11,SNR=3.7							
ULM				LR	LR	06 05 23.4		
	comp=Z,369nm,18.1s,baz=73,slow=34							
YKA	**Yellowknife Ar**	**38.41**	**312**	P	**P**	**05 51 28.2**		**-0.7**
	comp=Z,2.3nm,0.7s,baz=54,slow=9.2,SNR=5.6							
YKA				LR	LR	06 06 30.6		
	comp=Z,32nm,18.2s,baz=0.0,slow=35							
YKB5	**Yellowknife Ar**	**38.41**	**312**	*e*P	**P**	**05 51 29.3**		**+0.4**
YKB5	**Yellowknife Ar**	**38.41**	**312**	*e*P	**P**	**05 51 29.3**		**+0.4**
EDM	**Edmonton**	**43.63**	**300**	*e*P	**P**	**05 52 11.7**		**-0.4**
EDM				pmax	pmax			
	comp=Z,13nm,0.9s							
EDM	**Edmonton**	**43.63**	**300**	*e*P	**P**	**05 52 11.6**		**-0.4**
	comp=Z,13nm,0.9s							
EDM	**Edmonton**	**43.63**	**300**	*e*P	**P**	**05 52 11.7**		**-0.4**
	comp=Z,13nm,0.9s							
PARMO	**Parma**	**43.72**	**266**	*e*P	**P**	**05 52 12.5**		**-0.4**
	comp=Z,66nm,0.5s							
PARMO	**Parma**	**43.72**	**266**	*e*P	**P**	**05 52 12.5**		**-0.4**
	comp=Z,66nm,0.5s							
BR101	**Keskin Array S**	**44.15**	**86**	*e*P	**P**	**05 52 17.5**		**+1.0**
BR101	**Keskin Array S**	**44.15**	**86**	*e*P	**P**	**05 52 17.6**		**+1.0**
BRTR	**Keskin Array B**	**44.15**	**86**	P	**P**	**05 52 17.6**		**+1.0**
	comp=Z,0.9nm,0.7s,baz=329,slow=4.6,SNR=3.9							
BRTR				LR	LR	06 11 37.6		
	comp=Z,152nm,19.7s,baz=298,slow=37							
ARU	**Arti**	**44.33**	**53***d*	*i*P	**P**	**05 52 18.0**		**+0.5**
ARU						05 54 01.2		
ARU				S	**S**	**05 58 54.7**		**+4.2**
ARU				SS	**ScS**	**06 02 13.2**		**-1.1**
ARU				pmax	pmax			
	comp=Z,18nm,1.7s							
ARU	**Arti**	**44.33**	**53**	*i* P	**P**	**05 52 18.0**		**+0.5**
	comp=Z,18nm,1.7s							
ARU	**Arti**	**44.33**	**53**	*e*P	**P**	**05 52 18.2**		**+0.7**
	comp=Z,20nm,1.4s							
TAM	**Tamanrasset**	**44.39**	**129**	*e*P	**P**	**05 52 19.8**		**+1.2**
TAM				pmax	pmax			
	comp=Z,6.0nm,1.2s							
TAM	**Tamanrasset**	**44.39**	**129**	*e*P	**P**	**05 52 19.8**		**+1.2**
	comp=Z,6.0nm,1.2s							
TAM	**Tamanrasset**	**44.39**	**129**	*e*P	**P**	**05 52 19.8**		**+1.2**
	comp=Z,6.1nm,1.2s							
NRIK	**Noril'sk**	**44.49**	**26**	LR	LR	06 11 29.4		
	comp=Z,53nm,19.8s,baz=7.5,slow=37							
KIV	**Kislovodsk**	**45.67**	**75**	*e*P	**P**	**05 52 27.4**		**-1.1**
KIV				pmax	pmax			
	comp=Z,7.0nm,0.9s							
KIV				MLR	MLR			
	comp=Z,130nm,16.0s							
KIV	**Kislovodsk**	**45.67**	**75**	*e*P	**P**	**05 52 27.4**		**-1.1**
	comp=Z,130nm,16.0s							
DAWY	**Dawson**	**45.90**	**325**	*e*P	**P**	**05 52 31.2**		**+1.2**
	comp=Z,18nm,1.4s							
DAWY	**Dawson**	**45.90**	**325**	*e*P	**P**	**05 52 31.2**		**+1.2**
	comp=Z,18nm,1.4s							
KBZ	**Khabaz**	**45.94**	**75**	P	**P**	**05 52 32.5**		**+2.1**
	comp=Z,2.6nm,0.9s,baz=339,slow=12,SNR=3.4							
KBZ				LR	LR	06 12 30.9		
	comp=Z,157nm,18.4s,baz=336,slow=37							
NEY	**Neytrino**	**46.20**	**76**↑	*e*P	**P**	**05 52 32.5**		**-0.3**
NEY				pmax	pmax			
	comp=Z,1.0nm,0.8s							
NEY	**Neytrino**	**46.20**	**76**	*e*P	**P**	**05 52 32.5**		**-0.3**
	comp=Z,1.0nm,0.8s							
IL1	**Eielson Array**	**47.50**	**329**	*e*P	**P**	**05 52 44.3**		**+1.8**
IL1	**Eielson Array**	**47.50**	**329**	*e*P	**P**	**05 52 44.3**		**+1.8**
ILAR	**Eielson Array**	**47.50**	**329**	P	**P**	**05 52 43.4**		**+0.9**
	comp=Z,1.7nm,1.1s,baz=44,slow=5.4,SNR=4.3							
ILAR				LR	LR	06 12 00.6		
	comp=Z,128nm,22.0s,baz=76,slow=35							
ILB	**Eielson Array**	**47.50**	**329**	*e*P	**P**	**05 52 43.4**		**+0.9**
ILB	**Eielson Array**	**47.50**	**329**	*e*P	**P**	**05 52 43.4**		**+0.9**
BOZ	**Bozeman (W)**	**48.18**	**292**	*e*P	**P**	**05 52 47.8**		**-0.4**
BOZ				pmax	pmax			
	comp=Z,13nm,1.8s							
BOZ	**Bozeman (W)**	**48.18**	**292**	*e*P	**P**	**05 52 47.8**		**-0.4**
	comp=Z,13nm,1.8s							
BOZ	**Bozeman (W)**	**48.18**	**292**	*e*P	**P**	**05 52 47.8**		**-0.4**
	comp=Z,13nm,1.8s							
BW06	**Boulder Array**	**49.25**	**288**	*e*P	**P**	**05 52 54.9**		**-1.6**
BW06	**Boulder Array**	**49.25**	**288**	*e*P	**P**	**05 52 54.9**		**-1.6**
PD31	**Pinedale Array**	**49.25**	**288**	*e*P	**P**	**05 52 57.8**		**+1.2**
PD31	**Pinedale Array**	**49.25**	**288**	*e*P	**P**	**05 52 57.8**		**+1.2**
PDAR	**Pinedale Array**	**49.25**	**288**	P	**P**	**05 52 55.0**		**-1.5**
	comp=Z,1.2nm,0.9s,baz=54,slow=10.0,SNR=7.0							
PDAR				LR	LR	06 12 40.2		
	comp=Z,343nm,19.1s,baz=28,slow=35							
GNI	**Garni**	**49.51**	**77**	*e*P	**P**	**05 53 00.9**		**+2.4**
GNI				pmax	pmax			
	comp=Z,38nm,0.9s							
GNI	**Garni**	**49.51**	**77**	*e*P	**P**	**05 53 00.9**		**+2.4**
	comp=Z,38nm,0.9s							
B08A	**Colville Reser**	**49.76**	**299**	*e*P	**P**	**05 52 59.5**		**-0.6**
	comp=Z,3.9nm,1.1s							
B08A	**Colville Reser**	**49.76**	**299**	*e*P	**P**	**05 52 59.5**		**-0.6**
	comp=Z,3.9nm,1.1s							
ABKAR	**Akbulak array**	**50.00**	**59**	*e*P	**P**	**05 53 02.7**		**+0.8**
	comp=Z,38nm,0.9s							
ABKAR	**Akbulak array**	**50.00**	**59**	*e*P	**P**	**05 53 02.7**		**+0.8**
	comp=Z,38nm,0.9s							
HWUT	**Hardware Ranch**	**51.11**	**288**	*e*P	**P**	**05 53 10.2**		**-0.3**
	comp=Z,3.6nm,1.1s							
HWUT	**Hardware Ranch**	**51.11**	**288**	*e*P	**P**	**05 53 10.2**		**-0.3**
	comp=Z,3.6nm,1.1s							
BMO	**Blue Mountains**	**51.43**	**295**	*e*P	**P**	**05 53 12.6**		**-0.2**
BMO				pmax	pmax			
	comp=Z,12nm,1.6s							
BMO	**Blue Mountains**	**51.43**	**295**	*e*P	**P**	**05 53 12.6**		**-0.2**
	comp=Z,12nm,1.6s							
BMO	**Blue Mountains**	**51.43**	**295**	*e*P	**P**	**05 53 12.6**		**-0.2**
	comp=Z,12nm,1.6s							
BRVK	**Borovoye**	**51.47**	**49**‖	*e*P	**P**	**05 53 13.3**		**+0.4**
BRVK				pmax	pmax			
	comp=Z,21nm,1.7s							
BRVK	**Borovoye**	**51.47**	**49**	P	**P**	**05 53 13.3**		**+0.4**
	comp=Z,21nm,1.7s							
SPUT	**South Promonto**	**51.77**	**288**	*e*P	**P**	**05 53 15.2**		**-0.3**
	comp=Z,18nm,1.9s							
SPUT	**South Promonto**	**51.77**	**288**	*e*P	**P**	**05 53 15.2**		**-0.3**
	comp=Z,18nm,1.9s							
TOA1	**Torodi Ar. Sit**	**51.77**	**138**	*e*P	**P**	**05 53 14.4**		**-1.1**
	comp=Z,11nm,1.5s							
TOA1	**Torodi Ar. Sit**	**51.77**	**138**	*e*P	**P**	**05 53 14.4**		**-1.1**
	comp=Z,11nm,1.5s							
TOA0	**Torodi Ar. Sit**	**51.78**	**138**	*e*P	**P**	**05 53 14.4**		**-1.2**
	comp=Z,8.3nm,1.4s							
TOA0	**Torodi Ar. Sit**	**51.78**	**138**	*e*P	**P**	**05 53 14.4**		**-1.2**
	comp=Z,8.3nm,1.4s							
TORD	**Torodi Ar. Bea**	**51.78**	**138**	P	**P**	**05 53 14.4**		**-1.2**
	comp=Z,1.4nm,0.5s,baz=338,slow=7.7,SNR=12							
NVS	**Novosibirsk**	**54.77**	**40**	*e*P	**P**	**05 53 38.3**		**+1.2**
NVS				pmax	pmax			
	comp=Z,19nm,1.6s							
NVS	**Novosibirsk**	**54.77**	**40**	*e*P	**P**	**05 53 38.3**		**+1.2**
	comp=Z,19nm,1.6s							
DBIC	**Dimbo**	**55.88**	**148**	P	**P**	**05 53 43.9**		**-1.6**
	comp=Z,2.5nm,0.8s,baz=344,slow=4.4,SNR=4.0							
DBIC	**Dimbokro**	**55.88**	**148**	*e*P	**P**	**05 53 43.9**		**-1.6**
DBIC				pmax	pmax			
	comp=Z,27nm,1.5s							
**

WMQ				sP	sP	05 55 00.3	+0.9		
WMQ				pmax	pmax				
	comp=Z,3.0nm,0.8s								
WMQ				pmax	pmax				
	comp=Z,100nm,5.5s								
WMQ				LR	LR				
	comp=N,39nm,21.5s								
WMQ				LR	LR				
	comp=E,41nm,20.3s								
WMQ				LR	LR				
	comp=Z,27nm,22.9s								
SONA1	**Songino Array**	**67.82**	**30**	*eP*	**P**	**05 55 05.2**	**-0.6**		
SONA1	**Songino Array**	**67.82**	**30**	*eP*	**P**	**05 55 05.2**	**-0.6**		
SONA0	**Songino Array**	**67.83**	**30**	*eP*	**P**	**05 55 05.4**	**-0.4**		
	comp=Z,9.4nm,1.4s								
SONA0	**Songino Array**	**67.83**	**30**	*eP*	**P**	**05 55 05.4**	**-0.4**		
	comp=Z,9.4nm,1.4s								
SONM	**Songino Array**	**67.83**	**30**	P	**P**	**05 55 05.4**	**-0.4**		
	comp=Z,1.7nm,1.1s,baz=326,slow=4.9,SNR=8.6								
SONM				LR	LR	06 26 44.7			
	comp=Z,69nm,19.0s,baz=13,slow=38								
ULN	**Ulaanbaatar**	**67.97**	**29**	⇑*i*P	**P**	**05 55 07.4**	**+0.7**		
ULN				pmax	pmax				
	comp=Z,10.0nm,1.2s								
ULN	**Ulaanbaatar**	**67.97**	**29**	*i* P	**P**	**05 55 07.4**	**+0.7**		
	comp=Z,10.0nm,1.2s								
ULN	**Ulaanbaatar**	**67.97**	**29**	*eP*	**P**	**05 55 07.5**	**+0.8**		
	comp=Z,21nm,1.6s								
PETK	**Petropavlovsk-**	**68.00**	**355**	LR	LR	06 26 32.3			
	comp=Z,76nm,18.5s,baz=16,slow=37								
GTA	**Gaotai**	**73.68**	**38**	⇑P	**P**	**05 55 41.4**	**-0.1**		
GTA				pP	pP	05 55 46.0	-1.1		
GTA				sP	sP	05 55 48.5	-0.7		
GTA				pmax	pmax				
	comp=Z,7.0nm,1.5s								
CN2	**Changchun**	**75.64**	**18**	*eP*	**P**	**05 55 51.0**	**-1.6**		
CN2				pmax	pmax				
	comp=Z,10.0nm,0.7s								
HHC	**Hu-ho-hao-te**	**75.67**	**29**	*eP*	**P**	**05 55 51.5**	**-1.5**		
HHC				S	**S**	**06 05 29.6**	**-3.8**		
HHC				pmax	pmax				
	comp=Z,30nm,1.2s								
HHC				pmax	pmax				
	comp=Z,67nm,5.6s								
HHC				LR	LR				
	comp=N,120nm,24.7s								
HHC				LR	LR				
	comp=E,150nm,24.7s								
HHC				LR	LR				
	comp=Z,6μm,25.9s								
BJI	**Beijing**	**77.52**	**25**	P	**P**	**05 56 01.4**	**-1.9**		
BJI				pmax	pmax				
	comp=Z,9.0nm,0.6s								
LZH	**Lanzhou**	**77.99**	**36**	*eP*	**P**	**05 56 08.2**	**+2.0**		
LZH				pP	pP	05 56 12.4	+0.6		
LZH				sP	PcP	05 56 15.2	-0.7		
LZH				pmax	pmax				
	comp=Z,17nm,1.1s								
MAJO	**Matsushiro**	**84.33**	**9**⇑	*eP*	**P**	**05 56 39.1**	**-0.6**		
MAJO	**Matsushiro**	**84.33**	**9**	*eP*	**P**	**05 56 39.1**	**-0.6**		
KMI	**Kunming**	**87.76**	**41**	P	**P**	**05 56 56.9**	**-0.2**		
KMI				pmax	pmax				
	comp=Z,5.0nm,0.5s								
CMAR	**Chiang Mai Arr**	**92.51**	**47**	*ce*P	**P**	**05 57 20.0**	**+0.9**		
CMAR				pmax	pmax				
	comp=Z,1.0nm,0.4s								
CMAR	**Chiang Mai Arr**	**92.51**	**47**	*eP*	**P**	**05 57 20.0**	**+0.9**		
	comp=Z,1.0nm,0.4s								
BOSA	**Boshof**	**98.82**	**132**	LR	LR	06 42 30.3			
	comp=Z,91nm,18.1s,baz=66,slow=36								
SNAA	**Sanae**	**131.87**	**169**	PKP	**PKPdf**	**06 03 18.2**	**-1.2**		
	comp=Z,1.9nm,1.0s,baz=101,slow=1.6,SNR=4.3								
SNAA	**Sanae**	**131.87**	**169**	*e*PKIKP	**PKPdf**	**06 03 19.4**	**0.0**		
SNAA	**Sanae**	**131.87**	**169**	*e*PKPdf	**PKPdf**	**06 03 19.4**	**0.0**		
VNDA	**Vanda**	**160.95**	**188**	PKPab	**PKPab**	**06 04 49.6**	**+0.4**		
	comp=Z,0.9nm,0.8s,baz=166,slow=0.9,SNR=7.8								
VNDA	**Vanda**	**160.95**	**188**	*e*PKP2	**PKPab**	**06 04 49.8**	**+0.6**		
VNDA	**Vanda**	**160.95**	**188**	*e*PKPab	**PKPab**	**06 04 49.8**	**+0.6**		

IDC 05 05:46:10.4±2.6, 36°.69N×142°.21E, h0km, mb3.8/3, mb1 3.9/4, mb1mx3.6/37, mbtmp3.8/4, ML3.6/1, MS2.7/1, Ms1 2.7/1, ms1mx2.3/34, Error ellipse: s-maj=67.6km s-min=30.9km az=63.0, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MJAR	**Matsushiro Arr**	**3.22**	**269**	Pn	Pn	05 47 01.7	-0.6
	7.5nm,0.3s,baz=82,slow=11,SNR=63						
MJAR				LR	LR	05 48 27.0	
	comp=Z,105nm,19.1s,baz=110,slow=43						
MAT	**Matsushiro**	**3.22**	**269**	P	Pn	05 47 02.6	+0.3
MAT				*e*S	Sn	05 47 38.2	-3.2
JHJ	**Hachijo jima 2**	**4.08**	**210**	Sn	Sn	05 47 55.2	-7.3
	32nm,0.3s,baz=194,slow=23,SNR=4.1						
H11N2	**WAKE ISLAND Hy**	**27.43**	**121**	T	T	06 21 23.5	
	baz=313,slow=75,SNR=10						
H11N1	**WAKE ISLAND Hy**	**27.43**	**121**	T	T	06 21 27.4	
	baz=313,slow=75,SNR=11						
H11N3	**WAKE ISLAND Hy**	**27.44**	**121**	T	T	06 21 34.0	
	baz=313,slow=75,SNR=9.8						
H11S1	**WAKE ISLAND Hy**	**28.14**	**123**	T	T	06 22 42.5	
	SNR=9.5						
H11S3	**WAKE ISLAND Hy**	**28.14**	**124**	T	T	06 22 06.4	
	baz=313,slow=74,SNR=8.3						
H11S2	**WAKE ISLAND Hy**	**28.16**	**123**	T	T	06 22 21.2	
	baz=256,slow=74,SNR=7.6						
SONM	**Songino Array**	**28.50**	**304**	P	P	05 52 07.7	+0.1
	1.7nm,0.8s,baz=106,slow=9.5,SNR=7.4						
ZALV	**Zalesovo Beam**	**42.62**	**313**	P	P	05 54 07.9	-0.2
	0.5nm,0.3s,baz=77,slow=15,SNR=2.6						
WRA	**Warramunga Arr**	**56.81**	**189**	P	P	05 55 56.5	-0.1
	0.6nm,1.0s,baz=7.8,slow=7.7,SNR=4.9						

*IDC **05** 06:01:18.4±0.3, 47°.95S×31°.97E, h0km, mb5.0/22, mb1 5.1/23, mb1mx5.0/31, mbtmp5.0/23, ML3.8/2, MS4.2/16, Ms1 4.2/16, ms1mx4.1/27, Error ellipse: s-maj=15.8km s-min=11.4km az=71.0*

*ISCJB **05** 06:01:19.2±0.2, 47°.93S±0°.04×31°.78E±0°.07, h10km, mb5.2/67, MS5.1/71, Error ellipse: s-maj=7.1km s-min=5.6km az=4.9*

*MOS **05** 06:01:20.2±1.2, 47°.85S×31°.98E, h10km, mb5.4/15, Error ellipse: s-maj=21.7km s-min=9.1km az=87.5*

*NEIC **05** 06:01:20.8±0.1, 47°.92S×31°.95E, h10km, mb5.3/43, MS5.3/54, Error ellipse: s-maj=6.8km s-min=5.2km az=76.0*

*GCMT **05** 06:01:20.8±0.2, 47°.98S×31°.77E, h12km±1km, MW5.2/75, Moment Tensor Solution. s32,c38; s75,c113; Duration: 0 Moment tensor: Scale 10^16 Nm; Mrr=4.91±.26; Mθθ=4.84±.20; Mφφ=0.06±.16; Mrθ=4.06±.57; Mrφ=0.94±.13; Mθφ=0.67±.48; Best double couple: M0=6.44900×10^16 NP1:φ=260.00000°, δ=65.00000°, λ=-89.00000°. NP2: φ=78.00000°, δ=25.00000°, λ=-92.00000°. Principal axes: T 6.5030, Plg=20.0000°, Azm=350.0000°; N -0.1120, Plg=1.0000°, Azm=80.0000°; P -6.3940, Plg=70.0000°, Azm=172.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

ISC 05 06:01:20.8±0.5, 47°.91S±0°.06×31°.90E±0°.07, h13km±2km, h13km:pP-P, n539, σ1=9°03/603, mb5.3/67, MS5.0/71, 3C-8D, South of Africa

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SUR	**Sutherland**	**17.64**	**328**	P	**Pn**	**06 05 24.8**	**-1.7**
	0.1nm,0.3s,baz=144,slow=12,SNR=21						
SUR				LR	LR	06 10 57.3	
	comp=Z,99nm,21.7s,baz=160,slow=33						
SUR	**Sutherland**	**17.64**	**328**	*e*Pn	**Pn**	**06 05 26.5**	**0.0**
	71nm,1.1s						
BOSA	**Boshof**	**19.94**	**343**	P	**P**	**06 05 52.5**	**-0.1**
	0.8nm,0.3s,baz=165,slow=11,SNR=22						
BOSA				PcP	**PcP**	**06 10 06.0**	**-3.1**
	0.4nm,0.3s,baz=77,slow=8.5,SNR=3.9						
BOSA				LR	LR	06 12 08.0	
	comp=Z,977nm,21.3s,baz=152,slow=32						
SYO	**Syowa Base**	**21.51**	**172**	⇓*i*P	**P**	**06 06 07.3**	**-1.8**
SYO	**Syowa Base**	**21.51**	**172**	⇓*i*pP	**P**	**06 06 10.0**	**+0.9**
LBTB	**Lobatse**	**23.39**	**345**	P	**P**	**06 06 28.2**	**-1.1**
	19nm,0.7s,baz=173,slow=12,SNR=31						
LBTB				LR	LR	06 14 11.9	
	comp=Z,968nm,20.3s,baz=98,slow=33						
LBTB	**Lobatse**	**23.39**	**345**	*eP*	**P**	**06 06 28.3**	**-1.1**
LBTB				pmax	pmax		
	comp=Z,49nm,0.9s						
LBTB	**Lobatse**	**23.39**	**345**	*eP*	**P**	**06 06 28.3**	**-1.0**
	comp=Z,49nm,0.9s						
NVL	**N'lazarevskaya**	**24.85**	**196**	*eP*	**P**	**06 06 44.9**	**+2.4**
MAW	**Mawson**	**25.26**	**152**	P	**P**	**06 06 46.4**	**+0.1**
	comp=Z,34nm,0.9s,baz=307,slow=9.6,SNR=24						
MAW				LR	LR	06 14 08.9	
	comp=Z,600nm,21.3s,baz=322,slow=31						
MAW	**Mawson**	**25.26**	**152**	*eP*	**P**	**06 06 47.3**	**+1.1**
MAW				pmax	pmax		
	comp=Z,18nm,0.9s						
MAW	**Mawson**	**25.26**	**152**	*eP*	**P**	**06 06 47.3**	**+1.1**
	comp=Z,18nm,0.9s						
MATP	**Matopo**	**27.55**	**353**	P	**P**	**06 07 07.8**	**+0.2**
	comp=Z,8.2nm,0.5s,baz=175,slow=10,SNR=34						
MATP				LR	LR	06 16 26.2	
	comp=Z,1μm,21.7s,baz=158,slow=33						
SNAA	**Sanae**	**28.75**	**202**	P	**P**	**06 07 17.2**	**-0.5**
	comp=Z,4.2nm,0.7s,baz=85,slow=9.1,SNR=32						
SNAA				PcP	**PcP**	**06 10 25.6**	**-1.8**
	comp=Z,7.7nm,0.9s,baz=144,slow=2.9,SNR=5.1						
SNAA				LR	LR	06 15 59.5	
	comp=Z,778nm,21.9s,baz=51,slow=31						
SNAA	**Sanae**	**28.75**	**202**	*ce*P	**P**	**06 07 19.1**	**+1.4**
SNAA	**Sanae**	**28.75**	**202**	*eP*	**P**	**06 07 17.7**	**0.0**
	comp=Z,13nm,0.9s						
SNAA				*e*PcP	**PcP**	**06 10 27.2**	**-0.1**
SNAA				LR	LR		
	comp=Z,998nm,22.0s						
TSUM	**Tsumeb**	**30.91**	**333**	*eP*	**P**	**06 07 38.1**	**+0.7**
	comp=Z,25nm,1.3s						
TSUM				LR	LR		
	comp=Z,2μm,19.0s						
ABPO	**Ambohimpanom**	**31.40**	**29**	*eP*	**P**	**06 07 42.0**	**+0.3**
ABPO				pmax	pmax		
	comp=Z,55nm,1.9s						
ABPO	**Ambohimpanom**	**31.40**	**29**	*eP*	**P**	**06 07 42.0**	**+0.3**
	comp=Z,55nm,1.9s						
LSZ	**Lusaka**	**32.68**	**353**	*eP*	**P**	**06 07 54.3**	**+1.4**
LSZ				pmax	pmax		
	comp=Z,21nm,1.0s						
LSZ				MLR	MLR		
	comp=Z,800nm,21.0s						
LSZ	**Lusaka**	**32.68**	**353**	*eP*	**P**	**06 07 54.3**	**+1.4**
	comp=Z,21nm,1.0s						
LSZ				LR	LR		
	comp=Z,800nm,21.0s						
LSZ	**Lusaka**	**32.68**	**353**	P	**P**	**06 07 53.7**	**+0.7**
	SNR=6.5						
LSZ	**Lusaka**	**32.68**	**353**	P	**P**	**06 07 53.7**	**+0.7**
	SNR=6.5						
LSZ				P	**P**	**06 07 53.7**	**+0.7**
	SNR=6.5						
QSPA	**South Pole Qui**	**42.31**	**180**	*eP*	**P**	**06 09 13.3**	**-0.7**
KMBO	**Kilima Mbogo**	**46.83**	**7**	P	**P**	**06 09 52.3**	**+1.6**
	comp=Z,2.4nm,0.8s,baz=185,slow=13,SNR=4.5						
KMBO	**Kilima Mbogo**	**46.83**	**7**	*eP*	**P**	**06 09 51.2**	**+0.6**
KMBO				MLR	MLR		
	comp=Z,600nm,21.0s						
KMBO	**Kilima Mbogo**	**46.83**	**7**	*eP*	**P**	**06 09 51.2**	**+0.6**
KMBO				LR	LR		
	comp=Z,600nm,21.0s						
PMSA	**Palmer Station**	**50.31**	**214**	P	**P**	**06 10 17.1**	**+0.4**
	comp=Z,8.9nm,0.8s,baz=136,slow=3.7,SNR=6.7						
PMSA	**Palmer Station**	**50.31**	**214**	*eP*	**P**	**06 10 14.5**	**-2.2**
	comp=Z,121nm,1.3s						
VNDA	**Vanda**	**51.09**	**168**	P	**P**	**06 10 22.4**	**0.0**
	comp=Z,10nm,0.7s,baz=243,slow=7.4,SNR=39						
VNDA				LR	LR	06 30 50.5	
	comp=Z,798nm,20.6s,baz=228,slow=35						
SBA	**Scott Base**	**51.50**	**169**	*eP*	**P**	**06 10 26.8**	**+1.3**
SBA				pmax	pmax		
	comp=Z,40nm,1.4s						
SBA	**Scott Base**	**51.50**	**169**	*eP*	**P**	**06 10 26.8**	**+1.3**
	comp=Z,40nm,1.4s						
H10S2	**ASCENSION HYDR**	**55.13**	**299**	T	T	07 10 53.5	
	baz=143,slow=75,SNR=74						
H10S1	**ASCENSION HYDR**	**55.15**	**299**	T	T	07 10 58.1	
	baz=143,slow=75,SNR=67						
H10S3	**ASCENSION HYDR**	**55.15**	**299**	T	T	07 11 00.6	
	baz=143,slow=75,SNR=64						
FURI	**Furi**	**56.87**	**8**	PFAKE		06 11 20.0	+14
FURI				LR	LR		
	comp=Z,500nm,19.0s						
KIC	**Kosan Boka**	**62.92**	**318**	*eP*	**P**	**06 11 47.0**	**+0.1**
	comp=Z,52nm,1.0s						
LIC	**Lamto**	**62.93**	**318**	*eP*	**P**	**06 11 47.0**	**0.0**
	comp=Z,124nm,1.5s						
DAMY	**Dhamar**	**63.19**	**14**	*eP*	**P**	**06 11 49.7**	**+0.8**
	comp=Z,50nm,1.5s						
DBIC	**Dimbokro**	**63.25**	**318**	P	**P**	**06 11 49.3**	**+0.2**
	comp=Z,27nm,0.8s,baz=131,slow=7.9,SNR=29						
DBIC				LR	LR	06 34 21.0	
	comp=Z,219nm,20.4s,baz=132,slow=31						
DBIC	**Dimbokro**	**63.25**	**318**	*eP*	**P**	**06 11 49.3**	**+0.2**
DBIC				pmax	pmax		
	comp=Z,35nm,0.9s						
DBIC	**Dimbokro**	**63.25**	**318**	*eP*	**P**	**06 11 49.3**	**+0.2**
	comp=Z,35nm,0.9s						
TIC	**Toumodi**	**63.30**	**318**	*eP*	**P**	**06 11 49.6**	**+0.2**
NWAO	**Narrogin (SRO)**	**63.50**	**110**	P	**P**	**06 11 48.6**	**-2.0**
	comp=Z,23nm,0.8s,baz=109,slow=6.9,SNR=12						
CHRN	**Cochrane**	**64.73**	**227**	*eP*	**P**	**06 11 59.4**	**+0.9**
	comp=Z,8.4nm,0.7s						
TRQA	**Tornquist**	**65.28**	**240**	*eP*	**P**	**06 12 02.4**	**+0.1**
	comp=Z,44nm,1.1s						
TOA0	**Torodi Ar. Sit**	**66.47**	**328**	*eP*	**P**	**06 12 10.7**	**+0.7**
TORD	**Torodi Ar. Bea**	**66.47**	**328**	P	**P**	**06 12 10.5**	**+0.5**
	comp=Z,7.7nm,0.9s,baz=163,slow=6.5,SNR=38						
TORD				LR	LR	06 40 26.1	
	comp=Z,85nm,19.5s,baz=150,slow=35						
TOA1	**Torodi Ar. Sit**	**66.48**	**328**	*eP*	**P**	**06 12 10.5**	**+0.5**
	comp=Z,33nm,1.5s						
PLCA	**Paso Flores**	**68.24**	**233**	P	**P**	**06 12 20.4**	**-0.8**
	comp=Z,13nm,0.9s,baz=141,slow=7.6,SNR=13						
PLCA	**Paso Flores**	**68.24**	**233**	*eP*	**P**	**06 12 21.3**	**+0.1**
PLCA				pmax	pmax		
	comp=Z,37nm,1.1s						
PLCA	**Paso Flores**	**68.24**	**233**	*eP*	**P**	**06 12 21.3**	**+0.1**
	comp=Z,37nm,1.1s						
CPUP	**Villa Florida**	**70.46**	**252**	P	**P**	**06 12 35.0**	**0.0**
	comp=Z,38nm,0.8s,baz=129,slow=5.9,SNR=75						
ACAN	**Cantantal**	**72.36**	**241**	*eP*	**P**	**06 12 45.5**	**-1.0**
AAGR	**Agrelo**	**72.73**	**240**⇓	*eP*	**P**	**06 12 48.7**	**-0.1**
ASAL	**Salagasta**	**73.09**	**240**	*eP*	**P**	**06 12 50.7**	**-0.2**
RTCV	**Cerro Valdivia**	**73.45**	**241**	*eP*	**P**	**06 12 52.6**	**-0.3**
AUSP	**Uspallata**	**73.68**	**240**	*eP*	**P**	**06 12 53.5**	**-1.1**
PEL	**Peldehue**	**73.76**	**239**	P	**P**	**06 12 54.9**	**+0.1**
TAM	**Tamanrasset**	**74.26**	**335**	P	**P**	**06 12 59.6**	**+1.9**
TAM	**Tamanrasset**	**74.26**	**335**	PFAKE		06 13 10.0	+12
TAM				LR	LR		
	comp=Z,300nm,19.0s						
ACLC	**CERRO LA CRUZ**	**74.26**	**244**	*eP*	**P**	**06 12 57.7**	**-0.2**
HOQ	**Hoqain**	**74.74**	**24**	P	**P**	**06 13 01.5**	**+1.2**
	SNR=25						
HOQ	**Hoqain**	**74.74**	**24**	P	**P**	**06 13 01.5**	**+1.2**
	SNR=25						
BBOO	**Buckleboo**	**74.91**	**122**	*eP*	**P**	**06 13 01.1**	**-0.3**
	comp=Z,31nm,0.8s						
GSI	**Gunungsitoli**	**74.91**	**71**	PFAKE		06 13 10.0	+8.4
GSI				LR	LR		
	comp=Z,800nm,20.0s						
FAQ	**Al Faqa, Dubai**	**75.39**	**22**	*i* P	**P**	**06 13 05.2**	**+1.2**
	SNR=6.5						
ASHO	**Ashiyiah**	**75.45**	**23**	*i* P	**P**	**06 13 05.5**	**+1.1**
	SNR=27						
ASHO	**Ashiyiah**	**75.45**	**23**	P	**P**	**06 13 05.5**	**+1.1**
	SNR=11						
ASHO	**Ashiyiah**	**75.45**	**23**	P	**P**	**06 13 05.5**	**+1.1**
	SNR=11						
ASHO				P	**P**	**06 13 05.5**	**+1.1**
	SNR=11						
HATD	**Hatta, Dubai**	**75.61**	**23**	*i* P	**P**	**06 13 06.5**	**+1.2**
	SNR=15						
HATD	**Hatta, Dubai**	**75.61**	**23**	P	**P**	**06 13 06.4**	**+1.2**
	SNR=11						
HATD	**Hatta, Dubai**	**75.61**	**23**	P	**P**	**06 13 06.4**	**+1.2**
	SNR=11						
HATD				P	**P**	**06 13 06.4**	**+1.2**
	SNR=11						
NAZ	**Nazwa, Dubai**	**75.64**	**22**	*i* P	**P**	**06 13 06.7**	**+1.3**
	SNR=11						
NAZ	**Nazwa, Dubai**	**75.64**	**22**	P	**P**	**06 13 06.7**	**+1.3**
	SNR=7.3						
NAZ	**Nazwa, Dubai**	**75.64**	**22**	P	**P**	**06 13 06.7**	**+1.3**
	SNR=7.3						
NAZ				P	**P**	**06 13 06.7**	**+1.3**
	SNR=7.3						
UOSS	**Minazif**	**75.74**	**23**	*eP*	**P**	**06 13 06.5**	**+0.5**
	comp=Z,30nm,0.9s						
FSA	**Cafayete**	**76.06**	**247**	*eP*	**P**	**06 13 07.3**	**-1.0**
BANOM	**Banah**	**76.70**	**22**	*i* P	**P**	**06 13 12.1**	**+0.7**
	SNR=9.3						
LCO	**Las Campanas**	**76.80**	**241**	*eP*	**P**	**06 13 12.7**	**+0.1**
	comp=Z,90nm,1.2s						
PSI	**Prapat**	**76.92**	**71**	*eP*	**P**	**06 13 13.8**	**+0.7**
PSI				pmax	pmax		
	comp=Z,21nm,1.0s						
PSI	**Prapat**	**76.92**	**71**	*eP*	**P**	**06 13 13.8**	**+0.7**
	comp=Z,21nm,1.0s						
YJA	**Yavi**	**78.63**	**250**	*eP*	**P**	**06 13 23.9**	**+0.8**
STKA	**Stephens Creek**	**78.70**	**125**	P	**P**	**06 13 22.8**	**0.0**
	comp=Z,35nm,0.8s,baz=198,slow=3.1,SNR=28						
STKA				LR	LR	06 40 45.7	
	comp=Z,150nm,21.4s,baz=208,slow=30						
STKA	**Stephens Creek**	**78.70**	**125**	*eP*	**P**	**06 13 22.9**	**+0.1**
STKA				pmax	pmax		
	comp=Z,8.0nm,0.8s						
STKA	**Stephens Creek**	**78.70**	**125**	*eP*	**P**	**06 13 22.9**	**0.0**
	comp=Z,8.2nm,0.8s						
FITZ	**Fitzroy Crossi**	**79.24**	**105**	*eP*	**P**	**06 13 26.2**	**+0.3**
	comp=Z,16nm,0.9s						
IPM	**Ipoh**	**79.54**	**71**	PFAKE		06 13 40.0	+12
IPM				LR	LR		
	comp=Z,200nm,19.0s						
WKZ	**Wanaka**	**80.27**	**151**	*eP*	**P**	**06 13 33.0**	**+1.8**
	comp=Z,92nm,1.3s						
ASAR	**Alice Springs**	**80.39**	**115**	P	**P**	**06 13 31.4**	**-0.8**
	comp=Z,28nm,0.8s,baz=213,slow=5.4,SNR=158						
ASAR				LR	LR	06 42 18.3	
	comp=Z,102nm,21.4s,baz=222,slow=31						
AS31	**Alice Springs**	**80.39**	**115**	*eP*	**P**	**06 13 31.6**	**-0.6**
	comp=Z,10nm,0.8s						
LVC	**Limon Verde**	**80.43**	**247**	*eP*	**P**	**06 13 33.4**	**+0.6**
	comp=Z,30nm,0.8s						
FOZ	**Fox Glacier**	**81.69**	**150**	*eP*	**P**	**06 13 38.8**	**+0.2**
	comp=Z,50nm,1.2s						
RPZ	**Rata Peaks**	**81.93**	**151**	P	**P**	**06 13 39.7**	**-0.3**
	comp=Z,16nm,0.9s,baz=170,slow=3.4,SNR=7.8						
RPZ	**Rata Peaks**	**81.93**	**151**	*eP*	**P**	**06 13 40.2**	**+0.2**
PB01	**IPOC Station P**	**81.95**	**248**	*eP*	**P**	**06 13 37.5**	**-3.0**
	comp=Z,27nm,0.9s						
MQZ	**McQueen's Vall**	**82.44**	**152**	PFAKE		06 13 50.0	+7.4
MQZ				LR	LR		
	comp=Z,800nm,19.0s						
OXZ	**Oxford**	**82.59**	**152**	PFAKE		06 13 50.0	+6.5
OXZ				LR	LR		
	comp=Z,600nm,19.0s						
PB11	**IPOC Station P**	**83.01**	**248**	*eP*	**P**	**06 13 46.6**	**+0.4**
	comp=Z,133nm,1.0s						
IDI	**Anoyia**	**83.06**	**354**	PFAKE		06 14 00.0	+14
IDI				LR	LR		
	comp=Z,200nm,20.0s						
LTZ	**Lake Taylor**	**83.16**	**152**	*eP*	**P**	**06 13 46.8**	**+0.3**
	comp=Z,67nm,0.8s						
KSM	**Kuching**	**83.33**	**80**	PFAKE		06 14 00.0	+12
KSM				LR	LR		
	comp=Z,200nm,18.0s						
WR1	**Warramunga Arr**	**83.43**	**112**	*eP*	**P**	**06 13 47.2**	**-1.0**
	comp=Z,41nm,1.2s						
WRA	**Warramunga Arr**	**83.43**	**112**	P	**P**	**06 13 47.2**	**-1.0**
	comp=Z,16nm,1.0s,baz=218,slow=4.4,SNR=58						
WRA				LR	LR	06 46 57.0	
	comp=Z,111nm,18.0s,baz=235,slow=33						
WB2	**Warramunga Arr**	**83.43**	**112**	*eP*	**P**	**06 13 47.0**	**-1.2**
	comp=Z,42nm,1.3s						
WRAB	**Tennant Creek**	**83.44**	**112**⇑	*i*P	**P**	**06 13 46.7**	**-1.5**
WRAB				pmax	pmax		
	comp=Z,66nm,1.0s						
WRAB	**Tennant Creek**	**83.44**	**112**	*eP*	**P**	**06 13 47.3**	**-0.9**
	comp=Z,40nm,1.3s						
THZ	**Tophouse**	**84.28**	**152**	*eP*	**P**	**06 13 51.7**	**-0.6**
	comp=Z,56nm,0.8s						
LPAZ	**La Paz**	**84.62**	**252**	P	**P**	**06 13 55.4**	**+0.3**
	comp=Z,8.1nm,0.9s,baz=113,slow=5.7,SNR=28						
LPAZ				LR	LR	06 46 38.4	
	comp=Z,70nm,20.9s,baz=120,slow=32						
LPAZ	**La Paz**	**84.62**	**252**	*eP*	**P**	**06 13 55.2**	**+0.2**
LPAZ				*e*		06 46 37.9	
WDD	**Wied Dalam**	**84.81**	**346**	PFAKE		06 14 10.0	+15
WDD				LR	LR		
	comp=Z,400nm,20.0s						
SNZO	**South Karori**	**85.25**	**153**	*eP*	**P**	**06 13 57.5**	**+0.4**
	comp=Z,96nm,1.0s						
KEST	**Kesra**	**85.67**	**342**	LR	LR	06 52 52.8	
	comp=Z,228nm,20.8s,baz=190,slow=36						
BFZ	**Birch Farm**	**86.30**	**154**	*eP*	**P**	**06 14 02.9**	**+0.6**
	comp=Z,77nm,0.8s						
SAML	**Samuel**	**86.82**	**260**	*eP*	**P**	**06 14 04.9**	**-0.3**
	comp=Z,15nm,1.1s						
CEL	**Celeste**	**86.97**	**347**	PFAKE		06 14 20.0	+15
CEL				LR	LR		
	comp=Z,200nm,20.0s						
BR101	**Keskin Array S**	**87.27**	**1**	*eP*	**P**	**06 14 07.5**	**+0.8**
BRTR	**Keskin Array B**	**87.27**	**1**	P	**P**	**06 14 07.5**	**+0.8**
	comp=Z,2.4nm,0.8s,baz=180,slow=7.4,SNR=9.5						
BRTR	**Keskin Array B**	**87.27**	**1**	*i* P	**P**	**06 14 08.0**	**+1.2**
BRTR				pmax	pmax		
	comp=Z,3.0nm,0.8s						
BR231	**Keskin MP Arra**	**87.37**	**1**	*eP*

comp=Z,65nm,0.8s
PTGA Pitinga 90.72 268 *e*P **P** 06 14 24.1 +0.5
comp=Z,13nm,1.0s
SHL Shillong 90.78 51 *ex* **P** 06 14 24.0 +0.2
SKNT Sakolnakorn 90.95 66 P **P** 06 14 25.8 +1.3
comp=Z,20nm,1.1s
NONG Nongkai 91.27 64 P **P** 06 14 27.3 +1.3
KBZ Khabaz 91.77 8 P **P** 06 14 28.8 +1.2
comp=Z,4.4nm,0.9s,baz=170,slow=4.7,SNR=7.1
KIV Kislovodsk 91.97 8 *e*P **P** 06 14 29.1 +0.4
KIV pmax pmax
comp=Z,12nm,1.1s
KIV MLR MLR
comp=Z,103nm,20.0s
DZET Dzherino 92.38 28 P **P** 06 14 31.5 +0.7
ESDC Sonseca Array 92.84 333 LR LR 06 57 44.1
comp=Z,135nm,18.6s,baz=140,slow=36
MLR Muntele Rosu 93.16 356 *e*P **P** 06 14 35.1 +0.9
MLR pmax pmax
comp=Z,12nm,1.4s
MLR Muntele Rosu 93.16 356 *e*P **P** 06 14 35.1 +0.9
comp=Z,12nm,1.4s
LSA Lhasa 93.75 49 *e*P **P** 06 14 37.7 -0.1
LSA pmax pmax
comp=Z,17nm,0.8s
LSA Lhasa 93.75 49 *e*P **P** 06 14 37.7 -0.1
comp=Z,17nm,0.8s
SLVN Son La 94.23 63 *e*P **P** 06 14 41.1 +1.5
comp=Z,3.5nm,1.0s
KSH Kashi 95.45 33 *e*P **P** 06 14 43.3 -1.6
KSH sP sP 06 14 50.3 -0.3
KSH PP **PP** **06 18 36.4 +0.2**
KSH S **S** **06 25 52.4 -8.3**
KSH SS **SS** **06 32 23.6 -6.0**
KSH pmax pmax
comp=Z,9.0nm,1.2s
KSH pmax pmax
comp=Z,100nm,7.4s
KSH LR LR
comp=Z,76nm,5.6s
KSH LR LR
comp=Z,98nm,5.0s
KSH LR LR
comp=Z,160nm,6.2s
QIZ Qiongzhong 96.13 69 P **P** **06 14 50.0 +1.7**
QIZ S **S** **06 26 10.3 +3.0**
QIZ pmax pmax
comp=Z,9.0nm,1.5s
KMI Kunming 96.44 60 P **P** 06 14 53.0 +3.1
KMI pmax pmax
comp=Z,6.0nm,0.5s
KKAR Karatay Array 96.81 27 *e*P **P** 06 14 52.1 +1.2
KKAR pmax pmax
comp=Z,46nm,1.0s
KKAR Karatay Array 96.81 27 *e*P **P** 06 14 52.1 +1.2
comp=Z,46nm,1.0s
MNAS Manas 96.89 29 P **P** 06 14 52.4 +1.0
MNAS pmax pmax
comp=Z,4.0nm,1.2s
AAK Ala-Archa 97.69 30‖ *e*P Pdif 06 14 55.8 +0.7
AAK pmax pmax
comp=Z,10.0nm,1.0s
DZM Mont Dzumac 99.29 138 *e*LR LR 06 47 26.2
comp=Z,228nm,32.4s
PMG Port Moresby 99.39 115‖ *e*P **Pdif** **06 15 05.4 +2.2**
GYA Guiyang 99.75 61 *e*P **Pdif** **06 15 07.8 +3.2**
GYA pmax pmax
comp=Z,10.0nm,1.0s
CLL Collm 100.16 348 *e*PS PS 06 28 20.0 +9.3
CLL *e*SS SS 06 33 48.0 +13
CLL LmV 07 03 00.0
comp=Z,200nm,20.3s
MAKZ Makanchi 103.95 33 *e*P **Pdif** **06 15 23.7 +1.1**
MAKZ Makanchi 103.95 33 *e*Pdif **Pdif** **06 15 23.7 +1.1**
MK01 Makanchi Array 104.04 33 *e*Pdif **Pdif** **06 15 23.5 +0.5**
MK31 Makanchi Array 104.05 33 *e*P **Pdif** **06 15 24.1 +1.0**
MK31 Makanchi Array 104.05 33 *e*Pdif **Pdif** **06 15 24.1 +1.0**
MKAR Makanchi Array 104.05 33 *e*P **Pdif** **06 15 24.1 +1.0**
MKAR Makanchi Array 104.05 33 *e*Pdif **Pdif** **06 15 24.1 +1.0**
SDV Santo Domingo 104.94 267 PFAKE 06 15 40.0 +12
SDV LR LR
comp=Z,200nm,19.0s
RKT Rikitea 108.32 193 *e*LR LR 06 51 40.2
comp=Z,286nm,30.0s
TBI Tubuai 109.06 179 *e*LR LR 06 51 59.0
comp=Z,431nm,25.2s
SDD Santo Domingo 111.32 274 PFAKE 06 20 10.0
SDD LR LR
comp=Z,400nm,20.0s
HHC Hu-ho-hao-te 112.98 54 *e*PKP **PKiKP** **06 19 59.8 +2.6**
PPT2 Papeete2 114.79 178 *e*LR LR 06 54 35.9
comp=Z,540nm,24.5s
SONA0 Songino Array 115.18 46 *e*PKiKP **PKPdf** **06 20 00.6 -0.6**
SONA0 *e*PKKPbc **PKKPbc** **06 30 36.5 +0.4**
SONM Songino Array 115.18 46 PKP **PKPdf** **06 20 00.6 -0.6**
comp=Z,1.3nm,0.7s,baz=212,slow=0.9,SNR=6.8
SONM PKKPbc **PKKPbc** **06 30 36.5 +0.4**
comp=Z,1.8nm,0.7s,baz=72,slow=1.0,SNR=8.2
ULN Ulaanbaatar 115.52 46‖ *i*PKIKP **PKPdf** **06 20 01.1 -0.8**
BORG Borgarnes 119.70 337 PFAKE 06 20 20.0 +11
BORG LR LR
comp=Z,3μm,18.0s
KSRS Korea Array 120.28 66 PKP **PKPdf** **06 20 10.1 -1.1**
comp=Z,1.4nm,0.8s,baz=225,slow=3.3,SNR=5.3
CN2 Changchun 122.71 59 *e*PKP **PKPdf** **06 20 14.1 -1.6**
CN2 *e*PP **PP** **06 21 57.9 +3.7**
CN2 *e*SS SS 06 38 36.9 +0.5
CN2 LR LR
comp=Z,400nm,20.0s
CN2 LR LR
comp=Z,500nm,20.0s
CN2 LR LR
comp=Z,700nm,22.0s
NRIK Noril'sk 123.84 21 PKP **PKPdf** **06 20 16.4 -0.7**
comp=Z,2.1nm,0.5s,baz=125,slow=1.0,SNR=3.7
BOD Bodaibo 125.13 40 *e*PKIKP **PKPdf** **06 20 19.1 -0.7**
BOD pmax pmax
comp=Z,8.0nm,2.5s
LMN Caledonia Moun 125.73 301 PFAKE 06 20 30.0 +8.6
LMN LR LR
comp=Z,500nm,22.0s
MJAR Matsushiro Arr 126.21 73 PKP **PKPdf** **06 20 21.7 -0.9**
comp=Z,0.8nm,0.3s,baz=190,slow=2.6,SNR=4.3
USRK Ussuriysk Ar. 126.78 62 PKP **PKPdf** **06 20 22.1 -1.4**
comp=Z,3.0nm,0.8s,baz=132,slow=2.8,SNR=5.2
PQI Presque Isle 128.04 301 *e*PKPdf **PKPdf** **06 20 25.5 -0.3**
FFD Franklin Falls 128.46 295 PFAKE 06 20 40.0 +13
FFD LR LR
comp=Z,499nm,18.0s
TRY Troy 129.29 293 PFAKE 06 20 40.0 +12
TRY LR LR
comp=Z,400nm,18.0s
KLR Kul'dur 129.36 57 PKP **PKPdf** **06 20 28.4 +0.2**
comp=Z,3.1nm,0.9s,baz=337,slow=3.7,SNR=4.8
KLR Kul'dur 129.36 57‖ *e*PKIKP **PKPdf** **06 20 27.9 -0.3**
LONY Lake Ozonia 130.86 295 *e*PKPdf **PKPdf** **06 20 31.2 0.0**
O56A Blue Knob Stat 131.02 288 P **PKPdf** **06 20 31.7 0.0**
baz=124
SCHQ Schefferville 131.49 310 PKP **PKPdf** **06 20 30.9 -1.1**
comp=Z,9.2nm,0.8s,baz=90,slow=2.3,SNR=6.4
SCHQ Schefferville 131.49 310 *e*PKPdf **PKPdf** **06 20 32.4 +0.3**
SCHQ LR LR
comp=Z,2μm,18.0s
TRQ Mont Tremblant 131.66 297 *e*PKPdf **PKPdf** **06 20 32.2 -0.5**
N54A Moraine State 132.31 288 P **PKPdf** **06 20 33.6 -0.5**
baz=122
PLVO Plevna 132.60 294 *e*PKPdf **PKPdf** **06 20 33.9 -0.5**
ALLY Alegheny Colle 132.77 289 PFAKE 06 20 50.0 +15
ALLY LR LR
comp=Z,11μm,21.0s
Z47A Carrollton 133.23 274 P **PKPdf** **06 20 35.7 -0.4**
baz=127
Y47A UCPARC, Winfie 133.50 275 P **PKPdf** **06 20 36.6 +0.1**
baz=126
Y46A Houston 134.17 275 P **PKPdf** **06 20 38.1 +0.3**
baz=126
WVT Waverly 134.78 278 *e*PKIKP **PKPdf** **06 20 38.0 -0.9**
WVT Waverly 134.78 278 *e*PKPdf **PKPdf** **06 20 38.0 -0.9**
WCI Wyandotte Cave 134.93 281 *e*PKIKP **PKPdf** **06 20 38.8 -0.4**
WCI Wyandotte Cave 134.93 281 *e*PKPdf **PKPdf** **06 20 38.8 -0.4**
LNIG Linares 135.52 257 *e*PKPdf **PKPdf** **06 20 40.9 +0.2**
ZAIG Zacatecas 136.03 252 *e*PKPdf **PKPdf** **06 20 40.8 -1.2**
PBMO Poplar Bluff 136.88 277 *e*PKPdf **PKPdf** **06 20 42.6 -0.2**
W41B Gary Mavity, V 137.19 274 P **PKPdf** **06 20 43.8 +0.4**
baz=125
WHAR Wooly Hollow 137.29 274 *e*PKPdf **PKPdf** **06 20 43.6 0.0**
U41A Viola 137.63 275 P **PKPdf** **06 20 43.7 -0.5**
baz=124
X39A Fountain Ranch 138.07 272 P **PKPdf** **06 20 45.1 +0.1**
baz=126
W38A Poteau 138.66 272 P PKPpre 06 20 40.6
baz=125
S40A Lebanon 138.71 277 P PKPpre 06 20 41.9
baz=123
334A Lometa 138.93 265 P PKPpre 06 20 40.5
baz=129
433A Art 139.14 263 P **PKPdf** **06 20 45.8 -1.4**
baz=129
S38A Stockton 139.67 276 P PKPpre 06 20 44.0
baz=123
S37A Fort Scott 140.35 275 P PKPpre 06 20 41.2
baz=122
Z33A Whitaker Ranch 140.47 267 P PKPpre 06 20 41.7
baz=127
ABTX Abilene, Hawle 140.67 265 P PKPpre 06 20 42.1
baz=128
ABTX Abilene, Hawle 140.67 265 *e*PKPdf **PKPdf** **06 20 50.0 +0.1**
T36A Boggs Farm, Ca 140.68 274 P PKPpre 06 20 42.8
baz=123
W34A Bridge Creek, 140.94 270 *e*PKPdf **PKPdf** **06 20 50.2 -0.1**
HPIG 140.95 253 *e*PKPdf **PKPdf** **06 20 49.8 -1.0**
LTX Lajitas 141.27 258 *e*PKHKP PKPpre 06 20 45.3
LTX *e* 06 20 52.8
LTX Lajitas 141.27 258 *e*PKPpre PKPpre 06 20 45.3
LTX *e*PKPdf **PKiKP** **06 20 52.8 -1.2**
TXAR Lajitas Array 141.27 258 PKhKP PKPpre 06 20 45.3
comp=Z,4.6nm,0.8s,baz=141,slow=5.3,SNR=14
TXAR PKP **PKiKP** **06 20 52.8 -1.2**
comp=Z,4.3nm,0.7s,baz=145,slow=3.1,SNR=11
TX31 Lajitas Ar. Si 141.27 258 *e*PKPpre PKPpre 06 20 44.1
TX31 *e*PKPpre PKPpre 06 20 44.9
TX31 *e*PKPdf **PKPdf** **06 20 51.9 +0.7**
TX31 *e*PKPdf **PKiKP** **06 20 52.0 -1.9**
K37A Belmond 142.05 283 P PKPpre 06 20 47.1
baz=117
J37A Redenius Farm, 142.23 284 P PKPpre 06 20 47.7
baz=117
KSU1 Kansas State U 142.25 276 *e*PKPdf **PKPdf** **06 20 53.9 +1.4**
R34A Isabella, Hill 142.26 274 P **PKPdf** **06 20 48.2 -4.3**
baz=122
Q34A Chapman 142.38 276 P PKPpre 06 20 48.7
baz=121
P34A Walnut Farm, R 142.62 277 P PKPpre 06 20 47.9
baz=120
J36A Seneca 1, Swea 142.76 283 P PKPpre 06 20 49.7
baz=116
EYMN Ely 142.81 292 *e*PKPdf **PKPdf** **06 20 52.9 -0.3**
O34A Beatrice 142.84 278 P PKPpre 06 20 49.2
baz=120
G36A St. Michael 143.19 287 P PKPbc 06 20 51.0 0.0
baz=114
F36A Milaca 143.29 288 P PKPbc 06 20 50.9 -0.3
baz=114
MA2 Magadan 143.34 48 PKP PKPbc 06 20 50.8 -0.1
comp=Z,4.8nm,0.3s,baz=198,slow=6.9,SNR=7.5
MA2 Magadan 143.34 48 *e*PKIKP PKPbc 06 20 51.0 +0.1
MA2 Magadan 143.34 48 *e*PKPpre PKPbc 06 20 51.0 +0.1
J35A Milford 143.34 283 P PKPbc 06 20 51.9 +0.5
baz=116
AMTX Amarillo 143.37 267 P PKPbc 06 20 51.5 -0.5
baz=125
AMTX Amarillo 143.37 267 *e*PKPdf **PKPdf** **06 20 54.0 -0.8**
E36A McGregor 143.38 289 P PKPbc 06 20 51.2 -0.3
baz=113
O33A Hebron 143.39 277 P PKPbc 06 20 51.6 -0.1
baz=120,SNR=7.2
I35A Creekview Farm 143.41 284 P PKPbc 06 20 51.3 -0.3
baz=116,SNR=6.4
L34A Svendsen Farm, 143.48 280 P PKPbc 06 20 51.7 -0.2
baz=118
MSTX Muleshoe 143.57 264 P PKPbc 06 20 52.2 -0.4
baz=126
MSTX Muleshoe 143.57 264 *e*PKPpre PKPab 06 20 52.2 +0.6
K34A Le Mars 143.62 282 P PKPbc 06 20 52.2 -0.1
baz=117
H35A Sunnyside Ranc 143.66 285 P PKPbc 06 20 52.2 -0.1
baz=115,SNR=11
MNTX Cornudas Mount 143.92 259 P PKPab 06 20 52.5 -0.4
baz=129
MNTX Cornudas Mount 143.92 259 *e*PKPpre PKPab 06 20 52.3 -0.6
I34A Hadley 144.06 284 P **PKPab** **06 20 53.3 +0.2**
baz=115,SNR=11
D35A Remer 144.10 289 P PKPbc 06 20 53.4 -0.2
baz=112,SNR=7.0
E35A Pequot Lakes 144.13 288 P **PKPab** **06 20 53.4 +0.1**
baz=112
K33A Hardington 144.19 281 P **PKPab** **06 20 53.6 0.0**
baz=117
H34A Spellman Lake, 144.27 285 P **PKPab** **06 20 53.8 0.0**
baz=114,SNR=9.6
C35A Jirik Farms, M 144.28 290 P **PKPab** **06 20 53.6 -0.2**
baz=111,SNR=7.2
B35A Bob, Littlefor 144.35 292 P **PKPab** **06 20 54.2 +0.1**
baz=110,SNR=11
F34A Alexandria 144.38 287 P **PKPab** **06 20 54.4 +0.2**
baz=113,SNR=9.5
BGNE Belgrade 144.40 278 P **PKPab** **06 20 54.4 0.0**
baz=118
BGNE Belgrade 144.40 278 *e*PKPdf PKPbc 06 20 54.7 0.0
G34A Benson 144.41 286 P PKPbc 06 20 54.7 +0.1
baz=114,SNR=31
ECSD EROS Data Cent 144.42 283 P **PKPab** **06 20 54.6 +0.1**
baz=115,SNR=27
ECSD EROS Data Cent 144.42 283 *e*PKPdf PKPbc 06 20 54.6 -0.1
J33A Davis 144.48 282 P **PKPab** **06 20 54.7 +0.1**
baz=116,SNR=27
SEY Seymchan 144.49 43 PKP **PKPdf** **06 20 55.1 -0.5**
comp=Z,18nm,0.8s,baz=253,slow=3.8,SNR=45
L32A Elgin 144.58 279 P PKPbc 06 20 55.3 0.0
baz=117,SNR=17
E34A Wadena 144.60 288 P **PKPab** **06 20 54.5 -0.5**
baz=112,SNR=7.0
I33A Coleman 144.68 283 P **PKPab** **06 20 55.2 -0.2**
baz=115,SNR=22
D34A Park Rapids 144.83 289 P **PKPab** **06 20 55.6 -0.2**
baz=111
C34A RKJ Ranch, Bem 144.85 290 P **PKPab** **06 20 55.7 -0.2**
baz=111,SNR=7.2
K32A Verdigre 144.85 280 P **PKPab** **06 20 56.0 0.0**
baz=116,SNR=6.3
H33A Prehn Over Nor 144.90 284 P PKPbc 06 20 56.3 +0.1
baz=114,SNR=33
G33A Ortonville 144.91 285 P **PKPab** **06 20 56.0 -0.2**
baz=114,SNR=5.1
B34A Aery, Baudette 144.97 291 P PKPbc 06 20 56.1 -0.2
baz=110,SNR=16
F33A 5 Mile Ranch, 145.07 286 P **PKPbc** **06 20 56.6 -0.1**
baz=113,SNR=28
J32A Parkston 145.08 282 P **PKPbc** **06 20 56.6 -0.2**
baz=116,SNR=19
I32A Karley and Nic 145.10 283 P **PKPbc** **06 20 56.7 -0.2**
baz=115,SNR=19
RES Resolute Bay 145.12 338 *e*PKIKP **PKPdf** **06 20 57.6 +1.2**
RES Resolute Bay 145.12 338 *e*PKPbc **PKPdf** **06 20 57.6 +1.2**
E33A Westby DABS, E 145.13 288 P **PKPbc** **06 20 56.6 -0.2**
baz=112,SNR=15
D33A AnnSam, Waubun 145.26 289 P **PKPbc** **06 20 57.0 -0.3**
baz=111
H32A Carlson Farm, 145.28 284 P **PKPbc** **06 20 57.4 -0.1**
baz=114,SNR=32
K31A O'Neill 145.35 280 P **PKPdf** **06 20 57.9 +0.1**
baz=116,SNR=6.7
C33A Trail 145.43 290 P **PKPdf** **06 20 57.5 -0.2**
baz=110,SNR=18
B33A Robert and Kas 145.49 291 P **PKPdf** **06 20 57.6 -0.3**
baz=110,SNR=21
A33A Warroad 145.59 292 P **PKPbc** **06 20 58.2 0.0**
baz=109,SNR=31
F32A Veblen 145.62 286 P **PKPbc** **06 20 58.4 0.0**
baz=112
G32A Webster 145.62 285 P **PKPab** **06 20 58.8 0.0**
baz=113,SNR=32
J31A Geddes 145.63 281 P **PKPab** **06 20 59.2 +0.2**
baz=115,SNR=11
AGMN Agassiz Nation 145.67 291 P **PKPdf** **06 20 58.1 0.0**
baz=110,SNR=20
AGMN Agassiz Nation 145.67 291 *e*PKPdf **PKPbc** **06 20 58.5 0.0**
HSIG 145.76 250 *e*PKPdf **PKPbc** **06 20 59.6 +0.1**
I31A Royce, Wessing 145.81 282 P **PKPbc** **06 20 59.1 -0.1**
baz=114
PEA0 Petropavlovsk- 145.84 61 *e*PKPdf **PKPdf** **06 20 58.4 +0.1**
PEA0B Petropavlovsk- 145.84 61 *e*PKPdf **PKPab** **06 20 59.3 -0.1**
PEA1 Petropavlovsk- 145.84 61 *e*PKPdf **PKPdf** **06 20 57.2 -1.0**
PETK Petropavlovsk- 145.84 61 PKPbc **PKPdf** **06 20 57.2 -1.0**
comp=Z,9.2nm,0.8s,baz=165,slow=2.6,SNR=10
H31A Wolsey 145.95 283 P **PKPdf** **06 20 59.1 +0.3**
baz=114,SNR=8.2
121A Cookes Peak, D 146.03 258 P **PKPbc** **06 21 00.0 -0.3**
baz=129
G31A Conde 146.07 284 P **PKPab** **06 21 00.3 -0.2**
baz=113
B32A Ashes, Strandq 146.13 290 P **PKPdf** **06 20 59.4 +0.4**
baz=109,SNR=9.9
BNM Barren Site 146.25 261 *e*PKPdf **PKPbc** **06 21 00.9 -0.2**
SUSD Miller 146.25 283 P **PKPdf** **06 20 59.7 +0.4**
baz=114,SNR=5.2
319A Douglas 146.27 255 *e*PKPdf **PKPbc** **06 21 01.3 +0.2**
A32A Rocking H Ranc 146.27 291 P **PKPdf** **06 20 59.7 +0.5**
baz=108,SNR=35
ULM Lac du Bonnet 146.28 294 PKPbc **PKPdf** **06 20 58.8 -0.3**
comp=Z,23nm,0.9s,baz=100,slow=2.3,SNR=17
ULM Lac du Bonnet 146.28 294 *e*PKP2 **PKPbc** **06 21 00.1 -0.3**
ULM MLR MLR
comp=Z,2μm,22.0s
ULM Lac du Bonnet 146.28 294 *e*PKPdf **PKPbc** **06 21 00.1 -0.3**
ULM LR LR
comp=Z,2μm,22.0s
F31A Hecla 146.34 285 P **PKPdf** **06 20 59.7 +0.3**
baz=112,SNR=9.7
LPM Los Pinos Moun 146.35 262 *e*PKPdf **PKPbc** **06 21 00.9 -0.4**
E31A Nome 146.36 287 P **PKPbc** **06 21 00.2 -0.5**
baz=111,SNR=9.0
PET Petropavlovsk 146.38 61 *e*PKP2 **PKPbc** **06 21 00.6 +0.1**
PET Petropavlovsk 146.38 61 *e*PKPdf **PKPbc** **06 21 00.6 +0.1**
Y22D IRIS PASSCAL I 146.40 261 P **PKPbc** **06 21 01.6 +0.2**
baz=127
Y22D IRIS PASSCAL I 146.40 261 *e*PKPdf **PKPab** **06 21 02.4 +0.2**
T25A Trinidad 146.46 268 P **PKPbc** **06 21 01.0 -0.6**
baz=123
T25A Trinidad 146.46 268 *e*PKPdf **PKPbc** **06 21 00.9 -0.6**
ANMO Albuquerque 146.60 263 P **PKPdf** **06 21 01.2 +0.7**
baz=126
ANMO Albuquerque 146.60 263 *e*PKIKP **PKPdf** **06 21 01.1 +0.7**
ANMO Albuquerque 146.60 263 *e*PKPdf **PKPdf** **06 21 01.1 +0.6**
C31A Landman Farms, 146.69 289 P **PKPbc** **06 21 01.4 -0.3**
baz=109
LAZ Ladron 146.74 261 *e*PKPdf **PKPbc** **06 21 01.6 -0.8**
OGNE Ogallala 146.78 275 P **PKPdf** **06 21 01.1 +0.7**
baz=118
OGNE Ogallala 146.78 275 *e*PKPdf **PKPbc** **06 21 01.7 -0.5**
OGNE *e*PKPbc **PKPab** **06 21 03.7 +0.2**
B31A Greenbush Farm 146.84 290 P **PKPbc** **06 21 01.4 -0.6**
baz=108
FCC Fort Churchill 146.87 310 PFAKE 06 21 10.0 +6.9
FCC LR LR
comp=Z,3μm,20.0s
SDCO Great Sand Dun 147.52 268 P **PKPdf** **06 21 02.6 +0.5**
baz=122
SDCO Great Sand Dun 147.52 268 *e*PKPdf **PKPdf** **06 21 02.8 +0.8**
TUC Tucson 147.85 255 P **PKPdf** **06 21 03.3 +0.8**
baz=130
TUC Tucson 147.85 255 *e*PKIKP **PKPdf** **06 21 03.6 +1.1**
TUC *e* 06 21 06.0
TUC *e* 06 21 08.5
TUC Tucson 147.85 255 *e*PKPdf **PKPdf** **06 21 03.6 +1.1**
TUC *e*PKPbc **PKPbc** **06 21 08.0 +0.6**
TUC *e*PKPab **sPKPdf** **06 21 08.5 +0.3**
MDND Maddock 147.90 288 P **PKPdf** **06 21 02.4 +0.5**
baz=109
MDND Maddock 147.90 288 *e*PKPbc **PKPbc** **06 21 05.1 +0.1**
MDND LR LR
comp=Z,1μm,19.0s
Q24A Divide 147.91 270 P **PKPdf** **06 21 03.2 +0.6**
baz=120
Q24A Divide 147.91 270 *e*PKPdf **PKPdf** **06 21 02.6 0.0**
Q24A *e*PKPbc **PKPbc** **06 21 05.9 +0.2**
S22A 4UR Ranch, Cre 148.41 267 P **PKPdf** **06 21 04.3 +0.8**
baz=122
S22A 4UR Ranch, Cre 148.41 267 *e*PKPdf **PKPdf** **06 21 04.6 +1.1**
S22A *e*PKPbc **pPKPdf** **06 21 08.0 +0.2**
ISCO Idaho Springs 148.64 271 P **PKPdf** **06 21 04.3 +0.5**
baz=119
ISCO Idaho Springs 148.64 271 *e*PKIKP **PKPdf** **06 21 04.3 +0.5**
ISCO *e* 06 21 08.2
ISCO Idaho Springs 148.64 271 *e*PKPdf **PKPdf** **06 21 04.3 +0.5**
ISCO *e*PKPbc **pPKPdf** **06 21 08.2 +0.1**
X18A Snowflake 148.68 259 *e*PKPdf **PKPdf** **06 21 05.0 +1.1**
X18A *e*PKPbc **pPKPdf** **06 21 08.4 +0.2**
W18A Petrified Fore 148.88 260 P **PKPdf** **06 21 05.0 +0.8**
baz=126
214A Organ Pipe Nat 148.93 252 P **PKPdf** **06 21 04.6 +0.4**
baz=131
PHWY Pilot Hill 149.24 274 *e*PKPdf **PKPdf** **06 21 05.2 +0.5**
PHWY *e*PKPbc **PKPbc** **06 21 09.1 +0.1**
PHWY *e*PKPab **sPKPbc** **06 21 14.4 -0.3**
PHWY LR LR
comp=Z,700nm,21.0s
MVCO Mesa Verde 149.25 264 P **PKPdf** **06 21 05.6 +0.8**
baz=123
MVCO Mesa Verde 149.25 264 *e*PKPdf **PKPdf** **06 21 05.8 +1.0**
MVCO *e*PKPbc **PKPbc** **06 21 09.7 +0.6**
MVCO *e*PKPab **sPKPbc** **06 21 14.8 0.0**
SMCO Snowmass 149.25 269 *e*PKPdf **PKPdf** **06 21 05.8 +0.9**
SMCO *e*PKPbc **PKiKP** **06 21 10.1 -0.3**
SMCO *e*PKPab **sPKPbc** **06 21 14.8 -0.2**
N23A Red Feather La 149.38 273 P **PKPdf** **06 21 05.5 +0.6**
baz=118
N23A Red Feather La 149.38 273 *e*PKPdf **PKPdf** **06 21 05.7 +0.8**
N23A *e*PKPbc **PKPbc** **06 21 09.9 +0.5**
RSSD Black Hills 149.48 280 P **PKPdf** **06 21 05.8 +0.9**
baz=113
RSSD Black Hills 149.48 280 *e*PKIKP **PKPdf** **06 21 04.4 -0.5**
RSSD *e* 06 21 09.7
RSSD MLR MLR
comp=Z,900nm,20.0s
RSSD Black Hills 149.48 280 *e*PKPdf **PKPdf** **06 21 04.4 -0.5**
RSSD *e*PKPbc **PKPbc** **06 21 09.7 +0.3**
RSSD LR LR
comp=Z,900nm,20.0s
X16A Lo Mia Camp, P 149.59 257 *e*PKPdf **PKPdf** **06 21 06.4 +1.0**
X16A *e*PKPbc **sPKPdf** **06 21 10.8 -0.3**
X16A *e*PKPab **PKPab** **06 21 15.3 +0.2**
BILL Bilibino 149.59 32*d* *i*PKP2 **PKPbc** **06 21 09.7 +1.1**
BILL pmax pmax
comp=Z,46nm,1.0s
PV01 Paradox Valley 149.79 266 *e*PKPdf **PKPdf** **06 21 06.4 +0.8**
PV01 *e*PKPbc **sPKPdf** **06 21 11.1 -0.3**
PV01 *e*PKPab **sPKPbc** **06 21 14.8 +0.1**
PV05 Paradox Valley 150.11 265 *e*PKPdf **PKPdf** **06 21 06.7 +0.6**
PV05 *e*PKPbc **sPKPdf** **06 21 11.6 -0.3**
WUAZ Wupatki 150.20 259 P **PKPdf** **06 21 06.8 +0.5**
baz=126
WUAZ Wupatki 150.20 259 *e*PKPdf **PKPdf** **06 21 07.3 +1.1**
WUAZ *e*PKPbc **PKiKP** **06 21 12.2 0.0**
WUAZ *e*PKPab **PKPab** **06 21 18.6 +1.1**
PV10 Paradox Valley 150.23 266 *e*PKPdf **PKPdf** **06 21 07.2 +0.9**
PV10 *e*PKPbc **sPKPdf** **06 21 12.0 -0.1**
Y14A Wickenburg 150.32 255 *e*PKPdf **PKPdf** **06 21 07.3 +1.0**
Y14A *e*PKPbc **PKiKP** **06 21 12.2 -0.2**
PV09 Paradox Valley 150.35 266 *e*PKPdf **PKPdf** **06 21 07.7 +1.1**
PV09 *e*PKPbc **PKiKP** **06 21 12.6 -0.1**
K22A Casper 150.54 275 P **PKPdf** **06 21 07.3 +0.7**
baz=115
K22A Casper 150.54 275 *e*PKPdf **PKPdf** **06 21 06.8 +0.2**
K22A *e*PKPbc **PKPbc** **06 21 11.6 -0.3**
O20A White River Ci 150.57 270 P **PKPdf** **06 21 07.3 +0.6**
baz=119
O20A White River Ci 150.57 270 *e*PKPdf **PKPdf** **06 21 07.2 +0.5**
O20A *e*PKPbc **PKPbc** **06 21 12.2 +0.1**
RWWY Rawlins 150.59 273 *e*PKPbc **PKPbc** **06 21 12.8 +0.6**
FFC Flin Flon 150.82 301 *e*PKIKP **PKPdf** **06 21 06.0 -0.4**
FFC *e* 06 21 12.5
FFC *e* 06 21 19.8
FFC MLR MLR
comp=Z,2μm,18.0s
FFC Flin Flon 150.82 301 *e*PKPdf **PKPdf** **06 21 06.0 -0.4**
FFC *e*PKPbc **PKiKP** **06 21 12.5 -0.2**
FFC *e*PKPab **PKPab** **06 21 19.8 +0.5**
FFC LR LR
comp=Z,2μm,18.0s
GLA Glamis 150.93 251 P **PKPdf** **06 21 08.3 +1.0**
baz=131
GLA Glamis 150.93 251 *e*PKIKP **PKPdf** **06 21 08.4 +1.0**
GLA *e* 06 21 13.5
GLA Glamis 150.93 251 *e*PKPdf **PKPdf** **06 21 08.4 +1.0**
GLA *e*PKPbc **PKiKP** **06 21 13.4 -0.2**

UWB	**Uwekahuna B**	**151.00**	**166**	PFAKE		06 21 20.0	-1.0
UWB				LR	LR			
	comp=Z,2μm,20.0s							
DGMT	**Dagmar**	**151.02**	**288**	P	**PKPdf**	**06 21 07.9**	**+1.0**
	baz=106							
DGMT	**Dagmar**	**151.02**	**288**	*e*PKPbc	**PKPbc**	**06 21 12.6**	**-0.1**
Y12C	**Blythe**	**151.18**	**253**	P	**PKPdf**	**06 21 08.5**	**+0.9**
	baz=130							
Y12C	**Blythe**	**151.18**	**253**	*e*PKPdf	**PKPdf**	**06 21 08.7**	**+1.1**
Y12C				*e*PKPbc	**PKiKP**	**06 21 14.0**	**0.0**
Y12C				*e*PKPab	**PKPab**	**06 21 22.1**	**+0.7**
PDMCI	**Parker Dam,Lak**	**151.28**	**254**	P	**PKPdf**	**06 21 08.7**	**+1.0**
	baz=129							
U15A	**North Rim**	**151.34**	**260**	*e*PKPdf	**PKPdf**	**06 21 09.3**	**+1.1**
U15A				*e*PKPbc	**PKiKP**	**06 21 14.9**	**+0.2**
SWSC	**Sam W. Stewart**	**151.48**	**250**	P	**PKPdf**	**06 21 08.9**	**+0.8**
	baz=131							
IKP	**In-Ko-Pah, Jac**	**151.48**	**249**	P	**PKPdf**	**06 21 09.0**	**+0.8**
	baz=132							
SRU	**San Rafael Swe**	**151.60**	**266**	*e*PKIKP	**PKPdf**	**06 21 08.8**	**+0.5**
SRU				*e*		06 21 14.7		
SRU						06 21 23.7		
SRU	**San Rafael Swe**	**151.60**	**266**	*e*PKPdf	**PKPdf**	**06 21 08.8**	**+0.5**
SRU				*e*PKPbc	**PKPbc**	**06 21 14.7**	**+0.1**
SRU				*e*PKPab	**PKPab**	**06 21 23.7**	**+0.4**
W13A	**Hualapai Mount**	**151.60**	**256**	*e*PKPdf	**PKPdf**	**06 21 09.9**	**+1.4**
W13A				*e*PKPbc	**PKiKP**	**06 21 15.3**	**+0.2**
MMU	**Miners Mountai**	**151.65**	**264**	*e*PKPdf	**PKPdf**	**06 21 08.9**	**+0.3**
P18A	**Preston Nutter**	**151.67**	**267**	*e*PKPdf	**PKPdf**	**06 21 09.6**	**+1.0**
P18A				*e*PKPbc	**PKiKP**	**06 21 15.6**	**+0.3**
BC3	**Big Chuckawall**	**151.72**	**252**	P	**PKPdf**	**06 21 09.3**	**+0.7**
	baz=130							
LAO	**LASA Array**	**151.82**	**283**	P	**PKPdf**	**06 21 08.8**	**+0.6**
	baz=108							
LAO	**LASA Array**	**151.82**	**283**	*e*PKPdf	**PKPdf**	**06 21 09.1**	**+0.9**
LAO				*e*PKPbc	**PKiKP**	**06 21 15.1**	**+0.1**
LAO				*e*PKPab	**PKPab**	**06 21 24.6**	**+0.7**
MONP	**Monument Peak,**	**151.84**	**249**	P	**PKPdf**	**06 21 09.5**	**+0.6**
	baz=132							
IRM	**Iron Mountain**	**151.84**	**253**	P	**PKPdf**	**06 21 09.4**	**+0.8**
	baz=129							
BAR	**Barrett**	**151.85**	**249**	*e*PKPdf	**PKPdf**	**06 21 10.0**	**+1.3**
BAR				*e*PKPbc	**PKiKP**	**06 21 16.1**	**+0.6**
PKCU	**Pink Cliffs**	**151.92**	**261**	*e*PKPdf	**PKPdf**	**06 21 09.9**	**+0.9**
PKCU				*e*PKPbc	**PKiKP**	**06 21 16.0**	**+0.1**
PKCU				LR	LR			
	comp=Z,200nm,18.0s							
KNB	**Kanab**	**152.02**	**260**	*e*PKIKP	**PKPdf**	**06 21 10.1**	**+1.1**
KNB				*e*		06 21 16.2		
KNB	**Kanab**	**152.02**	**260**	*e*PKPdf	**PKPdf**	**06 21 10.1**	**+1.1**
KNB				*e*PKPbc	**PKiKP**	**06 21 16.2**	**+0.2**
TMUT	**Trail Mountain**	**152.15**	**266**	*e*PKPdf	**PKPdf**	**06 21 10.3**	**+1.0**
TMUT				*e*PKPbc	**PKiKP**	**06 21 16.4**	**0.0**
MTPU	**Mount Pierson**	**152.16**	**263**	*e*PKPdf	**PKPdf**	**06 21 10.9**	**+1.4**
MTPU				*e*PKPbc	**PKiKP**	**06 21 17.0**	**+0.6**
109C	**Camp Elliot, M**	**152.26**	**249**	P	**PKPdf**	**06 21 09.9**	**+0.6**
	baz=132							
BELC	**Belle Mtn. Jos**	**152.29**	**252**	P	**PKPdf**	**06 21 09.2**	**-0.3**
	baz=130							
LCMT	**Little Creek M**	**152.30**	**260**	*e*PKPdf	**PKPdf**	**06 21 10.6**	**+1.2**
LCMT				*e*PKPbc	**PKiKP**	**06 21 16.8**	**+0.3**
LCMT				*e*PKPab	**PKPab**	**06 21 26.2**	**0.0**
ELU	**Electric Lake**	**152.32**	**266**	*e*PKPab	**PKPab**	**06 21 26.7**	**+0.2**
TPFO	**Pinon Flats**	**152.32**	**251**	P	**PKPdf**	**06 21 10.2**	**+0.6**
	baz=131							
PFO	**Pinyon Flats O**	**152.33**	**251**	PKP	**PKPdf**	**06 21 10.3**	**+0.7**
	comp=Z,6.2nm,1.1s,baz=164,slow=3.6,SNR=3.7							
PFO				PKPbc	**PKPbc**	**06 21 16.3**	**0.0**
	comp=Z,16nm,0.9s,baz=109,slow=1.3,SNR=8.5							
PFO	**Pinyon Flats O**	**152.33**	**251**	P	**PKPdf**	**06 21 09.7**	**+0.2**
	baz=131							
PFO	**Pinyon Flats O**	**152.33**	**251**	*e*PKIKP	**PKPdf**	**06 21 10.6**	**+1.0**
PFO				*e*		06 21 10.7		
PFO				*e*		06 21 17.0		
PFO	**Pinyon Flats O**	**152.33**	**251**	*e*PKPdf	**PKPdf**	**06 21 10.6**	**+1.0**
PFO				*ep*PKPdf	**pPKPdf**	**06 21 10.7**	**-3.1**
PFO				*e*PKPbc	**PKiKP**	**06 21 17.0**	**+0.4**
LDFC	**Landfair**	**152.39**	**254**	*e*PKPdf	**PKPdf**	**06 21 11.3**	**+1.7**
LDFC				*e*PKPbc	**PKiKP**	**06 21 17.4**	**+0.7**
MSU	**Marysvale**	**152.40**	**263**	*e*PKIKP	**PKPdf**	**06 21 10.8**	**+1.2**
MSU				*e*		06 21 17.6		
MSU	**Marysvale**	**152.40**	**263**	*e*PKPdf	**PKPdf**	**06 21 10.8**	**+1.2**
MSU				*e*PKPbc	**PKiKP**	**06 21 17.6**	**+0.9**
SZCU	**Shurtz Canyon**	**152.52**	**261**	*e*PKPdf	**PKPdf**	**06 21 11.2**	**+1.4**
SZCU				*e*PKPbc	**PKiKP**	**06 21 17.6**	**+0.6**
GMRC	**Granite Mounta**	**152.56**	**253**	P	**PKPdf**	**06 21 10.6**	**+0.8**
	baz=129							
BW06	**Boulder Array**	**152.63**	**274**	P	**PKPdf**	**06 21 10.4**	**+0.6**
	baz=114							
BW06	**Boulder Array**	**152.63**	**274**	*e*PKPdf	**PKPdf**	**06 21 09.1**	**-0.7**
BW06				*e*PKPdf	**PKPdf**	**06 21 09.9**	**+0.1**
BW06				*e*PKPbc	**PKPbc**	**06 21 15.8**	**-1.1**
BW06				*e*PKPbc	**PKPbc**	**06 21 16.0**	**-0.8**
PD31	**Pinedale Array**	**152.63**	**274**	*e*PKPdf	**PKPdf**	**06 21 10.0**	**+0.2**
PD31				*e*PKPbc	**sPKPdf**	**06 21 16.1**	**+0.5**
PD31				*e*PKPab	**PKPab**	**06 21 27.3**	**-0.2**
PD31				*e*PP	**PP**	**06 25 01.7**	**+0.8**
PDAR	**Pinedale Array**	**152.63**	**274**	PKP	**PKPdf**	**06 21 10.0**	**+0.2**
	comp=Z,2.0nm,0.8s,baz=121,slow=2.7,SNR=17							
PDAR				PKPbc	**sPKPdf**	**06 21 15.8**	**+0.2**
	comp=Z,11nm,1.0s,baz=116,slow=3.4,SNR=34							
PDAR				PKPab	**PKPab**	**06 21 26.6**	**-0.9**
	comp=Z,12nm,1.0s,baz=113,slow=3.4,SNR=3.6							
PDAR				PP	**PP**	**06 25 01.7**	**+0.8**
	comp=Z,1.8nm,1.1s,baz=112,slow=6.6,SNR=5.2							
TCRU	**Three Creeks R**	**152.63**	**263**	PFAKE		06 21 20.0	+3.0
TCRU				LR	LR			
	comp=Z,200nm,18.0s							
CCUT	**Cedar City**	**152.68**	**261**	*e*PKPdf	**PKPdf**	**06 21 10.7**	**+0.6**
CCUT				*e*PKPbc	**PKiKP**	**06 21 17.4**	**0.0**
CCUT				*e*PKPab	**PKPab**	**06 21 28.2**	**+0.3**
MURC	**Murrieta**	**152.79**	**250**	P	**PKPdf**	**06 21 10.6**	**+0.5**
	baz=131							
JLU	**Jordanelle**	**152.95**	**268**	*e*PKPdf	**PKPdf**	**06 21 11.1**	**+0.8**
JLU				*e*PKPbc	**PKiKP**	**06 21 18.0**	**+0.1**
JLU				*e*PKPab	**PKPab**	**06 21 27.6**	**-1.4**
HEC	**Hector,Ludlow**	**153.02**	**253**	P	**PKPdf**	**06 21 11.4**	**+0.9**
	baz=129							
NLU	**North Lily Min**	**153.06**	**266**	*e*PKPdf	**PKPdf**	**06 21 11.7**	**+1.2**
NLU				*e*PKPbc	**PKiKP**	**06 21 18.8**	**+0.7**
NLU				LR	LR			
	comp=Z,1μm,22.0s							
TUQ	**Turquoise Moun**	**153.13**	**254**	P	**PKPdf**	**06 21 11.1**	**+0.4**
	baz=128							
SHPR	**Sheep Range**	**153.27**	**257**	*e*PKPdf	**PKPdf**	**06 21 12.7**	**+1.8**
RLMT	**Red Lodge**	**153.32**	**279**	P	**PKPdf**	**06 21 10.5**	**-0.2**
	baz=110							
RLMT	**Red Lodge**	**153.32**	**279**	*e*PKPdf	**PKPdf**	**06 21 11.0**	**+0.2**
RLMT				*e*PKPbc	**PKiKP**	**06 21 18.6**	**+0.2**
RLMT				*e*PKPab	**PKPab**	**06 21 30.7**	**+0.3**
HWUT	**Hardware Ranch**	**153.48**	**270**	*e*PKPdf	**PKPdf**	**06 21 10.2**	**-0.9**
HWUT				*e*PKPbc	**PKPbc**	**06 21 18.6**	**-0.1**
HWUT				LR	LR			
	comp=Z,1μm,18.0s							
PSUT	**Pine Spring**	**153.53**	**262**	*e*PKPdf	**PKPdf**	**06 21 11.6**	**+0.4**
PSUT				*e*PKPbc	**PKiKP**	**06 21 20.1**	**+1.1**
PSUT				*e*PKPab	**PKPab**	**06 21 31.8**	**+0.4**
GSC	**Goldstone, Bar**	**153.62**	**253**	P	**PKPdf**	**06 21 12.8**	**+1.5**
	baz=128							
GSC	**Goldstone, Bar**	**153.62**	**253**	*e*PKIKP	**PKPdf**	**06 21 13.4**	**+2.1**
GSC				*e*		06 21 19.9		
GSC	**Goldstone, Bar**	**153.62**	**253**	*e*PKPdf	**PKPdf**	**06 21 13.4**	**+2.1**
GSC				*e*PKPbc	**PKiKP**	**06 21 19.9**	**+0.7**
SHOC	**Shoshone, Teco**	**153.64**	**255**	P	**PKPdf**	**06 21 12.3**	**+1.0**
	baz=127							
LOHW	**Long Hollow**	**153.67**	**275**	*e*PKPdf	**PKPdf**	**06 21 12.6**	**+1.3**
LOHW				*e*PKPbc	**PKPbc**	**06 21 19.0**	**-0.1**
LOHW				*e*PKPab	**PKPab**	**06 21 32.1**	**+0.2**
LOHW				LR	LR			
	comp=Z,900nm,22.0s							
DUG	**Dugway, Tooele**	**153.67**	**266**	P	**PKPdf**	**06 21 12.0**	**+0.7**
	baz=119							
DUG	**Dugway, Tooele**	**153.67**	**266**	*e*PKIKP	**PKPdf**	**06 21 12.3**	**+1.0**
DUG				*e*		06 21 19.8		
DUG	**Dugway, Tooele**	**153.67**	**266**	*e*PKPdf	**PKPdf**	**06 21 12.3**	**+1.0**
DUG				*e*PKPbc	**PKiKP**	**06 21 19.8**	**+0.6**
SNOW	**Snow King Moun**	**153.71**	**274**	*e*PKPdf	**PKPdf**	**06 21 12.5**	**+1.1**
SNOW				*e*PKPbc	**PKPbc**	**06 21 19.3**	**+0.1**
SNOW				*e*PKPab	**PKPab**	**06 21 32.6**	**+0.5**
REDW	**Red Top Meadow**	**153.74**	**274**	*e*PKPdf	**PKPdf**	**06 21 12.7**	**+1.3**
REDW				*e*PKPbc	**PKPbc**	**06 21 19.3**	**0.0**
REDW				*e*PKPab	**PKPab**	**06 21 33.3**	**+1.1**
MWC	**Mount Wilson**	**153.74**	**250**	*e*PKIKP	**PKPdf**	**06 21 10.9**	**-0.7**
MWC				*e*		06 21 19.5		
MWC				*e*		06 21 33.3		
MWC	**Mount Wilson**	**153.74**	**250**	*e*PKPdf	**PKPdf**	**06 21 10.9**	**-0.7**
MWC				*e*PKPbc	**PKPbc**	**06 21 19.5**	**+0.1**
MWC				*e*PKPab	**PKPab**	**06 21 33.3**	**+0.9**
PASC	**Pasadena Art C**	**153.78**	**249**	*e*PKPdf	**PKPdf**	**06 21 12.6**	**+1.1**
PASC				*e*PKPbc	**PKiKP**	**06 21 20.2**	**+0.8**
MOOW	**Moose Ponds**	**153.81**	**275**	*e*PKPdf	**PKPdf**	**06 21 12.8**	**+1.3**
MOOW				*e*PKPbc	**PKPbc**	**06 21 19.1**	**-0.3**
MOOW				*e*PKPab	**PKPab**	**06 21 32.7**	**+0.2**
TPAW	**Teton Pass**	**153.85**	**274**	*e*PKPdf	**PKPdf**	**06 21 12.8**	**+1.2**
TPAW				*e*PKPbc	**PKiKP**	**06 21 19.8**	**+0.2**
TPAW				*e*PKPab	**PKPab**	**06 21 33.1**	**+0.3**
LKWY	**Lake**	**153.88**	**277**	PFAKE		06 21 20.0	+0.4
LKWY				LR	LR			
	comp=Z,2μm,22.0s							
FLWY	**Flagg Ranch**	**153.91**	**276**	*e*PKPbc	**PKPbc**	**06 21 19.9**	**+0.4**
FLWY				*e*PKPab	**PKPab**	**06 21 34.0**	**+1.1**
H17A	**Grant Village**	**153.94**	**276**	*e*PKPdf	**PKPdf**	**06 21 12.7**	**+1.0**
H17A				*e*PKPbc	**PKiKP**	**06 21 20.8**	**+1.0**
H17A				LR	LR			
	comp=Z,2μm,18.0s							
SPUT	**South Promonto**	**153.95**	**269**	*e*PKPdf	**PKPdf**	**06 21 12.1**	**+0.5**
SPUT				*e*PKPbc	**PKPbc**	**06 21 19.7**	**0.0**
SPUT				*e*PKPab	**PKPab**	**06 21 33.4**	**+0.3**
IMW	**Indian Meadow**	**154.00**	**275**	*e*PKPdf	**PKPdf**	**06 21 12.8**	**+1.0**
IMW				*e*PKPbc	**PKiKP**	**06 21 20.1**	**+0.2**
YPP	**Pitchstone Pla**	**154.05**	**276**	*e*PKPdf	**PKPdf**	**06 21 12.8**	**+1.0**
YPP				*e*PKPbc	**PKiKP**	**06 21 21.3**	**+1.3**
YPP				LR	LR			
	comp=Z,1μm,21.0s							
YNR	**Norris Junctio**	**154.12**	**277**	PFAKE		06 21 20.0	-0.1
YNR				LR	LR			
	comp=Z,1μm,22.0s							
YFT	**Old Faithful**	**154.13**	**276**	PFAKE		06 21 20.0	-0.1
YFT				LR	LR			
	comp=Z,1μm,18.0s							
BGU	**Big Grassy Mou**	**154.16**	**267**	*e*PKPdf	**PKPdf**	**06 21 12.7**	**+0.7**
BGU				*e*PKPbc	**PKiKP**	**06 21 20.6**	**+0.4**
BGU				*e*PKPab	**PKPab**	**06 21 32.1**	**-1.9**
TPNV	**Topopah Spring**	**154.24**	**257**	P	**PKPdf**	**06 21 13.2**	**+0.9**
	baz=125							
TPNV	**Topopah Spring**	**154.24**	**257**	*e*PKIKP	**PKPdf**	**06 21 13.7**	**+1.5**
TPNV				*e*		06 21 35.4		
TPNV	**Topopah Spring**	**154.24**	**257**	*e*PKPdf	**PKPdf**	**06 21 13.7**	**+1.5**
TPNV				*e*PKPab	**PKPab**	**06 21 35.4**	**+0.9**
YHH	**Holmes Hill**	**154.26**	**277**	*e*PKPdf	**PKPdf**	**06 21 12.2**	**+0.1**
YHH				*e*PKPbc	**PKiKP**	**06 21 21.2**	**+0.7**
YHH				*e*PKPab	**PKPab**	**06 21 35.1**	**+0.6**
YHH				LR	LR			
	comp=Z,800nm,20.0s							
YMR	**Madison River**	**154.30**	**277**	*e*PKPdf	**PKPdf**	**06 21 10.5**	**-1.6**
YMR				*e*PKPbc	**PKiKP**	**06 21 21.5**	**+1.0**
YMR				*e*PKPab	**PKPab**	**06 21 35.6**	**+1.0**
YMR				LR	LR			
	comp=Z,900nm,19.0s							
FURC	**Furnace Creek,**	**154.36**	**255**	P	**PKPdf**	**06 21 13.3**	**+1.2**
	baz=126							
HVU	**Hansel Valley**	**154.37**	**269**	*e*PKIKP	**PKPdf**	**06 21 12.3**	**0.0**
HVU				*e*		06 21 20.6		
HVU				*e*		06 21 34.3		
HVU	**Hansel Valley**	**154.37**	**269**	*e*PKPdf	**PKPdf**	**06 21 12.2**	**0.0**
HVU				*e*PKPbc	**PKPbc**	**06 21 20.6**	**0.0**
HVU				*e*PKPab	**PKPab**	**06 21 34.3**	**-0.6**
YHB	**Horse Butte**	**154.48**	**277**	*e*PKPdf	**PKPdf**	**06 21 13.5**	**+1.1**
YHB				*e*PKPbc	**PKiKP**	**06 21 22.7**	**+1.9**
YHB				*e*PKPab	**PKPab**	**06 21 35.7**	**+0.4**
YHB				LR	LR			
	comp=Z,800nm,19.0s							
EGMT	**Eagleton**	**154.50**	**285**	P	**PKPdf**	**06 21 12.1**	**0.0**
	baz=104							
EGMT	**Eagleton**	**154.50**	**285**	*e*PKPdf	**PKPdf**	**06 21 12.0**	**-0.1**
EGMT				*e*PKPbc	**PKiKP**	**06 21 21.1**	**+0.6**
MPMC	**Manual Prospec**	**154.52**	**254**	P	**PKPdf**	**06 21 13.1**	**+0.4**
	baz=127							
R11A	**Troy Canyon, C**	**154.58**	**260**	P	**PKPdf**	**06 21 13.3**	**+0.6**
	baz=123							
R11A	**Troy Canyon, C**	**154.58**	**260**	*e*PKPdf	**PKPdf**	**06 21 13.8**	**+1.1**
R11A				*e*PKPbc	**PKiKP**	**06 21 21.8**	**+0.6**
R11A				*e*PKPab	**PKPab**	**06 21 36.2**	**+0.4**
QLMT	**Earthquake Lak**	**154.66**	**277**	*e*PKPdf	**PKPdf**	**06 21 13.3**	**+0.7**
QLMT				*e*PKPbc	**PKiKP**	**06 21 22.3**	**+1.2**
ISA	**Isabella, Lake**	**154.91**	**252**	*e*PKIKP	**PKPdf**	**06 21 14.4**	**+1.3**
ISA				*e*		06 21 22.8		
ISA				*e*		06 21 38.5		
ISA	**Isabella, Lake**	**154.91**	**252**	*e*PKPdf	**PKPdf**	**06 21 14.4**	**+1.3**
ISA				*e*PKPbc	**PKiKP**	**06 21 22.8**	**+1.0**
ISA				*e*PKPab	**PKPab**	**06 21 38.5**	**+1.3**
BOZ	**Bozeman (W)**	**155.05**	**278**	P	**PKPdf**	**06 21 12.8**	**-0.2**
	baz=108							
BOZ	**Bozeman (W)**	**155.05**	**278**	*e*PKIKP	**PKPdf**	**06 21 13.8**	**+0.7**
BOZ				*e*		06 21 38.9		
BOZ	**Bozeman (W)**	**155.05**	**278**	*e*PKPdf	**PKPdf**	**06 21 13.8**	**+0.7**
BOZ				*e*PKPbc	**PKPbc**	**06 21 23.0**	
BOZ				*e*PKPab	**PKPab**	**06 21 38.9**	**+1.3**
CWC	**Cottonwood Cre**	**155.13**	**254**	P	**PKPdf**	**06 21 13.9**	**+0.4**
	baz=127							
VES	**Vestal, Richgr**	**155.41**	**251**	P	**PKPdf**	**06 21 13.3**	**-0.3**
	baz=128							
HRY	**Holter Researc**	**155.52**	**281**	*e*PKPdf	**PKPdf**	**06 21 13.8**	**+0.2**
HRY				*e*PKPab	**PKPab**	**06 21 40.6**	**+1.1**
MCMT	**McKenzie Canyo**	**155.61**	**276**	*e*PKPab	**PKPab**	**06 21 40.9**	**+0.7**
DLMT	**Dillon**	**155.62**	**277**	*e*PKPdf	**PKPdf**	**06 21 14.2**	**+0.4**
DLMT				*e*PKPab	**PKPab**	**06 21 41.4**	**+1.3**
RCTC	**Rector, Farmer**	**155.80**	**252**	P	**PKPdf**	**06 21 13.9**	**-0.2**
	baz=128							
PAGB	**Antelope Grade**	**156.08**	**250**	*e*PKPdf	**PKPdf**	**06 21 16.1**	**+1.5**
PAGB				*e*PKPab	**PKPab**	**06 21 42.8**	**+0.7**
HLID	**Hailey**	**156.21**	**272**	P	**PKPdf**	**06 21 14.5**	**-0.2**
	baz=112							
HLID	**Hailey**	**156.21**	**272**	*e*PKPdf	**PKPdf**	**06 21 15.0**	**+0.3**
YKA	**Yellowknife Ar**	**156.31**	**320**	PKP	**PKPdf**	**06 21 13.4**	**-0.5**
	comp=Z,4.4nm,0.8s,baz=63,slow=1.3,SNR=8.9							
YKB5	**Yellowknife Ar**	**156.31**	**320**	*e*PKPdf	**PKPdf**	**06 21 13.4**	**-0.6**
TVH2	**Borealis Mine**	**156.69**	**257**	*e*PKPdf	**PKPdf**	**06 21 17.5**	**+1.9**
TVH2				*e*PKPab	**PKPab**	**06 21 46.0**	**+1.0**
TVH3	**East Aurora ar**	**156.72**	**257**	*e*PKPdf	**PKPdf**	**06 21 17.0**	**+1.4**
PMPB	**Monarch Peak**	**156.73**	**250**	*e*PKPab	**PKPab**	**06 21 45.4**	**+0.4**
TVH1	**TV Hill, Hawth**	**156.74**	**257**	*e*PKPdf	**PKPdf**	**06 21 18.1**	**+2.2**
TVH1				*e*PKPab	**PKPab**	**06 21 46.5**	**+1.1**
MFID	**Camas Ranch**	**157.10**	**271**	*e*PKPdf	**PKPdf**	**06 21 16.2**	**+0.4**
MFID				LR	LR			
	comp=Z,1μm,18.0s							
SWMT	**Swartz Lake**	**157.15**	**282**	*e*PKPdf	**PKPdf**	**06 21 15.0**	**-0.7**
SWMT				*e*PKPab	**PKPab**	**06 21 47.4**	**+0.8**
WAKR	**Walker**	**157.20**	**256**	*e*PKPdf	**PKPdf**	**06 21 18.0**	**+1.8**
WAKR				*e*PKPab	**PKPab**	**06 21 48.4**	**+1.2**
YERR	**Yerington**	**157.34**	**257**	*e*PKPdf	**PKPdf**	**06 21 17.7**	**+1.4**
YERR				*e*PKPab	**PKPab**	**06 21 48.7**	**+1.0**
JTMT	**Jette**	**157.39**	**282**	*e*PKPdf	**PKPdf**	**06 21 15.4**	**-0.6**
JTMT				*e*PKPab	**PKPab**	**06 21 48.3**	**+0.6**
WALA	**Waterton Lakes**	**157.42**	**286**	PFAKE		06 21 30.0	+14
WALA				LR	LR			
	comp=Z,2μm,20.0s							
EDM	**Edmonton**	**157.45**	**297**	PFAKE		06 21 30.0	+14
EDM				LR	LR			
	comp=Z,2μm,18.0s							
CMB	**Columbia Colle**	**157.56**	**254**	*e*PKIKP	**PKPdf**	**06 21 17.4**	**+1.0**
CMB				*e*		06 21 48.6		
CMB				MLR	MLR			
	comp=Z,300nm,20.0s							
CMB	**Columbia Colle**	**157.56**	**254**	*e*PKPdf	**PKPdf**	**06 21 17.4**	**+1.0**
CMB				*e*PKPab	**PKPab**	**06 21 48.6**	**+0.1**
CMB				LR	LR			
	comp=Z,300nm,20.0s							
PNTR	**Pine Nut**	**157.63**	**257**	*e*PKPab	**PKPab**	**06 21 50.3**	**+1.3**
BSMT	**Bassoo Peak**	**157.75**	**282**	*e*PKPdf	**PKPdf**	**06 21 17.5**	**+1.0**
BSMT				*e*PKPab	**PKPab**	**06 21 50.1**	**+0.8**
INK	**Inuvik**	**158.26**	**345**	PFAKE		06 21 30.0	+14
INK				LR	LR			
	comp=Z,900nm,20.0s							
AFDM	**Forest Hills D**	**158.45**	**255**	*e*PKPdf	**PKPdf**	**06 21 18.2**	**+0.7**
AFDM				*e*PKPab	**PKPab**	**06 21 52.3**	**0.0**
WVOR	**Wild Horse Val**	**158.59**	**266**	*e*PKIKP	**PKPdf**	**06 21 19.7**	**+2.0**
WVOR				*e*		06 21 53.7		
WVOR	**Wild Horse Val**	**158.59**	**266**	*e*PKPdf	**PKPdf**	**06 21 19.7**	**+2.0**
WVOR				*e*PKPab	**PKPab**	**06 21 53.7**	**+0.7**
BMO	**Blue Mountains**	**158.61**	**273**	*e*PKIKP	**PKPdf**	**06 21 16.5**	**-1.1**
BMO				*e*		06 21 53.5		
BMO	**Blue Mountains**	**158.61**	**273**	*e*PKPdf	**PKPdf**	**06 21 16.5**	**-1.1**
BMO				*e*PKPab	**PKPab**	**06 21 53.5**	**+0.6**
F10A	**Beach Ranch, E**	**158.90**	**276**	PFAKE		06 21 30.0	+12
F10A				LR	LR			
	comp=Z,1μm,20.0s							
MOD	**Modoc Plateau**	**159.48**	**263**	*e*PKPdf	**PKPdf**	**06 21 18.8**	**0.0**
MOD				*e*PKPab	**PKPab**	**06 21 57.8**	**+0.9**
MOD				LR	LR			
	comp=Z,1μm,19.0s							
E09A	**Wood Farm, Sta**	**159.66**	**277**	*e*PKPdf	**PKPdf**	**06 21 17.4**	**-1.2**
E09A				LR	LR			
	comp=Z,2μm,19.0s							
O03D	**Paynes Creek**	**159.71**	**258**	P	**PKPdf**	**06 21 18.3**	**-0.7**
	baz=121							
K05A	**Summer Lake**	**160.23**	**265**	*e*PKPdf	**PKPdf**	**06 21 18.5**	**-1.1**
K05A				*e*PKPab	**PKPab**	**06 22 01.1**	**+0.9**
D08A	**Wollman Farm,**	**160.31**	**278**	*e*PKPdf	**PKPdf**	**06 21 18.3**	**-1.0**
D08A				*e*PKPab	**PKPab**	**06 22 00.5**	**+0.3**
WDC	**Whiskeytown Da**	**160.34**	**258**	*e*PKIKP	**PKPdf**	**06 21 19.3**	**-0.3**
WDC				*e*		06 21 59.8	
WDC	**Whiskeytown Da**	**160.34**	**258**	*e*PKPdf	**PKPdf**	**06 21 19.3**	**-0.3**
WDC				*e*PKPab	**PKPab**	**06 21 59.8**	**-0.6**
M04C	**Macdoel**	**160.45**	**261**	P	**PKPdf**	**06 21 19.3**	**-0.5**
	baz=117							
N02D	**Trinity Center**	**160.64**	**258**	P	**PKPdf**	**06 21 20.0**	**0.0**
	baz=120							
J05D	**Fort Rock, OR**	**160.69**	**266**	P	**PKPdf**	**06 21 19.7**	**-0.4**
	baz=113							
B08A	**Colville Reser**	**160.84**	**282**	*e*PKPdf	**PKPdf**	**06 21 18.0**	**-1.9**
B08A				*e*PKPab	**PKPab**	**06 22 02.8**	**+0.3**
M02C	**Callahan**	**160.94**	**259**	P	**PKPdf**	**06 21 20.2**	**-0.1**
	baz=119							
I05D	**Terrebonne, OR**	**161.15**	**269**	P	**PKPdf**	**06 21 20.2**	**-0.2**
	baz=110							
J04D	**Umpqua Nationa**	**161.25**	**265**	P	**PKPdf**	**06 21 20.7**	**-0.1**
	baz=114							
HUMO	**Hull Mountain**	**161.56**	**263**	*e*PKPdf	**PKPdf**	**06 21 20.7**	**-0.2**
HUMO				*e*PKPab	**PKPab**	**06 22 05.3**	**-0.4**
I04A	**Tendick Farm,**	**161.67**	**267**	P	**PKPdf**	**06 21 20.8**	**-0.1**
	baz=112							
ILAR	**Eielson Array**	**163.08**	**358**	PKP	**PKPdf**	**06 21 18.6**	**-3.1**
	comp=Z,1.8nm,1.1s,baz=312,slow=1.9,SNR=9.1							
ILB	**Eielson Array**	**163.08**	**358**	*e*PKPdf	**PKPdf**	**06 21 18.6**	**-3.1**
ILB				*e*PKPab	**PKPab**	**06 22 08.2**	**-3.4**
DAWY	**Dawson**	**163.12**	**347**	*e*PKPdf	**PKPdf**	**06 21 19.9**	**-1.9**
DAWY				*e*PKPab	**pPKPab**	**06 22 14.0**	**-2.1**
HYT	**Haines Junctio**	**165.69**	**339**	*e*PKPdf	**P

ISAN				S	Sn	06 54 08.0	-0.1	
	baz=29							
IBJA	**Bjarnastaoir**	**6.73**	**37**	P	**Pn**	**06 52 52.4**	**+0.5**	
	baz=31							
IBJA				S	**Sn**	**06 54 07.8**	**-0.3**	
	baz=31							
IBJA	**Bjarnastaoir**	**6.73**	**37**	P	**Pn**	**06 52 52.4**	**+0.5**	
	baz=31							
IBJA				S	**Sn**	**06 54 07.8**	**-0.3**	
	baz=31							
ISOL	**Solvholt**	**6.83**	**38**	P	**Pn**	**06 52 52.8**	**-0.5**	
	baz=32							
ISOL				S	**Sn**	**06 54 09.8**	**-0.7**	
	baz=32							
ISOL	**Solvholt**	**6.83**	**38**	P	**Pn**	**06 52 52.8**	**-0.5**	
	baz=32							
ISOL				S	**Sn**	**06 54 09.8**	**-0.7**	
	baz=32							
IKUD	**Kuludalsa**	**6.84**	**33**	P	**Pn**	**06 52 55.1**	**+1.7**	
	baz=27							
IKUD	**Kuludalsa**	**6.84**	**33**	P	**Pn**	**06 52 55.1**	**+1.7**	
	baz=27							
IASM	**Asmuli**	**6.87**	**39**	P	**Pn**	**06 52 54.3**	**+0.4**	
	baz=34							
IASM				S	**Sn**	**06 54 10.2**	**-1.4**	
	baz=34							
IASM	**Asmuli**	**6.87**	**39**	P	**Pn**	**06 52 54.3**	**+0.4**	
	baz=34							
IASM				S	**Sn**	**06 54 10.2**	**-1.4**	
	baz=34							
IKRO	**Krokur**	**6.90**	**36**	P	**Pn**	**06 52 55.0**	**+0.8**	
	baz=30							
IKRO				S	**Sn**	**06 54 12.1**	**-0.1**	
	baz=30							
IKRO	**Krokur**	**6.90**	**36**	P	**Pn**	**06 52 55.0**	**+0.8**	
	baz=30							
IKRO				S	**Sn**	**06 54 12.1**	**-0.1**	
	baz=30							
IHEI	**Heioarbar**	**6.94**	**35**	P	**Pn**	**06 52 55.7**	**+1.0**	
	baz=30							
IHEI				S	**Sn**	**06 54 14.1**	**+1.0**	
	baz=30							
IHEI	**Heioarbar**	**6.94**	**35**	P	**Pn**	**06 52 55.7**	**+1.0**	
	baz=30							
IHEI				S	**Sn**	**06 54 14.1**	**+1.0**	
	baz=30							
ISAU	**Saurbar**	**7.04**	**39**	P	**Pn**	**06 52 56.8**	**+0.6**	
	baz=33							
ISAU				S	**Sn**	**06 54 14.2**	**-1.5**	
	baz=33							
ISAU	**Saurbar**	**7.04**	**39**	P	**Pn**	**06 52 56.8**	**+0.6**	
	baz=33							
ISAU				S	**Sn**	**06 54 14.2**	**-1.5**	
	baz=33							
BORG	**Borgarnes**	**7.32**	**32**	Pn	**Pn**	**06 52 59.2**	**-0.8**	
	1.6nm,0.3s,baz=247,slow=5.3,SNR=7.3							
BORG				Sn	**Sn**	**06 54 22.8**	**+0.2**	
	0.6nm,0.3s,baz=325,slow=18,SNR=4.1							
BORG				LR	LR	06 55 04.3		
	comp=Z,195nm,21.8s,baz=246,slow=32							
ARCES	**ARCESS Array B**	**25.57**	**42**	P	**P**	**06 56 40.9**	**-0.7**	
	2.5nm,0.8s,baz=260,slow=11,SNR=5.8							
FINES	**FINESS Array B**	**27.50**	**60**	P	**P**	**06 56 59.5**	**+0.4**	
	1.0nm,0.8s,baz=305,slow=8.3,SNR=2.2							
ULM	**Lac du Bonnet**	**37.47**	**286**	LR	LR	07 12 45.4		
	comp=Z,102nm,19.1s,baz=80,slow=35							
KVAR	**Kislovodsk Arr**	**45.59**	**75**	LR	LR	07 19 30.1		
	comp=Z,57nm,19.4s,baz=166,slow=37							
KBZ	**Khabaz**	**45.85**	**75**	LR	LR	07 20 06.0		
	comp=Z,40nm,18.3s,baz=188,slow=38							
ILAR	**Eielson Array**	**47.73**	**329**	P	**P**	**06 59 48.5**	**-0.9**	
	0.4nm,0.9s,baz=59,slow=5.4,SNR=3.8							
PDAR	**Pinedale Array**	**49.45**	**288**	P	**P**	**07 00 03.1**	**0.0**	
	0.2nm,0.7s,baz=56,slow=8.8,SNR=2.8							
TORD	**Torodi Ar. Bea**	**51.54**	**139**	P	**P**	**07 00 20.2**	**+1.3**	
	0.6nm,0.8s,baz=329,slow=6.4,SNR=3.5							
ZALV	**Zalesovo Beam**	**56.09**	**40**	P	**P**	**07 00 49.4**	**-2.3**	
	1.4nm,0.4s,baz=316,slow=6.0,SNR=5.7							
KURBB	**Kurchatov Arra**	**56.57**	**46**	P	**P**	**07 00 55.1**	**-0.1**	
	0.5nm,0.2s,baz=320,slow=7.4,SNR=5.7							
PFO	**Pinyon Flats O**	**59.95**	**286**	LR	LR	07 26 47.0		
	comp=Z,90nm,22.0s,baz=354,slow=36							

*IDC **05** 06:58:03.9±4.4,58.92N×31.65W,h0km,mb4.0/5, mb1 4.0/7,mb1mx3.6/55,mbtmp4.0/7,ML3.7/2,Error ellipse: s-maj=98.5km s-min=34.5km az=95.0*
*REY **05** 06:58:45.9,58.99N×29.06W,h10km*

ISC 05 06:58:07.0±1.9,58.7N±0.1×31.0W±0.3,h10km,n23, σ1§95/33,mb3.9/5,Reykjanes Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IGRV	**Grindav??k**	**6.62**	**35**	P	**Pg**	**07 00 13.8**	**+0.2**
	baz=30						
IGRV				S	**Sb**	**07 01 23.6**	**+2.5**
	baz=30						
IGRV	**Grindav??k**	**6.62**	**35**	P	**Pg**	**07 00 13.8**	**+0.2**
	baz=30						
IGRV				S	**Sb**	**07 01 23.6**	**+2.5**
	baz=30						
INYL	**Nylenda**	**6.63**	**33**	P	**Pg**	**07 00 14.7**	**+1.0**
	baz=29						
INYL				S	**Sb**	**07 01 25.3**	**+4.0**
	baz=29						
INYL	**Nylenda**	**6.63**	**33**	P	**Pg**	**07 00 14.7**	**+1.0**
	baz=29						
INYL				S	**Sb**	**07 01 25.3**	**+4.0**
	baz=29						
IVOG	**Vogar**	**6.72**	**34**	P	**Pg**	**07 00 15.8**	**+0.3**
	baz=30						
IVOG	**Vogar**	**6.72**	**34**	P	**Pg**	**07 00 15.8**	**+0.3**
	baz=30						
IKAS	**Kald??rsel**	**6.93**	**36**	P	**Pg**	**07 00 17.2**	**-2.2**
	baz=31						
IKAS				S	**Sb**	**07 01 32.1**	**+2.3**
	baz=31						
IKAS	**Kald??rsel**	**6.93**	**36**	P	**Pg**	**07 00 17.2**	**-2.2**
	baz=31						
IKAS				S	**Sb**	**07 01 32.1**	**+2.3**
	baz=31						
ISAN	**Sandskeio**	**7.04**	**36**	P	**Pg**	**07 00 18.9**	**-2.7**
	baz=32						
ISAN				S	**Sb**	**07 01 33.6**	**+0.6**
	baz=32						
ISAN	**Sandskeio**	**7.04**	**36**	P	**Pg**	**07 00 18.9**	**-2.7**
	baz=32						
ISAN				S	**Sb**	**07 01 33.6**	**+0.6**
	baz=32						
IBJA	**Bjarnastaoir**	**7.04**	**37**	P	**Pg**	**07 00 18.7**	**-3.0**
	baz=34						
IBJA				S	**Sb**	**07 01 32.9**	**-0.3**
	baz=34						
IBJA	**Bjarnastaoir**	**7.04**	**37**	P	**Pg**	**07 00 18.7**	**-3.0**
	baz=34						
IBJA				S	**Sb**	**07 01 32.9**	**-0.3**
	baz=34						
ISOL	**Solvholt**	**7.15**	**38**	S	**Sb**	**07 01 35.5**	**-0.6**
	baz=35						
ISOL	**Solvholt**	**7.15**	**38**	S	**Sb**	**07 01 35.5**	**-0.6**
	baz=35						
IKRO	**Krokur**	**7.21**	**37**	S	**Sb**	**07 01 37.5**	**-0.4**
	baz=33						
IKRO	**Krokur**	**7.21**	**37**	S	**Sb**	**07 01 37.5**	**-0.4**
	baz=33						
BORG	**Borgarnes**	**7.62**	**33**	Pn	**Pn**	**06 59 57.2**	**-0.6**
	2.9nm,0.3s,baz=212,slow=3.1,SNR=8.2						
EKA	**Eskdalemuir Ar**	**15.49**	**90**	Pn	**Pn**	**07 01 47.1**	**+1.9**
	baz=286,slow=9.3,SNR=3.6						
ARCES	**ARCESS Array B**	**25.89**	**42**	P	**P**	**07 03 36.2**	**-2.3**
	2.1nm,0.6s,baz=277,slow=9.7,SNR=5.4						
FINES	**FINESS Array B**	**27.85**	**60**	P	**P**	**07 03 55.4**	**-0.7**
	1.9nm,0.9s,baz=302,slow=8.0,SNR=2.9						
AKTO	**Aktyubinsk**	**48.61**	**58**	P	**P**	**07 06 51.1**	**+0.8**
	2.7nm,0.7s,baz=322,slow=7.6,SNR=8.2						
TORD	**Torodi Ar. Bea**	**51.63**	**138**	P	**P**	**07 07 14.9**	**+1.3**
	0.9nm,0.8s,baz=328,slow=7.3,SNR=3.9						
KURBB	**Kurchatov Arra**	**56.90**	**46**	P	**P**	**07 07 50.4**	**-1.2**
	0.3nm,0.2s,baz=318,slow=6.8,SNR=4.4						

MAN 05 06:58:09,18.15N×121.64E,h27km,mb4.1,ML3.0,MS2.7, 1D,Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SGCP	**Mt. Cagua**	**0.40**	**76**	*eP*	Pn	06 58 19.2	+0.3
SGCP				*eS*	Sn	06 58 28.0	+2.4
CVP	**Callao Caves**	**0.48**	**159**	*iP*	Pn	06 58 20.8	+0.8
CVP				*i S*	Sn	06 58 29.9	+2.4
CAUP	**Cauayan**	**1.21**	**172**	*eP*	Pb	06 58 31.2	-0.1

*RSNC **05** 07:02:56.4±0.5,7.45N×71.89W,h148km±12km,ML2.9*
*ISCJB **05** 07:02:57.4±1.2,7.48N±0.04×71.91W±0.03,h10km±8km, Error ellipse: s-maj=7.4km s-min=4.2km az=150.2*
*FUNV **05** 07:02:59.7,7.57N×71.90W,h5km,MW2.9*

ISC 05 07:02:57.6±1.3,7.48N±0.04×71.93W±0.03,h14km±11km, n20,σ1§55/31,Venezuela

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAPV	**Capacho**	**0.54**	**315**	*eP*	**Pb**	**07 03 08.8**	**-0.3**
CAPV				*eS*	**Sb**	**07 03 16.9**	**0.0**
SOCV	**Socops**	**1.33**	**53**	*eP*	**Pb**	**07 03 22.0**	**-0.4**
SOCV				*eS*	**Sn**	**07 03 39.4**	**+0.1**
VIGV	**El Vigia**	**1.46**	**22**	*eP*	**Pg**	**07 03 25.2**	**-0.6**
VIGV				*eS*	**Sg**	**07 03 43.5**	**-1.4**
BARC	**Barichara**	**1.52**	**235**	*eS*	**Sg**	**07 03 49.4**	**+2.6**
BARC				*i*		07 03 54.4	
	comp=Z,165nm,0.5s						
OCAC	**Ocana**	**1.57**	**299**	*eP*	**Pg**	**07 03 26.6**	**-1.2**
OCAC				*eS*	**Sg**	**07 03 50.7**	**+2.3**
OCAC				*i*		07 03 56.6	
	comp=Z,174nm,0.3s						
BRRC	**Barranca, Sant**	**1.81**	**258**	*eP*	**Pn**	**07 03 29.3**	**+0.9**
BRRC				*eS*	**Sb**	**07 03 54.1**	**+1.1**
BRRC				*i*		07 03 57.1	
	comp=Z,54nm,0.3s						
RUSC	**La Rusia**	**1.95**	**216**	*eP*	**Pn**	**07 03 30.6**	**-0.1**
RUSC				*eS*	**Sb**	**07 03 57.6**	**0.0**
RUSC				*i*		07 04 05.8	
	comp=Z,37nm,0.4s						
YOPC	**Yopal, Colombi**	**2.17**	**193**	*eS*	**Sn**	**07 04 01.6**	**+1.5**
ELOV	**Elorza**	**2.47**	**101**	*eP*	**Pn**	**07 03 39.3**	**+1.8**
ELOV				*eS*	**Sn**	**07 04 10.0**	**+2.5**
ZARC	**Zaragoza, Cauc**	**2.91**	**270**	*eP*	**Pn**	**07 03 42.8**	**-0.7**
ZARC				*eS*	**Sn**	**07 04 18.8**	**+0.5**
ZARC				*i*		07 04 29.1	
	comp=Z,20nm,0.5s						
VIRV	**Villa del Rosa**	**3.04**	**351**	*eP*	**Pn**	**07 03 46.6**	**+1.2**
CURV	**Curarigua**	**3.18**	**38**	*eP*	**Pn**	**07 03 48.8**	**+1.4**
CURV				*eS*	**Sn**	**07 04 24.3**	**-0.9**
CHIC	**Chingaza**	**3.35**	**212**	*eP*	**Pn**	**07 03 48.2**	**-1.8**
CHIC				*i*		07 04 09.4	
	comp=Z,15nm,0.7s						
TEPV	**Terepaima**	**3.66**	**47**	*eP*	**Pn**	**07 03 55.7**	**+1.8**
VILC	**Villavicencio,**	**3.78**	**208**	*eP*	**Pn**	**07 03 53.1**	**-2.5**
VILC				*i*		07 05 09.5	
	comp=Z,13nm,0.1s						
BAUV	**El Baul**	**4.11**	**69**	*eP*	**Pn**	**07 04 00.6**	**+0.5**
BAUV				*eS*	**Sn**	**07 04 46.6**	**-1.4**
MAPV	**Macapo**	**4.15**	**55**	*eP*	**Pn**	**07 04 01.5**	**+0.8**
SJAC	**San Juan de Ar**	**4.64**	**206**	*eP*	**Pn**	**07 04 05.2**	**-2.2**
MONV	**Montecano**	**4.85**	**23**	*eP*	**Pn**	**07 04 10.9**	**+0.7**
TURV	**Turiamo**	**5.00**	**54**	*eP*	**Pn**	**07 04 13.1**	**+0.8**
TURV				*eS*	**Sn**	**07 05 06.9**	**-3.1**

*IDC **05** 07:15:47.9±0.7,58.93N×31.03W,h0km,mb4.1/14, mb1 4.3/17,mb1mx4.1/47,mbtmp4.2/17,ML3.5/3,Error ellipse: s-maj=19.4km s-min=14.7km az=16.0*
*REY **05** 07:15:50.9,58.18N×26.59W,h10km,ML3.4,ML3.2*
*MOS **05** 07:15:50.4±1.0,59.12N×30.57W,h10km,mb4.8/46, MS4.6/7,Error ellipse: s-maj=10.0km s-min=8.5km az=72.7*
*NEIC **05** 07:15:51.3±0.3,58.93N×30.54W,h10km,mb4.7/37,Error ellipse: s-maj=10.0km s-min=4.8km az=4.0*
*CSEM **05** 07:15:51.7±0.1,59.09N×30.49W,h10km,mb4.8/66,Error ellipse: s-maj=5.0km s-min=4.4km az=160.0*
*GCMT **05** 07:15:51.3±0.2,59.12N×30.80W,h14km±1km,MW5.1/103, Moment Tensor Solution. s30,c32; s103,c160; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-4.62±.28; $M_{\theta\theta}$0.69±.18; $M_{\phi\phi}$3.94±.19; $M_{r\theta}$1.74±.47; $M_{\theta\phi}$1.28±.12; $M_{\phi r}$0.14±.36; Best double couple: M_o4.79400×10^{16} NP1:∅±216.00000°,δ52.00000°,λ-69.00000°. NP2: ϕs4.00000°,δ43.00000°,λ-114.00000°. Principal axes: T 4.4410, Plg5.0000°, Azm291.0000°; N 0.7100, Plg16.0000°, Azm22.0000°; P -5.1460, Plg73.0000°, Azm185.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*ISCJB **05** 07:15:51.5±0.2,59.17N±0.02×30.52W±0.05,h17km, mb4.6/91,MS4.7/16 Error ellipse: s-maj=4.0km s-min=3.0km az=137.6*

ISC 05 07:15:52.3±0.4,59.00N±0.06×30.61W±0.04,h17km,n312, σ1§82/335,mb4.7/91,MS4.7/18,9C-6D,Reykjanes Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IRNE	**Reykjanes**	**6.14**	**35**	P	**Pn**	**07 17 21.1**	**-0.9**
	baz=17						
IRNE	**Reykjanes**	**6.14**	**35**	P	**Pn**	**07 17 21.1**	**-0.9**
	baz=17						
IRNE	**Reykjanes**	**6.14**	**35**	P	**Pn**	**07 17 21.1**	**-0.9**
IGRV	**Grindav??k**	**6.24**	**35**	P	**Pn**	**07 17 21.8**	**-1.6**
	baz=18						
IGRV				S	**Sn**	**07 18 34.8**	**+0.5**
	baz=18						
IGRV	**Grindav??k**	**6.24**	**35**	P	**Pn**	**07 17 21.8**	**-1.6**
	baz=18						
IGRV				S	**Sn**	**07 18 34.8**	**+0.5**
	baz=18						
IGRV	**Grindav??k**	**6.24**	**35**	P	**Pn**	**07 17 21.8**	**-1.6**
IGRV				S	**Sn**	**07 18 34.8**	**+0.5**
INYL	**Nylenda**	**6.25**	**34**	P	**Pn**	**07 17 22.8**	**-0.7**
	baz=16						
INYL				S	**Sn**	**07 18 34.8**	**+0.4**
	baz=16						
INYL	**Nylenda**	**6.25**	**34**	P	**Pn**	**07 17 22.8**	**-0.7**
	baz=16						
INYL				S	**Sn**	**07 18 34.8**	**+0.4**
	baz=16						
INYL	**Nylenda**	**6.25**	**34**	P	**Pn**	**07 17 22.8**	**-0.7**
INYL				S	**Sn**	**07 18 34.8**	**+0.4**
IVOG	**Vogar**	**6.35**	**35**	P	**Pn**	**07 17 24.2**	**-0.6**
	baz=18						
IVOG				S	**Sn**	**07 18 37.0**	**+0.2**
	baz=18						
IVOG	**Vogar**	**6.35**	**35**	P	**Pn**	**07 17 24.2**	**-0.6**
	baz=18						
IVOG				S	**Sn**	**07 18 37.0**	**+0.2**
	baz=18						
IVOG	**Vogar**	**6.35**	**35**	P	**Pn**	**07 17 24.2**	**-0.6**
IVOG				S	**Sn**	**07 18 37.0**	**+0.2**
IKAS	**Kald??rsel**	**6.55**	**36**	P	**Pn**	**07 17 24.6**	**-3.0**
	baz=20						
IKAS				S	**Sn**	**07 18 40.4**	**-1.3**
	baz=20						
IKAS	**Kald??rsel**	**6.55**	**36**	P	**Pn**	**07 17 24.6**	**-3.0**
	baz=20						
IKAS				S	**Sn**	**07 18 40.4**	**-1.3**
	baz=20						
IKAS	**Kald??rsel**	**6.55**	**36**	P	**Pn**	**07 17 24.6**	**-3.0**
IKAS				S	**Sn**	**07 18 40.4**	**-1.3**
ISAN	**Sandskeio**	**6.66**	**37**	P	**Pn**	**07 17 25.3**	**-3.8**
	baz=20						
ISAN				S	**Sn**	**07 18 43.2**	**-1.3**
	baz=20						
ISAN	**Sandskeio**	**6.66**	**37**	P	**Pn**	**07 17 25.3**	**-3.8**
	baz=20						
ISAN				S	**Sn**	**07 18 43.2**	**-1.3**
	baz=20						
ISAN	**Sandskeio**	**6.66**	**37**	P	**Pn**	**07 17 25.3**	**-3.8**
ISAN				S	**Sn**	**07 18 43.2**	**-1.3**
IBJA	**Bjarnastaoir**	**6.66**	**38**	P	**Pn**	**07 17 26.0**	**-3.2**
	baz=22						
IBJA				S	**Sn**	**07 18 41.4**	**-3.2**
	baz=22						
IBJA	**Bjarnastaoir**	**6.66**	**38**	P	**Pn**	**07 17 26.0**	**-3.2**
	baz=22						
IBJA				S	**Sn**	**07 18 41.4**	**-3.2**
	baz=22						
IBJA	**Bjarnastaoir**	**6.66**	**38**	P	**Pn**	**07 17 26.0**	**-3.2**
IBJA				S	**Sn**	**07 18 41.4**	**-3.2**
IKUD	**Kuludalsa**	**6.76**	**34**	P	**Pn**	**07 17 30.4**	**-0.1**
	baz=18						
IKUD				S	**Sn**	**07 18 47.9**	**+0.9**
	baz=18						
IKUD	**Kuludalsa**	**6.76**	**34**	P	**Pn**	**07 17 30.4**	**-0.1**
IKUD				S	**Sn**	**07 18 47.9**	**+0.9**
ISOL	**Solvholt**	**6.77**	**39**	P	**Pn**	**07 17 26.2**	**-4.4**
	baz=23						
ISOL				S	**Sn**	**07 18 43.1**	**-4.1**
	baz=23						
ISOL	**Solvholt**	**6.77**	**39**	P	**Pn**	**07 17 26.2**	**-4.4**
	baz=23						
ISOL				S	**Sn**	**07 18 43.1**	**-4.1**
	baz=23						
ISOL	**Solvholt**	**6.77**	**39**	P	**Pn**	**07 17 26.2**	**-4.4**
ISOL				S	**Sn**	**07 18 43.1**	**-4.1**
IASM	**Asmuli**	**6.81**	**40**	P	**Pn**	**07 17 26.8**	**-4.5**
	baz=25						
IASM				S	**Sn**	**07 18 44.1**	**-4.2**
	baz=25						
IASM	**Asmuli**	**6.81**	**40**	P	**Pn**	**07 17 26.8**	**-4.5**
	baz=25						
IASM				S	**Sn**	**07 18 44.1**	**-4.2**
	baz=25						
IASM	**Asmuli**	**6.81**	**40**	S	**Sn**	**07 18 44.1**	**-4.2**
IKRO	**Krokur**	**6.83**	**38**	P	**Pn**	**07 17 26.8**	**-4.7**
	baz=22						
IKRO				S	**Sn**	**07 18 45.9**	**-2.7**
	baz=22						
IKRO	**Krokur**	**6.83**	**38**	P	**Pn**	**07 17 26.8**	**-4.7**
	baz=22						
IKRO				S	**Sn**	**07 18 45.9**	**-2.7**
	baz=22						
IKRO	**Krokur**	**6.83**	**38**	P	**Pn**	**07 17 26.8**	**-4.7**
IKRO				S	**Sn**	**07 18 45.9**	**-2.7**
IHEI	**Heioarbar**	**6.86**	**37**	P	**Pn**	**07 17 28.3**	**-3.7**
	baz=21						
IHEI				S	**Sn**	**07 18 47.5**	**-2.0**
	baz=21						
IHEI	**Heioarbar**	**6.86**	**37**	P	**Pn**	**07 17 28.3**	**-3.7**
	baz=21						
IHEI				S	**Sn**	**07 18 47.5**	**-2.0**
	baz=21						
IHEI	**Heioarbar**	**6.86**	**37**	P	**Pn**	**07 17 28.3**	**-3.7**
IHEI				S	**Sn**	**07 18 47.5**	**-2.0**
ISAU	**Saurbar**	**6.98**	**40**	P	**Pn**	**07 17 29.0**	**-4.6**
	baz=25						
ISAU				S	**Sn**	**07 18 49.0**	**-3.5**
	baz=25						
ISAU	**Saurbar**	**6.98**	**40**	P	**Pn**	**07 17 29.0**	**-4.6**
	baz=25						
ISAU				S	**Sn**	**07 18 49.0**	**-3.5**
	baz=25						
ISAU	**Saurbar**	**6.98**	**40**	S	**Sn**	**07 18 49.0**	**-3.5**
BORG	**Borgarnes**	**7.24**	**33**	Pn	**Pn**	**07 17 37.2**	**+0.1**
	7.3nm,0.3s,baz=196,slow=7.9,SNR=27						
BORG				Sn	**Sn**	**07 18 58.3**	**-0.5**
	0.6nm,0.3s,baz=139,slow=9.3,SNR=4.1						
BORG	**Borgarnes**	**7.24**	**33**	*eP*	**Pn**	**07 17 38.2**	**+1.1**
BORG				*e*		07 18 58.6	
BORG	**Borgarnes**	**7.24**	**33**	*eP*	**Pn**	**07 17 38.2**	**+1.1**
BORG				*eS*	**Sn**	**07 18 58.6**	**-0.2**
BORG	**Borgarnes**	**7.24**	**33**	*ePn*	**Pn**	**07 17 38.2**	**+1.1**
BORG				*eSn*	**Sn**	**07 18 58.5**	**-0.2**
IASB	**`sbjarnarst**	**7.24**	**33**	P	**Pn**	**07 17 36.9**	**-0.2**
	baz=19						
IASB	**`sbjarnarst**	**7.24**	**33**	P	**Pn**	**07 17 36.9**	**-0.2**
	baz=19						
IASB	**`sbjarnarst**	**7.24**	**33**	P	**Pn**	**07 17 36.9**	**-0.2**
IGYG	**Gygjarholskot**	**7.24**	**39**	P	Pn	07 17 31.4	-5.7
	baz=24						
IGYG				S	**Sn**	**07 18 57.4**	**-1.4**
	baz=24						
IGYG	**Gygjarholskot**	**7.24**	**39**	P	Pn	07 17 31.4	-5.7
	baz=24						
IGYG				S	**Sn**	**07 18 57.4**	**-1.4**
	baz=24						
IGYG	**Gygjarholskot**	**7.24**	**39**	S	**Sn**	**07 18 57.4**	**-1.4**
SUMG	**Summit**	**13.98**	**350**	*i* P	**Pn**	**07 19 07.6**	**-2.1**
SUMG	**Summit**	**13.98**	**350**	*eP*	**Pn**	**07 19 07.6**	**-2.1**
SUMG	**Summit**	**13.98**	**350**	*eP*	**Pn**	**07 19 07.6**	**-2.1**
EKA	**Eskdalemuir Ar**	**15.28**	**92**	Pn	**Pn**	**07 19 26.5**	**-0.4**
	baz=295,slow=11,SNR=10						
CWF	**Charnwood Fore**	**17.50**	**98**	*eSn*	**Sn**	**07 23 10.2**	**+0.9**
CWF	**Charnwood Fore**	**17.50**	**98**	*eSn*	**Sn**	**07 23 10.2**	**+0.9**
SCHQ	**Schefferville**	**20.04**	**274**	P	**P**	**07 20 20.2**	**-4.0**
	0.2nm,0.3s,baz=65,slow=18,SNR=3.3						
SCHQ	**Schefferville**	**20.04**	**274**	*eP*	**P**	**07 20 23.2**	**-0.9**
	25nm,1.3s						
SCHQ				*eS*	Sn	07 24 12.3	+1.6
KONO	**Kongsberg**	**20.31**	**71**	*eP*	Pn	07 20 28.0	-1.0
KONO				pmax	pmax		
	comp=Z,16nm,1.0s						
KONO	**Kongsberg**	**20.31**	**71**	*eP*	Pn	07 20 28.0	-1.0
	comp=Z,16nm,1.0s						
KONO	**Kongsberg**	**20.31**	**71**	*eP*	Pn	07 20 28.0	-1.0
	comp=Z,16nm,1.0s						
FLN	**La Foliniere**	**20.32**	**107**	*eP*	Pn	07 20 30.7	+1.4
FLN				pmax	pmax		
	comp=Z,45nm,1.2s						
NB2	**NORSAR Subarra**	**20.74**	**66**	P	**P**	**07 20 32.0**	**+0.3**
	comp=Z,13nm,1.2s,SNR=3.9						
NB2	**NORSAR Subarra**	**20.74**	**66**	P	**P**	**07 20 32.0**	**+0.3**
	comp=Z,13nm,1.2s,baz=282,slow=11						
NB200	**NORSAR Array S**	**20.74**	**66**	*eP*	**P**	**07 20 31.3**	**-0.4**
NOA	**NORSAR Array B**	**20.74**	**66**	P	**P**	**07 20 31.3**	**-0.4**
	comp=Z,3.3nm,1.0s,baz=282,slow=10,SNR=4.1						
MUD	**Monsted U'grnd**	**21.17**	**80**	P	**P**	**07 20 37.9**	**+1.6**
MUD	**Monsted U'grnd**	**21.17**	**80**	P	**P**	**07 20 37.9**	**+1.6**
BAIF	**Baives**	**21.86**	**99**	*eP*	**P**	**07 20 44.0**	**+0.2**
BAIF				pmax	pmax		
	comp=Z,55nm,1.1s						
BAIF	**Baives**	**21.86**	**99**	*eP*	**P**	**07 20 44.0**	**+0.2**
	comp=Z,55nm,1.1s						
PGAV	**Gavieira, Arco**	**22.02**	**131**	*eLR*	LR	07 26 05.5	
DOU	**Dourbes**	**22.04**	**98**	XP	sP	07 20 52.8	+0.1
GIVF	**Givet**	**22.15**	**98**	*eP*	**P**	**07 20 47.9**	**+1.0**
GIVF				pmax	pmax		
	comp=Z,33nm,1.3s						
GIVF	**Givet**	**22.15**	**98**	*eP*	**P**	**07 20 47.9**	**+1.0**
	comp=Z,33nm,1.3s						
BCLA	**Clavier**	**22.21**	**97**	XP	sP	07 20 52.6	-1.9
MEM	**Membach**	**22.46**	**96**	P	**P**	**07 20 51.5**	**+1.3**
MVO	**Moncorvo**	**23.19**	**130**	*eLR*	LR	07 26 28.9	
TCF	**Toulx Ste Croi**	**23.35**	**108**	*eP*	**P**	**07 21 00.5**	**+1.0**
TCF				pmax	pmax		
	comp=Z,30nm,1.3s						
TCF	**Toulx Ste Croi**	**23.35**	**108**	*eP*	**P**	**07 21 00.5**	**+1.0**
	comp=Z,30nm,1.3s						
SSF	**Saint Saulge**	**23.45**	**106**	*eP*	**P**	**07 21 01.6**	**+1.1**
SSF				pmax	pmax		
	comp=Z,37nm,1.

HINF pmax pmax
comp=Z,12nm,1.1s
HINF Hinteralfeld 24.63 100 *e*P **P 07 21 12.5 +0.9**
comp=Z,12nm,1.1s
EPF Esparros 24.87 116 *e*P **P 07 21 14.5 +0.7**
EPF pmax pmax
comp=Z,14nm,1.2s
EPF Esparros 24.87 116 *e*P **P 07 21 14.5 +0.7**
comp=Z,14nm,1.2s
PESTR Estremoz 24.96 134 *e*P **P 07 21 15.3 +0.8**
comp=Z,22nm,1.0s
PESTR Estremoz 24.96 134 *e*P **P 07 21 15.3 +0.8**
comp=Z,22nm,1.0s
PQI Presque Isle 25.37 258 *e*P **P 07 21 16.6 -1.6**
comp=Z,40nm,1.2s
ARA0 ARCESS Array S 25.52 43 *e*P **P 07 21 19.3 0.0**
ARCES ARCESS Array B 25.52 43 P **P 07 21 19.3 0.0**
comp=Z,5.1nm,0.6s,baz=269,slow=9.6,SNR=15
VIVF Saint-Julien-I 25.58 108 *e*P **P 07 21 20.5 +0.3**
VIVF pmax pmax
comp=Z,23nm,1.5s
VIVF Saint-Julien-I 25.58 108 *e*P **P 07 21 20.5 +0.3**
comp=Z,23nm,1.5s
MESJ Messejana 25.63 136 *e*P **P 07 21 22.7 +2.1**
MESJ Messejana 25.63 136 *e*P **P 07 21 22.7 +2.1**
CLL Collm 25.67 88 *e*P **P 07 21 21.0 +0.1**
CLL Collm 25.67 88 *e*P **P 07 21 21.0 +0.1**
CLL Collm 25.67 88 *e*P **P 07 21 21.0 +0.1**
CLL *e*S S 07 26 18.0 +30
CLL Lm MLR 07 31 00.0
comp=N,1μm,18.5s
CLL Lm MLR 07 31 00.0
comp=E,1μm,19.8s
CLL Lm MLR 07 31 00.0
comp=Z,1μm,20.5s
ESDC Sonseca Array 25.70 127 P **P 07 21 20.7 -0.6**
comp=Z,2.5nm,0.8s,baz=328,slow=9.3,SNR=9.6
ES19 SONSECA Array 25.70 127 *e*P **P 07 21 22.2 +0.9**
ES19 SONSECA Array 25.70 127 *e*P **P 07 21 22.2 +0.9**
PTEO Sao Teotonio 25.72 137 *e*P **P 07 21 24.0 +2.6**
comp=Z,78nm,1.5s
PTEO Sao Teotonio 25.72 137 *e*P **P 07 21 24.0 +2.6**
comp=Z,78nm,1.5s
LMQ La Malbaie 25.96 261 *e*P **P 07 21 19.9 -3.7**
comp=Z,24nm,1.3s
NKC Novy Kostel 26.01 91 *e*P **P 07 21 23.1 -0.9**
NKC AMS AMS 07 35 10.0
comp=Z,2μm,15.1s
NKC Novy Kostel 26.01 91 *e*P **P 07 21 23.1 -0.9**
NKC MLR MLR
comp=Z,2μm,15.1s
NKC Novy Kostel 26.01 91 *e*P **P 07 21 23.1 -0.9**
comp=Z,2μm,15.1s
LPL La Plagne 26.14 104 *e*P **P 07 21 27.7 +2.3**
LPL pmax pmax
comp=Z,11nm,1.0s
LPL La Plagne 26.14 104 *e*P **P 07 21 27.7 +2.3**
comp=Z,11nm,1.0s
PVAQ Vaqueiros 26.20 135 *e*P **P 07 21 25.8 0.0**
comp=Z,45nm,1.7s
PVAQ *e*LR LR 07 27 49.3
PVAQ Vaqueiros 26.20 135 *e*P **P 07 21 25.8 0.0**
comp=Z,45nm,1.7s
PBDV Barranco-do-Ve 26.27 136 *e*P **P 07 21 27.4 +1.0**
comp=Z,74nm,1.4s
PBDV Barranco-do-Ve 26.27 136 *e*P **P 07 21 27.4 +1.0**
comp=Z,74nm,1.4s
OUL Oulu 26.35 53 *e*P **P 07 21 27.3 +0.4**
OUL Oulu 26.35 53 *e*P **P 07 21 27.3 +0.4**
TUE Stuetta 26.80 100 *e*P **P 07 21 31.1 -0.3**
comp=Z,17nm,1.2s
TUE Stuetta 26.80 100 *e*P **P 07 21 31.1 -0.3**
comp=Z,17nm,1.2s
PVCC Panska Ves 26.93 88 AMS AMS 07 34 40.0
comp=Z,2μm,15.2s
PRA Prague 27.13 89 AMS AMS 07 36 20.0
comp=Z,2μm,14.0s
PRU Pruhonice 27.23 89 *e*P **P 07 21 34.8 -0.2**
PRU AMS AMS 07 36 20.0
comp=Z,2μm,15.7s
PRU Pruhonice 27.23 89 *e*P **P 07 21 34.8 -0.2**
PRU MLR MLR
comp=Z,2μm,15.7s
PRU Pruhonice 27.23 89 *e*P **P 07 21 34.8 -0.2**
comp=Z,2μm,15.7s
KHC Kasperske Hory 27.26 92 AMS AMS 07 35 20.0
comp=Z,2μm,15.7s
GOPC GO Pecny, Ondr 27.41 89 AMS AMS 07 36 30.0
comp=Z,2μm,15.8s
MSF Maaselka 27.43 50 *e*P **P 07 21 38.2 +1.6**
MSF pmax pmax
comp=Z,13nm,1.4s
MSF Maaselka 27.43 50 *e*P **P 07 21 38.2 +1.6**
comp=Z,13nm,1.4s
FIA0 FINESS Array S 27.50 60 *e*P **P 07 21 38.1 +0.8**
FIA0 FINESS Array S 27.50 60 *e*P **P 07 21 38.0 +0.8**
FIA0 FINESS Array S 27.50 60 *e*P **P 07 21 38.0 +0.8**
FINES FINESS Array B 27.50 60 P **P 07 21 38.0 +0.8**
comp=Z,8.7nm,0.9s,baz=307,slow=6.9,SNR=14
PMOZ Porto Moniz, M 27.69 155 *e*LR LR 07 28 31.6
UPC Upice 27.69 87 AMS AMS 07 36 10.0
comp=Z,1μm,15.2s
DPC Dobruska-Polom 27.94 87 *e*P **P 07 21 42.0 +0.6**
DPC AMS AMS 07 37 30.0
comp=Z,1μm,13.7s
DPC Dobruska-Polom 27.94 87 *e*P **P 07 21 42.0 +0.6**
DPC MLR MLR
comp=Z,1μm,13.7s
DPC Dobruska-Polom 27.94 87 *e*P **P 07 21 42.0 +0.6**
comp=Z,1μm,13.7s
TREC Trest 28.14 90 AMS AMS 07 36 40.0
comp=Z,2μm,14.9s
VSU Vasula 28.99 66⇓ *e*P **P 07 21 53.5 +3.0**
VSU pmax pmax
comp=Z,21nm,0.8s
LVZ Lovozero 29.07 45⇓ *e*P **P 07 21 51.9 +0.6**
LVZ pmax pmax
comp=Z,21nm,1.5s
LVZ Lovozero 29.07 45 *e*P **P 07 21 51.9 +0.6**
comp=Z,21nm,1.5s
OKC Ostrava-Krasne 29.19 87 AMS AMS 07 38 20.0
comp=Z,1μm,13.3s
TMCR Tamitsa 31.60 51 *e*P **P 07 22 13.8 +0.3**
TMCR pmax pmax
comp=Z,19nm,0.9s
TMCR Tamitsa 31.60 51 *e*P **P 07 22 13.8 +0.3**
comp=Z,19nm,0.9s
KLMR Klimovskoe 33.67 56 *e*P **P 07 22 30.1 -1.6**
KLMR pmax pmax
comp=Z,28nm,1.3s
KLMR Klimovskoe 33.67 56 *e*P **P 07 22 30.1 -1.6**
comp=Z,28nm,1.3s
KIEV Kiev 34.33 77⇑ *e*P **P 07 22 37.8 +0.3**
KIEV pmax pmax
comp=Z,10.0nm,1.2s
KIEV Kiev 34.33 77 *e*P **P 07 22 37.8 +0.3**
comp=Z,10.0nm,1.2s
KIEV Kiev 34.33 77 *e*P **P 07 22 37.4 -0.1**
comp=Z,9.6nm,1.2s
AKASG Malin Array Be 34.34 77 P **P 07 22 37.8 +0.2**
comp=Z,2.8nm,0.8s,baz=309,slow=8.2,SNR=11
AKBB Malin Array Si 34.34 77 *e*P **P 07 22 37.5 -0.1**
AKBB pmax pmax
comp=Z,11nm,1.3s
AKBB Malin Array Si 34.34 77 *e*P **P 07 22 37.5 -0.1**
comp=Z,11nm,1.3s
AKBB Malin Array Si 34.34 77 *e*P **P 07 22 37.5 -0.1**
comp=Z,11nm,1.3s
OBN Obninsk 35.35 66⇓ *e*P **P 07 22 46.2 0.0**
OBN *PP **pP 07 22 49.0 -2.4**
OBN *SP **sP 07 22 52.0 -1.6**
OBN *e* 07 24 01.8
OBN *e*SS **S 07 28 25.1 +5.7**
OBN *e*SS **SnSn 07 30 40.4 +2.6**
OBN pmax pmax
comp=Z,6.0nm,0.9s
OBN MLR MLR
comp=Z,691nm,16.0s
OBN Obninsk 35.35 66 *e*P **P 07 22 46.2 0.0**
comp=Z,6.0nm,0.9s
ULM Lac du Bonnet 37.34 286 *e*P **P 07 23 04.6 +1.3**
ULM pmax pmax
comp=Z,33nm,1.4s
ULM Lac du Bonnet 37.34 286 *e*P **P 07 23 04.6 +1.3**
comp=Z,32nm,1.4s
ULM Lac du Bonnet 37.34 286 *e*P **P 07 23 04.6 +1.3**
comp=Z,32nm,1.4s
FFC Flin Flon 37.55 296 *i* P **P 07 23 05.8 +0.8**
YKA Yellowknife Ar 38.47 312 P **P 07 23 09.3 -3.4**
comp=Z,3.7nm,0.9s,baz=56,slow=9.8,SNR=3.1
YKA Yellowknife Ar 38.47 312 *i* P **P 07 23 14.6 +1.9**
YKA pmax pmax
comp=Z,6.0nm,1.0s
YKB5 Yellowknife Ar 38.47 312 *e*P **P 07 23 09.3 -3.4**
AGMN Agassiz Nation 38.59 284 *e*P **P 07 23 15.8 +1.8**
AGMN Agassiz Nation 38.59 284 *e*P **P 07 23 15.8 +1.8**
MDND Maddock 40.77 286 *e*P **P 07 23 34.8 +2.8**
comp=Z,29nm,1.2s
MDND Maddock 40.77 286 *e*P **P 07 23 34.8 +2.8**
comp=Z,29nm,1.2s
SOKR Solikamsk 41.53 50 *e*P **P 07 23 38.0 -0.1**
SOKR pmax pmax
comp=Z,9.0nm,0.9s
SOKR MLR MLR
comp=Z,661nm,21.0s
ANN Anapa 42.38 78 *e*P **P 07 23 44.1 -1.1**
ANN pmax pmax
comp=Z,11nm,0.6s
ANN MLR MLR
comp=Z,743nm,16.0s
BR231 Keskin MP Arra 43.57 87 *e*P **P 07 23 56.2 +1.1**
BR231 Keskin MP Arra 43.57 87 *e*P **P 07 23 56.2 +1.1**
EDM Edmonton 43.70 300 *e*P **P 07 23 53.9 -2.0**
EDM pmax pmax
comp=Z,17nm,1.2s
EDM Edmonton 43.70 300 *e*P **P 07 23 53.9 -2.0**
comp=Z,17nm,1.2s
PBMO Polar Bluff 44.03 267 *e*P **P 07 24 00.1 +1.4**
comp=Z,12nm,1.0s
PBMO Poplar Bluff 44.03 267 *e*P **P 07 24 00.1 +1.4**
comp=Z,12nm,1.0s
BR101 Keskin Array S 44.10 86 *e*P **P 07 24 00.2 +0.8**
BR101 Keskin Array S 44.10 86 *e*P **P 07 24 00.2 +0.8**
BRTR Keskin Array B 44.10 86 P **P 07 24 00.2 +0.8**
comp=Z,1.4nm,1.0s,baz=329,slow=6.3,SNR=5.5
ARU Arti 44.30 53*c i*P **P 07 24 01.2 +0.6**
ARU 07 25 43.7
ARU S **S 07 30 36.7 +3.2**
ARU SS **SS 07 33 51.8 +0.3**
ARU pmax pmax
comp=Z,14nm,1.2s
ARU Arti 44.30 53 *e*P **P 07 24 00.3 -0.3**
comp=Z,12nm,1.1s
ARU Arti 44.30 53 *e*P **P 07 24 00.3 -0.3**
comp=Z,12nm,1.1s
TAM Tamanrasset 44.33 129 *e*P **P 07 24 01.7 +0.3**
TAM pmax pmax
comp=Z,7.0nm,1.0s
TAM Tamanrasset 44.33 129 *e*P **P 07 24 01.7 +0.3**
comp=Z,7.4nm,1.0s
TAM Tamanrasset 44.33 129 *e*P **P 07 24 01.7 +0.3**
comp=Z,7.4nm,1.0s
EGMT Eagleton 45.60 293 *e*P **P 07 24 13.1 +1.9**
comp=Z,31nm,1.7s
EGMT Eagleton 45.60 293 *e*P **P 07 24 13.1 +1.9**
comp=Z,31nm,1.7s
KIV Kislovodsk 45.63 75 *e*P **P 07 24 12.1 +0.6**
KIV pmax pmax
comp=Z,9.0nm,1.1s
KIV Kislovodsk 45.63 75 *e*P **P 07 24 12.1 +0.6**
comp=Z,9.0nm,1.1s
KBZ Khabaz 45.90 75 P **P 07 24 14.1 +0.7**
comp=Z,1.4nm,0.8s,baz=353,slow=8.1,SNR=2.9
DAWY Dawson 45.96 325 *e*P **P 07 24 16.3 +2.6**
comp=Z,24nm,1.8s
DAWY Dawson 45.96 325 *e*P **P 07 24 16.3 +2.6**
comp=Z,24nm,1.8s
X301 Grenbrier Sit 46.23 267 *e*P **P 07 24 17.8 +1.6**
comp=Z,17nm,1.2s
X301 Greenbrier Sit 46.23 267 *e*P **P 07 24 17.8 +1.6**
comp=Z,17nm,1.2s
RLMT Red Lodge 47.44 290 *e*P **P 07 24 27.0 +1.2**
comp=Z,19nm,1.6s
RLMT Red Lodge 47.44 290 *e*P **P 07 24 27.0 +1.2**
comp=Z,19nm,1.6s
IL1 Eielson Array 47.55 329 *e*P **P 07 24 26.6 +0.4**
IL1 Eielson Array 47.55 329 *e*P **P 07 24 26.6 +0.4**
ILAR Eielson Array 47.56 329 P **P 07 24 24.4 -1.7**
comp=Z,1.9nm,1.0s,baz=32,slow=6.3,SNR=11
ILB Eielson Array 47.56 329 *e*P **P 07 24 27.4 +1.2**
ILB Eielson Array 47.56 329 *e*P **P 07 24 27.4 +1.2**
COLA College 47.73 329⇑ *e*P **P 07 24 29.6 +2.1**
COLA pmax pmax
comp=Z,5.0nm,1.1s
COLA College 47.73 329 *e*P **P 07 24 29.6 +2.1**
comp=Z,5.0nm,1.1s
BOZ Bozeman (W) 48.24 292 *e*P **P 07 24 31.0 -0.9**
BOZ pmax pmax
comp=Z,9.0nm,1.4s
BOZ Bozeman (W) 48.24 292 *e*P **P 07 24 31.0 -0.9**
comp=Z,8.7nm,1.4s
BOZ Bozeman (W) 48.24 292 *e*P **P 07 24 31.0 -0.9**
comp=Z,8.7nm,1.4s
YPP Pitchstone Pla 48.81 290 *e*P **P 07 24 37.5 +1.0**
comp=Z,22nm,1.9s
YPP Pitchstone Pla 48.81 290 *e*P **P 07 24 37.5 +1.0**
comp=Z,22nm,1.9s
TIXI Tiksi 48.85 8⇓ *e*P **P 07 24 36.9 +0.9**
TIXI pmax pmax
comp=Z,5.0nm,0.8s
TIXI Tiksi 48.85 8 *e*P **P 07 24 36.9 +0.9**
comp=Z,5.0nm,0.8s
IMW Indian Meadow 49.15 290 *e*P **P 07 24 38.8 -0.3**
comp=Z,4.4nm,1.3s
IMW Indian Meadow 49.15 290 *e*P **P 07 24 38.8 -0.3**
comp=Z,4.4nm,1.3s
BW06 Boulder Array 49.31 288 *e*P **P 07 24 41.0 +0.7**
BW06 Boulder Array 49.31 288 *e*P **P 07 24 41.0 +0.7**
PDAR Pinedale Array 49.31 288 P **P 07 24 36.4 -3.9**
comp=Z,0.5nm,0.6s,baz=54,slow=7.5,SNR=4.8
GNI Garni 49.47 77*ce*P **P 07 24 43.8 +2.4**
GNI pmax pmax
comp=Z,67nm,1.7s
GNI Garni 49.47 77 *e*P **P 07 24 43.8 +2.4**
comp=Z,67nm,1.7s
ISCO Idaho Springs 49.56 282 *e*P **P 07 24 42.4 +0.1**
ISCO pmax pmax
comp=Z,5.0nm,1.3s
ISCO Idaho Springs 49.56 282 *e*P **P 07 24 42.4 +0.1**
comp=Z,5.0nm,1.3s
ISCO Idaho Springs 49.56 282 *e*P **P 07 24 42.4 +0.1**
comp=Z,5.0nm,1.3s
B08A Colville Reser 49.82 299 *e*P **P 07 24 42.4 -1.4**
comp=Z,9.8nm,1.6s
ABKAR Akbulak array 49.97 59 *e*P **P 07 24 44.8 -0.1**
comp=Z,61nm,1.0s
ABKAR Akbulak array 49.97 59 *e*P **P 07 24 44.8 -0.1**
comp=Z,61nm,1.0s
BRVK Borovoye 51.45 49⇑ *i*P **P 07 24 56.6 +0.6**
BRVK pmax pmax
comp=Z,15nm,1.2s
BRVK Borovoye 51.45 49 *i* P **P 07 24 56.6 +0.6**
comp=Z,15nm,1.2s
TOA1 Torodi Ar. Sit 51.71 138 *e*P **P 07 24 56.7 -1.7**
comp=Z,14nm,1.4s
TOA1 Torodi Ar. Sit 51.71 138 *e*P **P 07 24 56.7 -1.7**
comp=Z,14nm,1.4s
TOA0 Torodi Ar. Sit 51.72 138 *e*P **P 07 24 57.2 -1.2**
TOA0 Torodi Ar. Sit 51.72 138 *e*P **P 07 24 57.1 -1.2**
TORD Torodi Ar. Bea 51.72 138 P **P 07 24 56.7 -1.7**
comp=Z,3.5nm,0.9s,baz=340,slow=7.0,SNR=18
SPUT South Promonto 51.83 288 *e*P **P 07 25 01.1 +1.9**
comp=Z,9.9nm,1.3s
SPUT South Promonto 51.83 288 *e*P **P 07 25 01.1 +1.9**
comp=Z,9.9nm,1.3s
P18A Preston Nutter 52.02 285 *e*P P 07 25 05.7 +4.9
comp=Z,14nm,1.7s
BILL Bilibino 52.66 352⇑ *e*P **P 07 25 06.2 +1.4**
BILL pmax pmax
comp=Z,8.0nm,0.8s
BILL MLR MLR
comp=Z,351nm,18.0s
BILL Bilibino 52.66 352 *e*P **P 07 25 06.2 +1.4**
comp=Z,351nm,18.0s
WVOR Wild Horse Val 53.96 294 *e*P **P 07 25 17.3 +2.4**
WVOR pmax pmax
comp=Z,14nm,1.8s
WVOR Wild Horse Val 53.96 294 *e*P **P 07 25 17.3 +2.4**
comp=Z,14nm,1.8s
WVOR Wild Horse Val 53.96 294 *e*P **P 07 25 17.3 +2.4**
comp=Z,14nm,1.8s
NVS Novosibirsk 54.76 40 *e*P **P 07 25 18.8 -1.5**
NVS pmax pmax
comp=Z,8.0nm,1.0s
NVS Novosibirsk 54.76 40 *e*P **P 07 25 18.8 -1.5**
comp=Z,8.0nm,1.0s
MOD Modoc Plateau 55.15 295 *e*P **P 07 25 24.8 +1.2**
comp=Z,13nm,1.8s
MOD Modoc Plateau 55.15 295 *e*P **P 07 25 24.8 +1.2**
comp=Z,13nm,1.8s
LCMT Little Creek M 55.53 286 *e*P **P 07 25 26.7 +0.4**
comp=Z,9.7nm,1.8s
LCMT Little Creek M 55.53 286 *e*P **P 07 25 26.7 +0.4**
comp=Z,9.7nm,1.8s
R11A Troy Canyon, C 55.65 288 *e*P **P 07 25 28.2 +1.0**
comp=Z,1.4nm,0.9s
R11A Troy Canyon, C 55.65 288 *e*P **P 07 25 28.2 +1.0**
comp=Z,1.4nm,0.9s
DBIC Dimbokro 55.82 149 P **P 07 25 26.4 -2.0**
comp=Z,4.7nm,0.9s,baz=321,slow=3.2,SNR=4.2
DBIC Dimbokro 55.82 149 *e*P **P 07 25 26.1 -2.3**
DBIC pmax pmax
comp=Z,29nm,1.7s
DBIC Dimbokro 55.82 149 *e*P **P 07 25 26.1 -2.3**
comp=Z,29nm,1.7s
KURK Kurchatov 56.49 46⇑ *e*P **P 07 25 33.2 +0.4**
KURK pmax pmax
comp=Z,19nm,1.1s
KURK Kurchatov 56.49 46 *e*P **P 07 25 33.2 +0.4**
comp=Z,19nm,1.1s
KURK Kurchatov 56.49 46 *e*P **P 07 25 32.3 -0.5**
YERR Yerington 56.92 292 *e*P **P 07 25 38.7 +2.3**
comp=Z,6.9nm,1.4s
YERR Yerington 56.92 292 *e*P **P 07 25 38.7 +2.3**
comp=Z,6.9nm,1.4s
MAKZ Makanchi 60.97 46 *e*P **P 07 26 04.6 +0.5**
MAKZ pmax pmax
comp=Z,5.0nm,1.2s
MAKZ Makanchi 60.97 46 *e*P **P 07 26 04.6 +0.5**
comp=Z,4.9nm,1.2s
MAKZ Makanchi 60.97 46 *e*P **P 07 26 04.6 +0.5**
comp=Z,4.9nm,1.2s
MK31 Makanchi Array 61.10 46 *e*P **P 07 26 04.4 -0.6**
MK31 Makanchi Array 61.10 46 *e*P **P 07 26 04.4 -0.6**
MK31 Makanchi Array 61.10 46 *e*P **P 07 26 04.4 -0.6**
MKAR Makanchi Array 61.10 46 *e*P **P 07 26 04.6 -0.4**
MKAR pmax pmax
comp=Z,12nm,0.8s
MKAR Makanchi Array 61.10 46 *e*P **P 07 26 04.6 -0.4**
comp=Z,12nm,0.8s
MKAR Makanchi Array 61.10 46 *e*P **P 07 26 04.5 -0.4**
comp=Z,12nm,0.8s
MK01 Makanchi Array 61.12 46 *e*P **P 07 26 04.0 -1.1**
MK01 Makanchi Array 61.12 46 *e*P **P 07 26 04.0 -1.1**
AAK Ala-Archa 61.45 54⇓ *e*P **P 07 26 08.9 +1.3**
AAK pmax pmax
comp=Z,6.0nm,1.0s
AAK Ala-Archa 61.45 54 *e*P **P 07 26 08.9 +1.3**
comp=Z,6.0nm,1.0s
HELC Santa Helena 62.87 232 *e*P **P 07 26 17.2 -0.4**
KSH Kashi 64.66 55 *e*P **P 07 26 30.1 +1.2**
KSH pP pP 07 26 35.0 +0.6
KSH PP **PP 07 28 53.0 +2.4**
KSH S **S 07 35 06.3 -1.6**
KSH sS pS 07 35 14.3 -0.4
KSH Kashi 64.66 55 SS SS 07 39 18.4 +0.5
KSH pmax pmax
comp=Z,83nm,3.6s
KSH LR LR
comp=N,170nm,10.4s
KSH LR LR
comp=E,93nm,8.2s
KSH LR LR
comp=Z,340nm,13.4s
PRAC Prado 64.86 230 *e*P **P 07 26 31.5 +1.2**
comp=Z,7.4nm,0.8s
WMQ Urumqi 65.62 44 P **P 07 26 37.3 +2.3**
WMQ sP sP 07 26 44.3 +1.7
WMQ pmax pmax
comp=Z,13nm,0.7s
WMQ pmax pmax
comp=Z,57nm,3.7s
WMQ LR LR
comp=N,110nm,20.3s
WMQ LR LR
comp=E,120nm,29.7s
WMQ LR LR
comp=Z,81nm,25.9s
UOSS Minazif 67.36 79 *e*P **P 07 26 46.5 +0.3**
comp=Z,16nm,1.3s
UOSS Minazif 67.36 79 *e*P **P 07 26 46.5 +0.3**
comp=Z,16nm,1.3s
SONA1 Songino Array 67.83 30 *e*P **P 07 26 48.9 -0.2**
SONA1 Songino Array 67.83 30 *e*P **P 07 26 48.9 -0.2**
SONA0 Songino Array 67.84 30 *e*P **P 07 26 48.6 -0.5**
comp=Z,7.2nm,1.3s
SONA0 Songino Array 67.84 30 *e*P **P 07 26 48.6 -0.5**
comp=Z,7.2nm,1.3s
SONM Songino Array 67.84 30 P **P 07 26 48.6 -0.6**
comp=Z,2.0nm,0.9s,baz=318,slow=2.0,SNR=4.6
H10N2 ASCENSION HYDR 67.86 163 T T 08 40 22.9
baz=348,slow=75,SNR=6.3
H10N3 ASCENSION HYDR 67.87 163 T T 08 40 23.1
baz=348,slow=75,SNR=6.4
H10N1 ASCENSION HYDR 67.88 163 T T 08 40 49.2
baz=348,slow=75,SNR=14
ULN Ulaanbaatar 67.98 29⇑ *i*P **P 07 26 50.8 +0.8**
ULN pmax pmax
comp=Z,9.0nm,1.3s
ULN Ulaanbaatar 67.98 29 *i* P **P 07 26 50.8 +0.8**
comp=Z,9.0nm,1.3s
H10S1 ASCENSION HYDR 68.93 163 T T 08 41 40.9
baz=350,slow=75,SNR=6.6
H10S3 ASCENSION HYDR 68.94 163 T T 08 41 45.4
baz=350,slow=75,SNR=4.6
H10S2 ASCENSION HYDR 68.95 163 T T 08 41 42.7
baz=350,slow=75,SNR=2.9
GTA Gaotai 73.68 38 *e*P **P 07 27 25.1 +0.3**
GTA pP pP 07 27 28.7 -1.7
GTA sP sP 07 27 31.3 -1.1
GTA pmax pmax
comp=Z,7.0nm,1.3s
YSS Yuzh-Sakhalins 74.27 5⇑ *e*P **P 07 27 31.9 +4.0**
YSS pmax pmax
comp=Z,71nm,1.3s
CN2 Changchun 75.66 18 *e*P **P 07 27 34.8 -1.2**
CN2 pmax pmax
comp=Z,10.0nm,0.5s
HHC Hu-ho-hao-te 75.68 29 *e*P **P 07 27 35.6 -0.7**
HHC S **S 07 37 14.1 -2.6**
HHC pmax pmax
comp=Z,12nm,0.7s
HHC pmax pmax
comp=Z,100nm,8.1s
HHC LR LR
comp=N,140nm,17.3s
HHC LR LR
comp=E,190nm,17.9s
HHC LR LR
comp=Z,87nm,18.5s
VLA Vladivostok 77.21 13⇓ *e*P **P 07 27 46.7 +1.9**
VLA pmax pmax
comp=Z,58nm,0.7s
VLA Vladivostok 77.21 13 *e*P **P 07 27 46.7 +1.9**
comp=Z,58nm,0.7s
LZH Lanzhou 77.98 36 *e*P **P 07 27 50.4 +0.9**
LZH pP pP 07 27 53.8 -1.3
LZH sP sP 07 27 55.7 -1.4
LZH pmax pmax
comp=Z,44nm,1.4s
KMI Kunming 87.75 41 P **P 07 28 40.8 +0.4**
KMI pmax pmax
comp=Z,8.0nm,0.5s
CMAR Chiang Mai Arr 92.50 47 P **P 07 29 01.5 -0.8**
comp=Z,1.7nm,0.3s,baz=305,slow=10,SNR=5.6
CMAR Chiang Mai Arr 92.50 47 *i* P **P 07 29 03.0 +0.7**
CMAR pmax pmax
comp=Z,1.0nm,0.3s
CMAR Chiang Mai Arr 92.50 47 *i* P **P 07 29 03.0 +0.7**
comp=Z,1.0nm,0.3s
WRA Warramunga Arr 139.49 22 PKP **PKPdf 07 35 16.6 -1.9**
comp=Z,1.0nm,0.9s,baz=330,slow=2.5,SNR=3.9
WR1 Warramunga Arr 139.49 22 *e*PKPdf **PKPdf 07 35 16.6 -1.9**
ASAR Alice Springs 143.02 24 PKhKP PKPpre 07 35 14.6
comp=Z,0.4nm,0.9s,baz=323,slow=2.7,SNR=2.9
ASAR PKP **PKPdf 07 35 24.2 -0.5**
comp=Z,1.0nm,0.8s,baz=298,slow=2.3,SNR=6.9
VNDA Vanda 160.93 188 PKPab **PKPab 07 36 31.8 -0.6**

comp=Z,1.8nm,1.0s,baz=160,slow=3.5,SNR=8.0
VNDA Vanda 160.93 188 *e*PKIKP **PKPdf 07 35 48.3 -1.1**
VNDA *e* 07 36 32.7
VNDA Vanda 160.93 188 *e*PKPdf **PKPdf 07 35 48.3 -1.1**
VNDA *e*PKPab **PKPab 07 36 32.7 +0.3**

IDC ***05*** *07:19:01.2±0.4, 59.°04N×30.°83W, h0km, mb4.3/29, mb1 4.4/32, mb1mx4.3/54, mbtmp4.3/32, ML3.3/2, MS4.5/35, Ms1 4.5/35, ms1mx4.3/53, Error ellipse: s-maj=13.5km s-min=10.0km az=0.0*
MOS ***05*** *07:19:02.3±1.1, 59.°19N×30.°78W, h10km, mb5.0/59, MS4.5/11, Error ellipse: s-maj=8.1km s-min=7.6km az=48.2*
GCMT ***05*** *07:19:03.6±0.2, 59.°16N×30.°67W, h13km±1km, MW5.1/107, Moment Tensor Solution. s23,c25; s107,c162; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr-5.71±.34; Mθθ1.51±.22; Mφφ4.20±.22; Mrθ2.02±.66; Mrφ1.85±.12; Mθφ-1.57±.51; Best double couple: M08.88800×10^16 NP1:φ8.00000°,δ51.00000°,λ-115.00000°. NP2: φ224.00000°,δ45.00000°,λ-62.00000°. Principal axes: T 5.1670, Plg3.0000°, Azm115.0000°; N 1.4430, Plg19.0000°, Azm24.0000°; P -6.6090, Plg71.0000°, Azm214.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
REY ***05*** *07:19:03.0, 58.°28N×27.°12W, h10km*
CSEM ***05*** *07:19:03.7±0.1, 59.°18N×30.°75W, h10km, mb4.8/99*
NEIC ***05*** *07:19:03.6±0.2, 59.°04N×30.°70W, h10km, mb4.7/93, Error ellipse: s-maj=6.8km s-min=3.2km az=0.0*
ISCJB ***05*** *07:19:03.0±0.1, 59.°19N±0.°02×30.°81W±0.°03, h17km, mb4.7/165, MS4.4/45, Error ellipse: s-maj=3.6km s-min=2.0km az=169.1*
ISC 05 07:19:04.5±0.3, 59.°08N±0.°05×30.°71W±0.°04, h17km, n64, σ1°49/617, mb4.7/165, MS4.5/45, 15C-15D, Reykjanes Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IRNE	**Reykjanes**	**6.11**	**35**	P	**Pn**	**07 20 33.3**	**-0.6**
	baz=19						
IRNE	**Reykjanes**	**6.11**	**35**	P	**Pn**	**07 20 33.3**	**-0.6**
	baz=19						
IRNE	**Reykjanes**	**6.11**	**35**	P	**Pn**	**07 20 33.3**	**-0.6**
IGRV	**Grindav??k**	**6.21**	**36**	P	**Pn**	**07 20 34.7**	**-0.6**
	baz=20						
IGRV				S	**Sn**	**07 21 45.6**	**-0.3**
	baz=20						
IGRV	**Grindav??k**	**6.21**	**36**	P	**Pn**	**07 20 34.7**	**-0.6**
	baz=20						
IGRV				S	**Sn**	**07 21 45.6**	**-0.3**
	baz=20						
IGRV	**Grindav??k**	**6.21**	**36**	P	**Pn**	**07 20 34.7**	**-0.6**
IGRV				S	**Sn**	**07 21 45.6**	**-0.3**
INYL	**Nylenda**	**6.22**	**34**	P	**Pn**	**07 20 35.7**	**+0.3**
	baz=19						
INYL				S	**Sn**	**07 21 47.7**	**+1.7**
	baz=19						
INYL	**Nylenda**	**6.22**	**34**	P	**Pn**	**07 20 35.7**	**+0.3**
	baz=19						
INYL				S	**Sn**	**07 21 47.7**	**+1.7**
	baz=19						
INYL	**Nylenda**	**6.22**	**34**	P	**Pn**	**07 20 35.7**	**+0.3**
IVOG	**Vogar**	**6.32**	**35**	P	**Pn**	**07 20 36.4**	**-0.3**
	baz=20						
IVOG				S	**Sn**	**07 21 48.7**	**+0.3**
	baz=20						
IVOG	**Vogar**	**6.32**	**35**	P	**Pn**	**07 20 36.4**	**-0.3**
	baz=20						
IVOG				S	**Sn**	**07 21 48.7**	**+0.3**
	baz=20						
IVOG	**Vogar**	**6.32**	**35**	P	**Pn**	**07 20 36.4**	**-0.3**
IKAS	**Kald??rsel**	**6.52**	**37**	P	**Pn**	**07 20 36.9**	**-2.6**
	baz=22						
IKAS				S	**Sn**	**07 21 53.5**	**+0.2**
	baz=22						
IKAS	**Kald??rsel**	**6.52**	**37**	P	**Pn**	**07 20 36.9**	**-2.6**
	baz=22						
IKAS				S	**Sn**	**07 21 53.5**	**+0.2**
	baz=22						
IKAS	**Kald??rsel**	**6.52**	**37**	P	**Pn**	**07 20 36.9**	**-2.6**
IKAS				S	**Sn**	**07 21 53.5**	**+0.2**
ISAN	**Sandskeio**	**6.63**	**37**	P	**Pn**	**07 20 38.0**	**-3.0**
	baz=23						
ISAN				S	**Sn**	**07 21 55.5**	**-0.6**
	baz=23						
ISAN	**Sandskeio**	**6.63**	**37**	P	**Pn**	**07 20 38.0**	**-3.0**
	baz=23						
ISAN				S	**Sn**	**07 21 55.5**	**-0.6**
	baz=23						
ISAN	**Sandskeio**	**6.63**	**37**	P	**Pn**	**07 20 38.0**	**-3.0**
ISAN				S	**Sn**	**07 21 55.5**	**-0.6**
IBJA	**Bjarnastaoir**	**6.64**	**39**	P	**Pn**	**07 20 36.8**	**-4.3**
	baz=24						
IBJA				S	**Sn**	**07 21 54.6**	**-1.7**
	baz=24						
IBJA	**Bjarnastaoir**	**6.64**	**39**	P	**Pn**	**07 20 36.8**	**-4.3**
	baz=24						
IBJA				S	**Sn**	**07 21 54.6**	**-1.7**
	baz=24						
IBJA	**Bjarnastaoir**	**6.64**	**39**	S	**Sn**	**07 21 54.6**	**-1.7**
IKUD	**Kuludalsa**	**6.73**	**35**	P	**Pn**	**07 20 41.3**	**-1.1**
	baz=20						
IKUD	**Kuludalsa**	**6.73**	**35**	P	**Pn**	**07 20 41.3**	**-1.1**
	baz=20						
IKUD	**Kuludalsa**	**6.73**	**35**	P	**Pn**	**07 20 41.3**	**-1.1**
ISOL	**Solvholt**	**6.75**	**40**	P	**Pn**	**07 20 38.1**	**-4.5**
	baz=25						
ISOL				S	**Sn**	**07 21 56.0**	**-2.9**
	baz=25						
ISOL	**Solvholt**	**6.75**	**40**	P	**Pn**	**07 20 38.1**	**-4.5**
	baz=25						
ISOL				S	**Sn**	**07 21 56.0**	**-2.9**
	baz=25						
ISOL	**Solvholt**	**6.75**	**40**	S	**Sn**	**07 21 56.0**	**-2.9**
IASM	**Asmuli**	**6.79**	**41**	P	**Pn**	**07 20 40.0**	**-3.3**
	baz=27						
IASM				S	**Sn**	**07 21 56.7**	**-3.3**
	baz=27						
IASM	**Asmuli**	**6.79**	**41**	P	**Pn**	**07 20 40.0**	**-3.3**
	baz=27						
IASM				S	**Sn**	**07 21 56.7**	**-3.3**
	baz=27						
IASM	**Asmuli**	**6.79**	**41**	S	**Sn**	**07 21 56.7**	**-3.3**
IKRO	**Krokur**	**6.80**	**38**	P	**Pn**	**07 20 39.6**	**-3.8**
	baz=24						
IKRO	**Krokur**	**6.80**	**38**	P	**Pn**	**07 20 39.6**	**-3.8**
	baz=24						
IHEI	**Heioarbar**	**6.84**	**37**	P	**Pn**	**07 20 40.8**	**-3.1**
	baz=23						
IHEI	**Heioarbar**	**6.84**	**37**	P	**Pn**	**07 20 40.8**	**-3.1**
	baz=23						
IHEI	**Heioarbar**	**6.84**	**37**	P	**Pn**	**07 20 40.8**	**-3.1**
ISAU	**Saurbar**	**6.96**	**41**	P	**Pn**	**07 20 41.4**	**-4.2**
	baz=27						
ISAU				S	**Sn**	**07 22 02.3**	**-1.9**
	baz=27						
ISAU	**Saurbar**	**6.96**	**41**	P	**Pn**	**07 20 41.4**	**-4.2**
	baz=27						
ISAU				S	**Sn**	**07 22 02.3**	**-1.9**
	baz=27						
ISAU	**Saurbar**	**6.96**	**41**	S	**Sn**	**07 22 02.3**	**-1.9**
BORG	**Borgarnes**	**7.21**	**34**	Pn	**Pn**	**07 20 50.1**	**+1.2**
	12nm,0.3s,baz=212,slow=7.4,SNR=28						
BORG				Sn	**Sn**	**07 22 12.0**	**+1.8**
	2.2nm,0.3s,baz=98,slow=21,SNR=5.6						
SFJD	**Kangerlussuaq**	**11.97**	**320**	LR	LR	07 25 39.0	
	comp=Z,4μm,21.9s,baz=124,slow=33						
JMIC	**Jan Mayen**	**15.04**	**29**	LR	LR	07 26 51.6	
	comp=Z,1μm,19.9s,baz=232,slow=31						
ESK	**Eskdalemuir**	**15.32**	**92**	*e*P	**Pn**	**07 22 40.9**	**+1.2**
ESK				pmax	pmax		
	comp=Z,135nm,1.8s						
ESK	**Eskdalemuir**	**15.32**	**92**	*e*Pn	**Pn**	**07 22 40.9**	**+1.2**
	comp=Z,134nm,1.8s						
ESK	**Eskdalemuir**	**15.32**	**92**	*e*Pn	**Pn**	**07 22 40.9**	**+1.2**
	comp=Z,134nm,1.8s						
EKA	**Eskdalemuir Ar**	**15.34**	**92**	Pn	**Pn**	**07 22 41.0**	**+1.1**
	baz=298,slow=9.0,SNR=13						
EKA				LR	LR	07 27 22.9	
	comp=Z,2μm,20.4s,baz=285,slow=33						
DAG	**Danmarks Havn**	**18.27**	**9**	P	**P**	**07 23 18.3**	**+1.5**
DAG	**Danmarks Havn**	**18.27**	**9**	P	**P**	**07 23 18.3**	**+1.5**
FRB	**Frobisher Bay**	**18.49**	**301**	LR	LR	07 29 30.7	
	comp=Z,3μm,19.4s,baz=86,slow=34						
SCHQ	**Schefferville**	**19.98**	**274**	P	**P**	**07 23 33.2**	**-2.6**
	comp=Z,0.1nm,0.3s,baz=50,slow=6.7,SNR=3.6						
SCHQ				LR	LR	07 29 51.4	
	comp=Z,2μm,20.2s,baz=66,slow=33						
SCHQ	**Schefferville**	**19.98**	**274**	*e*P	**P**	**07 23 33.1**	**-2.6**
	comp=Z,105nm,1.9s						
FLN	**La Foliniere**	**20.39**	**107**	*e*P	**P**	**07 23 41.2**	**+0.9**
FLN				pmax	pmax		
	comp=Z,167nm,1.5s						
FLN	**La Foliniere**	**20.39**	**107**	*e*P	**P**	**07 23 41.2**	**+0.9**
	comp=Z,167nm,1.5s						
NBO00	**NORSAR Array S**	**20.56**	**67**	*e*P	**P**	**07 23 42.0**	**0.0**
NBO00	**NORSAR Array S**	**20.56**	**67**	*e*P	**P**	**07 23 42.0**	**0.0**
NBO02	**NORSAR Array S**	**20.59**	**67**	*e*P	**P**	**07 23 42.8**	**+0.4**
NBO02	**NORSAR Array S**	**20.59**	**67**	*e*P	**P**	**07 23 42.8**	**+0.4**
NAO01	**NORSAR Array S**	**20.65**	**67**	*e*P	Pn	07 23 45.4	+0.1
NAO01	**NORSAR Array S**	**20.65**	**67**	*e*P	Pn	07 23 45.4	+0.1
LDF	**La Druitiere**	**20.69**	**107**	*e*P	**P**	**07 23 44.2**	**+0.8**
LDF				pmax	pmax		
	comp=Z,208nm,1.8s						
LDF	**La Druitiere**	**20.69**	**107**	*e*P	**P**	**07 23 44.2**	**+0.8**
	comp=Z,208nm,1.8s						
NB2	**NORSAR Subarra**	**20.76**	**67**	P	**P**	**07 23 44.6**	**+0.4**
	comp=Z,127nm,2.0s,baz=282,slow=9.8,SNR=6.9						
NB2	**NORSAR Subarra**	**20.76**	**67**	P	**P**	**07 23 44.6**	**+0.4**
	comp=Z,127nm,2.0s,baz=282,slow=10						
NB200	**NORSAR Array S**	**20.76**	**67**	*e*P	**P**	**07 23 44.0**	**-0.2**
NB200	**NORSAR Array S**	**20.76**	**67**	*e*P	**P**	**07 23 44.0**	**-0.2**
NOA	**NORSAR Array B**	**20.76**	**67**	P	**P**	**07 23 44.0**	**-0.2**
	comp=Z,6.5nm,1.1s,baz=282,slow=10,SNR=6.1						
NOA				LR	LR	07 30 58.5	
	comp=Z,898nm,19.1s,baz=285,slow=34						
NC303	**NORSAR Array S**	**20.79**	**66**	*e*P	**P**	**07 23 43.3**	**-1.2**
NC303	**NORSAR Array S**	**20.79**	**66**	*e*P	**P**	**07 23 43.3**	**-1.2**
NB201	**NORSAR Array S**	**20.80**	**66**	*e*P	**P**	**07 23 44.6**	**0.0**
NB201	**NORSAR Array S**	**20.80**	**66**	*e*P	**P**	**07 23 44.6**	**0.0**
NC405	**NORSAR Array S**	**20.98**	**66**	*e*P	**P**	**07 23 47.1**	**+0.5**
NC405	**NORSAR Array S**	**20.98**	**66**	*e*P	**P**	**07 23 47.1**	**+0.5**
NC602	**NORSAR Array S**	**20.99**	**67**	*e*P	Pn	07 23 48.2	-1.0
NC602	**NORSAR Array S**	**20.99**	**67**	*e*P	Pn	07 23 48.2	-1.1
MUD	**Monsted U'grnd**	**21.21**	**80**	P	**P**	**07 23 52.0**	**+3.0**
MUD	**Monsted U'grnd**	**21.21**	**80**	P	**P**	**07 23 52.0**	**+3.0**
SNF	**Seneffe**	**21.69**	**98**	P	**P**	**07 23 54.5**	**+0.2**
BAIF	**Baives**	**21.93**	**99**	*e*P	**P**	**07 23 59.2**	**+2.4**
BAIF				pmax	pmax		
	comp=Z,109nm,1.2s						
BAIF	**Baives**	**21.93**	**99**	*e*P	**P**	**07 23 59.2**	**+2.4**
	comp=Z,109nm,1.2s						
MFF	**Saint Martin d**	**22.05**	**111**	*e*P	**P**	**07 24 00.1**	**+2.0**
MFF				pmax	pmax		
	comp=Z,123nm,1.7s						
MFF	**Saint Martin d**	**22.05**	**111**	*e*P	**P**	**07 24 00.1**	**+2.0**
	comp=Z,123nm,1.7s						
DOU	**Dourbes**	**22.10**	**98**	P	**P**	**07 23 59.1**	**+0.5**
	comp=Z,46nm,2.2s						
PGAV	**Gavieira, Arco**	**22.11**	**131**	*e*P	**P**	**07 24 00.9**	**+2.0**
	comp=Z,99nm,1.7s						
PGAV				*e*LR	LR	07 25 57.4	
	comp=Z,1μm,20.0s						
PGAV	**Gavieira, Arco**	**22.11**	**131**	*e*P	**P**	**07 24 00.9**	**+2.0**
	comp=Z,99nm,1.7s						
GIVF	**Givet**	**22.21**	**98**	*e*P	**P**	**07 24 04.4**	**+4.5**
GIVF				pmax	pmax		
	comp=Z,148nm,1.6s						
BCLA	**Clavier**	**22.27**	**97**	P	**P**	**07 24 02.4**	**+2.0**
	comp=Z,71nm,1.9s						
PCAB	**Cabril**	**22.42**	**131**	*e*P	**P**	**07 24 04.2**	**+2.0**
	comp=Z,65nm,1.7s						
PCAB	**Cabril**	**22.42**	**131**	*e*P	**P**	**07 24 04.2**	**+2.0**
	comp=Z,65nm,1.7s						
MEM	**Membach**	**22.52**	**96**	P	**P**	**07 24 04.2**	**+1.1**
	comp=Z,23nm,2.0s						
MEM	**Membach**	**22.52**	**96**	P	**P**	**07 24 04.8**	**+1.7**
MEM	**Membach**	**22.52**	**96**	P	**P**	**07 24 04.8**	**+1.7**
BUG	**Bochum--Univer**	**22.68**	**93**	P	**P**	**07 24 07.6**	**+2.8**
BUG	**Bochum--Univer**	**22.68**	**93**	P	**P**	**07 24 07.6**	**+2.8**
POLO	**Lamas de Olo**	**22.80**	**131**	*e*P	**P**	**07 24 07.6**	**+1.3**
	comp=Z,34nm,1.6s						
POLO	**Lamas de Olo**	**22.80**	**131**	*e*P	**P**	**07 24 07.6**	**+1.3**
	comp=Z,34nm,1.6s						
PBRG	**Braganca**	**22.85**	**129**	*e*P	**P**	**07 24 08.6**	**+1.8**
	comp=Z,69nm,1.6s						
PBRG	**Braganca**	**22.85**	**129**	*e*P	**P**	**07 24 08.6**	**+1.8**
	comp=Z,69nm,1.6s						
MVO	**Moncorvo**	**23.28**	**130**	*e*P	**P**	**07 24 14.9**	**+3.7**
MVO				*e*LR	LR	07 26 15.9	
	comp=Z,79nm,1.7s						
MVO	**Moncorvo**	**23.28**	**130**	*e*P	**P**	**07 24 14.9**	**+3.7**
	comp=Z,79nm,1.7s						
TCF	**Toulx Ste Croi**	**23.42**	**109**	*e*P	**P**	**07 24 12.9**	**+0.4**
TCF				pmax	pmax		
	comp=Z,124nm,1.8s						
TCF	**Toulx Ste Croi**	**23.42**	**109**	*e*P	**P**	**07 24 12.9**	**+0.4**
	comp=Z,124nm,1.8s						
AVF	**Avril sur Loir**	**23.63**	**106**	*e*P	**P**	**07 24 14.2**	**-0.3**
AVF				pmax	pmax		
	comp=Z,170nm,2.0s						
AVF	**Avril sur Loir**	**23.63**	**106**	*e*P	**P**	**07 24 14.2**	**-0.3**
	comp=Z,170nm,2.0s						
PCAS	**Casmilo, Conde**	**23.67**	**134**	*e*P	**P**	**07 24 15.5**	**+0.6**
	comp=Z,61nm,1.4s						
PCAS	**Casmilo, Conde**	**23.67**	**134**	*e*P	**P**	**07 24 15.5**	**+0.6**
	comp=Z,61nm,1.4s						
SMF	**Signal de Mont**	**23.98**	**106**	*e*P	**P**	**07 24 19.1**	**+1.3**
SMF				pmax	pmax		
	comp=Z,17nm,1.1s						
SMF	**Signal de Mont**	**23.98**	**106**	*e*P	**P**	**07 24 19.1**	**+1.3**
	comp=Z,17nm,1.1s						
PCBR	**Castelo Branco**	**24.24**	**132**	*e*P	**P**	**07 24 20.7**	**+0.4**
	comp=Z,40nm,2.4s						
PCBR	**Castelo Branco**	**24.24**	**132**	*e*P	**P**	**07 24 20.7**	**+0.4**
	comp=Z,40nm,2.4s						
SPA0	**Spitsbergen Ar**	**24.44**	**21**	*e*P	**P**	**07 24 21.8**	**0.0**
SPA0	**Spitsbergen Ar**	**24.44**	**21**	*e*P	**P**	**07 24 21.8**	**0.0**
SPITS	**Spitsbergen Ar**	**24.44**	**21**	P	**P**	**07 24 21.8**	**0.0**
	comp=Z,19nm,1.0s,baz=265,slow=18,SNR=4.3						
PMRV	**Marv??o**	**24.63**	**133**	*e*P	**P**	**07 24 25.3**	**+1.4**
	comp=Z,39nm,1.7s						
PMRV				*e*LR	LR	07 27 10.1	
	comp=Z,1μm,18.0s						
PMRV	**Marv??o**	**24.63**	**133**	*e*P	**P**	**07 24 25.3**	**+1.4**
	comp=Z,39nm,1.7s						
PESTR	**Estremoz**	**25.05**	**134**	*e*P	**P**	**07 24 28.1**	**+0.5**
	comp=Z,40nm,2.4s						
PESTR	**Estremoz**	**25.05**	**134**	*e*P	**P**	**07 24 28.1**	**+0.5**
	comp=Z,40nm,2.4s						
BFO	**Black Forest**	**25.12**	**98**	*i* P	**P**	**07 24 29.2**	**+1.0**
BFO	**Black Forest**	**25.12**	**98**	*i* P	**P**	**07 24 29.2**	**+1.0**
CABF	**La Chapelle**	**25.12**	**103**	*e*P	**P**	**07 24 28.4**	**+0.1**
CABF				pmax	pmax		
	comp=Z,24nm,1.1s						
CABF	**La Chapelle**	**25.12**	**103**	*e*P	**P**	**07 24 28.4**	**+0.1**
	comp=Z,24nm,1.1s						
PQI	**Presque Isle**	**25.34**	**257**	*e*P	**P**	**07 24 31.8**	**+1.6**
	comp=Z,35nm,1.3s						
PQI	**Presque Isle**	**25.34**	**257**	*e*P	**P**	**07 24 31.8**	**+1.6**
	comp=Z,35nm,1.3s						
PNCL	**Nicolau / Gran**	**25.37**	**136**	*e*P	**P**	**07 24 32.0**	**+1.5**
	comp=Z,37nm,1.4s						
PNCL	**Nicolau / Gran**	**25.37**	**136**	*e*P	**P**	**07 24 32.0**	**+1.5**
	comp=Z,37nm,1.4s						
MOX	**Moxa**	**25.39**	**91**	P	**P**	**07 24 33.1**	**+2.5**
MOX	**Moxa**	**25.39**	**91**	P	**P**	**07 24 33.1**	**+2.5**
ARA0	**ARCESS Array S**	**25.50**	**43**	*e*P	**P**	**07 24 30.9**	**-0.5**
ARA0	**ARCESS Array S**	**25.50**	**43**	*e*P	**P**	**07 24 30.9**	**-0.5**
ARCES	**ARCESS Array B**	**25.50**	**43**	P	**P**	**07 24 30.6**	**-0.8**
	comp=Z,16nm,0.9s,baz=272,slow=8.4,SNR=23						
ARCES				LR	LR	07 32 46.3	
	comp=Z,538nm,18.4s,baz=272,slow=32						
ARE0	**ARCESS Array S**	**25.50**	**43**	*e*P	**P**	**07 24 31.1**	**-0.3**
	comp=Z,29nm,1.1s						
ARE0	**ARCESS Array S**	**25.50**	**43**	*e*P	**P**	**07 24 31.1**	**-0.3**
	comp=Z,29nm,1.1s						
CLL	**Collm**	**25.72**	**88**	*i* P	**P**	**07 24 36.4**	**+2.8**
CLL				MLR	MLR		
	comp=Z,2μm,21.0s						
CLL	**Collm**	**25.72**	**88**	*i* P	**P**	**07 24 36.4**	**+2.8**
	comp=Z,2μm,21.0s						
CLL	**Collm**	**25.72**	**88**	*i* P	**P**	**07 24 34.7**	**+1.1**
	comp=Z,40nm,1.9s						
CLL				Lm	MLR	07 34 00.0	
	comp=Z,2μm,19.2s						
PAB	**San Pablo**	**25.73**	**128**	*e*P	**P**	**07 24 36.1**	**+2.2**
PAB				pmax	pmax		
	comp=Z,19nm,1.1s						
PAB	**San Pablo**	**25.73**	**128**	*e*P	**P**	**07 24 36.1**	**+2.2**
	comp=Z,19nm,1.1s						
GRA1	**Grafenberg Arr**	**25.75**	**93**	*e*P	**P**	**07 24 36.2**	**+2.2**
GRF	**Grafenberg Arr**	**25.75**	**93**	*e*P	**P**	**07 24 36.2**	**+2.2**
ESDC	**Sonseca Array**	**25.78**	**127**	P	**P**	**07 24 34.8**	**+0.4**
	comp=Z,3.9nm,0.8s,baz=326,slow=9.6,SNR=14						
ESDC				LR	LR	07 32 32.8	
	comp=Z,438nm,20.5s,baz=325,slow=31						
ESLA	**Sonseca Array**	**25.78**	**127**	*e*P	**P**	**07 24 36.7**	**+2.4**
	comp=Z,72nm,2.0s						
ESLA	**Sonseca Array**	**25.78**	**127**	*e*P	**P**	**07 24 36.7**	**+2.4**
	comp=Z,72nm,2.0s						
ES19	**SONSECA Array**	**25.79**	**127**	*e*P	**P**	**07 24 34.8**	**+0.4**
ES19	**SONSECA Array**	**25.79**	**127**	*e*P	**P**	**07 24 34.8**	**+0.4**
PTEO	**Sao Teotonio**	**25.81**	**137**	*e*P	**P**	**07 24 37.0**	**+2.5**
PTEO	**Sao Teotonio**	**25.81**	**137**	*e*P	**P**	**07 24 37.0**	**+2.5**
PCVE	**Castro Verde**	**25.97**	**136**	*e*P	**P**	**07 24 36.3**	**+0.3**
	comp=Z,90nm,1.6s						
PCVE	**Castro Verde**	**25.97**	**136**	*e*P	**P**	**07 24 36.3**	**+0.3**
	comp=Z,90nm,1.6s						
ORIF	**Oris-en-Rattie**	**26.21**	**106**	*e*P	**P**	**07 24 41.6**	**+3.4**
ORIF				pmax	pmax		
	comp=Z,129nm,2.2s						
ORIF	**Oris-en-Rattie**	**26.21**	**106**	*e*P	**P**	**07 24 41.6**	**+3.4**
	comp=Z,129nm,2.2s						
PVAQ	**Vaqueiros**	**26.29**	**135**	*e*LR	LR	07 27 54.0	
	comp=Z,2μm,18.0s						
OUL	**Oulu**	**26.35**	**53**	*e*P	**P**	**07 24 40.5**	**+1.3**
OUL	**Oulu**	**26.35**	**53**	*e*P	**P**	**07 24 40.5**	**+1.3**
BRG	**Berggiesshubel**	**26.46**	**88**	*e*P	**P**	**07 24 41.7**	**+1.4**
	comp=Z,61nm,2.2s						
	comp=N,2μm,14.6s						
	comp=E,1μm,21.3s						
	comp=Z,2μm,15.1s						
BRG	**Berggiesshubel**	**26.46**	**88**	*e*P	**P**	**07 24 41.7**	**+1.4**
BRG				pmax	pmax		
	comp=Z,61nm,2.2s						
BRG				MLR	MLR		
	comp=N,2μm,14.6s						
BRG				MLR	MLR		
	comp=E,1μm,21.3s						
BRG				MLR	MLR		
	comp=Z,2μm,15.1s						
BRG	**Berggiesshubel**	**26.46**	**88**	*e*P	**P**	**07 24 41.7**	**+1.4**
	comp=Z,2μm,15.1s						
TUE	**Stuetta**	**26.86**	**100**	*e*P	**P**	**07 24 43.8**	**-0.5**
	comp=Z,77nm,2.0s						
TUE	**Stuetta**	**26.86**	**100**	*e*P	**P**	**07 24 43.8**	**-0.5**
	comp=Z,77nm,2.0s						
DAVOX	**Davos/Dischmat**	**26.93**	**99**	P	**P**	**07 24 46.5**	**+1.7**
	comp=Z,1.0nm,0.4s,baz=330,slow=18,SNR=3.0						
DAVOX				LR	LR	07 34 56.6	
	comp=Z,2μm,18.3s,baz=306,slow=35						
KHC	**Kasperske Hory**	**27.31**	**92**	*e*P	**P**	**07 24 49.2**	**+1.1**
KHC	**Kasperske Hory**	**27.31**	**92**	*e*P	**P**	**07 24 49.2**	**+1.1**
KHC				MLR	MLR		
	comp=Z,2μm,15.7s						
KHC	**Kasperske Hory**	**27.31**	**92**	*e*P	**P**	**07 24 49.2**	**+1.1**
	comp=Z,2μm,15.7s						
MSF	**Maaselka**	**27.42**	**50**	*e*P	**P**	**07 24 49.1**	**+0.3**
MSF				pmax	pmax		
	comp=Z,17nm,1.1s						
MSF	**Maaselka**	**27.42**	**50**	*e*P	**P**	**07 24 49.1**	**+0.3**
	comp=Z,17nm,1.1s						
GOPC	**GO Pecny, Ondr**	**27.46**	**89**	*e*P	**P**	**07 24 49.7**	**+0.4**
GOPC	**GO Pecny, Ondr**	**27.46**	**89**	*e*P	**P**	**07 24 49.7**	**+0.4**
GOPC				MLR	MLR		
	comp=Z,2μm,15.8s						
GOPC	**GO Pecny, Ondr**	**27.46**	**89**	*e*P	**P**	**07 24 49.7**	**+0.4**
	comp=Z,2μm,15.8s						
FIA0	**FINESS Array S**	**27.51**	**60**	*e*P	**P**	**07 24 50.0**	**+0.4**
FIA0	**FINESS Array S**	**27.51**	**60**	*e*P	**P**	**07 24 50.0**	**+0.4**
FIA0	**FINESS Array S**	**27.51**	**60**	*e*P	**P**	**07 24 50.0**	**+0.4**
FINES	**FINESS Array B**	**27.51**	**60**	P	**P**	**07 24 50.0**	**+0.4**
	comp=Z,12nm,0.9s,baz=261,slow=7.5,SNR=3.6						
FINES				LR	LR	07 35 06.2	
	comp=Z,712nm,18.0s,baz=270,slow=35						
GEC2	**GERESS Array S**	**27.55**	**92**	*e*P	**P**	**07 24 51.4**	**+1.1**
GEC2				pmax	pmax		
	comp=Z,5.0nm,1.0s						
GEC2	**GERESS Array S**	**27.55**	**92**	*e*P	**P**	**07 24 51.4**	**+1.1**
	comp=Z,4.8nm,1.0s						
GEC2	**GERESS Array S**	**27.55**	**92**	*e*P	**P**	**07 24 51.4**	**+1.1**
	comp=Z,4.8nm,1.0s						
GERES	**GERESS Array B**	**27.55**	**92**	P	**P**	**07 24 51.4**	**+1.1**
	comp=Z,0.3nm,0.4s,baz=337,slow=12,SNR=3.6						
GERES				LR	LR	07 35 53.6	
	comp=Z,2μm,18.2s,baz=294,slow=37						
PMOZ	**Porto Moniz, M**	**27.78**	**155**	*e*LR	LR	07 28 30.9	
	comp=Z,620nm,20.0s						
VRAC	**Vranov**	**28.76**	**89**	LR	LR	07 36 53.6	
	comp=Z,1μm,18.1s,baz=304,slow=37						
VSU	**Vasula**	**29.01**	**66**⇑	*e*P	**P**	**07 25 05.4**	**+2.4**
VSU				pmax	pmax		
	comp=Z,44nm,1.1s						
VSU	**Vasula**	**29.01**	**66**	*e*P	**P**	**07 25 05.4**	**+2.4**
	comp=Z,44nm,1.1s						
LVZ	**Lovozero**	**29.06**	**45**⇑	*e*P	**P**	**07 25 02.2**	**-1.3**
LVZ				pmax	pmax		
	comp=Z,34

OBN **Obninsk** 35.37 66⇑ *e*P **P** 07 25 59.5 +0.8
OBN *e**PP **pP** 07 26 02.4 -1.5
OBN *e**SP **sP** 07 26 03.3 -2.7
OBN SSS SSS 07 34 16.0
OBN MLR MLR
comp=Z,691nm,16.0s
OBN Obninsk 35.37 66 *e*P **P** 07 25 59.5 +0.8
N54A Moraine State 35.47 261 P **P** 07 25 58.7 -1.1
baz=42
VOIR 35.64 87‖ *i*P **P** 07 26 00.7 -0.6
VOIR 35.64 87‖ P **P** 07 26 00.7 -0.6
VOIR 35.64 87‖ *i*P **P** 07 26 00.7 -0.6
VRI Vrincioaia 36.22 85‖ *i*P P 07 25 59.8 -6.3
VRI Vrincioaia 36.22 85‖ P P 07 25 59.8 -6.3
KIS Kishinev 36.53 82 *e*P **P** 07 26 04.0 -4.8
KIS Kishinev 36.53 82 *e*PP PP 07 27 21.0 -11
KIS LRM MLR 07 42 06.0
comp=Z,600nm,16.0s
KIS Kishinev 36.53 82 *e*P **P** 07 26 04.0 -4.8
KIS *e* 07 31 52.0
KIS MLR MLR
comp=Z,600nm,15.0s
KIS MLR MLR
comp=E,300nm,14.0s
KIS MLR MLR
comp=Z,600nm,16.0s
EYMN Ely 36.55 280 P **P** 07 26 07.5 -1.4
baz=49
EYMN Ely 36.55 280 *e*P **P** 07 26 09.4 +0.5
comp=Z,18nm,1.1s
EYMN Ely 36.55 280 *e*P **P** 07 26 09.4 +0.5
comp=Z,18nm,1.1s
VTS Vitosha 36.68 92⇑ *i*P **P** 07 26 09.4 -0.9
VTS Vitosha 36.68 92⇑ P **P** 07 26 09.4 -0.9
VTS Vitosha 36.68 92⇑ *i*P **P** 07 26 09.4 -0.9
C37A Embarrass 37.04 280 P **P** 07 26 12.0 -1.2
baz=49
ULM Lac du Bonnet 37.27 286 P **P** 07 26 13.9 -1.1
comp=Z,8.2nm,0.8s,baz=59,slow=7.6,SNR=7.5
ULM LR LR 07 40 07.7
comp=Z,1µm,19.2s,baz=67,slow=34
ULM Lac du Bonnet 37.27 286 *e*P **P** 07 26 15.0 -0.1
ULM pmax pmax
comp=Z,15nm,1.0s
ULM Lac du Bonnet 37.27 286 *e*P **P** 07 26 14.9 -0.1
comp=Z,15nm,1.0s
ULM Lac du Bonnet 37.27 286 *e*P **P** 07 26 14.9 -0.1
comp=Z,15nm,1.0s
B35A Bob, Littlefor 37.41 282 P **P** 07 26 14.7 -1.5
baz=49
FFC Flin Flon 37.46 295 *e*P **P** 07 26 17.8 +1.2
FFC pmax pmax
comp=Z,10.0nm,0.9s
FFC Flin Flon 37.46 295 *e*P **P** 07 26 17.8 +1.2
comp=Z,10nm,0.9s
FFC Flin Flon 37.46 295 *e*P **P** 07 26 17.8 +1.2
comp=Z,10nm,0.9s
D37A Cotton 37.54 280 P **P** 07 26 15.9 -1.5
baz=48
G40A Rib Lake 37.68 276 P **P** 07 26 17.1 -1.5
baz=47
B34A Aery, Baudette 37.79 283 P **P** 07 26 18.3 -1.2
baz=49
A33A Warroad 37.87 284 P **P** 07 26 18.8 -1.3
baz=49
D36A Goodland 37.90 280 P **P** 07 26 19.1 -1.3
baz=48
C35A Jirik Farms, M 37.97 281 P **P** 07 26 19.6 -1.4
baz=48
SOH Sokhos 38.03 94 P **P** 07 26 24.1 +2.4
F38A Pierce - Schro 38.07 278 P **P** 07 26 20.3 -1.5
baz=47
H40A Chili 38.22 275 P **P** 07 26 22.3 -0.9
baz=46
YKA Yellowknife Ar 38.38 312 P **P** 07 26 23.2 -1.0
comp=Z,7.6nm,0.9s,baz=56,slow=8.7,SNR=9.4
YKA LR LR 07 40 53.4
comp=Z,114nm,21.0s,baz=0.0,slow=34
YKA Yellowknife Ar 38.38 312 *i* P **P** 07 26 25.0 +0.8
YKA pmax pmax
comp=Z,8.0nm,0.9s
YKB5 Yellowknife Ar 38.38 312 *e*P **P** 07 26 23.2 -1.0
YKB5 Yellowknife Ar 38.38 312 *e*P **P** 07 26 23.2 -1.0
AGMN Agassiz Nation 38.52 283 P **P** 07 26 25.4 -0.3
baz=49
AGMN Agassiz Nation 38.52 283 *e*P **P** 07 26 26.0 +0.4
AGMN Agassiz Nation 38.52 283 *e*P **P** 07 26 26.0 +0.4
AGG Agios Georgios 38.84 97 *e*P **P** 07 26 29.0 +0.5
AGG Agios Georgios 38.84 97 *e*P **P** 07 26 29.0 +0.5
AGG Agios Georgios 38.84 97 *e*P **P** 07 26 29.0 +0.5
VSR Storozhevoye 38.97 70⇑ *e*P **P** 07 26 28.7 -0.6
VSR pmax pmax
comp=Z,29nm,1.7s
SPMN Marine on St. 39.04 277 *e*P **P** 07 26 31.0 +1.0
comp=Z,8.6nm,0.9s
SPMN Marine on St. 39.04 277 *e*P **P** 07 26 31.0 +1.0
comp=Z,8.6nm,0.9s
K40A Colesburg 39.96 273 P **P** 07 26 37.5 -0.2
baz=44
J38A Wedel Dairy, R 40.21 275 P **P** 07 26 38.5 -1.3
baz=45
WCI Wyandotte Cave 40.75 264 *e*P **P** 07 26 45.2 +0.9
WCI pmax pmax
comp=Z,19nm,1.3s
WCI Wyandotte Cave 40.75 264 *e*P **P** 07 26 45.2 +0.9
comp=Z,19nm,1.3s
WCI Wyandotte Cave 40.75 264 *e*P **P** 07 26 45.1 +0.9
comp=Z,19nm,1.3s
H34A Spellman Lake, 40.95 279 P **P** 07 26 44.7 -1.1
baz=46
J36A Seneca 1, Swea 41.16 277 P **P** 07 26 46.4 -1.1
baz=45
K37A Belmond 41.20 275 P **P** 07 26 46.5 -1.4
baz=44,SNR=6.5
INK Inuvik 41.20 327 P **P** 07 26 47.4 -0.2
comp=Z,1.4nm,0.6s,baz=18,slow=13,SNR=4.2
INK Inuvik 41.20 327 *e*P **P** 07 26 47.4 -0.2
INK pmax pmax
comp=Z,18nm,1.6s
INK Inuvik 41.20 327 *e*P **P** 07 26 47.4 -0.2
comp=Z,18nm,1.6s
INK Inuvik 41.20 327 *e*P **P** 07 26 47.4 -0.2
comp=Z,18nm,1.6s
SOKR Solikamsk 41.52 50 *e*P **P** 07 26 48.9 -1.4
SOKR pmax pmax
comp=Z,31nm,1.3s
N39A Derby Farms, D 41.98 273 P **P** 07 26 52.3 -2.0
baz=43
L36A Harm Buss Farm 42.21 276 P **P** 07 26 53.8 -2.4
baz=44
O40A La Belle 42.21 271 P **P** 07 26 54.8 -1.4
baz=42
I32A Karley and Nic 42.26 280 P **P** 07 26 54.1 -2.5
baz=45
ANN Anapa 42.42 78 *e*P **P** 07 26 56.0 -1.8
ANN *e*PPP PPP 07 28 57.2
ANN *e*S **S** 07 33 16.5 -1.9
ANN *e*SS **SS** 07 36 27.9 +0.7
ANN *e*SSS SSS 07 36 57.2
ANN pmax pmax
comp=Z,8.0nm,0.6s
ANN MLR MLR
comp=Z,970nm,18.0s
L35A Bielow Farm, R 42.65 276 P **P** 07 26 58.4 -1.4
baz=44,SNR=5.4
P40A Paris 42.74 271 P **P** 07 26 59.3 -1.2
baz=42
EDM Edmonton 43.61 300 *e*P **P** 07 27 07.2 -0.3
EDM pmax pmax
comp=Z,24nm,0.9s
EDM Edmonton 43.61 300 *e*P **P** 07 27 07.2 -0.3
comp=Z,24nm,0.9s
EDM Edmonton 43.61 300 *e*P **P** 07 27 07.2 -0.3
comp=Z,24nm,0.9s
BR231 Keskin MP Arra 43.62 87 *e*P **P** 07 27 07.4 -0.4
BR231 Keskin MP Arra 43.62 87 *e*P **P** 07 27 07.4 -0.4
Q38A Cooks Store, C 43.98 272 P **P** 07 27 09.3 -1.2
baz=41
S41A Jillco Farms, 44.04 269 P **P** 07 27 11.1 0.0
baz=40,SNR=6.0
BR101 Keskin Array S 44.15 86 *e*P **P** 07 27 12.4 +0.3
BR101 Keskin Array S 44.15 86 *e*P **P** 07 27 12.3 +0.3
BR101 *e*PP **PP** 07 28 53.9 -1.0
BRTR Keskin Array B 44.15 86 P **P** 07 27 12.3 +0.3
comp=Z,1.9nm,0.9s,baz=316,slow=5.2,SNR=8.5
BRTR PcP **PP** 07 28 53.9 -1.0
comp=Z,0.8nm,0.8s,baz=302,slow=3.2,SNR=2.7
BRTR LR LR 07 46 33.7
comp=Z,609nm,18.3s,baz=298,slow=37
BRTR Keskin Array B 44.15 86 *i* P **P** 07 27 14.8 +2.7
BRTR pmax pmax
comp=Z,2.0nm,0.9s
R39A Chumby, Stover 44.16 270 P **P** 07 27 11.0 -1.0
baz=41
ARU Arti 44.30 53 LR LR 07 44 29.0
comp=Z,868nm,19.4s,baz=310,slow=34
ARU Arti 44.30 53 *d i*P **P** 07 27 12.5 -0.4
ARU 07 28 56.3
ARU PPP PPP 07 29 29.2
ARU S **S** 07 33 47.2 +1.5
ARU SS **SS** 07 37 05.6 +1.9
ARU pmax pmax
comp=Z,39nm,2.5s
ARU Arti 44.30 53 *e*P **P** 07 27 13.1 +0.2
comp=Z,14nm,1.0s
ARU Arti 44.30 53 *e*P **P** 07 27 13.1 +0.2
comp=Z,14nm,1.0s
TAM Tamanrasset 44.42 129 *e*P **P** 07 27 15.3 +0.9
TAM pmax pmax
comp=Z,10.0nm,1.1s
TAM Tamanrasset 44.42 129 *e*P **P** 07 27 15.3 +0.9
comp=Z,10nm,1.1s
TAM Tamanrasset 44.42 129 *e*P **P** 07 27 15.3 +0.9
comp=Z,10nm,1.1s
S40A Lebanon 44.42 269 P **P** 07 27 12.7 -1.5
baz=40
NRIK Noril'sk 44.46 27 LR LR 07 47 21.7
comp=Z,150nm,18.8s,baz=304,slow=38
T41A Mountain View 44.47 268 P **P** 07 27 13.2 -1.3
baz=40
O34A Beatrice 44.65 275 P **P** 07 27 14.7 -1.2
baz=42
R38A Fenwick Farm, 44.71 271 P **P** 07 27 15.2 -1.2
baz=41,SNR=7.0
U42A Reeder 44.73 267 P **P** 07 27 15.7 -0.8
baz=40,SNR=5.4
LAO LASA Array 44.76 289 *e*P **P** 07 27 19.9 +3.1
comp=Z,13nm,0.9s
T40A Mansfield 44.77 269 P **P** 07 27 15.8 -1.1
baz=40
S39A Bolivar 44.78 270 P **P** 07 27 15.9 -1.1
baz=40
TOLK Toolik Lake Re 45.13 333 P **P** 07 27 19.9 +0.4
baz=40
P34A Walnut Farm, R 45.19 275 P **P** 07 27 18.6 -1.6
baz=42,SNR=6.4
KSU1 Kansas State U 45.41 274 *e*P **P** 07 27 22.2 +0.2
KSU1 Kansas State U 45.41 274 *e*P **P** 07 27 22.2 +0.2
S37A Fort Scott 45.51 271 P **P** 07 27 21.4 -1.3
baz=40,SNR=5.7
EGMT Eagleton 45.53 293 *e*P **P** 07 27 24.2 +1.4
comp=Z,35nm,1.5s
EGMT Eagleton 45.53 293 *e*P **P** 07 27 24.2 +1.4
comp=Z,35nm,1.5s
FYU Fort Yukon 45.64 329 *e*P **P** 07 27 25.9 +2.5
comp=Z,39nm,1.6s
FYU Fort Yukon 45.64 329 *e*P **P** 07 27 25.9 +2.5
comp=Z,39nm,1.6s
KIV Kislovodsk 45.66 75 *e*P **P** 07 27 25.2 +1.2
KIV pmax pmax
comp=Z,9.0nm,1.1s
KIV MLR MLR
comp=Z,400nm,16.0s
Q34A Chapman 45.72 274 P **P** 07 27 23.0 -1.4
baz=41,SNR=5.5
T38A Diamond 45.78 270 P **P** 07 27 23.7 -1.2
baz=40,SNR=9.1
U39A Green Forest 45.86 269 P **P** 07 27 24.5 -1.0
baz=40
DAWY Dawson 45.87 325 *e*P **P** 07 27 26.8 +1.5
comp=Z,13nm,1.1s
DAWY Dawson 45.87 325 *e*P **P** 07 27 26.8 +1.5
comp=Z,13nm,1.1s
KBZ Khabaz 45.93 75 P **P** 07 27 26.8 +0.8
comp=Z,4.4nm,0.9s,baz=292,slow=7.0,SNR=5.0
KBZ LR LR 07 47 08.0
comp=Z,562nm,18.1s,baz=329,slow=37
V40A Witts Springs 45.96 268 P **P** 07 27 25.3 -1.1
baz=39,SNR=6.3
WHAR Wooly Hollow 46.09 267 *e*P **P** 07 27 26.8 -0.5
comp=Z,11nm,1.1s
WHAR Wooly Hollow 46.09 267 *e*P **P** 07 27 26.8 -0.5
comp=Z,11nm,1.1s
W41B Gary Mavity, V 46.15 267 P **P** 07 27 26.7 -1.2
baz=39
R34A Isabella, Hill 46.34 274 P **P** 07 27 28.2 -1.2
baz=41
V39A Pettigrew 46.36 269 P **P** 07 27 28.3 -1.3
baz=39
COLD Coldfoot 46.39 332 *e*P **P** 07 27 30.7 +1.4
comp=Z,4.4nm,1.0s
COLD Coldfoot 46.39 332 *e*P **P** 07 27 30.7 +1.4
comp=Z,4.4nm,1.0s
WALA Waterton Lakes 46.75 296 *e*P **P** 07 27 33.3 +0.8
comp=Z,9.2nm,0.9s
WALA Waterton Lakes 46.75 296 *e*P **P** 07 27 33.3 +0.8
comp=Z,9.2nm,0.9s
W39A Magazine 46.93 268 P **P** 07 27 33.7 -0.2
baz=39
X40A Basin Creek Fa 46.99 267 P **P** 07 27 34.3 -0.1
baz=38
GCMT Greycliff 47.08 290 *e*P **P** 07 27 36.4 +1.2
GCMT Greycliff 47.08 290 *e*P **P** 07 27 36.4 +1.2
V37A Hulbert 47.10 270 P **P** 07 27 34.2 -1.1
baz=39
CBKS Cedar Bluff 47.24 276 *e*P **P** 07 27 37.4 +1.0
CBKS Cedar Bluff 47.24 276 *e*P **P** 07 27 37.4 +1.0
CBKS Cedar Bluff 47.24 276 *e*P **P** 07 27 37.4 +1.0
T34A McClaskey Farm 47.28 273 P **P** 07 27 35.5 -1.2
baz=40,SNR=5.9
MIAR Mount Ida 47.33 268 P **P** 07 27 36.9 -0.1
baz=39
MIAR Mount Ida 47.33 268 *e*P **P** 07 27 37.2 +0.1
MIAR Mount Ida 47.33 268 *e*P **P** 07 27 37.2 +0.1
MIAR Mount Ida 47.33 268 *e*P **P** 07 27 37.2 +0.1
W38A Poteau 47.41 269 P **P** 07 27 36.5 -1.2
baz=39
HRY Holter Researc 47.45 293 *e*P **P** 07 27 38.8 +0.8
HRY Holter Researc 47.45 293 *e*P **P** 07 27 38.8 +0.8
IL1 Eielson Array 47.47 329 *e*P **P** 07 27 36.8 -1.0
IL1 Eielson Array 47.47 329 *e*P **P** 07 27 36.8 -1.0
ILAR Eielson Array 47.47 329 P **P** 07 27 37.6 -0.2
comp=Z,3.5nm,0.9s,baz=32,slow=6.5,SNR=19
ILAR PcP **PcP** 07 29 05.2 -2.5
comp=Z,0.9nm,0.8s,baz=7.4,slow=2.5,SNR=3.5
ILAR LR LR 07 47 26.2
comp=Z,358nm,19.0s,baz=52,slow=36
ILB Eielson Array 47.47 329 *e*P **P** 07 27 37.9 +0.2
ILB Eielson Array 47.47 329 *e*P **P** 07 27 37.9 +0.2
COLA College 47.64 329‖ *e*P **P** 07 27 42.4 +3.3
COLA pmax pmax
comp=Z,14nm,1.2s
HYT Haines Junctio 47.67 321 *e*P **P** 07 27 42.2 +2.6
MDM Murphy Dome 47.68 329 *e*P **P** 07 27 41.2 +1.8
comp=Z,6.7nm,1.0s
MDM Murphy Dome 47.68 329 *e*P **P** 07 27 41.2 +1.8
comp=Z,6.7nm,1.0s
SLMT Seeley Lake 47.86 294 *e*P **P** 07 27 42.2 +1.0
SLMT Seeley Lake 47.86 294 *e*P **P** 07 27 42.2 +1.0
SWMT Swartz Lake 47.90 295 *e*P **P** 07 27 42.1 +0.6
SWMT Swartz Lake 47.90 295 *e*P **P** 07 27 42.1 +0.6
BOZ Bozeman (W) 48.16 291 *e*P **P** 07 27 44.9 +1.3
BOZ pmax pmax
comp=Z,14nm,1.6s
BOZ Bozeman (W) 48.16 291 *e*P **P** 07 27 44.9 +1.3
comp=Z,14nm,1.6s
BOZ Bozeman (W) 48.16 291 *e*P **P** 07 27 44.9 +1.3
comp=Z,14nm,1.6s
AKTO Aktyubinsk 48.27 59 LR LR 07 47 46.3
comp=Z,476nm,20.0s,slow=36
AKTO Aktyubinsk 48.27 59 *i* P **P** 07 27 43.6 -0.6
AKTO pmax pmax
comp=Z,16nm,0.8s
PHWY Pilot Hill 48.29 283 *e*P **P** 07 27 45.4 +0.6
comp=Z,6.0nm,1.1s
PHWY Pilot Hill 48.29 283 *e*P **P** 07 27 45.4 +0.6
comp=Z,6.0nm,1.1s
SJG San Juan 48.34 228 LR LR 07 43 59.3
comp=Z,190nm,21.9s,baz=20,slow=31
PAX Paxson 48.48 326 *e*P **P** 07 27 46.8 +1.1
PAX pmax pmax
comp=Z,13nm,1.4s
PAX Paxson 48.48 326 *e*P **P** 07 27 46.8 +1.1
comp=Z,13nm,1.4s
PAX Paxson 48.48 326 *e*P **P** 07 27 46.8 +1.1
comp=Z,13nm,1.4s
W35A Tecumseh 48.56 271 P **P** 07 27 45.5 -1.1
baz=39
MPR Mayaguez 48.62 229 *e*P **P** 07 27 48.6 +1.4
comp=Z,12nm,1.0s
MPR Mayaguez 48.62 229 *e*P **P** 07 27 48.6 +1.4
comp=Z,12nm,1.0s
U32A Winter Ranch, 48.71 274 P **P** 07 27 46.6 -1.1
baz=40
YPP Pitchstone Pla 48.74 290 *e*P **P** 07 27 51.3 +3.0
comp=Z,14nm,1.6s
TIXI Tiksi 48.78 8⇑ *e*P **P** 07 27 47.9 +0.1
TIXI pmax pmax
comp=Z,7.0nm,1.1s
DLMT Dillon 48.80 292 *e*P **P** 07 27 49.4 +0.9
comp=Z,22nm,1.9s
DLMT Dillon 48.80 292 *e*P **P** 07 27 49.4 +0.9
comp=Z,22nm,1.9s
NEW Newport 48.80 298 *e*P **P** 07 27 50.4 +2.1
NEW pmax pmax
comp=Z,35nm,1.9s
NEW Newport 48.80 298 *e*P **P** 07 27 50.4 +2.1
comp=Z,35nm,1.9s
NEW Newport 48.80 298 *e*P **P** 07 27 50.4 +2.1
comp=Z,35nm,1.9s
FLWY Flagg Ranch 48.82 289 *e*P **P** 07 27 49.5 +0.7
comp=Z,10nm,1.3s
FLWY Flagg Ranch 48.82 289 *e*P **P** 07 27 49.5 +0.7
comp=Z,10nm,1.3s
N23A Red Feather La 48.83 283 *e*P **P** 07 27 49.7 +0.7
comp=Z,17nm,1.3s
N23A Red Feather La 48.83 283 *e*P **P** 07 27 49.7 +0.7
comp=Z,17nm,1.3s
IMW Indian Meadow 49.08 289 *e*P **P** 07 27 52.8 +1.9
comp=Z,3.3nm,1.0s
IMW Indian Meadow 49.08 289 *e*P **P** 07 27 52.8 +1.9
comp=Z,3.3nm,1.0s
LLLB Lillooet 49.21 303 *e*P **P** 07 27 52.4 +1.0
LLLB Lillooet 49.21 303 *e*P **P** 07 27 52.4 +1.0
BW06 Boulder Array 49.24 287 P **P** 07 27 50.2 -1.8
baz=42
BW06 Boulder Array 49.24 287 *e*P **P** 07 27 51.9 -0.1
BW06 Boulder Array 49.24 287 *e*P **P** 07 27 51.9 -0.1
PD31 Pinedale Array 49.24 287 *e*P **P** 07 27 51.8 -0.2
PD31 Pinedale Array 49.24 287 *e*P **P** 07 27 51.8 -0.2
PDAR Pinedale Array 49.24 287 P **P** 07 27 49.9 -2.1
comp=Z,3.1nm,0.9s,baz=59,slow=5.7,SNR=15
PDAR LR LR 07 47 33.6
comp=Z,1µm,18.4s,baz=25,slow=35
SNOW Snow King Moun 49.31 289 *e*P **P** 07 27 54.9 +2.4
comp=Z,28nm,1.8s
SNOW Snow King Moun 49.31 289 *e*P **P** 07 27 54.9 +2.4
comp=Z,28nm,1.8s
MCMT McKenzie Canyo 49.31 292 *e*P **P** 07 27 52.5 -0.1
MCMT McKenzie Canyo 49.31 292 *e*P **P** 07 27 52.5 -0.1
TPAW Teton Pass 49.38 289 *e*P **P** 07 27 54.3 +1.1
comp=Z,3.9nm,0.9s
TPAW Teton Pass 49.38 289 *e*P **P** 07 27 54.3 +1.1
comp=Z,3.9nm,0.9s
REDW Red Top Meadow 49.43 289 *e*P **P** 07 27 54.4 +0.9
comp=Z,4.7nm,0.9s
REDW Red Top Meadow 49.43 289 *e*P **P** 07 27 54.4 +0.9
comp=Z,4.7nm,0.9s
ISCO Idaho Springs 49.49 282 *e*P **P** 07 27 53.9 -0.2
ISCO pmax pmax
comp=Z,17nm,1.6s
ISCO Idaho Springs 49.49 282 *e*P **P** 07 27 53.9 -0.2
comp=Z,17nm,1.6s
ISCO Idaho Springs 49.49 282 *e*P **P** 07 27 53.9 -0.2
comp=Z,17nm,1.6s
GNI Garni 49.50 77 *de*P **P** 07 27 54.9 +0.9
GNI pmax pmax
comp=Z,120nm,1.7s
B08A Colville Reser 49.73 299 *e*P **P** 07 27 56.5 +1.0
comp=Z,16nm,1.3s
B08A Colville Reser 49.73 299 *e*P **P** 07 27 56.5 +1.0
comp=Z,16nm,1.3s
WMOK Wichita Mounta 49.87 272 *e*P **P** 07 27 55.3 -1.3
WMOK pmax pmax
comp=Z,7.0nm,1.0s
WMOK Wichita Mounta 49.87 272 *e*P **P** 07 27 55.3 -1.3
comp=Z,6.6nm,1.0s
WMOK Wichita Mounta 49.87 272 *e*P **P** 07 27 55.3 -1.3
comp=Z,6.6nm,1.0s
AB31 Akbulak array 49.98 59 *i* P **P** 07 27 57.1 -0.2
AB31 pmax pmax
comp=Z,18nm,1.2s
ABKAR Akbulak array 49.98 59 *e*P **P** 07 27 57.5 +0.2
comp=Z,71nm,0.9s
ABKAR Akbulak array 49.98 59 *e*P **P** 07 27 57.5 +0.2
comp=Z,71nm,0.9s
F10A Beach Ranch, E 50.54 296 *e*P **P** 07 28 03.5 +1.9
comp=Z,1nm,1.2s
F10A Beach Ranch, E 50.54 296 *e*P **P** 07 28 03.5 +1.9
comp=Z,1nm,1.2s
SMCO Snowmass 50.65 282 *e*P **P** 07 28 02.3 -0.7
comp=Z,3.7nm,0.8s
SMCO Snowmass 50.65 282 *e*P **P** 07 28 02.3 -0.7
comp=Z,3.7nm,0.8s
T25A Trinidad 50.90 279 P **P** 07 28 03.2 -1.5
baz=40
T25A Trinidad 50.90 279 *e*P **P** 07 28 03.6 -1.1
comp=Z,8.6nm,0.8s
T25A Trinidad 50.90 279 *e*P **P** 07 28 03.6 -1.1
comp=Z,8.6nm,0.8s
SDCO Great Sand Dun 50.99 280 *e*P **P** 07 28 06.4 +1.0
comp=Z,5.3nm,1.2s
SDCO Great Sand Dun 50.99 280 *e*P **P** 07 28 06.4 +1.0
comp=Z,5.4nm,1.2s
HWUT Hardware Ranch 51.09 288 *e*P **P** 07 28 05.1 -0.9
comp=Z,6.9nm,0.9s
HWUT Hardware Ranch 51.09 288 *e*P **P** 07 28 05.1 -0.9
comp=Z,6.9nm,0.9s
AMTX Amarillo 51.25 275 *e*P **P** 07 28 08.8 +1.7
comp=Z,10nm,1.0s
AMTX Amarillo 51.25 275 *e*P **P** 07 28 08.8 +1.7
comp=Z,10nm,1.0s
BMO Blue Mountains 51.41 295 *e*P **P** 07 28 06.6 -1.7
BMO pmax pmax
comp=Z,11nm,1.5s
BMO Blue Mountains 51.41 295 *e*P **P** 07 28 06.6 -1.7
comp=Z,11nm,1.5s
BMO Blue Mountains 51.41 295 *e*P **P** 07 28 06.6 -1.7
comp=Z,11nm,1.5s
BRVK Borovoye 51.44 49 *e*P **P** 07 28 08.1 -0.1
BRVK Borovoye 51.44 49 *e*P **P** 07 28 08.1 -0.1
BRVK Borovoye 51.44 49 *e*P **P** 07 28 08.1 -0.1
BVAR Borovoye Array 51.51 49 LR LR 07 48 37.0
comp=Z,268nm,20.6s,baz=278,slow=34
S22A 4UR Ranch, Cre 51.67 281 P **P** 07 28 09.6 -0.9
baz=40,SNR=6.7
S22A 4UR Ranch, Cre 51.67 281 *e*P **P** 07 28 11.5 +1.0
comp=Z,3.7nm,0.8s
S22A 4UR Ranch, Cre 51.67 281 *e*P **P** 07 28 11.5 +1.0
comp=Z,3.7nm,0.8s
SPUT South Promonto 51.76 288 *e*P **P** 07 28 11.0 0.0
comp=Z,9.1nm,1.3s
SPUT South Promonto 51.76 288 *e*P **P** 07 28 11.0 0.0
comp=Z,9.1nm,1.3s
TOA1 Torodi Ar. Sit 51.80 138 *e*P **P** 07 28 08.8 -2.5
comp=Z,14nm,1.4s
TOA0 Torodi Ar. Sit 51.81 138 *e*P **P** 07 28 09.7 -1.7
TORD Torodi Ar. Bea 51.81 138 P **P** 07 28 08.8 -2.5
comp=Z,2.5nm,0.8s,baz=340,slow=7.7,SNR=14
TORD LR LR 07 47 54.9
comp=Z,198nm,21.4s,baz=60,slow=34
P18A Preston Nutter 51.94 285 *e*P **P** 07 28 12.1 -0.5
comp=Z,6.2nm,1.1s
P18A Preston Nutter 51.94 285 *e*P **P** 07 28 12.1 -0.5
comp=Z,6.2nm,1.1s
334A Lometa 52.26 269 P **P** 07 28 14.4 -0.3
baz=37
SRU San Rafael Swe 52.48 285 *e*P **P** 07 28 16.0 -0.4
SRU pmax pmax
comp=Z,5.0nm,0.9s
SRU San Rafael Swe 52.48 285 *e*P **P** 07 28 16.0 -0.4
comp=Z,5.0nm,0.9s
SRU San Rafael Swe 52.48 285 *e*P **P** 07 28 16.0 -0.4
comp=Z,5.0nm,0.9s
MSTX Muleshoe 52.52 275 P **P** 07 28 16.0 -0.7
baz=38
MSTX Muleshoe 52.52 275 *e*P **P** 07 28 16.9 +0.2
comp=Z,5.5nm,0.9s
MSTX Muleshoe 52.52 275 *e*P **P** 07 28 16.9 +0.2
comp=Z,5.5nm,0.9s

BILL Bilibino 52.58 352⇑ eP P 07 28 17.2 +0.7
BILL e 07 28 21.1
BILL pmax pmax
comp=Z,6.0nm,1.2s
BILL MLR MLR
comp=Z,268nm,19.0s
NLU North Lily Min 52.60 287 eP P 07 28 17.5 +0.2
comp=Z,5.4nm,1.1s
NLU North Lily Min 52.60 287 eP P 07 28 17.5 +0.2
comp=Z,5.4nm,1.1s
333A Richland Sprin 52.65 270 P P 07 28 16.6 -1.0
baz=37
TMUT Trail Mountain 52.68 286 eP P 07 28 18.4 +0.4
comp=Z,5.8nm,0.9s
TMUT Trail Mountain 52.68 286 eP P 07 28 18.4 +0.4
comp=Z,5.8nm,0.9s
DUG Dugway, Tooele 52.78 288 eP P 07 28 20.6 +2.0
DUG pmax pmax
comp=Z,4.0nm,1.0s
DUG Dugway, Tooele 52.78 288 eP P 07 28 20.5 +2.0
comp=Z,3.8nm,1.0s
DUG Dugway, Tooele 52.78 288 eP P 07 28 20.6 +2.0
comp=Z,3.8nm,1.0s
MVCO Mesa Verde 52.92 282 P P 07 28 19.1 -0.7
baz=39
MVCO Mesa Verde 52.92 282 eP P 07 28 19.4 -0.4
comp=Z,6.0nm,0.9s
MVCO Mesa Verde 52.92 282 eP P 07 28 19.4 -0.4
comp=Z,6.0nm,0.9s
ANMO Albuquerque 53.65 279⇓ eP P 07 28 25.3 +0.2
ANMO pmax pmax
comp=Z,10.0nm,2.3s
ANMO Albuquerque 53.65 279 eP P 07 28 23.0 -2.0
comp=Z,3.3nm,1.0s
ANMO Albuquerque 53.65 279 eP P 07 28 23.0 -2.0
comp=Z,3.3nm,1.0s
JCT Junction City 53.75 270 eP P 07 28 25.4 -0.3
JCT Junction City 53.75 270 eP P 07 28 25.4 -0.3
JCT Junction City 53.75 270 eP P 07 28 25.4 -0.3
MSU Marysvale 53.76 286 eP P 07 28 27.0 +1.1
MSU Marysvale 53.76 286 eP P 07 28 27.0 +1.1
MSU Marysvale 53.76 286 eP P 07 28 27.0 +1.1
WVOR Wild Horse Val 53.88 294 eP P 07 28 27.4 +0.8
WVOR pmax pmax
comp=Z,9.0nm,1.3s
WVOR Wild Horse Val 53.88 294 eP P 07 28 27.4 +0.8
comp=Z,8.5nm,1.3s
WVOR Wild Horse Val 53.88 294 eP P 07 28 27.4 +0.8
comp=Z,8.5nm,1.3s
MTPU Mount Pierson 54.13 286 eP P 07 28 26.2 -2.5
comp=Z,8.4nm,0.3s
LAZ Ladron 54.42 279 eP P 07 28 29.0 -1.7
LAZ Ladron 54.42 279 eP P 07 28 28.9 -1.7
K05A Summer Lake 54.71 295 eP P 07 28 33.1 +0.4
comp=Z,32nm,1.5s
K05A Summer Lake 54.71 295 eP P 07 28 33.1 +0.4
comp=Z,32nm,1.5s
NVS Novosibirsk 54.74 40 eP P 07 28 33.1 +0.6
NVS pmax pmax
comp=Z,20nm,1.0s
MOD Modoc Plateau 55.07 294 eP P 07 28 34.9 -0.4
comp=Z,12nm,1.3s
MOD Modoc Plateau 55.07 294 eP P 07 28 34.9 -0.4
comp=Z,12nm,1.3s
KNB Kanab 55.24 285 eP P 07 28 37.0 +0.4
KNB pmax pmax
comp=Z,18nm,1.6s
KNB Kanab 55.24 285 eP P 07 28 37.0 +0.4
comp=Z,18nm,1.6s
KNB Kanab 55.24 285 eP P 07 28 37.0 +0.4
comp=Z,18nm,1.6s
U15A North Rim 55.44 284 eP P 07 28 38.3 +0.1
comp=Z,5.4nm,1.3s
U15A North Rim 55.44 284 eP P 07 28 38.3 +0.1
comp=Z,5.4nm,1.3s
LCMT Little Creek M 55.46 286 eP P 07 28 37.9 -0.2
comp=Z,12nm,1.8s
LCMT Little Creek M 55.46 286 eP P 07 28 37.9 -0.2
comp=Z,12nm,1.8s
R11A Troy Canyon, C 55.57 288 eP P 07 28 40.0 +1.1
comp=Z,8.5nm,1.4s
R11A Troy Canyon, C 55.57 288 eP P 07 28 40.0 +1.1
comp=Z,8.5nm,1.4s
MNTX Cornudas Mount 55.66 275 eP P 07 28 39.8 +0.3
comp=Z,4.1nm,1.1s
MNTX Cornudas Mount 55.66 275 eP P 07 28 39.8 +0.3
comp=Z,4.1nm,1.1s
WUAZ Wupatki 55.69 283 eP P 07 28 41.1 +1.2
comp=Z,12nm,1.4s
WUAZ Wupatki 55.69 283 eP P 07 28 41.1 +1.2
comp=Z,12nm,1.4s
DBIC Dimbokro 55.91 148 P P 07 28 39.5 -1.9
comp=Z,1.5nm,0.6s,baz=341,slow=5.8,SNR=4.2
DBIC LR LR 07 50 15.5
comp=Z,480nm,18.2s,baz=339,slow=34
DBIC Dimbokro 55.91 148 eP P 07 28 39.5 -1.9
DBIC pmax pmax
comp=Z,32nm,1.6s
DBIC Dimbokro 55.91 148 eP P 07 28 39.5 -1.9
comp=Z,32nm,1.6s
ZAA1 Zalesovo Array 56.00 40 eP P 07 28 40.8 -0.8
ZAA1 Zalesovo Array 56.00 40 eP P 07 28 40.8 -0.8
ZAA1 ePcP **PcP 07 29 38.1 -1.6**
ZALV Zalesovo Beam 56.01 40 P P 07 28 40.8 -0.8
comp=Z,0.6nm,0.3s,baz=342,slow=7.8,SNR=4.0
ZALV PcP **PcP 07 29 38.1 -1.6**
comp=Z,0.9nm,0.5s,baz=310,slow=5.6,SNR=4.3
ZALV LR LR 07 52 53.9
comp=Z,226nm,19.1s,baz=252,slow=36
PAHR Pah Rah Range 56.35 292 eP P 07 28 44.8 +0.3
PAHR Pah Rah Range 56.35 292 eP P 07 28 44.8 +0.3
KURK Kurchatov 56.47 46⇓ eP P 07 28 44.1 -0.9
KURK pmax pmax
comp=Z,26nm,0.9s
KURK Kurchatov 56.47 46 eP P 07 28 44.5 -0.5
KURK Kurchatov 56.47 46 eP P 07 28 44.5 -0.5
LTX Lajitas 56.66 272 eP P 07 28 46.2 -0.6
LTX Lajitas 56.66 272 eP P 07 28 46.2 -0.6
LTX Lajitas 56.66 272 eP P 07 28 46.2 -0.6
TX31 Lajitas Ar. Si 56.66 272 eP P 07 28 46.8 0.0
TX31 Lajitas Ar. Si 56.66 272 eP P 07 28 46.8 0.0
TXAR Lajitas Array 56.66 272 P P 07 28 46.2 -0.5
comp=Z,0.8nm,0.7s,baz=56,slow=3.2,SNR=5.8
TXAR LR LR 07 52 21.9
comp=Z,735nm,18.3s,baz=0.0,slow=35
YERR Yerington 56.85 291 eP P 07 28 47.6 -0.5
comp=Z,5.4nm,1.0s
YERR Yerington 56.85 291 eP P 07 28 47.6 -0.5
comp=Z,5.4nm,1.0s
PNTR Pine Nut 56.94 292 eP P 07 28 48.8 0.0
PNTR Pine Nut 56.94 292 eP P 07 28 48.8 0.0
TPNV Topopah Spring 56.99 288 eP P 07 28 50.0 +0.9
TPNV pmax pmax
comp=Z,12nm,1.4s
TPNV Topopah Spring 56.99 288 eP P 07 28 50.0 +0.9
comp=Z,12nm,1.4s
TPNV Topopah Spring 56.99 288 eP P 07 28 50.0 +0.9
comp=Z,12nm,1.4s
WAKR Walker 57.32 291 eP P 07 28 53.6 +2.2
comp=Z,6.2nm,1.3s
WAKR Walker 57.32 291 eP P 07 28 53.6 +2.2
comp=Z,6.2nm,1.3s
KHMM Horse Mountain 57.48 296 eP P 07 28 51.3 -1.1
comp=Z,56nm,2.0s
KHMM Horse Mountain 57.48 296 eP P 07 28 51.3 -1.1
comp=Z,56nm,2.0s
GEYT Alibeck 57.82 69 P P 07 28 55.0 +0.2
comp=Z,2.0nm,0.5s,baz=324,slow=7.3,SNR=4.3
CMB Columbia Colle 58.15 292 eP P 07 28 56.2 -0.9
CMB pmax pmax
comp=Z,2.0nm,0.8s
CMB Columbia Colle 58.15 292 eP P 07 28 56.2 -0.9
comp=Z,1.8nm,0.8s
CMB Columbia Colle 58.15 292 eP P 07 28 56.2 -0.9
comp=Z,1.8nm,0.8s
SEY Seymchan 58.30 358 P P 07 28 56.9 -0.8
comp=Z,2.3nm,0.9s,baz=24,slow=11,SNR=3.9
SEY Seymchan 58.30 358⇓ eP P 07 28 57.1 -0.5
SDV Santo Domingo 58.48 228 P P 07 28 58.9 -0.9
baz=19,slow=11
SDV Santo Domingo 58.48 228 eP P 07 28 59.6 -0.1
comp=Z,5.9nm,0.9s
SDV Santo Domingo 58.48 228 eP P 07 28 59.6 -0.1
comp=Z,5.9nm,0.9s
HOPS Hopland Field 58.66 294 eP P 07 29 01.0 +0.4
comp=Z,37nm,1.6s
HOPS Hopland Field 58.66 294 eP P 07 29 01.0 +0.4
comp=Z,37nm,1.6s
113A Mohawk Valley, 59.08 283 eP P 07 29 04.7 +1.2
comp=Z,5.8nm,1.1s
WENL Wente Vineyard 59.13 292 eP P 07 29 07.3 +3.5
PFO Pinyon Flats O 59.75 286 P P 07 29 08.2 -0.1
comp=Z,4.6nm,0.8s,baz=2.1,slow=5.6,SNR=5.2
PFO Pinyon Flats O 59.75 286 eP P 07 29 08.2 -0.1
PFO pmax pmax
comp=Z,32nm,2.0s
PFO Pinyon Flats O 59.75 286 eP P 07 29 08.2 -0.1
comp=Z,32nm,2.0s
PFO Pinyon Flats O 59.75 286 eP P 07 29 08.2 -0.1
comp=Z,32nm,2.0s
DREC Desert Rsrch C 59.89 284 eP P 07 29 09.4 +0.3
DREC Desert Rsrch C 59.89 284 eP P 07 29 09.4 +0.3
MNAS Manas 60.73 56 P P 07 29 16.2 +1.2
MNAS pmax pmax
comp=Z,5.0nm,1.3s
MAKZ Makanchi 60.95 46 eP P 07 29 15.9 -0.4
MAKZ pmax pmax
comp=Z,25nm,1.9s
MAKZ Makanchi 60.95 46 eP P 07 29 15.9 -0.4
comp=Z,25nm,1.9s
MAKZ Makanchi 60.95 46 eP P 07 29 15.9 -0.4
comp=Z,25nm,1.9s
MK31 Makanchi Array 61.08 46 iP P 07 29 16.3 -0.8
MK31 pmax pmax
comp=Z,4.0nm,0.9s
MK31 Makanchi Array 61.08 46 eP P 07 29 16.7 -0.5
MK31 Makanchi Array 61.08 46 eP P 07 29 16.7 -0.5
MKAR Makanchi Array 61.08 46 eP P 07 29 16.6 -0.5
MKAR pmax pmax
comp=Z,20nm,0.8s
MKAR Makanchi Array 61.08 46 eP P 07 29 16.6 -0.5
comp=Z,20nm,0.8s
MKAR Makanchi Array 61.08 46 eP P 07 29 16.6 -0.5
comp=Z,20nm,0.8s
MK01 Makanchi Array 61.11 46 eP P 07 29 16.2 -1.1
MK01 Makanchi Array 61.11 46 eP P 07 29 16.2 -1.1
FRU Bishkek 61.34 54 eP P 07 29 20.0 +1.1
ZAIG Zacatecas 61.45 267 eP P 07 29 21.0 +0.8
comp=Z,3.7nm,0.8s
ZAIG Zacatecas 61.45 267 eP P 07 29 20.9 +0.8
comp=Z,3.7nm,0.8s
AAK Ala-Archa 61.45 54⇑ iP P 07 29 20.8 +1.0
AAK pmax pmax
comp=Z,18nm,1.6s
MA2 Magadan 61.68 359⇑ eP P 07 29 23.0 +2.1
HELC Santa Helena 62.87 232 eP P 07 29 28.4 -1.5
comp=Z,19nm,0.8s
TLY Talaya 63.56 30 eP P 07 29 37.0 +3.4
TLY pmax pmax
comp=Z,9.0nm,1.4s
TLY MLR MLR
comp=Z,131nm,18.0s
ROSC El Rosal 63.62 230 P P 07 29 35.0 +0.1
comp=Z,6.4nm,0.9s,baz=5.4,slow=13,SNR=5.9
ROSC El Rosal 63.62 230 eP P 07 29 34.9 +0.1
comp=Z,22nm,1.5s
ROSC El Rosal 63.62 230 eP P 07 29 34.9 +0.1
comp=Z,22nm,1.5s
ZAK Zakamensk 64.65 31 eP P 07 29 39.4 -1.5
ZAK e 07 32 01.6
ZAK pmax pmax
comp=Z,4.0nm,1.2s
KSH Kashi 64.66 55 P P 07 29 42.7 +1.5
KSH sP sP 07 29 49.7 +1.0
KSH PcP **PcP 07 30 16.9 +2.0**
KSH PP **PP 07 32 06.7 +3.8**
KSH S **S 07 38 19.8 -0.5**
KSH sS pS 07 38 26.7 -0.3
KSH Kashi 64.66 55 SS SS 07 42 32.0 +1.8
KSH pmax pmax
comp=Z,9.0nm,1.0s
KSH pmax pmax
comp=Z,120nm,3.2s
KSH LR LR
comp=N,170nm,10.4s
KSH LR LR
comp=E,93nm,8.2s
KSH LR LR
comp=Z,340nm,13.4s
PRAC Prado 64.86 230 eP P 07 29 42.8 +0.2
comp=Z,15nm,0.7s
WMQ Urumqi 65.61 44 P P 07 29 49.1 +1.9
WMQ pmax pmax
comp=Z,13nm,0.7s
WMQ pmax pmax
comp=Z,25nm,4.0s
WMQ LR LR
comp=N,100nm,16.9s
WMQ LR LR
comp=E,130nm,21.7s
WMQ LR LR
comp=Z,97nm,26.5s
UOSS Minazif 67.39 79 eP P 07 29 58.1 -0.7
comp=Z,15nm,1.1s
UOSS Minazif 67.39 79 eP P 07 29 58.1 -0.7
comp=Z,15nm,1.1s
SONA1 Songino Array 67.79 30 eP P 07 30 00.3 -0.8
SONA1 Songino Array 67.79 30 eP P 07 30 00.3 -0.8
SONA0 Songino Array 67.80 30 eP P 07 30 00.8 -0.4
comp=Z,11nm,1.3s
SONA0 Songino Array 67.80 30 eP P 07 30 00.8 -0.4
comp=Z,11nm,1.3s
SONM Songino Array 67.80 30 P P 07 30 00.8 -0.3
comp=Z,2.8nm,1.0s,baz=324,slow=7.3,SNR=9.3
SONM LR LR 08 00 47.6
comp=Z,262nm,20.4s,baz=26,slow=37
ULN Ulaanbaatar 67.94 29⇑ iP P 07 30 01.9 -0.2
ULN pmax pmax
comp=Z,9.0nm,1.1s
ULN Ulaanbaatar 67.94 29 eP P 07 30 02.2 +0.1
comp=Z,12nm,1.2s
ULN Ulaanbaatar 67.94 29 eP P 07 30 02.2 +0.1
comp=Z,12nm,1.2s
H10N2 ASCENSION HYDR 67.95 163 T T 08 43 37.2
baz=348,slow=75,SNR=3.5
H10N3 ASCENSION HYDR 67.96 163 T T 08 43 37.6
baz=348,slow=75,SNR=3.3
H10N1 ASCENSION HYDR 67.97 163 T T 08 43 37.4
baz=348,slow=75,SNR=3.6
PETK Petropavlovsk- 67.97 355 LR LR 08 01 53.7
comp=Z,194nm,18.0s,baz=4.1,slow=38
H10S1 ASCENSION HYDR 69.02 163 T T 08 44 54.2
baz=350,slow=75,SNR=4.0
H10S3 ASCENSION HYDR 69.02 163 T T 08 44 57.4
baz=350,slow=75,SNR=6.1
H10S2 ASCENSION HYDR 69.03 163 T T 08 44 55.8
baz=350,slow=75,SNR=4.7
GTA Gaotai 73.65 38 ⇑P P 07 30 36.4 -0.5
GTA pP pP 07 30 42.8 +0.3
GTA sP sP 07 30 45.9 +1.4
GTA S **SKiKP 07 40 05.9 +0.4**
GTA sS sS 07 40 15.9 +0.2
GTA Gaotai 73.65 38 SS SS 07 44 52.6 +4.0
GTA pmax pmax
comp=Z,7.0nm,1.0s
GTA pmax pmax
comp=Z,140nm,5.2s
GTA LR LR
comp=N,150nm,17.3s
GTA LR LR
comp=E,260nm,17.1s
GTA LR LR
comp=Z,160nm,20.9s
CN2 Changchun 75.61 18 eP P 07 30 46.8 -1.2
CN2 pmax pmax
comp=Z,10.0nm,0.7s
HHC Hu-ho-hao-te 75.64 29 eP P 07 30 47.8 -0.6
HHC S **S 07 40 26.5 -2.1**
HHC pmax pmax
comp=Z,13nm,1.0s
HHC pmax pmax
comp=Z,130nm,7.5s
HHC LR LR
comp=N,160nm,27.1s
HHC LR LR
comp=E,310nm,28.4s
HHC LR LR
comp=Z,160nm,30.8s
LZH Lanzhou 77.96 36 eP P 07 31 05.7 +4.1
LZH pP pP 07 31 06.7 -0.5
LZH sP sP 07 31 08.5 -0.7
LZH pmax pmax
comp=Z,45nm,1.3s
SIV San Ignacio 78.80 210 P P 07 31 05.8 -0.3
comp=Z,2.1nm,0.7s,baz=73,slow=2.5,SNR=4.1
KMBO Kilima Mbogo 79.80 110 LR LR 08 05 26.4
comp=Z,342nm,21.0s,baz=318,slow=35
LPAZ La Paz 81.07 216 P P 07 31 18.9 -0.3
comp=Z,1.5nm,1.1s,baz=17,slow=3.7,SNR=3.8
XAN Xi'an 81.35 33 P P 07 31 18.2 -1.7
XAN pmax pmax
comp=Z,7.0nm,1.1s
XAN pmax pmax
comp=Z,49nm,4.1s
TIA Tai'an 81.37 26 ⇓P P 07 31 23.3 +3.4
TIA pmax pmax
comp=Z,20nm,1.0s
KSRS Korea Array 82.20 17 P P 07 31 25.4 +1.1
comp=Z,1.9nm,0.7s,baz=1.6,slow=8.9,SNR=4.6
KMI Kunming 87.73 41 P P 07 31 52.8 +0.3
KMI pmax pmax
comp=Z,7.0nm,0.5s
CPUP Villa Florida 87.90 204 LR LR 08 06 21.6
comp=Z,130nm,19.3s,baz=16,slow=32
CMAR Chiang Mai Arr 92.48 47 P P 07 32 12.5 -2.1
comp=Z,1.5nm,0.4s,baz=324,slow=5.6,SNR=9.1
CMAR LR LR 08 14 12.1
comp=Z,125nm,19.3s,baz=330,slow=36
CMAR Chiang Mai Arr 92.48 47 iP P 07 32 14.6 0.0
CMAR pmax pmax
comp=Z,2.0nm,0.4s
H09N1 TRISTAN DA CUN 97.00 165 T T 09 20 08.4
SNR=8.3
BOSA Boshof 98.85 132 LR LR 08 18 18.2
comp=Z,309nm,18.1s,baz=12,slow=36
TAOE Nuku Hiva Isla 107.50 282 eLR LR 08 08 41.5
comp=Z,456nm,25.3s
PPT2 Papeete2 119.67 286 eLR LR 08 14 25.2
comp=Z,313nm,23.8s
TBI Tubuai 124.46 282 eLR LR 08 16 34.3
comp=Z,274nm,24.0s
DZM Mont Dzumac 141.05 334 eLR LR 08 24 28.4
comp=Z,232nm,32.1s
ASAR Alice Springs 142.97 24 PKP PKPdf 07 38 33.9 -3.0
comp=Z,1.9nm,1.0s,baz=298,slow=1.1,SNR=4.7
VNDA Vanda 160.99 188 PKPab PKPab 07 39 43.8 -1.1
comp=Z,1.5nm,0.9s,baz=187,slow=4.1,SNR=6.7

NIED ***05*** *07:27:00,36˚.80N×143˚.70E,h5km,Mw4.1 Best double couple: M₀1.45000×10¹⁵ NP1:φ₀80.00000°,δ34.00000°, λ-75.00000°. NP2:φ₀242.00000°,δ57.00000°, λ-100.00000°.*
IDC ***05*** *07:27:52.1±0.5,36˚.59N×143˚.96E,h0km,mb4.3/18, mb1 4.5/22,mb1mx4.3/40,mbtmp4.3/22,ML4.3/2,MS3.2/4, Ms1 3.2/4,ms1mx2.8/37,Error ellipse: s-maj=15.7km s-min=14.2km az=101.0*
ISCJB ***05*** *07:27:56.1±0.4,36˚.74N±0˚.03×143˚.68E±0˚.04,h33km, mb4.3/28,MS3.9/1,Error ellipse: s-maj=4.6km s-min=4.3km az=143.6*
JMA ***05*** *07:27:57.0±0.3,36˚.80N×143˚.65E,h55km,M4.3*
NEIC ***05*** *07:27:57.8±0.4,36˚.71N×143˚.83E,h35km,mb4.3/9,Error ellipse: s-maj=10.5km s-min=8.4km az=124.0*
ISC 05 07:27:58.0±0.6,36.77N±0˚.05×143.77E±0˚.07,h35km,n65, σ2s19/76,mb4.3/28,Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
JFK	**Kawauchi**	**2.39**	**285**	P			**Pn**	**07 28 33.4**	**-1.3**
JFK				S			**Sn**	**07 29 00.3**	**-2.5**
ONAJ	**Iwakimizuishiy**	**2.41**	**279**	P			**Pn**	**07 28 33.9**	**-1.0**
JIO	**Ouri**	**2.55**	**312**	P			**Pn**	**07 28 35.5**	**-1.4**
JIO				S			**Sn**	**07 29 03.6**	**-3.1**
JHO	**Hitachi**	**2.58**	**267**	P			**Pn**	**07 28 36.2**	**-1.1**
JFT	**Otama**	**2.84**	**286**	P			**Pn**	**07 28 40.6**	**-0.3**
JFT				S			**Sn**	**07 29 12.7**	**-1.2**
JMK	**Ichinoseki**	**2.97**	**318**	P			**Pn**	**07 28 41.4**	**-1.2**
JMK				eS			**Sn**	**07 29 13.9**	**-3.1**
BSO1	**Boso 1**	**3.10**	**228**	P			**Pn**	**07 28 42.6**	**-1.4**
JOM	**Ohasama**	**3.33**	**325**	P			**Pn**	**07 28 46.2**	**-1.4**
JOM				S			**Sn**	**07 29 23.1**	**-2.8**
JYK	**Kaneyama**	**3.45**	**309**	P			**Pn**	**07 28 48.7**	**-0.5**
JYK				eS			**Sn**	**07 29 26.5**	**-2.3**
JAG	**Ashikaga**	**3.49**	**266**	P			**Pn**	**07 28 49.2**	**-0.6**
JAG				eS			**Sn**	**07 29 27.2**	**-2.7**
JRY	**Ryogami san**	**4.00**	**261**	P			**Pn**	**07 28 55.7**	**-1.1**
JRY				eS			**Sn**	**07 29 39.8**	**-2.7**
MJAR	**Matsushiro Arr**	**4.48**	**269**	Pn			**Pn**	**07 29 03.6**	**+0.3**
	14nm,0.3s,baz=91,slow=15,SNR=42								
MJAR				Sn			**Sn**	**07 29 56.9**	**+2.6**
	2.6nm,0.3s,baz=118,slow=19,SNR=4.6								
MAJO	**Matsushiro**	**4.48**	**269**	ePn			**Pn**	**07 29 04.0**	**+0.6**
MAJO				eSn			**Sn**	**07 29 59.6**	**+5.3**
MAT	**Matsushiro**	**4.48**	**269**	P			**Pn**	**07 29 03.9**	**+0.5**
MAT				S			**Sn**	**07 29 48.8**	**-5.5**
JHJ2	**Mitsune**	**4.89**	**223**	P			**Pn**	**07 29 07.1**	**-1.6**
JHJ2	**Mitsune**	**4.89**	**223**	ePn			**Pn**	**07 29 06.8**	**-2.2**
JHJ2				eSn			**Sn**	**07 30 02.6**	**-1.7**
JHJ	**Hachijo jima 2**	**4.90**	**223**	Pn			**Pn**	**07 29 05.9**	**-3.3**
	35nm,0.3s,baz=0.2,slow=18,SNR=22								
JHJ				Sn			**Sn**	**07 29 58.8**	**-5.8**
	108nm,0.3s,baz=197,slow=20,SNR=6.1								
JOT	**Ohata**	**5.07**	**336**	P			**Pn**	**07 29 10.7**	**-0.7**
JOT				eS			**Sn**	**07 30 03.5**	**-5.2**
ERM	**Erimo**	**5.26**	**355**	ePn			**Pn**	**07 29 11.6**	**-2.4**
	87nm,0.8s								
ERM				eSn			**Sn**	**07 30 06.9**	**-6.5**
ASAJ	**Asahikawa**	**7.39**	**353**	Pn			**Pn**	**07 29 41.3**	**-2.0**
	6.6nm,0.3s,baz=203,slow=9.8,SNR=17								
ASAJ	**Asahikawa**	**7.39**	**353**	Pn			**Pn**	**07 29 41.3**	**-2.0**
ASAJ				eSn			**Sn**	**07 31 10.2**	**+4.3**
YSS	**Yuzh-Sakhalins**	**10.20**	**356**	ePn			**Pn**	**07 30 21.8**	**0.0**
USRK	**Ussuriysk Ar.**	**11.63**	**313**	Pn			**Pn**	**07 30 41.8**	**+0.4**
	0.6nm,0.3s,baz=124,slow=12,SNR=8.2								
KSRS	**Korea Array**	**12.67**	**278**	Pn			**Pn**	**07 30 57.5**	**+1.8**
	baz=84,slow=13,SNR=8.0								
KSRS				LR			LR	07 35 24.7	
	comp=Z,62nm,18.3s,baz=32,slow=35								
KSAR	**Wonju Array Be**	**12.70**	**278**	Pn			**Pn**	**07 30 57.5**	**+1.4**
KLR	**Kul'dur**	**15.22**	**329**	Pn			**Pn**	**07 31 26.7**	**-3.4**
	0.4nm,0.3s,baz=125,slow=14,SNR=8.0								
KLR				LR			LR	07 37 37.6	
	comp=Z,115nm,18.2s,baz=108,slow=38								
JOW	**Kunigami**	**16.46**	**237**	LR			LR	07 37 18.7	
	comp=Z,17nm,22.0s,baz=272,slow=34								
H11N2	**WAKE ISLAND Hy**	**26.41**	**124**	T			T	08 00 58.7	
	baz=315,slow=75,SNR=42								
H11N1	**WAKE ISLAND Hy**	**26.42**	**124**	T			T	08 01 00.8	
	baz=315,slow=75,SNR=38								
H11N3	**WAKE ISLAND Hy**	**26.43**	**124**	T			T	08 00 59.2	
	baz=315,slow=75,SNR=32								
SEY	**Seymchan**	**26.72**	**9**	P			**P**	**07 33 34.0**	**+0.3**
	1.4nm,0.2s,baz=183,slow=9.2,SNR=5.1								
H11S1	**WAKE ISLAND Hy**	**27.15**	**126**	T			T	08 01 56.6	
	baz=317,slow=75,SNR=14								
H11S3	**WAKE ISLAND Hy**	**27.15**	**126**	T			T	08 01 54.7	
	baz=317,slow=75,SNR=12								
H11S2	**WAKE ISLAND Hy**	**27.17**	**126**	T			T	08 02 06.8	
	baz=317,slow=75,SNR=13								
SONM	**Songino Array**	**29.50**	**304**	P			**P**	**07 34 01.5**	**+2.6**
	1.6nm,0.8s,baz=94,slow=7.5,SNR=3.9								
ZALV	**Zalesovo Beam**	**43.48**	**313**	P			**P**	**07 35 59.5**	**+1.9**
	1.2nm,0.4s,baz=92,slow=4.7,SNR=5.0								
ZALV				PcP			**PcP**	**07 37 45.3**	**+0.2**
	2.2nm,0.5s,baz=113,slow=1.9,SNR=5.5								
KURK	**Kurchatov**	**47.58**	**309**	eP			**P**	**07 36 30.9**	**+0.8**
	59nm,0.8s								
KURBB	**Kurchatov Arra**	**47.65**	**308**	P			**P**	**07 36 31.2**	**+0.6**
	1.7nm,0.6s,baz=83,slow=8.0,SNR=9.2								
ILAR	**Eielson Array**	**48.70**	**32**	P			**P**	**07 36 38.7**	**+0.2**
	2.7nm,0.7s,baz=264,slow=6.4,SNR=32								
EGAK	**Eagle**	**51.16**	**32**	eP			**P**	**07 36 57.2**	**+0.1**
	0.8nm,0.5s								
INK	**Inuvik**	**53.76**	**27**	P			**P**	**07 37 15.5**	**-0.8**
	2.1nm,0.6s,baz=285,slow=6.8,SNR=7.2								
KKAR	**Karatay Array**	**54.89**	**301**	eP			**P**	**07 37 26.0**	**+1.0**
	5.9nm,1.1s								
WRAB	**Tennant Creek**	**57.10**	**191**	eP			**P**	**07 37 39.9**	**-0.9**
	3.0nm,0.6s								
WRA	**Warramunga Arr**	**57.11**	**191**	P			**P**	**07 37 39.6**	**-1.4**
	3.3nm,0.5s,baz=10,slow=7.1,SNR=50								
WRA				PcP			**PcP**	**07 38 34.6**	**-0.8**
	1.5nm,0.5s,baz=3.7,slow=4.1,SNR=6.4								
FITZ	**Fitzroy Crossi**	**57.20**	**201**	eP			**P**	**07 37 41.9**	**+0.2**
	2.1nm,0.5s								
ABKAR	**Abkulak array**	**59.55**	**311**	eP			**P**	**07 37 58.5**	**+0.7**

1.3nm,0.5s

ASAR	**Alice Springs**	**60.83**	**190**	P	**P**	**07 38 04.2**	**-2.5**
	1.1nm,0.4s,baz=6.3,slow=7.6,SNR=23						
GEYT	**Alibeck**	**65.61**	**300**	P	**P**	**07 38 39.4**	**+0.9**
	4.8nm,0.6s,baz=72,slow=4.7,SNR=6.7						
STKA	**Stephens Creek**	**68.32**	**182**	P	**P**	**07 38 54.4**	**-1.0**
	5.2nm,0.8s,baz=3.0,slow=7.6,SNR=6.2						
STKA				LR	LR	08 11 55.3	
	comp=Z,69nm,18.6s,baz=211,slow=39						
STKA	**Stephens Creek**	**68.32**	**182**	PKIKP	**P**	**07 38 54.4**	**-1.1**
FINES	**FINESS Array B**	**69.92**	**333**	P	**P**	**07 39 06.1**	**+1.0**
	2.6nm,0.7s,baz=62,slow=4.5,SNR=6.9						
KBZ	**Khabaz**	**72.50**	**312**	P	**P**	**07 39 21.7**	**+0.7**
	4.5nm,0.8s,baz=52,slow=1.5,SNR=8.6						
H17A	**Grant Village**	**74.91**	**46**	*eP*	**P**	**07 39 38.2**	**+2.7**
	3.8nm,1.1s						
NB2	**NORSAR Subarra**	**75.14**	**338**	P	**P**	**07 39 36.8**	**+0.5**
	comp=Z,2.6nm,0.6s,baz=38,slow=5.9						
NOA	**NORSAR Array B**	**75.14**	**338**	P	**P**	**07 39 37.1**	**+0.8**
	comp=Z,3.4nm,0.7s,baz=39,slow=5.8,SNR=12						
AKASG	**Malin Array Be**	**75.65**	**323**	P	**P**	**07 39 39.9**	**+0.6**
	comp=Z,2.1nm,0.6s,baz=46,slow=5.9,SNR=9.4						
KIEV	**Kiev**	**75.66**	**323**	*eP*	**P**	**07 39 39.9**	**+0.5**
	comp=Z,2.9nm,0.8s						
DUG	**Dugway, Tooele**	**76.08**	**50**	*eP*	**P**	**07 39 43.2**	**+1.0**
	comp=Z,1.6nm,0.6s						
PDAR	**Pinedale Array**	**76.49**	**47**	P	**P**	**07 39 44.9**	**+0.3**
	comp=Z,0.8nm,0.6s,baz=296,slow=1.4,SNR=10						
ULM	**Lac du Bonnet**	**78.67**	**34**	P	**P**	**07 39 55.6**	**-0.6**
	comp=Z,2.2nm,0.8s,baz=178,slow=5.8,SNR=3.0						
WUAZ	**Wupatki**	**79.82**	**53**	*eP*	**P**	**07 40 04.4**	**+1.3**
	comp=Z,3.8nm,1.1s						
BRTR	**Keskin Array B**	**80.43**	**313**	P	**P**	**07 40 06.8**	**+0.6**
	comp=Z,1.9nm,1.0s,baz=111,slow=5.4,SNR=7.3						
TXAR	**Lajitas Array**	**88.77**	**54**	P	**P**	**07 40 48.6**	**+0.2**
	comp=Z,2.1nm,0.7s,baz=304,slow=3.7,SNR=21						
LPAZ	**La Paz**	**145.16**	**63**	PKPbc	**PKPbc**	**07 47 31.6**	**-1.0**
	comp=Z,1.7nm,0.5s,baz=358,slow=3.4,SNR=21						
SIV	**San Ignacio**	**149.77**	**53**	PKPbc	**PKPbc**	**07 47 43.8**	**-0.9**
	comp=Z,4.8nm,0.9s,baz=310,slow=1.2,SNR=5.7						

IDC 05 07:31:45.1±2.7, 5.84S×75.25W, h134km±31km, mb3.5/3, mb1 3.6/7, mb1mx3.4/32, mbtmp3.9/7, Error ellipse: s-maj=30.2km s-min=18.6km az=37.0, Northern Peru

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ATAH	**Atahualpa**	**3.38**	**247**	P	Pn	07 32 38.0	+0.9
	16nm,0.3s,baz=25,slow=5.8,SNR=103						
ATAH				S	Sn	07 33 17.3	0.0
	10nm,0.3s,baz=47,slow=10.0,SNR=5.6						
NNA	**Nana**	**6.31**	**194**	P	Pn	07 33 17.8	+1.9
	2.2nm,0.3s,baz=21,slow=4.5,SNR=5.5						
NNA				S	Sn	07 34 26.3	-0.5
	9.4nm,0.3s,baz=297,slow=23,SNR=10						
LPAZ	**La Paz**	**12.51**	**147**	P	Pn	07 34 39.6	+0.4
	0.2nm,0.3s,baz=336,slow=6.0,SNR=6.1						
PTGA	**Pitinga**	**16.08**	**72**	P	Pn	07 35 22.6	-1.1
	0.5nm,0.3s,baz=39,slow=22,SNR=7.3						
LVC	**Limon Verde**	**17.76**	**160**	P	Pn	07 35 47.2	+2.7
	21nm,0.3s,baz=354,slow=8.3,SNR=5.3						
CPUP	**Villa Florida**	**26.61**	**142**	P	P	07 37 10.8	-0.3
	2.7nm,0.9s,baz=325,slow=11,SNR=4.0						
TORD	**Torodi Ar. Bea**	**78.69**	**75**	P	P	07 43 33.2	0.0
	0.5nm,0.3s,baz=275,slow=5.6,SNR=14						
ILAR	**Eielson Array**	**87.53**	**336**	P	P	07 44 17.5	0.0
	0.4nm,0.8s,baz=77,slow=3.9,SNR=3.7						
WRA	**Warramunga Arr**	**141.22**	**228**	PKhKP	PKPpre	07 50 56.6	
	0.6nm,1.0s,baz=114,slow=2.2,SNR=3.6						
WRA				PKP	PKiKP	07 51 02.7	-0.9
	0.4nm,0.6s,baz=123,slow=1.9,SNR=5.2						

IDC 05 07:37:50.6±4.1, 2.2°N×127.5°E, h63km±32km, mb3.7/4, mb1 3.9/4, mb1mx3.4/38, mbtmp4.0/4, MS3.9/4, Ms1 3.9/4, ms1mx3.2/35, Error ellipse: s-maj=157.3km s-min=22.6km az=67.0

DJA 05 07:37:51.2±1.6, 2.7°N±10.°×12.8°E±.°, h29km±13km, M4.6/7, mb4.7/6, mB5.0/3, MLv4.6/7, Mw(mB)4.3/3

ISC 05 07:37:46.4±1.3, 2.8N±0.1°×128.64E±0.08, h35km, n17, σ2§00/16, mb3.9/4, MS3.9/4, Halmahera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SWI	**Sorong**	**4.47**	**144**	P	**Pn**	**07 38 55.2**	**+3.4**
SWI				S	**Sn**	**07 39 40.3**	**-2.3**
KMSI	**Cibinong**	**5.15**	**245**	P	**Pn**	**07 39 01.7**	**+0.6**
KMSI				S	**Sn**	**07 39 57.6**	**-1.8**
SANI	**Sanana**	**5.49**	**209**	P	**Pn**	**07 39 06.3**	**+0.5**
GTOI	**Gorontalo**	**6.02**	**249**	P	**Pn**	**07 39 15.4**	**+2.3**
	49nm,1.1s,534nm0.2nm						
FAKI	**Fak Fak**	**6.72**	**148**	P	**Pn**	**07 39 25.5**	**+2.8**
	48nm,0.9s,0.2nm						
MRSI	**Marisa**	**7.08**	**251**	P	**Pn**	**07 39 29.4**	**+1.8**
	146nm,0.7s,2μm0.5nm						
TTSI	**Tana Toraja**	**10.55**	**237**	P	**Pn**	**07 40 15.6**	**+0.3**
	31nm,0.6s						
SPSI	**Sidrap Palu**	**11.12**	**233**	P	**Pn**	**07 40 24.4**	**+1.4**
WRA	**Warramunga Arr**	**23.27**	**166**	P	**P**	**07 42 51.0**	**-0.1**
	4.2nm,0.8s,baz=341,slow=10,SNR=27						
RGRI	**Rengat**	**26.48**	**264**	P	P	07 43 30.0	+9.3
ASAR	**Alice Springs**	**26.79**	**169**	P	**P**	**07 43 23.1**	**-0.3**
	1.2nm,0.6s,baz=355,slow=8.3,SNR=21						
ASAR				PcP	**PcP**	**07 46 46.1**	**+0.1**
	0.4nm,0.5s,baz=352,slow=2.3,SNR=6.1						
ASAR				ScP	**ScP**	**07 50 20.1**	**-3.5**
	0.5nm,0.8s,baz=354,slow=2.7,SNR=4.6						
STKA	**Stephens Creek**	**36.61**	**161**	P	**P**	**07 44 49.7**	**+0.3**
	2.1nm,0.5s,baz=335,slow=7.7,SNR=4.8						
KLR	**Kul'dur**	**46.35**	**3**	LR	LR	08 03 23.5	
	comp=Z,51nm,21.7s,baz=346,slow=33						
TLY	**Talaya**	**53.03**	**341**	LR	LR	08 09 57.4	
	comp=Z,82nm,18.8s,baz=312,slow=36						
KURBB	**Kurchatov Arra**	**63.56**	**327**	P	**P**	**07 48 13.1**	**-0.4**
	0.4nm,0.5s,baz=124,slow=6.6,SNR=5.2						
PPT	**Papeete**	**83.01**	**108**	LR	LR	08 24 36.2	
	comp=Z,177nm,18.1s,baz=13,slow=33						
OBN	**Obninsk**	**88.92**	**325**	LR	LR	08 31 20.1	
	comp=Z,47nm,19.3s,baz=286,slow=36						

IDC 05 07:38:06.3±1.6, 36.49N×144.04E, h0km, mb3.5/2, mb1 3.7/3, mb1mx3.4/38, mbtmp3.4/3, ML3.2/1, Error ellipse: s-maj=49.2km s-min=31.9km az=123.0

ISCJB 05 07:38:11.1±1.3, 36.86N±0.07°×143.65E±0.08, h33km, mb3.6/2, Error ellipse: s-maj=9.5km s-min=9.1km az=149.0

JMA 05 07:38:11.6±0.2, 36.89N×143.61E, h39km, M3.6

ISC 05 07:38:11.2±1.4, 36.80N±0.08×143.72E±0.09, h35km, n13, σ1§05/19, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JFK	**Kawauchi**	**2.34**	**285**	P	**Pn**	**07 38 47.3**	**0.0**
JFK				S	**Sn**	**07 39 14.0**	**-0.8**
ONAJ	**Iwakimizuishiy**	**2.36**	**278**	P	**Pn**	**07 38 47.9**	**+0.4**
ONAJ				S	**Sn**	**07 39 14.5**	**-0.7**
JIO	**Ouri**	**2.50**	**312**	P	**Pn**	**07 39 49.5**	**+0.1**
JIO				S	**Sn**	**07 39 17.4**	**-1.3**
JMM	**Marumori**	**2.56**	**295**	*eS*	**Sn**	**07 39 19.7**	**-0.5**
JFT	**Otama**	**2.80**	**286**	S	**Sn**	**07 39 26.6**	**+0.6**
JOU	**Okura**	**2.89**	**304**	P	**Pn**	**07 38 55.5**	**+0.8**
JOU				S	**Sn**	**07 39 28.6**	**+0.4**
JMK	**Ichinoseki**	**2.92**	**318**	*eS*	**Sn**	**07 39 28.0**	**-1.0**
JOM	**Ohasama**	**3.28**	**325**	P	**Pn**	**07 39 00.5**	**+0.4**
JOM				S	**Sn**	**07 39 36.6**	**-1.4**
JAG	**Ashikaga**	**3.45**	**265**	P	**Pn**	**07 39 03.0**	**+0.5**
JAG				*eS*	**Sn**	**07 39 41.0**	**-1.1**
JRG	**Rokugo**	**3.56**	**318**	*eS*	**Sn**	**07 39 45.5**	**+0.8**
MJAR	**Matsushiro Arr**	**4.44**	**268**	Pn	**Pn**	**07 39 18.2**	**+2.2**
	1.0nm,0.3s,baz=92,slow=16,SNR=5.6						
ILAR	**Eielson Array**	**48.70**	**32**	P	**P**	**07 46 52.8**	**+1.1**
	0.4nm,0.8s,baz=260,slow=6.6,SNR=4.8						
WRA	**Warramunga Arr**	**57.13**	**191**	P	**P**	**07 47 52.8**	**-1.5**
	1.0nm,1.2s,baz=12,slow=7.4,SNR=2.8						

ISCJB 05 07:38:47.0±0.4, 50.20N±0.01°×12.55E±0.02, h15km±5km, Error ellipse: s-maj=2.6km s-min=2.4km az=10.0

CSEM 05 07:38:48.8±0.1, 50.23N×12.52E, h5km, ML3.4/17, Error ellipse: s-maj=1.9km s-min=1.5km az=42.0

IASPEI 05 07:38:49.1±0.8, 50.24N±0.02×12.46E±0.03, h10km±3km, Error ellipse: s-maj=3.7km s-min=2.4km az=92.9, GT5

selection from ISC bulletin GT5 identified by Bondˇjr and McLaughlin (2009) selection criteria Bondˇjr and McLaughlin, A new ground truth data set for seismic studies, Seism. Res. Let., 80, 465-472, 2009

BGR 05 07:38:49.2±0.2, 50.25N×12.45E, h11km±1km, ML2.9/6, Error ellipse: s-maj=2.2km s-min=1.1km az=95.0

CLL 05 07:38:49.9±0.3, 50.2N±0.8×1.2E±.°, h7km±1km, ml2.5

PRU 05 07:38:49.0, 50.26N×12.47E, h10km, West Bohemia Swarm

ISC 05 07:38:49.5±0.8, 50.24N±0.01°×12.49E±0.02, h10km±4km, n91, σ1§02/155, 9D, Germany

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NKC	**Novy Kostel**	**0.03**	**258**	ǁ *i* Pg	**Pg**	**07 38 51.1**	**-0.2**
NKC				*e*SG	**Sg**	**07 38 52.1**	**-0.5**
	comp=Z,8μm,0.2s						
NKC	**Novy Kostel**	**0.03**	**258**	*i* Pg	**Pg**	**07 38 51.2**	**-0.2**
NKC				*i* Sg	**Sg**	**07 38 52.2**	**-0.4**
NKC	**Novy Kostel**	**0.03**	**258**	*e*Pg	**Pg**	**07 38 51.1**	**-0.2**
NKC				*e*Sg	**Sg**	**07 38 52.2**	**-0.5**
NKC	**Novy Kostel**	**0.03**	**258**	Pg	**Pg**	**07 38 51.1**	**-0.2**
NKC				Sg	**Sg**	**07 38 52.1**	**-0.5**
	8μm,0.2s						
WERN	**Wernitzgruen**	**0.09**	**303**	*i* Pg	**Pg**	**07 38 51.6**	**-0.4**
WERN				*i* Sg	**Sg**	**07 38 52.9**	**-0.8**
WERN				AML	AML	07 38 53.2	
	comp=N,3μm,0.3s						
WERN	**Wernitzgruen**	**0.09**	**303**	*e*Pg	**Pg**	**07 38 51.6**	**-0.4**
WERN				*e*Sg	**Sg**	**07 38 52.9**	**-0.8**
WERN	**Wernitzgruen**	**0.09**	**303**	Pg	**Pg**	**07 38 51.6**	**-0.4**
WERN				Sg	**Sg**	**07 38 52.9**	**-0.8**
ROHR	**Rohrbach**	**0.11**	**267**	*i* Pg	**Pg**	**07 38 51.8**	**-0.5**
ROHR				*i* Sg	**Sg**	**07 38 53.2**	**-1.0**
ROHR				AML	AML	07 38 53.4	
	comp=E,8μm,0.2s						
ROHR	**Rohrbach**	**0.11**	**267**	*e*Pg	**Pg**	**07 38 51.8**	**-0.5**
ROHR				*e*Sg	**Sg**	**07 38 53.2**	**-1.0**
ROHR	**Rohrbach**	**0.11**	**267**	Pg	**Pg**	**07 38 51.8**	**-0.5**
ROHR				Sg	**Sg**	**07 38 53.2**	**-1.0**
GUNZ	**Gunzen**	**0.16**	**321**	*i* Pg	**Pg**	**07 38 52.7**	**-0.4**
GUNZ				*i* Sg	**Sg**	**07 38 54.9**	**-0.6**
GUNZ				AML	AML	07 38 55.5	
	comp=N,1μm,0.5s						
GUNZ	**Gunzen**	**0.16**	**321**	*e*Pg	**Pg**	**07 38 52.7**	**-0.4**
GUNZ				*e*Sg	**Sg**	**07 38 54.7**	**-0.8**
GUNZ	**Gunzen**	**0.16**	**321**	Pg	**Pg**	**07 38 52.7**	**-0.4**
GUNZ				Sg	**Sg**	**07 38 54.7**	**-0.8**
MULD	**Muldenberg**	**0.18**	**342**	*i* Pg	**Pg**	**07 38 53.1**	**-0.3**
MULD				*i* Sg	**Sg**	**07 38 55.5**	**-0.7**
MULD				AML	AML	07 38 56.1	
	comp=N,1μm,0.3s						
MULD	**Muldenberg**	**0.18**	**342**	*e*Pg	**Pg**	**07 38 53.1**	**-0.3**
MULD				*e*Sg	**Sg**	**07 38 55.4**	**-0.7**
MULD	**Muldenberg**	**0.18**	**342**	Pg	**Pg**	**07 38 53.1**	**-0.3**
MULD				Sg	**Sg**	**07 38 55.4**	**-0.7**
WERD	**Werda**	**0.24**	**330**	*i* Pg	**Pg**	**07 38 54.1**	**-0.4**
WERD				*i* Sg	**Sg**	**07 38 57.1**	**-0.6**
WERD				AML	AML	07 38 57.6	
	comp=N,212nm,0.1s						
WERD	**Werda**	**0.24**	**330**	*e*Pg	**Pg**	**07 38 54.1**	**-0.4**
WERD				*e*Sg	**Sg**	**07 38 56.8**	**-0.9**
WERD	**Werda**	**0.24**	**330**	Pg	**Pg**	**07 38 54.1**	**-0.4**
WERD				Sg	**Sg**	**07 38 56.8**	**-0.9**
TRIB	**Obertriebel**	**0.25**	**296**	*i* Pg	**Pg**	**07 38 54.1**	**-0.6**
TRIB				*i* Sg	**Sg**	**07 38 57.0**	**-1.1**
TRIB				AML	AML	07 38 57.7	
	comp=E,366nm,0.2s						
TRIB	**Obertriebel**	**0.25**	**296**	*e*Pg	**Pg**	**07 38 54.1**	**-0.6**
TRIB				*e*Sg	**Sg**	**07 38 57.0**	**-1.1**
TRIB	**Obertriebel**	**0.25**	**296**	Pg	**Pg**	**07 38 54.1**	**-0.6**
TRIB				Sg	**Sg**	**07 38 57.0**	**-1.1**
PLN	**Plauen**	**0.33**	**319**	*i* Pg	**Pg**	**07 38 55.6**	**-0.5**
PLN				*i* Sg	**Sg**	**07 38 59.8**	**-0.6**
PLN				AML	AML	07 39 00.1	
	comp=E,147nm,0.1s						
PLN	**Plauen**	**0.33**	**319**	*e*Pg	**Pg**	**07 38 55.5**	**-0.5**
PLN				*e*Sg	**Sg**	**07 38 59.6**	**-0.8**
PLN	**Plauen**	**0.33**	**319**	Pg	**Pg**	**07 38 55.5**	**-0.5**
PLN				Sg	**Sg**	**07 38 59.6**	**-0.8**
SCHF	**Schoenfels**	**0.44**	**353**	*i* Pg	**Pg**	**07 38 57.9**	**-0.3**
SCHF				*i* Sg	**Sg**	**07 39 03.7**	**-0.3**
SCHF				AML	AML	07 39 04.1	
	comp=E,1μm,0.2s						
SCHF	**Schoenfels**	**0.44**	**353**	*e*Pg	**Pg**	**07 38 57.9**	**-0.3**
SCHF				*e*Sg	**Sg**	**07 39 03.7**	**-0.3**
SCHF	**Schoenfels**	**0.44**	**353**	Pg	**Pg**	**07 38 57.9**	**-0.3**
SCHF				Sg	**Sg**	**07 39 03.7**	**-0.3**
ROTZ	**Rotzenmuhle**	**0.51**	**201**	*e*Pg	**Pg**	**07 38 59.4**	**0.0**
ROTZ				*e*Sg	**Sg**	**07 39 05.8**	**-0.2**
ROTZ	**Rotzenmuhle**	**0.51**	**201**	Pg	**Pg**	**07 38 59.4**	**0.0**
ROTZ				Sg	**Sg**	**07 39 05.8**	**-0.2**
MLFH	**Mildenfurth**	**0.61**	**335**	*i* Pg	**Pg**	**07 39 00.8**	**-0.6**
MLFH				*i* Sg	**Sg**	**07 39 08.7**	**-0.7**
MOX	**Moxa**	**0.69**	**306**	*e*Pg	**Pg**	**07 39 02.2**	**-0.7**
MOX				*e*Sg	**Sg**	**07 39 10.9**	**-1.0**
MOX	**Moxa**	**0.69**	**306**	Pg	**Pg**	**07 39 02.2**	**-0.7**
MOX				Sg	**Sg**	**07 39 10.9**	**-1.0**
GRA1	**Grafenberg Arr**	**0.99**	**237**	Pg	**Pg**	**07 39 07.8**	**-0.7**
GRA1				Sg	**Sg**	**07 39 20.3**	**-1.0**
GRF	**Grafenberg Arr**	**0.99**	**237**	*e*Pg	**Pg**	**07 39 07.8**	**-0.7**
GRF				*e*Sg	**Sg**	**07 39 20.3**	**-1.0**
CLL	**Collm**	**1.12**	**17**	*e*Pg	**Pb**	**07 39 10.2**	**-0.8**
CLL				*e*Sg	**Sg**	**07 39 25.0**	**-0.5**
CLL	**Collm**	**1.12**	**17**	Pg	**Pb**	**07 39 10.2**	**-0.8**
CLL				Sg	**Sg**	**07 39 25.0**	**-0.5**
CLL	**Collm**	**1.12**	**17**	*i* Pg	**Pg**	**07 39 10.6**	**-0.4**
CLL				*i*		07 39 13.6	
CLL				*i* Sg	**Sg**	**07 39 25.1**	**-0.5**
	comp=Z,70nm,0.6s						
CLL				*i*		07 39 29.2	
BRG	**Berggiesshubel**	**1.12**	**55**	PG	**Pg**	**07 39 10.9**	**-0.1**
BRG				SG	**Sg**	**07 39 25.9**	**+0.2**
	comp=Z,116nm,0.3s						
BRG	**Berggiesshubel**	**1.12**	**55**	*e*Pg	**Pb**	**07 39 10.8**	**-0.3**
BRG				*e*Sg	**Sb**	**07 39 25.2**	**-0.5**
BRG	**Berggiesshubel**	**1.12**	**55**	Pg	**Pb**	**07 39 10.8**	**-0.3**
BRG				Sg	**Sb**	**07 39 25.2**	**-0.5**
WET	**Wettzell**	**1.12**	**167**	ǁ *e*PG	**Pb**	**07 39 10.6**	**-0.5**
WET	**Wettzell**	**1.12**	**167**	*e*Pg	**Pb**	**07 39 10.8**	**-0.3**
WET				*e*Sg	**Sb**	**07 39 25.6**	**-0.2**
WET	**Wettzell**	**1.12**	**167**	Pg	**Pb**	**07 39 10.8**	**-0.3**
WET				Sg	**Sb**	**07 39 25.6**	**-0.2**
PRA	**Prague**	**1.26**	**97**	ǁ *e*SG	**Sb**	**07 39 25.5**	**-0.2**
	comp=Z,51nm,0.2s						
PRA	**Prague**	**1.26**	**97**	Sg	**Sb**	**07 39 29.5**	**-0.2**
	comp=Z,51nm,0.2s						
KHC	**Kasperske Hory**	**1.31**	**147**	ǁ *i* PG	**Pn**	**07 39 13.7**	**-0.3**
KHC				*e*SG	**Sb**	**07 39 31.3**	**0.0**
	comp=Z,55nm,0.3s						
KHC	**Kasperske Hory**	**1.31**	**147**	Pg	**Pn**	**07 39 13.7**	**-0.3**
KHC				Sg	**Sb**	**07 39 31.3**	**0.0**
	comp=Z,55nm,0.3s						
PRU	**Pruhonice**	**1.34**	**100**	ǁ *e*PG	**Pb**	**07 39 14.7**	**-0.1**
PRU				*e*SG	**Sn**	**07 39 32.3**	**0.0**
	comp=Z,98nm,0.2s						
PRU	**Pruhonice**	**1.34**	**100**	Pg	**Pb**	**07 39 14.7**	**-0.1**
PRU				Sg	**Sn**	**07 39 32.3**	**0.0**
	comp=Z,98nm,0.2s						
PVCC	**Panska Ves**	**1.36**	**77**	ǁ *e*SG	**Sg**	**07 39 33.6**	**+0.3**
	comp=Z,169nm,0.2s						
PVCC	**Panska Ves**	**1.36**	**77**	Sg	**Sg**	**07 39 33.6**	**+0.3**
	comp=Z,169nm,0.2s						
GOPC	**GO Pecny, Ondr**	**1.51**	**102**	*e*SG	**Sg**	**07 39 37.8**	**-0.4**
GOPC	**GO Pecny, Ondr**	**1.51**	**102**	Sg	**Sg**	**07 39 37.8**	**-0.4**
TREC	**Trest**	**2.16**	**115**	ǁ *e*SG	**Sb**	**07 39 56.7**	**+1.1**
	comp=Z,29nm,0.3s						
TREC	**Trest**	**2.16**	**115**	Sg	**Sb**	**07 39 56.7**	**+1.1**
	comp=Z,29nm,0.3s						
UPC	**Upice**	**2.27**	**82**	ǁ *e*SG	**Sg**	**07 40 01.1**	**-1.3**
UPC	**Upice**	**2.27**	**82**	Sg	**Sg**	**07 40 01.1**	**-1.3**
DPC	**Dobruska-Polom**	**2.46**	**86**	*e*PG	**Pb**	**07 39 34.0**	**+0.1**
DPC				*e*SG	**Sb**	**07 40 06.4**	**+2.2**
	comp=Z,20nm,0.3s						
DPC	**Dobruska-Polom**	**2.46**	**86**	Pg	**Pb**	**07 39 34.0**	**+0.1**
DPC				Sg	**Sb**	**07 40 06.4**	**+2.2**
	comp=Z,20nm,0.3s						
KSP	**Ksiaz**	**2.50**	**75**	*e*Pg	**Pg**	**07 39 36.0**	**-1.4**
KSP				*e*Sg	**Sg**	**07 40 08.5**	**-1.3**
KSP	**Ksiaz**	**2.50**	**75**	*e*Pg	**Pg**	**07 39 36.0**	**-1.4**
KSP				*e*Sg	**Sg**	**07 40 08.5**	**-1.3**
MOA	**Molln**	**2.66**	**153**	Pg	**Pg**	**07 39 39.3**	**-1.2**
	comp=Z,2.0nm,0.1s						
MOA				Sg	**Sg**	**07 40 13.0**	**-2.0**
	comp=Z,7.4nm,0.2s						
MOA	**Molln**	**2.66**	**153**	Pg	**Pg**	**07 39 39.3**	**-1.2**
	comp=Z,2.0nm,0.1s						
MOA				Sg	**Sg**	**07 40 13.0**	**-2.0**
	comp=Z,7.4nm,0.2s						
VRAC	**Vranov**	**2.82**	**108**	*e*Pn	**Pn**	**07 39 34.5**	**-0.2**
VRAC				*e*Sg	**Sg**	**07 40 17.7**	**-2.3**
RETA	**Reutte**	**2.98**	**203**	Pg	**Pg**	**07 39 45.8**	**-0.8**
	comp=Z,2.7nm,0.2s						
RETA				*e*Sg	**Sg**	**07 40 25.8**	**+0.6**
	comp=Z,8.5nm,0.2s						
RETA	**Reutte**	**2.98**	**203**	Pg	**Pg**	**07 39 45.8**	**-0.8**
	comp=Z,2.7nm,0.2s						
RETA				Sg	**Sg**	**07 40 25.8**	**+0.6**
	comp=Z,8.5nm,0.2s						
WTTA	**Wattenberg**	**3.03**	**191**	Pg	**Pb**	**07 39 45.3**	**+1.6**
	comp=Z,1.8nm,0.2s						
WTTA				Sg	**Sg**	**07 40 26.1**	**-0.7**
	comp=Z,11nm,0.3s						
WTTA	**Wattenberg**	**3.03**	**191**	Pg	**Pb**	**07 39 45.3**	**+1.6**
	comp=Z,1.8nm,0.2s						
WTTA				Sg	**Sg**	**07 40 26.1**	**-0.7**
	comp=Z,11nm,0.3s						
CONA	**Conrad Observa**	**3.20**	**135**	Pn	**Pn**	**07 39 43.0**	**+3.0**
	comp=Z,0.5nm,0.1s						
CONA				Sg	**Sg**	**07 40 30.6**	**-1.8**
	comp=Z,7.6nm,0.2s						
CONA	**Conrad Observa**	**3.20**	**135**	Pn	**Pn**	**07 39 43.0**	**+3.0**
	comp=Z,0.5nm,0.1s						
CONA				Sg	**Sg**	**07 40 30.6**	**-1.8**
	comp=Z,7.6nm,0.2s						
KBA	**Koelnbreinsper**	**3.21**	**170**	*e*Pn	**Pn**	**07 39 41.2**	**+0.9**
	comp=Z,1.4nm,0.2s						
KBA				Sg	**Sg**	**07 40 31.2**	**-1.5**
	comp=Z,3.8nm,0.2s						
KBA	**Koelnbreinsper**	**3.21**	**170**	Pn	**Pn**	**07 39 41.2**	**+0.9**
	comp=Z,1.4nm,0.2s						
KBA				Sg	**Sg**	**07 40 31.2**	**-1.5**
	comp=Z,3.8nm,0.2s						
MORC	**Moravsky Berou**	**3.29**	**96**	*e*Sg	**Sb**	**07 40 31.6**	**+3.4**
FETA	**Feichten**	**3.43**	**201**	Pg	**Pg**	**07 39 53.9**	**-1.2**
	comp=Z,1.0nm,0.2s						
FETA				Sg	**Sg**	**07 40 38.7**	**-0.8**
	comp=Z,3.0nm,0.3s						
FETA	**Feichten**	**3.43**	**201**	Pg	**Pg**	**07 39 53.9**	**-1.2**
	comp=Z,1.0nm,0.2s						
FETA				Sg	**Sg**	**07 40 38.7**	**-0.8**
	comp=Z,3.0nm,0.3s						
ABTA	**Abfaltersbach**	**3.50**	**180**	Sg	**Sg**	**07 40 41.4**	**-0.3**
	comp=Z,6.6nm,0.3s						
ABTA	**Abfaltersbach**	**3.50**	**180**	Sg	**Sg**	**07 40 41.4**	**-0.3**
	comp=Z,6.6nm,0.3s						
ARSA	**Arzberg**	**3.60**	**145**	Sg	**Sg**	**07 40 43.1**	**-2.0**
	comp=Z,8.5nm,0.5s						
ARSA	**Arzberg**	**3.60**	**145**	Sg	**Sg**	**07 40 43.1**	**-2.0**
	comp=Z,8.5nm,0.5s						
SMOL	**Smolenice**	**3.66**	**116**	*e*Sg	**Sg**	**07 40 47.6**	**+0.6**
SMOL	**Smolenice**	**3.66**	**116**	*e*SG	**Sg**	**07 40 47.6**	**+0.6**
OKC	**Ostrava-Krasne**	**3.67**	**94**	ǁ *e*SG	**Sg**	**07 40 44.6**	**-2.6**
	comp=Z,21nm,0.6s						
OKC	**Ostrava-Krasne**	**3.67**	**94**	Sg	**Sg**	**07 40 44.6**	**-2.6**
	comp=Z,21nm,0.6s						
OBKA	**Obir**	**3.98**	**159**	Sg	**Sg**	**07 40 56.2**	**-1.0**
	comp=Z,6.9nm,0.4s						
OBKA	**Obir**	**3.98**	**159**	Sg	**Sg**	**07 40 56.2**	**-1.0**
	comp=Z,6.9nm,0.4s						
VYHS	**Vyhne**	**4.50**	**110**	*e*SG	**Sb**	**07 41 05.1**	**+2.2**
VYHS				*e*LG	Lg	07 41 15.1	
LANS	**Liptovska Anna**	**4.66**	**101**	*e*Sg	**Sg**

ZALV	**Zalesovo Beam**	**42.21**	**313**	P	**P**	**08 12 12.4**	**-0.4**
	3.8nm,0.6s,baz=90,slow=6.9,SNR=8.2						
ZALV				LR	LR	08 30 36.9	
	comp=Z,51nm,18.3s,baz=75,slow=37						
HNR	**Honiara**	**48.79**	**155**	LR	LR	08 30 22.8	
	comp=Z,121nm,21.8s,baz=36,slow=32						
ILAR	**Eielson Array**	**50.39**	**32**	P	**P**	**08 13 17.2**	**+0.3**
	3.6nm,0.8s,baz=269,slow=6.3,SNR=31						
INK	**Inuvik**	**55.30**	**27**	P	**P**	**08 13 53.0**	**0.0**
	2.2nm,0.6s,baz=339,slow=5.7,SNR=5.3						
FITZ	**Fitzroy Crossi**	**55.92**	**198**	*e*P	**P**	**08 14 00.5**	**+2.5**
	1.6nm,0.6s						
WRAB	**Tennant Creek**	**56.18**	**187**	*e*P	**P**	**08 13 59.2**	**-0.7**
	1.4nm,0.3s						
WRA	**Warramunga Arr**	**56.19**	**187**	P	**P**	**08 13 58.2**	**-1.7**
	1.6nm,0.6s,baz=4.6,slow=7.4,SNR=28						
ARU	**Arti**	**56.74**	**319**	LR	LR	08 40 55.1	
	comp=Z,74nm,18.2s,baz=222,slow=39						
ABKAR	**Akbulak array**	**58.20**	**310**	*e*P	**P**	**08 14 13.1**	**-0.7**
	1.3nm,0.4s						
ASAR	**Alice Springs**	**59.91**	**187**	P	**P**	**08 14 25.2**	**-0.7**
	0.9nm,0.8s,baz=14,slow=7.1,SNR=8.3						
FINES	**FINESS Array B**	**69.38**	**332**	P	**P**	**08 15 27.8**	**+0.6**
	3.2nm,0.8s,baz=157,slow=10,SNR=5.7						
AKASG	**Malin Array Be**	**74.73**	**322**	P	**P**	**08 15 58.7**	**-0.8**
	1.4nm,0.6s,baz=47,slow=6.1,SNR=6.1						
NB2	**NORSAR Subarra**	**74.81**	**337**	P	**P**	**08 15 59.4**	**-0.4**
	comp=Z,0.7nm,0.5s,baz=40,slow=6.2						
NOA	**NORSAR Array B**	**74.81**	**337**	P	**P**	**08 15 59.8**	**0.0**
	comp=Z,1.9nm,0.8s,baz=39,slow=5.8,SNR=5.0						
PDAR	**Pinedale Array**	**78.51**	**45**	P	**P**	**08 16 21.5**	**+0.1**
	comp=Z,0.5nm,0.6s,baz=224,slow=1.6,SNR=6.8						
BRTR	**Keskin Array B**	**79.13**	**311**	P	**P**	**08 16 24.6**	**-0.1**
	comp=Z,1.0nm,0.7s,baz=50,slow=3.9,SNR=5.4						
GERES	**GERESS Array B**	**83.22**	**328**	P	**P**	**08 16 45.5**	**-0.7**
	comp=Z,0.3nm,0.3s,baz=27,slow=9.0,SNR=3.6						
BGNE	**Belgrade**	**85.69**	**40**	*e*P	**P**	**08 16 58.9**	**+0.1**
	comp=Z,0.2nm,0.2s						
TXAR	**Lajitas Array**	**90.92**	**52**	P	**P**	**08 17 24.2**	**+0.2**
	comp=Z,0.4nm,0.6s,baz=343,slow=3.9,SNR=4.2						
LPAZ	**La Paz**	**147.43**	**60**	PKPbc	**PKPbc**	**08 24 04.6**	**-0.2**
	comp=Z,1.6nm,0.7s,baz=329,slow=3.0,SNR=8.9						

JMA 05 08:07:04.8±0.2, 36°.91N × 143°.65E, h33km, M3.6, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JFK	**Kawauchi**	**2.26**	**282**	P	Pn	08 07 41.3	+1.4
JFK				S	Sn	08 08 08.1	+1.4
ONAJ	**Iwakimizuishiy**	**2.29**	**276**	S	Sn	08 08 08.9	+1.5
JIO	**Ouri**	**2.39**	**311**	*e*S	Sn	08 08 11.3	+1.6
JMM	**Marumori**	**2.47**	**294**	S	Sn	08 08 13.9	+2.2
JFT	**Ohama**	**2.71**	**284**	S	Sn	08 08 20.6	+2.8
JMK	**Ichinoseki**	**2.80**	**317**	S	Sn	08 08 22.4	+2.5
JOM	**Ohasama**	**3.16**	**325**	P	Pn	08 07 54.2	+2.0
JOM				S	Sn	08 08 30.2	+1.4
JAG	**Ashikaga**	**3.41**	**263**	P	Pn	08 07 57.3	+1.7
JAG				*e*S	Sn	08 08 36.3	+1.4

*ISCJB **05** 08:09:14.0±0.7, 61°.23N × 60°.01W ± 0°.10, h10km, Error ellipse: s-maj=7.0km s-min=5.8km az=30.1*
*OTT **05** 08:09:20.6±0.3, 61°.30N × 59°.96W, h18km, ML3.3/9, LAlbertaRADOR Sea Seismic Zone. 264km east from Resolution Island, Nu*
ISC 05 08:09:14.7±0.9, 61°.22N±0°.05 × 59°.80W±0°.06, h10km, n17, σ3°77/30, Davis Strait

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KAJQ	**Kangiqsualujjuq**	**3.99**	**233**	PN	Pn	08 10 20.8	+5.0
KAJQ				SN	**Sn**	**08 11 03.4**	**+0.9**
KAJQ				Trac		08 11 09.6	
	comp=Z,2.5nm,0.1s						
CDKN	**Chidliak Camp**	**4.27**	**318**	PN	**Pn**	**08 10 23.2**	**+3.7**
CDKN				SN	**Sn**	**08 11 08.7**	**-0.7**
CDKN				Trac		08 11 11.5	
	comp=Z,6.1nm,0.1s						
FRB	**Frobisher Bay**	**4.78**	**306**	PN	**Pn**	**08 10 30.7**	**+4.1**
FRB				SN	**Sn**	**08 11 20.4**	**-1.6**
FRB				Trac		08 11 24.4	
	comp=Z,5.8nm,0.1s						
CMBN	**Cumberland Cam**	**4.94**	**337**	PN	**Pn**	**08 10 31.3**	**+2.4**
CMBN				SN	**Sn**	**08 11 21.6**	**-4.4**
CMBN				Trac		08 11 25.7	
	comp=Z,14nm,0.3s						
KRSQ	**Kangirsuk**	**5.16**	**261**	PN	**Pn**	**08 10 35.9**	**+4.0**
KRSQ				SN	**Sn**	**08 11 31.6**	**+0.2**
KRSQ				Trac		08 11 37.6	
	comp=Z,4.1nm,0.1s						
KUQ	**Kuujjuuaa**	**5.36**	**238**	PN	**Pn**	**08 10 38.5**	**+3.9**
KUQ				SN	**Sn**	**08 11 35.4**	**-0.9**
KUQ				Trac		08 11 39.0	
	comp=Z,2.7nm,0.1s						
KNGQ	**Kangiqsujuaq**	**5.85**	**279**	PN	**Pn**	**08 10 41.8**	**+0.6**
KNGQ				SN	**Sn**	**08 11 48.3**	**+0.1**
NRS	**Narsarsuaq**	**6.95**	**84**	*i* P	**Pn**	**08 10 58.6**	**+2.2**
NRS				*i* S	**Sn**	**08 12 10.5**	**-4.9**
SFJD	**Kangerlussuaq**	**7.05**	**31**	PN	**Pn**	**08 11 01.2**	**+3.6**
SFJD				SN	**Sn**	**08 12 15.8**	**-1.9**
SFJD				Trac		08 12 18.4	
	comp=Z,1.5nm,0.1s						
SFJD	**Kangerlussuaq**	**7.05**	**31**	*i* P	**Pn**	**08 11 00.8**	**+3.1**
SFJD				*i* S	**Sn**	**08 12 16.2**	**-1.5**
SCHQ	**Schefferville**	**7.41**	**213**	PN	**Pn**	**08 11 07.4**	**+4.6**
SCHQ				SN	**Sn**	**08 12 27.6**	**+0.8**
SCHQ				Trac		08 12 30.1	
	comp=Z,13nm,0.5s						
INUQ	**Inukjuak**	**9.62**	**261**	PN	**Pn**	**08 11 34.2**	**+1.3**
INUQ				SN	**Sn**	**08 13 13.8**	**-7.2**
INUQ				Trac		08 13 21.3	
	comp=Z,2.5nm,0.1s						
CLRN	**Clyde River**	**9.95**	**343**	SN	**Sn**	**08 13 23.2**	**-5.7**
NATG	**Natashquan Que**	**11.09**	**190**	SN	**Sn**	**08 13 50.6**	**-6.4**
KJKQ	**Kuujjuarapik**	**11.15**	**246**	PN	**Pn**	**08 11 55.4**	**+1.5**
KJKQ				SN	**Sn**	**08 13 51.8**	**-6.7**
SMQ	**Clarke City**	**11.68**	**202**	PN	**Pn**	**08 12 03.0**	**+1.8**
SMQ				SN	**Sn**	**08 14 05.9**	**-5.6**
ILON	**Igloolik, Nuna**	**12.23**	**321**	PN	**Pn**	**08 12 10.7**	**+2.1**
ILON				SN	Sn	08 14 14.8	-10
ILON				Trac		08 14 21.8	
	comp=Z,2.0nm,0.2s						

*ISCJB **05** 08:21:01.8±0.5, 6°.83N±0°.03 × 73°.03W±0°.04, h156km±5km, Error ellipse: s-maj=6.7km s-min=3.6km az=33.0*
*RSNC **05** 08:21:03.6±0.5, 6°.80N × 73°.06W, h149km±3km, ML3.5*
*FUNV **05** 08:21:04.0, 6°.86N × 73°.03W, h165km, MW3.1*
ISC 05 08:21:01.6±1.3, 6°.83N±0°.03 × 73°.02W±0°.04, h160km±7km, n32, σ1°13/50, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BARC	**Barichara**	**0.29**	**215**	*i* P	**Pn**	**08 21 23.6**	**0.0**
BARC				*e*S	**Sn**	**08 21 39.2**	**-1.2**
BARC				*i*		08 21 42.2	
	comp=Z,733nm,0.7s						
GIRC	**Giron, Santand**	**0.31**	**325**	*i* P	**Pn**	**08 21 23.7**	**+0.1**
GIRC				*e*S	**Sn**	**08 21 39.1**	**-1.2**
PAMC	**Pamplona, Colo**	**0.60**	**32**	*i* P	**Pn**	**08 21 26.4**	**+1.2**
PAMC				*e*S	**Sn**	**08 21 42.9**	**-0.3**
BRRC	**Barranca, Sant**	**0.74**	**292**	*i* P	**Pn**	**08 21 25.5**	**0.0**
BRRC				*e*S	**Sn**	**08 21 43.0**	**-0.7**
BRRC				*i*		08 21 45.6	
	comp=Z,489nm,0.3s						
RUSC	**La Rusia**	**0.93**	**184**	*e*P	**Pn**	**08 21 27.5**	**+0.1**
RUSC				*e*S	**Sn**	**08 21 46.3**	**-0.8**
RUSC				*i*		08 21 48.0	
	comp=Z,379nm,0.4s						
CAPV	**Capacho**	**1.24**	**34**	*e*P	**Pn**	**08 21 31.4**	**+1.7**
CAPV				*e*S	**Sn**	**08 21 52.1**	**+0.8**
OCAC	**Ocana**	**1.43**	**348**	*e*P	**Pn**	**08 21 32.0**	**+0.6**
OCAC				*e*S	**Sn**	**08 21 55.0**	**+0.5**
YOPC	**Yopal, Colombi**	**1.58**	**158**	*e*P	**Pn**	**08 21 33.4**	**+0.5**
YOPC				*e*S	**Sn**	**08 21 57.4**	**+0.4**
ZARC	**Zaragoza, Cauc**	**1.94**	**290**	*e*P	**Pn**	**08 21 37.2**	**+0.5**
ZARC				*e*S	**Sn**	**08 22 02.8**	**-1.0**
ZARC				*i*		08 22 08.0	
	comp=Z,459nm,0.5s						
NORC	**Norcasia**	**2.23**	**236**	*e*S	**Sn**	**08 22 09.1**	**-0.7**
CHIC	**Chingaza**	**2.30**	**198**	*e*P	**Pn**	**08 21 41.5**	**+0.3**
CHIC				*e*S	**Sn**	**08 22 11.6**	**-0.2**
CHIC				*i*		08 22 19.1	
	comp=Z,148nm,0.4s						
ROSC	**El Rosal**	**2.36**	**213**	*e*P	**Pn**	**08 21 42.8**	**+0.8**
ROSC				*e*S	**Sn**	**08 22 12.3**	**-0.9**
ROSC				*i*		08 22 17.3	
	comp=Z,271nm,0.3s						
HELC	**Santa Helena**	**2.58**	**256**	*e*P	**Pn**	**08 21 45.4**	**+0.9**
HELC				*e*S	**Sn**	**08 22 17.8**	**+0.2**
HELC				*i*		08 22 21.8	
	comp=Z,160nm,0.5s						
VIGV	**El Vigia**	**2.58**	**39**	*e*P	**Pn**	**08 21 45.8**	**+1.5**
VIGV				*e*S	**Sn**	**08 22 16.8**	**-0.5**
SOCV	**Socops**	**2.58**	**56**	*e*P	**Pn**	**08 21 45.8**	**+1.5**
SOCV				*e*S	**Sn**	**08 22 16.8**	**-0.4**
VILC	**Villavicencio,**	**2.78**	**194**	*e*P	**Pn**	**08 21 47.1**	**+0.3**
VILC				*e*S	**Sn**	**08 22 21.5**	**-0.4**
VILC				*i*		08 22 29.2	
	comp=Z,88nm,0.8s						
CODC	**Agust´›n Codaz**	**3.12**	**352**	*e*P	**Pn**	**08 21 52.1**	**+1.3**
DBBC	**Dabeiba**	**3.18**	**274**	*e*P	**Pn**	**08 21 52.2**	**+0.6**
TOLC	**Tolima**	**3.20**	**226**	*e*P	**Pn**	**08 21 52.9**	**+0.7**
ELOV	**Elorza**	**3.51**	**87**	*e*P	**Pn**	**08 21 57.3**	**+1.5**
PRAC	**Prado**	**3.61**	**211**	*e*P	**Pn**	**08 21 57.9**	**+0.7**
PRAC				*e*S	**Sn**	**08 22 40.2**	**-0.3**
SJAC	**San Juan de Ar**	**3.65**	**195**	*e*S	**Sn**	**08 22 41.1**	**-0.4**
VIRV	**Villa del Rosa**	**3.70**	**9**	*e*P	**Pn**	**08 21 58.6**	**+0.4**
VIRV				*e*S	**Sn**	**08 22 39.9**	**-2.6**
QARV	**Quebrada Arrib**	**4.17**	**36**	*e*P	**Pn**	**08 22 06.0**	**+1.7**
CURV	**Curarigua**	**4.38**	**43**	*e*P	**Pn**	**08 22 08.2**	**+1.1**
DABV	**Dabajuro**	**4.70**	**30**	*e*P	**Pn**	**08 22 12.3**	**+1.1**
TEPV	**Terepaima**	**4.90**	**50**	*e*P	**Pn**	**08 22 15.1**	**+1.2**
SIQV	**Siquisique**	**4.95**	**40**	*e*P	**Pn**	**08 22 14.3**	**-0.2**
BAUV	**El Baul**	**5.36**	**67**	*e*P	**Pn**	**08 22 20.2**	**+0.3**
BAUV				*e*S	**Sn**	**08 23 16.8**	**-4.4**
MAPV	**Macapo**	**5.41**	**56**	*e*P	**Pn**	**08 22 21.4**	**+0.8**
MONV	**Montecano**	**5.91**	**30**	*e*P	**Pn**	**08 22 27.3**	**+0.1**
TURV	**Turiamo**	**6.26**	**55**	*e*P	**Pn**	**08 22 32.4**	**+0.6**

*ISCJB **05** 08:21:18.9±0.6, 19°.11N±0°.06 × 145°.6E±0°.2, h214km, mb3.9/12, Error ellipse: s-maj=22.7km s-min=8.2km az=2.5*
*IDC **05** 08:21:22.2±2.5, 19°.07N × 145°.53E, h232km±23km, mb3.7/12, mb1 3.9/14, mb1mx3.5/56, mbtmp4.3/14, Error ellipse: s-maj=20.2km s-min=10.9km az=90.0*
ISC 05 08:21:20.1±0.6, 19°.10N±0°.07 × 145°.6E±0°.2, h214km, n18, σ0°85/21, mb4.0/12, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GUMO	**Guam**	**5.52**	**187**	P	**Pn**	**08 22 42.6**	**+1.0**
	8.2nm,0.3s,baz=46,slow=1.7,SNR=6.9						
GUMO				S	**S**	**08 23 45.2**	**-0.6**
	28nm,0.3s,baz=164,slow=23,SNR=6.3						
MJAR	**Matsushiro Arr**	**18.54**	**341**	P	**Pn**	**08 25 23.6**	**-0.1**
	0.5nm,0.3s,baz=168,slow=9.4,SNR=6.5						
WRA	**Warramunga Arr**	**40.33**	**196**	P	**P**	**08 28 37.2**	**+0.2**
	6.0nm,0.4s,baz=17,slow=9.1,SNR=108						
WRA				PcP	**PcP**	**08 30 35.7**	**-0.4**
	1.3nm,0.5s,baz=13,slow=3.3,SNR=8.1						
FITZ	**Fitzroy Crossi**	**41.83**	**209**	P	**P**	**08 28 49.6**	**+0.4**
	7.1nm,0.3s,baz=25,slow=7.9,SNR=75						
ASAR	**Alice Springs**	**44.00**	**195**	P	**P**	**08 29 06.5**	**-0.1**
	2.7nm,0.5s,baz=12,slow=7.6,SNR=58						
ASAR				PcP	**PcP**	**08 30 48.0**	**-0.3**
	1.0nm,0.6s,baz=19,slow=3.3,SNR=6.3						
CMAR	**Chiang Mai Arr**	**44.04**	**277**	P	**P**	**08 29 08.4**	**+1.4**
	0.5nm,0.3s,baz=54,slow=7.1,SNR=4.6						
DZM	**Mont Dzumac**	**45.73**	**153**	P	**P**	**08 29 20.8**	**+0.5**
	7.0nm,0.6s,baz=188,slow=7.7,SNR=7.6						
STKA	**Stephens Creek**	**50.83**	**184**	P	**P**	**08 29 57.6**	**-1.4**
	0.8nm,0.3s,baz=59,slow=6.5,SNR=4.6						
KURBB	**Kurchatov Arra**	**60.94**	**318**	P	**P**	**08 31 09.8**	**-0.7**
	0.5nm,0.3s,baz=93,slow=7.6,SNR=7.1						
NRIK	**Noril´sk**	**61.19**	**340**	P	**P**	**08 31 12.2**	**+0.4**
	3.5nm,0.6s,baz=123,slow=6.8,SNR=4.3						
ILAR	**Eielson Array**	**63.34**	**26**	P	**P**	**08 31 25.9**	**-0.3**
	1.1nm,0.7s,baz=255,slow=5.4,SNR=16						
YKA	**Yellowknife Ar**	**77.69**	**28**	P	**P**	**08 32 53.4**	**+0.6**
	2.0nm,0.6s,baz=278,slow=5.3,SNR=4.5						
FINES	**FINESS Array B**	**86.47**	**335**	P	**P**	**08 33 37.2**	**-1.2**
	0.9nm,0.4s,baz=72,slow=4.8,SNR=8.6						
PDAR	**Pinedale Array**	**87.63**	**45**	P	**P**	**08 33 45.5**	**+0.8**
	0.3nm,0.5s,baz=227,slow=1.5,SNR=4.6						
SNAA	**Sanae**	**124.29**	**192**	PKP	**PKPdf**	**08 39 51.1**	**-1.7**
	0.4nm,0.5s,baz=190,slow=5.2,SNR=7.6						
LVC	**Limon Verde**	**147.64**	**102**	PKPbc	**PKPbc**	**08 40 41.3**	**+0.8**
	21nm,0.6s,baz=313,slow=4.3,SNR=5.4						
LPAZ	**La Paz**	**147.80**	**90**	PKPbc	**PKPbc**	**08 40 42.0**	**+0.7**
	1.5nm,0.6s,baz=188,slow=3.0,SNR=4.4						
PTGA	**Pitinga**	**149.02**	**57**	PKPbc	**PKPbc**	**08 40 43.3**	**-0.5**
	1.0nm,0.5s,baz=156,slow=4.4,SNR=4.8						

*SOME **05** 08:22:22.5, 41°.75N × 72°.52E, h10km*
*KRNET **05** 08:22:22.2±0.1, 41°.79N × 72°.51E, h1km, mb2.5*
*NNC **05** 08:22:24.9±3.3, 41°.89N × 72°.48E, h0km, mb2.7, mpv2.4, Error ellipse: s-maj=26.8km s-min=13.9km az=8.0*
ISC 05 08:22:22.3±1.1, 41°.79N±0°.03 × 72°.50E±0°.03, h6km±14km, n13, σ1°14/24, 8C-7D, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ARK	**Arkit**	**0.41**	**271**	⇓*i* P	**Pg**	**08 22 30.1**	**-0.1**
	baz=269						
ARK				⇓*i* S	**Sg**	**08 22 36.0**	**+0.5**
	baz=269						
ARSB	**Arslanbob**	**0.59**	**142**	⇑*i* P	**Pg**	**08 22 33.4**	**-0.2**
	baz=143						
ARSB				⇑*i* S	**Sg**	**08 22 42.0**	**+0.7**
	baz=143						
MNAS	**Manas**	**0.69**	**360**	⇑*i* P	**Pg**	**08 22 36.1**	**+0.4**
	baz=360						
MNAS				⇑*i* S	**Sb**	**08 22 46.1**	**-0.7**
	baz=360						
MNAS	**Manas**	**0.69**	**360**	⇑P	**Pg**	**08 22 36.0**	**+0.4**
	2.2nm,0.2s						
MNAS				⇓S	**Sg**	**08 22 45.7**	**+1.0**
	2.8nm,0.2s						
MRKS	**Merke**	**1.09**	**29**	*e*P	**Pg**	**08 22 43.3**	**+0.1**
	9.2nm,0.2s						
MRKS				⇓*i* S	**Sb**	**08 22 58.6**	**+0.5**
	41nm,0.3s						
AAK	**Ala-Archa**	**1.70**	**60**	⇑Pn	**Pg**	**08 22 55.1**	**+0.2**
	2.8nm,0.6s						
AAK				⇓Sn	**Sg**	**08 23 17.2**	**+0.2**
	2.5nm,0.3s						
IUG	**Iuzhnay**	**1.88**	**282**	*e*P	**Pb**	**08 22 56.8**	**-0.2**
	18nm,0.2s						
IUG				*e*S	**Sb**	**08 23 21.3**	**+0.5**
	31nm,0.3s						
KK31	**Karatay Array**	**1.97**	**312**	Pn	**Pb**	**08 22 57.5**	**-1.1**
	0.8nm,0.2s,baz=130,slow=14,SNR=13						
KK31				Sn	**Sb**	**08 23 24.2**	**+0.8**
	2.3nm,0.3s,baz=124,slow=29,SNR=7.6						
BTK	**Batken**	**2.15**	**217**	⇓*e*P	**Pb**	**08 23 01.0**	**-0.7**
	baz=217						
BTK				⇓*e*S	**Sb**	**08 23 29.4**	**+0.8**
	baz=217						
TKM2	**Tokmak 2**	**2.55**	**63**	⇑Pg	Pg	08 23 17.0	+5.8
	0.7nm,0.3s						
TKM2				⇑Lg	Lg	08 23 42.9	
	5.6nm,0.6s						
DGS	**Degeres**	**2.82**	**58**	*e*P	**Pb**	**08 23 13.9**	**+0.8**
	1.0nm,0.2s						
DGS				*e*S	**Sg**	**08 23 50.5**	**-2.3**
	4.5nm,0.2s						
KST	**Kastek**	**2.85**	**63**	*e*P	**Pb**	**08 23 15.1**	**+1.5**
	1.4nm,0.1s						
KST				*e*S	**Sg**	**08 23 52.5**	**-1.3**
	6.8nm,0.6s						
KUU	**Kurty**	**3.52**	**52**	*e*P	**Pb**	**08 23 25.5**	**+0.6**
	2.3nm,0.5s						
KUU				*e*S	**Sg**	**08 24 12.0**	**-3.1**
	2.2nm,0.4s						

*IDC **05** 08:22:44.8±0.5, 59°.02N × 30°.85W, h0km, mb4.2/21, mb1 4.4/24, mb1mx4.2/51, mbtmp4.2/24, ML3.8/3, MS4.3/36, Ms1 4.3/36, ms1mx4.3/41, Error ellipse: s-maj=17.1km s-min=11.4km az=0.0*
*MOS **05** 08:22:45.4±0.9, 59°.07N × 30°.81W, h10km, mb4.8/29, MS4.4/6, Error ellipse: s-maj=13.7km s-min=8.7km az=61.5*

*ISCJB **05** 08:22:46.0±0.2, 59°.17N±0°.03 × 30°.77W±0°.05, h14km, mb4.6/77, MS4.3/47, Error ellipse: s-maj=4.8km s-min=3.0km az=144.9*
*CSEM **05** 08:22:46.7±0.1, 59°.11N × 30°.77W, h10km, mb4.7/48, Error ellipse: s-maj=6.6km s-min=4.3km az=157.0*
*GCMT **05** 08:22:46.8±0.2, 59°.11N × 30°.78W, h12km, MW5.1/107, Moment Tensor Solution. s29,c34; s107,c173; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-4.72±.11; $M_{\theta\theta}$0.70±.12; $M_{\phi\phi}$4.02±.09; $M_{r\theta}$2.06±.50; $M_{r\phi}$1.60±.08; $M_{\theta\phi}$-0.34±.35; Best double couple: $M_0$5.09000×10^{16} NP1:ϕ_s221.00000°, δ51.00000°, λ-64.00000°. NP2: ϕ_s3.00000°, δ46.00000°, λ-119.00000°. Principal axes: T 4.6900, Plg3.0000°, Azm293.0000°; N 0.8030, Plg20.0000°, Azm24.0000°; P -5.4890, Plg70.0000°, Azm195.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*NEIC **05** 08:22:46.8±0.2, 59°.01N × 30°.79W, h10km, mb4.6/32 Error ellipse: s-maj=7.6km s-min=4.0km az=4.0*
*REY **05** 08:22:47.1, 58°.38N × 27°.61W, h10km*
ISC 05 08:22:47.4±0.4, 59°.04N±0°.06 × 30°.79W±0°.04, h14km, n321, σ1°57/327, mb4.6/77, MS4.4/50, 15C-3D, Reykjanes Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IRNE	**Reykjanes**	**6.16**	**36**	P	**Pn**	**08 24 16.5**	**-1.3**
	baz=22						
IRNE	**Reykjanes**	**6.16**	**36**	P	**Pn**	**08 24 16.5**	**-1.3**
	baz=22						
IRNE	**Reykjanes**	**6.16**	**36**	P	**Pn**	**08 24 16.5**	**-1.3**
IGRV	**Grindav??k**	**6.27**	**36**	P	**Pn**	**08 24 17.9**	**-1.4**
	baz=22						
IGRV				S	**Sn**	**08 25 30.6**	**0.0**
	baz=22						
IGRV	**Grindav??k**	**6.27**	**36**	P	**Pn**	**08 24 17.9**	**-1.4**
	baz=22						
IGRV				S	**Sn**	**08 25 30.6**	**0.0**
	baz=22						
IGRV	**Grindav??k**	**6.27**	**36**	P	**Pn**	**08 24 17.9**	**-1.4**
IGRV				S	**Sn**	**08 25 30.6**	**0.0**
INYL	**Nylenda**	**6.27**	**34**	P	**Pn**	**08 24 19.2**	**-0.1**
	baz=21						
INYL				S	**Sn**	**08 25 30.8**	**+0.2**
	baz=21						
INYL	**Nylenda**	**6.27**	**34**	P	**Pn**	**08 24 19.2**	**-0.1**
	baz=21						
INYL				S	**Sn**	**08 25 30.8**	**+0.2**
	baz=21						
INYL	**Nylenda**	**6.27**	**34**	P	**Pn**	**08 24 19.2**	**-0.1**
INYL				S	**Sn**	**08 25 30.8**	**+0.2**
IVOG	**Vogar**	**6.37**	**36**	P	**Pn**	**08 24 19.1**	**-1.5**
	baz=22						
IVOG	**Vogar**	**6.37**	**36**	P	**Pn**	**08 24 19.1**	**-1.5**
	baz=22						
IVOG	**Vogar**	**6.37**	**36**	P	**Pn**	**08 24 19.1**	**-1.5**
IKAS	**Kald??rsel**	**6.57**	**37**	P	**Pn**	**08 24 20.8**	**-2.7**
	baz=24						
IKAS				S	**Sn**	**08 25 37.6**	**-0.4**
	baz=24						
IKAS	**Kald??rsel**	**6.57**	**37**	P	**Pn**	**08 24 20.8**	**-2.7**
	baz=24						
IKAS				S	**Sn**	**08 25 37.6**	**-0.4**
	baz=24						
IKAS	**Kald??rsel**	**6.57**	**37**	P	**Pn**	**08 24 20.8**	**-2.7**
IKAS				S	**Sn**	**08 25 37.6**	**-0.4**
ISAN	**Sandskeio**	**6.68**	**37**	P	**Pn**	**08 24 21.8**	**-3.2**
	baz=25						
ISAN				S	**Sn**	**08 25 40.5**	**-0.3**
	baz=25						
ISAN	**Sandskeio**	**6.68**	**37**	P	**Pn**	**08 24 21.8**	**-3.2**
	baz=25						
ISAN				S	**Sn**	**08 25 40.5**	**-0.3**
	baz=25						
ISAN	**Sandskeio**	**6.68**	**37**	P	**Pn**	**08 24 21.8**	**-3.2**
ISAN				S	**Sn**	**08 25 40.5**	**-0.3**
IBJA	**Bjarnastaoir**	**6.69**	**39**	P	**Pn**	**08 24 21.4**	**-3.7**
	baz=26						
IBJA				S	**Sn**	**08 25 38.9**	**-2.1**
	baz=26						
IBJA	**Bjarnastaoir**	**6.69**	**39**	P	**Pn**	**08 24 21.4**	**-3.7**
	baz=26						
IBJA				S	**Sn**	**08 25 38.9**	**-2.1**
	baz=26						
IBJA	**Bjarnastaoir**	**6.69**	**39**	P	**Pn**	**08 24 21.4**	**-3.7**
IBJA				S	**Sn**	**08 25 38.9**	**-2.1**
IKUD	**Kuludalsa**	**6.78**	**35**	P	**Pn**	**08 24 26.3**	**0.0**
	baz=22						
IKUD				S	**Sn**	**08 25 43.6**	**+0.4**
	baz=22						
IKUD	**Kuludalsa**	**6.78**	**35**	P	**Pn**	**08 24 26.3**	**0.0**
IKUD				S	**Sn**	**08 25 43.6**	**+0.4**
ISOL	**Solvholt**	**6.80**	**40**	P	**Pn**	**08 24 24.2**	**-2.3**
	baz=27						
ISOL				S	**Sn**	**08 25 40.4**	**-3.2**
	baz=27						
ISOL	**Solvholt**	**6.80**	**40**	P	**Pn**	**08 24 24.2**	**-2.3**
	baz=27						
ISOL				S	**Sn**	**08 25 40.4**	**-3.2**
	baz=27						
ISOL	**Solvholt**	**6.80**	**40**	P	**Pn**	**08 24 24.2**	**-2.3**
ISOL				S

JMIC **Jan Mayen** 15.09 29 LR LR 08 30 36.1
comp=Z,870nm,20.4s,baz=238,slow=31
EKA **Eskdalemuir Ar** 15.38 92 Pn **Pn** **08 26 24.4 +0.6**
baz=292,slow=9.5,SNR=9.1
EKA LR LR 08 31 25.9
comp=Z,2µm,18.1s,baz=275,slow=34
FRB **Frobisher Bay** 18.47 301 LR LR 08 33 14.7
comp=Z,3µm,19.2s,baz=86,slow=34
SCHQ **Schefferville** 19.94 274 P **P** **08 27 17.2 -1.4**
0.5nm,0.3s,baz=66,slow=5.4,SNR=8.1
SCHQ LR LR 08 33 44.5
comp=Z,2µm,18.5s,baz=80,slow=33
SCHQ **Schefferville** 19.94 274 *e*S **Sn** **08 31 03.2 -0.8**
SCHQ **Schefferville** 19.94 274 *e*P **P** **08 27 18.2 -0.5**
17nm,0.8s
SCHQ *e*S **Sn** **08 31 03.2 -0.8**
KONO **Kongsberg** 20.39 71 *c i*P Pn 08 27 25.3 -0.2
KONO pmax pmax
comp=Z,138nm,1.6s
KONO **Kongsberg** 20.39 71 *i* P Pn 08 27 25.3 -0.2
comp=Z,138nm,1.6s
NBO02 **NORSAR Array S** 20.64 67 *e*P **P** **08 27 26.3 +0.1**
NB2 **NORSAR Subarra** 20.81 66 P **P** **08 27 28.4 +0.3**
comp=Z,20nm,1.4s,SNR=5.2
NB2 **NORSAR Subarra** 20.81 66 P **P** **08 27 28.4 +0.3**
comp=Z,20nm,1.4s,baz=281,slow=10
NB200 **NORSAR Array S** 20.81 66 *e*P **P** **08 27 27.0 -1.1**
NOA **NORSAR Array B** 20.81 66 P **P** **08 27 27.0 -1.1**
comp=Z,2.4nm,0.9s,baz=282,slow=10,SNR=5.2
NOA LR LR 08 34 43.0
comp=Z,801nm,19.4s,baz=285,slow=34
MUD **Monsted U'grnd** 21.26 80 *i* P **P** **08 27 34.0 +1.2**
MUD **Monsted U'grnd** 21.26 80 *i* P **P** **08 27 34.0 +1.2**
MUD **Monsted U'grnd** 21.26 80 *i* P **P** **08 27 34.0 +1.2**
PGAV **Gavieira, Arco** 22.12 131 *e*LR LR 08 32 56.0
comp=Z,1µm,20.0s
BCLA **Clavier** 22.31 97 P **P** **08 27 44.0 -0.2**
comp=Z,34nm,1.5s
MEM **Membach** 22.56 96 P **P** **08 27 47.8 +1.0**
MEM pmax pmax
comp=Z,19nm,1.6s
MEM **Membach** 22.56 96 P **P** **08 27 47.8 +1.0**
comp=Z,19nm,1.6s
COP **Copenhagen** 23.24 79 *i* P **P** **08 27 53.9 0.0**
COP *i* 08 33 53.6
COP **Copenhagen** 23.24 79 *e*P **P** **08 27 53.9 0.0**
COP **Copenhagen** 23.24 79 *e*P **P** **08 27 53.9 0.0**
MVO **Moncorvo** 23.29 130 *e*LR LR 08 33 33.6
comp=Z,920nm,20.0s
KBS **Kingsbay** 24.04 19 *i* P **P** **08 28 02.9 +1.5**
KBS **Kingsbay** 24.04 19 *i* P **P** **08 28 02.9 +1.5**
PMRV **Marv??o** 24.64 132 *e*P **P** **08 28 08.5 +1.2**
PMRV *e*LR LR 08 34 02.8
comp=Z,940nm,20.0s
PMRV **Marv??o** 24.64 132 *e*P **P** **08 28 08.5 +1.2**
BSD **Bornholm Skovb** 24.77 79 *i* P **P** **08 28 09.7 +1.5**
BSD *i* 08 34 27.2
BSD **Bornholm Skovb** 24.77 79 *i* P **P** **08 28 09.7 +1.5**
BSD **Bornholm Skovb** 24.77 79 *i* P **P** **08 28 09.7 +1.5**
PESTR **Estremoz** 25.06 133 *e*P **P** **08 28 12.5 +1.5**
PESTR **Estremoz** 25.06 133 *e*P **P** **08 28 12.5 +1.5**
PNCL **Nicolau / Gran** 25.38 136 *e*P **P** **08 28 15.5 +1.6**
PNCL **Nicolau / Gran** 25.38 136 *e*P **P** **08 28 15.5 +1.6**
MOX **Moxa** 25.43 91 P **P** **08 28 14.2 -0.1**
MOX pmax pmax
comp=Z,7.0nm,0.4s
MOX **Moxa** 25.43 91 P **P** **08 28 14.2 -0.1**
comp=Z,7.0nm,0.4s
ARA0 **ARCESS Array S** 25.55 43 *e*P **P** **08 28 14.8 -0.4**
ARCES **ARCESS Array B** 25.55 43 P **P** **08 28 14.8 -0.4**
comp=Z,7.7nm,0.6s,baz=266,slow=8.0,SNR=15
ARCES LR LR 08 36 29.6
comp=Z,362nm,19.1s,baz=276,slow=32
CLL **Collm** 25.77 88 *e*(P) **P** **08 28 21.0 +3.7**
CLL *e*S **S** **08 32 48.0 +2.3**
CLL Lm MLR 08 37 00.0
comp=Z,1µm,20.1s
ESDC **Sonseca Array** 25.80 127 P **P** **08 28 17.4 -0.3**
comp=Z,0.6nm,0.3s,baz=327,slow=9.3,SNR=9.9
ESDC LR LR 08 36 46.8
comp=Z,319nm,18.8s,baz=305,slow=33
ES19 **SONSECA Array** 25.80 127 *e*P **P** **08 28 18.6 +0.8**
NKC **Novy Kostel** 26.10 91 AMS AMS 08 39 00.0
comp=Z,2µm,16.5s
PVAQ **Vaqueiros** 26.30 135 *e*LR LR 08 34 35.3
comp=Z,1µm,20.0s
TUE **Stuetta** 26.90 100 *e*P **P** **08 28 28.5 +0.6**
comp=Z,41nm,1.9s
DAVOX **Davos/Dischmat** 26.96 99 LR LR 08 38 41.3
comp=Z,1µm,20.0s,baz=311,slow=35
PVCC **Panska Ves** 27.02 88 AMS AMS 08 40 30.0
comp=Z,1µm,14.1s
PRA **Prague** 27.23 89 AMS AMS 08 39 50.0
comp=Z,2µm,17.6s
PRU **Pruhonice** 27.33 89 AMS AMS 08 40 00.0
comp=Z,2µm,15.1s
KHC **Kasperske Hory** 27.36 92 *e*P P 08 28 38.9 +7.1
KHC *ex* x 08 29 10.0
KHC AMS AMS 08 39 20.0
comp=Z,2µm,18.4s
KHC **Kasperske Hory** 27.36 92 *e*P P 08 28 38.9 +7.1
KHC MLR MLR
comp=Z,2µm,18.4s
GOPC **GO Pecny, Ondr** 27.50 89 AMS AMS 08 40 10.0
comp=Z,2µm,15.1s
FIA0 **FINESS Array S** 27.57 60 *e*P **P** **08 28 34.5 +1.1**
FIA0 **FINESS Array S** 27.57 60 *e*P **P** **08 28 34.5 +1.1**
FIA0 **FINESS Array S** 27.57 60 *e*P **P** **08 28 34.5 +1.1**
FINES **FINESS Array B** 27.57 60 P **P** **08 28 34.5 +1.1**
comp=Z,11nm,0.9s,baz=283,slow=13,SNR=9.4
FINES LR LR 08 38 59.5
comp=Z,675nm,18.1s,baz=274,slow=35
GERES **GERESS Array B** 27.60 92 LR LR 08 39 37.5
comp=Z,1µm,18.4s,baz=296,slow=37
RES **Resolute Bay** 27.72 329 LR LR 08 39 04.8
comp=Z,595nm,18.2s,baz=84,slow=35
RES **Resolute Bay** 27.72 329 *e*P **P** **08 28 30.5 -4.2**
RES pmax pmax
comp=Z,83nm,1.9s
RES **Resolute Bay** 27.72 329 *e*P **P** **08 28 30.5 -4.2**
comp=Z,83nm,1.9s
UPC **Upice** 27.78 87 AMS AMS 08 40 00.0
comp=Z,1µm,17.8s
TREC **Trest** 28.24 90 AMS AMS 08 40 20.0
comp=Z,2µm,15.0s
VRAC **Vranov** 28.80 89 LR LR 08 40 47.3
comp=Z,1µm,18.4s,baz=304,slow=38
VSU **Vasula** 29.06 66⇑ *i*P **P** **08 28 46.7 -0.1**
VSU pmax pmax
comp=Z,25nm,0.9s
VSU **Vasula** 29.06 66 *i* P **P** **08 28 46.7 -0.1**
comp=Z,25nm,0.9s
LVZ **Lovozero** 29.11 45 *e*P **P** **08 28 48.9 +1.6**
LVZ pmax pmax
comp=Z,15nm,1.0s
LVZ **Lovozero** 29.11 45 *e*P **P** **08 28 48.9 +1.6**
comp=Z,15nm,1.0s
OKC **Ostrava-Krasne** 29.28 86 AMS AMS 08 42 10.0
comp=Z,1µm,14.0s
JOF **Joensuu** 29.33 56 P **P** **08 28 49.9 +0.7**
JOF **Joensuu** 29.33 56 P **P** **08 28 49.9 +0.7**
PUL **Pulkovo** 30.15 62 *i* P **P** **08 28 55.3 -1.1**
PUL **Pulkovo** 30.15 62 *i* P **P** **08 28 55.3 -1.1**
TMCR **Tamitsa** 31.65 51 *e*P **P** **08 29 09.5 -0.1**
TMCR pmax pmax
comp=Z,18nm,0.8s
TMCR **Tamitsa** 31.65 51 *e*P **P** **08 29 09.5 -0.1**
comp=Z,18nm,0.8s
KLMR **Klimovskoe** 33.73 56 *e*P **P** **08 29 26.3 -1.5**
KLMR 08 32 05.6
KLMR *e*
KLMR pmax pmax
comp=Z,30nm,1.2s
KLMR **Klimovskoe** 33.73 56 *e*P **P** **08 29 26.3 -1.5**
comp=Z,30nm,1.2s
KLMR **Klimovskoe** 33.73 56 *e*PcP **PcP** **08 32 05.6 -1.3**
BUR08 **Bucovina Ar. S** 34.30 84 *e*P **P** **08 29 34.5 +1.5**
BUR08 **Bucovina Ar. S** 34.30 84 *e*P **P** **08 29 34.5 +1.5**
KIEV **Kiev** 34.42 77 *c i*P **P** **08 29 33.7 -0.2**
KIEV pmax pmax
comp=Z,7.0nm,1.1s
KIEV **Kiev** 34.42 77 *i* P **P** **08 29 33.7 -0.2**
comp=Z,7.0nm,1.1s
AKASG **Malin Array Be** 34.42 77 P **P** **08 29 32.4 -1.5**
comp=Z,1.7nm,0.7s,baz=307,slow=8.1,SNR=8.9
AKASG LR LR 08 42 50.0
comp=Z,318nm,19.9s,baz=305,slow=35

AKBB **Malin Array Si** 34.42 77 *e*P **P** **08 29 33.8 -0.1**
AKBB pmax pmax
comp=Z,7.0nm,1.0s
AKBB **Malin Array Si** 34.42 77 *e*P **P** **08 29 33.8 -0.1**
comp=Z,6.9nm,1.0s
AKBB **Malin Array Si** 34.42 77 *e*P **P** **08 29 33.8 -0.1**
comp=Z,6.9nm,1.0s
KEST **Kesra** 34.99 114 P **P** **08 29 39.2 +0.1**
comp=Z,5.3nm,1.0s,baz=212,slow=7.5,SNR=4.0
KEST LR LR 08 43 31.1
comp=Z,985nm,18.3s,baz=289,slow=36
KEST **Kesra** 34.99 114 *e*P **P** **08 29 39.2 +0.1**
comp=Z,52nm,1.6s
KEST **Kesra** 34.99 114 *e*P **P** **08 29 39.2 +0.1**
comp=Z,52nm,1.6s
OBN **Obninsk** 35.42 66⇓ *e*P **P** **08 29 44.2 +1.8**
OBN *e* 08 29 52.8
OBN 08 30 58.0
OBN *e*SS SS 08 37 28.0 -22
OBN pmax pmax
comp=Z,31nm,2.5s
OBN MLR MLR
comp=Z,585nm,17.0s
OBN **Obninsk** 35.42 66 *e*P **P** **08 29 44.2 +1.8**
comp=Z,31nm,2.5s
MOS **Moscow** 35.56 65 *e*P P 08 29 34.9 -8.8
KIS **Kishinev** 36.58 82 *e*P **P** **08 29 50.0 -2.5**
KIS **Kishinev** 36.58 82 *e*PP PP 08 31 20.0 +4.4
KIS *e*LR LR 08 41 48.0
comp=Z,600nm,15.0s
KIS **Kishinev** 36.58 82 *e*P **P** **08 29 50.0 -2.5**
KIS *e* 08 31 20.0
KIS *e* 08 35 42.0
KIS MLR MLR
comp=Z,600nm,15.0s
KIS MLR MLR
comp=E,300nm,14.0s
KIS MLR MLR
comp=Z,600nm,16.0s
KIS **Kishinev** 36.58 82 *e*P **P** **08 29 50.0 -2.5**
ULM **Lac du Bonnet** 37.23 286 P **P** **08 29 57.0 -1.1**
comp=Z,4.9nm,0.9s,baz=94,slow=12,SNR=5.1
ULM LR LR 08 44 01.0
comp=Z,1µm,18.1s,baz=54,slow=34
YKA **Yellowknife Ar** 38.37 312 P **P** **08 30 05.9 -1.5**
comp=Z,3.6nm,0.8s,baz=54,slow=9.0,SNR=6.1
YKA LR LR 08 45 08.7
comp=Z,83nm,18.2s,baz=0.0,slow=35
YKA **Yellowknife Ar** 38.37 312 *c e*P **P** **08 30 07.8 +0.3**
YKA pmax pmax
comp=Z,4.0nm,0.8s
YKA **Yellowknife Ar** 38.37 312 *e*P **P** **08 30 07.8 +0.3**
comp=Z,4.0nm,0.8s
YKB5 **Yellowknife Ar** 38.37 312 *e*P **P** **08 30 08.9 +1.5**
YKB5 **Yellowknife Ar** 38.37 312 *e*P **P** **08 30 08.9 +1.5**
INK **Inuvik** 41.21 327 P **P** **08 30 30.0 -1.0**
comp=Z,3.0nm,0.8s,baz=8.2,slow=8.7,SNR=3.5
INK **Inuvik** 41.21 327 *e*P **P** **08 30 30.0 -1.0**
INK pmax pmax
comp=Z,13nm,1.3s
INK **Inuvik** 41.21 327 *e*P **P** **08 30 30.0 -1.0**
comp=Z,13nm,1.3s
INK **Inuvik** 41.21 327 *e*P **P** **08 30 30.0 -1.0**
comp=Z,13nm,1.3s
SOKR **Solikamsk** 41.58 50 *e*P **P** **08 30 33.3 -0.8**
SOKR pmax pmax
comp=Z,12nm,0.6s
ANN **Anapa** 42.47 78 *e*P **P** **08 30 41.4 -0.2**
ANN *e*S **S** **08 37 03.7 +1.0**
ANN *e*SSS SSS 08 40 44.5
ANN pmax pmax
comp=Z,9.0nm,0.7s
ANN MLR MLR
comp=Z,784nm,17.0s
ANN **Anapa** 42.47 78 *e*P **P** **08 30 41.4 -0.2**
comp=Z,9.0nm,0.7s
ANN *e*S **S** **08 37 03.7 +1.0**
ANN *e*ScS **ScS** **08 40 44.5 +2.2**
comp=Z,784nm,17.0s
EDM **Edmonton** 43.59 300 *e*P **P** **08 30 50.4 -0.3**
EDM pmax pmax
comp=Z,8.0nm,0.9s
EDM **Edmonton** 43.59 300 *e*P **P** **08 30 50.4 -0.3**
comp=Z,8.2nm,0.9s
EDM **Edmonton** 43.59 300 *e*P **P** **08 30 50.4 -0.3**
comp=Z,8.2nm,0.9s
BR101 **Keskin Array S** 44.20 86 *e*P **P** **08 30 55.5 -0.3**
BR101 **Keskin Array S** 44.20 86 *e*P **P** **08 30 55.5 -0.3**
BRTR **Keskin Array B** 44.20 86 P **P** **08 30 55.5 -0.2**
comp=Z,0.4nm,0.3s,baz=297,slow=8.2,SNR=4.0
BRTR LR LR 08 50 08.1
comp=Z,434nm,21.6s,baz=304,slow=37
BRTR **Keskin Array B** 44.20 86 *c e*P **P** **08 30 58.7 +2.9**
ARU **Arti** 44.36 53 *c i*P **P** **08 30 56.7 0.0**
ARU 08 32 38.7
ARU PPP PPP 08 33 15.5
ARU S **S** **08 37 32.6 +2.5**
ARU SS **SS** **08 40 46.2 -2.1**
ARU pmax pmax
comp=Z,15nm,1.2s
ARU **Arti** 44.36 53 *i* P **P** **08 30 56.7 0.0**
comp=Z,15nm,1.2s
ARU **Arti** 44.36 53 PcP **PcP** **08 32 38.7 -1.6**
ARU S **S** **08 37 32.6 +2.5**
ARU **Arti** 44.36 53 *e*P **P** **08 30 56.5 -0.1**
comp=Z,14nm,1.1s
TAM **Tamanrasset** 44.43 129 *e*P **P** **08 30 59.1 +1.3**
TAM pmax pmax
comp=Z,6.0nm,1.1s
TAM **Tamanrasset** 44.43 129 *e*P **P** **08 30 59.1 +1.3**
comp=Z,6.0nm,1.1s
TAM **Tamanrasset** 44.43 129 *e*P **P** **08 30 59.1 +1.3**
comp=Z,6.0nm,1.1s
SOC **Sochi** 44.49 78 *e*P **P** **08 30 58.9 +1.0**
SOC *e* 08 32 40.7
SOC *e*S **S** **08 37 37.4 +5.1**
SOC *e*SS **SS** **08 40 50.0 -1.3**
SOC MLR MLR
comp=Z,332nm,16.0s
NRIK **Noril'sk** 44.51 26 LR LR 08 48 50.9
comp=Z,167nm,21.8s,baz=305,slow=35
BBTS **Babate** 45.55 160 LR LR 08 46 06.2
comp=Z,223nm,18.9s,baz=344,slow=31
KIV **Kislovodsk** 45.71 75 *e*P **P** **08 31 06.9 -0.8**
KIV pmax pmax
comp=Z,8.0nm,1.1s
KIV MLR MLR
comp=Z,348nm,16.0s
KIV **Kislovodsk** 45.71 75 *e*P **P** **08 31 06.9 -0.8**
comp=Z,348nm,16.0s
DAWY **Dawson** 45.87 325 *e*P **P** **08 31 10.8 +2.1**
comp=Z,9.3nm,1.2s
DAWY **Dawson** 45.87 325 *e*P **P** **08 31 10.8 +2.1**
comp=Z,9.3nm,1.2s
KBZ **Khabaz** 45.98 75 P **P** **08 31 10.3 +0.6**
comp=Z,3.1nm,1.1s,baz=297,slow=10,SNR=3.9
NEY **Neytrino** 46.24 76 *i* P **P** **08 31 11.5 -0.5**
NEY pmax pmax
comp=Z,1.0nm,0.8s
NEY **Neytrino** 46.24 76 *i* P **P** **08 31 11.5 -0.5**
comp=Z,1.0nm,0.8s
IL1 **Eielson Array** 47.47 329 *e*P **P** **08 31 21.7 +0.6**
IL1 **Eielson Array** 47.47 329 *e*P **P** **08 31 21.7 +0.6**
ILAR **Eielson Array** 47.47 329 P **P** **08 31 21.8 +0.6**
comp=Z,2.7nm,0.9s,baz=27,slow=6.3,SNR=17
ILAR LR LR 08 51 56.5
comp=Z,272nm,18.4s,baz=49,slow=37
COLA **College** 47.65 329⇑ *i*P **P** **08 31 24.3 +1.8**
COLA pmax pmax
comp=Z,5.0nm,0.9s
COLA **College** 47.65 329 *i* P **P** **08 31 24.3 +1.8**
comp=Z,5.0nm,0.9s
HDA **Harding Lake** 47.77 328 *e*P **P** **08 31 22.4 -1.1**
comp=Z,53nm,1.1s
HDA **Harding Lake** 47.77 328 *e*P **P** **08 31 22.4 -1.1**
comp=Z,53nm,1.1s
SLMT **Seeley Lake** 47.83 294 *e*P **P** **08 31 26.9 +2.5**
SLMT **Seeley Lake** 47.83 294 *e*P **P** **08 31 26.9 +2.5**
PAX **Paxson** 48.48 326 *e*P **P** **08 31 29.8 +0.7**
PAX pmax pmax
comp=Z,9.0nm,1.2s
PAX **Paxson** 48.48 326 *e*P **P** **08 31 29.8 +0.7**
comp=Z,8.5nm,1.2s
PAX **Paxson** 48.48 326 *e*P **P** **08 31 29.8 +0.7**

TIXI **Tiksi** 48.82 8⇑ *i*P **P** **08 31 32.1 +0.7**
TIXI pmax pmax
comp=Z,7.0nm,1.0s
TIXI **Tiksi** 48.82 8 *i* P **P** **08 31 32.1 +0.7**
comp=Z,7.0nm,1.0s
BW06 **Boulder Array** 49.21 287 *e*P **P** **08 31 34.8 -0.3**
BW06 **Boulder Array** 49.21 287 *e*P **P** **08 31 34.8 -0.3**
PD31 **Pinedale Array** 49.21 287 *e*P **P** **08 31 34.5 -0.6**
PD31 **Pinedale Array** 49.21 287 *e*P **P** **08 31 34.5 -0.6**
PDAR **Pinedale Array** 49.21 287 P **P** **08 31 33.6 -1.5**
comp=Z,1.9nm,0.9s,baz=65,slow=7.4,SNR=8.8
PDAR LR LR 08 51 17.6
comp=Z,930nm,19.1s,baz=30,slow=35
GNI **Garni** 49.55 77 *c i*P **P** **08 31 39.8 +2.1**
GNI pmax pmax
comp=Z,29nm,0.7s
GNI **Garni** 49.55 77 *i* P **P** **08 31 39.8 +2.1**
comp=Z,29nm,0.7s
WMOK **Wichita Mounta** 49.82 272 *e*P **P** **08 31 39.8 +0.2**
WMOK pmax pmax
comp=Z,6.0nm,1.0s
WMOK **Wichita Mounta** 49.82 272 *e*P **P** **08 31 39.8 +0.2**
comp=Z,5.8nm,1.0s
WMOK **Wichita Mounta** 49.82 272 *e*P **P** **08 31 39.8 +0.2**
comp=Z,5.8nm,1.0s
ABKAR **Akbulak array** 50.03 59 *e*P **P** **08 31 41.1 +0.1**
comp=Z,71nm,0.8s
ABKAR **Akbulak array** 50.03 59 *e*P **P** **08 31 41.1 +0.1**
comp=Z,71nm,0.8s
T25A **Trinidad** 50.87 279 *e*P **P** **08 31 47.5 -0.2**
comp=Z,4.1nm,0.8s
T25A **Trinidad** 50.87 279 *e*P **P** **08 31 47.5 -0.2**
comp=Z,4.1nm,0.8s
SDCO **Great Sand Dun** 50.96 280 *e*P **P** **08 31 49.2 +0.7**
comp=Z,4.9nm,1.4s
SDCO **Great Sand Dun** 50.96 280 *e*P **P** **08 31 49.2 +0.7**
comp=Z,4.9nm,1.4s
HWUT **Hardware Ranch** 51.06 288 *e*P **P** **08 31 49.0 -0.1**
comp=Z,4.0nm,1.0s
HWUT **Hardware Ranch** 51.06 288 *e*P **P** **08 31 49.0 -0.1**
comp=Z,4.0nm,1.0s
BMO **Blue Mountains** 51.39 295 *e*P **P** **08 31 51.5 +0.1**
BMO pmax pmax
comp=Z,3.0nm,0.9s
BMO **Blue Mountains** 51.39 295 *e*P **P** **08 31 51.5 +0.1**
comp=Z,2.9nm,0.9s
BMO **Blue Mountains** 51.39 295 *e*P **P** **08 31 51.5 +0.1**
comp=Z,2.9nm,0.9s
BRVK **Borovoye** 51.50 49 *c e*P **P** **08 31 52.7 +0.7**
BRVK pmax pmax
comp=Z,21nm,1.3s
BRVK **Borovoye** 51.50 49 *e*P **P** **08 31 51.8 -0.2**
BRVK **Borovoye** 51.50 49 *e*P **P** **08 31 51.9 -0.2**
BVAR **Borovoye Array** 51.56 49 LR LR 08 53 30.7
comp=Z,206nm,19.7s,baz=262,slow=36
S22A **4UR Ranch, Cre** 51.63 281 *e*P **P** **08 31 53.7 +0.1**
comp=Z,10nm,1.8s
S22A **4UR Ranch, Cre** 51.63 281 *e*P **P** **08 31 53.7 +0.1**
comp=Z,10nm,1.8s
TOA1 **Torodi Ar. Sit** 51.81 138 *e*P **P** **08 31 53.2 -1.5**
comp=Z,25nm,1.9s
TOA1 **Torodi Ar. Sit** 51.81 138 *e*P **P** **08 31 53.2 -1.5**
comp=Z,25nm,1.9s
TOA0 **Torodi Ar. Sit** 51.81 138 *e*P **P** **08 31 53.4 -1.3**
TOA0 **Torodi Ar. Sit** 51.81 138 *e*P **P** **08 31 53.4 -1.3**
TORD **Torodi Ar. Bea** 51.81 138 P **P** **08 31 53.2 -1.5**
comp=Z,3.4nm,0.8s,baz=338,slow=7.2,SNR=18
TORD LR LR 08 52 12.1
comp=Z,119nm,21.4s,baz=315,slow=34
NLU **North Lily Min** 52.57 287 *e*P **P** **08 32 00.3 -0.1**
comp=Z,6.4nm,1.4s
NLU **North Lily Min** 52.57 287 *e*P **P** **08 32 00.3 -0.1**
comp=Z,6.4nm,1.4s
ANMO **Albuquerque** 53.61 279⇑ *i*P **P** **08 32 09.3 +1.2**
ANMO pmax pmax
comp=Z,1.0nm,0.9s
ANMO **Albuquerque** 53.61 279 *i* P **P** **08 32 09.3 +1.2**
comp=Z,1.0nm,0.9s
WVOR **Wild Horse Val** 53.85 294 *e*P **P** **08 32 09.6 -0.1**
WVOR pmax pmax
comp=Z,10.0nm,1.4s
WVOR **Wild Horse Val** 53.85 294 *e*P **P** **08 32 09.6 -0.1**
comp=Z,9.8nm,1.4s
WVOR **Wild Horse Val** 53.85 294 *e*P **P** **08 32 09.6 -0.1**
comp=Z,9.8nm,1.4s
NVS **Novosibirsk** 54.80 40 *e*P **P** **08 32 17.2 +1.0**
NVS **Novosibirsk** 54.80 40 *e*P **P** **08 32 17.2 +1.0**
MOD **Modoc Plateau** 55.05 294 *e*P **P** **08 32 18.4 0.0**
comp=Z,7.9nm,1.3s
MOD **Modoc Plateau** 55.05 294 *e*P **P** **08 32 18.4 0.0**
comp=Z,7.9nm,1.3s
R11A **Troy Canyon, C** 55.54 288 *e*P **P** **08 32 22.2 +0.1**
comp=Z,5.5nm,1.4s
R11A **Troy Canyon, C** 55.54 288 *e*P **P** **08 32 22.2 +0.1**
comp=Z,5.5nm,1.4s
DBIC **Dimbokro** 55.91 148 LR LR 08 53 21.2
comp=Z,496nm,20.0s,baz=340,slow=33
ZALV **Zalesovo Beam** 56.06 40 LR LR 08 58 14.9
comp=Z,150nm,18.3s,baz=254,slow=38
PAHR **Pah Rah Range** 56.32 292 *e*P **P** **08 32 27.5 -0.1**
PAHR **Pah Rah Range** 56.32 292 *e*P **P** **08 32 27.5 -0.1**
KURK **Kurchatov** 56.53 46 *d i*P **P** **08 32 28.4 -0.3**
KURK pmax pmax
comp=Z,20nm,0.9s
KURK **Kurchatov** 56.53 46 *e*P **P** **08 32 28.8 +0.1**
KURK **Kurchatov** 56.53 46 *e*PcP **PcP** **08 33 24.9 -0.3**
KURK **Kurchatov** 56.53 46 *e*P **P** **08 32 28.8 +0.1**
KURK *e*PcP **PcP** **08 33 24.9 -0.3**
KURBB **Kurchatov Arra** 56.57 46 P **P** **08 32 28.7 -0.3**
comp=Z,5.0nm,1.0s,baz=321,slow=7.4,SNR=16
KURBB PcP **PcP** **08 33 24.9 -0.5**
comp=Z,0.8nm,0.8s,baz=295,slow=3.7,SNR=4.6
LTX **Lajitas** 56.62 272 *e*P **P** **08 32 30.2 +0.4**
LTX **Lajitas** 56.62 272 *e*P **P** **08 32 30.2 +0.4**
LTX **Lajitas** 56.62 272 *e*P **P** **08 32 30.2 +0.4**
TXAR **Lajitas Array** 56.62 272 P **P** **08 32 30.2 +0.4**
comp=Z,0.6nm,0.8s,baz=34,slow=9.8,SNR=2.7
TXAR LR LR 08 56 06.2
comp=Z,618nm,19.2s,baz=0.0,slow=35
YERR **Yerington** 56.82 291 *e*P **P** **08 32 30.8 -0.4**
comp=Z,7.7nm,1.3s
YERR **Yerington** 56.82 291 *e*P **P** **08 32 30.8 -0.4**
comp=Z,7.7nm,1.3s
PNTR **Pine Nut** 56.91 292 *e*P **P** **08 32 32.8 +0.9**
PNTR **Pine Nut** 56.91 292 *e*P **P** **08 32 32.8 +0.9**
TPNV **Topopah Spring** 56.97 288 *e*P **P** **08 32 32.4 +0.2**
TPNV pmax pmax
comp=Z,6.0nm,1.2s
TPNV **Topopah Spring** 56.97 288 *e*P **P** **08 32 32.4 +0.2**
comp=Z,6.3nm,1.2s
TPNV **Topopah Spring** 56.97 288 *e*P **P** **08 32 32.4 +0.2**
comp=Z,6.3nm,1.2s
GEYT **Alibeck** 57.88 69 P **P** **08 32 38.5 0.0**
comp=Z,1.8nm,0.4s,baz=297,slow=9.8,SNR=4.3
GEYT LR LR 08 57 49.3
comp=Z,211nm,21.8s,baz=315,slow=36
YAK **Yakutsk** 58.32 11 LR LR 08 56 59.3
comp=Z,102nm,19.2s,baz=312,slow=35
MAKZ **Makanchi** 61.01 46 *e*P **P** **08 33 00.7 +0.7**
MAKZ **Makanchi** 61.01 46 *e*P **P** **08 33 00.4 +0.4**
comp=Z,8.0nm,1.3s
MAKZ **Makanchi** 61.01 46 *e*P **P** **08 33 00.4 +0.4**
comp=Z,8.0nm,1.3s
MK31 **Makanchi Array** 61.14 46 *e*P **P** **08 33 00.6 -0.3**
MK31 **Makanchi Array** 61.14 46 *e*P **P** **08 33 00.6 -0.3**
MK31 **Makanchi Array** 61.14 46 *e*P **P** **08 33 00.6 -0.3**
MKAR **Makanchi Array** 61.14 46 *e*P **P** **08 33 00.5 -0.3**
MKAR pmax pmax
comp=Z,15nm,0.7s
MKAR **Makanchi Array** 61.14 46 *e*P **P** **08 33 00.5 -0.3**
comp=Z,15nm,0.7s
MKAR **Makanchi Array** 61.14 46 *e*P **P** **08 33 00.5 -0.3**
comp=Z,15nm,0.7s
MK01 **Makanchi Array** 61.16 46 *e*P **P** **08 33 00.1 -0.9**
MK01 **Makanchi Array** 61.16 46 *e*P **P** **08 33 00.1 -0.9**
AAK **Ala-Archa** 61.50 54⇓ *i*P **P** **08 33 04.6 +1.0**
AAK pmax pmax
comp=Z,15nm,1.3s
AAK **Ala-Archa** 61.50 54 *i* P **P** **08 33 04.6 +1.0**
comp=Z,15nm,1.3s
MA2 **Magadan** 61.72 359⇑ *i*P **P** **08 33 06.3 +1.8**
MA2 **Magadan** 61.72 359 *i* P **P** **08 33 06.3 +1.8**
ROSC **El Rosal** 63.56 230 P **P** **08 33 17.4 -0.4**
comp=Z,3.1nm,0.4s,baz=354,slow=11,SNR=6.8
ROSC LR LR 09 00 30.3

comp=Z,66nm,19.4s,baz=206,slow=36
ROSC El Rosal 63.56 230 *e*P **P 08 33 17.9 +0.1**
comp=Z,15nm,1.3s
ROSC El Rosal 63.56 230 *e*P **P 08 33 17.9 +0.1**
comp=Z,15nm,1.3s
KSH Kashi 64.71 55 *e*P **P 08 33 26.8 +1.9**
KSH pP sP 08 33 31.9 +0.8
KSH PcP **PcP 08 34 00.7 +2.2**
KSH ScP 08 38 01.6
KSH S **S 08 42 04.8 +0.2**
KSH sS sS 08 42 12.6 +0.6
KSH Kashi 64.71 55 SS SS 08 46 16.6 +1.9
KSH pmax pmax
comp=Z,11nm,1.1s
KSH pmax pmax
comp=Z,96nm,3.9s
KSH LR LR
comp=N,140nm,4.7s
KSH LR LR
comp=E,72nm,7.2s
KSH LR LR
comp=Z,210nm,13.3s
PRAC Prado 64.81 230 *e*P **P 08 33 24.9 -0.7**
comp=Z,8.3nm,0.9s
WMQ Urumqi 65.66 44 P **P 08 33 32.9 +2.0**
WMQ sP sP 08 33 39.9 +2.8
WMQ pmax pmax
comp=Z,12nm,0.6s
WMQ pmax pmax
comp=Z,29nm,3.7s
WMQ LR LR
comp=N,84nm,32.1s
WMQ LR LR
comp=E,140nm,26.7s
WMQ LR LR
comp=Z,77nm,24.1s
UOSS Minazif 67.44 79 *e*P **P 08 33 41.0 -1.4**
comp=Z,19nm,1.3s
UOSS Minazif 67.44 79 *e*P **P 08 33 41.0 -1.4**
comp=Z,19nm,1.3s
SONA0 Songino Array 67.85 30 *e*P **P 08 33 44.4 -0.4**
comp=Z,5.4nm,1.0s
SONA0 Songino Array 67.85 30 *e*P **P 08 33 44.4 -0.4**
comp=Z,5.4nm,1.0s
SONM Songino Array 67.85 30 P **P 08 33 44.4 -0.4**
comp=Z,1.0nm,0.5s,baz=343,slow=7.7,SNR=4.2
H10N2 ASCENSION HYDR 67.93 163 T T 09 47 20.6
baz=348,slow=75,SNR=6.1
H10N3 ASCENSION HYDR 67.94 163 T T 09 47 21.3
baz=348,slow=75,SNR=5.8
H10N1 ASCENSION HYDR 67.95 163 T T 09 47 21.9
baz=348,slow=75,SNR=6.3
ULN Ulaanbaatar 67.99 29*c i*P **P 08 33 46.4 +0.7**
ULN pmax pmax
comp=Z,11nm,1.4s
ULN Ulaanbaatar 67.99 29 *i* P **P 08 33 46.4 +0.7**
comp=Z,11nm,1.4s
ULN Ulaanbaatar 67.99 29 *e*P **P 08 33 46.8 +1.1**
comp=Z,11nm,1.3s
GTA Gaotai 73.70 38 ⇑P **P 08 34 20.8 +0.2**
GTA pP pP 08 34 25.5 +0.3
GTA sP sP 08 34 27.9 +1.0
GTA S **S 08 43 52.8 +2.1**
GTA sS sS 08 44 01.4 +3.1
GTA Gaotai 73.70 38 SS SS 08 48 41.4 +8.4
GTA pmax pmax
comp=Z,11nm,1.5s
GTA pmax pmax
comp=Z,160nm,5.1s
GTA LR LR
comp=N,97nm,17.3s
GTA LR LR
comp=E,100nm,17.6s
GTA LR LR
comp=Z,190nm,16.4s
CN2 Changchun 75.65 18 *e*P **P 08 34 29.9 -1.7**
CN2 pmax pmax
comp=Z,10.0nm,0.7s
HHC Hu-ho-hao-te 75.69 29 *e*P **P 08 34 28.1 -3.9**
HHC S **S 08 44 06.3 -6.5**
HHC pmax pmax
comp=Z,20nm,0.9s
HHC pmax pmax
comp=Z,170nm,8.0s
HHC LR LR
comp=N,130nm,16.0s
HHC LR LR
comp=E,160nm,16.7s
HHC LR LR
comp=Z,82nm,16.7s
BJI Beijing 77.54 25 P **P 08 34 39.8 -2.5**
BJI pmax pmax
comp=Z,8.0nm,0.9s
BJI pmax pmax
comp=Z,190nm,4.4s
LZH Lanzhou 78.01 36 *e*P **P 08 34 46.2 +0.9**
LZH pP pP 08 34 50.1 +0.2
LZH sP sP 08 34 52.7 +1.2
LZH pmax pmax
comp=Z,18nm,1.0s
LPAZ La Paz 81.02 216 LR LR 09 09 11.1
comp=Z,56nm,19.3s,baz=4.5,slow=34
XAN Xi'an 81.40 33 P **P 08 35 02.7 -0.9**
XAN pmax pmax
comp=Z,8.0nm,0.8s
XAN pmax pmax
comp=Z,71nm,6.0s
KSRS Korea Array 82.24 17 LR LR 09 12 14.4
comp=Z,47nm,19.2s,baz=335,slow=36
KMI Kunming 87.78 41 P **P 08 35 36.7 +0.5**
KMI pmax pmax
comp=Z,8.0nm,0.6s
CPUP Villa Florida 87.86 204 LR LR 09 11 57.8
comp=Z,90nm,19.1s,baz=21,slow=34
CMAR Chiang Mai Arr 92.54 47 P **P 08 35 57.9 -0.3**
comp=Z,1.0nm,0.3s,baz=320,slow=6.0,SNR=7.7
CMAR LR LR 09 19 46.9
comp=Z,73nm,19.7s,baz=340,slow=37
QIZ Qiongzhong 95.78 37 P **P 08 36 10.4 -2.6**
QIZ Qiongzhong 95.78 37 S **S 08 47 30.3 0.0**
QIZ LR LR
comp=N,140nm,9.8s
QIZ LR LR
comp=E,140nm,14.1s
QIZ LR LR
comp=Z,170nm,20.3s
BOSA Boshof 98.86 132 LR LR 09 20 45.7
comp=Z,298nm,18.3s,baz=32,slow=35
TAOE Nuku Hiva Isla 107.47 282 *e*LR LR 09 12 45.8
comp=Z,302nm,22.5s
PPT2 Papeete2 119.64 286 *e*LR LR 09 18 22.4
comp=Z,247nm,22.2s
TBI Tubuai 124.42 282 *e*LR LR 09 20 34.3
comp=Z,260nm,24.5s
SNAA Sanae 131.88 169 PKP **PKPdf 08 41 56.6 -1.8**
comp=Z,2.3nm,1.0s,baz=355,slow=1.6,SNR=6.9
WRA Warramunga Arr 139.49 22*c i*PKIKP **PKPdf 08 42 17.8 +3.7**
WRA pmax pmax
comp=Z,1.0nm,0.8s
DZM Mont Dzumac 141.06 334 *e*LR LR 09 28 16.2
comp=Z,154nm,28.5s
ASAR Alice Springs 143.02 24 PKP **PKPdf 08 42 17.3 -3.1**
comp=Z,1.2nm,1.0s,baz=336,slow=2.2,SNR=6.2
VNDA Vanda 160.95 188 PKPab **PKPab 08 43 28.8 +0.7**
comp=Z,2.0nm,0.9s,baz=152,slow=3.0,SNR=12

*IDC **05** 08:29:38.4±1.8, 22.39S×178.36W, h324km±18km, mb3.5/7, mb1 3.9/9, mb1mx3.6/30, mbtmp4.5/9, Error ellipse: s-maj=25.0km s-min=14.3km az=140.0*
*ISCJB **05** 08:29:41.9±0.8, 22.66S±0.08×178.3W±0.1, h377km, mb3.7/7, Error ellipse: s-maj=17.3km s-min=10.4km az=176.1*
ISC 05 08:29:43.3±0.7, 22.70S±0.08×178.3W±0.1, h377km, n15, σ2s32/16, mb3.8/7, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**6.53**	**177**	P		P	**Pn**	**08 31 20.3**	**-0.6**
	126nm,0.3s,baz=44,slow=18,SNR=8.9								
RAO				S		S	**S**	**08 32 39.3**	**-1.2**
	12nm,0.3s,baz=107,slow=19,SNR=1.8								
AFI	**Afiamalu**	**10.69**	**36**	P		P		08 32 01.6	-7.9
	11nm,0.3s,baz=196,slow=3.5,SNR=22								
AFI				S		S		08 33 50.8	-18
	16nm,0.3s,baz=72,slow=22,SNR=11								
DZM	**Mont Dzumac**	**14.17**	**270**	P		**Pn**		**08 32 50.1**	**0.0**
	3.4nm,0.3s,baz=87,slow=18,SNR=30								
URZ	**Urewera**	**16.01**	**193**	P		**P**		**08 33 06.5**	**-1.0**
	28nm,0.3s,baz=302,slow=0.9,SNR=117								
URZ				S		**S**		**08 35 59.2**	**+2.6**
	4.4nm,0.3s,baz=254,slow=22,SNR=13								
STKA	**Stephens Creek**	**36.66**	**247**	P		**P**		**08 36 15.5**	**-0.2**
	2.9nm,0.4s,baz=85,slow=8.4,SNR=14								
ASAR	**Alice Springs**	**43.83**	**259**	P		**P**		**08 37 13.3**	**-0.7**
	4.8nm,0.8s,baz=94,slow=7.8,SNR=41								
WRA	**Warramunga Arr**	**44.11**	**264**	P		**P**		**08 37 15.0**	**-1.2**
	1.5nm,0.2s,baz=96,slow=8.3,SNR=113								
WRA				ScP		**ScP**		**08 42 16.1**	**+7.0**
	0.5nm,0.8s,baz=79,slow=3.7,SNR=4.7								
PETK	**Petropavlovsk-**	**78.33**	**345**	P		**P**		**08 41 02.2**	**-0.3**
	2.4nm,0.8s,baz=155,slow=7.5,SNR=3.3								
TXAR	**Lajitas Array**	**88.44**	**57**	P		**P**		**08 41 55.2**	**+1.2**
	0.4nm,0.6s,baz=242,slow=2.7,SNR=3.6								
ILAR	**Eielson Array**	**90.50**	**13**	P		**P**		**08 42 01.2**	**-1.5**
	0.6nm,0.6s,baz=217,slow=4.9,SNR=10								
PDAR	**Pinedale Array**	**90.72**	**43**	P		**P**		**08 42 04.3**	**-0.2**
	0.6nm,0.7s,baz=222,slow=2.0,SNR=6.1								
AKASG	**Malin Array Be**	**144.80**	**329**	PKP		PKPbc		08 48 35.2	-0.4
	2.6nm,0.5s,baz=43,slow=4.3,SNR=11								
BRTR	**Keskin Array B**	**148.09**	**310**	PKPbc		**PKPbc**		**08 48 43.8**	**-1.7**
	0.7nm,0.4s,baz=120,slow=5.2,SNR=4.3								
GERES	**GERESS Array B**	**152.23**	**343**	PKPbc		**PKPbc**		**08 48 56.0**	**+1.2**
	0.6nm,0.5s,baz=111,slow=1.9,SNR=4.9								
TORD	**Torodi Ar. Bea**	**170.50**	**180**	PKPab		**PKPab**		**08 50 27.6**	**+1.0**
	0.6nm,0.8s,baz=188,slow=3.6,SNR=3.5								

*ISCJB **05** 08:32:43.5±0.3, 20.91S±0.03×68.67W±0.05, h111km±2km, mb4.4/49, Error ellipse: s-maj=7.4km s-min=4.0km az=168.2*
*GUC **05** 08:32:44.8±0.6, 20.96S×68.88W, h108km±3km, ML4.3*
*SJA **05** 08:32:44.0±1.2, 21.08S×68.94W, h145km±17km, ML3.1, MW3.4*
*NEIC **05** 08:32:44.0±0.0, 20.96S×68.88W, h108km, mb4.4/43, After GUC.*
*IDC **05** 08:32:45.1±0.6, 20.92S×68.65W, h109km±6km, mb4.0/12, mb1 4.0/16, mb1mx3.9/32, mbtmp4.3/16, MS2.6/1, Ms1 2.7/1, ms1mx2.5/19, Error ellipse: s-maj=16.9km s-min=8.2km az=97.0*
ISC 05 08:32:44.9±0.5, 20.93S±0.03×68.77W±0.06, h105km±4km, h105km:pP-P, n275, σ1913/299, mb4.4/49, 6C-5D, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PB01	**IPOC Station P**	**0.69**	**260**	⇓	*i*P	P	**Pn**	**08 33 02.3**	**-0.5**
PB01					*i* S	S	**Sn**	**08 33 15.8**	**-0.4**
PB01					IAML			08 33 16.8	
	comp=N,9μm,0.2s								
PB01	**IPOC Station P**	**0.69**	**260**	*e*P	n	P	**Pn**	**08 33 02.4**	**-0.5**
PB01				*e*S	n	S	**Sn**	**08 33 15.8**	**-0.4**
PB08	**IPOC Station P**	**0.86**	**335**	⇓	*i*P	P	**Pn**	**08 33 05.5**	**+0.8**
PB08					*i* S	S	**Sn**	**08 33 20.9**	**+1.3**
PB08					IAML			08 33 21.4	
	comp=N,5μm,0.3s								
PB09	**IPOC Station P**	**0.97**	**207**	⇓	*i*P	P	**Pn**	**08 33 05.7**	**+0.1**
PB09					*i* S	S	**Sn**	**08 33 21.2**	**0.0**
PB09					IAML			08 33 24.6	
	comp=E,14μm,0.4s								
PB07	**IPOC Station P**	**1.31**	**233**	⇑	*i*P	P	**Pn**	**08 33 09.0**	**-0.4**
PB07					*i* S	S	**Sn**	**08 33 27.3**	**-0.7**
PB07					IAML			08 33 32.2	
	comp=E,7μm,0.3s								
PB11	**IPOC Station P**	**1.43**	**324**	*e*P	n	P	**Pn**	**08 33 10.7**	**0.0**
PB11				*e*S	n	S	**Sn**	**08 33 31.4**	**+1.1**
LVC	**Limon Verde**	**1.68**	**185**	P		P	**Pn**	**08 33 14.6**	**+0.7**
	comp=E,5μm,0.3s,baz=40,slow=12,SNR=1351								
LVC				S		S	**Sn**	**08 33 36.9**	**+0.8**
	comp=E,7μm,0.3s,baz=219,slow=21,SNR=30								
LVC	**Limon Verde**	**1.68**	**185**	*e*P		P	**Pn**	**08 33 14.4**	**+0.4**
LVC				*e*S		S	**Sn**	**08 33 37.0**	**+0.9**
LVC	**Limon Verde**	**1.68**	**185**	*e*Pn		P	**Pn**	**08 33 14.7**	**+0.7**
LVC				*e*Sn		S	**Sn**	**08 33 37.3**	**+1.2**
PSGC	**Pisagua**	**1.84**	**316**	⇓	*i*P	P	**Pn**	**08 33 15.7**	**-0.1**
PSGC					*i* S	S	**Sn**	**08 33 39.2**	**0.0**
PSGC					IAML			08 33 45.4	
	comp=E,2μm,0.3s								
PB04	**IPOC Station P**	**1.90**	**222**	⇑	*i*P	P	**Pn**	**08 33 15.8**	**-0.8**
PB04					*i* S	S	**Sn**	**08 33 40.0**	**-0.7**
PB04					IAML			08 33 42.3	
	comp=N,5μm,0.8s								
PB04	**IPOC Station P**	**1.90**	**222**	*e*Pn		P	**Pn**	**08 33 14.2**	**-2.4**
PB04				*e*Sn		S	**Sn**	**08 33 42.3**	**+1.6**
PB06	**IPOC Station P**	**1.92**	**203**	⇑	*i*P	P	**Pn**	**08 33 16.7**	**-0.2**
PB06					*i* S	S	**Sn**	**08 33 41.0**	**-0.2**
PB06					IAML			08 33 45.2	
	comp=N,4μm,0.8s								
MNMC	**Minye Minye**	**1.95**	**336**	⇓	*i*P	P	**Pn**	**08 33 18.3**	**+1.0**
MNMC					*i* S	S	**Sn**	**08 33 43.6**	**+1.6**
MNMC					IAML			08 33 48.8	
	comp=E,4μm,0.6s								
PB13	**IPOC Station P**	**2.67**	**345**	⇑	*i*P	P	**Pn**	**08 33 28.7**	**+1.7**
PB13					*i* S	S	**Sn**	**08 34 02.1**	**+2.9**
PB12	**IPOC Station P**	**2.73**	**327**	⇑	*i*P	P	**Pn**	**08 33 26.7**	**-0.6**
PB12					*i* S	S	**Sn**	**08 33 59.5**	**-0.4**
PB10	**IPOC Station P**	**3.06**	**212**	⇑	*i*P	P	**Pn**	**08 33 31.9**	**+0.3**
PB10					*i* S	S	**Sn**	**08 34 07.3**	**-0.3**
PB10	**IPOC Station P**	**3.06**	**212**	*e*Pn		P	**Pn**	**08 33 32.1**	**+0.5**
PB10				*e*Sn		S	**Sn**	**08 34 14.4**	**+6.8**
YJA	**Yavi**	**3.27**	**113**	*e*P		P	**Pn**	**08 33 37.0**	**+2.2**
YJA					IAML			08 33 38.1	
	comp=Z,31nm,0.3s								
HJA	**Humahuaca**	**3.85**	**127**	*e*P		P	**Pn**	**08 33 45.4**	**+2.9**
HJA					IAML			08 33 46.8	
	comp=Z,42nm,0.7s								
LPAZ	**La Paz**	**4.65**	**8**	P		P	**Pn**	**08 33 55.3**	**+1.7**
	comp=Z,14nm,0.3s,baz=239,slow=5.1,SNR=228								
LPAZ				LR		LR		08 35 59.3	
	comp=Z,71nm,21.2s,baz=232,slow=42								
LPAZ	**La Paz**	**4.65**	**8**	*e*P		P	**Pn**	**08 33 56.9**	**+3.3**
LPAZ	**La Paz**	**4.65**	**8**	*e*Pn		P	**Pn**	**08 33 56.0**	**+2.4**
AZAP	**Zapla**	**4.74**	**135**	*e*P		P	**Pn**	**08 33 55.8**	**+1.4**
FSA	**Cafayete**	**5.76**	**154**	*e*P		P	**Pn**	**08 34 09.0**	**+0.9**
FSA					IAML			08 35 21.1	
	comp=Z,3.1nm,0.7s								
AHML	**Horco Molle**	**6.62**	**152**	*e*P		P	**Pn**	**08 34 19.2**	**-0.5**
AHML					IAML			08 34 56.5	
	comp=Z,4.1nm,0.7s								
ACLC	**CERRO LA CRUZ**	**8.62**	**169**	*e*P		P	**Pn**	**08 34 44.5**	**-2.4**
SIV	**San Ignacio**	**8.80**	**57**	P		P	**Pn**	**08 34 47.0**	**-2.2**
	comp=Z,17nm,0.3s,baz=246,slow=11,SNR=105								
AMOG	**MOGNA**	**9.97**	**179**	*e*P		P	**Pn**	**08 35 00.8**	**-4.4**
CPUP	**Villa Florida**	**11.78**	**119**	P		P	**Pn**	**08 35 27.8**	**-1.7**
	comp=Z,0.3nm,0.3s,baz=308,slow=10.0,SNR=4.3								
SAML	**Samuel**	**13.07**	**25**	*e*Pn		P	**Pn**	**08 35 45.2**	**-1.4**
PLCA	**Paso Flores**	**19.80**	**184**	P		P	**P**	**08 37 07.7**	**+0.7**
	comp=Z,0.4nm,0.3s,baz=23,slow=12,SNR=9.9								
PLCA	**Paso Flores**	**19.80**	**184**	*e*P		P	**P**	**08 37 07.5**	**+0.5**
	comp=Z,23nm,1.7s								
PTGA	**Pitinga**	**21.84**	**24**	P		P	**P**	**08 37 27.3**	**-1.7**
	comp=Z,2.4nm,0.3s,baz=211,slow=13,SNR=22								
PTGA	**Pitinga**	**21.84**	**24**	*e*P		P	**P**	**08 37 27.3**	**-1.7**
	comp=Z,4.4nm,0.3s								
PRAC	**Prado**	**25.21**	**346**	*e*P		P	**P**	**08 38 01.5**	**+0.4**
	comp=Z,32nm,1.9s								
ROSC	**El Rosal**	**26.18**	**347**	P		P	**P**	**08 38 09.9**	**-0.3**
	comp=Z,3.9nm,0.4s,baz=221,slow=12,SNR=4.9								
ROSC	**El Rosal**	**26.18**	**347**	*e*P		P	**P**	**08 38 09.6**	**-0.5**
	comp=Z,3.7nm,0.5s								
RUSC	**La Rusia**	**26.99**	**350**	*e*P		P	**P**	**08 38 17.8**	**+0.2**
	comp=Z,12nm,1.0s								
HELC	**Santa Helena**	**27.75**	**345**	*e*P		P	**P**	**08 38 23.9**	**-0.4**
	comp=Z,24nm,0.6s								
SDV	**Santo Domingo**	**29.68**	**356**	P		P	**P**	**08 38 40.3**	**-0.8**
	comp=Z,2.3nm,0.4s,baz=264,slow=20,SNR=4.5								
SDV	**Santo Domingo**	**29.68**	**356**	*e*P		P	**P**	**08 38 40.1**	**-1.1**
	comp=Z,3.5nm,0.8s								
CELP	**Cerrillos**	**38.82**	**3**	*e*P		P	**P**	**08 39 57.9**	**-1.8**
SJG	**San Juan**	**38.88**	**4**	*e*P		P	**P**	**08 39 58.2**	**-1.9**
	comp=Z,15nm,0.6s								
SJG				*e*pP			**pP**	**08 40 23.0**	**-1.2**
MPR	**Mayaguez**	**38.93**	**2**	*e*P		P	**P**	**08 39 58.8**	**-1.7**
	comp=Z,10.0nm,0.6s								
CBYP	**Canovanas**	**39.06**	**4**	*e*P		P	**P**	**08 39 59.6**	**-2.2**
	comp=Z,30nm,1.2s								
CMIG	**Matias Romero**	**45.65**	**324**	P		P	**P**	**08 40 56.0**	**+0.8**
	comp=Z,2.8nm,0.8s,baz=117,slow=7.2,SNR=5.2								
ZAIG	**Zacatecas**	**54.52**	**321**	*e*P		P	**P**	**08 42 04.4**	**+1.9**
	comp=Z,7.2nm,0.8s								
Z47A	**Carrollton**	**56.89**	**341**	P		P	**P**	**08 42 18.8**	**0.0**
	baz=159								
Z48A	**Northport**	**56.90**	**341**	P		P	**P**	**08 42 18.7**	**-0.2**
	baz=159								
KMSC	**Kings Mountain**	**57.02**	**348**	P		P	**P**	**08 42 20.0**	**+0.3**
	baz=166								
833A	**Chaparral WMA,**	**57.21**	**328**	P		P	**P**	**08 42 21.9**	**+0.7**
	baz=146								
832A	**Faith Ranch, C**	**57.47**	**327**	P		P	**P**	**08 42 23.7**	**+0.6**
	baz=145								
733A	**Divot King Ran**	**57.48**	**328**	P		P	**P**	**08 42 23.6**	**+0.5**
	baz=146								
SWET	**Sewanee**	**58.16**	**343**	*e*P		P	**P**	**08 42 27.5**	**-0.3**
	comp=Z,11nm,0.7s								
W45A	**Hickory Valley**	**59.05**	**341**	P		P	**P**	**08 42 33.5**	**-0.4**
	baz=158								
HPIG		**59.51**	**322**	*e*P		P	**P**	**08 42 38.6**	**+1.1**
	comp=Z,10nm,1.4s								
WVT	**Waverly**	**59.55**	**342**	*e*P		P	**P**	**08 42 36.6**	**-0.7**
Y38A	**Idabel**	**59.90**	**335**	P		P	**P**	**08 42 39.8**	**0.0**
	baz=152								
MIAR	**Mount Ida**	**60.00**	**336**	P		P	**P**	**08 42 40.6**	**+0.2**
	baz=153,SNR=5.8								
MIAR	**Mount Ida**	**60.00**	**336**	*e*P		P	**P**	**08 42 40.5**	**+0.1**
	comp=Z,22nm,1.4s								
233A	**Rising Star**	**60.04**	**331**	P		P	**P**	**08 42 41.0**	**+0.2**
	baz=147								
W41B	**Gary Mavity, V**	**60.08**	**338**	P		P	**P**	**08 42 40.5**	**-0.4**
	baz=155								
X39A	**Fountain Ranch**	**60.17**	**336**	P		P	**P**	**08 42 42.4**	**+0.8**
	baz=153,SNR=5.2								
LTX	**Lajitas**	**60.24**	**325**	*e*P		P	**P**	**08 42 42.8**	**+0.5**
TXAR	**Lajitas Array**	**60.24**	**325**	P		P	**P**	**08 42 42.8**	**+0.5**
	comp=Z,0.8nm,0.7s,baz=153,slow=9.3,SNR=4.2								
Y37A	**Hugo**	**60.30**	**334**	P		P	**P**	**08 42 43.7**	**+1.2**
	baz=151								
W40A	**Ferguson Farm,**	**60.39**	**337**	P		P	**P**	**08 42 43.9**	**+0.8**
	baz=154								
X38A	**Whitesboro**	**60.59**	**335**	P		P	**P**	**08 42 45.2**	**+0.7**
	baz=152								
V41A	**Mountainview**	**60.60**	**338**	P		P	**P**	**08 42 44.1**	**-0.4**
	baz=155								
W39A	**Magazine**	**60.66**	**337**	P		P	**P**	**08 42 45.7**	**+0.8**
	baz=153								
X37A	**Clayton**	**60.73**	**335**	P		P	**P**	**08 42 46.0**	**+0.5**
	baz=152								
Z34A	**Collier Ranch,**	**60.74**	**332**	P		P	**P**	**08 42 45.8**	**+0.2**
	baz=149								
U42A	**Revenden**	**60.80**	**339**	P		P	**P**	**08 42 45.4**	**-0.4**
	baz=156								
W38A	**Poteau**	**60.82**	**336**	P		P	**P**	**08 42 46.3**	**+0.2**
	baz=152								
V40A	**Witts Springs**	**60.85**	**338**	P		P	**P**	**08 42 45.8**	**-0.4**
	baz=154								
PBMO	**Poplar Bluff**	**60.93**	**340**	*e*P		P	**P**	**08 42 46.4**	**-0.4**
	comp=Z,12nm,0.8s								
T44A	**Benton**	**60.95**	**341**	P		P	**P**	**08 42 46.3**	**-0.6**
	baz=158								
U41A	**Viola**	**61.02**	**339**	P		P	**P**	**08 42 47.0**	**-0.4**
	baz=155,SNR=5.6								
Z33A	**Whitaker Ranch**	**61.04**	**331**	P		P	**P**	**08 42 47.8**	**+0.2**
	baz=148								
WCI	**Wyandotte Cave**	**61.10**	**344**	*e*P		P	**P**	**08 42 47.1**	**-0.8**
	comp=Z,9.5nm,0.6s								
MCWV	**Mont Chateau**	**61.15**	**350**	*e*P		P	**P**	**08 42 49.0**	**+0.9**
	comp=Z,9.2nm,0.7s								
T43A	**Greenville**	**61.17**	**340**	P		P	**P**	**08 42 48.2**	**-0.1**
	baz=157,SNR=6.4								
Y34A	**Reagan Ranch,**	**61.17**	**333**	P		P	**P**	**08 42 48.4**	**-0.1**
	baz=149								
V39A	**Pettigrew**	**61.18**	**337**	P		P	**P**	**08 42 48.5**	**0.0**
	baz=154,SNR=13								
S45A	**Carrier Mills**	**61.20**	**342**	P		P	**P**	**08 42 48.1**	**-0.5**
	baz=159								
X35A	**Drake**	**61.22**	**334**	P		P	**P**	**08 42 48.6**	**-0.1**
	baz=150								
W37B	**Quinton**	**61.24**	**335**	P		P	**P**	**08 42 48.9**	**0.0**
	baz=152								
U40A	**Yellville**	**61.36**	**338**	P		P	**P**	**08 42 49.2**	**-0.4**
	baz=154								
T42A	**Van Buren**	**61.37**	**340**	P		P	**P**	**08 42 49.4**	**-0.3**
	baz=156								
S44A	**Carbondale**	**61.41**	**342**	P		P	**P**	**08 42 49.2**	**-0.7**
	baz=158								
V38A	**Canehill**	**61.48**	**336**	P		P	**P**	**08 42 50.6**	**+0.2**
	baz=153,SNR=8.8								
S43A	**Fulton Ridge,**	**61.55**	**341**	P		P	**P**	**08 42 50.4**	**-0.5**
	baz=158								
W36A	**Wetumka**	**61.55**	**335**	P		P	**P**	**08 42 50.7**	**-0.3**
	baz=151								
O56A	**Blue Knob Stat**	**61.56**	**351**	P		P	**P**	**08 42 51.9**	**+0.9**
	baz=170								
U39A	**Green Forest**	**61.60**	**337**	P		P	**P**	**08 42 51.0**	**-0.3**
	baz=154,SNR=5.3								
T41A	**Mountain View**	**61.61**	**339**	P		P	**P**	**08 42 50.9**	**-0.4**
	baz=156								
V37A	**Hulbert**	**61.78**	**336**	P		P	**P**	**08 42 52.6**	**+0.1**
	baz=152								
R44A	**Waltonville**	**61.88**	**342**	P		P	**P**	**08 42 52.5**	**-0.5**
	baz=159								
S42A	**Caledonia**	**61.96**	**340**	P		P	**P**	**08 42 52.4**	**-1.2**
	baz=157								
T40A	**Mansfield**	**61.96**	**339**	P		P	**P**	**08 42 52.9**	**-0.8**
	baz=155								
U38A	**Gravette**	**61.98**	**337**	P		P	**P**	**08 42 53.7**	**-0.1**
	baz=153								
V36A	**Jenks**	**62.00**	**335**	P		P	**P**	**08 42 54.0**	**0.0**
	baz=151								
BLO	**Bloomington**	**62.05**	**344**	*e*P		P	**P**	**08 42 53.6**	**-0.6**
	comp=Z,16nm,0.6s								
S41A	**Jillco Farms,**	**62.09**	**339**	P		P	**P**	**08 42 54.2**	**-0.3**
	baz=156,SNR=5.6								
T39A	**Clever**	**62.14**	**338**	P		P	**P**	**08 42 54.3**	**-0.6**
	baz=154								
R43A	**Red Bud**	**62.16**	**341**	P		P	**P**	**08 42 54.3**	**-0.6**
	baz=158								
U37A	**Salina**	**62.23**	**336**	P		P	**P**	**08 42 55.5**	**+0.1**
	baz=152								
S40A	**Lebanon**	**62.36**	**339**	P		P	**P**	**08 42 56.1**	**-0.2**
	baz=155,SNR=5.8								
R42A	**Luebbering**	**62.42**	**341**	P		P	**P**	**08 42 56.7**	**0.0**
	baz=157,SNR=6.9								
N54A	**Moraine State**	**62.45**	**350**	P		P	**P**	**08 42 57.6**	**+0.8**
	baz=168								
Q44A	**Meyer Farm, Va**	**62.47**	**342**	P		P	**P**	**08 42 56.5**	**-0.4**
	baz=159								
T38A	**Diamond**	**62.48**	**337**	P		P	**P**	**08 42 57.3**	**+0.1**
	baz=153,SNR=11								
R41A	**Rosebud**	**62.62**	**340**	P		P	**P**	**08 42 57.6**	**-0.4**
	baz=156,SNR=8.5								
S39A	**Bolivar**	**62.72**	**338**	P		P	**P**	**08 42 58.7**	**0.0**
	baz=154,SNR=12								
SNAA	**Sanae**	**62.77**	**161**	P		P	**P**	**08 42 59.0**	**+0.3**
	comp=Z,1.4nm,0.6s,baz=281,slow=7.5,SNR=12								
SNAA	**Sanae**	**62.77**	**161**	*e*P		P	**P**	**08 42 59.1**	**+0.3**
	comp=Z,4.8nm,1.2s								
T37A	**Cheneyville 18**	**62.79**	**337**	P		P	**P**	**08 42 59.3**	**+0.1**
	baz=153,SNR=15								
S38A	**Stockton**	**62.87**	**338**	P		P	**P**	**08 42 59.3**	**-0.4

S35A	Otter Creek Ra baz=151,SNR=5.5	63.81	336	P	P	08 43 06.2	+0.3
R37A	Teagarden Farm baz=153	63.81	337	P	P	08 43 05.7	-0.2
Q39A	Willow Grove F baz=155	63.82	339	P	P	08 43 05.6	-0.4
P40A	Paris baz=156	63.96	340	P	P	08 43 06.9	+0.1
Q38A	Cooks Store, C baz=154,SNR=9.2	63.96	339	P	P	08 43 06.9	+0.1
P39B	Salisbury baz=155,SNR=7.0	64.15	340	P	P	08 43 07.7	-0.4
R35A	Emporia Munici baz=152	64.32	336	P	P	08 43 09.5	+0.2
O40A	La Belle baz=156	64.44	341	P	P	08 43 09.5	-0.5
P38A	Dawn baz=154,SNR=5.1	64.53	339	P	P	08 43 10.3	-0.3
R34A	Isabella, Hill baz=151	64.70	335	P	P	08 43 12.3	+0.5
Q35A	Mercer Eighty, baz=152	64.73	337	P	P	08 43 12.1	+0.2
P37A	Lathrop baz=154	64.78	338	P	P	08 43 11.9	-0.3
O38A	Galt baz=155,SNR=5.1	64.96	339	P	P	08 43 12.8	-0.5
N40A	Mertquake, Sal baz=157	65.05	341	P	P	08 43 13.1	-0.8
P36A	Good Intent, A baz=153	65.10	338	P	P	08 43 13.6	-0.7
KSU1	Kansas State U baz=152	65.16	336	P	P	08 43 14.1	-0.5
O37A	Wolven Farm, M baz=154	65.22	339	P	P	08 43 14.7	-0.3
N39A	Derby Farms, D baz=156	65.33	340	P	P	08 43 15.2	-0.5
O36A	Bolckow baz=153	65.47	338	P	P	08 43 16.1	-0.5
M40A	Post Highland baz=157	65.51	341	P	P	08 43 16.3	-0.5
P34A	Walnut Farm, R baz=151	65.63	336	P	P	08 43 18.0	+0.3
N37A	Lee Faris, Mou baz=154,SNR=8.6	65.78	339	P	P	08 43 18.9	+0.2
M38A	Pleasantville baz=155	66.04	340	P	P	08 43 19.6	-0.7
N36A	Muff Farm, Cla baz=153	66.08	338	P	P	08 43 20.5	-0.1
ANMO	Albuquerque baz=142	66.10	327	P	P	08 43 21.6	+0.6
CBKS	Cedar Bluff baz=148	66.14	334	P	P	08 43 21.7	+0.6
CBKS	Cedar Bluff	66.14	334	eP	P	08 43 22.1	+1.0
M37A	Trindle Farm, baz=154,SNR=8.3	66.30	339	P	P	08 43 22.4	+0.4
N35A	Tabor baz=153	66.36	338	P	P	08 43 22.3	0.0
O33A	Hebron baz=151,SNR=5.2	66.37	336	P	P	08 43 22.7	+0.2
TUC	Tucson baz=137	66.47	322	P	P	08 43 24.2	+0.8
M36A	Felix, Anita baz=154	66.60	339	P	P	08 43 23.8	0.0
L38A	Oak Wood Farm, baz=156	66.62	341	P	P	08 43 23.9	0.0
N34A	Lincoln baz=152,SNR=6.7	66.64	337	P	P	08 43 23.9	-0.2
K39A	Oelwein baz=157	66.81	342	P	P	08 43 25.1	0.0
J40A	Soldiers Grove baz=158	67.12	343	P	P	08 43 27.1	0.0
L36A	Harm Buss Farm baz=154,SNR=7.0	67.13	339	P	P	08 43 27.4	+0.2
J39A	Decorah baz=157	67.34	342	P	P	08 43 28.2	-0.2
K37A	Belmond baz=155	67.40	340	P	P	08 43 28.3	-0.6
214A	Organ Pipe Nat baz=136	67.41	320	P	P	08 43 30.2	+1.0
L35A	Bielow Farm, R baz=153,SNR=6.4	67.44	339	P	P	08 43 29.0	-0.1
K36A	Gilmore City baz=154	67.54	340	P	P	08 43 29.8	0.0
I40A	Norwalk baz=158	67.54	343	P	P	08 43 29.0	-0.8
L34A	Svendsen Farm, baz=152	67.59	338	P	P	08 43 29.9	-0.3
BGNE	Belgrade baz=150,SNR=5.1	67.74	336	P	P	08 43 31.4	+0.3
I39A	Houston baz=157	67.76	342	P	P	08 43 30.3	-0.8
SDCO	Great Sand Dun baz=143,SNR=6.5	67.83	329	P	P	08 43 33.1	+1.0
SDCO	Great Sand Dun comp=Z,2.8nm,0.9s	67.83	329	eP	P	08 43 33.5	+1.5
J36A	Seneca 1, Swea baz=154	68.13	340	P	P	08 43 34.2	+0.8
I38A	Scanlan Farm, baz=156	68.16	342	P	P	08 43 33.7	+0.1
K33A	Hardington baz=152	68.37	338	P	P	08 43 35.1	0.0
X16A	Lo Mia Camp, P comp=Z,2.4nm,1.0s	68.38	323	eP	P	08 43 37.2	+1.7
DBIC	Dimbokro comp=Z,2.3nm,0.5s,baz=219,slow=8.8,SNR=6.9	68.44	74	P	P	08 43 35.5	-0.6
DBIC	Dimbokro comp=Z,25nm,1.5s	68.46	74	eP	P	08 43 35.5	-0.6
I37A	Lemond, Waseca baz=155	68.46	341	P	P	08 43 35.5	0.0
I35A	Creekview Farm baz=154,SNR=5.8	68.81	340	P	P	08 43 37.6	-0.1
J33A	Davis baz=152,SNR=5.6	68.99	338	P	P	08 43 38.7	-0.1
K31A	O'Neill baz=150	69.02	337	P	P	08 43 39.6	+0.6
H36A	Jessenland, He baz=155	69.13	341	P	P	08 43 39.9	+0.3
WUAZ	Wupatki baz=138	69.15	324	P	P	08 43 42.1	+1.9
WUAZ	Wupatki comp=Z,5.3nm,0.9s	69.15	324	eP	P	08 43 42.4	+2.2
ECSD	EROS Data Cent baz=152	69.23	339	P	P	08 43 40.4	0.0
ECSD	EROS Data Cent comp=Z,18nm,1.8s	69.23	339	eP	P	08 43 40.2	-0.1
F40A	Park Falls baz=159	69.30	344	P	P	08 43 41.1	+0.4
J32A	Parkston baz=151	69.34	338	P	P	08 43 41.3	+0.3
SPMN	Marine on St. baz=156	69.38	342	P	P	08 43 41.0	-0.2
H35A	Sunnyside Ranc baz=154,SNR=5.6	69.51	340	P	P	08 43 41.9	-0.1
SMCO	Snowmass comp=Z,3.4nm,0.8s	69.66	329	eP	P	08 43 45.0	+1.4
H34A	Spellman Lake, baz=154,SNR=5.5	69.79	340	P	P	08 43 43.7	0.0
F37A	Hinrichs Farm, baz=156	69.79	342	P	P	08 43 44.3	+0.7
H33A	Prehn Over Nor baz=152	70.12	339	P	P	08 43 46.2	+0.5
F36A	Milaca baz=156	70.17	342	P	P	08 43 45.9	-0.2
BC3	Big Chuckawall baz=134	70.18	320	P	P	08 43 48.4	+1.9
H32A	Carlson Farm, baz=152	70.19	339	P	P	08 43 46.4	+0.2
W13A	Hualapai Mount comp=Z,2.2nm,0.6s	70.27	322	eP	P	08 43 49.1	+2.0
U15A	North Rim comp=Z,6.3nm,1.1s	70.32	324	eP	P	08 43 49.8	+2.3
G33A	Ortonville baz=153,SNR=5.0	70.47	340	P	P	08 43 47.7	-0.1
KNB	Kanab comp=Z,8.4nm,1.0s	71.04	324	eP	P	08 43 54.1	+2.3
E35A	Pequot Lakes baz=155	71.06	342	P	P	08 43 51.5	+0.1
GMRC	Granite Mounta baz=134	71.09	321	P	P	08 43 53.9	+1.9
LCMT	Little Creek M comp=Z,2.4nm,0.9s	71.27	324	eP	P	08 43 53.4	+0.3
MTPU	Mount Pierson comp=Z,2.6nm,0.8s	71.44	325	eP	P	08 43 56.0	+1.6
E33A	Westby DABS, E baz=153	71.50	341	P	P	08 43 53.7	-0.3
HEC	Hector,Ludlow baz=134	71.52	320	P	P	08 43 56.9	+2.4
F31A	Hecla	71.66	339	P	P	08 43 55.2	+0.1
	baz=151						
CCUT	Cedar City comp=Z,5.8nm,0.8s	71.73	324	eP	P	08 43 57.5	+1.6
MSU	Marysvale	71.79	325	eP	P	08 43 58.2	+2.0
SHPR	Sheep Range	71.99	322	eP	P	08 43 59.5	+2.0
C34A	RKJ Ranch, Bem baz=155,SNR=6.2	72.20	342	P	P	08 43 58.1	-0.1
RSSD	Black Hills baz=146	72.34	334	P	P	08 44 00.3	+0.9
C33A	Trail baz=154	72.55	341	P	P	08 44 00.2	-0.1
B34A	Aery, Baudette baz=155	72.88	342	P	P	08 44 02.3	+0.1
TPNV	Topopah Spring baz=134	72.93	322	P	P	08 44 05.2	+2.2
TPNV	Topopah Spring	72.93	322	eP	P	08 44 05.2	+2.2
JLU	Jordanelle comp=Z,5.9nm,1.1s	72.96	327	eP	P	08 44 05.1	+1.9
MPMC	Manual Prospec baz=133	73.05	320	P	P	08 44 03.9	+0.1
AGMN	Agassiz Nation baz=154	73.06	341	P	P	08 44 03.2	0.0
C31A	Landman Farms, baz=152	73.19	340	P	P	08 44 04.2	+0.1
B32A	Ashes, Strandq baz=153,SNR=5.3	73.35	341	P	P	08 44 04.9	-0.1
R11A	Troy Canyon, C baz=135	73.53	323	P	P	08 44 08.4	+1.9
GRAC	Grapevine Rang baz=133	73.61	321	P	P	08 44 08.5	+1.7
CWC	Cottonwood Cre baz=133	73.66	320	P	P	08 44 09.0	+1.7
PD31	Pinedale Array	73.68	330	eP	P	08 44 07.6	+0.2
PDAR	Pinedale Array comp=Z,0.6nm,0.6s,baz=115,slow=6.9,SNR=6.3	73.68	330	P	P	08 44 07.6	+0.2
MDND	Maddock baz=150	73.85	339	P	P	08 44 08.9	+1.0
VES	Vestal, Richgr baz=132	73.86	319	P	P	08 44 10.3	+2.0
HVU	Hansel Valley comp=Z,2.2nm,0.9s	74.50	327	eP	P	08 44 13.4	+1.3
SNOW	Snow King Moun comp=Z,3.2nm,0.8s	74.78	330	eP	P	08 44 15.1	+1.3
ULM	Lac du Bonnet comp=Z,4.4nm,0.4s,baz=163,slow=6.5,SNR=17	74.81	342	P	P	08 44 13.2	-0.3
LOHW	Long Hollow comp=Z,2.3nm,0.8s	74.82	330	eP	P	08 44 15.1	+1.1
MOOW	Moose Ponds comp=Z,1.9nm,0.7s	74.99	330	eP	P	08 44 16.3	+1.3
RLMT	Red Lodge baz=141,SNR=5.6	75.38	332	P	P	08 44 18.7	+1.6
RLMT	Red Lodge comp=Z,4.9nm,0.8s	75.38	332	eP	P	08 44 18.7	+1.6
YHH	Holmes Hill comp=Z,6.1nm,1.0s	75.83	331	eP	P	08 44 22.3	+2.4
DGMT	Dagmar baz=146	76.00	337	P	P	08 44 21.9	+1.5
PNTR	Pine Nut	76.32	322	eP	P	08 44 24.7	+2.1
PAHR	Pah Rah Range	76.61	322	eP	P	08 44 26.2	+2.0
HLID	Hailey baz=137	76.63	328	P	P	08 44 26.4	+2.2
HLID	Hailey comp=Z,3.2nm,0.8s	76.63	328	eP	P	08 44 26.4	+2.2
MCMT	McKenzie Canyo	76.80	329	eP	P	08 44 26.8	+1.6
BOZ	Bozeman (W) baz=139	76.81	331	P	P	08 44 26.3	+1.2
TOA1	Torodi Ar. Sit comp=Z,4.2nm,0.6s	77.04	70	eP	P	08 44 26.0	-0.9
TOA1				epP	pP	08 44 54.4	+0.6
TORD	Torodi Ar. Bea comp=Z,3.5nm,0.5s,baz=255,slow=5.4,SNR=54	77.04	70	P	P	08 44 26.0	-0.9
TORD				pP	pP	08 44 54.4	+0.6
MFID	Camas Ranch comp=Z,3.9nm,1.2s	77.24	327	eP	P	08 44 29.5	+1.9
WDC	Whiskeytown Da comp=Z,3.9nm,0.7s	79.01	321	eP	P	08 44 37.4	+0.1
N02D	Trinity Center baz=130	79.36	321	P	P	08 44 39.8	+0.5
M04C	Macdoel baz=131	79.38	323	P	P	08 44 40.9	+1.5
M02C	Callahan baz=130	79.71	322	P	P	08 44 42.3	+1.1
J05D	Fort Rock, OR baz=131	80.02	324	P	P	08 44 44.4	+1.6
TSUM	Tsumeb comp=Z,2.4nm,0.7s,baz=243,slow=16,SNR=4.1	80.08	107	P	P	08 44 43.5	-0.2
J04D	Umppqua Nationa baz=131	80.48	324	P	P	08 44 47.1	+1.7
L02D	Cave Junction, baz=129	80.63	322	P	P	08 44 47.7	+1.7
I05D	Terrebonne, OR baz=131	80.77	325	P	P	08 44 48.8	+2.1
YKA	Yellowknife Ar comp=Z,1.0nm,0.7s,baz=137,slow=4.8,SNR=4.8	90.69	341	P	P	08 45 34.3	-1.0
YKB5	Yellowknife Ar	90.69	341	eP	P	08 45 34.3	-1.0
ASAR	Alice Springs comp=Z,0.5nm,0.8s,baz=121,slow=4.4,SNR=3.8	130.48	208	PKP	PKPdf	08 51 43.7	-0.3
ASAR				pPKP	pPKPdf	08 52 13.3	+0.5
WR1	Warramunga Arr comp=Z,1.0nm,1.0s,baz=57,slow=3.4,SNR=4.4	133.51	211	ePKPdf	PKPdf	08 51 49.7	0.0
WR1				epPKPdf	pPKPdf	08 52 20.0	+1.4
WRA	Warramunga Arr comp=Z,0.2nm,0.5s,baz=147,slow=1.6,SNR=5.8	133.51	211	PKP	PKPdf	08 51 49.7	0.0
WRA				pPKP	pPKPdf	08 52 20.0	+1.4
ZAA1	Zalesovo Array	141.38	25	ePKPdf	PKPdf	08 52 03.4	+0.3
ZALV	Zalesovo Beam comp=Z,2.3nm,0.5s,baz=338,slow=2.9,SNR=3.8	141.38	25	PKP	PKPdf	08 52 03.4	+0.3
KLR	Kul'dur comp=Z,2.1nm,0.7s,baz=22,slow=3.5,SNR=4.1	147.36	335	PKPbc	PKPbc	08 52 15.4	-0.8
USRK	Ussuriysk Ar. comp=Z,2.9nm,0.7s,baz=212,slow=0.4,SNR=7.2	151.10	328	PKPbc	PKPbc	08 52 24.6	-1.1

JMA 05 08:40:53.3±0.2, 38°22N×144°49E, h35km, M3.8, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
OFUJ	Ofunato	2.37	292	P		Pn	08 41 31.3	+1.6
JIO	Ouri	2.48	276	P		Pn	08 41 32.7	+1.5
JIO				S		Sn	08 42 01.9	+1.7
MIYJ	Miyakonagasawa	2.48	304	P		Pn	08 41 32.4	+1.1
MIYJ				S		Sn	08 42 02.0	+1.6
JMK	Ichinoseki	2.67	287	P		Pn	08 41 35.6	+1.9
JOM	Ohasama	2.79	298	P		Pn	08 41 37.6	+2.1
JOM				eS		Sn	08 42 10.5	+2.6
JOU	Okura	3.01	274	P		Pn	08 41 40.7	+2.2
JOU				S		Sn	08 42 16.4	+3.0
JANG	Nango	3.15	314	eS		Sn	08 42 18.3	+1.4
JRG	Rokugo	3.23	292	eS		Sn	08 42 21.3	+2.5
JYK	Kaneyama	3.31	283	P		Pn	08 41 45.5	+2.9
JYK				S		Sn	08 42 24.2	+3.4
JFT	Otama	3.36	259	P		Pn	08 41 45.5	+2.2
JFT				S		Sn	08 42 24.3	+2.3
JAH	Hinai	3.58	304	P		Pn	08 41 49.0	+2.7
JAH				eS		Sn	08 42 30.3	+2.9
JTM	Tenmabayashi	3.69	315	P		Pn	08 41 50.4	+2.7
JRY	Ryogami san	4.98	245	P		Pn	08 42 06.8	+1.2

MEX 05 09:50:23.9±0.8, 15°.70N×92°.94W, h128km±17km, MD3.7, Mexico-Guatemala border region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
CCIG	Comitan	0.96	53	eP		Pn	09 50 44.8	-1.8
CCIG				eS		Sn	09 51 01.6	-2.0
TGIG		1.09	351	eP		Pn	09 50 46.6	-1.0
TGIG				eS		Sn	09 51 03.9	-1.7

*IDC **05** 09:51:55.7±0.3, 15°.23S×173°.58W, h0km, mb5.6/30, mb1 5.7/31, mb1mx5.7/32, mbtmp5.6/31, ML4.3/1, MS5.9/24, Ms1 5.9/24, ms1mx5.9/24, Error ellipse: s-maj=13.4km s-min=11.4km az=116.0*

*ISCJB **05** 09:51:57.7±1.4, 15°.26S±0°.02×173°.64W±0°.02, h23km±10km, mb6.0/397, MS6.1/590, Error ellipse: s-maj=4.0km s-min=2.6km az=149.8*

*BJI **05** 09:51:57.9, 15°.30S×173°.50W, h30km, mb5.7/51, mB6.1/67, Ms6.0/81, Ms7 5.9/74*

*MOS **05** 09:51:58.8±0.7, 15°.32S×173°.56W, h33km, mb6.3/104, MS6.2/104, Error ellipse: s-maj=7.7km s-min=5.9km az=59.1*

*NEIC **05** 09:52:01.0±0.0, 15°.12S×173°.64W, h40km, Moment Tension Solution. s20 Moment tensor: Scale 10¹⁸Nm; Mrr=0.54; Mθθ=0.18; Mφφ=0.37; Mrθ=-1.99; Mθφ=0.53; Mrφ=0.64; Best double couple: M₀=2.20000×10¹⁸ NP1:φs=102.00000°, δ=86.00000°, λ=-77.00000°. NP2:φs=209.00000°, δ=13.00000°, λ=-162.00000°. Principal axes: T 1.8300, Plg=39.0000°, Azm=180.0000°; N 0.6100, Plg=12.0000°, Azm=280.0000°; P -2.4400, Plg=47.0000°, Azm=24.0000°;*

*NEIC **05** 09:52:01.1±0.1, 15°.30S×173°.62W, h37km, mb6.2/299, ME6.6, MS6.2/298, MW6.1, MW6.3, MW6.2 Error ellipse: s-maj=3.3km s-min=1.9km az=138.0, Moment Tensor Solution. s67 Moment tensor: Scale 10¹⁸Nm; Mrr=0.03; Mθθ=0.52; Mφφ=0.55; Mrθ=-1.64; Mθφ=0.35; Mrφ=0.36; Best double couple: M₀=1.80000×10¹⁸ NP1:φs=144.00000°, δ=7.00000°, λ=134.00000°. NP2:φs=280.00000°, δ=85.00000°, λ=85.00000°. Principal axes: T 1.3800, Plg=50.0000°, Azm=185.0000°; N 0.6500, Plg=5.0000°, Azm=280.0000°; P -2.0300, Plg=40.0000°, Azm=14.0000°; Broadband fault plane solution: P waves. NP1:φs=100.00000°, δ=15.00000°, λ=90.00000°. NP2:φs=280.00000°, δ=75.00000°, λ=90.00000°. Principal axes: T Plg=60.0000°, Azm=190.0000°; N Plg=0.0000°, Azm=0.0000°; P Plg=30.0000°, Azm=10.0000°; Depth from synthetics of broadband displacement seismograms. Energy computed from BB mechanism.*

NEIC Felt [IV] at Faga'alu and Tafuna; [III] at Leone, Mapusagafou, Nu'uuli and Pago Pago; [II] at Ili'ili, American Samoa. Felt throughout Tutuila. Felt [IV] at Apia, Samoa. Also felt at Lolamanu and Mulivai. Felt [II] at Mata'utu, Wallis and Futuna. Also felt at Teesi.

*GCMT **05** 09:52:01.1±0.1, 15°.18S×173°.44W, h54km, MW6.2/144, Moment Tensor Solution. s137,c322; s144,c464; Duration: 3s1 Moment tensor: Scale 10¹⁸Nm; Mrr=0.23±.01; Mθθ=0.46±.01; Mφφ=-0.22±.01; Mrθ=-2.60±.03; Mθφ=0.23±.01; Mrφ=0.35±.01; Best double couple: M₀=2.65900×10¹⁸ NP1:φs=98.00000°, δ=87.00000°, λ=-83.00000°. NP2:φs=214.00000°, δ=7.00000°, λ=-154.00000°. Principal axes: T 2.7380, Plg=41.0000°, Azm=182.0000°; N -0.1570, Plg=7.0000°, Azm=277.0000°; P -2.5810, Plg=48.0000°, Azm=15.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*

*NEIC **05** 09:52:18.0±0.0, 15°.10S×174°.22W, h36km, Moment Tensor Solution. s26 Moment tensor: Scale 10¹⁸Nm; Mrr=0.39; Mθθ=0.39; Mφφ=0.00; Mrθ=-3.79; Mθφ=0.21; Mrφ=1.10; Best double couple: M₀=4.00000×10¹⁸ NP1:φs=226.00000°, δ=5.00000°, λ=-150.00000°. NP2:φs=106.00000°, δ=88.00000°, λ=-86.00000°. Principal axes: T 3.8900, Plg=43.0000°, Azm=192.0000°; N 0.1400, Plg=4.0000°, Azm=286.0000°; P -4.0400, Plg=47.0000°, Azm=20.0000°;*

ISC 05 09:52:00.8±0.3, 15°.25S±0°.03×173°.55W±0°.03, h35km±1km, h35km:pP-P, n2099, σ1s26/2067, mb6.1/397, MS6.2/602, 89C-44D, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
AFI	Afiamalu	2.17	53	Pn		Pn	09 52 30.1	-4.5
	7μm,0.3s,baz=119,slow=0.6,SNR=1962							
AFI				Sn		Sn	09 52 52.3	-8.1
	12μm,0.3s,baz=42,slow=23,SNR=18							
AFI				LR		LR	09 53 15.6	
	comp=Z,318μm,19.8s,baz=268,slow=36							
AFI	Afiamalu	2.17	53	eP		Pn	09 52 31.4	-3.2
AFI				e			09 52 53.3	
AFI	Afiamalu	2.17	53	ePn		Pn	09 52 31.4	-3.2
AFI				eSn		Sn	09 52 53.3	-7.0
NIUE	Niue	5.15	138	P		Pn	09 53 14.3	-1.2
	baz=5.1,SNR=385							
FUNA	Funafuti	9.74	312	ePn		Pn	09 54 19.9	+1.3
FUNA				eSn		Sn	09 55 57.7	-9.2
RAR	Rarotonga	14.37	116	Pn		Pn	09 55 19.4	-2.4
	15nm,0.3s,baz=278,slow=4.9,SNR=18							
RAR				Sn		Sn	09 57 49.0	-11
	11nm,0.3s,baz=126,slow=19,SNR=3.5							
RAR				LR		LR	09 59 33.3	
	comp=Z,14μm,19.8s,baz=306,slow=32							
RAR	Rarotonga	14.37	116	eP		Pn	09 55 20.3	-1.5
RAR	Rarotonga	14.37	116	ePn		Pn	09 55 20.3	-1.5
RAR				Sn		Sn	09 57 49.0	-11
DZM	Mont Dzumac	20.12	247	P		P	09 56 32.5	+0.5
	202nm,1.2s,baz=93,slow=14,SNR=21							
DZM				S		Sn	10 00 23.8	+4.1
	26nm,1.1s,baz=127,slow=20,SNR=2.7							
DZM				LR		LR	10 03 17.8	
	comp=Z,56μm,20.3s,baz=82,slow=34							
DZM	Mont Dzumac	20.12	247	eP		P	09 56 31.5	-0.5
	6μm,1.4s							
DZM				eLQ		LQ	10 00 23.0	
	78μm,25.4s							
DZM				eLR		LR	10 01 15.9	
	145μm,26.3s							
TARA	Tarawa	21.24	320	eP		P	09 56 45.8	+1.8
	4μm,1.3s							
TARA				LR		LR		
	comp=Z,46μm,20.0s							
NFK	Norfolk Island	21.92	228	P		P	09 56 52.3	+1.0
	baz=22,SNR=11							
OUZ	Omahuta	22.99	208	eP		P	09 57 04.2	+1.6
	comp=Z,2μm,1.9s							
OUZ				LR		LR		
	comp=Z,115μm,21.0s							
OUZ	Omahuta	22.99	208	PN		P	09 57 04.5	+1.9
PPT	Papeete	23.11	99	P		P	09 57 05.2	+1.2
	comp=Z,93nm,0.9s,baz=260,slow=7.6,SNR=8.2							
PPT				LR		LR	10 05 06.0	
	comp=Z,3μm,18.7s,baz=266,slow=34							
PPT	Papeete	23.11	99	eP		P	09 57 06.0	+2.0
PPT	Papeete	23.11	99	eP		P	09 57 06.0	+2.0
PAE	Paea	23.11	99	eP		P	09 57 04.9	+1.0
	comp=Z,60nm,1.2s							
PAE	Paea	23.11	99	eT		T	10 20 22.6	
	comp=Z,29nm,0.3s							
PPT2	Papeete2	23.11	99	eP		P	09 57 05.4	+1.3
	comp=Z,277nm,1.4s							
PPT2				eLQ		LQ	10 01 42.5	
	comp=Z,53μm,31.8s							
PPT2				eLR		LR	10 02 10.8	
	comp=Z,11μm,27.2s							
PPT2	Papeete2	23.11	99	eT		T	10 20 23.8	
	comp=Z,28nm,0.3s							
WCZ	Waipu Caves	23.28	206	ePN		P	09 57 06.2	+0.8
TIAR	Tiarei	23.33	99	eP		P	09 57 07.1	+0.9
	comp=Z,69nm,1.3s							
TIAR	Tiarei	23.33	99	eT		T	10 20 41.1	
	comp=Z,14nm,0.3s							
TVO	Taravao	23.43	100	eP		P	09 57 08.3	+1.1
	comp=Z,121nm,1.4s							
TVO	Taravao	23.43	100	eT		T	10 20 47.4	
	comp=Z,11nm,0.3s							
XMAS	Kiritimati	23.43	44	eP		P	09 57 07.4	+0.2
	comp=Z,1μm,1.5s							
XMAS				eS		S	10 01 20.0	+1.7
KUZ	Kuaotunu	23.45	202	ePN		P	09 57 08.1	+1.1
WMGZ	Waiomatatini S	23.58	196	ePN		P	09 57 10.0	+1.7
ABAZ	Army Bay	23.65	204	ePN		P	09 57 10.7	+1.7
HAZ	Te Kaha	23.70	197	PN		P	09 57 10.1	+0.7
HAZ				eSN		S	10 01 23.7	+1.5
WIAZ	Waiheke Island	23.71	203	ePN		P	09 57 10.9	+1.3
PKGZ	Pakihiroa	23.74	197	ePN		P	09 57 10.8	+0.9
RUGZ	Raukumara Rang	23.92	197	ePN		P	09 57 13.1	+1.4
MKAZ	Moumakai	23.97	203	PN		P	09 57 13.0	+1.0
WTAZ	Waiatarua	24.05	204	ePN		P	09 57 14.1	+1.4
TBI	Tubuai	24.10	113	eP		P	09 57 14.5	+1.1
	comp=Z,325nm,0.9s							
TBI				eLQ		LQ	10 02 11.6	
	comp=Z,37μm,27.8s							
TBI				eLR		LR	10 02 59.0	
	comp=Z,35μm,27.5s,baz=285							
TBI	Tubuai	24.10	113	eT		T	10 21 43.7	
	comp=Z,96nm,0.2s							
AWAZ	Awhitu Peninsu	24.13	204	ePN		P	09 57 14.6	+1.1
TGRZ	Tauranga	24.14	200	ePN		P	09 57 15.2	+1.5
CNGZ	Carnagh Statio	24.26	196	ePN		P	09 57 16.5	+1.8
MWZ	Matawai	24.31	197	PN		P	09 57 15.2	0.0
MWZ				SN		S	10 01 33.0	+1.0
URZ	Urewera	24.36	198	P		P	09 57 13.8	-1.8
	comp=Z,88nm,0.6s,baz=44,slow=1.1,SNR=43							
URZ				S		S	10 01 35.2	+2.3

comp=Z,11nm,0.9s,baz=288,slow=20,SNR=5.2
URZ LR LR 10 06 03.2
comp=Z,81µm,19.1s,baz=37,slow=35
URZ Urewera 24.36 198 *e*P **P 09 57 13.8 -1.8**
comp=Z,436nm,1.3s
URZ S **S 10 01 35.2 +2.3**
URZ Urewera 24.36 198 PN **P 09 57 14.8 -0.9**
RIGZ Rimuhau 24.59 196 PN **P 09 57 20.3 +2.5**
HSRZ Hossack Road 24.68 199 *e*PN **P 09 57 18.3 -0.2**
TLZ Tolley Road 24.93 201 PN **P 09 57 22.2 +1.3**
VAH Vaihoa 25.01 93 *e*P **P 09 57 22.7 +1.0**
comp=Z,831nm,1.2s
VAH Vaihoa 25.01 93 *e*T T 10 22 39.6
comp=Z,34nm,0.3s
HIZ Hauiti 25.33 202 *e*P **P 09 57 25.6 +1.2**
comp=Z,3µm,1.9s
HIZ LR LR
comp=Z,96µm,22.0s
HIZ Hauiti 25.33 202 *e*PN **P 09 57 25.5 +1.1**
BKZ Black Stump Fm 25.38 198 *e*P **P 09 57 24.1 -0.9**
comp=Z,294nm,1.4s
BKZ LR LR
comp=Z,74µm,21.0s
BKZ Black Stump Fm 25.38 198 PN **P 09 57 23.7 -1.3**
TUVZ Tukino 25.74 200 PN **P 09 57 27.5 -0.8**
BHHZ Black Hill Sta 25.81 199 PN **P 09 57 27.5 -1.3**
KAHZ Kahuranaki 25.85 197 *e*PN **P 09 57 29.5 +0.3**
VRZ Vera Road 25.91 201 *e*PN **P 09 57 28.6 -1.0**
TSZ Takapari Road 26.36 198 PN **P 09 57 34.1 +0.2**
HNR Honiara 26.51 279 P **P 09 57 34.7 -0.7**
comp=Z,220nm,0.9s,baz=190,slow=2.7,SNR=4.9
HNR LR LR 10 07 13.0
comp=Z,7µm,19.9s,baz=130,slow=35
HNR Honiara 26.51 279 *e*P **P 09 57 33.0 -2.4**
HNR Honiara 26.51 279 *e*P **P 09 57 35.9 +0.5**
HNR pmax pmax
comp=Z,283nm,1.0s
HNR Honiara 26.51 279 *e*P **P 09 57 35.9 +0.5**
comp=Z,283nm,1.0s
ANWZ Angora Road 26.58 197 *e*PN **P 09 57 36.2 +0.4**
BFZ Birch Farm 26.86 197 *e*P **P 09 57 38.4 +0.2**
comp=Z,497nm,1.3s
BFZ LR LR
comp=Z,82µm,21.0s
BFZ Birch Farm 26.86 197 PN **P 09 57 38.2 0.0**
MRZ Mangatainoka R 27.03 198 PN **P 09 57 39.3 -0.6**
SNZO South Karori 27.90 199 *e*P **P 09 57 46.4 -1.1**
comp=Z,332nm,1.0s
SNZO LR LR
comp=Z,63µm,19.0s
QRZ Quartz Range 28.21 203 PN **P 09 57 50.5 +0.1**
NNZ Nelson 28.25 201 PN **P 09 57 49.1 -1.6**
THZ Tophouse 28.90 201 *e*P **P 09 57 55.0 -1.6**
comp=Z,265nm,1.4s
THZ LR LR
comp=Z,94µm,22.0s
THZ Tophouse 28.90 201 PN **P 09 57 55.8 -0.8**
THZ *e*SN **S 10 02 41.3 -3.5**
KHZ Kahutara 29.27 200 *e*P **P 09 57 58.7 -1.0**
comp=Z,591nm,1.9s
KHZ LR LR
comp=Z,50µm,20.0s
DSZ Denniston Nort 29.28 203 PN **P 09 57 58.0 -2.0**
LHI Lord Howe Isla 29.78 232 P **P 09 58 04.6 +0.2**
baz=30
LHI Lord Howe Isla 29.78 232 *e*P **P 09 58 04.1 -0.4**
comp=Z,562nm,1.5s
LHI LR LR
comp=Z,20µm,20.0s
LTZ Lake Taylor 30.02 201 *e*P **P 09 58 05.2 -1.3**
comp=Z,346nm,1.1s
LTZ LR LR
comp=Z,87µm,20.0s
LTZ Lake Taylor 30.02 201 PN **P 09 58 04.4 -2.1**
INZ Inchbonnie 30.27 202 PN **P 09 58 06.9 -1.7**
KWAJ Kwajalein Atol 30.32 321 *e*P **P 09 58 10.2 +0.9**
KWAJ pmax pmax
comp=Z,1µm,1.4s
KWAJ MLR MLR
comp=Z,39µm,21.0s
KWAJ Kwajalein Atol 30.32 321 *e*P **P 09 58 10.2 +0.9**
comp=Z,1µm,1.4s
KWAJ LR LR
comp=Z,39µm,21.0s
OXZ Oxford 30.58 201 *e*P **P 09 58 09.9 -1.4**
comp=Z,425nm,1.0s
OXZ LR LR
comp=Z,72µm,18.0s
OXZ Oxford 30.58 201 PN **P 09 58 09.2 -2.1**
CRLZ Canterbury Las 30.61 200 *e*P **P 09 58 10.7 -0.8**
comp=Z,263nm,1.3s
CRLZ LR LR
comp=Z,48µm,22.0s
MQZ McQueen's Vall 30.71 200 *e*P **P 09 58 11.6 -0.8**
comp=Z,149nm,1.3s
MQZ LR LR
comp=Z,41µm,21.0s
WVZ Waitaha Valley 30.83 203 PN **P 09 58 11.7 -1.8**
RPZ Rata Peaks 31.27 202 P **P 09 58 16.5 -0.9**
comp=Z,68nm,0.8s,baz=340,slow=2.1,SNR=40
RPZ LR LR 10 10 42.2
comp=Z,91µm,19.8s,baz=48,slow=36
RPZ Rata Peaks 31.27 202 *e*P **P 09 58 16.5 -0.9**
comp=Z,121nm,1.1s
RPZ Rata Peaks 31.27 202 PN **P 09 58 15.5 -1.9**
FOZ Fox Glacier 31.57 203 *e*P **P 09 58 18.1 -1.9**
comp=Z,140nm,0.7s
FOZ LR LR
comp=Z,50µm,21.0s
FOZ Fox Glacier 31.57 203 PN **P 09 58 17.9 -2.1**
JOHN Johnston Islan 32.02 7 *e*P **P 09 58 23.5 -0.7**
comp=Z,1µm,1.5s
JOHN LR LR
comp=Z,40µm,21.0s
LBZ Lake Benmore 32.16 202 *e*P **P 09 58 23.2 -2.0**
comp=Z,266nm,1.7s
LBZ LR LR
comp=Z,76µm,20.0s
LBZ Lake Benmore 32.16 202 PN **P 09 58 22.7 -2.5**
JCZ Jackson Bay 32.43 204 PN **P 09 58 25.7 -2.0**
ODZ Otahua Downs 32.57 201 *e*P **P 09 58 27.7 -1.1**
comp=Z,260nm,1.8s
ODZ LR LR
comp=Z,52µm,20.0s
ODZ Otahua Downs 32.57 201 PN **P 09 58 27.8 -1.1**
WKZ Wanaka 32.97 203 *e*P **P 09 58 30.9 -1.5**
comp=Z,197nm,1.1s
WKZ LR LR
comp=Z,28µm,19.0s
WKZ Wanaka 32.97 203 PN **P 09 58 30.2 -2.2**
TAOE Nuku Hiva Isla 33.25 83 *e*S **S 10 03 55.7 +2.3**
comp=Z,12µm,28.6s
TAOE *e*LQ LQ 10 06 08.3
comp=Z,15µm,26.0s
TAOE *e*LR LR 10 07 17.4
comp=Z,32µm,25.4s,baz=255
TAOE Nuku Hiva Isla 33.25 83 *e*T T 10 32 49.2
comp=Z,198nm,0.2s
TUZ Tuapeka 33.71 201 PN **P 09 58 38.1 -0.7**
MLZ Mavora Lakes 33.77 204 *e*P **P 09 58 38.5 -0.8**
comp=Z,223nm,0.9s
MLZ LR LR
comp=Z,35µm,20.0s
MLZ Mavora Lakes 33.77 204 *e*PN **P 09 58 37.7 -1.6**
DCZ Deep Cove 34.23 204 *e*P **P 09 58 42.8 -0.4**
comp=Z,393nm,0.9s
DCZ LR LR
comp=Z,30µm,20.0s
DCZ Deep Cove 34.23 204 PN **P 09 58 43.3 0.0**
WHZ Wether Hill Ro 34.28 203 *e*P **P 09 58 43.1 -0.6**
comp=Z,2µm,1.4s
WHZ LR LR
comp=Z,22µm,21.0s
WHZ Wether Hill Ro 34.28 203 *e*PN **P 09 58 42.4 -1.3**
EIDS Eidsvold 34.57 247 P **P 09 58 46.1 -0.4**
baz=35,SNR=8.1
EIDS Eidsvold 34.57 247 *e*P **P 09 58 45.8 -0.7**
comp=Z,64nm,1.0s
EIDS LR LR
comp=Z,28µm,22.0s
PYZ Puysegur Point 34.99 204 *e*P **P 09 58 50.0 +0.1**
comp=Z,248nm,1.2s
PYZ LR LR
comp=Z,37µm,20.0s
ARMA Armidale 35.30 239 P **P 09 58 52.0 -0.9**
baz=35,SNR=15

ARMA Armidale 35.30 239 *e*P **P 09 58 52.1 -0.7**
comp=Z,209nm,1.3s
ARMA LR LR
comp=Z,18µm,21.0s
RABL Rabaul 35.47 284 PFAKE 09 59 10.0 +16
RABL LR LR
comp=Z,6µm,18.0s
PATS Pohnpei 35.48 306 P **P 09 58 56.5 +2.1**
baz=38,SNR=6.2
PATS Pohnpei 35.48 306 *e*P **P 09 58 55.8 +1.4**
comp=Z,367nm,1.4s
PATS LR LR
comp=Z,21µm,20.0s
MGCD Mangrove Creek 36.62 234 P **P 09 59 04.1 0.0**
baz=37,SNR=13
RIV Riverview 36.81 233 P **P 09 59 05.6 0.0**
baz=37
RMQ Roma 36.82 246 P **P 09 59 05.5 -0.4**
baz=37,SNR=22
RKT Rikitea 37.18 108 *e*P **P 09 59 10.6 +1.7**
comp=Z,160nm,1.3s
RKT *e*S **S 10 04 55.7 +2.2**
comp=Z,9µm,33.8s
RKT *e*LQ LQ 10 07 42.0
comp=Z,15µm,25.0s
RKT *e*LR LR 10 08 56.1
comp=Z,12µm,29.5s
RKT Rikitea 37.18 108 *e*T T 10 38 00.3
comp=Z,28nm,0.3s
HPO Honuapo 38.44 28 *e*P **P 09 59 20.1 +0.6**
CTAO Charters Tower 38.53 257 *e*P **P 09 59 19.6 -0.8**
CTAO pmax pmax
comp=Z,113nm,1.1s
CTAO MLR MLR
comp=Z,9µm,18.0s
CTAO Charters Tower 38.53 257 *e*P **P 09 59 19.6 -0.8**
comp=Z,113nm,1.1s
CTAO LR LR
comp=Z,9µm,18.0s
CNB Canberra Magne 38.73 232 P **P 09 59 21.2 -0.7**
baz=39,SNR=77
H11S2 WAKE ISLAND Hy 38.76 329 T T 10 40 01.3
baz=147,slow=76,SNR=8.7
H11S3 WAKE ISLAND Hy 38.77 329 T T 10 40 07.7
baz=147,slow=76,SNR=9.2
H11S1 WAKE ISLAND Hy 38.77 329 T T 10 39 58.0
baz=147,slow=76,SNR=12
PMG Port Moresby 38.78 274 *e*P **P 09 59 23.3 +0.8**
PMG pmax pmax
comp=Z,177nm,1.1s
PMG MLR MLR
comp=Z,9µm,20.0s
PMG Port Moresby 38.78 274 *e*P **P 09 59 23.3 +0.8**
comp=Z,177nm,1.1s
PMG LR LR
comp=Z,9µm,20.0s
MLOA Mauna Loa Obse 38.83 28 *e*P **P 09 59 24.0 +0.8**
comp=Z,2µm,1.9s
MLOA LR LR
comp=Z,28µm,21.0s
UWE Uwekahuna 38.85 28 *e*P **P 09 59 24.3 +1.2**
comp=Z,1µm,1.5s
UWE LR LR
comp=Z,27µm,20.0s
CAN Canberra 39.01 232 *e*P **P 09 59 23.4 -0.8**
CAN pmax pmax
comp=Z,1µm,1.9s
CAN MLR MLR
comp=Z,14µm,19.0s
CAN Canberra 39.01 232 *e*P **P 09 59 23.4 -0.8**
comp=Z,1µm,1.9s
CAN LR LR
comp=Z,14µm,19.0s
POHA Pohakuloa 39.04 28 *e*P **P 09 59 25.2 +0.5**
comp=Z,392nm,1.0s
POHA LR LR
comp=Z,26µm,20.0s
YNG Young 39.12 234 P **P 09 59 28.3 +3.2**
baz=39,SNR=22
HPAH Hawaii Prepara 39.20 27 *e*P **P 09 59 26.6 +0.6**
comp=Z,4µm,1.9s
HPAH LR LR
comp=Z,25µm,21.0s
KEKH Kekaha 39.41 20 *e*P **P 09 59 28.2 +0.6**
comp=Z,2µm,1.7s
KEKH LR LR
comp=Z,30µm,20.0s
HON Honolulu 39.42 23 *e*P **P 09 59 28.3 +0.7**
HON MLR MLR
comp=Z,24µm,20.0s
HON Honolulu 39.42 23 *e*P **P 09 59 28.3 +0.7**
HON LR LR
comp=Z,24µm,20.0s
KIP Kipapa 39.50 23 *ce*P **P 09 59 29.1 +0.8**
KIP Kipapa 39.50 23 *e*P **P 09 59 29.0 +0.8**
comp=Z,665nm,1.0s
KIP LR LR
comp=Z,26µm,21.0s
MILA Mila 39.55 230 P **P 09 59 27.9 -0.8**
baz=40,SNR=8.0
HLK Haleakala 39.61 26 *e*P **P 09 59 30.4 +0.9**
comp=Z,2µm,1.8s
HLK LR LR
comp=Z,26µm,21.0s
H11N3 WAKE ISLAND Hy 39.71 330 T T 10 41 12.5
baz=148,slow=76,SNR=8.4
H11N1 WAKE ISLAND Hy 39.71 330 T T 10 41 10.0
baz=148,slow=76,SNR=15
H11N2 WAKE ISLAND Hy 39.72 330 T T 10 41 13.4
baz=148,slow=76,SNR=7.5
OPA Opana 39.74 23 *e*P **P 09 59 31.0 +0.7**
OPA pmax pmax
comp=Z,273nm,1.2s
OPA MLR MLR
comp=Z,31µm,21.0s
OPA Opana 39.74 23 *e*P **P 09 59 31.0 +0.7**
comp=Z,273nm,1.2s
OPA LR LR
comp=Z,31µm,21.0s
MTSU Mount Surprise 40.40 260 P **P 09 59 35.3 -0.7**
baz=40,SNR=104
CMSA Cobar Meteorol 40.51 239 P **P 09 59 35.4 -1.3**
baz=40,SNR=130
MANU Manus Island 40.71 285 *e*P **P 09 59 39.8 +1.3**
comp=Z,207nm,1.4s
MANU LR LR
comp=Z,10µm,19.0s
QLP Quilpie 40.84 247 P **P 09 59 37.9 -1.6**
baz=41,SNR=35
PTCN Pitcairn Islan 41.79 111 PFAKE 10 00 00.0 +13
PTCN LR LR
comp=Z,4µm,19.0s
COEN Coen 41.85 266 P **P 09 59 48.4 +0.5**
baz=42,SNR=26
COEN Coen 41.85 266 *e*P **P 09 59 48.2 +0.3**
comp=Z,518nm,1.4s
COEN LR LR
comp=Z,4µm,20.0s
TOO Toolangi 42.45 231 P **P 09 59 51.5 -1.1**
baz=42,SNR=56
MOO Moorlands 43.20 223 P **P 09 59 58.2 -0.3**
baz=33,SNR=12
TAU Tasmania Unive 43.33 223 *e*P **P 09 59 58.4 -1.1**
TAU pmax pmax
comp=Z,106nm,0.9s
TAU MLR MLR
comp=Z,38µm,18.0s
TAU Tasmania Unive 43.33 223 *e*P **P 09 59 58.4 -1.1**
comp=Z,106nm,0.9s
TAU LR LR
comp=Z,38µm,18.0s
MIDW Midway 43.36 355 *e*P **P 10 00 00.4 +0.5**
comp=Z,2µm,1.5s
MIDW LR LR
comp=Z,28µm,20.0s
STKA Stephens Creek 43.99 240 P **P 10 00 04.3 -0.7**
comp=Z,216nm,1.1s,baz=75,slow=9.0,SNR=89
STKA LR LR 10 15 55.4
comp=Z,15µm,21.9s,baz=77,slow=33
STKA Stephens Creek 43.99 240 P **P 10 00 04.8 -0.2**
baz=44,SNR=82
STKA Stephens Creek 43.99 240 *e*P **P 10 00 04.9 -0.2**
STKA pmax pmax
comp=Z,103nm,1.3s
STKA Stephens Creek 43.99 240 *e*P **P 10 00 04.9 -0.2**
comp=Z,103nm,1.3s
MCQ Macquarie Isla 44.62 203 *e*P **P 10 00 10.9 +1.2**
MCQ pmax pmax
comp=Z,534nm,1.4s
MCQ MLR MLR
comp=Z,17µm,20.0s
MCQ Macquarie Isla 44.62 203 *e*P **P 10 00 10.9 +1.2**
comp=Z,534nm,1.4s
MCQ LR LR
comp=Z,17µm,20.0s
QIS Mount Isa 44.77 256 P **P 10 00 10.3 -1.2**
baz=45,SNR=35
ARPS Mount Arapiles 44.97 233 P **P 10 00 12.2 -0.5**
baz=45,SNR=8.6
HTT Hallett 46.50 238 P **P 10 00 24.1 -0.9**
baz=46,SNR=46
JAY Jayapura 46.81 281 P **P 10 00 26.3 -1.4**
GENI Genyem 47.30 281 P **P 10 00 30.7 -0.7**
BBOO Buckleboo 48.76 240 P **P 10 00 41.9 -0.6**
baz=49,SNR=64
BBOO Buckleboo 48.76 240 *e*P **P 10 00 42.0 -0.6**
comp=Z,516nm,1.3s
BBOO LR LR
comp=Z,16µm,21.0s
SMPI Sarmi 48.87 281 P **P 10 00 43.2 -0.4**
comp=Z,99nm,1.2s,comp=Z,3µm
WR0 Warramunga Arr 49.55 257 PFAKE 10 01 00.0 +11
WR0 LR LR
comp=Z,10µm,18.0s
WR9 Warramunga Arr 49.57 257 PFAKE 10 01 00.0 +11
WR9 LR LR
comp=Z,10µm,19.0s
WR8 Warramunga Arr 49.59 257 PFAKE 10 01 00.0 +11
WR8 LR LR
comp=Z,11µm,19.0s
WR7 Warramunga Arr 49.61 257 PFAKE 10 01 00.0 +11
WR7 LR LR
comp=Z,11µm,18.0s
WR6 Warramunga Arr 49.63 257 PFAKE 10 01 00.0 +11
WR6 LR LR
comp=Z,11µm,19.0s
WR5 Warramunga Arr 49.65 257 PFAKE 10 01 00.0 +10
WR5 LR LR
comp=Z,11µm,18.0s
WR4 Warramunga Arr 49.67 257 PFAKE 10 01 00.0 +10
WR4 LR LR
comp=Z,10µm,18.0s
WR3 Warramunga Arr 49.69 257 PFAKE 10 01 00.0 +10
WR3 LR LR
comp=Z,11µm,19.0s
WB0 Warramunga Arr 49.70 257 PFAKE 10 01 00.0 +10
WB0 LR LR
comp=Z,11µm,19.0s
WB9 Warramunga Arr 49.70 257 PFAKE 10 01 00.0 +10
WB9 LR LR
comp=Z,24µm,19.0s
WB8 Warramunga Arr 49.70 257 PFAKE 10 01 00.0 +10
WB8 LR LR
comp=Z,12µm,19.0s
WC2 Warramunga Arr 49.71 257 PFAKE 10 01 00.0 +10
WC2 LR LR
comp=Z,12µm,19.0s
WR2 Warramunga Arr 49.71 257 PFAKE 10 01 00.0 +10
WR2 LR LR
comp=Z,10µm,19.0s
WB5 Warramunga Arr 49.72 257 PFAKE 10 01 00.0 +10
WB5 LR LR
comp=Z,12µm,19.0s
WB6 Warramunga Arr 49.72 257 PFAKE 10 01 00.0 +10
WB6 LR LR
comp=Z,12µm,19.0s
WB4 Warramunga Arr 49.72 257 PFAKE 10 01 00.0 +10
WB4 LR LR
comp=Z,11µm,19.0s
WB3 Warramunga Arr 49.72 257 PFAKE 10 01 00.0 +10
WB3 LR LR
comp=Z,11µm,19.0s
WB2 Warramunga Arr 49.73 257 *e*P **P 10 00 48.7 -1.4**
comp=Z,804nm,1.5s
WB2 *e*P **P 10 00 48.8 -1.3**
WB2 *e*S **S 10 07 55.5 -1.7**
WB2 LR LR
comp=Z,12µm,20.0s
WRAB Tennant Creek 49.73 257 *ce*P **P 10 00 48.7 -1.4**
WRAB pmax pmax
comp=Z,1µm,1.4s
WRAB Tennant Creek 49.73 257 *e*P **P 10 00 48.6 -1.5**
comp=Z,792nm,1.5s
WRAB LR LR
comp=Z,12µm,20.0s
WC4 Warramunga Arr 49.73 257 PFAKE 10 01 00.0 +10
WC4 LR LR
comp=Z,11µm,20.0s
WR1 Warramunga Arr 49.74 257 PFAKE 10 01 00.0 +10
WR1 LR LR
comp=Z,11µm,19.0s
WRA Warramunga Arr 49.74 257 P **P 10 00 48.5 -1.7**
comp=Z,169nm,0.9s,baz=96,slow=6.3,SNR=468
WRA S **S 10 07 51.9 -5.5**
comp=Z,3.2nm,1.0s,baz=97,slow=13,SNR=5.4
WRA LR LR 10 21 59.6
comp=Z,10µm,18.8s,baz=95,slow=36
WC1 Warramunga Arr 49.74 257 PFAKE 10 01 00.0 +10
WC1 LR LR
comp=Z,9µm,19.0s
AS01 Alice Springs 49.98 252 *e*P **P 10 00 51.1 -0.9**
AS31 Alice Springs 50.02 252 *e*P **P 10 00 51.0 -1.4**
comp=Z,131nm,0.9s
AS31 LR LR
comp=Z,300nm,22.0s
ASAR Alice Springs 50.02 252 P **P 10 00 50.6 -1.7**
comp=Z,408nm,0.9s,baz=84,slow=8.5,SNR=669
ASAR S **S 10 07 54.0 -7.3**
comp=Z,2.9nm,1.0s,baz=87,slow=15,SNR=5.0
ASAR LR LR 10 20 43.6
comp=Z,16µm,21.7s,baz=94,slow=35
GUMO Guam 50.13 303 *e*P **P 10 00 53.6 +0.5**
GUMO pmax pmax
comp=Z,621nm,1.5s
GUMO MLR MLR
comp=Z,5µm,21.0s
GUMO Guam 50.13 303 *e*P **P 10 00 53.6 +0.5**
comp=Z,621nm,1.5s
GUMO LR LR
comp=Z,5µm,21.0s
KDU Kakadu 52.34 266 P **P 10 01 09.2 -0.5**
baz=52,SNR=9.7
MTN Manton Dam 53.60 265 P **P 10 01 17.8 -1.3**
baz=54,SNR=33
MTN Manton Dam 53.60 265 *e*P **P 10 01 18.0 -1.1**
comp=Z,133nm,0.9s
MTN LR LR
comp=Z,7µm,22.0s
FAKI Fak Fak 54.75 277 PFAKE 10 01 40.0 +12
FAKI LR LR
comp=Z,3µm,19.0s
WRKA Warakurna 55.11 250 P **P 10 01 28.4 -1.6**
baz=55,SNR=368
FORT Forrest 55.35 243 P **P 10 01 30.4 -1.2**
baz=55,SNR=18
FORT Forrest 55.35 243 *e*P **P 10 01 30.1 -1.6**
comp=Z,5µm,1.3s
KNRA Kununurra 55.44 261 P **P 10 01 31.5 -1.0**
baz=55,SNR=18
SWI Sorong 56.30 279 P **P 10 01 36.9 -1.7**
FITZ Fitzroy Crossi 58.10 258 P **P 10 01 50.8 -0.5**
baz=58,SNR=30
FITZ Fitzroy Crossi 58.10 258 *e*P **P 10 01 50.5 -0.8**
comp=Z,94nm,1.3s
AAI Ambon 58.43 275 P **P 10 01 54.7 +1.0**
NLAI Namlea 59.60 275 P **P 10 02 00.7 -1.1**
RPN Rapa Nui 60.48 113 PFAKE 10 02 20.0 +12
RPN LR LR
comp=Z,3µm,18.0s
KMBL Kambalda 60.66 242 P **P 10 02 07.3 -1.5**
baz=61
SOEI Soe 60.79 267 P **P 10 02 09.8 -0.3**
SOEI Soe 60.79 267 *e*P **P 10 02 10.3 +0.3**
comp=Z,781nm,1.5s
SOEI LR LR
comp=Z,5µm,22.0s
SANI Sanana 61.00 276 P **P 10 02 10.6 -0.7**
BATI Baumata 61.28 267 P **P 10 02 09.5 -3.8**
MMRI Maumere 62.98 268 PFAKE 10 02 40.0 +15
MMRI LR LR
comp=Z,3µm,21.0s
MBWA Marble Bar 63.26 254 *e*P **P 10 02 25.2 -1.3**
comp=Z,125nm,1.0s
MBWA LR LR

comp=Z,12µm,19.0s
MBWA Marble Bar 63.26 254 P **P** **10 02 25.3 -1.1**
SNR=13
MBWA Marble Bar 63.26 254 P **P** **10 02 25.3 -1.1**
SNR=13
SBA Scott Base 63.39 185 *e*P **P** **10 02 28.7 +2.4**
SBA pmax pmax
comp=Z,476nm,1.3s
SBA MLR MLR
comp=Z,9µm,22.0s
SBA Scott Base 63.39 185 *e*P **P** **10 02 28.7 +2.4**
comp=Z,476nm,1.3s
SBA LR LR
comp=Z,9µm,22.0s
VNDA Vanda 63.51 186 P **P** **10 02 28.6 +1.5**
comp=Z,123nm,1.1s,baz=9.1,slow=6.6,SNR=273
VNDA LR LR 10 23 00.2
comp=Z,4µm,21.5s,baz=22,slow=29
VNDA PKPPKP **P'P'df** **10 31 24.2 -1.9**
comp=Z,0.9nm,1.0s,baz=72,slow=3.2,SNR=3.6
VNDA Vanda 63.51 186 *e*P **P** **10 02 28.7 +1.5**
VNDA pmax pmax
comp=Z,249nm,1.1s
VNDA Vanda 63.51 186 *e*P **P** **10 02 28.6 +1.5**
comp=Z,249nm,1.1s
KDI Kendari 63.73 273 P **P** **10 02 30.1 +0.5**
MEEK Meekatharra 63.74 248 P **P** **10 02 28.4 -1.1**
baz=64,SNR=21
KLBR Kellerberrin 64.18 242 P **P** **10 02 31.3 -1.1**
baz=64,SNR=29
DAV Davao City (W) 64.25 286[1] *e*P **P** **10 02 30.2 -2.8**
DAV Davao City (W) 64.25 286 PFAKE 10 02 40.0 +6.9
DAV LR LR
comp=Z,5µm,18.0s
LUWI Luwuk 64.36 276 PFAKE 10 02 50.0 +16
LUWI LR LR
comp=Z,3µm,22.0s
NWAO Narrogin (SRO) 64.57 241 P **P** **10 02 34.5 -0.3**
baz=64,SNR=12
NWAO P **P** **10 02 34.5 -0.3**
baz=64,SNR=12
NWAO Narrogin (SRO) 64.57 241 *e*P **P** **10 02 34.6 -0.3**
NWAO pmax pmax
comp=Z,524nm,1.6s
NWAO MLR MLR
comp=Z,17µm,21.0s
NWAO Narrogin (SRO) 64.57 241 *e*P **P** **10 02 34.6 -0.3**
comp=Z,524nm,1.6s
NWAO LR LR
comp=Z,17µm,21.0s
NWAO Narrogin (SRO) 64.57 241 P **P** **10 02 34.0 -0.9**
SNR=6.9
NWAO Narrogin (SRO) 64.57 241 P **P** **10 02 34.0 -0.9**
SNR=6.9
RKGY Rocky Gully 64.73 239 P **P** **10 02 36.9 +1.0**
baz=65,SNR=6.1
BLDU Ballidu 65.13 243 P **P** **10 02 37.6 -1.0**
baz=65,SNR=6.5
JHJ2 Mitsune 65.53 318 *e*P **P** **10 02 41.3 +0.4**
comp=Z,965nm,1.2s
JHJ2 LR LR
comp=Z,8µm,22.0s
MRSI Marisa 65.59 278 P **P** **10 02 42.4 +0.6**
MORW Morawa 65.82 245 P **P** **10 02 42.2 -0.9**
baz=66,SNR=8.3
SPSI Sidrap Palu 66.47 272 P **P** **10 02 44.9 -2.6**
TTSI Tana Toraja 66.66 273 P **P** **10 02 51.2 +2.5**
ATKA Atka Island 67.17 360 *e*P **P** **10 02 51.4 +0.4**
comp=Z,1µm,1.5s
ATKA LR LR
comp=Z,15µm,22.0s
PCI Palu 67.22 276 P **P** **10 02 53.1 +0.9**
PLAI Plampang 67.24 267 P **P** **10 02 50.6 -1.8**
NIKH Nikolski High 68.06 3 *e*P **P** **10 02 56.8 +0.2**
comp=Z,529nm,1.3s
NIKH LR LR
comp=Z,7µm,22.0s
TWSI Taliwang, Sumb 68.13 267 P **P** **10 02 54.9 -3.0**
GIRL Giralia 68.14 251 P **P** **10 02 58.2 +0.3**
baz=68,SNR=7.2
SMY Shemya 68.53 352 *e*P **P** **10 02 59.7 +0.1**
SMY pmax pmax
comp=Z,762nm,1.5s
SMY MLR MLR
comp=Z,28µm,21.0s
SMY Shemya 68.53 352 *e*P **P** **10 02 59.7 +0.1**
comp=Z,762nm,1.5s
SMY LR LR
comp=Z,28µm,21.0s
MJAR Matsushiro Arr 68.73 320 P **P** **10 03 01.2 0.0**
comp=Z,102nm,1.1s,baz=154,slow=6.1,SNR=87
MJAR LR LR 10 27 42.0
comp=Z,11µm,21.6s,baz=130,slow=31
MAJO Matsushiro 68.73 320*d i*P **P** **10 03 02.0 +0.7**
MAJO pmax pmax
comp=Z,1µm,1.4s
MAJO Matsushiro 68.73 320 *e*P **P** **10 03 01.9 +0.7**
comp=Z,223nm,1.3s
MAJO LR LR
comp=Z,16µm,22.0s
MAT Matsushiro 68.73 320 P **P** **10 03 00.5 -0.8**
MAT S **S** **10 12 03.4 +1.1**
MJB9 Matsu-Tunnel 68.73 320 *e*P **P** **10 03 02.0 +0.7**
comp=Z,57nm,1.3s
MJB9 LR LR
comp=Z,4µm,22.0s
INU Inuyama 68.74 318 *e*P **P** **10 03 01.3 0.0**
comp=Z,173nm,1.4s
INU LR LR
comp=Z,5µm,20.0s
UNV Unalaska Valle 69.08 4 *e*P **P** **10 03 02.9 0.0**
comp=Z,455nm,1.5s
UNV LR LR
comp=Z,8µm,22.0s
AKUT Akutan 69.42 5 *e*P **P** **10 03 04.8 -0.3**
comp=Z,1µm,1.6s
AKUT LR LR
comp=Z,6µm,20.0s
ERM Erimo 69.56 327 *e*P **P** **10 03 06.9 +0.7**
ERM pmax pmax
comp=Z,71nm,1.4s
ERM Erimo 69.56 327 PFAKE 10 03 20.0 +14
ERM LR LR
comp=Z,13µm,22.0s
KUR Kuril'sk 69.62 332*d i*P **P** **10 03 06.6 +0.1**
KUR *e*PPP PPP 10 07 23.4
KUR *i* S **S** **10 12 15.2 +2.8**
KUR *e*SS **SS** **10 16 45.2 +4.0**
KUR pmax pmax
comp=Z,3µm,3.6s
KUR pmax pmax
comp=E,3µm,4.0s
KUR pmax pmax
comp=N,2µm,3.1s
KUR pmax pmax
comp=N,186nm,1.7s
KUR pmax pmax
comp=E,232nm,1.7s
KUR pmax pmax
comp=Z,486nm,1.7s
YUK Yuzh-Kuril'sk 69.65 330 *e*P **P** **10 03 06.1 -0.7**
IGBI Denpasar 69.78 266 P **P** **10 03 07.8 -0.4**
SRBI Singaraja 69.88 267 P **P** **10 03 09.5 +0.6**
JOW Kunigami 70.28 306 *e*P **P** **10 03 12.1 +1.1**
comp=Z,153nm,1.2s
JOW LR LR
comp=Z,11µm,22.0s
MYLDM Lahad Datu 70.28 281 *e*P **P** **10 03 12.1 +0.9**
comp=Z,236nm,1.4s
SNCC San Nicolas Is 70.58 46 P **P** **10 03 14.1 +1.3**
baz=236
SNCC San Nicolas Is 70.58 46 *e*P **P** **10 03 14.0 +1.3**
comp=Z,185nm,1.0s
SNCC LR LR
comp=Z,18µm,20.0s
JAGI Jajag, Banyuwa 70.82 266 P **P** **10 03 12.5 -2.1**
JAGI Jajag, Banyuwa 70.82 266 *e*P **P** **10 03 12.7 -1.9**
comp=Z,123nm,1.0s
JAGI LR LR
comp=Z,3µm,19.0s
SKR Severo-Kuril's 70.83 340*d i*P **P** **10 03 13.9 +0.1**
SKR *e*S **S** **10 12 28.9 +2.6**
SKR *e*PS **PnS** **10 13 05.5 +7.9**
SKR pmax pmax
comp=Z,169nm,1.0s
SKR pmax pmax
comp=Z,2µm,11.4s
SKR pmax pmax
comp=Z,3µm,13.0s
SKR MLR MLR
comp=Z,3µm,14.0s
ABJI Asem Bagus 70.89 267 P **P** **10 03 13.6 -1.4**
BSC Santa Cruz Isl 70.92 45 P **P** **10 03 15.8 +1.0**
baz=236,SNR=7.6
SCI San Clemente I 71.11 47 P **P** **10 03 17.0 +1.0**
baz=237,SNR=6.0
SBC Santa Barbara 71.12 45 P **P** **10 03 16.9 +1.0**
baz=235
SDPT Sand Point 71.19 8 *e*P **P** **10 03 15.3 -0.6**
comp=Z,569nm,1.2s
SDPT LR LR
comp=Z,15µm,21.0s
MCCM Marconi Confer 71.24 40 *e*P **P** **10 03 17.3 +0.7**
comp=Z,414nm,1.4s
MCCM LR LR
comp=Z,16µm,20.0s
FRP Fremont Peak 71.28 42 *e*P **P** **10 03 17.1 +0.1**
FRP Fremont Peak 71.28 42 *e*P **P** **10 03 17.1 +0.1**
SAO San Andreas Ge 71.31 42 *e*P **P** **10 03 17.7 +0.6**
SAO pmax pmax
comp=Z,269nm,1.1s
SAO MLR MLR
comp=Z,17µm,20.0s
SAO San Andreas Ge 71.31 42 *e*P **P** **10 03 17.7 +0.6**
comp=Z,269nm,1.1s
SAO LR LR
comp=Z,17µm,20.0s
ASAJ Asahikawa 71.33 328 *e*P **P** **10 03 18.2 +1.2**
comp=Z,34nm,1.0s
BLG Laguna Peak, P 71.38 45 P **P** **10 03 18.4 +0.8**
baz=236,SNR=9.1
PMPB Monarch Peak 71.41 43 *e*P **P** **10 03 19.0 +1.2**
comp=Z,885nm,1.6s
PMPB LR LR
comp=Z,22µm,20.0s
SMMC Simmler 71.42 44 P **P** **10 03 18.9 +1.1**
baz=235
CIS Catalina Islan 71.44 46 P **P** **10 03 18.8 +0.9**
baz=237,SNR=9.5
PAGB Antelope Grade 71.49 43 *e*P **P** **10 03 19.2 +1.0**
comp=Z,770nm,1.9s
PAGB LR LR
comp=Z,24µm,21.0s
BLJI Banyuglugur 71.52 267 P **P** **10 03 17.2 -1.6**
GMJI Gunukmas 71.54 266 P **P** **10 03 19.6 +0.6**
JNU Nakatsue 71.59 313 *e*P **P** **10 03 19.2 +0.4**
comp=Z,40nm,1.0s
HOPS Hopland Field 71.64 39 *e*P **P** **10 03 19.7 +0.7**
comp=Z,724nm,1.3s
HOPS LR LR
comp=Z,20µm,21.0s
FMP Fort Macarthur 71.69 46 P **P** **10 03 20.3 +0.9**
baz=237,SNR=5.9
GDXM Geysers 71.70 40 PFAKE 10 03 30.0 +11
GDXM LR LR
comp=Z,22µm,18.0s
KCPM Cahto Peak 71.77 38 *e*P **P** **10 03 21.0 +1.1**
comp=Z,642nm,1.4s
KCPM LR LR
comp=Z,21µm,20.0s
OSI Osito Audit: C 71.89 45 P **P** **10 03 21.5 +0.8**
baz=236,SNR=20
OSI Osito Audit: C 71.89 45 *e*P **P** **10 03 21.5 +0.8**
comp=Z,360nm,1.4s
OSI LR LR
comp=Z,21µm,20.0s
DECC Green Verdugo 71.96 46 P **P** **10 03 21.8 +0.8**
baz=236,SNR=7.7
MTKI Muara Teweh, K 71.96 274 P **P** **10 03 22.0 +0.5**
PASC Pasadena Art C 72.02 46 *e*P **P** **10 03 21.8 +0.4**
comp=Z,250nm,1.3s
PASC LR LR
comp=Z,24µm,21.0s
KMRM Mail Ridge 72.03 38 *e*P **P** **10 03 22.5 +1.1**
comp=Z,889nm,1.1s
KMRM LR LR
comp=Z,22µm,20.0s
109C Camp Elliot, M 72.08 47 P **P** **10 03 22.5 +0.7**
baz=238,SNR=28
PET Petropavlovsk 72.09 343κ *i*P **P** **10 03 21.3 0.0**
PET *i* S **S** **10 12 41.6 +0.8**
PET pmax pmax
comp=Z,81nm,1.4s
PET pmax pmax
comp=Z,1µm,15.9s
PET MLR MLR
comp=Z,6µm,19.0s
PET MLR MLR
comp=Z,6µm,18.0s
PET Petropavlovsk 72.09 343 *e*P **P** **10 03 21.4 0.0**
comp=Z,566nm,2.0s
PET LR LR
comp=Z,6µm,19.0s
ARVC Arvin 72.11 45 P **P** **10 03 22.8 +0.9**
baz=236,SNR=51
MWC Mount Wilson 72.13 46 *e*P **P** **10 03 22.4 +0.1**
MWC pmax pmax
comp=Z,359nm,1.4s
MWC MLR MLR
comp=Z,23µm,20.0s
MWC Mount Wilson 72.13 46 *e*P **P** **10 03 22.4 +0.1**
comp=Z,359nm,1.4s
MWC LR LR
comp=Z,23µm,20.0s
SPIA Saint Paul Isl 72.20 2 PFAKE 10 03 30.0 +8.1
SPIA LR LR
comp=Z,11µm,20.0s
JCC Jacoby Creek, 72.22 37 *e*P **P** **10 03 22.4 0.0**
comp=Z,655nm,1.7s
JCC LR LR
comp=Z,18µm,22.0s
BAR Barrett 72.28 48 *e*P **P** **10 03 23.4 +0.4**
comp=Z,320nm,1.8s
BAR LR LR
comp=Z,15µm,20.0s
VES Vestal, Richgr 72.33 44 P **P** **10 03 23.9 +0.7**
baz=235,SNR=172
CHGN Chignik 72.40 9 *e*P **P** **10 03 24.0 +0.9**
comp=Z,356nm,1.1s
CHGN LR LR
comp=Z,15µm,20.0s
MURC Murrieta 72.40 47 P **P** **10 03 24.4 +0.6**
baz=237,SNR=51
BFSC Mount Baldy Ra 72.42 46 P **P** **10 03 24.4 +0.4**
baz=237,SNR=17
KHMM Horse Mountain 72.43 37 *e*P **P** **10 03 24.9 +1.0**
comp=Z,416nm,1.2s
KHMM LR LR
comp=Z,19µm,21.0s
PEA0 Petropavlovsk- 72.44 342 *e*P **P** **10 03 23.7 +0.2**
PEA0B Petropavlovsk- 72.44 342 *e*P **P** **10 03 23.9 +0.5**
comp=Z,958nm,1.9s
PEA0B LR LR
comp=Z,6µm,22.0s
PETK Petropavlovsk- 72.44 342 P **P** **10 03 23.5 0.0**
comp=Z,108nm,0.7s,baz=114,slow=7.6,SNR=92
PETK PP **PP** **10 06 02.0 -3.1**
comp=Z,23nm,1.2s,baz=153,slow=9.7,SNR=2.7
PETK LR LR 10 28 03.5
comp=Z,5µm,21.9s,baz=154,slow=30
RCTC Rector, Farmer 72.49 43 P **P** **10 03 25.0 +0.8**
baz=235,SNR=36
MONP Monument Peak, 72.57 48 P **P** **10 03 25.6 +0.6**
baz=238,SNR=46
ISA Isabella, Lake 72.64 44 P **P** **10 03 26.0 +0.8**
baz=236,SNR=44
ISA Isabella, Lake 72.64 44 *e*P **P** **10 03 25.2 0.0**
ISA pmax pmax
comp=Z,387nm,1.4s
ISA MLR MLR
comp=Z,21µm,21.0s
ISA Isabella, Lake 72.64 44 *e*P **P** **10 03 25.2 0.0**
comp=Z,387nm,1.4s
ISA LR LR
comp=Z,21µm,21.0s
IKP In-Ko-Pah, Jac 72.67 48 P **P** **10 03 26.2 +0.8**
baz=238,SNR=34
KKM Kota Kinabalu 72.70 281 *e*P **P** **10 03 24.1 -2.0**
comp=Z,294nm,1.8s
KKM LR LR
comp=Z,4µm,22.0s
KRMB Red Mountain 72.74 37 *e*P **P** **10 03 26.1 +0.5**
comp=Z,776nm,1.5s
KRMB LR LR
comp=Z,16µm,22.0s
CMB Columbia Colle 72.75 41 *e*P **P** **10 03 25.9 +0.2**
CMB pmax pmax
comp=Z,246nm,1.2s
CMB MLR MLR
comp=Z,18µm,22.0s
CMB Columbia Colle 72.75 41 *e*P **P** **10 03 25.9 +0.2**
comp=Z,246nm,1.2s
CMB LR LR
comp=Z,18µm,22.0s
SZP Santa 72.76 294 PFAKE 10 03 40.0 +14
SZP LR LR
comp=Z,5µm,22.0s
AFDM Forest Hills D 72.92 40 *e*P **P** **10 03 26.9 +0.2**
comp=Z,272nm,1.2s
AFDM LR LR
comp=Z,15µm,20.0s
PFO Pinyon Flats O 72.92 47 P **P** **10 03 27.6 +0.7**
baz=238,SNR=47
PFO Pinyon Flats O 72.92 47 *e*P **P** **10 03 27.1 +0.1**
PFO pmax pmax
comp=Z,296nm,1.5s
PFO MLR MLR
comp=Z,25µm,20.0s
PFO Pinyon Flats O 72.92 47 *e*P **P** **10 03 27.1 +0.1**
comp=Z,296nm,1.5s
PFO LR LR
comp=Z,25µm,20.0s
TPFO Pinon Flats 72.92 47 P **P** **10 03 27.6 +0.6**
baz=238,SNR=51
BBRC Big Bear Solar 72.95 46 P **P** **10 03 28.0 +0.7**
baz=237,SNR=11
WDC Whiskeytown Da 72.95 38 *e*P **P** **10 03 27.3 +0.5**
WDC pmax pmax
comp=Z,632nm,1.4s
WDC MLR MLR
comp=Z,19µm,20.0s
WDC Whiskeytown Da 72.95 38 *e*P **P** **10 03 27.3 +0.5**
comp=Z,632nm,1.4s
WDC LR LR
comp=Z,19µm,20.0s
ORV Oroville 72.95 40 *e*P **P** **10 03 27.0 +0.2**
ORV pmax pmax
comp=Z,312nm,1.4s
ORV MLR MLR
comp=Z,12µm,21.0s
ORV Oroville 72.95 40 *e*P **P** **10 03 27.0 +0.2**
comp=Z,312nm,1.4s
ORV LR LR
comp=Z,12µm,21.0s
SRIG Santa Rosalia 72.96 55 *e*P **P** **10 03 27.5 +0.4**
comp=Z,333nm,1.4s
SRIG LR LR
comp=Z,10µm,21.0s
KBO Bosley Butte 73.00 36 *e*P **P** **10 03 28.6 +1.4**
comp=Z,939nm,1.7s
KBO LR LR
comp=Z,16µm,20.0s
SWSC Sam W. Stewart 73.04 48 P **P** **10 03 28.1 +0.6**
baz=238,SNR=34
LRMC Laurel Mtn Rad 73.08 45 P **P** **10 03 28.5 +0.7**
baz=236,SNR=102
N02D Trinity Center 73.10 38 P **P** **10 03 28.9 +1.1**
baz=231,SNR=173
PWJI Pagerwojo 73.18 266 P **P** **10 03 26.9 -1.8**
SLBS Sierra La Lagu 73.20 59 *e*P **P** **10 03 29.5 +0.7**
comp=Z,245nm,1.4s
SLBS LR LR
comp=Z,9µm,20.0s
O03D Paynes Creek 73.22 39 P **P** **10 03 29.2 +0.7**
baz=232,SNR=321
O03D Paynes Creek 73.22 39 *e*P **P** **10 03 29.0 +0.5**
RRX Edison Barstow 73.22 46 P **P** **10 03 29.2 +0.6**
baz=237,SNR=25
M02C Callahan 73.27 37 P **P** **10 03 30.1 +1.3**
baz=231,SNR=187
YSS Yuzh-Sakhalins 73.28 330κ *i*P **P** **10 03 29.9 +1.3**
YSS *i* 10 03 39.9
YSS *e*S **S** **10 12 55.4 +0.8**
YSS pmax pmax
comp=Z,130nm,0.9s
YSS pmax pmax
comp=Z,2µm,3.4s
YSS smax smax
comp=N,4µm,10.0s
YSS Yuzh-Sakhalins 73.28 330 *e*P **P** **10 03 29.6 +1.1**
comp=N,222nm,1.2s
YSS LR LR
comp=Z,4µm,22.0s
L02D Cave Junction, 73.32 36 P **P** **10 03 30.2 +1.2**
baz=230,SNR=72
CWC Cottonwood Cre 73.34 44 P **P** **10 03 30.3 +0.8**
baz=236
KEBM Edson Butte 73.36 36 *e*P **P** **10 03 30.5 +1.2**
comp=Z,819nm,1.4s
KEBM LR LR
comp=Z,11µm,22.0s
YOJ Yonaguni jima 73.40 302 PFAKE 10 03 40.0 +10
YOJ LR LR
comp=Z,5µm,22.0s
BELC Belle Mtn. Jos 73.45 47 P **P** **10 03 30.8 +0.6**
baz=238,SNR=71
MLAC Mammoth, Mammo 73.51 43 P **P** **10 03 31.1 +0.6**
baz=235,SNR=55
MPMC Manual Prospec 73.53 45 P **P** **10 03 31.3 +0.7**
baz=236,SNR=219
YBH Yreka Blue Hor 73.56 37 *e*P **P** **10 03 31.1 +0.6**
YBH pmax pmax
comp=Z,443nm,1.3s
YBH MLR MLR
comp=Z,16µm,22.0s
YBH Yreka Blue Hor 73.56 37 *e*P **P** **10 03 31.1 +0.6**
comp=Z,443nm,1.3s
YBH LR LR
comp=Z,16µm,22.0s
DAC Darwin (Calif) 73.58 44 *e*P **P** **10 03 31.1 +0.2**
DAC pmax pmax
comp=Z,224nm,1.5s
DAC MLR MLR
comp=Z,31µm,21.0s
DAC Darwin (Calif) 73.58 44 *e*P **P** **10 03 31.1 +0.2**
comp=Z,224nm,1.5s
DAC LR LR
comp=Z,31µm,21.0s
GSC Goldstone, Bar 73.58 45 P **P** **10 03 31.4 +0.7**
baz=237,SNR=110
GSC Goldstone, Bar 73.58 45 *e*P **P** **10 03 31.0 +0.2**
GSC pmax pmax
comp=Z,341nm,1.4s
GSC MLR MLR
comp=Z,23µm,20.0s
GSC Goldstone, Bar 73.58 45 *e*P **P** **10 03 31.0 +0.2**
comp=Z,341nm,1.4s
GSC LR LR
comp=Z,23µm,20.0s
TIN Tinemaha, Big 73.59 43 P **P** **10 03 31.8 +1.0**
baz=236,SNR=22
WAKR Walker 73.63 41 *e*P **P** **10 03 31.3 +0.2**
comp=Z,803nm,1.6s
WAKR LR LR
comp=Z,25µm,22.0s
HEC Hector,Ludlow 73.66 46 P **P** **10 03 31.7 +0.5**
baz=238,SNR=21
BC3 Big Chuckawall 73.66 48 P **P** **10 03 32.1 +0.8**
baz=238,SNR=83
NGJI Ngawi 73.66 267 P **P** **10 03 32.4 +0.8**
PCJI Pacitan 73.74 266 P **P** **10 03 31.4 -0.7**
GLA Glamis 73.80 48 P **P** **10 03 33.0 +0.9**
baz=239,SNR=76
GLA Glamis 73.80 48 *e*P **P** **10 03 32.2 +0.2**
GLA pmax pmax
comp=Z,406nm,1.4s
GLA MLR MLR
comp=Z,16µm,20.0s
GLA Glamis 73.80 48 *e*P **P** **10 03 32.2 +0.2**
comp=Z,406nm,1.4s
GLA LR LR
comp=Z,16µm,20.0s
PNTR Pine Nut 73.86 41 *e*P **P** **10 03 33.0 +0.5**
comp=Z,503nm,1.2s
PNTR LR LR
comp=Z,20µm,20.0s
TVH3 East Aurora ar 73.94 42 *e*P **P** **10 03 33.4 +0.4**
comp=Z,246nm,1.4s
TVH3 LR LR
comp=Z,11µm,21.0s
HUMO Hull Mountain 73.97 36 *e*P **P** **10 03 33.8 +1.0**
comp=Z,504nm,1.4s

HUMO LR LR
comp=Z,16µm,21.0s
TVH2 Borealis Mine 73.99 42 *e*P **P 10 03 33.7 +0.4**
comp=Z,113nm,1.1s
TVH2 LR LR
comp=Z,12µm,22.0s
TVH1 TV Hill, Hawth 74.03 42 *e*P **P 10 03 34.0 +0.3**
comp=Z,720nm,1.8s
TVH1 LR LR
comp=Z,17µm,22.0s
YERR Yerington 74.03 41 *e*P **P 10 03 34.1 +0.7**
comp=Z,682nm,1.6s
YERR LR LR
comp=Z,19µm,21.0s
WOJI Wonogiri, Jawa 74.07 266 P **P 10 03 32.6 -1.4**
GMRC Granite Mounta 74.11 46 P **P 10 03 34.4 +0.5**
baz=238,SNR=105
M04C Macdoel 74.11 38 P **P 10 03 34.7 +0.9**
baz=232,SNR=289
GRAC Grapevine Rang 74.13 44 P **P 10 03 34.9 +1.0**
baz=236,SNR=48
IRM Iron Mountain 74.14 47 P **P 10 03 34.7 +0.7**
baz=239,SNR=99
OHAK Old Harbor 74.14 11 *e*P **P 10 03 33.8 +0.4**
comp=Z,262nm,1.4s
OHAK LR LR
comp=Z,23µm,22.0s
FURC Furnace Creek, 74.18 44 P **P 10 03 35.0 +0.9**
baz=237,SNR=29
TUQ Turquoise Moun 74.27 46 P **P 10 03 35.5 +0.7**
baz=238,SNR=128
SHOC Shoshone, Teco 74.27 45 P **P 10 03 35.5 +0.8**
baz=237,SNR=30
TWG Pinlang 74.32 299 *e*P **P 10 03 34.9 -0.3**
comp=Z,207nm,1.2s
TWG LR LR
comp=Z,13µm,22.0s
PAHR Pah Rah Range 74.36 41 *e*P **P 10 03 35.7 +0.4**
comp=Z,515nm,1.4s
PAHR LR LR
comp=Z,15µm,20.0s
YULB Yu-li 74.36 300 *e*P **P 10 03 35.3 -0.2**
comp=Z,130nm,1.8s
YULB LR LR
comp=Z,2µm,22.0s
Y12C Blythe 74.37 48 P **P 10 03 36.1 +0.8**
baz=239,SNR=88
Y12C Blythe 74.37 48 *e*P **P 10 03 35.8 +0.5**
comp=Z,380nm,1.4s
Y12C LR LR
comp=Z,20µm,20.0s
113A Mohawk Valley, 74.42 49 *e*P **P 10 03 36.3 +0.7**
comp=Z,591nm,1.7s
113A LR LR
comp=Z,17µm,20.0s
I03D Drain, OR 74.44 35 P **P 10 03 36.5 +1.1**
baz=230,SNR=86
NACB Ninganchiao 74.44 301 *e*P **P 10 03 35.5 -0.4**
comp=Z,138nm,1.2s
NACB LR LR
comp=Z,5µm,21.0s
PBKI Pangkalan Bun 74.61 271 P **P 10 03 38.1 +1.0**
LDFC Landfair 74.64 46 *e*P **P 10 03 37.8 +0.8**
comp=Z,1µm,1.5s
LDFC LR LR
comp=Z,26µm,21.0s
K04D Chiloquin, OR 74.68 37 P **P 10 03 38.1 +1.0**
baz=232,SNR=53
SMRI Semarang 74.72 267 PFAKE 10 03 50.0 +12
SMRI LR LR
comp=Z,3µm,21.0s
214A Organ Pipe Nat 74.73 50 P **P 10 03 38.1 +0.6**
baz=241,SNR=146
214A Organ Pipe Nat 74.73 50 *e*P **P 10 03 37.9 +0.4**
comp=Z,2µm,1.4s
HSIG 74.76 54 *e*P **P 10 03 37.4 -0.3**
comp=Z,341nm,1.6s
HSIG LR LR
comp=Z,10µm,21.0s
QSPA South Pole Qui 74.80 180 *e*P **P 10 03 38.6 +1.2**
QSPA LR LR
comp=Z,5µm,21.0s
KDAK Kodiak Island 74.80 11 *e*P **P 10 03 38.0 +0.8**
KDAK pmax pmax
comp=Z,513nm,1.3s
KDAK MLR MLR
comp=Z,21µm,22.0s
KDAK Kodiak Island 74.80 11 *e*P **P 10 03 38.0 +0.8**
comp=Z,514nm,1.3s
KDAK LR LR
comp=Z,21µm,22.0s
SSLB Suanglung 74.81 300 *e*P **P 10 03 37.8 -0.3**
comp=Z,116nm,1.6s
SSLB LR LR
comp=Z,4µm,21.0s
NEE2 Needles Airpor 74.83 47 P **P 10 03 38.8 +0.8**
baz=239,SNR=42
YHNB Yeheng 74.83 301 *e*P **P 10 03 38.0 -0.2**
comp=Z,200nm,1.4s
YHNB LR LR
comp=Z,5µm,20.0s
TPNV Topopah Spring 74.85 44 P **P 10 03 39.0 +0.8**
baz=237,SNR=120
TPNV Topopah Spring 74.85 44 *e*P **P 10 03 38.5 +0.3**
TPNV pmax pmax
comp=Z,692nm,1.8s
TPNV MLR MLR
comp=Z,26µm,21.0s
TPNV Topopah Spring 74.85 44 *e*P **P 10 03 38.5 +0.3**
comp=Z,692nm,1.8s
TPNV LR LR
comp=Z,26µm,21.0s
J04D Umpqua Nationa 74.85 36 P **P 10 03 39.2 +1.0**
baz=231,SNR=214
TATO Taipei 74.87 302 *e*P **P 10 03 38.3 0.0**
comp=Z,281nm,1.4s
TATO LR LR
comp=Z,4µm,20.0s
TPUB Ta-pu 74.89 300 *e*P **P 10 03 37.7 -0.8**
comp=Z,81nm,1.0s
TPUB LR LR
comp=Z,4µm,22.0s
PDMCI Parker Dam,Lak 74.93 48 P **P 10 03 39.4 +0.9**
baz=239,SNR=114
I04A Tendick Farm, 75.03 36 P **P 10 03 39.6 +0.6**
baz=231,SNR=90
COR Corvallis 75.03 35 *e*P **P 10 03 40.1 +1.2**
COR pmax pmax
comp=Z,588nm,1.4s
COR MLR MLR
comp=Z,14µm,22.0s
COR Corvallis 75.03 35 *e*P **P 10 03 40.1 +1.2**
comp=Z,588nm,1.4s
COR LR LR
comp=Z,14µm,22.0s
MOD Modoc Plateau 75.09 38 *e*P **P 10 03 40.0 +0.5**
comp=Z,642nm,1.3s
MOD LR LR
comp=Z,16µm,20.0s
K05A Summer Lake 75.24 37 *e*P **P 10 03 40.9 +0.5**
comp=Z,1µm,1.3s
K05A LR LR
comp=Z,17µm,20.0s
IRO Indian Ridge 75.25 36 *e*P **P 10 03 41.0 +0.6**
SHPR Sheep Range 75.36 45 *e*P **P 10 03 41.8 +0.6**
comp=Z,502nm,1.5s
SHPR LR LR
comp=Z,20µm,20.0s
J05D Fort Rock, OR 75.38 37 P **P 10 03 42.2 +1.1**
baz=232,SNR=380
G03D McMinnville, O 75.46 34 P **P 10 03 42.4 +1.1**
baz=230,SNR=40
SBUM Sibu 75.46 277 *e*P **P 10 03 41.4 -0.6**
comp=Z,32nm,1.1s
SBUM LR LR
comp=Z,2µm,21.0s
W13A Hualapai Mount 75.51 47 *e*P **P 10 03 42.7 +0.6**
comp=Z,310nm,1.4s
W13A LR LR
comp=Z,21µm,20.0s
STKI Sintang 75.52 274 P **P 10 03 42.5 +0.1**
Y14A Wickenburg 75.56 48 *e*P **P 10 03 42.6 +0.3**
comp=Z,2µm,1.6s
Y14A LR LR
comp=Z,76µm,20.0s
G04A Mulino 75.88 35 *e*P **P 10 03 44.3 +0.5**
KSRS Korea Array 75.95 316 P **P 10 03 45.8 +1.5**
comp=Z,23nm,1.0s,baz=122,slow=5.7,SNR=37
KSRS LR LR 10 31 28.4
comp=Z,5µm,21.8s,baz=110,slow=31
KS15 Wonju Array Si 75.97 316 *e*P **P 10 03 46.2 +1.8**
KSAR Wonju Array Be 75.97 316 P **P 10 03 45.8 +1.4**
KSAR Wonju Array Be 75.97 316 P **P 10 03 45.8 +1.4**
I05D Terrebonne, OR 75.97 36 P **P 10 03 45.3 +1.0**
baz=232,SNR=211
KS01 Wonju Array Si 75.98 316 *e*P **P 10 03 44.7 +0.3**
R11A Troy Canyon, C 76.05 43 P **P 10 03 45.7 +0.6**
baz=237,SNR=215
R11A Troy Canyon, C 76.05 43 *e*P **P 10 03 45.5 +0.4**
comp=Z,265nm,1.4s
R11A LR LR
comp=Z,21µm,21.0s
KPJI Karang Pucung 76.11 266 P **P 10 03 44.5 -1.2**
BMN Battle Mountai 76.13 41 *e*P **P 10 03 45.9 +0.4**
BMN pmax pmax
comp=Z,552nm,1.4s
BMN MLR MLR
comp=Z,14µm,20.0s
BMN Battle Mountai 76.13 41 *e*P **P 10 03 45.9 +0.4**
comp=Z,552nm,1.4s
BMN LR LR
comp=Z,14µm,20.0s
TYV Tymovskoe 76.15 333 *e*P **P 10 03 45.8 +0.7**
TYV *e*S **S 10 13 28.4 +1.9**
TYV pmax pmax
comp=Z,2µm,5.5s
TYV smax smax
comp=E,5µm,9.6s
TYV MLR MLR
comp=Z,8µm,18.0s
F04D Rainier, OR 76.15 34 P **P 10 03 46.6 +1.3**
baz=230,SNR=13
E03A Lebam 76.16 33 *e*P **P 10 03 46.1 +0.8**
comp=Z,447nm,1.3s
E03A LR LR
comp=Z,11µm,21.0s
F04A Amboy 76.37 34 *e*P **P 10 03 46.8 +0.3**
comp=Z,893nm,1.7s
F04A LR LR
comp=Z,6µm,22.0s
WVOR Wild Horse Val 76.41 39 *e*P **P 10 03 47.0 0.0**
WVOR pmax pmax
comp=Z,582nm,1.4s
WVOR MLR MLR
comp=Z,21µm,20.0s
WVOR Wild Horse Val 76.41 39 *e*P **P 10 03 47.0 0.0**
comp=Z,582nm,1.4s
WVOR LR LR
comp=Z,21µm,20.0s
TUC Tucson 76.41 51 P **P 10 03 47.7 +0.6**
baz=242
TUC Tucson 76.41 51 *e*P **P 10 03 47.6 +0.4**
TUC pmax pmax
comp=Z,598nm,1.5s
TUC MLR MLR
comp=Z,17µm,20.0s
TUC Tucson 76.41 51 *e*P **P 10 03 47.6 +0.4**
comp=Z,598nm,1.5s
TUC LR LR
comp=Z,17µm,20.0s
G05D Wamic, OR 76.54 35 P **P 10 03 48.3 +0.7**
baz=232,SNR=53
NLWA Neilton Lookou 76.55 32 *e*P **P 10 03 48.3 +0.8**
comp=Z,529nm,1.8s
NLWA LR LR
comp=Z,10µm,20.0s
FL2 Flat Top 2 76.58 34 *e*P **P 10 03 48.6 +0.8**
VLA Vladivostok 76.60 322 *d i*P **P 10 03 49.0 +1.2**
VLA pmax pmax
comp=Z,159nm,1.4s
CNPM China Poot 76.69 11 *e*P **P 10 03 48.1 +0.1**
comp=Z,971nm,1.9s
CNPM LR LR
comp=Z,20µm,20.0s
MSHR Mys Shultsa 76.72 321 *c i*P **P 10 03 49.8 +1.3**
HOM Homer 76.73 11 PFAKE 10 04 00.0 +12
HOM LR LR
comp=Z,18µm,22.0s
TDL Tradedollar La 76.75 34 *e*P **P 10 03 49.7 +0.9**
DIB Dawson Inlet, 76.76 24 *e*P **P 10 03 49.4 +0.9**
comp=Z,138nm,1.2s
TUM Tumwater 76.81 33 PFAKE 10 04 00.0 +11
TUM LR LR
comp=Z,3µm,21.0s
INCN Inchon 76.84 315 *e*P **P 10 03 50.2 +0.9**
comp=Z,269nm,1.4s
INCN LR LR
comp=Z,4µm,20.0s
G06A Carlson Farm, 76.92 35 *e*P **P 10 03 50.0 +0.3**
comp=Z,846nm,1.8s
G06A LR LR
comp=Z,14µm,22.0s
X16A Lo Mia Camp, P 76.92 49 *e*P **P 10 03 51.0 +0.8**
comp=Z,492nm,1.5s
X16A LR LR
comp=Z,18µm,20.0s
LCMT Little Creek M 76.93 46 *e*P **P 10 03 50.7 +0.6**
comp=Z,372nm,1.6s
LCMT LR LR
comp=Z,19µm,20.0s
BRLK Bradley Lake 76.97 12 *e*P **P 10 03 49.5 -0.1**
comp=Z,742nm,1.7s
BRLK LR LR
comp=Z,20µm,21.0s
KSM Kuching 77.03 275 *e*P **P 10 03 50.5 -0.5**
comp=Z,141nm,1.3s
KSM LR LR
comp=Z,1µm,21.0s
319A Douglas 77.11 52 *e*P **P 10 03 52.1 +0.9**
comp=Z,561nm,1.4s
319A LR LR
comp=Z,16µm,21.0s
CCUT Cedar City 77.13 45 *e*P **P 10 03 51.1 -0.2**
comp=Z,314nm,1.3s
CCUT LR LR
comp=Z,20µm,20.0s
CISI Cisompet, Garu 77.13 266 PFAKE 10 04 00.0 +8.4
CISI LR LR
comp=Z,2µm,20.0s
USRK Ussuriysk Ar. 77.17 323 P **P 10 03 52.2 +1.1**
comp=Z,85nm,1.1s,baz=113,slow=4.4,SNR=46
USRK LR LR 10 31 21.7
comp=Z,14µm,21.9s,baz=114,slow=31
ARUT Antelope Range 77.19 45 *e*P **P 10 03 52.7 +1.1**
ARUT Antelope Range 77.19 45 *e*P **P 10 03 52.7 +1.1**
GNW Green Mountain 77.20 33 *e*P **P 10 03 51.8 +0.6**
KNB Kanab 77.23 46 *e*P **P 10 03 52.6 +0.8**
KNB pmax pmax
comp=Z,1µm,1.9s
KNB Kanab 77.23 46 *e*P **P 10 03 52.6 +0.8**
comp=Z,1µm,1.9s
QZH Quanzhou 77.25 300 ⇑*i*P **P 10 03 52.1 +0.2**
QZH S **S 10 13 37.0 -2.6**
QZH pmax pmax
comp=Z,420nm,1.8s
QZH pmax pmax
comp=Z,2µm,7.5s
QZH LR LR
comp=Z,10µm,25.6s
QZH LR LR
comp=Z,22µm,34.2s
RSO Redoubt South 77.28 10 *e*P **P 10 03 51.2 -0.4**
PSUT Pine Spring 77.30 44 *e*P **P 10 03 53.2 +0.9**
comp=Z,255nm,1.5s
U15A North Rim 77.30 46 *e*P **P 10 03 53.0 +0.6**
comp=Z,589nm,1.4s
U15A LR LR
comp=Z,17µm,20.0s
SZCU Shurtz Canyon 77.34 45 *e*P **P 10 03 53.5 +1.1**
comp=Z,484nm,1.5s
SZCU LR LR
comp=Z,21µm,22.0s
D05A Enumclaw 77.40 33 *e*P **P 10 03 53.4 +1.1**
comp=Z,989nm,1.5s
D05A LR LR
comp=Z,9µm,22.0s
SVW2 Sparrevohn 77.43 9 *e*P **P 10 03 51.8 -0.3**
comp=Z,338nm,1.9s
SVW2 LR LR
comp=Z,10µm,21.0s
EKU East Kanab 77.48 46 *e*P **P 10 03 54.1 +0.9**
BHU Blowhard Mount 77.49 45 *e*P **P 10 03 55.1 +1.6**
WUAZ Wupatki 77.50 48 P **P 10 03 54.1 +0.7**
baz=241,SNR=184
WUAZ Wupatki 77.50 48 *e*P **P 10 03 54.1 +0.7**
comp=Z,502nm,1.4s
WUAZ LR LR
comp=Z,17µm,22.0s
MIR Mirnyy 77.50 204 ⇑*i*P **P 10 03 53.0 +0.4**
MIR *i* S **S 10 13 42.0 +1.0**
MIR pmax pmax
comp=Z,42nm,1.8s
MIR pmax pmax
comp=Z,4µm,11.0s
MIR smax smax
comp=N,2µm,10.0s
SEW Seward 77.57 12 *e*P **P 10 03 53.2 +0.3**
comp=N,482nm,1.8s
SEW LR LR
comp=Z,16µm,22.0s
PGC Sidney 77.58 31 *e*P **P 10 03 53.8 +0.5**
comp=Z,169nm,1.0s
PGC LR LR
comp=Z,10µm,21.0s
MID Middleton Isla 77.63 14 PFAKE 10 04 10.0 +17
MID LR LR
comp=Z,13µm,21.0s
DWU Dry Willow Pea 77.66 45 *e*P **P 10 03 55.3 +1.1**
SSE Sheshan 77.75 307 ⇓P **P 10 03 56.2 +1.6**
SSE pP **PcP 10 04 05.6 +1.1**
SSE sP **sP 10 04 09.1 -0.3**
SSE S **S 10 13 46.3 +1.5**
SSE sS **sS 10 14 01.3 -1.4**
SSE ScS **ScS 10 14 11.7 +0.5**
SSE pmax pmax
comp=Z,58nm,0.7s
SSE pmax pmax
comp=Z,400nm,10.6s
SSE LR LR
comp=Z,2µm,20.8s
SSE LR LR
comp=Z,1µm,20.7s
SSE LR LR
comp=Z,3µm,23.1s
PKCU Pink Cliffs 77.79 46 *e*P **P 10 03 56.7 +1.6**
comp=Z,443nm,1.3s
BBB Bella Bella 77.81 27 P **P 10 03 54.9 +0.4**
comp=Z,33nm,0.7s,baz=247,slow=6.5,SNR=15
BBB Bella Bella 77.81 27 *e*P **P 10 03 55.4 +0.9**
comp=Z,157nm,1.2s
BBB LR LR
comp=Z,14µm,22.0s
A04D Lummi Island 78.01 32 P **P 10 03 56.5 +0.9**
baz=230,SNR=15
B05A Bryant 78.03 32 P **P 10 03 56.5 +0.8**
baz=230,SNR=54
X18A Snowflake 78.06 49 *e*P **P 10 03 57.4 +0.9**
comp=Z,252nm,1.3s
X18A LR LR
comp=Z,14µm,21.0s
HPIG 78.07 58 *e*P **P 10 03 57.3 +0.5**
comp=Z,238nm,1.3s
SPU Mount Spurr 78.08 10 *e*P **P 10 03 54.9 -0.9**
HABR Khabarovsk 78.13 328 *ce*P **P 10 03 55.3 -1.0**
HABR *e* 10 04 04.2
HABR *e**SP **sP 10 04 09.7 -1.4**
HABR *e* 10 06 51.8
HABR *e*PPP PPP 10 08 39.7
HABR *e*S **S 10 13 48.3 +0.2**
HABR *e* 10 14 01.5
HABR *e* 10 14 12.3
HABR *e*SS **SS 10 18 50.0 -0.8**
HABR *e*SSS SSS 10 22 16.2
HABR pmax pmax
comp=N,62nm,1.4s
HABR pmax pmax
comp=E,111nm,1.4s
HABR pmax pmax
comp=Z,422nm,1.4s
HABR pmax pmax
comp=Z,3µm,4.7s
HABR MLR MLR
comp=Z,3µm,19.0s
LTY Liberty 78.14 34 PFAKE 10 04 10.0 +13
LTY LR LR
comp=Z,5µm,19.0s
E07A Sunnyside 78.16 35 *e*P **P 10 03 57.1 +0.6**
comp=Z,446nm,1.5s
E07A LR LR
comp=Z,11µm,22.0s
MTPU Mount Pierson 78.18 45 *e*P **P 10 03 58.6 +1.3**
comp=Z,434nm,1.3s
FSU Fish Springs 78.22 43 *e*P **P 10 03 57.5 +0.3**
HAWA Hanford 78.23 35 *e*P **P 10 03 57.1 +0.2**
comp=Z,444nm,1.4s
HAWA LR LR
comp=Z,14µm,22.0s
CRAG Craig 78.25 22 *e*P **P 10 03 57.7 +0.9**
comp=Z,333nm,1.4s
CRAG LR LR
comp=Z,14µm,21.0s
CBJI Citeko 78.33 266 P **P 10 03 58.4 +0.2**
DBJI Dramaga 78.40 266 P **P 10 03 57.0 -1.6**
MSU Marysvale 78.42 45 *e*P **P 10 03 59.2 +0.7**
MSU Marysvale 78.42 45 *e*P **P 10 03 59.2 +0.7**
RC01 Rabbit Creek A 78.42 12 *e*P **P 10 03 57.5 -0.1**
comp=Z,703nm,1.7s
RC01 LR LR
comp=Z,11µm,21.0s
C06D Leavenworth 78.44 33 P **P 10 03 58.7 +0.7**
baz=232
W18A Petrified Fore 78.49 49 P **P 10 03 59.8 +0.9**
baz=242,SNR=9.2
W18A Petrified Fore 78.49 49 *e*P **P 10 04 00.3 +1.4**
comp=Z,328nm,1.5s
W18A LR LR
comp=Z,16µm,20.0s
B06A Marblemount 78.50 32 PFAKE 10 04 10.0 +12
B06A LR LR
comp=Z,10µm,19.0s
XMIS Christmas Isla 78.52 262 PFAKE 10 04 10.0 +11
XMIS LR LR
comp=Z,5µm,19.0s
ETW Entiat 78.54 34 *e*P **P 10 03 59.1 +0.3**
BMO Blue Mountains 78.59 37 *e*P **P 10 03 58.9 -0.2**
BMO pmax pmax
comp=Z,346nm,1.4s
BMO MLR MLR
comp=Z,12µm,21.0s
BMO Blue Mountains 78.59 37 *e*P **P 10 03 58.9 -0.2**
comp=Z,346nm,1.4s
BMO LR LR
comp=Z,12µm,21.0s
NKL Nikolayevsk 78.64 334 *e*P **P 10 04 00.0 +1.0**
NKL *e* 10 04 10.0
NKL *e* 10 04 12.0
NKL *e*S **S 10 13 54.0 +0.6**
NKL pmax pmax
comp=Z,86nm,1.0s
NKL pmax pmax
comp=E,500nm,4.0s
NKL pmax pmax
comp=Z,2µm,4.0s
NKL smax smax
comp=N,1µm,12.0s
NKL smax smax
comp=E,3µm,12.0s
MFID Camas Ranch 78.66 39 *e*P **P 10 03 59.7 +0.2**
comp=E,375nm,1.4s
MFID LR LR
comp=Z,10µm,21.0s
WCU Willow Creek 78.70 44 *e*P **P 10 04 01.4 +1.3**
121A Cookes Peak, D 78.77 52 P **P 10 04 01.4 +0.9**
baz=244,SNR=95
121A Cookes Peak, D 78.77 52 *e*P **P 10 04 01.2 +0.7**
comp=Z,307nm,1.2s
EYAK Cordova Ski Ar 78.77 14 *e*P **P 10 03 59.8 +0.3**
comp=Z,430nm,1.6s
EYAK LR LR
comp=Z,26µm,21.0s
GAMB Gambell 78.78 1 *e*P **P 10 04 00.4 +0.9**
comp=Z,232nm,1.3s
GAMB LR LR
comp=Z,13µm,20.0s
FID Port Fidalgo 78.79 13 *e*P **P 10 03 59.7 0.0**
comp=Z,703nm,1.9s
FID LR LR
comp=Z,24µm,22.0s
MDJ Mudanjiang 78.81 322 P **P 10 04 01.4 +1.2**
MDJ pP PcP 10 04 06.7 -2.1
MDJ sP pP 10 04 10.3 -0.8

MDJ S **S** 10 14 00.3 +4.6
MDJ SS **SS** 10 19 02.0 +0.7
MDJ pmax pmax
comp=Z,120nm,1.3s
MDJ pmax pmax
comp=Z,3μm,8.4s
MDJ LR LR
comp=Z,7μm,24.3s
MDJ LR LR
comp=Z,8μm,38.4s
MDJ LR LR
comp=Z,14μm,30.9s
DUG **Dugway, Tooele** **78.85** **43** P **P** 10 04 01.2 +0.5
baz=239,SNR=254
DUG **Dugway, Tooele** **78.85** **43** *e*P **P** 10 04 01.0 +0.3
DUG pmax pmax
comp=Z,318nm,1.4s
DUG MLR MLR
comp=Z,19μm,22.0s
DUG **Dugway, Tooele** **78.85** **43** *e*P **P** 10 04 01.0 +0.3
comp=Z,318nm,1.4s
DUG *e*P **P** 10 04 01.3 +0.7
DUG LR LR
comp=Z,19μm,22.0s
MMU **Miners Mountai** **78.87** **45** *e*P **P** 10 04 02.0 +1.1
D08A **Wollman Farm,** **78.97** **35** *e*P **P** 10 04 01.6 +0.6
comp=Z,816nm,1.8s
D08A LR LR
comp=Z,12μm,22.0s
PMR **Palmer** **79.00** **12** *e*P **P** 10 04 00.6 -0.2
PMR pmax pmax
comp=Z,706nm,1.8s
PMR MLR MLR
comp=Z,10μm,20.0s
PMR **Palmer** **79.00** **12** *e*P **P** 10 04 00.6 -0.2
comp=Z,706nm,1.8s
PMR LR LR
comp=Z,10μm,20.0s
ZAIG **Zacatecas** **79.06** **63** *e*P **P** 10 04 03.4 +1.0
comp=Z,154nm,1.2s
ZAIG LR LR
comp=Z,14μm,22.0s
E09A **Wood Farm, Sta** **79.08** **35** *e*P **P** 10 04 02.1 +0.5
comp=Z,439nm,1.6s
E09A LR LR
comp=Z,12μm,22.0s
BGU **Big Grassy Mou** **79.08** **42** *e*P **P** 10 04 02.3 +0.4
comp=Z,246nm,1.7s
TT01 **Tatalina** **79.10** **8** *e*P **P** 10 04 02.2 +0.9
SGU **Sterling** **79.11** **44** *e*P **P** 10 04 04.1 +1.8
TTA **Tatalina** **79.12** **8** *e*P **P** 10 04 02.3 +0.7
TTA pmax pmax
comp=Z,204nm,1.4s
TTA **Tatalina** **79.12** **8** *e*P **P** 10 04 02.3 +0.7
comp=Z,204nm,1.4s
MOIG **Morelia** **79.16** **66** *e*P **P** 10 04 04.1 +1.2
comp=Z,136nm,1.3s
LEVU **Levan** **79.16** **44** *e*P **P** 10 04 03.7 +1.2
NLU **North Lily Min** **79.21** **43** *e*P **P** 10 04 03.5 +0.7
comp=Z,167nm,1.5s
NLU LR LR
comp=Z,22μm,21.0s
SNO **Snow College** **79.25** **44** *e*P **P** 10 04 04.9 +1.9
WRAK **Wrangell Islan** **79.26** **22** *e*P **P** 10 04 03.0 +0.6
comp=Z,382nm,1.7s
WRAK LR LR
comp=Z,12μm,19.0s
F10A **Beach Ranch, E** **79.28** **36** *e*P **P** 10 04 02.6 -0.3
comp=Z,454nm,1.5s
F10A LR LR
comp=Z,13μm,22.0s
DIV **Divide** **79.28** **13** *e*P **P** 10 04 02.3 -0.2
comp=Z,183nm,1.0s
DIV LR LR
comp=Z,22μm,21.0s
SML **Sawmill** **79.36** **12** *e*P **P** 10 04 03.1 +0.3
SML pmax pmax
comp=Z,540nm,1.8s
SML MLR MLR
comp=Z,13μm,21.0s
SML **Sawmill** **79.36** **12** *e*P **P** 10 04 03.1 +0.3
comp=Z,540nm,1.8s
SML LR LR
comp=Z,13μm,21.0s
CGJI **Cibinong** **79.40** **266** P **P** 10 04 03.8 -0.3
SNUT **Stansbury Nort** **79.40** **42** *e*P **P** 10 04 03.9 +0.2
BMRM **Bremner River** **79.40** **14** *e*P **P** 10 04 03.2 0.0
comp=Z,594nm,1.4s
BMRM LR LR
comp=Z,20μm,22.0s
YKU2 **Yakutat** **79.41** **17** PFAKE 10 04 20.0 +17
YKU2 LR LR
comp=Z,27μm,20.0s
TMUT **Trail Mountain** **79.47** **44** *e*P **P** 10 04 05.4 +1.1
comp=Z,579nm,1.4s
TMUT LR LR
comp=Z,19μm,20.0s
DHAK **Deception Hill** **79.47** **18** PFAKE 10 04 20.0 +16
DHAK LR LR
comp=Z,34μm,20.0s
B08A **Colville Reser** **79.53** **33** *e*P **P** 10 04 03.8 -0.2
comp=Z,464nm,1.9s
B08A LR LR
comp=Z,4μm,20.0s
SCM **Sheep Creek Mo** **79.58** **12** *e*P **P** 10 04 03.6 -0.5
SCM pmax pmax
comp=Z,589nm,1.8s
SCM MLR MLR
comp=Z,13μm,21.0s
SCM **Sheep Creek Mo** **79.58** **12** *e*P **P** 10 04 03.6 -0.5
comp=Z,589nm,1.8s
SCM LR LR
comp=Z,13μm,21.0s
HLID **Hailey** **79.60** **39** P **P** 10 04 05.8 +1.0
baz=237,SNR=329
HLID **Hailey** **79.60** **39** *e*P **P** 10 04 05.5 +0.8
comp=Z,401nm,1.3s
HLID LR LR
comp=Z,10μm,21.0s
LLLB **Lillooet** **79.63** **31** *e*P **P** 10 04 04.2 -0.3
comp=Z,346nm,1.7s
LLLB LR LR
comp=Z,13μm,20.0s
SPUT **South Promonto** **79.66** **42** *e*P **P** 10 04 05.7 +0.6
comp=Z,330nm,1.3s
PPLA **Purkeypile** **79.66** **10** *e*P **P** 10 04 03.5 -1.1
comp=Z,71nm,1.3s
PPLA LR LR
comp=Z,17μm,21.0s
HVU **Hansel Valley** **79.69** **42** *e*P **P** 10 04 05.5 +0.2
HVU pmax pmax
comp=Z,232nm,1.1s
HVU **Hansel Valley** **79.69** **42** *e*P **P** 10 04 05.5 +0.2
comp=Z,232nm,1.1s
GMU **Granite Mounta** **79.73** **43** *e*P **P** 10 04 05.5 -0.1
SRU **San Rafael Swe** **79.84** **45** *e*P **P** 10 04 06.6 +0.4
SRU pmax pmax
comp=Z,372nm,1.3s
SRU MLR MLR
comp=Z,27μm,20.0s
SRU **San Rafael Swe** **79.84** **45** *e*P **P** 10 04 06.6 +0.4
comp=Z,372nm,1.3s
SRU LR LR
comp=Z,27μm,20.0s
MTUT **Morton Thiokol** **79.86** **42** *e*P **P** 10 04 06.2 +0.1
P17A **Butcher Ranch,** **79.87** **44** PFAKE 10 04 20.0 +14
P17A LR LR
comp=Z,14μm,20.0s
LTU **Little Mountai** **79.93** **42** *e*P **P** 10 04 06.6 +0.1
JLU **Jordanelle** **79.95** **43** *e*P **P** 10 04 07.2 +0.3
comp=Z,258nm,1.2s
JLU LR LR
comp=Z,23μm,22.0s
NJ2 **Nanjing** **79.96** **307** *e*P **P** 10 04 06.9 +0.2
NJ2 pP **PcP** 10 04 13.6 -0.5
NJ2 sP **pP** 10 04 16.8 -0.8
NJ2 S **S** 10 14 09.9 +1.6
NJ2 SS **SS** 10 19 19.4 +0.5
NJ2 pmax pmax
comp=Z,2μm,7.1s
NJ2 LR LR
comp=Z,3μm,24.4s
NJ2 LR LR
comp=Z,4μm,22.8s
NJ2 LR LR
comp=Z,7μm,27.1s
PNT **Penticton** **79.96** **32** *e*P **P** 10 04 06.7 +0.3
PNT **Penticton** **79.96** **32** *e*P **P** 10 04 06.7 +0.3
LDJ **Lady** **79.97** **43** *e*P **P** 10 04 07.8 +0.9
MA2 **Magadan** **79.97** **342** P **P** 10 04 06.2 0.0
comp=Z,34nm,0.7s,baz=130,slow=7.4,SNR=25
MA2 **Magadan** **79.97** **342** *e*P **P** 10 04 06.2 0.0
MA2 pmax pmax
comp=Z,195nm,1.4s
MA2 MLR MLR
comp=Z,8μm,21.0s
MA2 **Magadan** **79.97** **342** *e*P **P** 10 04 06.2 0.0
comp=Z,195nm,1.4s
MA2 LR LR
comp=Z,8μm,21.0s
HLJ **Hailstone** **79.99** **43** *e*P **P** 10 04 07.6 +0.7
KLJ **Keetly** **80.00** **43** *e*P **P** 10 04 07.5 +0.4
BALM **Baldy** **80.00** **15** *e*P **P** 10 04 06.5 +0.1
BALM pmax pmax
comp=Z,431nm,1.5s
BALM MLR MLR
comp=Z,22μm,21.0s
BALM **Baldy** **80.00** **15** *e*P **P** 10 04 06.5 +0.1
comp=Z,430nm,1.5s
BALM LR LR
comp=Z,22μm,21.0s
HKC **Hong Kong Obse** **80.00** **296** ⇑P **P** 10 04 08.0 +0.9
GZU **Grizzly Peak** **80.02** **42** *e*P **P** 10 04 07.1 -0.1
LAZ **Ladron** **80.07** **50** *e*P **P** 10 04 08.8 +1.3
LENM **Lemitar** **80.09** **51** *e*P **P** 10 04 09.4 +1.7
Y22D **IRIS PASSCAL I** **80.09** **51** P **P** 10 04 09.0 +1.4
baz=244,SNR=38
Y22D **IRIS PASSCAL I** **80.09** **51** *e*P **P** 10 04 09.2 +1.6
comp=Z,565nm,1.4s
Y22D LR LR
comp=Z,14μm,20.0s
WVUT **Wellsville** **80.13** **42** *e*P **P** 10 04 07.5 -0.1
HONU **Honeyville** **80.15** **42** *e*P **P** 10 04 07.2 -0.6
ARGU **Argyle Ridge** **80.17** **44** *e*P **P** 10 04 09.0 +0.9
CAST **Castle Rocks** **80.17** **10** *e*P **P** 10 04 05.8 -1.4
comp=Z,109nm,1.4s
CAST LR LR
comp=Z,16μm,20.0s
MLI **Malad Range** **80.23** **42** *e*P **P** 10 04 08.4 +0.1
MNTX **Cornudas Mount** **80.25** **53** P **P** 10 04 08.9 +0.6
baz=245,SNR=283
MNTX **Cornudas Mount** **80.25** **53** *e*P **P** 10 04 08.9 +0.6
comp=Z,246nm,1.2s
MNTX LR LR
comp=Z,9μm,22.0s
P18A **Preston Nutter** **80.28** **44** PFAKE 10 04 20.0 +11
P18A LR LR
comp=Z,30μm,20.0s
KLR **Kul'dur** **80.31** **327** *c*P **P** 10 04 08.9 +0.7
PV05 **Paradox Valley** **80.33** **46** *e*P **P** 10 04 10.2 +1.3
BNM **Barren Site** **80.34** **51** *e*P **P** 10 04 10.1 +1.0
MCU **Monte Cristo P** **80.34** **42** *e*P **P** 10 04 09.3 +0.3
MVCO **Mesa Verde** **80.35** **47** P **P** 10 04 09.8 +0.8
baz=242,SNR=44
MVCO **Mesa Verde** **80.35** **47** *e*P **P** 10 04 09.7 +0.7
comp=Z,163nm,1.4s
MVCO LR LR
comp=Z,20μm,22.0s
HDU **Hyde Park** **80.35** **42** *e*P **P** 10 04 09.0 +0.2
HWUT **Hardware Ranch** **80.38** **42** *e*P **P** 10 04 09.1 +0.1
comp=Z,115nm,1.0s
HWUT LR LR
comp=Z,20μm,21.0s
LPM **Los Pinos Moun** **80.41** **51** *e*P **P** 10 04 10.4 +1.0
KTH **Kantishna Hill** **80.49** **10** *e*P **P** 10 04 08.2 -0.8
comp=Z,439nm,1.6s
KTH LR LR
comp=Z,19μm,22.0s
BEI **Bear River Ran** **80.50** **42** *e*P **P** 10 04 09.9 +0.2
PV09 **Paradox Valley** **80.50** **46** *e*P **P** 10 04 10.8 +0.9
TRF **Thorofare Moun** **80.50** **10** *e*P **P** 10 04 08.5 -0.6
comp=Z,438nm,1.4s
TRF LR LR
comp=Z,29μm,22.0s
PV10 **Paradox Valley** **80.51** **46** *e*P **P** 10 04 10.3 +0.4
HARP **HAARP** **80.56** **13** *e*P **P** 10 04 09.5 +0.2
comp=Z,715nm,2.0s
HARP LR LR
comp=Z,14μm,21.0s
PV04 **Paradox Valley** **80.61** **46** *e*P **P** 10 04 11.1 +0.7
SKAG **Skagway** **80.64** **19** *e*P **P** 10 04 10.8 +1.1
comp=Z,530nm,1.6s
TX31 **Lajitas Ar. Si** **80.65** **56** *e*P **P** 10 04 11.3 +0.6
TX31 *e*P **P** 10 04 11.7 +1.1
TXAR **Lajitas Array** **80.65** **56** P **P** 10 04 11.7 +1.0
comp=Z,109nm,1.1s,baz=214,slow=4.2,SNR=202
TXAR LR LR 10 33 47.2
comp=Z,9μm,19.1s,baz=0.0,slow=31
NEW **Newport** **80.66** **34** P **P** 10 04 09.9 -0.3
comp=Z,20nm,1.0s,baz=225,slow=5.9,SNR=43
NEW **Newport** **80.66** **34** P **P** 10 04 10.3 +0.1
baz=234,SNR=37
NEW **Newport** **80.66** **34** *e*P **P** 10 04 09.7 -0.5
NEW pmax pmax
comp=Z,146nm,1.6s
NEW MLR MLR
comp=Z,9μm,22.0s
NEW **Newport** **80.66** **34** *e*P **P** 10 04 09.7 -0.5
comp=Z,146nm,1.6s
NEW LR LR
comp=Z,9μm,22.0s
DHY **Denali Highway** **80.70** **12** *e*P **P** 10 04 09.9 -0.3
comp=Z,235nm,1.5s
DHY LR LR
comp=Z,6μm,19.0s
RND **Reindeer** **80.72** **11** *e*P **P** 10 04 10.1 -0.1
RND pmax pmax
comp=Z,1μm,2.0s
RND MLR MLR
comp=Z,23μm,21.0s
RND **Reindeer** **80.72** **11** *e*P **P** 10 04 10.1 -0.1
comp=Z,1μm,2.0s
RND LR LR
comp=Z,23μm,21.0s
PV01 **Paradox Valley** **80.72** **46** *e*P **P** 10 04 12.1 +1.1
BMUT **Black Mountain** **80.77** **42** *e*P **P** 10 04 11.3 +0.1
TLIG **Tlapa** **80.78** **69** *e*P **P** 10 04 13.7 +2.1
comp=Z,47nm,1.2s
TLIG LR LR
comp=Z,5μm,21.0s
KLSI **80.81** **268** P **P** 10 04 10.8 -0.9
ANMO **Albuquerque** **80.81** **50** P **P** 10 04 12.6 +1.1
baz=244
ANMO **Albuquerque** **80.81** **50** *d*P **P** 10 04 12.4 +0.9
ANMO *i* *PP **pP** 10 04 23.1 +0.7
ANMO *i* *SP **sP** 10 04 28.0 +1.6
ANMO pmax pmax
comp=Z,292nm,1.7s
ANMO **Albuquerque** **80.81** **50** *e*P **P** 10 04 12.8 +1.2
comp=Z,222nm,1.3s
ANMO LR LR
comp=Z,16μm,22.0s
UNM **Universidad Na** **80.82** **67** PFAKE 10 04 20.0 +8.1
UNM LR LR
comp=Z,11μm,22.0s
KASI **Kota Agung** **80.82** **267** P **P** 10 04 09.5 -2.3
CN2 **Changchun** **80.88** **320** ⇑P **P** 10 04 12.2 +0.8
CN2 *e*sP sP 10 04 24.4 -1.9
CN2 *e*PP **PP** 10 07 19.5 +3.2
CN2 *e*S **S** 10 14 18.4 +0.9
CN2 *e*SS **SS** 10 19 36.2 +4.0
CN2 pmax pmax
comp=Z,200nm,5.0s
CN2 LR LR
comp=Z,2μm,22.0s
CN2 LR LR
comp=Z,6μm,22.0s
CN2 LR LR
comp=Z,6μm,24.0s
DL2 **Dalian** **80.97** **314** ⇑*i*P **P** 10 04 13.3 +1.3
DL2 S **S** 10 14 23.9 +5.3
DL2 pmax pmax
comp=Z,150nm,1.4s
DL2 pmax pmax
comp=Z,3μm,9.3s
DL2 LR LR
comp=Z,2μm,24.1s
DL2 LR LR
comp=Z,4μm,24.9s
DL2 LR LR
comp=Z,7μm,26.7s
PAX **Paxson** **80.99** **13** *e*P **P** 10 04 11.1 -0.6
PAX pmax pmax
comp=Z,357nm,1.8s
PAX MLR MLR
comp=Z,15μm,20.0s
PAX **Paxson** **80.99** **13** *e*P **P** 10 04 11.1 -0.6
comp=Z,357nm,1.8s
PAX LR LR
comp=Z,15μm,20.0s
GZH **Guangzhou** **81.00** **297** P **P** 10 04 12.5 0.0
GZH PP **PP** 10 07 21.5 +3.7
GZH S **S** 10 14 19.6 0.0
GZH SKS **SKSac** 10 14 27.0 -2.1
GZH pmax pmax
comp=Z,1μm,5.7s
MCK **McKinley** **81.00** **11** *e*P **P** 10 04 11.1 -0.5
MCK pmax pmax
comp=Z,152nm,0.9s
MCK MLR MLR
comp=Z,26μm,22.0s
MCK **McKinley** **81.00** **11** *e*P **P** 10 04 11.1 -0.5
comp=Z,152nm,0.9s
MCK LR LR
comp=Z,26μm,22.0s
SNY **Shenyang** **81.06** **318** ⇑P **P** 10 04 13.3 +0.9
SNY S **S** 10 14 26.2 +6.7
SNY pmax pmax
comp=Z,180nm,1.5s
SNY pmax pmax
comp=Z,3μm,8.1s
SNY LR LR
comp=Z,2μm,29.4s
SNY LR LR
comp=Z,4μm,27.3s
SNY LR LR
comp=Z,9μm,27.3s
HYT **Haines Junctio** **81.11** **17** *e*P **P** 10 04 13.0 +0.6
comp=Z,549nm,1.7s
MCMT **McKenzie Canyo** **81.23** **39** *e*P **P** 10 04 14.2 +0.6
MENT **Mentasta** **81.34** **13** *e*P **P** 10 04 13.5 0.0
comp=Z,406nm,1.7s
MENT LR LR
comp=Z,16μm,20.0s
LWLI **Liwa** **81.37** **267** P **P** 10 04 14.9 +0.1
MDSI **Maura Dua** **81.39** **268** P **P** 10 04 13.0 -1.8
DLBC **Dease Lake** **81.61** **21** P **P** 10 04 15.4 +0.4
comp=Z,38nm,1.1s,baz=215,slow=5.8,SNR=37
DLBC **Dease Lake** **81.61** **21** *e*P **P** 10 04 15.4 +0.4
comp=Z,279nm,1.6s
DLBC LR LR
comp=Z,13μm,20.0s
MSO **Missoula** **81.65** **37** P **P** 10 04 15.7 +0.2
baz=237,SNR=126
MSO **Missoula** **81.65** **37** *e*P **P** 10 04 15.2 -0.3
comp=Z,387nm,1.5s
DLMT **Dillon** **81.66** **39** *e*P **P** 10 04 15.9 +0.2
comp=Z,279nm,1.3s
DLMT LR LR
comp=Z,15μm,20.0s
REDW **Red Top Meadow** **81.72** **41** *e*P **P** 10 04 16.6 +0.5
comp=Z,519nm,1.4s
REDW LR LR
comp=Z,8μm,20.0s
TPAW **Teton Pass** **81.72** **41** *e*P **P** 10 04 16.5 +0.3
comp=Z,335nm,1.2s
TPAW LR LR
comp=Z,7μm,19.0s
BSMT **Bassoo Peak** **81.72** **36** *e*P **P** 10 04 15.7 -0.3
WHY **Whitehorse** **81.74** **18** *e*P **P** 10 04 16.0 +0.3
comp=Z,421nm,1.7s
WHY LR LR
comp=Z,33μm,21.0s
DLV **T Lat** **81.76** **285** *e*P **P** 10 04 17.9 +1.0
comp=Z,124nm,1.3s
DLV LR LR
comp=Z,3μm,21.0s
S22A **4UR Ranch, Cre** **81.77** **47** P **P** 10 04 17.9 +1.2
baz=244,SNR=279
S22A **4UR Ranch, Cre** **81.77** **47** *e*P **P** 10 04 17.6 +0.9
comp=Z,400nm,1.3s
S22A LR LR
comp=Z,21μm,21.0s
SNOW **Snow King Moun** **81.83** **41** *e*P **P** 10 04 17.5 +0.7
comp=Z,321nm,1.1s
SNOW LR LR
comp=Z,10μm,20.0s
WRH **Wood River Hil** **81.83** **11** *e*P **P** 10 04 15.8 -0.2
comp=Z,378nm,1.2s
WRH LR LR
comp=Z,21μm,22.0s
O20A **White River Ci** **81.88** **45** P **P** 10 04 17.6 +0.5
baz=242,SNR=56
O20A **White River Ci** **81.88** **45** *e*P **P** 10 04 17.5 +0.5
comp=Z,469nm,1.7s
O20A LR LR
comp=Z,24μm,21.0s
DOT **Dot Lake** **81.89** **13** *e*P **P** 10 04 16.4 +0.1
comp=Z,576nm,1.4s
DOT LR LR
comp=Z,45μm,22.0s
MCID **Moose Creek** **81.92** **40** *e*P **P** 10 04 18.4 +1.2
IMW **Indian Meadow** **81.93** **40** *e*P **P** 10 04 18.0 +0.6
comp=Z,277nm,1.1s
IMW LR LR
comp=Z,7μm,21.0s
BGMT **Barton Gulch** **81.93** **39** *e*P **P** 10 04 17.9 +0.6
JTMT **Jette** **81.95** **36** *e*P **P** 10 04 16.5 -0.6
MOOW **Moose Ponds** **81.97** **41** *e*P **P** 10 04 17.9 +0.4
comp=Z,282nm,1.5s
MOOW LR LR
comp=Z,7μm,20.0s
SWMT **Swartz Lake** **81.98** **36** *e*P **P** 10 04 16.5 -0.8
HDA **Harding Lake** **81.98** **11** PFAKE 10 04 30.0 +13
HDA LR LR
comp=Z,10μm,22.0s
LRM **Limekiln Ridge** **81.99** **38** *e*P **P** 10 04 17.8 +0.2
LOHW **Long Hollow** **82.00** **41** *e*P **P** 10 04 18.2 +0.6
comp=Z,302nm,1.4s
LOHW LR LR
comp=Z,10μm,20.0s
CCB **Clear Creek Bu** **82.04** **11** *e*P **P** 10 04 16.3 -0.7
comp=Z,395nm,1.6s
CCB LR LR
comp=Z,19μm,21.0s
BLMT **Blacktail Moun** **82.05** **36** *e*P **P** 10 04 17.1 -0.6
CHMT **Chamberlain Mo** **82.09** **37** *e*P **P** 10 04 17.6 -0.4
QLMT **Earthquake Lak** **82.09** **39** *e*P **P** 10 04 19.3 +1.2
SLMT **Seeley Lake** **82.13** **37** *e*P **P** 10 04 17.3 -0.9
YBMT **Yellow Bay** **82.17** **36** *e*P **P** 10 04 17.6 -0.7
FLWY **Flagg Ranch** **82.17** **40** *e*P **P** 10 04 19.7 +1.2
comp=Z,430nm,1.3s
FLWY LR LR
comp=Z,8μm,22.0s
YHB **Horse Butte** **82.20** **40** *e*P **P** 10 04 19.6 +0.9
comp=Z,403nm,1.3s
YPP **Pitchstone Pla** **82.20** **40** *e*P **P** 10 04 19.7 +0.9
comp=Z,282nm,1.7s
YPP LR LR
comp=Z,12μm,22.0s
COLA **College** **82.24** **11** *e*P **P** 10 04 17.5 -0.6
COLA pmax pmax
comp=Z,221nm,1.1s
COLA MLR MLR
comp=Z,21μm,20.0s
COLA **College** **82.24** **11** *e*P **P** 10 04 17.5 -0.6
comp=Z,221nm,1.1s
COLA LR LR
comp=Z,21μm,20.0s
BW06 **Boulder Array** **82.25** **42** P **P** 10 04 18.9 0.0
baz=241,SNR=141
BW06 **Boulder Array** **82.25** **42** *e*P **P** 10 04 18.6 -0.4
BW06 *e*P **P** 10 04 19.0 0.0
BW06 LR LR
comp=Z,17μm,20.0s
MDM **Murphy Dome** **82.25** **11** *e*P **P** 10 04 17.4 -0.8
comp=Z,587nm,1.8s
MDM LR LR
comp=Z,22μm,21.0s
PD31 **Pinedale Array** **82.25** **42** *e*P **P** 10 04 18.6 -0.4
PDAR **Pinedale Array** **82.25** **42** P **P** 10 04 18.6 -0.4
comp=Z,39nm,0.8s,baz=212,slow=3.2,SNR=174
PDAR PKKPbc **PKKPbc** 10 22 46.6 -2.1
comp=Z,2.3nm,1.1s,baz=94,slow=3.6,SNR=7.1
PDAR PKPPKP **P'P'df** 10 30 49.4 -0.6
comp=Z,0.9nm,1.0s,baz=213,slow=3.1,SNR=4.7
PDAR LR LR 10 35 33.1
comp=Z,15μm,19.2s,baz=248,slow=32
YFT **Old Faithful** **82.27** **40** *e*P **P** 10 04 20.5 +1.5
comp=Z,176nm,1.2s

YFT LR LR
comp=Z,15µm,19.0s
YMR Madison River 82.30 40 *e*P **P 10 04 20.5 +1.3**
comp=Z,473nm,1.3s
YMR LR LR
comp=Z,8µm,19.0s
SMCO Snowmass 82.31 46 *e*P **P 10 04 20.0 +0.4**
comp=Z,318nm,1.4s
SMCO LR LR
comp=Z,16µm,20.0s
ILAR Eielson Array 82.32 11 P **P 10 04 17.4 -1.1**
comp=Z,26nm,0.9s,baz=221,slow=6.3,SNR=131
ILAR PP PP 10 07 14.3 -13
comp=Z,8.1nm,1.1s,baz=209,slow=6.9,SNR=3.2
ILAR PKPPKP **P'P'df 10 30 47.7 +0.2**
comp=Z,0.3nm,0.8s,baz=272,slow=3.5,SNR=4.6
ILAR LR LR 10 34 02.3
comp=Z,9µm,21.9s,baz=216,slow=31
ILB Eielson Array 82.32 11 *e*P **P 10 04 17.7 -0.8**
IL1 Eielson Array 82.32 11 *e*P **P 10 04 17.8 -0.7**
SEY Seymchan 82.33 345 P **P 10 04 18.4 -0.2**
comp=Z,40nm,0.9s,baz=139,slow=7.0,SNR=52
SEY Seymchan 82.33 345 *d i*P **P 10 04 18.7 +0.1**
LCCM Lewis and Clar 82.34 38 *e*P **P 10 04 19.6 +0.3**
YPM Purple Mountai 82.35 40 *e*P **P 10 04 21.1 +1.5**
BOZ Bozeman (W) 82.36 39 P **P 10 04 20.2 +0.8**
baz=239,SNR=202
BOZ Bozeman (W) 82.36 39 *e*P **P 10 04 19.5 +0.1**
BOZ pmax pmax
comp=Z,374nm,1.4s
BOZ MLR MLR
comp=Z,15µm,21.0s
BOZ Bozeman (W) 82.36 39 *e*P **P 10 04 19.5 +0.1**
comp=Z,374nm,1.4s
BOZ LR LR
comp=Z,15µm,21.0s
H17A Grant Village 82.40 40 P **P 10 04 21.5 +1.7**
baz=240,SNR=77
H17A Grant Village 82.40 40 *e*P **P 10 04 21.5 +1.7**
comp=Z,128nm,1.0s
H17A LR LR
comp=Z,10µm,22.0s
YHH Holmes Hill 82.43 40 *e*P **P 10 04 20.9 +0.9**
comp=Z,409nm,1.5s
YHH LR LR
comp=Z,8µm,19.0s
YNR Norris Junctio 82.50 40 *e*P **P 10 04 22.4 +2.1**
comp=Z,372nm,1.5s
YNR LR LR
comp=Z,9µm,19.0s
LKWY Lake 82.60 40 *e*P **P 10 04 22.5 +1.7**
LKWY pmax pmax
comp=Z,220nm,1.1s
LKWY MLR MLR
comp=Z,12µm,18.0s
LKWY Lake 82.60 40 *e*P **P 10 04 22.4 +1.7**
comp=Z,220nm,1.1s
LKWY LR LR
comp=Z,12µm,18.0s
MNAI Manna 82.60 267 PFAKE 10 04 30.0 +8.8
MNAI LR LR
comp=Z,4µm,20.0s
QIZ Qiongzhong 82.71 292 P **P 10 04 21.8 +0.2**
QIZ pP **PcP 10 04 28.9 +2.4**
QIZ PP **PP 10 07 32.7 +0.7**
QIZ S **S 10 14 39.9 +2.5**
QIZ sS **pS 10 14 51.3 +0.1**
QIZ SS **SS 10 20 00.1 -0.4**
QIZ pmax pmax
comp=Z,780nm,10.6s
QIZ LR LR
comp=Z,1µm,22.9s
QIZ LR LR
comp=Z,3µm,23.6s
QIZ LR LR
comp=Z,6µm,25.8s
QIZ Qiongzhong 82.71 292 *e*P **P 10 04 22.3 +0.7**
comp=Z,74nm,1.7s
QIZ LR LR
comp=Z,3µm,22.0s
SDCO Great Sand Dun 82.72 48 P **P 10 04 22.1 +0.5**
baz=244,SNR=103
SDCO Great Sand Dun 82.72 48 *e*P **P 10 04 22.1 +0.5**
comp=Z,267nm,1.6s
SDCO LR LR
comp=Z,12µm,20.0s
HRY Holter Researc 82.82 38 *e*P **P 10 04 21.7 0.0**
WALA Waterton Lakes 82.87 35 *e*P **P 10 04 22.1 +0.2**
comp=Z,205nm,1.4s
WALA LR LR
comp=Z,10µm,22.0s
WHN Wuhan 82.89 304 ⇓P **P 10 04 22.8 +0.6**
WHN S **S 10 14 35.1 -3.6**
WHN pmax pmax
comp=Z,2µm,7.5s
WHN LR LR
comp=Z,4µm,23.4s
WHN LR LR
comp=Z,7µm,19.2s
WHN LR LR
comp=Z,20µm,35.8s
BZMT Bozeman Pass 82.89 39 *e*P **P 10 04 23.2 +0.9**
TIA Tai'an 83.00 310 ⇑P **P 10 04 23.3 +0.6**
TIA pP **sP 10 04 35.0 -2.6**
TIA sP **pP 10 04 40.7 +7.0**
TIA SKS **S 10 14 42.2 +2.5**
TIA SS **SS 10 20 02.5 -1.7**
TIA pmax pmax
comp=Z,50nm,1.7s
TIA LR LR
comp=Z,3µm,21.2s
TIA LR LR
comp=Z,5µm,21.8s
TIA LR LR
comp=Z,7µm,22.1s
MSTX Muleshoe 83.18 52 P **P 10 04 24.3 +0.4**
baz=246,SNR=106
MSTX Muleshoe 83.18 52 *e*P **P 10 04 24.3 +0.4**
comp=Z,453nm,1.3s
MSTX LR LR
comp=Z,16µm,22.0s
CRMT Chrome Mountai 83.20 39 *e*P **P 10 04 24.5 +0.5**
T25A Trinidad 83.25 49 P **P 10 04 24.8 +0.5**
baz=245,SNR=39
T25A Trinidad 83.25 49 *e*P **P 10 04 24.6 +0.3**
comp=Z,164nm,1.3s
T25A LR LR
comp=Z,9µm,20.0s
832A Faith Ranch, C 83.25 58 P **P 10 04 24.6 +0.4**
baz=249,SNR=47
DAWY Dawson 83.31 14 *e*P **P 10 04 23.8 0.0**
comp=Z,371nm,1.6s
DAWY LR LR
comp=Z,17µm,22.0s
PAYG Puerto Ayora 83.33 89 PFAKE 10 04 40.0 +15
PAYG LR LR
comp=Z,2µm,18.0s
MYKOM Kota Tinggi 83.33 274 *e*P **P 10 04 24.7 -0.2**
comp=Z,41nm,0.9s
MYKOM LR LR
comp=Z,2µm,22.0s
Q24A Divide 83.49 47 P **P 10 04 26.2 +0.6**
baz=244,SNR=70
Q24A Divide 83.49 47 *e*P **P 10 04 26.4 +0.8**
comp=Z,441nm,1.4s
Q24A LR LR
comp=Z,21µm,20.0s
EGAK Eagle 83.50 13 *e*P **P 10 04 25.0 +0.3**
comp=Z,254nm,1.5s
EGAK LR LR
comp=Z,19µm,22.0s
ISCO Idaho Springs 83.53 46 P **P 10 04 26.2 +0.4**
baz=244,SNR=70
ISCO Idaho Springs 83.53 46 *e*P **P 10 04 26.2 +0.4**
ISCO pmax pmax
comp=Z,225nm,1.5s
ISCO MLR MLR
comp=Z,13µm,20.0s
ISCO Idaho Springs 83.53 46 *e*P **P 10 04 26.2 +0.4**
comp=Z,225nm,1.5s
ISCO LR LR
comp=Z,13µm,20.0s
RLMT Red Lodge 83.57 40 P **P 10 04 26.4 +0.6**
baz=241,SNR=46
RLMT Red Lodge 83.57 40 *e*P **P 10 04 26.8 +1.1**
comp=Z,263nm,1.4s
RLMT LR LR
comp=Z,6µm,21.0s
933A Laredo 83.59 59 P **P 10 04 26.4 +0.5**
baz=249,SNR=49
GCMT Greycliff 83.65 39 *e*P **P 10 04 26.8 +0.7**
833A Chaparral WMA, 83.74 59 P **P 10 04 27.7 +1.0**
baz=249,SNR=29
N23A Red Feather La 83.78 45 P **P 10 04 27.5 +0.5**
baz=244,SNR=55
N23A Red Feather La 83.78 45 *e*P **P 10 04 27.6 +0.6**
comp=Z,314nm,1.4s
N23A LR LR
comp=Z,17µm,21.0s
034A Hebbronville 83.89 60 P **P 10 04 28.8 +1.3**
baz=250,SNR=20
733A Divot King Ran 83.97 58 P **P 10 04 28.6 +0.7**
baz=249,SNR=6.0
COLD Coldfoot 84.01 9 *e*P **P 10 04 28.1 +0.9**
comp=Z,159nm,1.4s
COLD LR LR
comp=Z,9µm,20.0s
K22A Casper 84.17 43 P **P 10 04 29.4 +0.5**
baz=243,SNR=61
K22A Casper 84.17 43 *e*P **P 10 04 28.8 0.0**
comp=Z,429nm,1.6s
K22A LR LR
comp=Z,10µm,22.0s
JCT Junction City 84.19 56 P **P 10 04 29.1 +0.1**
baz=249,SNR=20
JCT Junction City 84.19 56 *e*P **P 10 04 29.4 +0.4**
JCT pmax pmax
comp=Z,71nm,1.1s
JCT MLR MLR
comp=Z,9µm,20.0s
JCT Junction City 84.19 56 *e*P **P 10 04 29.4 +0.4**
comp=Z,71nm,1.1s
JCT LR LR
comp=Z,9µm,20.0s
035Z Hargill 84.20 61 P **P 10 04 29.4 +0.3**
baz=250
934A Benavides 84.21 60 P **P 10 04 30.2 +1.1**
baz=250,SNR=17
FYU Fort Yukon 84.24 11 *e*P **P 10 04 28.0 -0.3**
comp=Z,99nm,1.4s
FYU LR LR
comp=Z,16µm,22.0s
PHWY Pilot Hill 84.29 45 *e*P **P 10 04 29.6 0.0**
comp=Z,267nm,1.5s
PHWY LR LR
comp=Z,16µm,22.0s
633A Saathoff Ranch 84.33 58 P **P 10 04 30.4 +0.7**
baz=249,SNR=64
035A Encino 84.33 60 P **P 10 04 30.9 +1.2**
baz=250,SNR=7.5
BILL Bilibino 84.34 353 *d i*P **P 10 04 29.0 +0.1**
BILL *e**PP **pP 10 04 38.9 -0.9**
BILL *e**SP **sP 10 04 47.2 +3.4**
BILL *i* 10 07 42.5
BILL PPP PPP 10 09 37.0
BILL *i* S **S 10 14 49.1 -2.8**
BILL pmax pmax
comp=Z,127nm,1.2s
BILL MLR MLR
comp=Z,3µm,19.0s
AMTX Amarillo 84.37 52 P **P 10 04 30.2 +0.3**
baz=247
AMTX Amarillo 84.37 52 *e*P **P 10 04 29.8 -0.1**
comp=Z,284nm,1.1s
AMTX LR LR
comp=Z,13µm,20.0s
834A Tilden 84.37 59 P **P 10 04 31.1 +1.2**
baz=249,SNR=82
PMSA Palmer Station 84.38 156 P **P 10 04 29.9 +0.7**
comp=Z,46nm,1.0s,baz=234,slow=4.9,SNR=39
PMSA Palmer Station 84.38 156 *e*P **P 10 04 30.1 +0.9**
comp=Z,221nm,1.4s
PMSA LR LR
comp=Z,8µm,20.0s
734A La Parita Cree 84.62 58 P **P 10 04 31.9 +0.8**
baz=249,SNR=15
533A Kerrville 84.66 57 P **P 10 04 32.2 +0.8**
baz=249,SNR=48
EGMT Eagleton 84.70 37 P **P 10 04 31.9 +0.6**
baz=240,SNR=54
EGMT Eagleton 84.70 37 *e*P **P 10 04 31.4 +0.1**
comp=Z,320nm,1.4s
EGMT LR LR
comp=Z,16µm,22.0s
KVTX Kingsville 84.72 60 *e*P **P 10 04 33.0 +1.4**
comp=Z,303nm,1.4s
433A Art 84.86 56 P **P 10 04 32.8 +0.4**
baz=249,SNR=58
634A China Grove, S 84.97 58 P **P 10 04 33.8 +0.8**
baz=249
835A Beeville 85.02 59 P **P 10 04 33.1 -0.1**
baz=250,SNR=8.1
ABTX Abilene, Hawle 85.09 54 P **P 10 04 34.0 +0.5**
baz=248,SNR=145
ABTX Abilene, Hawle 85.09 54 *e*P **P 10 04 33.8 +0.3**
comp=Z,458nm,1.1s
ABTX LR LR
comp=Z,12µm,20.0s
534A Blanco 85.10 57 P **P 10 04 34.0 +0.4**
baz=249,SNR=55
333A Richland Sprin 85.15 56 P **P 10 04 34.2 +0.4**
baz=249,SNR=67
735A Kenedy 85.24 59 P **P 10 04 35.1 +0.8**
baz=250
BJT Baijiatuau 85.25 313 *e*P **P 10 04 34.7 +0.6**
BJT pmax pmax
comp=Z,453nm,1.7s
BJT MLR MLR
comp=Z,4µm,22.0s
BJT Baijiatuau 85.25 313 *e*P **P 10 04 34.7 +0.6**
comp=Z,453nm,1.7s
BJT LR LR
comp=Z,4µm,22.0s
BJI Beijing 85.26 314 P **P 10 04 34.9 +0.8**
BJI PP **PP 10 07 52.3 0.0**
BJI SKS **SKSac 10 14 54.4 -2.1**
BJI S **SKKSac 10 15 06.2 +3.2**
BJI SS **SS 10 20 35.0 -2.4**
BJI pmax pmax
comp=Z,130nm,2.2s
BJI pmax pmax
comp=Z,2µm,4.6s
BJI LR LR
comp=Z,2µm,28.0s
BJI LR LR
comp=Z,3µm,25.2s
BJI LR LR
comp=Z,7µm,25.2s
KSCO Kaye Shedlock' 85.30 48 P **P 10 04 35.1 +0.5**
baz=246,SNR=36
KSCO Kaye Shedlock' 85.30 48 *e*P **P 10 04 35.0 +0.5**
comp=Z,393nm,1.4s
KSCO LR LR
comp=Z,12µm,22.0s
TOLK Toolik Lake Re 85.42 9 P **P 10 04 35.1 +0.8**
baz=203
EDM Edmonton 85.43 32 *e*P **P 10 04 34.1 -0.6**
EDM pmax pmax
comp=Z,293nm,1.4s
EDM MLR MLR
comp=Z,12µm,22.0s
EDM Edmonton 85.43 32 *e*P **P 10 04 34.1 -0.6**
comp=Z,293nm,1.4s
EDM LR LR
comp=Z,12µm,22.0s
635A Leesville 85.45 58 P **P 10 04 36.3 +1.0**
baz=250,SNR=21
233A Rising Star 85.46 55 P **P 10 04 35.6 +0.2**
baz=249,SNR=64
434A Burnet 85.54 57 P **P 10 04 35.7 -0.1**
baz=249,SNR=47
UBPT Khong Chiam 85.55 287 P **P 10 04 36.7 +0.6**
comp=Z,71nm,1.1s,comp=Z,1µm
BKNI Bangkinang 85.65 272 P **P 10 04 36.0 -0.7**
BKNI Bangkinang 85.65 272 *e*P **P 10 04 36.8 +0.1**
comp=Z,173nm,1.3s
BKNI LR LR
comp=Z,3µm,20.0s
133A Hamilton Ranch 85.66 55 P **P 10 04 36.5 +0.1**
baz=249,SNR=112
334A Lometa 85.75 56 P **P 10 04 37.1 +0.3**
baz=249,SNR=55
535A Dale 85.83 58 P **P 10 04 37.8 +0.6**
baz=250,SNR=12
736A Circle Diamond 85.88 59 P **P 10 04 37.5 0.0**
baz=250,SNR=8.3
Z33A Whitaker Ranch 86.02 54 P **P 10 04 38.5 +0.3**
baz=249,SNR=111
X32A Elmer 86.02 53 P **P 10 04 38.1 0.0**
baz=249,SNR=119
234A Clairette 86.06 56 P **P 10 04 38.8 +0.5**
baz=249,SNR=68
636A Smothers Creek 86.07 58 P **P 10 04 39.4 +1.0**
baz=250,SNR=13
PPI Padang Panjang 86.07 271 P **P 10 04 37.3 -1.5**
435B Jarrell 86.08 57 P **P 10 04 39.0 +0.6**
baz=250,SNR=26
USHA Ushuaia 86.13 146 P **P 10 04 39.2 +1.0**
comp=Z,84nm,0.9s,baz=288,slow=1.6,SNR=5.3
LAO LASA Array 86.18 40 P **P 10 04 39.5 +0.9**
baz=243,SNR=94
LAO LASA Array 86.18 40 *e*P **P 10 04 39.5 +0.9**
comp=Z,462nm,1.4s
LAO LR LR
comp=Z,6µm,21.0s
CHRN Cochrane 86.20 138 PFAKE 10 04 50.0 +11
CHRN LR LR
comp=Z,100nm,21.0s
CCIG Comitan 86.24 72 *e*P **P 10 04 41.0 +1.3**
comp=Z,168nm,1.6s
CCIG LR LR
comp=Z,8µm,22.0s
536A Bastrop 86.26 58 P **P 10 04 40.5 +1.1**
baz=250,SNR=8.3
134A White-Moore Ra 86.31 55 P **P 10 04 39.8 +0.3**
baz=249,SNR=84
737A Port Lavaca 86.33 59 P **P 10 04 39.9 +0.2**
baz=250
335A Moody 86.38 56 P **P 10 04 40.1 +0.2**
baz=250,SNR=28
Y33A Hilltop Ranch, 86.39 53 P **P 10 04 40.0 +0.1**
baz=249,SNR=45
RSSD Black Hills 86.45 43 P **P 10 04 40.1 -0.1**
baz=245
RSSD Black Hills 86.45 43 *e*P **P 10 04 39.9 -0.3**
RSSD pmax pmax
comp=Z,156nm,1.1s
RSSD MLR MLR
comp=Z,9µm,20.0s
RSSD Black Hills 86.45 43 *e*P **P 10 04 39.9 -0.3**
comp=Z,156nm,1.1s
RSSD LR LR
comp=Z,9µm,20.0s
COCO West Island 86.49 258 PFAKE 10 04 50.0 +9.2
COCO LR LR
comp=Z,4µm,20.0s
OGNE Ogallala 86.49 46 P **P 10 04 40.5 +0.2**
baz=246,SNR=5.7
OGNE Ogallala 86.49 46 *e*P **P 10 04 40.5 +0.2**
comp=Z,200nm,1.7s
OGNE LR LR
comp=Z,12µm,21.0s
WMOK Wichita Mounta 86.53 53 P **P 10 04 40.3 -0.3**
baz=249,SNR=24
WMOK Wichita Mounta 86.53 53 *e*P **P 10 04 39.9 -0.7**
WMOK pmax pmax
comp=Z,70nm,1.4s
WMOK MLR MLR
comp=Z,10µm,22.0s
WMOK Wichita Mounta 86.53 53 *e*P **P 10 04 39.9 -0.7**
comp=Z,70nm,1.4s
WMOK LR LR
comp=Z,10µm,22.0s
WHTX Lake Whitney, 86.60 56 P **P 10 04 41.3 +0.3**
baz=250,SNR=15
WHTX Lake Whitney, 86.60 56 *e*P **P 10 04 41.2 +0.3**
comp=Z,368nm,1.5s
WHTX LR LR
comp=Z,11µm,20.0s
637A Eagle Lake 86.65 58 P **P 10 04 42.0 +0.8**
baz=250,SNR=12
436A Wall Ranch, Ga 86.71 57 P **P 10 04 42.5 +1.0**
baz=250,SNR=10
ENH Enshi 86.71 302 *e*P **P 10 04 41.9 +0.3**
comp=Z,74nm,1.1s
ENH LR LR
comp=Z,4µm,21.0s
Z34A Collier Ranch, 86.71 54 P **P 10 04 41.6 +0.1**
baz=249,SNR=27
IPM Ipoh 86.76 275 *e*P **P 10 04 42.4 +0.2**
comp=Z,79nm,0.8s
IPM LR LR
comp=Z,2µm,20.0s
135A Vickery Place, 86.83 55 P **P 10 04 42.4 +0.3**
baz=250,SNR=42
537A Green Hill Far 86.87 58 P **P 10 04 43.4 +1.1**
baz=250,SNR=20
336A Riesel 86.88 56 P **P 10 04 42.6 +0.2**
baz=250,SNR=32
U32A Winter Ranch, 86.95 51 P **P 10 04 42.8 +0.2**
baz=249,SNR=25
HIA Hailar 86.99 323 *e*P **P 10 04 43.1 +0.6**
HIA pmax pmax
comp=Z,197nm,1.3s
HIA MLR MLR
comp=Z,12µm,22.0s
HIA Hailar 86.99 323 *e*P **P 10 04 43.1 +0.6**
comp=Z,197nm,1.3s
HIA LR LR
comp=Z,12µm,22.0s
738A Farr-Stevens R 87.02 59 P **P 10 04 44.1 +1.0**
baz=251
TIY Taiyuan 87.04 310 *e*P **P 10 04 43.8 +0.7**
TIY pP **PcP 10 04 48.7 +3.5**
TIY sP **pP 10 04 55.3 +1.2**
TIY PP **PP 10 08 04.8 -2.1**
TIY SKS **SKSac 10 15 07.6 -0.3**
TIY S **SKKSac 10 15 15.7 -1.0**
TIY LR LR
comp=Z,2µm,15.7s
TIY LR LR
comp=Z,2µm,17.2s
TIY LR LR
comp=Z,5µm,21.5s
Y34A Reagan Ranch, 87.04 54 P **P 10 04 43.3 +0.2**
baz=250,SNR=35
MNSI Mandailing Nat 87.19 272 P **P 10 04 42.4 -1.8**
X34A Smith Ranch, M 87.21 53 P **P 10 04 44.8 +0.9**
baz=249,SNR=48
Z35A Perchaven, San 87.22 55 P **P 10 04 44.3 +0.4**
baz=250,SNR=24
437A Phantom Ranch, 87.27 57 P **P 10 04 45.3 +1.1**
baz=250
CBKS Cedar Bluff 87.30 49 P **P 10 04 44.5 +0.2**
baz=248,SNR=7.7
CBKS Cedar Bluff 87.30 49 *e*P **P 10 04 45.7 +1.4**
CBKS pmax pmax
comp=Z,69nm,1.1s
CBKS MLR MLR
comp=Z,9µm,20.0s
CBKS Cedar Bluff 87.30 49 *e*P **P 10 04 45.7 +1.4**
comp=Z,69nm,1.1s
CBKS LR LR
comp=Z,9µm,20.0s
KULM Kulim 87.34 276 *e*P **P 10 04 45.3 +0.3**
comp=Z,47nm,1.0s
KULM LR LR
comp=Z,2µm,22.0s
236A Katherine and 87.34 56 P **P 10 04 44.9 +0.3**
baz=250,SNR=20
SKNT Sakolnakorn 87.41 288 P **P 10 04 45.3 +0.1**
comp=Z,219nm,0.9s,comp=Z,3µm
W34A Bridge Creek, 87.48 53 P **P 10 04 45.4 +0.2**
baz=249,SNR=9.8
W34A Bridge Creek, 87.48 53 *e*P **P 10 04 46.4 +1.2**
comp=Z,141nm,1.4s
W34A LR LR
comp=Z,9µm,22.0s
136A Ennis 87.50 56 P **P 10 04 45.7 +0.4**
baz=250,SNR=11
Y35A Marietta 87.59 54 P **P 10 04 46.1 +0.4**
baz=250,SNR=7.3
538A Harpers Horsep 87.60 58 P **P 10 04 46.9 +1.1**
baz=251
337A Centerville 87.63 57 P **P 10 04 46.7 +0.7**
baz=251
438A Sam Houston St 87.78 57 P **P 10 04 47.8 +1.1**
baz=251,SNR=22
X35A Drake 87.81 54 P **P 10 04 46.6 -0.1**
baz=250,SNR=36
GYA Guiyang 87.84 298 ⇑*i*P **P 10 04 47.5 +0.2**
GYA pP pP 10 04 57.8 -0.5
GYA PP **PP 10 08 16.0 +2.3**

GYA SKS **SKSac** **10 15 11.6 -1.8**
GYA S **S** **10 15 27.6 -0.5**
GYA sS pS 10 15 42.2 +0.1
GYA SS **SS** **10 21 18.4 +2.3**
GYA pmax pmax
comp=Z,60nm,1.0s
GYA pmax pmax
comp=Z,700nm,6.6s
GYA LR LR
comp=Z,2µm,26.2s
GYA LR LR
comp=Z,2µm,24.0s
GYA LR LR
comp=Z,4µm,27.7s
Z36A Blue Ridge 87.84 55 P **P** **10 04 47.4 +0.4**
baz=250,SNR=6.5
SKLT Songkhla 87.86 278 P **P** **10 04 48.7 +1.2**
comp=Z,149nm,1.4s,comp=Z,2µm
MAW Mawson 87.89 199 P **P** **10 04 47.3 +0.8**
comp=Z,95nm,0.7s,baz=120,slow=5.5,SNR=100
MAW LR LR 10 41 29.8
comp=Z,22µm,20.3s,baz=122,slow=34
MAW Mawson 87.89 199 P **P** **10 04 46.7 +0.2**
baz=88,SNR=83
MAW Mawson 87.89 199 *e*P **P** **10 04 46.7 +0.2**
MAW pmax pmax
comp=Z,39nm,0.9s
MAW Mawson 87.89 199 *e*P **P** **10 04 46.7 +0.2**
comp=Z,39nm,0.9s
237A Washetta, Mont 87.92 56 P **P** **10 04 48.2 +0.9**
baz=251,SNR=23
CLNS Chul'man 88.03 331 *e*P **P** **10 04 47.6 +0.3**
CLNS *e**PP **sP** **10 05 00.4 -1.9**
CLNS *e* 10 08 12.4
CLNS *e*S **SKSac** **10 15 11.8 -1.2**
CLNS *e*SSS SSS 10 24 46.7
CLNS pmax pmax
comp=Z,61nm,0.9s
CLNS pmax pmax
comp=E,24nm,1.0s
CLNS pmax pmax
comp=N,25nm,1.1s
CLNS pmax pmax
comp=E,16nm,1.3s
CLNS pmax pmax
comp=N,23nm,1.3s
CLNS pmax pmax
comp=Z,17nm,1.4s
CLNS smax smax
comp=E,674nm,10.9s
CLNS smax smax
comp=N,1µm,10.6s
338A Crockett 88.11 57 P **P** **10 04 49.2 +0.9**
baz=251,SNR=30
W35A Tecumseh 88.14 53 P **P** **10 04 48.7 +0.3**
baz=250,SNR=21
INK Inuvik 88.16 14 P **P** **10 04 47.0 -0.6**
comp=N,35nm,1.1s,baz=192,slow=5.4,SNR=20
INK PP **PP** **10 08 08.4 -6.6**
comp=N,41nm,1.3s,baz=225,slow=7.4,SNR=5.9
INK Inuvik 88.16 14 *e*P **P** **10 04 47.4 -0.2**
INK pmax pmax
comp=Z,90nm,1.4s
INK MLR MLR
comp=Z,14µm,22.0s
INK Inuvik 88.16 14 *e*P **P** **10 04 47.4 -0.2**
comp=Z,90nm,1.4s
INK PP **PP** **10 08 08.4 -6.6**
INK LR LR
comp=Z,14µm,22.0s
137A Heron Place, G 88.16 56 P **P** **10 04 49.5 +1.1**
baz=251,SNR=15
Y36A Durant 88.17 54 P **P** **10 04 48.9 +0.4**
baz=250,SNR=24
539A Cross D Ranch, 88.19 58 P **P** **10 04 50.0 +1.4**
baz=251
DGMT Dagmar 88.20 39 P **P** **10 04 48.9 +0.6**
baz=245,SNR=26
DGMT Dagmar 88.20 39 *e*P **P** **10 04 48.3 -0.1**
comp=Z,325nm,1.6s
DGMT LR LR
comp=Z,21µm,20.0s
PSI Prapat 88.34 273 *e*P **P** **10 04 49.0 -0.9**
PSI pmax pmax
comp=Z,89nm,1.3s
PSI MLR MLR
comp=Z,3µm,21.0s
PSI Prapat 88.34 273 *e*P **P** **10 04 49.0 -0.9**
comp=Z,89nm,1.3s
PSI LR LR
comp=Z,3µm,21.0s
X36A Centrahoma 88.34 54 P **P** **10 04 49.3 -0.1**
baz=250,SNR=8.9
439A Center Grove, 88.37 58 P **P** **10 04 49.5 0.0**
baz=251
V35A Meyer Ranch, C 88.37 52 P **P** **10 04 49.5 +0.1**
baz=250
XAN Xi'an 88.42 306 P **P** **10 04 50.0 +0.2**
XAN pP pP 10 04 58.0 -2.8
XAN sP sP 10 05 01.2 -3.5
XAN PP **PP** **10 08 22.2 +4.1**
XAN SKS **SKSac** **10 15 15.8 -0.6**
XAN S **S** **10 15 34.3 +1.1**
XAN sS pS 10 15 47.9 +0.7
XAN pmax pmax
comp=Z,40nm,1.5s
XAN pmax pmax
comp=Z,750nm,6.1s
XAN LR LR
comp=Z,2µm,20.4s
XAN LR LR
comp=Z,2µm,21.1s
XAN LR LR
comp=Z,4µm,22.4s
Z37A Pogue Cattle C 88.46 55 P **P** **10 04 50.8 +0.9**
baz=251
238A Jacksonville 88.47 56 P **P** **10 04 50.7 +0.7**
baz=251,SNR=26
NONG Nongkai 88.48 289 P **P** **10 04 54.6 +4.3**
comp=Z,35nm,1.5s
T34A McClaskey Farm 88.54 51 P **P** **10 04 50.2 0.0**
baz=250,SNR=10
W36A Wetumka 88.63 53 P **P** **10 04 50.6 0.0**
baz=250,SNR=19
U35A Pawnee 88.66 52 P **P** **10 04 50.7 -0.1**
baz=250,SNR=5.6
138A Matatall Enter 88.71 56 P **P** **10 04 51.9 +0.9**
baz=251,SNR=9.4
339A Huntington 88.71 57 P **P** **10 04 50.9 -0.2**
baz=251
Y37A Hugo 88.72 54 P **P** **10 04 51.4 +0.3**
baz=251,SNR=17
SLVN Son La 88.72 292 *e*P **P** **10 04 52.4 +0.9**
comp=Z,97nm,1.7s
SLVN LR LR
comp=Z,5µm,22.0s
NATX Nacogdoches 88.77 57 P **P** **10 04 51.5 +0.1**
baz=251,SNR=5.0
NATX Nacogdoches 88.77 57 *e*P **P** **10 04 52.8 +1.4**
comp=Z,161nm,1.3s
NATX LR LR
comp=Z,5µm,20.0s
HHC Hu-ho-hao-te 88.81 313 *e*P **P** **10 04 52.2 +0.7**
HHC pP pP 10 05 03.0 +0.5
HHC sP sP 10 05 06.9 +0.4
HHC pmax pmax
comp=Z,42nm,0.8s
HHC pmax pmax
comp=Z,1µm,8.0s
HHC LR LR
comp=Z,940nm,22.4s
HHC LR LR
comp=Z,2µm,23.3s
HHC LR LR
comp=Z,3µm,23.4s
540A Vidor 88.83 58 P **P** **10 04 51.7 0.0**
baz=252
S34A Willow Spring 88.83 50 P **P** **10 04 51.5 -0.1**
baz=250,SNR=15
YAK Yakutsk 88.92 337 *d* *i*P **P** **10 04 50.7 -0.6**
YAK *e**PP **pP** **10 05 02.3 0.0**
YAK *e* 10 08 19.0
YAK *e*S **SKSac** **10 15 12.1 -5.8**
YAK *e**SS **SKKSac** **10 15 30.7 +1.2**
YAK *e*SS **SS** **10 21 25.0 -4.9**
YAK pmax pmax
comp=Z,113nm,1.2s
YAK pmax pmax
comp=N,28nm,1.4s
YAK pmax pmax
comp=E,46nm,1.5s
YAK pmax pmax
comp=Z,466nm,1.8s
YAK pmax pmax
comp=N,417nm,2.3s
YAK pmax pmax
comp=E,390nm,2.3s
YAK smax smax
comp=N,522nm,3.4s
YAK smax smax
comp=E,505nm,4.1s
YAK Yakutsk 88.92 337 *e*P **P** **10 04 51.4 +0.1**
comp=E,132nm,1.1s
YAK LR LR
comp=Z,8µm,22.0s
TRTT Trang 88.93 278 P **P** **10 04 53.6 +1.1**
comp=Z,256nm,1.2s,comp=Z,2µm
R34A Isabella, Hill 88.94 50 P **P** **10 04 52.2 +0.1**
baz=250,SNR=12
CHAI Chaiyaphum 88.94 287 P **P** **10 04 55.3 +2.8**
comp=Z,4.3nm,0.8s,comp=Z,81nm
Z38A Mt. Pleasant 88.98 55 P **P** **10 04 53.4 +1.0**
baz=251
239A Gary 89.00 57 P **P** **10 04 53.2 +0.8**
baz=251,SNR=7.6
T35A Sooner Cattle 89.01 51 P **P** **10 04 52.4 -0.1**
baz=250,SNR=6.9
440A Kirbyville 89.02 58 P **P** **10 04 52.4 -0.1**
baz=252
V36A Jenks 89.07 53 P **P** **10 04 52.8 +0.1**
baz=250,SNR=7.6
X37A Clayton 89.11 54 P **P** **10 04 52.5 -0.4**
baz=251,SNR=9.4
TUL1 Leonard 89.22 53 P **P** **10 04 53.4 0.0**
baz=251,SNR=8.6
TUL1 Leonard 89.22 53 *e*P **P** **10 04 55.0 +1.6**
comp=Z,60nm,1.3s
TUL1 LR LR
comp=Z,8µm,21.0s
W37B Quinton 89.25 53 P **P** **10 04 53.6 0.0**
baz=251,SNR=12
GSI Gunungsitoli 89.25 272 *e*P **P** **10 04 53.7 -0.4**
comp=Z,150nm,0.6s
GSI LR LR
comp=Z,2µm,20.0s
139A Bunkhouse Ranc 89.27 56 P **P** **10 04 54.2 +0.5**
baz=251,SNR=5.7
340A Bronson 89.28 57 P **P** **10 04 53.7 0.0**
baz=252
O33A Hebron 89.31 48 P **P** **10 04 53.8 0.0**
baz=249,SNR=5.1
Q34A Chapman 89.38 49 P **P** **10 04 54.2 +0.2**
baz=250
BGNE Belgrade 89.38 47 P **P** **10 04 54.1 +0.1**
baz=249
BGNE Belgrade 89.38 47 *e*P **P** **10 04 53.6 -0.4**
comp=Z,34nm,0.9s
BGNE LR LR
comp=Z,18µm,20.0s
K31A O'Neill 89.40 45 P **P** **10 04 54.2 +0.1**
baz=249,SNR=14
Y38A Idabel 89.40 55 P **P** **10 04 55.3 +1.0**
baz=251
S35A Otter Creek Ra 89.42 51 P **P** **10 04 54.3 +0.1**
baz=250,SNR=12
U36A Oologah 89.43 52 P **P** **10 04 54.7 +0.3**
baz=251
T36A Boggs Farm, Ca 89.54 51 P **P** **10 04 55.2 +0.3**
baz=250,SNR=6.5
X38A Whitesboro 89.56 54 P **P** **10 04 55.2 +0.2**
baz=251,SNR=32
240A Hunter Patters 89.58 57 P **P** **10 04 55.3 +0.2**
baz=252,SNR=5.5
Z39A Irene McRaven, 89.62 55 P **P** **10 04 55.9 +0.6**
baz=252
KCSI Kotacane, Aceh 89.64 274 P **P** **10 04 55.2 -0.7**
N33A J Bar K, Exete 89.64 48 P **P** **10 04 55.5 +0.2**
baz=250
J31A Geddes 89.65 45 P **P** **10 04 55.5 +0.2**
baz=249
P34A Walnut Farm, R 89.68 49 P **P** **10 04 55.7 +0.2**
baz=250,SNR=8.5
KSU1 Kansas State U 89.68 49 P **P** **10 04 55.8 +0.3**
baz=250
KSU1 Kansas State U 89.68 49 *e*P **P** **10 04 56.1 +0.6**
comp=Z,59nm,1.4s
KSU1 LR LR
comp=Z,17µm,21.0s
L32A Elgin 89.69 46 P **P** **10 04 56.1 +0.6**
baz=249,SNR=7.1
V37A Hulbert 89.72 53 P **P** **10 04 55.6 -0.1**
baz=251,SNR=22
PLCA Paso Flores 89.72 132 P **P** **10 04 57.8 +1.9**
comp=Z,15nm,1.0s,baz=265,slow=2.9,SNR=13
PLCA LR LR 10 37 42.2
comp=Z,7µm,19.9s,baz=266,slow=31
PLCA Paso Flores 89.72 132 *e*P **P** **10 04 56.7 +0.8**
PLCA pmax pmax
comp=Z,140nm,1.5s
PLCA Paso Flores 89.72 132 *e*P **P** **10 04 56.7 +0.8**
comp=Z,140nm,1.5s
R35A Emporia Munici 89.72 50 P **P** **10 04 56.0 +0.3**
baz=250,SNR=8.5
BTO Baotou 89.83 312 *e*P **P** **10 04 57.2 +0.9**
341A Kurthwood 89.84 58 P **P** **10 04 56.4 0.0**
baz=252,SNR=7.9
U37A Salina 89.90 52 P **P** **10 04 56.9 +0.3**
baz=251,SNR=13
Y39A Lockesburg 89.91 55 P **P** **10 04 56.7 0.0**
baz=252
140A Cam and Jess, 89.92 56 P **P** **10 04 56.9 +0.2**
baz=252
W38A Poteau 89.93 54 P **P** **10 04 56.9 +0.2**
baz=251,SNR=14
K32A Verdigre 89.95 46 P **P** **10 04 56.7 0.0**
baz=249
S36A Lake Cedric, C 89.97 51 P **P** **10 04 57.1 +0.2**
baz=251,SNR=6.6
O34A Beatrice 89.99 48 P **P** **10 04 57.4 +0.4**
baz=250
YKA Yellowknife Ar 90.02 23 P **P** **10 04 56.2 -0.3**
comp=Z,15nm,0.8s,baz=237,slow=4.3,SNR=19
YKA LR LR 10 38 12.3
comp=Z,1µm,21.0s,baz=180,slow=31
YKB5 Yellowknife Ar 90.02 23 *e*P **P** **10 04 56.5 +0.1**
Q35A Mercer Eighty, 90.02 50 P **P** **10 04 57.3 +0.2**
baz=250,SNR=14
YKW3 Yellowknife Ar 90.05 23 *e*P **P** **10 04 56.9 +0.3**
comp=Z,44nm,1.1s
PBKT Sadao Pong 90.06 287 P **P** **10 04 58.8 +1.1**
comp=Z,27nm,1.9s,comp=Z,1µm
X39A Fountain Ranch 90.07 54 P **P** **10 04 57.8 +0.4**
baz=252,SNR=12
M33A Taylor Creek F 90.11 47 P **P** **10 04 58.0 +0.5**
baz=251,SNR=5.7
TGUH Tegucigalpa,Un 90.13 76 *e*P **P** **10 04 58.9 +0.8**
comp=Z,201nm,1.8s
TGUH LR LR
comp=Z,4µm,21.0s
R36A Gordon, Harris 90.24 50 P **P** **10 04 57.9 -0.2**
baz=251,SNR=5.1
Z40A Long Farm, Mag 90.25 56 P **P** **10 04 59.0 +0.7**
baz=252
241A Mo Tay, Goldon 90.25 57 P **P** **10 04 58.3 0.0**
baz=252
442A Mamou 90.26 58 P **P** **10 04 58.2 -0.1**
baz=252
H31A Wolsey 90.26 44 P **P** **10 04 58.5 +0.4**
baz=249
L33A Hoskins 90.26 46 P **P** **10 04 58.6 +0.4**
baz=250
V38A Canehill 90.27 53 P **P** **10 04 58.1 -0.3**
baz=251,SNR=23
T37A Chenevyville 18 90.29 52 P **P** **10 04 58.4 +0.1**
baz=251,SNR=13
J32A Parkston 90.29 45 P **P** **10 04 58.1 -0.1**
baz=249
PHET Kaeng Krachan 90.33 283 P **P** **10 05 00.8 +1.8**
comp=Z,12nm,1.4s
N34A Lincoln 90.35 48 P **P** **10 04 58.7 +0.1**
baz=250
141A Papa Simpson, 90.44 56 P **P** **10 04 59.6 +0.4**
baz=252
U38A Gravette 90.47 52 P **P** **10 04 59.5 +0.3**
baz=251,SNR=9.3
Q36A Arnold C. Orve 90.48 50 P **P** **10 04 59.3 +0.1**
baz=251
MIAR Mount Ida 90.50 54 P **P** **10 04 59.3 -0.1**
baz=252,SNR=8.1
MIAR Mount Ida 90.50 54 *e*P **P** **10 05 01.3 +1.9**
MIAR pmax pmax
comp=Z,108nm,1.7s
MIAR MLR MLR
comp=Z,8µm,20.0s
MIAR Mount Ida 90.50 54 *e*P **P** **10 05 01.3 +1.9**
comp=Z,108nm,1.7s
MIAR LR LR
comp=Z,8µm,20.0s
M34A Aspy Farms, Fr 90.52 47 P **P** **10 04 59.4 0.0**
baz=250
342A Flagon Creek P 90.54 58 P **P** **10 05 00.9 +1.2**
baz=252
W39A Magazine 90.55 54 P **P** **10 05 01.0 +1.4**
baz=252,SNR=15
S37A Fort Scott 90.56 51 P **P** **10 04 59.8 +0.2**
baz=251,SNR=5.2
Y40A Okolona 90.57 55 P **P** **10 05 00.2 +0.5**
baz=252,SNR=7.6
O35A Humboldt 90.58 48 P **P** **10 04 59.9 +0.2**
baz=250
WLAR White Oak Lake 90.61 55 *e*P **P** **10 05 00.7 +0.8**
comp=Z,134nm,1.4s
WLAR LR LR
comp=Z,13µm,20.0s
G31A Conde 90.70 43 P **P** **10 05 00.2 +0.1**
baz=249
Z41A Richland Creek 90.72 56 P **P** **10 05 00.6 +0.2**
baz=252
T38A Diamond 90.73 52 P **P** **10 05 00.3 -0.2**
baz=251,SNR=14
R37A Teagarden Farm 90.74 50 P **P** **10 05 00.5 +0.1**
baz=251
HHAR Hobbs 90.76 53 *e*P **P** **10 05 00.4 -0.2**
comp=Z,23nm,1.1s
HHAR LR LR
comp=Z,7µm,20.0s
MDND Maddock 90.77 40 P **P** **10 05 00.8 +0.4**
baz=248
MDND Maddock 90.77 40 PFAKE 10 05 10.0 +10
MDND LR LR
comp=Z,8µm,20.0s
I32A Karley and Nic 90.78 44 P **P** **10 05 00.5 0.0**
baz=250
L34A Svendsen Farm, 90.82 47 P **P** **10 05 00.7 -0.1**
baz=250
KMI Kunming 90.83 296 P **P** **10 05 02.5 +1.1**
KMI pP pP 10 05 12.9 +0.4
KMI sP sP 10 05 17.4 +1.0
KMI SKS **SKSac** **10 15 31.7 +0.4**
KMI S **S** **10 15 53.9 -2.4**
KMI SS **SS** **10 21 57.9 -1.8**
KMI pmax pmax
comp=Z,32nm,1.0s
KMI pmax pmax
comp=Z,600nm,6.3s
KMI LR LR
comp=Z,2µm,20.4s
KMI LR LR
comp=Z,2µm,20.4s
KMI LR LR
comp=Z,6µm,35.9s
V39A Pettigrew 90.85 53 P **P** **10 05 01.2 +0.1**
baz=252,SNR=14
LHMI Lhok Sumawe 90.88 275 PFAKE 10 05 10.0 +8.4
LHMI LR LR
comp=Z,2µm,22.0s
P36A Good Intent, A 90.88 49 P **P** **10 05 00.9 -0.2**
baz=251,SNR=12
242A Grayson 90.89 57 P **P** **10 05 01.1 -0.2**
baz=253,SNR=5.7
F31A Hecla 90.90 43 P **P** **10 05 00.9 -0.2**
baz=249
NANT Nan 90.91 289 P **P** **10 05 02.7 +1.0**
comp=Z,6.4nm,1.0s
H32A Carlson Farm, 90.96 44 P **P** **10 05 01.5 +0.1**
baz=250,SNR=11
N35A Tabor 90.97 48 P **P** **10 05 01.8 +0.3**
baz=251
Y41A Eaglette Beard 91.06 55 P **P** **10 05 02.0 0.0**
baz=252,SNR=11
X40A Basin Creek Fa 91.07 55 P **P** **10 05 02.0 0.0**
baz=252
W40A Ferguson Farm, 91.10 54 P **P** **10 05 02.2 +0.1**
baz=252,SNR=7.7
M35A Neola 91.13 47 P **P** **10 05 02.6 +0.4**
baz=251
U39A Green Forest 91.15 53 P **P** **10 05 02.3 -0.1**
baz=252,SNR=10
G32A Webster 91.18 43 P **P** **10 05 02.2 -0.1**
baz=250
SRDT SRDT 91.19 284 P **P** **10 05 04.7 +1.7**
comp=Z,348nm,1.0s
Q37A Longview Farm, 91.20 50 P **P** **10 05 02.3 -0.2**
baz=251
142A Monroe 91.20 57 P **P** **10 05 02.3 -0.4**
baz=253
S38A Stockton 91.21 51 P **P** **10 05 02.4 -0.3**
baz=252,SNR=6.5
O36A Bolckow 91.22 49 P **P** **10 05 02.7 0.0**
baz=251,SNR=7.4
I33A Coleman 91.23 45 P **P** **10 05 02.9 +0.2**
baz=250
ECSD EROS Data Cent 91.25 45 P **P** **10 05 02.9 +0.2**
baz=250,SNR=17
ECSD EROS Data Cent 91.25 45 *e*P **P** **10 05 01.6 -1.1**
comp=Z,36nm,1.3s
ECSD LR LR
comp=Z,26µm,22.0s
K34A Le Mars 91.26 46 P **P** **10 05 02.9 +0.1**
baz=250
X41A Kaden, Bauxite 91.33 55 P **P** **10 05 03.2 -0.1**
baz=252,SNR=5.7
JTS JuntasAbangare 91.33 80 PFAKE 10 05 20.0 +16
JTS LR LR
comp=Z,6µm,21.0s
243A Waterproof 91.38 57 P **P** **10 05 03.5 0.0**
baz=253
R38A Fenwick Farm, 91.39 51 P **P** **10 05 03.1 -0.3**
baz=252,SNR=18
E31A Nome 91.39 42 P **P** **10 05 03.1 -0.2**
baz=249
T39A Clever 91.42 52 P **P** **10 05 03.7 0.0**
baz=252,SNR=11
N36A Muff Farm, Cla 91.45 48 P **P** **10 05 03.8 +0.1**
baz=251,SNR=6.3
L35A Bielow Farm, R 91.45 47 P **P** **10 05 04.0 +0.3**
baz=251
V40A Witts Springs 91.48 53 P **P** **10 05 03.7 -0.3**
baz=252,SNR=8.2
H33A Prehn Over Nor 91.49 44 P **P** **10 05 04.0 +0.2**
baz=250,SNR=8.2
P37A Lathrop 91.50 49 P **P** **10 05 04.0 +0.1**
baz=252,SNR=16
SUKH Sukhothai 91.54 288 P **P** **10 05 05.8 +1.2**
comp=Z,6.5nm,1.1s,comp=Z,81nm
UALR University of 91.54 54 *e*P **P** **10 05 05.1 +0.8**
comp=Z,82nm,1.6s
UALR LR LR
comp=Z,6µm,21.0s
J34A George 91.55 46 P **P** **10 05 04.2 +0.1**
baz=250
CD2 Chengdu 91.61 301 P **P** **10 05 05.5 +0.8**
CD2 pP pP 10 05 12.4 -3.3
CD2 sP sP 10 05 19.8 +0.1
CD2 SKS **SKSac** **10 15 32.3 -2.8**
CD2 S **S** **10 16 00.9 -1.9**
CD2 SS **SS** **10 22 07.0 -3.4**
CD2 pmax pmax
comp=Z,30nm,1.1s
CD2 pmax pmax
comp=Z,630nm,5.9s
CD2 LR LR
comp=Z,4µm,22.6s
CD2 LR LR
comp=Z,4µm,20.2s
CD2 LR LR
comp=Z,6µm,28.0s
U40A Yellville 91.62 53 P **P** **10 05 04.6 0.0**
baz=252,SNR=9.4
X301 Greenbrier Sit 91.64 54 *e*P **P** **10 05 04.9 +0.2**
comp=Z,76nm,1.4s
X301 LR LR
comp=Z,15µm,22.0s

S39A Bolivar 91.67 51 P P 10 05 04.6 -0.2
baz=252,SNR=7.9
143A Socs Landing, 91.68 57 P P 10 05 04.9 -0.1
baz=253,SNR=5.0
Y42A Garnett, Star 91.70 56 P P 10 05 05.2 +0.2
baz=253
CIT Chita 91.72 324 *e*P P 10 05 05.6 +0.9
CIT *e* 10 05 12.5
CIT pmax pmax
comp=Z,453nm,1.2s
W41B Gary Mavity, V 91.74 54 P P 10 05 05.4 +0.3
baz=253,SNR=12
WHAR Wooly Hollow 91.74 54 *e*P P 10 05 05.7 +0.5
comp=Z,131nm,1.6s
WHAR LR LR
comp=Z,14µm,22.0s
CCAR Cane Creek 91.74 55 PFAKE 10 05 20.0 +15
CCAR LR LR
comp=Z,13µm,20.0s
M36A Felix, Anita 91.76 48 P P 10 05 05.4 +0.3
baz=251
LAMP Lampang 91.81 289 P P 10 05 07.0 +1.1
comp=Z,8.8nm,0.9s
O37A Wolven Farm, M 91.83 49 P P 10 05 05.1 -0.3
baz=252,SNR=6.6
Q38A Cooks Store, C 91.84 50 P P 10 05 05.3 -0.3
baz=252,SNR=7.3
344A Westbrook Farm 91.87 58 P P 10 05 06.5 +0.7
baz=253,SNR=12
G33A Ortonville 91.87 44 P P 10 05 05.5 0.0
baz=250,SNR=7.6
I34A Hadley 91.87 45 P P 10 05 05.9 +0.3
baz=251
K35A Storm Lake 91.87 46 P P 10 05 06.0 +0.4
baz=251,SNR=8.4
UMPA Umpang Tak 91.92 286 P P 10 05 08.0 +1.6
comp=Z,10nm,1.1s,comp=Z,1µm
C31A Landman Farms, 91.92 41 P P 10 05 05.9 +0.2
baz=249
E32A Braaten, Kindr 91.93 42 P P 10 05 05.8 +0.1
baz=250
N37A Lee Faris, Mou 91.97 48 P P 10 05 06.3 +0.2
baz=252
445A Amite 91.99 59 P P 10 05 06.1 -0.2
baz=254
V41A Mountainview 91.99 54 P P 10 05 06.3 0.0
baz=253,SNR=8.5
HDC Heredia 92.05 80 PFAKE 10 05 20.0 +13
HDC LR LR
comp=Z,4µm,21.0s
FFC Flin Flon 92.06 33 *e*P P 10 05 06.0 -0.1
FFC pmax pmax
comp=Z,96nm,1.7s
FFC MLR MLR
comp=Z,8µm,20.0s
FFC Flin Flon 92.06 33 *e*P P 10 05 06.0 -0.1
comp=Z,96nm,1.7s
FFC LR LR
comp=Z,8µm,20.0s
L36A Harm Buss Farm 92.07 47 P P 10 05 06.4 -0.1
baz=251
244A Avery, Jackson 92.07 57 P P 10 05 06.7 -0.1
baz=253,SNR=9.0
R39A Chumby, Stover 92.07 51 P P 10 05 06.7 +0.1
baz=252,SNR=18
J35A Milford 92.10 46 P P 10 05 07.0 +0.4
baz=251
P38A Dawn 92.11 50 P P 10 05 06.5 -0.2
baz=252
T40A Mansfield 92.12 52 P P 10 05 06.8 -0.1
baz=252
H34A Spellman Lake, 92.13 44 P P 10 05 07.6 +0.9
baz=251
F33A 5 Mile Ranch, 92.18 43 P P 10 05 07.4 +0.5
baz=250
B31A Greenbush Farm 92.19 40 P P 10 05 06.3 -0.6
baz=250
VBMS Vicksburg 92.26 57 P P 10 05 07.6 0.0
baz=253,SNR=6.2
VBMS Vicksburg 92.26 57 PFAKE 10 05 20.0 +12
VBMS LR LR
comp=Z,7µm,21.0s
S40A Lebanon 92.26 52 P P 10 05 07.8 +0.3
baz=252,SNR=12
M37A Trindle Farm, 92.28 48 P P 10 05 07.8 +0.3
baz=252,SNR=9.2
O38A Galt 92.30 49 P P 10 05 07.5 -0.1
baz=252
U41A Viola 92.34 53 P P 10 05 07.9 0.0
baz=253
Q39A Willow Grove F 92.34 50 P P 10 05 07.4 -0.4
baz=252
K36A Gilmore City 92.39 46 P P 10 05 08.1 +0.1
baz=252
345A Thompson Farm, 92.40 58 P P 10 05 07.9 -0.4
baz=254
CM01 Chiang Mai Arr 92.40 288 *e*P P 10 05 08.7 +0.1
I35A Creekview Farm 92.41 45 P P 10 05 08.2 +0.2
baz=251,SNR=8.0
Y43A Makayla and Ka 92.41 56 P P 10 05 07.9 -0.4
baz=253
G34A Benson 92.42 44 P P 10 05 08.3 +0.2
baz=251
CMAR Chiang Mai Arr 92.43 288 P P 10 05 09.4 +0.7
comp=Z,6.6nm,0.9s,baz=91,slow=2.6,SNR=27
CMAR PP **PP** 10 08 47.9 -2.3
comp=Z,0.7nm,0.3s,baz=90,slow=3.9,SNR=2.5
CMAR PKKP **PKKPbc** 10 22 22.9 +0.5
comp=Z,1.2nm,0.3s,baz=310,slow=3.4,SNR=4.1
CMAR LR LR 10 41 10.6
comp=Z,3µm,21.8s,baz=111,slow=32
CHTO Chiang Mai 92.52 289 P P 10 05 09.7 +0.5
comp=Z,104nm,1.2s,comp=Z,3µm
CHTO Chiang Mai 92.52 289 *e*P P 10 05 09.7 +0.5
CHTO pmax pmax
comp=Z,20nm,1.0s
CHTO MLR MLR
comp=Z,3µm,22.0s
CHTO Chiang Mai 92.52 289 *e*P P 10 05 09.7 +0.5
comp=Z,20nm,1.0s
CHTO LR LR
comp=Z,3µm,22.0s
CHTO Chiang Mai 92.52 289 P P 10 05 09.6 +0.5
SNR=9.7
CHTO Chiang Mai 92.52 289 P P 10 05 09.6 +0.5
SNR=9.7
E33A Westby DABS, E 92.59 42 P P 10 05 09.0 +0.2
baz=251
V42A Cord 92.59 54 P P 10 05 09.0 -0.1
baz=253,SNR=9.5
X43A Marvell 92.62 55 P P 10 05 09.3 +0.1
baz=253
Z44A Pea Ridge, Bel 92.63 56 P P 10 05 09.1 -0.1
baz=254
P39B Salisbury 92.64 50 P P 10 05 08.7 -0.5
baz=252,SNR=13
R40A Maddies Statio 92.64 51 P P 10 05 09.3 0.0
baz=253,SNR=18
A31A Linda, St. Vin 92.66 40 P P 10 05 09.5 +0.5
baz=250
T41A Mountain View 92.66 52 P P 10 05 09.4 0.0
baz=253,SNR=22
N38A Joes South For 92.68 49 P P 10 05 09.3 -0.1
baz=252
J36A Seneca 1, Swea 92.69 46 P P 10 05 09.4 0.0
baz=252,SNR=6.7
245A Little AP, Sta 92.71 58 P P 10 05 09.7 0.0
baz=254
L37A Phoenix Point, 92.72 47 P P 10 05 09.9 +0.3
baz=252,SNR=7.6
SYO Syowa Base 92.72 191⇑ *e*P P 10 05 05.2 -3.8
SYO Syowa Base 92.72 191 ‖ /PcP P 10 05 07.0 -2.0
SYO Syowa Base 92.72 191⇑ *ep*P pP 10 05 21.5 +1.4
H35A Sunnyside Ranc 92.78 44 P P 10 05 10.1 +0.4
baz=251
S41A Jillco Farms, 92.83 52 P P 10 05 10.1 -0.1
baz=253,SNR=22
145A Houston Renfro 92.84 57 P P 10 05 09.7 -0.6
baz=254
F34A Alexandria 92.85 43 P P 10 05 10.3 +0.3
baz=251
U42A Revenden 92.86 53 P P 10 05 10.1 -0.2
baz=253,SNR=11
B32A Ashes, Strandq 92.88 41 P P 10 05 10.0 -0.1
baz=250
346A Big Creek Wild 92.89 58 P P 10 05 10.2 -0.3
baz=254
M38A Pleasantville 92.90 48 P P 10 05 10.0 -0.3
baz=252,SNR=8.1
Q40A Laux Farm, Aux 93.00 51 P P 10 05 10.4 -0.5
baz=253,SNR=8.4
K37A Belmond 93.00 47 P P 10 05 11.2 +0.4
baz=252,SNR=12
LZH Lanzhou 93.02 306 *e*P P 10 05 12.7 +1.4
LZH pP pP 10 05 20.4 -1.9
LZH sP sP 10 05 23.8 -2.4
LZH SKS **SKSac** 10 15 42.0 -1.0
LZH *e*S **S** 10 16 17.3 +1.9
LZH sS pS 10 16 28.0 -1.6
LZH SS **SS** 10 22 28.5 -2.2
LZH pmax pmax
comp=Z,63nm,1.3s
LZH pmax pmax
comp=Z,260nm,4.0s
LZH LR LR
comp=Z,820nm,14.0s
LZH LR LR
comp=Z,2µm,17.3s
LZH LR LR
comp=Z,4µm,19.6s
O39A Kirksville 93.02 49 P P 10 05 11.1 +0.2
baz=253
SCIA State Center 93.03 47 *e*P P 10 05 11.6 +0.6
comp=Z,185nm,1.8s
SCIA LR LR
comp=Z,18µm,22.0s
SNAA Sanae 93.07 177 PKKPbc PKKPbc 10 22 18.0 -4.2
comp=Z,1.1nm,0.8s,baz=41,slow=3.3,SNR=6.0
SNAA Sanae 93.07 177 *e*P P 10 05 10.9 +0.1
SNAA pmax pmax
comp=Z,227nm,1.3s
SNAA MLR MLR
comp=Z,7µm,22.0s
SNAA Sanae 93.07 177 *e*P P 10 05 10.8 +0.1
comp=Z,228nm,1.3s
SNAA LR LR
comp=Z,7µm,22.0s
A32A Rocking H Ranc 93.08 40 P P 10 05 11.0 0.0
baz=250,SNR=12
EFI East Falkland 93.11 146⇑ *e*P P 10 05 10.7 -0.5
EFI pmax pmax
comp=Z,254nm,2.1s
EFI East Falkland 93.11 146 PFAKE 10 05 20.0 +8.8
EFI LR LR
comp=Z,9µm,20.0s
I36A Fitzsimmons Fa 93.12 45 P P 10 05 11.8 +0.4
baz=252
E34A Wadena 93.14 43 P P 10 05 11.5 +0.2
baz=251
C33A Trail 93.15 41 P P 10 05 11.3 -0.1
baz=251
T42A Van Buren 93.17 53 P P 10 05 11.2 -0.5
baz=253,SNR=12
P40A Paris 93.17 50 P P 10 05 11.2 -0.4
baz=253,SNR=9.1
G35A Watkins 93.18 44 P P 10 05 11.4 -0.1
baz=252
X44A Crenshaw 93.20 55 P P 10 05 11.8 -0.1
baz=254,SNR=6.8
J37A Redenius Farm, 93.22 46 P P 10 05 11.5 -0.3
baz=252,SNR=7.2
N39A Derby Farms, D 93.24 49 P P 10 05 11.6 -0.3
baz=253,SNR=6.7
V43A Jonesboro 93.24 54 P P 10 05 12.0 -0.1
baz=254
Z45A Winona 93.25 56 P P 10 05 12.7 +0.5
baz=254,SNR=9.1
AGMN Agassiz Nation 93.27 41 P P 10 05 11.9 -0.1
baz=251,SNR=5.6
AGMN Agassiz Nation 93.27 41 *e*P P 10 05 10.9 -1.0
comp=Z,87nm,1.6s
AGMN LR LR
comp=Z,14µm,20.0s
L38A Oak Wood Farm, 93.29 47 P P 10 05 12.0 -0.2
baz=252,SNR=9.5
D34A Park Rapids 93.31 42 P P 10 05 12.2 +0.1
baz=251
R41A Rosebud 93.32 51 P P 10 05 11.8 -0.6
baz=253,SNR=9.8
F35A Swanville 93.32 43 P P 10 05 12.0 -0.3
baz=252
H36A Jessenland, He 93.36 45 P P 10 05 12.3 -0.1
baz=252
B33A Robert and Kas 93.44 41 P P 10 05 12.7 0.0
baz=251,SNR=6.6
O40A La Belle 93.47 49 P P 10 05 12.7 -0.4
baz=253,SNR=11
Y45A Yeager Farm, C 93.50 56 P P 10 05 12.6 -0.7
baz=254
U43A Rector 93.52 53 P P 10 05 12.5 -0.8
baz=254
MET Memphis--Engin 93.54 55 PFAKE 10 05 30.0 +17
MET LR LR
comp=Z,5µm,20.0s
I37A Lemond, Waseca 93.55 45 P P 10 05 13.2 -0.1
baz=252
LCO Las Campanas 93.55 121 *e*P P 10 05 15.6 +1.5
comp=Z,95nm,1.1s
LCO LR LR
comp=Z,5µm,22.0s
146A Union 93.56 57 P P 10 05 14.2 +0.6
baz=254
K38A Parkersburg 93.57 47 P P 10 05 13.7 +0.3
baz=253,SNR=6.3
S42A Caledonia 93.61 52 P P 10 05 13.8 0.0
baz=254,SNR=9.1
PBMO Poplar Bluff 93.61 53 *e*P P 10 05 13.7 0.0
comp=Z,81nm,1.5s
PBMO LR LR
comp=Z,10µm,22.0s
Q41A Truxton 93.61 51 P P 10 05 13.7 0.0
baz=253,SNR=10
347A Saraland 93.65 59 P P 10 05 13.6 -0.4
baz=254
E35A Pequot Lakes 93.65 43 P P 10 05 13.7 0.0
baz=252
M39A Webster 93.65 48 P P 10 05 13.8 -0.1
baz=253,SNR=5.8
C34A RKJ Ranch, Bem 93.67 42 P P 10 05 12.9 -0.9
baz=252
G36A St. Michael 93.68 44 P P 10 05 13.9 0.0
baz=252
BOD Bodaibo 93.72 329 *e*P P 10 05 13.4 -0.3
BOD pmax pmax
comp=Z,45nm,1.3s
R42A Luebbering 93.75 51 P P 10 05 14.6 +0.2
baz=254
247A Quitman 93.77 58 P P 10 05 14.4 -0.2
baz=254
X45A UM Field Stati 93.78 56 P P 10 05 14.5 -0.1
baz=254,SNR=9.9
A33A Warroad 93.78 40 P P 10 05 14.5 +0.3
baz=251,SNR=11
OXF Oxford 93.79 55 *e*P P 10 05 16.6 +2.0
OXF pmax pmax
comp=Z,164nm,1.1s
OXF MLR MLR
comp=Z,11µm,20.0s
OXF Oxford 93.79 55 *e*P P 10 05 16.6 +2.0
comp=Z,164nm,1.1s
OXF LR LR
comp=Z,11µm,20.0s
T43A Greenville 93.80 53 P P 10 05 14.3 -0.4
baz=254,SNR=14
Z46A Louisville 93.81 57 P P 10 05 14.6 -0.2
baz=254
ULM Lac du Bonnet 93.91 39 P P 10 05 13.7 -1.1
comp=Z,7.3nm,0.7s,baz=247,slow=5.7,SNR=11
ULM PP **PP** 10 08 57.0 -4.1
comp=Z,16nm,1.2s,baz=266,slow=7.8,SNR=8.6
ULM LR LR 10 42 40.5
comp=Z,18µm,19.2s,baz=250,slow=32
ULM Lac du Bonnet 93.91 39 *e*P P 10 05 13.5 -1.3
ULM 10 08 57.0
ULM pmax pmax
comp=Z,211nm,1.9s
ULM Lac du Bonnet 93.91 39 *e*P P 10 05 13.5 -1.3
comp=Z,211nm,1.9s
ULM PP **PP** 10 08 57.0 -4.1
N40A Mertquake, Sal 93.91 49 P P 10 05 14.8 -0.2
baz=253,SNR=11
P41A Barry, Barry 93.94 50 P P 10 05 15.0 -0.2
baz=254,SNR=19
L39A Vinton 93.96 48 P P 10 05 15.0 -0.3
baz=253,SNR=5.1
J38A Wedel Dairy, R 93.98 46 P P 10 05 15.2 -0.1
baz=253
F36A Milaca 94.02 44 P P 10 05 15.1 -0.4
baz=252
D35A Remer 94.05 42 P P 10 05 15.6 +0.1
baz=252
H37A Dierke Farm, C 94.05 45 P P 10 05 15.8 +0.3
baz=253
Y46A Houston 94.06 56 P P 10 05 16.1 +0.2
baz=254,SNR=28
PVMO Portageville 94.08 54 PFAKE 10 05 30.0 +14
PVMO LR LR
comp=Z,11µm,20.0s
B34A Aery, Baudette 94.10 41 P P 10 05 15.3 -0.4
baz=252,SNR=6.9
PARMO Parma 94.10 53 *e*P P 10 05 16.4 +0.5
S43A Fulton Ridge, 94.10 52 P P 10 05 15.6 -0.4
baz=254,SNR=6.6
M40A Post Highland 94.11 48 P P 10 05 16.0 0.0
baz=253,SNR=13
U44A Portageville 94.11 53 P P 10 05 16.2 +0.2
baz=254
NVL N'lazarevskaya 94.12 182 *e*P P 10 05 16.6 +1.1
NVL *e* 10 09 01.0
NVL *e*S **SKSac** 10 15 48.2 +0.6
NVL *e**SS **SKKSac** 10 16 10.1 +1.7
NVL *e*PS **PS** 10 17 42.6 +0.4
NVL MLR MLR
comp=Z,8µm,22.0s
Q42A Golden Eagle 94.12 51 P P 10 05 17.0 +0.9
baz=254
W45A Hickory Valley 94.14 55 P P 10 05 16.8 +0.6
baz=254,SNR=14
O41A Passleys Farm, 94.20 50 P P 10 05 16.1 -0.3
baz=254,SNR=17
147A Livingston 94.21 57 P P 10 05 16.0 -0.6
baz=255
K39A Oelwein 94.21 47 P P 10 05 16.1 -0.3
baz=253
HALT Halls 94.22 54 PFAKE 10 05 30.0 +13
HALT LR LR
comp=Z,12038µm,21.0s
ULN Ulaanbaatar 94.22 318 *e*P P 10 05 16.5 0.0
ULN pmax pmax
comp=Z,107nm,1.6s
ULN MLR MLR
comp=Z,6µm,22.0s
ULN Ulaanbaatar 94.22 318 *e*P P 10 05 16.5 0.0
comp=Z,107nm,1.6s
ULN LR LR
comp=Z,6µm,22.0s
ULN Ulaanbaatar 94.22 318 P P 10 05 17.0 +0.5
SNR=26
ULN Ulaanbaatar 94.22 318 P P 10 05 17.0 +0.5
SNR=26
CMBY CAMPBELL BAY 94.23 276 *e*P P 10 05 16.3 -0.8
C35A Jirik Farms, M 94.28 42 P P 10 05 16.3 -0.4
baz=252,SNR=9.3
I38A Scanlan Farm, 94.29 46 P P 10 05 16.8 +0.1
baz=253,SNR=10.0
SPMN Marine on St. 94.31 44 P P 10 05 17.0 +0.2
baz=253,SNR=5.9
SPMN Marine on St. 94.31 44 *e*P P 10 05 16.8 0.0
comp=Z,128nm,1.8s
SPMN LR LR
comp=Z,27µm,22.0s
T44A Benton 94.34 53 P P 10 05 16.8 -0.3
baz=254
N41A Harden Midland 94.39 49 P P 10 05 17.0 -0.2
baz=254
E36A McGregor 94.40 43 P P 10 05 17.2 0.0
baz=253,SNR=7.3
R43A Red Bud 94.40 52 P P 10 05 17.4 0.0
baz=254
P42A Winchester 94.45 50 P P 10 05 17.5 0.0
baz=254,SNR=16
V45A Humboldt 94.47 54 P P 10 05 17.8 0.0
baz=254,SNR=6.9
248A Dixon Mills 94.49 58 P P 10 05 17.9 0.0
baz=255,SNR=5.4
L40A Anamosa 94.50 48 P P 10 05 17.5 -0.3
baz=254,SNR=9.2
H38A Maiden Rock 94.51 45 P P 10 05 17.6 -0.1
baz=253
Z47A Carrollton 94.51 57 P P 10 05 17.7 -0.3
baz=255
J39A Decorah 94.52 46 P P 10 05 17.7 -0.1
baz=253,SNR=8.8
F37A Hinrichs Farm, 94.58 44 P P 10 05 18.4 +0.4
baz=253
SONA1 Songino Array 94.63 318 *e*P P 10 05 18.3 -0.1
SONM Songino Array 94.63 318 P P 10 05 18.6 +0.2
comp=Z,6.6nm,0.9s,baz=72,slow=4.8,SNR=9.2
SONM PP **PP** 10 09 04.5 -2.5
comp=Z,5.9nm,0.8s,baz=90,slow=2.9,SNR=5.4
SONM LR LR 10 42 59.8
comp=Z,4µm,21.9s,baz=97,slow=32
B35A Bob, Littlefor 94.65 41 P P 10 05 18.3 0.0
baz=252,SNR=8.1
D36A Goodland 94.65 42 P P 10 05 18.0 -0.3
baz=253,SNR=14
K40A Colesburg 94.74 47 P P 10 05 19.2 +0.4
baz=254
Q43A New Douglas 94.76 51 P P 10 05 19.0 0.0
baz=254,SNR=8.3
S44A Carbondale 94.76 52 P P 10 05 19.2 +0.2
baz=254,SNR=5.3
U45A Rockin P Farm, 94.78 54 P P 10 05 19.1 0.0
baz=255,SNR=8.8
I39A Houston 94.79 46 P P 10 05 18.8 -0.2
baz=254,SNR=6.0
M41A Milan 94.80 49 P P 10 05 19.0 -0.1
baz=254,SNR=7.4
O42A Bath 94.81 50 P P 10 05 19.2 0.0
baz=254,SNR=6.5
TIXI Tiksi 94.82 344 *de*P P 10 05 18.4 -0.1
TIXI pmax pmax
comp=Z,29nm,1.4s
TIXI Tiksi 94.82 344 PFAKE 10 05 30.0 +12
TIXI LR LR
comp=Z,8µm,22.0s
Y47A UCPARC, Winfie 94.87 56 P P 10 05 19.4 -0.2
baz=255
G38A Ridgeland 94.94 45 P P 10 05 19.6 0.0
baz=253,SNR=7.3
Z48A Northport 94.97 57 P P 10 05 20.0 -0.1
baz=255
E37A Wrenshall 94.97 43 P P 10 05 19.7 -0.1
baz=253
N42A Yates City 95.02 49 P P 10 05 20.2 +0.1
baz=254,SNR=6.6
L41A Preston 95.02 48 P P 10 05 19.8 -0.3
baz=254
C36A Pine Crest Far 95.04 42 P P 10 05 20.0 0.0
baz=253,SNR=8.5
R44A Waltonville 95.04 52 P P 10 05 19.8 -0.4
baz=255
P43A Skaggs, Pawnee 95.08 50 P P 10 05 20.8 +0.4
baz=254,SNR=9.1
D37A Cotton 95.13 43 P P 10 05 20.1 -0.4
baz=253,SNR=13
F38A Pierce - Schro 95.15 44 P P 10 05 21.1 +0.5
baz=254,SNR=6.8
J40A Soldiers Grove 95.21 47 P P 10 05 21.2 +0.2
baz=254,SNR=10
Q44A Meyer Farm, Va 95.26 51 P P 10 05 21.1 -0.1
baz=255
S45A Carrier Mills 95.27 53 P P 10 05 21.3 -0.1
baz=255,SNR=9.7
K41A Shullsburg 95.31 47 P P 10 05 21.2 -0.2
baz=254,SNR=6.9
LRAL Lakeview Retre 95.34 57 PFAKE 10 05 30.0 +8.2
LRAL LR LR
comp=Z,5µm,21.0s
O43A Sugar Creek Fa 95.40 50 P P 10 05 21.7 -0.2
baz=255,SNR=6.1
JFWS Jewell Farm 95.43 47 *e*P P 10 05 21.6 -0.3
JFWS pmax pmax
comp=Z,95nm,1.3s
JFWS MLR MLR
comp=Z,20µm,22.0s
JFWS Jewell Farm 95.43 47 *e*P P 10 05 21.6 -0.3
comp=Z,95nm,1.3s
JFWS LR LR
comp=Z,20µm,22.0s
I40A Norwalk 95.43 46 P P 10 05 22.3 +0.3
baz=254,SNR=5.8
G39A Holcombe 95.44 45 P P 10 05 22.0 +0.1
baz=254

C37A	**Embarrass**	**95.45**	**42**	P	**P**	**10 05 21.7**	**-0.2**
	baz=253							
WVT	**Waverly**	**95.46**	**54**	*e*P	**P**	**10 05 23.0**	**+0.8**
WVT				pmax	pmax			
	comp=Z,52nm,1.3s							
WVT				MLR	MLR			
	comp=Z,10μm,21.0s							
WVT	**Waverly**	**95.46**	**54**	*e*P	**P**	**10 05 23.0**	**+0.8**
	comp=Z,52nm,1.3s							
WVT				LR	LR			
	comp=Z,10μm,21.0s							
HDIL	**Hopedale**	**95.49**	**50**	P	**P**	**10 05 22.3**	**+0.1**
	baz=255,SNR=8.9							
HDIL	**Hopedale**	**95.49**	**50**	*e*P	**P**	**10 05 22.5**	**+0.2**
	comp=Z,82nm,1.2s							
E38A	**The Farm, Brul**	**95.55**	**43**	P	**P**	**10 05 22.3**	**-0.1**
	baz=254							
P44A	**Sand Creek, Wi**	**95.71**	**51**	P	**P**	**10 05 22.9**	**-0.4**
	baz=255							
J41A	**Loganville**	**95.72**	**47**	P	**P**	**10 05 23.6**	**+0.3**
	baz=254,SNR=7.2							
H40A	**Chili**	**95.79**	**45**	P	**P**	**10 05 23.3**	**-0.2**
	baz=254,SNR=6.8							
OLIL	**Olney**	**95.91**	**52**	PFAKE		10 05 40.0	+16
OLIL				LR	LR			
	comp=Z,13μm,22.0s							
EYMN	**Ely**	**95.96**	**42**	P	**P**	**10 05 24.4**	**+0.1**
	baz=254							
EYMN	**Ely**	**95.96**	**42**	*e*P	**P**	**10 05 24.9**	**+0.6**
	comp=Z,85nm,1.8s							
EYMN				LR	LR			
	comp=Z,10μm,22.0s							
I41A	**Arkdale**	**96.00**	**46**	P	**P**	**10 05 24.6**	**+0.1**
	baz=255							
C38A	**Sawbill Land.**	**96.04**	**42**	P	**P**	**10 05 24.6**	**0.0**
	baz=254							
USIN	**University of**	**96.05**	**52**	*e*P	**P**	**10 05 25.6**	**+0.7**
	comp=Z,78nm,1.5s							
USIN				LR	LR			
	comp=Z,10μm,21.0s							
G40A	**Rib Lake**	**96.09**	**45**	P	**P**	**10 05 24.9**	**0.0**
	baz=255							
H41A	**Junction City**	**96.29**	**46**	P	**P**	**10 05 26.0**	**+0.1**
	baz=255,SNR=6.4							
F40A	**Park Falls**	**96.32**	**44**	P	**P**	**10 05 25.8**	**-0.1**
	baz=255,SNR=8.6							
DGPR	**DIGLIPUR**	**96.71**	**282**	*e*P	**P**	**10 05 27.0**	**-1.4**
SWET	**Sewanee**	**96.73**	**55**	*e*P	**P**	**10 05 28.6**	**+0.4**
	comp=Z,11nm,1.1s							
SWET				LR	LR			
	comp=Z,2μm,20.0s							
G41A	**Antigo**	**96.77**	**45**	P	**P**	**10 05 28.2**	**+0.2**
	baz=255							
C39A	**Grand Marais**	**96.81**	**42**	P	**P**	**10 05 27.8**	**-0.3**
	baz=255							
TRQA	**Tornquist**	**96.88**	**132**	PFAKE		10 05 40.0	+11
TRQA				LR	LR			
	comp=Z,4μm,21.0s							
F41A	**Three Lakes**	**96.96**	**45**	P	**P**	**10 05 25.9**	**-2.9**
	baz=255							
GTA	**Gaotai**	**96.97**	**309**	⇑P	**P**	**10 05 29.2**	**0.0**
GTA				pP	pP	10 05 40.1	-0.2
GTA				sP	sP	10 05 44.4	+0.2
GTA				PP	**PP**	**10 09 32.0**	**+6.7**
GTA				SKS	**SKSac**	**10 16 01.5**	**-2.5**
GTA				S	**S**	**10 16 50.4**	**+0.8**
GTA				sS	sS	10 17 08.7	+0.7
GTA				pmax	pmax			
	comp=Z,16nm,2.2s							
GTA				pmax	pmax			
	comp=Z,240nm,6.9s							
GTA				LR	LR			
	comp=Z,2μm,22.3s							
GTA				LR	LR			
	comp=Z,5μm,22.3s							
GTA				LR	LR			
	comp=Z,7μm,22.8s							
SFIN	**Lafayette**	**97.07**	**50**	PFAKE		10 05 40.0	+10
SFIN				LR	LR			
	comp=Z,16μm,20.0s							
WCI	**Wyandotte Cave**	**97.16**	**52**	PFAKE		10 05 40.0	+10
WCI				LR	LR			
	comp=Z,13μm,21.0s							
IRK	**Irkutsk**	**97.20**	**322**	*e*P	**P**	**10 05 28.1**	**-1.7**
IRK				pmax	pmax			
	comp=Z,95nm,3.5s							
BLO	**Bloomington**	**97.21**	**51**	PFAKE		10 05 40.0	+10
BLO				LR	LR			
	comp=Z,12μm,22.0s							
LVC	**Limon Verde**	**97.21**	**116**	PFAKE		10 05 40.0	+8.8
LVC				LR	LR			
	comp=Z,3μm,21.0s							
ZAK	**Zakamensk**	**97.31**	**320**	*e*P	**P**	**10 05 29.2**	**-1.3**
ZAK				pmax	pmax			
	comp=Z,17nm,1.5s							
TLY	**Talaya**	**97.42**	**321**	*e*P	**P**	**10 05 30.5**	**-0.3**
TLY				*e*		10 09 24.5		
TLY				*e*		10 16 05.4		
TLY				*e*S	**S**	**10 16 52.1**	**-0.6**
TLY				*e*PS	**PS**	**10 18 28.2**	**+8.6**
TLY				*e*PPS	PPS	10 19 01.5		
TLY				*e*SS	**SS**	**10 23 30.9**	**-1.4**
TLY				pmax	pmax			
	comp=Z,34nm,1.5s							
TLY				MLR	MLR			
	comp=Z,3μm,18.0s							
TLY	**Talaya**	**97.42**	**321**	*e*P	**P**	**10 05 31.0**	**+0.1**
	comp=Z,31nm,1.3s							
TLY				LR	LR			
	comp=Z,7μm,21.0s							
TLY	**Talaya**	**97.42**	**321**	P	**P**	**10 05 30.9**	**+0.1**
	SNR=12							
TLY	**Talaya**	**97.42**	**321**	P	**P**	**10 05 30.9**	**+0.1**
	SNR=12							
PB11	**IPOC Station P**	**97.50**	**113**	PFAKE		10 05 40.0	+7.8
PB11				LR	LR			
	comp=Z,3μm,21.0s							
FCC	**Fort Churchill**	**97.53**	**31**	PFAKE		10 05 40.0	+8.9
FCC				LR	LR			
	comp=Z,15μm,20.0s							
TIGA	**Tifton**	**97.76**	**60**	PFAKE		10 05 40.0	+7.1
TIGA				LR	LR			
	comp=Z,4μm,20.0s							
CPCT	**Cooper Cave**	**97.91**	**56**	*e*P	**P**	**10 05 34.0**	**+0.6**
	comp=Z,25nm,1.4s							
CPCT				LR	LR			
	comp=Z,6μm,21.0s							
TKL	**Tuckaleechee C**	**98.55**	**55**	*e*P	**P**	**10 05 36.2**	**0.0**
TKL				pmax	pmax			
	comp=Z,20nm,1.1s							
TKL				MLR	MLR			
	comp=Z,10μm,20.0s							
TKL	**Tuckaleechee C**	**98.55**	**55**	*e*P	**P**	**10 05 36.2**	**0.0**
	comp=Z,20nm,1.1s							
TKL				LR	LR			
	comp=Z,10μm,20.0s							
DWPF	**Disney Wildern**	**98.86**	**63**	PFAKE		10 05 50.0	+12
DWPF				LR	LR			
	comp=Z,2μm,20.0s							
TZTN	**Tazewell**	**98.92**	**55**	PFAKE		10 05 50.0	+12
TZTN				LR	LR			
	comp=Z,9μm,20.0s							
HELC	**Santa Helena**	**99.32**	**86**	PFAKE		10 05 50.0	+9.4
HELC				LR	LR			
	comp=Z,2μm,19.0s							
PRAC	**Prado**	**99.32**	**89**	PFAKE		10 05 50.0	+10
PRAC				LR	LR			
	comp=Z,3μm,21.0s							
LPAZ	**La Paz**	**100.00**	**110**	Pdiff	**Pdif**	**10 05 45.5**	**+1.5**
	comp=Z,1.9nm,1.0s,baz=244,slow=3.3,SNR=4.9							
AAM	**Ann Arbor**	**100.02**	**49**	PFAKE		10 05 50.0	+7.4
AAM				LR	LR			
	comp=Z,6μm,21.0s							
ACSO	**Alum Creek Sta**	**100.11**	**51**	PFAKE		10 05 50.0	+6.9
ACSO				LR	LR			
	comp=Z,13μm,21.0s							
ROSC	**El Rosal**	**100.15**	**88**	PFAKE		10 06 00.0	+16
ROSC				LR	LR			
	comp=Z,2μm,21.0s							
MTDJ	**Mount Denham**	**100.22**	**74**	PFAKE		10 06 00.0	+16
MTDJ				LR	LR			
	comp=Z,2μm,21.0s							
JSC	**Jenkinsville**	**100.28**	**57**	PFAKE		10 06 00.0	+16
JSC				LR	LR			
	comp=Z,10μm,22.0s							
KMSC	**Kings Mountain**	**100.39**	**56**	P	**Pdif**	**10 05 43.6**	**-0.8**
	baz=259							
KMSC	**Kings Mountain**	**100.39**	**56**	PFAKE		10 06 00.0	+16
KMSC				LR	LR			
	comp=Z,8μm,20.0s							
SHL	**Shillong**	**100.46**	**294**	*e*P	**Pdif**	**10 05 44.1**	**-1.2**
BLA	**Blacksburg**	**101.50**	**54**	PFAKE		10 06 00.0	+11
BLA				LR	LR			
	comp=Z,9μm,20.0s							
RUSC	**La Rusia**	**101.60**	**87**	PFAKE		10 06 00.0	+9.1
RUSC				LR	LR			
	comp=Z,400nm,22.0s							
RES	**Resolute Bay**	**101.62**	**15**	PFAKE		10 06 00.0	+11
RES				LR	LR			
	comp=Z,17μm,20.0s							
HOPE	**Hope Point**	**101.69**	**156**	PFAKE		10 06 00.0	+10
HOPE				LR	LR			
	comp=Z,5μm,20.0s							
LSA	**Lhasa**	**101.91**	**298**	PFAKE		10 06 00.0	+8.0
LSA				LR	LR			
	comp=Z,3μm,22.0s							
MCWV	**Mont Chateau**	**102.37**	**52**	PFAKE		10 06 10.0	+17
MCWV				LR	LR			
	comp=Z,9μm,22.0s							
ALLY	**Alegheny Colle**	**102.47**	**50**	PFAKE		10 06 10.0	+16
ALLY				LR	LR			
	comp=Z,3μm,18.0s							
ERPA	**Erie**	**102.66**	**50**	PFAKE		10 06 10.0	+16
ERPA				LR	LR			
	comp=Z,10μm,20.0s							
CNNC	**Cliffs of the**	**103.18**	**57**	PFAKE		10 06 10.0	+13
CNNC				LR	LR			
	comp=Z,10μm,21.0s							
O56A	**Blue Knob Stat**	**103.44**	**52**	P	**Pdif**	**10 05 57.5**	**-0.5**
	baz=261							
SADO	**Sadowa**	**103.67**	**47**	PFAKE		10 06 10.0	+11
SADO				LR	LR			
	comp=Z,13μm,20.0s							
SSPA	**Standing Stone**	**104.01**	**51**	PFAKE		10 06 10.0	+10
SSPA				LR	LR			
	comp=Z,12μm,20.0s							
CBN	**Corbin Frederi**	**104.05**	**54**	PFAKE		10 06 10.0	+9.4
CBN				LR	LR			
	comp=Z,10μm,22.0s							
SDMD	**Soldier's Deli**	**104.63**	**53**	PFAKE		10 06 20.0	+17
SDMD				LR	LR			
	comp=Z,7μm,21.0s							
SDV	**Santo Domingo**	**104.67**	**85**	PFAKE		10 06 20.0	+16
SDV				LR	LR			
	comp=Z,2μm,22.0s							
BWNR	**Bhubaneshwar**	**104.92**	**287**	*e*P	**Pdif**	**10 06 04.5**	**-0.4**
MVL	**Millersville**	**105.08**	**52**	PFAKE		10 10 30.0		
MVL				LR	LR			
	comp=Z,13μm,22.0s							
PLVO	**Plevna**	**105.16**	**47**	PFAKE		10 10 30.0		
PLVO				LR	LR			
	comp=Z,9μm,20.0s							
VLDQ	**Val d'Or**	**105.23**	**44**	PFAKE		10 10 30.0		
VLDQ				LR	LR			
	comp=Z,18μm,19.0s							
BOK	**Bokaro**	**105.48**	**291**	*e*P	**Pdif**	**10 06 06.9**	**-0.5**
BINY	**Binghamton**	**105.62**	**50**	PFAKE		10 10 30.0		
BINY				LR	LR			
	comp=Z,11μm,20.0s							
KSPA	**Keystone Colle**	**105.71**	**51**	PFAKE		10 10 30.0		
KSPA				LR	LR			
	comp=Z,13μm,19.0s							
PSUB	**Penn St. - Bra**	**105.76**	**52**	PFAKE		10 10 30.0		
PSUB				LR	LR			
	comp=Z,15μm,21.0s							
LUPA	**Lehigh Univers**	**105.90**	**52**	PFAKE		10 10 30.0		
LUPA				LR	LR			
	comp=Z,14μm,20.0s							
SDDR	**Presa de Saban**	**106.17**	**74**	PFAKE		10 10 30.0		
SDDR				LR	LR			
	comp=Z,6μm,21.0s							
CHLP	**Challavanipeta**	**106.20**	**285**	*e*Pdif	**Pdif**	**10 06 06.5**	**-4.1**
CHLP				*e*PP	**PP**	**10 10 34.5**	**-0.7**
CHLP				*e*SKSac	**SKSac**	**10 16 47.9**	**-0.8**
CHLP				IVMs_BB	IVMs_BB	10 50 26.2		
	comp=Z,727nm,25.1s							
BRNJ	**Basking Ridge**	**106.52**	**52**	PFAKE		10 10 30.0		
BRNJ				LR	LR			
	comp=Z,18μm,21.0s							
ODNJ	**Ogdensburg**	**106.53**	**51**	PFAKE		10 10 30.0		
ODNJ				LR	LR			
	comp=Z,11μm,20.0s							
WMQ	**Urumqi**	**106.66**	**312**	Pdif	**Pdif**	**10 06 10.0**	**-2.2**
WMQ				PP	**PP**	**10 10 42.4**	**+4.4**
WMQ				S	**Sdif**	**10 18 13.0**	**+2.5**
WMQ				AMB	AMB			
	comp=Z,450nm,4.9s							
WMQ				LR	LR			
	comp=Z,810nm,23.7s							
WMQ				LR	LR			
	comp=Z,1μm,25.3s							
WMQ				LR	LR			
	comp=Z,1μm,23.7s							
VIS	**Vishakhapatnam**	**106.73**	**284**	*e*P	**Pdif**	**10 06 11.6**	**-1.4**
GRTK	**Grand Turk**	**106.77**	**72**	PFAKE		10 10 40.0		
GRTK				LR	LR			
	comp=Z,2μm,21.0s							
LONY	**Lake Ozonia**	**106.88**	**47**	PFAKE		10 10 30.0		
LONY				LR	LR			
	comp=Z,13μm,20.0s							
SAML	**Samuel**	**106.95**	**104**	PFAKE		10 10 40.0		
SAML				LR	LR			
	comp=Z,900nm,21.0s							
CPNY	**Central Park**	**106.99**	**52**	PFAKE		10 10 40.0		
CPNY				LR	LR			
	comp=Z,18μm,21.0s							
PALK	**Pallekele**	**107.02**	**273**	PFAKE		10 10 40.0		
PALK				LR	LR			
	comp=Z,3μm,21.0s							
PAL	**Palisades**	**107.05**	**51**	PFAKE		10 10 40.0		
PAL				LR	LR			
	comp=Z,14μm,20.0s							
NCB	**Newcomb**	**107.08**	**48**	PFAKE		10 10 40.0		
NCB				LR	LR			
	comp=Z,200nm,22.0s							
NRIK	**Noril'sk**	**107.29**	**338**	PKiKP	**PKiKP**	**10 10 22.8**	**-0.1**
	comp=Z,5.0nm,0.8s,baz=138,slow=3.9,SNR=4.0							
TRY	**Troy**	**107.38**	**50**	PFAKE		10 10 40.0		
TRY				LR	LR			
	comp=Z,15μm,20.0s							
ACCN	**Adirondack Com**	**107.44**	**49**	PFAKE		10 10 40.0		
ACCN				LR	LR			
	comp=Z,13μm,21.0s							
FRNY	**Flat Rock**	**107.61**	**47**	PFAKE		10 10 40.0		
FRNY				LR	LR			
	comp=Z,16μm,20.0s							
YLE	**Yale**	**107.81**	**51**	PFAKE		10 10 40.0		
YLE				LR	LR			
	comp=Z,12μm,19.0s							
PVM	**Polavaram**	**108.24**	**283**	*e*Pdif	**Pdif**	**10 06 18.9**	**-0.8**
PVM				*e*PP	**PP**	**10 10 50.7**	**+0.5**
PVM				*e*SKSac	**SKSac**	**10 16 53.1**	**-4.5**
PVM				IVMs_BB	IVMs_BB	10 57 06.2		
	comp=Z,673nm,21.4s							
QUA2	**Belchertown**	**108.32**	**50**	PFAKE		10 10 40.0		
QUA2				LR	LR			
	comp=Z,17μm,20.0s							
LBNH	**Lisbon**	**108.75**	**48**	PFAKE		10 10 40.0		
LBNH				LR	LR			
	comp=Z,19μm,21.0s							
BRYW	**Bryant College**	**108.90**	**50**	PFAKE		10 10 40.0		
BRYW				LR	LR			
	comp=Z,25μm,21.0s							
HRV	**Adam Dziewonsk**	**108.92**	**50**	PFAKE		10 10 40.0		
HRV				LR	LR			
	comp=Z,14μm,20.0s							
ZAA0	**Zalesovo Array**	**109.01**	**322**	*e*Pdif	**Pdif**	**10 06 21.8**	**-0.6**
ZAA0				*e*Pdif	**Pdif**	**10 06 22.8**	**+0.4**
ZALV	**Zalesovo Beam**	**109.01**	**322**	Pdiff	**Pdif**	**10 06 22.0**	**-0.4**
	comp=Z,1.2nm,0.5s,baz=95,slow=3.5,SNR=9.2							
ZALV				PKiKP	**PKiKP**	**10 10 25.4**	**-1.3**
	comp=Z,1.5nm,0.6s,baz=90,slow=1.4,SNR=5.4							
ZALV				PP	**PP**	**10 10 48.8**	**-6.0**
	comp=Z,3.3nm,0.8s,baz=100,slow=5.3,SNR=4.7							
WES	**Weston**	**109.09**	**50**	PFAKE		10 10 40.0		
WES				LR	LR			
	comp=Z,24μm,20.0s							
BCX	**Boston College**	**109.20**	**50**	PFAKE		10 10 40.0		
BCX				LR	LR			
	comp=Z,39μm,20.0s							
SKHT	**Srikalahasti**	**109.38**	**279**	*e*Pdif	**Pdif**	**10 06 24.8**	**0.0**
SKHT				*e*PP	**PP**	**10 10 56.8**	**-1.8**
SKHT				IVMs_BB	IVMs_BB	10 20 35.6		
	comp=Z,758nm,4.6s							
ADKI	**Addanki**	**109.54**	**282**	*e*Pdif	**Pdif**	**10 06 22.2**	**-3.3**
ADKI				*e*PP	**PP**	**10 10 58.6**	**-1.1**
ADKI				*e*SKSac	**SKSac**	**10 17 03.5**	**+0.4**
ADKI				IVMs_BB	IVMs_BB	10 48 38.0		
	comp=Z,1μm,34.3s							
MPR	**Mayaguez**	**109.90**	**76**	PFAKE		10 10 40.0		
MPR				LR	LR			
	comp=Z,2μm,20.0s							
NVS	**Novosibirsk**	**109.92**	**323**	*e*P	**Pdif**	**10 06 27.0**	**+0.6**
AGP	**Aguadilla**	**109.93**	**76**	PFAKE		10 10 40.0		
AGP				LR	LR			
	comp=Z,3μm,22.0s							
LMQ	**La Malbaie**	**109.99**	**45**	PFAKE		10 10 40.0		
LMQ				LR	LR			
	comp=Z,21μm,21.0s							
NJS	**Nagarjunasagar**	**110.30**	**282**	*e*Pdif	**Pdif**	**10 06 29.0**	**+0.2**
NJS				*e*PP	PP	10 10 57.3	-7.8
NJS				*e*SKSac	**SKSac**	**10 17 08.9**	**+2.5**
NJS				IVMs_BB	IVMs_BB	10 49 03.5		
	comp=Z,714nm,4.5s							
WVL	**Waterville**	**110.39**	**48**	PFAKE		10 10 40.0		
WVL				LR	LR			
	comp=Z,31μm,20.0s							
RCLA	**Racherla**	**110.43**	**281**	*e*Pdif	**Pdif**	**10 06 28.8**	**-0.7**
RCLA				*e*PP	**PP**	**10 11 01.8**	**-4.4**
RCLA				*e*SKSac	**SKSac**	**10 16 59.2**	**-7.8**
RCLA				IVMs_BB	IVMs_BB	11 01 40.1		
	comp=Z,853nm,4.5s							
SRLM	**Srisailam**	**110.60**	**282**	*e*Pdif	**Pdif**	**10 06 29.4**	**-0.9**
SRLM				*e*PP	PP	10 11 00.2	-7.2
SRLM				*e*SKSac	**SKSac**	**10 17 03.2**	**-4.5**
SRLM				IVMs_BB	IVMs_BB	11 01 55.2		
	comp=Z,962nm,14.9s							
MK01	**Makanchi Array**	**110.61**	**315**	*e*Pdif	**Pdif**	**10 06 29.5**	**-0.2**
MKAR	**Makanchi Array**	**110.61**	**315**	PFAKE		10 10 40.0		
MKAR				LR	LR			
	comp=Z,700nm,22.0s							
PKME	**Peaks-Kenny Pk**	**110.67**	**47**	PFAKE		10 10 40.0		
PKME				LR	LR			
	comp=Z,7μm,18.0s							
RPR	**Rampur**	**110.71**	**285**	*e*Pdif	**Pdif**	**10 06 27.7**	**-2.9**
RPR				*e*PP	**PP**	**10 11 05.4**	**-2.7**
RPR				*e*SKSac	**SKSac**	**10 17 13.3**	**+5.3**
RPR				IVMs_BB	IVMs_BB	10 47 38.2		
	comp=Z,672nm,6.2s							
JBP	**Jabalpur**	**110.73**	**289**	*e*P	**PKiKP**	**10 10 29.6**	**-1.1**
JBP				*ex*	x	10 18 47.1		
SJG	**San Juan**	**110.81**	**76**	PFAKE		10 10 40.0		
SJG				LR	LR			
	comp=Z,2μm,22.0s							
MAKZ	**Makanchi**	**110.83**	**315**	PFAKE		10 10 40.0		
MAKZ				LR	LR			
	comp=Z,4μm,22.0s							
DGAR	**Diego Garcia**	**110.84**	**256**	PFAKE		10 10 40.0		
DGAR				LR	LR			
	comp=Z,8μm,21.0s							
TRD	**Trivandrum**	**110.91**	**273**	IAMs_20	IAMs_20	11 00 31.6		
	comp=Z,3μm,15.7s							
HUMP	**Col San Antoni**	**111.10**	**76**	PFAKE		10 10 40.0		
HUMP				LR	LR			
	comp=Z,2μm,22.0s							
HYB	**Hyderabad**	**111.16**	**283**	*e*P	**PKiKP**	**10 10 30.9**	**-0.9**
HYBB	**Hyderabad (bro**	**111.16**	**283**	*e*Pdif	**Pdif**	**10 06 26.8**	**-6.0**
HYBB				*e*PP	**PP**	**10 11 09.8**	**-1.6**
HYBB				*e*SKSac	**SKSac**	**10 17 04.9**	**-5.0**
HYBB				IVMs_BB	IVMs_BB	10 48 59.0		
	comp=Z,597nm,4.7s							
KULLO	**Kullorsuaq**	**111.49**	**15**	*i* P	PP	10 11 04.6	-7.4
	comp=Z,15μm,20.0s							
PQI	**Presque Isle**	**111.56**	**46**	PFAKE		10 10 40.0		
PQI				LR	LR			
	comp=Z,40μm,22.0s							
SRSP	**Sriramsagar**	**111.61**	**285**	*e*Pdif	**Pdif**	**10 06 33.8**	**-0.9**
SRSP				*e*PP	**PP**	**10 11 12.9**	**-1.7**
SRSP				IVMs_BB	IVMs_BB	11 03 11.2		
	comp=Z,660nm,12.6s							
URV	**Uravakonda**	**111.94**	**280**	*e*Pdif	**Pdif**	**10 06 34.0**	**-2.2**
URV				*e*PP	**PP**	**10 11 16.5**	**-0.5**
URV				*e*SKSac	**SKSac**	**10 17 10.8**	**-2.5**
URV				IVMs_BB	IVMs_BB	11 02 52.2		
	comp=Z,846nm,11.2s							
SCHQ	**Schefferville**	**111.95**	**37**	PFAKE		10 10 40.0		
SCHQ				LR	LR			
	comp=Z,8μm,20.0s							
STVI	**Saint Thomas**	**111.97**	**76**	PFAKE		10 10 50.0		
STVI				LR	LR			
	comp=Z,2μm,21.0s							
GGN	**Saint George**	**112.40**	**47**	PFAKE		10 10 50.0		
GGN				LR	LR			
	comp=Z,10μm,21.0s							
PTGA	**Pitinga**	**112.51**	**97**	PKKPbc	PKKPbc	10 21 22.1	-1.1
	comp=Z,0.7nm,0.4s,baz=105,slow=1.8,SNR=3.6							
PDGK	**Podgornoye**	**112.59**	**311**	PKiKP	**PKiKP**	**10 10 31.7**	**-2.2**
PDGK				pmax	pmax			
	comp=Z,15nm,1.3s							
KURK	**Kurchatov**	**112.93**	**319***c*	*i*PKiKP	**PKiKP**	**10 10 33.1**	**-1.0**
KURK				pmax	pmax			
	comp=Z,116nm,1.2s							
KURK	**Kurchatov**	**112.93**	**319**	PFAKE		10 10 50.0		
KURK				LR	LR			
	comp=Z,5μm,21.0s							
KURK	**Kurchatov**	**112.93**	**319**	PKiKP	**PKiKP**	**10 10 33.2**	**-1.0**
	SNR=7.7							
KURK	**Kurchatov**	**112.93**	**319**	P	**PKiKP**	**10 10 33.2**	**-1.0**
	SNR=7.7							
BHPL	**Bhopal**	**113.08**	**289**	*e*P	**PKiKP**	**10 10 33.9**	**-1.4**
KLRI	**Killari**	**113.10**	**283**	*e*Pdif	**Pdif**	**10 06 39.3**	**-2.2**
KLRI				*e*PP	**PP**	**10 11 23.7**	**-1.6**
KLRI				*e*SKSac	**SKSac**	**10 17 19.8**	**+2.1**
KLRI				IVMs_BB	IVMs_BB	10 50 05.1		
	comp=Z,1μm,22.6s							
DDI	**Dehra Dun**	**113.24**	**297**	*e*P	**PKiKP**	**10 10 34.5**	**-1.0**
SABA	**Saba**	**113.46**	**77**	PFAKE		10 10 50.0		
SABA				LR	LR			
	comp=Z,3μm,21.0s							
SEUS	**St. Eustatius**	**113.69**	**77**	PFAKE		10 10 50.0		
SEUS				LR	LR			
	comp=Z,2μm,20.0s							
SMRT	**St. Maarten**	**113.69**	**77**	PFAKE		10 10 50.0		
SMRT				LR	LR			
	comp=Z,2μm,21.0s							
BBSR	**BB Station**	**113.78**	**61**	PFAKE		10 10 50.0		
BBSR				LR	LR			
	comp=Z,4μm,21.0s							
LMN	**Caledonia Moun**	**113.81**	**46**	PFAKE		10 10 50.0		
LMN				LR	LR			
	comp=Z,13μm,21.0s							
GRGR	**Grenville**	**113.99**	**83**	PFAKE		10 10 50.0		
GRGR				LR	LR			
	comp=Z,1μm,20.0s							
SMLA	**Simla**	**114.06**	**298**	*e*P	PKPdf	10 10 36.0	-0.9
SMLA				IAMs_20	IAMs_20	10 54 39.9		
	comp=Z,4μm,13.3s							
GDHS	**Morne Mazeau,**	**114.64**	**79**	PFAKE		10 10 50.0	+12
GDHS				LR	LR			
	comp=Z,2μm,22.0s							
SPB	**Sao Paulo**	**114.71**	**125**	PFAKE		10 10 50.0	+12
SPB				LR	LR			
	comp=Z,5μm,20.0s							
DHRM	**DHARAMSHALA**	**114.87**	**299**	*e*P	PKPdf	10 10 39.6	+0.9
FDF	**Fort de France**	**114.96**	**81**	PFAKE		10 10 50.0	+11
FDF				LR	LR			
	comp=Z,2μm,21.0s							
KSH	**Kashi**	**115.27**	**307**	PKP	**PKPdf**	**10 10 40.1**	**+0.9**
KSH				sPKP		10 10

TKM2 pmax pmax
comp=Z,14nm,1.2s
FRU Bishkek 116.17 310 *i* PKIKP **PKPdf 10 10 40.5 -0.2**
FRU *e* 10 14 16.0
FRU *e* 10 21 17.0
FRU pmax pmax
comp=Z,50nm,2.0s
BBGH Gun Hill 116.19 83 PFAKE 10 10 50.0 +8.6
BBGH LR LR
comp=Z,4μm,22.0s
KBS Kingsbay 116.24 359 *e*Pdif **Pdif 10 06 56.8 +2.8**
KBS *e*SKSac **SKSac 10 17 28.7 +1.5**
KBS *e*SP **SP 10 21 24.1 +1.9**
KBS IVMs_BB IVMs_BB 10 52 54.5
comp=Z,1μm,24.5s
KBS Kingsbay 116.24 359 PFAKE 10 10 50.0 +10
KBS LR LR
comp=Z,4μm,20.0s
AAK Ala-Archa 116.27 310 *e*PKIKP **PKPdf 10 10 40.6 -0.4**
AAK MLR MLR
comp=Z,4μm,22.0s
AAK Ala-Archa 116.27 310 *e*PKPdf **PKPdf 10 10 40.6 -0.4**
AAK LR LR
comp=Z,4μm,22.0s
SFJD Kangerlussuaq 116.52 22 *i* P PP 10 11 33.6 -14
SFJD Kangerlussuaq 116.52 22 PFAKE 10 10 50.0 +9.5
SFJD LR LR
comp=Z,11μm,20.0s
SPA0 Spitsbergen Ar 116.86 358 *e*PKPdf **PKPdf 10 10 40.8 -0.3**
SPA0 *e*SKSac **SKSac 10 17 31.1 +1.4**
SPA0 *e*SP **SP 10 21 29.4 +1.5**
SPA0 IVMs_BB IVMs_BB 10 55 06.1
comp=Z,2μm,18.0s
SPA0 Spitsbergen Ar 116.86 358 *e*PKPdf **PKPdf 10 10 41.3 +0.3**
SPITS Spitsbergen Ar 116.86 358 PKP **PKPdf 10 10 40.6 -0.4**
comp=Z,52nm,1.0s,baz=262,slow=1.0,SNR=12
SUMG Summit 117.08 14 *i* P **PP 10 11 51.0 -0.9**
comp=Z,11μm,19.0s
SUMG Summit 117.08 14 *e*PKIKP **PKPdf 10 10 42.5 +0.5**
SUMG MLR MLR
comp=Z,12μm,20.0s
SUMG Summit 117.08 14 *e*PKPdf **PKPdf 10 10 42.5 +0.5**
SUMG LR LR
comp=Z,12μm,20.0s
DAG Danmarks Havn 117.10 6 *i* P **PP 10 11 48.9 -2.6**
comp=Z,8μm,22.0s
BVA0 Borovoye Array 117.67 322 *i* PKIKP **PKPdf 10 10 42.1 -1.1**
BVA0 pmax pmax
comp=Z,57nm,1.5s
BVAR Borovoye Array 117.67 322 PKP **PKPdf 10 10 42.6 -0.6**
comp=Z,11nm,0.8s,baz=98,slow=2.0,SNR=43
BRVK Borovoye 117.73 322 *e*PKIKP **PKPdf 10 10 42.9 -0.4**
BRVK MLR MLR
comp=Z,6μm,22.0s
BRVK Borovoye 117.73 322 *e*PKPdf **PKPdf 10 10 42.9 -0.4**
BRVK LR LR
comp=Z,6μm,22.0s
BRVK Borovoye 117.73 322 PKPdf **PKPdf 10 10 43.2 -0.1**
SNR=18
BRVK Borovoye 117.73 322 P **PKPdf 10 10 43.2 -0.1**
SNR=18
MNAS Manas 117.75 310 PKIKP **PKPdf 10 10 42.7 -1.2**
MNAS pmax pmax
comp=Z,29nm,1.1s
HOPEN Hopen 117.96 355 *e*SKSac **SKSac 10 17 34.9 +1.3**
HOPEN *e*SP **SP 10 21 40.4 +2.6**
HOPEN *e*SS **SS 10 28 11.6 +3.3**
HOPEN IVMs_BB IVMs_BB 10 52 14.4
comp=Z,3μm,28.0s
HSPB Hornsund (broa 118.05 358 *e*SKSac **SKSac 10 17 36.0 +2.0**
HSPB *e*SP **SP 10 21 39.2 +0.6**
HSPB IVMs_BB IVMs_BB 10 56 13.1
comp=Z,2μm,17.9s
DRLN Deer Lake 118.37 42 PFAKE 10 11 00.0 +15
DRLN LR LR
comp=Z,9μm,20.0s
KK31 Karatay Array 119.15 311 *i* PKIKP **PKPdf 10 10 45.2 -1.2**
KK31 pmax pmax
comp=Z,7.0nm,0.8s
KKAR Karatay Array 119.15 311 *e*PKIKP **PKPdf 10 10 46.1 -0.3**
KKAR MLR MLR
comp=Z,700nm,21.0s
KKAR Karatay Array 119.15 311 *e*PKPdf **PKPdf 10 10 46.1 -0.3**
KKAR LR LR
comp=Z,700nm,21.0s
BHJ Bhuj 120.18 288 *e*P **PKPdf 10 10 47.4 -1.5**
BJO Bjornoya 120.32 356 *e*SKSac **SKSac 10 17 43.9 +1.9**
BJO IVMs_BB IVMs_BB 10 58 05.1
comp=Z,2μm,20.7s
KBL Kabul 120.95 301 *e*PKIKP **PKPdf 10 10 50.9 +0.5**
KBL MLR MLR
comp=Z,2μm,21.0s
KBL Kabul 120.95 301 *e*PKPdf **PKPdf 10 10 50.9 +0.5**
KBL LR LR
comp=Z,2μm,21.0s
SVE Sverdlovsk 121.92 328⇓ *i* PKIKP **PKPdf 10 10 51.1 -0.1**
SVE pmax pmax
comp=Z,82nm,1.4s
SOKR Solikamsk 122.57 332*c* *i* PKIKP **PKPdf 10 10 50.3 -2.0**
SOKR SP SP 10 22 18.4 -1.3
SOKR pmax pmax
comp=Z,130nm,0.9s
ARU Arti 123.13 328 PKP **PKPdf 10 10 53.3 -0.3**
comp=Z,22nm,0.8s,baz=74,slow=1.8,SNR=62
ARU Arti 123.13 328 *i* PKIKP **PKPdf 10 10 53.0 -0.6**
ARU 10 12 33.0
ARU PPP PPP 10 15 12.8
ARU 10 18 01.9
ARU SP SP 10 22 26.1 +1.1
ARU SS SS 10 29 14.2 -1.5
ARU MLR MLR
comp=Z,6μm,23.0s
ARU Arti 123.13 328 *e*PKPdf **PKPdf 10 10 53.3 -0.3**
ARU LR LR
comp=Z,6μm,21.0s
HAMF Hammerfest 123.63 353 *e*PKPdf **PKPdf 10 10 53.4 -0.7**
HAMF *e*SP SP 10 22 27.9 -0.5
HAMF *e*SS SS 10 29 20.5 -0.3
HAMF IVMs_BB IVMs_BB 10 56 29.4
comp=Z,3μm,22.7s
KEV Kevo 124.03 352 *e*PKIKP **PKPdf 10 10 54.3 -0.6**
KEV MLR MLR
comp=Z,5μm,20.0s
KEV Kevo 124.03 352 *e*PKPdf **PKPdf 10 10 54.3 -0.6**
KEV LR LR
comp=Z,5μm,20.0s
LVZ Lovozero 124.32 347 *e*PKIKP **PKPdf 10 10 55.0 -0.6**
LVZ MLR MLR
comp=Z,5μm,20.0s
LVZ Lovozero 124.32 347 *e*PKPdf **PKPdf 10 10 55.0 -0.6**
LVZ LR LR
comp=Z,5μm,20.0s
ARA0 ARCESS Array S 124.44 352 *e*PKPdf **PKPdf 10 10 55.4 -0.3**
ARCES ARCESS Array B 124.44 352 PKP **PKPdf 10 10 55.4 -0.4**
comp=Z,46nm,0.8s,baz=345,slow=1.0,SNR=93
ARCES PKKPbc **PKKPab 10 20 38.9 +1.2**
comp=Z,5.7nm,1.0s,baz=267,slow=3.6,SNR=7.5
ARE0 ARCESS Array S 124.44 352 *e*PKPdf **PKPdf 10 10 55.7 -0.1**
ARE0 *e*SKSac **SKSac 10 17 56.0 0.0**
ARE0 *e*SS **SS 10 29 34.2 +3.0**
ARE0 IVMs_BB IVMs_BB 10 58 09.9
comp=Z,2μm,22.9s
ARE0 ARCESS Array S 124.44 352 *e*PKPdf **PKPdf 10 10 55.5 -0.2**
ARE0 LR LR
comp=Z,4μm,20.0s
APA Apatity 124.86 348⇓ *i* PKIKP **PKPdf 10 10 55.0 -1.6**
APA *i* 10 12 42.0
APA *i* 10 17 52.0
APA *i* 10 22 31.0
APA *i* PPS PPS 10 24 10.0
APA pmax pmax
comp=Z,29nm,1.0s
ABKAR Akbulak array 125.00 320 PFAKE 10 11 10.0 +13
ABKAR LR LR
comp=Z,1μm,20.0s
TRO Tromso 125.08 355 *e*PKPdf **PKPdf 10 10 57.7 +0.8**
TRO IVMs_BB IVMs_BB 10 56 35.9
comp=Z,2μm,23.9s
KTK1 Kautokeino 125.22 353 *e*PKPdf **PKPdf 10 10 56.9 -0.3**
TMCR Tamitsa 126.53 343 *e*PKIKP **PKPdf 10 10 58.5 -1.3**
TMCR pmax pmax
comp=Z,106nm,1.1s
LOF Lofoten 126.95 357 *e*PKPdf **PKPdf 10 10 59.9 -0.6**
LOF *ep*PKPdf **pPKPdf 10 11 12.8 +0.9**
LOF *e* 10 12 55.6
LOF *e*SKSac **SKSac 10 18 04.0 +0.3**
LOF IVMs_BB IVMs_BB 10 52 33.2
comp=Z,1μm,35.7s
BORG Borgarnes 127.04 15 PFAKE 10 11 10.0 +9.2
BORG LR LR
comp=Z,14μm,21.0s
STEI Steigen 127.05 356 *e*PKPdf **PKPdf 10 11 00.6 -0.1**
ABPO Ambohimpanom 127.36 231 *e*PKIKP **PKPdf 10 11 03.8 +0.7**
ABPO MLR MLR
comp=Z,7μm,19.0s
ABPO Ambohimpanom 127.36 231 *e*PKPdf **PKPdf 10 11 03.8 +0.7**
ABPO LR LR
comp=Z,7μm,19.0s
MSEY Mahe Island 127.56 252 PFAKE 10 11 10.0 +6.6
MSEY LR LR
comp=Z,6μm,22.0s
KLMR Klimovskoe 128.60 340*c* *i* PKIKP **PKPdf 10 11 03.4 -0.5**
KLMR *e* 10 13 10.6
KONS Konsvik 128.60 357 *e*PKPdf **PKPdf 10 11 03.7 0.0**
STOK Stokkvaagen 128.77 357 *e*PKPdf **PKPdf 10 11 04.0 0.0**
MOR8 Moi Rana 128.84 356 *e*PKPdf **PKPdf 10 11 03.4 -0.8**
MOR8 *e* 10 13 05.9
MOR8 IVMs_BB IVMs_BB 10 53 17.4
comp=Z,1μm,33.3s
GEYT Alibeck 129.30 307 PKP **PKPdf 10 11 05.6 -0.4**
comp=Z,20nm,1.1s,baz=299,slow=1.5,SNR=19
SUR Sutherland 130.69 196 *e*PKPdf **PKPdf 10 11 10.4 +1.3**
SUR LR LR
comp=Z,12μm,22.0s
BIDO Bidbid 130.78 288 PKPdf **PKPdf 10 11 08.9 -0.2**
SNR=5.5
BIDO Bidbid 130.78 288 P **PKPdf 10 11 08.9 -0.2**
SNR=5.5
FINES FINESS Array B 131.76 348 PKP **PKPdf 10 11 09.3 -0.5**
comp=Z,32nm,0.9s,baz=67,slow=3.6,SNR=35
TBLU Trondheim 131.98 358 *e*PKPdf **PKPdf 10 11 09.5 -0.7**
TBLU IVMs_BB IVMs_BB 10 54 47.2
comp=Z,2μm,38.4s
PUL Pulkovo 132.23 344⇑ *e*PKIKP **PKPdf 10 11 10.1 -0.7**
UOSS Minazif 132.51 290 *e*PKPdf **PKPdf 10 11 11.6 -0.8**
UOSS LR LR
comp=Z,1μm,20.0s
HATD Hatta, Dubai 132.58 290 *i* PKPdf **PKPdf 10 11 11.7 -0.9**
SNR=11
HATD Hatta, Dubai 132.58 290 PKPdf **PKPdf 10 11 11.6 -0.9**
SNR=8.4
HATD Hatta, Dubai 132.58 290 P **PKPdf 10 11 11.6 -0.9**
SNR=8.4
ASHO Ashiyiah 132.65 290 *i* PKPdf **PKPdf 10 11 11.7 -1.1**
SNR=6.2
ASHO Ashiyiah 132.65 290 PKPdf **PKPdf 10 11 11.6 -1.1**
SNR=7.9
ASHO Ashiyiah 132.65 290 P **PKPdf 10 11 11.6 -1.1**
SNR=7.9
MOL Molde 132.73 359 *e*PKPdf **PKPdf 10 11 12.4 +0.7**
MOL *ep*PKPdf **pPKPdf 10 11 24.2 +1.2**
MOL *e*SKSac **SKSac 10 18 23.3 +3.0**
MOL IVMs_BB IVMs_BB 10 54 54.6
comp=Z,2μm,40.3s
BOSA Boshof 132.75 203 PKP **PKPdf 10 11 14.2 +1.2**
comp=Z,9.3nm,1.1s,baz=165,slow=4.2,SNR=6.1
BOSA Boshof 132.75 203 *e*PKIKP **PKPdf 10 11 14.7 +1.7**
BOSA Boshof 132.75 203 *e*PKPdf **PKPdf 10 11 14.7 +1.7**
NAZ Nazwa, Dubai 133.00 290 PKPdf **PKPdf 10 11 12.1 -1.3**
MOS Moscow 133.04 336 *i* PKIKP **PKPdf 10 11 11.5 -1.0**
MOS pmax pmax
comp=Z,600nm,2.4s
MOS pmax pmax
comp=Z,232nm,1.9s
FAQ Al Faqa, Dubai 133.07 290 PKPdf **PKPdf 10 11 12.4 -1.0**
RCBR Riachuelo 133.11 113 PFAKE 10 11 30.0 +16
RCBR LR LR
comp=Z,3μm,19.0s
AKN Aaknes 133.13 360 *e*PKPdf **PKPdf 10 11 12.7 +0.2**
AKN *ep*PKPdf **sPKPdf 10 11 25.3 -2.4**
AKN *e* 10 13 34.7
AKN IVMs_BB IVMs_BB 11 02 21.8
comp=Z,2μm,23.8s
DOMB Dombas 133.23 358 *e*PKPdf **PKPdf 10 11 12.6 -0.1**
DOMB *ep*PKPdf **pPKPdf 10 11 25.3 +1.2**
DOMB *e* 10 13 35.5
DOMB *e*SKSdf **SKSdf 10 18 20.8 -0.5**
DOMB IVMs_BB IVMs_BB 10 55 28.0
comp=Z,2μm,36.8s
FOO Floro 133.70 1 *e*PKPdf **PKPdf 10 11 13.4 -0.1**
FOO *ep*PKPdf **pPKPdf 10 11 25.5 +0.7**
FOO *e*SKSac **SKSac 10 18 24.8 +2.0**
FOO *e*SS **SS 10 31 28.1 +2.8**
FOO IVMs_BB IVMs_BB 11 04 24.7
comp=Z,1μm,15.9s
OBN Obninsk 133.91 336 PKP **PKPdf 10 11 13.9 -0.2**
comp=Z,31nm,0.3s,baz=74,slow=0.9,SNR=22
OBN Obninsk 133.91 336⇑ *i* PKIKP **PKPdf 10 11 14.4 +0.3**
OBN *e* 10 11 27.0
OBN *i* 10 13 40.7
OBN PPP PPP 10 16 47.0
OBN *e* 10 18 25.4
OBN *e*PS **PS 10 23 58.3 -5.6**
OBN *e*SSS SSS 10 36 29.7
OBN pmax pmax
comp=Z,93nm,1.3s
OBN MLR MLR
comp=Z,5μm,21.0s
OBN Obninsk 133.91 336 PKP **PKPdf 10 11 13.9 -0.2**
OBN LR LR
comp=Z,4μm,20.0s
NC204 NORSAR Array S 133.93 357 *e*PKPdf **PKPdf 10 11 14.7 +0.6**
NC303 NORSAR Array S 133.95 357 *e*PKPdf **PKPdf 10 11 14.6 +0.6**
NC405 NORSAR Array S 134.04 356 *e*PKPdf **PKPdf 10 11 14.3 0.0**
NB201 NORSAR Array S 134.13 357 *e*PKPdf **PKPdf 10 11 14.9 +0.5**
NB2 NORSAR Subarra 134.14 357 PKPdf **PKPdf 10 11 13.9 -0.6**
baz=14,slow=1.8
NB2 NORSAR Subarra 134.14 357 PKPdf **PKPdf 10 11 13.9 -0.6**
comp=Z,386nm,2.5s,baz=14,slow=1.8
NOA NORSAR Array B 134.14 357 PKP **PKPdf 10 11 14.6 +0.1**
comp=Z,11nm,0.9s,baz=8.0,slow=3.2,SNR=19
NOA PP **PP 10 13 40.4 -4.6**
comp=Z,8.3nm,1.2s,baz=4.4,slow=6.1,SNR=3.2
HYA Hoyanger 134.15 0 *e*PKPdf **PKPdf 10 11 14.3 -0.1**
NBO02 NORSAR Array S 134.15 357 *e*PKPdf **PKPdf 10 11 14.4 0.0**
NBO00 NORSAR Array S 134.17 357 *e*PKPdf **PKPdf 10 11 15.2 +0.7**
SUE Sulen 134.24 1 *e*PKPdf **PKPdf 10 11 14.6 0.0**
SUE *e* 10 14 43.0
SUE IVMs_BB IVMs_BB 11 04 44.1
comp=Z,647nm,24.4s
VSU Vasula 134.28 345*c* *i* PKIKP **PKPdf 10 11 14.5 -0.2**
NAO01 NORSAR Array S 134.35 357 *e*PKPdf **PKPdf 10 11 15.6 +0.8**
NC602 NORSAR Array S 134.43 356 *e*PKPdf **PKPdf 10 11 14.9 0.0**
NC602 *ep*PKPdf **pPKPdf 10 11 26.2 0.0**
NC602 *e*PKSdf **PKSdf 10 14 51.2 +0.3**
NC602 IVMs_BB IVMs_BB 10 57 10.1
comp=Z,2μm,32.2s
NC602 NORSAR Array S 134.43 356 *e*PKPdf **PKPdf 10 11 14.8 -0.1**
LPSR Galich'ya Gora 134.73 333 *e*PKIKP **PKPdf 10 11 15.6 -0.1**
LPSR pmax pmax
comp=Z,100nm,1.4s
ASK Askoy 134.82 1 *e*PKPdf **PKPdf 10 11 15.9 +0.3**
BER Bergen 134.92 1 *e*PKPdf **PKPdf 10 11 15.8 0.0**
BER *e* 10 13 45.1
BER IVMs_BB IVMs_BB 11 07 54.7
comp=Z,2μm,21.0s
VORR Voronezh 135.23 331 PKIKP **PKPdf 10 11 15.0 -1.7**
VORR pmax pmax
comp=Z,300nm,1.4s
OSL Oslo 135.27 357 *e*PKPdf **PKPdf 10 11 16.5 0.0**
MAK Makhachkala 135.38 317 *i* P **Pdif 10 08 20.2 +0.4**
MAK *i* 10 11 17.4
MAK *e* 10 13 51.0
MAK *e*PPP PPP 10 16 52.2
MAK *e*SS SS 10 31 45.6 -1.8
MAK pmax pmax
comp=Z,3μm,2.6s
ODD1 Odda 135.40 360 *e*PKPdf **PKPdf 10 11 17.6 +0.8**
VSR Storozhevoye 135.56 331 *e*PKIKP **PKPdf 10 11 16.7 -0.6**
VSR pmax pmax
comp=Z,100nm,1.4s
KONO Kongsberg 135.61 358 *e*PKPdf **PKPdf 10 11 17.2 0.0**
KONO *ep*PKPdf **pPKPdf 10 11 29.4 +0.9**
KONO *e* 10 13 50.6
KONO *e*SKSdf **SKSdf 10 18 25.4 0.0**
KONO *e*SS **SS 10 31 52.8 +4.6**
KONO IVMs_BB IVMs_BB 10 56 33.3
comp=Z,2μm,38.3s
KONO Kongsberg 135.61 358 *e*PKIKP **PKPdf 10 11 17.6 +0.4**
KONO MLR MLR
comp=Z,5μm,22.0s
KONO Kongsberg 135.61 358 *e*PKPdf **PKPdf 10 11 17.6 +0.4**
KONO LR LR
comp=Z,5μm,22.0s
LBTB Lobatse 135.84 205 *e*PKIKP **PKPdf 10 11 19.3 +0.4**
LBTB Lobatse 135.84 205 *e*PKPdf **PKPdf 10 11 19.3 +0.4**
BLS5 Blasjo 135.90 360 IVMs_BB IVMs_BB 11 11 59.2
comp=Z,2μm,21.0s
LKRN Lenkeran, Azer 136.14 311 PKIKP **PKPdf 10 11 20.2 +1.4**
SEKA Sheki 136.32 315 PKIKP **PKPdf 10 11 20.3 +1.1**
STAV Stavanger 136.38 1 *e*PKPdf **PKPdf 10 11 18.7 +0.1**
STAV IVMs_BB IVMs_BB 11 15 09.0
comp=Z,2μm,17.8s
MNGR Mingechevir, A 136.58 314 PKIKP **PKPdf 10 11 21.8 +2.3**
IZAR Zarasai 136.81 344 *e*P **PKPdf 10 11 19.5 0.0**
IZAR IAmb IAmb 10 11 22.7
comp=Z,69nm,1.4s
SNART Snartemo 136.98 359 *e*PKPdf **PKPdf 10 11 19.5 -0.2**
ISAL Salakas 137.00 344 *e*P **PKPdf 10 11 19.4 -0.5**
ISAL IAmb IAmb 10 11 23.2
comp=Z,36nm,1.1s
HOMB Homborsund 137.02 358 *e*PKPdf **PKPdf 10 11 20.1 +0.3**
HOMB IVMs_BB IVMs_BB 11 14 18.4
comp=Z,2μm,20.3s
IDID Didziasalis 137.05 343 *e*P **PKPdf 10 11 20.4 +0.5**
GANJ Ganja 137.16 314 PKIKP **PKPdf 10 11 21.8 +1.1**
IIGN Ignalina 137.16 343 *e*P **PKPdf 10 11 20.2 0.0**
IIGN IAmb IAmb 10 11 23.1
comp=Z,84nm,1.4s
GOF Gofitskoye 137.19 322⇑ *e*PKIKP **PKPdf 10 11 21.4 +0.8**
GOF pmax pmax
comp=Z,131nm,1.5s
NACGM Naroch 137.40 343 *e*PKHKP **PKPdf 10 11 18.0 -2.6**
NACGM *e*PKHKP **PKPdf 10 11 18.0 -2.6**
NACGM *e*PKIKP **sPKPdf 10 11 34.0 -1.9**
NACGM *e*PP **PP 10 14 02.0 -3.5**
NACGM *e*PKS **PKSdf 10 14 53.0 -3.6**
NACGM *e*PPP PPP 10 17 16.0
NACGM *e*SKKS 10 19 56.0
NACGM *e*SKSP 10 23 28.0
NACGM *e*SSS SSS 10 34 00.0
NACGM *e*LR LR 11 01 36.0
NACGM LRM MLR 11 09 18.0
comp=Z,11nm,22.0s
MICGM Minsk 137.42 342 *e*PKP **PKPdf 10 11 18.0 -2.7**
MICGM *e*PP **PP 10 14 03.0 -2.7**
MICGM *e*SKP 10 14 54.0
MICGM *e*PPP PPP 10 17 02.0
MICGM *e*PS **PS 10 24 30.0 -3.7**
MICGM *e*SS SS 10 32 00.0 -10
MICGM *e*LR LR 10 56 40.0
MICGM LRM MLR 11 13 30.0
comp=Z,6.7nm,18.0s
MNK Minsk 137.42 342 *e*PKIKP **PKPdf 10 11 18.0 -2.7**
MNK *e* 10 14 03.0
MNK *e*PPP PPP 10 17 02.0
MNK *e*PS **PS 10 24 30.0 -3.7**
MNK *e*SS SS 10 32 00.0 -10
MNK MLR MLR
comp=Z,7μm,18.0s
DGRG David-gareji 137.46 316 P **PKPdf 10 11 22.4 +1.1**
DGRG David-gareji 137.46 316 PKIKP **PKPdf 10 11 22.4 +1.1**
TBLG Delisi 137.76 316 P **PKPdf 10 11 21.9 +0.1**
TBLG Delisi 137.76 316 PKIKP **PKPdf 10 11 21.9 +0.1**
ZEI Tsey 137.81 318 *i* PKIKP **PKPdf 10 11 22.9 +0.8**
ZEI pmax pmax
comp=Z,47nm,1.1s
KBZ Khabaz 137.98 320 PKhKP PKPpre 10 11 14.7
comp=Z,3.4nm,0.8s,baz=80,slow=6.1,SNR=5.1
KBZ PKP **PKPdf 10 11 22.0 0.0**
comp=Z,5.4nm,0.9s,baz=82,slow=3.0,SNR=6.2
KBZ PP PP 10 14 01.4 -8.5
comp=Z,4.1nm,1.1s,baz=76,slow=4.8,SNR=4.3
KVAR Kislovodsk Arr 137.98 320 PKP **PKPdf 10 11 22.3 +0.1**
comp=Z,6.7nm,0.5s,baz=55,slow=4.0,SNR=6.4
KVAR PP **PP 10 14 11.8 +1.7**
comp=Z,3.0nm,0.4s,baz=56,slow=10,SNR=6.1
KVAR SKPbc **SKPbc 10 14 55.8 +2.1**
comp=Z,2.9nm,0.4s,baz=78,slow=3.0,SNR=3.3
KIV Kislovodsk 137.99 320 *i* PKPdf **PKPdf 10 11 22.4 +0.2**
SNR=5.9
KIV Kislovodsk 137.99 320 *e*PKIKP **PKPdf 10 11 19.2 -3.0**
KIV *e* 10 14 08.3
KIV *e* 10 18 27.1
KIV *e*SS SS 10 32 18.5 0.0
KIV *e*SSS SSS 10 37 27.2
KIV MLR MLR
comp=Z,6μm,22.0s
KIV Kislovodsk 137.99 320 *e*PKPdf **PKPdf 10 11 22.7 +0.5**
KIV LR LR
comp=Z,5μm,20.0s
ONI Oni 138.20 318 P **PKPdf 10 11 23.3 +0.7**
ONI Oni 138.20 318 PKIKP **PKPdf 10 11 23.3 +0.7**
NEY Neytrino 138.33 319⇓ *i* PKIKP **PKPdf 10 11 24.3 +1.3**
GNI Garni 138.46 314 PKP **PKPdf 10 11 23.0 -0.3**
comp=Z,12nm,0.7s,baz=174,slow=3.1,SNR=9.5
GNI Garni 138.46 314 *i* PKiKP **PKPdf 10 11 23.7 +0.4**
SNR=6.1
GNI Garni 138.46 314 *e*PKIKP **PKPdf 10 11 25.0 +1.7**
GNI MLR MLR
comp=Z,4μm,22.0s
GNI Garni 138.46 314 *e*PKPdf **PKPdf 10 11 25.0 +1.7**
GNI LR LR
comp=Z,4μm,22.0s
GNI Garni 138.46 314 PKPdf **PKPdf 10 11 24.0 +0.7**
SNR=11
GNI Garni 138.46 314 P **PKPdf 10 11 24.0 +0.7**
SNR=11
BGD Bogdanovka 138.74 316 P **PKPdf 10 11 24.6 +0.8**
AKH Akhalkalaki 138.74 317 P **PKPdf 10 11 23.9 +0.1**
AKH Akhalkalaki 138.74 317⇑ *i* P **PKPdf 10 11 20.6 -3.2**
AKH Akhalkalaki 138.74 317 PKIKP **PKPdf 10 11 23.9 +0.1**
MUD Monsted U'grnd 138.82 358 *i* P **PKPdf 10 11 26.0 +2.8**
comp=Z,5μm,21.0s
MUD Monsted U'grnd 138.82 358 *i* PKIKP **PKPdf 10 11 26.0 +2.8**
MUD MLR MLR
comp=Z,5μm,21.0s
SUW Suwalki 139.16 345 *e*PKPdf **PKPdf 10 11 23.9 +0.1**
SUW *e*PP **PP 10 14 14.0 -2.4**
SUW LMZ LR 11 02 56.6
comp=Z,13μm,29.3s
SUW Suwalki 139.16 345 *e*PKIKP **PKPdf 10 11 24.0 +0.1**
SUW *e* 10 14 14.0
ESK Eskdalemuir 139.32 8 PFAKE 10 11 40.0 +16
ESK LR LR
comp=Z,12μm,20.0s
COP Copenhagen 139.38 355 *i* P **PKPdf 10 11 23.4 -0.8**
comp=Z,3μm,23.0s
COP Copenhagen 139.38 355 *i* PKIKP **PKPdf 10 11 23.4 -0.8**
COP MLR MLR
comp=Z,3μm,23.0s
BSD Bornholm Skovb 139.68 352 *i* P **PKPdf 10 11 24.5 -0.3**
comp=Z,6μm,20.0s
BSD Bornholm Skovb 139.68 352 *i* PKIKP **PKPdf 10 11 24.5 -0.3**
BSD MLR MLR
comp=Z,6μm,20.0s
ARTV Artvin 139.88 317 *e*PKPdf **PKPdf 10 11 27.7 +1.7**
SOC Sochi 140.00 322 *i* P **Pdif 10 08 38.5 -1.9**
SOC *i* 10 11 26.0
SOC *e* 10 14 16.9
SOC *e*PPP PPP 10 17 22.0
SOC *e*SS SS 10 32 41.6 -0.2
SOC *e*SSS SSS 10 37 54.2
SOC pmax pmax
comp=Z,45nm,1.0s
SOC MLR MLR
comp=Z,8μm,22.0s
AKASG Malin Array Be 140.14 337 PKhKP PKPpre 10 11 19.1
comp=Z,9.5nm,0.8s,baz=38,slow=3.9,SNR=13
AKASG PKP **PKPdf 10 11 25.6 -0.2**
comp=Z,33nm,1.0s,baz=34,slow=2.5,SNR=41
AKASG PP **PP 10 14 19.8 -2.8**
comp=Z,0.6nm,0.3s,baz=30,slow=4.8,SNR=5.2
AKBB Malin Array Si 140.14 337 *e*PKIKP **PKPdf 10 11 25.5 -0.3**
AKBB MLR MLR
comp=Z,6μm,20.0s
AKBB Malin Array Si 140.14 337 *e*PKPdf **PKPdf 10 11 25.4 -0.3**
AKBB LR LR
comp=Z,6μm,20.0s
KIEV Kiev 140.15 337 *e*PKIKP **PKPdf 10 11 25.6 -0.2**
KIEV MLR MLR
comp=Z,6μm,21.0s

KIEV	**Kiev**	**140.15**	**337**	*e*PKPdf	**PKPdf**	**10 11 25.6**	**-0.2**		
KIEV				LR	LR				
	comp=Z,6µm,21.0s								
AK11	**Malin Array Si**	**140.18**	**337**	*e*PKPdf	**PKPdf**	**10 11 25.5**	**-0.4**		
RGN	**Rugen**	**140.42**	**354**	PFAKE		10 11 40.0	+14		
RGN				LR	LR				
	comp=Z,6µm,22.0s								
ANN	**Anapa**	**140.59**	**325**	*e*PKHKP	PKPpre	10 11 21.3			
ANN				*i*		10 11 27.0			
ANN				*e*		10 14 24.9			
ANN				*e*PPP	PPP	10 17 29.4			
ANN				*e*		10 18 29.3			
ANN				pmax	pmax				
	comp=Z,75nm,1.5s								
DSB	**Dublin**	**140.76**	**12**	PFAKE		10 11 40.0	+13		
DSB				LR	LR				
	comp=Z,10µm,22.0s								
GKP	**Gorka Klasztor**	**141.12**	**350**	*e*PKPdf	**PKPdf**	**10 11 28.1**	**+0.6**		
GKP				LMZ	LR	11 11 51.1			
	comp=Z,13µm,22.3s								
GKP	**Gorka Klasztor**	**141.12**	**350**	*e*PKIKP	**PKPdf**	**10 11 28.1**	**+0.6**		
GKP				MLR	MLR				
	comp=Z,13µm,22.3s								
ROSA	**Rosais**	**141.60**	**46**	*e*PKP	**PKPdf**	**10 11 36.5**	**+7.7**		
ROSA	**Rosais**	**141.60**	**46**	PFAKE		10 11 40.0	+11		
ROSA				LR	LR				
	comp=Z,7µm,21.0s								
PGRA	**Graciosa**	**141.63**	**45**	*e*PKP	**PKPdf**	**10 11 33.9**	**+5.0**		
PGRA	**Graciosa**	**141.63**	**45**	*e*LR	LR	10 59 14.9			
BEL	**Belsk**	**141.74**	**346**	*e*PKPdf	**PKPdf**	**10 11 25.8**	**-2.8**		
BEL				*e*PP	**PP**	**10 14 30.5**	**-1.7**		
BEL				LMZ	LR	11 03 36.3			
	comp=Z,11µm,31.0s								
BEL	**Belsk**	**141.74**	**346**	*e*PKIKP	**PKPdf**	**10 11 25.8**	**-2.8**		
BEL				*e*		10 14 30.5			
SIM	**Simferopol'**	**142.28**	**327**	*c e*PKIKP	**PKPdf**	**10 11 29.8**	**0.0**		
SIM				pmax	pmax				
	comp=Z,29nm,1.1s								
MARD	**Mardin**	**142.49**	**312**	*e*PKPpre	PKPpre	10 11 26.7			
SORM	**Soroca**	**142.56**	**336**	⇓*i*P	PKPpre	10 11 26.4			
SORM	**Soroca**	**142.56**	**336**	⇓PKIKP	PKPpre	10 11 26.4			
LVV	**L'vov**	**142.67**	**341**	*c i*PKIKP	**PKPdf**	**10 11 27.4**	**-3.0**		
LVV				*e*		10 18 37.4			
LVV				MLR	MLR				
	comp=E,4µm,23.0s								
LVV				MLR	MLR				
	comp=N,6µm,22.0s								
LVV				MLR	MLR				
	comp=Z,11µm,23.0s								
LSZ	**Lusaka**	**142.84**	**216**	*e*PKHKP	PKPpre	10 11 28.0			
LSZ				MLR	MLR				
	comp=Z,7µm,21.0s								
LSZ	**Lusaka**	**142.84**	**216**	*e*PKPpre	PKPpre	10 11 28.0			
LSZ				LR	LR				
	comp=Z,7µm,21.0s								
LSZ	**Lusaka**	**142.84**	**216**	P	**PKPdf**	**10 11 29.0**	**-2.8**		
	SNR=15								
KWP	**Kalwaria Pacla**	**143.23**	**342**	*e*PKPdf	PKPbc	10 11 28.8	+0.4		
KWP				*e*PP	**PP**	**10 14 38.9**	**-2.5**		
KWP				LMZ	LR	11 06 26.2			
	comp=Z,13µm,28.6s								
KWP	**Kalwaria Pacla**	**143.23**	**342**	*e*PKIKP	PKPbc	10 11 28.8	+0.4		
KWP				*e*		10 14 38.9			
KIS	**Kishinev**	**143.27**	**334**	⇓*i*PKP	PKPab	10 11 27.0	-0.3		
KIS				M	M	10 11 30.0			
	comp=Z,400nm,2.0s								
KIS	**Kishinev**	**143.27**	**334**	*i* PsP		10 11 40.0			
KIS				*i* SKP		10 14 44.0			
KIS	**Kishinev**	**143.27**	**334**	*e*PP	PP	10 15 22.0	+40		
KIS				*e*SKS	SKSdf	10 18 04.0	-35		
KIS	**Kishinev**	**143.27**	**334**	κ *i*PKHKP	PKPpre	10 11 27.0			
KIS				*i*		10 14 44.0			
KIS				pmax	pmax				
	comp=Z,400nm,2.0s								
KIS				pmax	pmax				
	comp=Z,500nm,4.0s								
DAMY	**Dhamar**	**143.36**	**274**	*e*PKPdf	PKPbc	10 11 31.8	+1.6		
DAMY				LR	LR				
	comp=Z,4µm,20.0s								
WTSB	**Winterswijk**	**143.37**	**360**	*e*P	PKPbc	10 11 29.9	+1.3		
	comp=Z,292nm,2.1s								
OJC	**Ojcow**	**143.47**	**346**	*e*PKPdf	PKPab	10 11 29.0	+1.0		
OJC				*e*		10 27 28.7			
OJC				*e*SS	SS	10 33 18.9	-2.0		
OJC				LMZ	LR	11 11 21.9			
	comp=Z,11µm,23.3s								
OJC	**Ojcow**	**143.47**	**346**	*e*PKIKP	PKPab	10 11 29.0	+1.0		
OJC				*e*SS	SS	10 33 18.9	-2.0		
OJC	**Ojcow**	**143.47**	**346**	*e*PKPpre	PKPpre	10 11 29.3			
KSP	**Ksiaz**	**143.62**	**349**	*e*PKPdf	PKPab	10 11 29.5	+0.9		
KSP				*e*PP	**PP**	**10 14 41.1**	**-2.4**		
KSP				*e*		10 27 22.5			
KSP				*e*SS	SS	10 33 23.5	+1.1		
KSP				LMZ	LR	11 11 11.3			
	comp=Z,9µm,23.8s								
KSP	**Ksiaz**	**143.62**	**349**	*e*PKIKP	PKPab	10 11 29.5	+0.9		
KSP				*e*		10 14 41.2			
KSP				*e*SS	SS	10 33 23.5	+1.1		
CLL	**Collm**	**143.64**	**353**	*i* PKIKP	PKPab	10 11 29.2	+0.6		
CLL				*e*		10 14 43.0			
CLL				pmax	pmax				
	comp=Z,268nm,1.9s								
CLL				MLR	MLR				
	comp=Z,6µm,22.0s								
CLL	**Collm**	**143.64**	**353**	*e*Pdif	**Pdif**	**10 08 56.0**	**-0.4**		
	comp=Z,4.0nm,0.6s								
CLL				*e*PKPpre	PKPpre	10 11 29.0			
CLL				*i* PKPdf	**PKPdf**	**10 11 32.2**	**+0.2**		
	comp=Z,268nm,1.9s								
CLL				*i* PKiKP	**PKiKP**	**10 11 35.6**	**+0.2**		
	comp=Z,113nm,1.3s								
CLL				*e*PKPlp		10 11 42.0			
	comp=Z,1µm,13.1s								
CLL				*i* pPKiKP	**sPKPdf**	**10 11 49.6**	**+2.3**		
CLL				*e*PP	**PP**	**10 14 43.0**	**-0.6**		
CLL				*e*SKKSac	SKKSac	10 21 32.0	-2.5		
CLL				*e*(Sdif)		10 23 48.0			
CLL				*e*PSKS		10 24 59.0			
CLL				*e*PPPrev		10 26 17.0			
CLL				*e*PPS	PPS	10 27 22.0			
CLL				*e*SS	SS	10 33 18.0	-4.6		
CLL				*e*SSS	SSS	10 38 54.0			
CLL				LmV		11 13 00.0			
	comp=Z,6µm,22.0s								
CLL	**Collm**	**143.64**	**353**	*e*PKPpre	PKPpre	10 11 29.6			
CLL				LR	LR				
	comp=Z,5µm,21.0s								
PSET	**Sete Cidades**	**143.77**	**46**	*e*PKP	**PKPdf**	**10 11 33.5**	**+0.8**		
PSET	**Sete Cidades**	**143.77**	**46**	*e*LR	LR	10 59 44.7			
STHS	**Stebnicka Huta**	**143.84**	**344**	*e*PKIKP	PKPab	10 11 30.6	+1.1		
STHS	**Stebnicka Huta**	**143.84**	**344**	*e*PKP	PKPab	10 11 30.6	+1.1		
LEOM	**Leova**	**143.93**	**334**	⇑*i*P	PKPab	10 11 30.2	+0.3		
LEOM	**Leova**	**143.93**	**334**	⇑PKIKP	PKPab	10 11 30.2	+0.3		
CMLA	**Cha da Macela**	**143.93**	**45**	*e*PKP	**PKPdf**	**10 11 37.6**	**+4.6**		
CMLA	**Cha da Macela**	**143.93**	**45**	*e*LR	LR	10 59 43.1			
CMLA	**Cha da Macela**	**143.93**	**45**	PFAKE		10 11 40.0	+7.0		
CMLA				LR	LR				
	comp=Z,6µm,19.0s								
BRG	**Berggiesshubel**	**143.95**	**352**	*i* PKP	PKPab	10 11 30.6	+0.8		
	comp=Z,41nm,1.3s								
BRG				*e*PP	**PP**	**10 14 47.7**	**+2.2**		
	comp=Z,134nm,2.2s								
BRG				*e*		10 15 05.6			
	comp=Z,63nm,2.0s								
BRG				SKKS		10 21 35.0			
BRG				SS	SS	10 33 28.0	+1.8		
	comp=N,5µm,21.5s								
	comp=E,5µm,22.6s								
	comp=Z,6µm,21.5s								
BRG	**Berggiesshubel**	**143.95**	**352**	*i* PKIKP	PKPab	10 11 30.6	+0.8		
BRG				*e*		10 14 47.7			
BRG				SS	SS	10 33 28.0	+1.8		
BRG				pmax	pmax				
	comp=Z,41nm,1.3s								
BRG				pmax	pmax				
	comp=Z,134nm,2.2s								
BRG				MLR	MLR				
	comp=N,5µm,21.5s								
BRG				MLR	MLR				
	comp=E,5µm,22.6s								
BRG				MLR	MLR				
	comp=Z,6µm,21.5s								
RAC	**Raciborz**	**143.97**	**347**	*e*PKIKP	PKPbc	10 11 31.8	+1.3		
UPC	**Upice**	**143.99**	**350**	*e*PKP	PKPab	10 11 30.9	+0.9		
UPC				*e*SKP		10 14 59.2			
UPC				*e*SKKS		10 21 33.6			
UPC				*e*SS	SS	10 33 20.7	-6.0		
UPC				AMS	AMS	11 14 10.0			
	comp=Z,8µm,22.1s								
UPC	**Upice**	**143.99**	**350**	*e*PKIKP	PKPab	10 11 30.9	+0.9		
UPC				*e*SS	SS	10 33 20.7	-6.0		
UPC				MLR	MLR				
	comp=Z,8µm,22.1s								
TSUM	**Tsumeb**	**144.06**	**198**	PKP	PKPbc	10 11 32.7	+0.8		
	comp=Z,25nm,0.9s,baz=170,slow=4.1,SNR=29								
TSUM				PP	**PP**	**10 14 47.2**	**+0.9**		
	comp=Z,14nm,1.0s,baz=135,slow=5.8,SNR=5.9								
TSUM	**Tsumeb**	**144.06**	**198**	*e*PKPdf	PKPbc	10 11 32.9	+1.1		
TSUM				PP	**PP**	**10 14 47.2**	**+0.9**		
TSUM				LR	LR				
	comp=Z,7µm,22.0s								
DPC	**Dobruska-Polom**	**144.08**	**349**	*e*PKP	**PKPab**	**10 11 31.2**	**+0.8**		
DPC				*e*SKP		10 14 59.0			
DPC				*e*SKKS		10 21 34.4			
DPC				*e*SS	SS	10 33 24.4	-3.5		
DPC				AMS	AMS	11 11 20.0			
	comp=Z,10µm,23.5s								
DPC	**Dobruska-Polom**	**144.08**	**349**	*e*PKIKP	**PKPab**	**10 11 31.2**	**+0.8**		
DPC				*e*SS	SS	10 33 24.4	-3.5		
DPC				MLR	MLR				
	comp=Z,10µm,23.5s								
NIE	**Niedzica**	**144.09**	**345**	*e*PKPdf	PKPbc	10 11 31.8	+0.9		
NIE				*e*SS	SS	10 33 37.1	+9.0		
NIE				LMZ	LR	11 05 01.7			
	comp=Z,7µm,30.4s								
NIE	**Niedzica**	**144.09**	**345**	*e*PKIKP	PKPbc	10 11 31.8	+0.9		
BUR08	**Bucovina Ar. S**	**144.15**	**338**	*e*PKPdf	**PKPab**	**10 11 31.5**	**+0.7**		
BURAR	**Bucovina Array**	**144.17**	**338**	⇑*i*P	**PKPab**	**10 11 31.4**	**+0.5**		
BURAR	**Bucovina Array**	**144.17**	**338**	⇑PKIKP	**PKPab**	**10 11 31.4**	**+0.5**		
PVCC	**Panska Ves**	**144.20**	**351**	*e*PKP	PKPbc	10 11 32.1	+0.9		
PVCC				AMS	AMS	11 14 00.0			
	comp=Z,11µm,21.5s								
PVCC	**Panska Ves**	**144.20**	**351**	*e*PKIKP	PKPbc	10 11 32.1	+0.9		
PVCC				MLR	MLR				
	comp=Z,11µm,21.5s								
OKC	**Ostrava-Krasne**	**144.21**	**347**	*e*PKP	PKPbc	10 11 32.2	+1.0		
OKC				*e*SKP		10 14 59.4			
OKC				*ex*	x	10 24 53.3			
OKC				*e*SS	SS	10 33 29.0	-0.3		
OKC				AMS	AMS	11 10 10.0			
	comp=Z,9µm,23.7s								
OKC	**Ostrava-Krasne**	**144.21**	**347**	*e*PKIKP	PKPbc	10 11 32.2	+1.0		
OKC				*e*SS	SS	10 33 29.0	-0.3		
OKC				MLR	MLR				
	comp=Z,9µm,23.7s								
CRVS	**Cervenica-Dubn**	**144.25**	**343**	*e*PKIKP	**PKPab**	**10 11 32.0**	**+1.0**		
CRVS				*e*SS	SS	10 33 25.2	-4.7		
CRVS	**Cervenica-Dubn**	**144.25**	**343**	*e*PKP	**PKPab**	**10 11 32.0**	**+1.0**		
CRVS				*e*SS	SS	10 33 25.2	-4.7		
UZH	**Uzhgorod**	**144.25**	**342**	*e*PKHKP	PKPpre	10 11 29.8			
UZH				*i*		10 11 32.0			
UZH				*e*		10 11 40.3			
UZH				MLR	MLR				
	comp=N,2µm,22.0s								
UZH				MLR	MLR				
	comp=E,2µm,22.0s								
UZH				MLR	MLR				
	comp=Z,1µm,22.0s								
KRLC	**Kraliky**	**144.26**	**349**	*e*PKP	**PKPab**	**10 11 31.9**	**+0.8**		
KRLC	**Kraliky**	**144.26**	**349**	*e*PKIKP	**PKPab**	**10 11 31.9**	**+0.8**		
MORC	**Moravsky Berou**	**144.39**	**348**	⇑*i*P	**PKPab**	**10 11 32.5**	**+0.9**		
MORC	**Moravsky Berou**	**144.39**	**348**	⇑PKIKP	**PKPab**	**10 11 32.5**	**+0.9**		
MORC	**Moravsky Berou**	**144.39**	**348**	*e*PKPdf	**PKPab**	**10 11 32.4**	**+0.7**		
ATD	**Arta Tunnel**	**144.43**	**269**	PKP	PKPbc	10 11 34.4	+1.3		
	comp=Z,26nm,0.9s,baz=95,slow=3.0,SNR=12								
UCC	**Uccle**	**144.50**	**2**	PKP	**PKPdf**	**10 11 33.9**	**+0.4**		
UCC				APKP	**pPKPdf**	**10 11 46.1**	**+1.2**		
BEBN	**Eben Emael**	**144.53**	**1**	PKP	PKPbc	10 11 33.8	+1.5		
BEBN				APKP	pPKPdf	10 11 44.8	-0.1		
LANS	**Liptovska Anna**	**144.55**	**345**	*e*PKIKP	PKPbc	10 11 33.9	+1.5		
LANS	**Liptovska Anna**	**144.55**	**345**	*e*PKP	PKPbc	10 11 33.9	+1.5		
HGN	**Heimansgroeve**	**144.57**	**1**	*e*P	**PKPab**	**10 11 32.9**	**+0.8**		
	comp=Z,332nm,1.8s								
TRPA	**Tarpa**	**144.62**	**341**	⇑*e*PKPbc	**PKPab**	**10 11 33.0**	**+0.6**		
PSMN	**Pico do Norte,**	**144.62**	**46**	*e*PKP	**PKPdf**	**10 11 35.9**	**+1.7**		
PSMN	**Pico do Norte,**	**144.62**	**46**	*e*LR	LR	11 00 01.0			
PRA	**Prague**	**144.67**	**351**	*e*PKP	PKPbc	10 11 33.9	+1.2		
PRA				*ep*PKP	sPKPdf	10 11 46.7	-2.4		
PRA				*e*SKKS		10 21 39.1			
PRA				AMS	AMS	11 14 30.0			
	comp=Z,12µm,21.6s								
PRA	**Prague**	**144.67**	**351**	*e*PKIKP	PKPbc	10 11 33.9	+1.2		
PRA				*e*		10 11 46.7			
PRA				MLR	MLR				
	comp=Z,12µm,21.6s								
TLCR		**144.69**	**332**	⇑*i*P	**PKPab**	**10 11 33.7**	**+1.0**		
TLCR		**144.69**	**332**	⇑PKIKP	**PKPab**	**10 11 33.7**	**+1.0**		
BMR	**Baia Mare**	**144.72**	**340**	⇑*i*P	**PKPab**	**10 11 33.2**	**+0.4**		
BMR	**Baia Mare**	**144.72**	**340**	⇑PKIKP	**PKPab**	**10 11 33.2**	**+0.4**		
MEM	**Membach**	**144.73**	**0**	PKP	PKPbc	10 11 33.8	+1.0		
MEM				APKP	sPKPdf	10 11 46.6	-2.5		
PRU	**Pruhonice**	**144.73**	**351**	*e*PKP	**PKPab**	**10 11 33.4**	**+0.6**		
PRU				*ep*PKP	pPKPdf	10 11 46.3	+1.0		
PRU				*e*SKP		10 15 00.6			
PRU				*e*SKKS		10 21 40.0			
PRU				*ex*	x	10 24 56.9			
PRU				*e*SS	SS	10 33 37.4	+2.3		
PRU				AMS	AMS	11 14 20.0			
	comp=Z,13µm,21.9s								
PRU	**Pruhonice**	**144.73**	**351**	*e*PKIKP	**PKPab**	**10 11 33.4**	**+0.6**		
PRU				*e*		10 11 46.3			
PRU				*e*SS	SS	10 33 37.4	+2.3		
PRU				MLR	MLR				
	comp=Z,13µm,21.9s								
GOPC	**GO Pecny, Ondr**	**144.76**	**351**	*e*PKP	**PKPab**	**10 11 33.6**	**+0.7**		
GOPC				AMS	AMS	11 14 40.0			
	comp=Z,12µm,21.8s								
GOPC	**GO Pecny, Ondr**	**144.76**	**351**	*e*PKIKP	**PKPab**	**10 11 33.6**	**+0.7**		
GOPC				MLR	MLR				
	comp=Z,12µm,21.8s								
NKC	**Novy Kostel**	**144.77**	**353**	*e*PKP	**PKPab**	**10 11 33.6**	**+0.7**		
NKC				*ep*PKP	**sPKPdf**	**10 11 47.2**	**-2.1**		
NKC				*e*SKKS		10 21 40.2			
NKC				AMS	AMS	11 12 50.0			
	comp=Z,6µm,21.8s								
NKC	**Novy Kostel**	**144.77**	**353**	*e*PKIKP	**PKPab**	**10 11 33.6**	**+0.7**		
NKC				*e*		10 11 47.2			
NKC				MLR	MLR				
	comp=Z,6µm,21.8s								
SNF	**Seneffe**	**144.78**	**2**	PKP	**PKPab**	**10 11 33.8**	**+0.9**		
SNF				APKP	**sPKPdf**	**10 11 47.2**	**-2.1**		
KECS	**Kecovo**	**144.90**	**344**	*e*PKIKP	**PKPab**	**10 11 34.1**	**+0.7**		
KECS	**Kecovo**	**144.90**	**344**	*e*PKP	**PKPab**	**10 11 34.1**	**+0.7**		
BCLA	**Clavier**	**144.91**	**1**	PKP	**PKPab**	**10 11 33.7**	**+0.3**		
BCLA	**Clavier**	**144.91**	**1**	APKP	pPKPdf	10 11 47.5	+1.9		
ARCR	**ARCALIA**	**144.93**	**339**	⇑*i*P	**PKPab**	**10 11 34.3**	**+0.7**		
ODBI	**Odobesti**	**144.99**	**335**	⇑*i*P	**PKPdf**	**10 11 35.8**	**+1.3**		
CFR	**Carcaliu**	**145.00**	**333**	⇑*i*P	**PKPab**	**10 11 34.1**	**+0.2**		
CFR	**Carcaliu**	**145.00**	**333**	⇑PKIKP	**PKPab**	**10 11 34.1**	**+0.2**		
VRAC	**Vranov**	**145.03**	**348**	PKPbc	**PKPbc**	**10 11 34.5**	**+0.6**		
	comp=Z,106nm,1.2s,baz=18,slow=3.1,SNR=108								
VRAC	**Vranov**	**145.03**	**348**	⇑*i*P	**PKPbc**	**10 11 34.6**	**+0.7**		
VRI	**Vrincioaia**	**145.04**	**335**	⇑*i*P	**PKPbc**	**10 11 34.3**	**+0.2**		
VRI	**Vrincioaia**	**145.04**	**335**	⇑PKIKP	**PKPbc**	**10 11 34.3**	**+0.2**		
ILGA	**Ilgaz**	**145.07**	**323**	*e*PKPbc	**PKPdf**	**10 11 35.9**	**+0.7**		
PLOR	**Plostina**	**145.09**	**335**	⇑*i*P	**PKPbc**	**10 11 34.4**	**+0.2**		
PLOR	**Plostina**	**145.09**	**335**	⇑PKIKP	**PKPbc**	**10 11 34.4**	**+0.2**		
DOU	**Dourbes**	**145.21**	**2**	PKP	**PKPbc**	**10 11 35.1**	**+0.7**		
DOU				APKP	sPKPab	10 11 48.6	-0.9		
GIVF	**Givet**	**145.21**	**2**	*e*PKIKP	**PKPbc**	**10 11 34.4**	**0.0**		
GIVF				pmax	pmax				
	comp=Z,353nm,1.6s								
BAIF	**Baives**	**145.23**	**3**	*e*PKIKP	**PKPbc**	**10 11 34.7**	**+0.2**		
BAIF				pmax	pmax				
	comp=Z,480nm,1.4s								
TREC	**Trest**	**145.25**	**350**	*e*PKP	**PKPbc**	**10 11 35.0**	**+0.4**		
TREC				AMS	AMS	11 13 20.0			
	comp=Z,9µm,23.0s								
TREC	**Trest**	**145.25**	**350**	*e*PKIKP	**PKPbc**	**10 11 35.0**	**+0.4**		
TREC				MLR	MLR				
	comp=Z,9µm,23.0s								
VYHS	**Vyhne**	**145.31**	**345**	*e*PKIKP	**PKPbc**	**10 11 35.5**	**+0.7**		
VYHS				*e*SS	SS	10 33 38.2	-3.8		
VYHS	**Vyhne**	**145.31**	**345**	*e*PKP	**PKPbc**	**10 11 35.5**	**+0.7**		
VYHS				*e*SS	SS	10 33 38.2	-3.8		
VYHS				*e*L	L	11 04 16.3			
GRER		**145.34**	**334**	⇓*i*P	**PKPdf**	**10 11 36.5**	**+1.3**		
GRFO	**Grafenberg**	**145.43**	**355**	*e*PKIKP	**PKPbc**	**10 11 36.0**	**+0.8**		
GRFO				MLR	MLR				
	comp=Z,6µm,20.0s								
GRFO	**Grafenberg**	**145.43**	**355**	*e*PKPdf	**PKPbc**	**10 11 36.0**	**+0.8**		
GRFO				LR	LR				
	comp=Z,6µm,20.0s								
TIRR	**Tirgusor**	**145.43**	**332**	⇓*i*P	**PKPbc**	**10 11 35.7**	**+0.4**		
TIRR	**Tirgusor**	**145.43**	**332**	*e*PKIKP	**PKPbc**	**10 11 35.4**	**+0.1**		
TIRR				MLR	MLR				
	comp=Z,6µm,20.0s								
TIRR	**Tirgusor**	**145.43**	**332**	*e*PKPdf	**PKPbc**	**10 11 35.4**	**+0.1**		
TIRR				LR	LR				
	comp=Z,6µm,20.0s								
HARR	**Harsova**	**145.47**	**333**	⇓*i*P	**PKPdf**	**10 11 36.1**	**+0.7**		
HARR	**Harsova**	**145.47**	**333**	⇓PKIKP	**PKPdf**	**10 11 36.1**	**+0.7**		
KMBO	**Kilima Mbogo**	**145.47**	**245**	PKPbc	**PKPdf**	**10 11 37.2**	**+0.5**		
	comp=Z,166nm,1.3s,baz=105,slow=3.8,SNR=127								
KMBO	**Kilima Mbogo**	**145.47**	**245**	*e*PKIKP	**PKPdf**	**10 11 37.2**	**+0.5**		
KMBO				MLR	MLR				
	comp=Z,4µm,21.0s								
KMBO	**Kilima Mbogo**	**145.47**	**245**	*e*PKPdf	**PKPdf**	**10 11 37.2**	**+0.5**		
KMBO				LR	LR				
	comp=Z,4µm,21.0s								
DOPR	**Dopca**	**145.49**	**336**	⇑*i*P	**PKPbc**	**10 11 36.5**	**+1.0**		
TLB	**Topalu**	**145.50**	**332**	⇑*i*P	**PKPdf**	**10 11 36.2**	**+0.8**		
TLB	**Topalu**	**145.50**	**332**	⇑PKIKP	**PKPdf**	**10 11 36.2**	**+0.8**		
CJR	**Cluj-Napoca**	**145.51**	**339**	⇑*i*P	**PKPdf**	**10 11 36.0**	**+0.5**		
CJR	**Cluj-Napoca**	**145.51**	**339**	⇑PKIKP	**PKPdf**	**10 11 36.0**	**+0.5**		
PSZ	**Piszkesteto**	**145.57**	**344**	⇓*i*P	**PKPdf**	**10 11 35.8**	**+0.2**		
PSZ	**Piszkesteto**	**145.57**	**344**	*e*PKIKP	**PKPdf**	**10 11 36.5**	**+0.9**		
PSZ				MLR	MLR				
	comp=Z,4µm,21.0s								
PSZ	**Piszkesteto**	**145.57**	**344**	⇑*e*PKPdf	**PKPdf**	**10 11 35.8**	**+0.2**		
PSZ	**Piszkesteto**	**145.57**	**344**	*e*PKPdf	**PKPdf**	**10 11 36.5**	**+0.9**		
PSZ				LR	LR				
	comp=Z,4µm,21.0s								
SMOL	**Smolenice**	**145.62**	**347**	*e*PKIKP	**PKPab**	**10 11 37.1**	**+1.0**		
SMOL	**Smolenice**	**145.62**	**347**	*e*PKP	**PKPab**	**10 11 37.1**	**+1.0**		
EFOR	**EFORIE**	**145.62**	**331**	⇑*i*P	**PKPdf**	**10 11 36.6**	**+0.9**		
MLR	**Muntele Rosu**	**145.67**	**335**	PKPbc	**PKPdf**	**10 11 36.6**	**+0.7**		
	comp=Z,91nm,1.1s,baz=28,slow=3.5,SNR=283								
MLR	**Muntele Rosu**	**145.67**	**335**	⇓*i*P	**PKPdf**	**10 11 35.4**	**-0.5**		
MLR	**Muntele Rosu**	**145.67**	**335**	*e*PKIKP	**PKPdf**	**10 11 35.6**	**-0.3**		
MLR				MLR	MLR				
	comp=Z,8µm,21.0s								
MLR	**Muntele Rosu**	**145.67**	**335**	*e*PKPdf	**PKPdf**	**10 11 35.6**	**-0.3**		
MLR				LR	LR				
	comp=Z,8µm,21.0s								
WLF	**Walferdange**	**145.67**	**0**	PKP	**PKPab**	**10 11 37.4**	**+1.2**		
WLF				APKP	sPKPab	10 11 50.8	-0.5		
WLF	**Walferdange**	**145.67**	**0**	*e*PKIKP	**PKPbc**	**10 11 37.0**	**+1.1**		
WLF				MLR	MLR				
	comp=Z,8µm,20.0s								
WLF	**Walferdange**	**145.67**	**0**	*e*PKPdf	**PKPbc**	**10 11 37.0**	**+1.1**		
WLF				LR	LR				
	comp=Z,8µm,20.0s								
CVDA	**Cernavoda**	**145.70**	**332**	⇓*i*P	**PKPab**	**10 11 37.8**	**+1.3**		
KHC	**Kasperske Hory**	**145.71**	**352**	*e*PKP	**PKPdf**	**10 11 35.8**	**+0.1**		
KHC				*ep*PKP	pPKPab	10 11 47.4	-0.2		
KHC				*e*SKKS		10 21 47.8			
KHC				*ex*	x	10 25 04.6			
KHC				*ex*	x	10 33 26.8			
KHC				AMS	AMS	11 14 20.0			
	comp=Z,11µm,22.5s								
KHC	**Kasperske Hory**	**145.71**	**352**	*e*PKIKP	**PKPdf**	**10 11 35.8**	**+0.1**		
KHC				*e*		10 11 47.4			
KHC				ML

MOF	Molkenrain	147.48	359		PKP	PKPdf	10 11 39.3	+0.4
SALA	Sala	147.49	308		*eP*	PKPbc	10 11 42.5	+0.4
HINF	Hinteralfeld	147.52	359		*e*PKIKP	PKPdf	10 11 39.7	+0.8
HINF					pmax	pmax		
	comp=Z,244nm,1.8s							
ASF	Jabal al Asfar	147.58	307		PKP	PKPdf	10 11 39.3	-0.2
	comp=Z,32nm,1.0s,baz=53,slow=2.0,SNR=22							
ASF					PKPbc			
	comp=Z,32nm,1.0s,baz=29,slow=1.7,SNR=42					PKPbc	10 11 42.9	+0.8
ISK	Istanbul-Kandi	147.65	327		P	PKPdf	10 11 38.6	-0.6
ISK	Istanbul-Kandi	147.65	327		PKIKP	PKPdf	10 11 38.6	-0.6
ISK	Istanbul-Kandi	147.65	327		P	PKPdf	10 11 38.6	-0.6
RETA	Reutte	147.65	355	*i*	PKPbc	PKPdf	10 11 39.7	+0.5
	SNR=68							
BEHE	Becsehely	147.69	347	⇑	*e*PKPdf	PKPdf	10 11 39.2	+0.1
WATA	Walderalm	147.72	353	*i*	PKPbc	PKPdf	10 11 39.6	+0.2
	SNR=42							
KBA	Koelnbreinsper	147.75	351	*i*	PKPdf	PKPdf	10 11 38.9	-0.5
	SNR=66							
KBA	Koelnbreinsper	147.75	351		PKIKP	PKPdf	10 11 39.3	-0.1
BHL	Bhannes	147.76	310		*eP*	PKPdf	10 11 39.1	-0.7
MOTA	Moosalm	147.76	354	*i*	PKPbc	PKPdf	10 11 39.7	+0.2
	SNR=60							
PVL	Pavlikeni	147.78	334		P	PKPdf	10 11 40.4	+1.1
WTTA	Wattenberg	147.79	353	*i*	PKPbc	PKPdf	10 11 40.2	+0.7
	SNR=48							
RCY	Rachaya	147.82	310		*eP*	PKPdf	10 11 40.5	+0.6
JMB	Yambol	147.82	331		P	PKPbc	10 11 41.9	-0.5
KOGS	Kog	147.83	347	*i*	PKPdf	PKPdf	10 11 39.0	-0.3
SOKA	Soboth	147.85	349	*i*	PKPdf	PKPdf	10 11 39.2	-0.3
	SNR=111							
PERS	Pernice	147.88	349		*e*PKPdf	PKPdf	10 11 39.0	-0.5
PERS				*i*	PKPbc	PKPbc	10 11 42.2	-0.2
FURI	Furi	147.88	262		PFAKE		10 11 50.0	+3.7
FURI					LR	LR		
	comp=Z,3µm,22.0s							
DQRL	Deir Qamar	147.92	310		*eP*	PKPdf	10 11 40.2	+0.2
DAVA	Damuels	147.93	356	*i*	PKPbc	PKPdf	10 11 40.4	+0.7
	SNR=63							
LOMF	Lomont	147.99	360		PKP	PKPdf	10 11 40.4	+0.7
OBKA	Obir	148.10	349	*i*	PKPdf	PKPdf	10 11 40.1	+0.2
	SNR=27							
FETA	Feichten	148.12	354	*i*	PKPdf	PKPdf	10 11 40.3	+0.3
	SNR=66							
MYKA	Terra Mystica	148.14	351	*i*	PKPdf	PKPdf	10 11 39.9	0.0
	SNR=57							
ABTA	Abfaltersbach	148.19	352	*i*	PKPdf	PKPdf	10 11 39.6	-0.5
	SNR=86							
BOLV	Bolvadin	148.20	322		*e*PKPdf	PKPdf	10 11 41.4	+1.0
BOLV					*e*PKPbc	PKPbc	10 11 44.0	+0.3
EDRB	Edirne	148.22	331		P	PKPdf	10 11 39.6	-0.5
EDRB	Edirne	148.22	331		P	PKPdf	10 11 39.6	-0.5
MPEP	Malo Peshtene	148.32	336		P	PKPdf	10 11 40.4	+0.1
MMAI	Mount Meron Ar	148.36	309		PKP	PKPdf	10 11 40.7	0.0
	comp=Z,105nm,1.0s,baz=64,slow=3.4,SNR=11							
MMAI					PKPbc	PKPbc	10 11 44.9	+0.7
	comp=Z,102nm,0.9s,baz=54,slow=3.7,SNR=82							
DAVOX	Davos/Dischmat	148.43	355		PKP	PKPdf	10 11 40.7	+0.1
	comp=Z,61nm,0.8s,baz=26,slow=4.2,SNR=26							
DAVOX					PKPbc	PKPbc	10 11 45.0	+0.9
	comp=Z,58nm,0.6s,baz=360,slow=4.3,SNR=54							
AVF	Avril sur Loir	148.44	4		*e*PKIKP	PKPdf	10 11 39.8	-0.5
AVF					pmax	pmax		
	comp=Z,321nm,1.6s							
LJU	Ljubljana	148.56	349	*i*	PKPdf	PKPdf	10 11 40.8	+0.3
LJU				*i*	PKPbc	PKPbc	10 11 44.3	+0.1
LJU				*e*	PKPab	PKPab	10 11 48.8	+1.1
LJU				*e*			10 11 57.9	
LJU				*e*			10 15 13.4	
FUORN	Ofenpass-Fuorn	148.56	355		*e*PKPdf	PKPdf	10 11 41.2	+0.3
FUORN					*e*PKPbc	PKPbc	10 11 45.8	+1.2
FUORN					LR	LR		
	comp=Z,8µm,20.0s							
SISC	Sisak	148.73	346		P	PKPbc	10 11 45.0	+0.4
TUE	Stuetta	148.77	356		*e*PKPdf	PKPdf	10 11 41.4	+0.2
TUE					*e*PKPbc	PKPbc	10 11 46.0	+1.0
TUE					LR	LR		
	comp=Z,7µm,22.0s							
OZLJ	Ozalj	148.79	348		P	PKPdf	10 11 40.4	-0.5
CSS	Mathiatis	148.89	314		P	PKPdf	10 11 41.1	-0.4
CSS	Mathiatis	148.89	314		*e*PKPdf	PKPdf	10 11 41.1	-0.4
CSS					*e*PKPbc	PKPbc	10 11 45.6	+0.2
CSS					LR	LR		
	comp=Z,900nm,20.0s							
BOJS	Bojanci	148.94	348	*i*	PKPdf	PKPdf	10 11 41.7	+0.5
BOJS				*i*	PKPbc	PKPbc	10 11 45.7	+0.5
SENIN	Lac Senin/Sane	148.97	359		*e*PKPdf	PKPdf	10 11 42.7	+1.2
SENIN					LR	LR		
	comp=Z,6µm,20.0s							
KDZ	Kurdzhali	149.00	332		P	PKPdf	10 11 41.7	+0.3
TRI	Trieste	149.01	350		*e*PKIKP	PKPdf	10 11 41.2	-0.1
TRI				*e*			10 11 45.9	
TRI					MLR	MLR		
	comp=Z,7µm,20.0s							
TRI	Trieste	149.01	350		*e*PKPdf	PKPdf	10 11 41.2	-0.1
TRI					*e*PKPbc	PKPbc	10 11 45.9	+0.6
TRI					LR	LR		
	comp=Z,7µm,20.0s							
DIVS	Divibare	149.02	341		P	PKPdf	10 11 41.4	-0.1
ISP	Isparta	149.03	321		P	PKPdf	10 11 40.5	-1.2
ISP	Isparta	149.03	321	⇑	*i*P	PKPbc	10 11 45.2	-0.6
ISP	Isparta	149.03	321		*e*PKPdf	PKPdf	10 11 40.5	-1.2
ISP					*e*PKPdf	PKPdf	10 11 41.4	-0.4
ISP					*e*PKPbc	PKPbc	10 11 45.8	-0.1
ISP					LR	LR		
	comp=Z,4µm,22.0s							
ASCN	Ascension	149.09	137		*e*PKPdf	PKPdf	10 11 42.2	-0.2
ASCN					*e*PKPbc	PKPbc	10 11 47.5	+1.0
ASCN					LR	LR		
	comp=Z,4µm,22.0s							
AGO	Saint Agoulin	149.16	5		PKP	PKPbc	10 11 46.4	+0.6
VTS	Vitosha	149.17	335		P	PKPdf	10 11 41.7	-0.2
VTS	Vitosha	149.17	335	⇑	*i*P	PKPdf	10 11 41.7	-0.2
VTS	Vitosha	149.17	335		*e*PKIKP	PKPdf	10 11 41.5	-0.4
VTS				*e*			10 11 46.8	
VTS					MLR	MLR		
	comp=Z,5µm,20.0s							
VTS	Vitosha	149.17	335		P	PKPbc	10 11 45.6	-0.5
VTS	Vitosha	149.17	335		*e*PKPdf	PKPdf	10 11 41.5	-0.4
VTS					*e*PKPdf	PKPdf	10 11 41.7	-0.2
VTS					*e*PKPbc	PKiKP	10 11 46.8	-0.5
VTS					LR	LR		
	comp=Z,5µm,20.0s							
PLDF	La Plantade	149.28	4		PKP	PKPbc	10 11 46.8	+0.7
RZN	Rozhen	149.28	333		P	PKPbc	10 11 46.6	+0.2
ALN	Alexandroupoli	149.29	330		P	PKPdf	10 11 40.8	-1.1
ALN	Alexandroupoli	149.29	330		P	PKPdf	10 11 40.8	-1.1
RDO	Rodhopi	149.34	331		P	PKPdf	10 11 41.3	-0.6
RDO	Rodhopi	149.34	331		*e*PKPdf	PKPdf	10 11 41.3	-0.6
PYM	Petit Puy Mans	149.45	5		PKP	PKPbc	10 11 47.1	+0.5
KULA	Kula-Manisa	149.66	324		P	PKPdf	10 11 42.5	-0.2
KULA	Kula-Manisa	149.66	324		P	PKPdf	10 11 42.5	-0.2
MANT	Manisa	149.74	324		*e*PKPdf	PKPdf	10 11 41.0	-2.0
UDBI	Udbina	149.76	347		P	PKPdf	10 11 42.6	0.0
MMB	Musomiste	149.79	334		P	PKPbc	10 11 46.8	-0.7
LPL	La Plagne	149.82	360		*e*PKHKP	PKPpre	10 11 43.4	
LPL					pmax	pmax		
	comp=Z,384nm,1.4s							
KKB	Krupnik	149.83	335		P	PKPbc	10 11 48.4	+0.9
LPG	La Plagne	149.84	360		*e*PKHKP	PKPpre	10 11 44.9	
LPG					pmax	pmax		
	comp=Z,532nm,1.5s							
SMTH	Samothraki Isl	149.87	330		P	PKPdf	10 11 41.9	-0.9
SMTH	Samothraki Isl	149.87	330		*e*PKPdf	PKPdf	10 11 41.9	-0.9
PLE	Pljevlja	149.90	341		*e*PKP	PKPdf	10 11 42.6	-0.4
NVLJ	Novalja	149.92	348		P	PKPdf	10 11 41.1	-1.6
KAVA	Kavala	149.93	332		P	PKPdf	10 11 42.2	-0.7
KAVA	Kavala	149.93	332		*e*PKPdf	PKPdf	10 11 42.2	-0.7
NVR	Nevrokopi	149.93	333		P	PKPdf	10 11 42.1	-0.9
NVR	Nevrokopi	149.93	333		P	PKPdf	10 11 42.1	-0.9
LBL	Lubilhac	149.99	5		PKP	PKPbc	10 11 49.1	+1.2
SSB	Saint Sauveur	150.02	3		PKP	PKPbc	10 11 48.8	+0.9
SSB	Saint Sauveur	150.02	3		*e*PKPdf	PKPdf	10 11 44.0	+1.0
SSB					LR	LR		
	comp=Z,12µm,21.0s							
GRN	Grenoble	150.09	1		PKP	PKPbc	10 11 49.3	+1.1
EIL	Elat	150.11	304		PKP	PKPdf	10 11 43.4	-0.2
	comp=Z,25nm,1.2s,baz=55,slow=1.6,SNR=29							
EIL					PKPbc	PKPbc	10 11 49.1	+0.5
	comp=Z,113nm,1.1s,baz=70,slow=1.4,SNR=48							
GDM	Grand'Maison	150.14	0		PKP	PKPbc	10 11 49.5	+1.1
IVA	Berane	150.16	340	⇑	*i*PKP	PKPdf	10 11 42.8	-0.5
UPM	Unac-Piva	150.16	342	⇑	*i*PKP	PKPdf	10 11 42.9	-0.6
CAF	Calviac	150.18	6		*e*PKIKP	PKPdf	10 11 43.2	0.0
CAF					pmax	pmax		
	comp=Z,348nm,1.6s							
BNI	Bardonecchia	150.29	360		*e*PKPdf	PKPdf	10 11 44.5	+1.0
BNI					*e*PKPbc	PKiKP	10 11 50.3	+0.7
BNI					LR	LR		
	comp=Z,11µm,21.0s							
PVY	Plav	150.37	340	⇑	*i*PKP	PKPdf	10 11 43.2	-0.5
SKO	Skopje	150.39	337		P	PKPdf	10 11 43.1	-0.5
SKO	Skopje	150.39	337		*i* PKP	PKPdf	10 11 43.4	-0.2
SKO	Skopje	150.39	337		*e*PKIKP	PKPdf	10 11 43.1	-0.5
SKO	Skopje	150.39	337		*e*PKPdf	PKPdf	10 11 43.1	-0.5
ORIF	Oris-en-Rattie	150.42	1		*e*PKIKP	PKPdf	10 11 43.8	+0.1
ORIF					pmax	pmax		
	comp=Z,379nm,1.5s							
PRK	Paraskevi	150.43	328		P	PKPdf	10 11 43.3	-0.4
PRK	Paraskevi	150.43	328		PKIKP	PKPdf	10 11 43.3	-0.4
PRK	Paraskevi	150.43	328		P	PKPdf	10 11 43.3	-0.4
VIVF	Saint-Julien-l	150.45	3		*e*PKIKP	PKPdf	10 11 43.9	+0.2
VIVF					pmax	pmax		
	comp=Z,497nm,1.5s							
LIA	Limnos Island	150.48	330		P	PKPdf	10 11 43.0	-0.8
LIA	Limnos Island	150.48	330		P	PKPdf	10 11 43.0	-0.8
NKY	Niksic	150.49	341	⇑	*i*PKP	PKPdf	10 11 43.5	-0.4
KNT	Kendrikon	150.50	334		P	PKPdf	10 11 42.9	-0.9
KNT	Kendrikon	150.50	334		PKIKP	PKPdf	10 11 42.9	-0.9
KNT	Kendrikon	150.50	334		P	PKPdf	10 11 42.9	-0.9
PGAV	Gavieira, Arco	150.50	23		*e*PKPdf	PKPdf	10 11 45.4	+1.5
PGAV	Gavieira, Arco	150.50	23		*e*PKPbc	PKPbc	10 11 50.4	+1.1
PGAV	Gavieira, Arco	150.50	23		*e*SS	SS	10 34 47.8	+6.9
PGAV	Gavieira, Arco	150.50	23		*e*LR	LR	11 01 36.1	
	comp=Z,11µm,20.0s							
VAY	Valandovo	150.50	335		P	PKPdf	10 11 43.1	-0.7
VAY	Valandovo	150.50	335	*i*	PKP	PKPdf	10 11 43.2	-0.7
VAY	Valandovo	150.50	335		*e*PKIKP	PKPdf	10 11 43.1	-0.7
VAY	Valandovo	150.50	335		*e*PKPdf	PKPdf	10 11 43.1	-0.7
OG22	Abries	150.51	359		PKP	PKPbc	10 11 50.0	+0.7
NKME	Niksic	150.54	341	⇑	*i*PKP	PKPdf	10 11 43.5	-0.4
BRY	Bratogost	150.55	342	⇑	*i*PKP	PKPdf	10 11 43.3	-0.7
AKAS	Kas	150.61	320		*e*PKPbc	PKPbc	10 11 49.5	-0.3
SIGR	SIGRI	150.67	328		P	PKPdf	10 11 43.1	-1.0
SIGR	SIGRI	150.67	328		*e*PKPdf	PKPdf	10 11 43.1	-1.0
KSL	Kastellorizon	150.68	320		P	PKPdf	10 11 43.6	-0.6
KSL	Kastellorizon	150.68	320		*e*PKPdf	PKPdf	10 11 43.6	-0.6
OUR	Ouranopolis	150.70	332		P	PKPdf	10 11 42.9	-1.2
OUR	Ouranopolis	150.70	332		*e*PKIKP	PKPdf	10 11 42.9	-1.2
OUR	Ouranopolis	150.70	332		*e*PKPdf	PKPdf	10 11 42.9	-1.2
PDG	Podgorica	150.75	340		P	PKPdf	10 11 43.7	-0.4
PDG	Podgorica	150.75	340	⇑	*i*P	PKPdf	10 11 44.9	+0.8
TTG	Podgorica	150.75	340		PKIKP	PKPdf	10 11 43.7	-0.4
TTG	Podgorica	150.75	340	⇑	*i*PKP	PKPdf	10 11 43.6	-0.5
TTG	Podgorica	150.75	340		P	PKPdf	10 11 43.7	-0.4
CEME	Cevo	150.75	341	⇑	*i*PKP	PKPdf	10 11 43.3	-0.9
PCAB	Cabril	150.81	23		*e*PKPdf	PKPdf	10 11 46.4	+2.1
PCAB	Cabril	150.81	23		*e*PKPbc	PKPbc	10 11 51.8	+1.9
HORT	Hortiatis	150.88	333		P	PKPdf	10 11 43.4	-1.1
HORT	Hortiatis	150.88	333		P	PKPdf	10 11 43.4	-1.1
PLG	Polygyros	150.91	333		P	PKPdf	10 11 43.0	-1.5
PLG	Polygyros	150.91	333		PKIKP	PKPdf	10 11 43.0	-1.5
PLG	Polygyros	150.91	333		P	PKPdf	10 11 43.0	-1.5
HCY	Herceg Novi	150.98	341	⇑	*i*PKP	PKPdf	10 11 44.1	-0.4
KRUS	Krusevo	150.98	337	*i*	PKP	PKPdf	10 11 43.9	-0.7
BUM	Brajici-Budva	150.99	341	⇑	*i*PKP	PKPdf	10 11 44.2	-0.4
VLC	Villacollemand	150.99	354		*e*PKPdf	PKPdf	10 11 44.2	-0.3
VLC					*e*PKPbc	PKPbc	10 11 50.4	+0.2
VLC					LR	LR		
	comp=Z,9µm,21.0s							
SACV	Santiago Islan	150.99	87		PFAKE		10 12 00.0	+1.4
SACV					LR	LR		
	comp=Z,2µm,22.0s							
DRME	Dracevica, Mon	150.99	340	⇑	*i*PKP	PKPdf	10 11 43.8	-0.7
ULC	Ulcinj	151.17	340	⇑	*i*PKP	PKPdf	10 11 44.3	-0.6
PBRG	Braganca	151.18	21		*e*PKPbc	PKPbc	10 11 51.4	+0.6
PBRG	Braganca	151.18	21		*e*PP	PP	10 15 33.9	+5.7
POLO	Lamas de Olo	151.19	23		*e*PKPbc	PKPbc	10 11 51.3	+0.4
POLO	Lamas de Olo	151.19	23		*e*PP	PP	10 15 33.1	+4.8
BIA	Bitola	151.25	336		*e*PKP	PKPdf	10 11 44.8	-0.2
SMG	Samos	151.25	325		P	PKPdf	10 11 43.6	-1.5
SMG	Samos	151.25	325		P	PKPdf	10 11 43.6	-1.5
PVRL	Vila Real	151.30	23		*e*PKPdf	PKPdf	10 11 46.3	+1.2
PVRL	Vila Real	151.30	23		*e*PKPbc	PKPbc	10 11 51.8	+0.7
OSSF	Osses	151.31	12		PKP	PKPbc	10 11 50.4	-0.6
OHR	Ohrid	151.38	337	*i*	PKP	PKPdf	10 11 44.7	-0.6
ORDF	Ordiarp	151.42	11		PKP	PKPbc	10 11 51.1	-0.1
FNA	Florina	151.43	336		P	PKPdf	10 11 44.5	-0.8
FNA	Florina	151.43	336		PKIKP	PKPdf	10 11 44.5	-0.8
FNA	Florina	151.43	336		P	PKPdf	10 11 44.5	-0.8
TIR	Tirane	151.51	339	⇓	*i*P	PKPbc	10 11 51.2	-0.3
TIR	Tirane	151.51	339		*e*PKIKP	PKPdf	10 11 45.9	+0.6
TIR				*e*			10 11 52.0	
TIR					MLR	MLR		
	comp=Z,8µm,20.0s							
TIR	Tirane	151.51	339		*e*PKPdf	PKPdf	10 11 45.9	+0.6
TIR					*e*PKPbc	PKPbc	10 11 52.0	+0.5
TIR					LR	LR		
	comp=Z,8µm,20.0s							
ARG	Arkhangelos	151.53	321		P	PKPdf	10 11 45.2	-0.3
ARG	Arkhangelos	151.53	321		PKIKP	PKPdf	10 11 45.2	-0.3
ARG	Arkhangelos	151.53	321		P	PKPdf	10 11 45.2	-0.3
LIT	Litokhoron	151.55	334		P	PKPdf	10 11 44.4	-1.1
LIT	Litokhoron	151.55	334		*e*PKIKP	PKPdf	10 11 44.4	-1.1
LIT	Litokhoron	151.55	334		*e*PKPdf	PKPdf	10 11 44.4	-1.1
LARF	Larrau	151.58	11		PKP	PKPbc	10 11 52.5	+0.8
ATE	Arette	151.59	11		PKP	PKPbc	10 11 52.0	+0.3
MVO	Moncorvo	151.65	22		*e*PKPdf	PKPdf	10 11 46.9	+1.2
MVO	Moncorvo	151.65	22		*e*PKPbc	PKPbc	10 11 52.8	+0.9
MVO	Moncorvo	151.65	22		*e*PKPab	PKPab	10 12 00.1	-0.5
MVO	Moncorvo	151.65	22		*e*PP	PP	10 15 42.5	+12
MVO	Moncorvo	151.65	22		*e*SS	SS	10 34 59.8	+6.2
MVO	Moncorvo	151.65	22		*e*LR	LR	11 02 29.1	
	comp=Z,6µm,20.0s							
REYF	Montagne du Re	151.66	11		PKP	PKPbc	10 11 52.5	+0.6
KZN	Kozani	151.68	335		P	PKPdf	10 11 44.7	-1.0
KZN	Kozani	151.68	335		PKIKP	PKPdf	10 11 44.7	-1.0
KZN	Kozani	151.68	335		P	PKPdf	10 11 44.7	-1.0
EPF	Esparros	151.82	10		*e*PKIKP	PKPdf	10 11 45.8	0.0
EPF					pmax	pmax		
	comp=Z,167nm,1.8s							
SKIA	Skiathos	151.87	331		P	PKPdf	10 11 45.0	-1.0
NEST	Nestorio	151.88	336		P	PKPdf	10 11 45.8	-0.3
VIEF	Viey	151.91	10		PKP	PKPbc	10 11 53.2	+0.7
PENT	Pentalofos	152.03	336		P	PKPdf	10 11 46.1	-0.2
RESF	Ens	152.04	10		PKP	PKPbc	10 11 53.8	+1.0
MELF	Melles	152.04	9		PKP	PKPbc	10 11 53.0	+0.2
PCAS	Casmilo, Conde	152.05	25		*e*PKPbc	PKPbc	10 11 53.5	+0.7
MTE	Manteigas	152.13	23		*e*PKPdf	PKPdf	10 11 47.0	+0.6
MTE	Manteigas	152.13	23		*e*PKPbc	PKPbc	10 11 53.9	+0.9
MTE	Manteigas	152.13	23		*e*SS	SS	10 35 12.4	+14
MTE	Manteigas	152.13	23		*e*LR	LR	11 02 43.3	
	comp=Z,10µm,20.0s							
MTE	Manteigas	152.13	23		*e*PKPdf	PKPdf	10 11 47.5	+1.1
MTE					LR	LR		
	comp=Z,10µm,20.0s							
THL	Klokotos Trika	152.20	334		P	PKPdf	10 11 45.4	-1.0
LRDF	Laroque-de-Fa	152.20	6		PKP	PKPbc	10 11 53.8	+0.8
SMIA	Simia	152.22	331		P	PKPdf	10 11 45.4	-1.1
PMOZ	Porto Moniz, M	152.31	47		*e*LR	LR	11 03 07.5	
	comp=Z,4µm,22.0s							
AQU	L'Aquila	152.33	349		*e*PKIKP	PKPdf	10 11 47.7	+1.1
AQU					*e*		10 11 53.7	
AQU					MLR	MLR		
	comp=Z,10µm,22.0s							
AQU	L'Aquila	152.33	349		*e*PKPdf	PKPdf	10 11 47.7	+1.1
AQU					*e*PKPbc	PKPbc	10 11 53.7	+0.3
AQU					LR	LR		
	comp=Z,10µm,22.0s							
CARF	Carcanieres	152.37	7		PKP	PKPbc	10 11 54.1	+0.5
APE	Apeiranthos	152.43	326	*d*	*i*PKIKP	PKPbc	10 11 51.7	-2.1
PTOM	Tomar	152.45	25		*e*PKPdf	PKPdf	10 11 47.1	+0.3
PTOM	Tomar	152.45	25		*e*PKPbc	PKPbc	10 11 54.9	+1.2
LKR	Lokris	152.50	331		P	PKPdf	10 11 45.7	-1.2
LKR	Lokris	152.50	331		P	PKPdf	10 11 45.7	-1.2
AGG	Agios Georgios	152.51	332		P	PKPdf	10 11 45.9	-1.1
AGG	Agios Georgios	152.51	332		*e*PKIKP	PKPdf	10 11 45.9	-1.1
AGG	Agios Georgios	152.51	332		*e*PKPdf	PKPdf	10 11 45.9	-1.1
AGG					*e*PKPdf	PKPdf	10 11 46.6	-0.4
KARP	Karpathos	152.56	321		*e*PKPbc	PKPbc	10 11 53.9	-0.2
KARP					LR	LR		
	comp=Z,1µm,22.0s							
FILF	Fillols	152.57	6		PKP	PKPbc	10 11 54.5	+0.5
PCBR	Castelo Branco	152.63	24		*e*PKPdf	PKPdf	10 11 48.1	+1.0
ATHU	Athens Univers	152.67	329		P	PKPdf	10 11 45.4	-1.8
ATHU	Athens Univers	152.67	329		*e*PKPdf	PKPdf	10 11 45.4	-1.8
VALF	Valcebollere	152.67	7		PKP	PKPbc	10 11 55.2	+0.9
SJAF	Saint Jean de	152.68	6		PKP	PKPbc	10 11 53.9	-0.3
VILL	Villia	152.74	330		P	PKPdf	10 11 46.0	-1.4
PMST	Lisbon--Monsan	152.85	28		*e*PKPdf	PKPdf	10 11 48.7	+1.3
PMST	Lisbon--Monsan	152.85	28		*e*PP	PP	10 15 38.4	+0.6
LIS	Lisbon	152.88	27		*e*P	PKPdf	10 11 46.6	-0.8
LIS					AMS	AMS	11 13 56.5	
	comp=Z,9µm,20.9s							
LIS	Lisbon	152.88	27		*e*PKIKP	PKPdf	10 11 46.6	-0.8
SGD	Sagiada	152.89	336		P	PKPdf	10 11 47.0	-0.4
DSF	Desfina	152.91	331		P	PKPdf	10 11 46.4	-1.2
DSF	Desfina	152.91	331		*e*PKPdf	PKPdf	10 11 46.4	-1.2
KEK	Kerkira	152.97	337		P	PKPdf	10 11 47.4	-0.2
KEK	Kerkira	152.97	337		P	PKPdf	10 11 47.4	-0.2
SANT	Santorini	152.98	325		*e*PKPdf	PKPdf	10 11 47.5	-0.3
SANT					*e*PKPbc	PKPbc	10 11 54.4	-0.7
SANT					LR	LR		
	comp=Z,5µm,22.0s							
LTK	Loutraki	153.02	330		P	PKPdf	10 11 46.4	-1.3
LTK	Loutraki	153.02	330		*e*PKPdf	PKPdf	10 11 46.4	-1.3
PMRV	Marv??o	153.02	24		*e*PKPdf	PKPdf	10 11 49.0	+1.3
PMRV	Marv??o	153.02	24		*e*PKPbc	PKPbc	10 11 55.8	+0.8
PMRV	Marv??o	153.02	24		*e*PP	PP	10 15 43.7	+5.0
PMRV	Marv??o	153.02	24		*e*SS	SS	10 35 18.1	+9.4
PMRV	Marv??o	153.02	24		*e*LR	LR	11 02 52.9	
	comp=Z,6µm,20.0s							
ANX	Ano Chora	153.04	333		P	PKPdf	10 11 48.2	+0.4
LOUT	Loutraki	153.04	330		P	PKPdf	10 11 46.1	-1.6
GUD	Guadarrama	153.06	18		PKIKP	PKPdf	10 11 48.8	+0.9
KALE	Kalithea	153.11	332		P	PKPdf	10 11 46.6	-1.3
KALE	Kalithea	153.11	332		*e*PKPdf	PKPdf	10 11 46.6	-1.3
SERG	Sergoula	153.13	332		P	PKPdf	10 11 47.3	-0.6
PVO	Paravola	153.19	333		P	PKPdf	10 11 48.3	+0.4
LAKA	Lakka	153.30	332		P	PKPdf	10 11 48.2	+0.1
LAKA	Lakka	153.30	332		*e*PKPdf	PKPdf	10 11 48.2	+0.1
PDO	Prodromos	153.36	334		P	PKPdf	10 11 48.2	0.0
PESTR	Estremoz	153.42	25		*e*PKPdf	PKPdf	10 11 48.7	+0.4
PESTR

TORD PP **PP** **10 17 34.0 -1.5**
comp=Z,11nm,1.4s,baz=224,slow=4.0,SNR=7.4

---

*IDC **05** 10:16:57.4±9.6,26.16°S×177.54°W,h216km±77km,mb3.6/6, mb1 3.8/7,mb1mx3.5/22,mbtmp4.3/7,Error ellipse: s-maj=57.2km s-min=23.2km az=46.0*

ISC 05 10:16:50.3±1.6,26.0°S±0.2°×177.3°W±0.3°,h161km,n12, σ0.87/12,mb3.9/6,South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op	ISC		h m s	ISC
URZ	**Urewera**	**13.07**	**200**	P	**P**		**10 19 54.2**	**0.0**
	1.9nm,0.3s,baz=267,slow=4.9,SNR=17							
URZ				S	Sn		10 22 01.9	-13
	1.5nm,0.3s,baz=283,slow=4.0,SNR=8.0							
CTA	**Charters Tower**	**33.99**	**272**	P	**P**		**10 23 19.8**	**+1.0**
	4.3nm,0.5s,baz=99,slow=8.1,SNR=8.9							
STKA	**Stephens Creek**	**36.29**	**251**	P	**P**		**10 23 38.5**	**+0.2**
	0.9nm,0.4s,baz=101,slow=12,SNR=9.5							
ASAR	**Alice Springs**	**44.15**	**262**	P	**P**		**10 24 42.3**	**-0.9**
	1.1nm,0.4s,baz=96,slow=7.4,SNR=42							
ASAR				PcP	**PcP**		**10 26 25.8**	**+0.5**
	0.5nm,1.0s,baz=102,slow=4.6,SNR=2.9							
WRA	**Warramunga Arr**	**44.74**	**267**	P	**P**		**10 24 46.6**	**-1.3**
	3.9nm,0.4s,baz=102,slow=7.6,SNR=72							
WRA				PcP	**PcP**		**10 26 27.3**	**-0.1**
	0.5nm,0.7s,baz=109,slow=3.2,SNR=4.0							
VNDA	**Vanda**	**52.48**	**186**	P	**P**		**10 25 45.3**	**-0.8**
	0.4nm,0.5s,baz=37,slow=5.1,SNR=5.0							
MAW	**Mawson**	**76.60**	**200**	P	**P**		**10 28 23.7**	**+1.1**
	2.0nm,0.6s,baz=113,slow=8.2,SNR=4.1							
NB2	**NORSAR Subarra**	**144.53**	**353**	PKP	PKPbc		10 36 06.1	0.0
	comp=Z,0.9nm,0.5s,baz=9.1,slow=3.5							
NOA	**NORSAR Array B**	**144.53**	**353**	PKP	PKPbc		10 36 06.2	+0.2
	comp=Z,1.7nm,0.8s,baz=12,slow=2.3,SNR=5.6							
AKASG	**Malin Array Be**	**148.09**	**328**	PKPbc	**PKPbc**		**10 36 16.0**	**-0.7**
	comp=Z,0.3nm,0.3s,baz=39,slow=3.8,SNR=3.1							
MMAI	**Mount Meron Ar**	**150.80**	**292**	PKPbc	**PKPbc**		**10 36 24.8**	**+0.8**
	comp=Z,1.0nm,0.4s,baz=73,slow=4.8,SNR=2.9							
BRTR	**Keskin Array B**	**150.82**	**306**	PKPbc	**PKPbc**		**10 36 23.9**	**-0.1**
	comp=Z,0.7nm,0.6s,baz=130,slow=4.2,SNR=3.6							

JMA 05 10:17:23.0,35.27°N×136.72°E,h40km,M3.0,1C-2D Broadband fault plane solution: P waves. NP1: φ≈216.00000°,δ82.00000°,λ16.00000°. **NP2:** φ≈123.00000°,δ75.00000°,λ171.00000°. **Principal axes:** T Plg17.0000°, Azm80.0000°; N Plg72.0000°, Azm243.0000°; P Plg5.0000°, Azm349.0000°; **Western Honshu**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op	ISC		h m s	ISC
JEG	**Eigenji**	**0.30**	**244**	↑P	Pn		10 17 31.2	-0.1
JEG				S	Sn		10 17 37.1	0.0
TSUJ	**Tsu 2**	**0.61**	**204**	↓P	Pn		10 17 35.1	-0.1
TSUJ				S	Sn		10 17 43.8	-0.1
JIE	**Ise**	**0.88**	**181**	↓P	Pn		10 17 38.9	0.0
JIE				S	Sn		10 17 51.3	+0.9
JHE	**Heguri**	**1.05**	**234**	P	Pn		10 17 41.1	-0.1
JKG	**Kaga**	**1.05**	**343**	P	Pn		10 17 41.7	+0.4
JWT	**Wachi**	**1.08**	**271**	P	Pn		10 17 41.5	-0.1
JWT				S	Sn		10 17 55.1	-0.3
JKN2	**Miekihoku**	**1.09**	**200**	P	Pn		10 17 41.5	-0.3
JKN2				S	Sn		10 17 56.5	+0.8
MAT	**Matsushiro**	**1.75**	**43**	P	Pn		10 17 51.2	+0.3
MAT				S	Sn		10 18 09.9	-2.1

IDC 05 10:44:51.1±1.9,16.91S×178.08W,h0km,mb3.8/5, mb1 4.2/5,mb1mx3.8/24,mbtmp3.8/5,MS4.5/2,Ms1 4.5/2, ms1mx3.7/40 Error ellipse: s-maj=126.0km s-min=24.6km az=153.0,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op	ISC		h m s	ISC
HNR	**Honiara**	**22.64**	**286**	LR	LR		10 57 34.9	
	comp=Z,871nm,19.0s,baz=334,slow=34							
WRA	**Warramunga Arr**	**45.13**	**259**	P	P		10 53 09.6	-0.2
	0.8nm,0.5s,baz=96,slow=7.1,SNR=20							
ASAR	**Alice Springs**	**45.37**	**253**	P	P		10 53 11.6	-0.1
	2.9nm,0.5s,baz=86,slow=8.8,SNR=54							
NWAO	**Narrogin (SRO)**	**59.96**	**241**	LR	LR		11 18 58.1	
	comp=Z,506nm,18.7s,slow=34							
ILAR	**Eielson Array**	**84.85**	**13**	P	P		10 57 26.9	-0.4
	0.3nm,0.5s,baz=219,slow=5.5,SNR=4.4							
TXAR	**Lajitas Array**	**85.19**	**58**	P	P		10 57 30.4	+0.5
	0.4nm,0.7s,baz=248,slow=4.8,SNR=3.7							
PDAR	**Pinedale Array**	**86.41**	**43**	P	P		10 57 35.4	-0.4
	0.3nm,0.6s,baz=232,slow=4.4,SNR=3.8							

---

*ISCJB **05** 11:21:33.4±0.2,6.67N±0.03°×82.36W±0.02,h10km, mb5.2/249,MS5.2/341,Error ellipse: s-maj=3.8km s-min=2.1km az=17.9*

*CASC **05** 11:21:33.7±2.4,6.71N×82.33W,h4km±21km,MD4.2, mb5.3(NEIC)*

*IDC **05** 11:21:33.0±0.6,6.67N×82.40W,h0km,mb4.5/19, mb1 4.7/25,mb1mx4.6/43,mbtmp4.6/25,ML3.9/5,MS5.0/24, Ms1 5.0/24,ms1mx4.9/37,Error ellipse: s-maj=20.6km s-min=11.5km az=58.0*

*NEIC **05** 11:21:34.0±0.0,6.63N×82.09W,h17km,Moment Tensor Solution. s40 Moment tensor: Scale 10¹⁷Nm; Mrr=0.40; Mθθ=0.27; Mφφ=0.13; Mrθ=0.56; Mrφ=5.53; Mθφ=0.07; Best double couple: M₀6.60000×10¹⁷ NP1:φ=90.00000°, δ90.00000°,λ6.00000°. NP2:φ=0.00000°,δ84.00000°, λ180.00000°. Principal axes: T 5.7600, Plg4.0000°, Azm315.0000°; N -0.4000, Plg84.0000°, Azm91.0000°; P -5.3600, Plg4.0000°, Azm225.0000°;*

*MOS **05** 11:21:34.1±1.0,6.66N×82.38W,h15km,mb5.5/49, MS5.1/46 Error ellipse: s-maj=12.2km s-min=4.8km az=114.5*

*NEIC **05** 11:21:36.9±1.1,6.56N×82.36W,h25km±8km,mb5.3/244, MS5.2/300,MW5.8,MW5.8,Error ellipse: s-maj=4.2km s-min=2.6km az=207.0,Moment Tensor Solution. s30 Moment tensor: Scale 10¹⁷Nm; Mrr2.87; Mθθ0.28; Mφφ-3.15; Mrθ-0.79; Mrφ5.79; Mθφ2.16; Best double couple: M₀6.90000×10¹⁷ NP1:φ=98.00000°,δ66.00000°, λ8.00000°. NP2:φ=5.00000°,δ83.00000°,λ156.00000°. Principal axes: T 4.8800, Plg22.0000°, Azm319.0000°; N 3.0500, Plg65.0000°, Azm169.0000°; P -7.9300, Plg12.0000°, Azm54.0000°;*

NEIC Felt at Boquete, David and Guarumal. Also felt at San Vito, Costa Rica.

*GCMT **05** 11:21:36.9±0.1,6.63N×82.40W,h24km,MW5.8/135, Moment Tensor Solution. s109,c192; s135,c410; Duration: 2±0 Moment tensor: Scale 10¹⁷Nm; Mrr-0.33±.08; Mθθ1.56±.07; Mφφ-1.23±.08; Mrθ0.67±.11; Mθφ6.95±.07; Mrφ-0.01±.12; Best double couple: M₀7.12000×10¹⁷ NP1:φ=96.00000°,δ90.00000°, λ5.00000°. NP2:φ=6.00000°,δ85.00000°,λ180.00000°. Principal axes: T 7.2880, Plg4.0000°, Azm321.0000°; N -0.3380, Plg85.0000°, Azm97.0000°; P -6.9520, Plg4.0000°, Azm231.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*

ISC 05 11:21:35.0±0.3,6.57N±0.05°×82.38W±0.04°,h10km,n1083, σ1.43/979,mb5.2/256,MS5.2/343,9C-4D,South of Panama

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op	ISC		h m s	ISC
ACR	**Cerro Adams**	**2.21**	**339**	*e*P	**Pn**		**11 22 07.3**	**-4.5**
TBS2		**2.22**	**353**	*e*P	**Pn**		**11 22 10.6**	**-1.5**
TBS2				*e*S	**Sn**		**11 22 38.7**	**-1.1**
BRU2	**Volcan**	**2.23**	**352**	↑*i*P	**Pn**		**11 22 09.6**	**-2.6**
BRU2				*e*S	**Sn**		**11 22 37.0**	**-2.8**
AZU	**Azuero**	**2.41**	**60**	↓*i*P	**Pn**		**11 22 11.2**	**-3.4**
AZU				*e*S	**Sn**		**11 22 41.8**	**-2.3**
MAPC	**Malpelo**	**2.67**	**163**	*e*P	Pn		11 22 08.3	-10
PNME	**Penonome**	**2.78**	**47**	*e*P	**Pn**		**11 22 17.6**	**-2.1**
ZANG	**Zanguenga, Cho**	**3.43**	**46**	↑*e*P	**Pn**		**11 22 26.8**	**-1.8**
URSC	**Urasca**	**3.53**	**337**	*e*P	**Pn**		**11 22 27.3**	**-2.7**
FLAM	**Flamenco Islan**	**3.65**	**50**	*e*P	**Pn**		**11 22 29.4**	**-2.2**
FLAM				*e*P	**Pn**		**11 22 29.5**	**-2.1**
FLAM				*e*S	**Sn**		**11 23 11.7**	**-3.0**
FLAM				*e*S	**Sn**		**11 23 13.4**	**-1.3**
FRIJ	**El Hiral**	**3.72**	**45**	*e*P	**Pn**		**11 22 30.1**	**-2.4**
SJS	**Escuela Geolog**	**3.73**	**334**	*e*P	**Pn**		**11 22 30.2**	**-2.7**
HDC	**Heredia**	**3.82**	**333**	↑*i*P	**Pn**		**11 22 31.9**	**-2.1**
HDC				*e*Sn	**Sn**		**11 23 17.7**	**-1.3**
HDC	**Heredia**	**3.82**	**333**	↑*i*P	**Pn**		**11 22 31.7**	**-2.3**
HDC				*e*S	**Sn**		**11 23 15.8**	**-3.2**
HDC2	**Heredia 2**	**3.84**	**333**	↑*i*P	**Pn**		**11 22 31.7**	**-2.6**
CGA2	**Cerro Gallo 2**	**4.00**	**329**	*e*P	**Pn**		**11 22 33.5**	**-3.0**
JTS	**JuntasAbangare**	**4.49**	**326**	Pn	**Pn**		**11 22 40.5**	**-2.7**
	506nm,0.3s,baz=194,slow=6.1,SNR=152							
JTS				Sn	**Sn**		**11 23 31.7**	**-3.7**
	415nm,0.3s,baz=30,slow=23,SNR=7.6							
JTS	**JuntasAbangare**	**4.49**	**326**	*e*P	**Pn**		**11 22 41.0**	**-2.1**
JTS							11 23 31.7	
JTS	**JuntasAbangare**	**4.49**	**326**	*e*Pn	**Pn**		**11 22 41.0**	**-2.1**
JTS				Sn	**Sn**		**11 23 31.7**	**-3.7**
COLC	**Colonia**	**4.93**	**326**	*e*P	**Pn**		**11 22 47.2**	**-2.1**
SOLC	**Bahia Solano**	**4.95**	**94**	*e*P	**Pn**		**11 22 46.4**	**-3.1**
MESS	**Mesas**	**4.99**	**326**	*e*P	**Pn**		**11 22 48.3**	**-1.8**
GPS3	**Bodega del ICE**	**5.10**	**325**	*e*P	**Pn**		**11 22 49.7**	**-1.9**
GPS3				*e*S	**Sn**		**11 23 50.0**	**-0.6**
CAPC	**Capurgana**	**5.39**	**67**	*e*P	**Pn**		**11 22 55.5**	**0.0**
CRZ1	**La Cruz**	**5.51**	**324**	*e*P	**Pn**		**11 22 55.4**	**-1.8**
CONN	**Concepcion**	**5.91**	**327**	*e*P	**Pn**		**11 22 59.8**	**-2.8**
ACON	**Acoyapa**	**6.03**	**333**	*e*P	**Pn**		**11 23 02.3**	**-2.0**
MASN	**Masaya**	**6.54**	**326**	*e*P	**Pn**		**11 23 11.3**	**-0.1**
MGAN	**Managua**	**6.73**	**326**	*e*P	**Pn**		**11 23 11.6**	**-2.3**
TISN	**Laguna Tiscapa**	**6.74**	**326**	*e*P	**Pn**		**11 23 10.4**	**-3.6**
HELC	**Santa Helena**	**6.82**	**93**	*e*P	**Pn**		**11 23 15.1**	**-0.3**
HELC	**Santa Helena**	**6.82**	**93**	*e*Pn	**Pn**		**11 23 13.9**	**-1.6**
COPN	**Copaltepe**	**6.95**	**324**	*e*P	**Pn**		**11 23 15.0**	**-2.0**
POPC	**Popayan, Colom**	**6.95**	**125**	*e*P	**Pn**		**11 23 15.1**	**-2.1**
MOTC	**Monteria, Cord**	**7.00**	**71**	*e*P	**Pn**		**11 23 17.9**	**+0.2**
TOLC	**Tolima**	**7.29**	**105**	*e*P	**Pn**		**11 23 22.1**	**+0.1**
CRUC	**La Cruz**	**7.35**	**132**	*e*P	**Pn**		**11 23 20.8**	**-2.0**
ZARC	**Zaragoza, Cauc**	**7.52**	**83**	*e*P	**Pn**		**11 23 24.0**	**-0.8**
NORC	**Norcasia**	**7.53**	**97**	*e*P	**Pn**		**11 23 24.0**	**-1.0**
ESTN	**Estel**	**7.59**	**329**	*e*P	**Pn**		**11 23 23.9**	**-1.9**
SJCC	**San Jacinto, C**	**7.85**	**65**	*e*P	**Pn**		**11 23 28.2**	**-1.2**
PRAC	**Prado**	**7.98**	**110**	*e*P	**Pn**		**11 23 29.2**	**-2.1**
PRAC	**Prado**	**7.98**	**110**	*e*Pn	**Pn**		**11 23 29.9**	**-1.3**
ROSC	**El Rosal**	**8.20**	**102**	Pn	Pn		11 23 40.7	+6.2
	1.8nm,0.3s,baz=98,slow=16,SNR=8.3							
ROSC				Sn	Sn		11 25 19.6	+12
	1.8nm,0.3s,baz=289,slow=22,SNR=4.1							
ROSC	**El Rosal**	**8.20**	**102**	*e*Pn	**Pn**		**11 23 34.5**	**0.0**
ROSC				Pn	Pn		11 23 40.7	+6.2
ROSC				Sn	Sn		11 25 19.6	+12
TGUH	**Tegucigalpa,Un**	**8.86**	**327**	*e*Pn	**Pn**		**11 23 43.6**	**+0.5**
TGUH	**Tegucigalpa,Un**	**8.86**	**327**	*e*P	**Pn**		**11 23 41.6**	**-1.6**
VILC	**Villavicencio,**	**8.98**	**105**	*e*P	**Pn**		**11 23 46.5**	**+1.4**
SJAC	**San Juan de Ar**	**9.01**	**111**	*e*P	**Pn**		**11 23 43.2**	**-2.2**
PACA	**Pacayal**	**9.01**	**320**	*e*P	**Pn**		**11 23 47.7**	**+2.3**
GIRC	**Giron, Santand**	**9.13**	**86**	*e*P	**Pn**		**11 23 46.5**	**-0.6**
OCAC	**Ocana**	**9.13**	**79**	*e*P	**Pn**		**11 23 47.9**	**+0.8**
BARC	**Barichara**	**9.13**	**89**	*e*P	**Pn**		**11 23 47.9**	**+0.7**
RUSC	**La Rusia**	**9.26**	**94**	*e*P	**Pn**		**11 23 51.1**	**+1.9**
RUSC	**La Rusia**	**9.26**	**94**	*e*Pn	**Pn**		**11 23 49.4**	**+0.2**
CODC	**Agust´›n Codaz**	**9.45**	**69**	*e*P	**Pn**		**11 23 51.6**	**+0.3**
LFRS	**El Faro**	**9.61**	**317**	*e*P	**Pn**		**11 23 53.4**	**+0.2**
LBRS	**Las Brisas**	**9.68**	**318**	*e*P	**Pn**		**11 23 56.0**	**+1.4**
SNET	**Serv Nac Est T**	**9.77**	**317**	*e*P	**Pn**		**11 23 55.8**	**0.0**
OPAM	**San Salvador**	**9.77**	**317**	*e*P	**Pn**		**11 23 56.6**	**+0.8**
BOQS	**Boqueron**	**9.84**	**317**	*e*P	**Pn**		**11 23 57.7**	**+0.9**
SBLS	**San Blas**	**10.15**	**316**	*e*P	**Pn**		**11 24 02.8**	**+1.7**
MONT	**Ecomontaæa**	**10.18**	**316**	*e*P	**Pn**		**11 24 03.9**	**+2.4**
MTO3	**Montecristo**	**10.37**	**319**	*e*P	**Pn**		**11 24 06.7**	**+2.5**
CUS1	**Cusmapa**	**10.42**	**315**	*e*P	**Pn**		**11 24 06.6**	**+1.9**
URIC	**Uribia, Colomb**	**11.45**	**63**	*e*P	**Pn**		**11 24 18.7**	**0.0**
SDV	**Santo Domingo**	**11.86**	**78**	Pn	**Pn**		**11 24 24.4**	**-0.2**
	1.5nm,0.3s,baz=253,slow=10,SNR=41							
SDV				Sn	**Sn**		**11 26 32.0**	**-5.2**
	4.3nm,0.3s,baz=302,slow=19,SNR=5.6							
MCJ	**Malvern**	**12.18**	**22**	*i*P	**Pn**		**11 24 28.5**	**-0.2**
MTDJ	**Mount Denham**	**12.51**	**22**	*e*Pn	**Pn**		**11 24 32.2**	**-1.1**
STH	**Stony Hill**	**12.66**	**25**	↑*i*P	**Pn**		**11 24 33.2**	**-2.1**
BBJ	**Bamboo Saint A**	**12.75**	**23**	*i*P	**Pn**		**11 24 35.5**	**-1.0**
CCIG	**Comitan**	**13.58**	**316**	*e*Pn	**Pn**		**11 24 48.6**	**+0.6**
ATAH	**Atahualpa**	**14.19**	**164**	Pn	**Pn**		**11 24 57.5**	**+0.9**
	0.2nm,0.3s,baz=326,slow=19,SNR=4.2							
ATAH				LR	LR		11 29 57.0	
	comp=Z,10μm,20.5s,baz=344,slow=35							
GTBY	**Guantanamo Bay**	**15.03**	**27**	*e*Pn	**Pn**		**11 25 07.9**	**+0.3**
	457nm,1.8s							
CMIG	**Matias Romero**	**16.09**	**312**	Pn	**Pn**		**11 25 18.4**	**-3.1**
	2.5nm,0.3s,baz=112,slow=9.1,SNR=22							
CMIG				LR	LR		11 30 54.6	
	comp=Z,10μm,20.8s,baz=123,slow=35							
SDDR	**Presa de Saban**	**16.39**	**40**	*e*Pn	**Pn**		**11 25 24.5**	**-0.8**
	187nm,0.8s							
BANI	**BANI**	**16.59**	**44**	*e*Pn	**Pn**		**11 25 28.4**	**+0.5**
SDD	**Santo Domingo**	**16.94**	**45**	*e*Pn	**Pn**		**11 25 32.6**	**+0.2**
	750nm,1.3s							
PCRV	**Puerto La Cruz**	**17.91**	**77**	P	**Pn**		**11 25 43.9**	**-0.5**
	1.5nm,0.3s,baz=212,slow=12,SNR=22							
PCRV				LR	LR		11 34 36.5	
	comp=Z,11μm,19.8s,baz=266,slow=44							
GRTK	**Grand Turk**	**18.41**	**35**	*e*P	**Pn**		**11 25 50.9**	**+0.4**
	362nm,1.5s							
IDE	**Isla Desecheo**	**18.68**	**50**	*e*P	**Pn**		**11 25 53.6**	**-0.2**
MPR	**Mayaguez**	**18.83**	**51**	*e*P	**Pn**		**11 25 55.7**	**0.0**
	93nm,1.0s							
AGP	**Aguadilla**	**18.94**	**50**	*e*P	**Pn**		**11 25 57.2**	**+0.2**
	514nm,1.3s							
CELP	**Cerrillos**	**19.18**	**52**	*e*P	**Pn**		**11 26 00.1**	**+0.1**
TLIG	**Tlapa**	**19.21**	**306**	*e*P	**Pn**		**11 26 01.5**	**+1.0**
	191nm,0.9s							
NNA	**Nana**	**19.24**	**163**	P	**Pn**		**11 26 00.5**	**-0.2**
	0.2nm,0.3s,baz=348,slow=11,SNR=4.9							
SJG	**San Juan**	**19.54**	**53**	P	**Pn**		**11 26 03.7**	**-0.5**
	8.2nm,0.3s,baz=228,slow=8.6,SNR=38							
SJG				LR	LR		11 33 13.7	
	comp=Z,5μm,20.9s,baz=243,slow=36							
SJG	**San Juan**	**19.54**	**53**	*e*P	**Pn**		**11 26 03.7**	**-0.5**
SJG				pmax	pmax			
	comp=Z,200nm,0.9s							
SJG	**San Juan**	**19.54**	**53**	*e*P	**Pn**		**11 26 03.7**	**-0.5**
	comp=Z,200nm,0.9s							
HUMP	**Col San Antoni**	**19.80**	**53**	*e*P	**P**		**11 26 05.9**	**+0.2**
	comp=Z,139nm,0.9s							
CBYP	**Canovanas**	**19.86**	**53**	*e*P	**P**		**11 26 07.1**	**+0.6**
	comp=Z,207nm,0.9s							
CDVI	**St. Croix**	**20.46**	**56**	*e*P	**P**		**11 26 13.3**	**+0.3**
	comp=Z,356nm,0.7s							
STVI	**Saint Thomas**	**20.62**	**54**	*e*P	**P**		**11 26 14.7**	**0.0**
	comp=Z,440nm,1.3s							
STVI				LR	LR			
	comp=Z,4μm,19.0s							
UNM	**Universidad Na**	**20.68**	**309**	PFAKE			11 26 30.0	+12
UNM				LR	LR			
	comp=Z,9μm,21.0s							
TPP	**Pointe-a-Pierr**	**21.03**	**78**	*e*P	**P**		**11 26 21.7**	**+2.6**
GRGR	**Grenville**	**21.17**	**73**	*e*P	**P**		**11 26 23.8**	**+3.1**
GRGR	**Grenville**	**21.17**	**73**	*e*P	**P**		**11 26 20.2**	**-0.5**
	comp=Z,210nm,0.9s							
DWPF	**Disney Wildern**	**21.44**	**2**	*e*P	**P**		**11 26 24.5**	**+1.1**
	comp=Z,83nm,0.8s							
SABA	**Saba**	**21.67**	**58**	*e*P	**P**		**11 26 31.3**	**+5.3**
SABA	**Saba**	**21.67**	**58**	*e*P	**P**		**11 26 26.6**	**+0.6**
	comp=Z,255nm,1.0s							
SABA				LR	LR			
	comp=Z,9μm,20.0s							
SEUS	**St. Eustatius**	**21.83**	**58**	*e*P	**P**		**11 26 32.9**	**+5.2**
SEUS	**St. Eustatius**	**21.83**	**58**	*e*P	**P**		**11 26 28.6**	**+0.9**
	comp=Z,1μm,1.8s							
SEUS				LR	LR			
	comp=Z,8μm,21.0s							
SVB	**Belmont**	**21.84**	**71**	*e*P	**P**		**11 26 28.0**	**+0.2**
SVB	**Belmont**	**21.84**	**71**	*e*P	**P**		**11 26 28.4**	**+0.6**
	comp=Z,208nm,0.7s							
SSV	**Crater Summit**	**21.91**	**71**	*e*P	P		11 26 36.1	+7.4
SMRT	**St. Maarten**	**22.01**	**57**	*e*P	**P**		**11 26 29.4**	**-0.3**
SMRT	**St. Maarten**	**22.01**	**57**	*e*P	**P**		**11 26 29.4**	**-0.3**
	comp=Z,159nm,0.9s							
SMRT				LR	LR			
	comp=Z,8μm,22.0s							
TOSP	**Speyside**	**22.07**	**76**	*e*P	**P**		**11 26 35.2**	**+4.7**
SLDE	**Delcer**	**22.16**	**69**	*e*P	**P**		**11 26 33.5**	**+2.1**
SLB	**Belfond**	**22.19**	**69**	*e*P	**P**		**11 26 34.9**	**+3.2**
MCLT	**Moule a Chique**	**22.25**	**70**	*e*P	**P**		**11 26 33.5**	**+1.2**
TBG	**Guadaloupe-3**	**22.31**	**64**	*e*P	**P**		**11 26 33.1**	**+0.2**
BBL	**Barber's Block**	**22.34**	**65**	*e*P	**P**		**11 26 35.1**	**+1.8**
GDHS	**Morne Mazeau,**	**22.36**	**63**	*e*P	**P**		**11 26 33.3**	**-0.2**
	comp=Z,249nm,1.1s							
GDHS				LR	LR			
	comp=Z,6μm,20.0s							
FDF	**Fort de France**	**22.36**	**67**	*e*P	**P**		**11 26 33.6**	**0.0**
FDF	**Fort de France**	**22.36**	**67**	*e*P	**P**		**11 26 33.8**	**+0.2**
FDF				pmax	pmax			
	comp=Z,391nm,1.3s							
FDF				MLR	MLR			
	comp=Z,5μm,21.0s							
FDF	**Fort de France**	**22.36**	**67**	*e*P	**P**		**11 26 33.8**	**+0.2**
	comp=Z,391nm,1.3s							
FDF				LR	LR			
	comp=Z,5μm,21.0s							
BIM	**Bigot**	**22.37**	**68**	*e*P	**P**		**11 26 34.3**	**+0.7**
CXM	**Morne La Croix**	**22.37**	**67**	*e*P	**P**		**11 26 36.0**	**+2.3**
MOIG	**Morelia**	**22.44**	**307**	*e*P	**P**		**11 26 36.6**	**+2.0**
	comp=Z,171nm,1.0s							
MOIG				LR	LR			
	comp=Z,6μm,19.0s							
DWS	**Wesley**	**22.50**	**65**	*e*P	**P**		**11 26 38.6**	**+3.6**
MGG	**Marie-Galante**	**22.62**	**64**	*e*P	**P**		**11 26 39.6**	**+3.3**
ANWB	**Willy Bob**	**22.92**	**59**	*e*P	**P**		**11 26 40.2**	**+0.8**
ANWB	**Willy Bob**	**22.92**	**59**	*e*P	**P**		**11 26 39.3**	**-0.1**
	comp=Z,150nm,1.0s							
ANWB				LR	LR			
	comp=Z,5μm,20.0s							
DEG	**La Desirade**	**23.00**	**63**	*e*P	**P**		**11 26 44.0**	**+3.7**
BBGH	**Gun Hill**	**23.40**	**72**	PFAKE			11 26 50.0	+5.7
BBGH				LR	LR			
	comp=Z,11μm,22.0s							
BBSP	**Saint Philip**	**23.48**	**72**	*e*P	P		11 26 56.0	+11
PTGA	**Pitinga**	**23.51**	**107**	P	**P**		**11 26 45.8**	**+0.3**
	comp=Z,7.7nm,1.1s,baz=286,slow=11,SNR=8.3							
PTGA	**Pitinga**	**23.51**	**107**	*e*P	**P**		**11 26 45.7**	**+0.2**
	comp=Z,30nm,1.1s							
645A	**Chauvin**	**24.05**	**342**	P	**P**		**11 26 51.9**	**+1.4**
	baz=160							
SAML	**Samuel**	**24.57**	**129**	*e*P	**P**		**11 26 53.8**	**-1.7**
	comp=Z,40nm,1.1s							
SAML				LR	LR			
	comp=Z,1μm,18.0s							
TIGA	**Tifton**	**24.77**	**358**	P	**P**		**11 26 57.7**	**+0.7**
	baz=177							
TIGA	**Tifton**	**24.77**	**358**	*e*P	**P**		**11 26 57.2**	**+0.3**
	comp=Z,222nm,1.2s							
TIGA				LR	LR			
	comp=Z,7μm,18.0s							
448A	**Bay Minette**	**24.77**	**349**	P	**P**		**11 26 57.8**	**+0.7**
	baz=167							
035Z	**Hargill**	**24.80**	**325**	P	**P**		**11 26 57.3**	**0.0**
	baz=140,SNR=11							
447A	**Lucedale**	**24.81**	**347**	P	**P**		**11 26 59.4**	**+2.0**
	baz=165							
447A				S	**S**		**11 31 27.7**	**+7.8**
	baz=165							
BRAL	**Brewton**	**24.86**	**350**	*e*P	**P**		**11 26 59.5**	**+1.7**
	comp=Z,376nm,1.0s							
446A	**Poplarville**	**24.97**	**346**	P	**P**		**11 26 59.5**	**+0.6**
	baz=163							
936A	**North Padre Is**	**25.12**	**327**	P	**P**		**11 27 00.2**	**0.0**
	baz=143							
445A	**Amite**	**25.17**	**344**	P	**P**		**11 27 02.6**	**+2.0**
	baz=161							
035A	**Encino**	**25.18**	**325**	P	**P**		**11 27 01.8**	**+1.1**
	baz=141,SNR=16							
348A	**Jackson**	**25.25**	**349**	P	**P**		**11 27 04.0**	**+2.6**
	baz=167,SNR=6.5							
ZAIG	**Zacatecas**	**25.25**	**312**	*e*P	**P**		**11 27 02.9**	**+1.0**
	comp=Z,138nm,1.8s							
ZAIG				LR	LR			
	comp=Z,10μm,22.0s							
444A	**Pine Grove**	**25.27**	**343**	P	**P**		**11 27 04.0**	**+2.5**
	baz=160							
347A	**Saraland**	**25.37**	**348**	P	**P**		**11 27 05.0**	**+2.6**
	baz=166							
KVTX	**Kingsville**	**25.54**	**327**	PFAKE			11 27 20.0

baz=144
242A Grayson 26.95 341 P P 11 27 16.8 0.0
baz=158
833A Chaparral WMA, 26.97 325 P P 11 27 17.0 0.0
baz=140,SNR=23
Z47A Carrollton 27.02 349 P P 11 27 17.4 +0.1
baz=168,SNR=6.7
Z48A Northport 27.10 350 P P 11 27 18.1 0.0
baz=169,SNR=14
339A Huntington 27.14 337 P P 11 27 19.8 +1.3
baz=153
536A Bastrop 27.16 331 P P 11 27 18.8 +0.1
baz=147
Z46A Louisville 27.18 348 P P 11 27 19.1 +0.3
baz=166
733A Divot King Ran 27.22 326 P P 11 27 19.1 -0.2
baz=141,SNR=6.4
634A China Grove, S 27.23 328 P P 11 27 19.3 -0.1
baz=143
832A Faith Ranch, C 27.28 324 P P 11 27 19.3 -0.5
baz=139,SNR=23
143A Socs Landing, 27.32 343 P P 11 27 20.5 +0.4
baz=160
142A Monroe 27.34 342 P P 11 27 20.4 +0.1
baz=159
535A Dale 27.36 330 P P 11 27 20.0 -0.5
baz=146,SNR=7.8
437A Phantom Ranch, 27.37 334 P P 11 27 20.5 0.0
baz=149
338A Crockett 27.47 335 P P 11 27 21.7 +0.2
baz=151
240A Hunter Patters 27.48 339 P P 11 27 21.6 +0.1
baz=155
Z45A Winona 27.52 347 P P 11 27 21.9 +0.1
baz=164
NATX Nacogdoches 27.56 337 P P 11 27 22.5 +0.3
baz=153
NATX Nacogdoches 27.56 337 eP P 11 27 22.4 +0.1
comp=Z,175nm,1.8s
NATX LR LR
comp=Z,2µm,20.0s
JSC Jenkinsville 27.59 2 eP P 11 27 23.4 +0.9
JSC pmax pmax
comp=Z,108nm,1.5s
JSC Jenkinsville 27.59 2 eP P 11 27 23.4 +0.9
comp=Z,108nm,1.5s
436A Wall Ranch, Ga 27.61 332 P P 11 27 22.6 -0.2
baz=148
Y47A UCPARC, Winfie 27.66 350 P P 11 27 23.7 +0.6
baz=168,SNR=5.5
337A Centerville 27.68 335 P P 11 27 23.4 +0.1
baz=150
141A Papa Simpson, 27.70 341 P P 11 27 23.7 +0.2
baz=157
239A Gary 27.72 338 P P 11 27 23.5 -0.2
baz=154
633A Saathoff Ranch 27.73 327 P P 11 27 23.0 -0.8
baz=142,SNR=13
534A Blanco 27.82 329 P P 11 27 24.0 -0.6
baz=144,SNR=8.5
Y46A Houston 27.83 348 P P 11 27 24.6 0.0
baz=166,SNR=7.2
140A Cam and Jess, 27.95 340 P P 11 27 25.7 0.0
baz=156
Y45A Yeager Farm, C 27.96 347 P P 11 27 25.8 0.0
baz=165
238A Jacksonville 27.96 336 P P 11 27 25.7 -0.1
baz=152
435B Jarrell 27.99 331 P P 11 27 25.8 -0.4
baz=146
533A Kerrville 28.14 328 P P 11 27 27.7 +0.1
baz=143,SNR=11
336A Riesel 28.16 333 P P 11 27 27.5 -0.1
baz=148
Y44A Strider, Charl 28.20 346 P P 11 27 28.1 +0.2
baz=163
237A Washetta, Mont 28.24 335 P P 11 27 28.2 -0.1
baz=151
Z41A Richland Creek 28.26 341 P P 11 27 28.2 -0.3
baz=158
139A Bunkhouse Ranc 28.28 338 P P 11 27 28.8 +0.1
baz=154
335A Moody 28.34 332 P P 11 27 29.0 -0.2
baz=147
434A Burnet 28.35 330 P P 11 27 28.7 -0.7
baz=145
KMSC Kings Mountain 28.45 2 P P 11 27 30.4 +0.3
baz=182,SNR=10
KMSC Kings Mountain 28.45 2 eP P 11 27 30.6 +0.5
comp=Z,33nm,0.9s
KMSC LR LR
comp=Z,5µm,18.0s
Z40A Long Farm, Mag 28.46 340 P P 11 27 30.5 +0.2
baz=157
X45A UM Field Stati 28.46 348 P P 11 27 30.4 +0.1
baz=165
Y42A Garnett, Star 28.50 343 P P 11 27 30.8 +0.2
baz=160
138A Matatall Enter 28.53 337 P P 11 27 30.6 -0.3
baz=153
236A Katherine and 28.54 334 P P 11 27 30.6 -0.4
baz=150
SWET Sewanee 28.69 354 eP P 11 27 31.9 -0.4
comp=Z,11nm,0.8s
SWET LR LR
comp=Z,1µm,18.0s
X44A Crenshaw 28.70 347 P P 11 27 32.6 +0.2
baz=164
Z39A Irene McRaven, 28.71 339 P P 11 27 32.5 0.0
baz=155
433A Art 28.72 329 P P 11 27 31.8 -0.9
baz=144,SNR=19
137A Heron Place, G 28.74 336 P P 11 27 32.4 -0.3
baz=152
WLAR White Oak Lake 28.76 341 eP P 11 27 32.7 -0.2
comp=Z,100nm,1.2s
334A Lometa 28.76 331 P P 11 27 32.4 -0.6
baz=146
Y41A Eaglette Beard 28.78 342 P P 11 27 32.5 -0.6
baz=159
CPCT Cooper Cave 28.81 356 eP P 11 27 33.4 0.0
comp=Z,14nm,0.7s
CPCT LR LR
comp=Z,2µm,20.0s
CNNC Cliffs of the 28.83 8 PFAKE 11 27 50.0 +17
CNNC LR LR
comp=Z,6µm,22.0s
JCT Junction City 28.87 328 P P 11 27 33.7 -0.3
baz=142,SNR=18
JCT Junction City 28.87 328 eP P 11 27 33.3 -0.7
JCT pmax pmax
comp=Z,211nm,1.8s
JCT MLR MLR
comp=Z,3µm,22.0s
JCT Junction City 28.87 328 eP P 11 27 33.3 -0.7
comp=Z,211nm,1.8s
JCT LR LR
comp=Z,3µm,22.0s
WHTX Lake Whitney, 28.94 333 P P 11 27 33.8 -0.8
baz=148
WHTX Lake Whitney, 28.94 333 eP P 11 27 34.1 -0.5
comp=Z,61nm,1.1s
WHTX LR LR
comp=Z,3µm,21.0s
136A Ennis 28.95 335 P P 11 27 34.1 -0.6
baz=150
TKL Tuckaleechee C 28.98 358 P P 11 27 35.0 +0.2
comp=Z,12nm,0.6s,baz=168,slow=8.9,SNR=14
TKL LR LR 11 39 28.2
comp=Z,6µm,18.5s,baz=180,slow=37
TKL Tuckaleechee C 28.98 358 eP P 11 27 34.9 +0.1
TKL pmax pmax
comp=Z,82nm,1.6s
TKL Tuckaleechee C 28.98 358 eP P 11 27 34.9 +0.1
comp=Z,82nm,1.6s
PB11 IPOC Station P 29.01 155 PFAKE 11 27 50.0 +15
PB11 LR LR
comp=Z,3µm,19.0s
Z38A Mt. Pleasant 29.01 338 P P 11 27 35.2 0.0
baz=154
Y40A Okolona 29.11 341 P P 11 27 36.0 -0.1
baz=157
333A Richland Sprin 29.12 330 P P 11 27 35.6 -0.7
baz=144,SNR=9.3
X42A Stuttgart 29.12 344 P P 11 27 36.3 +0.2
baz=161
W45A Hickory Valley 29.13 348 P P 11 27 36.3 +0.1
baz=166
Z37A Pogue Cattle C 29.21 337 P P 11 27 37.1 +0.2
baz=152
234A Clairette 29.27 332 P P 11 27 36.2 -1.3
baz=147
Y39A Lockesburg 29.31 340 P P 11 27 37.3 -0.5
baz=156
X41A Kaden, Bauxite 29.32 343 P P 11 27 37.7 -0.2
baz=159
135A Vickery Place, 29.40 334 P P 11 27 38.0 -0.7
baz=148
X40A Basin Creek Fa 29.41 342 P P 11 27 38.6 -0.1
baz=158
Y38A Idabel 29.53 339 P P 11 27 39.9 +0.1
baz=154
UALR University of 29.53 343 eP P 11 27 38.7 -1.1
comp=Z,22nm,0.8s
Z36A Blue Ridge 29.60 336 P P 11 27 40.2 -0.2
baz=151
233A Rising Star 29.64 331 P P 11 27 40.2 -0.6
baz=145,SNR=7.4
V45A Humboldt 29.65 349 P P 11 27 40.8 0.0
baz=167
MIAR Mount Ida 29.70 341 P P 11 27 40.3 -0.9
baz=157
MIAR Mount Ida 29.70 341 eP P 11 27 40.1 -1.1
MIAR pmax pmax
comp=Z,63nm,1.5s
MIAR Mount Ida 29.70 341 eP P 11 27 40.1 -1.1
comp=Z,63nm,1.5s
134A White-Moore Ra 29.72 333 P P 11 27 40.7 -0.8
baz=147
WVT Waverly 29.84 351 eP P 11 27 41.6 -0.9
WVT pmax pmax
comp=Z,25nm,0.7s
WVT Waverly 29.84 351 eP P 11 27 41.6 -0.9
comp=Z,25nm,0.7s
X39A Fontain Ranch 29.84 340 P P 11 27 41.6 -0.9
baz=156
TZTN Tazewell 29.85 358 eP P 11 27 42.6 0.0
comp=Z,41nm,1.0s
TZTN LR LR
comp=Z,6µm,19.0s
W41B Gary Mavity, V 29.88 344 P P 11 27 42.0 -0.9
baz=160,SNR=6.9
Y37A Hugo 29.90 338 P P 11 27 42.6 -0.5
baz=153,SNR=7.2
X301 Greenbrier Sit 29.98 343 eP P 11 27 43.1 -0.6
comp=Z,72nm,1.5s
Z35A Perchaven, San 29.99 335 P P 11 27 43.1 -0.8
baz=149
WHAR Wooly Hollow 30.00 344 eP P 11 27 41.8 -2.1
comp=Z,52nm,1.2s
HPIG 30.01 315 eP P 11 27 44.6 +0.2
comp=Z,19nm,1.1s
HPIG LR LR
comp=Z,7µm,20.0s
GNAR Gosnell 30.08 348 eP P 11 27 48.6 +4.0
Y36A Durant 30.09 336 P P 11 27 45.0 +0.2
baz=152
W40A Ferguson Farm, 30.14 342 P P 11 27 44.5 -0.6
baz=158
133A Hamilton Ranch 30.14 331 P P 11 27 44.6 -0.6
baz=146
U45A Rockin P Farm, 30.21 350 P P 11 27 45.5 -0.3
baz=167
V42A Cord 30.25 345 P P 11 27 45.6 -0.5
baz=162
TXAR Lajitas Array 30.26 321 P P 11 27 47.2 +0.8
comp=Z,1.3nm,0.7s,baz=139,slow=8.3,SNR=10
TXAR LR LR 11 41 39.6
comp=Z,2µm,21.1s,baz=0.0,slow=40
TX31 Lajitas Ar. Si 30.26 321 eP P 11 27 46.1 -0.3
TX31 eP P 11 27 46.5 0.0
Z34A Collier Ranch, 30.32 334 P P 11 27 46.1 -0.7
baz=148
X37A Clayton 30.35 338 P P 11 27 46.6 -0.5
baz=154
W39A Magazine 30.36 341 P P 11 27 46.8 -0.3
baz=157,SNR=12
Y35A Marietta 30.40 335 P P 11 27 47.2 -0.3
baz=150,SNR=8.5
V41A Mountainview 30.43 344 P P 11 27 46.7 -1.0
baz=161,SNR=14
W38A Poteau 30.49 340 P P 11 27 47.5 -0.7
baz=156
ABTX Abilene, Hawle 30.50 330 P P 11 27 47.8 -0.6
baz=145
ABTX Abilene, Hawle 30.50 330 eP P 11 27 47.8 -0.6
comp=Z,72nm,1.8s
BBSR BB Station 30.50 30 PFAKE 11 28 00.0 +12
BBSR LR LR
comp=Z,4µm,20.0s
BLA Blacksburg 30.55 3 eP P 11 27 48.4 -0.4
BLA pmax pmax
comp=Z,37nm,1.0s
BLA MLR MLR
comp=Z,4µm,18.0s
BLA Blacksburg 30.55 3 eP P 11 27 48.4 -0.4
comp=Z,37nm,1.0s
BLA LR LR
comp=Z,4µm,18.0s
U43A Rector 30.55 347 P P 11 27 48.9 +0.1
baz=164
Z33A Whitaker Ranch 30.63 332 P P 11 27 49.1 -0.4
baz=147
V40A Witts Springs 30.63 343 P P 11 27 48.6 -1.0
baz=159
X36A Centrahoma 30.70 337 P P 11 27 49.5 -0.7
baz=152
U42A Revenden 30.73 346 P P 11 27 49.5 -0.8
baz=163,SNR=13
Y34A Reagan Ranch, 30.75 334 P P 11 27 50.4 -0.2
baz=149
X35A Drake 30.80 336 P P 11 27 50.2 -0.8
baz=151
W37B Quinton 30.87 339 P P 11 27 50.6 -1.0
baz=154
U41A Viola 30.89 345 P P 11 27 50.8 -1.0
baz=161
V39A Pettigrew 30.91 342 P P 11 27 50.9 -1.2
baz=158
PBMO Polar Bluff 30.95 347 eP P 11 27 51.3 -1.0
comp=Z,73nm,1.6s
T44A Benton 31.08 349 P P 11 27 53.5 +0.1
baz=166
U40A Yellville 31.16 344 P P 11 27 53.3 -0.8
baz=160,SNR=7.3
W36A Wetumka 31.16 338 P P 11 27 53.9 -0.2
baz=153
URVA University of 31.17 7 eP P 11 27 53.0 -1.2
Y33A Hilltop Ranch, 31.17 333 P P 11 27 53.7 -0.6
baz=148
V38A Canehill 31.17 341 P P 11 27 53.0 -1.3
baz=156
T43A Greenville 31.21 348 P P 11 27 53.3 -1.3
baz=165,SNR=10
JSRW J. Sargeant Re 31.25 7 eP P 11 27 54.9 0.0
X34A Smith Ranch, M 31.33 335 P P 11 27 53.7 -2.0
baz=150
T42A Van Buren 31.34 347 P P 11 27 53.1 -2.6
baz=163,SNR=29
U39A Green Forest 31.36 343 P P 11 27 55.6 -0.4
baz=158
HHAR Hobbs 31.41 342 eP P 11 27 56.1 -0.3
comp=Z,11nm,0.8s
W35A Tecumseh 31.42 337 P P 11 27 56.1 -0.4
baz=152
V37A Hulbert 31.43 340 P P 11 27 55.5 -1.1
baz=155
S45A Carrier Mills 31.47 351 P P 11 27 56.5 -0.3
baz=168,SNR=5.2
SLBS Sierra La Lagu 31.48 306 PFAKE 11 28 10.0 +13
SLBS LR LR
comp=Z,3µm,21.0s
T41A Mountain View 31.52 346 P P 11 27 56.4 -1.0
baz=162,SNR=7.8
S44A Carbondale 31.60 350 P P 11 27 57.8 -0.3
baz=167,SNR=7.2
USIN University of 31.62 352 eP P 11 27 57.2 -1.0
comp=Z,110nm,1.1s
USIN LR LR
comp=Z,4µm,18.0s
V36A Jenks 31.63 339 P P 11 27 56.9 -1.4
baz=154
S43A Fulton Ridge, 31.64 348 P P 11 27 57.2 -1.2
baz=165,SNR=5.6
TUL1 Leonard 31.69 339 P P 11 27 57.8 -1.0
baz=154
TUL1 Leonard 31.69 339 eP P 11 27 57.5 -1.4
comp=Z,34nm,1.2s
TUL1 LR LR
comp=Z,3µm,22.0s
U38A Gravette 31.69 341 P P 11 27 57.7 -1.2
baz=157
WCI Wyandotte Cave 31.71 354 eP P 11 27 58.3 -0.8
WCI pmax pmax
comp=Z,101nm,1.2s
WCI MLR MLR
comp=Z,2µm,19.0s
WCI Wyandotte Cave 31.71 354 eP P 11 27 58.3 -0.8
comp=Z,101nm,1.2s
WCI LR LR
comp=Z,2µm,19.0s
T40A Mansfield 31.81 345 P P 11 27 58.8 -1.2
baz=161
X32A Elmer 31.81 333 P P 11 27 59.3 -0.7
baz=147
CBN Corbin Frederi 31.81 7 PFAKE 11 28 10.0 +10
CBN LR LR
comp=Z,4µm,20.0s
W34A Bridge Creek, 31.85 336 P P 11 27 59.2 -1.1
baz=150
W34A Bridge Creek, 31.85 336 eP P 11 27 59.6 -0.7
comp=Z,33nm,1.0s
W34A LR LR
comp=Z,2µm,22.0s
WMOK Wichita Mounta 31.85 334 P P 11 27 59.2 -1.2
baz=148
WMOK Wichita Mounta 31.85 334 eP P 11 27 59.0 -1.3
WMOK pmax pmax
comp=Z,36nm,1.5s
WMOK MLR MLR
comp=Z,4µm,21.0s
WMOK Wichita Mounta 31.85 334 eP P 11 27 59.0 -1.3
comp=Z,36nm,1.5s
WMOK LR LR
comp=Z,4µm,21.0s
LVC Limon Verde 31.86 156 eP P 11 27 58.0 -2.9
comp=Z,80nm,1.9s
LVC LR LR
comp=Z,4µm,20.0s
U37A Salina 31.90 340 P P 11 27 59.7 -1.0
baz=156
T39A Clever 31.93 343 P P 11 27 59.9 -1.1
baz=159
V35A Meyer Ranch, C 31.94 337 P P 11 27 59.9 -1.2
baz=152
S42A Caledonia 31.98 347 P P 11 28 00.9 -0.5
baz=164
S41A Jillco Farms, 32.03 346 P P 11 28 01.6 -0.2
baz=162
U36A Oologah 32.10 339 P P 11 28 00.9 -1.6
baz=154
R44A Waltonville 32.11 350 P P 11 28 02.4 -0.1
baz=167
T38A Diamond 32.21 342 P P 11 28 02.1 -1.4
baz=157
S40A Lebanon 32.23 345 P P 11 28 02.4 -1.1
baz=161,SNR=17
R43A Red Bud 32.30 349 P P 11 28 03.2 -0.9
baz=166,SNR=6.9
OLIL Olney 32.43 352 eP P 11 28 04.2 -1.1
comp=Z,152nm,1.3s
OLIL LR LR
comp=Z,4µm,19.0s
U35A Pawnee 32.44 338 P P 11 28 04.2 -1.2
baz=153
R42A Luebbering 32.47 348 P P 11 28 04.6 -1.1
baz=164,SNR=9.3
T37A Cheneyville 18 32.49 341 P P 11 28 05.0 -0.9
baz=156,SNR=12
S39A Bolivar 32.54 344 P P 11 28 05.2 -1.1
baz=160,SNR=12
R41A Rosebud 32.62 347 P P 11 28 06.0 -0.9
baz=163,SNR=15
S38A Stockton 32.65 343 P P 11 28 06.1 -1.2
baz=158
BLO Bloomington 32.67 354 eP P 11 28 07.0 -0.4
BLO pmax pmax
comp=Z,132nm,1.5s
BLO MLR MLR
comp=Z,3µm,19.0s
BLO Bloomington 32.67 354 eP P 11 28 07.0 -0.4
comp=Z,132nm,1.5s
BLO LR LR
comp=Z,3µm,19.0s
SLM Saint Louis 32.70 349 eP P 11 28 07.5 -0.2
SLM pmax pmax
comp=Z,67nm,1.1s
SLM Saint Louis 32.70 349 eP P 11 28 07.5 -0.2
comp=Z,67nm,1.1s
Q44A Meyer Farm, Va 32.74 350 P P 11 28 07.3 -0.7
baz=168
T36A Boggs Farm, Ca 32.75 340 P P 11 28 07.4 -0.7
baz=155
R40A Maddies Statio 32.82 346 P P 11 28 07.5 -1.3
baz=162
T35A Sooner Cattle 32.84 339 P P 11 28 07.7 -1.3
baz=154,SNR=7.3
Q43A New Douglas 32.90 349 P P 11 28 08.8 -0.6
baz=166
MNTX Cornudas Mount 32.97 322 P P 11 28 09.4 -0.7
baz=135,SNR=58
MNTX Cornudas Mount 32.97 322 eP P 11 28 10.1 0.0
comp=Z,80nm,1.3s
MNTX LR LR
comp=Z,3µm,21.0s
MCWV Mont Chateau 33.02 4 PFAKE 11 28 20.0 +10
MCWV LR LR
comp=Z,2µm,18.0s
Q42A Golden Eagle 33.03 348 P P 11 28 10.6 0.0
baz=165,SNR=6.3
R39A Chumby, Stover 33.04 345 P P 11 28 09.8 -0.9
baz=160
S37A Fort Scott 33.04 342 P P 11 28 10.0 -0.7
baz=157
SDMD Soldier's Deli 33.07 8 eP P 11 28 10.9 0.0
comp=Z,12nm,1.0s
SDMD LR LR
comp=Z,2µm,21.0s
MSTX Muleshoe 33.16 328 P P 11 28 10.6 -1.3
baz=141,SNR=16
MSTX Muleshoe 33.16 328 eP P 11 28 10.8 -1.1
comp=Z,37nm,1.1s
MSTX LR LR
comp=Z,3µm,20.0s
R38A Fenwick Farm, 33.16 343 P P 11 28 10.7 -1.1
baz=159
T34A McClaskey Farm 33.19 338 P P 11 28 10.8 -1.2
baz=152
Q41A Truxton 33.22 347 P P 11 28 11.9 -0.3
baz=164,SNR=7.9
P44A Sand Creek, Wi 33.23 351 P P 11 28 11.9 -0.3
baz=169,SNR=6.0
S36A Lake Cedric, C 33.26 341 P P 11 28 11.8 -0.7
baz=156
AMTX Amarillo 33.32 330 P P 11 28 12.2 -1.1
baz=143
AMTX Amarillo 33.32 330 eP P 11 28 12.4 -0.9
comp=Z,17nm,0.9s
AMTX LR LR
comp=Z,3µm,21.0s
U32A Winter Ranch, 33.34 335 P P 11 28 12.9 -0.5
baz=149
Q40A Laux Farm, Aux 33.45 346 P P 11 28 12.6 -1.5
baz=162,SNR=10
S35A Otter Creek Ra 33.46 340 P P 11 28 13.1 -1.3
baz=154,SNR=11
ACSO Alum Creek Sta 33.52 359 eP P 11 28 14.4 -0.4
comp=Z,95nm,0.8s
P43A Skaggs, Pawnee 33.55 350 P P 11 28 14.5 -0.5
baz=167,SNR=5.6
R37A Teagarden Farm 33.55 342 P P 11 28 14.7 -0.4
baz=157
Q39A Willow Grove F 33.72 345 P P 11 28 16.2 -0.4
baz=161
MVL Millersville 33.72 8 eP P 11 28 17.5 +1.0
comp=Z,55nm,1.5s
MVL LR LR
comp=Z,3µm,20.0s
O56A Blue Knob Stat 33.72 5 P P 11 28 16.7 +0.1
baz=187
S34A Willow Spring 33.76 339 P P 11 28 16.3 -0.7
baz=153
R36A Gordon, Harris 33.77 341 P P 11 28 16.5 -0.5
baz=156

PSUB Penn St. - Bra 33.79 10 *e*P P 11 28 16.9 -0.2
comp=Z,60nm,1.8s
PSUB LR LR
comp=Z,5µm,20.0s
Q38A Cooks Store, C 33.81 344 P P 11 28 17.3 0.0
baz=160
P41A Barry, Barry 33.87 348 P P 11 28 19.5 +1.6
baz=164
SFIN Lafayette 33.92 354 P P 11 28 19.9 +1.6
baz=172
SFIN Lafayette 33.92 354 *e*P P 11 28 18.6 +0.3
comp=Z,28nm,0.8s
SFIN LR LR
comp=Z,3µm,18.0s
P40A Paris 33.95 347 P P 11 28 18.3 -0.3
baz=163
Q37A Longview Farm, 33.96 343 P P 11 28 19.8 +1.1
baz=158
R35A Emporia Munici 34.00 340 P P 11 28 20.2 +1.1
baz=155
P39B Salisbury 34.08 346 P P 11 28 18.9 -0.8
baz=161,SNR=15
O43A Sugar Creek Fa 34.14 351 P P 11 28 19.9 -0.3
baz=168
SSPA Standing Stone 34.15 6 *e*P P 11 28 20.8 +0.4
comp=Z,27nm,0.9s
SSPA LR LR
comp=Z,4µm,22.0s
O41A Passleys Farm, 34.26 348 P P 11 28 22.6 +1.4
baz=165,SNR=7.6
N54A Moraine State 34.31 3 P P 11 28 23.1 +1.5
baz=184
R34A Isabella, Hill 34.34 339 P P 11 28 21.2 -0.9
baz=153,SNR=10
Q36A Arnold C. Orve 34.34 342 P P 11 28 20.7 -1.3
baz=157,SNR=12
HDIL Hopedale 34.40 351 P P 11 28 22.9 +0.4
baz=168,SNR=9.2
HDIL Hopedale 34.40 351 *e*P P 11 28 22.5 0.0
comp=Z,61nm,0.7s
HDIL LR LR
comp=Z,2µm,18.0s
P38A Dawn 34.41 345 P P 11 28 23.6 +1.1
baz=160
Q35A Mercer Eighty, 34.43 341 P P 11 28 22.4 -0.4
baz=156
LUPA Lehigh Univers 34.45 9 *e*P P 11 28 23.5 +0.5
comp=Z,68nm,1.4s
LUPA LR LR
comp=Z,6µm,20.0s
O40A La Belle 34.47 347 P P 11 28 22.9 -0.2
baz=163
P37A Lathrop 34.59 344 P P 11 28 22.6 -1.6
baz=159,SNR=8.0
BRNJ Basking Ridge 34.68 10 *e*P P 11 28 25.4 +0.6
comp=Z,124nm,1.5s
BRNJ LR LR
comp=Z,3µm,20.0s
N59A State Game Lan 34.70 9 P P 11 28 24.0 -1.1
baz=192
O39A Kirksville 34.75 346 P P 11 28 25.2 -0.4
baz=162
N42A Yates City 34.79 350 P P 11 28 24.7 -1.1
baz=167
Q34A Chapman 34.79 340 P P 11 28 24.9 -1.0
baz=154
N41A Harden Midland 34.83 349 P P 11 28 25.9 -0.2
baz=165
KSU1 Kansas State U 34.84 340 P P 11 28 25.5 -0.8
baz=155
KSU1 Kansas State U 34.84 340 *e*P P 11 28 25.6 -0.8
comp=Z,70nm,1.2s
KSU1 LR LR
comp=Z,2µm,20.0s
O38A Galt 34.86 345 P P 11 28 26.0 -0.5
baz=160
M54A Oil Creek Stat 34.87 4 P P 11 28 26.0 -0.6
baz=185
P36A Good Intent, A 34.87 343 P P 11 28 25.4 -1.2
baz=157,SNR=15
HSIG 35.01 313 PFAKE 11 28 40.0 +12
HSIG LR LR
comp=Z,5µm,21.0s
121A Cookes Peak, D 35.02 321 P P 11 28 27.6 -0.6
baz=132,SNR=36
121A Cookes Peak, D 35.02 321 *e*P P 11 28 28.9 +0.7
comp=Z,202nm,1.6s
P35A Duane Minner, 35.04 341 P P 11 28 26.9 -1.1
baz=156,SNR=12
ODNJ Ogdensburg 35.06 10 PFAKE 11 28 40.0 +12
ODNJ LR LR
comp=Z,3µm,22.0s
SRIG Santa Rosalia 35.07 310 PFAKE 11 28 40.0 +12
SRIG LR LR
comp=Z,4µm,22.0s
O37A Wolven Farm, M 35.08 344 P P 11 28 27.7 -0.7
baz=159
PAL Palisades 35.11 11 PFAKE 11 28 40.0 +11
PAL LR LR
comp=Z,4µm,20.0s
N40A Mertquake, Sal 35.14 348 P P 11 28 27.9 -1.0
baz=184
319A Douglas 35.24 318 *e*P P 11 28 30.8 +0.8
comp=Z,138nm,1.4s
319A LR LR
comp=Z,3µm,21.0s
O36A Bolckow 35.27 343 P P 11 28 28.6 -1.4
baz=158
P34A Walnut Farm, R 35.31 341 P P 11 28 28.2 -2.2
baz=155
KSPA Keystone Colle 35.33 9 PFAKE 11 28 40.0 +10
KSPA LR LR
comp=Z,5µm,19.0s
N39A Derby Farms, D 35.34 347 P P 11 28 28.9 -1.7
baz=162,SNR=5.8
M42A Sheffield 35.35 350 P P 11 28 29.8 -0.9
baz=167
M41A Milan 35.41 349 P P 11 28 29.6 -1.6
baz=166
N38A Joes South For 35.43 346 P P 11 28 29.6 -1.8
baz=161,SNR=6.5
BNM Barren Site 35.44 324 *e*P P 11 28 32.0 +0.2
ERPA Erie 35.46 3 PFAKE 11 28 40.0 +8.4
ERPA LR LR
comp=Z,3µm,18.0s
LPM Los Pinos Moun 35.55 324 *e*P P 11 28 33.3 +0.5
Y22D IRIS PASSCAL I 35.55 324 P P 11 28 33.3 +0.6
baz=135,SNR=11
Y22D IRIS PASSCAL I 35.55 324 *e*P P 11 28 34.0 +1.3
comp=Z,222nm,1.5s
Y22D LR LR
comp=Z,2µm,20.0s
AAM Ann Arbor 35.60 358 PFAKE 11 28 40.0 +7.2
AAM LR LR
comp=Z,5µm,21.0s
YLE Yale 35.60 12 PFAKE 11 28 40.0 +7.2
YLE LR LR
comp=Z,7µm,22.0s
M40A Post Highland 35.63 348 P P 11 28 31.5 -1.6
baz=164,SNR=5.2
N37A Lee Faris, Mou 35.65 344 P P 11 28 32.1 -1.1
baz=160
O35A Humboldt 35.68 342 P P 11 28 31.8 -1.7
baz=157,SNR=8.3
CBKS Cedar Bluff 35.73 336 P P 11 28 33.5 -0.5
baz=150
CBKS Cedar Bluff 35.73 336 *e*P P 11 28 35.8 +1.8
CBKS pmax pmax
comp=Z,29nm,1.1s
CBKS MLR MLR
comp=Z,2µm,18.0s
CBKS Cedar Bluff 35.73 336 *e*P P 11 28 35.8 +1.8
comp=Z,29nm,1.1s
CBKS LR LR
comp=Z,2µm,18.0s
M39A Webster 35.84 347 P P 11 28 33.4 -1.5
baz=163,SNR=6.5
O34A Beatrice 35.85 341 P P 11 28 33.3 -1.7
baz=155,SNR=30
ANMO Albuquerque 35.91 325 P P 11 28 35.8 0.0
comp=Z,25nm,0.9s,baz=141,slow=9.5,SNR=70
ANMO Albuquerque 35.91 325 P P 11 28 35.5 -0.3
baz=136
ANMO Albuquerque 35.91 325 ‖ *i*P P 11 28 35.6 -0.2
ANMO pmax pmax
comp=Z,9.0nm,0.9s
ANMO Albuquerque 35.91 325 *e*P P 11 28 35.7 0.0
comp=Z,42nm,1.0s
ANMO LR LR
comp=Z,3µm,22.0s
LAZ Ladron 35.91 324 *e*P P 11 28 36.3 +0.5
BINY Binghamton 35.93 8 *e*P P 11 28 36.5 +0.8
comp=Z,46nm,1.2s
BINY LR LR
comp=Z,4µm,19.0s
M38A Pleasantville 36.01 346 P P 11 28 34.6 -1.8
baz=162
O33A Hebron 36.04 340 P P 11 28 35.0 -1.6
baz=154,SNR=13
L41A Preston 36.08 350 P P 11 28 35.6 -1.3
baz=166,SNR=8.3
N35A Tabor 36.14 343 P P 11 28 36.0 -1.5
baz=157
L40A Anamosa 36.20 349 P P 11 28 36.4 -1.5
baz=165,SNR=5.1
M37A Trindle Farm, 36.21 345 P P 11 28 38.1 0.0
baz=160
BUF Buffalo 36.34 4 *e*P P 11 28 39.4 +0.3
N34A Lincoln 36.38 342 P P 11 28 38.3 -1.2
baz=156
L39A Vinton 36.42 348 P P 11 28 39.1 -0.7
baz=164
M36A Felix, Anita 36.46 344 P P 11 28 39.1 -1.0
baz=159
T25A Trinidad 36.46 330 P P 11 28 39.7 -0.8
baz=141,SNR=17
T25A Trinidad 36.46 330 *e*P P 11 28 40.2 -0.3
comp=Z,98nm,1.5s
T25A LR LR
comp=Z,3µm,20.0s
SCIA State Center 36.48 346 *e*P P 11 28 38.9 -1.5
comp=Z,58nm,0.8s
SCIA LR LR
comp=Z,2µm,21.0s
BRYW Bryant College 36.49 14 PFAKE 11 28 50.0 +10
BRYW LR LR
comp=Z,6µm,18.0s
K41A Shullsburg 36.57 350 P P 11 28 40.4 -0.7
baz=167
N33A J Bar K, Exete 36.59 341 P P 11 28 41.1 -0.3
baz=154
L38A Oak Wood Farm, 36.65 347 P P 11 28 39.6 -2.2
baz=162,SNR=12
QUA2 Belchertown 36.65 12 PFAKE 11 28 50.0 +8.2
QUA2 LR LR
comp=Z,4µm,21.0s
M35A Neola 36.72 343 P P 11 28 44.4 +2.0
baz=158,SNR=11
K40A Colesburg 36.80 349 P P 11 28 41.4 -1.7
baz=165
L37A Phoenix Point, 36.82 346 P P 11 28 42.6 -0.6
baz=161
TRY Troy 36.83 11 *e*P P 11 28 43.4 +0.2
comp=Z,67nm,1.2s
TRY LR LR
comp=Z,8µm,20.0s
TUC Tucson 36.83 318 P P 11 28 42.9 -0.6
baz=128
TUC Tucson 36.83 318 *e*P P 11 28 43.4 -0.1
TUC pmax pmax
comp=Z,69nm,1.6s
TUC MLR MLR
comp=Z,6µm,19.0s
TUC Tucson 36.83 318 *e*P P 11 28 43.4 -0.1
comp=Z,69nm,1.6s
TUC LR LR
comp=Z,6µm,19.0s
JFWS Jewell Farm 36.85 350 *e*P P 11 28 43.4 -0.1
JFWS pmax pmax
comp=Z,35nm,0.8s
JFWS MLR MLR
comp=Z,2µm,21.0s
JFWS Jewell Farm 36.85 350 *e*P P 11 28 43.4 -0.1
comp=Z,35nm,0.8s
JFWS LR LR
comp=Z,2µm,21.0s
K39A Oelwein 36.95 348 P P 11 28 44.4 0.0
baz=164
WES Weston 36.98 14 PFAKE 11 29 00.0 +15
WES LR LR
comp=Z,6µm,19.0s
M34A Aspy Farms, Fr 37.01 342 P P 11 28 43.4 -1.5
baz=156
L36A Hamm Buss Farm 37.02 345 P P 11 28 44.0 -1.0
baz=160,SNR=5.9
HRV Adam Dziewonsk 37.05 13 PFAKE 11 29 00.0 +15
HRV LR LR
comp=Z,4µm,20.0s
K38A Parkersburg 37.09 347 P P 11 28 43.9 -1.6
baz=163,SNR=6.4
KSCO Kaye Shedlock' 37.11 333 P P 11 28 45.3 -0.6
baz=145
KSCO Kaye Shedlock' 37.11 333 *e*P P 11 28 46.1 +0.2
comp=Z,32nm,0.6s
KSCO LR LR
comp=Z,4µm,21.0s
J41A Loganville 37.26 351 P P 11 28 44.7 -2.3
baz=167,SNR=5.9
M33A Taylor Creek F 37.27 342 P P 11 28 45.6 -1.5
baz=155
L35A Bielow Farm, R 37.27 344 P P 11 28 45.3 -1.8
baz=158,SNR=13
L34A Svendsen Farm, 37.38 343 P P 11 28 48.1 +0.1
baz=157
K37A Belmond 37.40 346 P P 11 28 46.4 -1.7
baz=161,SNR=11
J40A Soldiers Grove 37.41 350 P P 11 28 46.1 -2.2
baz=166,SNR=5.8
BGNE Belgrade 37.43 340 P P 11 28 47.6 -0.8
baz=154
BGNE Belgrade 37.43 340 *e*P P 11 28 48.1 -0.3
comp=Z,57nm,1.0s
BGNE LR LR
comp=Z,2µm,19.0s
ACCN Adirondack Com 37.46 10 *e*P P 11 28 49.2 +0.6
comp=Z,31nm,1.3s
ACCN LR LR
comp=Z,3µm,19.0s
K36A Gilmore City 37.47 345 P P 11 28 48.0 -0.8
baz=160,SNR=20
SDCO Great Sand Dun 37.48 329 P P 11 28 48.8 -0.4
baz=140,SNR=33
SDCO Great Sand Dun 37.48 329 *e*P P 11 28 48.5 -0.7
comp=Z,163nm,1.9s
SDCO LR LR
comp=Z,3µm,22.0s
J39A Decorah 37.52 349 P P 11 28 48.2 -1.1
baz=165
J38A Wedel Dairy, R 37.66 348 P P 11 28 49.0 -1.4
baz=164
X18A Snowflake 37.70 321 *e*P P 11 28 51.6 +0.5
comp=Z,82nm,1.4s
X18A LR LR
comp=Z,5µm,18.0s
K35A Storm Lake 37.75 344 P P 11 28 50.7 -0.5
baz=159
I40A Norwalk 37.87 350 P P 11 28 50.5 -1.7
baz=167
J37A Redenius Farm, 37.89 347 P P 11 28 50.2 -2.1
baz=162
I41A Arkdale 37.91 351 P P 11 28 50.6 -1.8
baz=168
L32A Elgin 37.92 341 P P 11 28 51.0 -1.6
baz=154
NCB Newcomb 37.93 10 *e*P P 11 28 52.6 0.0
comp=Z,0.2nm,1.1s
W18A Petrified Fore 37.96 322 P P 11 28 53.7 +0.5
baz=132,SNR=21
W18A Petrified Fore 37.96 322 *e*P P 11 28 53.9 +0.6
comp=Z,415nm,1.8s
W18A LR LR
comp=Z,3µm,20.0s
K34A Le Mars 37.96 343 P P 11 28 51.6 -1.3
baz=158
I39A Houston 37.99 349 P P 11 28 51.3 -1.9
baz=165
214A Organ Pipe Nat 38.00 316 P P 11 28 54.1 +0.7
baz=125,SNR=14
214A Organ Pipe Nat 38.00 316 *e*P P 11 28 54.5 +1.1
comp=Z,268nm,1.5s
J36A Seneca 1, Swea 38.09 346 P P 11 28 53.2 -0.8
baz=160,SNR=33
K33A Hardington 38.15 342 P P 11 28 53.9 -0.6
baz=156
SADO Sadowa 38.15 4 P P 11 28 54.0 -0.5
comp=Z,9.6nm,0.9s,baz=164,slow=7.2,SNR=5.0
SADO Sadowa 38.15 4 *e*P P 11 28 55.3 +0.8
comp=Z,115nm,2.0s
SADO LR LR
comp=Z,5µm,18.0s
S22A 4UR Ranch, Cre 38.16 328 P P 11 28 54.3 -0.8
baz=138,SNR=32
S22A 4UR Ranch, Cre 38.16 328 *e*P P 11 28 55.0 -0.1
comp=Z,202nm,2.0s
S22A LR LR
comp=Z,2µm,19.0s
Q24A Divide 38.24 331 P P 11 28 54.8 -0.9
baz=142
Q24A Divide 38.24 331 *e*P P 11 28 56.2 +0.5
comp=Z,42nm,1.4s
Q24A LR LR
comp=Z,1µm,20.0s
I38A Scanlan Farm, 38.33 348 P P 11 28 55.4 -0.6
baz=164
J35A Milford 38.35 345 P P 11 28 55.0 -1.1
baz=159,SNR=8.9
H41A Junction City 38.42 352 P P 11 28 55.2 -1.6
baz=168
OGNE Ogallala 38.47 336 P P 11 28 57.1 -0.2
baz=148
OGNE Ogallala 38.47 336 *e*P P 11 28 57.5 +0.2
comp=Z,324nm,1.8s
OGNE LR LR
comp=Z,2µm,22.0s
J34A George 38.47 344 P P 11 28 56.5 -0.7
baz=158
K32A Verdigre 38.49 341 P P 11 28 54.7 -2.7
baz=155
LONY Lake Ozonia 38.51 9 *e*P P 11 28 58.7 +1.2
comp=Z,43nm,1.5s
LONY LR LR
comp=Z,5µm,20.0s
H40A Chili 38.54 351 P P 11 28 57.3 -0.5
baz=167
X16A Lo Mia Camp, P 38.57 320 *e*P P 11 28 58.7 +0.3
comp=Z,33nm,1.0s
X16A LR LR
comp=Z,6µm,18.0s
PLVO Plevna 38.59 6 *e*P P 11 28 58.1 -0.1
comp=Z,56nm,1.2s
PLVO LR LR
comp=Z,3µm,20.0s
LBNH Lisbon 38.62 12 *e*P P 11 28 57.9 -0.5
LBNH pmax pmax
comp=Z,33nm,1.1s
LBNH MLR MLR
comp=Z,4µm,22.0s
LBNH Lisbon 38.62 12 *e*P P 11 28 57.9 -0.5
comp=Z,33nm,1.1s
LBNH LR LR
comp=Z,4µm,22.0s
I36A Fitzsimmons Fa 38.67 347 P P 11 28 59.3 +0.4
baz=161
MVCO Mesa Verde 38.68 326 P P 11 28 58.8 -0.6
baz=136,SNR=52
MVCO Mesa Verde 38.68 326 *e*P P 11 28 59.3 0.0
comp=Z,409nm,1.8s
MVCO LR LR
comp=Z,3µm,19.0s
K31A O'Neill 38.72 341 P P 11 28 58.8 -0.5
baz=153
H39A Augusta 38.75 350 P P 11 28 58.9 -0.6
baz=166
I35A Creekview Farm 38.75 345 P P 11 28 58.2 -1.3
baz=160,SNR=8.2
FRNY Flat Rock 38.88 10 *e*P P 11 29 01.0 +0.4
comp=Z,43nm,1.5s
FRNY LR LR
comp=Z,3µm,18.0s
H38A Maiden Rock 38.93 349 P P 11 28 59.3 -1.7
baz=164
G41A Antigo 38.94 352 P P 11 28 59.2 -2.0
baz=169
H37A Dierke Farm, C 38.96 348 P P 11 29 01.7 +0.4
baz=163
ECSD EROS Data Cent 39.07 344 P P 11 29 00.7 -1.6
baz=157,SNR=9.4
ECSD EROS Data Cent 39.07 344 *e*P P 11 29 00.3 -2.0
comp=Z,18nm,0.9s
ECSD LR LR
comp=Z,2µm,21.0s
J32A Parkston 39.10 342 P P 11 29 00.9 -1.6
baz=155
ISCO Idaho Springs 39.12 331 P P 11 29 02.8 -0.3
baz=142,SNR=13
ISCO Idaho Springs 39.12 331 *e*P P 11 29 03.8 +0.7
ISCO pmax pmax
comp=Z,59nm,1.8s
ISCO MLR MLR
comp=Z,1µm,18.0s
ISCO Idaho Springs 39.12 331 *e*P P 11 29 03.8 +0.7
comp=Z,59nm,1.8s
ISCO LR LR
comp=Z,1µm,18.0s
113A Mohawk Valley, 39.12 316 *e*P P 11 29 05.1 +2.2
comp=Z,76nm,1.5s
113A LR LR
comp=Z,4µm,20.0s
G40A Rib Lake 39.14 351 P P 11 29 01.0 -1.9
baz=168
I34A Hadley 39.15 345 P P 11 29 01.8 -1.1
baz=158,SNR=37
H36A Jessenland, He 39.18 347 P P 11 29 01.5 -1.7
baz=162
WUAZ Wupatki 39.23 321 P P 11 29 03.4 -0.5
baz=130,SNR=32
WUAZ Wupatki 39.23 321 *e*P P 11 29 04.2 +0.4
comp=Z,211nm,1.9s
WUAZ LR LR
comp=Z,3µm,18.0s
Y14A Wickenburg 39.29 318 *e*P P 11 29 05.3 +1.0
comp=Z,366nm,1.8s
Y14A LR LR
comp=Z,16µm,18.0s
J31A Geddes 39.31 341 P P 11 29 03.3 -0.9
baz=154
SMCO Snowmass 39.31 329 *e*P P 11 29 04.6 -0.2
comp=Z,66nm,1.4s
SMCO LR LR
comp=Z,2µm,19.0s
G39A Holcombe 39.32 350 P P 11 29 02.5 -1.8
baz=166
G38A Ridgeland 39.32 349 P P 11 29 02.4 -1.9
baz=165,SNR=6.4
PV01 Paradox Valley 39.38 327 *e*P P 11 29 05.2 0.0
I33A Coleman 39.41 344 P P 11 29 05.1 0.0
baz=157
WVL Waterville 39.44 14 PFAKE 11 29 20.0 +15
WVL LR LR
comp=Z,5µm,20.0s
F41A Three Lakes 39.45 353 P P 11 29 06.8 +1.4
baz=169
H35A Sunnyside Ranc 39.50 346 P P 11 29 04.2 -1.7
baz=160,SNR=32
SPMN Marine on St. 39.56 348 P P 11 29 04.4 -1.9
baz=164,SNR=10
SPMN Marine on St. 39.56 348 *e*P P 11 29 06.8 +0.5
comp=Z,64nm,1.1s
I32A Karley and Nic 39.58 343 P P 11 29 04.6 -1.9
baz=156
PV05 Paradox Valley 39.63 326 *e*P P 11 29 06.9 -0.4
H34A Spellman Lake, 39.71 345 P P 11 29 06.2 -1.3
baz=159
PV04 Paradox Valley 39.75 327 *e*P P 11 29 07.6 -0.6
G36A St. Michael 39.76 347 P P 11 29 08.2 +0.2
baz=162
F40A Park Falls 39.77 352 P P 11 29 08.3 +0.2
baz=168,SNR=6.8
PV10 Paradox Valley 39.81 327 *e*P P 11 29 08.2 -0.7
PV09 Paradox Valley 39.95 327 *e*P P 11 29 09.8 -0.2
H33A Prehn Over Nor 39.98 344 P P 11 29 07.9 -1.9
baz=158,SNR=14
H32A Carlson Farm, 40.01 343 P P 11 29 08.2 -1.9
baz=156,SNR=17
GLA Glamis 40.02 316 P P 11 29 11.2 +0.8
baz=124,SNR=10
GLA Glamis 40.02 316 *e*P P 11 29 11.2 +0.8
GLA pmax pmax
comp=Z,126nm,1.6s
GLA MLR MLR
comp=Z,2µm,22.0s
GLA Glamis 40.02 316 *e*P P 11 29 11.2 +0.8
comp=Z,126nm,1.6s
GLA LR LR

	comp=Z,2µm,22.0s								
TRQ	Mont Tremblant	40.08	8	eP	P	11 29 10.2	-0.4		
F38A	Pierce - Schro	40.09	350	P	P	11 29 09.7	-1.0		
	baz=165								
N23A	Red Feather La	40.14	332	P	P	11 29 10.9	-0.6		
	baz=142								
N23A	Red Feather La	40.14	332	eP	P	11 29 12.2	+0.7		
	comp=Z,48nm,1.6s								
N23A				LR	LR				
	comp=Z,2µm,22.0s								
PKME	Peaks-Kenny Pk	40.19	14	eP	P	11 29 11.6	+0.1		
	comp=Z,82nm,1.5s								
PKME				LR	LR				
	comp=Z,3µm,18.0s								
Y12C	Blythe	40.20	317	P	P	11 29 10.9	-1.0		
	baz=125								
Y12C	Blythe	40.20	317	eP	P	11 29 12.2	+0.4		
	comp=Z,23nm,1.0s								
Y12C				LR	LR				
	comp=Z,4µm,20.0s								
G34A	Benson	40.21	345	P	P	11 29 10.6	-1.1		
	baz=159								
PHWY	Pilot Hill	40.23	333	eP	P	11 29 12.0	-0.3		
	comp=Z,15nm,1.4s								
PHWY				LR	LR				
	comp=Z,2µm,20.0s								
PDMCI	Parker Dam,Lak	40.27	318	P	P	11 29 12.0	-0.4		
	baz=126,SNR=17								
H31A	Wolsey	40.30	342	P	P	11 29 10.8	-1.7		
	baz=155								
F36A	Milaca	40.31	348	P	P	11 29 11.0	-1.6		
	baz=163,SNR=7.1								
G33A	Ortonville	40.37	345	P	P	11 29 11.1	-1.9		
	baz=158								
U15A	North Rim	40.38	322	eP	P	11 29 14.1	+0.5		
	comp=Z,78nm,1.3s								
U15A				LR	LR				
	comp=Z,3µm,19.0s								
SUSD	Miller	40.41	342	P	P	11 29 11.7	-1.7		
	baz=154								
F35A	Swanville	40.54	347	P	P	11 29 12.7	-1.7		
	baz=161,SNR=5.8								
W13A	Hualapai Mount	40.57	319	eP	P	11 29 15.5	+0.4		
	comp=Z,66nm,1.4s								
W13A				LR	LR				
	comp=Z,3µm,18.0s								
F34A	Alexandria	40.64	346	P	P	11 29 13.7	-1.5		
	baz=160								
SWSC	Sam W. Stewart	40.64	315	P	P	11 29 14.6	-0.9		
	baz=123								
E38A	The Farm, Brul	40.66	350	P	P	11 29 13.7	-1.7		
	baz=166								
O20A	White River Ci	40.68	329	P	P	11 29 15.3	-0.6		
	baz=138,SNR=15								
O20A	White River Ci	40.68	329	eP	P	11 29 15.7	-0.2		
	comp=Z,116nm,1.5s								
O20A				LR	LR				
	comp=Z,2µm,21.0s								
IKP	In-Ko-Pah, Jac	40.70	314	P	P	11 29 15.2	-0.9		
	baz=122								
GGN	Saint George	40.71	17	PFAKE		11 29 30.0	+14		
GGN				LR	LR				
	comp=Z,3µm,18.0s								
G32A	Webster	40.72	344	P	P	11 29 14.1	-1.9		
	baz=157,SNR=14								
CPUP	Villa Florida	40.75	144	P	P	11 29 17.7	+1.3		
	comp=Z,2.8nm,1.0s,baz=340,slow=12,SNR=2.6								
CPUP				LR	LR	11 48 04.1			
	comp=Z,2µm,19.0s,baz=329,slow=39								
BC3	Big Chuckawall	40.79	316	P	P	11 29 14.9	-1.9		
	baz=124								
IRM	Iron Mountain	40.86	317	P	P	11 29 16.7	-0.6		
	baz=125,SNR=5.0								
E36A	McGregor	40.89	349	P	P	11 29 16.9	-0.4		
	baz=163								
G31A	Conde	40.89	343	P	P	11 29 16.8	-0.6		
	baz=156								
F33A	5 Mile Ranch,	40.93	345	P	P	11 29 15.1	-2.5		
	baz=159,SNR=20								
PKCU	Pink Cliffs	41.05	323	eP	P	11 29 19.8	+0.6		
	comp=Z,143nm,1.4s								
PKCU				LR	LR				
	comp=Z,4µm,21.0s								
MONP	Monument Peak,	41.06	314	P	P	11 29 16.4	-2.7		
	baz=122								
KNB	Kanab	41.09	322	eP	P	11 29 19.8	+0.5		
KNB				pmax	pmax				
	comp=Z,219nm,1.9s								
KNB				MLR	MLR				
	comp=Z,3µm,20.0s								
KNB	Kanab	41.09	322	eP	P	11 29 19.8	+0.5		
	comp=Z,219nm,1.9s								
KNB				LR	LR				
	comp=Z,3µm,20.0s								
BAR	Barrett	41.12	314	PFAKE		11 29 30.0	+11		
BAR				LR	LR				
	comp=Z,2µm,18.0s								
SRU	San Rafael Swe	41.15	326	eP	P	11 29 19.6	-0.2		
SRU				pmax	pmax				
	comp=Z,71nm,0.9s								
SRU				MLR	MLR				
	comp=Z,3µm,18.0s								
SRU	San Rafael Swe	41.15	326	eP	P	11 29 19.6	-0.2		
	comp=Z,70nm,0.9s								
SRU				LR	LR				
	comp=Z,3µm,18.0s								
E35A	Pequot Lakes	41.16	347	P	P	11 29 18.5	-1.1		
	baz=162								
F32A	Veblen	41.18	344	P	P	11 29 18.5	-1.2		
	baz=157								
E34A	Wadena	41.29	347	P	P	11 29 20.1	-0.5		
	baz=161								
LCMT	Little Creek M	41.34	322	eP	P	11 29 22.0	+0.6		
	comp=Z,48nm,1.3s								
LCMT				LR	LR				
	comp=Z,3µm,22.0s								
D37A	Cotton	41.35	350	P	P	11 29 19.6	-1.4		
	baz=165,SNR=10								
BELC	Belle Mtn. Jos	41.36	316	P	P	11 29 20.4	-1.1		
	baz=124,SNR=13								
P18A	Preston Nutter	41.36	327	PFAKE		11 29 30.0	+8.3		
P18A				LR	LR				
	comp=Z,3µm,19.0s								
LDFC	Landfair	41.37	318	eP	P	11 29 22.9	+1.4		
	comp=Z,70nm,1.2s								
LDFC				LR	LR				
	comp=Z,5µm,22.0s								
MTPU	Mount Pierson	41.37	324	eP	P	11 29 22.2	+0.3		
	comp=Z,120nm,1.6s								
MTPU				LR	LR				
	comp=Z,5µm,21.0s								
TPFO	Pinon Flats	41.46	315	P	P	11 29 21.5	-0.9		
	baz=123,SNR=9.0								
PFO	Pinyon Flats O	41.47	315	P	P	11 29 21.3	-1.1		
	baz=123								
PFO	Pinyon Flats O	41.47	315	eP	P	11 29 22.5	+0.1		
PFO				pmax	pmax				
	comp=Z,26nm,1.2s								
PFO				MLR	MLR				
	comp=Z,3µm,20.0s								
PFO	Pinyon Flats O	41.47	315	eP	P	11 29 22.5	+0.1		
	comp=Z,26nm,1.2s								
PFO				LR	LR				
	comp=Z,3µm,20.0s								
E33A	Westby DABS, E	41.48	346	P	P	11 29 21.2	-1.0		
	baz=159								
D36A	Goodland	41.50	349	P	P	11 29 22.7	+0.4		
	baz=164								
109C	Camp Elliot, M	41.54	314	P	P	11 29 22.3	-0.6		
	baz=122								
GMRC	Granite Mounta	41.57	317	P	P	11 29 22.3	-1.0		
	baz=125								
D35A	Remer	41.59	348	P	P	11 29 22.7	-0.4		
	baz=162								
VLDQ	Val d'Or	41.60	5	eP	P	11 29 23.5	+0.4		
	comp=Z,24nm,1.2s								
VLDQ				LR	LR				
	comp=Z,5µm,18.0s								
SZCU	Shurtz Canyon	41.62	322	eP	P	11 29 23.9	+0.2		
	comp=Z,51nm,1.4s								
SZCU				LR	LR				
	comp=Z,5µm,18.0s								
C39A	Grand Marais	41.63	352	P	P	11 29 21.4	-1.9		
	baz=168								
TMUT	Trail Mountain	41.66	326	eP	P	11 29 24.4	+0.3		
	comp=Z,64nm,1.4s								
TMUT				LR	LR				
	comp=Z,3µm,21.0s								
MSU	Marysvale	41.68	324	eP	P	11 29 24.3	+0.1		
MSU	Marysvale	41.68	324	eP	P	11 29 24.3	+0.1		
C38A	Sawbill Land.	41.70	351	P	P	11 29 24.3	+0.4		
	baz=167								
CCUT	Cedar City	41.76	322	eP	P	11 29 24.4	-0.5		
	comp=Z,37nm,1.3s								
CCUT				LR	LR				
	comp=Z,3µm,20.0s								
K22A	Casper	41.79	333	P	P	11 29 24.7	-0.3		
	baz=142,SNR=5.2								
K22A	Casper	41.79	333	eP	P	11 29 25.3	+0.3		
	comp=Z,25nm,1.2s								
K22A				LR	LR				
	comp=Z,4µm,22.0s								
PQI	Presque Isle	41.82	15	eP	P	11 29 25.1	+0.1		
	comp=Z,68nm,1.4s								
PQI				LR	LR				
	comp=Z,5µm,21.0s								
E32A	Braaten, Kindr	41.83	345	P	P	11 29 24.4	-0.7		
	baz=158								
D34A	Park Rapids	41.84	347	P	P	11 29 23.7	-1.4		
	baz=161								
C37A	Embarrass	41.86	350	P	P	11 29 23.8	-1.4		
	baz=165								
TCRU	Three Creeks R	41.90	324	PFAKE		11 29 40.0	+14		
TCRU				LR	LR				
	comp=Z,4µm,19.0s								
RSSD	Black Hills	41.94	337	P	P	11 29 26.0	-0.2		
	baz=147								
RSSD	Black Hills	41.94	337	eP	P	11 29 25.7	-0.5		
RSSD				pmax	pmax				
	comp=Z,61nm,1.6s								
RSSD				MLR	MLR				
	comp=Z,3µm,22.0s								
RSSD	Black Hills	41.94	337	eP	P	11 29 25.7	-0.5		
	comp=Z,61nm,1.6s								
RSSD				LR	LR				
	comp=Z,3µm,22.0s								
EYMN	Ely	41.95	351	P	P	11 29 26.1	+0.1		
	baz=166								
EYMN	Ely	41.95	351	eP	P	11 29 27.3	+1.3		
	comp=Z,80nm,1.8s								
MURC	Murrieta	41.98	315	P	P	11 29 25.7	-0.8		
	baz=122								
LMN	Caledonia Moun	41.98	18	eP	P	11 29 26.7	+0.3		
LMN				LR	LR				
	comp=Z,3µm,20.0s								
C36A	Pine Crest Far	42.00	349	P	P	11 29 25.9	-0.6		
	baz=164								
E31A	Nome	42.02	344	P	P	11 29 25.6	-1.1		
	baz=157								
D33A	AnnSam, Waubun	42.04	346	P	P	11 29 25.0	-1.7		
	baz=160,SNR=11								
HEC	Hector,Ludlow	42.05	317	P	P	11 29 26.3	-0.9		
	baz=124								
LMQ	La Malbaie	42.11	12	eP	P	11 29 26.9	-0.4		
LMQ				LR	LR				
	comp=Z,4µm,21.0s								
TUQ	Turquoise Moun	42.12	318	P	P	11 29 26.9	-0.8		
	baz=125,SNR=8.3								
BBRC	Big Bear Solar	42.14	316	P	P	11 29 28.6	+0.5		
	baz=123								
C35A	Jirik Farms, M	42.16	348	P	P	11 29 27.0	-0.7		
	baz=163								
SHPR	Sheep Range	42.24	320	eP	P	11 29 29.0	+0.3		
	comp=Z,53nm,1.3s								
SHPR				LR	LR				
	comp=Z,2µm,19.0s								
C34A	RKJ Ranch, Bem	42.31	347	P	P	11 29 27.5	-1.4		
	baz=161								
NLU	North Lily Min	42.60	326	eP	P	11 29 31.4	-0.3		
	comp=Z,29nm,1.1s								
NLU				LR	LR				
	comp=Z,5µm,19.0s								
SHOC	Shoshone, Teco	42.62	318	P	P	11 29 30.6	-1.0		
	baz=125								
GSC	Goldstone, Bar	42.63	317	P	P	11 29 31.0	-0.9		
	baz=124,SNR=21								
GSC	Goldstone, Bar	42.63	317	eP	P	11 29 31.9	0.0		
GSC				pmax	pmax				
	comp=Z,70nm,1.4s								
GSC				MLR	MLR				
	comp=Z,4µm,22.0s								
GSC	Goldstone, Bar	42.63	317	eP	P	11 29 31.9	0.0		
	comp=Z,70nm,1.4s								
GSC				LR	LR				
	comp=Z,4µm,22.0s								
PSUT	Pine Spring	42.69	323	eP	P	11 29 34.4	+2.0		
	comp=Z,24nm,0.8s								
PSUT				LR	LR				
	comp=Z,3µm,19.0s								
KLJ	Keetly	42.70	327	eP	P	11 29 32.0	-0.5		
JLU	Jordanelle	42.70	327	eP	P	11 29 32.2	-0.3		
	comp=Z,93nm,1.5s								
JLU				LR	LR				
	comp=Z,3µm,19.0s								
MWC	Mount Wilson	42.92	315	eP	P	11 29 34.7	+0.4		
MWC				pmax	pmax				
	comp=Z,84nm,1.8s								
MWC				MLR	MLR				
	comp=Z,2µm,18.0s								
MWC	Mount Wilson	42.92	315	eP	P	11 29 34.7	+0.4		
	comp=Z,84nm,1.8s								
MWC				LR	LR				
	comp=Z,2µm,18.0s								
PASC	Pasadena Art C	42.98	315	eP	P	11 29 34.3	-0.3		
	comp=Z,78nm,1.7s								
PASC				LR	LR				
	comp=Z,2µm,19.0s								
B34A	Aery, Baudette	43.05	348	P	P	11 29 31.5	-3.5		
	baz=162,SNR=9.9								
C31A	Landman Farms,	43.12	345	P	P	11 29 34.0	-1.5		
	baz=157,SNR=15								
DECC	Green Verdugo	43.13	315	P	P	11 29 34.2	-1.6		
	baz=122								
AGMN	Agassiz Nation	43.13	347	P	P	11 29 34.0	-1.6		
	baz=160,SNR=9.7								
AGMN	Agassiz Nation	43.13	347	eP	P	11 29 33.6	-2.0		
	comp=Z,84nm,1.6s								
DUG	Dugway, Tooele	43.18	325	P	P	11 29 35.4	-0.9		
	baz=133,SNR=20								
DUG	Dugway, Tooele	43.18	325	eP	P	11 29 37.6	+1.3		
DUG				pmax	pmax				
	comp=Z,65nm,1.4s								
DUG				MLR	MLR				
	comp=Z,5µm,18.0s								
DUG	Dugway, Tooele	43.18	325	eP	P	11 29 37.6	+1.3		
	comp=Z,65nm,1.4s								
DUG				LR	LR				
	comp=Z,5µm,18.0s								
TPNV	Topopah Spring	43.21	319	P	P	11 29 36.0	-0.6		
	baz=126,SNR=24								
TPNV	Topopah Spring	43.21	319	eP	P	11 29 37.0	+0.4		
TPNV				pmax	pmax				
	comp=Z,40nm,1.1s								
TPNV				MLR	MLR				
	comp=Z,4µm,21.0s								
TPNV	Topopah Spring	43.21	319	eP	P	11 29 37.0	+0.4		
	comp=Z,40nm,1.1s								
TPNV				LR	LR				
	comp=Z,4µm,21.0s								
BW06	Boulder Array	43.30	331	P	P	11 29 36.4	-1.0		
	baz=139,SNR=17								
BW06	Boulder Array	43.30	331	eP	P	11 29 36.7	-0.7		
	comp=Z,29nm,1.3s								
PD31	Pinedale Array	43.30	331	eP	P	11 29 36.7	-0.7		
PDAR	Pinedale Array	43.30	331	P	P	11 29 35.9	-1.5		
	comp=Z,9.8nm,1.2s,baz=113,slow=8.9,SNR=28								
PDAR				LR	LR	11 49 23.3			
	comp=Z,2µm,22.0s,baz=130,slow=39								
LRMC	Laurel Mtn Rad	43.33	317	P	P	11 29 37.6	0.0		
	baz=123,SNR=16								
FURC	Furnace Creek,	43.33	318	P	P	11 29 36.6	-0.7		
	baz=125,SNR=31								
B32A	Ashes, Strandq	43.38	346	P	P	11 29 36.3	-1.3		
	baz=159,SNR=9.5								
HWUT	Hardware Ranch	43.48	328	eP	P	11 29 37.9	-0.8		
	comp=Z,68nm,1.0s								
SNCC	San Nicolas Is	43.48	313	PFAKE		11 29 50.0	+11		
SNCC				LR	LR				
	comp=Z,3µm,22.0s								
MPMC	Manual Prospec	43.52	317	P	P	11 29 39.5	+0.4		
	baz=124,SNR=16								
OSI	Osito Audit: C	43.59	315	PFAKE		11 29 50.0	+10		
OSI				LR	LR				
	comp=Z,2µm,18.0s								
R11A	Troy Canyon, C	43.63	321	P	P	11 29 39.6	-0.4		
	baz=128,SNR=42								
R11A	Troy Canyon, C	43.63	321	eP	P	11 29 40.0	0.0		
	comp=Z,34nm,1.3s								
R11A				LR	LR				
	comp=Z,4µm,18.0s								
A33A	Warroad	43.63	348	P	P	11 29 38.5	-1.1		
	baz=161								
B31A	Greenbush Farm	43.68	345	P	P	11 29 38.3	-1.7		
	baz=158								
MDND	Maddock	43.68	343	P	P	11 29 38.6	-1.4		
	baz=155,SNR=11								
MDND	Maddock	43.68	343	eP	P	11 29 38.6	-1.4		
	comp=Z,134nm,1.2s								
MDND				LR	LR				
	comp=Z,2µm,20.0s								
DAC	Darwin (Calif)	43.71	318	eP	P	11 29 41.4	+0.7		
DAC				pmax	pmax				
	comp=Z,24nm,1.3s								
DAC				MLR	MLR				
	comp=Z,4µm,22.0s								
DAC	Darwin (Calif)	43.71	318	eP	P	11 29 41.4	+0.7		
	comp=Z,24nm,1.3s								
DAC				LR	LR				
	comp=Z,4µm,22.0s								
SPUT	South Promonto	43.74	327	eP	P	11 29 40.9	0.0		
	comp=Z,168nm,1.7s								
SPUT				LR	LR				
	comp=Z,2µm,19.0s								
BGU	Big Grassy Mou	43.79	326	eP	P	11 29 40.9	-0.4		
	comp=Z,140nm,1.5s								
BGU				LR	LR				
	comp=Z,5µm,19.0s								
A32A	Rocking H Ranc	43.86	347	P	P	11 29 40.8	-0.7		
	baz=160								
ARVC	Arvin	43.93	315	P	P	11 29 43.4	+1.1		
	baz=122								
GRAC	Grapevine Rang	43.96	319	P	P	11 29 42.8	+0.2		
	baz=125								
ISA	Isabella, Lake	43.97	316	P	P	11 29 42.2	-0.5		
	baz=123								
ISA	Isabella, Lake	43.97	316	PFAKE		11 29 50.0	+7.3		
ISA				LR	LR				
	comp=Z,2µm,19.0s								
CWC	Cottonwood Cre	44.12	317	P	P	11 29 43.7	-0.3		
	baz=124								
HVU	Hansel Valley	44.24	327	eP	P	11 29 44.1	-0.8		
HVU				pmax	pmax				
	comp=Z,123nm,1.6s								
HVU				MLR	MLR				
	comp=Z,3µm,19.0s								
HVU	Hansel Valley	44.24	327	eP	P	11 29 44.1	-0.8		
	comp=Z,123nm,1.6s								
HVU				LR	LR				
	comp=Z,3µm,19.0s								
REDW	Red Top Meadow	44.38	330	eP	P	11 29 45.1	-1.0		
	comp=Z,73nm,1.3s								
REDW				LR	LR				
	comp=Z,3µm,20.0s								
SNOW	Snow King Moun	44.41	330	eP	P	11 29 46.0	-0.3		
	comp=Z,118nm,1.6s								
SNOW				LR	LR				
	comp=Z,3µm,20.0s								
LOHW	Long Hollow	44.44	331	eP	P	11 29 45.4	-1.1		
	comp=Z,55nm,1.5s								
LOHW				LR	LR				
	comp=Z,2µm,20.0s								
VES	Vestal, Richgr	44.48	316	P	P	11 29 46.9	+0.2		
	baz=122,SNR=11								
TPAW	Teton Pass	44.52	330	eP	P	11 29 47.8	+0.5		
	comp=Z,28nm,1.1s								
TPAW				LR	LR				
	comp=Z,2µm,19.0s								
MOOW	Moose Ponds	44.61	331	eP	P	11 29 46.7	-1.2		
	comp=Z,36nm,1.4s								
MOOW				LR	LR				
	comp=Z,2µm,22.0s								
IMW	Indian Meadow	44.82	331	eP	P	11 29 48.5	-1.1		
	comp=Z,14nm,0.9s								
IMW				LR	LR				
	comp=Z,2µm,18.0s								
FLWY	Flagg Ranch	44.84	331	eP	P	11 29 48.9	-0.8		
FLWY				LR	LR				
	comp=Z,3µm,20.0s								
SMMC	Simmler	44.84	315	P	P	11 29 49.1	-0.5		
	baz=121								
LAO	LASA Array	44.92	337	P	P	11 29 50.0	-0.1		
	baz=145								
LAO	LASA Array	44.92	337	eP	P	11 29 49.8	-0.4		
	comp=Z,53nm,1.4s								
LAO				LR	LR				
	comp=Z,3µm,20.0s								
RLMT	Red Lodge	44.96	333	P	P	11 29 50.5	-0.1		
	baz=141,SNR=7.5								
RLMT	Red Lodge	44.96	333	eP	P	11 29 50.0	-0.6		
	comp=Z,47nm,1.5s								
RLMT				LR	LR				
	comp=Z,2µm,22.0s								
ULM	Lac du Bonnet	44.98	348	P	P	11 29 47.4	-3.0		
	comp=Z,14nm,1.1s,baz=165,slow=8.2,SNR=10								
ULM	Lac du Bonnet	44.98	348	eP	P	11 29 50.7	+0.3		
ULM				pmax	pmax				
	comp=Z,150nm,1.8s								
ULM	Lac du Bonnet	44.98	348	eP	P	11 29 50.7	+0.3		
	comp=Z,150nm,1.8s								
H17A	Grant Village	45.01	331	eP	P	11 29 52.1	+1.0		
	comp=Z,75nm,1.8s								
H17A				LR	LR				
	comp=Z,7µm,19.0s								
YPP	Pitchstone Pla	45.03	331	eP	P	11 29 52.0	+0.7		
	comp=Z,40nm,1.5s								
YPP				LR	LR				
	comp=Z,6µm,22.0s								
LKWY	Lake	45.05	332	PFAKE		11 30 00.0	+8.6		
LKWY				LR	LR				
	comp=Z,6µm,20.0s								
YFT	Old Faithful	45.18	331	eP	P	11 29 53.4	+1.0		
	comp=Z,46nm,1.2s								
YFT				LR	LR				
	comp=Z,4µm,21.0s								
PAGB	Antelope Grade	45.23	315	eP	P	11 29 53.5	+0.8		
	comp=Z,40nm,1.2s								
PAGB				LR	LR				
	comp=Z,2µm,22.0s								
MLAC	Mammoth, Mammo	45.29	318	P	P	11 29 52.7	-0.6		
	baz=124								
YNR	Norris Junctio	45.30	332	PFAKE		11 30 10.0	+17		
YNR				LR	LR				
	comp=Z,5µm,22.0s								
YMR	Madison River	45.40	331	PFAKE		11 30 10.0	+16		
YMR				LR	LR				
	comp=Z,4µm,22.0s								
SPB	Sao Paulo	45.42	132	PFAKE		11 30 10.0	+16		
SPB				LR	LR				
	comp=Z,3µm,20.0s								
YHH	Holmes Hill	45.44	332	eP	P	11 29 54.6	+0.1		
	comp=Z,22nm,1.2s								
YHH				LR	LR				
	comp=Z,4µm,22.0s								
YHB	Horse Butte	45.57	331	eP	P	11 29 55.9	+0.4		
	comp=Z,12nm,0.9s								
GCMT	Greycliff	45.65	333	eP	P	11 29 55.8	-0.2		
TVH2	Borealis Mine	45.66	319	eP	P	11 29 56.0	-0.3		
	comp=Z,52nm,1.9s								
TVH2				LR	LR				
	comp=Z,2µm,20.0s								
DGMT	Dagmar	45.68	340	P	P	11 29 56.0	0.0		
	baz=149								
DGMT	Dagmar	45.68	340	eP	P	11 29 56.0	0.0		
	comp=Z,44nm,1.1s								
DGMT				LR	LR				
	comp=Z,2µm,21.0s								
TVH3	East Aurora ar	45.68	319	eP	P	11 29 56.9	+0.4		
	comp=Z,52nm,1.6s								
TVH3				LR	LR				
	comp=Z,2µm,21.0s								
TVH1	TV Hill, Hawth	45.71	319	eP	P	11 29 57.1	+0.3		
	comp=Z,22nm,1.1s								
TVH1				LR	LR				
	comp=Z,3µm,20.0s								
QLMT	Earthquake Lak	45.74	331	eP	P	11 29 57.6	+0.7		
PMPB	Monarch Peak	45.87	316	eP	P	11 29 58.7	+0.9		
	comp=Z,40nm,1.3s								
PMPB				LR	LR				
	comp=Z,2µm,19.0s								
BMN	Battle Mountai	45.90	323	eP	P	11 29 57.4	-0.7		
BMN				pmax	pmax				
	comp=Z,58nm,0.9s								
BMN				MLR	MLR				
	comp=Z,3µm,18.0s								

BMN Battle Mountai 45.90 323 *e*P **P 11 29 57.4 -0.7**
comp=Z,58nm,0.9s
BMN LR LR
comp=Z,3µm,18.0s
WAKR Walker 46.17 319 *e*P **P 11 29 59.8 -0.5**
comp=Z,69nm,1.5s
WAKR LR LR
comp=Z,3µm,19.0s
YERR Yerington 46.31 320 *e*P **P 11 30 01.0 -0.4**
comp=Z,19nm,0.9s
YERR LR LR
comp=Z,3µm,21.0s
HLID Hailey 46.34 328 P **P 11 30 01.1 -0.5**
baz=133,SNR=49
HLID Hailey 46.34 328 *e*P **P 11 30 00.9 -0.7**
comp=Z,36nm,1.0s
HLID LR LR
comp=Z,3µm,21.0s
BOZ Bozeman (W) 46.41 332 P **P 11 30 00.8 -1.1**
baz=138,SNR=38
BOZ Bozeman (W) 46.41 332 *e*P **P 11 30 01.2 -0.8**
BOZ pmax pmax
comp=Z,36nm,1.1s
BOZ MLR MLR
comp=Z,2µm,21.0s
BOZ Bozeman (W) 46.41 332 *e*P **P 11 30 01.2 -0.8**
comp=Z,36nm,1.1s
BOZ LR LR
comp=Z,2µm,21.0s
MCMT McKenzie Canyo 46.43 330 *e*P **P 11 30 02.1 -0.2**
CMB Columbia Colle 46.54 318 *e*P **P 11 30 03.0 0.0**
CMB pmax pmax
comp=Z,22nm,1.4s
CMB MLR MLR
comp=Z,2µm,19.0s
CMB Columbia Colle 46.54 318 *e*P **P 11 30 03.0 0.0**
comp=Z,22nm,1.4s
CMB LR LR
comp=Z,2µm,19.0s
SAO San Andreas Ge 46.59 316 *e*P **P 11 30 03.5 +0.1**
SAO pmax pmax
comp=Z,22nm,1.3s
SAO MLR MLR
comp=Z,2µm,18.0s
SAO San Andreas Ge 46.59 316 *e*P **P 11 30 03.5 +0.1**
comp=Z,22nm,1.3s
SAO LR LR
comp=Z,2µm,18.0s
PNTR Pine Nut 46.60 320 *e*P **P 11 30 04.5 +0.8**
comp=Z,19nm,0.9s
PNTR LR LR
comp=Z,2µm,20.0s
DLMT Dillon 46.70 331 *e*P **P 11 30 03.5 -0.7**
comp=Z,73nm,1.5s
DLMT LR LR
comp=Z,4µm,22.0s
PAHR Pah Rah Range 46.81 320 *e*P **P 11 30 06.3 +1.1**
comp=Z,68nm,1.7s
PAHR LR LR
comp=Z,2µm,19.0s
LRM Limekiln Ridge 46.96 331 *e*P **P 11 30 05.5 -0.9**
MFID Camas Ranch 47.01 327 *e*P **P 11 30 06.0 -0.7**
comp=Z,68nm,1.4s
MFID LR LR
comp=Z,3µm,20.0s
HRY Holter Researc 47.33 333 *e*P **P 11 30 08.8 -0.3**
EGMT Eagleton 47.43 335 P **P 11 30 08.6 -1.2**
baz=142
EGMT Eagleton 47.43 335 *e*P **P 11 30 09.5 -0.3**
comp=Z,80nm,1.8s
EGMT LR LR
comp=Z,1µm,22.0s
WVOR Wild Horse Val 47.97 324 *e*P **P 11 30 13.1 -1.1**
WVOR pmax pmax
comp=Z,179nm,1.4s
WVOR MLR MLR
comp=Z,2µm,20.0s
WVOR Wild Horse Val 47.97 324 *e*P **P 11 30 13.1 -1.1**
comp=Z,179nm,1.4s
WVOR LR LR
comp=Z,2µm,20.0s
RCBR Riachuelo 47.99 104 PFAKE 11 30 30.0 +15
RCBR LR LR
comp=Z,4µm,20.0s
ORV Oroville 48.09 319 *e*P **P 11 30 14.4 -0.6**
ORV pmax pmax
comp=Z,38nm,1.3s
ORV MLR MLR
comp=Z,2µm,19.0s
ORV Oroville 48.09 319 *e*P **P 11 30 14.4 -0.6**
comp=Z,38nm,1.3s
ORV LR LR
comp=Z,2µm,19.0s
CHMT Chamberlain Mo 48.14 332 *e*P **P 11 30 14.5 -1.0**
MCCM Marconi Confer 48.27 317 PFAKE 11 30 30.0 +14
MCCM LR LR
comp=Z,3µm,22.0s
TRQA Tornquist 48.29 158 PFAKE 11 30 30.0 +13
TRQA LR LR
comp=Z,2µm,20.0s
PLCA Paso Flores 48.31 168 P **P 11 30 17.9 +1.1**
comp=Z,3.8nm,0.6s,baz=6.9,slow=9.0,SNR=6.8
MSO Missoula 48.40 331 P **P 11 30 16.7 -0.7**
baz=136,SNR=21
MSO Missoula 48.40 331 *e*P **P 11 30 16.2 -1.2**
comp=Z,48nm,1.3s
MSO LR LR
comp=Z,5µm,21.0s
SLMT Seeley Lake 48.49 332 *e*P **P 11 30 18.0 -0.2**
GDXM Geysers 48.55 317 PFAKE 11 30 30.0 +11
GDXM LR LR
comp=Z,3µm,19.0s
MOD Modoc Plateau 48.65 322 *e*P **P 11 30 18.2 -1.3**
comp=Z,48nm,1.6s
MOD LR LR
comp=Z,4µm,19.0s
O03D Paynes Creek 48.68 320 P **P 11 30 18.8 -0.8**
baz=123
BMO Blue Mountains 48.75 327 *e*P **P 11 30 17.8 -2.4**
BMO pmax pmax
comp=Z,20nm,1.2s
BMO MLR MLR
comp=Z,3µm,18.0s
BMO Blue Mountains 48.75 327 *e*P **P 11 30 17.8 -2.4**
comp=Z,20nm,1.2s
BMO LR LR
comp=Z,3µm,18.0s
HOPS Hopland Field 48.83 318 *e*P **P 11 30 20.7 -0.1**
comp=Z,36nm,1.4s
HOPS LR LR
comp=Z,3µm,21.0s
SWMT Swartz Lake 48.92 332 *e*P **P 11 30 21.3 -0.1**
LTIM Timbered Crate 48.97 321 P **P 11 30 22.4 +0.5**
JTMT Jette 49.22 332 *e*P **P 11 30 22.6 -1.2**
LASM Arnica Sink 49.26 321 P **P 11 30 24.6 +0.4**
WDC Whiskeytown Da 49.31 320 *e*P **P 11 30 22.5 -1.9**
WDC pmax pmax
comp=Z,11nm,1.3s
WDC MLR MLR
comp=Z,2µm,22.0s
WDC Whiskeytown Da 49.31 320 *e*P **P 11 30 22.5 -1.9**
comp=Z,11nm,1.3s
WDC LR LR
comp=Z,2µm,22.0s
F10A Beach Ranch, E 49.45 328 *e*P **P 11 30 23.9 -1.5**
comp=Z,40nm,1.1s
F10A LR LR
comp=Z,3µm,22.0s
BLMT Blacktail Moun 49.45 332 *e*P **P 11 30 25.0 -0.6**
K05A Summer Lake 49.48 323 *e*P **P 11 30 27.1 +1.2**
comp=Z,37nm,1.3s
K05A LR LR
comp=Z,3µm,19.0s
M04C Macdoel 49.52 321 P **P 11 30 25.7 -0.5**
baz=124,SNR=17
KCPM Cahto Peak 49.52 318 *e*P **P 11 30 26.6 +0.4**
comp=Z,37nm,1.4s
KCPM LR LR
comp=Z,4µm,22.0s
BSMT Bassoo Peak 49.53 332 *e*P **P 11 30 25.2 -1.0**
N02D Trinity Center 49.63 320 P **P 11 30 26.2 -0.7**
baz=122
SCHQ Schefferville 49.72 12 P **P 11 30 26.0 -1.3**
comp=Z,13nm,0.9s,baz=221,slow=8.0,SNR=4.1
SCHQ LR LR 11 51 01.3
comp=Z,3µm,21.9s,baz=192,slow=36
SCHQ Schefferville 49.72 12 *e*P **P 11 30 26.6 -0.6**
comp=Z,28nm,1.1s
KMRM Mail Ridge 49.88 319 *e*P **P 11 30 30.0 +1.1**
comp=Z,71nm,1.5s
KMRM LR LR
comp=Z,3µm,20.0s
K04D Chiloquin, OR 49.94 322 P **P 11 30 28.0 -1.3**
baz=125,SNR=7.3
M02C Callahan 49.95 320 P **P 11 30 28.6 -0.7**
baz=123
WALA Waterton Lakes 50.01 333 *e*P **P 11 30 29.0 -0.7**
comp=Z,21nm,1.4s
WALA LR LR
comp=Z,2µm,20.0s
J05D Fort Rock, OR 50.01 323 P **P 11 30 29.2 -0.7**
baz=126
YBH Yreka Blue Hor 50.04 321 *e*P **P 11 30 28.1 -1.9**
YBH pmax pmax
comp=Z,5.0nm,0.9s
YBH MLR MLR
comp=Z,2µm,20.0s
YBH Yreka Blue Hor 50.04 321 *e*P **P 11 30 28.1 -1.9**
comp=Z,4.8nm,0.9s
YBH LR LR
comp=Z,2µm,20.0s
KHMM Horse Mountain 50.23 319 *e*P **P 11 30 31.7 +0.1**
comp=Z,76nm,1.5s
KHMM LR LR
comp=Z,3µm,22.0s
E09A Wood Farm, Sta 50.29 328 *e*P **P 11 30 30.3 -1.4**
comp=Z,72nm,1.2s
E09A LR LR
comp=Z,3µm,20.0s
JCC Jacoby Creek, 50.40 319 PFAKE 11 30 40.0 +7.4
JCC LR LR
comp=Z,3µm,22.0s
J04D Umpqua Nationa 50.51 323 P **P 11 30 32.8 -1.0**
baz=125,SNR=22
FFC Flin Flon 50.54 345 *e*P **P 11 30 33.1 -0.4**
FFC pmax pmax
comp=Z,47nm,1.5s
FFC Flin Flon 50.54 345 *e*P **P 11 30 33.1 -0.4**
comp=Z,47nm,1.5s
HUMO Hull Mountain 50.67 322 *e*P **P 11 30 33.6 -1.2**
comp=Z,24nm,1.1s
HUMO LR LR
comp=Z,2µm,20.0s
KRMB Red Mountain 50.69 320 *e*P **P 11 30 34.0 -1.0**
comp=Z,102nm,2.0s
KRMB LR LR
comp=Z,3µm,20.0s
I05D Terrebonne, OR 50.69 324 P **P 11 30 34.3 -0.5**
baz=126,SNR=5.9
G06A Carlson Farm, 50.83 326 *e*P **P 11 30 35.3 -0.6**
comp=Z,79nm,1.4s
L02D Cave Junction, 50.83 321 P **P 11 30 35.5 -0.4**
baz=122
HAWA Hanford 50.94 327 *e*P **P 11 30 36.1 -0.6**
comp=Z,36nm,1.2s
HAWA LR LR
comp=Z,2µm,18.0s
NEW Newport 50.94 331 P **P 11 30 36.1 -0.6**
baz=133,SNR=17
NEW Newport 50.94 331 *e*P **P 11 30 35.5 -1.2**
NEW pmax pmax
comp=Z,30nm,1.3s
NEW MLR MLR
comp=Z,4µm,21.0s
NEW Newport 50.94 331 *e*P **P 11 30 35.5 -1.2**
comp=Z,30nm,1.3s
NEW LR LR
comp=Z,4µm,21.0s
I04A Tendick Farm, 51.00 323 P **P 11 30 36.7 -0.6**
baz=125,SNR=13
D08A Wollman Farm, 51.05 328 *e*P **P 11 30 37.3 -0.1**
comp=Z,54nm,1.8s
D08A LR LR
comp=Z,2µm,18.0s
BPO Bald Peter 51.08 324 P **P 11 30 39.2 +1.2**
MDW Midway 51.20 328 P **P 11 30 39.0 +0.4**
MDW Midway 51.20 328 P **P 11 30 39.0 +0.4**
G05D Wamic, OR 51.21 325 P **P 11 30 38.3 -0.5**
baz=127,SNR=12
E07A Sunnyside 51.22 327 *e*P **P 11 30 38.8 0.0**
comp=Z,40nm,1.4s
E07A LR LR
comp=Z,3µm,21.0s
KBO Bosley Butte 51.25 321 *e*P **P 11 30 39.7 +0.5**
comp=Z,78nm,1.2s
KBO LR LR
comp=Z,3µm,20.0s
TCBU Trout Butte 51.41 324 P **P 11 30 36.9 -3.5**
I03D Drain, OR 51.51 323 P **P 11 30 40.8 -0.2**
baz=124,SNR=7.4
KEBM Edson Butte 51.67 321 *e*P **P 11 30 42.5 +0.2**
comp=Z,100nm,1.2s
COR Corvallis 51.98 324 *e*P **P 11 30 44.2 -0.2**
COR pmax pmax
comp=Z,133nm,1.5s
COR MLR MLR
comp=Z,3µm,22.0s
COR Corvallis 51.98 324 *e*P **P 11 30 44.2 -0.2**
comp=Z,133nm,1.5s
COR LR LR
comp=Z,3µm,22.0s
LTY Liberty 52.09 328 *e*P **P 11 30 45.1 -0.3**
comp=Z,27nm,1.1s
LTY LR LR
comp=Z,3µm,22.0s
B08A Colville Reser 52.10 329 *e*P **P 11 30 44.9 -0.5**
comp=Z,30nm,1.4s
B08A LR LR
comp=Z,2µm,18.0s
ETW Entiat 52.13 328 P **P 11 30 45.4 -0.3**
F04A Amboy 52.25 325 *e*P **P 11 30 46.6 +0.1**
comp=Z,34nm,1.2s
F04A LR LR
comp=Z,4µm,18.0s
G03D McMinnville, O 52.31 324 P **P 11 30 46.1 -0.8**
baz=125
C06D Leavenworth 52.63 328 P **P 11 30 49.3 +0.1**
baz=129
F04D Rainier, OR 52.67 325 P **P 11 30 49.2 -0.4**
baz=126
D05A Enumclaw 52.76 327 *e*P **P 11 30 50.8 +0.6**
comp=Z,84nm,1.4s
D05A LR LR
comp=Z,2µm,20.0s
FCC Fort Churchill 52.84 352 PFAKE 11 31 00.0 +9.4
FCC LR LR
comp=Z,3µm,19.0s
EDM Edmonton 52.91 337 *e*P **P 11 30 50.6 -0.7**
EDM pmax pmax
comp=Z,160nm,1.6s
EDM MLR MLR
comp=Z,3µm,20.0s
EDM Edmonton 52.91 337 *e*P **P 11 30 50.6 -0.7**
comp=Z,160nm,1.6s
EDM LR LR
comp=Z,3µm,20.0s
E03A Lebam 53.25 325 *e*P **P 11 30 55.1 +1.3**
comp=Z,70nm,1.4s
E03A LR LR
comp=Z,2µm,19.0s
B06A Marblemount 53.31 328 PFAKE 11 31 10.0 +16
B06A LR LR
comp=Z,2µm,21.0s
B05A Bryant 53.47 328 P **P 11 30 55.0 -0.4**
baz=128
NLWA Neilton Lookou 53.91 326 *e*P **P 11 30 58.6 -0.1**
comp=Z,76nm,1.4s
NLWA LR LR
comp=Z,5µm,19.0s
PGC Sidney 54.42 328 PFAKE 11 31 10.0 +7.6
PGC LR LR
comp=Z,2µm,20.0s
LLLB Lillooet 54.83 330 *e*P **P 11 31 06.0 +0.7**
comp=Z,157nm,1.8s
LLLB LR LR
comp=Z,2µm,22.0s
BBB Bella Bella 58.90 329 LR LR 11 58 58.1
comp=Z,1µm,21.5s,baz=118,slow=38
BBB Bella Bella 58.90 329 PFAKE 11 31 50.0 +16
BBB LR LR
comp=Z,2µm,19.0s
RKT Rikitea 59.26 238 *e*S **S 11 39 44.0 -1.6**
comp=Z,3µm,30.0s
TAOE Nuku Hiva Isla 59.59 256 *e*S **S 11 39 50.2 -0.2**
comp=Z,1µm,27.6s
TAOE *e*LR LR 11 49 25.0
comp=Z,2µm,26.2s
YKA Yellowknife Ar 60.60 343 P **P 11 31 43.6 -2.0**
comp=Z,9.8nm,0.9s,baz=137,slow=7.0,SNR=11
DIB Dawson Inlet, 61.69 328 PFAKE 11 32 00.0 +6.8
DIB LR LR
comp=Z,2µm,21.0s
CRAG Craig 63.16 330 PFAKE 11 32 20.0 +17
CRAG LR LR
comp=Z,2µm,20.0s
WRAK Wrangell Islan 63.28 332 PFAKE 11 32 20.0 +16
WRAK LR LR
comp=Z,2µm,18.0s
DLBC Dease Lake 63.34 334 LR LR 12 02 58.3
comp=Z,2µm,18.6s,baz=108,slow=39
DLBC Dease Lake 63.34 334 *e*P **P 11 32 03.8 -0.5**
comp=Z,60nm,1.4s
SFJD Kangerlussuaq 64.11 13 PFAKE 11 32 20.0 +11
SFJD LR LR
comp=Z,3µm,21.0s
SKAG Skagway 66.21 334 PFAKE 11 32 30.0 +7.2
SKAG LR LR
comp=Z,2µm,19.0s
WHY Whitehorse 66.62 335 PFAKE 11 32 40.0 +14
WHY LR LR
comp=Z,2µm,21.0s
DHAK Deception Hill 67.33 332 PFAKE 11 32 40.0 +10
DHAK LR LR
comp=Z,2µm,18.0s
HYT Haines Junctio 67.82 334 PFAKE 11 32 50.0 +17
HYT LR LR
comp=Z,2µm,20.0s
RES Resolute Bay 68.45 356 PFAKE 11 32 50.0 +13
RES LR LR
comp=Z,2µm,19.0s
BALM Baldy 70.04 333 PFAKE 11 33 00.0 +13
BALM LR LR
comp=Z,3µm,21.0s
DAWY Dawson 70.12 337 *e*P **P 11 32 47.4 0.0**
comp=Z,70nm,1.9s
DAWY LR LR
comp=Z,2µm,19.0s
INK Inuvik 70.29 342 P **P 11 32 48.3 +0.1**
comp=Z,11nm,1.0s,baz=136,slow=3.2,SNR=9.9
INK Inuvik 70.29 342 *e*P **P 11 32 48.8 +0.5**
INK pmax pmax
comp=Z,30nm,1.0s
INK MLR MLR
comp=Z,4µm,19.0s
INK Inuvik 70.29 342 *e*P **P 11 32 48.8 +0.5**
comp=Z,30nm,1.0s
INK LR LR
comp=Z,4µm,19.0s
PPT Papeete 70.54 249 LR LR 11 55 39.8
comp=Z,1µm,20.8s,baz=62,slow=29
PPT2 Papeete2 70.55 249 *e*S **S 11 42 03.2 -1.8**
comp=Z,2µm,26.0s
PPT2 Papeete2 70.55 249 *e*LR LR 11 54 25.3
comp=Z,3µm,26.8s,baz=68
BMRM Bremner River 71.03 333 PFAKE 11 33 00.0 +7.0
BMRM LR LR
comp=Z,2µm,19.0s
SUMG Summit 71.09 13 *i* P **P 11 32 52.3 -1.3**
comp=Z,37nm,1.1s
SUMG *i* 11 33 07.2
SUMG Summit 71.09 13 *e*P **P 11 32 52.1 -1.5**
SUMG pmax pmax
comp=Z,47nm,1.1s
SUMG MLR MLR
comp=Z,3µm,20.0s
SUMG Summit 71.09 13 *e*P **P 11 32 52.1 -1.5**
comp=Z,47nm,1.1s
SUMG LR LR
comp=Z,3µm,20.0s
EGAK Eagle 71.13 337 *e*P **P 11 32 52.5 -1.0**
comp=Z,20nm,1.0s
EGAK LR LR
comp=Z,1µm,21.0s
MENT Mentasta 71.39 335 *e*P **P 11 32 55.4 +0.2**
comp=Z,23nm,1.1s
MENT LR LR
comp=Z,2µm,20.0s
EYAK Cordova Ski Ar 71.40 332 PFAKE 11 33 10.0 +15
EYAK LR LR
comp=Z,3µm,20.0s
DIV Divide 71.62 333 PFAKE 11 33 10.0 +13
DIV LR LR
comp=Z,3µm,20.0s
HARP HAARP 71.81 334 PFAKE 11 33 10.0 +12
HARP LR LR
comp=Z,1µm,21.0s
FID Port Fidalgo 71.81 332 PFAKE 11 33 10.0 +12
FID LR LR
comp=Z,2µm,21.0s
DOT Dot Lake 71.82 336 *e*P **P 11 32 56.9 -0.8**
comp=Z,89nm,1.0s
DOT LR LR
comp=Z,6µm,22.0s
TBI Tubuai 71.90 243 *e*S **S 11 42 19.2 -1.1**
comp=Z,917nm,31.2s
TBI Tubuai 71.90 243 *e*LR LR 11 55 05.2
comp=Z,4µm,30.0s,baz=65
POHA Pohakuloa 71.98 289 PFAKE 11 33 10.0 +10
POHA LR LR
comp=Z,3µm,21.0s
BORG Borgarnes 72.00 23 PFAKE 11 33 10.0 +11
BORG LR LR
comp=Z,3µm,21.0s
HPAH Hawaii Prepara 72.13 289 PFAKE 11 33 10.0 +9.5
HPAH LR LR
comp=Z,3µm,20.0s
PAX Paxson 72.15 335 *e*P **P 11 32 59.7 -0.1**
PAX pmax pmax
comp=Z,37nm,1.6s
PAX MLR MLR
comp=Z,2µm,21.0s
PAX Paxson 72.15 335 *e*P **P 11 32 59.7 -0.1**
comp=Z,37nm,1.6s
PAX LR LR
comp=Z,2µm,21.0s
SCM Sheep Creek Mo 72.56 333 PFAKE 11 33 10.0 +7.7
SCM LR LR
comp=Z,2µm,19.0s
HLK Haleakala 72.64 290 PFAKE 11 33 20.0 +16
HLK LR LR
comp=Z,3µm,21.0s
DHY Denali Highway 73.00 334 PFAKE 11 33 20.0 +15
DHY LR LR
comp=Z,2µm,20.0s
SEW Seward 73.00 331 PFAKE 11 33 20.0 +15
SEW LR LR
comp=Z,1µm,19.0s
SML Sawmill 73.00 333 *e*P **P 11 33 05.7 +0.8**
SML pmax pmax
comp=Z,83nm,1.5s
SML MLR MLR
comp=Z,2µm,19.0s
SML Sawmill 73.00 333 *e*P **P 11 33 05.7 +0.8**
comp=Z,83nm,1.5s
SML LR LR
comp=Z,2µm,19.0s
HDA Harding Lake 73.28 336 *e*P **P 11 33 05.2 -1.2**
comp=Z,69nm,1.2s
HDA LR LR
comp=Z,2µm,21.0s
PMR Palmer 73.30 333 PFAKE 11 33 20.0 +13
PMR LR LR
comp=Z,2µm,21.0s
IL1 Eielson Array 73.38 336 *e*P **P 11 33 05.4 -1.6**
ILAR Eielson Array 73.38 336 P **P 11 33 04.9 -2.1**
comp=Z,8.1nm,1.1s,baz=112,slow=4.0,SNR=22
ILAR LR LR 12 09 38.9
comp=Z,836nm,18.2s,baz=94,slow=39
ILB Eielson Array 73.38 336 *e*P **P 11 33 05.2 -1.8**
FYU Fort Yukon 73.41 338 *e*P **P 11 33 07.2 +0.1**
comp=Z,50nm,1.3s
FYU LR LR
comp=Z,2µm,21.0s
RC01 Rabbit Creek A 73.43 332 PFAKE 11 33 20.0 +13
RC01 LR LR
comp=Z,2µm,20.0s
BRLK Bradley Lake 73.60 331 PFAKE 11 33 20.0 +12
BRLK LR LR
comp=Z,2µm,20.0s
CCB Clear Creek Bu 73.71 336 *e*P **P 11 33 08.7 -0.2**
comp=Z,26nm,1.5s
CCB LR LR

comp=Z,2μm,21.0s
CNPM China Poot 73.71 330 PFAKE 11 33 20.0 +11
CNPM LR LR
comp=Z,1μm,20.0s
RND Reindeer 73.74 335 *e*P **P 11 33 08.5 -0.7**
RND pmax pmax
comp=Z,48nm,1.0s
RND MLR MLR
comp=Z,2μm,20.0s
RND Reindeer 73.74 335 *e*P **P 11 33 08.5 -0.7**
comp=Z,48nm,1.0s
RND LR LR
comp=Z,2μm,20.0s
WRH Wood River Hil 73.77 336 *e*P **P 11 33 09.2 0.0**
comp=Z,10nm,1.0s
WRH LR LR
comp=Z,2μm,21.0s
COLA College 73.81 336 *e*P **P 11 33 09.5 +0.1**
COLA pmax pmax
comp=Z,16nm,1.0s
COLA MLR MLR
comp=Z,2μm,20.0s
COLA College 73.81 336 *e*P **P 11 33 09.5 +0.1**
comp=Z,16nm,1.0s
COLA LR LR
comp=Z,2μm,20.0s
MCK McKinley 73.88 335 *e*P **P 11 33 10.3 +0.3**
MCK pmax pmax
comp=Z,28nm,1.1s
MCK MLR MLR
comp=Z,2μm,20.0s
MCK McKinley 73.88 335 *e*P **P 11 33 10.2 +0.3**
comp=Z,28nm,1.1s
MCK LR LR
comp=Z,2μm,20.0s
KDAK Kodiak Island 73.96 328 PFAKE 11 33 20.0 +10
KDAK LR LR
comp=Z,2μm,22.0s
MDM Murphy Dome 73.99 336 *e*P **P 11 33 10.6 0.0**
comp=Z,42nm,1.5s
MDM LR LR
comp=Z,1μm,19.0s
OHAK Old Harbor 74.21 328 PFAKE 11 33 20.0 +8.1
OHAK LR LR
comp=Z,1μm,18.0s
TRF Thorofare Moun 74.37 334 *e*P **P 11 33 12.7 -0.3**
comp=Z,124nm,1.8s
TRF LR LR
comp=Z,900nm,18.0s
SPU Mount Spurr 74.53 332 *e*P **P 11 33 14.0 +0.1**
KTH Kantishna Hill 74.67 334 *e*P **P 11 33 14.5 -0.1**
comp=Z,30nm,1.2s
KTH LR LR
comp=Z,2μm,20.0s
RSO Redoubt South 74.69 331 *e*P **P 11 33 15.0 0.0**
PPLA Purkeypile 75.04 334 *e*P **P 11 33 16.9 0.0**
comp=Z,45nm,1.2s
PPLA LR LR
comp=Z,1μm,22.0s
CAST Castle Rocks 75.13 334 *e*P **P 11 33 16.6 -0.7**
comp=Z,50nm,1.4s
CAST LR LR
comp=Z,2μm,20.0s
COLD Coldfoot 75.48 338 *e*P **P 11 33 18.7 -0.4**
comp=Z,48nm,1.4s
COLD LR LR
comp=Z,2μm,21.0s
TOLK Toolik Lake Re 75.71 340 P **P 11 33 19.7 -0.8**
baz=109
SVW2 Sparrevohn 76.18 331 *e*P **P 11 33 24.4 +1.1**
comp=Z,97nm,1.8s
SVW2 LR LR
comp=Z,2μm,21.0s
MDT Midelt 76.19 58 LR LR 12 01 02.0
comp=Z,737nm,21.5s,baz=330,slow=31
TT01 Tatalina 76.75 333 *e*P **P 11 33 26.0 -0.4**
TTA Tatalina 76.75 333 *e*P **P 11 33 25.8 -0.8**
TTA pmax pmax
comp=Z,22nm,1.1s
TTA MLR MLR
comp=Z,2μm,22.0s
TTA Tatalina 76.75 333 *e*P **P 11 33 25.8 -0.8**
comp=Z,22nm,1.1s
TTA LR LR
comp=Z,2μm,22.0s
CHGN Chignik 76.82 326 PFAKE 11 33 40.0 +13
CHGN LR LR
comp=Z,800nm,18.0s
DBIC Dimbokro 76.92 85 LR LR 12 05 37.1
comp=Z,808nm,20.4s,baz=268,slow=34
ESDC Sonseca Array 76.92 51 P **P 11 33 26.9 -1.0**
comp=Z,0.9nm,0.5s,baz=276,slow=5.9,SNR=7.0
ESDC LR LR 12 01 29.1
comp=Z,822nm,21.5s,baz=255,slow=31
ES19 SONSECA Array 76.97 51 *e*P **P 11 33 27.6 -0.7**
ES19 *e*P **P 11 33 30.6 +2.3**
SDPT Sand Point 77.86 325 PFAKE 11 33 40.0 +7.2
SDPT LR LR
comp=Z,800nm,21.0s
RAR Rarotonga 80.71 247 LR LR 12 01 01.4
comp=Z,611nm,18.6s,baz=81,slow=29
UNV Unalaska Valle 81.27 323 PFAKE 11 34 00.0 +8.6
UNV LR LR
comp=Z,1μm,21.0s
NIKH Nikolski High 82.68 323 PFAKE 11 34 10.0 +11
NIKH LR LR
comp=Z,1μm,21.0s
TOA0 Torodi Ar. Sit 82.78 78 *e*P **P 11 33 59.5 -0.7**
TORD Torodi Ar. Bea 82.78 78 P **P 11 33 59.3 -0.8**
comp=Z,2.1nm,1.1s,baz=287,slow=2.7,SNR=6.1
TORD LR LR 12 10 38.4
comp=Z,624nm,20.5s,baz=5.0,slow=36
TOC4 Torodi Ar. Sit 82.79 78 PFAKE 11 34 10.0 +10
TOC4 LR LR
comp=Z,1μm,21.0s
TOC3 Torodi Ar. Sit 82.81 78 PFAKE 11 34 10.0 +10
TOC3 LR LR
comp=Z,1μm,21.0s
GAMB Gambell 83.85 333 PFAKE 11 34 20.0 +15
GAMB LR LR
comp=Z,2μm,22.0s
KBS Kingsbay 84.43 11 PFAKE 11 34 20.0 +13
KBS LR LR
comp=Z,2μm,19.0s
BFO Black Forest 85.61 42 *e*P **P 11 34 13.3 -0.6**
BFO pmax pmax
comp=Z,8.0nm,0.9s
BFO Black Forest 85.61 42 *e*P **P 11 34 13.3 -0.6**
comp=Z,7.6nm,0.9s
NBO02 NORSAR Array S 85.87 29 *e*P **P 11 34 14.5 -0.4**
NB2 NORSAR Subarra 86.04 29 P **P 11 34 15.1 -0.7**
baz=275,slow=4.8
NB2 NORSAR Subarra 86.04 29 P **P 11 34 15.1 -0.7**
comp=Z,30nm,1.4s,baz=275,slow=4.8
NOA NORSAR Array B 86.04 29 P **P 11 34 15.1 -0.7**
comp=Z,3.7nm,1.0s,baz=276,slow=4.6,SNR=5.1
NOA LR LR 12 11 02.9
comp=Z,538nm,18.8s,baz=270,slow=34
TUE Stuetta 86.47 44 *e*P **P 11 34 19.1 +0.7**
comp=Z,32nm,1.4s
DAVA Damuels 86.75 43 PcP **P 11 34 20.4 +0.6**
comp=Z,19nm,1.1s
RETA Reutte 87.33 43 *e*P **P 11 34 22.1 -0.4**
comp=Z,13nm,1.2s
FETA Feichten 87.36 43 PcP **P 11 34 22.5 -0.2**
comp=Z,16nm,1.1s
MOTA Moosalm 87.57 43 *e*P **P 11 34 19.3 -4.5**
comp=Z,1.9nm,0.5s
KEST Kesra 87.60 54 LR LR 12 11 21.2
comp=Z,272nm,18.9s,baz=234,slow=34
NKC Novy Kostel 88.08 40 AMS AMS 12 06 50.0
comp=Z,2μm,20.2s
CLL Collm 88.28 39 *i* P **P 11 34 26.1 -0.7**
CLL Collm 88.28 39 *i* P **P 11 34 26.1 -0.7**
CLL *i* sP **sP 11 34 36.2 +4.9**
comp=Z,11nm,1.0s
CLL *i* 11 34 59.6
comp=Z,23nm,1.5s
CLL L L 12 05 00.0
comp=Z,1μm,20.6s
ABTA Abfaltersbach 88.61 43 *e*PcP **P 11 34 28.4 -0.1**
comp=Z,12nm,1.0s
BRG Berggiesshubel 88.93 39 *e*P P 11 34 39.8 +10
comp=Z,8.6nm,1.1s
BRG Berggiesshubel 88.93 39 *e*P P 11 34 39.8 +10
BRG pmax pmax
comp=Z,9.0nm,1.1s

KHC Kasperske Hory 88.97 41 *e*pP **pP 11 34 39.7 +6.2**
KHC *ex* x 11 34 43.5
KHC *ex* x 11 35 02.0
KHC AMS AMS 12 06 40.0
comp=Z,2μm,22.0s
KHC Kasperske Hory 88.97 41 *e*P **P 11 34 29.5 -0.7**
KHC pmax pmax
comp=Z,4.0nm,1.3s
KHC Kasperske Hory 88.97 41 *e*P **P 11 34 29.5 -0.7**
comp=Z,4.3nm,1.3s
GERES GERESS Array B 89.09 41 P **P 11 34 29.5 -1.4**
comp=Z,0.4nm,0.4s,baz=280,slow=5.8,SNR=5.2
GERES LR LR 12 09 01.2
comp=Z,494nm,21.1s,baz=266,slow=32
GEA0 GERESS Array S 89.09 41 *e*P **P 11 34 30.1 -0.7**
PRA Prague 89.37 40 AMS AMS 12 06 20.0
comp=Z,2μm,21.6s
PVCC Panska Ves 89.38 39 AMS AMS 12 05 20.0
comp=Z,2μm,21.2s
PRU Pruhonice 89.45 40 AMS AMS 12 06 00.0
comp=Z,2μm,21.8s
GOPC GO Pecny, Ondr 89.62 40 AMS AMS 12 07 40.0
comp=Z,2μm,22.1s
MOA Molln 89.62 42 *e*P **P 11 34 29.3 -3.9**
comp=Z,4.3nm,1.0s
ARCES ARCESS Array B 90.05 20 P **P 11 34 33.7 -1.0**
comp=Z,1.2nm,0.7s,baz=264,slow=6.3,SNR=3.5
TREC Trest 90.17 40 AMS AMS 12 08 20.0
comp=Z,2μm,21.9s
UPC Upice 90.29 39 AMS AMS 12 08 20.0
comp=Z,2μm,24.0s
SOKA Soboth 90.33 43 *i* PcP **P 11 34 38.3 +1.6**
comp=Z,6.9nm,1.3s
DPC Dobruska-Polom 90.51 39 *e*P **P 11 34 42.1 +4.7**
DPC AMS AMS 12 08 30.0
comp=Z,2μm,22.6s
DPC Dobruska-Polom 90.51 39 *e*P **P 11 34 42.1 +4.7**
DPC MLR MLR
comp=Z,2μm,22.6s
ARSA Arzberg 90.56 42 *e*pP P 11 34 42.4 +4.8
comp=Z,5.6nm,1.1s
CONA Conrad Observa 90.66 42 PcP **P 11 34 38.9 +0.7**
comp=Z,8.9nm,1.4s
BILL Bilibino 91.76 339⇓ *e*P **P 11 34 47.0 +4.3**
BILL *e* 11 34 51.8
BILL *e* 11 34 58.1
BILL *e* 11 45 31.3
BILL SSS SSS 11 55 28.0
BILL pmax pmax
comp=Z,20nm,1.4s
BILL MLR MLR
comp=Z,1μm,22.0s
OKC Ostrava-Krasne 91.77 40 AMS AMS 12 09 20.0
comp=Z,2μm,22.7s
CEL Celeste 92.43 51 PFAKE 11 35 00.0 +13
CEL LR LR
comp=Z,1μm,20.0s
VYHS Vyhne 92.50 41 *e*P **P 11 34 49.2 +2.6**
VYHS Vyhne 92.50 41 *e*P **P 11 34 49.2 +2.6**
SNAA Sanae 92.91 162⇓ *e*P **P 11 34 51.7 +3.7**
SNAA Sanae 92.91 162 PFAKE 11 35 00.0 +12
SNAA LR LR
comp=Z,2μm,21.0s
TIP Timpagrande 92.93 50 PFAKE 11 35 00.0 +11
TIP LR LR
comp=Z,2μm,22.0s
FINES FINESS Array B 92.94 27 LR LR 12 14 54.3
comp=Z,737nm,19.5s,baz=247,slow=34
APA Apatity 93.49 20 *e*P **P 11 34 49.0 -1.7**
CRVS Cervenica-Dubn 94.09 40 *e*P **P 11 34 58.2 +4.3**
CRVS Cervenica-Dubn 94.09 40 *e*P **P 11 34 58.2 +4.3**
QSPA South Pole Qui 96.58 180 PFAKE 11 35 20.0 +15
QSPA LR LR
comp=Z,1μm,22.0s
AKASG Malin Array Be 98.33 37 LR LR 12 16 27.1
comp=Z,951nm,20.7s,baz=290,slow=34
TIXI Tiksi 99.28 350 PFAKE 11 35 30.0 +13
TIXI LR LR
comp=Z,2μm,20.0s
PET Petropavlovsk 101.54 327 PFAKE 11 35 40.0 +13
PET LR LR
comp=Z,700nm,21.0s
MA2 Magadan 101.85 335 PFAKE 11 35 40.0 +11
MA2 LR LR
comp=Z,1μm,21.0s
PEA0B Petropavlovsk- 102.01 328 PFAKE 11 35 40.0 +11
PEA0B LR LR
comp=Z,1μm,22.0s
BKZ Black Stump Fm 102.75 231 PFAKE 11 35 40.0 +6.9
BKZ LR LR
comp=Z,1μm,21.0s
HIZ Hauiti 104.05 232 PFAKE 11 35 50.0 +11
HIZ LR LR
comp=Z,500nm,22.0s
YAK Yakutsk 107.26 345 PFAKE 11 40 10.0
YAK LR LR
comp=Z,2μm,20.0s
H11S2 WAKE ISLAND Hy 107.50 292 T T 13 36 12.9
baz=77,slow=75,SNR=6.6
H11S1 WAKE ISLAND Hy 107.51 292 T T 13 36 08.2
baz=77,slow=75,SNR=5.9
H11S3 WAKE ISLAND Hy 107.52 292 T T 13 36 08.0
baz=77,slow=75,SNR=7.7
GNI Garni 112.74 42⇑ *i*PKIKP **PKiKP 11 40 13.0 +0.4**
KMBO Kilima Mbogo 119.56 88 PFAKE 11 40 40.0 +13
KMBO LR LR
comp=Z,800nm,21.0s
KURK Kurchatov 120.62 14 PKIKP **PKPdf 11 40 27.5 +0.3**
KURK MLR MLR
comp=Z,2μm,21.0s
KURK Kurchatov 120.62 14 PKP **PKPdf 11 40 27.5 +0.3**
KURK LR LR
comp=Z,2μm,21.0s
KURBB Kurchatov Arra 120.69 14 PKP **PKPdf 11 40 27.5 +0.1**
comp=Z,0.2nm,0.2s,baz=318,slow=1.2,SNR=3.5
HIA Hailar 121.13 343 PFAKE 11 40 40.0 +12
HIA LR LR
comp=Z,2μm,22.0s
CN2 Changchun 123.90 336 *e*PKP **PKPdf 11 40 29.1 -4.7**
CN2 *e*PP **PP 11 42 16.5 +0.5**
CN2 AMB AMB
comp=Z,200nm,7.0s
CN2 LR LR
comp=Z,200nm,20.0s
CN2 LR LR
comp=Z,300nm,20.0s
CN2 LR LR
comp=Z,200nm,22.0s
AAK Ala-Archa 126.69 21⇑ *i*PKIKP **PKPdf 11 40 39.2 -0.2**
KSRS Korea Array 127.86 329 PKP **PKPdf 11 40 40.7 -0.8**
comp=Z,0.9nm,0.6s,baz=13,slow=1.6,SNR=3.3
KSAR Wonju Array Be 127.89 329 PKIKP **PKPdf 11 40 40.8 -0.8**
KSAR Wonju Array Be 127.89 329 PKP **PKPdf 11 40 40.8 -0.8**
UOSS Minazif 128.95 51 PFAKE 11 41 00.0 +16
UOSS LR LR
comp=Z,600nm,21.0s
WMQ Urumqi 129.04 9 PKP **PKPdf 11 40 42.7 -1.0**
WMQ AMB AMB
comp=Z,370nm,11.6s
WMQ LR LR
comp=Z,400nm,19.3s
WMQ LR LR
comp=Z,540nm,19.3s
WMQ LR LR
comp=Z,440nm,24.9s
KSH Kashi 129.96 22 *e*PKP **PKPdf 11 40 47.0 +1.3**
KSH PP **PP 11 43 02.4 +6.2**
KSH PKS **PKSdf 11 44 22.4 +0.1**
KSH SKS **SKSdf 11 47 57.1 -0.6**
KSH SS **SS 12 00 25.4 +4.8**
KSH LR LR
comp=Z,250nm,13.2s
KSH LR LR
comp=Z,880nm,19.4s
KSH LR LR
comp=Z,1μm,30.0s
MANU Manus Island 130.22 273 PFAKE 11 41 00.0 +13
MANU LR LR
comp=Z,600nm,20.0s
BJI Beijing 130.56 341 PKP **PKPdf 11 40 39.7 -6.9**
BJT Baijiatuau 130.58 341 PFAKE 11 41 00.0 +13
BJT LR LR
comp=Z,1μm,20.0s
KBL Kabul 131.00 32 PFAKE 11 41 00.0 +12
KBL LR LR
comp=Z,500nm,19.0s

GTA Gaotai 134.20 358 *e*PKP **PKPdf 11 40 49.9 -3.8**
GTA sPKP 11 40 57.0
GTA PP **PP 11 43 25.7 +2.5**
GTA SKS **SKSdf 11 47 59.1 -6.3**
GTA SKKS **SKKSac 11 50 15.2 -5.5**
GTA SS **SS 12 01 13.2 +1.4**
GTA AMB AMB
comp=Z,100nm,5.0s
GTA LR LR
comp=Z,750nm,22.3s
GTA LR LR
comp=Z,800nm,21.9s
GTA LR LR
comp=Z,980nm,20.4s
NJ2 Nanjing 136.58 333 *e*PKP **PKPdf 11 40 57.1 -1.0**
LZH Lanzhou 137.17 353 *e*PKP **PKPdf 11 40 53.1 -6.2**
LZH sPKP 11 41 00.5
LZH SKS **SKSdf 11 48 03.4 -7.3**
LZH SS **SS 12 01 51.2 +3.8**
LZH AMB AMB
comp=Z,270nm,5.3s
LZH LR LR
comp=Z,260nm,17.2s
LZH LR LR
comp=Z,900nm,17.9s
LZH LR LR
comp=Z,1μm,19.2s
XAN Xi'an 138.22 346 PKP **PKPdf 11 41 04.3 +3.1**
XAN PKS **PKSdf 11 44 38.9 +1.5**
XAN AMB AMB
comp=Z,150nm,11.2s
XAN LR LR
comp=Z,630nm,20.0s
XAN LR LR
comp=Z,820nm,21.4s
XAN LR LR
comp=Z,1μm,20.0s
ASAR Alice Springs 141.24 240 PKhKP PKPpre 11 41 00.6
comp=Z,0.5nm,0.9s,baz=113,slow=4.0,SNR=3.4
ASAR PKP **PKPdf 11 41 06.5 -0.4**
comp=Z,0.7nm,0.8s,baz=113,slow=3.4,SNR=9.8
ENH Enshi 141.64 343 PFAKE 11 41 20.0 +13
ENH LR LR
comp=Z,800nm,21.0s
WB2 Warramunga Arr 141.97 246 *e*PKPdf **PKPdf 11 41 06.0 -2.3**
WRAB Tennant Creek 141.97 246⇓ *i*PKIKP **PKPdf 11 41 11.9 +3.6**
WRA Warramunga Arr 141.98 246 PKP **PKPdf 11 41 06.8 -1.5**
comp=Z,1.6nm,1.1s,baz=103,slow=2.2,SNR=10
SSLB Suanglung 142.19 324 PFAKE 11 41 20.0 +11
SSLB LR LR
comp=Z,900nm,22.0s
YULB Yu-li 142.29 323 PFAKE 11 41 20.0 +11
YULB LR LR
comp=Z,500nm,21.0s
TWG Pinlang 142.85 323 PFAKE 11 41 20.0 +10
TWG LR LR
comp=Z,3μm,22.0s
LSA Lhasa 143.40 9 PFAKE 11 41 20.0 +8.8
LSA LR LR
comp=Z,1μm,21.0s
FAKI Fak Fak 145.31 274 PFAKE 11 41 30.0 +16
FAKI LR LR
comp=Z,700nm,19.0s
GYA Guiyang 146.01 345⇑ *i*PKPbc **PKPab 11 41 19.7 +3.2**
GYA PKS **PKSdf 11 44 48.6 -2.4**
GYA SKKS 11 51 27.4
GYA SS **SS 12 03 31.2 +0.7**
GYA AMB AMB
comp=Z,180nm,8.3s
GYA LR LR
comp=Z,610nm,25.2s
GYA LR LR
comp=Z,580nm,25.0s
GYA LR LR
comp=Z,640nm,26.7s
GZH Guangzhou 146.75 333 PKPbc **PKPab 11 41 25.8 +6.5**
SHL Shillong 147.57 10 *e*P **PKPbc 11 41 20.0 -0.6**
KMI Kunming 148.10 351 PKPbc **PKPdf 11 41 18.9 -0.1**
KMI LR LR
comp=Z,280nm,26.5s
KMI LR LR
comp=Z,740nm,20.8s
KMI LR LR
comp=Z,930nm,23.7s
FITZ Fitzroy Crossi 150.38 245 PKPbc **PKPbc 11 41 26.9 -0.8**
comp=Z,3.7nm,0.6s,baz=90,slow=2.0,SNR=9.2
QIZ Qiongzhong 151.85 335 PKPbc **PKPdf 11 41 22.8 -2.0**
QIZ PP **PP 11 45 10.9 +0.9**
QIZ SS SS 12 04 35.2 -1.0
QIZ LR LR
comp=Z,340nm,22.6s
QIZ LR LR
comp=Z,400nm,22.1s
QIZ LR LR
comp=Z,720nm,28.7s
CHTO Chiang Mai 154.74 357 PFAKE 11 41 40.0 +2.5
CHTO LR LR
comp=Z,600nm,21.0s
CMAR Chiang Mai Arr 155.09 357 PKPbc PKPbc 11 41 36.2
comp=Z,1.6nm,0.9s,baz=343,slow=2.8,SNR=7.0
CM01 Chiang Mai Arr 155.13 357 *e*PKPbc PKPbc 11 41 37.0
MYLDM Lahad Datu 156.11 299 *e*PKPab **PKPab 11 41 57.5 -0.9**
KKM Kota Kinabalu 157.61 304 PFAKE 11 41 40.0 +7.0
KKM LR LR
comp=Z,500nm,20.0s
DLV T Lat 158.67 330 PFAKE 11 41 40.0 +5.6
DLV LR LR
comp=Z,600nm,20.0s

---

*MOS **05** 11:34:14.1±2.3,52°.89N×108°.48E,h10km,mb4.2/1, Error ellipse: s-maj=24.7km s-min=14.5km az=135.5*
BYKL 05 11:34:14.3±0.2,52°.88N×108°.49E,h25km±3km, 4C-5D,
Lake Baykal region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
KELR	**Kotokel**	**0.28**	**244**	⇓*i*Pg	Pb		11 34 21.0	0.0
KELR				*e*Sg	Sb		11 34 25.8	+0.3
MXMB	**Maximikha**	**0.41**	**22**	⇑*i*Pg	Pb		11 34 22.8	-0.3
MXMB				*e*Sg	Sb		11 34 28.9	-0.2
ZRHB	**Zarechye**	**0.88**	**249**	⇑*i*Pg	Pb		11 34 30.9	0.0
ZRHB				*e*Sg	Sn		11 34 43.4	+0.4
ZRHB				*e*Sb	Sb		11 34 45.4	+3.2
ZRHB				Pmax				
	267nm,0.7s							
ZRHB				max				
	3μm,0.5s							
OGRR	**Ongureny**	**0.94**	**325**	⇑*i*Pg	Pb		11 34 31.8	-0.1
OGRR				*e*Sg	Sn		11 34 44.5	0.0
OGRR				*e*Sb	Sb		11 34 46.1	+2.2
OGRR				Pmax				
	100nm,0.4s							
OGRR				max				
	591nm,0.3s							
OGRR	**Ongureny**	**0.94**	**325**	*e*PG	Pb		11 34 31.8	-0.1
OGRR				*e*			11 34 44.1	
OGRR				pmax	pmax			
	comp=Z,54nm,0.2s							
OGRR				smax	smax			
	comp=E,598nm,0.3s							
UUDB	**Ulan-Yde**	**1.13**	**207**	⇑*i*Pg	Pb		11 34 35.3	+0.1
UUDB				*e*Sg	Sb		11 34 50.8	+1.2
UUDB				*e*Sb	Sn		11 34 53.3	+3.9
UUDB				Pmax				
	comp=E,39nm,0.2s							
UUDB				max				
	comp=E,432nm,0.4s							
SYVR	**Suvo**	**1.20**	**49**	*e*Pg	Pn		11 34 35.7	+0.3
SYVR				*e*Pb	Pb		11 34 36.8	+0.5
SYVR				*e*Sg	Sb		11 34 51.9	+0.6
SYVR				*e*Sb	Sn		11 34 55.0	+4.1
SYVR				max				
	comp=E,96nm,0.5s							
SYVR				Smax				
	comp=E,295nm,0.3s							
SYVR	**Suvo**	**1.20**	**49**	*e*PG	Pn		11 34 35.7	+0.3
SYVR				*e*			11 34 51.8	
SYVR				pmax	pmax			
	comp=Z,101nm,0.4s							
SYVR				smax	smax			
	comp=E,310nm,0.4s							
TRG	**Tyrgan**	**1.30**	**266**	*e*Pn	Pb		11 34 37.7	-0.5
TRG				⇓*i*Pg	Pn		11 34 38.4	+1.4
TRG				*e*Sg	Sb		11 34 56.5	+2.0

TRG Pmax
comp=E,73nm,0.3s
TRG Smax
comp=E,532nm,0.3s
TRG Tyrgan 1.30 266 *e*PG Pn 11 34 37.5 +0.5
TRG *e* 11 34 54.7
TRG pmax pmax
comp=Z,73nm,0.3s
TRG smax smax
comp=N,530nm,0.3s
KAB Kabansk 1.40 234 *e* Pn 11 34 37.7 -0.5
KAB *e*Sg Sb 11 34 59.6 +2.5
KAB Smax
comp=N,995nm,0.4s
KAB Kabansk 1.40 234 *e*PG Pb 11 34 39.1 -0.6
KAB *e* 11 34 59.4
KAB pmax pmax
comp=Z,94nm,0.2s
KAB smax smax
comp=N,980nm,0.6s
HRMR Khuramsha 1.57 218 ⇓ *i*Pn Pn 11 34 40.7 +0.1
HRMR *e*Pg Pb 11 34 42.0 -0.6
HRMR *e*Sg Sb 11 35 03.2 +1.1
HRMR Pmax
comp=N,92nm,0.2s
HRMR Smax
comp=N,980nm,0.4s
BGT Bolshoye Golou 2.06 247 *e*Pn Pn 11 34 48.0 +0.6
BGT *e*Pg Pb 11 34 51.3 +0.3
BGT *e*Sn Sb 11 35 14.4 -1.8
BGT *e*Sg Sn 11 35 19.7 +7.4
BGT Pmax
comp=N,11nm,0.3s
BGT Smax
comp=N,171nm,0.5s
LSTR Listvyanka 2.46 247 *e*Pg Pb 11 34 57.5 -0.3
LSTR *e*Sn Sn 11 35 23.2 +1.1
LSTR *e*Sg Sb 11 35 29.5 +1.8
LSTR Pmax
comp=N,7.0nm,0.2s
LSTR Smax
comp=N,76nm,0.5s
YLYR Ulyunkhan 2.55 37 ⇓ *i*Pn Pn 11 34 55.2 +1.1
YLYR Pg Pb 11 34 59.2 -0.1
YLYR *e* 11 35 09.4
YLYR *e*Sg Sb 11 35 33.6 +3.4
YLYR Pmax
comp=N,18nm,0.4s
YLYR Smax
comp=N,56nm,0.7s
IRK Irkutsk 2.65 258 *e*Sg Sb 11 35 37.4 +4.2
IRK Irkutsk 2.65 258 *e*PN Pn 11 34 56.9 +1.4
IRK *e* 11 35 01.4
IRK *e* 11 35 36.1
IRK pmax pmax
comp=Z,72nm,0.1s
IRK smax smax
comp=E,486nm,0.4s
IVK Ivanovka 2.72 248 *e*Pn Pn 11 34 57.7 +1.3
IVK *e*Pg Pb 11 35 02.6 +0.3
IVK *e*Sn Sn 11 35 29.8 +1.2
IVK *e*Sg Sb 11 35 37.9 +2.7
IVK *e* 11 35 41.8
IVK Pmax
comp=E,12nm,0.4s
IVK max
comp=E,94nm,0.2s
NIZ Nizh Angarsk 2.97 12 Pg Pb 11 35 07.8 +1.4
NIZ *e*Sn Sn 11 35 36.1 +1.6
NIZ *e*Sg Sb 11 35 45.9 +3.7
NIZ Pmax
comp=E,10.0nm,0.3s
NIZ Smax
comp=E,43nm,0.5s
TLY Talaya 3.21 250 *e*Pg Pb 11 35 11.7 +1.1
TLY *e*Sn Sn 11 35 40.2 -0.4
TLY *e*Sg Sb 11 35 53.2 +4.0
TLY *e* 11 35 55.7
TLY Pmax
comp=E,10.0nm,0.3s
TLY max
comp=E,57nm,0.5s
TLY Talaya 3.21 250 *e*PN Pb 11 35 11.7 +1.1
TLY *e* 11 35 52.5
TLY pmax pmax
comp=Z,7.0nm,0.2s
TLY smax smax
comp=E,56nm,0.4s
CIT Chita 3.21 104 *e*Sg Sb 11 35 54.0 +4.6
CIT Smax
comp=E,227nm,0.2s
KMO Kumora 3.40 27 *e*Pn Pn 11 35 07.1 +1.3
KMO *e*Pg Pb 11 35 14.9 +1.0
KMO *e*Sg Sb 11 35 59.8 +5.0
KMO Pmax
comp=E,21nm,0.3s
KMO Smax
comp=E,92nm,1.0s
YOA Uoyan 3.77 29 Sg Sb 11 36 10.7 +5.5
YOA *e* 11 36 17.8
YOA *e* 11 36 28.4
YOA max
comp=E,343nm,1.4s
ARS Arshan 3.84 258 *e*Pg Pb 11 35 22.0 +0.7
ARS *e*Sn Sn 11 35 58.5 +2.4
ARS *e*Sg Sb 11 36 12.4 +5.1
ARS Pmax
comp=E,25nm,0.6s
ARS Smax
comp=E,131nm,0.5s
ARS Arshan 3.84 258 *e*PN Pb 11 35 22.1 +0.8
ARS *e* 11 36 12.1
ARS pmax pmax
comp=Z,25nm,0.3s
ARS smax smax
comp=E,131nm,0.4s
UKT Uakit 3.99 47 ⇓ *i*Pn Pn 11 35 15.2 +1.3
UKT *e* 11 35 22.7
UKT *e*Pg Pb 11 35 26.4 +2.5
UKT *e* 11 35 29.2
UKT *e*Sg Sb 11 36 18.5 +6.7
UKT max
comp=E,4.0nm,0.8s
UKT Smax
comp=E,23nm,0.9s
UKT Uakit 3.99 47 *e*PN Pn 11 35 15.3 +1.4
UKT *e* 11 35 26.3
UKT *e* 11 36 18.4
UKT pmax pmax
comp=Z,8.0nm,0.9s
UKT smax smax
comp=E,19nm,0.5s
ZAK Zakamensk 4.10 234 *e*Pg Pb 11 35 27.4 +1.7
ZAK *e*Sn Sn 11 36 01.7 -0.9
ZAK *e*Sg Sb 11 36 22.2 +7.4
ZAK Pmax
comp=E,8.0nm,0.9s
ZAK Smax
comp=E,41nm,1.4s
MOY Mondy 4.76 258 *e*Pn Pn 11 35 26.2 +1.7
MOY *e*Pg Pb 11 35 39.0 +1.9
MOY *e*Sn Sn 11 36 17.7 -1.2
MOY *e*Sg Sb 11 36 40.4 +6.5
MOY Pmax
comp=E,9.0nm,0.8s
MOY Smax
comp=E,46nm,1.1s
ULN Ulaanbaatar 5.10 191 *e* Pb 11 35 38.6 -4.3
ULN *e*Sg Sb 11 36 52.2 +8.4
ULN *e* 11 36 58.4
ORL Orlik 5.29 270 *e*Pn Pn 11 35 34.1 +2.3
ORL *e* 11 35 42.9
ORL Pg Pb 11 35 49.2 +3.2
ORL *e* 11 36 33.9
ORL *e*Sg Sb 11 36 57.9 +8.8
ORL *e* 11 37 01.1
ORL Pmax
comp=E,4.0nm,0.4s
ORL max
comp=E,21nm,1.2s
NLYR Nelyaty 5.53 46 *e* Pn 11 35 39.9 +4.9
NLYR Pg Pb 11 35 55.0 +4.9
NLYR *e*Sg Sb 11 37 07.0 +11
NLYR *e* 11 37 14.7
NLYR Pmax
comp=E,6.0nm,0.4s
NLYR max
comp=E,54nm,1.0s
BOD Bodaibo 5.86 30 *e*Sg Sb 11 37 13.8 +8.4
BOD *e* 11 37 20.8
CRS Chara 6.93 51 *e*Sg Sb 11 37 48.6 +13
TUP Tupik 6.99 73 *e*Pg Pb 11 36 19.1 +4.2
TUP *e*Sg Sb 11 37 50.4 +13
TUP Smax
comp=E,42nm,1.1s
TUP Tupik 6.99 73 *e*PN Pn 11 35 56.7 +1.7
TUP *e* 11 36 19.0
TUP *e*S Sn 11 37 14.6 +1.0
TUP *e* 11 37 49.4
TUP pmax pmax
comp=Z,5.0nm,0.4s
TUP smax smax
comp=N,40nm,0.8s

*IDC **05** 11:36:49.5±1.3,5.˝14N×95.˝13E, h0km, mb4.2/5, mb1 4.4/6, mb1mx3.7/66, mbtmp4.2/6, ML3.9/1, MS3.5/2, Ms1 3.5/2, ms1mx3.4/44, Error ellipse: s-maj=60.9km s-min=23.6km az=42.0*
*ISCJB **05** 11:36:54.1±1.0,5.˝4N±0.˝1×95.˝3E±0.˝2, h50km, mb4.2/5, MS3.5/2, Error ellipse: s-maj=28.8km s-min=14.9km az=158.0*
ISC 05 11:36:55.9±1.2, 5.˝4N±0.˝1×95.˝3E±0.˝2, h50km, n9, σ1§21/7, mb4.3/5, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op	ISC		h m s	ISC
CMAR	**Chiang Mai Arr**	**13.51**	**15**	Pn	**Pn**		**11 40 06.2**	**+1.1**
	0.2nm,0.3s,baz=204,slow=13,SNR=15							
KMI	**Kunming**	**20.93**	**19**	P	**P**		**11 41 32.8**	**-1.9**
KMI				pmax	pmax			
	comp=Z,16nm,0.6s							
FITZ	**Fitzroy Crossi**	**37.96**	**129**	P	**P**		**11 44 09.8**	**+0.7**
	comp=Z,1.0nm,0.3s,baz=340,slow=12,SNR=11							
WSAR	**Wadi Sarin**	**39.53**	**300**	P	**P**		**11 44 22.3**	**+0.1**
	comp=Z,2.1nm,0.5s,baz=135,slow=7.1,SNR=4.5							
WRA	**Warramunga Arr**	**45.91**	**124**	P	**P**		**11 45 13.5**	**-0.5**
	comp=Z,2.1nm,0.5s,baz=304,slow=8.9,SNR=80							
JAY	**Jayapura**	**46.06**	**99**	LR	LR		12 06 13.4	
	comp=Z,7.7nm,20.6s,baz=179,slow=38							
ASAR	**Alice Springs**	**47.46**	**129**	P	**P**		**11 45 26.3**	**+0.2**
	comp=Z,1.7nm,0.4s,baz=301,slow=7.9,SNR=60							
STKA	**Stephens Creek**	**57.57**	**133**	P	**P**		**11 46 40.4**	**-0.4**
	comp=Z,3.1nm,0.8s,baz=297,slow=4.5,SNR=7.5							
BRTR	**Keskin Array B**	**64.92**	**311**	LR	LR		12 18 45.4	
	comp=Z,314nm,21.4s,baz=276,slow=39							

*IDC **05** 11:42:29.3±1.3,36.˝18N×28.˝82E, h0km, mb3.6/2, mb1 3.8/8, mb1mx3.5/52, mbtmp3.7/8, ML3.8/6, Error ellipse: s-maj=24.2km s-min=18.9km az=15.0*
*ISCJB **05** 11:42:33.5±0.2,36.˝01N±0.˝02×28.˝85E±0.˝02, h71km±5km, mb3.3/2, Error ellipse: s-maj=3.8km s-min=2.5km az=8.0*
*HLW **05** 11:42:34.0,35.˝94N×28.˝89E, h32km±8km, Md3.6, Ml3.7*
*ATH **05** 11:42:34.4,36.˝14N×28.˝81E, h65km±3km, ML3.5/5, Error ellipse: s-maj=3.9km s-min=1.2km az=88.0*
*DDA **05** 11:42:35.7,36.˝20N×28.˝80E, h51km, Ml4.3*
*ISK **05** 11:42:35.7,36.˝16N×28.˝82E, h57km, ML3.5*
*CSEM **05** 11:42:35.1±0.1,36.˝04N×28.˝85E, h60km, ML4.3, Error ellipse: s-maj=3.2km s-min=2.6km az=13.0*
*THE **05** 11:42:36.5,36.˝16N×28.˝80E, h58km±3km, ML3.6/5, Error ellipse: s-maj=3.6km s-min=0.9km az=91.0*
*NIC **05** 11:42:39.2±0.2,36.˝01N×29.˝29E, h66km, mb4.1, ML3.6*
*NSSC **05** 11:42:44.5±1.1,36.˝17N×32.˝08E, h462km±44km, ML3.1*
ISC 05 11:42:34.5±0.9, 36.˝05N±0.˝03×28.˝85E±0.˝02, h61km±8km, n174, σ1§48/230, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op	ISC		h m s	ISC
KSL	**Kastellorizon**	**0.60**	**80**	P	**Pn**		**11 42 48.9**	**+1.2**
KSL				S	**Sn**		**11 42 58.8**	**+1.5**
KSL	**Kastellorizon**	**0.60**	**80**	P	**Pn**		**11 42 48.8**	**+1.1**
KSL				S	**Sn**		**11 42 58.8**	**+1.5**
KSL	**Kastellorizon**	**0.60**	**80**	P	**Pn**		**11 42 48.8**	**+1.1**
KSL				S	**Sn**		**11 42 58.3**	**+1.0**
KSL				AML	AML		11 42 59.6	
	comp=N,9228μm,0.3s							
KSL				AML	AML		11 43 00.1	
	comp=E,7909μm,0.5s							
ARG	**Arkhangelos**	**0.61**	**286**	P	**Pn**		**11 42 48.2**	**+0.4**
ARG				S	**Sn**		**11 42 57.3**	**-0.2**
ARG	**Arkhangelos**	**0.61**	**286**	P	**Pn**		**11 42 48.2**	**+0.4**
ARG				S	**Sn**		**11 42 57.3**	**-0.2**
FETY	**Fethiye**	**0.62**	**18**	*e*PG	**Pn**		**11 42 48.0**	**+0.1**
FETY				*e*SG	**Sn**		**11 42 57.4**	**-0.3**
FETY	**Fethiye**	**0.62**	**18**	P	**Pn**		**11 42 48.0**	**+0.1**
FETY				S	**Sn**		**11 42 57.7**	**0.0**
FETY	**Fethiye**	**0.62**	**18**	P	**Pn**		**11 42 48.0**	**+0.1**
FETY				*e*Sg	**Sn**		**11 42 57.4**	**-0.3**
AKAS	**Kas**	**0.64**	**73**	*i* P	**Pn**		**11 42 49.3**	**+1.1**
AKAS	**Kas**	**0.64**	**73**	P	**Pn**		**11 42 49.3**	**+1.1**
DALY	**Dalyan (Mu˘la**	**0.79**	**348**	*e*PG	**Pn**		**11 42 50.1**	**+0.2**
DALY				*e*SG	**Sn**		**11 42 59.9**	**-1.2**
DALY	**Dalyan (Mu˘la**	**0.79**	**348**	*i* P	**Pn**		**11 42 50.1**	**+0.2**
DALY	**Dalyan (Mu˘la**	**0.79**	**348**	P	**Pn**		**11 42 50.1**	**+0.2**
DALY				*e*Sg	**Sn**		**11 42 59.9**	**-1.2**
TURN	**Turunc**	**0.85**	**347**	*i* P	**Pn**		**11 42 51.5**	**+0.8**
TURN				*i* S	**Sn**		**11 43 02.0**	**-0.6**
TURN	**Turunc**	**0.85**	**347**	P	**Pn**		**11 42 51.5**	**+0.8**
TURN				S	**Sn**		**11 43 02.0**	**-0.6**
MRSB	**Marmaris-Mugla**	**0.85**	**322**	*e*PG	**Pn**		**11 42 51.1**	**+0.4**
MRSB				*e*SG	**Sn**		**11 43 01.1**	**-1.6**
MRSB	**Marmaris-Mugla**	**0.85**	**322**	*e*Pg	**Pn**		**11 42 51.1**	**+0.4**
MRSB				*e*Sg	**Sn**		**11 43 01.1**	**-1.6**
ELL	**Elmali**	**1.10**	**50**	*e*PG	**Pn**		**11 42 55.8**	**+1.7**
ELL				*e*SG	**Sn**		**11 43 09.9**	**+1.3**
ELL	**Elmali**	**1.10**	**50**	*e*Pg	**Pn**		**11 42 55.8**	**+1.7**
ELL				*e*Sg	**Sn**		**11 43 09.9**	**+1.3**
DAT	**Datca**	**1.23**	**304**	*e*PN	**Pn**		**11 42 56.3**	**+0.5**
DAT				*e*SN	**Sn**		**11 43 12.0**	**+0.4**
DAT	**Datca**	**1.23**	**304**	*i* P	**Pn**		**11 42 56.3**	**+0.5**
DAT				*i* S	**Sn**		**11 43 11.1**	**-0.5**
DAT	**Datca**	**1.23**	**304**	P	**Pn**		**11 42 56.3**	**+0.5**
DAT				S	**Sn**		**11 43 11.1**	**-0.5**
DAT				*e*Sn	Sn		11 43 12.0	+0.4
GOLH	**Golhisar**	**1.32**	**25**	*i* P	**Pn**		**11 42 58.5**	**+1.6**
GOLH	**Golhisar**	**1.32**	**25**	P	**Pn**		**11 42 58.5**	**+1.6**
KARP	**Karpathos**	**1.46**	**251**	*e*PN	**Pn**		**11 43 01.2**	**+2.5**
KARP	**Karpathos**	**1.46**	**251**	P	**Pn**		**11 43 00.3**	**+1.5**
KARP				S	**Sn**		**11 43 18.1**	**+1.2**
KARP	**Karpathos**	**1.46**	**251**	P	**Pn**		**11 43 00.2**	**+1.5**
KARP	**Karpathos**	**1.46**	**251**	*e*Pn	**Pn**		**11 43 01.2**	**+2.5**
KARP				S	**Sn**		**11 43 18.1**	**+1.2**
KARP	**Karpathos**	**1.46**	**251**	P	**Pn**		**11 43 00.7**	**+2.0**
KARP				S	**Sn**		**11 43 17.9**	**+0.9**
NIS1	**Nisyros Isl.**	**1.46**	**293**	P	**Pn**		**11 42 59.1**	**+0.4**
NIS1				S	**Sn**		**11 43 16.5**	**-0.4**
NIS1	**Nisyros Isl.**	**1.46**	**293**	P	**Pn**		**11 42 59.5**	**+0.8**
NIS1				S	**Sn**		**11 43 16.5**	**-0.4**
NIS1				AML	AML		11 43 19.3	
	comp=N,5329μm,0.5s							
NIS1				AML	AML		11 43 21.4	
	comp=E,3760μm,0.6s							
MLSB	**Milas**	**1.52**	**326**	*e*PN	**Pn**		**11 43 00.8**	**+1.3**
MLSB				*e*SN	**Sn**		**11 43 18.6**	**+0.4**
MLSB	**Milas**	**1.52**	**326**	*e*Pn	**Pn**		**11 43 00.8**	**+1.3**
MLSB				*e*Sn	**Sn**		**11 43 18.7**	**+0.4**
BDRM	**Kayabasi**	**1.52**	**312**	*i* P	**Pn**		**11 42 59.8**	**+0.2**
BDRM				*i* S	**Sn**		**11 43 16.2**	**-2.2**
BDRM	**Kayabasi**	**1.52**	**312**	P	**Pn**		**11 42 59.8**	**+0.2**
BDRM				S	**Sn**		**11 43 16.2**	**-2.2**
KORT	**Korkueli**	**1.54**	**51**	*i* P	**Pn**		**11 43 01.7**	**+1.8**
KORT	**Korkueli**	**1.54**	**51**	P	**Pn**		**11 43 01.7**	**+1.8**
BODT	**Bodrum**	**1.60**	**310**	*e*PN	**Pn**		**11 43 01.2**	**+0.6**
BODT	**Bodrum**	**1.60**	**310**	P	**Pn**		**11 43 00.8**	**+0.2**
BODT				S	**Sn**		**11 43 18.9**	**-1.4**
BODT	**Bodrum**	**1.60**	**310**	P	**Pn**		**11 43 00.8**	**+0.2**
BODT	**Bodrum**	**1.60**	**310**	*e*Pn	**Pn**		**11 43 01.2**	**+0.6**
BODT				S	**Sn**		**11 43 18.9**	**-1.4**
DNZL	**Cakiroluk**	**1.65**	**5**	*i* P	**Pn**		**11 43 01.8**	**+0.3**
DNZL	**Cakiroluk**	**1.65**	**5**	P	**Pn**		**11 43 01.8**	**+0.3**
ANTB	**Antalya**	**1.69**	**59**	*e*PN	**Pn**		**11 43 03.2**	**+1.6**
ANTB	**Antalya**	**1.69**	**59**	*e*Pn	**Pn**		**11 43 03.3**	**+1.6**
DENT	**Denizli**	**1.71**	**5**	*e*PN	**Pn**		**11 43 02.3**	**+0.2**
DENT	**Denizli**	**1.71**	**5**	*e*Pn	**Pn**		**11 43 02.3**	**+0.2**
BCK	**Bucak**	**1.99**	**44**	*e*PN	**Pn**		**11 43 07.1**	**+1.2**
BCK	**Bucak**	**1.99**	**44**	*e*Pn	**Pn**		**11 43 07.1**	**+1.2**
AYDB	**Zeytinkoy-Aydi**	**2.05**	**338**	*e*PN	**Pn**		**11 43 06.9**	**+0.1**
AYDB	**Zeytinkoy-Aydi**	**2.05**	**338**	*e*Pn	**Pn**		**11 43 06.9**	**+0.1**
GCAM	**G?zelcaml?**	**2.10**	**322**	*i* P	**Pn**		**11 43 07.2**	**-0.1**
GCAM	**G?zelcaml?**	**2.10**	**322**	P	**Pn**		**11 43 07.2**	**-0.1**
ISP	**Isparta**	**2.22**	**37**	*e*PN	**Pn**		**11 43 09.8**	**+0.7**
ISP	**Isparta**	**2.22**	**37**	*e*Pn	**Pn**		**11 43 09.8**	**+0.7**
SUTC	**Sutluce-Ispart**	**2.24**	**50**	*e*PN	**Pn**		**11 43 10.9**	**+1.5**
SUTC	**Sutluce-Ispart**	**2.24**	**50**	*e*Pn	**Pn**		**11 43 10.9**	**+1.5**
SMG	**Samos**	**2.32**	**316**	P	**Pn**		**11 43 10.5**	**+0.2**
SMG				S	**Sn**		**11 43 35.2**	**-2.5**
SMG	**Samos**	**2.32**	**316**	P	**Pn**		**11 43 10.5**	**+0.2**
SMG				S	**Sn**		**11 43 35.2**	**-2.5**
SMG	**Samos**	**2.32**	**316**	P	**Pn**		**11 43 10.6**	**+0.3**
SMG				AML	AML		11 43 37.5	
	comp=N,1325μm,0.3s							
SMG				AML	AML		11 43 37.9	
	comp=E,1374μm,0.2s							
ZKR	**Zakros**	**2.34**	**247**	P	**Pn**		**11 43 12.4**	**+1.8**
ZKR				S	**Sn**		**11 43 39.8**	**+1.6**
ZKR	**Zakros**	**2.34**	**247**	P	**Pn**		**11 43 12.7**	**+2.0**
ZKR				S	**Sn**		**11 43 40.0**	**+1.8**
ZKR				AML	AML		11 43 41.7	
	comp=N,577μm,0.3s							
ZKR				AML	AML		11 43 41.9	
	comp=E,1430μm,0.3s							
MANT	**Manisa**	**2.45**	**355**	*i* P	Pn		11 43 03.3	-9.1
MANT				*i* S	Sn		11 43 30.5	-11
KULA	**Kula-Manisa**	**2.47**	**357**	*e*PN	**Pn**		**11 43 12.3**	**-0.2**
KULA	**Kula-Manisa**	**2.47**	**357**	P	**Pn**		**11 43 12.3**	**-0.2**
KULA				S	**Sn**		**11 43 38.9**	**-2.6**
KULA	**Kula-Manisa**	**2.47**	**357**	P	**Pn**		**11 43 12.3**	**-0.2**
KULA				S	**Sn**		**11 43 38.9**	**-2.6**
DGB	**˜zmir**	**2.55**	**322**	*i* P	**Pn**		**11 43 13.7**	**+0.2**
DGB				*i* S	**Sn**		**11 43 42.2**	**-1.1**
NPS	**Neapolis**	**2.75**	**254**	P	**Pn**		**11 43 17.4**	**+1.2**
NPS	**Neapolis**	**2.75**	**254**	P	**Pn**		**11 43 17.1**	**+0.9**
NPS	**Neapolis**	**2.75**	**254**	P	**Pn**		**11 43 16.6**	**+0.4**
NPS				AML	AML		11 43 48.9	
	comp=N,1907μm,0.3s							
NPS				AML	AML		11 43 49.1	
	comp=E,2066μm,0.4s							
THR6	**Thira Island,**	**2.81**	**277**	P	**Pn**		**11 43 17.8**	**+0.8**
THR6	**Thira Island,**	**2.81**	**277**	P	**Pn**		**11 43 17.8**	**+0.8**
THR3	**Thira Island,**	**2.81**	**278**	P	**Pn**		**11 43 17.9**	**+0.9**
THR3	**Thira Island,**	**2.81**	**278**	P	**Pn**		**11 43 17.9**	**+0.9**
SHUT	**Suhut-Afyon**	**2.85**	**28**	*e*PN	**Pn**		**11 43 18.6**	**+0.9**
SHUT	**Suhut-Afyon**	**2.85**	**28**	*e*Pn	**Pn**		**11 43 18.6**	**+0.9**
THR5	**Thira Island,**	**2.86**	**279**	P	**Pn**		**11 43 18.7**	**+1.0**
THR5	**Thira Island,**	**2.86**	**279**	P	**Pn**		**11 43 18.7**	**+1.0**
APE	**Apeiranthos**	**2.86**	**292**	P	**Pn**		**11 43 18.4**	**+0.6**
APE	**Apeiranthos**	**2.86**	**292**	P	**Pn**		**11 43 18.3**	**+0.5**
LAST	**Lasithi**	**2.89**	**253**	P	**Pn**		**11 43 19.4**	**+1.3**
LAST				S	**Sn**		**11 43 51.7**	**0.0**
LAST	**Lasithi**	**2.89**	**253**	P	**Pn**		**11 43 19.4**	**+1.3**
LAST				S	**Sn**		**11 43 51.7**	**0.0**
LAST	**Lasithi**	**2.89**	**253**	P	**Pn**		**11 43 19.1**	**+1.0**
DEMI	**Demirci**	**3.00**	**358**	*i* P	**Pn**		**11 43 20.1**	**+0.5**
DEMI	**Demirci**	**3.00**	**358**	P	**Pn**		**11 43 20.1**	**+0.5**
AKMC	**Akamas**	**3.01**	**109**	P	**Pn**		**11 43 20.3**	**+0.5**
AKMC	**Akamas**	**3.01**	**109**	P	**Pn**		**11 43 20.3**	**+0.5**
	baz=292							
HDMB	**Hadim**	**3.07**	**72**	*e*PN	**Pn**		**11 43 23.4**	**+2.6**
HDMB	**Hadim**	**3.07**	**72**	*e*Pn	**Pn**		**11 43 23.4**	**+2.6**
PPCY	**Paphos**	**3.08**	**111**	P	**Pn**		**11 43 21.3**	**+0.6**
PPCY	**Paphos**	**3.08**	**111**	P	**Pn**		**11 43 21.3**	**+0.6**
	baz=295							
BOLV	**Bolvadin**	**3.15**	**31**	*i* P	**Pn**		**11 43 21.4**	**-0.4**
BOLV	**Bolvadin**	**3.15**	**31**	P	**Pn**		**11 43 21.4**	**-0.4**
ALFC	**Alefka**	**3.18**	**105**	P	**Pn**		**11 43 23.0**	**+0.9**
ALFC				S	**Sn**		**11 43 56.9**	**-2.0**
ALFC	**Alefka**	**3.18**	**105**	P	**Pn**		**11 43 23.0**	**+0.9**
	baz=288							
ALFC				S	**Sn**		**11 43 56.9**	**-2.0**
KMER	**Konya-Meram**	**3.30**	**58**	*i* P	**Pn**		**11 43 25.3**	**+1.4**
KMER	**Konya-Meram**	**3.30**	**58**	P	**Pn**		**11 43 25.3**	**+1.4**
IDI	**Anoyia**	**3.31**	**258**	Pn	**Pn**		**11 43 24.4**	**+0.4**
	comp=E,7.7nm,0.3s,baz=304,slow=16,SNR=31							
IDI				Sn	**Sn**		**11 44 00.0**	**-2.1**
	comp=E,27nm,0.3s,baz=316,slow=19,SNR=15							
IDI	**Anoyia**	**3.31**	**258**	P	**Pn**		**11 43 24.4**	**+0.4**
IDI	**Anoyia**	**3.31**	**258**	P	**Pn**		**11 43 23.6**	**-0.4**
ERMK	**Ermenek**	**3.33**	**79**	*i* P	**Pn**		**11 43 26.6**	**+2.2**
ERMK				*i* S	**Sn**		**11 44 05.5**	**+2.7**
ERMK	**Ermenek**	**3.33**	**79**	P	**Pn**		**11 43 26.6**	**+2.2**
ERMK				S	**Sn**		**11 44 05.5**	**+2.7**
KONT	**Konya--Tatoy**	**3.39**	**55**	*e*PN	**Pn**		**11 43 27.1**	**+2.1**
KONT	**Konya--Tatoy**	**3.39**	**55**	*i* P	**Pn**		**11 43 27.9**	**+2.9**
KONT	**Konya--Tatoy**	**3.39**	**55**	*e*Pn	**Pn**		**11 43 27.1**	**+2.1**
SIVA	**Sivas**	**3.45**	**254**	P	**Pn**		**11 43 27.7**	**+1.9**
SIVA	**Sivas**	**3.45**	**254**	P	**Pn**		**11 43 27.9**	**+2.1**
TEKE	**Tekeli-Mersin**	**3.45**	**87**	*e*PN	**Pn**		**11 43 28.6**	**+2.8**
TEKE	**Tekeli-Mersin**	**3.45**	**87**	*e*Pn	**Pn**		**11 43 28.6**	**+2.8**
SZAC	**Souni**	**3.54**	**110**	P	**Pn**		**11 43 27.8**	**+0.8**
SZAC				S	**Sn**		**11 44 05.5**	**-2.1**
SZAC	**Souni**	**3.54**	**110**	P	**Pn**		**11 43 27.8**	**+0.8**
	baz=294							
SZAC				S	**Sn**		**11 44 05.5**	**-2.1**
LADK	**Ladik-KONYA**	**3.54**	**52**	*e*PN	**Pn**		**11 43 28.4**	**+1.3**
LADK	**Ladik-KONYA**	**3.54**	**52**	*e*Pn	**Pn**		**11 43 28.4**	**+1.3**
SERI	**Serifos**	**3.68**	**289**	P	**Pn**		**11 43 29.5**	**+0.5**
SERI	**Serifos**	**3.68**	**289**	P	**Pn**		**11 43 29.1**	**+0.1**
PRK	**Paraskevi**	**3.79**	**328**	P	**Pn**		**11 43 30.6**	**+0.1**
PRK				S	**Sn**		**11 44 12.3**	**-1.5**
PRK	**Paraskevi**	**3.79**	**328**	P	**Pn**		**11 43 30.2**	**-0.2**
PRK				S	**Sn**		**11 44 12.2**	**-1.6**
CSS	**Mathiatis**	**3.81**	**105**	P	**Pn**		**11 43 31.3**	**+0.5**
CSS				S	**Sn**		**11 44 11.8**	**-2.5**
CSS	**Mathiatis**	**3.81**	**105**	P	**Pn**		**11 43 31.3**	**+0.5**
	baz=288							
CSS				S	**Sn**		**11 44 11.8**	**-2.5**
IMMV	**Iera Moni Meta**	**4.00**	**263**	P	**Pn**		**11 43 34.8**	**+1.4**
IMMV	**Iera Moni Meta**	**4.00**	**263**	P	**Pn**		**11 43 34.5**	**+1.2**
GVD	**Gavdhos**	**4.07**	**254**	P	**Pn**		**11 43 37.1**	**+2.8**
GVD	**Gavdhos**	**4.07**	**254**	P	**Pn**		**11 43 38.0**	**+3.8**
ANKY	**Antikythira Is**	**4.50**	**269**	P	**Pn**		**11 43 41.3**	**+1.1**
ANKY	**Antikythira Is**	**4.50**	**269**	P	**Pn**		**11 43 40.6**	**+0.4**
KYTH	**Kithira**	**4.70**	**274**	P	**Pn**		**11 43 44.6**	**+1.7**
DID	**Didima**	**4.74**	**290**	P	**Pn**		**11 43 44.3**	**+0.9**
DID	**Didima**	**4.74**	**290**	P	**Pn**		**11 43 43.8**	**+0.4**
VLI	**Veliai**	**4.82**	**280**	P	**Pn**		**11 43 45.7**	**+1.2**
VLI	**Veliai**	**4.82**	**280**	P	**Pn**		**11 43 45.3**	**+0.8**
MATC	**Matruh**	**4.88**	**197**	P	**Pn**		**11 43 44.5**	**-0.8**
	baz=198							
BRTR	**Keskin Array B**	**5.28**	**44**	Pn	**Pn**		**11 43 51.1**	**+0.2**
	comp=E,0.8nm,0.3s,baz=220,slow=15,SNR=12							
BRTR				Sn	**Sn**		**11 44 50.2**	**-0.3**
	comp=E,1.1nm,0.3s,baz=220,slow=28,SNR=9.5							
SLUM	**Salum**	**5.46**	**215**	P	**Pn**		**11 43 53.0**	**-0.3**
	baz=216							
SLUM				AMP			11 44 00.0	
	comp=N,90μm,0.1s,logA/T=5.9,baz=216							
SLUM				S	**Sn**		**11 44 50.6**	**-4.1**
	baz=216							
SLUM	**Salum**	**5.46**	**215**	P	**Pn**		**11 43 53.0**	**-0.3**
ARNB	**Al Arnab**	**5.78**	**90**	*i* P	**Pn**		**11 43 59.1**	**+1.3**
ARNB				*e*S	Sn		11 44 53.0	-10
ARNB				AML	AML		11 45 05.5	
	comp=E,51nm,0.4s							
ARNB				AML	AML		11 45 05.9	
	comp=N,26nm,0.4s							
PYL

comp=N,23nm,0.3s
DRWC AML AML 11 45 20.2
comp=E,32nm,0.4s
RSH **6.50 140** P **Pn** **11 44 07.3 -0.3**
baz=139
RSH **6.50 140** P **Pn** **11 44 07.3 -0.3**
MARH **Ras Al Marh** **6.58 106** *i* P **Pn** **11 44 09.1 +0.2**
MARH *eS* Sn 11 45 09.5 -13
MARH AML AML 11 45 21.2
comp=E,27nm,0.4s
MARH AML AML 11 45 23.4
comp=N,48nm,0.2s
KOT **Kottamia** **6.59 157** P **Pn** **11 44 08.4 -0.5**
baz=156
KOT S **Sn** **11 45 16.8 -5.9**
baz=156
KOT **Kottamia** **6.59 157** P **Pn** **11 44 08.4 -0.5**
HHAG **Hagoal** **6.66 155** P **Pn** **11 44 09.1 -0.7**
baz=154
HHAG AMP 11 45 00.0
comp=N,120μm,0.3s,logA/T=5.6,baz=154
HHAG S **Sn** **11 45 18.5 -5.8**
baz=154
HHAG **Hagoal** **6.66 155** P **Pn** **11 44 09.1 -0.7**
TCHB **Talchebab** **6.78 118** *i* P **Pn** **11 44 13.7 +2.2**
TCHB *eS* Sn 11 45 18.3 -9.0
TCHB AML AML 11 45 28.9
comp=E,64nm,0.3s
TCHB AML AML 11 45 37.6
comp=N,76nm,0.5s
TOTH **TOTAH** **6.79 111** *i* P **Pn** **11 44 12.6 +1.0**
TOTH *eS* Sn 11 45 15.9 -12
TOTH AML AML 11 45 26.9
comp=E,37nm,0.2s
TOTH AML AML 11 45 30.4
comp=N,28nm,0.6s
HSAF **As Saff** **6.80 160** P **Pn** **11 44 11.1 -0.6**
baz=159
HSAF **As Saff** **6.80 160** P **Pn** **11 44 11.1 -0.6**
GLL **Jalalah** **6.88 159** P **Pn** **11 44 12.0 -0.9**
baz=158
GLL **Jalalah** **6.88 159** P **Pn** **11 44 12.0 -0.9**
SWA2 **7.36 204** P **Pn** **11 44 18.8 -0.6**
baz=205
SWA2 **7.36 204** P **Pn** **11 44 18.8 -0.6**
ZAF **Zafarana** **7.43 154** P **Pn** **11 44 20.0 -0.3**
baz=154
ZAF **Zafarana** **7.43 154** P **Pn** **11 44 20.0 -0.3**
ZNM **Zenema** **7.46 152** P **Pn** **11 44 20.7 -0.1**
baz=151
ZNM **Zenema** **7.46 152** P **Pn** **11 44 20.7 -0.1**
HNKL **Nakhl** **7.47 143** P **Pn** **11 44 20.1 -0.7**
baz=143
HNKL **Nakhl** **7.47 143** P **Pn** **11 44 20.1 -0.7**
ASF **Jabal al Asfar** **7.71 118** Pn **Pn** **11 44 25.9 +1.7**
comp=N,0.6nm,0.3s,baz=223,slow=6.7,SNR=4.5
ASF Sn **Sn** **11 45 54.2 +4.1**
comp=N,1.9nm,0.3s,baz=102,slow=19,SNR=6.3
EIL **Elat** **8.17 139** Pn **Pn** **11 44 29.1 -1.3**
comp=N,1.1nm,0.3s,baz=338,slow=5.2,SNR=11
EIL Sn **Sn** **11 45 55.5 -5.8**
comp=N,3.1nm,0.3s,baz=73,slow=7.1,SNR=7.6
HBST **Basata** **8.42 142** P **Pn** **11 44 33.5 -0.4**
baz=142
HBST **Basata** **8.42 142** P **Pn** **11 44 33.5 -0.4**
HFRF **Wahat Farafira** **8.88 183** P **Pn** **11 44 39.1 -1.1**
baz=184
HFRF **Wahat Farafira** **8.88 183** P **Pn** **11 44 39.1 -1.1**
GERES **GERESS Array B** **16.95 324** Pn **P** **11 46 28.7 +0.1**
comp=N,0.3nm,0.3s,baz=137,slow=12,SNR=6.5
FINES **FINESS Array B** **25.48 357** P **P** **11 47 56.9 +0.2**
comp=N,1.3nm,0.7s,baz=181,slow=12,SNR=2.9
ESDC **Sonseca Array** **26.08 288** P **P** **11 48 03.0 +0.5**
comp=N,0.3nm,0.3s,baz=80,slow=8.9,SNR=5.1

IDC 05 11:54:38.3±50.0, 16°18S×174°46W, h0km, mb4.5/3, mb1 4.7/3, mb1mx3.8/39, mbtmp4.5/3, Error ellipse: s-maj=948.4km s-min=163.7km az=79.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**42.77**	**240**	P	P	12 02 37.8	0.0
	5.1nm,0.8s,baz=80,slow=9.5,SNR=14						
WRA	**Warramunga Arr**	**48.68**	**257**	P	P	12 03 24.4	-0.3
	1.6nm,0.5s,baz=94,slow=7.3,SNR=60						
ASAR	**Alice Springs**	**48.90**	**253**	P	P	12 03 26.4	-0.1
	14nm,0.6s,baz=89,slow=8.2,SNR=276						

*IDC **05** 12:03:01.9±1.3, 35°.26N×141°.16E, h0km, mb3.5/3, mb1 3.7/5, mb1mx3.5/41, mbtmp3.5/5, ML3.1/2, Error ellipse: s-maj=22.9km s-min=17.6km az=21.0*
*ISCJB **05** 12:03:03.0±1.2, 35°.35N±0°.04×141°.29E±0°.08, h22km±7km, mb3.6/3, Error ellipse: s-maj=11.0km s-min=6.0km az=175.1*
*JMA **05** 12:03:03.8±0.1, 35°.38N×141°.22E, h22km±1km, M3.8*
ISC 05 12:03:03.8±1.5, 35°.36N±0°.04×141°.21E±0°.07, h17km±8km, n21, σ0s77/23, mb3.4/3, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CHOJ	**Chosi**	**0.45**	**321**	P	**Pg**	**12 03 12.8**	**-0.1**
CHOJ				S	**Sg**	**12 03 19.0**	**0.0**
BSO1	**Boso 1**	**0.73**	**195**	P	**Pg**	**12 03 17.5**	**-0.4**
BSO1				X		12 03 28.1	
I30JP	**ISUMI INFRASON**	**0.73**	**266**	Pn	**Pn**	**12 03 19.2**	**0.0**
I30JP				Sn	**Sn**	**12 03 29.6**	**-0.5**
KTR	**Katsuura**	**0.76**	**254**	P	**Pg**	**12 03 18.4**	**-0.2**
KTR				S	**Sg**	**12 03 29.3**	**+0.6**
BSO3	**Boso 3**	**0.79**	**226**	P	**Pg**	**12 03 19.2**	**0.0**
BSO4	**Boso 4**	**0.80**	**243**	P	**Pn**	**12 03 19.5**	**-0.6**
JCN	**Nagara**	**0.82**	**275**	P	**Pb**	**12 03 19.5**	**-0.1**
JYT	**Yasato**	**1.20**	**317**	P	**Pn**	**12 03 25.2**	**-0.5**
JYT				S	**Sb**	**12 03 40.2**	**-1.0**
JHO	**Hitachi**	**1.35**	**338**	P	**Pn**	**12 03 27.1**	**-0.8**
JHO				S	**Sn**	**12 03 44.7**	**-0.8**
JHJ	**Hachijo jima 2**	**2.52**	**208**	Pn	**Pn**	**12 03 43.8**	**-0.2**
	11nm,0.3s,baz=54,slow=19,SNR=3.9						
JHJ				Sn	**Sn**	**12 04 14.1**	**-0.2**
	24nm,0.3s,baz=270,slow=20,SNR=4.4						
MJAR	**Matsushiro Arr**	**2.70**	**297**	Pn	**Pn**	**12 03 48.0**	**+1.5**
	3.8nm,0.3s,baz=101,slow=14,SNR=22						
MJAR				Sn	**Sg**	**12 04 30.9**	**+0.2**
	8.1nm,0.3s,baz=90,slow=24,SNR=7.3						
MAT	**Matsushiro**	**2.71**	**297**	P	**Pn**	**12 03 48.1**	**+1.6**
MAT				*eS*	**Sb**	**12 04 23.7**	**-0.9**
H11N2	**WAKE ISLAND Hy**	**27.48**	**118**	T	T	12 37 37.7	
	baz=310						
H11N1	**WAKE ISLAND Hy**	**27.48**	**118**	T	T	12 37 50.9	
	baz=310						
H11N3	**WAKE ISLAND Hy**	**27.49**	**118**	T	T	12 37 46.0	
	baz=310						
H11S1	**WAKE ISLAND Hy**	**28.13**	**120**	T	T	12 38 26.0	
	baz=312						
H11S3	**WAKE ISLAND Hy**	**28.13**	**120**	T	T	12 38 29.4	
	baz=312						
H11S2	**WAKE ISLAND Hy**	**28.14**	**120**	T	T	12 38 28.9	
	baz=312						
ILAR	**Eielson Array**	**51.00**	**32**	P	**P**	**12 12 05.5**	**+1.2**
	0.2nm,0.7s,baz=270,slow=5.6,SNR=4.2						
WRA	**Warramunga Arr**	**55.38**	**188**	P	**P**	**12 12 36.5**	**-0.5**
	1.7nm,0.7s,baz=4.9,slow=7.6,SNR=19						
ASAR	**Alice Springs**	**59.11**	**188**	P	**P**	**12 13 03.6**	**+0.4**
	0.2nm,0.6s,baz=9.9,slow=8.9,SNR=6.5						

*IDC **05** 12:03:44.1±1.3, 35°.38N×141°.14E, h0km, mb3.7/3, mb1 4.0/4, mb1mx3.7/42, mbtmp3.8/4, ML3.7/1, Error ellipse: s-maj=18.5km s-min=14.6km az=85.0*
*ISCJB **05** 12:03:45.5±1.3, 35°.34N±0°.05×141°.29E±0°.09, h20km±9km, mb3.8/3, Error ellipse: s-maj=12.6km s-min=8.7km az=162.3*
*JMA **05** 12:03:47.2±0.1, 35°.39N×141°.17E, h20km±2km, M4.1*
JMA Felt II J1.
ISC 05 12:03:45.6±2.1, 35°.32N±0°.06×141°.10E±0°.09, h10km±14km, n11, σ1s04/16, mb3.7/3, 1D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CHOJ	**Chosi**	**0.43**	**333**	||P	**Pb**	**12 03 55.6**	**+0.2**
CHOJ				S	**Sb**	**12 04 01.7**	**-0.3**
I30JP	**ISUMI INFRASON**	**0.64**	**269**	Pn	**Pn**	**12 04 01.7**	**+0.9**
I30JP				Sn	**Sn**	**12 04 12.5**	**+1.4**
I30JP				*i*		12 10 30.0	
	baz=82,slow=286,SNR=0.6						
KTR	**Katsuura**	**0.66**	**255**	P	**Pn**	**12 04 01.4**	**+0.3**
BSO3	**Boso 3**	**0.71**	**223**	P	**Pn**	**12 04 02.1**	**+0.6**
JYT	**Yasato**	**1.17**	**321**	P	**Pn**	**12 04 08.5**	**+0.4**
JYT				S	**Sg**	**12 04 22.8**	**-0.5**
JHO	**Hitachi**	**1.36**	**342**	P	**Pg**	**12 04 11.7**	**-0.1**
JHJ	**Hachijo jima 2**	**2.45**	**207**	Pn	**Pn**	**12 04 27.3**	**+1.6**
	38nm,0.3s,baz=0.4,slow=22,SNR=4.2						
JHJ				Sn	**Sn**	**12 04 53.4**	**-2.3**
	37nm,0.3s,baz=272,slow=21,SNR=2.9						
MAT	**Matsushiro**	**2.65**	**298**	P	**Pn**	**12 04 29.1**	**+0.7**
MAT				*eS*	**Sb**	**12 05 04.8**	**-1.0**
ILAR	**Eielson Array**	**51.08**	**32**	P	**P**	**12 12 48.0**	**0.0**
	0.5nm,0.8s,baz=272,slow=5.6,SNR=4.8						
WRA	**Warramunga Arr**	**55.33**	**188**	P	**P**	**12 13 19.2**	**-0.5**
	2.5nm,0.7s,baz=1.5,slow=7.1,SNR=10.0						
ASAR	**Alice Springs**	**59.06**	**188**	P	**P**	**12 13 46.1**	**+0.1**
	0.3nm,0.5s,baz=19,slow=11,SNR=6.3						

*NIED **05** 12:14:00, 37°.50N×141°.50E, h50km, Mw4.4 Best double couple: Mo3.78000×10^15 NP1:φs165.00000°, δ22.00000°, λ105.00000°. NP2:φs329.00000°, δ69.00000°, λ84.00000°.*
*BJI **05** 12:14:23.1, 37°.60N×141°.43E, h10km, mb4.6/14, mB5.0/6, Ms4.7/5, Ms7 4.4/6*
*NEIC **05** 12:14:28.8±0.5, 37°.55N×141°.53E, h35km, mb4.6/7, Error ellipse: s-maj=11.4km s-min=7.6km az=125.0*
NEIC Recorded [3 JMA] in Fukushima.
*ISCJB **05** 12:14:28.3±0.6, 37°.49N±0°.03×141°.56E±0°.06, h54km±3km, mb4.5/46, MS4.3/1, Error ellipse: s-maj=7.7km s-min=4.4km az=17.0*
*MOS **05** 12:14:28.8±1.0, 37°.52N×141°.59E, h59km, mb4.9/22, Error ellipse: s-maj=8.8km s-min=7.1km az=110.6*
*JMA **05** 12:14:29.7±0.1, 37°.50N×141°.49E, h46km±1km, M4.3*
JMA Felt III J1.
*IDC **05** 12:14:30.6±0.5, 37°.49N×141°.46E, h56km±4km, mb4.0/20, mb1 4.2/25, mb1mx4.1/45, mbtmp4.3/25, MS3.4/1, Ms1 3.4/1, ms1mx2.9/34, Error ellipse: s-maj=15.0km s-min=10.3km az=102.0*
ISC 05 12:14:29.8±0.5, 37°.52N±0°.04×141°.55E±0°.05, h48km±4km, h48km:pP-P, n110, σ1s31/128, mb4.5/47, 10C-2D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JFK	**Kawauchi**	**0.56**	**254**	P	**Pn**	**12 14 40.7**	**-1.0**
JFK				S	**Sn**	**12 14 48.6**	**-1.7**
JMM	**Marumori**	**0.69**	**300**	P	**Pn**	**12 14 42.8**	**-0.6**
JMM				S	**Sn**	**12 14 52.1**	**-1.1**
ONAJ	**Iwakimizuishiy**	**0.73**	**235**	P	**Pn**	**12 14 42.9**	**-1.1**
ONAJ				S	**Sn**	**12 14 52.2**	**-2.0**
JIO	**Ouri**	**0.94**	**350**	P	**Pn**	**12 14 46.8**	**+0.1**
JIO				S	**Sn**	**12 14 58.4**	**-0.7**
JFT	**Otama**	**0.97**	**270**	P	**Pn**	**12 14 46.8**	**-0.3**
JFT				S	**Sn**	**12 14 58.9**	**-0.8**
JOU	**Okura**	**1.10**	**320**	P	**Pn**	**12 14 48.5**	**-0.3**
JOU				S	**Sn**	**12 15 02.8**	**-0.1**
JYS	**Shirataka**	**1.37**	**301**	P	**Pn**	**12 14 52.3**	**-0.2**
JYS				*eS*	**Sn**	**12 15 09.4**	**-0.1**
JMK	**Ichinoseki**	**1.45**	**350**	P	**Pn**	**12 14 53.8**	**+0.2**
JFY	**Yanaizu**	**1.48**	**266**	P	**Pn**	**12 14 53.5**	**-0.5**
JYK	**Kaneyama**	**1.68**	**326**	P	**Pn**	**12 14 57.0**	**+0.2**
JYK				*eS*	**Sn**	**12 15 17.2**	**+0.1**
MJA0	**Matsu Arr-Jizo**	**2.82**	**251**	*eP*	**Pn**	**12 15 13.1**	**+0.7**
MJA0				pmax	pmax		
	comp=Z,28nm,0.3s						
MJAR	**Matsushiro Arr**	**2.85**	**251**	P	**Pn**	**12 15 12.9**	**+0.1**
	comp=Z,28nm,0.3s,baz=78,slow=16,SNR=103						
MJAR				S	Sn	12 15 54.6	+8.7
	comp=Z,25nm,0.3s,baz=83,slow=28,SNR=7.6						
MJAR				LR	LR	12 16 34.3	
	comp=Z,720nm,19.9s,baz=25,slow=45						
MAJO	**Matsushiro**	**2.85**	**251**	*d*	*i* P	**Pn**	**12 15 13.4**	**+0.6**
MAJO	**Matsushiro**	**2.85**	**251**	*e*	Pn	**Pn**	**12 15 13.5**	**+0.6**
MAT	**Matsushiro**	**2.85**	**251**		P	**Pn**	**12 15 13.3**	**+0.5**
MAT				*eS*		**Sn**	**12 15 49.5**	**+3.6**
JHJ2	**Mitsune**	**4.62**	**198**	*e*	Pn	**Pn**	**12 15 37.5**	**+0.3**
JHJ	**Hachijo jima 2**	**4.62**	**199**	P		**Pn**	**12 15 37.0**	**-0.2**
	comp=Z,60nm,0.3s,baz=323,slow=22,SNR=15						
JHJ				S		**Sn**	**12 16 27.9**	**-1.6**
	comp=Z,69nm,0.3s,baz=88,slow=21,SNR=5.3						
ERM	**Erimo**	**4.65**	**15**	*i*	*e* P	**Pn**	**12 15 37.7**	**+0.2**
ASAJ	**Asahikawa**	**6.63**	**7**	P		**Pn**	**12 16 06.1**	**+1.4**
	baz=235,slow=9.7						
ASAJ				S		**Sn**	**12 17 19.2**	**+0.3**
	comp=Z,1.5nm,0.3s,baz=234,slow=19,SNR=2.9						
KUR	**Kuril'sk**	**9.04**	**30**	*e*	P	**Pn**	**12 16 38.1**	**+0.4**
KUR				*eS*		**Sn**	**12 18 12.9**	**-5.1**
KUR				pmax	pmax		
	comp=N,100nm,0.5s						
KUR				smax	smax		
	comp=E,41nm,0.3s						
JNU	**Nakatsue**	**9.76**	**246**	P		**Pn**	**12 16 49.0**	**+1.4**
	comp=E,1.1nm,0.3s,baz=38,slow=1.1,SNR=9.8						
USRK	**Ussuriysk Ar.**	**9.84**	**316**	P		**Pn**	**12 16 51.0**	**+2.3**
	comp=E,1.0nm,0.3s,baz=115,slow=1.5,SNR=17						
KSRS	**Korea Array**	**10.83**	**274**	P		**Pn**	**12 17 06.0**	**+3.8**
	comp=E,0.6nm,0.3s,baz=89,slow=14,SNR=20						
KSRS	**Korea Array**	**10.83**	**274**	P		**Pn**	**12 17 06.0**	**+3.8**
KSRS				pmax	pmax		
	comp=Z,1.0nm,0.3s						
KSAR	**Wonju Array Be**	**10.87**	**274**	P		**Pn**	**12 17 06.0**	**+3.4**
KSAR	**Wonju Array Be**	**10.87**	**274**	P		**Pn**	**12 17 06.0**	**+3.4**
KLR	**Kul'dur**	**13.69**	**332**	P		**P**	**12 17 47.4**	**-1.2**
	comp=Z,0.4nm,0.3s,baz=132,slow=13,SNR=13						
TIA	**Tai'an**	**19.58**	**274**	⇑	P	**Pn**	**12 18 54.5**	**-1.0**
TIA				pmax	pmax		
	comp=Z,20nm,1.1s						
YAK	**Yakutsk**	**25.62**	**347**	P		**P**	**12 19 54.0**	**-0.4**
	comp=Z,28nm,0.5s,baz=0.6,slow=2.2,SNR=13						
YAK	**Yakutsk**	**25.62**	**347**	*e*	P	**P**	**12 19 53.5**	**-0.9**
YAK				pmax	pmax		
	comp=Z,38nm,0.9s						
YAK				pmax	pmax		
	comp=N,12nm,1.1s						
YAK	**Yakutsk**	**25.62**	**347**	*e*	P	**P**	**12 19 54.0**	**-0.4**
	comp=N,41nm,0.8s						
YAK				P	P	**P**	**12 19 54.0**	**-0.4**
SEY	**Seymchan**	**26.29**	**11**	P		**P**	**12 20 01.7**	**+1.2**
	comp=N,1.5nm,0.6s,baz=185,slow=11,SNR=5.2						
SEY	**Seymchan**	**26.29**	**11**	⇑	*e* P	**P**	**12 20 02.4**	**+1.9**
XAN	**Xi'an**	**26.63**	**272**	P		**P**	**12 20 01.9**	**-2.0**
ULN	**Ulaanbaatar**	**27.18**	**303**	⇑	*e* P	**P**	**12 20 08.7**	**-0.2**
ULN				pmax	pmax		
	comp=Z,3.0nm,0.6s						
ULN	**Ulaanbaatar**	**27.18**	**303**	*e*	P	**P**	**12 20 08.4**	**-0.5**
	comp=Z,2.9nm,0.6s						
BOD	**Bodaibo**	**27.18**	**327**	*e*	P	**P**	**12 20 07.9**	**-0.7**
BOD				pmax	pmax		
	comp=Z,8.0nm,0.9s						
ENH	**Enshi**	**27.49**	**264**	*e*	P	**P**	**12 20 10.7**	**-1.0**
	comp=Z,23nm,0.8s						
SONM	**Songino Array**	**27.61**	**303**	P		**P**	**12 20 12.4**	**-0.3**
	comp=Z,4.5nm,0.6s,baz=105,slow=9.5,SNR=5.2						
SONM	**Songino Array**	**27.61**	**303**	*e*	P	**P**	**12 20 12.9**	**+0.2**
SONM				pmax	pmax		
	comp=Z,5.0nm,0.6s						
H11N2	**WAKE ISLAND Hy**	**28.30**	**122**	T		T	12 50 35.0	
	baz=315,slow=75,SNR=650						
H11N1	**WAKE ISLAND Hy**	**28.31**	**122**	T		T	12 50 37.8	
	baz=315,slow=75,SNR=827						
H11N3	**WAKE ISLAND Hy**	**28.32**	**122**	T		T	12 50 38.5	
	baz=315,slow=75,SNR=682						
H11S1	**WAKE ISLAND Hy**	**29.03**	**124**	T		T	12 51 39.3	
	baz=317,slow=76,SNR=498						
H11S3	**WAKE ISLAND Hy**	**29.04**	**124**	T		T	12 51 30.6	
	baz=317,slow=76,SNR=506						
H11S2	**WAKE ISLAND Hy**	**29.05**	**124**	T		T	12 51 41.2	
	baz=317,slow=76,SNR=440						
GTA	**Gaotai**	**32.53**	**286**	*e*	P	**P**	**12 20 56.5**	**+0.2**
GTA				pP	pP		12 21 00.2	-8.6
GTA				sP	sP		12 21 02.9	-12
GTA				pmax	pmax			
	comp=Z,5.0nm,1.0s							
KMI	**Kunming**	**35.15**	**261**	P		**P**	**12 21 18.4**	**-0.9**
KMI				pmax	pmax			
	comp=Z,21nm,0.9s							
ZALV	**Zalesovo Beam**	**41.67**	**312**	P		**P**	**12 22 12.9**	**-0.5**
	comp=Z,3.1nm,0.5s,baz=91,slow=7.2,SNR=16							
ZALV				PcP		**PcP**	**12 24 08.8**	**-0.6**
	comp=Z,2.1nm,0.6s,baz=116,slow=3.3,SNR=3.8							
CMAR	**Chiang Mai Arr**	**41.73**	**255**	P		**P**	**12 22 14.3**	**0.0**
	comp=Z,0.8nm,0.7s,baz=45,slow=8.2,SNR=5.8							
CMAR	**Chiang Mai Arr**	**41.73**	**255**	*e*	P	**P**	**12 22 16.0**	**+1.7**
CMAR				pmax	pmax			
	comp=Z,1.0nm,0.7s							
NVS	**Novosibirsk**	**42.59**	**313**	*i*	P	**P**	**12 22 21.0**	**+0.2**
MK31	**Makanchi Array**	**43.96**	**302**	*i*	P	**P**	**12 22 31.3**	**-0.8**
MK31				pmax	pmax			
	comp=Z,5.0nm,0.7s							
KURK	**Kurchatov**	**45.72**	**308**	*e*	P	**P**	**12 22 45.2**	**-0.8**
KURK	**Kurchatov**	**45.72**	**308**	*e*	P	**P**	**12 22 45.2**	**-0.8**
	comp=Z,127nm,0.7s							
ODAN	**Odare**	**46.50**	**273**	*e*	P	**P**	**12 22 52.6**	**-0.1**
	comp=Z,8.3nm,0.4s							
PDGK	**Podgornoye**	**46.65**	**298**	P		**P**	**12 22 53.1**	**-0.5**
PDGK				pmax	pmax			
	comp=Z,7.0nm,0.9s							
RAMN	**Ramite**	**47.08**	**274**	*e*	P	**P**	**12 22 56.8**	**-0.5**
	comp=Z,14nm,0.7s							
JIRN	**Jiri**	**47.09**	**275**	*e*	P	**P**	**12 22 57.3**	**-0.2**
	comp=Z,96nm,0.6s							
GUN	**Gumba**	**47.22**	**275**	*e*	P	**P**	**12 22 57.4**	**-1.1**
	comp=Z,9.9nm,0.3s							
KKN	**Kakani**	**47.75**	**275**	*e*	P	**P**	**12 23 02.0**	**-0.5**
	comp=Z,23nm,0.7s							
GKN	**Gorkha**	**48.16**	**276**	*e*	P	**P**	**12 23 04.9**	**-0.7**
	comp=Z,14nm,0.5s							
ILAR	**Eielson Array**	**49.02**	**33**	P		**P**	**12 23 12.1**	**+0.7**
	comp=Z,1.0nm,0.8s,baz=261,slow=5.8,SNR=12							
ILAR				pP		**pP**	**12 23 26.4**	**+1.8**
	comp=Z,2.2nm,0.8s,baz=265,slow=6.6,SNR=9.2							
ILAR	**Eielson Array**	**49.02**	**33**	*e*	P	**P**	**12 23 12.4**	**+0.9**
ILAR				pmax	pmax			
	comp=Z,1.0nm,0.7s							
KOLN	**Koldanda**	**49.09**	**276**	*e*	P	**P**	**12 23 12.4**	**-0.3**
	comp=Z,5.5nm,0.4s							
PYUN	**Piuthan**	**49.42**	**277**	*e*	P	**P**	**12 23 15.1**	**-0.2**
	comp=Z,60nm,0.9s							
KSH	**Kashi**	**50.31**	**294**	*e*	P	**P**	**12 23 24.4**	**+2.6**
KSH				PP		**PP**	**12 25 20.3**	**+2.9**
KSH				pmax	pmax			
	comp=Z,5.0nm,0.8s							
KSH				pmax	pmax			
	comp=Z,170nm,6.6s							
KSH				LR	LR			
	comp=Z,140nm,5.9s							
KSH				LR	LR			
	comp=Z,120nm,8.1s							
KSH				LR	LR			
	comp=Z,310nm,18.6s							
AAK	**Ala-Archa**	**50.36**	**298**	⇓	*e* P	**P**	**12 23 22.1**	**-0.1**
AAK				pmax	pmax			
	comp=Z,10.0nm,0.7s							
AAK	**Ala-Archa**	**50.36**	**298**	*e*	P	**P**	**12 23 21.3**	**-0.9**
	comp=Z,4.6nm,0.6s							
BRVK	**Borovoye**	**50.38**	**312**	⇑	*i* P	**P**	**12 23 21.4**	**-0.6**
BRVK				pmax	pmax			
	comp=Z,13nm,1.2s							
MNAS	**Manas**	**51.80**	**298**	P		**P**	**12 23 33.1**	**+0.1**
MNAS				pmax	pmax			
	comp=Z,9.0nm,0.8s							
KK31	**Karatay Array**	**52.98**	**300**	*i*	P	**P**	**12 23 40.8**	**-0.7**
KK31				pmax	pmax			
	comp=Z,4.0nm,0.9s							
KKAR	**Karatay Array**	**52.98**	**300**	*e*	P	**P**	**12 23 41.0**	**-0.6**
KKAR				pmax	pmax			
	comp=Z,2.0nm,0.5s							
KKAR	**Karatay Array**	**52.98**	**300**	*e*	P	**P**	**12 23 41.0**	**-0.6**
	comp=Z,2.0nm,0.5s							
INK	**Inuvik**	**53.90**	**27**	P		**P**	**12 23 48.1**	**+0.3**
	comp=Z,2.3nm,0.8s,baz=287,slow=10.0,SNR=7.1							
SVE	**Sverdlovsk**	**54.86**	**318**	*e*	P	**P**	**12 23 54.9**	**-0.1**
SVE				pmax	pmax			
	comp=Z,21nm,1.1s							
DZET	**Dzherino**	**55.74**	**295**	P		**P**	**12 24 01.2**	**-0.6**
DZET				pmax	pmax			
	comp=Z,22nm,0.7s							
ARU	**Arti**	**56.07**	**318**	*c*	*i* P	**P**	**12 24 03.2**	**-0.5**
ARU							12 24 59.9	
ARU							12 26 05.9	
ARU				S		**S**	**12 31 49.6**	**+0.9**
ARU				SS		**SS**	**12 35 33.7**	**-1.1**
ARU				pmax	pmax			
	comp=Z,15nm,1.0s							
WRAB	**Tennant Creek**	**57.55**	**188**	⇑	*e* P	**P**	**12 24 13.7**	**-0.8**
WRAB				pmax	pmax			
	comp=Z,19nm,1.2s							
WRA	**Warramunga Arr**	**57.56**	**188**	P		**P**	**12 24 13.5**	**-1.1**
	comp=Z,3.8nm,0.6s,baz=5.9,slow=7.3,SNR=78							
WRA				pP		**pP**	**12 24 28.9**	**+1.0**
	comp=Z,3.1nm,0.6s,baz=5.9,slow=7.3,SNR=8.5							
WRA	**Warramunga Arr**	**57.56**	**188**	*e*	P	**P**	**12 24 14.1**	**-0.5**
WRA				pmax	pmax			
	comp=Z,4.0nm,0.6s							
AB31	**Akbulak array**	**57.71**	**310**	*i*	P	**P**	**12 24 14.5**	**-0.9**
AB31				pmax	pmax			
	comp=Z,5.0nm,0.5s							
ABKAR	**Akbulak array**	**57.71**	**310**	*e*	P	**P**	**12 24 14.7**	**-0.8**
	comp=Z,4.6nm,0.5s							
AKTO	**Aktyubinsk**	**58.43**	**312**	*i*	P	**P**	**12 24 19.5**	**-1.0**
AKTO				pmax	pmax			
	comp=Z,6.0nm,0.8s							
ASAR	**Alice Springs**	**61.29**	**188**	P		**P**	**12 24 40.0**	**-0.3**
	comp=Z,1.8nm,0.7s,baz=11,slow=7.3,SNR=23							
ASAR				pP		**pP**	**12 24 54.3**	**+0.6**
	comp=Z,2.1nm,0.8s,baz=2.3,slow=6.1,SNR=10							
YKA	**Yellowknife Ar**	**63.33**	**30**	pP		pP	12 25 08.1	+1.1
	comp=Z,1.0nm,0.6s,baz=308,slow=7.7,SNR=2.6							
ARCES	**ARCESS Array B**	**63.58**	**339**	P		**P**	**12 24 54.1**	**-1.0**
	comp=Z,3.8nm,0.8s,baz=52,slow=7.9,SNR=6.3							
ARCES	**ARCESS Array B**	**63.58**	**339**	*e*	P	**P**	**12 24 54.8**	**-0.3**
ARCES				pmax	pmax			
	comp=Z,4.0nm,0.8s							
GEYT	**Alibeck**	**63.70**	**299**	P		**P**	**12 24 56.0**	**-0.5**
	comp=Z,4.9nm,0.7s,baz=93,slow=3.0,SNR=5.1							
COCO	**West Island**	**64.84**	**229**	*i*	P	**P**	**12 25 02.8**	**-1.2**
OBN	**Obninsk**	**67.77**	**323**	‖	*e* P	**P**	**12 25 21.9**	**-0.4**
OBN					*e**PP	**s

ANMO					pmax	pmax					
	comp=Z,2.0nm,0.9s										
TXAR	**Lajitas Array**	**89.73**	**52**	P		**P**		**12 27 24.4**	**+1.1**
	comp=Z,0.8nm,0.5s,baz=302,slow=3.2,SNR=9.9										
TXAR				pP		**pP**		**12 27 39.1**	**+1.7**
	comp=Z,1.2nm,0.6s,baz=304,slow=3.0,SNR=9.7										
LPAZ	**La Paz**	**146.35**	**59**	PKPbc		**PKPbc**		**12 34 06.8**	**+0.2**
	comp=Z,1.5nm,0.5s,baz=315,slow=1.4,SNR=12										
LPAZ				pPKPbc	pPKPab			12 34 22.6	+0.9
	comp=Z,3.5nm,0.6s,baz=309,slow=4.7,SNR=8.5										

IDC 05 13:13:59.0±593.0, 47°29N×47°97E, h0km, Error ellipse: s-maj=218.8km s-min=143.0km az=46.0, Ukraine-Moldova-Southwestern Russia region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
I31KZ	**AKTYUBINSK INF**	**7.33**	**61**	*i*		14 02 30.0	
	baz=249,slow=319,SNR=1.3						
I43RU	**DUBNA INFRASON1**	**1.52**	**329**	*i*		14 26 30.0	
	baz=140,slow=329,SNR=0.5						
I46RU	**ZALESOVO INFRA**	**24.10**	**60**	*i*		15 40 00.0	
	baz=268,slow=332,SNR=2.9						

NIED ***05*** *13:20:00, 35°.40N×141°.20E, h26km, Mw4.0 Best double couple: M₀1.03000×10¹⁵ NP1:φs344.00000°, δ46.00000°, λ-120.00000°. NP2:φs203.00000°, δ52.00000°, λ-63.00000°.*
IDC ***05*** *13:20:52.5±2.4, 35°.30N×141°.42E, h0km, mb3.9/3, mb1 3.9/5, mb1mx3.5/62, mbtmp3.8/5, ML3.2/2, Error ellipse: s-maj=58.3km s-min=22.8km az=58.0*
ISCJB ***05*** *13:20:55.0±1.1, 35°.33N±0°.04×141°.28E±0°.08, h28km±6km, mb4.1/4, Error ellipse: s-maj=11.9km s-min=6.2km az=164.7*
JMA ***05*** *13:20:55.7±0.1, 35°.38N×141°.21E, h24km±2km, M3.7*
JMA Felt I J1.
NEIC ***05*** *13:20:57.6±1.1, 35°.35N×141°.35E, h35km, mb4.6/1, Error ellipse: s-maj=24.8km s-min=9.6km az=63.0*

ISC 05 13:20:55.0±1.6, 35°34N±0°.04×141°27E±0°.08, h17km±9km, n25, σ1s09/26, mb4.1/4, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CHOJ	**Chosi**	**0.49**	**317**	P	**Pg**	**13 21 04.7**	**-0.1**
CHOJ				S	**Sg**	**13 21 11.2**	**-0.2**
BSO1	**Boso 1**	**0.73**	**199**	P	**Pg**	**13 21 09.5**	**+0.4**
BSO1				X		13 21 21.4	
KTR	**Katsuura**	**0.80**	**256**	P	**Pb**	**13 21 10.5**	**0.0**
KTR				*e*S	**Sb**	**13 21 20.8**	**-0.3**
BSO3	**Boso 3**	**0.82**	**229**	P	**Pg**	**13 21 11.0**	**0.0**
BSO4	**Boso 4**	**0.84**	**245**	P	**Pg**	**13 21 11.3**	**0.0**
JCN	**Nagara**	**0.87**	**275**	P	**Pg**	**13 21 12.1**	**+0.1**
JCN				*e*S	**Sb**	**13 21 22.2**	**-0.9**
JYT	**Yasato**	**1.24**	**316**	P	**Pn**	**13 21 16.8**	**-0.8**
JYT				S	**Sb**	**13 21 32.0**	**-1.7**
JHO	**Hitachi**	**1.39**	**336**	P	**Pn**	**13 21 19.4**	**-0.2**
JHJ2	**Mitsune**	**2.53**	**209**	*e*Pn	**Pn**	**13 21 36.9**	**+1.5**
JHJ	**Hachijo jima 2**	**2.54**	**209**	Pn	**Pn**	**13 21 34.8**	**-0.6**
	11nm,0.3s,baz=127,slow=20,SNR=4.8						
JHJ				Sn	**Sn**	**13 22 03.1**	**-2.8**
	18nm,0.3s,baz=90,slow=20,SNR=4.0						
MJAR	**Matsushiro Arr**	**2.75**	**297**	Pn	**Pn**	**13 21 40.0**	**+1.6**
	3.0nm,0.3s,baz=75,slow=12,SNR=22						
MJAR				Sn	**Sb**	**13 22 16.3**	**-1.0**
	3.9nm,0.3s,baz=107,slow=25,SNR=5.7						
MAJO	**Matsushiro**	**2.76**	**297**	*e*Pn	**Pn**	**13 21 40.0**	**+1.5**
MAT	**Matsushiro**	**2.76**	**297**	P	**Pn**	**13 21 40.3**	**+1.8**
MAT				*e*S	**Sn**	**13 22 12.2**	**+0.8**
H11N2	**WAKE ISLAND Hy**	**27.43**	**118**	T	T	13 55 43.1	
	baz=310,slow=75,SNR=116						
H11N1	**WAKE ISLAND Hy**	**27.43**	**118**	T	T	13 55 39.5	
	baz=310,slow=75,SNR=136						
H11N3	**WAKE ISLAND Hy**	**27.44**	**118**	T	T	13 55 42.2	
	baz=310,slow=75,SNR=90						
H11S3	**WAKE ISLAND Hy**	**28.08**	**120**	T	T	13 56 17.5	
	baz=312,slow=76,SNR=252						
H11S1	**WAKE ISLAND Hy**	**28.08**	**120**	T	T	13 56 30.7	
	baz=312,slow=76,SNR=426						
H11S2	**WAKE ISLAND Hy**	**28.10**	**120**	T	T	13 56 32.4	
	baz=312,slow=76,SNR=141						
KURK	**Kurchatov**	**46.89**	**309**	P	**P**	**13 29 25.2**	**+0.9**
KURBB	**Kurchatov Arra**	**46.96**	**309**	P	**P**	**13 29 25.2**	**+0.4**
	0.3nm,0.3s,baz=91,slow=7.7,SNR=4.3						
WRAB	**Tennant Creek**	**55.36**	**188**	*e*P	**P**	**13 30 28.1**	**0.0**
	6.4nm,1.1s						
WRA	**Warramunga Arr**	**55.37**	**188**	P	**P**	**13 30 28.1**	**-0.1**
	2.5nm,0.7s,baz=4.9,slow=7.6,SNR=23						
ABKAR	**Akbulak array**	**58.94**	**311**	*e*P	**P**	**13 30 53.4**	**+0.2**
ASAR	**Alice Springs**	**59.10**	**188**	P	**P**	**13 30 54.7**	**+0.2**
	0.5nm,0.7s,baz=15,slow=13,SNR=8.4						

IDC ***05*** *13:25:13.8±1.0, 51°.87N×171°.80W, h0km, mb3.9/10, mb1 4.0/12, mb1mx3.7/58, mbtmp3.8/12, ML3.5/2, Error ellipse: s-maj=32.3km s-min=17.3km az=2.0*
ISCJB ***05*** *13:25:19.9±0.7, 51°.9N±0°.1×171°.71W±0°.06, h50km, mb3.9/10, Error ellipse: s-maj=17.1km s-min=3.6km az=166.4*
NEIC ***05*** *13:25:21.4±0.0, 51°.87N×171°.75W, h43km, ML3.4(AEIC), After AEIC.*

ISC 05 13:25:20.9±1.0, 51°9N±0°.2×171°76W±0°.05, h50km, n35, σ1s40/37, mb3.8/10, Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KOSE	**Korovin Southe**	**1.49**	**289**	P	**Pn**	**13 25 46.0**	**+0.7**
ATKA	**Atka Island**	**1.54**	**283**	P	**Pn**	**13 25 46.8**	**+0.9**
ATKA				S	**Sn**	**13 26 05.5**	**+0.7**
NIKH	**Nikolski High**	**2.09**	**57**	P	**Pn**	**13 25 54.0**	**+0.6**
NIKH				S	**Sn**	**13 26 17.7**	**-0.5**
GSMY	**Great Sitkin M**	**2.67**	**275**	P	**Pn**	**13 26 02.7**	**+1.4**
GSTD	**Great Sitkin T**	**2.72**	**276**	P	**Pn**	**13 26 03.6**	**+1.5**
GSTD				S	**Sn**	**13 26 35.2**	**+1.4**
GSCK	**Great Sitkin C**	**2.73**	**275**	P	**Pn**	**13 26 03.4**	**+1.2**
OKFG	**Magazine Ridge**	**2.80**	**55**	P	**Pn**	**13 26 04.7**	**+1.5**
OKFG				S	**Sn**	**13 26 38.6**	**+2.9**
ETKA	**Kagalaska Isla**	**2.88**	**272**	P	**Pn**	**13 26 05.6**	**+1.3**
ADAG	**Mount Adagdak**	**3.00**	**274**	P	**Pn**	**13 26 08.3**	**+2.4**
MGOD	**Makushin Gods**	**3.53**	**55**	P	**Pn**	**13 26 14.8**	**+1.6**
MCIR	**Makushin Cirqu**	**3.60**	**53**	P	**Pn**	**13 26 16.2**	**+2.0**
MSW	**Makushin Switc**	**3.64**	**54**	P	**Pn**	**13 26 16.3**	**+1.6**
UNV	**Unalaska Valle**	**3.75**	**56**	P	**Pn**	**13 26 17.7**	**+1.6**
UNV				S	**Sn**	**13 26 59.1**	**+0.2**
TAFP	**Tanaga Falls P**	**3.86**	**273**	P	**Pn**	**13 26 20.0**	**+2.4**
WESP	**Westdahl Peak**	**4.98**	**55**	P	**Pn**	**13 26 35.1**	**+2.0**
ISLZ	**Isanotski Laza**	**5.61**	**56**	P	**Pn**	**13 26 42.8**	**+1.2**
SDPT	**Sand Point**	**7.56**	**58**	P	**Pn**	**13 27 09.0**	**+0.7**
OHAK	**Old Harbor**	**11.97**	**56**	*e*Pn	**Pn**	**13 28 05.9**	**-2.7**
ILAR	**Eielson Array**	**18.20**	**35**	P	**P**	**13 29 27.6**	**-1.7**
	0.1nm,0.3s,baz=224,slow=9.9,SNR=11						
PETK	**Petropavlovsk-**	**18.58**	**286**	P	**P**	**13 29 33.6**	**+0.1**
	0.3nm,0.3s,baz=85,slow=14,SNR=11						
DOT	**Dot Lake**	**18.71**	**40**	*e*Pn	**P**	**13 29 34.2**	**-0.7**
SEY	**Seymchan**	**21.94**	**314**	P	**P**	**13 30 10.0**	**+0.2**
	1.6nm,0.6s,baz=122,slow=4.1,SNR=7.0						
INK	**Inuvik**	**24.57**	**34**	P	**P**	**13 30 35.3**	**-0.3**
	0.7nm,0.4s,baz=258,slow=9.8,SNR=5.1						
KLR	**Kul'dur**	**35.23**	**289**	P	**P**	**13 32 08.2**	**-1.9**
	0.5nm,0.3s,baz=97,slow=8.1,SNR=3.2						
H11N2	**WAKE ISLAND Hy**	**36.17**	**216**	T	T	14 10 58.9	
	baz=23						
H11N3	**WAKE ISLAND Hy**	**36.18**	**215**	T	T	14 10 51.0	
	baz=23						
H11N1	**WAKE ISLAND Hy**	**36.19**	**216**	T	T	14 10 53.8	
	baz=23						
PDAR	**Pinedale Array**	**41.95**	**77**	P	**P**	**13 33 06.3**	**-0.5**
	0.2nm,0.5s,baz=316,slow=5.0,SNR=3.5						
TXAR	**Lajitas Array**	**54.24**	**87**	P	**P**	**13 34 42.0**	**+0.4**
	0.3nm,0.5s,baz=302,slow=5.2,SNR=3.2						
KURK	**Kurchatov**	**61.75**	**317**	P	**P**	**13 35 33.6**	**-0.1**
KURBB	**Kurchatov Arra**	**61.86**	**317**	P	**P**	**13 35 33.6**	**-0.8**
	1.2nm,0.3s,baz=46,slow=6.9,SNR=15						
BVAR	**Borovoye Array**	**63.23**	**323**	P	**P**	**13 35 43.2**	**-0.4**
	3.2nm,0.6s,baz=50,slow=6.9,SNR=18						
AAK	**Ala-Archa**	**69.80**	**314**	P	**P**	**13 36 26.0**	**+0.1**
	1.7nm,0.4s,baz=70,slow=6.8,SNR=5.0						
CMAR	**Chiang Mai Arr**	**75.28**	**281**	P	**P**	**13 36 58.7**	**+0.1**
	0.8nm,0.7s,baz=28,slow=6.4,SNR=4.3						
ASAR	**Alice Springs**	**88.96**	**228**	P	**P**	**13 38 10.1**	**+0.2**
	0.7nm,0.8s,baz=26,slow=5.0,SNR=9.3						

NIED ***05*** *13:36:00, 37°.50N×141°.50E, h41km, Mw4.0 Best double couple: M₀1.06000×10¹⁵ NP1:φs214.00000°, δ25.00000°, λ93.00000°. NP2:φs30.00000°, δ65.00000°, λ89.00000°.*
IDC ***05*** *13:36:37.6±1.0, 37°.60N×141°.69E, h0km, mb4.0/8, mb1 3.9/14, mb1mx3.8/44, mbtmp3.9/14, ML3.5/5, MS2.9/1, Ms1 2.9/1, ms1mx2.6/33, Error ellipse: s-maj=24.4km s-min=16.1km az=96.0*
JMA ***05*** *13:36:44.9±0.1, 37°.50N×141°.47E, h46km±1km, M3.9*
JMA Felt I J1.
NEIC ***05*** *13:36:44.8±1.0, 37°.57N×141°.41E, h50km±9km, mb4.5/4, Error ellipse: s-maj=13.8km s-min=8.1km az=105.0*
NEIC Recorded [1 JMA] in Fukushima and Miyagi.

ISC 05 13:36:39.2±1.7, 37°51N±0°.04×141°64E±0°.06, h11km±10km, n40, σ1s50/43, mb4.2/11, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JFK	**Kawauchi**	**0.62**	**257**	P	**Pn**	**13 36 55.8**	**+1.8**
JFK				S	**Sn**	**13 37 03.4**	**-0.6**
JMM	**Marumori**	**0.76**	**298**	P	**Pn**	**13 36 58.0**	**+2.1**
JMM				S	**Sn**	**13 37 07.3**	**-0.1**
ONAJ	**Iwakimizuishiy**	**0.78**	**239**	P	**Pn**	**13 36 58.0**	**+1.8**
ONAJ				S	**Sb**	**13 37 07.0**	**+1.5**
JIO	**Ouri**	**0.97**	**347**	P	Pn	13 37 01.9	+3.1
JIO				S	**Sn**	**13 37 13.7**	**+1.1**
JFT	**Otama**	**1.03**	**271**	P	**Pn**	**13 37 02.0**	**+2.3**
JFT				S	**Sn**	**13 37 13.6**	**-0.6**
JOU	**Okura**	**1.15**	**318**	P	**Pn**	**13 37 03.6**	**+2.3**
JOU				*e*S	**Sn**	**13 37 18.0**	**+0.9**
JYS	**Shirataka**	**1.43**	**300**	P	**Pg**	**13 37 07.4**	**+0.7**
JMK	**Ichinoseki**	**1.48**	**347**	P	**Pg**	**13 37 08.9**	**+1.3**
JMK				*e*S	**Sg**	**13 37 27.4**	**+0.5**
JFY	**Yanaizu**	**1.54**	**267**	P	**Pg**	**13 37 08.7**	**-0.1**
JFY				*e*S	**Sn**	**13 37 26.7**	**0.0**
JYK	**Kaneyama**	**1.73**	**325**	P	**Pg**	**13 37 12.1**	**-0.3**
MJAR	**Matsushiro Arr**	**2.91**	**252**	Pn	**Pn**	**13 37 27.5**	**+2.0**
	10nm,0.3s,baz=17,slow=14,SNR=83						
MJAR				Sn	**Sn**	**13 38 03.8**	**+3.4**
	7.6nm,0.3s,baz=302,slow=20,SNR=4.8						
MJAR				LR	LR	13 38 49.4	
	comp=Z,187nm,20.0s,baz=200,slow=45						
MAJO	**Matsushiro**	**2.91**	**252**	*e*Pn	**Pn**	**13 37 27.7**	**+2.3**
MAT	**Matsushiro**	**2.91**	**252**	P	**Pb**	**13 37 28.4**	**-2.7**
MAT				*e*S	**Sn**	**13 38 03.8**	**+3.4**
JHJ2	**Mitsune**	**4.63**	**199**	*e*Pn	**Pn**	**13 37 51.2**	**+2.1**
JHJ	**Hachijo jima 2**	**4.63**	**200**	Pn	**Pn**	**13 37 51.3**	**+2.2**
	28nm,0.3s,baz=84,slow=22,SNR=12						
JHJ				Sn	**Sn**	**13 38 42.5**	**-0.4**
	46nm,0.3s,baz=268,slow=24,SNR=7.5						
ERM	**Erimo**	**4.65**	**14**	*e*Pn	Pb	13 37 53.9	-6.9
JNU	**Nakatsue**	**9.82**	**247**	Pn	**Pn**	**13 39 02.0**	**+1.6**
	0.3nm,0.3s,baz=289,slow=18,SNR=3.0						
USRK	**Ussuriysk Ar.**	**9.90**	**315**	Pn	**Pn**	**13 39 00.7**	**-0.8**
	0.1nm,0.3s,baz=120,slow=14,SNR=2.5						
KSRS	**Korea Array**	**10.90**	**274**	Pn	**Pn**	**13 39 14.9**	**-0.2**
	0.1nm,0.3s,baz=86,slow=14,SNR=2.9						
KSAR	**Wonju Array Be**	**10.93**	**274**	Pn	**Pn**	**13 39 14.9**	**-0.6**
KLR	**Kul'dur**	**13.73**	**332**	Pn	**Pn**	**13 39 52.0**	**-1.7**
	0.2nm,0.3s,baz=76,slow=19,SNR=3.1						
YAK	**Yakutsk**	**25.65**	**347**	P	**P**	**13 42 08.3**	**-0.3**
	11nm,0.5s,baz=323,slow=1.3,SNR=8.4						
YAK	**Yakutsk**	**25.65**	**347**	*e*P	**P**	**13 42 08.1**	**-0.5**
	16nm,0.8s						
ENH	**Enshi**	**27.55**	**264**	*e*P	**P**	**13 42 25.6**	**-0.6**
	6.3nm,0.6s						
H11N2	**WAKE ISLAND Hy**	**28.24**	**122**	T	T	14 12 53.1	
	baz=314,slow=75,SNR=23						
H11N1	**WAKE ISLAND Hy**	**28.25**	**122**	T	T	14 12 53.7	
	baz=314,slow=75,SNR=18						
H11N3	**WAKE ISLAND Hy**	**28.26**	**122**	T	T	14 12 54.4	
	baz=314,slow=75,SNR=21						
H11S1	**WAKE ISLAND Hy**	**28.97**	**124**	T	T	14 13 43.4	
	baz=316,slow=76						
H11S3	**WAKE ISLAND Hy**	**28.97**	**124**	T	T	14 13 45.4	
	baz=316,slow=76						
H11S2	**WAKE ISLAND Hy**	**28.99**	**124**	T	T	14 13 46.5	
	baz=316,slow=76						
ZALV	**Zalesovo Beam**	**41.73**	**312**	P	**P**	**13 44 27.5**	**-0.5**
	1.3nm,0.5s,baz=100,slow=6.2,SNR=6.8						
KURK	**Kurchatov**	**45.78**	**308**	*e*P	**P**	**13 45 00.0**	**-0.6**
	46nm,0.7s						
ILAR	**Eielson Array**	**49.00**	**33**	P	**P**	**13 45 26.2**	**+0.7**
	0.5nm,0.9s,baz=263,slow=7.2,SNR=4.2						
WRAB	**Tennant Creek**	**57.54**	**188**	*e*P	**P**	**13 46 29.2**	**+0.4**
WRA	**Warramunga Arr**	**57.55**	**188**	P	**P**	**13 46 29.2**	**+0.4**
	0.7nm,0.5s,baz=6.1,slow=7.4,SNR=16						
ABKAR	**Akbulak array**	**57.77**	**310**	*e*P	**P**	**13 46 29.5**	**-0.7**
	1.5nm,0.5s						
ASAR	**Alice Springs**	**61.28**	**188**	P	**P**	**13 46 55.0**	**+0.4**
	0.3nm,0.8s,baz=15,slow=10,SNR=6.3						
FINES	**FINESS Array B**	**68.48**	**332**	P	**P**	**13 47 40.5**	**-0.5**
	2.0nm,0.7s,baz=41,slow=10,SNR=6.1						
NOA	**NORSAR Array B**	**73.82**	**337**	P	**P**	**13 48 13.1**	**-0.4**
	0.7nm,0.7s,baz=25,slow=8.7,SNR=3.5						
AKASG	**Malin Array Be**	**74.03**	**322**	P	**P**	**13 48 14.6**	**-0.2**
	0.9nm,0.3s,baz=45,slow=6.0,SNR=5.4						

NEIC ***05*** *13:51:30.0±0.0, 35°.52N×97°.38W, h3km, MD2.7(TUL), After TUL.*
NEIC Felt [IV] at Spencer. Also felt at Broken Arrow, Oklahoma City and Shawnee.

ISC 05 13:51:30.0±1.1, 35°52N±0°.02×97°38W±0°.02, h2km±10km, n41, σ0s87/65, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
W34A	**Bridge Creek,**	**0.43**	**228**	P	**Pg**	**13 51 39.0**	**+0.8**
	baz=48,SNR=13						
W34A				S	**Sg**	**13 51 44.9**	**+1.0**
	baz=48						
W34A	**Bridge Creek,**	**0.43**	**228**	*e*Pg	**Pg**	**13 51 38.8**	**+0.5**
V35A	**Meyer Ranch, C**	**0.50**	**61**	P	**Pg**	**13 51 39.9**	**+0.3**
	baz=242,SNR=164						
V35A				S	**Sg**	**13 51 47.0**	**+0.8**
	baz=242						
W35A	**Tecumseh**	**0.55**	**132**	P	**Pg**	**13 51 41.0**	**+0.4**
	baz=312,SNR=82						
W35A				S	**Sg**	**13 51 48.5**	**+0.7**
	baz=312						
U35A	**Pawnee**	**1.00**	**32**	P	**Pg**	**13 51 48.6**	**-0.5**
	baz=212						
U35A				S	**Sg**	**13 52 02.3**	**+0.2**
	baz=212						
W36A	**Wetumka**	**1.02**	**112**	P	**Pg**	**13 51 49.2**	**-0.3**
	baz=293,SNR=16						
W36A				S	**Sg**	**13 52 02.9**	**+0.2**
	baz=293						
X35A	**Drake**	**1.17**	**163**	P	**Pg**	**13 51 51.6**	**-0.8**
	baz=344						
X35A				S	**Sg**	**13 52 07.8**	**+0.2**
	baz=344						
V36A	**Jenks**	**1.20**	**77**	P	**Pg**	**13 51 51.8**	**-1.2**
	baz=258						
V36A				S	**Sg**	**13 52 08.4**	**-0.1**
	baz=258						
X36A	**Centrahoma**	**1.27**	**138**	P	**Pg**	**13 51 53.7**	**-0.6**
	baz=319,SNR=69						
X36A				S	**Sb**	**13 52 11.1**	**-0.4**
	baz=319						
TUL1	**Leonard**	**1.35**	**73**	P	**Pn**	**13 51 54.3**	**-1.6**
	baz=254						
TUL1				S	**Sn**	**13 52 13.9**	**-0.5**
	baz=254						
TUL1	**Leonard**	**1.35**	**73**	*e*Pn	**Pn**	**13 51 54.3**	**-1.6**
TUL1				*e*Sn	**Sn**	**13 52 14.3**	**-0.1**
WMOK	**Wichita Mounta**	**1.39**	**236**	P	**Pn**	**13 51 55.6**	**-0.9**
	baz=55,SNR=134						
WMOK	**Wichita Mounta**	**1.39**	**236**	*e*Pn	**Pn**	**13 51 55.4**	**-1.1**
WMOK				*e*Sg	**Sg**	**13 52 14.2**	**-0.5**
T34A	**McClaskey Farm**	**1.50**	**6**	P	**Pn**	**13 51 57.9**	**-0.1**
	baz=186,SNR=14						
T34A				S	**Sg**	**13 52 18.2**	**-0.1**
	baz=186						
T35A	**Sooner Cattle**	**1.56**	**27**	P	**Pn**	**13 51 58.5**	**-0.3**
	baz=207,SNR=31						
T35A				S	**Sb**	**13 52 19.6**	**-0.1**
	baz=207						
U32A	**Winter Ranch,**	**1.57**	**303**	P	**Pn**	**13 51 58.8**	**-0.1**
	baz=122,SNR=32						
U32A				S	**Sg**	**13 52 20.4**	**-0.1**
	baz=122						
Y34A	**Reagan Ranch,**	**1.59**	**191**	P	**Pn**	**13 51 58.8**	**-0.4**
	baz=11,SNR=17						
Y34A				S	**Sb**	**13 52 20.7**	**0.0**
	baz=11						
U36A	**Oologah**	**1.59**	**57**	P	**Pn**	**13 51 58.5**	**-0.7**
	baz=237,SNR=16						
U36A				S	**Sb**	**13 52 20.5**	**-0.3**
	baz=237						
Y35A	**Marietta**	**1.64**	**170**	P	**Pn**	**13 51 60.0**	**+0.2**
	baz=350,SNR=6.7						
Y35A				Sb	**Sg**	**13 52 23.5**	**+0.9**
	baz=350						
W37B	**Quinton**	**1.64**	**103**	P	**Pn**	**13 51 59.8**	**-0.1**
	baz=284,SNR=33						
W37B				S	**Sb**	**13 52 22.1**	**+0.1**
	baz=284						
Y33A	**Hilltop Ranch,**	**1.83**	**215**	P	**Pn**	**13 52 03.1**	**+0.7**
	baz=34,SNR=22						
Y33A				S	**Sb**	**13 52 27.5**	**+0.1**
	baz=34						
Y36A	**Durant**	**1.85**	**151**	P	**Pb**	**13 52 03.7**	**-0.9**
	baz=331,SNR=20						
V37A	**Hulbert**	**1.86**	**78**	P	**Pn**	**13 52 02.9**	**+0.1**
	baz=260,SNR=196						
X37A	**Clayton**	**1.89**	**119**	P	**Pn**	**13 52 04.1**	**+0.7**
	baz=300,SNR=81						
X32A	**Elmer**	**1.91**	**235**	P	**Pb**	**13 52 04.7**	**-0.9**
	baz=54,SNR=39						
T36A	**Boggs Farm, Ca**	**1.96**	**38**	P	**Pn**	**13 52 04.6**	**+0.4**
	baz=219,SNR=39						
U37A	**Salina**	**2.04**	**64**	P	**Pn**	**13 52 05.7**	**+0.4**
	baz=245,SNR=43						
X38A	**Whitesboro**	**2.26**	**111**	P	**Pn**	**13 52 09.1**	**+0.7**
	baz=293,SNR=40						
W38A	**Poteau**	**2.38**	**100**	P	**Pn**	**13 52 10.3**	**+0.2**
	baz=282,SNR=6.8						
V38A	**Canehill**	**2.44**	**81**	P	**Pn**	**13 52 11.0**	**+0.1**
	baz=263,SNR=25						
U38A	**Gravette**	**2.59**	**68**	Pb	**Pn**	**13 52 14.7**	**+1.6**
	baz=250,SNR=18						
R34A	**Isabella, Hill**	**2.77**	**2**	P	**Pn**	**13 52 15.5**	**0.0**
	baz=182,SNR=5.5						
X39A	**Fountain Ranch**	**2.86**	**110**	P	**Pn**	**13 52 17.5**	**+0.7**
	baz=292,SNR=8.7						
W39A	**Magazine**	**2.96**	**95**	P	**Pn**	**13 52 18.2**	**+0.2**
	baz=277,SNR=12						
MIAR	**Mount Ida**	**3.27**	**106**	*e*Pn	**Pn**	**13 52 23.1**	**+0.8**
MIAR				*e*Sn	**Sn**	**13 53 02.7**	**+0.9**
ABTX	**Abilene, Hawle**	**3.45**	**214**	*e*Pg	**Pb**	**13 52 33.3**	**+1.5**
ABTX				*e*Sg	**Sb**	**13 53 14.5**	**+0.3**
AMTX	**Amarillo**	**3.58**	**261**	*e*Pn	**Pn**	**13 52 28.4**	**+1.7**
KSU1	**Kansas State U**	**3.62**	**10**	*e*Pg	**Pb**	**13 52 35.3**	**+0.5**
KSU1				*e*Sg	**Sg**	**13 53 26.5**	**+0.1**
CBKS	**Cedar Bluff**	**3.79**	**331**	*e*Pg	**Pb**	**13 52 38.1**	**+0.5**
CBKS				*e*Sg	**Sg**	**13 53 31.7**	**+0.1**
MSTX	**Muleshoe**	**4.70**	**252**	*e*Pg	**Pb**	**13 52 48.4**	**+1.5**
MSTX				*e*Sg	**Sg**	**13 53 58.6**	**-2.5**
JCT	**Junction City**	**5.42**	**203**	*e*Pg	**Pg**	**13 53 11.3**	**-2.7**
	6.0nm,0.4s						

DDA ***05*** *13:54:03.4, 41°.37N×35°.82E, h7km, Md2.8, Suspected Mining explosion.*
ISK ***05*** *13:54:03.0, 41°.44N×35°.97E, h12km, MD2.3*
ISCJB ***05*** *13:54:04.2±0.5, 41°.36N±0°.03×35°.82E±0°.03, h0km, Error ellipse: s-maj=4.3km s-min=3.3km az=36.2*
CSEM ***05*** *13:54:04.4±0.3, 41°.34N×35°.82E, h2km, MD2.8, Error ellipse: s-maj=5.9km s-min=4.3km az=40.0, Suspected Mining explosion.*

ISC 05 13:54:04.2±0.8, 41°33N±0°.02×35°82E±0°.02, h0km, n28, σ0s69/48, Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
HAVZ	**Havza**	**0.27**	**196**	*i* P	**Pg**	**13 54 09.4**	**0.0**
HAVZ				*i* S	**Sg**	**13 54 13.9**	**+1.1**
HAVZ	**Havza**	**0.27**	**196**	P	**Pg**	**13 54 09.4**	**0.0**
HAVZ				S	**Sg**	**13 54 13.9**	**+1.1**
SAMS	**Samsun-Alacam**	**0.28**	**84**	*i* P	**Pg**	**13 54 09.5**	**-0.1**
SAMS				*i* S	**Sg**	**13 54 13.7**	**+0.5**
SAMS	**Samsun-Alacam**	**0.28**	**84**	P	**Pg**	**13 54 09.5**	**-0.1**
SAMS				S	**Sg**	**13 54 13.7**	**+0.5**
KVT	**Kavak**	**0.30**	**146**	*e*PG	**Pg**	**13 54 10.1**	**0.0**
KVT				*e*SG	**Sb**	**13 54 16.7**	**-1.5**
KVT	**Kavak**	**0.30**	**146**	*e*Pg	**Pg**	**13 54 10.1**	**0.0**
KVT				*e*Sg	**Sb**	**13 54 16.7**	**-1.5**
DIKM	**Dikmen**	**0.53**	**307**	*e*PG	**Pg**	**13 54 14.4**	**+0.1**
DIKM				*e*SG	**Sb**	**13 54 23.2**	**-1.4**
DIKM	**Dikmen**	**0.53**	**307**	*e*Pg	**Pg**	**13 54 14.4**	**+0.1**
DIKM				*e*Sg	**Sb**	**13 54 23.2**	**-1.4**
BOYT	**Boyabat**	**0.69**	**278**	*i* P	**Pg**	**13 54 17.2**	**-0.

H11S3	**WAKE ISLAND Hy 28.37 121**	T	T	14 58 57.8	
	baz=312,slow=75,SNR=78				
H11S2	**WAKE ISLAND Hy 28.38 121**	T	T	14 58 58.2	
	baz=312,slow=75,SNR=69				
WRA	**Warramunga Arr 55.89 188**	P	**P**	**14 33 00.8 +0.5**	
	0.3nm,0.7s,baz=3.7,slow=7.6,SNR=3.4				
ASAR	**Alice Springs 59.62 188**	P	**P**	**14 33 26.6 +0.1**	
	0.3nm,0.7s,baz=15,slow=6.9,SNR=3.4				

*ISCJB **05** 14:29:05.1±1.4,35°.33N±0°.05×141°.36E±0°.10, h6km±8km, mb3.5/2, Error ellipse: s-maj=14.0km s-min=7.7km az=162.1*
*JMA **05** 14:29:07.7±0.1,35°.38N×141°.18E, h19km±2km, M3.1*
*IDC **05** 14:29:09.3±2.4,34°.66N×140°.77E, h0km, mb3.4/2, mb1 3.5/3, mb1mx3.3/35, mbtmp3.2/3, ML2.6/1, Error ellipse: s-maj=61.0km s-min=25.7km az=61.0*

ISC 05 14:29:06.5±1.5,35°.37N±0°.04×141°.27E±0°.09, h19km±3km, n17, σ0°62/16, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CHOJ	**Chosi**	**0.47**	**315**	P	**Pg**	**14 29 16.2**	**+0.1**
CHOJ				S	**Sg**	**14 29 22.6**	**+0.1**
BSO1	**Boso 1**	**0.75**	**198**	P	**Pn**	**14 29 21.2**	**-0.4**
KTR	**Katsuura**	**0.81**	**254**	P	**Pb**	**14 29 22.1**	**+0.2**
KTR				S	**Sb**	**14 29 31.8**	**-0.6**
BSO3	**Boso 3**	**0.84**	**228**	P	**Pg**	**14 29 22.6**	**-0.3**
BSO4	**Boso 4**	**0.85**	**244**	P	**Pg**	**14 29 23.1**	**0.0**
JYT	**Yasato**	**1.22**	**315**	P	**Pb**	**14 29 29.1**	**+0.2**
JYT				*eS*	**Sb**	**14 29 43.6**	**-0.7**
JHO	**Hitachi**	**1.36**	**336**	P	**Pg**	**14 29 32.4**	**-0.4**
MJAR	**Matsushiro Arr**	**2.74**	**296**	Pn	**Pb**	**14 29 55.5**	**+0.6**
	1.0nm,0.3s,baz=134,slow=16,SNR=6.9						
MJAR				Sn	**Sb**	**14 30 29.0**	**+0.9**
	1.0nm,0.3s,baz=130,slow=26,SNR=3.6						
MAT	**Matsushiro**	**2.75**	**296**	P	**Pb**	**14 29 53.7**	**-1.2**
MAT				S	**Sb**	**14 30 28.5**	**+0.3**
H11N2	**WAKE ISLAND Hy 27.44 118**	T	T	15 03 34.7			
	baz=310,slow=75,SNR=18						
H11N1	**WAKE ISLAND Hy 27.45 118**	T	T	15 03 35.5			
	baz=310,slow=75,SNR=14						
H11N3	**WAKE ISLAND Hy 27.46 118**	T	T	15 03 37.7			
	baz=310,slow=75,SNR=15						
H11S1	**WAKE ISLAND Hy 28.09 120**	T	T	15 04 25.8			
	baz=312,slow=76,SNR=66						
H11S3	**WAKE ISLAND Hy 28.09 120**	T	T	15 04 24.4			
	baz=312,slow=76,SNR=51						
H11S2	**WAKE ISLAND Hy 28.11 120**	T	T	15 04 25.7			
	baz=312,slow=76,SNR=57						
WRA	**Warramunga Arr 55.40 188**	P	**P**	**14 38 39.6**	**+0.1**		
	0.3nm,0.6s,baz=3.7,slow=7.8,SNR=3.9						
ASAR	**Alice Springs 59.13 188**	P	**P**	**14 39 06.6**	**+0.8**		
	0.6nm,1.0s,baz=23,slow=12,SNR=3.2						

JMA 05 14:50:09.3±0.3, 36°.81N×143°.64E, h57km, M3.5, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JFK	**Kawauchi**	**2.28**	**285**	P	Pn	14 50 45.4	+0.8
JFK				*eS*	Sn	14 51 12.2	+0.7
ONAJ	**Iwakimizuishiy**	**2.29**	**278**	P	Pn	14 50 45.9	+1.1
ONAJ				*eS*	Sn	14 51 12.4	+0.5
JIO	**Ouri**	**2.45**	**313**	P	Pn	14 50 47.7	+0.9
JIO				*eS*	Sn	14 51 15.9	+0.3
JHO	**Hitachi**	**2.48**	**266**	P	Pn	14 50 47.9	+0.7
JFT	**Otama**	**2.73**	**286**	P	Pn	14 50 52.6	+1.9
JFT				*eS*	Sn	14 51 24.3	+1.8
JMK	**Ichinoseki**	**2.87**	**319**	P	Pn	14 50 53.3	+0.7
JMK				*eS*	Sn	14 51 26.0	+0.1
BSO1	**Boso 1**	**3.05**	**226**	*eS*	Sn	14 51 31.4	+1.8
JOM	**Ohasama**	**3.24**	**326**	P	Pn	14 50 58.6	+1.0
JOM				*eS*	Sn	14 51 35.0	0.0
JYK	**Kaneyama**	**3.34**	**310**	P	Pn	14 51 00.8	+1.8
JRY	**Ryogami san**	**3.90**	**260**	P	Pn	14 51 07.9	+1.1
JCH	**Churui**	**5.80**	**358**	P	Pn	14 51 31.3	-1.4
JCH				*eS*	Sn	14 52 33.5	-4.3

*PRU **05** 15:12:24.2,50°.26N×12°.48E, h10km, West Bohemia Swarm*
*CSEM **05** 15:12:24.1±0.1,50°.23N×12°.51E, h10km, ML2.8/16, Error ellipse: s-maj=1.5km s-min=1.1km az=58.0*
*BGR **05** 15:12:24.5±0.2,50°.25N×12°.45E, h11km±1km, ML2.5/6, Error ellipse: s-maj=2.2km s-min=1.1km az=96.0*
*IASPEI **05** 15:12:24.1±0.8,50°.24N±0°.02×12°.48E±0°.02, h11km±3km, Error ellipse: s-maj=3.4km s-min=2.4km az=77.2, GT5 selection from ISC bulletin GT5 identified by Bond¨ir and McLaughlin (2009) selection criteria Bond¨ir and McLaughlin, A new ground truth data set for seismic studies, Seism. Res. Let., 80, 465-472, 2009*
*VIE **05** 15:12:24.3±0.6,50°.19N×12°.41E, h5km±13km, mb2.1/3, ML2.6/4, Error ellipse: s-maj=9.1km s-min=2.7km az=59.0*
*CLL **05** 15:12:25.3±0.3,50°.2N±0°.8×1°2E±°, h6km±1km, ml2.2*

ISC 05 15:12:24.0±0.8, 50°.24N±0°.01×12°.49E±0°.02, h11km±3km, n72, σ0°64/123, 7D, Germany

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NKC	**Novy Kostel**	**0.03**	**252**	ǁ *i* Pg	**Pg**	**15 12 26.4**	**+0.3**
NKC				*eSG*	**Sg**	**15 12 27.3**	**-0.2**
	comp=E,4μm,0.2s						
NKC	**Novy Kostel**	**0.03**	**252**	ǁ *i* Pg	**Pg**	**15 12 26.4**	**+0.3**
NKC				*i* Sg	**Sg**	**15 12 27.4**	**-0.1**
NKC	**Novy Kostel**	**0.03**	**252**	*eP* g	**Pg**	**15 12 26.4**	**+0.3**
NKC				*eSg*	**Sg**	**15 12 27.5**	**-0.1**
NKC	**Novy Kostel**	**0.03**	**252**	Pg	**Pg**	**15 12 26.4**	**+0.3**
NKC				Sg	**Sg**	**15 12 27.5**	**-0.1**
WERN	**Wernitzgruen**	**0.09**	**302**	*i* Pg	**Pg**	**15 12 26.9**	**+0.3**
WERN				*i* Sg	**Sg**	**15 12 28.2**	**-0.2**
WERN				AML	AML	15 12 28.4	
	comp=N,900nm,0.1s						
WERN	**Wernitzgruen**	**0.09**	**302**	*eP* g	**Pg**	**15 12 26.9**	**+0.3**
WERN				*eSg*	**Sg**	**15 12 28.3**	**-0.2**
WERN	**Wernitzgruen**	**0.09**	**302**	Pg	**Pg**	**15 12 26.9**	**+0.3**
WERN				Sg	**Sg**	**15 12 28.3**	**-0.2**
ROHR	**Rohrbach**	**0.11**	**266**	*i* Pg	**Pg**	**15 12 27.1**	**+0.2**
ROHR				*i* Sg	**Sg**	**15 12 28.5**	**-0.5**
ROHR				AML	AML	15 12 28.8	
	comp=N,3μm,0.1s						
ROHR	**Rohrbach**	**0.11**	**266**	*eP* g	**Pg**	**15 12 27.1**	**+0.2**
ROHR				*eSg*	**Sg**	**15 12 28.5**	**-0.5**
ROHR	**Rohrbach**	**0.11**	**266**	Pg	**Pg**	**15 12 27.1**	**+0.2**
ROHR				Sg	**Sg**	**15 12 28.5**	**-0.5**
GUNZ	**Gunzen**	**0.16**	**320**	*i* Pg	**Pg**	**15 12 28.1**	**+0.4**
GUNZ				*i* Sg	**Sg**	**15 12 30.1**	**-0.2**
GUNZ				AML	AML	15 12 30.5	
	comp=E,325nm,0.2s						
GUNZ	**Gunzen**	**0.16**	**320**	*eP* g	**Pg**	**15 12 28.1**	**+0.4**
GUNZ				*eSg*	**Sg**	**15 12 30.0**	**-0.2**
GUNZ	**Gunzen**	**0.16**	**320**	Pg	**Pg**	**15 12 28.1**	**+0.4**
GUNZ				Sg	**Sg**	**15 12 30.0**	**-0.2**
MULD	**Muldenberg**	**0.18**	**342**	*i* Pg	**Pg**	**15 12 28.5**	**+0.5**
MULD				*i* Sg	**Sg**	**15 12 30.8**	**0.0**
MULD				AML	AML	15 12 30.9	
	comp=E,678nm,0.1s						
MULD	**Muldenberg**	**0.18**	**342**	*eP* g	**Pg**	**15 12 28.5**	**+0.5**
MULD				*eSg*	**Sg**	**15 12 30.8**	**0.0**
MULD	**Muldenberg**	**0.18**	**342**	Pg	**Pg**	**15 12 28.5**	**+0.5**
MULD				Sg	**Sg**	**15 12 30.8**	**0.0**
WERD	**Werda**	**0.24**	**330**	*i* Pg	**Pg**	**15 12 29.4**	**+0.5**
WERD				*i* Sg	**Sg**	**15 12 32.3**	**0.0**
WERD				AML	AML	15 12 33.1	
	comp=E,157nm,0.2s						
WERD	**Werda**	**0.24**	**330**	*eP* g	**Pg**	**15 12 29.4**	**+0.5**
WERD				*eSg*	**Sg**	**15 12 32.3**	**0.0**
WERD	**Werda**	**0.24**	**330**	Pg	**Pg**	**15 12 29.5**	**+0.5**
WERD				Sg	**Sg**	**15 12 32.3**	**0.0**
TRIB	**Obertriebel**	**0.25**	**296**	*i* Pg	**Pg**	**15 12 29.4**	**+0.2**
TRIB				*i* Sg	**Sg**	**15 12 32.6**	**-0.1**
TRIB				AML	AML	15 12 32.9	
	comp=E,243nm,0.1s						
TRIB	**Obertriebel**	**0.25**	**296**	*eP* g	**Pg**	**15 12 29.4**	**+0.2**
TRIB				*eSg*	**Sg**	**15 12 32.4**	**-0.3**
TRIB	**Obertriebel**	**0.25**	**296**	Pg	**Pg**	**15 12 29.4**	**+0.2**
TRIB				Sg	**Sg**	**15 12 32.4**	**-0.3**
PLN	**Plauen**	**0.32**	**319**	*i* Pg	**Pg**	**15 12 30.9**	**+0.3**
PLN				*i* Sg	**Sg**	**15 12 35.0**	**+0.1**
PLN				AML	AML	15 12 35.1	
	comp=E,163nm,0.2s						
PLN	**Plauen**	**0.32**	**319**	*eP* g	**Pg**	**15 12 30.9**	**+0.3**
PLN				*eSg*	**Sg**	**15 12 34.7**	**-0.2**
PLN	**Plauen**	**0.32**	**319**	Pg	**Pg**	**15 12 30.9**	**+0.3**
PLN				Sg	**Sg**	**15 12 34.7**	**-0.2**
SCHF	**Schoenfels**	**0.44**	**353**	*i* Pg	**Pb**	**15 12 33.3**	**-0.6**
SCHF				*i* Sg	**Sg**	**15 12 39.1**	**+0.6**
SCHF				AML	AML	15 12 39.3	
	comp=E,815nm,0.1s						
SCHF	**Schoenfels**	**0.44**	**353**	*eP* g	**Pb**	**15 12 33.3**	**-0.6**
SCHF				*eSg*	**Sg**	**15 12 38.6**	**0.0**
SCHF	**Schoenfels**	**0.44**	**353**	Pg	**Pb**	**15 12 33.3**	**-0.6**
SCHF				Sg	**Sg**	**15 12 38.6**	**0.0**
ROTZ	**Rotzenmuhle**	**0.51**	**201**	*eP* g	**Pg**	**15 12 34.6**	**+0.6**
ROTZ				*eSg*	**Sg**	**15 12 40.8**	**+0.1**
ROTZ	**Rotzenmuhle**	**0.51**	**201**	Pg	**Pg**	**15 12 34.6**	**+0.6**
ROTZ				Sg	**Sg**	**15 12 40.8**	**+0.1**
MLFH	**Mildenfurth**	**0.61**	**335**	*i* Pg	**Pg**	**15 12 36.2**	**+0.4**
MLFH				*i* Sg	**Sg**	**15 12 44.0**	**+0.1**
MOX	**Moxa**	**0.69**	**306**	*eP* g	**Pg**	**15 12 37.6**	**+0.2**
MOX				*eSg*	**Sg**	**15 12 46.4**	**-0.1**
MOX	**Moxa**	**0.69**	**306**	Pg	**Pg**	**15 12 37.6**	**+0.2**
MOX				Sg	**Sg**	**15 12 46.4**	**-0.1**
GRA1	**Grafenberg Arr**	**0.99**	**237**	Pg	**Pb**	**15 12 43.1**	**-0.1**
GRA1				Sg	**Sg**	**15 12 55.6**	**-0.3**
GRF	**Grafenberg Arr**	**0.99**	**237**	*eP* g	**Pb**	**15 12 43.1**	**-0.1**
GRF				*eSg*	**Sg**	**15 12 55.6**	**-0.3**
CLL	**Collm**	**1.12**	**17**	*eP* g	**Pn**	**15 12 45.4**	**-0.2**
CLL				*eSg*	**Sn**	**15 13 00.3**	**-0.7**
CLL	**Collm**	**1.12**	**17**	Pg	**Pn**	**15 12 45.4**	**-0.2**
CLL				Sg	**Sn**	**15 13 00.3**	**-0.7**
CLL	**Collm**	**1.12**	**17**	*i* Pg	**Pg**	**15 12 45.9**	**+0.4**
CLL				*i*		15 12 48.9	
CLL				*i* Sg	**Sn**	**15 13 00.6**	**-0.4**
	comp=E,34nm,0.3s						
CLL				*i*		15 13 04.7	
BRG	**Berggiesshubel**	**1.12**	**55**	PG	**Pg**	**15 12 46.2**	**+0.6**
BRG				SG	**Sn**	**15 13 01.1**	**0.0**
	comp=E,24nm,0.2s						
BRG	**Berggiesshubel**	**1.12**	**55**	PG	**Pg**	**15 12 49.2**	**+3.6**
BRG				SG	**Sn**	**15 13 02.2**	**+1.0**
	comp=E,50nm,0.3s						
BRG	**Berggiesshubel**	**1.12**	**55**	*eP* g	**Pg**	**15 12 46.2**	**+0.6**
BRG				*eSg*	**Sn**	**15 13 00.8**	**-0.3**
BRG	**Berggiesshubel**	**1.12**	**55**	Pg	**Pg**	**15 12 46.2**	**+0.6**
BRG				Sg	**Sn**	**15 13 00.8**	**-0.3**
WET	**Wettzell**	**1.13**	**167**	ǁ *eP* G	**Pn**	**15 12 45.8**	**0.0**
WET	**Wettzell**	**1.13**	**167**	*eP* g	**Pn**	**15 12 45.9**	**+0.1**
WET				*eSg*	**Sb**	**15 13 00.5**	**+0.3**
WET	**Wettzell**	**1.13**	**167**	Pg	**Pn**	**15 12 45.9**	**+0.1**
WET				Sg	**Sb**	**15 13 00.5**	**+0.3**
PRA	**Prague**	**1.26**	**97**	ǁ *e*SG	**Sn**	**15 13 04.5**	**-0.1**
PRA	**Prague**	**1.26**	**97**	Sg	**Sn**	**15 13 04.5**	**-0.1**
KHC	**Kasperske Hory**	**1.32**	**147**	*eP* G	**Pb**	**15 12 48.9**	**+0.1**
KHC				*eSG*	**Sn**	**15 13 06.4**	**+0.4**
	comp=E,18nm,0.2s						
KHC	**Kasperske Hory**	**1.32**	**147**	Pg	**Pb**	**15 12 48.9**	**+0.1**
KHC				Sg	**Sn**	**15 13 06.4**	**+0.4**
	comp=E,18nm,0.2s						
PRU	**Pruhonice**	**1.34**	**100**	ǁ *eP* G	**Pg**	**15 12 49.7**	**-0.2**
PRU				*eSG*	**Sg**	**15 13 07.5**	**+0.2**
	comp=E,25nm,0.2s						
PRU	**Pruhonice**	**1.34**	**100**	Pg	**Pg**	**15 12 49.7**	**-0.2**
PRU				Sg	**Sg**	**15 13 07.5**	**+0.2**
	comp=E,25nm,0.2s						
PVCC	**Panska Ves**	**1.36**	**77**	ǁ *e*SG	**Sg**	**15 13 08.1**	**+0.3**
	comp=E,63nm,0.2s						
PVCC	**Panska Ves**	**1.36**	**77**	Sg	**Sg**	**15 13 08.1**	**+0.3**
	comp=E,63nm,0.2s						
GOPC	**GO Pecny, Ondr**	**1.52**	**102**	*eSG*	**Sg**	**15 13 13.3**	**+0.5**
	comp=E,25nm,0.2s						
GOPC	**GO Pecny, Ondr**	**1.52**	**102**	Sg	**Sg**	**15 13 13.3**	**+0.5**
	comp=E,25nm,0.2s						
UPC	**Upice**	**2.27**	**82**	ǁ *e*SG	**Sg**	**15 13 36.3**	**-0.7**
	comp=E,8.5nm,0.3s						
UPC	**Upice**	**2.27**	**82**	Sg	**Sg**	**15 13 36.3**	**-0.7**
	comp=E,8.5nm,0.3s						
DPC	**Dobruska-Polom**	**2.46**	**86**	*eSG*	**Sg**	**15 13 41.6**	**-1.4**
	comp=E,6.8nm,0.3s						
DPC	**Dobruska-Polom**	**2.46**	**86**	Sg	**Sg**	**15 13 41.6**	**-1.4**
	comp=E,6.8nm,0.3s						
MOA	**Molln**	**2.66**	**153**	Pg	**Pg**	**15 13 15.0**	**-0.1**
	comp=E,0.3nm,0.1s						
MOA				Sg	**Sg**	**15 13 49.2**	**-0.4**
	comp=E,3.5nm,0.2s						
VRAC	**Vranov**	**2.82**	**108**	*eSg*	**Sg**	**15 13 52.2**	**-2.4**
RETA	**Reutte**	**2.98**	**203**	Sg	**Sg**	**15 14 01.0**	**+1.2**
	comp=E,0.6nm,0.1s						
WTTA	**Wattenberg**	**3.03**	**191**	Sg	**Sg**	**15 14 00.6**	**-0.8**
	comp=E,0.5nm,0.1s						
MOTA	**Moosalm**	**3.04**	**198**	Pg	**Pg**	**15 13 22.5**	**+0.2**
	comp=E,0.6nm,0.2s						
MOTA				Sg	**Sg**	**15 14 01.7**	**0.0**
	comp=E,0.6nm,0.2s						
CONA	**Conrad Observa**	**3.21**	**135**	Pn	**Pn**	**15 13 15.2**	**+0.8**
CONA				Sg	**Sg**	**15 14 05.8**	**-1.1**
	comp=E,3.3nm,0.2s						
MORC	**Moravsky Berou**	**3.29**	**96**	*eSg*	**Sg**	**15 14 07.3**	**-2.4**
DAVA	**Damuels**	**3.42**	**211**	Sg	**Sg**	**15 14 13.3**	**-0.7**
	comp=E,1.4nm,0.2s						
FETA	**Feichten**	**3.43**	**201**	Sg	**Sg**	**15 14 13.6**	**-0.5**
	comp=E,0.2nm,0.1s						
ABTA	**Abfaltersbach**	**3.50**	**180**	Sg	**Sg**	**15 14 16.4**	**+0.1**
	comp=E,0.9nm,0.2s						
ARSA	**Arzberg**	**3.60**	**145**	Sg	**Sg**	**15 14 18.2**	**-1.5**
	comp=E,1.5nm,0.3s						
SOKA	**Soboth**	**3.95**	**154**	Sg	**Sg**	**15 14 30.5**	**-0.2**
	comp=E,374nm,0.0s						
OBKA	**Obir**	**3.98**	**159**	Sg	**Sg**	**15 14 32.0**	**+0.2**
	comp=E,0.9nm,0.2s						

*NSSC **05** 15:32:48.5±1.0,33°.73N×35°.69E, h37km±4km, ML1.9*
*GRAL **05** 15:32:49.8±0.4,33°.78N×35°.79E, h8km±4km, MD3.0*
*CSEM **05** 15:32:49.4±0.2,33°.78N×35°.74E, h10km, ML3.0, Error ellipse: s-maj=4.1km s-min=4.0km az=110.0*

ISC 05 15:32:47.7±1.0, 33°.78N±0°.03×35°.68E±0°.04, h32km±7km, n19, σ0°81/30, Jordan-Syria region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DQRL	**Deir Qamar**	**0.12**	**230**	*eP*	**Pb**	**15 32 53.7**	**+0.1**
DQRL				*eS*	**Sn**	**15 32 56.5**	**-0.4**
DQRL	**Deir Qamar**	**0.12**	**230**	*eP*	**Pb**	**15 32 53.7**	**+0.1**
DQRL				*eS*	**Sn**	**15 32 56.5**	**-0.4**
BHL	**Bhannes**	**0.12**	**350**	*eP*	**Pn**	**15 32 53.0**	**-0.5**
BHL				*eS*	**Sn**	**15 32 55.9**	**-1.2**
BHL	**Bhannes**	**0.12**	**350**	*eP*	**Pn**	**15 32 53.0**	**-0.5**
BEYL	**Beirut**	**0.18**	**300**	*eP*	**Pb**	**15 32 55.0**	**+1.0**
BEYL	**Beirut**	**0.18**	**300**	*eP*	**Pb**	**15 32 55.0**	**+1.0**
RCY	**Rachaya**	**0.31**	**156**	*eP*	**Pb**	**15 32 55.2**	**-0.5**
MATL	**Matarih**	**0.41**	**225**	*eP*	**Pb**	**15 32 58.5**	**+1.6**
MATL	**Matarih**	**0.41**	**225**	*eP*	**Pb**	**15 32 58.5**	**+1.6**
BRBR	**Barbar**	**0.43**	**149**	*i* P	**Pb**	**15 32 57.7**	**+0.3**
BRBR				*eS*	**Sb**	**15 33 04.3**	**+0.2**
BRBR				AML	AML	15 33 07.1	
	comp=E,151nm,0.3s						
BRBR				AML	AML	15 33 08.6	
	comp=N,164nm,0.4s						
BRBR	**Barbar**	**0.43**	**149**	*i* P	**Pb**	**15 32 57.7**	**+0.3**
	SNR=128						
BRBR				*eS*	**Sb**	**15 33 04.3**	**+0.2**
	comp=N,164nm,0.4s,SNR=127						
HWQ	**Hawqa**	**0.54**	**24**	*eP*	**Pb**	**15 32 59.2**	**+0.2**
HWQ	**Hawqa**	**0.54**	**24**	*eP*	**Pb**	**15 32 59.2**	**+0.2**
MARH	**Ras Al Marh**	**0.71**	**70**	*i* P	**Pb**	**15 33 03.0**	**+1.1**
MARH				*eS*	**Sn**	**15 33 12.7**	**+0.9**
MARH				AML	AML	15 33 16.6	
	comp=N,225nm,0.5s						
MARH				AML	AML	15 33 18.6	
	comp=E,51nm,0.4s						
MARH	**Ras Al Marh**	**0.71**	**70**	*i* P	**Pb**	**15 33 03.0**	**+1.1**
	SNR=57						
MARH				*eS*	**Sn**	**15 33 12.7**	**+0.9**
	comp=E,51nm,0.4s,SNR=58						
TOTH	**TOTAH**	**0.75**	**124**	*i* P	**Pb**	**15 33 03.4**	**+1.0**
TOTH				*eS*	**Sb**	**15 33 12.0**	**-0.5**
TOTH				AML	AML	15 33 22.3	
	comp=E,46nm,0.5s						
TOTH				AML	AML	15 33 22.4	
	comp=N,28nm,0.6s						
TOTH	**TOTAH**	**0.75**	**124**	*i* P	**Pb**	**15 33 03.4**	**+1.0**
	SNR=57						
TOTH				*eS*	**Sb**	**15 33 12.0**	**-0.5**
	comp=N,28nm,0.6s,SNR=58						
SALA	**Sala**	**1.39**	**140**	*i* P	**Pn**	**15 33 10.5**	**-0.5**
SALA				*eS*	**Sn**	**15 33 27.7**	**-0.6**
SALA				AML	AML	15 33 34.0	
	comp=E,3.3nm,0.5s						
SALA				AML	AML	15 33 34.8	
	comp=N,35nm,0.4s						
SALA	**Sala**	**1.39**	**140**	*i* P	**Pn**	**15 33 10.5**	**-0.5**
	SNR=57						
SALA				*eS*	**Sn**	**15 33 27.7**	**-0.6**
	comp=N,35nm,0.4s,SNR=58						

IDC 05 15:38:21.5±1.7, 46°.06N×154°.81E, h0km, mb3.6/3, mb1 3.7/5, mb1mx3.5/31, mbtmp3.6/5, ML2.6/2, MS3.0/2, Ms1 3.0/2, ms1mx2.5/40, Error ellipse: s-maj=51.6km s-min=27.6km az=85.0, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PETK	**Petropavlovsk-**	**7.30**	**14**	Pn	Pn	15 40 08.8	-0.5
	0.6nm,0.3s,baz=168,slow=13,SNR=25						
PETK				LR	LR	15 42 54.5	
	comp=Z,44nm,21.4s,baz=132,slow=37						
USRK	**Ussuriysk Ar.**	**16.20**	**272**	Pn	Pn	15 42 08.8	-1.6
	0.2nm,0.3s,baz=67,slow=14,SNR=5.1						
H11N2	**WAKE ISLAND Hy 28.09 155**	T	T	16 13 41.3			
	baz=342,slow=76,SNR=5.5						
H11N1	**WAKE ISLAND Hy 28.10 155**	T	T	16 13 44.7			
	baz=342,slow=76,SNR=5.7						
H11N3	**WAKE ISLAND Hy 28.46 155**	T	T	16 13 43.9			
	baz=342,slow=76,SNR=4.4						
H11S1	**WAKE ISLAND Hy 29.19 156**	T	T	16 15 01.9			
	baz=343,slow=76,SNR=6.9						
H11S3	**WAKE ISLAND Hy 29.20 156**	T	T	16 15 11.3			
	baz=343,slow=76,SNR=8.7						
H11S2	**WAKE ISLAND Hy 29.21 156**	T	T	16 15 13.7			
	baz=343,slow=76,SNR=5.1						
ZALV	**Zalesovo Beam**	**43.96**	**307**	P	P	15 46 30.3	+0.3
	0.6nm,0.5s,baz=54,slow=7.3,SNR=2.9						
AAK	**Ala-Archa**	**55.19**	**298**	LR	LR	16 12 40.7	
	comp=Z,47nm,21.5s,slow=37						
WRA	**Warramunga Arr**	**68.26**	**201**	P	P	15 49 25.6	+1.5
	0.6nm,0.8s,baz=22,slow=6.9,SNR=6.7						
ASAR	**Alice Springs**	**71.95**	**200**	P	P	15 49 45.3	-1.4
	0.3nm,0.9s,baz=20,slow=5.0,SNR=3.3						

*GUC **05** 16:00:02.5±0.7,30°.21S×70°.89W, h74km±3km, ML3.9*
*SJA **05** 16:00:12.3±0.9,30°.56S×70°.21W, h130km±24km, ML3.4, MW3.8*

ISC 05 16:00:04.9±1.5, 30°.24S±0°.04×71°.0W±0°.2, h65km±11km, n16, σ1°72/17, 3D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TLL	**Tololo Astrono**	**0.21**	**69**	ǁ *i* P	**Pn**	**16 00 14.7**	**-0.6**
TLL				*i* S	**Sn**	**16 00 23.6**	**+0.8**
TLL				IAML		16 00 23.9	
	comp=E,10μm,0.1s						
LCO	**Las Campanas**	**1.26**	**13**	ǁ *i* P	**Pn**	**16 00 25.6**	**-1.1**
LCO				*i* S	**Sn**	**16 00 42.7**	**-0.4**
LCO	**Las Campanas**	**1.26**	**13**	*i* P	**Sn**	**16 00 42.7**	**-0.4**
VACH	**Vallenar**	**1.68**	**8**	ǁ *i* P	**Pn**	**16 00 34.1**	**+2.0**
VACH				*i* S	**Sn**	**16 00 54.9**	**+2.2**
RTLS	**Leoncito**	**2.15**	**137**	*i* P	Pn	16 00 41.6	+2.9
AGUA	**GUANDACOL**	**2.33**	**72**	*i* P	Pn	16 00 45.8	+4.8
AUSP	**Uspallata**	**2.42**	**145**	*i* P	Pn	16 00 45.3	+2.8
RTCV	**Cerro Valdivia**	**2.68**	**128**	*i* P	**Pn**	**16 00 46.7**	**+1.0**
ROCH	**El Roble**	**2.72**	**180**	IAML		16 01 26.2	
	comp=N,432nm,0.6s						
VCA	**Vinchina**	**2.88**	**59**	*i* P	Pn	16 00 53.1	+4.5
PEL	**Peldehue**	**2.91**	**174**	*eP*	**Pn**	**16 00 48.1**	**-0.7**
PEL				*i* S	**Sn**	**16 01 22.7**	**+0.1**
PEL				IAML		16 01 33.3	
	comp=E,269nm,0.3s						
CPCH	**Copiapo**	**2.94**	**12**	*eP*	**Pn**	**16 00 47.1**	**-2.0**
FCH	**Farellones**	**3.14**	**169**	*eP*	**Pn**	**16 00 52.5**	**+0.3**
FCH				*i* S	**Sn**	**16 01 29.8**	**+1.1**
FCH				IAML		16 01 42.7	
	comp=E,189nm,0.2s						
ARCO	**CERRO ARCO**	**3.15**	**146**	*i* P	Pn	16 00 54.2	+2.0
ARCO				IAML		16 01 19.9	
	comp=Z,129nm,0.8s						
ARCO				*i* S	**Sn**	**16 01 24.7**	**-4.0**
CLCH	**Cerro Calan**	**3.17**	**172**	*eP*	**Pn**	**16 00 51.9**	**-0.6**
CLCH				*i* S	**Sn**	**16 01 29.7**	**+0.6**
CLCH				IAML		16 01 39.4	
	comp=E,368nm,0.5s						
AAGR	**Agrel

5.5140, Plg8.0000°, Azm324.0000°; N 0.0640, Plg79.0000°, Azm101.0000°; P -5.5810, Plg8.0000°, Azm233.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.

ISC 05 16:11:16.7±0.4, 6.61N±0.05×82.34W±0.05, h10km, n444, σ1§27/449, mb4.9/132, MS4.0/18, 5C-1D, South of Panama

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ACR	**Cerro Adams**	**2.19**	**338⇑**	*eP*	**Pn**	**16 11 50.4**	**-2.8**
TBS2		**2.19**	**352**	*eP*	**Pn**	**16 11 52.9**	**-0.5**
TBS2				*eS*	**Sn**	**16 12 21.4**	**+0.8**
BRU2	**Volcan**	**2.19**	**351⇑**	*eP*	**Pn**	**16 11 51.8**	**-1.7**
BRU2				*eS*	**Sn**	**16 12 21.2**	**+0.5**
AZU	**Azuero**	**2.36**	**60**	*i P*	**Pn**	**16 11 54.6**	**-0.9**
AZU				*eS*	**Sn**	**16 12 23.0**	**-1.6**
MAPC	**Malpelo**	**2.69**	**164**	*eP*	Pn	16 11 51.9	-8.3
PNME	**Penonome**	**2.73**	**47**	*i P*	**Pn**	**16 12 00.7**	**+0.1**
PNME				*eS*	**Sn**	**16 12 34.4**	**+0.7**
ZANG	**Zanguenga, Cho**	**3.38**	**46**	*i P*	**Pn**	**16 12 09.9**	**+0.3**
URSC	**Urasca**	**3.50**	**336**	*eP*	**Pn**	**16 12 10.5**	**-1.0**
FLAM	**Flamenco Islan**	**3.60**	**50**	*i P*	**Pn**	**16 12 12.8**	**+0.2**
FLAM			⇓	*eP*	**Pn**	**16 12 12.9**	**+0.2**
FLAM				*eS*	**Sn**	**16 12 53.3**	**-1.9**
FLAM				*eS*	**Sn**	**16 12 53.7**	**-1.5**
FRIJ	**El Hiral**	**3.66**	**45**	*eP*	**Pn**	**16 12 13.4**	**-0.1**
SJS	**Escuela Geolog**	**3.71**	**333**	*eP*	**Pn**	**16 12 13.4**	**-0.9**
HDC	**Heredia**	**3.80**	**333**	*eP*	**Pn**	**16 12 14.9**	**-0.5**
HDC	**Heredia**	**3.80**	**333⇑**	*i P*	**Pn**	**16 12 15.0**	**-0.5**
HDC2	**Heredia 2**	**3.82**	**333⇑**	*i P*	**Pn**	**16 12 15.1**	**-0.7**
HDC2				*eS*	**Sn**	**16 12 59.1**	**-1.7**
CGA2	**Cerro Gallo 2**	**3.98**	**328⇑**	*eP*	**Pn**	**16 12 16.5**	**-1.5**
JTS	**JuntasAbangare** 365nm,0.3s,baz=348,slow=21,SNR=427	**4.47**	**325**	Pn	**Pn**	**16 12 23.0**	**-1.7**
JTS	comp=Z,864nm,21.5s,baz=215,slow=25			LR	LR	16 13 07.1	
JTS	28nm,0.3s,baz=61,slow=20,SNR=4.6			Sn	**Sn**	**16 13 16.1**	**-0.8**
UPD2	**Meteti**	**4.71**	**66**	*eP*	**Pn**	**16 12 31.1**	**+3.3**
CUI	**Cuipilapa**	**4.89**	**325**	*eP*	**Pn**	**16 12 29.6**	**-0.8**
SOLC	**Bahia Solano**	**4.92**	**94**	*eP*	**Pn**	**16 12 29.2**	**-1.6**
COLC	**Colonia**	**4.92**	**325**	*eP*	**Pn**	**16 12 30.5**	**-0.3**
MESS	**Mesas**	**4.98**	**326**	*eP*	**Pn**	**16 12 30.8**	**-0.9**
CAPC	**Capurgana**	**5.34**	**68**	*eP*	**Pn**	**16 12 37.1**	**+0.5**
CRZ1	**La Cruz**	**5.50**	**324**	*eP*	**Pn**	**16 12 38.5**	**-0.2**
HELC	**Santa Helena**	**6.78**	**93**	*eP*	**Pn**	**16 12 57.5**	**+0.7**
HELC	**Santa Helena**	**6.78**	**93**	*ePn*	**Pn**	**16 12 57.2**	**+0.4**
COPN	**Copaltepe**	**6.94**	**323**	*eP*	**Pn**	**16 12 57.1**	**-1.5**
MOTC	**Monteria, Cord**	**6.96**	**72**	*eP*	**Pn**	**16 13 01.4**	**+2.6**
TOLC	**Tolima**	**7.27**	**106**	*eP*	**Pn**	**16 13 05.4**	**+1.9**
CRUC	**La Cruz**	**7.35**	**133**	*eP*	**Pn**	**16 13 04.2**	**-0.3**
ZARC	**Zaragoza, Cauc**	**7.48**	**83**	*eP*	**Pn**	**16 13 06.0**	**0.0**
NORC	**Norcasia**	**7.50**	**98**	*eP*	**Pn**	**16 13 08.2**	**+1.9**
SJCC	**San Jacinto, C**	**7.80**	**65**	*eP*	**Pn**	**16 13 10.5**	**0.0**
BETC	**Betania**	**7.91**	**119**	*eP*	**Pn**	**16 13 12.7**	**+0.8**
PRAC	**Prado**	**7.96**	**111**	*eP*	**Pn**	**16 13 13.3**	**+0.6**
PRAC	**Prado**	**7.96**	**111**	*ePn*	**Pn**	**16 13 13.2**	**+0.6**
ROSC	**El Rosal** 1.3nm,0.3s,baz=66,slow=20,SNR=2.0	**8.17**	**102**	Pn	**Pn**	**16 13 17.4**	**+1.6**
ROSC	1.4nm,0.3s,baz=107,slow=19,SNR=2.1			Sn	**Sn**	**16 14 52.0**	**+3.5**
ROSC	comp=Z,659nm,21.9s,baz=331,slow=34			LR	LR	16 15 50.6	
ROSC	**El Rosal**	**8.17**	**102**	*ePn*	Pn	16 13 21.8	+5.9
ROSC				Sn	**Sn**	**16 14 52.0**	**+3.5**
CNCH	**Conchagua**	**8.55**	**321**	*eP*	**Pn**	**16 13 21.0**	**+0.2**
BRRC	**Barranca, Sant**	**8.58**	**86**	*eP*	**Pn**	**16 13 20.7**	**-0.5**
TGUH	**Tegucigalpa,Un**	**8.85**	**327**	*ePn*	**Pn**	**16 13 24.8**	**+0.1**
VILC	**Villavicencio,**	**8.96**	**106**	*eP*	**Pn**	**16 13 26.6**	**+2.1**
SJAC	**San Juan de Ar**	**8.99**	**111**	*eP*	**Pn**	**16 13 26.9**	**0.0**
PACA	**Pacayal**	**9.00**	**320**	*eP*	**Pn**	**16 13 27.0**	**0.0**
GIRC	**Giron, Santand**	**9.09**	**87**	*eP*	**Pn**	**16 13 30.3**	**+2.0**
RUSC	**La Rusia**	**9.23**	**94**	*eP*	**Pn**	**16 13 31.4**	**+0.9**
RUSC	**La Rusia**	**9.23**	**94**	*ePn*	**Pn**	**16 13 31.0**	**+0.5**
LFRS	**El Faro**	**9.61**	**317**	*eP*	**Pn**	**16 13 36.2**	**+1.0**
LFU	**La Fuente**	**9.73**	**317**	*eP*	**Pn**	**16 13 38.5**	**+1.5**
BOQS	**Boqueron**	**9.83**	**317**	*eP*	**Pn**	**16 13 39.9**	**+1.4**
CUS1	**Cusmapa**	**10.42**	**315**	*eP*	**Pn**	**16 13 47.4**	**+1.0**
URIC	**Uribia, Colomb**	**11.40**	**63**	*eP*	**Pn**	**16 13 59.7**	**0.0**
SDV	**Santo Domingo** 1.2nm,0.3s,baz=249,slow=9.5,SNR=42	**11.82**	**78**	Pn	**Pn**	**16 14 06.8**	**+1.1**
SDV	1.8nm,0.3s,baz=317,slow=19,SNR=5.5			Sn	**Sn**	**16 16 13.9**	**-4.0**
SDV	**Santo Domingo**	**11.82**	**78**	*ePn*	**Pn**	**16 14 05.8**	**+0.1**
SDV				Sn	**Sn**	**16 16 13.9**	**-4.0**
MTDJ	**Mount Denham**	**12.46**	**22**	*ePn*	**Pn**	**16 14 13.5**	**-0.8**
CCIG	**Comitan**	**13.58**	**316**	*ePn*	**Pn**	**16 14 29.9**	**+0.3**
ATAH	**Atahualpa** 0.3nm,0.3s,baz=150,slow=23,SNR=4.3	**14.21**	**164**	Pn	**Pn**	**16 14 37.6**	**-1.0**
ATAH	comp=Z,2μm,19.1s,baz=342,slow=35			LR	LR	16 19 28.5	
GTBY	**Guantanamo Bay**	**14.98**	**27**	*ePn*	**Pn**	**16 14 48.1**	**-0.6**
CMIG	**Matias Romero** 2.9nm,0.3s,baz=145,slow=9.8,SNR=24	**16.09**	**311**	Pn	**Pn**	**16 15 04.1**	**+0.9**
CMIG	comp=Z,671nm,20.9s,baz=120,slow=35			LR	LR	16 20 35.3	
SDDR	**Presa de Saban** 89nm,1.1s	**16.34**	**40**	*eP*	**Pn**	**16 15 05.6**	**-0.8**
PCRV	**Puerto La Cruz** 0.6nm,0.3s,baz=266,slow=5.0,SNR=21	**17.87**	**77**	P	**Pn**	**16 15 25.4**	**-0.2**
PCRV	comp=Z,782nm,18.9s,baz=268,slow=43			LR	LR	16 24 15.6	
IDE	**Isla Desecheo**	**18.62**	**50**	*eP*	**P**	**16 15 34.7**	**+0.1**
MPR	**Mayaguez** 26nm,0.9s	**18.77**	**51**	*eP*	**P**	**16 15 35.9**	**-0.4**
CELP	**Cerrillos**	**19.13**	**52**	*eP*	**Pn**	**16 15 41.0**	**-0.1**
TLIG	**Tlapa** 55nm,1.2s	**19.22**	**306**	*eP*	**Pn**	**16 15 44.0**	**+1.7**
SJG	**San Juan** 2.1nm,0.3s,baz=227,slow=9.2,SNR=20	**19.49**	**53**	P	**Pn**	**16 15 45.5**	**+0.1**
SJG	comp=Z,491nm,21.8s,baz=246,slow=35			LR	LR	16 22 43.8	
SJG	**San Juan** 277nm,1.8s	**19.49**	**53**	*eP*	**Pn**	**16 15 45.1**	**-0.2**
HUMP	**Col San Antoni** 107nm,1.2s	**19.74**	**53**	*eP*	**P**	**16 15 47.1**	**+0.3**
CBYP	**Canovanas** 254nm,1.4s	**19.81**	**53**	*eP*	**P**	**16 15 48.0**	**+0.4**
CDVI	**St. Croix** 237nm,0.9s	**20.41**	**56**	*eP*	**P**	**16 15 55.0**	**+0.9**
STVI	**Saint Thomas** 401nm,1.6s	**20.57**	**54**	*eP*	**P**	**16 15 54.6**	**-1.3**
SMRT	**St. Maarten** 110nm,0.9s	**21.96**	**57**	*eP*	**P**	**16 16 09.6**	**-1.3**
FDF	**Fort de France** 87nm,1.0s	**22.32**	**67**	*eP*	**P**	**16 16 14.1**	**-0.7**
PTGA	**Pitinga** 1.5nm,0.5s,baz=305,slow=12,SNR=4.4	**23.49**	**107**	P	**P**	**16 16 26.2**	**-0.8**
SAML	**Samuel** 20nm,1.1s	**24.57**	**129**	*eP*	**P**	**16 16 34.1**	**-3.0**
035Z	**Hargill** baz=140	**24.78**	**325**	P	**P**	**16 16 40.2**	**+1.3**
035A	**Encino** baz=141,SNR=7.6	**25.17**	**325**	P	**P**	**16 16 44.1**	**+1.7**
ZAIG	**Zacatecas** 27nm,1.4s	**25.25**	**312**	*eP*	**P**	**16 16 43.8**	**+0.2**
034A	**Hebbronville** baz=140,SNR=38	**25.60**	**324**	P	**P**	**16 16 48.1**	**+1.8**
248A	**Dixon Mills** baz=168	**25.85**	**349**	P	**P**	**16 16 49.6**	**+1.1**
934A	**Benavides** baz=141,SNR=11	**25.91**	**326**	P	**P**	**16 16 50.8**	**+1.7**
835A	**Beeville** baz=143	**26.07**	**328**	P	**P**	**16 16 52.1**	**+1.5**
637A	**Eagle Lake** baz=147	**26.26**	**332**	P	**P**	**16 16 53.7**	**+1.4**
834A	**Tilden** baz=141	**26.34**	**326**	P	**P**	**16 16 54.2**	**+1.2**
933A	**Laredo** baz=139,SNR=21	**26.35**	**324**	P	**P**	**16 16 54.2**	**+1.0**
147A	**Livingston** baz=167	**26.51**	**349**	P	**P**	**16 16 57.4**	**+2.9**
LRAL	**Lakeview Retre** 28nm,1.1s	**26.64**	**351**	*eP*	**P**	**16 16 56.0**	**+0.3**
GOGA	**Godfrey** 17nm,1.1s	**26.68**	**358**	*eP*	**P**	**16 16 55.4**	**-0.7**
439A	**Center Grove,** baz=152	**26.73**	**336**	P	**P**	**16 16 57.3**	**+0.8**
LPAZ	**La Paz** 3.2nm,1.0s,baz=337,slow=6.9,SNR=8.0	**26.75**	**148**	P	**P**	**16 16 56.0**	**-1.5**
LPAZ	comp=Z,910nm,22.0s,baz=314,slow=39			LR	LR	16 28 31.7	
LPAZ	**La Paz**	**26.75**	**148**	*eP*	**P**	**16 16 56.6**	**-0.9**
734A	**La Parita Cree** 12nm,1.3s baz=142	**26.91**	**327**	P	**P**	**16 16 59.0**	**+0.8**
833A	**Chaparral WMA,** baz=140,SNR=16	**26.96**	**325**	P	**P**	**16 16 59.7**	**+1.0**
Z47A	**Carrollton** baz=167	**26.98**	**349**	P	**P**	**16 16 59.3**	**+0.6**
536A	**Bastrop** baz=146	**27.14**	**331**	P	**P**	**16 17 00.7**	**+0.4**
733A	**Divot King Ran** baz=141	**27.21**	**326**	P	**P**	**16 17 01.1**	**+0.2**
634A	**China Grove, S** baz=143	**27.22**	**328**	P	**P**	**16 17 01.7**	**+0.7**
832A	**Faith Ranch, C** baz=139,SNR=11	**27.26**	**324**	P	**P**	**16 17 01.8**	**+0.4**
535A	**Dale** baz=145	**27.35**	**330**	P	**P**	**16 17 02.3**	**+0.2**
NATX	**Nacogdoches** baz=153	**27.54**	**337**	P	**P**	**16 17 04.1**	**+0.3**
633A	**Saathoff Ranch** baz=142,SNR=10	**27.72**	**327**	P	**P**	**16 17 05.3**	**-0.1**
Y46A	**Houston** baz=166	**27.80**	**348**	P	**P**	**16 17 06.0**	**0.0**
534A	**Blanco** baz=144	**27.80**	**329**	P	**P**	**16 17 05.9**	**-0.3**
435B	**Jarrell** baz=146	**27.98**	**331**	P	**P**	**16 17 08.1**	**+0.4**
533A	**Kerrville** baz=143	**28.13**	**328**	P	**P**	**16 17 08.0**	**-1.2**
335A	**Moody** baz=147	**28.32**	**332**	P	**P**	**16 17 10.8**	**+0.1**
434A	**Burnet** baz=145	**28.33**	**330**	P	**P**	**16 17 10.6**	**-0.4**
KMSC	**Kings Mountain** baz=182	**28.41**	**2**	P	**P**	**16 17 11.9**	**+0.4**
138A	**Matatall Enter** baz=153	**28.50**	**337**	P	**P**	**16 17 12.9**	**+0.5**
SWET	**Sewanee** 5.0nm,1.0s	**28.66**	**354**	*eP*	**P**	**16 17 13.4**	**-0.3**
433A	**Art** baz=143,SNR=9.0	**28.70**	**329**	P	**P**	**16 17 14.2**	**0.0**
334A	**Lometa** baz=146	**28.74**	**331**	P	**P**	**16 17 14.6**	**0.0**
JCT	**Junction City** baz=142,SNR=5.8	**28.85**	**328**	P	**P**	**16 17 16.0**	**+0.4**
JCT	**Junction City** 60nm,1.5s	**28.85**	**328**	*eP*	**P**	**16 17 16.3**	**+0.7**
TKL	**Tuckaleechee C** comp=Z,390nm,18.5s,baz=182,slow=37	**28.94**	**358**	LR	LR	16 29 11.2	
333A	**Richland Sprin** baz=144	**29.11**	**330**	P	**P**	**16 17 17.6**	**-0.2**
234A	**Clairette** baz=146	**29.25**	**332**	P	**P**	**16 17 18.8**	**-0.2**
Y39A	**Locesburg** baz=156	**29.29**	**340**	P	**P**	**16 17 19.2**	**-0.2**
233A	**Rising Star** baz=145	**29.63**	**331**	P	**P**	**16 17 22.3**	**-0.1**
MIAR	**Mount Ida** baz=157	**29.67**	**341**	P	**P**	**16 17 22.4**	**-0.3**
MIAR	**Mount Ida** 15nm,1.3s	**29.67**	**341**	*eP*	**P**	**16 17 22.3**	**-0.4**
X39A	**Fountain Ranch** baz=156	**29.82**	**340**	P	**P**	**16 17 24.0**	**-0.1**
W41B	**Gary Mavity, V** baz=160	**29.85**	**344**	P	**P**	**16 17 24.0**	**-0.3**
Y37A	**Hugo** baz=153	**29.88**	**337**	P	**P**	**16 17 24.4**	**-0.2**
WHAR	**Wooly Hollow** 18nm,1.0s	**29.97**	**344**	*eP*	**P**	**16 17 24.2**	**-1.2**
133A	**Hamilton Ranch** baz=146	**30.12**	**331**	P	**P**	**16 17 26.6**	**-0.2**
V42A	**Cord** baz=162	**30.22**	**345**	P	**P**	**16 17 27.2**	**-0.3**
TX31	**Lajitas Ar. Si**	**30.25**	**321**	*eP*	**P**	**16 17 27.5**	**-0.6**
TXAR	**Lajitas Array** 2.0nm,0.9s,baz=126,slow=9.8,SNR=8.0	**30.25**	**321**	P	**P**	**16 17 28.0**	**-0.1**
TXAR	comp=Z,186nm,21.0s,baz=0.0,slow=39			LR	LR	16 30 47.2	
X37A	**Clayton** baz=154	**30.33**	**338**	P	**P**	**16 17 28.3**	**-0.3**
W39A	**Magazine** baz=157,SNR=6.3	**30.33**	**341**	P	**P**	**16 17 28.4**	**-0.2**
Y35A	**Marietta** baz=150	**30.38**	**335**	P	**P**	**16 17 28.7**	**-0.3**
V41A	**Mountainview** baz=160,SNR=6.3	**30.40**	**344**	P	**P**	**16 17 28.8**	**-0.4**
V40A	**Witts Springs** baz=159	**30.61**	**343**	P	**P**	**16 17 30.6**	**-0.4**
Z33A	**Whitaker Ranch** baz=146	**30.61**	**332**	P	**P**	**16 17 30.4**	**-0.7**
U42A	**Reneden** baz=162,SNR=5.5	**30.70**	**346**	P	**P**	**16 17 31.2**	**-0.6**
U41A	**Viola** baz=161	**30.86**	**345**	P	**P**	**16 17 32.7**	**-0.5**
U40A	**Yellville** baz=159	**31.13**	**343**	P	**P**	**16 17 35.4**	**-0.2**
V38A	**Canehill** baz=156	**31.15**	**341**	P	**P**	**16 17 34.9**	**-0.9**
T43A	**Greenville** baz=165	**31.18**	**348**	P	**P**	**16 17 35.5**	**-0.5**
T42A	**Van Buren** baz=163,SNR=6.0	**31.31**	**346**	P	**P**	**16 17 36.4**	**-0.8**
U39A	**Green Forest** baz=158	**31.34**	**343**	P	**P**	**16 17 36.7**	**-0.8**
V37A	**Hulbert** baz=155	**31.41**	**340**	P	**P**	**16 17 37.5**	**-0.6**
T41A	**Mountain View** baz=162	**31.49**	**345**	P	**P**	**16 17 38.4**	**-0.3**
U38A	**Gravette** baz=157	**31.67**	**341**	P	**P**	**16 17 39.1**	**-1.2**
T40A	**Mansfield** baz=160,SNR=6.5	**31.78**	**344**	P	**P**	**16 17 40.9**	**-0.5**
X32A	**Elmer** baz=147	**31.79**	**333**	P	**P**	**16 17 41.2**	**-0.3**
WMOK	**Wichita Mounta** baz=148	**31.83**	**334**	P	**P**	**16 17 40.9**	**-1.0**
WMOK	**Wichita Mounta** 3.4nm,1.0s	**31.83**	**334**	*eP*	**P**	**16 17 39.8**	**-2.1**
T39A	**Clever** baz=159	**31.90**	**343**	P	**P**	**16 17 41.1**	**-1.3**
S41A	**Jillco Farms,** baz=162	**32.00**	**346**	P	**P**	**16 17 42.1**	**-1.2**
S40A	**Lebanon** baz=161	**32.20**	**345**	P	**P**	**16 17 43.8**	**-1.2**
R43A	**Red Bud** baz=166	**32.26**	**349**	P	**P**	**16 17 44.4**	**-1.1**
U35A	**Pawnee** baz=153	**32.41**	**338**	P	**P**	**16 17 45.9**	**-1.0**
R42A	**Luebbering** baz=164	**32.44**	**348**	P	**P**	**16 17 46.1**	**-1.1**
T37A	**Cheneyville 18** baz=156	**32.46**	**341**	P	**P**	**16 17 46.7**	**-0.7**
S39A	**Bolivar** baz=159,SNR=7.4	**32.51**	**344**	P	**P**	**16 17 46.7**	**-1.1**
R41A	**Rosebud** baz=163,SNR=5.5	**32.59**	**347**	P	**P**	**16 17 47.6**	**-0.8**
S38A	**Stockton** baz=158	**32.62**	**343**	P	**P**	**16 17 48.0**	**-0.7**
T36A	**Boggs Farm, Ca** baz=154	**32.73**	**340**	P	**P**	**16 17 48.7**	**-0.9**
R40A	**Maddies Statio** baz=162	**32.79**	**345**	P	**P**	**16 17 49.5**	**-0.8**
T35A	**Sooner Cattle** baz=153	**32.82**	**339**	P	**P**	**16 17 49.8**	**-0.7**
MNTX	**Cornudas Mount** baz=134,SNR=27	**32.96**	**322**	P	**P**	**16 17 52.3**	**+0.5**
MNTX	**Cornudas Mount** 19nm,0.9s	**32.96**	**322**	*eP*	**P**	**16 17 52.4**	**+0.6**
R39A	**Chumby, Stover** baz=160	**33.01**	**344**	P	**P**	**16 17 51.2**	**-0.9**
MSTX	**Muleshoe** baz=141,SNR=9.0	**33.14**	**328**	P	**P**	**16 17 53.5**	**0.0**
MSTX	**Muleshoe** 19nm,0.9s	**33.14**	**328**	*eP*	**P**	**16 17 53.5**	**0.0**
Q41A	**Truxton** baz=164	**33.18**	**347**	P	**P**	**16 17 53.1**	**-0.5**
S36A	**Lake Cedric, C** baz=155	**33.23**	**341**	P	**P**	**16 17 53.3**	**-0.7**
AMTX	**Amarillo** 12nm,0.6s	**33.30**	**330**	*eP*	**P**	**16 17 51.0**	**-3.9**
Q40A	**Laux Farm, Aux** baz=162,SNR=5.1	**33.41**	**346**	P	**P**	**16 17 54.7**	**-1.0**
S35A	**Otter Creek Ra** baz=154	**33.44**	**340**	P	**P**	**16 17 55.0**	**-0.9**
R36A	**Gordon, Harris** baz=156	**33.75**	**341**	P	**P**	**16 17 57.8**	**-0.8**
P40A	**Paris** baz=162	**33.92**	**346**	P	**P**	**16 17 58.9**	**-1.1**
P39B	**Salisbury** baz=161,SNR=8.8	**34.05**	**346**	P	**P**	**16 18 00.1**	**-1.1**
O41A	**Passleys Farm,** baz=165	**34.23**	**348**	P	**P**	**16 18 01.5**	**-1.2**
N54A	**Moraine State** baz=184	**34.27**	**3**	P	**P**	**16 18 02.4**	**-0.7**
Q36A	**Arnold C. Orve** baz=156	**34.32**	**342**	P	**P**	**16 18 02.7**	**-0.8**
R34A	**Isabella, Hill** baz=153	**34.32**	**339**	P	**P**	**16 18 03.0**	**-0.6**
Q35A	**Mercer Eighty,** baz=155	**34.41**	**341**	P	**P**	**16 18 03.3**	**-1.0**
P37A	**Lathrop** baz=159	**34.56**	**344**	P	**P**	**16 18 04.6**	**-1.0**
N42A	**Yates City** baz=166	**34.76**	**350**	P	**P**	**16 18 06.4**	**-0.9**
Q34A	**Chapman** baz=154	**34.76**	**340**	P	**P**	**16 18 06.7**	**-0.7**
N41A	**Harden Midland** baz=165	**34.79**	**349**	P	**P**	**16 18 06.4**	**-1.2**
KSU1	**Kansas State U** baz=155	**34.81**	**340**	P	**P**	**16 18 06.8**	**-1.0**
KSU1	**Kansas State U** 6.2nm,0.6s	**34.81**	**340**	*eP*	**P**	**16 18 06.3**	**-1.5**
P36A	**Good Intent, A** baz=157,SNR=9.9	**34.84**	**342**	P	**P**	**16 18 06.8**	**-1.2**
P35A	**Duane Minner,** baz=156	**35.01**	**341**	P	**P**	**16 18 08.6**	**-0.9**
121A	**Cookes Peak, D** baz=132	**35.01**	**321**	P	**P**	**16 18 12.0**	**+2.1**
121A	**Cookes Peak, D** 18nm,1.0s	**35.01**	**321**	*eP*	**P**	**16 18 10.9**	**+1.1**
O37A	**Wolven Farm, M** baz=159	**35.05**	**344**	P	**P**	**16 18 08.5**	**-1.3**
319A	**Douglas** 56nm,1.5s	**35.24**	**318**	*eP*	**P**	**16 18 13.2**	**+1.4**
P34A	**Walnut Farm, R** baz=154,SNR=5.0	**35.29**	**340**	P	**P**	**16 18 11.0**	**-0.9**
N38A	**Joes South For** baz=161,SNR=9.6	**35.40**	**346**	P	**P**	**16 18 12.1**	**-0.7**
BNM	**Barren Site**	**35.42**	**324**	*eP*	**P**	**16 18 14.5**	**+1.0**
LPM	**Los Pinos Moun**	**35.54**	**324**	*eP*	**P**	**16 18 15.5**	**+1.2**
N37A	**Lee Faris, Mou** baz=159	**35.62**	**344**	P	**P**	**16 18 13.3**	**-1.4**
M39A	**Webster** baz=163	**35.81**	**347**	P	**P**	**16 18 15.2**	**-1.1**
O34A	**Beatrice** baz=155,SNR=9.5	**35.82**	**341**	P	**P**	**16 18 15.7**	**-0.8**
ANMO	**Albuquerque** 30nm,0.9s	**35.89**	**325**	*eP*	**P**	**16 18 18.3**	**+0.9**
LAZ	**Ladron**	**35.90**	**324**	*eP*	**P**	**16 18 17.0**	**-0.4**
M38A	**Pleasantville** baz=161	**35.98**	**346**	P	**P**	**16 18 16.7**	**-1.1**
L40A	**Anamosa** baz=165	**36.17**	**349**	P	**P**	**16 18 18.0**	**-1.4**
N34A	**Lincoln** baz=156	**36.35**	**342**	P	**P**	**16 18 20.6**	**-0.4**
M36A	**Felix, Anita** baz=159	**36.43**	**344**	P	**P**	**16 18 20.8**	**-0.9**
T25A	**Trinidad** baz=141,SNR=7.0	**36.44**	**330**	P	**P**	**16 18 23.3**	**+1.3**
T25A	**Trinidad** 46nm,1.5s	**36.44**	**330**	*eP*	**P**	**16 18 22.8**	**+0.8**
L38A	**Oak Wood Farm,** baz=162	**36.61**	**347**	P	**P**	**16 18 22.1**	**-1.1**
M35A	**Neola** baz=157	**36.69**	**343**	P	**P**	**16 18 23.4**	**-0.5**
K40A	**Colesburg** baz=165	**36.77**	**349**	P	**P**	**16 18 23.2**	**-1.3**
L37A	**Phoenix Point,** baz=161	**36.79**	**346**	P	**P**	**16 18 23.5**	**-1.2**
TUC	**Tucson** baz=128	**36.82**	**318**	P	**P**	**16 18 26.5**	**+1.2**
TUC	**Tucson** 10nm,1.0s	**36.82**	**318**	*eP*	**P**	**16 18 26.2**	**+1.0**
K39A	**Oelwein** baz=164	**36.92**	**348**	P	**P**	**16 18 24.5**	**-1.3**
L36A	**Harm Buss Farm** baz=159	**36.99**	**345**	P	**P**	**16 18 25.4**	**-1.1**
K38A	**Parkersburg** baz=163	**37.05**	**347**	P	**P**	**16 18 25.4**	**-1.5**
KSCO	**Kaye Shedlock'** baz=145	**37.09**	**333**	P	**P**	**16 18 27.9**	**+0.4**
L35A	**Bielow Farm, R** baz=158	**37.24**	**344**	P	**P**	**16 18 27.6**	**-0.9**
K37A	**Belmond** baz=161	**37.37**	**346**	P	**P**	**16 18 28.3**	**-1.3**
K36A	**Gilmore City** baz=160	**37.44**	**345**	P	**P**	**16 18 29.7**	**-0.5**
SDCO	**Great Sand Dun** baz=140,SNR=25	**37.46**	**329**	P	**P**	**16 18 31.8**	**+1.0**
SDCO	**Great Sand Dun** 32nm,1.3s	**37.46**	**329**	*eP*	**P**	**16 18 31.8**	**+1.0**
X18A	**Snowflake** 21nm,1.0s	**37.69**	**321**	*eP*	**P**	**16 18 33.5**	**+0.8**
K35A	**Storm Lake** baz=159	**37.72**	**344**	P	**P**	**16 18 31.8**	**-0.9**
W18A	**Petrified Fore** baz=132,SNR=6.9	**37.95**	**322**	P	**P**	**16 18 36.8**	**+1.9**
W18A	**Petrified Fore** 20nm,0.8s	**37.95**	**322**	*eP*	**P**	**16 18 36.3**	**+1.4**
214A	**Organ Pipe Nat** baz=125,SNR=7.4	**37.99**	**316**	P	**P**	**16 18 35.4**	**+0.3**
J36A	**Seneca 1, Swea** baz=160,SNR=7.0	**38.06**	**346**	P	**P**	**16 18 33.9**	**-1.6**
S22A	**4UR Ranch, Cre** baz=138,SNR=28	**38.15**	**328**	P	**P**	**16 18 38.1**	**+1.4**
S22A	**4UR Ranch, Cre** 17nm,0.9s	**38.15**	**328**	*eP*	**P**	**16 18 37.5**	**+0.8**
Q24A	**Divide** baz=142,SNR=5.9	**38.23**	**331**	P	**P**	**16 18 38.1**	**+0.8**
Q24A	**Divide** 17nm,1.1s	**38.23**	**331**	*eP*	**P**	**16 18 38.4**	**+1.0**
K32A	**Verdigre** baz=154	**38.47**	**341**	P	**P**	**16 18 37.7**	**-1.2**
X16A	**Lo Mia Camp, P** 17nm,0.8s	**38.56**	**320**	*eP*	**P**	**16 18 41.6**	**+1.6**
MVCO	**Mesa Verde** baz=136,SNR=26	**38.67**	**326**	P	**P**	**16 18 42.4**	**+1.5**
MVCO	**Mesa Verde** 60nm,0.9s	**38.67**	**326**	*eP*	**P**	**16 18 42.5**	**+1.5**
I35A	**Creekview Farm** baz=160	**38.72**	**345**	P	**P**	**16 18 39.5**	**-1.5**
J33A	**Davis** baz=156	**38.76**	**343**	P	**P**	**16 18 39.9**	**-1.5**
ECSD	**EROS Data Cent** baz=157	**39.04**	**344**	P	**P**	**16 18 42.5**	**-1.2**
ECSD	**EROS Data Cent** 16nm,1.3s	**39.04**	**344**	*eP*	**P**	**16 18 42.3**	**-1.4**
ISCO	**Idaho Springs** baz=142,SNR=6.6	**39.10**	**331**	P	**P**	**16 18 44.8**	**+0.2**
ISCO	**Idaho Springs** 6.4nm,1.0s	**39.10**	**331**	*eP*	**P**	**16 18 45.8**	**+1.2**
I34A	**Hadley** baz=158,SNR=5.7	**39.12**	**345**	P	**P**	**16 18 43.1**	**-1.3**
113A	**Mohawk Valley,** 16nm,1.2s	**39.12**	**316**	*eP*	**P**	**16 18 45.6**	**+1.1**
WUAZ	**Wupatki** baz=130,SNR=27	**39.22**	**321**	P	**P**	**16 18 46.8**	**+1.3**
WUAZ	**Wupatki** 34nm,1.0s	**39.22**	**321**	*eP*	**P**	**16 18 46.5**	**+1.0**
G39A	**Holcombe** baz=166	**39.28**	**350**	P	**P**	**16 18 44.2**	**-1.5**
Y14A	**Wickenburg** 36nm,0.9s	**39.28**	**318**	*eP*	**P**	**16 18 47.1**	**+1.1**
G38A	**Ridgeland** baz=165	**39.29**	**349**	P	**P**	**16 18 44.0**	**-1.8**
SMCO	**Snowmass** 13nm,0.9s	**39.30**	**329**	*eP*	**P**	**16 18 47.2**	**+0.8**
PV01	**Paradox Valley**	**39.37**	**327**	*eP*	**P**	**16 18 47.9**	**+1.0**
H35A	**Sunnyside Ranc** baz=160,S

GLA	Glamis	40.01	315	*eP*	P	16 18 53.1	+1.1
	23nm,1.1s							
N23A	Red Feather La	40.12	332	P	P	16 18 54.2	+1.1
	baz=142							
Y12C	Blythe	40.20	317	P	P	16 18 55.0	+1.5
	baz=125							
Y12C	Blythe	40.20	317	*eP*	P	16 18 54.6	+1.0
	11nm,1.1s							
PDMCI	Parker Dam,Lak	40.26	318	P	P	16 18 55.7	+1.7
	baz=126							
F36A	Milaca	40.28	348	P	P	16 18 52.4	-1.7
	baz=163							
U15A	North Rim	40.37	322	*eP*	P	16 18 56.8	+1.5
	28nm,1.1s							
W13A	Hualapai Mount	40.56	319	*eP*	P	16 18 58.4	+1.6
	18nm,0.9s							
O20A	White River Ci	40.66	329	P	P	16 18 58.7	+1.2
	baz=138,SNR=8.8							
O20A	White River Ci	40.66	329	*eP*	P	16 18 58.3	+0.8
	25nm,1.2s							
CPUP	Villa Florida	40.76	144	LR	LR	16 37 55.5		
	comp=Z,274nm,20.3s,baz=320,slow=39							
CPUP	Villa Florida	40.76	144	*eP*	P	16 18 58.1	-0.1
BC3	Big Chuckawall	40.78	316	P	P	16 18 59.9	+1.4
	baz=124,SNR=5.9							
IRM	Iron Mountain	40.85	317	P	P	16 19 00.5	+1.5
	baz=125							
PKCU	Pink Cliffs	41.04	323	*eP*	P	16 19 01.9	+1.0
	20nm,0.9s							
KNB	Kanab	41.08	322	*eP*	P	16 19 02.5	+1.6
	24nm,1.0s							
SRU	San Rafael Swe	41.14	326	*eP*	P	16 19 02.3	+0.9
	61nm,0.9s							
LCMT	Little Creek M	41.33	322	*eP*	P	16 19 04.2	+1.2
	24nm,1.4s							
BELC	Belle Mtn. Jos	41.35	316	P	P	16 19 04.8	+1.5
	baz=124,SNR=10.0							
MTPU	Mount Pierson	41.36	324	*eP*	P	16 19 04.8	+1.3
	41nm,1.9s							
TPFO	Pinon Flats	41.46	315	P	P	16 19 05.4	+1.4
	baz=123							
PFO	Pinyon Flats O	41.46	315	P	P	16 19 05.5	+1.4
	baz=123							
PFO	Pinyon Flats O	41.46	315	*eP*	P	16 19 04.7	+0.6
	17nm,1.3s							
GMRC	Granite Mounta	41.56	317	P	P	16 19 06.8	+1.8
	baz=125,SNR=5.4							
SZCU	Shurtz Canyon	41.61	322	*eP*	P	16 19 06.9	+1.5
	18nm,0.9s							
TMUT	Trail Mountain	41.65	326	*eP*	P	16 19 06.6	+0.8
	25nm,1.5s							
MSU	Marysvale	41.67	324	*eP*	P	16 19 06.6	+0.7
K22A	Casper	41.77	333	P	P	16 19 07.0	+0.4
	baz=142							
K22A	Casper	41.77	333	*eP*	P	16 19 06.9	+0.4
	12nm,1.1s							
C37A	Embarrass	41.82	350	P	P	16 19 05.5	-1.2
	baz=165							
RSSD	Black Hills	41.91	337	P	P	16 19 08.4	+0.6
	baz=147							
RSSD	Black Hills	41.91	337	*eP*	P	16 19 08.0	+0.2
	30nm,1.6s							
C36A	Pine Crest Far	41.97	349	P	P	16 19 06.2	-1.7
	baz=164							
HEC	Hector,Ludlow	42.05	317	P	P	16 19 10.5	+1.7
	baz=124,SNR=5.2							
TUQ	Turquoise Moun	42.11	318	P	P	16 19 10.8	+1.4
	baz=125,SNR=7.9							
SHPR	Sheep Range	42.23	319	*eP*	P	16 19 12.3	+1.8
	16nm,1.1s							
SHOC	Shoshone, Teco	42.61	318	P	P	16 19 14.9	+1.6
	baz=125,SNR=6.5							
GSC	Goldstone, Bar	42.63	317	P	P	16 19 15.2	+1.7
	baz=124,SNR=8.2							
GSC	Goldstone, Bar	42.63	317	*eP*	P	16 19 14.4	+0.8
	14nm,1.1s							
JLU	Jordanelle	42.69	327	*eP*	P	16 19 15.3	+1.1
	29nm,1.1s							
B34A	Aery, Baudette	43.02	348	P	P	16 19 14.6	-1.8
	baz=162							
C31A	Landman Farms,	43.09	345	P	P	16 19 15.3	-1.7
	baz=157							
AGMN	Agassiz Nation	43.10	347	P	P	16 19 16.3	-0.8
	baz=160							
AGMN	Agassiz Nation	43.10	347	*eP*	P	16 19 15.9	-1.2
	28nm,1.4s							
DUG	Dugway, Tooele	43.16	325	P	P	16 19 19.3	+1.4
	baz=133,SNR=10							
DUG	Dugway, Tooele	43.16	325	*eP*	P	16 19 19.3	+1.4
	54nm,1.9s							
TPNV	Topopah Spring	43.20	319	P	P	16 19 20.1	+1.8
	baz=126,SNR=14							
TPNV	Topopah Spring	43.20	319	*eP*	P	16 19 19.4	+1.1
	12nm,1.0s							
BW06	Boulder Array	43.28	331	P	P	16 19 19.3	+0.3
	baz=138,SNR=12							
BW06	Boulder Array	43.28	331	*eP*	P	16 19 18.8	-0.1
	17nm,1.3s							
PD31	Pinedale Array	43.28	331	*eP*	P	16 19 18.8	-0.1
PDAR	Pinedale Array	43.28	331	P	P	16 19 19.1	+0.1
	7.1nm,1.1s,baz=126,slow=7.5,SNR=25							
PDAR				PcP	PcP	16 21 07.5	-0.5
	1.1nm,0.9s,baz=119,slow=1.9,SNR=4.0							
PDAR				LR	LR	16 40 52.9		
	comp=Z,138nm,18.1s,baz=129,slow=41							
LRMC	Laurel Mtn Rad	43.32	317	P	P	16 19 20.7	+1.4
	baz=123,SNR=5.4							
B32A	Ashes, Strandq	43.35	346	P	P	16 19 17.5	-1.6
	baz=159							
HWUT	Hardware Ranch	43.46	328	*eP*	P	16 19 20.3	0.0
	53nm,0.9s							
MPMC	Manual Prospec	43.51	317	P	P	16 19 21.8	+0.9
	baz=124,SNR=6.7							
A33A	Warroad	43.60	348	P	P	16 19 19.6	-1.5
	baz=161							
R11A	Troy Canyon, C	43.62	321	P	P	16 19 23.1	+1.5
	baz=128,SNR=19							
R11A	Troy Canyon, C	43.62	321	*eP*	P	16 19 22.7	+1.1
	18nm,1.2s							
DAC	Darwin (Calif)	43.70	318	*eP*	P	16 19 22.8	+0.5
	5.4nm,1.0s							
SPUT	South Promonto	43.72	327	*eP*	P	16 19 23.1	+0.7
	44nm,1.1s							
BGU	Big Grassy Mou	43.78	326	*eP*	P	16 19 23.6	+0.7
	39nm,1.2s							
GRAC	Grapevine Rang	43.96	319	P	P	16 19 26.0	+1.7
	baz=125,SNR=14							
CWC	Cottonwood Cre	44.12	317	P	P	16 19 27.0	+1.3
	baz=124							
CWC	Cottonwood Cre	44.12	317	*eP*	P	16 19 22.3	-3.4
HVU	Hansel Valley	44.23	327	*eP*	P	16 19 26.8	+0.3
	16nm,1.0s							
REDW	Red Top Meadow	44.36	330	*eP*	P	16 19 27.9	+0.3
	65nm,1.3s							
SNOW	Snow King Moun	44.39	330	*eP*	P	16 19 28.3	+0.5
	106nm,1.8s							
LOHW	Long Hollow	44.42	331	*eP*	P	16 19 28.1	+0.1
	27nm,1.5s							
VES	Agassi, Richgr	44.48	316	P	P	16 19 29.9	+1.6
	baz=122,SNR=5.9							
TPAW	Teton Pass	44.50	330	*eP*	P	16 19 29.0	+0.2
	17nm,1.0s							
MOOW	Moose Ponds	44.59	331	*eP*	P	16 19 29.6	+0.2
	20nm,1.3s							
IMW	Indian Meadow	44.80	331	*eP*	P	16 19 31.2	0.0
	13nm,1.0s							
FLWY	Flagg Ranch	44.82	331	*eP*	P	16 19 31.6	+0.3
	30nm,1.3s							
RLMT	Red Lodge	44.94	333	P	P	16 19 32.5	+0.3
	baz=140,SNR=8.3							
RLMT	Red Lodge	44.94	333	*eP*	P	16 19 31.7	-0.5
	40nm,1.8s							
ULM	Lac du Bonnet	44.95	348	P	P	16 19 29.8	-2.0
	12nm,0.9s,baz=166,slow=7.0,SNR=7.4							
ULM	Lac du Bonnet	44.95	348	*eP*	P	16 19 29.6	-2.3
	22nm,1.1s							
H17A	Grant Village	44.99	331	*eP*	P	16 19 34.9	+2.2
	41nm,1.8s							
YPP	Pitchstone Pla	45.01	331	*eP*	P	16 19 33.6	+0.7
	15nm,1.2s							
PAGB	Antelope Grade	45.23	315	*eP*	P	16 19 35.3	+0.9
	17nm,1.1s							
YHH	Holmes Hill	45.42	331	*eP*	P	16 19 35.8	-0.3
	13nm,1.2s							
YHB	Horse Butte	45.55	331	*eP*	P	16 19 37.9	+0.9
	14nm,1.2s							
TVH2	Borealis Mine	45.65	319	*eP*	P	16 19 38.6	+0.7
	5.4nm,1.1s							
TVH1	TV Hill, Hawth	45.70	319	*eP*	P	16 19 39.8	+1.3
	7.8nm,0.8s							
QLMT	Earthquake Lak	45.72	331	*eP*	P	16 19 39.2	+0.8
BMN	Battle Mountai	45.89	323	*eP*	P	16 19 40.5	+0.7
	53nm,1.1s							
WAKR	Walker	46.16	319	*eP*	P	16 19 42.2	+0.2
	14nm,0.8s							
YERR	Yerington	46.30	320	*eP*	P	16 19 43.0	-0.1
	10nm,0.8s							
HLID	Hailey	46.33	328	P	P	16 19 44.1	+1.0
	baz=133,SNR=23							
HLID	Hailey	46.33	328	*eP*	P	16 19 44.2	+1.0
	12nm,0.9s							
BOZ	Bozeman (W)	46.39	332	P	P	16 19 44.3	+0.8
	baz=138,SNR=36							
BOZ	Bozeman (W)	46.39	332	*eP*	P	16 19 44.3	+0.8
	37nm,1.1s							
MCMT	McKenzie Canyo	46.41	330	*eP*	P	16 19 44.4	+0.5
PNTR	Pine Nut	46.59	320	*eP*	P	16 19 43.7	-1.7
	13nm,0.8s							
DLMT	Dillon	46.68	331	*eP*	P	16 19 46.8	+1.0
	30nm,1.3s							
PAHR	Pah Rah Range	46.80	320	*eP*	P	16 19 48.3	+1.4
	25nm,1.7s							
LRM	Limekiln Ridge	46.94	331	*eP*	P	16 19 48.1	+0.1
MFID	Camas Ranch	46.99	327	*eP*	P	16 19 49.0	+0.7
	36nm,1.4s							
HRY	Holter Researc	47.31	333	*eP*	P	16 19 51.0	+0.2
EGMT	Eagleton	47.41	335	P	P	16 19 51.5	+0.1
	baz=142							
EGMT	Eagleton	47.41	335	*eP*	P	16 19 51.7	+0.3
	26nm,1.6s							
WVOR	Wild Horse Val	47.96	324	*eP*	P	16 19 56.0	+0.1
	49nm,1.1s							
ORV	Oroville	48.08	319	*eP*	P	16 19 57.0	+0.4
	14nm,1.0s							
CHMT	Chamberlain Mo	48.12	332	*eP*	P	16 19 56.1	-1.0
MSO	Missoula	48.38	331	P	P	16 19 59.4	+0.4
	baz=136,SNR=18							
MSO	Missoula	48.38	331	*eP*	P	16 19 59.5	+0.4
	34nm,1.3s							
MOD	Modoc Plateau	48.64	322	*eP*	P	16 20 00.8	-0.3
	15nm,1.4s							
O03D	Paynes Creek	48.67	320	P	P	16 20 01.1	-0.3
	baz=123							
BMO	Blue Mountains	48.74	327	*eP*	P	16 20 01.5	-0.3
	9.5nm,1.2s							
SWMT	Swartz Lake	48.90	332	*eP*	P	16 20 02.7	-0.3
YBMT	Yellow Bay	49.16	332	*eP*	P	16 20 04.9	-0.1
JTMT	Jette	49.20	332	*eP*	P	16 20 05.7	+0.4
BLMT	Blacktail Moun	49.43	332	*eP*	P	16 20 07.6	+0.4
F10A	Beach Ranch, E	49.44	328	*eP*	P	16 20 06.8	-0.3
	12nm,1.0s							
K05A	Summer Lake	49.47	323	*eP*	P	16 20 07.6	+0.1
	33nm,1.8s							
M04C	Macdoel	49.51	321	P	P	16 20 08.0	+0.2
	baz=124							
BSMT	Bassco Peak	49.52	332	*eP*	P	16 20 08.1	+0.3
SCHQ	Schefferville	49.67	12	LR	LR	16 40 43.0		
	comp=Z,136nm,21.8s,baz=182,slow=36							
KMRM	Mail Ridge	49.88	319	*eP*	P	16 20 10.6	0.0
	39nm,1.5s							
WALA	Waterton Lakes	49.99	333	*eP*	P	16 20 10.8	-0.6
	12nm,1.1s							
E09A	Wood Farm, Sta	50.27	328	*eP*	P	16 20 12.9	-0.4
	38nm,1.1s							
J04D	Umpqua Nationa	50.50	323	P	P	16 20 16.0	+0.7
	baz=125,SNR=13							
G06A	Carlson Farm,	50.81	326	*eP*	P	16 20 17.7	+0.2
	34nm,1.7s							
HAWA	Hanford	50.93	327	*eP*	P	16 20 18.8	+0.5
	32nm,1.6s							
NEW	Newport	50.93	331	P	P	16 20 18.1	-0.2
	baz=133,SNR=9.2							
NEW	Newport	50.93	331	*eP*	P	16 20 18.6	+0.3
	19nm,1.1s							
I04A	Tendick Farm,	50.99	323	P	P	16 20 18.8	-0.1
	baz=125							
D08A	Wollman Farm,	51.03	328	*eP*	P	16 20 18.6	-0.5
	20nm,1.5s							
G05D	Wamic, OR	51.20	325	P	P	16 20 21.8	+1.4
	baz=127,SNR=8.0							
E07A	Sunnyside	51.20	327	*eP*	P	16 20 19.7	-0.7
	8.6nm,0.8s							
KBO	Bosley Butte	51.24	321	*eP*	P	16 20 20.6	-0.3
	50nm,1.2s							
I03D	Drain, OR	51.50	323	P	P	16 20 23.3	+0.6
	baz=124,SNR=5.8							
KEBM	Edson Butte	51.66	321	*eP*	P	16 20 28.0	+4.1
	38nm,1.1s							
B08A	Colville Reser	52.09	329	*eP*	P	16 20 26.8	-0.2
	15nm,1.2s							
F04D	Rainier, OR	52.66	325	P	P	16 20 32.1	+0.9
	baz=126							
D05A	Enumclaw	52.74	327	*eP*	P	16 20 32.2	+0.4
	24nm,1.1s							
EDM	Edmonton	52.89	337	*eP*	P	16 20 30.8	-2.1
	83nm,1.5s							
E03A	Lebam	53.24	325	*eP*	P	16 20 35.6	+0.1
	30nm,1.0s							
NLWA	Neilton Lookou	53.90	326	*eP*	P	16 20 41.8	+1.4
	20nm,1.0s							
LLLB	Lillooet	54.81	330	*eP*	P	16 20 48.2	+1.3
	50nm,1.6s							
RKT	Rikitea	59.31	238	*eS*	S	16 29 30.6	+2.6
	238nm,30.8s							
RKT				*e*LR	LR	16 39 01.2		
	274nm,27.5s,baz=77							
TAOE	Nuku Hiva Isla	59.63	256	*e*LR	LR	16 39 09.2		
	375nm,26.4s							
YKA	Yellowknife Ar	60.57	343	P	P	16 21 26.4	-0.7
	6.9nm,1.0s,baz=132,slow=7.0,SNR=12							
YKA				LR	LR	16 49 20.5		
	comp=Z,15nm,18.3s,baz=180,slow=38							
DLBC	Dease Lake	63.32	334	*eP*	P	16 21 45.7	-0.1
	20nm,1.1s							
DAWY	Dawson	70.10	337	*eP*	P	16 22 28.7	-0.3
	13nm,1.1s							
INK	Inuvik	70.26	342	LR	LR	16 57 28.4		
	comp=Z,149nm,18.1s,baz=109,slow=39							
INK	Inuvik	70.26	342	*eP*	P	16 22 29.8	-0.1
	22nm,1.3s							
SUMG	Summit	71.05	13	*i* P	P	16 22 34.4	-0.7
	6.6nm,0.9s							
SUMG	Summit	71.05	13	*eP*	P	16 22 34.0	-1.1
	14nm,1.2s							
EGAK	Eagle	71.11	337	*eP*	P	16 22 35.8	+0.7
	13nm,1.0s							
DOT	Dot Lake	71.79	336	*eP*	P	16 22 39.5	+0.2
	53nm,1.0s							
TBI	Tubuai	71.95	243	*e*LR	LR	16 44 52.9		
	11nm,29.8s,baz=70							
HDA	Harding Lake	73.26	336	*eP*	P	16 22 48.0	0.0
	26nm,1.0s							
IL1	Eielson Array	73.36	336	*eP*	P	16 22 48.4	-0.2
ILAR	Eielson Array	73.36	336	P	P	16 22 48.6	0.0
	7.3nm,0.8s,baz=114,slow=4.2,SNR=52							
ILAR				LR	LR	16 57 52.3		
	comp=Z,94nm,19.5s,baz=95,slow=38							
ILB	Eielson Array	73.36	336	*eP*	P	16 22 48.0	-0.6
RND	Reindeer	73.72	335	*eP*	P	16 22 50.8	0.0
	27nm,1.0s							
MCK	McKinley	73.86	335	*eP*	P	16 22 51.1	-0.5
	35nm,1.6s							
PPLA	Purkeypile	75.02	334	*eP*	P	16 22 58.0	-0.5
	12nm,0.8s							
CAST	Castle Rocks	75.11	334	*eP*	P	16 22 58.0	-0.8
	23nm,1.2s							
COLD	Coldfoot	75.45	338	*eP*	P	16 23 01.5	+0.8
	22nm,1.2s							
TOLK	Toolik Lake Re	75.68	340	P	P	16 23 02.3	+0.2
	baz=109							
ESDC	Sonseca Array	76.87	51	P	P	16 23 09.9	+0.5
	0.9nm,0.5s,baz=271,slow=6.4,SNR=9.0							
ESDC				LR	LR	16 51 11.2		
	comp=Z,70nm,21.9s,baz=140,slow=31							
DBIC	Dimbokro	76.88	85	LR	LR	16 55 17.3		
	comp=Z,62nm,19.8s,baz=244,slow=34							
ES19	SONSECA Array	76.92	51	*eP*	P	16 23 09.0	-0.7
RAR	Rarotonga	80.76	247	LR	LR	16 50 00.3		
	comp=Z,182nm,20.1s,baz=110,slow=29							
TORD	Torodi Ar. Bea	82.74	78	P	P	16 23 40.7	-1.0
	0.8nm,0.9s,baz=293,slow=3.9,SNR=4.5							
TORD				LR	LR	17 00 38.5		
	comp=Z,71nm,19.3s,baz=145,slow=36							
NOA	NORSAR Array B	85.99	29	P	P	16 23 57.3	0.0
	1.5nm,0.8s,baz=278,slow=4.6,SNR=3.0							
NOA				LR	LR	17 00 35.7		
	comp=Z,41nm,18.9s,baz=270,slow=34							
GERES	GERESS Array B	89.04	41	LR	LR	16 57 25.5		
	comp=Z,58nm,21.4s,baz=274,slow=31							
ARCES	ARCESS Array B	90.00	20	LR	LR	17 02 48.6		
	comp=Z,25nm,18.9s,baz=282,slow=34							
VYHS	Vyhne	92.44	41	*eP*	P	16 24 31.4	+3.3
FINES	FINESS Array B	92.89	27	LR	LR	17 04 35.9		
	comp=Z,65nm,19.6s,baz=266,slow=34							
CRVS	Cervenica-Dubn	94.04	40	*eP*	P	16 24 40.1	+4.7
AKASG	Malin Array Be	98.27	37	LR	LR	17 08 56.3		
	comp=Z,52nm,18.9s,baz=280,slow=35							
CN2	Changchun	123.88	336	*e*PKP	PKPdf	16 30 14.1	-1.3
WMQ	Urumqi	129.00	9	PKP	PKPdf	16 30 26.0	+0.7
KSH	Kashi	129.91	22	*e*PKP	PKPdf	16 30 28.5	+1.2
KSH				PP	PP	16 32 43.5	+5.9
KSH				PKS	PKSdf	16 34 03.5	-0.4
KSH				SKS	SKSdf	16 37 38.5	-0.9
KSH				SS	SS	16 50 05.5	+3.8
KSH				AMB	AMB			
	comp=Z,99nm,6.4s							
KSH				LR	LR			
	comp=N,72nm,4.6s							
KSH				LR	LR			
	comp=E,81nm,4.9s							
KSH				LR	LR			
	comp=Z,130nm,5.5s							
HHC	Hu-ho-hao-te	131.07	346	*e*PKP	PKPdf	16 30 27.4	-2.0
LZH	Lanzhou	137.13	353	*e*PKP	PKPdf	16 30 35.1	-5.9
LZH				sPKP		16 30 41.6		
ASAR	Alice Springs	141.29	240	PKP	PKPdf	16 30 45.1	-3.6
	0.2nm,0.6s,baz=119,slow=3.6,SNR=7.1							
WRA	Warramunga Arr	142.03	246	PKP	PKPdf	16 30 47.6	-2.5
	0.6nm,0.8s,baz=96,slow=2.1,SNR=4.9							
GYA	Guiyang	145.98	345	*e*PKPbc	PKPdf	16 30 56.2	-0.8
GYA				PP	PP	16 34 21.0	+3.5
GYA				AMB	AMB			
	comp=Z,120nm,7.8s							

*ATH **05** 16:19:33.4,37.03N×26.48E,h40km±2km, ML2.5/4, Error ellipse: s-maj=2.9km s-min=1.1km az=312.0*
*CSEM **05** 16:19:34.5±0.1,37.07N×26.43E,h12km, MD3.0, Error ellipse: s-maj=3.1km s-min=2.2km az=170.0*
*THE **05** 16:19:34.8,37.07N×26.46E,h14km±2km, ML2.6/3, Error ellipse: s-maj=2.5km s-min=0.8km az=97.0*
*ISK **05** 16:19:34.3,37.06N×26.45E,h8km, MD3.0*
*ISCJB **05** 16:19:34.3±0.6,37.06N±0.02×26.44E±0.02,h9km±5km, Error ellipse: s-maj=4.1km s-min=3.1km az=165.1*
*DDA **05** 16:19:35.9,37.16N×26.57E,h7km, Md2.8*

ISC 05 16:19:34.2±1.1,37.07N±0.02×26.44E±0.02,h13km±9km, n50,σ0.58/80, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time h m s	Res ISC
YKAV	Yalikavak-Bodr	0.67	85	*e*Pg	Pg	16 19 47.3	0.0
YKAV	Yalikavak-Bodr	0.67	85	*e*Pg	Pg	16 19 47.3	0.0
BODT	Bodrum	0.69	90	*e*PG	Pb	16 19 48.6	+0.4
BODT				*e*SG	Sb	16 19 57.7	0.0
BODT	Bodrum	0.69	90	P	Pg	16 19 47.7	0.0
BODT				S	Sb	16 19 57.6	0.0
BODT	Bodrum	0.69	90	P	Pg	16 19 47.7	0.0
BODT	Bodrum	0.69	90	*e*Pg	Pb	16 19 48.6	+0.4
BODT				S	Sb	16 19 57.6	0.0
SMG	Samos	0.71	26	P	Pg	16 19 48.2	+0.2
SMG				S	Sb	16 19 59.2	+1.0
SMG	Samos	0.71	26	P	Pg	16 19 48.2	+0.2
SMG				S	Sb	16 19 59.2	+1.0
SMG	Samos	0.71	26	P	Pg	16 19 48.1	+0.1
SMG				S	Sb	16 19 59.4	+1.2
SMG				AML	AML	16 20 01.6	
	comp=N,1750μm,0.5s						
SMG				AML	AML	16 20 01.9	
	comp=E,1643μm,0.3s						
APE	Apeiranthos	0.73	270	*e*PG	Pg	16 19 49.1	+0.7
APE				*e*SG	Sb	16 19 59.2	+0.5
APE	Apeiranthos	0.73	270	P	Pg	16 19 48.6	+0.2
APE				S	Sb	16 20 00.1	+1.4
APE	Apeiranthos	0.73	270	P	Pg	16 19 48.4	0.0
APE	Apeiranthos	0.73	270	*e*Pg	Pg	16 19 49.1	+0.7
APE				*e*Sg	Sb	16 19 59.2	+0.5
APE				S	Sb	16 20 00.1	+1.4
APE	Apeiranthos	0.73	270	P	Pg	16 19 48.1	-0.3
APE				S	Sb	16 20 00.3	+1.6
APE				AML	AML	16 20 00.5	
	comp=N,554μm,0.3s						
APE				AML	AML	16 20 02.6	
	comp=E,442μm,0.4s						
NIS1	Nisyros Isl.	0.75	128	*e*PG	Pb	16 19 49.3	+0.1
NIS1				*e*SG	Sb	16 19 59.8	+0.4
NIS1	Nisyros Isl.	0.75	128	*e*Pg	Pb	16 19 49.3	+0.1
NIS1				*e*Sg	Sb	16 19 59.8	+0.4
BDRM	Kayabasi	0.80	90	*i* P	Pg	16 19 49.8	+0.1
BDRM				*i* S	Sg	16 20 00.2	0.0
BDRM	Kayabasi	0.80	90	P	Pg	16 19 49.8	+0.1
BDRM				S	Sg	16 20 00.2	0.0
GCAM	G?zelcaml?	0.89	45	*i* P	Pg	16 19 51.5	0.0
GCAM				*i* S	Sb	16 20 04.1	+0.8
GCAM	G?zelcaml?	0.89	45	P	Pg	16 19 51.5	0.0
GCAM				S	Sb	16 20 04.1	+0.8
DAT	Datca	0.97	110	*e*PG	Pb	16 19 53.2	+0.3
DAT				*e*SG	Sn	16 20 06.8	-0.5
DAT	Datca	0.97	110	*i* P	Pb	16 19 53.1	+0.1
DAT				*i* S	Sg	16 20 05.3	-0.4
DAT	Datca	0.97	110	P	Pb	16 19 53.1	+0.1
DAT				S	Sg	16 20 05.3	-0.4
DAT				*e*Sg	Sn	16 20 06.8	-0.5
DGB	˜zmir	1.04	20	*i* P	Pb	16 19 53.8	-0.3
DGB				*i* S	Sn	16 20 08.9	+0.1
SANT	Santorini	1.05	229	P	Pb	16 19 53.5	-0.8
SANT				S	Sb	16 20 07.6	-0.5
SANT	Santorini	1.05	229	P	Pb	16 19 53.8	-0.5
SANT				S	Sb	16 20 07.6	-0.5
SANT				AML	AML	16 20 10.1	
	comp=E,359μm,0.3s						
SANT				AML	AML	16 20 12.9	
	comp=N,290μm,0.3s						
THR3	Thira Island,	1.07	232	P	Pb	16 19 54.3	-0.2
THR3				S	Sb	16 20 08.5	+0.2
THR3	Thira Island,	1.07	232	P	Pb	16 19 54.3	-0.2
THR3				S	Sb	16 20 08.5	+0.2
MLSB	Milas	1.09	78	*e*PN	Pn	16 19 55.8	+0.6
MLSB	Milas	1.09	78	*e*Pn	P

*BGR **05** 16:42:41.6±0.2,50.˝24N× 12.˝45E,h11km±1km,ML2.9/6, Error ellipse: s-maj=2.2km s-min=1.1km az=96.0*
*CLL **05** 16:42:42.4±0.3,50.˝2N±0.˝9×1.˝2E±.˝,h6km±1km,ml2.6*
ISC 05 16:42:41.1±0.7,**50˝22N**±0˝02×**12˝44E**±0˝01,**h13**km±3km, **n89**,σ1¶**38**/153,**6D**,**Germany**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NKC	**Novy Kostel**	**0.01**	**24**	ǁ*i*PG	**Pg**	**16 42 43.4**	**-0.1**
NKC				*e*SG	**Sg**	**16 42 44.2**	**-1.0**
	comp=Z,6µm,0.2s						
NKC	**Novy Kostel**	**0.01**	**24**	ǁ*i*Pg	**Pg**	**16 42 43.4**	**-0.1**
NKC				*i* Sg	**Sg**	**16 42 44.4**	**-0.8**
NKC	**Novy Kostel**	**0.01**	**24**	*e*Pg	**Pg**	**16 42 43.4**	**-0.1**
NKC				*e*Sg	**Sg**	**16 42 44.4**	**-0.8**
NKC	**Novy Kostel**	**0.01**	**24**	Pg	**Pg**	**16 42 43.4**	**-0.1**
NKC				Sg	**Sg**	**16 42 44.4**	**-0.8**
ROHR	**Rohrbach**	**0.08**	**281**	*i* Pg	**Pg**	**16 42 44.1**	**+0.2**
ROHR				*i* Sg	**Sg**	**16 42 45.5**	**-0.4**
ROHR				AML	AML	16 42 45.9	
	comp=N,12µm,0.2s						
ROHR	**Rohrbach**	**0.08**	**281**	*e*Pg	**Pg**	**16 42 44.2**	**+0.2**
ROHR				*e*Sg	**Sg**	**16 42 45.6**	**-0.4**
ROHR	**Rohrbach**	**0.08**	**281**	Pg	**Pg**	**16 42 44.2**	**+0.2**
ROHR				Sg	**Sg**	**16 42 45.6**	**-0.4**
WERN	**Wernitzgruen**	**0.08**	**330**	*i* Pg	**Pg**	**16 42 44.0**	**0.0**
WERN				*i* Sg	**Sg**	**16 42 45.3**	**-0.7**
WERN				AML	AML	16 42 45.5	
	comp=E,4µm,0.2s						
WERN	**Wernitzgruen**	**0.08**	**330**	*e*Pg	**Pg**	**16 42 44.0**	**0.0**
WERN				*e*Sg	**Sg**	**16 42 45.3**	**-0.7**
WERN	**Wernitzgruen**	**0.08**	**330**	Pg	**Pg**	**16 42 44.0**	**0.0**
WERN				Sg	**Sg**	**16 42 45.3**	**-0.7**
GUNZ	**Gunzen**	**0.16**	**335**	*i* Pg	**Pg**	**16 42 45.2**	**+0.2**
GUNZ				*i* Sg	**Sg**	**16 42 47.2**	**-0.4**
GUNZ				AML	AML	16 42 47.7	
	comp=E,650nm,0.2s						
GUNZ	**Gunzen**	**0.16**	**335**	*e*Pg	**Pg**	**16 42 45.2**	**+0.2**
GUNZ				*e*Sg	**Sg**	**16 42 47.3**	**-0.4**
GUNZ	**Gunzen**	**0.16**	**335**	Pg	**Pg**	**16 42 45.2**	**+0.2**
GUNZ				Sg	**Sg**	**16 42 47.3**	**-0.4**
MULD	**Muldenberg**	**0.19**	**354**	*i* Pg	**Pg**	**16 42 45.6**	**+0.1**
MULD				*i* Sg	**Sg**	**16 42 48.0**	**-0.6**
MULD				AML	AML	16 42 48.1	
	comp=E,1µm,0.1s						
MULD	**Muldenberg**	**0.19**	**354**	*e*Pg	**Pg**	**16 42 45.6**	**+0.1**
MULD				*e*Sg	**Sg**	**16 42 48.0**	**-0.6**
MULD	**Muldenberg**	**0.19**	**354**	Pg	**Pg**	**16 42 45.6**	**+0.1**
MULD				Sg	**Sg**	**16 42 48.0**	**-0.6**
TRIB	**Obertriebel**	**0.23**	**305**	*i* Pg	**Pg**	**16 42 46.5**	**+0.4**
TRIB				*i* Sg	**Sg**	**16 42 49.7**	**0.0**
TRIB				AML	AML	16 42 50.1	
	comp=E,671nm,0.1s						
TRIB	**Obertriebel**	**0.23**	**305**	*e*Pg	**Pg**	**16 42 46.6**	**+0.4**
TRIB				*e*Sg	**Sg**	**16 42 49.6**	**0.0**
TRIB	**Obertriebel**	**0.23**	**305**	Pg	**Pg**	**16 42 46.6**	**+0.4**
TRIB				Sg	**Sg**	**16 42 49.6**	**0.0**
WERD	**Werda**	**0.24**	**340**	*i* Pg	**Pg**	**16 42 46.6**	**+0.2**
WERD				*i* Sg	**Sg**	**16 42 49.5**	**-0.5**
WERD				AML	AML	16 42 50.2	
	comp=E,459nm,0.1s						
WERD	**Werda**	**0.24**	**340**	*e*Pg	**Pg**	**16 42 46.6**	**+0.2**
WERD				*e*Sg	**Sg**	**16 42 49.4**	**-0.5**
WERD	**Werda**	**0.24**	**340**	Pg	**Pg**	**16 42 46.6**	**+0.2**
WERD				Sg	**Sg**	**16 42 49.4**	**-0.5**
PLN	**Plauen**	**0.32**	**326**	*i* Pg	**Pg**	**16 42 48.0**	**+0.3**
PLN				*i* Sg	**Sg**	**16 42 52.3**	**+0.1**
PLN				AML	AML	16 42 52.6	
	comp=E,296nm,0.1s						
PLN	**Plauen**	**0.32**	**326**	*e*Pg	**Pg**	**16 42 48.0**	**+0.3**
PLN				*e*Sg	**Sg**	**16 42 52.0**	**-0.2**
PLN	**Plauen**	**0.32**	**326**	Pg	**Pg**	**16 42 48.0**	**+0.3**
PLN				Sg	**Sg**	**16 42 52.0**	**-0.2**
SCHF	**Schoenfels**	**0.46**	**357**	*i* Pg	**Pg**	**16 42 50.4**	**+0.2**
SCHF				*i* Sg	**Sg**	**16 42 56.3**	**-0.1**
SCHF				AML	AML	16 42 56.5	
	comp=E,1µm,0.2s						
SCHF	**Schoenfels**	**0.46**	**357**	*e*Pg	**Pg**	**16 42 50.5**	**+0.2**
SCHF				*e*Sg	**Sg**	**16 42 56.2**	**-0.2**
SCHF	**Schoenfels**	**0.46**	**357**	Pg	**Pg**	**16 42 50.5**	**+0.2**
SCHF				Sg	**Sg**	**16 42 56.2**	**-0.2**
ROTZ	**Rotzenmuhle**	**0.48**	**198**	*e*Pg	**Pb**	**16 42 51.6**	**+0.3**
ROTZ				*e*Sg	**Sg**	**16 42 58.1**	**+1.2**
ROTZ	**Rotzenmuhle**	**0.48**	**198**	Pg	**Pb**	**16 42 51.6**	**+0.3**
ROTZ				Sg	**Sg**	**16 42 58.1**	**+1.2**
MLFH	**Mildenfurth**	**0.62**	**338**	*i* Pg	**Pg**	**16 42 53.3**	**+0.2**
MLFH				*i* Sg	**Sg**	**16 43 01.1**	**-0.2**
MOX	**Moxa**	**0.68**	**309**	*e*Pg	**Pg**	**16 42 54.7**	**+0.4**
MOX				*e*Sg	**Sg**	**16 43 03.2**	**0.0**
MOX	**Moxa**	**0.68**	**309**	Pg	**Pg**	**16 42 54.7**	**+0.4**
MOX				Sg	**Sg**	**16 43 03.2**	**0.0**
GRA1	**Grafenberg Arr**	**0.95**	**237**	Pg	**Pb**	**16 43 00.2**	**+0.9**
GRA1				Sg	**Sb**	**16 43 12.6**	**+0.8**
GRF	**Grafenberg Arr**	**0.95**	**237**	*e*Pg	**Pb**	**16 43 00.2**	**+0.9**
GRF				*e*Sg	**Sb**	**16 43 12.6**	**+0.8**
WET	**Wettzell**	**1.11**	**165**	*e*Pg	**Pn**	**16 43 03.0**	**+0.6**
WET				*e*Sg	**Sn**	**16 43 17.1**	**0.0**
WET	**Wettzell**	**1.11**	**165**	Pg	**Pn**	**16 43 03.0**	**+0.6**
WET				Sg	**Sg**	**16 43 17.1**	**0.0**
CLL	**Collm**	**1.15**	**18**	*e*Pg	**Pb**	**16 43 02.7**	**-0.1**
CLL				*e*Sg	**Sb**	**16 43 17.5**	**-0.1**
CLL	**Collm**	**1.15**	**18**	Pg	**Pb**	**16 43 02.7**	**-0.1**
CLL				Sg	**Sb**	**16 43 17.5**	**-0.1**
CLL	**Collm**	**1.15**	**18**	*i* Pg	**Pb**	**16 43 03.0**	**+0.2**
CLL				*i*		16 43 06.0	
CLL				*i* Sg	**Sb**	**16 43 17.7**	**+0.1**
	comp=Z,51nm,0.4s						
CLL				*i*		16 43 21.6	
BRG	**Berggiesshubel**	**1.16**	**55**	PG	**Pg**	**16 43 03.4**	**-0.1**
BRG				SG	**Sg**	**16 43 18.5**	**-0.1**
	comp=Z,80nm,0.2s						
BRG	**Berggiesshubel**	**1.16**	**55**	PG	**Pn**	**16 43 06.1**	**+3.1**
BRG				SG	**Sn**	**16 43 21.0**	**+2.3**
	comp=Z,106nm,0.2s						
BRG	**Berggiesshubel**	**1.16**	**55**	*e*Pg	**Pb**	**16 43 03.0**	**0.0**
BRG				*e*Sg	**Sb**	**16 43 18.3**	**+0.3**
BRG	**Berggiesshubel**	**1.16**	**55**	Pg	**Pb**	**16 43 03.0**	**0.0**
BRG				Sg	**Sb**	**16 43 18.3**	**+0.3**
PRA	**Prague**	**1.29**	**96**	ǁ*e*SG	**Sb**	**16 43 21.1**	**-0.6**
	comp=Z,33nm,0.2s						
KHC	**Kasperske Hory**	**1.32**	**145**	*e*PG	**Pn**	**16 43 06.0**	**+0.8**
KHC				*e*SG	**Sn**	**16 43 23.6**	**+1.0**
	comp=Z,40nm,0.2s						
KHC	**Kasperske Hory**	**1.32**	**145**	Pg	**Pn**	**16 43 06.0**	**+0.8**
PRU	**Pruhonice**	**1.37**	**99**	ǁ*e*PG	**Pb**	**16 43 07.1**	**+0.5**
PRU				*e*SG	**Sb**	**16 43 24.3**	**+0.2**
	comp=Z,89nm,0.2s						
PRU	**Pruhonice**	**1.37**	**99**	Pg	**Pb**	**16 43 07.1**	**+0.5**
PRU				Sg	**Sb**	**16 43 24.3**	**+0.2**
	comp=Z,89nm,0.2s						
PVCC	**Panska Ves**	**1.40**	**76**	ǁ*e*SG	**Sn**	**16 43 25.6**	**+1.0**
	comp=Z,166nm,0.2s						
GOPC	**GO Pecny, Ondr**	**1.54**	**101**	*e*SG	**Sg**	**16 43 30.2**	**-0.6**
	comp=Z,81nm,0.2s						
GOPC	**GO Pecny, Ondr**	**1.54**	**101**	Sg	**Sg**	**16 43 30.2**	**-0.6**
	comp=Z,81nm,0.2s						
UPC	**Upice**	**2.31**	**81**	ǁ*e*PG	**Pb**	**16 43 22.8**	**+0.3**
UPC				*e*SG	**Sg**	**16 43 53.4**	**-1.8**
	comp=Z,24nm,0.4s						
UPC	**Upice**	**2.31**	**81**	Pg	**Pb**	**16 43 22.8**	**+0.3**
UPC				Sg	**Sg**	**16 43 53.4**	**-1.8**
	comp=Z,24nm,0.4s						
DPC	**Dobruska-Polom**	**2.50**	**85**	*e*SG	**Sb**	**16 43 58.5**	**+2.1**
	comp=Z,22nm,0.4s						
DPC	**Dobruska-Polom**	**2.50**	**85**	Sg	**Sb**	**16 43 58.5**	**+2.1**
	comp=Z,22nm,0.4s						
KSP	**Ksiaz**	**2.54**	**74**	*e*Pg	**Pg**	**16 43 28.6**	**-1.1**
KSP				*e*Sg	**Sg**	**16 44 01.0**	**-1.6**
KSP	**Ksiaz**	**2.54**	**74**	*e*Pg	**Pg**	**16 43 28.6**	**-1.1**
KSP				*e*Sg	**Sg**	**16 44 01.0**	**-1.6**
MOA	**Molln**	**2.66**	**152**	Pn	**Pn**	**16 43 23.6**	**0.0**
	comp=Z,0.4nm,0.1s						
MOA				Sg	**Sg**	**16 44 06.7**	**+0.2**
	comp=Z,4.7nm,0.1s						
VRAC	**Vranov**	**2.84**	**107**	*e*Pn	**Pn**	**16 43 27.1**	**+0.9**
VRAC				*e*Sg	**Sb**	**16 44 08.9**	**+2.5**
WATA	**Walderalm**	**2.94**	**191**	Pn	**Pn**	**16 43 28.7**	**+1.1**
	comp=Z,0.7nm,0.1s						
WATA				Sg	**Sg**	**16 44 17.9**	**+2.3**
	comp=Z,3.1nm,0.1s						
RETA	**Reutte**	**2.95**	**203**	Sg	**Sg**	**16 44 17.4**	**+1.6**
	comp=Z,0.3nm,0.1s						
WTTA	**Wattenberg**	**3.00**	**190**	Sg	**Sg**	**16 44 20.6**	**+3.0**
	comp=Z,18nm,0.4s						
MOTA	**Moosalm**	**3.01**	**198**	Pn	**Pn**	**16 43 28.7**	**+0.1**
	comp=Z,0.3nm,0.1s						
MOTA				Sg	**Sg**	**16 44 20.4**	**+2.7**
	comp=Z,2.7nm,0.1s						
CONA	**Conrad Observa**	**3.21**	**134**	Pn	**Pn**	**16 43 31.1**	**-0.2**
	comp=Z,0.1nm,0.1s						
CONA				Sg	**Sg**	**16 44 22.8**	**-1.5**
	comp=Z,4.2nm,0.3s						
MORC	**Moravsky Berou**	**3.32**	**96**	*e*Pn	**Pn**	**16 43 33.7**	**+0.9**
MORC				*e*Sg	**Sg**	**16 44 24.3**	**-3.5**
DAVA	**Damuels**	**3.39**	**211**	Sn	**Sn**	**16 44 15.2**	**+1.3**
	comp=Z,1.5nm,0.2s						
FETA	**Feichten**	**3.40**	**200**	Sg	**Sg**	**16 44 31.2**	**+1.1**
	comp=Z,3.4nm,0.3s						
ABTA	**Abfaltersbach**	**3.48**	**179**	Sg	**Sg**	**16 44 31.5**	**-1.2**
	comp=Z,1.4nm,0.2s						
ARSA	**Arzberg**	**3.60**	**144**	Pn	**Pn**	**16 43 37.6**	**+1.0**
	comp=Z,1.6nm,0.3s						
ARSA				Sg	**Sg**	**16 44 40.6**	**+3.8**
	comp=Z,6.2nm,0.4s						
MYKA	**Terra Mystica**	**3.68**	**167**	Sg	**Sg**	**16 44 37.7**	**-1.5**
	comp=Z,2.6nm,0.3s						
CDF	**Champ du Feu**	**3.83**	**244**	*e*Pn	**Pn**	**16 43 38.4**	**-1.4**
CDF	**Champ du Feu**	**3.83**	**244**	*e*Pg	**Pg**	**16 43 52.6**	**-1.9**
CDF				*e*Sg	**Sg**	**16 44 42.7**	**-1.4**
	comp=Z,9.6nm,0.4s						
CDF	**Champ du Feu**	**3.83**	**244**	*e*Pn	**Pn**	**16 43 38.4**	**-1.4**
CDF	**Champ du Feu**	**3.83**	**244**	*e*Pg	**Pg**	**16 43 52.6**	**-1.9**
CDF				*e*Sg	**Sg**	**16 44 42.7**	**-1.4**
	comp=Z,4.8nm,0.4s						
SOKA	**Soboth**	**3.94**	**153**	Sg	**Sg**	**16 44 45.2**	**-2.4**
	comp=Z,0.7nm,0.2s						
OBKA	**Obir**	**3.97**	**158**	Sg	**Sg**	**16 44 48.7**	**+0.2**
	comp=Z,5.7nm,0.3s						
HINF	**Hinteralfeld**	**4.39**	**239**	*e*Pn	**Pn**	**16 43 46.4**	**-1.1**
HINF	**Hinteralfeld**	**4.39**	**239**	*e*Pg	**Pg**	**16 44 02.9**	**-2.3**
HINF				*e*Sg	**Sg**	**16 44 59.0**	**-3.0**
	comp=Z,9.3nm,0.4s						
HINF	**Hinteralfeld**	**4.39**	**239**	*e*Pn	**Pn**	**16 43 46.4**	**-1.1**
HINF	**Hinteralfeld**	**4.39**	**239**	*e*Pg	**Pg**	**16 44 02.9**	**-2.3**
HINF				*e*Sg	**Sg**	**16 44 59.0**	**-3.0**
	comp=Z,4.7nm,0.4s						
VYHS	**Vyhne**	**4.52**	**110**	*e*Sg	**Sg**	**16 45 01.1**	**-5.2**
VYHS	**Vyhne**	**4.52**	**110**	*e*SG	**Sg**	**16 45 01.1**	**-5.2**
VYHS				*e*LG	Lg	16 45 07.5	
HAU	**Haudompre**	**4.57**	**243**	*e*Pn	**Pn**	**16 43 48.0**	**-1.9**
HAU	**Haudompre**	**4.57**	**243**	*e*Pg	**Pg**	**16 44 06.3**	**-2.3**
HAU				*e*Sg	**Sg**	**16 45 04.7**	**-3.1**
	comp=Z,12nm,0.4s						
HAU	**Haudompre**	**4.57**	**243**	*e*Pn	**Pn**	**16 43 48.0**	**-1.9**
HAU	**Haudompre**	**4.57**	**243**	*e*Pg	**Pg**	**16 44 06.3**	**-2.3**
HAU				*e*Sg	**Sg**	**16 45 04.7**	**-3.1**
	comp=Z,6.1nm,0.4s						
LANS	**Liptovska Anna**	**4.69**	**100**	*e*Sg	**Sg**	**16 45 09.0**	**-2.5**
LANS	**Liptovska Anna**	**4.69**	**100**	*e*SG	**Sg**	**16 45 09.0**	**-2.5**

*IDC **05** 16:47:32.5±0.6,51.˝26N×177.˝97W,h0km,mb4.3/25, mb1 4.5/27,mb1mx4.3/52,mbtmp4.3/27,ML4.2/1,MS3.8/5, Ms1 3.8/5,ms1mx3.2/37,Error ellipse: s-maj=20.6km s-min=12.2km az=160.0*
*ISCJB **05** 16:47:35.9±0.2,51.˝11N±0.˝04×177.˝97W±0.˝03,h35km, mb4.5/83,MS3.8/9,Error ellipse: s-maj=5.6km s-min=2.9km az=177.9*
*NEIC **05** 16:47:39.7±0.5,51.˝36N×178.˝07W,h49km±3km,mb4.6/65, ML4.1(AEIC),Error ellipse: s-maj=7.7km s-min=3.1km az=178.0*
ISC 05 16:47:38.0±0.5,**51˝22N**±0˝08×**178˝05W**±0˝03,**h35**km, **n260**,σ1¶**43**/264,**mb4.6**/83,**MS4.0**/9,**1C**,**Andreanof Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TAFL	**Tanaga Flats**	**0.55**	**10**	P	**Pn**	**16 47 49.4**	**+0.1**
TAPA	**Tanaga Point A**	**0.62**	**14**	P	**Pn**	**16 47 50.4**	**+0.1**
TAFP	**Tanaga Falls P**	**0.69**	**4**	P	**Pn**	**16 47 51.5**	**+0.3**
GALAA	**Gareloi Lava P**	**0.71**	**321**	P	**Pn**	**16 47 52.5**	**+1.0**
GAEA	**Gareloi East**	**0.71**	**323**	P	**Pn**	**16 47 52.5**	**+0.9**
GANE	**Gareloi Northe**	**0.75**	**323**	P	**Pn**	**16 47 53.2**	**+1.0**
GANE				S	**Sn**	**16 48 04.8**	**+2.5**
KIKV	**Kanaga Island**	**0.86**	**39**	P	**Pn**	**16 47 53.5**	**-0.1**
KICM	**Kanaga Island**	**0.88**	**37**	P	**Pn**	**16 47 54.7**	**+0.8**
ADAG	**Mount Adagdak**	**1.19**	**49**	P	**Pn**	**16 47 59.2**	**+1.1**
ETKA	**Kagalaska Isla**	**1.22**	**57**	P	**Pn**	**16 47 58.2**	**-0.3**
GSCK	**Great Sitkin C**	**1.42**	**55**	P	**Pn**	**16 48 01.9**	**+0.6**
GSTD	**Great Sitkin T**	**1.46**	**54**	P	**Pn**	**16 48 02.7**	**+0.8**
GSTD				S	**Sn**	**16 48 24.5**	**+4.8**
GSMY	**Great Sitkin M**	**1.50**	**56**	P	**Pn**	**16 48 02.9**	**+0.6**
GSTR	**Great Sitkin T**	**1.52**	**54**	*e*Pn	**Pn**	**16 48 03.4**	**+0.7**
ATKA	**Atka Island**	**2.59**	**66**	P	**Pn**	**16 48 18.6**	**+1.2**
ATKA				S	**Sn**	**16 48 50.2**	**+2.5**
KOWE	**Korovin West**	**2.63**	**63**	P	**Pn**	**16 48 20.1**	**+2.2**
KOFP	**Korovin Flat P**	**2.68**	**65**	P	**Pn**	**16 48 20.5**	**+1.9**
SMY	**Shemya**	**5.08**	**290**	P	**Pn**	**16 48 54.5**	**+3.0**
SMY				S	**Sn**	**16 49 56.0**	**+7.0**
NIKH	**Nikolski High**	**5.94**	**69**	P	**Pn**	**16 49 04.7**	**+1.4**
NIKH				S	**Sn**	**16 50 16.5**	**+6.5**
SPIA	**Saint Paul Isl**	**7.52**	**34**	*e*Pn	**Pn**	**16 49 23.0**	**-2.0**
UNV	**Unalaska Valle**	**7.52**	**65**	*e*Pn	**Pn**	**16 49 25.8**	**+0.8**
SDPT	**Sand Point**	**11.30**	**62**	*e*Pn	**Pn**	**16 50 16.6**	**-0.2**
PETK	**Petropavlovsk-** baz=87,slow=13,SNR=3.0	**14.98**	**287**	Pn	**Pn**	**16 51 06.0**	**-0.9**
PETK				LR	LR	16 56 38.3	
	comp=Z,285nm,21.7s,baz=87,slow=36						
OHAK	**Old Harbor** 181nm,1.8s	**15.63**	**58**	*e*Pn	**Pn**	**16 51 11.6**	**-3.7**
SVW2	**Sparrevohn** 32nm,1.3s	**15.87**	**43**	*e*Pn	**Pn**	**16 51 17.1**	**-1.3**
KDAK	**Kodiak Island** 71nm,1.2s	**16.12**	**56**	*e*Pn	**Pn**	**16 51 19.8**	**-1.9**
TT01	**Tatalina**	**16.64**	**37**	*e*Pn	**P**	**16 51 30.6**	**+0.3**
TTA	**Tatalina** 16nm,1.0s	**16.66**	**37**	*e*P	**P**	**16 51 32.0**	**+1.4**
PPLA	**Purkeypile** 78nm,1.7s	**18.14**	**40**	*e*P	**P**	**16 51 53.6**	**+6.6**
SEW	**Seward**	**18.29**	**50**	*e*P	**P**	**16 51 46.7**	**-1.8**
CAST	**Castle Rocks** 12nm,0.7s	**18.43**	**39**	*e*P	**P**	**16 51 50.3**	**+0.2**
RC01	**Rabbit Creek A**	**18.46**	**47**	*e*P	**Pn**	**16 51 51.5**	**+0.8**
KTH	**Kantishna Hill** 34nm,1.0s	**18.95**	**39**	*e*P	**P**	**16 51 55.8**	**-0.1**
MA2	**Magadan** comp=Z,206nm,18.6s,baz=102,slow=36	**19.42**	**308**	LR	LR	16 59 10.0	
SEY	**Seymchan** 0.6nm,0.3s,baz=120,slow=11,SNR=30	**19.68**	**318**	P	**P**	**16 52 04.7**	**+1.0**
RND	**Reindeer** 65nm,1.7s	**19.72**	**41**	*e*P	**P**	**16 52 03.6**	**-0.7**
SCM	**Sheep Creek Mo** 56nm,1.4s	**19.80**	**46**	*e*P	**P**	**16 52 05.5**	**+0.4**
MCK	**McKinley** 11nm,0.6s	**19.82**	**40**	*e*P	**P**	**16 52 04.2**	**-1.1**
DHY	**Denali Highway** 22nm,0.6s	**20.20**	**42**	*e*P	**P**	**16 52 08.5**	**-1.1**
WRH	**Wood River Hil** 6.9nm,0.8s	**20.48**	**38**	*e*P	**P**	**16 52 12.7**	**+0.2**
MDM	**Murphy Dome** 24nm,0.9s	**20.65**	**37**	*e*P	**P**	**16 52 13.9**	**-0.4**
CCB	**Clear Creek Bu** 29nm,1.5s	**20.67**	**38**	*e*P	**P**	**16 52 13.4**	**-1.0**
HDA	**Harding Lake** 196nm,1.9s	**20.90**	**39**	*e*P	**P**	**16 52 10.9**	**-6.1**
ILAR	**Eielson Array** 2.5nm,0.7s,baz=235,slow=8.8,SNR=18	**21.08**	**38**	P	**P**	**16 52 17.9**	**-1.0**
ILB	**Eielson Array**	**21.08**	**38**	*e*P	**P**	**16 52 17.0**	**-1.9**
IL1	**Eielson Array**	**21.08**	**38**	*e*P	**P**	**16 52 19.8**	**+0.9**
COLD	**Coldfoot** 7.8nm,0.8s	**21.16**	**30**	*e*P	**P**	**16 52 19.6**	**-0.1**
DOT	**Dot Lake** 23nm,0.7s	**21.80**	**42**	*e*P	**P**	**16 52 25.6**	**-1.1**
TOLK	**Toolik Lake Re** baz=233	**22.19**	**28**	P	**P**	**16 52 31.0**	**+0.2**
FYU	**Fort Yukon** 70nm,1.8s	**22.49**	**35**	*e*P	**P**	**16 52 33.1**	**-0.8**
EGAK	**Eagle** 7.2nm,0.8s	**23.37**	**40**	*e*P	**P**	**16 52 42.5**	**-0.5**
DAWY	**Dawson** 6.9nm,0.8s	**23.91**	**43**	*e*P	**P**	**16 52 47.1**	**-1.1**
INK	**Inuvik** 0.9nm,0.3s,baz=240,slow=10,SNR=8.3	**27.33**	**35**	P	**P**	**16 53 18.8**	**-0.2**
DLBC	**Dease Lake** 13nm,0.8s	**28.06**	**56**	*e*P	**P**	**16 53 26.2**	**+0.4**
KLR	**Kul'dur** 13nm,0.5s,baz=65,slow=7.8,SNR=74	**31.68**	**286**	P	**P**	**16 53 58.2**	**+0.5**
H11N2	**WAKE ISLAND Hy** baz=17	**33.59**	**206**	T	T	17 30 04.8	
H11N3	**WAKE ISLAND Hy** baz=17	**33.59**	**206**	T	T	17 30 09.5	
H11N1	**WAKE ISLAND Hy** baz=17	**33.60**	**206**	T	T	17 30 02.5	
USRK	**Ussuriysk Ar.** 5.4nm,0.6s,baz=58,slow=9.2,SNR=16	**33.78**	**278**	P	**P**	**16 54 16.4**	**+0.2**
MJAR	**Matsushiro Arr** 2.1nm,0.8s,baz=52,slow=8.3,SNR=5.0	**34.22**	**262**	P	**P**	**16 54 18.7**	**-1.5**
MJAR				LR	LR	17 06 10.8	
	comp=Z,78nm,22.0s,baz=80,slow=33						
LLLB	**Lillooet**	**34.68**	**68**	*e*P	**P**	**16 54 26.2**	**+2.1**
H11S1	**WAKE ISLAND Hy** baz=17,slow=76,SNR=260	**34.80**	**206**	T	T	17 31 36.9	
H11S2	**WAKE ISLAND Hy** baz=17,slow=76,SNR=132	**34.82**	**206**	T	T	17 31 38.3	
H11S3	**WAKE ISLAND Hy** baz=17,slow=76,SNR=136	**34.82**	**206**	T	T	17 31 38.5	
YKA	**Yellowknife Ar** 2.4nm,0.7s,baz=281,slow=8.6,SNR=4.5	**35.00**	**46**	P	**P**	**16 54 24.8**	**-1.8**
I04A	**Tendick Farm,** baz=302	**37.51**	**79**	P	**P**	**16 54 48.8**	**+0.5**
I05D	**Terrebonne, OR** baz=301	**37.89**	**78**	P	**P**	**16 54 51.9**	**+0.4**
HAWA	**Hanford** 5.1nm,0.6s	**37.96**	**74**	*e*P	**P**	**16 54 51.6**	**-0.4**
EDM	**Edmonton** 34nm,1.5s	**38.48**	**61**	*e*P	**P**	**16 54 55.5**	**-0.9**
NEW	**Newport** baz=298	**38.50**	**70**	P	**P**	**16 54 57.1**	**+0.5**
NEW	**Newport** 9.3nm,0.9s	**38.50**	**70**	*e*P	**P**	**16 54 57.8**	**+1.2**
J05D	**Fort Rock, OR** baz=303	**38.51**	**79**	P	**P**	**16 54 58.5**	**+1.7**
K05A	**Summer Lake** 14nm,1.4s	**39.02**	**80**	*e*P	P	16 55 07.3	+6.1
WALA	**Waterton Lakes** 12nm,1.1s	**40.00**	**67**	*e*P	**P**	**16 55 09.0**	**-0.2**
BSMT	**Bassoo Peak**	**40.07**	**69**	*e*P	**P**	**16 55 09.0**	**-0.9**
KSRS	**Korea Array** 2.2nm,0.7s,baz=48,slow=8.1,SNR=9.4	**40.11**	**272**	P	**P**	**16 55 10.9**	**+0.9**
KSRS				LR	LR	17 14 06.2	
	comp=Z,7.7nm,19.0s,baz=23,slow=40						
KSAR	**Wonju Array Be**	**40.14**	**272**	P	**P**	**16 55 10.9**	**+0.6**
BLMT	**Blacktail Moun**	**40.24**	**69**	*e*P	**P**	**16 55 11.4**	**+0.1**
WVOR	**Wild Horse Val** 7.8nm,1.1s	**40.58**	**78**	*e*P	**P**	**16 55 14.0**	**-0.1**
JNU	**Nakatsue** 7.0nm,0.9s,baz=184,slow=12,SNR=4.4	**41.02**	**264**	P	**P**	**16 55 18.0**	**+0.3**
MSO	**Missoula** baz=301	**41.08**	**70**	P	**P**	**16 55 18.6**	**+0.5**
MSO	**Missoula**	**41.08**	**70**	*e*P	**P**	**16 55 18.9**	**+0.8**
SLMT	**Seeley Lake**	**41.14**	**69**	*e*P	**P**	**16 55 18.2**	**-0.5**
CHMT	**Chamberlain Mo**	**41.45**	**70**	*e*P	**P**	**16 55 20.5**	**-0.8**
PAHR	**Pah Rah Range**	**41.67**	**82**	*e*P	**P**	**16 55 24.1**	**+1.1**
HLID	**Hailey** baz=304,SNR=10	**42.53**	**74**	P	**P**	**16 55 30.7**	**+0.6**
HLID	**Hailey** 5.3nm,1.0s	**42.53**	**74**	*e*P	**P**	**16 55 31.3**	**+1.2**
MCMT	**McKenzie Canyo**	**42.78**	**72**	*e*P	**P**	**16 55 31.9**	**-0.3**
PMPB	**Monarch Peak**	**42.91**	**87**	*e*S	**S**	**17 01 56.3**	**+0.9**
EGMT	**Eagleton** baz=301	**42.92**	**66**	P	**P**	**16 55 32.9**	**-0.2**
EGMT	**Eagleton** 14nm,1.1s	**42.92**	**66**	*e*P	**P**	**16 55 33.3**	**+0.3**
BOZ	**Bozeman (W)** baz=303,SNR=10	**43.09**	**70**	P	**P**	**16 55 34.6**	**0.0**
BOZ	**Bozeman (W)** 4.8nm,0.7s	**43.09**	**70**	*e*P	**P**	**16 55 35.2**	**+0.6**
YHH	**Holmes Hill** 10nm,1.1s	**44.00**	**71**	*e*P	**P**	**16 55 42.3**	**+0.2**
H17A	**Grant Village** 9.3nm,0.8s	**44.38**	**71**	*e*P	**P**	**16 55 45.8**	**+0.8**
HVU	**Hansel Valley** 3.9nm,0.7s	**44.54**	**76**	*e*P	**P**	**16 55 46.8**	**+0.5**
RLMT	**Red L

baz=314
MNTX Cornudas Mount 55.51 81 *e*P P 16 57 10.3 +0.9
comp=Z,4.1nm,1.0s
L37A Phoenix Point, 55.53 64 P P 16 57 08.9 -0.5
baz=311
N36A Muff Farm, Cla 55.69 66 P P 16 57 10.6 0.0
baz=311
F41A Three Lakes 55.73 58 P P 16 57 10.4 -0.5
baz=311
Q34A Chapman 55.79 69 P P 16 57 11.0 -0.4
baz=312
KSU1 Kansas State U 55.86 68 P P 16 57 11.6 -0.3
baz=312
LZH Lanzhou 55.88 287 *e*P P 16 57 14.0 +1.8
LZH pP pP 16 57 22.2 -0.5
LZH sP sP 16 57 26.6 -0.3
LZH PcP **PcP** **16 58 12.1 +1.5**
LZH *e*S **S** **17 04 55.1 -2.2**
LZH sS pS 17 05 11.3 +1.4
LZH Lanzhou 55.88 287 SS **SS** **17 08 35.0 -7.8**
LZH pmax pmax
comp=Z,42nm,1.3s
LZH pmax pmax
comp=Z,97nm,4.2s
LZH LR LR
comp=N,1μm,15.5s
LZH LR LR
comp=E,1μm,16.5s
LZH LR LR
comp=Z,1μm,17.4s
P35A Duane Minner, 55.93 68 P P 16 57 11.8 -0.5
baz=312
GTA Gaotai 56.06 292 ⇑P **P** **16 57 14.4 +1.0**
GTA pP pP 16 57 24.8 +0.8
GTA sP sP 16 57 28.7 +0.6
GTA S **S** **17 04 59.0 -0.6**
GTA sS sS 17 05 16.0 -1.0
GTA Gaotai 56.06 292 SS **SS** **17 08 44.6 -0.9**
GTA pmax pmax
comp=Z,18nm,1.2s
GTA pmax pmax
comp=Z,53nm,5.5s
GTA LR LR
comp=N,110nm,16.6s
GTA LR LR
comp=E,130nm,17.1s
GTA LR LR
comp=Z,120nm,17.8s
N37A Lee Faris, Mou 56.16 65 P P 16 57 13.9 0.0
baz=311,SNR=6.7
P36A Good Intent, A 56.34 67 P P 16 57 14.6 -0.6
baz=312
Q35A Mercer Eighty, 56.36 68 P P 16 57 15.4 0.0
baz=312
O37A Wolven Farm, M 56.59 66 P P 16 57 16.5 -0.5
baz=312
Q36A Arnold C. Orve 56.63 68 P P 16 57 16.9 -0.4
baz=312
T34A McClaskey Farm 56.91 71 P P 16 57 18.8 -0.5
baz=312
S35A Otter Creek Ra 56.98 69 P P 16 57 19.5 -0.2
baz=312
N39A Derby Farms, D 57.05 64 P P 16 57 19.7 -0.5
baz=312
K41A Shullsburg 57.14 61 P P 16 57 20.1 -0.7
baz=312
P38A Dawn 57.30 66 P P 16 57 21.5 -0.5
baz=312,SNR=5.6
WMOK Wichita Mounta 57.49 74 P P 16 57 23.2 -0.3
baz=313
WMOK Wichita Mounta 57.49 74 *e*P P 16 57 23.1 -0.4
comp=Z,4.1nm,0.8s
U35A Pawnee 57.61 71 P P 16 57 23.8 -0.5
baz=313
Q38A Cooks Store, C 57.70 67 P P 16 57 24.0 -0.8
baz=312
S37A Fort Scott 57.80 68 P P 16 57 25.0 -0.6
baz=313,SNR=6.9
P39B Salisbury 57.84 66 P P 16 57 25.3 -0.5
baz=312,SNR=7.4
O40A La Belle 57.92 65 P P 16 57 25.7 -0.6
baz=312,SNR=5.8
Q39A Willow Grove F 58.01 66 P P 16 57 26.2 -0.8
baz=313
R38A Fenwick Farm, 58.05 67 P P 16 57 25.8 -1.5
baz=313
N41A Harden Midland 58.10 63 P P 16 57 27.0 -0.6
baz=312
T37A Cheneyville 18 58.18 69 P P 16 57 27.7 -0.5
baz=313,SNR=5.6
P40A Paris 58.21 65 P P 16 57 28.2 -0.2
baz=313,SNR=8.4
TX31 Lajitas Ar. Si 58.21 82 *e*P P 16 57 28.0 -0.7
TXAR Lajitas Array 58.22 82 P P 16 57 28.5 -0.2
comp=Z,1.0nm,0.7s,baz=323,slow=5.2,SNR=6.0
ARCES ARCESS Array B 58.33 350 P P 16 57 28.6 -0.3
comp=Z,1.5nm,0.6s,baz=15,slow=10.0,SNR=4.0
ARCES PcP **PcP** **16 58 19.3 -0.2**
comp=Z,1.4nm,0.6s,baz=358,slow=4.8,SNR=5.4
W35A Tecumseh 58.36 72 P P 16 57 29.3 -0.2
baz=313
S38A Stockton 58.42 68 P P 16 57 28.9 -1.0
baz=313,SNR=6.1
Q40A Laux Farm, Aux 58.56 66 P P 16 57 30.1 -0.8
baz=313
W36A Wetumka 58.75 72 P P 16 57 32.4 +0.2
baz=314
X35A Drake 58.81 73 P P 16 57 33.0 +0.3
baz=314
V37A Hulbert 58.89 70 P P 16 57 33.0 -0.2
baz=314
R40A Maddies Statio 58.93 66 P P 16 57 32.3 -1.1
baz=313,SNR=6.0
Q41A Truxton 59.07 65 P P 16 57 33.9 -0.5
baz=313
T39A Clever 59.15 68 P P 16 57 34.1 -0.9
baz=313,SNR=6.3
R41A Rosebud 59.43 66 P P 16 57 36.1 -0.8
baz=314
Q42A Golden Eagle 59.50 65 P P 16 57 37.0 -0.3
baz=313
T40A Mansfield 59.56 68 P P 16 57 36.8 -1.0
baz=314
S41A Jilco Farms, 59.71 67 P P 16 57 37.9 -1.0
baz=314,SNR=9.0
W38A Poteau 59.81 71 P P 16 57 39.6 0.0
baz=314
WMQ Urumqi 59.82 303 P **P** **16 57 41.9 +2.3**
WMQ pP sP 16 57 55.5 +1.1
WMQ pmax pmax
comp=Z,12nm,0.7s
WMQ pmax pmax
comp=Z,26nm,3.6s
WMQ LR LR
comp=N,30nm,19.7s
WMQ LR LR
comp=E,42nm,23.3s
WMQ LR LR
comp=Z,48nm,23.3s
T41A Mountain View 60.07 67 P P 16 57 40.2 -1.2
baz=314
S42A Caledonia 60.13 66 P P 16 57 41.3 -0.5
baz=314,SNR=5.8
W39A Magazine 60.16 70 P P 16 57 41.7 -0.3
baz=314
R43A Red Bud 60.28 65 P P 16 57 42.1 -0.6
baz=314
V40A Witts Springs 60.31 69 P P 16 57 42.7 -0.3
baz=314,SNR=6.4
SFIN Lafayette 60.42 61 P P 16 57 43.5 -0.1
baz=314
X39A Fountain Ranch 60.44 71 P P 16 57 44.2 +0.2
baz=314
MK31 Makanchi Array 60.50 309 *e*P P 16 57 41.8 -2.4
MKAR Makanchi Array 60.50 309 *e*P P 16 57 41.9 -2.2
comp=Z,9.2nm,0.7s
MK01 Makanchi Array 60.51 309 *e*P P 16 57 42.7 -1.5
V41A Mountainview 60.71 68 P P 16 57 44.5 -1.2
baz=314
MIAR Mount Ida 60.74 70 P P 16 57 45.7 -0.2
baz=314
T43A Greenville 60.90 66 P P 16 57 46.5 -0.4
baz=314,SNR=8.1
WHAR Wooly Hollow 60.98 69 *e*P P 16 57 50.0 +2.5
comp=Z,50nm,0.3s
OLIL Olney 61.00 63 *e*P P 16 57 47.1 -0.5
comp=Z,18nm,0.8s

W41B Gary Mavity, V 61.08 69 P P 16 57 47.8 -0.5
baz=314
USIN University of 61.78 64 *e*P P 16 57 52.6 -0.2
comp=Z,37nm,1.0s
WCI Wyandotte Cave 62.36 63 *e*P P 16 57 55.1 -1.7
comp=Z,13nm,0.9s
ARU Arti 62.99 329 *e*P P 16 57 59.2 -1.4
comp=Z,3.2nm,0.7s
Y46A Houston 63.98 68 P P 16 58 07.2 -0.3
baz=316
KMI Kunming 64.21 279 P P 16 58 10.8 +1.3
KMI pmax pmax
comp=Z,8.0nm,0.5s
QIZ Qiongzhong 64.23 269 P P 16 58 10.1 +0.7
QIZ S **S** **17 06 43.1 -1.4**
QIZ pmax pmax
comp=Z,5.0nm,1.0s
QIZ pmax pmax
comp=Z,120nm,5.8s
TKL Tuckaleechee C 65.61 63 P P 16 58 18.0 -0.2
comp=Z,14nm,0.9s,baz=333,slow=5.8,SNR=5.9
TKL Tuckaleechee C 65.61 63 *e*P P 16 58 17.6 -0.6
comp=Z,15nm,0.9s
FINES FINESS Array B 66.05 348 P P 16 58 19.6 -1.0
comp=Z,2.1nm,0.8s,baz=43,slow=6.3,SNR=4.7
KMSC Kings Mountain 67.34 62 P P 16 58 29.3 -0.1
baz=318,SNR=5.9
KMSC Kings Mountain 67.34 62 *e*P P 16 58 29.2 -0.1
comp=Z,27nm,1.0s
NB2 NORSAR Subarra 67.85 355 P P 16 58 31.4 -0.7
comp=Z,1.2nm,0.6s,baz=7.6,slow=6.5
NOA NORSAR Array B 67.85 355 P P 16 58 30.9 -1.3
comp=Z,1.0nm,0.5s,baz=5.8,slow=6.3,SNR=3.9
LSA Lhasa 67.94 290 *e*P P 16 58 35.0 +1.3
comp=Z,19nm,0.8s
JSC Jenkinsville 68.02 62 *e*P P 16 58 34.4 +0.8
comp=Z,20nm,1.2s
ABKAR Akbulak array 68.35 323 *e*P P 16 58 35.3 -0.1
comp=Z,34nm,1.4s
KKAR Karatay Array 68.84 313 *e*P P 16 58 38.3 -0.3
comp=Z,14nm,0.8s
KSH Kashi 68.97 307 P P 16 58 43.0 +3.4
KSH sP sP 16 58 57.1 +2.6
KSH PP **PP** **17 01 16.6 +5.0**
KSH S **S** **17 07 43.6 +1.9**
KSH sS sS 17 08 00.7 +1.2
KSH Kashi 68.97 307 SS SS 17 12 11.7 +4.9
KSH pmax pmax
comp=Z,8.0nm,1.3s
KSH pmax pmax
comp=Z,61nm,4.9s
KSH LR LR
comp=N,72nm,5.4s
KSH LR LR
comp=E,62nm,5.2s
KSH LR LR
comp=Z,140nm,6.3s
CMAR Chiang Mai Arr 71.50 277 P P 16 58 55.2 +0.1
comp=Z,1.8nm,0.8s,baz=29,slow=6.7,SNR=10
CM01 Chiang Mai Arr 71.51 277 *e*P P 16 58 54.6 -0.7
ODAN Odare 72.26 291 *e*P P 16 59 01.0 +1.1
comp=Z,40nm,1.1s
GUN Gumba 72.35 293 *e*P P 16 59 01.9 +1.3
comp=Z,120nm,0.7s
JIRN Jiri 72.36 292 *e*P P 16 59 02.0 +1.3
comp=Z,824nm,0.7s
RAMN Ramite 72.65 291 *e*P P 16 59 03.4 +1.1
comp=Z,97nm,0.7s
KKN Kakani 72.79 293 *e*P P 16 59 04.1 +1.0
comp=Z,43nm,0.7s
PKIN Phulchoki 72.88 293 *e*P P 16 59 05.0 +1.3
comp=Z,30nm,0.8s
GKN Gorkha 73.00 293 *e*P P 16 59 05.2 +1.0
comp=Z,71nm,1.0s
DMN Daman 73.03 293 *e*P P 16 59 05.6 +1.1
comp=Z,46nm,0.9s
KOLN Koldanda 73.77 294 *e*P P 16 59 09.6 +0.7
comp=Z,25nm,0.9s
PYUN Piuthan 73.87 295 *e*P P 16 59 10.2 +0.8
comp=Z,76nm,1.0s
AKASG Malin Array Be 75.84 343 P P 16 59 19.3 -0.8
comp=Z,4.1nm,0.8s,baz=18,slow=5.5,SNR=8.6
AKBB Malin Array Si 75.84 343 *e*P P 16 59 19.7 -0.5
comp=Z,6.1nm,1.0s
KIEV Kiev 75.86 343 *e*P P 16 59 19.4 -0.8
comp=Z,7.2nm,1.1s
KBL Kabul 76.31 308 *e*P P 16 59 22.2 -1.1
comp=Z,5.8nm,0.9s
CLL Collm 77.42 353 *e*P P 16 59 29.0 -0.1
STHS Stebnicka Huta 78.40 347 *e*P P 16 59 34.1 -0.5
GEYT Alibeck 78.52 318 P P 16 59 35.2 -0.3
comp=Z,3.3nm,0.8s,baz=352,slow=3.3,SNR=4.5
GEYT LR LR 17 37 15.1
comp=Z,134nm,19.4s,baz=240,slow=38
CRVS Cervenica-Dubn 78.87 347 *e*P P 16 59 37.9 +0.7
KBZ Khabaz 78.98 331 P P 16 59 38.0 +0.2
comp=Z,5.0nm,0.9s,baz=71,slow=4.3,SNR=10.0
KECS Kecvo 79.42 348 *e*P P 16 59 39.7 -0.5
BUR08 Bucovina Ar. S 79.51 344 *e*P P 16 59 40.3 -0.5
MLR Muntele Rosu 81.46 343 *e*P P 16 59 51.5 +0.1
comp=Z,7.8nm,0.9s
WRA Warramunga Arr 82.22 225 P P 16 59 55.5 +0.1
comp=Z,0.9nm,0.7s,baz=33,slow=6.0,SNR=5.9
FITZ Fitzroy Crossi 84.74 233 P P 17 00 08.8 +0.5
comp=Z,4.4nm,0.9s,baz=92,slow=7.0,SNR=7.0
VTS Vitosha 84.75 344 *e*P P 17 00 07.4 -1.1
comp=Z,6.0nm,0.9s
BR131 Keskin Array S 85.29 336 *e*P P 17 00 10.6 -0.5
BRTR Keskin Array B 85.29 336 P P 17 00 10.2 -1.0
comp=Z,5.6nm,0.8s,baz=52,slow=2.8,SNR=26
BR231 Keskin MP Arra 85.39 337 *e*P P 17 00 11.2 -0.5
MARD Mardin 85.49 330 *e*P P 17 00 13.1 +0.9
comp=Z,20nm,0.7s
AS01 Alice Springs 85.66 223 *e*P P 17 00 13.2 +0.3
ASAR Alice Springs 85.69 223 P P 17 00 13.8 +0.8
comp=Z,1.5nm,0.8s,baz=24,slow=5.6,SNR=15
ES19 SONSECA Array 89.32 5 *e*P P 17 00 29.3 -1.2
ESDC Sonseca Array 89.34 5 P P 17 00 29.6 -1.0
comp=Z,1.2nm,0.7s,baz=346,slow=3.9,SNR=6.4
TORD Torodi Ar. Bea 115.91 0 PKP **PKPdf** 17 06 15.9 -1.2
comp=Z,0.4nm,0.5s,baz=21,slow=2.5,SNR=4.4
DBIC Dimbokro 122.05 8 PKP **PKPdf** 17 06 28.0 -0.9
comp=Z,1.8nm,0.4s,baz=358,slow=3.5,SNR=3.8
BOSA Boshof 151.43 313 PKPbc **PKPbc** 17 07 28.4 +0.5
comp=Z,4.1nm,0.6s,baz=9.9,slow=2.8,SNR=18

*ISCJB **05** 16:58:00.5±0.2,25°.10N±0°.02×106°.61W±0°.02,h10km, mb4.6/47,MS4.0/13,Error ellipse: s-maj=3.6km s-min=2.5km az=26.4*
*IDC **05** 16:58:00.2±0.6,25°.21N×106°.80W,h0km,mb4.5/14, mb1 4.6/19,mb1mx4.4/38,mbtmp4.4/19,ML3.9/5,MS4.0/17, Ms1 4.0/17,ms1mx3.9/33,Error ellipse: s-maj=13.6km s-min=11.9km az=127.0*
*NEIC **05** 16:58:01.5±0.3,25°.01N×106°.72W,h10km,mb4.5/73, MD4.8(MEX),Error ellipse: s-maj=5.3km s-min=3.7km az=214.0*
NEIC Felt at Durango. Felt [III] at Culiacan, Sinaloa.
*MEX **05** 16:58:02.2±0.5,25°.06N×106°.93W,h5km,MD4.8*
ISC 05 16:58:01.2±0.4,**25°.04N**±0°.04×**106°.84W**±0°.04,**h10**km, **n337,σ1$59**/326,**mb4.7**/47,**MS4.0**/13,**Northern Mexico**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
MAIG	**Mazatlaan**	**1.88**	**168**	*e*P		**Pn**	**16 58 31.5**	**-1.8**
MAIG				*i* S		**Sn**	**16 58 56.1**	**-1.1**
MAIG	**Mazatlaan**	**1.88**	**168**	*e*P		**Pn**	**16 58 31.5**	**-1.8**
MAIG				*i* S		**Sn**	**16 58 56.1**	**-1.1**
HPIG		**2.17**	**29**	*e*Pn		**Pn**	**16 58 36.1**	**-1.4**
HPIG				*e*S		**Sn**	**16 59 03.4**	**-1.1**
HPIG		**2.17**	**29**	*e*P		**Pn**	**16 58 35.3**	**-2.2**
HPIG				*e*S		**Sn**	**16 59 03.4**	**-1.1**
SLBS	**Sierra La Lagu**	**3.13**	**245**	*e*Pn		**Pn**	**16 58 49.5**	**-1.2**
LPIG	**La Paz**	**3.29**	**254**	Pn		**Pn**	**16 58 52.7**	**-0.1**
	3.7nm,0.3s,baz=173,slow=0.9,SNR=13							
LPIG				Lg		Lg	16 59 45.5	
	23nm,0.3s,baz=228,slow=12,SNR=2.3							
LPIG				LR		LR	17 00 06.5	
	comp=Z,4μm,20.3s,baz=350,slow=37							
LPIG	**La Paz**		**3.29**	**254**	Pn	**Pn**	**16 58 52.7**	**-0.1**
LPIG					*i* S	**Sn**	**16 59 29.0**	**-3.0**
LPIG					Lg	Lg	16 59 45.5	
LPIG	**La Paz**		**3.29**	**254**	*e*P	**Pn**	**16 58 50.6**	**-2.2**
LPIG					*i* S	**Sn**	**16 59 29.0**	**-3.0**
ANIG	**Ahuacatlan**		**4.50**	**151**	*e*P	**Pn**	**16 59 09.2**	**-0.4**
ANIG					*i* S	**Sn**	**17 00 02.3**	**+0.2**
ANIG	**Ahuacatlan**		**4.50**	**151**	*e*P	**Pn**	**16 59 09.2**	**-0.4**
ANIG					*i* S	**Sn**	**17 00 02.3**	**+0.2**
ZAIG	**Zacatecas**		**4.51**	**119**	*e*Pn	**Pn**	**16 59 09.0**	**-0.9**
ZAIG					*e*S	**Sn**	**17 00 03.2**	**+0.6**
ZAIG	**Zacatecas**		**4.51**	**119**	*e*P	**Pn**	**16 59 10.1**	**+0.1**
ZAIG					*e*S	**Sn**	**17 00 03.2**	**+0.6**
GUYB	**Guaymas**		**4.60**	**309**	*e*P	**Pn**	**16 59 08.6**	**-2.2**
GUYB					*e*S	**Sn**	**17 00 01.0**	**-3.4**
TX31	**Lajitas Ar. Si**		**5.13**	**33**	*e*Pn	**Pn**	**16 59 16.4**	**-1.7**
TXAR	**Lajitas Array**		**5.13**	**33**	Pn	**Pn**	**16 59 16.1**	**-2.1**
	4.8nm,0.3s,baz=207,slow=14,SNR=56							
TXAR					Lg	Lg	17 00 36.2	
	66nm,0.3s,baz=147,slow=14,SNR=8.9							
SRIG	**Santa Rosalia**		**5.36**	**296**	*e*P	**Pn**	**16 59 19.1**	**-2.1**
SRIG	**Santa Rosalia**		**5.36**	**296**	*e*P	**Pn**	**16 59 19.1**	**-2.1**
HSIG			**5.40**	**318**	*e*Pn	**Pn**	**16 59 20.7**	**-1.1**
HSIG					*i* S	**Sn**	**17 00 21.7**	**-2.3**
HSIG			**5.40**	**318**	*e*P	**Pn**	**16 59 20.5**	**-1.3**
HSIG					*i* S	**Sn**	**17 00 21.7**	**-2.3**
CGIG			**5.40**	**349**	*e*P	**Pn**	**16 59 21.8**	**-0.1**
CGIG					*i* S	**Sn**	**17 00 22.8**	**-1.6**
CGIG			**5.40**	**349**	*e*P	**Pn**	**16 59 21.8**	**-0.1**
CGIG					*i* S	**Sn**	**17 00 22.8**	**-1.6**
319A	**Douglas**		**6.67**	**342**	*e*Pn	**Pn**	**16 59 39.5**	**+0.1**
LNIG	**Linares**		**6.69**	**90**	*e*P	**Pn**	**16 59 39.7**	**+0.1**
LNIG					*i* S	**Sn**	**17 00 57.5**	**+1.6**
LNIG	**Linares**		**6.69**	**90**	*e*P	**Pn**	**16 59 39.7**	**+0.1**
LNIG					*i* S	**Sn**	**17 00 57.5**	**+1.6**
MNTX	**Cornudas Mount**		**6.76**	**11**	P	**Pn**	**16 59 39.9**	**-0.6**
	baz=190,SNR=20							
MNTX	**Cornudas Mount**		**6.76**	**11**	*e*Pn	**Pn**	**16 59 39.4**	**-1.1**
832A	**Faith Ranch, C**		**6.94**	**61**	P	**Pn**	**16 59 41.1**	**-1.8**
	baz=243							
933A	**Laredo**		**7.26**	**68**	P	**Pn**	**16 59 45.0**	**-2.3**
	baz=250,SNR=6.5							
833A	**Chaparral WMA,**		**7.42**	**62**	P	**Pn**	**16 59 47.5**	**-2.1**
	baz=245,SNR=14							
121A	**Cookes Peak, D**		**7.51**	**354**	P	**Pn**	**16 59 51.1**	**+0.1**
	baz=173,SNR=66							
121A	**Cookes Peak, D**		**7.51**	**354**	*e*Pn	**Pn**	**16 59 50.5**	**-0.5**
	148nm,0.8s							
034A	**Hebbronville**		**7.61**	**73**	P	**Pn**	**16 59 50.0**	**-2.2**
	baz=256,SNR=11							
934A	**Benavides**		**7.89**	**69**	P	**Pn**	**16 59 53.8**	**-2.2**
	baz=252							
TUC	**Tucson**		**8.03**	**335**	P	**Pn**	**16 59 59.8**	**+1.8**
	baz=153							
TUC	**Tucson**		**8.03**	**335**	*e*Pn	**Pn**	**16 59 59.0**	**+1.0**
834A	**Tilden**		**8.03**	**66**	P	**Pn**	**16 59 55.9**	**-2.1**
	baz=249							
633A	**Saathoff Ranch**		**8.12**	**55**	P	**Pn**	**16 59 57.5**	**-1.7**
	baz=238,SNR=6.5							
JCT	**Junction City**		**8.26**	**47**	P	**Pn**	**16 59 59.7**	**-1.4**
	baz=230							
JCT	**Junction City**		**8.26**	**47**	*e*Pn	**Pn**	**17 00 02.0**	**+0.9**
214A	**Organ Pipe Nat**		**8.66**	**324**	P	**Pn**	**17 00 09.6**	**+3.0**
	baz=141							
214A	**Organ Pipe Nat**		**8.66**	**324**	*e*P	**Pn**	**17 00 08.8**	**+2.1**
	67nm,0.8s							
433A	**Art**		**8.91**	**49**	P	**Pn**	**17 00 10.7**	**+0.7**
	baz=231,SNR=9.9							
534A	**Blanco**		**8.93**	**54**	P	**Pn**	**17 00 11.0**	**+0.6**
	baz=238,SNR=7.1							
BNM	**Barren Site**		**9.08**	**1**	*e*Pn	**Pn**	**17 00 12.3**	**-0.3**
LPM	**Los Pinos Moun**		**9.24**	**1**	*e*Pn	**Pn**	**17 00 15.2**	**+0.5**
LAZ	**Ladron**		**9.34**	**358**	*e*Pn	**Pn**	**17 00 14.8**	**-1.2**
333A	**Richland Sprin**		**9.34**	**46**	P	**Pn**	**17 00 16.1**	**+0.2**
	baz=229,SNR=15							
434A	**Burnet**		**9.51**	**51**	P	**Pn**	**17 00 18.4**	**+0.1**
	baz=234,SNR=15							
MSTX	**Muleshoe**		**9.58**	**21**	P	**Pn**	**17 00 19.1**	**-0.2**
	baz=202,SNR=8.9							
MSTX	**Muleshoe**		**9.58**	**21**	*e*Pn	**Pn**	**17 00 18.3**	**-0.9**
636A	**Smothers Creek**		**9.76**	**61**	P	**Pn**	**17 00 21.3**	**-0.4**
	baz=245,SNR=12							
X18A	**Snowflake**		**9.84**	**345**	*e*Pn	**Pn**	**17 00 23.7**	**+0.8**
334A	**Lometa**		**9.84**	**48**	P	**Pn**	**17 00 22.0**	**-0.8**
	baz=232							
ABTX	**Abilene, Hawle**		**9.84**	**38**	P	**Pn**	**17 00 22.8**	**0.0**
	baz=221,SNR=7.7							
ABTX	**Abilene, Hawle**		**9.84**	**38**	*e*Pn	**Pn**	**17 00 21.9**	**-0.9**
233A	**Rising Star**		**9.85**	**43**	P	**Pn**	**17 00 22.6**	**-0.4**
	baz=226							
ANMO	**Albuquerque**		**9.88**	**2**	Pn	**Pn**	**17 00 24.6**	**+1.2**
	0.6nm,0.3s,baz=182,slow=17,SNR=10							
ANMO					Lg	Lg	17 03 07.2	
	0.4nm,0.3s,baz=95,slow=13,SNR=3.2							
ANMO					LR	LR	17 04 44.7	
	comp=Z,478nm,21.5s,baz=186,slow=42							
ANMO	**Albuquerque**		**9.88**	**2**	P	**Pn**	**17 00 24.8**	**+1.4**
	baz=181							
ANMO	**Albuquerque**		**9.88**	**2**	*e*Pn	**Pn**	**17 00 23.5**	**0.0**
ANMO					Lg	Lg	17 03 07.2	
435B	**Jarrell**		**9.98**	**53**	P	**Pn**	**17 00 25.1**	**+0.4**
	baz=237,SNR=14							
X16A	**Lo Mia Camp, P**		**10.16**	**338**	*e*Pn	**Pn**	**17 00 28.1**	**+0.8**
133A	**Hamilton Ranch**		**10.25**	**41**	P	**Pn**	**17 00 28.6**	**+0.2**
	baz=224							
234A	**Clairette**		**10.33**	**46**	P	**Pn**	**17 00 28.8**	**-0.7**
	baz=229,SNR=6.6							
W18A	**Petrified Fore**		**10.35**	**347**	P	**Pn**	**17 00 33.5**	**+3.5**
	baz=165							
W18A	**Petrified Fore**		**10.35**	**347**	*e*Pn	**Pn**	**17 00 31.5**	**+1.5**
Y14A	**Wickenburg**		**10.37**	**330**	*e*Pn	**Pn**	**17 00 32.2**	**+2.2**
335A	**Moody**		**10.37**	**51**	P	**Pn**	**17 00 30.1**	**+0.1**
	baz=235,SNR=14							
537A	**Green Hill Far**		**10.60**	**59**	P	**Pn**	**17 00 32.9**	**-0.2**
	baz=244							
GLA	**Glamis**		**10.61**	**321**	*e*Pn	**Pn**	**17 00 34.1**	**+0.8**
TLIG	**Tlapa**		**10.71**	**132**	*e*Pn	**Pn**	**17 00 34.9**	**+0.1**
WHTX	**Lake Whitney,**		**10.77**	**48**	*e*Pn	**Pn**	**17 00 34.9**	**-0.6**
AMTX	**Amarillo**		**10.78**	**23**	P	**Pn**	**17 00 36.3**	**+0.6**
	baz=205							
AMTX	**Amarillo**		**10.78**	**23**	*e*Pn	**Pn**	**17 00 35.8**	**+0.1**
Z33A	**Whitaker Ranch**		**10.83**	**39**	P	**Pn**	**17 00 36.1**	**-0.2**
	baz=222							
336A	**Riesel**		**10.85**	**52**	P	**Pn**	**17 00 36.7**	**+0.2**
	baz=236,SNR=11							
Y12C	**Blythe**		**10.96**	**324**	*e*Pn	**Pn**	**17 00 39.7**	**+1.6**
WUAZ	**Wupatki**		**11.15**	**341**	P	**Pn**	**17 00 45.3**	**+4.4**
	baz=158							
WUAZ	**Wupatki**		**11.15**	**341**	*e*Pn	**Pn**	**17 00 44.7**	**+3.8**
PDMCI	**Parker Dam,Lak**		**11.20**	**327**	P	**Pn**	**17 00 45.2**	**+3.9**
	baz=143,SNR=9.7							
BC3	**Big Chuckawall**		**11.40**	**321**	P	**Pn**	**17 00 47.1**	**+2.8**
	baz=136,SNR=10							
X32A	**Elmer**		**11.42**	**33**	P	**Pn**	**17 00 43.9**	**-0.5**
	baz=216,SNR=22							
Y33A	**Hilltop Ranch,**		**11.44**	**37**	P	**Pn**	**17 00 44.1**	**-0.6**
	baz=220							
MONP	**Monument Peak,**		**11.47**	**315**	P	**Pn**	**17 00 49.1**	**+3.8**
	baz=130							
IRM	**Iron Mountain**		**11.61**	**323**	P	**Pn**	**17 00 50.2**	**+3.3**
	baz=139,SNR=23							
WMOK	**Wichita Mounta**		**11.92**	**34**	P	**Pn**	**17 00 49.9**	**-1.4**
	baz=217,SNR=9.5							
WMOK	**Wichita Mounta**		**11.92**	**34**	*e*Pn	**Pn**	**17 00 49.3**	**-2.0**
PFO	**Pinyon Flats O**		**11.97**	**318**	Pn	**Pn**	**17 00 54.6**	**+2.6**
	0.1nm,0.3s,baz=123,slow=15,SNR=3.9							
PFO					Lg	Lg	17 04 18.0	
	0.2nm,0.3s,baz=39,slow=14,SNR=2.8							
PFO					LR	LR	17 05 19.5	
	comp=Z,833nm,18.3s,baz=144,slow=37							
PFO	**Pinyon Flats O**		**11.97**	**318**	*e*Pn	**Pn**	**17 00 53.8**	**+1.8**
PFO					Lg	Lg	17 04 18.0	
MVCO	**Mesa Verde**		**12.22**	**354**	*e*Pn	**Pn**	**17 00 58.8**	**+3.3**
T25A	**Trinidad**		**12.24**	**9**	*e*Pn	**Pn**	**17 00 57.3**	**+1.5**
U15A	**North Rim**		**12.28**	**339**	*e*Pn	**Pn**	**17 00 60.0**	**+3.6**
LDFC	**Landfair**		**12.30**	**326**	*e*Pn	Pn	17 01 03.1	+6.6
GMRC	**Granite Mounta**		**12.36**	**324**	P	**Pn**	**17 01 01.5**	**+4.2**
	baz=139,SNR=6.3							
NATX	**Nacogdoches**		**12.63**	**55**	P	**Pn**	**17 01 01.7**	**+0.7**
	baz=240							
NATX	**Nacogdoches**		**12.63**	**55**	*e*Pn	**Pn**	**17 01 01.3**	**+0.3**
SDCO	**Great Sand Dun**		**12.72**	**5**	*e*Pn	**Pn**	**17 01 05.3**	**+2.9**
HEC	**Hector,Ludlow**		**12.76**	**322**	P	**Pn**	**17 01 06.9**	**+4.1**
	baz=137,SNR=8.7							
W34A	**Bridge Creek,**		**12.83**	**36**	*e*Pn	**Pn**	**17 01 02.0**	**-1.7**
KNB	**Kanab**		**12.99**	**338**	*e*Pn	**Pn**	**17 01 09.4**	**+3.4**
TUQ	**Turquoise Moun**		**12.99**	**325**	P	Pn	17 01 11.0	+5.0
	baz=140							
BFSC	**Mount Baldy Ra**		**13.13**	**317**	P	Pn	17 01 13.1	+5.3
	baz=131							
PV01	**Paradox Valley**		**13.14**	**354**	*e*Pn	**Pn**	**17 01 09.6**	**+1.5**

GSC	Goldstone, Bar	13.37	322	P	Pn	17 01 15.0	+3.9
	baz=137,SNR=8.7						
GSC	Goldstone, Bar	13.37	322	ePn	Pn	17 01 14.3	+3.2
PV10	Paradox Valley	13.43	353	ePn	Pn	17 01 12.5	+0.5
SHPR	Sheep Range	13.47	330	ePn	Pn	17 01 17.4	+4.8
SHOC	Shoshone, Teco	13.53	325	P	Pn	17 01 18.2	+4.9
	baz=140,SNR=7.8						
PV09	Paradox Valley	13.56	352	ePn	Pn	17 01 16.7	+2.8
341A	Kurthwood	13.59	59	P	Pn	17 01 12.1	-1.8
	baz=245						
SZCU	Shurtz Canyon	13.60	338	ePn	Pn	17 01 16.0	+1.6
CCUT	Cedar City	13.66	338	ePn	Pn	17 01 16.2	+1.1
CMIG	Matias Romero	13.67	123	Pn	Pn	17 01 16.0	+0.8
	0.1nm,0.3s,baz=313,slow=10,SNR=9.8						
CMIG				Lg	Lg	17 05 16.6	
	0.1nm,0.3s,baz=24,slow=14,SNR=1.9						
CMIG				LR	LR	17 07 00.6	
	comp=Z,954nm,19.0s,baz=283,slow=39						
MTPU	Mount Pierson	13.74	342	ePn	Pn	17 01 18.1	+1.7
OSI	Osito Audit: C	14.04	316	ePn	P	17 01 25.3	-2.9
SMCO	Snowmass	14.10	360	ePn	Pn	17 01 22.5	+1.1
X38A	Whitesboro	14.16	45	P	Pn	17 01 21.0	-0.8
	baz=230,SNR=6.0						
MSU	Marysvale	14.18	343	ePn	Pn	17 01 24.3	+2.1
FURC	Furnace Creek,	14.27	325	P	P	17 01 30.8	+0.1
	baz=140						
MPMC	Manual Prospec	14.30	323	P	P	17 01 29.2	-2.0
	baz=137,SNR=15						
TPNV	Topopah Spring	14.34	328	P	P	17 01 30.5	-1.2
	baz=143,SNR=18						
SRU	San Rafael Swe	14.37	348	ePn	Pn	17 01 26.4	+1.5
KSCO	Kaye Shedlock'	14.38	13	ePn	Pn	17 01 25.2	+0.3
	22nm,0.8s						
TUL1	Leonard	14.41	39	ePn	Pn	17 01 23.6	-1.7
	34nm,1.2s						
DAC	Darwin (Calif)	14.52	323	ePn	Pn	17 01 29.2	+2.3
T34A	McClaskey Farm	14.52	32	P	Pn	17 01 25.3	-1.5
	baz=217						
X39A	Fountain Ranch	14.52	47	P	P	17 01 32.8	-0.6
	baz=232						
ISA	Isabella, Lake	14.58	319	ePn	Pn	17 01 31.1	+3.4
W38A	Poteau	14.61	44	P	P	17 01 34.7	+0.3
	baz=230,SNR=8.0						
WLAR	White Oak Lake	14.74	51	ePn	Pn	17 01 30.9	+1.2
ISCO	Idaho Springs	14.76	4	ePn	Pn	17 01 32.9	+2.6
V37A	Hulbert	14.77	40	P	Pn	17 01 27.0	-3.2
	baz=226						
T35A	Sooner Cattle	14.77	34	P	Pn	17 01 27.6	-2.6
	baz=219,SNR=5.1						
P18A	Preston Nutter	14.83	350	ePn	Pn	17 01 30.9	-0.3
MIAR	Mount Ida	14.90	47	P	P	17 01 35.9	-1.8
	baz=234						
MIAR	Mount Ida	14.90	47	eP	Pn	17 01 32.7	+0.8
	12nm,0.9s						
CWC	Cottonwood Cre	14.90	322	P	P	17 01 37.1	-0.7
	baz=136						
VES	Vestal, Richgr	15.07	318	P	P	17 01 41.2	+1.7
	baz=132,SNR=12						
O20A	White River Ci	15.10	356	P	P	17 01 42.1	+2.0
	baz=175,SNR=7.3						
O20A	White River Ci	15.10	356	eP	P	17 01 39.0	-1.0
	12nm,0.9s						
U37A	Salina	15.15	39	P	Pn	17 01 31.5	-3.8
	baz=224						
W39A	Magazine	15.15	45	P	P	17 01 40.6	+0.1
	baz=231,SNR=12						
V38A	Canehill	15.19	42	P	Pn	17 01 32.7	-3.1
	baz=228						
R11A	Troy Canyon, C	15.20	333	P	P	17 01 39.2	-2.0
	baz=148,SNR=19						
R11A	Troy Canyon, C	15.20	333	ePn	Pn	17 01 37.4	+1.3
	41nm,1.7s						
T36A	Boggs Farm, Ca	15.21	35	P	Pn	17 01 33.5	-2.5
	baz=221						
X40A	Basin Creek Fa	15.37	49	P	P	17 01 42.0	-0.9
	baz=236						
S35A	Otter Creek Ra	15.46	33	P	Pn	17 01 37.1	-2.3
	baz=218,SNR=6.1						
V39A	Pettigrew	15.65	43	P	Pn	17 01 41.7	-0.1
	baz=230,SNR=11						
HHAR	Hobbs	15.76	42	ePn	Pn	17 01 41.7	-1.5
	46nm,1.1s						
N23A	Red Feather La	15.83	2	ePn	Pn	17 01 43.9	-0.5
	22nm,1.1s						
S36A	Lake Cedric, C	15.86	34	P	Pn	17 01 43.5	-1.0
	baz=220						
UALR	University of	15.86	49	ePn	Pn	17 01 43.3	-1.3
	28nm,0.9s						
DUG	Dugway, Tooele	15.92	343	P	P	17 01 50.2	+1.1
	baz=160,SNR=28						
DUG	Dugway, Tooele	15.92	343	ePn	P	17 01 50.0	+0.9
	34nm,1.0s						
R35A	Emporia Munici	16.03	32	P	Pn	17 01 45.0	-1.7
	baz=217						
T38A	Diamond	16.06	39	P	Pn	17 01 44.8	-2.4
	baz=225						
U39A	Green Forest	16.10	42	P	Pn	17 01 46.0	-1.6
	baz=229,SNR=9.1						
W41B	Gary Mavity, V	16.15	48	P	P	17 01 49.8	-1.7
	baz=235,SNR=6.4						
WHAR	Wooly Hollow	16.19	47	ePn	Pn	17 01 48.1	-0.7
	49nm,1.2s						
KSU1	Kansas State U	16.47	29	P	Pn	17 01 51.2	-1.1
	baz=214						
KSU1	Kansas State U	16.47	29	ePn	Pn	17 01 50.2	-2.1
	22nm,0.9s						
Q35A	Mercer Eighty,	16.53	31	P	Pn	17 01 52.0	-1.2
	baz=216						
V41A	Mountainview	16.57	46	P	Pn	17 01 53.9	+0.3
	baz=233,SNR=13						
T39A	Clever	16.59	41	P	Pn	17 01 51.6	-2.3
	baz=227,SNR=6.3						
145A	Houston Renfro	16.61	59	P	Pn	17 01 51.9	-2.3
	baz=247						
S38A	Stockton	16.70	38	P	Pn	17 01 52.7	-2.6
	baz=224						
TVH2	Borealis Mine	16.70	326	ePn	P	17 01 58.4	+0.5
	31nm,1.4s						
P34A	Walnut Farm, R	16.74	28	P	Pn	17 01 54.8	-1.0
	baz=213						
TVH1	TV Hill, Hawth	16.77	326	ePn	P	17 02 00.2	+1.5
	39nm,1.2s						
HWUT	Hardware Ranch	16.98	348	ePn	P	17 02 00.5	-0.4
	57nm,1.9s						
S39A	Bolivar	17.07	39	P	Pn	17 01 58.2	-1.8
	baz=226						
R38A	Fenwick Farm,	17.10	37	P	Pn	17 01 58.9	-1.4
	baz=223						
T40A	Mansfield	17.18	42	P	Pn	17 01 59.5	-1.9
	baz=229						
CMB	Columbia Colle	17.33	322	ePn	P	17 02 05.4	+0.8
	6.1nm,1.0s						
O34A	Beatrice	17.33	27	P	Pn	17 02 01.6	-1.6
	baz=212						
YERR	Yerington	17.41	326	ePn	Pn	17 02 04.8	+0.4
	12nm,0.8s						
S40A	Lebanon	17.49	41	P	Pn	17 02 03.9	-1.3
	baz=228,SNR=9.2						
U42A	Revenden	17.50	46	P	Pn	17 02 03.9	-1.4
	baz=234,SNR=13						
K22A	Casper	17.57	1	ePn	Pn	17 02 06.7	+0.4
	58nm,1.7s						
BMN	Battle Mountai	17.64	333	ePn	P	17 02 10.5	+2.4
	18nm,1.2s						
R39A	Chumby, Stover	17.67	38	P	Pn	17 02 05.7	-1.7
	baz=225						
PNTR	Pine Nut	17.67	326	ePn	P	17 02 11.7	+3.1
	13nm,0.9s						
Q38A	Cooks Store, C	17.82	36	P	Pn	17 02 08.3	-0.9
	baz=222						
BW06	Boulder Array	17.83	353	P	P	17 02 10.0	-0.2
	baz=172						
BW06	Boulder Array	17.83	353	ePn	Pn	17 02 08.3	-1.3
	0.3nm,1.3s						
PD31	Pinedale Array	17.83	353	ePn	Pn	17 02 08.3	-1.2
PDAR	Pinedale Array	17.83	353	P	Pn	17 02 09.8	+0.3
	0.2nm,0.3s,baz=151,slow=3.4,SNR=23						
PDAR				LR	LR	17 09 11.7	
	comp=Z,264nm,19.6s,baz=186,slow=38						
S41A	Jillco Farms,	17.94	42	P	P	17 02 10.8	-0.5
	baz=230,SNR=7.9						
147A	Livingston	17.94	61	P	Pn	17 02 09.6	-1.2
	baz=249						
Y46A	Houston	17.95	56	P	Pn	17 02 10.3	-0.6
	baz=245						
T42A	Van Buren	18.00	45	P	P	17 02 11.5	-0.4
	baz=232,SNR=6.7						

PAHR	Pah Rah Range	18.03	327	ePn	P	17 02 15.4	+2.9
	16nm,1.1s						
R40A	Maddies Statio	18.09	40	P	Pn	17 02 11.2	-1.4
	baz=227						
Q39A	Willow Grove F	18.22	37	P	P	17 02 14.4	0.0
	baz=224						
PBMO	Poplar Bluff	18.28	46	ePn	Pn	17 02 13.8	-1.1
	13nm,0.9s						
AFDM	Forest Hills D	18.30	323	ePn	P	17 02 18.8	+3.5
	7.7nm,1.2s						
T43A	Greenville	18.55	46	P	Pn	17 02 18.6	+0.4
	baz=234,SNR=5.5						
R41A	Rosebud	18.62	41	P	Pn	17 02 18.8	-0.3
	baz=229						
S42A	Caledonia	18.64	43	P	P	17 02 18.4	-0.6
	baz=231						
TPAW	Teton Pass	18.71	351	eP	Pn	17 02 22.0	+1.5
	21nm,1.1s						
Z48A	Northport	18.75	59	P	P	17 02 19.2	-1.1
	baz=248						
LOHW	Long Hollow	18.78	351	eP	Pn	17 02 21.2	-0.1
	11nm,0.9s						
MOOW	Moose Ponds	18.94	351	eP	P	17 02 22.1	-0.4
	37nm,1.8s						
S43A	Fulton Ridge,	18.97	45	P	Pn	17 02 22.6	-0.7
	baz=233						
P40A	Paris	19.07	37	P	P	17 02 23.1	-0.7
	baz=225						
LRAL	Lakeview Retre	19.07	61	eP	Pn	17 02 24.2	-0.4
	24nm,1.1s						
IMW	Indian Meadow	19.11	351	eP	P	17 02 24.6	+0.1
	16nm,1.0s						
FLWY	Flagg Ranch	19.26	352	eP	P	17 02 26.1	0.0
	34nm,1.4s						
HLID	Hailey	19.49	343	P	Pn	17 02 29.8	0.0
	baz=159,SNR=14						
HLID	Hailey	19.49	343	eP	Pn	17 02 30.7	+0.9
	10nm,1.1s						
H17A	Grant Village	19.55	352	eP	P	17 02 29.2	0.0
	18nm,0.1s						
O03D	Paynes Creek	19.71	324	P	Pn	17 02 34.1	+1.9
	baz=136,SNR=22						
O03D	Paynes Creek	19.71	324	P	Pn	17 02 34.3	+2.0
WVT	Waverly	19.71	51	eP	P	17 02 29.9	-1.0
	66nm,1.0s						
MFID	Camas Ranch	19.76	340	P	P	17 02 31.4	0.0
	8.5nm,1.1s						
M38A	Pleasantville	19.89	31	P	P	17 02 32.6	0.0
	baz=219,SNR=8.5						
WVOR	Wild Horse Val	19.90	334	eP	P	17 02 33.5	+0.5
	22nm,1.3s						
R44A	Waltonville	20.00	45	P	P	17 02 34.1	+0.1
	baz=234						
RLMT	Red Lodge	20.14	355	eP	P	17 02 36.5	+0.9
	31nm,1.5s						
MOD	Modoc Plateau	20.18	330	eP	Pn	17 02 39.2	+1.3
	37nm,1.1s						
LTIM	Timbered Crate	20.19	326	P	Pn	17 02 39.3	+1.3
SCIA	State Center	20.26	31	ePn	Pn	17 02 38.8	+0.1
	48nm,1.0s						
WDC	Whiskeytown Da	20.31	324	eP	P	17 02 37.1	-0.1
	11nm,1.2s						
MCMT	McKenzie Canyo	20.34	348	P	Pn	17 02 40.7	+0.8
ECSD	EROS Data Cent	20.44	22	P	P	17 02 38.8	+0.1
	baz=207,SNR=8.6						
ECSD	EROS Data Cent	20.44	22	eP	Pn	17 02 40.1	-0.7
	30nm,1.4s						
L38A	Oak Wood Farm,	20.56	31	P	P	17 02 40.7	+0.7
	baz=218						
DLMT	Dillon	20.81	349	eP	Pn	17 02 45.0	-0.2
	33nm,1.5s						
M04C	Macdoel	20.82	327	P	Pn	17 02 46.0	+0.6
	baz=138,SNR=13						
GCMT	Greycliff	20.83	354	eP	P	17 02 43.5	+0.4
BOZ	Bozeman (W)	20.88	351	P	Pn	17 02 45.4	-0.7
	baz=168,SNR=13						
BOZ	Bozeman (W)	20.88	351	eP	Pn	17 02 45.5	-0.5
	12nm,1.1s						
OLIL	Olney	20.91	45	eP	P	17 02 43.2	-0.6
	76nm,0.9s						
J36A	Seneca 1, Swea	20.93	26	P	P	17 02 43.9	-0.1
	baz=213,SNR=6.4						
I34A	Hadley	20.97	23	P	P	17 02 44.2	-0.1
	baz=208						
K05A	Summer Lake	21.10	330	eP	P	17 02 47.6	+1.5
	60nm,1.2s						
KHMM	Horse Mountain	21.16	322	eP	P	17 02 47.4	+0.7
	31nm,0.9s						
J37A	Redenius Farm,	21.24	28	P	P	17 02 47.0	-0.3
	baz=215						
K39A	Oelwein	21.50	31	P	P	17 02 49.7	-0.4
	baz=219,SNR=7.5						
BMO	Blue Mountains	21.51	339	eP	P	17 02 51.7	+1.3
	27nm,1.3s						
G32A	Webster	21.54	18	P	P	17 02 53.6	+3.0
	baz=203,SNR=8.3						
H34A	Spellman Lake,	21.55	22	P	P	17 02 50.8	+0.2
	baz=208						
LAO	LASA Array	21.61	1	P	P	17 02 52.4	+1.0
	baz=181						
LAO	LASA Array	21.61	1	eP	P	17 02 52.3	+0.9
	16nm,1.1s						
J05D	Fort Rock, OR	21.70	331	P	P	17 02 54.2	+1.8
	baz=142,SNR=19						
L41A	Preston	21.71	34	P	P	17 02 52.4	0.0
	baz=223						
G33A	Ortonville	21.80	20	P	P	17 02 52.9	-0.4
	baz=206						
WCI	Wyandotte Cave	21.82	48	eP	P	17 02 51.7	-2.0
	51nm,1.2s						
CPCT	Cooper Cave	21.85	56	eP	P	17 02 52.1	-1.8
	65nm,1.5s						
I37A	Lemond, Waseca	21.88	27	P	P	17 02 53.0	-1.1
	baz=214						
GOGA	Godfrey	22.00	62	eP	P	17 02 54.9	-0.8
	41nm,1.1s						
J39A	Decorah	22.07	30	P	P	17 02 55.6	-0.7
	baz=219						
G34A	Benson	22.10	21	P	P	17 02 56.8	+0.3
	baz=208,SNR=5.3						
BLO	Bloomington	22.18	46	eP	P	17 02 55.7	-1.7
	207nm,1.9s						
K41A	Shullsburg	22.20	34	P	P	17 02 56.7	-0.9
	baz=223						
I38A	Scanlan Farm,	22.35	28	P	P	17 02 58.0	-1.2
	baz=216						
CHMT	Chamberlain Mo	22.42	348	eP	P	17 02 59.8	-0.4
JFWS	Jewell Farm	22.45	33	eP	P	17 03 00.2	-0.1
	16nm,0.7s						
MSO	Missoula	22.47	347	P	P	17 03 02.3	+1.6
	baz=163						
MSO	Missoula	22.47	347	eP	P	17 03 02.0	+1.3
	24nm,1.2s						
TKL	Tuckaleechee C	22.49	57	P	P	17 02 59.8	-1.0
	9.3nm,1.0s,baz=189,slow=10,SNR=8.9						
TKL				LR	LR	17 12 22.4	
	comp=Z,673nm,22.0s,baz=266,slow=38						
TKL	Tuckaleechee C	22.49	57	eP	P	17 03 00.0	-0.8
	6nm,1.3s						
F10A	Beech Ranch, E	22.50	341	eP	P	17 03 01.2	+0.3
	15nm,0.9s						
SFIN	Lafayette	22.51	42	eP	P	17 03 01.0	+0.1
	36nm,0.9s						
I39A	Houston	22.56	30	P	P	17 03 00.3	-1.2
	baz=218						
SLMT	Seeley Lake	22.78	348	eP	P	17 03 03.5	-0.5
VTHM	Trough	22.96	335	P	P	17 03 07.8	+2.1
BPO	Bald Peter	22.98	332	P	P	17 03 09.3	+3.1
TZTN	Tazewell	23.00	55	eP	P	17 03 05.4	-0.9
	34nm,1.1s						
EGMT	Eagleton	23.06	355	P	P	17 03 08.3	+1.5
	baz=173,SNR=9.1						
EGMT	Eagleton	23.06	355	eP	P	17 03 07.9	+1.1
	17nm,0.9s						
SWMT	Swartz Lake	23.14	348	eP	P	17 03 07.8	+0.2
E09A	Wood Farm, Sta	23.26	340	eP	P	17 03 08.1	-0.6
	9.9nm,0.9s						
JTMT	Jette	23.42	347	eP	P	17 03 09.8	-0.7
YBMT	Yellow Bay	23.48	348	eP	P	17 03 11.2	+0.1
HAWA	Hanford	23.61	338	eP	P	17 03 12.8	+0.6
	7.6nm,1.0s						
BLMT	Blacktail Moun	23.69	347	eP	P	17 03 12.2	-1.0
C31A	Landman Farms,	23.83	15	P	P	17 03 14.5	+0.2
	baz=200						
LVP	Lakeview Peak	24.43	333	eP	P	17 03 20.2	+0.2
NEW	Newport	24.56	343	P	P	17 03 20.7	-0.4
	16nm,0.9s,baz=161,slow=11,SNR=12						
NEW	Newport	24.56	343	P	P	17 03 22.1	+0.9
	baz=157,SNR=14						
NEW	Newport	24.56	343	eP	P	17 03 22.4	+1.2
	19nm,0.9s						
WALA	Waterton Lakes	24.61	349	eP	P	17 03 22.8	+1.1
	27nm,1.5s						
AGMN	Agassiz Nation	24.78	18	P	P	17 03 22.1	-1.0
	baz=204,SNR=7.1						
AGMN	Agassiz Nation	24.78	18	eP	P	17 03 22.1	-1.0
	18nm,0.9s						
C35A	Jirik Farms, M	24.81	21	P	P	17 03 22.4	-1.0
	baz=208						
B33A	Robert and Kas	24.83	18	P	P	17 03 23.2	-0.3
	baz=205						
ACSO	Alum Creek Sta	25.05	47	eP	P	17 03 26.3	+0.6
	84nm,1.1s						
JTS	JuntasAbangare	25.44	121	LR	LR	17 14 42.5	
	comp=Z,451nm,20.1s,baz=14,slow=39						
BLA	Blacksburg	25.57	55	eP	P	17 03 30.2	-0.2
	57nm,1.3s						
RPW	Rockport	26.07	337	eP	P	17 03 37.2	+2.4
ULM	Lac du Bonnet	26.57	16	P	P	17 03 36.5	-2.7
	15nm,0.8s,baz=212,slow=8.6,SNR=14						
ULM	Lac du Bonnet	26.57	16	eP	P	17 03 37.4	-1.8
	14nm,0.8s						
MCWV	Mont Chateau	26.94	51	eP	P	17 03 44.8	+2.0
	30nm,1.3s						
EDM	Edmonton	28.57	352	eP	P	17 03 57.7	+0.5
	7.7nm,0.8s						
SADO	Sadowa	29.83	42	LR	LR	17 16 38.2	
	comp=Z,1μm,18.6s,baz=260,slow=38						
BINY	Binghamton	30.65	48	eP	P	17 04 14.9	-0.9
ROSC	El Rosal	37.11	117	P	P	17 05 14.2	+1.6
	5.4nm,0.3s,baz=228,slow=3.8,SNR=8.7						
ROSC				LR	LR	17 20 59.5	
	comp=Z,180nm,21.4s,baz=250,slow=37						
DLBC	Dease Lake	37.20	340	eP	P	17 05 15.3	+2.8
	9.3nm,1.1s						
RUSC	La Rusia	37.52	115	eP	P	17 05 16.3	+0.1
	26nm,1.3s						
YKA	Yellowknife Ar	37.81	354	P	P	17 05 16.4	-1.0
	2.7nm,0.8s,baz=168,slow=8.6,SNR=5.5						
YKA				LR	LR	17 20 21.2	
	comp=Z,16nm,18.2s,baz=180,slow=36						
SDV	Santo Domingo	38.01	109	eP	P	17 05 19.4	-0.6
	36nm,1.3s						
ATAH	Atahualpa	42.30	135	LR	LR	17 21 08.1	
	comp=Z,179nm,20.9s,baz=325,slow=33						
DAWY	Dawson	44.42	340	eP	P	17 06 12.4	+0.5
	11nm,1.3s						
INK	Inuvik	46.21	347	LR	LR	17 25 42.4	
	comp=Z,227nm,20.6s,baz=154,slow=36						
TAOE	Nuku Hiva Isla	46.78	228	eLR	LR	17 19 41.8	
	366nm,23.9s						
ILAR	Eielson Array	47.32	338	P	P	17 06 35.9	+1.1
	6.1nm,0.9s,baz=145,slow=7.0,SNR=40						
ILAR				LR	LR	17 25 46.6	
	comp=Z,133nm,18.4s,baz=126,slow=35						
SPU	Mount Spurr	47.33	332	eP	P	17 06 35.6	+0.7
CCB	Clear Creek Bu	47.56	338	eP	P	17 06 36.8	+0.2
	5.8nm,0.9s						
PPLA	Purkeypile	48.23	334	eP	P	17 06 42.9	+0.9
	48nm,1.3s						
CAST	Castle Rocks	48.45	335	eP	P	17 06 43.2	-0.4
	9.4nm,0.8s						
COLD	Coldfoot	49.88	340	eP	P	17 06 55.1	+0.8
	7.1nm,1.2s						
RPN	Rapa Nui	51.92	183	P	P	17 07 13.4	+3.3
	17nm,0.3s,baz=263,slow=8.1,SNR=2.5						
PTGA	Pitinga	52.07	112	eP	P	17 07 09.7	-1.9
	53nm,1.6s						
SAML	Samuel	54.31	123	eP	P	17 07 27.6	-0.5
	15nm,1.4s						
RKT	Rikitea	55.10	212	eLR	LR	17 23 38.9	
	360nm,27.5s,baz=28						
LPAZ	La Paz	55.77	133	LR	LR	17 30 20.6	
	comp=Z,125nm,21.3s,baz=318,slow=35						
PPT	Papeete	59.38	229	LR	LR	17 27 12.8	
	comp=Z,86nm,18.7s,baz=3.0,slow=29						
PPT2	Papeete2	59.40	229	eLR	LR	17 25 31.7	
	408nm,27.8s,baz=43						
TBI	Tubuai	63.41	224	eLR	LR	17 27 25.0	
	262nm,28.0s						
CPUP	Vila Florida	69.95	133	P	P	17 09 14.6	+1.7
	2.5nm,0.8s,baz=345,slow=6.9,SNR=3.4						
CPUP				LR	LR	17 39 12.0	
	comp=Z,62nm,20.1s,baz=340,slow=35						
PETK	Petropavlovsk-	73.52	321	P	P	17 09 34.9	+0.9
	5.6nm,0.9s,baz=84,slow=10,SNR=7.7						
PLCA	Paso Flores	73.62	152	LR	LR	17 36 18.6	
	comp=Z,80nm,21.7s,baz=332,slow=31						
NB2	NORSAR Subarra	80.79	26	P	P	17 10 15.5	+0.7
	comp=Z,4.6nm,1.1s,baz=307,slow=5.9						
NOA	NORSAR Array B	80.79	26	P	P	17 10 13.8	-1.1
	comp=Z,1.9nm,0.9s,baz=307,slow=5.7,SNR=3.5						
ESDC	Sonseca Array	83.59	49	P	P	17 10 30.2	+0.2
	comp=Z,0.7nm,0.7s,baz=313,slow=5.3,SNR=2.8						
NRIK	Noril'sk	85.32	355	P	P	17 10 37.0	-1.0
	comp=Z,3.1nm,0.8s,baz=51,slow=2.4,SNR=6.1						
FINES	FINESS Array B	85.85	21	P	P	17 10 41.7	+0.9
	comp=Z,2.0nm,0.8s,baz=319,slow=8.4,SNR=4.2						
BRG	Bergqieshubel	88.19	33	e(P)	P	17 10 39.6	-13
	comp=Z,7.8nm,1.2s						
MJAR	Matsushiro Arr	93.36	313	P	P	17 11 17.0	+0.1
	comp=Z,3.1nm,0.9s,baz=53,slow=1.9,SNR=5.4						
DZM	Mont Dzumac	96.26	249	LR	LR	17 46 13.4	
	comp=Z,123nm,18.3s,baz=76,slow=30						
DZM	Mont Dzumac	96.26	249	eLR	LR	17 42 38.0	
	comp=Z,227nm,24.4s						
CN2	Changchun	96.40	325	eP	P	17 11 31.5	+0.9
GTA	Gaotai	111.22	338	ePKP	PKiKP	17 16 32.3	-3.4
GTA				sPKP		17 16 39.8	
KSH	Kashi	115.73	358	ePKP	PKPdf	17 16 47.1	+2.8
WRA	Warramunga Arr	123.65	262	PKP	PKPdf	17 16 58.9	-0.9
	comp=Z,2.1nm,0.8s,baz=64,slow=1.7,SNR=12						
ASAR	Alice Springs	125.06	258	PKP	PKPdf	17 17 02.0	-0.4
	comp=Z,1.4nm,0.7s,baz=75,slow=2.1,SNR=17						

*IASPEI **05** 17:02:32.9±0.8, 37.47N±0.02×35.44E±0.02, h12km±5km, Error ellipse: s-maj=3.5km s-min=2.8km az=175.4, GT5 selection from ISC bulletin GT5 identified by Bond¨¡r and McLaughlin (2009) selection criteria Bond¨¡r and McLaughlin, A new ground truth data set for seismic studies, Seism. Res. Let., 80, 465-472, 2009*

*ISK **05** 17:02:32.5, 37.48N×35.45E, h4km, ML3.4*

*DDA **05** 17:02:32.8, 37.48N×35.43E, h10km, Ml3.5*

*CSEM **05** 17:02:33.3±0.1, 37.44N×35.46E, h2km, ML3.4, Error ellipse: s-maj=2.8km s-min=2.6km az=142.0*

*ISCJB **05** 17:02:33.2±0.4, 37.42N±0.02×35.46E±0.02, h5km±3km, Error ellipse: s-maj=2.8km s-min=2.6km az=170.1*

*NIC **05** 17:02:34.8±0.4, 37

KRTD	Karatas-Adana	0.87	182	*e*Pg		Pg	17 02 49.9	0.0
KRTS	Karatas	0.90	184	*e*PG		Pb	17 02 50.6	0.0
KRTS	Karatas	0.90	184	*e*Pg		Pb	17 02 50.7	0.0
MERS	Mersin	0.96	231	*e*PG		Pg	17 02 50.7	-0.8
MERS	Mersin	0.96	231	*e*Pg		Pg	17 02 50.7	-0.8
KAMA	Osmaniye	1.01	106	*i* P		Pn	17 02 53.2	-0.1
KERG	Konya-Eregli	1.06	267	*i* P		Pg	17 02 52.6	-0.9
KERG				*i* S		Sg	17 03 06.8	-0.5
KERG	Konya-Eregli	1.06	267	P		Pg	17 02 52.6	-0.9
KERG				S		Sg	17 03 06.8	-0.5
KMRS	Kahramanmaras	1.15	88	*e*PN		Pb	17 02 54.9	-0.1
KMRS	Kahramanmaras	1.15	88	*e*Pn		Pb	17 02 54.9	-0.1
HCB	Kahramanmara˜	1.16	96	*i* P		Pg	17 02 55.5	+0.1
HCB				*i* S		Sg	17 03 10.8	+0.1
BSTP	Nigde	1.17	295	*i* P		Pb	17 02 55.5	+0.1
SARI	SarD1z-Kayseri	1.21	39	*e*PN		Pb	17 02 55.6	-0.5
TAHT	Tahtakopru-Hat	1.24	152	*e*PN		Pb	17 02 56.6	+0.1
TAHT	Tahtakopru-Hat	1.24	152	*e*Pn		Pb	17 02 56.6	+0.1
DRWC	Darouich	1.29	131	*i* P		Pn	17 02 57.0	-0.1
	SNR=57							
DRWC				*e*S		Sb	17 03 12.5	-1.5
	414nm,0.4s,SNR=49							
GULA	Gulagac	1.30	313	*e*PN		Pb	17 02 57.8	+0.1
GULA	Gulagac	1.30	313	*e*Pn		Pb	17 02 57.8	+0.1
BNN	Bunyan	1.42	12	*e*PN		Pb	17 02 59.6	-0.1
BNN	Bunyan	1.42	12	*e*Pn		Pb	17 02 59.6	-0.1
AVNS	Nevsehir-Avano	1.42	340	*i* P		Pg	17 03 09.1	+8.8
AVNS				*i* S		Sg	17 03 10.8	+1.0
GAZ	Gaziantep	1.43	101	*e*PN		Pb	17 03 00.1	+0.2
GAZ	Gaziantep	1.43	101	*e*Pn		Pb	17 03 00.1	+0.2
KIZK	Mersin	1.44	227	*e*PN		Pn	17 02 59.4	+0.3
KIZK	Mersin	1.44	227	*i* P		Pn	17 02 58.9	-0.3
KIZK				*i* S		Sg	17 03 20.5	+1.1
KIZK	Mersin	1.44	227	P		Pn	17 02 58.9	-0.3
KIZK				S		Sg	17 03 20.5	+1.1
KUZU	Kuzuini	1.47	118	*i* P		Pn	17 03 00.1	+0.5
KUZU				*i* S		Sn	17 03 18.0	-0.9
KUZU	Kuzuini	1.47	118	P		Pn	17 03 00.1	+0.5
KUZU				S		Sn	17 03 18.0	-0.9
YAYL	Yayladag	1.52	160	*i* P		Pn	17 02 57.8	-2.6
YAYL				*i* S		Sn	17 03 19.2	-1.1
YAYL	Yayladag	1.52	160	P		Pn	17 02 57.8	-2.6
YAYL				S		Sn	17 03 19.2	-1.1
SLFK	Silifke-Mersin	1.62	229	*e*PN		Pn	17 03 02.0	+0.4
SLFK	Silifke-Mersin	1.62	229	*e*Pn		Pn	17 03 02.0	+0.4
BTCH	Batrach	1.64	150	*i* P		Pn	17 03 02.0	0.0
	SNR=57							
BTCH				*e*S		Sn	17 03 22.3	-0.8
	296nm,0.5s,SNR=49							
ARNB	Al Arnab	1.66	165	*i* P		Pn	17 03 03.0	+0.8
	SNR=57							
ARNB				*e*S		Sb	17 03 24.7	0.0
	345nm,0.5s,SNR=49							
SULT	Sultanhani-AKS	1.70	296	*e*PN		Pn	17 03 03.6	+0.8
SULT	Sultanhani-AKS	1.70	296	*e*Pn		Pn	17 03 03.6	+0.8
AKSY	AKSARAY - Alti	1.78	312	*i* P		Pb	17 03 05.9	0.0
AKSY				*i* S		Sg	17 03 29.6	-0.8
AKSY	AKSARAY - Alti	1.78	312	P		Pb	17 03 05.9	0.0
AKSY				S		Sg	17 03 29.6	-0.8
IKL	Isikli	1.88	230	*e*PN		Pn	17 03 06.2	+1.1
IKL	Isikli	1.88	230	*e*Pn		Pn	17 03 06.2	+1.1
CUGUR	Gurin_S˜VAS	1.90	48	*i* P		Pb	17 03 07.0	-1.0
CUGUR	Gurin_S˜VAS	1.90	48	P		Pb	17 03 07.0	-1.0
TEVE	Tevekalti-Mers	1.91	238	*e*PN		Pb	17 03 07.0	-1.1
TEVE	Tevekalti-Mers	1.91	238	*e*Pn		Pb	17 03 07.0	-1.1
YESI	Yesilovacik-Me	1.93	229	*e*PN		Pn	17 03 07.1	+1.2
YESI	Yesilovacik-Me	1.93	229	*e*Pn		Pn	17 03 07.1	+1.2
DARE	Darende-Malaty	1.94	55	*e*PN		Pn	17 03 06.7	+0.5
DARE	Darende-Malaty	1.94	55	*e*Pn		Pn	17 03 06.7	+0.5
AKKU	Akkuyu-Mersin	2.01	230	*e*PN		Pn	17 03 08.3	+1.3
AKKU	Akkuyu-Mersin	2.01	230	*e*Pn		Pn	17 03 08.3	+1.3
AKK2	Akkuyu-Mersin	2.03	230	*e*PN		Pn	17 03 08.2	+1.0
AKK2	Akkuyu-Mersin	2.03	230	*e*Pn		Pn	17 03 08.2	+1.0
AKK1	Akkuyu-Mersin	2.03	230	*e*PN		Pn	17 03 08.5	+1.3
AKK1	Akkuyu-Mersin	2.03	230	*e*Pn		Pn	17 03 08.5	+1.3
OREN	Orenkoy-Mersin	2.04	232	*e*PN		Pb	17 03 08.8	-1.3
OREN	Orenkoy-Mersin	2.04	232	*e*Pn		Pb	17 03 08.8	-1.3
CUSAR	Sarkisla-SIVAS	2.04	17	*i* P		Pb	17 03 09.8	-0.6
CUSAR				*i* S		Sg	17 03 38.2	-0.6
CUSAR	Sarkisla-SIVAS	2.04	17	P		Pb	17 03 09.8	-0.6
CUSAR				S		Sg	17 03 38.2	-0.6
CUALT	Altinyayla-SIV	2.07	29	*i* P		Pb	17 03 10.1	-0.8
CUALT	Altinyayla-SIV	2.07	29	P		Pb	17 03 10.1	-0.8
SERE	Sereflikochisa	2.10	315	*e*PN		Pb	17 03 10.2	-1.1
SERE	Sereflikochisa	2.10	315	*e*Pn		Pb	17 03 10.2	-1.1
BERE	Bereket-Mersin	2.11	239	*e*PN		Pn	17 03 09.8	+1.3
BERE	Bereket-Mersin	2.11	239	*e*Pn		Pn	17 03 09.8	+1.3
YOZ	Yozgat	2.17	357	*e*PN		Pb	17 03 11.1	-1.4
YOZ	Yozgat	2.17	357	*e*Pn		Pb	17 03 11.1	-1.4
ERMK	Ermenek	2.19	249	*i* P		Pb	17 03 12.7	-0.3
ERMK				*i* S		Sg	17 03 44.1	+0.5
ERMK	Ermenek	2.19	249	P		Pb	17 03 12.7	-0.3
TEKE	Tekeli-Mersin	2.30	236	*e*PN		Pn	17 03 12.5	+1.6
TEKE	Tekeli-Mersin	2.30	236	*e*Pn		Pn	17 03 12.5	+1.6
CDAG	Cicekdag	2.31	339	*i* P		Pb	17 03 14.7	-0.2
CDAG				*i* S		Sb	17 03 44.8	+1.2
CDAG	Cicekdag	2.31	339	P		Pb	17 03 14.7	-0.2
CDAG				S		Sb	17 03 44.8	+1.2
HDMB	Hadim	2.42	259	*e*PN		Pn	17 03 14.1	+1.2
HDMB	Hadim	2.42	259	*e*Pn		Pn	17 03 14.1	+1.2
URFA	Urfa	2.68	90	*e*PN		Pn	17 03 18.1	+1.8
URFA	Urfa	2.68	90	*e*Pn		Pn	17 03 18.1	+1.8
LFK	Lefkose	2.68	216	*e*PN		Pn	17 03 17.8	+1.5
LFK	Lefkose	2.68	216	*e*Pn		Pn	17 03 17.8	+1.5
PHNC	Paralimni	2.71	205	P		Pn	17 03 18.2	+1.5
PHNC				S		Sn	17 03 51.3	+1.7
PHNC	Paralimni	2.71	205	P		Pn	17 03 18.2	+1.5
	baz=18							
PHNC				S		Sn	17 03 51.3	+1.7
BBAL	Bala	2.76	319	*i* P		Pn	17 03 19.6	+2.1
BBAL	Bala	2.76	319	P		Pn	17 03 19.6	+2.1
COAL	Corum-Alaca	2.81	353	*i* P		Pb	17 03 20.9	-2.4
COAL				*i* S		Sg	17 04 04.0	+0.8
COAL	Corum-Alaca	2.81	353	P		Pb	17 03 20.9	-2.4
MAMC	Mammari	2.92	219	P		Pn	17 03 20.0	+0.5
MAMC	Mammari	2.92	219	P		Pn	17 03 20.0	+0.5
	baz=31							
ALFC	Alefka	3.26	226	P		Pn	17 03 23.6	-0.7
ALFC				S		Sn	17 04 03.0	-0.1
ALFC	Alefka	3.26	226	P		Pn	17 03 23.6	-0.7
	baz=38							
ALFC				S		Sn	17 04 03.0	-0.1
AKMC	Akamas	3.51	227	P		Pn	17 03 28.3	+0.7
AKMC	Akamas	3.51	227	P		Pn	17 03 28.3	+0.7
	baz=40							

*ISCJB **05** 17:12:11.4±0.2,6.˙80N±0.˙02×73.˙02W±0.˙02, h162km±2km, mb4.1/22, Error ellipse: s-maj=4.5km s-min=2.9km az=138.1*

*IDC **05** 17:12:12.3±0.5, 6.˙69N×72.˙91W, h162km±5km, mb3.8/15, mb1 4.0/21, mb1mx3.8/38, mbtmp4.4/21, MS3.1/1, Ms1 3.1/1, ms1mx2.6/28, Error ellipse: s-maj=11.3km s-min=6.9km az=132.0*

*FUNV **05** 17:12:13.0, 6.˙83N×73.˙13W, h172km, MW4.3*

*NEIC **05** 17:12:13.3±0.5, 6.˙75N×72.˙96W, h170km±5km, mb4.3/10, Error ellipse: s-maj=6.5km s-min=5.8km az=222.0*

*RSNC **05** 17:12:14.0±0.8, 6.˙77N×73.˙12W, h150km±4km, ML4.6*

ISC 05 17:12:12.2±0.5, **6.˙80N**±0.˙03×**73.˙00W**±0.˙04, **h159**km±4km, **n126,** σ**1**§**37**/160, **mb4.1**/22, **4C-1D, Northern Colombia**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BARC	Barichara	0.27	220	*i* P	Pn	17 12 34.1	0.0
BARC				*e*S	Sn	17 12 49.0	-1.7
BARC				*i*		17 12 51.3	
	comp=Z,10μm,0.4s						
GIRC	Giron, Santand	0.33	326	*i* P	Pn	17 12 34.2	+0.1
GIRC				*e*S	Sn	17 12 50.0	-0.9
PAMC	Pamplona, Colo	0.61	29	*i* P	Pn	17 12 36.9	+1.1
PAMC				*e*S	Sn	17 12 54.2	+0.5
BRRC	Barranca, Sant	0.77	293⇑	*i*P	Pn	17 12 36.0	-0.1
BRRC				*e*S	Sn	17 12 53.4	-1.0
BRRC				*i*		17 12 56.6	
	comp=Z,6μm,0.3s						
RUSC	La Rusia	0.91	185⇑	*i*P	Pn	17 12 37.9	+0.2
RUSC				*e*S	Sn	17 12 56.8	-0.5
RUSC				*i*		17 12 58.6	
	comp=Z,6μm,0.6s						
CAPV	Capacho	1.26	33⇓	*e*P	Pn	17 12 42.0	+1.6
CAPV				*e*S	Sn	17 13 03.2	+1.2
OCAC	Ocana	1.46	348	*e*P	Pn	17 12 43.1	+0.8
OCAC				*e*S	Sn	17 13 05.7	+0.3
OCAC				*i*		17 13 16.6	
	comp=Z,4μm,0.2s						
YOPC	Yopal, Colombi	1.55	158	*e*P	Pn	17 12 44.5	+1.3
YOPC				*e*S	Sn	17 13 06.8	-0.1
ZARC	Zaragoza, Cauc	1.96	291	*e*P	Pn	17 12 46.3	-1.2
ZARC				*e*S	Sn	17 13 12.1	-2.6
NORC	Norcasia	2.23	237	*e*P	Pn	17 12 49.8	-0.8
NORC				*e*S	Sn	17 13 18.4	-1.8
CHIC	Chingaza	2.28	199⇑	*e*P	Pn	17 12 51.8	+0.2
CHIC				*e*S	Sn	17 13 20.7	-1.2
CHIC				*i*		17 13 27.5	
	comp=Z,2μm,0.5s						
ROSC	El Rosal	2.35	214	P	Pn	17 12 53.7	+1.3
	comp=Z,413nm,0.3s,baz=293,slow=7.5,SNR=191						
ROSC				S	Sn	17 13 22.9	-0.5
	comp=Z,281nm,0.3s,baz=145,slow=21,SNR=7.5						
HELC	Santa Helena	2.58	257	*e*P	Pn	17 12 55.4	+0.2
HELC				*e*S	Sn	17 13 26.6	-1.7
HELC				*i*		17 13 32.3	
	comp=Z,3μm,0.4s						
SOCV	Socops	2.59	55	*e*P	Pn	17 12 56.3	+1.4
SOCV				*e*S	Sn	17 13 28.1	+0.1
VIGV	El Vigia	2.60	39	*e*P	Pn	17 12 56.4	+1.4
VIGV				*e*S	Sn	17 13 27.7	-0.5
VILC	Villavicencio,	2.76	194	*e*P	Pn	17 12 57.2	0.0
VILC				*e*S	Sn	17 13 30.8	-1.1
VILC				*i*		17 13 38.5	
	comp=Z,1μm,0.5s						
GUYC	Guyana, Colomb	2.84	237	*e*P	Pn	17 12 58.5	0.0
GUYC				*e*S	Sn	17 13 32.5	-1.7
GUYC				*i*		17 13 40.2	
	comp=Z,4μm,0.5s						
SDV	Santo Domingo	3.13	48	P	Pn	17 13 03.4	+1.6
	comp=Z,154nm,0.3s,baz=216,slow=4.6,SNR=544						
SDV				S	Sn	17 13 41.1	+0.9
	comp=Z,271nm,0.3s,baz=201,slow=15,SNR=36						
TOLC	Tolima	3.19	226	*e*P	Pn	17 13 02.3	-0.4
DBBC	Dabeiba	3.19	274	*e*P	Pn	17 13 01.9	-0.6
ELOV	Elorza	3.50	87	*e*P	Pn	17 13 08.0	+1.7
ELOV				*e*S	Sn	17 13 48.8	+0.5
PRAC	Prado	3.60	212	*e*P	Pn	17 13 07.1	-0.5
PRAC				*e*S	Sn	17 13 49.4	-1.2
SJAC	San Juan de Ar	3.63	195	*i* P	Pn	17 13 07.6	-0.6
SJAC				*i*		17 13 53.4	
	comp=Z,2μm,0.5s						
VIRV	Villa del Rosa	3.72	9	*e*P	Pn	17 13 08.7	-0.5
VIRV				*e*S	Sn	17 13 50.7	-2.8
QARV	Quebrada Arrib	4.18	36	*e*S	Sn	17 14 02.0	-2.1
SANV	Sanarito	4.36	52	*e*P	Pn	17 13 18.1	+0.6
SANV				*e*S	Sn	17 14 06.7	-1.7
CURV	Curarigua	4.39	43	*e*P	Pn	17 13 18.5	+0.6
DABV	Dabajuro	4.71	30	*e*P	Pn	17 13 22.7	+0.6
TEPV	Terepaima	4.91	50	*e*P	Pn	17 13 25.3	+0.6
TEPV				*e*S	Sn	17 14 18.5	-2.8
SIQV	Siquisique	4.96	39⇑	*e*P	Pn	17 13 24.7	-0.6
SIQV				*e*S	Sn	17 14 18.8	-3.7
BAUV	El Baul	5.36	66	*e*S	Sn	17 14 28.7	-3.1
MAPV	Macapo	5.41	56	*e*P	Pn	17 13 31.8	+0.4
MAPV				*e*S	Sn	17 14 29.9	-3.2
MONV	Montecano	5.93	30	*e*P	Pn	17 13 37.5	-0.6
MONV				*e*S	Sn	17 14 40.1	-5.3
MERV	Las Mercedes	7.07	69	*e*P	Pn	17 13 53.0	-0.4
CUPV	Cupira	7.84	65	*e*P	Pn	17 14 02.9	-0.7
PCRV	Puerto La Cruz	8.93	67	P	Pn	17 14 19.5	+1.4
	comp=Z,4.4nm,0.3s,baz=313,slow=2.0,SNR=17						
PCRV				S	Sn	17 15 56.3	-1.1
	comp=Z,3.3nm,0.3s,baz=300,slow=20,SNR=3.7						
PCRV				LR	LR	17 18 42.9	
	comp=Z,125nm,20.3s,baz=248,slow=44						
MTDJ	Mount Denham	12.18	339	*e*P	Pn	17 15 02.7	+1.9
	comp=Z,79nm,0.5s						
MTDJ				*e*Sn	Sn	17 17 12.0	-3.8
SDDR	Presa de Saban	12.22	8	*e*P	Pn	17 15 02.3	+1.1
	comp=Z,22nm,0.7s						
JTS	JuntasAbangare	12.31	287	P	Pn	17 15 04.2	+1.7
	comp=Z,1.3nm,0.3s,baz=10,slow=1.7,SNR=6.9						
SJG	San Juan	13.08	30	P	Pn	17 15 12.2	0.0
	comp=Z,8.4nm,0.3s,baz=206,slow=13,SNR=19						
SVB	Belmont	13.23	60	*e*P	Pn	17 15 14.0	-0.3
MCLT	Moule a Chique	13.71	59	*e*P	P	17 15 25.5	+1.9
FDF	Fort de France	14.05	55	*e*P	Pn	17 15 25.1	+0.4
FDF	Fort de France	14.05	55	*e*P	P	17 15 25.6	-1.9
	comp=Z,41nm,0.6s						
MVM	Montagne Vaucl	14.17	56	*e*P	P	17 15 31.4	+2.7
PTGA	Pitinga	15.01	119	P	P	17 15 36.2	-1.9
	comp=Z,0.8nm,0.3s,baz=296,slow=14,SNR=11						
SAML	Samuel	18.46	148	*e*P	Pn	17 16 16.2	-1.9
	comp=Z,5.6nm,0.6s						
NNA	Nana	19.05	192	P	P	17 16 20.4	-2.2
	comp=Z,35nm,0.3s,baz=211,slow=14,SNR=32						
NNA	Nana	19.05	192	*e*P	P	17 16 16.6	-6.0
LPAZ	La Paz	23.44	168	P	P	17 17 06.8	-1.3
	comp=Z,1.0nm,0.4s,baz=326,slow=24,SNR=6.2						
LPAZ				pP	pP	17 17 37.9	-0.5
	comp=Z,3.2nm,0.8s,baz=356,slow=15,SNR=4.0						
V41A	Mountainview	33.77	331	P	P	17 18 39.1	+0.1
	baz=144,SNR=7.4						
S45A	Carrier Mills	33.84	338	P	P	17 18 40.5	+1.0
	baz=151						
N59A	State Game Lan	34.06	356	P	P	17 18 43.9	+2.5
	baz=175						
V40A	Witts Springs	34.11	331	P	P	17 18 41.9	0.0
	baz=143						
W39A	Magazine	34.12	329	P	P	17 18 42.6	+0.6
	baz=141						
U41A	Viola	34.12	332	P	P	17 18 42.7	+0.8
	baz=145						
433A	Art	34.14	318	P	P	17 18 42.1	-0.2
	baz=129,SNR=8.5						
T42A	Van Buren	34.31	334	P	P	17 18 44.3	+0.7
	baz=147						
333A	Richland Sprin	34.43	318	P	P	17 18 44.6	-0.1
	baz=130						
V39A	Pettigrew	34.55	330	P	P	17 18 46.1	+0.4
	baz=142						
U40A	Yellville	34.57	331	P	P	17 18 46.6	+0.8
	baz=144,SNR=9.0						
T41A	Mountain View	34.62	333	P	P	17 18 46.9	+0.6
	baz=146						
V38A	Canehill	34.95	329	P	P	17 18 49.3	+0.2
	baz=141,SNR=5.1						
T39A	Clever	35.35	331	P	P	17 18 52.7	+0.2
	baz=143						
S40A	Lebanon	35.41	333	P	P	17 18 53.7	+0.7
	baz=145,SNR=8.6						
R41A	Rosebud	35.50	335	P	P	17 18 54.2	+0.5
	baz=148						
Z33A	Whitaker Ranch	35.57	321	P	P	17 18 54.9	+0.4
	baz=132						
T38A	Diamond	35.81	330	P	P	17 18 56.4	-0.1
	baz=142						
S39A	Bolivar	35.86	332	P	P	17 18 57.0	+0.1
	baz=144						
R40A	Maddies Statio	35.88	334	P	P	17 18 57.6	+0.6
	baz=146						
S38A	Stockton	36.09	331	P	P	17 18 58.8	-0.1
	baz=143						
R39A	Chumby, Stover	36.24	333	P	P	17 19 00.4	+0.3
	baz=145						
TXAR	Lajitas Array	36.56	312	P	P	17 19 03.5	+0.4
	comp=Z,2.8nm,0.6s,baz=128,slow=9.3,SNR=21						
Q39A	Willow Grove F	36.81	334	P	P	17 19 04.4	-0.5
	baz=146						
Q38A	Cooks Store, C	37.03	333	P	P	17 19 07.3	+0.6
	baz=145,SNR=6.8						
P38A	Dawn	37.53	334	P	P	17 19 11.0	+0.1
	baz=145						
SADO	Sadowa	38.20	353	P	P	17 19 17.9	+1.5
	comp=Z,5.8nm,0.8s,baz=174,slow=6.9,SNR=5.8						
AMTX	Amarillo	38.44	321	P	P	17 19 18.7	-0.1
	baz=130						
AMTX	Amarillo	38.44	321	*e*P	P	17 19 17.9	-0.9
	comp=Z,4.5nm,0.6s						
MSTX	Muleshoe	38.57	319	P	P	17 19 19.7	-0.2
	baz=128						
MNTX	Cornudas Mount	39.07	314	P	P	17 19 24.5	+0.5
	baz=123,SNR=11						
MNTX	Cornudas Mount	39.07	314	*e*P	P	17 19 24.2	+0.2
	comp=Z,5.7nm,0.7s						
M35A	Neola	39.99	333	P	P	17 19 31.6	+0.2
	baz=144,SNR=6.2						
K35A	Storm Lake	40.80	335	P	P	17 19 38.2	+0.1
	baz=145						
T25A	Trinidad	41.58	321	P	P	17 19 46.0	+1.2
	baz=129						
ANMO	Albuquerque	41.61	317	P	P	17 19 47.1	+2.2
	comp=Z,0.9nm,0.5s,baz=83,slow=8.1,SNR=4.8						
ANMO	Albuquerque	41.61	317	P	P	17 19 46.4	+1.4
	baz=125						
SDCO	Great Sand Dun	42.64	321	P	P	17 19 54.8	+1.4
	baz=128						
TUC	Tucson	43.35	311	P	P	17 20 00.2	+1.2
	baz=118						
S22A	4UR Ranch, Cre	43.47	320	P	P	17 20 01.8	+1.7
	baz=127,SNR=5.4						
D37A	Cotton	43.52	341	P	P	17 20 01.1	+1.1
	baz=151						
EYMN	Ely	43.92	342	*e*P	P	17 20 03.0	-0.2
	comp=Z,3.8nm,0.4s						
W18A	Petrified Fore	43.96	315	P	P	17 20 06.1	+2.2
	baz=121						
ISCO	Idaho Springs	43.99	323	P	P	17 20 05.0	+0.7
	baz=130						
WUAZ	Wupatki	45.32	315	P	P	17 20 16.4	+1.7
	baz=120,SNR=8.4						
WUAZ	Wupatki	45.32	315	*e*P	P	17 20 15.9	+1.3
	comp=Z,8.4nm,1.0s						
GLA	Glamis	46.73	310	P	P	17 20 26.5	+0.8
	baz=115						
ULM	Lac du Bonnet	47.34	340	P	P	17 20 29.6	-0.4
	comp=Z,2.0nm,0.3s,baz=141,slow=7.0,SNR=8.7						
SCHQ	Schefferville	48.15	5	P	P	17 20 37.2	+1.1
	comp=Z,20nm,0.5s,baz=187,slow=7.4,SNR=11						
PDAR	Pinedale Array	48.16	324	P	P	17 20 37.1	+0.4
	comp=Z,0.9nm,0.5s,baz=121,slow=8.9,SNR=8.0						
PDAR				PcP	PcP	17 22 04.7	+3.0
	comp=Z,0.5nm,0.5s,baz=113,slow=6.0,SNR=3.4						
BW06	Boulder Array	48.16	324	P	P	17 20 36.9	+0.1
	baz=128						
TUQ	Turquoise Moun	48.57	312	P	P	17 20 40.6	+0.7
	baz=116						
DUG	Dugway, Tooele	48.70	319	P	P	17 20 41.4	+0.6
	baz=122						
GSC	Goldstone, Bar	49.16	312	P	P	17 20 44.8	+0.4
	baz=115						
REDW	Red Top Meadow	49.28	324	*e*P	P	17 20 46.0	+0.8
	comp=Z,2.7nm,0.9s						
TPNV	Topopah Spring	49.47	314	P	P	17 20 47.9	+1.2
	baz=117						
R11A	Troy Canyon, C	49.64	316	P	P	17 20 49.0	+1.0
	baz=118						
IMW	Indian Meadow	49.65	324	*e*P	P	17 20 48.4	+0.3
	comp=Z,1.6nm,0.5s						
BOZ	Bozeman (W)	51.06	326	P	P	17 20 59.4	+0.9
	baz=127						
HLID	Hailey	51.52	322	P	P	17 21 02.7	+0.7
	baz=123						
YKA	Yellowknife Ar	63.32	340	P	P	17 22 24.4	+0.4
	comp=Z,2.2nm,0.5s,baz=131,slow=6.6,SNR=10						
DBIC	Dimbokro	67.62	86	P	P	17 22 51.9	-0.7
	comp=Z,5.9nm,0.6s,baz=254,slow=6.3,SNR=12						
SUMG	Summit	68.98	11	*i* P	P	17 23 00.9	+0.4
	comp=Z,19nm,0.7s						
SUMG	Summit	68.98	11	*e*P	P	17 23 00.7	+0.2
	comp=Z,18nm,0.8s						
INK	Inuvik	73.09	340	P	P	17 23 23.7	-1.0
	comp=Z,1.6nm,0.7s,baz=153,slow=2.3,SNR=4.8						
TORD	Torodi Ar. Bea	73.63	78	P	P	17 23 27.4	-1.6
	comp=Z,0.8nm,0.3s,baz=284,slow=6.5,SNR=20						
ILAR	Eielson Array	77.03	335	P	P	17 23 47.6	+0.2
	comp=Z,0.4nm,0.7s,baz=118,slow=4.1,SNR=5.3						
NB2	NORSAR Subarra	81.29	29	P	P	17 24 10.9	+0.3
	comp=Z,2.1nm,0.7s,baz=268,slow=5.3						
NOA	NORSAR Array B	81.29	29	P	P	17 24 10.7	+0.1
	comp=Z,1.8nm,0.6s,baz=269,slow=5.3,SNR=5.0						
GERES	GERESS Array B	82.76	42	P	P	17 24 18.7	0.0
	comp=Z,0.6nm,0.5s,baz=243,slow=1.5,SNR=5.2						
ARCES	ARCESS Array B	86.65	20	P	P	17 24 37.2	-0.3
	comp=Z,1.4nm,0.6s,baz=261,slow=4.8,SNR=4.8						
ZALV	Zalesovo Beam	116.66	14	PKP	PKPdf	17 30 37.7	+0.2
	comp=Z,1.2nm,0.4s,baz=285,slow=2.1,SNR=6.1						
ASAR	Alice Springs	149.19	234	PKP	PKPdf	17 31 38.5	0.0
	comp=Z,0.9nm,0.5s,baz=118,slow=3.3,SNR=11						
ASAR				PKPbc	PKPbc	17 31 42.0	-1.0
	comp=Z,1.2nm,0.6s,baz=124,slow=3.7,SNR=39					

comp=N,251μm,0.1s
SMTH AML AML 17 28 57.0

comp=E,155μm,0.1s
DKL Dikili 0.91 137 *e*PG **Pn 17 28 44.0 -0.4**
DKL Dikili 0.91 137 *e*Pg **Pn 17 28 44.0 -0.4**
CAND Candarli 0.95 145 *e*PG **Pg 17 28 44.5 +0.3**
ERIK Erikli-Kesan 0.98 18 *e*PG **Pn 17 28 45.5 +0.1**
ERIK Erikli-Kesan 0.98 18 *e*Pg **Pn 17 28 45.5 +0.1**
ENEZ Enez 1.00 2 *e*PG **Pn 17 28 45.5 -0.1**
ENEZ Enez 1.00 2 P **Pn 17 28 45.9 +0.3**
ENEZ S **Sn 17 28 59.1 -0.5**
ENEZ Enez 1.00 2 *e*Pg **Pn 17 28 45.5 -0.1**
ENEZ Enez 1.00 2 P **Pn 17 28 45.9 +0.3**
ENEZ S **Sn 17 28 59.1 -0.5**
KRBG Karabiga-Canak 1.12 54 *e*PN **Pg 17 28 47.6 +0.1**
KRBG Karabiga-Canak 1.12 54 *e*Pn **Pg 17 28 47.6 +0.1**
ALN Alexandroupoli 1.16 358 *e*PN **Pg 17 28 48.4 +0.2**
ALN Alexandroupoli 1.16 358 P **Pn 17 28 47.9 +0.1**
ALN S **Sn 17 29 03.5 0.0**
ALN Alexandroupoli 1.16 358 P **Pn 17 28 47.9 +0.1**
ALN Alexandroupoli 1.16 358 *e*Pn **Pg 17 28 48.4 +0.2**
ALN S **Sn 17 29 03.5 0.0**
ALN Alexandroupoli 1.16 358 P **Pn 17 28 47.7 -0.1**
ALN S **Sn 17 29 04.0 +0.4**
ALN AML AML 17 29 04.4

comp=E,185μm,0.7s
ALN AML AML 17 29 05.2

comp=N,128μm,0.3s
BALY Balya 1.17 89 *i* P **Pg 17 28 48.7 +0.4**
BALY Balya 1.17 89 P **Pg 17 28 48.7 +0.4**
KESN Edirne-Kesan 1.17 22 *i* P **Pg 17 28 49.0 +0.5**
KESN *i* S **Sn 17 29 05.2 +0.8**
KESN Edirne-Kesan 1.17 22 P **Pg 17 28 49.0 +0.5**
KESN S **Sn 17 29 05.2 +0.8**
KRBN Karaburun 1.19 163 *e*PN **Pg 17 28 48.9 +0.1**
KRBN Karaburun 1.19 163 *e*Pn **Pg 17 28 48.9 +0.1**
KNL Bal¯–kesir 1.21 63 *i* P **Pb 17 28 48.5 -0.1**
KNL *i* S **Sb 17 29 04.1 -0.2**
SART Tekirdag 1.26 40 *i* P **Pn 17 28 49.0 -0.2**
SART *i* S **Sg 17 29 07.0 +0.6**
SART Tekirdag 1.26 40 P **Pn 17 28 49.0 -0.2**
SART S **Sg 17 29 07.0 +0.6**
CHOS Chios island 1.35 182 *e*PN **Pg 17 28 52.0 +0.2**
CHOS Chios island 1.35 182 P **Pn 17 28 50.2 -0.3**
CHOS S **Sg 17 29 10.6 +1.2**
CHOS Chios island 1.35 182 P **Pn 17 28 50.2 -0.3**
CHOS Chios island 1.35 182 *e*Pn **Pg 17 28 52.0 +0.2**
CHOS S **Sn 17 29 08.3 -0.1**
CHOS Chios island 1.35 182 P **Pn 17 28 49.9 -0.6**
CHOS S **Sn 17 29 08.2 -0.1**
BALB Balikesir 1.37 94 *e*PN **Pg 17 28 52.0 -0.1**
BALB Balikesir 1.37 94 *e*Pn **Pg 17 28 52.1 -0.1**
URLA Izmir 1.43 164 *e*PN **Pb 17 28 52.5 +0.1**
URLA Izmir 1.43 164 *e*Pn **Pb 17 28 52.5 +0.1**
RDO Rodhopi 1.47 343 P **Pb 17 28 52.8 -0.3**
RDO S **Sb 17 29 11.8 0.0**
RDO Rodhopi 1.47 343 P **Pb 17 28 52.8 -0.3**
RDO S **Sb 17 29 11.8 0.0**
RDO Rodhopi 1.47 343 P **Pb 17 28 53.2 +0.1**
RDO S **Sn 17 29 10.8 -0.5**
RDO AML AML 17 29 12.1

comp=E,50μm,0.5s
RDO AML AML 17 29 17.3

comp=N,43μm,0.2s
EDC Edincik 1.48 65 *e*PN **Pg 17 28 53.9 -0.4**
EDC Edincik 1.48 65 *e*Pn **Pg 17 28 53.9 -0.4**
ZEY ¯zmir 1.53 168 *i* P **Pn 17 28 52.6 -0.3**
ZEY *i* S **Sn 17 29 12.7 +0.1**
KAVA Kavala 1.75 316 P **Pn 17 28 55.3 -0.7**
KAVA Kavala 1.75 316 P **Pn 17 28 56.3 +0.3**
KAVA Kavala 1.75 316 P **Pn 17 28 56.4 +0.5**
KCTX Karacabey (Bur 1.81 72 *e*PN **Pb 17 28 58.5 -0.2**
KCTX Karacabey (Bur 1.81 72 *e*Pn **Pb 17 28 58.6 -0.2**
EDRB Edirne 2.16 13 *e*PN **Pb 17 29 03.9 -1.0**
EDRB Edirne 2.16 13 *e*Pn **Pb 17 29 03.9 -1.0**
SBT2 Guzelce-Avcila 2.16 57 *e*PN **Pb 17 29 03.6 -1.2**
SBT2 Guzelce-Avcila 2.16 57 *e*Pn **Pb 17 29 03.6 -1.2**
ARMT Armutlu 2.27 68 *e*PN **Pn 17 29 04.6 +1.5**
ARMT Armutlu 2.27 68 *e*Pn **Pn 17 29 04.6 +1.5**

MAN 05 17:30:06,7.41N×124.48E,h34km,mb3.8,ML2.5,MS2.1, 2C,Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CTBH	**Cotabato--PC H**	**0.30**	**232**	*e*P	**Pn**	17 30 15.5	+1.6
CTBH				*i* S	Sb	17 30 21.6	+2.4
CGP	**Cagayan de Oro**	**1.06**	**11**	*e*P	**Pn**	17 30 24.8	+0.2
CGP				*i* S	Sn	17 30 38.3	+0.1
PAGZ	**Pagadian**	**1.18**	**292**	*e*P	**Pn**	17 30 26.2	+0.1
PAGZ				*e*S	Sn	17 30 41.1	+0.2

*KRNET **05** 17:35:11.4±0.1,39.01N×77.22E,mb3.3*
*SOME **05** 17:35:15.0,39.58N×77.42E,h5km*
*NNC **05** 17:35:19.3±3.8,39.69N×77.23E,h0km,mb4.0,mpv3.6, Error ellipse: s-maj=30.2km s-min=22.1km az=165.0*
ISC 05 17:35:18.3±2.5,39.5N±0.1×77.41E±0.06,h17km,n32, σ2.906/52,9C-13D,Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NRN	**Naryn** baz=339	**2.25**	**332**	↑*e*P	**Pn**	**17 35 53.2**	**-1.8**
NRN				↑*e*S	**Sn**	**17 36 24.1**	**+1.7**
KDJ	**Kajisay** baz=360	**2.67**	**356**	↓*e*P	**Pn**	**17 36 01.0**	**+0.3**
KDJ				↓*e*S	**Sb**	**17 36 36.4**	**-2.0**
BOOM	**Boomskoye usch** baz=345	**3.23**	**340**	↓*e*P	**Pn**	**17 36 07.1**	**-1.2**
BOOM				↓*e*S	**Sn**	**17 36 49.4**	**+3.0**
TNSS	**Tian-Shan** 43nm,0.6s	**3.59**	**355**	*e*P	**Pb**	**17 36 19.1**	**-2.4**
TNSS				*e*S	**Sb**	**17 37 05.0**	**0.0**
IZV	**Izvestkoviy** 14nm,0.4s	**3.62**	**351**	*e*P	**Pb**	**17 36 18.8**	**-3.1**
IZV				*e*S	**Sb**	**17 37 05.0**	**-0.7**
SATY	**Saty** 22nm,0.4s	**3.67**	**12**	*e*P	**Pb**	**17 36 19.9**	**-2.9**
SATY				*e*S	**Sb**	**17 37 08.4**	**+1.3**
TKM2	**Tokmak 2** 4.8nm,0.3s	**3.72**	**339**	↑Pn	**Pn**	**17 36 13.4**	**-1.7**
TKM2				↑Lg	Lg	17 37 09.8	
MTBS	**Maitube** 6.1nm,0.3s	**3.74**	**349**	*e*P	**Pb**	**17 36 22.0**	**-1.9**
MTBS				*e*S	**Sb**	**17 37 10.7**	**+1.7**
KST	**Kastek** 11nm,0.6s	**3.74**	**344**	*e*P	**Pb**	**17 36 21.9**	**-2.0**
KST				*e*S	**Sb**	**17 37 10.5**	**+1.4**
AAA	**Alma-Ata** 58nm,0.4s	**3.77**	**355**	*e*P	**Pb**	**17 36 22.8**	**-1.5**
AAA				*e*S	**Sb**	**17 37 11.7**	**+2.0**
KNDC	**Almaty** 27nm,0.6s	**3.77**	**355**	↑Pn	**Pn**	**17 36 19.6**	**+3.9**
KNDC				↑Lg	Lg	17 37 11.3	
KOTS	**Kotyrbulak** 88nm,0.6s	**3.78**	**357**	*e*P	**Pb**	**17 36 21.5**	**-3.1**
KOTS				*e*S	**Sb**	**17 37 09.4**	**-0.8**
AAK	**Ala-Archa** 6.2nm,0.5s	**3.86**	**326**	↑Pn	**Pn**	**17 36 15.8**	**-1.2**
AAK				↓Lg	Lg	17 37 14.3	
UZB	**Uzynbulak** 6.6nm,0.5s	**3.88**	**18**	*e*P	**Pb**	**17 36 24.6**	**-1.8**
UZB				*e*S	**Sb**	**17 37 14.8**	**+1.7**
DGS	**Degeres** 21nm,0.5s	**3.98**	**343**	*e*P	**Pb**	**17 36 26.2**	**-1.7**
DGS				*e*S	**Sb**	**17 37 17.0**	**+1.2**
SHLS	**Shalkode** 12nm,0.9s	**4.01**	**22**	*e*P	**Pb**	**17 36 30.2**	**+1.8**
SHLS				*e*S	**Sg**	**17 37 24.7**	**-2.2**

36nm,0.9s
KURS Kuram 4.07 8 *e*P **Pb 17 36 27.1 -2.4**
2.5nm,0.4s
KURS *e*S **Sb 17 37 19.9 +1.6**
18nm,0.6s
KPKS Kokpek 4.12 13 *e*P **Pb 17 36 27.2 -3.1**
30nm,0.4s
KPKS *e*S **Sb 17 37 20.8 +1.0**
50nm,0.5s
PDGK Podgornoye 4.17 21 ↓Pg **Pb 17 36 29.7 -1.6**
5.5nm,0.4s
PDGK ↑Lg Lg 17 37 25.3
30nm,0.6s
KTBS Karatobe 4.28 353 *e*P **Pb 17 36 31.9 -1.3**
KTBS *e*S **Sb 17 37 26.9 +2.4**
CHKK Chushkaly 4.40 356 *e*P **Pb 17 36 34.6 -0.6**
10nm,0.6s
CHKK *e*S **Sb 17 37 31.0 +3.0**
29nm,0.3s
KUU Kurty 4.50 350 *e*P **Pb 17 36 36.0 -0.9**
16nm,0.5s
KUU ↓*i*S **Sb 17 37 34.1 +3.3**
16nm,0.8s
MRKS Merke 4.55 317 *e*P **Pb 17 36 36.8 -1.0**
13nm,0.5s
MRKS *e*S **Sb 17 37 34.8 +2.4**
17nm,0.4s
KTMS Ketmen 4.56 28 *e*P **Pb 17 36 36.1 -1.8**
7.0nm,0.6s
KTMS *e*S **Sb 17 37 34.1 +1.5**
24nm,0.6s
MNBS Baschi 4.68 9 *e*P **Pb 17 36 37.0 -2.9**
14nm,0.7s
MNBS *e*S **Sb 17 37 36.0 0.0**
53nm,0.4s
ARXS Arharly 4.76 4 *e*P **Pb 17 36 38.7 -2.5**
6.9nm,0.6s
ARXS *e*S **Sb 17 37 38.5 +0.2**
20nm,0.5s
MNAS Manas 4.79 311 ↓Pg **Pb 17 36 42.5 +0.7**
8.0nm,0.6s
MNAS ↓Lg Lg 17 37 42.4
11nm,0.8s
DJR Jarkent 5.18 19 *e*P **Pb 17 36 48.9 +0.4**
7.5nm,0.5s
DJR *e*S **Sb 17 37 54.2 +3.7**
8.6nm,0.6s
KK31 Karatay Array 6.34 307 ↓Pg **Pb 17 37 06.6 -1.5**
2.6nm,0.8s
KK31 ↑Lg Lg 17 38 35.5
1.3nm,0.5s,baz=123,slow=28,SNR=4.1
MK31 Makanchi Array 8.15 24 ↓Lg Lg 17 39 32.6
2.4nm,0.9s,baz=212,slow=27,SNR=3.6
KURBB Kurchatov Arra 11.19 4 ↓Lg Lg 17 41 10.5
5.1nm,0.8s
KURK Kurchatov 11.29 4 ↓Lg Lg 17 41 09.8
6.0nm,1.1s

IDC 05 17:38:44.7±1.7,4.84S×152.95E,h0km,mb3.6/6, mb1 3.8/6,mb1mx3.7/23,mbtmp3.6/6,Error ellipse: s-maj=68.3km s-min=20.9km az=124.0,New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr** 3.0nm,1.1s,baz=50,slow=10,SNR=13	**23.54**	**229**	P	P	17 43 57.0	+0.1
ASAR	**Alice Springs** 0.2nm,0.5s,baz=55,slow=9.0,SNR=15	**26.23**	**223**	P	P	17 44 22.3	+0.7
FITZ	**Fitzroy Crossi** 0.5nm,0.3s,baz=70,slow=7.0,SNR=12	**29.78**	**242**	P	P	17 44 52.5	-0.8
PETK	**Petropavlovsk-** 0.5nm,0.4s,baz=148,slow=6.7,SNR=8.6	**57.87**	**3**	P	P	17 48 38.9	+0.7
CMAR	**Chiang Mai Arr** 0.4nm,0.8s,baz=138,slow=3.7,SNR=5.2	**58.03**	**295**	P	P	17 48 40.0	0.0
ILAR	**Eielson Array** 0.2nm,0.5s,baz=256,slow=3.6,SNR=2.9	**82.14**	**22**	P	P	17 51 06.4	-0.6
TORD	**Torodi Ar. Bea** 0.5nm,0.6s,baz=76,slow=2.7,SNR=3.5	**150.46**	**288**	PKPbc	PKPbc	17 58 39.0	-0.5

*CSEM **05** 17:41:25.5±0.2,45.27N×14.64E,h2km,ML2.9/16,Error ellipse: s-maj=3.2km s-min=2.3km az=26.0*
*LJU **05** 17:41:25.0,45.28N×14.65E,h17km,ML2.1*
*ROM **05** 17:41:25.3±0.6,44.99N×14.25E,h10km,Md2.6/4,Ml2.3/4, Error ellipse: s-maj=38.2km s-min=5.5km az=65.0*
*VIE **05** 17:41:26.5±0.6,45.33N×14.69E,h10km,mb1.7/4,ML2.3/4, Error ellipse: s-maj=4.1km s-min=2.2km az=172.0*
ISC 05 17:41:25.6±1.0,45.27N±0.02×14.66E±0.02,h12km±8km, n58,σ0.969/100,Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GBRS	**Gornja Briga**	**0.28**	**22**	*i* Pg	**Pg**	**17 41 31.7**	**+0.2**
GBRS				*i* Sg	**Sg**	**17 41 36.0**	**+0.6**
KNDS	**Knezji Dol**	**0.32**	**323**	*i* Pg	**Pg**	**17 41 32.0**	**-0.3**
KNDS				*i* Sg	**Sg**	**17 41 36.9**	**+0.2**
BOJS	**Bojanci**	**0.48**	**61**	*i* Pg	**Pg**	**17 41 35.2**	**+0.1**
BOJS				*i* Sg	**Sg**	**17 41 41.9**	**+0.4**
BOJS	**Bojanci**	**0.48**	**61**	*i* Pg	**Pg**	**17 41 35.2**	**+0.1**
BOJS				*i* Sg	**Sg**	**17 41 41.9**	**+0.4**
CEY	**Cerknica**	**0.50**	**341**	*i* Pg	**Pg**	**17 41 35.0**	**-0.4**
CEY				*i* Sg	**Sg**	**17 41 42.6**	**+0.6**
CEY	**Cerknica**	**0.50**	**341**	*i* Pg	**Pg**	**17 41 35.0**	**-0.4**
CEY				*i* Sg	**Sg**	**17 41 42.6**	**+0.6**
SKDS	**Skadanscina**	**0.53**	**302**	*i* Pg	**Pg**	**17 41 35.1**	**-0.9**
SKDS	**Skadanscina**	**0.53**	**302**	*i* Pg	**Pg**	**17 41 35.2**	**-0.9**
OZLJ	**Ozalj**	**0.67**	**58**	*e*Pg	**Pg**	**17 41 38.8**	**+0.2**
OZLJ				Sg	**Sg**	**17 41 46.9**	**-0.5**
OZLJ	**Ozalj**	**0.67**	**58**	*e*Pg	**Pg**	**17 41 38.8**	**+0.2**
OZLJ				Sg	**Sg**	**17 41 46.8**	**-0.5**
GBAS	**Gorenja Brezov**	**0.68**	**347**	*i* Pg	**Pg**	**17 41 38.3**	**-0.6**
GBAS				*i* Sg	**Sg**	**17 41 48.0**	**+0.1**
GBAS	**Gorenja Brezov**	**0.68**	**347**	*i* Pg	**Pg**	**17 41 38.3**	**-0.6**
GBAS				*i* Sg	**Sg**	**17 41 48.0**	**+0.1**
NVLJ	**Novalja**	**0.72**	**168**	*e*Pg	**Pg**	**17 41 38.9**	**-0.7**
NVLJ				Sg	**Sb**	**17 41 51.0**	**+1.1**
NVLJ	**Novalja**	**0.72**	**168**	*e*Pg	**Pg**	**17 41 38.9**	**-0.7**
NVLJ				Sg	**Sb**	**17 41 51.0**	**+1.1**
JAVS	**Javornik**	**0.75**	**327**	*i* Pg	**Pg**	**17 41 39.0**	**-1.2**
JAVS				*e*Sg	**Sg**	**17 41 50.3**	**+0.3**
JAVS	**Javornik**	**0.75**	**327**	*i* Pg	**Pg**	**17 41 39.0**	**-1.2**
JAVS				*e*Sg	**Sg**	**17 41 50.3**	**+0.3**
TRI	**Trieste**	**0.77**	**305**	Pg	**Pg**	**17 41 40.6**	**+0.1**
TRI				Sg	**Sb**	**17 41 51.7**	**+0.4**
TRI	**Trieste**	**0.77**	**305**	*e*Pg	**Pg**	**17 41 39.5**	**-1.0**
TRI				*e*Sg	**Sb**	**17 41 51.1**	**-0.2**
TRI	**Trieste**	**0.77**	**305**	Pg	**Pg**	**17 41 40.6**	**+0.1**
TRI				Sg	**Sb**	**17 41 51.7**	**+0.4**
LJU	**Ljubljana**	**0.78**	**353**	*i* Pg	**Pb**	**17 41 41.0**	**-0.2**
LJU				*i* Sg	**Sb**	**17 41 51.5**	**-0.2**
LJU	**Ljubljana**	**0.78**	**353**	*i* Pg	**Pb**	**17 41 41.0**	**-0.2**
LJU				*i* Sg	**Sb**	**17 41 51.5**	**-0.2**
CRES	**Cresnjev**	**0.79**	**45**	*i* Pg	**Pg**	**17 41 41.0**	**0.0**
CRES				*i* Sg	**Sg**	**17 41 50.6**	**-0.7**
CRES	**Cresnjev**	**0.79**	**45**	*i* Pg	**Pg**	**17 41 41.0**	**0.0**
CRES				*i* Sg	**Sg**	**17 41 50.6**	**-0.7**
LEGS	**Legarje**	**0.82**	**34**	*i* Pg	**Pg**	**17 41 41.5**	**-0.1**
LEGS				*e*Sg	**Sg**	**17 41 52.3**	**0.0**
LEGS	**Legarje**	**0.82**	**34**	*i* Pg	**Pg**	**17 41 41.5**	**-0.1**
LEGS				*e*Sg	**Sg**	**17 41 52.3**	**0.0**
PDKS	**Podkum**	**0.83**	**17**	*i* Pg	**Pg**	**17 41 41.6**	**-0.1**
PDKS	**Podkum**	**0.83**	**17**	*i* Pg	**Pg**	**17 41 41.6**	**-0.1**
GCIS	**Gornji Cirnik**	**0.91**	**48**	*e*Pg	**Pb**	**17 41 43.4**	**+0.1**
GCIS				*e*Sg	**Sb**	**17 41 55.3**	**0.0**
	comp=Z,21nm,0.2s						

GCIS	**Gornji Cirnik**	**0.91**	**48**	*e*Pg	**Pb**	**17 41 43.4**	**+0.1**
GCIS				*e*Sg	**Sb**	**17 41 55.3**	**0.0**
	comp=Z,21nm,0.2s						
SABO	**M.te Sabotino**	**1.03**	**314**	Pg	**Pn**	**17 41 46.0**	**+0.1**
SABO				Sg	**Sn**	**17 41 59.8**	**-0.4**
	comp=Z,66nm,0.3s						
SABO	**M.te Sabotino**	**1.03**	**314**	*e*Pg	**Pb**	**17 41 43.9**	**-1.5**
SABO				*e*Sg	**Sn**	**17 41 59.9**	**-0.4**
SABO	**M.te Sabotino**	**1.03**	**314**	Pg	**Pn**	**17 41 46.0**	**+0.1**
SABO				Sg	**Sn**	**17 41 59.8**	**-0.4**
	comp=Z,66nm,0.3s						
UDBI	**Udbina**	**1.08**	**133**	*e*Pg	**Pn**	**17 41 46.9**	**+0.2**
UDBI				Sg	**Sn**	**17 42 01.4**	**-0.2**
UDBI	**Udbina**	**1.08**	**133**	*e*Pg	**Pn**	**17 41 46.8**	**+0.2**
UDBI				Sg	**Sn**	**17 42 01.4**	**-0.2**
DRE	**Drenchia**	**1.15**	**322**	*e*Pg	**Pb**	**17 41 46.5**	**-1.0**
DRE				*e*Sg	**Sn**	**17 42 03.5**	**+0.2**
DRE	**Drenchia**	**1.15**	**322**	*e*Pg	**Pb**	**17 41 46.5**	**-1.0**
DRE				*e*Sg	**Sn**	**17 42 03.5**	**+0.2**
OBKA	**Obir**	**1.24**	**357**	Pg	**Pg**	**17 41 49.3**	**-0.2**
	comp=Z,6.1nm,0.1s						
OBKA				Sg	**Sg**	**17 42 06.5**	**+0.8**
	comp=Z,11nm,0.1s						
VINO	**Villanova**	**1.38**	**316**	*e*Pg	**Pg**	**17 41 52.0**	**-0.1**
VINO	**Villanova**	**1.38**	**316**	*e*Pg	**Pg**	**17 41 52.0**	**-0.1**
BAD	**Bernadia**	**1.38**	**315**	*e*Pg	**Pg**	**17 41 52.4**	**+0.2**
BAD	**Bernadia**	**1.38**	**315**	*e*Pg	**Pg**	**17 41 52.4**	**+0.2**
SOKA	**Soboth**	**1.43**	**10**	Pg	**Pb**	**17 41 52.6**	**+0.3**
	comp=Z,0.9nm,0.2s						
SOKA				Sg	**Sg**	**17 42 11.8**	**0.0**
	comp=Z,1.8nm,0.1s						
LSR	**Lussari**	**1.44**	**327**	*e*Pg	**Pg**	**17 41 53.1**	**-0.2**
LSR	**Lussari**	**1.44**	**327**	*e*Pg	**Pg**	**17 41 53.1**	**-0.2**
PTCC	**Patocco-Chiusa**	**1.46**	**322**	Pg	**Pg**	**17 41 53.2**	**-0.4**
PTCC				Sg	**Sg**	**17 42 14.4**	**+1.9**
	comp=Z,24nm,0.5s						
PTCC	**Patocco-Chiusa**	**1.46**	**322**	Pg	**Pg**	**17 41 53.2**	**-0.4**
PTCC				Sg	**Sg**	**17 42 14.4**	**+1.9**
	comp=Z,24nm,0.5s						
ACOM	**Acomizza, Ital**	**1.51**	**328**	Pg	**Pg**	**17 41 54.4**	**-0.2**
ACOM				Sg	**Sg**	**17 42 16.7**	**+2.5**
	comp=Z,84nm,0.4s						
ACOM	**Acomizza, Ital**	**1.51**	**328**	*e*Pg	**Pg**	**17 41 54.6**	**0.0**
ACOM	**Acomizza, Ital**	**1.51**	**328**	Pg	**Pg**	**17 41 54.4**	**-0.2**
ACOM				Sg	**Sg**	**17 42 16.7**	**+2.5**
	comp=Z,84nm,0.4s						
MYKA	**Terra Mystica**	**1.53**	**333**	Pg	**Pg**	**17 41 54.9**	**-0.2**
	comp=Z,1.9nm,0.2s						
MYKA				Sg	**Sg**	**17 42 15.7**	**+0.7**
	comp=Z,12nm,0.2s						
FUSE	**Fusea**	**1.63**	**315**	*e*Pg	**Pb**	**17 41 55.9**	**+0.2**
FUSE	**Fusea**	**1.63**	**315**	*e*Pg	**Pb**	**17 41 55.8**	**+0.2**
MLNI	**Malnisio**	**1.68**	**302**	*e*Pg	**Pb**	**17 41 55.8**	**-0.8**
MLNI	**Malnisio**	**1.68**	**302**	*e*Pg	**Pb**	**17 41 55.8**	**-0.8**
ZOU	**Zoufplan**	**1.74**	**318**	*e*Pg	**Pb**	**17 41 57.5**	**-0.1**
ARSA	**Arzberg**	**2.07**	**17**	Pg	**Pg**	**17 42 04.3**	**-1.0**
	comp=Z,1.0nm,0.3s						
ARSA				Sg	**Sg**	**17 42 31.2**	**-1.0**
	comp=Z,2.4nm,0.3s						
ABTA	**Abfaltersbach**	**2.10**	**315**	Pn	**Pb**	**17 42 02.7**	**-1.0**
	comp=Z,0.1nm,0.1s						
ABTA				Sg	**Sg**	**17 42 34.0**	**+0.8**
	comp=Z,11nm,0.4s						

*ISCJB **05** 17:50:25.6±0.3,5.84S±0.08×105.61E±0.07,h164km±3km, mb3.7/9,Error ellipse: s-maj=17.1km s-min=4.7km az=39.1*
*DJA **05** 17:50:28.2±0.4,6˚S±5˚×10˚6E±˚,h130km±5km,M4.3/19, mb4.6/1,MLv4.1/19*
*IDC **05** 17:50:42.2±10.0,5.28S×106.14E,h326km±108km, mb3.3/9,mb1 3.4/9,mb1mx3.0/59,mbtmp4.0/9,Error ellipse: s-maj=56.9km s-min=12.7km az=52.0*
ISC 05 17:50:25.8±0.7,5.78S±0.07×105.64E±0.06,h156km±6km, n33,σ1.937/39,mb3.8/9,2C,Sunda Strait

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BLSI	**Bandar Lampung**	**0.56**	**316**	P	**Pn**	**17 50 48.8**	**+0.6**
BLSI				S	**Sn**	**17 51 03.0**	**-2.2**
SBJI	**Serang**	**0.59**	**125**	P	**Pn**	**17 50 49.1**	**+0.8**
CGJI	**Cibinong**	**0.83**	**176**	P	**Pn**	**17 50 50.6**	**+0.7**
CGJI				S	**Sn**	**17 51 08.3**	**0.0**
TNG	**Tangerang**	**1.07**	**112**	P	**Pn**	**17 50 52.5**	**+0.7**
KASI	**Kota Agung**	**1.17**	**282**	P	**Pn**	**17 50 53.3**	**+0.7**
DBJI	**Dramaga**	**1.35**	**125**	P	**Pn**	**17 50 55.2**	**+0.9**
KLSI		**1.41**	**320**	P	**Pn**	**17 50 55.9**	**+1.0**
SKJI	**Sukabumi**	**1.52**	**143**	P	**Pn**	**17 50 57.2**	**+1.1**
LWLI	**Liwa**	**1.75**	**295**	P	**Pn**	**17 50 59.7**	**+1.1**
MDSI	**Maura Dua**	**1.94**	**311**	P	**Pn**	**17 51 01.9**	**+1.3**
MDSI				S	**Sn**	**17 51 28.0**	**+0.6**
CNJI	**Cibinong**	**2.12**	**136**	P	**Pn**	**17 51 02.9**	**+0.2**
CNJI				S	**Sn**	**17 51 30.9**	**-0.3**
LEM	**Lembang**	**2.23**	**118**	P	**Pn**	**17 51 06.4**	**+2.3**
JCJI	**Jatiwangi**	**2.71**	**105**	P	**Pn**	**17 51 12.2**	**+2.4**
CISI	**Cisompet, Garu**	**2.79**	**129**	P	**Pn**	**17 51 11.7**	**+0.8**
CISI				S	**Sn**	**17 51 46.9**	**+1.1**
MNAI	**Manna**	**3.02**	**298**	P	**Pn**	**17 51 14.6**	**+0.9**
CMJI	**Cimerak**	**3.43**	**126**	P	**Pn**	**17 51 18.3**	**-0.6**
KPJI	**Karang Pucung**	**3.62**	**116**	P	**Pn**	**17 51 23.1**	**+1.8**
PPBI	**Pangkal Pinang**	**3.62**	**8**	P	**Pn**	**17 51 21.9**	**+0.5**
KSI	**Kapahiang**	**3.70**	**305**	P	**Pn**	**17 51 24.7**	**+2.3**
KSI				S	**Sn**	**17 52 08.3**	**+1.9**
MASI	**Maura Aman, Be**	**4.28**	**308**	P	**Pn**	**17 51 31.4**	**+1.4**
JMBI	**JAMBI**	**4.57**	**334**	P	**Pn**	**17 51 35.7**	**+1.9**
UGM	**Wanagama**	**5.29**	**114**	P	**Pn**	**17 51 43.8**	**+0.5**
FITZ	**Fitzroy Crossi** 2.3nm,0.7s,baz=301,slow=10,SNR=7.8	**23.05**	**124**	P	**P**	**17 55 17.8**	**+0.1**
CMAR	**Chiang Mai Arr** 0.5nm,0.5s,baz=181,slow=9.2,SNR=4.9	**24.97**	**345**	P	**P**	**17 55 33.4**	**-1.7**
WRA	**Warramunga Arr** 0.6nm,0.3s,baz=310,slow=9.0,SNR=19	**31.25**	**119**	P	**P**	**17 56 32.6**	**+0.6**
ASAR	**Alice Springs** 0.4nm,0.5s,baz=301,slow=7.8,SNR=24	**32.50**	**126**	P	**P**	**17 56 42.7**	**+0.7**
STKA	**Stephens Creek** 5.5nm,1.1s,baz=311,slow=7.8,SNR=7.8	**42.46**	**132**	P	**P**	**17 58 06.8**	**+1.2**
WSAR	**Wadi Sarin** 1.7nm,0.4s,baz=198,slow=7.3,SNR=10	**54.21**	**304**	P	**P**	**17 59 36.6**	**+0.9**
ZALV	**Zalesovo Beam** 0.8nm,0.3s,baz=151,slow=5.0,SNR=4.6	**62.02**	**346**	P	**P**	**18 00 25.9**	**-3.5**
EIL	**Elat** 1.0nm,0.4s,baz=149,slow=5.9,SNR=3.7	**76.28**	**302**	P	**P**	**18 01 57.9**	**+0.1**
VNDA	**Vanda** 0.3nm,0.4s,baz=281,slow=10,SNR=6.1	**77.41**	**169**	P	**P**	**18 02 02.4**	**-0.9**
VRI	**Vrincioaia**	**86.44**	**317**	↑*i*P	**P**	**18 02 50.7**	**-0.2**
MLR	**Muntele Rosu**	**86.90**	**316**	↑*i*P	**P**	**18 02 53.6**	**+0.3**

*ISCJB **05** 17:55:10.9±0.2,2.96N±0.01×97.96E±0.01,h101km±1km, mb6.5/347,Error ellipse: s-maj=2.7km s-min=1.7km az=39.8*
*BJI **05** 17:55:10.8,3.00N×97.90E,h110km,mb6.4/85,mB6.8/70*
*NEIC **05** 17:55:11.2±0.1,2.97N×97.89E,h91km,mb6.6/131,ME6.9, MW6.7,MW6.7,Error ellipse: s-maj=3.6km s-min=2.6km az=28.0,Moment Tensor Solution. s68 Moment tensor: Scale 10^19Nm; Mrr=0.12; Mθθ 0.23; Mϕϕ -0.10; Mrθ 0.78; Mθϕ-0.25; Mϕr-1.01; Best double couple: M0 1.30000×10^19 NP1:φs323.00000°,δ86.00000°,λ-80.00000°. NP2: φs76.00000°,δ11.00000°,λ-157.00000°. Principal axes: T 1.3700, Plg40.0000°, Azm44.0000°; N -0.1300, Plg10.0000°, Azm142.0000°; P -1.2400, Plg48.0000°, Azm244.0000°; Broadband fault plane solution: P waves. NP1:φs135.00000°,δ2.00000°,λ-90.00000°. NP2: φs315.00000°,δ88.00000°,λ-90.00000°. Principal axes: T Plg43.0000°, Azm45.0000°; N Plg0.0000°, Azm0.0000°; P Plg47.0000°, Azm225.0000°; Depth from synthetics of broadband displacement seismograms. Energy computed from BB mechanism.*
*NEIC At least 10 people killed in A

Moment Tensor Solution. s149,c392; s143,c609; Duration: 5s4 Moment tensor: Scale 10^{19}Nm; M_{rr}-0.28±.01; $M_{\theta\theta}$0.24±.01; $M_{\phi\phi}$0.03±.01; $M_{r\theta}$0.85±.01; $M_{\theta\phi}$-0.39±.01; $M_{\phi r}$-0.98±.01; Best double couple: $M_0$1.37000×10^{19} NP1:ϕ_s320.00000°,δ82.00000°, λ-83.00000°. NP2:ϕ_s101.00000°,δ11.00000°, λ-129.00000°. Principal axes: T 1.4880, Plg36.0000°, Azm44.0000°; N -0.2370, Plg7.0000°, Azm139.0000°; P -1.2510, Plg53.0000°, Azm238.0000°; nsta1 refers to body waves, cutoff=50s. nsta2 refers to surface/mantle waves, cutoff=50s.

DJA ***05*** *17:55:11.7±0.1,3°N±1°×9°8E±°, h89km±1km, M6.6/86, mb6.3/86, mB6.8/85, MLv6.7/12, Mw(mB)6.6/85, Mwp6.4/47*

MOS ***05*** *17:55:11.4±0.9, 3.04N×98.01E, h109km, mb6.7/91, MS6.1/29, Error ellipse: s-maj=6.0km s-min=3.9km az=119.6 Broadband fault plane solution: P waves. NP1:ϕ_s135.00000°,δ84.00000°,λ89.00000°. NP2: ϕ_s325.00000°,δ7.00000°,λ100.00000°. Principal axes: T Plg51.0000°, Azm44.0000°; N Plg1.0000°, Azm135.0000°; P Plg39.0000°, Azm226.0000°;*

IDC ***05*** *17:55:12.3±0.4, 3.02N×98.03E, h99km±2km, mb6.1/60, mb1 6.1/62, mb1mx6.1/62, mbtmp6.4/62, MS5.8/48, Ms1 5.8/48, ms1mx5.6/58 Error ellipse: s-maj=5.5km s-min=4.4km az=30.0*

NEIC ***05*** *17:55:13.0±0.2, 2.87N×98.00E, h100km Best double couple: NP1:ϕ_s317.00000°,δ81.00000°,λ-87.00000°. NP2:ϕ_s123.00000°,δ9.00000°,λ-104.00000°. Principal axes: T 1.2800, Plg35.0000°, Azm45.0000°; N -0.1900, Plg2.0000°, Azm137.0000°; P -1.0900, Plg53.0000°, Azm230.0000°;*

KLM ***05*** *17:55:13.6, 2.73N×98.01E, h88km, mb6.6*

ISC 05 17:55:12.9±0.2, 3.03N±0.02×98.00E±0.02, h107km±1km, h107km:pP-P,n2421,σ2s02/2658, mb6.5/357, 217C-73D, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KCSI	**Kotacane, Aceh**	**0.54**	**335**	P	**Pn**	**17 55 27.2**	**-2.6**
TSI	**Tuntungan**	**0.74**	**50**	P	**Pn**	**17 55 31.4**	**+0.1**
TSI				S	**Sn**	**17 55 46.4**	**+1.3**
TPTI		**0.85**	**286**	P	**Pn**	**17 55 30.2**	**-2.1**
TPTI				S	**Sn**	**17 55 43.2**	**-3.7**
PSI	**Prapat**	**0.95**	**104**	P	**Pn**	**17 55 32.4**	**-1.0**
	14μm,0.3s,baz=292,slow=7.0,SNR=5084						
PSI				S	**Sn**	**17 55 48.1**	**-0.8**
	11μm,0.3s,baz=243,slow=15,SNR=13						
PSI				LR	LR	17 56 09.9	
	comp=Z,1196μm,21.4s,baz=226,slow=60						
PSI				ScS	**ScS**	**18 10 23.3**	**-1.4**
	2.8nm,0.3s,baz=284,slow=10,SNR=16						
GSI	**Gunungsitoli**	**1.76**	**194**	P	**Pn**	**17 55 39.4**	**-3.4**
MLSI	**Meulaboh, Aceh**	**2.01**	**308**	P	**Pn**	**17 55 45.1**	**-0.9**
MLSI				S	**Sn**	**17 56 10.0**	**-1.2**
LHMI	**Lhok Sumawe**	**2.43**	**334**	P	**Pn**	**17 55 51.9**	**+0.6**
LHMI				S	**Sn**	**17 56 21.7**	**+0.9**
LHMI	**Lhok Sumawe**	**2.43**	**334**	*e*Pn	**Pn**	**17 55 51.6**	**+0.3**
MNSI	**Mandailing Nat**	**2.72**	**144**	P	**Pn**	**17 55 53.2**	**-2.0**
PBSI	**Pulau Batu**	**3.07**	**175**	P	**Pn**	**17 55 55.8**	**-4.0**
PBSI				S	**Sn**	**17 56 30.8**	**-5.2**
IPM	**Ipoh**	**3.35**	**64**	*e*Pn	**Pn**	**17 56 04.9**	**+1.4**
IPM	**Ipoh**	**3.35**	**64**	⇑P	**Pn**	**17 56 05.1**	**+1.6**
KULM	**Kulim**	**3.47**	**50**	*e*Pn	**Pn**	**17 56 06.5**	**+1.3**
KULM	**Kulim**	**3.47**	**50**	⇑P	**Pn**	**17 56 07.3**	**+2.1**
FRIM	**Kepong**	**3.63**	**87**	⇓P	**Pn**	**17 56 07.8**	**+0.6**
BKNI	**Bangkinang**	**4.05**	**131**	P	**Pn**	**17 56 11.7**	**-1.3**
BKNI	**Bangkinang**	**4.05**	**131**	*e*Pn	**Pn**	**17 56 12.0**	**-1.0**
PPI	**Padang Panjang**	**4.21**	**145**	P	**Pn**	**17 56 13.5**	**-1.6**
SISI	**Saibi**	**4.46**	**166**	P	**Pn**	**17 56 14.5**	**-3.9**
SISI				S	**Sn**	**17 57 01.7**	**-7.6**
TRTT	**Trang**	**5.07**	**19**	P	**Pn**	**17 56 26.9**	**+0.2**
	20μm,1.7s,474μm92nm						
SDSI	**Sungai Dareh**	**5.22**	**139**	P	**Pn**	**17 56 27.7**	**-1.0**
	3μm,0.7s,219μm61nm						
KRAB	**Krabi**	**5.30**	**13**	P	**Pn**	**17 56 30.3**	**+0.5**
	21μm,0.8s,205μm69nm						
KGM	**Kluang**	**5.41**	**101**	⇑P	**Pn**	**17 56 32.1**	**+0.8**
RGRI	**Rengat**	**5.48**	**128**	P	**Pn**	**17 56 31.5**	**-0.7**
KTGM	**Kuala Trenggan**	**5.61**	**66**	⇓P	**Pn**	**17 56 35.3**	**+1.3**
CMBY	**CAMPBELL BAY**	**5.67**	**314**	*e*P	**Pn**	**17 56 32.6**	**-2.2**
CMBY				IAmb	IAmb	17 56 43.8	
	comp=Z,37μm,2.0s						
SURT	**Suratani**	**5.95**	**8**	P	**Pn**	**17 56 38.1**	**-0.5**
	comp=Z,5μm,0.7s,comp=Z,76μmcomp=Z,24nm						
MYKOM	**Kota Tinggi**	**5.97**	**102**	*e*Pn	**Pn**	**17 56 38.9**	**-0.1**
MYKOM	**Kota Tinggi**	**5.97**	**102**	⇑P	**Pn**	**17 56 40.2**	**+1.3**
PPSI	**Pulau Pagai**	**6.09**	**161**	P	**Pn**	**17 56 41.0**	**+0.5**
PPSI				S	Sn	17 57 37.5	-11
TPRI	**Tanjung Pinang**	**6.85**	**108**	P	**Pn**	**17 56 51.0**	**+0.1**
JMBI	**JAMBI**	**7.30**	**129**	P	**Pn**	**17 56 57.5**	**+0.6**
DSRI	**Dabo**	**7.44**	**118**	P	**Pn**	**17 56 59.9**	**+1.0**
MASI	**Maura Aman, Be**	**7.45**	**145**	P	**Pn**	**17 56 58.2**	**-0.8**
KSI	**Kapahiang**	**8.07**	**145**	P	**Pn**	**17 57 04.7**	**-2.7**
MNAI	**Manna**	**8.85**	**146**	P	**Pn**	**17 57 15.0**	**-3.1**
MNAI				S	Sn	17 58 47.0	-9.1
MNAI	**Manna**	**8.85**	**146**	*e*Pn	**Pn**	**17 57 13.6**	**-4.4**
PMBI	**Palembang**	**8.99**	**131**	P	**Pn**	**17 57 19.5**	**-0.4**
PPBI	**Pangkal Pinang**	**9.63**	**122**	P	**Pn**	**17 57 27.0**	**-1.6**
	comp=Z,855nm,1.3s,comp=Z,17μm						
PPBI				S	Sn	17 59 05.6	-9.4
	comp=Z,855nm,1.3s,comp=Z,17μm						
MDSI	**Maura Dua**	**9.69**	**140**	P	**Pn**	**17 57 26.0**	**-3.4**
PHET	**Kaeng Krachan**	**9.95**	**9**	P	**Pn**	**17 57 35.5**	**+2.5**
	comp=Z,722nm,0.9s,comp=Z,7μm						
LWLI	**Liwa**	**10.02**	**143**	P	**Pn**	**17 57 29.4**	**-4.7**
KLSI		**10.20**	**139**	P	**Pn**	**17 57 33.2**	**-3.1**
PATY	**Pattaya**	**10.23**	**16**	P	**Pn**	**17 57 39.1**	**+2.3**
	comp=Z,1μm,0.8s,comp=Z,12μm						
CHBT	**CHBT**	**10.57**	**24**	P	Pn	17 57 47.3	+5.9
KASI	**Kota Agung**	**10.69**	**143**	P	Pn	17 57 38.0	-5.0
BLSI	**Bandar Lampung**	**11.04**	**139**	P	**Pn**	**17 57 44.1**	**-3.7**
	comp=Z,1μm,0.7s,comp=Z,28μmcomp=Z,39μm						
DGPR	**DIGLIPUR**	**11.26**	**334**	*e*P	**Pn**	**17 57 46.4**	**-4.3**
DGPR				AMB	AMB	17 57 58.9	
	comp=Z,3μm,2.8s						
SRDT	**SRDT**	**11.31**	**6**	P	**Pn**	**17 57 53.4**	**+2.1**
	comp=Z,6μm,2.1s,comp=Z,147μm						
SBJI	**Serang**	**12.18**	**138**	P	**Pn**	**17 57 59.0**	**-4.0**
	comp=Z,1μm,1.0s,comp=Z,34μm						
CGJI	**Cibinong**	**12.28**	**141**	P	Pn	17 57 56.5	-7.7
	comp=Z,558nm,0.6s,comp=Z,27μmcomp=Z,49μm						
KSM	**Kuching**	**12.40**	**97**	*e*Pn	**Pn**	**17 58 07.7**	**+1.9**
KSM	**Kuching**	**12.40**	**97**	⇑P	**Pn**	**17 58 08.3**	**+2.5**
TNG	**Tangerang**	**12.57**	**137**	P	**Pn**	**17 58 10.1**	**+2.0**
DBJI	**Dramaga**	**12.92**	**137**	P	Pn	17 58 07.5	-5.2
	comp=Z,953nm,0.8s,comp=Z,61μm						
SKJI	**Sukabumi**	**13.12**	**139**	P	Pn	17 58 09.0	-6.3
	comp=Z,2μm,1.4s,comp=Z,42μm						
UMPA	**Umpang Tak**	**13.12**	**4**	P	**Pn**	**17 58 15.3**	**-0.1**
	comp=Z,553nm,0.9s,comp=Z,4μm						
CHAI	**Chaiyaphum**	**13.38**	**17**	P	**Pn**	**17 58 20.5**	**+1.8**
	comp=Z,672nm,0.9s,comp=Z,5μm						
DLV	**T Lat**	**13.65**	**49**	*e*Pn	**P**	**17 58 25.5**	**-2.1**
LEM	**Lembang**	**13.71**	**136**	P	**Pn**	**17 58 22.9**	**-0.2**
CNJI	**Cibinong**	**13.73**	**138**	P	Pn	17 58 15.9	-7.3
	comp=Z,449nm,0.6s,comp=Z,26μm						
PBKT	**Sadao Pong**	**13.77**	**12**	P	**Pn**	**17 58 25.1**	**+1.4**
	comp=Z,5μm,1.6s,comp=Z,79μm						
STKI	**Sintang**	**13.79**	**102**	P	**Pn**	**17 58 26.2**	**+2.2**
	comp=Z,1μm,1.0s,comp=Z,60μmcomp=Z,184μm						
JCJI	**Jatiwangi**	**13.95**	**133**	P	**Pn**	**17 58 25.3**	**-0.7**
	comp=Z,2μm,1.8s,comp=Z,53μmcomp=Z,83μm						
SBUM	**Sibu**	**14.22**	**92**	*e*Pn	**Pn**	**17 58 31.0**	**+1.4**
SBUM	**Sibu**	**14.22**	**92**	⇑P	**P**	**17 58 31.8**	**-1.8**
UBPT	**Khong Chiam**	**14.23**	**31**	P	**Pn**	**17 58 31.6**	**+1.9**
	comp=Z,7μm,1.4s,comp=Z,142μm						
CISI	**Cisompet, Garu**	**14.37**	**137**	P	Pn	17 58 24.9	-6.6
	comp=Z,720nm,1.0s,comp=Z,25μmcomp=Z,61μm						
CISI	**Cisompet, Garu**	**14.37**	**137**	*e*Pn	Pn	17 58 25.5	-6.0
PBKI	**Pangkalan Bun**	**14.80**	**112**	P	**Pn**	**17 58 37.9**	**+0.9**
	comp=Z,6μm,1.0s,comp=Z,71μmcomp=Z,179μm						
UTTA	**Uttaradit**	**14.84**	**10**	P	**P**	**17 58 39.6**	**-0.9**
	comp=Z,539nm,1.3s,comp=Z,6μm						
CMJI	**Cimerak**	**14.97**	**136**	P	Pn	17 58 33.9	-5.1
	comp=Z,530nm,0.6s,comp=Z,24μm						
KPJI	**Karang Pucung**	**15.00**	**133**	P	**Pn**	**17 58 36.1**	**-3.3**
	comp=Z,589nm,0.6s,comp=Z,29μm						
SKNT	**Sakolnakorn**	**15.06**	**23**	P	**Pn**	**17 58 40.9**	**+0.7**
	comp=Z,5μm,1.6s,comp=Z,160μm						
COCO	**West Island**	**15.16**	**184**	*e*P	**Pn**	**17 58 40.9**	**-0.6**
COCO				pmax	pmax		
	comp=Z,6μm,1.4s						
COCO	**West Island**	**15.16**	**184**	*e*Pn	**Pn**	**17 58 40.9**	**-0.6**
	comp=Z,6μm,1.4s						
CM01	**Chiang Mai Arr**	**15.33**	**3**	*e*Pn	**P**	**17 58 46.5**	**+0.5**
CM31	**Chiang Mai Arr**	**15.37**	**3**	*e*Pn	**P**	**17 58 46.6**	**+0.2**
CMAR	**Chiang Mai Arr**	**15.37**	**3**	P	**P**	**17 58 45.4**	**-1.0**
	comp=Z,36nm,0.3s,baz=195,slow=12,SNR=1043						
CMAR				S	**S**	**18 01 40.6**	**-2.3**
	baz=188,slow=19,SNR=2.3						
CMAR				LR	LR	18 05 14.3	
	comp=Z,23μm,20.7s,baz=186,slow=39						
CMAR				ScP	**ScP**	**18 07 08.8**	**+2.3**
	comp=Z,2.0nm,0.3s,baz=220,slow=3.0,SNR=13						
CMAR				P3KPbc		18 34 08.8	
	comp=Z,0.4nm,0.3s,baz=10,slow=5.5,SNR=4.8						
XMIS	**Christmas Isla**	**15.43**	**151**	*e*Pn	Pn	17 58 35.6	-9.3
	comp=Z,429nm,0.8s						
LAMP	**Lampang**	**15.48**	**6**	P	**P**	**17 58 47.5**	**-0.2**
	comp=Z,752nm,1.3s,comp=Z,8μm						
CHTO	**Chiang Mai**	**15.72**	**3**	P	**Pn**	**17 58 49.2**	**+0.7**
	comp=Z,10μm,1.2s,comp=Z,268μm						
CHTO	**Chiang Mai**	**15.72**	**3**	*e*P	**P**	**17 58 50.5**	**+0.2**
CHTO				pmax	pmax		
	comp=Z,2μm,1.0s						
CHTO	**Chiang Mai**	**15.72**	**3**	*e*Pn	**P**	**17 58 50.5**	**+0.2**
	comp=Z,2μm,1.0s						
CHTO	**Chiang Mai**	**15.72**	**3**	P	**P**	**17 58 49.9**	**-0.4**
	SNR=959						
NONG	**Nongkai**	**15.77**	**18**	P	**Pn**	**17 58 49.6**	**+0.4**
	comp=Z,2μm,1.0s,comp=Z,51μm						
SMRI	**Semarang**	**15.95**	**129**	P	**P**	**17 58 52.5**	**-0.4**
	comp=Z,2μm,1.0s,comp=Z,69μm						
SMRI	**Semarang**	**15.95**	**129**	*e*Pn	**Pn**	**17 58 51.3**	**-0.1**
	comp=Z,3μm,1.2s						
UGM	**Wanagama**	**16.56**	**131**	P	**Pn**	**17 58 55.8**	**-3.1**
	comp=Z,838nm,1.0s,comp=Z,55μmcomp=Z,98μm						
UGM	**Wanagama**	**16.56**	**131**	*e*Pn	**Pn**	**17 58 54.4**	**-4.6**
	comp=Z,4μm,1.5s						
WOJI	**Wonogiri, Jawa**	**16.81**	**130**	P	**Pn**	**17 58 59.3**	**-2.7**
	comp=Z,592nm,1.2s,comp=Z,32μm						
TBJI	**Tambak Boyo**	**16.93**	**125**	P	**P**	**17 59 04.4**	**+0.7**
	comp=Z,2μm,0.8s,comp=Z,65μm						
NGJI	**Ngawi**	**16.94**	**128**	P	**P**	**17 59 04.3**	**+0.5**
	comp=Z,1μm,0.9s,comp=Z,59μmcomp=Z,228μm						
BWJI	**Bawean**	**17.09**	**121**	P	**Pn**	**17 59 04.5**	**-0.9**
	comp=Z,355nm,0.9s,comp=Z,18μm						
PCJI	**Pacitan**	**17.23**	**130**	P	**P**	**17 59 04.4**	**-2.6**
	comp=Z,643nm,0.8s,comp=Z,35μmcomp=Z,86μm						
MTKI	**Muara Teweh, K**	**17.34**	**103**	P	**Pn**	**17 59 09.6**	**+1.1**
	comp=Z,4μm,0.9s,comp=Z,140μmcomp=Z,189μm						
PWJI	**Pagerwojo**	**17.61**	**129**	P	**P**	**17 59 10.2**	**-1.0**
	comp=Z,488nm,0.7s,comp=Z,27μmcomp=Z,95μm						
PALK	**Pallekele**	**17.73**	**284**	P	**Pn**	**17 59 13.0**	**-0.3**
	comp=Z,16nm,0.3s,baz=116,slow=12,SNR=79						
PALK				S	Sn	18 02 16.0	-15
	comp=Z,70nm,0.3s,baz=116,slow=4.9,SNR=9.8						
PALK				LR	LR	18 05 32.0	
	comp=Z,44μm,21.8s,baz=116,slow=35						
PALK	**Pallekele**	**17.73**	**284**	*i* P	**Pn**	**17 59 13.7**	**+0.5**
	SNR=147						
PALK	**Pallekele**	**17.73**	**284**	*i* P	**Pn**	**17 59 13.7**	**+0.5**
	SNR=147						
PALK	**Pallekele**	**17.73**	**284**	P	**Pn**	**17 59 13.0**	**-0.3**
PALK				S	Sn	18 02 16.0	-15
PALK				pmax	pmax		
	comp=Z,16nm,0.3s						
PALK				smax	smax		
	comp=N,70nm,0.3s						
PALK				MLR	MLR		
	comp=Z,44μm,21.8s						
PALK	**Pallekele**	**17.73**	**284**	*e*P	**Pn**	**17 59 13.7**	**+0.5**
	comp=Z,2μm,1.3s						
PALK				S	Sn	18 02 16.0	-15
PALK	**Pallekele**	**17.73**	**284**	P	**Pn**	**17 59 13.8**	**+0.5**
	SNR=73						
KKM	**Kota Kinabalu**	**18.40**	**80**	*e*P	**Pn**	**17 59 22.2**	**+0.9**
	comp=Z,3μm,0.8s						
KKM	**Kota Kinabalu**	**18.40**	**80**	⇓P	**Pn**	**17 59 22.5**	**+1.1**
KMMI	**Kalianget**	**18.82**	**122**	P	**Pn**	**17 59 25.6**	**-0.6**
	comp=Z,4μm,0.9s,comp=Z,101μmcomp=Z,184μm						
BLJI	**Banyuglugur**	**18.88**	**125**	P	**P**	**17 59 25.6**	**+0.4**
	comp=Z,2μm,1.0s,comp=Z,40μmcomp=Z,94μm						
GMJI	**Gumukmas**	**19.06**	**126**	P	**Pn**	**17 59 29.7**	**+0.7**
	comp=Z,577nm,0.9s,comp=Z,39μmcomp=Z,80μm						
SLVN	**Son La**	**19.08**	**17**	*e*P	**Pn**	**17 59 29.8**	**+0.5**
	comp=Z,8μm,1.5s						
KDM	**Kudat**	**19.15**	**78**	⇑P	**Pn**	**17 59 30.3**	**+0.1**
SDKM	**Sandakan**	**19.32**	**82**	⇓P	**Pn**	**17 59 32.3**	**+0.2**
ABJI	**Asem Bagus**	**19.44**	**124**	P	**Pn**	**17 59 32.5**	**-0.9**
	comp=Z,2μm,1.3s,comp=Z,58μmcomp=Z,143μm						
QIZ	**Qiongzhong**	**19.68**	**35**	P	**Pn**	**17 59 35.3**	**-0.9**
QIZ				pP	**pP**	**17 59 55.3**	**+1.6**
QIZ				sP	**sP**	**18 00 10.4**	**+3.3**
QIZ				pmax	pmax		
	comp=Z,2μm,1.4s						
QIZ	**Qiongzhong**	**19.68**	**35**	*e*P	**P**	**17 59 34.7**	**+1.0**
	comp=Z,4μm,1.3s						
JAGI	**Jajag, Banyuwa**	**19.75**	**125**	P	**P**	**17 59 34.0**	**-0.5**
	comp=Z,1μm,1.0s,comp=Z,28μm						
JAGI	**Jajag, Banyuwa**	**19.75**	**125**	*e*P	**P**	**17 59 34.2**	**-0.4**
	comp=Z,4μm,1.5s						
TSM	**Tawau**	**19.87**	**86**	⇑P	**Pn**	**17 59 37.6**	**-1.0**
MDRS	**Chennai**	**20.19**	**301**	*e*P	**P**	**17 59 39.0**	**-0.4**
MDRS				*e*S	**S**	**18 03 20.1**	**-0.2**
VIS	**Vishakhapatnam**	**20.50**	**316**	*e*P	**P**	**17 59 40.9**	**-1.8**
VIS				*e*x	x	18 03 20.9	
MYLDM	**Lahad Datu**	**20.56**	**83**	*e*P	Pn	17 59 46.3	-0.2
	comp=Z,9μm,1.2s						
CHLP	**Challavanipeta**	**20.57**	**319**	⇑*e*P	**P**	**17 59 42.7**	**-0.7**
CHLP				IAmb	IAmb	17 59 54.6	
	comp=Z,496nm,0.7s						
CHLP				*e*		18 03 24.5	
DNP	**Denpasar**	**20.73**	**124**	P	**P**	**17 59 43.5**	**-1.6**
	comp=Z,2μm,1.2s,comp=Z,57μm						
IGBI	**Denpasar**	**20.75**	**125**	P	**P**	**17 59 43.7**	**-1.7**
	comp=Z,562nm,0.9s,comp=Z,16μmcomp=Z,65μm						
BWNR	**Bhubaneshwar**	**20.88**	**326**	*e*P	**P**	**17 59 45.0**	**-1.8**
BWNR				IAmb	IAmb	17 59 48.0	
	comp=Z,7μm,2.4s						
SKHT	**Srikalahasti**	**20.97**	**302**	*e*P	**P**	**17 59 49.3**	**+1.6**
SKHT				IAmb	IAmb	17 59 55.5	
	comp=Z,8μm,1.7s						
BELO	**BELONIA**	**21.08**	**343**	*e*P	**P**	**17 59 47.6**	**-1.2**
BELO				AMB	AMB	17 59 52.2	
BELO				*e*x	x	18 03 37.3	
PVM	**Polavaram**	**21.41**	**312**	*e*P	**P**	**17 59 52.7**	**+0.3**
PVM				IAmb	IAmb	18 00 00.3	
	comp=Z,10μm,2.0s						
PVM				*e*S	**S**	**18 03 44.5**	**+0.5**
TRD	**Trivandrum**	**21.62**	**285**	*e*P	**P**	**17 59 54.1**	**-0.6**
TRD				AMB	AMB	18 00 00.6	
	comp=Z,2μm,1.5s						
TRD				*e*S	**S**	**18 03 49.0**	**+0.8**
PPR	**Puerto Princes**	**21.66**	**71**	⇑*e*P	**P**	**17 59 58.4**	**+3.3**
AGT	**Agartala**	**21.74**	**343**	*e*P	**P**	**17 59 54.8**	**-1.0**
AGT				AMB	AMB	18 00 04.2	
	comp=Z,2μm,1.7s						
AGT				*e*x	x	18 03 47.8	
ADKI	**Addanki**	**21.85**	**307**	*e*P	**P**	**17 59 58.5**	**+1.5**
ADKI				IAmb	IAmb	18 00 06.9	
	comp=Z,3μm,1.0s						
ADKI				*e*S	**S**	**18 03 52.4**	**+0.2**
IMP	**Imphal**	**22.03**	**350**	*e*x	**P**	**17 59 52.8**	**-6.2**
IMP				AMB	AMB	18 00 04.0	
	comp=Z,933nm,0.6s						
IMP				*e*x	x	18 03 51.7	
TWSI	**Taliwang, Sumb**	**22.16**	**122**	P	**P**	**17 59 58.2**	**-2.2**
	comp=Z,754nm,0.8s,comp=Z,13μm						
PCI	**Palu**	**22.18**	**100**	P	**P**	**18 00 01.1**	**+0.5**
	comp=Z,4μm,1.0s,comp=Z,60μmcomp=Z,193μm						
KMI	**Kunming**	**22.44**	**11**	P	**P**	**18 00 04.4**	**+1.0**
KMI				pP	pP	18 00 28.5	+4.5
KMI				sP	sP	18 00 42.2	+4.9
KMI				S	**S**	**18 03 59.1**	**-3.5**
KMI				sS	sS	18 04 34.4	-4.3
KMI				pmax	pmax		
	comp=Z,5μm,1.5s						
KMI				pmax	pmax		
	comp=Z,23μm,3.5s						
KMI				LR	LR		
	comp=Z,56μm,16.0s						
KMI				LR	LR		
	comp=Z,55μm,12.6s						
KMI				LR	LR		
	comp=Z,63μm,13.1s						
RCLA	**Racherla**	**22.46**	**305**	*e*P	**P**	**18 00 03.9**	**+0.4**
RCLA				IAmb	IAmb	18 00 08.4	
	comp=Z,2μm,0.9s						
RCLA				*e*S	**S**	**18 04 02.2**	**-0.5**
TTSI	**Tana Toraja**	**22.63**	**105**	P	**P**	**18 00 05.8**	**+0.6**
	comp=Z,2μm,1.1s,comp=Z,53μmcomp=Z,145μm						
NJS	**Nagarjunasagar**	**22.77**	**307**	*e*P	**P**	**18 00 07.4**	**+0.8**
NJS				IAmb	IAmb	18 00 12.6	
	comp=Z,3μm,1.1s						
NJS				*e*S	**S**	**18 04 08.6**	**+1.0**
SPSI	**Sidrap Palu**	**22.84**	**108**	P	**P**	**18 00 06.8**	**-0.5**
	comp=Z,1μm,1.1s,comp=Z,52μmcomp=Z,135μm						
SRLM	**Srisailam**	**22.85**	**306**	*e*P	**P**	**18 00 08.5**	**+1.1**
SRLM				IAmb	IAmb	18 00 13.8	
	comp=Z,5μm,1.5s						
SRLM				*e*S	**S**	**18 04 09.6**	**+0.6**
PLAI	**Plampang**	**22.96**	**121**	P	**P**	**18 00 05.6**	**-2.9**
	comp=Z,2μm,1.1s,comp=Z,20μm						
KAPI	**Kappang**	**23.15**	**110**	P	**P**	**18 00 10.4**	**+0.2**
	comp=Z,402nm,0.5s,baz=285,slow=9.0,SNR=116						
KAPI				S	**S**	**18 04 13.8**	**0.0**
	comp=Z,58nm,1.0s,baz=90,slow=20,SNR=3.5						
KAPI				ScP	**ScP**	**18 07 26.4**	**+2.2**
	comp=Z,174nm,1.1s,baz=260,slow=3.5,SNR=6.6						
KAPI				LR	LR	18 09 45.1	
	comp=Z,80μm,19.1s,baz=297,slow=38						
KAPI				ScS	**ScS**	**18 11 12.0**	**+1.4**
	comp=Z,4.7nm,0.3s,baz=53,slow=22,SNR=5.8						
KAPI	**Kappang**	**23.15**	**110**	*e*P	**P**	**18 00 10.5**	**+0.2**
	comp=Z,2μm,1.0s						
KAPI				S	**S**	**18 04 13.8**	**0.0**
KAPI				ScP	**ScP**	**18 07 26.4**	**+2.2**
KAPI				ScS	**ScS**	**18 11 12.0**	**+1.4**
KAPI	**Kappang**	**23.15**	**110**	P	**P**	**18 00 10.5**	**+0.2**
	SNR=157						
KAPI				P	**P**	**18 00 10.5**	**+0.2**
	SNR=157						
SHL	**Shillong**	**23.17**	**346**	⇑*i*P	**P**	**18 00 10.0**	**-0.6**
SHL				AMB	AMB	18 00 12.4	
	comp=Z,3μm,2.0s						
SHL				*ex*	x	18 04 17.0	
MOKO	**MOKOCHONG**	**23.40**	**352**	*e*P	**P**	**18 00 10.9**	**-1.8**
MOKO				AMB	AMB	18 00 20.5	
	comp=Z,5μm,1.1s						
MOKO				*ex*	x	18 04 17.6	
TURI	**Tura**	**23.58**	**342**	*ex*	P	18 00 04.8	-9.3
TURI				AMB	AMB	18 00 16.6	
	comp=Z,623nm,2.1s						
TURI				*ex*	x	18 04 17.0	
URV	**Uravakonda**	**23.63**	**301**	*e*P	**P**	**18 00 15.1**	**+0.4**
URV				IAmb	IAmb	18 00 20.3	
	comp=Z,5μm,1.4s						
URV				*e*S	**S**	**18 04 22.4**	**+0.9**
BOK	**Bokaro**	**23.74**	**331**	*e*P	**P**	**18 00 15.4**	**-0.2**
BOK				IAmb	IAmb	18 00 18.6	
	comp=Z,2μm,0.4s						
BOK				*e*S	**S**	**18 04 24.2**	**+1.1**
GUWA	**GUWAHATI**	**23.82**	**346**	*ex*	**P**	**18 00 10.3**	**-5.9**
GUWA				AMB	AMB	18 00 18.8	
	comp=Z,2μm,1.6s						
HYB	**Hyderabad**	**23.85**	**308**	*i* P	**P**	**18 00 16.0**	**-0.6**
	comp=Z,350nm,1.0s						
HYB				*e*pP	**pP**	**18 00 36.0**	**-3.0**
HYB				*e*S	**S**	**18 04 22.0**	**-3.1**
HYB				LR	LR		
	comp=Z,49nm,20.0s						
HYB	**Hyderabad**	**23.85**	**308**	*e*P	**P**	**18 00 15.3**	**-1.3**
HYB				AMB	AMB	18 00 23.7	
	comp=Z,2μm,1.7s						
HYB				*e*S	**S**	**18 04 25.2**	**+0.2**
HYBB	**Hyderabad (bro**	**23.85**	**308**	*e*P	**P**	**18 00 17.1**	**+0.4**
HYBB				IAmb	IAmb	18 00 21.5	
	comp=Z,3μm,1.3s						
HYBB				*e*S	**S**	**18 04 24.3**	**-0.8**
JORH	**JORHAT**	**23.86**	**352**	*ex*	**P**	**18 00 11.3**	**-5.2**
JORH				AMB	AMB	18 00 18.3	
	comp=Z,3μm,0.2

comp=Z,913nm,1.0s,comp=Z,11μmcomp=Z,33μm
BASI Baing, Sumba 26.05 121 P **P** **18 00 35.3 -1.3**
comp=Z,4μm,1.0s,comp=Z,36μm
KMSI Cibinong 26.08 95 P **P** **18 00 38.7 +1.8**
comp=Z,9μm,1.0s,comp=Z,77μm
TAPN Taplejung 26.11 339 *e*P **P** **18 00 37.2 -0.2**
comp=Z,7μm,1.6s
TAPN *e*S **S** **18 05 04.8 +3.4**
RAMN Ramite 26.18 336 *e*P **P** **18 00 37.8 -0.1**
comp=Z,909nm,0.5s
RAMN *e*S **S** **18 05 06.5 +4.2**
SZP Santa 26.34 55 *e*P **P** **18 00 40.3 +1.2**
comp=Z,3μm,1.3s
AUQP San Andres 26.45 66 *e*P **P** **18 00 40.2 0.0**
GQP Guinayangan 26.45 64⇑ *e*P **P** **18 00 39.2 -1.0**
CTBH Cotabato--PC H 26.47 80⇑ *e*P **P** **18 00 40.9 +0.5**
JBP Jabalpur 26.56 320⇑ *e*P **P** **18 00 40.5 -0.5**
JBP *ex* x 18 05 04.0
LLP Lapu-Lapu 26.77 73⇑ *e*P **P** **18 00 43.9 +0.8**
MMRI Maumere 26.80 116 P **P** **18 00 44.2 +0.8**
comp=Z,821nm,1.4s,comp=Z,10μmcomp=Z,72μm
MMRI Maumere 26.80 116 *e*P **P** **18 00 40.9 -2.5**
comp=Z,2μm,1.4s
GOA Goa 26.84 299 *e*P **P** **18 00 42.0 -1.7**
GOA AMB AMB 18 00 48.0
comp=Z,1μm,0.9s
JIRN Jiri 26.97 336 *e*P **P** **18 00 44.7 -0.5**
comp=Z,679nm,0.4s
GSPH General Santos 27.03 83⇓ *e*P **P** **18 00 48.8 +3.2**
CGP Cagayan de Oro 27.09 77⇓ *e*P **P** **18 00 47.2 +1.2**
CAUP Cauayan 27.18 58 *e*P **P** **18 00 45.5 -1.3**
PKI Pulchoki 27.21 335 *e*P **P** **18 00 47.7 +0.4**
comp=Z,5μm,1.4s
PKIN Phulchoki 27.22 335 *e*P **P** **18 00 47.8 +0.5**
comp=Z,718nm,0.6s
KCP Kidapawan 27.27 81⇓ *e*P **P** **18 00 48.8 +1.1**
LSA Lhasa 27.31 347 P **P** **18 00 48.5 +0.2**
LSA S **S** **18 05 21.7 +1.1**
LSA pmax pmax
comp=Z,190nm,0.9s
LSA LR LR
comp=Z,19μm,34.9s
LSA LR LR
comp=Z,17μm,22.8s
LSA LR LR
comp=Z,59μm,38.9s
LSA Lhasa 27.31 347 *e*P **P** **18 00 48.3 0.0**
LSA pmax pmax
comp=Z,2μm,1.2s
LSA Lhasa 27.31 347 *e*P **P** **18 00 48.3 0.0**
comp=Z,2μm,1.2s
GUN Gumba 27.32 336 *e*P **P** **18 00 48.2 0.0**
comp=Z,1μm,0.7s
DMN Daman 27.38 334 *e*P **P** **18 00 48.4 -0.2**
comp=Z,2μm,1.0s
KKN Kakani 27.46 335 *e*P **P** **18 00 49.1 -0.2**
comp=Z,4μm,1.3s
DGAR Diego Garcia 27.52 248 *e*P **P** **18 00 51.0 +1.2**
DGAR pmax pmax
comp=Z,3μm,1.5s
DGAR Diego Garcia 27.52 248 *e*P **P** **18 00 51.0 +1.2**
comp=Z,3μm,1.5s
DGAR Diego Garcia 27.52 248 P **P** **18 00 49.2 -0.6**
SNR=5.7
DGAR P **P** **18 00 49.2 -0.6**
SNR=5.7
CVP Callao Caves 27.54 56⇑ *e*P **P** **18 00 50.4 +0.4**
H08S2 Diego Garcia H 27.57 247 T T 18 27 46.4
baz=72,slow=74,SNR=940
H08S3 Diego Garcia H 27.57 247 T T 18 28 11.5
baz=72,slow=74,SNR=973
H08S1 Diego Garcia H 27.59 247 T T 18 28 21.1
baz=72,SNR=1029
DAV Davao City (W) 27.76 81⇑ *e*P **P** **18 00 53.0 +1.1**
DAV Davao City (W) 27.76 81 *e*P **P** **18 00 54.6 +2.7**
comp=Z,3μm,0.9s
PVCP Virac 27.89 66 *e*P **P** **18 00 52.5 -0.6**
GKN Gorkha 27.92 334 *e*P **P** **18 00 53.2 -0.2**
comp=Z,3μm,1.0s
PLP Palo 27.95 72⇑ *i*P **P** **18 00 53.9 +0.3**
SCPH Surigao 28.11 75⇑ *e*P **P** **18 00 55.1 0.0**
KOLN Koldanda 28.19 332 *e*P **P** **18 00 56.1 +0.3**
comp=Z,1μm,0.7s
POO Poona 28.22 305 *i* PPP PPP 18 01 45.0
POO *i* SSS SSS 18 06 41.0
POO *i* PCS PcS 18 08 04.0 +14
POO Poona 28.22 305 *e*P **P** **18 00 52.9 -3.2**
CD2 Chengdu 28.26 10⇑ *i*P **P** **18 00 55.3 -1.0**
CD2 pP pP 18 01 20.9 +1.1
CD2 PP **PnPn** **18 01 49.9 -0.8**
CD2 S **S** **18 05 31.2 -3.5**
CD2 sS sS 18 06 15.8 0.0
CD2 pmax pmax
comp=Z,1μm,1.2s
CD2 pmax pmax
comp=Z,16μm,6.5s
CD2 LR LR
comp=Z,63μm,19.0s
CD2 LR LR
comp=Z,94μm,15.5s
CD2 LR LR
comp=Z,95μm,29.6s
BHPL Bhopal 28.29 317 *e*P **P** **18 00 55.9 -0.8**
BHPL AMB AMB 18 01 02.9
comp=Z,879nm,2.0s
SANI Sanana 28.43 100 P **P** **18 00 57.5 -0.4**
comp=Z,381nm,0.9s,comp=Z,15μmcomp=Z,93μm
H08N1 Diego Carcia H 28.50 251 T T 18 30 15.7
baz=190,slow=75,SNR=218
H08N2 Diego Garcia H 28.51 251 T T 18 30 30.3
baz=190,slow=75,SNR=268
H08N3 Diego Garcia H 28.53 251 T T 18 30 14.7
baz=190,slow=75,SNR=299
BIPH Bislig 28.68 79⇓ *e*P **P** **18 01 01.1 +1.0**
BATI Baumata 28.74 118 P **P** **18 00 58.8 -1.9**
comp=Z,215nm,0.8s,comp=Z,3μm
PYUN Piuthan 28.75 332 *e*P **P** **18 01 01.3 +0.4**
comp=Z,750nm,0.4s
SOEI Soe 29.09 116 P **P** **18 01 01.0 -2.9**
comp=Z,1μm,1.0s,comp=Z,12μmcomp=Z,76μm
SOEI Soe 29.09 116 *e*P **P** **18 01 00.9 -2.9**
comp=Z,1μm,1.1s
JHNI Jhansi 29.12 322 *e*P **P** **18 01 06.0 +2.1**
JHNI *ex* x 18 04 13.0
JHNI *ex* x 18 04 13.0
ENH Enshi 29.20 21 *e*P **P** **18 01 03.6 -1.0**
comp=Z,3μm,1.0s
QZH Quanzhou 29.47 40⇑ *i*P **P** **18 01 06.9 -0.1**
QZH pP **pP** **18 01 29.6 -1.0**
QZH S **S** **18 05 51.0 -2.7**
QZH pmax pmax
comp=Z,3μm,1.2s
QZH pmax pmax
comp=Z,26μm,4.9s
QZH LR LR
comp=Z,67μm,10.6s
QZH LR LR
comp=Z,45μm,13.0s
QZH LR LR
comp=Z,98μm,13.7s
NLAI Namlea 29.74 102 P **P** **18 01 10.6 +1.0**
comp=Z,751nm,1.0s,comp=Z,12μmcomp=Z,80μm
TPUB Ta-pu 29.77 45 *e*P **P** **18 01 11.4 +1.7**
comp=Z,3μm,1.4s
TWG Pinlang 29.79 47 *e*P **P** **18 01 12.0 +2.2**
comp=Z,17μm,1.6s
GIRL Giralia 30.04 149 P **P** **18 01 13.7 +1.8**
baz=30,SNR=6.1
YULB Yu-li 30.30 46 *e*P **P** **18 01 16.6 +2.2**
comp=Z,2μm,1.3s
SSLB Suanglung 30.30 45 *e*P **P** **18 01 16.8 +2.4**
comp=Z,3μm,1.2s
AAI Ambon 30.91 102 P **P** **18 01 19.7 -0.1**
comp=Z,814nm,1.1s,comp=Z,14μmcomp=Z,93μm
NACB Ninganchiao 31.00 45 *e*P **P** **18 01 23.0 +2.5**
comp=Z,1μm,1.0s
YHNB Yeheng 31.16 44 *e*P **P** **18 01 24.2 +2.2**
comp=Z,1μm,1.3s
PTH Pithoragarh 31.32 329 *e*P **P** **18 01 24.8 +1.3**
PTH *ex* x 18 06 13.9
TATO Taipei 31.43 44 *e*P **P** **18 01 26.1 +1.8**
comp=Z,4μm,1.8s
TATO Taipei 31.43 44 P **P** **18 01 25.9 +1.6**
SNR=25
TATO P **P** **18 01 25.9 +1.6**
SNR=25

WHN Wuhan 31.44 28⇑ *i*P **P** **18 01 24.3 +0.1**
WHN pP **pP** **18 01 49.4 +1.4**
WHN S **S** **18 06 27.7 +3.4**
WHN pmax pmax
comp=Z,22μm,6.5s
WHN LR LR
comp=Z,83μm,11.8s
WHN LR LR
comp=Z,81μm,11.0s
WHN LR LR
comp=Z,136μm,12.2s
MSAI Masohi 31.55 101 P **P** **18 01 25.4 -0.1**
comp=Z,179nm,0.8s,comp=Z,3μm
KALG Kalgarh 32.05 327 *ex* P 18 01 24.4 -5.3
MBWA Marble Bar 32.11 139 *e*P **P** **18 01 29.1 -1.1**
comp=Z,574nm,1.5s
MBWA Marble Bar 32.11 139 P **P** **18 01 29.5 -0.7**
SNR=27
YOJ Yonaguni jima 32.19 46 *e*P **P** **18 01 31.6 +0.7**
YOJ pmax pmax
comp=Z,633nm,1.1s
YOJ Yonaguni jima 32.19 46 *e*P **P** **18 01 31.6 +0.7**
comp=Z,633nm,1.1s
NDI New Delhi 32.29 324 *e*P **P** **18 01 31.5 -0.3**
NDI *ex* x 18 06 34.0
BHGR Bahadurgarh 32.45 324 *e*P **P** **18 01 33.1 -0.1**
XAN Xi'an 32.49 17 P **P** **18 01 32.7 -0.8**
XAN pP pP 18 01 57.2 -0.1
XAN sP sP 18 02 10.5 +0.8
XAN PP **PnPn** **18 02 43.7 -1.3**
XAN S **S** **18 06 36.0 -4.9**
XAN sS sS 18 07 18.8 -3.4
XAN pmax pmax
comp=Z,3μm,1.3s
XAN LR LR
comp=Z,25μm,13.1s
XAN LR LR
comp=Z,43μm,13.1s
XAN LR LR
comp=Z,67μm,13.1s
KHET Khetri 32.69 322 *e*P **P** **18 01 34.5 -0.8**
DDI Dehra Dun 33.07 327 *e*P **P** **18 01 36.8 -1.8**
DDI *e*P **P** **18 01 39.5 +0.8**
DDI AMB AMB 18 01 42.4
comp=Z,3μm,1.9s
LZH Lanzhou 33.34 9 *e*P **P** **18 01 40.8 -0.2**
LZH pP pP 18 02 03.5 -1.4
LZH sP sP 18 02 15.7 -1.5
LZH PP **PnPn** **18 02 54.0 -1.6**
LZH PcP **PcP** **18 04 22.9 +2.3**
LZH *e*S **S** **18 06 53.5 -0.6**
LZH sS sS 18 07 33.3 -2.3
LZH pmax pmax
comp=Z,5μm,1.5s
LZH pmax pmax
comp=Z,10μm,4.9s
LZH LR LR
comp=Z,19μm,16.4s
LZH LR LR
comp=Z,36μm,13.5s
LZH LR LR
comp=Z,52μm,17.0s
SWI Sorong 33.47 96 P **P** **18 01 41.9 -0.4**
comp=Z,2μm,1.0s,comp=Z,27μmcomp=Z,79μm
KKR Kurukshetra 33.47 325 *e*P **P** **18 01 41.9 -0.2**
SIJI Sorong 33.48 96 P **P** **18 01 42.4 0.0**
comp=Z,54nm,0.4s,baz=272,slow=23,SNR=12
SIJI S **S** **18 06 52.2 -4.4**
comp=Z,76nm,0.3s,baz=90,slow=20,SNR=3.0
BHJ Bhuj 34.01 309 *e*P **P** **18 01 45.9 -0.9**
BHJ IAmb IAmb 18 01 52.7
comp=Z,4μm,2.0s
BHJ AMB AMB 18 01 57.3
comp=Z,985nm,1.6s
SMLA Simla 34.17 327 *e*P **P** **18 01 46.7 -1.4**
SMLA AMB AMB 18 01 51.7
comp=Z,3μm,1.6s
FITZ Fitzroy Crossi 34.39 129 P **P** **18 01 48.0 -2.2**
comp=Z,170nm,0.8s,baz=313,slow=6.6,SNR=146
FITZ S **S** **18 07 02.7 -7.7**
comp=Z,49nm,1.2s,baz=88,slow=16,SNR=4.2
FITZ ScP **ScP** **18 08 00.9 +1.5**
comp=Z,82nm,0.9s,baz=338,slow=5.5,SNR=7.5
FITZ Fitzroy Crossi 34.39 129 P **P** **18 01 48.1 -2.0**
baz=34,SNR=154
FITZ Fitzroy Crossi 34.39 129 *e*P **P** **18 01 48.4 -1.8**
comp=Z,497nm,1.1s
FITZ S **S** **18 07 02.7 -7.7**
FITZ ScP **ScP** **18 08 00.9 +1.5**
SDNR Sundarnagar 34.57 327 *e*P **P** **18 01 51.0 -0.6**
SDNR *ex* x 18 07 11.6
FAKI Fak Fak 34.74 99 P **P** **18 01 52.9 -0.4**
comp=Z,757nm,1.0s,comp=Z,17μmcomp=Z,66μm
FAKI Fak Fak 34.74 99 *e*P **P** **18 01 52.4 -0.9**
comp=Z,660nm,1.0s
BHK Bhakra 34.80 327 *e*P **P** **18 01 53.2 -0.4**
BHK *ex* x 18 02 35.0
NJ2 Nanjing 34.90 32 *e*P **P** **18 01 54.7 +0.3**
NJ2 PP **PP** **18 03 17.2 +1.6**
NJ2 PcP **PcP** **18 04 26.1 +1.1**
NJ2 S **S** **18 07 17.4 -0.6**
NJ2 ScP **ScP** **18 08 02.0 +1.1**
NJ2 pmax pmax
comp=Z,290nm,1.1s
NJ2 pmax pmax
comp=Z,13μm,8.7s
NJ2 LR LR
comp=Z,53μm,13.0s
NJ2 LR LR
comp=Z,62μm,11.9s
NJ2 LR LR
comp=Z,79μm,14.1s
SAUI Saumlaki 34.97 108 P **P** **18 01 56.4 +1.2**
comp=Z,932nm,1.0s,comp=Z,13μm
SAUI Saumlaki 34.97 108 *e*P **P** **18 01 54.6 -0.6**
comp=Z,841nm,1.0s
JASL Jaisalmer 35.18 315 *e*P **P** **18 01 56.4 -0.5**
JWA Jwalamukhi 35.19 327 *e*P **P** **18 01 56.0 -0.9**
JWA *ex* x 18 04 26.0
PONG Pong 35.47 327 *e*P **P** **18 01 58.0 -1.2**
PONG *ex* x 18 07 25.0
SSE Sheshan 35.47 36⇑ P **P** **18 02 00.0 +0.7**
SSE pP **pP** **18 02 25.8 +2.5**
SSE S **S** **18 07 27.2 +0.5**
SSE sS **sS** **18 08 10.8 +2.4**
SSE pmax pmax
comp=Z,450nm,1.5s
SSE pmax pmax
comp=Z,11μm,11.0s
SSE LR LR
comp=Z,40μm,16.0s
SSE LR LR
comp=Z,20μm,16.0s
SSE LR LR
comp=Z,26μm,16.9s
MEEK Meekatharra 35.59 147 P **P** **18 01 59.9 -0.5**
baz=36,SNR=87
KNRA Kununurra 35.66 122 P **P** **18 01 59.2 -1.9**
baz=36,SNR=102
GTA Gaotai 36.26 2 ⇑P **P** **18 02 05.3 -0.7**
GTA pP pP 18 02 30.7 +0.6
GTA sP sP 18 02 43.5 +1.1
GTA PP **PP** **18 03 30.6 0.0**
GTA PcP **PcP** **18 04 30.1 +1.1**
GTA S **S** **18 07 36.7 -2.1**
GTA ScP **ScP** **18 08 06.7 +0.8**
GTA PcS **PcS** **18 08 16.3 -0.6**
GTA sS sS 18 08 19.4 -1.1
GTA SS **SnSn** **18 10 06.3 -11**
GTA ScS **ScS** **18 12 10.6 -1.5**
GTA pmax pmax
comp=Z,780nm,1.7s
GTA pmax pmax
comp=Z,11μm,6.2s
GTA LR LR
comp=Z,26μm,18.3s
GTA LR LR
comp=Z,30μm,17.3s
GTA LR LR
comp=Z,18μm,20.9s
MORW Morawa 36.30 153 P **P** **18 02 07.2 +0.8**
baz=36,SNR=84
MTN Manton Dam 36.48 116 P **P** **18 02 06.5 -1.6**
baz=36,SNR=104
MTN Manton Dam 36.48 116 *e*P **P** **18 02 06.6 -1.6**
comp=Z,856nm,1.3s
TIY Taiyuan 36.97 19 *e*P **P** **18 02 11.8 -0.3**
TIY pP **pP** **18 02 35.7 -0.5**
TIY S **S** **18 07 48.3 -1.4**
TIY pmax pmax
comp=Z,1μm,1.6s
TIY pmax pmax
comp=Z,9μm,6.3s
TIY LR LR
comp=Z,66μm,12.1s
TIY LR LR
comp=Z,26μm,11.2s
TIY LR LR
comp=Z,70μm,12.4s
JOW Kunigami 37.42 48 P **P** **18 02 16.8 +0.8**
comp=Z,467nm,0.5s,baz=254,slow=7.6,SNR=116
JOW ScP **ScP** **18 08 11.6 +1.3**
comp=Z,31nm,0.6s,baz=240,slow=4.2,SNR=4.8
JOW LR LR 18 17 30.0
comp=Z,13μm,19.1s,baz=258,slow=36
JOW Kunigami 37.42 48 *e*P **P** **18 02 16.4 +0.5**
comp=Z,940nm,1.0s
JOW ScP **ScP** **18 08 11.6 +1.3**
TIA Tai'an 37.45 26 ⇑P **P** **18 02 15.8 -0.3**
TIA pP **pP** **18 02 38.7 -1.6**
TIA sP **sP** **18 02 50.1 -2.4**
TIA S **S** **18 07 51.6 -5.2**
TIA pmax pmax
comp=Z,330nm,1.0s
TIA pmax pmax
comp=Z,15μm,6.4s
TIA LR LR
comp=Z,49μm,11.9s
TIA LR LR
comp=Z,46μm,12.5s
TIA LR LR
comp=Z,92μm,11.8s
KDU Kakadu 37.63 115 P **P** **18 02 16.6 -1.2**
baz=38,SNR=52
BLDU Ballidu 37.92 153 P **P** **18 02 20.4 +0.3**
baz=38,SNR=100
BTO Baotou 38.96 15 *e*P **P** **18 02 28.6 -0.1**
BTO pmax pmax
comp=Z,240nm,1.4s
KLBR Kellerberrin 39.22 153 P **P** **18 02 31.4 +0.5**
baz=39,SNR=149
HHC Hu-ho-hao-te 39.59 16 *e*P **P** **18 02 35.2 +1.2**
HHC S **S** **18 08 30.9 +1.7**
HHC pmax pmax
comp=Z,15μm,6.1s
HHC LR LR
comp=N,26μm,16.6s
HHC LR LR
comp=E,30μm,15.3s
HHC Hu-ho-hao-te 39.59 16 *e*P **P** **18 02 34.8 +0.8**
HHC pP pP 18 02 55.7 -2.7
HHC sP sP 18 03 08.7 -1.9
HHC S **S** **18 08 28.5 -0.7**
HHC sS sS 18 09 08.2 -3.1
HHC pmax pmax
comp=E,170nm,1.5s
HHC pmax pmax
comp=E,18μm,6.8s
HHC LR LR
comp=E,26μm,19.6s
HHC LR LR
comp=E,29μm,15.1s
HHC LR LR
comp=E,25μm,22.2s
NWAO Narrogin (SRO) 40.13 155 P **P** **18 02 39.2 +0.8**
comp=E,961nm,0.8s,baz=199,slow=8.5,SNR=207
NWAO S **S** **18 08 37.3 +0.2**
comp=E,54nm,1.1s,baz=16,slow=17,SNR=5.3
NWAO LR LR 18 17 55.4
comp=E,19μm,21.2s,baz=211,slow=34
NWAO Narrogin (SRO) 40.13 155 P **P** **18 02 39.0 +0.5**
baz=40,SNR=144
NWAO P **P** **18 02 39.0 +0.5**
baz=40,SNR=144
NWAO Narrogin (SRO) 40.13 155 *e*P **P** **18 02 39.2 +0.8**
NWAO S **S** **18 08 37.3 +0.2**
NWAO pmax pmax
comp=Z,1μm,0.9s
NWAO Narrogin (SRO) 40.13 155 *e*P **P** **18 02 39.2 +0.8**
comp=Z,1μm,0.9s
NWAO S **S** **18 08 37.3 +0.2**
NWAO Narrogin (SRO) 40.13 155 P **P** **18 02 39.5 +1.0**
SNR=40
BJT Baijiatuao 40.34 22 *e*P **P** **18 02 41.0 +0.9**
BJT pmax pmax
comp=Z,6μm,1.1s
BJT Baijiatuao 40.34 22 *e*P **P** **18 02 41.0 +0.9**
comp=Z,6μm,1.1s
BJI Beijing 40.36 22 P **P** **18 02 41.5 +1.3**
BJI pP **pP** **18 03 06.2 +1.5**
BJI sP **sP** **18 03 14.8 -2.0**
BJI PP **PP** **18 04 16.9 +1.6**
BJI S **S** **18 08 42.7 +2.4**
BJI sS **sS** **18 09 25.1 +2.5**
BJI pmax pmax
comp=Z,2μm,1.0s
BJI pmax pmax
comp=Z,24μm,5.2s
BJI LR LR
comp=Z,19μm,27.1s
BJI LR LR
comp=Z,20μm,27.1s
BJI LR LR
comp=Z,64μm,39.1s
WRKA Warakurna 40.53 135 P **P** **18 02 40.5 -1.5**
baz=40,SNR=132
H01W3 Cape Leeuwin H 40.64 159 P **P** **18 02 44.8 +2.4**
baz=315,slow=5.2,SNR=62
H01W3 T T 18 46 23.5
baz=332,slow=76,SNR=45
H01W2 Cape Leeuwin H 40.66 159 P **P** **18 02 44.7 +2.3**
baz=315,slow=5.2,SNR=47
H01W2 T T 18 46 51.9
baz=332,slow=76,SNR=40
H01W1 Cape Leeuwin H 40.66 159 P **P** **18 02 44.9 +2.4**
baz=315,slow=5.2,SNR=57
H01W1 T T 18 46 33.6
baz=332,slow=76,SNR=57
SMPI Sarmi 41.00 96 P **P** **18 02 46.0 +0.1**
comp=Z,631nm,1.2s,comp=Z,32μmcomp=Z,65μm
KBL Kabul 41.33 323 *e*P **P** **18 02 47.8 -0.8**
KBL pmax pmax
comp=Z,2μm,1.4s
KBL Kabul 41.33 323 *e*P **P** **18 02 47.8 -0.8**
comp=Z,2μm,1.4s
KSH Kashi 41.47 334⇑ *i*P **P** **18 02 47.4 -2.1**
KSH pP pP 18 03 10.4 -3.7
KSH PP **PP** **18 04 27.5 0.0**
KSH S **S** **18 08 52.4 -4.7**
KSH SS **SS** **18 11 55.4 -10**
KSH pmax pmax
comp=Z,310nm,0.6s
KSH pmax pmax
comp=Z,4μm,6.5s
KSH LR LR
comp=Z,28μm,8.8s
KSH LR LR
comp=Z,24μm,7.9s
KSH LR LR
comp=Z,9μm,14.7s
RKGY Rocky Gully 41.47 156 P **P** **18 02 50.7 +1.3**
baz=42,SNR=96
WMQ Urumqi 41.64 349 P **P** **18 02 50.8 0.0**
WMQ pP pP 18 03 17.8 +2.4
WMQ S **S** **18 09 00.5 +1.1**
WMQ sS sS 18 09 45.0 +3.2
WMQ SS **SS** **18 12 04.3 -4.5**
WMQ pmax pmax
comp=Z,1μm,1.1s
WMQ pmax pmax
comp=Z,6μm,7.7s
WMQ LR LR
comp=Z,18μm,36.1s
WMQ LR LR
comp=Z,24μm,35.1s
WMQ LR LR
comp=Z,18μm,35.1s
DL2 Dalian 41.70 28⇑ *i*P **P** **18 02 52.2 +1.0**
DL2 sP **sP** **18 03 26.2 -1.8**
DL2 PcP **PcP** **18 04 42.5 -3.5**
DL2 ScP **ScP** **18 08 28.5 +1.9**

DL2 PcS **PcS** **18 08 40.4 +2.9**
DL2 S **S** **18 09 02.4 +2.1**
DL2 ScS **ScS** **18 12 43.7 +0.1**
DL2 pmax pmax
comp=Z,2µm,1.0s
DL2 pmax pmax
comp=Z,16µm,7.8s
WRA **Warramunga Arr** **42.35 124** P **P** **18 02 55.5 -1.4**
comp=Z,405nm,0.7s,baz=302,slow=9.0,SNR=454
WRA ScP **ScP** **18 08 32.0 +2.3**
comp=Z,119nm,1.1s,baz=313,slow=3.7,SNR=12
WRA S **S** **18 09 05.8 -4.7**
comp=Z,437nm,1.1s,baz=293,slow=17,SNR=30
WRA LR LR 18 21 35.4
comp=Z,15µm,21.1s,baz=310,slow=37
WRA P3KP 18 34 08.9
comp=Z,2.9nm,1.0s,baz=43,slow=3.0,SNR=3.6
WRA PKP2ab 18 36 13.1
comp=Z,2.3nm,0.9s,baz=117,slow=3.1,SNR=4.6
WRAB **Tennant Creek** **42.36 124***c iP* **P** **18 02 56.0 -0.9**
WRAB pmax pmax
comp=Z,678nm,1.0s
WRAB **Tennant Creek** **42.36 124** *eP* **P** **18 02 55.6 -1.3**
comp=Z,2µm,1.3s
WB2 **Warramunga Arr** **42.37 124** *eP* **P** **18 02 55.5 -1.4**
GENI **Genyem** **42.52 97** P **P** **18 02 57.3 -1.0**
comp=Z,2µm,0.8s,comp=Z,22µmcomp=Z,61µm
JNU **Nakatsue** **42.92 42** P **P** **18 03 01.4 0.0**
comp=Z,272nm,0.7s,baz=241,slow=3.5,SNR=85
JNU ScP **ScP** **18 08 32.8 +1.0**
comp=Z,21nm,0.7s,baz=274,slow=1.9,SNR=4.7
JNU **Nakatsue** **42.92 42** *eP* **P** **18 03 01.7 +0.4**
comp=Z,1µm,1.4s
JNU ScP **ScP** **18 08 32.8 +1.0**
JAY **Jayapura** **43.04 97** P **P** **18 03 01.0 -1.6**
comp=Z,12nm,0.5s,baz=84,slow=23,SNR=34
JAY ScP **ScP** **18 08 33.6 +1.0**
comp=Z,9.3nm,1.1s,baz=89,slow=23,SNR=13
JAY S **S** **18 09 15.8 -5.0**
comp=Z,11nm,1.2s,baz=98,slow=23,SNR=5.1
JAY **Jayapura** **43.04 97** P **P** **18 03 01.5 -1.1**
comp=Z,380nm,0.9s,comp=Z,7µm
WSAR **Wadi Sarin** **43.06 301** P **P** **18 03 04.1 +1.6**
comp=Z,572nm,1.0s,baz=132,slow=7.4,SNR=174
WSAR ScP **ScP** **18 08 34.0 +1.5**
comp=Z,49nm,1.0s,baz=98,slow=3.1,SNR=4.1
WSAR S **S** **18 09 22.4 +1.7**
comp=Z,26nm,1.1s,baz=299,slow=10,SNR=2.1
MSEY **Mahe Island** **43.17 260** *iP* **P** **18 03 05.0 +1.4**
SNR=41
MSEY **Mahe Island** **43.17 260** *iP* **P** **18 03 05.0 +1.4**
SNR=41
MSEY **Mahe Island** **43.17 260** *eP* **P** **18 03 05.6 +2.0**
MSEY pmax pmax
comp=Z,3µm,1.5s
MSEY **Mahe Island** **43.17 260** *eP* **P** **18 03 05.6 +2.0**
comp=Z,3µm,1.5s
MSEY **Mahe Island** **43.17 260** P **P** **18 03 04.7 +1.1**
SNR=35
MSEY P **P** **18 03 04.7 +1.1**
SNR=35
JMDO **Jabal Madar** **43.20 300** P **P** **18 03 04.8 +1.1**
SNR=107
INCN **Inchon** **43.20 34** *eP* **P** **18 03 03.4 -0.1**
comp=Z,2µm,1.4s
SHLS **Shalkode** **43.23 340** *iP* **P** **18 02 59.4 -4.4**
comp=Z,734nm,1.2s
UZB **Uzynbulak** **43.37 340** *iP* **P** **18 03 01.8 -3.2**
comp=Z,1µm,0.5s
UZB *i* PP **PP** **18 04 44.6 -3.3**
UZB *eS* **S** **18 09 22.1 -3.0**
UZB *eSS* **SS** **18 12 41.0 -2.0**
PDGK **Podgornoye** **43.38 340** P **P** **18 03 04.7 -0.2**
PDGK pmax pmax
comp=Z,908nm,1.1s
SATY **Saty** **43.51 339** *iP* **P** **18 03 02.8 -3.3**
comp=Z,2µm,1.1s
SATY *eS* **S** **18 09 23.7 -3.4**
SATY *eSS* **SS** **18 12 43.7 -2.0**
BIDO **Bidbid** **43.59 301** P **P** **18 03 08.6 +1.7**
SNR=424
BIDO P **P** **18 03 08.6 +1.7**
SNR=424
KPKS **Kokpek** **43.77 340** *iP* **P** **18 03 04.8 -3.2**
comp=Z,1µm,1.4s
KPKS *eS* **S** **18 09 27.3 -3.4**
KPKS *eSS* **SS** **18 12 48.4 -2.2**
KS15 **Wonju Array Si** **43.87 35** *eP* **P** **18 03 08.9 +0.1**
KSAR **Wonju Array Be** **43.87 35** P **P** **18 03 08.9 0.0**
KSAR **Wonju Array Be** **43.87 35** P **P** **18 03 08.8 0.0**
KSAR ScP **ScP** **18 08 37.2 +1.7**
AS31 **Alice Springs** **43.89 129** *eP* **P** **18 03 07.8 -1.4**
comp=Z,152nm,1.3s
ASAR **Alice Springs** **43.89 129** P **P** **18 03 07.8 -1.5**
comp=Z,78nm,0.8s,baz=301,slow=7.6,SNR=420
ASAR ScP **ScP** **18 08 37.7 +1.8**
comp=Z,67nm,1.0s,baz=305,slow=3.7,SNR=9.1
ASAR S **S** **18 09 27.4 -5.4**
comp=Z,96nm,1.1s,baz=294,slow=14,SNR=12
ASAR ScS **ScS** **18 12 55.7 -2.2**
comp=Z,22nm,1.1s,baz=307,slow=6.7,SNR=5.5
ASAR LR LR 18 23 33.2
comp=Z,20µm,19.3s,baz=298,slow=39
ASAR P3KP 18 33 55.4
comp=Z,1.5nm,0.9s,baz=48,slow=2.8,SNR=4.2
ASAR P4KPbc 18 41 03.6
comp=Z,1.6nm,1.1s,baz=305,slow=4.4,SNR=6.4
KS01 **Wonju Array Si** **43.90 35** *eP* **P** **18 03 08.2 -0.8**
KSRS **Korea Array** **43.90 35** P **P** **18 03 08.8 -0.2**
comp=Z,630nm,1.0s,baz=226,slow=8.6,SNR=353
KSRS ScP **ScP** **18 08 37.2 +1.6**
comp=Z,58nm,1.1s,baz=210,slow=4.2,SNR=11
KSRS LR LR 18 22 21.6
comp=Z,23µm,18.6s,baz=224,slow=37
AS01 **Alice Springs** **43.92 129** *eP* **P** **18 03 07.1 -2.4**
SHAO **Shalim** **44.10 293** P **P** **18 03 12.1 +1.2**
SNR=17
SHAO P **P** **18 03 12.1 +1.2**
SNR=17
FORT **Forrest** **44.18 142** P **P** **18 03 11.1 -0.2**
baz=44,SNR=195
FORT **Forrest** **44.18 142** *eP* **P** **18 03 11.2 -0.1**
comp=Z,7µm,0.6s
AAA **Alma-Ata** **44.19 338** *eP* **P** **18 03 12.3 +0.9**
AAA *eS* **S** **18 09 37.4 +0.6**
AAA pmax pmax
comp=Z,13µm,2.5s
AAA smax smax
comp=E,39µm,10.1s
HOQ **Hoqain** **44.31 301** P **P** **18 03 14.0 +1.4**
SNR=283
TKM2 **Tokmak 2** **44.46 336** P **P** **18 03 13.5 -0.2**
TKM2 pmax pmax
comp=Z,1µm,1.5s
BMNS **Besmoynak** **44.59 337** *iP* **P** **18 03 11.2 -3.5**
comp=Z,2µm,1.5s
BMNS *eS* **S** **18 09 38.9 -3.8**
AAK **Ala-Archa** **44.67 335** P **P** **18 03 15.7 +0.4**
comp=Z,177nm,0.5s,baz=143,slow=5.6,SNR=130
AAK PcP **PcP** **18 04 58.7 +2.5**
comp=Z,135nm,0.7s,baz=206,slow=5.2,SNR=4.9
AAK ScP **ScP** **18 08 41.1 +2.2**
comp=Z,53nm,0.9s,baz=132,slow=13,SNR=3.7
AAK **Ala-Archa** **44.67 335***c iP* **P** **18 03 15.6 +0.3**
AAK pmax pmax
comp=Z,3µm,1.6s
AAK **Ala-Archa** **44.67 335** *eP* **P** **18 03 15.7 +0.4**
comp=Z,2µm,1.7s
AAK PcP **PcP** **18 04 58.7 +2.5**
AAK ScP **ScP** **18 08 41.1 +2.2**
AAK **Ala-Archa** **44.67 335** P **P** **18 03 15.9 +0.6**
SNR=467
AAK P **P** **18 03 15.9 +0.6**
SNR=467
FRU **Bishkek** **44.78 336**⇑ *iP* **P** **18 03 16.5 +0.4**
FRU *i* 18 03 43.0
FRU *iS* **S** **18 09 48.0 +2.7**
FRU *iSS* **ScS** **18 13 04.0 +1.1**
FRU pmax pmax
comp=E,4µm,9.0s
FRU pmax pmax
comp=Z,3µm,2.0s
FRU smax smax
comp=E,2µm,11.0s
SNY **Shenyang** **44.92 27**⇑ P **P** **18 03 16.5 -0.6**
SNY pP **pP** **18 03 40.7 -1.3**
SNY sP **sP** **18 03 55.3 +1.3**
SNY PP **PP** **18 05 04.1 -0.1**
SNY S **S** **18 09 47.3 +0.1**
SNY SS **ScS** **18 13 03.9 +0.2**
SNY pmax pmax
comp=E,660nm,1.1s
SNY pmax pmax
comp=E,12µm,12.0s
SNY LR LR
comp=E,26µm,19.6s
SNY LR LR
comp=E,27µm,19.4s
SNY LR LR
comp=E,67µm,43.1s
KUU **Kurty** **44.99 338** *i* P **P** **18 03 14.5 -3.1**
comp=E,1µm,0.6s
KUU *eS* **S** **18 09 45.3 -2.9**
SONM **Songino Array** **45.22 8** P **P** **18 03 19.8 +0.2**
comp=E,214nm,0.4s,baz=191,slow=8.5,SNR=144
SONM PcP **PcP** **18 04 59.7 +1.7**
comp=E,162nm,0.6s,baz=193,slow=3.9,SNR=8.6
SONM ScP **ScP** **18 08 42.0 +1.0**
comp=E,100nm,0.9s,baz=204,slow=4.7,SNR=6.2
SONM LR LR 18 23 34.3
comp=E,27µm,21.7s,baz=184,slow=38
SONA1 **Songino Array** **45.24 8** *eP* **P** **18 03 19.2 -0.4**
ULN **Ulaanbaatar** **45.35 9** *eP* **P** **18 03 20.6 0.0**
ULN pmax pmax
comp=Z,534nm,0.8s
ULN **Ulaanbaatar** **45.35 9** *eP* **P** **18 03 20.6 0.0**
comp=Z,534nm,0.8s
ULN **Ulaanbaatar** **45.35 9** P **P** **18 03 21.0 +0.4**
SNR=370
ULN P **P** **18 03 21.0 +0.4**
SNR=370
MNAS **Manas** **45.41 333** P **P** **18 03 21.5 +0.3**
MNAS pmax pmax
comp=Z,2µm,1.7s
MK01 **Makanchi Array** **45.66 345** *eP* **P** **18 03 21.2 -1.7**
MK31 **Makanchi Array** **45.69 345** *eP* **P** **18 03 22.6 -0.5**
MK31 pmax pmax
comp=Z,869nm,0.7s
MK31 **Makanchi Array** **45.69 345** *eP* **P** **18 03 22.7 -0.4**
MKAR **Makanchi Array** **45.69 345** *eP* **P** **18 03 22.7 -0.4**
MKAR pmax pmax
comp=Z,9µm,1.1s
MKAR **Makanchi Array** **45.69 345** *eP* **P** **18 03 22.7 -0.4**
comp=Z,9µm,1.1s
ZSN **Zaisan** **45.69 348** *iP* **P** **18 03 20.7 -2.4**
comp=Z,1µm,0.9s
ZSN *iS* **S** **18 09 57.6 -0.6**
ZSN *eSS* **SS** **18 13 25.1 +1.1**
UOSS **Minazif** **45.75 302** *eP* **P** **18 03 24.0 0.0**
comp=Z,973nm,1.4s
HATD **Hatta, Dubai** **45.76 302** *iP* **P** **18 03 25.0 +0.9**
SNR=306
HATD **Hatta, Dubai** **45.76 302** *iP* **P** **18 03 25.0 +0.9**
SNR=306
HATD **Hatta, Dubai** **45.76 302** P **P** **18 03 25.5 +1.4**
SNR=269
HATD P **P** **18 03 25.5 +1.4**
SNR=269
ASHO **Ashiyiah** **45.77 302** *iP* **P** **18 03 25.2 +1.0**
SNR=39
ASHO **Ashiyiah** **45.77 302** *iP* **P** **18 03 25.2 +1.0**
SNR=39
ASHO **Ashiyiah** **45.77 302** P **P** **18 03 25.1 +1.0**
SNR=279
ASHO P **P** **18 03 25.1 +1.0**
SNR=279
MAKZ **Makanchi** **45.78 345** *eP* **P** **18 03 23.3 -0.6**
MAKZ pmax pmax
comp=Z,2µm,1.2s
MAKZ **Makanchi** **45.78 345** *eP* **P** **18 03 23.3 -0.6**
comp=Z,2µm,1.2s
MRIV **Mauritius Mete** **46.00 238** *eP* **P** **18 03 26.0 0.0**
BANOM **Banah** **46.03 304** *iP* **P** **18 03 26.6 +0.4**
SNR=52
BANOM **Banah** **46.03 304** *iP* **P** **18 03 26.6 +0.4**
SNR=52
BANOM **Banah** **46.03 304** P **P** **18 03 26.1 -0.2**
SNR=42
BANOM P **P** **18 03 26.1 -0.2**
SNR=42
FAQ **Al Faqa, Dubai** **46.19 302** *iP* **P** **18 03 28.3 +0.9**
SNR=254
FAQ **Al Faqa, Dubai** **46.19 302** *iP* **P** **18 03 28.3 +0.9**
SNR=254
FAQ **Al Faqa, Dubai** **46.19 302** P **P** **18 03 28.3 +0.9**
SNR=161
FAQ P **P** **18 03 28.3 +0.9**
SNR=161
NAZ **Nazwa, Dubai** **46.22 302** *iP* **P** **18 03 28.3 +0.7**
SNR=228
NAZ **Nazwa, Dubai** **46.22 302** *iP* **P** **18 03 28.3 +0.7**
SNR=228
NAZ **Nazwa, Dubai** **46.22 302** P **P** **18 03 28.4 +0.7**
SNR=183
NAZ P **P** **18 03 28.4 +0.7**
SNR=183
IUG **Iuzhnay** **46.29 331** *iP* **P** **18 03 24.9 -3.2**
comp=Z,3µm,1.3s
IUG *iS* **S** **18 10 04.2 -3.0**
KK31 **Karatay Array** **46.80 332** P **P** **18 03 31.2 -0.7**
KK31 pmax pmax
comp=Z,301nm,0.7s
KKAR **Karatay Array** **46.80 332** *eP* **P** **18 03 31.3 -0.6**
KKAR pmax pmax
comp=Z,10µm,1.6s
KKAR **Karatay Array** **46.80 332** *eP* **P** **18 03 31.3 -0.6**
comp=Z,11µm,1.6s
QIS **Mount Isa** **47.05 122** P **P** **18 03 33.6 -0.6**
baz=47,SNR=283
CN2 **Changchun** **47.33 27**⇑ P **P** **18 03 36.3 +0.4**
CN2 *eP* pP 18 04 02.6 +1.6
CN2 PcP **PcP** **18 05 06.0 +0.8**
CN2 *eS* **S** **18 10 21.5 -0.1**
CN2 *eSS* **SS** **18 13 44.5 -6.1**
CN2 LR LR
comp=Z,14µm,14.0s
CN2 LR LR
comp=Z,19µm,14.0s
CN2 LR LR
comp=Z,24µm,14.0s
ZAK **Zakamensk** **47.40 5** *eP* **P** **18 03 36.1 -0.4**
ZAK *e* 18 05 34.9
ZAK pmax pmax
comp=Z,511nm,1.6s
ZAK pmax pmax
comp=Z,227nm,1.3s
GUMO **Guam** **47.46 74** P **P** **18 03 37.6 +0.2**
comp=Z,207nm,0.3s,baz=142,slow=1.7,SNR=31
GUMO LR LR 18 25 49.7
comp=Z,3µm,19.2s,baz=256,slow=39
GUMO **Guam** **47.46 74***ceP* **P** **18 03 37.9 +0.5**
GUMO **Guam** **47.46 74** *eP* **P** **18 03 37.2 -0.3**
comp=Z,2µm,1.5s
GUMO P **P** **18 03 37.6 +0.2**
RER **Riviere de l'E** **47.85 238** *eP* **P** **18 03 41.7 +1.3**
comp=Z,2µm,0.8s
COEN **Coen** **47.87 112** P **P** **18 03 39.6 -1.0**
baz=48,SNR=69
COEN **Coen** **47.87 112** *eP* **P** **18 03 40.0 -0.6**
comp=Z,359nm,1.1s
INU **Inuyama** **48.36 44** *eP* **P** **18 03 43.6 -0.5**
comp=Z,748nm,1.1s
CBIJ **Chichi jima** **48.54 56** *eP* **P** **18 03 44.6 -0.9**
comp=Z,633nm,0.6s
MOY **Mondy** **48.54 2** *eP* **P** **18 03 45.4 +0.1**
MOY pmax pmax
comp=Z,1µm,2.7s
TLY **Talaya** **48.72 5** P **P** **18 03 47.1 +0.5**
comp=Z,145nm,0.7s,baz=235,slow=3.9,SNR=102
TLY ScP **ScP** **18 08 57.4 +2.0**
comp=Z,25nm,0.8s,baz=201,slow=8.6,SNR=4.9
TLY **Talaya** **48.72 5***c iP* **P** **18 03 47.2 +0.6**
TLY *e* 18 05 10.9
TLY *e* 18 05 42.3
TLY *eS* **S** **18 10 37.6 -3.5**
TLY *e* 18 13 28.1
TLY *eSS* **SS** **18 14 10.2 -2.7**
TLY pmax pmax
comp=Z,861nm,1.8s
TLY MLR MLR
comp=Z,22µm,17.0s
TLY **Talaya** **48.72 5** *eP* **P** **18 03 47.1 +0.6**
comp=Z,503nm,1.1s
TLY ScP **ScP** **18 08 57.4 +2.0**
TLY **Talaya** **48.72 5** P **P** **18 03 47.5 +0.9**
SNR=168
TLY P **P** **18 03 47.5 +0.9**
SNR=168
JHJ **Hachijo jima 2** **49.20 48** P **P** **18 03 50.3 -0.2**
comp=Z,614nm,1.0s,baz=216,slow=17,SNR=6.4
JHJ2 **Mitsune** **49.22 48** *eP* **P** **18 03 53.7 +3.0**
comp=Z,1µm,1.1s
IRK **Irkutsk** **49.33 5**⇑ *iP* **P** **18 03 51.4 +0.2**
IRK *e* 18 05 51.3
IRK *eS* **S** **18 10 51.9 +2.3**
IRK *e* 18 13 33.3
IRK pmax pmax
comp=Z,2µm,2.0s
SEM **Semipalatinsk** **49.55 345** *iP* **P** **18 03 49.6 -3.5**
comp=Z,4µm,0.6s
SEM *i* PP **PP** **18 05 45.2 -3.3**
SEM *eSS* **SS** **18 14 25.3 -1.3**
MANU **Manus Island** **49.60 95** *eP* **P** **18 03 54.5 +0.5**
comp=Z,763nm,0.8s
HIA **Hailar** **49.67 19** *eP* **P** **18 03 53.4 -0.4**
HIA pmax pmax
comp=Z,3µm,1.4s
HIA **Hailar** **49.67 19** *eP* **P** **18 03 53.4 -0.4**
comp=Z,3µm,1.4s
MJB9 **Matsu-Tunnel** **49.81 43** *eP* **P** **18 03 54.8 -0.4**
comp=Z,145nm,1.2s
MAJO **Matsushiro** **49.81 43***c iP* **P** **18 03 54.6 -0.6**
MAJO pmax pmax
comp=Z,777nm,1.7s
MAJO **Matsushiro** **49.81 43** *eP* **P** **18 03 54.8 -0.4**
comp=Z,569nm,1.2s
MAT **Matsushiro** **49.81 43** P **P** **18 03 54.3 -0.9**
MAT S **S** **18 10 58.4 +1.5**
MJAR **Matsushiro Arr** **49.82 43** P **P** **18 03 54.8 -0.4**
comp=Z,192nm,0.9s,baz=219,slow=6.2,SNR=149
MJAR PcP **PcP** **18 05 15.9 +1.5**
comp=Z,83nm,0.9s,baz=233,slow=2.6,SNR=5.4
MJAR ScP **ScP** **18 09 01.6 +1.1**
comp=Z,9.1nm,0.9s,baz=213,slow=2.7,SNR=5.5
MJAR LR LR 18 26 02.4
comp=Z,9µm,21.3s,baz=230,slow=37
MDJ **Mudanjiang** **49.90 29** P **P** **18 03 56.6 +1.0**
MDJ pP pP 18 04 18.0 -2.9
MDJ PP **PP** **18 05 53.8 +2.3**
MDJ ScP **ScP** **18 09 01.0 +0.4**
MDJ PcS **PcS** **18 09 12.3 +0.9**
MDJ S **S** **18 10 57.9 +0.2**
MDJ ScS **ScS** **18 13 31.6 -4.9**
MDJ SS **SS** **18 14 21.5 -10**
MDJ pmax pmax
comp=Z,460nm,1.1s
MDJ pmax pmax
comp=Z,13µm,8.3s
MDJ LR LR
comp=Z,25µm,30.3s
MDJ LR LR
comp=Z,21µm,30.3s
MDJ LR LR
comp=Z,42µm,37.0s
VLA **Vladivostok** **50.01 32***c iP* **P** **18 03 56.8 +0.4**
VLA pmax pmax
comp=Z,2µm,1.3s
KURBB **Kurchatov Arra** **50.20 344** P **P** **18 03 57.0 -0.8**
comp=Z,24nm,0.5s,baz=161,slow=6.3,SNR=143
KURBB PcP **PcP** **18 05 17.1 +1.6**
comp=Z,136nm,0.5s,baz=161,slow=3.1,SNR=5.4
KURBB ScP **ScP** **18 09 03.2 +1.5**
comp=Z,42nm,0.9s,baz=158,slow=3.5,SNR=5.3
KURBB S **S** **18 10 57.6 -4.0**
comp=Z,60nm,1.1s,baz=152,slow=15,SNR=5.2
KURBB P4KPbc 18 41 30.0
comp=Z,4.3nm,0.8s,baz=160,slow=3.4,SNR=14
MTSU **Mount Surprise** **50.23 117** P **P** **18 03 57.8 -0.8**
baz=50,SNR=102
KURK **Kurchatov** **50.26 344***c iP* **P** **18 03 58.2 0.0**
KURK **Kurchatov** **50.26 344** P **P** **18 03 57.0 -1.2**
KURK *eP* **P** **18 03 58.2 0.0**
KURK PcP **PcP** **18 05 17.1 +1.4**
KURK ScP **ScP** **18 09 03.2 +1.2**
KURK S **S** **18 10 57.6 -4.8**
KURK *e* 18 41 30.0
KURK **Kurchatov** **50.26 344** P **P** **18 03 58.4 +0.2**
SNR=1479
KURK P **P** **18 03 58.4 +0.2**
SNR=1479
GEYT **Alibeck** **50.35 319** P **P** **18 03 59.4 +0.2**
comp=Z,463nm,0.6s,baz=142,slow=7.5,SNR=166
GEYT ScP **ScP** **18 09 03.4 +0.6**
comp=Z,37nm,0.8s,baz=121,slow=7.2,SNR=4.0
GEYT S **S** **18 11 06.3 +2.0**
comp=Z,116nm,1.2s,baz=104,slow=6.3,SNR=8.3
GEYT LR LR 18 28 27.9
comp=Z,7µm,19.3s,baz=115,slow=40
PMG **Port Moresby** **50.52 105** P **P** **18 04 00.5 -0.3**
comp=Z,4µm,0.9s,baz=285,slow=5.1,SNR=180
PMG ScP **ScP** **18 09 06.3 +2.4**
comp=Z,154nm,1.1s,baz=284,slow=8.1,SNR=7.8
PMG **Port Moresby** **50.52 105***c iP* **P** **18 04 00.9 +0.1**
PMG **Port Moresby** **50.52 105** *eP* **P** **18 04 00.5 -0.3**
comp=Z,3µm,0.8s
PMG ScP **ScP** **18 09 06.3 +2.4**
CIT **Chita** **50.53 12** *eP* **P** **18 04 01.4 +1.1**
CIT *e* 18 05 21.4
CIT *eS* **S** **18 11 10.8 +4.5**
CIT pmax pmax
comp=Z,3µm,1.6s
BBOO **Buckleboo** **50.66 138** P **P** **18 04 00.1 -1.5**
baz=51,SNR=54
BBOO **Buckleboo** **50.66 138** *eP* **P** **18 04 00.9 -0.7**
comp=Z,452nm,1.2s
USRK **Ussuriysk Ar.** **50.80 31** P **P** **18 04 02.4 0.0**
comp=Z,194nm,0.6s,baz=240,slow=6.9,SNR=167
USRK ScP **ScP** **18 09 06.5 +2.0**
comp=Z,29nm,0.9s,baz=210,slow=4.6,SNR=5.3
USRK LR LR 18 26 34.7
comp=Z,39µm,19.5s,baz=208,slow=37
BRZS **Berezniki** **51.48 339** *iP* **P** **18 04 04.4 -3.0**
comp=Z,265nm,1.0s
BRZS *eS* **S** **18 11 16.9 -2.6**
ZAA0 **Zalesovo Array** **51.90 350** *eP* **P** **18 04 10.2 -0.2**
ZALV **Zalesovo Beam** **51.90 350** P **P** **18 04 10.2 -0.2**
comp=Z,2µm,0.5s,baz=173,slow=7.0,SNR=3854
ZALV ScP **ScP** **18 09 10.6 +1.6**
comp=Z,16nm,0.7s,baz=160,slow=4.2,SNR=2.9
ZALV S **S** **18 11 25.8 +0.8**
comp=Z,108nm,0.8s,baz=171,slow=12,SNR=15
ZALV ScS **ScS** **18 13 50.5 +0.6**
comp=Z,52nm,0.8s,baz=165,slow=6.2,SNR=8.3
ZALV LR LR 18 29 12.9
comp=Z,7µm,20.7s,baz=168,slow=39
ZALV PKPPKP P'P'df 18 34 36.4 -7.9
comp=Z,4.8nm,0.9s,baz=316,slow=4.0,SNR=9.0
ZALV P4KPbc 18 41 35.5
comp=Z,2.7nm,0.8s,baz=174,slow=3.5,SNR=8.5
CTA **Charters Tower** **52.62 118** P **P** **18 04 16.3 -0.1**
comp=Z,143nm,0.9s,baz=288,slow=9.7,SNR=48
CTA ScP **ScP** **18 09 14.4 +1.5**
comp=Z,48nm,0.9s,baz=292,slow=7.0,SNR=5.7
CTA S **S** **18 11 36.2 +0.2**
comp=Z,16nm,1.0s,baz=52,slow=22,SNR=9.0
CTAO **Charters Tower** **52.62 118** *eP* **P** **18 04 16.4 -0.1**
CTAO pmax pmax
comp=Z,408nm,1.3s
CTAO **Charters Tower** **52.62 118** *eP* **P** **18 04 16.4 -0.1**
comp=Z,408nm,1.3s
BDHA **Al Bayda'** **52.87 285**⇓ *eP* **P** **18 04 20.0 +1.4**
HTT **Hallett** **52.97 137** P **P** **18 04 18.5 -0.3**
baz=53,SNR=31
NVS **Novosibirsk** **53.03 349**⇓ *iP* **P** **18 04 19.4 +0.6**
NVS *iS* **S** **18 11 36.5 -3.9**
NVS *e* 18 13 58.5
NVS pmax pmax
comp=Z,957nm,0.7s
NVS pmax pmax
comp=N,369nm,0.4s
NVS pmax pmax
comp=E,382nm,0.4s
NVS smax smax
comp=N,390nm,1.4s
NVS smax smax
comp=E,950nm,1.6s
QLP **Quilpie** **53.47 126** P **P** **18 04 22.3 -0.2**
baz=54,SNR=206

STKA **Stephens Creek** 54.00 134 P **P** 18 04 25.6 -0.7
comp=E,277nm,0.6s,baz=319,slow=5.7,SNR=310
STKA S **S** 18 11 53.4 -0.9
comp=E,28nm,0.9s,baz=209,slow=23,SNR=5.3
STKA PKPPKP **P'P'df** 18 34 40.0 -2.8
comp=E,4.9nm,0.9s,baz=299,slow=4.2,SNR=3.3
STKA **Stephens Creek** 54.00 134 P **P** 18 04 25.6 -0.7
baz=54,SNR=574
STKA **Stephens Creek** 54.00 134 *e*P **P** 18 04 25.7 -0.6
STKA S **S** 18 11 53.4 -0.9
STKA P'P' 18 34 40.0
DAMY **Dhamar** 54.07 286 *e*P **P** 18 04 29.5 +2.1
comp=Z,3μm,1.3s
KLR **Kul'dur** 54.27 27 P **P** 18 04 28.6 +0.6
comp=Z,966nm,0.9s,baz=240,slow=7.1,SNR=341
KLR ScP **ScP** 18 09 21.9 +2.4
comp=Z,34nm,0.9s,baz=280,slow=5.5,SNR=4.8
KLR S **S** 18 12 00.5 +3.1
comp=Z,12nm,1.1s,baz=4.4,slow=13,SNR=3.9
KLR ScS **ScS** 18 14 09.4 +2.5
comp=Z,23nm,1.3s,baz=317,slow=19,SNR=6.1
KLR **Kul'dur** 54.27 27 *c* *i*P **P** 18 04 28.7 +0.7
OPO **Ambohidratompo** 54.41 245 P **P** 18 04 30.9 +1.2
comp=Z,416nm,1.1s,baz=246,slow=20,SNR=104
ABPO **Ambohimpanom** 54.51 244 *e*P **P** 18 04 30.6 +0.2
ABPO pmax pmax
comp=Z,1μm,1.2s
ABPO **Ambohimpanom** 54.51 244 *e*P **P** 18 04 30.6 +0.2
comp=Z,1μm,1.2s
RABL **Rabaul** 54.60 97 *e*P **P** 18 04 31.4 +0.5
comp=Z,572nm,0.7s
BVA0 **Borovoye Array** 54.81 340 *i* P **P** 18 04 31.1 -0.7
BVA0 pmax pmax
comp=Z,2μm,1.2s
BVAR **Borovoye Array** 54.81 340 P **P** 18 04 31.2 -0.6
comp=Z,1μm,0.6s,baz=142,slow=8.7,SNR=1621
BVAR ScP **ScP** 18 09 23.9 +2.2
comp=Z,21nm,0.8s,baz=131,slow=4.0,SNR=3.8
BVAR S **S** 18 12 02.9 -1.6
comp=Z,48nm,0.9s,baz=143,slow=5.0,SNR=9.5
BVAR LR LR 18 31 07.4
comp=Z,14μm,21.9s,baz=134,slow=39
BVAR P4KPbc 18 41 49.8
comp=Z,2.2nm,0.8s,baz=142,slow=7.5,SNR=9.5
BRVK **Borovoye** 54.87 340 *c* *i*P **P** 18 04 31.7 -0.6
BRVK pmax pmax
comp=Z,9μm,1.7s
BRVK **Borovoye** 54.87 340 *e*P **P** 18 04 31.6 -0.6
comp=Z,9μm,1.9s
BRVK **Borovoye** 54.87 340 P **P** 18 04 31.9 -0.4
SNR=880
BRVK P **P** 18 04 31.9 -0.4
SNR=880
HAJJ **Hajjah** 54.97 287‖ *e*P **P** 18 04 35.3 +1.5
ATD **Arta Tunnel** 55.27 282 P **P** 18 04 36.0 +0.1
baz=84,slow=5.8
ATD S **S** 18 12 15.9 +3.9
comp=Z,34nm,0.7s,baz=156,slow=20,SNR=2.7
ATD LR LR 18 25 08.3
comp=Z,7μm,21.0s,baz=95,slow=32
HABR **Khabarovsk** 55.28 29 *d* *i*P **P** 18 04 33.3 -1.9
HABR *e**PP **pP** 18 05 02.4 +1.4
HABR *e**SP **sP** 18 05 15.8 +3.0
HABR *e* 18 05 32.6
HABR *e* 18 06 38.6
HABR *e*PPP PPP 18 07 53.0
HABR *e*S **S** 18 12 08.4 -2.5
HABR *e* 18 14 10.8
HABR *e*SS **SS** 18 15 56.4 -0.4
HABR pmax pmax
comp=Z,8μm,5.1s
HABR pmax pmax
comp=Z,1μm,1.2s
HABR MLR MLR
comp=Z,37μm,16.0s
ERM **Erimo** 55.96 40 *d* *i*P **P** 18 04 40.8 +0.6
ERM pmax pmax
comp=Z,300nm,1.3s
ERM **Erimo** 55.96 40 *e*P **P** 18 04 42.0 +1.8
comp=Z,394nm,1.1s
BOD **Bodaibo** 56.08 10 *e*P **P** 18 04 40.6 -0.2
BOD pmax pmax
comp=Z,3μm,1.5s
AB31 **Akbulak array** 56.30 331 *i* P **P** 18 04 42.1 -0.4
AB31 pmax pmax
comp=Z,700nm,0.8s
ABKAR **Akbulak array** 56.30 331 *e*P **P** 18 04 42.0 -0.6
comp=Z,5μm,0.8s
ASAJ **Asahikawa** 56.73 37 *e*P **P** 18 04 46.4 +0.7
comp=Z,2μm,1.6s
ARPS **Mount Arapiles** 56.83 138 P **P** 18 04 46.8 +0.3
baz=57,SNR=118
CMSA **Cobar Meteorol** 56.86 131 P **P** 18 04 46.8 0.0
baz=57,SNR=1000
RMQ **Roma** 57.12 124 P **P** 18 04 49.4 +0.7
baz=57,SNR=194
PAF **Port-aux-Franc** 57.45 201 *e*P **P** 18 04 50.9 +0.4
PAF pmax pmax
comp=Z,1μm,1.1s
PAF **Port-aux-Franc** 57.45 201 *e*P **P** 18 04 50.9 +0.4
comp=Z,1μm,1.1s
CLNS **Chul'man** 57.77 17 *e*P **P** 18 04 53.3 +0.5
CLNS *e* 18 05 45.7
CLNS *e* 18 07 02.1
CLNS *e*S **S** 18 12 48.8 +5.2
CLNS *e* 18 14 28.4
CLNS *e*SS **SS** 18 16 34.7 -1.1
CLNS pmax pmax
comp=Z,604nm,1.3s
CLNS pmax pmax
comp=E,350nm,1.5s
CLNS pmax pmax
comp=N,476nm,1.5s
CLNS pmax pmax
comp=Z,121nm,1.3s
CLNS pmax pmax
comp=E,92nm,1.2s
CLNS pmax pmax
comp=N,102nm,1.3s
CLNS smax smax
comp=N,9μm,12.6s
CLNS smax smax
comp=E,5μm,16.6s
CLNS MLR MLR
comp=N,16μm,15.0s
CLNS MLR MLR
comp=E,11μm,15.0s
CLNS MLR MLR
comp=Z,23μm,15.0s
AKTO **Aktyubinsk** 58.02 331 P **P** 18 04 53.7 -1.0
comp=Z,210nm,0.5s,baz=123,slow=7.8,SNR=371
AKTO ScP **ScP** 18 09 38.3 +2.3
comp=Z,48nm,0.9s,baz=90,slow=9.1,SNR=4.0
AKTO S **S** 18 12 47.0 0.0
comp=Z,35nm,0.8s,baz=312,slow=17,SNR=16
AKTO LR LR 18 33 42.0
comp=Z,6μm,21.4s,baz=130,slow=40
AKTO PKP2bc 18 34 47.4
comp=Z,9.6nm,1.2s,baz=5.2,slow=2.2,SNR=9.1
AKTO P4KPbc 18 42 04.4
comp=Z,2.5nm,0.8s,baz=189,slow=1.7,SNR=8.3
AKTO **Aktyubinsk** 58.02 331 P **P** 18 04 53.6 -1.0
AKTO pmax pmax
comp=Z,1μm,1.3s
YSS **Yuzh-Sakhalins** 58.40 34 *c* *i*P **P** 18 04 57.3 0.0
YSS *e**PP **pP** 18 05 20.7 -2.6
YSS *e**SP **sP** 18 05 33.1 -2.0
YSS *e* 18 05 49.0
YSS *e* 18 07 05.7
YSS *e*PPP PPP 18 08 31.4
YSS *i*S **S** 18 12 54.7 +2.7
YSS *e*PS 18 13 12.6
YSS *e*SS **SS** 18 16 47.2 +1.3
YSS pmax pmax
comp=Z,15μm,6.5s
YSS pmax pmax
comp=Z,960nm,1.4s
YSS smax smax
comp=N,8μm,13.0s
YSS MLR MLR
comp=E,17μm,14.0s
YSS MLR MLR
comp=Z,20μm,14.0s
YSS MLR MLR
comp=N,13μm,16.0s
YSS **Yuzh-Sakhalins** 58.40 34 *e*P **P** 18 04 57.8 +0.5
comp=N,3μm,1.6s
EIDS **Eidsvold** 58.65 122 P **P** 18 04 59.5 +0.1
baz=59,SNR=140
EIDS **Eidsvold** 58.65 122 *e*P **P** 18 04 59.6 +0.1
comp=N,277nm,0.7s
YUK **Yuzh-Kuril'sk** 58.70 39 *i* P **P** 18 05 01.2 +1.8
FURI **Furi** 59.23 278 *e*P **P** 18 05 07.0 +2.9
comp=N,2μm,1.5s
TOO **Toolangi** 59.71 137 P **P** 18 05 07.8 +1.2
baz=60,SNR=53
MAK **Makhachkala** 59.87 319 *c* *i*P **P** 18 05 07.2 -0.3
MAK *e**SP **PcP** 18 05 56.6 +3.7
MAK *e* 18 07 25.1
MAK *e*PPP PPP 18 08 52.6
MAK *e*S **S** 18 13 09.5 -1.6
MAK pmax pmax
comp=Z,9μm,1.8s
MAK pmax pmax
comp=E,8μm,1.9s
PATS **Pohnpei** 60.18 84 *e*P **P** 18 05 11.6 +1.5
comp=E,1μm,1.2s
KUR **Kuril'sk** 60.53 38 *c* *i*P **P** 18 05 12.2 +0.2
KUR *i* *PP **pP** 18 05 38.8 +0.7
KUR *i* PPP PPP 18 09 00.7
KUR *i* S **S** 18 13 19.3 -0.2
KUR pmax pmax
comp=Z,1μm,1.5s
KUR pmax pmax
comp=N,431nm,1.6s
KUR pmax pmax
comp=Z,13μm,4.6s
KUR MLR MLR
comp=Z,7μm,14.0s
KUR MLR MLR
comp=N,5μm,15.0s
KUR MLR MLR
comp=E,5μm,15.0s
GNI **Garni** 60.56 315 P **P** 18 05 12.6 0.0
comp=E,243nm,1.1s,baz=225,slow=1.9,SNR=35
GNI S **S** 18 13 20.9 +0.6
comp=E,60nm,1.3s,baz=259,slow=23,SNR=8.3
GNI LR LR 18 34 26.6
comp=E,4μm,19.7s,baz=108,slow=39
GNI **Garni** 60.56 315 *i* P **P** 18 05 12.4 -0.1
SNR=51
GNI **Garni** 60.56 315 *i* P **P** 18 05 12.4 -0.1
SNR=51
GNI **Garni** 60.56 315 *c* *i*P **P** 18 05 12.5 0.0
GNI pmax pmax
comp=Z,1μm,1.1s
GNI **Garni** 60.56 315 *e*P **S** 18 13 17.0 -3.4
GNI **Garni** 60.56 315 P **P** 18 05 12.5 0.0
SNR=68
GNI P **P** 18 05 12.5 0.0
SNR=68
TYV **Tymovskoe** 60.61 31 *e*P **P** 18 05 13.6 +1.2
TYV *e*S **S** 18 13 21.1 +0.8
TYV pmax pmax
comp=Z,15μm,7.1s
TYV smax smax
comp=E,12μm,11.9s
KMBO **Kilima Mbogo** 60.86 267 P **P** 18 05 15.8 +0.7
comp=E,397nm,1.2s,baz=74,slow=7.6,SNR=140
KMBO S **S** 18 13 27.1 +1.9
comp=E,0.9nm,0.3s,baz=72,slow=20,SNR=2.9
KMBO LR LR 18 27 17.4
comp=E,16μm,21.6s,baz=85,slow=32
KMBO PKP2ab 18 34 48.0
comp=E,1.0nm,0.2s,baz=186,slow=4.4,SNR=6.9
ARMA **Armidale** 60.98 127 P **P** 18 05 14.8 -0.7
baz=61,SNR=63
ARMA **Armidale** 60.98 127 *e*P **P** 18 05 16.9 +1.5
comp=E,857nm,1.4s
NKL **Nikolayevsk** 61.05 28 *i* P **P** 18 05 17.0 +1.7
NKL *i* S **S** 18 13 29.0 +3.2
NKL *i* 18 14 57.0
NKL *e* 18 17 30.0
NKL pmax pmax
comp=N,130nm,1.0s
NKL pmax pmax
comp=E,170nm,1.0s
NKL pmax pmax
comp=Z,690nm,1.0s
NKL pmax pmax
comp=N,4μm,12.0s
NKL pmax pmax
comp=E,2μm,12.0s
NKL pmax pmax
comp=Z,15μm,11.0s
NKL smax smax
comp=N,12μm,16.0s
NKL smax smax
comp=E,8μm,16.0s
NKL MLR MLR
comp=N,14μm,14.0s
NKL MLR MLR
comp=E,22μm,14.0s
NKL MLR MLR
comp=Z,34μm,15.0s
CAN **Canberra** 61.07 133 *e*P **P** 18 05 15.9 0.0
CAN pmax pmax
comp=Z,347nm,1.0s
CAN **Canberra** 61.07 133 *e*P **P** 18 05 15.9 0.0
comp=Z,347nm,1.0s
GROC **Groznyy** 61.10 319 *e*P **P** 18 05 15.5 -0.4
GROC *e**PP **pP** 18 05 43.8 +1.7
GROC *e*S **S** 18 13 24.2 -2.6
GROC pmax pmax
comp=Z,749nm,1.2s
SEAG **Tbilisi Sea** 61.16 317 P **P** 18 05 16.9 +0.5
TBLG **Delisi** 61.19 317 P **P** 18 05 16.7 +0.1
TBLG **Delisi** 61.19 317 P **P** 18 05 16.7 +0.1
SVE **Sverdlovsk** 61.31 338 *d* *i*P **P** 18 05 17.0 0.0
SVE *e* 18 07 35.1
SVE *e*PPP PPP 18 08 58.7
SVE *e*S **S** 18 13 28.3 -0.6
SVE *e* 18 14 55.0
SVE pmax pmax
comp=Z,5μm,1.4s
SVE pmax pmax
comp=Z,3μm,9.2s
CNB **Canberra Magne** 61.33 133 P **P** 18 05 17.9 +0.2
baz=61,SNR=30
DUS **Dusheti** 61.36 317 P **P** 18 05 19.8 +2.0
DUS **Dusheti** 61.36 317 P **P** 18 05 19.8 +2.0
GUDG **Gudauri** 61.67 317 P **P** 18 05 20.9 +0.8
MGCD **Mangrove Creek** 61.71 130 P **P** 18 05 20.9 +0.7
baz=62,SNR=32
BGD **Bogdanovka** 61.79 316 P **P** 18 05 22.1 +1.2
ARU **Arti** 61.83 336 P **P** 18 05 19.8 -0.7
comp=Z,260nm,0.5s,baz=118,slow=4.6,SNR=259
ARU S **S** 18 13 29.5 -6.1
comp=Z,23nm,1.0s,baz=138,slow=15,SNR=2.3
ARU PKP2bc 18 34 37.5
comp=Z,1.4nm,0.4s,baz=275,slow=2.7,SNR=6.0
ARU LR LR 18 36 38.1
comp=Z,6μm,18.4s,baz=120,slow=40
ARU **Arti** 61.83 336 *c* *i*P **P** 18 05 19.7 -0.9
ARU *PP **pP** 18 05 48.6 +1.8
ARU 18 05 57.1
ARU *SP **PcP** 18 06 02.6 +2.0
ARU 18 07 37.4
ARU PPP PPP 18 09 07.4
ARU *e*S **S** 18 13 35.3 -0.3
ARU 18 15 00.7
ARU SS **SS** 18 17 35.0 -4.4
ARU SSS SSS 18 20 18.1
ARU pmax pmax
comp=Z,4μm,1.7s
ARU **Arti** 61.83 336 *e*P **P** 18 05 19.3 -1.2
comp=Z,5μm,1.5s
ARU S **S** 18 13 29.5 -6.1
ARU ⇑ *e* 18 34 37.5
AKH **Akhalkalaki** 61.92 316 P **P** 18 05 22.0 +0.3
AKH **Akhalkalaki** 61.92 316 ‖ *i*P **P** 18 05 22.4 +0.7
AKH **Akhalkalaki** 61.92 316 P **P** 18 05 22.0 +0.3
MILA **Mila** 61.99 135 P **P** 18 05 23.0 +0.9
baz=62,SNR=12
ZEI **Tsey** 62.19 318 *e*P **P** 18 05 21.9 -1.6
ZEI *e* 18 07 41.3
ZEI *e*S **S** 18 13 40.6 -0.4
ZEI *e* 18 14 15.8
ZEI *e* 18 15 07.8
ZEI pmax pmax
comp=Z,949nm,0.6s
ZEI pmax pmax
comp=N,1μm,0.9s
ZEI pmax pmax
comp=E,722nm,0.8s
ONI **Oni** 62.41 317 P **P** 18 05 25.0 +0.2
ONI **Oni** 62.41 317 P **P** 18 05 25.0 +0.2
MARD **Mardin** 62.44 311 *e*P **P** 18 05 25.2 +0.1
comp=E,1μm,0.9s
NCK **Nalchik** 62.68 318 *c**eP **P** 18 05 26.4 -0.1
NCK pmax pmax
comp=Z,190nm,0.6s
ARTV **Artvin** 62.93 315 *e*P **P** 18 05 28.3 -0.2
comp=Z,153nm,1.0s
HNR **Honiara** 62.95 102 P **P** 18 05 27.4 -1.3
comp=Z,3μm,1.1s,baz=208,slow=2.9,SNR=60
HNR **Honiara** 62.95 102 *e*P P 18 05 17.0 -12
HNR **Honiara** 62.95 102 *e*P **P** 18 05 28.0 -0.8
HNR pmax pmax
comp=Z,2μm,1.0s
HNR **Honiara** 62.95 102 *e*P **P** 18 05 28.0 -0.8
comp=Z,2μm,1.0s
NEY **Neytrino** 63.16 318 ‖ *e*P **P** 18 05 30.2 +0.3
NEY pmax pmax
comp=Z,118nm,1.9s
KBZ **Khabaz** 63.24 318 P **P** 18 05 29.9 -0.3
comp=Z,339nm,0.9s,baz=110,slow=5.9,SNR=130
KBZ S **S** 18 13 52.8 -0.8
comp=Z,40nm,1.1s,baz=177,slow=21,SNR=5.9
KBZ PKP2bc 18 34 33.3
comp=Z,3.3nm,1.0s,baz=316,slow=5.4,SNR=7.2
KSRV **Kasrt alli** 63.36 309 *i* P **P** 18 05 32.5 +1.4
KSRV **Kasrt alli** 63.36 309 *e*P **S** 18 13 59.0 +3.6
CHVG **Ch'k'valeri** 63.39 317 P **P** 18 05 31.7 +0.5
MOO **Moorlands** 63.39 141 P **P** 18 05 32.4 +1.2
baz=63,SNR=18
YAK **Yakutsk** 63.46 16 P **P** 18 05 30.7 -0.6
comp=Z,573nm,0.3s,baz=35,slow=0.5,SNR=318
YAK S **S** 18 13 56.5 +0.9
comp=Z,26nm,0.9s,baz=192,slow=23,SNR=8.1
YAK **Yakutsk** 63.46 16 *c* *i*P **P** 18 05 30.4 -0.8
YAK *e* 18 06 03.4
YAK *e* 18 07 51.5
YAK *e*PPP PPP 18 09 22.9
YAK *e*S **S** 18 13 55.1 -0.6
YAK *e**SS **sS** 18 14 33.9 -7.0
YAK *e* 18 15 12.0
YAK *e*SS **SS** 18 18 02.3 -2.2
YAK pmax pmax
comp=Z,4μm,1.5s
YAK pmax pmax
comp=N,1μm,1.2s
YAK pmax pmax
comp=E,2μm,1.3s
YAK pmax pmax
comp=Z,4μm,6.3s
YAK pmax pmax
comp=N,2μm,6.8s
YAK pmax pmax
comp=E,501nm,1.5s
YAK smax smax
comp=N,10μm,6.8s
YAK smax smax
comp=E,3μm,5.5s
YAK **Yakutsk** 63.46 16 *e*P **P** 18 05 30.6 -0.6
comp=E,6μm,1.3s
YAK S **S** 18 13 56.5 +0.9
KVAR **Kislovodsk Arr** 63.46 318 P **P** 18 05 31.6 -0.2
comp=E,1μm,1.2s,baz=317,slow=2.8,SNR=88
KVAR S **S** 18 13 56.7 0.0
comp=E,138nm,1.2s,baz=75,slow=19,SNR=18
KVAR LR LR 18 37 33.1
comp=E,3μm,19.4s,baz=86,slow=40
KIV **Kislovodsk** 63.47 318 *i* P **P** 18 05 31.6 -0.3
SNR=224
KIV **Kislovodsk** 63.47 318 *i* P **P** 18 05 31.6 -0.3
SNR=224
KIV **Kislovodsk** 63.47 318 *e*P **P** 18 05 31.5 -0.3
KIV *e**PP **pP** 18 06 00.6 +2.4
KIV *e* 18 07 52.1
KIV *e*S **S** 18 13 55.5 -1.2
KIV *e*SS **SS** 18 18 06.5 +0.8
KIV *e*SSS SSS 18 21 00.9
KIV pmax pmax
comp=Z,524nm,3.8s
KIV pmax pmax
comp=Z,986nm,1.1s
KIV MLR MLR
comp=Z,3μm,17.0s
KIV **Kislovodsk** 63.47 318 *e*P **P** 18 05 31.4 -0.5
comp=Z,824nm,1.0s
KIV **Kislovodsk** 63.47 318 P **P** 18 05 31.6 -0.3
SNR=169
KOPT **Kop Dagi** 63.54 314 *e*P **P** 18 05 33.5 +0.9
comp=Z,252nm,0.8s
GOF **Gofitskoye** 63.68 320 ⇑ *i*P **P** 18 05 32.7 -0.4
GOF *e*S **S** 18 13 59.0 -0.1
GOF pmax pmax
comp=Z,437nm,0.9s
GOF smax smax
comp=E,639nm,1.9s
GOF smax smax
comp=N,584nm,1.2s
TAU **Tasmania Unive** 63.73 142 *e*P **P** 18 05 34.6 +1.3
TAU pmax pmax
comp=Z,599nm,1.5s
TAU **Tasmania Unive** 63.73 142 *e*P **P** 18 05 34.6 +1.3
comp=Z,599nm,1.5s
CRZF **Crozet Islands** 63.85 214 *e*P **P** 18 05 35.2 +1.1
comp=Z,608nm,1.2s
ASF **Jabal al Asfar** 64.08 304 P **P** 18 05 35.5 -0.6
comp=Z,422nm,1.1s,baz=56,slow=3.0,SNR=7.9
ASF S **S** 18 14 05.8 +1.0
comp=Z,3.0nm,0.9s,baz=252,slow=20,SNR=2.1
ASF PKP2bc 18 34 30.8
comp=Z,5.7nm,1.0s,baz=248,slow=1.5,SNR=8.3
ASF LR LR 18 37 21.2
comp=Z,6μm,18.1s,baz=60,slow=39
ROOS **tl_alroos** 64.25 307 *i* P **P** 18 05 39.3 +2.1
ROOS **tl_alroos** 64.25 307 *e*P **S** 18 14 10.7 +3.9
SLMH **Al Salmeh** 64.29 309 *i* P **P** 18 05 38.1 +0.8
SALA **Sala** 64.35 305 *i* P **P** 18 05 39.4 +1.4
SALA **Sala** 64.35 305 *e*P **S** 18 14 12.2 +4.0
SOKR **Solikamsk** 64.71 338 *c* *i*P **P** 18 05 37.2 -2.2
SOKR 18 08 01.5
SOKR PPP PPP 18 09 47.0
SOKR S **S** 18 14 05.4 -5.7
SOKR SS **SS** 18 18 17.8 -6.2
SOKR pmax pmax
comp=Z,4μm,1.1s
SOKR pmax pmax
comp=Z,5μm,1.9s
TOTH **TOTAH** 64.75 306 *i* P **P** 18 05 41.9 +1.5
TOTH **TOTAH** 64.75 306 *e*P **S** 18 14 16.7 +3.8
MARH **Ras Al Marh** 64.87 306 *i* P **P** 18 05 43.2 +1.8
MARH **Ras Al Marh** 64.87 306 *e*P **S** 18 14 17.9 +3.1
TCHB **Talchebab** 64.96 305 *i* P **P** 18 05 42.8 +1.0
TCHB **Talchebab** 64.96 305 *e*P **S** 18 14 18.2 +2.8
FKH **Fakeheh** 64.98 306 *e*P **P** 18 05 42.8 +0.8
BRBR **Barbar** 65.15 305 *e*P **S** 18 14 20.9 +2.8
EIL **Elat** 65.18 301 P **P** 18 05 43.8 +0.7
comp=Z,773nm,1.2s,baz=115,slow=3.5,SNR=135
EIL S **S** 18 14 17.5 -0.7
comp=Z,10nm,1.0s,baz=0.0,slow=16,SNR=1.8
EIL LR LR 18 34 00.5
comp=Z,10μm,20.3s,baz=102,slow=36
EIL PKPPKP **P'P'df** 18 34 25.1 -1.2
comp=Z,2.6nm,0.8s,baz=358,slow=6.7,SNR=3.3
RCY **Rachaya** 65.26 306 *e*P **P** 18 05 45.1 +1.3
SOC **Sochi** 65.32 317 *c* *i*P **P** 18 05 42.8 -1.0
SOC *e**PP **pP** 18 06 11.5 +1.3
SOC *e**SP **sP** 18 06 24.6 +2.7
SOC *e*PPP PPP 18 09 39.1
SOC *i*S **S** 18 14 15.7 -3.6
SOC *e* 18 15 25.4
SOC *e*SS **SS** 18 18 30.7 -3.6
SOC pmax pmax
comp=Z,682nm,0.7s
HWQ **Hawqa** 65.36 306 *e*P **P** 18 05 45.3 +1.0
DRWC **Darouich** 65.38 309 *i* P **P** 18 05 44.8 +0.4
BTCH **Batrach** 65.39 308 *i* P **P** 18 05 44.9 +0.4

BTCH Batrach 65.39 308 eP S 18 14 24.1 +3.4
BHL Bhannes 65.50 306 eP P 18 05 46.4 +1.1
MMAI Mount Meron Ar 65.51 305 P P 18 05 46.5 +1.2
comp=Z,1μm,1.2s,baz=100,slow=8.6,SNR=162
MMAI S S 18 14 26.2 +4.0
comp=Z,0.8nm,0.5s,baz=216,slow=41,SNR=3.1
MMAI PKP2bc 18 34 29.3
comp=Z,1.1nm,0.5s,baz=276,slow=2.8,SNR=7.4
MMAI LR LR 18 37 18.1
comp=Z,5μm,19.3s,baz=110,slow=38
DQRL Deir Qamar 65.53 306 eP P 18 05 46.8 +1.4
BEYL Beirut 65.63 306 eP P 18 05 47.0 +1.0
ARNB Al Arnab 65.73 308 i P P 18 05 47.5 +0.8
ARNB Al Arnab 65.73 308 eP S 18 14 28.2 +3.4
TOKA Tokat 66.56 313 eP P 18 05 52.4 +0.6
comp=Z,2μm,1.4s
NRIK Noril'sk 66.57 356 P P 18 05 50.9 -0.4
comp=Z,2μm,1.1s,baz=166,slow=5.9,SNR=250
NRIK S S 18 14 33.0 -0.6
comp=Z,134nm,1.2s,baz=358,slow=21,SNR=20
NRIK PKPPKP P'P'df 18 34 21.2 -0.2
comp=Z,1.9nm,0.4s,baz=331,slow=2.9,SNR=7.4
NRIK LR LR 18 37 45.6
comp=Z,6μm,18.9s,baz=166,slow=38
PHNC Paralimni 67.06 307 P P 18 05 55.0 -0.1
ANN Anapa 67.28 318c iP P 18 05 54.2 -2.0
ANN e*PP PcP 18 06 24.1 +0.8
ANN e 18 08 23.3
ANN i S S 18 14 37.2 -5.8
ANN pmax pmax
comp=Z,286nm,1.2s
LHI Lord Howe Isla 67.33 126 P P 18 05 56.6 -0.2
baz=67,SNR=3.7
LHI Lord Howe Isla 67.33 126 eP P 18 05 58.2 +1.4
comp=Z,570nm,1.4s
CSS Mathiatis 67.61 307 P P 18 05 58.9 +0.3
CSS Mathiatis 67.61 307 P S 18 14 38.5 -9.0
CSS Mathiatis 67.61 307 eP P 18 05 58.8 +0.3
comp=Z,556nm,1.3s
CSS Mathiatis 67.61 307 ePn S 18 14 38.5 -8.9
CSS Mathiatis 67.61 307 P P 18 05 59.4 +0.8
MAMC Mammari 67.75 307 P P 18 06 00.0 +0.6
SKR Severo-Kuril's 67.92 36c iP P 18 06 01.0 +0.9
SKR e*PP PcP 18 06 22.9 -2.9
SKR i S S 18 14 55.0 +4.7
SKR e*SS pS 18 15 23.1 +1.4
SKR pmax pmax
comp=Z,1μm,1.6s
SKR pmax pmax
comp=Z,10μm,6.4s
SKR MLR MLR
comp=Z,8μm,17.0s
SZAC Souni 67.93 306 P P 18 06 01.3 +0.7
ALFC Alefka 68.24 307 P P 18 06 02.4 -0.2
PPCY Paphos 68.39 306 P P 18 06 03.2 -0.2
AKMC Akamas 68.43 306 P P 18 06 03.5 -0.2
BR131 Keskin Array S 68.49 312 eP P 18 06 03.3 -0.9
BRTR Keskin Array B 68.49 312 P P 18 06 03.3 -0.9
comp=Z,414nm,0.9s,baz=130,slow=6.1,SNR=570
BRTR S S 18 14 59.0 +1.0
comp=Z,19nm,1.2s,baz=243,slow=33,SNR=10
BRTR PKPPKP P'P'df 18 34 15.3 -5.0
comp=Z,7.0nm,1.2s,baz=0.0,slow=6.2,SNR=3.9
BRTR LR LR 18 39 02.3
comp=Z,3μm,19.5s,baz=108,slow=38
BRTR Keskin Array B 68.49 312 i P P 18 06 03.2 -0.9
BRTR pmax pmax
comp=Z,433nm,0.9s
VSR Storozhevoye 68.54 325 eP P 18 06 02.6 -1.4
VSR eS S 18 14 49.7 -8.1
VSR e*SS SKiKP 18 15 49.2 +2.3
VSR pmax pmax
comp=Z,710nm,1.2s
VORR Voronezh 68.70 325 eP P 18 06 04.0 -1.0
VORR eS S 18 14 57.0 -2.6
VORR pmax pmax
comp=Z,2μm,1.8s
ILGA Ilgaz 68.78 313 eP P 18 06 06.1 +0.1
comp=Z,2μm,1.2s
H11S3 WAKE ISLAND Hy 68.84 71 P P 18 06 07.6 +1.3
baz=265,slow=5.3,SNR=14
H11S1 WAKE ISLAND Hy 68.85 71 P P 18 06 07.3 +0.9
baz=265,slow=5.3,SNR=31
H11S2 WAKE ISLAND Hy 68.86 71 P P 18 06 07.8 +1.4
baz=265,slow=5.3,SNR=16
H11N1 WAKE ISLAND Hy 69.12 70 P P 18 06 09.3 +1.3
baz=254,slow=7.4,SNR=104
H11N2 WAKE ISLAND Hy 69.13 70 P P 18 06 09.3 +1.3
baz=254,slow=7.4,SNR=66
H11N3 WAKE ISLAND Hy 69.14 70 P P 18 06 09.5 +1.4
baz=254,slow=7.4,SNR=163
ANTO Ankara 69.16 312 eP P 18 06 07.9 -0.3
ANTO pmax pmax
comp=Z,2μm,1.3s
ANTO Ankara 69.16 312 eP P 18 06 07.9 -0.3
comp=Z,2μm,1.3s
ANTO Ankara 69.16 312 eP S 18 15 00.6 -5.1
ANTO Ankara 69.16 312 P P 18 06 08.0 -0.3
SNR=285
BR231 Keskin MP Arra 69.17 312 eP P 18 06 08.1 -0.2
LPSR Galich'ya Gora 69.23 326 eP P 18 06 07.2 -1.0
LPSR eS S 18 15 00.9 -5.0
LPSR e*SS ScS 18 15 59.6 +0.2
LPSR pmax pmax
comp=Z,700nm,0.8s
LPSR smax smax
comp=E,1μm,1.7s
MA2 Magadan 69.35 26 P P 18 06 09.5 +0.6
comp=E,587nm,1.0s,baz=234,slow=5.4,SNR=135
MA2 S S 18 15 07.7 +0.6
comp=E,7.5nm,1.0s,baz=156,slow=20,SNR=3.8
MA2 Magadan 69.35 26 eP P 18 06 08.9 0.0
comp=E,2μm,1.3s
MA2 S S 18 15 07.7 +0.6
KWAJ Kwajalein Atol 69.40 82 eP P 18 06 12.2 +2.1
KWAJ pmax pmax
comp=Z,1μm,1.1s
KWAJ Kwajalein Atol 69.40 82 eP P 18 06 12.2 +2.1
comp=Z,1μm,1.1s
SIM Simferopol' 69.57 317d iP P 18 06 10.0 -0.5
SIM e*PP pP 18 06 39.0 +1.7
SIM e 18 08 45.0
SIM eS S 18 15 07.0 -3.2
SIM pmax pmax
comp=Z,1μm,0.6s
SIM MLR MLR
comp=Z,6μm,21.0s
PEA0B Petropavlovsk- 69.78 34 eP P 18 06 11.9 +0.3
comp=Z,440nm,1.0s
PETK Petropavlovsk- 69.78 34 P P 18 06 11.9 +0.3
comp=Z,132nm,0.9s,baz=211,slow=3.0,SNR=102
PETK PKP2ab 18 34 12.9
comp=Z,11nm,0.9s,baz=75,slow=7.8,SNR=4.5
PETK LR LR 18 39 37.7
comp=Z,7μm,18.3s,baz=240,slow=38
PETK Petropavlovsk- 69.78 34 P P 18 06 12.0 +0.3
PET Petropavlovsk 70.28 34 eP P 18 06 14.8 +0.2
PET e*PP pP 18 06 44.7 +3.2
PET e 18 08 54.8
PET ePPP PPP 18 10 28.9
PET eS S 18 15 15.0 -3.1
PET e*SS SKSac 18 16 06.2 -0.1
PET pmax pmax
comp=Z,11μm,15.7s
PET pmax pmax
comp=Z,1μm,1.4s
PET pmax pmax
comp=Z,12μm,17.0s
PET MLR MLR
comp=Z,12μm,17.0s
PET MLR MLR
comp=Z,12μm,15.0s
PET Petropavlovsk 70.28 34 eP P 18 06 14.9 +0.2
comp=Z,2μm,1.3s
BOLV Bolvadin 70.29 310 eP P 18 06 15.1 -0.1
comp=Z,2μm,1.4s
ISP Isparta 70.43 309 P P 18 06 15.2 -0.9
ISP Isparta 70.43 309 P S 18 15 14.7 -6.1
ISP Isparta 70.43 309 i P P 18 06 16.5 +0.4
ISP Isparta 70.43 309 P P 18 06 16.5 +0.4
ISP Isparta 70.43 309 eP P 18 06 15.7 -0.4
comp=Z,2μm,1.5s
ISP Isparta 70.43 309 eP S 18 15 11.8 -8.9
AKAS Kas 70.84 307 eP P 18 06 17.8 -0.9
comp=Z,380nm,1.1s
KSL Kastellorizon 70.84 307 P P 18 06 17.1 -1.4
KSL Kastellorizon 70.84 307 P S 18 15 18.4 -7.0
KSL Kastellorizon 70.84 307 P P 18 06 17.1 -1.4
KSL Kastellorizon 70.84 307 P S 18 15 18.4 -7.0
MOS Moscow 71.19 329α iP P 18 06 19.7 -0.4
MOS e 18 06 39.5
MOS e*PP pP 18 06 50.8 +3.8
MOS e 18 08 59.9
MOS i S S 18 15 24.9 -3.7
MOS e 18 16 05.1
MOS e*SS SKSac 18 16 12.0 -1.0
MOS pmax pmax
comp=Z,6μm,1.7s
MOS pmax pmax
comp=N,700nm,1.2s
MOS pmax pmax
comp=E,1μm,1.2s
MOS pmax pmax
comp=E,1μm,1.4s
MOS pmax pmax
comp=Z,4μm,1.4s
MOS pmax pmax
comp=N,574nm,1.2s
MOS smax smax
comp=N,23μm,5.1s
MOS smax smax
comp=E,18μm,4.7s
MOS MLR MLR
comp=Z,8μm,20.0s
TIXI Tiksi 71.26 10c iP P 18 06 19.5 -0.8
TIXI pmax pmax
comp=Z,4μm,1.6s
TIXI Tiksi 71.26 10 eP P 18 06 19.2 -1.0
comp=Z,6μm,1.7s
DZM Mont Dzumac 71.29 114 eP P 18 06 21.2 -0.4
comp=Z,759nm,1.2s
DZM eS S 18 15 28.9 -2.3
comp=Z,33μm,26.2s
DZM eLQ LQ 18 25 15.0
comp=Z,50μm,34.0s
DZM eLR LR 18 28 08.4
comp=Z,37μm,31.2s
FETY Fethiye 71.33 308 P P 18 06 20.7 -0.8
FETY Fethiye 71.33 308 P S 18 15 23.8 -7.2
FETY Fethiye 71.33 308 P P 18 06 20.7 -0.8
FETY Fethiye 71.33 308 P S 18 15 23.8 -7.2
LSZ Lusaka 71.40 253 P P 18 06 22.3 -0.1
comp=Z,388nm,1.0s,baz=79,slow=5.6,SNR=155
LSZ S S 18 15 32.5 -0.3
comp=Z,2.1nm,0.7s,baz=127,slow=5.1,SNR=3.0
OBN Obninsk 71.50 328 LR LR 18 42 12.3
comp=Z,5μm,19.1s,baz=119,slow=39
OBN Obninsk 71.50 328c iP P 18 06 21.5 -0.5
OBN e 18 06 35.0
OBN *PP pP 18 06 48.0 -0.9
OBN *SP sP 18 07 05.0 +4.6
OBN e 18 09 03.8
OBN i S S 18 15 24.3 -7.8
OBN i *SS pS 18 16 04.2 -0.2
OBN eSS SS 18 20 02.1 -7.0
OBN pmax pmax
comp=Z,1μm,1.0s
OBN MLR MLR
comp=Z,6μm,20.0s
OBN Obninsk 71.50 328 eP P 18 06 21.2 -0.7
comp=Z,4μm,1.5s
SEY Seymchan 71.78 23 P P 18 06 23.9 +0.4
comp=Z,1μm,1.1s,baz=244,slow=6.0,SNR=454
SEY S S 18 15 36.5 +1.3
comp=Z,10nm,1.1s,baz=82,slow=17,SNR=7.2
SEY Seymchan 71.78 23c iP P 18 06 24.0 +0.4
I43RU DUBNA INFRASON 71.79 330 P P 18 06 24.0 +0.3
baz=98,slow=14,SNR=0.2
MATP Matopo 71.95 248 P P 18 06 25.6 0.0
comp=Z,617nm,1.0s,baz=79,slow=6.0,SNR=225
MATP S S 18 15 39.7 +0.8
comp=Z,3.3nm,0.9s,baz=308,slow=19,SNR=3.9
KULA Kula-Manisa 72.00 309 P P 18 06 25.2 -0.3
KULA Kula-Manisa 72.00 309 P S 18 15 35.2 -3.6
KULA Kula-Manisa 72.00 309 P P 18 06 25.2 -0.3
KULA Kula-Manisa 72.00 309 P S 18 15 35.2 -3.6
ARG Arkhangelos 72.02 307 P P 18 06 25.6 +0.1
ARG Arkhangelos 72.02 307 P S 18 15 39.1 +0.2
ARG Arkhangelos 72.02 307 P P 18 06 25.6 +0.1
ARG Arkhangelos 72.02 307 P P 18 06 25.6 +0.1
ARG Arkhangelos 72.02 307 P S 18 15 39.1 +0.2
ISK Istanbul-Kandi 72.20 312 P P 18 06 26.2 -0.3
ISK Istanbul-Kandi 72.20 312 P S 18 15 35.2 -5.6
ISK Istanbul-Kandi 72.20 312 P P 18 06 26.2 -0.3
ISK Istanbul-Kandi 72.20 312 P S 18 06 26.2 -0.3
KLMR Klimovskoe 72.47 334c iP P 18 06 27.0 -0.7
KLMR e 18 09 09.4
KLMR eS S 18 15 40.0 -3.0
KLMR pmax pmax
comp=Z,3μm,1.5s
KARP Karpathos 72.68 306 P P 18 06 29.8 +0.2
KARP Karpathos 72.68 306 eP P 18 06 29.0 -0.5
comp=Z,1μm,1.1s
BODT Bodrum 72.81 308 P P 18 06 29.6 -0.6
BODT Bodrum 72.81 308 P S 18 15 43.5 -4.4
BODT Bodrum 72.81 308 P P 18 06 29.6 -0.6
BODT Bodrum 72.81 308 P S 18 15 43.5 -4.4
NIS1 Nisyros Isl. 72.83 307 P P 18 06 31.7 +1.3
NIS1 Nisyros Isl. 72.83 307 P S 18 15 39.3 -8.9
NIS1 Nisyros Isl. 72.83 307 P P 18 06 31.7 +1.3
NIS1 Nisyros Isl. 72.83 307 P S 18 15 39.3 -8.9
NISR Nisiros 72.88 307 P S 18 15 39.8 -8.8
NISR Nisiros 72.88 307 P S 18 15 39.8 -8.8
EFOR EFORIE 73.14 315 i P P 18 06 32.9 +0.9
TLCR 73.26 316 i P P 18 06 33.2 +0.5
TLCR 73.26 316 P P 18 06 33.2 +0.5
SMG Samos 73.28 308 P P 18 06 33.2 +0.2
SMG Samos 73.28 308 P S 18 15 53.4 +0.2
SMG Samos 73.28 308 P P 18 06 33.2 +0.2
SMG Samos 73.28 308 P S 18 15 53.4 +0.2
PSN Preselentsi 73.38 315 P P 18 06 33.7 +0.3
TIRR Tirgusor 73.38 316 i P P 18 06 33.0 -0.4
TIRR Tirgusor 73.38 316 i P S 18 15 53.1 -0.9
TIRR Tirgusor 73.38 316 eP P 18 06 33.2 -0.2
TIRR pmax pmax
comp=Z,1μm,1.1s
TIRR Tirgusor 73.38 316 eP P 18 06 33.2 -0.2
comp=Z,1μm,1.1s
TIRR Tirgusor 73.38 316 eP S 18 15 52.8 -1.2
TLB Topalu 73.67 316 i P P 18 06 35.1 0.0
TLB Topalu 73.67 316 i P S 18 15 56.0 -1.2
TLB Topalu 73.67 316 P P 18 06 35.1 0.0
KIS Kishinev 73.67 318 i P P 18 06 32.0 -3.1
comp=Z,2μm,1.4s
KIS i pP pP 18 07 02.0 -0.1
KIS Kishinev 73.67 318 i PP PP 18 09 20.0 -0.7
comp=Z,1μm,8.0s
KIS Kishinev 73.67 318 α iP P 18 06 32.0 -3.1
KIS i *PP pP 18 07 02.0 -0.1
KIS i 18 07 10.0
KIS i 18 09 20.0
KIS i PPP PPP 18 11 04.0
KIS i S SKiKP 18 15 50.0 -4.6
KIS i 18 16 30.0
KIS i 18 16 42.0
KIS i SS SS 18 20 46.0 +3.3
KIS pmax pmax
comp=Z,2μm,1.4s
KIS pmax pmax
comp=E,1μm,1.0s
KIS pmax pmax
comp=Z,4μm,11.0s
KIS pmax pmax
comp=N,1μm,5.0s
KIS pmax pmax
comp=E,2μm,12.0s
KIS pmax pmax
comp=Z,3μm,12.0s
KIS pmax pmax
comp=Z,1μm,8.0s
KIS smax smax
comp=N,20μm,14.0s
KIS smax smax
comp=E,7μm,8.0s
KIS MLR MLR
comp=Z,4μm,15.0s
KIS MLR MLR
comp=N,1μm,14.0s
KIS MLR MLR
comp=E,3μm,20.0s
KIS MLR MLR
comp=Z,5μm,20.0s
CFR Carcaliu 73.73 316 ⇑ iP P 18 06 35.7 +0.3
CFR Carcaliu 73.73 316 ⇑⇑ iP P 18 06 35.7 +0.3
HARR Harsova 73.77 316 ⇓ iP P 18 06 36.1 +0.4
HARR Harsova 73.77 316 ⇓⇓ iP P 18 06 36.1 +0.4
PRD Provadia 73.84 314 P P 18 06 36.0 -0.1
NPS Neapolis 73.89 306 P P 18 06 37.0 +0.3
NPS Neapolis 73.89 306 P S 18 15 57.6 -2.6
NPS Neapolis 73.89 306 P P 18 06 37.0 +0.3
NPS Neapolis 73.89 306 P P 18 06 37.0 +0.3
NPS Neapolis 73.89 306 P S 18 15 57.6 -2.6
LEOM Leova 73.93 318 ⇓ iP P 18 06 36.6 0.0
LEOM Leova 73.93 318 ⇓⇓ iP P 18 06 36.6 0.0
PRK Paraskevi 73.97 310 P P 18 06 36.9 -0.1
PRK Paraskevi 73.97 310 P S 18 15 55.7 -5.1
PRK Paraskevi 73.97 310 P P 18 06 36.9 -0.1
PRK Paraskevi 73.97 310 P P 18 06 36.9 -0.1
PRK Paraskevi 73.97 310 P S 18 15 55.7 -5.1
LAST Lasithi 73.99 306 P P 18 06 37.5 +0.2
LAST Lasithi 73.99 306 P S 18 15 33.1 -28
LAST Lasithi 73.99 306 P P 18 06 37.5 +0.2
CHOS Chios island 74.00 309 P P 18 06 37.7 +0.4
CHOS Chios island 74.00 309 P S 18 15 59.0 -2.4
CHOS Chios island 74.00 309 P P 18 06 37.7 +0.4
CHOS Chios island 74.00 309 P S 18 15 59.0 -2.4
EZN Ezine 74.02 310 P P 18 06 37.1 -0.2
EZN Ezine 74.02 310 P S 18 15 55.7 -5.7
EZN Ezine 74.02 310 P P 18 06 37.1 -0.2
EZN Ezine 74.02 310 P P 18 06 37.1 -0.2
EZN Ezine 74.02 310 P S 18 15 55.7 -5.7
EDRB Edirne 74.06 313 P P 18 06 37.1 -0.4
EDRB Edirne 74.06 313 P S 18 15 47.4 -14
EDRB Edirne 74.06 313 P P 18 06 37.1 -0.4
NFK Norfolk Island 74.06 121 P P 18 06 37.2 -0.6
baz=74,SNR=7.1
SANT Santorini 74.17 307 P P 18 06 37.3 -1.0
SANT Santorini 74.17 307 eP P 18 06 37.5 -0.8
comp=Z,2μm,1.1s
SANT Santorini 74.17 307 eP S 18 15 53.2 -10
THT1 Athinios (Pele 74.20 307 P P 18 06 37.4 -0.9
THT1 Athinios (Pele 74.20 307 P S 18 15 58.2 -5.3
THR7 Fira-Santorini 74.20 307 P P 18 06 37.7 -0.7
APE Apeiranthos 74.21 308 P P 18 06 37.7 -0.8
APE Apeiranthos 74.21 308 P S 18 15 59.2 -4.6
APE Apeiranthos 74.21 308 ⇓ iP P 18 06 38.9 +0.4
APE Apeiranthos 74.21 308 ceP P 18 06 38.5 0.0
APE pmax pmax
comp=Z,689nm,1.3s
APE Apeiranthos 74.21 308 P P 18 06 37.7 -0.8
APE Apeiranthos 74.21 308 P S 18 15 59.2 -4.6
THR6 Thira Island, 74.22 307 P P 18 06 37.7 -0.8
THR6 Thira Island, 74.22 307 P P 18 06 37.7 -0.8
THR3 Thira Island, 74.22 307 P P 18 06 39.4 +0.9
THR3 Thira Island, 74.22 307 P P 18 06 39.4 +0.9
SORM Soroca 74.24 319 ⇑ iP P 18 06 38.2 -0.2
SORM Soroca 74.24 319 ⇑⇑ iP P 18 06 38.2 -0.2
THR5 Thira Island, 74.27 307 P P 18 06 38.5 -0.3
SIGR SIGRI 74.28 310 P P 18 06 38.5 -0.3
SIGR SIGRI 74.28 310 P S 18 16 01.9 -2.5
SIGR SIGRI 74.28 310 P P 18 06 38.5 -0.3
SIGR SIGRI 74.28 310 P S 18 16 01.9 -2.5
JMB Yambol 74.29 313 P P 18 06 39.0 +0.2
JMB Yambol 74.29 313 P P 18 06 39.0 +0.2
JMB Yambol 74.29 313 P P 18 06 39.1 +0.2
JMB Yambol 74.29 313 P P 18 06 39.0 +0.2
ENEZ Enez 74.31 311 P P 18 06 38.8 -0.1
ENEZ Enez 74.31 311 P S 18 16 02.1 -2.5
AKASG Malin Array Be 74.31 322 P P 18 06 37.8 -1.0
comp=Z,274nm,0.6s,baz=86,slow=4.9,SNR=247
AKASG PP PP 18 09 20.7 -5.4
comp=Z,47nm,1.0s,baz=86,slow=6.6,SNR=4.1
AKASG S S 18 16 00.4 -3.9
comp=Z,30nm,1.1s,baz=94,slow=11,SNR=9.6
AKASG LR LR 18 41 40.0
comp=Z,6μm,20.8s,baz=60,slow=38
KIEV Kiev 74.32 322 c iP P 18 06 37.7 -1.1
KIEV pmax pmax
comp=Z,831nm,1.2s
KIEV Kiev 74.32 322 eP P 18 06 37.8 -0.9
comp=Z,460nm,0.8s
GADA Gvkgeada 74.41 311 P P 18 06 39.2 -0.3
GADA Gvkgeada 74.41 311 P S 18 15 50.9 -15
GADA Gvkgeada 74.41 311 P P 18 06 39.2 -0.3
ALN Alexandroupoli 74.41 312 P P 18 06 39.2 -0.3
ALN Alexandroupoli 74.41 312 P S 18 15 58.8 -6.9
ALN Alexandroupoli 74.41 312 P P 18 06 39.2 -0.3
ALN Alexandroupoli 74.41 312 P P 18 06 39.2 -0.3
ALN Alexandroupoli 74.41 312 P S 18 15 58.8 -6.9
IDI Anoyia 74.48 306 P P 18 06 40.5 +0.3
comp=Z,260nm,0.6s,baz=73,slow=7.3,SNR=90
IDI LR LR 18 44 34.5
comp=Z,3μm,20.7s,baz=74,slow=40
IDI Anoyia 74.48 306 P P 18 06 40.0 -0.2
IDI Anoyia 74.48 306 P S 18 15 52.6 -14
IDI Anoyia 74.48 306 eP P 18 06 40.2 +0.1
comp=Z,846nm,1.1s
SIVA Sivas 74.51 305 P P 18 06 40.4 +0.2
SIVA Sivas 74.51 305 P S 18 15 58.8 -8.3
SIVA Sivas 74.51 305 P P 18 06 40.4 +0.2
SIVA Sivas 74.51 305 P S 18 15 58.8 -8.3
IAS Iasi 74.55 318 ⇓ iP P 18 06 41.2 +1.0
IAS Iasi 74.55 318 ⇓⇓ iP P 18 06 41.2 +1.0
TMBK Timbaki Herakl 74.56 305 P P 18 06 41.5 +1.0
TMCR Tamitsa 74.56 337 eP P 18 06 39.9 0.0
TMCR eS S 18 16 07.4 +0.9
TMCR pmax pmax
comp=Z,1μm,0.9s
GRER 74.57 316 ⇓ iP P 18 06 42.5 +2.1
ODBI Odobesti 74.59 317 ⇑ iP P 18 06 42.0 +1.5
MAW Mawson 74.66 193 P P 18 06 41.0 +0.7
comp=Z,301nm,1.0s,baz=28,slow=6.6,SNR=164
MAW LR LR 18 33 23.8
comp=Z,15μm,20.8s,baz=22,slow=31
MAW PKPPKP P'P'df 18 34 02.8 -4.3
comp=Z,4.6nm,1.0s,baz=147,slow=5.3,SNR=4.0
MAW Mawson 74.66 193 P P 18 06 40.6 +0.3
baz=75,SNR=159
MAW Mawson 74.66 193 eP P 18 06 40.6 +0.3
comp=Z,57nm,0.8s
MAW P'P' 18 34 02.8
SMTH Samothraki Isl 74.73 311 P P 18 06 40.6 -0.8
SMTH Samothraki Isl 74.73 311 P S 18 16 02.3 -7.1
SMTH Samothraki Isl 74.73 311 P P 18 06 40.6 -0.8
SMTH Samothraki Isl 74.73 311 P S 18 16 02.3 -7.1
ISR Istrita 74.82 316 ⇓ iP P 18 06 43.5 +1.6
ISR Istrita 74.82 316 ⇓⇓ iP P 18 06 43.5 +1.6
RDO Rodhopi 74.83 312 P P 18 06 41.0 -0.9
RDO Rodhopi 74.83 312 P S 18 16 02.7 -7.7
RDO Rodhopi 74.83 312 P P 18 06 41.0 -0.9
RDO Rodhopi 74.83 312 P S 18 16 02.7 -7.7
VRI Vrincioaia 74.84 317 ⇑ iP P 18 06 43.1 +1.2
VRI Vrincioaia 74.84 317 ⇓ iP S 18 16 09.5 -0.9
VRI Vrincioaia 74.84 317 ⇑⇑ iP P 18 06 43.1 +1.2
TARA Tarawa 74.88 89 eP P 18 06 44.5 +1.8
comp=Z,176nm,0.8s
PLOR Plostina 74.89 317 ⇑ iP P 18 06 43.3 +1.1
PLOR Plostina 74.89 317 ⇓ iP S 18 16 10.3 -0.7
PLOR Plostina 74.89 317 ⇑⇑ iP P 18 06 43.3 +1.1
LIA Limnos Island 74.90 310 P P 18 06 41.9 -0.5
LIA Limnos Island 74.90 310 P S 18 16 03.4 -7.8
LIA Limnos Island 74.90 310 P P 18 06 41.9 -0.5
LIA Limnos Island 74.90 310 P S 18 16 03.4 -7.8
SZH Strazhica 74.91 314 P P 18 06 41.7 -0.6
SULR 74.94 315 ⇑ iP P 18 06 43.3 +0.9
DIM Dimitrovgrad 74.99 313 P P 18 06 43.2 +0.4
KDZ Kurdzhali 75.00 312 P P 18 06 42.9 -0.1
BUC1 Bucharest 75.03 315 ⇑ iP P 18 06 44.7 +1.7
BUC1 Bucharest 75.03 315 ⇑⇑ iP P 18 06 44.7 +1.7
MHLO Agia Marina, M 75.06 307 P P 18 06 42.4 -0.9
MHLO Agia Marina, M 75.06 307 P S 18 16 09.6 -3.5
VAM Vamos 75.06 306 P P 18 06 43.8 +0.4
VAM Vamos 75.06 306 P S 18 16 10.4 -2.8
VAM Vamos 75.06 306 P P 18 06 43.8 +0.4
VAM Vamos 75.06 306 P P 18 06 43.8 +0.4
VAM Vamos 75.06 306 P S 18 16 10.4 -2.8
GVD Gavdhos 75.08 305 P P 18 06 43.2 -0.3
GVD Gavdhos 75.08 305 P S 18 16 07.7 -5.8
GVD Gavdhos 75.08 305 P P 18 06 43.2 -0.3
GVD Gavdhos 75.08 305 P S 18 16 07.7 -5.8

SECR		75.13 316⇑	*i*P	P	18 06 44.7	+1.1		
KARY	Karystos	75.21 308	P	P	18 06 43.6	-0.6		
IMMV	Iera Moni Meta	75.24 306	P	P	18 06 44.8	+0.4		
IMMV	Iera Moni Meta	75.24 306	P	S	18 16 02.3	-13		
MLR	Muntele Rosu	75.30 316	LR	LR	18 47 26.0			
	comp=Z,1µm,19.5s,baz=94,slow=42							
MLR	Muntele Rosu	75.30 316⇓	*i*P	P	18 06 45.5	+0.8		
MLR	Muntele Rosu	75.30 316⇓	*i*P	S	18 16 14.9	-0.9		
MLR	Muntele Rosu	75.30 316	*e*P	P	18 06 44.3	-0.4		
MLR			pmax	pmax				
	comp=Z,3µm,1.4s							
MLR	Muntele Rosu	75.30 316	*e*P	P	18 06 44.3	-0.4		
	comp=Z,3µm,1.4s							
PVL	Pavlikeni	75.33 314	P	P	18 06 45.7	+1.0		
ZIMR		75.38 314⇑	*i*P	P	18 06 46.0	+1.0		
ZIMR		75.38 314⇑	P	P	18 06 46.0	+1.0		
LBTB	Lobatse	75.41 243	P	P	18 06 45.8	+0.1		
	comp=Z,382nm,0.7s,baz=95,slow=6.7,SNR=11							
LBTB			S	S	18 16 19.1	+1.4		
	comp=Z,3.9nm,0.9s,baz=264,slow=21,SNR=5.7							
LBTB	Lobatse	75.41 243	*e*P	P	18 06 45.9	+0.1		
	comp=Z,2µm,1.4s							
LBTB			S	S	18 16 19.1	+1.4		
PRAR	RASCA	75.47 318⇑	*i*P	P	18 06 46.3	+0.8		
RZN	Rozhen	75.53 312	P	P	18 06 45.8	-0.4		
KAVA	Kavala	75.57 311	P	P	18 06 45.8	-0.4		
KAVA	Kavala	75.57 311	P	S	18 16 14.9	-3.7		
KAVA	Kavala	75.57 311	P	S	18 06 45.8	-0.4		
KAVA	Kavala	75.57 311	P	S	18 16 14.9	-3.7		
PLD	Plovdiv	75.60 313	P	P	18 06 45.5	-0.8		
EREA	Eretria	75.65 309	P	P	18 06 45.8	-1.0		
EREA	Eretria	75.65 309	P	S	18 15 59.6	-20		
PTL	Penteli	75.66 308	P	P	18 06 45.8	-1.0		
PTL	Penteli	75.66 308	P	S	18 16 13.1	-6.7		
PTL	Penteli	75.66 308	P	P	18 06 45.8	-1.0		
PTL	Penteli	75.66 308	P	S	18 16 13.1	-6.7		
VLY	Voula,Athens	75.69 308	P	P	18 06 45.6	-1.3		
VLY	Voula,Athens	75.69 308	P	S	18 16 12.3	-7.8		
VLY	Voula,Athens	75.69 308	P	P	18 06 45.6	-1.3		
VLY	Voula,Athens	75.69 308	P	S	18 16 12.3	-7.8		
ATHU	Athens Univers	75.71 308	P	P	18 06 45.2	-1.9		
ATHU	Athens Univers	75.71 308	P	S	18 16 13.3	-7.0		
ATHU	Athens Univers	75.71 308	P	P	18 06 45.2	-1.9		
ATHU	Athens Univers	75.71 308	P	S	18 16 13.3	-7.0		
ATH	Athens Observa	75.76 308	P	S	18 06 46.3	-1.0		
ATH	Athens Observa	75.76 308	P	S	18 16 13.7	-7.1		
ATH	Athens Observa	75.76 308	P	S	18 06 46.3	-1.0		
ATH	Athens Observa	75.76 308	P	P	18 06 46.3	-1.0		
ATH	Athens Observa	75.76 308	P	S	18 16 13.7	-7.1		
DOPR	Dopca	75.78 317⇓	*i*P	P	18 06 47.8	+0.5		
AOS	Alonnisos	75.80 310	P	P	18 06 46.6	-0.9		
AOS	Alonnisos	75.80 310	P	S	18 16 05.0	-16		
AOS	Alonnisos	75.80 310	P	P	18 06 46.6	-0.9		
HUMR	Humele	75.80 315⇓	*i*P	P	18 06 47.8	+0.4		
ANKY	Antikythira Is	75.84 306	P	P	18 06 47.6	-0.2		
ANKY	Antikythira Is	75.84 306	P	S	18 16 05.6	-16		
ANKY	Antikythira Is	75.84 306	P	P	18 06 47.6	-0.2		
MTUR	Matau	75.87 316⇑	*i*P	P	18 06 48.3	+0.4		
MTUR	Matau	75.87 316⇑	P	P	18 06 48.3	+0.4		
OUR	Ouranopolis	75.88 311	P	P	18 06 47.5	-0.4		
OUR	Ouranopolis	75.88 311	P	S	18 16 13.9	-8.1		
OUR	Ouranopolis	75.88 311	P	P	18 06 47.5	-0.4		
OUR	Ouranopolis	75.88 311	P	P	18 06 47.5	-0.4		
OUR	Ouranopolis	75.88 311	P	S	18 16 13.9	-8.1		
VOIR		75.91 316⇑	*i*P	P	18 06 47.8	-0.4		
VOIR		75.91 316⇓	*i*P	S	18 16 19.8	-2.6		
VOIR		75.91 316⇑	P	P	18 06 47.8	-0.4		
PAIG	Paliouri	76.05 310	P	P	18 06 48.5	-0.4		
PAIG	Paliouri	76.05 310	P	S	18 16 16.4	-7.5		
PAIG	Paliouri	76.05 310	P	P	18 06 48.5	-0.4		
PAIG	Paliouri	76.05 310	P	P	18 06 48.5	-0.4		
PAIG	Paliouri	76.05 310	P	S	18 16 16.4	-7.5		
PGB	Panagyurishte	76.07 313	P	P	18 06 48.7	-0.4		
MICGM	Minsk	76.07 326⇑	*i*P	P	18 06 47.0	-1.7		
MICGM			PM		18 06 50.0			
	comp=Z,4.1nm,0.8s							
MICGM			*e*pP	PcP	18 07 06.0	+5.5		
MICGM			*e*PP	PP	18 09 24.0	-17		
MICGM			*e*PPP	PPP	18 11 22.0			
MICGM			*e*S	S	18 16 20.0	-3.6		
MICGM			*e*sS	SKKSac	18 16 51.0	+0.8		
MICGM			*e*SS	SS	18 21 00.0	-19		
MICGM			*e*SSS	SSS	18 24 04.0			
MICGM			*e*LR	LR	18 29 50.0			
MNK	Minsk	76.07 326⇑	*i*P	P	18 06 47.0	-1.7		
MNK			*e**PP	PcP	18 07 06.0	+5.5		
MNK			*e*S	S	18 16 20.0	-3.6		
MNK			*e**SS	SKKSac	18 16 51.0	+0.8		
MNK			pmax	pmax				
	comp=Z,4µm,0.8s							
DID	Didima	76.08 308	P	P	18 06 47.5	-1.7		
DID	Didima	76.08 308	P	S	18 16 16.0	-8.5		
DID	Didima	76.08 308	P	P	18 06 47.5	-1.7		
DID	Didima	76.08 308	P	S	18 16 16.0	-8.5		
KYTH	Kithira	76.09 306	P	P	18 06 48.7	-0.6		
KYTH	Kithira	76.09 306	P	S	18 16 21.8	-2.8		
KYTH	Kithira	76.09 306	P	P	18 06 48.7	-0.6		
KYTH	Kithira	76.09 306	P	S	18 16 21.8	-2.8		
MCQ	Macquarie Isla	76.10 148	*e*P	P	18 06 50.5	+1.7		
MCQ			pmax	pmax				
	comp=Z,378nm,1.0s							
MCQ	Macquarie Isla	76.10 148	*e*P	P	18 06 50.5	+1.7		
	comp=Z,378nm,1.0s							
VILL	Villia	76.11 308	P	P	18 06 47.6	-1.8		
VILL	Villia	76.11 308	P	S	18 16 14.1	-11		
NVR	Nevrokopi	76.11 312	P	P	18 06 48.6	-0.7		
NVR	Nevrokopi	76.11 312	P	S	18 16 10.6	-14		
NVR	Nevrokopi	76.11 312	P	P	18 06 48.6	-0.7		
NVR	Nevrokopi	76.11 312	P	S	18 16 10.6	-14		
SKIA	Skiathos	76.11 309	P	P	18 06 47.9	-1.4		
SKIA	Skiathos	76.11 309	P	S	18 16 20.9	-3.8		
ARR	Arges	76.19 316⇑	*i*P	P	18 06 49.7	0.0		
ARR	Arges	76.19 316⇑	*i*P	S	18 16 22.4	-3.0		
BURAR	Bucovina Array	76.20 318⇓	*i*P	P	18 06 51.2	+1.5		
BURAR	Bucovina Array	76.20 318⇑	*i*P	S	18 16 35.4	+10		
BURAR	Bucovina Array	76.20 318	⇓P	P	18 06 51.2	+1.5		
BUR08	Bucovina Ar. S	76.21 318	*e*P	P	18 06 50.6	+0.8		
VLI	Veliai	76.23 307	P	P	18 06 48.4	-1.6		
VLI	Veliai	76.23 307	P	S	18 16 16.6	-9.4		
VLI	Veliai	76.23 307	P	P	18 06 48.4	-1.6		
VLI	Veliai	76.23 307	P	S	18 16 16.6	-9.4		
MMB	Musomiste	76.25 312	P	P	18 06 49.4	-0.7		
SMIA	Simia	76.28 309	P	P	18 06 49.6	-0.7		
SMIA	Simia	76.28 309	P	S	18 16 26.5	0.0		
SRS	Serrai	76.28 311	P	P	18 06 49.3	-1.0		
SRS	Serrai	76.28 311	P	S	18 16 19.1	-7.4		
SRS	Serrai	76.28 311	P	P	18 06 49.3	-1.0		
SRS	Serrai	76.28 311	P	P	18 06 49.3	-1.0		
SRS	Serrai	76.28 311	P	S	18 16 19.1	-7.4		
PUL	Pulkovo	76.28 331⇓	*e*P	P	18 06 50.4	+0.6		
PUL			pmax	pmax				
	comp=Z,2µm,1.3s							
PLG	Polygyros	76.29 311	P	P	18 06 49.6	-0.7		
PLG	Polygyros	76.29 311	P	S	18 16 22.4	-4.2		
PLG	Polygyros	76.29 311	P	P	18 06 49.6	-0.7		
PLG	Polygyros	76.29 311	P	P	18 06 49.6	-0.7		
PLG	Polygyros	76.29 311	P	S	18 16 22.4	-4.2		
LOUT	Loutraki	76.35 308	P	P	18 06 48.8	-1.9		
LOUT	Loutraki	76.35 308	P	S	18 16 19.3	-8.0		
XOR	Xorichti	76.35 310	P	P	18 06 48.6	-2.1		
XOR	Xorichti	76.35 310	P	P	18 06 48.6	-2.1		
LTK	Loutraki	76.36 308	P	P	18 06 48.8	-2.0		
LTK	Loutraki	76.36 308	P	S	18 16 19.9	-7.5		
LTK	Loutraki	76.36 308	P	P	18 06 48.8	-2.0		
LTK	Loutraki	76.36 308	P	S	18 16 19.9	-7.5		
BOSA	Boshof	76.38 240	P	P	18 06 50.4	-0.8		
	comp=Z,143nm,0.5s,baz=91,slow=4.4,SNR=121							
BOSA			LR	LR	18 36 06.6			
	comp=Z,14µm,21.2s,baz=67,slow=32							
BOSA	Boshof	76.38 240	*e*P	P	18 06 51.2	0.0		
	comp=Z,2µm,1.8s							
LKR	Lokris	76.41 309	P	P	18 06 49.0	-2.0		
LKR	Lokris	76.41 309	P	P	18 06 49.0	-2.0		
SOH	Sokhos	76.42 311	P	P	18 06 50.1	-1.0		
SOH	Sokhos	76.42 311	P	S	18 16 23.2	-4.9		
SOH	Sokhos	76.42 311	P	P	18 06 50.3	-0.8		
SOH	Sokhos	76.42 311	P	P	18 06 50.1	-1.0		
SOH	Sokhos	76.42 311	P	S	18 16 23.2	-4.9		
FYTO	Fytoko, Volos	76.55 310	P	P	18 06 50.5	-1.3		
FYTO	Fytoko, Volos	76.55 310	P	P	18 06 50.5	-1.3		
HORT	Hortiatis	76.58 311	P	P	18 06 51.0	-1.0		
HORT	Hortiatis	76.58 311	P	S	18 16 24.3	-5.6		
HORT	Hortiatis	76.58 311	P	P	18 06 51.0	-1.0		
HORT	Hortiatis	76.58 311	P	S	18 16 24.3	-5.6		
THAL	Thalero	76.60 308	P	P	18 06 50.0	-2.1		
THAL	Thalero	76.60 308	P	S	18 16 20.1	-10		
ARCR	ARCALIA	76.68 318⇓	*i*P	P	18 06 53.8	+1.4		
THE	Thessaloniki	76.69 311	P	P	18 06 51.3	-1.2		
THE	Thessaloniki	76.69 311	P	S	18 16 25.1	-5.7		
THE	Thessaloniki	76.69 311	P	P	18 06 51.3	-1.2		
THE	Thessaloniki	76.69 311	P	P	18 06 51.3	-1.2		
THE	Thessaloniki	76.69 311	P	S	18 16 25.1	-5.7		
VLX	Vlachokerasia	76.75 308	P	P	18 06 51.9	-1.2		
VLX	Vlachokerasia	76.75 308	P	S	18 16 23.0	-8.9		
VLX	Vlachokerasia	76.75 308	P	P	18 06 51.9	-1.2		
VLX	Vlachokerasia	76.75 308	P	S	18 16 23.0	-8.9		
DSF	Desfina	76.75 309	P	P	18 06 50.8	-2.2		
DSF	Desfina	76.75 309	P	S	18 16 23.0	-8.8		
DSF	Desfina	76.75 309	P	P	18 06 50.8	-2.2		
DSF	Desfina	76.75 309	P	S	18 16 23.0	-8.8		
KKB	Krupnik	76.76 312	P	P	18 06 52.4	-0.6		
VTS	Vitosha	76.77 313	P	P	18 06 52.7	-0.5		
VTS	Vitosha	76.77 313	P	S	18 16 21.8	-10		
VTS	Vitosha	76.77 313⇑	*i*P	P	18 06 53.2	0.0		
VTS	Vitosha	76.77 313⇓	*i*P	S	18 16 33.8	+1.7		
VTS	Vitosha	76.77 313	*e*P	P	18 06 52.7	-0.5		
VTS			pmax	pmax				
	comp=Z,1µm,1.4s							
VTS	Vitosha	76.77 313	P	P	18 06 52.9	-0.3		
VTS	Vitosha	76.77 313	*e*P	P	18 06 52.7	-0.5		
	comp=Z,1µm,1.4s							
VTS	Vitosha	76.77 313	P	S	18 16 21.8	-10		
NACGM	Naroch	76.79 326	*e*P	P	18 06 53.0	+0.2		
NACGM			*e*PP	PP	18 09 47.0	+0.2		
NACGM			*e*PPP	PPP	18 11 28.0			
NACGM			*e*S	S	18 16 28.0	-3.4		
NACGM			*e*PS	PnS	18 17 06.0	-18		
NACGM			*e*SS	SS	18 20 46.0	-44		
NACGM			*e*SSS	SSS	18 24 16.0			
NACGM			*e*LQ	LQ	18 30 36.0			
KNT	Kendrikon	76.81 311	P	P	18 06 52.2	-1.0		
KNT	Kendrikon	76.81 311	P	S	18 16 23.2	-9.0		
KNT	Kendrikon	76.81 311	P	P	18 06 52.2	-1.0		
KNT	Kendrikon	76.81 311	P	P	18 06 52.2	-1.0		
KNT	Kendrikon	76.81 311	P	S	18 16 23.2	-9.0		
JOF	Joensuu	76.85 334	P	P	18 06 56.3	+3.4		
IDID	Didziasalis	76.91 326	*e*P	P	18 06 53.9	+0.4		
IDID			IAmb	IAmb	18 06 58.5			
	comp=Z,605nm,1.0s							
AGG	Agios Georgios	76.97 309	P	P	18 06 52.3	-1.9		
AGG	Agios Georgios	76.97 309	P	S	18 16 14.7	-19		
AGG	Agios Georgios	76.97 309	P	P	18 06 52.3	-1.9		
AGG	Agios Georgios	76.97 309	P	P	18 06 52.3	-1.9		
KLV	Kalavryta, Ach	77.00 308	P	P	18 06 53.1	-1.3		
KLV	Kalavryta, Ach	77.00 308	P	S	18 16 22.4	-12		
KLV	Kalavryta, Ach	77.00 308	P	P	18 06 53.1	-1.3		
KLV	Kalavryta, Ach	77.00 308	P	S	18 16 22.4	-12		
KALE	Kalithea	77.05 309	P	P	18 06 53.2	-1.5		
KALE	Kalithea	77.05 309	P	S	18 16 17.6	-17		
KALE	Kalithea	77.05 309	P	P	18 06 53.2	-1.5		
VAY	Valandovo	77.07 312	P	P	18 06 53.8	-0.9		
VAY	Valandovo	77.07 312	P	S	18 16 27.8	-7.2		
VAY	Valandovo	77.07 312	*i*P	P	18 06 53.8	-0.9		
VAY	Valandovo	77.07 312	P	P	18 06 53.8	-0.9		
VAY	Valandovo	77.07 312	P	P	18 06 53.8	-0.9		
VAY	Valandovo	77.07 312	P	S	18 16 27.8	-7.2		
SRE	Strehaia	77.08 315⇓	*i*P	P	18 06 56.2	+1.6		
SRE	Strehaia	77.08 315	⇓P	P	18 06 56.2	+1.6		
ITM	Ithomi	77.08 307	P	P	18 06 54.1	-0.8		
ITM	Ithomi	77.08 307	P	S	18 16 25.7	-10		
ITM	Ithomi	77.08 307	P	P	18 06 54.1	-0.8		
ITM	Ithomi	77.08 307	P	S	18 16 25.7	-10		
SERG	Sergoula	77.11 309	P	P	18 16 27.2	-8.5		
CJR	Cluj-Napoca	77.13 317⇓	*i*P	P	18 06 56.5	+1.6		
CJR	Cluj-Napoca	77.13 317	⇓P	P	18 06 56.6	+1.6		
LAKA	Lakka	77.16 308	P	P	18 06 54.4	-0.9		
LAKA	Lakka	77.16 308	P	S	18 16 27.0	-9.2		
LAKA	Lakka	77.16 308	P	P	18 06 54.4	-0.9		
LAKA	Lakka	77.16 308	P	S	18 16 27.0	-9.2		
PYL	PYLOS	77.20 307	P	P	18 06 54.4	-1.1		
PYL	PYLOS	77.20 307	P	S	18 16 25.9	-11		
PYL	PYLOS	77.20 307	P	P	18 06 54.4	-1.1		
PYL	PYLOS	77.20 307	P	S	18 16 25.9	-11		
IIGN	Ignalina	77.21 326	IAmb	IAmb	18 06 59.7			
	comp=Z,778nm,1.1s							
ANX	Ano Chora	77.24 309	P	P	18 06 54.7	-1.1		
ANX	Ano Chora	77.24 309	P	S	18 16 23.9	-13		
THL	Klokotos Trika	77.28 310	P	P	18 06 53.7	-2.1		
THL	Klokotos Trika	77.28 310	P	S	18 16 31.9	-5.4		
IZAR	Zarasai	77.29 327	*e*P	P	18 06 56.0	+0.4		
IZAR			IAmb	IAmb	18 06 59.4			
	comp=Z,542nm,1.2s							
AMT	Artemida-Makis	77.29 308	P	P	18 06 55.4	-0.6		
AMT	Artemida-Makis	77.29 308	P	S	18 16 31.9	-5.8		
KTI	Kastanea	77.30 311	P	P	18 06 55.1	-1.0		
UPR	University Cam	77.31 308	P	P	18 06 57.5	+1.4		
UPR	University Cam	77.31 308	P	S	18 16 34.6	-3.1		
ISAL	Salakas	77.31 326	*e*P	P	18 06 56.1	+0.5		
ISAL			IAmb	IAmb	18 06 59.6			
	comp=Z,665nm,1.3s							
DRO	Drossia	77.34 308	P	P	18 06 56.2	-0.1		
DRO	Drossia	77.34 308	P	S	18 16 12.9	-25		
BMR	Baia Mare	77.35 318⇑	*i*P	P	18 06 57.4	+1.3		
BMR	Baia Mare	77.35 318	⇑P	P	18 06 57.4	+1.3		
EVR	Evrytania	77.36 309	P	P	18 06 55.4	-1.1		
EVR	Evrytania	77.36 309	P	S	18 16 20.8	-18		
EVR	Evrytania	77.36 309	P	P	18 06 55.4	-1.1		
LVV	L'vov	77.37 320	*e*P	P	18 06 56.7	+0.5		
LVV			*e**PP	pP	18 07 20.9	-2.5		
LVV			*i* S	S	18 16 34.7	-3.3		
LVV			*e*		18 17 19.4			
LVV			pmax	pmax				
	comp=Z,3µm,1.4s							
LVZ	Lovozero	77.41 340	*c i*P	P	18 06 55.7	-0.4		
LVZ			pmax	pmax				
	comp=Z,1µm,1.8s							
LVZ	Lovozero	77.41 340	*e*P	P	18 06 55.6	-0.4		
	comp=Z,454nm,0.7s							
DEV	Deva	77.47 316⇓	*i*P	P	18 06 58.5	+1.8		
DEV	Deva	77.47 316	⇓P	P	18 06 58.6	+1.8		
RLS	Riolos of Patr	77.54 308	P	P	18 06 57.1	-0.2		
RLS	Riolos of Patr	77.54 308	P	S	18 16 31.5	-8.7		
RLS	Riolos of Patr	77.54 308	P	P	18 06 57.1	-0.2		
RLS	Riolos of Patr	77.54 308	P	S	18 16 31.5	-8.7		
KZN	Kozani	77.55 310	P	P	18 06 55.8	-1.7		
KZN	Kozani	77.55 310	P	S	18 16 29.2	-11		
KZN	Kozani	77.55 310	P	P	18 06 55.8	-1.7		
KZN	Kozani	77.55 310	P	P	18 06 55.8	-1.7		
KZN	Kozani	77.55 310	P	S	18 16 29.2	-11		
PVO	Paravola	77.55 309	P	P	18 06 57.0	-0.4		
PVO	Paravola	77.55 309	P	S	18 16 31.1	-9.2		
PYZ	Puysegur Point	77.61 138	*e*P	P	18 06 59.4	+1.8		
	comp=Z,364nm,1.3s							
AXS	Araxos	77.62 308	P	P	18 06 57.5	-0.3		
VSU	Vasula	77.69 329	*c i*P	P	18 06 57.5	-0.2		
VSU			pmax	pmax				
	comp=Z,2µm,1.2s							
DCZ	Deep Cove	77.71 138	*e*P	P	18 06 59.2	+1.1		
	comp=Z,223nm,1.1s							
APA	Apatity	77.71 339⇑	*i*P	P	18 06 56.9	-0.8		
APA			*i* *PP	pP	18 07 20.0	-4.9		
APA			*i*		18 09 52.0			
DRGR		77.74 317⇓	*i*P	P	18 06 59.6	+1.2		
DRGR		77.74 317	⇓P	P	18 06 59.6	+1.2		
PDO	Prodromos	77.82 309	P	P	18 06 58.3	-0.6		
PDO	Prodromos	77.82 309	P	S	18 16 34.6	-8.6		
KPRO	Kipourio	77.82 310	P	P	18 06 57.5	-1.5		
KPRO	Kipourio	77.82 310	P	S	18 16 24.9	-18		
FNA	Florina	77.90 311	P	P	18 06 57.8	-1.6		
FNA	Florina	77.90 311	P	P	18 06 57.8	-1.6		
FNA	Florina	77.90 311	P	P	18 06 57.8	-1.6		
DSL	Palaion Diasel	77.94 309	P	P	18 06 58.6	-1.0		
DSL	Palaion Diasel	77.94 309	P	S	18 16 51.2	+6.6		
DSL	Palaion Diasel	77.94 309	P	P	18 06 58.6	-1.0		
BIA	Bitola	77.97 311	*e*P	P	18 06 59.6	-0.1		
SKO	Skopje	77.99 312	P	P	18 06 58.4	-1.4		
SKO	Skopje	77.99 312	P	S	18 16 41.9	-3.1		
SKO	Skopje	77.99 312	*i*P	P	18 06 58.7	-1.1		
SKO	Skopje	77.99 312	P	P	18 06 58.4	-1.4		
SKO	Skopje	77.99 312	P	P	18 06 58.4	-1.4		
SKO	Skopje	77.99 312	P	S	18 16 41.9	-3.1		
PENT	Pentalofos	78.02 310	P	P	18 06 58.3	-1.8		
ZKS	Zakynthos	78.04 308	P	P	18 06 59.1	-1.1		
ZKS	Zakynthos	78.04 308	P	S	18 16 33.2	-12		
TRPA	Tarpa	78.06 318⇑	*e*P	P	18 07 00.8	+0.8		
KRUS	Krusevo	78.07 312	*i*P	P	18 06 59.2	-1.1		
KFL	Anninata	78.08 308	P	P	18 06 59.8	-0.5		
NEST	Nestorio	78.11 311	P	P	18 06 59.2	-1.4		
NEST	Nestorio	78.11 311	P	S	18 16 38.1	-8.4		
JAN	Janina	78.18 310	P	P	18 07 00.4	-0.5		
JAN	Janina	78.18 310	P	S	18 16 43.9	-3.3		
JAN	Janina	78.18 310	P	P	18 07 00.4	-0.5		
JAN	Janina	78.18 310	P	P	18 07 00.4	-0.5		
JAN	Janina	78.18 310	P	S	18 16 43.9	-3.3		
KWP	Kalwaria Pacla	78.19 320	*e*P	P	18 07 01.4	+0.6		
	comp=Z,4µm,11.6s							
KWP			*e*PP	PP	18 09 58.9	+0.1		
KWP			*i* S	S	18 16 44.8	-2.0		
KWP			*e*SS	SS	18 21 53.4	+2.4		
KWP	Kalwaria Pacla	78.19 320⇑	*e*P	P	18 07 01.3	+0.6		
KWP			*e*		18 09 58.8			
KWP			*i* S	S	18 16 44.8	-2.0		
KWP			*e*SS	SS	18 21 53.4	+2.4		
VLS	Valsamata	78.24 308	P	P	18 07 00.5	-0.8		
VLS	Valsamata	78.24 308	P	S	18 16 38.3	-9.5		
VLS	Valsamata	78.24 308	P	P	18 07 00.5	-0.8		
VLS	Valsamata	78.24 308	P	P	18 07 00.5	-0.8		
VLS	Valsamata	78.24 308	P	S	18 16 38.3	-9.5		
LKD2	Lefkada island	78.25 309	P	P	18 07 00.8	-0.5		
LKD2	Lefkada island	78.25 309	P	S	18 16 41.2	-6.6		
LKD2	Lefkada island	78.25 309	P	P	18 07 00.8	-0.5		
LKD2	Lefkada island	78.25 309	P	S	18 16 41.2	-6.6		
UZH	Uzhgorod	78.30 319	*e*P	P	18 07 01.1	-0.2		
UZH			*e*		18 07 10.7			
UZH			*e*		18 07 25.8			
UZH			*e*		18 09 58.7			
UZH			*i* S	S	18 16 44.9	-3.0		
UZH			*e*		18 17 23.3			
UZH			pmax	pmax				
	comp=Z,3µm,5.8s							
BZS	Buzias	78.33 316⇓	*i*P	P	18 07 02.2	+0.7		
BZS	Buzias	78.33 316	⇓P	P	18 07 02.2	+0.7		
MLZ	Mavora Lakes	78.33 137	*e*P	P	18 07 02.3	+0.7		
	comp=Z,386nm,1.5s							
WHZ	Wether Hill Ro	78.37 138	*e*P	P	18 07 02.2	+0.4		
	comp=Z,156nm,1.2s							
WHZ	Wether Hill Ro	78.37 138	PN	P	18 07 01.5	-0.3		
OHR	Ohrid	78.38 311	*i*P	P	18 07 00.6	-1.4		
SIRR	Siria	78.38 317⇑	*i*P	P	18 07 02.9	+1.0		
JCZ	Jackson Bay	78.43 136	*e*PN	P	18 07 02.3	+0.1		
JCZ			pP	pP	18 07 25.9	-3.6		
IGT	Igoumenitsa	78.57 310	P	P	18 07 02.2	-0.8		
IGT	Igoumenitsa	78.57 310	P	S	18 16 43.3	-7.9		
IGT	Igoumenitsa	78.57 310	P	P	18 07 02.2	-0.8		
IGT	Igoumenitsa	78.57 310	P	P	18 07 02.2	-0.8		
IGT	Igoumenitsa	78.57 310	P	S	18 16 43.3	-7.9		
TIM	Timisoara	78.62 316⇑	*i*P	P	18 07 04.9	+1.8		
TIM	Timisoara	78.62 316	⇑P	P	18 07 04.9	+1.8		
BANR	Banloc	78.63 316⇓	*i*P	P	18 07 04.5	+1.3		
SGD	Sagiada	78.65 310	P	P	18 07 02.9	-0.6		
SUW	Suwalki	78.66 324	*e*P	P	18 07 02.9	-0.3		
	comp=Z,3µm,13.0s							
SUW			*e*PP	PP	18 10 02.1	-0.3		
SUW			*i* S	S	18 16 48.0	-3.5		
SUW	Suwalki	78.66 324⇑	*e*P	P	18 07 02.9	-0.3		
SUW			*e*		18 10 02.1			
SUW			*i* S	S	18 16 48.0	-3.5		
MSF	Maaselka	78.76 337	P	P	18 07 03.5	0.0		
MSF			pmax	pmax				
	comp=Z,773nm,1.1s							
FIA1	FINESS Array S	78.76 332	*e*P	P	18 07 03.4	-0.2		
FINES	FINESS Array B	78.76 332	P	P	18 07 03.3	-0.2		
	comp=Z,236nm,0.6s,baz=102,slow=5.9,SNR=268							
FINES			S	S	18 16 50.9	-1.5		
	comp=Z,39nm,1.1s,baz=114,slow=9.2,SNR=7.8							
FINES		

NKME **Niksic** 79.91 313 ⇓*i*P P 18 07 10.0 -0.3
BUM **Brajici-Budva** 79.91 312 ⇓*i*P P 18 07 09.8 -0.6
CEME **Cevo** 79.92 313 ⇓*i*P P 18 07 09.6 -0.8
RPZ **Rata Peaks** 79.92 135 LR LR 18 41 34.8
comp=Z,15µm,21.7s,baz=296,slow=35
RPZ **Rata Peaks** 79.92 135 *e*PN P 18 07 10.3 0.0
INZ **Inchbonnie** 79.97 134 *e*PN P 18 07 09.6 -0.9
INZ pP **pP** 18 07 33.8 -4.0
UPM **Unac-Piva** 79.98 313 ⇓*i*P P 18 07 10.2 -0.7
DSZ **Denniston Nort** 80.00 133 PN P 18 07 11.0 +0.2
OUZ **Omahuta** 80.02 126 *e*P P 18 07 12.8 +1.9
comp=Z,242nm,1.2s
OUZ **Omahuta** 80.02 126 *e*PN P 18 07 12.4 +1.4
OJC **Ojcow** 80.13 320 *e*P P 18 07 11.6 +0.3
comp=Z,4µm,11.4s
OJC *e*PP **PP** 18 10 10.4 -4.5
OJC *i*S **S** 18 17 05.5 -1.9
OJC *e*SS **SS** 18 22 26.9 +6.8
OJC **Ojcow** 80.13 320⇑*e*P P 18 07 11.6 +0.3
OJC *e* 18 10 10.4
OJC *i*S **S** 18 17 05.5 -1.9
OJC *e*SS **SS** 18 22 26.8 +6.8
OJC **Ojcow** 80.13 320 *e*P P 18 07 11.5 +0.3
HHSZ **Highcliff Hill** 80.15 137 PN P 18 07 11.8 +0.4
LANS **Liptovska Anna** 80.22 319 *e*P P 18 07 12.4 +0.6
LANS *e*S **S** 18 17 07.9 -0.5
LANS **Liptovska Anna** 80.22 319 *e*P P 18 07 12.4 +0.6
LANS *e*S **S** 18 17 07.9 -0.5
HCY **Herceg Novi** 80.22 312 ⇓*i*P P 18 07 11.3 -0.6
BRY **Bratogost** 80.22 313 ⇓*i*P P 18 07 11.6 -0.5
BUD **Budapest** 80.33 318⇑*e*P P 18 07 12.5 +0.1
QRZ **Quartz Range** 80.33 132 *e*PN P 18 07 13.3 +0.8
VYHS **Vyhne** 80.56 319 *e*P P 18 07 13.7 +0.1
VYHS pmax pmax
comp=Z,391nm,1.5s
VYHS **Vyhne** 80.56 319 *e*P P 18 07 13.7 +0.1
VYHS *e*S **S** 18 17 07.3 -4.6
LTZ **Lake Taylor** 80.57 134 *e*P P 18 07 15.0 +1.2
LTZ **Lake Taylor** 80.57 134 *e*PN P 18 07 14.0 +0.2
KEV **Kevo** 80.66 341 *e*P P 18 07 13.5 -0.2
KEV pmax pmax
comp=Z,317nm,0.8s
KEV **Kevo** 80.66 341 *e*P P 18 07 13.5 -0.2
comp=Z,317nm,0.8s
VAF **Ylistaro** 80.68 333 P P 18 07 14.4 +0.5
VAF pmax pmax
comp=Z,872nm,1.4s
WCZ **Waipu Caves** 80.75 127 *e*PN P 18 07 15.7 +0.8
THZ **Tophouse** 80.81 133 *e*PN P 18 07 14.9 -0.2
SUR **Sutherland** 80.83 237 P P 18 07 15.5 -0.1
comp=Z,37nm,1.1s,baz=74,slow=3.5
SUR **Sutherland** 80.83 237 *e*P P 18 07 16.7 +1.1
SUR **Sutherland** 80.83 237 P P 18 07 14.8 -0.8
SNR=36
CRLZ **Canterbury Las** 81.00 135 *e*P P 18 07 17.4 +1.4
NNZ **Nelson** 81.04 132 *e*PN P 18 07 14.3 -2.0
MQZ **McQueen's Vall** 81.05 135 *e*P P 18 07 17.5 +1.2
MQZ **McQueen's Vall** 81.05 135 PN P 18 07 16.5 +0.2
MQZ pP **pP** 18 07 42.1 -1.6
PKE **Pukeiti** 81.09 130 PN P 18 07 18.5 +1.8
ARA0 **ARCESS Array S** 81.10 340 *e*P P 18 07 15.7 -0.4
ARCES **ARCESS Array B** 81.10 340 P P 18 07 16.3 +0.2
comp=Z,173nm,0.7s,baz=95,slow=5.2,SNR=158
ARCES S **S** 18 17 16.3 -0.5
comp=Z,29nm,1.1s,baz=108,slow=7.9,SNR=5.2
ARCES LR LR 18 47 37.6
comp=Z,4µm,18.4s,baz=112,slow=39
ARE0 **ARCESS Array S** 81.10 340⇑*i*P P 18 07 16.2 +0.1
ARE0 IVmB_BB 18 07 21.1
comp=Z,9µm,2.8s
ARE0 *e*PP **PP** 18 10 22.4 0.0
ARE0 *e*S **S** 18 17 17.2 +0.5
ARE0 *e*SS **SS** 18 22 36.4 +2.8
ARE0 **ARCESS Array S** 81.10 340 *e*P P 18 07 16.4 +0.3
KHEZ **Kahui Hut** 81.13 130 PN P 18 07 17.1 +0.2
RAC **Raciborz** 81.14 320 *e*P P 18 07 17.6 +0.9
RAC *e*S **S** 18 17 17.5 -0.3
OKC **Ostrava-Krasne** 81.15 320 *i*P P 18 07 17.2 +0.5
OKC *e*S **S** 18 17 16.8 -1.1
OKC AMS AMS 18 48 20.0
comp=Z,2µm,16.8s
OKC **Ostrava-Krasne** 81.15 320 *i*P P 18 07 17.2 +0.5
OKC *e* 18 17 16.8
OKC MLR MLR
comp=Z,2µm,16.8s
AWAZ **Awhitu Peninsu** 81.19 128 *e*PN P 18 07 18.2 +1.0
TIP **Timpagrande** 81.30 309 P P 18 07 18.5 +0.6
TIP **Timpagrande** 81.30 309 P S 18 16 56.6 -24
TIP **Timpagrande** 81.30 309 *e*P P 18 07 18.2 +0.4
TIP **Timpagrande** 81.30 309 P S 18 16 56.6 -24
KHZ **Kahutara** 81.41 134 *e*P P 18 07 18.7 +0.5
KHZ **Kahutara** 81.41 134 PN P 18 07 17.0 -1.1
MSVF **Nonsavu** 81.46 108*ce*P P 18 07 20.5 +1.4
MSVF pmax pmax
comp=Z,219nm,1.0s
MSVF **Nonsavu** 81.46 108 *e*P P 18 07 19.0 0.0
SMOL **Smolenice** 81.49 318 *e*P P 18 07 19.7 +1.1
SMOL **Smolenice** 81.49 318 *e*P P 18 07 19.7 +1.1
BSWZ **Blackbirch Sta** 81.51 133 PN P 18 07 19.2 +0.4
MORC **Moravsky Berou** 81.53 320⇑*i*P P 18 07 19.8 +1.0
MORC **Moravsky Berou** 81.53 320 *e*P P 18 07 18.9 +0.1
MORC pmax pmax
comp=Z,3µm,1.2s
MORC **Moravsky Berou** 81.53 320 *e*P P 18 07 18.9 +0.1
comp=Z,3µm,1.2s
WIAZ **Waiheke Island** 81.53 128 *e*PN P 18 07 20.1 +1.1
MKAZ **Moumakai** 81.61 128 PN P 18 07 20.9 +1.5
HIZ **Hauiti** 81.63 129 *e*P P 18 07 20.9 +1.4
HIZ **Hauiti** 81.63 129 *e*PN P 18 07 20.7 +1.3
VRZ **Vera Road** 81.67 130 PN P 18 07 20.4 +0.7
KTK1 **Kautokeino** 81.75 339⇑*i*P P 18 07 19.5 0.0
KTK1 IVmB_BB 18 07 24.2
comp=Z,8µm,2.6s
KTK1 *e*S **S** 18 17 22.0 -1.4
FUNA **Funafuti** 81.75 99 *e*P P 18 07 22.2 +1.6
BEHE **Becsehely** 81.77 316⇑*e*P P 18 07 21.2 +1.2
CEL **Celeste** 81.93 308 *e*P P 18 07 22.1 +0.9
TSUM **Tsumeb** 81.95 250 P P 18 07 22.1 +0.3
comp=Z,433nm,1.1s,baz=81,slow=4.7,SNR=245
TSUM S **S** 18 17 28.3 +0.7
comp=Z,1.4nm,0.7s,baz=180,slow=7.1,SNR=3.2
WAZ **Wanganui** 81.95 131 PN P 18 07 20.9 -0.3
SYO **Syowa Base** 81.97 198⇑*i*P P 18 07 19.4 -1.2
SYO **Syowa Base** 81.97 198 ⇓*i*PcP **PcP** 18 07 24.0 -1.8
SISC **Sisak** 81.98 315 P P 18 07 21.3 +0.2
HAMF **Hammerfest** 81.98 341⇑*i*P P 18 07 20.9 +0.2
HAMF IVmB_BB 18 07 25.6
comp=Z,10µm,2.7s
HAMF *e*PP **PP** 18 10 30.3 +0.7
HAMF *e*S **S** 18 17 26.2 +0.4
TOZ **Tahuroa Road** 81.99 129 *e*PN P 18 07 22.5 +1.1
KUZ **Kuaotunu** 81.99 128 PN P 18 07 22.1 +0.7
SOP **Sopron** 82.01 318⇑*e*P P 18 07 21.3 0.0
SNZO **South Karori** 82.04 132 *e*P P 18 07 21.5 0.0
KRLC **Kraliky** 82.05 320 *e*P P 18 07 22.4 +0.9
KRLC **Kraliky** 82.05 320 *e*P P 18 07 22.4 +0.9
GKP **Gorka Klasztor** 82.06 323 *e*P P 18 07 21.6 +0.2
comp=Z,4µm,11.8s
GKP *i*S **S** 18 17 25.6 -1.5
GKP **Gorka Klasztor** 82.06 323⇑*e*P P 18 07 21.6 +0.2
GKP *i*S **S** 18 17 25.6 -1.5
CUC **Castrocucco** 82.07 310 *e*P P 18 07 21.6 -0.3
KIW **Kapiti Island** 82.10 132 PN P 18 07 21.4 -0.6
VRAC **Vranov** 82.11 319 ⇓*i*P P 18 07 22.8 +1.0
VRAC **Vranov** 82.11 319 ⇓P P 18 07 22.8 +1.0
TLZ **Tolley Road** 82.12 129 *e*PN P 18 07 22.9 +0.8
KOGS **Kog** 82.13 316 *i*P P 18 07 22.3 +0.4
KOGS *i*S **S** 18 17 27.1 -1.0
PKVZ **Pokaka** 82.14 130 *e*PN P 18 07 22.0 -0.3
TWVZ **Taurewa** 82.17 130 *e*PN P 18 07 22.3 -0.2
OGWZ **Otaki Gorge** 82.29 132 *e*PN P 18 07 22.5 -0.4
FWVZ **Far West T-bar** 82.30 130 PN P 18 07 23.4 +0.2
WTVZ **West Tongariro** 82.30 130 *e*PN P 18 07 22.8 -0.4
NGZ **Ngauruhoe** 82.32 130 *e*PN P 18 07 23.0 -0.2
WHVZ **Whangaehu Hut** 82.33 130 PN P 18 07 23.5 +0.1
WNVZ **Wahianoa** 82.34 130 PN P 18 07 23.5 +0.1
WNVZ pP **pP** 18 07 47.4 -3.5
UDBI **Udbina** 82.35 314 P P 18 07 22.9 -0.3
DPC **Dobruska-Polom** 82.36 320 *i*P P 18 07 23.4 +0.2
DPC *e*S **S** 18 17 29.9 -0.6
DPC AMS AMS 18 52 10.0
comp=Z,5µm,19.8s
DPC **Dobruska-Polom** 82.36 320 *i*P P 18 07 23.4 +0.2
DPC *e* 18 17 29.9
DPC MLR MLR
comp=Z,5µm,19.8s
OTVZ **Oturere** 82.36 130 *e*PN P 18 07 23.8 +0.3
TUVZ **Tukino** 82.38 130 *e*PN P 18 07 24.1 +0.5
KSP **Ksiaz** 82.42 321 *e*P P 18 07 24.2 +0.8
comp=Z,3µm,11.4s
KSP *i*S **S** 18 17 29.9 -1.1
KSP **Ksiaz** 82.42 321⇑*e*P P 18 07 24.2 +0.8
KSP *i*S **S** 18 17 29.9 -1.1
MSWZ **Moikau Station** 82.46 132 PN P 18 07 23.2 -0.5
CONA **Conrad Observa** 82.49 318 *i*P P 18 07 23.7 -0.2
comp=Z,240nm,1.3s,SNR=130
CONA *i*S **S** 18 17 33.5 +1.5
comp=Z,71nm,1.9s
MRZ **Mangatainoka R** 82.57 131 PN P 18 07 23.8 -0.5
UPC **Upice** 82.58 320 *i*P P 18 07 24.9 +0.7
UPC *e*S **S** 18 17 32.6 0.0
UPC AMS AMS 18 52 20.0
comp=Z,5µm,19.3s
UPC **Upice** 82.58 320 *i*P P 18 07 24.9 +0.7
UPC *e* 18 17 32.6
UPC MLR MLR
comp=Z,5µm,19.3s
TGRZ **Tauranga** 82.58 128 *e*PN P 18 07 25.1 +0.6
MTW **Mount Morrison** 82.60 132 *e*PN P 18 07 24.6 +0.1
MTW pP **pP** 18 07 48.9 -3.1
OZLJ **Ozalj** 82.62 315 P P 18 07 24.7 +0.3
CRES **Cresnjev** 82.64 316 *e*P P 18 07 24.8 +0.2
ARSA **Arzberg** 82.68 317 *i*P P 18 07 25.2 +0.4
comp=Z,553nm,1.1s,SNR=256
ARSA *i*S **S** 18 17 31.2 -2.6
comp=Z,59nm,1.5s
BHHZ **Black Hill Sta** 82.73 130 *e*PN P 18 07 24.8 -0.5
TSZ **Takapari Road** 82.75 131 PN P 18 07 25.1 -0.2
BOJS **Bojanci** 82.77 315 *i*P P 18 07 25.5 +0.2
OPRZ **Ohinepanea** 82.83 129 PN P 18 07 25.8 +0.1
OPRZ pP **pP** 18 07 50.1 -3.1
PNHZ **Pukenui** 82.90 131 PN P 18 07 25.8 -0.3
PERS **Pernice** 82.92 316 *i*P P 18 07 26.5 +0.4
WDD **Wied Dalam** 82.95 306 *e*P P 18 07 25.6 -0.8
SOKA **Soboth** 82.98 316 *i*P P 18 07 27.0 +0.5
comp=Z,906nm,1.3s,SNR=480
SOKA *i*SKsac **SKsac** 18 17 38.9 +0.2
comp=Z,125nm,1.8s
NVLJ **Novalja** 82.99 314 P P 18 07 25.8 -0.6
BKZ **Black Stump Fm** 83.00 130 *e*P P 18 07 26.5 -0.1
BKZ **Black Stump Fm** 83.00 130 PN P 18 07 26.1 -0.6
BFZ **Birch Farm** 83.07 131 *e*P P 18 07 27.3 +0.4
BFZ **Birch Farm** 83.07 131 PN P 18 07 27.1 +0.1
VAE **Valguarnera** 83.08 307 S S 18 17 43.0 +4.7
comp=Z,3.5nm,0.4s,baz=167,slow=19,SNR=1.9
MUGZ **Murupara** 83.10 129 *e*PN P 18 07 26.4 -0.7
HOPEN **Hopen** 83.13 347⇑*i*P P 18 07 26.7 +0.2
HOPEN IVmB_BB 18 07 29.7
comp=Z,8µm,2.7s
HOPEN *e*PP **PP** 18 10 38.9 0.0
HOPEN *e*SKsac **S** 18 17 37.4 +0.1
ANWZ **Angora Road** 83.20 131 *e*PN P 18 07 27.2 -0.4
RTZ **Ruatahuna** 83.28 129 PN P 18 07 27.4 -0.8
PRHZ **Porangahau** 83.29 131 *e*PN P 18 07 28.3 +0.2
LJU **Ljubljana** 83.30 316 *i*P P 18 07 28.6 +0.5
LJU *e*S **S** 18 17 38.2 -1.9
LJU *e* 18 18 18.5
LJU *e* 18 29 45.0
OBKA **Obir** 83.31 316 *i*P P 18 07 28.6 +0.4
comp=Z,552nm,1.2s,SNR=171
OBKA *i*S **S** 18 17 42.0 +1.7
comp=Z,225nm,1.6s,SNR=14
GOPC **GO Pecny, Ondr** 83.32 320 *i*P P 18 07 28.7 +0.6
GOPC *e*S **S** 18 17 39.9 -0.3
GOPC AMS AMS 18 48 50.0
comp=Z,4µm,19.1s
GOPC **GO Pecny, Ondr** 83.32 320 *i*P P 18 07 28.7 +0.6
GOPC *e* 18 17 39.9
GOPC MLR MLR
comp=Z,4µm,19.1s
URZ **Urewera** 83.33 129 S S 18 17 35.1 -5.5
comp=Z,16nm,1.1s,baz=195,slow=20,SNR=1.8
URZ LR LR 18 45 36.3
comp=Z,11µm,19.9s,baz=286,slow=36
URZ **Urewera** 83.33 129 *e*P P 18 07 27.4 -0.9
URZ S S 18 17 35.1 -5.5
URZ **Urewera** 83.33 129 PN P 18 07 27.2 -1.1
TRO **Tromso** 83.37 340⇑*i*P P 18 07 29.4 +1.6
TRO IVmB_BB 18 07 34.1
comp=Z,6µm,3.0s
TRO *e*pP **pP** 18 07 55.4 0.0
TRO *e*PP **PP** 18 10 41.6 +0.6
TRO *e*SKsac **S** 18 17 39.3 -0.5
KAHZ **Kahuranaki** 83.40 130 PN P 18 07 29.1 +0.4
PXZ **Pawanui** 83.42 131 PN P 18 07 28.9 +0.1
PRU **Pruhonice** 83.48 320 *i*P P 18 07 29.3 +0.4
PRU *e*S **S** 18 17 42.3 +0.5
PRU AMS AMS 18 52 40.0
comp=Z,5µm,18.1s
PRU **Pruhonice** 83.48 320 *i*P P 18 07 29.3 +0.4
PRU *e* 18 17 42.3
PRU MLR MLR
comp=Z,5µm,18.1s
PVCC **Panska Ves** 83.50 320 *e*P P 18 07 29.8 +0.9
PVCC *e*S **S** 18 17 43.2 +1.3
PVCC AMS AMS 18 46 20.0
comp=Z,6µm,23.2s
PVCC **Panska Ves** 83.50 320 *e*P P 18 07 29.8 +0.9
PVCC *e* 18 17 43.2
PVCC MLR MLR
comp=Z,6µm,23.2s
PRA **Prague** 83.56 320 *e*P P 18 07 30.2 +1.0
PRA *e*S **S** 18 17 44.2 +1.7
PRA AMS AMS 18 53 00.0
comp=Z,5µm,20.2s
PRA **Prague** 83.56 320 *e*P P 18 07 30.2 +1.0
PRA *e* 18 17 44.2
PRA MLR MLR
comp=Z,5µm,20.2s
MOA **Molln** 83.56 318 *i*P P 18 07 29.4 0.0
comp=Z,423nm,2.1s,SNR=136
MOA *i*S **S** 18 17 47.4 +4.7
comp=Z,80nm,1.5s
BSD **Bornholm Skovb** 83.57 325⇑*i*P P 18 07 29.0 -0.2
comp=Z,654nm,1.1s
BSD **Bornholm Skovb** 83.57 325 *i*S S 18 17 38.3 -4.1
BSD **Bornholm Skovb** 83.57 325⇑*i*P P 18 07 29.0 -0.2
BSD *i*S **S** 18 17 38.3 -4.1
BSD pmax pmax
comp=Z,650nm,1.1s
RAGZ **Rawiri** 83.60 129 *e*PN P 18 07 29.4 -0.4
MWZ **Matawai** 83.66 129 PN P 18 07 29.1 -1.0
RUGZ **Raukumara Rang** 83.72 129 PN P 18 07 29.0 -1.5
HAZ **Te Kaha** 83.78 128 PN P 18 07 29.5 -1.1
TRI **Trieste** 83.82 315 *e*P P 18 07 29.9 -0.8
TRI **Trieste** 83.82 315 *e*P P 18 07 29.9 -0.8
MIDW **Midway** 83.85 62 *e*P P 18 07 33.4 +2.3
KNZ **Kokohu** 83.88 130 PN P 18 07 29.8 -1.3
BRG **Berggiesshubel** 83.91 321 *i*P P 18 07 31.6 +0.6
comp=Z,786nm,1.4s
BRG sP **sP** 18 08 06.6 -3.5
comp=Z,129nm,1.1s
BRG PP **PP** 18 10 41.1 -4.7
comp=Z,89nm,1.3s
BRG SKS **S** 18 17 45.0 -1.0
BRG S ScS 18 18 11.0 +13
comp=N,7µm,28.4s
comp=E,4µm,24.8s
comp=Z,8µm,24.2s
BRG **Berggiesshubel** 83.91 321 *i*P P 18 07 31.6 +0.6
BRG 18 10 41.2
BRG 18 17 45.0
BRG pmax pmax
comp=Z,786nm,1.4s
BRG pmax pmax
comp=Z,89nm,1.3s
BRG smax smax
comp=N,7.0nm,28.4s
BRG MLR MLR
comp=E,4µm,24.8s
BRG MLR MLR
comp=Z,8µm,24.2s
TKGZ **Te Karaka** 83.93 129 PN P 18 07 30.7 -0.7
MYKA **Terra Mystica** 83.94 316 *i*P P 18 07 31.1 -0.2
comp=Z,643nm,1.7s,SNR=189
MYKA *i*SKsac **SKsac** 18 17 43.4 -1.5
comp=Z,130nm,1.6s,SNR=6.5
GEA0 **GERESS Array S** 83.98 319 *e*P P 18 07 30.9 -0.6
GEC2 **GERESS Array S** 83.98 319 *e*P P 18 07 31.9 +0.3
GEC2 **GERESS Array S** 83.98 319 *e*P P 18 07 31.9 +0.3
GERES **GERESS Array B** 83.98 319 P P 18 07 31.8 +0.3
comp=Z,336nm,1.1s,baz=83,slow=4.3,SNR=235
GERES S **S** 18 17 47.6 +0.6
comp=Z,21nm,1.2s,baz=104,slow=5.6,SNR=10
GERES PKKP PKKPdf 18 25 27.1 -12
comp=Z,0.2nm,0.3s,baz=1.9,slow=2.9,SNR=3.6
GERES LR LR 18 49 13.7
comp=Z,3µm,21.6s,baz=88,slow=39
AQU **L'Aquila** 83.98 312 *e*P P 18 07 32.1 +0.4
AQU **L'Aquila** 83.98 312 *e*P P 18 07 32.1 +0.4
TWGZ **Tauwhareparae** 83.99 129 *e*PN P 18 07 31.3 -0.5
PKGZ **Pakihiroa** 84.03 128 PN P 18 07 31.3 -0.6
CLTB **Caltabellotta** 84.03 307 *e*P P 18 07 32.6 +0.5
KHC **Kasperske Hory** 84.07 319 *i*P P 18 07 32.1 +0.1
KHC *ex* x 18 07 39.5
KHC *e*sP **sP** 18 08 05.0 -5.9
KHC *e*S **S** 18 17 47.5 -0.3
KHC AMS AMS 18 50 10.0
comp=Z,4µm,18.4s
KHC **Kasperske Hory** 84.07 319 *i*P P 18 07 32.1 +0.1
KHC *e* 18 08 05.0
KHC *e* 18 17 47.5
KHC MLR MLR
comp=Z,4µm,18.4s
KHC **Kasperske Hory** 84.07 319 *e*P P 18 07 32.0 +0.1
BJO **Bjornoya** 84.11 345⇑*i*P P 18 07 31.5 -0.1
BJO IVmB_BB 18 07 34.3
comp=Z,6µm,2.8s
BJO *e*PP **PP** 18 10 47.0 +0.1
BJO *e*SKsac **SKsac** 18 17 44.5 -0.3
KBA **Koelnbreinsper** 84.15 317 *i*P P 18 07 32.2 -0.4
comp=Z,211nm,1.0s,SNR=30
KBA *i*S **S** 18 17 49.8 +0.8
comp=Z,70nm,1.4s
KBA **Koelnbreinsper** 84.15 317 P P 18 07 32.8 +0.2
KBA pmax pmax
comp=Z,237nm,1.2s
PUZ **Puketiti** 84.19 129 PN P 18 07 32.7 0.0
WMGZ **Waiomatatini S** 84.28 128 PN P 18 07 32.7 -0.5
RGN **Rugen** 84.46 324 *e*P P 18 07 33.6 -0.1
STEI **Steigen** 84.48 338⇑*i*P P 18 07 33.4 -0.1
STEI IVmB_BB 18 07 36.6
comp=Z,8µm,0.9s
STEI *e* 18 17 51.8
CLL **Collm** 84.52 321 *i*P P 18 07 34.0 -0.1
CLL *e*S **S** 18 17 51.0 -1.1
CLL pmax pmax
comp=Z,573nm,1.4s
CLL **Collm** 84.52 321 *i*P P 18 07 34.0 -0.1
comp=Z,573nm,1.4s
CLL *e*Pmax 18 07 36.0
CLL *e*(sP) **sP** 18 08 09.0 -4.1
CLL *e* 18 08 22.0
CLL *e*SKsac **SKsac** 18 17 47.0 -1.3
CLL *e*S **S** 18 17 51.0 -1.1
comp=N,16µm,15.2s
CLL *e*S **S** 18 17 51.0 -1.1
CLL *e*S **S** 18 17 51.0 -1.1
CLL *e*sS **sS** 18 18 34.0 -5.6
CLL *e*SSS SSS 18 26 54.0
CLL **Collm** 84.52 321 *e*P P 18 07 34.1 +0.1
MOR8 **Moi Rana** 84.64 336⇑*i*P P 18 07 34.0 -0.4
MOR8 IVmB_BB 18 07 38.9
comp=Z,7µm,3.8s
MOR8 *e*PP **PP** 18 10 51.6 +0.3
MOR8 *e*SKsac **SKsac** 18 17 47.0 -1.5
MOR8 *e* 18 17 52.4
MOR8 *e*SS **SS** 18 23 28.0 +1.9
ABTA **Abfaltersbach** 84.72 316 *i*P P 18 07 34.6 -0.7
comp=Z,380nm,1.2s,SNR=141
ABTA *i*SKsac **SKsac** 18 17 48.7 -1.2
comp=Z,124nm,1.8s,SNR=5.1
NKC **Novy Kostel** 84.84 320 *i*P P 18 07 36.0 +0.2
NKC *e*S **S** 18 17 56.0 +0.6
NKC AMS AMS 18 47 30.0
comp=Z,6µm,21.0s
NKC **Novy Kostel** 84.84 320 *i*P P 18 07 36.0 +0.2
NKC *e* 18 17 56.0
NKC MLR MLR
comp=Z,6µm,21.0s
COP **Copenhagen** 85.01 325⇑*i*P P 18 07 37.4 +1.0
COP **Copenhagen** 85.01 325 *i*S S 18 17 54.1 -2.6
COP **Copenhagen** 85.01 325⇑*i*P P 18 07 37.4 +1.0
COP *i*S **S** 18 17 54.1 -2.6
LLD **Lille Linde** 85.13 325 *i*P P 18 07 37.7 +0.7
comp=Z,1µm,1.2s
LLD **Lille Linde** 85.13 325 *i*P P 18 07 37.7 +0.7
LLD pmax pmax
comp=Z,1µm,1.2s
GSTR **Great Sitkin T** 85.13 38 *e*P P 18 07 38.5 +1.3
LOF **Lofoten** 85.14 338⇑*i*P P 18 07 36.2 -0.6
LOF IVmB_BB 18 07 41.5
comp=Z,6µm,3.1s
LOF *e*PP **PP** 18 10 55.7 +0.4
LOF *e*SKsac **SKsac** 18 17 50.7 -0.8
LOF *e*SS **SS** 18 23 37.1 +3.9
KONS **Konsvik** 85.19 336⇑*i*P P 18 07 37.1 0.0
KONS IVmB_BB 18 07 42.1
comp=Z,6µm,3.0s
KONS *e*SKsac **SKsac** 18 17 50.6 -1.3
KONS *e* 18 17 58.5
STOK **Stokkvaagen** 85.23 336⇑*i*P P 18 07 37.5 +0.2
STOK IVmB_BB 18 07 44.0
comp=Z,8µm,6.4s
STOK *e*SKsac **SKsac** 18 17 51.9 -0.3
STOK *e* 18 17 58.8
WTTA **Wattenberg** 85.32 317 *i*P P 18 07 38.0 -0.4
comp=Z,427nm,1.4s,SNR=115
WTTA *i*SKsac **SKsac** 18 17 54.6 +0.6
comp=Z,123nm,1.3s
SPA0 **Spitsbergen Ar** 85.34 348⇑*i*P P 18 07 37.3 -0.4
SPA0 IVmB_BB 18 07 40.6
comp=Z,15µm,1.6s
SPA0 *e*PP **PP** 18 10 57.2 +0.4
SPA0 *e*SKsac **SKsac** 18 17 51.9 -0.7
SPA0 **Spitsbergen Ar** 85.34 348 *e*P P 18 07 38.0 +0.3
SPITS **Spitsbergen Ar** 85.34 348 LR LR 18 51 26.4
comp=Z,10µm,21.6s,baz=25,slow=40
WATA **Walderalm** 85.36 317 *i*P P 18 07 37.9 -0.7
comp=Z,174nm,0.8s,SNR=116
WATA *i*S **S** 18 17 58.6 -2.3
comp=Z,62nm,1.1s
HSPB **Hornsund (broa** 85.37 347⇑*i*P P 18 07 37.7 -0.2
HSPB IVmB_BB 18 07 41.0
comp=Z,7µm,2.0s
HSPB *e*PP **PP** 18 10 58.1 +1.0
HSPB *e*SKsac **SKsac** 18 17 52.0 -0.7
HSPB *e*SS **SS** 18 23 40.3 +4.0
MOX **Moxa** 85.38 320 P P 18 07 38.8 +0.4
MOX pmax pmax
comp=Z,327nm,1.4s
GRF **Grafenberg Arr** 85.62 319 P P 18 07 40.8 +1.1
GRFO **Grafenberg** 85.62 319 *e*P P 18 07 40.6 +0.9
GRFO **Grafenberg** 85.62 319 *e*P P 18 07 40.5 +0.9
NC602 **NORSAR Array S** 85.64 331⇑*i*P P 18 07 39.4 -0.1
NC602 IVmB_BB 18 07 42.0
comp=Z,6µm,1.6s
NC602 *e*PP **PP** 18 10 59.7 +0.1
NC602 *e*SKsac **SKsac** 18 17 55.2 +0.2
MOTA **Moosalm** 85.69 317 *i*P P 18 07 39.7 -0.5
comp=Z,488nm,1.1s,SNR=207
MOTA *i*S **S** 18 18 04.7 +0.6
comp=Z,66nm,1.0s,SNR=11
NB2 **NORSAR Subarra** 85.81 331 P P 18 07 40.5 +0.1
baz=90,slow=5.3
NB2 **NORSAR Subarra** 85.81 331 P P 18 07 40.5 +0.1
NB2 pmax pmax
comp=Z,1µm,1.5s
NB2 **NORSAR Subarra** 85.81 331 P P 18 07 40.5 +0.1
comp=Z,1µm,1.2s,baz=90,slow=5.3
NOA **NORSAR Array B** 85.81 331 P P 18 07 40.2 -0.2
comp=Z,376nm,0.9s,baz=92,slow=5.0,SNR=398
NOA LR LR 18 51 17.0
comp=Z,2µm,20.8s,baz=95,slow=39
RETA **Reutte** 85.92 317 *i*P P 18 07 41.2 0.0
comp=Z,674nm,1.3s,SNR=156
RETA *i*SKsac **SKsac** 18 17 54.6 -2.9
comp=Z,110nm,1.5s
FETA **Feichten** 85.94 317 *i*P P 18 07 41.4 -0.1
comp=Z,360nm,1.3s,SNR=131

FETA *i* S **S** **18 18 07.6 +1.0**
SNR=8.5
OSL **Oslo** **86.03 330**⇑ *i*P **P** **18 07 41.6 +0.2**
OSL IVmB_BB 18 07 44.2
comp=Z,13µm,1.4s
OSL *e*SKSac **SKSac** **18 17 57.7 +0.3**
VLC **Villacollemand** **86.20 314** *e*P **P** **18 07 42.2 -0.5**
FUORN **Ofenpass-Fuorn** **86.26 316** *e*P **P** **18 07 43.6 +0.4**
ATKA **Atka Island** **86.28 38** *e*P **P** **18 07 43.7 +0.9**
KBS **Kingsbay** **86.29 349**⇑ *i*P **P** **18 07 41.9 -0.4**
KBS IVmB_BB 18 07 44.9
comp=Z,5µm,1.6s
KBS *e*SKSac **SKSac** **18 17 58.1 -0.4**
KBS **Kingsbay** **86.29 349** *e*P **P** **18 07 42.0 -0.4**
KBS pmax pmax
comp=Z,759nm,1.4s
KBS **Kingsbay** **86.29 349** *e*P **P** **18 07 42.0 -0.4**
comp=Z,758nm,1.4s
TBLU **Trondheim** **86.30 333**⇑ *i*P **P** **18 07 42.5 -0.2**
TBLU IVmB_BB 18 07 47.9
comp=Z,4µm,3.4s
TBLU *e*SKSac **SKSac** **18 17 57.8 -1.2**
TBLU *e* 18 18 08.5
RAO **Raoul Island** **86.30 119** LR LR 18 48 39.9
comp=Z,4µm,19.4s,baz=279,slow=37
DAVA **Damuels** **86.52 317** *i*P **P** **18 07 44.5 +0.1**
comp=Z,730nm,1.2s,SNR=187
DAVA *i* SKSac **SKSac** **18 18 00.4 -1.0**
comp=Z,72nm,1.3s
KONO **Kongsberg** **86.60 329**⇑ *i*P **P** **18 07 44.7 +0.5**
KONO IVmB_BB 18 07 47.2
comp=Z,8µm,1.4s
KONO *e*PP **PP** **18 11 06.5 -0.9**
KONO *e*SKSac **SKSac** **18 18 00.7 -0.3**
KONO *e* 18 18 12.4
KONO **Kongsberg** **86.60 329** *e*P **P** **18 07 44.6 +0.4**
KONO **Kongsberg** **86.60 329** *e*P **P** **18 07 44.6 +0.4**
DOMB **Dombas** **86.85 332**⇑ *i*P **P** **18 07 45.6 +0.2**
DOMB IVmB_BB 18 07 52.4
comp=Z,5µm,6.8s
DOMB *e*SKSac **SKSac** **18 18 02.8 +0.2**
DOMB *e* 18 18 14.3
DOMB *e*SS **SS** **18 24 00.3 +1.7**
MUD **Monsted U'grnd** **86.85 326**⇑ *i*P **P** **18 07 46.7 +1.2**
comp=Z,1µm,1.1s
MUD **Monsted U'grnd** **86.85 326** *i* S **SKSac** **18 18 05.1 +2.5**
MUD **Monsted U'grnd** **86.85 326**⇑ *i*P **P** **18 07 46.7 +1.2**
MUD *i* S **SKSac** **18 18 05.1 +2.5**
MUD pmax pmax
comp=Z,1µm,1.1s
TUE **Stuetta** **86.90 316** *e*P **P** **18 07 46.3 +0.1**
TUE **Stuetta** **86.90 316** *e*P S 18 17 53.9 -22
comp=Z,4.6nm,0.7s
STU **Stuttgart** **86.96 319** *e*P **P** **18 07 46.3 +0.1**
STU **Stuttgart** **86.96 319** *e*P **P** **18 07 46.3 +0.1**
VSL **Villasalto** **87.03 309** *e*P **P** **18 07 47.0 +0.2**
KEST **Kesra** **87.16 305** P **P** **18 07 49.0 +1.4**
comp=Z,604nm,1.1s,baz=335,slow=1.1,SNR=156
KEST S **S** **18 18 14.3 -4.4**
comp=Z,16nm,1.2s,baz=195,slow=20,SNR=2.6
KEST LR LR 18 51 36.8
comp=Z,1µm,20.6s,baz=40,slow=39
HOMB **Homborsund** **87.18 328**⇑ *i*P **P** **18 07 47.6 +0.6**
HOMB IVmB_BB 18 07 49.5
comp=Z,4µm,1.3s
HOMB *e*PP **PP** **18 11 12.8 +0.8**
GAMB **Gambell** **87.44 26** *e*P **P** **18 07 49.8 +1.6**
VNDA **Vanda** **87.45 169** P **P** **18 07 48.0 0.0**
comp=Z,55nm,0.7s,baz=295,slow=5.2,SNR=197
VNDA S **SKSac** **18 18 02.7 -2.8**
comp=Z,1.6nm,1.1s,baz=315,slow=7.1,SNR=4.1
VNDA PKKP **PKKPbc** **18 25 38.7 -2.0**
comp=Z,10nm,0.9s,baz=226,slow=1.1,SNR=12
VNDA LR LR 18 41 04.6
comp=Z,6µm,21.8s,baz=305,slow=32
BFO **Black Forest** **87.54 318** *e*P **P** **18 07 48.9 -0.2**
BFO **Black Forest** **87.54 318** *e*P **P** **18 07 48.9 -0.2**
MOL **Molde** **87.55 332**⇑ *i*P **P** **18 07 48.8 +0.1**
MOL IVmB_BB 18 07 53.0
comp=Z,6µm,1.7s
MOL *e*SKSac **SKSac** **18 18 06.7 +0.1**
MOL *e* 18 18 21.7
AKN **Aaknes** **87.82 332**⇑ *i*P **P** **18 07 51.0 +1.0**
AKN IVmB_BB 18 07 56.6
comp=Z,3µm,2.5s
AKN *e*pP **pP** **18 08 18.1 +0.2**
AKN *e*PP **PP** **18 11 19.9 +2.8**
AKN *e*SKSac **SKSac** **18 18 08.8 +0.4**
AKN *e* 18 18 25.1
AKN *e*SS **SS** **18 24 13.4 +0.7**
SNART **Snartemo** **87.86 328** *e*P **P** **18 07 51.0 +0.7**
SNART IVmB_BB 18 07 54.4
comp=Z,2µm,1.1s
SNART *e*SKSac **SKSac** **18 18 07.3 -1.4**
ODD1 **Odda** **88.09 330** *e*P **P** **18 07 52.2 +0.7**
ODD1 IVmB_BB 18 07 58.5
comp=Z,3µm,3.3s
BUG **Bochum--Univer** **88.11 321** P **P** **18 07 52.6 +1.0**
BLS5 **Blasjo** **88.21 329**⇑ *i*P **P** **18 07 52.9 +0.9**
BLS5 IVmB_BB 18 07 55.3
comp=Z,6µm,1.3s
BLS5 *e*PP **PP** **18 11 20.4 +0.1**
BLS5 *e* 18 18 28.2
HYA **Hoyanger** **88.25 331**⇑ *i*P **P** **18 07 52.6 +0.6**
HYA IVmB_BB 18 07 55.2
comp=Z,4µm,1.3s
HYA *e* 18 18 29.9
SENIN **Lac Senin/Sane** **88.32 316** *e*P **P** **18 07 53.5 +0.4**
ECH **Echery** **88.33 318**⇑ *e*P **P** **18 07 52.9 +0.1**
SBF **Sospel** **88.33 314** *e*P **P** **18 07 53.2 +0.2**
SBF pmax pmax
comp=Z,844nm,1.3s
MOF **Molkenrain** **88.36 318**⇑ *e*P **P** **18 07 52.9 -0.2**
MOF **Molkenrain** **88.36 318** *e*P **P** **18 07 53.2 +0.1**
WTSB **Winterswijk** **88.38 322** *e*P **P** **18 07 53.7 +0.8**
comp=Z,2µm,1.4s
SPIA **Saint Paul Isl** **88.44 33** *e*P **P** **18 07 55.3 +2.3**
SBA **Scott Base** **88.54 169** *e*P **P** **18 07 54.3 +1.2**
SBA **Scott Base** **88.54 169** *e*P **P** **18 07 54.3 +1.2**
HINF **Hinteralfeld** **88.55 318** *e*P **P** **18 07 53.6 -0.3**
HINF pmax pmax
comp=Z,583nm,1.8s
LOMF **Lomont** **88.59 317**⇑ *e*P **P** **18 07 54.2 +0.1**
STAV **Stavanger** **88.62 329**⇑ *i*P **P** **18 07 54.4 +0.5**
STAV IVmB_BB 18 07 57.9
comp=Z,4µm,1.0s
STAV *e*PP **PP** **18 11 24.8 +1.2**
STAV *e*SKSac **SKSac** **18 18 12.2 -1.0**
STAV *e* 18 18 31.5
STAV *e*SS **SS** **18 24 26.4 +2.0**
OG22 **Abries** **88.64 315**⇑ *e*P **P** **18 07 55.3 +0.7**
ABSA **Djebel Ababsia** **88.65 306** P **P** **18 07 56.4 +1.7**
CMAH **Djebel Manchou** **88.68 306** P **P** **18 07 56.2 +1.4**
BER **Bergen** **88.71 330**⇑ *i*P **P** **18 07 55.0 +0.7**
BER IVmB_BB 18 08 00.7
comp=Z,3µm,1.9s
BER *e*PP **PP** **18 11 24.7 +0.4**
BER *e*SKSac **SKSac** **18 18 13.9 +0.2**
BER *e* 18 18 32.3
BER *e*SS **SS** **18 24 28.9 +3.1**
LPG **La Plagne** **88.74 315** *e*P **P** **18 07 55.5 +0.3**
LPG pmax pmax
comp=Z,388nm,1.0s
LPL **La Plagne** **88.75 315** *e*P **P** **18 07 55.5 +0.4**
LPL pmax pmax
comp=Z,655nm,1.1s
FOO **Floro** **88.77 331**⇑ *i*P **P** **18 07 55.1 +0.6**
FOO IVmB_BB 18 07 58.7
comp=Z,4µm,6.7s
FOO *e*PP **PP** **18 11 24.0 -0.7**
FOO *e*SKSac **SKSac** **18 18 15.9 +2.0**
FOO *e* 18 18 33.9
FOO *e*SS **SS** **18 24 30.0 +3.5**
ASK **Askoy** **88.78 330** *e*P **P** **18 07 55.3 +0.7**
ASK IVmB_BB 18 08 01.2
comp=Z,3µm,2.5s
ASK *e*PP **PP** **18 11 25.4 +0.7**
ASK *e*SKSac **SKSac** **18 18 14.2 +0.1**
BNI **Bardonecchia** **88.82 315** *e*P **P** **18 07 55.3 0.0**
BNI **Bardonecchia** **88.82 315** *e*P **P** **18 07 55.2 0.0**
KMY **Karmoy** **88.84 329** *e*P **P** **18 07 55.4 +0.5**
KMY *e* 18 18 33.5
WLF **Walferdange** **88.92 319** P **P** **18 07 56.8 +1.3**
comp=Z,590nm,1.5s
WLF PP **PP** **18 11 30.6 +4.4**
WLF **Walferdange** **88.92 319** *e*P **P** **18 07 56.6 +1.1**
WLF **Walferdange** **88.92 319** *e*P **P** **18 07 56.6 +1.1**
SUE **Sulen** **88.95 331**⇑ *i*P **P** **18 07 55.6 +0.3**
SUE IVmB_BB 18 08 03.0
comp=Z,1µm,6.9s
SUE *e*PP **PP** **18 11 25.9 -0.2**
SUE *e* 18 18 35.2
MEM **Membach** **88.95 320** P **P** **18 07 56.4 +0.8**
comp=Z,391nm,1.3s
MEM PP **PP** **18 11 31.6 +5.1**
MEM **Membach** **88.95 320** P **P** **18 07 56.4 +0.8**
HGN **Heimansgroeve** **88.99 321** *i*P **P** **18 07 56.3 +0.5**
comp=Z,617nm,1.3s
HGN **Heimansgroeve** **88.99 321** *i* S **S** **18 18 35.6 +0.4**
HGN *e*SS SS 18 23 51.2 -39
THEF **They Montfort** **89.11 318**⇑ *e*P **P** **18 07 56.8 +0.3**
CAEH **'Ain El Ouahch** **89.13 307** P **P** **18 07 58.0 +1.2**
CABF **La Chapelle** **89.14 316** *e*P **P** **18 07 57.3 +0.6**
CABF pmax pmax
comp=Z,703nm,1.3s
BEBN **Eben Emael** **89.15 321** P **P** **18 07 57.1 +0.6**
comp=Z,158nm,1.6s
BEBN PP **PP** **18 11 31.2 +3.2**
CKFL **Kef-Lekhel** **89.26 306** P **P** **18 07 59.1 +1.5**
BCLA **Clavier** **89.41 320** P **P** **18 07 58.5 +0.7**
comp=Z,358nm,1.4s
BCLA PP **PP** **18 11 35.5 +5.4**
CASM **Ain Smara** **89.45 306** P **P** **18 07 59.9 +1.5**
NIKH **Nikolski High** **89.51 37** *e*P **P** **18 07 59.3 +1.1**
CTEI **Djebel Teioual** **89.53 306** P **P** **18 08 00.9 +2.0**
DOU **Dourbes** **89.89 320** P **P** **18 08 01.0 +1.0**
comp=Z,309nm,1.6s
DOU PP **PP** **18 11 36.8 +2.8**
DFRA **Djebel Bou Aff** **89.92 306** P **P** **18 08 02.8 +2.1**
UCC **Uccle** **89.98 321** P **P** **18 08 01.1 +0.7**
comp=Z,147nm,1.6s
SNF **Seneffe** **90.06 320** P **P** **18 08 01.7 +0.9**
SNF PP **PP** **18 11 34.3 -0.9**
BAIF **Baives** **90.14 320** *e*P **P** **18 08 02.2 +1.0**
BAIF pmax pmax
comp=Z,1µm,1.3s
VIVF **Saint-Julien-l** **90.25 315** *e*P **P** **18 08 02.4 +0.5**
VIVF pmax pmax
comp=Z,630nm,1.4s
CKHR **Kef el Ahmar** **90.25 306** P **P** **18 08 04.2 +2.0**
SSB **Saint Sauveur** **90.31 315**⇑ *e*P **P** **18 08 02.9 +0.7**
SSB **Saint Sauveur** **90.31 315** *e*P **P** **18 08 02.7 +0.5**
SSB **Saint Sauveur** **90.31 315** *e*P **P** **18 08 02.7 +0.5**
SET **Setif** **90.33 306** P **P** **18 08 04.0 +1.4**
LOR **Lormes** **90.61 317** *e*P **P** **18 08 03.1 -0.4**
LOR pmax pmax
comp=Z,1µm,1.3s
UNV **Unalaska Valle** **90.83 36** *e*P **P** **18 08 04.2 -0.1**
comp=Z,193nm,1.0s
PLDF **La Plantade** **90.89 316**⇑ *e*P **P** **18 08 06.8 +1.9**
AFI **Afiamalu** **90.94 104** LR LR 18 51 31.7
comp=Z,2µm,19.4s,baz=268,slow=37
AFI **Afiamalu** **90.94 104** *e*P **P** **18 08 08.2 +2.5**
AFI **Afiamalu** **90.94 104** *e*P **P** **18 08 08.2 +2.5**
AVF **Avril sur Loir** **91.00 317** *e*P **P** **18 08 04.8 -0.5**
AVF pmax pmax
comp=Z,816nm,1.2s
TAM **Tamanrasset** **91.12 293** *e*P **P** **18 08 08.2 +1.6**
TAM **Tamanrasset** **91.12 293** *e*P **P** **18 08 08.2 +1.6**
LBL **Lubilhac** **91.22 315**⇑ *e*P **P** **18 08 08.6 +2.1**
AKUT **Akutan** **91.22 36** *e*P **P** **18 08 06.2 +0.1**
AGO **Saint Agoulin** **91.23 316**⇑ *e*P **P** **18 08 08.4 +2.0**
PYM **Petit Puy Mans** **91.34 316**⇑ *e*P **P** **18 08 08.9 +1.9**
JOHN **Johnston Islan** **91.50 73** *e*P **P** **18 08 11.0 +2.8**
NVL **N'lazarevskaya** **91.57 199** *e*P **P** **18 08 08.0 +0.7**
NVL *e**PP **pP** **18 08 40.2 +4.9**
NVL *e* 18 11 46.0
NVL *e*S **SKSac** **18 18 28.0 -1.8**
NVL *e*PS **PnS** **18 20 36.2 +14**
NVL MLR MLR
comp=Z,7µm,22.0s
SJAF **Saint Jean de** **91.75 313**⇑ *e*P **P** **18 08 09.3 +0.4**
TCF **Toulx Ste Croi** **91.84 316** *e*P **P** **18 08 10.1 +0.9**
TCF pmax pmax
comp=Z,685nm,1.4s
YEL1 **Yell** **91.85 331**⇑ *e*P **P** **18 08 09.8 +0.9**
ADJB **Djebel Djouab** **91.92 306** P **P** **18 08 11.7 +1.8**
LRDF **Laroque-de-Fa** **91.96 313**⇑ *e*P **P** **18 08 10.8 +1.0**
LRW **Lerwick** **91.97 330** *e*P **P** **18 08 09.7 +0.3**
FILF **Fillols** **91.98 313**⇑ *e*P **P** **18 08 11.3 +1.3**
SAN1 **Sandwick** **92.02 330** *e*P **P** **18 08 10.1 +0.5**
WACR **West Acre** **92.08 323** *e*P **P** **18 08 11.1 +1.0**
WACR AMB AMB 18 08 13.4
comp=Z,679nm,1.0s
CAF **Calviac** **92.09 315** *e*P **P** **18 08 10.5 +0.1**
CAF pmax pmax
comp=Z,575nm,1.2s
ABA **Alger-Bouzarea** **92.18 307** P **P** **18 08 12.5 +1.5**
CARF **Carcanieres** **92.30 313**⇑ *e*P **P** **18 08 12.2 +0.6**
VALF **Valcebollere** **92.40 312**⇑ *e*P **P** **18 08 13.6 +1.5**
JMIC **Jan Mayen** **92.49 342** *e*P **P** **18 08 12.9 +1.3**
JMIC IVmB_BB 18 08 16.2
comp=Z,6µm,2.8s
JMIC *e*PP **PP** **18 11 55.3 +1.5**
JMIC *e*SKSac **SKSac** **18 18 37.4 +2.3**
JMIC *e* 18 19 07.0
JMIC *e*SS **SS** **18 25 21.7 +2.1**
LMK **Market Rasen** **92.55 324** *e*P **P** **18 08 13.3 +1.0**
LMK AMB AMB 18 08 15.9
comp=Z,1µm,1.2s
DAG **Danmarks Havn** **92.99 348**⇑ *i*P **P** **18 08 13.2 -0.6**
comp=Z,11µm,25.0s
DAG **Danmarks Havn** **92.99 348**⇑ *i*P **P** **18 08 13.2 -0.6**
DAG MLR MLR
comp=Z,13µm,25.0s
SKP1 **Kophill** **93.10 322** *e*P **P** **18 08 15.3 +0.4**
DRUM **Mains of Drumt** **93.20 327** *e*P **P** **18 08 15.9 +0.7**
DRUM AMB AMB 18 08 18.6
comp=Z,369nm,1.3s
MELF **Melles** **93.27 313**⇑ *e*P **P** **18 08 16.9 +0.9**
FLN **La Foliniere** **93.33 319** *e*P **P** **18 08 16.4 +0.4**
FLN pmax pmax
comp=Z,399nm,1.4s
MME1 **Meikle Cairn** **93.38 328**⇑ *e*P **P** **18 08 16.2 +0.2**
MLA1 **Latheron** **93.40 329**⇑ *e*P **P** **18 08 16.7 +0.6**
WOL **Wolverton** **93.42 322** *e*P **P** **18 08 17.3 +1.0**
WOL AMB AMB 18 08 19.8
comp=Z,624nm,1.3s
ESY **Stoneypath** **93.45 326**⇑ *e*P **P** **18 08 16.7 +0.3**
MCD **Coleburn Disti** **93.49 328**⇑ *e*P **P** **18 08 17.1 +0.6**
RESF **Ens** **93.58 313**⇑ *e*P **P** **18 08 18.7 +1.2**
GRR **Gorron** **93.64 319** *e*P **P** **18 08 18.0 +0.6**
GRR pmax pmax
comp=Z,261nm,1.4s
BIGH **Upper Bighouse** **93.65 329**⇑ *e*P **P** **18 08 18.4 +1.2**
BIGH AMB AMB 18 08 21.1
comp=Z,1µm,1.2s
SSW **Stow on the Wo** **93.70 322**⇑ *e*P **P** **18 08 18.0 +0.3**
STNC **Stoke** **93.72 323** *e*P **P** **18 08 19.1 +1.4**
STNC AMB AMB 18 08 21.2
comp=Z,383nm,1.5s
SWN1 **Swindon** **93.74 322** *e*P **P** **18 08 18.9 +1.0**
SWN1 AMB AMB 18 08 21.2
comp=Z,439nm,1.2s
VIEF **Viey** **93.80 313**⇑ *e*P **P** **18 08 19.4 +1.0**
ECK **Cauldkaine Hil** **93.88 326**⇑ *e*P **P** **18 08 18.8 +0.4**
ESK **Eskdalemuir** **93.89 326**⇑ *e*P **P** **18 08 19.1 +0.6**
ESK AMB AMB 18 08 21.8
comp=Z,291nm,1.3s
ESK **Eskdalemuir** **93.89 326** *e*P **P** **18 08 19.6 +1.2**
ESK **Eskdalemuir** **93.89 326** *e*P **P** **18 08 19.6 +1.2**
STRD **Stroud** **93.92 322** *e*P **P** **18 08 18.8 +0.1**
STRD AMB AMB 18 08 26.3
comp=Z,417nm,1.7s
BHH **Howats Hill** **93.94 326**⇑ *e*P **P** **18 08 19.4 +0.7**
SDPT **Sand Point** **94.07 34** *e*P **P** **18 08 19.4 +0.2**
REYF **Montagne du Re** **94.08 313**⇑ *e*P **P** **18 08 21.7 +2.0**
MDO **Dochfour** **94.10 328**⇑ *e*P **P** **18 08 19.7 +0.4**
OLDB **Oldbury-Upon-S** **94.18 322** *e*P **P** **18 08 20.1 +0.3**
OLDB AMB AMB 18 08 22.1
comp=Z,344nm,1.2s
HLM1 **Long Mynd** **94.23 323** *e*P **P** **18 08 20.4 +0.3**
HLM1 AMB AMB 18 08 23.4
comp=Z,260nm,1.2s
ATE **Arette** **94.30 313**⇑ *e*P **P** **18 08 22.8 +2.2**
MONM **Monmouth** **94.30 322** *e*P **P** **18 08 20.7 +0.3**
MONM AMB AMB 18 08 22.6
comp=Z,195nm,1.3s
RSC **Scourie** **94.33 329**⇑ *e*P **P** **18 08 22.0 +1.7**
HGH **Gray Hill** **94.34 322**⇑ *e*P **P** **18 08 20.7 +0.1**
EAB **Aberfoyle** **94.35 327**⇑ *e*P **P** **18 08 20.4 -0.1**
FOEL **Foel Wylfa** **94.35 323**⇑ *e*P **P** **18 08 21.1 +0.5**
FOEL AMB AMB 18 08 23.9
comp=Z,240nm,1.0s
MCH1 **Michaelchurch** **94.39 323** *e*P **P** **18 08 20.9 +0.1**
MCH1 AMB AMB 18 08 23.7
comp=Z,144nm,1.6s
ORDF **Ordiarp** **94.45 314** *e*P **P** **18 08 21.7 +0.4**
PGBU **Glenifferbraes** **94.51 326** *e*P **P** **18 08 21.7 +0.5**
LARF **Larrau** **94.52 313**⇑ *e*P **P** **18 08 22.8 +1.1**
TTA **Tatalina** **94.54 26** *e*P **P** **18 08 22.4 +1.0**
TTA **Tatalina** **94.54 26** *e*P **P** **18 08 22.4 +1.0**
TT01 **Tatalina** **94.55 26** *e*P **P** **18 08 22.0 +0.7**
KAC **Achnashellach** **94.58 328**⇑ *e*P **P** **18 08 22.2 +0.7**
LLW **Llanuwychllyn** **94.63 323** *e*P **P** **18 08 22.6 +0.7**
LLW AMB AMB 18 08 24.4
comp=Z,818nm,1.5s
OSSF **Osses** **94.68 314**⇑ *e*P **P** **18 08 22.6 +0.3**
WPM1 **Penmaenmawr** **94.69 324**⇑ *e*P **P** **18 08 22.8 +0.6**
RRR **Rubha Reidh** **94.77 329**⇑ *e*P **P** **18 08 23.4 +1.0**
KPL **Plockton** **94.80 328** *e*P **P** **18 08 23.0 +0.4**
KPL AMB AMB 18 08 26.0
comp=Z,256nm,1.4s
GAL1 **Galloway** **94.83 326**⇑ *e*P **P** **18 08 23.2 +0.5**
GAL1 AMB AMB 18 08 26.1
comp=Z,97nm,1.5s
WME **Myndd Eilian** **94.90 324** *e*P **P** **18 08 24.0 +0.9**
ODJA **Bouhanifia** **94.91 306** P **P** **18 08 22.0 -1.6**
WIM **Isle of Man** **94.96 325**⇑ *e*P **P** **18 08 24.4 +1.0**
WLF1 **Llynfaes** **94.98 324**⇑ *e*P **P** **18 08 23.9 +0.5**
WLF1 AMB AMB 18 08 26.9
comp=Z,550nm,1.4s
CHGN **Chignik** **95.00 33** *e*P **P** **18 08 23.4 0.0**
WPS **Cemaes, Angles** **95.02 324** *e*P **P** **18 08 24.3 +0.8**
WPS AMB AMB 18 08 27.1
comp=Z,160nm,1.7s
LPW **Lampeter** **95.02 323** *e*P **P** **18 08 24.4 +0.8**
LPW AMB AMB 18 08 26.3
comp=Z,235nm,1.4s
USTO **Oran** **95.18 306** P **P** 18 08 32.0 +7.2
RRH **Rhenigidale** **95.21 329**⇑ *e*P **P** **18 08 24.9 +0.5**
TOLK **Toolik Lake Re** **95.21 20** P **P** **18 08 25.2 +0.9**
baz=292
GMK **Mull of Kintyr** **95.22 326** *e*P **P** **18 08 25.7 +1.2**
QUIF **Quistinic** **95.24 318** *e*P **P** **18 08 24.7 0.0**
QUIF pmax pmax
comp=Z,45nm,0.8s
SVW2 **Sparrevohn** **95.24 28** *e*P **P** **18 08 26.2 +1.7**
DYA **Yadsworthy** **95.26 321** *e*P **P** **18 08 25.1 +0.3**
DYA AMB AMB 18 08 27.9
comp=Z,223nm,1.3s
DYA **Yadsworthy** **95.26 321** *e*P **P** **18 08 26.1 +1.3**
TORD **Torodi Ar. Bea** **95.45 283** P **P** **18 08 26.5 +0.1**
comp=Z,152nm,1.3s,baz=84,slow=4.1,SNR=135
TORD PP **PP** **18 12 19.3 +0.7**
comp=Z,41nm,1.2s,baz=85,slow=6.9,SNR=7.6
TORD PKKP **PKKPbc** **18 25 17.6 -0.3**
comp=Z,1.8nm,0.4s,baz=313,slow=2.9,SNR=18
TORD SKKS 18 32 16.0
comp=Z,1.4nm,0.9s,baz=251,slow=4.0,SNR=3.6
TORD LR LR 18 49 34.9
comp=Z,5µm,20.2s,baz=55,slow=34
HTL **Hartland** **95.50 322** *e*P **P** **18 08 26.2 +0.3**
HTL AMB AMB 18 08 29.2
comp=Z,104nm,1.2s
COLD **Coldfoot** **95.51 21** *e*P **P** **18 08 26.3 +0.7**
GCL **Cushendall** **95.58 326** *e*P **P** **18 08 26.8 +0.6**
CAST **Castle Rocks** **96.10 25** *e*P **P** **18 08 29.2 +0.8**
DSB **Dublin** **96.15 324** *e*P **P** **18 08 29.4 +0.7**
PPLA **Purkeypile** **96.22 26** *e*P **P** **18 08 29.7 +0.5**
comp=Z,84nm,0.6s
SNAA **Sanae** **96.27 198** S **SKSac** **18 18 52.9 -2.6**
comp=Z,4.0nm,1.1s,baz=275,slow=22,SNR=5.6
SNAA PKKP 18 25 14.0
comp=Z,15nm,0.8s,baz=240,slow=5.8,SNR=24
SNAA SKKP 18 28 43.3
comp=Z,3.9nm,1.0s,baz=208,slow=2.6,SNR=3.1
SNAA PKPPKP **P'P'df** **18 33 23.1 -4.4**
comp=Z,3.0nm,0.9s,baz=288,slow=5.7,SNR=7.5
SNAA **Sanae** **96.27 198** *e*P **P** **18 08 29.2 +0.2**
SNAA S **SKSac** **18 18 52.9 -2.6**
SNAA **Sanae** **96.27 198** *e*P **P** **18 08 29.1 +0.2**
SNAA S **SKSac** **18 18 52.9 -2.6**
SNAA PKKP **PKKPbc** **18 25 14.0 -4.0**
SNAA SKKP 18 28 43.3
SNAA P'P' 18 33 23.1
KTH **Kantishna Hill** **96.54 25** *e*P **P** **18 08 32.9 +2.5**
IWEX **Carrickbyrne,** **96.59 323** *e*P **P** **18 08 31.6 +0.8**
RSO **Redoubt South** **96.75 28** *e*P **P** **18 08 35.1 +3.5**
SCO **Scoresbysund** **96.79 343** *i*P **P** **18 08 32.5 +1.2**
comp=Z,142nm,1.3s
SCO **Scoresbysund** **96.79 343** *i* S **SKSac** **18 19 01.9 +3.8**
SCO *i* 18 19 42.0
SCO **Scoresbysund** **96.79 343** *i*P **P** **18 08 32.5 +1.2**
SCO *i* S **SKSac** **18 19 01.9 +3.8**
SCO *i* 18 19 42.0
SCO pmax pmax
comp=Z,140nm,1.3s
SPU **Mount Spurr** **96.85 27** *e*P **P** **18 08 32.3 +0.4**
TRF **Thorofare Moun** **96.85 25** *e*P **P** **18 08 32.6 +0.6**
MDM **Murphy Dome** **97.12 23** *e*P Pdif 18 08 33.4 +0.4
ES19 **SONSECA Array** **97.21 310** *e*P Pdif 18 08 34.4 +0.3
ESDC **Sonseca Array** **97.26 310** P Pdif 18 08 34.7 +0.4
comp=Z,25nm,0.9s,baz=61,slow=4.0,SNR=66
ESDC PP **PP** **18 12 29.1 -2.8**
comp=Z,22nm,1.1s,baz=73,slow=7.4,SNR=4.2
ESDC PKKP **PKKPbc** **18 25 14.5 +0.6**
comp=Z,0.6nm,0.5s,baz=268,slow=2.3,SNR=3.6
ESDC LR LR 18 57 39.1
comp=Z,1µm,19.7s,baz=85,slow=38
ESLA **Sonseca Array** **97.26 310** *e*P Pdif 18 08 34.7 +0.4
COLA **College** **97.30 23** *e*P Pdif 18 08 35.6 +1.8
COLA **College** **97.30 23** *e*P Pdif 18 08 35.6 +1.9
MCK **McKinley** **97.31 24** *e*P **P** **18 08 33.6 -0.2**
MCK **McKinley** **97.31 24** *e*P **P** **18 08 33.6 -0.2**
WRH **Wood River Hil** **97.36 24** *e*P Pdif 18 08 35.2 +1.1
CCB **Clear Creek Bu** **97.41 23** *e*P **P** **18 08 34.0 -0.2**
RND **Reindeer** **97.46 25** *e*P Pdif 18 08 35.0 +0.3
RND **Reindeer** **97.46 25** *e*P Pdif 18 08 35.0 +0.3
OHAK **Old Harbor** **97.49 31** *e*P Pdif 18 08 35.6 +0.9
FYU **Fort Yukon** **97.58 21** *e*P Pdif 18 08 36.7 +1.8
PAB **San Pablo** **97.58 310** *e*P Pdif 18 08 36.6 +0.9
PAB **San Pablo** **97.58 310** *e*P Pdif 18 08 36.6 +0.9
KDAK **Kodiak Island** **97.68 31** *i*P Pdif 18 08 36.2 +0.6
KDAK **Kodiak Island** **97.68 31** *e*P Pdif 18 08 36.5 +0.9
IL1 **Eielson Array** **97.72 23** *e*P **P** **18 08 34.4 -1.2**
ILAR **Eielson Array** **97.72 23** P **P** **18 08 34.8 -0.9**
comp=Z,17nm,0.6s,baz=275,slow=3.6,SNR=109
ILAR PP **PP** **18 12 29.4 -5.1**
comp=Z,32nm,1.1s,baz=299,slow=9.5,SNR=4.8
ILAR S **SKSac** **18 19 01.3 -1.9**
comp=Z,3.0nm,0.8s,baz=302,slow=5.2,SNR=6.2
ILAR PKKP **PKKPbc** **18 25 10.4 -3.2**
comp=Z,6.4nm,0.8s,baz=146,slow=2.3,SNR=11
ILAR PKPPKP **P'P'df** **18 33 27.6 +2.2**
comp=Z,1.9nm,1.1s,baz=171,slow=3.8,SNR=4.9
ILAR LR LR 18 58 19.7
comp=Z,4µm,18.4s,baz=299,slow=39
ILB **Eielson Array** **97.72 23** *e*P **P** **18 08 35.5 -0.2**
CNPM **China Poot** **97.78 29** *e*P Pdif 18 08 36.8 +0.8
BRLK **Bradley Lake** **97.86 28** *e*P Pdif 18 08 36.8 +0.3
RC01 **Rabbit Creek A** **97.93 27** *e*P Pdif 18 08 37.4 +0.6
PMR **Palmer** **98.02 26** *e*P Pdif 18 08 37.4 +0.4
PMR **Palmer** **98.02 26** *e*P Pdif 18 08 37.4 +0.4
SML **Sawmill** **98.29 26** *e*P Pdif 18 08 39.5 +1.1
SML **Sawmill** **98.29 26** *e*P Pdif 18 08 39.5 +1.1
SEW **Seward** **98.42 28** *e*P Pdif 18 08 40.4 +1.5
SCM **Sheep Creek Mo** **98.72 26** *e*P Pdif 18 08 42.7 +2.4
SCM **Sheep Creek Mo** **98.72 26** *e*P Pdif 18 08 42.7 +2.4
VAL **Valentia** **98.76 323** *e*P **P** **18 08 39.2 -1.3**
VAL **Valentia** **98.76 323** *e*S **S** **18 20 00.0 -1.3**
PBRG **Braganca** **98.93 313** *e*Pdif Pdif 18 08 42.6 +1.0
PBRG **Braganca** **98.93 313** *e*SKSac **SKSac** **18 19 12.1 +1.8**
MDT **Midelt** **98.94 304** P Pdif 18 08 43.3 +1.3
baz=79,slow=8.6
MDT PP **PP** **18 12 41.9 -3.1**
comp=Z,186nm,1.2s,baz=95,slow=11,SNR=17
PAX **Paxson** **99.04 24** *e*P **Pdif** **18 08 42.9 +1.2**
PAX **Paxson** **99.04 24** *e*P **Pdif** **18 08 42.9 +1.2**

MVO **Moncorvo** 99.27 312 *e*Pdif **Pdif** 18 08 44.9 +1.7
MVO Moncorvo 99.27 312 *e*SKSac **SKSac** 18 19 14.1 +2.0
MVO *e*Sdif **ScS** 18 20 05.4 -0.8
DOT Dot Lake 99.32 24 *e*P **Pdif** 18 08 42.4 -0.4
comp=Z,326nm,0.8s
SUMG Summit 99.68 348 *i* P **Pdif** 18 08 44.6 -0.1
comp=Z,264nm,1.4s
SUMG Summit 99.68 348 *i* S **SKSac** 18 19 15.1 +1.5
SUMG Summit 99.68 348 *i* P **Pdif** 18 08 44.6 -0.1
SUMG *i* S **SKSac** 18 19 15.1 +1.5
SUMG pmax pmax
comp=Z,260nm,1.4s
SUMG Summit 99.68 348 *e*Pdif **Pdif** 18 08 44.8 +0.1
comp=Z,190nm,1.3s
DIV Divide 99.69 26 *e*Pdif **Pdif** 18 08 44.6 0.0
comp=Z,116nm,1.1s
PVRL Vila Real 99.75 313 *e*Pdif **Pdif** 18 08 46.0 +0.7
PVRL Vila Real 99.75 313 *e*PP PP 18 12 52.9 +2.1
POLO Lamas de Olo 99.79 313 *e*Pdif **Pdif** 18 08 46.6 +1.0
POLO Lamas de Olo 99.79 313 *e*PP PP 18 12 57.1 +5.9
POLO *e*SKSac **SKSac** 18 19 16.6 +1.9
POLO *e*Sdif **S** 18 20 10.9 +0.2
MTE Manteigas 99.82 312 *e*Pdif **Pdif** 18 08 47.6 +1.9
MTE Manteigas 99.82 312 *e*SKSac **SKSac** 18 19 14.7 -0.1
MTE *e*Sdif **S** 18 20 11.8 +0.9
MTE Manteigas 99.82 312 *e*Pdif **Pdif** 18 08 46.6 +0.9
comp=Z,42nm,1.1s
PCAB Cabril 99.89 313 *e*Pdif **Pdif** 18 08 48.9 +3.0
PCBR Castelo Branco 99.89 311 *e*Pdif **Pdif** 18 08 46.8 +0.9
PCBR Castelo Branco 99.89 311 *e*PP PP 18 12 52.2 +0.4
PBAR Barrancos 99.90 309 *e*Pdif **Pdif** 18 08 47.9 +1.9
PBAR Barrancos 99.90 309 *e*PP PP 18 12 52.4 +0.4
PBAR *e*SKSac **SKSac** 18 19 16.5 +1.3
PBAR *e*Sdif **ScS** 18 20 10.5 -0.9
EGAK Eagle 99.91 22 *e*Pdif **Pdif** 18 08 45.4 0.0
comp=Z,491nm,1.3s
PMRV Marv??o 99.91 311 *e*Pdif **Pdif** 18 08 46.9 +0.9
PMRV Marv??o 99.91 311 *e*PP PP 18 12 53.2 +1.1
PMRV *e*SKSac **SKSac** 18 19 17.0 +1.8
PMRV *e*Sdif **S** 18 20 12.2 +0.6
PGAV Gavieira, Arco 100.00 313 *e*Pdif **Pdif** 18 08 47.5 +1.0
PGAV Gavieira, Arco 100.00 313 *e*PP PP 18 12 54.6 +1.8
PGAV *e*SKSac **SKSac** 18 19 18.3 +2.5
PGAV *e*Sdif **Sdif** 18 20 11.5 -0.9
PESTR Estremoz 100.18 310 *e*Pdif **Pdif** 18 08 48.9 +1.7
PESTR Estremoz 100.18 310 *e*PP PP 18 13 00.5 +6.4
PESTR *e*SKSac **SKSac** 18 19 17.6 +1.0
PESTR *e*Sdif **Sdif** 18 20 15.2 +1.4
BMRM Bremner River 100.28 26 *e*Pdif **Pdif** 18 08 47.9 +0.7
comp=Z,252nm,1.0s
INK Inuvik 100.51 17 P **Pdif** 18 08 48.2 +0.2
comp=Z,43nm,0.8s,baz=340,slow=2.7,SNR=33
INK PKiKP **PKiKP** 18 13 14.5 +0.6
comp=Z,23nm,0.8s,baz=312,slow=4.5,SNR=12
INK PKKP **PKKPbc** 18 25 04.2 -1.5
comp=Z,3.0nm,0.7s,baz=114,slow=3.6,SNR=4.9
PBEJ Beja 100.57 309 *e*Pdif **Pdif** 18 08 51.0 +2.0
PBEJ Beja 100.57 309 *e*PP PP 18 12 58.3 +1.2
EVO Evora 100.58 310 *e*Pdif **Pdif** 18 08 50.0 +1.0
EVO Evora 100.58 310 *e*PP PP 18 12 55.5 -1.6
PVAQ Vaqueiros 100.59 309 *e*Pdif **Pdif** 18 08 50.3 +1.2
PVAQ Vaqueiros 100.59 309 *e*SKSac **SKSac** 18 19 20.5 +2.0
PVAQ *e*Sdif **Sdif** 18 20 18.1 +0.9
PCAS Casmilo, Conde 100.61 312 *e*SKSac **SKSac** 18 19 20.5 +1.9
PCAS *e*Sdif **Sdif** 18 20 17.9 +0.6
PTOM Tomar 100.64 311 *e*Pdif **Pdif** 18 08 51.7 +2.5
PBDV Barranco-do-Ve 100.79 309 *e*Pdif **Pdif** 18 08 51.7 +1.7
PBDV Barranco-do-Ve 100.79 309 *e*PP PP 18 13 00.6 +1.8
PBDV *e*SKSac **SKSac** 18 19 21.8 +2.2
PBDV *e*Sdif **Sdif** 18 20 20.0 +1.0
PCVE Castro Verde 100.79 309 *e*SKSac **SKSac** 18 19 21.7 +2.2
PCVE *e*Sdif **Sdif** 18 20 20.3 +1.4
MESJ Messejana 100.88 309 *e*P **Pdif** 18 08 50.7 +0.3
MESJ *e*S **SKSac** 18 19 19.2 -0.7
MESJ AMS AMS 18 52 44.4
comp=N,3µm,20.4s
MESJ Messejana 100.88 309 *e*Pdif **Pdif** 18 08 51.4 +1.0
MESJ Messejana 100.88 309 *e*P **Pdif** 18 08 50.7 +0.3
MESJ *e*S **SKSac** 18 19 19.2 -0.7
DAWY Dawson 100.93 22 *e*Pdif **Pdif** 18 08 50.4 +0.3
comp=N,246nm,1.4s
PNCL Nicolau / Gran 101.06 310 *e*Pdif **Pdif** 18 08 53.1 +2.0
PNCL Nicolau / Gran 101.06 310 *e*PP PP 18 13 03.4 +2.7
PNCL *e*SKSac **SKSac** 18 19 22.9 +2.1
PNCL *e*Sdif **Sdif** 18 20 21.8 +0.7
KULLO Kullorsuaq 101.07 353 *i* P **Pdif** 18 08 53.5 +3.1
comp=N,196nm,1.1s
KULLO Kullorsuaq 101.07 353 *i* P **Pdif** 18 08 53.5 +3.1
KULLO pmax pmax
comp=Z,200nm,1.1s
MORF Marmelete 101.33 309 *e*S **SKSac** 18 19 21.5 -0.8
MORF AMS AMS 18 58 02.9
comp=N,3µm,14.5s
MORF Marmelete 101.33 309 *e*PP PP 18 13 04.6 +1.7
MORF *e*SKSac **SKSac** 18 19 25.4 +3.1
MORF *e*Sdif **Sdif** 18 20 23.8 +0.2
PTEO Sao Teotonio 101.34 309 *e*Pdif **Pdif** 18 08 54.5 +2.1
PTEO Sao Teotonio 101.34 309 *e*PP PP 18 13 04.7 +1.9
LIS Lisbon 101.40 310 *e*S **SKSac** 18 19 21.8 -0.6
LIS AMS AMS 18 40 33.0
comp=N,4µm,23.2s
PMAFR Mafra 101.45 311 *e*PP PP 18 13 09.3 +5.6
PMAFR *e*SKSac **SKSac** 18 19 25.1 +2.4
PMAFR *e*Sdif **Sdif** 18 20 25.2 +0.8
PFVI Vila Bisbo 101.51 309 *e*Pdif **Pdif** 18 08 56.1 +2.9
PFVI Vila Bisbo 101.51 309 *e*PP PP 18 13 05.1 +0.9
PFVI *e*SKSac **SKSac** 18 19 25.2 +2.2
PFVI *e*Sdif **Sdif** 18 20 25.9 +1.0
RES Resolute Bay 102.01 3 *e*P **Pdif** 18 08 56.2 +1.6
RES pmax pmax
comp=Z,218nm,1.4s
RES Resolute Bay 102.01 3 *e*Pdif **Pdif** 18 08 56.2 +1.6
comp=Z,218nm,1.4s
KIC Kosan Boka 102.31 277 *e*P **Pdif** 18 08 57.7 +0.5
comp=Z,172nm,1.3s
DBIC Dimbokro 102.39 277 P **Pdif** 18 08 58.2 +0.6
comp=Z,16nm,0.9s,baz=82,slow=4.1,SNR=18
DBIC PKKP **PKKPbc** 18 24 58.1 -0.4
comp=Z,6.6nm,0.9s,baz=254,slow=7.0,SNR=3.6
TIC Toumodi 102.56 277 *e*P **Pdif** 18 09 01.3 +3.0
LIC Lamto 102.60 277 *e*P **Pdif** 18 08 58.9 +0.4
comp=Z,103nm,1.2s
SKAG Skagway 105.04 25 *e*Pdif **Pdif** 18 09 11.0 +2.6
comp=Z,37nm,0.9s
SFJD Kangerlussuaq 106.67 348 PP PP 18 13 39.2 -2.0
comp=Z,22nm,0.5s,baz=32,slow=8.6,SNR=4.2
DLBC Dease Lake 107.86 24 Pdif **Pdif** 18 09 24.2 +3.2
comp=Z,8.4nm,1.2s,baz=328,slow=9.5,SNR=4.1
DLBC PKiKP **PKiKP** 18 13 28.6 +0.7
comp=Z,4.7nm,0.5s,baz=186,slow=3.7,SNR=9.3
DLBC PP **PP** 18 13 44.8 -5.6
comp=Z,55nm,1.2s,baz=312,slow=8.4,SNR=4.4
DLBC PKKPbc **PKKPbc** 18 24 41.3 -2.3
comp=Z,24nm,1.4s,baz=245,slow=2.1,SNR=4.3
PMAR Madeira 109.05 306 *e*PP PP 18 13 58.1 -2.1
PMOZ Porto Moniz, M 109.25 306 *e*PP PP 18 14 00.7 -0.8
PMOZ *e*SKSac **SKSac** 18 20 02.8 +4.6
PMOZ *e*Sdif **Sdif** 18 21 32.0 +2.1
YKA Yellowknife Ar 110.13 15 Pdiff **Pdif** 18 09 33.5 +2.6
comp=Z,2.3nm,0.6s,baz=321,slow=5.3,SNR=10
YKA PKiKP **PKiKP** 18 13 31.6 -0.2
comp=Z,3.4nm,0.5s,baz=344,slow=0.7,SNR=20
YKA PP **PP** 18 14 03.2 -3.3
comp=Z,32nm,0.9s,baz=329,slow=4.6,SNR=9.6
YKA PKKP **PKKPbc** 18 24 33.2 -3.2
comp=Z,2.6nm,0.7s,baz=141,slow=3.4,SNR=6.5
TBI Tubuai 111.87 114 *e*Pdif **Pdif** 18 09 37.1 -2.4
comp=Z,730nm,26.5s
TBI Tubuai 111.87 114 *e*PP PP 18 14 19.2 -1.5
comp=Z,2µm,26.0s
TBI *e*Sdif Sdif 18 21 58.4 +6.6
comp=Z,7µm,28.5s
TBI Tubuai 111.87 114 *e*LQ LQ 18 42 21.0
comp=Z,24µm,43.8s
TBI *e*LR LR 18 47 18.9
comp=Z,18µm,35.5s
PPT2 Papeete2 112.28 108 *e*Pdif **Pdif** 18 09 38.8 -2.7
comp=Z,1µm,26.2s
PPT2 Papeete2 112.28 108 *e*PP PP 18 14 28.4 +4.5
comp=Z,3µm,23.5s
PPT2 *e*Sdif Sdif 18 22 03.0 +7.4
comp=Z,10µm,27.0s
PPT2 *e*SP **SP** 18 23 50.7 +4.0
comp=Z,14µm,27.5s
PPT2 Papeete2 112.28 108 *e*LQ LQ 18 42 30.2
comp=Z,40µm,41.5s
PPT2 *e*LR LR 18 47 37.5
comp=Z,16µm,31.0s
BBB Bella Bella 112.64 29 PKiKP **PKiKP** 18 13 37.7 +0.8
comp=Z,20nm,1.0s,baz=327,slow=4.2,SNR=3.1
BBB PP **PP** 18 14 25.6 +0.8
comp=Z,97nm,1.3s,baz=310,slow=8.5,SNR=6.5
FRB Frobisher Bay 112.64 354 PKiKP **PKiKP** 18 13 36.9 +0.3
comp=Z,16nm,0.7s,baz=1.8,slow=4.2,SNR=9.3
PMSA Palmer Station 117.03 189 PKKPbc PKKPbc 18 24 11.5 -1.6
comp=Z,16nm,0.6s,baz=314,slow=2.4,SNR=10
PGC Sidney 117.20 30 *e*PKPdf **PKPdf** 18 13 46.4 +0.7
A04D Lummi Island 117.52 29 P **PKPdf** 18 13 47.2 +0.9
baz=313
NLWA Neilton Lookou 117.83 31 *e*PKPdf **PKPdf** 18 13 47.5 +0.3
EDM Edmonton 118.09 21 *e*PKiKP **PKPdf** 18 13 47.5 0.0
EDM Edmonton 118.09 21 *e*PKPdf **PKPdf** 18 13 47.5 0.0
B05A Bryant 118.13 29 P **PKPdf** 18 13 48.1 +0.5
baz=313,SNR=37
C06D Leavenworth 118.95 29 P **PKPdf** 18 13 49.9 +0.6
baz=314
F04D Rainier, OR 119.13 32 P **PKPdf** 18 13 50.5 +0.9
baz=312
ETW Entiat 119.44 29 P **PKPdf** 18 13 50.5 +0.2
WTV Waterville 119.56 29 P **PKPdf** 18 13 50.7 +0.2
G03D McMinnville, O 119.57 32 P **PKPdf** 18 13 51.3 +0.9
baz=311,SNR=10.0
TBM Table Mountain 119.62 29 P **PKPdf** 18 13 51.2 +0.5
NAC Naches 119.81 30 P **PKPdf** 18 13 51.6 +0.7
COR Corvallis 119.96 33 *e*PKiKP **PKPdf** 18 13 52.3 +1.1
COR Corvallis 119.96 33 *e*P **PKPdf** 18 13 52.3 +1.1
FFC Flin Flon 120.11 13 *e*PKiKP **PKPdf** 18 13 50.9 -0.4
FFC Flin Flon 120.11 13 *e*PKPdf **PKPdf** 18 13 50.9 -0.4
TRW Toppenish Ridg 120.25 30 P **PKPdf** 18 13 52.7 +0.8
NEW Newport 120.45 26 PKP **PKPdf** 18 13 51.8 -0.4
comp=Z,64nm,1.0s,baz=351,slow=0.3,SNR=32
NEW SKP 18 17 20.5
comp=Z,28nm,0.9s,baz=331,slow=3.9,SNR=4.7
NEW Newport 120.45 26 P **PKPdf** 18 13 52.3 +0.1
baz=318
I03D Drain, OR 120.51 34 P **PKPdf** 18 13 53.0 +0.7
baz=310
G05D Wamic, OR 120.58 31 P **PKPdf** 18 13 53.1 +0.6
baz=313
HAWA Hanford 120.68 29 *e*PKPdf **PKPdf** 18 13 53.2 +0.6
I04A Tendick Farm, 120.96 33 P **PKPdf** 18 13 53.6 +0.3
baz=311
SCHQ Schefferville 120.99 350 PKP **PKPdf** 18 13 53.0 +0.1
comp=Z,35nm,0.5s,baz=279,slow=1.4,SNR=21
SCHQ PP **PP** 18 15 23.3 +0.8
comp=Z,133nm,1.0s,baz=27,slow=7.1,SNR=18
SCHQ PKKPbc **PKKPbc** 18 23 56.8 -1.7
comp=Z,19nm,0.8s,baz=189,slow=2.3,SNR=7.9
I05D Terrebonne, OR 121.18 32 P **PKPdf** 18 13 54.4 +0.7
baz=312,SNR=26
WALA Waterton Lakes 121.21 24 *e*PKPdf **PKPdf** 18 13 53.1 -0.6
L02D Cave Junction, 121.34 35 P **PKPdf** 18 13 54.6 +0.5
baz=309,SNR=16
HUMO Hull Mountain 121.43 35 *e*PKPdf **PKPdf** 18 13 55.2 +1.0
J04D Umpqua Nationa 121.49 34 P **PKPdf** 18 13 55.0 +0.4
baz=311
TAOE Nuku Hiva Isla 121.93 98 *e*PP PP 18 15 34.6 +3.3
comp=Z,3µm,24.2s
TAOE *e*SP SP 18 25 14.7 +0.3
comp=Z,13µm,25.1s
TAOE Nuku Hiva Isla 121.93 98 *e*LQ LQ 18 46 39.2
comp=Z,6µm,28.6s
TAOE *e*LR LR 18 51 50.9
comp=Z,17µm,31.9s
J05D Fort Rock, OR 121.94 33 P **PKPdf** 18 13 55.8 +0.5
baz=312,SNR=74
K04D Chiloquin, OR 122.09 34 P **PKPdf** 18 13 55.8 +0.2
baz=311,SNR=11
M02C Callahan 122.26 36 P **PKPdf** 18 13 56.7 +0.8
baz=310,SNR=17
M04C Macdoel 122.59 35 P **PKPdf** 18 13 56.8 +0.2
baz=311,SNR=24
N02D Trinity Center 122.61 36 P **PKPdf** 18 13 57.2 +0.6
baz=310,SNR=19
BMO Blue Mountains 122.88 29 *e*PKiKP **PKPdf** 18 13 56.0 -1.0
BMO Blue Mountains 122.88 29 *e*PKPdf **PKPdf** 18 13 56.0 -1.0
MSO Missoula 122.94 26 P **PKPdf** 18 13 56.6 -0.5
baz=321
MOD Modoc Plateau 123.38 34 *e*PKPdf **PKPdf** 18 13 58.7 +0.6
O03D Paynes Creek 123.58 36 P **PKPdf** 18 13 58.3 -0.2
baz=310,SNR=39
HOPS Hopland Field 123.63 38 *e*PKPdf **PKPdf** 18 13 59.6 +1.1
EGMT Eagleton 123.67 22 P **PKPdf** 18 13 58.4 0.0
baz=326
EGMT Eagleton 123.67 22 *e*PKPdf **PKPdf** 18 13 58.7 +0.3
WVOR Wild Horse Val 123.92 32 *e*PKiKP **PKPdf** 18 13 59.7 +0.6
WVOR Wild Horse Val 123.92 32 *e*PKPdf **PKPdf** 18 13 59.6 +0.6
MCCM Marconi Confer 124.27 39 *e*PKPdf **PKPdf** 18 13 58.2 -1.5
MFID Camas Ranch 124.65 30 *e*PKPdf **PKPdf** 18 14 01.1 +0.6
DLMT Dillon 124.67 26 *e*PKPdf **PKPdf** 18 14 01.4 +0.9
BOZ Bozeman (W) 124.90 25 P **PKPdf** 18 14 01.1 +0.1
baz=323
BOZ Bozeman (W) 124.90 25 *e*PKiKP **PKPdf** 18 14 01.0 +0.1
BOZ Bozeman (W) 124.90 25 *e*PKPdf **PKPdf** 18 14 01.0 +0.1
RKT Rikitea 125.04 116 *e*Pdif **Pdif** 18 10 33.1 -4.9
comp=Z,363nm,28.0s
RKT Rikitea 125.04 116 *e*PKiKP **PKPdf** 18 14 00.4 -1.2
comp=Z,66nm,1.2s
RKT Rikitea 125.04 116 *e*PP PP 18 15 52.5 +0.8
comp=Z,3µm,25.8s
RKT *e*Sdif Sdif 18 23 42.0 +0.3
comp=Z,3µm,28.0s
RKT Rikitea 125.04 116 *e*PS PS 18 25 56.2 +2.5
comp=Z,7µm,26.2s
RKT *e*SS SS 18 32 46.8 +6.7
comp=Z,7µm,25.5s
RKT Rikitea 125.04 116 *e*LQ LQ 18 48 07.0
comp=Z,19µm,40.8s
RKT *e*LR LR 18 53 22.2
comp=Z,13µm,42.5s
DGMT Dagmar 125.19 18 P **PKPdf** 18 14 01.6 +0.4
baz=333
DGMT Dagmar 125.19 18 *e*PKPdf **PKPdf** 18 14 01.6 +0.4
HLID Hailey 125.23 28 P **PKPdf** 18 14 02.0 +0.4
baz=319
HLID Hailey 125.23 28 *e*PKPdf **PKPdf** 18 14 02.5 +0.8
ULM Lac du Bonnet 125.61 11 PKP **PKPdf** 18 14 01.5 -0.5
comp=Z,115nm,0.7s,baz=341,slow=2.9,SNR=49
ULM PP **PP** 18 15 52.8 -0.7
comp=Z,132nm,1.2s,baz=345,slow=6.1,SNR=5.8
ULM PKKPbc **PKKPab** 18 23 37.7 -1.1
comp=Z,5.5nm,0.6s,baz=184,slow=1.6,SNR=5.6
ULM SKKPbc SKKPbc 18 27 25.0 +3.4
comp=Z,5.9nm,0.9s,baz=278,slow=3.1,SNR=3.2
CMB Columbia Colle 125.87 37 *e*PKiKP **PKPdf** 18 14 02.9 0.0
CMB Columbia Colle 125.87 37 *e*PKPdf **PKPdf** 18 14 02.9 0.0
SAO San Andreas Ge 126.02 39 *e*PKiKP **PKPdf** 18 14 03.5 +0.4
SAO San Andreas Ge 126.02 39 *e*PKPdf **PKPdf** 18 14 03.5 +0.4
BMN Battle Mountai 126.08 33 *e*PKiKP **PKPdf** 18 14 04.0 +0.6
BMN Battle Mountai 126.08 33 *e*PKPdf **PKPdf** 18 14 04.0 +0.6
LAO LASA Array 126.08 20 P **PKPdf** 18 14 03.8 +0.7
baz=330
LAO LASA Array 126.08 20 *e*PKPdf **PKPdf** 18 14 03.6 +0.6
LKWY Lake 126.25 25 *e*PKiKP **PKPdf** 18 14 05.6 +1.9
LKWY Lake 126.25 25 *e*PKPdf **PKPdf** 18 14 05.6 +1.9
RLMT Red Lodge 126.26 24 P **PKPdf** 18 14 03.7 +0.1
baz=326
RLMT Red Lodge 126.26 24 *e*PKPdf **PKPdf** 18 14 04.3 +0.7
H17A Grant Village 126.31 25 P **PKPdf** 18 14 04.0 +0.2
baz=324
H17A Grant Village 126.31 25 *e*PKPdf **PKPdf** 18 14 05.9 +2.0
FLWY Flagg Ranch 126.51 26 *e*PKPdf **PKPdf** 18 14 04.7 +0.6
IMW Indian Meadow 126.55 26 *e*PKPdf **PKPdf** 18 14 03.8 -0.6
A32A Rocking H Ranc 126.75 12 P **PKPdf** 18 14 03.9 -0.2
baz=342
MOOW Moose Ponds 126.75 26 *e*PKPdf **PKPdf** 18 14 05.1 +0.5
TPAW Teton Pass 126.87 26 *e*PKPdf **PKPdf** 18 14 04.0 -0.9
LOHW Long Hollow 126.93 26 *e*PKPdf **PKPdf** 18 14 05.1 +0.2
A33A Warroad 126.95 11 P **PKPdf** 18 14 04.2 -0.3
baz=343
B31A Greenbush Farm 126.97 13 P **PKPdf** 18 14 04.0 -0.6
baz=340
SNOW Snow King Moun 126.98 26 *e*PKPdf **PKPdf** 18 14 06.1 +0.9
REDW Red Top Meadow 127.02 26 *e*PKPdf **PKPdf** 18 14 05.5 +0.3
MDND Maddock 127.04 15 P **PKPdf** 18 14 05.0 +0.2
baz=338
MDND Maddock 127.04 15 *e*PKPdf **PKPdf** 18 14 05.2 +0.4
MLAC Mammoth, Mammt 127.06 37 P **PKPdf** 18 14 06.3 +0.9
baz=312
B32A Ashes, Strandq 127.24 12 P **PKPdf** 18 14 04.5 -0.6
baz=342
AGMN Agassiz Nation 127.47 12 P **PKPdf** 18 14 04.9 -0.7
baz=343
AGMN Agassiz Nation 127.47 12 *e*PKPdf **PKPdf** 18 14 05.6 0.0
B34A Aery, Baudette 127.53 11 P **PKPdf** 18 14 05.5 -0.2
baz=344
C31A Landman Farms, 127.55 13 P **PKPdf** 18 14 05.3 -0.4
baz=340
B33A Robert and Kas 127.55 11 P **PKPdf** 18 14 05.2 -0.6
baz=343
C32A Crookston 127.78 12 P **PKPdf** 18 14 05.6 -0.6
baz=342
TIN Tinemaha, Big 127.81 37 P **PKPdf** 18 14 06.8 0.0
baz=312
B35A Bob, Littlefor 127.81 10 P **PKPdf** 18 14 05.7 -0.5
baz=345
SMMC Simmler 127.84 40 P **PKPdf** 18 14 07.3 +0.5
baz=309
C33A Trail 128.01 12 P **PKPdf** 18 14 06.1 -0.5
baz=343
BW06 Boulder Array 128.06 26 P **PKPdf** 18 14 06.4 -0.8
baz=324
BW06 Boulder Array 128.06 26 *e*PKPpre PKPpre 18 14 01.6
PDAR Pinedale Array 128.06 26 PKhKP PKPpre 18 13 57.6
comp=Z,1.4nm,0.4s,baz=87,slow=3.4,SNR=4.0
PDAR PKP **PKPdf** 18 14 06.2 -1.0
comp=Z,63nm,1.0s,baz=118,slow=3.4,SNR=12
PDAR SKKPbc SKKPbc 18 27 11.2 -2.0
comp=Z,5.3nm,0.9s,baz=131,slow=6.3,SNR=5.3
HWUT Hardware Ranch 128.08 28 *e*PKPdf **PKPdf** 18 14 06.4 -0.8
VES Vestal, Richgr 128.08 38 P **PKPdf** 18 14 06.6 -0.5
baz=310
D31A Mcclaflin, Tow 128.25 14 P **PKPdf** 18 14 06.5 -0.5
baz=340
C34A RKJ Ranch, Bem 128.28 11 P **PKPdf** 18 14 06.6 -0.5
baz=344
CWC Cottonwood Cre 128.30 37 P **PKPdf** 18 14 07.8 0.0
baz=312
D32A Dogwood Acres, 128.33 13 P **PKPdf** 18 14 06.6 -0.7
baz=341
GRAC Grapevine Rang 128.36 36 P **PKPdf** 18 14 07.6 0.0
baz=313
C35A Jirik Farms, M 128.40 10 P **PKPdf** 18 14 06.6 -0.8
baz=345
R11A Troy Canyon, C 128.44 34 P **PKPdf** 18 14 07.2 -0.8
baz=315
R11A Troy Canyon, C 128.44 34 *e*PKPdf **PKPdf** 18 14 08.7 +0.7
C36A Pine Crest Far 128.54 9 P **PKPdf** 18 14 07.5 -0.1
baz=346
DUG Dugway, Tooele 128.56 30 P **PKPdf** 18 14 08.6 +0.6
baz=319
DUG Dugway, Tooele 128.56 30 *e*PKIKP **PKPdf** 18 14 08.7 +0.6
DUG Dugway, Tooele 128.56 30 *e*PKPdf **PKPdf** 18 14 08.7 +0.6
EYMN Ely 128.56 8 P **PKPdf** 18 14 07.5 -0.2
baz=348
EYMN Ely 128.56 8 *e*PKPpre PKPpre 18 14 00.9
SBC Santa Barbara 128.56 40 P **PKPdf** 18 14 08.6 +0.6
baz=309
ISA Isabella, Lake 128.57 38 P **PKPdf** 18 14 07.9 -0.2
baz=311
D33A AnnSam, Waubun 128.58 12 P **PKPdf** 18 14 07.3 -0.4
baz=342
E31A Nome 128.67 14 P **PKPdf** 18 14 07.7 -0.2
baz=340
C37A Embarrass 128.67 9 P **PKPdf** 18 14 08.1 +0.2
baz=347
ARVC Arvin 128.69 39 P **PKPdf** 18 14 08.9 +0.6
baz=310
DAC Darwin (Calif) 128.70 37 *e*PKIKP **PKPdf** 18 14 09.4 +0.9
DAC Darwin (Calif) 128.70 37 *e*PKPdf **PKPdf** 18 14 09.4 +0.9
D34A Park Rapids 128.76 12 P **PKPdf** 18 14 07.7 -0.4
baz=343
C38A Sawbill Land. 128.82 8 P **PKPdf** 18 14 07.6 -0.6
baz=348
E32A Braaten, Kindr 128.83 13 P **PKPdf** 18 14 07.8 -0.4
baz=341
C39A Grand Marais 128.87 7 P **PKPdf** 18 14 07.6 -0.6
baz=350
BSC Santa Cruz Isl 128.90 41 P **PKPdf** 18 14 09.4 +0.6
baz=309
MPMC Manual Prospec 128.91 37 P **PKPdf** 18 14 09.1 +0.1
baz=312
D35A Remer 128.99 11 P **PKPdf** 18 14 07.9 -0.6
baz=345
FURC Furnace Creek, 129.01 36 P **PKPdf** 18 14 09.7 +0.9
baz=313
TPNV Topopah Spring 129.04 35 P **PKPdf** 18 14 09.5 +0.4
baz=314
D36A Goodland 129.05 10 P **PKPdf** 18 14 08.2 -0.5
baz=346
RSSD Black Hills 129.07 20 P **PKPdf** 18 14 08.8 -0.3
baz=331
RSSD Black Hills 129.07 20 *e*PKIKP **PKPdf** 18 14 08.2 -0.9
RSSD Black Hills 129.07 20 *e*PKPdf **PKPdf** 18 14 08.2 -0.9
OSI Osito Audit: C 129.09 39 P **PKPdf** 18 14 09.9 +0.7
baz=310
E33A Westby DABS, E 129.15 12 P **PKPdf** 18 14 08.6 -0.2
baz=342
LRMC Laurel Mtn Rad 129.18 38 P **PKPdf** 18 14 09.0 -0.4
baz=312
BLG Laguna Peak, P 129.19 40 P **PKPdf** 18 14 09.4 +0.1
baz=309
D37A Cotton 129.19 9 P **PKPdf** 18 14 08.5 -0.4
baz=347
F31A Hecla 129.23 15 P **PKPdf** 18 14 08.7 -0.3
baz=339
E34A Wadena 129.32 12 P **PKPdf** 18 14 09.0 -0.2
baz=343
K22A Casper 129.41 23 P **PKPdf** 18 14 09.6 -0.1
baz=328
K22A Casper 129.41 23 *e*PKPdf **PKPdf** 18 14 10.4 +0.7
E35A Pequot Lakes 129.43 11 P **PKPdf** 18 14 08.9 -0.5
baz=344
SNCC San Nicolas Is 129.43 41 P **PKPdf** 18 14 09.7 0.0
baz=308
F32A Veblen 129.50 14 P **PKPdf** 18 14 09.3 -0.2
baz=340
DECC Green Verdugo 129.57 40 P **PKPdf** 18 14 10.6 +0.5
baz=310
E36A McGregor 129.68 10 P **PKPdf** 18 14 09.6 -0.2
baz=346
PASC Pasadena Art C 129.71 40 *e*PKPdf **PKPdf** 18 14 10.8 +0.5
F33A 5 Mile Ranch, 129.72 13 P **PKPdf** 18 14 09.9 -0.1
baz=342
SHOC Shoshone, Teco 129.75 36 P **PKPdf** 18 14 10.8 +0.5
baz=313
E37A Wrenshall 129.77 9 P **PKPdf** 18 14 09.9 -0.1
baz=347
GSC Goldstone, Bar 129.83 37 P **PKPdf** 18 14 10.2 -0.4
baz=312
E38A The Farm, Brul 129.87 9 P **PKPdf** 18 14 10.2 0.0
baz=348
FMP Fort Macarthur 129.94 40 P **PKPdf** 18 14 10.1 -0.5
baz=310
RWWY Rawlins 129.94 25 *e*PKPdf **PKPdf** 18 14 10.3 -0.5
F34A Alexandria 129.99 12 P **PKPdf** 18 14 10.0 -0.4
baz=343
G32A Webster 129.99 14 P **PKPdf** 18 14 10.2 -0.2
baz=340
RRX Edison Barstow 130.00 38 P **PKPdf** 18 14 10.7 -0.1
baz=312
BFSC Mount Baldy Ra 130.00 39 P **PKPdf** 18 14 11.2 +0.2
baz=311
CIS Catalina Islan 130.06 40 P **PKPdf** 18 14 11.6 +0.7
baz=309
F35A Swanville 130.06 11 P **PKPdf** 18 14 10.3 -0.3
baz=344
F36A Milaca 130.26 11 P **PKPdf** 18 14 10.8 -0.2
baz=345
TUQ Turquoise Moun 130.27 37 P **PKPdf** 18 14 11.9 +0.5
baz=313
G33A Ortonville 130.30 13 P **PKPdf** 18 14 10.8 -0.3
baz=341
SUSD Miller 130.36 16 P **PKPdf** 18 14 11.0 -0.2
baz=338
G34A Benson 130.43 13 P **PKPdf** 18 14 11.1 -0.2
baz=342
HEC Hector,Ludlow 130.43 38 P **PKPdf** 18 14 11.8 +0.1
baz=312
F38A Pierce - Schro 130.45 9 P **PKPdf** 18 14 11.4 +0.1
baz=347
BBRC Big Bear Solar 130.45 39 P **PKPdf** 18 14 11.8 -0.2
baz=312
H31A Wolsey 130.46 15 P **PKPdf** 18 14 11.2 -0.2
baz=338
F37A Hinrichs Farm, 130.55 10 P **PKPdf** 18 14 11.9 +0.4
baz=346
PKME Peaks-Kenny Pk 130.61 348 *e*PKPdf **PKPdf** 18 14 12.6 +1.0

G35A	Watkins baz=344	130.69	12	P	PKPdf	18 14 12.0	+0.2	
H32A	Carlson Farm, baz=340	130.71	15	P	PKPdf	18 14 11.9	0.0	
H33A	Prehn Over Nor baz=341	130.71	14	P	PKPdf	18 14 11.8	-0.1	
MURC	Murrieta baz=311	130.71	39	P	PKPdf	18 14 13.0	+0.8	
F40A	Park Falls baz=349	130.74	7	P	PKPdf	18 14 11.7	-0.2	
O20A	White River Ci baz=324	130.77	27	P	PKPdf	18 14 12.3	-0.1	
O20A	White River Ci	130.77	27	ePKPdf	PKPdf	18 14 12.4	+0.1	
G36A	St. Michael baz=345	130.82	11	P	PKPdf	18 14 11.9	-0.2	
I31A	Royce, Wessing baz=338	130.86	16	P	PKPdf	18 14 11.7	-0.5	
GMRC	Granite Mounta baz=313	130.87	37	P	PKPdf	18 14 13.1	+0.4	
H34A	Spellman Lake, baz=342	130.95	13	P	PKPdf	18 14 12.3	0.0	
PHWY	Pilot Hill	130.98	23	ePKPpre	PKPpre	18 14 02.6		
SPMN	Marine on St. baz=346	131.01	10	P	PKPdf	18 14 12.2	-0.2	
SPMN	Marine on St.	131.01	10	ePKPdf	PKPdf	18 14 13.4	+1.0	
F41A	Three Lakes baz=351	131.04	7	P	PKPdf	18 14 12.4	0.0	
H35A	Sunnyside Ranc baz=343	131.12	12	P	PKPdf	18 14 12.4	-0.2	
N23A	Red Feather La baz=328	131.12	24	P	PKPdf	18 14 12.9	-0.2	
I32A	Karley and Nic baz=340	131.15	15	P	PKPdf	18 14 12.3	-0.4	
PFO	Pinyon Flats O comp=Z,8.2nm,0.9s,baz=291,slow=6.0,SNR=7.7	131.17	39	PKhKP	PKPpre	18 14 02.5		
PFO	comp=Z,23nm,0.8s,baz=217,slow=4.8,SNR=12			PKP	PKiKP	18 14 14.0	-0.1	
PFO	comp=Z,262nm,1.1s,baz=332,slow=3.9,SNR=26			SKPbc	SKPab	18 17 29.7	+0.9	
PFO	Pinyon Flats O baz=312	131.17	39	P	PKPdf	18 14 13.4	+0.2	
TPFO	Pinon Flats baz=312	131.17	39	P	PKPdf	18 14 13.4	+0.2	
BELC	Belle Mtn. Jos baz=312	131.20	38	P	PKPdf	18 14 13.3	0.0	
G39A	Holcombe baz=348	131.21	9	P	PKPdf	18 14 12.4	-0.4	
G38A	Ridgeland baz=347	131.22	9	P	PKPdf	18 14 12.2	-0.6	
109C	Camp Elliot, M baz=310	131.23	40	P	PKPdf	18 14 13.5	+0.4	
I33A	Coleman baz=340	131.29	14	P	PKPdf	18 14 12.3	-0.7	
G40A	Rib Lake baz=349	131.37	8	P	PKPdf	18 14 12.6	-0.5	
H36A	Jesseniand, He baz=344	131.42	11	P	PKPdf	18 14 12.5	-0.7	
J31A	Geddes baz=338	131.49	16	P	PKPdf	18 14 12.9	-0.4	
NEE2	Needles Airpor baz=314	131.51	36	P	PKPdf	18 14 13.6	0.0	
I34A	Hadley baz=342	131.52	13	P	PKPdf	18 14 12.8	-0.6	
G41A	Antigo baz=351	131.55	7	P	PKPdf	18 14 12.9	-0.5	
H37A	Dierke Farm, C baz=346	131.61	10	P	PKPdf	18 14 13.3	-0.3	
IRM	Iron Mountain baz=313	131.61	37	P	PKPdf	18 14 13.3	-0.6	
H38A	Maiden Rock baz=346	131.63	10	P	PKPdf	18 14 13.1	-0.5	
ECSD	EROS Data Cent baz=349	131.63	14	P	PKPdf	18 14 13.3	-0.3	
ECSD	EROS Data Cent	131.63	14	ePKPpre	PKPpre	18 13 58.4		
J32A	Parkston baz=339	131.66	15	P	PKPdf	18 14 13.4	-0.3	
MONP	Monument Peak, baz=311	131.66	40	P	PKPdf	18 14 13.6	-0.7	
BC3	Big Chuckawall baz=313	131.76	38	P	PKPdf	18 14 14.7	+0.4	
H39A	Augusta baz=348	131.79	9	P	PKPdf	18 14 13.6	-0.3	
PV04	Paradox Valley	131.86	29	ePKPdf	PKPdf	18 14 15.1	+0.6	
I35A	Creekview Farm baz=343	131.89	13	P	PKPdf	18 14 13.7	-0.4	
J33A	Davis baz=340	131.94	15	P	PKPdf	18 14 13.9	-0.3	
I36A	Fitzsimmons Fa baz=344	131.94	12	P	PKPdf	18 14 14.1	-0.1	
H40A	Chili baz=349	131.97	8	P	PKPdf	18 14 13.8	-0.4	
IKP	In-Ko-Pah, Jac baz=311	132.02	40	P	PKPdf	18 14 14.6	-0.2	
SWSC	Sam W. Stewart baz=312	132.02	39	P	PKPdf	18 14 15.1	+0.5	
I37A	Lemond, Waseca baz=345	132.07	11	P	PKPdf	18 14 14.1	-0.3	
H41A	Junction City baz=350	132.08	7	P	PKPdf	18 14 14.1	-0.3	
K31A	O'Neill baz=337	132.10	17	P	PKPdf	18 14 14.4	-0.2	
LONY	Lake Ozonia	132.10	353	ePKPdf	PKPdf	18 14 14.4	-0.1	
PDMCI	Parker Dam,Lak baz=314	132.11	36	P	PKPdf	18 14 15.2	+0.4	
SMCO	Snowmass	132.12	26	ePKPpre	PKPpre	18 14 04.9		
ISCO	Idaho Springs baz=328	132.18	25	P	PKPdf	18 14 15.3	+0.1	
ISCO	Idaho Springs	132.18	25	ePKHKP	PKPpre	18 14 04.8		
ISCO	Idaho Springs	132.18	25	ePKPpre	PKPpre	18 14 04.8		
J34A	George baz=341	132.21	14	P	PKPdf	18 14 14.5	-0.3	
PV01	Paradox Valley	132.23	28	ePKPdf	PKPdf	18 14 15.9	+0.7	
I38A	Scanlan Farm, baz=346	132.24	10	P	PKPdf	18 14 14.0	-0.8	
Y12C	Blythe baz=314	132.26	37	P	PKPdf	18 14 15.0	-0.1	
K32A	Verdigre baz=338	132.28	16	P	PKPdf	18 14 14.4	-0.5	
J35A	Milford baz=342	132.31	13	P	PKPdf	18 14 13.9	-1.0	
SADO	Sadowa comp=Z,9.3nm,0.8s,baz=346,slow=2.1,SNR=4.2	132.35	357	PKhKP	PKPpre	18 14 06.0		
SADO	comp=Z,38nm,0.5s,baz=4.5,slow=2.1,SNR=46			PKP	PKPdf	18 14 15.3	+0.4	
SADO	comp=Z,60nm,1.2s,baz=18,slow=7.4,SNR=4.2			PP	PP	18 16 32.6	-4.9	
SADO	comp=Z,100nm,0.7s,baz=354,slow=4.3,SNR=15			SKPbc	SKPab	18 17 33.1	-0.2	
J36A	Seneca 1, Swea baz=343	132.53	12	P	PKPdf	18 14 14.9	-0.4	
I39A	Houston baz=347	132.55	9	P	PKPdf	18 14 14.1	-1.3	
GLA	Glamis baz=313	132.56	38	P	PKPdf	18 14 16.4	+0.7	
OGNE	Ogallala baz=332	132.57	21	P	PKPdf	18 14 14.8	-0.8	
OGNE	Ogallala	132.57	21	PKPdf	PKPdf	18 14 13.4	-2.2	
K33A	Hardington baz=340	132.59	15	P	PKPdf	18 14 14.8	-0.7	
I41A	Arkdale baz=350	132.60	8	P	PKPdf	18 14 14.6	-0.8	
I40A	Norwalk baz=348	132.66	8	P	PKPdf	18 14 14.8	-0.7	
J37A	Redenius Farm, baz=344	132.71	11	P	PKPdf	18 14 15.3	-0.4	
K34A	Le Mars baz=341	132.75	14	P	PKPdf	18 14 15.4	-0.4	
WUAZ	Wupatki baz=318	132.81	33	P	PKPdf	18 14 16.7	+0.4	
WUAZ	Wupatki	132.81	33	ePKPdf	PKPdf	18 14 17.6	+1.3	
L32A	Elgin baz=338	132.88	16	P	PKPdf	18 14 15.6	-0.5	
J38A	Wedel Dairy, R baz=346	132.91	10	P	PKPdf	18 14 15.1	-0.9	
K35A	Storm Lake baz=342	132.92	13	P	PKPdf	18 14 15.5	-0.6	
L33A	Hoskins baz=339	132.93	16	P	PKPdf	18 14 15.7	-0.4	
MVCO	Mesa Verde baz=323	133.00	29	P	PKPdf	18 14 16.9	+0.2	
MVCO	Mesa Verde	133.00	29	ePKPdf	PKPdf	18 14 17.2	+0.5	
J39A	Decorah baz=347	133.03	10	P	PKPdf	18 14 15.2	-1.0	
Q24A	Divide baz=328	133.08	25	P	PKPdf	18 14 17.1	+0.2	
J40A	Soldiers Grove baz=348	133.12	9	P	PKPdf	18 14 15.3	-1.1	
K36A	Gilmore City baz=343	133.17	13	P	PKPdf	18 14 16.2	-0.4	
K37A	Belmond baz=344	133.22	12	P	PKPdf	18 14 15.7	-1.0	
J41A	Loganville baz=349	133.26	8	P	PKPdf	18 14 15.5	-1.2	
L34A	Svendsen Farm, baz=340	133.35	15	P	PKPdf	18 14 16.1	-0.8	
S22A	4UR Ranch, Cre baz=325	133.35	27	P	PKPdf	18 14 17.3	-0.2	
BGNE	Belgrade baz=338	133.39	17	P	PKPdf	18 14 16.1	-1.0	
BGNE	Belgrade	133.39	17	ePKPpre	PKPpre	18 14 08.4		
L35A	Bielow Farm, R baz=341	133.42	14	P	PKPdf	18 14 16.4	-0.7	
K38A	Parkersburg baz=345	133.50	11	P	PKPdf	18 14 16.6	-0.6	
M33A	Taylor Creek F baz=339	133.51	16	P	PKPdf	18 14 16.4	-0.8	
K39A	Oelwein baz=346	133.61	10	P	PKPdf	18 14 16.2	-1.2	
L36A	Harm Buss Farm baz=343	133.64	13	P	PKPdf	18 14 17.1	-0.4	
JFWS	Jewell Farm	133.67	8	ePKHKP	PKPpre	18 14 02.5		
JFWS	Jewell Farm	133.67	8	ePKPpre	PKPpre	18 14 02.5		
HRV	Adam Dziewonsk	133.70	349	ePKIKP	PKPdf	18 14 18.2	+0.7	
HRV	Adam Dziewonsk	133.70	349	ePKPdf	PKPdf	18 14 18.2	+0.7	
M34A	Aspy Farms, Fr baz=340	133.74	15	P	PKPdf	18 14 17.0	-0.7	
K40A	Coleburg baz=348	133.74	9	P	PKPdf	18 14 16.7	-0.9	
L37A	Phoenix Point, baz=344	133.81	12	P	PKPdf	18 14 17.0	-0.8	
SDCO	Great Sand Dun baz=327	133.95	26	P	PKPdf	18 14 18.1	-0.4	
SDCO	Great Sand Dun	133.95	26	ePKPpre	PKPpre	18 14 06.0		
L38A	Oak Wood Farm, baz=345	133.96	11	P	PKPdf	18 14 17.1	-0.9	
K41A	Shullsburg baz=349	133.96	9	P	PKPdf	18 14 17.2	-0.8	
RCBR	Riachuelo comp=Z,28nm,0.9s,baz=91,slow=4.5,SNR=6.4	133.96	265	PKP	PKPdf	18 14 20.0	+1.2	
RCBR	comp=Z,62nm,1.0s,baz=97,slow=4.8,SNR=7.6			SKPbc	SKPbc	18 17 38.2	-0.4	
W18A	Petrified Fore baz=320	133.99	32	P	PKPdf	18 14 18.0	-0.6	
W18A	Petrified Fore	133.99	32	ePKPdf	PKPdf	18 14 18.8	+0.3	
M35A	Neola baz=341	134.00	14	P	PKPdf	18 14 17.5	-0.7	
KSCO	Kaye Shedlock' baz=331	134.05	22	P	PKPdf	18 14 17.3	-1.2	
SCIA	State Center	134.13	12	ePKPpre	PKPpre	18 14 09.0		
L39A	Vinton baz=346	134.16	10	P	PKPdf	18 14 17.8	-0.7	
N33A	J Bar K, Exete baz=338	134.21	16	P	PKPdf	18 14 17.7	-0.9	
M36A	Felix, Anita baz=342	134.22	13	P	PKPdf	18 14 17.6	-1.0	
L40A	Anamosa baz=347	134.35	10	P	PKPdf	18 14 17.8	-0.9	
N34A	Lincoln baz=340	134.38	15	P	PKPdf	18 14 17.6	-1.3	
M37A	Trindle Farm, baz=343	134.44	13	P	PKPdf	18 14 18.8	-0.2	
L41A	Preston baz=348	134.45	9	P	PKPdf	18 14 18.2	-0.8	
214A	Organ Pipe Nat baz=314	134.54	38	P	PKPdf	18 14 18.4	-1.1	
214A	Organ Pipe Nat	134.54	38	ePKPpre	PKPpre	18 14 11.5		
N35A	Tabor baz=341	134.58	15	P	PKPdf	18 14 18.7	-0.6	
M38A	Pleasantville baz=344	134.61	12	P	PKPdf	18 14 18.9	-0.4	
BINY	Binghamton	134.66	354	ePKPdf	PKPdf	18 14 19.6	+0.2	
M39A	Webster baz=346	134.75	11	P	PKPdf	18 14 18.9	-0.7	
O33A	Hebron baz=338	134.79	17	P	PKPdf	18 14 18.0	-1.7	
N36A	Muff Farm, Cla baz=342	134.79	14	P	PKPdf	18 14 19.4	-0.2	
T25A	Trinidad baz=328	134.93	25	P	PKPdf	18 14 19.8	-0.5	
M40A	Post Highland baz=347	134.94	10	P	PKPdf	18 14 18.9	-1.0	
O34A	Beatrice baz=339	134.94	16	P	PKPdf	18 14 18.6	-1.4	
N37A	Lee Faris, Mou baz=343	135.02	13	P	PKPdf	18 14 19.2	-0.9	
O35A	Humboldt baz=340	135.07	15	P	PKPdf	18 14 19.0	-1.2	
M41A	Milan baz=348	135.13	9	P	PKPdf	18 14 19.3	-0.9	
M42A	Sheffield baz=349	135.17	8	P	PKPdf	18 14 19.2	-1.1	
N38A	Joes South For baz=344	135.20	12	P	PKPdf	18 14 19.7	-0.8	
CBKS	Cedar Bluff baz=335	135.26	20	P	PKPdf	18 14 19.8	-0.9	
CBKS	Cedar Bluff	135.26	20	ePKHKP	PKPpre	18 14 08.8		
CBKS	Cedar Bluff	135.26	20	ePKPpre	PKPpre	18 14 08.8		
N39A	Derby Farms, D baz=345	135.27	11	P	PKPdf	18 14 20.2	-0.3	
O36A	Bolckow baz=342	135.44	14	P	PKPdf	18 14 20.2	-0.7	
P34A	Walnut Farm, R baz=339	135.49	16	P	PKPdf	18 14 21.0	-0.1	
TUC	Tucson baz=317	135.50	36	P	PKPdf	18 14 21.4	0.0	
TUC	Tucson	135.50	36	ePKHKP	PKPpre	18 14 11.3		
TUC	Tucson	135.50	36	ePKPpre	PKPpre	18 14 11.3		
O37A	Wolven Farm, M baz=343	135.60	13	P	PKPdf	18 14 20.8	-0.4	
M54A	Oil Creek Stat baz=3.5	135.63	357	P	PKPdf	18 14 20.8	-0.4	
N41A	Harden Midland baz=348	135.73	10	P	PKPdf	18 14 20.1	-1.3	
P35A	Duane Minner, baz=340	135.73	16	P	PKPdf	18 14 20.8	-0.7	
N42A	Yates City baz=349	135.74	9	P	PKPdf	18 14 20.7	-0.8	
O38A	Galt baz=344	135.79	13	P	PKPdf	18 14 20.9	-0.7	
ANMO	Albuquerque comp=Z,4.7nm,0.7s,baz=0.9,slow=3.1,SNR=11	135.80	29	PKhKP	PKPpre	18 14 11.3		
ANMO	comp=Z,49nm,1.0s,baz=219,slow=1.8,SNR=19			PKP	PKiKP	18 14 23.1	-0.5	
ANMO	comp=Z,15nm,1.0s,baz=330,slow=7.0,SNR=4.1			PP	PP	18 16 58.6	-1.6	
ANMO	comp=Z,260nm,1.0s,baz=323,slow=1.6,SNR=22			SKPbc	SKPbc	18 17 45.4	+1.4	
ANMO	Albuquerque baz=324	135.80	29	P	PKPdf	18 14 17.6	-4.3	
O39A	Kirksville baz=345	135.86	12	P	PKPdf	18 14 20.7	-1.0	
P36A	Good Intent, A baz=341	135.86	15	P	PKPdf	18 14 21.1	-0.6	
N59A	State Game Lan baz=9.1	135.90	353	P	PKPdf	18 14 21.1	-0.6	
KSU1	Kansas State U baz=339	135.97	16	P	PKPdf	18 14 21.2	-0.7	
KSU1	Kansas State U	135.97	16	ePKPpre	PKPpre	18 14 12.3		
Q34A	Chapman baz=338	136.04	17	P	PKPdf	18 14 21.7	-0.3	
P37A	Lathrop baz=342	136.10	14	P	PKPdf	18 14 21.5	-0.6	
HDIL	Hopedale baz=350	136.12	8	P	PKPdf	18 14 21.4	-0.7	
HDIL	Hopedale	136.12	8	ePKPpre	PKPpre	18 14 09.0		
O40A	La Belle baz=346	136.12	11	P	PKPdf	18 14 21.3	-0.9	
N54A	Moraine State baz=3.0	136.19	358	P	PKPdf	18 14 21.7	-0.6	
P38A	Dawn baz=343	136.25	13	P	PKPdf	18 14 21.9	-0.5	
Y22D	IRIS PASSCAL I baz=323	136.26	30	P	PKPdf	18 14 21.1	-1.7	
O41A	Passleys Farm, baz=347	136.30	10	P	PKPdf	18 14 21.4	-1.1	
Q35A	Mercer Eighty, baz=340	136.36	16	P	PKPdf	18 14 22.2	-0.4	
O43A	Sugar Creek Fa baz=350	136.38	8	P	PKPdf	18 14 21.8	-0.8	
SSPA	Standing Stone	136.39	355	ePKPpre	PKPpre	18 14 14.4		
Q36A	Arnold C. Orve baz=340	136.41	15	P	PKPdf	18 14 21.3	-1.4	
R34A	Isabella, Hill baz=338	136.53	18	P	PKPdf	18 14 22.6	-0.4	
P39B	Salisbury baz=344	136.55	12	P	PKPdf	18 14 22.4	-0.5	
SFIN	Lafayette baz=353	136.55	6	P	PKPdf	18 14 22.3	-0.6	
SFIN	Lafayette	136.55	6	ePKPpre	PKPpre	18 14 10.4		
P40A	Paris baz=346	136.66	11	P	PKPdf	18 14 22.8	-0.3	
P41A	Barry, Barry baz=347	136.70	10	P	PKPdf	18 14 22.9	-0.3	
Q37A	Longview Farm, baz=342	136.75	14	P	PKPdf	18 14 23.5	+0.2	
O56A	Blue Knob Stat baz=5.2	136.80	356	P	PKPdf	18 14 23.4	0.0	
R35A	Emporia Munici baz=339	136.81	16	P	PKPdf	18 14 23.2	-0.3	
Q38A	Cooks Store, C baz=343	136.87	13	P	PKPdf	18 14 23.3	-0.2	
P42A	Winchester baz=348	136.91	9	P	PKPdf	18 14 23.2	-0.4	
Q39A	Willow Grove F baz=344	136.93	13	P	PKPdf	18 14 23.2	-0.4	
ACSO	Alum Creek Sta	136.94	1	ePKPpre	PKPpre	18 14 16.4		
P43A	Skaggs, Pawnee baz=349	136.98	9	P	PKPdf	18 14 23.0	-0.7	
R36A	Gordon, Harris baz=340	137.00	16	P	PKPdf	18 14 23.5	-0.4	
121A	Cookes Peak, D baz=321	137.01	33	P	PKPdf	18 14 23.6	-0.7	
121A	Cookes Peak, D	137.01	33	ePKPpre	PKPpre	18 14 16.6		
S34A	Willow Spring baz=338	137.12	18	P	PKPdf	18 14 24.0	-0.1	
Q40A	Laux Farm, Aux baz=345	137.17	12	P	PKPdf	18 14 24.2	+0.1	
R37A	Teagarden Farm baz=341	137.19	15	P	PKPdf	18 14 24.1	-0.1	
P44A	Sand Creek, Wi baz=350	137.28	8	P	PKPdf	18 14 24.0	-0.3	
Q41A	Truxton baz=346	137.37	11	P	PKPdf	18 14 23.9	-0.5	
S35A	Otter Creek Ra baz=339	137.37	17	P	PKPdf	18 14 24.8	+0.3	
Q42A	Golden Eagle baz=348	137.53	10	P	PKPdf	18 14 24.7	-0.1	
R38A	Fenwick Farm, baz=342	137.54	14	P	PKPdf	18 14 24.4	-0.4	
S36A	Lake Cedric, C baz=340	137.54	16	P	PKPdf	18 14 24.4	-0.5	
R39A	Chumby, Stover baz=344	137.62	13	P	PKPdf	18 14 24.4	-0.6	
Q43A	New Douglas baz=349	137.64	9	P	PKPdf	18 14 25.0	0.0	
U32A	Winter Ranch, baz=334	137.71	21	P	PKPdf	18 14 25.2	-0.1	
S37A	Fort Scott baz=341	137.71	15	P	PKPdf	18 14 25.0	-0.2	
T34A	McClaskey Farm baz=337	137.72	18	P	PKPdf	18 14 24.5	-0.7	
Q44A	Meyer Farm, Va baz=350	137.78	8	P	PKPdf	18 14 24.5	-0.7	
R40A	Maddies Statio baz=345	137.81	12	P	PKPdf	18 14 24.7	-0.6	
R41A	Rosebud baz=346	137.98	11	P	PKPdf	18 14 25.1	-0.5	
AMTX	Amarillo baz=330	138.00	24	P	PKPdf	18 14 25.5	-0.4	
AMTX	Amarillo	138.00	24	ePKPpre	PKPpre	18 14 15.5		
S38A	Stockton baz=342	138.07	14	P	PKPdf	18 14 25.5	-0.3	
T36A	Boggs Farm, Ca baz=339	138.08	17	P	PKPdf	18 14 25.9	+0.1	
R42A	Luebbering baz=347	138.10	10	P	PKPdf	18 14 25.7	-0.2	
S39A	Bolivar baz=343	138.15	13	P	PKPdf	18 14 25.5	-0.5	
R43A	Red Bud baz=348	138.25	9	P	PKPdf	18 14 25.7	-0.4	
T37A	Cheneyville 18 baz=341	138.29	16	P	PKPdf	18 14 26.0	-0.2	
MSTX	Muleshoe baz=328	138.32	26	P	PKPdf	18 14 26.1	-0.5	
MSTX	Muleshoe	138.32	26	ePKPpre	PKPpre	18 14 16.4		
R44A	Waltonville baz=350	138.41	8	P	PKPdf	18 14 26.4	0.0	
S40A	Lebanon baz=344	138.42	13	P	PKPdf	18 14 26.1	-0.4	
U35A	Pawnee baz=338	138.46	18	P	PKPdf	18 14 26.5	-0.1	
T38A	Diamond baz=342	138.53	15	P	PKPdf	18 14 25.6	-1.1	
S41A	Jillco Farms, baz=345	138.59	12	P	PKPdf	18 14 26.1	-0.7	
S42A	Caledonia baz=347	138.60	11	P	PKPpre	18 14 15.8		
CBN	Corbin Frederi	138.75	354	ePKPdf	PKPdf	18 14 27.5	+0.5	
WCI	Wyandotte Cave	138.76	5	ePKHKP	PKPpre	18 14 16.5		
WCI	Wyandotte Cave	138.76	5	ePKPpre	PKPpre	18 14 16.4		
T39A	Clever baz=343	138.77	14	P	PKPpre	18 14 16.9		
T40A	Mansfield baz=344	138.85	13	P	PKPpre	18 14 17.8		
U37A	Salina baz=340	138.91	16	P	PKPpre	18 14 17.9		
S43A	Fulton Ridge, baz=348	138.92	10	P	PKPpre	18 14 19.1		
MNTX	Cornudas Mount baz=323	138.93	31	P	PKPpre	18 14 18.9		
MNTX	Cornudas Mount	138.93	31	ePKPpre	PKPpre	18 14 18.5		
S44A	Carbondale baz=349	138.93	9	P	PKPpre	18 14 18.9		
V35A	Meyer Ranch, C baz=337	138.99	19	P	PKPpre	18 14 18.5		
S45A	Carrier Mills baz=350	139.04	8	P	PKPpre	18 14 18.1		
U38A	Gravette baz=341	139.07	15	P	PKPpre	18 14 18.6		
T41A	Mountain View baz=345	139.11	12	P	PKPpre	18 14 19.0		
W34A	Bridge Creek, baz=336	139.16	20	P	PKPpre	18 14 19.2		
W34A	Bridge Creek,	139.16	20	ePKPdf	PKPpre	18 14 18.6		
TUL1	Leonard baz=339	139.17	17	P	PKPpre	18 14 20.2		
TUL1	Leonard	139.17	17	ePKPpre	PKPpre	18 14 18.3		
V36A	Jenks baz=339	139.25	17	P	PKPpre	18 14 18.9		
WMOK	Wichita Mounta baz=334	139.26	21	P	PKPpre	18 14 18.6		
WMOK	Wichita Mounta	139.26	21	ePKHKP	PKPpre	18 14 17.8		
WMOK	Wichita Mounta	139.26	21	ePKPpre	PKPpre	18 14 17.8		
T42A	Van Buren baz=346	139.26	11	P	PKPpre	18 14 18.7		
X32A	Elmer baz=333	139.35	22	P	PKPpre	18 14 18.8		
U39A	Green Forest baz=342	139.36	14	P	PKPpre	18 14 19.1		
T43A	Greenville baz=347	139.36	10	P	PKPpre	18 14 19.4		
V37A	Hulbert baz=340	139.39	16	P	PKPpre	18 14 19.1		
U40A	Yellville baz=343	139.53	14	P	PKPpre	18 14 19.3		
W35A	Tecumseh baz=337	139.54	19	P	PKPpre	18 14 20.1		
V38A	Canehill baz=341	139.61	16	P	PKPpre	18 14 19.9		
U41A	Viola baz=345	139.75	12	P	PKPpre	18 14 19.9		
W36A	Wetumka baz=338	139.76	18	P	PKPpre	18 14 19.8		
V39A	Pettigrew baz=342	139.83	15	P	PKPpre	18 14 19.5		
U42A	Revenden baz=346	139.89	12	P	PKPpre	18 14 20.7		
BLA	Blacksburg	139.94	358	ePKIKP	PKPpre	18 14 24.4		
BLA	Blacksburg	139.94	358	ePKPpre	PKPpre	18 14 24.4		
W37B	Quinton baz=339	140.00	17	P	PKPpre	18 14 21.3		
V40A	Witts Springs baz=343	140.07	14	P	PKPpre	18 14 21.1		
X35A	Drake baz=336	140.19	19	P	PKPpre	18 14 21.4		
V41A	Mountainview baz=344	140.24	13	P	PKPpre	18 14 21.9		
X36A	Centrahoma baz=337	140.24	19	P	PKPpre	18 14 21.6		
W38A	Poteau baz=340	140.32	16	P	PKPpre	18 14 22.3		
V42A	Cord baz=345	140.38	12	P	PKPpre	18 14 22.7		
W39A	Magazine	140.40	15	P	PKPpre	18 14 23.8		

baz=342
X37A Clayton 140.53 17 P PKPpre 18 14 23.9
baz=339
Z33A Whitaker Ranch 140.56 22 P PKPpre 18 14 23.1
baz=333
W40A Ferguson Farm, 140.59 14 P PKPpre 18 14 23.4
baz=343
TZTN Tazewell 140.61 2 ePKPpre PKPpre 18 14 22.6
X38A Whitesboro 140.61 17 P PKPpre 18 14 23.6
baz=340
Y35A Marietta 140.62 20 P PKPpre 18 14 23.4
baz=336
Z34A Collier Ranch, 140.80 21 P PKPpre 18 14 23.7
baz=335
ABTX Abilene, Hawle 140.80 24 P PKPpre 18 14 24.0
baz=332
ABTX Abilene, Hawle 140.80 24 ePKPpre PKPpre 18 14 23.5
W41B Gary Mavity, V 140.80 13 P PKPpre 18 14 23.9
baz=344
SPB Sao Paulo 140.83 235 ePKPpre PKPpre 18 14 26.3
Y36A Durant 140.88 19 P PKPpre 18 14 24.3
baz=337
V45A Humboldt 140.89 9 P PKPpre 18 14 24.5
baz=349
X39A Fountain Ranch 140.96 16 P PKPpre 18 14 25.0
baz=341
Y37A Hugo 141.02 18 P PKPpre 18 14 25.5
baz=338
PLCA Paso Flores 141.06 194 PKhKP PKPpre 18 14 25.0
comp=Z,13nm,0.8s,baz=159,slow=2.7,SNR=8.0
PLCA PKP **PKiKP** **18 14 32.8 -1.2**
comp=Z,7.4nm,0.5s,baz=267,slow=6.6,SNR=7.9
PLCA PP **PP** **18 17 31.5 -0.8**
comp=Z,17nm,1.1s,baz=217,slow=8.9,SNR=2.4
PLCA SKP 18 17 56.6
comp=Z,37nm,1.1s,baz=166,slow=4.6,SNR=2.3
Z35A Perchaven, San 141.07 21 P PKPpre 18 14 24.4
baz=336
MIAR Mount Ida 141.07 15 P PKPpre 18 14 25.3
baz=342
MIAR Mount Ida 141.07 15 ePKHKP PKPpre 18 14 24.2
MIAR Mount Ida 141.07 15 ePKPpre PKPpre 18 14 24.2
133A Hamilton Ranch 141.10 23 P PKPpre 18 14 25.3
baz=333
BBSR BB Station 141.16 336 ePKPdf **PKPdf** **18 14 31.1 -0.5**
X40A Basin Creek Fa 141.32 14 P PKPpre 18 14 26.4
baz=343
Y38A Idabel 141.33 17 P PKPpre 18 14 26.1
baz=340
W45A Hickory Valley 141.43 9 P PKPpre 18 14 26.0
baz=349
134A White-Moore Ra 141.45 22 P PKPpre 18 14 26.5
baz=334
LPIG La Paz 141.46 44 PKhKP PKPpre 18 14 28.4
comp=Z,33nm,0.3s,baz=208,slow=2.9,SNR=6.0
TKL Tuckaleechee C 141.48 2 PKhKP PKPpre 18 14 25.6
comp=Z,19nm,0.5s,baz=129,slow=4.9,SNR=8.9
Y39A Lockesburg 141.51 16 P PKPpre 18 14 26.4
baz=341
233A Rising Star 141.63 23 P PKPpre 18 14 27.1
baz=332
Y40A Okolona 141.66 15 P PKPpre 18 14 27.0
baz=342
TXAR Lajitas Array 141.70 31 PKhKP PKPpre 18 14 28.0
comp=Z,23nm,0.5s,baz=133,slow=0.4,SNR=78
TXAR PP **PP** **18 17 34.6 -2.1**
comp=Z,58nm,1.3s,baz=341,slow=2.7,SNR=4.1
TXAR SKPbc **SKiKP** **18 18 01.7 -0.6**
comp=Z,141nm,1.0s,baz=301,slow=1.8,SNR=11
135A Vickery Place, 141.72 21 P PKPpre 18 14 26.9
baz=335
Z37A Pogue Cattle C 141.74 19 P PKPpre 18 14 27.1
baz=338
CNNC Cliffs of the 141.74 355 ePKPpre PKPpre 18 14 28.0
Z38A Mt. Pleasant 141.89 18 P PKPpre 18 14 28.2
baz=339
X44A Crenshaw 141.90 11 P PKPpre 18 14 27.4
baz=347
234A Clairette 141.94 23 P PKPpre 18 14 28.0
baz=334
Y41A Eaglette Beard 141.95 14 P PKPpre 18 14 28.1
baz=343
OXF Oxford 142.02 10 ePKIKP PKPpre 18 14 28.1
OXF Oxford 142.02 10 ePKPpre PKPpre 18 14 28.1
KMSC Kings Mountain 142.03 359 P PKPpre 18 14 28.4
baz=1.2
KMSC Kings Mountain 142.03 359 ePKPpre PKPpre 18 14 27.8
136A Ennis 142.10 20 P PKPpre 18 14 27.9
baz=336
X45A UM Field Stati 142.10 10 P PKPpre 18 14 27.9
baz=348
Z39A Irene McRaven, 142.13 17 P PKPpre 18 14 28.5
baz=340
Y42A Garnett, Star 142.19 13 P PKPpre 18 14 28.9
baz=344
333A Richland Sprin 142.21 24 P PKPpre 18 14 28.4
baz=332
WHTX Lake Whitney, 142.21 22 P PKPpre 18 14 28.6
baz=334
WHTX Lake Whitney, 142.21 22 ePKPpre PKPpre 18 14 28.5
137A Heron Place, G 142.25 19 P PKPpre 18 14 29.4
baz=337
Y43A Makayla and Ka 142.31 12 P PKPpre 18 14 29.4
baz=346
Z40A Long Farm, Mag 142.34 16 P PKPpre 18 14 29.7
baz=341
138A Matatall Enter 142.40 18 P PKPpre 18 14 30.7
baz=338
Y44A Strider, Charl 142.41 11 P PKPpre 18 14 29.6
baz=347
Z41A Richland Creek 142.50 15 P PKPpre 18 14 30.8
baz=342
334A Lometa 142.50 23 P PKPpre 18 14 30.1
baz=333
JCT Junction City 142.60 26 P PKPpre 18 14 30.0
baz=330
JCT Junction City 142.60 26 ePKIKP PKPpre 18 14 29.8
JCT Junction City 142.60 26 ePKPpre PKPpre 18 14 29.8
139A Bunkhouse Ranc 142.60 17 P PKPpre 18 14 31.0
baz=340
Y45A Yeager Farm, C 142.62 10 P PKPpre 18 14 31.7
baz=348
433A Art 142.66 25 P PKPpre 18 14 30.4
baz=331
Z42A Norrel Spur, H 142.69 14 P PKPpre 18 14 31.2
baz=344
Y46A Houston 142.72 9 P PKPpre 18 14 30.4
baz=349
237A Washetta, Mont 142.78 20 P PKPpre 18 14 30.8
baz=337
335A Moody 142.85 22 P PKPpre 18 14 30.8
baz=334
Y47A UCPARC, Winfie 142.86 8 P PKPpre 18 14 30.5
baz=350
140A Cam and Jess, 142.87 16 P PKPpre 18 14 32.0
baz=341
Z43A Armstrong Fami 142.91 13 P PKPpre 18 14 31.1
baz=345
434A Burnet 142.94 24 P PKPpre 18 14 30.9
baz=333
336A Riesel 142.97 21 P **PKPdf** **18 14 31.9 -2.9**
baz=335
238A Jacksonville 143.00 19 P PKPbc 18 14 32.3 +0.4
baz=338
Z44A Pea Ridge, Bel 143.02 12 P PKPbc 18 14 32.5 +0.6
baz=346
141A Papa Simpson, 143.09 15 P PKPbc 18 14 32.6 +0.5
baz=342
239A Gary 143.19 18 P PKPbc 18 14 32.7 +0.3
baz=339
435B Jarrell 143.24 23 P PKPbc 18 14 32.7 +0.1
baz=334
533A Kerrville 143.28 25 P PKPbc 18 14 32.4 -0.4
baz=331
143A Socs Landing, 143.37 13 P PKPbc 18 14 33.2 +0.4
baz=344
NATX Nacogdoches 143.37 18 P PKPbc 18 14 32.5 -0.4
baz=339
NATX Nacogdoches 143.37 18 ePKPpre PKPbc 18 14 33.1 +0.2
337A Centerville 143.38 20 P PKPbc 18 14 33.6 +0.7
baz=357
240A Hunter Patters 143.38 17 P PKPbc 18 14 32.9 0.0
baz=340
Z46A Louisville 143.38 10 P PKPbc 18 14 33.2 +0.3
baz=348
142A Monroe 143.38 14 P PKPbc 18 14 33.3 +0.5
baz=343
Z48A Northport 143.42 8 P PKPab 18 14 31.9 +0.1
baz=351
Z47A Carrollton 143.52 9 P PKPbc 18 14 33.0 -0.2
baz=350
338A Crockett 143.53 19 P PKPbc 18 14 34.2 +0.8
baz=338
436A Wall Ranch, Ga 143.55 22 P PKPbc 18 14 33.8 +0.4
baz=335
534A Blanco 143.55 24 P PKPab 18 14 33.0 +0.5
baz=332
241A Mo Tay, Goldon 143.63 16 P PKPbc 18 14 33.9 +0.3
baz=342
144A Alexander Plac 143.65 12 P PKPbc 18 14 34.3 +0.7
baz=346
437A Phantom Ranch, 143.73 21 P PKPbc 18 14 34.0 +0.1
baz=336
GOGA Godfrey 143.73 2 ePKIKP PKPab 18 14 33.4 +0.3
GOGA Godfrey 143.73 2 ePKPpre PKPbc 18 14 33.4 -0.4
633A Saathoff Ranch 143.75 26 P PKPbc 18 14 33.7 -0.3
baz=330
145A Houston Renfro 143.78 11 P PKPbc 18 14 33.7 -0.3
baz=347
242A Grayson 143.80 15 P PKPab 18 14 33.6 +0.3
baz=343
339A Huntington 143.80 18 P PKPbc 18 14 33.8 -0.4
baz=339
LRAL Lakeview Retre 143.82 7 ePKPpre PKPbc 18 14 33.8 -0.4
146A Union 143.91 10 P PKPbc 18 14 35.1 +0.7
baz=348
535A Dale 143.91 23 P PKPbc 18 14 34.8 +0.3
baz=333
340A Bronson 143.93 17 P PKPbc 18 14 34.5 0.0
baz=340
147A Livingston 144.00 9 P **PKPab** **18 14 33.8 -0.3**
baz=350
NHSC New Hope 144.02 357 ePKPpre PKPbc 18 14 34.1 -0.7
VBMS Vicksburg 144.03 12 P PKPbc 18 14 35.0 +0.2
baz=346
438A Sam Houston St 144.04 20 P PKPbc 18 14 35.2 +0.3
baz=337
536A Bastrop 144.07 23 P PKPbc 18 14 34.8 -0.2
baz=334
H06N1 SOCORRO T-PHAS 144.13 52 PKP **PKPdf** **18 14 37.4 +0.2**
243A Waterproof 144.14 14 P PKPbc 18 14 35.2 +0.1
baz=344
244A Avery, Jackson 144.16 13 P PKPbc 18 14 35.6 +0.4
baz=345
634A China Grove, S 144.17 25 P **PKPab** **18 14 34.8 -0.1**
baz=332
341A Kurthwood 144.22 16 P PKPbc 18 14 35.3 0.0
baz=341
H06E1 SOCORRO T-PHAS 144.22 52 PKP **PKPdf** **18 14 37.5 +0.1**
H06S1 SOCORRO T 144.22 52 PKP **PKPdf** **18 14 37.5 +0.2**
439A Center Grove, 144.23 19 P PKPbc 18 14 35.9 +0.4
baz=338
BDFB Brasilia 144.27 247 PKP **PKPdf** **18 14 37.0 -0.6**
comp=Z,3µm,0.4s,baz=277,slow=0.0,SNR=14
733A Divot King Ran 144.33 27 P PKPbc 18 14 36.0 +0.1
baz=330
245A Little AP, Sta 144.34 12 P PKPbc 18 14 36.0 +0.3
baz=347
537A Green Hill Far 144.35 22 P PKPbc 18 14 36.1 +0.2
baz=335
832A Faith Ranch, C 144.39 28 P PKPbc 18 14 36.7 +0.6
baz=328
635A Leesville 144.40 24 P PKPbc 18 14 36.6 +0.5
baz=332
342A Flagon Creek P 144.41 15 P **PKPdf** **18 14 36.7 -0.7**
baz=342
538A Harpers Horsep 144.51 20 P **PKPdf** **18 14 37.2 -0.4**
baz=337
RPN Rapa Nui 144.53 135 ePKIKP **PKPdf** **18 14 37.7 0.0**
RPN Rapa Nui 144.53 135 ePKPdf **PKPdf** **18 14 37.7 0.0**
440A Kirbyville 144.53 18 P **PKPdf** **18 14 37.1 -0.5**
baz=339
734A La Parita Cree 144.55 26 P PKPbc 18 14 36.8 +0.3
baz=331
247A Quitman 144.55 10 P **PKPdf** **18 14 37.4 -0.2**
baz=349
636A Smothers Creek 144.60 23 P **PKPdf** **18 14 37.4 -0.4**
baz=334
833A Chaparral WMA, 144.63 27 P **PKPdf** **18 14 37.6 -0.3**
baz=329
248A Dixon Mills 144.65 8 P **PKPdf** **18 14 37.6 -0.2**
baz=350
343A Vidalia 144.67 14 P **PKPdf** **18 14 37.5 -0.3**
baz=344
344A Westbrook Farm 144.72 13 P **PKPdf** **18 14 38.3 +0.4**
baz=345
441A DeRidder 144.76 17 P **PKPdf** **18 14 38.1 +0.1**
baz=341
735A Kenedy 144.86 25 P **PKPdf** **18 14 38.5 +0.3**
baz=332
539A Cross D Ranch, 144.88 19 P **PKPdf** **18 14 38.7 +0.5**
baz=338
637A Eagle Lake 144.92 22 P **PKPdf** **18 14 38.9 +0.6**
baz=335
442A Mamou 145.01 16 P **PKPdf** **18 14 39.3 +1.0**
baz=342
345A Thompson Farm, 145.01 12 P **PKPdf** **18 14 39.3 +0.9**
baz=346
540A Vidor 145.02 18 P **PKPdf** **18 14 39.6 +1.1**
baz=339
346A Big Creek Wild 145.05 11 P **PKPdf** **18 14 39.3 +0.8**
baz=347
736A Circle Diamond 145.07 23 P **PKPdf** **18 14 39.6 +1.0**
baz=333
443A Delano Plantat 145.13 15 P **PKPdf** **18 14 39.6 +1.0**
baz=343
834A Tilden 145.17 26 P **PKPdf** **18 14 39.9 +1.1**
baz=330
347A Saraland 145.20 10 P **PKPdf** **18 14 40.1 +1.3**
baz=349
638A Roaring 145.26 21 P **PKPab** **18 14 40.0 +1.1**
baz=336
933A Laredo 145.29 28 P **PKPab** **18 14 40.5 +1.5**
baz=329
348A Jackson 145.29 9 P **PKPab** **18 14 40.2 +1.2**
baz=350
835A Beeville 145.34 25 P **PKPab** **18 14 40.6 +1.4**
baz=332
541A Lake Charles 145.41 17 P **PKPab** **18 14 40.6 +1.2**
baz=340
444A Pine Grove 145.43 13 P **PKPab** **18 14 40.9 +1.5**
baz=345
737A Port Lavaca 145.48 23 P **PKPab** **18 14 41.2 +1.5**
baz=334
445A Amite 145.50 13 P **PKPab** **18 14 40.9 +1.2**
baz=345
542A Morse 145.53 16 P **PKPab** **18 14 40.9 +1.1**
baz=341
934A Benavides 145.64 27 P **PKPab** **18 14 41.7 +1.3**
baz=330
446A Poplarville 145.65 11 P **PKPab** **18 14 41.2 +0.9**
baz=347
BRAL Brewton 145.66 8 ePKPdf **PKPab** **18 14 40.5 +0.2**
TIGA Tifton 145.69 2 P **PKPab** **18 14 41.0 +0.5**
baz=357
TIGA Tifton 145.69 2 ePKPdf **PKPab** **18 14 40.3 -0.2**
738A Farr-Stevens R 145.71 22 P **PKPab** **18 14 41.4 +0.9**
baz=336
543A St. Martinvill 145.75 15 P **PKPab** **18 14 41.3 +0.7**
448A Bay Minette 145.77 9 P **PKPab** **18 14 41.4 +0.7**
baz=350
447A Lucedale 145.78 10 P **PKPab** **18 14 41.6 +0.8**
baz=348
544A White Castle 145.91 14 P **PKPab** **18 14 42.4 +1.1**
baz=344
KVTX Kingsville 145.96 26 ePKPbc **PKPab** **18 14 42.5 +1.0**
034A Hebbronville 146.03 27 P **PKPab** **18 14 43.2 +1.3**
baz=329
546A Slidell 146.12 12 P **PKPab** **18 14 43.3 +1.3**
baz=346
545A Edgard 146.13 13 P **PKPab** **18 14 43.2 +1.1**
baz=345
936A North Padre Is 146.32 25 P **PKPab** **18 14 43.2 +0.3**
baz=332
035A Encino 146.40 27 P **PKPab** **18 14 44.0 +0.8**
baz=330
645A Chauvin 146.67 14 P **PKPab** **18 14 44.8 +0.6**
baz=344
646A Port Sulphur 146.72 12 P **PKPab** **18 14 44.9 +0.5**
baz=346
035Z Hargill 146.82 27 P **PKPab** **18 14 44.8 -0.1**
baz=330
CPUP Villa Florida 146.88 223 PKPbc **PKPdf** **18 14 42.3 +0.6**
comp=Z,169nm,0.8s,baz=112,slow=2.2,SNR=141
CLCH Cerro Calan 147.94 198 ǁ *i*P **PKPdf** **18 14 43.6 +0.2**
PEL Peldehue 148.22 198 ǁ *i*P **PKPdf** **18 14 42.4 -1.4**
ROCH El Roble 148.48 198 *i* P **PKPdf** **18 14 45.1 +0.6**
DWPF Disney Wildern 149.04 359 *e*PKPdf **PKPdf** **18 14 45.5 +0.3**
ANWB Willy Bob 151.36 317 *e*P **PKPbc** **18 14 55.1 0.0**
ANWB Willy Bob 151.36 317 *e*P **PKPbc** **18 14 58.3 +3.1**
ANWB Willy Bob 151.36 317 *e*PKPbc **PKPbc** **18 14 54.8 -0.4**
H05N1 Guadeloupe/Mar 151.75 314 PKPbc **PKPbc** **18 14 56.3 +0.1**
DEG La Desirade 151.76 314 *e*P **PKPdf** **18 14 51.8 +2.0**
SMRT St. Maarten 151.96 319 *e*P **PKPbc** **18 14 57.2 +0.6**
MGG Marie-Galante 152.20 313 *e*P **PKPdf** **18 14 52.0 +1.6**
MGG Marie-Galante 152.20 313 *e*P **PKPbc** **18 14 57.5 +0.4**
MLYT Lee's Yard 152.29 316 *e*P **PKPdf** **18 14 51.9 +1.4**
MLYT Lee's Yard 152.29 316 *e*P **PP** **18 14 44.7 +5.3**
SEUS St. Eustatius 152.29 318 *e*P **PKPbc** **18 14 58.8 +1.4**
SABA Saba 152.37 319 *e*P **PKPbc** **18 14 59.7 +2.2**
SABA Saba 152.37 319 *e*P **PP** **18 18 44.1 +4.4**
DWS Wesley 152.42 313 *e*P **PKPbc** **18 14 59.8 +2.1**
BBSP Saint Philip 152.47 306 *e*P **PKPbc** **18 15 00.1 +2.3**
TBG Guadaloupe-3 152.48 314 *e*P **PKPdf** **18 14 51.7 +0.9**
TBG Guadaloupe-3 152.48 314 *e*P **PKPbc** **18 14 58.6 +0.9**
DLPL La Plaine 152.53 312 *e*P **PKPbc** **18 14 59.5 +1.6**
BBGH Gun Hill 152.53 306 *e*P **PKPdf** **18 14 53.0 +2.1**
BBGH Gun Hill 152.53 306 *e*P **PKPbc** **18 14 57.5 -0.4**
BBGH Gun Hill 152.53 306 *e*PKPbc **PKPdf** **18 14 53.0 +2.1**
BBL Barber's Block 152.57 313 *e*P **PKPdf** **18 14 51.6 +0.7**
BBL Barber's Block 152.57 313 *e*P **PKPbc** **18 14 59.2 +1.2**
H05S1 Guadeloupe/Mar 152.79 310 PKPbc **PKPbc** **18 14 58.7 +0.3**
CXM Morne La Croix 152.80 311 *e*P **PKPdf** **18 14 52.3 +0.8**
FDF Fort de France 152.83 311 *e*P **PKPdf** **18 14 52.1 +0.7**
FDF Fort de France 152.83 311 *e*P **PKPbc** **18 14 54.3 +2.9**
FDF Fort de France 152.83 311 *e*P **PP** **18 18 47.0 +4.3**
BIM Bigot 152.91 311 *e*P **PKPdf** **18 14 52.5 +1.0**
MCLT Moule a Chique 153.30 309 *e*P **PKPdf** **18 14 51.2 -0.9**
SLB Belfond 153.31 309 *e*P **PKPbc** **18 15 01.8 +2.1**
SLDE Delcer 153.33 309 *e*P **PKPbc** **18 15 00.6 +0.9**
GRTK Grand Turk 153.39 337 *e*PKPdf **PKPdf** **18 14 52.6 +0.6**
BHS Barnard House 153.69 308 *e*P **PKPbc** **18 15 01.0 +0.5**
SSV Crater Summit 153.72 309 *e*P **PKPbc** **18 15 01.9 +1.2**
SVV Soufriere Volc 153.75 309 *e*P **PKPbc** **18 15 01.2 +0.6**
SVB Belmont 153.80 309 *e*P **PKPbc** **18 15 02.2 +1.5**
SVB Belmont 153.80 309 *e*P **PP** **18 18 46.6 -1.6**
SJG San Juan 153.82 324 PKP **PKPdf** **18 14 52.5 -0.2**
comp=Z,36nm,1.0s,baz=24,slow=3.2,SNR=25
SJG PKPbc **PKiKP** **18 15 01.6 +0.9**
comp=Z,35nm,0.5s,baz=86,slow=3.6,SNR=18
SJG San Juan 153.82 324 *e*P **PKPdf** **18 14 51.8 -0.9**
FCV Fort Charlotte 153.87 308 *e*P **PKPbc** **18 15 01.4 +0.5**
TOSP Speyside 154.34 304 *e*P **PKPdf** **18 14 56.5 +2.9**
TPR Prospect 154.60 304 *e*P **PKPbc** **18 15 07.2 +4.7**
GRGR Grenville 154.79 307 *e*P **PKPdf** **18 14 56.0 +1.8**
GRGR Grenville 154.79 307 *e*P **PP** **18 18 53.9 +0.1**
GRGR Grenville 154.79 307 *e*PKPbc **PKPbc** **18 15 03.5 +0.7**
TRN Trinidad (W) 155.41 304 *e*P PKPdf 18 15 05.1 +10
TPP Pointe-a-Pierr 155.62 303 *e*P **PKPab** **18 15 23.4 +1.6**
SIV San Ignacio 155.71 237 PKP **PKPdf** **18 14 55.0 -0.4**
comp=Z,14nm,0.8s,baz=123,slow=3.6,SNR=22
SIV PKPab **PKPab** **18 15 22.5 +0.3**
comp=Z,25nm,0.8s,baz=119,slow=5.0,SNR=5.5
SIV PP **PP** **18 19 00.2 +1.1**
comp=Z,24nm,1.0s,baz=97,slow=5.7,SNR=6.8
SDDR Presa de Saban 155.72 335 *e*P **PKPab** **18 15 23.3 +1.3**
SDDR Presa de Saban 155.72 335 *e*PKPdf **PKPdf** **18 14 56.5 +1.1**
GTBY Guantanamo Bay 156.21 344 *e*PKPdf **PKPdf** **18 14 55.7 -0.3**
CMIG Matias Romero 156.31 32 PKP **PKPdf** **18 14 57.0 +0.9**
comp=Z,30nm,1.1s,baz=249,slow=1.3
CMIG PKPab **pPKPdf** **18 15 25.2 -0.2**
comp=Z,147nm,1.1s,baz=2.3,slow=4.5,SNR=5.2
CMIG PP **PP** **18 19 00.2 -1.1**
comp=Z,19nm,0.9s,baz=335,slow=4.4,SNR=5.0
LVC Limon Verde 156.76 212 PKP **PKPdf** **18 14 58.6 +1.5**
comp=Z,49nm,1.0s,baz=138,slow=3.3,SNR=6.8
LVC PKPab **PKPab** **18 15 28.3 +1.5**
comp=Z,393nm,1.1s,baz=2.1,slow=3.4,SNR=6.5
PTGA Pitinga 157.86 275 PKP **PKPdf** **18 14 58.8 +0.6**
comp=Z,49nm,1.2s,baz=99,slow=1.7,SNR=46
PTGA PKPab **PKPab** **18 15 33.5 +1.9**
comp=Z,176nm,0.9s,baz=84,slow=5.5,SNR=12
PTGA PP **PP** **18 19 14.1 +2.3**
comp=Z,128nm,1.3s,baz=92,slow=6.4,SNR=8.8
BBJ Bamboo Saint A 158.22 348 ǁ *i*P **PKPdf** **18 15 00.5 +1.9**
PCRV Puerto La Cruz 158.30 307 PKP **PKPdf** **18 14 58.4 -0.4**
comp=Z,8.7nm,0.5s,baz=4.6,slow=3.9,SNR=22
STH Stony Hill 158.42 346 ǁ *i*P **PKPdf** **18 14 58.6 -0.2**
MCJ Malvern 158.75 349 *i* P **PKPdf** **18 14 59.6 +0.4**
SAML Samuel 160.39 252 *e*PKPdf **PKPdf** **18 15 01.0 -0.2**
LPAZ La Paz 161.03 225 PKP **PKPdf** **18 15 03.0 +0.5**
comp=Z,29nm,0.9s,baz=59,slow=1.6,SNR=73
LPAZ PKPab **PKPab** **18 15 48.1 +2.2**
comp=Z,48nm,0.9s,baz=157,slow=5.6,SNR=6.9
LPAZ PP **PP** **18 19 32.3 +3.9**
comp=Z,20nm,1.1s,baz=90,slow=2.3,SNR=4.1
URIC Uribia, Colomb 162.31 326 *e*P **PKPdf** **18 15 01.4 -1.7**
SDV Santo Domingo 163.62 316 PKP **PKPdf** **18 15 03.8 -0.9**
comp=Z,32nm,1.0s,baz=118,slow=1.2,SNR=32
SDV PKPab **PKPab** **18 15 58.5 +1.8**
comp=Z,260nm,1.1s,baz=30,slow=3.1,SNR=22
SDV PP **PP** **18 19 43.9 +2.4**
comp=Z,40nm,0.8s,baz=190,slow=2.2,SNR=5.0
CODC Agust´›n Codaz 164.56 327 *e*P **PKPdf** **18 15 00.3 -5.0**
SJCC San Jacinto, C 165.48 332 *e*P **PKPdf** **18 15 02.5 -3.6**
JTS JuntasAbangare 166.45 12 PKP **PKPdf** **18 15 07.4 +0.6**
comp=Z,3.9nm,0.7s,baz=19,slow=11,SNR=3.3
JTS PKPab **PKPab** **18 16 06.7 -2.0**
comp=Z,45nm,0.9s,baz=334,slow=5.8,SNR=9.5
GIRC Giron, Santand 166.66 319 *e*P **PKPdf** **18 15 05.9 -1.3**
MOTC Monteria, Cord 166.68 332 *e*P **PKPdf** **18 15 06.9 -0.2**
BRRC Barranca, Sant 166.97 321 *e*P **PKPdf** **18 15 07.1 -0.2**
BARC Barichara 167.01 317 *e*P **PKPdf** **18 15 06.5 -1.1**
ZARC Zaragoza, Cauc 167.35 326 *e*P **PKPdf** **18 15 05.9 -1.6**
RUSC La Rusia 167.44 315 *e*P **PKPdf** **18 15 06.5 -1.7**
CHIC Chingaza 168.77 313 *e*P **PKPdf** **18 15 05.9 -3.1**
HELC Santa Helena 168.79 325 *e*P **PKPdf** **18 15 08.2 -0.8**
NORC Norcasia 168.89 320 *e*P **PKPdf** **18 15 07.6 -1.0**
ROSC El Rosal 169.05 315 PKP **PKPdf** **18 15 09.7 +0.5**
comp=Z,41nm,0.9s,baz=209,slow=1.4,SNR=37
ROSC PKPab **PKPab** **18 16 23.0 +2.0**
comp=Z,73nm,0.9s,baz=333,slow=13,SNR=7.5
ROSC PP **PP** **18 20 12.3 +2.5**
comp=Z,71nm,0.3s,baz=183,slow=23,SNR=18
NNA Nana 169.73 210 PKP **PKPdf** **18 15 09.4 +0.3**
comp=Z,41nm,1.1s,baz=287,slow=2.6,SNR=7.4
SJAC San Juan de Ar 169.81 308 *e*P **PKPdf** **18 15 07.1 -2.2**
PRAC Prado 170.23 313 *e*P **PKPdf** **18 15 05.9 -3.5**
ATAH Atahualpa 174.56 221 PKP **PKPdf** **18 15 13.0 +1.2**
comp=Z,14nm,0.9s,baz=130,slow=1.7,SNR=15
ATAH PKPab **PKPab** **18 16 47.6 +2.2**
comp=Z,47nm,1.2s,baz=5.9,slow=1.8,SNR=5.9
ATAH PP **PP** **18 20 41.3 +4.4**
comp=Z,15nm,0.8s,baz=132,slow=3.6,SNR=5.9

IDC 05 17:56:11.0±7.9, 1.59N×124.34E, h0km, mb4.0/3, mb1 4.1/4, mb1mx3.9/60, mbtmp3.9/4, ML3.8/1, Error ellipse: s-maj=132.4km s-min=109.2km az=116.0, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
FITZ	Fitzroy Crossi	19.61	176	P	P		18 00 41.4	+0.3
	0.2nm,0.3s,baz=5.5,slow=9.1,SNR=10							
WRA	Warramunga Arr	23.54	156	P	P		18 01 23.6	+0.3
	5.2nm,0.6s,baz=334,slow=10,SNR=47							
ASAR	Alice Springs	26.77	160	P	P		18 01 52.8	-0.1
	0.4nm,0.6s,baz=340,slow=13,SNR=13							
STKA	Stephens Creek	37.09	155	P	P		18 03 22.9	-0.4
	1.5nm,0.4s,baz=330,slow=8.2,SNR=6.2							

*ISCJB **05** 17:56:37.0±0.5, 16.02N±0.05×41.59E±0.05, h10km, mb4.1/11, Error ellipse: s-maj=7.4km s-min=6.4km az=25.2*

*IDC **05** 17:56:37.4±1.4, 15.95N×41.53E, h0km, mb4.1/9, mb1 4.2/11, mb1mx4.0/58, mbtmp4.1/11, ML3.6/2, MS2.9/1, Ms1 2.9/1, ms1mx2.6/65, Error ellipse: s-maj=29.6km s-min=22.6km az=122.0*

*NEIC **05** 17:56:38.6±0.6, 15.87N×41.56E, h10km, mb4.6/1, Error ellipse: s-maj=13.5km s-min=10.2km az=48.0*

*SGS **05** 17:56:39.1, 16.04N×41.69E, h10km*

ISC 05 17:56:38.9±0.7, 16.04N±0.05×41.67E±0.06, h10km, n26, σ1s87/29, mb4.1/11, 2C, Red Sea

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

FRSS	**Farasan al Kab**	**0.81**	**32**	S		**Sg**	**17 57 05.4**	**+0.2**
FRSS				P		**Pg**	**17 56 54.1**	**-0.4**
HAJJ	**Hajjah**	**1.89**	**100**	⇑*i* P		**Pn**	**17 57 08.8**	**-2.5**
HAJJ				*e*			17 57 08.9	
	baz=274,slow=6.9							
HAJJ				*i* S		**Sn**	**17 57 36.2**	**+0.9**
HAJJ				AML	AML		17 57 43.9	
	comp=Z,4μm,0.4s							
DJNS	**Zahran al Janu**	**2.44**	**47**	P		**Pn**	**17 57 17.5**	**-1.5**
DAMY	**Dhamar**	**3.00**	**119**	*e*Pn		**Pn**	**17 57 25.9**	**-0.9**
NAMS	**An Nimas**	**3.15**	**9**	P		**Pn**	**17 57 27.4**	**-1.4**
TATS	**Tathlith**	**3.88**	**26**	P		**Pn**	**17 57 38.5**	**-0.3**
BLJS	**Baljurashi**	**3.89**	**359**	P		**Pn**	**17 57 37.7**	**-1.3**
BDHA	**Al Bayda'**	**4.29**	**118**	*i* P		**Pn**	**17 57 46.7**	**+2.2**
BDHA				*i* S		**Sb**	**17 58 42.7**	**-3.8**
LTHS	**Al Lith**	**4.38**	**344**	P		**Pn**	**17 57 42.1**	**-3.4**
ATD	**Arta Tunnel**	**4.63**	**166**	Pn		**Pn**	**17 57 47.6**	**-1.3**
	comp=Z,4.5nm,0.3s,baz=320,slow=9.8,SNR=11							
ATD				LR	LR		17 59 21.1	
	comp=Z,152nm,22.0s,baz=3.0,slow=36							
ASF	**Jabal al Asfar**	**16.63**	**346**	Pn		**P**	**18 00 35.8**	**+1.1**
	comp=Z,0.1nm,0.3s,baz=88,slow=3.5,SNR=7.8							
WSAR	**Wadi Sarin**	**17.50**	**63**	P		**P**	**18 00 46.2**	**+1.9**
	comp=Z,0.2nm,0.3s,baz=248,slow=7.1,SNR=5.6							
GNI	**Garni**	**24.17**	**6**	P		**P**	**18 02 00.8**	**+5.3**
	comp=Z,4.9nm,0.6s,baz=342,slow=20,SNR=3.2							
BRTR	**Keskin Array B**	**24.62**	**345**	P		**P**	**18 02 01.1**	**+1.5**
	comp=Z,4.5nm,0.9s,baz=161,slow=12,SNR=27							
CFR	**Carcaliu**	**31.20**	**341**	⇑*i* P		**P**	**18 02 59.3**	**+1.1**
TAM	**Tamanrasset**	**34.68**	**287**	*e*P		**P**	**18 03 29.0**	**-0.2**
	comp=Z,13nm,1.4s							
AKASG	**Malin Array Be**	**36.00**	**347**	P		**P**	**18 03 40.2**	**+0.3**
	comp=Z,0.9nm,0.6s,baz=163,slow=6.9,SNR=4.4							
AKTO	**Aktyubinsk**	**36.76**	**18**	P		**P**	**18 03 47.6**	**+1.2**
	comp=Z,1.4nm,0.8s,baz=203,slow=11,SNR=4.3							
TORD	**Torodi Ar. Bea**	**38.75**	**271**	P		**P**	**18 04 02.7**	**-1.1**
	comp=Z,4.7nm,1.0s,baz=93,slow=7.5,SNR=18							
GERES	**GERESS Array B**	**39.90**	**331**	P		**P**	**18 04 13.2**	**+0.1**
	comp=Z,1.8nm,0.8s,baz=128,slow=7.6,SNR=14							
CLL	**Collm**	**41.98**	**333**	*e*P		**P**	**18 04 29.0**	**-1.0**
ESDC	**Sonseca Array**	**46.09**	**310**	P		**P**	**18 05 03.5**	**+0.2**
	comp=Z,1.0nm,0.7s,baz=112,slow=8.0,SNR=5.7							
DBIC	**Dimbokro**	**46.46**	**264**	P		**P**	**18 05 05.5**	**-1.0**
	comp=Z,6.0nm,1.0s,baz=41,slow=8.3,SNR=4.3							
FINES	**FINESS Array B**	**46.70**	**350**	P		**P**	**18 05 07.8**	**+0.2**
	comp=Z,2.8nm,0.7s,baz=151,slow=8.7,SNR=6.0							
NB2	**NORSAR Subarra**	**49.96**	**341**	P		**P**	**18 05 32.3**	**-0.6**
	comp=Z,1.5nm,0.8s,baz=118,slow=8.6							
NOA	**NORSAR Array B**	**49.96**	**341**	P		**P**	**18 05 31.2**	**-1.7**
	comp=Z,2.4nm,0.8s,baz=138,slow=7.6,SNR=5.8							

*CSEM **05** 17:59:54.4, 35°.81N×23°.49E, h30km, ML1.3/1*
ATH 05 17:59:54.4, 35°.81N×23°.49E, h30km±4km, ML1.3/1, Error ellipse: s-maj=15.0km s-min=1.5km az=225.0, Crete

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ANKY	**Antikythira Is**	**0.16**	**290**	P	Pb	18 00 00.2	-0.1
ANKY				S	Sn	18 00 04.7	-0.1
ANKY	**Antikythira Is**	**0.16**	**290**	P	Pb	17 59 59.9	-0.4
ANKY				S	Sn	18 00 04.7	0.0
ANKY				AML	AML	18 00 06.5	
	comp=N,84μm,0.2s						
ANKY				AML	AML	18 00 06.9	
	comp=E,122μm,0.4s						
IMMV	**Iera Moni Meta**	**0.53**	**131**	P	Pn	18 00 06.3	+0.4
IMMV	**Iera Moni Meta**	**0.53**	**131**	P	Pn	18 00 06.9	+1.0
KYTH	**Kithira**	**0.58**	**322**	P	Pn	18 00 07.0	+0.4
VLI	**Veliai**	**1.01**	**334**	P	Pb	18 00 14.0	+0.7
VLI	**Veliai**	**1.01**	**334**	P	Pb	18 00 14.3	+1.0
IDI	**Anoyia**	**1.26**	**114**	P	Pb	18 00 17.3	-0.2
IDI	**Anoyia**	**1.26**	**114**	P	Pb	18 00 16.9	-0.6

WEL 05 18:04:59.8±0.2, 43°.61S×172°.77E, h9km, ML3.6/16, 1C-3D, Error ellipse: s-maj=1.6km s-min=0.8km az=90.0, South Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CRLZ	**Canterbury Las**	**0.11**	**288**	⇓PG	Pg	18 05 02.4	0.0
CRLZ				AML	AML	18 05 04.5	
CRLZ				AML	AML	18 05 04.5	
CRLZ				AML	AML	18 05 04.6	
CRLZ				AML	AML	18 05 05.1	
MQZ	**McQueen's Vall**	**0.13**	**222**	PG	Pg	18 05 02.7	+0.1
MQZ				SG	Sg	18 05 05.0	+0.4
MQZ				AML	AML	18 05 05.1	
OXZ	**Oxford**	**0.61**	**298**	P*	Pg	18 05 10.9	-0.6
OXZ				AML	AML	18 05 21.8	
OXZ				AML	AML	18 05 21.9	
OXZ				AML	AML	18 05 22.5	
OXZ				AML	AML	18 05 22.5	
LTZ	**Lake Taylor**	**0.91**	**336**	P*	Pg	18 05 16.8	-0.3
LTZ				AML	AML	18 05 29.9	
RPZ	**Rata Peaks**	**1.25**	**265**	⇓P*	Pn	18 05 22.0	-1.5
RPZ				AML	AML	18 05 45.0	
RPZ				AML	AML	18 05 52.6	
INZ	**Inchbonnie**	**1.31**	**312**	PN	Pn	18 05 23.6	-0.7
KHZ	**Kahutara**	**1.32**	**25**	⇓PN	Pn	18 05 22.4	-1.9
KHZ				AML	AML	18 05 51.5	
KHZ				AML	AML	18 07 31.1	
WVZ	**Waitaha Valley**	**1.58**	**289**	⇑PN	Pn	18 05 27.2	-0.8
WVZ				AML	AML	18 07 21.4	
WVZ				AML	AML	18 07 53.8	
THZ	**Tophouse**	**1.85**	**3**	PN	Pn	18 05 30.0	-1.8
THZ				AML	AML	18 06 11.1	
THZ				AML	AML	18 08 03.1	
DSZ	**Denniston Nort**	**2.00**	**339**	PN	Pn	18 05 33.3	-0.5
DSZ				AML	AML	18 06 12.3	
DSZ				AML	AML	18 07 47.5	
LBZ	**Lake Benmore**	**2.02**	**247**	PN	Pn	18 05 33.1	-1.0
LBZ				AML	AML	18 06 10.4	
LBZ				AML	AML	18 06 11.8	
ODZ	**Otahua Downs**	**2.10**	**226**	PN	Pn	18 05 33.5	-1.5
ODZ				AML	AML	18 06 12.6	
ODZ				AML	AML	18 06 14.2	
FOZ	**Fox Glacier**	**2.15**	**271**	PN	Pn	18 05 36.1	+0.3
NNZ	**Nelson**	**2.43**	**11**	PN	Pn	18 05 38.6	-1.1
TCW	**Tory Channel**	**2.64**	**25**	PN	Pn	18 05 49.6	-2.0
HHSZ	**Highcliff Hill**	**2.75**	**214**	PN	Pn	18 05 42.3	-1.8
QRZ	**Quartz Range**	**2.79**	**356**	PN	Pn	18 05 44.0	-0.6
QRZ				AML	AML	18 06 32.0	
JCZ	**Jackson Bay**	**2.92**	**260**	PN	Pn	18 05 46.4	-0.2
JCZ				AML	AML	18 06 39.2	
WKZ	**Wanaka**	**2.96**	**244**	PN	Pn	18 05 46.3	-0.8
WKZ				AML	AML	18 08 08.1	
EAZ	**Earnscleugh**	**2.96**	**236**	PN	Pn	18 05 45.8	-1.2
EAZ				AML	AML	18 06 42.5	
EAZ				AML	AML	18 06 46.8	
CAW	**Cannon Point**	**3.02**	**35**	PN	Pn	18 05 45.5	-2.4
TUZ	**Tuapeka**	**3.24**	**223**	PN	Pn	18 05 49.8	-1.0
TUZ				AML	AML	18 06 58.2	
TUZ				AML	AML	18 07 52.8	
OGWZ	**Otaki Gorge**	**3.31**	**33**	PN	Pn	18 05 49.7	-2.1
MRZ	**Mangatainoka R**	**3.61**	**36**	PN	Pn	18 05 53.6	-2.3
SYZ	**Scrubby Hill**	**3.90**	**220**	PN	Pn	18 05 58.8	-1.0
WHZ	**Wether Hill Ro**	**4.13**	**235**	PN	Pn	18 06 03.3	+0.3

*IDC **05** 18:09:45.6±1.3, 15°.86N×41°.46E, h0km, mb4.3/4, mb1 4.3/5, mb1mx3.8/55, mbtmp4.3/5, ML3.9/1, Error ellipse: s-maj=36.3km s-min=27.4km az=159.0*
*CSEM **05** 18:09:48.0, 15°.73N×41°.91E, h2km, ML4.2*
*DHMR **05** 18:09:48.0±0.9, 15°.73N×41°.91E, h2km±12km, ML4.2*
*SGS **05** 18:09:50.4, 16°.21N×41°.53E, h27km*
ISC 05 18:09:48.6±1.3, 16°.12N±0°.05×41°.88E±0°.08, h10km, n16, σ1§61/24, mb4.4/4, Red Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FRSS	**Farasan al Kab**	**0.65**	**20**	S	**Sn**	**18 10 14.7**	**+0.4**
FRSS				P	**Pn**	**18 10 02.2**	**-1.7**
HAJJ	**Hajjah**	**1.71**	**104**	*i* P	**Pn**	**18 10 17.4**	**-1.2**
HAJJ				*i* S	**Sg**	**18 10 41.8**	**-1.8**
HAJJ				AML	AML	18 10 46.9	
	comp=Z,4μm,0.5s						
HAJJ	**Hajjah**	**1.71**	**104**	*i* P	**Pn**	**18 10 17.4**	**-1.2**
HAJJ				*i* S	**Sg**	**18 10 41.8**	**-1.8**
	comp=Z,2μm,0.5s						
DJNS	**Zahran al Janu**	**2.24**	**45**	S	**Sb**	**18 10 55.3**	**-1.9**
DJNS				P	**Pb**	**18 10 27.1**	**-2.2**
DHBB	**Dhamar BB**	**2.87**	**122**	*i* P	**Pn**	**18 10 35.0**	**+0.3**
DHBB				*i* S	**Sn**	**18 11 11.0**	**+1.5**
DHBB	**Dhamar BB**	**2.87**	**122**	*i* P	**Pn**	**18 10 35.0**	**+0.3**
DHBB				*i* S	**Sn**	**18 11 11.0**	**+1.5**
UDYN	**Al 'Udayn**	**2.94**	**136**	*i* P	**Pn**	**18 10 34.7**	**-0.9**
UDYN				*i* S	**Sn**	**18 11 10.7**	**-0.4**
NAMS	**An Nimas**	**3.05**	**6**	P	**Pn**	**18 10 35.8**	**-1.3**
TATS	**Tathlith**	**3.73**	**24**	P	**Pn**	**18 10 46.7**	**+0.4**
BDHA	**Al Bayda'**	**4.15**	**120**	*i* P	**Pn**	**18 10 52.5**	**+0.2**
BDHA				*i* S	**Sn**	**18 11 42.2**	**+1.1**
BDHA	**Al Bayda'**	**4.15**	**120**	*i* P	**Pn**	**18 10 52.5**	**+0.2**
BDHA				*i* S	**Sn**	**18 11 42.2**	**+1.1**
ATD	**Arta Tunnel**	**4.66**	**168**	Pn	**Pn**	**18 10 55.6**	**-3.5**
	comp=Z,5.3nm,0.3s,baz=283,slow=23,SNR=15						
TORD	**Torodi Ar. Bea**	**38.95**	**271**	P	P	18 17 10.2	-5.0
	comp=Z,4.7nm,0.7s,baz=63,slow=6.2,SNR=4.2						
ZALV	**Zalesovo Beam**	**50.32**	**32**	P	**P**	**18 18 46.4**	**+1.0**
	comp=Z,7.5nm,0.9s,baz=243,slow=9.2,SNR=5.0						
CMAR	**Chiang Mai Arr**	**54.34**	**79**	P	**P**	**18 19 16.9**	**+1.0**
	comp=Z,1.2nm,0.8s,baz=289,slow=7.0,SNR=4.4						
SONM	**Songino Array**	**61.15**	**44**	P	**P**	**18 20 06.6**	**+3.1**
	comp=Z,4.0nm,0.9s,baz=258,slow=7.2,SNR=4.0						

*TIF **05** 18:20:56.6, 41°.67N×42°.25E, h20km*
*ISCJB **05** 18:20:57.0±1.9, 41°.7N±0°.1×42°.22E±0°.07, h1km±29km, Error ellipse: s-maj=19.5km s-min=7.2km az=164.6*
*DDA **05** 18:20:57.6, 41°.65N×42°.24E, h7km, Ml2.8*
ISC 05 18:20:57.1±1.4, 41°.66N±0°.08×42°.26E±0°.06, h14km±18km, n5, σ0§12/10, Turkey-Georgia-Armenia border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
EPOS	**Posof**	**0.38**	**113**	*i* P	**Pb**	**18 21 05.6**	**-0.1**
EPOS				*i* S	**Sb**	**18 21 11.5**	**+0.1**
ARTV	**Artvin**	**0.53**	**208**	*i* P	**Pb**	**18 21 08.2**	**-0.1**
ARTV				*i* S	**Sb**	**18 21 15.9**	**0.0**
DBOC	**Borcka**	**0.55**	**236**	*i* P	**Pg**	**18 21 07.9**	**+0.1**
DBOC				*i* S	**Sb**	**18 21 16.0**	**0.0**
DAGI	**Agillar**	**0.63**	**205**	*i* P	**Pb**	**18 21 10.0**	**0.0**
DAGI				*i* S	**Sb**	**18 21 18.9**	**+0.2**
ONI	**Oni**	**1.29**	**43**	P	**Pb**	**18 21 21.1**	**0.0**
ONI				S	**Sg**	**18 21 38.5**	**-0.1**

*DDA **05** 18:22:05.6, 39°.12N×29°.03E, h7km, Ml2.7*
*ISCJB **05** 18:22:06.3±0.5, 39°.10N±0°.05×29°.03E±0°.04, h9km±5km, Error ellipse: s-maj=8.0km s-min=5.1km az=7.2*
*CSEM **05** 18:22:06.2±0.1, 39°.13N×29°.04E, h5km, MD2.9, Error ellipse: s-maj=1.6km s-min=1.4km az=2.0*
*ISK **05** 18:22:06.0, 39°.14N×29°.04E, h6km, MD2.9*
ISC 05 18:22:06.1±0.9, 39°.11N±0°.03×29°.03E±0°.02, h12km±5km, n36, σ1§15/45, Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SIMA	**Simav-Kutahya**	**0.04**	**235**	*e*PG	**Pg**	**18 22 08.3**	**-0.1**
SIMA				*e*SG	**Sg**	**18 22 09.8**	**-0.2**
SIMA	**Simav-Kutahya**	**0.04**	**235**	*e*Pg	**Pg**	**18 22 08.3**	**-0.1**
SIMA				*e*Sg	**Sg**	**18 22 09.8**	**-0.2**
DEMI	**Demirci**	**0.25**	**255**	*i* P	**Pg**	**18 22 11.5**	**+0.2**
DEMI				*i* S	**Sg**	**18 22 15.2**	**+0.4**
DEMI	**Demirci**	**0.25**	**255**	P	**Pg**	**18 22 11.5**	**+0.2**
DEMI				S	**Sg**	**18 22 15.2**	**+0.4**
GEDZ	**Gediz**	**0.31**	**102**	*e*PG	**Pg**	**18 22 12.4**	**0.0**
GEDZ	**Gediz**	**0.31**	**102**	*e*Pg	**Pg**	**18 22 12.4**	**0.0**
TVSB	**Tavsanli**	**0.48**	**45**	*e*PG	**Pg**	**18 22 15.2**	**-0.4**
TVSB	**Tavsanli**	**0.48**	**45**	*e*Pg	**Pg**	**18 22 15.2**	**-0.4**
KULA	**Kula-Manisa**	**0.66**	**206**	*e*PG	**Pg**	**18 22 19.4**	**+0.6**
KULA	**Kula-Manisa**	**0.66**	**206**	*e*Pg	**Pg**	**18 22 19.4**	**+0.6**
MANT	**Manisa**	**0.71**	**211**	*i* P	Pg	18 22 12.7	-7.2
MANT				*i* S	**Sg**	**18 22 22.6**	**-6.8**
KHL	**Karahalli**	**0.87**	**153**	*e*PG	**Pg**	**18 22 23.6**	**+0.6**
KHL	**Karahalli**	**0.87**	**153**	*e*Pg	**Pg**	**18 22 23.6**	**+0.6**
BALB	**Balikesir**	**1.03**	**301**	*e*PG	**Pb**	**18 22 26.4**	**+0.4**
BALB	**Balikesir**	**1.03**	**301**	*e*Pg	**Pb**	**18 22 26.4**	**+0.4**
IGD	**Bursa**	**1.16**	**7**	*i* P	**Pg**	**18 22 27.8**	**-0.7**
IGD				*i* S	**Sn**	**18 22 45.1**	**+1.0**
BALY	**Balya**	**1.26**	**301**	*i* P	**Pg**	**18 22 29.7**	**-0.6**
BALY				*i* S	**Sg**	**18 22 46.3**	**-0.4**
BALY	**Balya**	**1.26**	**301**	P	**Pg**	**18 22 29.7**	**-0.6**
BALY				S	**Sg**	**18 22 46.3**	**-0.4**
KCTX	**Karacabey (Bur**	**1.27**	**336**	*e*PN	**Pn**	**18 22 30.3**	**+0.6**
KCTX	**Karacabey (Bur**	**1.27**	**336**	*e*Pn	**Pn**	**18 22 30.3**	**+0.6**
SHUT	**Suhut-Afyon**	**1.31**	**114**	*e*PN	**Pg**	**18 22 31.6**	**+0.3**
SHUT	**Suhut-Afyon**	**1.31**	**114**	*e*Pn	**Pg**	**18 22 31.6**	**+0.3**
BORA	**Eskisehir**	**1.35**	**55**	*i* P	**Pn**	**18 22 30.8**	**-0.1**
BORA				*i* S	**Sn**	**18 22 49.3**	**+0.5**
BORA	**Eskisehir**	**1.35**	**55**	P	**Pn**	**18 22 30.8**	**-0.1**
BORA				S	**Sn**	**18 22 49.3**	**+0.5**
ARMT	**Armutlu**	**1.46**	**355**	*e*PN	**Pb**	**18 22 33.1**	**-0.1**
ARMT	**Armutlu**	**1.46**	**355**	*e*Pn	**Pb**	**18 22 33.1**	**-0.1**
ESKT	**Eskisehir**	**1.48**	**73**	*e*PN	**Pb**	**18 22 33.4**	**-0.2**
ESKT	**Eskisehir**	**1.48**	**73**	*e*Pn	**Pb**	**18 22 33.4**	**-0.2**
SBT5	**Esenkoy-Cinarc**	**1.53**	**356**	*e*PN	**Pn**	**18 22 33.6**	**+0.4**
SBT5	**Esenkoy-Cinarc**	**1.53**	**356**	*e*Pn	**Pn**	**18 22 33.6**	**+0.4**
EDC	**Edincik**	**1.53**	**324**	*e*PN	**Pb**	**18 22 34.2**	**-0.2**
EDC	**Edincik**	**1.53**	**324**	*e*Pn	**Pb**	**18 22 34.2**	**-0.2**
GULT	**Gulveren**	**1.75**	**40**	*e*PN	**Pn**	**18 22 37.0**	**+0.6**
GULT	**Gulveren**	**1.75**	**40**	*e*Pn	**Pn**	**18 22 37.1**	**+0.6**
SVRH	**Sivrihisar-ESK**	**1.97**	**79**	*e*PN	**Pn**	**18 22 40.2**	**+0.8**
SVRH	**Sivrihisar-ESK**	**1.97**	**79**	*e*Pn	**Pn**	**18 22 40.2**	**+0.8**

MAN 05 18:30:19, 8°.08N×125°.14E, h32km, mb3.9, ML2.6, MS2.2, 1C-1D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CGP	**Cagayan de Oro**	**0.58**	**310**	⇑*e*P	Pn	18 30 32.2	+1.2
CGP				*e*S	Sn	18 30 55.0	+15
BIPH	**Bislig**	**1.21**	**85**	⇓*e*P	Pn	18 30 38.9	-0.8
BIPH				*e*S	Sn	18 30 48.9	-6.1
MATI	**Mati**	**1.58**	**135**	*e*P	Pn	18 30 45.8	+1.0
MATI				*e*S	Sn	18 31 01.0	-3.0

*CSEM **05** 18:36:49.5±0.2, 41°.67N×42°.25E, h2km, MD2.6, Error ellipse: s-maj=4.5km s-min=3.1km az=134.0*
*DDA **05** 18:36:49.5, 41°.67N×42°.22E, h7km, Md2.6*
*TIF **05** 18:36:49.0, 41°.67N×42°.24E, h18km*
*ISCJB **05** 18:36:50.5±0.5, 41°.65N±0°.03×42°.22E±0°.04, h18km±15km, Error ellipse: s-maj=6.3km s-min=4.4km az=142.5*
ISC 05 18:36:49.7±1.0, 41°.66N±0°.04×42°.24E±0°.03, h15km±11km, n19, σ0§49/34, Turkey-Georgia-Armenia border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
EPOS	**Posof**	**0.40**	**114**	*i* P	**Pg**	**18 36 57.8**	**0.0**
EPOS				*i* S	**Sb**	**18 37 04.2**	**-0.3**
EPOS	**Posof**	**0.40**	**114**	P	**Pg**	**18 36 57.8**	**0.0**
EPOS				S	**Sb**	**18 37 04.2**	**-0.3**
ARTV	**Artvin**	**0.53**	**206**	*i* P	**Pg**	**18 37 00.4**	**+0.1**
ARTV				*i* S	**Sg**	**18 37 08.1**	**+0.6**
ARTV	**Artvin**	**0.53**	**206**	P	**Pg**	**18 37 00.4**	**+0.1**
ARTV				S	**Sg**	**18 37 08.1**	**+0.6**
DBOC	**Borcka**	**0.54**	**234**	*i* P	**Pg**	**18 37 00.1**	**-0.2**
DBOC				*i* S	**Sg**	**18 37 07.6**	**+0.1**
DBOC	**Borcka**	**0.54**	**234**	P	**Pg**	**18 37 00.1**	**-0.2**
DBOC				S	**Sg**	**18 37 07.6**	**+0.1**
DAGI	**Agillar**	**0.64**	**203**	*i* P	**Pg**	**18 37 01.8**	**-0.4**
DAGI				*i* S	**Sg**	**18 37 11.2**	**+0.6**
DDEM	**Demirkent**	**0.86**	**206**	*i* P	**Pg**	**18 37 05.5**	**-0.8**
DDEM				*i* S	**Sg**	**18 37 17.5**	**0.0**
DDEM	**Demirkent**	**0.86**	**206**	P	**Pg**	**18 37 05.5**	**-0.8**
DDEM				S	**Sg**	**18 37 17.5**	**0.0**
AKH	**Akhalkalaki**	**0.97**	**105**	P	**Pg**	**18 37 08.2**	**-0.3**
AKH				S	**Sb**	**18 37 21.5**	**+0.4**
AKH	**Akhalkalaki**	**0.97**	**105**	P	**Pg**	**18 37 08.2**	**-0.3**
CHVG	**Ch'k'valeri**	**1.06**	**354**	P	**Pg**	**18 37 09.7**	**-0.5**
CHVG				S	**Sn**	**18 37 25.2**	**+0.6**
CHVG	**Ch'k'valeri**	**1.06**	**354**	P	**Pg**	**18 37 09.7**	**-0.5**
CHVG				S	**Sn**	**18 37 25.2**	**+0.6**
BGD	**Bogdanovka**	**1.09**	**111**	P	**Pg**	**18 37 10.2**	**-0.6**
BGD				S	**Sb**	**18 37 25.7**	**+1.0**
BGD	**Bogdanovka**	**1.09**	**111**	P	**Pg**	**18 37 10.3**	**-0.6**
ONI	**Oni**	**1.29**	**44**	P	**Pg**	**18 37 13.1**	**-0.2**
ONI				S	**Sb**	**18 37 30.7**	**+0.5**
ONI	**Oni**	**1.29**	**44**	P	**Pn**	**18 37 13.1**	**-0.2**
ONI				S	**Sb**	**18 37 30.7**	**+0.5**
TBLG	**Delisi**	**1.87**	**87**	P	**Pb**	**18 37 23.2**	**-0.4**
TBLG	**Delisi**	**1.87**	**87**	P	**Pb**	**18 37 23.2**	**-0.4**

*ISCJB **05** 18:44:21.1±0.4, 47°.12N±0°.05×150°.31E±0°.07, h250km, mb3.7/6, Error ellipse: s-maj=8.1km s-min=4.2km az=42.8*
*MOS **05** 18:44:21.6±0.9, 47°.23N×150°.26E, h245km, mb4.0/3, Error ellipse: s-maj=13.1km s-min=9.6km az=69.9*
*SKHL **05** 18:44:22.7±1.2, 47°.14N×150°.13E, h249km±17km, mb4.6/3, msh5.2/4*
*IDC **05** 18:44:25.4±2.5, 47°.44N×150°.01E, h263km±24km, mb3.5/6, mb1 3.6/13, mb1mx3.2/69, mbtmp4.1/13, Error ellipse: s-maj=27.8km s-min=14.1km az=152.0*
ISC 05 18:44:21.7±0.7, 47°.07N±0°.06×150°.17E±0°.07, h250km, n56, σ1§94/61, mb3.8/6, 1C-3D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KUR	**Kuril'sk**	**2.44**	**222**	*e*PN	**Pn**	**18 45 10.8**	**+2.5**
KUR				*e*S	**S**	**18 45 47.5**	**+2.4**
KUR				pmax	pmax		
	comp=E,61nm,0.5s						
KUR				pmax	pmax		
	comp=Z,132nm,0.5s						
KUR				pmax	pmax		
	comp=N,26nm,0.3s						
KUR				smax	smax		
	comp=N,65nm,0.5s						
KUR				smax	smax		
	comp=E,20nm,0.3s						
KUR	**Kuril'sk**	**2.44**	**222**	*i* P	**Pn**	**18 45 10.8**	**+2.5**
KUR				AMB	AMB	18 45 11.3	
	comp=E,30nm,0.5s						
KUR				AMB	AMB	18 45 11.3	
	comp=E,130nm,0.5s						
KUR				*e*S	**S**	**18 45 47.5**	**+2.4**
KUR				A	A	18 45 55.4	
	comp=E,70nm,0.3s						
KUR				A	A	18 45 55.4	
	comp=E,40nm,0.3s						
SHO	**Shikotan**	**3.97**	**217**	*e*PN	**Pn**	**18 45 25.6**	**+0.5**
SHO				*e*S	**S**	**18 46 13.6**	**-1.9**
SHO				pmax	pmax		
	comp=N,52nm,0.4s						
SHO				pmax	pmax		
	comp=Z,116nm,0.4s						
SHO				pmax	pmax		
	comp=E,47nm,0.5s						
SHO				smax	smax		
	comp=N,107nm,0.5s						
SHO				smax	smax		
	comp=E,226nm,0.6s						
SHO	**Shikotan**	**3.97**	**217**	*e*P	**Pn**	**18 45 25.6**	**+0.5**
SHO				AMB	AMB	18 45 28.3	
	comp=E,90nm,1.0s						
SHO				*e*S	**S**	**18 46 14.9**	**-0.6**
SHO				A	A	18 46 26.6	
	comp=E,80nm,0.5s						
SHO				A	A	18 46 26.6	
	comp=E,200nm,0.5s						
YUK	**Yuzh-Kuril'sk**	**4.29**	**226**	*e*PN	**Pn**	**18 45 31.3**	**+2.4**
YUK				*e*S	**S**	**18 46 24.1**	**+1.9**
YUK				pmax	pmax		
	comp=N,63nm,0.2s						
YUK				pmax	pmax		
	comp=E,99nm,0.2s						
YUK				pmax	pmax		
	comp=Z,435nm,0.2s						
YUK				smax	smax		
	comp=N,214nm,0.4s						
YUK				smax	smax		
	comp=E,98nm,0.3s						
YUK	**Yuzh-Kuril'sk**	**4.29**	**226**	*e*P	**Pn**	**18 45 31.3**	**+2.4**
YUK				AMB	AMB	18 45 31.9	
	comp=E,60nm,0.2s						
YUK				AMB	AMB	18 45 31.9	
	comp=E,100nm,0.2s						
YUK				AMB	AMB	18 45 31.9	
	comp=E,40nm,0.2s						
YUK				*e*S	**S**	**18 46 24.2**	**+2.0**
YUK				A	A	18 46 29.7	
	comp=E,20nm,0.4s						
YUK				A	A	18 46 29.7	
	comp=E,90nm,0.4s						
NEM2	**Nemuro 2**	**4.85**	**222**	P	**Pn**	**18 45 35.5**	**-0.1**
NEM2				*e*S	**S**	**18 46 30.3**	**-4.2**
YSS	**Yuzh-Sakhalins**	**5.07**	**271**	*e*PN	**Pn**	**18 45 41.4**	**+3.1**
YSS	**Yuzh-Sakhalins**	**5.07**	**271**	*e*P	**Pn**	**18 45 41.4**	**+3.1**
JNK	**Nakash**	**5.19**	**230**	P	**Pn**	**18 45 41.8**	**+2.0**
SKR	**Severo-Kuril's**	**5.34**	**45**	⇓*e*PN	**Pn**	**18 45 40.2**	**-1.2**
SKR	**Severo-Kuril

FINES pmax pmax
comp=Z,2.0nm,0.6s
FINES FINESS Array B 62.87 333 *e*P **P** **18 54 20.3 -0.4**
PDAR Pinedale Array 66.17 52 P **P** **18 54 44.4 +1.7**
comp=Z,1.0nm,0.5s,baz=272,slow=0.7,SNR=12
NOA NORSAR Array B 67.25 340 P **P** **18 54 48.2 -0.7**
comp=Z,0.4nm,0.3s,baz=29,slow=6.5,SNR=4.2
TXAR Lajitas Array 79.07 59 P **P** **18 56 00.1 +1.6**
comp=Z,1.1nm,0.6s,baz=298,slow=4.4,SNR=10

IDC ***05*** *18:44:18.8±2.4, 1°.66N×126°.45E, h0km, mb3.5/2, mb1 3.7/3, mb1mx3.4/56, mbtmp3.5/3, ML3.6/1, Error ellipse: s-maj=115.9km s-min=36.7km az=68.0*
ISCJB ***05*** *18:44:28.9±0.9, 1°.19N±0°.06×126°.20E±0°.05, h47km, mb3.4/2, Error ellipse: s-maj=9.9km s-min=6.2km az=36.9*
DJA ***05*** *18:44:30.9±0.5, 1°.1N±4°×12°.6E±°, h69km±21km, M4.4/12, mB5.1/2, mb4.7/7, MLv4.2/12, Mw(mB)4.4/2*
ISC 05 18:44:28.7±1.4, 1°.29N±0°.10×126°.18E±0°.07, h47km, n19, σ2§16/23, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KMSI	**Cibinong**	**2.31**	**252**	P	**Pn**	**18 45 06.4**	**+2.1**
KMSI				S	**Sn**	**18 45 33.7**	**+2.1**
LBMI	**Labuha**	**2.33**	**145**	P	**Pn**	**18 45 08.1**	**+3.5**
SGSI	**Sangihe**	**2.47**	**345**	P	**Pn**	**18 45 08.3**	**+1.8**
GTOI	**Gorontalo**	**3.23**	**258**	P	**Pn**	**18 45 19.7**	**+2.7**
GTOI				S	**Sn**	**18 45 56.0**	**+1.7**
SANI	**Sanana**	**3.33**	**183**	P	**Pn**	**18 45 18.8**	**+0.5**
SANI				S	**Sn**	**18 45 54.9**	**-1.6**
MRSI	**Marisa**	**4.32**	**259**	P	**Pn**	**18 45 32.7**	**+0.8**
NLAI	**Namlea**	**4.59**	**168**	P	**Pn**	**18 45 37.8**	**+2.1**
NLAI				S	**Sn**	**18 46 26.0**	**-1.8**
AAI	**Ambon**	**5.34**	**158**	P	**Pn**	**18 45 49.0**	**+3.1**
	75nm,0.4s,0.5nm						
MSAI	**Masohi**	**5.36**	**149**	P	**Pn**	**18 45 49.4**	**+3.1**
KDI	**Kendari**	**6.31**	**214**	P	**Pn**	**18 46 00.0**	**+0.7**
BBSI	**Bau Bau**	**7.64**	**208**	P	**Pn**	**18 46 19.9**	**+2.4**
	7.8nm,0.6s						
TTSI	**Tana Toraja**	**7.68**	**236**	P	**Pn**	**18 46 18.4**	**+0.3**
	17nm,0.5s						
SPSI	**Sidrap Palu**	**8.27**	**231**	P	**Pn**	**18 46 27.3**	**+1.2**
BSSI	**Bau Bau, Buton**	**9.32**	**218**	P	**Pn**	**18 46 42.1**	**+1.6**
SOEI	**Soe**	**11.14**	**190**	P	**Pn**	**18 47 07.8**	**+2.2**
FITZ	**Fitzroy Crossi**	**19.28**	**182**	P	**P**	**18 48 48.4**	**-1.3**
	0.1nm,0.3s,baz=14,slow=12,SNR=5.4						
WRA	**Warramunga Arr**	**22.57**	**160**	P	**P**	**18 49 23.9**	**-1.3**
	0.5nm,0.3s,baz=340,slow=11,SNR=22						
ASAR	**Alice Springs**	**25.92**	**164**	P	**P**	**18 49 55.7**	**-1.0**
	0.7nm,0.7s,baz=346,slow=12,SNR=11						
TORD	**Torodi Ar. Bea**	**123.12**	**287**	PKP	**PKPdf**	**19 03 18.5**	**-2.8**
	0.5nm,0.8s,baz=101,slow=2.9,SNR=3.3						

TEH ***05*** *18:44:57.6, 31°.25N×56°.91E, h8km, ML4.4*
ISCJB ***05*** *18:45:01.5±0.3, 31°.14N±0°.03×56°.89E±0°.04, h10km, mb4.0/18, MS4.8/1, Error ellipse: s-maj=4.9km s-min=4.3km az=21.7*
CSEM ***05*** *18:45:01.7±0.1, 31°.13N×56°.90E, h2km, mb4.3/4, Error ellipse: s-maj=5.1km s-min=4.3km az=100.0*
IDC ***05*** *18:45:01.1±0.8, 31°.12N×56°.85E, h0km, mb3.9/13, mb1 4.1/19, mb1mx3.9/53, mbtmp4.0/19, ML3.9/6, Error ellipse: s-maj=16.6km s-min=15.6km az=11.0*
NEIC ***05*** *18:45:02.1±0.0, 31°.19N×56°.93E, h14km, mb4.0/3, ML4.2(THR), MN4.4(TEH), After THR.*
THR ***05*** *18:45:02.1±0.5, 31°.19N×56°.93E, h14km±7km, ML4.3*
MOS ***05*** *18:45:03.3±1.3, 31°.06N×56°.88E, h26km, mb4.5/8, Error ellipse: s-maj=13.3km s-min=9.6km az=111.9*
ISC 05 18:45:02.1±0.4, 31°.11N±0°.03×56°.89E±0°.03, h10km, n99, σ1§90/107, mb4.0/18, 2C-4D, Northern and central Iran

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KHGB	**Koh Gabri**	**0.82**	**206**	*e*Pg	**Pg**	**18 45 16.5**	**-1.4**
KHGB	**Koh Gabri**	**0.82**	**206**	*e*Pg	**Pg**	**18 45 16.5**	**-1.4**
TVBK	**TV Kerman**	**1.13**	**186**	*e*Pg	**Pg**	**18 45 23.5**	**-0.4**
TVBK	**TV Kerman**	**1.13**	**186**	*e*Pg	**Pg**	**18 45 23.5**	**-0.4**
IBAF	**Bafgh**	**1.23**	**293**	*e*Pg	**Pn**	**18 45 21.5**	**-4.1**
IBAF				*e*Sg	**Sb**	**18 45 38.7**	**-2.9**
IBAF				*e*AMB	AMB	18 45 41.5	
	comp=Z,36μm,0.2s						
IBAF	**Bafgh**	**1.23**	**293**	*e*Pg	**Pn**	**18 45 21.5**	**-4.1**
IBAF				*e*Sg	**Sb**	**18 45 38.7**	**-2.9**
CHMN	**Cheshme madani**	**1.37**	**156**	*e*Pn	**Pn**	**18 45 27.3**	**-0.3**
CHMN	**Cheshme madani**	**1.37**	**156**	*e*Pn	**Pn**	**18 45 27.3**	**-0.3**
NGRK	**Negar Kerman**	**1.47**	**186**	*e*Pn	**Pb**	**18 45 29.6**	**-0.2**
NGRK	**Negar Kerman**	**1.47**	**186**	*e*Pn	**Pb**	**18 45 29.6**	**-0.2**
IMEH	**Mehriz**	**1.97**	**279**	*e*Pn	**Pn**	**18 45 35.3**	**-0.6**
IMEH				*e*AMB	AMB	18 46 05.9	
	comp=Z,37μm,0.3s						
IMEH	**Mehriz**	**1.97**	**279**	*e*Pn	**Pn**	**18 45 35.3**	**-0.6**
ITEG	**Tejag**	**2.38**	**41**	*e*Pn	**Pn**	**18 45 39.6**	**-1.8**
ITEG				*e*AMB	AMB	18 46 19.6	
	comp=Z,17μm,0.3s						
ITEG	**Tejag**	**2.38**	**41**	*e*Pn	**Pn**	**18 45 39.6**	**-1.8**
ICHK	**Chekchek**	**2.40**	**299**	*e*Pn	**Pn**	**18 45 40.8**	**-0.9**
ICHK				*e*AMB	AMB	18 46 20.8	
	comp=Z,42μm,0.4s						
ICHK	**Chekchek**	**2.40**	**299**	*e*Pn	**Pn**	**18 45 40.8**	**-0.9**
TABS	**Tabas**	**2.54**	**4**	*e*Pn	**Pn**	**18 45 44.0**	**+0.5**
TABS				*e*Sg	**Sb**	**18 46 19.0**	**-0.1**
TABS				AML	AML	18 46 34.1	
	comp=N,2μm,0.5s						
TABS	**Tabas**	**2.54**	**4**	*e*Pn	**Pn**	**18 45 44.0**	**+0.5**
TABS				*e*Sg	**Sb**	**18 46 19.0**	**-0.1**
ISAD	**Sadrabad**	**2.85**	**287**	*e*Pn	**Pn**	**18 45 48.0**	**0.0**
ISAD				*e*AMB	AMB	18 46 34.0	
	comp=Z,27μm,0.4s						
ISAD	**Sadrabad**	**2.85**	**287**	*e*Pn	**Pn**	**18 45 48.0**	**0.0**
IDAH	**Dahanechah**	**3.00**	**57**	*e*Pn	**Pn**	**18 45 50.4**	**+0.4**
IDAH				*e*AMB	AMB	18 46 58.8	
	comp=Z,7μm,0.3s						
IDAH	**Dahanechah**	**3.00**	**57**	*e*Pn	**Pn**	**18 45 50.4**	**+0.4**
NIAN	**Nian**	**3.54**	**181**	*e*Pn	**Pb**	**18 46 01.7**	**-3.2**
NIAN	**Nian**	**3.54**	**181**	*e*Pn	**Pb**	**18 46 01.7**	**-3.2**
IPAR	**Pars**	**3.55**	**250**	*e*Pn	**Pn**	**18 45 59.6**	**+2.0**
IPAR				*e*AMB	AMB	18 47 07.6	
	comp=Z,8μm,0.4s						
IPAR	**Pars**	**3.55**	**250**	*e*Pn	**Pn**	**18 45 59.6**	**+2.0**
IBND	**Bandar-abas**	**3.66**	**185**	*e*Pn	**Pn**	**18 46 01.3**	**+2.4**
IBND	**Bandar-abas**	**3.66**	**185**	*e*Pn	**Pn**	**18 46 01.3**	**+2.4**
ZHSF	**Zahedan**	**3.67**	**113**	*e*Pn	**Pn**	**18 46 00.5**	**+1.4**
ZHSF	**Zahedan**	**3.67**	**113**	*e*Pn	**Pn**	**18 46 00.5**	**+1.4**
ISRV	**Sarvestan**	**3.70**	**243**	*e*Pn	**Pn**	**18 46 00.6**	**+0.9**
ISRV				*e*AMB	AMB	18 47 24.0	
	comp=Z,5μm,0.5s						
ISRV	**Sarvestan**	**3.70**	**243**	*e*Pn	**Pn**	**18 46 00.6**	**+0.9**
SHRT	**Shahrakht**	**3.83**	**48**	*e*Pn	**Pn**	**18 46 01.8**	**+0.6**
SHRT	**Shahrakht**	**3.83**	**48**	*e*Pn	**Pn**	**18 46 01.8**	**+0.6**
NASN	**Na'in**	**3.86**	**297**	*e*Pn	**Pn**	**18 46 03.3**	**+1.5**
NASN				AML	AML	18 47 11.8	
	comp=E,359nm,0.6s						
NASN				AML	AML	18 47 14.2	
	comp=N,382nm,0.5s						
NASN	**Na'in**	**3.86**	**297**	*e*Pn	**Pn**	**18 46 03.3**	**+1.5**
KHSK	**Kohestak**	**4.34**	**178**	*e*Pn	**Pb**	**18 46 14.5**	**-4.1**
KHSK	**Kohestak**	**4.34**	**178**	*e*Pn	**Pb**	**18 46 14.5**	**-4.1**
GHIR	**Ghir-Karzin**	**4.42**	**231**	*e*Pn	**Pn**	**18 46 11.8**	**+2.5**
GHIR	**Ghir-Karzin**	**4.42**	**231**	*e*Pn	**Pn**	**18 46 11.6**	**+2.3**
SHRO	**Shahrood**	**4.92**	**352**	*e*Pn	**Pn**	**18 46 17.0**	**+0.7**
SHRO				AML	AML	18 47 47.1	
	comp=E,154nm,0.6s						
SHRO				AML	AML	18 47 48.2	
	comp=N,242nm,0.8s						
SHRO	**Shahrood**	**4.92**	**352**	*e*Pn	**Pn**	**18 46 17.0**	**+0.7**
MRVT	**Maraveh tapeh**	**6.56**	**354**	*e*Pn	**Pn**	**18 46 39.7**	**+0.9**
MRVT	**Maraveh tapeh**	**6.56**	**354**	*e*Pn	**Pn**	**18 46 39.7**	**+0.9**
BJRD	**Bojnurd**	**6.58**	**4**	*e*Pn	**Pn**	**18 46 39.9**	**+0.8**
BJRD	**Bojnurd**	**6.58**	**4**	*e*Pn	**Pn**	**18 46 39.9**	**+0.8**
ASAO	**Ashtian**	**6.72**	**302**	*e*Pn	**Pn**	**18 46 42.4**	**+1.3**
ASAO	**Ashtian**	**6.72**	**302**	*e*Pn	**Pn**	**18 46 42.4**	**+1.3**
GEYT	**Alibeck**	**6.88**	**8**	Pn	**Pn**	**18 46 45.2**	**+2.2**
	comp=N,3.3nm,0.3s,baz=192,slow=14,SNR=62						
GEYT				Lg	Lg	18 48 37.8	
	comp=N,0.5nm,0.3s,baz=187,slow=11,SNR=3.2						
WSAR	**Wadi Sarin**	**7.99**	**168**	Pn	**Pn**	**18 47 00.5**	**+2.1**
	comp=N,1.4nm,0.3s,baz=8.2,slow=11,SNR=22						
WSAR				Sn	**Sn**	**18 48 28.4**	**-0.6**
	baz=86,slow=16,SNR=1.5						
NCK	**Nalchik**	**16.24**	**323**	*i*P	**P**	**18 48 54.1**	**+0.6**
NCK				pmax	pmax		
	comp=Z,4.0nm,0.3s						
NCK	**Nalchik**	**16.24**	**323**	*i* P	**P**	**18 48 54.1**	**+0.6**
	comp=Z,4.0nm,0.3s						
KIV	**Kislovodsk**	**17.04**	**323**	*e*P	**P**	**18 49 06.8**	**+4.5**
KIV				pmax	pmax		
	comp=Z,11nm,1.0s						
ASF	**Jabal al Asfar**	**17.06**	**279**	P	**Pn**	**18 48 60.0**	**-0.9**
	comp=Z,0.5nm,0.3s,baz=9,9,slow=11,SNR=6.4						
ASF	**Jabal al Asfar**	**17.06**	**279**	P	**Pn**	**18 49 00.0**	**-0.9**
KSH	**Kashi**	**17.66**	**56**	*e*P	**Pn**	**18 49 03.1**	**-5.3**
KSH				sP	P	18 49 10.2	+0.9
KSH				PP	**PnPn**	**18 49 18.4**	**-0.4**
KSH				S	**Sn**	**18 52 15.7**	**-10**
KSH				sS	S	18 52 21.7	-11
KSH				SS	**SnSn**	**18 52 37.1**	**-1.6**
KSH				pmax	pmax		
	comp=Z,14nm,1.3s						
KSH				pmax	pmax		
	comp=Z,950nm,8.2s						
KSH				LR	LR		
	comp=N,810nm,10.5s						
KSH				LR	LR		
	comp=E,980nm,14.6s						
KSH				LR	LR		
	comp=Z,2μm,13.1s						
AAK	**Ala-Archa**	**18.14**	**46**	P	**Pn**	**18 49 14.2**	**-0.1**
	comp=Z,0.2nm,0.3s,baz=236,slow=14,SNR=6.6						
AAK	**Ala-Archa**	**18.14**	**46**	*e*P	**P**	**18 49 14.5**	**-0.1**
AAK	**Ala-Archa**	**18.14**	**46**	*e*P	**P**	**18 49 14.5**	**-0.1**
AAK	**Ala-Archa**	**18.14**	**46**	*e*P	**P**	**18 49 14.5**	**-0.1**
ABKAR	**Akbulak array**	**18.27**	**6**	*e*P	**P**	**18 49 16.7**	**+0.9**
	comp=Z,1.1nm,0.6s						
ABKAR	**Akbulak array**	**18.27**	**6**	*e*P	**P**	**18 49 16.7**	**+0.9**
	comp=Z,1.1nm,0.6s						
EIL	**Elat**	**18.98**	**271**	P	**Pn**	**18 49 25.5**	**+1.0**
	comp=Z,0.3nm,0.3s,baz=130,slow=4.9,SNR=6.3						
AKTK	**Aktyubinsk**	**19.32**	**2**	P	**Pn**	**18 49 28.1**	**-0.3**
AKTO	**Aktyubinsk**	**19.32**	**2**	P	**Pn**	**18 49 28.1**	**-0.3**
	comp=Z,0.4nm,0.3s,baz=182,slow=11,SNR=17						
ANN	**Anapa**	**20.48**	**317**	*e*P	Pn	18 49 44.1	+2.0
ANN				pmax	pmax		
	comp=Z,25nm,1.0s						
BRTR	**Keskin Array B**	**20.77**	**301**	P	**P**	**18 49 43.1**	**-0.2**
	comp=Z,1.1nm,0.9s,baz=119,slow=11,SNR=40						
ISP	**Isparta**	**22.71**	**294**	*e*P	**P**	**18 50 05.8**	**+1.6**
ISP				pmax	pmax		
	comp=Z,13nm,0.9s						
ISP	**Isparta**	**22.71**	**294**	*e*P	**P**	**18 50 05.8**	**+1.6**
	comp=Z,13nm,0.9s						
BRVK	**Borovoye**	**24.00**	**20**	*e*P	**P**	**18 50 18.1**	**+1.3**
BRVK				pmax	pmax		
	comp=Z,13nm,1.3s						
BRVK	**Borovoye**	**24.00**	**20**	*e*P	**P**	**18 50 17.3**	**+0.5**
	comp=Z,7.7nm,0.9s						
BRVK	**Borovoye**	**24.00**	**20**	*e*P	**P**	**18 50 17.3**	**+0.5**
	comp=Z,7.7nm,0.9s						
BVAR	**Borovoye Array**	**24.00**	**20**	P	**P**	**18 50 17.2**	**+0.4**
	comp=Z,2.0nm,0.7s,baz=198,slow=8.7,SNR=12						
KURBB	**Kurchatov Arra**	**25.28**	**33**	P	**P**	**18 50 29.4**	**+0.8**
	comp=Z,1.0nm,0.2s,baz=234,slow=8.9,SNR=5.1						
ARU	**Arti**	**25.34**	**2**	P	**P**	**18 50 30.7**	**+1.7**
	comp=Z,1.6nm,0.6s,baz=215,slow=4.9,SNR=4.9						
ARU	**Arti**	**25.34**	**2**	*d*P	**P**	**18 50 31.1**	**+2.2**
ARU						18 51 03.6	
ARU				SS	SS	18 55 54.7	
ARU				pmax	pmax		
	comp=Z,6.0nm,1.2s						
KURK	**Kurchatov**	**25.39**	**33**	*e*P	**P**	**18 50 30.3**	**+0.8**
KURK				pmax	pmax		
	comp=Z,13nm,1.1s						
KURK	**Kurchatov**	**25.39**	**33**	*e*P	**P**	**18 50 30.3**	**+0.8**
	comp=Z,13nm,1.1s						
KURK	**Kurchatov**	**25.39**	**33**	*e*P	**P**	**18 50 30.0**	**+0.5**
OBN	**Obninsk**	**28.00**	**335**	*e*P	**P**	**18 50 55.5**	**+2.5**
OBN				*e**SP	**sP**	**18 51 01.2**	**+3.9**
OBN				pmax	pmax		
	comp=Z,22nm,1.6s						
OBN				MLR	MLR		
	comp=Z,2μm,17.0s						
OBN	**Obninsk**	**28.00**	**335**	*e*P	**P**	**18 50 55.5**	**+2.5**
	comp=Z,2μm,17.0s						
MLR	**Mutele Rosu**	**28.01**	**310**	P	**P**	**18 50 53.4**	**0.0**
	comp=Z,0.4nm,0.8s,baz=170,slow=12,SNR=2.9						
ZALV	**Zalesovo Beam**	**30.38**	**33**	P	**P**	**18 51 14.6**	**+0.5**
	comp=Z,2.6nm,0.7s,baz=238,slow=8.9,SNR=9.9						
GTA	**Gaotai**	**35.74**	**65**	*e*P	**P**	**18 52 02.2**	**+1.0**
GTA				pP	sP	18 52 08.7	+3.1
GTA				sP	pP	18 52 12.1	+7.8
GTA				pmax	pmax		
	comp=Z,3.0nm,1.3s						
FINES	**FINESS Array B**	**36.40**	**335**	P	**P**	**18 52 06.1**	**-0.3**
	comp=Z,3.8nm,1.0s,baz=128,slow=11,SNR=4.9						
GERES	**GERESS Array B**	**36.96**	**311**	P	**P**	**18 52 11.5**	**0.0**
	comp=Z,1.5nm,0.9s,baz=108,slow=8.6,SNR=10						
CLL	**Collm**	**37.98**	**315**	*e*P	**P**	**18 52 21.0**	**+1.0**
CLL	**Collm**	**37.98**	**315**	*e*P	**P**	**18 52 21.0**	**+1.0**
CLL	**Collm**	**37.98**	**315**	*e*P	**P**	**18 52 21.0**	**+1.0**
CHTO	**Chiang Mai**	**39.82**	**98**	*e*P	**P**	**18 52 36.0**	**+0.2**
CHTO				pmax	pmax		
	comp=Z,4.0nm,0.8s						
CHTO	**Chiang Mai**	**39.82**	**98**	*e*P	**P**	**18 52 36.0**	**+0.2**
	comp=Z,3.8nm,0.8s						
CHTO	**Chiang Mai**	**39.82**	**98**	*e*P	**P**	**18 52 36.0**	**+0.2**
	comp=Z,3.8nm,0.8s						
CMAR	**Chiang Mai Arr**	**39.97**	**98**	P	**P**	**18 52 37.2**	**+0.1**
	comp=Z,1.1nm,0.7s,baz=290,slow=8.0,SNR=8.8						
TORD	**Torodi Ar. Bea**	**53.63**	**263**	P	**P**	**18 54 23.6**	**-0.4**
	comp=Z,1.1nm,0.6s,baz=63,slow=6.7,SNR=6.6						
ILAR	**Eielson Array**	**82.64**	**10**	P	**P**	**18 57 25.9**	**+0.6**
	comp=Z,0.7nm,0.7s,baz=324,slow=4.0,SNR=8.2						
ILAR	**Eielson Array**	**82.64**	**10**	P	**P**	**18 57 26.0**	**+0.6**
ILAR	**Eielson Array**	**82.64**	**10**	P	**P**	**18 57 26.0**	**+0.6**
WRA	**Warramunga Arr**	**89.94**	**113**	P	**P**	**18 58 02.5**	**+0.6**
	comp=Z,0.7nm,0.9s,baz=318,slow=4.1,SNR=4.5						
ASAR	**Alice Springs**	**91.63**	**117**	P	**P**	**18 58 10.8**	**+1.0**
	comp=Z,0.4nm,0.8s,baz=326,slow=4.5,SNR=4.2						

CSEM ***05*** *18:45:34.8±0.1, 38°.60N×31°.07E, h8km, ML2.6, Error ellipse: s-maj=3.6km s-min=3.1km az=28.0*
ISK ***05*** *18:45:34.6, 38°.60N×31°.07E, h9km, MD2.8*
ISCJB ***05*** *18:45:35.1±0.5, 38°.62N±0°.03×31°.09E±0°.04, h4km±6km, Error ellipse: s-maj=5.4km s-min=4.4km az=44.2*
DDA ***05*** *18:45:35.2, 38°.64N×31°.09E, h7km, Ml2.6*
ISC 05 18:45:35.2±1.0, 38°.61N±0°.03×31°.08E±0°.03, h6km±10km, n30, σ0§70/41, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BOLV	**Bolvadin**	**0.15**	**318**	*i* P	**Pg**	**18 45 38.5**	**+0.2**
BOLV				*i* S	**Sg**	**18 45 40.7**	**+0.3**
BOLV	**Bolvadin**	**0.15**	**318**	P	**Pg**	**18 45 38.5**	**+0.2**
BOLV				S	**Sg**	**18 45 40.7**	**+0.3**
SHUT	**Suhut-Afyon**	**0.42**	**263**	*e*PG	**Pg**	**18 45 43.3**	**0.0**
SHUT				*e*SG	**Sg**	**18 45 49.2**	**+0.4**
SHUT	**Suhut-Afyon**	**0.42**	**263**	*e*Pg	**Pg**	**18 45 43.3**	**0.0**
SHUT				*e*Sg	**Sg**	**18 45 49.2**	**+0.4**
BAGO	**Egridir - ISPA**	**0.66**	**201**	*i* P	**Pb**	**18 45 48.8**	**-0.2**
BAGO				*i* S	**Sb**	**18 45 58.7**	**+0.2**
KIZT	**Kizilcal**	**0.68**	**66**	*e*PG	**Pg**	**18 45 48.5**	**+0.2**
KIZT	**Kizilcal**	**0.68**	**66**	*e*Pg	**Pg**	**18 45 48.5**	**+0.2**
KDHN	**Kadinhani**	**0.82**	**96**	*i* P	**Pg**	**18 45 50.8**	**0.0**
KDHN				*i* S	**Sb**	**18 46 02.2**	**-1.0**
KDHN	**Kadinhani**	**0.82**	**96**	P	**Pg**	**18 45 50.8**	**0.0**
KDHN				S	**Sb**	**18 46 02.2**	**-1.0**
ISP	**Isparta**	**0.90**	**210**	*e*PG	**Pg**	**18 45 52.1**	**-0.3**
ISP	**Isparta**	**0.90**	**210**	*e*Pg	**Pg**	**18 45 52.1**	**-0.3**
SVRH	**Sivrihisar-ESK**	**0.91**	**22**	*e*PG	**Pg**	**18 45 52.5**	**-0.1**
SVRH	**Sivrihisar-ESK**	**0.91**	**22**	*e*Pg	**Pg**	**18 45 52.5**	**-0.1**
ESKT	**Eskisehir**	**0.93**	**349**	*e*PG	**Pg**	**18 45 52.9**	**-0.1**
ESKT	**Eskisehir**	**0.93**	**349**	*e*Pg	**Pg**	**18 45 52.9**	**-0.1**
LADK	**Ladik-KONYA**	**1.09**	**111**	*e*PN	**Pb**	**18 45 56.1**	**-0.4**
LADK	**Ladik-KONYA**	**1.09**	**111**	*e*Pn	**Pb**	**18 45 56.1**	**-0.4**
SUTC	**Sutluce-Ispart**	**1.13**	**183**	*e*PN	**Pb**	**18 45 56.5**	**-0.7**
SUTC	**Sutluce-Ispart**	**1.13**	**183**	*e*Pn	**Pb**	**18 45 56.5**	**-0.7**
KONT	**Konya--Tatoy**	**1.20**	**123**	*e*PN	**Pb**	**18 45 57.7**	**-0.7**
KONT	**Konya--Tatoy**	**1.20**	**123**	*i* P	**Pn**	**18 45 58.0**	**-0.6**
KONT				*i* S	**Sn**	**18 46 16.1**	**+0.8**
KONT	**Konya--Tatoy**	**1.20**	**123**	*e*Pn	**Pb**	**18 45 57.7**	**-0.7**
KMER	**Konya-Meram**	**1.31**	**129**	*i* P	**Pg**	**18 46 00.8**	**+0.4**
KMER				*i* S	**Sn**	**18 46 20.8**	**+2.7**
KMER	**Konya-Meram**	**1.31**	**129**	P	**Pg**	**18 46 00.8**	**+0.4**
BORA	**Eskisehir**	**1.36**	**339**	*i* P	**Pn**	**18 45 59.9**	**-0.9**
BORA				*i* S	**Sg**	**18 46 20.1**	**+1.1**
BORA	**Eskisehir**	**1.36**	**339**	P	**Pn**	**18 45 59.9**	**-0.9**
BORA				S	**Sg**	**18 46 20.1**	**+1.1**
TVSB	**Tavsanli**	**1.52**	**304**	*e*PN	**Pn**	**18 46 02.7**	**-0.3**
TVSB	**Tavsanli**	**1.52**	**304**	*e*Pn	**Pn**	**18 46 02.7**	**-0.3**
GULT	**Gulveren**	**1.88**	**347**	*e*PN	**Pn**	**18 46 07.5**	**-0.4**
GULT	**Gulveren**	**1.88**	**347**	*e*Pn	**Pn**	**18 46 07.5**	**-0.4**

ISCJB ***05*** *19:12:15.4±1.8, 37°.26N±0°.04×141°.69E±0°.06, h10km±13km, mb4.0/5, Error ellipse: s-maj=8.4km s-min=6.9km az=31.9*
IDC ***05*** *19:12:16.2±1.3, 37°.34N×141°.54E, h0km, mb4.0/5, mb1 4.0/5, mb1mx3.6/52, mbtmp4.0/5, ML3.0/1, Error ellipse: s-maj=31.7km s-min=24.5km az=103.0*
JMA ***05*** *19:12:16.9±0.2, 37°.29N×141°.64E, h26km±3km, M4.4*
ISC 05 19:12:15.8±1.9, 37°.29N±0°.04×141°.66E±0°.07, h2km±11km, n16, σ0§66/24, mb4.0/5, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JFK	**Kawauchi**	**0.63**	**278**	P	**Pg**	**19 12 28.4**	**+0.6**
JFK				S	**Sb**	**19 12 37.5**	**-1.3**
ONAJ	**Iwakimizuishiy**	**0.71**	**255**	P	**Pg**	**19 12 30.0**	**+0.6**
ONAJ				S	**Sg**	**19 12 39.4**	**+0.9**
JMM	**Marumori**	**0.90**	**310**	P	**Pg**	**19 12 33.1**	**+0.1**
JMM				S	**Sg**	**19 12 45.1**	**+0.5**
JFT	**Otama**	**1.07**	**283**	P	**Pg**	**19 12 36.4**	**0.0**
JFT				S	**Sg**	**19 12 50.8**	**+0.5**
JHO	**Hitachi**	**1.10**	**233**	P	**Pg**	**19 12 35.8**	**-1.1**
JHO				S	**Sg**	**19 12 50.5**	**-0.6**
JIO	**Ouri**	**1.19**	**348**	P	**Pg**	**19 12 38.1**	**-0.5**
JOU	**Okura**	**1.33**	**324**	P	**Pn**	**19 12 40.9**	**-0.6**
JOU				S	**Sb**	**19 12 58.7**	**-0.4**
JFY	**Yanaizu**	**1.56**	**275**	P	**Pn**	**19 12 43.8**	**-0.8**
JYS	**Shirataka**	**1.57**	**307**	P	**Pn**	**19 12 44.5**	**-0.2**
JYS				S	**Sn**	**19 13 05.4**	**-0.2**
MJAR	**Matsushiro Arr**	**2.86**	**256**	Pn	**Pn**	**19 13 02.5**	**0.0**
	2.7nm,0.3s,baz=80,slow=16,SNR=14						
MAT	**Matsushiro**	**2.86**	**256**	P	**Pn**	**19 13 03.0**	**+0.5**
MAT				S	**Sn**	**19 13 37.3**	**-0.2**
YAK	**Yakutsk**	**25.87**	**347**	P	**P**	**19 17 48.2**	**-0.3**
	5.6nm,0.4s,baz=61,slow=1.5,SNR=8.3						
ZALV	**Zalesovo Beam**	**41.89**	**312**	P	**P**	**19 20 07.0**	**-0.2**
	2.1nm,0.7s,baz=87,slow=7.6,SNR=9.8						
KURBB	**Kurchatov Arra**	**46.00**	**308**	P	**P**	**19 20 39.9**	**-0.4**
	3.0nm,1.0s,baz=83,slow=8.6,SNR=20						
ILAR	**Eielson Array**	**49.18**	**32**	P	**P**	**19 21 05.9**	**+1.0**
	0.7nm,0.8s,baz=263,slow=6.3,SNR=4.1						
WRA	**Warramunga Arr**	**57.34**	**188**	P	**P**	**19 22 06.1**	**+0.8**
	0.6nm,1.0s,baz=6.4,slow=7.3,SNR=3.0						

ISCJB ***05*** *19:13:40.7±1.0, 12°.33N±0°.09×144°.7E±0°.3, h38km, mb3.7/6, MS4.1/1, Error ellipse: s-maj=37.4km s-min=9.7km az=14.0*
IDC ***05*** *19:13:43.8±2.0, 12°.43N×144°.80E, h56km±19km, mb3.5/6, mb1 3.7/6, mb1mx3.4/48, mbtmp3.7/6, MS4.2/1, Ms1 4.2/1, ms1mx3.3/42, Error ellipse: s-maj=41.3km s-min=17.8km az=96.0*
ISC 05 19:13:42.7±1.1, 12°.4N±0°.1×144°.7E±0°.3, h38km, n8, σ1§06/10, mb3.8/6, South of Mariana Islands

AKAS	**Kas**	**2.54**	**21**	P		**Pn**	**19 28 50.8**	**-1.9**
AKAS				S		**Sn**	**19 29 20.2**	**-2.2**
MATC	**Matruh**	**2.72**	**203**	P		**Pn**	**19 28 56.9**	**+2.0**
	baz=207							
NPS	**Neapolis**	**2.73**	**301**	P		**Pn**	**19 28 55.7**	**+0.5**
NPS				S		**Sn**	**19 29 26.5**	**-0.5**
NPS	**Neapolis**	**2.73**	**301**	P		**Pn**	**19 28 55.3**	**+0.2**
NPS				S		**Sn**	**19 29 26.3**	**-0.7**
NPS				AML	AML		19 29 32.7	
	comp=N,336µm,0.4s							
LAST	**Lasithi**	**2.78**	**299**	P		**Pn**	**19 28 57.2**	**+1.3**
LAST	**Lasithi**	**2.78**	**299**	P		**Pn**	**19 28 57.6**	**+1.7**
FETY	**Fethiye**	**2.81**	**10**	P		**Pn**	**19 28 54.6**	**-1.6**
FETY				S		**Sn**	**19 29 25.8**	**-3.1**
NIS1	**Nisyros lsl.**	**2.93**	**339**	*e*PN		**Pn**	**19 28 57.7**	**-0.1**
NIS1	**Nisyros lsl.**	**2.93**	**339**	*e*Pn		**Pn**	**19 28 57.7**	**-0.1**
DAT	**Datca**	**2.95**	**346**	*e*PN		**Pn**	**19 28 58.2**	**0.0**
DAT	**Datca**	**2.95**	**346**	*i* P		**Pn**	**19 28 56.4**	**-1.8**
DAT				*i* S		**Sn**	**19 29 28.3**	**-4.1**
DAT	**Datca**	**2.95**	**346**	P		**Pn**	**19 28 56.4**	**-1.8**
DAT	**Datca**	**2.95**	**346**	*e*Pn		**Pn**	**19 28 58.2**	**0.0**
DAT				S		**Sn**	**19 29 28.3**	**-4.1**
DALY	**Dalyan (Mu¨la**	**2.95**	**3**	*e*PN		**Pn**	**19 28 58.5**	**+0.4**
DALY	**Dalyan (Mu¨la**	**2.95**	**3**	*i* P		**Pn**	**19 28 56.8**	**-1.3**
DALY				*i* S		**Sn**	**19 29 29.7**	**-2.6**
DALY	**Dalyan (Mu¨la**	**2.95**	**3**	P		**Pn**	**19 28 56.8**	**-1.3**
DALY	**Dalyan (Mu¨la**	**2.95**	**3**	*e*Pn		**Pn**	**19 28 58.5**	**+0.4**
DALY				S		**Sn**	**19 29 29.7**	**-2.6**
HMAT	**Matruh**	**2.99**	**203**	P		**Pn**	**19 28 56.9**	**-1.8**
TURN	**Turunc**	**3.00**	**2**	*i* P		**Pn**	**19 28 56.0**	**-2.9**
TURN				*i* S		**Sn**	**19 29 29.7**	**-4.0**
TURN	**Turunc**	**3.00**	**2**	P		**Pn**	**19 28 56.0**	**-2.9**
ELL	**Elmali**	**3.11**	**22**	*e*PN		**Pn**	**19 29 00.9**	**+0.4**
ELL	**Elmali**	**3.11**	**22**	*e*Pn		**Pn**	**19 29 00.9**	**+0.4**
IDI	**Anoyia**	**3.27**	**297**	P		**Pn**	**19 29 04.5**	**+1.8**
	comp=N,4.8nm,0.3s,baz=119,slow=20,SNR=27							
IDI				Sn		**Sn**	**19 29 39.9**	**-0.4**
	comp=N,18nm,0.3s,baz=209,slow=20,SNR=12							
IDI	**Anoyia**	**3.27**	**297**	P		**Pn**	**19 29 03.8**	**+1.2**
IDI				S		**Sn**	**19 29 39.6**	**-0.8**
IDI	**Anoyia**	**3.27**	**297**	P		**Pn**	**19 29 03.8**	**+1.2**
IDI				S		**Sn**	**19 29 38.9**	**-1.5**
IDI				AML	AML		19 29 40.6	
	comp=E,186µm,0.6s							
IDI				AML	AML		19 29 40.7	
	comp=N,283µm,0.5s							
BDRM	**Kayabasi**	**3.30**	**346**	*i* P		**Pn**	**19 29 03.1**	**+0.1**
BDRM				*i* S		**Sn**	**19 29 36.2**	**-4.8**
BDRM	**Kayabasi**	**3.30**	**346**	P		**Pn**	**19 29 03.1**	**+0.1**
BODT	**Bodrum**	**3.33**	**344**	*e*PN		**Pn**	**19 29 03.5**	**+0.2**
BODT	**Bodrum**	**3.33**	**344**	*e*Pn		**Pn**	**19 29 03.5**	**+0.2**
MLSB	**Milas**	**3.47**	**351**	*e*PN		**Pn**	**19 29 05.4**	**+0.1**
MLSB	**Milas**	**3.47**	**351**	*e*Pn		**Pn**	**19 29 05.4**	**+0.1**
GOLH	**Golhisar**	**3.48**	**15**	*i* P		**Pn**	**19 29 05.8**	**+0.2**
GOLH				*i* S		**Sn**	**19 29 45.5**	**-0.1**
GOLH	**Golhisar**	**3.48**	**15**	P		**Pn**	**19 29 05.8**	**+0.2**
GOLH				S		**Sn**	**19 29 45.5**	**-0.1**
KORT	**Korkueli**	**3.49**	**26**	*e*PN		**Pn**	**19 29 05.9**	**+0.2**
KORT	**Korkueli**	**3.49**	**26**	*i* P		**Pn**	**19 29 05.0**	**-0.6**
KORT				*i* S		**Sn**	**19 29 46.0**	**+0.2**
KORT	**Korkueli**	**3.49**	**26**	P		**Pn**	**19 29 05.0**	**-0.6**
KORT	**Korkueli**	**3.49**	**26**	*e*Pn		**Pn**	**19 29 05.9**	**+0.2**
KORT				S		**Sn**	**19 29 46.0**	**+0.2**
ANTB	**Antalya**	**3.52**	**30**	*e*PN		**Pn**	**19 29 06.4**	**+0.5**
ANTB	**Antalya**	**3.52**	**30**	*e*Pn		**Pn**	**19 29 06.4**	**+0.5**
SLUM	**Salum**	**3.62**	**230**	P		**Pn**	**19 29 09.5**	**+2.2**
	baz=233							
SLUM	**Salum**	**3.62**	**230**	P		**Pn**	**19 29 09.5**	**+2.2**
GVD	**Gavdhos**	**3.75**	**286**	P		**Pn**	**19 29 11.1**	**+2.0**
GVD	**Gavdhos**	**3.75**	**286**	P		**Pn**	**19 29 10.7**	**+1.6**
LEF	**Lefka**	**3.87**	**70**	*e*PN		**Pn**	**19 29 11.4**	**+0.7**
LEF	**Lefka**	**3.87**	**70**	*e*Pn		**Pn**	**19 29 11.4**	**+0.7**
BCK	**Bucak**	**3.99**	**25**	*e*PN		**Pn**	**19 29 13.6**	**+1.2**
BCK	**Bucak**	**3.99**	**25**	*e*Pn		**Pn**	**19 29 13.6**	**+1.2**
APE	**Apeiranthos**	**3.99**	**324**	*e*PN		**Pn**	**19 29 12.6**	**+0.1**
APE	**Apeiranthos**	**3.99**	**324**	P		**Pn**	**19 29 11.7**	**-0.8**
APE	**Apeiranthos**	**3.99**	**324**	*e*Pn		**Pn**	**19 29 12.6**	**+0.1**
APE	**Apeiranthos**	**3.99**	**324**	P		**Pn**	**19 29 10.7**	**-1.8**
SMG	**Samos**	**4.06**	**341**	P		**Pn**	**19 29 13.4**	**0.0**
SMG	**Samos**	**4.06**	**341**	P		**Pn**	**19 29 13.8**	**+0.4**
AYDB	**Zeytinkoy-Aydi**	**4.10**	**354**	*e*PN		**Pn**	**19 29 13.9**	**-0.2**
AYDB	**Zeytinkoy-Aydi**	**4.10**	**354**	*e*Pn		**Pn**	**19 29 13.9**	**-0.2**
SUTC	**Sutluce-Ispart**	**4.16**	**29**	*e*PN		**Pn**	**19 29 16.0**	**+1.2**
SUTC	**Sutluce-Ispart**	**4.16**	**29**	*e*Pn		**Pn**	**19 29 16.0**	**+1.2**
CSS	**Mathiatis**	**4.17**	**73**	Pn		**Pn**	**19 29 14.8**	**-0.1**
CSS	**Mathiatis**	**4.17**	**73**	Pn		**Pn**	**19 29 14.8**	**-0.1**
LFK	**Lefkose**	**4.42**	**70**	*e*PN		**Pn**	**19 29 20.3**	**+2.0**
LFK	**Lefkose**	**4.42**	**70**	*e*Pn		**Pn**	**19 29 20.3**	**+2.0**
TEKE	**Tekeli-Mersin**	**4.44**	**58**	*e*PN		**Pn**	**19 29 20.3**	**+1.6**
TEKE	**Tekeli-Mersin**	**4.44**	**58**	*e*Pn		**Pn**	**19 29 20.3**	**+1.6**
HDMB	**Hadim**	**4.51**	**46**	*e*PN		**Pn**	**19 29 21.1**	**+1.3**
HDMB	**Hadim**	**4.51**	**46**	*e*Pn		**Pn**	**19 29 21.1**	**+1.3**
BERE	**Bereket-Mersin**	**4.62**	**56**	*e*PN		**Pn**	**19 29 22.9**	**+1.7**
BERE	**Bereket-Mersin**	**4.62**	**56**	*e*Pn		**Pn**	**19 29 22.9**	**+1.7**
KULA	**Kula-Manisa**	**4.64**	**2**	*e*PN		**Pn**	**19 29 22.1**	**+0.6**
KULA	**Kula-Manisa**	**4.64**	**2**	*e*Pn		**Pn**	**19 29 22.1**	**+0.6**
ANKY	**Antikythira Is**	**4.69**	**297**	P		**Pn**	**19 29 23.9**	**+1.9**
ANKY	**Antikythira Is**	**4.69**	**297**	P		**Pn**	**19 29 24.0**	**+2.0**
AKKU	**Akkuyu-Mersin**	**4.76**	**60**	*e*PN		**Pn**	**19 29 24.8**	**+1.8**
AKKU	**Akkuyu-Mersin**	**4.76**	**60**	*e*Pn		**Pn**	**19 29 24.8**	**+1.8**
KOT	**Kottamia**	**4.86**	**143**	P		**Pn**	**19 29 23.6**	**-0.8**
	baz=144							
KOT	**Kottamia**	**4.86**	**143**	P		**Pn**	**19 29 23.6**	**-0.8**
IKL	**Isikli**	**4.90**	**60**	*e*PN		**Pn**	**19 29 26.6**	**+1.8**
IKL	**Isikli**	**4.90**	**60**	*e*Pn		**Pn**	**19 29 26.6**	**+1.8**
HHAG	**Hagoal**	**4.97**	**141**	P		**Pn**	**19 29 25.1**	**-0.8**
	baz=142							
HHAG				S		**Sn**	**19 30 19.2**	**-3.1**
	baz=142							
HHAG	**Hagoal**	**4.97**	**141**	P		**Pn**	**19 29 25.2**	**-0.8**
HHAG				S		**Sn**	**19 30 19.2**	**-3.1**
KONT	**Konya--Tatoy**	**5.16**	**37**	*e*PN		**Pn**	**19 29 30.1**	**+1.6**
KONT	**Konya--Tatoy**	**5.16**	**37**	*e*Pn		**Pn**	**19 29 30.1**	**+1.6**
RSH		**5.31**	**122**	P		**Pn**	**19 29 29.4**	**-1.1**
	baz=122							
RSH		**5.31**	**122**	P		**Pn**	**19 29 29.4**	**-1.1**
KIZT	**Kizilcal**	**5.71**	**28**	*e*PN		**Pn**	**19 29 37.8**	**+1.6**
KIZT	**Kizilcal**	**5.71**	**28**	*e*Pn		**Pn**	**19 29 37.8**	**+1.6**
ZAF	**Zafarana**	**5.75**	**142**	P		**Pn**	**19 29 36.1**	**-0.5**
	baz=142							
ZAF	**Zafarana**	**5.75**	**142**	P		**Pn**	**19 29 36.1**	**-0.5**
SLTI	**Sal'it**	**5.75**	**105**	Pn		**Pn**	**19 29 36.3**	**-0.4**
SLTI				Sn		**Sn**	**19 30 38.6**	**-2.9**
SLTI	**Sal'it**	**5.75**	**105**	Pn		**Pn**	**19 29 36.3**	**-0.4**
MERS	**Mersin**	**5.79**	**57**	*e*PN		**Pn**	**19 29 39.6**	**+2.4**
MERS	**Mersin**	**5.79**	**57**	*e*Pn		**Pn**	**19 29 39.6**	**+2.4**
KZIT	**Kziot**	**5.82**	**119**	Pn		**Pn**	**19 29 36.7**	**-0.9**
KZIT				Sn		**Sn**	**19 30 39.6**	**-3.5**
KZIT	**Kziot**	**5.82**	**119**	Pn		**Pn**	**19 29 36.7**	**-0.9**
MMA0B	**Mount Meron ar**	**5.86**	**96**	Pn		**Pn**	**19 29 37.9**	**-0.3**
MMA0B	**Mount Meron ar**	**5.86**	**96**	Pn		**Pn**	**19 29 37.9**	**-0.3**
MMAI	**Mount Meron Ar**	**5.86**	**96**	Pn		**Pn**	**19 29 37.9**	**-0.4**
	comp=N,4.3nm,0.3s,baz=264,slow=12,SNR=23							
MMAI				Sn		**Sn**	**19 30 43.0**	**-1.2**
	comp=N,11nm,0.3s,baz=284,slow=15,SNR=11							
AMAZ	**Amatzia**	**5.92**	**111**	Pn		**Pn**	**19 29 38.9**	**0.0**
AMAZ	**Amatzia**	**5.92**	**111**	Pn		**Pn**	**19 29 38.9**	**0.0**
MMLI	**Mount Malkishu**	**6.01**	**102**	Pn		**Pn**	**19 29 40.0**	**-0.2**
MMLI	**Mount Malkishu**	**6.01**	**102**	Pn		**Pn**	**19 29 40.0**	**-0.2**
KSDI	**Kefar Szold**	**6.05**	**94**	Pn		**Pn**	**19 29 40.4**	**-0.3**
KSDI	**Kefar Szold**	**6.05**	**94**	Pn		**Pn**	**19 29 40.4**	**-0.3**
HNKL	**Nakhl**	**6.12**	**128**	P		**Pn**	**19 29 41.4**	**-0.3**
	baz=129							
HNKL	**Nakhl**	**6.12**	**128**	P		**Pn**	**19 29 41.4**	**-0.3**
YTIR	**Yattir**	**6.14**	**112**	Pn		**Pn**	**19 29 42.1**	**0.0**
YTIR	**Yattir**	**6.14**	**112**	Pn		**Pn**	**19 29 42.1**	**0.0**
HMDT	**Nahal Hemdat**	**6.14**	**103**	Pn		**Pn**	**19 29 41.6**	**-0.4**
HMDT	**Nahal Hemdat**	**6.14**	**103**	Pn		**Pn**	**19 29 41.6**	**-0.4**
KSHT	**Keshet**	**6.21**	**96**	Pn		**Pn**	**19 29 43.7**	**+0.8**
KSHT	**Keshet**	**6.21**	**96**	Pn		**Pn**	**19 29 43.7**	**+0.8**
BRBR	**Barbar**	**6.26**	**92**	*e*P		**Pn**	**19 29 43.9**	**+0.1**
BRBR				*e*S		**Sn**	**19 30 52.0**	**-2.3**
BRBR				AML	AML		19 30 54.3	
	comp=N,26nm,0.8s							
BRBR				AML	AML		19 30 59.0	
	comp=E,27nm,0.8s							
BRBR	**Barbar**	**6.26**	**92**	*e*P		**Pn**	**19 29 43.9**	**+0.1**
	SNR=90							
MZDA	**Masada**	**6.36**	**112**	Pn		**Pn**	**19 29 45.0**	**+0.1**
MZDA	**Masada**	**6.36**	**112**	Pn		**Pn**	**19 29 45.0**	**+0.1**
TCHB	**Talchebab**	**6.40**	**99**	*e*P		**Pn**	**19 29 46.1**	**+0.6**
TCHB				*e*S		**Sn**	**19 30 55.4**	**-2.0**
TCHB				AML	AML		19 31 02.1	
	comp=N,64nm,0.5s							
TCHB				AML	AML		19 31 05.6	
	comp=E,71nm,0.3s							
TCHB	**Talchebab**	**6.40**	**99**	*e*P		**Pn**	**19 29 46.1**	**+0.6**
	SNR=90							
PRNI	**Paran**	**6.56**	**120**	Pn		**Pn**	**19 29 46.8**	**-1.0**
PRNI	**Paran**	**6.56**	**120**	Pn		**Pn**	**19 29 46.8**	**-1.0**
ZFRI	**Zfri**	**6.58**	**118**	Pn		**Pn**	**19 29 47.3**	**-0.7**
ZFRI	**Zfri**	**6.58**	**118**	Pn		**Pn**	**19 29 47.3**	**-0.7**
TOTH	**TOTAH**	**6.67**	**92**	*e*P		**Pn**	**19 29 50.0**	**+0.8**
TOTH				*e*S		**Sn**	**19 31 01.5**	**-2.5**
TOTH				AML	AML		19 31 08.6	
	comp=E,14nm,0.3s							
TOTH				AML	AML		19 31 19.6	
	comp=N,12nm,0.7s							
TOTH	**TOTAH**	**6.67**	**92**	*e*P		**Pn**	**19 29 50.0**	**+0.8**
	SNR=90							
MARH	**Ras Al Marh**	**6.67**	**86**	*e*P		**Pn**	**19 29 50.2**	**+0.7**
MARH				*e*S		**Sn**	**19 31 01.5**	**-2.9**
MARH				AML	AML		19 31 09.2	
	comp=N,24nm,0.4s							
MARH				AML	AML		19 31 19.2	
	comp=E,8.2nm,0.9s							
MARH	**Ras Al Marh**	**6.67**	**86**	*e*P		**Pn**	**19 29 50.2**	**+0.7**
	SNR=90							
HFRF	**Wahat Farafira**	**6.69**	**181**	P		**Pn**	**19 29 50.7**	**+1.1**
	baz=183							
HFRF	**Wahat Farafira**	**6.69**	**181**	P		**Pn**	**19 29 50.7**	**+1.1**
HRFI	**Mount Harif**	**6.76**	**123**	Pn		**Pn**	**19 29 51.0**	**+0.4**
HRFI				Sn		**Sn**	**19 31 03.1**	**-3.3**
HRFI	**Mount Harif**	**6.76**	**123**	Pn		**Pn**	**19 29 51.0**	**+0.4**
MBRI	**Mt Berech**	**6.83**	**125**	Pn		**Pn**	**19 29 51.7**	**+0.2**
MBRI				Sn		**Sn**	**19 31 04.6**	**-3.4**
MBRI	**Mt Berech**	**6.83**	**125**	Pn		**Pn**	**19 29 51.7**	**+0.2**
BTCH	**Batrach**	**6.92**	**69**	*e*P		**Pn**	**19 29 52.6**	**-0.1**
BTCH				*e*S		**Sn**	**19 31 05.3**	**-4.8**
BTCH				AML	AML		19 31 10.2	
	comp=N,18nm,0.3s							
BTCH				AML	AML		19 31 11.3	
	comp=E,23nm,0.3s							
BTCH	**Batrach**	**6.92**	**69**	*e*P		**Pn**	**19 29 52.6**	**-0.1**
	SNR=90							
EIL	**Elat**	**6.93**	**125**	Pn		**Pn**	**19 29 53.5**	**+0.7**
	comp=E,6.0nm,0.3s,baz=315,slow=2.5,SNR=48							
EIL				Sn		**Sn**	**19 31 06.2**	**-4.2**
	comp=E,6.1nm,0.3s,baz=350,slow=6.8,SNR=9.6							
EIL	**Elat**	**6.93**	**125**	Pn		**Pn**	**19 29 53.2**	**+0.4**
EIL	**Elat**	**6.93**	**125**	Pn		**Pn**	**19 29 53.2**	**+0.4**
SALA	**Sala**	**7.02**	**97**	*e*P		**Pn**	**19 29 54.7**	**+0.5**
SALA				*e*S		**Sn**	**19 31 10.7**	**-2.3**
SALA				AML	AML		19 31 16.0	
	comp=E,1.5nm,0.5s							
SALA				AML	AML		19 31 21.2	
	comp=N,15nm,0.4s							
SALA	**Sala**	**7.02**	**97**	*e*P		**Pn**	**19 29 54.7**	**+0.5**
	SNR=90							
BRTR	**Keskin Array B**	**7.17**	**34**	Pn		**Pn**	**19 29 57.7**	**+1.4**
	comp=N,0.1nm,0.3s,baz=211,slow=14,SNR=4.4							
BRTR				Sn		**Sn**	**19 31 13.4**	**-3.2**
	comp=N,0.4nm,0.3s,baz=206,slow=26,SNR=8.9							
ASF	**Jabal al Asfar**	**7.28**	**101**	Pn		**Pn**	**19 29 58.0**	**+0.3**
	comp=N,0.8nm,0.3s,baz=244,slow=8.0,SNR=8.8							
ROOS	**tl_alroos**	**7.34**	**85**	*e*P		**Pn**	**19 29 59.6**	**+1.1**
ROOS				*e*S		**Sn**	**19 31 17.4**	**-3.1**
ROOS				AML	AML		19 31 27.9	
	comp=N,14nm,0.6s							
ROOS				AML	AML		19 31 39.9	
	comp=E,14nm,0.6s							
ROOS	**tl_alroos**	**7.34**	**85**	*e*P		**Pn**	**19 29 59.6**	**+1.1**
	SNR=90							
HDHB	**Dhahab**	**7.35**	**133**	P		**Pn**	**19 29 58.3**	**-0.2**
	baz=133							
HDHB	**Dhahab**	**7.35**	**133**	P		**Pn**	**19 29 58.3**	**-0.2**
HSFG		**8.67**	**146**	P		**Pn**	**19 30 16.4**	**-0.4**
	baz=146							
HSFG		**8.67**	**146**	P		**Pn**	**19 30 16.4**	**-0.4**
AKASG	**Malin Array Be**	**16.84**	**2**	Pn		**Pn**	**19 32 08.1**	**+1.5**
	comp=E,0.8nm,0.3s,baz=194,slow=13,SNR=4.1							
ATD	**Arta Tunnel**	**25.83**	**146**	LR		LR	19 42 28.5	
	comp=E,719nm,20.2s,baz=7.5,slow=33							
FINES	**FINESS Array B**	**27.64**	**358**	P		**P**	**19 33 58.6**	**+0.9**
	comp=E,1.3nm,0.7s,baz=171,slow=9.8,SNR=5.4							
TORD	**Torodi Ar. Bea**	**31.89**	**236**	P		**P**	**19 34 37.6**	**+1.8**
	comp=E,1.6nm,0.8s,baz=26,slow=9.5,SNR=12							
ZALV	**Zalesovo Beam**	**43.96**	**45**	P		**P**	**19 36 18.0**	**+0.8**
	comp=E,1.3nm,0.5s,baz=266,slow=9.9,SNR=5.6							

IDC ***05*** *19:32:12.3±0.9, 11°.01S×163°.39E, h0km, mb4.3/9, mb1 4.5/10, mb1mx4.1/41, mbtmp4.3/10, ML4.1/1, MS4.4/2, Ms1 4.4/2, ms1mx3.7/43, Error ellipse: s-maj=27.7km s-min=22.1km az=128.0*

ISCJB ***05*** *19:32:15.0±0.7, 11°.15S±0°.10×163°.47E±0°.10, h31km, mb4.3/10, MS4.3/2, Error ellipse: s-maj=15.6km s-min=12.3km az=135.4*

NEIC ***05*** *19:32:16.5±5.1, 11°.07S×163°.56E, h29km±35km, mb4.7/4, Error ellipse: s-maj=20.3km s-min=14.5km az=49.0*

ISC 05 19:32:16.8±0.8, 11°.1S±0°.1×163°.5E±0°.1, h31km, n30, σ1§17/22, mb4.4/10, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
HNR	**Honiara**	**3.86**	**295**	Pn		**Pn**	**19 33 14.6**	**+0.5**
	84nm,0.3s,baz=152,slow=6.1,SNR=29							
HNR	**Honiara**	**3.86**	**295**	*e*P		**Pn**	**19 33 14.0**	**-0.1**
HNR				*e*S		**Sb**	**19 34 10.0**	**-0.6**
DZM	**Mont Dzumac**	**11.28**	**166**	Pn		**Pn**	**19 34 54.7**	**-1.3**
	1.2nm,0.3s,baz=38,slow=8.6,SNR=21							
CTA	**Charters Tower**	**18.85**	**240**	P		**Pn**	**19 36 37.5**	**+2.3**
	0.7nm,0.3s,baz=58,slow=14,SNR=12							
CTAO	**Charters Tower**	**18.85**	**240**	*e*P		**Pn**	**19 36 36.9**	**+1.7**
	211nm,1.1s							
COEN	**Coen**	**20.04**	**260**	*e*P		Pn	19 36 49.6	+0.2
	36nm,1.0s							
STKA	**Stephens Creek**	**28.93**	**221**	P		**P**	**19 38 13.3**	**+0.1**
	6.7nm,1.0s,baz=62,slow=17,SNR=4.9							
WRAB	**Tennant Creek**	**29.39**	**249**	*e*P		**P**	**19 38 16.4**	**-1.2**
	9.6nm,0.8s							
WRA	**Warramunga Arr**	**29.40**	**249**	P		**P**	**19 38 16.7**	**-0.9**
	12nm,0.8s,baz=80,slow=9.3,SNR=73							
H11S2	**WAKE ISLAND Hy**	**29.56**	**6**	T		T	20 10 21.5	
	baz=188,slow=76,SNR=22							
H11S3	**WAKE ISLAND Hy**	**29.56**	**6**	T		T	20 10 12.3	
	baz=188,slow=76,SNR=14							
H11S1	**WAKE ISLAND Hy**	**29.58**	**6**	T		T	20 10 23.6	
	baz=188,slow=76,SNR=14							
URZ	**Urewera**	**29.67**	**158**	LR		LR	19 49 46.3	
	comp=Z,891nm,18.8s,baz=312,slow=35							
H11N1	**WAKE ISLAND Hy**	**30.79**	**6**	T		T	20 11 43.2	
	baz=186,slow=76,SNR=5.5							
H11N3	**WAKE ISLAND Hy**	**30.80**	**6**	T		T	20 11 31.0	
	baz=186,slow=76,SNR=13							
H11N2	**WAKE ISLAND Hy**	**30.81**	**6**	T		T	20 11 46.2	
	baz=186,slow=76,SNR=8.5							
ASAR	**Alice Springs**	**30.81**	**242**	P		**P**	**19 38 29.1**	**-1.1**
	3.8nm,0.8s,baz=65,slow=9.4,SNR=42							
FITZ	**Fitzroy Crossi**	**37.24**	**255**	P		**P**	**19 39 24.6**	**-1.3**
	9.9nm,0.6s,baz=75,slow=7.3,SNR=42							
FITZ	**Fitzroy Crossi**	**37.24**	**255**	*e*P		**P**	**19 39 24.4**	**-1.5**
	9.2nm,0.6s							
MBWA	**Marble Bar**	**43.10**	**251**	*e*P		**P**	**19 40 13.6**	**-0.9**
JHJ	**Hachijo jima 2**	**49.44**	**334**	LR		LR	19 59 28.5	
	comp=Z,324nm,21.6s,baz=20,slow=33							
ENH	**Enshi**	**66.22**	**310**	*e*P		**P**	**19 43 02.0**	**-0.1**
VNDA	**Vanda**	**66.42**	**180**	P		**P**	**19 43 04.2**	**+1.7**
	0.7nm,0.9s,baz=307,slow=7.2,SNR=3.1							
SBA	**Scott Base**	**66.78**	**179**	*e*P		**P**	**19 43 05.5**	**+0.7**
CMAR	**Chiang Mai Arr**	**70.11**	**294**	P		**P**	**19 43 26.6**	**-0.1**
	1.2nm,0.8s,baz=114,slow=4.9,SNR=8.1							
QSPA	**South Pole Qui**	**78.92**	**180**	*e*P		**P**	**19 44 16.7**	**-0.4**
MAW	**Mawson**	**83.85**	**202**	P		**P**	**19 44 43.4**	**+0.4**
	2.7nm,0.8s,baz=117,slow=11,SNR=3.2							
ILAR	**Eielson Array**	**84.27**	**19**	P		**P**	**19 44 44.3**	**-0.8**
	0.6nm,0.9s,baz=233,slow=6.1,SNR=4.1							
NEW	**Newport**	**91.22**	**41**	P		**P**	**19 45 19.8**	**+0.8**
	2.9nm,0.8s,baz=217,slow=5.1,SNR=3.2							
TORD	**Torodi Ar. Bea**	**162.09**	**278**	PKPab		**PKPab**	**19 53 04.3**	**+1.5**
	0.5nm,0.8s,baz=48,slow=4.3,SNR=3.8							

IDC ***05*** *19:33:08.5±1.3, 10°.68S×163°.56E, h0km, mb4.6/7, mb1 4.7/9, mb1mx4.2/41, mbtmp4.6/9, ML4.6/2, MS4.5/4, Ms1 4.5/4, ms1mx3.9/42, Error ellipse: s-maj=32.6km s-min=25.3km az=122.0*

ISCJB ***05*** *19:33:11.7±0.8, 11°.0S±0°.1×163°.7E±0°.1, h31km, mb4.6/13, MS4.3/2, Error ellipse: s-maj=17.8km s-min=15.0km az=171.4*

NEIC ***05*** *19:33:13.8±0.7, 10°.89S×163°.73E, h35km, mb4.9/6, Error ellipse: s-maj=15.9km s-min=13.6km az=90.0*

ISC 05 19:33:13.7±0.9, 10°.8S±0°.1×163°.5E±0°.1, h31km, n22, σ1§61/19, mb4.5/13, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
HNR	**Honiara**	**3.78**	**291**	Pn		**Pn**	**19 34 06.0**	**-3.9**
	62nm,0.3s,baz=37,slow=23,SNR=7.3							
HNR				Sn		**Sb**	**19 35 05.0**	**-0.2**
	285nm,0.3s,baz=231,slow=21,SNR=4.2							
HNR				LR		LR	19 35 50.7	
	comp=Z,9µm,18.4s,baz=128,slow=43							
DZM	**Mont Dzumac**	**11.54**	**166**	Pn		**Pn**	**19 35 54.2**	**-2.2**
	2.9nm,0.3s,baz=325,slow=18,SNR=4.1							
PMG	**Port Moresby**	**16.17**	**274**	LR		LR	19 42 45.4	
	comp=Z,2µm,20.2s,baz=112,slow=36							
CTA	**Charters Tower**	**19.01**	**239**	Pn		**Pn**	**19 37 36.6**	**+2.6**
	1.7nm,0.3s,baz=61,slow=14,SNR=7.5							
CTAO	**Charters Tower**	**19.01**	**239**	*e*P		**Pn**	**19 37 34.6**	**+0.6**
COEN	**Coen**	**20.12**	**259**	*e*P		Pn	19 37 47.7	+0.5
	52nm,1.0s							
STKA	**Stephens Creek**	**29.15**	**221**	P		**P**	**19 39 12.3**	**+0.1**
	7.4nm,0.9s,baz=25,slow=14,SNR=4.2							
WRAB	**Tennant Creek**	**29.51**	**249**	*e*P		**P**	**19 39 15.2**	**-0.3**
	25nm,0.9s							
WRA	**Warramunga Arr**	**29.52**	**249**	P		**P**	**19 39 16.0**	**+0.3**
	13nm,0.6s,baz=79,slow=9.0,SNR=18							
GUMO	**Guam**	**30.50**	**322**	LR		LR	19 51 30.9	
	comp=Z,332nm,21.1s,baz=142,slow=36							
ASAR	**Alice Springs**	**30.96**	**242**	P		**P**	**19 39 28.2**	**-0.2**
	6.2nm,0.9s,baz=63,slow=10.0,SNR=6.9							
FITZ	**Fitzroy Crossi**	**37.34**	**254**	P		**P**	**19 40 23.8**	**+0.1**
	12nm,0.5s,baz=62,slow=8.8,SN

comp=Z,50nm,0.9s
YSS MLR MLR
comp=Z,800nm,15.0s
YSS Yuzh-Sakhalins 10.47 1 *e*Pn **Pn 19 51 43.0 -0.6**
USRK Ussuriysk Ar. 11.18 317 Pn **Pn 19 51 54.7 +1.5**
comp=Z,0.2nm,0.3s,baz=122,slow=14,SNR=5.2
KSRS Korea Array 11.79 279 Pn **Pn 19 52 04.1 +2.6**
comp=Z,0.1nm,0.3s,baz=92,slow=13,SNR=15
KS01 Wonju Array Si 11.81 279 *e*Pn **Pn 19 52 02.4 +0.6**
KS15 Wonju Array Si 11.82 279 *e*Pn **Pn 19 52 03.7 +1.7**
KSAR Wonju Array Be 11.82 279 P **Pn 19 52 04.1 +2.1**
KSAR Wonju Array Be 11.82 279 Pn **Pn 19 52 04.1 +2.1**
HABR Khabarovsk 13.22 338 *e*P **Pn 19 52 19.2 -1.8**
HABR *e*S **Sn 19 54 45.0 -2.1**
HABR pmax pmax
comp=N,55nm,2.2s
HABR pmax pmax
comp=E,104nm,2.2s
HABR pmax pmax
comp=Z,115nm,2.2s
HABR MLR MLR
comp=Z,1μm,16.0s
CN2 Changchun 15.01 304 *e*P **Pn 19 52 45.1 -0.4**
CN2 pmax pmax
comp=Z,10.0nm,0.5s
KLR Kul'dur 15.01 332 Pn **P 19 52 48.5 -2.2**
comp=Z,0.3nm,0.3s,baz=142,slow=13,SNR=6.3
JOW Kunigami 15.52 236 *e*Pn **Pn 19 52 53.1 +0.9**
comp=Z,72nm,1.5s
SNY Shenyang 15.69 296 ⇑P **Pn 19 52 50.1 -4.3**
SNY pmax pmax
comp=Z,9.0nm,0.5s
SNY pmax pmax
comp=Z,540nm,9.6s
SNY LR LR
comp=Z,1μm,13.7s
SNY LR LR
comp=Z,2μm,13.1s
SNY LR LR
comp=Z,3μm,15.1s
PEA0 Petropavlovsk- 19.72 28 *e*P **P 19 53 41.4 -1.1**
PEA0B Petropavlovsk- 19.72 28 *e*P **Pn 19 53 45.7 +1.6**
comp=Z,108nm,1.9s
PET Petropavlovsk 20.02 29 *e*P **P 19 53 45.7 -0.1**
PET pmax pmax
comp=Z,19nm,1.0s
PET Petropavlovsk 20.02 29 *e*P **P 19 53 45.7 -0.1**
comp=Z,19nm,1.0s
NJ2 Nanjing 20.10 264 *e*P **P 19 53 45.4 -1.5**
NJ2 S **S 19 57 30.0 -1.7**
NJ2 pmax pmax
comp=Z,13nm,0.6s
NJ2 LR LR
comp=Z,1μm,18.4s
NJ2 LR LR
comp=Z,2μm,14.1s
NJ2 LR LR
comp=Z,1μm,15.2s
HIA Hailar 20.98 315 *e*P **P 19 53 53.9 -2.4**
HIA Hailar 20.98 315 *e*P **P 19 53 53.9 -2.4**
BJI Beijing 21.03 288 P **P 19 53 55.4 -1.5**
BJI pmax pmax
comp=Z,12nm,1.5s
BJI pmax pmax
comp=Z,480nm,9.0s
BJI LR LR
comp=Z,1μm,15.7s
BJI LR LR
comp=Z,520nm,16.3s
BJT Baijiatuau 21.04 288 *e*P **P 19 53 55.5 -1.5**
BJT Baijiatuau 21.04 288 *e*P **P 19 53 55.5 -1.5**
NACB Ningamchiao 21.83 242 *e*P **P 19 54 06.2 +0.6**
comp=Z,12nm,0.8s
TWG Pinlang 23.07 240 *e*P **P 19 54 20.4 +1.6**
comp=Z,122nm,1.2s
CLNS Chul'man 23.59 335 *e*P **P 19 54 23.2 -0.5**
CLNS pmax pmax
comp=Z,13nm,1.3s
CLNS pmax pmax
comp=N,11nm,1.0s
CLNS pmax pmax
comp=E,7.0nm,1.4s
CLNS MLR MLR
comp=E,416nm,12.0s
CLNS MLR MLR
comp=N,782nm,13.0s
CLNS MLR MLR
comp=Z,856nm,16.0s
MA2 Magadan 23.72 10 P **P 19 54 25.9 +1.1**
comp=Z,6.6nm,0.8s,baz=166,slow=11,SNR=3.6
MA2 LR LR 20 05 36.5
comp=Z,597nm,18.4s,baz=355,slow=42
MA2 Magadan 23.72 10 *e*P **P 19 54 25.0 +0.1**
comp=Z,16nm,1.0s
WHN Wuhan 24.24 264 ⇓P **P 19 54 29.6 -0.4**
HHC Hu-ho-hao-te 24.56 290 *e*P **P 19 54 33.3 +0.3**
HHC pP pP 19 54 40.4 +0.4
HHC sP sP 19 54 44.3 +1.4
HHC S **S 19 58 48.6 -4.0**
HHC pmax pmax
comp=Z,160nm,6.8s
HHC LR LR
comp=Z,550nm,18.2s
HHC LR LR
comp=Z,800nm,13.0s
HHC LR LR
comp=Z,760nm,18.5s
CIT Chita 25.74 316 *e*P **P 19 54 44.3 +0.7**
CIT *e* 19 54 54.6
CIT *e* 19 55 21.6
CIT *e* 19 55 31.1
CIT pmax pmax
comp=Z,85nm,2.1s
YAK Yakutsk 26.83 346 P **P 19 54 53.7 +0.5**
comp=Z,15nm,0.7s,baz=174,slow=4.1,SNR=14
YAK Yakutsk 26.83 346 *e*P **P 19 54 53.1 -0.1**
YAK pmax pmax
comp=Z,38nm,1.2s
YAK pmax pmax
comp=N,24nm,1.5s
YAK pmax pmax
comp=E,9.0nm,1.2s
YAK Yakutsk 26.83 346 *e*P **P 19 54 52.8 -0.4**
comp=E,24nm,0.8s
H11N2 WAKE ISLAND Hy 27.04 122 T T 20 23 13.1
baz=318,slow=75,SNR=18
H11N1 WAKE ISLAND Hy 27.05 122 T T 20 23 26.5
baz=318,slow=75,SNR=18
H11N3 WAKE ISLAND Hy 27.06 122 T T 20 23 14.5
baz=318,slow=75,SNR=20
SEY Seymchan 27.17 10 P **P 19 54 57.2 +1.0**
comp=E,2.7nm,0.8s,baz=190,slow=6.4,SNR=5.6
SEY Seymchan 27.17 10 ⇓*i*P **P 19 54 57.9 +1.7**
XAN Xi'an 27.53 275 P **P 19 54 59.1 -0.8**
XAN pmax pmax
comp=E,26nm,1.3s
XAN pmax pmax
comp=E,320nm,6.9s
H11S1 WAKE ISLAND Hy 27.75 124 T T 20 24 10.3
baz=319,slow=76,SNR=14
H11S3 WAKE ISLAND Hy 27.75 124 T T 20 24 10.4
baz=319,slow=76,SNR=17
H11S2 WAKE ISLAND Hy 27.77 124 T T 20 24 12.5
baz=319,slow=76,SNR=15
ENH Enshi 28.25 267 *e*P **P 19 55 05.4 -0.9**
comp=E,89nm,1.3s
ULN Ulaanbaatar 28.46 305*c i*P **P 19 55 09.2 +1.1**
ULN pmax pmax
comp=Z,17nm,1.2s
ULN Ulaanbaatar 28.46 305 *e*P **P 19 55 08.5 +0.3**
comp=Z,41nm,1.3s
BOD Bodaibo 28.52 328 *e*P **P 19 55 12.7 +4.4**
BOD pmax pmax
comp=Z,68nm,1.6s
SONA1 Songino Array 28.89 305 *e*P **P 19 55 12.0 +0.1**
SONM Songino Array 28.89 305 P **P 19 55 13.4 +1.5**
comp=Z,6.8nm,0.9s,baz=125,slow=9.3,SNR=10
LZH Lanzhou 31.11 281 *e*P **P 19 55 31.5 -0.2**
LZH pP pP 19 55 36.8 -1.9
LZH sP sP 19 55 40.1 -1.5
LZH PP **PnPn 19 56 29.0 -4.4**
LZH PcP **PcP 19 58 28.5 +1.8**
LZH *e*S **S 20 00 32.2 -3.9**
LZH sS pS 20 00 41.3 -2.6
LZH SS **SnSn 20 02 13.7 -4.3**
LZH pmax pmax
comp=Z,32nm,1.2s
LZH pmax pmax
comp=Z,110nm,4.7s
LZH LR LR
comp=Z,2μm,12.1s
LZH LR LR
comp=Z,2μm,14.4s
LZH LR LR
comp=Z,2μm,15.1s
ZAK Zakamensk 31.37 309 *e*P **P 19 55 30.5 -3.3**
ZAK pmax pmax
comp=Z,17nm,1.5s
TLY Talaya 31.42 311 P **P 19 55 34.6 +0.5**
comp=Z,1.8nm,0.5s,baz=245,slow=19,SNR=3.3
TLY Talaya 31.42 311 *e*P **P 19 55 37.6 +3.5**
TLY pmax pmax
comp=Z,25nm,1.6s
TLY MLR MLR
comp=Z,699nm,17.0s
TLY Talaya 31.42 311 *e*P **P 19 55 32.5 -1.7**
comp=Z,62nm,1.9s
GYA Guiyang 32.08 262 P **P 19 55 40.8 +0.5**
GYA pP pP 19 55 48.4 +1.1
GYA PP **PnPn 19 56 47.6 +1.6**
GYA S **S 20 00 51.0 -0.3**
GYA ScP **ScP 20 02 11.8 +0.3**
GYA SS **SnSn 20 02 42.5 +0.7**
GYA pmax pmax
comp=Z,20nm,1.0s
GYA pmax pmax
comp=Z,130nm,4.9s
GYA LR LR
comp=Z,640nm,17.2s
GYA LR LR
comp=Z,580nm,17.0s
GYA LR LR
comp=Z,540nm,17.7s
CD2 Chengdu 32.64 272 ⇓*i*P **P 19 55 44.8 -0.3**
CD2 sP pP 19 55 53.3 +1.2
CD2 S **S 20 00 53.5 -6.3**
CD2 sS sS 20 01 13.3 +1.9
CD2 pmax pmax
comp=Z,10.0nm,1.3s
CD2 LR LR
comp=Z,920nm,16.7s
CD2 LR LR
comp=Z,830nm,14.3s
QIZ Qiongzhong 33.58 248 P **P 19 55 53.5 +0.1**
QIZ S **S 20 01 15.3 +0.8**
QIZ pmax pmax
comp=Z,9.0nm,1.4s
GTA Gaotai 33.64 288 P **P 19 55 54.3 +0.4**
GTA pP sP 19 56 02.7 -1.1
GTA sP pP 19 56 05.9 +5.0
GTA S **S 20 01 14.6 -0.8**
GTA sS sS 20 01 26.5 -0.6
GTA pmax pmax
comp=Z,10.0nm,1.9s
GTA pmax pmax
comp=Z,260nm,6.2s
GTA LR LR
comp=Z,520nm,14.7s
GTA LR LR
comp=Z,620nm,15.7s
GTA LR LR
comp=Z,710nm,15.7s
KMI Kunming 35.83 263 P **P 19 56 12.2 -0.8**
KMI pP pP 19 56 20.4 +0.3
KMI sP sP 19 56 23.4 +0.4
KMI S **S 20 01 49.0 -0.6**
KMI pmax pmax
comp=Z,7.0nm,1.2s
KMI LR LR
comp=Z,340nm,16.1s
KMI LR LR
comp=Z,720nm,14.2s
KMI LR LR
comp=Z,810nm,15.3s
TIXI Tiksi 35.97 353 *e*P **P 19 56 12.7 -0.6**
TIXI pmax pmax
comp=Z,4.0nm,0.8s
TIXI Tiksi 35.97 353 *e*P **P 19 56 12.7 -0.6**
comp=Z,4.0nm,0.8s
SLVN Son La 36.82 257 *e*P **P 19 56 21.6 +0.3**
comp=Z,24nm,1.5s
MYLDM Lahad Datu 38.20 221 *e*P **P 19 56 35.2 +2.4**
comp=Z,56nm,1.3s
WMQ Urumqi 41.95 298 P **P 19 57 05.8 +1.9**
WMQ pP pP 19 57 11.1 +0.1
WMQ pmax pmax
comp=Z,11nm,1.1s
WMQ pmax pmax
comp=Z,170nm,4.3s
WMQ LR LR
comp=Z,190nm,19.7s
WMQ LR LR
comp=Z,190nm,14.9s
WMQ LR LR
comp=Z,140nm,20.7s
CMAR Chiang Mai Arr 42.29 257 P **P 19 57 07.4 +0.6**
comp=Z,1.3nm,1.0s,baz=54,slow=6.1,SNR=5.0
CM01 Chiang Mai Arr 42.30 257 *e*P **P 19 57 07.2 +0.3**
ZAA0 Zalesovo Array 43.00 313 *e*P **P 19 57 11.9 -0.3**
ZALV Zalesovo Beam 43.00 313 P **P 19 57 12.8 +0.6**
comp=Z,3.1nm,0.8s,baz=95,slow=6.8,SNR=13
LSA Lhasa 43.22 276 *e*P **P 19 57 14.7 -0.1**
LSA pmax pmax
comp=Z,21nm,1.4s
LSA Lhasa 43.22 276 *e*P **P 19 57 14.7 -0.1**
comp=Z,21nm,1.4s
NVS Novosibirsk 43.92 314 *e*P **P 19 57 20.4 +0.9**
NVS pmax pmax
comp=Z,17nm,1.2s
NVS pmax pmax
comp=N,2.0nm,0.5s
NVS pmax pmax
comp=E,13nm,1.1s
MK01 Makanchi Array 45.22 303 *e*P **P 19 57 29.9 -0.3**
MK31 Makanchi Array 45.23 303 *e*P **P 19 57 29.9 -0.3**
MK31 Makanchi Array 45.23 303 *e*P **P 19 57 29.9 -0.3**
MKAR Makanchi Array 45.23 303 *e*P **P 19 57 30.5 +0.3**
MKAR pmax pmax
comp=Z,56nm,0.9s
MKAR Makanchi Array 45.23 303 *e*P **P 19 57 30.5 +0.3**
comp=Z,56nm,0.9s
MAKZ Makanchi 45.44 303 *e*P **P 19 57 31.4 -0.4**
MAKZ pmax pmax
comp=Z,46nm,1.4s
MAKZ Makanchi 45.44 303 *e*P **P 19 57 31.4 -0.4**
comp=Z,46nm,1.4s
KURK Kurchatov 47.03 309*c i*P **P 19 57 44.3 0.0**
KURK pmax pmax
comp=Z,112nm,2.5s
KURK Kurchatov 47.03 309 *e*P **P 19 57 44.0 -0.2**
comp=Z,38nm,1.3s
KURBB Kurchatov Arra 47.10 309 P **P 19 57 44.9 +0.1**
comp=Z,5.1nm,0.8s,baz=84,slow=7.9,SNR=35
PDGK Podgornoye 47.88 299 P **P 19 57 51.0 -0.2**
PDGK pmax pmax
comp=Z,45nm,1.6s
ILAR Eielson Array 49.46 32 P **P 19 58 03.3 +0.5**
comp=Z,0.8nm,0.8s,baz=264,slow=6.4,SNR=7.6
IL1 Eielson Array 49.46 32 *e*P **P 19 58 03.0 +0.1**
TKM2 Tokmak 2 50.74 299 P **P 19 58 13.1 0.0**
TKM2 pmax pmax
comp=Z,23nm,1.1s
FRU Bishkek 51.45 299 *e*P P 19 58 24.0 +5.7
FRU *i* 19 58 31.0
FRU *i* 19 58 35.0
FRU *e* 19 59 35.0
KSH Kashi 51.51 295 *e*P **P 19 58 23.4 +4.6**
KSH pP sP 19 58 29.5 +0.5
KSH sP pP 19 58 32.4 +6.3
KSH PP **PP 20 00 21.4 +5.4**
KSH S **S 20 05 42.0 +4.1**
KSH sS sS 20 05 52.1 +2.2
KSH SS **SS 20 09 16.0 +2.3**
KSH pmax pmax
comp=Z,15nm,1.4s
KSH pmax pmax
comp=Z,110nm,4.8s
KSH LR LR
comp=Z,230nm,8.5s
KSH LR LR
comp=Z,340nm,12.5s
KSH LR LR
comp=Z,450nm,16.0s
AAK Ala-Archa 51.60 299 P **P 19 58 19.4 -0.1**
comp=Z,1.2nm,0.5s,baz=71,slow=7.1,SNR=3.8
AAK Ala-Archa 51.60 299 ⇓*i*P **P 19 58 20.2 +0.7**
AAK pmax pmax
comp=Z,31nm,2.8s
AAK Ala-Archa 51.60 299 *e*P **P 19 58 19.7 +0.1**
comp=Z,14nm,1.2s
BVAR Borovoye Array 51.66 313 P **P 19 58 20.0 +0.4**
comp=Z,1.0nm,0.7s,baz=94,slow=8.9,SNR=4.5
BRVK Borovoye 51.71 313*ce*P **P 19 58 20.2 +0.2**
BRVK pmax pmax
comp=Z,36nm,2.5s
BRVK Borovoye 51.71 313 *e*P **P 19 58 19.2 -0.8**
KKAR Karatay Array 54.23 301 *e*P **P 19 58 38.7 -0.1**
KKAR Karatay Array 54.23 301 *e*P **P 19 58 38.7 -0.1**
comp=Z,214nm,1.4s
GSI Gunungsitoli 54.34 241 *e*P **P 19 58 41.5 +1.6**
comp=Z,109nm,0.6s
SVE Sverdlovsk 56.20 319⇑*e*P **P 19 58 53.9 +1.2**
SVE pmax pmax
comp=Z,26nm,1.5s
WRA Warramunga Arr 56.65 189 P **P 19 58 56.8 +0.6**
comp=Z,2.0nm,0.7s,baz=8.0,slow=7.5,SNR=9.4
ARU Arti 57.41 319 P **P 19 59 01.4 +0.1**
comp=Z,6.1nm,0.9s,baz=62,slow=4.5,SNR=14
ARU Arti 57.41 319*d i*P **P 19 59 00.9 -0.4**
ARU 19 59 55.5
ARU S **S 20 06 56.5 -0.1**
ARU 20 08 47.7
ARU pmax pmax
comp=Z,18nm,1.2s
ARU Arti 57.41 319 *e*P **P 19 59 00.4 -0.9**
comp=Z,32nm,1.3s
ABKAR Akbulak array 59.03 311 *e*P **P 19 59 12.4 -0.4**
comp=Z,48nm,0.8s
AKTO Aktyubinsk 59.76 313 P **P 19 59 17.8 0.0**
comp=Z,2.5nm,0.7s,baz=64,slow=13,SNR=5.7
ASAR Alice Springs 60.38 189 P **P 19 59 22.8 +0.6**
comp=Z,0.8nm,0.8s,baz=2.5,slow=5.7,SNR=3.4
KLMR Klimovskoe 64.74 328 *e*P **P 19 59 49.4 -1.5**
KLMR pmax pmax
comp=Z,24nm,1.3s
GEYT Alibeck 64.94 300 P **P 19 59 53.1 +0.4**
comp=Z,1.3nm,0.7s,baz=39,slow=9.6,SNR=3.8
MOS Moscow 68.27 324 *e*P P 20 00 22.4 +8.9
OBN Obninsk 69.12 324*ce*P **P 20 00 19.1 +0.3**
OBN *e*SP **pP 20 00 26.0 -0.3**
OBN *i* 20 00 30.2
OBN 20 00 44.0
OBN *e* 20 02 48.0
OBN *e* 20 16 46.0
OBN pmax pmax
comp=Z,24nm,1.7s
LPSR Galich'ya Gora 69.34 321 *e*P **P 20 00 21.6 +1.3**
LPSR *e**SP **sP 20 00 32.3 +1.7**
LPSR pmax pmax
comp=Z,10.0nm,1.0s
FINES FINESS Array B 69.75 333 P **P 20 00 22.9 +0.2**
comp=Z,4.3nm,0.8s,baz=38,slow=3.4,SNR=8.8
VSR Storozhevoye 69.98 319 *e*P **P 20 00 23.7 -0.6**
VSR *e**SP **sP 20 00 34.7 +0.1**
VSR pmax pmax
comp=Z,8.0nm,0.7s
NCK Nalchik 71.69 311⇑*e*P **P 20 00 36.2 +1.3**
ZEI Tsey 71.89 310 *e*P P 20 00 46.5 +10
ZEI pmax pmax
comp=Z,21nm,1.1s
KVAR Kislovodsk Arr 71.99 312 P **P 20 00 37.6 +0.9**
comp=Z,25nm,1.3s,baz=212,slow=2.2,SNR=6.7
KBZ Khabaz 71.99 311 P **P 20 00 37.6 +1.1**
comp=Z,4.5nm,0.9s,baz=47,slow=2.2,SNR=8.0
KIV Kislovodsk 72.00 312 *e*P **P 20 00 37.8 +1.0**
KIV pmax pmax
comp=Z,16nm,1.1s
KIV Kislovodsk 72.00 312 *e*P **P 20 00 37.8 +1.0**
comp=Z,29nm,1.1s
GNI Garni 72.81 307⇑*e*P **P 20 00 41.2 -0.6**
GNI pmax pmax
comp=Z,46nm,1.2s
ANN Anapa 74.61 315 *e*P **P 20 00 52.1 +0.1**
ANN pmax pmax
comp=Z,20nm,1.0s
NB2 NORSAR Subarra 75.07 338 P **P 20 00 54.9 +0.5**
comp=Z,21nm,1.7s,baz=41,slow=5.9
NOA NORSAR Array B 75.07 338 P **P 20 00 55.0 +0.5**
comp=Z,2.2nm,0.9s,baz=41,slow=5.7,SNR=3.4
NOA NORSAR Array B 75.07 338 P **P 20 00 55.0 +0.5**
AKASG Malin Array Be 75.32 323*ce*P **P 20 00 58.2 +2.2**
AKASG pmax pmax
comp=Z,3.0nm,0.3s
PDAR Pinedale Array 77.38 46 P **P 20 01 10.3 +2.2**
comp=Z,0.2nm,0.4s,baz=32,slow=3.6,SNR=2.8
KWP Kalwaria Pacla 79.14 325 *e*P P 20 01 30.0 +12
BRTR Keskin Array B 79.94 312 P **P 20 01 23.4 +1.1**
comp=Z,1.6nm,0.9s,baz=134,slow=7.1,SNR=6.9
BRTR Keskin Array B 79.94 312*ce*P **P 20 01 23.1 +0.9**
BRTR pmax pmax
comp=Z,2.0nm,0.9s
STHS Stebnicka Huta 79.97 326 *e*P **P 20 01 23.7 +1.7**
STHS *e* 20 01 34.8
STHS Stebnicka Huta 79.97 326 *e*P **P 20 01 23.7 +1.7**
STHS *e* 20 01 34.8
OJC Ojcow 80.04 327 *e*P P 20 01 34.6 +12
CRVS Cervenica-Dubn 80.23 325 *e* P 20 01 34.9 +11
BR231 Keskin MP Arra 80.38 313 *e*P **P 20 01 23.0 -1.5**
NIE Niedzica 80.39 326 *e*P P 20 01 36.9 +13
PV05 Paradox Valley 80.57 49 *e*P **P 20 01 27.5 +1.7**
LANS Liptovska Anna 80.96 326 *e* P 20 01 38.3 +11
OKC Ostrava-Krasne 81.04 327 *e*P **P 20 01 32.2 +4.5**
OKC *ex* x 20 01 43.7
OKC Ostrava-Krasne 81.04 327 *e*P **P 20 01 32.2 +4.5**
OKC *e* 20 01 43.7
KSP Ksiaz 81.08 329 *e*P P 20 01 39.6 +12
DPC Dobruska-Polom 81.44 329 *e*P **P 20 01 31.9 +2.0**
DPC *ex* x 20 01 42.3
DPC Dobruska-Polom 81.44 329 *e*P **P 20 01 31.9 +2.0**
DPC *e* 20 01 42.3
UPC Upice 81.45 329 *e*P **P 20 01 31.8 +1.9**
UPC *ex* x 20 01 42.1
UPC Upice 81.45 329 *e*P **P 20 01 31.8 +1.9**
UPC *e* 20 01 42.1
VYHS Vyhne 81.73 326 *e*P **P 20 01 36.2 +4.8**
VYHS *e* 20 01 43.2
VYHS Vyhne 81.73 326 *e*P **P 20 01 36.2 +4.8**
VYHS *e* 20 01 43.2
BRG Berggiesshubel 82.02 330 *e*P P 20 01 44.4 +11
comp=Z,6.9nm,1.3s
CLL Collm 82.06 331 *e*P **P 20 01 33.0 -0.1**
CLL Collm 82.06 331 *e*P **P 20 01 33.0 -0.1**
CLL *i* 20 01 44.4
comp=Z,17nm,1.6s
PRU Pruhonice 82.46 329 *e*P **P 20 01 36.3 +1.1**
PRU *ex* x 20 01 46.9
PRU Pruhonice 82.46 329 *e*P **P 20 01 36.3 +1.1**
PRU *e* 20 01 46.9
MMAI Mount Meron Ar 83.07 306 P **P 20 01 40.7 +1.9**
comp=Z,1.6nm,0.8s,baz=69,slow=7.9,SNR=5.8
KHC Kasperske Hory 83.52 329 *e*P **P 20 01 40.9 +0.1**
KHC *ex* x 20 01 52.6
KHC Kasperske Hory 83.52 329 *e*P **P 20 01 40.9 +0.1**
KHC *e* 20 01 52.6
GERES GERESS Array B 83.69 329 P **P 20 01 42.3 +0.6**
comp=Z,0.7nm,0.7s,baz=42,slow=4.2,SNR=3.7
TXAR Lajitas Array 89.70 53 P P 20 02 17.0 +5.6
comp=Z,0.4nm,0.5s,baz=320,slow=3.7,SNR=4.6
LPAZ La Paz 146.13 62 PKPbc **PKPab 20 08 55.3 +0.3**
comp=Z,1.5nm,0.6s,baz=21,slow=6.1,SNR=6.4

IDC 05 19:53:12.7±4.8,3°06S×128°28E,h93km±52km,mb3.6/3,
mb1 3.7/6,mb1mx3.3/52,mbtmp3.9/6,Error ellipse:
s-maj=48.3km s-min=17.6km az=91.0,Seram

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
SIJI	**Sorong**	**3.69**	**54**	P		Pn	19 54 06.0	-1.6
	19nm,0.3s,baz=90,slow=24,SNR=5.7							
SIJI				S		Sn	19 54 51.1	+1.0
	12nm,0.3s,baz=270,slow=20,SNR=4.0							
FITZ	**Fitzroy Crossi**	**15.18**	**190**	P		P	19 56 43.8	-1.2
	0.1nm,0.3s,baz=24,slow=10.0,SNR=4.2							
WRA	**Warramunga Arr**	**17.80**	**161**	P		P	19 57 13.1	-0.9
	0.3nm,0.3s,baz=340,slow=12,SNR=16							
ASAR	**Alice Springs**	**21.20**	**166**	P		P	19 57 50.9	0.0

3.5nm,0.8s,baz=347,slow=12,SNR=38
STKA Stephens Creek 31.29 158 P P 19 59 24.1 +0.1
2.0nm,0.8s,baz=342,slow=10,SNR=3.8
KURBB Kurchatov Arra 68.28 328 P P 20 04 03.6 0.0
0.3nm,0.3s,baz=133,slow=6.1,SNR=4.0

*IDC **05** 19:58:07.7±1.5,45°.37N×27°.77E, h0km, mb3.7/1, mb1 3.6/4,mb1mx3.2/55,mbtmp3.5/4,ML3.5/3,Error ellipse: s-maj=22.8km s-min=13.5km az=126.0*
*ISCJB **05** 19:58:15.9±0.2,45°.81N±0'.01×26°.89E±0'.02, h97km±2km, mb3.6/1,Error ellipse: s-maj=2.6km s-min=2.1km az=153.2*
*SIGU **05** 19:58:16.0,45°.82N×26°.91E,h100km,mb3.4*
*CSEM **05** 19:58:17.1±0.1,45°.80N×26°.86E,h89km±1km, mb3.6, Error ellipse: s-maj=2.2km s-min=2.1km az=60.0*
*BUC **05** 19:58:17.1±0.6,45°.81N×26°.87E,h88km±8km, MD3.9/2, Error ellipse: s-maj=5.6km s-min=4.5km az=122.0*
*SOF **05** 19:58:17.1,45°.72N×26°.72E,h85km,MD3.3*
ISC 05 19:58:16.7±0.9,**45°.81**N±0'.02×**26°.90E**±0'.02,**h92**km±4km, **n204,**σ0**94**/293**,50C-66D,Romania**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ODBI	**Odobesti**	**0.12**	**113**	⇑*i*P	**Pn**	**19 58 30.4**	**+0.7**
ODBI	**Odobesti**	**0.12**	**113**	⇑P	**Pn**	**19 58 30.4**	**+0.7**
ODBI				*i* S	**Sn**	**19 58 40.1**	**+0.8**
ODBI	**Odobesti**	**0.12**	**113**	⇑P	**Pn**	**19 58 30.4**	**+0.7**
ODBI				*i* S	**Sn**	**19 58 40.1**	**+0.8**
VRI	**Vrincioaia**	**0.13**	**296**	P	**Pn**	**19 58 29.6**	**-0.1**
VRI				S	**Sn**	**19 58 37.8**	**-1.6**
VRI	**Vrincioaia**	**0.13**	**296**	⇑*i*P	**Pn**	**19 58 29.7**	**0.0**
VRI	**Vrincioaia**	**0.13**	**296**	⇑*i*P	**Pn**	**19 58 29.7**	**0.0**
VRI				*i* S	**Sn**	**19 58 38.3**	**-1.1**
VRI	**Vrincioaia**	**0.13**	**296**	⇑*i*P	**Pn**	**19 58 29.7**	**0.0**
VRI				*i* S	**Sn**	**19 58 38.3**	**-1.1**
PLOR	**Plostina**	**0.18**	**284**	P	**Pn**	**19 58 29.6**	**-0.3**
PLOR				S	**Sn**	**19 58 38.1**	**-1.6**
PLOR	**Plostina**	**0.18**	**284**	⇑P	**Pn**	**19 58 29.8**	**-0.1**
PLOR	**Plostina**	**0.18**	**284**	⇑*i*P	**Pn**	**19 58 29.8**	**-0.1**
PLOR				*i* S	**Sn**	**19 58 38.8**	**-0.9**
PLOR	**Plostina**	**0.18**	**284**	⇑*i*P	**Pn**	**19 58 29.8**	**-0.1**
PLOR				*i* S	**Sn**	**19 58 38.8**	**-0.9**
GRER		**0.43**	**173**	⇑*i*P	**Pn**	**19 58 32.0**	**+0.8**
GRER		**0.43**	**173**	⇑*i*P	**Pn**	**19 58 32.0**	**+0.8**
GRER				*i* S	**Sn**	**19 58 43.0**	**+1.1**
GRER		**0.43**	**173**	⇑*i*P	**Pn**	**19 58 32.0**	**+0.8**
GRER				*i* S	**Sn**	**19 58 43.0**	**+1.1**
ISR	**Istrita**	**0.73**	**200**	⇓*i*P	**Pn**	**19 58 34.5**	**+0.7**
ISR	**Istrita**	**0.73**	**200**	⇓*i*P	**Pn**	**19 58 34.5**	**+0.7**
ISR				*i* S	**Sn**	**19 58 46.5**	**0.0**
ISR	**Istrita**	**0.73**	**200**	⇓*i*P	**Pn**	**19 58 34.5**	**+0.7**
ISR				*i* S	**Sn**	**19 58 46.5**	**0.0**
MLR	**Muntele Rosu**	**0.74**	**245**	P	**Pn**	**19 58 34.2**	**+0.3**
MLR				S	**Sn**	**19 58 44.0**	**-2.7**
MLR	**Muntele Rosu**	**0.74**	**245**	Pg	**Pn**	**19 58 34.1**	**+0.3**
	12nm,0.3s,baz=8.0,slow=1.6,SNR=15						
MLR				Lg	Lg	19 58 45.5	
	33nm,0.3s,baz=49,slow=20,SNR=45						
MLR	**Muntele Rosu**	**0.74**	**245**	⇓*i*P	**Pn**	**19 58 34.2**	**+0.3**
MLR	**Muntele Rosu**	**0.74**	**245**	⇓*i*P	**Pn**	**19 58 34.2**	**+0.3**
MLR				*i* S	**Sn**	**19 58 45.9**	**-0.8**
MLR	**Muntele Rosu**	**0.74**	**245**	P	**Pn**	**19 58 34.2**	**+0.3**
MLR				*i* S	**Sn**	**19 58 45.9**	**-0.8**
PGOR	**Pogoanele**	**0.91**	**176**	⇓*i*P	**Pn**	**19 58 36.1**	**+0.6**
PGOR	**Pogoanele**	**0.91**	**176**	⇓*i*P	**Pn**	**19 58 36.1**	**+0.6**
PGOR				*i* S	**Sn**	**19 58 50.6**	**+1.1**
PGOR	**Pogoanele**	**0.91**	**176**	⇓*i*P	**Pn**	**19 58 36.1**	**+0.6**
PGOR				*i* S	**Sn**	**19 58 50.6**	**+1.1**
SECR		**0.97**	**217**	⇓*i*P	**Pn**	**19 58 37.2**	**+1.0**
SECR		**0.97**	**217**	⇓*i*P	**Pn**	**19 58 37.2**	**+1.0**
SECR				*i* S	**Sn**	**19 58 51.0**	**+0.2**
SECR		**0.97**	**217**	⇓*i*P	**Pn**	**19 58 37.2**	**+1.0**
SECR				*i* S	**Sn**	**19 58 51.0**	**+0.2**
GIUM	**Giurgiulesti**	**0.98**	**109**	P	**Pn**	**19 58 37.4**	**+1.2**
GIUM				S	**Sn**	**19 58 51.3**	**+0.4**
GIUM	**Giurgiulesti**	**0.98**	**109**	P	**Pn**	**19 58 37.4**	**+1.2**
GIUM				S	**Sn**	**19 58 51.3**	**+0.4**
DOPR	**Dopca**	**1.06**	**279**	⇓*i*P	**Pn**	**19 58 37.6**	**+0.3**
DOPR	**Dopca**	**1.06**	**279**	⇓*i*P	**Pn**	**19 58 37.6**	**+0.3**
DOPR				*i* S	**Sn**	**19 58 51.9**	**-0.8**
DOPR	**Dopca**	**1.06**	**279**	⇓*i*P	**Pn**	**19 58 37.6**	**+0.3**
DOPR				*i* S	**Sn**	**19 58 51.9**	**-0.8**
CFR	**Carcaliu**	**1.08**	**125**	⇑*i*P	**Pn**	**19 58 37.9**	**+0.5**
CFR	**Carcaliu**	**1.08**	**125**	⇑*i*P	**Pn**	**19 58 37.9**	**+0.5**
CFR				*i* S	**Sn**	**19 58 51.9**	**-1.0**
CFR	**Carcaliu**	**1.08**	**125**	⇑*i*P	**Pn**	**19 58 37.9**	**+0.5**
CFR				*i* S	**Sn**	**19 58 51.9**	**-1.0**
LEOM	**Leova**	**1.15**	**54**	P	**Pn**	**19 58 39.5**	**+1.3**
LEOM				S	**Sn**	**19 58 54.7**	**+0.3**
LEOM	**Leova**	**1.15**	**54**	⇑*i*P	**Pn**	**19 58 39.0**	**+0.8**
LEOM	**Leova**	**1.15**	**54**	⇑*i*P	**Pn**	**19 58 39.0**	**+0.8**
LEOM				*i* S	**Sn**	**19 58 54.5**	**+0.1**
LEOM	**Leova**	**1.15**	**54**	⇑*i*P	**Pn**	**19 58 39.0**	**+0.8**
LEOM				S	**Sn**	**19 58 54.7**	**+0.3**
SULR		**1.22**	**202**	⇓*i*P	**Pn**	**19 58 39.8**	**+0.7**
SULR		**1.22**	**202**	⇓*i*P	**Pn**	**19 58 39.8**	**+0.7**
SULR				*i* S	**Sn**	**19 58 56.5**	**+0.6**
SULR		**1.22**	**202**	⇓*i*P	**Pn**	**19 58 39.8**	**+0.7**
SULR				*i* S	**Sn**	**19 58 56.5**	**+0.6**
AMRR	**Amara**	**1.24**	**165**	⇓*i*P	**Pn**	**19 58 39.9**	**+0.6**
AMRR	**Amara**	**1.24**	**165**	⇓*i*P	**Pn**	**19 58 39.9**	**+0.6**
AMRR				*i* S	**Sn**	**19 58 56.6**	**+0.3**
AMRR	**Amara**	**1.24**	**165**	⇓*i*P	**Pn**	**19 58 39.9**	**+0.6**
AMRR				*i* S	**Sn**	**19 58 56.6**	**+0.3**
JOSR	**Joseni**	**1.31**	**314**	⇑*i*P	**Pn**	**19 58 40.7**	**+0.5**
JOSR	**Joseni**	**1.31**	**314**	⇑*i*P	**Pn**	**19 58 40.7**	**+0.5**
JOSR				*i* S	**Sn**	**19 58 58.0**	**0.0**
JOSR	**Joseni**	**1.31**	**314**	⇑*i*P	**Pn**	**19 58 40.7**	**+0.5**
JOSR				*i* S	**Sn**	**19 58 58.0**	**0.0**
HARR	**Harsova**	**1.34**	**146**	⇓*i*P	**Pn**	**19 58 40.9**	**+0.4**
HARR	**Harsova**	**1.34**	**146**	⇓*i*P	**Pn**	**19 58 40.9**	**+0.4**
HARR	**Harsova**	**1.34**	**146**	⇓*i*P	**Pn**	**19 58 40.9**	**+0.4**
VOIR		**1.35**	**255**	⇓*i*P	**Pn**	**19 58 40.7**	**0.0**
VOIR		**1.35**	**255**	⇓*i*P	**Pn**	**19 58 40.7**	**0.0**
VOIR				*i* S	**Sn**	**19 58 58.7**	**-0.1**
VOIR		**1.35**	**255**	⇓*i*P	**Pn**	**19 58 40.7**	**0.0**
VOIR				*i* S	**Sn**	**19 58 58.7**	**-0.1**
MTUR	**Matau**	**1.41**	**246**	⇑*i*P	**Pn**	**19 58 42.3**	**+0.8**
MTUR	**Matau**	**1.41**	**246**	⇑*i*P	**Pn**	**19 58 42.3**	**+0.8**
MTUR	**Matau**	**1.41**	**246**	⇑*i*P	**Pn**	**19 58 42.3**	**+0.8**
IAS	**Iasi**	**1.46**	**18**	⇑*i*P	**Pn**	**19 58 42.2**	**+0.2**
IAS	**Iasi**	**1.46**	**18**	⇑*i*P	**Pn**	**19 58 42.2**	**+0.2**
IAS				*i* S	**Sn**	**19 59 01.3**	**+0.2**
IAS	**Iasi**	**1.46**	**18**	⇑*i*P	**Pn**	**19 58 42.2**	**+0.2**
IAS				*i* S	**Sn**	**19 59 01.3**	**+0.2**
TLB	**Topalu**	**1.47**	**146**	⇓*i*P	**Pn**	**19 58 42.6**	**+0.5**
TLB	**Topalu**	**1.47**	**146**	⇓*i*P	**Pn**	**19 58 42.6**	**+0.5**
TLB				*i* S	**Sn**	**19 59 00.3**	**-1.0**
TLB	**Topalu**	**1.47**	**146**	⇓*i*P	**Pn**	**19 58 42.6**	**+0.5**
TLB				*i* S	**Sn**	**19 59 00.3**	**-1.0**
TLCR		**1.49**	**114**	⇑*i*P	**Pn**	**19 58 43.1**	**+0.8**
TLCR		**1.49**	**114**	⇑*i*P	**Pn**	**19 58 43.1**	**+0.8**
TLCR				*i* S	**Sn**	**19 59 01.9**	**+0.1**
TLCR		**1.49**	**114**	⇑*i*P	**Pn**	**19 58 43.1**	**+0.8**
TLCR				*i* S	**Sn**	**19 59 01.9**	**+0.1**
BUC1	**Bucharest**	**1.59**	**203**	⇓*i*P	**Pn**	**19 58 44.0**	**+0.4**
BUC1	**Bucharest**	**1.59**	**203**	⇓*i*P	**Pn**	**19 58 44.0**	**+0.4**
BUC1				*i* S	**Sn**	**19 59 03.4**	**-0.6**
BUC1	**Bucharest**	**1.59**	**203**	⇓*i*P	**Pn**	**19 58 44.0**	**+0.4**
BUC1				*i* S	**Sn**	**19 59 03.4**	**-0.6**
PRAR	**RASCA**	**1.62**	**344**	⇑*i*P	**Pn**	**19 58 44.9**	**+0.9**
PRAR	**RASCA**	**1.62**	**344**	⇑*i*P	**Pn**	**19 58 44.9**	**+0.9**
PRAR	**RASCA**	**1.62**	**344**	⇑*i*P	**Pn**	**19 58 44.9**	**+0.9**
ARR	**Arges**	**1.65**	**255**	⇓*i*P	**Pn**	**19 58 44.0**	**-0.5**
ARR	**Arges**	**1.65**	**255**	⇓*i*P	**Pn**	**19 58 44.0**	**-0.5**
ARR				*i* S	**Sn**	**19 59 05.2**	**-0.3**
ARR	**Arges**	**1.65**	**255**	⇓*i*P	**Pn**	**19 58 44.0**	**-0.5**
ARR				*i* S	**Sn**	**19 59 05.2**	**-0.3**
CVDA	**Cernavoda**	**1.68**	**151**	⇓*i*P	**Pn**	**19 58 45.5**	**+0.7**
CVDA	**Cernavoda**	**1.68**	**151**	⇓*i*P	**Pn**	**19 58 45.5**	**+0.7**
CVDA				*i* S	**Sn**	**19 59 05.5**	**-0.7**
CVDA	**Cernavoda**	**1.68**	**151**	⇓*i*P	**Pn**	**19 58 45.5**	**+0.7**
CVDA				*i* S	**Sn**	**19 59 05.5**	**-0.7**
TIRR	**Tirgusor**	**1.73**	**141**	⇓*i*P	**Pn**	**19 58 46.0**	**+0.6**
TIRR	**Tirgusor**	**1.73**	**141**	⇓*i*P	**Pn**	**19 58 46.0**	**+0.6**
TIRR				*i* S	**Sn**	**19 59 06.1**	**-1.1**
TIRR	**Tirgusor**	**1.73**	**141**	⇓*i*P	**Pn**	**19 58 46.0**	**+0.6**
TIRR				*i* S	**Sn**	**19 59 06.1**	**-1.1**
MILM	**Milestii Mici**	**1.73**	**49**	P	**Pn**	**19 58 46.7**	**+1.3**
MILM				S	**Sn**	**19 59 06.8**	**-0.5**
MILM	**Milestii Mici**	**1.73**	**49**	⇓*i*P	**Pn**	**19 58 46.2**	**+0.8**
MILM	**Milestii Mici**	**1.73**	**49**	⇓*i*P	**Pn**	**19 58 46.2**	**+0.8**
MILM				*i* S	**Sn**	**19 59 07.4**	**+0.1**
MILM	**Milestii Mici**	**1.73**	**49**	⇓*i*P	**Pn**	**19 58 46.2**	**+0.8**
MILM				*i* S	**Sn**	**19 59 07.4**	**+0.1**
KIS	**Kishinev**	**1.78**	**48**	P	**Pn**	**19 58 46.0**	**-0.1**
KIS				*i* S	**Sn**	**19 59 08.0**	**-0.5**
	1μm,0.5s						
KIS	**Kishinev**	**1.78**	**48**	*e*P	**Pn**	**19 58 43.0**	**-3.1**
KIS				*i* S	**Sn**	**19 59 08.0**	**-0.5**
KIS				Sm		19 59 08.5	
KIS	**Kishinev**	**1.78**	**48**	P	**Pn**	**19 58 46.0**	**-0.1**
KIS				*i* S	**Sn**	**19 59 08.0**	**-0.5**
	1μm,0.5s						
HUMR	**Humele**	**1.86**	**227**	⇓*i*P	**Pn**	**19 58 47.2**	**0.0**
HUMR	**Humele**	**1.86**	**227**	⇓*i*P	**Pn**	**19 58 47.2**	**0.0**
HUMR				*i* S	**Sn**	**19 59 09.2**	**-1.2**
HUMR	**Humele**	**1.86**	**227**	⇓*i*P	**Pn**	**19 58 47.2**	**0.0**
HUMR				*i* S	**Sn**	**19 59 09.2**	**-1.2**
EFOR	**EFORIE**	**2.13**	**144**	⇓*i*P	**Pn**	**19 58 51.4**	**+0.8**
EFOR	**EFORIE**	**2.13**	**144**	⇓*i*P	**Pn**	**19 58 51.4**	**+0.8**
EFOR				*i* S	**Sn**	**19 59 16.6**	**+0.2**
EFOR	**EFORIE**	**2.13**	**144**	⇓*i*P	**Pn**	**19 58 51.4**	**+0.8**
EFOR				*i* S	**Sn**	**19 59 16.6**	**+0.2**
BURAR	**Bucovina Array**	**2.14**	**328**	⇑*i*P	**Pn**	**19 58 52.5**	**+1.6**
BURAR	**Bucovina Array**	**2.14**	**328**	⇑*i*P	**Pn**	**19 58 52.5**	**+1.6**
BURAR				*i* S	**Sn**	**19 59 18.3**	**+1.3**
BURAR	**Bucovina Array**	**2.14**	**328**	⇑*i*P	**Pn**	**19 58 52.5**	**+1.6**
BURAR				*i* S	**Sn**	**19 59 18.3**	**+1.3**
ARCR	**ARCALIA**	**2.17**	**307**	⇑*i*P	**Pn**	**19 58 50.5**	**-0.7**
ARCR	**ARCALIA**	**2.17**	**307**	⇑*i*P	**Pn**	**19 58 50.5**	**-0.7**
ARCR	**ARCALIA**	**2.17**	**307**	⇑*i*P	**Pn**	**19 58 50.5**	**-0.7**
LOT	**Lotru**	**2.22**	**262**	⇓*i*P	**Pn**	**19 58 52.0**	**0.0**
LOT	**Lotru**	**2.22**	**262**	⇓*i*P	**Pn**	**19 58 52.0**	**0.0**
LOT				*i* S	**Sn**	**19 59 18.2**	**-0.8**
LOT	**Lotru**	**2.22**	**262**	⇓*i*P	**Pn**	**19 58 52.0**	**0.0**
LOT				*i* S	**Sn**	**19 59 18.2**	**-0.8**
PSN	**Preselentsi**	**2.32**	**156**	P	**Pn**	**19 58 54.3**	**+1.2**
MANR	**Mangalia**	**2.33**	**148**	⇓*i*P	**Pn**	**19 58 54.0**	**+0.7**
MANR	**Mangalia**	**2.33**	**148**	⇓*i*P	**Pn**	**19 58 54.0**	**+0.7**
MANR				*i* S	**Sn**	**19 59 20.7**	**-0.6**
MANR	**Mangalia**	**2.33**	**148**	⇓*i*P	**Pn**	**19 58 54.0**	**+0.7**
MANR				*i* S	**Sn**	**19 59 20.7**	**-0.6**
CJR	**Cluj-Napoca**	**2.46**	**293**	⇑*i*P	**Pn**	**19 58 55.7**	**+0.7**
CJR	**Cluj-Napoca**	**2.46**	**293**	⇑*i*P	**Pn**	**19 58 55.7**	**+0.7**
CJR	**Cluj-Napoca**	**2.46**	**293**	⇑*i*P	**Pn**	**19 58 55.7**	**+0.7**
SORM	**Soroca**	**2.53**	**23**	P	**Pn**	**19 58 56.5**	**+0.6**
SORM				S	**Sn**	**19 59 24.5**	**-1.5**
SORM	**Soroca**	**2.53**	**23**	⇓*i*P	**Pn**	**19 58 56.5**	**+0.6**
SORM	**Soroca**	**2.53**	**23**	⇓*i*P	**Pn**	**19 58 56.5**	**+0.6**
SORM				*i* S	**Sn**	**19 59 24.8**	**-1.2**
SORM	**Soroca**	**2.53**	**23**	P	**Pn**	**19 58 56.5**	**+0.6**
SORM				*i* S	**Sn**	**19 59 24.8**	**-1.2**
PRD	**Provadia**	**2.63**	**172**	P	**Pn**	**19 58 58.7**	**+1.4**
SZH	**Strazhica**	**2.63**	**195**	P	**Pn**	**19 58 57.2**	**-0.2**
ROIA	**ROIAK**	**2.74**	**173**	P	**Pn**	**19 58 59.8**	**+1.0**
KMPD	**K-Podol'skiy**	**2.77**	**354**	*i* P	**Pn**	**19 58 58.7**	**-0.4**
KMPD				*i* S	**Sn**	**19 59 30.3**	**-1.4**
KSV	**Kosov**	**2.80**	**334**	*i* P	**Pn**	**19 59 00.5**	**+0.9**
KSV				Pm		19 59 02.5	
KSV				*i* S	**Sn**	**19 59 32.1**	**-0.4**
KSV				Sm		19 59 54.9	
KSV				Sm		19 59 54.9	
NDNU	**Novodnistrovsk**	**2.80**	**6**	*i* P	**Pn**	**19 59 00.1**	**+0.5**
NDNU				Pm		19 59 01.0	
NDNU				*i* S	**Sn**	**19 59 32.4**	**-0.2**
NDNU				Sm		19 59 32.7	
PVL	**Pavlikeni**	**2.82**	**204**	P	**Pn**	**19 59 01.6**	**+1.7**
SRE	**Strehaia**	**2.85**	**248**	⇑*i*P	**Pn**	**19 59 00.5**	**+0.3**
SRE	**Strehaia**	**2.85**	**248**	⇑*i*P	**Pn**	**19 59 00.5**	**+0.3**
SRE				*i* S	**Sn**	**19 59 31.6**	**-2.1**
SRE	**Strehaia**	**2.85**	**248**	⇑*i*P	**Pn**	**19 59 00.5**	**+0.3**
SRE				*i* S	**Sn**	**19 59 31.6**	**-2.1**
RAKU	**Rahkiv**	**2.90**	**321**	*i* P	**Pn**	**19 59 01.1**	**+0.2**
RAKU				Pm		19 59 02.7	
RAKU				*i* S	**Sn**	**19 59 35.1**	**+0.2**
RAKU				Sm		19 59 39.5	
NSLU	**Nyzhne Selyshc**	**2.91**	**326**	*i* P	Pn	19 59 08.1	+7.1
NSLU				Pm		19 59 09.6	
NSLU				*i* S	Sn	19 59 46.8	+12
NSLU				Sm		19 59 52.4	
DRGR		**3.06**	**290**	⇑*i*P	**Pn**	**19 59 03.5**	**+0.4**
DRGR		**3.06**	**290**	⇑*i*P	**Pn**	**19 59 03.5**	**+0.4**
DRGR		**3.06**	**290**	⇑*i*P	**Pn**	**19 59 03.5**	**+0.4**
JMB	**Yambol**	**3.35**	**184**	P	**Pn**	**19 59 07.0**	**0.0**
HORU	**Horodok**	**3.42**	**355**	*e*P	**Pn**	**19 59 08.3**	**+0.4**
HORU				*i* S	**Sn**	**19 59 47.5**	**+0.1**
KORU	**Korolevo**	**3.48**	**314**	*i* P	**Pn**	**19 59 09.7**	**+1.0**
KORU				Pm		19 59 13.7	
KORU				*i* S	**Sn**	**19 59 49.9**	**+1.0**
KORU				Sm		19 59 59.1	
KORU				Sm		19 59 59.1	
BRIU	**Brid**	**3.66**	**315**	*i* P	**Pn**	**19 59 11.8**	**+0.7**
BRIU				Pm		19 59 19.4	
BRIU				*i* S	**Sn**	**19 59 53.8**	**+0.6**
BRIU				Sm		19 59 54.4	
SIRR	**Siria**	**3.67**	**279**	⇓*i*P	**Pn**	**19 59 12.4**	**+1.1**
SIRR	**Siria**	**3.67**	**279**	⇓*i*P	**Pn**	**19 59 12.4**	**+1.1**
SIRR	**Siria**	**3.67**	**279**	⇓*i*P	**Pn**	**19 59 12.4**	**+1.1**
BZS	**Buzias**	**3.70**	**269**	⇓*i*P	**Pn**	**19 59 11.7**	**0.0**
BZS	**Buzias**	**3.70**	**269**	⇓*i*P	**Pn**	**19 59 11.7**	**0.0**
BZS	**Buzias**	**3.70**	**269**	⇓*i*P	**Pn**	**19 59 11.7**	**0.0**
BERU	**Beregovo**	**3.78**	**311**	*i* P	**Pn**	**19 59 13.6**	**+0.8**
BERU				*e*S	**Sn**	**19 59 56.8**	**+0.6**
PGB	**Panagyurishte**	**3.80**	**212**	P	**Pn**	**19 59 13.9**	**+0.7**
ZAGS	**Zajecar**	**3.87**	**241**	⇑*i*Pn	**Pn**	**19 59 12.3**	**-1.7**
MORS	**Morshin**	**3.90**	**330**	*i* P	**Pn**	**19 59 15.0**	**+0.7**
MORS				*i* S	**Sn**	**20 00 01.0**	**+2.1**
MUKU	**Mukachevo**	**3.90**	**314**	*i* P	**Pn**	**19 59 15.4**	**+1.0**
MUKU				Pm		19 59 16.0	
MUKU				*e*S	**Sn**	**20 00 00.2**	**+1.1**
MUKU				Sm		20 00 38.8	
MUKU				Sm		20 00 38.8	
KUBS	**Kucevo**	**3.95**	**251**	*i* Pn	**Pn**	**19 59 12.9**	**-2.2**
ZAPS	**Zavoj**	**3.96**	**232**	⇑*i*Pn	**Pn**	**19 59 15.1**	**-0.2**
EDRB	**Edirne**	**3.96**	**182**	P	**Pn**	**19 59 15.7**	**+0.4**
EDRB	**Edirne**	**3.96**	**182**	P	**Pn**	**19 59 15.7**	**+0.4**
VTS	**Vitosha**	**4.17**	**221**	P	**Pn**	**19 59 17.8**	**-0.4**
VTS	**Vitosha**	**4.17**	**221**	P	**Pn**	**19 59 18.0**	**-0.2**
VTS	**Vitosha**	**4.17**	**221**	P	**Pn**	**19 59 17.8**	**-0.4**
SHIU	**Shidnytsya**	**4.17**	**326**	*e*P	**Pn**	**19 59 18.6**	**+0.6**
SHIU				Pm		19 59 25.6	
SHIU				*i* S	**Sn**	**20 00 06.6**	**+1.0**
SHIU				Sm		20 00 11.4	
SHIU				Sm		20 00 11.4	
BOVS	**Bovan**	**4.29**	**241**	*i* Pn	**Pn**	**19 59 19.0**	**-0.7**
KDZ	**Kurdzhali**	**4.29**	**195**	P	**Pn**	**19 59 20.5**	**+0.7**
RZN	**Rozhen**	**4.41**	**202**	P	**Pn**	**19 59 21.9**	**+0.4**
LVV	**L'vov**	**4.45**	**335**	*i* P	**Pn**	**19 59 22.7**	**+0.9**
LVV				Pm		19 59 25.3	
LVV				*e*S	**Sn**	**20 00 13.3**	**+0.9**
LVV				Sm		20 00 36.7	
BARS	**Barje**	**4.72**	**232**	*e*Pn	**Pn**	**19 59 24.5**	**-1.0**
RDO	**Rodhopi**	**4.77**	**192**	P	**Pn**	**19 59 26.2**	**+0.1**
RDO	**Rodhopi**	**4.77**	**192**	P	**Pn**	**19 59 26.2**	**+0.1**
GRUS	**Gruza**	**4.79**	**249**	*e*Pn	**Pn**	**19 59 26.2**	**-0.3**
MMB	**Musomiste**	**4.80**	**210**	P	**Pn**	**19 59 27.6**	**+0.9**
KKB	**Krupnik**	**4.81**	**216**	P	**Pn**	**19 59 27.6**	**+0.8**
CRVS	**Cervenica-Dubn**	**4.82**	**312**	*e*Pn	**Pn**	**19 59 28.0**	**+1.2**
CRVS	**Cervenica-Dubn**	**4.82**	**312**	*e*PN	**Pn**	**19 59 28.0**	**+1.2**
TRUS	**Trudelj**	**4.87**	**253**	⇓*i*Pn	**Pn**	**19 59 27.1**	**-0.4**
ALN	**Alexandroupoli**	**4.95**	**187**	P	**Pn**	**19 59 28.9**	**+0.3**
ALN	**Alexandroupoli**	**4.95**	**187**	P	**Pn**	**19 59 28.9**	**+0.3**
SEV	**Sevastopol'**	**4.95**	**102**	⇓*i*P	**Pn**	**19 59 28.8**	**+0.2**
SEV				Pm		19 59 29.3	
SEV				*e*S	**Sn**	**20 00 22.3**	**-2.3**
SEV				Sm		20 00 24.2	
KAVA	**Kavala**	**5.11**	**201**	P	**Pn**	**19 59 31.6**	**+0.7**
KAVA	**Kavala**	**5.11**	**201**	P	**Pn**	**19 59 31.6**	**+0.7**
KECS	**Kecovo**	**5.12**	**304**	*e*Pn	**Pn**	**19 59 33.8**	**+2.8**
KECS	**Kecovo**	**5.12**	**304**	*e*PN	**Pn**	**19 59 33.8**	**+2.8**
KECS				*e*SN	**Sn**	**20 00 30.8**	**+2.0**
AKASG	**Malin Array Be**	**5.13**	**17**	Pn	**Pn**	**19 59 31.2**	**+0.1**
	4.6nm,0.3s,baz=208,slow=12,SNR=11						
AKASG				Pg		19 59 40.2	
	4.9nm,0.3s,baz=204,slow=13,SNR=6.3						
AKASG				Sn	**Sn**	**20 00 25.8**	**-3.2**
	14nm,0.3s,baz=208,slow=22,SNR=5.0						
SIM	**Simferopol'**	**5.16**	**97**	*e*P	**Pn**	**19 59 32.7**	**+1.2**
SIM				Pm		19 59 33.0	
SIM				*e*S	**Sn**	**20 00 28.3**	**-1.4**
SIM				Sm		20 00 30.4	
DIVS	**Divibare**	**5.19**	**253**	*e*Pn	**Pn**	**19 59 31.8**	**-0.2**
STHS	**Stebnicka Huta**	**5.25**	**315**	*e*Pn	**Pn**	**19 59 34.5**	**+1.8**
STHS	**Stebnicka Huta**	**5.25**	**315**	*e*PN	**Pn**	**19 59 34.5**	**+1.8**
SRS	**Serrai**	**5.27**	**208**	P	**Pn**	**19 59 33.5**	**+0.5**
SRS	**Serrai**	**5.27**	**208**	P	**Pn**	**19 59 33.5**	**+0.5**
IVAS	**Ivanjica**	**5.30**	**247**	*e*Pn	**Pn**	**19 59 32.6**	**-0.8**
YAL	**Yalta**	**5.30**	**102**	*e*P	**Pn**	**19 59 34.6**	**+1.2**
YAL				Pm		19 59 34.8	
YAL				*e*S	**Sn**	**20 00 32.3**	**-0.8**
YAL				Sm		20 00 36.1	
ALU	**Alushta**	**5.42**	**99**	*e*P	**Pn**	**19 59 36.6**	**+1.6**
ALU				Pm		19 59 36.9	
ALU				*e*S	**Sn**	**20 00 35.4**	**-0.6**
ALU				Sm		20 00 36.7	
SMTH	**Samothraki Isl**	**5.43**	**191**	P	**Pn**	**19 59 34.8**	**-0.4**
SMTH	**Samothraki Isl**	**5.43**	**191**	P	**Pn**	**19 59 34.8**	**-0.4**
KNT	**Kendrikon**	**5.48**	**213**	P	**Pn**	**19 59 36.4**	**+0.5**
KNT	**Kendrikon**	**5.48**	**213**	P	**Pn**	**19 59 36.4**	**+0.5**
SUDU	**Sudak**	**5.79**	**96**	*e*P	**Pn**	**19 59 40.5**	**+0.5**
SUDU				Pm		19 59 40.9	
SUDU				*e*S	**Sn**	**20 00 42.3**	**-2.6**
SUDU				Sm		20 00 47.8	
OUR	**Ouranopolis**	**5.87**	**202**	P	**Pn**	**19 59 41.5**	**+0.3**
OUR	**Ouranopolis**	**5.87**	**202**	P	**Pn**	**19 59 41.5**	**+0.3**
LANS	**Liptovska Anna**	**6.04**	**306**	*e*Pn	**Pn**	**19 59 44.7**	**+1.2**
LANS	**Liptovska Anna**	**6.04**	**306**	*e*PN	**

VNDA					ScP	**ScP**	**20 46 13.8**	**-0.3**
PB01	**IPOC Station P**	**46.84**	**301**	*e*P	**P**	**20 41 03.2**	**+0.5**
	31nm,0.6s							
PB11	**IPOC Station P**	**48.02**	**302**	*e*P	**P**	**20 41 11.9**	**-0.1**
	69nm,1.5s							
H10S2	**ASCENSION HYDR**	**48.23**	**17**	T	T	21 34 00.6		
	baz=189,slow=74,SNR=36							
H10S3	**ASCENSION HYDR**	**48.23**	**17**	T	T	21 34 00.4		
	baz=189,slow=74,SNR=31							
H10S1	**ASCENSION HYDR**	**48.24**	**17**	T	T	21 34 01.5		
	baz=189,slow=74,SNR=30							
H10N1	**ASCENSION HYDR**	**49.34**	**17**	T	T	21 35 25.0		
	baz=197							
H10N3	**ASCENSION HYDR**	**49.35**	**17**	T	T	21 35 25.1		
	baz=197							
H10N2	**ASCENSION HYDR**	**49.36**	**17**	T	T	21 35 27.2		
	baz=197							
LPAZ	**La Paz**	**50.33**	**306**	P	**P**	**20 41 30.4**	**+0.3**
	9.8nm,0.4s,baz=128,slow=5.4,SNR=64							
LPAZ	**La Paz**	**50.33**	**306**	*e*P	**P**	**20 41 30.6**	**+0.5**
	12nm,0.6s							
MATP	**Matopo**	**54.52**	**73**	P	**P**	**20 41 59.5**	**-0.9**
	1.9nm,0.9s,baz=210,slow=8.9,SNR=3.1							
SAML	**Samuel**	**54.79**	**315**	*e*P	**P**	**20 42 01.8**	**-0.6**
	8.0nm,0.9s							
SAML				*e*S	**S**	**20 49 37.6**	**+3.1**
PTGA	**Pitinga**	**61.20**	**322**	*e*P	**P**	**20 42 45.5**	**-1.4**
	3.0nm,0.9s							
DBIC	**Dimbokro**	**65.41**	**25**	P	**P**	**20 43 14.3**	**-0.4**
	1.6nm,0.6s,baz=184,slow=8.9,SNR=5.7							
RER	**Riviere de l'E**	**68.98**	**97**	*e*P	**P**	**20 43 36.8**	**-0.6**
	346nm,1.9s							
PRAC	**Prado**	**71.08**	**309**	*e*P	**P**	**20 43 49.6**	**-0.6**
	11nm,0.6s							
TOA0	**Torodi Ar. Sit**	**73.31**	**30**	*e*P	**P**	**20 44 02.7**	**-0.5**
TORD	**Torodi Ar. Bea**	**73.31**	**30**	P	**P**	**20 44 03.3**	**+0.1**
	2.0nm,0.5s,baz=199,slow=6.6,SNR=30							
ASAR	**Alice Springs**	**98.88**	**163**	P	**Pdif**	**20 46 11.2**	**-0.3**
	0.8nm,0.7s,baz=187,slow=4.1,SNR=7.4							
WRA	**Warramunga Arr**	**102.59**	**163**	P	**Pdif**	**20 46 27.9**	**-0.2**
	0.3nm,0.6s,baz=196,slow=4.4,SNR=5.1							
ULM	**Lac du Bonnet**	**120.25**	**316**	PKP	**PKPdf**	**20 51 19.6**	**-1.2**
	2.3nm,0.6s,baz=248,slow=5.4,SNR=3.1							
FINES	**FINESS Array B**	**124.63**	**28**	PKP	**PKPdf**	**20 51 28.4**	**-0.4**
	1.2nm,0.5s,baz=336,slow=0.5,SNR=8.3							
KSH	**Kashi**	**128.80**	**75**	*e*PKP	**PKPdf**	**20 51 38.1**	**+0.4**
KSH				sPKP		20 52 14.8		
KSH				PP	**PP**	**20 53 48.1**	**+1.7**
KSH				PKS	**PKSdf**	**20 55 12.1**	**-2.2**
KSH				SKS	**SKSdf**	**20 58 37.1**	**-1.7**
KSH				SS	**SS**	**21 10 51.0**	**-4.8**
KSH				AMB	AMB			
	comp=Z,120nm,5.6s							
KSH				LR	LR			
	comp=N,100nm,4.4s							
KSH				LR	LR			
	comp=E,110nm,5.1s							
KSH				LR	LR			
	comp=Z,160nm,5.1s							
GYA	**Guiyang**	**135.77**	**113**	*e*Pdif	**Pdif**	**20 48 55.4**	**-0.1**
GYA				PKP	**PKPdf**	**20 51 51.0**	**-0.3**
GYA				sPKP		20 52 23.6		
GYA				PP	**PP**	**20 54 35.0**	**+4.1**
GYA				AMB	AMB			
	comp=Z,120nm,8.0s							
YKA	**Yellowknife Ar**	**136.18**	**318**	PKP	**PKPdf**	**20 51 49.7**	**-0.9**
	1.4nm,0.5s,baz=124,slow=2.3,SNR=12							
WMQ	**Urumqi**	**138.13**	**79**	PKP	**PKPdf**	**20 51 56.3**	**+1.3**
WMQ				PP	**PP**	**20 54 49.6**	**+4.0**
WMQ				SKS	**SKSdf**	**20 58 56.6**	**+1.7**
WMQ				AMB	AMB			
	comp=Z,190nm,11.6s							
LZH	**Lanzhou**	**141.76**	**101**	*e*PKP	**PKPdf**	**20 52 01.7**	**-0.3**
LZH				sPKP		20 52 36.4		
LZH				PP	**PP**	**20 55 10.2**	**+2.2**
LZH				PKS	**PKSdf**	**20 55 36.1**	**-1.8**
LZH				SKS	**SKSdf**	**20 58 59.7**	**-1.8**
LZH				SKKS	**SKKSac**	**21 01 49.1**	**-0.8**
LZH				AMB	AMB			
	comp=Z,100nm,5.5s							
GTA	**Gaotai**	**141.90**	**93**	*e*PKP	**PKPdf**	**20 52 02.0**	**-0.1**
GTA				sPKP		20 52 39.4		
GTA				PP	**PP**	**20 55 12.3**	**+3.5**
GTA				SKS	**SKSdf**	**20 58 59.6**	**-1.9**
GTA				SKKS	**SKKSac**	**21 01 52.3**	**+1.8**
GTA				SS	**SS**	**21 13 35.9**	**+3.4**
GTA				AMB	AMB			
	comp=Z,110nm,6.4s							
GTA				LR	LR			
	comp=N,130nm,15.9s							
GTA				LR	LR			
	comp=E,73nm,16.6s							
GTA				LR	LR			
	comp=Z,140nm,16.9s							
INK	**Inuvik**	**145.82**	**320**	PKPbc	**PKPab**	**20 52 08.6**	**-0.6**
	17nm,0.7s,baz=68,slow=3.0,SNR=41							
INK	**Inuvik**	**145.82**	**320**	*e*PKPdf	**PKPbc**	**20 52 08.1**	**-0.5**
DAWY	**Dawson**	**146.77**	**312**	*e*PKPdf	**PKPbc**	**20 52 10.8**	**-0.8**
HHC	**Hu-ho-hao-te**	**149.39**	**103**	*e*PKPbc	**PKPdf**	**20 52 12.2**	**-2.5**
IL1	**Eielson Array**	**150.09**	**311**	*e*PKPbc	**PKPbc**	**20 52 19.5**	**-0.6**
ILAR	**Eielson Array**	**150.09**	**311**	PKPbc	**PKPbc**	**20 52 19.9**	**-0.1**
	11nm,0.8s,baz=135,slow=2.7,SNR=88							
ILB	**Eielson Array**	**150.09**	**311**	*e*PKPbc	**PKPbc**	**20 52 19.9**	**-0.1**
CCB	**Clear Creek Bu**	**150.45**	**311**	*e*PKPbc	**PKPbc**	**20 52 20.5**	**-0.4**
WRH	**Wood River Hil**	**150.53**	**311**	*e*PKPbc	**PKPbc**	**20 52 21.3**	**+0.2**
RND	**Reindeer**	**150.63**	**308**	*e*PKPbc	**PKPbc**	**20 52 22.3**	**+0.8**
MDM	**Murphy Dome**	**150.69**	**312**	*e*PKPbc	**PKPbc**	**20 52 21.1**	**-0.4**
MDM				*e*PKPab	**PKPab**	**20 52 29.0**	**0.0**
MCK	**McKinley**	**150.74**	**309**	*e*PKPbc	**PKPbc**	**20 52 22.3**	**+0.6**
TRF	**Thorofare Moun**	**151.26**	**308**	*e*PKPbc	**PKPbc**	**20 52 24.7**	**+1.6**
COLD	**Coldfoot**	**151.82**	**316**	*e*PKPbc	**PKPbc**	**20 52 24.9**	**+0.9**
CN2	**Changchun**	**158.81**	**114**	*e*PKP	**PKPdf**	**20 52 27.0**	**-0.7**

*IDC **05** 20:38:40.3±2.6,37.°11N×143.°65E,h0km,mb3.5/3, mb1 3.7/4,mb1mx3.4/45,mbtmp3.5/4,ML3.3/1, Error ellipse: s-maj=71.1km s-min=30.2km az=59.0*
*ISCJB **05** 20:38:43.8±0.9,37.°19N±0.°05×143.°49E±0.°07,h35km, mb3.6/3,Error ellipse: s-maj=8.9km s-min=6.3km az=157.6*
*JMA **05** 20:38:44.5±0.2,37.°21N×143.°45E,h48km,M3.4*

ISC 05 20:38:45.4±1.4,37.°18N±0.°06×143.°48E±0.°10,h35km,n18, σ1=11°/27,mb3.7/3,Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JFK	**Kawauchi**	**2.08**	**276**	P	**Pn**	**20 39 17.7**	**-0.1**
JFK				*e*S	**Sn**	**20 39 42.1**	**-0.4**
JIO	**Ouri**	**2.11**	**308**	P	**Pn**	**20 39 17.6**	**-0.5**
JIO				S	**Sn**	**20 39 41.8**	**-1.3**
ONAJ	**Iwakimizuishiy**	**2.14**	**269**	P	**Pn**	**20 39 18.5**	**-0.1**
ONAJ				S	**Sn**	**20 39 43.9**	**-0.1**
JMM	**Marumori**	**2.24**	**289**	P	**Pn**	**20 39 20.0**	**+0.1**
JMM				S	**Sn**	**20 39 46.2**	**-0.1**
JMK	**Ichinoseki**	**2.51**	**315**	P	**Pn**	**20 39 23.5**	**-0.1**
JMK				*e*S	**Sn**	**20 39 52.2**	**-0.7**
JFT	**Otama**	**2.52**	**279**	P	**Pn**	**20 39 24.4**	**+0.5**
JFT				S	**Sn**	**20 39 54.4**	**+1.0**
JOM	**Ohasama**	**2.86**	**324**	P	**Pn**	**20 39 28.9**	**+0.5**
JOM				*e*S	**Sn**	**20 40 00.4**	**-1.2**
JYK	**Kaneyama**	**3.01**	**306**	P	**Pn**	**20 39 31.0**	**+0.5**
JYK				*e*S	**Sn**	**20 40 05.9**	**+0.6**
BSO1	**Boso 1**	**3.24**	**219**	P	**Pn**	**20 39 32.9**	**-0.3**
JAG	**Ashikaga**	**3.32**	**258**	P	**Pn**	**20 39 35.0**	**+0.3**
JANG	**Nango**	**3.53**	**335**	S	**Sn**	**20 40 16.0**	**-2.3**
JRY	**Ryogami san**	**3.86**	**254**	P	**Pn**	**20 39 42.4**	**+0.1**
JRY				*e*S	**Sn**	**20 40 24.5**	**-1.9**
MJAR	**Matsushiro Arr**	**4.27**	**263**	Pn	**Pn**	**20 39 48.1**	**+0.2**
	1.7nm,0.3s,baz=85,slow=16,SNR=15						
MAT	**Matsushiro**	**4.27**	**263**	P	**Pn**	**20 39 49.8**	**+1.9**
MAT				S	**Sn**	**20 40 33.5**	**-3.1**
USRK	**Ussuriysk Ar.**	**11.18**	**312**	Pn	Pn	20 41 26.6	+4.0
	0.1nm,0.3s,baz=118,slow=13,SNR=3.2						
KURBB	**Kurchatov Arra**	**47.21**	**308**	P	**P**	**20 47 15.7**	**+1.2**
	0.6nm,0.6s,baz=83,slow=7.9,SNR=8.0						
WRA	**Warramunga Arr**	**57.47**	**190**	P	**P**	**20 48 30.6**	**-0.2**
	0.7nm,0.9s,baz=8.7,slow=7.2,SNR=5.2						
ASAR	**Alice Springs**	**61.19**	**190**	P	**P**	**20 48 56.7**	**+0.1**
	0.2nm,0.7s,baz=19,slow=8.8,SNR=3.1						

*IDC **05** 20:46:32.1±0.6,32.°76N×70.°40E,h0km,mb4.2/25, mb1 4.3/28,mb1mx4.1/45,mbtmp4.2/28,ML3.9/3,MS4.1/2, Ms1 4.0/2,ms1mx3.3/45,Error ellipse: s-maj=15.0km s-min=11.5km az=30.0*
*NNC **05** 20:46:32.3±2.4,32.°86N×70.°55E,h0km,mb4.6, Error ellipse: s-maj=34.3km s-min=24.1km az=116.0*
*NDI **05** 20:46:33.9±2.4,32.°80N×70.°31E,h10km,ML3.8*
*NEIC **05** 20:46:33.7±0.4,32.°80N×70.°42E,h10km,mb4.6/10, Error ellipse: s-maj=8.1km s-min=7.0km az=214.0*
*ISCJB **05** 20:46:35.2±0.3,32.°87N±0.°03×70.°54E±0.°03,h33km, mb4.2/34,MS4.0/3, Error ellipse: s-maj=4.9km s-min=3.1km az=42.3*
*MOS **05** 20:46:35.2±1.0,32.°94N×70.°53E,h27km,mb4.6/15, Error ellipse: s-maj=10.0km s-min=5.6km az=91.4*
*BJI **05** 20:46:37.4,33.°44N×70.°50E,h15km,mb4.6/6,mB4.5/6, ML4.5/1,Ms3.9/5,Ms7 3.7/3*

ISC 05 20:46:36.8±0.4,32.°78N±0.°05×70.°41E±0.°05,h35km,n115, σ1=65/129,mb4.2/34,MS4.1/3,20C-14D,Pakistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THW	**Thamme Wali**	**1.12**	**89**	⇓P	**Pn**	**20 46 56.7**	**+0.6**
CEP	**Cherat**	**1.63**	**50**	⇑P	**Pn**	**20 47 04.9**	**+1.7**
CEP				S	**Sn**	**20 47 28.0**	**+5.0**
SARP	**Sargodha**	**2.10**	**114**	P	**Pn**	**20 47 10.3**	**+0.8**
CHCP	**Chirah Chowk**	**2.55**	**69**	P	**Pn**	**20 47 17.5**	**+1.8**
THN	**Thein Dam**	**4.49**	**93**	*e*P	**Pn**	**20 47 43.0**	**+0.6**
THN				*ex*	x	20 48 52.8		
PONG	**Pong**	**4.76**	**99**	*e*P	**Pn**	**20 47 47.0**	**+0.9**
PONG				*e*S	**Sn**	**20 48 40.0**	**0.0**
JWA	**Jwalamukhi**	**5.10**	**99**	*e*P	**Pn**	**20 47 51.0**	**+0.3**
JWA				*e*S	**Sn**	**20 48 50.0**	**+1.7**
BHK	**Bhakra**	**5.28**	**103**	*e*P	**Pn**	**20 47 52.2**	**-1.0**
BHK				*e*S	**Sn**	**20 48 52.0**	**-0.8**
SDNR	**Sundarnagar**	**5.71**	**101**	*e*P	**Pn**	**20 47 59.0**	**-0.2**
SDNR				*e*S	**Sn**	**20 49 03.0**	**-0.5**
KHET	**Khetri**	**6.61**	**134**	*e*P	**Pn**	**20 48 10.6**	**-1.0**
KHET				*e*S	**Sn**	**20 49 23.6**	**-2.2**
KHET				IAML		20 50 15.9		
	comp=E,125nm,0.5s							
KHET				IAML		20 50 18.2		
	comp=N,97nm,0.4s							
NDI	**New Delhi**	**7.14**	**123**	*e*P	**Pn**	**20 48 19.5**	**+0.7**
NDI				*ex*	x	20 50 24.5		
KALG	**Kalgarh**	**7.86**	**112**	*e*P	**Pn**	**20 48 26.0**	**-2.6**
KALG				*e*S	Sn	20 49 47.3	-9.1
KSH	**Kashi**	**8.09**	**32**	⇑*i*Pn	**Pn**	**20 48 28.1**	**-3.8**
KSH				pP		20 48 34.9		
KSH				Sn	Sn	20 49 49.7	-12
KSH				pmax	pmax			
	comp=Z,190nm,0.6s							
KSH				smax	smax			
	comp=N,200nm,0.4s							
KSH				smax	smax			
	comp=E,190nm,0.4s							
MNAS	**Manas**	**9.83**	**9**	⇑P	**Pn**	**20 48 55.5**	**-0.2**
	comp=E,18nm,0.4s							
MNAS				⇑S	**Sn**	**20 50 43.6**	**-1.3**
	comp=E,18nm,0.5s							
MNAS	**Manas**	**9.83**	**9**	*i* P	**Pn**	**20 48 55.5**	**-0.2**
MNAS				pmax	pmax			
	comp=Z,18nm,0.3s							
KK31	**Karatay Array**	**10.30**	**0**	P	**Pn**	**20 49 01.8**	**-0.4**
	comp=Z,11nm,0.5s,baz=188,slow=14,SNR=160							
KK31				⇑S	**Sn**	**20 50 56.9**	**+0.5**
	comp=Z,4.8nm,0.4s,baz=184,slow=23,SNR=3.7							
KK31	**Karatay Array**	**10.30**	**0**	*ce*P	**Pn**	**20 49 01.7**	**-0.4**
KK31				pmax	pmax			
	comp=Z,6.0nm,0.3s							
KKAR	**Karatay Array**	**10.30**	**0**	*e*P	**Pn**	**20 49 01.3**	**-0.9**
KKAR				pmax	pmax			
	comp=Z,20nm,0.3s							
KKAR	**Karatay Array**	**10.30**	**0**	*e*Pn	**Pn**	**20 49 01.3**	**-0.9**
	comp=Z,20nm,0.3s							
AAK	**Ala-Archa**	**10.36**	**17**	Pn	**Pn**	**20 49 03.4**	**+0.5**
	comp=Z,32nm,0.3s,baz=172,slow=5.1,SNR=168							
AAK				Sn	**Sn**	**20 50 56.6**	**-1.2**
	comp=Z,1.2nm,0.3s,baz=131,slow=19,SNR=5.8							
AAK	**Ala-Archa**	**10.36**	**17**	⇑P	**Pn**	**20 49 03.3**	**+0.3**
	comp=Z,36nm,0.4s							
AAK				⇓S	**Sn**	**20 50 56.9**	**-0.9**
	comp=Z,14nm,0.8s							
AAK	**Ala-Archa**	**10.36**	**17**	*c i*P	**Pn**	**20 49 03.3**	**+0.3**
AAK				pmax	pmax			
	comp=Z,36nm,0.4s							
FRU	**Bishkek**	**10.57**	**17**	*e*P	**Pn**	**20 49 01.5**	**-4.3**
FRU				*e*S	**Sn**	**20 51 05.0**	**+2.1**
FRU				pmax	pmax			
	comp=Z,72nm,1.5s							
TKM2	**Tokmak 2**	**10.92**	**21**	⇓P	**Pn**	**20 49 10.9**	**+0.1**
	comp=Z,36nm,0.9s							
TKM2				⇑S	**Sn**	**20 51 10.7**	**-1.0**
	comp=Z,7.4nm,0.8s							
TKM2	**Tokmak 2**	**10.92**	**21**	*i* P	**Pn**	**20 49 10.8**	**+0.1**
TKM2				pmax	pmax			
	comp=Z,36nm,0.9s							
GEYT	**Alibeck**	**11.27**	**301**	Pn	**Pn**	**20 49 14.9**	**-0.5**
	comp=Z,0.2nm,0.3s,baz=132,slow=12,SNR=4.8							
PYUN	**Piuthan**	**11.81**	**110**	*e*P	**Pn**	**20 49 21.3**	**-1.8**
	comp=Z,32nm,0.3s							
KOLN	**Koldanda**	**12.45**	**110**	*e*P	**Pn**	**20 49 30.2**	**-1.5**
	comp=Z,31nm,0.4s							
PDGK	**Podgornoye**	**12.72**	**32**	⇑P	**Pn**	**20 49 34.0**	**-1.3**
	comp=Z,6.5nm,0.6s							
PDGK	**Podgornoye**	**12.72**	**32**	*i* P	**Pn**	**20 49 34.0**	**-1.3**
PDGK				pmax	pmax			
	comp=Z,7.0nm,0.4s							
JBP	**Jabalpur**	**12.77**	**136**	⇓*i*P	**Pn**	**20 49 35.5**	**-0.4**
JBP				*ex*	x	20 51 54.1		
GKN	**Gorkha**	**13.17**	**107**	*e*P	**Pn**	**20 49 39.1**	**-2.4**
	comp=Z,29nm,0.3s							
KKN	**Kakani**	**13.78**	**107**	*e*P	**Pn**	**20 49 46.4**	**-3.5**
	comp=Z,68nm,0.5s							
PKIN	**Phulchoki**	**13.96**	**108**	*e*P	**Pn**	**20 49 49.6**	**-2.8**
	comp=Z,46nm,0.4s							
WSAR	**Wadi Sarin**	**14.08**	**231**	Pn	**Pn**	**20 49 52.2**	**-1.7**
	comp=Z,0.4nm,0.3s,baz=86,slow=5.8,SNR=6.8							
WSAR				Sn	Sn	20 52 16.9	-12
	comp=Z,0.3nm,0.3s,baz=288,slow=20,SNR=4.6							
JIRN	**Jiri**	**14.56**	**106**	*e*P	**Pn**	**20 49 57.0**	**-3.7**
	comp=Z,71nm,0.4s							
RAMN	**Ramite**	**15.20**	**108**	*e*P	**Pn**	**20 50 05.9**	**-3.2**
	comp=Z,46nm,0.5s							
ODAN	**Odare**	**15.87**	**107**	*e*P	**Pn**	**20 50 14.8**	**-3.0**
	comp=Z,35nm,0.6s							
MK31	**Makanchi Array**	**16.68**	**30**	⇓P	**Pn**	**20 50 26.0**	**-1.8**
	comp=Z,28nm,0.8s,baz=214,slow=13,SNR=165							
MK31	**Makanchi Array**	**16.68**	**30**	*ce*P	**Pn**	**20 50 25.0**	**-2.8**
MK31				pmax	pmax			
	comp=Z,28nm,0.8s							
LSA	**Lhasa**	**18.00**	**94**	*e*P	**Pn**	**20 50 43.9**	**-0.8**
LSA				pmax	pmax			
	comp=Z,4.0nm,0.6s							
LSA	**Lhasa**	**18.00**	**94**	*e*P	**Pn**	**20 50 43.9**	**-0.8**
	comp=Z,4.0nm,0.6s							
AB31	**Akbulak array**	**18.22**	**338**	P	**P**	**20 50 45.1**	**-1.8**
	comp=Z,1.7nm,0.5s,baz=157,slow=12,SNR=42							
AB31	**Akbulak array**	**18.22**	**338**	*i* P	**P**	**20 50 45.0**	**-1.8**
AB31				pmax	pmax			
	comp=Z,2.0nm,0.5s							
ABKAR	**Akbulak array**	**18.22**	**338**	*e*P	**P**	**20 50 44.7**	**-2.1**
	comp=Z,2.8nm,0.4s							
KURBB	**Kurchatov Arra**	**18.81**	**16**	P	**P**	**20 50 50.6**	**-2.5**
	comp=Z,0.6nm,0.3s,baz=204,slow=12,SNR=29							
KURBB	**Kurchatov Arra**	**18.81**	**16**	⇓P	**P**	**20 50 50.3**	**-2.9**
	comp=Z,14nm,0.7s							
KURK	**Kurchatov**	**18.91**	**16**	⇑P	**P**	**20 50 50.9**	**-3.5**
	comp=Z,12nm,0.8s							
KURK	**Kurchatov**	**18.91**	**16**	*d i*P	**P**	**20 50 52.2**	**-2.2**
KURK				pmax	pmax			
	comp=Z,58nm,1.0s							
KURK	**Kurchatov**	**18.91**	**16**	*e*P	**P**	**20 50 52.1**	**-2.2**
	comp=Z,121nm,0.9s							
AKTO	**Aktyubinsk**	**19.88**	**336**	P	**P**	**20 51 05.0**	**+0.1**
	comp=Z,1.7nm,0.3s,baz=122,slow=7.6,SNR=26							
AKTO	**Aktyubinsk**	**19.88**	**336**	⇑P	**P**	**20 51 04.8**	**-0.1**
	comp=Z,14nm,0.8s							
AKTO	**Aktyubinsk**	**19.88**	**336**	*i* P	**P**	**20 51 04.8**	**-0.1**
AKTO				pmax	pmax			
	comp=Z,24nm,1.1s							
BVA0	**Borovoye Array**	**20.23**	**360**	P	**P**	**20 51 08.8**	**0.0**
	comp=Z,7.1nm,0.7s,baz=170,slow=9.2,SNR=63							
BVA0	**Borovoye Array**	**20.23**	**360**	P	**P**	**20 51 08.8**	**0.0**
BVA0				pmax	pmax			
	comp=Z,7.0nm,0.7s							
BVAR	**Borovoye Array**	**20.23**	**360**	P	**P**	**20 51 08.8**	**+0.1**
	comp=Z,4.8nm,0.5s,baz=171,slow=10,SNR=53							
BRVK	**Borovoye**	**20.27**	**360**	*de*P	**P**	**20 51 09.6**	**+0.5**
BRVK				pmax	pmax			
	comp=Z,14nm,0.6s							
BRVK	**Borovoye**	**20.27**	**360**	*e*P	**P**	**20 51 08.7**	**-0.4**
	comp=Z,26nm,0.8s							
GNI	**Garni**	**21.86**	**297**	P	**P**	**20 51 28.3**	**+1.7**
	comp=Z,27nm,0.9s,baz=5.5,slow=8.6,SNR=9.6							
GNI	**Garni**	**21.86**	**297**	*d i*P	**P**	**20 51 29.7**	**+3.1**
GNI				pmax	pmax			
	comp=Z,91nm,0.9s							
GNI	**Garni**	**21.86**	**297**	*e*P	**P**	**20 51 29.0**	**+2.3**
	comp=Z,164nm,0.9s							
ZEI	**Tsey**	**23.12**	**303**	*e*P	**P**	**20 51 41.4**	**+1.4**
ZEI				pmax	pmax			
	comp=Z,37nm,1.2s							
ZAA0	**Zalesovo Array**	**23.52**	**22**	⇓P	**P**	**20 51 41.9**	**-1.6**
	comp=Z,1.2nm,0.4s							
ZALV	**Zalesovo Beam**	**23.52**	**22**	P	**P**	**20 51 42.0**	**-1.5**
	comp=Z,16nm,0.3s,baz=222,slow=10,SNR=61							
NCK	**Nalchik**	**23.55**	**305**	⇑*e*P	**P**	**20 51 47.9**	**+4.0**
NCK				pmax	pmax			
	comp=Z,8.0nm,0.9s							
NVS	**Novosibirsk**	**23.84**	**19**	*e*P	**P**	**20 51 46.1**	**-0.4**
NEY	**Neytrino**	**24.09**	**304**	⇑*e*P	**P**	**20 51 52.6**	**+3.4**
NEY				pmax	pmax			
	comp=Z,2.0nm,0.9s							
KBZ	**Khabaz**	**24.10**	**305**	P	**P**	**20 51 49.6**	**+0.5**
	comp=Z,4.7nm,0.9s,baz=126,slow=7.3,SNR=9.5							
KVAR	**Kislovodsk Arr**	**24.31**	**305**	P	**P**	**20 51 53.0**	**+1.8**
	comp=Z,6.4nm,0.8s,baz=234,slow=7.0,SNR=5.6							
KIV	**Kislovodsk**	**24.32**	**305**	*e*P	**P**	**20 51 53.2**	**+2.0**
KIV				pmax	pmax			
	comp=Z,8.0nm,0.9s							
KIV	**Kislovodsk**	**24.32**	**305**	*e*P	**P**	**20 51 51.4**	**+0.2**
	comp=Z,13nm,1.1s							
ARU	**Arti**	**25.03**	**344**	P	**P**	**20 51 58.7**	**+1.3**
	comp=Z,1.8nm,0.4s,baz=174,slow=3.6,SNR=8.2							
ARU	**Arti**	**25.03**	**344**	*d i*P	**P**	**20 51 58.2**	**+0.9**
ARU						20 52 29.6		
ARU				PPP	PPP	20 52 40.0		
ARU				S	**S**	**20 56 19.1**	**+0.1**
ARU				pmax	pmax			
	comp=Z,12nm,1.2s							
ARU	**Arti**	**25.03**	**344**	*e*P	**P**	**20 51 58.3**	**+0.9**
	comp=Z,17nm,1.1s							
CHTO	**Chiang Mai**	**29.10**	**112**	*e*P	**P**	**20 52 35.3**	**+0.9**
CHTO				pmax	pmax			
	comp=Z,4.0nm,0.9s							
CHTO	**Chiang Mai**	**29.10**	**112**	*e*P	**P**	**20 52 35.3**	**+0.9**
	comp=Z,4.1nm,0.9s							
CMAR	**Chiang Mai Arr**	**29.30**	**112**	P	**P**	**20 52 37.5**	**+1.3**
	comp=Z,2.5nm,0.8s,baz=295,slow=9.7,SNR=16							
ZAK	**Zakamensk**	**29.90**	**44**	*e*P	**P**	**20 52 42.6**	**+1.4**
ZAK				pmax	pmax			
	comp=Z,5.0nm,1.1s							
BRTR	**Keskin Array B**	**30.29**	**294**	P	**P**	**20 52 45.3**	**+0.4**
	comp=Z,0.6nm,0.4s,baz=118,slow=8.5,SNR=6.9							
BRTR	**Keskin Array B**	**30.29**	**294**	*ce*P	**P**	**20 52 45.5**	**+0.6**
BRTR				pmax	pmax			
	comp=Z,1.0nm,0.4s							
TLY	**Talaya**	**30.64**	**42**	P	**P**	**20 52 49.3**	**+1.6**
	comp=Z,2.2nm,0.6s,baz=268,slow=12,SNR=4.5							
TLY	**Talaya**	**30.64**	**42**	⇓*e*P	**P**	**20 52 50.6**	**+2.9**
TLY				pmax	pmax			
	comp=Z,4.0nm,0.9s							
OBN	**Obninsk**	**32.54**	**323**	⇓*e*P	**P**	**20 53 05.4**	**+1.2**
OBN				*e*		20 53 10.7		
OBN				pmax	pmax			
	comp=Z,10.0nm,0.9s							
OBN				MLR	MLR			
	comp=Z,168nm,19.0s							
PLOR	**Plostina**	**35.84**	**304**	⇓*i*P	**P**	**20 53 34.9**	**+1.8**
MLR	**Muntele Rosu**	**36.30**	**304**	⇑*i*P	**P**	**20 53 39.9**	**+2.8**
VOIR		**36.92**	**304**	⇑*i*P	**P**	**20 53 42.9**	**+0.5**
NRIK	**Noril'sk**	**37.86**	**10**	P	**P**	**20 53 50.5**	**+0.6**
	comp=Z,7.6nm,0.5s,baz=202,slow=5.6,SNR=8.2							
PSI	**Prapat**	**40.05**	**132**	P	**P**	**20 54 08.8**	**-0.2**
	comp=Z,1.8nm,0.3s,baz=322,slow=15,SNR=3.6							
FINES	**FINESS Array B**	**40.35**	**329**	P	**P**	**20 54 11.4**	**+0.7**
	comp=Z,3.4nm,0.8s,baz=124,slow=11,SNR=9.4							
FINES	**FINESS Array B**	**40.35**	**329**	*i* P	**P**	**20 54 11.3**	**+0.6**

CAPV	**Capacho**	**1.27**	**36**⇑	*iP*	**Pn**	**20 53 08.3**	**+1.5**
CAPV				*eS*	**Sn**	**20 53 29.6**	**+1.4**
OCAC	**Ocana**	**1.42**	**350**	*eP*	**Pn**	**20 53 08.9**	**+0.7**
OCAC				*eS*	**Sn**	**20 53 30.2**	**-0.5**
OCAC				*i*		20 53 37.2	
	comp=Z,374nm,0.4s						
YOPC	**Yopal, Colombi**	**1.60**	**156**	*eP*	**Pn**	**20 53 10.7**	**+0.7**
YOPC				*eS*	**Sn**	**20 53 34.9**	**+0.9**
ZARC	**Zaragoza, Cauc**	**1.90**	**290**	*eP*	**Pn**	**20 53 13.5**	**+0.4**
ZARC				*eS*	**Sn**	**20 53 38.4**	**-1.1**
ZARC				*i*		20 53 45.2	
	comp=Z,320nm,0.3s						
NORC	**Norcasia**	**2.19**	**235**	*eP*	**Pn**	**20 53 16.4**	**-0.2**
NORC				*eS*	**Sn**	**20 53 43.8**	**-1.9**
CHIC	**Chingaza**	**2.29**	**197**	*eP*	**Pn**	**20 53 18.5**	**+0.4**
CHIC				*i*		20 53 51.1	
	comp=Z,149nm,0.3s						
ROSC	**El Rosal**	**2.34**	**212**	P	**Pn**	**20 53 20.5**	**+1.8**
	comp=Z,27nm,0.3s,baz=286,slow=20,SNR=28						
ROSC				S	**Sn**	**20 53 48.7**	**-0.7**
	comp=Z,54nm,0.3s,baz=40,slow=20,SNR=19						
ROSC	**El Rosal**	**2.34**	**212**	*eP*	**Pn**	**20 53 19.8**	**+1.1**
ROSC				*i*		20 53 55.2	
	comp=Z,285nm,0.3s						
HELC	**Santa Helena**	**2.53**	**256**	*eP*	**Pn**	**20 53 20.8**	**-0.2**
HELC				*i*		20 53 59.5	
	comp=Z,166nm,0.4s						
VIGV	**El Vigia**	**2.61**	**40**	*eP*	**Pn**	**20 53 22.7**	**+1.1**
VIGV				*eS*	**Sn**	**20 53 54.8**	**0.0**
SOCV	**Socops**	**2.62**	**56**	*eP*	**Pn**	**20 53 22.7**	**+0.9**
SOCV				*eS*	**Sn**	**20 53 54.9**	**-0.1**
VILC	**Villavicencio,**	**2.77**	**193**	*eP*	**Pn**	**20 53 23.8**	**+0.1**
VILC				*i*		20 54 06.7	
	comp=Z,98nm,0.4s						
CODC	**Agust`›n Codaz**	**3.11**	**353**	*eP*	**Pn**	**20 53 28.4**	**+0.7**
CODC				*i*		20 54 12.6	
	comp=Z,118nm,0.4s						
SDV	**Santo Domingo**	**3.16**	**50**	P	**Pn**	**20 53 30.0**	**+1.4**
	comp=Z,25nm,0.3s,baz=182,slow=2.3,SNR=15						
SDV				S	**Sn**	**20 54 07.2**	**+0.1**
	comp=Z,16nm,0.3s,baz=63,slow=21,SNR=14						
TOLC	**Tolima**	**3.17**	**225**	*eP*	**Pn**	**20 53 29.5**	**+0.7**
TOLC				*eS*	**Sn**	**20 54 06.1**	**-1.4**
PRAC	**Prado**	**3.59**	**210**	*eP*	**Pn**	**20 53 34.6**	**+0.6**
PRAC				*eS*	**Sn**	**20 54 15.7**	**-1.2**
VIRV	**Villa del Rosa**	**3.71**	**10**	*eP*	**Pn**	**20 53 35.3**	**-0.1**
QARV	**Quebrada Arrib**	**4.19**	**37**	*eS*	**Sn**	**20 54 29.4**	**-1.4**
SANV	**Sanarito**	**4.39**	**53**	*eP*	**Pn**	**20 53 44.7**	**+0.3**
CURV	**Curarigua**	**4.41**	**44**	*eP*	**Pn**	**20 53 45.1**	**+0.5**
CURV				*eS*	**Sn**	**20 54 34.4**	**-1.5**
DABV	**Dabajuro**	**4.72**	**30**	*eP*	**Pn**	**20 53 49.5**	**+0.9**
DABV				*eS*	**Sn**	**20 54 41.6**	**-1.6**
TEPV	**Terepaima**	**4.94**	**51**	*eP*	**Pn**	**20 53 52.2**	**+0.7**
SIQV	**Siquisique**	**4.97**	**40**	*eP*	**Pn**	**20 53 51.5**	**-0.6**
BAUV	**El Baul**	**5.40**	**67**	*eP*	**Pn**	**20 53 56.5**	**-1.1**
BAUV				*eS*	**Sn**	**20 54 55.2**	**-4.1**
MONV	**Montecano**	**5.94**	**31**	*eP*	**Pn**	**20 54 04.3**	**-0.5**
MONV				*eS*	**Sn**	**20 55 07.9**	**-4.2**
TXAR	**Lajitas Array**	**36.50**	**312**	P	**P**	**20 59 30.8**	**+1.4**
	comp=Z,0.2nm,0.5s,baz=129,slow=9.4,SNR=2.8						
ULM	**Lac du Bonnet**	**47.30**	**340**	P	**P**	**21 00 56.9**	**+0.4**
	comp=Z,1.6nm,0.4s,baz=191,slow=5.2,SNR=3.8						
PDAR	**Pinedale Array**	**48.10**	**324**	P	**P**	**21 01 03.2**	**0.0**
	comp=Z,0.2nm,0.4s,baz=122,slow=8.6,SNR=2.8						
PDAR				LR	LR	21 26 04.3	
	comp=Z,52nm,18.1s,baz=16,slow=42						
YKA	**Yellowknife Ar**	**63.27**	**340**	P	**P**	**21 02 51.0**	**+0.4**
	comp=Z,0.7nm,0.6s,baz=132,slow=6.2,SNR=5.6						
ASAR	**Alice Springs**	**149.16**	**234**	PKPbc	**PKPbc**	**21 12 08.4**	**-1.4**
	comp=Z,0.3nm,0.5s,baz=126,slow=3.4,SNR=6.2						
WRA	**Warramunga Arr**	**150.39**	**241**	PKPbc	**PKPbc**	**21 12 12.5**	**-0.3**
	comp=Z,0.3nm,0.4s,baz=108,slow=2.6,SNR=11						

RSNC 05 21:07:54.4±0.8, 7°.11N×75°.57W, h11^{km}±5^{km}, ML3.5, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DBBC	**Dabeiba**	**0.64**	**262**	*eP*	Pg	21 08 06.2	-0.7
ZARC	**Zaragoza, Cauc**	**0.80**	**61**	*eP*	Pg	21 08 08.3	-1.5
ZARC				*eS*	Sg	21 08 19.5	-0.9
ZARC				*i*		21 08 20.8	
	comp=Z,1μm,0.2s						
HELC	**Santa Helena**	**0.91**	**178**	*eS*	Sg	21 08 23.7	-0.4
HELC				*i*		21 08 24.2	
	comp=Z,647nm,0.3s						
NORC	**Norcasia**	**1.68**	**156**	*eP*	Pn	21 08 22.4	-1.5
NORC				*eS*	Sn	21 08 44.2	-1.3
BRRC	**Barranca, Sant**	**1.84**	**90**	*eP*	Pn	21 08 24.8	-1.2
BRRC				*i*		21 08 26.1	
	comp=Z,275nm,0.1s						
BRRC				*eS*	Sn	21 08 48.0	-1.4
SOLC	**Bahia Solano**	**2.03**	**245**	*eP*	Pn	21 08 26.9	-1.6
GIRC	**Giron, Santand**	**2.36**	**91**	*eP*	Pn	21 08 32.7	-0.5
BARC	**Barichara**	**2.42**	**102**	*eP*	Pn	21 08 33.7	-0.5
BARC				*eS*	Sn	21 09 03.8	-0.3
BARC				*i*		21 09 05.7	
	comp=Z,300nm,0.3s						
OCAC	**Ocana**	**2.50**	**63**	*eP*	Pn	21 08 33.9	-1.3
OCAC				*i*		21 09 17.9	
	comp=Z,267nm,0.5s						
RUSC	**La Rusia**	**2.75**	**116**	*eP*	Pn	21 08 37.4	-1.5
RUSC				*i*		21 09 16.1	
	comp=Z,146nm,0.4s						
PAMC	**Pamplona, Colo**	**2.85**	**85**	*eP*	Pn	21 08 40.3	-0.1
CODC	**Agust`›n Codaz**	**3.51**	**37**	*eP*	Pn	21 08 47.6	-1.3
CODC				*i*		21 09 39.6	
	comp=Z,165nm,0.5s						

MEX 05 21:23:44.6±0.4, 16°.29N×98°.29W, h2^{km}±3^{km}, MD3.9, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PNIG	**Pinotepa**	**0.19**	**57**	*i* P	Pg	21 23 48.2	-0.1
PNIG				*i* S	Sg	21 23 50.8	0.0
TLIG	**Tlapa**	**1.29**	**348**	*i* P	Pg	21 24 06.0	-3.5
TLIG				*eS*	Sg	21 24 22.7	-3.6
VHO	**Vista Hermosa**	**1.69**	**62**	*eP*	Pn	21 24 11.3	-4.0
VHO				*i* S	Sn	21 24 33.2	-4.4
CAIG	**El Cayaco**	**2.04**	**292**	*eP*	Pn	21 24 16.8	-3.1
CAIG				*i* S	Sn	21 24 41.8	-4.3
MEIG	**Mezcala**	**2.06**	**322**	*i* P	Pn	21 24 17.8	-2.6
MEIG				*i* S	Sn	21 24 42.5	-4.3
HUIG	**Huatulco**	**2.16**	**103**	*i* P	Pn	21 24 19.9	-1.8
HUIG				*i* S	Sn	21 24 44.0	-5.1
ARIG	**Puente Sto Nin**	**2.79**	**316**	*i* P	Pn	21 24 27.1	-3.2
ARIG				*i* S	Sn	21 25 01.3	-3.3

MAN 05 21:39:51, 9°.74N×124°.80E, h44^{km}, mb4.3, ML3.1, MS2.9, 4C-3D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SCPH	**Surigao**	**0.68**	**86**‖	*eP*	Pn	21 40 03.6	-0.6
TBP	**Tagbilaran**	**0.93**	**267**‖	*i* P	Pn	21 40 13.5	+5.9
TBP				*i* S	Sn	21 40 25.3	+5.5
LLP	**Lapu-Lapu**	**1.00**	**305**‖	*i* P	Pn	21 40 07.9	-0.7
LLP				*i* S	Sn	21 40 23.2	+1.5
CGP	**Cagayan de Oro**	**1.28**	**185**⇑	*eP*	Pn	21 40 11.8	-0.6
CGP				*eS*	Sn	21 40 29.9	+1.6
PLP	**Palo**	**1.43**	**7**⇑	*i* P	Pn	21 40 15.6	+1.1
PLP				*i* S	Sn	21 40 36.2	+4.1
SNPH	**Sibulan**	**1.59**	**256**‖	*i* P	Pn	21 40 17.8	+1.0
SNPH				*i* S	Sn	21 40 42.8	+6.6
DCPH	**Dipolog City**	**1.83**	**231**⇑	*eP*	Pn	21 40 19.5	-0.5
DCPH				*eS*	Sn	21 40 43.6	+1.6
PAGZ	**Pagadian**	**2.34**	**217**	*eP*	Pn	21 40 28.2	+1.2
GUIM	**Jordan**	**2.35**	**292**	*eP*	Pn	21 40 28.5	+1.4

*NIED **05** 21:57:00, 40°.00N×143°.60E, h20^{km}, Mw3.9 Best double couple: M₀6.91000×10^{14} NP1:φ=194.00000°, δ=35.00000°, λ=77.00000°. NP2:φ=29.00000°, δ=56.00000°, λ=99.00000°.*
*ISCJB **05** 21:57:20.2±0.9, 39°.98N±0°.04×143°.69E±0°.08, h18^{km}, mb3.6/2, Error ellipse: s-maj=10.0km s-min=4.3km az=27.9*
*JMA **05** 21:57:21.8±0.3, 40°.02N×143°.55E, h19^{km}±5^{km}, M3.8*
*IDC **05** 21:57:41.7±7.7, 39°.41N×142°.04E, h155^{km}±52^{km}, mb3.3/2, mb1 3.4/4, mb1mx3.0/45, mbtmp3.7/4, MS2.8/1, Ms1 2.8/1, ms1mx2.5/19, Error ellipse: s-maj=116.0km s-min=21.3km az=75.0*

ISC 05 21:57:21.8±1.2, 39°.99N±0°.06×143°.65E±0°.09, h18^{km}, n26, σ0^{s}.94/25, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JTH	**Tanohata**	**1.37**	**269**	P	**Pn**	**21 57 44.9**	**-1.2**
JTH				*eS*	**Sn**	**21 58 01.9**	**-1.9**
MIYJ	**Miyakonagasawa**	**1.47**	**254**	P	**Pn**	**21 57 46.9**	**-0.5**
JANG	**Nango**	**1.68**	**284**	P	**Pn**	**21 57 49.5**	**-0.8**
JOM	**Ohasama**	**1.89**	**255**	P	**Pn**	**21 57 53.3**	**+0.1**
JEM	**Erimo**	**2.06**	**350**	*eS*	**Sn**	**21 58 20.5**	**-0.2**
JTM	**Tenmabayashi**	**2.13**	**293**	P	**Pn**	**21 57 56.5**	**+0.1**
JMK	**Ichinoseki**	**2.15**	**242**	P	**Pn**	**21 57 56.3**	**-0.4**
JMK				*eS*	**Sn**	**21 58 22.1**	**-0.7**
JAH	**Hinai**	**2.32**	**276**	P	**Pn**	**21 57 59.8**	**+0.7**
JNBK	**Urakawa-nobuka**	**2.39**	**344**	P	**Pn**	**21 58 00.9**	**+0.9**
JRG	**Rokugo**	**2.40**	**257**	P	**Pn**	**21 58 00.6**	**+0.4**
JRG				S	**Sn**	**21 58 29.8**	**+0.7**
JCH	**Churui**	**2.63**	**355**	P	**Pn**	**21 58 03.3**	**-0.1**
JCH				*eS*	**Sn**	**21 58 33.5**	**-1.4**
JKB	**Kayabe**	**2.74**	**315**	*eS*	**Sn**	**21 58 37.3**	**-0.3**
JYK	**Kaneyama**	**2.76**	**248**	P	**Pn**	**21 58 05.5**	**+0.3**
JOU	**Okura**	**2.83**	**236**	P	**Pn**	**21 58 06.2**	**+0.1**
JOU				*eS*	**Sn**	**21 58 39.3**	**-0.5**
JAK	**Akkeshi**	**3.11**	**14**	*eS*	**Sn**	**21 58 44.8**	**-1.8**
JFT	**Otama**	**3.58**	**227**	*eS*	**Sn**	**21 58 56.8**	**-1.4**
MJAR	**Matsushiro Arr**	**5.49**	**233**	P	**Pn**	**21 58 44.0**	**+1.3**
	0.7nm,0.3s,baz=38,slow=12,SNR=7.8						
KLR	**Kul'dur**	**12.53**	**321**	P	**P**	**22 00 31.5**	**+0.9**
	0.5nm,0.3s,baz=152,slow=15,SNR=9.1						
KLR				LR	LR	22 05 21.2	
	comp=Z,51nm,21.2s,baz=118,slow=37						
H11N2	**WAKE ISLAND Hy**	**28.38**	**129**	T	T	22 32 55.4	
	baz=321,slow=75,SNR=21						
H11N1	**WAKE ISLAND Hy**	**28.39**	**129**	T	T	22 32 54.9	
	baz=321,slow=75,SNR=23						
H11N3	**WAKE ISLAND Hy**	**28.40**	**129**	T	T	22 32 57.2	
	baz=321,slow=75,SNR=16						
H11S1	**WAKE ISLAND Hy**	**29.21**	**130**	T	T	22 33 52.9	
	baz=322,slow=76,SNR=17						
H11S3	**WAKE ISLAND Hy**	**29.22**	**130**	T	T	22 33 54.6	
	baz=322,slow=76,SNR=12						
H11S2	**WAKE ISLAND Hy**	**29.23**	**130**	T	T	22 33 54.9	
	baz=322,slow=76,SNR=12						
ZALV	**Zalesovo Beam**	**41.29**	**310**	P	**P**	**22 05 06.7**	**+0.8**
	0.4nm,0.3s,baz=99,slow=8.9,SNR=3.4						
WRA	**Warramunga Arr**	**60.25**	**190**	P	**P**	**22 07 28.3**	**-0.7**
	0.5nm,0.5s,baz=8.0,slow=7.0,SNR=14						

*ISCJB **05** 22:01:28.7±0.6, 49°.96S±0°.04×75°.4W±0°.1, h33^{km}, mb4.5/9, MS4.0/4, Error ellipse: s-maj=9.4km s-min=6.1km az=170.5*
*IDC **05** 22:01:30.7±4.7, 49°.94S×75°.59W, h38^{km}±38^{km}, mb4.0/5, mb1 4.2/7, mb1mx3.9/26, mbtmp4.3/7, ML4.4/2, MS3.9/5, Ms1 3.9/5, ms1mx3.6/23, Error ellipse: s-maj=46.7km s-min=17.3km az=94.0*
*NEIC **05** 22:01:31.5±1.8, 49°.92S×75°.58W, h47^{km}±15^{km}, mb4.8/8, Error ellipse: s-maj=23.7km s-min=8.2km az=89.0*

ISC 05 22:01:30.0±0.6, 49°.96S±0°.06×75°.62W±0°.09, h35^{km}, n44, σ1^{s}.33/34, mb4.3/9, MS3.9/4, 1C-1D, Southern Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CHRN	**Cochrane**	**3.38**	**38**	*e*Pn	**Pn**	**22 02 21.9**	**+1.7**
CHRN				*e*Sn	**Sn**	**22 02 59.1**	**+0.1**
USHA	**Ushuaia**	**6.56**	**141**	Pn	**Pn**	**22 03 04.6**	**+0.7**
	403nm,0.3s,baz=300,slow=12,SNR=56						
USHA				Sn	**Sn**	**22 04 17.5**	**+0.1**
	377nm,0.3s,baz=199,slow=23,SNR=7.9						
USHA				Lg	Lg	22 05 04.0	
	baz=210,slow=20,SNR=3.1						
PLCA	**Paso Flores**	**9.89**	**23**	Pn	**Pn**	**22 03 49.4**	**-0.3**
	0.5nm,0.3s,baz=232,slow=14,SNR=12						
PLCA				Lg	Lg	22 06 31.5	
	0.2nm,0.3s,baz=294,slow=20,SNR=2.2						
PLCA	**Paso Flores**	**9.89**	**23**	*e*Pn	**Pn**	**22 03 51.8**	**+2.1**
PLCA				Lg	Lg	22 06 31.5	
EFI	**East Falkland**	**11.24**	**105**	*e*Pn	**Pn**	**22 04 09.9**	**+2.0**
EFI				*e*Sn	**Sn**	**22 06 10.7**	**-1.4**
TRQA	**Tornquist**	**15.39**	**45**	*e*Pn	**Pn**	**22 05 03.2**	**-1.2**
	112nm,1.0s						
PMSA	**Palmer Station**	**16.06**	**162**	Pn	**Pn**	**22 05 13.6**	**+0.8**
	0.7nm,0.3s,baz=274,slow=15,SNR=7.5						
PMSA				LR	LR	22 10 07.7	
	comp=Z,192nm,21.6s,baz=92,slow=32						
PMSA	**Palmer Station**	**16.06**	**162**	*e*Pn	**Pn**	**22 05 13.6**	**+0.8**
	1.5nm,1.2s						
LCO	**Las Campanas**	**21.26**	**12**	*e*P	**P**	**22 06 11.9**	**-1.4**
	72nm,1.5s						
CPUP	**Villa Florida**	**27.49**	**38**	P	**P**	**22 07 12.2**	**-0.6**
	5.2nm,0.8s,baz=214,slow=9.5,SNR=8.5						
CPUP				LR	LR	22 19 15.7	
	comp=Z,287nm,19.1s,baz=209,slow=39						
LVC	**Limon Verde**	**27.81**	**13**	LR	LR	22 17 48.8	
	comp=Z,679nm,21.6s,baz=16,slow=35						
LVC	**Limon Verde**	**27.81**	**13**	*e*P	**P**	**22 07 15.3**	**-0.9**
	23nm,1.4s						
LPAZ	**La Paz**	**34.13**	**13**	P	**P**	**22 08 13.9**	**+1.7**
	1.0nm,0.7s,baz=202,slow=5.8,SNR=3.8						
LPAZ	**La Paz**	**34.13**	**13**	*e*P	**P**	**22 08 12.5**	**+0.3**
	23nm,1.7s						
SNAA	**Sanae**	**38.30**	**151**	P	**P**	**22 08 47.5**	**+0.9**
	19nm,0.8s,baz=263,slow=6.2,SNR=68						
SNAA	**Sanae**	**38.30**	**151**	*e*P	**P**	**22 08 47.4**	**+0.7**
	24nm,0.8s						
QSPA	**South Pole Qui**	**40.28**	**180**	*e*P	**P**	**22 09 04.1**	**+0.7**
SAML	**Samuel**	**42.18**	**18**	*e*P	**P**	**22 09 19.4**	**+0.2**
	4.9nm,0.8s						
VNDA	**Vanda**	**47.96**	**194**	P	**P**	**22 10 05.0**	**+0.6**
	2.5nm,0.9s,baz=137,slow=6.4,SNR=13						
VNDA	**Vanda**	**47.96**	**194**	*e*P	**P**	**22 10 05.7**	**+1.3**
	4.4nm,1.0s						
SYO	**Syowa Base**	**52.19**	**156**‖	*e*P	**P**	**22 10 32.4**	**-4.1**
SYO	**Syowa Base**	**52.19**	**156**‖	*e*pP	pP	22 10 46.2	-0.8
URZ	**Urewera**	**71.34**	**233**	LR	LR	22 40 35.1	
	comp=Z,73nm,18.0s,baz=129,slow=33						
DBIC	**Dimbokro**	**82.92**	**71**	LR	LR	22 45 23.8	
	comp=Z,52nm,20.9s,baz=179,slow=32						
YUH	**Yuha Desert**	**89.68**	**327**	*e*P	P	22 14 30.1	+6.2
SWSC	**Sam W. Stewart**	**89.91**	**327**	*e*P	**P**	**22 14 27.1**	**+2.1**
EML	**El Monte Cty P**	**90.23**	**326**	*e*P	P	22 14 32.4	+6.0
TORD	**Torodi Ar. Bea**	**91.97**	**72**	P	**P**	**22 14 35.4**	**+0.4**
	0.4nm,0.7s,baz=215,slow=5.0,SNR=2.8						
TOA1	**Torodi Ar. Sit**	**91.97**	**72**	*e*P	**P**	**22 14 35.4**	**+0.4**
	19nm,1.8s						
WMUT	**West Mountain**	**95.15**	**333**	*e*P	P	22 14 55.7	+6.4
SAO	**San Andreas Ge**	**95.37**	**325**	*e*P	**P**	**22 14 48.5**	**-1.7**
YMV	**Mammoth Vault**	**99.36**	**336**	*e*P	**Pdif**	**22 15 07.8**	**-0.4**
H11S2	**WAKE ISLAND Hy**	**121.69**	**261**	T	T	00 33 40.3	
	baz=138,slow=76,SNR=4766						
H11S3	**WAKE ISLAND Hy**	**121.71**	**261**	T	T	00 33 41.4	
	baz=138,slow=76,SNR=3771						
H11S1	**WAKE ISLAND Hy**	**121.71**	**261**	T	T	00 33 41.4	
	baz=138,slow=76,SNR=2746						
H11N3	**WAKE ISLAND Hy**	**122.46**	**262**	T	T	00 34 33.8	
	baz=138,slow=75,SNR=261						
H11N1	**WAKE ISLAND Hy**	**122.47**	**262**	T	T	00 34 40.1	
	baz=138,slow=75,SNR=75						
H11N2	**WAKE ISLAND Hy**	**122.48**	**262**	T	T	00 34 38.7	
	baz=138,slow=75,SNR=265						
ILAR	**Eielson Array**	**126.94**	**329**	PKP	**PKPdf**	**22 20 27.7**	**-1.0**
	0.3nm,0.7s,baz=182,slow=1.1,SNR=3.5						
ILB	**Eielson Array**	**126.94**	**329**	*e*PKPdf	**PKPdf**	**22 20 27.7**	**-1.0**
CM31	**Chiaiai Mai Arr**	**148.27**	**170**	*e*PKPdf	**PKPbc**	**22 21 11.8**	**-0.5**
CMAR	**Chiang Mai Arr**	**148.27**	**170**	PKPbc	**PKPbc**	**22 21 11.8**	**-0.5**
	0.5nm,0.4s,baz=222,slow=3.7,SNR=2.9						
CHTO	**Chiang Mai**	**148.62**	**170**	*e*PKPdf	**PKPdf**	**22 21 08.7**	**-0.8**
ABKAR	**Akbulak array**	**151.51**	**74**	*e*PKPbc	**PKPbc**	**22 21 19.5**	**+0.2**

*JMA **05** 22:03:32.3±0.5, 44°.05N×148°.01E, h0^{km}, M3.9*
*SKHL **05** 22:03:34.4±0.6, 44°.47N×148°.06E, h58^{km}, mb4.1/3*

ISC 05 22:03:31.4±3.1, 44°.36N±0°.10×148°.1E±0°.2, h8^{km}±12km, n10, σ1^{s}.11/17, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KUR	**Kuril'sk**	**0.90**	**348**	*eP*	**Pg**	**22 03 48.7**	**0.0**
KUR				AMB	AMB	22 03 49.0	
	120nm,0.2s						
KUR				AMB	AMB	22 03 49.0	
	110nm,0.2s						
KUR				AMB	AMB	22 03 49.0	
	50nm,0.2s						
KUR				*eS*	**Sg**	**22 03 59.6**	**-0.7**
KUR				A	A	22 04 00.6	
	820nm,0.3s						
SHO	**Shikotan**	**1.05**	**243**	*eP*	**Pg**	**22 03 51.8**	**+0.2**
SHO				AMB	AMB	22 03 52.5	
	60nm,0.3s						
SHO				*eS*	**Sg**	**22 04 04.7**	**-0.5**
SHO				A	A	22 04 07.6	
	530nm,0.2s						
YUK	**Yuzh-Kuril'sk**	**1.66**	**260**	*eP*	**Pn**	**22 04 01.0**	**+0.2**
YUK				AMB	AMB	22 04 01.5	
	240nm,0.6s						
YUK				*eS*	**Sn**	**22 04 20.6**	**-1.6**
YUK				A	A	22 04 26.1	
	1μm,0.9s						
NEM2	**Nemuro 2**	**1.98**	**241**	P	**Pn**	**22 04 04.6**	**-0.7**
NEM2				*eS*	**Sn**	**22 04 28.8**	**-1.5**
JRA	**Rausu**	**2.20**	**260**	P	**Pn**	**22 04 09.4**	**+1.2**
JNK	**Nakash**	**2.57**	**254**	P	**Pn**	**22 04 14.1**	**+0.7**
JNK				*eS*	**Sn**	**22 04 44.8**	**-0.1**
JAK	**Akkeshi**	**2.83**	**243**	P	**Pn**	**22 04 16.7**	**-0.2**
JAK				*eS*	**Sn**	**22 04 50.0**	**-1.2**
JAR	**Ashorobuto**	**3.32**	**253**	P	**Pn**	**22 04 25.2**	**+1.5**
JAR				*eS*	**Sn**	**22 05 04.6**	**+1.3**
JCH	**Churui**	**3.88**	**245**	P	**Pn**	**22 04 32.6**	**+1.3**
JNBK	**Urakawa-nobuka**	**4.43**	**244**	P	**Pn**	**22 04 39.9**	**+1.0**

*CSEM **05** 22:20:25.6, 38°.37N×19°.93E, h20^{km}, ML1.8/2*

ATH 05 22:20:25.6, 38°.37N×19°.93E, h20^{km}±1^{km}, ML1.8/2, Error ellipse: s-maj=3.3km s-min=1.3km az=82.0, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LKD2	**Lefkada island**	**0.71**	**54**	P	Pb	22 20 39.2	-0.1
LKD2				S	Sg	22 20 49.5	+0.3
LKD2	**Lefkada island**	**0.71**	**54**	P	Pb	22 20 39.1	-0.2
LKD2				S	Sg	22 20 49.6	+0.4
LKD2				AML	AML	22 20 53.2	
	comp=E,151μm,0.2s						
LKD2				AML	AML	22 20 55.7	
	comp=N,123μm,0.2s						
KFL	**Anninata**	**0.73**	**111**	P	Pb	22 20 39.4	-0.2
KFL	**Anninata**	**0.73**	**111**	P	Pb	22 20 39.1	-0.5
ZKS	**Zakynthos**	**0.96**	**134**	P	Pg	22 20 44.3	+0.1
ZKS				S	Sn	22 20 57.2	+0.2
ZKS	**Zakynthos**	**0.96**	**134**	P	Pg	22 20 44.8	+0.6
ZKS				S	Sn	22 20 57.2	+0.2
ZKS				AML	AML	22 21 06.3	
	comp=E,216μm,0.4s						
ZKS				AML	AML	22 21 12.8	
	comp=N,311μm,0.3s						
PDO	**Prodromos**	**1.01**	**77**	P	Pg	22 20 45.1	-0.2
PDO	**Prodromos**	**1.01**	**77**	P	Pg	22 20 45.3	0.0
DSL	**Palaion Diasel**	**1.19**	**50**	P	Pg	22 20 48.6	-0.1
DSL	**Palaion Diasel**	**1.19**	**50**	P	Pg	22 20 49.0	+0.3
DRO	**Drossia**	**1.47**	**106**	P	Pb	22 20 53.0	+0.7
DRO	**Drossia**	**1.47**	**106**	P	Pb	22 20 52.9	+0.6
LAKA	**Lakka**	**1.62**	**94**	P	Pb	22 20 55.0	+0.1
LAKA	**Lakka**	**1.62**	**94**	P	Pb	22 20 54.6	-0.2
AMT	**Artemida-Makis**	**1.64**	**120**	P	Pb	22 20 55.7	+0.5
AMT	**Artemida-Makis**	**1.64**	**120**	P	Pb	22 20 55.9	+0.7
KALE	**Kalithea**	**1.74**	**89**	P	Pb	22 20 57.2	+0.3
KALE	**Kalithea**	**1.74**	**89**	P	Pb	22 20 57.5	+0.5
KLV	**Kalavryta, Ach**	**1.78**	**100**	P	Pb	22 20 57.3	-0.4
KLV	**Kalavryta, Ach**	**1.78**	**100**	P	Pb	22 20 57.0	-0.7

*ISCJB **05** 22:33:18.3±0.5, 24°.47S±0°.03×179°.95E±0°.05, h498^{km}±6^{km}, mb4.7/61, Error ellipse: s-maj=7.3km s-min=4.8km az=11.9*
*BJI **05** 22:33:18.5, 24°.87S×179°.31W, h546^{km}, mb4.7/23, mB5.0/11*
*IDC **05** 22:33:18.1±0.9, 24°.50S×179°.92W, h488^{km}±9^{km}, mb4.2/17, mb1 4.2/20, mb1mx4.1/28, mbtmp5.0/20, Error ellipse: s-maj=12.9km s-min=11.0km az=69.0*
*MOS **05** 22:33:18.3±3.0, 24°.25S×179°.72E, h464^{km}, mb5.0/7, Error ellipse: s-maj=12.0km s-min=10.0

HNR **Honiara** 24.35 305 P P 22 37 55.1 -1.7
74nm,0.5s,baz=201,slow=14,SNR=3.3
ARMA **Armidale** 25.85 251 P P 22 38 12.1 +2.1
baz=27,SNR=15
ARMA **Armidale** 25.85 251 *e*P P 22 38 11.5 +1.5
16nm,0.8s
EIDS **Eidsvold** 26.26 262 P P 22 38 14.7 +1.1
baz=27,SNR=6.2
EIDS **Eidsvold** 26.26 262 *e*P P 22 38 14.7 +1.1
26nm,0.9s
MGCD **Mangrove Creek** 26.71 245 P P 22 38 20.0 +2.6
baz=27,SNR=11
RMQ **Roma** 28.27 259 P P 22 38 33.4 +2.1
baz=29,SNR=16
CAN **Canberra** 28.86 241 *e*P P 22 38 37.4 +1.0
CAN pmax pmax
comp=Z,13nm,0.9s
CAN **Canberra** 28.86 241 *e*P P 22 38 37.4 +1.0
comp=Z,13nm,0.9s
CMSA **Cobar Meteorol** 31.02 249 P P 22 38 56.2 +1.1
baz=32,SNR=17
CTA **Charters Tower** 31.53 271 P P 22 39 00.6 +1.1
comp=Z,55nm,0.4s,baz=94,slow=11,SNR=91
CTAO **Charters Tower** 31.53 271 *e*P P 22 39 00.2 +0.6
CTAO **Charters Tower** 31.53 271 *e*P P 22 39 00.2 +0.6
TOO **Toolangi** 32.14 238 P P 22 39 06.1 +1.5
baz=33,SNR=6.3
QLP **Quilpie** 32.31 259 P P 22 39 07.0 +0.8
baz=33,SNR=13
MTSU **Mount Surprise** 33.82 274 P P 22 39 20.1 +1.0
baz=35,SNR=41
STKA **Stephens Creek** 34.53 249 P P 22 39 25.9 +1.1
comp=Z,15nm,0.4s,baz=94,slow=11,SNR=70
STKA PcP PcP 22 41 46.0 +0.4
comp=Z,2.0nm,0.7s,baz=34,slow=16,SNR=2.8
STKA **Stephens Creek** 34.53 249 P P 22 39 26.0 +1.1
baz=35,SNR=59
STKA **Stephens Creek** 34.53 249 *e*P P 22 39 25.4 +0.5
STKA *e* 22 41 46.0
STKA pmax pmax
comp=Z,21nm,1.5s
STKA **Stephens Creek** 34.53 249 *e*P P 22 39 25.4 +0.5
comp=Z,21nm,1.5s
STKA *e*PcP PcP 22 41 46.0 +0.4
PMG **Port Moresby** 34.75 290 P P 22 39 27.1 +0.2
comp=Z,39nm,0.7s,baz=131,slow=6.2,SNR=7.2
PMG **Port Moresby** 34.75 290*d* iP P 22 39 26.9 0.0
PMG pmax pmax
comp=Z,188nm,0.8s
PMG **Port Moresby** 34.75 290 *e*P P 22 39 25.8 -1.1
comp=Z,48nm,0.8s
ARPS **Mount Arapiles** 34.84 240 P P 22 39 28.5 +1.2
baz=36,SNR=6.7
COEN **Coen** 36.27 280 P P 22 39 40.3 +0.8
baz=37,SNR=5.8
COEN **Coen** 36.27 280 *e*P P 22 39 38.9 -0.6
comp=Z,55nm,1.4s
HTT **Hallett** 36.85 246 P P 22 39 45.0 +0.7
baz=38,SNR=13
QIS **Mount Isa** 37.47 268 P P 22 39 49.4 0.0
baz=38,SNR=3.8
BBOO **Buckleboo** 39.24 248 P P 22 40 03.7 +0.1
baz=40,SNR=33
BBOO **Buckleboo** 39.24 248 *e*P P 22 40 03.8 +0.1
comp=Z,30nm,0.9s
AS01 **Alice Springs** 41.94 261 *e*P P 22 40 24.9 -0.4
AS01 *e*PcP PcP 22 42 09.3 +0.2
AS31 **Alice Springs** 41.98 261 *e*P P 22 40 25.6 -0.1
comp=Z,5.7nm,0.8s
AS31 *e*PcP PcP 22 42 08.7 -0.7
AS31 *e*ScP ScP 22 45 13.9 +2.6
AS31 *e*S S 22 46 05.5 -2.1
ASAR **Alice Springs** 41.98 261 P P 22 40 26.0 +0.3
comp=Z,19nm,0.8s,baz=94,slow=6.9,SNR=99
ASAR PcP PcP 22 42 08.7 -0.7
comp=Z,5.3nm,1.0s,baz=108,slow=3.8,SNR=7.9
ASAR ScP ScP 22 45 13.9 +2.6
comp=Z,1.3nm,0.8s,baz=107,slow=5.0,SNR=4.4
ASAR S S 22 46 05.5 -2.1
comp=Z,1.3nm,0.8s,baz=104,slow=14,SNR=4.6
WB2 **Warramunga Arr** 42.40 267 *e*P P 22 40 28.9 -0.1
WRAB **Tennant Creek** 42.41 267*d* iP P 22 40 28.7 -0.4
WRAB pmax pmax
comp=Z,124nm,1.1s
WRAB **Tennant Creek** 42.41 267 *e*P P 22 40 28.5 -0.6
comp=Z,53nm,1.1s
WR1 **Warramunga Arr** 42.41 267 *e*P P 22 40 28.7 -0.4
comp=Z,46nm,0.8s
WR1 *e*PcP PcP 22 42 11.2 +0.4
WR1 *e*ScP ScP 22 45 15.7 +2.6
WRA **Warramunga Arr** 42.41 267 P P 22 40 28.7 -0.4
comp=Z,36nm,0.6s,baz=104,slow=8.0,SNR=165
WRA PcP PcP 22 42 11.2 +0.4
comp=Z,2.6nm,0.8s,baz=101,slow=3.5,SNR=4.4
WRA ScP ScP 22 45 15.7 +2.6
comp=Z,9.1nm,0.9s,baz=101,slow=4.0,SNR=23
WRA S S 22 46 09.7 -4.1
comp=Z,2.2nm,0.9s,baz=102,slow=13,SNR=5.3
JAY **Jayapura** 43.81 294 P P 22 40 39.9 -0.2
comp=Z,2.8nm,0.7s,baz=97,slow=23,SNR=23
FORT **Forrest** 46.13 250 P P 22 40 57.6 -0.2
baz=47,SNR=30
FORT **Forrest** 46.13 250 *e*P P 22 40 57.4 -0.4
WRKA **Warakurna** 46.74 258 P P 22 41 02.6 +0.1
baz=48,SNR=104
MTN **Manton Dam** 47.55 275 P P 22 41 08.2 -0.5
baz=48,SNR=7.5
MTN **Manton Dam** 47.55 275 *e*P P 22 41 08.2 -0.5
comp=Z,13nm,0.4s
KNRA **Kununurra** 48.73 270 P P 22 41 17.8 +0.3
baz=50,SNR=18
FITZ **Fitzroy Crossi** 50.83 266 P P 22 41 33.3 +0.4
baz=52,SNR=40
FITZ **Fitzroy Crossi** 50.83 266 *e*P P 22 41 32.5 -0.4
GUMO **Guam** 51.15 314 P P 22 41 34.8 -0.4
comp=Z,38nm,0.6s,baz=180,slow=20,SNR=3.2
KLBR **Kellerberrin** 54.78 248 P P 22 42 01.0 -0.1
baz=56,SNR=15
SOEI **Soe** 54.95 275 *e*P P 22 42 01.3 -1.2
comp=Z,73nm,1.0s
MEEK **Meekatharra** 54.97 254 P P 22 42 01.9 -0.6
baz=56,SNR=5.4
MBWA **Marble Bar** 55.31 260 *e*P P 22 42 04.4 -0.5
comp=Z,23nm,0.7s
BLDU **Ballidu** 55.84 249 P P 22 42 07.5 -1.0
baz=56,SNR=7.6
MORW **Morawa** 56.70 250 P P 22 42 14.4 0.0
baz=57,SNR=13
JAGI **Jajag, Banyuwa** 64.64 272 *e*P P 22 43 06.4 -0.7
comp=Z,37nm,1.0s
QSPA **South Pole Qui** 65.54 180 *e*P P 22 43 14.8 +2.7
UGM **Wanagama** 68.16 271 *e*P P 22 43 27.9 -1.1
comp=Z,502nm,1.7s
KKM **Kota Kinabalu** 69.14 287 *e*P P 22 43 35.3 +0.4
comp=Z,25nm,0.6s
SBUM **Sibu** 70.98 282 *e*P P 22 43 44.8 -1.1
comp=Z,16nm,1.2s
JOW **Kunigami** 71.45 312 *e*P P 22 43 47.0 -1.3
comp=Z,34nm,0.8s
KSM **Kuching** 72.26 280 *e*P P 22 43 52.5 -0.9
comp=Z,37nm,0.8s
MJAR **Matsushiro Arr** 72.45 326 P P 22 43 54.1 +0.2
comp=Z,8.7nm,0.8s,baz=160,slow=5.2,SNR=19
MAJO **Matsushiro** 72.45 326⇑ *e*P P 22 43 54.4 +0.5
MAJO pmax pmax
comp=Z,99nm,0.9s
MAT **Matsushiro** 72.45 326 P P 22 43 53.7 -0.2
NACB **Ninganchiao** 74.52 306 *e*P P 22 44 04.7 -1.3
comp=Z,23nm,0.8s
SSLB **Suanglung** 74.76 305 *e*P P 22 44 06.3 -1.1
comp=Z,14nm,0.9s
MAW **Mawson** 77.17 200 P P 22 44 21.5 +1.6
comp=Z,4.4nm,0.5s,baz=146,slow=5.2,SNR=8.8
MAW **Mawson** 77.17 200 *e*P P 22 44 21.5 +1.6
MAW pmax pmax
comp=Z,11nm,2.0s
MAW **Mawson** 77.17 200 *e*P P 22 44 21.5 +1.6
comp=Z,11nm,2.0s
KSRS **Korea Array** 78.77 320 P P 22 44 30.1 +1.1
comp=Z,5.7nm,0.7s,baz=136,slow=5.6,SNR=21
KS15 **Wonju Array Si** 78.78 320 *e*P P 22 44 30.1 +1.0
KSAR **Wonju Array Be** 78.78 320 P P 22 44 30.1 +1.0
KSAR **Wonju Array Be** 78.78 320 P P 22 44 30.1 +1.0
KS01 **Wonju Array Si** 78.80 320 *e*P P 22 44 27.8 -1.3
PEA0 **Petropavlovsk-** 79.73 347 *e*P P 22 44 32.1 -1.6
PETK **Petropavlovsk-** 79.73 347 P P 22 44 34.5 +0.7
comp=Z,14nm,0.8s,baz=128,slow=6.1,SNR=13
PEA1 **Petropavlovsk-** 79.74 347 *e*P P 22 44 34.5 +0.7
USRK **Ussuriysk Ar.** 81.33 327 P P 22 44 43.7 +1.5
comp=Z,9.9nm,0.9s,baz=136,slow=4.3,SNR=10
IPM **Ipoh** 81.91 279 *e*P P 22 44 44.6 -1.4
comp=Z,26nm,0.7s
PTRM **Twissleman Ran** 82.30 45 *e*P P 22 44 47.8 +0.3
SYO **Syowa Base** 82.40 193⇓ *e*P P 22 44 45.9 -1.5
SYO **Syowa Base** 82.40 193⇓ *e*PcP P 22 44 46.7 -0.7
WENL **Wente Vineyard** 82.53 43 *e*P P 22 44 46.0 -2.5
KULM **Kulim** 82.59 279 *e*P P 22 44 48.5 -0.9
comp=Z,13nm,0.8s
MDJ **Mudanjiang** 82.82 326 P P 22 44 50.0 +0.1
MDJ pmax pmax
comp=Z,17nm,0.7s
MDJ pmax pmax
comp=Z,73nm,5.3s
PSI **Prapat** 83.09 276 *e*P P 22 44 49.8 -2.4
PSI pmax pmax
comp=Z,14nm,0.8s
PSI **Prapat** 83.09 276 *e*P P 22 44 49.8 -2.4
comp=Z,14nm,0.8s
SNAA **Sanae** 84.03 179 ⇓ *i*P P 22 44 56.0 +0.4
CHBT **CHBT** 84.35 287 P P 22 45 00.2 +2.1
comp=Z,4μm,1.5s
GLA **Glamis** 84.40 50 *e*P P 22 44 52.4 -5.7
comp=Z,6.6nm,0.8s
TIN **Tinemaha, Big** 84.41 45 *e*P P 22 44 58.2 +0.1
TIN **Tinemaha, Big** 84.41 45 *e*P P 22 44 58.2 +0.1
CN2 **Changchun** 84.43 324 *e*P P 22 44 56.6 -1.3
CN2 pmax pmax
comp=Z,10.0nm,0.8s
TRTT **Trang** 84.54 281 P P 22 45 01.4 +2.3
comp=Z,20nm,1.1s
TIA **Tai'an** 84.71 314 ⇑P P 22 45 00.9 +1.5
TIA pmax pmax
comp=Z,30nm,1.0s
SKNT **Sakolnakorn** 84.84 291 P P 22 45 01.5 +1.0
comp=Z,62nm,1.0s
KLR **Kul'dur** 85.11 331 ⇓ *i*P P 22 45 01.9 +0.8
VSP **Spence Mountai** 85.38 39 *e*P P 22 45 04.9 +2.1
CHAI **Chaiyaphum** 86.06 289 P P 22 45 08.8 +2.4
ENH **Enshi** 86.85 305 *e*P P 22 45 11.2 +1.3
comp=Z,24nm,1.1s
SLVN **Son La** 86.91 295 *e*P P 22 45 11.8 +1.4
comp=Z,16nm,1.7s
GYA **Guiyang** 87.11 301 *e*P P 22 45 10.2 -1.1
GYA pP pP 22 47 06.8 +3.3
GYA sP sP 22 47 59.4 +4.4
GYA PP PP 22 48 46.0 +1.5
GYA SKS SKSac 22 54 47.2 -3.2
GYA S S 22 55 05.6 -2.6
GYA pmax pmax
comp=Z,20nm,1.0s
MA2 **Magadan** 87.21 346⇑ *e*P P 22 45 11.4 +0.6
BJI **Beijing** 87.53 316 P P 22 45 13.4 +0.6
BJI pmax pmax
comp=Z,8.0nm,0.8s
MARYW **Marymoor Park** 88.66 35 *e*P P 22 45 16.5 -1.3
XAN **Xi'an** 89.17 308 P P 22 45 22.1 +1.4
XAN pmax pmax
comp=Z,18nm,0.9s
XAN pmax pmax
comp=Z,46nm,6.7s
KMI **Kunming** 89.60 298 P P 22 45 24.9 +1.8
KMI pmax pmax
comp=Z,12nm,1.0s
CM01 **Chiang Mai Arr** 89.76 290 *e*P P 22 45 25.5 +1.8
CM31 **Chiang Mai Arr** 89.79 290 *e*P P 22 45 26.1 +2.2
CMAR **Chiang Mai Arr** 89.79 290 P P 22 45 26.1 +2.2
comp=Z,9.1nm,0.9s,baz=141,slow=3.3,SNR=36
SEY **Seymchan** 89.90 348 ⇑ *i*P P 22 45 24.1 +0.8
CHTO **Chiang Mai** 89.94 291 *e*P P 22 45 24.0 -0.6
CHTO pmax pmax
comp=Z,13nm,0.9s
CHTO **Chiang Mai** 89.94 291 *e*P P 22 45 23.9 -0.6
comp=Z,13nm,0.9s
TMUT **Trail Mountain** 90.25 46 *e*P P 22 45 28.6 +2.7
comp=Z,3.5nm,0.6s
LTX **Lajitas** 90.73 58 *e*P P 22 45 29.9 +1.8
LTX **Lajitas** 90.73 58 *e*P P 22 45 29.9 +1.8
TX31 **Lajitas Ar. Si** 90.73 58 *e*P P 22 45 29.9 +1.9
TXAR **Lajitas Array** 90.73 58 P P 22 45 29.9 +1.8
comp=Z,1.4nm,0.7s,baz=214,slow=6.3,SNR=12
HHC **Hu-ho-hao-te** 90.90 315 *e*P P 22 45 24.2 -4.4
ANMO **Albuquerque** 91.32 52 ⇓ *e*P P 22 45 32.5 +1.7
ILAR **Eielson Array** 92.64 14 P P 22 45 35.6 -0.3
comp=Z,1.2nm,0.8s,baz=225,slow=5.5,SNR=10
ILB **Eielson Array** 92.64 14 *e*P P 22 45 35.6 -0.3
IL1 **Eielson Array** 92.64 14 *e*P P 22 45 35.1 -0.8
BILL **Bilibino** 92.87 355⇑ *e*P P 22 45 37.7 +0.8
BILL pmax pmax
comp=Z,25nm,2.3s
ULN **Ulaanbaatar** 97.24 320⇑ *e*P P 22 45 58.0 +0.6
ULN pmax pmax
comp=Z,2.0nm,0.7s
ZALV **Zalesovo Beam** 112.47 320 PKiKP PKiKP 22 50 56.5 -0.6
comp=Z,0.5nm,0.4s,baz=174,slow=1.4,SNR=4.6
ZAA1 **Zalesovo Array** 112.47 320 *e*PKiKP PKiKP 22 50 56.5 -0.6
KURK **Kurchatov** 115.69 316 *d* iPKiKP PKPdf 22 51 02.7 -0.7
KURK **Kurchatov** 115.69 316 *e*PKPdf PKPdf 22 51 03.1 -0.2
AAK **Ala-Archa** 117.32 307 ⇓ *i*PKiKP PKPdf 22 51 06.8 -0.2
KBK **Kabul** 120.17 297 *e*PKiKP PKPdf 22 51 13.6 +0.8
KBL **Kabul** 120.17 297 *e*PKPdf PKPdf 22 51 13.6 +0.8
KKAR **Karatay Array** 120.29 307 *e*PKiKP PKPdf 22 51 12.6 +0.1
KKAR **Karatay Array** 120.29 307 *e*PKPdf PKPdf 22 51 12.6 +0.1
BRVK **Borovoye** 121.01 318 *d* iPKiKP PKPdf 22 51 13.2 -0.3
BRVK pmax pmax
comp=Z,11nm,1.0s
BRVK **Borovoye** 121.01 318 *e*PKPdf PKPdf 22 51 13.4 -0.1
BOSA **Boshof** 121.85 206 PKP PKPdf 22 51 15.0 -1.2
comp=Z,1.8nm,0.8s,baz=180,slow=2.0,SNR=3.6
ARU **Arti** 127.42 323 *i* PKiKP PKPdf 22 51 26.1 +0.4
ARU 22 53 34.0
ARU 22 57 48.9
ARU SS SS 23 10 04.9 +0.4
ARU **Arti** 127.42 323 *e*PKPdf PKPdf 22 51 25.9 +0.2
ABKAR **Akbulak array** 127.69 314 *e*PKPdf PKPdf 22 51 27.2 +0.7
GEYT **Alibeck** 129.33 300 PKP PKPdf 22 51 28.8 -1.2
comp=Z,4.2nm,0.8s,baz=90,slow=1.4,SNR=5.4
ARCES **ARCESS Array B** 132.52 348 PKP PKPdf 22 51 33.6 -1.4
comp=Z,2.8nm,0.6s,baz=48,slow=1.3,SNR=9.7
ARCES SKPbc SKPab 22 54 15.7 -0.8
comp=Z,1.0nm,0.5s,baz=40,slow=2.9,SNR=5.7
KLMR **Klimovskoe** 134.78 334 *e*PKiKP PKPdf 22 51 39.6 +0.2
KLMR *e* 22 54 20.3
KLMR *e* 22 54 28.6
KLMR pmax pmax
comp=Z,9.0nm,1.5s
FIA0 **FINESS Array S** 139.07 341 *e*PKHKP PKPpre 22 51 38.1
FIA0 *e* 22 51 47.6
FIA0 **FINESS Array S** 139.07 341 *e*PKPpre PKPpre 22 51 38.1
FIA0 *e*PKPdf PKPdf 22 51 47.6 +0.3
FIA0 *e*SKPbc SKiKP 22 54 35.4 -2.1
FINES **FINESS Array B** 139.07 341 PKhKP PKPpre 22 51 38.1
comp=Z,1.3nm,0.5s,baz=57,slow=2.5,SNR=16
FINES PKP PKPdf 22 51 47.6 +0.3
comp=Z,2.8nm,0.6s,baz=83,slow=2.5,SNR=10
FINES SKPbc SKiKP 22 54 35.4 -2.1
comp=Z,5.1nm,0.7s,baz=48,slow=2.4,SNR=12
OBN **Obninsk** 139.34 328 ⇓ *i*PKiKP PKPdf 22 51 50.8 +2.8
OBN pmax pmax
comp=Z,8.0nm,1.1s
VSR **Storozhevoye** 139.95 322⇑ *e*PKiKP PKPdf 22 51 49.4 +0.1
NEY **Neytrino** 140.47 309 ⇓ *i*PKiKP PKPdf 22 51 54.0 +3.3
NC303 **NORSAR Array S** 142.52 351 *e*PKPpre PKPpre 22 51 50.9
NB2 **NORSAR Subarra** 142.72 351 PKP PKPpre 22 51 50.8
comp=Z,8.4nm,0.8s,baz=13,slow=3.1
NB200 **NORSAR Array S** 142.72 351 *e*PKPpre PKPpre 22 51 50.2
NOA **NORSAR Array B** 142.72 351 PKhKP PKPpre 22 51 50.2
comp=Z,6.6nm,0.9s,baz=16,slow=4.7,SNR=12
NBO02 **NORSAR Array S** 142.76 351 *e*PKPpre PKPpre 22 51 51.4
KOPT **Kop Dagi** 142.83 304 *e*PKPdf PKPdf 22 51 54.6 -0.5
MARD **Mardin** 143.09 300 *e*PKPdf PKPbc 22 51 54.4 +0.8
NACGM **Naroch** 143.80 334 *e*P PKPbc 22 51 55.0 0.0
NACGM PM 22 51 56.0
comp=Z,0.2nm,0.8s
KONO **Kongsberg** 144.28 352 *e*PKHKP PKPbc 22 51 56.2 -0.1
KONO **Kongsberg** 144.28 352 *e*PKPbc PKPbc 22 51 56.2 -0.1
CUKAN **kangal_SIVAS** 145.26 304 *i* P PKPab 22 52 01.0 -0.3
AKASG **Malin Array Be** 145.53 327 PKPbc PKPbc 22 52 00.0 -0.4
comp=Z,6.9nm,0.5s,baz=43,slow=4.0,SNR=21
AKBB **Malin Array Si** 145.53 327 *e*PKHKP PKPbc 22 52 00.2 -0.2
AKBB **Malin Array Si** 145.53 327 *e*PKPdf PKPbc 22 52 00.2 -0.2
KIEV **Kiev** 145.54 327 *d* iPKHKP PKPbc 22 52 00.1 -0.3
KIEV **Kiev** 145.54 327 *e*PKPdf PKPdf 22 51 59.8 +0.7
AK11 **Malin Array Si** 145.57 327 *e*PKPdf PKPbc 22 52 00.5 -0.1
GZT **Gaziantep** 145.61 301 *i* P PKPab 22 52 02.4 -0.3
SIM **Simferopol'** 145.75 315 *i* PKiKP PKPbc 22 52 01.7 +0.5
SIM *e* 22 52 03.8
SIM pmax pmax
comp=Z,17nm,0.9s
CUALT **Altinyayla-SIV** 145.81 304 *i* P PKPab 22 52 03.1 -0.4
SUW **Suwalki** 145.87 336 *e*PKP PKPbc 22 52 01.6 +0.3
SUW **Suwalki** 145.87 336 *e*PKiKP PKPbc 22 52 01.6 +0.3
KUZU **Kuzuini** 146.10 300 *i* P PKPab 22 52 03.5 -1.0
HCB **Kahramanmara** 146.12 301 *i* P PKPab 22 52 03.6 -1.0
CUSAR **Sarkisla-SIVAS** 146.15 305 *i* P PKPab 22 52 04.0 -0.8
KAMA **Osmaniye** 146.34 301 *i* P PKPbc 22 52 04.2 +0.9
DRWC **Darouich** 146.45 300 *i* P PKPbc 22 52 04.3 +0.7
ANDN **Andirin** 146.51 302 *i* P PKPbc 22 52 04.7 +0.9
BTCH **Batrach** 146.72 299 *i* P PKPbc 22 52 04.9 +0.6
YAYL **Yayladag** 147.00 299 *i* P PKPdf 22 52 03.1 +0.9
ARNB **Al Arnab** 147.14 299 *i* P PKPbc 22 52 05.7 +0.2
YAHY **KAYSERI_Yahyal** 147.15 303 *i* P PKPbc 22 52 06.2 +0.7
AKO **Adana** 147.24 302 *i* P PKPbc 22 52 06.3 +0.7
AVNS **Nevsehir-Avano** 147.36 304 *i* P PKPbc 22 52 06.4 +0.4
ILGA **Ilgaz** 147.51 309 *e*PKPbc PKPbc 22 52 07.5 +1.1
SORM **Soroca** 147.54 324 ⇑ *i*P PKPbc 22 52 06.4 +0.4
SORM **Soroca** 147.54 324 ⇑ PKiKP PKPbc 22 52 06.4 +0.4
GULE **Gulek** 147.79 302 *i* P PKPbc 22 52 07.7 +0.5
KIS **Kishinev** 147.95 322 *e*PKP PKPbc 22 52 06.0 -1.1
KIS **Kishinev** 147.95 322 *e*PKiKP PKPbc 22 52 06.0 -1.1
KIS *e* 22 52 10.0
BR101 **Keskin Array S** 148.00 306 *e*PKPdf PKPdf 22 52 03.3 -0.5
BR101 *e*PKPbc PKPbc 22 52 07.5 -0.1
BR101 *e*PKPab PKPab 22 52 12.7 +0.4
BR131 **Keskin Array S** 148.00 306 *e*PKPbc PKPbc 22 52 07.8 +0.2
BRTR **Keskin Array B** 148.00 306 PKP PKPdf 22 52 03.3 -0.5
comp=Z,6.0nm,0.7s,baz=72,slow=0.5,SNR=6.1
BRTR PKPbc PKPbc 22 52 07.5 -0.1
comp=Z,6.2nm,0.7s,baz=129,slow=1.8,SNR=17
BRTR PKPab PKPab 22 52 12.7 +0.4
comp=Z,8.7nm,0.6s,baz=105,slow=2.7,SNR=23
BEL **Belsk** 148.47 335 *e*PKP PKPbc 22 52 09.1 +0.9
BEL **Belsk** 148.47 335 *e*PKHKP PKPbc 22 52 09.1 +0.9
GKP **Gorka Klasztor** 148.52 340 *e*PKP PKPbc 22 52 08.9 +0.6
GKP **Gorka Klasztor** 148.52 340 *e*PKHKP PKPbc 22 52 08.9 +0.6
LEOM **Leova** 148.57 321 ⇓ *i*P PKPbc 22 52 08.9 +0.3
LEOM **Leova** 148.57 321 ⇓ PKHKP PKPbc 22 52 08.9 +0.3
ANTO **Ankara** 148.57 307 *e*PKHKP PKPbc 22 52 09.6 +0.6
ANTO **Ankara** 148.57 307 *e*PKPbc PKPbc 22 52 09.6 +0.6
BR231 **Keskin MP Arra** 148.59 307 *e*PKPdf PKPdf 22 52 05.2 +0.5
BR231 *e*PKPbc PKiKP 22 52 09.9 -0.3
LVV **L'vov** 148.61 330 *e*PKHKP PKPbc 22 52 09.4 +0.8
TLCR 148.94 319 ⇑ *i*P PKPbc 22 52 10.3 +0.7
TLCR 148.94 319 ⇑ PKHKP PKPbc 22 52 10.3 +0.7
CFR **Carcaliu** 149.35 319 ⇑ *i*P PKPbc 22 52 10.9 +0.4
CFR **Carcaliu** 149.35 319 ⇑ PKHKP PKPbc 22 52 11.0 +0.5
KWP **Kalwaria Pacla** 149.35 331 *e*PKP PKPbc 22 52 11.2 +0.7
KWP **Kalwaria Pacla** 149.35 331 *e*PKHKP PKPbc 22 52 11.2 +0.7
CSS **Mathiatis** 149.42 298 *e*PKPbc PKPbc 22 52 11.6 +0.4
BUR08 **Bucovina Ar. S** 149.51 325 *e*PKPbc PKPbc 22 52 12.2 +1.2
BURAR **Bucovina Array** 149.52 325 ⇑ *i*P PKPbc 22 52 12.2 +1.1
BURAR **Bucovina Array** 149.52 325 ⇑ PKHKP PKPbc 22 52 12.2 +1.1
TLB **Topalu** 149.72 318 ⇓ *i*P PKPbc 22 52 12.4 +0.9
TLB **Topalu** 149.72 318 ⇓ PKHKP PKPbc 22 52 12.4 +0.9
VRI **Vrincioaia** 149.78 321 ⇑ *i*P PKPbc 22 52 11.5 -0.1
VRI **Vrincioaia** 149.78 321 ⇑ PKHKP PKPbc 22 52 11.5 -0.1
PLOR **Plostina** 149.83 321 ⇓ *i*P PKPbc 22 52 11.8 0.0
PLOR **Plostina** 149.83 321 ⇓ PKHKP PKPbc 22 52 11.8 0.0
OJC **Ojcow** 150.13 334 *e*PKP PKPbc 22 52 12.8 +0.5
OJC **Ojcow** 150.13 334 *e*PKHKP PKPbc 22 52 12.8 +0.5
OJC **Ojcow** 150.13 334 *e*PKPbc PKPbc 22 52 12.8 +0.5
STHS **Stebnicka Huta** 150.15 332 *e*PKHKP PKPbc 22 52 13.6 +1.2
STHS **Stebnicka Huta** 150.15 332 *e*PKP PKPbc 22 52 13.6 +1.2
UZH **Uzhgorod** 150.26 330 *i* PKHKP PKPbc 22 52 12.8 +0.2
UZH *e* 22 52 20.8
BOLV **Bolvadin** 150.30 306 *e*PKPbc PKPbc 22 52 14.5 +1.3
CRVS **Cervenica-Dubn** 150.44 331 *e*PKiKP PKPbc 22 52 13.7 +0.6
CRVS **Cervenica-Dubn** 150.44 331 *e*PKP PKPbc 22 52 13.7 +0.6
MLR **Muntele Rosu** 150.44 321 ⇑ *i*P PKPbc 22 52 13.6 +0.3
MLR **Muntele Rosu** 150.44 321 *e*PKiKP PKPbc 22 52 13.3 0.0
MLR **Muntele Rosu** 150.44 321 *e*PKPbc PKPbc 22 52 13.3 0.0
DOPR **Dopca** 150.47 323 ⇑ *i*P PKPbc 22 52 14.6 +1.4
NIE **Niedzica** 150.55 333 *e*PKP PKPbc 22 52 14.5 +1.2
NIE **Niedzica** 150.55 333 *e*PKiKP PKPbc 22 52 14.5 +1.2
KSP **Ksiaz** 150.90 339 *e*PKP PKPbc 22 52 15.0 +1.0
KSP **Ksiaz** 150.90 339 *e*PKiKP PKPbc 22 52 15.0 +1.0
CJR **Cluj-Napoca** 150.95 326 ⇑ *i*P PKPbc 22 52 15.4 +1.0
VOIR 150.98 322 ⇓ *i*P PKPbc 22 52 13.5 -1.0
VOIR 150.98 322 ⇓ PKiKP PKPbc 22 52 13.5 -1.0
OKC **Ostrava-Krasne** 151.08 335 ⇑ *e*PKP PKPbc 22 52 15.2 +0.7
OKC *e*PKPab PKPab 22 52 25.0 +0.6
OKC **Ostrava-Krasne** 151.08 335 *e*PKiKP PKPbc 22 52 15.2 +0.7
OKC *e* 22 52 25.0
LANS **Liptovska Anna** 151.10 333 *e*PKP PKPbc 22 52 16.1 +1.5
KECS **Kecovo** 151.18 331 *e*PKP PKPab 22 52 25.5 +0.6
ARR **Arges** 151.25 322 ⇑ *i*P PKPbc 22 52 16.3 +1.2
UPC **Upice** 151.28 339 ⇑ *i*PKP PKPbc 22 52 15.6 +0.7
UPC *e*PKPab PKPab 22 52 26.0 +0.7
UPC **Upice** 151.28 339 *e*PKiKP PKPbc 22 52 15.6 +0.7
UPC *e* 22 52 26.0
DPC **Dobruska-Polom** 151.31 338 ⇑ *e*PKP PKPbc 22 52 16.0 +1.0
DPC *e*PKPab PKPab 22 52 26.2 +0.7
DPC **Dobruska-Polom** 151.31 338 *e*PKiKP PKPbc 22 52 16.0 +1.0
DPC *e* 22 52 26.2
DRGR 151.35 326 ⇑ *i*P PKPbc 22 52 15.9 +0.6
DRGR 151.35 326 ⇑ PKiKP PKPbc 22 52 15.9 +0.6
KRLC **Kraliky** 151.38 337 ⇑ *e*PKP PKPbc 22 52 15.8 +0.6
KRLC *e*PKPab PKPab 22 52 26.5 +0.7
KRLC **Kraliky** 151.38 337 *e*PKiKP PKPbc 22 52 15.8 +0.6
KRLC *e* 22 52 26.5
CLL **Collm** 151.48 343 *e*PKiKP PKPbc 22 52 15.8 +0.5
CLL **Collm** 151.48 343 *e*PKPdf PKPdf 22 52 08.0 -0.6
CLL ⇓ *i*PKPbc PKPbc 22 52 15.8 +0.5
comp=Z,22nm,0.8s
CLL *i* PKPab PKPab 22 52 26.3 +0.3
HUMR **Humele** 151.57 321 ⇑ *i*P PKPbc 22 52 15.9 +0.2
BRG **Berggiesshubel** 151.61 341 *i* PKP PKPbc 22 52 16.3 +0.7
comp=Z,20nm,1.2s
BRG *i* 22 52 27.1
comp=Z,8.3nm,0.9s
PVCC **Panska Ves** 151.72 340 ⇑ *e*PKP PKPbc 22 52 16.7 +0.8
PVCC *e*PKPab PKPab 22 52 28.2 +1.1
VYHS **Vyhne** 151.88 333 *e*PKP PKPbc 22 52 16.6 +0.3
VYHS *e* 22 52 28.7
VRAC **Vranov** 152.09 337 ⇑ *i*P PKPab 22 52 30.0 +1.3
PRA **Prague** 152.17 340 ⇑ *e*PKP PKPbc 22 52 18.3 +1.4
PRA *e*PKPab PKPab 22 52 29.9 +0.9
GOPC **GO Pecny, Ondr** 152.19 339 ⇑ *e*PKP PKPbc 22 52 17.5 +0.5
GOPC *e*PKPab PKPab 22 52 30.1 +0.9
PRU **Pruhonice** 152.21 340 ⇑ *e*PKP PKPbc 22 52 17.7 +0.7
PRU *e*PKPab PKPab 22 52 29.7 +0.5
NKC **Novy Kostel** 152.60 343 ⇑ *e*PKP PKPbc 22 52 18.9 +1.0
NKC *e*PKPab PKPab 22 52 31.2 +0.3
BZS **Buzias** 152.71 326 ⇑ *i*P PKPbc 22 52 18.5 +0.3
KHC **Kasperske Hory** 153.26 340 ⇑ *e*PKP PKPbc 22 52 20.0 +0.6
KHC *e*PKPab PKPab 22 52 34.6 +0.9
KHC **Kasperske Hory** 153.26 340 *e*PKP2 PKPab 22 52 34.6 +0.9
GEC2 **GERESS Array S** 153.47 340 *e*PKP2 PKPab 22 52 35.8 +1.1
GEC2 **GERESS Array S** 153.47 340 *e*PKPab PKPab 22 52 35.8 +1.1
GERES **GERESS Array B** 153.47 340 PKPbc PKPbc 22 52 20.3 +0.4
comp=Z,1.7nm,0.9s,baz=12,slow=1.9,SNR=7.4
GERES PKPab PKPab 22 52 35.3 +0.6
comp=Z,1.9nm,0.7s,baz=12,slow=3.3,SNR=9.0
GEA0 **GERESS Array S** 153.48 340 *e*PKPbc PKPbc 22 52 20.0 +0.1
GEA0 *e*PKPab PKPab 22 52 35.2 +0.5
CONA **Conrad Observa** 153.51 336 *i* PKPab PKPab 22 52 35.8 +0.9
comp=Z,8.2nm,0.9s
VTS **Vitosha** 153.75 319 *e*PKP2 PKPab 22 52 37.7 +1.4
VTS **Vitosha** 153.75 319 *e*PKPab PKPab 22 52 37.6 +1.4
MOA **Molln** 154.15 338 *i* PKPab PKPab 22 52 38.4 +0.9
comp=Z,5.2nm,1.0s
ARSA **Arzberg** 154.20 335 *i* PKPab PKPab 22 52 38.0 +0.2
comp=Z,2.5nm,0.7s
SOKA **Soboth** 154.86 335 *i* PKPab PKPab 22 52 41.0 +0.3
comp=Z,9.4nm,1.5s
MYKA **Terra Mystica** 155.41 337 *i* PKPab PKPab 22 52 42.6 -0.5
comp=Z,6.3nm,0.7s
WTTA **Wattenberg** 155.51 341 *i* PKPab PKPab 22 52 44.4 +0.8
comp=Z,5.0nm,0.6s
RETA **Reutte** 155.56 342 *i* PKPab PKPab 22 52 44.3 +0.6
comp=Z,8.7nm,1.2s
MOTA **Moosalm** 155.60 342 *i* PKPab PKPab 22 52 44.8 +0.9
comp=Z,10nm,1.1s

ABTA	**Abfaltersbach**	**155.70**	**339**	*i* PKPab	**PKPab**	**22 52 44.0**	**-0.3**	
	comp=Z,9.5nm,1.2s							
DAVA	**Damuels**	**155.99**	**343**	*i* PKPab	**PKPab**	**22 52 45.8**	**+0.1**	
	comp=Z,5.9nm,0.7s							
AGG	**Agios Georgios**	**156.27**	**313**	*e*PKP2	**PKPab**	**22 52 47.0**	**-0.1**	
AGG	**Agios Georgios**	**156.27**	**313**	*e*PKPab	**PKPab**	**22 52 47.0**	**-0.1**	
FUORN	**Ofenpass-Fuorn**	**156.50**	**342**	*e*PKPab	**PKPab**	**22 52 49.2**	**+1.2**	
SENIN	**Lac Senin/Sane**	**157.46**	**347**	*e*PKPab	**PKPab**	**22 52 53.1**	**+1.0**	
ES19	**SONSECA Array**	**164.52**	**11**	*e*PKPab	**PKPab**	**22 53 23.3**	**+0.3**	
ESDC	**Sonseca Array**	**164.54**	**12**	PKPab	**PKPab**	**22 53 23.4**	**+0.3**	
	comp=Z,1.6nm,0.9s,baz=351,slow=3.7,SNR=6.5							
TOA0	**Torodi Ar. Sit**	**168.56**	**188**	*e*PKPdf	**PKPdf**	**22 52 28.0**	**-0.4**	
TOA0				*e*PKPab	**PKPab**	**22 53 41.9**	**+0.6**	
TORD	**Torodi Ar. Bea**	**168.56**	**188**	PKP	**PKPdf**	**22 52 28.1**	**-0.3**	
	comp=Z,1.8nm,1.0s,baz=328,slow=0.6,SNR=7.5							
TORD				PKPab	**PKPab**	**22 53 41.9**	**+0.7**	
	comp=Z,1.0nm,0.6s,baz=183,slow=4.3,SNR=13							
TOA1	**Torodi Ar. Sit**	**168.56**	**188**	*e*PKPdf	**PKPdf**	**22 52 28.1**	**-0.3**	
TOA1				*e*PKPab	**PKPab**	**22 53 41.9**	**+0.7**	

ISCJB ***05*** *22:45:33.0±0.2, 6°.92S±0°.02×130°.50E±0°.03, h78km, mb4.8/58, Error ellipse: s-maj=4.4km s-min=3.3km az=161.7*

NEIC ***05*** *22:45:35.8±0.8, 6°.92S×130°.32E, h87km±7km, mb4.9/42, Error ellipse: s-maj=7.8km s-min=4.4km az=62.0*

IDC ***05*** *22:45:36.2±2.6, 6°.81S×130°.39E, h86km±23km, mb4.3/19, mb1 4.4/20, mb1mx4.2/41, mbtmp4.7/20, MS3.3/3, Ms1 3.3/3, ms1mx2.9/30, Error ellipse: s-maj=27.0km s-min=11.0km az=72.0*

DJA ***05*** *22:45:36.1±0.2, 7°.S±2°×13°.1E±°, h114km±6km, M4.9/22, mb5.0/22, mB5.3/13, MLv5.3/12, Mw(mB)4.7/13*

ISC 05 22:45:34.9±0.3, 6°.84S±0°.04×130°.43E±0°.05, h78km, n146, s186/147, mb4.9/58, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SAUI	**Saumlaki**	**1.43**	**143**	P	**Pn**	**22 46 03.0**	**+3.8**
SAUI	**Saumlaki**	**1.43**	**143**	*e*Pn	**Pn**	**22 46 02.7**	**+3.5**
SAUI				*e*Sn	**Sn**	**22 46 18.8**	**+1.2**
BNDI	**Bandanaira**	**2.36**	**347**	P	**Pn**	**22 46 14.5**	**+3.0**
MSAI	**Masohi**	**3.78**	**337**	P	Pn	22 46 35.7	+4.9
AAI	**Ambon**	**3.84**	**324**	P	**Pn**	**22 46 35.4**	**+3.8**
FAKI	**Fak Fak**	**4.29**	**25**	P	**Pn**	**22 46 38.8**	**+1.0**
FAKI	**Fak Fak**	**4.29**	**25**	*e*Pn	**Pn**	**22 46 39.1**	**+1.3**
FAKI				*e*Sn	**Sn**	**22 47 22.7**	**-4.0**
NLAI	**Namlea**	**4.88**	**317**	P	Pn	22 46 50.6	+4.8
	439nm,1.0s,4µm1.4nm						
SIJI	**Sorong**	**5.99**	**8**	P	**Pn**	**22 47 02.0**	**+1.0**
	16nm,0.3s,baz=271,slow=24,SNR=7.6						
SIJI				S	**Sn**	**22 48 03.2**	**-4.9**
	17nm,0.3s,baz=270,slow=20,SNR=3.1						
SWI	**Sorong**	**5.99**	**8**	P	**Pn**	**22 47 01.2**	**+0.2**
	298nm,0.5s,10µm1.4nm						
MTN	**Manton Dam**	**6.01**	**173**	*e*Pn	**Pn**	**22 47 01.3**	**0.0**
MTN				*e*Sn	**Sn**	**22 48 06.2**	**-2.5**
SANI	**Sanana**	**6.50**	**317**	P	**Pn**	**22 47 12.6**	**+4.7**
	238nm,0.9s,2µm0.8nm						
SOEI	**Soe**	**6.75**	**244**	P	**Pn**	**22 47 13.4**	**+1.9**
	268nm,0.6s,3µm2.8nm						
SOEI	**Soe**	**6.75**	**244**	*e*Pn	**Pn**	**22 47 13.0**	**+1.4**
SOEI				*e*Sn	**Sn**	**22 48 25.8**	**-1.3**
LBMI	**Labuha**	**6.81**	**334**	P	**Pn**	**22 47 16.6**	**+4.3**
	250nm,1.2s,1.1nm						
BATI	**Baumata**	**7.48**	**243**	P	**Pn**	**22 47 23.3**	**+1.9**
	65nm,0.5s,1µm1.3nm						
BBSI	**Bau Bau**	**7.93**	**279**	P	Pn	22 47 32.4	+4.9
	32nm,1.1s,322nm						
KDI	**Kendari**	**8.29**	**290**	P	Pn	22 47 37.5	+5.2
MMRI	**Maumere**	**8.31**	**257**	P	**Pn**	**22 47 35.6**	**+2.9**
	87nm,0.6s,3µm						
EDFI	**Ende, Flores**	**8.87**	**257**	P	**Pn**	**22 47 43.5**	**+3.1**
SMPI	**Sarmi**	**9.55**	**60**	P	**Pn**	**22 47 51.0**	**+1.3**
	135nm,1.0s,1µm						
KMSI	**Cibinong**	**9.78**	**319**	P	Pn	22 48 05.2	+12
BSSI	**Bau Bau, Buton**	**9.90**	**273**	P	**Pn**	**22 47 56.1**	**+1.7**
	52nm,0.8s,7µm						
BASI	**Baing, Sumba**	**10.31**	**250**	P	**Pn**	**22 48 00.6**	**+0.7**
	131nm,1.1s,4µm						
WSI	**Waingapu**	**10.41**	**254**	P	**Pn**	**22 48 05.8**	**+4.4**
	240nm,0.5s						
GENI	**Genyem**	**10.58**	**67**	P	**Pn**	**22 48 03.2**	**-0.5**
	47nm,0.5s						
KAPI	**Kappang**	**10.77**	**279**	*e*Pn	**Pn**	**22 48 07.3**	**+1.0**
SPSI	**Sidrap Palu**	**10.99**	**284**	P	Pn	22 48 16.0	+6.7
	20nm,0.7s						
JAY	**Jayapura**	**11.10**	**68**	P	**Pn**	**22 48 12.0**	**+1.1**
	0.2nm,0.3s,baz=254,slow=22,SNR=6.9						
JAY				S	**Sn**	**22 50 09.4**	**-3.9**
	0.1nm,0.3s,baz=270,slow=20,SNR=3.8						
JAY	**Jayapura**	**11.10**	**68**	P	**Pn**	**22 48 10.2**	**-0.7**
	9.8nm,0.7s						
MRSI	**Marisa**	**11.16**	**310**	P	**Pn**	**22 48 15.2**	**+3.6**
	114nm,0.7s						
TTSI	**Tana Toraja**	**11.22**	**289**	P	Pn	22 48 25.8	+13
PCI	**Palu**	**12.10**	**299**	P	**P**	**22 48 37.2**	**+3.2**
FITZ	**Fitzroy Crossi**	**12.13**	**202**	P	**Pn**	**22 48 21.1**	**-3.7**
	54nm,0.3s,baz=27,slow=10,SNR=323						
FITZ				S	Sn	22 50 26.0	-12
	38nm,0.3s,baz=93,slow=9.8,SNR=11						
FITZ				LR	LR	22 53 48.5	
	comp=Z,141nm,18.0s,baz=22,slow=41						
FITZ	**Fitzroy Crossi**	**12.13**	**202**	*e*Pn	**Pn**	**22 48 20.9**	**-3.9**
FITZ				*e*Sn	Sn	22 50 25.2	-13
PLAI	**Plampang**	**12.69**	**260**	P	**Pn**	**22 48 30.4**	**-2.0**
	64nm,1.4s						
TWSI	**Taliwang, Sumb**	**13.56**	**261**	P	**Pn**	**22 48 45.6**	**+1.7**
	18nm,1.2s,999nm						
WRAB	**Tennant Creek**	**13.56**	**164**	*e*Pn	**Pn**	**22 48 41.1**	**-3.0**
WRAB				*e*Sn	Sn	22 50 58.9	-14
WR1	**Warramunga Arr**	**13.57**	**164**	*e*Pn	**Pn**	**22 48 40.7**	**-3.4**
WR1				*e*Sn	Sn	22 50 58.0	-15
WRA	**Warramunga Arr**	**13.57**	**164**	P	**Pn**	**22 48 40.7**	**-3.4**
	5.9nm,0.3s,baz=340,slow=13,SNR=176						
WRA				S	Sn	22 50 58.0	-15
	20nm,0.3s,baz=346,slow=22,SNR=11						
WRA				LR	LR	22 53 28.4	
	comp=Z,113nm,21.5s,baz=345,slow=35						
WB2	**Warramunga Arr**	**13.57**	**164**	*e*Pn	**Pn**	**22 48 40.6**	**-3.6**
WB2				*e*Sn	Sn	22 51 00.7	-13
COEN	**Coen**	**14.39**	**120**	*e*Pn	**Pn**	**22 48 55.8**	**+1.0**
JAGI	**Jajag, Banyuwa**	**16.21**	**263**	*e*Pn	**Pn**	**22 49 14.3**	**-3.8**
	48nm,1.3s						
PMG	**Port Moresby**	**16.76**	**100**	P	**Pn**	**22 49 22.8**	**-2.0**
	1.1nm,0.3s,baz=329,slow=5.9,SNR=2.7						
PMG	**Port Moresby**	**16.76**	**100**	*e*Pn	**P**	**22 49 27.5**	**+1.6**
	42nm,0.8s						
MYLDM	**Lahad Datu**	**16.86**	**315**	*e*Pn	**P**	**22 49 28.2**	**+1.3**
	60nm,1.5s						
AS31	**Alice Springs**	**17.06**	**169**	*e*Pn	**Pn**	**22 49 26.4**	**-2.1**
	24nm,0.5s						
AS31				*e*Sn	Sn	22 52 25.1	-13
ASAR	**Alice Springs**	**17.06**	**169**	P	**Pn**	**22 49 25.9**	**-2.7**
	10nm,0.3s,baz=338,slow=9.0,SNR=226						
ASAR				S	Sn	22 52 25.1	-13
	12nm,0.3s,baz=351,slow=20,SNR=15						
AS01	**Alice Springs**	**17.07**	**169**	*e*Pn	**Pn**	**22 49 27.7**	**-1.0**
MBWA	**Marble Bar**	**17.61**	**215**	*e*P	**P**	**22 49 33.0**	**-2.2**
	77nm,1.4s						
KKM	**Kota Kinabalu**	**19.10**	**312**	*e*P	**P**	**22 49 52.2**	**+0.5**
	32nm,0.5s						
CTA	**Charters Tower**	**20.23**	**132**	P	**P**	**22 50 04.9**	**+1.0**
	34nm,0.6s,baz=299,slow=12,SNR=34						
CTAO	**Charters Tower**	**20.23**	**132**	*e*P	Pn	22 50 05.4	-1.1
	38nm,0.6s						
SBUM	**Sibu**	**20.38**	**296**	*e*P	**P**	**22 50 06.8**	**+1.3**
	9.1nm,0.9s						
CISI	**Cisompet, Garu**	**22.45**	**267**	*e*P	**P**	**22 50 27.4**	**-0.4**
	111nm,1.5s						
FORT	**Forrest**	**23.92**	**185**	*e*P	**P**	**22 50 40.2**	**-1.5**
	595nm,0.7s						
BBOO	**Buckleboo**	**26.37**	**169**	*e*P	**P**	**22 51 04.0**	**+0.1**
	59nm,1.3s						
STKA	**Stephens Creek**	**27.01**	**159**	P	**P**	**22 51 10.1**	**+0.4**
	14nm,0.4s,baz=340,slow=8.5,SNR=60						
STKA	**Stephens Creek**	**27.01**	**159**	*e*P	**P**	**22 51 09.3**	**-0.3**
	3.9nm,0.4s						
NWAO	**Narrogin (SRO)**	**28.71**	**204**	LR	LR	23 02 47.9	
	comp=Z,92nm,20.2s,baz=319,slow=36						
SSLB	**Suanglung**	**31.81**	**343**	*e*P	**P**	**22 51 50.4**	**-1.9**
	54nm,1.8s						
CAN	**Canberra**	**33.09**	**152**	*e*P	**P**	**22 52 04.4**	**+1.0**
	20nm,0.8s						
JOW	**Kunigami**	**33.53**	**357**	P	**P**	**22 52 07.7**	**+0.4**
	17nm,0.7s,baz=172,slow=7.9,SNR=5.6						
JOW	**Kunigami**	**33.53**	**357**	*e*P	**P**	**22 52 07.7**	**+0.4**
	22nm,0.8s						
LHMI	**Lhok Sumawe**	**35.50**	**289**	*e*P	**P**	**22 52 22.8**	**-1.7**
	44nm,0.9s						
JNU	**Nakatsue**	**39.74**	**1**	P	**P**	**22 53 00.2**	**+0.2**
	8.1nm,0.9s,baz=184,slow=6.4,SNR=4.3						
CM31	**Chiang Mai Arr**	**39.95**	**309**	*e*P	**P**	**22 53 01.9**	**0.0**
CMAR	**Chiang Mai Arr**	**39.95**	**309**	P	**P**	**22 53 01.9**	**0.0**
	1.7nm,0.4s,baz=144,slow=7.5,SNR=7.5						
CMAR				ScP	**ScP**	**22 58 47.1**	**-1.2**
	0.6nm,0.5s,baz=162,slow=3.0,SNR=5.6						
CHTO	**Chiang Mai**	**40.16**	**310**	*e*P	**P**	**22 53 04.4**	**+0.7**
	4.3nm,0.8s						
GYA	**Guiyang**	**40.34**	**326**	*e*P	**P**		
GYA				pmax	pmax		
	comp=Z,10.0nm,1.0s						
KMI	**Kunming**	**41.66**	**321**	P	**P**	**22 53 16.9**	**+0.7**
KMI				pmax	pmax		
	comp=Z,8.0nm,0.6s						
MJAR	**Matsushiro Arr**	**43.76**	**9**	P	**P**	**22 53 32.0**	**-0.8**
	comp=Z,1.8nm,0.5s,baz=186,slow=9.5,SNR=13						
MAT	**Matsushiro**	**43.76**	**9**	P	**P**	**22 53 32.0**	**-0.8**
MJB9	**Matsu-Tunnel**	**43.77**	**9**	*e*P	**P**	**22 53 30.9**	**-1.9**
	comp=Z,19nm,1.9s						
KS15	**Wonju Array Si**	**44.11**	**357**	*e*P	**P**	**22 53 36.0**	**+0.6**
KSAR	**Wonju Array Be**	**44.11**	**357**	P	**P**	**22 53 36.0**	**+0.6**
KSRS	**Korea Array**	**44.12**	**357**	P	**P**	**22 53 36.0**	**+0.5**
	comp=Z,2.1nm,0.9s,baz=175,slow=15,SNR=6.1						
XAN	**Xi'an**	**45.47**	**335**	P	**P**	**22 53 45.6**	**-0.9**
XAN				pmax	pmax		
	comp=Z,8.0nm,0.6s						
XAN				pmax	pmax		
	comp=Z,91nm,4.9s						
BJT	**Baijiatuan**	**48.45**	**345**	*e*P	**P**	**22 54 09.9**	**+0.4**
	comp=Z,17nm,0.6s						
BJI	**Beijing**	**48.46**	**345**	P	**P**	**22 54 09.8**	**+0.2**
BJI				pmax	pmax		
	comp=Z,21nm,0.7s						
LZH	**Lanzhou**	**49.46**	**332**	*e*P	**P**	**22 54 19.8**	**+2.3**
LZH				pP	pP	22 54 39.9	+3.0
LZH				sP	sP	22 54 51.9	+6.2
LZH				pmax	pmax		
	comp=Z,15nm,1.2s						
DCZ	**Deep Cove**	**49.90**	**147**	*e*P	**P**	**22 54 20.3**	**-0.2**
	comp=Z,82nm,1.7s						
MLZ	**Mavora Lakes**	**50.37**	**146**	*e*P	**P**	**22 54 22.8**	**-1.4**
	comp=Z,71nm,1.6s						
HHC	**Hu-ho-hao-te**	**50.52**	**341**	*e*P	**P**	**22 54 28.4**	**+3.0**
HHC				pP	sP	22 54 51.9	-1.7
HHC				sP	pP	22 55 02.4	+18
HHC				PcS	**PcS**	**22 59 38.8**	**-0.9**
HHC				S	**S**	**23 01 35.3**	**+1.5**
HHC				pmax	pmax		
	comp=Z,11nm,0.8s						
HHC				pmax	pmax		
	comp=Z,84nm,6.3s						
HHC				LR	LR		
	comp=N,91nm,22.2s						
HHC				LR	LR		
	comp=E,110nm,21.0s						
HHC				LR	LR		
	comp=Z,88nm,22.2s						
WKZ	**Wanaka**	**50.55**	**145**	*e*P	**P**	**22 54 26.4**	**+0.9**
	comp=Z,183nm,1.9s						
CN2	**Changchun**	**50.60**	**355**	*e*P	**P**	**22 54 30.1**	**+4.3**
CN2				pmax	pmax		
	comp=Z,10.0nm,0.6s						
USRK	**Ussuriysk Ar.**	**50.82**	**1**	P	**P**	**22 54 27.9**	**+0.6**
	comp=Z,3.6nm,0.6s,baz=178,slow=7.8,SNR=8.0						
LBZ	**Lake Benmore**	**50.97**	**144**	*e*P	**P**	**22 54 29.1**	**+0.5**
	comp=Z,16nm,0.7s						
RPZ	**Rata Peaks**	**51.10**	**143**	P	**P**	**22 54 31.2**	**+1.5**
	comp=Z,17nm,0.6s,baz=284,slow=2.4,SNR=22						
RPZ	**Rata Peaks**	**51.10**	**143**	*e*P	**P**	**22 54 29.4**	**-0.3**
	comp=Z,20nm,0.6s						
THZ	**Tophouse**	**51.22**	**140**	*e*P	**P**	**22 54 30.9**	**+0.3**
	comp=Z,16nm,0.7s						
ASAJ	**Asahikawa**	**51.89**	**11**	*e*P	**P**	**22 54 36.0**	**+0.6**
	comp=Z,163nm,1.9s						
KHZ	**Kahutara**	**51.95**	**140**	*e*P	**P**	**22 54 36.0**	**0.0**
	comp=Z,75nm,1.4s						
SNZO	**South Karori**	**52.17**	**138**	*e*P	**P**	**22 54 36.6**	**-1.0**
	comp=Z,104nm,1.3s						
LSA	**Lhasa**	**52.38**	**316**	*e*P	**P**	**22 54 40.7**	**+0.8**
	comp=Z,6.5nm,0.8s						
BKZ	**Black Stump Fm**	**52.41**	**135**	*e*P	**P**	**22 54 39.5**	**0.0**
	comp=Z,10nm,0.5s						
URZ	**Urewera**	**52.47**	**134**	*e*P	**P**	**22 54 39.3**	**-0.5**
	comp=Z,15nm,1.2s						
BFZ	**Birch Farm**	**52.91**	**137**	*e*P	**P**	**22 54 44.6**	**+1.5**
	comp=Z,43nm,0.7s						
ODAN	**Odare**	**53.47**	**311**	*e*P	**P**	**22 54 47.7**	**0.0**
	comp=Z,10nm,0.5s						
TAPN	**Taplejung**	**53.50**	**311**	*e*P	**P**	**22 54 48.1**	**+0.1**
	comp=Z,8.9nm,0.3s						
GTA	**Gaotai**	**54.04**	**331**	*e*P	**P**	**22 54 51.3**	**-0.2**
GTA				pP	pP	22 54 56.2	-15
GTA				sP	sP	22 54 58.4	-21
GTA				pmax	pmax		
	comp=Z,4.0nm,0.8s						
RAMN	**Ramite**	**54.12**	**310**	*e*P	**P**	**22 54 52.8**	**+0.3**
	comp=Z,40nm,0.6s						
JIRN	**Jiri**	**54.80**	**311**	*e*P	**P**	**22 54 57.6**	**0.0**
	comp=Z,23nm,0.6s						
GUN	**Gumba**	**55.17**	**311**	*e*P	**P**	**22 55 00.2**	**0.0**
	comp=Z,20nm,0.4s						
PKIN	**Phulchoki**	**55.36**	**310**	*e*P	**P**	**22 55 01.6**	**+0.2**
	comp=Z,6.3nm,0.5s						
KKN	**Kakani**	**55.56**	**310**	*e*P	**P**	**22 55 02.7**	**-0.1**
	comp=Z,10nm,0.6s						
KLR	**Kul'dur**	**55.84**	**1**	P	**P**	**22 55 05.0**	**+0.8**
	comp=Z,3.7nm,0.8s,baz=202,slow=2.3,SNR=8.1						
GKN	**Gorkha**	**56.15**	**310**	*e*P	**P**	**22 55 07.0**	**0.0**
	comp=Z,17nm,0.5s						
KOLN	**Koldanda**	**56.83**	**309**	*e*P	**P**	**22 55 12.0**	**+0.2**
	comp=Z,12nm,0.7s						
PYUN	**Piuthan**	**57.46**	**309**	*e*P	**P**	**22 55 16.5**	**+0.2**
ULN	**Ulaanbaatar**	**58.24**	**342**	*e*P	**P**	**22 55 22.2**	**+0.8**
	comp=Z,12nm,0.6s						
SONA0	**Songino Array**	**58.42**	**341**	*e*P	**P**	**22 55 23.3**	**+0.7**
	comp=Z,6.0nm,0.7s						
SONM	**Songino Array**	**58.42**	**341**	P	**P**	**22 55 23.3**	**+0.7**
	comp=Z,3.5nm,0.5s,baz=160,slow=6.9,SNR=7.1						
SONA1	**Songino Array**	**58.43**	**341**	*e*P	**P**	**22 55 23.3**	**+0.6**
WMQ	**Urumqi**	**63.49**	**327**	P	**P**	**22 55 58.0**	**+1.1**
WMQ				pmax	pmax		
	comp=Z,13nm,0.7s						
WMQ				pmax	pmax		
	comp=Z,34nm,3.7s						
WMQ				LR	LR		
	comp=N,41nm,39.2s						
WMQ				LR	LR		
	comp=E,32nm,37.1s						
WMQ				LR	LR		
	comp=Z,24nm,38.9s						
PEA0	**Petropavlovsk-**	**64.04**	**18**	*e*P	**P**	**22 56 01.3**	**+1.1**
PETK	**Petropavlovsk-**	**64.04**	**18**	P	**P**	**22 56 01.1**	**+0.8**
	comp=Z,15nm,0.8s,baz=182,slow=4.5,SNR=10						
PEA1	**Petropavlovsk-**	**64.04**	**18**	*e*P	**P**	**22 56 01.1**	**+0.8**
KSH	**Kashi**	**68.19**	**317**	*e*P	**P**	**22 56 28.0**	**+0.7**
KSH				pP	PcP	22 56 53.1	+0.4
KSH				PP	**PP**	**22 59 03.0**	**+4.2**
KSH				S	**S**	**23 05 16.3**	**-5.4**
KSH				sS	sS	23 05 58.4	+2.0
KSH	**Kashi**	**68.19**	**317**	SS	SS	23 09 41.9	-4.3
KSH				pmax	pmax		
	comp=Z,5.0nm,1.0s						
KSH				pmax	pmax		
	comp=Z,67nm,8.4s						
KSH				LR	LR		
	comp=N,65nm,5.8s						
KSH				LR	LR		
	comp=E,64nm,5.7s						
KSH				LR	LR		
	comp=Z,130nm,5.9s						
MK01	**Makanchi Array**	**68.30**	**327**	*e*P	**P**	**22 56 28.1**	**+0.4**
MK31	**Makanchi Array**	**68.32**	**327**	*e*P	**P**	**22 56 28.4**	**+0.5**
MAKZ	**Makanchi**	**68.50**	**326**	*e*P	**P**	**22 56 28.8**	**-0.2**
	comp=Z,10nm,0.6s						
YAK	**Yakutsk**	**68.66**	**360**	P	**P**	**22 56 29.6**	**0.0**
	comp=Z,36nm,0.6s,baz=215,slow=1.6,SNR=6.0						
YAK	**Yakutsk**	**68.66**	**360**	*e*P	**P**	**22 56 29.8**	**+0.3**
	comp=Z,37nm,0.6s						
AAK	**Ala-Archa**	**70.69**	**320**	P	**P**	**22 56 43.3**	**+0.5**
	comp=Z,3.0nm,0.4s,baz=136,slow=6.1,SNR=9.3						
AAK	**Ala-Archa**	**70.69**	**320**	*e*P	**P**	**22 56 43.2**	**+0.5**
	comp=Z,4.9nm,0.6s						
KBL	**Kabul**	**70.98**	**310**	*e*P	**P**	**22 56 43.9**	**-0.8**
	comp=Z,4.1nm,0.6s						
ZAA0	**Zalesovo Array**	**71.63**	**334**	*e*P	**P**	**22 56 47.6**	**-0.2**
ZALV	**Zalesovo Beam**	**71.63**	**334**	P	**P**	**22 56 47.4**	**-0.4**
	comp=Z,2.4nm,0.6s,baz=127,slow=4.4,SNR=12						
ZAA1	**Zalesovo Array**	**71.63**	**334**	*e*P	**P**	**22 56 47.4**	**-0.5**
VNDA	**Vanda**	**72.56**	**173**	P	**P**	**22 56 53.7**	**+0.6**
	comp=Z,2.9nm,0.5s,baz=321,slow=7.2,SNR=45						
VNDA	**Vanda**	**72.56**	**173**	*e*P	**P**	**22 56 53.2**	**+0.1**
	comp=Z,3.2nm,0.6s						
KURK	**Kurchatov**	**72.60**	**328**	*e*P	**P**	**22 56 53.7**	**0.0**
	comp=Z,4.8nm,0.9s						
BVAR	**Borovoye Array**	**78.15**	**328**	P	**P**	**22 57 25.3**	**-0.2**
	comp=Z,1.3nm,0.6s,baz=126,slow=7.3,SNR=13						
BRVK	**Borovoye**	**78.22**	**328**	*e*P	**P**	**22 57 26.2**	**+0.3**
	comp=Z,3.9nm,1.0s						
NRIK	**Noril'sk**	**81.50**	**346**	P	**P**	**22 57 43.5**	**+0.2**
	comp=Z,5.6nm,0.9s,baz=156,slow=3.5,SNR=7.9						
ABKAR	**Akbulak array**	**82.65**	**321**	*e*P	**P**	**22 57 51.3**	**+1.6**
	comp=Z,9.9nm,0.6s						
QSPA	**South Pole Qui**	**83.14**	**180**	*e*P	**P**	**22 57 52.9**	**+0.8**
ARU	**Arti**	**85.79**	**328**	*e*P	**P**	**22 58 04.8**	**-0.7**
	comp=Z,2.7nm,0.7s						
HDA	**Harding Lake**	**92.93**	**26**	*e*P	**P**	**22 58 38.3**	**-0.8**
	comp=Z,568nm,1.9s						
ILAR	**Eielson Array**	**93.02**	**25**	P	**P**	**22 58 38.1**	**-1.3**
	comp=Z,1.1nm,0.8s,baz=268,slow=4.5,SNR=1.8						
ILB	**Eielson Array**	**93.02**	**25**	*e*P	**P**	**22 58 38.1**	**-1.3**
GERES	**GERESS Array B**	**112.57**	**320**	PKiKP	**PKiKP**	**23 04 02.4**	**-0.1**
	comp=Z,0.4nm,0.5s,baz=49,slow=1.9,SNR=3.9						
TORD	**Torodi Ar. Bea**	**129.20**	**281**	PKP	**PKPdf**	**23 04 35.1**	**-0.1**
	comp=Z,0.8nm,0.7s,baz=78,slow=2.0,SNR=19						
TORD				SKPbc	SKPab	23 07 46.2	-2.7
	comp=Z,1.3nm,0.8s,baz=87,slow=3.0,SNR=7.8						
TOA1	**Torodi Ar. Sit**	**129.20**	**281**	*e*PKPdf	**PKPdf**	**23 04 35.1**	**-0.1**

IDC 05 22:54:43.4±1.0, 6°.88S×155°.36E, h0km, mb4.0/6, mb1 4.3/6, mb1mx3.9/43, mbtmp4.0/6, MS3.4/1, Ms1 3.4/1, ms1mx2.7/19, Error ellipse: s-maj=39.4km s-min=26.7km az=120.0, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**5.21**	**120**	LR	LR	22 58 18.5	
	comp=Z,384nm,18.6s,baz=255,slow=41						
WRA	**Warramunga Arr**	**24.18**	**235**	P	P	23 00 01.6	-0.2
	3.2nm,0.8s,baz=58,slow=9.3,SNR=6.3						
WRA				PcP	PcP	23 03 42.6	-0.2
	0.5nm,0.5s,baz=59,slow=2.4,SNR=5.5						
ASAR	**Alice Springs**	**26.52**	**229**	P	P	23 00 21.9	-1.1
	1.3nm,0.7s,baz=66,slow=9.4,SNR=4.4						
H11S3	**WAKE ISLAND Hy**	**27.58**	**24**	T	T	23 28 60.0	
	baz=202,slow=75,SNR=18						
H11S2	**WAKE ISLAND Hy**	**27.58**	**24**	T	T	23 28 59.4	
	baz=202,slow=75,SNR=14						
H11S1	**WAKE ISLAND Hy**	**27.59**	**24**	T	T	23 28 58.8	
	baz=202,slow=75,SNR=10						
CMAR	**Chiang Mai Arr**	**61.06**	**295**	P	P	23 05 00.6	+1.0
	2.5nm,0.7s,baz=113,slow=5.2,SNR=13						
VNDA	**Vanda**	**70.69**	**179**	P	P	23 06 01.6	+1.0
	0.9nm,0.9s,baz=330,slow=6.7,SNR=6.4						
ILAR	**Eielson Array**	**83.13**	**21**	P	P	23 07 10.2	-0.8
	0.7nm,0.7s,baz=259,slow=5.1,SNR=5.5						
YKA	**Yellowknife Ar**	**96.06**	**28**	P	P	23 08 13.0	+0.4
	0.6nm,0.6s,baz=278,slow=4.6,SNR=3.7						
TORD	**Torodi Ar. Bea**	**153.34**	**286**	PKPbc	PKPbc	23 14 43.5	-1.3
	1.2nm,0.9s,baz=50,slow=2.5,SNR=9.9						

NIED ***05*** *22:59:00, 35°.30N×141°.20E, h8km, Mw4.0 Best double couple: M0 1.03000×1015 NP1:φ=234.00000°, δ40.00000°, λ-151.00000°. NP2:φ=121.00000°, δ72.00000°, λ-54.00000°.*

IDC ***05*** *22:59:04.8±2.2, 35°.45N×141°.58E, h0km, mb3.8/3, mb1 3.9/5, mb1mx3.6/41, mbtmp3.7/5, ML3.3/2, MS3.

NIKU	**Nikkaluokta**	**0.44**	**273**	P		Pg	23 30 01.9	-0.4
LANU	**Lannavaara**	**0.71**	**73**	*e*P		Pg	23 30 06.6	-0.9
LANU				*e*S		Sg	23 30 16.0	-0.7
LANU	**Lannavaara**	**0.71**	**73**	P		Pg	23 30 06.7	-0.9
LANU				S		Sg	23 30 16.0	-0.7
DUNU	**Dundret**	**0.75**	**168**	*i* P		Pg	23 30 07.2	-1.0
DUNU	**Dundret**	**0.75**	**168**	P		Pg	23 30 07.2	-1.0
MASU	**Masugnsbyn**	**0.80**	**119**	*i* P		Pg	23 30 08.5	-0.8
MASU	**Masugnsbyn**	**0.80**	**119**	P		Pg	23 30 08.4	-0.8
KIF	**Kilpisjarvi**	**1.18**	**11**	*e*P		Pg	23 30 16.2	-0.5
KIF				*e*S		Sg	23 30 31.6	-0.3
KIF	**Kilpisjarvi**	**1.18**	**11**	*e*PB		Pg	23 30 16.1	-0.6
	baz=184							
KIF				*e*S		Sg	23 30 31.6	-0.3
KIF	**Kilpisjarvi**	**1.18**	**11**	Pb		Pg	23 30 16.0	-0.6
KIF				*e*S		Sg	23 30 31.6	-0.3
	SNR=90							
HEF	**Hetta**	**1.42**	**65**	*e*P		Pn	23 30 19.4	-1.6
HEF				*e*S		Sg	23 30 37.9	-1.6
HEF	**Hetta**	**1.42**	**65**	*e*P		Pn	23 30 19.3	-1.7
	baz=242							
HEF				MSG			23 30 36.5	
	comp=Z,2.8nm,0.2s							
HEF				*e*S		Sg	23 30 36.6	-2.8
HEF	**Hetta**	**1.42**	**65**	*e*P		Pn	23 30 19.4	-1.6
	SNR=50							
HEF				*e*S		Sg	23 30 37.9	-1.6
	SNR=50							
ERTU	**Ertsjaerv**	**1.52**	**148**	*e*P		Pn	23 30 21.1	-1.2
ERTU	**Ertsjaerv**	**1.52**	**148**	P		Pn	23 30 21.1	-1.3
KTK1	**Kautokeino**	**1.62**	**43**	*e*P		Pn	23 30 23.1	-0.7
KTK1				*e*S		Sn	23 30 40.5	-4.9
KTK1				IAML			23 30 47.2	
	comp=Z,2.6nm,0.3s							
KTK1	**Kautokeino**	**1.62**	**43**	*e*P		Pn	23 30 23.1	-0.7
	SNR=50							
KTK1				*e*S		Sn	23 30 40.5	-4.9
	SNR=50							
TRO	**Tromso**	**1.85**	**346**	*e*P		Pb	23 30 28.9	+0.3
TRO				*e*S		Sb	23 30 52.8	+0.5
TRO				IAML			23 30 56.7	
	comp=Z,4.0nm,0.3s							
TRO	**Tromso**	**1.85**	**346**	*e*P		Pb	23 30 28.9	+0.3
	SNR=50							
TRO				*e*S		Sb	23 30 52.8	+0.5
	SNR=50							
TOF	**Tornio**	**2.41**	**136**	*e*PB		Pn	23 30 35.4	+0.8
TOF	**Tornio**	**2.41**	**136**	Pb		Pn	23 30 35.4	+0.8
LOF	**Lofoten**	**2.52**	**280**	*e*P		Pb	23 30 40.2	+0.2
LOF				IAML			23 30 56.6	
	comp=Z,2.0nm,0.4s							
LOF	**Lofoten**	**2.52**	**280**	*e*P		Pb	23 30 40.2	+0.2
	SNR=50							
ARE0	**ARCESS Array S**	**2.58**	**46**	*e*P		Pn	23 30 37.5	+0.6
ARE0				IAML			23 30 56.5	
	comp=Z,1.1nm,0.2s							
ARE0	**ARCESS Array S**	**2.58**	**46**	*e*P		Pn	23 30 37.5	+0.6
	SNR=50							
RNF	**Rovaniemi**	**2.59**	**116**	*e*PB		Pb	23 30 39.2	-1.9
RNF				*e*SG		Sb	23 31 13.6	+0.2
RNF	**Rovaniemi**	**2.59**	**116**	Pb		Pb	23 30 39.2	-2.0

UPP 05 23:30:11.8, 67°.84N×20°.08E, h8km, ML0.8, Mining explosion., Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RATU	**Laukkuluspa**	**0.18**	**267**	P	Pg	23 30 15.4	+0.1

*NEIC **05** 23:32:06.7±0.0, 24°.94N×106°.80W, h5km, MD4.1(MEX), After MEX.*

MEX 05 23:32:06.7±0.6, 24°.94N×106°.80W, h5km, MD4.1, Central Mexico

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MAIG	**Mazatlaan**	**1.78**	**169**	*e*P	Pn	23 32 35.4	-2.7
MAIG				*i* S	Sn	23 32 56.1	-5.0
MAIG	**Mazatlaan**	**1.78**	**169**	*e*P	Pn	23 32 35.4	-2.7
MAIG				*i* S	Sn	23 32 56.1	-5.0
HPIG		**2.23**	**27**	*e*P	Pn	23 32 40.7	-3.9
HPIG				*i* S	Sn	23 33 08.8	-3.8
HPIG		**2.23**	**27**	*e*P	Pn	23 32 40.7	-3.9
HPIG				*i* S	Sn	23 33 08.8	-3.8
SLBS	**Sierra La Lagu**	**3.13**	**247**	*e*P	Pn	23 32 53.9	-2.8
SLBS				*i* S	Sn	23 33 30.2	-4.4
ZAIG	**Zacatecas**	**4.44**	**118**	*i* P	Pn	23 33 12.8	-2.1
ZAIG				*i* S	Sn	23 34 04.3	-2.9
ZAIG	**Zacatecas**	**4.44**	**118**	*i* P	Pn	23 33 12.8	-2.1
ZAIG				*i* S	Sn	23 34 04.3	-2.9
CGIG		**5.50**	**349**	*i* P	Pn	23 33 27.3	-2.2
CGIG				*i* S	Sn	23 34 29.9	-3.4
CGIG		**5.50**	**349**	*i* P	Pn	23 33 27.3	-2.2
CGIG				*i* S	Sn	23 34 29.9	-3.4
LNIG	**Linares**	**6.66**	**89**	*i* P	Pn	23 33 42.8	-2.4
LNIG				*e*S	Sn	23 34 58.3	-3.2
LNIG	**Linares**	**6.66**	**89**	*i* P	Pn	23 33 42.8	-2.4
LNIG				*e*S	Sn	23 34 58.3	-3.2
MNTX	**Cornudas Mount**	**6.85**	**10**	Pn	Pn	23 33 46.6	-1.2
MNTX				Sn	Sn	23 35 07.8	+1.6
121A	**Cookes Peak, D**	**7.61**	**354**	*e*Pn	Pn	23 33 54.8	-3.7

MEX 05 23:41:02.3±0.8, 25°.01N×106°.72W, h5km, MD3.9, Northern Mexico

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MAIG	**Mazatlaan**	**1.83**	**172**	*e*P	Pn	23 41 30.2	-4.2
MAIG				*i* S	Sn	23 41 54.0	-4.0
HPIG		**2.14**	**26**	*e*P	Pn	23 41 35.7	-3.2
HPIG				*e*S	Sn	23 42 01.9	-4.0
ZAIG	**Zacatecas**	**4.40**	**120**	*i* P	Pn	23 42 07.2	-2.9
ZAIG				*i* S	Sn	23 42 59.4	-2.6
CGIG		**5.45**	**348**	*e*P	Pn	23 42 21.7	-2.7
CGIG				*i* S	Sn	23 43 24.9	-2.8
LNIG	**Linares**	**6.58**	**89**	*e*P	Pn	23 42 38.5	-1.3
LNIG				*e*S	Sn	23 43 52.7	-2.6

JMA 05 23:47:18.4±0.3, 36°.78N×143°.64E, h57km, M3.5, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JFK	**Kawauchi**	**2.29**	**286**	P	Pn	23 47 54.9	+1.1
JFK				*e*S	Sn	23 48 21.4	+0.6
ONAJ	**Iwakimizuishiy**	**2.30**	**279**	*e*S	Sn	23 48 21.9	+0.8
JIO	**Ouri**	**2.47**	**313**	P	Pn	23 47 57.2	+1.0
JIO				*e*S	Sn	23 48 25.2	0.0
JFT	**Otama**	**2.74**	**287**	*e*S	Sn	23 48 34.4	+2.5
JMK	**Ichinoseki**	**2.89**	**319**	*e*S	Sn	23 48 35.4	-0.1
BSO1	**Boso 1**	**3.03**	**226**	P	Pn	23 48 04.3	+0.9
BSO1				*e*S	Sn	23 48 40.1	+1.9
JOM	**Ohasama**	**3.26**	**326**	*e*S	Sn	23 48 44.4	-0.3
JAG	**Ashikaga**	**3.39**	**265**	*e*S	Sn	23 48 49.0	+1.3

*IDC **05** 23:49:35.1±1.4, 10°.96S×163°.62E, h0km, mb4.3/5, mb1 4.4/7, mb1mx4.0/29, mbtmp4.3/7, ML4.2/2, MS3.7/7, Ms1 3.7/7, ms1mx3.3/25, Error ellipse: s-maj=34.1km s-min=28.6km az=121.0*

*ISCJB **05** 23:49:37.3±1.2, 11°.1S±0°.1×163°.8E±0°.1, h31km, mb4.2/5, MS3.5/5, Error ellipse: s-maj=21.8km s-min=12.2km az=44.4*

ISC 05 23:49:39.8±1.3, 11°.1S±0°.1×163°.7E±0°.1, h31km, n14, σ28°13/12, mb4.2/5, MS3.5/5, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**4.03**	**293**	Pn	**Pn**	**23 50 38.3**	**-1.1**
	35nm,0.3s,baz=276,slow=4.9,SNR=10.0						
HNR				Sn	**Sn**	**23 51 29.9**	**+4.3**
	26nm,0.3s,baz=232,slow=17,SNR=2.3						
HNR				LR	LR	23 52 16.2	
	comp=Z,2μm,18.4s,baz=118,slow=41						
HNR	**Honiara**	**4.03**	**293**	*e*P	**Pn**	**23 50 40.0**	**+0.6**
HNR				*e*S	**Sb**	**23 51 35.0**	**-3.4**
DZM	**Mont Dzumac**	**11.27**	**167**	Pn	**Pn**	**23 52 18.9**	**+0.1**
	0.8nm,0.3s,baz=52,slow=8.7,SNR=6.8						
DZM	**Mont Dzumac**	**11.27**	**167**	*e*Pn	**Pn**	**23 52 17.9**	**-0.9**
	3.7nm,0.3s						
DZM				*e*LR	LR	23 54 40.2	
	261nm,22.4s						
PMG	**Port Moresby**	**16.36**	**274**	LR	LR	23 59 41.4	
	comp=Z,331nm,18.9s,baz=121,slow=37						
CTA	**Charters Tower**	**19.04**	**240**	P	**Pn**	**23 54 01.6**	**+1.2**
	0.3nm,0.3s,baz=60,slow=15,SNR=5.7						
STKA	**Stephens Creek**	**29.09**	**221**	P	**P**	**23 55 36.9**	**-0.8**
	5.3nm,1.0s,baz=360,slow=8.5,SNR=3.6						
STKA				LR	LR	00 06 34.5	
	comp=Z,123nm,19.7s,baz=28,slow=35						
WRA	**Warramunga Arr**	**29.60**	**249**	P	**P**	**23 55 41.4**	**-1.0**
	6.3nm,0.9s,baz=77,slow=9.2,SNR=21						
WRA				LR	LR	00 08 02.0	
	comp=Z,149nm,18.4s,baz=150,slow=37						
ASAR	**Alice Springs**	**31.00**	**242**	P	**P**	**23 55 53.9**	**-0.9**
	3.4nm,1.0s,baz=71,slow=9.1,SNR=13						
ASAR				LR	LR	00 08 00.4	
	comp=Z,113nm,19.1s,baz=66,slow=36						
PPT	**Papeete**	**45.64**	**104**	LR	LR	00 15 26.3	
	comp=Z,69nm,18.0s,baz=342,slow=34						
PPT2	**Papeete2**	**45.64**	**104**	*e*LR	LR	00 10 37.9	
	92nm,24.2s						
CMAR	**Chiang Mai Arr**	**70.28**	**294**	LR	LR	00 30 45.4	
	comp=Z,20nm,19.4s,baz=184,slow=35						
MAW	**Mawson**	**83.96**	**202**	P	**P**	**00 02 08.6**	**+2.0**
	1.3nm,0.3s,baz=84,slow=10,SNR=4.3						
ILAR	**Eielson Array**	**84.17**	**19**	P	**P**	**00 02 07.2**	**-0.4**
	0.4nm,0.8s,baz=219,slow=7.0,SNR=3.0						

*ISCJB **06** 00:05:48.9±0.8, 36°.48N±0°.03×21°.17E±0°.03, h21km±6km, mb3.8/7, MS2.2/1, Error ellipse: s-maj=4.8km s-min=3.0km az=29.4*

*CSEM **06** 00:05:49.4±0.2, 36°.49N×21°.20E, h10km, ML3.6, Error ellipse: s-maj=5.8km s-min=3.1km az=33.0*

*THE **06** 00:05:50.1, 36°.51N×21°.31E, h4km±1km, ML3.7/15, Error ellipse: s-maj=2.2km s-min=1.1km az=62.0*

*ATH **06** 00:05:51.1, 36°.59N×21°.35E, h27km±1km, ML3.6/7, Error ellipse: s-maj=2.3km s-min=1.2km az=44.0*

*IDC **06** 00:05:51.5±6.4, 36°.62N×21°.44E, h25km±48km, mb3.7/7, mb1 3.6/19, mb1mx3.5/59, mbtmp3.6/19, ML3.4/10, MS2.1/2, Ms1 2.2/2, ms1mx2.0/43, Error ellipse: s-maj=18.6km s-min=15.2km az=19.0*

ISC 06 00:05:51.2±1.1, 36°.50N±0°.03×21°.34E±0°.03, h31km±8km, n276, σ1°63/319, mb3.8/7, 5C-7D, Southern Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PYL	**PYLOS**	**0.51**	**39**	P	**Pb**	**00 05 59.5**	**-2.2**
PYL				S	**Sb**	**00 06 08.8**	**-0.1**
PYL	**PYLOS**	**0.51**	**39**	P	**Pb**	**00 06 00.7**	**-1.0**
PYL				S	**Sb**	**00 06 08.8**	**-0.1**
PYL	**PYLOS**	**0.51**	**39**	P	**Pb**	**00 06 00.8**	**-0.9**
PYL				S	**Sb**	**00 06 07.2**	**-1.8**
PYL				AML	AML	00 06 14.9	
	comp=E,11178μm,0.3s						
PYL				AML	AML	00 06 17.2	
	comp=N,15699μm,0.5s						
ITM	**Ithomi**	**0.82**	**35**	P	**Pb**	**00 06 05.3**	**-1.7**
ITM				S	**Sb**	**00 06 18.0**	**+0.3**
ITM	**Ithomi**	**0.82**	**35**	P	**Pb**	**00 06 05.8**	**-1.1**
ITM				S	**Sb**	**00 06 18.0**	**+0.3**
ITM	**Ithomi**	**0.82**	**35**	P	**Pb**	**00 06 05.9**	**-1.1**
ITM				S	**Sb**	**00 06 16.2**	**-1.5**
AMT	**Artemida-Makis**	**1.07**	**16**	P	**Pn**	**00 06 08.9**	**-1.1**
AMT				S	**Sb**	**00 06 26.6**	**+0.9**
AMT	**Artemida-Makis**	**1.07**	**16**	P	**Pn**	**00 06 09.8**	**-0.2**
AMT				S	**Sn**	**00 06 24.0**	**+0.2**
AMT	**Artemida-Makis**	**1.07**	**16**	P	**Pn**	**00 06 09.5**	**-0.6**
AMT				S	**Sn**	**00 06 24.1**	**+0.2**
AMT				AML	AML	00 06 33.3	
	comp=E,10517μm,0.6s						
AMT				AML	AML	00 06 35.4	
	comp=N,10359μm,0.7s						
VLX	**Vlachokerasia**	**1.20**	**44**	P	**Pn**	**00 06 12.3**	**+0.4**
VLX				S	**Sb**	**00 06 31.0**	**+2.5**
VLX	**Vlachokerasia**	**1.20**	**44**	P	**Pn**	**00 06 12.3**	**+0.4**
VLX				S	**Sb**	**00 06 31.0**	**+2.5**
VLX	**Vlachokerasia**	**1.20**	**44**	P	**Pn**	**00 06 11.8**	**-0.1**
VLX				S	**Sb**	**00 06 28.6**	**+0.1**
VLX				AML	AML	00 06 39.1	
	comp=E,9210μm,0.7s						
VLX				AML	AML	00 06 39.3	
	comp=N,6760μm,0.6s						
ZKS	**Zakynthos**	**1.27**	**340**	P	**Pn**	**00 06 12.6**	**-0.2**
ZKS				S	**Sb**	**00 06 32.8**	**+2.3**
ZKS	**Zakynthos**	**1.27**	**340**	P	**Pn**	**00 06 13.0**	**+0.2**
ZKS				S	**Sn**	**00 06 30.1**	**+1.2**
ZKS	**Zakynthos**	**1.27**	**340**	P	**Pn**	**00 06 12.3**	**-0.5**
ZKS				S	**Sn**	**00 06 30.1**	**+1.2**
ZKS				AML	AML	00 06 43.3	
	comp=N,12770μm,0.6s						
ZKS				AML	AML	00 06 43.9	
	comp=E,9503μm,0.5s						
VLI	**Veliai**	**1.30**	**80**	P	**Pb**	**00 06 15.4**	**+0.4**
VLI				S	**Sb**	**00 06 33.6**	**+2.3**
VLI	**Veliai**	**1.30**	**80**	P	**Pb**	**00 06 15.4**	**+0.4**
VLI				S	**Sb**	**00 06 33.1**	**+1.8**
VLI	**Veliai**	**1.30**	**80**	P	**Pb**	**00 06 15.8**	**+0.8**
VLI				S	**Sb**	**00 06 33.3**	**+2.0**
VLI				AML	AML	00 06 50.9	
	comp=N,2784μm,0.9s						
VLI				AML	AML	00 06 54.0	
	comp=E,2867μm,0.9s						
KYTH	**Kithira**	**1.40**	**99**	P	**Pb**	**00 06 17.4**	**+0.8**
KYTH				S	**Sb**	**00 06 35.9**	**+1.9**
KYTH	**Kithira**	**1.40**	**99**	P	**Pb**	**00 06 17.3**	**+0.7**
KYTH				S	**Sb**	**00 06 35.9**	**+1.9**
KYTH	**Kithira**	**1.40**	**99**	P	**Pb**	**00 06 17.9**	**+1.2**
DRO	**Drossia**	**1.48**	**11**	P	**Pn**	**00 06 16.1**	**+0.4**
DRO	**Drossia**	**1.48**	**11**	P	**Pn**	**00 06 16.3**	**+0.7**
DRO	**Drossia**	**1.48**	**11**	P	**Pn**	**00 06 16.0**	**+0.4**
RLS	**Riolos of Patr**	**1.55**	**4**	P	**Pn**	**00 06 17.6**	**+0.9**
RLS				S	**Sb**	**00 06 37.8**	**-0.8**
RLS	**Riolos of Patr**	**1.55**	**4**	P	**Pn**	**00 06 17.6**	**+0.9**
RLS				S	**Sn**	**00 06 37.0**	**+1.2**
RLS	**Riolos of Patr**	**1.55**	**4**	S	**Sn**	**00 06 37.0**	**+1.2**
KFL	**Anninata**	**1.66**	**345**	P	**Pn**	**00 06 18.6**	**+0.4**
KFL				S	**Sb**	**00 06 42.4**	**+0.7**
KFL	**Anninata**	**1.66**	**345**	P	**Pn**	**00 06 18.6**	**+0.4**
KFL				S	**Sb**	**00 06 42.4**	**+0.7**
KFL	**Anninata**	**1.66**	**345**	P	**Pn**	**00 06 18.5**	**+0.4**
KLV	**Kalavryta, Ach**	**1.67**	**22**	P	**Pn**	**00 06 19.2**	**+0.9**
KLV				S	**Sb**	**00 06 41.3**	**-0.6**
KLV	**Kalavryta, Ach**	**1.67**	**22**	P	**Pn**	**00 06 19.2**	**+0.9**
KLV				S	**Sb**	**00 06 41.3**	**-0.6**
KLV	**Kalavryta, Ach**	**1.67**	**22**	P	**Pb**	**00 06 20.2**	**-1.1**
AXS	**Araxos**	**1.69**	**1**	P	**Pb**	**00 06 20.5**	**-1.1**
AXS	**Araxos**	**1.69**	**1**	P	**Pb**	**00 06 20.5**	**-1.1**
ANKY	**Antikythira Is**	**1.71**	**111**	P	**Pb**	**00 06 21.7**	**-0.1**
ANKY	**Antikythira Is**	**1.71**	**111**	P	**Pb**	**00 06 21.6**	**-0.3**
ANKY	**Antikythira Is**	**1.71**	**111**	P	**Pb**	**00 06 21.7**	**-0.1**
VLS	**Valsamata**	**1.77**	**340**	P	**Pn**	**00 06 20.0**	**+0.2**
VLS				S	**Sn**	**00 06 43.6**	**+2.3**
VLS	**Valsamata**	**1.77**	**340**	P	**Pn**	**00 06 20.0**	**+0.2**
VLS				S	**Sn**	**00 06 43.6**	**+2.3**
LAKA	**Lakka**	**1.81**	**16**	P	**Pb**	**00 06 22.2**	**-1.4**
LAKA				S	**Sb**	**00 06 47.2**	**+1.4**
LAKA	**Lakka**	**1.81**	**16**	P	**Pb**	**00 06 22.2**	**-1.4**
LAKA				S	**Sb**	**00 06 47.2**	**+1.4**
LAKA	**Lakka**	**1.81**	**16**	P	**Pb**	**00 06 23.2**	**-0.4**
UPR	**University Cam**	**1.81**	**11**	P	**Pb**	**00 06 23.3**	**-0.3**
UPR	**University Cam**	**1.81**	**11**	P	**Pb**	**00 06 23.3**	**-0.3**
DID	**Didima**	**1.82**	**56**	P	**Pn**	**00 06 21.5**	**+1.2**
DID				S	**Sb**	**00 06 46.4**	**+0.3**
DID	**Didima**	**1.82**	**56**	P	**Pn**	**00 06 21.6**	**+1.2**
DID				S	**Sb**	**00 06 46.4**	**+0.3**
DID	**Didima**	**1.82**	**56**	P	**Pn**	**00 06 21.4**	**+1.0**
DID				S	**Sn**	**00 06 43.7**	**+1.4**
DID				AML	AML	00 06 56.3	
	comp=E,1821μm,0.6s						
DID				AML	AML	00 07 01.1	
	comp=N,2806μm,0.8s						
THAL	**Thalero**	**1.86**	**34**	P	**Pb**	**00 06 23.0**	**-1.4**
THAL	**Thalero**	**1.86**	**34**	P	**Pb**	**00 06 23.0**	**-1.4**
THAL	**Thalero**	**1.86**	**34**	P	**Pb**	**00 06 23.8**	**-0.6**
LOUT	**Loutraki**	**1.97**	**41**	P	**Pn**	**00 06 24.1**	**+1.7**
LOUT	**Loutraki**	**1.97**	**41**	P	**Pn**	**00 06 24.1**	**+1.7**
KALE	**Kalithea**	**1.99**	**18**	P	**Pb**	**00 06 25.3**	**-1.4**
KALE	**Kalithea**	**1.99**	**18**	P	**Pb**	**00 06 25.0**	**-1.7**
KALE	**Kalithea**	**1.99**	**18**	P	**Pb**	**00 06 26.2**	**-0.5**
SERG	**Sergoula**	**1.99**	**16**	P	**Pb**	**00 06 25.2**	**-1.5**
SERG	**Sergoula**	**1.99**	**16**	P	**Pb**	**00 06 25.2**	**-1.5**
LTK	**Loutraki**	**1.99**	**40**	P	**Pn**	**00 06 24.5**	**+1.7**
LTK	**Loutraki**	**1.99**	**40**	P	**Pn**	**00 06 24.3**	**+1.5**
LTK	**Loutraki**	**1.99**	**40**	P	**Pn**	**00 06 24.4**	**+1.7**
PDO	**Prodromos**	**2.10**	**357**	P	**Pn**	**00 06 26.1**	**+1.9**
PDO	**Prodromos**	**2.10**	**357**	P	**Pn**	**00 06 26.0**	**+1.9**
PDO	**Prodromos**	**2.10**	**357**	P	**Pb**	**00 06 26.8**	**-1.7**
PVO	**Paravola**	**2.11**	**4**	P	**Pb**	**00 06 27.0**	**-1.8**
PVO	**Paravola**	**2.11**	**4**	P	**Pb**	**00 06 26.8**	**-2.0**
PVO	**Paravola**	**2.11**	**4**	P	**Pb**	**00 06 28.0**	**-0.8**
DSF	**Desfina**	**2.12**	**26**	P	**Pn**	**00 06 26.4**	**+1.8**
DSF	**Desfina**	**2.12**	**26**	P	**Pn**	**00 06 26.2**	**+1.6**
DSF	**Desfina**	**2.12**	**26**	P	**Pn**	**00 06 26.6**	**+2.1**
ANX	**Ano Chora**	**2.13**	**12**	P	**Pb**	**00 06 27.3**	**-1.9**
ANX				S	**Sb**	**00 06 54.6**	**-0.7**
ANX	**Ano Chora**	**2.13**	**12**	P	**Pb**	**00 06 27.3**	**-1.9**
ANX				S	**Sb**	**00 06 54.6**	**-0.7**
VILL	**Villia**	**2.28**	**43**	P	**Pn**	**00 06 28.1**	**+1.3**
VILL	**Villia**	**2.28**	**43**	P	**Pn**	**00 06 28.1**	**+1.3**
LKD2	**Lefkada island**	**2.34**	**347**	P	**Pn**	**00 06 29.4**	**+1.8**
LKD2	**Lefkada island**	**2.34**	**347**	P	**Pn**	**00 06 29.3**	**+1.7**
LKD2	**Lefkada island**	**2.34**	**347**	P	**Pn**	**00 06 29.8**	**+2.2**
VLY	**Voula,Athens**	**2.38**	**55**	P	**Pn**	**00 06 28.7**	**+0.7**
VLY	**Voula,Athens**	**2.38**	**55**	P	**Pn**	**00 06 28.7**	**+0.7**
VLY	**Voula,Athens**	**2.38**	**55**	P	**Pn**	**00 06 27.3**	**-0.7**
IMMV	**Iera Moni Meta**	**2.38**	**115**	P	**Pb**	**00 06 30.1**	**-3.2**
IMMV	**Iera Moni Meta**	**2.38**	**115**	P	**Pb**	**00 06 30.1**	**-3.2**
ATH	**Athens Observa**	**2.40**	**52**	P	**Pn**	**00 06 29.1**	**+0.9**
ATH	**Athens Observa**	**2.40**	**52**	P	**Pn**	**00 06 29.1**	**+0.9**
ATHU	**Athens Univers**	**2.43**	**52**	P	**Pn**	**00 06 29.0**	**+0.2**
ATHU	**Athens Univers**	**2.43**	**52**	P	**Pn**	**00 06 29.0**	**+0.2**
EVR	**Evrytania**	**2.44**	**9**	P	**Pb**	**00 06 31.9**	**-2.5**
EVR	**Evrytania**	**2.44**	**9**	P	**Pb**	**00 06 31.9**	**-2.5**
EVR	**Evrytania**	**2.44**	**9**	P	**Pb**	**00 06 34.2**	**-0.1**
MHLO	**Agia Marina, M**	**2.47**	**85**	P	**Pn**	**00 06 30.1**	**+0.8**
MHLO	**Agia Marina, M**	**2.47**	**85**	P	**Pn**	**00 06 30.1**	**+0.8**
LKR	**Lokris**	**2.51**	**31**	P	**Pn**	**00 06 31.0**	**+1.1**
LKR	**Lokris**	**2.51**	**31**	P	**Pn**	**00 06 31.0**	**+1.1**
LKR	**Lokris**	**2.51**	**31**	P	**Pn**	**00 06 30.5**	**+0.6**
PTL	**Penteli**	**2.53**	**52**	P	**Pn**	**00 06 30.9**	**+0.7**
PTL	**Penteli**	**2.53**	**52**	P	**Pn**	**00 06 31.1**	**+0.9**
PTL				S	**Sn**	**00 07 01.2**	**+1.2**
PTL	**Penteli**	**2.53**	**52**	P	**Pn**	**00 06 30.3**	**+0.1**
PTL				S	**Sn**	**00 07 00.6**	**+0.6**
PTL				AML	AML	00 07 18.8	
	comp=N,711μm,0.7s						
PTL				AML	AML	00 07 23.6	
	comp=E,935μm,0.8s						
VAM	**Vamos**	**2.56**	**114**	P	**Pn**	**00 06 32.8**	**+2.2**
VAM	**Vamos**	**2.56**	**114**	P	**Pn**	**00 06 32.8**	**+2.2**
AGG	**Agios Georgios**	**2.63**	**17**	*e*PN	**Pn**	**00 06 33.9**	**+2.3**
AGG	**Agios Georgios**	**2.63**	**17**	P	**Pn**	**00 06 33.8**	**+2.3**
AGG				S	**Sn**	**00 07 06.0**	**+3.5**
AGG	**Agios Georgios**	**2.63**	**17**	P	**Pn**	**00 06 33.6**	**+2.0**
AGG	**Agios Georgios**	**2.63**	**17**	*e*Pn	**Pn**	**00 06 33.9**	**+2.3**
AGG				S	**Sn**	**00 07 06.0**	**+3.5**
AGG	**Agios Georgios**	**2.63**	**17**	P	**Pn**	**00 06 34.2**	**+2.7**
DSL	**Palaion Diasel**	**2.63**	**356**	P	**Pn**	**00 06 33.6**	**+2.0**
DSL	**Palaion Diasel**	**2.63**	**356**	P	**Pn**	**00 06 33.3**	**+1.7**
DSL	**Palaion Diasel**	**2.63**	**356**	P	**Pn**	**00 06 33.7**	**+2.2**
GVD	**Gavdhos**	**2.78**	**126**	P	**Pn**	**00 06 35.4**	**+1.8**
GVD	**Gavdhos**	**2.78**	**126**	P	**Pn**	**00 06 35.4**	**+1.8**
SMIA	**Simia**	**2.79**	**31**	P	**Pn**	**00 06 35.3**	**+1.5**
SMIA	**Simia**	**2.79**	**31**	P	**Pn**	**00 06 35.3**	**+1.5**
SMIA	**Simia**	**2.79**	**31**	P	**Pn**	**00 06 35.5**	**+1.7**
EREA	**Eretria**	**2.81**	**46**	P	**Pn**	**00 06 35.3**	**+1.3**
EREA	**Eretria**	**2.81**	**46**	P	**Pn**	**00 06 35.3**	**+1.3**
EREA	**Eretria**	**2.81**	**46**	P	**Pn**	**00 06 34.8**	**+0.8**
THL	**Klokotos Trika**	**3.10**	**10**	P	**Pn**	**00 06 39.5**	**+1.6**
THL	**Klokotos Trika**	**3.10**	**10**	P	**Pn**	**00 06 39.5**	**+1.6**
IDI	**Anoyia**	**3.12**	**112**	Pn	**Pn**	**00 06 40.1**	**+1.7**
	comp=E,2.4nm,0.3s,baz=307,slow=19,SNR=33						
IDI				Sn	**Sb**	**00 07 18.8**	**-4.9**
	comp=E,15nm,0.3s,baz=316,slow=11,SNR=8.3						
IDI	**Anoyia**	**3.12**	**112**	P	**Pn**	**00 06 39.6**	**+1.2**
IDI	**Anoyia**	**3.12**	**112**	P	**Pn**	**00 06 38.6**	**+0.3**
IGT	**Igoumenitsa**	**3.13**	**346**	P	**Pn**	**00 06 39.1**	**+0.8**
**

comp=E,6.9nm,0.3s,baz=43,slow=5.6,SNR=8.0
SG1 Sgolgore (BA) 5.66 321 *e*Pn **Pn 00 07 12.8 -0.4**
ALN Alexandroupoli 5.72 39 *e*PN **Pn 00 07 14.3 +0.3**
BAI Bari 5.77 324 *e*Pn **Pn 00 07 14.2 -0.4**
RZN Rozhen 5.80 26 P **Pn 00 07 17.3 +2.0**
DALY Dalyan (Mu¨la 5.88 85 *e*PN **Pn 00 07 19.5 +3.3**
DALY Dalyan (Mu¨la 5.88 85 *e*Pn **Pn 00 07 19.5 +3.3**
DRME Dracevica, Mon 5.92 344 *e*Pn **Pn 00 07 16.2 -0.4**
CDT Castel del Mon 6.05 321 *e*Pn **Pn 00 07 18.1 -0.4**
PDG Podgorica 6.13 345 ⇓*i*P **Pn 00 07 19.5 -0.1**
PDG Podgorica 6.13 345 ⇓*i*P **Pn 00 07 19.5 -0.1**
FETY Fethiye 6.23 86 *e*PN **Pn 00 07 24.3 +3.3**
FETY Fethiye 6.23 86 *e*Pn **Pn 00 07 24.3 +3.3**
VTS Vitosha 6.25 13 ⇓*i*P **Pn 00 07 23.5 +2.2**
VTS Vitosha 6.25 13 P **Pn 00 07 22.9 +1.6**
VTS Vitosha 6.25 13 ⇓*i*P **Pn 00 07 23.5 +2.2**
BARS Barje 6.32 3 *e*Pn **Pn 00 07 22.2 +0.1**
HCY Herceg Novi 6.33 341 ⇑*i*Pn **Pn 00 07 20.8 -1.5**
TREB Trebinje 6.62 340 *e*Pn **Pn 00 07 24.6 -1.7**
AKAS Kas 6.67 90 *e*PN **Pn 00 07 30.4 +3.2**
AKAS Kas 6.67 90 *e*Pn **Pn 00 07 30.4 +3.2**
MS1 Monte Sant'Ang 6.68 323 *e*Pn **Pn 00 07 27.3 +0.1**
BRY Bratogost 6.75 342 *e*Pn **Pn 00 07 26.3 -1.8**
ELL Elmali 6.89 85 *e*PN **Pn 00 07 33.3 +3.1**
ELL Elmali 6.89 85 *e*Pn **Pn 00 07 33.3 +3.1**
UPM Unac-Piva 6.95 345 *e*Pn **Pn 00 07 30.7 -0.3**
IVAS Ivanjica 7.12 353 *e*Pn **Pn 00 07 33.2 -0.1**
BOVS Bovan 7.13 2 *e*Pn **Pn 00 07 33.6 +0.3**
KORT Korkueli 7.25 83 *e*PN **Pn 00 07 38.4 +3.3**
KORT Korkueli 7.25 83 *e*Pn **Pn 00 07 38.4 +3.3**
ZAGS Zajecar 7.33 5 *e*Pn **Pn 00 07 35.9 -0.2**
GRUS Gruza 7.39 356 *e*Pn **Pn 00 07 36.5 -0.4**
BBLS Lazići 7.50 349 *e*Pn **Pn 00 07 37.9 -0.6**
DIVS Divibare 7.66 353 *e*Pn **Pn 00 07 39.6 -1.0**
TRUS Trudelj 7.74 355 *e*Pn **Pn 00 07 42.6 +0.9**
KUBS Kucevo 7.90 2 *e*Pn **Pn 00 07 42.9 -1.0**
TEKS Tekeris 8.15 351 *e*Pn **Pn 00 07 45.8 -1.6**
MDVR Moldovita 8.27 2 ⇓*i*P Pn 00 07 54.8 +5.8
BLY Banja Luka 8.82 340 *e*Pn **Pn 00 07 54.8 -1.7**
UDBI Udbina 9.07 334 *e*Pn **Pn 00 08 00.1 +0.2**
UDBI Sn **Sn 00 09 36.5 -4.4**
UDBI Udbina 9.07 334 *e*Pn **Pn 00 08 00.1 +0.2**
VOIR 9.35 16 ⇑*i*P **Pn 00 08 05.7 +1.9**
VOIR 9.35 16 ⇑*i*P **Pn 00 08 05.7 +1.9**
NVLJ Novalja 9.44 331 *e*Pn **Pn 00 08 04.8 -0.1**
NVLJ Sn Sn 00 09 42.3 -7.5
NVLJ Novalja 9.44 331 *e*Pn **Pn 00 08 04.8 -0.1**
MLR Muntele Rosu 9.63 20 Pn **Pn 00 08 06.6 -1.0**
MLR LR LR 00 11 43.3
comp=E,5.9nm,19.5s,baz=270,slow=37
MLR Muntele Rosu 9.63 20 ⇑*i*P **Pn 00 08 09.7 +2.1**
MLR Muntele Rosu 9.63 20 ⇑*i*P **Pn 00 08 09.7 +2.1**
KEST Kesra 9.74 269 Pn **Pn 00 08 11.7 +2.5**
comp=E,0.1nm,0.3s,baz=60,slow=14,SNR=3.5
BOJS Bojanci 10.10 335 *i* Pn **Pn 00 08 13.2 -0.8**
BOJS Bojanci 10.10 335 *i* Pn **Pn 00 08 13.2 -0.8**
OZLJ Ozalj 10.12 336 *e*Pn **Pn 00 08 13.1 -1.2**
OZLJ Sn Sn 00 09 58.0 -8.7
OZLJ Ozalj 10.12 336 *e*Pn **Pn 00 08 13.0 -1.2**
PLOR Plostina 10.15 22 ⇓*i*P **Pn 00 08 13.2 -1.6**
VRI Vrincioaia 10.19 22 ⇓*i*P Pn 00 08 10.7 -4.6
BRTR Keskin Array B 10.21 68 Pn **Pn 00 08 15.2 -0.4**
comp=E,0.1nm,0.3s,baz=245,slow=13,SNR=3.0
CEY Cerknica 10.59 333 *i* Pn **Pn 00 08 20.3 -0.5**
CEY Cerknica 10.59 333 *e*Pn **Pn 00 08 19.9 -0.9**
OBKA Obir 11.21 335 *e*Pn **Pn 00 08 28.8 -0.5**
comp=E,0.6nm,0.2s
OBKA *e*Sn **Sn 00 10 27.7 -5.9**
comp=E,5.4nm,0.6s
OBKA Obir 11.21 335 Pn **Pn 00 08 28.8 -0.5**
comp=E,0.6nm,0.2s
MMAI Mount Meron Ar 12.07 103 Pn **Pn 00 08 40.8 -0.4**
comp=E,0.5nm,0.3s,baz=306,slow=12,SNR=3.3
MMAI Sn **Sn 00 10 47.2 -7.6**
comp=E,0.8nm,0.3s,baz=280,slow=17,SNR=5.2
ABTA Abfaltersbach 12.17 330 Pn **Pn 00 08 43.2 +0.8**
comp=E,0.7nm,0.4s
ABTA Sn Sn 00 10 48.4 -8.7
comp=E,5.5nm,0.9s
ABTA Abfaltersbach 12.17 330 Pn **Pn 00 08 43.2 +0.8**
comp=E,0.7nm,0.4s
MOA Molln 12.49 337 *e*Pn **Pn 00 08 46.2 -0.4**
comp=E,2.2nm,0.3s
MOA *e*Sn Sn 00 10 55.8 -8.8
comp=E,0.7nm,0.4s
MOA Molln 12.49 337 Pn **Pn 00 08 46.2 -0.4**
comp=E,2.2nm,0.3s
EIL Elat 13.28 117 Pn **Pn 00 08 57.6 0.0**
comp=E,0.3nm,0.3s,baz=297,slow=4.5,SNR=8.6
EIL Sn Sn 00 11 15.3 -8.9
comp=E,0.7nm,0.3s,baz=336,slow=20,SNR=6.1
DAVOX Davos/Dischmat 13.36 324 Pn **Pn 00 09 00.4 +1.7**
comp=E,0.2nm,0.3s,baz=133,slow=18,SNR=3.0
GERES GERESS Array B 13.54 338 Pn **Pn 00 09 00.6 -0.5**
comp=E,0.2nm,0.3s,baz=155,slow=14,SNR=3.8
GERES Sn Sn 00 11 22.4 -8.1
comp=E,0.2nm,0.3s,baz=156,slow=24,SNR=3.8
ASF Jabal al Asfar 13.56 104 Pn **Pn 00 09 01.0 -0.4**
comp=E,0.1nm,0.3s,baz=258,slow=9.3,SNR=1.9
AKASG Malin Array Be 15.28 19 Pn **Pn 00 09 24.2 -0.4**
comp=E,1.4nm,0.3s,baz=207,slow=10,SNR=5.6
KBZ Khabaz 17.97 60 P **Pn 00 09 58.7 +0.2**
comp=E,0.1nm,0.3s,baz=260,slow=12,SNR=3.1
FINES FINESS Array B 25.14 5 P **P 00 11 13.1 -0.1**
comp=E,1.4nm,0.7s,baz=181,slow=9.7,SNR=8.2
EKA Eskdalemuir Ar 25.18 326 P **P 00 11 14.3 +0.7**
comp=E,2.0nm,0.8s,baz=129,slow=11,SNR=3.1
NB2 NORSAR Subarra 25.39 348 P **P 00 11 15.0 -0.5**
comp=E,0.9nm,0.7s,SNR=4.2
NB2 NORSAR Subarra 25.39 348 P **P 00 11 15.0 -0.5**
comp=Z,0.9nm,0.7s,baz=158,slow=9.3
NOA NORSAR Array B 25.39 348 P **P 00 11 15.4 -0.1**
comp=Z,0.9nm,0.7s,baz=157,slow=9.0,SNR=3.7
NOA LR LR 00 21 56.3
comp=Z,8.5nm,21.3s,baz=70,slow=38
TORD Torodi Ar. Bea 29.19 222 P **P 00 11 52.0 +2.1**
comp=Z,0.3nm,0.6s,baz=36,slow=9.1,SNR=5.4
GEYT Alibeck 29.20 76 P **P 00 11 50.2 +0.2**
comp=Z,2.9nm,0.6s,baz=276,slow=15,SNR=6.9
ARCES ARCESS Array B 33.17 3 P **P 00 12 24.7 +0.2**
comp=Z,1.2nm,0.8s,baz=230,slow=7.0,SNR=3.1
ZALV Zalesovo Beam 46.34 47 P **P 00 14 14.2 +0.1**
comp=Z,1.4nm,0.3s,baz=269,slow=8.8,SNR=6.2

IDC 06 00:16:39.9±2.6, 24°.37S×179°.80E, h481km±24km, mb3.6/4, mb1 3.8/5, mb1mx3.4/26, mbtmp4.5/5, Error ellipse: s-maj=39.8km s-min=24.2km az=164.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op	ISC		h m s	ISC
URZ	**Urewera**	**14.03**	**189**	P		P	00 19 39.3	-0.7
	0.8nm,0.3s,baz=36,slow=8.7,SNR=5.5							
URZ				S		S	00 22 07.3	-1.3
	1.1nm,0.3s,baz=7.2,slow=18,SNR=6.2							
STKA	**Stephens Creek**	**34.37**	**249**	P		P	00 22 46.1	+0.2
	3.0nm,0.5s,baz=105,slow=12,SNR=11							
ASAR	**Alice Springs**	**41.77**	**261**	P		P	00 23 46.2	-0.3
	2.4nm,0.5s,baz=94,slow=8.5,SNR=27							
ASAR				ScP		ScP	00 28 34.5	-1.5
	0.3nm,0.3s,baz=97,slow=4.8,SNR=3.9							
WRA	**Warramunga Arr**	**42.19**	**267**	P		P	00 23 49.1	-0.7
	10nm,0.5s,baz=98,slow=8.4,SNR=130							
WRA				ScP		ScP	00 28 36.2	-1.5
	3.6nm,0.9s,baz=100,slow=3.7,SNR=19							
TXAR	**Lajitas Array**	**90.84**	**58**	P		P	00 28 50.6	-1.0
	1.2nm,0.8s,baz=213,slow=6.5,SNR=8.2							
BRTR	**Keskin Array B**	**147.71**	**306**	PKPbc		PKPbc	00 35 32.0	+1.8
	0.7nm,0.6s,baz=107,slow=2.8,SNR=4.9							

*ISCJB **06** 00:19:04.4±0.5, 35°.48N±0°.01×97°.04W±0°.02, h2km±4km, Error ellipse: s-maj=2.8km s-min=2.4km az=29.3*
*NEIC **06** 00:19:06.0±0.0, 35°.47N×97°.05W, h5km, ML3.0(TUL), After TUL.*
NEIC Felt [III] at McLoud. Also felt at Meeker, Norman and Shawnee.
ISC 06 00:19:05.0±1.1, 35°.46N±0°.02×97°.03W±0°.02, h4km±9km, n80, σ1s09/110, Oklahoma

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op	ISC		h m s	ISC
W35A	**Tecumseh**	**0.33**	**158**	P		**Pg**	**00 19 11.9**	**+0.6**
	baz=338,SNR=72							
W35A					S	**Sg**	**00 19 16.7**	**+1.1**
	baz=338							
V35A	**Meyer Ranch, C**	**0.34**	**27**	P		**Pg**	**00 19 12.2**	**+0.5**
	baz=208,SNR=303							
V35A					S	**Sg**	**00 19 17.2**	**+1.1**
	baz=208							
W34A	**Bridge Creek,**	**0.65**	**250**	P		**Pg**	**00 19 17.5**	**0.0**
	baz=68,SNR=12							
W34A					S	**Sg**	**00 19 26.6**	**+0.8**
	baz=68							
W34A	**Bridge Creek,**	**0.65**	**250**	*e*Pg		**Pg**	**00 19 17.4**	**0.0**
W36A	**Wetumka**	**0.73**	**116**	P		**Pg**	**00 19 19.2**	**+0.3**
	baz=297,SNR=18							
W36A					S	**Sg**	**00 19 29.2**	**+0.9**
	baz=297							
V36A	**Jenks**	**0.94**	**69**	P		**Pg**	**00 19 22.6**	**-0.4**
	baz=251,SNR=79							
V36A					S	**Sg**	**00 19 35.7**	**+0.3**
	baz=251							
U35A	**Pawnee**	**0.94**	**15**	P		**Pg**	**00 19 22.5**	**-0.6**
	baz=195,SNR=21							
U35A					S	**Sg**	**00 19 35.4**	**0.0**
	baz=195							
X36A	**Centrahoma**	**1.04**	**148**	P		**Pg**	**00 19 24.8**	**-0.1**
	baz=329,SNR=39							
X36A					S	**Sg**	**00 19 39.3**	**+0.8**
	baz=329							
X35A	**Drake**	**1.05**	**178**	P		**Pg**	**00 19 24.7**	**-0.5**
	baz=358,SNR=92							
X35A					S	**Sg**	**00 19 39.3**	**+0.4**
	baz=358							
TUL1	**Leonard**	**1.10**	**65**	P		**Pb**	**00 19 25.3**	**-1.3**
	baz=247,SNR=41							
TUL1					S	**Sg**	**00 19 40.6**	**+0.2**
	baz=247							
TUL1	**Leonard**	**1.10**	**65**	*e*Pg		**Pb**	**00 19 25.4**	**-1.2**
TUL1					*e*Sg	**Sg**	**00 19 36.1**	**-4.3**
W37B	**Quinton**	**1.34**	**103**	P		**Pn**	**00 19 30.2**	**-0.4**
	baz=285,SNR=58							
W37B					S	**Sb**	**00 19 48.9**	**+0.6**
	baz=285							
U36A	**Oologah**	**1.41**	**48**	P		**Pn**	**00 19 30.6**	**-0.8**
	baz=229							
U36A					S	**Sn**	**00 19 50.0**	**-0.5**
	baz=229							
T35A	**Sooner Cattle**	**1.52**	**16**	P		**Pn**	**00 19 32.3**	**-0.7**
	baz=196							
T35A					S	**Sn**	**00 19 53.0**	**-0.2**
	baz=196							
Y35A	**Marietta**	**1.55**	**180**	P		**Pn**	**00 19 33.6**	**+0.3**
	baz=0.2,SNR=38							
Y35A					Sb	**Sg**	**00 19 56.1**	**+1.5**
	baz=0.2							
T34A	**McClaskey Farm**	**1.57**	**355**	P		**Pn**	**00 19 33.2**	**-0.5**
	baz=175							
T34A					S	**Sb**	**00 19 54.4**	**-0.4**
	baz=175							
V37A	**Hulbert**	**1.59**	**74**	P		**Pn**	**00 19 33.9**	**-0.1**
	baz=256,SNR=179							
V37A					S	**Sb**	**00 19 55.7**	**+0.2**
	baz=256							
WMOK	**Wichita Mounta**	**1.61**	**244**	P		**Pn**	**00 19 33.8**	**-0.4**
	baz=62,SNR=30							
WMOK					S	**Sn**	**00 19 55.4**	**0.0**
	baz=62							
WMOK	**Wichita Mounta**	**1.61**	**244**	*e*Pn		**Pn**	**00 19 33.5**	**-0.7**
WMOK					*e*Sn	**Sn**	**00 19 55.4**	**0.0**
X37A	**Clayton**	**1.61**	**122**	P		**Pn**	**00 19 34.9**	**+0.7**
	baz=304,SNR=87							
X37A					Sb	**Sb**	**00 19 57.5**	**+1.5**
	baz=304							
Y36A	**Durant**	**1.67**	**158**	P		**Pn**	**00 19 35.4**	**+0.4**
	baz=339,SNR=8.4							
Y36A					S	**Sb**	**00 19 58.3**	**+0.7**
	baz=339							
U37A	**Salina**	**1.82**	**58**	P		**Pn**	**00 19 37.2**	**+0.1**
	baz=240,SNR=53							
U32A	**Winter Ranch,**	**1.85**	**300**	P		**Pn**	**00 19 37.7**	**+0.2**
	baz=119,SNR=27							
T36A	**Boggs Farm, Ca**	**1.85**	**30**	P		**Pn**	**00 19 37.8**	**+0.3**
	baz=211,SNR=75							
Y33A	**Hilltop Ranch,**	**1.95**	**223**	P		**Pn**	**00 19 39.8**	**+0.8**
	baz=141,SNR=21							
X38A	**Whitesboro**	**1.97**	**113**	P		**Pn**	**00 19 40.1**	**+0.9**
	baz=295,SNR=64							
W38A	**Poteau**	**2.09**	**100**	P		**Pn**	**00 19 41.5**	**+0.7**
	baz=282,SNR=40							
W38A					Sb	**Sb**	**00 20 11.2**	**+1.5**
	baz=282							
V38A	**Canehill**	**2.17**	**78**	P		**Pn**	**00 19 42.3**	**+0.3**
	baz=260,SNR=39							
S34A	**Wilmw Spring**	**2.24**	**358**	P		**Pn**	**00 19 43.0**	**+0.1**
	baz=178,SNR=7.7							
S35A	**Otter Creek Ra**	**2.29**	**14**	P		**Pn**	**00 19 44.7**	**+1.0**
	baz=195,SNR=40							
U38A	**Gravette**	**2.36**	**65**	P		**Pn**	**00 19 45.8**	**+1.3**
	baz=246,SNR=31							
T37A	**Cheneyville 18**	**2.38**	**45**	P		**Pn**	**00 19 46.2**	**+1.4**
	baz=226,SNR=27							
Y38A	**Idabel**	**2.43**	**128**	P		**Pn**	**00 19 46.4**	**+1.0**
	baz=310							
S36A	**Lake Cedric, C**	**2.54**	**27**	Sb		**Sb**	**00 20 23.8**	**+1.0**
	baz=208							
X39A	**Fountain Ranch**	**2.57**	**111**	P		**Pn**	**00 19 48.4**	**+1.0**
	baz=293,SNR=17							
Z33A	**Whitaker Ranch**	**2.60**	**214**	P		**Pn**	**00 19 49.7**	**+1.9**
	baz=33							
HHAR	**Hobbs**	**2.64**	**71**	*e*Pn		**Pn**	**00 19 49.1**	**+0.7**
HHAR					*e*Sn	**Sn**	**00 20 19.1**	**-1.8**
W39A	**Magazine**	**2.66**	**95**	P		**Pn**	**00 19 49.0**	**+0.3**
	baz=277,SNR=28							
T38A	**Diamnd**	**2.71**	**54**	P		**Pn**	**00 19 50.0**	**+0.6**
	baz=236,SNR=12							
V39A	**Pettigrew**	**2.78**	**81**	P		**Pn**	**00 19 50.6**	**+0.2**
	baz=263,SNR=19							
R34A	**Isabella, Hill**	**2.84**	**357**	P		**Pn**	**00 19 51.1**	**-0.1**
	baz=176							
R35A	**Emporia Munici**	**2.94**	**13**	P		**Pn**	**00 19 52.6**	**+0.1**
	baz=193							
MIAR	**Mount Ida**	**2.97**	**107**	P		**Pn**	**00 19 54.3**	**+1.3**
	baz=289,SNR=46							
MIAR	**Mount Ida**	**2.97**	**107**	*e*Pn		**Pn**	**00 19 54.6**	**+1.6**
MIAR					*e*Sn	**Sn**	**00 20 27.6**	**-1.6**
U39A	**Green Forest**	**3.02**	**71**	P		**Pn**	**00 19 54.0**	**+0.3**
	baz=254							
R36A	**Gordon, Harris**	**3.11**	**23**	P		**Pn**	**00 19 54.5**	**-0.4**
	baz=204							
W40A	**Ferguson Farm,**	**3.25**	**94**	P		**Pn**	**00 19 57.6**	**+0.9**
	baz=276,SNR=6.7							
S38A	**Stockton**	**3.32**	**48**	P		**Pn**	**00 19 58.0**	**+0.3**
	baz=230							
T39A	**Clever**	**3.34**	**61**	P		**Pn**	**00 19 58.3**	**+0.3**
	baz=243							
R37A	**Teagarden Farm**	**3.35**	**31**	P		**Pn**	**00 19 58.0**	**-0.2**
	baz=212,SNR=7.4							
V40A	**Witts Springs**	**3.44**	**83**	P		**Pn**	**00 19 59.8**	**+0.4**
	baz=266,SNR=21							
Q34A	**Chapman**	**3.46**	**1**	P		**Pn**	**00 19 59.8**	**+0.1**
	baz=181							
WHTX	**Lake Whitney,**	**3.47**	**186**	*e*Pn		**Pn**	**00 20 01.1**	**+1.3**
WHTX					*e*Sn	**Sb**	**00 20 46.3**	**-3.3**
Q35A	**Mercer Eighty,**	**3.49**	**13**	P		**Pn**	**00 19 59.8**	**-0.3**
	baz=193,SNR=7.5							
U40A	**Yellville**	**3.50**	**74**	P		**Pn**	**00 20 00.4**	**+0.1**
	baz=257							
ABTX	**Abilene, Hawle**	**3.56**	**218**	*e*Pn		**Pb**	**00 20 05.7**	**-2.9**
ABTX					*e*Sn	**Sb**	**00 20 51.9**	**-0.3**
234A	**Clairette**	**3.56**	**195**	P		**Pn**	**00 20 01.6**	**+0.5**
	baz=15							
KSU1	**Kansas State U**	**3.65**	**5**	*e*Pn		**Pn**	**00 20 03.8**	**+1.5**
KSU1					*e*Pg	**Pb**	**00 20 11.4**	**+1.3**
WLAR	**White Oak Lake**	**3.68**	**118**	*e*Pn		**Pn**	**00 20 02.8**	**+0.1**
R38A	**Fenwick Farm,**	**3.70**	**42**	P		**Pn**	**00 20 02.9**	**-0.1**
	baz=224							
Q36A	**Arnold C. Orve**	**3.72**	**19**	P		**Pn**	**00 20 03.6**	**+0.4**
	baz=200							
S39A	**Bolivar**	**3.72**	**52**	P		**Pn**	**00 20 03.8**	**+0.5**
	baz=234							
233A	**Rising Star**	**3.77**	**205**	P		**Pn**	**00 20 04.1**	**+0.2**
	baz=24							
X301	**Greenbrier Sit**	**3.79**	**92**	*e*Pn		**Pn**	**00 20 03.9**	**-0.3**
X301					*e*Sn	**Sn**	**00 20 50.7**	**+1.5**
AMTX	**Amarillo**	**3.85**	**263**	P		**Pn**	**00 20 05.7**	**+0.5**
	baz=80							
AMTX	**Amarillo**	**3.85**	**263**	*e*Pn		**Pn**	**00 20 06.3**	**+1.1**
WHAR	**Wooly Hollow**	**3.88**	**91**	*e*Pn		**Pn**	**00 20 06.2**	**+0.8**
WHAR					*e*Sn	**Sn**	**00 20 48.4**	**-2.9**
UALR	**University of**	**3.90**	**99**	*e*Pn		**Pn**	**00 20 06.1**	**+0.4**
W41B	**Gary Mavity, V**	**3.92**	**93**	P		**Pn**	**00 20 06.6**	**+0.7**
	baz=276,SNR=7.4							
V41A	**Mountainview**	**3.98**	**84**	P		**Pn**	**00 20 07.1**	**+0.2**
	baz=267,SNR=13							
Q37A	**Longview Farm,**	**3.99**	**30**	P		**Pn**	**00 20 06.8**	**-0.1**
	baz=212							
CBKS	**Cedar Bluff**	**3.99**	**328**	Pn		**Pn**	**00 20 07.5**	**+0.5**
P34A	**Walnut Farm, R**	**4.09**	**2**	P		**Pn**	**00 20 08.3**	**0.0**
	baz=182,SNR=12							
S40A	**Lebanon**	**4.23**	**58**	P		**Pn**	**00 20 10.6**	**+0.4**
	baz=241,SNR=8.7							
334A	**Lometa**	**4.24**	**194**	P		**Pn**	**00 20 10.7**	**+0.4**
	baz=13							
U41A	**Viola**	**4.24**	**76**	P		**Pn**	**00 20 10.4**	**0.0**
	baz=260							
R39A	**Chumby, Stover**	**4.29**	**47**	P		**Pn**	**00 20 11.2**	**+0.2**
	baz=230							
MSTX	**Muleshoe**	**4.96**	**254**	*e*Pn		**Pn**	**00 20 20.0**	**-0.4**
JCT	**Junction City**	**5.48**	**206**	Pn		**Pn**	**00 20 27.7**	**+0.2**
JCT					*e*Sg	**Sg**	**00 21 59.5**	**-1.6**
SDCO	**Great Sand Dun**	**7.19**	**291**	*e*Pn		**Pn**	**00 20 51.2**	**0.0**
SDCO					*e*Sn	**Sn**	**00 22 17.9**	**+4.4**

*NSSP **06** 00:35:43.4, 41°.42N×44°.43E, h5km, Ms3.0*
*ISK **06** 00:35:43.6, 41°.45N×44°.02E, h8km, MD3.3*
*MOS **06** 00:35:44.2±1.1, 41°.35N×44°.03E, h8km, mb4.2/1, Error ellipse: s-maj=9.6km s-min=4.7km az=85.6*
*CSEM **06** 00:35:44.5±0.2, 41°.37N×44°.04E, h2km, ML2.0, Error ellipse: s-maj=4.0km s-min=3.1km az=93.0*
ISC 06 00:35:44.3±1.0, 41°.41N±0°.01×44°.03E±0°.02, h4km±9km, n89, σ1s20/148, 11C-16D, Western Caucasus

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op	ISC		h m s	ISC
KZR	**Kazreti**	**0.29**	**96**	P		**Pg**	**00 35 50.0**	**0.0**
KZR					S	**Sg**	**00 35 54.2**	**+0.4**
KZR	**Kazreti**	**0.29**	**96**	P		**Pg**	**00 35 50.0**	**0.0**
KZR					S	**Sg**	**00 35 54.2**	**+0.4**
BGD	**Bogdanovka**	**0.36**	**246**	P		**Pg**	**00 35 51.5**	**+0.2**
BGD					S	**Sg**	**00 35 56.7**	**+0.7**
BGD	**Bogdanovka**	**0.36**	**246**	P		**Pg**	**00 35 51.5**	**+0.2**
BGD					S	**Sg**	**00 35 56.7**	**+0.7**
AKH	**Akhalkalaki**	**0.40**	**270**	PG		**Pg**	**00 35 52.2**	**+0.1**
AKH					SG	**Sg**	**00 35 57.9**	**+0.5**
AKH	**Akhalkalaki**	**0.40**	**270**	P		**Pg**	**00 35 52.2**	**+0.1**
AKH					S	**Sg**	**00 35 58.0**	**+0.5**
AKH	**Akhalkalaki**	**0.40**	**270**	PG		**Pg**	**00 35 52.2**	**+0.1**
AKH					S	**Sg**	**00 35 58.0**	**+0.5**
AKH	**Akhalkalaki**	**0.40**	**270**	P		**Pg**	**00 35 52.2**	**+0.1**
AKH					S	**Sg**	**00 35 58.0**	**+0.5**
STE	**Stepanavan**	**0.49**	**148**	⇑P		**Pg**	**00 35 53.2**	**-0.5**
STE					⇑S	**Sg**	**00 36 01.0**	**+1.0**
STEZ	**Stepenevan**	**0.50**	**146**	⇑*i*P		**Pg**	**00 35 53.2**	**-0.7**
STEZ					⇑*i*S	**Sg**	**00 36 01.0**	**+0.7**
KAMZ	**Kamo**	**0.59**	**186**	⇓*i*P		**Pn**	**00 35 59.9**	**+0.3**
KAMZ					⇓*i*S	**Sn**	**00 36 10.2**	**+0.5**
KAMZ	**Kamo**	**0.59**	**186**	⇓P		**Pn**	**00 35 59.9**	**+0.3**
SPIZ	**Spitak**	**0.61**	**163**	⇓*i*P		**Pg**	**00 35 54.6**	**-1.5**
SPIZ					⇓*i*S	**Sg**	**00 36 03.4**	**-0.7**
SPIZ	**Spitak**	**0.61**	**163**	⇓P		**Pg**	**00 35 54.6**	**-1.5**
SPIZ					S	**Sg**	**00 36 03.4**	**-0.7**
TBLG	**Delisi**	**0.62**	**59**	*e*PG		**Pg**	**00 35 55.9**	**-0.3**
TBLG					*e*SG	**Sg**	**00 36 04.8**	**+0.6**
TBLG	**Delisi**	**0.62**	**59**	P		**Pg**	**00 35 55.9**	**-0.3**
TBLG					S	**Sg**	**00 36 04.9**	**+0.6**
TBLG	**Delisi**	**0.62**	**59**	PG		**Pg**	**00 35 55.9**	**-0.3**
TBLG					S	**Sg**	**00 36 04.9**	**+0.6**
TBLG	**Delisi**	**0.62**	**59**	P		**Pg**	**00 35 55.9**	**-0.3**
TBLG					S	**Sg**	**00 36 04.9**	**+0.6**
GYMZ	**Gyumri**	**0.62**	**194**	⇓*i*P		**Pn**	**00 36 00.8**	**+0.7**
GYMZ					⇓*i*S	**Sn**	**00 36 12.2**	**+1.6**
CKLZ	**Chkalov**	**0.67**	**135**	⇓*i*P		**Pg**	**00 35 55.5**	**-1.7**
CKLZ					⇑*i*S	**Sg**	**00 36 04.5**	**-1.3**
CKLZ	**Chkalov**	**0.67**	**135**	⇓P		**Pg**	**00 35 55.5**	**-1.7**
CKLZ					S	**Sg**	**00 36 04.5**	**-1.3**
SEAG	**Tbilisi Sea**	**0.68**	**59**	P		**Pg**	**00 35 57.2**	**-0.1**
SEAG					S	**Sb**	**00 36 07.0**	**-1.5**
SEAG	**Tbilisi Sea**	**0.68**	**59**	P		**Pg**	**00 35 57.2**	**-0.1**
SEAG					S	**Sb**	**00 36 07.0**	**-1.5**
HARI	**Harich**	**0.81**	**182**	⇑*i*P		**Pn**	**00 36 03.8**	**+1.2**
HARI					⇓*i*S	**Sn**	**00 36 18.8**	**+3.7**
HARI	**Harich**	**0.81**	**182**	⇑P		**Pn**	**00 36 03.8**	**+1.2**
DUS	**Dusheti**	**0.84**	**36**	P		**Pb**	**00 36 01.2**	**-0.4**
DUS					S	**Sn**	**00 36 13.8**	**-2.1**
DUS	**Dusheti**	**0.84**	**36**	PG		**Pb**	**00 36 01.2**	**-0.4**
DUS					S	**Sn**	**00 36 13.8**	**-2.1**
DUS	**Dusheti**	**0.84**	**36**	P		**Pb**	**00 36 01.2**	**-0.4**
DUS					S	**Sn**	**00 36 13.8**	**-2.1**
DGRG	**David-gareji**	**1.01**	**87**	P		**Pg**	**00 36 03.3**	**-0.4**
DGRG					S	**Sg**	**00 36 16.5**	**-0.3**
DGRG	**David-gareji**	**1.01**	**87**	PG		**Pg**	**00 36 03.3**	**-0.4**
DGRG					S	**Sg**	**00 36 16.5**	**-0.3**
DGRG	**David-gareji**	**1.01**	**87**	P		**Pg**	**00 36 03.3**	**-0.

AGRB	**Hanur-Agry**	**2.00**	**204**	*e*Pn		**Pb**	**00 36 19.9**	**-1.4**
NEY	**Neytrino**	**2.08**	**333**⇑	*e*PN		**Pb**	**00 36 22.7**	**+0.1**
NEY				pmax	pmax			
	comp=Z,6.0nm,0.1s							
NEY	**Neytrino**	**2.08**	**333**	*e*Pn		**Pb**	**00 36 22.7**	**+0.1**
	comp=Z,6.0nm,0.1s							
NCK	**Nalchik**	**2.11**	**351**	*c i*PN		**Pg**	**00 36 23.8**	**-0.9**
NCK	**Nalchik**	**2.11**	**351**	*i* Pn		**Pg**	**00 36 23.8**	**-0.9**
GROC	**Groznyy**	**2.22**	**36**	*e*PN		**Pb**	**00 36 24.2**	**-0.7**
GROC				*e*			00 36 56.1	
GROC				pmax	pmax			
	comp=Z,11nm,0.4s							
GROC				smax	smax			
	comp=E,50nm,0.7s							
GROC				smax	smax			
	comp=N,19nm,0.7s							
GROC				smax	smax			
	comp=E,48nm,0.7s							
GROC	**Groznyy**	**2.22**	**36**	*e*Pn		**Pb**	**00 36 24.2**	**-0.7**
	comp=E,11nm,0.4s							
GROC				*e*Sb		**Sg**	**00 36 56.1**	**+0.6**
	comp=E,19nm,0.7s							
CLDR	**Caldiran**	**2.27**	**182**	*e*PN		**Pn**	**00 36 23.4**	**+0.6**
CLDR	**Caldiran**	**2.27**	**182**	*e*Pn		**Pn**	**00 36 23.4**	**+0.6**
GNBR	**Gunib**	**2.40**	**65**	*e*PN		**Pb**	**00 36 26.6**	**-1.4**
GNBR				*e*			00 36 58.7	
GNBR				pmax	pmax			
	comp=Z,10.0nm,0.4s							
GNBR				smax	smax			
	comp=N,78nm,0.4s							
GNBR				smax	smax			
	comp=E,98nm,0.5s							
GNBR				smax	smax			
	comp=E,112nm,0.5s							
GNBR	**Gunib**	**2.40**	**65**	*e*Pn		**Pb**	**00 36 26.6**	**-1.4**
	comp=E,10.0nm,0.4s							
GNBR				*e*Sn		**Sb**	**00 36 58.7**	**+0.7**
	comp=E,78nm,0.4s							
KIV	**Kislovodsk**	**2.73**	**339**	*i* PN		**Pb**	**00 36 30.9**	**-2.8**
KIV	**Kislovodsk**	**2.73**	**339**	*i* Pn		**Pb**	**00 36 30.9**	**-2.8**
AKT	**Akhty**	**2.78**	**87**	*e*PN		**Pn**	**00 36 31.3**	**+1.6**
AKT				*e*S		**Sb**	**00 37 08.0**	**-1.1**
AKT	**Akhty**	**2.78**	**87**	*e*Pn		**Pn**	**00 36 31.3**	**+1.6**
AKT				*e*Sn		**Sb**	**00 37 08.0**	**-1.1**
ANN	**Anapa**	**5.90**	**307**	*e*P		**Pn**	**00 37 14.8**	**+2.4**
ANN				pmax	pmax			
	comp=Z,4.0nm,0.3s							
ANN	**Anapa**	**5.90**	**307**	*e*P		**Pn**	**00 37 14.8**	**+2.4**
	comp=Z,4.0nm,0.3s							
KIEV	**Kiev**	**13.84**	**317**	*i* P		**Pn**	**00 39 02.5**	**+1.5**
KIEV				pmax	pmax			
	comp=Z,1.0nm,0.9s							
KIEV	**Kiev**	**13.84**	**317**	*i* P		**Pn**	**00 39 02.5**	**+1.5**
	comp=Z,1.0nm,0.9s							
ARU	**Arti**	**17.74**	**27**⇓	*e*P		**P**	**00 39 52.6**	**-0.3**
ARU				pmax	pmax			
	comp=Z,2.0nm,1.3s							
ARU	**Arti**	**17.74**	**27**	*e*P		**P**	**00 39 52.6**	**-0.3**
	comp=Z,2.0nm,1.3s							
BRVK	**Borovoye**	**21.16**	**48**⇑	*e*P		**P**	**00 40 30.8**	**+0.5**
BRVK				pmax	pmax			
	comp=Z,4.0nm,0.7s							
BRVK	**Borovoye**	**21.16**	**48**	*e*P		**P**	**00 40 30.8**	**+0.5**
	comp=Z,4.0nm,0.7s							

IDC ***06*** *00:39:20.6±1.2,4.°76S×145.°58E, h0km, mb3.7/4, mb1 4.0/6, mb1mx3.8/23, mbtmp3.8/6, ML3.3/2, Error ellipse: s-maj=44.3km s-min=23.8km az=111.0*

ISCJB ***06*** *00:39:24.0±1.4, 5.°1S±0.°1×145.°8E±0.°2, h27km, mb3.6/4, Error ellipse: s-maj=24.1km s-min=13.7km az=156.8*

ISC 06 00:39:25.0±1.2, 5.°0S±0.°1×145.°8E±0.°2, h27km, n8, σ1§53/9, mb3.9/4, Near north coast of New Guinea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**4.62**	**163**	Pn	**Pn**	**00 40 34.9**	**+1.7**
	15nm,0.3s,baz=290,slow=12,SNR=20						
PMG				Sn	**Sn**	**00 41 23.4**	**-2.5**
	12nm,0.3s,baz=112,slow=23,SNR=8.4						
WRA	**Warramunga Arr**	**18.58**	**216**	P	**Pn**	**00 43 40.6**	**0.0**
	0.4nm,0.3s,baz=39,slow=12,SNR=13						
ASAR	**Alice Springs**	**21.83**	**210**	P	**P**	**00 44 15.4**	**0.0**
	0.2nm,0.3s,baz=34,slow=12,SNR=5.6						
FITZ	**Fitzroy Crossi**	**23.61**	**235**	P	**P**	**00 44 33.4**	**-0.5**
	0.7nm,0.3s,baz=41,slow=10,SNR=17						
STKA	**Stephens Creek**	**27.06**	**188**	P	**P**	**00 45 06.8**	**+1.6**
	4.5nm,1.2s,baz=11,slow=10,SNR=2.8						
ILAR	**Eielson Array**	**85.02**	**23**	P	**P**	**00 51 57.6**	**-0.2**
	0.7nm,0.6s,baz=254,slow=5.2,SNR=10						
CPUP	**Villa Florida**	**141.68**	**145**	PKP	**PKPdf**	**00 58 54.6**	**-0.1**
	1.6nm,0.7s,baz=132,slow=2.9,SNR=3.4						
DBIC	**Dimbokro**	**150.72**	**275**	PKPbc	**PKPbc**	**00 59 14.5**	**-1.4**
	1.1nm,0.7s,baz=166,slow=4.2,SNR=2.9						

ISCJB ***06*** *00:56:38.2±0.8, 24.°15S±0.°07×67.°14W±0.°08, h188km±10km, mb3.2/3, Error ellipse: s-maj=11.9km s-min=10.4km az=27.2*

GUC ***06*** *00:56:39.6±0.4, 24.°13S×67.°50W, h210km±14km, ML4.7*

IDC ***06*** *00:56:39.5±1.6, 24.°00S×66.°96W, h181km±13km, mb3.2/3, mb1 3.4/7, mb1mx3.2/20, mbtmp3.6/7, Error ellipse: s-maj=25.9km s-min=18.8km az=11.0*

ISC 06 00:56:38.8±1.9, 24.°2S±0.°1×67.°1W±0.°1, h181km±16km, n17, σ1§32/24, mb3.2/3, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LVC	**Limon Verde**	**2.25**	**312**	P	**Pn**	**00 57 20.7**	**+1.6**
	569nm,0.3s,baz=122,slow=8.5,SNR=171						
LVC				S	**S**	**00 57 51.3**	**+0.9**
	3µm,0.3s,baz=75,slow=20,SNR=56						
PB06	**IPOC Station P**	**2.68**	**302**	*e*P	**Pn**	**00 57 24.4**	**+0.6**
PB06				*e*S	**S**	**00 57 58.6**	**-0.2**
PB06				IAML		00 58 00.7	
	comp=E,2µm,0.1s						
PB14	**IPOC Station P**	**3.04**	**260**	*e*P	**Pn**	**00 57 28.4**	**0.0**
PB14				*e*S	**S**	**00 58 05.6**	**-1.2**
PB09	**IPOC Station P**	**3.06**	**320**	*e*P	**Pn**	**00 57 30.1**	**+1.7**
PB09				*e*S	**S**	**00 57 08.8**	**+0.9**
PB09				IAML		00 58 10.6	
	comp=N,1µm,0.5s						
ANCH	**Antofagasta**	**3.06**	**278**	*e*P	**Pn**	**00 57 28.7**	**+0.5**
ANCH				*e*S	**S**	**00 58 05.5**	**-1.1**
PB10	**IPOC Station P**	**3.22**	**281**	*e*P	**Pn**	**00 57 30.1**	**-0.1**
PB10				*e*S	**S**	**00 58 08.1**	**-2.1**
PB10				IAML		00 58 12.3	
	comp=E,1µm,0.2s						
PB04	**IPOC Station P**	**3.33**	**302**	*e*P	**Pn**	**00 57 32.2**	**+0.5**
PB04				*e*S	**S**	**00 58 11.9**	**-1.0**
PB07	**IPOC Station P**	**3.52**	**313**	*e*P	**Pn**	**00 57 34.6**	**+0.6**
PB07				*e*S	**S**	**00 58 15.3**	**-1.8**
LPAZ	**La Paz**	**7.88**	**353**	P	**Pn**	**00 58 31.9**	**+0.8**
	comp=E,0.6nm,0.3s,baz=167,slow=8.2,SNR=13						
LPAZ				S	**S**	**00 59 56.7**	**-3.2**
	baz=336,slow=20,SNR=3.1						
CPUP	**Villa Florida**	**9.12**	**106**	P	Pn	00 58 46.2	-0.6
	comp=E,0.1nm,0.3s,baz=270,slow=13,SNR=3.3						
SIV	**San Ignacio**	**9.89**	**36**	P	**Pn**	**00 58 55.5**	**-1.6**
	comp=E,0.6nm,0.3s,baz=227,slow=15,SNR=13						
PLCA	**Paso Flores**	**16.79**	**189**	P	Pn	01 00 29.8	+6.3
	comp=E,0.2nm,0.3s,baz=12,slow=14,SNR=3.7						
TORD	**Torodi Ar. Bea**	**76.71**	**69**	P	**P**	**01 08 09.9**	**-0.5**
	comp=E,0.3nm,0.6s,baz=261,slow=5.5,SNR=8.7						
PDAR	**Pinedale Array**	**77.22**	**329**	P	**P**	**01 08 13.9**	**+1.0**
	comp=E,0.3nm,0.9s,baz=130,slow=2.8,SNR=2.2						
YKA	**Yellowknife Ar**	**94.23**	**340**	P	**P**	**01 09 36.8**	**+0.2**
	comp=E,0.3nm,0.6s,baz=135,slow=4.4,SNR=4.1						
ASAR	**Alice Springs**	**128.28**	**205**	PKP	**PKPdf**	**01 15 25.1**	**+0.8**
	comp=E,0.7nm,0.8s,baz=188,slow=36,SNR=3.9						
WRA	**Warramunga Arr**	**131.45**	**207**	PKP	**PKPdf**	**01 15 31.1**	**+0.7**
	comp=E,0.3nm,0.4s,baz=156,slow=1.6,SNR=5.5						

JMA ***06*** *01:04:21.7±0.2, 37.°12N×135.°08E, h384km±2km, M3.2*

ISCJB ***06*** *01:04:22.5±0.5, 37.°15N±0.°08×135.°04E±0.°09, h372km, mb3.2/4, Error ellipse: s-maj=11.9km s-min=9.5km az=152.7*

IDC ***06*** *01:04:22.5±1.1, 37.°03N×135.°11E, h382km±13km, mb3.0/4, mb1 3.2/8, mb1mx3.0/36, mbtmp3.7/8, Error ellipse: s-maj=27.0km s-min=15.8km az=109.0*

ISC 06 01:04:22.4±0.8, 37.°08N±0.°09×135.°08E±0.°07, h372km, n19, σ0§93/21, mb3.3/4, Sea of Japan

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JJH	**Hakui**	**1.37**	**96**	P	**Pn**	**01 05 12.7**	**+0.7**
JOI	**OKI**	**1.67**	**243**	P	**Pn**	**01 05 14.7**	**+1.0**
JWT	**Wachi**	**1.81**	**172**	P	**Pn**	**01 05 15.6**	**+1.0**
JWT				S	**S**	**01 05 57.4**	**+0.8**
JSZ	**Suzu**	**1.86**	**78**	P	**Pn**	**01 05 15.7**	**+1.0**
MAT	**Matsushiro**	**2.56**	**101**	P	**Pn**	**01 05 20.4**	**+0.6**
MAT				*e*S	**S**	**01 06 07.9**	**+1.7**
MAT	**Matsushiro**	**2.56**	**101**	P	**Pn**	**01 05 20.3**	**+0.5**
MJAR	**Matsushiro Arr**	**2.56**	**101**	P	**Pn**	**01 05 20.9**	**+1.0**
	5.5nm,0.3s,baz=284,slow=9.6,SNR=64						
JHS	**Saijyo**	**2.62**	**218**	P	**Pn**	**01 05 20.9**	**+0.5**
JSD	**Sado**	**2.70**	**68**	P	**Pn**	**01 05 21.2**	**+0.4**
JWY	**Kouya**	**2.88**	**172**	P	**Pn**	**01 05 23.2**	**+0.6**
JGT2	**ShimaneMisato**	**2.90**	**227**	P	**Pn**	**01 05 23.3**	**+0.7**
JTO	**Tosashimizu**	**4.61**	**205**	P	**Pn**	**01 05 39.6**	**+0.6**
JNU	**Nakatsue**	**5.24**	**222**	P	**Pn**	**01 05 46.5**	**+0.7**
	1.7nm,0.3s,baz=45,slow=1.4,SNR=6.2						
KSRS	**Korea Array**	**5.72**	**276**	P	**Pn**	**01 05 51.8**	**+1.0**
	0.7nm,0.3s,baz=96,slow=12,SNR=27						
USRK	**Ussuriysk Ar.**	**7.49**	**343**	P	**P**	**01 06 11.9**	**+0.1**
	0.2nm,0.3s,baz=160,slow=13,SNR=4.1						
ILAR	**Eielson Array**	**52.16**	**32**	P	**P**	**01 12 54.9**	**-0.9**
	0.7nm,0.7s,baz=266,slow=6.1,SNR=12						
WRA	**Warramunga Arr**	**56.72**	**181**	P	**P**	**01 13 27.4**	**-1.3**
	0.4nm,0.3s,baz=355,slow=7.6,SNR=6.1						
ASAR	**Alice Springs**	**60.43**	**181**	P	**P**	**01 13 52.8**	**-1.2**
	1.2nm,1.1s,baz=208,slow=24,SNR=2.9						
TXAR	**Lajitas Array**	**94.00**	**48**	P	**P**	**01 16 59.3**	**0.0**
	0.3nm,0.7s,baz=339,slow=4.8,SNR=2.7						

NIED ***06*** *01:19:00, 34.°80N×142.°70E, h5km, Mw4.2 Best double couple: M0 2.41000×10^15 NP1:φs 32.00000°, δ29.00000°, λ-92.00000°. NP2:φs 214.00000°, δ61.00000°, λ-89.00000°.*

IDC ***06*** *01:19:25.9±0.5, 34.°78N×142.°80E, h0km, mb4.3/23, mb1 4.4/28, mb1mx4.3/41, mbtmp4.2/28, ML4.0/4, MS3.3/11, Ms1 3.3/11, ms1mx3.0/36, Error ellipse: s-maj=16.2km s-min=12.2km az=103.0*

NEIC ***06*** *01:19:27.4±0.2, 34.°76N×142.°74E, h10km, mb4.5/6, Error ellipse: s-maj=6.5km s-min=5.7km az=87.0*

JMA ***06*** *01:19:28.5±0.3, 34.°78N×142.°74E, h49km, M4.4*

MOS ***06*** *01:19:29.4±1.0, 34.°76N×142.°73E, h33km, mb4.6/27, Error ellipse: s-maj=11.5km s-min=7.4km az=118.9*

ISCJB ***06*** *01:19:30.6±0.3, 34.°80N±0.°04×142.°59E±0.°03, h42km, mb4.4/42, MS3.3/8, Error ellipse: s-maj=5.8km s-min=3.8km az=8.9*

ISC 06 01:19:32.3±0.5, 34.°79N±0.°06×142.°68E±0.°06, h42km, n106, σ1§63/109, mb4.4/42, MS3.4/8, 6C-5D, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BSO1	**Boso 1**	**1.41**	**265**	P	**Pn**	**01 19 52.9**	**-2.1**
BSO1				X		01 20 11.4	
CHOJ	**Chosi**	**1.75**	**302**	P	**Pn**	**01 19 58.0**	**-2.1**
CHOJ				S	**Sn**	**01 20 19.1**	**-2.1**
BSO3	**Boso 3**	**1.79**	**271**	P	**Pn**	**01 19 58.8**	**-1.6**
BSO3				X		01 20 19.4	
BSO4	**Boso 4**	**1.94**	**277**	P	**Pn**	**01 20 01.2**	**-1.4**
BSO4				*e*X		01 20 26.6	
KTR	**Katsuura**	**1.98**	**281**	S	**Sn**	**01 20 25.3**	**-1.5**
JCN	**Nagara**	**2.13**	**288**	P	**Pn**	**01 20 04.0**	**-1.3**
JCN				*e*S	**Sn**	**01 20 29.9**	**-0.6**
JHJ2	**Mitsune**	**2.91**	**236**	P	**Pn**	**01 20 13.7**	**-2.4**
JHJ	**Hachijo jima 2**	**2.93**	**236**	Pn	**Pn**	**01 20 13.8**	**-2.6**
	149nm,0.3s,baz=45,slow=20,SNR=19						
JHJ				Sn	**Sn**	**01 20 48.1**	**-2.1**
	172nm,0.3s,baz=96,slow=21,SNR=9.0						
JOD2	**Odawara 2**	**2.99**	**280**	P	**Pn**	**01 20 14.8**	**-2.4**
JAG	**Ashikaga**	**3.10**	**303**	P	**Pn**	**01 20 16.3**	**-2.3**
JAG				S	**Sn**	**01 20 52.2**	**-2.2**
JFT	**Otama**	**3.32**	**326**	P	**Pn**	**01 20 19.1**	**-2.6**
JRY	**Ryogami san**	**3.32**	**293**	P	**Pn**	**01 20 20.3**	**-1.5**
JRY				*e*S	**Sn**	**01 20 58.5**	**-1.5**
JYN	**Shimob**	**3.46**	**283**	P	**Pn**	**01 20 21.5**	**-2.2**
JYN				S	**Sn**	**01 21 01.6**	**-2.0**
MJAR	**Matsushiro Arr**	**4.04**	**297**	Pn	**Pn**	**01 20 29.8**	**-1.8**
	4.9nm,0.3s,baz=93,slow=17,SNR=28						
MJAR				Sn	**Sn**	**01 21 14.7**	**-3.0**
	7.8nm,0.3s,baz=112,slow=32,SNR=6.9						
MAJO	**Matsushiro**	**4.04**	**297**⇑	*e*P	**Pn**	**01 20 30.5**	**-1.1**
MAJO	**Matsushiro**	**4.04**	**297**	*e*Pn	**Pn**	**01 20 30.0**	**-1.7**
MAJO				*e*S	Sn	01 20 59.3	-1.8
MAT	**Matsushiro**	**4.04**	**297**	P	**Pn**	**01 20 29.8**	**-1.8**
MAT				S	**Sn**	**01 21 14.8**	**-3.0**
MAT	**Matsushiro**	**4.04**	**297**	P	**Pn**	**01 20 30.0**	**-1.6**
MAT				*e*S	**Sn**	**01 21 15.8**	**-2.0**
JNS	**Sasagawa**	**4.07**	**319**	P	**Pn**	**01 20 30.8**	**-1.1**
JYK	**Kaneyama**	**4.52**	**336**	P	**Pn**	**01 20 36.1**	**-2.1**
JOM	**Ohasama**	**4.81**	**347**	P	**Pn**	**01 20 40.0**	**-2.1**
ERM	**Erimo**	**7.23**	**3**⇑	*e*P	**Pn**	**01 21 11.4**	**-3.9**
ERM	**Erimo**	**7.23**	**3**	*e*Pn	Pn	01 21 09.2	-6.1
ERM				*e*S	Sn	01 22 26.6	-9.4
CBIJ	**Chichi jima**	**7.68**	**183**	*e*Pn	**Pn**	**01 21 17.3**	**-4.3**
CBIJ				*e*S	Sn	01 22 33.7	-14
ASAJ	**Asahikawa**	**9.32**	**360**	Pn	**Pn**	**01 21 40.0**	**-3.9**
	3.1nm,0.3s,baz=203,slow=13,SNR=3.2						
KSRS	**Korea Array**	**12.23**	**287**	Pn	**Pn**	**01 22 23.2**	**-0.6**
	0.2nm,0.3s,baz=88,slow=14,SNR=3.0						
KSRS				LR	LR	01 27 07.3	
	comp=Z,137nm,21.2s,baz=98,slow=37						
KSAR	**Wonju Array Be**	**12.26**	**287**	P	**Pn**	**01 22 23.2**	**-1.0**
KSAR	**Wonju Array Be**	**12.26**	**287**	Pn	**Pn**	**01 22 23.2**	**-1.0**
USRK	**Ussuriysk Ar.**	**12.50**	**322**	Pn	**Pn**	**01 22 26.7**	**-0.7**
	0.2nm,0.3s,baz=130,slow=12,SNR=4.1						
USRK				LR	LR	01 26 51.0	
	comp=Z,97nm,21.0s,baz=149,slow=35						
KLR	**Kul'dur**	**16.53**	**334**	LR	LR	01 30 03.1	
	comp=Z,78nm,18.6s,baz=122,slow=38						
PETK	**Petropavlovsk-**	**21.19**	**26**	P	**P**	**01 24 12.0**	**-2.0**
	2.6nm,0.7s,baz=218,slow=11,SNR=3.2						
PETK	**Petropavlovsk-**	**21.19**	**26**	P	**P**	**01 24 12.0**	**-2.0**
PETK				pmax	pmax		
	comp=Z,2.0nm,0.5s						
MA2	**Magadan**	**25.36**	**10**	P	**P**	**01 24 54.0**	**-1.1**
	comp=Z,3.9nm,0.4s,baz=163,slow=13,SNR=3.2						
H11N2	**WAKE ISLAND Hy**	**26.14**	**119**	T	T	01 52 18.1	
	baz=310,slow=75,SNR=26						
H11N1	**WAKE ISLAND Hy**	**26.15**	**119**	T	T	01 52 23.0	
	baz=310,slow=75,SNR=28						
H11N3	**WAKE ISLAND Hy**	**26.16**	**119**	T	T	01 52 23.2	
	baz=310,slow=75,SNR=26						
H11S1	**WAKE ISLAND Hy**	**26.80**	**121**	T	T	01 53 08.6	
	baz=312,slow=76,SNR=30						
H11S3	**WAKE ISLAND Hy**	**26.80**	**121**	T	T	01 53 06.0	
	baz=312,slow=76,SNR=41						
H11S2	**WAKE ISLAND Hy**	**26.81**	**121**	T	T	01 53 05.8	
	baz=312,slow=76,SNR=22						
YAK	**Yakutsk**	**28.48**	**347**	LR	LR	01 38 33.6	
	comp=Z,26nm,19.5s,baz=81,slow=40						
SEY	**Seymchan**	**28.82**	**9**	P	**P**	**01 25 25.4**	**-0.7**
	comp=Z,2.8nm,0.6s,baz=208,slow=4.9,SNR=5.2						
ULN	**Ulaanbaatar**	**29.50**	**307**⇓	*e*P	**P**	**01 25 35.0**	**+2.4**
ULN				pmax	pmax		
	comp=Z,3.0nm,1.2s						
SONM	**Songino Array**	**29.93**	**307**	P	**P**	**01 25 36.4**	**+0.1**
	comp=Z,1.3nm,0.6s,baz=106,slow=11,SNR=2.3						
BILL	**Bilibino**	**35.91**	**15**	*e*P	**P**	**01 26 28.9**	**+0.9**
BILL				*e*		01 27 56.4	
BILL				pmax	pmax		
	comp=Z,8.0nm,1.3s						
CMAR	**Chiang Mai Arr**	**42.00**	**259**	P	**P**	**01 27 19.4**	**-0.1**
	comp=Z,0.8nm,0.3s,baz=50,slow=8.4,SNR=4.1						
CMAR				LR	LR	01 47 00.0	
	comp=Z,23nm,18.2s,baz=220,slow=39						
CMAR	**Chiang Mai Arr**	**42.00**	**259**	*e*P	**P**	**01 27 21.1**	**+1.5**
CMAR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
PMG	**Port Moresby**	**44.16**	**174**	P	**P**	**01 27 36.9**	**0.0**
	comp=Z,19nm,1.0s,baz=105,slow=20,SNR=1.9						
ZALV	**Zalesovo Beam**	**44.20**	**314**	P	**P**	**01 27 37.5**	**+0.5**
	comp=Z,1.5nm,0.4s,baz=97,slow=7.2,SNR=7.5						
ZALV				PcP	**PcP**	**01 29 21.0**	**0.0**
	comp=Z,1.2nm,0.5s,baz=107,slow=1.5,SNR=3.1						
ZALV				LR	LR	01 46 04.2	
	comp=Z,14nm,19.3s,baz=78,slow=36						
NVS	**Novosibirsk**	**45.15**	**315**	*e*P	**P**	**01 27 45.3**	**+0.9**
KURK	**Kurchatov**	**48.14**	**310**	*d i*P	**P**	**01 28 07.6**	**-0.3**
KURK				pmax	pmax		
	comp=Z,14nm,0.7s						
KURK	**Kurchatov**	**48.14**	**310**	*e*P	**P**	**01 28 07.7**	**-0.3**
	comp=Z,48nm,0.8s						
ILAR	**Eielson Array**	**50.85**	**31**	P	**P**	**01 28 27.6**	**-0.8**
	comp=Z,1.9nm,0.9s,baz=264,slow=6.5,SNR=13						
AAK	**Ala-Archa**	**52.49**	**300**⇑	*i*P	**P**	**01 28 42.1**	**+0.9**
AAK				pmax	pmax		
	comp=Z,9.0nm,1.1s						
BRVK	**Borovoye**	**52.91**	**314**⇓	*e*P	**P**	**01 28 44.9**	**+1.0**
BRVK				pmax	pmax		
	comp=Z,13nm,1.6s						
WRAB	**Tennant Creek**	**54.99**	**190**⇑	*i*P	**P**	**01 28 59.0**	**-0.4**
WRAB	**Tennant Creek**	**54.99**	**190**	*e*P	**P**	**01 28 58.5**	**-0.9**
	comp=Z,11nm,1.1s						
WRA	**Warramunga Arr**	**55.00**	**190**	P	**P**	**01 28 58.7**	**-0.7**
	comp=Z,11nm,0.9s,baz=8.3,slow=7.6,SNR=49						
KKAR	**Karatay Array**	**55.16**	**302**	*e*P	**P**	**01 29 00.9**	**+0.4**
KKAR				pmax	pmax		
	comp=Z,2.0nm,0.7s						
KKAR	**Karatay Array**	**55.16**	**302**	*e*P	**P**	**01 29 00.9**	**+0.4**
	comp=Z,2.0nm,0.7s						
INK	**Inuvik**	**55.92**	**27**	P	**P**	**01 29 05.2**	**-0.3**
	comp=Z,3.9nm,0.8s,baz=295,slow=7.8,SNR=7.5						
INK	**Inuvik**	**55.92**	**27**	*e*P	**P**	**01 29 05.9**	**+0.4**
ASAR	**Alice Springs**	**58.73**	**189**	P	**P**	**01 29 25.4**	**-0.4**
	comp=Z,4.6nm,0.9s,baz=9.6,slow=5.8,SNR=31						
ARU	**Arti**	**58.73**	**320**	*d i*P	**P**	**01 29 25.6**	**+0.1**
ARU						01 30 13.4	
ARU						01 31 32.3	
ARU				S	**S**	**01 37 30.6**	**+3.4**
ARU				SS	**SS**	**01 41 23.0**	**+2.9**
ARU				pmax	pmax		
	comp=Z,8.0nm,1.2s						
ARU	**Arti**	**58.73**	**320**	*e*P	**P**	**01 29 25.1**	**-0.4**
	comp=Z,3.7nm,0.6s						
ABKAR	**Akbulak array**	**60.19**	**311**	*e*P	**P**	**01 29 35.5**	**-0.2**
	comp=Z,2.4nm,0.5s						
RES	**Resolute Bay**	**64.52**	**14**	P	**P**	**01 30 04.3**	**+0.1**
	comp=Z,5.7nm,0.6s,baz=315,slow=9.1,SNR=3.2						
YKA	**Yellowknife Ar**	**65.23**	**30**	P	**P**	**01 30 08.7**	**-0.4**
	comp=Z,1.9nm,0.8s,baz=305,slow=6.5,SNR=5.2						
GEYT	**Alibeck**	**65.84**	**300**	P	**P**	**01 30 14.3**	**+0.8**
	comp=Z,1.7nm,0.5s,baz=44,slow=8.7,SNR=4.3						
GEYT				LR	LR	01 59 56.6	
	comp=Z,32nm,18.9s,baz=145,slow=37						
STKA	**Stephens Creek**	**66.32**	**181**	P	**P**	**01 30 16.4**	**+0.1**
	comp=Z,3.5nm,0.8s,baz=323,slow=14,SNR=3.0						
ARCES	**ARCESS Array B**	**66.46**	**340**	P	**P**	**01 30 17.3**	**+0.5**
	comp=Z,1.3nm,0.8s,baz=41,slow=9.7,SNR=3.2						
ARCES				LR	LR	02 01 46.0	
	comp=Z,20nm,21.0s,baz=35,slow=38						
OBN	**Obninsk**	**70.51**	**324**	*e*P	**P**	**01 30 44.1**	**+1.8**
OBN				*e*		01 31 04.2	
OBN				*e*		01 33 21.5	
OBN				pmax	pmax		
	comp=Z,4.0nm,1.2s						
FINES	**FINESS Array B**	**71.28**	**333**	P	**P**	**01 30 47.0**	**+0.1**
	comp=Z,1.9nm,0.7s,baz=61,slow=9.0,SNR=3.6						
FINES				LR	LR	02 04 58.6	
	comp=Z,31nm,18.6s,baz=36,slow=38						
FINES	**FINESS Array B**	**71.28**	**333**	*i* P	**P**	**01 30 48.2**	**+1.3**
FINES				pmax	pmax		
	comp=Z,2.0nm,0.7s						
VSR	**Storozhevoye**	**71.30**	**320**⇑	*e*P	**P**	**01 30 47.7**	**+0.4**
VSR				pmax	pmax		
	comp=Z,4.0nm,0.6s						
KBZ	**Khabaz**	**73.15**	**312**	P	**P**	**01 30 59.4**	**+1.0**
	comp=Z,4.0nm,0.8s,baz=50,slow=5.7,SNR=7.6						
KIV	**Kislovodsk**	**73.16**	**312**	*e*P	**P**	**01 30 59.9**	**+1.3**
KIV				pmax	pmax		
	comp=Z,1.1nm,1.1s						
CMB	**Columbia Colle**	**74.33**	**55**	*e*P	**P**	**01 31 05.4**	**-0.1**
CMB				pmax	pmax		
	comp=Z,43nm,1.1s						
CMB	**Columbia Colle**	**74.33**	**55**	*e*P	**P**	**01 31 05.4**	**-0.1**
	comp=Z,43nm,1.1s						
NB2	**NORSAR Subarra**	**76.65**	**338**	P	**P**	**01 31 18.3**	**-0.1**
	comp=Z,2.6nm,0.6s,baz=40,slow=5.9						
NOA	**NORSAR Array B**	**76.65**	**338**	P	**P**	**01 31 18.7**	**+0.3**
	comp=Z,2.3nm,0.8s,baz=39,slow=5.8,SNR=5.2

Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KII	**Karymskiy**	**0.77**	**266**	*eP*	Pn	01 42 05.5	+1.0
KII				*eS*	Sn	01 42 17.5	+1.3
KZV	**Kizimen**	**1.05**	**345**	*eP*	Pn	01 42 09.8	+1.7
KZV				*eS*	Sn	01 42 23.8	+1.4
SPN	**Mys Shipunski**	**1.09**	**204**	*eP*	Pn	01 42 10.2	+1.9
SPN				*eS*	Sn	01 42 24.7	+1.7
TUMD	**Tumrok D**	**1.13**	**350**	*eP*	Pn	01 42 10.4	+1.5
TUMD				*eS*	Sn	01 42 25.2	+1.3
SDLR	**Sedlovina**	**1.38**	**234**	*eP*	Pn	01 42 14.1	+1.9
SDLR				*eS*	Sn	01 42 31.3	+1.4
KRER	**Koryakskii**	**1.43**	**237**	*eP*	Pn	01 42 14.9	+1.9
KRER				*eS*	Sn	01 42 33.0	+1.8
KRX	**Arik**	**1.45**	**240**	*eP*	Pn	01 42 14.4	+1.2
UGLR	**Uglovaya**	**1.45**	**233**	*i P*	Pn	01 42 15.0	+1.9
UGLR				*eS*	Sn	01 42 33.1	+1.6
AVH	**Avacha**	**1.46**	**236**	*eP*	Pn	01 42 15.2	+2.0
AVH				*eS*	Sn	01 42 33.2	+1.6
KOK	**Koryaka**	**1.50**	**238**	*eP*	Pn	01 42 15.6	+1.9
KMNR	**Kamenistaya**	**1.69**	**350**	*eP*	Pn	01 42 18.5	+2.2
GNL	**Ganaly**	**1.71**	**258**	*eP*	Pn	01 42 18.2	+1.6
GNL				*eS*	Sn	01 42 39.5	+1.8
BZMR	**Bezymyannaya**	**1.85**	**355**	*eP*	Pn	01 42 20.1	+1.6
KIRR	**Kirishev**	**1.88**	**353**	*eP*	Pn	01 42 20.0	+1.2
ZLN	**Zelenaya**	**1.93**	**1**	*eP*	Pn	01 42 21.2	+1.8
KRMR	**Karymshinskiy**	**2.02**	**232**	*eP*	Pn	01 42 22.9	+2.4
KRMR				*eS*	Sn	01 42 47.8	+3.0
KRSR	**Krestovskiy**	**2.13**	**357**	*eP*	Pn	01 42 25.1	+2.9
RUS	**Russkaya**	**2.14**	**220**	*eP*	Pn	01 42 23.8	+1.6
RUS				*eS*	Sn	01 42 49.3	+1.5
KLY	**Klyuchi**	**2.22**	**359**	*eP*	Pn	01 42 25.2	+1.9
GRL	**Gorelyy**	**2.23**	**227**	*eP*	Pn	01 42 56.7	+3.1
MTVR	**Mutnovka**	**2.23**	**225**	*eP*	Pn	01 42 26.4	+2.8
MTVR				*eS*	Sn	01 42 53.0	+2.7
ASAK	**Asacha**	**2.43**	**226**	*eP*	Pn	01 42 28.7	+2.5
ASAK				*eS*	Sn	01 42 56.2	+1.4
KBG	**Krutoberegovo**	**2.44**	**27**	*eP*	Pn	01 42 28.1	+1.9
KBG				*eS*	Sn	01 42 57.8	+2.9
APC	**Apacha**	**2.45**	**243**	*eP*	Pn	01 42 28.4	+2.1
APC				*eS*	Sn	01 42 57.7	+2.5
SMKR	**Semkarok**	**2.52**	**9**	*eP*	Pn	01 42 30.5	+3.0
SMKR				*eS*	Sn	01 43 00.0	+2.8
SRKR	**Sorokina**	**2.58**	**5**	*eP*	Pn	01 42 31.3	+3.1
SRKR				*eS*	Sn	01 43 01.5	+3.1
BKI	**Bering**	**3.23**	**68**	*eP*	Pn	01 42 39.2	+2.3
BKI				*eS*	Sn	01 43 15.8	+1.6

NEIC ***06*** *01:50:17.4±0.0,51.39N×131.06W,h10km,MW4.5(OTT), After OTT.*

PGC ***06*** *01:50:17.4±5.5,51.39N×131.06W,h10km,MLSn3.6/15, Mw4.5/15,213km Sse of Sandspit, Bc Haida Gwaii Region*

ISC 06 01:50:20.2±1.3, 51°52N±0.07×130°87W±0.06, h22km±10km, n39, σ2°33/58, Queen Charlotte Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BNB	**Barry Inlet**	**1.19**	**333**	P	**Pn**	**01 50 39.0**	**-2.6**
BNB				S	**Sb**	**01 50 54.7**	**-2.3**
BNB	**Barry Inlet**	**1.19**	**333**	P	**Pn**	**01 50 39.0**	**-2.6**
BNB				S	**Sb**	**01 50 54.7**	**-2.3**
MOBC	**Moresby Island**	**1.76**	**338**	Pn	**Pn**	**01 50 47.4**	**-2.0**
MOBC				Sg	**Sb**	**01 51 13.8**	**+0.4**
MOBC	**Moresby Island**	**1.76**	**338**	Pn	**Pn**	**01 50 47.4**	**-2.0**
MOBC				Sg	**Sb**	**01 51 13.8**	**+0.4**
BBB	**Bella Bella**	**1.83**	**68**	Pn	**Pn**	**01 50 48.1**	**-2.2**
BBB				Sn	**Sn**	**01 51 12.3**	**-0.5**
BBB	**Bella Bella**	**1.83**	**68**	Pn	**Pn**	**01 50 48.1**	**-2.2**
BBB				Sn	**Sn**	**01 51 12.3**	**-0.5**
HOLB	**Holberg**	**1.94**	**116**	Pn	**Pn**	**01 50 50.1**	**-1.7**
HOLB	**Holberg**	**1.94**	**116**	Pn	**Pn**	**01 50 50.1**	**-1.7**
DIB	**Dawson Inlet,**	**1.95**	**330**	Pn	**Pn**	**01 50 49.5**	**-2.4**
DIB				Sn	**Sn**	**01 51 14.1**	**-1.6**
DIB				Sg	**Sb**	**01 51 19.4**	**+0.5**
DIB	**Dawson Inlet,**	**1.95**	**330**	Pn	**Pn**	**01 50 49.5**	**-2.4**
DIB				Sn	**Sn**	**01 51 14.1**	**-1.6**
DIB				Sg	**Sb**	**01 51 19.4**	**+0.5**
VIB	**Van Inlet**	**2.01**	**330**	Pn	**Pn**	**01 50 50.6**	**-2.3**
VIB				Sn	**Sn**	**01 51 14.0**	**-3.4**
VIB				Sg	**Sb**	**01 51 21.5**	**+0.8**
VIB	**Van Inlet**	**2.01**	**330**	Pn	**Pn**	**01 50 50.6**	**-2.3**
VIB				Sn	**Sn**	**01 51 14.0**	**-3.4**
VIB				Sg	**Sb**	**01 51 21.5**	**+0.8**
PHC	**Port Hardy**	**2.32**	**109**	Pn	**Pn**	**01 50 54.7**	**-2.3**
PHC	**Port Hardy**	**2.32**	**109**	Pn	**Pn**	**01 50 54.6**	**-2.3**
BPBC	**Brooks Peninsu**	**2.39**	**124**	Pn	**Pn**	**01 50 57.5**	**-0.6**
BPBC	**Brooks Peninsu**	**2.39**	**124**	Pn	**Pn**	**01 50 57.5**	**-0.6**
MAYB	**Maynard**	**2.59**	**114**	Pn	**Pn**	**01 50 58.5**	**-2.5**
MAYB	**Maynard**	**2.59**	**114**	Pn	**Pn**	**01 50 58.5**	**-2.5**
BCBC	**Bella Coola**	**2.69**	**70**	Pn	**Pn**	**01 51 02.2**	**+0.2**
BCBC				Sn	**Sb**	**01 51 38.9**	**-1.1**
TLCB	**Telegraph Cove**	**2.73**	**109**	Pn	**Pn**	**01 51 00.6**	**-2.1**
NDB	**Naden**	**2.74**	**333**	Pn	**Pn**	**01 51 00.7**	**-2.1**
NDB				Sg	**Sb**	**01 51 44.7**	**+3.0**
NDB	**Naden**	**2.74**	**333**	Pn	**Pn**	**01 51 00.7**	**-2.1**
NDB				Sg	**Sb**	**01 51 44.7**	**+3.0**
EDB	**Eliza Dome**	**2.90**	**123**	Pn	**Pn**	**01 51 02.0**	**-3.0**
EDB	**Eliza Dome**	**2.90**	**123**	Pn	**Pn**	**01 51 02.0**	**-3.0**
WOSB	**Woss**	**3.05**	**115**	Pn	**Pn**	**01 51 05.4**	**-1.7**
WOSB	**Woss**	**3.05**	**115**	Pn	**Pn**	**01 51 05.4**	**-1.7**
NCRB	**Newcastle Ridg**	**3.24**	**108**	Pn	**Pn**	**01 51 07.0**	**-2.8**
NCRB	**Newcastle Ridg**	**3.24**	**108**	Pn	**Pn**	**01 51 07.0**	**-2.8**
GDR	**Gold River**	**3.54**	**118**	Pn	**Pn**	**01 51 14.1**	**+0.3**
GDR	**Gold River**	**3.54**	**118**	Pn	**Pn**	**01 51 14.1**	**+0.3**
BTB	**Buttle Lake**	**3.99**	**119**	Pn	**Pn**	**01 51 21.9**	**+1.8**
BTB	**Buttle Lake**	**3.99**	**119**	Pn	**Pn**	**01 51 21.9**	**+1.8**
CRAG	**Craig**	**4.18**	**342**	*e*Pn	**Pn**	**01 51 24.3**	**+1.8**
CRAG				*e*Sn	**Sn**	**01 52 12.4**	**+1.8**
CRAG				*e*Sg	**Sb**	**01 52 28.6**	**+5.7**
MGB	**Mount Grey**	**4.70**	**120**	Pn	**Pn**	**01 51 32.0**	**+2.2**
MGB	**Mount Grey**	**4.70**	**120**	Pn	**Pn**	**01 51 32.0**	**+2.2**
SHB	**Sechelt**	**4.86**	**111**	Pn	**Pn**	**01 51 29.4**	**-2.6**
SHB	**Sechelt**	**4.86**	**111**	Pn	**Pn**	**01 51 29.4**	**-2.6**
PGC	**Sidney**	**5.57**	**118**	*e*Pn	Pn	01 51 30.2	-12
PGC				S	**Sb**	**01 53 00.2**	**-2.8**
MOOW	**Moose Ponds** 2.8nm,0.7s	**15.60**	**112**	Pn	**P**	**01 54 07.5**	**+4.6**
MOOW				S	Sn	01 56 28.5	-23

IDC ***06*** *02:05:04.3±0.6,17.25S×172.60W,h0km,mb4.2/10, mb1 4.4/11,mb1mx4.2/34,mbtmp4.2/11,ML3.9/1,MS3.7/10, Ms1 3.7/10,ms1mx3.4/30,Error ellipse: s-maj=25.2km s-min=16.6km az=128.0*

ISCJB ***06*** *02:05:05.2±0.6,17.13S±0.07×172.78W±0.1,h17km, mb4.3/13,MS3.7/9,Error ellipse: s-maj=19.4km s-min=7.5km az=23.9*

NEIC ***06*** *02:05:09.6±0.4,17.34S×172.72W,h35km,mb4.1/1,Error ellipse: s-maj=17.6km s-min=13.0km az=132.0*

ISC 06 02:05:06.4±0.6, 17°20S±0.08×172°6W±0.1, h17km, n35, σ1°54/28, mb4.2/13, MS3.8/9, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**3.36**	**13**	Pn	**Pn**	**02 05 56.8**	**-1.4**
AFI	11nm,0.3s,baz=24,slow=22,SNR=6.2			Sn	**Sn**	**02 06 37.7**	**-0.2**
AFI	22nm,0.3s,baz=312,slow=22,SNR=3.6 **Afiamalu**	**3.36**	**13**	*e*Pn	**Pn**	**02 05 55.8**	**-2.5**
AFI				*e*S	**Sn**	**02 06 37.4**	**-0.5**
RAR	**Rarotonga**	**12.73**	**110**	LR	LR	02 11 23.6	
DZM	comp=Z,296nm,19.6s,baz=285,slow=30 **Mont Dzumac**	**20.34**	**253**	LR	LR	02 16 17.0	
DZM	comp=Z,251nm,19.3s,baz=37,slow=33 **Mont Dzumac** 60nm,0.2s	**20.34**	**253**	*e*P	Pn	02 09 56.0	+12
PPT2	**Papeete2** 344nm,25.6s	**21.95**	**94**	*e*LR	LR	02 14 41.8	
PPT	**Papeete**	**21.95**	**94**	LR	LR	02 16 25.8	
TBI	comp=Z,125nm,18.5s,baz=281,slow=31 **Tubuai** 329nm,28.2s	**22.51**	**110**	*e*LR	LR	02 15 00.8	
URZ	**Urewera**	**22.84**	**201**	P	**P**	**02 10 08.5**	**-0.3**
URZ	24nm,0.9s,baz=5.9,slow=7.5,SNR=14			S	**S**	**02 14 15.3**	**-2.2**
HNR	2.7nm,0.8s,baz=59,slow=18,SNR=1.9 **Honiara**	**27.81**	**283**	P	**P**	**02 10 53.4**	**-1.6**
HNR	126nm,0.6s,baz=149,slow=4.8,SNR=2.2			LR	LR	02 20 10.1	
RPZ	comp=Z,263nm,21.9s,baz=127,slow=33 **Rata Peaks**	**29.84**	**204**	P	**P**	**02 11 14.6**	**+1.8**
TAOE	3.3nm,0.3s,baz=54,slow=8.7,SNR=3.7 **Nuku Hiva Isla** 147nm,25.9s	**32.62**	**79**	*e*LR	LR	02 19 46.7	
CTA	**Charters Tower**	**39.05**	**259**	P	**P**	**02 12 34.5**	**+1.7**
STKA	1.2nm,0.3s,baz=68,slow=5.4,SNR=3.2 **Stephens Creek**	**43.86**	**242**	LR	LR	02 28 47.2	
WRAB	comp=Z,113nm,18.9s,baz=202,slow=32 **Tennant Creek**	**50.22**	**258**	*e*P	**P**	**02 14 01.3**	**-0.6**
WRA	1.9nm,0.8s **Warramunga Arr**	**50.23**	**258**	P	**P**	**02 14 00.7**	**-1.3**
WRA	2.7nm,0.9s,baz=95,slow=8.3,SNR=8.2			LR	LR	02 32 52.7	
ASAR	comp=Z,104nm,20.9s,baz=140,slow=33 **Alice Springs**	**50.33**	**253**	P	**P**	**02 14 01.9**	**-0.8**
ASAR	9.7nm,0.8s,baz=87,slow=8.4,SNR=7			LR	LR	02 33 58.6	
VNDA	comp=Z,61nm,18.2s,baz=172,slow=34 **Vanda**	**61.67**	**186**	P	**P**	**02 15 22.7**	**-0.3**
QSPA	0.3nm,0.7s,baz=24,slow=6.4,SNR=3.8 **South Pole Qui** 19nm,0.8s	**72.85**	**180**	*e*P	**P**	**02 16 33.1**	**-1.1**
TXAR	**Lajitas Array**	**80.96**	**56**	P	**P**	**02 17 21.7**	**+1.2**
TXAR	1.1nm,1.1s,baz=204,slow=2.7,SNR=4.1			LR	LR	02 47 29.6	
PDAR	comp=Z,37nm,18.9s,baz=0.0,slow=31 **Pinedale Array**	**83.08**	**41**	P	**P**	**02 17 32.3**	**+0.8**
ILAR	0.4nm,0.8s,baz=240,slow=2.9,SNR=4.2 **Eielson Array**	**84.06**	**11**	P	**P**	**02 17 36.2**	**+0.5**
YKA	1.2nm,0.7s,baz=224,slow=5.8,SNR=20 **Yellowknife Ar**	**91.43**	**23**	P	**P**	**02 18 13.2**	**+1.9**
ULM	0.3nm,0.5s,baz=239,slow=5.8,SNR=4.9 **Lac du Bonnet**	**94.83**	**39**	LR	LR	02 56 28.8	
LPAZ	comp=Z,46nm,18.8s,baz=323,slow=32 **La Paz**	**98.45**	**110**	LR	LR	02 54 36.0	
KURK	comp=Z,33nm,20.2s,baz=275,slow=30 **Kurchatov**	**115.01**	**318**	PKP	PKPdf	02 23 43.6	-2.8
KURBB	**Kurchatov Arra**	**115.07**	**318**	PKP	**PKPdf**	**02 23 43.6**	**-2.9**
KMBO	0.3nm,0.5s,baz=59,slow=2.0,SNR=3.6 **Kilima Mbogo**	**145.42**	**241**	PKPbc	**PKPab**	**02 24 46.4**	**+1.4**
DPC	0.8nm,0.3s,baz=86,slow=4.0,SNR=6.9 **Dobruska-Polom**	**146.17**	**350**	*e*PKP	**PKPab**	**02 24 48.0**	**+1.6**
DPC				*e*pPKP	sPKPab	02 25 00.7	+6.5
GERES	**GERESS Array B**	**148.03**	**352**	PKPbc	**PKPbc**	**02 24 52.7**	**+1.6**
BRTR	0.8nm,0.7s,baz=20,slow=4.7,SNR=7.6 **Keskin Array B**	**148.05**	**320**	PKPbc	**PKPbc**	**02 24 53.1**	**+1.6**
MMAI	1.3nm,0.8s,baz=158,slow=2.9,SNR=7.4 **Mount Meron Ar**	**150.30**	**307**	PKPbc	**PKPbc**	**02 24 57.8**	**+0.5**
DAVOX	1.7nm,0.5s,baz=230,slow=6.4,SNR=5.8 **Davos/Dischmat**	**150.44**	**357**	PKPbc	**PKPbc**	**02 24 58.8**	**+1.5**
DBIC	1.9nm,0.7s,baz=26,slow=17,SNR=4.2 **Dimbokro**	**164.07**	**130**	PKPab	**PKPab**	**02 26 02.2**	**-0.8**
TORD	2.0nm,0.8s,baz=207,slow=2.3,SNR=2.8 **Torodi Ar. Bea**	**173.15**	**125**	PKP	**PKPdf**	**02 25 14.0**	**-1.8**
TORD	0.6nm,0.8s,baz=4.2,slow=1.9,SNR=3.8			PKPab	**PKPab**	**02 26 41.5**	**-1.7**
	1.0nm,0.8s,baz=241,slow=3.8,SNR=5.0						

MEX 06 02:08:26.6±0.4, 16.73N×95.74W, h100km±6km, MD3.9, Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OXBJ	**Oaxaca**	**1.00**	**290**	*e*P	Pn	02 08 45.7	-1.6
OXBJ				*i* S	Sn	02 09 01.4	-1.5
VHO	**Vista Hermosa**	**1.01**	**290**	*e*P	Pn	02 08 46.2	-1.2
VHO				*i* S	Sn	02 09 01.3	-1.8
HUIG	**Huatulco**	**1.02**	**201**	*e*P	Pn	02 08 46.0	-1.3
HUIG				*e*S	Sn	02 09 01.4	-1.4
TPIG	**Tehuac#an**	**2.29**	**318**	*e*P	Pn	02 09 02.2	-0.9
TPIG				*i* S	Sn	02 09 30.0	-1.1
PNIG	**Pinotepa**	**2.32**	**262**	*e*P	Pn	02 09 01.7	-1.6
PNIG				*e*S	Sn	02 09 29.9	-1.7
TGIG		**2.50**	**88**	*e*P	Pn	02 09 04.3	-1.5
CCIG	**Comitan**	**3.48**	**97**	*i* P	Pn	02 09 18.9	-0.1
CCIG				*i* S	Sn	02 09 58.2	-1.3
YAIG	**Yautepec**	**3.82**	**304**	*e*P	Pn	02 09 23.5	0.0
YAIG				*e*S	Sn	02 10 05.7	-1.9

IDC ***06*** *02:08:58.2±0.6,34.67N×142.81E,h0km,mb4.1/24, mb1 4.2/29,mb1mx4.1/62,mbtmp4.1/29,ML3.8/4,MS3.1/7, Ms1 3.1/7,ms1mx2.8/49,Error ellipse: s-maj=16.6km s-min=15.1km az=133.0*

NEIC ***06*** *02:08:59.3±3.5,34.68N×142.79E,h7km±21km,mb4.5/2, Error ellipse: s-maj=10.3km s-min=7.4km az=66.0*

JMA ***06*** *02:09:00.6±0.4,34.77N×142.74E,h60km,M4.1*

NIED ***06*** *02:09:00,34.80N×142.70E,h5km, Mw4.1 Best double couple: M0 1.39000×10^15 NP1:φs=30.00000°,δ27.00000°, λ-98.00000°. NP2:φs=219.00000°,δ63.00000°, λ-86.00000°.*

ISCJB ***06*** *02:09:01.9±0.4,34.75N±0.04×142.62E±0.04,h35km, mb4.1/27,MS3.1/5,Error ellipse: s-maj=5.7km s-min=4.3km az=9.1*

ISC 06 02:09:03.4±0.6, 34°80N±0.05×142°77E±0.06, h35km, n64, σ2°13/68, mb4.2/27, MS3.1/5, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSO1	**Boso 1**	**1.48**	**265**	P	**Pn**	**02 09 24.9**	**-2.2**
CHOJ	**Chosi**	**1.81**	**300**	P	**Pn**	**02 09 30.4**	**-1.7**
CHOJ				*e*S	**Sn**	**02 09 51.8**	**-2.0**
BSO3	**Boso 3**	**1.86**	**271**	P	**Pn**	**02 09 30.9**	**-1.7**
BSO4	**Boso 4**	**2.01**	**276**	P	**Pn**	**02 09 33.3**	**-1.5**
KTR	**Katsuura**	**2.05**	**281**	*e*S	**Sn**	**02 09 58.4**	**-1.3**
JHJ2	**Mitsune**	**2.98**	**236**	P	**Pn**	**02 09 45.5**	**-2.7**
JHJ2				S	**Sn**	**02 10 19.6**	**-3.0**
JHJ	**Hachijo jima 2** 105nm,0.3s,baz=233,slow=24,SNR=11	**3.00**	**237**	Pn	**Pn**	**02 09 45.6**	**-2.8**
JHJ				Sn	**Sn**	**02 10 19.6**	**-3.5**
JOD2	158nm,0.3s,baz=68,slow=20,SNR=9.3 **Odawara 2**	**3.06**	**280**	P	**Pn**	**02 09 46.9**	**-2.4**
JOD2				*e*S	**Sn**	**02 10 21.5**	**-3.2**
JAG	**Ashikaga**	**3.15**	**302**	P	**Pn**	**02 09 48.6**	**-2.0**
JAG				S	**Sn**	**02 10 24.4**	**-2.6**
JFT	**Otama**	**3.35**	**325**	P	**Pn**	**02 09 51.4**	**-2.0**
JFT				S	**Sn**	**02 10 28.5**	**-3.5**
JRY	**Ryogami san**	**3.39**	**292**	P	**Pn**	**02 09 52.3**	**-1.5**
JRY				*e*S	**Sn**	**02 10 32.4**	**-0.4**
JYN	**Shimob**	**3.53**	**283**	P	**Pn**	**02 09 53.6**	**-2.2**
JYN				*e*S	**Sn**	**02 10 33.4**	**-3.1**
MJAR	**Matsushiro Arr** 4.1nm,0.3s,baz=110,slow=8.0,SNR=16	**4.10**	**296**	Pn	**Pn**	**02 10 02.1**	**-1.6**
MJAR				Sn	**Sn**	**02 10 48.9**	**-1.5**
MAJO	5.6nm,0.3s,baz=1.1,slow=13,SNR=6.2 **Matsushiro**	**4.10**	**296**	*e*Pn	**Pn**	**02 10 02.4**	**-1.3**
MAJO				*e*S	**Sn**	**02 10 49.5**	**-0.9**
MAT	**Matsushiro**	**4.10**	**296**	P	**Pn**	**02 10 01.6**	**-2.1**
MAT				S	**Sn**	**02 10 47.4**	**-3.1**
MAT	**Matsushiro**	**4.10**	**296**	P	**Pn**	**02 10 01.3**	**-2.4**
MAT				*e*S	**Sn**	**02 10 48.4**	**-2.1**
JMK	**Ichinoseki**	**4.33**	**344**	P	**Pn**	**02 10 04.1**	**-2.6**
JMK				S	**Sn**	**02 10 52.5**	**-3.4**
ERM	**Erimo**	**7.21**	**2**	*e*Pn	**Pn**	**02 10 42.4**	**-3.9**
ERM				*e*S	**Sn**	**02 11 58.1**	**-8.8**
CBIJ	**Chichi jima**	**7.70**	**184**	*e*Pn	**Pn**	**02 10 49.9**	**-3.1**
ASAJ	**Asahikawa** 1.4nm,0.3s,baz=162,slow=20,SNR=3.5	**9.31**	**359**	Sn	**Sn**	**02 12 58.0**	**-0.4**
JNU	**Nakatsue** 0.5nm,0.3s,baz=180,slow=17,SNR=2.6	**10.02**	**264**	Pn	**Pn**	**02 11 24.6**	**-0.3**
KSRS	**Korea Array** 0.5nm,0.3s,baz=100,slow=38,SNR=3.0	**12.30**	**287**	Pn	**Pn**	**02 11 56.8**	**+0.9**
KSRS				LR	LR	02 16 40.3	
KSAR	comp=Z,80nm,21.8s,baz=86,slow=37 **Wonju Array Be**	**12.32**	**287**	Pn	**Pn**	**02 11 56.9**	**+0.5**
USRK	**Ussuriysk Ar.** 0.2nm,0.3s,baz=130,slow=13,SNR=2.7	**12.54**	**322**	Pn	Pn	02 12 01.3	+2.1
H11N2	**WAKE ISLAND Hy** baz=310,slow=75,SNR=29	**26.08**	**119**	T	T	02 41 47.1	
H11N1	**WAKE ISLAND Hy** baz=310,slow=75,SNR=21	**26.09**	**119**	T	T	02 41 52.3	
H11N3	**WAKE ISLAND Hy** baz=310,slow=75,SNR=25	**26.10**	**119**	T	T	02 41 54.1	
H11S1	**WAKE ISLAND Hy** baz=312,slow=76,SNR=38	**26.74**	**121**	T	T	02 42 41.8	
H11S3	**WAKE ISLAND Hy** baz=312,slow=76,SNR=40	**26.74**	**121**	T	T	02 42 40.5	
H11S2	**WAKE ISLAND Hy**	**26.76**	**121**	T	T	02 42 38.9	
	baz=312,slow=76,SNR=41						
SEY	**Seymchan** 0.9nm,0.3s,baz=211,slow=12,SNR=2.9	**28.79**	**9**	P	**P**	**02 14 59.4**	**+1.7**
SONM	**Songino Array** 0.9nm,0.4s,baz=74,slow=11,SNR=2.6	**29.98**	**307**	P	**P**	**02 15 10.4**	**+1.8**
SONM				LR	LR	02 28 49.9	
TLY	comp=Z,40nm,18.2s,baz=44,slow=40 **Talaya**	**32.65**	**313**	LR	LR	02 29 33.3	
CMAR	comp=Z,36nm,18.2s,baz=121,slow=38 **Chiang Mai Arr**	**42.07**	**259**	P	**P**	**02 16 51.3**	**-0.8**
ZALV	1.5nm,0.4s,baz=56,slow=6.6,SNR=3.1 **Zalesovo Beam**	**44.25**	**314**	P	**P**	**02 17 09.9**	**+0.7**
KURK	1.2nm,0.6s,baz=101,slow=7.9,SNR=3.8 **Kurchatov**	**48.19**	**310**	P	**P**	**02 17 40.7**	**+0.5**
KURBB	**Kurchatov Arra** 1.5nm,0.5s,baz=85,slow=7.4,SNR=14	**48.26**	**310**	P	**P**	**02 17 40.7**	**-0.1**
ILAR	**Eielson Array** 1.1nm,0.8s,baz=272,slow=7.2,SNR=6.9	**50.81**	**31**	P	**P**	**02 18 00.2**	**+0.2**
AAK	**Ala-Archa** comp=Z,26nm,20.5s,baz=59,slow=37	**52.54**	**300**	LR	LR	02 41 12.5	
BVAR	**Borovoye Array** 0.6nm,0.5s,baz=87,slow=8.8,SNR=3.6	**52.90**	**314**	P	**P**	**02 18 17.7**	**+1.9**
WRAB	**Tennant Creek** 4.8nm,0.7s	**55.01**	**190**	*e*P	**P**	**02 18 30.7**	**-0.8**
WRA	**Warramunga Arr** 5.2nm,0.8s,baz=8.0,slow=7.7,SNR=22	**55.02**	**190**	P	**P**	**02 18 30.9**	**-0.6**
INK	**Inuvik** 3.0nm,0.8s,baz=278,slow=9.8,SNR=3.8	**55.88**	**27**	P	**P**	**02 18 38.2**	**+1.0**
ASAR	**Alice Springs** 2.6nm,0.9s,baz=9.5,slow=5.9,SNR=17	**58.75**	**190**	P	**P**	**02 18 57.4**	**-0.6**
ARU	**Arti** 1.9nm,0.3s,baz=44,slow=3.9,SNR=4.1	**58.77**	**320**	P	**P**	**02 18 58.4**	**+0.6**
ABKAR	**Akbulak array** 1.7nm,0.5s	**60.23**	**312**	*e*P	**P**	**02 19 07.7**	**-0.2**
AKTO	**Aktyubinsk** 1.0nm,0.5s,baz=73,slow=12,SNR=3.9	**61.00**	**313**	P	**P**	**02 19 15.4**	**+2.2**
YKA	**Yellowknife Ar** 0.6nm,0.7s,baz=291,slow=6.7,SNR=2.8	**65.19**	**30**	P	**P**	**02 19 41.0**	**+0.3**
ARCES	**ARCESS Array B** comp=Z,12nm,20.8s,baz=7.5,slow=38	**66.47**	**340**	LR	LR	02 51 15.5	
FINES	**FINESS Array B** 2.7nm,0.9s,baz=30,slow=8.8,SNR=4.0	**71.30**	**333**	P	**P**	**02 20 19.2**	**+0.2**
KBZ	**Khabaz** 2.2nm,0.8s,baz=44,slow=0.4,SNR=4.7	**73.20**	**12**	P	**P**	**02 20 31.6**	**+0.9**
GNI	**Garni** 3.0nm,0.4s,baz=324,slow=19,SNR=2.3	**73.33**	**308**	P	**P**	**02 20 35.1**	**-0.2**
CMB	**Columbia Colle** 19nm,1.0s	**74.27**	**55**	*e*P	**P**	**02 20 38.0**	**+0.8**
NB2	**NORSAR Subarra** comp=Z,2.7nm,0.8s,baz=39,slow=6.2	**76.67**	**338**	P	**P**	**02 20 50.6**	**+0.1**
NOA	**NORSAR Array B** comp=Z,0.8nm,0.5s,baz=39,slow=5.6,SNR=3.1	**76.67**	**338**	P	**P**	**02 20 51.2**	**+0.8**
NOA				LR	LR	02 58 54.3	
AKASG	comp=Z,12nm,19.9s,baz=340,slow=39 **Malin Array Be**	**76.74**	**323**	P	**P**	**02 20 51.3**	**+0.3**
PDAR	comp=Z,0.4nm,0.4s,baz=43,slow=5.3,SNR=4.5 **Pinedale Array**	**78.44**	**46**	P	**P**	**02 21 01.6**	**+0.7**
BRTR	comp=Z,0.5nm,0.7s,baz=273,slow=2.8,SNR=4.1 **Keskin Array B**	**81.16**	**312**	P	**P**	**02 21 17.2**	**+1.6**
ASF	comp=Z,1.0nm,1.0s,baz=112,slow=5.5,SNR=4.5 **Jabal al Asfar**	**83.68**	**305**	P	**P**	**02 21 30.5**	**+1.6**
MMAI	comp=Z,0.9nm,0.5s,baz=171,slow=12,SNR=2.5 **Mount Meron Ar**	**94.17**	**306**	P	**P**	**02 21 30.6**	**-0.7**
GERES	1.0nm,0.5s,baz=248,slow=43,SNR=4.5 **GERESS Array B**	**85.19**	**329**	P	**P**	**02 21 36.0**	**-0.2**
TXAR	comp=Z,0.3nm,0.6s,baz=52,slow=6.4,SNR=4.8 **Lajitas Array**	**90.59**	**53**	P	**P**	**02 22 03.1**	**+0.7**
TORD	comp=Z,0.2nm,0.5s,baz=294,slow=2.4,SNR=4.4 **Torodi Ar. Bea**	**119.69**	**315**	PKP	**PKPdf**	**02 27 49.9**	**-0.4**
LPAZ	comp=Z,0.3nm,0.6s,baz=341,slow=1.9,SNR=2.8 **La Paz**	**146.77**	**64**	PKPbc	**PKPbc**	**02 28 43.6**	**+0.6**
	comp=Z,1.3nm,0.5s,baz=342,slow=2.1,SNR=11						

CSEM ***06*** *02:17:37.5±0.1,50.22N×12.50E,h10km,ML2.7/11,Error ellipse: s-maj=1.8km s-min=1.4km az=43.0*

BGR ***06*** *02:17:37.9±0.2,50.24N×12.44E,h2km±1km,ML2.0/6, Error ellipse: s-maj=2.2km s-min=1.1km az=96.0*

PRU ***06*** *02:17:37.8,50.23N×12.48E,h10km,West Bohemia Swarm*

ISC 06 02:17:37.6±0.8, 50°23N±0.02×12°46E±0.02, h12km±4km, n61, σ0°68/103, 6C, Germany

| Code | Station Name | Δ° | AZ° | Phase ID Op | ISC | Time h m s | Res ISC |
|---|---|---|---

comp=Z,12nm,0.2s
PRU Pruhonice 1.36 99 Pg **Pg 02 18 04.3 +0.6**
PRU Sg **Sg 02 18 21.1 -0.3**
comp=Z,12nm,0.2s
PVCC Panska Ves 1.38 76⅄ *e*PG **Pg 02 18 04.2 0.0**
PVCC *e*SG **Sg 02 18 22.6 +0.5**
comp=Z,14nm,0.1s
PVCC Panska Ves 1.38 76 Pg **Pg 02 18 04.2 0.0**
PVCC Sg **Sg 02 18 22.6 +0.5**
comp=Z,14nm,0.1s
GOPC GO Pecny, Ondr 1.53 101 *e*SG **Sb 02 18 26.0 +0.7**
comp=Z,7.0nm,0.2s
GOPC GO Pecny, Ondr 1.53 101 Sg **Sb 02 18 26.0 +0.7**
comp=Z,7.0nm,0.2s
UPC Upice 2.29 82⅄ *e*SG **Sg 02 18 49.8 -1.4**
comp=Z,3.1nm,0.2s
UPC Upice 2.29 82 Sg **Sg 02 18 49.8 -1.4**
comp=Z,3.1nm,0.2s
DPC Dobruska-Polom 2.48 86 *e*SG **Sb 02 18 54.8 +2.2**
comp=Z,2.5nm,0.4s
DPC Dobruska-Polom 2.48 86 Sg **Sb 02 18 54.8 +2.2**
comp=Z,2.5nm,0.4s
MOA Molln 2.66 153 Pg **Pg 02 18 28.2 -0.3**
comp=Z,0.4nm,0.1s
MOA Sg **Sg 02 19 03.0 +0.1**
comp=Z,1.4nm,0.3s
MOA Molln 2.66 153 Pg **Pg 02 18 28.2 -0.3**
comp=Z,0.4nm,0.1s
MOA Sg **Sg 02 19 03.0 +0.1**
comp=Z,1.4nm,0.3s
KRLC Kraliky 2.78 91 *e*SG **Sg 02 19 06.6 -0.3**
KRLC Kraliky 2.78 91 Sg **Sg 02 19 06.6 -0.3**
VRAC Vranov 2.83 107 *e*Sg **Sb 02 19 05.0 +2.3**
RETA Reutte 2.96 203 Sg **Sg 02 19 12.9 +0.2**
comp=Z,3.8nm,0.5s
RETA Reutte 2.96 203 Sg **Sg 02 19 12.9 +0.2**
comp=Z,3.8nm,0.5s
MOTA Moosalm 3.02 198 *e*Pn **Pb 02 18 29.4 -2.0**
comp=Z,0.2nm,0.1s
MOTA Moosalm 3.02 198 Pn **Pb 02 18 29.4 -2.0**
comp=Z,0.2nm,0.1s
CONA Conrad Observa 3.21 135 Pg **Pg 02 18 38.0 -1.0**
comp=Z,0.7nm,0.4s
CONA Sg **Sg 02 19 19.1 -1.4**
comp=Z,2.3nm,0.3s
CONA Conrad Observa 3.21 135 Pg **Pg 02 18 38.0 -1.0**
comp=Z,0.7nm,0.4s
CONA Sg **Sg 02 19 19.1 -1.4**
comp=Z,2.3nm,0.3s
MORC Moravsky Berou 3.31 96 *e*Sg **Sg 02 19 21.9 -1.9**
FETA Feichten 3.41 200 Sg **Sg 02 19 26.1 -0.8**
comp=Z,1.1nm,0.4s
FETA Feichten 3.41 200 Sg **Sg 02 19 26.1 -0.8**
comp=Z,1.1nm,0.4s

NIED ***06*** *02:31:00, 38°.20N× 142°.40E, h23km, Mw4.0 Best double couple: M₀1.05000×10¹⁵ NP1:φ₀=245.00000°, δ31.00000°, λ=-7.00000°. NP2:φ₀=341.00000°, δ86.00000°, λ=-121.00000°.*
ISCJB ***06*** *02:31:32.4± 0.5, 38°.09N± 0°.04× 142°.49E± 0°.05, h14km, mb3.9/17, MS3.4/2, Error ellipse: s-maj=6.1km s-min=5.8km az=23.2*
JMA ***06*** *02:31:34.7± 0.2, 38°.16N× 142°.43E, h36km± 2km, M4.0*
IDC ***06*** *02:31:39.5± 2.7, 37°.99N× 142°.39E, h61km± 24km, mb3.6/17, mb1 3.8/22, mb1mx3.7/56, mbtmp3.9/22, ML3.5/4, MS3.2/6, Ms1 3.2/6, ms1mx2.9/49, Error ellipse: s-maj=20.5km s-min=16.3km az=114.0*
ISC 06 02:31:34.3± 0.6, 38°.11N± 0°.04× 142°.28E± 0°.06, h14km, n44, σ1§23/41, mb3.9/17, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JIO	**Ouri**	**0.81**	**295**	P	**Pn**	**02 31 51.1**	**-0.2**
JIO				*e*S	**Sn**	**02 32 02.8**	**-0.3**
OFUJ	**Ofunato**	**1.08**	**334**	P	**Pb**	**02 31 54.0**	**-0.8**
OFUJ				S	**Sb**	**02 32 07.8**	**-0.9**
JMK	**Ichinoseki**	**1.18**	**316**	P	**Pb**	**02 31 56.3**	**-0.2**
JMM	**Marumori**	**1.20**	**259**	P	**Pg**	**02 31 56.8**	**-0.6**
JOU	**Okura**	**1.30**	**282**	P	**Pg**	**02 31 58.8**	**-0.5**
JFK	**Kawauchi**	**1.34**	**237**	P	**Pn**	**02 31 58.3**	**-0.3**
JOM	**Ohasama**	**1.56**	**331**	P	**Pn**	**02 32 01.6**	**-0.1**
JOM				*e*S	**Sn**	**02 32 21.1**	**-0.6**
JFT	**Otama**	**1.65**	**250**	P	**Pb**	**02 32 03.9**	**-0.6**
JFT				*e*S	**Sb**	**02 32 25.4**	**+0.2**
JYK	**Kaneyama**	**1.71**	**299**	P	**Pb**	**02 32 04.5**	**-1.0**
JYS	**Shirataka**	**1.75**	**274**	P	**Pb**	**02 32 05.2**	**-1.0**
JRG	**Rokugo**	**1.82**	**315**	P	**Pn**	**02 32 05.2**	**0.0**
JYA	**Atsumi**	**2.08**	**282**	P	**Pb**	**02 32 10.8**	**-0.9**
MJAR	**Matsushiro Arr**	**3.60**	**245**	P	**Pn**	**02 32 32.7**	**+2.9**
	2.0nm,0.3s,baz=69,slow=12,SNR=32						
MJAR				S	**Sb**	**02 33 20.7**	**-0.7**
	0.7nm,0.3s,baz=69,slow=33,SNR=3.1						
MJAR				LR	LR	02 34 11.9	
	comp=Z,400nm,19.2s,baz=55,slow=42						
MAT	**Matsushiro**	**3.61**	**246**	P	**Pn**	**02 32 33.3**	**+3.5**
MAT				*e*S	**Sb**	**02 33 20.0**	**-1.5**
JHJ	**Hachijo jima 2**	**5.38**	**203**	S	**Sn**	**02 33 54.8**	**-1.0**
	20nm,0.3s,baz=246,slow=23,SNR=3.3						
JHJ				LR	LR	02 35 15.9	
	comp=Z,179nm,18.7s,baz=124,slow=41						
USRK	**Ussuriysk Ar.**	**9.86**	**311**	P	Pn	02 34 01.5	+6.0
	0.2nm,0.3s,baz=146,slow=18,SNR=6.0						
JNU	**Nakatsue**	**10.53**	**245**	P	**Pn**	**02 34 07.5**	**+2.7**
	0.4nm,0.3s,baz=175,slow=20,SNR=4.8						
KSRS	**Korea Array**	**11.38**	**271**	P	Pn	02 34 21.3	+4.8
	0.2nm,0.3s,baz=86,slow=14,SNR=9.2						
KSRS				LR	LR	02 38 23.5	
	comp=Z,86nm,20.3s,baz=70,slow=35						
KLR	**Kul'dur**	**13.46**	**329**	LR	LR	02 39 58.5	
	comp=Z,83nm,18.1s,baz=96,slow=37						
PETK	**Petropavlovsk-**	**18.41**	**30**	P	**Pn**	**02 35 51.0**	**+2.0**
	1.7nm,0.3s,baz=312,slow=54,SNR=4.5						
SEY	**Seymchan**	**25.60**	**11**	P	**P**	**02 37 03.4**	**+0.6**
	0.9nm,0.3s,baz=198,slow=9.6,SNR=1.8						
SONM	**Songino Array**	**27.78**	**302**	P	**P**	**02 37 24.6**	**+1.8**
	1.5nm,0.7s,baz=99,slow=8.9,SNR=2.7						
H11N2	**WAKE ISLAND Hy**	**28.14**	**124**	T	T	03 07 07.7	
	baz=311,slow=76						
H11N1	**WAKE ISLAND Hy**	**28.15**	**124**	T	T	03 07 15.2	
	baz=311						
H11N3	**WAKE ISLAND Hy**	**28.16**	**124**	T	T	03 07 08.7	
	baz=311,slow=76						
H11S1	**WAKE ISLAND Hy**	**28.89**	**126**	T	T	03 08 11.4	
	baz=314						
H11S3	**WAKE ISLAND Hy**	**28.90**	**126**	T	T	03 08 14.3	
	baz=314,slow=74						
H11S2	**WAKE ISLAND Hy**	**28.91**	**126**	T	T	03 08 19.8	
	baz=314,slow=74						
ZALV	**Zalesovo Beam**	**41.71**	**311**	P	**P**	**02 39 22.9**	**+0.4**
	2.0nm,0.6s,baz=81,slow=6.9,SNR=5.3						
ZALV				PcP	**PcP**	**02 41 18.4**	**-0.4**
	1.2nm,0.5s,baz=84,slow=4.5,SNR=3.0						
CMAR	**Chiang Mai Arr**	**42.44**	**255**	P	**P**	**02 39 29.4**	**+0.6**
	0.6nm,0.3s,baz=42,slow=10.0,SNR=3.6						
KURBB	**Kurchatov Arra**	**45.89**	**307**	P	**P**	**02 39 55.9**	**-0.2**
	5.0nm,0.6s,baz=82,slow=7.9,SNR=42						
ILAR	**Eielson Array**	**48.22**	**33**	P	**P**	**02 40 13.1**	**-1.0**
	0.7nm,0.8s,baz=256,slow=6.8,SNR=7.1						
BVAR	**Borovoye Array**	**50.37**	**312**	P	**P**	**02 40 31.3**	**+0.6**
	1.1nm,0.6s,baz=66,slow=8.6,SNR=4.9						
INK	**Inuvik**	**53.12**	**28**	P	**P**	**02 40 51.1**	**+0.2**
	4.4nm,1.2s,baz=275,slow=8.7,SNR=2.9						
WRA	**Warramunga Arr**	**58.23**	**189**	P	**P**	**02 41 26.9**	**-1.3**
	1.4nm,0.9s,baz=6.5,slow=6.9,SNR=7.5						
AKTO	**Aktyubinsk**	**58.47**	**312**	P	**P**	**02 41 29.3**	**-0.3**
	1.3nm,0.6s,baz=72,slow=13,SNR=5.1						
ASAR	**Alice Springs**	**61.95**	**189**	P	**P**	**02 41 51.9**	**-1.8**
	0.3nm,0.4s,baz=17,slow=7.1,SNR=3.3						
FINES	**FINESS Array B**	**68.18**	**332**	P	**P**	**02 42 33.8**	**+0.1**
	1.9nm,0.7s,baz=61,slow=6.8,SNR=4.9						
NOA	**NORSAR Array B**	**73.46**	**337**	P	**P**	**02 43 07.4**	**+1.5**
	0.9nm,0.8s,baz=65,slow=9.1,SNR=2.8						
NOA				LR	LR	03 20 39.0	
	comp=Z,6.2nm,18.5s,baz=0.0,slow=40						
AKASG	**Malin Array Be**	**73.87**	**322**	P	**P**	**02 43 07.4**	**-1.0**
	1.1nm,0.7s,baz=39,slow=6.0,SNR=3.0						
PDAR	**Pinedale Array**	**76.42**	**46**	P	**P**	**02 43 22.7**	**-0.9**
	0.2nm,0.5s,baz=122,slow=1.9,SNR=3.0						
MMAI	**Mount Meron Ar**	**81.90**	**306**	P	**P**	**02 43 53.6**	**+0.1**
	0.6nm,0.5s,baz=18,slow=14,SNR=2.9						
TXAR	**Lajitas Array**	**88.92**	**53**	P	**P**	**02 44 28.2**	**-0.5**
	0.2nm,0.8s,baz=318,slow=1.2,SNR=2.7						
ATD	**Arta Tunnel**	**90.27**	**285**	LR	LR	03 28 13.2	
	comp=Z,41nm,18.3s,baz=359,slow=38						

ISCJB ***06*** *02:51:22.6± 0.5, 38°.55N± 0°.03× 39°.84E± 0°.04, h8km± 7km, Error ellipse: s-maj=5.1km s-min=4.9km az=19.6*
DDA ***06*** *02:51:22.4, 38°.56N× 39°.87E, h7km, Md2.5*
ISK ***06*** *02:51:22.3, 38°.56N× 39°.83E, h13km, MD2.9*
CSEM ***06*** *02:51:22.5± 0.3, 38°.52N× 39°.76E, h10km, MD2.9, Error ellipse: s-maj=8.9km s-min=6.3km az=41.0*
ISC 06 02:51:22.2± 1.4, 38°.55N± 0°.03× 39°.82E± 0°.03, h8km± 12km, n24, σ0§69/40, Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SVRC	**Sivrice-ELAZID**	**0.43**	**247**	*e*PG	**Pg**	**02 51 31.6**	**+0.9**
SVRC				*e*SG	**Sb**	**02 51 38.6**	**-0.3**
SVRC	**Sivrice-ELAZID**	**0.43**	**247**	*e*Pg	**Pg**	**02 51 31.6**	**+0.9**
SVRC				*e*Sg	**Sb**	**02 51 38.6**	**-0.3**
PTK	**Pertek**	**0.48**	**316**	*e*PG	**Pg**	**02 51 31.6**	**+0.1**
PTK				*e*SG	**Sb**	**02 51 39.3**	**-0.9**
PTK	**Pertek**	**0.48**	**316**	*e*Pg	**Pg**	**02 51 31.6**	**+0.1**
PTK				*e*Sg	**Sb**	**02 51 39.3**	**-0.9**
TNCL	**Tunceli-Merkez**	**0.60**	**339**	*i* P	**Pg**	**02 51 33.8**	**-0.1**
TNCL				*i* S	**Sb**	**02 51 43.5**	**-0.3**
TNCL	**Tunceli-Merkez**	**0.60**	**339**	P	**Pg**	**02 51 33.8**	**-0.1**
TNCL				S	**Sb**	**02 51 43.5**	**-0.3**
BINT	**Bingol**	**0.62**	**58**	*e*Pg	**Pn**	**02 51 38.6**	**+1.2**
BINT				*e*Sg	**Sn**	**02 51 49.5**	**+1.9**
DYBB	**Diyarbakir**	**0.65**	**157**	*e*PG	**Pg**	**02 51 34.8**	**+0.1**
ELZG	**Elazig**	**0.65**	**266**	*i* P	**Pg**	**02 51 33.6**	**-1.1**
ELZG				*i* S	**Sb**	**02 51 46.5**	**+1.2**
ELZG	**Elazig**	**0.65**	**266**	P	**Pg**	**02 51 33.7**	**-1.1**
DIYA	**Diyarbakir**	**0.67**	**159**	*i* P	**Pb**	**02 51 36.1**	**0.0**
DIYA				*i* S	**Sb**	**02 51 49.0**	**-0.6**
DIYA	**Diyarbakir**	**0.67**	**159**	P	**Pb**	**02 51 36.2**	**0.0**
DIYA				S	**Sb**	**02 51 45.0**	**-0.6**
BNGB	**Bingˆ¶l**	**0.81**	**57**	*e*PG	**Pb**	**02 51 38.6**	**+0.1**
BNGB				*e*SG	**Sb**	**02 51 49.5**	**-0.1**
YEDI	**Yedisu-Bingol**	**1.05**	**32**	*e*PG	**Pn**	**02 51 43.2**	**-0.2**
YEDI	**Yedisu-Bingol**	**1.05**	**32**	*e*Pg	**Pn**	**02 51 43.2**	**-0.2**
SVAN	**Silvan-Diyarba**	**1.16**	**110**	*e*PN	**Pn**	**02 51 44.7**	**0.0**
SVAN	**Silvan-Diyarba**	**1.16**	**110**	*i* P	**Pb**	**02 51 43.8**	**-0.6**
SVAN				*i* S	**Sb**	**02 51 58.6**	**-1.0**
SVAN	**Silvan-Diyarba**	**1.16**	**110**	P	**Pb**	**02 51 43.8**	**-0.6**
SVAN	**Silvan-Diyarba**	**1.16**	**110**	*e*Pn	**Pn**	**02 51 44.7**	**0.0**
SVAN				S	**Sb**	**02 51 58.6**	**-1.0**
MAZI	**Mazidag**	**1.20**	**155**	*e*PN	**Pb**	**02 51 45.0**	**-0.2**
MAZI	**Mazidag**	**1.20**	**155**	*e*Pn	**Pb**	**02 51 45.0**	**-0.2**
BTMN	**Batman**	**1.32**	**119**	*i* P	**Pg**	**02 51 47.6**	**+0.1**
BTMN				*i* S	**Sb**	**02 52 04.3**	**-0.1**
BTMN	**Batman**	**1.32**	**119**	P	**Pg**	**02 51 47.6**	**+0.1**
BTMN				S	**Sb**	**02 52 04.3**	**-0.1**
MARD	**Mardin**	**1.45**	**148**	*i* P	**Pb**	**02 51 49.8**	**+0.3**
MARD				*i* S	**Sn**	**02 52 07.3**	**-0.7**

MAN 06 02:53:13, 13°.79N× 120°.68E, h158km, mb3.8, ML2.5, MS2.3, 2D, Mindoro

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PGP	**Puerto Galera**	**0.40**	**137**⅄	*e*P	Pn	02 53 37.0	+2.1
PGP				*e*S	Sn	02 53 57.3	+5.7
LUBP	**Lubang**	**0.42**	**262**	*e*P	Pn	02 53 37.7	+2.8
LUBP				*e*S	Sn	02 53 54.1	+2.5
BOAC	**Boac**	**1.18**	**106**	*e*P	Pn	02 53 41.5	+1.4
GQP	**Guinayangan**	**1.72**	**86**⅄	*e*P	Pn	02 53 46.2	+0.7
AUQP	**San Andres**	**2.00**	**103**	*e*P	Pn	02 53 50.5	+1.9
SCZP	**Santa Cruz**	**2.11**	**339**	*e*P	Pn	02 53 50.9	+1.0
SCZP				*e*S	Sn	02 54 20.6	+2.2
BOLP	**Bolinao**	**2.68**	**344**	*e*P	Pn	02 53 57.4	+0.7

VIE ***06*** *03:04:29.3± 0.3, 50°.19N× 12°.43E, h8km, mb2.0/1, ML2.3/10, Error ellipse: s-maj=5.8km s-min=1.9km az=54.0*
CSEM ***06*** *03:04:29.5± 0.1, 50°.23N× 12°.49E, h10km, ML2.7/14, Error ellipse: s-maj=1.8km s-min=1.4km az=44.0*
PRU ***06*** *03:04:29.8, 50°.24N× 12°.48E, h10km, West Bohemia Swarm*
BGR ***06*** *03:04:29.7± 0.2, 50°.24N× 12°.44E, h12km± 1km, ML2.2/6, Error ellipse: s-maj=2.2km s-min=1.1km az=96.0*
CLL ***06*** *03:04:30.4± 0.2, 50°.2N± 0°.7× 1°.2E± °, h8km, ml2.0*
ISC 06 03:04:29.7± 0.8, 50°.23N± 0°.01× 12°.46E± 0°.02, h11km± 3km, n69, σ0§64/125, 7C, Germany

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
NKC	**Novy Kostel**	**0.01**	**271**⅄	*i*PG	**Pg**	**03 04 31.8**	**+0.1**
NKC				*e*SG	**Sg**	**03 04 32.6**	**-0.4**
	comp=Z,787nm,0.2s						
NKC	**Novy Kostel**	**0.01**	**271**⅄	*i*Pg	**Pg**	**03 04 31.8**	**+0.1**
NKC				*i* Sg	**Sg**	**03 04 32.9**	**-0.1**
NKC	**Novy Kostel**	**0.01**	**271**	*e*Pg	**Pg**	**03 04 31.8**	**+0.1**
NKC				*e*Sg	**Sg**	**03 04 32.9**	**-0.1**
NKC	**Novy Kostel**	**0.01**	**271**	Pg	**Pg**	**03 04 31.8**	**+0.1**
NKC				Sg	**Sg**	**03 04 32.9**	**-0.1**
WERN	**Wernitzgruen**	**0.08**	**315**	*i* Pg	**Pg**	**03 04 32.3**	**+0.1**
WERN				*i* Sg	**Sg**	**03 04 32.8**	**-0.3**
WERN				AML	AML	03 04 33.8	
	comp=N,956nm,0.1s						
WERN	**Wernitzgruen**	**0.08**	**315**	*e*Pg	**Pg**	**03 04 32.3**	**+0.1**
WERN				*e*Sg	**Sg**	**03 04 33.7**	**-0.3**
WERN	**Wernitzgruen**	**0.08**	**315**	Pg	**Pg**	**03 04 32.3**	**+0.1**
WERN				Sg	**Sg**	**03 04 33.7**	**-0.3**
ROHR	**Rohrbach**	**0.09**	**271**	*i* Pg	**Pg**	**03 04 32.3**	**0.0**
ROHR				*i* Sg	**Sg**	**03 04 33.9**	**-0.4**
ROHR				AML	AML	03 04 34.0	
	comp=E,1μm,0.1s						
ROHR	**Rohrbach**	**0.09**	**271**	*e*Pg	**Pg**	**03 04 32.4**	**0.0**
ROHR				*e*Sg	**Sg**	**03 04 33.8**	**-0.4**
ROHR	**Rohrbach**	**0.09**	**271**	Pg	**Pg**	**03 04 32.4**	**0.0**
ROHR				Sg	**Sg**	**03 04 33.8**	**-0.4**
GUNZ	**Gunzen**	**0.15**	**328**	*i* Pg	**Pg**	**03 04 33.4**	**+0.2**
GUNZ				*i* Sg	**Sg**	**03 04 35.8**	**0.0**
GUNZ				AML	AML	03 04 35.9	
	comp=N,154nm,0.2s						
GUNZ	**Gunzen**	**0.15**	**328**	*e*Pg	**Pg**	**03 04 33.4**	**+0.2**
GUNZ				*e*Sg	**Sg**	**03 04 35.7**	**0.0**
GUNZ	**Gunzen**	**0.15**	**328**	Pg	**Pg**	**03 04 33.4**	**+0.2**
GUNZ				Sg	**Sg**	**03 04 35.7**	**0.0**
MULD	**Muldenberg**	**0.18**	**348**	*i* Pg	**Pg**	**03 04 33.9**	**+0.2**
MULD				*i* Sg	**Sg**	**03 04 36.4**	**-0.1**
MULD				AML	AML	03 04 36.9	
	comp=N,283nm,0.1s						
MULD	**Muldenberg**	**0.18**	**348**	*e*Pg	**Pg**	**03 04 33.9**	**+0.2**
MULD				*e*Sg	**Sg**	**03 04 36.2**	**-0.3**
MULD	**Muldenberg**	**0.18**	**348**	Pg	**Pg**	**03 04 33.9**	**+0.2**
MULD				Sg	**Sg**	**03 04 36.2**	**-0.3**
WERD	**Werda**	**0.24**	**335**	*i* Pg	**Pg**	**03 04 34.8**	**+0.2**
WERD				*i* Sg	**Sg**	**03 04 38.0**	**+0.1**
WERD				AML	AML	03 04 38.1	
	comp=E,76nm,0.1s						
WERD	**Werda**	**0.24**	**335**	*e*Pg	**Pg**	**03 04 34.8**	**+0.2**
WERD				*e*Sg	**Sg**	**03 04 37.8**	**-0.1**
WERD	**Werda**	**0.24**	**335**	Pg	**Pg**	**03 04 34.8**	**+0.2**
WERD				Sg	**Sg**	**03 04 37.8**	**-0.1**
TRIB	**Obertriebel**	**0.24**	**300**	*i* Pg	**Pg**	**03 04 34.7**	**0.0**
TRIB				*i* Sg	**Sg**	**03 04 37.8**	**-0.2**
TRIB				AML	AML	03 04 38.1	
	comp=N,364nm,0.1s						
TRIB	**Obertriebel**	**0.24**	**300**	*e*Pg	**Pg**	**03 04 34.7**	**0.0**
TRIB				*e*Sg	**Sg**	**03 04 37.9**	**-0.2**
TRIB	**Obertriebel**	**0.24**	**300**	Pg	**Pg**	**03 04 34.7**	**0.0**
TRIB				Sg	**Sg**	**03 04 37.8**	**-0.2**
PLN	**Plauen**	**0.32**	**322**	*i* Pg	**Pg**	**03 04 36.2**	**+0.1**
PLN				*i* Sg	**Sg**	**03 04 40.4**	**0.0**
PLN				AML	AML	03 04 40.5	
	comp=E,169nm,0.1s						
PLN	**Plauen**	**0.32**	**322**	*e*Pg	**Pg**	**03 04 36.2**	**+0.1**
PLN				*e*Sg	**Sg**	**03 04 40.3**	**0.0**
PLN	**Plauen**	**0.32**	**322**	Pg	**Pg**	**03 04 36.2**	**+0.1**
PLN				Sg	**Sg**	**03 04 40.3**	**0.0**
SCHF	**Schoenfels**	**0.45**	**355**	*i* Pg	**Pg**	**03 04 38.6**	**+0.1**
SCHF				*i* Sg	**Sg**	**03 04 44.6**	**+0.1**
SCHF				AML	AML	03 04 44.7	
	comp=E,128nm,0.3s						
SCHF	**Schoenfels**	**0.45**	**355**	*e*Pg	**Pg**	**03 04 38.6**	**+0.1**
SCHF				*e*Sg	**Sg**	**03 04 44.5**	**+0.1**
SCHF	**Schoenfels**	**0.45**	**355**	Pg	**Pg**	**03 04 38.6**	**+0.1**
SCHF				Sg	**Sg**	**03 04 44.5**	**+0.1**
ROTZ	**Rotzenmuhle**	**0.49**	**199**	*e*Pg	**Pg**	**03 04 39.6**	**+0.3**
ROTZ				*e*Sg	**Sg**	**03 04 46.0**	**+0.2**
ROTZ	**Rotzenmuhle**	**0.49**	**199**	Pg	**Pg**	**03 04 39.6**	**+0.3**
ROTZ				Sg	**Sg**	**03 04 46.0**	**+0.2**
MLFH	**Mildenfurth**	**0.61**	**337**	*i* Pg	**Pg**	**03 04 41.5**	**0.0**
MLFH				*i* Sg	**Sg**	**03 04 49.7**	**+0.1**
MOX	**Moxa**	**0.68**	**308**	*e*Pg	**Pg**	**03 04 42.8**	**0.0**
MOX				*e*Sg	**Sg**	**03 04 51.4**	**-0.4**
MOX	**Moxa**	**0.68**	**308**	Pg	**Pg**	**03 04 42.8**	**0.0**
MOX				Sg	**Sg**	**03 04 51.4**	**-0.4**
GRA1	**Grafenberg Arr**	**0.97**	**236**	Pg	**Pg**	**03 04 48.2**	**-0.1**
GRA1				Sg	**Sg**	**03 05 00.3**	**-0.5**
GRF	**Grafenberg Arr**	**0.97**	**236**	*e*Pg	**Pg**	**03 04 48.2**	**-0.1**
GRF				*e*Sg	**Sg**	**03 05 00.3**	**-0.5**
WET	**Wettzell**	**1.12**	**166**⅄	*e*PG	**Pb**	**03 04 50.8**	**-0.3**
WET				*e*SG	**Sg**	**03 05 05.4**	**-0.4**
WET	**Wettzell**	**1.12**	**166**	*e*Pg	**Pb**	**03 04 51.0**	**-0.1**
WET				*e*Sg	**Sg**	**03 05 05.4**	**-0.4**
WET	**Wettzell**	**1.12**	**166**	Pg	**Pb**	**03 04 51.0**	**-0.1**
WET				Sg	**Sg**	**03 05 05.4**	**-0.4**
CLL	**Collm**	**1.13**	**17**	*e*Pg	**Pb**	**03 04 50.9**	**-0.3**
CLL				*e*Sg	**Sb**	**03 05 05.8**	**-0.1**
CLL	**Collm**	**1.13**	**17**	Pg	**Pb**	**03 04 50.9**	**-0.3**
CLL				Sg	**Sb**	**03 05 05.8**	**-0.1**
CLL	**Collm**	**1.13**	**17**	*i* Pg	**Pb**	**03 04 51.2**	**0.0**
CLL				*i* Sg	**Sb**	**03 05 05.9**	**-0.1**
	comp=Z,15nm,0.4s						
CLL				*i*		03 05 10.1	
BRG	**Berggiesshubel**	**1.14**	**55**	PG	**Pb**	**03 04 51.5**	**+0.1**
BRG				SG	**Sb**	**03 05 06.3**	**+0.1**
	comp=Z,15nm,0.3s						
BRG	**Berggiesshubel**	**1.14**	**55**	*e*Pg	**Pb**	**03 04 51.6**	**+0.1**
BRG				*e*Sg	**Sb**	**03 05 06.0**	**-0.3**
BRG	**Berggiesshubel**	**1.14**	**55**	Pg	**Pb**	**03 04 51.6**	**+0.1**
BRG				Sg	**Sb**	**03 05 06.0**	**-0.3**
PRA	**Prague**	**1.28**	**97**⅄	*e*SG	**Sb**	**03 05 10.2**	**0.0**
	comp=Z,10nm,0.4s						
PRA	**Prague**	**1.28**	**97**	Sg	**Sb**	**03 05 10.2**	**0.0**
	comp=Z,10nm,0.4s						
KHC	**Kasperske Hory**	**1.32**	**146**	*e*PG	**Pn**	**03 04 53.8**	**-0.3**
KHC				*e*SG	**Sb**	**03 05 11.8**	**+0.4**
	comp=Z,11nm,0.2s						
KHC	**Kasperske Hory**	**1.32**	**146**	Pg	**Pn**	**03 04 53.8**	**-0.3**
KHC				Sg	**Sb**	**03 05 11.8**	**+0.4**
	comp=Z,11nm,0.2s						
PRU	**Pruhonice**	**1.36**	**100**⅄	*e*PG	**Pg**	**03 04 56.2**	**+0.4**
PRU				*e*SG	**Sb**	**03 05 12.4**	**-0.2**
	comp=Z,17nm,0.2s						
PRU	**Pruhonice**	**1.36**	**100**	Pg	**Pg**	**03 04 56.2**	**+0.4**
PRU				Sg	**Sb**	**03 05 12.4**	**-0.2**
	comp=Z,17nm,0.2s						
PVCC	**Panska Ves**	**1.38**	**77**⅄	*e*PG	**Pg**	**03 04 56.5**	**+0.3**
PVCC				*e*SG	**Sg**	**03 05 15.0**	**+0.9**
	comp=Z,20nm,0.2s						
PVCC	**Panska Ves**	**1.38**	**77**	Pg	**Pg**	**03 04 56.5**	**+0.3**
PVCC				Sg	**Sg**	**03 05 15.0**	**+0.9**
	comp=Z,20nm,0.2s						
GOPC	**GO Pecny, Ondr**	**1.53**	**101**	*e*PG	**Pb**	**03 04 58.7**	**+0.6**
GOPC				*e*SG	**Sb**	**03 05 18.0**	**+0.5**
	comp=Z,11nm,0.2s						
GOPC	**GO Pecny, Ondr**	**1.53**	**101**	Pg	**Pb**	**03 04 58.7**	**+0.6**
GOPC				Sg	**Sb**	**03 05 18.0**	**+0.5**
	comp=Z,11nm,0.2s						
UPC	**Upice**	**2.29**	**82**⅄	*e*SG	**Sb**	**03 05 41.4**	**+2.1**
	comp=Z,4.7nm,0.3s						
UPC	**Upice**	**2.29**	**82**	Sg	**Sb**	**03 05 41.4**	**+2.1**
	comp=Z,4.7nm,0.3s						
DPC	**Dobruska-Polom**	**2.48**	**86**	*e*PG	**Pg**	**03 05 16.4**	**-0.8**
DPC				*e*SG	**Sb**	**03 05 46.3**	**+1.5**
	comp=Z,3.5nm,0.2s						
DPC	**Dobruska-Polom**	**2.48**	**86**	Pg	**Pg**	**03 05 16.4**	**-0.8**
DPC				Sg	**Sb**	**03 05 46.3**	**+1.5**
	comp=Z,3.5nm,0.2s						
MOA	**Molln**	**2.67**	**153**	Pg	**Pg**	**03 05 20.6**	**-0.1**
	comp=Z,0.4nm,0.1s						
MOA				Sg	**Sg**	**03 05 54.9**	**-0.3**
	comp=Z,0.9nm,0.1s						
KRLC	**Kraliky**	**2.78**	**92**	*e*SG	**Sg**	**03 05 57.7**	**-1.3**
KRLC	**Kraliky**	**2.78**	**92**	Sg	**Sg**	**03 05 57.7**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ONI	**Oni**	**0.37**	**79**	P	**Pg**	**03 10 57.3**	**-0.4**
ONI				S	**Sg**	**03 11 02.9**	**+0.3**
ONI	**Oni**	**0.37**	**79**	P	**Pg**	**03 10 57.3**	**-0.4**
ONI				S	**Sg**	**03 11 03.1**	**+0.5**
CHVG	**Ch'k'valeri**	**0.67**	**287**	P	**Pg**	**03 11 03.5**	**+0.3**
CHVG				S	**Sb**	**03 11 13.3**	**-0.4**
CHVG	**Ch'k'valeri**	**0.67**	**287**	P	**Pg**	**03 11 03.5**	**+0.3**
CHVG				S	**Sb**	**03 11 13.3**	**-0.4**
EPOS	**Posof**	**1.03**	**189**	*i* P	**Pg**	**03 11 09.8**	**-0.3**
EPOS	**Posof**	**1.03**	**189**	P	**Pg**	**03 11 09.8**	**-0.3**
AKH	**Akhalkalaki**	**1.18**	**160**	P	**Pn**	**03 11 12.9**	**-0.3**
AKH				S	**Sn**	**03 11 30.6**	**+1.1**
AKH	**Akhalkalaki**	**1.18**	**160**	P	**Pn**	**03 11 12.9**	**-0.3**
DBOC	**Borcka**	**1.52**	**220**	*i* P	**Pb**	**03 11 18.3**	**-0.4**
DBOC				*i* S	**Sg**	**03 11 38.8**	**-0.3**
DBOC	**Borcka**	**1.52**	**220**	P	**Pb**	**03 11 18.3**	**-0.4**
DBOC				S	**Sg**	**03 11 38.8**	**-0.3**
ARTV	**Artvin**	**1.54**	**210**	*i* P	**Pb**	**03 11 18.8**	**-0.4**
ARTV				*i* S	**Sg**	**03 11 40.6**	**+0.8**
ARTV	**Artvin**	**1.54**	**210**	P	**Pb**	**03 11 18.8**	**-0.4**
ARTV				S	**Sg**	**03 11 40.6**	**+0.8**
DAGI	**Agillar**	**1.64**	**209**	*i* P	**Pb**	**03 11 20.6**	**-0.2**
DAGI				*i* S	**Sg**	**03 11 43.9**	**+0.9**
DDEM	**Demirkent**	**1.86**	**209**	*i* P	**Pb**	**03 11 24.5**	**-0.1**
DDEM	**Demirkent**	**1.86**	**209**	P	**Pb**	**03 11 24.5**	**-0.1**
DGRG	**David-gareji**	**2.10**	**120**	P	**Pb**	**03 11 28.6**	**0.0**
DGRG				S	**Sg**	**03 11 58.4**	**+0.7**
DGRG	**David-gareji**	**2.10**	**120**	P	**Pb**	**03 11 28.6**	**0.0**

MEX 06 03:20:33.9±0.5, 18°02'N×101°75'W, h22km±25km, MD3.7, Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZIIG	**Zihuatanejo**	**0.49**	**146**	*eP*	Pb	03 20 42.1	-1.8
ZIIG				*eS*	Sb	03 20 48.8	-1.9
ARIG	**Puente Sto Nin**	**1.36**	**79**	*eP*	Pn	03 20 54.2	-3.4
ARIG				*i* S	Sn	03 21 10.9	-4.1
MMIG	**Aquila**	**1.54**	**280**	*eP*	Pn	03 20 57.7	-2.4
MMIG				*eS*	Sn	03 21 15.9	-3.4
CAIG	**El Cayaco**	**1.72**	**124**	*eP*	Pn	03 21 00.2	-2.3
CAIG				*eS*	Sn	03 21 19.6	-4.2
MOIG	**Morelia**	**1.73**	**18**	*i* P	Pn	03 21 00.8	-2.1
MOIG				*i* S	Sn	03 21 20.6	-4.0
MEIG	**Mezcala**	**2.03**	**92**	*eP*	Pn	03 21 04.8	-2.2
MEIG				*i* S	Sn	03 21 28.1	-3.6
ACX	**Acapulco**	**2.14**	**122**	*eP*	Pn	03 21 10.1	+1.7
ACX				*i* S	Sn	03 21 34.6	+0.3
PLIG	**Platanillo**	**2.17**	**80**	*eP*	Pn	03 21 06.6	-2.2
PLIG				*i* S	Sn	03 21 32.5	-2.6
YAIG	**Yautepec**	**2.68**	**71**	*eP*	Pn	03 21 14.1	-1.8
YAIG				*i* S	Sn	03 21 44.3	-3.6
TLIG	**Tlapa**	**3.07**	**98**	*eP*	Pn	03 21 19.8	-1.4
TLIG				*i* S	Sn	03 21 53.9	-3.5

DJA 06 03:27:50.4±0.3, 1°S±3'×12°7E±', h10km, M4.2/6, mB4.8/1, mb4.7/1, MLv3.9/6, Mw(mB)4.0/1, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LBMI	**Labuha**	**0.95**	**29**	P	Pb	03 28 08.8	-0.1
LBMI				S	Sg	03 28 20.4	-0.6
SANI	**Sanana**	**1.20**	**241**	P	Pn	03 28 11.9	-1.3
NLAI	**Namlea**	**1.76**	**178**	P	Pn	03 28 20.6	-0.3
NLAI				S	Sn	03 28 42.6	-0.8
AAI	**Ambon**	**2.49**	**152**	P	Pn	03 28 31.7	+0.7
SWI	**Sorong**	**4.26**	**82**	P	Pn	03 28 56.7	+1.3
GTOI	**Gorontalo**	**4.54**	**297**	P	Pn	03 29 02.2	+3.0
KDI	**Kendari**	**5.06**	**241**	P	Pn	03 29 07.1	+0.7
FAKI	**Fak Fak**	**5.40**	**106**	P	Pn	03 29 09.4	-1.7

*NEIC **06** 03:39:04.5±0.0, 58°35N×133°47W, h2km, ML2.9(AEIC), ML3.4(OTT), After AEIC.*
NEIC Felt at Juneau.

PGC 06 03:39:04.1±16.0, 58°22N×133°61W, h1km, ML3.4/5, 48km east of Juneau, Ak Southeastern Alaska, Southeastern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIS	**Juneau Island**	**0.41**	**278**	P	Pb	03 39 13.7	-0.6
JIS				S	Sb	03 39 20.1	-0.9
BESE	**Bessie Mountai**	**0.75**	**299**	P	Pg	03 39 18.7	+0.3
BESE				S	Sg	03 39 28.7	+0.5
SKAG	**Skagway**	**1.53**	**325**	P	Pn	03 39 31.3	-1.3
SKAG				S	Sn	03 39 50.9	-2.2
PLBC	**Pleasant Camp**	**1.90**	**312**	Pg	Pn	03 39 38.4	+0.8
PLBC				Sg	Sb	03 40 03.8	+0.2
PLBC	**Pleasant Camp**	**1.90**	**312**	P	Pn	03 39 38.3	+0.7
PLBC				S	Sn	03 40 02.1	0.0
DLBC	**Dease Lake**	**1.90**	**82**	P	Pn	03 39 36.9	-0.9
DLBC				Pg	Pb	03 39 38.3	-1.3
DLBC				Sn	Sn	03 40 01.9	-0.4
DLBC				Sg	Sb	03 40 03.5	-0.4
DLBC	**Dease Lake**	**1.90**	**82**	P	Pn	03 39 36.2	-1.1
DLBC				S	Sn	03 40 02.8	+0.4
WRAK	**Wrangell Islan**	**1.93**	**159**	P	Pn	03 39 38.7	+0.7
WHY	**Whitehorse**	**2.53**	**346**	Pn	Pn	03 39 44.9	-1.6
WHY				Pg	Pb	03 39 49.5	-0.9
WHY				Sg	Sb	03 40 20.8	-1.3
WHY	**Whitehorse**	**2.53**	**346**	P	Pn	03 39 45.0	-1.5
HYT	**Haines Junctio**	**3.28**	**324**	Pn	Pn	03 39 56.3	-0.4
HYT				Pg	Pb	03 40 03.3	+0.1
HYT				Sg	Sb	03 40 44.8	+1.2
HYT	**Haines Junctio**	**3.28**	**324**	P	Pn	03 39 56.7	-0.1
YUK6	**Outpost Mounta**	**3.65**	**320**	Pg	Pb	03 40 10.0	+0.5
YUK2	**White River**	**5.10**	**318**	Pg	Pb	03 40 34.2	+0.2
YUK2				Sg	Sg	03 41 43.0	-4.6
YUK1	**Sand Pete Hill**	**5.24**	**322**	Pg	Pg	03 40 40.5	-3.9
BALM	**Baldy**	**5.26**	**306**	Pg	Pg	03 40 40.8	-3.9
FNBB	**Fort Nelson**	**5.59**	**79**	Sg	Sg	03 41 56.8	-6.7
BNB	**Barry Inlet**	**5.75**	**169**	Sg	Sg	03 42 11.7	+2.8
DAWY	**Dawson**	**6.50**	**337**	Sg	Sb	03 42 22.9	+7.0

*DDA **06** 03:44:53.9, 38°17N×30°82E, h7km, Md2.9*
*ISCJB **06** 03:44:55.0±0.5, 38°19N±0°03×30°86E±0°05, h8km±5km, Error ellipse: s-maj=6.6km s-min=3.9km az=158.7*
*CSEM **06** 03:44:54.9±0.2, 38°18N×30°89E, h10km, MD3.0, Error ellipse: s-maj=5.4km s-min=3.6km az=47.0*
*ISK **06** 03:44:55.1, 38°20N×30°89E, h16km, MD3.0*

ISC 06 03:44:54.7±1.0, 38°17N±0°02×30°88E±0°03, h9km±8km, n36, σ0°65/52, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BAGO	**Egridir - ISPA**	**0.20**	**202**	*i* P	**Pg**	**03 44 57.8**	**-1.0**
BAGO				*i* S	**Sg**	**03 45 02.9**	**+1.3**
SHUT	**Suhut-Afyon**	**0.46**	**326**	*e*PG	**Pg**	**03 45 03.8**	**+0.1**
SHUT				*e*SG	**Sb**	**03 45 11.5**	**-0.6**
SHUT	**Suhut-Afyon**	**0.46**	**326**	*e*Pg	**Pg**	**03 45 03.8**	**+0.1**
SHUT				*e*Sg	**Sb**	**03 45 11.5**	**-0.6**
BOLV	**Bolvadin**	**0.55**	**6**	*i* P	**Pg**	**03 45 05.3**	**-0.1**
BOLV				*i* S	**Sg**	**03 45 12.8**	**+0.2**
BOLV	**Bolvadin**	**0.55**	**6**	P	**Pg**	**03 45 05.3**	**-0.1**
BOLV				S	**Sg**	**03 45 12.8**	**+0.2**
SUTC	**Sutluce-Ispart**	**0.70**	**172**	*e*PG	**Pb**	**03 45 09.0**	**-0.1**
SUTC				*e*SG	**Sn**	**03 45 21.2**	**-0.6**
SUTC	**Sutluce-Ispart**	**0.70**	**172**	*e*Pg	**Pb**	**03 45 09.0**	**-0.1**
KDHN	**Kadinhani**	**1.03**	**70**	*i* P	**Pg**	**03 45 14.0**	**-0.5**
KDHN				*i* S	**Sn**	**03 45 29.4**	**-0.6**
KDHN	**Kadinhani**	**1.03**	**70**	P	**Pg**	**03 45 14.0**	**-0.5**
KDHN				S	**Sn**	**03 45 29.4**	**-0.6**
KIZT	**Kizilcal**	**1.05**	**48**	*e*PG	**Pn**	**03 45 15.5**	**-0.2**
KIZT	**Kizilcal**	**1.05**	**48**	*e*Pg	**Pn**	**03 45 15.5**	**-0.2**
LADK	**Ladik-KONYA**	**1.17**	**88**	*e*PN	**Pb**	**03 45 17.2**	**+0.1**
LADK				*e*SN	**Sn**	**03 45 33.2**	**-0.2**
LADK	**Ladik-KONYA**	**1.17**	**88**	*e*Pn	**Pb**	**03 45 17.2**	**+0.1**
LADK				*e*Sn	**Sn**	**03 45 33.2**	**-0.2**
KONT	**Konya--Tatoy**	**1.19**	**100**	*e*PN	**Pn**	**03 45 17.6**	**+0.1**
KONT	**Konya--Tatoy**	**1.19**	**100**	*i* P	**Pb**	**03 45 17.4**	**0.0**
KONT				*i* S	**Sn**	**03 45 35.8**	**+2.0**
KONT	**Konya--Tatoy**	**1.19**	**100**	*e*Pn	**Pn**	**03 45 17.6**	**+0.1**
KMER	**Konya-Meram**	**1.24**	**108**	*i* P	**Pn**	**03 45 17.9**	**-0.4**
KMER				*i* S	**Sn**	**03 45 36.5**	**+1.3**
KMER	**Konya-Meram**	**1.24**	**108**	P	**Pn**	**03 45 17.9**	**-0.4**
KMER				S	**Sn**	**03 45 36.5**	**+1.3**
ESKT	**Eskisehir**	**1.35**	**359**	*e*PN	**Pn**	**03 45 19.5**	**-0.3**
ESKT	**Eskisehir**	**1.35**	**359**	*i* P	**Pn**	**03 45 18.4**	**-1.4**
ESKT				*i* S	**Sg**	**03 45 38.2**	**+0.1**
ESKT	**Eskisehir**	**1.35**	**359**	*e*Pn	**Pn**	**03 45 19.5**	**-0.3**
SEYT	**Eskypehyr**	**1.35**	**359**	P	**Pn**	**03 45 18.4**	**-1.4**
SEYT				S	**Sg**	**03 45 38.2**	**+0.1**
SVRH	**Sivrihisar-ESK**	**1.37**	**21**	*e*PN	**Pn**	**03 45 19.7**	**-0.3**
SVRH	**Sivrihisar-ESK**	**1.37**	**21**	*e*Pn	**Pn**	**03 45 19.7**	**-0.3**
CHBY	**Cihanbeyli**	**1.63**	**75**	*e*PN	**Pn**	**03 45 24.0**	**+0.4**
CHBY	**Cihanbeyli**	**1.63**	**75**	*e*Pn	**Pn**	**03 45 24.0**	**+0.4**
TVSB	**Tavsanli**	**1.69**	**319**	*e*PN	**Pn**	**03 45 24.3**	**-0.2**
TVSB	**Tavsanli**	**1.69**	**319**	*e*Pn	**Pn**	**03 45 24.3**	**-0.2**
BORA	**Eskisehir**	**1.74**	**349**	*i* P	**Pb**	**03 45 26.8**	**0.0**
BORA				*i* S	**Sg**	**03 45 51.9**	**+1.3**
BORA	**Eskisehir**	**1.74**	**349**	P	**Pb**	**03 45 26.8**	**0.0**
HDMB	**Hadim**	**1.75**	**133**	*e*PN	**Pn**	**03 45 25.4**	**0.0**
HDMB	**Hadim**	**1.75**	**133**	*e*Pn	**Pn**	**03 45 25.4**	**0.0**
KULA	**Kula-Manisa**	**1.78**	**282**	*e*PN	**Pn**	**03 45 25.9**	**+0.2**
KULA	**Kula-Manisa**	**1.78**	**282**	*e*Pn	**Pn**	**03 45 25.9**	**+0.2**
GULT	**Gulveren**	**2.28**	**353**	*e*PN	**Pn**	**03 45 33.2**	**+0.7**
GULT	**Gulveren**	**2.28**	**353**	*e*Pn	**Pn**	**03 45 33.2**	**+0.7**

*ISCJB **06** 03:49:42.6±0.9, 51°53N±0°04×16°14E±0°04, h0km, Error ellipse: s-maj=6.2km s-min=3.4km az=20.6*
*CSEM **06** 03:49:43.9±0.6, 51°53N×16°10E, h2km, ML2.8/5*
*WAR **06** 03:49:44.8, 51°54N×16°14E, h1km, Mw2.2*
*PRU **06** 03:49:45.6, 51°50N×16°16E, h0km*

ISC 06 03:49:44.5±1.1, 51°53N±0°05×16°11E±0°03, h0km, n26, σ0°53/48, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.70**	**170**	*e*Pg	**Pg**	**03 49 58.0**	**+0.2**
KSP				*e*Sg	**Sg**	**03 50 07.4**	**+0.5**
KSP	**Ksiaz**	**0.70**	**170**	*e*Pg	**Pg**	**03 49 58.0**	**+0.2**
KSP				*e*Sg	**Sg**	**03 50 07.4**	**+0.5**
KSP	**Ksiaz**	**0.70**	**170**	*e*Pg	**Pg**	**03 49 58.0**	**+0.2**
KSP				*e*Sg	**Sg**	**03 50 07.4**	**+0.5**
UPC	**Upice**	**1.03**	**183**	*e*PG	**Pg**	**03 50 04.1**	**0.0**
UPC				*e*SG	**Sg**	**03 50 17.9**	**+0.5**
	comp=Z,14nm,0.4s						
UPC	**Upice**	**1.03**	**183**	Pg	**Pg**	**03 50 04.1**	**0.0**
UPC				Sg	**Sg**	**03 50 17.9**	**+0.5**
	14nm,0.4s						
DPC	**Dobruska-Polom**	**1.19**	**173**	*e*PG	**Pg**	**03 50 06.9**	**-0.4**
DPC				*e*SG	**Sg**	**03 50 22.5**	**-0.2**
	comp=Z,5.3nm,0.3s						
DPC	**Dobruska-Polom**	**1.19**	**173**	Pg	**Pg**	**03 50 06.9**	**-0.4**
DPC				Sg	**Sg**	**03 50 22.5**	**-0.2**
	5.3nm,0.3s						
PVCC	**Panska Ves**	**1.40**	**225**	*e*PG	**Pb**	**03 50 11.6**	**+0.2**
PVCC				*e*SG	**Sn**	**03 50 30.8**	**+0.4**
	comp=Z,32nm,0.3s						
PVCC	**Panska Ves**	**1.40**	**225**	Pg	**Pb**	**03 50 11.6**	**+0.2**
PVCC				Sg	**Sn**	**03 50 30.8**	**+0.4**
	32nm,0.3s						
BRG	**Berggiesshubel**	**1.51**	**245**	PG	**Pg**	**03 50 13.6**	**+0.1**
BRG				Sg	**Sn**	**03 50 34.1**	**+0.9**
	27nm,0.4s						
KRLC	**Kraliky**	**1.52**	**163**	*e*PG	**Pn**	**03 50 12.2**	**-0.8**
KRLC				*e*SG	**Sg**	**03 50 32.7**	**-0.5**
KRLC	**Kraliky**	**1.52**	**163**	Pg	**Pn**	**03 50 12.2**	**-0.8**
KRLC				Sg	**Sg**	**03 50 32.7**	**-0.5**
GOPC	**GO Pecny, Ondr**	**1.82**	**208**	*e*PG	**Pb**	**03 50 18.5**	**-0.2**
GOPC	**GO Pecny, Ondr**	**1.82**	**208**	Pg	**Pb**	**03 50 18.5**	**-0.2**
PRU	**Pruhonice**	**1.84**	**213**	*e*PG	**Pb**	**03 50 18.4**	**-0.5**
PRU				*ex*	x	03 50 35.7	
PRU				*e*SG	**Sb**	**03 50 42.8**	**+0.4**
	comp=Z,5.4nm,0.3s						
PRU	**Pruhonice**	**1.84**	**213**	Pg	**Pb**	**03 50 18.4**	**-0.5**
PRU				Sg	**Sb**	**03 50 42.8**	**+0.4**
	5.4nm,0.3s						
CLL	**Collm**	**1.96**	**265**	*i* Pn	**Pn**	**03 50 17.7**	**-1.2**
CLL				*i* Pg	**Pb**	**03 50 20.9**	**-0.1**
CLL				*i* Sg	**Sg**	**03 50 47.8**	**+0.5**
	comp=Z,8.0nm,0.4s						
MORC	**Moravsky Berou**	**1.98**	**152**	*e*Pn	**Pn**	**03 50 18.3**	**-1.0**
MORC				*e*Sg	**Sb**	**03 50 47.0**	**+0.4**
OKC	**Ostrava-Krasne**	**2.13**	**142**	*e*SG	**Sb**	**03 50 51.7**	**+0.7**
	comp=Z,6.7nm,0.4s						
OKC	**Ostrava-Krasne**	**2.13**	**142**	Sg	**Sb**	**03 50 51.7**	**+0.7**
	comp=Z,6.7nm,0.4s						
VRAC	**Vranov**	**2.25**	**172**	*e*Sg	**Sg**	**03 50 55.4**	**-1.2**
OJC	**Ojcow**	**2.68**	**118**	*e*Pg	**Pg**	**03 50 35.8**	**0.0**
OJC				*e*Sg	**Sg**	**03 51 10.9**	**+0.3**
OJC	**Ojcow**	**2.68**	**118**	*e*Pg	**Pg**	**03 50 35.8**	**0.0**
OJC				*e*Sg	**Sg**	**03 51 10.9**	**+0.3**
OJC	**Ojcow**	**2.68**	**118**	*e*Pg	**Pg**	**03 50 35.8**	**0.0**
OJC				*e*Sg	**Sg**	**03 51 10.9**	**+0.3**
KHC	**Kasperske Hory**	**2.90**	**215**	*e*PN	**Pn**	**03 50 31.8**	**-0.1**
KHC				*e*PG	**Pb**	**03 50 37.7**	**+0.7**
KHC				*e*SG	**Sg**	**03 51 16.5**	**-1.0**
KHC	**Kasperske Hory**	**2.90**	**215**	Pn	**Pn**	**03 50 31.8**	**-0.1**

IDC 06 04:04:50.0±3.5, 19°30S×172°64E, h0km, mb3.5/2, mb1 3.8/2, mb1mx3.5/34, mbtmp3.5/2, Error ellipse: s-maj=236.9km s-min=66.2km az=172.0, Vanuatu Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**36.03**	**262**	P	P	04 11 54.2	+0.9
	0.5nm,0.7s,baz=94,slow=7.4,SNR=8.6						
ASAR	**Alice Springs**	**36.23**	**256**	P	P	04 11 53.6	-1.4
	0.2nm,0.3s,baz=92,slow=8.7,SNR=4.1						
TORD	**Torodi Ar. Bea**	**169.37**	**236**	PKP	PKPdf	04 24 59.9	-0.4
	1.0nm,0.8s,baz=110,slow=0.6,SNR=5.5						

*ISCJB **06** 04:05:02.7±0.5, 24°01N±0°03×122°33E±0°02, h19km±5km, Error ellipse: s-maj=5.6km s-min=2.5km az=167.7*
*JMA **06** 04:05:02.1±0.1, 23°97N×122°32E, h22km±3km, M2.6*
*TAP **06** 04:05:03.1, 24°08N×122°28E, h18km, ML2.9, D*

ISC 06 04:05:02.7±1.0, 24°01N±0°03×122°32E±0°02, h19km±8km, n31, σ0°64/52, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TWD	**Chiawan**	**0.67**	**276**	*e*S	**Sg**	**04 05 24.9**	**+0.1**
	baz=270						
ENA	**Nanau**	**0.68**	**308**	*e*P	**Pg**	**04 05 16.2**	**+0.2**
	baz=305						
ENA				*e*S	**Sb**	**04 05 24.8**	**+0.1**
	baz=305						
JYNG	**Yonagunijimaku**	**0.72**	**52**	P	**Pb**	**04 05 16.1**	**-0.5**
JYNG				*e*S	**Sb**	**04 05 25.4**	**-0.7**
TWC	**Suao**	**0.74**	**324**	*e*P	**Pb**	**04 05 16.1**	**-0.8**
	baz=324						
TWC				*e*S	**Sb**	**04 05 25.5**	**-1.1**
	baz=324						
YOJ	**Yonaguni jima**	**0.78**	**54**	P	**Pb**	**04 05 17.1**	**-0.5**
YOJ				S	**Sb**	**04 05 26.9**	**-0.8**
ESL	**Shilin**	**0.83**	**257**	*e*S	**Sb**	**04 05 28.7**	**-0.8**
	baz=251						
EGS		**0.91**	**337**	*e*P	**Pb**	**04 05 19.3**	**-0.5**
	baz=338						
EGS				*e*S	**Sb**	**04 05 31.2**	**-0.3**
	baz=338						
TWE	**Neicheng**	**0.93**	**320**	*e*P	**Pb**	**04 05 20.0**	**-0.2**
	baz=319						
ENTT	**Nioudou**	**0.93**	**313**	*e*P	**Pb**	**04 05 19.6**	**-0.7**
	baz=310						
ENTT				*e*S	**Sb**	**04 05 32.2**	**-0.1**
	baz=310						
WHF	**Hehuan Shan**	**0.97**	**278**	*e*P	**Pb**	**04 05 21.0**	**-0.3**
	baz=274						
WHF				*e*S	**Sb**	**04 05 34.0**	**+0.1**
	baz=274						
EHY	**Hungye**	**1.04**	**242**	*e*P	**Pg**	**04 05 23.1**	**+0.2**
	baz=236						
NSK	**Sanguang**	**1.10**	**307**	*e*P	**Pb**	**04 05 22.7**	**-0.5**
	baz=305						
NSK				*e*S	**Sb**	**04 05 36.9**	**-0.4**
	baz=305						
WDT	**Danda**	**1.12**	**257**	*e*P	**Pb**	**04 05 23.5**	**0.0**
	baz=252						
TWF1	**Yuli**	**1.14**	**235**	*e*P	**Pn**	**04 05 22.0**	**-1.7**
	baz=231						
NWF	**Wu-fen Shan**	**1.17**	**335**	*e*P	**Pn**	**04 05 23.6**	**-0.5**
	baz=335						
NWF				*e*S	**Sn**	**04 05 39.7**	**+0.1**
	baz=335						
IRIF	**Iriomote-Funau**	**1.33**	**76**	P	**Pn**	**04 05 26.1**	**-0.1**
IRIF				S	**Sb**	**04 05 44.0**	**+0.4**
TYC	**Yuchr**	**1.34**	**266**	*e*P	**Pn**	**04 05 26.7**	**+0.3**
	baz=262						
TYC				*e*S	**Sb**	**04 05 44.1**	**0.0**
	baz=262						
NSTT	**Nanjuang**	**1.35**	**298**	*e*P	**Pn**	**04 05 26.1**	**-0.5**
	baz=295						
NSTT				*e*S	**Sn**	**04 05 43.4**	**-0.7**
	baz=295						
YUS	**Yu-Shan**	**1.36**	**248**	*e*P	**Pn**	**04 05 27.4**	**+0.3**
	baz=244						
YUS				*e*S	**Sn**	**04 05 43.0**	**-1.8**
	baz=244						
HATJ	**Hateruma jima**	**1.36**	**88**	*e*S	**Sn**	**04 05 43.8**	**-0.3**
TWQ1	**Liyutan**	**1.45**	**284**	*e*S	**Sn**	**04 05 46.3**	**-0.3**
	baz=281						
ALS	**Alishan**	**1.48**	**251**	*e*S	**Sn**	**04 05 46.8**	**-0.7**
	baz=247						
JKRS	**Kuro-shima**	**1.56**	**81**	P	**Pb**	**04 05 30.3**	**-0.6**
JKRS				*e*S	**Sb**	**04 05 50.5**	**+0.2**
CHN5	**Tsauling**	**1.56**	**255**	*e*P	**Pn**	**04 05 29.8**	**+0.3**
	baz=252						
CHN5				*e*S	**Sn**	**04 05 49.8**	**+0.5**
	baz=252						
TWG	**Pinlang**	**1.65**	**224**	*e*P	**Pb**	**04 05 31.9**	**-0.6**
	baz=221						
STYT	**Tauyuan**	**1.66**	**240**	*e*P	**Pb**	**04 05 32.0**	**-0.7**
	baz=236						
STYT				*e*S	**Sn**	**04 05 51.4**	**-0.4**
	baz=236						
JIJ	**Ishigaki jima**	**1.70**	**78**	P	**Pn**	**04 05 31.7**	**+0.3**
JIJ				*e*S	**Sn**	**04 05 52.4**	**-0.2**
CHN4	**Tsaushan**	**1.71**	**248**	*e*P	**Pn**	**04 05 32.3**	**+0.8**
	baz=245						
CHN4				*e*S	**Sn**	**04 05 53.8**	**+0.9**
	baz=245						
TWK	**Hsinying**	**1.84**	**247**	*e*P	**Pn**	**04 05 34.1**	**+0.8**
	baz=243						
TWK				*e*S	**Sn**	**04 05 56.6**	**+0.5**
	baz=243						
CHN1	**Nanshi**	**1.84**	**244**	*e*P	**Pn**	**04 05 33.9**	**+0.6**
	baz=241						
CHN1				*e*S	**Sb**	**04 05 57.5**	**-0.9**
	baz=241						
JISG	**Ishigakijimahi**	**1.91**	**72**	P	**Pn**	**04 05 34.1**	**-0.1**
JISG				*e*S	**Sn**	**04 05 57.4**	**-0.3**

*ISCJB **06** 04:07:33.2±0.1, 21°90N±0°01×60°30W±0°01, h10km, mb5.1/347, MS4.3/37, Error ellipse: s-maj=1.9km s-min=1.8km az=3.3*
*IDC **06** 04:07:33.7±0.4, 22°03N×60°33W, h0km, mb4.9/39, mb1 5.1/42, mb1mx5.0/58, mbtmp5.0/42, ML5.4/2, MS4.2/29, Ms1 4.2/29, ms1mx4.1/34, Error ellipse: s-maj=11.6km s-min=10.1km az=142.0*
*MOS **06** 04:07:33.1±0.8, 21°92N×60°24W, h10km, mb5.3/100, MS4.3/8, Error ellipse: s-maj=5.4km s-min=4.8km az=102.5*
*TRN **06** 04:07:34.8, 21°85N×60°19W, h22km, MD5.7*
*GCMT **06** 04:07:35.4±0.1, 22°09N×60°24W, h16km, MW5.3/119, Moment Tensor Solution. s69,c114; s119,c225; Duration: 1§1 Moment tensor: Scale 10^17 Nm; Mrr0.20±.02; Mθθ0.42±.02; Mϕϕ-0.62±.02; Mrθ-0.14±.04; Mθϕ-1.06±.02; Mrϕ0.20±.05; Best double couple: Mo1.21100×10^17 NP1,ϕs348.00000°,δ83.00000°, λ12.00000°. NP2,ϕs256.00000°,δ78.00000°,λ173.00000°. Principal axes: T 1.1330, Plg14.0000°, Azm212.0000°; N 0.1560, Plg76.0000°, Azm16.0000°; P -1.2890, Plg4.0000°, Azm122.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*BJI **06** 04:07:35.4, 21°90N×60°30W, h10km, mB5.5/11, Ms5.2/11, Ms7 4.9/10*
*NEIC **06** 04:07:35.4±0.1, 21°94N×60°28W, h10km, mb5.2/253, Error ellipse: s-maj=2.4km s-min=1.8km az=82.0*
NEIC Felt at Caguas, Isabela, Loiza, Maunabo, Mayaguez and Rio Grande, Puerto Rico. Also felt at Charlestown, Nevis and at Fort-de-France, Martinique.

ISC 06 04:07:35.2±0.2, 21°85N±0°03×60°36W±0°04, h10km, n1181, σ1§45/1242, mb5.2/347, MS4.4/38, 24C-8D, North Atlantic Ocean

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ANWB	**Willy Bob**	**4.37**	**198**	↑ *i* P	**Pn**	**04 08 42.2**	**+0.5**
ANWB	**Willy Bob**	**4.37**	**198**	*e*S	**Sn**	**04 09 32.6**	**-0.1**
ANWB	**Willy Bob**	**4.37**	**198**	*e*Pn	**Pn**	**04 08 42.3**	**+0.7**
ANWB				*e*S	**Sn**	**04 09 25.6**	**-7.1**
SMRT	**St. Maarten**	**4.56**	**215**	↑ *i* P	**Pn**	**04 08 45.0**	**+1.6**
SMRT	**St. Maarten**	**4.56**	**215**	*e*S	**Sn**	**04 09 38.3**	**+0.8**
SMRT	**St. Maarten**	**4.56**	**215**	*e*Pn	**Pn**	**04 08 46.0**	**+1.6**
SEUS	**St. Eustatius**	**4.99**	**210**	↑ *i* P	**Pn**	**04 08 52.3**	**+2.1**
SEUS	**St. Eustatius**	**4.99**	**210**	*e*S	**Sn**	**04 09 48.7**	**+0.7**
SEUS	**St. Eustatius**	**4.99**

SLDE	**Delcer**	8.03 185	*e*P		Pn	04 09 34.3	+2.3			
SLDE	**Delcer**	8.03 185	*e*S		Sn	04 10 58.8	-4.1			
SLDE	**Delcer**	8.03 185	P		Pn	04 09 34.3	+2.3			
SLDE			S		Sn	04 10 58.8	-4.1			
MCLT	**Moule a Chique**	8.12 184	*e*P		Pn	04 09 33.2	+0.1			
MCLT	**Moule a Chique**	8.12 184	*e*S		Sn	04 10 59.4	-5.6			
MCLT	**Moule a Chique**	8.12 184	P		Pn	04 09 33.2	+0.1			
MCLT			S		Sn	04 10 59.4	-5.6			
SVV	**Soufriere Volc**	8.53 186	*e*P		Pn	04 09 39.4	+0.6			
SVV	**Soufriere Volc**	8.53 186	*e*S		Sn	04 11 12.0	-3.1			
SVV	**Soufriere Volc**	8.53 186	P		Pn	04 09 39.4	+0.6			
SVV			S		Sn	04 11 12.0	-3.1			
SVB	**Belmont**	8.57 186	*e*P		Pn	04 09 39.9	+0.5			
SVB	**Belmont**	8.57 186	*e*S		Sn	04 11 14.0	-2.3			
SVB	**Belmont**	8.57 186	*e*Pn		Pn	04 09 40.0	+0.5			
FCV	**Fort Charlotte**	8.69 186	*e*P		Pn	04 09 41.1	+0.1			
FCV	**Fort Charlotte**	8.69 186	P		Pn	04 09 41.1	+0.1			
BBGH	**Gun Hill**	8.69 175	*e*P		Pn	04 09 42.3	+1.2			
BBGH	**Gun Hill**	8.69 175	*e*S		Sn	04 11 14.7	-4.6			
BBGH	**Gun Hill**	8.69 175	*e*Pn		Pn	04 09 41.7	+0.6			
BBGH			*e*S		Sn	04 11 13.2	-6.0			
BBSP	**Saint Philip**	8.74 174	*e*P		Pn	04 09 43.5	+1.8			
BBSP	**Saint Philip**	8.74 174	*e*S		Sn	04 11 13.6	-6.8			
BBSP	**Saint Philip**	8.74 174	P		Pn	04 09 43.5	+1.8			
BBSP			S		Sn	04 11 13.6	-6.8			
SDD	**Santo Domingo**	9.59 251	*e*Pn		Pn	04 09 55.1	+1.7			
GRGR	**Grenville**	9.74 188	*i*P		Pn	04 09 55.9	+0.5			
GRGR	**Grenville**	9.74 188	*e*S		Sn	04 11 39.5	-5.5			
GRGR	**Grenville**	9.74 188	*e*Pn		Pn	04 09 55.7	+0.3			
GRGR			*e*S		Sn	04 11 38.1	-6.9			
GRTK	**Grand Turk**	10.03 270	*e*Pn		Pn	04 09 55.7	-3.7			
GRTK			*e*S		Sn	04 11 37.4	-15			
TOSP	**Speyside**	10.49 181	*e*P		Pn	04 10 06.7	+0.9			
TOSP	**Speyside**	10.49 181	P		Pn	04 10 06.7	+0.9			
SDDR	**Presa de Saban**	10.64 256	*e*P		Pn	04 10 09.2	+1.4			
SDDR	**Presa de Saban**	10.64 256	*e*Pn		Pn	04 10 09.0	+1.2			
SDDR			*e*S		Sn	04 11 57.6	-10			
BBSR	**BB Station**	11.17 341	*e*Pn		Pn	04 10 06.0	-8.9			
BBSR			*e*S		Sn	04 11 56.2	-24			
TRN	**Trinidad (W)**	11.19 185	*e*P		Pn	04 10 17.6	+2.4			
TRN	**Trinidad (W)**	11.19 185	P		Pn	04 10 17.6	+2.4			
TRN	**Trinidad (W)**	11.19 185	P		Pn	04 10 17.6	+2.4			
TPP	**Pointe-a-Pierr**	11.52 185	*e*P		Pn	04 10 21.7	+1.9			
TPP	**Pointe-a-Pierr**	11.52 185	P		Pn	04 10 21.7	+1.9			
TPP	**Pointe-a-Pierr**	11.52 185	P		Pn	04 10 21.7	+1.9			
PCRV	**Puerto La Cruz**	12.31 200	Pn		Pn	04 10 32.7	+2.0			
	20nm,0.3s,baz=8.5,slow=2.6,SNR=63									
PCRV			Sn		Sn	04 12 43.3	-4.8			
	4.7nm,0.3s,baz=232,slow=19,SNR=2.8									
PCRV			LR		LR	04 14 58.1				
	comp=Z,3µm,21.4s,baz=359,slow=36									
GTBY	**Guantanamo Bay**	13.92 265	*e*Pn		Pn	04 10 50.5	-2.2			
GTBY			*e*S		Sn	04 13 14.5	-13			
URIC	**Uribia, Colomb**	15.02 230	*e*P		Pn	04 11 06.3	-1.4			
SDV	**Santo Domingo**	16.25 219	Pn		P	04 11 25.5	-1.4			
	3.5nm,0.3s,baz=42,slow=8.8,SNR=38									
SDV			Sn		Sn	04 14 17.2	-7.1			
	1.9nm,0.3s,baz=312,slow=18,SNR=5.1									
SDV			LR		LR	04 18 51.1				
	comp=Z,1µm,19.4s,baz=29,slow=41									
SDV	**Santo Domingo**	16.25 219	*e*P		Pn	04 11 23.8	0.0			
SDV	**Santo Domingo**	16.25 219	*e*P		Pn	04 11 25.1	+1.3			
	241nm,0.9s									
SDV			*e*S		Sn	04 14 19.1	-5.2			
MTDJ	**Mount Denham**	16.54 260	*e*Pn		Pn	04 11 27.7	+0.3			
	176nm,1.3s									
MTDJ			*e*S		Sn	04 14 24.8	-6.5			
OCAC	**Ocana**	18.41 225	*e*P		P	04 11 50.4	-0.4			
SJCC	**San Jacinto, C**	18.54 232	*e*P		P	04 11 49.9	-2.3			
PAMC	**Pamplona, Colo**	18.71 221	*e*P		Pn	04 11 56.6	+1.9			
GIRC	**Giron, Santand**	19.22 222	*e*P		Pn	04 12 01.2	+0.6			
BRRC	**Barranca, Sant**	19.52 223	*e*P		P	04 12 03.4	+0.6			
BARC	**Barichara**	19.59 221	*e*P		Pn	04 12 04.6	-0.6			
MOTC	**Monteria, Cord**	19.64 231	*e*P		Pn	04 12 06.8	+1.2			
ZARC	**Zaragoza, Cauc**	19.99 227	*e*P		P	04 12 06.8	-1.1			
RUSC	**La Rusia**	20.08 220	*e*P		P	04 12 09.7	+0.2			
RUSC	**La Rusia**	20.08 220	*e*P		Pn	04 12 12.0	+0.7			
	649nm,1.3s									
DWPF	**Disney Wildern**	20.09 292	*e*P		Pn	04 12 10.2	-0.5			
	600nm,1.6s									
DWPF			*e*S		S	04 15 28.1	-27			
CNNC	**Cliffs of the**	20.33 315	*e*P		P	04 12 12.2	+0.6			
	69nm,0.6s									
CSU	**Charleston Sou**	20.68 307	*e*P		P	04 12 16.5	+1.1			
RGRS	**Roger Stewart**	20.74 306	*e*P		Pn	04 12 18.7	+0.4			
	3µm,0.3s									
CAPC	**Capurgana**	20.98 234	*e*P		Pn	04 12 20.4	-0.9			
HELC	**Santa Helena**	21.39 226	*e*P		P	04 12 24.9	+1.4			
HELC	**Santa Helena**	21.39 226	*e*P		P	04 12 25.7	+2.1			
	1µm,1.0s									
NORC	**Norcasia**	21.44 223	*e*P		P	04 12 23.8	+0.1			
CHIC	**Chingaza**	21.48 219	*e*P		P	04 12 25.5	+1.0			
URVA	**University of**	21.58 320	*e*P		P	04 12 25.0	0.0			
ROSC	**El Rosal**	21.66 221	P		P	04 12 31.1	+4.6			
	98nm,0.7s,baz=96,slow=5.7,SNR=69									
ROSC			S		S	04 16 29.1	+2.4			
	3.3nm,0.4s,baz=105,slow=20,SNR=2.2									
ROSC			LR		LR	04 21 38.5				
	comp=Z,708nm,21.4s,baz=31,slow=39									
ROSC	**El Rosal**	21.66 221	*e*P		P	04 12 30.0	+3.6			
ROSC	**El Rosal**	21.66 221	*e*P		P	04 12 29.9	+3.5			
	122nm,0.9s									
ROSC			S		S	04 16 29.1	+2.4			
JSRW	**J. Sargeant Re**	21.86 320	*e*P		P	04 12 27.4	-0.6			
VILC	**Villavicencio,**	21.87 218	*e*P		P	04 12 29.5	+1.0			
GUYC	**Guyana, Colomb**	22.03 224	*e*P		P	04 12 31.7	+1.2			
BRYW	**Bryant College**	22.11 337	*e*P		P	04 12 29.8	-0.9			
	174nm,1.1s									
CPNY	**Central Park**	22.12 332	*e*P		P	04 12 29.9	-0.8			
	83nm,0.9s									
YLE	**Yale**	22.12 334	*e*P		P	04 12 29.6	-1.2			
	101nm,0.9s									
PSUB	**Penn St. - Bra**	22.14 328	*e*P		P	04 12 30.1	-0.9			
	172nm,1.0s									
JSC	**Jenkinsville**	22.17 308	*e*P		P	04 12 31.4	0.0			
JSC			pmax		pmax					
	comp=Z,140nm,0.9s									
JSC	**Jenkinsville**	22.17 308	*e*P		P	04 12 31.4	0.0			
	comp=Z,140nm,0.9s									
PAL	**Palisades**	22.27 332	*e*P		P	04 12 31.0	-1.4			
PAL			pmax		pmax					
	comp=Z,51nm,0.8s									
PAL	**Palisades**	22.27 332	*e*P		P	04 12 31.0	-1.4			
	comp=Z,51nm,0.8s									
BRNJ	**Basking Ridge**	22.31 331	*e*P		P	04 12 32.4	-0.4			
	comp=Z,179nm,1.0s									
BCX	**Boston College**	22.35 339	*e*P		P	04 12 32.5	-0.7			
	comp=Z,324nm,0.9s									
WES	**Weston**	22.44 338	*e*P		P	04 12 33.4	-0.9			
WES			pmax		pmax					
	comp=Z,281nm,1.0s									
WES	**Weston**	22.44 338	*e*P		P	04 12 33.4	-0.9			
	comp=Z,281nm,1.0s									
PTGA	**Pitinga**	22.45 179	P		P	04 12 37.2	+2.8			
	comp=Z,31nm,0.7s,baz=2.9,slow=12,SNR=50									
PTGA			S		S	04 16 38.0	-3.1			
	comp=Z,77nm,0.6s,baz=62,slow=17,SNR=7.5									
PTGA			LR		LR	04 21 49.1				
	comp=Z,334nm,21.9s,baz=358,slow=38									
PTGA	**Pitinga**	22.45 179	*e*P		P	04 12 37.3	+2.8			
	comp=Z,82nm,0.8s									
PTGA			S		S	04 16 38.0	-3.1			
SDMD	**Soldier's Deli**	22.46 325	*e*P		P	04 12 33.1	-1.4			
	comp=Z,61nm,1.3s									
TOLC	**Tolima**	22.47 222	*e*P		P	04 12 36.8	+1.7			
GUVC	**San Jose del G**	22.60 214	*e*P		P	04 12 38.5	+2.4			
LUPA	**Lehigh Univers**	22.62 329	*e*P		P	04 12 35.7	-0.4			
	comp=Z,108nm,1.1s									
HRV	**Adam Dziewonsk**	22.63 338	*e*P		P	04 12 36.0	-0.3			
HRV			pmax		pmax					
	comp=Z,84nm,1.0s									
HRV	**Adam Dziewonsk**	22.63 338	*e*P		P	04 12 36.0	-0.3			
	comp=Z,84nm,1.0s									
KMSC	**Kings Mountain**	22.64 310	P		P	04 12 36.3	-0.2			
	baz=120,SNR=45									
KMSC	**Kings Mountain**	22.64 310	*e*P		P	04 12 36.2	-0.2			
	comp=Z,115nm,0.9s									
MVL	**Millersville**	22.64 327	*e*P		P	04 12 35.7	-0.6			
	comp=Z,41nm,1.0s									
ODNJ	**Ogdensburg**	22.64 331	*e*P		P	04 12 37.9	+1.5			
	comp=Z,62nm,1.1s									
SOLC	**Bahia Solano**	22.65 229	*e*P		P	04 12 40.8	+4.1			
SJAC	**San Juan de Ar**	22.70 217	*e*P		P	04 12 37.4	0.0			
QUA2	**Belchertown**	22.72 336	*e*P		P	04 12 36.5	-0.7			
	comp=Z,68nm,1.0s									
TIGA	**Tifton**	22.82 300	P		P	04 12 39.1	+0.8			
	baz=109,SNR=8.4									
TIGA	**Tifton**	22.82 300	*e*P		P	04 12 39.0	+0.6			
	comp=Z,531nm,1.3s									
VWCC	**Virginia Weste**	22.88 316	*e*P		P	04 12 38.6	-0.4			
PRAC	**Prado**	22.89 220	*e*P		P	04 12 38.5	-0.7			
PRAC	**Prado**	22.89 220	*e*P		P	04 12 39.5	+0.3			
	comp=Z,89nm,0.9s									
N59A	**State Game Lan**	23.05 329	P		P	04 12 39.8	-1.0			
	baz=141,SNR=9.2									
BLA	**Blacksburg**	23.15 316	*e*P		P	04 12 41.4	-0.4			
BLA			pmax		pmax					
	comp=Z,314nm,1.5s									
BLA	**Blacksburg**	23.15 316	*e*P		P	04 12 41.4	-0.4			
	comp=Z,314nm,1.5s									
GOGA	**Godfrey**	23.44 304	*e*P		P	04 12 44.2	-0.5			
GOGA			*e*S		S	04 16 52.4	-5.7			
GOGA			pmax		pmax					
	comp=Z,121nm,1.3s									
GOGA	**Godfrey**	23.44 304	*e*P		P	04 12 44.2	-0.5			
	comp=Z,121nm,1.3s									
GOGA			*e*S		S	04 16 52.4	-5.7			
KSPA	**Keystone Colle**	23.55 330	*e*P		P	04 12 45.2	-0.6			
	comp=Z,64nm,1.0s									
TRY	**Troy**	23.61 335	*e*P		P	04 12 47.3	+1.1			
	comp=Z,188nm,1.2s									
TRY			*e*S		S	04 16 56.9	-3.8			
SSPA	**Standing Stone**	23.91 326	*e*P		P	04 12 48.5	-0.7			
	comp=Z,106nm,1.2s									
SSPA			*e*S		S	04 17 04.8	-0.7			
O56A	**Blue Knob Stat**	24.01 324	P		P	04 12 49.5	-0.7			
	baz=134,SNR=9.2									
BINY	**Binghamton**	24.16 331	*e*P		P	04 12 50.7	-0.9			
	comp=Z,74nm,1.1s									
BINY			*e*S		S	04 17 06.9	-2.6			
ACCN	**Adirondack Com**	24.16 336	*e*P		P	04 12 50.4	-1.1			
	comp=Z,60nm,1.3s									
MALC	**Bahia Malaga**	24.20 225	*e*P		P	04 12 55.5	+3.4			
LBNH	**Lisbon**	24.30 339	*e*P		P	04 12 53.4	+0.6			
LBNH			pmax		pmax					
	comp=Z,77nm,1.0s									
LBNH	**Lisbon**	24.30 339	*e*P		P	04 12 53.4	+0.6			
	comp=Z,77nm,1.0s									
LBNH			*e*Sn		S	04 17 23.1	+11			
PKME	**Peaks-Kenny Pk**	24.48 345	*e*P		P	04 12 55.3	+0.9			
	comp=Z,43nm,1.5s									
MDV	**Middlebury**	24.51 337	*e*P		P	04 12 53.6	-1.1			
MDV			*e*Sn		S	04 17 26.8	+12			
TKL	**Tuckaleechee C**	24.63 309	P		P	04 12 56.1	+0.2			
	comp=Z,100nm,1.0s,baz=132,slow=9.7,SNR=43									
TKL			S		S	04 17 21.2	+3.9			
	comp=Z,8.8nm,0.8s,baz=82,slow=15,SNR=3.1									
TKL			LR		LR	04 20 57.7				
	comp=Z,763nm,21.2s,baz=118,slow=33									
TKL	**Tuckaleechee C**	24.63 309	*e*P		P	04 12 55.9	0.0			
	comp=Z,176nm,1.1s									
TKL			S		S	04 17 21.2	+3.9			
NCB	**Newcomb**	24.87 336	*e*P		P	04 12 58.2	+0.2			
	comp=Z,0.4nm,1.1s									
TZTN	**Tazewell**	24.90 311	*e*P		P	04 12 58.5	+0.1			
	comp=Z,195nm,1.1s									
TZTN			*e*S		S	04 17 25.9	+4.3			
CPCT	**Cooper Cave**	25.08 308	*e*P		P	04 13 00.2	+0.2			
	comp=Z,80nm,1.2s									
N54A	**Moraine State**	25.27 323	P		P	04 13 02.5	+0.8			
	baz=133,SNR=9.7									
FRNY	**Flat Rock**	25.38 338	*e*P		P	04 13 01.3	-1.3			
	comp=Z,55nm,1.4s									
M54A	**Oil Creek Stat**	25.47 325	P		P	04 13 03.4	0.0			
	baz=134,SNR=9.1									
LONY	**Lake Ozonia**	25.56 336	*e*P		P	04 13 03.1	-1.1			
	comp=Z,17nm,0.9s									
HDC	**Heredia**	25.66 246	*e*P		P	04 13 10.2	+4.7			
	comp=Z,156nm,1.1s									
CRUC	**La Cruz**	25.84 221	*e*P		P	04 13 10.2	+2.9			
SWET	**Sewanee**	26.03 306	*e*P		P	04 13 09.5	+0.8			
	comp=Z,73nm,1.4s									
LRAL	**Lakeview Retre**	26.07 301	*e*P		P	04 13 09.2	+0.2			
	comp=Z,141nm,1.2s									
448A	**Bay Minette**	26.19 296	P		P	04 13 10.3	+0.2			
	baz=103									
JTS	**JuntasAbangare**	26.24 248	P		P	04 13 12.2	+1.5			
	comp=Z,46nm,1.0s,baz=102,slow=7.8,SNR=25									
348A	**Jackson**	26.34 297	P		P	04 13 11.8	+0.4			
	baz=104									
248A	**Dixon Mills**	26.39 299	P		P	04 13 12.0	+0.2			
	baz=106									
ACSO	**Alum Creek Sta**	26.55 319	*e*P		P	04 13 12.6	-0.6			
	comp=Z,42nm,1.0s									
Z48A	**Northport**	26.62 301	P		P	04 13 13.2	-0.7			
	baz=108,SNR=7.1									
TGUH	**Tegucigalpa,Un**	26.72 258	*e*P		P	04 13 18.6	+3.6			
	comp=Z,64nm,1.0s									
447A	**Lucedale**	26.82 295	P		P	04 13 16.6	+0.9			
	baz=102									
CMBC	**Cumbal**	26.86 222	*e*P		P	04 13 19.3	+2.5			
347A	**Saraland**	26.87 297	P		P	04 13 16.4	+0.2			
	baz=104									
LMQ	**La Malbaie**	26.87 345	*e*P		P	04 13 15.3	-0.7			
TRQ	**Mont Tremblant**	26.92 338	*e*P		P	04 13 15.7	-0.9			
Z47A	**Carrollton**	26.97 301	P		P	04 13 17.0	0.0			
	baz=108,SNR=8.8									
147A	**Livingston**	26.98 299	P		P	04 13 16.8	-0.4			
	baz=106,SNR=9.7									
Y47A	**UCPARC, Winfie**	27.02 302	P		P	04 13 17.4	-0.1			
	baz=109,SNR=18									
247A	**Quitman**	27.09 298	P		P	04 13 19.2	+1.1			
	baz=105									
446A	**Poplarville**	27.42 295	P		P	04 13 20.9	-0.3			
	baz=102									
DRLN	**Deer Lake**	27.44 4	*e*P		P	04 13 20.1	-1.0			
	comp=Z,217nm,2.0s									
246A	**Jackson Lee, B**	27.50 298	P		P	04 13 21.7	-0.2			
	baz=104									
646A	**Port Sulphur**	27.59 292	P		P	04 13 21.4	-1.3			
	baz=99									
SADO	**Sadowa**	27.60 330	P		P	04 13 25.0	+2.4			
	comp=Z,15nm,1.0s,baz=161,slow=7.8,SNR=4.8									
SADO			LR		LR	04 22 49.6				
	comp=Z,437nm,19.0s,baz=154,slow=33									
146A	**Union**	27.61 299	P		P	04 13 23.6	+0.8			
	baz=106									
546A	**Slidell**	27.61 294	P		P	04 13 21.9	-1.0			
	baz=100									
WCI	**Wyandotte Cave**	27.63 312	*e*P		P	04 13 23.0	0.0			
WCI			pmax		pmax					
	comp=Z,76nm,0.9s									
WCI	**Wyandotte Cave**	27.63 312	*e*P		P	04 13 23.0	0.0			
	comp=Z,76nm,0.9s									
346A	**Big Creek Wild**	27.63 296	P		P	04 13 23.5	+0.5			
	baz=103,SNR=6.7									
Z46A	**Louisville**	27.67 300	P		P	04 13 23.2	-0.2			
	baz=107									
Y46A	**Houston**	27.81 302	P		P	04 13 24.7	+0.2			
	baz=108,SNR=8.9									
WVT	**Waverly**	27.81 307	*e*P		P	04 13 24.8	+0.2			
WVT			pmax		pmax					
	comp=Z,61nm,1.3s									
WVT	**Waverly**	27.81 307	*e*P		P	04 13 24.8	+0.2			
	comp=Z,61nm,1.3s									
345A	**Thompson Farm,**	28.09 296	P		P	04 13 27.1	-0.1			
	baz=102									
245A	**Little AP, Sta**	28.14 297	P		P	04 13 28.4	+0.8			
	baz=104									
AAM	**Ann Arbor**	28.22 322	*e*P		P	04 13 28.1	-0.1			
AAM			pmax		pmax					
	comp=Z,76nm,1.2s									
AAM	**Ann Arbor**	28.22 322	*e*P		P	04 13 28.1	-0.1			
	comp=Z,76nm,1.2s									
545A	**Edgard**	28.24 293	P		P	04 13 28.2	-0.3			
	baz=100									
645A	**Chauvin**	28.24 292	P		P	04 13 29.2	+0.7			
	baz=98									
BLO	**Bloomington**	28.25 314	*e*P		P	04 13 28.2	-0.3			
BLO			pmax		pmax					
	comp=Z,37nm,1.0s									
BLO	**Bloomington**	28.25 314	*e*P		P	04 13 28.2	-0.3			
	comp=Z,37nm,1.0s									
145A	**Houston Renfro**	28.31 299	P		P	04 13 29.3	+0.2			
	baz=105									
Z45A	**Winona**	28.32 300	P		P	04 13 29.1	-0.1			
	baz=106									
Y45A	**Yeager Farm, C**	28.34 301	P		P	04 13 29.8	+0.4			
	baz=107									
X45A	**UM Field Stati**	28.40 302	P		P	04 13 30.4	+0.6			
	baz=108									
OXF	**Oxford**	28.44 303	*e*P		P	04 13 30.5	+0.3			
OXF			pmax		pmax					
	comp=Z,112nm,0.8s									
OXF	**Oxford**	28.44 303	*e*P		P	04 13 30.5	+0.3			
	comp=Z,112nm,0.8s									
USIN	**University of**	28.46 310	*e*P		P	04 13 30.8	+0.4			
	comp=Z,46nm,0.9s									
W45A	**Hickory Valley**	28.48 304	P		P	04 13 30.4	-0.1			
	baz=110,SNR=6.7									
V45A	**Humboldt**	28.51 305	P		P	04 13 30.6	-0.3			
	baz=111,SNR=9.5									
U45A	**Rockin P Farm,**	28.59 307	P		P	04 13 31.4	-0.2			
	baz=112									
VBMS	**Vicksburg**	28.70 298	P		P	04 13 33.0	+0.4			
	baz=103,SNR=9.6									
344A	**Westbrook Farm**	28.70 296	P		P	04 13 34.0	+1.4			
	baz=102,SNR=9.7									
144A	**Alexander Plac**	28.72 298	P		P	04 13 33.7	+1.0			
	baz=104,SNR=9.9									
244A	**Avery, Jackson**	28.79 297	P		P	04 13 34.0	+0.6			
	baz=103,SNR=15									
544A	**White Castle**	28.82 293	P		P	04 13 32.3	-1.4			
	baz=99									
Z44A	**Pea Ridge, Bel**	28.89 300	P		P	04 13 32.9	-1.3			
	baz=105									
Y44A	**Strider, Charl**	28.91 301	P		P	04 13 34.4	+0.1			
	baz=107									
W44A	**Shelby Farms P**	28.96 304	P		P	04 13 34.3	-0.6			
	baz=109									
S45A	**Carrier Mills**	28.99 309	P		P	04 13 35.4	+0.3			
	baz=115,SNR=8.9									
X44A	**Crenshaw**	29.01 302	P		P	04 13 35.3	-0.1			
	baz=108									
U44B	**Burton Farm, H**	29.03 306	P		P	04 13 35.1	-0.3			
	baz=112									
OLIL	**Olney**	29.11 312	*e*P		P	04 13 36.6	+0.5			
	comp=Z,55nm,1.0s									
SFIN	**Lafayette**	29.24 315	P		P	04 13 36.7	-0.6			
	baz=121									
SFIN	**Lafayette**	29.24 315	*e*P		P	04 13 37.3	0.0			
	comp=Z,176nm,2.0s									
V44A	**Blytheville**	29.25 305	P		P	04 13 37.4	-0.1			
	baz=110									
U44A	**Portageville**	29.34 306	P		P	04 13 38.2	+0.1			
	baz=112									
GNAR	**Gosnell**	29.39 305	*e*P		P	04 13 39.9	+1.2			
543A	**St. Martinvill**	29.41 293	P		P	04 13 38.6	-0.3			
	baz=98									
343A	**Vidalia**	29.41 295	P		P	04 13 39.2	+0.3			
	baz=101									
243A	**Waterproof**	29.42 296	P		P	04 13 39.6	+0.7			
	baz=102									
PARMO	**Parma**	29.45 307	*e*P		P	04 13 39.9	+0.8			
443A	**Delano Plantat**	29.46 294	P		P	04 13 38.9	-0.4			
	baz=100									
Y43A	**Makayla and Ka**	29.46 301	P		P	04 13 39.6	+0.3			
	baz=106,SNR=17									
S44A	**Carbondale**	29.48 309	P		P	04 13 39.8	+0.3			
	baz=114,SNR=8.7									
T44A	**Benton**	29.49 307	P		P	04 13 39.4	-0.1			
	baz=113									
Z43A	**Armstrong Fami**	29.53 299	P		P	04 13 39.5	-0.4			
	baz=104									
143A	**Socs Landing,**	29.54 298	P		P	04 13 40.1	+0.1			
	baz=103,SNR=12									
VLDQ	**Val d'Or**	29.57 336	*e*P		P	04 13 40.6	+0.5			
	comp=Z,22nm,1.2s									
R44A	**Waltonville**	29.59 310	P		P	04 13 40.1	-0.3			
	baz=115,SNR=12									
X43A	**Marvell**	29.60 302	P		P	04 13 40.1	-0.4			
	baz=107,SNR=14									
W43A	**Forest City**	29.63 303	P		P	04 13 40.0	-0.8			
	baz=108									
V43A	**Jonesboro**	29.73 304	P		P	04 13 41.5	-0.2			
	baz=110									
P44A	**Sand Creek, Wi**	29.81 312	P		P	04 13 41.2	-1.2			
	baz=118,SNR=9.0

baz=112,SNR=13
S41A **Jillco Farms,** 31.27 307 P P 04 13 54.7 -0.6
baz=111,SNR=11
Z40A **Long Farm, Mag** 31.30 298 P P 04 13 56.1 +0.5
baz=103
440A **Kirbyville** 31.31 294 P P 04 13 57.3 +1.6
baz=98,SNR=5.3
140A **Cam and Jess,** 31.31 297 P P 04 13 56.1 +0.4
baz=102
340A **Bronson** 31.35 295 P P 04 13 56.9 +0.9
baz=99,SNR=6.0
240A **Hunter Patters** 31.35 296 P P 04 13 57.5 +1.4
baz=100,SNR=7.6
Y40A **Okolona** 31.38 300 P P 04 13 56.9 +0.7
baz=104,SNR=7.3
N42A **Yates City** 31.41 314 P P 04 13 55.3 -1.1
baz=118
Q41A **Truxton** 31.42 310 P P 04 13 56.3 -0.3
baz=114,SNR=12
V40A **Witts Springs** 31.50 303 P P 04 13 57.2 -0.1
baz=107,SNR=37
W40A **Ferguson Farm,** 31.52 302 P P 04 13 58.1 +0.7
baz=106,SNR=10
M42A **Sheffield** 31.52 315 P P 04 13 57.1 -0.4
baz=119
P41A **Barry, Barry** 31.59 311 P P 04 13 57.8 -0.3
baz=115,SNR=25
O41A **Passleys Farm,** 31.66 312 P P 04 13 58.1 -0.6
baz=116,SNR=7.9
U40A **Yellville** 31.69 304 P P 04 13 58.6 -0.4
baz=108,SNR=26
T40A **Mansfield** 31.69 306 P P 04 13 58.6 -0.4
baz=110,SNR=21
MIAR **Mount Ida** 31.75 301 P P 04 13 59.6 +0.1
baz=104,SNR=9.1
MIAR **Mount Ida** 31.75 301 eP P 04 13 59.4 -0.1
MIAR pmax pmax
comp=Z,7.0nm,0.7s
MIAR **Mount Ida** 31.75 301 eP P 04 13 59.4 -0.1
comp=Z,7.2nm,0.7s
S40A **Lebanon** 31.83 307 P P 04 13 59.8 -0.5
baz=110,SNR=14
539A **Cross D Ranch,** 31.88 292 P P 04 13 59.7 -1.0
baz=97
339A **Huntington** 31.90 294 P P 04 14 02.4 +1.5
baz=99,SNR=21
N41A **Harden Midland** 31.91 313 P P 04 14 00.2 -0.6
baz=117,SNR=8.0
R40A **Maddies Statio** 31.91 308 P P 04 14 00.4 -0.5
baz=112,SNR=18
Z39A **Irene McRaven,** 31.93 298 P P 04 14 01.9 +0.7
baz=102
239A **Gary** 31.94 296 P P 04 14 02.2 +1.0
baz=100
139A **Bunkhouse Ranc** 32.00 297 P P 04 14 02.2 +0.5
baz=101
439A **Center Grove,** 32.00 293 P P 04 14 03.5 +1.7
baz=98,SNR=23
M41A **Milan** 32.00 314 P P 04 14 01.2 -0.5
baz=118
Y39A **Lockesburg** 32.02 299 P P 04 14 02.3 +0.5
baz=103
Q40A **Laux Farm, Aux** 32.04 309 P P 04 14 01.4 -0.6
baz=113,SNR=8.7
NATX **Nacogdoches** 32.06 295 P P 04 13 03.6 +1.4
baz=99,SNR=15
NATX **Nacogdoches** 32.06 295 eP P 04 14 03.9 +1.6
comp=Z,121nm,0.9s
W39A **Magazine** 32.08 302 P P 04 14 03.5 +1.1
baz=105,SNR=38
V39A **Pettigrew** 32.15 303 P P 04 14 03.1 0.0
baz=106,SNR=28
X39A **Fountain Ranch** 32.17 300 P P 04 14 03.9 +0.7
baz=104,SNR=12
U39A **Green Forest** 32.18 304 P P 04 14 02.8 -0.5
baz=107,SNR=14
P40A **Paris** 32.23 310 P P 04 14 03.2 -0.4
baz=114,SNR=18
T39A **Clever** 32.30 305 P P 04 14 04.0 -0.3
baz=108,SNR=17
L41A **Preston** 32.31 316 P P 04 14 03.7 -0.7
baz=119,SNR=6.7
O40A **La Belle** 32.35 311 P P 04 14 04.1 -0.6
baz=115,SNR=25
638A **Rosharon** 32.43 291 P P 04 14 05.1 -0.5
baz=95
K41A **Shullsburg** 32.45 317 P P 04 14 05.1 -0.5
baz=120
S39A **Bolivar** 32.48 306 P P 04 14 05.4 -0.5
baz=110,SNR=26
N40A **Mertquake, Sal** 32.48 313 P P 04 14 05.2 -0.7
baz=116,SNR=7.6
238A **Jacksonville** 32.48 296 P P 04 14 07.4 +1.4
baz=99,SNR=5.9
R39A **Chumby, Stover** 32.48 308 P P 04 14 05.5 -0.4
baz=111,SNR=30
HHAR **Hobbs** 32.50 304 eP P 04 14 06.0 -0.2
comp=Z,17nm,1.1s
Y38A **Idabel** 32.53 299 P P 04 14 07.3 +0.9
baz=103,SNR=10
338A **Crockett** 32.54 294 P P 04 14 08.4 +1.9
baz=98,SNR=36
538A **Harpers Horsep** 32.55 292 P P 04 14 08.6 +2.0
baz=96,SNR=6.1
138A **Matatall Enter** 32.57 297 P P 04 14 08.0 +1.3
baz=100,SNR=6.7
JFWS **Jewell Farm** 32.57 317 eP P 04 14 06.1 -0.5
JFWS pmax pmax
comp=Z,44nm,1.3s
JFWS **Jewell Farm** 32.57 317 eP P 04 14 06.1 -0.5
comp=Z,44nm,1.3s
Z38A **Mt. Pleasant** 32.59 298 P P 04 14 08.2 +1.2
baz=101
438A **Sam Houston St** 32.60 293 P P 04 14 06.3 -0.8
baz=97,SNR=5.1
W38A **Poteau** 32.63 301 P P 04 14 06.3 -0.9
baz=104,SNR=14
J41A **Loganville** 32.66 318 P P 04 14 06.7 -0.7
baz=122,SNR=14
M40A **Post Highland** 32.66 314 P P 04 14 06.5 -0.9
baz=117,SNR=5.9
Q39A **Willow Grove F** 32.70 309 P P 04 14 07.3 -0.6
baz=112,SNR=12
P39B **Salisbury** 32.71 310 P P 04 14 07.4 -0.5
baz=113,SNR=12
V38A **Canehill** 32.75 303 P P 04 14 07.8 -0.6
baz=106,SNR=25
L40A **Anamosa** 32.78 315 P P 04 14 07.6 -0.8
baz=118,SNR=8.8
X38A **Whitesboro** 32.78 300 P P 04 14 09.2 +0.7
baz=104,SNR=11
O39A **Kirksville** 32.87 311 P P 04 14 08.7 -0.6
baz=114,SNR=10
U38A **Gravette** 32.89 304 P P 04 14 08.6 -1.0
baz=107
S38A **Stockton** 32.90 306 P P 04 14 09.0 -0.6
baz=109,SNR=15
I41A **Arkdale** 32.94 319 P P 04 14 09.2 -0.6
baz=122,SNR=7.0
T38A **Diamond** 33.00 305 P P 04 14 10.0 -0.5
baz=108,SNR=16
337A **Centerville** 33.02 294 P P 04 14 12.3 +1.6
baz=98
K40A **Colesburg** 33.03 316 P P 04 14 10.0 -0.7
baz=119,SNR=12
R38A **Fenwick Farm,** 33.08 307 P P 04 14 10.4 -0.7
baz=110,SNR=20
N39A **Derby Farms, D** 33.10 312 P P 04 14 10.5 -0.8
baz=115,SNR=14
Z37A **Pogue Cattle C** 33.11 298 P P 04 14 12.1 +0.6
baz=101,SNR=9.9
137A **Heron Place, G** 33.11 296 P P 04 14 12.6 +1.1
baz=100,SNR=11
J40A **Soldiers Grove** 33.12 318 P P 04 14 12.4 +0.9
baz=121
Q38A **Cooks Store, C** 33.14 309 P P 04 14 11.2 -0.5
baz=111,SNR=8.4
M39A **Webster** 33.14 314 P P 04 14 11.0 -0.7
baz=116
437A **Phantom Ranch,** 33.18 293 P P 04 14 13.5 +1.4
baz=97,SNR=6.6
X37A **Clayton** 33.19 300 P P 04 14 12.2 0.0
baz=103
637A **Eagle Lake** 33.20 291 P P 04 14 13.9 +1.6
baz=94,SNR=6.5
537A **Green Hill Far** 33.25 292 P P 04 14 14.1 +1.4
baz=96,SNR=5.7
SCHQ **Schefferville** 33.29 353 P P 04 14 12.1 -0.8
comp=Z,15nm,0.8s,baz=170,slow=6.8,SNR=12
SCHQ **Schefferville** 33.29 353 eP P 04 14 12.2 -0.7
comp=Z,81nm,1.6s
I40A **Norwalk** 33.30 318 P P 04 14 12.4 -0.7
baz=121,SNR=7.7
L39A **Vinton** 33.32 315 P P 04 14 12.0 -1.2
baz=117,SNR=8.3
P38A **Dawn** 33.32 310 P P 04 14 12.8 -0.5
baz=112,SNR=8.2
V37A **Hulbert** 33.33 303 P P 04 14 12.7 -0.6
baz=105,SNR=15
W37B **Quinton** 33.37 301 P P 04 14 14.1 +0.4
baz=104,SNR=8.5
U37A **Salina** 33.45 303 P P 04 14 13.9 -0.5
baz=106,SNR=20
O38A **Galt** 33.47 311 P P 04 14 14.1 -0.4
baz=113,SNR=14
T37A **Cheneyville 18** 33.50 305 P P 04 14 14.2 -0.6
baz=107,SNR=8.5
K39A **Oelwein** 33.52 316 P P 04 14 13.8 -1.1
baz=118,SNR=5.9
H40A **Chili** 33.55 320 P P 04 14 14.7 -0.5
baz=123,SNR=6.1
N38A **Joes South For** 33.57 312 P P 04 14 14.7 -0.7
baz=114,SNR=7.4
S37A **Fort Scott** 33.63 306 P P 04 14 15.4 -0.5
baz=108,SNR=12
236A **Katherine and** 33.66 295 P P 04 14 17.1 +0.8
baz=98,SNR=14
J39A **Decorah** 33.70 317 P P 04 14 16.8 +0.3
baz=119
Q37A **Longview Farm,** 33.72 308 P P 04 14 15.9 -0.8
baz=110
436A **Wall Ranch, Ga** 33.73 293 P P 04 14 18.0 +1.1
baz=96,SNR=9.6
136A **Ennis** 33.74 296 P P 04 14 17.4 +0.4
baz=99,SNR=8.0
Y36A **Durant** 33.79 299 P P 04 14 18.3 +0.9
baz=101
Z36A **Blue Ridge** 33.79 297 P P 04 14 17.3 -0.1
baz=100
G40A **Rib Lake** 33.80 321 P P 04 14 16.8 -0.5
baz=124,SNR=9.2
R37A **Teagarden Farm** 33.81 307 P P 04 14 17.0 -0.5
baz=109,SNR=22
M38A **Pleasantville** 33.81 313 P P 04 14 16.8 -0.7
baz=115
736A **Circle Diamond** 33.81 290 P P 04 14 19.2 +1.6
baz=93,SNR=9.6
636A **Smothers Creek** 33.84 291 P P 04 14 19.3 +1.5
baz=94,SNR=19
TUL1 **Leonard** 33.84 302 P P 04 14 17.7 -0.2
baz=105,SNR=8.3
TUL1 **Leonard** 33.84 302 eP P 04 14 18.1 +0.2
comp=Z,25nm,1.0s
336A **Riesel** 33.85 294 P P 04 14 18.6 +0.7
baz=97,SNR=16
I39A **Houston** 33.85 318 P P 04 14 17.2 -0.6
baz=120,SNR=7.4
536A **Bastrop** 33.89 292 P P 04 14 18.8 +0.4
baz=95
P37A **Lathrop** 33.89 309 P P 04 14 17.7 -0.5
baz=111,SNR=14
U36A **Oologah** 33.92 303 P P 04 14 18.2 -0.4
baz=105,SNR=13
V36A **Jenks** 33.93 302 P P 04 14 18.6 -0.1
baz=104,SNR=24
L38A **Oak Wood Farm,** 33.96 314 P P 04 14 19.3 +0.5
baz=116
O37A **Wolven Farm, M** 33.96 310 P P 04 14 18.4 -0.4
baz=112,SNR=14
X36A **Centhoma** 33.98 300 P P 04 14 19.3 +0.3
baz=102,SNR=19
W36A **Wetumka** 34.00 301 P P 04 14 19.6 +0.3
baz=103,SNR=14
SCIA **State Center** 34.03 314 eP P 04 14 18.5 -0.9
comp=Z,24nm,1.1s
K38A **Parkersburg** 34.06 315 P P 04 14 18.9 -0.8
baz=117,SNR=5.5
F40A **Park Falls** 34.12 322 P P 04 14 19.3 -0.8
baz=125,SNR=6.3
H39A **Augusta** 34.12 319 P P 04 14 19.7 -0.4
baz=122,SNR=14
J38A **Wedel Dairy, R** 34.19 316 P P 04 14 19.7 -1.1
baz=118,SNR=6.7
S36A **Lake Cedric, C** 34.19 306 P P 04 14 20.2 -0.7
baz=107,SNR=16
T36A **Boggs Farm, Ca** 34.22 304 P P 04 14 20.5 -0.6
baz=106,SNR=9.0
N37A **Lee Faris, Mou** 34.24 311 P P 04 14 20.8 -0.4
baz=113,SNR=7.3
R36A **Gordon, Harris** 34.31 307 P P 04 14 21.2 -0.7
baz=108,SNR=13
535A **Dale** 34.33 292 P P 04 14 22.4 +0.3
baz=95,SNR=8.6
335A **Moody** 34.33 294 P P 04 14 23.0 +0.9
baz=97,SNR=16
G39A **Holcombe** 34.38 320 P P 04 14 22.0 -0.3
baz=122,SNR=21
M37A **Trindle Farm,** 34.39 312 P P 04 14 22.2 -0.4
baz=114,SNR=7.9
Y35A **Marietta** 34.40 298 P P 04 14 23.4 +0.7
baz=101,SNR=9.9
WHTX **Lake Whitney,** 34.44 295 P P 04 14 24.2 +1.1
baz=98,SNR=26
WHTX **Lake Whitney,** 34.44 295 eP P 04 14 24.4 +1.3
comp=Z,226nm,1.4s
I38A **Scanlan Farm,** 34.44 318 P P 04 14 22.2 -0.8
baz=120,SNR=7.5
X35A **Drake** 34.45 299 P P 04 14 22.9 -0.2
baz=101,SNR=24
835A **Beeville** 34.45 288 P P 04 14 22.5 -0.7
baz=92
735A **Kenedy** 34.45 289 P P 04 14 22.4 -0.8
baz=93
635A **Leesville** 34.45 290 P P 04 14 23.4 +0.2
baz=94,SNR=11
Z35A **Perchaven, San** 34.48 297 P P 04 14 24.0 +0.6
baz=100,SNR=13
KVTX **Kingsville** 34.48 287 eP P 04 14 25.9 +2.4
comp=Z,243nm,1.3s
135A **Vickery Place,** 34.48 296 P P 04 14 24.5 +1.1
baz=98,SNR=12
L37A **Phoenix Point,** 34.49 314 P P 04 14 22.5 -0.9
baz=115
Q36A **Arnold C. Orve** 34.49 308 P P 04 14 22.6 -0.8
baz=109,SNR=17
P36A **Good Intent, A** 34.52 309 P P 04 14 23.2 -0.5
baz=110,SNR=18
W35A **Tecumseh** 34.52 301 P P 04 14 23.9 +0.1
baz=103,SNR=16
O36A **Bolckow** 34.53 310 P P 04 14 23.4 -0.4
baz=111,SNR=12
035Z **Hargill** 34.63 285 P P 04 14 24.9 +0.1
baz=89
V35A **Meyer Ranch, C** 34.63 302 P P 04 14 24.8 +0.1
baz=104,SNR=18
035A **Encino** 34.66 286 P P 04 14 24.1 -0.9
baz=90,SNR=7.3
T35A **Sooner Cattle** 34.67 304 P P 04 14 24.6 -0.4
baz=105,SNR=10
K37A **Belmond** 34.69 315 P P 04 14 24.2 -0.9
baz=116,SNR=6.8
U35A **Pawnee** 34.70 303 P P 04 14 25.1 -0.1
baz=104,SNR=14
G38A **Ridgeland** 34.73 320 P P 04 14 24.7 -0.7
baz=121,SNR=9.6
H38A **Maiden Rock** 34.73 319 P P 04 14 24.7 -0.7
baz=120
S35A **Otter Creek Ra** 34.73 305 P P 04 14 24.7 -0.9
baz=107,SNR=14
N36A **Muff Farm, Cla** 34.78 311 P P 04 14 25.7 -0.3
baz=112
R35A **Emporia Munici** 34.83 306 P P 04 14 26.0 -0.4
baz=108,SNR=14
Q35A **Mercer Eighty,** 34.88 307 P P 04 14 26.0 -0.8
baz=108,SNR=23
J37A **Redenius Farm,** 34.88 316 P P 04 14 26.1 -0.6
baz=117,SNR=9.8
M36A **Felix, Anita** 34.92 312 P P 04 14 26.6 -0.6
baz=113,SNR=13
634A **China Grove, S** 34.96 290 P P 04 14 28.0 +0.4
baz=93
434A **Burnet** 35.00 293 P P 04 14 27.7 -0.2
baz=95,SNR=25
234A **Clairette** 35.02 295 P P 04 14 28.7 +0.7
baz=97,SNR=40
334A **Lometa** 35.02 294 P P 04 14 28.4 +0.2
baz=96,SNR=34
Z34A **Collier Ranch,** 35.03 297 P P 04 14 29.1 +0.9
baz=99,SNR=22
934A **Benavides** 35.04 287 P P 04 14 29.6 +1.3
baz=91,SNR=10
134A **White-Moore Ra** 35.05 296 P P 04 14 29.3 +1.0
baz=98,SNR=23
H37A **Dierke Farm, C** 35.08 318 P P 04 14 28.2 -0.3
baz=119,SNR=9.0
P35A **Duane Minner,** 35.08 308 P P 04 14 27.8 -0.8
baz=109
L36A **Harm Buss Farm** 35.09 313 P P 04 14 28.2 -0.4
baz=114
534A **Blanco** 35.11 291 P P 04 14 28.8 -0.1
baz=94,SNR=21
734A **La Parita Cree** 35.11 289 P P 04 14 28.7 -0.2
baz=92
I37A **Lemond, Waseca** 35.11 317 P P 04 14 28.2 -0.5
baz=118,SNR=9.6
F38A **Pierce - Schro** 35.16 321 P P 04 14 28.9 -0.2
baz=122,SNR=27
K36A **Gilmore City** 35.17 314 P P 04 14 29.1 -0.1
baz=115
034A **Hebbronville** 35.18 286 P P 04 14 30.7 +1.2
baz=90,SNR=24
T34A **McClaskey Farm** 35.22 304 P P 04 14 29.5 -0.3
baz=105
C39A **Grand Marais** 35.23 325 P P 04 14 28.4 -1.3
baz=127
O35A **Humboldt** 35.26 310 P P 04 14 29.1 -0.9
baz=110
W34A **Bridge Creek,** 35.26 300 P P 04 14 30.6 +0.5
baz=102,SNR=15
N35A **Tabor** 35.28 311 P P 04 14 29.9 -0.4
baz=112
E38A **The Farm, Brul** 35.32 322 P P 04 14 29.7 -0.8
baz=124
SPMN **Marine on St.** 35.33 319 P P 04 14 30.0 -0.6
baz=120,SNR=24
SPMN **Marine on St.** 35.33 319 eP P 04 14 30.1 -0.5
comp=Z,40nm,0.8s
S34A **Willow Spring** 35.34 305 P P 04 14 30.1 -0.7
baz=106
KSU1 **Kansas State U** 35.38 307 P P 04 14 30.1 -1.0
baz=108,SNR=8.9
KSU1 **Kansas State U** 35.38 307 eP P 04 14 30.3 -0.8
comp=Z,70nm,0.8s
J36A **Seneca 1, Swea** 35.40 315 P P 04 14 30.1 -1.1
baz=116,SNR=5.7
F37A **Hinrichs Farm,** 35.48 320 P P 04 14 31.2 -0.6
baz=121,SNR=9.9
I36A **Fitzsimmons Fa** 35.50 316 P P 04 14 30.6 -1.5
baz=117
M35A **Neola** 35.55 312 P P 04 14 31.7 -0.8
baz=112,SNR=6.1
Q34A **Chapman** 35.57 307 P P 04 14 31.8 -0.9
baz=108
533A **Kerrville** 35.59 291 P P 04 14 32.9 -0.2
baz=94,SNR=14
R34A **Isabella, Hill** 35.61 306 P P 04 14 32.2 -0.9
baz=107,SNR=16
333A **Richland Sprin** 35.66 294 P P 04 14 33.8 +0.1
baz=96,SNR=60
P34A **Walnut Farm, R** 35.68 308 P P 04 14 32.9 -0.8
baz=109,SNR=11
L35A **Bielow Farm, R** 35.69 313 P P 04 14 33.0 -0.8
baz=113,SNR=7.6
433A **Art** 35.70 293 P P 04 14 33.9 -0.1
baz=95,SNR=107
933A **Laredo** 35.71 287 P P 04 14 34.6 +0.5
baz=90,SNR=21
H36A **Jessenland, He** 35.71 317 P P 04 14 33.1 -0.7
baz=118,SNR=6.3
Y33A **Hilltop Ranch,** 35.72 298 P P 04 14 34.5 +0.4
baz=100,SNR=17
Z33A **Whitaker Ranch** 35.72 297 P P 04 14 35.0 +0.8
baz=98,SNR=53
K35A **Storm Lake** 35.73 314 P P 04 14 33.5 -0.6
baz=114,SNR=5.9
133A **Hamilton Ranch** 35.75 296 P P 04 14 35.0 +0.6
baz=98,SNR=37
733A **Divot King Ran** 35.75 289 P P 04 14 34.2 -0.2
baz=92,SNR=6.2
E37A **Wrenshall** 35.79 321 P P 04 14 34.3 -0.2
baz=122
O34A **Beatrice** 35.79 309 P P 04 14 33.9 -0.7
baz=110,SNR=17
C38A **Sawbill Land.** 35.80 324 P P 04 14 33.4 -1.2
baz=125,SNR=7.7
833A **Chaparral WMA,** 35.83 288 P P 04 14 35.0 -0.1
baz=91,SNR=13
N34A **Lincoln** 35.88 310 P P 04 14 34.7 -0.7
baz=111,SNR=10.0
G36A **St. Michael** 35.91 318 P P 04 14 35.2 -0.4
baz=119,SNR=6.3
WMOK **Wichita Mounta** 35.97 299 P P 04 14 36.0 -0.3
baz=100,SNR=18
WMOK **Wichita Mounta** 35.97 299 eP P 04 14 35.8 -0.5
WMOK e 04 15 58.5
WMOK pmax pmax
comp=Z,16nm,0.9s
WMOK **Wichita Mounta** 35.97 299 eP P 04 14 35.8 -0.5
comp=Z,16nm,0.9s
WMOK ePP PP 04 15 58.5 +0.5
J35A **Milford** 35.98 315 P P 04 14 35.1 -1.2
baz=115
EYMN **Ely** 36.05 324 P P 04 14 35.7 -1.1
baz=125,SNR=5.6
EYMN **Ely** 36.05 324 eP P 04 14 35.8 -0.9
comp=Z,86nm,1.9s
I35A **Creekview Farm** 36.05 316 P P 04 14 35.9 -0.9
baz=116
F36A **Milaca** 36.09 320 P P 04 14 36.3 -0.8
baz=120,SNR=7.7
D37A **Cotton** 36.13 322 P P 04 14 37.0 -0.4
baz=123,SNR=18
TLIG **Tlapa** 36.16 270 eP P 04 14 39.6 +1.4
comp=Z,40nm,1.1s
M34A **Aspy Farms, Fr** 36.18 311 P P 04 14 37.2 -0.7
baz=111,SNR=6.4
L34A **Svensen Farm,** 36.21 312 P P 04 14 37.1 -1.1
baz=112
E36A **McGregor** 36.27 321 P P 04 14 38.0 -0.6
baz=121,SNR=13
JCT **Junction City** 36.28 292 P P 04 14 39.0 0.0
baz=94,SNR=35
JCT **Junction City** 36.28 292 eP P 04 14 39.1 0.0
JCT pmax pmax
comp=Z,69nm,0.8s
JCT **Junction City** 36.28 292 eP P 04 14 39.1 0.0
comp=Z,69nm,0.8s
K34A **Le Mars** 36.30 313 P P 04 14 38.4 -0.6
baz=113
C37A **Embarrass** 36.31 323 P P 04 14 38.3 -0.7
baz=124,SNR=9.1
X32A **Elmer** 36.33 299 P P 04 14 39.6 +0.3
baz=100,SNR=12
H35A **Sunnyside Ranc** 36.33 317 P P 04 14 38.1 -1.2
baz=117,SNR=5.9
832A **Faith Ranch, C** 36.34 288 P P 04 14 39.2 -0.2
baz=91,SNR=20
ABTX **Abilene, Hawle** 36.36 296 P P 04 14 40.2 +0.6
baz=97,SNR=78
G35A **Watkins** 36.36 318 P P 04 14 38.6 -0.8
baz=118,SNR=10
O33A **Hebron** 36.40 309 P P 04 14 38.9 -1.0
baz=109
J34A **George** 36.45 314 P P 04 14 39.3 -0.9
baz=114
U32A **Winter Ranch,** 36.48 302 P P 04 14 41.1 +0.5
baz=102,SNR=5.5
RCBR **Riachuelo** 36.48 136 eP P 04 14 42.6 +1.9
comp=Z,34nm,1.1s
N33A **J Bar K, Exete** 36.52 310 P P 04 14 40.1 -0.8
baz=110
D36A **Goodland** 36.56 322 P P 04 14 40.8 -0.3
baz=122,SNR=16
M33A **Taylor Creek F** 36.63 311 P P 04 14 41.0 -0.8
baz=111,SNR=6.1
C36A **Pine Crest Far** 36.69 323 P P 04 14 41.5 -0.8
baz=123,SNR=15
I34A **Hadley** 36.70 316 P P 04 14 41.2 -1.2
baz=115
F35A **Swanville** 36.72 319 P P 04 14 41.7 -0.8
baz=119,SNR=13
K33A **Hardington** 36.88 313 P P 04 14 43.6 -0.3
baz=112
L33A **Hoskins** 36.90 312 P P 04 14 43.5 -0.6
baz=112,SNR=5.8

H34A **Spellman Lake,** 36.92 316 P P 04 14 43.2 -1.1
baz=116,SNR=12
E35A **Pequot Lakes** 36.97 320 P P 04 14 44.1 -0.5
baz=120,SNR=12
D35A **Remer** 37.03 321 P P 04 14 44.1 -1.0
baz=121
ECSD **EROS Data Cent** 37.07 315 P P 04 14 44.6 -0.9
baz=114,SNR=13
ECSD **EROS Data Cent** 37.07 315 eP P 04 14 44.2 -1.3
comp=Z,10.0nm,0.8s
G34A **Benson** 37.09 317 P P 04 14 44.8 -0.9
baz=117,SNR=14
F34A **Alexandria** 37.11 318 P P 04 14 44.8 -1.0
baz=118
J33A **Davis** 37.13 314 P P 04 14 45.1 -0.9
baz=113
BGNE **Belgrade** 37.25 310 P P 04 14 46.5 -0.6
baz=110
BGNE **Belgrade** 37.25 310 eP P 04 14 46.3 -0.7
comp=Z,38nm,0.8s
C35A **Jirik Farms, M** 37.31 322 P P 04 14 46.7 -0.7
baz=122,SNR=28
I33A **Coleman** 37.32 315 P P 04 14 46.3 -1.3
baz=114
L32A **Elgin** 37.35 311 P P 04 14 47.2 -0.7
baz=111
E34A **Wadena** 37.40 320 P P 04 14 47.6 -0.7
baz=119
B35A **Bob, Littlefor** 37.52 323 P P 04 14 48.3 -1.0
baz=123,SNR=14
H33A **Prehn Over Nor** 37.55 316 P P 04 14 48.8 -0.7
baz=115,SNR=17
K32A **Verdigre** 37.56 312 P P 04 14 48.7 -1.1
baz=111,SNR=8.1
G33A **Ortonville** 37.58 317 P P 04 14 48.6 -1.2
baz=116,SNR=9.7
CBKS **Cedar Bluff** 37.63 306 P P 04 14 50.2 -0.2
baz=105,SNR=9.5
CBKS **Cedar Bluff** 37.63 306 eP P 04 14 49.6 -0.8
CBKS pmax pmax
comp=Z,85nm,1.3s
CBKS **Cedar Bluff** 37.63 306 eP P 04 14 49.6 -0.8
comp=Z,85nm,1.3s
D34A **Park Rapids** 37.70 320 P P 04 14 49.8 -1.1
baz=120
J32A **Parkston** 37.75 314 P P 04 14 49.9 -1.3
baz=112
I32A **Karley and Nic** 37.75 315 P P 04 14 50.3 -1.0
baz=114,SNR=9.5
F33A **5 Mile Ranch,** 37.77 318 P P 04 14 50.4 -1.1
baz=117,SNR=7.4
C34A **RKJ Ranch, Bem** 37.82 321 P P 04 14 51.1 -0.8
baz=121,SNR=16
E33A **Westby DABS, E** 37.91 319 P P 04 14 51.4 -1.2
baz=118
H32A **Carlson Farm,** 37.92 315 P P 04 14 51.6 -1.1
baz=114,SNR=9.6
K31A **O'Neill** 38.09 312 P P 04 14 53.6 -0.6
baz=111,SNR=8.8
B34A **Aery, Baudette** 38.10 323 P P 04 14 53.2 -1.0
baz=122,SNR=9.4
D33A **AnnSam, Waubun** 38.12 320 P P 04 14 53.3 -1.1
baz=119
G32A **Webster** 38.28 316 P P 04 14 54.7 -1.0
baz=115,SNR=5.2
F32A **Veblen** 38.31 318 P P 04 14 54.5 -1.4
baz=116
J31A **Geddes** 38.32 313 P P 04 14 54.8 -1.4
baz=111
AMTX **Amarillo** 38.35 299 P P 04 14 56.7 +0.1
baz=98
AMTX **Amarillo** 38.35 299 eP P 04 14 56.5 -0.1
comp=Z,51nm,0.9s
C33A **Trail** 38.38 321 P P 04 14 55.3 -1.2
baz=120
I31A **Royce, Wessing** 38.46 314 P P 04 14 56.2 -1.1
baz=112
B33A **Robert and Kas** 38.53 322 P P 04 14 56.6 -1.2
baz=120
H31A **Wolsey** 38.60 315 P P 04 14 57.3 -1.1
baz=113
E32A **Braaten, Kindr** 38.60 319 P P 04 14 57.3 -1.1
baz=117
LPAZ **La Paz** 38.66 192 P P 04 15 01.3 +1.5
comp=Z,21nm,1.0s,baz=6.8,slow=9.0,SNR=45
LPAZ LR LR 04 32 10.2
comp=Z,484nm,21.1s,baz=2.0,slow=38
LPAZ **La Paz** 38.66 192 eP P 04 15 01.7 +1.8
LPAZ pmax pmax
comp=Z,34nm,1.1s
LPAZ **La Paz** 38.66 192 eP P 04 15 01.6 +1.8
comp=Z,34nm,1.1s
AGMN **Agassiz Nation** 38.70 322 P P 04 14 58.2 -1.0
baz=120,SNR=13
AGMN **Agassiz Nation** 38.70 322 eP P 04 14 57.9 -1.3
comp=Z,33nm,1.0s
G31A **Conde** 38.72 316 P P 04 14 58.4 -1.1
baz=114
A33A **Warroad** 38.76 323 P P 04 14 59.0 -0.7
baz=122,SNR=23
D32A **Dogwood Acres,** 38.82 319 P P 04 14 58.9 -1.3
baz=118
C32A **Crookston** 38.85 321 P P 04 14 59.6 -0.9
baz=119
SUSD **Miller** 38.90 315 P P 04 14 60.0 -1.0
baz=112
ZAIG **Zacatecas** 38.97 280 eP P 04 15 04.2 +2.1
comp=Z,27nm,1.0s
F31A **Hecla** 39.01 317 P P 04 15 01.0 -0.9
baz=115,SNR=17
E31A **Nome** 39.09 318 P P 04 15 01.6 -0.9
baz=116,SNR=14
MSTX **Muleshoe** 39.12 297 P P 04 15 03.1 0.0
baz=97,SNR=33
MSTX **Muleshoe** 39.12 297 eP P 04 15 03.2 0.0
comp=Z,130nm,1.3s
MSTX ePP PP 04 16 33.8 +1.0
B32A **Ashes, Strandq** 39.14 321 P P 04 15 02.0 -0.9
baz=120,SNR=8.0
D31A **Mcclaflin, Tow** 39.20 319 P P 04 15 02.4 -1.1
baz=117
A32A **Rocking H Ranc** 39.37 322 P P 04 15 04.1 -0.8
baz=120,SNR=11
C31A **Landman Farms,** 39.55 320 P P 04 15 05.7 -0.6
baz=118,SNR=9.4
TX31 **Lajitas Ar. Si** 39.59 290 eP P 04 15 07.4 +0.3
TXAR **Lajitas Array** 39.59 290 P P 04 15 07.4 +0.3
comp=Z,15nm,0.8s,baz=110,slow=8.0,SNR=131
TXAR LR LR 04 33 23.2
comp=Z,229nm,19.7s,baz=0.0,slow=39
ULM **Lac du Bonnet** 39.72 324 P P 04 15 06.6 -1.1
comp=Z,11nm,0.7s,baz=118,slow=9.3,SNR=12
ULM LR LR 04 30 30.0
comp=Z,200nm,19.8s,baz=118,slow=35
ULM **Lac du Bonnet** 39.72 324 eP P 04 15 06.7 -1.1
ULM pmax pmax
comp=Z,76nm,1.5s
ULM **Lac du Bonnet** 39.72 324 eP P 04 15 06.7 -1.1
comp=Z,76nm,1.5s
A31A **Linda, St. Vin** 39.78 322 P P 04 15 06.8 -1.4
baz=119
B31A **Greenbush Farm** 39.80 321 P P 04 15 07.4 -1.0
baz=118,SNR=9.0
KSCO **Kaye Shedlock'** 39.87 305 P P 04 15 08.7 -0.6
baz=103
KSCO **Kaye Shedlock'** 39.87 305 eP P 04 15 08.2 -1.0
comp=Z,141nm,1.8s
OGNE **Ogallala** 39.90 308 P P 04 15 07.7 -1.8
baz=106
MDND **Maddock** 40.70 319 P P 04 15 15.0 -0.9
baz=116
MDND **Maddock** 40.70 319 eP P 04 15 15.2 -0.7
comp=Z,60nm,0.9s
T25A **Trinidad** 40.89 302 P P 04 15 18.5 +0.7
baz=99,SNR=32
T25A **Trinidad** 40.89 302 eP P 04 15 18.6 +0.7
comp=Z,42nm,0.9s
MNTX **Cornudas Mount** 41.13 294 P P 04 15 19.9 +0.2
baz=92,SNR=81
MNTX **Cornudas Mount** 41.13 294 eP P 04 15 20.0 +0.2
comp=Z,56nm,0.9s
HPIG **41.41 286** eP P 04 15 22.5 +0.3
comp=Z,37nm,0.9s
Q24A **Divide** 41.78 304 P P 04 15 25.5 +0.2
baz=101,SNR=5.7
Q24A **Divide** 41.78 304 eP P 04 15 25.9 +0.6
comp=Z,22nm,1.3s
SDCO **Great Sand Dun** 41.84 303 P P 04 15 26.2 +0.5
baz=99,SNR=41
SDCO **Great Sand Dun** 41.84 303 eP P 04 15 26.2 +0.5
comp=Z,25nm,1.1s
RSSD **Black Hills** 42.22 312 P P 04 15 28.2 -0.5
baz=107
RSSD **Black Hills** 42.22 312 eP P 04 15 28.5 -0.2
RSSD pmax pmax
comp=Z,17nm,0.8s
RSSD **Black Hills** 42.22 312 eP P 04 15 28.5 -0.2
comp=Z,17nm,0.8s
ANMO **Albuquerque** 42.25 298 dP P 04 15 29.7 +0.6
ANMO pmax pmax
comp=Z,30nm,1.3s
ISCO **Idaho Springs** 42.29 306 P P 04 15 30.0 +0.5
baz=101,SNR=26
ISCO **Idaho Springs** 42.29 306 eP P 04 15 30.1 +0.7
ISCO pmax pmax
comp=Z,51nm,1.4s
ISCO **Idaho Springs** 42.29 306 eP P 04 15 30.1 +0.7
comp=Z,51nm,1.4s
BNM **Barren Site** 42.33 297 eP P 04 15 30.5 +0.8
LPM **Los Pinos Moun** 42.34 297 eP P 04 15 30.6 +0.8
PB11 **IPOC Station P** 42.34 193 eP P 04 15 29.9 +0.1
comp=Z,107nm,0.9s
Y22D **IRIS PASSCAL I** 42.56 297 P P 04 15 31.5 0.0
baz=94
N23A **Red Feather La** 42.76 307 P P 04 15 33.6 +0.4
baz=102,SNR=9.2
N23A **Red Feather La** 42.76 307 eP P 04 15 33.6 +0.4
comp=Z,17nm,1.1s
LAZ **Ladron** 42.77 297 eP P 04 15 34.2 +0.9
S22A **4UR Ranch, Cre** 42.88 302 P P 04 15 35.0 +0.7
baz=98,SNR=28
S22A **4UR Ranch, Cre** 42.88 302 eP P 04 15 35.0 +0.7
comp=Z,35nm,1.3s
121A **Cookes Peak, D** 43.20 295 P P 04 15 37.8 +1.1
baz=92,SNR=45
121A **Cookes Peak, D** 43.20 295 eP P 04 15 37.9 +1.1
comp=Z,67nm,1.0s
SMCO **Snowmass** 43.22 304 eP P 04 15 37.6 +0.5
comp=Z,16nm,0.8s
PB01 **IPOC Station P** 43.55 192 eP P 04 15 39.9 +0.4
comp=Z,117nm,1.1s
K22A **Casper** 43.58 309 P P 04 15 39.1 -0.5
baz=103,SNR=11
K22A **Casper** 43.58 309 eP P 04 15 39.2 -0.5
comp=Z,81nm,1.7s
DGMT **Dagmar** 43.77 318 P P 04 15 40.6 -0.3
baz=111,SNR=12
DGMT **Dagmar** 43.77 318 eP P 04 15 40.8 -0.2
comp=Z,107nm,0.9s
FCC **Fort Churchill** 44.07 335 eP P 04 15 42.7 -0.4
FCC pmax pmax
comp=Z,40nm,0.9s
FCC **Fort Churchill** 44.07 335 eP P 04 15 42.7 -0.4
comp=Z,40nm,0.9s
MVCO **Mea Verde** 44.13 301 P P 04 15 44.7 +0.5
baz=96,SNR=13
MVCO **Mesa Verde** 44.13 301 eP P 04 15 44.3 0.0
comp=Z,19nm,0.9s
PV01 **Paradox Valley** 44.30 303 eP P 04 15 46.8 +1.2
O20A **White River Ci** 44.34 306 P P 04 15 46.5 +0.6
baz=100,SNR=16
O20A **White River Ci** 44.34 306 eP P 04 15 46.1 +0.2
comp=Z,25nm,0.9s
319A **Douglas** 44.45 293 eP P 04 15 48.3 +1.5
comp=Z,49nm,1.1s
LAO **LASA Array** 44.46 315 P P 04 15 46.4 -0.2
baz=108,SNR=19
LAO **LASA Array** 44.46 315 eP P 04 15 46.1 -0.5
comp=Z,46nm,1.0s
PV04 **Paradox Valley** 44.59 303 eP P 04 15 48.3 +0.4
PV10 **Paradox Valley** 44.70 303 eP P 04 15 49.6 +0.8
PV05 **Paradox Valley** 44.71 303 eP P 04 15 49.1 +0.2
PV09 **Paradox Valley** 44.78 303 eP P 04 15 50.4 +0.8
W18A **Petrified Fore** 44.95 298 P P 04 15 51.4 +0.6
baz=93,SNR=9.8
W18A **Petrified Fore** 44.95 298 eP P 04 15 51.5 +0.7
comp=Z,55nm,1.1s
LVC **Limon Verde** 44.97 191 eP P 04 15 52.3 +1.2
comp=Z,50nm,1.1s
X18A **Snowflake** 45.09 297 eP P 04 15 52.9 +1.0
comp=Z,60nm,1.1s
FFC **Flin Flon** 45.23 327 eP P 04 15 51.1 -1.4
FFC pmax pmax
comp=Z,14nm,1.0s
FFC **Flin Flon** 45.23 327 eP P 04 15 51.1 -1.4
comp=Z,14nm,1.0s
SLBS **Sierra La Lagu** 45.58 282 eP P 04 15 58.0 +2.2
comp=Z,48nm,0.9s
TUC **Tucson** 45.74 294 P P 04 15 57.9 +1.0
baz=90
TUC **Tucson** 45.74 294 eP P 04 15 57.9 +1.0
TUC pmax pmax
comp=Z,23nm,0.8s
TUC **Tucson** 45.74 294 eP P 04 15 57.9 +1.0
comp=Z,23nm,0.8s
BW06 **Boulder Array** 45.79 309 P P 04 15 57.1 -0.3
baz=101,SNR=40
BW06 **Boulder Array** 45.79 309 eP P 04 15 57.1 -0.3
comp=Z,58nm,1.4s
BW06 ePP PP 04 17 44.4 -0.1
PD31 **Pinedale Array** 45.79 309 eP P 04 15 57.2 -0.2
PDAR **Pinedale Array** 45.79 309 P P 04 15 57.0 -0.3
comp=Z,15nm,1.0s,baz=101,slow=6.3,SNR=61
PDAR LR LR 04 34 46.4
comp=Z,247nm,18.4s,baz=120,slow=36
SRU **San Rafael Swe** 45.94 304 eP P 04 15 59.4 +0.8
SRU pmax pmax
comp=Z,28nm,1.0s
SRU **San Rafael Swe** 45.94 304 eP P 04 15 59.4 +0.8
comp=Z,28nm,1.0s
HSIG **45.96 290** eP P 04 16 00.1 +1.4
comp=Z,38nm,1.1s
RLMT **Red Lodge** 46.08 312 P P 04 15 59.7 0.0
baz=104,SNR=18
RLMT **Red Lodge** 46.08 312 eP P 04 15 59.6 0.0
comp=Z,71nm,1.5s
WUAZ **Wupatki** 46.31 299 P P 04 16 02.5 +1.0
baz=93,SNR=13
WUAZ **Wupatki** 46.31 299 eP P 04 16 02.5 +1.0
comp=Z,24nm,1.1s
X16A **Lo Mia Camp, P** 46.32 297 eP P 04 16 02.9 +1.2
comp=Z,27nm,1.3s
TMUT **Trail Mountain** 46.49 304 eP P 04 16 04.3 +1.3
comp=Z,71nm,1.3s
GCMT **Greycliff** 46.52 313 eP P 04 16 03.2 +0.2
HTU **Hoyt Peak** 46.67 306 eP P 04 16 04.7 +0.3
LOHW **Long Hollow** 46.70 310 eP P 04 16 04.4 -0.1
comp=Z,41nm,1.3s
SNOW **Snow King Moun** 46.78 310 eP P 04 16 05.3 +0.1
comp=Z,48nm,1.2s
HLJ **Hailstone** 46.80 306 eP P 04 16 06.2 +0.9
KLJ **Keetly** 46.80 306 eP P 04 16 06.2 +0.8
SGU **Sterling** 46.81 304 eP P 04 16 06.7 +1.1
PFVI **Vila Bisbo** 46.82 59 eS S 04 22 54.6 -1.1
MOOW **Moose Ponds** 46.83 310 eP P 04 16 05.2 -0.4
comp=Z,18nm,1.3s
REDW **Red Top Meadow** 46.83 310 eP P 04 16 05.3 -0.3
comp=Z,51nm,1.3s
JLU **Jordanelle** 46.83 306 eP P 04 16 06.5 +0.8
comp=Z,42nm,0.9s
H17A **Grant Village** 46.84 311 P P 04 16 05.8 +0.1
baz=102
H17A **Grant Village** 46.84 311 eP P 04 16 06.5 +0.9
comp=Z,16nm,0.9s
FLWY **Flagg Ranch** 46.86 311 eP P 04 16 05.8 +0.1
comp=Z,52nm,1.1s
TPAW **Teton Pass** 46.92 310 eP P 04 16 06.2 -0.1
comp=Z,27nm,1.1s
MORF **Marmelete** 46.97 59 i P P 04 16 05.3 -1.2
MORF eP P 04 16 05.3 -1.2
MORF AMb AMB 04 16 11.8
comp=Z,34nm,1.8s
MORF eS S 04 22 58.0 -0.1
MORF **Marmelete** 46.97 59 eP P 04 16 05.3 -1.2
comp=Z,35nm,1.8s
MORF eS S 04 23 01.1 +3.1
MORF **Marmelete** 46.97 59 i P P 04 16 05.3 -1.2
MORF eS S 04 22 57.9 -0.1
YPP **Pitchstone Pla** 46.97 311 eP P 04 16 07.5 +0.7
comp=Z,25nm,1.4s
YNR **Norris Junctio** 46.97 311 eP P 04 16 07.6 +0.9
comp=Z,21nm,1.1s
IMW **Indian Meadow** 46.99 310 eP P 04 16 06.4 -0.5
comp=Z,17nm,1.0s
MCU **Monte Cristo P** 46.99 307 eP P 04 16 07.1 +0.1
YFT **Old Faithful** 47.03 311 eP P 04 16 08.7 +1.6
comp=Z,21nm,1.0s
HWUT **Hardware Ranch** 47.06 307 eP P 04 16 07.0 -0.4
HWUT ePcP PcP 04 17 34.0 -5.3
GMU **Granite Mounta** 47.07 306 eP P 04 16 08.2 +0.8
U15A **North Rim** 47.10 300 eP P 04 16 09.2 +1.4
comp=Z,35nm,1.0s
YHH **Holmes Hill** 47.11 311 eP P 04 16 08.3 +0.5
comp=Z,21nm,0.9s
MTPU **Mount Pierson** 47.12 302 eP P 04 16 09.4 +1.3
comp=Z,31nm,0.9s
PNCL **Nicolau / Gran** 47.13 58 eP P 04 16 06.3 -1.4
comp=Z,28nm,2.0s
PNCL eS S 04 22 54.5 -5.6
WCU **Willow Creek** 47.13 303 eP P 04 16 09.4 +1.3
EGMT **Eagleton** 47.15 316 P P 04 16 07.7 -0.1
baz=106,SNR=22
EGMT **Eagleton** 47.15 316 eP P 04 16 07.8 0.0
comp=Z,54nm,0.9s
MSU **Marysvale** 47.16 303 eP P 04 16 09.5 +1.3
MSU **Marysvale** 47.16 303 eP P 04 16 09.5 +1.3
YMR **Madison River** 47.16 311 eP P 04 16 09.2 +1.1
comp=Z,68nm,1.3s
PKCU **Pink Cliffs** 47.18 301 eP P 04 16 09.7 +1.2
comp=Z,42nm,1.0s
NLU **North Lily Min** 47.23 305 eP P 04 16 09.9 +1.2
comp=Z,54nm,1.6s
HDU **Hyde Park** 47.24 307 eP P 04 16 09.1 +0.3
BEI **Bear River Ran** 47.30 308 eP P 04 16 09.3 +0.2
YHB **Horse Butte** 47.34 311 eP P 04 16 10.8 +1.3
comp=Z,66nm,1.0s
PCAS **Casmilo, Conde** 47.34 55 eP P 04 16 08.4 -0.9
MESJ **Messejana** 47.35 58 eP P 04 16 08.1 -1.3
MESJ AMb AMB 04 16 10.7
comp=Z,28nm,1.7s
MESJ eS S 04 23 03.3 0.0
MESJ **Messejana** 47.35 58 eP P 04 16 09.1 -0.3
comp=Z,33nm,1.3s
MESJ **Messejana** 47.35 58 eP P 04 16 08.1 -1.3
MESJ eS S 04 23 03.3 0.0
WVUT **Wellsville** 47.35 307 eP P 04 16 09.6 0.0
PTOM **Tomar** 47.36 56 eP P 04 16 08.6 -0.9
comp=Z,60nm,1.2s
PTO **Porto** 47.40 54 eP P 04 16 09.0 -0.7
comp=Z,64nm,1.4s
214A **Organ Pipe Nat** 47.46 294 P P 04 16 11.6 +1.2
baz=89,SNR=11
214A **Organ Pipe Nat** 47.46 294 eP P 04 16 11.2 +0.8
comp=Z,151nm,1.1s
PCVE **Castro Verde** 47.48 58 eP P 04 16 09.7 -0.7
comp=Z,41nm,1.6s
QLMT **Earthquake Lak** 47.52 311 eP P 04 16 12.1 +1.2
MLI **Malad Range** 47.53 307 eP P 04 16 11.1 0.0
PBDV **Barranco-do-Ve** 47.54 59 eP P 04 16 10.6 -0.3
comp=Z,39nm,1.3s
EVO **Evora** 47.57 57 eP P 04 16 10.3 -0.8
comp=Z,27nm,1.5s
Y14A **Wickenburg** 47.61 297 eP P 04 16 12.6 +1.1
comp=Z,139nm,1.1s
PBEJ **Beja** 47.64 58 eP P 04 16 10.9 -0.8
comp=Z,33nm,1.2s
PVAQ **Vaqueiros** 47.72 59 eP P 04 16 11.9 -0.4
comp=Z,19nm,1.5s
PVAQ eS S 04 23 08.3 -0.3
PVAQ eLR LR 04 28 28.2
comp=Z,388nm,22.0s
PGAV **Gavieira, Arco** 47.76 53 eP P 04 16 11.9 -0.8
comp=Z,58nm,1.5s
PGAV eS S 04 23 12.9 +3.7
PGAV eLR LR 04 29 35.6
comp=Z,385nm,18.0s
DWU **Dry Willow Pea** 47.77 302 eP P 04 16 14.3 +1.3
SZCU **Shurtz Canyon** 47.81 301 eP P 04 16 13.9 +0.7
comp=Z,29nm,1.1s
BOZ **Bozeman (W)** 47.81 312 P P 04 16 13.1 0.0
baz=102,SNR=44
BOZ **Bozeman (W)** 47.81 312 eP P 04 16 13.3 +0.2
BOZ pmax pmax
comp=Z,47nm,1.0s
BOZ **Bozeman (W)** 47.81 312 eP P 04 16 13.3 +0.2
comp=Z,47nm,1.0s
DUG **Dugway, Tooele** 47.82 305 P P 04 16 13.9 +0.7
baz=96,SNR=41
DUG **Dugway, Tooele** 47.82 305 eP P 04 16 13.9 +0.7
DUG pmax pmax
comp=Z,38nm,0.9s
DUG **Dugway, Tooele** 47.82 305 eP P 04 16 13.9 +0.7
comp=Z,38nm,0.9s
LCMT **Little Creek M** 47.90 301 eP P 04 16 14.4 +0.5
comp=Z,10nm,0.8s
PCAB **Cabril** 47.90 53 eP P 04 16 13.5 -0.2
comp=Z,48nm,1.0s
PESTR **Estremoz** 47.92 57 eP P 04 16 12.8 -1.1
comp=Z,34nm,1.5s
PESTR eS S 04 23 10.8 -0.7
PESTR eLR LR 04 28 56.7
HVU **Hansel Valley** 47.98 307 eP P 04 16 14.9 +0.4
HVU pmax pmax
comp=Z,31nm,1.0s
HVU **Hansel Valley** 47.98 307 eP P 04 16 14.9 +0.4
comp=Z,31nm,1.0s
CPUP **Villa Florida** 47.99 176 P P 04 16 14.9 +0.6
comp=Z,9.2nm,0.7s,baz=0.8,slow=7.5,SNR=16
CPUP **Villa Florida** 47.99 176 eP P 04 16 15.1 +0.8
CCUT **Cedar City** 48.02 301 eP P 04 16 16.0 +1.1
comp=Z,45nm,0.9s
POLO **Lamas de Olo** 48.03 53 eP P 04 16 14.0 -0.8
comp=Z,22nm,1.2s
POLO eS S 04 23 16.0 +2.9
BGU **Big Grassy Mou** 48.06 306 eP P 04 16 16.0 +0.8
PVRL **Vila Real** 48.08 54 eP P 04 16 14.3 -0.8
comp=Z,43nm,1.0s
PCBR **Castelo Branco** 48.10 56 eP P 04 16 14.2 -1.0
comp=Z,26nm,1.4s
MTE **Manteigas** 48.11 55 eP P 04 16 14.3 -1.0
comp=Z,35nm,0.9s
MTE eS S 04 23 16.1 +1.9
MTE eLR LR 04 29 48.5
comp=Z,469nm,20.0s
MTE **Manteigas** 48.11 55 eP P 04 16 14.2 -1.2
comp=Z,24nm,0.8s
PMRV **Marv??o** 48.13 56 eP P 04 16 14.3 -1.2
comp=Z,32nm,1.3s
PMRV eS S 04 23 16.4 +2.0
PMRV eLR LR 04 28 43.1
comp=Z,286nm,20.0s
HRY **Holter Researc** 48.19 314 eP P 04 16 16.2 +0.2
FSU **Fish Springs** 48.21 304 eP P 04 16 17.5 +1.2
113A **Mohawk Valley,** 48.25 295 eP P 04 16 17.4 +1.0
comp=Z,21nm,0.9s
PBAR **Barrancos** 48.30 58 eP P 04 16 16.2 -0.6
comp=Z,40nm,1.1s
W13A **Hualapai Mount** 48.35 298 eP P 04 16 19.0 +1.5
comp=Z,17nm,1.0s
LRM **Limekiln Ridge** 48.42 312 eP P 04 16 18.1 +0.2
DLMT **Dillon** 48.43 312 eP P 04 16 18.3 +0.4
comp=Z,16nm,0.8s
PSUT **Pine Spring** 48.47 303 eP P 04 16 20.6 +2.2
comp=Z,40nm,0.9s
MCMT **McKenzie Canyo** 48.51 311 eP P 04 16 19.3 +0.7
PDMCI **Parker Dam,Lak** 48.55 297 P P 04 16 19.2 +0.4
baz=90
MVO **Moncorvo** 48.58 54 eP P 04 16 18.2 -0.8
comp=Z,47nm,0.9s
MVO eS S 04 23 21.8 +1.0
MVO eLR LR 04 29 51.1
comp=Z,337nm,22.0s
PBRG **Braganca** 48.87 53 eP P 04 16 20.4 -0.8
comp=Z,27nm,1.4s
Y12C **Blythe** 48.87 296 P P 04 16 22.1 +0.9
baz=89,SNR=7.8
Y12C **Blythe** 48.87 296 eP P 04 16 22.8 +1.5
comp=Z,18nm,1.0s
NEE2 **Needles Airpor** 48.95 298 P P 04 16 22.7 +0.9
baz=90
GLA **Glamis** 49.14 295 P P 04 16 24.2 +0.9
baz=88
GLA **Glamis** 49.14 295 eP P 04 16 24.9 +1.6
GLA pmax pmax
comp=Z,37nm,1.2s
GLA **Glamis** 49.14 295 eP P 04 16 24.9 +1.6
comp=Z,37nm,1.2s
CHMT **Chamberlain Mo** 49.19 314 eP P 04 16 23.9 +0.2
LDFC **Landfair** 49.35 298 eP P 04 16 27.0 +2.0
comp=Z,50nm,1.0s
IRM **Iron Mountain** 49.38 297 P P 04 16 26.5 +1.3

baz=89,SNR=38
SHPR Sheep Range 49.41 300 *e*P P 04 16 26.9 +1.3
comp=Z,31nm,1.4s
SLMT Seeley Lake 49.41 314 *e*P P
HLID Hailey 49.42 309 P P 04 16 25.8 +0.2
baz=98,SNR=27
HLID Hailey 49.42 309 *e*P P 04 16 25.7 +0.2
comp=Z,16nm,1.1s
MSO Missoula 49.63 314 P P 04 16 26.7 -0.4
baz=101,SNR=11
MSO Missoula 49.63 314 *e*P P 04 16 27.0 0.0
comp=Z,13nm,1.1s
BC3 Big Chuckawall 49.65 296 P P 04 16 28.3 +1.0
baz=89,SNR=16
GMRC Granite Mounta 49.80 298 P P 04 16 29.5 +1.0
baz=90,SNR=12
SWMT Swartz Lake 49.81 314 *e*P P 04 16 28.2 -0.2
R11A Troy Canyon, C 49.82 302 P P 04 16 29.5 +0.8
baz=93,SNR=19
R11A Troy Canyon, C 49.82 302 *e*P P 04 16 29.0 +0.3
comp=Z,18nm,1.2s
YBMT Yellow Bay 49.89 315 *e*P P 04 16 28.9 -0.1
TUQ Turquoise Moun 50.02 298 P P 04 16 31.5 +1.3
baz=90,SNR=21
JTMT Jette 50.04 315 *e*P P 04 16 29.9 -0.3
WALA Waterton Lakes 50.08 316 *e*P P 04 16 29.4 -1.0
comp=Z,15nm,0.8s
BELC Belle Mtn. Jos 50.09 297 P P 04 16 31.9 +1.1
baz=89,SNR=8.6
BLMT Blacktail Moun 50.15 315 *e*P P 04 16 31.0 0.0
MDT Midelt 50.21 65 P P 04 16 31.2 -0.5
comp=Z,5.4nm,0.9s,baz=282,slow=8.6,SNR=9.0
IKP In-Ko-Pah, Jac 50.23 295 P P 04 16 33.0 +1.3
baz=88,SNR=5.2
TPNV Topopah Spring 50.30 300 P P 04 16 33.9 +1.5
baz=91,SNR=41
TPNV Topopah Spring 50.30 300 *e*P P 04 16 33.8 +1.5
TPNV pmax pmax
comp=Z,38nm,1.3s
TPNV Topopah Spring 50.30 300 *e*P P 04 16 33.8 +1.5
comp=Z,38nm,1.3s
SHOC Shoshone, Teco 50.31 299 P P 04 16 33.3 +1.1
baz=90,SNR=12
HEC Hector,Ludlow 50.36 298 P P 04 16 33.9 +1.2
baz=89,SNR=16
BSMT Bassoo Peak 50.40 315 *e*P P 04 16 33.0 0.0
MFID Camas Ranch 50.42 309 *e*P P 04 16 33.1 0.0
comp=Z,30nm,1.0s
MONP Monument Peak, 50.48 295 P P 04 16 35.2 +1.4
baz=88,SNR=8.2
TPFO Pinon Flats 50.48 296 P P 04 16 34.9 +1.2
baz=88,SNR=7.5
PAB San Pablo 50.48 56 *e*P P 04 16 31.7 -1.9
PAB pmax pmax
comp=Z,10.0nm,0.9s
PAB San Pablo 50.48 56 *e*P P 04 16 31.7 -1.9
comp=Z,9.5nm,0.9s
PFO Pinyon Flats O 50.49 296 P P 04 16 35.0 +1.2
baz=88,SNR=7.9
PFO Pinyon Flats O 50.49 296 *e*P P 04 16 34.4 +0.7
PFO pmax pmax
comp=Z,29nm,1.3s
PFO Pinyon Flats O 50.49 296 *e*P P 04 16 34.4 +0.7
comp=Z,29nm,1.3s
BAR Barrett 50.70 295 *e*P P 04 16 36.6 +1.3
comp=Z,33nm,1.5s
GUD Guadarrama 50.70 55 P P 04 16 43.5 +8.2
GUD pmax pmax
comp=Z,15nm,1.3s
GSC Goldstone, Bar 50.74 298 P P 04 16 36.6 +1.0
baz=89,SNR=12
GSC Goldstone, Bar 50.74 298 *e*P P 04 16 36.6 +1.0
GSC pmax pmax
comp=Z,32nm,1.4s
GSC Goldstone, Bar 50.74 298 *e*P P 04 16 36.6 +1.0
comp=Z,32nm,1.4s
FURC Furnace Creek, 50.79 300 P P 04 16 36.9 +1.2
baz=90
ESDC Sonseca Array 50.79 56 P P 04 16 34.9 -0.9
comp=Z,9.1nm,0.8s,baz=267,slow=7.6,SNR=43
ESDC LR LR 04 31 05.6
comp=Z,133nm,20.9s,baz=245,slow=28
ESLA Sonseca Array 50.79 56 *e*P P 04 16 34.8 -1.0
comp=Z,16nm,1.0s
EDM Edmonton 50.81 322 *e*P P 04 16 34.6 -1.1
EDM pmax pmax
comp=Z,98nm,0.9s
EDM Edmonton 50.81 322 *e*P P 04 16 34.6 -1.1
comp=Z,98nm,0.9s
ES19 SONSECA Array 50.84 56 *e*P P 04 16 35.0 -1.2
BBRC Big Bear Solar 50.85 297 P P 04 16 36.5 -0.1
baz=88
109C Camp Elliot, M 51.06 295 P P 04 16 38.4 +0.5
baz=87
MURC Murrieta 51.10 296 P P 04 16 39.4 +1.1
baz=88
GRAC Grapevine Rang 51.19 300 P P 04 16 40.1 +1.2
baz=90,SNR=10
BMN Battle Mountai 51.20 305 *e*P P 04 16 39.5 +0.5
BMN pmax pmax
comp=Z,25nm,0.8s
BMN Battle Mountai 51.20 305 *e*P P 04 16 39.5 +0.5
comp=Z,25nm,0.8s
MPMC Manual Prospec 51.29 299 P P 04 16 40.7 +0.8
baz=90,SNR=23
DAC Darwin (Calif) 51.38 300 *e*P P 04 16 41.4 +0.9
DAC *e* 04 17 50.1
DAC pmax pmax
comp=Z,17nm,1.0s
DAC Darwin (Calif) 51.38 300 *e*P P 04 16 41.4 +0.9
comp=Z,17nm,1.0s
DAC *e*PcP PcP 04 17 50.1 -5.1
LRMC Laurel Mtn Rad 51.45 299 P P 04 16 41.5 +0.5
baz=89,SNR=5.4
BFSC Mount Baldy Ra 51.47 297 P P 04 16 41.6 +0.6
baz=88,SNR=8.3
BMO Blue Mountains 51.65 311 *e*P P 04 16 41.4 -0.9
BMO pmax pmax
comp=Z,15nm,0.9s
BMO Blue Mountains 51.65 311 *e*P P 04 16 41.4 -0.9
comp=Z,15nm,0.9s
F10A Beach Ranch, E 51.74 312 *e*P P 04 16 41.1 -1.7
comp=Z,17nm,0.9s
CWC Cottonwood Cre 51.77 300 P P 04 16 42.5 -0.8
baz=90
MWC Mount Wilson 51.80 297 *e*P P 04 16 44.7 +1.1
MWC pmax pmax
comp=Z,28nm,1.3s
MWC Mount Wilson 51.80 297 *e*P P 04 16 44.7 +1.1
comp=Z,28nm,1.3s
TIN Tinemaha, Big 51.88 301 P P 04 16 44.5 +0.4
baz=90
PASC Pasadena Art C 51.90 297 *e*P P 04 16 45.0 +0.8
comp=Z,32nm,1.3s
NEW Newport 52.01 315 P P 04 16 44.0 -0.8
comp=Z,29nm,1.0s,baz=115,slow=6.5,SNR=29
NEW Newport 52.01 315 P P 04 16 44.0 -0.8
baz=100,SNR=40
NEW Newport 52.01 315 *e*P P 04 16 44.1 -0.8
NEW pmax pmax
comp=Z,38nm,0.9s
NEW Newport 52.01 315 *e*P P 04 16 44.1 -0.8
comp=Z,38nm,0.9s
FMP Fort Macarthur 52.01 296 P P 04 16 45.4 +0.4
baz=87
DECC Green Verdugo 52.02 297 P P 04 16 45.1 0.0
baz=88
ISA Isabella, Lake 52.10 299 P P 04 16 46.2 +0.5
baz=89
CIS Catalina Islan 52.13 296 P P 04 16 46.5 +0.6
baz=87
SUMG Summit 52.23 8 *i* P P 04 16 45.6 -0.9
comp=Z,3.5nm,0.7s
SUMG Summit 52.23 8 *i* P P 04 16 45.6 -0.9
SUMG pmax pmax
comp=Z,4.0nm,0.7s
SUMG Summit 52.23 8 *e*P P 04 16 44.8 -1.7
comp=Z,79nm,1.8s
SCI San Clemente I 52.26 295 P P 04 16 47.4 +0.5
baz=86
TVH2 Borealis Mine 52.31 302 *e*P P 04 16 48.4 +0.9
comp=Z,15nm,1.2s
TVH1 TV Hill, Hawth 52.32 302 *e*P P 04 16 48.5 +0.9
comp=Z,32nm,1.5s
TVH3 East Aurora ar 52.36 302 *e*P P 04 16 49.0 +1.1
comp=Z,25nm,1.1s
MLAC Mammoth, Mammo 52.37 301 P P 04 16 48.7 +0.8
baz=90
WVOR Wild Horse Val 52.39 307 *e*P P 04 16 47.8 0.0
WVOR pmax pmax
comp=Z,14nm,1.0s
WVOR Wild Horse Val 52.39 307 *e*P P 04 16 47.8 0.0
comp=Z,14nm,1.0s
ARVC Arvin 52.40 298 P P 04 16 48.9 +1.0
baz=88
E09A Wood Farm, Sta 52.44 313 *e*P P 04 16 47.6 -0.3
comp=Z,18nm,1.2s
VES Vestal, Richgr 52.59 299 P P 04 16 50.0 +0.8
baz=88,SNR=10
YERR Yerington 52.70 303 *e*P P 04 16 50.5 +0.3
comp=Z,8.4nm,1.0s
RCTC Rector, Farmer 52.71 300 P P 04 16 50.6 +0.5
baz=89,SNR=11
PAHR Pah Rah Range 52.82 304 *e*P P 04 16 52.3 +1.1
comp=Z,9.8nm,1.1s
WAKR Walker 52.85 302 *e*P P 04 16 52.6 +1.2
comp=Z,18nm,1.1s
PNTR Pine Nut 52.98 303 *e*P P 04 16 53.9 +1.5
comp=Z,11nm,1.0s
D08A Wollman Farm, 53.04 313 *e*P P 04 16 52.4 0.0
comp=Z,40nm,0.9s
BSC Santa Cruz Isl 53.11 297 P P 04 16 52.3 -0.9
baz=87
SBC Santa Barbara 53.16 297 P P 04 16 52.5 -1.0
baz=87
SMMC Simmler 53.35 298 P P 04 16 55.8 +0.9
baz=88,SNR=6.8
GBL Gable Mountain 53.35 312 P P 04 16 54.7 0.0
GBL Gable Mountain 53.35 312 P P 04 16 54.7 0.0
HAWA Hanford 53.38 312 *e*P P 04 16 54.4 -0.5
comp=Z,20nm,1.1s
SAW Saint Andrews 53.44 314 P P 04 16 54.8 -0.7
B08A Colville Reser 53.48 315 *e*P P 04 16 54.5 -1.2
comp=Z,9.3nm,1.0s
PAGB Antelope Grade 53.54 299 *e*P P 04 16 56.6 +0.3
comp=Z,21nm,1.0s
MDW Midway 53.56 312 P P 04 16 56.1 -0.1
MDW Midway 53.56 312 P P 04 16 56.1 -0.1
MOD Modoc Plateau 53.59 307 *e*P P 04 16 56.5 -0.3
comp=Z,8.6nm,1.0s
CMB Columbia Colle 53.59 302 *e*P P 04 16 56.9 +0.2
CMB pmax pmax
comp=Z,140nm,1.2s
CMB Columbia Colle 53.59 302 *e*P P 04 16 56.9 +0.2
comp=Z,140nm,1.2s
E07A Sunnyside 53.62 312 *e*P P 04 16 56.9 +0.2
comp=Z,33nm,1.2s
EKA Eskdalemuir Ar 53.75 37 P P 04 16 55.5 -2.0
comp=Z,7.2nm,0.9s,baz=280,slow=5.0,SNR=6.2
H10N3 ASCENSION HYDR 53.78 118 T T 05 14 47.4
baz=304,slow=75,SNR=11
H10N2 ASCENSION HYDR 53.78 118 T T 05 14 47.4
baz=304,slow=75,SNR=12
H10N1 ASCENSION HYDR 53.80 118 T T 05 14 49.0
baz=304,slow=75,SNR=12
WTV Waterville 53.81 314 P P 04 16 57.2 -1.0
GRR Gorron 53.83 45 P P 04 16 56.8 -1.4
GRR pmax pmax
comp=Z,25nm,1.0s
VTHM Trough 53.98 311 P P 04 16 59.8 +0.4
G06A Carlson Farm, 54.04 311 *e*P P 04 16 58.6 -1.2
comp=Z,114nm,1.7s
AFDM Forest Hills D 54.05 303 *e*P P 04 17 00.5 +0.5
comp=Z,5.7nm,0.8s
K05A Summer Lake 54.07 308 *e*P P 04 17 00.5 +0.2
comp=Z,64nm,1.1s
FLN La Foliniere 54.13 45 *e*P P 04 16 59.1 -1.3
FLN pmax pmax
comp=Z,34nm,1.0s
RESF Ens 54.18 52⇓ *e*P P 04 17 00.6 -0.4
EPF Esparros 54.20 52 *e*P P 04 17 00.1 -0.9
EPF pmax pmax
comp=Z,29nm,0.9s
LTY Liberty 54.25 313 *e*P P 04 17 01.4 +0.1
comp=Z,16nm,0.9s
CROR Criterion Ridg 54.27 310 P P 04 17 02.0 +0.5
H10S3 ASCENSION HYDR 54.27 119 T T 05 15 26.1
baz=305,slow=75,SNR=12
H10S1 ASCENSION HYDR 54.28 119 T T 05 15 28.2
baz=305,slow=75,SNR=8.6
H10S2 ASCENSION HYDR 54.29 119 T T 05 15 28.4
baz=305,slow=75,SNR=7.8
J05D Fort Rock, OR 54.34 308 P P 04 17 02.2 0.0
baz=93,SNR=6.5
LDF La Druitiere 54.34 45 *e*P P 04 17 00.6 -1.3
LDF pmax pmax
comp=Z,30nm,1.0s
ORV Oroville 54.46 304 *e*P P 04 17 03.7 +0.8
ORV pmax pmax
comp=Z,17nm,1.1s
ORV Oroville 54.46 304 *e*P P 04 17 03.7 +0.8
comp=Z,16nm,1.1s
C06D Leavenworth 54.47 314 P P 04 17 01.7 -1.2
baz=96
I05D Terrebonne, OR 54.47 310 P P 04 17 03.9 +0.9
baz=93,SNR=12
MELF Melles 54.49 52⇑ *e*P P 04 17 03.1 -0.2
G05D Wamic, OR 54.52 311 P P 04 17 03.5 +0.2
baz=94
YKA Yellowknife Ar 54.57 332 P P 04 17 01.2 -2.1
comp=Z,22nm,0.9s,baz=105,slow=7.6,SNR=15
YKA LR LR 04 38 14.2
comp=Z,20nm,21.9s,baz=180,slow=34
O03D Paynes Creek 54.69 305 P P 04 17 03.8 -0.9
baz=90
K04D Chiloquin, OR 54.70 307 P P 04 17 04.6 -0.2
baz=92
M04C Macdoel 54.74 306 P P 04 17 05.1 0.0
baz=91,SNR=29
BPO Bald Peter 54.74 310 P P 04 17 06.4 +1.3
J04D Umpqua Nationa 54.98 308 P P 04 17 07.0 +0.1
baz=92,SNR=23
RJF Les Rejaudoux 55.16 49 *e*P P 04 17 06.5 -1.5
RJF pmax pmax
comp=Z,31nm,1.0s
I04A Tendick Farm, 55.22 309 P P 04 17 07.8 -0.6
baz=92,SNR=7.6
WDC Whiskeytown Da 55.25 305 *e*P P 04 17 07.2 -1.5
WDC pmax pmax
comp=Z,9.0nm,0.9s
WDC Whiskeytown Da 55.25 305 *e*P P 04 17 07.2 -1.5
comp=Z,9.0nm,0.9s
B05A Bryant 55.30 314 P P 04 17 06.9 -2.0
baz=96
F04A Amboy 55.34 311 *e*P P 04 17 09.1 -0.1
comp=Z,18nm,1.3s
N02D Trinity Center 55.38 305 P P 04 17 08.1 -1.6
baz=90,SNR=9.8
VALF Valcebollere 55.41 53⇑ *e*P P 04 17 09.8 -0.2
TIC Toumodi 55.43 97 *e*P P 04 17 09.8 -0.5
LLLB Lillooet 55.43 317 *e*P P 04 17 09.2 -0.6
comp=Z,77nm,1.0s
M02C Callahan 55.49 306 P P 04 17 09.3 -1.2
baz=90,SNR=18
CAF Calviac 55.53 50 *e*P P 04 17 09.5 -1.1
CAF pmax pmax
comp=Z,47nm,1.3s
DBIC Dimbokro 55.57 97 P P 04 17 10.9 -0.3
comp=Z,26nm,1.0s,baz=272,slow=7.6,SNR=22
DBIC LR LR 04 35 46.5
comp=Z,284nm,21.6s,baz=268,slow=30
DBIC Dimbokro 55.57 97 P P 04 17 11.0 -0.3
DBIC pmax pmax
comp=Z,26nm,1.0s
DBIC Dimbokro 55.57 97 *e*P P 04 17 11.3 0.0
comp=Z,29nm,0.9s
LIC Lamto 55.58 98 *e*P P 04 17 10.8 -0.6
comp=Z,90nm,1.2s
HOPS Hopland Field 55.69 303 *e*P P 04 17 13.0 +1.1
comp=Z,61nm,1.4s
TCF Toulx Ste Croi 55.71 48 *e*P P 04 17 10.6 -1.3
TCF pmax pmax
comp=Z,38nm,1.0s
KIC Kosan Boka 55.79 97 *e*P P 04 17 12.5 -0.4
comp=Z,59nm,1.1s
FILF Fillols 55.81 53⇑ *e*P P 04 17 11.1 -1.7
G03D McMinnville, O 55.89 311 P P 04 17 12.5 -0.7
baz=92
I03D Drain, OR 55.90 309 P P 04 17 12.7 -0.5
baz=91
SJAF Saint Jean de 56.05 53⇑ *e*P P 04 17 14.1 -0.3
L02D Cave Junction, 56.06 307 P P 04 17 12.8 -1.7
baz=90
KCPM Cahto Peak 56.06 304 *e*P P 04 17 15.8 +1.1
comp=Z,39nm,1.3s
KMRM Mail Ridge 56.15 305 *e*P P 04 17 15.7 +0.4
comp=Z,29nm,1.1s
KHMM Horse Mountain 56.16 305 *e*P P 04 17 17.2 +1.8
comp=Z,30nm,1.5s
E03A Lebam 56.17 312 *e*P P 04 17 14.7 -0.4
comp=Z,25nm,0.9s
PYM Petit Puy Mans 56.23 49 *e*P P 04 17 14.8 -0.9
PGC Sidney 56.24 315 *e*P P 04 17 14.7 -0.8
comp=Z,24nm,1.0s
KRMB Red Mountain 56.28 306 *e*P P 04 17 16.7 +0.5
comp=Z,20nm,1.3s
AGO Saint Agoulin 56.33 48 *e*P P 04 17 15.9 -0.5
LBL Lubilhac 56.38 49⇑ *e*P P 04 17 16.4 -0.4
NLWA Neilton Lookou 56.43 313 *e*P P 04 17 16.4 -0.7
comp=Z,20nm,0.9s
KBO Bosley Butte 56.52 307 *e*P P 04 17 18.6 +0.8
comp=Z,111nm,1.3s
KEBM Edson Butte 56.60 308 *e*P P 04 17 19.5 +1.1
comp=Z,113nm,1.0s
SSF Saint Saulge 56.64 47 *e*P P 04 17 16.8 -1.7
SSF pmax pmax
comp=Z,32nm,1.1s
PLDF La Plantade 56.67 49 *e*P P 04 17 18.1 -0.7
LOR Lormes 56.89 47 *e*P P 04 17 18.6 -1.7
LOR pmax pmax
comp=Z,20nm,0.9s
VIVF Saint-Julien-l 57.38 50 *e*P P 04 17 23.3 -0.5
VIVF pmax pmax
comp=Z,28nm,1.0s
ORIF Oris-en-Rattie 58.24 50 *e*P P 04 17 30.8 +0.9
ORIF pmax pmax
comp=Z,20nm,1.2s
THEF They Montfort 58.37 46⇑ *e*P P 04 17 29.5 -1.2
CABF La Chapelle 58.40 48 *e*P P 04 17 29.8 -1.2
CABF pmax pmax
comp=Z,46nm,1.2s
MEM Membach 58.50 43 P P 04 17 30.9 -0.6
comp=Z,13nm,1.3s
WLF Walferdange 58.54 44 P P 04 17 31.3 -0.6
LPL La Plagne 58.84 49 *e*P P 04 17 33.7 -0.6
LPL pmax pmax
comp=Z,23nm,0.8s
LPG La Plagne 58.85 49 *e*P P 04 17 34.1 -0.4
LPG pmax pmax
comp=Z,35nm,1.2s
LOMF Lomont 58.92 47⇑ *e*P P 04 17 33.6 -1.0
ECH Echery 59.15 46⇑ *e*P P 04 17 34.9 -1.3
TOA0 Torodi Ar. Sit 59.48 87 *e*P P 04 17 38.1 -0.8
TORD Torodi Ar. Bea 59.48 87 P P 04 17 38.0 -0.9
comp=Z,13nm,1.0s,baz=288,slow=3.1,SNR=33
TORD LR LR 04 38 36.0
comp=Z,430nm,21.1s,baz=295,slow=31
TRQA Tornquist 59.61 181 *e*P P 04 17 41.0 +1.8
comp=Z,7.7nm,1.1s
BFO Black Forest 59.94 46 *e*P P 04 17 41.3 -0.3
comp=Z,37nm,1.6s
BFO Black Forest 59.94 46 *e*P P 04 17 41.3 -0.3
comp=Z,37nm,1.6s
TAM Tamanrasset 60.47 75 *e*P P 04 17 46.3 +0.5
TAM pmax pmax
comp=Z,13nm,1.0s
TAM Tamanrasset 60.47 75 *e*P P 04 17 46.3 +0.5
comp=Z,12nm,1.0s
DAVA Damuels 60.99 47 *e*P P 04 17 48.7 -0.2
comp=Z,22nm,0.8s
DAVOX Davos/Dischmat 61.01 48 P P 04 17 47.5 -1.6
comp=Z,6.8nm,0.7s,baz=270,slow=12,SNR=4.6
DLBC Dease Lake 61.02 326 P P 04 17 46.4 -2.5
comp=Z,18nm,0.9s,baz=53,slow=4.7,SNR=3.5
DLBC Dease Lake 61.02 326 *e*P P 04 17 49.5 +0.6
comp=Z,52nm,0.8s
VSL Villasalto 61.09 56 *e*P P 04 17 48.8 -0.8
comp=Z,35nm,0.9s
FUORN Ofenpass-Fuorn 61.28 48 *e*P P 04 17 51.6 +0.5
comp=Z,34nm,1.3s
KONO Kongsberg 61.28 33⇓ *i*P P 04 17 50.0 -0.5
KONO pmax pmax
comp=Z,121nm,1.7s
KEST Kesra 61.49 60 P P 04 17 51.5 -0.9
comp=Z,42nm,1.0s,baz=263,slow=1.7,SNR=20
KEST LR LR 04 39 07.5
comp=Z,268nm,22.0s,baz=237,slow=31
KEST Kesra 61.49 60 *e*P P 04 17 53.0 +0.5
comp=Z,35nm,0.8s
FETA Feichten 61.58 47 *i* P P 04 17 52.5 -0.5
comp=Z,18nm,0.9s,SNR=7.0
RETA Reutte 61.59 47 *i* P P 04 17 51.9 -0.9
comp=Z,21nm,1.0s
MOTA Mooslm 61.82 47 *i* P P 04 17 54.0 -0.6
comp=Z,19nm,0.8s,SNR=5.1
WATA Walderalm 62.14 47 *e*P P 04 17 55.9 -0.9
comp=Z,7.0nm,0.7s
WTTA Wattenberg 62.19 47 *e*P P 04 17 56.7 -0.4
comp=Z,9.2nm,0.8s
NB2 NORSAR Subarra 62.21 31 P P 04 17 55.8 -1.1
comp=Z,12nm,1.0s,baz=265,slow=6.9
NOA NORSAR Array B 62.21 31 P P 04 17 55.7 -1.1
comp=Z,4.0nm,0.8s,baz=267,slow=6.6,SNR=5.6
NOA LR LR 04 39 26.6
comp=Z,273nm,21.8s,baz=270,slow=31
ABTA Abfaltersbach 62.81 48 *e*P P 04 18 00.1 -1.1
comp=Z,17nm,0.8s,SNR=5.0
CLL Collm 62.93 42 *i* P P 04 18 00.6 -1.1
CLL *e*S S 04 26 32.0 +0.4
CLL pmax pmax
comp=Z,15nm,1.1s
CLL Collm 62.93 42 *i* P P 04 18 00.6 -1.1
comp=Z,15nm,1.1s
CLL *e*(PcP) PcP 04 18 36.0 -3.8
CLL *e*S S 04 26 32.0 +0.4
CLL *e*SS SS 04 30 32.0 -4.6
PLCA Paso Flores 62.98 189 P P 04 18 03.1 +1.0
comp=Z,19nm,0.9s,baz=30,slow=7.5,SNR=30
PLCA LR LR 04 47 49.9
comp=Z,265nm,20.8s,baz=21,slow=38
PLCA Paso Flores 62.98 189 P P 04 18 03.1 +1.0
PLCA pmax pmax
comp=Z,21nm,0.9s
PLCA MLR MLR
comp=Z,265nm,20.8s
PLCA Paso Flores 62.98 189 *e*P P 04 18 03.8 +1.7
comp=Z,21nm,0.8s
KBA Koelnbreinsper 63.36 47 *e*P P 04 18 03.6 -1.3
comp=Z,22nm,0.8s
KHC Kasperske Hory 63.39 45 *e*P P 04 18 03.9 -1.0
KHC *e*pP pP 04 18 07.5 -0.6
KHC *ex* x 04 18 13.6
KHC *e*S S 04 26 42.5 +4.9
KHC AMS AMS 04 56 10.0
comp=Z,300nm,11.4s
KHC Kasperske Hory 63.39 45 *e*P P 04 18 03.9 -1.0
KHC *e* 04 18 07.5
KHC *e*S S 04 26 42.5 +4.9
KHC MLR MLR
comp=Z,300nm,11.4s
GEC2 GERESS Array S 63.49 45 *e*P P 04 18 05.2 -0.4
GEC2 pmax pmax
comp=Z,10.0nm,1.0s
GEC2 GERESS Array S 63.49 45 *e*P P 04 18 05.2 -0.4
comp=Z,10.0nm,1.0s
GERES GERESS Array B 63.49 45 P P 04 18 04.5 -1.0
comp=Z,4.3nm,0.8s,baz=263,slow=5.4,SNR=17
GERES LR LR 04 39 32.5
comp=Z,115nm,21.9s,baz=266,slow=30
GERES GERESS Array B 63.49 45 P P 04 18 04.6 -1.0
GERES pmax pmax
comp=Z,5.0nm,0.8s
GEA0 GERESS Array S 63.49 45 *e*P P 04 18 04.3 -1.2
BRG Berggiesshubel 63.54 43 *e*P P 04 18 04.8 -1.0
comp=Z,10.0nm,1.0s
BRG *e* 04 18 17.3
comp=Z,8.5nm,0.9s
BRG Berggiesshubel 63.54 43 *e*P P 04 18 04.8 -1.0
BRG pmax pmax
comp=Z,10.0nm,1.0s
BRG Berggiesshubel 63.54 43 S S 04 26 48.0 +8.7
MYKA Terra Mystica 63.60 48 *e*P P 04 18 04.9 -1.5
comp=Z,6.0nm,0.7s
INK Inuvik 63.67 337 P P 04 18 05.2 -1.1
comp=Z,54nm,1.0s,baz=100,slow=9.1,SNR=12
INK Inuvik 63.67 337 *e*P P 04 18 05.3 -1.0
INK pmax pmax
comp=Z,50nm,0.9s
INK Inuvik 63.67 337 *e*P P 04 18 05.3 -1.0
comp=Z,50nm,0.9s

PRA	**Prague**	**63.89**	**44**	*e*P	**P**	**04 18 07.7**	**-0.4**
PRA	**Prague**	**63.89**	**44**	*e*P	**P**	**04 18 07.7**	**-0.4**
MOA	**Molln**	**63.93**	**46**	*e*P	**P**	**04 18 07.1**	**-1.3**
	comp=Z,111nm,1.1s						
PVCC	**Panska Ves**	**63.95**	**43**	AMS	AMS	04 49 40.0	
	comp=Z,300nm,16.9s						
PRU	**Pruhonice**	**63.97**	**44**	*e*P	**P**	**04 18 08.2**	**-0.4**
PRU				*e*pP	**pP**	**04 18 11.8**	**-0.1**
PRU				*ex*	x	04 18 17.1	
PRU				*e*S	**S**	**04 26 45.7**	**+1.1**
PRU	**Pruhonice**	**63.97**	**44**	*e*P	**P**	**04 18 08.2**	**-0.4**
PRU				*e*		04 18 11.8	
PRU				*e*		04 18 17.1	
PRU				*e*S	**S**	**04 26 45.7**	**+1.1**
GOPC	**GO Pecny, Ondr**	**64.13**	**44**	*e*P	**P**	**04 18 09.2**	**-0.5**
GOPC				*e*S	**S**	**04 26 47.6**	**+0.9**
GOPC				AMS	AMS	04 54 40.0	
	comp=Z,200nm,15.3s						
GOPC	**GO Pecny, Ondr**	**64.13**	**44**	*e*P	**P**	**04 18 09.2**	**-0.5**
GOPC				*e*S	**S**	**04 26 47.6**	**+0.9**
GOPC				MLR	MLR		
	comp=Z,200nm,15.3s						
OBKA	**Obir**	**64.23**	**48**	*e*P	**P**	**04 18 09.5**	**-1.1**
	comp=Z,16nm,0.8s						
SOKA	**Soboth**	**64.55**	**48**	*i* P	**P**	**04 18 11.4**	**-1.2**
	comp=Z,15nm,1.2s						
ARSA	**Arzberg**	**64.83**	**47**	*e*P	**P**	**04 18 13.1**	**-1.2**
	comp=Z,16nm,1.0s						
UPC	**Upice**	**64.88**	**43**	*e*P	**P**	**04 18 13.6**	**-1.0**
UPC				*e*pP	**pP**	**04 18 17.6**	**-0.2**
UPC				*e*S	**S**	**04 26 53.6**	**-2.2**
UPC				AMS	AMS	04 49 50.0	
	comp=Z,200nm,13.6s						
UPC	**Upice**	**64.88**	**43**	*e*P	**P**	**04 18 13.6**	**-1.0**
UPC				*e*		04 18 17.6	
UPC				*e*S	**S**	**04 26 53.6**	**-2.2**
UPC				MLR	MLR		
	comp=Z,200nm,13.6s						
CONA	**Conrad Observa**	**64.99**	**46**	*e*P	**P**	**04 18 14.2**	**-1.3**
	comp=Z,0.8nm,0.3s						
KSP	**Ksiaz**	**65.03**	**43**	*e*P	**P**	**04 18 14.7**	**-0.8**
KSP	**Ksiaz**	**65.03**	**43**	*e*P	**P**	**04 18 14.7**	**-0.8**
DPC	**Dobruska-Polom**	**65.08**	**43**	*e*P	**P**	**04 18 15.3**	**-0.7**
DPC				*e*pP	**pP**	**04 18 18.1**	**-1.1**
DPC				*ex*	x	04 18 26.8	
DPC				AMS	AMS	04 46 40.0	
	comp=Z,200nm,12.3s						
DPC	**Dobruska-Polom**	**65.08**	**43**	*e*P	**P**	**04 18 15.3**	**-0.7**
DPC				*e*		04 18 18.1	
DPC				MLR	MLR		
	comp=Z,200nm,12.3s						
VRAC	**Vranov**	**65.35**	**45**	P	**P**	**04 18 16.5**	**-1.1**
	comp=Z,4.3nm,0.4s,baz=274,slow=7.4,SNR=8.8						
KRLC	**Kraliky**	**65.40**	**44**	*e*P	**P**	**04 18 17.7**	**-0.3**
KRLC				*e*pP	**pP**	**04 18 21.3**	**0.0**
KRLC				*ex*	x	04 18 29.2	
KRLC	**Kraliky**	**65.40**	**44**	*e*P	**P**	**04 18 17.7**	**-0.3**
KRLC				*e*		04 18 21.3	
DAWY	**Dawson**	**65.79**	**332**	*e*P	**P**	**04 18 19.8**	**-0.6**
	comp=Z,18nm,0.9s						
MORC	**Moravsky Berou**	**65.92**	**44**	*e*P	**P**	**04 18 20.5**	**-0.9**
MORC				pmax	pmax		
	comp=Z,53nm,1.1s						
MORC	**Moravsky Berou**	**65.92**	**44**	*e*P	**P**	**04 18 20.5**	**-0.9**
	comp=Z,53nm,1.1s						
OKC	**Ostrava-Krasne**	**66.30**	**44**	*e*P	**P**	**04 18 23.1**	**-0.7**
OKC				*e*pP	**pP**	**04 18 27.2**	**+0.2**
OKC	**Ostrava-Krasne**	**66.30**	**44**	*e*P	**P**	**04 18 23.1**	**-0.7**
OKC				*e*		04 18 27.2	
VYHS	**Vyhne**	**66.91**	**45**	*e*P	**P**	**04 18 26.6**	**-1.1**
VYHS				pmax	pmax		
	comp=Z,8.0nm,1.2s						
VYHS	**Vyhne**	**66.91**	**45**	*e*P	**P**	**04 18 26.6**	**-1.1**
LANS	**Liptovska Anna**	**67.24**	**44**	*e*P	**P**	**04 18 30.2**	**+0.4**
LANS	**Liptovska Anna**	**67.24**	**44**	*e*P	**P**	**04 18 30.2**	**+0.4**
OJC	**Ojcow**	**67.32**	**43**	*e*P	**P**	**04 18 29.6**	**-0.7**
OJC	**Ojcow**	**67.32**	**43**	*e*P	**P**	**04 18 29.6**	**-0.7**
OJC	**Ojcow**	**67.32**	**43**	*e*P	**P**	**04 18 29.6**	**-0.7**
	comp=Z,21nm,1.2s						
NIE	**Niedzica**	**67.74**	**44**	*e*P	**P**	**04 18 33.0**	**+0.1**
NIE	**Niedzica**	**67.74**	**44**	*e*P	**P**	**04 18 33.1**	**+0.1**
MENT	**Mentasta**	**67.78**	**331**	*e*P	**P**	**04 18 37.2**	**+4.2**
	comp=Z,24nm,0.7s						
KECS	**Kecovo**	**68.00**	**45**	*e*P	**P**	**04 18 34.2**	**-0.4**
KECS				pmax	pmax		
	comp=Z,4.0nm,1.0s						
KECS	**Kecovo**	**68.00**	**45**	*e*P	**P**	**04 18 34.2**	**-0.4**
ARCES	**ARCESS Array B**	**68.28**	**22**	P	**P**	**04 18 34.6**	**-1.4**
	comp=Z,5.6nm,0.8s,baz=282,slow=6.1,SNR=15						
ARA0	**ARCESS Array S**	**68.29**	**22**	*e*P	**P**	**04 18 34.5**	**-1.5**
STHS	**Stebnicka Huta**	**68.35**	**44**	*e*P	**P**	**04 18 37.3**	**+0.5**
STHS				pmax	pmax		
	comp=Z,10.0nm,0.9s						
STHS	**Stebnicka Huta**	**68.35**	**44**	*e*P	**P**	**04 18 37.3**	**+0.5**
BMRM	**Bremner River**	**68.38**	**329**	*e*P	**P**	**04 18 37.6**	**+0.8**
	comp=Z,105nm,1.3s						
CRVS	**Cervenica-Dubn**	**68.57**	**45**	*e*P	**P**	**04 18 37.9**	**-0.3**
CRVS	**Cervenica-Dubn**	**68.57**	**45**	*e*P	**P**	**04 18 37.9**	**-0.3**
IL1	**Eielson Array**	**69.00**	**333**	*e*P	**P**	**04 18 39.0**	**-1.5**
ILAR	**Eielson Array**	**69.00**	**333**	P	**P**	**04 18 39.6**	**-0.9**
	comp=Z,15nm,0.9s,baz=91,slow=4.7,SNR=16						
ILAR				LR	LR	04 49 37.2	
	comp=Z,117nm,18.3s,baz=86,slow=37						
ILB	**Eielson Array**	**69.00**	**333**	*e*P	**P**	**04 18 43.0**	**+2.4**
UZH	**Uzhgorod**	**69.16**	**45**	*e*P	**P**	**04 18 40.9**	**-0.9**
UZH				*e*		04 19 01.0	
UZH				*e*		04 21 12.8	
UZH				*e*S	**S**	**04 27 41.0**	**-6.6**
KWP	**Kalwaria Pacla**	**69.26**	**44**	*e*P	**P**	**04 18 42.6**	**+0.1**
KWP	**Kalwaria Pacla**	**69.26**	**44**	*e*P	**P**	**04 18 42.6**	**+0.1**
FINES	**FINESS Array B**	**69.37**	**31**	P	**P**	**04 18 41.8**	**-1.1**
	comp=Z,2.3nm,0.6s,baz=316,slow=5.3,SNR=6.8						
FINES				LR	LR	04 43 39.1	
	comp=Z,356nm,21.9s,baz=245,slow=31						
COLA	**College**	**69.39**	**333**	*e*P	**P**	**04 18 46.6**	**+3.7**
COLA				pmax	pmax		
	comp=Z,37nm,1.2s						
COLA	**College**	**69.39**	**333**	*e*P	**P**	**04 18 46.6**	**+3.7**
	comp=Z,37nm,1.2s						
CCB	**Clear Creek Bu**	**69.40**	**333**	*e*P	**P**	**04 18 43.0**	**0.0**
	comp=Z,14nm,0.9s						
MDM	**Murphy Dome**	**69.54**	**333**	*e*P	**P**	**04 18 45.0**	**+1.1**
	comp=Z,28nm,1.1s						
TOLK	**Toolik Lake Re**	**69.58**	**337**	P	**P**	**04 18 42.6**	**-1.6**
	baz=82						
CHRN	**Cochrane**	**69.66**	**189**	*e*P	**P**	**04 18 46.9**	**+2.2**
	comp=Z,16nm,0.8s						
COLD	**Coldfoot**	**70.01**	**336**	*e*P	**P**	**04 18 46.6**	**-0.2**
	comp=Z,14nm,1.0s						
MCK	**McKinley**	**70.02**	**332**	*e*P	**P**	**04 18 50.7**	**+3.8**
MCK				pmax	pmax		
	comp=Z,38nm,1.4s						
MCK	**McKinley**	**70.02**	**332**	*e*P	**P**	**04 18 50.7**	**+3.8**
	comp=Z,38nm,1.4s						
PMR	**Palmer**	**70.46**	**330**	*e*P	**P**	**04 18 52.1**	**+2.5**
PMR				pmax	pmax		
	comp=Z,67nm,1.5s						
PMR	**Palmer**	**70.46**	**330**	*e*P	**P**	**04 18 52.0**	**+2.5**
	comp=Z,66nm,1.5s						
TRF	**Thorofare Moun**	**70.67**	**332**	*e*P	**P**	**04 18 50.7**	**-0.4**
	comp=Z,45nm,1.2s						
VTS	**Vitosha**	**70.95**	**51**	*e*P	**P**	**04 18 53.0**	**-0.2**
VTS				pmax	pmax		
	comp=Z,12nm,0.9s						
VTS	**Vitosha**	**70.95**	**51**	*e*P	**P**	**04 18 53.0**	**-0.2**
	comp=Z,12nm,0.9s						
BUR08	**Bucovina Ar. S**	**71.26**	**45**	*e*P	**P**	**04 18 55.1**	**+0.2**
APA	**Apatity**	**71.44**	**24**	*i*P	**P**	**04 18 54.0**	**-1.4**
APA				pmax	pmax		
	comp=Z,7.0nm,0.8s						
SPU	**Mount Spurr**	**71.92**	**329**	*e*P	**P**	**04 18 57.3**	**-1.3**
MLR	**Muntele Rosu**	**72.23**	**47**	P	**P**	**04 19 00.9**	**+0.2**
	comp=Z,5.6nm,1.1s,baz=314,slow=4.1,SNR=13						
MLR	**Muntele Rosu**	**72.23**	**47**	*e*P	**P**	**04 19 01.0**	**+0.2**
MLR				pmax	pmax		
	comp=Z,62nm,1.3s						
MLR	**Muntele Rosu**	**72.23**	**47**	*e*P	**P**	**04 19 01.0**	**+0.2**
	comp=Z,62nm,1.3s						
AK11	**Malin Array Si**	**73.12**	**42**	*e*P	**P**	**04 19 04.3**	**-1.4**
KIEV	**Kiev**	**73.14**	**42**	*c i*P	**P**	**04 19 04.6**	**-1.2**
KIEV				pmax	pmax		
	comp=Z,8.0nm,1.1s						
KIEV	**Kiev**	**73.14**	**42**	*e*P	**P**	**04 19 04.7**	**-1.2**
	comp=Z,7.2nm,1.0s						
AKASG	**Malin Array Be**	**73.15**	**42**	P	**P**	**04 19 04.7**	**-1.3**
	comp=Z,5.2nm,0.8s,baz=281,slow=5.1,SNR=7.8						
AKASG				LR	LR	04 47 24.7	
	comp=Z,201nm,21.4s,baz=280,slow=33						
AKBB	**Malin Array Si**	**73.15**	**42**	*e*P	**P**	**04 19 05.0**	**-0.9**
AKBB	**Malin Array Si**	**73.15**	**42**	*e*P	**P**	**04 19 05.0**	**-0.9**
EFI	**East Falkland**	**73.23**	**179**	*e*P	**P**	**04 19 08.2**	**+2.1**
EFI	**East Falkland**	**73.23**	**179**	*e*P	**P**	**04 19 08.2**	**+2.1**
IDI	**Anoyia**	**73.99**	**58**	P	**P**	**04 19 11.6**	**+0.3**
	comp=Z,61nm,0.9s,baz=282,slow=5.8,SNR=6.5						
IDI	**Anoyia**	**73.99**	**58**	*e*P	**P**	**04 19 11.7**	**+0.4**
	comp=Z,84nm,1.0s						
TIRR	**Tirgusor**	**74.18**	**48**	*e*P	**P**	**04 19 11.0**	**-1.1**
TIRR				pmax	pmax		
	comp=Z,28nm,1.3s						
TIRR	**Tirgusor**	**74.18**	**48**	*e*P	**P**	**04 19 11.0**	**-1.1**
	comp=Z,28nm,1.3s						
KARP	**Karpathos**	**75.70**	**57**	*e*P	**P**	**04 19 20.7**	**-0.5**
	comp=Z,38nm,0.9s						
KLMR	**Klimovskoe**	**75.84**	**30**	*e*P	**P**	**04 19 18.0**	**-3.4**
KLMR				*e*		04 19 30.3	
KLMR				pmax	pmax		
	comp=Z,18nm,1.3s						
OBN	**Obninsk**	**76.20**	**36**	P	**P**	**04 19 22.7**	**-0.9**
	comp=Z,21nm,0.4s,baz=275,slow=5.0,SNR=4.7						
OBN	**Obninsk**	**76.20**	**36**	*i*P	**P**	**04 19 23.0**	**-0.5**
OBN				*e*		04 19 35.1	
OBN				*e*		04 22 13.3	
OBN				pmax	pmax		
	comp=Z,78nm,2.5s						
AKAS	**Kas**	**77.39**	**56**	*e*P	**P**	**04 19 30.8**	**0.0**
	comp=Z,30nm,0.8s						
BOLV	**Bolvadin**	**77.65**	**53**	*e*P	**P**	**04 19 32.4**	**+0.1**
	comp=Z,26nm,1.0s						
BR231	**Keskin MP Arra**	**78.63**	**52**	*e*P	**P**	**04 19 39.9**	**+2.2**
ANTO	**Ankara**	**78.64**	**52**	*e*P	**P**	**04 19 37.6**	**0.0**
ANTO				pmax	pmax		
	comp=Z,42nm,0.8s						
ANTO	**Ankara**	**78.64**	**52**	*e*P	**P**	**04 19 37.6**	**0.0**
	comp=Z,42nm,0.8s						
BR131	**Keskin Array S**	**79.30**	**52**	*e*P	**P**	**04 19 40.9**	**-0.5**
BRTR	**Keskin Array B**	**79.30**	**52**	P	**P**	**04 19 40.9**	**-0.5**
	comp=Z,18nm,0.7s,baz=274,slow=4.5,SNR=72						
BRTR				LR	LR	04 49 55.6	
	comp=Z,63nm,21.8s,baz=282,slow=32						
CSS	**Mathiatis**	**80.67**	**56**	*e*P	**P**	**04 19 49.5**	**+0.8**
	comp=Z,5.0nm,0.9s						
SOC	**Sochi**	**82.17**	**46**	*e*P	**P**	**04 19 56.3**	**-0.2**
SOC				*e*		04 23 00.4	
SOC				*e*PPP	PPP	04 24 52.0	
SOC				*e*S	**S**	**04 30 10.6**	**-1.1**
SOC				pmax	pmax		
	comp=Z,28nm,0.8s						
MMAI	**Mount Meron Ar**	**82.97**	**57**	P	**P**	**04 20 01.4**	**+0.4**
	comp=Z,17nm,0.9s,baz=324,slow=5.1,SNR=13						
GOF	**Gofitskoye**	**83.77**	**44**	*e*P	**P**	**04 20 04.8**	**0.0**
GOF				pmax	pmax		
	comp=Z,44nm,1.4s						
EIL	**Elat**	**83.83**	**61**	P	**P**	**04 20 06.2**	**+0.8**
	comp=Z,19nm,1.0s,baz=296,slow=2.3,SNR=7.2						
TAOE	**Nuku Hiva Isla**	**83.91**	**258**	*e*LR	LR	04 46 57.9	
	comp=Z,308nm,34.5s						
KIV	**Kislovodsk**	**84.00**	**45**	*e*P	**P**	**04 20 06.2**	**+0.1**
KIV				pmax	pmax		
	comp=Z,12nm,0.9s						
KVAR	**Kislovodsk Arr**	**84.00**	**45**	P	**P**	**04 20 06.3**	**+0.1**
	comp=Z,5.8nm,0.7s,baz=250,slow=5.6,SNR=6.6						
BILL	**Bilibino**	**84.09**	**344**	*e*P	**P**	**04 20 06.1**	**+0.2**
BILL				*e*		04 23 20.4	
BILL				*e*PPP	PPP	04 25 11.2	
BILL				pmax	pmax		
	comp=Z,3.0nm,0.8s						
BILL				MLR	MLR		
	comp=Z,365nm,17.0s						
KBZ	**Khabaz**	**84.23**	**45**	P	**P**	**04 20 08.1**	**+1.0**
	comp=Z,7.0nm,0.9s,baz=295,slow=3.6,SNR=6.5						
NEY	**Neytrino**	**84.32**	**46**	*de*P	**P**	**04 20 08.9**	**+1.1**
NEY				pmax	pmax		
	comp=Z,2.0nm,0.9s						
ASF	**Jabal al Asfar**	**84.45**	**58**	P	**P**	**04 20 09.4**	**+0.8**
	comp=Z,11nm,1.0s,baz=260,slow=2.0,SNR=13						
NCK	**Nalchik**	**84.79**	**45**	*i*P	**P**	**04 20 11.3**	**+1.3**
NCK				pmax	pmax		
	comp=Z,48nm,1.3s						
ZEI	**Tsey**	**85.29**	**46**	*e*P	**P**	**04 20 12.4**	**-0.4**
ZEI				pmax	pmax		
	comp=Z,32nm,1.0s						
MARD	**Mardin**	**85.39**	**52**	*e*P	**P**	**04 20 13.8**	**+0.6**
	comp=Z,16nm,0.7s						
NRIK	**Noril'sk**	**86.18**	**11**	LR	LR	04 57 39.7	
	comp=Z,203nm,21.3s,baz=314,slow=35						
PMSA	**Palmer Station**	**86.39**	**182**	*e*P	**P**	**04 20 19.5**	**+2.4**
	comp=Z,20nm,1.3s						
TSUM	**Tsumeb**	**86.42**	**112**	*e*P	**P**	**04 20 18.7**	**+0.1**
	comp=Z,9.4nm,1.0s						
TIXI	**Tiksi**	**86.53**	**357**	*e*P	**P**	**04 20 19.0**	**+1.0**
TIXI				pmax	pmax		
	comp=Z,5.0nm,1.1s						
ARU	**Arti**	**86.67**	**29**	*d i*P	**P**	**04 20 18.0**	**-1.0**
ARU						04 23 36.8	
ARU				S	**SKSac**	**04 30 44.1**	**-1.7**
ARU				SS	**SS**	**04 36 33.0**	**-3.2**
ARU				pmax	pmax		
	comp=Z,13nm,2.5s						
GNI	**Garni**	**87.01**	**48**	P	**P**	**04 20 22.1**	**+0.8**
	comp=Z,20nm,0.8s,baz=323,slow=6.0,SNR=6.6						
GNI	**Garni**	**87.01**	**48**	*c i*P	**P**	**04 20 21.9**	**+0.7**
GNI				pmax	pmax		
	comp=Z,193nm,1.7s						
AKTO	**Aktyubinsk**	**89.88**	**34**	P	**P**	**04 20 33.7**	**-0.7**
	comp=Z,1.1nm,0.5s,baz=359,slow=1.9,SNR=4.7						
ABKAR	**Akbulak array**	**91.58**	**34**	*e*P	**P**	**04 20 41.7**	**-0.6**
	comp=Z,1.7nm,0.8s						
BRVK	**Borovoye**	**94.02**	**27**	*e*P	**P**	**04 20 53.5**	**0.0**
BRVK				pmax	pmax		
	comp=Z,7.0nm,1.6s						
LSZ	**Lusaka**	**94.25**	**105**	*e*P	**P**	**04 20 56.8**	**+1.4**
LSZ				pmax	pmax		
	comp=Z,7.0nm,1.0s						
LSZ	**Lusaka**	**94.25**	**105**	*e*P	**P**	**04 20 56.8**	**+1.4**
	comp=Z,6.9nm,1.0s						
PPT	**Papeete**	**95.68**	**253**	LR	LR	04 59 00.0	
	comp=Z,47nm,18.3s,baz=102,slow=32						
PPT2	**Papeete2**	**95.69**	**253**	*e*LR	LR	04 52 22.9	
	comp=Z,210nm,29.2s						
BOSA	**Boshof**	**96.53**	**118**	LR	LR	04 54 59.3	
	comp=Z,132nm,20.9s,baz=288,slow=30						
GEYT	**Alibeck**	**97.11**	**44**	LR	LR	05 02 59.0	
	comp=Z,93nm,21.4s,baz=180,slow=34						
KMBO	**Kilima Mbogo**	**97.48**	**88**	LR	LR	05 00 46.0	
	comp=Z,163nm,21.5s,baz=289,slow=33						
PETK	**Petropavlovsk-**	**98.38**	**338**	LR	LR	05 06 37.5	
	comp=Z,135nm,21.9s,baz=34,slow=36						
ZALV	**Zalesovo Beam**	**98.76**	**20**	LR	LR	05 05 10.3	
	comp=Z,43nm,20.7s,baz=8.0,slow=35						
KURK	**Kurchatov**	**99.20**	**25**	*e*P	**Pdif**	**04 21 16.8**	**-0.2**
KURK				pmax	pmax		
	comp=Z,7.0nm,0.6s						
KSH	**Kashi**	**106.58**	**34**	*e*Pdif	**Pdif**	**04 21 52.0**	**+1.7**
KSH				PP	**PP**	**04 26 19.2**	**+4.7**
KSH				S	**Sdif**	**04 33 48.1**	**-2.9**
KSH				SS	**SS**	**04 41 18.6**	**+0.5**
KSH				AMB	AMB		
	comp=Z,110nm,5.1s						
KSH				LR	LR		
	comp=Z,71nm,4.7s						
KSH				LR	LR		
	comp=Z,78nm,7.8s						
KSH				LR	LR		
	comp=Z,180nm,8.9s						
WMQ	**Urumqi**	**108.38**	**24**	*e*Pdif	**Pdif**	**04 21 58.1**	**0.0**
WMQ				PP	**PP**	**04 26 32.6**	**+5.3**
WMQ				SS	SS	04 41 42.2	+0.4
WMQ				AMB	AMB		
	comp=Z,80nm,5.5s						
WMQ				LR	LR		
	comp=Z,100nm,23.7s						
WMQ				LR	LR		
	comp=Z,97nm,23.7s						
SYO	**Syowa Base**	**113.77**	**157**	*e*X	**PP**	**04 27 03.2**	**-3.2**
HHC	**Hu-ho-hao-te**	**117.17**	**7**	*e*PKP	**PKPdf**	**04 26 21.8**	**+0.7**
HHC				PP	**PP**	**04 27 35.2**	**+5.4**
HHC				SKS	**SKSdf**	**04 33 36.1**	**+2.5**
HHC				SS	**SS**	**04 43 39.5**	**+1.4**
HHC				AMB	AMB		
	comp=Z,62nm,8.7s						
HHC				LR	LR		
	comp=Z,210nm,17.4s						
HHC				LR	LR		
	comp=Z,310nm,17.4s						
HHC				LR	LR		
	comp=Z,170nm,17.4s						
LZH	**Lanzhou**	**120.47**	**15**	*e*PKP	**PKPdf**	**04 26 27.4**	**-0.2**
LZH				sPKP		04 26 32.1	
LZH				PP	**PP**	**04 27 55.4**	**+2.6**
LZH				SKKS		04 34 47.0	
LZH				*e*SS	**SKSdf**	**04 44 18.5**	**+0.5**
LZH				AMB	AMB		
	comp=Z,130nm,8.2s						
LZH				LR	LR		
	comp=Z,250nm,18.0s						
LZH				LR	LR		
	comp=Z,360nm,20.1s						
VNDA	**Vanda**	**120.72**	**190**	PKP	**PKPdf**	**04 26 27.4**	**+0.8**
	comp=Z,0.5nm,0.6s,baz=223,slow=2.8,SNR=5.4						
MAW	**Mawson**	**122.47**	**158**	PKP	**PKPdf**	**04 26 34.2**	**+4.1**
	comp=Z,2.3nm,0.7s,baz=256,slow=6.6,SNR=3.6						
GYA	**Guiyang**	**130.36**	**15**	*e*Pdif	**Pdif**	**04 23 34.0**	**-2.3**
GYA				PKP	**PKPdf**	**04 26 45.8**	**-0.9**
GYA				PP	**PP**	**04 29 01.2**	**+2.5**
GYA				AMB	AMB		
	comp=Z,130nm,7.8s						
KMI	**Kunming**	**130.50**	**20**	PKP	**PKPdf**	**04 26 45.1**	**-2.1**
KMI				LR	LR		
	comp=Z,150nm,16.3s						
KMI				LR	LR		
	comp=Z,190nm,17.0s						
KMI				LR	LR		
	comp=Z,190nm,20.0s						
CMAR	**Chiang Mai Arr**	**135.11**	**28**	PKP	**PKPdf**	**04 26 56.1**	**+0.4**
	comp=Z,0.7nm,0.4s,baz=235,slow=2.9,SNR=2.8						
QIZ	**Qiongzhong**	**138.25**	**14**	PKP	**PKPdf**	**04 27 01.9**	**+0.4**
QIZ				PP	**PP**	**04 29 49.6**	**+0.8**
QIZ				SS	SS	04 48 01.5	+1.3
QIZ				LR	LR		
	comp=Z,150nm,12.9s						
QIZ				LR	LR		
	comp=Z,130nm,18.8s						
QIZ				LR	LR		
	comp=Z,210nm,20.4s						
KKM	**Kota Kinabalu**	**152.07**	**7**	*e*PKPbc	**PKPbc**	**04 27 32.6**	**+0.7**
WRA	**Warramunga Arr**	**166.14**	**275**	PKP	**PKPdf**	**04 27 40.2**	**-1.1**
	comp=Z,2.6nm,1.0s,baz=29,slow=0.9,SNR=7.4						
ASAR	**Alice Springs**	**166.72**	**259**	PKP	**PKPdf**	**04 27 40.5**	**-1.2**
	comp=Z,1.6nm,1.1s,baz=153,slow=0.3,SNR=7.0						
ASAR				PKPab	**PKPab**	**04 28 44.8**	**+0.2**
	comp=Z,1.1nm,0.8s,baz=110,slow=3.3,SNR=4.7						

IDC 06 04:09:41.4±1.7, 55°.57N×166°.34E, h0km, mb3.7/2, mb1 4.1/3, mb1mx3.5/59, mbtmp3.7/3, ML2.9/1, Error ellipse: s-maj=124.2km s-min=25.8km az=154.0, Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PETK	**Petropavlovsk-**	**5.62**	**248**	Pn	Pn	04 11 06.2	0.0
	1.6nm,0.3s,baz=65,slow=18,SNR=7.2						
PETK				Sn	Sn	04 12 12.1	+0.7
	2.1nm,0.3s,baz=18,slow=31,SNR=7.3						
ILAR	**Eielson Array**	**24.45**	**49**	P	P	04 15 01.2	-0.3
	2.2nm,1.0s,baz=254,slow=8.7,SNR=12						
TXAR	**Lajitas Array**	**66.35**	**72**	P	P	04 20 32.0	+0.2
	0.7nm,0.7s,baz=303,slow=5.4,SNR=5.8						

*IDC **06** 04:11:02.8±0.8, 55°.33N×166°.66E, h0km, mb4.1/10, mb1 4.4/11, mb1mx4.0/53, mbtmp4.1/11, ML3.5/1, MS3.1/7, Ms1 3.1/7, ms1mx2.9/42, Error ellipse: s-maj=40.4km s-min=14.5km az=154.0*

*KRSC **06** 04:11:02.8±1.6, 55°.37N×166°.31E, h34km±11km, ML4.6*

*ISCJB **06** 04:11:04.1±0.5, 55°.40N±0°.04×166°.28E±0°.05, h20km, mb4.0/10, MS3.0/4, Error ellipse: s-maj=5.7km s-min=4.0km az=150.8*

*MOS **06** 04:11:05.0±1.2, 55°.44N×166°.34E, h31km, mb4.3/9, Error ellipse: s-maj=10.2km s-min=6.4km az=157.3*

ISC 06 04:11:05.5±0.8, 55°.44N±0°.05×166°.34E±0°.06, h20km, n82, σ1s17/107, mb4.0/10, MS2.9/4, Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BKI	**Bering**	**0.32**	**222**	PN	**Pb**	**04 11 10.3**	**-2.1**
BKI	**Bering**	**0.32**	**222**	*i* P	**Pb**	**04 11 10.3**	**-2.1**
BKI				*i* S	**Sb**	**04 11 15.7**	**-1.4**
KBG	**Krutoberegovo**	**2.21**	**293**	PN	**Pn**	**04 11 37.9**	**-3.0**
KBG				S	**Sn**	**04 12 06.6**	**-0.9**
KBG	**Krutoberegovo**	**2.21**	**293**	*e*P	**Pn**	**04 11 37.9**	**-3.0**
KBG				*e*S	**Sn**	**04 12 06.6**	**-0.9**
MKZ	**Mys Kozlova**	**2.80**	**253**	PN	**Pn**	**04 11 47.8**	**-1.2**
MKZ				S	**Sn**	**04 12 21.5**	**-0.6**
MKZ	**Mys Kozlova**	**2.80**	**253**	*e*P	**Pn**	**04 11 47.8**	**-1.2**
MKZ				*e*S	**Sn**	**04 12 21.5**	**-0.6**
SMKR	**Semkarok**	**2.96**	**295**	PN	**Pn**	**04 11 50.4**	**-1.0**
SMKR				S	**Sn**	**04 12 27.0**	**+0.6**
SMKR	**Semkarok**	**2.96**	**295**	*e*P	**Pn**	**04 11 50.4**	**-1.0**
SMKR				*e*S	**Sn**	**04 12 27.0**	**+0.6**
SRKR	**Sorokina**	**3.15**	**295**	PN	**Pn**	**04 11 53.5**	**-0.4**
SRKR	**Sorokina**	**3.15**	**295**	*e*P	**Pn

PET	**Petropavlovsk**	**5.12 245**	*e*PN	**Pn**	**04 12 21.2 +0.3**
PET			pmax	pmax	
	comp=Z,27nm,0.5s				
PET			MLR	MLR	
	comp=Z,300nm,18.0s				
PET			MLR	MLR	
	comp=Z,300nm,14.0s				
GNL	**Ganaly**	**5.19 254**	PN	**Pn**	**04 12 23.3 +1.3**
GNL	**Ganaly**	**5.19 254**	*e*P	**Pn**	**04 12 23.3 +1.3**
GNL			*e*S	**Sn**	**04 13 21.3 0.0**
KRMR	**Karymshinskiy**	**5.49 245**	PN	**Pn**	**04 12 27.1 +1.1**
KRMR	**Karymshinskiy**	**5.49 245**	*e*P	**Pn**	**04 12 27.1 +1.1**
KRMR			*e*S	**Sn**	**04 13 27.8 -0.6**
RUS	**Russkaya**	**5.52 240**	PN	**Pn**	**04 12 26.1 -0.3**
RUS	**Russkaya**	**5.52 240**	*e*P	**Pn**	**04 12 26.1 -0.3**
RUS			*e*S	**Sn**	**04 13 26.2 -2.9**
PETK	**Petropavlovsk-**	**5.58 249**	Pn	**Pn**	**04 12 28.0 +0.8**
	comp=Z,6.6nm,0.3s,baz=73,slow=18,SNR=17				
PETK			Sn	**Sn**	**04 13 33.1 +2.5**
	comp=Z,7.5nm,0.3s,baz=120,slow=30,SNR=10				
PETK			LR	LR	04 14 52.2
	comp=Z,189nm,19.6s,baz=83,slow=40				
MTVR	**Mutnovka**	**5.65 242**	PN	**Pn**	**04 12 28.8 +0.4**
MTVR	**Mutnovka**	**5.65 242**	*e*P	**Pn**	**04 12 28.8 +0.4**
MTVR			*e*S	**Sn**	**04 13 31.6 -1.1**
ASAK	**Asacha**	**5.85 242**	PN	**Pn**	**04 12 32.6 +1.5**
ASAK	**Asacha**	**5.85 242**	*e*P	**Pn**	**04 12 32.6 +1.5**
ASAK			*e*S	**Sn**	**04 13 36.9 -0.6**
APC	**Apacha**	**5.95 249**	PN	**Pn**	**04 12 33.9 +1.6**
APC	**Apacha**	**5.95 249**	*e*P	**Pn**	**04 12 33.9 +1.6**
APC			*e*S	**Sn**	**04 13 39.7 -0.1**
MA2	**Magadan**	**9.34 303**	LR	LR	04 17 02.4
	comp=Z,65nm,18.9s,baz=150,slow=38				
YAK	**Yakutsk**	**19.91 304**	LR	LR	04 23 44.0
	comp=Z,50nm,18.5s,baz=110,slow=38				
YAK	**Yakutsk**	**19.91 304**	*e*P	**Pn**	**04 15 34.6 -2.5**
YAK			pmax	pmax	
	comp=N,8.0nm,1.6s				
YAK			pmax	pmax	
	comp=Z,29nm,1.2s				
YAK			pmax	pmax	
	comp=E,23nm,1.4s				
KLR	**Kul'dur**	**21.86 268**	P	**P**	**04 15 58.8 +2.2**
	comp=E,1.3nm,0.3s,baz=187,slow=23,SNR=9.2				
KLR			LR	LR	04 23 57.7
	comp=E,43nm,21.9s,baz=70,slow=35				
ILAR	**Eielson Array**	**24.53 49**	P	**P**	**04 16 22.4 -0.8**
	comp=E,15nm,1.0s,baz=258,slow=7.7,SNR=44				
USRK	**Ussuriysk Ar.**	**24.59 257**	LR	LR	04 27 16.4
	comp=E,38nm,18.6s,baz=60,slow=39				
MJAR	**Matsushiro Arr**	**26.89 237**	P	**P**	**04 16 47.6 +2.8**
	comp=E,3.0nm,0.7s,baz=35,slow=8.4,SNR=6.0				
INK	**Inuvik**	**29.74 41**	P	**P**	**04 17 09.5 -0.3**
	comp=E,3.2nm,0.6s,baz=269,slow=4.9,SNR=12				
KSRS	**Korea Array**	**31.47 251**	P	**P**	**04 17 27.1 +1.7**
	comp=E,0.8nm,0.6s,baz=36,slow=10,SNR=3.1				
KSRS			LR	LR	04 28 52.9
	comp=E,27nm,20.5s,baz=45,slow=34				
H11N2	**WAKE ISLAND Hy**	**35.65 179**	T	T	04 55 19.3
	baz=0.2,slow=76,SNR=347				
H11N3	**WAKE ISLAND Hy**	**35.67 179**	T	T	04 55 19.3
	baz=0.2,slow=76,SNR=33				
H11N1	**WAKE ISLAND Hy**	**35.67 179**	T	T	04 55 19.3
	baz=0.2,slow=76,SNR=314				
SONM	**Songino Array**	**36.91 284**	P	**P**	**04 18 14.9 +2.2**
	comp=E,1.6nm,0.6s,baz=67,slow=8.2,SNR=4.4				
PDAR	**Pinedale Array**	**53.20 66**	P	**P**	**04 20 22.4 +0.2**
	comp=E,0.9nm,0.8s,baz=312,slow=4.3,SNR=3.9				
CMAR	**Chiang Mai Arr**	**62.19 262**	LR	LR	04 52 15.3
	comp=E,16nm,18.2s,baz=190,slow=40				
TXAR	**Lajitas Array**	**66.39 72**	P	**P**	**04 21 53.1 +0.2**
	comp=E,4.1nm,0.7s,baz=302,slow=5.2,SNR=33				
WRA	**Warramunga Arr**	**79.86 210**	P	**P**	**04 23 11.9 -0.5**
	comp=E,1.0nm,1.0s,baz=26,slow=5.8,SNR=3.6				
ASAR	**Alice Springs**	**83.51 210**	P	**P**	**04 23 31.5 -0.1**
	comp=E,0.8nm,0.8s,baz=12,slow=5.7,SNR=4.3				

*ISCJB **06** 04:13:42.2±0.4,43°.15N±0°.03×45°.99E±0°.03,h97km±4km, Error ellipse: s-maj=5.7km s-min=2.7km az=22.5*
*CSEM **06** 04:13:42.7±0.1,43°.17N×46°.01E,h89km±2km,mb4.2, Error ellipse: s-maj=4.7km s-min=2.8km az=18.0*
*TIF **06** 04:13:42.1,43°.13N×45°.82E,h30km±3km*
*MOS **06** 04:13:42.9±0.6,43°.08N×45°.95E,h84km,mb4.2/1,Error ellipse: s-maj=7.9km s-min=5.9km az=35.8*

ISC 06 04:13:41.8±0.8,43°.16N±0°.03×46°.00E±0°.02,h95km±6km, n94,σ1§44/162,12C-7D,Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GROC	**Groznyy**	**0.16 285**		*e*P	**Pn**	**04 13 56.0**	**+0.8**
GROC				*e*		04 14 06.0	
GROC				pmax	pmax		
	comp=Z,108nm,0.1s						
GROC				smax	smax		
	comp=N,368nm,0.4s						
GROC				smax	smax		
	comp=N,346nm,0.1s						
GROC				smax	smax		
	comp=E,218nm,0.4s						
GROC	**Groznyy**	**0.16 285**		*e*P	**Pn**	**04 13 56.0**	**+0.8**
	comp=E,108nm,0.1s						
GROC				*e*S	**Sn**	**04 14 06.0**	**+0.7**
	comp=E,346nm,0.1s						
KRNR	**Karanay**	**0.74 117**	⇓	*i*P	**Pn**	**04 13 59.5**	**+0.2**
KRNR				*i*S	**Sn**	**04 14 11.0**	**-1.3**
KRNR				pmax	pmax		
	comp=Z,99nm,0.1s						
KRNR	**Karanay**	**0.74 117**		*i*P	**Pn**	**04 13 59.5**	**+0.2**
	comp=Z,99nm,0.1s						
KRNR				*i*S	**Sn**	**04 14 11.0**	**-1.3**
XNZR	**Khunzakh**	**0.81 140**		*e*P	**Pn**	**04 14 00.4**	**+0.4**
XNZR				*e*S	**Sn**	**04 14 13.3**	**-0.3**
XNZR	**Khunzakh**	**0.81 140**		*e*P	**Pn**	**04 14 00.4**	**+0.4**
XNZR				*e*S	**Sn**	**04 14 13.3**	**-0.3**
KMGR	**Komgaron**	**0.84 263**		*e*P	**Pn**	**04 14 00.1**	**-0.1**
KMGR				*e*S	**Sn**	**04 14 14.9**	**+0.9**
KMGR	**Komgaron**	**0.84 263**		*e*P	**Pn**	**04 14 00.1**	**-0.1**
KMGR				*e*S	**Sn**	**04 14 14.9**	**+0.9**
BUJR	**Buynaksk**	**0.88 112**		P	**Pn**	**04 14 01.5**	**+1.0**
BUJR				*i*S	**Sn**	**04 14 15.5**	**+0.9**
BUJR	**Buynaksk**	**0.88 112**		P	**Pn**	**04 14 01.5**	**+1.0**
BUJR				*i*S	**Sn**	**04 14 15.5**	**+0.9**
ARKR	**Arakani**	**0.92 127**		*e*P	**Pn**	**04 14 01.5**	**+0.5**
ARKR				*i*S	**Sn**	**04 14 15.5**	**+0.1**
ARKR				pmax	pmax		
	comp=Z,80nm,0.2s						
ARKR	**Arakani**	**0.92 127**		*e*P	**Pn**	**04 14 01.5**	**+0.5**
	comp=Z,80nm,0.2s						
ARKR				*i*S	**Sn**	**04 14 15.5**	**+0.1**
VLKR	**Vladikavkaz**	**0.98 264**		*e*P	**Pn**	**04 14 02.1**	**+0.5**
VLKR				*e*S	**Sn**	**04 14 17.5**	**+0.9**
VLKR	**Vladikavkaz**	**0.98 264**		*e*P	**Pn**	**04 14 02.1**	**+0.5**
VLKR				*e*S	**Sn**	**04 14 17.5**	**+0.9**
GNBR	**Gunib**	**1.05 137**	⇓	*i*P	**Pn**	**04 14 03.4**	**+1.0**
GNBR				*e*		04 14 18.7	
GNBR				pmax	pmax		
	comp=Z,52nm,0.1s						
GNBR				smax	smax		
	comp=N,583nm,0.4s						
GNBR				smax	smax		
	comp=N,631μm,0.3s						
GNBR				smax	smax		
	comp=E,437nm,0.2s						
GNBR	**Gunib**	**1.05 137**		*i*P	**Pn**	**04 14 03.4**	**+1.0**
	comp=E,52nm,0.1s						
GNBR				*e*S	**Sn**	**04 14 18.7**	**+0.8**
	comp=E,631μm,0.3s						
TRKR	**Terskaya**	**1.08 302**	⇑	*i*P	**Pn**	**04 14 04.8**	**+2.1**
TRKR				*e*S	**Sn**	**04 14 21.4**	**+2.9**
TRKR	**Terskaya**	**1.08 302**		*i*P	**Pn**	**04 14 04.8**	**+2.1**
TRKR				*e*S	**Sn**	**04 14 21.4**	**+2.9**
BTKR	**Batakoyurt**	**1.09 282**		*e*P	**Pn**	**04 14 03.9**	**+1.1**
BTKR				*e*S	**Sn**	**04 14 20.1**	**+1.4**
BTKR	**Batakoyurt**	**1.09 282**		*e*P	**Pn**	**04 14 03.9**	**+1.1**
BTKR				*e*S	**Sn**	**04 14 20.1**	**+1.4**
ARNR	**Ardon**	**1.26 271**		*e*P	**Pn**	**04 14 06.2**	**+1.4**
ARNR				*e*S	**Sn**	**04 14 23.5**	**+1.3**
ARNR	**Ardon**	**1.26 271**		*e*P	**Pn**	**04 14 06.2**	**+1.4**
ARNR				*e*S	**Sn**	**04 14 23.5**	**+1.3**
LACR	**Lac**	**1.30 256**	⇓	*i*P	**Pn**	**04 14 05.5**	**+0.1**
LACR				*e*S	**Sn**	**04 14 22.2**	**-1.0**
LACR	**Lac**	**1.30 256**		*i*P	**Pn**	**04 14 05.5**	**+0.1**
LACR				*e*S	**Sn**	**04 14 22.2**	**-1.0**
KMKR	**Kumukh**	**1.31 142**		*e*P	**Pn**	**04 14 07.0**	**+1.3**
KMKR				*e*S	**Sn**	**04 14 24.0**	**+0.4**
KMKR				pmax	pmax		
	comp=Z,35nm,0.2s						
KMKR	**Kumukh**	**1.31 142**		*e*P	**Pn**	**04 14 07.0**	**+1.3**
	comp=Z,35nm,0.2s						
KMKR				*e*S	**Sn**	**04 14 24.0**	**+0.4**
GUDG	**Gudauri**	**1.32 239**		P	**Pn**	**04 14 07.3**	**+1.5**
GUDG				S	**Sn**	**04 14 25.7**	**+1.8**
GUDG	**Gudauri**	**1.32 239**		P	**Pn**	**04 14 07.3**	**+1.5**
GUDG				S	**Sn**	**04 14 25.7**	**+1.8**
PRTR	**Priterechnaya**	**1.39 296**	⇑	*i*P	**Pn**	**04 14 08.5**	**+2.2**
PRTR				*e*S	**Sn**	**04 14 27.9**	**+3.0**
PRTR	**Priterechnaya**	**1.39 296**		*i*P	**Pn**	**04 14 08.5**	**+2.2**
PRTR				*e*S	**Sn**	**04 14 27.9**	**+3.0**
KORR	**Kora**	**1.42 268**	⇑	*i*P	**Pn**	**04 14 07.8**	**+1.0**
KORR				*e*S	**Sn**	**04 14 26.9**	**+1.2**
KORR	**Kora**	**1.42 268**		*i*P	**Pn**	**04 14 07.8**	**+1.0**
KORR				*e*S	**Sn**	**04 14 26.9**	**+1.2**
STDR	**Stavd-Durt**	**1.43 279**	⇓	*i*P	**Pn**	**04 14 08.7**	**+1.8**
STDR				*e*S	**Sn**	**04 14 27.9**	**+1.9**
STDR	**Stavd-Durt**	**1.43 279**		*i*P	**Pn**	**04 14 08.7**	**+1.8**
STDR				*e*S	**Sn**	**04 14 27.9**	**+1.9**
DUS	**Dusheti**	**1.44 222**		P	**Pn**	**04 14 06.4**	**-0.7**
DUS				S	**Sn**	**04 14 24.7**	**-1.5**
DUS	**Dusheti**	**1.44 222**		P	**Pn**	**04 14 09.4**	**+2.3**
DUS				S	**Sn**	**04 14 29.7**	**+3.5**
DUS	**Dusheti**	**1.44 222**		P	**Pn**	**04 14 09.4**	**+2.3**
DUS				S	**Sn**	**04 14 29.7**	**+3.5**
URKR	**Urkarakh**	**1.56 129**		*e*P	**Pn**	**04 14 10.5**	**+1.8**
URKR				*e*S	**Sn**	**04 14 32.0**	**+3.0**
URKR	**Urkarakh**	**1.56 129**		*e*P	**Pn**	**04 14 10.5**	**+1.8**
URKR				*e*S	**Sn**	**04 14 32.0**	**+3.0**
ZEI	**Tsey**	**1.59 257**		*e*P	**Pn**	**04 14 08.9**	**-0.2**
ZEI				*e*S	**Sn**	**04 14 28.1**	**-1.6**
ZEI	**Tsey**	**1.59 257**		*e*P	**Pn**	**04 14 08.9**	**-0.2**
ZEI				*e*S	**Sn**	**04 14 28.1**	**-1.6**
LSNR	**Lesken**	**1.60 275**		*e*P	**Pn**	**04 14 10.3**	**+1.3**
LSNR				*e*S	**Sn**	**04 14 30.5**	**+0.8**
LSNR	**Lesken**	**1.60 275**		*e*P	**Pn**	**04 14 10.3**	**+1.3**
LSNR				*e*S	**Sn**	**04 14 30.5**	**+0.8**
SEAG	**Tbilisi Sea**	**1.66 213**		P	**Pn**	**04 14 09.5**	**-0.3**
SEAG				S	**Sn**	**04 14 31.0**	**0.0**
SEAG	**Tbilisi Sea**	**1.66 213**		P	**Pn**	**04 14 09.5**	**-0.3**
SEAG				S	**Sn**	**04 14 31.0**	**0.0**
TBLG	**Delisi**	**1.71 214**		P	**Pn**	**04 14 10.8**	**+0.3**
TBLG				S	**Sn**	**04 14 33.5**	**+1.3**
TBLG	**Delisi**	**1.71 214**		P	**Pn**	**04 14 10.8**	**+0.3**
TBLG				S	**Sn**	**04 14 33.5**	**+1.3**
TBLG	**Delisi**	**1.71 214**		P	**Pn**	**04 14 10.8**	**+0.3**
TBLG				S	**Sn**	**04 14 33.5**	**+1.3**
DGRG	**David-gareji**	**1.77 196**		P	**Pn**	**04 14 12.1**	**+0.8**
DGRG	**David-gareji**	**1.77 196**		P	**Pn**	**04 14 12.1**	**+0.8**
DGRG	**David-gareji**	**1.77 196**		P	**Pn**	**04 14 12.1**	**+0.8**
NCK	**Nalchik**	**1.79 282**	⇑	*e*P	**Pn**	**04 14 12.9**	**+1.5**
NCK				*e*S	**Sn**	**04 14 32.9**	**-1.1**
NCK	**Nalchik**	**1.79 282**		*e*P	**Pn**	**04 14 12.9**	**+1.5**
NCK				*e*S	**Sn**	**04 14 32.9**	**-1.1**
DIGR	**Digorskoe uzhe**	**1.80 262**		*e*P	**Pn**	**04 14 11.6**	**-0.1**
DIGR				*e*S	**Sn**	**04 14 32.9**	**-1.6**
DIGR	**Digorskoe uzhe**	**1.80 262**		*e*P	**Pn**	**04 14 11.6**	**-0.1**
DIGR				*e*S	**Sn**	**04 14 32.9**	**-1.6**
ONI	**Oni**	**1.96 254**		P	**Pn**	**04 14 14.4**	**+0.7**
ONI				S	**Sn**	**04 14 40.1**	**+2.1**
ONI	**Oni**	**1.96 254**		P	**Pn**	**04 14 14.4**	**+0.7**
ONI				S	**Sn**	**04 14 40.1**	**+2.1**
ONI	**Oni**	**1.96 254**		P	**Pn**	**04 14 14.4**	**+0.7**
ONI				S	**Sn**	**04 14 40.1**	**+2.1**
KBTC	**Kuba-Taba**	**2.00 290**	⇑	*e*P	**Pn**	**04 14 16.1**	**+1.9**
KBTC				*e*S	**Sn**	**04 14 39.1**	**+0.2**
KBTC	**Kuba-Taba**	**2.00 290**		*e*P	**Pn**	**04 14 16.1**	**+1.9**
KBTC				*e*S	**Sn**	**04 14 39.1**	**+0.2**
AKT	**Akhty**	**2.11 142**		*e*P	**Pn**	**04 14 17.1**	**+1.4**
AKT				*e*S	**Sn**	**04 14 41.5**	**-0.2**
AKT				pmax	pmax		
	comp=Z,17nm,0.2s						
AKT	**Akhty**	**2.11 142**		*e*P	**Pn**	**04 14 17.1**	**+1.4**
	comp=Z,17nm,0.2s						
AKT				*e*S	**Sn**	**04 14 41.5**	**-0.2**
KSMR	**Kasumkent**	**2.21 134**		P	**Pn**	**04 14 19.5**	**+2.5**
KSMR				*i*S	**Sn**	**04 14 46.0**	**+2.0**
KSMR	**Kasumkent**	**2.21 134**		P	**Pn**	**04 14 19.5**	**+2.5**
KSMR				*i*S	**Sn**	**04 14 46.0**	**+2.0**
PYA1	**Pyatigorsk**	**2.30 294**	⇑	*i*P	**Pn**	**04 14 19.0**	**+1.0**
PYA1				*e*S	**Sn**	**04 14 45.1**	**-0.7**
PYA1	**Pyatigorsk**	**2.30 294**		*i*P	**Pn**	**04 14 19.0**	**+1.0**
PYA1				*e*S	**Sn**	**04 14 45.1**	**-0.7**
NEY	**Neytrino**	**2.40 273**	⇑	*i*P	**Pn**	**04 14 20.5**	**+0.9**
NEY				*e*S	**Sn**	**04 14 48.8**	**+0.3**
NEY	**Neytrino**	**2.40 273**		*i*P	**Pn**	**04 14 20.5**	**+0.9**
NEY				*e*S	**Sn**	**04 14 48.8**	**+0.3**
BEYR	**Belyy Ugol+**	**2.47 291**	⇑	*e*P	**Pn**	**04 14 21.4**	**+1.1**
BEYR				*e*S	**Sn**	**04 14 49.1**	**-0.7**
BEYR	**Belyy Ugol+**	**2.47 291**		*e*P	**Pn**	**04 14 21.4**	**+1.1**
BEYR				*e*S	**Sn**	**04 14 49.1**	**-0.7**
SHA1	**Shidzhatmaz**	**2.50 284**	⇑	*i*P	**Pn**	**04 14 21.6**	**+0.6**
SHA1				*e*S	**Sn**	**04 14 49.7**	**-1.3**
SHA1	**Shidzhatmaz**	**2.50 284**		*i*P	**Pn**	**04 14 21.6**	**+0.6**
SHA1				*e*S	**Sn**	**04 14 49.7**	**-1.3**
KIV	**Kislovodsk**	**2.54 289**		*i*P	**Pn**	**04 14 22.4**	**+1.1**
KIV				pmax	pmax		
	comp=Z,92nm,0.6s						
KIV	**Kislovodsk**	**2.54 289**		*i*P	**Pn**	**04 14 22.4**	**+1.1**
	comp=Z,92nm,0.6s						
AKH	**Akhalkalaki**	**2.56 228**		P	**Pn**	**04 14 22.1**	**+0.4**
AKH	**Akhalkalaki**	**2.56 228**		P	**Pn**	**04 14 22.1**	**+0.4**
AKH	**Akhalkalaki**	**2.56 228**		P	**Pn**	**04 14 22.1**	**+0.4**
BGD	**Bogdanovka**	**2.61 224**		P	**Pn**	**04 14 22.2**	**-0.1**
BGD	**Bogdanovka**	**2.61 224**		P	**Pn**	**04 14 22.2**	**-0.1**
GOF	**Gofitskoye**	**2.85 313**	⇑	*e*P	Pn	04 14 30.3	+4.9
GOF				*e*S	**Sn**	**04 15 00.6**	**+1.6**
GOF				pmax	pmax		
	comp=Z,26nm,0.4s						
GOF				smax	smax		
	comp=E,103nm,0.6s						
GOF				smax	smax		
	comp=N,54nm,0.6s						
GNI	**Garni**	**3.16 198**	*c*	*i*P	**Pn**	**04 14 30.1**	**+0.5**
GNI	**Garni**	**3.16 198**		*i*P	**Pn**	**04 14 30.1**	**+0.5**
AKTK	**Aktyubinsk**	**10.98 44**		P	**Pn**	**04 16 15.3**	**-0.3**
	comp=N,1.0nm,0.5s						
AKTO	**Aktyubinsk**	**10.98 44**		⇓Pn	**Pn**	**04 16 15.3**	**-0.3**
	comp=N,1.2nm,0.5s						
AKTO				⇑Sn	**Sn**	**04 18 09.9**	**-6.5**
	comp=N,1.4nm,0.6s						
AKTO	**Aktyubinsk**	**10.98 44**		P	**Pn**	**04 16 15.3**	**-0.3**
AKTO				pmax	pmax		
	comp=Z,1.0nm,0.5s						
AKTO	**Aktyubinsk**	**10.98 44**		Pn	**Pn**	**04 16 15.3**	**-0.3**
	comp=Z,1.2nm,0.5s						
AB31	**Akbulak array**	**11.41 53**		⇓Pn	**Pn**	**04 16 21.8**	**+0.3**
	comp=Z,0.6nm,0.3s,baz=241,slow=12,SNR=34						
AB31				⇓Sn	Sn	04 18 15.7	-11
	comp=Z,0.3nm,0.3s,baz=233,slow=37,SNR=9.8						
AB31	**Akbulak array**	**11.41 53**		P	**Pn**	**04 16 21.8**	**+0.3**
AB31				pmax	pmax		
	comp=Z,6.0nm,0.4s						
AB31	**Akbulak array**	**11.41 53**		Pn	**Pn**	**04 16 21.8**	**+0.3**
	comp=Z,0.6nm,0.3s,SNR=34						
OBN	**Obninsk**	**13.44 336**		*e*P	**P**	**04 16 53.4**	**-0.9**
OBN				pmax	pmax		
	comp=Z,4.0nm,0.9s						
OBN	**Obninsk**	**13.44 336**		*e*P	**P**	**04 16 53.4**	**-0.9**
	comp=Z,4.0nm,0.9s						
ARU	**Arti**	**15.52 27**		*i*P	**P**	**04 17 18.1**	**+0.7**
ARU				pmax	pmax		
	comp=Z,5.0nm,1.8s						
ARU	**Arti**	**15.52 27**		*i*P	**P**	**04 17 18.1**	**+0.7**
	comp=Z,5.0nm,1.8s						
BRVK	**Borovoye**	**18.91 50**		*i*P	**Pn**	**04 17 59.2**	**+2.9**
BRVK				pmax	pmax		
	comp=Z,1.0nm,0.8s						

*IDC **06** 04:14:12.4±1.1,37°.87N×23°.16E,h94km±12km,mb3.8/14, mb1 3.8/25,mb1mx3.7/46,mbtmp4.0/25,Error ellipse: s-maj=13.4km s-min=9.5km az=63.0*
*ISCJB **06** 04:14:12.7±0.1,37°.89N±0°.01×23°.07E±0°.02,h113km±1km, mb4.0/14,Error ellipse: s-maj=2.4km s-min=1.9km az=135.6*
*CSEM **06** 04:14:13.9±0.1,37°.88N×23°.06E,h105km,mb4.1/8,Error ellipse: s-maj=2.1km s-min=1.7km az=37.0*
*NEIC **06** 04:14:13.4±0.0,37°.88N×23°.10E,h104km,mb4.1/4,After ATH.*
*THE **06** 04:14:13.8,37°.88N×23°.11E,h103km±1km,ML4.2/53, Error ellipse: s-maj=1.4km s-min=0.6km az=241.0*
*ATH **06** 04:14:13.5,37°.88N×23°.11E,h104km±1km,ML4.1/22, Error ellipse: s-maj=1.4km s-min=0.8km az=184.0*
*MOS **06** 04:14:13.1±0.9,37°.92N×23°.05E,h111km,mb4.1/8,Error ellipse: s-maj=8.4km s-min=3.8km az=95.9*
*PDG **06** 04:14:15.3±0.4,38°.14N×22°.64E,h22km±3km,ML4.4/11, Error ellipse: s-maj=3.7km s-min=2.1km az=90.0*
*HLW **06** 04:14:26.2,36°.74N×24°.34E,h20km±16km,Md3.8,MI3.8*

ISC 06 04:14:13.0±0.5,37°.87N±0°.02×23°.08E±0°.02,h102km±4km, n639,σ1§85/854,mb4.0/14,32C-10D,Southern Greece

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LOUT	**Loutraki**	**0.15 324**		P	**Pn**	**04 14 28.4**	**+1.1**
LOUT				S	**Sn**	**04 14 39.0**	**+1.0**
LOUT	**Loutraki**	**0.15 324**		P	**Pn**	**04 14 28.4**	**+1.1**
LOUT				S	**Sn**	**04 14 39.0**	**+1.0**
LOUT	**Loutraki**	**0.15 324**		P	**Pn**	**04 14 28.5**	**+1.2**
LOUT				S	**Sn**	**04 14 38.0**	**+0.1**
LOUT				AML	AML	04 14 39.9	
	comp=N,16230μm,0.5s						
LOUT				AML	AML	04 14 41.2	
	comp=E,16404μm,0.3s						
LTK	**Loutraki**	**0.18 329**		P	**Pn**	**04 14 28.4**	**+1.0**
LTK				S	**Sn**	**04 14 39.0**	**+0.8**
LTK	**Loutraki**	**0.18 329**		P	**Pn**	**04 14 28.4**	**+1.0**
LTK				S	**Sn**	**04 14 39.0**	**+0.8**
LTK	**Loutraki**	**0.18 329**		P	**Pn**	**04 14 28.4**	**+1.0**
LTK				S	**Sn**	**04 14 37.8**	**-0.4**
LTK				AML	AML	04 14 39.4	
	comp=N,17744μm,0.5s						
LTK				AML	AML	04 14 41.5	
	comp=E,12652μm,0.4s						
LTK	**Loutraki**	**0.18 329**		P	**Pn**	**04 14 28.4**	**+1.0**
LTK				S	**Sn**	**04 14 39.0**	**+0.8**
VILL	**Villia**	**0.35 31**		P	**Pn**	**04 14 29.3**	**+1.2**
VILL				S	**Sn**	**04 14 40.0**	**+0.6**
VILL	**Villia**	**0.35 31**		P	**Pn**	**04 14 29.3**	**+1.2**
VILL				S	**Sn**	**04 14 40.3**	**+0.9**
THAL	**Thalero**	**0.37 297**		P	**Pn**	**04 14 29.3**	**+1.1**
THAL				S	**Sn**	**04 14 40.7**	**+1.2**
THAL	**Thalero**	**0.37 297**		P	**Pn**	**04 14 29.3**	**+1.1**
THAL				S	**Sn**	**04 14 40.7**	**+1.2**
THAL	**Thalero**	**0.37 297**		P	**Pn**	**04 14 29.2**	**+1.1**
THAL				S	**Sn**	**04 14 40.5**	**+1.0**
THAL				AML	AML	04 14 41.0	
	comp=N,60294μm,0.3s						
THAL				AML	AML	04 14 42.4	
	comp=E,56121μm,0.2s						
VIL2	**Platees**	**0.37 23**		P	**Pn**	**04 14 29.6**	**+1.3**
VIL2				S	**Sn**	**04 14 40.1**	**+0.5**
VIL2				AML	AML	04 14 40.7	
	comp=N,30543μm,0.4s						
VIL2				AML	AML	04 14 44.2	
	comp=E,8481μm,0.8s						
DID	**Didima**	**0.38 161**		P	**Pn**	**04 14 29.3**	**+1.0**
DID				S	**Sn**	**04 14 40.8**	**+1.1**
DID	**Didima**	**0.38 161**		P	**Pn**	**04 14 29.3**	**+1.0**
DID				S	**Sn**	**04 14 40.8**	**+1.1**
DID	**Didima**	**0.38 161**		P	**Pn**	**04 14 29.3**	**+1.0**
DID				S	**Sn**	**04 14 39.2**	**-0.5**
DID				AML	AML	04 14 42.4	
	comp=E,18353μm,0.4s						
DID				AML	AML	04 14 47.5	
	comp=N,12983μm,0.4s						
DID	**Didima**	**0.38 161**		P	**Pn**	**04 14 29.3**	**+1.0**
DID				S	**Sn**	**04 14 40.8**	**+1.1**
PROD	**Prodromos**	**0.42 340**		P	**Pn**	**04 14 29.5**	**+1.1**
PROD				S	**Sn**	**04 14 41.0**	**+1.0**
PROD	**Prodromos**	**0.42 340**		P	**Pn**	**04 14 29.6**	**+1.1**
PROD				S	**Sn**	**04 14 40.8**	**+0.8**
PROD				AML	AML	04 14 41.2	
	comp=E,41486μm,0.6s						
PROD				AML	AML	04 14 41.4	
	comp=N,74753μm,0.3s						
ATH	**Athens Observa**	**0.51 78**		P	**Pn**	**04 14 30.4**	**+1.4**
ATH				S	**Sn**	**04 14 42.4**	**+1.3**

LKR				S	Sn	04 14 45.7	+0.6	
EREA	**Eretria**	**0.87**	**50**	P	Pn	04 14 33.7	+1.5	
EREA				S	Sn	04 14 48.1	+1.5	
EREA	**Eretria**	**0.87**	**50**	P	Pn	04 14 33.7	+1.5	
EREA				S	Sn	04 14 48.1	+1.5	
EREA	**Eretria**	**0.87**	**50**	P	Pn	04 14 34.5	+2.3	
KALE	**Kalithea**	**0.91**	**305**	P	Pn	04 14 34.0	+1.3	
KALE				S	Sn	04 14 48.5	+1.1	
KALE	**Kalithea**	**0.91**	**305**	P	Pn	04 14 34.0	+1.3	
KALE				S	Sn	04 14 48.6	+1.1	
KALE	**Kalithea**	**0.91**	**305**	P	Pn	04 14 34.2	+1.5	
KALE				S	Sn	04 14 48.3	+0.8	
KALE				AML	AML	04 14 49.3		
	comp=N,18445µm,0.4s							
KALE				AML	AML	04 14 51.6		
	comp=E,19580µm,0.3s							
KALE	**Kalithea**	**0.91**	**305**	P	Pn	04 14 34.0	+1.3	
KALE				S	Sn	04 14 48.5	+1.1	
TRIZ	**Trizonia**	**0.94**	**302**	S	Sn	04 14 49.2	+1.3	
TRIZ	**Trizonia**	**0.94**	**302**	S	Sn	04 14 48.9	+1.1	
LAKA	**Lakka**	**0.95**	**293**	P	Pn	04 14 34.6	+1.6	
LAKA				S	Sn	04 14 49.6	+1.5	
LAKA	**Lakka**	**0.95**	**293**	P	Pn	04 14 34.6	+1.6	
LAKA				S	Sn	04 14 49.6	+1.5	
LAKA	**Lakka**	**0.95**	**293**	P	Pn	04 14 34.9	+1.8	
LAKA	**Lakka**	**0.95**	**293**	P	Pn	04 14 34.6	+1.6	
LAKA				S	Sn	04 14 49.6	+1.5	
SERG	**Sergoula**	**0.97**	**304**	P	Pn	04 14 34.6	+1.3	
SERG				S	Sn	04 14 49.3	+0.7	
SERG	**Sergoula**	**0.97**	**304**	P	Pn	04 14 34.6	+1.3	
SERG				S	Sn	04 14 49.3	+0.7	
SMIA	**Simia**	**1.01**	**6**	P	Pn	04 14 35.3	+1.6	
SMIA				S	Sn	04 14 50.1	+0.7	
SMIA	**Simia**	**1.01**	**6**	P	Pn	04 14 35.3	+1.6	
SMIA				S	Sn	04 14 50.1	+0.7	
SMIA	**Simia**	**1.01**	**6**	P	Pn	04 14 35.8	+2.1	
KARY	**Karystos**	**1.08**	**81**	P	Pn	04 14 36.1	+1.7	
KARY	**Karystos**	**1.08**	**81**	P	Pn	04 14 36.1	+1.7	
KARY	**Karystos**	**1.08**	**81**	P	Pn	04 14 36.8	+2.3	
DRO	**Drossia**	**1.09**	**275**	P	Pn	04 14 35.3	+0.8	
DRO				S	Sn	04 14 53.8	+3.0	
DRO	**Drossia**	**1.09**	**275**	P	Pn	04 14 35.3	+0.8	
DRO				S	Sn	04 14 53.8	+3.0	
DRO	**Drossia**	**1.09**	**275**	P	Pn	04 14 36.8	+2.2	
UPR	**University Cam**	**1.10**	**292**	P	Pn	04 14 36.5	+1.8	
UPR				S	Sn	04 14 53.0	+2.0	
UPR	**University Cam**	**1.10**	**292**	S	Sn	04 14 36.5	+1.8	
UPR				S	Sn	04 14 53.0	+2.0	
UPR	**University Cam**	**1.10**	**292**	P	Pn	04 14 37.6	+2.9	
AMT	**Artemida-Makis**	**1.14**	**253**	P	Pn	04 14 37.6	+2.4	
AMT				S	Sn	04 14 54.5	+2.7	
AMT	**Artemida-Makis**	**1.14**	**253**	P	Pn	04 14 37.5	+2.4	
AMT				S	Sn	04 14 54.5	+2.7	
AMT	**Artemida-Makis**	**1.14**	**253**	P	Pn	04 14 38.3	+3.1	
ITM	**Ithomi**	**1.15**	**234**	P	Pn	04 14 37.3	+2.1	
ITM				S	Sn	04 14 53.5	+1.5	
ITM	**Ithomi**	**1.15**	**234**	P	Pn	04 14 37.3	+2.1	
ITM				S	Sn	04 14 53.2	+1.2	
ITM	**Ithomi**	**1.15**	**234**	P	Pn	04 14 37.8	+2.6	
ITM				S	Sn	04 14 52.7	+0.7	
ITM				AML	AML	04 14 59.9		
	comp=E,17149µm,0.4s							
ITM				AML	AML	04 15 01.4		
	comp=N,16844µm,0.6s							
ITM	**Ithomi**	**1.15**	**234**	P	Pn	04 14 37.3	+2.1	
ITM				S	Sn	04 14 53.5	+1.5	
VLI	**Veliai**	**1.15**	**186**	P	Pn	04 14 36.2	+0.9	
VLI				S	Sn	04 14 53.5	+1.4	
VLI	**Veliai**	**1.15**	**186**	P	Pn	04 14 36.2	+0.9	
VLI				S	Sn	04 14 53.5	+1.4	
VLI	**Veliai**	**1.15**	**186**	P	Pn	04 14 35.7	+0.4	
VLI				S	Sn	04 14 53.4	+1.3	
VLI				AML	AML	04 14 55.1		
	comp=E,14961µm,0.5s							
VLI				AML	AML	04 14 59.2		
	comp=N,20377µm,0.6s							
VLI	**Veliai**	**1.15**	**186**	P	Pn	04 14 36.2	+0.9	
VLI				S	Sn	04 14 53.5	+1.4	
ANX	**Ano Chora**	**1.17**	**309**	P	Pn	04 14 36.8	+1.3	
ANX				S	Sn	04 14 53.2	+0.7	
ANX	**Ano Chora**	**1.17**	**309**	P	Pn	04 14 36.8	+1.3	
ANX				S	Sn	04 14 53.2	+0.7	
RLS	**Riolos of Patr**	**1.29**	**279**	P	Pn	04 14 38.8	+2.0	
RLS				S	Sn	04 14 57.2	+2.3	
RLS	**Riolos of Patr**	**1.29**	**279**	P	Pn	04 14 38.8	+2.0	
RLS				S	Sn	04 14 57.2	+2.3	
RLS	**Riolos of Patr**	**1.29**	**279**	P	Pn	04 14 38.8	+2.0	
RLS				S	Sn	04 14 57.2	+2.3	
AGG	**Agios Georgios**	**1.29**	**333**	*e*PN	Pn	04 14 39.8	+2.9	
AGG	**Agios Georgios**	**1.29**	**333**	P	Pn	04 14 38.4	+1.5	
AGG				S	Sn	04 14 56.2	+1.2	
AGG	**Agios Georgios**	**1.29**	**333**	*e*P	Pn	04 14 37.8	+0.9	
AGG				*e*		04 14 56.6		
AGG	**Agios Georgios**	**1.29**	**333**	*e*Pn	Pn	04 14 37.8	+0.9	
AGG	**Agios Georgios**	**1.29**	**333**	P	Pn	04 14 38.4	+1.5	
AGG				S	Sn	04 14 56.2	+1.2	
AGG	**Agios Georgios**	**1.29**	**333**	P	Pn	04 14 38.9	+1.9	
AGG	**Agios Georgios**	**1.29**	**333**	*e*Pn	Pn	04 14 37.8	+0.9	
AGG				*e*Sg	Sn	04 14 56.6	+1.6	
SKIA	**Skiathos**	**1.33**	**13**	P	Pn	04 14 38.8	+1.5	
SKIA				S	Sn	04 14 55.4	-0.3	
SKIA	**Skiathos**	**1.33**	**13**	P	Pn	04 14 38.8	+1.5	
SKIA				S	Sn	04 14 56.7	+0.9	
SKIA	**Skiathos**	**1.33**	**13**	P	Pn	04 14 39.0	+1.7	
SKIA				S	Sn	04 14 56.6	+0.9	
SKIA				AML	AML	04 14 56.8		
	comp=E,5464µm,0.6s							
SKIA				AML	AML	04 14 57.7		
	comp=N,8643µm,0.8s							
AXS	**Araxos**	**1.39**	**284**	P	Pn	04 14 39.1	+1.1	
AXS				S	Sn	04 14 59.5	+2.6	
AXS	**Araxos**	**1.39**	**284**	P	Pn	04 14 39.1	+1.1	
AXS				S	Sn	04 14 59.5	+2.6	
AXS	**Araxos**	**1.39**	**284**	P	Pn	04 14 40.6	+2.6	
PVO	**Paravola**	**1.44**	**302**	P	Pn	04 14 40.5	+1.9	
PVO				S	Sn	04 15 00.7	+2.8	
PVO	**Paravola**	**1.44**	**302**	P	Pn	04 14 40.5	+1.9	
PVO				S	Sn	04 14 59.2	+1.3	
PVO	**Paravola**	**1.44**	**302**	P	Pn	04 14 42.0	+3.4	
PVO				S	Sn	04 14 59.0	+1.1	
PVO				AML	AML	04 15 10.5		
	comp=N,13498µm,0.6s							
PVO				AML	AML	04 15 11.6		
	comp=E,13016µm,0.5s							
NEO	**Neokhori**	**1.44**	**4**	P	Pn	04 14 40.0	+1.4	
NEO	**Neokhori**	**1.44**	**4**	P	Pn	04 14 40.0	+1.4	
NEO	**Neokhori**	**1.44**	**4**	P	Pn	04 14 40.1	+1.4	
NEO	**Neokhori**	**1.44**	**4**	P	Pn	04 14 40.0	+1.4	
AOS	**Alonnisos**	**1.44**	**25**	*e*PN	Pn	04 14 40.9	+2.2	
AOS	**Alonnisos**	**1.44**	**25**	P	Pn	04 14 39.8	+1.1	
AOS				S	Sn	04 14 56.8	-1.3	
AOS	**Alonnisos**	**1.44**	**25**	P	Pn	04 14 39.8	+1.1	
AOS	**Alonnisos**	**1.44**	**25**	*e*Pn	Pn	04 14 40.9	+2.2	
AOS				S	Sn	04 14 58.4	+0.3	
AOS	**Alonnisos**	**1.44**	**25**	P	Pn	04 14 39.8	+1.1	
AOS				S	Sn	04 14 57.8	-0.3	
AOS				AML	AML	04 14 59.8		
	comp=E,2428µm,0.7s							
AOS				AML	AML	04 15 00.3		
	comp=N,2795µm,0.7s							
AOS	**Alonnisos**	**1.44**	**25**	P	Pn	04 14 39.8	+1.1	
AOS				S	Sn	04 14 56.8	-1.3	
PYL	**PYLOS**	**1.44**	**228**	P	Pn	04 14 39.5	+0.8	
PYL	**PYLOS**	**1.44**	**228**	P	Pn	04 14 39.5	+0.8	
PYL				S	Sn	04 14 58.5	+0.4	
PYL	**PYLOS**	**1.44**	**228**	P	Pn	04 14 38.6	0.0	
PYL				S	Sn	04 14 57.0	-1.2	
PYL	**PYLOS**	**1.44**	**228**	P	Pn	04 14 39.5	+0.8	
EVR	**Evrytania**	**1.45**	**317**	P	Pn	04 14 40.6	+1.8	
EVR				S	Sn	04 15 00.4	+2.0	
EVR	**Evrytania**	**1.45**	**317**	P	Pn	04 14 40.6	+1.8	
EVR				S	Sn	04 15 00.4	+2.0	
EVR	**Evrytania**	**1.45**	**317**	P	Pn	04 14 41.4	+2.5	
EVR				S	Sn	04 15 01.1	+2.7	
EVR				AML	AML	04 15 07.6		
	comp=N,11625µm,0.8s							
EVR	**Evrytania**	**1.45**	**317**	P	Pn	04 14 40.6	+1.8	
XOR	**Xorichti**	**1.50**	**3**	P	Pn	04 14 40.6	+1.2	
XOR				S	Sn	04 14 59.5	+0.2	
XOR	**Xorichti**	**1.50**	**3**	P	Pn	04 14 40.6	+1.2	
XOR				S	Sn	04 14 59.5	+0.2	
XOR	**Xorichti**	**1.50**	**3**	P	Pn	04 14 40.6	+1.2	
XOR				S	Sn	04 14 59.5	+0.2	
VTN	**Vitineika**	**1.50**	**272**	P	Pn	04 14 42.1	+2.8	
VTN	**Vitineika**	**1.50**	**272**	P	Pn	04 14 43.2	+3.9	
SKY	**Skiros Island**	**1.53**	**48**	P	Pn	04 14 41.0	+1.3	
SKY	**Skiros Island**	**1.53**	**48**	P	Pn	04 14 41.1	+1.4	
FYTO	**Fytoko, Volos**	**1.54**	**356**	P	Pn	04 14 41.1	+1.2	
FYTO				S	Sn	04 15 00.7	+0.5	
FYTO	**Fytoko, Volos**	**1.54**	**356**	P	Pn	04 14 41.1	+1.2	
FYTO				S	Sn	04 15 00.7	+0.5	
FYTO	**Fytoko, Volos**	**1.54**	**356**	P	Pn	04 14 41.1	+1.2	
MHLO	**Agia Marina, M**	**1.58**	**138**	P	Pn	04 14 42.0	+1.7	
MHLO				S	Sn	04 15 02.2	+1.2	
MHLO	**Agia Marina, M**	**1.58**	**138**	P	Pn	04 14 42.0	+1.7	
MHLO				S	Sn	04 15 02.2	+1.2	
MHLO	**Agia Marina, M**	**1.58**	**138**	P	Pn	04 14 43.0	+2.7	
KYTH	**Kithira**	**1.60**	**181**	P	Pn	04 14 41.6	+0.9	
KYTH				S	Sn	04 15 04.0	+2.4	
KYTH	**Kithira**	**1.60**	**181**	P	Pn	04 14 41.3	+0.7	
KYTH	**Kithira**	**1.60**	**181**	P	Pn	04 14 41.6	+0.9	
PDO	**Prodromos**	**1.66**	**297**	P	Pn	04 14 43.3	+1.9	
PDO	**Prodromos**	**1.66**	**297**	P	Pn	04 14 43.3	+1.9	
PDO				S	Sn	04 15 05.4	+2.4	
PDO	**Prodromos**	**1.66**	**297**	P	Pn	04 14 43.5	+2.2	
PDO				S	Sn	04 15 06.2	+3.3	
KFL	**Anninata**	**1.83**	**278**	P	Pn	04 14 44.4	+1.0	
KFL				S	Sn	04 15 07.9	+1.2	
KFL	**Anninata**	**1.83**	**278**	P	Pn	04 14 44.5	+1.0	
KFL				S	Sn	04 15 07.9	+1.2	
KFL	**Anninata**	**1.83**	**278**	P	Pn	04 14 43.8	+0.4	
ZKS	**Zakynthos**	**1.83**	**265**	P	Pn	04 14 44.0	+0.6	
ZKS				S	Sn	04 15 08.6	+1.9	
ZKS	**Zakynthos**	**1.83**	**265**	P	Pn	04 14 44.1	+0.6	
ZKS				S	Sn	04 15 08.6	+1.9	
ZKS	**Zakynthos**	**1.83**	**265**	P	Pn	04 14 43.0	-0.5	
LRSO	**Larissa Observ**	**1.88**	**344**	P	Pn	04 14 45.6	+1.5	
LRSO				S	Sn	04 15 09.3	+1.5	
LRSO	**Larissa Observ**	**1.88**	**344**	P	Pn	04 14 45.6	+1.5	
LRSO				S	Sn	04 15 09.3	+1.5	
THL	**Klokotos Trika**	**1.89**	**334**	P	Pn	04 14 45.4	+1.2	
THL				S	Sn	04 15 09.2	+1.2	
THL	**Klokotos Trika**	**1.89**	**334**	P	Pn	04 14 45.4	+1.2	
THL				S	Sn	04 15 09.2	+1.2	
VLS	**Valsamata**	**1.99**	**280**	P	Pn	04 14 46.0	+0.4	
VLS				S	Sn	04 15 11.0	+0.6

ERIK	**Erikli-Kesan**	**3.86**	**43**	*e*PN	**Pn**	**04 15 11.3 +1.0**
ERIK	**Erikli-Kesan**	**3.86**	**43**	*e*Pn	**Pn**	**04 15 11.3 +1.0**
KARP	**Karpathos**	**4.01**	**124**	*e*Pn	**Pn**	**04 15 14.4 +2.0**
KARP	**Karpathos**	**4.01**	**124**	*e*Pn	**Pn**	**04 15 14.4 +2.0**
RZN	**Rozhen**	**4.02**	**18**	P	**Pn**	**04 15 13.9 +1.3**
KRBG	**Karabiga-Canak**	**4.13**	**51**	*e*PN	**Pn**	**04 15 16.0 +2.0**
KRBG	**Karabiga-Canak**	**4.13**	**51**	*e*Pn	**Pn**	**04 15 16.0 +2.0**
BALB	**Balikesir**	**4.15**	**63**	*e*PN	**Pn**	**04 15 16.1 +2.0**
BALB	**Balikesir**	**4.15**	**63**	*e*Pn	**Pn**	**04 15 16.1 +2.0**
KDZ	**Kurdzhali**	**4.18**	**25**	P	**Pn**	**04 15 12.9 -1.8**
SCTE	**Santa Cesarea**	**4.22**	**303**	P	**Pn**	**04 15 15.2 +0.1**
SCTE	**Santa Cesarea**	**4.22**	**303**	P	**Pn**	**04 15 12.9 -2.2**
TIR	**Tirane**	**4.27**	**325**	*e*P	**Pn**	**04 15 16.1 +0.3**
TIR				*e*		04 16 02.2
TIR	**Tirane**	**4.27**	**325**	*e*Pn	**Pn**	**04 15 16.1 +0.3**
TIR	**Tirane**	**4.27**	**325**	P	**Pn**	**04 15 16.7 +0.9**
TIR				*e*S	**Sn**	**04 16 02.2 -2.4**
TIR	**Tirane**	**4.27**	**325**	P	**Pn**	**04 15 15.4 -0.4**
TIR	**Tirane**	**4.27**	**325**	*e*Pn	**Pn**	**04 15 16.1 +0.3**
TIR				*e*Sn	**Sn**	**04 16 02.2 -2.4**
SKO	**Skopje**	**4.29**	**343**	*i* Pn	**Pn**	**04 15 16.6 +0.5**
SKO	**Skopje**	**4.29**	**343**	*i* Pn	**Pn**	**04 15 16.6 +0.5**
PLD	**Plovdiv**	**4.41**	**16**	P	**Pn**	**04 15 19.7 +2.0**
KULA	**Kula-Manisa**	**4.44**	**80**	*e*PN	**Pn**	**04 15 21.4 +3.2**
KULA	**Kula-Manisa**	**4.44**	**80**	*e*Pn	**Pn**	**04 15 21.4 +3.2**
TURN	**Turunc**	**4.51**	**101**	*i* P	**Pn**	**04 15 18.9 -0.1**
TURN	**Turunc**	**4.51**	**101**	P	**Pn**	**04 15 18.9 -0.1**
DALY	**Dalyan (Mu¨la**	**4.56**	**102**	*i* P	**Pn**	**04 15 24.2 +4.5**
DALY	**Dalyan (Mu¨la**	**4.56**	**102**	P	**Pn**	**04 15 24.2 +4.5**
DIM	**Dimitrovgrad**	**4.58**	**23**	P	**Pn**	**04 15 21.8 +1.8**
VTS	**Vitosha**	**4.72**	**1**	P	**Pn**	**04 15 22.5 +0.5**
VTS	**Vitosha**	**4.72**	**1**	⇑*i*P	**Pn**	**04 15 23.6 +1.5**
VTS	**Vitosha**	**4.72**	**1**	*e*P	**Pn**	**04 15 23.5 +1.5**
VTS	**Vitosha**	**4.72**	**1**	P	**Pn**	**04 15 23.7 +1.7**
VTS	**Vitosha**	**4.72**	**1**	*e*P	**Pn**	**04 15 23.5 +1.5**
VTS	**Vitosha**	**4.72**	**1**	*e*Pn	**Pn**	**04 15 23.5 +1.4**
PGB	**Panagyurishte**	**4.75**	**10**	P	**Pn**	**04 15 22.9 +0.5**
EDRB	**Edirne**	**4.87**	**34**	*e*PN	**Pn**	**04 15 25.1 +1.2**
EDRB	**Edirne**	**4.87**	**34**	P	**Pn**	**04 15 25.1 +1.2**
EDRB	**Edirne**	**4.87**	**34**	*e*Pn	**Pn**	**04 15 25.1 +1.2**
EDRB	**Edirne**	**4.87**	**34**	P	**Pn**	**04 15 25.1 +1.2**
FETY	**Fethiye**	**4.94**	**103**	*e*PN	**Pn**	**04 15 29.6 +4.7**
FETY	**Fethiye**	**4.94**	**103**	P	Pn	04 15 29.8 +4.8
FETY	**Fethiye**	**4.94**	**103**	*e*Pn	**Pn**	**04 15 29.6 +4.7**
FETY	**Fethiye**	**4.94**	**103**	P	Pn	04 15 29.8 +4.8
BARS	**Barje**	**5.04**	**349**	*e*Pn	**Pn**	**04 15 26.7 +0.5**
ULC	**Ulcinj**	**5.04**	**325**	⇑*i*Pn	**Pn**	**04 15 25.2 -1.1**
ULC				*e*Sn	**Sn**	**04 16 18.8 -4.5**
ULC	**Ulcinj**	**5.04**	**325**	⇑*i*Pn	**Pn**	**04 15 25.2 -1.1**
ULC	**Ulcinj**	**5.04**	**325**	P	**Pn**	**04 15 25.9 -0.4**
TIP	**Timpagrande**	**5.13**	**287**	P	**Pn**	**04 15 28.0 +0.4**
TIP	**Timpagrande**	**5.13**	**287**	*e*Pn	**Pn**	**04 15 27.9 +0.4**
TIP	**Timpagrande**	**5.13**	**287**	P	**Pn**	**04 15 28.2 +0.7**
TIP	**Timpagrande**	**5.13**	**287**	P	**Pn**	**04 15 26.3 -1.2**
TIP	**Timpagrande**	**5.13**	**287**	*e*Pn	**Pn**	**04 15 27.9 +0.4**
TIP				*e*Sn	**Sn**	**04 16 19.9 -5.6**
CGL1	**Ceglie Messapi**	**5.17**	**304**	*e*Pn	**Pn**	**04 15 27.8 -0.1**
TAR1	**Taranto**	**5.23**	**302**	*e*Pn	**Pn**	**04 15 28.4 -0.4**
DRME	**Dracevica, Mon**	**5.25**	**326**	⇓*i*Pn	**Pn**	**04 15 28.2 -0.9**
DRME				*e*Sn	**Sn**	**04 16 22.9 -5.4**
DRME	**Dracevica, Mon**	**5.25**	**326**	⇓*i*Pn	**Pn**	**04 15 28.2 -0.9**
SMRK	**Smrekonice**	**5.26**	**343**	P	**Pn**	**04 15 29.7 +0.4**
SMRK				S	**Sn**	**04 16 27.1 -1.5**
PVY	**Plav**	**5.29**	**334**	⇑*i*Pn	**Pn**	**04 15 30.0 +0.2**
PVY				*e*Sn	**Sn**	**04 16 25.0 -4.5**
PVY	**Plav**	**5.29**	**334**	⇑*i*Pn	**Pn**	**04 15 30.0 +0.2**
FASA	**Fasano**	**5.33**	**305**	*e*Pn	**Pn**	**04 15 29.6 -0.5**
MASS	**Massafra**	**5.37**	**303**	*e*Pn	**Pn**	**04 15 30.6 -0.1**
PDG	**Podgorica**	**5.42**	**328**	P	**Pn**	**04 15 30.4 -0.9**
PDG	**Podgorica**	**5.42**	**328**	⇑*i*P	**Pn**	**04 15 31.0 -0.3**
PDG	**Podgorica**	**5.42**	**328**	P	**Pn**	**04 15 30.4 -0.9**
TTG	**Podgorica**	**5.42**	**328**	P	**Pn**	**04 15 30.4 -0.9**
TTG	**Podgorica**	**5.42**	**328**	⇑*i*Pn	**Pn**	**04 15 30.4 -0.9**
TTG				*e*Sn	**Sn**	**04 16 27.4 -5.0**
TTG	**Podgorica**	**5.42**	**328**	P	**Pn**	**04 15 30.4 -0.9**
TTG	**Podgorica**	**5.42**	**328**	P	**Pn**	**04 15 30.4 -0.9**
AKAS	**Kas**	**5.47**	**105**	*i* P	**Pn**	**04 15 36.4 +4.3**
AKAS				*i* S	**Sn**	**04 16 36.4 +2.6**
AKAS	**Kas**	**5.47**	**105**	*e*Pn	**Pn**	**04 15 35.3 +3.1**
AKAS				S	**Sn**	**04 16 36.4 +2.6**
AKAS	**Kas**	**5.47**	**105**	*e*Pn	**Pn**	**04 15 35.3 +3.1**
BUM	**Brajici-Budva**	**5.47**	**325**	⇑*i*Pn	**Pn**	**04 15 30.8 -1.3**
BUM				*e*Sn	**Sn**	**04 16 28.5 -5.2**
NOCI	**Noci**	**5.50**	**304**	P	**Pn**	**04 15 32.4 -0.1**
NOCI	**Noci**	**5.50**	**304**	P	**Pn**	**04 15 29.7 -2.8**
BEY	**Berane**	**5.56**	**335**	⇑*i*Pn	**Pn**	**04 15 33.4 0.0**
BEY	**Berane**	**5.56**	**335**	P	**Pn**	**04 15 33.9 +0.5**
IVA	**Berane**	**5.56**	**335**	⇑*i*Pn	**Pn**	**04 15 33.4 0.0**
IVA				*e*Sn	**Sn**	**04 16 31.6 -4.3**
PVL	**Pavlikeni**	**5.61**	**17**	P	**Pn**	**04 15 33.2 -0.7**
CEME	**Cevo**	**5.66**	**327**	⇑*i*Pn	**Pn**	**04 15 33.5 -1.1**
CEME				*e*Sn	**Sn**	**04 16 33.3 -5.0**
CEME	**Cevo**	**5.66**	**327**	⇑*i*Pn	**Pn**	**04 15 33.5 -1.1**
CEL	**Celeste**	**5.69**	**276**	*e*Pn	**Pn**	**04 15 34.8 -0.3**
CEL	**Celeste**	**5.69**	**276**	*e*Pn	**Pn**	**04 15 34.8 -0.3**
CEL				*e*Sn	Sn	04 16 29.5 -10
HCY	**Herceg Novi**	**5.77**	**324**	⇓*i*Pn	**Pn**	**04 15 34.5 -1.6**
HCY				*e*Sn	**Sn**	**04 16 35.1 -5.8**
NKME	**Niksic**	**5.82**	**328**	⇓*i*Pn	**Pn**	**04 15 35.8 -1.1**
NKME				*e*Sn	**Sn**	**04 16 37.4 -4.9**
NKME	**Niksic**	**5.82**	**328**	⇓*i*Pn	**Pn**	**04 15 35.8 -1.1**
NKY	**Niksic**	**5.84**	**329**	⇓*i*Pn	**Pn**	**04 15 36.5 -0.7**
NKY				*e*Sn	**Sn**	**04 16 38.9 -4.9**
NKY	**Niksic**	**5.84**	**329**	⇓*i*Pn	**Pn**	**04 15 36.5 -0.7**
CUC	**Castrocucco**	**6.05**	**293**	*e*Pn	**Pn**	**04 15 41.1 +1.1**
CUC	**Castrocucco**	**6.05**	**293**	P	**Pn**	**04 15 41.4 +1.4**
CUC	**Castrocucco**	**6.05**	**293**	P	**Pn**	**04 15 40.0 +0.1**
CUC	**Castrocucco**	**6.05**	**293**	*e*Pn	**Pn**	**04 15 41.1 +1.1**
CUC				*e*Sn	**Sn**	**04 16 44.1 -3.8**
BRY	**Bratogost**	**6.11**	**327**	⇓*i*Pn	**Pn**	**04 15 39.6 -1.2**
BRY				*e*Sn	**Sn**	**04 16 44.0 -5.3**
PLE	**Pljevlja**	**6.14**	**334**	⇑*i*Pn	**Pn**	**04 15 40.9 -0.3**
PLE				*e*Sn	**Sn**	**04 16 44.8 -5.2**
PLE	**Pljevlja**	**6.14**	**334**	⇑*i*Pn	**Pn**	**04 15 40.9 -0.3**
UPM	**Unac-Piva**	**6.21**	**330**	⇓*i*Pn	**Pn**	**04 15 42.0 -0.2**
UPM				*e*Sn	**Sn**	**04 16 46.9 -4.9**
UPM	**Unac-Piva**	**6.21**	**330**	P	**Pn**	**04 15 42.2 0.0**
PRD	**Provadia**	**6.26**	**30**	P	**Pn**	**04 15 43.9 +1.2**
SLUM	**Salum**	**6.60**	**164**	P	**Pn**	**04 15 44.1 -3.4**
	baz=171					
SLUM				AMP		04 16 00.0
	comp=E,190µm,0.2s,logA/T=5.9,baz=171					
SLUM	**Salum**	**6.60**	**164**	P	**Pn**	**04 15 44.1 -3.4**
BBLS	**Lazići**	**6.61**	**336**	*e*Pn	**Pn**	**04 15 46.2 -1.4**
HUMR	**Humele**	**6.80**	**12**	⇑*i*P	**Pn**	**04 15 51.1 +0.9**
VAE	**Valguarnera**	**6.89**	**269**	P	**Pn**	**04 15 51.5 +0.1**
	comp=E,1.2nm,0.3s,baz=119,slow=15,SNR=5.8					
VAE				S	**Sn**	**04 17 02.9 -5.4**
	comp=E,5.4nm,0.3s,baz=180,slow=4.9,SNR=5.9					
WDD	**Wied Dalam**	**7.16**	**256**	*e*Pn	**Pn**	**04 15 54.9 -0.1**
WDD	**Wied Dalam**	**7.16**	**256**	*e*Pn	**Pn**	**04 15 54.9 -0.1**
WDD				*e*Sn	**Sn**	**04 17 09.4 -5.3**
SECR		**7.50**	**16**	⇑*i*P	**Pn**	**04 16 01.3 +1.6**
ARR	**Arges**	**7.58**	**8**	⇑*i*P	**Pn**	**04 16 01.7 +0.9**
LOT	**Lotru**	**7.59**	**4**	⇓*i*P	**Pn**	**04 16 02.0 +1.0**
TLB	**Topalu**	**7.68**	**28**	⇑*i*P	**Pn**	**04 16 03.3 +1.3**
ISR	**Istrita**	**7.69**	**19**	⇑*i*P	**Pn**	**04 16 04.0 +1.7**
VOIR		**7.70**	**10**	⇑*i*P	**Pn**	**04 16 03.4 +0.9**
VOIR		**7.70**	**10**	P	**Pn**	**04 16 03.2 +0.7**
VOIR				pmax	pmax	
	comp=Z,7.0nm,0.7s					
VOIR		**7.70**	**10**	P	**Pn**	**04 16 03.2 +0.7**
	comp=Z,7.0nm,0.7s					
TIRR	**Tirgusor**	**7.71**	**30**	⇑*i*P	**Pn**	**04 16 03.3 +0.8**
TIRR	**Tirgusor**	**7.71**	**30**	P	**Pn**	**04 16 03.2 +0.8**
TIRR	**Tirgusor**	**7.71**	**30**	P	**Pn**	**04 16 03.2 +0.8**
HARR	**Harsova**	**7.73**	**27**	⇑*i*P	**Pn**	**04 16 03.8 +1.1**
HARR	**Harsova**	**7.73**	**27**	P	**Pn**	**04 16 03.8 +1.1**
HARR	**Harsova**	**7.73**	**27**	P	**Pn**	**04 16 03.8 +1.1**
BZS	**Buzias**	**7.82**	**352**	⇑*i*P	**Pn**	**04 16 03.8 -0.1**
CLTB	**Caltabellotta**	**7.83**	**271**	*e*Pn	**Pn**	**04 16 04.8 +0.6**
CLTB	**Caltabellotta**	**7.83**	**271**	*e*Pn	**Pn**	**04 16 04.8 +0.6**
MLR	**Muntele Rosu**	**7.91**	**15**	P	**Pn**	**04 16 05.7 +0.4**
	comp=Z,0.1nm,0.3s,baz=207,slow=5.8,SNR=17					
MLR	**Muntele Rosu**	**7.91**	**15**	⇑*i*P	**Pn**	**04 16 06.7 +1.4**
MLR	**Muntele Rosu**	**7.91**	**15**	*e*P	**Pn**	**04 16 06.3 +1.0**
MLR	**Muntele Rosu**	**7.91**	**15**	*e*P	**Pn**	**04 16 06.3 +1.0**
MLR	**Muntele Rosu**	**7.91**	**15**	*e*Pn	**Pn**	**04 16 06.3 +1.0**
CFR	**Carcaliu**	**8.23**	**26**	⇑*i*P	**Pn**	**04 16 10.3 +0.9**
DOPR	**Dopca**	**8.27**	**11**	⇑*i*P	**Pn**	**04 16 11.3 +1.2**

PLOR	**Plostina**	**8.41**	**17**	⇑*i*P	**Pn**	**04 16 13.4 +1.4**
VRI	**Vrincioaia**	**8.44**	**18**	⇑*i*P	**Pn**	**04 16 13.8 +1.4**
VRI	**Vrincioaia**	**8.44**	**18**	P	**Pn**	**04 16 15.1 +2.7**
VRI				pmax	pmax	
	comp=Z,198nm,0.6s					
VRI	**Vrincioaia**	**8.44**	**18**	P	**Pn**	**04 16 15.1 +2.7**
	comp=Z,198nm,0.6s					
BR131	**Keskin Array S**	**8.45**	**74**	*e*Pn	**Pn**	**04 16 14.2 +1.5**
BR131	**Keskin Array S**	**8.45**	**74**	*e*Pn	**Pn**	**04 16 14.2 +1.5**
BRTR	**Keskin Array B**	**8.45**	**74**	P	**Pn**	**04 16 16.7 +4.0**
	comp=Z,0.2nm,0.3s,baz=252,slow=13,SNR=14					
UDBI	**Udbina**	**8.64**	**323**	*e*Pn	**Pn**	**04 16 13.8 -1.3**
UDBI				Sn	**Sn**	**04 17 43.6 -7.2**
AQU	**L'Aquila**	**8.66**	**304**	*e*P	**Pn**	**04 16 14.0 -1.5**
AQU				*e*		04 17 47.1
AQU	**L'Aquila**	**8.66**	**304**	*e*Pn	**Pn**	**04 16 14.0 -1.5**
AQU				*e*Sn	**Sn**	**04 17 47.0 -4.4**
CSS	**Mathiatis**	**8.75**	**106**	*e*Pn	**Pn**	**04 16 16.9 +0.2**
CSS	**Mathiatis**	**8.75**	**106**	*e*Pn	**Pn**	**04 16 16.9 +0.2**
DRGR		**8.92**	**358**	⇑*i*P	**Pn**	**04 16 19.7 +0.7**
NVLJ	**Novalja**	**9.11**	**320**	*e*Pn	**Pn**	**04 16 19.1 -2.3**
NVLJ				Sn	**Sn**	**04 17 54.5 -7.6**
OZLJ	**Ozalj**	**9.60**	**326**	*e*Pn	**Pn**	**04 16 25.6 -2.5**
OZLJ				Sn	**Sn**	**04 18 07.3 -6.7**
BOJS	**Bojanci**	**9.61**	**325**	*i* Pn	**Pn**	**04 16 26.5 -1.8**
BOJS				*i* Sn	**Sn**	**04 18 07.5 -6.9**
GCIS	**Gornji Cirnik**	**9.73**	**328**	*i* Pn	**Pn**	**04 16 28.3 -1.6**
VISS	**Visnje**	**10.03**	**325**	*i* Pn	**Pn**	**04 16 31.9 -2.0**
VISS				*i* Sn	**Sn**	**04 18 17.4 -7.1**
KIS	**Kishinev**	**10.06**	**23**	LRM	MLR	04 45 24.0
	comp=Z,200nm,20.0s					
PSZ	**Piszkesteto**	**10.31**	**348**	*e*P	**Pn**	**04 16 36.6 -1.3**
PSZ	**Piszkesteto**	**10.31**	**348**	*e*Pn	**Pn**	**04 16 36.6 -1.3**
JAVS	**Javornik**	**10.46**	**323**	*i* Pn	**Pn**	**04 16 37.5 -2.4**
JAVS				*i* Sn	Sn	04 18 26.0 -9.1
PERS	**Pernice**	**10.56**	**329**	*i* Pn	**Pn**	**04 16 38.5 -2.8**
PERS				*i* Sn	Sn	04 18 28.2 -9.2
SOKA	**Soboth**	**10.63**	**328**	*e*Pn	**Pn**	**04 16 39.8 -2.4**
	comp=Z,6.6nm,0.5s					
OBKA	**Obir**	**10.70**	**326**	*e*Pn	**Pn**	**04 16 40.8 -2.4**
	comp=Z,2.5nm,0.2s					
KOT	**Kottamia**	**10.74**	**135**	P	**Pn**	**04 16 39.3 -4.5**
	baz=135					
KOT	**Kottamia**	**10.74**	**135**	P	Pn	04 16 39.3 -4.5
KECS	**Kecovo**	**10.78**	**351**	*e*P	**Pn**	**04 16 44.3 +0.2**
KECS	**Kecovo**	**10.78**	**351**	*e*P	**Pn**	**04 16 44.3 +0.2**
KECS	**Kecovo**	**10.78**	**351**	*e*PN	**Pn**	**04 16 44.3 +0.2**
HHAG	**Hagoal**	**10.88**	**134**	P	**Pn**	**04 16 41.8 -3.8**
	baz=134					
HHAG	**Hagoal**	**10.88**	**134**	P	**Pn**	**04 16 41.8 -3.8**
ARSA	**Arzberg**	**10.90**	**332**	*e*Pn	**Pn**	**04 16 43.9 -2.0**
	comp=Z,4.6nm,0.4s					
GLL	**Jalalah**	**10.95**	**137**	P	Pn	04 16 41.9 -4.7
	baz=137					
GLL	**Jalalah**	**10.95**	**137**	P	Pn	04 16 41.9 -4.7
MMAI	**Mount Meron Ar**	**11.15**	**112**	P	**Pn**	**04 16 47.3 -2.0**
	comp=Z,2.4nm,0.3s,baz=303,slow=14,SNR=3.7					
MMAI	**Mount Meron Ar**	**11.15**	**112**	P	**Pn**	**04 16 47.3 -2.1**
RSH		**11.16**	**125**	P	**Pn**	**04 16 46.0 -3.4**
	baz=123					
RSH		**11.16**	**125**	P	**Pn**	**04 16 46.0 -3.4**
MYKA	**Terra Mystica**	**11.20**	**324**	*e*Pn	**Pn**	**04 16 49.2 -0.7**
	comp=Z,1.7nm,0.3s					
MYKA	**Terra Mystica**	**11.20**	**324**	Pn	**Pn**	**04 16 49.2 -0.7**
	comp=Z,1.7nm,0.3s					
KEST	**Kesra**	**11.22**	**263**	P	**Pn**	**04 16 51.9 +1.7**
	comp=Z,0.4nm,0.3s,baz=35,slow=10,SNR=6.5					
KEST				S	**Sn**	**04 18 49.4 -4.3**
	comp=Z,0.1nm,0.3s,baz=78,slow=14,SNR=2.5					
NBNS	**Bani Suef**	**11.49**	**141**	P	**Pn**	**04 16 49.9 -4.0**
	baz=142					
NBNS	**Bani Suef**	**11.49**	**141**	P	**Pn**	**04 16 49.9 -4.0**
HFRF	**Wahat Farafira**	**11.56**	**156**	P	**Pn**	**04 16 52.2 -2.6**
	baz=159					
HFRF	**Wahat Farafira**	**11.56**	**156**	P	**Pn**	**04 16 52.2 -2.6**
KBA	**Koelnbreinsper**	**11.67**	**325**	*e*Pn	**Pn**	**04 16 54.0 -2.3**
	comp=Z,2.8nm,0.3s					
ABTA	**Abfaltersbach**	**11.82**	**322**	*e*Pn	**Pn**	**04 16 56.2 -2.0**
	comp=Z,1.6nm,0.2s					
ABTA				*e*Sn	Sn	04 18 58.6 -9.5
	comp=Z,7.7nm,0.5s					
MOA	**Molln**	**11.88**	**330**	*e*Pn	**Pn**	**04 16 56.9 -2.0**
	comp=Z,5.3nm,0.5s					
MOA				Sn	**Sn**	**04 19 04.7 -4.8**
	comp=Z,1.8nm,0.3s					
VRAC	**Vranov**	**12.36**	**340**	P	**Pn**	**04 17 06.9 +1.6**
	comp=Z,0.2nm,0.3s,baz=166,slow=12,SNR=2.4					
MORC	**Moravsky Berou**	**12.55**	**343**	*e*P	**Pn**	**04 17 08.6 +0.7**
MORC	**Moravsky Berou**	**12.55**	**343**	*e*P	**Pn**	**04 17 08.6 +0.7**
MORC	**Moravsky Berou**	**12.55**	**343**	*e*Pn	**Pn**	**04 17 08.6 +0.7**
WTTA	**Wattenberg**	**12.61**	**322**	*e*Pn	**Pn**	**04 17 08.0 -0.8**
	comp=Z,1.5nm,0.2s					
WTTA				Sn	**Sn**	**04 19 20.7 -6.7**
	comp=Z,5.8nm,0.5s					
WTTA	**Wattenberg**	**12.61**	**322**	Pn	**Pn**	**04 17 08.0 -0.8**
	comp=Z,1.5nm,0.2s					
ASF	**Jabal al Asfar**	**12.66**	**113**	P	**Pn**	**04 17 09.9 +0.4**
	comp=Z,0.2nm,0.3s,baz=249,slow=8.7,SNR=6.4					
ASF				S	**Sn**	**04 19 24.1 -4.6**
	comp=Z,0.3nm,0.3s,baz=38,slow=17,SNR=2.0					
WATA	**Walderalm**	**12.69**	**322**	*e*Pn	**Pn**	**04 17 09.1 -0.7**
	comp=Z,1.9nm,0.2s					
WATA				Sn	**Sn**	**04 19 21.4 -7.9**
	comp=Z,1.4nm,0.2s					
WATA	**Walderalm**	**12.69**	**322**	Pn	**Pn**	**04 17 09.1 -0.7**
	comp=Z,1.9nm,0.2s					
EIL	**Elat**	**12.81**	**126**	P	**Pn**	**04 17 09.1 -2.3**
	comp=Z,0.8nm,0.3s,baz=204,slow=1.3,SNR=8.3					
EIL				S	Sn	04 19 20.2 -12
	comp=Z,2.9nm,0.3s,baz=356,slow=9.2,SNR=9.0					
FUORN	**Ofenpass-Fuorn**	**12.90**	**317**	*e*Pn	**Pn**	**04 17 12.5 -0.1**
FUORN	**Ofenpass-Fuorn**	**12.90**	**317**	*e*Pn	**Pn**	**04 17 12.5 -0.1**
GEA0	**GERESS Array S**	**12.90**	**331**	*e*Pn	**Pn**	**04 17 14.3 +1.8**
GEA0	**GERESS Array S**	**12.90**	**331**	*e*Pn	**Pn**	**04 17 14.3 +1.8**
FETA	**Feichten**	**12.90**	**319**	*e*Pn	**Pn**	**04 17 13.3 +0.7**
	comp=Z,2.8nm,0.6s					
FETA	**Feichten**	**12.90**	**319**	Pn	**Pn**	**04 17 13.3 +0.7**
	comp=Z,2.8nm,0.6s					
GERES	**GERESS Array B**	**12.91**	**331**	P	**Pn**	**04 17 12.8 +0.2**
	comp=Z,0.4nm,0.3s,baz=156,slow=14,SNR=8.8					
GERES				S	**Sn**	**04 19 27.5 -7.0**
	comp=Z,0.3nm,0.3s,baz=144,slow=2.5,SNR=2.8					
MOTA	**Moosalm**	**12.93**	**321**	*e*Sn	**Sn**	**04 19 29.4 -5.7**
	comp=Z,2.6nm,0.3s					
KRLC	**Kraliky**	**13.01**	**342**	*e*P	**P**	**04 17 22.2 +1.8**
KRLC	**Kraliky**	**13.01**	**342**	*e*P	**P**	**04 17 22.2 +1.8**
KHC	**Kasperske Hory**	**13.19**	**332**	*e*P	**Pn**	**04 17 16.1 -0.2**
KHC				*ex*	x	04 17 24.1
KHC	**Kasperske Hory**	**13.19**	**332**	*e*P	**Pn**	**04 17 16.0 -0.2**
KHC	**Kasperske Hory**	**13.19**	**332**	*e*Pn	**Pn**	**04 17 16.0 -0.2**
KHC	**Kasperske Hory**	**13.19**	**332**	*e*Pn	**Pn**	**04 17 16.0 -0.2**
RETA	**Reutte**	**13.20**	**321**	*e*Pn	**Pn**	**04 17 17.8 +1.4**
	comp=Z,1.4nm,0.3s					
RETA				*e*Sn	**Sn**	**04 19 33.6 -7.8**
	comp=Z,4.2nm,0.4s					
RETA	**Reutte**	**13.20**	**321**	Pn	**Pn**	**04 17 17.8 +1.4**
	comp=Z,1.4nm,0.3s					
DAVOX	**Davos/Dischmat**	**13.20**	**317**	P	**Pn**	**04 17 17.0 +0.4**
	comp=Z,0.8nm,0.3s,baz=147,slow=14,SNR=7.5					
DAVOX				S	**Sn**	**04 19 34.7 -7.1**
	comp=Z,0.5nm,0.3s,baz=186,slow=19,SNR=3.4					
DPC	**Dobruska-Polom**	**13.38**	**341**	*e*P	**P**	**04 17 26.0 +1.5**
DPC	**Dobruska-Polom**	**13.38**	**341**	*e*P	**P**	**04 17 26.0 +1.5**
DPC	**Dobruska-Polom**	**13.38**	**341**	*e*P	**P**	**04 17 26.0 +1.5**
FUR	**Furstenfeldbru**	**13.42**	**324**	P	**P**	**04 17 26.5 +1.6**
FUR	**Furstenfeldbru**	**13.42**	**324**	P	**P**	**04 17 26.5 +1.6**
WET	**Wettzell**	**13.47**	**330**	P	**P**	**04 17 27.0 +1.5**
WET				pmax	pmax	
	comp=Z,21nm,1.1s					
WET	**Wettzell**	**13.47**	**330**	P	**P**	**04 17 27.0 +1.5**
	comp=Z,21nm,1.1s					
DAVA	**Damuels**	**13.52**	**318**	*e*Pn	**Pn**	**04 17 21.5 +0.9**
	comp=Z,6.5nm,0.7s					
DAVA				*e*Sn	Sn	04 19 40.0 -9.4
	comp=Z,4.8nm,0.5s					
DAVA	**Damuels**	**13.52**	**318**	Pn	**Pn**	**04 17 21.5 +0.9**
	comp=Z,6.5nm,0.7s					
KIEV	**Kiev**	**13.54**	**17**	*e*P	**Pn**	**04 17 18.7 -2.0**
KIEV				pmax	pmax	
	comp=Z,3.0nm,0.6s					
KIEV	**Kiev**	**13.54**	**17**	*e*Pn	**Pn**	**04 17 18.7 -2.0**
	comp=Z,2.9nm,0.6s					
AKASG	**Malin Array Be**	**13.55**	**17**	P	**Pn**	**04 17 19.3 -1.6**
	comp=Z,0.8nm,0.3s,baz=202,slow=12,SNR=6.5					
AKBB	**Malin Array Si**	**13.55**	**17**	*e*P	**Pn**	**04 17 19.8 -1.1**

AKBB	**Malin Array Si**	**13.55**	**17**	*e*Pn	**Pn**	**04 17 19.8 -1.1**
AKBB	**Malin Array Si**	**13.55**	**17**	*e*Pn	**Pn**	**04 17 19.8 -1.1**
PRU	**Pruhonice**	**13.58**	**336**	*e*P	**P**	**04 17 27.5 +0.9**
PRU	**Pruhonice**	**13.58**	**336**	*e*P	**P**	**04 17 27.5 +0.9**
PRU	**Pruhonice**	**13.58**	**336**	*e*P	**P**	**04 17 27.5 +0.9**
PRA	**Prague**	**13.68**	**336**	*e*P	**P**	**04 17 29.3 +1.5**
PRA	**Prague**	**13.68**	**336**	*e*P	**P**	**04 17 29.3 +1.5**
PRA	**Prague**	**13.68**	**336**	*e*P	**P**	**04 17 29.3 +1.5**
KSP	**Ksiaz**	**13.84**	**342**	P	**P**	**04 17 31.5 +1.9**
KSP				pmax	pmax	
	comp=Z,8.0nm,0.8s					
KSP	**Ksiaz**	**13.84**	**342**	P	**P**	**04 17 31.5 +1.9**
	comp=Z,8.0nm,0.8s					
PVCC	**Panska Ves**	**14.04**	**337**	*e*P	**P**	**04 17 33.0 +1.2**
PVCC	**Panska Ves**	**14.04**	**337**	*e*P	**P**	**04 17 33.0 +1.2**
PVCC	**Panska Ves**	**14.04**	**337**	*e*P	**P**	**04 17 33.0 +1.2**
MARD	**Mardin**	**14.05**	**87**	*e*Pn	**P**	**04 17 32.9 +0.7**
BNI	**Bardonecchia**	**14.23**	**305**	*e*Pn	**P**	**04 17 32.6 -1.5**
BNI	**Bardonecchia**	**14.23**	**305**	*e*Pn	**P**	**04 17 32.6 -1.5**
SENIN	**Lac Senin/Sane**	**14.45**	**311**	*e*Pn	**Pn**	**04 17 34.6 +1.9**
**S

MORF	**Marmelete**	**2.19**	**54**	P		**Pn**	**04 36 33.5 +2.0**
MORF				*e*S		**Sn**	**04 36 58.0 +0.6**
	comp=N,14nm,0.2s						
PTEO	**Sao Teotonio**	**2.29**	**49**	*e*P		**Pn**	**04 36 34.9 +2.1**
PTEO				*e*S		**Sn**	**04 37 00.5 +0.8**
PTEO				A		A	04 37 03.1
	comp=N,9.4nm,0.5s						
PTEO	**Sao Teotonio**	**2.29**	**49**	P		**Pn**	**04 36 34.9 +2.1**
PTEO				S		**Sn**	**04 37 00.5 +0.8**
	comp=N,4.7nm,0.5s						
PTEO	**Sao Teotonio**	**2.29**	**49**	P		**Pn**	**04 36 34.9 +2.1**
PTEO				*e*S		**Sn**	**04 37 00.5 +0.8**
	comp=N,9.4nm,0.5s						
PBDV	**Barranco-do-Ve**	**2.66**	**62**	*e*P		**Pn**	**04 36 39.8 +1.9**
PBDV				*e*S		**Sn**	**04 37 08.9 0.0**
PBDV	**Barranco-do-Ve**	**2.66**	**62**	P		**Pn**	**04 36 39.8 +1.9**
PBDV				S		**Sn**	**04 37 08.9 0.0**
PBDV	**Barranco-do-Ve**	**2.66**	**62**	P		**Pn**	**04 36 39.8 +1.9**
PBDV				S		**Sn**	**04 37 08.9 0.0**
PCVE	**Castro Verde**	**2.77**	**54**	*e*P		**Pn**	**04 36 42.0 +2.5**
PCVE				*e*S		**Sn**	**04 37 12.3 +0.5**
PCVE				A		A	04 37 14.6
	comp=N,5.7nm,0.3s						
PCVE	**Castro Verde**	**2.77**	**54**	P		**Pn**	**04 36 42.0 +2.5**
PCVE				S		**Sn**	**04 37 12.3 +0.5**
	comp=N,5.7nm,0.3s						
PCVE	**Castro Verde**	**2.77**	**54**	P		**Pn**	**04 36 42.0 +2.5**
PCVE				*e*S		**Sn**	**04 37 12.3 +0.5**
	comp=N,5.7nm,0.3s						
MESJ	**Messejana**	**2.78**	**49**	*e*P		**Pn**	**04 36 41.5 +1.9**
MESJ				*e*S		**Sn**	**04 37 11.8 -0.2**
MESJ				AML		AML	04 37 13.2
	comp=N,5.7nm,0.1s						
MESJ	**Messejana**	**2.78**	**49**	*e*P		**Pn**	**04 36 41.5 +1.9**
MESJ				*e*S		**Sn**	**04 37 12.0 +0.1**
MESJ				A		A	04 37 15.4
	comp=N,8.1nm,0.3s						
MESJ	**Messejana**	**2.78**	**49**	P		**Pn**	**04 36 41.5 +1.9**
MESJ				S		**Sn**	**04 37 12.0 +0.1**
	comp=N,8.1nm,0.3s						
MESJ	**Messejana**	**2.78**	**49**	P		**Pn**	**04 36 41.5 +1.9**
MESJ				*e*S		**Sn**	**04 37 12.0 +0.1**
	comp=N,8.1nm,0.3s						
PNCL	**Nicolau / Gran**	**2.79**	**42**	*e*P		**Pn**	**04 36 41.5 +1.8**
PNCL				*e*S		**Sn**	**04 37 12.5 +0.4**
PNCL				A		A	04 37 16.5
	comp=N,8.1nm,0.3s						
PNCL	**Nicolau / Gran**	**2.79**	**42**	*e*P		**Pn**	**04 36 41.5 +1.8**
PNCL				*e*S		**Sn**	**04 37 12.5 +0.4**
	comp=N,8.1nm,0.3s						
PVAQ	**Vaqueiros**	**2.88**	**61**	*e*P		**Pn**	**04 36 43.2 +2.3**
PVAQ				*e*S		**Sn**	**04 37 13.7 -0.6**
PVAQ				A		A	04 37 16.8
	comp=N,7.3nm,0.1s						
PVAQ	**Vaqueiros**	**2.88**	**61**	P		**Pn**	**04 36 43.2 +2.3**
PVAQ				S		**Sn**	**04 37 13.7 -0.6**
	comp=N,7.3nm,0.1s						
PVAQ	**Vaqueiros**	**2.88**	**61**	P		**Pn**	**04 36 43.2 +2.3**
PVAQ				*e*S		**Sn**	**04 37 13.7 -0.6**
	comp=N,7.3nm,0.1s						
PMST	**Lisbon--Monsan**	**3.01**	**26**	*e*S		**Sn**	**04 37 18.9 +1.4**
PMST	**Lisbon--Monsan**	**3.01**	**26**	*e*S		**Sn**	**04 37 18.9 +1.4**
EGRO	**El Granado**	**3.10**	**60**	P		**Pn**	**04 36 46.6 +2.6**
	comp=N,0.3nm,0.1s,SNR=7.9						
EGRO				S		**Sn**	**04 37 19.1 -0.8**
	comp=N,5.1nm,0.2s,SNR=7.9						
EGRO	**El Granado**	**3.10**	**60**	P		**Pn**	**04 36 46.6 +2.6**
	comp=N,0.3nm,0.1s,SNR=7.9						
EGRO				S		**Sn**	**04 37 19.1 -0.8**
	comp=N,5.1nm,0.2s,SNR=7.9						
PBEJ	**Beja**	**3.12**	**50**	*e*S		**Sn**	**04 37 20.0 -0.2**
PBEJ				A		A	04 37 21.7
	comp=N,6.4nm,0.4s						
PBEJ	**Beja**	**3.12**	**50**	S		**Sn**	**04 37 20.0 -0.2**
	comp=N,3.2nm,0.4s						
PBEJ	**Beja**	**3.12**	**50**	*e*S		**Sn**	**04 37 20.0 -0.2**
	comp=N,6.4nm,0.4s						
PMAFR	**Mafra**	**3.17**	**23**	*e*P		**Pn**	**04 36 46.7 +1.8**
PMAFR				*e*S		**Sn**	**04 37 23.7 +2.2**
PMAFR				A		A	04 37 30.8
	comp=N,17nm,0.6s						
PMAFR	**Mafra**	**3.17**	**23**	P		**Pn**	**04 36 46.7 +1.8**
	comp=N,6.4nm,0.1s,SNR=8.4						
PMAFR				S		**Sn**	**04 37 22.3 +0.8**
	comp=N,11nm,0.1s,SNR=8.7						
PMAFR	**Mafra**	**3.17**	**23**	P		**Pn**	**04 36 46.7 +1.8**
	comp=N,6.4nm,0.1s,SNR=8.4						
PMAFR				S		**Sn**	**04 37 22.3 +0.8**
	comp=N,11nm,0.1s,SNR=8.7						
EVO	**Evora**	**3.37**	**42**	*e*P		**Pn**	**04 36 50.1 +2.4**
EVO				*e*S		**Sn**	**04 37 25.9 -0.6**
EVO				A		A	04 37 30.3
	comp=N,10nm,0.1s						
EVO	**Evora**	**3.37**	**42**	P		**Pn**	**04 36 50.1 +2.4**
EVO				S		**Sn**	**04 37 25.9 -0.6**
	comp=N,10nm,0.1s						
EVO	**Evora**	**3.37**	**42**	P		**Pn**	**04 36 50.1 +2.4**
EVO				*e*S		**Sn**	**04 37 25.9 -0.6**
	comp=N,10nm,0.1s						
PBAR	**Barrancos**	**3.73**	**54**	*e*S		**Sn**	**04 37 35.2 -0.2**
PBAR				A		A	04 37 36.8
	comp=N,3.9nm,0.2s						
PBAR	**Barrancos**	**3.73**	**54**	S		**Sn**	**04 37 35.2 -0.2**
	comp=N,3.9nm,0.2s						
PBAR	**Barrancos**	**3.73**	**54**	*e*S		**Sn**	**04 37 35.2 -0.2**
	comp=N,3.9nm,0.2s						
EMIN	**Mina Concepcio**	**3.78**	**62**	P		**Pn**	**04 36 55.3 +1.9**
	comp=N,0.4nm,0.1s,SNR=7.9						
EMIN				S		**Sn**	**04 37 35.6 -1.0**
	comp=N,1.9nm,0.2s,SNR=7.9						
EMIN	**Mina Concepcio**	**3.78**	**62**	P		**Pn**	**04 36 55.3 +1.9**
	comp=N,0.4nm,0.1s,SNR=7.9						
EMIN				S		**Sn**	**04 37 35.6 -1.0**
	comp=N,1.9nm,0.2s,SNR=7.9						
PESTR	**Estremoz**	**3.84**	**42**	*e*P		**Pn**	**04 36 56.6 +2.4**
PESTR				*e*S		**Sn**	**04 37 37.3 -0.8**
PESTR				A		A	04 37 39.4
	comp=N,2.8nm,0.7s						
PESTR	**Estremoz**	**3.84**	**42**	*e*P		**Pn**	**04 36 56.6 +2.4**
PESTR				*e*S		**Sn**	**04 37 37.3 -0.8**
	comp=N,2.8nm,0.7s						
PTOM	**Tomar**	**4.07**	**28**	*e*S		**Sn**	**04 37 43.9 +0.3**
PTOM				A		A	04 37 48.3
	comp=N,8.2nm,0.5s						
PTOM	**Tomar**	**4.07**	**28**	S		**Sn**	**04 37 43.9 +0.3**
	comp=N,4.1nm,0.5s						
PTOM	**Tomar**	**4.07**	**28**	*e*S		**Sn**	**04 37 43.9 +0.3**
	comp=N,8.2nm,0.5s						
EBAD	**Badajoz**	**4.10**	**48**	P		**Pn**	**04 36 59.0 +1.3**
	comp=N,0.8nm,0.1s,SNR=7.9						
EBAD				S		**Sn**	**04 37 42.7 -1.7**
	comp=N,8.4nm,0.2s,SNR=8.3						
EBAD	**Badajoz**	**4.10**	**48**	P		**Pn**	**04 36 59.0 +1.3**
	comp=N,0.8nm,0.1s,SNR=7.9						
EBAD				S		**Sn**	**04 37 42.7 -1.7**
	comp=N,8.4nm,0.2s,SNR=8.3						
ESPR	**Espera**	**4.13**	**77**	P		**Pn**	**04 36 59.9 +1.8**
	comp=N,3.4nm,0.1s,SNR=12						
ESPR				S		**Sn**	**04 37 44.2 -1.0**
	comp=N,6.7nm,0.2s,SNR=7.9						
ESPR	**Espera**	**4.13**	**77**	P		**Pn**	**04 36 59.9 +1.8**
	comp=N,3.4nm,0.1s,SNR=12						
ESPR				S		**Sn**	**04 37 44.2 -1.0**
	comp=N,6.7nm,0.2s,SNR=7.9						
PMRV	**Marv??o**	**4.36**	**38**	S		**Sn**	**04 37 49.5 -1.4**
PMRV				A		A	04 37 53.1
	comp=N,4.2nm,0.5s						
PMRV	**Marv??o**	**4.36**	**38**	S		**Sn**	**04 37 49.5 -1.4**
	comp=N,4.2nm,0.5s						
PMRV	**Marv??o**	**4.36**	**38**	S		**Sn**	**04 37 49.5 -1.4**
	comp=N,4.2nm,0.5s						
PCAS	**Casmilo, Conde**	**4.42**	**24**	*e*P		**Pn**	**04 37 04.5 +2.4**
PCAS				*e*S		**Sn**	**04 37 52.4 +0.1**
PCAS				A		A	04 38 15.0
	comp=N,4.5nm,0.6s						
PCAS	**Casmilo, Conde**	**4.42**	**24**	*e*P		**Pn**	**04 37 04.5 +2.4**
PCAS				*e*S		**Sn**	**04 37 52.4 +0.1**
	comp=N,4.5nm,0.6s						
PCBR	**Castelo Branco**	**4.64**	**34**	*e*P		**Pn**	**04 37 07.4 +2.2**
PCBR				*e*S		**Sn**	**04 37 56.5 -1.3**
PCBR	**Castelo Branco**	**4.64**	**34**	P		**Pn**	**04 37 07.4 +2.2**
PCBR				S		**Sn**	**04 37 56.5 -1.3**
PCBR	**Castelo Branco**	**4.64**	**34**	P		**Pn**	**04 37 07.4 +2.2**
PCBR				S		**Sn**	**04 37 56.5 -1.3**
ECAB	**El Cabril**	**4.81**	**64**	P		**Pn**	**04 37 09.2 +1.7**
	comp=N,0.4nm,0.1s,SNR=7.9						
ECAB				S		**Sn**	**04 37 59.8 -2.3**
	comp=N,0.9nm,0.1s,SNR=7.9						
ECAB	**El Cabril**	**4.81**	**64**	P		**Pn**	**04 37 09.2 +1.7**
	comp=N,0.4nm,0.1s,SNR=7.9						
ECAB				S		**Sn**	**04 37 59.8 -2.3**
	comp=N,0.9nm,0.1s,SNR=7.9						
EMIJ	**Mijas**	**4.96**	**82**	S		**Sn**	**04 38 04.0 -1.6**
	comp=N,1.5nm,0.3s,SNR=7.9						
EMIJ	**Mijas**	**4.96**	**82**	S		**Sn**	**04 38 04.0 -1.6**
	comp=N,1.5nm,0.3s,SNR=7.9						
MTE	**Manteigas**	**5.08**	**30**	S		**Sn**	**04 38 07.7 -0.9**
MTE	**Manteigas**	**5.08**	**30**	S		**Sn**	**04 38 07.7 -0.9**
MTE	**Manteigas**	**5.08**	**30**	S		**Sn**	**04 38 07.7 -0.9**
EADA	**Adamuz**	**5.46**	**65**	P		**Pn**	**04 37 17.5 +1.0**
	comp=N,0.2nm,0.1s,SNR=7.9						
EADA				S		**Sn**	**04 38 14.5 -3.5**
	comp=N,1.4nm,0.2s,SNR=7.9						
EADA	**Adamuz**	**5.46**	**65**	P		**Pn**	**04 37 17.5 +1.0**
	comp=N,0.2nm,0.1s,SNR=7.9						
EADA				S		**Sn**	**04 38 14.5 -3.5**
	comp=N,1.4nm,0.2s,SNR=7.9						
EPLA	**Plasencia**	**5.52**	**42**	P		**Pn**	**04 37 18.9 +1.7**
	comp=N,0.2nm,0.1s,SNR=7.9						
EPLA				S		**Sn**	**04 38 18.4 -1.0**
	comp=N,1.6nm,0.1s,SNR=7.0						
EPLA	**Plasencia**	**5.52**	**42**	P		**Pn**	**04 37 18.9 +1.7**
	comp=N,0.2nm,0.1s,SNR=7.9						
EPLA				S		**Sn**	**04 38 18.4 -1.0**
	comp=N,1.6nm,0.1s,SNR=7.0						
PVRL	**Vila Real**	**5.78**	**24**	*e*S		**Sn**	**04 38 24.1 -1.7**
PVRL	**Vila Real**	**5.78**	**24**	S		**Sn**	**04 38 24.1 -1.7**
PVRL	**Vila Real**	**5.78**	**24**	S		**Sn**	**04 38 24.1 -1.7**
POLO	**Lamas de Olo**	**5.84**	**23**	*e*S		**Sn**	**04 38 25.3 -2.1**
POLO				A		A	04 38 27.5
	comp=N,0.8nm,0.2s						
POLO	**Lamas de Olo**	**5.84**	**23**	*e*S		**Sn**	**04 38 25.3 -2.1**
	comp=N,0.8nm,0.2s						
MVO	**Moncorvo**	**5.93**	**29**	*e*P		**Pn**	**04 37 24.6 +1.7**
MVO				*e*S		**Sn**	**04 38 27.2 -2.4**
MVO				A		A	04 38 30.0
	comp=N,4.2nm,0.6s						
MVO	**Moncorvo**	**5.93**	**29**	P		**Pn**	**04 37 24.0 +1.1**
	comp=N,1.0nm,0.1s,SNR=7.9						
MVO				S		**Sn**	**04 38 26.7 -2.9**
	comp=N,1.6nm,0.2s,SNR=7.9						
MVO	**Moncorvo**	**5.93**	**29**	P		**Pn**	**04 37 24.0 +1.1**
	comp=N,1.0nm,0.1s,SNR=7.9						
MVO				*e*S		**Sn**	**04 38 27.2 -2.4**
	comp=N,4.2nm,0.6s						
ELOB	**Lobios**	**6.21**	**20**	P		**Pn**	**04 37 28.0 +1.2**
	comp=N,0.4nm,0.1s,SNR=7.9						
ELOB				S		**Sn**	**04 38 33.4 -3.1**
	comp=N,1.0nm,0.1s,SNR=7.9						
ELOB	**Lobios**	**6.21**	**20**	P		**Pn**	**04 37 28.0 +1.2**
	comp=N,0.4nm,0.1s,SNR=7.9						
ELOB				S		**Sn**	**04 38 33.4 -3.1**
	comp=N,1.0nm,0.1s,SNR=7.9						
PGAV	**Gavieira, Arco**	**6.25**	**18**	*e*P		**Pn**	**04 37 29.2 +1.9**
PGAV				*e*S		**Sn**	**04 38 35.7 -1.8**
PGAV				A		A	04 39 07.4
	comp=N,3.4nm,0.8s						
PGAV	**Gavieira, Arco**	**6.25**	**18**	*e*P		**Pn**	**04 37 29.2 +1.9**
PGAV				*e*S		**Sn**	**04 38 35.7 -1.8**
	comp=N,3.4nm,0.8s						
EQES	**Quesada**	**6.50**	**72**	S		**Sn**	**04 38 39.9 -3.7**
	comp=N,0.9nm,0.2s,SNR=7.9						
EQES	**Quesada**	**6.50**	**72**	S		**Sn**	**04 38 39.9 -3.7**
	comp=N,0.9nm,0.2s,SNR=7.9						
ECAL	**Calabor**	**6.71**	**27**	P		**Pn**	**04 37 34.9 +1.3**
	comp=N,0.8nm,0.2s,SNR=7.9						
ECAL				S		**Sn**	**04 38 43.7 -5.1**
	comp=N,2.7nm,0.3s,SNR=4.8						
ECAL	**Calabor**	**6.71**	**27**	P		**Pn**	**04 37 34.9 +1.3**
	comp=N,0.8nm,0.2s,SNR=7.9						
GUD	**Guadarrama**	**7.00**	**47**	S		**Sn**	**04 38 53.0 -3.0**
	comp=N,1.5nm,0.3s,SNR=7.9						
GUD	**Guadarrama**	**7.00**	**47**	S		**Sn**	**04 38 53.0 -3.0**
	comp=N,1.5nm,0.3s,SNR=7.9						
EMAZ	**Mazaricos**	**7.05**	**11**	P		**Pn**	**04 37 38.9 +0.7**
	comp=N,0.9nm,0.2s,SNR=7.9						
EMAZ				S		**Sn**	**04 38 51.5 -5.5**
	comp=N,2.7nm,0.2s,SNR=7.9						
EMAZ	**Mazaricos**	**7.05**	**11**	P		**Pn**	**04 37 38.9 +0.7**
	comp=N,0.9nm,0.2s,SNR=7.9						
EAGO	**Agolada(Pontev**	**7.08**	**17**	P		**Pn**	**04 37 39.9 +1.2**
	comp=N,0.5nm,0.1s,SNR=7.9						
EAGO				S		**Sn**	**04 38 53.5 -4.3**
	comp=N,1.4nm,0.1s,SNR=7.9						
EAGO	**Agolada(Pontev**	**7.08**	**17**	P		**Pn**	**04 37 39.9 +1.2**
	comp=N,0.5nm,0.1s,SNR=7.9						
EPON	**Pontenova**	**7.82**	**20**	P		**Pn**	**04 37 49.8 +1.1**
	comp=N,0.4nm,0.1s,SNR=7.9						
EPON				S		**Sn**	**04 39 11.0 -4.9**
	comp=N,0.5nm,0.2s,SNR=7.9						
EPON	**Pontenova**	**7.82**	**20**	P		**Pn**	**04 37 49.8 +1.1**
	comp=N,0.4nm,0.1s,SNR=7.9						
ETOB	**Tobarra**	**7.87**	**68**	S		**Sn**	**04 39 12.7 -4.7**
	comp=N,0.4nm,0.3s,SNR=7.9						

MEX 06 04:57:39.2±0.3, 13°.05N×90°.98W, h85km±64km, MD4.1, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CCIG	**Comitan**	**3.41**	**341**	*e*P	Pn	04 58 30.0	-0.3
CCIG				*e*S	Sn	04 59 08.4	-1.3
TGIG		**4.25**	**331**	*i* P	Pn	04 58 40.4	-1.2
TGIG				*i* S	Sn	04 59 29.4	-0.7

DJA 06 05:02:10.3±1.9, 11°.S±23°×11°.8E±°, h27km±42km, M3.7/5, MLv3.7/5, South of Sumbawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLAI	**Plampang**	**2.33**	**349**	P	Pn	05 02 46.7	-0.2
PLAI				S	Sn	05 03 15.1	+0.4
BASI	**Baing, Sumba**	**2.48**	**69**	P	Pn	05 02 43.8	-5.1
WSI	**Waingapu**	**2.50**	**55**	P	Pn	05 02 50.1	+0.9
TWSI	**Taliwang, Sumb**	**2.72**	**331**	P	Pn	05 02 52.0	-0.3

*ISK **06** 05:07:26.4, 39°.11N×29°.11E, h4km, MD3.6*
*DDA **06** 05:07:26.7, 39°.11N×29°.09E, h8km, Ml3.6*
*CSEM **06** 05:07:27.2±0.1, 39°.11N×29°.12E, h2km, MD3.6, Error ellipse: s-maj=2.8km s-min=2.7km az=158.0*

ISC 06 05:07:26.9±0.9, 39°.11N±0°.02×29°.10E±0°.01, h6km±7km, n137, σ1§02/174, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIMA	**Simav-Kutahya**	**0.09**	**252**	PG	**Pg**	**05 07 29.0**	**0.0**
SIMA				SG	**Sg**	**05 07 30.7**	**+0.2**
SIMA	**Simav-Kutahya**	**0.09**	**252**	*i* Pg	**Pg**	**05 07 29.0**	**0.0**
SIMA				*i* Sg	**Sg**	**05 07 30.7**	**+0.2**
GEDZ	**Gediz**	**0.25**	**105**	*e*PG	**Pg**	**05 07 32.5**	**+0.6**
GEDZ				*e*SG	**Sg**	**05 07 36.1**	**+0.8**
GEDZ	**Gediz**	**0.25**	**105**	*e*Pg	**Pg**	**05 07 32.5**	**+0.6**
GEDZ				*e*Sg	**Sg**	**05 07 36.1**	**+0.8**
DEMI	**Demirci**	**0.30**	**257**	*i* P	**Pg**	**05 07 32.8**	**-0.1**
DEMI				*i* S	**Sg**	**05 07 36.7**	**-0.2**
DEMI	**Demirci**	**0.30**	**257**	P	**Pg**	**05 07 32.8**	**-0.1**
TVSB	**Tavsanli**	**0.44**	**40**	*e*PG	**Pg**	**05 07 35.5**	**0.0**
TVSB				*e*SG	**Sg**	**05 07 41.6**	**+0.3**
TVSB	**Tavsanli**	**0.44**	**40**	*e*Pg	**Pg**	**05 07 35.5**	**0.0**
TVSB				*e*Sg	**Sg**	**05 07 41.6**	**+0.3**
KULA	**Kula-Manisa**	**0.69**	**210**	*e*PG	**Pg**	**05 07 39.7**	**-0.4**
KULA	**Kula-Manisa**	**0.69**	**210**	*e*Pg	**Pg**	**05 07 39.7**	**-0.4**
MANT	**Manisa**	**0.75**	**214**	*i* P	Pg	05 07 33.6	-7.7
MANT				*i* S	**Sg**	**05 07 43.2**	**-7.9**
KHL	**Karahalli**	**0.86**	**157**	*e*PG	**Pg**	**05 07 43.3**	**-0.1**
KHL				*e*SG	**Sb**	**05 07 55.2**	**-0.8**
KHL	**Karahalli**	**0.86**	**157**	*e*Pg	**Pg**	**05 07 43.3**	**-0.1**
KHL				*e*Sg	**Sb**	**05 07 55.3**	**-0.8**
ORLT	**Orhaneli**	**0.95**	**351**	*e*PG	**Pg**	**05 07 44.8**	**-0.3**
ORLT	**Orhaneli**	**0.95**	**351**	*e*Pg	**Pg**	**05 07 44.8**	**-0.3**
AKHS	**Akhisar**	**1.02**	**257**	*i* P	**Pg**	**05 07 46.4**	**-0.2**
AKHS				*i* S	**Sg**	**05 07 60.0**	**+0.1**
AKHS	**Akhisar**	**1.02**	**257**	P	**Pg**	**05 07 46.4**	**-0.2**
AKHS				S	**Sg**	**05 08 00.0**	**+0.1**
AKS	**Akhisar**	**1.03**	**257**	*e*PG	**Pg**	**05 07 46.4**	**-0.2**
AKS	**Akhisar**	**1.03**	**257**	*e*Pg	**Pg**	**05 07 46.4**	**-0.2**
BALB	**Balikesir**	**1.08**	**300**	*e*PN	**Pn**	**05 07 48.5**	**-0.2**
BALB				*e*SN	**Sn**	**05 08 04.1**	**+0.2**
BALB	**Balikesir**	**1.08**	**300**	*e*Pn	**Pn**	**05 07 48.5**	**-0.2**
BALB				*e*Sn	**Sn**	**05 08 04.1**	**+0.2**
IGD	**Bursa**	**1.15**	**4**	*i* P	**Pg**	**05 07 48.7**	**-0.4**
IGD				*i* S	**Sb**	**05 08 04.7**	**+0.1**
MDNY	**Mudanya-Bursa**	**1.27**	**353**	*e*PN	**Pg**	**05 07 50.8**	**-0.5**
MDNY	**Mudanya-Bursa**	**1.27**	**353**	*e*Pn	**Pg**	**05 07 50.8**	**-0.5**
SHUT	**Suhut-Afyon**	**1.27**	**116**	*e*PN	**Pn**	**05 07 51.5**	**+0.2**
SHUT	**Suhut-Afyon**	**1.27**	**116**	*e*Pn	**Pn**	**05 07 51.5**	**+0.2**
KCTX	**Karacabey (Bur**	**1.28**	**334**	*e*PN	**Pg**	**05 07 51.0**	**-0.5**
KCTX	**Karacabey (Bur**	**1.28**	**334**	*e*Pn	**Pg**	**05 07 51.1**	**-0.5**
BORA	**Eskisehir**	**1.30**	**53**	*i* P	**Pg**	**05 07 51.6**	**-0.3**
BORA				*i* S	**Sn**	**05 08 09.7**	**+0.1**
BORA	**Eskisehir**	**1.30**	**53**	P	**Pg**	**05 07 51.6**	**-0.3**
BORA				S	**Sn**	**05 08 09.7**	**+0.1**
BALY	**Balya**	**1.30**	**299**	*i* P	**Pn**	**05 07 51.5**	**-0.3**
BALY				*i* S	**Sn**	**05 08 09.7**	**0.0**
BALY	**Balya**	**1.30**	**299**	P	**Pn**	**05 07 51.5**	**-0.3**
BALY				S	**Sn**	**05 08 09.6**	**0.0**
GEMT	**Gemlik**	**1.32**	**3**	*e*PN	**Pn**	**05 07 51.6**	**-0.4**
GEMT	**Gemlik**	**1.32**	**3**	*e*Pn	**Pn**	**05 07 51.6**	**-0.4**
DENT	**Denizli**	**1.36**	**182**	*e*PN	**Pn**	**05 07 52.4**	**-0.1**
DENT	**Denizli**	**1.36**	**182**	*e*Pn	**Pn**	**05 07 52.4**	**-0.1**
ADVT	**Abdulvahap**	**1.41**	**20**	*e*PN	**Pb**	**05 07 53.4**	**-0.3**
ADVT	**Abdulvahap**	**1.41**	**20**	*e*Pn	**Pb**	**05 07 53.4**	**-0.3**
DNZL	**Cakiroluk**	**1.42**	**182**	*i* P	**Pg**	**05 07 54.6**	**+0.4**
DNZL				*i* S	**Sn**	**05 08 15.2**	**+2.6**
DNZL	**Cakiroluk**	**1.42**	**182**	P	**Pg**	**05 07 54.6**	**+0.4**
DNZL				S	**Sn**	**05 08 15.2**	**+2.6**
ESKT	**Eskisehir**	**1.42**	**73**	*e*PN	**Pn**	**05 07 53.1**	**-0.4**
ESKT	**Eskisehir**	**1.42**	**73**	*i* P	**Pn**	**05 07 53.4**	**-0.1**
ESKT				*i* S	**Sb**	**05 08 10.5**	**-1.9**
ESKT	**Eskisehir**	**1.42**	**73**	*e*Pn	**Pn**	**05 07 53.1**	**-0.4**
SEYT	**Eskypehyr**	**1.42**	**73**	P	**Pn**	**05 07 53.4**	**-0.1**
SEYT				S	**Sb**	**05 08 10.5**	**-1.8**
ARMT	**Armutlu**	**1.46**	**353**	*e*PN	**Pn**	**05 07 53.6**	**-0.3**
ARMT	**Armutlu**	**1.46**	**353**	*e*Pn	**Pn**	**05 07 53.6**	**-0.3**
AYDB	**Zeytinkoy-Aydi**	**1.50**	**219**	*e*PN	**Pn**	**05 07 54.3**	**-0.2**
AYDB	**Zeytinkoy-Aydi**	**1.50**	**219**	*e*Pn	**Pn**	**05 07 54.3**	**-0.2**
BOLV	**Bolvadin**	**1.50**	**105**	*i* P	**Pb**	**05 07 55.1**	**-0.2**
BOLV				*i* S	**Sg**	**05 08 15.6**	**+0.5**
BOLV	**Bolvadin**	**1.50**	**105**	P	**Pb**	**05 07 55.1**	**-0.2**
BOLV				S	**Sg**	**05 08 15.6**	**+0.5**
SBT5	**Esenkoy-Cinarc**	**1.53**	**354**	*e*PN	**Pn**	**05 07 54.9**	**+0.2**
SBT5	**Esenkoy-Cinarc**	**1.53**	**354**	*e*Pn	**Pn**	**05 07 54.9**	**+0.2**
EDC	**Edincik**	**1.56**	**323**	*e*PN	**Pb**	**05 07 56.2**	**0.0**
EDC	**Edincik**	**1.56**	**323**	*e*Pn	**Pb**	**05 07 56.2**	**0.0**
KNL	**Baƒ¯kesir**	**1.68**	**314**	*i* P	**Pb**	**05 07 58.5**	**+0.3**
KNL				*i* S	**Sg**	**05 08 20.8**	**+0.1**
TUZL	**Tuzla-Istanbul**	**1.70**	**4**	*e*PN	**Pb**	**05 07 58.3**	**-0.4**
TUZL	**Tuzla-Istanbul**	**1.70**	**4**	*e*Pn	**Pb**	**05 07 58.3**	**-0.4**
DKL	**Dikili**	**1.71**	**269**	*e*PN	**Pb**	**05 07 58.5**	**-0.2**
DKL	**Dikili**	**1.71**	**269**	*e*Pn	**Pb**	**05 07 58.5**	**-0.2**
GULT	**Gulveren**	**1.71**	**39**	*e*PN	**Pn**	**05 07 57.7**	**+0.3**
GULT	**Gulveren**	**1.71**	**39**	*e*Pn	**Pn**	**05 07 57.7**	**+0.3**
BAGO	**Egridir - ISPA**	**1.74**	**130**	*i* P	**Pn**	**05 07 57.3**	**-0.5**
BAGO				*i* S	**Sg**	**05 08 23.2**	**+0.4**
BUY	**Buyukada**	**1.74**	**1**	*e*PN	**Pb**	**05 07 58.8**	**-0.5**
BUY	**Buyukada**	**1.74**	**1**	*i* P	**Pn**	**05 07 57.1**	**-0.6**
BUY				*i* S	**Sn**	**05 08 19.8**	**-0.4**
BUY	**Buyukada**	**1.74**	**1**	P	**Pn**	**05 07 57.1**	**-0.6**
BUY	**Buyukada**	**1.74**	**1**	*e*Pn	**Pb**	**05 07 58.8**	**-0.5**
BUY				S	**Sn**	**05 08 19.8**	**-0.4**

0.8nm,0.3s,baz=193,slow=14,SNR=12
KK31 ⇑S Sn 05 55 07.4 -1.0
3.3nm,0.6s,baz=186,slow=24,SNR=12
AAK **Ala-Archa** **6.83 23** P Pn 05 53 51.8 -3.0
1.4nm,0.5s
AAK S Sn 05 55 11.4 -0.1
3.1nm,0.8s

---

*ISCJB **06** 06:18:48.9±1.2,24.˚50N±0.˚05×98.˚08E±0.˚08,h10km, Error ellipse: s-maj=10.3km s-min=5.8km az=20.1*
*BJI **06** 06:18:52.6,24.˚73N×97.˚94E,h8km,ML3.5/5*
*BKK **06** 06:18:59.6±0.9,24.˚N±5.˚×97.˚8E±.˚,h113km±25km,M4.3/4, mb4.1/4,mB4.4/1,MLv4.4/4,Mw(mB)3.6/1*
ISC 06 06:18:51.9±1.6,24.˚60N±0.˚07×97.˚98E±0.˚10,h10km,n5, σ1°78/11,Myanmar-China border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMI	**Kunming**	**4.35**	**82**	Pg	**Pg**	**06 20 14.5**	**-0.8**
KMI				Sg	**Sg**	**06 21 11.1**	**-0.6**
KMI				smax	smax		
	comp=N,89nm,1.0s						
KMI				smax	smax		
	comp=E,74nm,1.0s						
CHTO	**Chiang Mai**	**5.83**	**171**	Pg	**Pg**	**06 20 42.2**	**-1.3**
	50nm,0.6s,1.1nm						
CHTO				Pn	**Pn**	**06 20 18.6**	**+0.2**
	50nm,0.6s,1.1nm						
CHTO				Sg	**Sg**	**06 21 58.1**	**-0.9**
	50nm,0.6s,1.1nm						
CMMT	**Chiang Mai**	**5.83**	**171**	Pg	**Pg**	**06 20 42.1**	**-1.5**
	11nm,0.6s,453nm0.2nm						
CMMT				Pn	**Pn**	**06 20 18.5**	**0.0**
	11nm,0.6s,453nm0.2nm						
CMMT				Sg	**Sg**	**06 21 57.9**	**-1.2**
	11nm,0.6s,453nm0.2nm						
LAMP	**Lampang**	**6.24**	**165**	Pn	**Pn**	**06 20 27.9**	**+3.8**
LAMP				Sg	**Sg**	**06 22 14.1**	**+1.8**
WMQ	**Urumqi**	**20.94**	**339**	*e*P	**P**	**06 23 34.8**	**-0.1**

---

*IDC **06** 06:25:30.0±0.8, 18.˚38S×168.˚73E,h0km,mb4.3/13, mb1 4.4/14,mb1mx4.3/25,mbtmp4.3/14,ML4.3/1,MS3.5/12, Ms1 3.5/12,ms1mx3.3/28,Error ellipse: s-maj=24.4km s-min=17.3km az=98.0*
*ISCJB **06** 06:25:34.6±0.4, 18.˚45S±0.˚06×168.˚51E±0.˚07,h37km, mb4.4/19,MS3.6/9,Error ellipse: s-maj=10.3km s-min=8.3km az=37.7*
*NEIC **06** 06:25:38.1±1.4, 18.˚45S×168.˚52E,h55km±13km,mb4.7/5, Error ellipse: s-maj=13.7km s-min=9.5km az=156.0*
ISC 06 06:25:36.2±0.5, 18.˚44S±0.˚08×168.˚50E±0.˚09, h37km,n55, σ1°03/48,mb4.5/19,MS3.5/9,Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**4.10**	**208**	Pn	**Pn**	**06 26 36.9**	**+0.5**
	18nm,0.3s,baz=80,slow=7.1,SNR=97						
DZM				Sn	**Sn**	**06 27 24.4**	**+1.2**
	81nm,0.3s,baz=142,slow=23,SNR=13						
DZM				LR	LR	06 27 48.7	
	comp=Z,377nm,21.3s,baz=45,slow=33						
DZM	**Mont Dzumac**	**4.10**	**208**	*e*Pn	**Pn**	**06 26 36.5**	**+0.1**
	78nm,0.2s						
DZM				*e*Sn	**Sn**	**06 27 20.0**	**-3.2**
	497nm,0.8s						
DZM				*e*LR	LR	06 27 31.3	
	1µm,24.9s						
MSVF	**Nonsavu**	**9.11**	**87**	*e*Pn	**Pn**	**06 27 47.1**	**+1.8**
	86nm,0.9s						
HNR	**Honiara**	**12.20**	**316**	LR	LR	06 32 26.6	
	comp=Z,108nm,20.1s,baz=178,slow=34						
AFI	**Afiamalu**	**19.47**	**80**	P	**Pn**	**06 30 01.3**	**-0.2**
	0.7nm,0.3s,baz=357,slow=3.4,SNR=4.1						
AFI				LR	LR	06 36 20.9	
	comp=Z,102nm,19.7s,baz=258,slow=34						
CTA	**Charters Tower**	**21.06**	**262**	P	**P**	**06 30 20.1**	**+2.7**
	4.0nm,0.8s,baz=60,slow=14,SNR=3.1						
URZ	**Urewera**	**21.13**	**161**	P	**P**	**06 30 18.0**	**+0.1**
	6.3nm,0.8s,baz=333,slow=14,SNR=2.9						
RPZ	**Rata Peaks**	**25.29**	**176**	LR	LR	06 39 50.1	
	comp=Z,119nm,18.8s,baz=7.0,slow=34						
STKA	**Stephens Creek**	**27.69**	**236**	P	**P**	**06 31 21.6**	**+0.6**
	4.0nm,0.5s,baz=78,slow=11,SNR=9.7						
STKA				LR	LR	06 40 20.1	
	comp=Z,107nm,21.2s,baz=28,slow=32						
RAR	**Rarotonga**	**29.95**	**101**	LR	LR	06 43 07.5	
	comp=Z,120nm,19.0s,baz=208,slow=36						
WRA	**Warramunga Arr**	**32.26**	**262**	P	**P**	**06 32 01.1**	**-0.5**
	0.6nm,0.4s,baz=81,slow=6.0,SNR=7.2						
WRA				PcP	**PcP**	**06 34 49.5**	**-0.1**
	1.5nm,0.9s,baz=86,slow=2.9,SNR=7.5						
WRA				LR	LR	06 44 03.7	
	comp=Z,113nm,18.6s,baz=110,slow=34						
ASAR	**Alice Springs**	**32.65**	**255**	P	**P**	**06 32 05.0**	**0.0**
	6.7nm,0.7s,baz=85,slow=8.4,SNR=52						
ASAR				PcP	**PcP**	**06 34 50.2**	**-0.3**
	1.4nm,1.1s,baz=112,slow=2.4,SNR=4.4						
ASAR				LR	LR	06 44 45.1	
	comp=Z,208nm,19.6s,baz=106,slow=35						
PPT2	**Papeete2**	**39.82**	**96**	eLR	LR	06 44 28.7	
	191nm,27.2s						
PPT	**Papeete**	**39.82**	**96**	LR	LR	06 49 08.4	
	comp=Z,30nm,18.5s,baz=152,slow=36						
FITZ	**Fitzroy Crossi**	**40.63**	**263**	LR	LR	06 49 21.4	
	comp=Z,165nm,19.1s,slow=35						
FITZ	**Fitzroy Crossi**	**40.63**	**263**	*e*P	**P**	**06 33 13.4**	**+0.5**
	14nm,0.9s						
TAOE	**Nuku Hiva Isla**	**50.66**	**86**	*e*LR	LR	06 49 36.0	
	132nm,27.2s						
VNDA	**Vanda**	**59.21**	**182**	P	**P**	**06 35 32.2**	**-0.9**
	1.1nm,0.7s,baz=0.6,slow=7.2,SNR=5.5						
SBA	**Scott Base**	**59.46**	**180**	*e*P	**P**	**06 35 36.3**	**+1.5**
	11nm,1.1s						
MJAR	**Matsushiro Arr**	**61.72**	**333**	P	**P**	**06 35 50.6**	**-0.3**
	2.5nm,0.8s,baz=166,slow=8.3,SNR=5.7						
KSRS	**Korea Array**	**67.45**	**326**	P	**P**	**06 36 28.9**	**+0.8**
	2.9nm,1.1s,baz=120,slow=7.4,SNR=5.3						
KSAR	**Wonju Array Be**	**67.46**	**326**	P	**P**	**06 36 28.9**	**+0.7**
USRK	**Ussuriysk Ar.**	**70.70**	**333**	P	**P**	**06 36 48.2**	**-0.1**
	3.2nm,0.8s,baz=134,slow=4.7,SNR=5.9						
QSPA	**South Pole Qui**	**71.61**	**180**	*e*P	**P**	**06 36 53.9**	**+0.1**
	81nm,0.9s						
PETK	**Petropavlovsk-**	**71.86**	**353**	LR	LR	07 03 23.3	
	comp=Z,28nm,19.8s,baz=133,slow=32						
CMAR	**Chiang Mai Arr**	**77.53**	**294**	P	**P**	**06 37 30.4**	**+1.7**
	5.1nm,0.8s,baz=107,slow=3.3,SNR=21						
MAW	**Mawson**	**78.91**	**202**	P	**P**	**06 37 36.1**	**+0.6**
	5.6nm,0.8s,baz=154,slow=3.3,SNR=7.5						
ULN	**Ulaanbaatar**	**85.80**	**324**	*e*P	**P**	**06 38 11.4**	**-0.5**
	5.6nm,0.9s						
SONM	**Songino Array**	**86.16**	**323**	P	**P**	**06 38 13.7**	**+0.1**
	4.0nm,0.8s,baz=135,slow=5.8,SNR=11						
MOD	**Modoc Plateau**	**88.90**	**45**	*e*P	**P**	**06 38 27.4**	**+0.4**
	2.1nm,0.9s						
ILAR	**Eielson Array**	**89.68**	**18**	P	**P**	**06 38 27.6**	**-2.3**
	0.5nm,0.7s,baz=242,slow=5.7,SNR=4.3						
ILAR				LR	LR	07 11 50.4	
	comp=Z,28nm,19.5s,baz=247,slow=31						
SNAA	**Sanae**	**89.93**	**183**	P	**P**	**06 38 30.2**	**-1.1**
WVOR	**Wild Horse Val**	**90.25**	**45**	*e*P	**P**	**06 38 34.0**	**+0.7**
	4.3nm,1.1s						
VNA3	**Neumayer Olymp**	**90.55**	**181**	P	**P**	**06 38 33.2**	**-0.9**
VNA2	**Neumayer--Watz**	**90.83**	**181**	P	**P**	**06 38 34.8**	**-0.6**
	baz=169,slow=4.6						
VNA1	**Neumayer--Stat**	**91.12**	**181**	P	**P**	**06 38 36.2**	**-0.6**
YKA	**Yellowknife Ar**	**100.28**	**27**	P	**Pdif**	**06 39 17.5**	**-0.8**
	0.5nm,0.6s,baz=253,slow=4.8,SNR=3.6						
ARCES	**ARCESS Array B**	**124.12**	**345**	PKP	**PKPdf**	**06 44 29.1**	**-1.0**
	1.1nm,0.3s,baz=66,slow=1.9,SNR=10						
CONA	**Conrad Observa**	**143.09**	**329**	*i* PKPdf	PKPbc	06 45 03.6	+0.4
	3.5nm,0.8s						
GERES	**GERESS Array B**	**143.46**	**332**	PKP	PKPbc	06 45 04.7	+0.4
	0.6nm,0.4s,baz=219,slow=1.3,SNR=5.7						
MOA	**Molln**	**143.92**	**330**	*e*PKPdf	PKPab	06 45 05.0	+0.1
	4.0nm,0.5s						
SOKA	**Soboth**	**144.36**	**328**	*i* PKPdf	PKPbc	06 45 06.8	-0.2
	12nm,1.3s						
KBA	**Koelnbreinsper**	**144.91**	**330**	*e*PKPab	**PKPab**	**06 45 07.8**	**-1.1**
	6.8nm,0.6s						
MYKA	**Terra Mystica**	**145.08**	**329**	*e*PKPdf	**PKPbc**	**06 45 08.6**	**-0.7**
	8.8nm,0.5s						
CRNS	**Crni Vrh**	**145.16**	**328**	*i* P	**PKPbc**	**06 45 09.3**	**-0.2**
GBAS	**Gorenja Brezov**	**145.17**	**328**	*i* P	**PKPbc**	**06 45 09.1**	**-0.4**
WATA	**Walderalm**	**145.53**	**332**	*i* PKPab	**PKPdf**	**06 45 10.1**	**-0.6**
	7.7nm,0.7s						
ABTA	**Abfaltersbach**	**145.54**	**330**	*e*PKPab	**PKPdf**	**06 45 10.2**	**-0.4**
	17nm,0.8s						
WTTA	**Wattenberg**	**145.56**	**332**	*e*PKPab	**PKPbc**	**06 45 10.8**	**-0.1**
	7.7nm,0.8s						
MOTA	**Moosalm**	**145.73**	**332**	*e*PKPab	**PKPdf**	**06 45 10.9**	**-0.1**
	14nm,0.8s						
RETA	**Reutte**	**145.77**	**333**	*e*PKPdf	**PKPdf**	**06 45 09.7**	**-1.3**
	7.3nm,1.3s						
FETA	**Feichten**	**146.15**	**332**	*e*PKPab	**PKPbc**	**06 45 12.5**	**-0.2**
	8.8nm,0.7s						
DAVA	**Damuels**	**146.31**	**333**	*i* PKPab	**PKPbc**	**06 45 13.1**	**-0.1**
	16nm,0.9s						
TUE	**Stuetta**	**147.17**	**333**	*e*PKPdf	**PKPdf**	**06 45 12.6**	**-1.0**
TORD	**Torodi Ar. Bea**	**166.25**	**249**	PKP	**PKPdf**	**06 45 37.6**	**-0.8**
	2.7nm,0.9s,baz=17,slow=0.9,SNR=14						
TORD				PKPab	**PKPab**	**06 46 39.1**	**-0.5**
	1.0nm,0.8s,baz=105,slow=4.3,SNR=4.8						

NNC 06 06:44:14.7±5.6, 38.˚52N×74.˚94E,h0km,mb3.6,mpv3.2, 6C-4D,Error ellipse: s-maj=46.7km s-min=22.5km az=135.0,Tajikistan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AAK	**Ala-Archa**	**4.13**	**355**	⇑Pn	Pn	06 45 20.2	+1.0
	2.8nm,0.6s						
AAK				⇓Sn	Sn	06 46 11.0	+2.7
	4.8nm,0.8s						
MNAS	**Manas**	**4.38**	**336**	⇓Pn	Pn	06 45 24.6	+2.0
	1.7nm,0.3s						
MNAS				⇓Sn	Sn	06 46 15.4	+1.0
	16nm,0.5s						
TKM2	**Tokmak 2**	**4.43**	**6**	⇑Pn	Pn	06 45 23.8	+0.4
	4.7nm,0.7s						
TKM2				⇑Sn	Sn	06 46 14.2	-1.5
	4.9nm,0.7s						
DZET	**Dzherino**	**4.79**	**275**	⇑Pn	Pn	06 45 25.8	-2.4
	3.9nm,0.4s						
DZET				⇓Sn	Sn	06 46 24.9	+0.4
	12nm,0.4s						
KK31	**Karatay Array**	**5.68**	**325**	⇑Pn	Pn	06 45 41.8	+1.4
	0.3nm,0.3s,baz=131,slow=11,SNR=26						
KK31				⇑Sn	Sn	06 46 47.2	+0.9
	3.4nm,0.4s,baz=135,slow=22,SNR=10						

---

*IDC **06** 07:08:43.5±2.8, 33.˚98S×179.˚90E,h0km,mb4.4/3, mb1 4.6/4,mb1mx4.0/32,mbtmp4.4/4,ML3.8/1,Error ellipse: s-maj=60.1km s-min=44.0km az=113.0*
*ISCJB **06** 07:08:50.1±1.0, 34.˚02S±0.˚08×179.˚18E±0.˚08,h33km, mb4.3/3,Error ellipse: s-maj=12.6km s-min=9.3km az=21.1*
ISC 06 07:08:51.7±1.4, 34.˚0S±0.˚1×179.˚2E±0.˚1,h35km,n20, σ1°26/22,mb4.4/3,South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WMGZ	**Waiomatatini S**	**3.84**	**190**	*e*PN	**Pn**	**07 09 48.8**	**+0.6**
HAZ	**Te Kaha**	**3.90**	**197**	*e*PN	**Pn**	**07 09 50.9**	**+1.8**
PUZ	**Puketiti**	**4.11**	**191**	*e*PN	**Pn**	**07 09 52.2**	**+0.2**
RUGZ	**Raukumara Rang**	**4.12**	**197**	*e*PN	**Pn**	**07 09 53.8**	**+1.6**
WCZ	**Waipu Caves**	**4.44**	**243**	*e*PN	**Pn**	**07 09 57.5**	**+0.9**
WCZ				*e*SN	**Sn**	**07 10 46.8**	**-0.2**
MWZ	**Matawai**	**4.51**	**197**	*e*PN	**Pn**	**07 09 58.3**	**+0.8**
CNGZ	**Carnagh Statio**	**4.52**	**190**	*e*PN	**Pn**	**07 09 58.4**	**+0.8**
URZ	**Urewera**	**4.55**	**202**	Pn	**Pn**	**07 09 57.7**	**-0.4**
	3.9nm,0.3s,baz=288,slow=3.6,SNR=21						
URZ	**Urewera**	**4.55**	**202**	*e*PN	**Pn**	**07 09 58.3**	**+0.3**
OUZ	**Omahuta**	**4.80**	**254**	*e*PN	**Pn**	**07 10 01.4**	**0.0**
OUZ				*e*SN	**Sn**	**07 10 54.1**	**-1.6**
RIGZ	**Rimuhau**	**4.81**	**194**	*e*PN	**Pn**	**07 10 01.6**	**-0.1**
SNGZ	**Shannon Statio**	**4.98**	**197**	*e*PN	**Pn**	**07 10 05.5**	**+1.5**
ASAR	**Alice Springs**	**40.74**	**272**	P	**P**	**07 16 30.6**	**+1.1**
	4.7nm,0.7s,baz=114,slow=7.7,SNR=52						
WRA	**Warramunga Arr**	**42.07**	**278**	P	**P**	**07 16 41.5**	**+1.2**
	7.1nm,1.0s,baz=118,slow=7.7,SNR=20						
FITZ	**Fitzroy Crossi**	**50.15**	**274**	P	**P**	**07 17 45.1**	**+1.3**
	6.5nm,1.1s,baz=126,slow=9.4,SNR=6.3						
SNAA	**Sanae**	**74.58**	**179**	P	**P**	**07 20 24.0**	**-2.6**
VNA3	**Neumayer Olymp**	**74.83**	**177**	P	**P**	**07 20 26.4**	**-1.6**
VNA2	**Neumayer--Watz**	**75.23**	**178**	P	**P**	**07 20 28.9**	**-1.4**
	baz=173,slow=4.0						
VNA1	**Neumayer--Stat**	**75.48**	**177**	P	**P**	**07 20 31.1**	**-0.6**
FINES	**FINESS Array B**	**147.63**	**336**	PKPbc	**PKPdf**	**07 28 28.7**	**-0.1**
	4.5nm,1.1s,baz=57,slow=5.1,SNR=2.9						

---

*IDC **06** 07:10:19.1±2.2, 33.˚74S×179.˚94E,h0km,mb4.4/3, mb1 4.7/4,mb1mx4.0/33,mbtmp4.5/4,ML4.1/1,Error ellipse: s-maj=49.4km s-min=41.0km az=60.0*
ISC 06 07:10:22.8±1.4, 33.˚8S±0.˚1×179.˚5E±0.˚1,h10km,n16, σ1°22/17,mb4.3/3,South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WMGZ	**Waiomatatini S**	**4.09**	**192**	*e*PN	**Pn**	**07 11 24.6**	**-0.8**
HAZ	**Te Kaha**	**4.17**	**199**	PN	**Pn**	**07 11 27.2**	**+0.8**
PUZ	**Puketiti**	**4.36**	**193**	PN	**Pn**	**07 11 27.7**	**-1.5**
RUGZ	**Raukumara Rang**	**4.39**	**199**	*e*PN	**Pn**	**07 11 30.2**	**+0.6**
WCZ	**Waipu Caves**	**4.71**	**242**	*e*PN	**Pn**	**07 11 32.8**	**-1.1**
WCZ				*e*SN	**Sb**	**07 12 43.8**	**+0.6**
MWZ	**Matawai**	**4.78**	**199**	*e*PN	**Pn**	**07 11 33.3**	**-1.6**
URZ	**Urewera**	**4.83**	**203**	Pn	**Pn**	**07 11 34.7**	**-0.9**
	7.5nm,0.3s,baz=266,slow=4.4,SNR=6.4						
URZ	**Urewera**	**4.83**	**203**	*e*PN	**Pn**	**07 11 34.4**	**-1.1**
OUZ	**Omahuta**	**5.04**	**252**	PN	**Pn**	**07 11 36.6**	**-1.8**
RIGZ	**Rimuhau**	**5.07**	**195**	*e*PN	**Pn**	**07 11 38.2**	**-0.7**
SNGZ	**Shannon Statio**	**5.25**	**198**	*e*PN	**Pn**	**07 11 41.3**	**0.0**
ASAR	**Alice Springs**	**40.92**	**272**	P	**P**	**07 18 07.0**	**+1.5**
	5.9nm,0.9s,baz=113,slow=7.7,SNR=12						
WRA	**Warramunga Arr**	**42.23**	**277**	P	**P**	**07 18 16.9**	**+0.6**
	4.9nm,0.9s,baz=115,slow=8.5,SNR=9.6						
FITZ	**Fitzroy Crossi**	**50.32**	**274**	P	**P**	**07 19 20.8**	**+0.9**
	8.4nm,1.2s,baz=135,slow=8.6,SNR=3.8						
FINES	**FINESS Array B**	**147.50**	**336**	PKPbc	**PKPdf**	**07 30 03.9**	**+0.1**
	3.2nm,1.1s,baz=46,slow=5.5,SNR=3.9						
TORD	**Torodi Ar. Bea**	**159.33**	**186**	PKPab	**PKPab**	**07 30 57.2**	**-2.0**
	1.7nm,1.2s,baz=164,slow=3.0,SNR=3.8						

---

*IDC **06** 07:10:38.9±2.1, 33.˚54S×180.˚00E,h0km,mb4.5/4, mb1 4.7/5,mb1mx4.2/33,mbtmp4.6/5,ML4.6/1,Error ellipse: s-maj=49.0km s-min=36.5km az=52.0*
*GCMT **06** 07:10:40.0±0.2, 33.˚90S×179.˚58E,h12km,MW5.1/81, Moment Tensor Solution. s39,c45; s81,c120; Duration: 0 Moment tensor: Scale 10^16^Nm; Mrr=4.66±.11; Mθθ2.00±.12; Mθφ2.67±.11; Mrθ2.15±.46; Mφφ2.13±.09; Mrφ/0.89±.42; Best double couple: Mo5.12500×10^16^ NP1:φ=232.00000°, δ58.00000°, λ=78.00000°. NP2: φ=30.00000°, δ34.00000°, λ=108.00000°. Principal axes: T 4.9480, Plg12.0000°, Azm313.0000°; N 0.3640, Plg10.0000°, Azm46.0000°; P -5.3020, Plg74.0000°, Azm173.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*ISCJB **06** 07:10:48.3±1.3, 34.˚10S±0.˚09×179.˚0E±0.˚1,h33km, mb4.4/4 Error ellipse: s-maj=16.5km s-min=11.0km az=139.8*
ISC 06 07:10:48.1±1.4, 34.˚0S±0.˚1×179.˚2E±0.˚1,h35km,n25, σ1°56/15,mb4.5/4,South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WMGZ	**Waiomatatini S**	**3.85**	**189**	*e*PN	**Pn**	**07 11 45.2**	**+0.4**
HAZ	**Te Kaha**	**3.90**	**197**	*e*PN	**Pn**	**07 11 46.7**	**+1.1**
PUZ	**Puketiti**	**4.12**	**190**	*e*PN	**Pn**	**07 11 46.4**	**-2.1**
WCZ	**Waipu Caves**	**4.42**	**243**	*e*PN	**Pn**	**07 11 52.9**	**+0.3**
MWZ	**Matawai**	**4.51**	**197**	*e*PN	**Pn**	**07 11 53.8**	**-0.2**
URZ	**Urewera**	**4.55**	**201**	Pn	**Pn**	**07 11 56.9**	**+2.4**
	22nm,0.3s,baz=275,slow=13,SNR=6.1						
URZ	**Urewera**	**4.55**	**201**	*e*PN	**Pn**	**07 11 55.6**	**+1.1**
OUZ	**Omahuta**	**4.77**	**254**	*e*PN	**Pn**	**07 11 56.9**	**-0.5**
OUZ				*e*SN	**Sn**	**07 12 49.4**	**-2.0**
DZM	**Mont Dzumac**	**16.36**	**313**	*e*LR	LR	07 18 24.8	
	8µm,23.5s						
TBI	**Tubuai**	**29.38**	**77**	*e*LR	LR	07 24 08.9	
	1µm,29.8s						
TBI	**Tubuai**	**29.38**	**77**	*e*T	T	07 46 40.2	
	57nm,0.4s						
CTA	**Charters Tower**	**32.29**	**287**	P	**P**	**07 17 15.0**	**+1.2**
	3.6nm,0.7s,baz=83,slow=12,SNR=3.1						
PAE	**Paea**	**32.32**	**68**	*e*T	T	07 50 15.2	
	4.5nm,0.3s						
PPT2	**Papeete2**	**32.36**	**68**	*e*LR	LR	07 25 42.0	
	783nm,24.2s,baz=231						
PPT2	**Papeete2**	**32.36**	**68**	*e*T	T	07 50 19.2	
	11nm,0.3s						
TVO	**Taravao**	**32.50**	**68**	*e*T	T	07 50 29.3	
	2.3nm,0.4s						
VAH	**Vaihoa**	**35.27**	**66**	*e*T	T	07 53 55.2	
	38nm,0.2s						
ASAR	**Alice Springs**	**40.70**	**272**	P	**P**	**07 18 25.9**	**+0.4**
	9.6nm,0.7s,baz=112,slow=7.2,SNR=15						
RKT	**Rikitea**	**41.40**	**87**	*e*LR	LR	07 29 46.6	
	1µm,25.8s,baz=245						
RKT	**Rikitea**	**41.40**	**87**	*e*T	T	08 01 47.1	
	3.7nm,0.3s						
WRA	**Warramunga Arr**	**42.03**	**278**	P	**P**	**07 18 37.0**	**+0.6**
	6.7nm,0.9s,baz=115,slow=8.5,SNR=10						
TAOE	**Nuku Hiva Isla**	**44.94**	**66**	*e*LR	LR	07 31 19.3	
	465nm,25.5s						
FITZ	**Fitzroy Crossi**	**50.11**	**274**	P	**P**	**07 19 41.6**	**+1.6**
	5.6nm,0.8s,baz=112,slow=9.6,SNR=7.0						
FINES	**FINESS Array B**	**147.60**	**336**	PKPbc	**PKPdf**	**07 30 22.8**	**-2.4**
	2.3nm,0.9s,baz=29,slow=4.4,SNR=3.8						
TORD	**Torodi Ar. Bea**	**159.10**	**187**	PKPab	**PKPab**	**07 31 18.3**	**-1.3**
	0.5nm,0.7s,baz=163,slow=4.2,SNR=5.9						

---

*IDC **06** 07:20:36.5±0.9, 51.˚91N×171.˚64W,h0km,mb3.9/7, mb1 4.1/8,mb1mx3.8/42,mbtmp3.8/8,ML3.5/1,Error ellipse: s-maj=41.4km s-min=20.6km az=150.0*
*NEIC **06** 07:20:42.5±0.0, 51.˚80N×171.˚46W,h43km,ML3.4(AEIC), After AEIC.*
*ISCJB **06** 07:20:43.2±0.9, 51.˚9N±0.˚1×171.˚54W±0.˚08,h63km±9km, mb3.8/7,Error ellipse: s-maj=24.4km s-min=3.9km az=163.8*
ISC 06 07:20:43.8±1.9, 51.˚9N±0.˚2×171.˚53W±0.˚06,h53km±18km, n34,σ0°89/35,mb3.7/7,Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KOSE	**Korovin Southe**	**1.62**	**288**	P	**Pn**	**07 21 10.9**	**+0.9**
KOFP	**Korovin Flat P**	**1.64**	**285**	P	**Pn**	**07 21 10.7**	**+0.5**
ATKA	**Atka Island**	**1.68**	**282**	P	**Pn**	**07 21 09.8**	**-0.9**
ATKA				S	**Sn**	**07 21 29.5**	**-1.6**
KOKV	**Korovin Volcan**	**1.69**	**287**	P	**Pn**	**07 21 11.4**	**+0.3**
KOKV				S	**Sn**	**07 21 33.3**	**+1.7**
KOKL	**Mount Kliuchef**	**1.71**	**286**	P	**Pn**	**07 21 11.5**	**+0.3**
NIKH	**Nikolski High**	**1.97**	**55**	P	**Pn**	**07 21 14.1**	**-0.6**
NIKH				S	**Sn**	**07 21 36.5**	**-1.7**
OKSO	**Okmok South**	**2.53**	**53**	P	**Pn**	**07 21 22.4**	**0.0**
OKSO				S	**Sn**	**07 21 53.1**	**+1.1**
OKWE	**Okmok W'ng Wal**	**2.56**	**50**	P	**Pn**	**07 21 23.8**	**+1.1**
OKFG	**Magazine Ridge**	**2.68**	**54**	P	**Pn**	**07 21 25.1**	**+0.7**
OKFG				S	**Sn**	**07 21 56.6**	**+0.9**
GSMY	**Great Sitkin M**	**2.81**	**275**	P	**Pn**	**07 21 26.3**	**+0.1**
GSTD	**Great Sitkin T**	**2.86**	**275**	P	**Pn**	**07 21 27.3**	**+0.3**
GSTD				S	**Sn**	**07 22 00.4**	**+0.2**
GSCK	**Great Sitkin C**	**2.87**	**274**	P	**Pn**	**07 21 27.4**	**+0.3**
ETKA	**Kagalaska Isla**	**3.02**	**272**	P	**Pn**	**07 21 28.9**	**-0.2**
ADAG	**Mount Adagdak**	**3.14**	**274**	P	**Pn**	**07 21 31.8**	**+1.0**
MSOM	**Makushin Julie**	**3.38**	**53**	P	**Pn**	**07 21 34.8**	**+0.8**
MGOD	**Makushin Gods**	**3.41**	**54**	P	**Pn**	**07 21 34.9**	**+0.4**
KIKV	**Kanaga Island**	**3.50**	**272**	P	**Pn**	**07 21 35.9**	**+0.3**
UNV	**Unalaska Valle**	**3.62**	**55**	P	**Pn**	**07 21 38.1**	**+0.8**
UNV				S	**Sn**	**07 22 18.6**	**-0.2**
TAFL	**Tanaga Flats**	**3.96**	**271**	P	**Pn**	**07 21 42.3**	**+0.4**
ILAR	**Eielson Array**	**18.11**	**35**	P	**P**	**07 24 48.9**	**-2.1**
	0.1nm,0.3s,baz=238,slow=10,SNR=3.7						
INK	**Inuvik**	**24.49**	**34**	P	**P**	**07 25 56.9**	**-0.7**
	2.1nm,0.9s,baz=253,slow=6.1,SNR=6.4						
YKA	**Yellowknife Ar**	**31.56**	**48**	P	**P**	**07 27 00.9**	**+0.2**
	0.4nm,0.6s,baz=274,slow=9.2,SNR=8.3						
H11N2	**WAKE ISLAND Hy**	**36.26**	**216**	T	T	08 06 17.8	
	baz=20,slow=75,SNR=13						
H11N3	**WAKE ISLAND Hy**	**36.27**	**216**	T	T	08 06 21.2	
	baz=20,slow=75,SNR=15						
H11N1	**WAKE ISLAND Hy**	**36.28**	**216**	T	T	08 06 16.9	
	baz=20,slow=75,SNR=11						
H11S1	**WAKE ISLAND Hy**	**37.46**	**215**	T	T	08 07 46.8	
	baz=22,slow=76,SNR=9.1						
H11S2	**WAKE ISLAND Hy**	**37.47**	**215**	T	T	08 07 52.4	
	baz=22,slow=76,SNR=7.4						
H11S3	**WAKE ISL

MULD					Sg		**Sg**	07 28 38.4	-0.2	
WERD	**Werda**	**0.23**	**336**	*i* Pg			**Pg**	07 28 37.0	+0.2	
WERD				*i* Sg			**Sg**	07 28 40.0	-0.1	
WERD				AML			AML	07 28 40.2		
	comp=E,553nm,0.1s									
WERD	**Werda**	**0.23**	**336**	*e*Pg			**Pg**	07 28 37.0	+0.2	
WERD				*e*Sg			**Sg**	07 28 39.9	-0.1	
WERD	**Werda**	**0.23**	**336**	Pg			**Pg**	07 28 37.0	+0.2	
WERD				Sg			**Sg**	07 28 39.9	-0.1	
TRIB	**Obertriebel**	**0.23**	**299**	*i* Pg			**Pg**	07 28 36.9	+0.2	
TRIB				*i* Sg			**Sg**	07 28 40.1	-0.1	
TRIB				AML			AML	07 28 40.4		
	comp=E,459nm,0.1s									
TRIB	**Obertriebel**	**0.23**	**299**	*e*Pg			**Pg**	07 28 37.0	+0.2	
TRIB				*e*Sg			**Sg**	07 28 40.0	-0.1	
TRIB	**Obertriebel**	**0.23**	**299**	Pg			**Pg**	07 28 37.0	+0.2	
TRIB				Sg			**Sg**	07 28 40.0	-0.1	
PLN	**Plauen**	**0.31**	**322**	*i* Pg			**Pg**	07 28 38.4	+0.2	
PLN				*i* Sg			**Sg**	07 28 42.5	+0.1	
PLN				AML			AML	07 28 42.6		
	comp=E,330nm,0.2s									
PLN	**Plauen**	**0.31**	**322**	*e*Pg			**Pg**	07 28 38.4	+0.2	
PLN				*e*Sg			**Sg**	07 28 42.5	+0.1	
PLN	**Plauen**	**0.31**	**322**	Pg			**Pg**	07 28 38.4	+0.2	
PLN				Sg			**Sg**	07 28 42.5	+0.1	
SCHF	**Schoenfels**	**0.44**	**356**	*i* Pg			**Pg**	07 28 40.8	+0.2	
SCHF				*i* Sg			**Sg**	07 28 46.6	+0.2	
SCHF				AML			AML	07 28 47.1		
	comp=E,495nm,0.3s									
SCHF	**Schoenfels**	**0.44**	**356**	*e*Pg			**Pg**	07 28 40.8	+0.2	
SCHF				*e*Sg			**Sg**	07 28 46.6	+0.2	
SCHF	**Schoenfels**	**0.44**	**356**	Pg			**Pg**	07 28 40.8	+0.2	
SCHF				Sg			**Sg**	07 28 46.6	+0.2	
ROTZ	**Rotzenmuhle**	**0.50**	**199**	*e*Pg			**Pg**	07 28 42.0	+0.4	
ROTZ				*e*Sg			**Sg**	07 28 48.6	+0.4	
ROTZ	**Rotzenmuhle**	**0.50**	**199**	Pg			**Pg**	07 28 42.0	+0.4	
ROTZ				Sg			**Sg**	07 28 48.6	+0.4	
MLFH	**Mildenfurth**	**0.60**	**337**	*i* Pg			**Pg**	07 28 43.6	+0.1	
MLFH				*i* Sg			**Sg**	07 28 51.6	+0.1	
MOX	**Moxa**	**0.67**	**308**	*e*Pg			**Pg**	07 28 45.0	+0.1	
MOX				*e*Sg			**Sg**	07 28 53.8	0.0	
MOX	**Moxa**	**0.67**	**308**	Pg			**Pg**	07 28 45.0	+0.1	
MOX				Sg			**Sg**	07 28 53.8	0.0	
GRA1	**Grafenberg Arr**	**0.97**	**236**	Pg			**Pg**	07 28 50.5	0.0	
GRA1				Sg			**Sg**	07 29 02.8	-0.2	
GRF	**Grafenberg Arr**	**0.97**	**236**	*e*Pg			**Pg**	07 28 50.5	0.0	
GRF				*e*Sg			**Sg**	07 29 02.8	-0.2	
CLL	**Collm**	**1.13**	**18**	*e*Pg			**Pb**	07 28 53.4	0.0	
CLL				*e*Sg			**Sg**	07 29 08.0	-0.1	
CLL	**Collm**	**1.13**	**18**	Pg			**Pb**	07 28 53.4	0.0	
CLL				Sg			**Sg**	07 29 08.0	-0.1	
CLL	**Collm**	**1.13**	**18**	*i* Pg			**Pb**	07 28 53.3	0.0	
CLL				*i*				07 28 55.4		
CLL				*i* Sg			**Sn**	07 29 08.9	-0.1	
	comp=Z,38nm,0.4s									
WET	**Wettzell**	**1.13**	**166**⇑	*e*PG			**Pb**	07 28 53.4	+0.1	
WET				*e*SG			**Sg**	07 29 07.6	-0.6	
WET	**Wettzell**	**1.13**	**166**	*e*Pg			**Pb**	07 28 53.5	+0.1	
WET				*e*Sg			**Sg**	07 29 07.7	-0.6	
WET	**Wettzell**	**1.13**	**166**	Pg			**Pb**	07 28 53.5	+0.1	
WET				Sg			**Sg**	07 29 07.7	-0.6	
BRG	**Berggiesshubel**	**1.14**	**56**	PG			**Pb**	07 28 53.5	-0.1	
BRG				SG			**Sg**	07 29 08.6	-0.1	
	comp=Z,46nm,0.3s									
BRG	**Berggiesshubel**	**1.14**	**56**	*e*Pg			**Pg**	07 28 53.8	0.0	
BRG				*e*Sg			**Sb**	07 29 08.2	-0.2	
BRG	**Berggiesshubel**	**1.14**	**56**	Pg			**Pg**	07 28 53.8	0.0	
BRG				Sg			**Sb**	07 29 08.2	-0.2	
PRA	**Prague**	**1.28**	**97**⇑	*e*SG			**Sb**	07 29 12.6	+0.1	
	comp=Z,22nm,0.5s									
PRA	**Prague**	**1.28**	**97**	Sg			**Sb**	07 29 12.6	+0.1	
	comp=Z,22nm,0.5s									
KHC	**Kasperske Hory**	**1.33**	**146**	*e*PG			**Pb**	07 28 56.8	0.0	
KHC				*e*SG			**Sb**	07 29 13.4	-0.4	
	comp=Z,23nm,0.3s									
KHC	**Kasperske Hory**	**1.33**	**146**	Pg			**Pb**	07 28 56.8	0.0	
KHC				Sg			**Sb**	07 29 13.4	-0.4	
	comp=Z,23nm,0.3s									
PRU	**Pruhonice**	**1.37**	**100**⇑	*e*PG			**Pb**	07 28 57.4	0.0	
PRU				*e*SG			**Sb**	07 29 14.6	-0.3	
	comp=Z,23nm,0.2s									
PRU	**Pruhonice**	**1.37**	**100**	Pg			**Pb**	07 28 57.4	0.0	
PRU				Sg			**Sb**	07 29 14.6	-0.3	
	comp=Z,23nm,0.2s									
PVCC	**Panska Ves**	**1.38**	**77**⇑	*e*PG			**Pg**	07 28 59.4	+1.0	
PVCC				*e*SG			**Sg**	07 29 16.7	+0.3	
	comp=Z,53nm,0.2s									
PVCC	**Panska Ves**	**1.38**	**77**	Pg			**Pg**	07 28 59.4	+1.0	
PVCC				Sg			**Sg**	07 29 16.7	+0.3	
	comp=Z,53nm,0.2s									
GOPC	**GO Pecny, Ondr**	**1.54**	**101**	*e*PG			**Pb**	07 29 00.5	+0.2	
GOPC				*e*SG			**Sb**	07 29 20.4	+0.6	
	comp=Z,18nm,0.2s									
GOPC	**GO Pecny, Ondr**	**1.54**	**101**	Pg			**Pb**	07 29 00.5	+0.2	
GOPC				Sg			**Sb**	07 29 20.4	+0.6	
	comp=Z,18nm,0.2s									
UPC	**Upice**	**2.29**	**82**⇑	*e*SG			**Sb**	07 29 43.4	+1.9	
	comp=Z,16nm,0.7s									
UPC	**Upice**	**2.29**	**82**	Sg			**Sb**	07 29 43.4	+1.9	
	comp=Z,16nm,0.7s									
DPC	**Dobruska-Polom**	**2.48**	**86**	*e*PG			**Pb**	07 29 17.1	+0.6	
DPC				*e*SG			**Sg**	07 29 49.4	-2.2	
	comp=Z,6.6nm,0.3s									
DPC	**Dobruska-Polom**	**2.48**	**86**	Pg			**Pb**	07 29 17.1	+0.6	
DPC				Sg			**Sg**	07 29 49.4	-2.2	
	comp=Z,6.6nm,0.3s									
MOA	**Molln**	**2.67**	**153**	Pg			**Pg**	07 29 22.6	-0.4	
	comp=Z,0.5nm,0.2s									
MOA				Sn			**Sn**	07 29 47.6	+0.5	
	comp=Z,0.3nm,0.1s									
KRLC	**Kraliky**	**2.79**	**92**	*e*SG			**Sg**	07 30 00.0	-1.3	
KRLC	**Kraliky**	**2.79**	**92**	Sg			**Sg**	07 30 00.0	-1.3	
VRAC	**Vranov**	**2.84**	**108**	*e*Sg			**Sb**	07 30 00.1	+2.8	
WTTA	**Wattenberg**	**3.02**	**191**	Sn			**Sn**	07 29 56.3	+0.2	
	comp=Z,0.5nm,0.1s									
KBA	**Koelnbreinsper**	**3.22**	**169**	Pn			**Pn**	07 29 21.5	-0.9	
	comp=Z,0.2nm,0.1s									
KBA				Sg			**Sg**	07 30 15.8	+0.7	
	comp=Z,4.3nm,0.5s									
CONA	**Conrad Observa**	**3.22**	**135**	Pg			**Pg**	07 29 32.5	-1.0	
	comp=Z,0.2nm,0.1s									
CONA				Sg			**Sg**	07 30 16.4	+1.2	
	comp=Z,1.5nm,0.2s									
FETA	**Feichten**	**3.42**	**200**	Sn			**Sn**	07 30 06.0	+0.3	
	comp=Z,0.1nm,0.1s									
ABTA	**Abfaltersbach**	**3.49**	**179**	Sn			**Sn**	07 30 06.3	-1.2	
	comp=Z,0.4nm,0.1s									
ARSA	**Arzberg**	**3.61**	**145**	Sg			**Sg**	07 30 30.3	+2.5	
	comp=Z,0.4nm,0.2s									
OBKA	**Obir**	**3.98**	**159**	Sn			**Sn**	07 30 19.7	+0.1	
	comp=Z,3.6nm,0.3s									

IDC ***06*** *07:50:32.7±1.1,54˚36N×162˚78W,h0km,mb4.6/28, mb1 4.7/30,mb1mx4.4/49,mbtmp4.5/30,ML4.2/2,MS3.5/9, Ms1 3.6/9,ms1mx3.4/30,Error ellipse: s-maj=27.5km s-min=12.9km az=166.0*

NEIC ***06*** *07:50:35.4±0.0,54˚16N×162˚50W,h9km,mb4.7/42, ML4.3(AEIC),After AEIC.*

MOS ***06*** *07:50:37.0±0.9,54˚56N×162˚77W,h33km,mb5.1/32, MS4.4/4,Error ellipse: s-maj=11.2km s-min=5.3km az=89.1*

ISCJB ***06*** *07:50:38.7±0.3,54˚57N±0˚04×162˚72W±0˚04,h47km±2km, mb4.7/108,MS3.9/15,Error ellipse: s-maj=7.3km s-min=2.7km az=156.3*

BJI ***06*** *07:50:38.1,54˚70N×163˚47W,h30km,mb4.9/34, mB5.0/23,Ms4.9/13,Ms7 4.6/11*

ISC 06 07:50:37.0±0.9,**54˚43N**±0˚06×**162˚69W**±0˚03,**h25**km±5km, **n317**,σ1§**45**/324,**mb4.8**/108,**MS4.0**/18,**20C-8D**,**Alaska Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DRIA	**Deer Island**	**0.59**	**24**	P	**Pn**	**07 50 51.0**	**+1.2**
DT1	**Dutton Round H**	**0.72**	**19**	P	**Pn**	**07 50 53.1**	**+1.6**
DTNA	**Dutton South F**	**0.77**	**19**	P	**Pn**	**07 50 53.9**	**+1.7**
SSLN	**Shishaldin Nor**	**0.85**	**297**	P	**Pn**	**07 50 56.6**	**+3.2**
DOL	**Dolgoi Island**	**0.87**	**33**	P	**Pn**	**07 50 54.5**	**+0.9**
SSLW	**Shishaldin Wes**	**0.91**	**293**	P	**Pn**	**07 50 56.6**	**+2.5**
PS4A	**Pavlof South-4**	**1.04**	**27**	P	**Pb**	**07 50 58.0**	**+1.8**
PVV	**Pavlof Volcano**	**1.08**	**28**	P	**Pb**	**07 50 58.5**	**+1.5**
WESE	**West Dahl East**	**1.11**	**273**	P	**Pb**	**07 50 58.5**	**+0.9**
WESN	**West Dahl Nort**	**1.12**	**278**	P	**Pb**	**07 50 59.0**	**+1.5**
PN6	**Pavlof North-6**	**1.12**	**23**	P	**Pb**	**07 51 00.6**	**+3.0**
WESP	**Westdahl Peak**	**1.19**	**274**	P	**Pb**	**07 50 59.9**	**+1.0**
SDPT	**Sand Point**	**1.58**	**53**	P	**Pb**	**07 51 04.2**	**-1.2**
SDPT				S	**Sb**	**07 51 25.7**	**+0.8**
AKSA	**Akutan Strait**	**1.79**	**262**	P	**Pn**	**07 51 06.8**	**+0.6**
AKSA				S	**Sb**	**07 51 30.9**	**0.0**
AKUT	**Akutan**	**1.83**	**262**	P	**Pn**	**07 51 07.7**	**+1.0**
AKUT				S	**Sb**	**07 51 32.1**	**-0.1**
AKLV	**Akutan Long Va**	**1.94**	**263**	P	**Pn**	**07 51 09.5**	**+1.3**
AKGG	**Akutan Green G**	**1.95**	**265**	P	**Pb**	**07 51 10.2**	**-1.6**
AKGG				S	**Sb**	**07 51 35.9**	**+0.3**
AKMO	**Akutan Morgan**	**1.98**	**262**	P	**Pn**	**07 51 10.2**	**+1.4**
AKRB	**Akutan Reef Bi**	**2.01**	**263**	P	**Pb**	**07 51 11.3**	**-1.4**
UNV	**Unalaska Valle**	**2.32**	**257**	P	**Pn**	**07 51 14.2**	**+0.8**
UNV				S	**Sn**	**07 51 42.1**	**+1.0**
MTBL	**Makushin Table**	**2.39**	**261**	P	**Pn**	**07 51 16.0**	**+1.5**
MSW	**Makushin Switc**	**2.46**	**260**	P	**Pn**	**07 51 16.3**	**+0.8**
VNWF	**Veniaminof 8**	**2.49**	**45**	P	**Pb**	**07 51 19.1**	**-1.8**
MGOD	**Makushin Gods**	**2.54**	**257**	P	**Pn**	**07 51 17.6**	**+1.0**
VNNF	**Veniaminof 3**	**2.68**	**45**	P	**Pb**	**07 51 21.9**	**-2.3**
VNHG	**Veniaminof 1**	**2.70**	**47**	P	**Pb**	**07 51 21.8**	**-2.7**
CHGN	**Chignik**	**3.08**	**51**	P	**Pn**	**07 51 25.7**	**+1.9**
OKTU	**Okmok Mt. Tuli**	**3.34**	**254**	P	**Pn**	**07 51 29.4**	**+2.0**
ANPK	**Aniakchak Peak**	**3.54**	**45**	P	**Pn**	**07 51 32.3**	**+2.0**
NIKH	**Nikolski High**	**3.94**	**251**	P	**Pn**	**07 51 36.2**	**+0.5**
SPIA	**Saint Paul Isl**	**5.08**	**306**	*e*Pn	**Pn**	**07 51 48.1**	**-3.2**
KABU	**Katmai Buttres**	**5.64**	**44**	P	**Pn**	**07 52 00.9**	**+1.8**
KABR	**Katmai Barrier**	**5.68**	**46**	P	**Pn**	**07 52 01.1**	**+1.5**
OHAK	**Old Harbor**	**5.99**	**58**	P	**Pn**	**07 52 02.5**	**-1.3**
KDAK	**Kodiak Island**	**6.58**	**55**	eP	**Pn**	**07 52 11.3**	**-0.5**
KDAK	**Kodiak Island**	**6.58**	**55**	*e*Pn	**Pn**	**07 52 11.3**	**-0.5**
ATKA	**Atka Island**	**7.25**	**257**	*e*Pn	**Pn**	**07 52 22.6**	**+1.6**
SVW2	**Sparrevohn**	**7.69**	**27**	*e*Pn	**Pn**	**07 52 31.6**	**+4.4**
CNPM	**China Poot**	**8.07**	**46**	*e*Pn	**Pn**	**07 52 34.1**	**+1.7**
BRLK	**Bradley Lake**	**8.35**	**45**	*e*Sn	**Sn**	**07 54 09.7**	**0.0**
TT01	**Tatalina**	**9.18**	**19**	*e*Pn	**Pn**	**07 52 51.3**	**+3.7**
TTA	**Tatalina**	**9.20**	**19**	*e*P	**Pn**	**07 52 48.2**	**+0.2**
TTA	**Tatalina**	**9.20**	**19**	*e*Pn	**Pn**	**07 52 48.2**	**+0.2**
RC01	**Rabbit Creek A**	**9.60**	**41**	*e*Pn	**Pn**	**07 52 54.8**	**+1.4**
RC01				*e*Sn	**Sn**	**07 54 40.1**	**-0.2**
PPLA	**Purkeypile**	**10.09**	**28**	*e*Pn	Pn	07 53 05.8	+5.7
PMR	**Palmer**	**10.15**	**40**	*e*P	**Pn**	**07 53 01.5**	**+0.7**
PMR	**Palmer**	**10.15**	**40**	*e*Pn	**Pn**	**07 53 01.5**	**+0.7**
CAST	**Castle Rocks**	**10.54**	**27**	*e*Pn	**Pn**	**07 53 08.8**	**+2.6**
SML	**Sawmill**	**10.58**	**40**	*e*P	**Pn**	**07 53 06.7**	**-0.1**
SML	**Sawmill**	**10.58**	**40**	*e*Pn	**Pn**	**07 53 06.7**	**-0.1**
FID	**Port Fidalgo**	**10.74**	**47**	*e*Pn	**Pn**	**07 53 08.0**	**-0.9**
FID				*e*Sn	**Sn**	**07 55 05.6**	**-2.7**
EYAK	**Cordova Ski Ar**	**10.97**	**49**	*e*Pn	**Pn**	**07 53 11.9**	**-0.1**
EYAK				*e*Sn	**Sn**	**07 55 09.6**	**-4.1**
SCM	**Sheep Creek Mo**	**10.98**	**41**	*e*P	**Pn**	**07 53 12.4**	**+0.1**
SCM	**Sheep Creek Mo**	**10.98**	**41**	*e*Pn	**Pn**	**07 53 12.4**	**+0.1**
TRF	**Thorofare Moun**	**11.06**	**30**	*e*Pn	**Pn**	**07 53 15.4**	**+2.0**
DIV	**Divide**	**11.23**	**46**	*e*Pn	**Pn**	**07 53 15.5**	**-0.2**
DIV				*e*Sn	**Sn**	**07 55 18.0**	**-2.2**
RND	**Reindeer**	**11.47**	**33**	*e*P	**Pn**	**07 53 18.9**	**0.0**
RND	**Reindeer**	**11.47**	**33**	*e*Pn	**Pn**	**07 53 18.9**	**0.0**
BMRM	**Bremner River**	**11.66**	**49**	*e*Pn	**Pn**	**07 53 21.7**	**+0.2**
BMRM				*e*Sn	**Sn**	**07 55 29.1**	**-1.6**
DHY	**Denali Highway**	**11.73**	**36**	*e*Pn	**Pn**	**07 53 22.5**	**-0.1**
HARP	**HAARP**	**12.14**	**42**	*e*Pn	**Pn**	**07 53 28.4**	**+0.3**
WRH	**Wood River Hil**	**12.47**	**30**	*e*Pn	**Pn**	**07 53 32.1**	**-0.5**
CCB	**Clear Creek Bu**	**12.69**	**30**	*e*Pn	**Pn**	**07 53 34.1**	**-1.4**
MDM	**Murphy Dome**	**12.79**	**29**	*e*Pn	**Pn**	**07 53 36.7**	**-0.3**
COLA	**College**	**12.84**	**29**	*e*P	**Pn**	**07 53 37.8**	**+0.3**
COLA				pmax	pmax		
	comp=Z,9.0nm,0.8s						
COLA	**College**	**12.84**	**29**	*e*Pn	**Pn**	**07 53 37.8**	**+0.3**
	comp=Z,9.2nm,0.8s						
MENT	**Mentasta**	**12.99**	**41**	*e*Pn	**Pn**	**07 53 40.7**	**+1.0**
IL1	**Eielson Array**	**13.05**	**31**	*e*Pn	**Pn**	**07 53 40.3**	**-0.1**
ILAR	**Eielson Array**	**13.05**	**31**	Pn	**Pn**	**07 53 38.4**	**-2.1**
	comp=Z,0.4nm,0.3s,baz=222,slow=13,SNR=19						
ILAR				Sn	**Sn**	**07 56 01.2**	**-3.3**
	comp=Z,0.3nm,0.3s,baz=186,slow=8.4,SNR=5.0						
ILAR				LR	LR	07 59 12.0	
	comp=Z,493nm,20.0s,baz=235,slow=40						
ILB	**Eielson Array**	**13.05**	**31**	*e*Pn	**Pn**	**07 53 39.4**	**-1.1**
DOT	**Dot Lake**	**13.26**	**38**	*e*Pn	**Pn**	**07 53 43.7**	**+0.4**
COLD	**Coldfoot**	**14.17**	**20**	*e*Pn	**Pn**	**07 53 58.9**	**+3.3**
HYT	**Haines Junctio**	**14.87**	**54**	*e*Pn	**Pn**	**07 54 06.9**	**+1.6**
EGAK	**Eagle**	**14.95**	**38**	*e*Pn	**Pn**	**07 54 06.5**	**+0.3**
DAWY	**Dawson**	**15.24**	**41**	*e*Pn	**Pn**	**07 54 09.5**	**-0.7**
	comp=Z,14nm,0.8s						
WHY	**Whitehorse**	**16.09**	**56**	*e*Pn	**P**	**07 54 23.7**	**-0.7**
	comp=Z,48nm,1.4s						
INK	**Inuvik**	**19.43**	**33**	P	**P**	**07 54 59.2**	**-1.7**
	comp=Z,0.7nm,0.3s,baz=224,slow=13,SNR=18						
BILL	**Bilibino**	**19.91**	**325**	*e*P	**Pn**	**07 55 07.0**	**-1.0**
BILL				pmax	pmax		
	comp=Z,6.0nm,1.0s						
BILL				MLR	MLR		
	comp=Z,282nm,20.0s						
PET	**Petropavlovsk**	**22.73**	**282**	*e*P	**P**	**07 55 29.6**	**-7.1**
PET				*e*S	S	07 59 29.0	-14
PET				pmax	pmax		
	comp=Z,45nm,1.2s						
PET				MLR	MLR		
	comp=Z,300nm,18.0s						
PET				MLR	MLR		
	comp=Z,300nm,17.0s						
PET	**Petropavlovsk**	**22.73**	**282**	*e*P	**P**	**07 55 37.8**	**+1.1**
	comp=Z,56nm,1.2s						
PEA0	**Petropavlovsk-**	**23.25**	**283**	*e*P	**P**	**07 55 42.2**	**+0.2**
PEA0B	**Petropavlovsk-**	**23.25**	**283**	*e*P	**P**	**07 55 42.3**	**+0.3**
	comp=Z,124nm,1.4s						
PETK	**Petropavlovsk-**	**23.25**	**283**	P	**P**	**07 55 40.9**	**-1.1**
	comp=Z,22nm,0.5s,baz=78,slow=14,SNR=35						
PETK				LR	LR	08 04 05.0	
	comp=Z,240nm,20.9s,baz=127,slow=35						
SEY	**Seymchan**	**24.38**	**308**	P	**P**	**07 55 51.8**	**-0.8**
	comp=Z,4.3nm,0.8s,baz=90,slow=9.7,SNR=5.8						
SEY	**Seymchan**	**24.38**	**308**⇑	*e*P	**P**	**07 55 52.0**	**-0.6**
MA2	**Magadan**	**25.43**	**301**	P	**P**	**07 56 02.2**	**-0.1**
	comp=Z,5.8nm,0.6s,baz=62,slow=13,SNR=4.3						
MA2	**Magadan**	**25.43**	**301**	*e*P	**P**	**07 56 02.9**	**+0.7**
YKA	**Yellowknife Ar**	**25.84**	**52**	P	**P**	**07 56 06.3**	**+0.4**
	comp=Z,2.8nm,0.5s,baz=272,slow=9.2,SNR=24						
YKA				LR	LR	08 05 38.5	
	comp=Z,25nm,21.8s,baz=180,slow=35						
YKA	**Yellowknife Ar**	**25.84**	**52**	*i* P	**P**	**07 56 07.8**	**+1.9**
YKA				pmax	pmax		
	comp=Z,3.0nm,0.5s						
G06A	**Carlson Farm,**	**28.26**	**91**	*e*P	P	07 56 33.7	+5.9
	comp=Z,21nm,2.0s						
HAWA	**Hanford**	**28.26**	**89**	*e*P	**P**	**07 56 30.6**	**+2.7**
	comp=Z,2.6nm,0.8s						
WVOR	**Wild Horse Val**	**31.08**	**94**	*e*P	**P**	**07 56 55.3**	**+2.4**
WVOR				pmax	pmax		
	comp=Z,3.0nm,0.9s						
WVOR	**Wild Horse Val**	**31.08**	**94**	*e*P	**P**	**07 56 55.3**	**+2.4**
	comp=Z,3.1nm,0.9s						
MFID	**Camas Ranch**	**32.12**	**90**	*e*P	**P**	**07 57 04.8**	**+2.7**
	comp=Z,3.1nm,0.9s						
PAHR	**Pah Rah Range**	**32.39**	**99**	*e*P	**P**	**07 57 07.9**	**+3.4**
	comp=Z,8.4nm,1.5s						
CMB	**Columbia Colle**	**32.94**	**102**	*e*P	P	07 57 15.6	+6.3
CMB				pmax	pmax		
	comp=Z,4.0nm,1.2s						
CMB	**Columbia Colle**	**32.94**	**102**	*e*P	P	07 57 15.6	+6.4
	comp=Z,3.8nm,1.2s						
YERR	**Yerington**	**32.95**	**100**	*e*P	**P**	**07 57 09.6**	**0.0**
	comp=Z,15nm,1.7s						
TIXI	**Tiksi**	**33.10**	**327**	*ce*P	**P**	**07 57 09.0**	**-1.2**
TIXI				pmax	pmax		
	comp=Z,7.0nm,0.9s						
TIXI	**Tiksi**	**33.10**	**327**	*e*P	**P**	**07 57 09.2**	**-1.0**
	comp=Z,7.1nm,0.9s						
YHH	**Holmes Hill**	**34.22**	**85**	*e*P	**P**	**07 57 22.8**	**+2.2**
	comp=Z,3.3nm,0.9s						
PAGB	**Antelope Grade**	**34.65**	**105**	*e*P	**P**	**07 57 26.6**	**+2.6**
	comp=Z,7.8nm,1.1s						
YAK	**Yakutsk**	**34.87**	**310**	*e*P	**P**	**07 57 24.5**	**-1.1**
YAK				pmax	pmax		
	comp=Z,16nm,0.7s						
R11A	**Troy Canyon, C**	**35.49**	**97**	*e*P	**P**	**07 57 35.0**	**+3.4**
	comp=Z,4.9nm,1.3s						
TPNV	**Topopah Spring**	**36.07**	**100**	*e*P	**P**	**07 57 36.1**	**-0.4**
TPNV				pmax	pmax		
	comp=Z,7.0nm,1.0s						
TPNV	**Topopah Spring**	**36.07**	**100**	*e*P	**P**	**07 57 36.0**	**-0.4**
	comp=Z,7.1nm,1.0s						
FCC	**Fort Churchill**	**36.51**	**55**	*e*P	**P**	**07 57 40.4**	**+0.6**
FCC				pmax	pmax		
	comp=Z,55nm,1.5s						
FCC	**Fort Churchill**	**36.51**	**55**	*e*P	**P**	**07 57 40.4**	**+0.6**
	comp=Z,55nm,1.5s						
ERM	**Erimo**	**37.24**	**273**	*e*P	**P**	**07 57 45.8**	**-0.3**
ERM				pmax	pmax		
	comp=Z,172nm,1.7s						
ERM	**Erimo**	**37.24**	**273**	*e*P	**P**	**07 57 45.8**	**-0.3**
	comp=Z,172nm,1.7s						
LDFC	**Landfair**	**38.04**	**101**	*e*P	**P**	**07 57 54.4**	**+1.3**
	comp=Z,9.4nm,1.0s						
RSSD	**Black Hills**	**38.56**	**81**	*e*P	**P**	**07 58 00.4**	**+2.9**
RSSD				pmax	pmax		
	comp=Z,3.0nm,0.7s						
RSSD	**Black Hills**	**38.56**	**81**	*e*P	**P**	**07 58 00.4**	**+2.9**
	comp=Z,3.2nm,0.7s						
O20A	**White River Ci**	**38.60**	**89**	*e*P	**P**	**07 58 01.6**	**+3.7**
	comp=Z,9.3nm,1.1s						
MDND	**Maddock**	**38.92**	**73**	*e*P	**P**	**07 58 00.2**	**-0.1**
	comp=Z,23nm,1.0s						
KLR	**Kul'dur**	**39.53**	**290**	*i* P	**P**	**07 58 04.8**	**-0.5**
ULM	**Lac du Bonnet**	**39.65**	**68**	P	**P**	**07 58 05.5**	**-0.8**
	comp=Z,7.5nm,0.9s,baz=306,slow=9.2,SNR=6.3						
AGMN	**Agassiz Nation**	**40.74**	**70**	*e*P	**P**	**07 58 14.4**	**-1.0**
	comp=Z,12nm,1.1s						
H11N2	**WAKE ISLAND Hy**	**41.67**	**226**	T	T	08 42 48.3	
	baz=27,slow=76,SNR=569						
H11N3	**WAKE ISLAND Hy**	**41.67**	**226**	T	T	08 42 52.1	
	baz=27,slow=76,SNR=355						
H11N1	**WAKE ISLAND Hy**	**41.68**	**226**	T	T	08 42 48.7	
	baz=27,slow=76,SNR=265						
USRK	**Ussuriysk Ar.**	**42.33**	**284**	LR	LR	08 16 00.4	
	comp=Z,87nm,21.0s,baz=90,slow=36						
H11S1	**WAKE ISLAND Hy**	**42.84**	**225**	T	T	08 44 14.8	
	baz=26,slow=76,SNR=578						
H11S2	**WAKE ISLAND Hy**	**42.85**	**225**	T	T	08 44 15.8	
	baz=26,slow=76,SNR=514						
H11S3	**WAKE ISLAND Hy**	**42.86**	**225**	T	T	08 44 16.1	
	baz=26,slow=76,SNR=514						
ANMO	**Albuquerque**	**43.15**	**93**	*ce*P	**P**	**07 58 36.0**	**+0.6**
EYMN	**Ely**	**43.33**	**68**	*e*P	**P**	**07 58 35.5**	**-1.0**
	comp=Z,8.9nm,0.9s						
MJAR	**Matsushiro Arr**	**43.72**	**271**	P	**P**	**07 58 38.9**	**-0.9**
	comp=Z,2.8nm,0.6s,baz=35,slow=5.6,SNR=8.7						
MJAR				LR	LR	08 15 50.9	
	comp=Z,36nm,21.8s,baz=65,slow=35						
**M

comp=Z,410nm,18.6s
KURBB **Kurchatov Arra** 63.49 321 P P 08 01 04.7 +0.3
comp=Z,4.8nm,0.8s,baz=33,slow=6.8,SNR=18
KLMR **Klimovskoe** 63.72 348 eP P 08 01 04.3 -1.4
KLMR pmax pmax
comp=Z,16nm,1.2s
BVAR **Borovoye Array** 64.23 328 P P 08 01 09.9 +0.6
comp=Z,12nm,0.6s,baz=38,slow=7.5,SNR=23
BRVK **Borovoye** 64.24 328 ceP P 08 01 10.6 +1.3
BRVK pmax pmax
comp=Z,21nm,0.8s
BRVK **Borovoye** 64.24 328 eP P 08 01 09.2 -0.1
comp=Z,13nm,0.7s
FIA1 **FINESS Array S** 64.27 355 eP P 08 01 09.1 -0.2
FINES **FINESS Array B** 64.27 355 P P 08 01 08.9 -0.4
comp=Z,6.6nm,0.8s,baz=27,slow=9.0,SNR=9.0
ARU **Arti** 64.49 336 P P 08 01 10.9 +0.1
comp=Z,4.4nm,0.3s,baz=13,slow=8.2,SNR=12
ARU **Arti** 64.49 336 c iP P 08 01 10.9 +0.1
ARU 08 03 29.8
ARU S S 08 09 48.7 +0.9
ARU pmax pmax
comp=Z,17nm,1.0s
NC405 **NORSAR Array S** 64.72 3 eP P 08 01 11.9 -0.4
NB2 **NORSAR Subarra** 64.78 3 P P 08 01 12.4 -0.3
comp=Z,11nm,1.1s,baz=358,slow=6.5
NOA **NORSAR Array B** 64.78 3 P P 08 01 12.8 0.0
comp=Z,5.2nm,0.9s,baz=356,slow=6.6,SNR=8.0
MK31 **Makanchi Array** 65.18 317 eP P 08 01 15.2 -0.4
MK31 **Makanchi Array** 65.18 317 eP P 08 01 15.2 -0.4
MKAR **Makanchi Array** 65.18 317 eP P 08 01 15.2 -0.4
MKAR pmax pmax
comp=Z,22nm,0.7s
MKAR **Makanchi Array** 65.18 317 eP P 08 01 15.2 -0.4
comp=Z,22nm,0.7s
MAKZ **Makanchi** 65.29 317 eP P 08 01 15.9 -0.4
MAKZ pmax pmax
comp=Z,4.0nm,0.7s
MAKZ **Makanchi** 65.29 317 eP P 08 01 15.9 -0.4
comp=Z,3.9nm,0.7s
WMQ **Urumqi** 65.30 311 eP P 08 01 17.6 +1.2
WMQ pP sP 08 01 27.8 +0.4
WMQ PP PP 08 03 43.7 +4.0
WMQ S S 08 09 53.7 -4.6
WMQ pmax pmax
comp=Z,14nm,0.7s
WMQ pmax pmax
comp=Z,89nm,4.3s
WMQ LR LR
comp=Z,110nm,26.3s
WMQ LR LR
comp=Z,61nm,26.3s
TAOE **Nuku Hiva Isla** 65.84 155 eT T 09 12 35.2
comp=Z,119nm,0.3s
CD2 **Chengdu** 67.44 292⇑ iP P 08 01 30.1 -0.2
CD2 sP sP 08 01 42.0 +0.7
CD2 PP PP 08 03 59.9 +1.2
CD2 S S 08 10 19.4 -5.2
CD2 SS SS 08 14 39.8 -4.5
CD2 pmax pmax
comp=Z,30nm,0.9s
CD2 pmax pmax
comp=Z,190nm,7.6s
CD2 LR LR
comp=Z,130nm,11.4s
CD2 LR LR
comp=Z,170nm,9.5s
PDGK **Podgornoye** 69.16 316 P P 08 01 40.3 -0.7
ESK **Eskdalemuir** 69.33 12 eP P 08 01 41.9 +0.3
ESK pmax pmax
comp=Z,137nm,1.8s
ESK **Eskdalemuir** 69.33 12 eP P 08 01 41.9 +0.3
comp=Z,137nm,1.8s
OBN **Obninsk** 69.68 348 ceP P 08 01 43.0 -0.8
OBN e 08 02 07.8
OBN e 08 04 16.4
OBN pmax pmax
comp=Z,12nm,1.0s
OBN MLR MLR
comp=Z,160nm,22.0s
AKTO **Aktyubinsk** 70.09 334 P P 08 01 45.5 -0.9
comp=Z,9.6nm,0.8s,baz=44,slow=4.0,SNR=3.8
ABKAR **Akbulak array** 70.65 332 eP P 08 01 50.3 +0.5
comp=Z,127nm,0.9s
AAK **Ala-Archa** 71.70 319 P P 08 01 56.9 +0.4
comp=Z,4.7nm,0.5s,baz=164,slow=3.6,SNR=4.7
LPSR **Galich'ya Gora** 71.84 346 eP P 08 01 54.8 -2.1
LPSR pmax pmax
comp=Z,10.0nm,0.9s
KMI **Kunming** 72.52 289 P P 08 02 02.4 +0.6
KMI pmax pmax
comp=Z,14nm,0.5s
PPT **Papeete** 72.58 167 LR LR 08 25 36.9
comp=Z,83nm,21.9s,baz=343,slow=29
TIAR **Tiarei** 72.60 167 eT T 09 21 01.0
comp=Z,11nm,0.2s
PPT2 **Papeete2** 72.60 167 eLR LR 08 24 00.3
comp=Z,131nm,22.8s
PPT2 **Papeete2** 72.60 167 eT T 09 21 00.3
comp=Z,1.6nm,0.3s
TVO **Taravao** 72.83 167 eT T 09 21 17.8
comp=Z,1.2nm,0.3s
VSR **Storozhevoye** 73.15 346 eP P 08 02 03.7 -1.1
VSR pmax pmax
comp=Z,20nm,0.9s
QIZ **Qiongzhong** 73.30 279 P P 08 02 06.3 +0.1
QIZ pmax pmax
comp=Z,9.0nm,1.4s
KSH **Kashi** 73.79 317 P P 08 02 12.1 +3.1
KSH pP PcP 08 02 22.2 -2.3
KSH PP PP 08 04 58.2 +5.2
KSH S S 08 11 38.9 +0.4
KSH sS sS 08 11 55.6 +3.7
KSH SS SS 08 16 25.4 +4.0
KSH pmax pmax
comp=Z,20nm,1.1s
KSH pmax pmax
comp=Z,61nm,4.6s
KSH LR LR
comp=Z,210nm,11.1s
KSH LR LR
comp=Z,110nm,6.6s
KSH LR LR
comp=Z,150nm,5.8s
CLL **Collm** 74.58 3 iP P 08 02 13.2 +0.1
CLL pmax pmax
comp=Z,32nm,2.2s
CLL **Collm** 74.58 3 iP P 08 02 13.2 +0.1
comp=Z,32nm,2.2s
CLL L L 08 42 00.0
comp=Z,200nm,20.8s
AKASG **Malin Array Be** 74.77 352 P P 08 02 13.5 -0.8
comp=Z,9.4nm,0.7s,baz=11,slow=6.0,SNR=15
AKBB **Malin Array Si** 74.77 352 eP P 08 02 13.5 -0.8
AKBB pmax pmax
comp=Z,14nm,0.8s
AKBB **Malin Array Si** 74.77 352 eP P 08 02 13.5 -0.8
comp=Z,14nm,0.8s
KIEV **Kiev** 74.78 352 ciP P 08 02 13.3 -1.0
KIEV pmax pmax
comp=Z,16nm,0.9s
KIEV **Kiev** 74.78 352 eP P 08 02 13.8 -0.5
comp=Z,15nm,0.9s
AK11 **Malin Array Si** 74.80 352 eP P 08 02 13.4 -1.0
SLVN **Son La** 74.86 285 eP P 08 02 15.7 +0.3
comp=Z,13nm,1.2s
BRG **Berggiesshubel** 75.03 2 iP P 08 02 15.8 0.0
comp=Z,9.6nm,1.1s
BRG **Berggiesshubel** 75.03 2 iP P 08 02 15.8 0.0
BRG pmax pmax
comp=Z,10.0nm,1.1s
PVCC **Panska Ves** 75.39 2 eP P 08 02 18.6 +0.7
PVCC AMS AMS 08 43 10.0
comp=Z,200nm,18.9s
PVCC **Panska Ves** 75.39 2 eP P 08 02 18.6 +0.7
PVCC MLR MLR
comp=Z,200nm,18.9s
DPC **Dobruska-Polom** 75.59 1 eP P 08 02 19.6 +0.5
DPC AMS AMS 08 46 00.0
comp=Z,200nm,13.7s
DPC **Dobruska-Polom** 75.59 1 eP P 08 02 19.6 +0.5
DPC MLR MLR
comp=Z,200nm,13.7s
NKC **Novy Kostel** 75.63 3 eP P 08 02 19.7 +0.4
NKC **Novy Kostel** 75.63 3 eP P 08 02 19.7 +0.4
KRLC **Kraliky** 75.87 0 eP P 08 02 21.0 +0.3
KRLC **Kraliky** 75.87 0 eP P 08 02 21.0 +0.3
PRU **Pruhonice** 75.93 2 eP P 08 02 21.1 +0.1
PRU AMS AMS 08 38 40.0
comp=Z,200nm,17.9s
PRU **Pruhonice** 75.93 2 eP P 08 02 21.1 +0.1
PRU MLR MLR
comp=Z,200nm,17.9s
GOPC **GO Pecny, Ondr** 76.01 2 AMS AMS 08 43 40.0
STHS **Stebnicka Huta** 76.48 357 eP P 08 02 25.3 +1.2
STHS pmax pmax
comp=Z,7.0nm,0.9s
STHS **Stebnicka Huta** 76.48 357 eP P 08 02 25.3 +1.2
WET **Wettzell** 76.73 3 P P 08 02 26.3 +0.7
KHC **Kasperske Hory** 76.77 3 eP P 08 02 26.8 +1.0
KHC epP pP 08 02 30.1 -3.8
KHC ePCP PcP 08 02 40.0 +3.0
KHC **Kasperske Hory** 76.77 3 eP P 08 02 26.8 +1.0
KHC pmax pmax
comp=Z,7.0nm,1.2s
KHC **Kasperske Hory** 76.77 3 eP P 08 02 26.8 +1.0
comp=Z,6.7nm,1.2s
LANS **Liptovska Anna** 76.78 359 eP P 08 02 26.6 +0.7
LANS **Liptovska Anna** 76.78 359 eP P 08 02 26.6 +0.7
CRVS **Cervenica-Dubn** 76.99 357 eP P 08 02 27.7 +0.7
CRVS **Cervenica-Dubn** 76.99 357 eP P 08 02 27.6 +0.6
GEC2 **GERESS Array S** 77.06 2 eP P 08 02 28.1 +0.6
GEC2 pmax pmax
comp=Z,4.0nm,0.8s
GEC2 **GERESS Array S** 77.06 2 eP P 08 02 28.1 +0.6
comp=Z,4.4nm,0.8s
GERES **GERESS Array B** 77.06 2 P P 08 02 28.0 +0.5
comp=Z,2.4nm,0.6s,baz=350,slow=4.1,SNR=18
GERES **GERESS Array B** 77.06 2 P P 08 02 28.0 +0.5
GEA0 **GERESS Array S** 77.06 2 eP P 08 02 27.5 0.0
SORM **Soroca** 77.39 352 ⇓iP P 08 02 28.7 -0.5
SORM **Soroca** 77.39 352 ⇓P P 08 02 28.7 -0.5
KECS **Kecovo** 77.43 358 eP P 08 02 30.0 +0.5
KECS pmax pmax
comp=Z,3.0nm,0.8s
KECS **Kecovo** 77.43 358 eP P 08 02 30.0 +0.5
VYHS **Vyhne** 77.44 359 eP P 08 02 29.7 +0.1
VYHS pmax pmax
comp=Z,6.0nm,1.2s
VYHS **Vyhne** 77.44 359 eP P 08 02 29.7 +0.1
CONA **Conrad Observa** 78.01 1 iP P 08 02 33.3 +0.4
comp=Z,12nm,1.3s
MOA **Molln** 78.07 2 iP P 08 02 33.6 +0.5
comp=Z,8.1nm,1.1s
BUR08 **Bucovina Ar. S** 78.08 355 eP P 08 02 33.8 +0.5
BURAR **Bucovina Array** 78.11 355 ⇓iP P 08 02 33.4 0.0
BURAR **Bucovina Array** 78.11 355 ⇓P P 08 02 33.4 0.0
RETA **Reutte** 78.31 5 iP P 08 02 35.5 +1.0
comp=Z,8.9nm,1.5s
MOTA **Moosalm** 78.47 4 iP P 08 02 36.3 +0.8
comp=Z,8.7nm,0.8s
WATA **Walderalm** 78.50 4 iP P 08 02 35.7 +0.1
comp=Z,3.9nm,0.4s
GOF **Gofitskoye** 78.50 342⇑ eP P 08 02 34.8 -0.7
WTTA **Wattenberg** 78.57 4 iP P 08 02 36.8 +0.8
comp=Z,10nm,1.0s
ARSA **Arzberg** 78.69 1 iP P 08 02 37.0 +0.5
comp=Z,7.2nm,1.1s
FETA **Feichten** 78.77 5 iP P 08 02 37.9 +0.7
comp=Z,14nm,1.0s
KBA **Koelnbreinsper** 78.81 3 iP P 08 02 38.3 +0.9
comp=Z,11nm,0.7s
KBA **Koelnbreinsper** 78.81 3 P P 08 02 38.5 +1.1
KBA pmax pmax
comp=Z,16nm,1.2s
DRGR 79.05 356 ⇓iP P 08 02 38.4 -0.2
DRGR 79.05 356 ⇓P P 08 02 38.4 -0.2
GUN **Gumba** 79.11 303 eP P 08 02 39.5 -0.1
comp=Z,32nm,0.8s
ABTA **Abfaltersbach** 79.12 3 iP P 08 02 39.9 +1.0
comp=Z,14nm,1.1s
FUORN **Ofenpass-Fuorn** 79.15 5 eP P 08 02 40.5 +1.2
comp=Z,17nm,1.3s
JIRN **Jiri** 79.17 303 eP P 08 02 39.9 0.0
SOKA **Soboth** 79.25 2 iP P 08 02 40.8 +1.1
comp=Z,19nm,1.3s
MYKA **Terra Mystica** 79.27 3 iP P 08 02 40.6 +0.8
comp=Z,3.6nm,0.6s
PERS **Pernice** 79.30 2 iP P 08 02 38.5 -1.4
OBKA **Obir** 79.41 2 iP P 08 02 40.7 +0.2
comp=Z,34nm,1.0s
KKN **Kakani** 79.50 303 eP P 08 02 41.7 +0.2
RAMN **Ramite** 79.55 302 eP P 08 02 41.4 -0.5
comp=Z,23nm,0.5s
SIRR **Sirk** 79.61 357⇑ iP P 08 02 42.3 +0.7
PKI **Pulchoki** 79.62 303 eP P 08 02 42.0 -0.3
PKIN **Phulchoki** 79.63 303 eP P 08 02 41.8 -0.5
comp=Z,9.8nm,0.5s
KVAR **Kislovodsk Arr** 79.63 342 P P 08 02 42.0 +0.2
comp=Z,2.9nm,0.4s,baz=342,slow=2.3,SNR=4.5
KIV **Kislovodsk** 79.63 342 eP P 08 02 42.5 +0.7
KIV pmax pmax
comp=Z,19nm,1.1s
KIV **Kislovodsk** 79.63 342 eP P 08 02 42.6 +0.8
comp=Z,18nm,1.0s
DMN **Daman** 79.74 303 eP P 08 02 42.8 -0.1
comp=Z,12nm,0.5s
KBZ **Khabaz** 79.81 341 P P 08 02 42.4 -0.2
comp=Z,9.6nm,0.9s,baz=307,slow=4.6,SNR=12
CMAR **Chiang Mai Arr** 79.94 287 P P 08 02 43.5 -0.3
comp=Z,8.2nm,0.9s,baz=17,slow=5.4,SNR=28
CMAR LR LR 08 39 59.7
comp=Z,24nm,20.4s,baz=0.0,slow=37
CM01 **Chiang Mai Arr** 79.96 287 eP P 08 02 42.8 -1.0
BZS **Buzias** 80.27 357 ⇑iP P 08 02 45.1 0.0
BZS **Buzias** 80.27 357 ⇑P P 08 02 45.1 0.0
VOIR 80.29 354 ⇓iP P 08 02 45.4 0.0
VOIR 80.29 354 ⇓P P 08 02 45.4 0.0
KOLN **Koldanda** 80.34 305 eP P 08 02 45.6 -0.4
comp=Z,11nm,0.5s
PYUN **Piuthan** 80.35 305 eP P 08 02 45.9 -0.2
comp=Z,21nm,0.6s
ZEI **Tsey** 80.53 340 eP P 08 02 45.3 -1.5
ZEI pmax pmax
comp=Z,14nm,0.8s
TLB **Topalu** 80.94 352 ⇑iP P 08 02 48.4 -0.3
TLB **Topalu** 80.94 352 ⇑P P 08 02 48.4 -0.3
GEYT **Alibeck** 81.55 329 P P 08 02 52.2 0.0
comp=Z,3.9nm,0.7s,baz=328,slow=5.3,SNR=4.9
PDG **Podgorica** 83.50 359 ⇑iP P 08 03 02.0 -0.2
RAO **Raoul Island** 84.36 193 eP P 08 03 06.3 -0.1
RAO **Raoul Island** 84.36 193 eP P 08 03 06.3 -0.1
comp=Z,492nm,1.0s
ES19 **SONSECA Array** 84.49 16 eP P 08 03 07.5 +0.2
ESDC **Sonseca Array** 84.50 16 P P 08 03 07.5 +0.1
comp=Z,0.8nm,0.5s,baz=339,slow=4.6,SNR=9.0
BR231 **Keskin MP Arra** 85.17 348 eP P 08 03 11.1 +0.3
BR131 **Keskin Array S** 85.18 347 eP P 08 03 11.3 +0.4
BRTR **Keskin Array B** 85.18 347 P P 08 03 11.3 +0.4
comp=Z,3.9nm,0.8s,baz=29,slow=2.8,SNR=14
SHEL **Horse Pasture** 137.64 34 iPKIKP PKPdf 08 10 01.6 +2.9
SHEL **Horse Pasture** 137.64 34 ePKPdf PKPdf 08 10 00.8 +2.1
QSPA **South Pole Qui** 144.20 180 ePKPdf PKPab 08 10 04.6 -2.2
PAF **Port-aux-Franc** 147.61 257 ePKP2 PKPab 08 10 20.1 -0.1
PAF **Port-aux-Franc** 147.61 257 ePKPbc PKPab 08 10 20.1 -0.1
LBTB **Lobatse** 149.98 345 ePKP2 PKPbc 08 10 25.2 +0.3
LBTB **Lobatse** 149.98 345 ePKPbc PKPbc 08 10 25.2 +0.3
BOSA **Boshof** 153.57 344 ePKIKP PKPbc 08 10 31.8 -1.2
BOSA **Boshof** 153.57 344 ePKPbc PKPbc 08 10 31.8 -1.2

*ISCJB **06** 07:54:32.0±0.4, 40°.75N±0°.04×63°.62E±0°.06, h13km, mb3.7/4, Error ellipse: s-maj=6.5km s-min=5.2km az=36.2*
*IDC **06** 07:54:32.6±1.0, 40°.50N×63°.45E, h0km, mb3.7/4, mb1 3.9/10, mb1mx3.6/38, mbtmp3.8/10, ML3.7/6, Error ellipse: s-maj=14.9km s-min=12.9km az=141.0*
*CSEM **06** 07:54:35.1±0.3, 40°.69N×63°.57E, h20km, mb3.8, Error ellipse: s-maj=11.0km s-min=8.2km az=132.0*
*NNC **06** 07:54:38.6±3.6, 40°.77N×63°.88E, h29km±23km, mb3.8, mpv3.4, Error ellipse: s-maj=24.9km s-min=8.4km az=49.0*

ISC 06 07:54:33.9±0.7, **40°.64N**±0°.06×**63°.62E**±0°.05, **h13**km, **n34, s19/96**/44, **mb3.7**/4, **8C-7D, Northwestern Uzbekistan**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZET	**Dzherino**	**4.41**	**113**	⇑Pn	**Pn**	**07 55 42.4**	**+1.7**
	4.4nm,0.4s						
DZET				⇑Sn	**Sn**	**07 56 30.6**	**-1.4**
	29nm,0.4s						
DZET				⇓Lg	Lg	07 56 52.4	
	142nm,0.5s						
DZET	**Dzherino**	**4.41**	**113**	Pn	**Pn**	**07 55 42.4**	**+1.7**
	4.4nm,0.4s						
DZET				Sn	**Sn**	**07 56 30.6**	**-1.4**
	29nm,0.4s						
DZET				Lg	Lg	07 56 52.4	
	142nm,0.5s						
IEMG	**Emamgholi**	**5.03**	**232**	eP	**Pn**	**07 55 49.2**	**-0.2**
GEYT	**Alibeck**	**5.05**	**239**	Pn	**Pn**	**07 55 49.0**	**-0.4**
	6.7nm,0.3s,baz=56,slow=11,SNR=27						
GEYT				Sn	**Sn**	**07 56 43.4**	**-4.3**
	13nm,0.3s,baz=62,slow=10,SNR=6.6						
IMYA	**Miami**	**5.10**	**214**	eP	**Pn**	**07 55 51.1**	**+0.9**
ISRO	**Mashad**	**5.41**	**218**	eP	**Pn**	**07 55 54.9**	**+0.5**
ISFR	**Sfrayin**	**5.66**	**233**	eP	**Pn**	**07 55 58.8**	**+0.8**
KK31	**Karatay Array**	**5.70**	**62**	Pn	**Pn**	**07 55 59.8**	**+1.5**
	0.7nm,0.3s,baz=244,slow=16,SNR=17						
KK31				⇑Lg	Lg	07 57 31.5	
	32nm,0.6s,baz=248,slow=27,SNR=5.9						
KK31	**Karatay Array**	**5.70**	**62**	Pn	**Pn**	**07 55 59.8**	**+1.5**
	0.7nm,0.3s,SNR=17						
KK31				Lg	Lg	07 57 31.5	
	32nm,0.6s,SNR=5.9						
MNAS	**Manas**	**6.91**	**72**	⇓Pn	**Pn**	**07 56 18.1**	**+3.0**
	2.5nm,0.7s						
MNAS				⇓Lg	Lg	07 58 10.5	
	44nm,0.9s						
MNAS	**Manas**	**6.91**	**72**	Pn	**Pn**	**07 56 18.1**	**+3.0**
	2.5nm,0.7s						
MNAS				Lg	Lg	07 58 10.5	
	44nm,0.9s						
AAK	**Ala-Archa**	**8.38**	**73**	Pn	**Pn**	**07 56 36.7**	**+1.4**
	0.6nm,0.3s,baz=230,slow=8.5,SNR=5.2						
AAK	**Ala-Archa**	**8.38**	**73**	Pn	**Pn**	**07 56 35.0**	**-0.3**
	1.8nm,0.7s						
AAK				Lg	Lg	07 58 56.4	
	9.7nm,0.8s						
AAK	**Ala-Archa**	**8.38**	**73**	Pn	**Pn**	**07 56 35.0**	**-0.3**
	1.8nm,0.7s						
AAK				Lg	Lg	07 58 56.4	
	9.7nm,0.8s						
AB31	**Akbulak array**	**9.00**	**344**	Pn	**Pn**	**07 56 44.5**	**+1.0**
	0.2nm,0.3s,baz=155,slow=14,SNR=28						
AB31				⇓Sn	**Sn**	**07 58 29.8**	**+5.2**
	3.4nm,0.6s,baz=171,slow=19,SNR=3.4						
AB31				⇑Lg	Lg	07 59 22.7	
	15nm,0.9s,baz=156,slow=28,SNR=4.2						
AB31	**Akbulak array**	**9.00**	**344**	Pn	**Pn**	**07 56 44.5**	**+1.0**
	0.2nm,0.3s,SNR=28						
AB31				Lg	Lg	07 59 22.7	
	15nm,0.9s,SNR=4.2						
TKM2	**Tokmak 2**	**9.23**	**72**	⇓Pn	**Pn**	**07 56 47.2**	**+0.3**
	0.8nm,0.5s						
TKM2				⇑Lg	Lg	07 59 21.4	
	14nm,0.7s						
TKM2	**Tokmak 2**	**9.23**	**72**	Pn	**Pn**	**07 56 47.2**	**+0.3**
	0.8nm,0.5s						
TKM2				Lg	Lg	07 59 21.4	
	14nm,0.7s						
AKTO	**Aktyubinsk**	**10.55**	**340**	Pn	**Pn**	**07 57 05.1**	**+0.4**
	0.7nm,0.3s,baz=164,slow=6.2,SNR=7.7						
AKTO				Sn	**Sn**	**07 59 00.6**	**-2.1**
	0.6nm,0.3s,baz=285,slow=18,SNR=3.6						
AKTO	**Aktyubinsk**	**10.55**	**340**	⇑Pn	**Pn**	**07 57 04.2**	**-0.5**
	1.3nm,0.5s						
AKTO				⇓Sn	**Sn**	**07 59 01.9**	**-0.8**
	3.9nm,0.9s						
AKTO				Lg	Lg	08 00 12.3	
	12nm,0.8s						
AKTO	**Aktyubinsk**	**10.55**	**340**	Pn	**Pn**	**07 57 04.2**	**-0.5**
	1.3nm,0.5s						
AKTO				Sn	**Sn**	**07 59 01.9**	**-0.8**
	3.9nm,0.9s						
AKTO				Lg	Lg	08 00 12.3	
	12nm,0.8s						
PDGK	**Podgornoye**	**12.11**	**72**	⇑Lg	Lg	08 00 56.5	
BVA0	**Borovoye Array**	**13.22**	**18**	⇓Pn	**Pn**	**07 57 39.4**	**-1.7**
	1.6nm,0.7s,baz=207,slow=12,SNR=3.7						
BVA0				Sn	**Sn**	**08 00 03.8**	**-4.1**
	2.9nm,0.5s,baz=0.0,slow=0.1,SNR=11						
BVA0	**Borovoye Array**	**13.22**	**18**	Pn	**Pn**	**07 57 39.4**	**-1.7**
	1.6nm,0.7s,SNR=3.7						
BVAR	**Borovoye Array**	**13.22**	**18**	Pn	**Pn**	**07 57 41.0**	**-0.1**
	1.5nm,0.3s,baz=198,slow=8.9,SNR=17						
BVAR				Sn	**Sn**	**08 00 05.0**	**-3.0**
	1.7nm,0.3s,baz=204,slow=22,SNR=9.0						
BRVK	**Borovoye**	**13.22**	**18**	⇑Pn	**Pn**	**07 57 41.2**	**0.0**
	2.4nm,0.4s						
BRVK				Sn	**Sn**	**08 00 04.7**	**-3.3**
	4.8nm,0.5s						
BRVK	**Borovoye**	**13.22**	**18**	Pn	**Pn**	**07 57 41.2**	**0.0**
	2.4nm,0.4s						
BRVK				Sn	**Sn**	**08 00 04.7**	**-3.3**
	4.8nm,0.5s						
KURBB	**Kurchatov Arra**	**14.41**	**41**	Pn	**Pn**	**07 57 55.2**	**-2.2**
	0.1nm,0.3s,baz=235,slow=13,SNR=5.4						
ARU	**Arti**	**16.14**	**350**	Pn	**P**	**07 58 23.6**	**0.0**
	0.0nm,0.3s,baz=153,slow=4.3,SNR=5.9						
ZALV	**Zalesovo Beam**	**19.49**	**40**	P	**Pn**	**07 59 02.8**	**+1.1**
	0.5nm,0.3s,baz=238,slow=12,SNR=5.8						
BRTR	**Keskin Array B**	**22.88**	**278**	P	**P**	**07 59 37.7**	**+0.4**
	0.4nm,0.3s,baz=83,slow=10,SNR=4.4						
FINES	**FINESS Array B**	**30.81**	**325**	P	**P**	**08 00 51.4**	**+2.3**
	2.9nm,0.6s,baz=148,slow=8.2,SNR=5.7						
TORD	**Torodi Ar. Bea**	**60.30**	**262**	P	**P**	**08 04 42.4**	**-0.1**
	0.3nm,0.5s,baz=27,slow=8.1,SNR=3.1						
WRA	**Warramunga Arr**	**89.06**	**117**	P	**P**	**08 07 28.3**	**-0.6**
	0.4nm,1.0s,baz=325,slow=4.4,SNR=2.8						

MAN 06 08:09:45, 14°.67N×119°.98E, h26km, mb4.5, ML3.3, MS3.2, 1C-1D, Luzon

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LUBP	**Lubang**	**0.97**	**164**	eP	Pb	08 10 03.1	0.0
PCPH	**Palayan**	**1.40**	**50**	⇑eP	Pb	08 10 09.6	-0.8
PCPH				iS	Sb	08 10 27.4	-0.5
PGP	**Puerto Galera**	**1.50**	**141**	⇓eP	Pn	08 10 11.2	+1.0
PGP				iS	Sb	08 10 30.2	-0.6
BOLP	**Bolinao**	**1.70**	**358**	eP	Pn	08 10 13.6	+0.6
BOLP				eS	Sb	08 10 35.4	-1.2
CAUP	**Cauayan**	**2.87**	**38**	eP	Pn	08 10 32.3	+3.1

*SJA **06** 08:12:20.4±0.8, 24°.33S×67°.18W, h194km±23km, ML3.1, MW3.2*
*ISCJB **06** 08:12:21.4±0.7, 24°.35S±0°.05×67°.12W±0°.04, h193km±7km, mb3.6/1, Error ellipse: s-maj=9.5km s-min=4.7km az=25.3*
*GUC **06** 08:12:23.3±0.3, 24°.28S×67°.52W, h216km±18km, ML4.5*
*IDC **06** 08:12:26.1±1.7, 23°.81S×67°.17W, h215km±16km, mb3.4/1, mb1 3.3/4, mb1mx3.1/19, mbtmp3.7/4, Error ellipse: s-maj=36.8km s-min=25.1km az=10.0*

ISC 06 08:12:22.1±1.0, **24°.33S**±0°.07×**67°.10W**±0°.04, **h187**km±9km, **n21,σ1s07/29, 1C, Chile-Argentina border region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SLA	**San Lorenzo**	**1.50**	**105**	iP	**Pn**	**08 12 55.5**	**+0.7**
SLA				IAML		08 12 56.0	
	comp=Z,94nm,0.5s						
SLA				iS	**Sn**	**08 13 20.3**	**+0.2**
AZAP	**Zapla**	**1.86**	**87**	iP	**Pn**	**08 12 58.4**	**0.0**
AZAP				IAML		08 12 59.2	
	comp=Z,190nm,0.4s						
AZAP				iS	**Sn**	**08 13 27.6**	**+1.1**
HJA	**Humahuaca**	**1.91**	**55**	iP	**Pn**	**08 12 59.4**	**+0.3**
FSA	**Cafayete**	**2.04**	**151**	iP	**Pn**	**08 13 00.5**	**+0.2**
LVC	**Limon Verde**	**2.39**	**315**	P	**Pn**	**08 13 05.6**	**+1.3**
	comp=Z,481nm,0.3s,baz=130,slow=6.4,SNR=352						
LVC				S	**Sn**	**08 13 37.5**	**+0.5**
	comp=Z,2μm,0.3s,baz=359,slow=19,SNR=70						
YJA	**Yavi**	**2.59**	**35**	iP	**Pn**	**08 13 07.2**	**+0.5**
PB06	**IPOC Station P**	**2.79**	**305**	⇑iP	**Pn**	**08 13 09.7**	**+1.0**
PB06				eS	**Sn**	**08 13 44.5**	**-0.5**
PB06				IAML		08 13 46.6	
	comp=E,959nm,0.2s						
AHML	**Horco Molle**	**2.92**	**147**	iP	**Pn**	**08 13 09.9**	**-0.2**
AHML				IAML		08 13 11.1	
	comp=Z,17nm,0.7s						
AHML				iS	**Sn**	**08 13 46.5**	**-1.2**
PB14	**IPOC Station P**	**3.03**	**264**	eP	**Pn**	**08 13 12.1**	**+0.4**
PB14				eS	**Sn**	**08 13 49.3**	**-1.0**
PB14				IAML		08 13 53.5	
	comp=E,689nm,0.4s						
ANCH	**Antofagasta**	**3.10**	**281**	eP	**Pn**	**08 13 13.4**	**+1.2**

ANCH				*e*S		**Sn**	08 13 50.6	-0.7
PB09	**IPOC Station P**	**3.20**	**322**	*e*P		**Pn**	08 13 15.2	+1.5
PB09				*e*S		**Sn**	08 13 54.2	+0.2
PB09				IAML			08 13 57.0	
	comp=N,790nm,0.3s							
PB10	**IPOC Station P**	**3.26**	**284**	*e*P		**Pn**	08 13 15.2	+1.0
PB10				*e*S		**Sn**	08 13 54.0	-1.0
PB10				IAML			08 13 57.8	
	comp=E,1μm,0.2s							
PB04	**IPOC Station P**	**3.44**	**305**	*e*P		**Pn**	08 13 17.3	+0.8
PB04				*e*S		**Sn**	08 13 57.9	-1.2
PB04				IAML			08 14 01.4	
	comp=N,532nm,0.1s							
PB07	**IPOC Station P**	**3.65**	**315**	*e*P		**Pn**	08 13 19.6	+0.4
PB07				*e*S		**Sn**	08 14 01.7	-2.1
PB07				IAML			08 14 03.4	
	comp=N,536nm,0.1s							
LPAZ	**La Paz**	**8.06**	**353**	P		**Pn**	08 14 15.8	-1.0
	comp=N,0.5nm,0.3s,baz=180,slow=6.1,SNR=15							
CPUP	**Villa Florida**	**9.06**	**105**	P		Pn	08 14 37.0	+7.7
	comp=N,0.4nm,0.3s,baz=300,slow=10.0,SNR=3.0							
SIV	**San Ignacio**	**10.04**	**35**	P		**Pn**	08 14 40.0	-2.2
	comp=N,0.4nm,0.3s,baz=233,slow=13,SNR=8.2							
TORD	**Torodi Ar. Bea**	**76.77**	**69**	P		**P**	08 23 53.4	0.0
	comp=N,0.6nm,0.4s,baz=255,slow=5.0,SNR=13							
WRA	**Warramunga Arr**	**131.29**	**207**	PKP		**PKPdf**	08 31 14.3	+1.5
	comp=N,0.5nm,1.0s,baz=155,slow=2.0,SNR=4.1							
PETK	**Petropavlovsk-**	**135.82**	**322**	PKhKP	PKPpre		08 31 15.2	
	comp=N,4.5nm,1.1s,baz=184,slow=5.8,SNR=3.6							
ZALV	**Zalesovo Beam**	**143.72**	**28**	PKP	PKPbc		08 31 34.6	+2.0
	comp=N,1.0nm,0.6s,baz=336,slow=3.3,SNR=4.1							

CSEM ***06*** *08:20:54.5, 38.34N×20.35E, h22km±4km,* ***ML1.8/2,***
ATH 06 08:20:54.5, 38.34N×20.35E, h22km±4km, ML1.8/2, Error ellipse: s-maj=4.6km s-min=1.3km az=106.0, Greece

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KFL	**Anninata**	**0.41**	**123**	P	Pb	08 21 03.1	+0.1
KFL				S	Sb	08 21 10.1	+1.3
KFL	**Anninata**	**0.41**	**123**	P	Pb	08 21 03.2	+0.2
KFL				S	Sn	08 21 10.7	-1.4
LKD2	**Lefkada island**	**0.51**	**28**	P	Pb	08 21 04.8	0.0
LKD2				S	Sb	08 21 12.7	+0.8
LKD2	**Lefkada island**	**0.51**	**28**	P	Pb	08 21 04.7	-0.1
LKD2				S	Sb	08 21 13.0	+1.1
LKD2				AML	AML	08 21 19.6	
	comp=E,81μm,0.4s						
LKD2				AML	AML	08 21 20.6	
	comp=N,97μm,0.5s						
PDO	**Prodromos**	**0.71**	**68**	P	Pb	08 21 08.2	+0.1
PDO				S	Sn	08 21 18.7	-0.7
PDO	**Prodromos**	**0.71**	**68**	P	Pb	08 21 08.1	0.0
PDO				S	Sn	08 21 19.1	-0.2
ZKS	**Zakynthos**	**0.72**	**151**	P	Pn	08 21 09.1	-0.3
ZKS				S	Sb	08 21 18.6	+0.7
ZKS	**Zakynthos**	**0.72**	**151**	P	Pn	08 21 09.6	+0.1
ZKS				S	Sb	08 21 18.3	+0.4
ZKS				AML	AML	08 21 26.6	
	comp=N,577μm,0.2s						
ZKS				AML	AML	08 21 26.6	
	comp=E,345μm,0.2s						
AXS	**Araxos**	**0.82**	**99**	P	Pb	08 21 10.1	+0.1
AXS				S	Sn	08 21 22.0	-0.2
AXS	**Araxos**	**0.82**	**99**	P	Pb	08 21 10.0	0.0
AXS				S	Sn	08 21 22.1	-0.1

LDG ***06*** *08:22:03.9±0.2, 42.98N×13.69E, h25km, Ml3.4/5, Error ellipse: s-maj=7.1km s-min=4.5km az=28.0*
PDG ***06*** *08:22:03.9±0.4, 42.95N×13.77E, h13km±1km, ML3.5/12, Error ellipse: s-maj=1.2km s-min=1.7km az=0.0*
ISCJB ***06*** *08:22:04.5±0.2, 42.97N±0.02×13.73E±0.02, h23km±2km, Error ellipse: s-maj=3.3km s-min=2.2km az=28.5*
ROM ***06*** *08:22:04.6±0.1, 42.96N×13.71E, h18km±2km, Md3.1/40, Ml3.2/41, Error ellipse: s-maj=2.3km s-min=1.4km az=54.0*
CSEM ***06*** *08:22:04.1±0.1, 42.97N×13.71E, h10km, ML3.7/7, Error ellipse: s-maj=2.2km s-min=1.6km az=31.0*
NEIC ***06*** *08:22:04.0±0.0, 42.95N×13.70E, h20km, ML3.2(ROM), After ROM.*
NEIC Felt at Ascoli Piceno.
ISC 06 08:22:04.5±0.8, 42.97N±0.02×13.70E±0.02, h24km±5km, n174, σ1.182/231, 13C-9D, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
OFFI	**Offida**	**0.04**	**197**	⇓*i*Pg	**Pb**	**08 22 07.7**	**-0.9**
OFFI				Sg	**Sb**	**08 22 10.5**	**-0.9**
	37μm,0.6s						
OFFI	**Offida**	**0.04**	**197**	⇓*i*Pg	**Pb**	**08 22 07.7**	**-0.9**
GUMA	**Gualdo di Mace**	**0.20**	**62**	Pg	**Pb**	**08 22 11.1**	**+1.1**
GUMA				Sg	**Sb**	**08 22 16.6**	**+2.8**
	10μm,0.5s						
TRTR	**Tortoreto Alta**	**0.23**	**136**	⇓*i*Pg	**Pb**	**08 22 10.1**	**-0.2**
TRTR				Sg	**Sb**	**08 22 15.1**	**+0.8**
	17μm,0.4s						
TRTR	**Tortoreto Alta**	**0.23**	**136**	⇓*i*Pg	**Pb**	**08 22 10.1**	**-0.2**
TERO	**Teramo**	**0.35**	**192**	Pg	**Pb**	**08 22 11.3**	**-1.0**
TERO				Sg	**Sb**	**08 22 17.2**	**-0.4**
	3μm,0.3s						
TERO	**Teramo**	**0.35**	**192**	Pg	**Pb**	**08 22 11.3**	**-1.0**
TERO				Sg	**Sb**	**08 22 17.2**	**-0.4**
	3μm,0.3s						
NRCA	**Norcia**	**0.45**	**253**	⇑*e*Pg	**Pb**	**08 22 13.2**	**-0.7**
NRCA				Sg	**Sb**	**08 22 21.3**	**+1.0**
	4μm,0.4s						
NRCA	**Norcia**	**0.45**	**253**	⇑*e*Pg	**Pb**	**08 22 13.2**	**-0.7**
NRCA				Sg	**Sb**	**08 22 21.3**	**+1.0**
	4μm,0.4s						
FDMO	**Fiordimonte**	**0.45**	**279**	Pg	**Pb**	**08 22 13.4**	**-0.5**
FDMO				Sg	**Sb**	**08 22 21.3**	**+1.0**
	2μm,0.6s						
FDMO	**Fiordimonte**	**0.45**	**279**	Pg	**Pb**	**08 22 13.4**	**-0.5**
FDMO				Sg	**Sb**	**08 22 21.3**	**+1.0**
	2μm,0.6s						
CING	**Cingoli**	**0.55**	**318**	Pg	**Pb**	**08 22 15.2**	**-0.3**
CING				Sg	**Sb**	**08 22 24.6**	**+1.6**
	681nm,0.4s						
CING	**Cingoli**	**0.55**	**318**	Pg	**Pb**	**08 22 15.2**	**-0.3**
VCEL	**Villa Celiera**	**0.58**	**170**	Pg	**Pb**	**08 22 15.1**	**-1.0**
VCEL				Sg	**Sb**	**08 22 24.2**	**+0.1**
	2μm,0.5s						
VCEL	**Villa Celiera**	**0.58**	**170**	Pg	**Pb**	**08 22 15.1**	**-1.0**
VCEL				Sg	**Sb**	**08 22 24.2**	**+0.1**
	2μm,0.5s						
CESI	**CESI - Serrava**	**0.58**	**274**	Pg	**Pb**	**08 22 15.7**	**-0.4**
CESI				Sg	**Sb**	**08 22 25.1**	**+1.1**
	514nm,0.7s						
CESI	**CESI - Serrava**	**0.58**	**274**	Pg	**Pb**	**08 22 15.7**	**-0.4**
CESI				Sg	**Sb**	**08 22 25.1**	**+1.1**
	514nm,0.7s						
LNSS	**Leonessa**	**0.61**	**233**	Pg	**Pb**	**08 22 15.7**	**-0.8**
LNSS				Sg	**Sb**	**08 22 25.3**	**+0.6**
	2μm,0.5s						
LNSS	**Leonessa**	**0.61**	**233**	Pg	**Pb**	**08 22 15.7**	**-0.8**
LNSS				Sg	**Sb**	**08 22 25.3**	**+0.6**
	2μm,0.5s						
SNTG	**Esanatoglia**	**0.62**	**297**	Pg	**Pb**	**08 22 16.3**	**-0.5**
SNTG				Sg	**Sb**	**08 22 26.5**	**+1.3**
	626nm,0.7s						
SNTG	**Esanatoglia**	**0.62**	**297**	Pg	**Pb**	**08 22 16.3**	**-0.5**
SNTG				Sg	**Sb**	**08 22 26.5**	**+1.3**
	626nm,0.7s						
AQU	**L'Aquila**	**0.65**	**200**	*e*Pg	**Pb**	**08 22 17.1**	**-0.2**
AQU				*e*Sg	**Sb**	**08 22 25.8**	**-0.2**
AQU	**L'Aquila**	**0.65**	**200**	*e*Pg	**Pb**	**08 22 17.1**	**-0.2**
AQU				*e*Sg	**Sb**	**08 22 25.8**	**-0.2**
FAGN	**Fagnano**	**0.71**	**187**	Pg	**Pb**	**08 22 17.3**	**-0.9**
	2μm,0.5s						
FAGN	**Fagnano**	**0.71**	**187**	Pg	**Pb**	**08 22 17.3**	**-0.9**
	2μm,0.5s						
ARVD	**Arcevia**	**0.77**	**314**	Pg	**Pb**	**08 22 18.7**	**-0.4**
	588nm,0.6s						
ARVD	**Arcevia**	**0.77**	**314**	Pg	**Pb**	**08 22 18.7**	**-0.4**
	588nm,0.6s						
ATCC	**AVT- Casa Cast**	**0.81**	**286**	Pg	**Pb**	**08 22 19.4**	**-0.4**
	2μm,1.0s						
ATCC	**AVT- Casa Cast**	**0.81**	**286**	Pg	**Pb**	**08 22 19.4**	**-0.4**
	2μm,1.0s						
SENI	**Senigallia**	**0.81**	**335**	Pg	**Pn**	**08 22 21.7**	**+1.3**
SENI	**Senigallia**	**0.81**	**335**	Pg	**Pn**	**08 22 21.7**	**+1.3**
SSFR	**Montelago di S**	**0.82**	**305**	Pg	**Pb**	**08 22 19.7**	**-0.3**
	2μm,0.3s						
SSFR	**Montelago di S**	**0.82**	**305**	Pg	**Pb**	**08 22 19.7**	**-0.3**
	2μm,0.3s						
FIAM	**Fiamignano**	**0.82**	**212**	Pg	**Pb**	**08 22 20.3**	**+0.1**
	514nm,0.5s						
FIAM	**Fiamignano**	**0.82**	**212**	Pg	**Pb**	**08 22 20.3**	**+0.1**
	514nm,0.5s						
CAFR	**Castel Frentan**	**0.88**	**147**	Pg	**Pb**	**08 22 20.0**	**-1.1**
	1μm,0.4s						
CAFR	**Castel Frentan**	**0.88**	**147**	Pg	**Pb**	**08 22 20.0**	**-1.1**
	1μm,0.4s						
FRON	**Frontone**	**0.90**	**308**	Pg	**Pb**	**08 22 21.3**	**-0.1**
	1μm,0.8s						
FRON	**Frontone**	**0.90**	**308**	Pg	**Pb**	**08 22 21.3**	**-0.1**
	1μm,0.8s						
MURB	**Monte Urbino**	**0.91**	**289**	Pg	**Pb**	**08 22 21.4**	**-0.2**
	1μm,0.4s						
MURB	**Monte Urbino**	**0.91**	**289**	Pg	**Pb**	**08 22 21.4**	**-0.2**
	1μm,0.4s						
MPAG	**Monte Paganucc**	**0.95**	**314**	Pg	**Pb**	**08 22 22.1**	**-0.2**
	1μm,0.7s						
MPAG	**Monte Paganucc**	**0.95**	**314**	Pg	**Pb**	**08 22 22.1**	**-0.2**
	1μm,0.7s						
INTR	**Introdacqua**	**0.97**	**171**	Pg	**Pn**	**08 22 23.3**	**+0.6**
	850nm,0.5s						
INTR	**Introdacqua**	**0.97**	**171**	Pg	**Pn**	**08 22 23.3**	**+0.6**
	850nm,0.5s						
FSSB	**Fossombrone**	**0.99**	**317**	Pg	**Pb**	**08 22 23.2**	**+0.3**
	2μm,0.6s						
FSSB	**Fossombrone**	**0.99**	**317**	Pg	**Pb**	**08 22 23.2**	**+0.3**
	2μm,0.6s						
ATTE	**AVT- Monte Tez**	**1.01**	**283**	Pg	**Pb**	**08 22 22.5**	**-0.9**
	417nm,0.6s						
ATTE	**AVT- Monte Tez**	**1.01**	**283**	Pg	**Pb**	**08 22 22.5**	**-0.9**
	417nm,0.6s						
PIEI	**Pieia**	**1.02**	**304**	Pg	**Pb**	**08 22 23.3**	**-0.2**
	424nm,0.7s						
PIEI	**Pieia**	**1.02**	**304**	Pg	**Pb**	**08 22 23.3**	**-0.2**
	424nm,0.7s						
ATVO	**AVT- Monte Val**	**1.03**	**294**	Pg	**Pb**	**08 22 23.5**	**-0.2**
	644nm,0.8s						
ATVO	**AVT- Monte Val**	**1.03**	**294**	Pg	**Pb**	**08 22 23.5**	**-0.2**
	644nm,0.8s						
ATPC	**Poggio Castell**	**1.04**	**300**	Pg	**Pn**	**08 22 23.8**	**+0.2**
	1μm,0.8s						
ATPC	**Poggio Castell**	**1.04**	**300**	Pg	**Pn**	**08 22 23.8**	**+0.2**
	1μm,0.8s						
VVLD	**Villa Vallelon**	**1.10**	**183**	Pg	**Pn**	**08 22 24.9**	**+0.4**
	410nm,0.8s						
VVLD	**Villa Vallelon**	**1.10**	**183**	Pg	**Pn**	**08 22 24.9**	**+0.4**
	410nm,0.8s						
CERT	**Cerreto**	**1.15**	**208**	Pg	**Pb**	**08 22 26.1**	**+0.4**
	409nm,0.5s						
CERT	**Cerreto**	**1.15**	**208**	Pg	**Pb**	**08 22 26.1**	**+0.4**
	409nm,0.5s						
PESA	**Pesaro**	**1.16**	**327**	Pg	**Pb**	**08 22 27.3**	**+1.6**
	451nm,0.6s						
PESA	**Pesaro**	**1.16**	**327**	Pg	**Pb**	**08 22 27.3**	**+1.6**
	451nm,0.6s						
MGAB	**Montegabbione**	**1.17**	**268**	Pg	**Pn**	**08 22 26.2**	**+0.9**
	374nm,0.4s						
MGAB	**Montegabbione**	**1.17**	**268**	Pg	**Pn**	**08 22 26.2**	**+0.9**
	374nm,0.4s						
MTCE	**Montecelio**	**1.18**	**217**	Pg	**Pb**	**08 22 27.7**	**+1.5**
MTCE	**Montecelio**	**1.18**	**217**	Pg	**Pb**	**08 22 27.7**	**+1.5**
BADI	**Badiali**	**1.19**	**297**	Pg	**Pn**	**08 22 26.7**	**+1.0**
	400nm,0.5s						
BADI	**Badiali**	**1.19**	**297**	Pg	**Pn**	**08 22 26.7**	**+1.0**
	400nm,0.5s						
ATMC	**Monte Cedrone**	**1.20**	**294**	Pg	**Pn**	**08 22 26.9**	**+1.1**
	391nm,0.6s						
ATMC	**Monte Cedrone**	**1.20**	**294**	Pg	**Pn**	**08 22 26.9**	**+1.1**
	391nm,0.6s						
FRES	**Fresagrandinar**	**1.23**	**144**	Pg	**Pn**	**08 22 27.1**	**+1.0**
	585nm,0.5s						
FRES	**Fresagrandinar**	**1.23**	**144**	Pg	**Pn**	**08 22 27.1**	**+1.0**
	585nm,0.5s						
POFI	**Posta Fibreno**	**1.25**	**180**	Pg	**Pb**	**08 22 27.8**	**+0.4**
	280nm,0.5s						
POFI	**Posta Fibreno**	**1.25**	**180**	Pg	**Pb**	**08 22 27.8**	**+0.4**
	280nm,0.5s						
PARC	**Parchiule**	**1.26**	**303**	Pg	**Pn**	**08 22 28.0**	**+1.3**
	247nm,0.5s						
PARC	**Parchiule**	**1.26**	**303**	Pg	**Pn**	**08 22 28.0**	**+1.3**
	247nm,0.5s						
CPGN	**Carpegna, Ital**	**1.30**	**310**	Pg	**Pb**	**08 22 29.5**	**+1.1**
	450μm,24.0s						
CPGN	**Carpegna, Ital**	**1.30**	**310**	Pg	**Pb**	**08 22 29.5**	**+1.1**
	450μm,24.0s						
CAFI	**Castiglion Fio**	**1.32**	**286**	Pg	**Pn**	**08 22 28.8**	**+1.4**
	193nm,0.6s						
CAFI	**Castiglion Fio**	**1.32**	**286**	Pg	**Pn**	**08 22 28.8**	**+1.4**
	193nm,0.6s						
SACS	**San Casciano d**	**1.32**	**265**	Pg	**Pb**	**08 22 29.5**	**+0.9**
	371nm,1.0s						
SACS	**San Casciano d**	**1.32**	**265**	Pg	**Pb**	**08 22 29.5**	**+0.9**
	371nm,1.0s						
TRIV	**Trivento**	**1.36**	**152**	Pg	**Pb**	**08 22 29.3**	**+0.1**
	348nm,0.9s						
TRIV	**Trivento**	**1.36**	**152**	Pg	**Pb**	**08 22 29.3**	**+0.1**
	348nm,0.9s						
MIDA	**Miranda**	**1.39**	**163**	Pg	**Pb**	**08 22 29.8**	**0.0**
	250nm,0.4s						
MIDA	**Miranda**	**1.39**	**163**	Pg	**Pb**	**08 22 29.8**	**0.0**
	250nm,0.4s						
CRE	**Caprese Michel**	**1.43**	**298**	Pg	**Pb**	**08 22 31.5**	**+1.0**
	172nm,0.6s						
CRE	**Caprese Michel**	**1.43**	**298**	Pg	**Pb**	**08 22 31.5**	**+1.0**
	172nm,0.6s						
TOLF	**Tolfa**	**1.55**	**235**	Pg	**Pn**	**08 22 32.2**	**+1.6**
	144nm,0.7s						
TOLF	**Tolfa**	**1.55**	**235**	Pg	**Pn**	**08 22 32.2**	**+1.6**
	144nm,0.7s						
NVLJ	**Novalja**	**1.81**	**28**	*e*Pn	**Pn**	**08 22 34.5**	**+0.4**
NVLJ				Sn	**Sn**	**08 22 57.8**	**+1.6**
NVLJ	**Novalja**	**1.81**	**28**	*e*Pn	**Pn**	**08 22 34.4**	**+0.4**
NVLJ				Sn	**Sn**	**08 22 57.8**	**+1.6**
MS1	**Monte Sant'Ang**	**2.09**	**126**	*e*Pn	**Pb**	**08 22 42.2**	**+0.5**
UDBI	**Udbina**	**2.16**	**43**	*i* Pn	**Pn**	**08 22 40.7**	**+1.6**
UDBI				Sn	**Sb**	**08 23 08.1**	**-1.1**
UDBI	**Udbina**	**2.16**	**43**	*i* Pn	**Pn**	**08 22 40.6**	**+1.6**
UDBI				Sn	**Sb**	**08 23 08.1**	**-1.1**
SKDS	**Skadanscina**	**2.59**	**5**	*i* Pn	**Pn**	**08 22 45.1**	**+0.3**
SKDS	**Skadanscina**	**2.59**	**5**	Pn	**Pn**	**08 22 45.1**	**+0.3**
VLC	**Villacollemand**	**2.69**	**297**	Pg	**Pb**	**08 22 52.3**	**+0.5**
CDT	**Castel del Mon**	**2.69**	**134**	*e*Pn	**Pn**	**08 22 46.7**	**+0.4**
OZLJ	**Ozalj**	**2.93**	**25**	*e*Pn	**Pn**	**08 22 50.3**	**+0.8**
OZLJ				Sn	**Sn**	**08 23 26.1**	**+2.0**
OZLJ	**Ozalj**	**2.93**	**25**	*e*Pn	**Pn**	**08 22 50.3**	**+0.7**
OZLJ				Sn	**Sn**	**08 23 26.0**	**+2.0**
CUC	**Castrocucco**	**3.37**	**151**	*e*Pn	**Pn**	**08 22 58.3**	**+2.7**
CUC	**Castrocucco**	**3.37**	**151**	*e*Pn	**Pn**	**08 22 58.4**	**+2.7**
PGF	**Pioggiola**	**3.49**	**265**	*e*P	**Pn**	**08 22 59.8**	**+2.5**
PGF	**Pioggiola**	**3.49**	**265**	*e*P	**Pn**	**08 22 59.8**	**+2.5**
PGF	**Pioggiola**	**3.49**	**265**	*e*P	**Pn**	**08 22 59.8**	**+2.5**
BRY	**Bratogost**	**3.55**	**89**	⇑*i*Pn	**Pn**	**08 22 59.3**	**+1.0**
BRY				*e*Sn	**Sn**	**08 23 41.5**	**+1.9**
BRY	**Bratogost**	**3.55**	**89**	⇑*i*Pn	**Pn**	**08 22 59.3**	**+1.0**
BRY				*e*Sn	**Sn**	**08 23 41.5**	**+1.9**
HCY	**Herceg Novi**	**3.57**	**97**	*e*Pn	**Pn**	**08 22 58.8**	**+0.4**
HCY				*e*Sn	**Sn**	**08 23 41.5**	**+1.7**
HCY	**Herceg Novi**	**3.57**	**97**	*e*Pn	**Pn**	**08 22 58.8**	**+0.4**
HCY				*e*Sn	**Sn**	**08 23 41.5**	**+1.7**
OBKA	**Obir**	**3.59**	**9**	*e*Pn	**Pb**	**08 23 06.5**	**-0.8**
	3.6nm,0.2s						
MYKA	**Terra Mystica**	**3.66**	**359**	*e*Pn	**Pb**	**08 23 06.4**	**-2.0**
	0.7nm,0.1s						
UPM	**Unac-Piva**	**3.82**	**85**	⇓*i*Pn	**Pn**	**08 23 03.5**	**+1.5**
UPM				*e*Sn	**Sn**	**08 23 47.6**	**+1.4**
UPM	**Unac-Piva**	**3.82**	**85**	⇓*i*Pn	**Pn**	**08 23 03.5**	**+1.5**
UPM				*e*Sn	**Sn**	**08 23 47.6**	**+1.4**
CEME	**Cevo**	**3.87**	**95**	*e*Pn	**Pn**	**08 23 03.6**	**+1.1**
CEME				*e*Sn	**Sn**	**08 23 48.5**	**+1.4**
CEME	**Cevo**	**3.87**	**95**	*e*Pn	**Pn**	**08 23 03.6**	**+1.1**
CEME				*e*Sn	**Sn**	**08 23 48.5**	**+1.4**
NKME	**Niksic**	**3.87**	**91**	⇑*i*Pn	**Pn**	**08 23 03.5**	**+1.0**
NKME				*e*Sn	**Sn**	**08 23 49.3**	**+2.1**
NKME	**Niksic**	**3.87**	**91**	⇑*i*Pn	**Pn**	**08 23 03.5**	**+1.0**
NKME				*e*Sn	**Sn**	**08 23 49.3**	**+2.1**
ABTA	**Abfaltersbach**	**3.87**	**348**	*i* Pn	**Pn**	**08 23 04.1**	**+1.6**
	5.2nm,0.3s						
ABTA	**Abfaltersbach**	**3.87**	**348**	Pn	**Pn**	**08 23 04.1**	**+1.6**
	5.2nm,0.3s						
BUM	**Brajici-Budva**	**3.89**	**98**	⇑*i*Pn	**Pn**	**08 23 04.0**	**+1.2**
BUM				*e*Sn	**Sn**	**08 23 49.6**	**+1.9**
BUM	**Brajici-Budva**	**3.89**	**98**	⇑*i*Pn	**Pn**	**08 23 04.0**	**+1.2**
BUM				*e*Sn	**Sn**	**08 23 49.6**	**+1.9**
NKY	**Niksic**	**3.89**	**91**	⇑*i*Pn	**Pn**	**08 23 04.0**	**+1.1**
NKY				*e*Sn	**Sn**	**08 23 49.5**	**+1.6**
NKY	**Niksic**	**3.89**	**91**	⇑*i*Pn	**Pn**	**08 23 04.0**	**+1.1**
NKY				*e*Sn	**Sn**	**08 23 49.5**	**+1.6**
KBA	**Koelnbreinsper**	**4.12**	**357**	*e*Pn	**Pn**	**08 23 07.5**	**+1.5**
	0.3nm,0.1s						
KBA	**Koelnbreinsper**	**4.12**	**357**	Pn	**Pn**	**08 23 07.5**	**+1.5**
	0.3nm,0.1s						
DRME	**Dracevica, Mon**	**4.12**	**99**	⇓*i*Pn	**Pn**	**08 23 07.5**	**+1.5**
DRME				*e*Sn	**Sn**	**08 23 55.4**	**+2.0**
DRME	**Dracevica, Mon**	**4.12**	**99**	⇓*i*Pn	**Pn**	**08 23 07.5**	**+1.5**
DRME				*e*Sn	**Sn**	**08 23 55.4**	**+2.0**
PDG	**Podgorica**	**4.13**	**96**	⇑*i*P	**Sn**	**08 23 55.3**	**+1.8**
PDG	**Podgorica**	**4.13**	**96**	⇑*i*Pn	**Pn**	**08 23 07.8**	**+1.8**
PDG				*e*Sn	**Sn**	**08 23 54.6**	**+1.1**
TTG	**Podgorica**	**4.13**	**96**	⇑*i*Pn	**Pn**	**08 23 07.8**	**+1.8**
TTG				*e*Sn	**Sn**	**08 23 54.6**	**+1.1**
ULC	**Ulcinj**	**4.22**	**102**	*e*Pn	**Pn**	**08 23 08.1**	**+0.8**
ULC				*e*Sn	**Sn**	**08 23 56.9**	**+1.0**
ULC	**Ulcinj**	**4.22**	**102**	*e*Pn	**Pn**	**08 23 08.1**	**+0.8**
ULC				*e*Sn	**Sn**	**08 23 56.9**	**+1.0**
WTTA	**Wattenberg**	**4.54**	**342**	*i* Pn	**Pn**	**08 23 11.5**	**-0.3**
	0.7nm,0.1s						
WTTA	**Wattenberg**	**4.54**	**342**	Pn	**Pn**	**08 23 11.5**	**-0.3**
	0.7nm,0.1s						
BEY	**Berane**	**4.55**	**89**	*e*Pn	**Pn**	**08 23 13.8**	**+1.9**
BEY				*e*Sn	**Sn**	**08 24 05.4**	**+1.4**
IVA	**Berane**	**4.55**	**89**	*e*Pn	**Pn**	**08 23 13.8**	**+1.9**
IVA				*e*Sn	**Sn**	**08 24 05.4**	**+1.4**
FETA	**Feichten**	**4.57**	**334**	*e*Pn	**Pn**	**08 23 14.4**	**+2.2**
	2μm,0.0s						
FETA	**Feichten**	**4.57**	**334**	Pn	**Pn**	**08 23 14.4**	**+2.2**
	2μm,0.0s						
WATA	**Walderalm**	**4.62**	**342**	*e*Pn	**Pn**	**08 23 15.8**	**+3.0**
	3.8nm,0.4s						
WATA	**Walderalm**	**4.62**	**342**	Pn	**Pn**	**08 23 15.8**	**+3.0**
	3.8nm,0.4s						
PVY	**Plav**	**4.62**	**93**	⇓*i*Pn	**Pn**	**08 23 14.5**	**+1.6**
PVY				*e*Sn	**Sn**	**08 24 07.3**	**+1.4**
SBF	**Sospel**	**4.65**	**283**	*e*Pn	**Pn**	**08 23 10.2**	**-3.0**
SBF	**Sospel**	**4.65**	**283**	*e*Pn	**Pn**	**08 23 10.2**	**-3.0**
TUE	**Stuetta**	**4.68**	**320**	*e*Pn	**Pn**	**08 23 14.5**	**+0.7**
TUE				*e*Sn	**Sn**	**08 24 08.6**	**+1.3**
TUE	**Stuetta**	**4.68**	**320**	*e*Pn	**Pn**	**08 23 14.5**	**+0.7**
TUE				*e*Sn	**Sn**	**08 24 08.6**	**+1.3**
MOTA	**Moosalm**	**4.74**	**338**	*e*Pn	**Pn**	**08 23 16.9**	**+2.3**
	1.2nm,0.2s						
MOTA	**Moosalm**	**4.74**	**338**	Pn	**Pn**	**08 23 16.9**	**+2.3**
	1.2nm,0.2s						
VSL	**Villasalto**	**4.76**	**225**	*e*Pn	**Pn**	**08 23 17.0**	**+2.3**
VSL	**Villasalto**	**4.76**	**225**	*e*Pn	**Pn**	**08 23 17.0**	**+2.3**
MOA	**Molln**	**4.90**	**4**	*e*Pn	**Pn**	**08 23 18.1**	**+1.5**
	0.6nm,0.1s						
MOA	**Molln**	**4.90**	**4**	Pn	**Pn**	**08 23 18.1**	**+1.5**
	0.6nm,0.1s						
RETA	**Reutte**	**4.97**	**336**	*i* Pn	**Pn**	**08 23 17.8**	**+0.2**
	0.7nm,0.1s						
RETA	**Reutte**	**4.97**	**336**	Pn	**Pn**	**08 23 17.8**	**+0.2**
	0.7nm,0.1s						
TRAV	**Traversella**	**4.97**	**303**	P	**Pn**	**08 23 17.5**	**-0.2**
DAVA	**Damuels**	**5.09**	**329**	*e*Pn	**Pn**	**08 23 21.7**	**+2.3**
	3.0nm,0.3s						
DAVA	**Damuels**	**5.09**	**329**	Pn	**Pn**	**08 23 21.7**	**+2.3**
	3.0nm,0.3s						
LMR	**La Mourre**	**5.27**	**276**	*e*P	**Pn**	**08 23 24.0**	**+2.3**
LMR	**La Mourre**	**5.27**	**276**	*e*P	**Pn**	**08 23 24.0**	**+2.3**
LMR	**La Mourre**	**5.27**	**276**	*e*P	**Pn**	**

ROSC	**El Rosal**	**2.34**	**212**	*eP*	**Pn**	**08 45 52.2**	**+0.7**
ROSC				*eS*	**Sn**	**08 46 22.2**	**-0.1**
ROSC				*i*		08 46 28.6	
	comp=Z,46nm,0.8s						
HELC	**Santa Helena**	**2.53**	**256**	*eP*	**Pn**	**08 45 54.4**	**+0.5**
HELC				*eS*	**Sn**	**08 46 27.1**	**+0.7**
HELC				*i*		08 46 33.4	
	comp=Z,29nm,0.5s						
VIGV	**El Vigia**	**2.61**	**40**	*eP*	**Pn**	**08 45 55.8**	**+1.3**
VIGV				*eS*	**Sn**	**08 46 27.6**	**0.0**
SOCV	**Socops**	**2.62**	**56**	*eP*	**Pn**	**08 45 55.6**	**+1.0**
SOCV				*eS*	**Sn**	**08 46 27.1**	**-0.6**
VILC	**Villavicencio,**	**2.77**	**193**	*eP*	**Pn**	**08 45 56.7**	**+0.1**
VILC				*eS*	**Sn**	**08 46 31.3**	**0.0**
VILC				*i*		08 46 40.3	
	comp=Z,15nm,0.5s						
CODC	**Agust˜n Codaz**	**3.11**	**353**	*eP*	**Pn**	**08 46 01.2**	**+0.5**
CODC				*eS*	**Sn**	**08 46 39.3**	**+0.6**
CODC				*i*		08 46 49.6	
	comp=Z,32nm,0.2s						
TOLC	**Tolima**	**3.17**	**225**	*eP*	**Pn**	**08 46 02.7**	**+0.9**
ELOV	**Elorza**	**3.56**	**87**	*eP*	**Pn**	**08 46 07.5**	**+1.1**
PRAC	**Prado**	**3.59**	**211**	*eP*	**Pn**	**08 46 07.0**	**+0.2**
PRAC				*eS*	**Sn**	**08 46 49.6**	**-0.1**
VIRV	**Villa del Rosa**	**3.71**	**10**	*eP*	**Pn**	**08 46 08.4**	**0.0**
VIRV				*eS*	**Sn**	**08 46 51.2**	**-1.3**
CURV	**Curarigua**	**4.41**	**44**	*eP*	**Pn**	**08 46 18.0**	**+0.5**
CURV				*eS*	**Sn**	**08 47 05.6**	**-3.2**
TEPV	**Terepaima**	**4.93**	**51**	*eP*	**Pn**	**08 46 24.9**	**+0.5**
BAUV	**El Baul**	**5.40**	**67**	*eP*	**Pn**	**08 46 29.6**	**-0.9**
MAPV	**Macapo**	**5.44**	**56**	*eP*	**Pn**	**08 46 31.5**	**+0.4**

IDC 06 08:59:45.0±14.0, 1°.87N×122°.63E, h0km, mb3.8/4, mb1 4.0/4, mb1mx3.6/37, mbtmp3.8/4, Error ellipse: s-maj=253.8km s-min=131.5km az=124.0, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**20.07**	**172**	P	P	09 04 18.8	-1.2
	1.8nm,0.9s,baz=347,slow=7.5,SNR=4.5						
WRA	**Warramunga Arr**	**24.53**	**153**	P	P	09 05 05.4	-1.1
	0.7nm,0.3s,baz=337,slow=9.4,SNR=30						
ASAR	**Alice Springs**	**27.65**	**157**	P	P	09 05 34.4	-0.3
	0.9nm,0.6s,baz=333,slow=8.2,SNR=18						
STKA	**Stephens Creek**	**38.08**	**153**	P	P	09 07 07.3	+1.8
	4.8nm,1.1s,baz=337,slow=7.7,SNR=3.0						

*CSEM **06** 09:10:38.7, 38°.65N×28°.78E, h8km, MD2.6*
ISK 06 09:10:38.7, 38°.65N×28°.78E, h8km, MD2.6, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULA	**Kula-Manisa**	**0.16**	**214**	*e*PG	Pg	09 10 43.0	+0.8
KULA				*e*SG	Sg	09 10 45.2	+0.7
KULA	**Kula-Manisa**	**0.16**	**214**	*e*Pg	Pg	09 10 43.0	+0.9
KULA				*e*Sg	Sg	09 10 45.2	+0.7
AKS	**Akhisar**	**0.79**	**287**	*e*PG	Pb	09 10 55.1	+0.4
AKS				*e*SG	Sb	09 11 05.3	-0.2
AKS	**Akhisar**	**0.79**	**287**	*e*Pg	Pb	09 10 55.1	+0.5
AKS				*e*Sg	Sb	09 11 05.3	-0.2
TVSB	**Tavsanli**	**0.96**	**34**	*e*PG	Pg	09 10 57.3	+0.1
TVSB				*e*SG	Sb	09 11 11.2	+0.6
TVSB	**Tavsanli**	**0.96**	**34**	*e*Pg	Pg	09 10 57.3	+0.1
TVSB				*e*Sg	Sb	09 11 11.2	+0.6
AYDB	**Zeytinkoy-Aydi**	**0.99**	**225**	*e*PG	Pn	09 10 58.8	-0.2
AYDB				*e*SG	Sb	09 11 11.4	0.0
AYDB	**Zeytinkoy-Aydi**	**0.99**	**225**	*e*Pg	Pn	09 10 58.8	-0.2
AYDB				*e*Sg	Sb	09 11 11.4	0.0

*NSSC **06** 09:25:39.8±1.6, 34°.04N×35°.74E, h23km±8km, ML1.8*
*ISCJB **06** 09:25:40.6±0.6, 33°.92N±0°.04×35°.81E±0°.05, h13km±9km, Error ellipse: s-maj=7.5km s-min=5.3km az=40.6*
*CSEM **06** 09:25:40.0±0.2, 33°.92N×35°.77E, h15km, ML2.7, Error ellipse: s-maj=5.2km s-min=3.7km az=121.0*
*GRAL **06** 09:25:41.4±0.3, 33°.91N×35°.83E, h1km±21km, MD2.7*
ISC 06 09:25:39.7±1.3, 33°.94N±0°.04×35°.78E±0°.03, h14km±10km, n15, σ0°.66/27, Jordan-Syria region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BHL	**Bhannes**	**0.11**	**250**	*e*P	**Pb**	**09 25 44.0**	**+0.3**
BHL				*e*S	**Sb**	**09 25 46.0**	**-0.3**
BHL	**Bhannes**	**0.11**	**250**	*e*P	**Pb**	**09 25 44.0**	**+0.3**
BHL				*e*S	**Sb**	**09 25 46.0**	**-0.3**
DQRL	**Deir Qamar**	**0.29**	**216**	*e*P	**Pb**	**09 25 46.8**	**0.0**
DQRL				*e*S	**Sb**	**09 25 50.6**	**-0.9**
DQRL	**Deir Qamar**	**0.29**	**216**	*e*P	**Pb**	**09 25 46.8**	**0.0**
DQRL				*e*S	**Sb**	**09 25 50.6**	**-0.9**
HWQ	**Hawqa**	**0.37**	**23**	*e*P	**Pb**	**09 25 48.4**	**+0.2**
HWQ	**Hawqa**	**0.37**	**23**	*e*P	**Pb**	**09 25 48.4**	**+0.2**
RCY	**Rachaya**	**0.45**	**173**	*e*P	**Pg**	**09 25 48.7**	**0.0**
RCY				*e*S	**Sg**	**09 25 54.3**	**-0.4**
MARH	**Ras Al Marh**	**0.59**	**82**	*e*P	**Pg**	**09 25 51.8**	**+0.4**
MARH				*e*S	**Sb**	**09 26 00.6**	**+0.1**
MARH				AML	AML	09 26 05.2	
	comp=N,180nm,0.4s						
MARH				AML	AML	09 26 05.7	
	comp=E,86nm,0.4s						
TOTH	**TOTAH**	**0.79**	**136**	*e*P	**Pb**	**09 25 55.7**	**+0.3**
TOTH				*e*S	**Sn**	**09 26 08.8**	**+0.5**
TOTH				AML	AML	09 26 18.3	
	comp=E,31nm,0.7s						
TOTH				AML	AML	09 26 26.8	
	comp=N,29nm,0.6s						
TOTH	**TOTAH**	**0.79**	**136**	*e*P	**Pb**	**09 25 55.7**	**+0.3**
	SNR=95						
TOTH				*e*S	**Sn**	**09 26 08.8**	**+0.5**
	comp=N,29nm,0.6s,SNR=95						
ROOS	**tl_alroos**	**1.28**	**79**	*e*P	**Pn**	**09 26 03.3**	**0.0**
ROOS				*e*S	**Sb**	**09 26 18.2**	**-1.8**
ROOS				AML	AML	09 26 25.6	
	comp=N,57nm,0.5s						
ROOS				AML	AML	09 26 28.2	
	comp=E,28nm,0.6s						
ROOS	**tl_alroos**	**1.28**	**79**	*e*P	**Pn**	**09 26 03.3**	**0.0**
	SNR=57						
ROOS				*e*S	**Sb**	**09 26 18.2**	**-1.8**
	comp=E,28nm,0.6s,SNR=58						
RABH	**Abou Rabah**	**1.28**	**67**	*e*P	**Pn**	**09 26 03.6**	**+0.2**
RABH				*e*S	**Sb**	**09 26 19.7**	**-0.5**
RABH				AML	AML	09 26 31.3	
	comp=N,15nm,0.4s						
RABH				AML	AML	09 26 31.3	
	comp=E,23nm,0.5s						
RABH	**Abou Rabah**	**1.28**	**67**	*e*P	**Pn**	**09 26 03.6**	**+0.2**
	SNR=57						
SALA	**Sala**	**1.47**	**147**	*e*P	**Pb**	**09 26 07.3**	**+0.4**
SALA				*e*S	**Sb**	**09 26 25.7**	**+0.3**
SALA				AML	AML	09 26 31.2	
	comp=N,27nm,0.5s						
SALA				AML	AML	09 26 36.2	
	comp=E,2.9nm,0.5s						

CASC 06 09:39:48.7±1.4, 11°.30N×86°.68W, h20km±7km, MD3.6, ML2.3, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CRUN	**El Crucero**	**0.77**	**28**	*e*P	Pb	09 40 03.4	-0.1
COPN	**Copaltepe**	**0.88**	**5**	*e*P	Pb	09 40 04.2	-1.1
XAVN	**Gruta Xavier**	**0.91**	**22**	*e*P	Pb	09 40 05.0	-0.8
TISN	**Laguna Tiscapa**	**0.93**	**25**	*e*P	Pb	09 40 06.0	-0.1
MGAN	**Managua**	**0.94**	**27**	*e*P	Pb	09 40 06.3	0.0
MGAN				AML	AML	09 40 21.8	
	comp=E,65nm,0.5s						
CRZ1	**La Cruz**	**1.05**	**102**	*e*P	Pb	09 40 07.2	-1.0
CRZ1				*e*S	Sn	09 40 22.1	-0.2
CONN	**Concepcion**	**1.06**	**76**	*e*P	Pb	09 40 06.7	-1.7
GPS3	**Bodega del ICE**	**1.40**	**113**	*e*P	Pn	09 40 12.6	-0.5
MESS	**Mesas**	**1.56**	**111**	*e*P	Pn	09 40 15.1	-0.3
ACON	**Acoyapa**	**1.61**	**66**	*e*P	Pn	09 40 15.3	-0.8
ACON				*e*S	Sb	09 40 37.2	-0.6
CUI	**Cuipilapa**	**1.62**	**113**	*e*P	Pn	09 40 15.7	-0.5
ESTN	**Estel**	**1.81**	**9**	*e*P	Pn	09 40 18.4	-0.5
ESPN	**Las Esperanzas**	**2.49**	**69**	*e*P	Pn	09 40 27.7	-0.5
CGA2	**Cerro Gallo 2**	**2.52**	**120**	*e*P	Pn	09 40 29.6	+1.0
URSC	**Urasca**	**3.20**	**117**	*e*P	Pn	09 40 40.0	+2.0

IDC 06 09:42:36.4±4.8, 18°.94S×176°.61W, h0km, mb4.1/6, mb1 4.2/6, mb1mx3.8/33, mbtmp4.1/6, Error ellipse: s-maj=97.3km s-min=37.0km az=62.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**20.02**	**195**	P	P	09 47 10.3	-0.4
	3.5nm,0.3s,baz=36,slow=14,SNR=9.3						
RPZ	**Rata Peaks**	**26.80**	**200**	P	P	09 48 19.0	+0.8
	7.4nm,0.6s,baz=26,slow=3.6,SNR=11						
STKA	**Stephens Creek**	**39.66**	**243**	P	P	09 50 08.8	-1.4
	2.2nm,0.8s,baz=56,slow=11,SNR=4.7						
WRA	**Warramunga Arr**	**46.14**	**260**	P	P	09 51 03.1	+0.1
	0.4nm,0.4s,baz=97,slow=8.0,SNR=21						
ASAR	**Alice Springs**	**46.17**	**255**	P	P	09 51 03.2	0.0
	1.3nm,0.5s,baz=94,slow=8.3,SNR=35						
ASAR				PcP	PcP	09 52 38.1	-1.2
	0.2nm,0.5s,baz=86,slow=4.3,SNR=4.2						
FITZ	**Fitzroy Crossi**	**54.55**	**261**	P	P	09 52 07.5	+0.8
	1.9nm,1.0s,baz=90,slow=5.7,SNR=6.0						

*ISCJB **06** 10:06:49.6±0.9, 35°.90N±0°.06×140°.16E±0°.09, h69km±7km, mb3.6/2, Error ellipse: s-maj=12.8km s-min=9.6km az=36.3*
*JMA **06** 10:06:51.3±0.1, 35°.98N×140°.06E, h64km±1km, M3.2 Broadband fault plane solution: P waves. NP1: φs=357.00000°, δ67.00000°, λ79.00000°. NP2: φs=203.00000°, δ25.00000°, λ115.00000°. Principal axes: T Plg66.0000°, Azm247.0000°; N Plg10.0000°, Azm1.0000°; P Plg21.0000°, Azm95.0000°;*
JMA Felt I J1.
*IDC **06** 10:06:55.9±2.1, 36°.11N×139°.28E, h124km±28km, mb3.1/2, mb1 3.5/2, mb1mx3.0/39, mbtmp3.5/2 Error ellipse: s-maj=74.6km s-min=24.9km az=110.0*
ISC 06 10:06:50.8±1.2, 35°.92N±0°.07×140°.13E±0°.08, h64km±9km, n10, σ0°.62/16, 1C-4D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JYT	**Yasato**	**0.32**	**10**	↑P	**Pn**	**10 07 01.7**	**+0.3**
JYT				S	**Sn**	**10 07 09.3**	**+0.2**
JAG	**Ashikaga**	**0.74**	**313**	↓P	**Pn**	**10 07 05.6**	**-0.2**
JAG				S	**Sn**	**10 07 16.1**	**-0.7**
JRY	**Ryogami san**	**1.00**	**276**	↓P	**Pn**	**10 07 09.1**	**+0.1**
JOD2	**Odawara 2**	**1.07**	**233**	↓P	**Pn**	**10 07 10.0**	**+0.1**
JOD2				S	**Sn**	**10 07 23.3**	**-0.7**
JKT	**Katashina**	**1.11**	**320**	P	**Pn**	**10 07 10.0**	**-0.4**
JKT				S	**Sn**	**10 07 24.5**	**-0.5**
JYN	**Shimob**	**1.35**	**253**	↓P	**Pn**	**10 07 14.1**	**+0.4**
JYN				S	**Sn**	**10 07 31.0**	**+0.2**
MJAR	**Matsushiro Arr**	**1.67**	**292**	P	**Pn**	**10 07 17.7**	**-0.1**
	27nm,0.3s,baz=101,slow=7.8,SNR=246						
MAT	**Matsushiro**	**1.67**	**292**	P	**Pn**	**10 07 18.4**	**+0.5**
MAT				*e*S	**Sn**	**10 07 39.7**	**+1.3**
ILAR	**Eielson Array**	**50.99**	**32**	P	**P**	**10 15 46.3**	**+0.5**
	0.5nm,0.9s,baz=262,slow=6.3,SNR=3.9						
WRA	**Warramunga Arr**	**55.82**	**187**	P	**P**	**10 16 20.9**	**-0.7**
	0.3nm,0.5s,baz=2.2,slow=7.3,SNR=8.3						

*IDC **06** 10:22:14.9±1.5, 37°.71S×73°.76W, h0km, mb4.0/6, mb1 4.1/8, mb1mx4.0/24, mbtmp3.9/8, ML4.1/2, MS4.0/3, Ms1 3.9/3, ms1mx3.3/22, Error ellipse: s-maj=40.9km s-min=19.1km az=57.0*
*GUC **06** 10:22:16.9±0.4, 37°.82S×73°.95W, h37km±3km, ML4.7*
*ISCJB **06** 10:22:18.1±0.5, 37°.76S±0°.04×73°.65W±0°.08, h33km, mb4.3/13, MS4.2/2, Error ellipse: s-maj=8.8km s-min=5.1km az=169.1*
*NEIC **06** 10:22:19.9±0.5, 37°.68S×73°.71W, h35km, mb4.4/7, Error ellipse: s-maj=12.9km s-min=7.8km az=76.0*
ISC 06 10:22:19.3±0.7, 37°.78S±0°.05×73°.84W±0°.09, h35km, n28, σ1s23/32, mb4.0/13, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CCHI	**Chillan**	**1.83**	**51**	*e*P	**Pn**	**10 22 47.7**	**-0.5**
CCHI				*e*S	**Sn**	**10 23 11.5**	**+1.4**
CCHI				IAML		10 23 22.9	
	comp=E,6µm,0.7s						
COCH	**Cobquecura**	**1.84**	**27**	*e*P	**Pn**	**10 22 46.2**	**-2.2**
COCH				*e*S	Sn	10 23 16.4	+5.9
VLCH	**Valdivia**	**2.08**	**167**	*e*P	**Pn**	**10 22 49.5**	**-2.1**
PLCA	**Paso Flores**	**3.90**	**140**	Pn	**Pn**	**10 23 17.1**	**+0.3**
	comp=E,3.5nm,0.3s,baz=334,slow=10,SNR=29						
PLCA				Lg	Lg	10 24 20.6	
	comp=E,17nm,0.3s,baz=244,slow=18,SNR=6.5						
PLCA	**Paso Flores**	**3.90**	**140**	*e*P	**Pn**	**10 23 15.6**	**-1.2**
PLCA				*e*S	**Sn**	**10 24 00.4**	**-1.0**
LCO	**Las Campanas**	**9.12**	**18**	*e*Pn	**Pn**	**10 24 26.3**	**-2.4**
	comp=E,16nm,0.4s						
LCO				*e*Sn	**Sn**	**10 26 09.3**	**-1.1**
TRQA	**Tornquist**	**9.37**	**95**	*e*Pn	**Pn**	**10 24 32.9**	**+1.0**
	comp=E,18nm,1.0s						
TRQA				*e*Sn	**Sn**	**10 26 15.2**	**-0.9**
LVC	**Limon Verde**	**15.70**	**17**	*e*Pn	**Pn**	**10 25 56.2**	**-1.9**
LVC				*e*Sn	**Sn**	**10 28 51.9**	**+0.7**
EFI	**East Falkland**	**17.80**	**146**	*e*P	**P**	**10 26 24.1**	**-0.4**
	comp=E,22nm,0.7s						
CPUP	**Villa Florida**	**18.02**	**55**	P	**P**	**10 26 25.2**	**-2.0**
	comp=E,0.1nm,0.3s,baz=216,slow=6.0,SNR=3.3						
CPUP				LR	LR	10 34 35.6	
	comp=E,137nm,18.4s,baz=230,slow=41						
LPAZ	**La Paz**	**21.99**	**15**	P	**P**	**10 27 12.2**	**+1.2**
	comp=E,4.0nm,0.8s,baz=183,slow=10.0,SNR=9.2						
SIV	**San Ignacio**	**24.45**	**31**	P	**P**	**10 27 34.1**	**-0.9**
	comp=E,2.2nm,0.6s,baz=231,slow=10,SNR=3.8						
SIV				LR	LR	10 39 01.3	
	comp=E,132nm,18.7s,baz=265,slow=41						
SAML	**Samuel**	**30.27**	**21**	*e*P	**P**	**10 28 26.7**	**-0.4**
	comp=E,0.9nm,0.6s						
VNA3	**Neumayer Olymp**	**46.46**	**156**	P	**P**	**10 30 43.0**	**+0.7**
VNA2	**Neumayer--Watz**	**47.14**	**156**	P	**P**	**10 30 48.2**	**+0.5**
	baz=298,slow=10						
SNAA	**Sanae**	**48.68**	**157**	P	**P**	**10 31 00.4**	**+0.8**
SNAA	**Sanae**	**48.68**	**157**	*e*P	**P**	**10 31 00.2**	**+0.5**
	comp=E,299nm,1.1s						
QSPA	**South Pole Qui**	**52.47**	**180**	*e*P	**P**	**10 31 29.8**	**+1.4**
	comp=E,11nm,0.9s						
TXAR	**Lajitas Array**	**72.37**	**333**	P	**P**	**10 33 43.0**	**+1.4**
	comp=E,0.5nm,0.7s,baz=148,slow=7.4,SNR=5.7						
DBIC	**Dimbokro**	**77.76**	**72**	P	**P**	**10 34 13.8**	**+0.8**
	comp=E,3.3nm,0.8s,baz=157,slow=6.5,SNR=3.7						
SMCO	**Snowmass**	**82.42**	**335**	*e*P	**P**	**10 34 39.8**	**+1.7**
	comp=E,6.1nm,1.2s						
ECSD	**EROS Data Cent**	**83.72**	**344**	*e*P	**P**	**10 34 45.0**	**+0.8**
	comp=E,4.4nm,1.1s						
HWUT	**Hardware Ranch**	**86.19**	**333**	*e*P	**P**	**10 34 56.4**	**-0.5**
	comp=E,2.8nm,0.9s						
PDAR	**Pinedale Array**	**86.50**	**334**	P	**P**	**10 34 58.9**	**+0.4**
	comp=E,0.7nm,1.0s,baz=96,slow=6.4,SNR=3.6						
TORD	**Torodi Ar. Bea**	**86.85**	**71**	P	**P**	**10 35 00.1**	**-0.4**
	comp=E,0.9nm,0.9s,baz=249,slow=2.8,SNR=5.1						
AFI	**Afiamalu**	**87.74**	**254**	LR	LR	11 04 51.2	
	comp=E,473nm,18.8s,baz=196,slow=29						
HLID	**Hailey**	**88.93**	**332**	*e*P	**P**	**10 35 09.7**	**-0.3**
	comp=E,0.5nm,0.6s						
ABKAR	**Akbulak array**	**145.09**	**56**	*e*PKPbc	**PKPdf**	**10 41 52.2**	**-0.2**

*ISCJB **06** 10:31:47.4±0.3, 21°.04N±0°.03×145°.86E±0°.05, h34km, mb4.5/45, MS3.7/14, Error ellipse: s-maj=7.4km s-min=4.9km az=170.6*
*NEIC **06** 10:31:50.7±1.1, 21°.04N×145°.79E, h48km±10km, mb4.6/23, Error ellipse: s-maj=9.8km s-min=6.7km az=86.0*
*IDC **06** 10:31:52.3±3.2, 21°.05N×145°.85E, h68km±29km, mb3.9/19, mb1 4.1/23, mb1mx4.0/43, mbtmp4.2/23, ML4.3/4, MS3.7/12, Ms1 3.7/12, ms1mx3.5/46, Error ellipse: s-maj=21.4km s-min=13.9km az=84.0*
ISC 06 10:31:49.0±0.5, 21°.08N±0°.06×145°.97E±0°.08, h34km, n97, σ1s55/94, mb4.5/45, MS3.7/16, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**6.92**	**331**	*e*Pn	**Pn**	**10 33 27.3**	**-0.8**
CBIJ				*e*Sn	**Sn**	**10 34 45.5**	**0.0**
GUMO	**Guam**	**7.52**	**188**	P	**Pn**	**10 33 38.9**	**+2.6**
	5.4nm,0.3s,baz=11,slow=10,SNR=4.7						
GUMO				LR	LR	10 36 00.9	
	comp=Z,582nm,21.3s,baz=16,slow=33						
GUMO	**Guam**	**7.52**	**188**	*e*Pn	**Pn**	**10 33 36.5**	**+0.2**
GUMO				*e*Sn	**Sn**	**10 35 01.1**	**+0.6**
INU	**Inuyama**	**16.25**	**333**	*e*Pn	**Pn**	**10 35 34.5**	**-0.2**
	77nm,1.5s						
MJAR	**Matsushiro Arr**	**16.83**	**338**	P	**Pn**	**10 35 41.7**	**-0.4**
	0.5nm,0.3s,baz=165,slow=10,SNR=18						
MAJO	**Matsushiro**	**16.83**	**338**	*e*Pn	**Pn**	**10 35 42.2**	**+0.1**
	36nm,1.1s						
MAT	**Matsushiro**	**16.83**	**338**	P	**Pn**	**10 35 41.6**	**-0.5**
MJB9	**Matsu-Tunnel**	**16.84**	**338**	*e*Pn	**Pn**	**10 35 42.0**	**-0.1**
	10nm,1.2s						
JOW	**Kunigami**	**17.15**	**293**	P	**P**	**10 35 47.2**	**-0.3**
	4.1nm,0.3s,baz=118,slow=12,SNR=17						
JOW				LR	LR	10 41 19.0	
	comp=Z,350nm,19.9s,baz=168,slow=33						
JOW	**Kunigami**	**17.15**	**293**	*e*Pn	**P**	**10 35 46.8**	**-0.7**
	22nm,1.0s						
JNU	**Nakatsue**	**17.99**	**315**	P	**P**	**10 35 58.1**	**+1.4**
	0.5nm,0.3s,baz=129,slow=14,SNR=6.7						
JNU	**Nakatsue**	**17.99**	**315**	*e*Pn	**P**	**10 35 58.1**	**+1.4**
	21nm,1.0s						
H11N1	**WAKE ISLAND Hy**	**19.66**	**90**	T	T	10 56 37.1	
	baz=276,slow=74,SNR=25						
H11N2	**WAKE ISLAND Hy**	**19.66**	**90**	T	T	10 56 29.2	
	baz=276,slow=74,SNR=20						
H11S3	**WAKE ISLAND Hy**	**19.66**	**94**	T	T	10 56 32.2	
	baz=280,slow=75,SNR=12						
H11S1	**WAKE ISLAND Hy**	**19.68**	**94**	T	T	10 56 36.0	
	baz=280,slow=75,SNR=12						
H11N3	**WAKE ISLAND Hy**	**19.68**	**90**	T	T	10 56 38.9	
	baz=276,slow=74,SNR=19						
H11S2	**WAKE ISLAND Hy**	**19.68**	**94**	T	T	10 56 32.3	
	baz=280,slow=75,SNR=14						
KSRS	**Korea Array**	**22.61**	**320**	P	**P**	**10 36 47.2**	**+0.4**
	6.2nm,0.9s,baz=144,slow=9.2,SNR=23						
KS15	**Wonju Array Si**	**22.62**	**320**	*e*P	**P**	**10 36 48.3**	**+1.3**
KS01	**Wonju Array Si**	**22.64**	**320**	*e*P	**P**	**10 36 47.9**	**+0.7**
TGY	**Tagaytay City**	**24.83**	**258**	LR	LR	10 44 55.3	
	comp=Z,222nm,21.1s,baz=60,slow=32						
USRK	**Ussuriysk Ar.**	**25.82**	**336**	P	**P**	**10 37 16.4**	**-0.6**
	7.2nm,0.9s,baz=141,slow=8.8,SNR=9.3						
BJI	**Beijing**	**31.65**	**313**	P	**P**	**10 38 09.1**	**+0.1**
BJI				S	**S**	**10 43 16.1**	**+0.1**
BJI				pmax	pmax		
	comp=Z,7.0nm,0.6s						
BJI				pmax	pmax		
	comp=Z,110µm,4.0s						
BJI				LR	LR		
	comp=N,160nm,25.9s						
BJI				LR	LR		
	comp=E,93nm,28.9s						
BJI				LR	LR		
	comp=Z,150nm,27.0s						
KKM	**Kota Kinabalu**	**32.46**	**247**	*e*P	**P**	**10 38 16.5**	**-0.1**
	comp=Z,10nm,1.0s						
PETK	**Petropavlovsk-**	**33.23**	**13**	P	**P**	**10 38 23.3**	**+0.6**
	comp=Z,4.0nm,0.9s,baz=191,slow=1.5,SNR=4.1						
PETK				LR	LR	10 50 05.3	
	comp=Z,87nm,21.9s,baz=214,slow=33						
PEA1	**Petropavlovsk-**	**33.23**	**13**	*e*P	**P**	**10 38 23.3**	**+0.5**
QIZ	**Qiongzhong**	**33.95**	**273**	P	**P**	**10 38 28.9**	**-0.6**
QIZ				S	**S**	**10 43 50.8**	**-1.6**
QIZ				LR	LR		
	comp=N,120nm,11.1s						
QIZ				LR	LR		
	comp=E,120nm,17.2s						
QIZ				LR	LR		
	comp=Z,170nm,19.3s						
HHC	**Hu-ho-hao-te**	**35.17**	**312**	*e*P	**P**	**10 38 40.8**	**+0.9**
HHC				sP	sP	10 38 52.2	-1.7
HHC				PP	**PP**	**10 39 59.4**	**-0.6**
HHC				S	**S**	**10 44 10.9**	**0.0**
HHC				sS	sS	10 44 29.0	+1.8
HHC				pmax	pmax		
	comp=Z,21nm,1.4s						
HHC				pmax	pmax		
	comp=Z,91nm,4.7s						
HHC				LR	LR		
	comp=N,140nm,14.9s						
HHC				LR	LR		
	comp=E,140nm,14.9s						
HHC				LR	LR		
	comp=Z,160nm,16.2s						
GYA	**Guiyang**	**36.27**	**286**	*e*P	**P**	**10 38 50.0**	**+0.5**
GYA				pmax	pmax		
	comp=Z,10.0nm,0.8s						
SBUM	**Sibu**	**37.72**	**245**	*e*P	**P**	**10 39 01.1**	**-0.6**
	comp=Z,25nm,1.4s						
CD2	**Chengdu**	**38.99**	**293**	*e*P	**P**	**10 39 11.8**	**-0.6**
CD2				pmax	pmax		
	comp=Z,10.0nm,1.0s						
LZH	**Lanzhou**	**39.58**	**301**	*e*P	**P**	**10 39 15.8**	**-1.6**
LZH				pP	pP	10 39 27.3	-0.1
LZH				sP	sP	10 39 32.6	+1.1
LZH				PP	**PnPn**	**10 41 01.0**	**+9.3**
LZH				pmax	pmax		
	comp=Z,20nm,1.3s						
LZH				pmax	pmax		
	comp=Z,65nm,5.0s						
LZH				LR	LR		
	comp=N,170nm,12.8s						
LZH				LR	LR		
	comp=E,180nm,13.0s						
LZH				LR	LR		
	comp=Z,230nm,16.7s						
KMI	**Kunming**	**39.84**	**284**	P	**P**	**10 39 19.7**	**-0.1**
KMI				pmax	pmax		
	comp=Z,14nm,0.5s						
SONA0	**Songino Array**	**41.48**	**320**	*e*P	**P**	**10 39 31.7**	**-1.2**
	comp=Z,4.7nm,0.9s						
SONA1	**Songino Array**	**41.48**	**320**	*e*P	**P**	**10 39 32.4**	**-0.5**
SONM	**Songino Array**	**41.48**	**320**	P	**P**	**10 39 31.7**	**-1.2**
	comp=Z,1.6nm,0.7s,baz=111,slow=8.1,SNR=3.6						
WRAB	**Tennant Creek**	**

ILAR	**Eielson Array**	**61.41**	**27**	P		**P**		**10 42 01.8**	**+0.1**
	comp=Z,2.2nm,0.9s,baz=255,slow=5.7,SNR=13								
ILAR				LR		LR		11 05 36.1	
	comp=Z,49nm,21.9s,baz=278,slow=33								
ILB	**Eielson Array**	**61.41**	**27**	*e*P		**P**		**10 42 02.3**	**+0.7**
KSH	**Kashi**	**61.72**	**304**	*e*P		**P**		**10 42 06.6**	**+2.3**
KSH				pP		sP		10 42 19.7	+1.0
KSH				P*c*P		**P*c*P**		**10 42 46.5**	**+1.1**
KSH				PP		**PP**		**10 44 25.6**	**+5.3**
KSH				S		**S**		**10 50 24.7**	**-0.4**
KSH				sS		sS		10 50 46.6	+4.4
KSH	**Kashi**	**61.72**	**304**	SS		SS		10 54 29.7	+2.9
KSH				pmax		pmax			
	comp=Z,6.0nm,1.0s								
KSH				pmax		pmax			
	comp=Z,66nm,5.6s								
KSH				LR		LR			
	comp=N,140nm,10.6s								
KSH				LR		LR			
	comp=E,82nm,4.9s								
KSH				LR		LR			
	comp=Z,160nm,8.8s								
BRVK	**Borovoye**	**64.89**	**320**	*e*P		**P**		**10 42 24.6**	**-0.3**
KKAR	**Karatay Array**	**65.47**	**309**	*e*P		**P**		**10 42 28.3**	**-0.6**
	comp=Z,38nm,0.8s								
INK	**Inuvik**	**67.10**	**23**	LR		LR		11 09 14.3	
	comp=Z,30nm,20.6s,baz=238,slow=33								
ABKAR	**Akbulak array**	**71.79**	**317**	*e*P		**P**		**10 43 07.0**	**-1.1**
	comp=Z,34nm,0.8s								
YKA	**Yellowknife Ar**	**75.78**	**28**	P		**P**		**10 43 31.5**	**+0.3**
	comp=Z,1.5nm,0.9s,baz=292,slow=5.3,SNR=5.2								
YKB5	**Yellowknife Ar**	**75.78**	**28**	*e*P		**P**		**10 43 32.3**	**+1.0**
K05A	**Summer Lake**	**78.23**	**49**	*e*P		**P**		**10 43 47.1**	**+1.4**
	comp=Z,18nm,1.3s								
BMO	**Blue Mountains**	**80.01**	**46**	*e*P		**P**		**10 43 56.9**	**+1.7**
	comp=Z,8.5nm,1.4s								
CMB	**Columbia Colle**	**80.07**	**53**	*e*P		**P**		**10 43 58.1**	**+2.4**
	comp=Z,5.6nm,1.0s								
ARCES	**ARCESS Array B**	**80.32**	**342**	P		**P**		**10 43 55.0**	**-1.4**
	comp=Z,4.1nm,1.0s,baz=60,slow=4.9,SNR=7.9								
ARCES				LR		LR		11 23 22.4	
	comp=Z,58nm,21.6s,baz=80,slow=38								
TVH3	**East Aurora ar**	**81.13**	**52**	*e*P		**P**		**10 44 03.5**	**+2.0**
	comp=Z,7.7nm,1.3s								
MFID	**Camas Ranch**	**81.50**	**47**	*e*P		**P**		**10 44 05.5**	**+2.2**
	comp=Z,7.7nm,1.4s								
TPNV	**Topopah Spring**	**83.53**	**53**	*e*P		**P**		**10 44 15.4**	**+1.4**
	comp=Z,6.0nm,1.2s								
KBZ	**Khabaz**	**84.66**	**315**	P		**P**		**10 44 18.8**	**-0.6**
	comp=Z,2.5nm,0.8s,baz=89,slow=10,SNR=4.7								
DUG	**Dugway, Tooele**	**84.80**	**49**	*e*P		**P**		**10 44 22.1**	**+1.6**
	comp=Z,15nm,1.9s								
FIA1	**FINESS Array S**	**84.84**	**335**	*e*P		**P**		**10 44 19.4**	**-0.5**
FIA0	**FINESS Array S**	**84.84**	**335**	*e*P		**P**		**10 44 18.3**	**-1.7**
FINES	**FINESS Array B**	**84.84**	**335**	P		**P**		**10 44 18.3**	**-1.7**
	comp=Z,1.5nm,0.4s,baz=63,slow=4.9,SNR=14								
PD31	**Pinedale Array**	**85.99**	**46**	*e*P		**P**		**10 44 27.6**	**+1.2**
PDAR	**Pinedale Array**	**85.99**	**46**	P		**P**		**10 44 26.1**	**-0.3**
	comp=Z,0.5nm,0.8s,baz=298,slow=3.2,SNR=4.4								
AKASG	**Malin Array Be**	**89.50**	**325**	P		**P**		**10 44 41.0**	**-1.7**
	comp=Z,0.5nm,0.3s,baz=51,slow=6.1,SNR=7.0								
AKBB	**Malin Array Si**	**89.50**	**325**	*e*P		**P**		**10 44 41.0**	**-1.7**
	comp=Z,18nm,1.9s								
NB2	**NORSAR Subarra**	**90.44**	**340**	P		P		10 44 58.0	+11
	comp=Z,2.3nm,0.8s,baz=42,slow=4.6								
NB200	**NORSAR Array S**	**90.44**	**340**	*e*P		**P**		**10 44 46.4**	**-0.6**
NOA	**NORSAR Array B**	**90.44**	**340**	P		**P**		**10 44 46.4**	**-0.6**
	comp=Z,1.8nm,0.9s,baz=43,slow=4.6,SNR=2.5								
BR101	**Keskin Array S**	**92.64**	**314**	*e*P		**P**		**10 44 55.9**	**-1.9**
BRTR	**Keskin Array B**	**92.64**	**314**	P		**P**		**10 44 55.9**	**-1.9**
	comp=Z,0.9nm,0.7s,baz=108,slow=2.7,SNR=4.3								
LTX	**Lajitas**	**96.29**	**55**	*e*P		**P**		**10 45 13.2**	**-1.4**
TXAR	**Lajitas Array**	**96.29**	**55**	P		**P**		**10 45 13.2**	**-1.4**
	comp=Z,0.2nm,0.7s,baz=184,slow=2.7,SNR=2.4								
GERES	**GERESS Array B**	**98.43**	**330**	LR		LR		11 34 59.9	
	comp=Z,47nm,18.6s,baz=354,slow=38								
TOA1	**Torodi Ar. Sit**	**131.12**	**311**	*e*PKPdf		**PKPdf**		**10 50 58.0**	**-0.3**
TORD	**Torodi Ar. Bea**	**131.13**	**311**	PKP		**PKPdf**		**10 50 58.0**	**-0.3**
	comp=Z,0.5nm,0.8s,baz=17,slow=3.0,SNR=3.0								
LPAZ	**La Paz**	**147.39**	**87**	PKPbc		**PKPbc**		**10 51 30.6**	**-0.2**
	comp=Z,4.4nm,1.1s,baz=295,slow=4.6,SNR=7.5								

NIED ***06*** *10:47:00,40.00N×143.60E,h14km,Mw4.4 Best double couple: M0=4.16000×10[15] NP1:φs=195.00000°,δ29.00000°, λ81.00000°. NP2:φs=26.00000°,δ61.00000°,λ95.00000°.*
IDC ***06*** *10:47:23.5±0.8,39.98N×143.64E,h0km,mb4.2/23, mb1 4.3/28,mb1mx4.2/62,mbtmp4.2/28,ML3.4/5,MS3.7/4, Ms1 3.7/4,ms1mx3.1/46,Error ellipse: s-maj=19.2km s-min=15.1km az=138.0*
ISCJB ***06*** *10:47:24.7±0.9,39.98N±0.02×143.60E±0.04,h16km±6km, mb4.5/58,MS4.0/15,Error ellipse: s-maj=5.7km s-min=3.4km az=31.7*
JMA ***06*** *10:47:25.2±0.2,40.00N×143.57E,h18km±4km,M4.5*
NEIC ***06*** *10:47:27.6±1.6,40.02N×143.54E,h22km±11km,mb4.6/13, Error ellipse: s-maj=7.6km s-min=4.8km az=112.0*
MOS ***06*** *10:47:27.1±1.0,39.99N×143.52E,h33km,mb4.6/30,Error ellipse: s-maj=10.3km s-min=6.4km az=105.6*
BJI ***06*** *10:47:27.8,39.92N×143.21E,h27km,mb4.7/48,mB4.9/35, Ms4.3/37,Ms7 4.2/36*

ISC 06 10:47:26.7±0.7,39.98N±0.04×143.65E±0.05,h19km±2km, n155,σ1§62/179,mb4.6/59,MS4.1/15,15C-5D,Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time h m s	Res ISC
				Op	ISC		
JTH	**Tanohata**	**1.37**	**269**	P	**Pn**	**10 47 48.7**	**-2.2**
JTH				S	**Sn**	**10 48 06.8**	**-1.8**
MIYJ	**Miyakonagasawa**	**1.47**	**255**	P	**Pn**	**10 47 50.5**	**-1.7**
MIYJ				S	**Sn**	**10 48 08.9**	**-2.0**
JANG	**Nango**	**1.68**	**284**	P	**Pn**	**10 47 53.3**	**-1.9**
JANG				S	**Sn**	**10 48 13.2**	**-3.0**
JOM	**Ohasama**	**1.89**	**255**	P	**Pn**	**10 47 57.1**	**-0.9**
JOM				S	**Sn**	**10 48 20.9**	**-0.4**
ERM	**Erimo**	**2.07**	**350**	*c*eP	**Pn**	**10 47 59.8**	**-0.6**
ERM				pmax	pmax		
	comp=Z,134nm,1.0s						
ERM	**Erimo**	**2.07**	**350**	*e*Pn	**Pn**	**10 48 00.2**	**-0.3**
ERM				*e*Sn	**Sn**	**10 48 24.4**	**-1.3**
JEM	**Erimo**	**2.07**	**350**	S	**Sn**	**10 48 24.1**	**-1.6**
JTM	**Tenmabayashi**	**2.13**	**293**	P	**Pn**	**10 48 00.4**	**-0.9**
JMK	**Ichinoseki**	**2.14**	**242**	P	**Pn**	**10 48 00.0**	**-1.5**
JMK				S	**Sn**	**10 48 25.2**	**-2.4**
JAH	**Hinai**	**2.32**	**276**	P	**Pn**	**10 48 03.3**	**-0.6**
JAH				S	**Sn**	**10 48 32.0**	**0.0**
JNBK	**Urakawa-nobuka**	**2.40**	**344**	P	**Pn**	**10 48 04.3**	**-0.6**
JNBK				S	**Sn**	**10 48 33.6**	**-0.2**
JRG	**Rokugo**	**2.40**	**257**	P	**Pn**	**10 48 04.1**	**-0.9**
JCH	**Churui**	**2.64**	**355**	P	**Pn**	**10 48 07.9**	**-0.4**
JCH				S	**Sn**	**10 48 38.2**	**-1.6**
JYK	**Kaneyama**	**2.76**	**248**	P	**Pn**	**10 48 09.2**	**-0.8**
JOU	**Okura**	**2.83**	**236**	P	**Pn**	**10 48 09.9**	**-1.0**
JOU				S	**Sn**	**10 48 42.9**	**-1.6**
JAK	**Akkeshi**	**3.11**	**14**	P	**Pn**	**10 48 13.5**	**-1.3**
JAK				S	**Sn**	**10 48 48.8**	**-2.7**
JFT	**Otama**	**3.57**	**228**	P	**Pn**	**10 48 19.7**	**-1.4**
JFT				S	**Sn**	**10 49 00.7**	**-2.1**
ASAJ	**Asahikawa**	**4.21**	**350**	*e*Pn	**Pn**	**10 48 30.1**	**+0.3**
MJAR	**Matsushiro Arr**	**5.49**	**233**	Pn	**Pn**	**10 48 47.5**	**0.0**
	comp=Z,3.5nm,0.3s,baz=36,slow=12,SNR=48						
MAJO	**Matsushiro**	**5.49**	**233**	*i* P	**Pn**	**10 48 47.2**	**-0.3**
MAJO	**Matsushiro**	**5.49**	**233**	*e*Pn	**Pn**	**10 48 47.4**	**-0.1**
MAJO				*e*Sn	**Sn**	**10 49 43.6**	**-6.5**
MAT	**Matsushiro**	**5.49**	**233**	P	**Pn**	**10 48 47.3**	**-0.2**
MAT				*e*S	**Sn**	**10 49 49.9**	**-0.2**
MJB9	**Matsu-Tunnel**	**5.49**	**233**	*e*Pn	**Pn**	**10 48 47.4**	**-0.1**
KUR	**Kuril'sk**	**6.10**	**29**	‖*i*P	**Pn**	**10 48 55.5**	**-0.3**
KUR				*i* S	**Sn**	**10 50 01.2**	**-3.9**
KUR				pmax	pmax		
	comp=E,27nm,0.5s						
KUR				pmax	pmax		
	comp=Z,84nm,0.5s						
KUR				pmax	pmax		
	comp=N,19nm,0.4s						
KUR				smax	smax		
	comp=N,160nm,0.5s						
KUR				smax	smax		
	comp=E,80nm,0.4s						
YSS	**Yuzh-Sakhalins**	**7.00**	**355**	*i* P	**Pn**	**10 49 11.0**	**+2.8**
INU	**Inuyama**	**7.00**	**231**	*e*Pn	**Pn**	**10 49 06.9**	**-1.4**
JHJ2	**Mitsune**	**7.52**	**205**	*e*Pn	**Pn**	**10 49 16.3**	**+1.0**
USRK	**Ussuriysk Ar.**	**9.64**	**300**	Pn	**Pn**	**10 49 45.1**	**+0.8**
	comp=E,0.9nm,0.3s,baz=107,slow=12,SNR=19						
USRK				LR	LR	10 53 28.6	
	comp=E,452nm,18.6s,baz=130,slow=38						
MSHR	**Mys Shultsa**	**9.76**	**289**	*c*eP	Pn	10 49 53.5	+7.5
HABR	**Khabarovsk**	**10.49**	**327**	*e*P	Pn	10 50 07.4	+11
HABR				*e*S	**Sn**	**10 51 53.4**	**+0.5**
HABR				pmax	pmax		
	comp=N,75nm,1.8s						
HABR				pmax	pmax		
	comp=E,104nm,1.8s						
HABR				pmax	pmax		
	comp=Z,132nm,1.8s						
HABR				MLR	MLR		
	comp=Z,501nm,14.0s						
JNU	**Nakatsue**	**12.33**	**240**	Pn	**Pn**	**10 50 20.0**	**-1.4**
	comp=Z,0.2nm,0.3s,baz=80,slow=11,SNR=4.4						
KLR	**Kul'dur**	**12.53**	**321**	Pn	**Pn**	**10 50 23.7**	**-0.2**
	comp=Z,0.1nm,0.3s,baz=111,slow=11,SNR=6.2						
KLR	**Kul'dur**	**12.53**	**321**	*i* P	**Pn**	**10 50 24.3**	**+0.4**
KSRS	**Korea Array**	**12.54**	**263**	Pn	**Pn**	**10 50 24.4**	**+0.3**
	comp=Z,0.3nm,0.3s,baz=84,slow=13,SNR=9.2						
KSRS				LR	LR	10 54 54.4	
	comp=Z,373nm,18.1s,baz=75,slow=36						
KS15	**Wonju Array Si**	**12.57**	**263**	*e*Pn	**Pn**	**10 50 24.4**	**-0.2**
MA2	**Magadan**	**20.12**	**11**	P	**P**	**10 51 57.7**	**-1.6**
	comp=Z,8.5nm,0.8s,baz=217,slow=10,SNR=7.6						
MA2				LR	LR	11 00 27.3	
	comp=Z,150nm,18.6s,baz=200,slow=39						
MA2	**Magadan**	**20.12**	**11**	*e*P	**P**	**10 52 00.4**	**+1.0**
CLNS	**Chul'man**	**20.85**	**330**	*e*P	**P**	**10 52 06.8**	**-0.4**
CLNS				pmax	pmax		
	comp=Z,14nm,0.9s						
CLNS				pmax	pmax		
	comp=N,11nm,1.1s						
CLNS				pmax	pmax		
	comp=E,10.0nm,0.8s						
BJI	**Beijing**	**21.02**	**279**	P	**P**	**10 52 06.9**	**-2.3**
BJI				S	**S**	**10 55 59.3**	**-3.1**
BJI				pmax	pmax		
	comp=E,11nm,1.0s						
BJI				pmax	pmax		
	comp=E,130nm,3.8s						
BJI				LR	LR		
	comp=E,350nm,16.9s						
BJI				LR	LR		
	comp=E,280nm,16.9s						
BJI				LR	LR		
	comp=E,170nm,17.8s						
TIA	**Tai'an**	**21.18**	**268**	⇑P	**P**	**10 52 08.8**	**-2.2**
TIA				pmax	pmax		
	comp=E,20nm,0.9s						
SEY	**Seymchan**	**23.58**	**10**	P	**P**	**10 52 34.6**	**-1.3**
	comp=E,12nm,0.9s,baz=193,slow=6.8,SNR=18						
SEY	**Seymchan**	**23.58**	**10**	*c*eP	**P**	**10 52 36.3**	**+0.4**
YAK	**Yakutsk**	**23.66**	**344**	P	**P**	**10 52 36.1**	**-0.6**
	comp=E,50nm,0.8s,baz=12,slow=2.4,SNR=12						
YAK	**Yakutsk**	**23.66**	**344**	*e*P	**P**	**10 52 35.2**	**-1.5**
YAK				*e**PP	**sP**	**10 52 43.2**	**-1.4**
YAK				*e*S	**S**	**10 56 49.0**	**-1.3**
YAK				*e*SS	**SnSn**	**10 57 31.3**	**+3.3**
YAK				*e*		11 03 42.6	
YAK				pmax	pmax		
	comp=Z,35nm,0.8s						
YAK				pmax	pmax		
	comp=N,11nm,1.0s						
YAK				pmax	pmax		
	comp=E,4.0nm,1.0s						
YAK				smax	smax		
	comp=N,89nm,2.6s						
YAK				smax	smax		
	comp=E,76nm,2.5s						
YAK				MLR	MLR		
	comp=Z,135nm,15.0s						
YAK				MLR	MLR		
	comp=N,81nm,14.0s						
YAK	**Yakutsk**	**23.66**	**344**	*e*P	**P**	**10 52 35.6**	**-1.1**
	comp=N,42nm,0.7s						
HHC	**Hu-ho-hao-te**	**24.38**	**282**	*e*P	**P**	**10 52 43.2**	**-0.6**
HHC				sP	sP	10 52 56.3	+4.5
HHC				PP	**PnPn**	**10 53 20.8**	**+6.6**
HHC				S	**S**	**10 56 57.2**	**-5.2**
HHC				sS	sS	10 57 13.4	+1.7
HHC				pmax	pmax		
	comp=N,18nm,1.3s						
HHC				pmax	pmax		
	comp=N,63nm,5.3s						
HHC				LR	LR		
	comp=N,170nm,12.4s						
HHC				LR	LR		
	comp=N,280nm,14.9s						
HHC				LR	LR		
	comp=N,300nm,16.2s						
WHN	**Wuhan**	**25.61**	**258**	‖P	**P**	**10 52 54.1**	**-0.8**
WHN				pmax	pmax		
	comp=N,60nm,0.8s						
WHN				LR	LR		
	comp=N,1μm,15.4s						
WHN				LR	LR		
	comp=N,360nm,13.6s						
WHN				LR	LR		
	comp=N,600nm,16.8s						
BOD	**Bodaibo**	**26.10**	**323**	*e*P	**P**	**10 52 58.7**	**-0.4**
BOD				pmax	pmax		
	comp=Z,18nm,1.2s						
ULN	**Ulaanbaatar**	**27.31**	**299**	*c*eP	**P**	**10 53 10.4**	**+0.1**
ULN				pmax	pmax		
	comp=Z,16nm,1.3s						
ULN	**Ulaanbaatar**	**27.31**	**299**	*e*P	**P**	**10 53 10.1**	**-0.2**
	comp=Z,15nm,0.9s						
SONA1	**Songino Array**	**27.75**	**299**	*e*P	**P**	**10 53 14.1**	**-0.1**
SONA0	**Songino Array**	**27.75**	**299**	*e*P	**P**	**10 53 14.3**	**0.0**
	comp=Z,10nm,0.8s						
SONM	**Songino Array**	**27.75**	**299**	P	**P**	**10 53 14.3**	**0.0**
	comp=Z,6.1nm,0.7s,baz=87,slow=8.7,SNR=17						
XAN	**Xi'an**	**28.24**	**269**	P	**P**	**10 53 18.0**	**-0.6**
XAN				pP	sP	10 53 26.3	-0.3
XAN				pmax	pmax		
	comp=Z,11nm,1.4s						
XAN				pmax	pmax		
	comp=Z,140nm,6.9s						
H11N2	**WAKE ISLAND Hy**	**28.38**	**129**	T	T	11 23 58.4	
	baz=320						
H11N1	**WAKE ISLAND Hy**	**28.39**	**129**	T	T	11 23 58.4	
	baz=320						
H11N3	**WAKE ISLAND Hy**	**28.40**	**129**	T	T	11 23 58.4	
	baz=320						
H11S1	**WAKE ISLAND Hy**	**29.21**	**130**	T	T	11 24 48.7	
	baz=327,SNR=11						
H11S3	**WAKE ISLAND Hy**	**29.21**	**130**	T	T	11 24 60.0	
	baz=327						
H11S2	**WAKE ISLAND Hy**	**29.23**	**130**	T	T	11 24 46.0	
	baz=327,SNR=7.2						
ENH	**Enshi**	**29.42**	**261**	*e*P	**P**	**10 53 28.3**	**-0.8**
	comp=Z,25nm,1.0s						
TLY	**Talaya**	**29.86**	**306**	P	**P**	**10 53 32.7**	**-0.1**
	comp=Z,1.8nm,0.6s,baz=102,slow=11,SNR=3.7						
TLY	**Talaya**	**29.86**	**306**	*e*P	**P**	**10 53 33.1**	**+0.3**
TLY				pmax	pmax		
	comp=Z,3.0nm,0.9s						
TLY				MLR	MLR		
	comp=Z,95nm,9.0s						
ZAK	**Zakamensk**	**29.95**	**304**	*e*P	**P**	**10 53 31.2**	**-2.5**
ZAK				pmax	pmax		
	comp=Z,4.0nm,1.3s						
BILL	**Bilibino**	**30.71**	**16**	*e*P	**P**	**10 53 40.2**	**+0.1**
BILL				*e*		10 54 41.0	
BILL				pmax	pmax		
	comp=Z,5.0nm,1.0s						
LZH	**Lanzhou**	**31.41**	**276**	*e*P	**P**	**10 53 44.8**	**-2.0**
LZH				pP	sP	10 53 54.6	-0.2
LZH				sP	pP	10 53 58.5	+6.0
LZH				PP	**PnPn**	**10 54 47.0**	**-2.6**
LZH				pmax	pmax		
	comp=Z,25nm,1.2s						
LZH				pmax	pmax		
	comp=Z,93nm,4.9s						
LZH				LR	LR		
	comp=Z,400nm,12.7s						
LZH				LR	LR		
	comp=Z,380nm,13.0s						
LZH				LR	LR		
	comp=Z,460nm,16.5s						
CD2	**Chengdu**	**33.50**	**267**	P	**P**	**10 54 04.2**	**-0.9**
CD2				pP	pP	10 54 09.3	-1.5
CD2				sP	sP	10 54 13.9	+0.8
CD2				PP	**PnPn**	**10 55 17.0**	**+0.6**
CD2				S	S	10 59 16.0	-10
CD2				SS	**SnSn**	**11 01 27.8**	**-0.8**
CD2				pmax	pmax		
	comp=Z,20nm,0.8s						
CD2				LR	LR		
	comp=Z,390nm,13.3s						
CD2				LR	LR		
	comp=Z,650nm,11.4s						
GYA	**Guiyang**	**33.51**	**258**	*e*P	**P**	**10 54 05.8**	**+0.6**
GYA				pP	sP	10 54 15.6	+2.4
GYA				PP	**PnPn**	**10 55 18.0**	**+1.5**
GYA				sS	sS	10 59 40.2	+4.5
GYA				SS	**SnSn**	**11 01 25.6**	**-3.3**
GYA				pmax	pmax		
	comp=Z,20nm,0.8s						
GYA				pmax	pmax		
	comp=Z,120nm,4.9s						
GYA				LR	LR		
	comp=Z,480nm,17.4s						
GYA				LR	LR		
	comp=Z,460nm,17.8s						
GYA				LR	LR		
	comp=Z,420nm,17.6s						
QIZ	**Qiongzhong**	**35.77**	**244**	P	**P**	**10 54 24.8**	**+0.2**
QIZ				S	**S**	**10 59 59.9**	**-1.1**
QIZ				LR	LR		
	comp=Z,140nm,14.6s						
QIZ				LR	LR		
	comp=Z,140nm,12.8s						
QIZ				LR	LR		
	comp=Z,230nm,9.9s						
KMI	**Kunming**	**37.19**	**259**	P	**P**	**10 54 40.0**	**+3.0**
KMI				pP	sP	10 54 48.0	+2.9
KMI				pmax	pmax		
	comp=Z,15nm,0.6s						
KMI				LR	LR		
	comp=Z,140nm,18.4s						
KMI				LR	LR		
	comp=Z,230nm,17.5s						
KMI				LR	LR		
	comp=Z,270nm,16.5s						
WMQ	**Urumqi**	**41.15**	**294**	P	**P**	**10 55 10.3**	**+0.5**
WMQ				pP	sP	10 55 18.2	+0.3
WMQ				sP	pP	10 55 25.7	+10
WMQ				PP	**PnPn**	**10 56 48.7**	**-0.5**
WMQ				pmax	pmax		
	comp=Z,12nm,0.7s						
WMQ				pmax	pmax		
	comp=Z,120nm,4.1s						
WMQ				LR	LR		
	comp=Z,43nm,16.9s						
WMQ				LR	LR		
	comp=Z,30nm,16.9s						
WMQ				LR	LR		
	comp=Z,65nm,23.3s						
ZAA1	**Zalesovo Array**	**41.30**	**310**	*e*P	**P**	**10 55 09.7**	**-1.1**
ZAA0	**Zalesovo Array**	**41.30**	**310**	*e*P	**P**	**10 55 10.6**	**-0.2**
ZALV	**Zalesovo Beam**	**41.30**	**310**	P	**P**	**10 55 09.7**	**-1.1**
	comp=Z,6.1nm,0.8s,baz=87,slow=7.0,SNR=11						
ZALV	**Zalesovo Beam**	**41.30**	**310**	P	**P**	**10 55 09.7**	**-1.1**
ZALV				pmax	pmax		
	comp=Z,7.0nm,0.8s						
NRIK	**Noril'sk**	**41.37**	**334**	LR	LR	11 12 17.9	
	comp=Z,124nm,20.2s,baz=108,slow=36						
NVS	**Novosibirsk**	**42.14**	**311**	*e*P	**P**	**10 55 18.3**	**+0.7**
NVS				pmax	pmax		
	comp=E,9.0nm,1.0s						
NVS				pmax	pmax		
	comp=Z,9.0nm,1.0s						
CM31	**Chiang Mai Arr**	**43.97**	**254**	*e*P	**P**	**10 55 31.9**	**-0.9**
CMAR	**Chiang Mai Arr**	**43.97**	**254**	P	**P**	**10 55 31.9**	**-0.9**
	comp=Z,0.6nm,0.4s,baz=40,slow=7.3,SNR=3.9						
CMAR	**Chiang Mai Arr**	**43.97**	**254**	P	**P**	**10 55 32.0**	**-0.9**
CMAR				pmax	pmax		
	comp=Z,1.0nm,0.4s						
MK01	**Makanchi Array**	**44.10**	**300**	*e*P	**P**	**10 55 33.1**	**-0.6**
MK31	**Makanchi Array**	**44.10**	**300**	*e*P	**P**	**10 55 33.2**	**-0.5**
MK31	**Makanchi Array**	**44.10**	**300**	*e*P	**P**	**10 55 33.2**	**-0.5**
MKAR	**Makanchi Array**	**44.10**	**300**	*e*P	**P**	**10 55 33.2**	**-0.5**
MKAR				pmax	pmax		
	comp=Z,29nm,0.8s						
MKAR	**Makanchi Array**	**44.10**	**300**	*e*P	**P**	**10 55 33.2**	**-0.5**
	comp=Z,29nm,0.8s						
MAKZ	**Makanchi**	**44.31**	**300**	*e*P	**P**	**10 55 35.1**	**-0.2**
MAKZ				pmax	pmax		
	comp=Z,5.0nm,0.8s						
MAKZ	**Makanchi**	**44.31**	**300**	*e*P	**P**	**10 55 35.1**	**-0.2**
	comp=Z,4.7nm,0.8s						
KURK	**Kurchatov**	**45.55**	**306**	*c*eP	**P**	**10 55 45.2**	**+0.1**
KURK				pmax	pmax		
	comp=Z,23nm,0.8s						
KURK	**Kurchatov**	**45.55**	**306**	*e*P	**P**	**10 55 45.0**	**-0.1**
KURBB	**Kurchatov Arra**	**45.63**	**306**	P	**P**	**10 55 45.3**	**-0.4**
	comp=Z,6.4nm,0.5s,baz=80,slow=8.6,SNR=20						
ILAR	**Eielson Array**	**46.07**	**34**	P	**P**	**10 55 48.4**	**-0.7**
	comp=Z,0.8nm,0.7s,baz=264,slow=6.7,SNR=7.4						
ILB	**Eielson Array**	**46.07**	**34**	*e*P	**P**	**10 55 49.2**	**+0.1**
KSM	**Kuching**	**48.85**	**227**	*e*P	**P**	**10 56 11.5**	**+0.4**
	comp=Z,12nm,1.2s						
BVAR	**Borovoye Array**	**49.93**	**311**	P	**P**	**10 56 18.8**	**-0.2**
	comp=Z,1.6nm,0.6s,baz=77,slow=9.3,SNR=8.1						
BRVK	**Borovoye**	**49.98**	**311**	*c*eP	**P**	**10 56 20.0**	**+0.6**
BRVK				pmax	pmax		
	comp=Z,10.0nm,1.0s						
BRVK	**Borovoye**	**49.98**	**311**	*e*P	**P**	**10 56 19.7**	**+0.3**
KSH	**Kashi**	**50.85**	**293**	*e*P	**P**	**10 56 31.0**	**+4.7**
KSH				pP	sP	10 56 41.1	+6.6
KSH				P*c*P	**P*c*P**	**10 57 47.3**	**+4.4**
KSH				PP	**PP**	**10 58 28.0**	**+5.5**
KSH				S	**S**	**11 03 44.1**	**+2.4**
KSH				sS	sS	11 04 01.2	+10
KSH				SS	**SS**	**11 07 17.1**	**+1.1**
KSH				pmax	pmax		
	comp=Z,100nm,1.0s						
KSH				LR	LR		
	comp=Z,120nm,6.1s						
KSH				LR	LR		
	comp=Z,130nm,6.7s						
KSH				LR	LR		
	comp=Z,160nm,9.1s						
INK	**Inuvik**	**50.97**	**28**	P	**P**	**10 56 27.6**	**+1.0**
	comp=Z,1.3nm,0.6s,baz=21,slow=1.8,SNR=5.4						
INK	**Inuvik**	**50.97**	**28**	*e*P	**P**	**10 56 27.3**	**+0.7**
	comp=Z,5.5nm,0.8s						
MTN	**Manton Dam**	**53.83**	**195**	*e*P

FINES pmax pmax
comp=Z,3.0nm,0.8s
ZEI Tsey 70.28 310 *e*P **P 10 58 37.0 -2.0**
ZEI pmax pmax
comp=Z,11nm,0.5s
KVAR Kislovodsk Arr 70.29 311 P **P 10 58 39.8 +0.8**
comp=Z,3.7nm,0.3s,baz=288,slow=6.8,SNR=6.8
KIV Kislovodsk 70.30 311 *e*P **P 10 58 40.1 +1.1**
KIV pmax pmax
comp=Z,23nm,0.9s
KIV MLR MLR
comp=Z,173nm,18.0s
KIV Kislovodsk 70.30 311 *e*P **P 10 58 40.3 +1.3**
comp=Z,22nm,0.9s
KBZ Khabaz 70.31 311 P **P 10 58 39.7 +0.8**
comp=Z,5.3nm,0.8s,baz=67,slow=3.8,SNR=12
BOZ Bozeman (W) 71.42 46 *e*P **P 10 58 44.6 -1.2**
BOZ pmax pmax
comp=Z,3.0nm,0.7s
BOZ Bozeman (W) 71.42 46 *e*P **P 10 58 44.6 -1.2**
comp=Z,2.6nm,0.7s
NB2 NORSAR Subarra 72.14 338 P **P 10 58 49.5 -0.2**
comp=Z,4.8nm,0.8s,baz=37,slow=6.2
NB200 NORSAR Array S 72.14 338 *e*P **P 10 58 49.6 -0.2**
NOA NORSAR Array B 72.14 338 P **P 10 58 49.6 -0.2**
comp=Z,2.7nm,0.8s,baz=37,slow=6.1,SNR=5.1
AKASG Malin Array Be 73.03 323 P **P 10 58 54.4 -0.8**
comp=Z,0.2nm,0.3s,baz=41,slow=6.2,SNR=4.5
AKASG Malin Array Be 73.03 323 *e*P **P 10 58 56.0 +0.9**
AKBB Malin Array Si 73.03 323 *e*P **P 10 58 54.9 -0.2**
AKBB pmax pmax
comp=Z,3.0nm,0.7s
AKBB Malin Array Si 73.03 323 *e*P **P 10 58 54.9 -0.2**
comp=Z,3.3nm,0.7s
KIEV Kiev 73.04 323 *e*P **P 10 58 53.5 -1.7**
KIEV pmax pmax
comp=Z,3.0nm,0.9s
R11A Troy Canyon, C 73.58 54 *e*P **P 10 59 00.8 +1.9**
comp=Z,3.0nm,1.1s
TPNV Topopah Spring 74.03 55 *e*P **P 10 59 02.9 +1.4**
TPNV pmax pmax
comp=Z,5.0nm,1.1s
TPNV Topopah Spring 74.03 55 *e*P **P 10 59 02.9 +1.4**
comp=Z,5.2nm,1.1s
PDAR Pinedale Array 74.36 47 P **P 10 59 04.1 +0.6**
comp=Z,0.4nm,0.5s,baz=242,slow=3.2,SNR=4.7
BUR08 Bucovina Ar. S 77.06 322 *e*P **P 10 59 19.1 +0.5**
BURAR Bucovina Array 77.07 322 ||*i*P **P 10 59 18.9 +0.2**
TLB Topalu 77.85 319 ||*i*P P 10 59 31.6 +8.7
BR101 Keskin Array S 78.19 312 *e*P **P 10 59 25.1 -0.1**
BRTR Keskin Array B 78.19 312 P **P 10 59 25.1 -0.1**
comp=Z,0.7nm,0.7s,baz=64,slow=3.4,SNR=3.6
VOIR 78.73 321 ||*i*P **P 10 59 29.1 +1.2**
MORC Moravsky Berou 78.83 328 ||*i*P P 10 59 35.9 +7.6
DPC Dobruska-Polom 78.88 329 *e*P **P 10 59 29.7 +1.1**
DPC Dobruska-Polom 78.88 329 *e*P **P 10 59 29.7 +1.1**
ARR Arges 78.98 321 ||*i*P **P 10 59 31.0 +1.7**
CLL Collm 79.39 331 *i* P **P 10 59 31.4 +0.1**
CLL pmax pmax
comp=Z,8.0nm,1.1s
CLL Collm 79.39 331 *i* P **P 10 59 31.4 +0.1**
comp=Z,8.0nm,1.1s
CLL *i* pP **sP 10 59 39.1 -0.6**
VRAC Vranov 79.58 328 ||*i*P **P 10 59 33.7 +1.3**
BZS Buzias 80.22 323 ||*i*P P 10 59 46.3 +10
KHC Kasperske Hory 80.93 329 *e*P **P 10 59 40.5 +0.8**
KHC *e*pP **sP 10 59 48.0 -0.1**
KHC Kasperske Hory 80.93 329 *e*P **P 10 59 40.5 +0.8**
KHC *e* 10 59 48.0
GERES GERESS Array B 81.11 329 P **P 10 59 40.4 -0.3**
comp=Z,0.4nm,0.4s,baz=76,slow=5.6,SNR=3.9
PDG Podgorica 83.75 322 ||*i*P **P 10 59 54.3 -0.2**
LTX Lajitas 86.95 54 *e*P **P 11 00 11.6 +0.7**
LTX Lajitas 86.95 54 *e*P **P 11 00 11.6 +0.7**
TXAR Lajitas Array 86.95 54 P **P 11 00 11.6 +0.7**
comp=Z,0.3nm,0.6s,baz=262,slow=2.5,SNR=3.6

IDC 06 10:51:08.7±1.7,**17.76N**×**145.63E**,**h471**km±30km,**mb3.2**/5, **mb1 3.4**/6,**mb1mx2.9**/58,**mbtmp4.0**/6,**Error ellipse: s-maj=44.2km s-min=28.2km az=30.0**,**Mariana Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
GUMO	**Guam**	**4.21**	**190**	P		P	10 52 27.8	+0.7
	16nm,0.3s,baz=77,slow=2.8,SNR=9.1							
GUMO				S		S	10 53 30.9	0.0
	28nm,0.3s,baz=13,slow=22,SNR=8.2							
KURBB	**Kurchatov Arra**	**61.98**	**318**	P		P	11 00 41.6	-0.2
	1.5nm,0.5s,baz=96,slow=6.8,SNR=7.5							
ILAR	**Eielson Array**	**64.52**	**26**	P		P	11 00 57.5	-0.3
	0.3nm,0.4s,baz=248,slow=5.9,SNR=5.0							
BVAR	**Borovoye Array**	**67.16**	**321**	P		P	11 01 15.4	+0.7
	1.2nm,0.5s,baz=103,slow=8.0,SNR=4.9							
YKA	**Yellowknife Ar**	**78.85**	**28**	P		P	11 02 22.0	+0.3
	0.3nm,0.4s,baz=285,slow=5.6,SNR=3.1							
FINES	**FINESS Array B**	**87.71**	**335**	P		P	11 03 05.2	-1.0
	1.5nm,0.8s,baz=64,slow=6.3,SNR=2.8							
LPAZ	**La Paz**	**147.71**	**93**	PKPbc		PKPbc	11 10 00.8	-0.5
	1.4nm,0.4s,baz=270,slow=2.0,SNR=9.3							

*IDC **06** 10:51:32.7±0.6,34.29S×179.55E,h0km,mb4.5/13, mb1 4.6/16,mb1mx4.5/33,mbtmp4.5/16,ML4.1/3,MS4.7/18, Ms1 4.7/18,ms1mx4.6/21,Error ellipse: s-maj=19.2km s-min=18.1km az=43.0*
*BJI **06** 10:51:33.4,33.86S×179.76E,h10km,mb5.4/18,mB5.7/20, Ms5.2/22,Ms7 4.9/23*
*ISCJB **06** 10:51:34.8±0.1,34.09S±0.02×179.57E±0.04,h33km, mb5.3/77,MS4.8/29,Error ellipse: s-maj=5.0km s-min=2.4km az=34.3*
*MOS **06** 10:51:36.3±1.3,34.11S×179.51E,h33km,mb5.5/15,Error ellipse: s-maj=15.0km s-min=12.0km az=75.2*
*NEIC **06** 10:51:37.3±0.2,34.21S×179.55E,h35km,mb5.3/35,Error ellipse: s-maj=8.4km s-min=5.1km az=135.0*
NEIC Felt at Auckland, New Zealand.
*GCMT **06** 10:51:37.3±0.1,33.86S×179.46E,h12km,MW5.4/113, Moment Tensor Solution. s80,c132; s113,c199; Duration: 1s2 Moment tensor: Scale 10^17^Nm; Mrr-1.34±.02; Mθθ0.52±.02; Mφφ0.82±.02; Mrθ0.59±.06; Mθφ0.75±.02; Mφr0.44±.06; Best double couple: M0 1.57100×10^17^ NP1:φs226.00000°,δ59.00000°, λ-83.00000°. NP2:φs32.00000°,δ32.00000°, λ-102.00000°. Principal axes: T 1.6090, Plg14.0000°, Azm311.0000°; N -0.0730, Plg6.0000°, Azm42.0000°; P -1.5320, Plg75.0000°, Azm156.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

ISC 06 10:51:38.1±0.3,**34.16S**±0.04×**179.66E**±0.05,**h35**km,**n348**, σ2**28**/363,**mb5.4**/76,**MS4.8**/31,**2C-2D**,**South of Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
WMGZ	**Waiomatatini S**	**3.79**	**195**	*e*PN		**Pn**	**10 52 34.7**	**+0.7**
WMGZ				SN		**Sn**	**10 53 24.6**	**+7.2**
HAZ	**Te Kaha**	**3.90**	**202**	PN		**Pn**	**10 52 33.9**	**-1.6**
HAZ				*e*SN		**Sn**	**10 53 27.6**	**+7.5**
GRZ	**Great Barrier**	**4.02**	**238**	*e*PN		**Pn**	**10 52 33.7**	**-3.5**
GRZ				SN		**Sn**	**10 53 18.3**	**-4.8**
PUZ	**Puketiti**	**4.07**	**196**	*e*PN		**Pn**	**10 52 38.3**	**+0.4**
PUZ				*e*SN		**Sn**	**10 53 28.5**	**+4.2**
KUZ	**Kuaotunu**	**4.12**	**230**	*e*PN		**Pn**	**10 52 36.4**	**-2.2**
RUGZ	**Raukumara Rang**	**4.12**	**202**	*e*PN		**Pn**	**10 52 39.3**	**+0.6**
TWGZ	**Tauwhareparae**	**4.23**	**198**	*e*PN		**Pn**	**10 52 40.5**	**+0.3**
OPRZ	**Ohinepanea**	**4.46**	**213**	*e*PN		**Pn**	**10 52 43.5**	**+0.3**
MWZ	**Matawai**	**4.51**	**202**	*e*PN		**Pn**	**10 52 43.8**	**-0.1**
TKGZ	**Te Karaka**	**4.52**	**198**	*e*PN		**Pn**	**10 52 43.4**	**-0.6**
URZ	**Urewera**	**4.58**	**206**	Pn		**Pn**	**10 52 43.1**	**-1.7**
	26nm,0.3s,baz=48,slow=3.4,SNR=113							
URZ				Sn		**Sn**	**10 53 38.7**	**+1.9**
	baz=232,slow=17,SNR=2.8							
URZ	**Urewera**	**4.58**	**206**	*e*Pn		**Pn**	**10 52 43.1**	**-1.7**
URZ				*e*Sn		**Sn**	**10 53 36.6**	**-0.3**
URZ	**Urewera**	**4.58**	**206**	*e*PN		**Pn**	**10 52 44.1**	**-0.8**
URZ				*e*SN		**Sn**	**10 53 39.1**	**+2.2**
RAGZ	**Rawiri**	**4.69**	**202**	*e*PN		**Pn**	**10 52 47.0**	**+0.5**
MKAZ	**Moumakai**	**4.70**	**230**	*e*PN		**Pn**	**10 52 44.7**	**-1.7**
WCZ	**Waipu Caves**	**4.71**	**246**	*e*PN		**Pn**	**10 52 42.7**	**-3.9**
RIGZ	**Rimuhau**	**4.79**	**198**	*e*PN		**Pn**	**10 52 47.3**	**-0.5**
MUGZ	**Murupara**	**4.90**	**208**	*e*PN		**Pn**	**10 52 49.3**	**0.0**
TOZ	**Tahuroa Road**	**4.91**	**222**	PN		**Pn**	**10 52 49.6**	**+0.2**
RTZ	**Ruatahuna**	**4.95**	**205**	*e*PN		**Pn**	**10 52 49.8**	**-0.2**
SNGZ	**Shannon Statio**	**4.98**	**201**	*e*PN		**Pn**	**10 52 50.2**	**-0.1**
OUZ	**Omahuta**	**5.11**	**256**	*e*Pn		Pn	10 52 47.0	-5.1
OUZ	**Omahuta**	**5.11**	**256**	PN		Pn	10 52 47.0	-5.1
OUZ				SN		Sn	10 53 39.8	-10
KNZ	**Kokohu**	**5.11**	**198**	*e*PN		**Pn**	**10 52 51.1**	**-1.0**
MHGZ	**Mahia Peninsul**	**5.18**	**195**	*e*PN		**Pn**	**10 52 52.7**	**-0.5**
WHHZ	**Waihua**	**5.28**	**201**	*e*PN		**Pn**	**10 52 53.8**	**-0.7**
RAO	**Raoul Island**	**5.31**	**24**	LR		LR	10 54 25.7	
	comp=Z,6μm,18.4s,baz=204,slow=32							
RAO	**Raoul Island**	**5.31**	**24**	*e*P		**Pn**	**10 52 50.9**	**-4.0**
RAO				*e*			10 53 52.4	
RAO	**Raoul Island**	**5.31**	**24**	*e*Pn		**Pn**	**10 52 50.9**	**-4.0**
RAO				*e*Sn		**Sn**	**10 53 52.4**	**-2.5**
BKZ	**Black Stump Fm**	**5.61**	**206**	*e*Pn		**Pn**	**10 52 58.7**	**-0.3**
BKZ	**Black Stump Fm**	**5.61**	**206**	*e*PN		**Pn**	**10 52 58.6**	**-0.4**
MCHZ	**McNeill Hill**	**5.79**	**203**	*e*PN		**Pn**	**10 53 01.2**	**-0.3**
HIZ	**Hauiti**	**5.82**	**220**	*e*Pn		**Pn**	**10 53 01.5**	**-0.4**
HIZ	**Hauiti**	**5.82**	**220**	*e*PN		**Pn**	**10 53 02.4**	**+0.4**
KAHZ	**Kahuranaki**	**6.05**	**201**	*e*PN		**Pn**	**10 53 03.3**	**-1.8**
BHHZ	**Black Hill Sta**	**6.05**	**207**	*e*PN		**Pn**	**10 53 04.5**	**-0.7**
WNVZ	**Wahianoa**	**6.10**	**211**	*e*PN		**Pn**	**10 53 05.7**	**-0.3**
TSZ	**Takapari Road**	**6.59**	**206**	*e*PN		**Pn**	**10 53 10.3**	**-2.2**
TSZ				*e*SN		**Sn**	**10 54 28.7**	**+2.3**
BFZ	**Birch Farm**	**7.05**	**202**	*e*Pn		**Pn**	**10 53 16.9**	**-1.9**
MRZ	**Mangatainoka R**	**7.26**	**205**	*e*PN		**Pn**	**10 53 18.4**	**-3.2**
MRZ				*e*SN		**Sn**	**10 54 41.7**	**-1.1**
SNZO	**South Karori**	**8.15**	**207**	*e*Pn		**Pn**	**10 53 29.7**	**-4.0**
QRZ	**Quartz Range**	**8.74**	**218**	*e*PN		**Pn**	**10 53 40.0**	**-2.0**
THZ	**Tophouse**	**9.27**	**213**	*e*Pn		**Pn**	**10 53 45.9**	**-3.4**
THZ	**Tophouse**	**9.27**	**213**	*e*PN		**Pn**	**10 53 45.8**	**-3.6**
THZ				*e*SN		**Sn**	**10 55 31.1**	**-1.3**
KHZ	**Kahutara**	**9.54**	**208**	*e*Pn		**Pn**	**10 53 50.4**	**-2.5**
KHZ	**Kahutara**	**9.54**	**208**	*e*PN		**Pn**	**10 53 50.2**	**-2.7**
LTZ	**Lake Taylor**	**10.37**	**212**	*e*Pn		**Pn**	**10 54 03.0**	**-1.4**
OXZ	**Oxford**	**10.91**	**211**	*e*Pn		**Pn**	**10 54 07.7**	**-4.0**
RPZ	**Rata Peaks**	**11.65**	**212**	Pn		**Pn**	**10 54 17.3**	**-4.6**
	1.0nm,0.3s,baz=45,slow=2.6,SNR=10							
MSVF	**Nonsavu**	**16.42**	**355**	*e*P		**Pn**	**10 55 26.8**	**+0.8**
MSVF	**Nonsavu**	**16.42**	**355**	*e*Pn		**Pn**	**10 55 21.2**	**-4.8**
	170nm,1.2s							
DZM	**Mont Dzumac**	**16.74**	**313**	Pn		**Pn**	**10 55 29.1**	**-0.9**
	0.3nm,0.3s,baz=120,slow=9.3,SNR=3.0							
DZM				LR		LR	11 00 37.6	
	comp=Z,14μm,18.5s,baz=116,slow=32							
DZM	**Mont Dzumac**	**16.74**	**313**	*e*P		**P**	**10 55 34.4**	**+2.4**
	89nm,1.3s							
DZM				*e*LR		LR	10 59 24.8	
	21μm,24.3s							
RAR	**Rarotonga**	**22.26**	**60**	LR		LR	11 03 26.2	
	comp=Z,535nm,21.2s,baz=222,slow=32							
ARMA	**Armidale**	**23.96**	**271**	P		**P**	**10 56 45.2**	**-4.1**
	baz=24,SNR=7.0							
RMQ	**Roma**	**27.67**	**278**	P		**P**	**10 57 22.3**	**-0.6**
	baz=27,SNR=10							
TBI	**Tubuai**	**29.03**	**76**	*e*S		**S**	**11 02 23.8**	**-0.2**
	192nm,23.8s							
TBI				*e*LQ		LQ	11 03 26.5	
	3μm,27.2s							
TBI				*e*LR		LR	11 04 55.7	
	3μm,31.5s,baz=234							
TBI	**Tubuai**	**29.03**	**76**	*e*T		T	11 27 54.6	
	70nm,0.3s							
QLP	**Quilpie**	**31.37**	**274**	P		**P**	**10 57 54.5**	**-1.1**
	baz=31,SNR=7.5							
STKA	**Stephens Creek**	**31.88**	**263**	P		**P**	**10 58 00.1**	**0.0**
	15nm,1.3s,baz=86,slow=13,SNR=5.8							
STKA				LR		LR	11 10 06.6	
	comp=Z,3μm,18.2s,baz=99,slow=35							
STKA	**Stephens Creek**	**31.88**	**263**	*e*P		**P**	**10 58 00.6**	**+0.6**
STKA	**Stephens Creek**	**31.88**	**263**	*e*P		**P**	**10 58 00.6**	**+0.6**
	20nm,1.6s							
PAE	**Paea**	**32.01**	**67**	*e*T		T	11 31 35.8	
	7.5nm,0.2s							
PPT2	**Papeete2**	**32.06**	**67**	*e*LQ		LQ	11 04 36.8	
	1μm,24.2s							
PPT2				*e*LR		LR	11 06 15.0	
	3μm,29.0s,baz=224							
PPT2	**Papeete2**	**32.06**	**67**	*e*T		T	11 31 40.0	
	11nm,0.3s							
TVO	**Taravao**	**32.19**	**67**	*e*T		T	11 31 49.5	
	3.6nm,0.3s							
CTA	**Charters Tower**	**32.70**	**287**	P		**P**	**10 58 06.8**	**-0.6**
	3.6nm,0.5s,baz=121,slow=12,SNR=9.2							
CTA				LR		LR	11 10 40.0	
	comp=Z,1μm,19.3s,baz=126,slow=35							
CTAO	**Charters Tower**	**32.70**	**287**	*e*P		**P**	**10 58 07.9**	**+0.5**
CTAO	**Charters Tower**	**32.70**	**287**	*e*P		**P**	**10 58 07.9**	**+0.5**
	391nm,1.4s							
HTT	**Hallett**	**33.70**	**260**	P		**P**	**10 58 15.8**	**-0.3**
	baz=33,SNR=5.0							
VAH	**Vaihoa**	**34.97**	**66**	*e*T		T	11 35 16.6	
	44nm,0.2s							
MTSU	**Mount Surprise**	**35.30**	**288**	P		**P**	**10 58 30.0**	**0.0**
	baz=35,SNR=7.0							
QIS	**Mount Isa**	**37.82**	**280**	P		**P**	**10 58 50.8**	**-0.7**
	baz=38,SNR=6.3							
COEN	**Coen**	**38.63**	**292**	*e*P		**P**	**10 58 57.6**	**-0.7**
	78nm,1.6s							
RKT	**Rikitea**	**41.01**	**87**	*e*S		**S**	**11 05 32.4**	**+4.3**
	397nm,27.2s							
RKT				*e*LQ		LQ	11 08 42.0	
	1μm,28.5s							
RKT				*e*LR		LR	11 10 30.0	
	4μm,29.5s,baz=245							
RKT	**Rikitea**	**41.01**	**87**	*e*T		T	11 42 54.2	
	2.8nm,0.2s							
AS01	**Alice Springs**	**41.06**	**272**	*e*P		**P**	**10 59 15.3**	**-3.2**
AS31	**Alice Springs**	**41.10**	**272**	*e*P		**P**	**10 59 17.4**	**-1.4**
	9.9nm,0.8s							
ASAR	**Alice Springs**	**41.10**	**272**	P		**P**	**10 59 16.6**	**-2.2**
	19nm,0.7s,baz=114,slow=8.1,SNR=65							
ASAR				LR		LR	11 15 26.5	
	comp=Z,2μm,19.6s,baz=126,slow=35							
WB2	**Warramunga Arr**	**42.43**	**278**	*e*P		**P**	**10 59 27.9**	**-1.7**
	96nm,1.3s							
WRAB	**Tennant Creek**	**42.43**	**278**	*e*P		**P**	**10 59 27.9**	**-1.8**
WRAB				pmax		pmax		
	comp=Z,58nm,1.2s							
WRAB	**Tennant Creek**	**42.43**	**278**	*e*P		**P**	**10 59 27.9**	**-1.8**
	comp=Z,58nm,1.2s							
WR1	**Warramunga Arr**	**42.44**	**278**	*e*P		**P**	**10 59 27.1**	**-2.6**
	comp=Z,101nm,1.3s							
WRA	**Warramunga Arr**	**42.44**	**278**	P		**P**	**10 59 27.1**	**-2.6**
	comp=Z,17nm,0.9s,baz=118,slow=7.6,SNR=31							
WRA				LR		LR	11 16 48.5	
	comp=Z,1μm,19.5s,baz=120,slow=36							
FORT	**Forrest**	**43.29**	**260**	*e*P		**P**	**10 59 32.6**	**-3.9**
	comp=Z,445nm,0.9s							
SBA	**Scott Base**	**44.16**	**184**	*e*P		**P**	**10 59 45.0**	**+2.2**
SBA				pmax		pmax		
	comp=Z,87nm,1.7s							
SBA	**Scott Base**	**44.16**	**184**	*e*P		**P**	**10 59 45.0**	**+2.2**
	comp=Z,86nm,1.7s							
VNDA	**Vanda**	**44.17**	**185**	P		**P**	**10 59 41.9**	**-1.1**
	comp=Z,0.9nm,0.9s,baz=354,slow=9.0,SNR=4.5							
VNDA				LR		LR	11 14 19.9	
	comp=Z,1μm,21.2s,baz=23,slow=31							
VNDA	**Vanda**	**44.17**	**185**	*e*P		**P**	**10 59 43.8**	**+0.8**
VNDA	**Vanda**	**44.17**	**185**	*e*P		**P**	**10 59 43.8**	**+0.8**
TAOE	**Nuku Hiva Isla**	**44.65**	**65**	*e*S		**S**	**11 06 19.4**	**-2.4**
	comp=Z,228nm,25.8s							
TAOE				*e*LR		LR	11 12 00.4	
	comp=Z,1μm,28.9s,baz=238							
WRKA	**Warakurna**	**45.18**	**267**	P		**P**	**10 59 49.2**	**-2.6**
	baz=45,SNR=13							
FITZ	**Fitzroy Crossi**	**50.51**	**274**	P		**P**	**11 00 30.8**	**-2.2**
	comp=Z,21nm,1.0s,baz=94,slow=9.0,SNR=11							
FITZ	**Fitzroy Crossi**	**50.51**	**274**	P		**P**	**11 00 30.7**	**-2.3**
	baz=50,SNR=11							
FITZ	**Fitzroy Crossi**	**50.51**	**274**	*e*P		**P**	**11 00 31.1**	**-1.9**
	comp=Z,76nm,1.2s							
NWAO	**Narrogin (SRO)**	**51.30**	**253**	P		**P**	**11 00 36.6**	**-2.2**
	comp=Z,12nm,0.9s,baz=7.5,slow=14,SNR=3.1							
NWAO	**Narrogin (SRO)**	**51.30**	**253**	P		**P**	**11 00 36.5**	**-2.4**
	baz=51,SNR=4.0							
NWAO				P		**P**	**11 00 36.5**	**-2.4**
	baz=51,SNR=4.0							
KLBR	**Kellerberrin**	**51.35**	**255**	P		**P**	**11 00 36.3**	**-2.9**
	baz=51,SNR=25							
MEEK	**Meekatharra**	**52.52**	**261**	P		**P**	**11 00 45.1**	**-2.9**
	baz=52,SNR=7.0							
MORW	**Morawa**	**53.65**	**257**	P		**P**	**11 00 53.7**	**-2.6**
	baz=53,SNR=6.6							
FAKI	**Fak Fak**	**53.93**	**295**	*e*P		**P**	**11 00 56.2**	**-2.3**
	comp=Z,22nm,1.0s							
MBWA	**Marble Bar**	**53.96**	**267**	*e*P		**P**	**11 00 55.7**	**-3.0**
	comp=Z,351nm,1.4s							
QSPA	**South Pole Qui**	**55.96**	**180**	*e*P		**P**	**11 01 12.6**	**-0.1**
SWI	**Sorong**	**56.02**	**296**	P		**P**	**11 01 14.0**	**+0.4**
SWI	**Sorong**	**56.02**	**296**	P		**P**	**11 01 11.2**	**-2.4**
SOEI	**Soe**	**56.06**	**282**	P		**P**	**11 01 12.9**	**-1.1**
SOEI	**Soe**	**56.06**	**282**	*e*P		**P**	**11 01 12.9**	**-1.1**
	comp=Z,102nm,1.2s							
NLAI	**Namlea**	**57.68**	**290**	P		**P**	**11 01 25.5**	**+0.2**
GIRL	**Giralia**	**57.82**	**263**	P		**P**	**11 01 24.6**	**-1.7**
	baz=57,SNR=6.1							
SANI	**Sanana**	**59.28**	**291**	P		**P**	**11 01 33.4**	**-3.2**
KAPI	**Kappang**	**62.44**	**284**	*e*P		**P**	**11 01 55.6**	**-2.4**
	comp=Z,29nm,0.9s							
TWSI	**Taliwang, Sumb**	**62.66**	**278**	P		**P**	**11 01 56.7**	**-2.8**
SPSI	**Sidrap Palu**	**63.04**	**284**	P		**P**	**11 01 58.6**	**-3.4**
TTSI	**Tana Toraja**	**63.54**	**285**	P		**P**	**11 02 03.4**	**-2.0**
IGBI	**Denpasar**	**64.04**	**277**	P		**P**	**11 02 07.7**	**-0.9**
PCI	**Palu**	**64.81**	**287**	P		**P**	**11 02 12.8**	**-0.9**
JAGI	**Jajag, Banyuwa**	**65.05**	**277**	P		**P**	**11 02 13.0**	**-2.3**
JAGI	**Jajag, Banyuwa**	**65.05**	**277**	*e*P		**P**	**11 02 14.1**	**-1.2**
	comp=Z,58nm,1.1s							
GMJI	**Gumukmas**	**65.74**	**277**	P		P	11 02 14.5	-5.2
KMMI	**Kalianget**	**65.99**	**278**	P		**P**	**11 02 22.0**	**+0.7**
PWJI	**Pagerwojo**	**67.23**	**276**	P		**P**	**11 02 26.3**	**-2.9**
PCJI	**Pacitan**	**67.65**	**275**	P		**P**	**11 02 29.4**	**-2.5**
MAW	**Mawson**	**68.10**	**202**	P		**P**	**11 02 33.6**	**-0.3**
	comp=Z,3.8nm,0.8s,baz=131,slow=7.4,SNR=5.0							
MAW				LR		LR	11 31 53.5	
	comp=Z,907nm,18.9s,baz=87,slow=36							
MAW	**Mawson**	**68.10**	**202**	*e*P		**P**	**11 02 34.8**	**+0.9**
MAW				pmax		pmax		
	comp=Z,11nm,1.6s							
MAW	**Mawson**	**68.10**	**202**	*e*P		**P**	**11 02 34.8**	**+0.9**
	comp=Z,11nm,1.6s							
PMSA	**Palmer Station**	**69.66**	**156**	*e*P		**P**	**11 02 44.2**	**+0.6**
	comp=Z,7.5nm,0.9s							
KKM	**Kota Kinabalu**	**71.93**	**291**	*e*P		**P**	**11 02 57.7**	**-0.6**
	comp=Z,16nm,0.8s							
SBUM	**Sibu**	**72.89**	**285**	*e*P		**P**	**11 03 04.6**	**+0.6**
	comp=Z,89nm,1.6s							
SYO	**Syowa Base**	**73.01**	**194**	||*e*P		**P**	**11 02 59.0**	**-4.8**
SYO	**Syowa Base**	**73.01**	**194**	||*iX*		**P**	**11 03 06.0**	**+2.2**
SNAA	**Sanae**	**74.45**	**179**	P		**P**	**11 03 10.7**	**-1.6**
SNAA	**Sanae**	**74.45**	**179**	*e*P		**P**	**11 03 10.9**	**-1.4**
SNAA	**Sanae**	**74.45**	**179**	*e*P		**P**	**11 03 10.9**	**-1.4**
	comp=Z,2μm,1.1s							
VNA3	**Neumayer Olymp**	**74.68**	**177**	P		**P**	**11 03 12.3**	**-1.4**
VNA2	**Neumayer--Watz**	**75.09**	**178**	P		**P**	**11 03 14.9**	**-1.1**
	baz=169,slow=4.9							
VNA1	**Neumayer--Stat**	**75.33**	**177**	P		**P**	**11 03 16.3**	**-1.0**
MDSI	**Maura Dua**	**75.48**	**274**	P		**P**	**11 03 12.8**	**-6.3**
MJAR	**Matsushiro Arr**	**80.26**	**327**	P		**P**	**11 03 46.6**	**+1.6**
	comp=Z,2.3nm,1.1s,baz=161,slow=6.6,SNR=4.6							
MJAR				LR		LR	11 34 48.5	
	comp=Z,224nm,22.0s,baz=110,slow=32							
EFI	**East Falkland**	**80.70**	**148**	*e*P		**P**	**11 03 50.3**	**+2.9**
EFI				pmax		pmax		
	comp=Z,44nm,1.1s							
PLCA	**Paso Flores**	**81.38**	**134**	P		**P**	**11 03 51.5**	**+0.1**
	comp=Z,3.3nm,0.8s,baz=242,slow=5.8,SNR=8.8							
PLCA				LR		LR	11 36 00.2	
	comp=Z,337nm,18.1s,baz=272,slow=33							
PLCA	**Paso Flores**	**81.38**	**134**	*e*P		**P**	**11 03 51.7**	**+0.3**
PLCA	**Paso Flores**	**81.38**	**134**	*e*P		**P**	**11 03 51.7**	**+0.3**
	comp=Z,62nm,1.4s							
QIZ	**Qiongzhong**	**84.86**	**297**	P		**P**	**11 04 10.6**	**+1.1**
QIZ				S		**S**	**11 14 37.5**	**+1.9**
QIZ				SS		**SS**	**11 20 14.6**	**+5.6**
QIZ				LR		LR		
	comp=Z,190nm,21.1s							
QIZ				LR		LR		
	comp=Z,170nm,23.1s							
QIZ				LR		LR		
	comp=Z,450nm,28.8s							
KSRS	**Korea Array**	**85.97**	**321**	LR		LR	11 38 30.3	
	comp=Z,179nm,21.0s,baz=126,slow=33							
NJ2	**Nanjing**	**87.23**	**312**	*e*P		**P**	**11 04 23.3**	**+2.5**
NJ2				pmax		pmax		
	comp=Z,13nm,0.5s							
YSS	**Yuzh-Sakhalins**	**87.30**	**336**	*e*P		**P**	**11 04 22.3**	**+1.5**
YSS				pmax		pmax		
	comp=Z,27nm,1.2s							
SNCC	**San Nicolas Is**	**88.06

MDJ pmax pmax
comp=Z,5.0nm,0.7s
MDJ pmax pmax
comp=Z,140nm,4.4s
MDJ LR LR
comp=Z,290nm,28.6s
MDJ LR LR
comp=Z,270nm,29.9s
MDJ LR LR
comp=Z,480nm,30.2s
LRMC Laurel Mtn Rad 90.69 46 P P 11 04 34.8 -2.5
baz=227,SNR=5.9
RRX Edison Barstow 90.70 47 P P 11 04 35.2 -2.0
baz=228
BELC Belle Mtn. Jos 90.73 48 P P 11 04 35.6 -1.9
baz=228,SNR=11
HSIG 90.81 55 *eP* **P 11 04 38.2 +0.3**
comp=Z,63nm,1.4s
GLA Glamis 90.84 50 P P 11 04 36.3 -1.6
baz=229
GLA Glamis 90.84 50 *eP* **P 11 04 38.3 +0.4**
GLA Glamis 90.84 50 *eP* **P 11 04 38.3 +0.4**
comp=Z,110nm,1.5s
BC3 Big Chuckawall 90.84 49 P P 11 04 36.0 -2.0
baz=229
CMB Columbia Colle 90.86 43 *eP* **P 11 04 36.7 -1.2**
CMB pmax pmax
comp=Z,33nm,0.6s
CMB Columbia Colle 90.86 43 *eP* **P 11 04 36.7 -1.2**
comp=Z,33nm,0.6s
HEC Hector,Ludlow 91.08 48 P P 11 04 37.7 -1.3
baz=228,SNR=8.7
GSC Goldstone, Bar 91.10 47 P P 11 04 37.6 -1.6
baz=228,SNR=5.6
GSC Goldstone, Bar 91.10 47 *eP* **P 11 04 38.6 -0.6**
GSC pmax pmax
comp=Z,56nm,1.5s
GSC Goldstone, Bar 91.10 47 *eP* **P 11 04 38.6 -0.6**
comp=Z,56nm,1.5s
CWC Cottonwood Cre 91.11 46 P P 11 04 37.1 -2.1
baz=227
AFDM Forest Hills D 91.17 42 *eP* **P 11 04 37.6 -1.6**
comp=Z,46nm,1.5s
MPMC Manual Prospec 91.20 46 P P 11 04 37.9 -1.8
baz=228,SNR=6.2
ORV Oroville 91.31 41 *eP* **P 11 04 40.6 +0.7**
ORV pmax pmax
comp=Z,33nm,1.5s
ORV Oroville 91.31 41 *eP* **P 11 04 40.6 +0.7**
comp=Z,33nm,1.5s
113A Mohawk Valley, 91.33 51 *eP* **P 11 04 40.1 0.0**
comp=Z,81nm,1.5s
IRM Iron Mountain 91.37 49 P P 11 04 39.1 -1.2
baz=229
214A Organ Pipe Nat 91.43 52 P P 11 04 38.9 -1.8
baz=230
TIN Tinenaha, Big 91.43 45 P P 11 04 38.5 -2.2
baz=227
GMRC Granite Mounta 91.46 48 P P 11 04 39.2 -1.7
baz=228,SNR=5.0
WDC Whiskeytown Da 91.47 40 *eP* **P 11 04 39.4 -1.2**
WDC pmax pmax
comp=Z,51nm,1.4s
WDC Whiskeytown Da 91.47 40 *eP* **P 11 04 39.4 -1.2**
comp=Z,51nm,1.4s
MLAC Mammoth, Mammo 91.47 44 P P 11 04 39.8 -1.2
baz=227
Y12C Blythe 91.49 49 P P 11 04 39.8 -1.0
baz=229
Y12C Blythe 91.49 49 *eP* **P 11 04 40.9 +0.1**
comp=Z,56nm,1.6s
N02D Trinity Center 91.66 40 P P 11 04 39.8 -1.8
baz=224,SNR=7.8
O03D Paynes Creek 91.66 41 P P 11 04 39.3 -2.3
baz=225,SNR=6.6
WAKR Walker 91.73 43 *eP* **P 11 04 41.6 -0.5**
comp=Z,40nm,1.3s
TUQ Turquoise Moun 91.73 47 P P 11 04 39.2 -2.9
baz=228
GYA Guiyang 91.73 301 P P 11 04 43.2 +0.9
GYA PP **PP 11 08 24.4 +2.7**
GYA SKS **SKSac 11 15 14.0 +1.4**
GYA S **S 11 15 41.8 +1.0**
GYA SS **SS 11 21 52.3 +3.0**
GYA pmax pmax
comp=Z,40nm,1.0s
GYA pmax pmax
comp=Z,160nm,6.5s
GYA LR LR
comp=Z,780nm,19.4s
GYA LR LR
comp=Z,660nm,20.8s
GYA LR LR
comp=Z,720nm,20.6s
SHOC Shoshone, Teco 91.82 47 P P 11 04 39.8 -2.6
baz=228,SNR=7.3
FURC Furnace Creek, 91.85 46 P P 11 04 40.1 -2.3
baz=228,SNR=6.2
M02C Callahan 91.88 39 P P 11 04 41.1 -1.5
baz=224,SNR=5.1
GRAC Grapevine Rang 91.90 46 P P 11 04 39.9 -2.9
baz=228
CN2 Changchun 91.97 324 *eP* **P 11 04 41.9 -0.9**
CN2 pmax pmax
comp=Z,10.0nm,0.4s
CN2 pmax pmax
comp=Z,200nm,4.0s
CN2 LR LR
comp=Z,200nm,23.0s
CN2 LR LR
comp=Z,300nm,23.0s
CN2 LR LR
comp=Z,500nm,24.0s
TVH3 East Aurora ar 91.98 44 *eP* **P 11 04 42.1 -1.2**
comp=Z,35nm,1.6s
LDFC Landfair 91.99 48 *eP* **P 11 04 42.4 -0.9**
comp=Z,73nm,1.4s
TVH2 Borealis Mine 92.03 44 *eP* **P 11 04 42.3 -1.3**
comp=Z,34nm,1.8s
L02D Cave Junction, 92.04 38 P P 11 04 40.7 -2.5
baz=224
PNTR Pine Nut 92.04 43 *eP* **P 11 04 42.1 -1.4**
PDMCI Parker Dam,Lak 92.09 49 P P 11 04 41.4 -2.3
baz=229
NEE2 Needles Airpor 92.10 49 P P 11 04 41.3 -2.4
baz=229
YERR Yerington 92.17 43 *eP* **P 11 04 42.6 -1.5**
comp=Z,23nm,1.3s
YBH Yreka Blue Hor 92.20 39 *eP* **P 11 04 42.8 -1.3**
YBH pmax pmax
comp=Z,20nm,1.4s
YBH Yreka Blue Hor 92.20 39 *eP* **P 11 04 42.8 -1.3**
comp=Z,20nm,1.4s
TPNV Topopah Spring 92.54 46 P P 11 04 43.2 -2.7
baz=228
TPNV Topopah Spring 92.54 46 *eP* **P 11 04 44.8 -1.1**
TPNV pmax pmax
comp=Z,14nm,1.2s
TPNV Topopah Spring 92.54 46 *eP* **P 11 04 44.8 -1.1**
comp=Z,14nm,1.2s
Y14A Wickenburg 92.58 50 P P 11 04 45.6 -0.3
comp=Z,128nm,1.5s
PAHR Pah Rah Range 92.58 42 *eP* **P 11 04 44.3 -1.7**
M04C Macdoel 92.69 40 P P 11 04 43.4 -3.0
baz=225
HUMO Hull Mountain 92.69 39 *eP* **P 11 04 45.2 -1.0**
comp=Z,68nm,1.5s
W13A Hualapai Mount 92.77 49 *eP* **P 11 04 46.9 -0.1**
comp=Z,20nm,1.5s
CMAR Chiang Mai Arr 92.80 290 PP PP 11 08 36.5 +6.5
comp=Z,0.8nm,0.3s,baz=116,slow=6.5,SNR=6.6
CMAR LR LR 11 48 35.4
comp=Z,145nm,19.8s,baz=157,slow=37
SHPR Sheep Range 92.90 47 *eP* **P 11 04 47.3 -0.2**
TUC Tucson 92.98 53 P P 11 04 44.8 -3.1
baz=231
TUC Tucson 92.98 53 *eP* **P 11 04 47.8 -0.1**
TUC pmax pmax
comp=Z,20nm,1.0s
TUC Tucson 92.98 53 *eP* **P 11 04 47.8 -0.1**
comp=Z,20nm,1.0s
I03D Drain, OR 93.27 38 P P 11 04 45.9 -3.0
baz=224
KLR Kul'dur 93.31 331 *eP* **P 11 04 48.8 -0.1**
J04D Umpqua Nationa 93.58 38 P P 11 04 47.6 -2.9
baz=225
MOD Modoc Plateau 93.59 40 *eP* **P 11 04 48.8 -1.8**
comp=Z,19nm,1.3s
KMI Kunming 93.78 298 P P 11 04 54.8 +2.9
KMI pP PcP 11 04 57.1 +4.7
KMI S **S 11 16 02.8 +3.6**
KMI SS **SS 11 22 24.9 +6.1**
KMI pmax pmax
comp=Z,7.0nm,0.7s
KMI LR LR
comp=Z,220nm,22.2s
KMI LR LR
comp=Z,200nm,26.2s
KMI LR LR
comp=Z,880nm,46.9s
I04A Tendick Farm, 93.82 38 P P 11 04 49.0 -2.5
baz=225
K05A Summer Lake 93.85 39 *eP* **P 11 04 50.5 -1.3**
comp=Z,51nm,1.5s
R11A Troy Canyon, C 93.86 45 P P 11 04 49.0 -2.9
baz=229
X16A Lo Mia Camp, P 93.88 51 *eP* **P 11 04 51.9 -0.2**
comp=Z,22nm,1.5s
J05D Fort Rock, OR 94.07 39 P P 11 04 50.0 -2.7
baz=225
BJI Beijing 94.24 316 P P 11 04 55.4 +2.0
BJI pmax pmax
comp=Z,6.0nm,1.2s
BMN Battle Mountai 94.29 43 *eP* **P 11 04 52.1 -1.8**
BMN pmax pmax
comp=Z,17nm,1.2s
BMN Battle Mountai 94.29 43 *eP* **P 11 04 52.1 -1.8**
comp=Z,17nm,1.2s
LCMT Little Creek M 94.40 48 *eP* **P 11 04 53.6 -0.8**
comp=Z,15nm,1.5s
G03D McMinnville, O 94.40 37 P P 11 04 51.4 -2.6
baz=224
U15A North Rim 94.61 49 *eP* **P 11 04 55.2 -0.4**
comp=Z,29nm,1.6s
WUAZ Wupatki 94.61 50 P P 11 04 52.3 -3.2
baz=231
WUAZ Wupatki 94.61 50 *eP* **P 11 04 55.4 0.0**
comp=Z,19nm,1.5s
CCUT Cedar City 94.67 47 *eP* **P 11 04 55.3 -0.4**
comp=Z,20nm,1.6s
I05D Terrebonne, OR 94.75 38 P P 11 04 52.8 -2.9
baz=225
WVOR Wild Horse Val 94.86 41 *eP* **P 11 04 55.3 -1.0**
WVOR pmax pmax
comp=Z,25nm,1.5s
WVOR Wild Horse Val 94.86 41 *eP* **P 11 04 55.3 -1.0**
comp=Z,25nm,1.5s
X18A Snowflake 94.91 51 *eP* **P 11 04 56.8 0.0**
comp=Z,27nm,1.6s
121A Cookes Peak, D 95.11 54 P P 11 04 54.9 -2.9
baz=232
F04D Rainier, OR 95.15 36 P P 11 04 54.4 -3.0
baz=224
G05D Wamic, OR 95.39 37 P P 11 04 55.4 -3.2
baz=226
W18A Petrified Fore 95.41 51 P P 11 04 55.5 -3.6
baz=232
MTPU Mount Pierson 95.70 47 *eP* **P 11 05 01.2 +0.6**
comp=Z,20nm,1.4s
LTX Lajitas 96.06 59 *eP* **P 11 05 01.5 -0.6**
LTX Lajitas 96.06 59 *eP* **P 11 05 01.4 -0.6**
TX31 Lajitas Ar. Si 96.06 59 *eP* **P 11 05 00.9 -1.2**
TXAR Lajitas Array 96.06 59 P P 11 05 01.4 -0.7
comp=Z,0.3nm,0.8s,baz=188,slow=6.1,SNR=3.2
TXAR LR LR 11 44 07.4
comp=Z,160nm,18.0s,baz=0.0,slow=33
MNTX Cornudas Mount 96.25 56 P P 11 04 59.7 -3.1
baz=234
CD2 Chengdu 96.44 303 P P 11 05 03.8 +0.1
CD2 PP **PP 11 08 58.2 -0.1**
CD2 S **S 11 16 24.7 +3.0**
CD2 SS **SS 11 22 58.7 +2.5**
CD2 pmax pmax
comp=Z,80nm,4.5s
CD2 LR LR
comp=Z,360nm,18.0s
CD2 LR LR
comp=Z,450nm,21.8s
Y22D IRIS PASSCAL I 96.62 53 P P 11 05 01.0 -3.7
baz=233
DUG Dugway, Tooele 96.69 45 P P 11 05 01.6 -3.2
baz=230
MFID Camas Ranch 97.05 42 *eP* Pdif 11 05 06.3 0.0
comp=Z,7.1nm,1.1s
B05A Bryant 97.14 35 P P 11 05 03.6 -2.8
baz=225
A04D Lummi Island 97.17 34 P P 11 05 03.6 -2.9
baz=225
HHC Hu-ho-hao-te 97.44 315 *eP* Pdif 11 05 08.2 0.0
HHC PP **PP 11 09 09.7 +3.8**
HHC SKS **SKSac 11 15 45.2 +2.5**
HHC S **ScS 11 16 31.2 +1.0**
HHC SS **SS 11 23 14.1 +4.0**
HHC pmax pmax
comp=Z,17nm,1.0s
HHC pmax pmax
comp=Z,95nm,5.4s
HHC LR LR
comp=Z,260nm,17.4s
HHC LR LR
comp=Z,270nm,16.2s
HHC LR LR
comp=Z,250nm,17.4s
ANMO Albuquerque 97.45 53 P P 11 05 05.4 -3.0
baz=233
ANMO Albuquerque 97.45 53 *eP* Pdif 11 05 10.5 +2.0
ANMO pmax pmax
comp=Z,2.0nm,1.1s
C06D Leavenworth 97.47 36 P P 11 05 05.7 -2.2
baz=226
MVCO Mesa Verde 97.48 50 P P 11 05 06.0 -2.6
baz=232
HVU Hansel Valley 97.72 44 *eP* Pdif 11 05 09.8 +0.3
HVU pmax pmax
comp=Z,19nm,1.5s
HVU Hansel Valley 97.72 44 *eP* Pdif 11 05 09.8 +0.3
comp=Z,19nm,1.5s
HLID Hailey 97.93 42 P P 11 05 07.8 -2.5
baz=230
HLID Hailey 97.93 42 *eP* **P 11 05 09.5 -0.9**
comp=Z,6.6nm,1.3s
LPAZ La Paz 98.35 116 LR LR 11 41 23.3
comp=Z,368nm,21.5s,baz=184,slow=30
LPAZ La Paz 98.35 116 *eP* **P 11 05 09.7 -3.8**
LPAZ La Paz 98.35 116 *eP* **P 11 05 09.7 -3.8**
CPUP Villa Florida 99.14 130 LR LR 11 42 01.7
comp=Z,1µm,22.0s,baz=228,slow=31
LZH Lanzhou 99.39 307 *eP* **Pdif 11 05 17.0 0.0**
LZH pP pP 11 05 20.5 -7.7
LZH sP sP 11 05 21.8 -10
LZH PP **PP 11 09 23.0 +2.0**
LZH SKS **SKSac 11 15 53.0 +0.1**
LZH *e*S **ScS 11 16 44.2 -2.7**
LZH sS S 11 16 53.5 +6.6
LZH SS **SS 11 23 40.0 +2.2**
LZH pmax pmax
comp=Z,23nm,1.5s
LZH pmax pmax
comp=Z,120nm,9.3s
LZH LR LR
comp=Z,320nm,16.7s
LZH LR LR
comp=Z,380nm,17.0s
LZH LR LR
comp=Z,900nm,19.5s
PDAR Pinedale Array 100.20 45 P Pdif 11 05 20.0 -0.6
comp=Z,0.4nm,0.7s,baz=223,slow=3.7,SNR=4.2
WMQ Urumqi 113.97 308 PKP **PKiKP 11 10 12.1 -1.1**
WMQ PP **PP 11 11 10.1 +2.1**
WMQ PKS **PKSdf 11 13 47.5 -2.3**
WMQ SS SS 11 26 55.0 -0.6
WMQ AMB AMB
comp=Z,65nm,11.9s
WMQ LR LR
comp=Z,220nm,27.5s
WMQ LR LR
comp=Z,190nm,24.5s
WMQ LR LR
comp=Z,290nm,30.5s
MSEY Mahe Island 114.78 245 *i* PKIKP PKPdf 11 10 12.0 -3.7
KSH Kashi 120.40 299 *e*PKP **PKPdf 11 10 22.1 -3.7**
KSH PP **PP 11 11 54.3 +1.3**
KSH PKS **PKSdf 11 13 58.2 -4.3**
KSH SS SS 11 28 19.2 -0.4
KSH AMB AMB
comp=Z,95nm,6.1s
KSH LR LR
comp=Z,95nm,4.3s
KSH LR LR
comp=Z,98nm,7.2s
KSH LR LR
comp=Z,160nm,6.3s
KURK Kurchatov 122.17 313 *e*PKIKP **PKPdf 11 10 31.2 +2.6**
KURK Kurchatov 122.17 313 *e*PKPpre PKPpre 11 10 24.1
KURK *e*PKPdf **PKiKP 11 10 30.1 +1.4**
KURK *e*PP **PP 11 12 01.9 -2.6**
KURBB Kurchatov Arra 122.19 312 PKhKP PKPpre 11 10 24.1
comp=Z,0.4nm,0.4s,baz=112,slow=2.0,SNR=4.5
KURBB PKP **PKiKP 11 10 30.1 +1.3**
comp=Z,1.1nm,0.8s,baz=110,slow=2.0,SNR=5.1
KURBB PP **PP 11 12 01.9 -2.9**
comp=Z,0.5nm,0.3s,baz=105,slow=5.9,SNR=11
NRIK Noril'sk 122.23 335 PKP **PKPdf 11 10 28.1 -0.1**
comp=Z,2.8nm,0.5s,baz=115,slow=6.9,SNR=3.6
BVAR Borovoye Array 127.64 314 PKP **PKPdf 11 10 37.3 -1.7**
comp=Z,0.5nm,0.4s,baz=119,slow=5.1,SNR=2.7
BVAR PP **PP 11 12 42.8 +1.6**
comp=Z,0.5nm,0.3s,baz=104,slow=6.3,SNR=5.2
BRVK Borovoye 127.71 314 *e*PKIKP **PKPdf 11 10 41.9 +2.7**
KBS Kingsbay 134.83 357 IAMs_20 IAMs_20 12 01 24.6
comp=Z,306nm,20.2s
HSPB Hornsund (broa 136.46 355 IAMs_20 IAMs_20 12 03 07.3
comp=Z,369nm,20.0s
ARA0 ARCESS Array S 141.78 346 *e*PKPdf **PKPdf 11 11 06.5 +1.6**
ARCES ARCESS Array B 141.78 346 PKP **PKPdf 11 11 06.5 +1.6**
comp=Z,1.0nm,0.6s,baz=20,slow=3.9,SNR=3.6
ARE0 ARCESS Array S 141.78 346 *e*PP PP 11 14 08.6 -1.2
LOF Lofoten 145.06 351 *e*PKPdf **PKPbc 11 11 08.9 -1.3**
KBZ Khabaz 145.38 299 PKPbc **PKPab 11 11 13.7 +1.5**
comp=Z,2.7nm,0.8s,baz=102,slow=2.8,SNR=4.8
KIV Kislovodsk 145.53 299 *i* PKIKP **PKPab 11 11 20.5 +7.6**
KIV pmax pmax
comp=Z,6.0nm,1.1s
MOS Moscow 146.17 321 *e*PKP2 **PKPab 11 11 16.4 +1.7**
MOS pmax pmax
comp=Z,43nm,1.0s
MOR8 Moi Rana 146.77 349 *e*PKPdf **PKPdf 11 11 12.4 -1.3**
OBN Obninsk 146.97 321 *e*PKP2 **PKPab 11 11 17.3 -0.5**
OBN pmax pmax
comp=Z,10.0nm,0.9s
SOC Sochi 147.69 299 *i* PKIKP **PKPdf 11 11 15.8 -0.1**
SOC *e*PPP PPP 11 17 59.5
FIA0 FINESS Array S 147.89 336 *e*PKIKP **PKPdf 11 11 14.2 -1.4**
FIA0 *e* 11 11 18.4
FIA0 FINESS Array S 147.89 336 *e*PKPdf **PKPdf 11 11 14.2 -1.4**
FIA0 *e*PKPbc **PKPbc 11 11 18.4 -0.2**
FINES FINESS Array B 147.89 336 PKP **PKPdf 11 11 14.2 -1.4**
comp=Z,4.4nm,0.9s,baz=64,slow=4.4,SNR=6.3
FINES PKPbc **PKPbc 11 11 18.4 -0.2**
comp=Z,4.4nm,0.9s,baz=99,slow=3.5,SNR=6.1
EIL Elat 149.81 271 PKPbc **PKPbc 11 11 24.5 -0.1**
comp=Z,6.3nm,0.9s,baz=159,slow=9.6,SNR=2.4
MMAI Mount Meron Ar 150.29 278 PKPbc **PKPbc 11 11 27.8 +2.0**
comp=Z,3.9nm,0.7s,baz=210,slow=4.8,SNR=4.7
LIC Lamto 151.87 170 *e*PKP1 **PKPbc 11 11 27.5 -2.4**
comp=Z,63nm,0.9s
KIC Kosan Boka 152.04 171 *e*PKP1 **PKPbc 11 11 28.0 -2.3**
comp=Z,103nm,1.3s
TIC Toumodi 152.28 170 *e*PKP1 **PKPbc 11 11 28.4 -2.5**
DBIC Dimbokro 152.33 170 PKPbc **PKPbc 11 11 28.7 -2.2**
comp=Z,3.0nm,0.7s,baz=230,slow=5.2,SNR=4.1
BR101 Keskin Array S 152.39 292 *e*PKPdf **PKPdf 11 11 24.1 +0.4**
BR101 *e*PKPbc **PKiKP 11 11 32.7 +1.9**
BRTR Keskin Array B 152.39 292 PKP **PKPdf 11 11 24.1 +0.4**
comp=Z,0.6nm,0.7s,baz=326,slow=0.5,SNR=3.0
BRTR PKPbc **PKiKP 11 11 32.7 +1.9**
comp=Z,0.9nm,0.8s,baz=131,slow=8.8,SNR=5.1
AKASG Malin Array Be 152.87 317 PKPbc **PKPbc 11 11 30.2 -0.8**
comp=Z,1.0nm,0.6s,baz=60,slow=2.0,SNR=4.1
BLS5 Blasjo 154.33 352 *e*PP PP 11 15 22.8 -0.2
VRI Vrincioaia 156.32 308 ⇑*i*P **PKPab 11 11 55.0 -2.1**
PLOR Plostina 156.37 308 ⇓*i*P **PKPab 11 11 54.1 -3.3**
CRVS Cervenica-Dubn 158.12 319 *e*PKIKP **PKPdf 11 11 33.2 +2.3**
CRVS Cervenica-Dubn 158.12 319 *e*PKP **PKPdf 11 11 33.2 +2.3**
CRVS *e* 11 12 07.7
TORD Torodi Ar. Bea 159.00 186 PKP **PKPdf 11 11 33.4 +0.4**
comp=Z,1.8nm,1.2s,baz=155,slow=1.5,SNR=5.2
TORD PKPab **PKPab 11 12 06.4 -2.8**
comp=Z,2.1nm,1.0s,baz=170,slow=3.2,SNR=6.0
TOA1 Torodi Ar. Sit 159.01 186 *e*PKPdf **PKPdf 11 11 33.4 +0.4**
TOA1 *e*PKPab **PKPab 11 12 06.4 -2.8**
OKC Ostrava-Krasne 159.25 325 AMS AMS 12 20 00.0
comp=Z,400nm,24.0s
DPC Dobruska-Polom 159.73 328 AMS AMS 12 23 50.0
comp=Z,400nm,16.9s
UPC Upice 159.75 329 AMS AMS 12 23 50.0
comp=Z,400nm,16.0s
VYHS Vyhne 159.77 321 *e*PKP2 **PKPab 11 12 13.6 +1.7**
VYHS Vyhne 159.77 321 *e*PP **PKPab 11 12 13.6 +1.7**
CLL Collm 160.31 335 *e*pPKPab **pPKPab 11 12 25.0 -0.3**
comp=Z,5.0nm,0.4s
CLL L L 12 22 00.0
comp=Z,400nm,20.8s
PVCC Panska Ves 160.34 331 AMS AMS 12 26 40.0
comp=Z,400nm,24.1s
GOPC GO Pecny, Ondr 160.72 329 AMS AMS 12 20 20.0
PRU Pruhonice 160.76 330 AMS AMS 12 24 20.0
comp=Z,300nm,15.0s
KHC Kasperske Hory 161.82 330 AMS AMS 12 25 50.0
comp=Z,600nm,20.0s

---

*IDC **06** 10:54:48.1±3.3,37˚.27N×72˚.30E,h182km±29km,mb3.5/4, mb1 3.7/10,mb1mx3.2/52,mbtmp4.2/10,Error ellipse: s-maj=28.9km s-min=20.1km az=158.0*
*ISCJB **06** 10:54:49.3±0.4,37˚.55N±0˚.03×72˚.34E±0˚.06,h176km, mb3.7/4,Error ellipse: s-maj=6.5km s-min=3.7km az=163.7*
*NNC **06** 10:54:55.5±7.5,37˚.84N×72˚.33E,h22km±92km,mb4.7, mpv4.3,Error ellipse: s-maj=97.7km s-min=17.4km az=152.0*

ISC 06 10:54:49.1±0.6,37˚.57N±0˚.05×72˚.42E±0˚.05,h176km,n29,
σ2s22/39,mb3.7/4,5C-9D,Tajikistan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZET	**Dzherino**	**3.09**	**295**	⇓P	**Pn**	**10 55 40.1**	**+1.4**
DZET	74nm,0.3s			⇑S	**Sn**	**10 56 16.0**	**-1.3**
	428nm,0.4s						
KSH	**Kashi**	**3.40**	**54**	⇓*i*Pn	**Pn**	**10 55 42.6**	**0.0**
KSH				pP		10 55 43.7	
KSH				Sn	**Sn**	**10 56 18.1**	**-6.3**
KSH				pmax	pmax		
	comp=Z,57nm,0.5s						
KSH				smax	smax		
	comp=N,480nm,0.6s						
KSH				smax	smax		
	comp=E,250nm,0.4s						
CEP	**Cherat**	**3.76**	**186**	⇓P	**Pn**	**10 55 48.9**	**+1.7**
CEP				S	**Sn**	**10 56 33.0**	**+0.5**
CHCP	**Chirah Chowk**	**3.96**	**170**	⇓P	**Pn**	**10 55 52.6**	**+2.9**
THW	**Thamme Wali**	**4.79**	**187**	⇓P	**Pn**	**10 56 01.3**	**+0.9**
MNAS	**Manas**	**4.91**	**1**	⇑P	**Pn**	**10 56 05.3**	**+3.4**
MNAS	comp=E,39nm,0.3s			⇓S	**Sn**	**10 57 00.2**	**+1.1**
	comp=E,134nm,0.6s						
AAK	**Ala-Archa**	**5.31**	**17**	P	**Pn**	**10 56 10.4**	**+3.3**
	comp=E,4.7nm,0.3s,baz=179,slow=5.7,SNR=35						
AAK				S	**Sn**	**10 57 10.0**	**+1.6**
	comp=E,5.6nm,0.3s,baz=354,slow=19,SNR=11						
AAK	**Ala-Archa**	**5.31**	**17**	⇓P	**Pn**	**10 56 10.9**	**+3.8**
	comp=E,10nm,0.5s						
AAK				⇑S	**Sn**	**10 57 11.6**	**+3.2**
	comp=E,47nm,0.6s						
SARP	**Sargodha**	**5.64**	**178**	P	**Pn**	**10 56 11.6**	**+0.3**
KK31	**Karatay Array**	**5.72**	**346**	⇑P	**Pn**	**10 56 14.8**	**+2.5**
	comp=E,5.7nm,0.3s,baz=154,slow=10,SNR=162						
KK31				⇓S	**Sn**	**10 57 14.7**	**-3.0**
	comp=E,34nm,0.3s,baz=158,slow=21,SNR=16						
THN	**Thein Dam**	**5.79**	**151**	*e*P	**Pn**	**10 56 13.0**	**-0.3**
THN				*e*S	**Sn**	**10 57 17.8**	**-1.8**
TKM2	**Tokmak 2**	**5.87**	**23**	⇓P	**Pn**	**10 56 18.1**	**+3.6**
TKM2	comp=E,34nm,0.8s			⇑S	**Sn**	**10 57 20.8**	**-0.9**
	comp=E,32nm,1.2s						
GEYT	**Alibeck**	**11.33**	**276**	P	**Pn**	**10 57 24.1**	**-1.9**
	comp=E,1.7nm,0.3s,baz=97,slow=17,SNR=5.1						

PYUN	**Piuthan**	**12.96**	**134**	*e*P	**Pn**	**10 57 46.7**	**-0.4**
	comp=E,19nm,0.5s							
KURBB	**Kurchatov Arra**	**13.76**	**17**	P	**P**	**10 58 01.0**	**+1.4**
	comp=E,0.4nm,0.3s,baz=203,slow=11,SNR=13							
GKN	**Gorkha**	**14.01**	**129**	*e*P	**Pn**	**10 58 01.3**	**+1.0**
	comp=E,37nm,0.4s							
DMN	**Daman**	**14.58**	**129**	*e*P	**P**	**10 58 08.8**	**-0.4**
	comp=E,25nm,0.6s							
PKIN	**Phulchoki**	**14.78**	**129**	*e*P	**P**	**10 58 11.9**	**+0.5**
PKI	**Pulchoki**	**14.80**	**129**	*e*P	**P**	**10 58 11.9**	**+0.3**
	comp=E,15nm,0.4s							
GUN	**Gumba**	**14.85**	**127**	*e*P	**P**	**10 58 12.3**	**0.0**
JIRN	**Jiri**	**15.23**	**126**	*e*P	**P**	**10 58 17.0**	**+0.6**
BVAR	**Borovoye Array**	**15.52**	**355**	P	**Pn**	**10 58 18.9**	**+0.4**
	comp=E,0.8nm,0.3s,baz=165,slow=12,SNR=6.9							
RAMN	**Ramite**	**15.98**	**127**	*e*P	**P**	**10 58 27.0**	**+2.3**
	comp=E,29nm,0.5s							
AKTO	**Aktyubinsk**	**16.48**	**326**	P	**Pn**	**10 58 30.1**	**0.0**
	comp=E,1.9nm,0.3s,baz=127,slow=11,SNR=14							
AKTO				S	**S**	**11 01 28.2**	**-3.8**
	comp=E,0.3nm,0.3s,baz=151,slow=22,SNR=4.4							
ZALV	**Zalesovo Beam**	**18.48**	**24**	P	**Pn**	**10 58 53.2**	**-0.6**
	comp=E,2.6nm,0.3s,baz=221,slow=10,SNR=44							
ARU	**Arti**	**21.03**	**338**	P	**P**	**10 59 20.2**	**+1.4**
	comp=E,2.8nm,0.4s,baz=130,slow=3.1,SNR=4.0							
TORD	**Torodi Ar. Bea**	**66.87**	**269**	P	**P**	**11 05 20.4**	**-2.1**
	comp=E,2.0nm,0.4s,baz=48,slow=5.6,SNR=40							
YKA	**Yellowknife Ar**	**80.12**	**3**	P	**P**	**11 06 39.0**	**+0.1**
	comp=E,0.3nm,0.5s,baz=352,slow=4.7,SNR=4.3							
WRA	**Warramunga Arr**	**81.61**	**123**	P	**P**	**11 06 45.5**	**-2.0**
	comp=E,0.4nm,0.6s,baz=322,slow=4.8,SNR=6.3							

CSEM ***06*** *11:52:31.8±0.4, 38.39N×46.08E, h2km, ML3.2, Error ellipse: s-maj=12.3km s-min=6.3km az=52.0*
TEH ***06*** *11:52:32.1, 38.35N×46.01E, h13km, ML3.2*
NSSP ***06*** *11:52:32.2, 38.33N×45.92E, h10km, Ms3.2*

ISC 06 11:52:31.7±1.0, 38.29N±0.05×46.00E±0.04, h16km±7km, n19, σ1.973/27, 6C-2D, Iran-Armenia-Azerbaijan border region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
ITBZ	**Tabriz**	**0.13**	**115**	*e*		P*g*	**Pg**	**11 52 35.7**	**+0.1**
ITBZ				*e*		S*g*	**Sg**	**11 52 38.6**	**+0.4**
ITBZ				*e*		AMB	AMB	11 52 38.7	
	comp=Z,75μm,0.1s								
ITBZ	**Tabriz**	**0.13**	**115**	*e*		P*g*	**Pg**	**11 52 35.7**	**+0.1**
ITBZ				*e*		S*g*	**Sg**	**11 52 38.6**	**+0.4**
ISHB	**Shabestar**	**0.30**	**269**	*e*		P*g*	**Pg**	**11 52 38.7**	**+0.5**
ISHB				*e*		AMB	AMB	11 52 46.6	
	comp=Z,13μm,0.1s								
IMRD	**Marand**	**0.48**	**332**	*e*		P*g*	**Pg**	**11 52 40.6**	**-0.8**
IMRD				*e*		S*g*	**Sg**	**11 52 46.3**	**-1.7**
IMRD				*e*		AMB	AMB	11 52 48.2	
	comp=Z,97μm,0.1s								
IMRD	**Marand**	**0.48**	**332**	*e*		P*g*	**Pg**	**11 52 40.6**	**-0.8**
IMRD				*e*		S*g*	**Sg**	**11 52 46.3**	**-1.7**
IHRS	**Heris**	**0.82**	**88**	*e*		P*g*	**Pg**	**11 52 47.4**	**-0.3**
IHRS				*e*		AMB	AMB	11 53 00.0	
	comp=Z,21μm,0.1s								
IHRS	**Heris**	**0.82**	**88**	*e*		P*g*	**Pg**	**11 52 47.4**	**-0.3**
IBST	**Bostanabad**	**0.92**	**129**	*e*		P*g*	**Pg**	**11 52 48.8**	**-0.7**
IBST				*e*		AMB	AMB	11 53 04.3	
	comp=Z,5μm,0.1s								
IBST	**Bostanabad**	**0.92**	**129**	*e*		P*g*	**Pg**	**11 52 48.8**	**-0.7**
GRS	**Goris**	**1.24**	**12**	⇑	*i*	P	**Pb**	**11 52 54.0**	**-0.8**
GRS				⇓	*i*	S	**Sb**	**11 52 08.0**	**-2.6**
GRS	**Goris**	**1.24**	**12**	⇑	*i*	P	**Pb**	**11 52 54.0**	**-0.8**
GRS					*i*	S	**Sb**	**11 53 08.0**	**-2.6**
ISRB	**Sarab**	**1.40**	**109**	*e*		P*n*	**Pn**	**11 52 57.6**	**+0.9**
ISRB				*e*		AMB	AMB	11 53 00.9	
	comp=Z,5μm,0.1s								
ISRB	**Sarab**	**1.40**	**109**	*e*		P*n*	**Pn**	**11 52 57.6**	**+0.9**
MAKU	**Maku**	**1.48**	**316**	*e*		P*g*	**Pn**	**11 52 58.2**	**+0.4**
GRMI	**Germi**	**1.57**	**70**	*e*		P*g*	**Pn**	**11 52 59.8**	**+0.7**
VADZ	**Vardenis**	**1.89**	**354**	⇑	*i*	P	**Pg**	**11 53 11.0**	**+3.0**
VADZ				⇑	*i*	S	**Sg**	**11 53 38.0**	**+5.4**
GNI	**Garni**	**2.10**	**333**	⇑	*i*	P	**Pb**	**11 53 09.7**	**+0.2**
GNI				⇓	*i*	S	**Sg**	**11 53 38.2**	**-1.1**
GNI	**Garni**	**2.10**	**333**	⇑		P	**Pb**	**11 53 09.7**	**+0.2**
ZNJK	**Zanjan**	**2.68**	**126**	*e*		P*n*	**Pn**	**11 53 16.4**	**+2.0**

IDC ***06*** *12:03:01.3±0.8, 8.72N×119.19E, h0km, mb3.9/9, mb1 4.0/9, mb1mx3.7/47, mbtmp3.9/9, MS3.1/1, Ms1 3.3/1, ms1mx2.7/31, Error ellipse: s-maj=51.8km s-min=16.3km az=59.0*
ISCJB ***06*** *12:03:04.1±0.6, 8.71N±0.06×118.98E±0.04, h33km, mb3.8/9, MS3.0/1, Error ellipse: s-maj=9.4km s-min=6.2km az=10.0*
MAN ***06*** *12:03:04, 8.76N×118.96E, h34km, mb4.1, ML2.9, MS2.6*

ISC 06 12:03:06.1±0.7, 8.74N±0.08×118.92E±0.05, h35km, n14, σ1.951/18, mb3.9/9, 2D, Sulu Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PPR	**Puerto Princes**	**1.04**	**350**	⇓	*e*	P	**Pn**	**12 03 22.4**	**-2.0**
PPR					*e*	S	**Sn**	**12 03 35.5**	**-2.2**
BATP	**Bataraza**	**1.11**	**273**		*e*	P	**Pn**	**12 03 23.5**	**-1.6**
BATP					*e*	S	**Sn**	**12 03 38.7**	**-0.6**
GUIM	**Jordan**	**4.07**	**62**		*e*	P	**Pn**	**12 04 06.2**	**+0.3**
SNPH	**Sibulan**	**4.30**	**82**	⇓	*i*	P	**Pn**	**12 04 08.6**	**-0.6**
SNPH					*i*	S	**Sn**	**12 04 56.7**	**-1.5**
CMAR	**Chiang Mai Arr**	**21.66**	**299**			P	**P**	**12 07 56.7**	**+2.8**
	0.6nm,0.4s,baz=114,slow=9.0,SNR=5.4								
CMAR						LR	LR	12 16 39.2	
	comp=Z,52nm,18.8s,baz=68,slow=37								
WRA	**Warramunga Arr**	**32.29**	**152**			P	**P**	**12 09 30.5**	**-1.5**
	1.2nm,0.7s,baz=334,slow=9.3,SNR=14								
ASAR	**Alice Springs**	**35.38**	**156**			P	**P**	**12 09 58.3**	**-0.5**
	0.5nm,0.7s,baz=337,slow=7.9,SNR=8.7								
ASAR						PcP	**PcP**	**12 12 28.1**	**-0.4**
	0.4nm,0.6s,baz=337,slow=2.6,SNR=6.8								
STKA	**Stephens Creek**	**45.84**	**153**			P	**P**	**12 11 24.1**	**-0.8**
	3.5nm,0.8s,baz=334,slow=11,SNR=3.3								
ZALV	**Zalesovo Beam**	**52.73**	**335**			P	**P**	**12 12 18.7**	**+1.4**
	1.4nm,0.6s,baz=132,slow=6.5,SNR=3.7								
KURBB	**Kurchatov Arra**	**53.42**	**329**			P	**P**	**12 12 23.7**	**+1.3**
	0.8nm,0.6s,baz=131,slow=9.7,SNR=6.9								
BVAR	**Borovoye Array**	**58.95**	**328**			P	**P**	**12 13 03.5**	**+1.6**
	0.6nm,0.6s,baz=125,slow=9.0,SNR=4.1								
AKTO	**Aktyubinsk**	**64.94**	**322**			P	**P**	**12 13 43.7**	**+1.4**
	0.4nm,0.3s,baz=82,slow=7.1,SNR=3.9								
ILAR	**Eielson Array**	**83.95**	**25**			P	**P**	**12 15 32.7**	**+0.2**
	0.4nm,0.9s,baz=272,slow=4.3,SNR=3.2								
TXAR	**Lajitas Array**	**124.19**	**46**			PKP	**PKPdf**	**12 22 02.6**	**+0.7**
	0.5nm,0.8s,baz=308,slow=3.3,SNR=4.0								

IDC 06 12:09:16.2±39.0, 3.02N×124.53E, h0km, mb4.0/3, mb1 4.1/3, mb1mx3.5/38, mbtmp4.0/3, Error ellipse: s-maj=658.0km s-min=199.7km az=155.0, Celebes Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**24.77**	**158**			P	P	12 14 39.2	-0.7
	0.7nm,0.3s,baz=338,slow=9.3,SNR=30								
ASAR	**Alice Springs**	**28.06**	**161**			P	P	12 15 08.8	-0.7
	1.1nm,0.6s,baz=331,slow=7.9,SNR=27								
STKA	**Stephens Creek**	**38.31**	**156**			P	P	12 16 40.2	+1.5
	3.6nm,1.0s,baz=317,slow=10,SNR=5.6								

JMA ***06*** *12:32:49.2±0.2, 43.68N×147.25E, h38km, M4.0*
SKHL ***06*** *12:32:50.0±0.7, 43.78N×147.31E, h40km±8km, mb4.3/2*

ISC 06 12:32:47.0±2.3, 43.73N±0.09×147.4E±0.1, h23km±27km, n17, σ1.932/27, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SHO	**Shikotan**	**0.44**	**289**	*e*		P	**Pn**	**12 32 59.0**	**+1.1**
SHO						AMB	AMB	12 33 00.1	
	90nm,0.2s								
SHO				*e*		S	**Sn**	**12 33 05.9**	**+0.8**
SHO						A	A	12 33 07.9	
	7μm,0.4s								
YUK	**Yuzh-Kuril'sk**	**1.16**	**286**	*e*		P	**Pn**	**12 33 07.6**	**-0.1**
YUK						AMB	AMB	12 33 08.5	
	140nm,0.2s								
YUK						AMB	AMB	12 33 08.5	
	160nm,0.2s								
YUK						AMB	AMB	12 33 08.5	
	80nm,0.2s								
YUK				*e*		S	**Sn**	**12 33 21.1**	**-1.7**
YUK						A	A	12 33 21.6	
	800nm,0.2s								
YUK						A	A	12 33 21.6	
	280nm,0.2s								
NEM2	**Nemuro 2**	**1.26**	**254**			P	**Pn**	**12 33 09.3**	**+0.1**
NEM2				*e*		S	**Sn**	**12 33 24.1**	**-1.3**
KUR	**Kuril'sk**	**1.54**	**12**	*e*		P	**Pb**	**12 33 14.2**	**-0.6**
KUR				*e*		S	**Sn**	**12 33 31.4**	**-0.8**
KUR						A	A	12 33 33.2	
	620nm,0.4s								
KUR						A	A	12 33 33.2	
	200nm,0.4s								
JRA	**Rausu**	**1.67**	**278**			P	**Pn**	**12 33 15.2**	**+0.5**
JRA				*e*		S	**Sn**	**12 33 34.4**	**-1.0**
JNK	**Nakash**	**1.96**	**267**			P	**Pn**	**12 33 19.1**	**+0.4**
JNK				*e*		S	**Sn**	**12 33 41.5**	**-1.1**
JAK	**Akkeshi**	**2.11**	**251**			P	**Pn**	**12 33 21.2**	**+0.4**
JAK				*e*		S	**Sn**	**12 33 44.5**	**-1.8**
JTKR	**Abashiri--Toko**	**2.54**	**277**			P	**Pn**	**12 33 27.9**	**+1.1**
JAR	**Ashorobuto**	**2.68**	**262**			P	**Pn**	**12 33 29.9**	**+1.2**
JAR				*e*		S	**Sn**	**12 34 00.8**	**+0.4**
JOB	**Onbets**	**2.73**	**254**			P	**Pn**	**12 33 30.4**	**+1.0**
JOB				*e*		S	**Sn**	**12 34 00.7**	**-1.0**
JMP	**Maruseppu**	**2.94**	**277**			P	**Pn**	**12 33 33.6**	**+1.3**
HRK	**Horoka**	**3.12**	**267**	*e*		P	**Pn**	**12 33 36.6**	**+1.8**
JCH	**Churui**	**3.16**	**251**			P	**Pn**	**12 33 35.8**	**+0.5**
JCH				*e*		S	**Sn**	**12 34 11.3**	**-1.0**
JKK2	**Kamakawa 2**	**3.38**	**274**			P	**Pn**	**12 33 40.3**	**+2.0**
ASAJ	**Asahikawa**	**3.50**	**278**			P	**Pn**	**12 33 41.8**	**+1.9**
ERM	**Erimo**	**3.56**	**243**	*e*		P	**Pn**	**12 33 43.6**	**+2.8**
JNBK	**Urakawa-nobuka**	**3.71**	**249**			P	**Pn**	**12 33 43.2**	**+0.4**

ISCJB ***06*** *12:36:10.8±0.7, 6.87N±0.04×73.12W±0.04, h157km±6km, Error ellipse: s-maj=8.7km s-min=4.4km az=40.8*
FUNV ***06*** *12:36:11.8, 6.82N×73.13W, h168km, MW2.5*
RSNC ***06*** *12:36:13.5±0.7, 6.82N×73.16W, h143km±4km, ML2.9*

ISC 06 12:36:10.2±1.4, 6.85N±0.04×73.08W±0.05, h163km±8km, n19, σ1.934/34, 1C, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
GIRC	**Giron, Santand**	**0.26**	**334**	*e*		P	**Pn**	**12 36 32.9**	**+0.5**
BARC	**Barichara**	**0.27**	**202**	*i*		P	**Pn**	**12 36 32.9**	**+0.3**
BARC						S	**Sn**	**12 36 48.2**	**-1.5**
BARC				*i*				12 36 49.4	
	comp=Z,142nm,0.4s								
PAMC	**Pamplona, Colo**	**0.62**	**38**	*e*		P	**Pn**	**12 36 35.7**	**+1.4**
PAMC				*i*				12 36 36.1	
	comp=Z,124nm,0.2s								
PAMC						S	**Sn**	**12 36 52.3**	**-0.4**
BRRC	**Barranca, Sant**	**0.68**	**293**	⇑	*i*	P	**Pn**	**12 36 34.6**	**+0.6**
BRRC				*i*				12 36 34.9	
	comp=Z,355nm,0.1s								
BRRC						S	**Sn**	**12 36 50.6**	**-1.6**
RUSC	**La Rusia**	**0.95**	**180**	*e*		P	**Pn**	**12 36 37.0**	**+0.5**
RUSC						S	**Sn**	**12 36 55.1**	**-1.4**
RUSC				*i*				12 36 57.3	
	comp=Z,72nm,0.3s								
CAPV	**Capacho**	**1.27**	**37**	*e*		P	**Pn**	**12 36 40.8**	**+2.0**
CAPV						S	**Sn**	**12 37 01.6**	**+0.8**
OCAC	**Ocana**	**1.40**	**350**	*e*		P	**Pn**	**12 36 41.3**	**+1.2**
OCAC						S	**Sn**	**12 37 02.5**	**-0.6**
OCAC				*i*				12 37 08.2	
	comp=Z,110nm,0.2s								
ZARC	**Zaragoza, Cauc**	**1.88**	**290**	*e*		P	**Pn**	**12 36 45.9**	**+1.1**
ZARC						S	**Sn**	**12 37 10.4**	**-1.1**
ZARC				*i*				12 37 17.0	
	comp=Z,115nm,0.5s								
NORC	**Norcasia**	**2.19**	**234**	*e*		P	**Pn**	**12 36 49.5**	**+1.1**
NORC						S	**Sn**	**12 37 16.9**	**-1.0**
CHIC	**Chingaza**	**2.29**	**196**	*e*		P	**Pn**	**12 36 51.5**	**+1.4**
CHIC						S	**Sn**	**12 37 20.4**	**-0.4**
CHIC				*i*				12 37 26.3	
	comp=Z,26nm,0.4s								
HELC	**Santa Helena**	**2.52**	**255**	*e*		P	**Pn**	**12 36 52.9**	**+0.3**
HELC						S	**Sn**	**12 37 24.3**	**-1.0**
HELC				*i*				12 37 31.6	
	comp=Z,51nm,0.4s								
VIGV	**El Vigia**	**2.61**	**41**	*e*		P	**Pn**	**12 36 54.2**	**+0.9**
VIGV						S	**Sn**	**12 37 26.9**	**+0.1**
SOCV	**Socops**	**2.63**	**57**	*e*		P	**Pn**	**12 36 55.0**	**+1.4**
SOCV						S	**Sn**	**12 37 26.8**	**-0.4**
TOLC	**Tolima**	**3.16**	**225**	*e*		P	**Pn**	**12 37 01.8**	**+1.3**
PRAC	**Prado**	**3.59**	**210**	*e*		P	**Pn**	**12 37 06.7**	**+1.0**
PRAC						S	**Sn**	**12 37 48.4**	**-0.4**
VIRV	**Villa del Rosa**	**3.69**	**10**	*e*		P	**Pn**	**12 37 07.4**	**+0.5**
VIRV						S	**Sn**	**12 37 49.0**	**-2.1**
CURV	**Curarigua**	**4.41**	**44**	*e*		P	**Pn**	**12 37 17.9**	**+1.7**
BAUV	**El Baul**	**5.41**	**67**	*e*		P	**Pn**	**12 37 29.3**	**+0.1**
BAUV						S	**Sn**	**12 38 27.3**	**-3.9**
MAPV	**Macapo**	**5.45**	**57**	*e*		P	**Pn**	**12 37 30.8**	**+0.9**

NNC 06 12:42:10.4±6.3, 36.47N×70.83E, h0km, mb3.9, mpv3.5, 4C-6D, Error ellipse: s-maj=48.8km s-min=26.8km az=179.0, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
DZET	**Dzherino**	**2.82**	**326**	⇓		P*n*	Pn	12 42 55.5	-1.4
	12nm,0.3s								
DZET				⇓		S*n*	Sn	12 43 33.7	+2.1
	26nm,0.4s								
MNAS	**Manas**	**6.15**	**12**	⇓		P*n*	Pn	12 43 43.1	+0.5
	1.1nm,0.5s								
MNAS				⇑		S*n*	Sn	12 44 54.3	+0.6
	5.4nm,0.5s								
KK31	**Karatay Array**	**6.63**	**358**	⇓		P*n*	Pn	12 43 49.1	0.0
	0.9nm,0.3s,baz=187,slow=12,SNR=6.7								
KK31				⇓		S*n*	Sn	12 45 05.6	+0.2
	1.5nm,0.3s,baz=186,slow=21,SNR=7.3								
AAK	**Ala-Archa**	**6.78**	**24**	⇑		P*n*	Pn	12 43 51.2	0.0
	4.1nm,0.7s								
AAK				⇑		S*n*	Sn	12 45 10.1	+0.8
	3.7nm,0.6s								
TKM2	**Tokmak 2**	**7.42**	**28**	⇑		P*n*	Pn	12 44 03.6	+3.5
	3.2nm,0.6s								
TKM2				⇓		S*n*	Sn	12 45 23.7	-1.3
	0.6nm,0.4s								

NIED ***06*** *12:56:00, 41.00N×146.10E, h5km, Mw3.7 Best double couple: M0 4.47000×10^14 NP1:φ246.00000°, δ16.00000°, λ-99.00000°. NP2:φ75.00000°, δ74.00000°, λ-87.00000°.*
IDC ***06*** *12:56:56.9±0.9, 40.89N×145.78E, h0km, mb3.9/8, mb1 4.0/9, mb1mx3.8/38, mbtmp3.9/9, ML3.6/1, MS2.5/2, Ms1 2.5/2, ms1mx2.2/40, Error ellipse: s-maj=32.4km s-min=17.2km az=103.0*
JMA ***06*** *12:56:58.0±0.2, 40.97N×146.05E, h39km, M3.8*
NEIC ***06*** *12:57:02.1±0.6, 40.91N×145.78E, h35km, mb4.3/3, Error ellipse: s-maj=12.2km s-min=8.3km az=107.0*

ISC 06 12:56:57.2±3.5, 40.96N±0.05×145.79E±0.07, h3km±22km, n34, σ1.964/38, mb4.1/11, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
JAK	**Akkeshi**	**2.19**	**339**			P	**Pn**	**12 57 34.4**	**-0.1**
JAK				*e*		S	**Sn**	**12 58 00.3**	**-1.8**
ERM	**Erimo**	**2.24**	**299**	*e*		P*n*	**Pb**	**12 57 36.9**	**-1.4**
ERM				*e*		S*n*	**Sn**	**12 58 03.8**	**+0.5**
JEM	**Erimo**	**2.24**	**299**			P	**Pb**	**12 57 36.8**	**-1.5**
NEM2	**Nemuro 2**	**2.40**	**359**			P	**Pn**	**12 57 36.7**	**-0.7**
NEM2				*e*		S	**Sn**	**12 58 03.4**	**-3.9**
JOB	**Onbets**	**2.42**	**324**			P	**Pn**	**12 57 38.6**	**+0.9**
JOB				*e*		S	**Sn**	**12 58 06.9**	**-1.0**
JCH	**Churui**	**2.45**	**313**			P	**Pn**	**12 57 39.0**	**+0.9**
JCH				*e*		S	**Sn**	**12 58 07.1**	**-1.5**
JNK	**Nakash**	**2.74**	**343**			P	**Pn**	**12 57 41.4**	**-0.6**
JAR	**Ashorobuto**	**2.77**	**328**			P	**Pn**	**12 57 42.5**	**0.0**
JAR				*e*		S	**Sn**	**12 58 13.9**	**-2.6**
JFR	**Furan**	**3.24**	**314**			P	**Pn**	**12 57 50.1**	**+1.2**
JFR				*e*		S	**Sn**	**12 58 25.5**	**-2.5**
JANG	**Nango**	**3.30**	**261**			P	**Pn**	**12 57 50.1**	**+0.3**
JANG				*e*		S	**Sn**	**12 58 26.0**	**-3.6**
JTKR	**Abashiri--Toko**	**3.31**	**336**			P	**Pn**	**12 57 50.9**	**+1.0**
JOT	**Ohata**	**3.60**	**278**			P	**Pn**	**12 57 55.4**	**+1.5**
JOM	**Ohasama**	**3.75**	**248**			P	**Pn**	**12 57 56.7**	**+0.7**
ASAJ	**Asahikawa**	**3.94**	**324**	*e*		P*n*	**Pn**	**12 58 00.1**	**+1.6**
ASAJ				*e*		S*n*	**Sn**	**12 58 45.8**	**+0.6**
MJAR	**Matsushiro Arr**	**7.39**	**236**			P*n*	**Pn**	**12 58 46.4**	**+0.5**
	1.0nm,0.3s,baz=49,slow=11,SNR=6.8								
MJAR						S*n*	**Sn**	**13 00 08.3**	**-2.0**
	baz=54,slow=17,SNR=2.9								
MJAR						LR	LR	13 01 13.7	
	comp=Z,41nm,19.3s,baz=230,slow=35								
MAJO	**Matsushiro**	**7.39**	**236**	*e*		P*n*	**Pn**	**12 58 47.1**	**+1.2**
MAJO				*e*		S*n*	**Sn**	**13 00 06.7**	**-3.5**
KSRS	**Korea Array**	**14.29**	**262**			LR	LR	13 05 50.5	
	comp=Z,17nm,20.3s,baz=326,slow=37								
SEY	**Seymchan**	**22.35**	**8**			P	**P**	**13 01 56.2**	**+0.2**
	1.7nm,0.9s,baz=168,slow=14,SNR=3.5								
YAK	**Yakutsk**	**23.23**	**341**			P	**P**	**13 02 05.4**	**+0.2**
	11nm,0.5s,baz=133,slow=19,SNR=5.7								
H11N2	**WAKE ISLAND Hy**	**27.79**	**133**			T	T	13 31 51.4	
	baz=325,slow=75,SNR=12								
H11N1	**WAKE ISLAND Hy**	**27.80**	**133**			T	T	13 31 51.9	
	baz=325,slow=75,SNR=10								
H11N3	**WAKE ISLAND Hy**	**27.80**	**133**			T	T	13 31 48.3	
	baz=325,slow=75,SNR=11								
H11S1	**WAKE ISLAND Hy**	**28.68**	**135**			T	T	13 32 54.1	
	baz=326,slow=76,SNR=4.3								
H11S3	**WAKE ISLAND Hy**	**28.68**	**135**			T	T	13 32 55.5	
	baz=326,slow=76,SNR=4.8								
H11S2	**WAKE ISLAND Hy**	**28.69**	**135**			T	T	13 32 56.9	
	baz=326,slow=76,SNR=4.4								
ZALV	**Zalesovo Beam**	**41.93**	**309**			P	**P**	**13 04 50.2**	**+1.4**
	0.6nm,0.4s,baz=70,slow=8.4,SNR=2.7								
ILAR	**Eielson Array**	**44.34**	**34**			P	**P**	**13 05 08.8**	**+0.5**
	0.6nm,0.7s,baz=255,slow=6.2,SNR=7.8								
KURK	**Kurchatov**	**46.30**	**306**	*e*		P	**P**	**13 05 25.4**	**+1.5**
	9.3nm,0.6s								
INK	**Inuvik**	**49.32**	**29**			P	**P**	**13 05 48.9**	**+1.7**
	1.6nm,0.7s,baz=259,slow=10,SNR=3.5								
ABKAR	**Akbulak array**	**58.04**	**310**	*e*		P	**P**	**13 06 52.6**	**+1.3**
	0.4nm,0.4s								
WRAB	**Tennant Creek**	**61.51**	**192**	*e*		P	**P**	**13 07 15.0**	**-0.4**
	2.6nm,1.1s								
WRA	**Warramunga Arr**	**61.52**	**192**			P	**P**	**13 07 15.1**	**-0.4**
	0.7nm,0.5s,baz=8.2,slow=6.8,SNR=15								
ASAR	**Alice Springs**	**65.24**	**192**			P	**P**	**13 07 39.3**	**-0.8**
	0.3nm,0.7s,baz=10,slow=6.8,SNR=5.8								
FINES	**FINESS Array B**	**66.90**	**333**			P	**P**	**13 07 49.8**	**-0.5**
	1.8nm,0.8s,baz=44,slow=6.2,SNR=2.8								

IDC ***06*** *13:10:16.5±1.8, 33.92S×179.53E, h0km, mb4.4/4, mb1 4.6/6, mb1mx4.2/32, mbtmp4.4/6, ML3.9/2, MS4.1/20, Ms1 4.1/20, ms1mx4.1/23, Error ellipse: s-maj=48.2km s-min=25.3km az=42.0*
BJI ***06*** *13:10:19.5, 34.00S×179.50E, h10km, mb5.3/10, mB5.6/8, Ms5.0/9, Ms7 4.8/6*
ISCJB ***06*** *13:10:21.3±0.3, 34.07S±0.04×179.32E±0.06, h33km, mb5.0/27, MS4.1/20, Error ellipse: s-maj=7.6km s-min=4.6km az=20.8*
NEIC ***06*** *13:10:22.8±0.4, 34.13S×179.50E, h35km, mb5.1/19, Error ellipse: s-maj=11.6km s-min=8.3km az=125.0*
GCMT ***06*** *13:10:22.8±0.3, 33.92S×179.53E, h12km, MW5.0/79, Moment Tensor Solution. s38,c54; s79,c127; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr=3.62±.09; Mθθ1.28±.10; Mφφ2.34±.09; Mrθ1.31±.31; Mrφ2.02±.07; Mθφ0.10±.32; Best double couple: M0 3.98900×10^16 NP1:φ232.00000°, δ53.00000°, λ-72.00000°. NP2: φ23.00000°, δ40.00000°, λ-113.00000°. Principal axes: T 4.0020, Plg7.0000°, Azm309.0000°; N -0.0260, Plg14.0000°, Azm41.0000°; P -3.9770, Plg74.0000°, Azm195.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

ISC 06 13:10:23.3±0.5, 34.04S±0.06×179.28E±0.07, h35km, n101, σ2.923/91, mb5.1/27, MS4.2/21, 2C, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
GRZ	**Great Barrier**	**3.83**	**234**			P*N*	**Pn**	**13 11 19.1**	**-0.6**
WMGZ	**Waiomatatini S**	**3.84**	**190**			*e*P*N*	**Pn**	**13 11 20.7**	**+0.9**
WMGZ						S*N*	**Sn**	**13 12 08.7**	**+5.0**
HAZ	**Te Kaha**	**3.90**	**198**			*e*P*N*	**Pn**	**13 11 21.

RKT				eLR	LR	13 29 00.4		
	1µm,34.0s,baz=244							
RKT	**Rikitea**	**41.32**	**87**	*eT*	T	14 01 46.0		
	2.6nm,0.3s							
WB2	**Warramunga Arr**	**42.10**	**278**	*eP*	**P**	**13 18 12.4**	**+0.3**	
	27nm,1.4s							
WRAB	**Tennant Creek**	**42.10**	**278**	*eP*	**P**	**13 18 13.1**	**+0.9**	
	15nm,1.1s							
WRA	**Warramunga Arr**	**42.11**	**278**	P	**P**	**13 18 11.9**	**-0.3**	
	8.1nm,0.8s,baz=120,slow=7.5,SNR=22							
WRA				LR	LR	13 35 33.4		
	comp=Z,345nm,19.2s,baz=125,slow=36							
SBA	**Scott Base**	**44.26**	**184**	*eP*	**P**	**13 18 30.4**	**+1.6**	
	34nm,1.8s							
VNDA	**Vanda**	**44.26**	**185**	P	**P**	**13 18 28.8**	**0.0**	
	1.7nm,1.2s,baz=17,slow=7.8,SNR=3.0							
VNDA				LR	LR	13 33 15.9		
	comp=Z,271nm,20.2s,baz=22,slow=31							
TAOE	**Nuku Hiva Isla**	**44.88**	**66**	*eLR*	LR	13 30 49.5		
	307nm,28.1s							
FITZ	**Fitzroy Crossi**	**50.19**	**274**	LR	LR	13 40 09.0		
	comp=Z,534nm,18.3s,baz=116,slow=36							
FITZ	**Fitzroy Crossi**	**50.19**	**274**	*eP*	**P**	**13 19 16.9**	**+1.2**	
SOEI	**Soe**	**55.73**	**282**	*eP*	**P**	**13 19 57.5**	**+0.7**	
	74nm,1.4s							
MMRI	**Maumere**	**58.01**	**282**	*eP*	**P**	**13 20 15.1**	**+2.2**	
	82nm,1.1s							
MAW	**Mawson**	**68.09**	**202**	LR	LR	13 50 56.3		
	comp=Z,238nm,18.0s,baz=62,slow=36							
SBUM	**Sibu**	**72.56**	**285**	*eP*	**P**	**13 21 47.1**	**0.0**	
	13nm,1.3s							
SYO	**Syowa Base**	**73.05**	**194⇑**	*eP*	**P**	**13 21 45.0**	**-4.1**	
SYO	**Syowa Base**	**73.05**	**194⇑**	*ePcP*	**PcP**	**13 22 06.4**	**+0.6**	
KSM	**Kuching**	**73.52**	**283**	*eP*	**P**	**13 21 51.6**	**-1.2**	
	23nm,1.4s							
SNAA	**Sanae**	**74.57**	**179**	P	**P**	**13 21 56.7**	**-1.5**	
SNAA	**Sanae**	**74.57**	**179**	*eP*	**P**	**13 21 56.5**	**-1.7**	
	18nm,1.2s							
VNA3	**Neumayer Olymp**	**74.82**	**177**	P	**P**	**13 21 58.1**	**-1.4**	
VNA2	**Neumayer--Watz**	**75.22**	**178**	P	**P**	**13 22 00.7**	**-1.2**	
	baz=167,slow=4.9							
VNA1	**Neumayer--Stat**	**75.47**	**177**	P	**P**	**13 22 02.4**	**-0.8**	
MJAR	**Matsushiro Arr**	**79.99**	**328**	LR	LR	13 53 22.3		
	comp=Z,65nm,22.0s,baz=65,slow=32							
PLCA	**Paso Flores**	**81.69**	**134**	P	**P**	**13 22 37.5**	**-0.7**	
	2.9nm,0.9s,baz=256,slow=7.9,SNR=4.2							
PLCA				LR	LR	13 52 23.9		
	comp=Z,88nm,18.3s,baz=312,slow=31							
QIZ	**Qiongzhong**	**84.53**	**297**	P	**P**	**13 22 53.6**	**+0.7**	
QIZ				S	**S**	**13 33 22.3**	**+4.9**	
KSRS	**Korea Array**	**85.68**	**321**	LR	LR	13 57 14.9		
	comp=Z,56nm,19.7s,baz=118,slow=33							
WHN	**Wuhan**	**88.75**	**309**	P	**P**	**13 23 09.4**	**-3.9**	
PETK	**Petropavlovsk-**	**88.80**	**347**	LR	LR	13 55 21.6		
	comp=Z,57nm,21.1s,baz=168,slow=30							
USRK	**Ussuriysk Ar.**	**88.97**	**328**	LR	LR	14 01 26.8		
	comp=Z,41nm,18.4s,baz=139,slow=34							
PAGB	**Antelope Grade**	**89.48**	**45**	*eP*	**P**	**13 23 17.0**	**+0.3**	
	77nm,1.8s							
CMB	**Columbia Colle**	**90.99**	**43**	P	**P**	**13 23 22.1**	**-1.5**	
	87nm,1.5s							
GSC	**Goldstone, Bar**	**91.25**	**47**	*eP*	**P**	**13 23 25.3**	**+0.3**	
	21nm,1.6s							
AFDM	**Forest Hills D**	**91.30**	**42**	*eP*	**P**	**13 23 24.8**	**-0.2**	
	22nm,1.8s							
GYA	**Guiyang**	**91.40**	**301**	P	**P**	**13 23 28.0**	**+2.1**	
GYA				SKS	**SKSac**	**13 33 59.8**	**+3.9**	
GYA				S	**ScS**	**13 34 26.0**	**+0.3**	
GYA				pmax	pmax			
	comp=Z,20nm,1.0s							
GYA				pmax	pmax			
	comp=Z,120nm,6.7s							
ORV	**Oroville**	**91.42**	**42**	*eP*	**P**	**13 23 25.5**	**-0.1**	
	9.6nm,1.4s							
WAKR	**Walker**	**91.86**	**44**	*eP*	**P**	**13 23 26.7**	**-1.2**	
	25nm,1.7s							
PNTR	**Pine Nut**	**92.17**	**43**	*eP*	**P**	**13 23 28.1**	**-1.2**	
TVH1	**TV Hill, Hawth**	**92.21**	**44**	*eP*	**P**	**13 23 27.5**	**-2.2**	
	16nm,1.7s							
CMAR	**Chiang Mai Arr**	**92.47**	**291**	LR	LR	14 07 10.6		
	comp=Z,49nm,19.7s,baz=152,slow=37							
TUC	**Tucson**	**93.16**	**53**	*eP*	**P**	**13 23 32.3**	**-1.6**	
	19nm,1.4s							
KMI	**Kunming**	**93.44**	**298**	P	**P**	**13 23 36.0**	**+0.5**	
KMI				pmax	pmax			
	comp=Z,8.0nm,0.9s							
KMI				LR	LR			
	comp=N,100nm,8.6s							
KMI				LR	LR			
	comp=E,130nm,12.5s							
MOD	**Modoc Plateau**	**93.71**	**41**	*eP*	**P**	**13 23 34.0**	**-2.3**	
	12nm,1.5s							
TX31	**Lajitas Ar. Si**	**96.26**	**59**	*eP*	**P**	**13 23 46.6**	**-1.6**	
TXAR	**Lajitas Array**	**96.27**	**59**	LR	LR	14 03 11.5		
	comp=Z,45nm,18.0s,baz=0.0,slow=33							
HHC	**Hu-ho-hao-te**	**97.13**	**315**	*eP*	Pdif	13 23 54.5	+2.6	
HHC				PP	PP	13 27 57.7	+9.0	
HHC				SKS	**SKSac**	**13 34 28.9**	**+2.7**	
HHC				S	**ScS**	**13 35 14.5**	**+1.7**	
HHC				sS	pS	13 35 27.4	+0.6	
HHC				pmax	pmax			
	comp=Z,24nm,1.4s							
HHC				pmax	pmax			
	comp=Z,60nm,5.0s							
HHC				LR	LR			
	comp=N,120nm,14.9s							
HHC				LR	LR			
	comp=E,160nm,18.7s							
LPAZ	**La Paz**	**98.69**	**116**	LR	LR	13 59 57.6		
	comp=Z,91nm,21.4s,baz=186,slow=30							
LZH	**Lanzhou**	**99.07**	**307**	*eP*	**Pdif**	**13 24 03.6**	**+2.8**	
LZH				pP	pP	13 24 09.5	-2.4	
LZH				sP	sP	13 24 12.5	-3.4	
LZH				PP	**PP**	**13 28 09.7**	**+6.0**	
LZH				pmax	pmax			
	comp=Z,16nm,1.5s							
LZH				pmax	pmax			
	comp=Z,92nm,9.0s							
LZH				LR	LR			
	comp=N,270nm,17.2s							
LZH				LR	LR			
	comp=E,280nm,16.9s							
LZH				LR	LR			
	comp=Z,400nm,19.7s							
CPUP	**Villa Florida**	**99.46**	**131**	LR	LR	14 00 58.4		
	comp=Z,277nm,21.5s,baz=228,slow=31							
WMQ	**Urumqi**	**113.64**	**308**	*ePKP*	**PKiKP**	**13 28 58.1**	**+0.4**	
KSH	**Kashi**	**120.06**	**300**	*ePKP*	**PKPdf**	**13 29 07.3**	**-3.0**	
KSH				PP	**PP**	**13 30 38.4**	**+2.6**	
KSH				PKS	**PKSdf**	**13 32 42.5**	**-4.5**	
KSH				SS	SS	13 47 03.8	+3.3	
KSH				AMB	AMB			
	comp=Z,120nm,5.1s							
KSH				LR	LR			
	comp=N,99nm,6.8s							
KSH				LR	LR			
	comp=E,82nm,4.8s							
KSH				LR	LR			
	comp=Z,140nm,5.2s							
TORD	**Torodi Ar. Bea**	**159.09**	**187**	PKPab	**PKPab**	**13 30 51.9**	**-2.9**	
	0.7nm,0.8s,baz=181,slow=3.9,SNR=4.7							
VYHS	**Vyhne**	**159.48**	**321**	*ePKP*	**PKPab**	**13 30 55.2**	**-0.6**	
CLL	**Collm**	**160.07**	**334**	*ePKPab*	**PKPab**	**13 31 01.0**	**+2.8**	
CLL				L	L	14 41 00.0		
	comp=Z,100nm,22.0s							

*IDC **06** 13:16:57.9±2.7,36°.18N×141°.82E,h0km,mb3.7/2, mb1 3.7/5,mb1mx3.5/53,mbtmp3.7/5,ML3.6/2,MS3.3/2, Ms1 3.4/2,ms1mx2.6/40,Error ellipse: s-maj=60.7km s-min=26.5km az=68.0*

*ISCJB **06** 13:17:03.8±0.8,36°.13N±0°.03×141°.47E±0°.07,h53km±9km, mb3.7/2,MS3.3/2,Error ellipse: s-maj=9.4km s-min=4.9km az=176.0*

*JMA **06** 13:17:04.7±0.1,36°.15N×141°.38E,h53km±2km,M3.2*

ISC 06 13:17:04.6±1.4,36°.14N±0°.03×141°.48E±0°.08,h40km±17km, n25,σ0s.92/31,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CHOJ	**Chosi**	**0.67**	**229**	P		**Pn**	**Pn**	**13 17 17.5**	**0.0**
CHOJ				S		**Sn**	**Sn**	**13 17 27.4**	**+0.6**
JHO	**Hitachi**	**0.87**	**303**	P		**Pn**	**Pn**	**13 17 19.8**	**-0.6**
JHO				*eS*		**Sn**	**Sn**	**13 17 31.1**	**-0.8**
JYT	**Yasato**	**1.04**	**275**	P		**Pn**	**Pn**	**13 17 22.1**	**-0.6**
JYT				S		**Sn**	**Sn**	**13 17 34.6**	**-1.4**
ONAJ	**Iwakimizuishiy**	**1.10**	**331**	P		**Pn**	**Pn**	**13 17 23.3**	**-0.3**
ONAJ				*eS*		**Sn**	**Sn**	**13 17 36.9**	**-0.8**
JFK	**Kawauchi**	**1.32**	**339**	P		**Pn**	**Pn**	**13 17 26.2**	**-0.3**
JFK				S		**Sn**	**Sn**	**13 17 42.4**	**-0.5**
BSO1	**Boso 1**	**1.54**	**196**	P		**Pn**	**Pn**	**13 17 29.3**	**+0.3**
BSO1				*eS*		**Sn**	**Sn**	**13 17 49.3**	**+1.8**
JFT	**Otama**	**1.65**	**327**	P		**Pn**	**Pn**	**13 17 32.2**	**+1.1**
JFT				S		**Sn**	**Sn**	**13 17 52.2**	**+1.1**
JAG	**Ashikaga**	**1.66**	**280**	P		**Pn**	**Pn**	**13 17 31.0**	**-0.2**
JAG				*eS*		**Sn**	**Sn**	**13 17 50.3**	**-1.0**
JMM	**Marumori**	**1.81**	**343**	P		**Pn**	**Pn**	**13 17 33.4**	**+0.2**
JMM				S		**Sn**	**Sn**	**13 17 54.9**	**0.0**
JKT	**Katashina**	**1.90**	**290**	P		**Pn**	**Pn**	**13 17 35.2**	**+0.6**
JKT				*eS*		**Sn**	**Sn**	**13 17 57.4**	**0.0**
JFY	**Yanaizu**	**1.90**	**312**	P		**Pn**	**Pn**	**13 17 35.3**	**+0.8**
JFY				*eS*		**Sn**	**Sn**	**13 17 57.6**	**+0.3**
MJAR	**Matsushiro Arr**	**2.67**	**280**	Pn		**Pn**	**Pn**	**13 17 45.9**	**+0.8**
	7.6nm,0.3s,baz=92,slow=8.9,SNR=98								
MJAR				Sn		**Sn**	**Sn**	**13 18 15.8**	**-0.4**
	1.8nm,0.3s,baz=80,slow=22,SNR=4.3								
MAT	**Matsushiro**	**2.67**	**280**	P		**Pn**	**Pn**	**13 17 46.3**	**+1.2**
MAT				*eS*		**Sn**	**Sn**	**13 18 18.6**	**+2.4**
JHJ	**Hachijo jima 2**	**3.32**	**205**	Pn		**Pn**	**Pn**	**13 17 53.5**	**-0.6**
	20nm,0.3s,baz=143,slow=20,SNR=9.0								
JHJ				Sn			**Sn**	**13 18 30.8**	**-1.5**
	24nm,0.3s,baz=246,slow=23,SNR=5.8								
USRK	**Ussuriysk Ar.**	**10.83**	**321**	Pn		**Pn**	**Pn**	**13 19 37.0**	**0.0**
	0.1nm,0.3s,baz=129,slow=8.3,SNR=2.3								
GUMO	**Guam**	**22.66**	**171**	LR	LR	13 31 20.2			
	comp=Z,21nm,21.3s,baz=354,slow=38								
H11N2	**WAKE ISLAND Hy**	**27.66**	**119**	T	T	13 51 48.4			
	baz=311,slow=75,SNR=4.8								
H11N1	**WAKE ISLAND Hy**	**27.66**	**119**	T	T	13 52 04.2			
	baz=311,slow=75,SNR=4.5								
H11N3	**WAKE ISLAND Hy**	**27.67**	**119**	T	T	13 52 01.6			
	baz=311,slow=75,SNR=5.0								
H11S1	**WAKE ISLAND Hy**	**28.34**	**122**	T	T	13 53 01.8			
	baz=313,slow=76,SNR=4.6								
H11S3	**WAKE ISLAND Hy**	**28.34**	**122**	T	T	13 53 02.4			
	baz=313,slow=76,SNR=6.4								
H11S2	**WAKE ISLAND Hy**	**28.36**	**122**	T	T	13 52 47.2			
	baz=313,slow=76,SNR=5.1								
KURBB	**Kurchatov Arra**	**46.59**	**309**	P	**P**	**13 25 28.4**	**0.0**		
	0.6nm,0.5s,baz=87,slow=7.8,SNR=4.3								
WRA	**Warramunga Arr**	**56.19**	**188**	P	**P**	**13 26 40.1**	**-0.3**		
	0.8nm,1.0s,baz=2.7,slow=7.6,SNR=3.5								
PDAR	**Pinedale Array**	**78.25**	**45**	LR	LR	14 04 38.3			
	comp=Z,78nm,18.7s,baz=264,slow=37								

*IDC **06** 13:20:09.5±1.2,52°.15N×172°.12W,h0km,mb3.7/7, mb1 3.9/8,mb1mx3.6/47,mbtmp3.6/8,ML3.7/1,Error ellipse: s-maj=48.3km s-min=22.6km az=153.0*

*ISCJB **06** 13:20:16.9±1.1,52°.0N±0°.2×171°.51W±0°.08,h59km±10km, mb3.6/7,Error ellipse: s-maj=28.4km s-min=4.3km az=165.0*

*NEIC **06** 13:20:16.6±0.0,51°.94N×171°.48W,h41km,ML3.5(AEIC), After AEIC.*

ISC 06 13:20:18.2±1.8,52°.1N±0°.2×171°.57W±0°.07,h63km±16km, n29,σ1s.32/30,mb3.6/7,Fox Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
KOSE	**Korovin Southe**	**1.55**	**282**	P		**Pn**	**Pn**	**13 20 44.9**	**+1.2**
KOFP	**Korovin Flat P**	**1.57**	**279**	P		**Pn**	**Pn**	**13 20 43.9**	**-0.1**
ATKA	**Atka Island**	**1.63**	**276**	P		**Pn**	**Pn**	**13 20 43.3**	**-1.3**
ATKA				S		**Sn**	**Sn**	**13 21 02.5**	**-2.1**
KOKV	**Korovin Volcan**	**1.63**	**282**	P		**Pn**	**Pn**	**13 20 45.0**	**+0.3**
KOKV				S		**Sn**	**Sn**	**13 21 06.6**	**+1.9**
KOKL	**Mount Kliuchef**	**1.64**	**280**	P		**Pn**	**Pn**	**13 20 44.9**	**0.0**
NIKH	**Nikolski High**	**1.90**	**60**	P		**Pn**	**Pn**	**13 20 46.4**	**-1.9**
NIKH				S		**Sn**	**Sn**	**13 21 09.3**	**-1.7**
OKSO	**Okmok South**	**2.45**	**57**	P		**Pn**	**Pn**	**13 20 55.7**	**-0.1**
OKSO				S		**Sn**	**Sn**	**13 21 26.6**	**+2.0**
OKAK	**Okmok**	**2.47**	**51**	P		**Pn**	**Pn**	**13 20 55.1**	**-0.9**
OKTU	**Okmok Mt. Tuli**	**2.52**	**57**	P		**Pn**	**Pn**	**13 20 57.3**	**+0.4**
OKFG	**Magazine Ridge**	**2.60**	**57**	P		**Pn**	**Pn**	**13 20 57.9**	**0.0**
OKFG				S		**Sn**	**Sn**	**13 21 29.8**	**+1.5**
GSMY	**Great Sitkin M**	**2.77**	**271**	P		**Pn**	**Pn**	**13 21 00.4**	**+0.2**
GSTD	**Great Sitkin T**	**2.83**	**272**	P		**Pn**	**Pn**	**13 21 01.0**	**0.0**
GSTD				S		**Sn**	**Sn**	**13 21 35.4**	**+1.5**
MSOM	**Makushin Julie**	**3.30**	**56**	P		**Pn**	**Pn**	**13 21 07.5**	**+0.1**
MSW	**Makushin Switc**	**3.44**	**55**	P		**Pn**	**Pn**	**13 21 09.2**	**0.0**
UNV	**Unalaska Valle**	**3.55**	**58**	P		**Pn**	**Pn**	**13 21 10.7**	**0.0**
UNV				S		**Sn**	**Sn**	**13 21 51.7**	**+0.3**
ILAR	**Eielson Array**	**17.98**	**35**	P		**Pn**	**Pn**	**13 24 22.4**	**-1.0**
	0.1nm,0.3s,baz=220,slow=10,SNR=8.0								
DLBC	**Dease Lake**	**24.20**	**58**	P		**P**	**P**	**13 25 31.0**	**+2.4**
	1.5nm,0.5s,baz=239,slow=5.9,SNR=4.1								
INK	**Inuvik**	**24.35**	**34**	P		**P**	**P**	**13 25 29.5**	**-0.3**
	0.8nm,0.3s,baz=245,slow=7.6,SNR=6.1								
YKA	**Yellowknife Ar**	**31.46**	**48**	P		**P**	**P**	**13 26 34.0**	**+0.7**
	0.5nm,0.4s,baz=273,slow=7.6,SNR=3.9								
H11N2	**WAKE ISLAND Hy**	**36.39**	**216**	T		T	T	14 05 47.3	
	baz=21,slow=76,SNR=26								
H11N3	**WAKE ISLAND Hy**	**36.40**	**216**	T		T	T	14 05 45.4	
	baz=21,slow=76,SNR=25								
H11N1	**WAKE ISLAND Hy**	**36.41**	**216**	T		T	T	14 05 50.9	
	baz=21,slow=76,SNR=22								
H11S1	**WAKE ISLAND Hy**	**37.59**	**215**	T		T	T	14 07 21.9	
	baz=21,slow=76,SNR=20								
H11S2	**WAKE ISLAND Hy**	**37.60**	**215**	T		T	T	14 07 21.5	
	baz=21,slow=76,SNR=17								
H11S3	**WAKE ISLAND Hy**	**37.60**	**215**	T		T	T	14 07 15.1	
	baz=21,slow=76,SNR=14								
PDAR	**Pinedale Array**	**41.79**	**77**	P		**P**	**P**	**13 28 02.4**	**+0.8**
	0.5nm,0.5s,baz=336,slow=2.0,SNR=4.7								
TXAR	**Lajitas Array**	**54.11**	**87**	P		**P**	**P**	**13 29 37.6**	**+0.9**
	0.6nm,0.7s,baz=293,slow=4.7,SNR=4.9								
CMAR	**Chiang Mai Arr**	**75.36**	**281**	P		**P**	**P**	**13 31 52.0**	**-3.1**
	0.4nm,0.3s,baz=37,slow=9.1,SNR=4.3								
ASAR	**Alice Springs**	**89.17**	**228**	P		**P**	**P**	**13 33 07.1**	**+0.3**
	0.1nm,0.5s,baz=24,slow=4.7,SNR=5.5								

*IDC **06** 13:23:17.8±3.0,9°.06S×113°.18E,h0km,mb3.4/3, mb1 3.7/4,mb1mx3.5/35,mbtmp3.6/4,ML2.8/1,Error ellipse: s-maj=137.1km s-min=52.3km az=36.0*

*ISCJB **06** 13:23:29.4±1.1,9°.1S±0°.1×113°.71E±0°.09,h79km±14km, mb3.3/3,Error ellipse: s-maj=22.7km s-min=11.5km az=29.4*

*DJA **06** 13:23:31.3±1.0,9°.S±6°×11°.4E±°,h43km±13km,M3.5/3, MLv3.5/3*

ISC 06 13:23:29.8±1.4,9°.1S±0°.1×113°.68E±0°.10,h72km±16km, n10,σ0s.70/16,mb3.2/3,South of Jawa

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
JAGI	**Jajag, Banyuwa**	**0.77**	**37**	P		**Pn**	**Pn**	**13 23 45.6**	**-0.1**
JAGI				S		**Sn**	**Sn**	**13 23 56.7**	**-0.8**
GMJI	**Gumukmas**	**0.84**	**344**	P		**Pn**	**Pn**	**13 23 46.7**	**+0.2**
GMJI				S		**Sn**	**Sn**	**13 23 59.1**	**+0.3**
BLJI	**Banyuglugur**	**1.33**	**356**	P		**Pn**	**Pn**	**13 23 53.3**	**+0.6**
BLJI				S		**Sn**	**Sn**	**13 24 09.4**	**-0.5**
ABJI	**Asem Bagus**	**1.40**	**23**	P		**Pn**	**Pn**	**13 23 54.6**	**+1.1**
ABJI				S		**Sn**	**Sn**	**13 24 10.9**	**-0.4**
IGBI	**Denpasar**	**1.47**	**80**	P		**Pn**	**Pn**	**13 23 55.4**	**+0.9**
IGBI				S		**Sn**	**Sn**	**13 24 12.5**	**-0.6**
SRBI	**Singaraja**	**1.81**	**57**	P		**Pn**	**Pn**	**13 23 59.6**	**+0.6**
FITZ	**Fitzroy Crossi**	**14.67**	**129**	Pn		**Pn**	**Pn**	**13 26 53.8**	**+0.2**
	0.0nm,0.3s,baz=312,slow=12,SNR=2.7								
FITZ				Sn			Sn	13 29 23.6	-11
	0.1nm,0.3s,baz=224,slow=18,SNR=6.4								
WRA	**Warramunga Arr**	**22.70**	**121**	P		**P**	**P**	**13 28 25.1**	**-0.6**
	0.4nm,0.7s,baz=294,slow=12,SNR=7.5								
ASAR	**Alice Springs**	**24.17**	**129**	P		**P**	**P**	**13 28 39.2**	**-0.3**
	0.5nm,0.6s,baz=302,slow=9.1,SNR=11								
ASAR				PcP		**PcP**	**PcP**	**13 32 17.9**	**-0.9**
	0.4nm,0.9s,baz=310,slow=2.5,SNR=2.6								
STKA	**Stephens Creek**	**34.42**	**135**	P		**P**	**P**	**13 30 10.8**	**+0.4**
	0.7nm,0.3s,baz=311,slow=11,SNR=8.3								

JMA 06 13:24:48.9,24°.47N×123°.95E,h0km,M0.8, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
JIJ	**Ishigaki jima**	**0.20**	**121**	P		P	Pg	13 24 53.2	+0.4
JIJ				S		Sg	Sg	13 24 56.1	+0.6
JKRS	**Kuro-shima**	**0.24**	**167**	P		P	Pg	13 24 54.0	+0.5
JKRS				S		Sg	Sg	13 24 57.7	+1.2
IRIF	**Iriomote-Funau**	**0.24**	**236**	P		P	Pg	13 24 54.1	+0.6
IRIF				S		Sg	Sg	13 24 57.8	+1.1
JISG	**Ishigakijimahi**	**0.35**	**70**	P		P	Pg	13 24 56.2	+0.6
JISG				*eS*		Sg	Sg	13 25 01.4	+1.3
HATJ	**Hateruma jima**	**0.43**	**198**	*eS*		Sg	Sg	13 25 03.9	+1.1
JTJ	**Tarama**	**0.71**	**76**	P		P	Pg	13 25 03.0	+0.6
JTJ				S		Sb	Sb	13 25 13.1	-1.2

TAP 06 13:25:29.5,24°.69N×121°.77E,h79km±1km,ML2.5,B, Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
TWE	**Neicheng**	**0.10**	**287**	*i* P		P	Pn	13 25 41.1	+0.3
	baz=287								
TWE				*i* S		Sn	Sn	13 25 49.7	+0.5
	baz=287								
TWC	**Suao**	**0.11**	**140**	*i* P		P	Pn	13 25 41.1	+0.3
	baz=137								
TWC				*i* S		Sn	Sn	13 25 49.6	+0.4
	baz=137								
ENTT	**Nioudou**	**0.20**	**255**	*i* P		P	Pn	13 25 41.6	+0.4
	baz=253								
ENTT				S		Sn	Sn	13 25 50.0	+0.3
	baz=253								
ENA	**Nanau**	**0.27**	**187**	P		P	Pn	13 25 41.8	+0.3
	baz=184								
ENA				S		Sn	Sn	13 25 50.4	+0.2
	baz=184								
TWB1	**Santiao Chiao**	**0.37**	**32**	P		P	Pn	13 25 42.1	0.0
	baz=32								
TWB1				*eS*		S	Sn	13 25 50.8	-0.6
	baz=32								
NWF	**Wu-fen Shan**	**0.38**	**1**	*eP*		Pn	Pn	13 25 42.5	+0.2
NWF				*eS*		Sn	Sn	13 25 51.9	+0.2
NSK	**Sanguang**	**0.38**	**268**	*eP*		Pn	Pn	13 25 42.1	-0.1
	baz=267								
NSK				*eS*		Sn	Sn	13 25 51.3	-0.3
	baz=267								
NNS	**Nan Shan**	**0.44**	**236**	*eP*		Pn	Pn	13 25 42.7	-0.1
	baz=234								
NNS				*eS*		Sn	Sn	13 25 52.6	0.0
	baz=234								
TWT	**Tachien**	**0.70**	**231**	*eP*		Pn	Pn	13 25 46.1	+0.9
	baz=231								
TWT				*eS*		Sn	Sn	13 25 57.6	+0.7
	baz=231								

*SOME **06** 13:35:50.0,44°.77N×82°.20E,h15km*

ISC 06 13:35:49.7±1.9,44°.78N±0°.06×82°.12E±0°.09,h4km±20km, n6,σ0s.34/12,1C-1D,Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
DJR	**Jarkent**	**1.72**	**256**	*eP*		**Pb**	**Pb**	**13 36 22.0**	**0.0**
	5.8nm,0.2s								
DJR				*eS*		**Sb**	**Sb**	**13 36 44.3**	**+0.3**
	3.0nm,0.2s								
KTMS	**Ketmen**	**1.84**	**224**	*eP*		**Pg**	**Pg**	**13 36 24.8**	**-0.2**
	2.6nm,0.1s								
KTMS				*eS*		**Sg**	**Sg**	**13 36 49.3**	**+0.4**
	7.7nm,0.3s								
MK31	**Makanchi Array**	**2.02**	**3**	Pn		**Pb**	**Pb**	**13 36 27.0**	**+0.1**
	1.7nm,0.4s,baz=181,slow=14,SNR=39								
MK31				Sn		**Sg**	**Sg**	**13 36 54.8**	**+0.3**
	0.5nm,0.3s,baz=182,slow=27,SNR=9.5								
KAPS	**Kapalarasan**	**2.02**	**285**	*eP*		**Pg**	**Pg**	**13 36 28.2**	**-0.2**
	1.0nm,0.1s								
KAPS				*eS*		**Sg**	**Sg**	**13 36 54.6**	**0.0**
	2.0nm,0.3s								
MAKZ	**Makanchi**	**2.03**	**357**	⇑Pn		**Pb**	**Pb**	**13 36 26.6**	**-0.5**
	1.2nm,0.5s								
MAKZ				⇓Sn		**Sg**	**Sg**	**13 36 55.3**	**+0.4**
	1.2nm,0.5s								
MNBS	**Baschi**	**2.75**	**257**	*eP*		**Pb**	**Pb**	**13 36 39.3**	**-0.2**
	1.1nm,0.2s								
MNBS				*eS*		**Sb**	**Sb**	**13 37 13.7**	**0.0**
	10.0nm,0.3s								

*IDC **06** 13:47:09.3±3.2,33°.86S×180°.00E,h0km,mb4.3/2, mb1 4.5/3,mb1mx3.9/22,mbtmp4.2/3,ML3.7/1,MS3.5/4, Ms1 3.5/4,ms1mx2.9/32,Error ellipse: s-maj=72.8km s-min=40.0km az=53.0*

*NEIC **06** 13:47:16.9±2.0,33°.96S×179°.58E,h35km,mb4.7/2,Error ellipse: s-maj=44.7km s-min=22.4km az=62.0*

**ISC 06 13:47:17.2±1.4,34°.0S±0°.

TRIB					*e*Sg		**Sg**	**14 04 12.6**	**-0.1**
TRIB	**Obertriebel**	**0.24**	**299**		Pg		**Pg**	**14 04 09.5**	**+0.2**
TRIB					Sg		**Sg**	**14 04 12.6**	**-0.1**
PLN	**Plauen**	**0.32**	**322**		*e*Pg		**Pg**	**14 04 11.0**	**+0.3**
PLN					*e*Sg		**Sg**	**14 04 14.9**	**-0.1**
PLN	**Plauen**	**0.32**	**322**		Pg		**Pg**	**14 04 11.0**	**+0.3**
PLN					Sg		**Sg**	**14 04 14.9**	**-0.1**
SCHF	**Schoenfels**	**0.45**	**355**		*e*Pg		**Pg**	**14 04 13.3**	**+0.3**
SCHF					*e*Sg		**Sg**	**14 04 19.0**	**0.0**
SCHF	**Schoenfels**	**0.45**	**355**		Pg		**Pg**	**14 04 13.3**	**+0.3**
SCHF					Sg		**Sg**	**14 04 19.0**	**0.0**
ROTZ	**Rotzenmuhle**	**0.50**	**200**		*e*Pg		**Pb**	**14 04 14.6**	**-0.4**
ROTZ					*e*Sg		**Sg**	**14 04 21.0**	**+0.5**
ROTZ	**Rotzenmuhle**	**0.50**	**200**		Pg		**Pb**	**14 04 14.6**	**-0.4**
ROTZ					Sg		**Sg**	**14 04 21.0**	**+0.5**
MOX	**Moxa**	**0.68**	**307**		*e*Pg		**Pg**	**14 04 17.5**	**0.0**
MOX					*e*Sg		**Sg**	**14 04 26.0**	**-0.4**
MOX	**Moxa**	**0.68**	**307**		Pg		**Pg**	**14 04 17.5**	**0.0**
MOX					Sg		**Sg**	**14 04 26.0**	**-0.4**
GRA1	**Grafenberg Arr**	**0.97**	**236**		Pg		**Pb**	**14 04 23.1**	**0.0**
GRA1					Sg		**Sg**	**14 04 35.5**	**0.0**
GRF	**Grafenberg Arr**	**0.97**	**236**		*e*Pg		**Pb**	**14 04 23.1**	**0.0**
GRF					*e*Sg		**Sg**	**14 04 35.5**	**0.0**
WET	**Wettzell**	**1.12**	**166**			*e*SG		**Sg**	**14 04 40.3**	**-0.1**
WET	**Wettzell**	**1.12**	**166**		*e*Pg		**Pn**	**14 04 26.1**	**+0.1**
WET					*e*Sg		**Sg**	**14 04 40.0**	**-0.4**
WET	**Wettzell**	**1.12**	**166**		Pg		**Pn**	**14 04 26.1**	**+0.1**
WET					Sg		**Sg**	**14 04 40.0**	**-0.4**
CLL	**Collm**	**1.13**	**17**		*e*Pg		**Sg**	**14 04 26.0**	**0.0**
CLL					*e*Sg		**Sg**	**14 04 40.7**	**+0.1**
CLL	**Collm**	**1.13**	**17**		Pg		**Pg**	**14 04 26.0**	**0.0**
CLL					Sg		**Sg**	**14 04 40.7**	**+0.1**
CLL	**Collm**	**1.13**	**17**	*i*	Pg		**Pg**	**14 04 26.0**	**0.0**
CLL				*i*				14 04 29.0	
CLL				*i*	Sg		**Sb**	**14 04 40.6**	**+0.1**
	comp=Z,7.0nm,0.5s								
CLL				*i*				14 04 44.7	
BRG	**Berggiesshubel**	**1.14**	**55**		PG		**Pg**	**14 04 26.2**	**+0.1**
BRG					SG		**Sg**	**14 04 41.2**	**+0.3**
	comp=Z,18nm,0.3s								
BRG	**Berggiesshubel**	**1.14**	**55**		*e*Pg		**Pn**	**14 04 26.4**	**+0.2**
BRG					*e*Sg		**Sg**	**14 04 41.2**	**+0.3**
BRG	**Berggiesshubel**	**1.14**	**55**		Pg		**Pn**	**14 04 26.4**	**+0.2**
BRG					Sg		**Sg**	**14 04 41.2**	**+0.3**
KHC	**Kasperske Hory**	**1.32**	**146**		*e*PG		**Pb**	**14 04 29.1**	**0.0**
KHC					*e*SG		**Sb**	**14 04 46.1**	**+0.1**
	comp=Z,6.5nm,0.2s								
KHC	**Kasperske Hory**	**1.32**	**146**		Pg		**Pb**	**14 04 29.1**	**0.0**
KHC					Sg		**Sb**	**14 04 46.1**	**+0.1**
	comp=Z,6.5nm,0.2s								
PRU	**Pruhonice**	**1.36**	**100**			*e*SG		**Sg**	**14 04 48.4**	**+0.4**
	comp=Z,7.5nm,0.3s								
PRU	**Pruhonice**	**1.36**	**100**		Sg		**Sg**	**14 04 48.4**	**+0.4**
	comp=Z,7.5nm,0.3s								
PVCC	**Panska Ves**	**1.38**	**77**			*e*SG		**Sg**	**14 04 49.8**	**+1.2**
	comp=Z,18nm,0.2s								
PVCC	**Panska Ves**	**1.38**	**77**		Sg		**Sg**	**14 04 49.8**	**+1.2**
	comp=Z,18nm,0.2s								
GOPC	**GO Pecny, Ondr**	**1.53**	**101**		*e*SG		**Sg**	**14 04 53.1**	**-0.3**
	comp=Z,7.7nm,0.2s								
GOPC	**GO Pecny, Ondr**	**1.53**	**101**		Sg		**Sg**	**14 04 53.1**	**-0.3**
	comp=Z,7.7nm,0.2s								
UPC	**Upice**	**2.29**	**82**			*e*SG		**Sg**	**14 05 16.6**	**-1.1**
UPC	**Upice**	**2.29**	**82**		Sg		**Sg**	**14 05 16.6**	**-1.1**
DPC	**Dobruska-Polom**	**2.48**	**86**		*e*SG		**Sg**	**14 05 21.9**	**-1.9**
DPC	**Dobruska-Polom**	**2.48**	**86**		Sg		**Sg**	**14 05 21.9**	**-1.9**

DJA 06 14:08:39.9±0.5, 8°S±4°×11°8E±°, h10km, M3.5/7, MLv3.5/7, Bali Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLAI	**Plampang**	**0.96**	**171**	P	Pg	14 08 58.4	-0.1
PLAI				S	Sb	14 09 11.7	+0.2
TWSI	**Taliwang, Sumb**	**1.14**	**221**	P	Pb	14 09 01.0	-0.7
TWSI				S	Sb	14 09 16.4	-0.1
IGBI	**Denpasar**	**2.63**	**249**	P	Pn	14 09 22.6	+0.1
IGBI				S	Sn	14 09 56.0	+1.5
JAGI	**Jajag, Banyuwa**	**3.49**	**260**	P	Pn	14 09 34.1	-0.3
GMJI	**Gumukmas**	**4.16**	**264**	P	Pn	14 09 45.1	+1.5

*SJA **06** 14:17:12.6±1.1, 33°.74S×70°.16W, h20km, ML3.9, MW3.6*
*ISCJB **06** 14:17:13.1±0.4, 33°.73S±0°.03×70°.44W±0°.05, h102km±4km, mb3.5/2, Error ellipse: s-maj=8.5km s-min=3.6km az=34.5*
*GUC **06** 14:17:13.6±0.7, 33°.73S×70°.41W, h101km±3km, ML4.1*
*IDC **06** 14:17:14.0±3.4, 33°.71S×69°.93W, h86km±36km, mb3.4/2, mb1 3.8/5, mb1mx3.5/21, mbtmp3.9/5, Error ellipse: s-maj=43.1km s-min=32.5km az=105.0*

ISC 06 14:17:13.6±0.9, 33°.75S±0°.04×70°.39W±0°.05, h93km±6km, n36, σ1°35/53, 5C-4D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YECH	**El Yeso**	**0.27**	**72**	||*i*P	**Pn**	**14 17 28.0**	**+0.4**
YECH				*i* S	**Sn**	**14 17 39.3**	**+1.4**
YECH				IAML		14 17 39.5	
	comp=N,11μm,0.4s						
ANTU	**Antumapu**	**0.27**	**311**	||*i*P	**Pn**	**14 17 27.6**	**+0.3**
ANTU				*i* S	**Sn**	**14 17 38.5**	**+1.0**
ANTU				IAML		14 17 39.6	
	comp=E,6μm,0.2s						
FSR	**Penalolen**	**0.29**	**336**	⇑	*i*P	**Pn**	**14 17 27.9**	**+0.4**
FSR				*i* S		**Sn**	**14 17 38.5**	**+0.8**
CLCH	**Cerro Calan**	**0.37**	**340**	⇑	*i*P	**Pn**	**14 17 28.3**	**+0.4**
CLCH				*i* S		**Sn**	**14 17 39.3**	**+0.8**
CLCH				IAML		14 17 40.1		
	comp=E,14μm,0.4s						
FCH	**Farellones**	**0.43**	**11**	*e*P		**Pn**	**14 17 28.8**	**+0.2**
FCH				*i* S		**Sn**	**14 17 40.6**	**+1.0**
FCH				IAML		14 17 41.3		
	comp=E,18μm,0.2s						
RCDM	**Rinconada Maip**	**0.43**	**306**	*e*P		**Pn**	**14 17 27.1**	**-1.2**
RCDM				*i* S		**Sn**	**14 17 37.9**	**-1.2**
PEL	**Peldehue**	**0.65**	**337**	⇑	*i*P	**Pn**	**14 17 30.1**	**+0.1**
PEL				*i* S		**Sn**	**14 17 42.5**	**+0.3**
PEL				IAML		14 17 43.5		
	comp=N,7μm,0.3s						
ROC1	**El Roble**	**0.93**	**325**	*i* P		**Pn**	**14 17 32.9**	**-0.2**
ROC1				*e*S		**Sn**	**14 17 47.8**	**+0.3**
ROCH	**El Roble**	**0.93**	**326**	⇑	*i*P	**Pn**	**14 17 32.7**	**-0.4**
ROCH				*i* S		**Sn**	**14 17 47.4**	**-0.2**
ROCH				IAML		14 17 49.5		
	comp=N,5μm,0.4s						
NICH	**Los Niches**	**1.43**	**209**	*e*P		**Pn**	**14 17 39.4**	**+0.7**
NICH				*i* S		**Sn**	**14 17 59.9**	**+2.3**
AAGR	**Agrelo**	**1.46**	**64**	*i* P		**Pn**	**14 17 39.9**	**+0.8**
CHPI	**Pichilemu**	**1.49**	**244**	*e*P		**Pn**	**14 17 39.6**	**+0.3**
CHPI				*i* S		**Sn**	**14 17 58.9**	**+0.1**
ARCO	**CERRO ARCO**	**1.52**	**54**	*i* P		**Pn**	**14 17 40.4**	**+0.5**
ARCO				*e*S		**Sn**	**14 18 00.6**	**+0.9**
AUSP	**Uspallata**	**1.74**	**29**	*i* P		**Pn**	**14 17 43.4**	**+0.6**
ASAL	**Salagasta**	**1.74**	**49**	*i* P		**Pn**	**14 17 43.5**	**+0.8**
GO05	**HualaæØ**	**1.79**	**225**	||*i*P	**Pn**	**14 17 43.3**	**+0.1**
GO05				*i* S		**Sn**	**14 18 06.3**	**+0.5**
GO05				IAML		14 18 08.5		
	comp=E,2μm,0.5s						
TALC	**Talca**	**1.94**	**212**	⇑	*i*P	**Pn**	**14 17 46.0**	**+0.9**
TALC				*i* S		**Sn**	**14 18 10.3**	**+1.1**
RTLS	**Leoncito**	**2.15**	**26**	*i* P		**Pn**	**14 17 49.3**	**+1.1**
RTLS				*e*S		**Sn**	**14 18 15.9**	**+1.4**
RTCV	**Cerro Valdivia**	**2.44**	**40**	*e*P		**Pn**	**14 17 52.1**	**+0.3**
RTCV				*e*S		**Sn**	**14 18 22.0**	**+1.0**
SJA	**San Juan**	**2.70**	**35**	*e*P		**Pn**	**14 17 55.8**	**+0.6**
SJA				*i* S		**Sn**	**14 18 30.4**	**+3.2**
RTLL	**Cerro Villicun**	**2.90**	**34**	*e*P		**Pn**	**14 17 58.7**	**+0.7**
RTLL				*e*S		**Sn**	**14 18 32.0**	**-0.1**
ACAN	**Cantantal**	**3.06**	**62**	*i* P		**Pn**	**14 18 00.3**	**+0.3**
COCH	**Cobquecura**	**3.09**	**219**	||*i*P	**Pn**	**14 17 59.7**	**-0.7**
COCH				IAML		14 18 59.0		
	comp=E,498nm,0.4s						
CCHI	**Chillan**	**3.17**	**205**	*e*P		**Pn**	**14 18 01.7**	**+0.3**
CCHI				*e*S		**Sn**	**14 18 38.5**	**+0.2**
CCHI				IAML		14 19 03.5		
	comp=E,1μm,0.7s						
ACCO	**Cerro Coronel**	**3.34**	**20**	*i* P		**Pn**	**14 18 04.1**	**-0.1**
ACCO				*i* S		**Sn**	**14 18 47.1**	**+3.9**
ACCO				IAML		14 18 49.2		
	comp=Z,289nm,0.3s						
ACDV	**Cuesta del Vie**	**3.73**	**17**	*i* P		**Pn**	**14 18 09.1**	**-0.1**
AVFE	**Valle Fertil**	**3.96**	**40**	IAML		14 19 00.5		
	comp=Z,183nm,0.6s						
TCA	**Tanti**	**5.45**	**65**	*e*P		**Pn**	**14 18 31.0**	**-1.5**
TCA				*e*S		**Sn**	**14 19 30.0**	**-3.9**
PLCA	**Paso Flores**	**6.97**	**181**	P		**Pn**	**14 18 54.3**	**+1.2**
	comp=Z,1.0nm,0.3s,baz=9.4,slow=12,SNR=13							
CPUP	**Villa Florida**	**13.50**	**60**	P		**Pn**	**14 20 17.9**	**-3.4**
	comp=Z,0.1nm,0.3s,baz=240,slow=16,SNR=2.6							
LPAZ	**La Paz**	**17.50**	**7**	P		**Pn**	**14 21 11.3**	**-1.1**
	comp=Z,0.5nm,0.3s,baz=171,slow=8.7,SNR=30							
TXAR	**Lajitas Array**	**70.20**	**329**	P		**P**	**14 28 18.9**	**+2.4**
	comp=Z,0.3nm,0.9s,baz=158,slow=9.7,SNR=2.0							
TORD	**Torodi Ar. Bea**	**82.83**	**69**	P		**P**	**14 29 27.3**	**-0.8**
	comp=Z,1.9nm,0.9s,baz=247,slow=4.7,SNR=8.2							
H11S2	**WAKE ISLAND Hy**	**27.15**	**268**	T		T	16 55 53.2	
	baz=118							
H11S1	**WAKE ISLAND Hy**	**27.16**	**268**	T		T	16 55 49.2	
	baz=119							
H11S3	**WAKE ISLAND Hy**	**27.17**	**268**	T		T	16 55 54.8	
	baz=118							

*ISCJB **06** 14:26:27.3±0.7, 50°.24N±0°.04×19°.15E±0°.03, h0km, Error ellipse: s-maj=6.7km s-min=2.5km az=14.9*
*CSEM **06** 14:26:28.6±0.5, 50°.22N×19°.22E, h2km, ML3.0/6, Error ellipse: s-maj=10.3km s-min=4.3km az=12.0*
*WAR **06** 14:26:29.9, 50°.18N×19°.36E, h1km, Mw2.4*
*PRU **06** 14:26:29.3, 50°.28N×19°.24E, h0km*

ISC 06 14:26:28.8±0.8, 50°.21N±0°.04×19°.22E±0°.02, h0km, n33, σ0°70/51, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OJC	**Ojcow**	**0.37**	**89**	*e*Pg	**Pg**	**14 26 35.6**	**-0.2**
OJC				*e*Sg	**Sg**	**14 26 39.9**	**-0.7**
OJC	**Ojcow**	**0.37**	**89**	*e*Pg	**Pg**	**14 26 35.6**	**-0.2**
OJC				*e*Sg	**Sg**	**14 26 39.9**	**-0.7**
OJC	**Ojcow**	**0.37**	**89**	*e*Pg	**Pg**	**14 26 35.6**	**-0.2**
OJC				*e*Sg	**Sg**	**14 26 39.9**	**-0.7**
OKC	**Ostrava-Krasne**	**0.79**	**242**	*e*SG	**Sb**	**14 26 57.5**	**+0.9**
	comp=Z,20nm,0.3s						
NIE	**Niedzica**	**1.06**	**138**	*e*Pg	**Pb**	**14 26 49.9**	**-0.1**
NIE				*e*Sg	**Sg**	**14 27 03.3**	**+0.6**
NIE	**Niedzica**	**1.06**	**138**	*e*Pg	**Pb**	**14 26 49.9**	**-0.1**
NIE				*e*Sg	**Sg**	**14 27 03.3**	**+0.6**
NIE	**Niedzica**	**1.06**	**138**	*e*Pg	**Pb**	**14 26 49.9**	**-0.1**
NIE				*e*Sg	**Sg**	**14 27 03.3**	**+0.6**
LANS	**Liptovska Anna**	**1.07**	**171**	*e*Pg	**Pg**	**14 26 49.4**	**0.0**
LANS				*e*Sg	**Sg**	**14 27 04.0**	**+0.7**
LANS	**Liptovska Anna**	**1.07**	**171**	*e*PG	**Pg**	**14 26 49.4**	**0.0**
LANS				*e*SG	**Sg**	**14 27 04.0**	**+0.7**
MORC	**Moravsky Berou**	**1.17**	**249**	*e*Pg	**Pn**	**14 26 52.4**	**0.0**
MORC				*e*Sg	**Sb**	**14 27 08.5**	**+0.9**
STHS	**Stebnicka Huta**	**1.53**	**121**	*e*Pg	**Pg**	**14 26 58.2**	**+0.1**
STHS				*e*Sn	**Sn**	**14 27 18.9**	**+0.9**
STHS	**Stebnicka Huta**	**1.53**	**121**	*e*PG	**Pg**	**14 26 58.2**	**+0.1**
STHS				*e*SN	**Sn**	**14 27 18.9**	**+0.9**
STHS				*e*LG	Lg	14 27 20.3	
KRLC	**Kraliky**	**1.58**	**266**	*e*PG	**Pb**	**14 26 58.8**	**0.0**
KRLC				*e*SG	**Sn**	**14 27 19.2**	**0.0**
KRLC	**Kraliky**	**1.58**	**266**	Pg	**Pb**	**14 26 58.8**	**0.0**
KRLC				Sg	**Sn**	**14 27 19.2**	**0.0**
VYHS	**Vyhne**	**1.74**	**189**	*e*Pg	**Pn**	**14 26 59.9**	**-0.3**
VYHS				*e*Sn	**Sn**	**14 27 22.1**	**-1.0**
VYHS	**Vyhne**	**1.74**	**189**	*e*PG	**Pn**	**14 26 59.8**	**-0.4**
VYHS				*e*SN	**Sn**	**14 27 22.1**	**-1.0**
VYHS				*e*LG	Lg	14 27 23.6	
DPC	**Dobruska-Polom**	**1.87**	**275**	*e*PG	**Pn**	**14 27 02.7**	**+0.7**
DPC				*e*SG	**Sg**	**14 27 28.5**	**-0.2**
	comp=Z,24nm,0.5s						
DPC	**Dobruska-Polom**	**1.87**	**275**	Pg	**Pn**	**14 27 02.7**	**+0.7**
DPC				Sg	**Sg**	**14 27 28.5**	**-0.2**
	24nm,0.5s						
KECS	**Kecovo**	**1.92**	**154**	*e*Sn	**Sb**	**14 27 28.8**	**-0.3**
KECS	**Kecovo**	**1.92**	**154**	*e*SN	**Sb**	**14 27 28.8**	**-0.3**
KECS				*e*LG	Lg	14 27 31.5	
VRAC	**Vranov**	**1.93**	**243**	*e*Pn	**Pb**	**14 27 05.1**	**+0.3**
VRAC				*e*Sg	**Sg**	**14 27 30.6**	**-0.2**
CRVS	**Cervenica-Dubn**	**1.96**	**131**	*e*Sn	**Sg**	**14 27 31.4**	**-0.3**
CRVS	**Cervenica-Dubn**	**1.96**	**131**	*e*SN	**Sg**	**14 27 31.3**	**-0.4**
UPC	**Upice**	**2.08**	**279**	*e*SG	**Sg**	**14 27 36.4**	**+0.9**
	comp=Z,8.1nm,0.4s						
UPC	**Upice**	**2.08**	**279**	Sg	**Sg**	**14 27 36.4**	**+0.9**
	8.1nm,0.4s						
GOPC	**GO Pecny, Ondr**	**2.88**	**266**	*e*SG	**Sg**	**14 28 00.0**	**-1.1**
	comp=Z,8.0nm,0.4s						
GOPC	**GO Pecny, Ondr**	**2.88**	**266**	Sg	**Sg**	**14 28 00.0**	**-1.1**
	8.0nm,0.4s						
PRU	**Pruhonice**	**3.02**	**268**	*e*SG	**Sg**	**14 28 04.9**	**-1.0**
	comp=Z,8.1nm,0.4s						
PRU	**Pruhonice**	**3.02**	**268**	Sg	**Sg**	**14 28 04.9**	**-1.0**
	8.1nm,0.4s						
KHC	**Kasperske Hory**	**3.82**	**256**	*e*SG	**Sg**	**14 28 29.7**	**-1.9**
	comp=Z,4.4nm,0.3s						
KHC	**Kasperske Hory**	**3.82**	**256**	Sg	**Sg**	**14 28 29.7**	**-1.9**
	4.4nm,0.3s						
NKC	**Novy Kostel**	**4.35**	**273**	*e*SG	**Sg**	**14 28 48.8**	**+0.3**
	comp=Z,5.6nm,0.4s						
NKC	**Novy Kostel**	**4.35**	**273**	Sg	**Sg**	**14 28 48.8**	**+0.3**
	5.6nm,0.4s						

*IDC **06** 14:31:59.0±2.1, 20°.27S×178°.02W, h527km±25km, mb3.3/13, mb1 3.5/14, mb1mx3.4/35, mbtmp4.2/14, Error ellipse: s-maj=22.2km s-min=13.7km az=141.0*

ISC 06 14:31:56.3±0.7, 20°.5S±0°.1×177°.8W±0°.1, h500km, n19, σ2°20/21, mb3.7/13, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**8.70**	**42**	P	**P**	**14 34 02.3**	**+2.1**
	3.5nm,0.3s,baz=233,slow=20,SNR=5.1						
AFI				S	**S**	**14 35 39.4**	**-2.4**
	4.0nm,0.3s,baz=234,slow=19,SNR=3.8						
DZM	**Mont Dzumac**	**14.80**	**261**	P	**P**	**14 35 08.4**	**+3.9**
	0.6nm,0.3s,baz=110,slow=19,SNR=6.4						
URZ	**Urewera**	**18.25**	**193**	P	**P**	**14 35 38.6**	**-0.1**
	1.4nm,0.3s,baz=287,slow=3.2,SNR=14						
URZ				S	**S**	**14 38 35.4**	**-4.9**
	0.2nm,0.3s,baz=66,slow=20,SNR=3.0						
RPZ	**Rata Peaks**	**24.97**	**199**	P	**P**	**14 36 42.3**	**+3.0**
	2.2nm,0.6s,baz=11,slow=5.6,SNR=3.7						
CTA	**Charters Tower**	**33.70**	**264**	P	**P**	**14 37 54.9**	**-0.6**
	4.5nm,0.4s,baz=96,slow=10,SNR=7.5						
STKA	**Stephens Creek**	**37.98**	**244**	P	**P**	**14 38 30.8**	**-0.1**
	1.7nm,0.7s,baz=80,slow=12,SNR=3.8						
JAY	**Jayapura**	**44.24**	**288**	P	**P**	**14 39 19.9**	**-1.1**
	1.9nm,0.6s,baz=90,slow=20,SNR=9.5						
ASAR	**Alice Springs**	**44.73**	**257**	P	**P**	**14 39 23.9**	**-0.8**
	7.5nm,0.6s,baz=88,slow=8.5,SNR=65						
ASAR				PcP	**PcP**	**14 40 55.0**	**-1.5**
	0.7nm,0.5s,baz=89,slow=4.9,SNR=4.0						
WRA	**Warramunga Arr**	**44.81**	**262**	P	**P**	**14 39 23.7**	**-1.6**
	4.5nm,0.3s,baz=96,slow=7.6,SNR=95						
MJAR	**Matsushiro Arr**	**70.33**	**324**	P	**P**	**14 42 17.5**	**-1.7**
	1.1nm,0.5s,baz=145,slow=6.2,SNR=5.8						
PETK	**Petropavlovsk-**	**76.32**	**345**	P	**P**	**14 42 51.7**	**-1.3**
	1.8nm,0.7s,baz=111,slow=8.0,SNR=4.6						
KSRS	**Korea Array**	**77.02**	**318**	P	**P**	**14 42 57.0**	**-0.2**
	0.6nm,0.6s,baz=117,slow=5.2,SNR=4.6						
USRK	**Ussuriysk Ar.**	**79.08**	**326**	P	**P**	**14 43 07.9**	**-0.3**
	1.9nm,0.7s,baz=158,slow=4.2,SNR=5.9						
TXAR	**Lajitas Array**	**86.87**	**57**	P	**P**	**14 43 49.8**	**+1.9**
	1.0nm,0.7s,baz=228,slow=6.2,SNR=9.3						
ILAR	**Eielson Array**	**88.26**	**13**	P	**P**	**14 43 51.6**	**-1.8**
	0.3nm,0.8s,baz=235,slow=3.2,SNR=3.1						
PDAR	**Pinedale Array**	**88.81**	**43**	P	**P**	**14 43 56.7**	**-0.1**
	0.7nm,0.6s,baz=194,slow=3.3,SNR=6.8						
AKASG	**Malin Array Be**	**143.11**	**331**	PKhKP	PKPpre	14 50 28.0	
	3.7nm,0.9s,baz=43,slow=4.4,SNR=8.5						
BRTR	**Keskin Array B**	**146.99**	**312**	PKPbc	**PKPdf**	**14 50 40.9**	**+0.9**
	0.9nm,0.5s,baz=124,slow=4.4,SNR=4.4						
GERES	**GERESS Array B**	**150.25**	**345**	PKPbc	**PKPdf**	**14 50 47.9**	**+3.1**
	0.3nm,0.2s,baz=34,slow=2.5,SNR=3.6						

*IDC **06** 14:32:37.2±1.2, 10°.95S×163°.77E, h0km, mb4.4/8, mb1 4.5/10, mb1mx4.1/33, mbtmp4.4/10, ML4.4/2, MS3.9/15, Ms1 3.9/15, ms1mx3.6/31, Error ellipse: s-maj=32.5km s-min=22.6km az=102.0*
*ISCJB **06** 14:32:39.1±0.8, 11°.13S±0°.08×163°.86E±0°.09, h29km, mb4.3/12, MS3.8/12, Error ellipse: s-maj=14.9km s-min=8.1km az=142.7*
*NEIC **06** 14:32:43.4±2.1, 10°.90S×163°.75E, h43km±17km, mb4.5/6, Error ellipse: s-maj=19.2km s-min=14.8km az=66.0*

ISC 06 14:32:41.5±0.9, 11°.00S±0°.09×163°.9E±0°.1, h29km, n40, σ1°52/28, mb4.4/12, MS3.8/12, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**4.17**	**292**	P	**Pn**	**14 33 42.5**	**-0.8**
	54nm,0.3s,baz=151,slow=4.7,SNR=44						
HNR				Sn	**Sn**	**14 34 31.5**	**+0.4**
	29nm,0.3s,baz=198,slow=19,SNR=3.5						
HNR				LR	LR	14 35 20.6	
	comp=Z,3μm,18.8s,baz=110,slow=40						
HNR	**Honiara**	**4.17**	**292**	*e*P	**Pn**	**14 33 43.0**	**-0.3**
HNR				*e*S	**Sn**	**14 34 33.0**	**+1.9**
HNR	**Honiara**	**4.17**	**292**	*e*Pn	**Pn**	**14 33 42.9**	**-0.3**
HNR				Sn	**Sn**	**14 34 31.5**	**+0.4**
DZM	**Mont Dzumac**	**11.28**	**168**	Pn	**Pn**	**14 35 22.5**	**+1.5**
	1.2nm,0.3s,baz=320,slow=16,SNR=9.6						
DZM				Sn	**Sn**	**14 37 22.5**	**-3.7**
	0.2nm,0.3s,baz=323,slow=20,SNR=2.5						
DZM				LR	LR	14 39 14.4	
	comp=Z,451nm,18.1s,baz=6.0,slow=35						
DZM	**Mont Dzumac**	**11.28**	**168**	*e*Pn	**Pn**	**14 35 21.4**	**+0.4**
	24nm,0.7s						
DZM				*e*LR	LR	14 38 10.5	
	438nm,22.4s						
PMG	**Port Moresby**	**16.53**	**274**	LR	LR	14 42 46.3	
	comp=Z,739nm,18.9s,baz=120,slow=37						
CTA	**Charters Tower**	**19.22**	**240**	P	**Pn**	**14 37 05.0**	**+0.4**
	0.6nm,0.3s,baz=62,slow=11,SNR=8.1						
CTAO	**Charters Tower**	**19.22**	**240**	*e*P	**Pn**	**14 37 05.1**	**+0.4**
	29nm,1.0s						
COEN	**Coen**	**20.43**	**260**	*e*P	**P**	**14 37 16.9**	**+0.2**
	35nm,1.0s						
STKA	**Stephens Creek**	**29.24**	**221**	P	**P**	**14 38 40.0**	**-1.0**
	5.9nm,0.9s,baz=19,slow=13,SNR=6.2						
STKA				LR	LR	14 49 38.9	
	comp=Z,358nm,18.4s,baz=29,slow=35						
H11S2	**WAKE ISLAND Hy**	**29.44**	**5**	T	T	15 09 38.2	
	baz=188,slow=76,SNR=8.6						
H11S3	**WAKE ISLAND Hy**	**29.44**	**5**	T	T	15 09 25.4	
	baz=188,slow=76,SNR=8.4						
H11S1	**WAKE ISLAND Hy**	**29.45**	**5**	T	T	15 09 29.4	
	baz=188,slow=76,SNR=7.4						
WRAB	**Tennant Creek**	**29.77**	**249**	*e*P	**P**	**14 38 44.8**	**-1.1**
	6.3nm,0.6s						
WB2	**Warramunga Arr**	**29.77**	**249**	*e*P	**P**	**14 38 44.6**	**-1.3**
WRA	**Warramunga Arr**	**29.78**	**249**	P	**P**	**14 38 45.0**	**-1.1**
	10nm,0.8s,baz=80,slow=9.3,SNR=87						
WRA				LR	LR	14 51 06.8	
	comp=Z,326nm,18.6s,baz=70,slow=37						
H11N1	**WAKE ISLAND Hy**	**30.66**	**6**	T	T	15 11 01.0	
	baz=186,slow=74						
H11N3	**WAKE ISLAND Hy**	**30.67**	**6**	T	T	15 11 00.9	
	baz=186,slow=74						
H11N2	**WAKE ISLAND Hy**	**30.68**	**6**	T	T	15 10 55.4	
	baz=186						
AS01	**Alice Springs**	**31.14**	**242**	*e*P	**P**	**14 38 56.8**	**-1.2**
AS31	**Alice Springs**	**31.18**	**242**	*e*P	**P**	**14 38 56.8**	**-1.6**
	2.1nm,0.6s						
ASAR	**Alice Springs**	**31.18**	**242**	P	**P**	**14 38 57.1**	**-1.3**
	4.6nm,0.9s,baz=64,slow=9.9,SNR=48						
ASAR				LR	LR	14 51 05.0	
	comp=Z,233nm,19.2s,baz=65,slow=36						
FITZ	**Fitzroy Crossi**	**37.62**	**255**	*e*P	**P**	**14 39 52.5**	**-1.7**

CHPI				*i* S	Sn	14 42 49.1	+0.7		
NICH	**Los Niches**	**0.87**	**80**	*e*P	Pn	14 42 41.6	+2.9		
NICH				*i* S	Sn	14 42 53.9	+3.7		
COCH	**Cobquecura**	**1.05**	**203**	⇑*i*P	Pn	14 42 42.0	+0.9		
COCH				*i* S	Sn	14 42 55.5	+0.9		
CLCH	**Cerro Calan**	**2.28**	**40**	*e*S	Sn	14 43 27.7	+2.9		
CLCH				IAML		14 43 36.0			
	comp=E,588nm,0.5s								
PEL	**Peldehue**	**2.41**	**34**	*e*P	Pn	14 43 01.8	+2.0		
PEL				*i* S	Sn	14 43 30.5	+2.4		
PEL				IAML		14 43 42.4			
	comp=N,258nm,0.5s								
ROCH	**El Roble**	**2.42**	**26**	*e*P	Pn	14 43 02.0	+1.8		
ROCH				*e*S	Sn	14 43 31.9	+3.2		
ROCH				IAML		14 43 42.7			
	comp=N,363nm,0.4s								
FCH	**Farellones**	**2.46**	**43**	*e*P	Pn	14 43 02.7	+2.0		
FCH				IAML		14 43 43.6			
	comp=N,302nm,0.2s								

MEX 06 14:59:44.5±0.3, 14°05N×92°26W, h15km, MD3.9, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CCIG	**Comitan**	**2.22**	**3**	*e*P	Pn	15 00 18.4	-2.7
CCIG				*i* S	Sn	15 00 44.0	-4.3
TGIG		**2.84**	**343**	*i* P	Pn	15 00 27.0	-2.4
TGIG				*i* S	Sn	15 00 59.7	-3.7

*ISCJB **06** 15:01:39.1±0.7, 17°.6S±0°.1×178°.6W±0°.1, h547km, mb4.0/8, Error ellipse: s-maj=17.6km s-min=12.7km az=34.6*
*IDC **06** 15:01:39.6±1.6, 17°.48S×178°.66W, h535km±19km, mb3.3/8, mb1 3.5/10, mb1mx3.2/32, mbtmp4.3/10, Error ellipse: s-maj=22.7km s-min=14.9km az=126.0*

ISC 06 15:01:40.3±0.8, 17°.6S±0°.1×178°.7W±0°.1, h547km, n15, σ1§30/19, mb4.0/8, 2C, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**7.59**	**62**	P	**P**	**15 03 33.7**	**-0.3**
	6.9nm,0.3s,baz=198,slow=3.2,SNR=6.7						
DZM	**Mont Dzumac**	**14.69**	**250**	P	**P**	**15 04 46.8**	**+0.1**
	1.5nm,0.3s,baz=119,slow=17,SNR=12						
URZ	**Urewera**	**20.91**	**189**	P	**P**	**15 05 45.0**	**+0.5**
	6.9nm,0.7s,baz=278,slow=3.3,SNR=7.4						
URZ				S	**S**	**15 08 60.0**	**-2.1**
	3.9nm,0.8s,baz=90,slow=20,SNR=1.7						
RPZ	**Rata Peaks**	**27.44**	**196**	P	**P**	**15 06 42.5**	**0.0**
	3.7nm,0.7s,baz=61,slow=2.1,SNR=5.1						
STKA	**Stephens Creek**	**38.55**	**241**	P	**P**	**15 08 17.9**	**+1.3**
	6.2nm,0.7s,baz=90,slow=11,SNR=19						
JAY	**Jayapura**	**42.58**	**286**	P	**P**	**15 08 48.7**	**-0.1**
	3.9nm,1.2s,baz=91,slow=23,SNR=4.8						
WRA	**Warramunga Arr**	**44.44**	**259**	P	**P**	**15 09 02.5**	**-0.7**
	4.8nm,0.4s,baz=95,slow=7.2,SNR=148						
WRA				PcP	**PcP**	**15 10 35.4**	**+0.4**
	0.8nm,0.5s,baz=93,slow=3.3,SNR=4.6						
ASAR	**Alice Springs**	**44.63**	**254**	P	**P**	**15 09 05.0**	**+0.4**
	41nm,0.5s,baz=86,slow=8.3,SNR=367						
ASAR				PcP	**PcP**	**15 10 36.5**	**+0.9**
	1.2nm,0.5s,baz=101,slow=3.8,SNR=4.9						
ASAR				ScP	**ScP**	**15 13 37.4**	**+1.4**
	0.5nm,0.6s,baz=88,slow=5.7,SNR=4.5						
ASAR				S	**S**	**15 14 58.4**	**-3.0**
	1.0nm,1.0s,baz=88,slow=16,SNR=6.2						
PETK	**Petropavlovsk-**	**73.32**	**345**	P	**P**	**15 12 14.5**	**-1.7**
	2.9nm,0.9s,baz=174,slow=5.8,SNR=3.8						
ILAR	**Eielson Array**	**85.65**	**13**	P	**P**	**15 13 20.0**	**-0.8**
	0.2nm,0.4s,baz=201,slow=6.4,SNR=3.6						
CMAR	**Chiang Mai Arr**	**88.54**	**290**	P	**P**	**15 13 37.4**	**+2.0**
	0.6nm,0.6s,baz=131,slow=3.7,SNR=3.7						
BURAR	**Bucovina Array**	**144.22**	**332**	⇑*i*P	PKPbc	15 20 14.9	+1.0
BRTR	**Keskin Array B**	**144.39**	**315**	PKP	**PKPdf**	**15 20 14.9**	**+0.1**
	1.1nm,0.7s,baz=94,slow=2.5,SNR=7.0						
DRGR		**145.95**	**333**	⇑*i*P	**PKPbc**	**15 20 19.7**	**+0.7**
GERES	**GERESS Array B**	**147.25**	**345**	PKPbc	**PKPbc**	**15 20 22.9**	**+0.4**
	1.0nm,0.6s,baz=29,slow=3.0,SNR=5.7						

*ISK **06** 15:01:54.4, 37°.23N×28°.33E, h24km, MD2.5*
*CSEM **06** 15:01:55.9±0.5, 37°.32N×28°.29E, h30km, MD2.5, Error ellipse: s-maj=11.4km s-min=9.0km az=41.0*
*ISCJB **06** 15:01:56.8±0.8, 37°.27N±0°.04×28°.26E±0°.05, h0km, Error ellipse: s-maj=6.0km s-min=4.7km az=42.9*
*DDA **06** 15:01:57.0, 37°.25N×28°.26E, h7km, Md2.5, Suspected Mining explosion.*

ISC 06 15:01:55.3±1.1, 37°.25N±0°.04×28°.26E±0°.04, h0km, n14, σ0§49/25, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MLSB	**Milas**	**0.39**	**277**	*e*PG	**Pg**	**15 02 03.7**	**+0.9**
MLSB				*e*SG	**Sb**	**15 02 11.3**	**-0.4**
MLSB	**Milas**	**0.39**	**277**	*e*Pg	**Pg**	**15 02 03.7**	**+0.9**
MLSB				*e*Sg	**Sb**	**15 02 11.3**	**-0.4**
TURN	**Turunc**	**0.46**	**144**	*i* P	**Pb**	**15 02 06.5**	**+0.1**
TURN				*i* S	**Sb**	**15 02 13.6**	**-0.2**
TURN	**Turunc**	**0.46**	**144**	P	**Pb**	**15 02 06.5**	**+0.1**
TURN				S	**Sb**	**15 02 13.6**	**-0.2**
BDRM	**Kayabasi**	**0.68**	**255**	*i* P	**Pb**	**15 02 10.7**	**+0.6**
BDRM				*i* S	**Sb**	**15 02 20.1**	**+0.1**
BDRM	**Kayabasi**	**0.68**	**255**	P	**Pb**	**15 02 10.7**	**+0.6**
BDRM				S	**Sb**	**15 02 20.1**	**+0.1**
DAT	**Datca**	**0.75**	**227**	*e*PG	**Pg**	**15 02 10.1**	**+0.3**
DAT				*e*SG	**Sb**	**15 02 22.3**	**+0.1**
DAT	**Datca**	**0.75**	**227**	*i* P	**Pn**	**15 02 12.8**	**-0.5**
DAT	**Datca**	**0.75**	**227**	*e*Pg	**Pg**	**15 02 10.1**	**+0.3**
DAT	**Datca**	**0.75**	**227**	P	**Pn**	**15 02 12.9**	**-0.5**
DAT				*e*Sg	**Sb**	**15 02 22.3**	**+0.1**
AYDB	**Zeytinkoy-Aydi**	**0.76**	**337**	*e*PG	**Pg**	**15 02 10.1**	**+0.2**
AYDB				*e*SG	**Sb**	**15 02 22.7**	**+0.3**
AYDB	**Zeytinkoy-Aydi**	**0.76**	**337**	*e*Pg	**Pg**	**15 02 10.1**	**+0.2**
BODT	**Bodrum**	**0.78**	**257**	*e*PG	**Pb**	**15 02 11.2**	**-0.6**
BODT				*e*SG	**Sb**	**15 02 22.4**	**-0.6**
BODT	**Bodrum**	**0.78**	**257**	*e*Pg	**Pb**	**15 02 11.2**	**-0.6**
BODT				*e*Sg	**Sb**	**15 02 22.4**	**-0.6**

*IDC **06** 15:13:32.2±0.5, 10°.97S×163°.76E, h0km, mb4.5/19, mb1 4.7/23, mb1mx4.6/37, mbtmp4.5/23, ML4.5/3, MS4.3/18, Ms1 4.3/18, ms1mx4.2/21, Error ellipse: s-maj=16.3km s-min=13.8km az=108.0*
*BJI **06** 15:13:33.0, 11°.06S×163°.54E, h9km, mb4.8/39, mB5.3/37, Ms4.9/29, Ms7 4.5/29*
*NEIC **06** 15:13:34.1±2.6, 10°.92S×163°.83E, h15km±16km, mb4.9/49, Error ellipse: s-maj=6.4km s-min=4.9km az=166.0*
NEIC Felt at Honiara.
*ISCJB **06** 15:13:34.4±0.2, 11°.03S±0°.04×163°.84E±0°.03, h29km, mb4.8/81, MS4.4/28, Error ellipse: s-maj=6.3km s-min=4.7km az=3.8*
*GCMT **06** 15:13:34.1±0.2, 10°.83S×163°.75E, h15km±1km, MW5.1/89, Moment Tensor Solution. s47,c61; s89,c141; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-0.89±.12; $M_{\theta\theta}$-1.54±.11; $M_{\phi\phi}$2.43±.11; $M_{r\theta}$1.75±.39; $M_{\theta\phi}$3.66±.10; $M_{\phi r}$-2.62±.42; Best double couple: $M_0$5.25600×10^{16} NP1:ϕ349.00000°, δ79.00000°, λ-145.00000°. NP2: ϕ251.00000°, δ56.00000°, λ-14.00000°. Principal axes: T 4.9810, Plg15.0000°, Azm116.0000°; N 0.5510, Plg53.0000°, Azm4.0000°; P -5.5320, Plg32.0000°, Azm216.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*MOS **06** 15:13:36.0±0.9, 10°.92S×163°.76E, h41km, mb5.1/23, MS4.3/4 Error ellipse: s-maj=9.8km s-min=8.6km az=176.8*

ISC 06 15:13:36.0±0.3, 11°.09S±0°.05×163°.94E±0°.05, h29km, n172, σ1§74/192, mb4.9/80, MS4.4/28, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**4.26**	**292**	Pn	**Pn**	**15 14 37.4**	**-1.5**
	56nm,0.3s,baz=146,slow=6.2,SNR=59						
HNR				Sn	**Sn**	**15 15 25.7**	**-2.0**
	34nm,0.3s,baz=135,slow=20,SNR=3.6						
HNR				LR	LR	15 16 24.3	
	comp=Z,12μm,18.8s,baz=118,slow=42						
HNR	**Honiara**	**4.26**	**292**	*e*P	**Pn**	**15 14 37.0**	**-1.9**
HNR				*e*S	**Sn**	**15 15 27.0**	**-0.7**
DZM	**Mont Dzumac**	**11.18**	**168**	Pn	**Pn**	**15 16 15.5**	**+1.5**
	2.9nm,0.3s,baz=11,slow=8.3,SNR=30						
DZM				Sn	**Sn**	**15 18 16.4**	**-1.8**
	1.1nm,0.3s,baz=330,slow=15,SNR=3.1						
DZM				LR	LR	15 19 59.0	
	comp=Z,1μm,18.9s,baz=5.0,slow=34						
DZM	**Mont Dzumac**	**11.18**	**168**	*e*Pn	**Pn**	**15 16 16.2**	**+2.1**
	174nm,1.3s						
DZM				*e*LR	LR	15 18 21.8	
	1μm,22.9s						
MSVF	**Nonsavu**	**15.18**	**117**	*e*P	**Pn**	**15 17 10.2**	**+1.7**
MSVF				pmax	pmax		
	comp=Z,160nm,1.7s						
MSVF	**Nonsavu**	**15.18**	**117**	*e*Pn	**Pn**	**15 17 10.2**	**+1.7**
	comp=Z,160nm,1.7s						
TARA	**Tarawa**	**15.25**	**36**	*e*Pn	**Pn**	**15 17 07.1**	**-2.4**
	comp=Z,1μm,2.0s						
PMG	**Port Moresby**	**16.60**	**274**	Pn	**Pn**	**15 17 25.4**	**-1.4**
	comp=Z,0.3nm,0.3s,baz=99,slow=9.1,SNR=3.1						
PMG				LR	LR	15 23 40.1	
	comp=Z,3μm,19.5s,baz=123,slow=37						
EIDS	**Eidsvold**	**18.71**	**219**	*e*P	**Pn**	**15 17 54.5**	**+1.7**
	comp=Z,70nm,1.2s						
CTA	**Charters Tower**	**19.23**	**240**	P	**Pn**	**15 17 58.9**	**-0.2**
	comp=Z,0.8nm,0.3s,baz=70,slow=13,SNR=19						
CTAO	**Charters Tower**	**19.23**	**240**	*e*P	**Pn**	**15 17 58.5**	**-0.6**
CTAO				pmax	pmax		
	comp=Z,61nm,1.0s						
CTAO	**Charters Tower**	**19.23**	**240**	*e*Pn	**Pn**	**15 17 58.5**	**-0.6**
	comp=Z,61nm,1.0s						
COEN	**Coen**	**20.47**	**260**	*e*P	**P**	**15 18 11.9**	**+0.3**
	comp=Z,74nm,0.9s						
ARMA	**Armidale**	**22.38**	**209**	*e*P	**P**	**15 18 33.4**	**+1.3**
	comp=Z,46nm,1.3s						
AFI	**Afiamalu**	**23.87**	**99**	LR	LR	15 26 22.8	
	comp=Z,1μm,19.0s,baz=280,slow=32						
RAO	**Raoul Island**	**24.77**	**139**	LR	LR	15 28 08.5	
	comp=Z,340nm,18.3s,baz=330,slow=35						
STKA	**Stephens Creek**	**29.21**	**222**	P	**P**	**15 19 36.1**	**+0.8**
	comp=Z,13nm,0.8s,baz=33,slow=12,SNR=17						
STKA				LR	LR	15 30 33.0	
	comp=Z,1μm,19.4s,baz=36,slow=35						
STKA	**Stephens Creek**	**29.21**	**222**	*e*P	**P**	**15 19 35.9**	**+0.6**
	comp=Z,9.1nm,1.4s						
URZ	**Urewera**	**29.52**	**159**	LR	LR	15 30 36.4	
	comp=Z,819nm,18.6s,baz=342,slow=34						
WRAB	**Tennant Creek**	**29.80**	**249**	*e*P	**P**	**15 19 37.6**	**-3.0**
WRAB				pmax	pmax		
	comp=Z,40nm,1.1s						
WRAB	**Tennant Creek**	**29.80**	**249**	*e*P	**P**	**15 19 38.2**	**-2.4**
	comp=Z,92nm,1.6s						
WB2	**Warramunga Arr**	**29.80**	**249**	*e*P	**P**	**15 19 38.3**	**-2.4**
WRA	**Warramunga Arr**	**29.81**	**249**	P	**P**	**15 19 38.8**	**-1.9**
	comp=Z,23nm,0.7s,baz=80,slow=9.3,SNR=151						
WRA				S	**S**	**15 24 30.4**	**-5.5**
	comp=Z,5.6nm,0.9s,baz=78,slow=15,SNR=8.5						
WRA				LR	LR	15 32 00.9	
	comp=Z,949nm,18.6s,baz=65,slow=37						
H11N1	**WAKE ISLAND Hy**	**30.75**	**5**	T	T	15 51 45.7	
	baz=184,slow=76,SNR=9.9						
H11N3	**WAKE ISLAND Hy**	**30.75**	**5**	T	T	15 51 52.6	
	baz=184,slow=76,SNR=11						
H11N2	**WAKE ISLAND Hy**	**30.76**	**5**	T	T	15 51 50.4	
	baz=184,slow=76,SNR=10						
GUMO	**Guam**	**30.97**	**322**	LR	LR	15 32 02.7	
	comp=Z,409nm,20.6s,baz=138,slow=36						
AS31	**Alice Springs**	**31.19**	**242**	*e*P	**P**	**15 19 51.1**	**-1.9**
	comp=Z,3.8nm,1.0s						
ASAR	**Alice Springs**	**31.20**	**242**	P	**P**	**15 19 51.1**	**-1.8**
	comp=Z,5.6nm,0.7s,baz=68,slow=9.7,SNR=42						
ASAR				LR	LR	15 32 09.1	
	comp=Z,880nm,18.4s,baz=69,slow=36						
RPZ	**Rata Peaks**	**33.09**	**171**	P	**P**	**15 20 11.4**	**+2.1**
	comp=Z,3.5nm,0.5s,baz=326,slow=1.6,SNR=5.0						
RAR	**Rarotonga**	**36.20**	**111**	LR	LR	15 32 26.0	
	comp=Z,442nm,21.4s,baz=280,slow=31						
FITZ	**Fitzroy Crossi**	**37.66**	**255**	P	**P**	**15 20 46.5**	**-2.4**
	comp=Z,22nm,0.7s,baz=81,slow=8.0,SNR=95						
FITZ	**Fitzroy Crossi**	**37.66**	**255**	*e*P	**P**	**15 20 46.7**	**-2.2**
	comp=Z,20nm,0.7s						
PAE	**Paea**	**45.41**	**104**	*e*P	**P**	**15 21 52.0**	**-0.5**
	comp=Z,11nm,1.1s						
PPT	**Papeete**	**45.41**	**104**	P	**P**	**15 21 54.7**	**+2.2**
	comp=Z,44nm,0.9s,baz=208,slow=4.8,SNR=4.4						
PPT				LR	LR	15 37 21.2	
	comp=Z,456nm,18.2s,baz=300,slow=31						
PPT2	**Papeete2**	**45.41**	**104**	*e*P	**P**	**15 21 52.4**	**-0.2**
	comp=Z,84nm,1.5s						
PPT2				*e*S	**S**	**15 28 28.2**	**-4.2**
	comp=Z,202nm,25.8s						
PPT2				*e*LQ	LQ	15 32 48.4	
	comp=Z,966nm,26.2s						
PPT2				*e*LR	LR	15 34 41.2	
	comp=Z,292nm,20.5s						
TIAR	**Tiarei**	**45.63**	**104**	*e*P	**P**	**15 21 54.0**	**-0.2**
	comp=Z,36nm,1.5s						
TVO	**Taravao**	**45.72**	**104**	*e*P	**P**	**15 21 54.8**	**-0.3**
	comp=Z,53nm,1.6s						
TBI	**Tubuai**	**45.96**	**112**	*e*S	**S**	**15 28 36.4**	**-3.7**
	comp=Z,226nm,29.5s						
TBI				*e*LQ	LQ	15 33 00.3	
	comp=Z,778nm,31.0s						
TBI				*e*LR	LR	15 34 57.8	
	comp=Z,1μm,29.5s						
VAH	**Vaihoa**	**47.27**	**101**	*e*P	**P**	**15 22 07.0**	**-0.1**
	comp=Z,188nm,1.5s						
OPA	**Opana**	**49.56**	**49**	*e*P	**P**	**15 22 24.2**	**-0.4**
OPA				pmax	pmax		
	comp=Z,37nm,0.7s						
OPA	**Opana**	**49.56**	**49**	*e*P	**P**	**15 22 24.2**	**-0.4**
	comp=Z,37nm,0.7s						
MJAR	**Matsushiro Arr**	**53.21**	**334**	P	**P**	**15 22 50.9**	**-0.9**
	comp=Z,0.9nm,0.4s,baz=169,slow=7.4,SNR=5.8						
MJAR				LR	LR	15 44 31.1	
	comp=Z,131nm,21.4s,baz=85,slow=35						
MAJO	**Matsushiro**	**53.22**	**334**	*e*P	**P**	**15 22 47.8**	**-4.0**
MAJO				pmax	pmax		
	comp=Z,26nm,1.0s						
YULB	**Yu-li**	**53.99**	**310**	*e*P	**P**	**15 22 57.0**	**-0.7**
	comp=Z,13nm,0.9s						
TPUB	**Ta-pu**	**54.44**	**309**	*e*P	**P**	**15 22 59.6**	**-1.5**
	comp=Z,123nm,2.0s						
KSRS	**Korea Array**	**58.93**	**327**	P	**P**	**15 23 31.8**	**-0.8**
	comp=Z,2.6nm,1.0s,baz=139,slow=7.2,SNR=7.8						
KSAR	**Wonju Array Be**	**58.94**	**327**	P	**P**	**15 23 31.8**	**-0.9**
KSAR	**Wonju Array Be**	**58.94**	**327**	P	**P**	**15 23 31.8**	**-0.9**
KS01	**Wonju Array Si**	**58.96**	**327**	*e*P	**P**	**15 23 32.9**	**+0.1**
RKT	**Rikitea**	**59.24**	**110**	*e*LR	LR	15 40 54.2	
	comp=Z,1μm,28.2s						
QIZ	**Qiongzhong**	**61.14**	**299**	P	**P**	**15 23 47.7**	**-0.5**
QIZ				S	**S**	**15 32 06.5**	**+0.4**
QIZ				pmax	pmax		
	comp=Z,93nm,10.8s						
QIZ				LR	LR		
	comp=Z,120nm,16.8s						
QIZ				LR	LR		
	comp=Z,210nm,21.1s						
QIZ				LR	LR		
	comp=Z,340nm,20.6s						
SKR	**Severo-Kuril's**	**61.89**	**354**	*e*P	P	15 23 57.8	+5.3
SKR				*e*		15 24 13.8	
SKR				*e*		15 33 30.5	
SKR				pmax	pmax		
	comp=Z,52nm,1.5s						
SKR				pmax	pmax		
	comp=Z,300nm,2.3s						
SKR				MLR	MLR		
	comp=Z,300nm,16.0s						
USRK	**Ussuriysk Ar.**	**62.21**	**335**	P	**P**	**15 23 55.9**	**+1.0**
	comp=Z,6.0nm,1.0s,baz=142,slow=7.3,SNR=7.9						
USRK				LR	LR	15 48 27.0	
	comp=Z,153nm,21.9s,baz=144,slow=34						
WHN	**Wuhan**	**63.10**	**313**	P	P	15 24 08.6	+7.5
WHN				S	**S**	**15 32 34.4**	**+3.9**
WHN				LR	LR		
	comp=Z,570nm,17.3s						
MDJ	**Mudanjiang**	**63.57**	**333**	P	**P**	**15 24 08.6**	**+4.6**
MDJ				pP	pP	15 24 11.8	-1.2
MDJ				sP	sP	15 24 13.1	-3.3
MDJ				PcP	**PcP**	**15 24 43.4**	**+3.1**
MDJ				PP	**PP**	**15 26 26.0**	**+1.8**
MDJ				ScS	**ScS**	**15 33 59.3**	**+4.0**
MDJ				pmax	pmax		
	comp=Z,12nm,1.7s						
MDJ				pmax	pmax		
	comp=Z,78nm,3.2s						
MDJ				LR	LR		
	comp=Z,130nm,29.1s						
MDJ				LR	LR		
	comp=Z,130nm,26.2s						
MDJ				LR	LR		
	comp=Z,140nm,21.9s						
PETK	**Petropavlovsk-**	**64.16**	**356**	P	**P**	**15 24 08.5**	**+0.8**
	comp=Z,1.5nm,0.8s,baz=173,slow=5.8,SNR=3.2						
PETK				LR	LR	15 46 25.8	
	comp=Z,206nm,21.5s,baz=171,slow=31						
CN2	**Changchun**	**64.88**	**330**	*e*P	**P**	**15 24 14.4**	**+1.8**
CN2				*e*S	**S**	**15 32 53.5**	**+1.4**
CN2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
CN2				pmax	pmax		
	comp=Z,200nm,4.0s						
CN2				LR	LR		
	comp=Z,300nm,18.0s						
CN2				LR	LR		
	comp=Z,200nm,18.0s						
CN2				LR	LR		
	comp=Z,300nm,22.0s						
KLR	**Kul'dur**	**66.41**	**338**	*e*P	**P**	**15 24 20.0**	**-2.3**
VNDA	**Vanda**	**66.43**	**180**	P	**P**	**15 24 24.6**	**+2.6**
	comp=Z,2.2nm,0.8s,baz=15,slow=7.5,SNR=7.1						
VNDA	**Vanda**	**66.43**	**180**	*e*P	**P**	**15 24 24.5**	**+2.4**
	comp=Z,8.0nm,1.2s						
SBA	**Scott Base**	**66.77**	**179**	*e*P	**P**	**15 24 26.8**	**+2.6**
SBA				pmax	pmax		
	comp=Z,9.0nm,1.0s						
SBA	**Scott Base**	**66.77**	**179**	*e*P	**P**	**15 24 26.8**	**+2.6**
	comp=Z,9.0nm,1.0s						
GYA	**Guiyang**	**66.98**	**305**	P	**P**	**15 24 27.4**	**+0.8**
GYA				pP	pP	15 24 32.9	-2.8
GYA				PP	**PP**	**15 26 57.5**	**+2.9**
GYA				S	**S**	**15 33 18.0**	**-0.6**
GYA				sS	pS	15 33 26.7	-3.0
GYA				pmax	pmax		
	comp=Z,20nm,0.9s						
GYA				pmax	pmax		
	comp=Z,120nm,5.8s						
BJI	**Beijing**	**67.41**	**322**	P	**P**	**15 24 29.4**	**+0.5**
BJI				S	**S**	**15 33 25.8**	**+2.9**
BJI				pmax	pmax		
	comp=Z,4.0nm,0.7s						
BJI				pmax	pmax		
	comp=Z,83nm,3.8s						
BJI				LR	LR		
	comp=Z,330nm,21.3s						
BJI				LR	LR		
	comp=Z,200nm,19.7s						
BJI				LR	LR		
	comp=Z,270nm,27.9s						
XAN	**Xi'an**	**68.85**	**313**	P	**P**	**15 24 38.5**	**+0.4**
XAN				pP	pP	15 24 44.4	-2.8
XAN				pmax	pmax		
	comp=Z,6.0nm,0.8s						
XAN				pmax	pmax		
	comp=Z,110nm,9.1s						
KMI	**Kunming**	**69.64**	**302**	P	**P**	**15 24 43.9**	**+0.5**
KMI				pP	pP	15 24 47.8	-4.7
KMI				sP	sP	15 24 49.3	-6.6
KMI				PP	**PP**	**15 27 12.4**	**-5.3**
KMI				S	**S**	**15 33 49.1**	**-1.4**
KMI				sS	pS	15 33 56.9	-4.8
KMI				SS	**SS**	**15 38 18.5**	**-0.6**
KMI				pmax	pmax		
	comp=Z,10.0nm,0.8s						
KMI				pmax	pmax		
	comp=Z,210nm,6.6s						
KMI				LR	LR		
	comp=Z,140nm,16.0s						
KMI				LR	LR		
	comp=Z,190nm,22.2s						
KMI				LR	LR		
	comp=Z,260nm,21.0s						
CM01	**Chiang Mai Arr**	**70.48**	**294**	*e*P	**P**	**15 24 47.0**	**-1.4**
CMAR	**Chiang Mai Arr**	**70.51**	**294**	P	**P**	**15 24 47.7**	**-0.9**
	comp=Z,2.7nm,0.7s,baz=119,slow=4.7,SNR=14						
CMAR	**Chiang Mai Arr**	**70.51**	**294**	*i* P	**P**	**15 24 48.2**	**-0.4**
CMAR				pmax	pmax		
	comp=Z,3.0nm,0.7s						
CHTO	**Chiang Mai**	**70.62**	**294**	*e*P	**P**	**15 24 48.1**	**-1.2**
CHTO				pmax	pmax		
	comp=Z,5.0nm,0.9s						
CHTO	**Chiang Mai**	**70.62**	**294**	*e*P	**P**	**15 24 48.1**	**-1.2**
	comp=Z,4.9nm,0.9s						
HHC	**Hu-ho-hao-te**	**70.73**	**320**	*e*P	**P**	**15 24 52.3**	**+2.7**
HHC				pP	pP	15 25 00.1	+1.4
HHC				sP	sP	15 25 03.6	+1.5
HHC				S	**S**	**15 34 06.6**	**+4.2**
HHC				SS	**SS**	**15 38 38.9**	**+3.7**
HHC				pmax	pmax		
	comp=Z,10.0nm,1.3s						
HHC				pmax	pmax		
	comp=Z,53nm,5.1s						
HHC				LR	LR		
	comp=Z,160nm,12.4s						
HHC				LR	LR		
	comp=Z,220nm,16.2s						
HHC				LR	LR		
	comp=Z,280nm,16.2s						
CD2	**Chengdu**	**71.22**	**308**	P	**P**	**15 24 52.1**	**-0.7**
CD2				pP	pP	15 24 57.2	-4.7
CD2				sP	sP	15 25 02.1	-3.2
CD2				PP	**PP**	**15 27 32.0**	**+0.9**
CD2				S	**S**	**15 34 09.5**	**+1.0**
CD2				SS	**SS**	**15 38 43.5**	**+0.4**
CD2				pmax	pmax		
	comp=Z,10.0nm,0.8s						
CD2				pmax	pmax		
	comp=Z,140nm,7.6s						
CD2				LR	LR		
	comp=Z,220nm,15.2s						
CD2				LR	LR		
	comp=Z,210nm,12.3s						
CD2				LR	LR		
	comp=Z,270nm,20.9s						
LZH	**Lanzhou**	**73.48**	**313**	*e*P	**P**	**15 25 08.0**	**+1.7**
LZH				pP	pP	15 25 13.0	-2.5
LZH				sP	sP	15 25 15.5	-3.4
LZH				*e*PP	**PP**	**15 27 53.1**	**+2.6**
LZH				*e*S	**SKiKP**	**15 34 35.0**	**-0.3**
LZH				sS	pS	15 34 44.5	-1.2
LZH				SS	**SS**	**15 39 20.1**	**+2.5**
LZH				pmax	pmax		
	comp=Z,27nm,1.5s						
LZH				pmax	pmax		
	comp=Z,110nm,7.8s						
LZH				LR	LR		
	comp=Z,280nm,15.6s						
LZH				LR	LR		
	comp=Z,280nm,16.0s						
LZH				LR	LR		
	comp=Z,470nm,19.0s						
SEY	**Seymchan**	**74.33**	**355**	*i* P

BILL				*e*			15 25 44.5	
BILL				*e*			15 28 29.7	
BILL					pmax	pmax		
	comp=Z,9.0nm,0.9s							
SHL	**Shillong**	**78.98**	**299**	*eP*	**P**	**P**	**15 25 38.0**	**+0.2**
ZAK	**Zakamensk**	**80.73**	**326**	*eP*	**P**	**P**	**15 25 45.6**	**-1.0**
ZAK					pmax	pmax		
	comp=Z,5.0nm,1.7s							
TLY	**Talaya**	**81.18**	**327**	*eP*	**P**	**P**	**15 25 50.5**	**+1.6**
TLY				*eS*	**S**	**S**	**15 35 52.0**	**-5.0**
TLY					pmax	pmax		
	comp=Z,10.0nm,1.2s							
TLY					MLR	MLR		
	comp=Z,100nm,15.0s							
TLY	**Talaya**	**81.18**	**327**	*eP*	**P**		**15 25 49.1**	**+0.2**
	comp=Z,15nm,1.4s							
ODAN	**Odare**	**83.22**	**299**	*eP*	**P**		**15 25 59.5**	**-0.9**
	comp=Z,21nm,0.8s							
MAW	**Mawson**	**84.01**	**202**	P	**P**		**15 26 04.5**	**+1.1**
	comp=Z,11nm,0.9s,baz=90,slow=6.5,SNR=14							
MAW	**Mawson**	**84.01**	**202**	*eP*	**P**		**15 26 05.0**	**+1.6**
	comp=Z,4,7nm,0.9s							
IL1	**Eielson Array**	**84.12**	**19**	*eP*	**P**		**15 26 02.4**	**-1.5**
ILAR	**Eielson Array**	**84.12**	**19**	P	**P**		**15 26 03.1**	**-0.9**
	comp=Z,1.0nm,0.6s,baz=246,slow=5.5,SNR=12							
ILAR					LR	LR	15 55 54.5	
	comp=Z,171nm,20.8s,baz=262,slow=30							
ILB	**Eielson Array**	**84.12**	**19**	*eP*	**P**		**15 26 03.0**	**-0.9**
JIRN	**Jiri**	**84.46**	**299**	*eP*	**P**		**15 26 06.2**	**-0.7**
GUN	**Gumba**	**84.79**	**300**	*eP*	**P**		**15 26 07.5**	**-1.1**
	comp=Z,17nm,0.7s							
PKI	**Pulchoki**	**85.11**	**299**	*eP*	**P**		**15 26 09.3**	**-0.8**
	comp=Z,18nm,0.9s							
PKIN	**Phulchoki**	**85.12**	**299**	*eP*	**P**		**15 26 09.5**	**-0.6**
	comp=Z,18nm,0.7s							
HUMO	**Hull Mountain**	**85.31**	**45**	*eP*	**P**		**15 26 09.6**	**-0.8**
	comp=Z,8.6nm,1.0s							
ORV	**Oroville**	**85.36**	**48**	*eP*	**P**		**15 26 10.1**	**-0.7**
ORV					pmax	pmax		
	comp=Z,5.0nm,1.0s							
ORV	**Oroville**	**85.36**	**48**	*eP*	**P**		**15 26 10.1**	**-0.7**
	comp=Z,5.1nm,1.0s							
DMN	**Daman**	**85.38**	**299**	*eP*	**P**		**15 26 10.5**	**-0.9**
AFDM	**Forest Hills D**	**85.56**	**49**	*eP*	**P**		**15 26 11.5**	**-0.3**
	comp=Z,9.3nm,1.1s							
CMB	**Columbia Colle**	**85.72**	**50**	*eP*	**P**		**15 26 12.3**	**-0.4**
CMB					pmax	pmax		
	comp=Z,59nm,1.4s							
CMB	**Columbia Colle**	**85.72**	**50**	*eP*	**P**		**15 26 12.2**	**-0.4**
	comp=Z,59nm,1.4s							
GKN	**Gorkha**	**85.88**	**299**	*eP*	**P**		**15 26 12.4**	**-1.4**
MDRS	**Chennai**	**86.44**	**284**	*ex*	P		15 26 24.8	+8.3
MDRS				*ex*	x		15 34 20.8	
MDRS				*ex*	x		15 47 14.8	
MDRS				*ex*	x		15 52 46.8	
MDRS				*ex*	x		16 09 06.8	
WAKR	**Walker**	**86.58**	**50**	*eP*	**P**		**15 26 17.1**	**0.0**
	comp=Z,16nm,1.4s							
KOLN	**Koldanda**	**86.71**	**299**	*eP*	**P**		**15 26 16.3**	**-1.6**
	comp=Z,7.3nm,0.8s							
K05A	**Summer Lake**	**86.79**	**46**	*eP*	**P**		**15 26 17.9**	**-0.1**
	comp=Z,10.0nm,0.9s							
MOD	**Modoc Plateau**	**86.95**	**46**	*eP*	**P**		**15 26 18.7**	**0.0**
	comp=Z,6.3nm,1.0s							
PAHR	**Pah Rah Range**	**86.97**	**49**	*eP*	**P**		**15 26 18.5**	**-0.3**
	comp=Z,7.2nm,1.1s							
WMQ	**Urumqi**	**87.87**	**315**	P	**P**		**15 26 24.1**	**+1.1**
WMQ				pP	PcP		15 26 25.5	+0.7
WMQ				sP	pP		15 26 31.3	-1.1
WMQ				S	**S**		**15 37 03.0**	**-1.2**
WMQ				SS	**SS**		**15 42 52.6**	**+0.4**
WMQ					pmax	pmax		
	comp=Z,8.0nm,0.7s							
WMQ					pmax	pmax		
	comp=Z,96nm,4.5s							
WMQ					LR	LR		
	comp=Z,120nm,25.9s							
WMQ					LR	LR		
	comp=Z,71nm,17.7s							
WMQ					LR	LR		
	comp=Z,130nm,23.3s							
WVOR	**Wild Horse Val**	**88.30**	**46**	*eP*	**P**		**15 26 25.2**	**+0.1**
WVOR					pmax	pmax		
	comp=Z,10.0nm,1.2s							
WVOR	**Wild Horse Val**	**88.30**	**46**	*eP*	**P**		**15 26 25.2**	**+0.1**
	comp=Z,10nm,1.2s							
TPNV	**Topopah Spring**	**88.58**	**52**	*eP*	**P**		**15 26 26.6**	**0.0**
TPNV					pmax	pmax		
	comp=Z,26nm,1.9s							
TPNV	**Topopah Spring**	**88.58**	**52**	*eP*	**P**		**15 26 26.6**	**0.0**
	comp=Z,26nm,1.9s							
SHPR	**Sheep Range**	**89.32**	**53**	*eP*	**P**		**15 26 29.6**	**-0.5**
	comp=Z,16nm,1.7s							
R11A	**Troy Canyon, C**	**89.45**	**51**	*eP*	**P**		**15 26 30.6**	**-0.1**
	comp=Z,8.9nm,1.5s							
B08A	**Colville Reser**	**89.55**	**40**	*eP*	**P**		**15 26 30.3**	**-0.4**
	comp=Z,19nm,1.9s							
E09A	**Wood Farm, Sta**	**89.79**	**42**	*eP*	**P**		**15 26 31.8**	**-0.1**
	comp=Z,29nm,1.8s							
BMO	**Blue Mountains**	**89.89**	**44**	*eP*	**P**		**15 26 32.3**	**-0.2**
BMO					pmax	pmax		
	comp=Z,23nm,1.8s							
BMO	**Blue Mountains**	**89.89**	**44**	*eP*	**P**		**15 26 32.3**	**-0.2**
	comp=Z,23nm,1.8s							
W13A	**Hualapai Mount**	**89.99**	**54**	*eP*	**P**		**15 26 33.4**	**0.0**
	comp=Z,6.3nm,1.3s							
F10A	**Beach Ranch, E**	**90.25**	**43**	*eP*	**P**		**15 26 33.8**	**-0.4**
	comp=Z,4.9nm,0.7s							
MFID	**Camas Ranch**	**90.55**	**46**	*eP*	**P**		**15 26 35.6**	**0.0**
	comp=Z,14nm,1.5s							
LCMT	**Little Creek M**	**90.93**	**53**	*eP*	**P**		**15 26 38.4**	**+0.8**
	comp=Z,18nm,1.7s							
NEW	**Newport**	**90.94**	**41**	P	**P**		**15 26 36.9**	**-0.4**
	comp=Z,3.8nm,0.8s,baz=219,slow=2.2,SNR=6.3							
CCUT	**Cedar City**	**90.96**	**52**	*eP*	**P**		**15 26 38.0**	**+0.2**
	comp=Z,7.2nm,1.2s							
U15A	**North Rim**	**91.55**	**53**	*eP*	**P**		**15 26 41.8**	**+1.1**
	comp=Z,30nm,1.9s							
HLID	**Hailey**	**91.58**	**46**	*eP*	**P**		**15 26 41.2**	**+0.7**
	comp=Z,5.7nm,1.0s							
DUG	**Dugway, Tooele**	**91.97**	**50**	*eP*	**P**		**15 26 42.7**	**+0.3**
DUG					pmax	pmax		
	comp=Z,3.0nm,1.0s							
DUG	**Dugway, Tooele**	**91.97**	**50**	*eP*	**P**		**15 26 42.7**	**+0.3**
	comp=Z,2.7nm,1.0s							
MTPU	**Mount Pierson**	**91.98**	**52**	*eP*	**P**		**15 26 44.0**	**+1.3**
	comp=Z,7.7nm,1.1s							
MSU	**Marysvale**	**92.09**	**51**	*eP*	**P**		**15 26 43.8**	**+0.8**
MSU	**Marysvale**	**92.09**	**51**	*eP*	**P**		**15 26 43.8**	**+0.8**
MK01	**Makanchi Array**	**92.33**	**317**	*eP*	**P**		**15 26 42.5**	**-1.3**
MK31	**Makanchi Array**	**92.34**	**317**	*eP*	**P**		**15 26 42.3**	**-1.5**
MK31	**Makanchi Array**	**92.34**	**317**	*eP*	**P**		**15 26 42.3**	**-1.5**
MKAR	**Makanchi Array**	**92.34**	**317**	*eP*	**P**		**15 26 42.2**	**-1.6**
MKAR					pmax	pmax		
	comp=Z,16nm,0.8s							
MKAR	**Makanchi Array**	**92.34**	**317**	*eP*	**P**		**15 26 42.2**	**-1.6**
	comp=Z,16nm,0.8s							
BSMT	**Bassoo Peak**	**92.35**	**42**	*eP*	**P**		**15 26 44.1**	**+0.1**
HVU	**Hansel Valley**	**92.35**	**48**	*eP*	**P**		**15 26 44.1**	**0.0**
HVU					pmax	pmax		
	comp=Z,9.0nm,1.1s							
HVU	**Hansel Valley**	**92.35**	**48**	*eP*	**P**		**15 26 44.1**	**0.0**
	comp=Z,9.2nm,1.1s							
MAKZ	**Makanchi**	**92.56**	**317**	*eP*	**P**		**15 26 43.3**	**-1.5**
MAKZ					pmax	pmax		
	comp=Z,8.0nm,1.2s							
MAKZ	**Makanchi**	**92.56**	**317**	*eP*	**P**		**15 26 43.2**	**-1.5**
	comp=Z,7.5nm,1.2s							
ZAA0	**Zalesovo Array**	**92.56**	**324**	*eP*	**P**		**15 26 44.3**	**-0.2**
ZALV	**Zalesovo Beam**	**92.56**	**324**	P	**P**		**15 26 43.3**	**-1.2**
	comp=Z,1.6nm,0.8s,baz=130,slow=5.4,SNR=6.0							
MCMT	**McKenzie Canyo**	**92.96**	**45**	*eP*	**P**		**15 26 46.8**	**-0.1**
DLMT	**Dillon**	**93.25**	**45**	*eP*	**P**		**15 26 48.5**	**+0.3**
	comp=Z,12nm,1.1s							
NVS	**Novosibirsk**	**93.68**	**325**	*eP*	**P**		**15 26 53.7**	**+4.0**
BOZ	**Bozeman (W)**	**93.97**	**44**	*eP*	**P**		**15 26 51.8**	**+0.3**
BOZ					pmax	pmax		
	comp=Z,14nm,1.5s							
BOZ	**Bozeman (W)**	**93.97**	**44**	*eP*	**P**		**15 26 51.8**	**+0.3**
	comp=Z,14nm,1.5s							
BW06	**Boulder Array**	**94.89**	**48**	*eP*	**P**		**15 26 55.3**	**-0.6**
PDAR	**Pinedale Array**	**94.89**	**48**	P	**P**		**15 26 55.2**	**-0.7**
	comp=Z,1.3nm,1.0s,baz=242,slow=3.2,SNR=7.4							
PDAR					LR	LR	16 04 00.3	
	comp=Z,104nm,20.0s,baz=268,slow=32							
KSH	**Kashi**	**95.40**	**309**	*eP*	**P**		**15 27 00.1**	**+2.0**
KSH					pP	pP	15 27 05.1	-2.4
KSH					PP	**PP**	**15 30 54.1**	**+5.0**
KSH					S	**S**	**15 38 12.2**	**-0.5**
KSH					sS	pS	15 38 20.0	-4.8
KSH					SS	**SS**	**15 44 46.0**	**+5.1**
KSH					pmax	pmax		
	comp=Z,2.0nm,0.5s							
KSH					pmax	pmax		
	comp=Z,77nm,5.3s							
KSH					LR	LR		
	comp=Z,81nm,4.8s							
KSH					LR	LR		
	comp=Z,78nm,5.0s							
KSH					LR	LR		
	comp=Z,160nm,6.4s							
KURK	**Kurchatov**	**95.54**	**320**	*eP*	**P**		**15 26 56.6**	**-1.7**
KURK					pmax	pmax		
	comp=Z,5.0nm,1.1s							
YKA	**Yellowknife Ar**	**95.83**	**27**	P	**P**		**15 26 57.6**	**-1.7**
	comp=Z,2.2nm,0.8s,baz=257,slow=5.0,SNR=5.9							
YKA					LR	LR	16 03 11.1	
	comp=Z,26nm,21.0s,baz=180,slow=31							
ANMO	**Albuquerque**	**95.93**	**56**	*i P*	**P**		**15 26 59.9**	**-0.9**
ANMO					pmax	pmax		
	comp=Z,1.0nm,0.9s							
SNAA	**Sanae**	**96.95**	**184**	P	**P**		**15 27 04.6**	**+0.1**
SNAA	**Sanae**	**96.95**	**184**	*eP*	**P**		**15 27 04.9**	**+0.4**
TXAR	**Lajitas Array**	**97.41**	**62**	P	Pdif		15 27 09.0	+1.4
	comp=Z,0.2nm,0.6s,baz=216,slow=4.5,SNR=2.2							
TXAR	**Lajitas Array**	**97.41**	**62**	P	Pdif		15 27 09.0	+1.5
VNA3	**Neumayer Olymp**	**97.75**	**182**	P	**P**		**15 27 07.9**	**-0.1**
VNA2	**Neumayer--Watz**	**97.97**	**183**	P	**P**		**15 27 08.8**	**-0.2**
OBN	**Obninsk**	**119.91**	**328**	*e*PKIKP	**PKPdf**		**15 32 23.0**	**-0.5**
OBN					pmax	pmax		
	comp=Z,3.0nm,1.0s							
AKASG	**Malin Array Be**	**125.92**	**326**	PKP	**PKPdf**		**15 32 35.9**	**+0.7**
	comp=Z,0.3nm,0.4s,baz=50,slow=2.3,SNR=2.9							
AKASG	**Malin Array Be**	**125.92**	**326**	*i* PKIKP	**PKPdf**		**15 32 32.2**	**-3.0**
AKASG					pmax	pmax		
	comp=Z,1.0nm,0.4s							
KIEV	**Kiev**	**125.93**	**326**	*e*PKIKP	**PKPdf**		**15 32 32.0**	**-3.2**
KEST	**Kesra**	**146.35**	**321**	PKPbc	**PKPab**		**15 33 15.2**	**-0.2**
	comp=Z,6.9nm,0.8s,baz=52,slow=7.3,SNR=7.3							
ES19	**SONSECA Array**	**149.53**	**341**	*e*PKPbc	**PKPbc**		**15 33 23.7**	**+0.7**
ESDC	**Sonseca Array**	**149.57**	**341**	PKPbc	**PKPbc**		**15 33 23.9**	**+0.8**
	comp=Z,1.5nm,0.3s,baz=24,slow=4.0,SNR=20							
TORD	**Torodi Ar. Bea**	**162.52**	**279**	PKP	**PKPdf**		**15 33 36.3**	**+0.2**
	comp=Z,0.4nm,0.8s,baz=121,slow=1.2,SNR=2.9							
TORD					PKPab	**PKPab**	**15 34 24.3**	**+0.1**
	comp=Z,0.8nm,0.7s,baz=91,slow=5.4,SNR=4.3							

*ISCJB **06** 15:27:50.7±0.6,24.2°12N±0.05°×122.32°E±0.02,h18km±7km, Error ellipse: s-maj=7.9km s-min=3.3km az=169.9*
*JMA **06** 15:27:50.3±0.1,24.07°N×122.29°E,h22km±3km,M2.1*
*TAP **06** 15:27:51.2,24.17°N×122.17°E,h3km±1km,ML2.8,D*
ISC 06 15:27:49.8±1.1,24.19°N±0.05°×122.33°E±0.02,h14km±10km, n26,σ0s73/42,Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ENA	**Nanau**	**0.59**	**294**	P	**Pb**	**15 28 01.9**	**0.0**
	baz=303						
TWC	**Suao**	**0.60**	**314**	P	**Pb**	**15 28 02.3**	**+0.1**
	baz=327						
TWC				S	**Sb**	**15 28 10.4**	**-0.2**
	baz=327						
JYNG	**Yonagunijimaku**	**0.62**	**65**	P	**Pn**	**15 28 03.7**	**-0.5**
JYNG				S	**Sn**	**15 28 12.8**	**-1.2**
TWD	**Chiawan**	**0.68**	**261**	*eP*	**Pg**	**15 28 02.7**	**-0.3**
	baz=260						
TWD				*eS*	**Sg**	**15 28 11.3**	**-0.6**
	baz=260						
YOJ	**Yonaguni jima**	**0.68**	**66**	P	**Pn**	**15 28 04.8**	**-0.2**
YOJ				*eS*	**Sn**	**15 28 14.1**	**-1.4**
HWA	**Hwalien**	**0.69**	**252**	*eP*	**Pg**	**15 28 03.0**	**-0.4**
	baz=249						
EGS		**0.75**	**331**	P	**Pn**	**15 28 06.3**	**+0.4**
	baz=342						
EGS				S	**Sn**	**15 28 17.1**	**0.0**
	baz=342						
TWE	**Neicheng**	**0.80**	**311**	P	**Pn**	**15 28 05.8**	**-0.9**
	baz=320						
TWE				*eS*	**Sn**	**15 28 17.9**	**-0.6**
	baz=320						
ENTT	**Nioudou**	**0.83**	**303**	P	**Pn**	**15 28 06.6**	**-0.5**
	baz=310						
ENTT				S	**Sn**	**15 28 17.9**	**-1.2**
	baz=310						
TWB1	**Santiao Chiao**	**0.87**	**339**	*eP*	**Pn**	**15 28 09.2**	**+1.5**
	baz=349						
NNS	**Nan Shan**	**0.91**	**286**	*eP*	**Pb**	**15 28 07.7**	**+0.2**
	baz=290						
NNS				*eS*	**Sb**	**15 28 20.1**	**+0.7**
	baz=290						
WHF	**Hehuan Shan**	**0.97**	**268**	*eP*	**Pg**	**15 28 08.4**	**-0.3**
	baz=268						
NSK	**Sanguang**	**1.01**	**299**	P	**Pn**	**15 28 09.4**	**-0.2**
	baz=304						
NSK				S	**Sn**	**15 28 23.0**	**-0.7**
	baz=304						
NWF	**Wu-fen Shan**	**1.01**	**331**	*eP*	**Pn**	**15 28 10.2**	**+0.5**
	baz=338						
NWF				*eS*	**Sn**	**15 28 23.9**	**+0.1**
	baz=338						
TWT	**Tachien**	**1.05**	**274**	*eP*	**Pn**	**15 28 12.4**	**+2.0**
	baz=274						
NSTT	**Nanjuang**	**1.29**	**290**	*eP*	**Pg**	**15 28 14.6**	**0.0**
	baz=293						
IRIF	**Iriomote-Funau**	**1.29**	**83**	P	**Pb**	**15 28 14.1**	**+0.3**
IRIF				S	**Sg**	**15 28 32.0**	**+0.6**
HATJ	**Hateruma jima**	**1.36**	**95**	P	**Pb**	**15 28 15.4**	**+0.4**
HATJ				S	**Sg**	**15 28 33.8**	**+0.2**
TYC	**Yuchr**	**1.37**	**258**	*eP*	**Pn**	**15 28 15.1**	**+0.5**
	baz=257						
YUS	**Yu-Shan**	**1.44**	**241**	*eP*	**Pn**	**15 28 14.7**	**-1.3**
	baz=238						
JKRS	**Kuro-shima**	**1.54**	**88**	P	**Pb**	**15 28 17.9**	**-0.2**
JKRS				*eS*	**Sb**	**15 28 37.6**	**+0.2**
CHN5	**Tsauling**	**1.62**	**249**	*eP*	**Pn**	**15 28 18.1**	**0.0**
	baz=247						
JIJ	**Ishigaki jima**	**1.67**	**84**	P	**Pn**	**15 28 18.9**	**+0.3**
JIJ				*eS*	**Sn**	**15 28 39.6**	**-0.2**
CHN4	**Tsaushan**	**1.79**	**243**	*eP*	**Pn**	**15 28 21.8**	**+1.4**
	baz=240						
CHN4				*eS*	**Sn**	**15 28 43.4**	**+0.4**
	baz=240						
WTP	**Ta-pu**	**1.83**	**239**	*eP*	**Pn**	**15 28 21.0**	**+0.1**
	baz=236						
JISG	**Ishigakijimahi**	**1.85**	**77**	P	**Pn**	**15 28 21.8**	**+0.6**
JISG				S	**Sn**	**15 28 44.5**	**+0.1**

*CSEM **06** 15:37:34.9±0.2,38.38°N×21.87°E,h12km,ML1.3,Error ellipse: s-maj=4.1km s-min=3.2km az=45.0*
ATH 06 15:37:35.2,38.37°N×21.86°E,h15km±3km,ML1.3/1,Error ellipse: s-maj=3.6km s-min=0.9km az=94.0,Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
UPR	**University Cam**	**0.11**	**214**	P	Pg	15 37 37.7	-0.9
UPR	**University Cam**	**0.11**	**214**	P	Pg	15 37 36.9	-1.7
LAKA	**Lakka**	**0.16**	**146**	P	Pg	15 37 39.2	-0.1
LAKA				S	Sg	15 37 41.7	-0.4
LAKA	**Lakka**	**0.16**	**146**	P	Pg	15 37 39.1	-0.2
LAKA				S	Sg	15 37 41.1	-0.9
TRIZ	**Trizonia**	**0.16**	**93**	S	Sb	15 37 42.9	-0.1
TRIZ	**Trizonia**	**0.16**	**93**	S	Sb	15 37 43.5	+0.4
KALE	**Kalithea**	**0.22**	**85**	P	Pb	15 37 40.7	-0.2
KALE				S	Sg	15 37 43.9	+0.3
KALE	**Kalithea**	**0.22**	**85**	P	Pb	15 37 41.4	+0.5
KALE				S	Sg	15 37 44.1	+0.5
PVO	**Paravola**	**0.36**	**313**	P	Pg	15 37 41.9	-0.7
PVO				S	Sb	15 37 48.2	-0.5
PVO	**Paravola**	**0.36**	**313**	P	Pg	15 37 41.4	-1.2
PVO				S	Sb	15 37 48.6	-0.1
KLV	**Kalavryta, Ach**	**0.40**	**145**	P	Pg	15 37 43.2	-0.1
KLV				S	Sb	15 37 49.7	-0.2
KLV	**Kalavryta, Ach**	**0.40**	**145**	P	Pg	15 37 43.2	-0.1
KLV				S	Sb	15 37 50.2	+0.3
DRO	**Drossia**	**0.44**	**196**	P	Pg	15 37 43.9	-0.1
DRO				S	Sb	15 37 50.5	-0.4
DRO	**Drossia**	**0.44**	**196**	P	Pg	15 37 43.8	-0.1
DRO				S	Sb	15 37 50.8	-0.1
DRO					AML	AML	15 37 51.0	
	comp=N,162μm,0.3s							
DRO					AML	AML	15 37 51.2	
	comp=E,290μm,0.4s							
DSF	**Desfina**	**0.52**	**86**	P	Pg	15 37 44.7	-0.9
DSF				S	Sb	15 37 53.1	-0.3
DSF	**Desfina**	**0.52**	**86**	P	Pg	15 37 44.1	-1.5
DSF				S	Sb	15 37 53.4	0.0
EVR	**Evrytania**	**0.54**	**355**	P	Pg	15 37 45.4	-0.6
EVR				S	Sg	15 37 53.7	+0.4
EVR	**Evrytania**	**0.54**	**355**	P	Pg	15 37 45.0	-1.0
EVR				S	Sb	15 37 53.8	-0.4
PDO	**Prodromos**	**0.58**	**293**	P	Pg	15 37 46.5	-0.1
PDO				S	Sb	15 37 55.3	+0.3
PDO	**Prodromos**	**0.58**	**293**	P	Pg	15 37 46.6	0.0
PDO				S	Sb	15 37 55.8	+0.8

*ISCJB **06** 15:38:31.4±0.4,40.31°N±0.02°×25.63°E±0.03,h6km±3km, Error ellipse: s-maj=3.9km s-min=2.9km az=151.9*
*THE **06** 15:38:31.4,40.30°N×25.61°E,h9km±1km,ML2.1/8,Error ellipse: s-maj=1.0km s-min=0.4km az=13.0*
*DDA **06** 15:38:31.2,40.32°N×25.65°E,h7km,Md2.6*
*CSEM **06** 15:38:31.4±0.1,40.31°N×25.63°E,h5km,MD2.9,Error ellipse: s-maj=3.4km s-min=2.9km az=83.0*
*ISK **06** 15:38:32.0,40.31°N×25.72°E,h8km,MD2.9*
ISC 06 15:38:31.4±0.8,40.30°N±0.02°×25.63°E±0.02,h13km±6km, n60,σ0s51/89,Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SMTH	**Samothraki Isl**	**0.18**	**336**	P	**Pg**	**15 38 35.5**	**-0.1**
SMTH				S	**Sg**	**15 38 38.4**	**-0.1**
SMTH	**Samothraki Isl**	**0.18**	**336**	P	**Pg**	**15 38 35.5**	**-0.1**
SMTH				S	**Sg**	**15 38 38.4**	**-0.1**
GADA	**Gvkgeada**	**0.24**	**118**	*e*PG	**Pg**	**15 38 36.7**	**+0.2**
GADA				*e*SG	**Sg**	**15 38 40.0**	**+0.1**
GADA	**Gvkgeada**	**0.24**	**118**	*e*Pg	**Pg**	**15 38 36.7**	**+0.2**
GADA				*e*Sg	**Sg**	**15 38 40.0**	**+0.1**
LIA	**Limnos Island**	**0.53**	**220**	P	**Pg**	**15 38 41.8**	**0.0**
LIA				S	**Sg**	**15 38 48.8**	**0.0**
LIA	**Limnos Island**	**0.53**	**220**	P	**Pg**	**15 38 41.8**	**0.0**
LIA				S	**Sg**	**15 38 48.8**	**0.0**
BOZC	**Bozcaada**	**0.57**	**144**	*e*PG	**Pg**	**15 38 42.6**	**+0.1**
BOZC				*e*SG	**Sg**	**15 38 50.4**	**+0.4**
BOZC	**Bozcaada**	**0.57**	**144**	*i* P	**Pg**	**15 38 42.8**	**+0.3**
BOZC				*i* S	**Sg**	**15 38 50.1**	**+0.1**
BOZC				*i* S	**Sb**	**15 38 50.6**	**-0.7**
BOZC	**Bozcaada**	**0.57**	**144**	*e*Pg	**Pg**	**15 38 42.6**	**+0.1**
BOZC				*e*Sg	**Sg**	**15 38 50.4**	**+0.4**
ENEZ	**Enez**	**0.59**	**43**	*e*PG	**Pg**	**15 38 43.0**	**0.0**
ENEZ	**Enez**	**0.59**	**43**	*e*Pg	**Pg**	**15 38 43.0**	**0.0**
ALN	**Alexandroupoli**	**0.67**	**28**	*e*PG	**Pb**	**15 38 45.1**	**0.0**
ALN				*e*SG	**Sb**	**15 38 54.8**	**+0.5**
ALN	**Alexandroupoli**	**0.67**	**28**	P	**Pg**	**15 38 44.4**	**-0.1**
ALN				S	**Sb**	**15 38 54.2**	**-0.1**
ALN	**Alexandroupoli**	**0.67**	**28**	P	**Pg**	**15 38 44.4**	**-0.1**
ALN	**Alexandroupoli**	**0.67**	**28**	*e*Pg	**Pb**	**15 38 45.1**	**0.0**
ALN				S	**Sb**	**15 38 54.2**	**-0.1**
EZN	**Ezine**	**0.72**	**131**	*e*PG	**Pg**	**15 38 45.2**	**-0.2**
EZN				*e*SG	**Sb**	**15 38 55.4**	**-0.2**
EZN	**Ezine**	**0.72**	**131**	*e*Pg	**Pg**	**15 38 45.2**	**-0.2**
EZN				*e*Sg	**Sb**	**15 38 55.4**	**-0.2**
ERIK	**Erikli-Kesan**	**0.77**	**61**	*e*PG	**Pg**	**15 38 46.0**	**-0.4**
ERIK	**Erikli-Kesan**	**0.77**	**61**	*e*Pg	**Pg**	**15 38 46.0**	**-0.4**
RDO	**Rodhopi**	**0.84**	**355**	P	**Pg**	**15 38 47.5**	**-0.3**
RDO				S	**Sb**	**15 38 59.4**	**+0.2**
RDO	**Rodhopi**	**0.84**	**355**	P	**Pg**	**15 38 47.5**	**-0.3**
RDO				S	**Sb**	**15 38 59.4**	**+0.2**
LPK	**Lapseki**	**0.87**	**85**	*e*PG	**Pg**	**15 38 47.2**	**-1.0**
LPK	**Lapseki**	**0.87**	**85**	*e*Pg	**Pg**	**15 38 47.3**	**-1.0**
KESN	**Edirne-Kesan**	**0.96**	**57**	*i* P	**Pg**	**15 38 49.1**	**-0.9**
KESN				*i* S	**Sb**	**15 39 03.4**	**+0.5**
KESN	**Edirne-Kesan**	**0.96**	**57**	P	**Pg**	**15 38 49.1**	**-0.9**
KESN				S	**Sb**	**15 39 03.4**	**+0.5**
KAVA	**Kavala**	**1.09**	**310**	P	**Pb**	**15 38 51.8**	**-0.4**
KAVA				S	**Sg**	**15 39 07.2**	**+0.5**
KAVA	**Kavala**	**1.09**	**310**	P	**Pb**	**15 38 51.8**	**-0.4**
KAVA	**Kavala**	**1.09**	**310**	S	**Sg**	**15 39 07.2**	**+0.5**
SIGR	**SIGRI**	**1.11**	**171**	*e*PN	**Pg**	**15 38 53.6**	**+0.9**
SIGR	**SIGRI**	**1.11**	**171**	P	**Pb**	**15 38 51.7**	**-0.7**
SIGR				S	**Sn**	**15 39 07.8**	**0.0**
SIGR	**SIGRI**	**1.11**	**171**	P	**Pb**	**15 38 51.7**	**-0.7**
SIGR	**SIGRI**	**1.11**	**171**	*e*Pn	**Pg**	**15 38 53.6**	**+0.9**
SIGR				S	**Sn**	**15 39 07.8**	**0.0**
PRK	**Paraskevi**	**1.17**	**155**	P	**Pb**	**15 38 52.9**

DALY				*e*SG	**Sg**	**16 18 18.2**	**+0.3**
DALY	**Dalyan (Mu¨la**	**0.35**	**214**	*i* P	**Pg**	**16 18 12.3**	**-1.0**
DALY				*i* S	**Sg**	**16 18 18.4**	**+0.5**
DALY	**Dalyan (Mu¨la**	**0.35**	**214**	P	**Pg**	**16 18 12.3**	**-1.0**
DALY				S	**Sg**	**16 18 18.4**	**+0.5**
FETY	**Fethiye**	**0.50**	**163**	*e*PG	**Pg**	**16 18 15.0**	**-1.1**
FETY				*e*SG	**Sg**	**16 18 22.5**	**0.0**
FETY	**Fethiye**	**0.50**	**163**	*e*Pg	**Pg**	**16 18 15.0**	**-1.1**
FETY	**Fethiye**	**0.50**	**163**	P	**Pg**	**16 18 15.8**	**-0.3**
FETY				*e*Sg	**Sg**	**16 18 22.5**	**0.0**
FETY				S	**Sb**	**16 18 23.6**	**-2.4**
GOLH	**Golhisar**	**0.55**	**77**	*i* P	**Pg**	**16 18 15.8**	**-1.2**
GOLH				*i* S	**Sb**	**16 18 27.5**	**0.0**
GOLH	**Golhisar**	**0.55**	**77**	P	**Pg**	**16 18 15.8**	**-1.2**
DNZL	**Cakiroluk**	**0.59**	**12**	*i* P	**Pg**	**16 18 17.1**	**-0.8**
DNZL				*i* S	**Sb**	**16 18 27.5**	**-1.4**
DNZL	**Cakiroluk**	**0.59**	**12**	P	**Pg**	**16 18 17.1**	**-0.8**
DENT	**Denizli**	**0.65**	**10**	*e*PG	**Pg**	**16 18 18.3**	**-0.7**
DENT				*e*SG	**Sb**	**16 18 29.4**	**-1.1**
DENT	**Denizli**	**0.65**	**10**	*e*Pg	**Pg**	**16 18 18.3**	**-0.7**
DENT				*e*Sg	**Sb**	**16 18 29.4**	**-1.1**
MLSB	**Milas**	**0.91**	**282**	*e*PG	**Pg**	**16 18 23.2**	**-0.9**
MLSB	**Milas**	**0.91**	**282**	*e*Pg	**Pg**	**16 18 23.2**	**-0.9**
AKAS	**Kas**	**1.05**	**147**	*e*PG	**Pg**	**16 18 25.3**	**-1.3**
AKAS	**Kas**	**1.05**	**147**	*i* P	**Pn**	**16 18 29.1**	**+0.5**
AKAS				*i* S	**Sn**	**16 18 48.2**	**+4.3**
AKAS	**Kas**	**1.05**	**147**	*e*Pg	**Pg**	**16 18 25.3**	**-1.3**
DAT	**Datca**	**1.12**	**251**	*e*PN	**Pg**	**16 18 26.9**	**-1.2**
DAT	**Datca**	**1.12**	**251**	*e*Pn	**Pg**	**16 18 26.9**	**-1.2**
AYDB	**Zeytinkoy-Aydi**	**1.16**	**316**	*e*PN	**Pg**	**16 18 28.0**	**-0.7**
AYDB				*e*SN	**Sb**	**16 18 44.6**	**-0.5**
AYDB	**Zeytinkoy-Aydi**	**1.16**	**316**	*e*Pn	**Pg**	**16 18 28.0**	**-0.7**
KORT	**Korkueli**	**1.17**	**95**	*e*PN	**Pg**	**16 18 28.0**	**-0.9**
KORT	**Korkueli**	**1.17**	**95**	*e*Pn	**Pg**	**16 18 28.0**	**-0.9**
BODT	**Bodrum**	**1.27**	**268**	*e*PN	**Pg**	**16 18 30.1**	**-0.8**
BODT	**Bodrum**	**1.27**	**268**	*e*Pn	**Pg**	**16 18 30.1**	**-0.8**

ISCJB ***06*** *16:23:46.7±0.4, 37˚.50N×0˚.02×20˚.88E±0˚.02, h26km±2km, mb3.6/8, MS3.1/2, Error ellipse: s-maj=3.6km s-min=2.5km az=33.7*

CSEM ***06*** *16:23:46.7±0.2, 37˚.50N×20˚.92E, h10km, ML3.8, Error ellipse: s-maj=4.0km s-min=2.3km az=38.0*

ATH ***06*** *16:23:46.0, 37˚.51N×20˚.93E, h30km, ML3.8/10, Error ellipse: s-maj=1.6km s-min=0.8km az=233.0*

THE ***06*** *16:23:47.8, 37˚.53N×20˚.99E, h17km±1km, ML3.9/10, Error ellipse: s-maj=1.4km s-min=0.6km az=232.0*

IDC ***06*** *16:23:48.3±0.8, 37˚.62N×21˚.09E, h30km±6km, mb3.6/8, mb1 3.7/15, mb1mx3.6/44, mbtmp3.7/15, ML3.7/7, MS3.3/4, Ms1 3.3/4, ms1mx2.7/41, Error ellipse: s-maj=15.7km s-min=13.6km az=127.0*

ISC 06 16:23:47.4±0.6, 37˚.53N±0˚.03×20˚.94E±0˚.02, h28km±4km, n247, σ1§66/308, mb3.8/8, 6C-2D, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZKS	**Zakynthos**	**0.21**	**323**	P	**Pb**	**16 23 53.0**	**-0.4**
ZKS				S	**Sb**	**16 23 57.6**	**0.0**
ZKS	**Zakynthos**	**0.21**	**323**	P	**Pb**	**16 23 52.7**	**-0.7**
ZKS				S	**Sb**	**16 23 57.3**	**-0.3**
ZKS	**Zakynthos**	**0.21**	**323**	P	**Pb**	**16 23 52.9**	**-0.6**
ZKS				S	**Sb**	**16 23 57.2**	**-0.3**
ZKS				AML	AML	16 24 01.5	
ZKS				AML	AML	16 24 01.7	
	comp=E,91498μm,0.5s						
VTN	**Vitineika**	**0.43**	**27**	P	**Pb**	**16 23 56.1**	**-0.5**
VTN				S	**Sb**	**16 24 02.6**	**-0.2**
VTN	**Vitineika**	**0.43**	**27**	P	**Pb**	**16 23 56.3**	**-0.3**
VTN				S	**Sb**	**16 24 02.0**	**-0.8**
KFL	**Anninata**	**0.59**	**348**	P	**Pb**	**16 23 58.5**	**-0.7**
KFL				S	**Sn**	**16 24 08.6**	**-0.1**
KFL	**Anninata**	**0.59**	**348**	P	**Pb**	**16 23 58.5**	**-0.7**
KFL				S	**Sb**	**16 24 08.0**	**+0.7**
KFL	**Anninata**	**0.59**	**348**	P	**Pb**	**16 23 58.4**	**-0.8**
KFL				S	**Sn**	**16 24 08.3**	**-0.4**
AMT	**Artemida-Makis**	**0.61**	**90**	P	**Pb**	**16 23 58.7**	**-0.9**
AMT				S	**Sb**	**16 24 06.8**	**-1.1**
AMT	**Artemida-Makis**	**0.61**	**90**	P	**Pb**	**16 23 58.7**	**-0.9**
AMT				S	**Sb**	**16 24 08.1**	**+0.2**
AMT	**Artemida-Makis**	**0.61**	**90**	P	**Pb**	**16 23 58.5**	**-0.9**
AMT				S	**Sn**	**16 24 08.3**	**-0.9**
AMT				AML	AML	16 24 13.5	
	comp=E,32758μm,0.5s						
AMT				AML	AML	16 24 16.8	
	comp=N,25295μm,0.4s						
RLS	**Riolos of Patr**	**0.67**	**38**	P	**Pb**	**16 23 59.8**	**-0.7**
RLS				S	**Sb**	**16 24 09.4**	**-0.1**
RLS	**Riolos of Patr**	**0.67**	**38**	P	**Pb**	**16 23 59.8**	**-0.7**
RLS				S	**Sn**	**16 24 10.3**	**-0.4**
RLS	**Riolos of Patr**	**0.67**	**38**	S	**Sn**	**16 24 10.4**	**-0.2**
RLS				AML	AML	16 24 11.2	
	comp=E,9149μm,1.0s						
RLS				AML	AML	16 24 22.2	
	comp=N,8089μm,0.5s						
VLS	**Valsamata**	**0.70**	**337**	P	**Pb**	**16 24 00.3**	**-0.8**
VLS				S	**Sn**	**16 24 11.3**	**-0.2**
VLS	**Valsamata**	**0.70**	**337**	P	**Pb**	**16 24 00.3**	**-0.8**
VLS				S	**Sn**	**16 24 11.3**	**-0.2**
DRO	**Drossia**	**0.74**	**55**	P	**Pb**	**16 24 00.9**	**-0.8**
DRO				S	**Sn**	**16 24 11.9**	**-0.5**
DRO	**Drossia**	**0.74**	**55**	P	**Pb**	**16 24 00.9**	**-0.8**
DRO				S	**Sn**	**16 24 11.9**	**-0.5**
DRO	**Drossia**	**0.74**	**55**	P	**Pb**	**16 24 00.6**	**-1.2**
DRO				S	**Sn**	**16 24 11.7**	**-0.7**
DRO				AML	AML	16 24 20.1	
	comp=N,16213μm,0.5s						
DRO				AML	AML	16 24 27.6	
	comp=E,18387μm,0.6s						
AXS	**Araxos**	**0.75**	**27**	P	**Pb**	**16 24 01.2**	**-0.6**
AXS				S	**Sn**	**16 24 12.3**	**-0.3**
AXS	**Araxos**	**0.75**	**27**	P	**Pb**	**16 24 01.3**	**-0.6**
AXS				S	**Sn**	**16 24 12.3**	**-0.3**
AXS	**Araxos**	**0.75**	**27**	P	**Pb**	**16 24 01.3**	**-0.5**
AXS				S	**Sn**	**16 24 13.2**	**+0.6**
ITM	**Ithomi**	**0.86**	**114**	P	**Pn**	**16 24 02.9**	**-0.8**
ITM				S	**Sn**	**16 24 14.8**	**-0.6**
ITM	**Ithomi**	**0.86**	**114**	P	**Pn**	**16 24 02.9**	**-0.8**
ITM				S	**Sn**	**16 24 14.8**	**-0.6**
ITM	**Ithomi**	**0.86**	**114**	P	**Pn**	**16 24 02.5**	**-1.2**
ITM				S	**Sn**	**16 24 15.5**	**+0.2**
ITM				AML	AML	16 24 20.5	
	comp=N,9034μm,0.4s						
ITM				AML	AML	16 24 21.2	
	comp=E,6545μm,0.3s						
PYL	**PYLOS**	**0.90**	**135**	P	**Pn**	**16 24 03.3**	**-0.9**
PYL				S	**Sn**	**16 24 16.2**	**-0.1**
PYL	**PYLOS**	**0.90**	**135**	P	**Pn**	**16 24 03.6**	**-0.6**
PYL				S	**Sn**	**16 24 16.2**	**-0.1**
PYL	**PYLOS**	**0.90**	**135**	P	**Pn**	**16 24 03.7**	**-0.5**
PYL				S	**Sn**	**16 24 16.6**	**+0.2**
UPR	**University Cam**	**1.00**	**41**	P	**Pb**	**16 24 06.7**	**+0.5**
UPR	**University Cam**	**1.00**	**41**	P	**Pb**	**16 24 06.7**	**+0.5**
UPR				S	**Sb**	**16 24 20.2**	**+1.2**
UPR	**University Cam**	**1.00**	**41**	P	**Pn**	**16 24 05.6**	**-0.1**
UPR				S	**Sb**	**16 24 20.4**	**+1.3**
PDO	**Prodromos**	**1.08**	**10**	P	**Pb**	**16 24 07.0**	**+0.3**
PDO				S	**Sb**	**16 24 21.3**	**+0.1**
PDO	**Prodromos**	**1.08**	**10**	P	**Pn**	**16 24 07.0**	**+0.3**
PDO				S	**Sb**	**16 24 21.3**	**+0.1**
PDO	**Prodromos**	**1.08**	**10**	P	**Pn**	**16 24 06.8**	**0.0**
LAKA	**Lakka**	**1.08**	**49**	P	**Pn**	**16 24 06.6**	**-0.2**
LAKA				S	**Sb**	**16 24 21.5**	**+0.2**
LAKA	**Lakka**	**1.08**	**49**	P	**Pb**	**16 24 07.0**	**-0.5**
LAKA				S	**Sb**	**16 24 21.5**	**+0.2**
LAKA	**Lakka**	**1.08**	**49**	P	**Pb**	**16 24 07.0**	**-0.5**
KLV	**Kalavryta, Ach**	**1.09**	**62**	P	**Pn**	**16 24 06.4**	**-0.5**
KLV	**Kalavryta, Ach**	**1.09**	**62**	P	**Pn**	**16 24 06.6**	**-0.3**
KLV				S	**Sb**	**16 24 22.6**	**+1.2**
KLV	**Kalavryta, Ach**	**1.09**	**62**	P	**Pn**	**16 24 06.3**	**-0.6**
KLV				S	**Sb**	**16 24 22.9**	**+1.5**
KLV				AML	AML	16 24 30.6	
	comp=E,3903μm,1.1s						
KLV				AML	AML	16 24 30.8	
	comp=N,3636μm,0.7s						
VLX	**Vlachokerasia**	**1.16**	**98**	P	**Pn**	**16 24 07.8**	**0.0**
VLX				S	**Sb**	**16 24 23.2**	**-0.2**
VLX	**Vlachokerasia**	**1.16**	**98**	P	**Pn**	**16 24 08.0**	**+0.2**
VLX				S	**Sb**	**16 24 23.2**	**-0.2**
VLX	**Vlachokerasia**	**1.16**	**98**	P	**Pb**	**16 24 08.2**	**-0.6**

PVO	**Paravola**	**1.18**	**23**	P	**Pb**	**16 24 08.7**	**-0.4**
PVO	**Paravola**	**1.18**	**23**	P	**Pb**	**16 24 08.7**	**-0.4**
PVO				S	**Sb**	**16 24 25.0**	**+1.0**
PVO	**Paravola**	**1.18**	**23**	P	**Pn**	**16 24 07.5**	**-0.6**
PVO				S	**Sb**	**16 24 25.0**	**+1.0**
PVO				AML	AML	16 24 33.1	
	comp=N,6070μm,0.5s						
PVO				AML	AML	16 24 34.6	
	comp=E,7110μm,0.5s						
LKD2	**Lefkada island**	**1.27**	**350**	P	**Pn**	**16 24 10.0**	**+0.6**
LKD2	**Lefkada island**	**1.27**	**350**	P	**Pb**	**16 24 10.5**	**-0.3**
LKD2				S	**Sb**	**16 24 27.6**	**+0.8**
LKD2	**Lefkada island**	**1.27**	**350**	P	**Pb**	**16 24 10.8**	**+0.1**
LKD2				S	**Sb**	**16 24 27.6**	**+0.8**
KALE	**Kalithea**	**1.28**	**47**	P	**Pb**	**16 24 10.0**	**-0.9**
KALE	**Kalithea**	**1.28**	**47**	P	**Pb**	**16 24 10.3**	**-0.6**
KALE	**Kalithea**	**1.28**	**47**	P	**Pb**	**16 24 10.5**	**-0.4**
ANX	**Ano Chora**	**1.31**	**36**	P	**Pb**	**16 24 10.9**	**-0.6**
ANX	**Ano Chora**	**1.31**	**36**	P	**Pb**	**16 24 10.9**	**-0.6**
ANX				S	**Sb**	**16 24 28.0**	**+0.1**
ANX	**Ano Chora**	**1.31**	**36**	S	**Sb**	**16 24 27.4**	**-0.5**
ANX				AML	AML	16 24 36.9	
	comp=E,6379μm,0.6s						
ANX				AML	AML	16 24 48.6	
	comp=N,7832μm,0.7s						
THAL	**Thalero**	**1.46**	**69**	P	**Pb**	**16 24 12.6**	**-1.2**
THAL				S	**Sn**	**16 24 30.0**	**0.0**
THAL	**Thalero**	**1.46**	**69**	P	**Pb**	**16 24 12.6**	**-1.2**
THAL				S	**Sn**	**16 24 30.0**	**0.0**
THAL	**Thalero**	**1.46**	**69**	P	**Pn**	**16 24 11.8**	**-0.1**
DSF	**Desfina**	**1.53**	**55**	P	**Pb**	**16 24 14.8**	**-0.4**
DSF	**Desfina**	**1.53**	**55**	P	**Pb**	**16 24 14.2**	**-0.9**
DSF	**Desfina**	**1.53**	**55**	P	**Pb**	**16 24 14.8**	**-0.4**
EVR	**Evrytania**	**1.54**	**26**	P	**Pb**	**16 24 14.4**	**-1.0**
EVR	**Evrytania**	**1.54**	**26**	P	**Pb**	**16 24 14.4**	**-1.0**
EVR	**Evrytania**	**1.54**	**26**	P	**Pn**	**16 24 13.3**	**+0.1**
EVR				AML	AML	16 24 42.3	
	comp=N,4838μm,1.0s						
DSL	**Palaion Diasel**	**1.60**	**4**	P	**Pb**	**16 24 15.4**	**-1.0**
DSL	**Palaion Diasel**	**1.60**	**4**	P	**Pb**	**16 24 15.4**	**-1.0**
DSL	**Palaion Diasel**	**1.60**	**4**	P	**Pn**	**16 24 14.5**	**+0.5**
LOUT	**Loutraki**	**1.68**	**74**	P	**Pb**	**16 24 17.1**	**-0.5**
LOUT	**Loutraki**	**1.68**	**74**	P	**Pb**	**16 24 17.1**	**-0.5**
LTK	**Loutraki**	**1.68**	**72**	P	**Pb**	**16 24 16.2**	**-1.4**
LTK	**Loutraki**	**1.68**	**72**	P	**Pb**	**16 24 16.2**	**-1.4**
PROD	**Prodromos**	**1.71**	**64**	P	**Pn**	**16 24 16.2**	**+0.8**
PROD	**Prodromos**	**1.71**	**64**	P	**Pn**	**16 24 16.4**	**+0.9**
VLI	**Veliai**	**1.79**	**116**	P	**Pb**	**16 24 19.0**	**-0.5**
VLI	**Veliai**	**1.79**	**116**	P	**Pb**	**16 24 19.0**	**-0.5**
DID	**Didima**	**1.83**	**90**	P	**Pb**	**16 24 18.3**	**-1.8**
DID	**Didima**	**1.83**	**90**	P	**Pb**	**16 24 18.3**	**-1.8**
DID				S	**Sn**	**16 24 40.2**	**+1.0**
DID	**Didima**	**1.83**	**90**	P	**Pn**	**16 24 16.5**	**-0.5**
DID				S	**Sn**	**16 24 39.9**	**+0.6**
DID				AML	AML	16 24 59.4	
	comp=E,4492μm,0.7s						
DID				AML	AML	16 24 59.9	
	comp=N,2890μm,0.7s						
AGG	**Agios Georgios**	**1.85**	**36**	P	**Pb**	**16 24 20.6**	**+0.1**
AGG	**Agios Georgios**	**1.85**	**36**	P	**Pn**	**16 24 18.6**	**+1.3**
AGG	**Agios Georgios**	**1.85**	**36**	P	**Pb**	**16 24 19.1**	**-1.4**
LKR	**Lokris**	**1.97**	**55**	P	**Pb**	**16 24 21.7**	**-0.9**
LKR	**Lokris**	**1.97**	**55**	P	**Pb**	**16 24 21.7**	**-0.9**
VILL	**Villia**	**1.98**	**71**	P	**Pb**	**16 24 20.9**	**-1.9**
VILL	**Villia**	**1.98**	**71**	P	**Pb**	**16 24 20.9**	**-1.9**
IGT	**Igoumenitsa**	**2.05**	**347**	P	**Pb**	**16 24 22.1**	**-1.9**
IGT	**Igoumenitsa**	**2.05**	**347**	P	**Pb**	**16 24 22.1**	**-1.9**
KYTH	**Kithira**	**2.11**	**126**	P	**Pb**	**16 24 23.5**	**-1.5**
SGD	**Sagiada**	**2.15**	**345**	P	**Pn**	**16 24 22.9**	**+1.5**
SGD				S	**Sn**	**16 24 49.1**	**+1.9**
SGD	**Sagiada**	**2.15**	**345**	P	**Pn**	**16 24 22.9**	**+1.5**
SGD				S	**Sn**	**16 24 49.1**	**+1.9**
THL	**Klokotos Trika**	**2.20**	**22**	P	**Pb**	**16 24 25.0**	**-1.4**
THL	**Klokotos Trika**	**2.20**	**22**	P	**Pb**	**16 24 25.0**	**-1.4**
SMIA	**Simia**	**2.24**	**52**	P	**Pb**	**16 24 25.0**	**-2.1**
SMIA	**Simia**	**2.24**	**52**	P	**Pb**	**16 24 25.0**	**-2.1**
ATH	**Athens Observa**	**2.24**	**78**	P	**Pn**	**16 24 24.1**	**+1.4**
ATH	**Athens Observa**	**2.24**	**78**	P	**Pn**	**16 24 24.1**	**+1.4**
VLY	**Voula,Athens**	**2.29**	**81**	P	**Pn**	**16 24 24.4**	**+1.1**
VLY	**Voula,Athens**	**2.29**	**81**	P	**Pn**	**16 24 24.4**	**+1.1**
ATHU	**Athens Univers**	**2.29**	**78**	P	**Pn**	**16 24 24.4**	**+1.0**
ATHU	**Athens Univers**	**2.29**	**78**	P	**Pn**	**16 24 24.4**	**+1.0**
KEK	**Kerkira**	**2.35**	**338**	P	**Pn**	**16 24 25.5**	**+1.3**
KEK	**Kerkira**	**2.35**	**338**	P	**Pn**	**16 24 25.5**	**+1.3**
PTL	**Penteli**	**2.37**	**77**	P	**Pn**	**16 24 26.3**	**+1.8**
PTL	**Penteli**	**2.37**	**77**	P	**Pn**	**16 24 26.3**	**+1.8**
KPRO	**Kipourio**	**2.44**	**8**	P	**Pb**	**16 24 29.0**	**-1.7**
KPRO	**Kipourio**	**2.44**	**8**	P	**Pb**	**16 24 29.0**	**-1.7**
FYTO	**Fytoko, Volos**	**2.44**	**39**	P	**Pb**	**16 24 28.1**	**-2.5**
FYTO	**Fytoko, Volos**	**2.44**	**39**	P	**Pb**	**16 24 28.1**	**-2.5**
NEO	**Neokhori**	**2.52**	**45**	P	**Pn**	**16 24 28.9**	**+2.4**
NEO	**Neokhori**	**2.52**	**45**	P	**Pn**	**16 24 28.9**	**+2.4**
ANKY	**Antikythira Is**	**2.52**	**131**	P	**Pn**	**16 24 28.6**	**+2.1**
ANKY	**Antikythira Is**	**2.52**	**131**	P	**Pn**	**16 24 28.6**	**+2.1**
EREA	**Eretria**	**2.52**	**69**	P	**Pn**	**16 24 28.6**	**+2.0**
EREA	**Eretria**	**2.52**	**69**	P	**Pn**	**16 24 28.6**	**+2.0**
XOR	**Xorichti**	**2.54**	**43**	P	**Pn**	**16 24 29.3**	**+2.4**
XOR	**Xorichti**	**2.54**	**43**	P	**Pn**	**16 24 29.3**	**+2.4**
SKIA	**Skiathos**	**2.57**	**50**	P	**Pn**	**16 24 29.5**	**+2.3**
SKIA	**Skiathos**	**2.57**	**50**	P	**Pn**	**16 24 29.5**	**+2.3**
PENT	**Pentalofos**	**2.67**	**3**	P	**Pb**	**16 24 32.6**	**-1.9**
PENT	**Pentalofos**	**2.67**	**3**	P	**Pb**	**16 24 32.6**	**-1.9**
KARY	**Karystos**	**2.81**	**79**	P	**Pn**	**16 24 31.6**	**+1.0**
KARY	**Karystos**	**2.81**	**79**	P	**Pn**	**16 24 31.6**	**+1.0**
AOS	**Alonnisos**	**2.83**	**54**	P	**Pn**	**16 24 33.0**	**+2.2**
AOS	**Alonnisos**	**2.83**	**54**	P	**Pn**	**16 24 33.0**	**+2.2**
KZN	**Kozani**	**2.85**	**13**	P	**Pn**	**16 24 34.0**	**+2.9**
KZN	**Kozani**	**2.85**	**13**	P	**Pn**	**16 24 34.0**	**+2.9**
NEST	**Nestorio**	**2.88**	**2**	P	**Pb**	**16 24 35.7**	**-2.4**
NEST	**Nestorio**	**2.88**	**2**	P	**Pb**	**16 24 35.7**	**-2.4**
MHLO	**Agia Marina, M**	**2.89**	**106**	P	**Pn**	**16 24 32.6**	**+0.9**
MHLO	**Agia Marina, M**	**2.89**	**106**	P	**Pn**	**16 24 32.5**	**+0.9**
MHLO	**Agia Marina, M**	**2.89**	**106**	P	**Pn**	**16 24 32.5**	**+0.9**
IMMV	**Iera Moni Meta**	**3.21**	**129**	P	**Pn**	**16 24 37.5**	**+1.6**
IMMV	**Iera Moni Meta**	**3.21**	**129**	P	**Pn**	**16 24 37.5**	**+1.6**
FNA	**Florina**	**3.27**	**6**	P	**Pn**	**16 24 38.6**	**+1.8**
FNA	**Florina**	**3.27**	**6**	P	**Pn**	**16 24 38.6**	**+1.8**
VAM	**Vamos**	**3.38**	**128**	P	**Pn**	**16 24 39.6**	**+1.3**
VAM	**Vamos**	**3.38**	**128**	P	**Pn**	**16 24 39.6**	**+1.3**
PLG	**Polygyros**	**3.44**	**34**	P	**Pn**	**16 24 41.5**	**+2.2**
PLG	**Polygyros**	**3.44**	**34**	P	**Pn**	**16 24 41.5**	**+2.2**
HORT	**Hortiatis**	**3.49**	**28**	P	**Pn**	**16 24 41.4**	**+1.4**
HORT	**Hortiatis**	**3.49**	**28**	P	**Pn**	**16 24 41.4**	**+1.4**
BIA	**Bitola**	**3.50**	**5**	*e*Pn	**Pn**	**16 24 43.0**	**+3.0**
BIA	**Bitola**	**3.50**	**5**	*e*Pn	**Pn**	**16 24 42.9**	**+3.0**
OHR	**Ohrid**	**3.58**	**358**	*e*Pn	**Pn**	**16 24 44.1**	**+3.0**
OHR	**Ohrid**	**3.58**	**358**	*e*Pn	**Pn**	**16 24 44.1**	**+3.0**
OUR	**Ouranopolis**	**3.67**	**39**	P	**Pn**	**16 24 43.7**	**+1.4**
OUR	**Ouranopolis**	**3.67**	**39**	P	**Pn**	**16 24 43.7**	**+1.4**
TIP	**Timpagrande**	**3.68**	**298**	P	**Pn**	**16 24 43.1**	**+0.6**
TIP	**Timpagrande**	**3.68**	**298**	P	**Pn**	**16 24 43.1**	**+0.6**
THR5	**Thira Island,**	**3.70**	**106**	P	**Pn**	**16 24 42.9**	**+0.2**
THR5	**Thira Island,**	**3.70**	**106**	P	**Pn**	**16 24 42.9**	**+0.2**
THR3	**Thira Island,**	**3.74**	**106**	P	**Pn**	**16 24 43.7**	**+0.4**
THR3	**Thira Island,**	**3.74**	**106**	P	**Pn**	**16 24 43.7**	**+0.4**
SOH	**Sokhos**	**3.78**	**29**	P	**Pn**	**16 24 46.3**	**+2.4**
SOH	**Sokhos**	**3.78**	**29**	P	**Pn**	**16 24 46.3**	**+2.4**
KRUS	**Krusevo**	**3.84**	**3**	*e*Pn	**Pn**	**16 24 46.6**	**+1.9**
KRUS	**Krusevo**	**3.84**	**3**	*e*Pn	**Pn**	**16 24 46.6**	**+1.9**
IDI	**Anoyia**	**3.89**	**124**	Pn	**Pn**	**16 24 46.7**	**+1.2**
	comp=N,2.6nm,0.3s,baz=285,slow=14,SNR=17						
IDI				Sn	**Sn**	**16 25 30.0**	**-0.3**
	comp=N,8.9nm,0.3s,baz=70,slow=9.4,SNR=6.1						
IDI	**Anoyia**	**3.89**	**124**	P	**Pn**	**16 24 46.6**	**+1.2**
KNT	**Kendrikon**	**3.93**	**22**	P	**Pn**	**16 24 48.5**	**+2.6**
KNT	**Kendrikon**	**3.93**	**22**	P	**Pn**	**16 24 48.5**	**+2.6**
VAY	**Valandovo**	**3.99**	**18**	*e*Pn	**Pn**	**16 24 48.2**	**+1.5**
VAY	**Valandovo**	**3.99**	**18**	*e*Pn	**Pn**	**16 24 48.2**	**+1.5**
CGL1	**Ceglie Messapi**	**4.12**	**320**	*e*Pn	**Pn**	**16 24 48.1**	**-0.4**
SRS	**Serrai**	**4.13**	**29**	P	**Pn**	**16 24 51.1**	**+2.5**
SRS	**Serrai**	**4.13**	**29**	P	**Pn**	**16 24 51.1**	**+2.5**
TAR1	**Taranto**	**4.13**	**318**	*e*Pn	**Pn**	**16 24 50.5**	**+1.9**
CHOS	**Chios island**	**4.13**	**77**	P	**Pn**	**16 24 50.2**	**+1.5**
CHOS	**Chios island**	**4.13**	**77**	P	**Pn**	**16 24 50.2**	**+1.5**
MASS	**Massafra**	**4.28**	**318**	*e*Pn	**Pn**	**16 24 52.7**	**+2.0**
FASA	**Fasano**	**4.30**	**321**	*e*Pn	**Pn**	**16 24 52.9**	**+1.9**
LAST	**Lasithi**	**4.36**	**121**	P	**Pn**	**16 24 52.4**	**+0.5**
LAST	**Lasithi**	**4.36**	**121**	P	**Pn**	**16 24 52.4**	**+0.5**
NPS	**Neapolis**	**4.40**	**120**	P	**Pn**	**16 24 54.0**	**+1.7**
NPS	**Neapolis**	**4.40**	**120**	P	**Pn**	**16 24 54.0**	**+1.7**

NVR	**Nevrokopi**	**4.43**	**30**	P	**Pn**	**16 24 55.5**	**+2.7**
NVR	**Nevrokopi**	**4.43**	**30**	P	**Pn**	**16 24 55.5**	**+2.7**
KAVA	**Kavala**	**4.43**	**38**	P	**Pn**	**16 24 54.5**	**+1.7**
KAVA	**Kavala**	**4.43**	**38**	P	**Pn**	**16 24 54.5**	**+1.7**
SKO	**Skopje**	**4.45**	**5**	*e*Pn	**Pn**	**16 24 54.3**	**+1.2**
SKO	**Skopje**	**4.45**	**5**	*e*Pn	**Pn**	**16 24 54.3**	**+1.2**
MMB	**Musomiste**	**4.59**	**27**	*i* P	**Pn**	**16 24 56.0**	**+1.0**
KKB	**Krupnik**	**4.63**	**20**	*i* P	**Pn**	**16 24 59.6**	**+4.0**
SG1	**Sgolgore (BA)**	**4.68**	**316**	*e*Pn	**Pn**	**16 24 58.0**	**+1.8**
PDG	**Podgorica**	**5.06**	**346**	⇑*i*P	**Sn**	**16 25 57.7**	**-1.2**
PDG	**Podgorica**	**5.06**	**346**	⇑*i*P	**Sn**	**16 25 57.7**	**-1.2**
CDT	**Castel del Mon**	**5.07**	**316**	*e*Pn	**Pn**	**16 25 03.1**	**+1.6**
RZN	**Rozhen**	**5.07**	**34**	*i* P	**Pn**	**16 25 04.4**	**+2.7**
VAE	**Valguarnera**	**5.19**	**271**	Pn	**Pn**	**16 25 05.7**	**+2.4**
	comp=N,2.9nm,0.3s,baz=23,slow=7.7,SNR=4.5						
VAE				Sn	**Sn**	**16 26 04.1**	**+1.8**
	comp=N,3.7nm,0.3s,baz=168,slow=19,SNR=2.6						
BARS	**Barje**	**5.32**	**7**	*e*Pn	**Pn**	**16 25 06.4**	**+1.4**
VTS	**Vitosha**	**5.34**	**18**	*i* P	**Pn**	**16 25 06.0**	**+0.5**
MS1	**Monte Sant'Ang**	**5.68**	**319**	*e*Pn	**Pn**	**16 25 11.4**	**+1.4**
IVAS	**Ivanjica**	**6.07**	**355**	*e*Pn	**Pn**	**16 25 16.1**	**+0.8**
BOVS	**Bovan**	**6.12**	**5**	*e*Pn	**Pn**	**16 25 16.8**	**+0.8**
GRUS	**Gruza**	**6.35**	**359**	*e*Pn	**Pn**	**16 25 19.7**	**+0.5**
BBLS	**Lazići**	**6.43**	**350**	*e*Pn	**Pn**	**16 25 22.5**	**+2.2**
DIVS	**Divibare**	**6.60**	**354**	*e*Pn	**Pn**	**16 25 23.1**	**+0.5**
TEKS	**Tekeris**	**7.09**	**352**	*e*Pn	**Pn**	**16 25 29.3**	**0.0**
UDBI	**Udbina**	**8.01**	**332**	*e*Pn	**Pn**	**16 25 41.7**	**-0.2**
UDBI				Sn	**Sn**	**16 27 08.9**	**-2.7**
UDBI	**Udbina**	**8.01**	**332**	*e*Pn	**Pn**	**16 25 41.7**	**-0.2**
BZS	**Buzias**	**8.09**	**3**	⇓*i*P	**Pn**	**16 25 47.1**	**+4.1**
BZS	**Buzias**	**8.09**	**3**	⇓*i*P	**Pn**	**16

BBLS	**Lazići**	**0.29**	**138**	*e*Pg	Pg	17	18	52.5	-0.6
BBLS				eSg	Sg	17	18	56.2	-0.6
BBLS	**Lazići**	**0.29**	**138**	*i*Pg	Pg	17	18	52.6	-0.5
BBLS				eSg	Sg	17	18	56.2	-0.6
TEKS	**Tekeris**	**0.55**	**31**	*e*Pg	Pg	17	18	57.9	-0.2
TEKS	**Tekeris**	**0.55**	**31**	*e*Pg	Pg	17	18	57.5	-0.6
TEKS				eSg	Sg	17	19	04.2	-0.9
DIVS	**Divibare**	**0.61**	**88**	*e*Pg	Pg	17	18	57.0	-2.4
DIVS				eSg	Sg	17	19	06.5	-0.8
DIVS	**Divibare**	**0.61**	**88**	*e*Pg	Pg	17	18	57.1	-2.3
DIVS				eSg	Sg	17	19	04.7	-2.6
IVAS	**Ivanjica**	**0.89**	**124**	*e*Pg	Pg	17	19	02.7	-1.9
IVAS				eSg	Sg	17	19	16.1	0.0
IVAS	**Ivanjica**	**0.89**	**124**	*e*Pg	Pg	17	19	02.7	-1.9
IVAS				eSg	Sg	17	19	16.1	0.0
UPM	**Unac-Piva**	**0.89**	**191**	*i*Pg	Pb	17	19	05.5	-0.6
UPM				eSg	Sb	17	19	18.5	-0.1
TRUS	**Trudelj**	**0.92**	**81**	*e*Pg	Pg	17	19	03.7	-1.6
TRUS				eSg	Sg	17	19	17.7	+0.5
TRUS	**Trudelj**	**0.92**	**81**	*e*Pg	Pg	17	19	03.7	-1.6
TRUS				eSg	Sg	17	19	17.7	+0.5
SJES	**Sjenica**	**1.02**	**143**	eSg	Sb	17	19	21.9	-0.2
GRUS	**Gruza**	**1.15**	**99**	*e*Pg	Pg	17	19	09.5	-0.2
GRUS				eSg	Sg	17	19	25.0	+0.4
GRUS	**Gruza**	**1.15**	**99**	*e*Pg	Pg	17	19	09.5	-0.2
GRUS				eSg	Sg	17	19	25.0	+0.4
FGSL	**Fruska Gora**	**1.18**	**24**	*e*Pg	Pg	17	19	09.2	-1.0
FGSL				eSg	Sg	17	19	25.3	-0.2
FRGS	**Fruska Gora**	**1.18**	**24**	*e*Pg	Pg	17	19	09.2	-1.0
FRGS				eSg	Sg	17	19	25.3	-0.2
BRY	**Bratogost**	**1.26**	**201**	*e*Pg	Pb	17	19	12.2	0.0
BRY				eSg	Sn	17	19	30.6	+0.4
SELS	**Selova**	**1.67**	**120**	*e*Pg	Pn	17	19	16.8	-1.4
SELS				eSg	Sn	17	19	40.4	0.0
KUBS	**Kucevo**	**1.85**	**79**	*e*Pg	Pb	17	19	21.7	-0.6
KUBS				eSg	Sb	17	19	45.7	-0.3
KUBS	**Kucevo**	**1.85**	**79**	*e*Pg	Pb	17	19	21.7	-0.6
KUBS				eSg	Sb	17	19	45.7	-0.3

ISCJB ***06*** *17:24:57.3±0.2,16°.58N±0°.02×93°.46W±0°.02,h151km, mb4.6/139, Error ellipse: s-maj=3.4km s-min=2.5km az=32.9*

IDC ***06*** *17:24:57.8±0.8,16°.58N×93°.53W,h141km±9km, mb4.1/14, mb1 4.3/15, mb1mx4.0/38, mbtmp4.5/15, MS3.3/6, Ms1 3.3/6, ms1mx3.0/46, Error ellipse: s-maj=20.2km s-min=9.6km az=58.0*

NEIC ***06*** *17:24:59.0±0.3,16°.50N×93°.48W,h153km±2km, mb4.7/163, MD5.1(MEX), Error ellipse: s-maj=5.1km s-min=3.1km az=211.0*

NEIC Felt [III] at Tuxtla Gutierrez.

GCMT ***06*** *17:24:59.0±0.6,16°.62N×93°.55W,h170km±5km, MW5.0/78, Moment Tensor Solution. s15,c15; s78,c93; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}0.34±.19; $M_{\theta\theta}$-2.67±.24; $M_{\phi\phi}$2.33±.24; $M_{r\theta}$2.97±.16; $M_{\theta\phi}$-1.22±.24; $M_{\phi r}$-1.40±.15; Best double couple: M○4.29800×10^{16} NP1:ϕ_s119.00000°,δ87.00000°,λ130.00000°. NP2: ϕ_s212.00000°,δ40.00000°,λ4.00000°. Principal axes: T 4.0860, Plg35.0000°, Azm62.0000°; N 0.4230, Plg40.0000°, Azm296.0000°; P -4.5090, Plg31.0000°, Azm177.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

MEX ***06*** *17:25:02.3±0.8,16°.29N×93°.79W,h111km±12km, MD5.1*

ISC 06 17:24:57.7±0.5,**16°.46N**±0°.04×**93°.63W**±0°.03,**h144**km±5km, **n644**,σ1**^{s}41**/654,**mb4.7**/140,**Chiapas**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TGIG		**0.58**	**57**	*e*P	**Pn**	**17 25 20.2**	**+1.3**
TGIG				eS	**Sn**	**17 25 35.4**	**+0.4**
TGIG		**0.58**	**57**	*e*P	**Pn**	**17 25 20.2**	**+1.3**
TGIG				eS	**Sn**	**17 25 35.4**	**+0.4**
TGBT	**Tuxtla Gutierr**	**0.61**	**59**	*i* P	**Pn**	**17 25 20.2**	**+1.3**
TGBT				eS	**Sn**	**17 25 34.2**	**-0.9**
CMIG	**Matias Romero**	**1.35**	**298**	P	**Pn**	**17 25 26.0**	**+0.8**
	722nm,0.3s,baz=126,slow=6.9,SNR=6297						
CMIG				S	**Sn**	**17 25 46.4**	**+0.1**
	3µm,0.3s,baz=300,slow=20,SNR=66						
CCIG	**Comitan**	**1.45**	**97**	*e*Pn	**Pn**	**17 25 27.9**	**+1.4**
CCIG				eSn	**Sn**	**17 25 45.5**	**-2.9**
CCIG	**Comitan**	**1.45**	**97**	*e*P	**Pn**	**17 25 28.3**	**+1.9**
CCIG				*i* S	**Sn**	**17 25 49.6**	**+1.3**
TUIG	**Tuzandepetl**	**1.73**	**334**	*i* P	**Pn**	**17 25 29.9**	**+0.5**
TUIG				*i* S	**Sn**	**17 25 53.0**	**-0.8**
TUIG	**Tuzandepetl**	**1.73**	**334**	*i* P	**Pn**	**17 25 29.9**	**+0.5**
TUIG				*i* S	**Sn**	**17 25 53.0**	**-0.8**
HUIG	**Huatulco**	**2.48**	**254**	*i* P	**Pn**	**17 25 37.2**	**-1.1**
HUIG				eS	**Sn**	**17 26 05.3**	**-4.1**
HUIG	**Huatulco**	**2.48**	**254**	*i* P	**Pn**	**17 25 37.2**	**-1.1**
HUIG				eS	**Sn**	**17 26 05.3**	**-4.1**
VHO	**Vista Hermosa**	**3.03**	**282**	*i* P	**Pn**	**17 25 47.1**	**+1.7**
VHO				eS	**Sn**	**17 26 20.7**	**-1.6**
VHO	**Vista Hermosa**	**3.03**	**282**	*i* P	**Pn**	**17 25 47.1**	**+1.7**
VHO				eS	**Sn**	**17 26 20.7**	**-1.6**
TPIG	**Tehuac#an**	**4.06**	**299**	*e*P	**Pn**	**17 26 00.3**	**+1.6**
TPIG				eS	**Sn**	**17 26 46.5**	**+0.4**
TPIG	**Tehuac#an**	**4.06**	**299**	*e*P	**Pn**	**17 26 00.3**	**+1.6**
TPIG				eS	**Sn**	**17 26 46.5**	**+0.4**
LVIG	**Laguna Verde**	**4.19**	**321**	*i* P	**Pn**	**17 25 58.8**	**-1.5**
LVIG				*i* S	**Sn**	**17 26 45.3**	**-3.6**
LVIG	**Laguna Verde**	**4.19**	**321**	*i* P	**Pn**	**17 25 58.8**	**-1.5**
LVIG				*i* S	**Sn**	**17 26 45.3**	**-3.6**
PNIG	**Pinotepa**	**4.31**	**270**	*i* P	**Pn**	**17 26 02.3**	**+0.3**
PNIG				*i* S	**Sn**	**17 26 49.5**	**-2.4**
PNIG	**Pinotepa**	**4.31**	**270**	*i* P	**Pn**	**17 26 02.3**	**+0.3**
PNIG				*i* S	**Sn**	**17 26 49.5**	**-2.4**
TLIG	**Tlapa**	**4.84**	**284**	*e*Pn	**Pn**	**17 26 10.7**	**+1.6**
TLIG				eSn	Sn	17 26 51.1	-14
BOQS	**Boqueron**	**5.00**	**122**	*e*P	**Pn**	**17 26 13.7**	**+2.4**
LFU	**La Fuente**	**5.13**	**121**	*e*P	**Pn**	**17 26 14.7**	**+1.8**
LFRS	**El Faro**	**5.24**	**122**	*e*P	**Pn**	**17 26 15.8**	**+1.4**
PPM	**Popocatepetl**	**5.42**	**299**	*e*P	**Pn**	**17 26 19.9**	**+2.9**
PPM				*i* S	**Sn**	**17 27 19.8**	**+1.0**
PPM	**Popocatepetl**	**5.42**	**299**	*e*P	**Pn**	**17 26 19.9**	**+2.9**
PPM				*i* S	**Sn**	**17 27 19.8**	**+1.0**
YAIG	**Yautepec**	**5.70**	**296**	*e*P	**Pn**	**17 26 22.9**	**+2.4**
YAIG				*i* S	**Sn**	**17 27 26.5**	**+1.3**
YAIG	**Yautepec**	**5.70**	**296**	*e*P	**Pn**	**17 26 22.9**	**+2.4**
YAIG				*i* S	**Sn**	**17 27 26.5**	**+1.3**
VTVM	**Tizayuca**	**5.89**	**305**	*e*P	**Pn**	**17 26 25.4**	**+2.3**
UNM	**Universidad Na**	**6.00**	**299**	*e*Pn	**Pn**	**17 26 27.3**	**+2.8**
UNM				eSn	Sn	17 27 14.1	-18
PTVM	**Pico Tres Padr**	**6.07**	**302**	*i* P	**Pn**	**17 26 28.7**	**+3.1**
PTVM	**Pico Tres Padr**	**6.07**	**302**	*i* P	**Pn**	**17 26 28.7**	**+3.1**
MAVM	**Malinalco, Edo**	**6.11**	**295**	*e*P	**Pn**	**17 26 28.6**	**+2.5**
TEIG	**Tepich**	**6.32**	**53**	P	**Pn**	**17 26 27.7**	**-0.8**
	1.2nm,0.3s,baz=123,slow=23,SNR=4.5						
TGUH	**Tegucigalpa,Un**	**6.59**	**110**	*e*Pn	**Pn**	**17 26 34.4**	**+2.2**
TGUH				eSn	Sn	17 27 27.6	-19
MOIG	**Morelia**	**7.87**	**295**	*e*Pn	**Pn**	**17 26 52.2**	**+2.7**
JTS	**JuntasAbangare**	**10.44**	**125**	P	**Pn**	**17 27 24.5**	**+0.8**
	9.7nm,0.3s,baz=25,slow=9.8,SNR=16						
JTS				S	**Sn**	**17 29 18.3**	**-0.9**
	2.6nm,0.3s,baz=60,slow=20,SNR=4.6						
ZAIG	**Zacatecas**	**10.49**	**308**	*e*Pn	**Pn**	**17 27 26.7**	**+2.1**
035Z	**Hargill**	**10.77**	**338**	P	**Pn**	**17 27 28.4**	**+0.4**
	baz=156						
035A	**Encino**	**11.22**	**339**	P	**Pn**	**17 27 34.5**	**+0.7**
	baz=157,SNR=13						
936A	**North Padre Is**	**11.42**	**343**	P	**Pn**	**17 27 37.6**	**+1.0**
	baz=161						
034A	**Hebbronville**	**11.54**	**337**	P	**Pn**	**17 27 39.6**	**+1.5**
	baz=154,SNR=23						
KVTX	**Kingsville**	**11.71**	**341**	*e*Pn	**Pn**	**17 27 42.5**	**+2.2**
934A	**Benavides**	**11.97**	**339**	P	**Pn**	**17 27 45.3**	**+1.5**
	baz=156,SNR=91						
933A	**Laredo**	**12.26**	**336**	P	**Pn**	**17 27 49.2**	**+1.7**
	baz=153,SNR=38						
835A	**Beeville**	**12.39**	**342**	P	**Pn**	**17 27 50.7**	**+1.6**
	baz=160,SNR=34						
738A	**Farr-Stevens R**	**12.46**	**352**	P	**Pn**	**17 27 50.6**	**+0.6**
	baz=170						
834A	**Tilden**	**12.46**	**339**	P	**Pn**	**17 27 50.7**	**+0.5**
	baz=157,SNR=102						
737A	**Port Lavaca**	**12.51**	**349**	P	**Pn**	**17 27 51.2**	**+0.5**
	baz=167						
736A	**Circle Diamond**	**12.83**	**346**	P	**Pn**	**17 27 55.8**	**+1.0**
	baz=164,SNR=11						
735A	**Kenedy**	**12.92**	**343**	P	**Pn**	**17 27 57.1**	**+1.1**
	baz=161,SNR=8.4						
833A	**Chaparral WMA,**	**12.95**	**337**	P	**Pn**	**17 27 56.6**	**+0.2**
	baz=154,SNR=179						
734A	**La Parita Cree**	**13.13**	**341**	P	**Pn**	**17 28 00.4**	**+1.7**
	baz=158,SNR=20						
832A	**Faith Ranch, C**	**13.14**	**335**	P	**Pn**	**17 28 00.1**	**+1.2**
	baz=152,SNR=59						
637A	**Eagle Lake**	**13.15**	**350**	P	**Pn**	**17 28 00.5**	**+1.5**
	baz=168,SNR=8.2						
733A	**Divot King Ran**	**13.27**	**338**	P	**Pn**	**17 28 02.4**	**+2.0**
	baz=155						
636A	**Smothers Creek**	**13.33**	**347**	P	**Pn**	**17 28 02.6**	**+1.3**
	baz=165,SNR=16						
635A	**Leesville**	**13.41**	**344**	P	**Pn**	**17 28 03.6**	**+1.3**
	baz=162,SNR=7.1						
634A	**China Grove, S**	**13.57**	**342**	P	**Pn**	**17 28 05.2**	**+0.8**
	baz=160,SNR=11						
539A	**Cross D Ranch,**	**13.62**	**356**	P	**Pn**	**17 28 05.6**	**+0.7**
	baz=175,SNR=8.7						
540A	**Vidor**	**13.69**	**359**	P	**Pn**	**17 28 06.3**	**+0.5**
	baz=178						
537A	**Green Hill Far**	**13.78**	**350**	P	**Pn**	**17 28 08.2**	**+1.2**
	baz=169,SNR=16						
538A	**Harpers Horsep**	**13.80**	**353**	P	**Pn**	**17 28 07.8**	**+0.6**
	baz=172						
545A	**Edgard**	**13.82**	**11**	P	**Pn**	**17 28 08.6**	**+1.1**
	baz=192						
633A	**Saathoff Ranch**	**13.90**	**339**	P	**P**	**17 28 10.4**	**-1.6**
	baz=157,SNR=154						
536A	**Bastrop**	**13.91**	**348**	P	**Pn**	**17 28 09.4**	**+0.8**
	baz=166,SNR=5.5						
535A	**Dale**	**13.98**	**346**	P	**P**	**17 28 11.5**	**-1.4**
	baz=164,SNR=29						
534A	**Blanco**	**14.21**	**343**	P	**P**	**17 28 14.6**	**-0.9**
	baz=150,SNR=252						
440A	**Kirbyville**	**14.22**	**359**	P	**Pn**	**17 28 13.4**	**+0.9**
	baz=178						
442A	**Mamou**	**14.23**	**4**	P	**Pn**	**17 28 13.2**	**+0.6**
	baz=184,SNR=5.3						
441A	**DeRidder**	**14.23**	**2**	P	**P**	**17 28 14.1**	**-1.5**
	baz=181,SNR=8.4						
439A	**Center Grove,**	**14.30**	**356**	P	**P**	**17 28 14.9**	**-1.6**
	baz=175,SNR=9.3						
438A	**Sam Houston St**	**14.32**	**354**	P	**P**	**17 28 15.6**	**-1.1**
	baz=172,SNR=8.8						
443A	**Delano Plantat**	**14.34**	**6**	P	**P**	**17 28 15.3**	**-1.5**
	baz=187						
533A	**Kerrville**	**14.42**	**341**	P	**P**	**17 28 17.6**	**-0.3**
	baz=158						
444A	**Pine Grove**	**14.43**	**10**	P	**Pn**	**17 28 15.6**	**+0.4**
	baz=191						
437A	**Phantom Ranch,**	**14.48**	**351**	P	**P**	**17 28 17.0**	**-1.5**
	baz=170						
445A	**Amite**	**14.52**	**11**	P	**Pn**	**17 28 16.5**	**+0.2**
	baz=192						
436A	**Wall Ranch, Ga**	**14.53**	**349**	P	**P**	**17 28 18.2**	**-0.8**
	baz=167,SNR=14						
435B	**Jarrell**	**14.70**	**346**	P	**P**	**17 28 20.5**	**-0.5**
	baz=164,SNR=28						
446A	**Poplarville**	**14.79**	**15**	P	**Pn**	**17 28 20.3**	**+0.7**
	baz=196,SNR=7.0						
341A	**Kurthwood**	**14.81**	**2**	P	**P**	**17 28 20.7**	**-1.4**
	baz=151,SNR=8.7						
339A	**Huntington**	**14.83**	**357**	P	**P**	**17 28 21.0**	**-1.3**
	baz=176,SNR=24						
340A	**Bronson**	**14.89**	**359**	P	**P**	**17 28 21.7**	**-1.3**
	baz=178,SNR=5.7						
342A	**Flagon Creek P**	**14.89**	**4**	P	**Pn**	**17 28 21.0**	**+0.1**
	baz=184,SNR=12						
434A	**Burnet**	**14.90**	**344**	P	**Pn**	**17 28 21.8**	**+0.7**
	baz=162,SNR=104						
338A	**Crockett**	**14.90**	**354**	P	**Pn**	**17 28 21.9**	**+0.7**
	baz=173						
447A	**Lucedale**	**14.97**	**17**	P	**Pn**	**17 28 22.4**	**+0.5**
	baz=198						
JCT	**Junction City**	**15.05**	**339**	P	**P**	**17 28 23.8**	**-1.1**
	baz=156,SNR=41						
JCT	**Junction City**	**15.05**	**339**	*e*Pn	**P**	**17 28 24.9**	**0.0**
433A	**Art**	**15.07**	**342**	P	**Pn**	**17 28 23.5**	**+0.2**
	baz=159,SNR=153						
345A	**Thompson Farm,**	**15.14**	**12**	P	**Pn**	**17 28 24.0**	**0.0**
	baz=193						
336A	**Riesel**	**15.14**	**349**	P	**P**	**17 28 26.3**	**+0.5**
	baz=168,SNR=17						
335A	**Moody**	**15.15**	**347**	P	**P**	**17 28 26.1**	**+0.2**
	baz=165,SNR=52						
344A	**Westbrook Farm**	**15.15**	**10**	P	**Pn**	**17 28 23.9**	**-0.3**
	baz=190						
NATX	**Nacogdoches**	**15.26**	**357**	P	**P**	**17 28 26.5**	**-0.5**
	baz=176						
NATX	**Nacogdoches**	**15.26**	**357**	*e*Pn	**P**	**17 28 27.3**	**+0.2**
	102nm,0.8s						
HPIG		**15.27**	**315**	*e*Pn	**P**	**17 28 28.2**	**+0.7**
	27nm,1.2s						
346A	**Big Creek Wild**	**15.34**	**14**	P	**Pn**	**17 28 26.3**	**-0.2**
	baz=195						
448A	**Bay Minette**	**15.34**	**19**	P	**Pn**	**17 28 26.7**	**+0.3**
	baz=201						
334A	**Lometa**	**15.38**	**345**	P	**P**	**17 28 28.1**	**-0.4**
	baz=163,SNR=57						
MTDJ	**Mount Denham**	**15.47**	**81**	*e*Pn	**Pn**	**17 28 28.6**	**+0.3**
	192nm,1.2s						
243A	**Waterproof**	**15.47**	**7**	P	**P**	**17 28 28.8**	**-0.6**
	baz=187,SNR=11						
239A	**Gary**	**15.50**	**357**	P	**P**	**17 28 29.0**	**-0.8**
	baz=176,SNR=6.8						
241A	**Mo Tay, Goldon**	**15.50**	**2**	P	**P**	**17 28 28.9**	**-0.9**
	baz=182						
240A	**Hunter Patters**	**15.51**	**360**	P	**Pn**	**17 28 28.7**	**+0.1**
	baz=179						
238A	**Jacksonville**	**15.53**	**355**	P	**P**	**17 28 29.2**	**-0.9**
	baz=174,SNR=22						
333A	**Richland Sprin**	**15.58**	**343**	P	**P**	**17 28 31.2**	**+0.6**
	baz=160,SNR=80						
347A	**Saraland**	**15.58**	**16**	P	**Pn**	**17 28 29.4**	**0.0**
	baz=198						
242A	**Grayson**	**15.59**	**5**	P	**Pn**	**17 28 29.8**	**+0.2**
	baz=185,SNR=12						
237A	**Washetta, Mont**	**15.60**	**353**	P	**P**	**17 28 30.7**	**-0.1**
	baz=172						
236A	**Katherine and**	**15.69**	**351**	P	**P**	**17 28 32.5**	**+0.6**
	baz=169,SNR=7.2						
244A	**Avery, Jackson**	**15.74**	**9**	P	**Pn**	**17 28 31.3**	**-0.2**
	baz=190,SNR=9.9						
348A	**Jackson**	**15.77**	**18**	P	**Pn**	**17 28 31.5**	**-0.3**
	baz=200						
TX31	**Lajitas Ar. Si**	**15.78**	**326**	*e*Pn	**P**	**17 28 34.5**	**+1.4**
TXAR	**Lajitas Array**	**15.78**	**326**	P	**P**	**17 28 34.5**	**+1.5**
	1.0nm,0.3s,baz=150,slow=14,SNR=145						
BRAL	**Brewton**	**15.82**	**21**	*e*Pn	**P**	**17 28 33.8**	**+0.5**
	706nm,1.6s						
WHTX	**Lake Whitney,**	**15.84**	**348**	P	**Pn**	**17 28 31.3**	**-1.4**
	baz=166,SNR=50						
WHTX	**Lake Whitney,**	**15.84**	**348**	*e*Pn	**P**	**17 28 35.5**	**+1.9**
	149nm,0.7s						
245A	**Little AP, Sta**	**15.87**	**12**	P	**Pn**	**17 28 31.8**	**-1.2**
	baz=193						
VBMS	**Vicksburg**	**15.94**	**10**	P	**Pn**	**17 28 33.6**	**-0.3**
	baz=190						
VBMS	**Vicksburg**	**15.94**	**10**	*e*Pn	**P**	**17 28 34.0**	**-0.6**
	178nm,1.0s						
234A	**Clairette**	**16.00**	**346**	P	**Pn**	**17 28 34.7**	**0.0**
	baz=164,SNR=26						
141A	**Papa Simpson,**	**16.08**	**2**	P	**Pn**	**17 28 34.5**	**-1.1**
	baz=182,SNR=7.2						
142A	**Monroe**	**16.09**	**5**	P	**P**	**17 28 35.9**	**-0.4**
	baz=185						
140A	**Cam and Jess,**	**16.11**	**0**	P	**P**	**17 28 36.0**	**-0.4**
	baz=180,SNR=5.7						
136A	**Ennis**	**16.16**	**351**	P	**Pn**	**17 28 35.8**	**-0.7**
	baz=170,SNR=6.5						
139A	**Bunkhouse Ranc**	**16.16**	**358**	P	**Pn**	**17 28 35.6**	**-1.0**
	baz=177						
DWPF	**Disney Wildern**	**16.16**	**42**	*e*Pn	**Pn**	**17 28 36.0**	**-0.7**
	583nm,1.8s						
247A	**Quitman**	**16.18**	**15**	P	**Pn**	**17 28 36.2**	**-0.6**
	baz=197						
137A	**Heron Place, G**	**16.18**	**354**	P	**P**	**17 28 38.4**	**+1.1**
	baz=172,SNR=16						
138A	**Matatall Enter**	**16.18**	**356**	P	**P**	**17 28 37.1**	**-0.1**
	baz=174,SNR=8.1						
233A	**Rising Star**	**16.21**	**344**	P	**P**	**17 28 37.9**	**+0.3**
	baz=161,SNR=59						
143A	**Socs Landing,**	**16.29**	**7**	P	**Pn**	**17 28 37.7**	**-0.6**
	baz=187						
144A	**Alexander Plac**	**16.36**	**10**	P	**P**	**17 28 38.8**	**-0.4**
	baz=190						
135A	**Vickery Place,**	**16.39**	**349**	P	**P**	**17 28 40.5**	**+0.9**
	baz=167						
145A	**Houston Renfro**	**16.42**	**11**	P	**Pn**	**17 28 38.9**	**-0.9**
	baz=192						
248A	**Dixon Mills**	**16.46**	**18**	P	**Pn**	**17 28 39.6**	**-0.6**
	baz=200						
134A	**White-Moore Ra**	**16.54**	**347**	P	**P**	**17 28 41.2**	**0.0**
	baz=164,SNR=14						
146A	**Union**	**16.63**	**14**	P	**P**	**17 28 41.0**	**-1.2**
	baz=195						
Z40A	**Long Farm, Mag**	**16.72**	**1**	P	**P**	**17 28 42.5**	**-0.7**
	baz=180,SNR=8.1						
Z41A	**Richland Creek**	**16.74**	**2**	P	**Pn**	**17 28 43.7**	**0.0**
	baz=182,SNR=13						
Z37A	**Pogue Cattle C**	**16.76**	**354**	P	**P**	**17 28 43.1**	**-0.6**
	baz=173,SNR=6.7						
Z38A	**Mt. Pleasant**	**16.76**	**356**	P	**Pn**	**17 28 44.2**	**+0.3**
	baz=175						
133A	**Hamilton Ranch**	**16.77**	**344**	P	**P**	**17 28 43.4**	**-0.4**
	baz=162,SNR=21						
Z42A	**Norrel Spur, H**	**16.81**	**5**	P	**P**	**17 28 43.5**	**-0.7**
	baz=185						
Z43A	**Armstrong Fami**	**16.81**	**7**	P	**P**	**17 28 43.2**	**-1.1**
	baz=187						
147A	**Livingston**	**16.85**	**16**	P	**P**	**17 28 43.8**	**-0.9**
	baz=198						
SLBS	**Sierra La Lagu**	**16.91**	**298**	*e*P	**Pn**	**17 28 49.4**	**+3.4**
	248nm,1.9s						
Z36A	**Blue Ridge**	**16.92**	**352**	P	**Pn**	**17 28 46.3**	**+0.4**
	baz=170,SNR=19						
ABTX	**Abilene, Hawle**	**16.99**	**342**	P	**Pn**	**17 28 47.0**	**+0.3**
	baz=160,SNR=64						
ABTX	**Abilene, Hawle**	**16.99**	**342**	*e*P	**Pn**	**17 28 48.5**	**+1.8**
	248nm,0.6s						
Z44A	**Pea Ridge, Bel**	**16.99**	**9**	P	**P**	**17 28 45.8**	**-0.4**
	baz=190,SNR=11						
Z35A	**Perchaven, San**	**17.11**	**350**	P	**P**	**17 28 47.3**	**-0.2**
	baz=168						
WLAR	**White Oak Lake**	**17.16**	**1**	*e*P	**Pn**	**17 28 49.4**	**+0.8**
	125nm,0.9s						
Z46A	**Louisville**	**17.19**	**13**	P	**P**	**17 28 46.0**	**-2.3**
	baz=195						
Z45A	**Winona**	**17.21**	**11**	P	**P**	**17 28 46.9**	**-1.7**
	baz=192						
Z34A	**Collier Ranch,**	**17.27**	**348**	P	**P**	**17 28 48.8**	**-0.6**
	baz=166,SNR=12						
Y42A	**Garnett, Star**	**17.38**	**5**	P	**P**	**17 28 49.6**	**-0.8**
	baz=185						
LPIG	**La Paz**	**17.38**	**299**	LR	LR	17 34 38.8	
	comp=Z,78nm,19.6s,baz=133,slow=33						
Z33A	**Whitaker Ranch**	**17.38**	**345**	P	**P**	**17 28 49.5**	**-1.0**
	baz=163,SNR=30						
Z47A	**Carrollton**	**17.40**	**16**	P	**P**	**17 28 48.9**	**-1.8**
	baz=198,SNR=5.7						
Y39A	**Lockesburg**	**17.41**	**359**	P	**P**	**17 28 50.2**	**-0.5**
	baz=178						
Y38A	**Idabel**	**17.42**	**357**	P	**Pn**	**17 28 51.2**	**-0.6**
	baz=176,SNR=11						
CCAR	**Cane Creek**	**17.46**	**5**	*e*P	**Pn**	**17 28 52.9**	**+0.6**
	99nm,0.6s						
Y40A	**Okolona**	**17.48**	**1**	P	**P**	**17 28 51.6**	**0.0**
	baz=181,SNR=6.5						
TIGA	**Tifton**	**17.49**	**30**	*e*P	**Pn**	**17 28 53.1**	**+0.4**
	102nm,1.0s						
Y36A	**Durant**	**17.52**	**353**	P	**Pn**	**17 28 53.0**	**-0.1**
	baz=171,SNR=16						
Y37A	**Hugo**	**17.53**	**355**	P	**P**	**17 28 51.7**	**-0.4**
	baz=173,SNR=15						
LRAL	**Lakeview Retre**	**17.56**	**19**	*e*P	**Pn**	**17 28 53.6**	**+0.1**
	37nm,1.1s						
Y35A	**Marietta**	**17.64**	**351**	P	**P**	**17 28 52.6**	**-0.7**
	baz=169,SNR=7.7						
Y44A	**Strider, Charl**	**17.69**	**9**	P	**P**	**17 28 53.9**	**0.0**
	baz=190						
Z48A	**Northport**	**17.71**	**17**	P	**P**	**17 28 53.1**	**-1.0**
	baz=199						
Y45A	**Yeager Farm, C**	**17.71**	**11**	P	**P**	**17 28 53.5**	**-0.6**
	baz=192						
Y46A	**Houston**	**17.87**	**13**	P	**P**	**17 28 53.9**	**-2.0**
	baz=195,SNR=19						
GTBY	**Guantanamo Bay**	**17.93**	**76**	*e*P	**P**	**17 28 56.8**	**+0.2**
	717nm,1.5s						
X40A	**Basin Creek Fa**	**17.96**	**2**	P	**P**	**17 28 56.1**	**-0.8**
	baz=182,SNR=8.0						
X39A	**Fountain Ranch**	**17.98**	**359**	P	**P**	**17 28 55.9**	**-1.2**
	baz=178,SNR=8.4						
X41A	**Kaden, Bauxite**	**17.98**	**3**	P	**P**	**17 28 57.2**	**+0.1**
	baz=183						
MIAR	**Mount Ida**	**18.01**	**0**	P	**P**	**17 28 57.4**	**0

AMTX	Amarillo baz=156	19.71	340	P	P	17 29 16.5	+0.5
AMTX	Amarillo 152nm,1.0s	19.71	340	eP	P	17 29 16.9	+0.9
HHAR	Hobbs 46nm,0.9s	19.74	359	eP	P	17 29 16.5	+0.3
U40A	Yellville baz=182,SNR=8.4	19.82	2	P	P	17 29 16.7	-0.5
U39A	Green Forest baz=180	19.84	0	P	P	17 29 16.8	-0.5
U41A	Viola baz=184	19.86	4	P	P	17 29 16.5	-1.0
SWET	Sewanee 8.8nm,0.7s	19.91	19	eP	P	17 29 18.0	0.0
U37A	Salina baz=175,SNR=8.3	19.91	356	P	P	17 29 18.6	+0.6
U38A	Gravette baz=178,SNR=7.3	19.91	358	P	P	17 29 17.9	-0.1
U42A	Revenden baz=186,SNR=8.3	19.92	6	P	P	17 29 17.0	-1.1
U36A	Oologah baz=174	19.94	355	P	P	17 29 18.9	+0.6
U35A	Pawnee baz=171,SNR=7.2	20.02	353	P	P	17 29 18.9	-0.3
U43A	Rector baz=189	20.03	8	P	P	17 29 18.3	-1.0
HSIG	86nm,2.0s	20.25	311	eP	Pn	17 29 23.9	-1.3
WVT	Waverly 33nm,1.1s	20.26	14	eP	P	17 29 22.3	+0.6
RGRS	Roger Stewart 524nm,0.5s	20.39	34	eP	P	17 29 22.8	-0.4
ZARC	Zaragoza, Cauc	20.40	114	eP	P	17 29 21.1	-2.4
U32A	Winter Ranch, baz=165	20.40	347	P	P	17 29 23.8	+0.5
PARMO	Parma	20.41	9	eP	P	17 29 24.7	+1.4
PBMO	Poplar Bluff 162nm,1.8s	20.43	7	eP	P	17 29 22.6	-1.0
HELC	Santa Helena 19nm,1.0s	20.46	118	eP	P	17 29 23.8	-0.7
T39A	Clever baz=180	20.48	1	P	P	17 29 24.1	-0.1
T38A	Diamond baz=178,SNR=5.5	20.50	358	P	P	17 29 23.7	-0.6
121A	Cookes Peak, D baz=138	20.50	324	P	P	17 29 24.5	-0.1
121A	Cookes Peak, D 22nm,0.8s	20.50	324	eP	Pn	17 29 27.3	-1.1
CSU	Charleston Sou	20.52	34	eP	P	17 29 22.2	-2.3
T35A	Sooner Cattle baz=172,SNR=11	20.53	353	P	P	17 29 23.4	-1.3
T41A	Mountain View baz=185,SNR=12	20.57	4	P	P	17 29 24.1	-1.0
319A	Douglas 37nm,1.0s	20.58	319	eP	Pn	17 29 29.1	-0.1
CPCT	Cooper Cave 12nm,0.7s	20.59	22	eP	P	17 29 25.3	0.0
T42A	Van Buren baz=186	20.61	6	P	P	17 29 24.1	-1.4
T37A	Cheneyville 18 baz=176,SNR=11	20.61	357	P	P	17 29 24.7	-0.8
T36A	Boggs Farm, Ca baz=174,SNR=11	20.61	355	P	P	17 29 25.1	-0.4
T40A	Mansfield baz=183	20.63	3	P	P	17 29 24.2	-1.5
T34A	McClaskey Farm baz=170	20.72	352	P	P	17 29 26.2	-0.4
T43A	Greenville baz=189	20.75	8	P	P	17 29 24.9	-2.1
T44A	Benton baz=190	20.85	9	P	P	17 29 26.6	-1.5
JSC	Jenkinsville 41nm,1.1s	20.94	30	eP	P	17 29 30.1	+1.1
TKL	Tuckaleechee C 17nm,0.9s,baz=171,slow=9.7,SNR=4.6	21.04	23	P	P	17 29 30.0	-0.2
TKL	Tuckaleechee C 33nm,0.9s	21.04	23	eP	P	17 29 33.4	+3.2
S40A	Lebanon baz=183	21.08	2	P	P	17 29 29.2	-1.3
S38A	Stockton baz=179,SNR=6.0	21.09	359	P	P	17 29 29.4	-1.2
S41A	Jillco Farms, baz=185,SNR=5.2	21.11	4	P	P	17 29 29.5	-1.3
BNM	Barren Site	21.13	329	eP	P	17 29 34.2	+2.7
S39A	Bolivar baz=180,SNR=11	21.15	1	P	P	17 29 30.0	-1.3
S37A	Fort Scott baz=176	21.24	357	P	P	17 29 30.9	-1.3
S36A	Lake Cedric, C baz=174,SNR=5.3	21.25	356	P	P	17 29 31.1	-1.3
S43A	Fulton Ridge, baz=189	21.26	8	P	P	17 29 30.3	-2.2
LPM	Los Pinos Moun	21.26	329	eP	P	17 29 34.6	+1.8
S42A	Caledonia baz=187	21.37	6	P	P	17 29 31.4	-2.3
S34A	Willow Spring baz=170,SNR=6.4	21.38	352	P	P	17 29 32.4	-1.3
SDDR	Presa de Saban 26nm,0.9s	21.43	80	eP	P	17 29 34.0	-0.6
TOLC	Tolima	21.50	121	eP	P	17 29 35.2	-0.4
LAZ	Ladron	21.59	328	eP	P	17 29 32.3	-4.0
KMSC	Kings Mountain 21nm,0.8s	21.61	28	eP	P	17 29 36.6	+0.4
R38A	Fenwick Farm, baz=179,SNR=6.6	21.64	359	P	P	17 29 35.4	-1.2
ANMO	Albuquerque 4.4nm,0.8s,baz=154,slow=11,SNR=11	21.69	330	P	P	17 29 39.1	+1.8
ANMO	Albuquerque baz=145	21.69	330	P	P	17 29 37.2	-0.2
ANMO	Albuquerque 9.8nm,0.8s	21.69	330	eP	P	17 29 38.8	+1.5
R39A	Chumby, Stover baz=181,SNR=11	21.77	1	P	P	17 29 36.1	-1.8
R40A	Maddies Statio baz=183,SNR=6.2	21.78	3	P	P	17 29 35.3	-2.7
R37A	Teagarden Farm baz=176	21.79	357	P	P	17 29 36.3	-1.8
R36A	Gordon, Harris baz=175	21.84	356	P	P	17 29 36.3	-2.3
R41A	Rosebud baz=185,SNR=7.0	21.84	5	P	P	17 29 35.5	-3.1
GRTK	Grand Turk 131nm,0.9s	21.85	73	eP	P	17 29 39.2	+0.3
R35A	Emporia Munici baz=173	21.89	355	P	P	17 29 36.4	-2.8
TZTN	Tazewell 50nm,0.8s	21.91	22	eP	P	17 29 35.6	-3.8
CMBC	Cumbal	21.92	133	eP	P	17 29 43.8	+3.6
R43A	Red Bud baz=189	21.97	8	P	P	17 29 37.4	-2.5
R34A	Isabella, Hill baz=170,SNR=9.0	21.98	352	P	P	17 29 38.1	-2.0
OTAV	Otavalo 20nm,0.9s	22.00	136	eP	P	17 29 42.4	+1.4
USIN	University of 69nm,1.0s	22.05	13	eP	P	17 29 39.9	-0.9
R44A	Waltonville baz=191	22.07	10	P	P	17 29 39.5	-1.4
TUC	Tucson baz=131	22.15	319	P	P	17 29 43.2	+1.2
TUC	Tucson 28nm,1.0s	22.15	319	eP	P	17 29 44.5	+2.5
ROSC	El Rosal 6.0nm,0.7s	22.19	119	eP	P	17 29 41.2	-1.6
Q37A	Longview Farm, baz=178	22.34	358	P	P	17 29 42.8	-0.8
PRAC	Prado	22.35	123	eP	P	17 29 43.7	-0.4
PRAC	Prado 24nm,0.6s	22.35	123	eP	P	17 29 42.8	-1.3
Q35A	Mercer Eighty, baz=174,SNR=5.9	22.41	355	P	P	17 29 43.0	-1.4
Q38A	Cooks Store, C baz=180,SNR=7.6	22.41	0	P	P	17 29 42.1	-2.3
Q40A	Laux Farm, Aux baz=184,SNR=5.4	22.49	3	P	P	17 29 42.4	-2.6
Q39A	Willow Grove F baz=181	22.50	1	P	P	17 29 43.2	-2.1
Q41A	Truxton baz=186,SNR=8.1	22.50	5	P	P	17 29 42.5	-2.7
Q42A	Golden Eagle baz=187	22.53	6	P	P	17 29 43.0	-2.4
Q34A	Chapman baz=171	22.56	353	P	P	17 29 45.0	-0.8
WCI	Wyandotte Cave 37nm,0.7s	22.62	15	eP	P	17 29 44.4	-2.0
Q43A	New Douglas baz=189	22.66	8	P	P	17 29 44.1	-2.6
T25A	Trinidad baz=152,SNR=21	22.70	337	P	P	17 29 47.4	+0.1
T25A	Trinidad 38nm,0.9s	22.70	337	eP	P	17 29 48.8	+1.5
KSU1	Kansas State U baz=172	22.70	354	P	P	17 29 45.6	-1.5
KSU1	Kansas State U	22.70	354	epP	pP	17 30 10.0	-4.0
RUSC	La Rusia	22.71	115	eP	P	17 29 46.0	-2.0
RUSC	La Rusia 11nm,1.3s	22.71	115	eP	P	17 29 45.8	-2.1
OLIL	Olney 76nm,0.8s	22.71	11	eP	P	17 29 45.8	-1.3
Q44A	Meyer Farm, Va baz=191	22.72	9	P	P	17 29 44.5	-2.7
CHIC	Chingaza	22.80	119	eP	P	17 29 46.5	-2.1
CBKS	Cedar Bluff baz=164	22.90	348	P	P	17 29 48.3	-0.7
P39B	Salisbury baz=182	22.95	2	P	P	17 29 48.4	-1.0
P40A	Paris baz=184,SNR=9.5	23.02	3	P	P	17 29 47.5	-2.5
P37A	Lathrop baz=178	23.05	359	P	P	17 29 48.7	-1.6
P35A	Duane Minner, baz=174,SNR=10	23.07	355	P	P	17 29 48.4	-2.2
P38A	Dawn baz=180,SNR=5.0	23.08	0	P	P	17 29 48.7	-1.8
P36A	Good Intent, A baz=176,SNR=7.8	23.11	357	P	P	17 29 49.3	-1.6
P34A	Walnut Farm, R baz=172,SNR=5.5	23.17	354	P	P	17 29 50.7	-0.7
X18A	Snowflake 32nm,1.3s	23.19	324	eP	P	17 29 53.3	+1.4
P42A	Winchester baz=188	23.21	6	P	P	17 29 50.4	-1.4
P41A	Barry, Barry baz=186	23.23	5	P	P	17 29 50.6	-1.4
214A	Organ Pipe Nat baz=127	23.26	315	P	P	17 29 53.1	+0.7
SJAC	San Juan de Ar	23.37	122	eP	P	17 29 54.4	+0.8
P43A	Skaggs, Pawnee baz=190	23.37	8	P	P	17 29 53.1	-0.2
BLO	Bloomington 51nm,0.8s	23.46	14	eP	P	17 29 53.9	-0.2
W18A	Petrified Fore 30nm,1.3s	23.50	325	eP	P	17 29 56.3	+1.5
O38A	Galt baz=180	23.57	0	P	P	17 29 53.9	-1.2
O36A	Bolckow baz=176	23.61	357	P	P	17 29 54.1	-1.4
O37A	Wolven Farm, M baz=178	23.62	359	P	P	17 29 54.1	-1.5
O40A	La Belle baz=184	23.62	3	P	P	17 29 54.2	-1.3
SDCO	Great Sand Dun baz=150	23.64	336	P	P	17 29 55.2	-0.9
SDCO	Great Sand Dun 23nm,1.2s	23.64	336	eP	P	17 29 57.6	+1.5
SDV	Santo Domingo 40nm,0.8s	23.65	106	eP	P	17 29 55.0	-1.3
O41A	Passleys Farm, baz=186	23.69	5	P	P	17 29 55.3	-0.9
O39A	Kirksville baz=182	23.72	2	P	P	17 29 55.2	-1.3
BLA	Blacksburg	23.74	27	epP	pP	17 30 26.5	+1.3
O33A	Hebron baz=170	23.78	352	P	P	17 29 55.7	-1.3
O34A	Beatrice baz=172	23.78	354	P	P	17 29 56.0	-1.0
O35A	Humboldt baz=174	23.80	356	P	P	17 29 56.0	-1.1
KSCO	Kaye Shedlock' baz=158	23.80	342	P	P	17 29 57.6	+0.2
KSCO	Kaye Shedlock' 51nm,0.9s	23.80	342	eP	P	17 29 57.6	+0.2
X16A	Lo Mia Camp, P 24nm,0.9s	23.98	322	eP	P	17 30 00.2	+1.1
S22A	4UR Ranch, Cre baz=147,SNR=10	24.18	334	P	P	17 30 02.3	+1.3
S22A	4UR Ranch, Cre 26nm,1.3s	24.18	334	eP	P	17 30 03.0	+2.0
N37A	Lee Faris, Mou baz=178	24.21	359	P	P	17 30 00.2	-0.7
N38A	Joes South For baz=181,SNR=6.6	24.25	1	P	P	17 30 00.0	-1.1
N41A	Harden Midland baz=186	24.28	5	P	P	17 29 59.6	-1.9
N36A	Muff Farm, Cla baz=177	24.29	358	P	P	17 30 00.6	-1.1
HDIL	Hopedale	24.30	8	epP	pP	17 30 33.5	+2.4
N39A	Derby Farms, D baz=182	24.35	2	P	P	17 29 59.9	-2.2
N35A	Tabor baz=175	24.37	356	P	P	17 30 00.8	-1.6
113A	Mohawk Valley, 16nm,1.0s	24.39	315	eP	P	17 30 05.8	+3.1
N40A	Mertquake, Sal baz=184	24.40	4	P	P	17 30 01.2	-1.4
N34A	Lincoln baz=173	24.41	355	P	P	17 30 01.5	-1.2
MVCO	Mesa Verde baz=143,SNR=5.3	24.49	330	P	P	17 30 03.4	-0.3
MVCO	Mesa Verde 29nm,1.0s	24.49	330	eP	P	17 30 05.9	+2.2
SFIN	Lafayette 53nm,1.2s	24.50	12	eP	P	17 30 03.7	+0.3
Q24A	Divide baz=152	24.58	338	P	P	17 30 03.2	-1.4
Q24A	Divide 75nm,1.9s	24.58	338	eP	P	17 30 03.4	-1.2
Y14A	Wickenburg 46nm,1.2s	24.62	319	eP	P	17 30 07.1	+2.3
WUAZ	Wupatki baz=135	24.71	324	P	P	17 30 04.3	-1.4
WUAZ	Wupatki 31nm,1.0s	24.71	324	eP	P	17 30 07.6	+1.9
M37A	Trindle Farm, baz=179	24.86	359	P	P	17 30 05.3	-1.4
M38A	Pleasantville baz=181	24.87	1	P	P	17 30 05.7	-1.2
M40A	Post Highland baz=184	24.92	4	P	P	17 30 05.8	-1.5
M36A	Felix, Anita baz=177,SNR=5.7	24.92	358	P	P	17 30 05.7	-1.6
M39A	Webster baz=183	24.96	3	P	P	17 30 06.4	-1.2
M41A	Milan baz=187	24.97	6	P	P	17 30 05.9	-1.9
M35A	Neola baz=175	24.98	356	P	P	17 30 06.6	-1.2
M34A	Aspy Farms, Fr baz=173	25.08	355	P	P	17 30 08.4	-0.4
BGNE	Belgrade baz=170	25.16	352	P	P	17 30 08.7	-0.8
BGNE	Belgrade 79nm,0.8s	25.16	352	eP	P	17 30 08.4	-1.1
M33A	Taylor Creek F baz=172	25.21	354	P	P	17 30 08.9	-1.1
GLA	Glamis baz=128	25.28	315	P	P	17 30 10.3	-0.4
GLA	Glamis 20nm,1.0s	25.28	315	eP	P	17 30 11.1	+0.4
JSRW	J. Sargeant Re	25.30	30	eP	P	17 30 11.2	+0.4
SCIA	State Center	25.36	1	eP	P	17 30 09.4	-1.8
SCIA				epP	pP	17 30 38.1	-3.5
ACSO	Alum Creek Sta 71nm,1.1s	25.43	19	eP	P	17 30 09.9	-2.0
OGNE	Ogallala baz=161	25.45	345	P	P	17 30 12.2	-0.1
OGNE	Ogallala 86nm,0.9s	25.45	345	eP	P	17 30 13.4	+1.1
SMCO	Snowmass 32nm,1.0s	25.46	335	eP	P	17 30 14.0	+1.3
ISCO	Idaho Springs baz=152	25.49	338	P	P	17 30 12.8	0.0
ISCO	Idaho Springs 10nm,0.9s	25.49	338	eP	P	17 30 13.5	+0.6
L34A	Svendsen Farm, baz=174	25.52	355	P	P	17 30 12.3	-0.5
L36A	Harm Buss Farm baz=177,SNR=8.5	25.57	358	P	P	17 30 12.0	-1.2
L37A	Phoenix Point, baz=179	25.57	360	P	P	17 30 11.7	-1.5
PDMCI	Parker Dam,Lak baz=129	25.58	318	P	P	17 30 13.8	+0.4
L38A	Oak Wood Farm, baz=181	25.60	1	P	P	17 30 10.9	-2.5
L40A	Anamosa baz=185	25.60	4	P	P	17 30 11.8	-1.6
L39A	Vinton baz=183	25.61	3	P	P	17 30 11.7	-1.8
L35A	Bielow Farm, R baz=175	25.61	357	P	P	17 30 12.1	-1.4
L41A	Preston baz=187	25.67	5	P	P	17 30 13.3	-0.7
L32A	Elgin baz=170	25.73	352	P	P	17 30 14.7	0.0
L33A	Hoskins baz=172	25.80	354	P	P	17 30 14.9	-0.4
U15A	North Rim 19nm,1.3s	25.88	324	eP	P	17 30 17.7	+1.3
W13A	Hualapai Mount 12nm,1.0s	25.93	320	eP	P	17 30 18.3	+1.5
IKP	In-Ko-Pah, Jac baz=123	25.95	313	P	P	17 30 17.9	+1.1
BC3	Big Chuckawall baz=126	26.06	315	P	P	17 30 17.8	0.0
K36A	Gilmore City baz=178	26.10	359	P	P	17 30 16.7	-1.2
K38A	Parkersburg baz=182	26.11	1	P	P	17 30 17.1	-0.9
IRM	Iron Mountain baz=127	26.15	316	P	P	17 30 16.6	-1.9
K39A	Oelwein baz=184	26.20	3	P	P	17 30 16.4	-2.4
K35A	Storm Lake baz=176	26.21	357	P	P	17 30 17.2	-1.7
K41A	Shullsburg baz=187	26.21	6	P	P	17 30 15.6	-3.4
K37A	Belmond baz=180	26.21	360	P	P	17 30 17.2	-1.8
K34A	Le Mars baz=174	26.22	356	P	P	17 30 17.8	-1.3
K40A	Colesburg baz=185	26.24	4	P	P	17 30 17.0	-2.2
SJG	San Juan	26.28	82	epP	pP	17 30 50.0	-0.2
K31A	O'Neill baz=169,SNR=5.9	26.44	351	P	P	17 30 19.5	-1.5
JFWS	Jewell Farm 53nm,0.8s	26.52	6	eP	P	17 30 20.4	-1.4
CBYP	Canovanas	26.56	82	eP	P	17 30 19.1	-3.4
CBYP				epP	pP	17 30 53.4	+0.7
HUMP	Col San Antoni	26.57	82	eP	P	17 30 21.3	-1.1
HUMP				epP	pP	17 30 52.0	-0.7
HUMP				ePcP	PcP	17 33 43.0	-0.3
N23A	Red Feather La 11nm,0.9s	26.57	339	eP	P	17 30 21.8	-0.8
KNB	Kanab 12nm,0.9s	26.60	324	eP	P	17 30 24.8	+2.1
PKCU	Pink Cliffs 54nm,2.0s	26.62	325	eP	P	17 30 23.1	0.0
MMU	Miners Mountai	26.64	328	eP	P	17 30 23.4	+0.2
LDFC	Landfair 14nm,1.0s	26.69	318	eP	P	17 30 26.4	+2.9
PFO	Pinyon Flats O 9.2nm,0.9s	26.72	314	eP	P	17 30 24.6	+0.8
J37A	Redenius Farm, baz=180	26.76	0	P	P	17 30 21.9	-2.0
PHWY	Pilot Hill 60nm,1.6s	26.77	340	eP	P	17 30 25.2	+0.9
J36A	Seneca 1, Swea baz=178,SNR=5.8	26.78	359	P	P	17 30 21.7	-2.4
O20A	White River Ci baz=147	26.79	335	P	P	17 30 23.4	-1.0
O20A	White River Ci 17nm,0.9s	26.79	335	eP	P	17 30 25.9	+1.5
J34A	George baz=175	26.81	356	P	P	17 30 23.1	-1.2
J39A	Decorah baz=184	26.83	3	P	P	17 30 22.2	-2.3
LCMT	Little Creek M 5.6nm,0.9s	26.83	323	eP	P	17 30 25.4	+0.6
J35A	Milford baz=176	26.85	357	P	P	17 30 22.6	-2.1
GMRC	Granite Mounta baz=127	26.86	317	P	P	17 30 24.3	-0.8
J33A	Davis baz=173	26.92	355	P	P	17 30 24.0	-1.3
J40A	Soldiers Grove baz=186	26.96	5	P	P	17 30 23.7	-2.0
SRU	San Rafael Swe 6.8nm,1.0s	26.97	330	eP	P	17 30 27.6	+1.5
MTPU	Mount Pierson 11nm,1.0s	26.99	326	eP	P	17 30 28.5	+2.1
J41A	Loganville baz=187	26.99	6	P	P	17 30 24.3	-1.7
J32A	Parkston baz=171	27.06	353	P	P	17 30 26.3	-0.2
P18A	Preston Nutter 21nm,1.2s	27.25	331	eP	P	17 30 31.1	+2.4
CCUT	Cedar City 6.0nm,1.2s	27.28	324	eP	P	17 30 29.0	+0.2
ECSD	EROS Data Cent baz=174,SNR=13	27.30	355	P	P	17 30 27.0	-1.7
ECSD	EROS Data Cent 24nm,0.8s	27.30	355	eP	P	17 30 27.4	-1.3
I35A	Creekview Farm baz=177	27.33	358	P	P	17 30 27.9	-1.0
I39A	Houston baz=184	27.36	3	P	P	17 30 27.6	-1.6
I38A	Scanlan Farm, baz=182	27.51	2	P	P	17 30 28.0	-2.5
TCRU	Three Creeks R 8.4nm,1.1s	27.55	327	eP	P	17 30 32.7	+1.4
I34A	Hadley baz=175	27.55	357	P	P	17 30 29.8	-1.2
I33A	Coleman baz=173	27.63	355	P	P	17 30 30.1	-1.5
SHPR	Sheep Range	27.63	320	epP	pP	17 31 06.8	+4.4
ATAH	Atahualpa 9.6nm,0.6s,baz=48,slow=4.6,SNR=5.9	27.88	146	P	P	17 30 36.7	+2.2
H36A	Jessenland, He baz=179	28.03	360	P	P	17 30 35.0	-0.2
H37A	Dierke Farm, C baz=181	28.04	1	P	P	17 30 34.6	-0.6
H32A	Carlson Farm, baz=172,SNR=5.3	28.14	354	P	P	17 30 34.9	-1.2
H38A	Maiden Rock baz=182,SNR=7.2	28.15	2	P	P	17 30 34.9	-1.3
H35A	Sunnyside Ranc baz=177	28.16	358	P	P	17 30 35.3	-1.1
H34A	Spellman Lake, baz=175	28.17	357	P	P	17 30 34.6	-1.8
H39A	Augusta baz=184,SNR=6.0	28.20	4	P	P	17 30 34.9	-1.8
H40A	Chili baz=186	28.20	5	P	P	17 30 34.5	-2.2
H33A	Prehn Over Nor baz=173	28.25	355	P	P	17 30 35.7	-1.5
SUSD	Miller baz=169	28.25	352	P	P	17 30 36.7	-0.5
K22A	Casper baz=153	28.34	340	P	P	17 30 37.8	-0.3
K22A	Casper 18nm,1.0s	28.34	340	eP	P	17 30 38.6	+0.5
NLU	North Lily Min 16nm,1.9s	28.38	329	eP	P	17 30 40.4	+1.8
TPNV	Topopah Spring 7.8nm,1.1s	28.58	320	eP	P	17 30 43.1	+2.8
JLU	Jordanelle 7.4nm,1.1s	28.58	331	eP	P	17 30 40.0	-0.4
G38A	Ridgeland baz=183,SNR=8.9	28.66	3	P	P	17 30 39.0	-1.7
FURC	Furnace Creek, baz=128	28.66	318	P	P	17 30 40.4	-0.5
SPMN	Marine on St. baz=181	28.68	1	P	P	17 30 39.7	-1.3
SPMN	Marine on St. 27nm,0.8s	28.68	1	eP	P	17 30 39.2	-1.8
G34A	Benson baz=176	28.74	357	P	P	17 30 40.0	-1.5
G33A	Ortonville baz=174	28.74	356	P	P	17 30 40.1	-1.4
G39A	Holcombe baz=185	28.81	4	P	P	17 30 40.4	-1.7
G40A	Rib Lake baz=186	28.86	5	P	P	17 30 40.7	-1.9
G32A	Webster baz=172	28.89	354	P	P	17 30 41.3	-1.5
DUG	Dugway, Tooele baz=139	28.93	329	P	P	17 30 44.9	+1.5
DUG	Dugway, Tooele 6.6nm,1.3s	28.93	329	eP	P	17 30 44.6	+1.2
G31A	Conde baz=171	28.93	353	P	P	17 30 41.9	-1.2
RSSD	Black Hills baz=159	28.94	344	P	P	17 30 42.7	-0.8

RSSD	Black Hills	28.94	344	*e*P		P	17 30 43.0	-0.5
	7.7nm,0.9s							
DAC	Darwin (Calif)	29.02	317	*e*P		P	17 30 46.3	+2.0
	10nm,1.6s							
R11A	Troy Canyon, C	29.10	323	P		P	17 30 45.6	+0.6
	baz=132							
R11A	Troy Canyon, C	29.10	323	*e*P		P	17 30 47.0	+2.0
	6.5nm,1.4s							
F37A	Hinrichs Farm,	29.18	1	P		P	17 30 44.4	-1.0
	baz=182							
F34A	Alexandria	29.27	358	P		P	17 30 44.5	-1.7
	baz=176							
F36A	Milaca	29.31	0	P		P	17 30 44.3	-2.2
	baz=180,SNR=6.3							
F35A	Swanville	29.32	359	P		P	17 30 44.6	-2.0
	baz=178							
F33A	5 Mile Ranch,	29.37	356	P		P	17 30 45.2	-1.8
	baz=174							
HWUT	Hardware Ranch	29.43	332	*e*P		P	17 30 48.7	+0.8
	7.2nm,1.1s							
F38A	Pierce - Schro	29.44	2	P		P	17 30 46.0	-1.7
	baz=183							
F40A	Park Falls	29.51	5	P		P	17 30 46.2	-2.1
	baz=187,SNR=6.1							
BW06	Boulder Array	29.54	336	*e*P		P	17 30 49.1	+0.2
	5.8nm,1.0s							
PD31	Pinedale Array	29.54	336	*e*P		P	17 30 49.2	+0.4
PDAR	Pinedale Array	29.54	336	P		P	17 30 48.2	-0.6
	1.3nm,0.9s,baz=156,slow=11,SNR=5.0							
BGU	Big Grassy Mou	29.59	329	*e*P		P	17 30 50.4	+1.1
	7.1nm,1.1s							
E36A	McGregor	29.97	1	P		P	17 30 50.3	-2.0
	baz=180,SNR=6.7							
E34A	Wadena	29.99	358	P		P	17 30 50.9	-1.6
	baz=177,SNR=9.9							
E35A	Pequot Lakes	30.01	359	P		P	17 30 50.8	-1.9
	baz=178,SNR=6.3							
E33A	Westby DABS, E	30.02	357	P		P	17 30 51.0	-1.8
	baz=175							
E38A	The Farm, Brul	30.10	3	P		P	17 30 52.0	-1.5
	baz=184							
HVU	Hansel Valley	30.12	331	*e*P		P	17 30 55.6	+1.7
	13nm,1.0s							
E31A	Nome	30.21	354	P		P	17 30 52.8	-1.7
	baz=172							
D35A	Remer	30.53	359	P		P	17 30 55.2	-2.1
	baz=179,SNR=6.6							
REDW	Red Top Meadow	30.55	335	*e*P		P	17 30 59.2	+1.3
	42nm,1.1s							
D34A	Park Rapids	30.56	358	P		P	17 30 55.3	-2.2
	baz=177							
SNOW	Snow King Moun	30.60	335	*e*P		P	17 30 59.5	+1.3
	36nm,1.0s							
D37A	Cotton	30.62	2	P		P	17 30 55.8	-2.2
	baz=182,SNR=7.9							
D36A	Goodland	30.63	1	P		P	17 30 56.4	-1.7
	baz=181							
D33A	AnnSam, Waubun	30.64	357	P		P	17 30 56.2	-2.1
	baz=176							
LOHW	Long Hollow	30.66	335	*e*P		P	17 30 59.8	+1.1
	20nm,1.3s							
D31A	Mcclaflin, Tow	30.68	355	P		P	17 30 56.9	-1.8
	baz=172							
TPAW	Teton Pass	30.70	335	*e*P		P	17 31 00.3	+1.2
	15nm,0.9s							
SADO	Sadowa	30.75	20	LR		LR	17 45 22.8	
	comp=Z,69nm,19.6s,baz=138,slow=40							
MOOW	Moose Ponds	30.83	335	*e*P		P	17 31 01.2	+0.9
	9.4nm,1.0s							
IMW	Indian Meadow	31.04	335	*e*P		P	17 31 02.5	+0.5
	8.9nm,1.1s							
TVH3	East Aurora ar	31.05	320	*e*P		P	17 31 04.3	+2.0
	9.8nm,1.4s							
TVH1	TV Hill, Hawth	31.08	320	*e*P		P	17 31 04.1	+1.4
	11nm,1.4s							
FLWY	Flagg Ranch	31.09	336	*e*P		P	17 31 03.7	+1.2
	9.0nm,0.9s							
C35A	Jirik Farms, M	31.15	360	P		P	17 31 00.8	-1.9
	baz=179,SNR=14							
C37A	Embarrass	31.20	2	P		P	17 31 01.4	-1.7
	baz=182							
C36A	Pine Crest Far	31.21	1	P		P	17 31 01.7	-1.5
	baz=181							
C38A	Sawbill Land.	31.23	3	P		P	17 31 01.3	-2.1
	baz=184,SNR=6.0							
YPP	Pitchstone Pla	31.29	336	*e*P		P	17 31 06.4	+2.1
	4.7nm,1.1s							
H17A	Grant Village	31.31	336	P		P	17 31 05.6	+1.2
	baz=147							
H17A	Grant Village	31.31	336	*e*P		P	17 31 05.5	+1.0
	16nm,1.4s							
C39A	Grand Marais	31.40	5	P		P	17 31 02.3	-2.6
	baz=186							
C31A	Landman Farms,	31.42	355	P		P	17 31 03.7	-1.4
	baz=172							
BMN	Battle Mountai	31.44	324	*e*P		P	17 31 07.7	+2.1
	6.1nm,1.0s							
EYMN	Ely	31.44	3	P		P	17 31 03.4	-1.9
	baz=184							
RLMT	Red Lodge	31.45	339	P		P	17 31 05.9	+0.2
	baz=150							
RLMT	Red Lodge	31.45	339	*e*P		P	17 31 06.1	+0.5
	19nm,1.3s							
YFT	Old Faithful	31.46	336	*e*P		P	17 31 07.9	+2.1
	20nm,1.3s							
WAKR	Walker	31.53	319	*e*P		P	17 31 07.1	+0.7
	18nm,1.9s							
YNR	Norris Junctio	31.62	337	*e*P		P	17 31 08.6	+1.4
	14nm,1.1s							
MDND	Maddock	31.68	352	P		P	17 31 06.5	-0.9
	baz=169							
MDND	Maddock	31.68	352	*e*P		P	17 31 06.9	-0.4
	74nm,1.0s							
YMR	Madison River	31.69	336	*e*P		P	17 31 08.7	+0.9
	38nm,1.4s							
YERR	Yerington	31.70	320	*e*P		P	17 31 08.7	+0.8
	6.0nm,0.8s							
YHH	Holmes Hill	31.75	336	*e*P		P	17 31 08.2	-0.1
	9.9nm,1.2s							
B33A	Robert and Kas	31.76	358	P		P	17 31 06.1	-2.0
	baz=176							
AGMN	Agassiz Nation	31.80	357	P		P	17 31 06.5	-1.9
	baz=176,SNR=7.8							
AGMN	Agassiz Nation	31.80	357	*e*P		P	17 31 07.3	-1.0
	32nm,1.1s							
B35A	Bob, Littlefor	31.81	360	P		P	17 31 06.4	-2.1
	baz=180,SNR=9.1							
LAO	LASA Array	31.90	344	P		P	17 31 09.5	0.0
	baz=156							
LAO	LASA Array	31.90	344	*e*P		P	17 31 09.4	0.0
	11nm,0.9s							
B32A	Ashes, Strandq	31.93	356	P		P	17 31 08.3	-1.2
	baz=174							
B34A	Aery, Baudette	31.95	359	P		P	17 31 07.8	-1.9
	baz=178,SNR=7.3							
QLMT	Earthquake Lak	32.01	336	*e*P		P	17 31 12.7	+2.2
B31A	Greenbush Farm	32.04	355	P		P	17 31 09.0	-1.5
	baz=172							
GCMT	Greycliff	32.17	339	*e*P		P	17 31 11.3	-0.5
HLID	Hailey	32.27	331	P		P	17 31 14.1	+1.3
	baz=140,SNR=10.0							
HLID	Hailey	32.27	331	*e*P		P	17 31 14.4	+1.6
	8.8nm,1.0s							
JTGM	Trout Gulch Ro	32.29	315	*e*S		S	17 36 19.4	+3.6
A33A	Warroad	32.42	358	P		P	17 31 11.4	-2.3
	baz=177,SNR=6.2							
A32A	Rocking H Ranc	32.45	356	P		P	17 31 11.9	-2.2
	baz=175							
MCMT	McKenzie Canyo	32.58	334	*e*P		P	17 31 17.6	+2.0
BOZ	Bozeman (W)	32.73	336	P		P	17 31 17.4	+0.7
	baz=147							
BOZ	Bozeman (W)	32.73	336	*e*P		P	17 31 17.3	+0.6
	13nm,1.2s							
MFID	Camas Ranch	32.83	329	*e*P		P	17 31 18.8	+1.2
	4.4nm,0.9s							
DLMT	Dillon	32.91	335	*e*P		P	17 31 20.0	+1.7
	29nm,1.3s							
DGMT	Dagmar	33.07	347	*e*P		P	17 31 17.3	-2.2
	19nm,0.6s							
LRM	Limekiln Ridge	33.23	336	*e*P		P	17 31 22.3	+1.1
ORV	Oroville	33.44	319	*e*P		P	17 31 24.2	+1.4
	2.5nm,0.8s							
WVOR	Wild Horse Val	33.58	326	*e*P		P	17 31 25.9	+1.7
	11nm,1.0s							
ULM	Lac du Bonnet	33.75	357	P		P	17 31 23.2	-2.1
	10nm,0.7s,baz=176,slow=9.1,SNR=16							
ULM				LR		LR	17 47 09.5	
	comp=Z,41nm,20.9s,baz=310,slow=40							
ULM	Lac du Bonnet	33.75	357	*e*P		P	17 31 23.2	-2.1
	27nm,1.1s							
EGMT	Eagleton	34.15	341	P		P	17 31 29.4	+0.4
	baz=152,SNR=7.2							
EGMT	Eagleton	34.15	341	*e*P		P	17 31 29.3	+0.3
	38nm,1.3s							
MOD	Modoc Plateau	34.16	323	*e*P		P	17 31 29.3	+0.1
	11nm,1.4s							
CHMT	Chamberlain Mo	34.45	336	*e*P		P	17 31 32.2	+0.6
BMO	Blue Mountains	34.61	330	*e*P		P	17 31 33.7	+0.7
	12nm,1.3s							
MSO	Missoula	34.65	335	P		P	17 31 33.2	-0.1
	baz=144,SNR=6.1							
MSO	Missoula	34.65	335	*e*P		P	17 31 34.6	+1.3
SLMT	Seeley Lake	34.81	336	*e*P		P	17 31 35.3	+0.6
SWMT	Swartz Lake	35.23	336	*e*P		P	17 31 38.8	+0.6
F10A	Beach Ranch, E	35.40	331	*e*P		P	17 31 40.3	+0.5
	18nm,0.9s							
YBMT	Yellow Bay	35.52	336	*e*P		P	17 31 41.7	+0.9
JTMT	Jette	35.53	336	*e*P		P	17 31 41.2	+0.4
BLMT	Blacktail Moun	35.78	336	*e*P		P	17 31 43.7	+0.7
BSMT	Bassoo Peak	35.81	335	*e*P		P	17 31 43.3	-0.1
E09A	Wood Farm, Sta	36.23	331	*e*P		P	17 31 47.2	+0.5
	19nm,1.5s							
WALA	Waterton Lakes	36.47	337	*e*P		P	17 31 49.0	+0.2
	46nm,2.0s							
D08A	Wollman Farm,	36.99	331	*e*P		P	17 31 53.5	+0.4
	4.7nm,0.9s							
DPW	Davenport	37.27	332	*e*S		S	17 37 31.6	-0.5
LTY	Liberty	37.97	330	*e*P		P	17 32 00.9	-0.5
	17nm,1.4s							
B08A	Colville Reser	38.14	332	*e*P		P	17 32 02.9	+0.1
	6.0nm,1.1s							
LON	Longmire	38.18	328	*e*P		P	17 32 03.4	+0.3
	12nm,1.4s							
C06D	Leavenworth	38.55	330	P		P	17 32 07.1	+0.9
	baz=135							
D05A	Enumclaw	38.57	329	*e*P		P	17 32 06.7	+0.3
	25nm,1.4s							
FFC	Flin Flon	38.73	352	*e*P		P	17 32 06.4	-1.1
	12nm,0.7s							
SAML	Samuel	39.31	128	*e*P		P	17 32 09.8	-3.1
	14nm,1.4s							
NLWA	Neilton Lookou	39.65	328	*e*P		P	17 32 15.3	-0.1
	12nm,1.1s							
EDM	Edmonton	39.81	342	*e*P		P	17 32 16.5	-0.1
	45nm,1.1s							
A04D	Lummi Island	39.97	330	P		P	17 32 19.1	+1.3
	baz=133							
PGC	Sidney	40.28	329	*e*P		P	17 32 21.1	+0.6
	16nm,1.0s							
LLLB	Lillooet	40.92	333	*e*P		P	17 32 27.4	+1.6
	13nm,1.1s							
LPAZ	La Paz	41.13	141	P		P	17 32 29.4	+0.8
	14nm,0.8s,baz=328,slow=7.2,SNR=55							
LPAZ				LR		LR	17 47 58.2	
	comp=Z,27nm,19.1s,baz=310,slow=34							
LPAZ	La Paz	41.13	141	*e*P		P	17 32 29.4	+0.8
	15nm,0.8s							
PB11	IPOC Station P	43.02	146	*e*P		P	17 32 44.6	+1.2
	20nm,0.9s							
SCHQ	Schefferville	43.51	22	LR		LR	17 52 19.8	
	comp=Z,68nm,19.4s,baz=299,slow=38							
LVC	Limon Verde	45.76	147	*e*P		P	17 33 07.5	+2.3
	7.4nm,0.8s							
YKA	Yellowknife Ar	48.28	347	P		P	17 33 23.7	-0.1
	8.0nm,0.5s,baz=152,slow=7.4,SNR=20							
YKB5	Yellowknife Ar	48.28	347	*e*P		P	17 33 22.7	-1.1
YKW3	Yellowknife Ar	48.35	347	*e*P		P	17 33 23.5	-0.9
	11nm,0.6s							
DLBC	Dease Lake	49.77	336	P		P	17 33 37.7	+2.3
	20nm,0.9s,baz=156,slow=6.0,SNR=9.8							
DLBC	Dease Lake	49.77	336	*e*P		P	17 33 37.7	+2.3
	28nm,0.9s							
FRB	Frobisher Bay	50.30	14	LR		LR	17 57 18.2	
	comp=Z,45nm,19.6s,baz=270,slow=39							
CPUP	Villa Florida	55.27	140	P		P	17 34 15.5	-0.7
	14nm,0.9s,baz=325,slow=7.5,SNR=19							
INK	Inuvik	57.64	344	*e*P		P	17 34 31.9	-0.4
	18nm,1.0s							
PAX	Paxson	58.57	335	*e*P		P	17 34 39.1	+0.1
	13nm,0.9s							
IL1	Eielson Array	59.97	337	*e*P		P	17 34 48.8	+0.3
ILAR	Eielson Array	59.97	337	P		P	17 34 48.9	+0.4
	11nm,1.0s,baz=122,slow=5.1,SNR=40							
ILB	Eielson Array	59.97	337	*e*P		P	17 34 48.5	0.0
RND	Reindeer	60.14	335	*e*P		P	17 34 50.9	+1.0
	34nm,0.9s							
CCB	Clear Creek Bu	60.26	336	*e*P		P	17 34 50.3	-0.2
	13nm,1.2s							
MCK	McKinley	60.31	335	*e*P		P	17 34 51.2	+0.3
	14nm,1.0s							
COLA	College	60.38	337	*e*P		P	17 34 50.6	-0.7
	48nm,0.4s							
SPU	Mount Spurr	60.67	332	*e*P		P	17 34 53.9	+0.5
TRF	Thorofare Moun	60.75	335	*e*P		P	17 34 54.7	+0.6
	36nm,0.9s							
PLCA	Paso Flores	60.81	160	P		P	17 34 56.0	+1.4
	5.0nm,0.8s,baz=346,slow=9.1,SNR=8.5							
PLCA	Paso Flores	60.81	160	*e*P		P	17 34 56.1	+1.5
	40nm,1.8s							
KTH	Kantishna Hill	61.05	334	*e*P		P	17 34 56.5	+0.5
	25nm,1.0s							
CAST	Castle Rocks	61.48	334	*e*P		P	17 34 58.7	-0.1
	21nm,1.0s							
COLD	Coldfoot	62.27	338	*e*P		P	17 35 05.2	+1.2
	13nm,1.2s							
TT01	Tatalina	63.00	333	*e*P		P	17 35 08.4	-0.5
TTA	Tatalina	63.00	333	*e*P		P	17 35 08.7	-0.3
	13nm,0.9s							
SUMG	Summit	64.30	16	*e*P		P	17 35 16.3	-1.4
	56nm,2.0s							
NB2	NORSAR Subarra	82.74	28	P		P	17 37 06.0	+0.8
	comp=Z,2.2nm,0.9s,baz=290,slow=5.1							
NOA	NORSAR Array B	82.74	28	P		P	17 37 05.3	+0.1
	comp=Z,2.5nm,0.8s,baz=291,slow=5.0,SNR=5.0							
ARA0	ARCESS Array S	84.30	18	*e*P		P	17 37 12.7	-0.3
ARCES	ARCESS Array B	84.30	18	P		P	17 37 12.8	-0.2
	comp=Z,6.4nm,0.7s,baz=297,slow=5.3,SNR=14							
CLL	Collm	87.31	37	*e*pP		pP	17 38 08.0	+3.3
MA2	Magadan	88.20	333	*e*P		P	17 37 33.1	+0.8
	comp=Z,35nm,1.4s							
FINES	FINESS Array B	88.94	25	P		P	17 37 34.5	-1.2
	comp=Z,1.5nm,0.8s,baz=217,slow=1.0,SNR=4.9							
TORD	Torodi Ar. Bea	91.33	76	P		P	17 37 46.2	-1.5
	comp=Z,0.3nm,0.8s,baz=290,slow=4.3,SNR=2.4							
GEYT	Alibek	119.73	26	PKP		PKPdf	17 43 31.1	0.0
	comp=Z,2.5nm,0.7s,baz=288,slow=6.1,SNR=5.4							
BOSA	Boshof	122.80	114	PKP		PKPdf	17 43 37.5	+0.3
	comp=Z,9.0nm,0.8s,baz=296,slow=2.8,SNR=13							
BOSA	Boshof	122.80	114	*e*PKPdf		PKPdf	17 43 37.0	-0.3
KMBO	Kilima Mbogo	129.30	78	PKP		PKPdf	17 43 51.0	+0.7
	comp=Z,1.1nm,0.3s,baz=172,slow=3.9,SNR=4.4							
WRAB	Tennant Creek	134.40	258	*e*P		PKPpre	17 43 55.8	
AS31	Alice Springs	134.94	253	*e*PKPpre		PKPpre	17 43 47.6	
CMAR	Chiang Mai Arr	143.16	340	PKhKP		PKPpre	17 44 11.8	
	comp=Z,1.1nm,0.7s,baz=346,slow=3.3,SNR=8.6							
CM01	Chiang Mai Arr	143.19	340	*e*PKPpre		PKPpre	17 44 12.1	
KSM	Kuching	150.40	305	*e*PKPbc		PKPbc	17 44 34.1	+1.0

*ISK **06** 17:35:11.7, 38.04N×30.12E, h5km, MD3.7*
*DDA **06** 17:35:11.9, 38.04N×30.14E, h7km, Ml3.2*
*CSEM **06** 17:35:12.8±0.1, 38.02N×30.12E, h2km, MD3.7, Error ellipse: s-maj=3.1km s-min=2.9km az=80.0*

ISC 06 17:35:12.0±1.1, 38.03N±0.02×30.08E±0.02, h6km±10km, n93, σ1.5 32/116, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KHL	Karahalli	0.53	304	*e*PG	Pg	17 35 22.6	+0.4
KHL				*e*SG	Sb	17 35 31.3	-0.3
KHL	Karahalli	0.53	304	*e*Pg	Pg	17 35 22.7	+0.5
KHL				*e*Sg	Sb	17 35 31.3	-0.4
BAGO	Egridir - ISPA	0.56	93	*i* P	Pg	17 35 22.4	-0.4
BAGO				*i* S	Sb	17 35 31.1	-1.4
SHUT	Suhut-Afyon	0.64	35	*e*PG	Pg	17 35 24.4	0.0
SHUT				*e*SG	Sb	17 35 34.6	-0.4
SHUT	Suhut-Afyon	0.64	35	*e*Pg	Pg	17 35 24.4	0.0
SHUT				*e*Sg	Sb	17 35 34.6	-0.4
BCK	Bucak	0.69	144	*e*PG	Pb	17 35 25.6	-0.9
BCK				*e*SG	Sb	17 35 36.1	-0.2
BCK	Bucak	0.69	144	*e*Pg	Pb	17 35 25.6	-0.9
BCK				*e*Sg	Sb	17 35 36.1	-0.2
DENT	Denizli	0.87	252	*e*PG	Pn	17 35 29.8	-1.0
DENT	Denizli	0.87	252	*e*Pg	Pn	17 35 29.8	-1.0
DNZL	Cakiroluk	0.89	248	*i* P	Pb	17 35 29.3	-0.5
DNZL				*i* S	Sn	17 35 45.3	+1.0
DNZL	Cakiroluk	0.89	248	P	Pb	17 35 29.4	-0.5
DNZL				S	Sn	17 35 45.3	+1.0
GOLH	Golhisar	0.89	208	*i* P	Pb	17 35 29.2	-0.6
GOLH				*i* S	Sn	17 35 44.9	+0.6
GOLH	Golhisar	0.89	208	P	Pb	17 35 29.2	-0.6
GOLH				S	Sn	17 35 44.9	+0.6
SUTC	Sutluce-Ispart	0.91	127	*e*PG	Pb	17 35 29.6	-0.6
SUTC	Sutluce-Ispart	0.91	127	*e*Pg	Pb	17 35 29.6	-0.6
BOLV	Bolvadin	0.97	44	*i* P	Pg	17 35 30.5	-0.1
BOLV				*i* S	Sb	17 35 43.6	-0.8
BOLV	Bolvadin	0.97	44	P	Pg	17 35 30.5	-0.1
BOLV				S	Sb	17 35 43.6	-0.8
KORT	Korkueli	1.05	168	*e*PG	Pn	17 35 33.4	+0.1
KORT	Korkueli	1.05	168	*i* P	Pn	17 35 32.3	-0.9
KORT				*i* S	Sg	17 35 44.9	-0.7
KORT	Korkueli	1.05	168	P	Pn	17 35 32.3	-0.9
KORT	Korkueli	1.05	168	*e*Pg	Pn	17 35 33.4	+0.1
KORT				S	Sg	17 35 44.9	-0.7
GEDZ	Gediz	1.15	333	*e*PN	Pn	17 35 35.1	+0.5
GEDZ				*e*SN	Sn	17 35 52.0	+1.5
GEDZ	Gediz	1.15	333	*e*Pn	Pn	17 35 35.1	+0.5
GEDZ				*e*Sn	Sn	17 35 52.1	+1.5
ANTB	Antalya	1.21	158	*e*PN	Pg	17 35 35.9	+0.7
ANTB	Antalya	1.21	158	*e*Pn	Pg	17 35 35.9	+0.7
KULA	Kula-Manisa	1.22	294	*e*PN	Pg	17 35 35.5	+0.1
KULA	Kula-Manisa	1.22	294	*e*Pn	Pg	17 35 35.5	+0.1
ELL	Elmali	1.28	186	*e*PN	Pg	17 35 38.1	+1.5
ELL	Elmali	1.28	186	*e*Pn	Pg	17 35 38.1	+1.5
MANT	Manisa	1.29	292	*i* P	Pn	17 35 29.8	-6.8
MANT				*i* S	Sb	17 35 46.8	-6.7
SIMA	Simav-Kutahya	1.36	321	*e*PN	Pg	17 35 39.3	+1.2
SIMA	Simav-Kutahya	1.36	321	*e*Pn	Pg	17 35 39.3	+1.2
DEMI	Demirci	1.48	314	*i* P	Pg	17 35 40.2	-0.1
DEMI				*i* S	Sg	17 36 01.2	+1.8
DEMI	Demirci	1.48	314	P	Pg	17 35 40.2	-0.1
DEMI				S	Sg	17 36 01.2	+1.8
TVSB	Tavsanli	1.50	341	*e*PN	Pb	17 35 39.9	-0.4
TVSB	Tavsanli	1.50	341	*e*Pn	Pb	17 35 39.9	-0.4
FETY	Fethiye	1.60	210	*e*PN	Pg	17 35 43.2	+0.5
FETY	Fethiye	1.60	210	*e*Pn	Pg	17 35 43.2	+0.5
ESKT	Eskisehir	1.61	22	*e*PN	Pb	17 35 41.4	-0.7
ESKT	Eskisehir	1.61	22	*i* P	Pb	17 35 41.5	-0.6
ESKT	Eskisehir	1.61	22	*e*Pn	Pb	17 35 41.4	-0.7
SEYT	Eskypehyr	1.61	22	P	Pb	17 35 41.5	-0.6
KIZT	Kizilcal	1.65	58	*e*PN	Pb	17 35 42.1	-0.7
KIZT	Kizilcal	1.65	58	*e*Pn	Pb	17 35 42.1	-0.7
DALY	Dalyan (Mu˘la	1.66	224	*e*PN	Pg	17 35 43.9	+0.2
DALY	Dalyan (Mu˘la	1.66	224	*e*Pn	Pg	17 35 43.9	+0.2
KDHN	Kadinhani	1.68	72	*i* P	Pb	17 35 42.2	-1.1
KDHN				*i* S	Sg	17 36 07.0	+1.1
KDHN	Kadinhani	1.68	72	P	Pb	17 35 42.2	-1.1
KDHN				S	Sg	17 36 07.0	+1.1
AYDB	Zeytinkoy-Aydi	1.73	268	*e*PN	Pb	17 35 44.1	-0.1
AYDB	Zeytinkoy-Aydi	1.73	268	*e*Pn	Pb	17 35 44.1	-0.1
KONT	Konya--Tatoy	1.80	92	*e*PN	Pb	17 35 44.5	-0.9
KONT	Konya--Tatoy	1.80	92	*i* P	Pb	17 35 44.7	-0.7
KONT	Konya--Tatoy	1.80	92	*e*Pn	Pb	17 35 44.5	-0.9
LADK	Ladik-KONYA	1.81	84	*e*PN	Pb	17 35 44.8	-0.8
LADK	Ladik-KONYA	1.81	84	*e*Pn	Pb	17 35 44.8	-0.8
SVRH	Sivrihisar-ESK	1.81	38	*e*PN	Pb	17 35 45.3	-0.3
SVRH	Sivrihisar-ESK	1.81	38	*e*Pn	Pb	17 35 45.3	-0.3
KMER	Konya-Meram	1.83	97	*i* P	Pb	17 35 45.2	-0.6
KMER				*i* S	Sg	17 36 10.7	0.0
KMER	Konya-Meram	1.83	97	P	Pb	17 35 45.2	-0.6
KMER				S	Sg	17 36 10.7	0.0
AKAS	Kas	1.83	192	*e*PN	Pb	17 35 46.0	+0.1
AKAS	Kas	1.83	192	*e*Pn	Pb	17 35 46.0	+0.1
AKS	Akhisar	1.97	296	*e*PN	Pb	17 35 48.4	+0.1
AKS	Akhisar	1.97	296	*e*Pn	Pb	17 35 48.4	+0.1
HDMB	Hadim	2.19	118	*e*PN	Pb	17 35 50.9	-1.1
HDMB	Hadim	2.19	118	*e*Pn	Pb	17 35 50.9	-1.1
ORLT	Orhaneli	2.22	336	*e*PN	Pb	17 35 52.0	-0.5
ORLT	Orhaneli	2.22	336	*e*Pn	Pb	17 35 52.0	-0.5
CHBY	Cihanbeyli	2.28	75	*e*PN	Pb	17 35 51.5	-2.1
CHBY	Cihanbeyli	2.28	75	*e*Pn	Pb	17 35 51.5	-2.1
BALB	Balikesir	2.36	314	*e*PN	Pb	17 35 54.0	-0.8
BALB	Balikesir	2.36	314	*e*Pn	Pb	17 35 54.0	-0.8
ADVT	Abdulvahap	2.42	354	*e*PN	Pb	17 35 54.5	-1.4
ADVT	Abdulvahap	2.42	354	*e*Pn	Pb	17 35 54.5	-1.4
GULT	Gulveren	2.43	8	*e*PN	Pb	17 35 54.0	-2.1
GULT	Gulveren	2.43	8	*e*Pn	Pb	17 35 54.0	-2.1
KULU	K

QRZ	**Quartz Range**	**11.37**	**211**	*e*PN	**Pn**	**17 38 59.8**	**-0.5**
THZ	**Tophouse**	**11.99**	**207**	*e*PN	**Pn**	**17 39 06.2**	**-1.8**
THZ				*e*SN	**S**	**17 41 16.4**	**-5.3**
KHZ	**Kahutara**	**12.32**	**204**	*e*PN	**Pn**	**17 39 09.8**	**-2.2**
MSVF	**Nonsavu** 53nm,0.9s	**13.64**	**351**	*e*Pn	**Pn**	**17 39 26.4**	**-2.2**
OXZ	**Oxford**	**13.66**	**206**	*e*PN	**Pn**	**17 39 27.6**	**-0.9**
MQZ	**McQueen's Vall**	**13.77**	**204**	*e*PN	**Pn**	**17 39 28.0**	**-1.7**
RPZ	**Rata Peaks** 2.1nm,0.3s,baz=124,slow=1.1,SNR=14	**14.37**	**208**	P	**Pn**	**17 39 35.6**	**-1.5**
RPZ				S	S	17 42 06.9	-9.2
	1.5nm,0.3s,baz=307,slow=24,SNR=17						
DZM	**Mont Dzumac** 0.7nm,0.3s,baz=116,slow=15,SNR=7.7	**15.36**	**303**	P	**P**	**17 39 50.8**	**+2.3**
JCZ	**Jackson Bay**	**15.63**	**212**	*e*PN	**P**	**17 39 51.5**	**+0.2**
CTAO	**Charters Tower** 31nm,0.6s	**32.47**	**282**	*e*P	**P**	**17 42 32.9**	**+0.9**
STKA	**Stephens Creek** 24nm,0.5s,baz=100,slow=11,SNR=66	**32.81**	**259**	P	**P**	**17 42 36.5**	**+1.8**
ASAR	**Alice Springs** 4.7nm,0.6s,baz=105,slow=7.1,SNR=109	**41.56**	**269**	P	**P**	**17 43 47.8**	**-0.5**
WRA	**Warramunga Arr** 5.7nm,0.4s,baz=112,slow=8.0,SNR=151	**42.63**	**274**	P	**P**	**17 43 55.9**	**-0.9**
QSPA	**South Pole Qui** 29nm,0.8s	**58.82**	**180**	*e*P	**P**	**17 45 58.1**	**+1.3**
SYO	**Syowa Base**	**75.90**	**194**⇑	*e*X	P	17 47 34.4	-8.8
SNAA	**Sanae**	**77.30**	**179**	P	**P**	**17 47 51.2**	**+0.1**
VNA3	**Neumayer Olymp**	**77.51**	**177**	P	**P**	**17 47 52.2**	**0.0**
VNA2	**Neumayer--Watz** baz=174,slow=4.6	**77.93**	**177**	P	**P**	**17 47 54.3**	**-0.2**
VNA1	**Neumayer--Stat**	**78.17**	**177**	P	**P**	**17 47 56.2**	**+0.4**
ARCES	**ARCESS Array B** 2.2nm,0.8s,baz=0,0,slow=1.2,SNR=4.1	**139.12**	**347**	PKP	**PKPdf**	**17 55 17.4**	**-3.2**
FINES	**FINESS Array B** 8.7nm,0.4s,baz=58,slow=4.2,SNR=114	**145.43**	**338**	PKPbc	**PKPdf**	**17 55 29.0**	**-3.0**
NB2	**NORSAR Subarra** comp=Z,3.8nm,0.5s,baz=15,slow=2.6	**149.38**	**350**	PKP	**PKPdf**	**17 55 40.2**	**+1.6**
NOA	**NORSAR Array B** comp=Z,1.5nm,0.5s,baz=22,slow=4.6,SNR=12	**149.38**	**350**	PKPbc	**PKPdf**	**17 55 40.0**	**+1.4**
AKASG	**Malin Array Be** comp=Z,1.1nm,0.4s,baz=48,slow=2.9,SNR=2.8	**151.05**	**320**	PKPbc	**PKPdf**	**17 55 44.3**	**+2.9**
BRTR	**Keskin Array B** comp=Z,0.6nm,0.3s,baz=129,slow=4.4,SNR=7.2	**151.66**	**297**	PKPbc	**PKPdf**	**17 55 46.1**	**+3.2**
TORD	**Torodi Ar. Bea** comp=Z,1.3nm,1.0s,baz=342,slow=1.3,SNR=4.7	**161.89**	**185**	PKP	**PKPdf**	**17 55 53.7**	**-2.7**
TORD				PKPab	**PKPab**	**17 56 41.6**	**-1.9**
	comp=Z,1.4nm,0.5s,baz=166,slow=4.5,SNR=9.5						

*IDC **06** 17:54:16.6±0.8,54°.20N×162°.69W,h0km,mb4.5/22, mb1 4.6/24,mb1mx4.4/55,mbtmp4.5/24,ML4.3/2,MS3.8/3, Ms1 3.8/3,ms1mx3.2/32,Error ellipse: s-maj=21.9km s-min=10.6km az=162.0*

*NEIC **06** 17:54:20.8±0.0,54°.12N×162°.48W,h19km,mb4.7/13, ML4.4(AEIC),After AEIC.*

*BJI **06** 17:54:20.5,54°.80N×163°.00W,h26km,mb4.7/11,mB4.9/5, Ms4.9/2,Ms7 4.7/2*

*ISCJB **06** 17:54:21.4±0.6,54°.20N±0°.06×162°.45W±0°.06,h45km±3km, mb4.6/52,MS4.4/3,Error ellipse: s-maj=11.4km s-min=3.0km az=155.1*

*MOS **06** 17:54:22.1±1.0,54°.56N×162°.53W,h37km,mb5.1/18, MS5.1/4,Error ellipse: s-maj=13.9km s-min=5.8km az=78.5*

ISC 06 17:54:23.5±0.9,54°.31N±0°.09×162°.60W±0°.05,h45km±7km, n218,σ1§43/224,mb4.7/52,MS4.5/3,11C-8D,Alaska Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DRIA	**Deer Island**	**0.69**	**16**	P	**Pn**	**17 54 36.1**	**-0.8**
DT1	**Dutton Round H**	**0.82**	**13**	P	**Pn**	**17 54 38.1**	**-0.5**
DTNA	**Dutton South F**	**0.86**	**13**	P	**Pn**	**17 54 39.0**	**-0.3**
SSLS	**Shishaldin Sou**	**0.91**	**297**	P	**Pn**	**17 54 40.5**	**+0.5**
DOL	**Dolgoi Island**	**0.94**	**27**	P	**Pn**	**17 54 39.5**	**-0.9**
SSLN	**Shishaldin Nor**	**0.96**	**302**	P	**Pn**	**17 54 41.6**	**+1.1**
SSLW	**Shishaldin Wes**	**1.00**	**298**	P	**Pn**	**17 54 41.9**	**+0.8**
PS4A	**Pavlof South-4**	**1.12**	**22**	P	**Pn**	**17 54 43.0**	**+0.3**
PVV	**Pavlof Volcano**	**1.17**	**23**	P	**Pn**	**17 54 43.5**	**+0.2**
WESE	**West Dahl East**	**1.17**	**279**	P	**Pn**	**17 54 43.5**	**0.0**
WESN	**West Dahl Nort**	**1.19**	**283**	P	**Pn**	**17 54 44.0**	**+0.3**
PN6	**Pavlof North-6**	**1.21**	**19**	P	**Pn**	**17 54 45.5**	**+1.4**
PS1A	**Pavlof South-1**	**1.22**	**24**	P	**Pn**	**17 54 44.4**	**+0.4**
WESP	**Westdahl Peak**	**1.25**	**279**	P	**Pn**	**17 54 44.8**	**+0.2**
SDPT	**Sand Point**	**1.61**	**49**	P	**Pn**	**17 54 49.0**	**-0.4**
SDPT				S	**Sn**	**17 55 10.8**	**+1.9**
AKSA	**Akutan Strait**	**1.83**	**266**	P	**Pn**	**17 54 51.7**	**-0.6**
AKSA				S	**Sn**	**17 55 16.1**	**+1.8**
AKUT	**Akutan**	**1.87**	**266**	P	**Pn**	**17 54 52.1**	**-0.6**
AKUT				S	**Sn**	**17 55 17.6**	**+2.2**
HSB	**Akutan Spr's B**	**1.95**	**268**	P	**Pn**	**17 54 54.0**	**-0.1**
AKLV	**Akutan Long Va**	**1.98**	**267**	P	**Pn**	**17 54 54.1**	**-0.3**
AKRB	**Akutan Reef Bi**	**2.04**	**266**	P	**Pn**	**17 54 55.4**	**0.0**
UNV	**Unalaska Valle**	**2.35**	**260**	P	**Pn**	**17 54 58.7**	**-0.8**
MTBL	**Makushin Table**	**2.42**	**264**	P	**Pn**	**17 55 00.7**	**0.0**
MSW	**Makushin Switc**	**2.49**	**263**	P	**Pn**	**17 55 01.2**	**-0.4**
VNWF	**Veniaminof 8**	**2.54**	**42**	P	**Pn**	**17 55 04.2**	**+2.0**
MGOD	**Makushin Gods**	**2.57**	**260**	P	**Pn**	**17 55 02.1**	**-0.5**
VNNF	**Veniaminof 3**	**2.73**	**42**	P	**Pn**	**17 55 06.7**	**+1.9**
VNHG	**Veniaminof 1**	**2.75**	**44**	P	**Pn**	**17 55 06.9**	**+1.8**
CHGN	**Chignik**	**3.12**	**48**	P	**Pn**	**17 55 10.9**	**+0.9**
CHGN				S	**Sn**	**17 55 47.4**	**+1.5**
OKFG	**Magazine Ridge**	**3.27**	**256**	P	**Pn**	**17 55 12.6**	**+0.4**
OKWE	**Okmok W'ng Wal**	**3.44**	**258**	P	**Pn**	**17 55 15.2**	**+0.7**
ANPB	**Aniakchak Plen**	**3.50**	**43**	P	**Pn**	**17 55 16.1**	**+0.7**
ANPK	**Aniakchak Peak**	**3.59**	**43**	P	**Pn**	**17 55 17.4**	**+0.8**
ANNE	**Aniakchak Nort**	**3.67**	**43**	P	**Pn**	**17 55 18.4**	**+0.8**
NIKH	**Nikolski High**	**3.96**	**253**	P	**Pn**	**17 55 20.6**	**-1.0**
PLK1	**Peulik 1**	**4.85**	**41**	P	**Pn**	**17 55 34.7**	**+0.9**
KELA	**Mount Kelaz**	**5.62**	**40**	P	**Pn**	**17 55 45.2**	**+0.6**
KABR	**Katmai Barrier**	**5.72**	**45**	P	**Pn**	**17 55 45.9**	**0.0**
OHAK	**Old Harbor**	**6.01**	**57**	P	**Pn**	**17 55 47.4**	**-2.3**
KAHC	**Katmai Hardscr**	**6.05**	**41**	P	**Pn**	**17 55 50.7**	**+0.3**
KDAK	**Kodiak Island**	**6.60**	**54**	P	**Pn**	**17 55 55.9**	**-1.9**
KDAK	**Kodiak Island**	**6.60**	**54**	P	**Pn**	**17 55 55.9**	**-1.9**
KOFP	**Korovin Flat P**	**7.19**	**258**	P	**Pn**	**17 56 07.5**	**+1.6**
ATKA	**Atka Island**	**7.27**	**258**	P	**Pn**	**17 56 07.6**	**+0.5**
SVW2	**Sparrevohn**	**7.77**	**26**	*e*Pn	**Pn**	**17 56 15.4**	**+1.5**
CNPM	**China Poot**	**8.12**	**45**	*e*Pn	**Pn**	**17 56 19.1**	**+0.4**
RSO	**Redoubt South**	**8.14**	**37**	*e*Pn	**Pn**	**17 56 21.1**	**+2.0**
BRLK	**Bradley Lake**	**8.40**	**45**	*e*Pn	**Pn**	**17 56 21.5**	**-1.0**
SPU	**Mount Spurr**	**8.89**	**35**	*e*Pn	**Pn**	**17 56 30.5**	**+1.2**
TT01	**Tatalina**	**9.27**	**19**	*e*Pn	**Pn**	**17 56 36.1**	**+1.6**
TTA	**Tatalina**	**9.30**	**19**	*e*P	**Pn**	**17 56 36.2**	**+1.4**
TTA	**Tatalina**	**9.30**	**19**	*e*Pn	**Pn**	**17 56 36.2**	**+1.4**
RC01	**Rabbit Creek A**	**9.66**	**40**	*e*Pn	**Pn**	**17 56 38.1**	**-1.6**
PPLA	**Purkeypile**	**10.16**	**28**	*e*Pn	**Pn**	**17 56 48.7**	**+1.9**
PMR	**Palmer**	**10.21**	**39**	*e*P	**Pn**	**17 56 45.8**	**-1.3**
PMR	**Palmer**	**10.21**	**39**	*e*Pn	**Pn**	**17 56 45.8**	**-1.3**
CAST	**Castle Rocks**	**10.62**	**26**	*e*Pn	**Pn**	**17 56 53.3**	**+0.5**
SML	**Sawmill**	**10.64**	**39**	*e*P	**Pn**	**17 56 50.8**	**-2.3**
SML	**Sawmill**	**10.64**	**39**	*e*Pn	**Pn**	**17 56 50.8**	**-2.3**
FID	**Port Fidalgo**	**10.78**	**47**	*e*Pn	**Pn**	**17 56 52.8**	**-2.3**
EYAK	**Cordova Ski Ar**	**11.01**	**49**	*e*Pn	**Pn**	**17 56 58.3**	**+0.3**
SCM	**Sheep Creek Mo**	**11.03**	**41**	*e*P	**Pn**	**17 56 56.3**	**-2.2**
SCM	**Sheep Creek Mo**	**11.03**	**41**	*e*Pn	**Pn**	**17 56 56.3**	**-2.2**
KTH	**Kantishna Hill**	**11.04**	**28**	*e*Pn	**Pn**	**17 56 59.1**	**+0.5**
TRF	**Thorofare Moun**	**11.14**	**30**	*e*Pn	**Pn**	**17 57 00.8**	**+0.7**
DIV	**Divide**	**11.27**	**46**	*e*Pn	**Pn**	**17 57 00.2**	**-1.6**
RND	**Reindeer**	**11.54**	**32**	*e*P	**Pn**	**17 57 02.0**	**-3.4**
RND	**Reindeer**	**11.54**	**32**	*e*Pn	**Pn**	**17 57 02.0**	**-3.4**
BMRM	**Bremner River**	**11.70**	**48**	*e*Pn	**Pn**	**17 57 06.1**	**-1.5**
MCK	**McKinley**	**11.75**	**31**	*e*P	**Pn**	**17 57 07.2**	**-1.1**
MCK	**McKinley**	**11.75**	**31**	*e*Pn	**Pn**	**17 57 07.2**	**-1.1**
DHY	**Denali Highway**	**11.80**	**36**	*e*Pn	**Pn**	**17 57 06.1**	**-3.0**
HARP	**HAARP**	**12.20**	**41**	*e*Pn	**Pn**	**17 57 13.4**	**-1.0**
PAX	**Paxson**	**12.41**	**39**	*e*P	**Pn**	**17 57 15.4**	**-1.9**
PAX	**Paxson**	**12.41**	**39**	*e*Pn	**Pn**	**17 57 15.4**	**-1.9**
WRH	**Wood River Hil**	**12.55**	**30**	*e*Pn	**Pn**	**17 57 16.3**	**-2.9**
BALM	**Baldy**	**12.72**	**50**	*e*P	**Pn**	**17 57 19.9**	**-1.8**
BALM	**Baldy**	**12.72**	**50**	*e*Pn	**Pn**	**17 57 19.9**	**-1.8**
CCB	**Clear Creek Bu**	**12.76**	**30**	*e*Pn	**Pn**	**17 57 18.0**	**-4.0**
HDA	**Harding Lake**	**12.85**	**32**	*e*Pn	Pn	17 57 18.5	-4.7
MDM	**Murphy Dome**	**12.87**	**28**	*e*Pn	**Pn**	**17 57 21.0**	**-2.6**
MENT	**Mentasta**	**13.04**	**41**	*e*Pn	**Pn**	**17 57 23.5**	**-2.5**
IL1	**Eielson Array**	**13.12**	**31**	*e*Pn	**Pn**	**17 57 24.7**	**-2.2**
ILAR	**Eielson Array** 0.4nm,0.3s,baz=213,slow=13,SNR=13	**13.12**	**31**	Pn	**Pn**	**17 57 23.4**	**-3.5**
ILAR				Sn	**Sn**	**17 59 46.1**	**-5.2**
	0.3nm,0.3s,baz=220,slow=6.7,SNR=4.0						
ILAR				LR	LR	18 03 06.3	
	comp=Z,408nm,18.1s,baz=236,slow=40						
ILB	**Eielson Array**	**13.12**	**31**	*e*Pn	**Pn**	**17 57 23.6**	**-3.4**
DOT	**Dot Lake**	**13.32**	**38**	*e*Pn	**Pn**	**17 57 27.1**	**-2.6**
COLD	**Coldfoot**	**14.26**	**20**	*e*Pn	**Pn**	**17 57 38.9**	**-3.4**
HYT	**Haines Junctio**	**14.89**	**54**	*e*Pn	**P**	**17 57 58.3**	**+2.4**
EGAK	**Eagle**	**15.01**	**37**	*e*Pn	**Pn**	**17 57 52.5**	**+0.1**
DAWY	**Dawson** 12nm,0.6s	**15.29**	**41**	*e*Pn	**Pn**	**17 57 53.7**	**-2.4**
WHY	**Whitehorse** 19nm,0.9s	**16.11**	**56**	*e*Pn	**P**	**17 58 08.9**	**-0.5**
DLBC	**Dease Lake** 0.3nm,0.3s,baz=306,slow=8.7,SNR=3.5	**18.39**	**64**	P	**Pn**	**17 58 37.7**	**+2.8**
INK	**Inuvik** 1.2nm,0.3s,baz=238,slow=10,SNR=9.7	**19.50**	**33**	P	**P**	**17 58 45.7**	**-0.8**
INK				LR	LR	18 07 08.6	
	comp=Z,335nm,20.5s,baz=260,slow=39						
INK	**Inuvik**	**19.50**	**33**	*e*P	**P**	**17 58 44.9**	**-1.6**
INK				pmax	pmax		
	comp=Z,10.0nm,0.9s						
INK	**Inuvik** comp=Z,9.9nm,0.9s	**19.50**	**33**	*e*P	**P**	**17 58 44.9**	**-1.6**
BILL	**Bilibino** comp=Z,7.0nm,1.0s	**20.03**	**325**	*e*P	**P**	**17 58 51.8**	**-0.5**
BILL				pmax	pmax		
PETK	**Petropavlovsk-** comp=Z,41nm,0.5s,baz=78,slow=14,SNR=48	**23.32**	**283**	P	**P**	**17 59 26.6**	**-0.7**
SEY	**Seymchan** comp=Z,3.9nm,0.7s,baz=91,slow=8.9,SNR=18	**24.49**	**309**	P	**P**	**17 59 37.2**	**-0.8**
MA2	**Magadan** comp=Z,5.8nm,0.7s,baz=86,slow=13,SNR=6.8	**25.54**	**301**	P	**P**	**17 59 47.2**	**-0.4**
YKA	**Yellowknife Ar** comp=Z,5.0nm,0.6s,baz=271,slow=9.3,SNR=14	**25.87**	**52**	P	**P**	**17 59 51.4**	**+0.8**
YKA				LR	LR	18 11 22.7	
	comp=Z,12nm,19.5s,baz=180,slow=40						
YKB5	**Yellowknife Ar**	**25.87**	**52**	*e*P	**P**	**17 59 51.4**	**+0.8**
F10A	**Beach Ranch, E**	**29.79**	**87**	*e*PcP	**PcP**	**18 03 29.5**	**+1.1**
MFID	**Camas Ranch** comp=Z,4.0nm,0.8s	**32.07**	**90**	P	**P**	**18 00 46.5**	**+0.5**
RES	**Resolute Bay** comp=Z,110nm,20.6s,baz=68,slow=39	**32.83**	**27**	LR	LR	18 15 45.2	
PDAR	**Pinedale Array** comp=Z,0.2nm,0.5s,baz=297,slow=4.0,SNR=2.3	**36.13**	**86**	P	**P**	**18 01 21.6**	**+0.3**
KLR	**Kulʲdur** comp=Z,6.0nm,0.9s,baz=234,slow=19,SNR=3.2	**39.62**	**291**	P	**P**	**18 01 49.0**	**-1.4**
ULM	**Lac du Bonnet** comp=Z,2.6nm,0.7s,baz=298,slow=9.0,SNR=5.5	**39.65**	**68**	P	**P**	**18 01 49.6**	**-1.0**
H11N2	**WAKE ISLAND Hy** baz=27,slow=76,SNR=211	**41.62**	**226**	T	T	18 46 27.5	
H11N3	**WAKE ISLAND Hy** baz=27,slow=76,SNR=218	**41.63**	**226**	T	T	18 46 36.5	
H11N1	**WAKE ISLAND Hy** baz=27,slow=76,SNR=194	**41.64**	**226**	T	T	18 46 35.6	
USRK	**Ussuriysk Ar.** comp=Z,2.2nm,0.8s,baz=66,slow=8.5,SNR=3.3	**42.41**	**284**	P	**P**	**18 02 10.7**	**-2.7**
H11S1	**WAKE ISLAND Hy** baz=26,slow=76,SNR=234	**42.79**	**225**	T	T	18 47 59.1	
H11S2	**WAKE ISLAND Hy** baz=26,slow=76,SNR=224	**42.81**	**225**	T	T	18 47 55.4	
H11S3	**WAKE ISLAND Hy** baz=26,slow=76,SNR=245	**42.81**	**225**	T	T	18 47 57.6	
MAT	**Matsushiro**	**43.77**	**271**	P	**P**	**18 02 23.9**	**-0.6**
MJAR	**Matsushiro Arr** comp=Z,3.3nm,0.6s,baz=34,slow=6.8,SNR=6.3	**43.77**	**271**	P	**P**	**18 02 23.0**	**-1.5**
MJAR	**Matsushiro Arr**	**43.77**	**271**	P	**P**	**18 02 23.0**	**-1.5**
FRB	**Frobisher Bay** comp=Z,10nm,0.7s,baz=324,slow=10,SNR=4.8	**44.98**	**39**	P	**P**	**18 02 33.4**	**-0.3**
NRIK	**Norilʲsk** comp=Z,5.2nm,0.5s,baz=73,slow=8.8,SNR=5.3	**46.61**	**333**	P	**P**	**18 02 46.0**	**-0.5**
DAG	**Danmarks Havn** comp=Z,16nm,0.6s	**47.20**	**11**⇑	*i*P	**P**	**18 02 50.9**	**-0.1**
DAG	**Danmarks Havn**	**47.20**	**11**⇑	*i*P	**P**	**18 02 50.9**	**-0.1**
DAG				pmax	pmax		
	comp=Z,11nm,0.6s						
SUMG	**Summit** comp=Z,15nm,0.9s	**47.66**	**20**⇑	*i*P	**P**	**18 02 55.6**	**+0.5**
SUMG	**Summit**	**47.66**	**20**⇑	*i*P	**P**	**18 02 55.6**	**+0.5**
SUMG				pmax	pmax		
	comp=Z,15nm,0.9s						
SUMG	**Summit** comp=Z,16nm,0.9s	**47.66**	**20**	*e*P	**P**	**18 02 55.9**	**+0.8**
WMOK	**Wichita Mounta**	**47.73**	**87**	*e*P	**P**	**18 02 58.6**	**+2.8**
WMOK				pmax	pmax		
	comp=Z,18nm,1.8s						
WMOK	**Wichita Mounta** comp=Z,18nm,1.8s	**47.73**	**87**	*e*P	**P**	**18 02 58.6**	**+2.8**
TXAR	**Lajitas Array** comp=Z,0.4nm,0.6s,baz=273,slow=5.2,SNR=5.6	**48.78**	**96**	P	**P**	**18 03 03.2**	**-0.7**
SFJD	**Kangerlussuaq** comp=Z,17nm,0.8s	**48.78**	**29**	*i*P	**P**	**18 03 03.6**	**+0.2**
SFJD	**Kangerlussuaq**	**48.78**	**29**	*i*P	**P**	**18 03 03.6**	**+0.2**
SFJD				pmax	pmax		
	comp=Z,17nm,0.8s						
SFJD	**Kangerlussuaq** comp=Z,17nm,0.7s	**48.78**	**29**	*e*P	**P**	**18 03 04.5**	**+1.1**
KSRS	**Korea Array** comp=Z,15nm,0.8s,baz=51,slow=6.9,SNR=31	**49.14**	**280**	P	**P**	**18 03 07.0**	**+0.5**
KS01	**Wonju Array Si**	**49.14**	**280**	*e*P	**P**	**18 03 06.0**	**-0.6**
KS01				*e*PcP	**PcP**	**18 04 30.1**	**+0.7**
KSAR	**Wonju Array Be**	**49.17**	**280**	P	**P**	**18 03 07.0**	**+0.3**
KSAR	**Wonju Array Be**	**49.17**	**280**	P	**P**	**18 03 07.0**	**+0.3**
JNU	**Nakatsue** comp=Z,4.5nm,0.8s,baz=12,slow=4.3,SNR=6.1	**50.46**	**274**	P	**P**	**18 03 15.9**	**-0.7**
SONM	**Songino Array** comp=Z,2.2nm,0.7s,baz=47,slow=5.0,SNR=4.5	**53.71**	**303**	P	**P**	**18 03 40.9**	**+0.1**
SONM				PcP	**PcP**	**18 04 46.8**	**+0.4**
	comp=Z,3.1nm,0.9s,baz=82,slow=2.3,SNR=3.7						
HHC	**Hu-ho-hao-te**	**55.93**	**294**	*e*P	**P**	**18 03 58.9**	**+2.1**
HHC				pmax	pmax		
	comp=Z,25nm,1.5s						
HHC				pmax	pmax		
	comp=Z,94nm,5.4s						
ARCES	**ARCESS Array B** comp=Z,1.5nm,0.4s,baz=13,slow=7.2,SNR=7.5	**56.32**	**357**	P	**P**	**18 03 58.7**	**-0.4**
JOW	**Kunigami** comp=Z,11nm,0.8s,baz=21,slow=14,SNR=3.6	**56.61**	**270**	P	**P**	**18 04 00.8**	**-0.9**
ZALV	**Zalesovo Beam** comp=Z,3.4nm,0.4s,baz=42,slow=7.2,SNR=5.5	**58.63**	**320**	P	**P**	**18 04 15.5**	**0.0**
LZH	**Lanzhou**	**63.53**	**295**	*e*P	**P**	**18 04 47.6**	**-1.6**
LZH				pP	pP	18 04 55.5	-6.5
LZH				sP	sP	18 04 58.7	-8.4
LZH				PP	**PP**	**18 07 07.5**	**-1.4**
LZH				pmax	pmax		
	comp=Z,20nm,1.4s						
LZH				pmax	pmax		
	comp=Z,75nm,6.2s						
LZH				LR	LR		
	comp=Z,200nm,14.9s						
LZH				LR	LR		
	comp=Z,210nm,15.3s						
LZH				LR	LR		
	comp=Z,280nm,18.5s						
FINES	**FINESS Array B** comp=Z,7.8nm,0.9s,baz=17,slow=7.4,SNR=26	**64.39**	**355**	P	**P**	**18 04 53.6**	**-0.6**
NB2	**NORSAR Subarra** comp=Z,2.1nm,0.6s,baz=359,slow=6.9	**64.89**	**3**	P	**P**	**18 04 57.2**	**-0.4**
NOA	**NORSAR Array B** comp=Z,5.8nm,0.9s,baz=356,slow=6.5,SNR=9.0	**64.89**	**3**	P	**P**	**18 04 57.5**	**-0.1**
CD2	**Chengdu**	**67.53**	**292**	P	**P**	**18 05 15.5**	**+0.5**
CD2				sP	pP	18 05 26.2	-1.7
CD2				pmax	pmax		
	comp=Z,30nm,0.8s						
GYA	**Guiyang**	**69.37**	**287**	*e*P	**P**	**18 05 27.0**	**+0.4**
GYA				pmax	pmax		
	comp=Z,10.0nm,1.0s						
OBN	**Obninsk**	**69.80**	**348**	*e*P	**P**	**18 05 28.1**	**-0.5**
OBN				pmax	pmax		
	comp=Z,9.0nm,0.9s						
KMI	**Kunming**	**72.60**	**289**	P	**P**	**18 05 48.0**	**+1.6**
KMI				pmax	pmax		
	comp=Z,4.0nm,0.6s						
KSH	**Kashi**	**73.91**	**317**	*e*P	**P**	**18 05 56.7**	**+3.0**
KSH				pP	pP	18 06 04.7	-2.1
KSH				PP	**PP**	**18 08 41.6**	**+3.2**
KSH				S	**S**	**18 15 23.7**	**+1.5**
KSH				sS	pS	18 15 36.7	-1.6
KSH				ScS	**ScS**	**18 16 00.7**	**+0.8**
KSH				SS	**SS**	**18 20 08.7**	**+2.8**
KSH				pmax	pmax		
	comp=Z,19nm,1.1s						
KSH				pmax	pmax		
	comp=Z,83nm,6.0s						
KSH				LR	LR		
	comp=Z,170nm,8.9s						
KSH				LR	LR		
	comp=Z,310nm,13.6s						
KSH				LR	LR		
	comp=Z,430nm,10.0s						
CLL	**Collm**	**74.69**	**3**	*i*P	**P**	**18 05 58.7**	**+0.8**
CLL	**Collm**	**74.69**	**3**	*i*P	**P**	**18 05 58.7**	**+0.8**
AKASG	**Malin Array Be** comp=Z,7.8nm,0.6s,baz=11,slow=5.8,SNR=20	**74.89**	**352**	P	**P**	**18 05 58.4**	**-0.7**
AKBB	**Malin Array Si**	**74.89**	**352**	*e*P	**P**	**18 05 58.1**	**-1.0**
AKBB				pmax	pmax		
	comp=Z,11nm,0.9s						
AKBB	**Malin Array Si** comp=Z,11nm,0.9s	**74.89**	**352**	*e*P	**P**	**18 05 58.0**	**-1.0**
KIEV	**Kiev**	**74.90**	**352**	*e*P	**P**	**18 05 58.2**	**-0.9**
KIEV				pmax	pmax		
	comp=Z,11nm,0.9s						
KIEV	**Kiev** comp=Z,11nm,0.9s	**74.90**	**352**	*e*P	**P**	**18 05 58.2**	**-0.9**
AK11	**Malin Array Si**	**74.92**	**352**	*e*P	**P**	**18 05 57.5**	**-1.7**
LSA	**Lhasa**	**75.12**	**300**	*e*P	**P**	**18 06 01.1**	**-0.2**
LSA				pmax	pmax		
	comp=Z,7.0nm,0.9s						
LSA	**Lhasa** comp=Z,7.4nm,0.9s	**75.12**	**300**	*e*P	**P**	**18 06 01.1**	**-0.2**
BRG	**Berggiesshubel** comp=Z,9.4nm,1.1s	**75.15**	**2**	*e*P	**P**	**18 06 00.5**	**0.0**
BRG	**Berggiesshubel**	**75.15**	**2**	*e*P	**P**	**18 06 00.5**	**0.0**
BRG				pmax	pmax		
	comp=Z,9.0nm,1.1s						
PVCC	**Panska Ves**	**75.51**	**2**	*e*P	**P**	**18 06 03.2**	**+0.6**
PVCC	**Panska Ves**	**75.51**	**2**	*e*P	**P**	**18 06 03.2**	**+0.6**
UPC	**Upice**	**75.55**	**1**	*e*P	**P**	**18 06 03.5**	**+0.6**
UPC	**Upice**	**75.55**	**1**	*e*P	**P**	**18 06 03.5**	**+0.6**
DPC	**Dobruska-Polom**	**75.71**	**1**	*e*P	**P**	**18 06 04.5**	**+0.7**
DPC				*e*pP	PcP	18 06 08.4	-8.0
DPC				*e*sP	**pP**	**18 06 16.4**	**-0.5**
DPC	**Dobruska-Polom**	**75.71**	**1**	*e*P	**P**	**18 06 04.5**	**+0.7**
DPC				*e*		18 06 16.4	
NKC	**Novy Kostel**	**75.75**	**3**	*e*P	**P**	**18 06 04.7**	**+0.7**
NKC	**Novy Kostel**	**75.75**	**3**	*e*P	**P**	**18 06 04.7**	**+0.7**
KRLC	**Kraliky**	**75.99**	**0**	*e*P	**P**	**18 06 05.9**	**+0.5**
KRLC	**Kraliky**	**75.99**	**0**	*e*P	**P**	**18 06 05.9**	**+0.5**
PRU	**Pruhonice**	**76.05**	**2**	*e*P	**P**	**18 06 04.7**	**+0.7**
PRU	**Pruhonice**	**76.05**	**2**	*e*P	**P**	**18 06 04.7**	**+0.7**
KHC	**Kasperske Hory**	**76.88**	**3**	*e*P	**P**	**18 06 11.4**	**+0.9**
KHC				*e*pP	**PcP**	**18 06 15.1**	**-6.4**
KHC	**Kasperske Hory**	**76.88**	**3**	*e*P	**P**	**18 06 10.8**	**+0.3**
KHC				pmax	pmax		
	comp=Z,4.0nm,1.2s						
KHC	**Kasperske Hory** comp=Z,4.4nm,1.2s	**76.88**	**3**	*e*P	**P**	**18 06 10.8**	**+0.3**
CRVS	**Cervenica-Dubn**	**77.10**	**357**	*e*	**P**	**18 06 12.1**	**+0.4**
GEC2	**GERESS Array S**	**77.17**	**3**	*e*P	**P**	**18 06 12.3**	**+0.1**
GEC2				pmax	pmax		
	comp=Z,5.0nm,0.8s						
GEC2	**GERESS Array S** comp=Z,4.7nm,0.8s	**77.17**	**3**	*e*P	**P**	**18 06 12.3**	**+0.1**
GERES	**GERESS Array B** comp=Z,2.8nm,0.6s,baz=0.0,slow=4.4,SNR=22	**77.17**	**3**	P	**P**	**18 06 12.7**	**+0.4**
GEA0	**GERESS Array S**	**77.18**	**3**	*e*P	**P**	**18 06 12.1**	**-0.2**
SORM	**Soroca**	**77.51**	**353**⇓	*i*P	**P**	**18 06 13.4**	**-0.6**
SORM	**Soroca**	**77.51**	**353**

baz=38,slow=10,SNR=0.4
JAG Ashikaga 1.85 262 P **Pn** **17 55 20.5 -1.5**
JOU Okura 1.87 334 P **Pn** **17 55 21.3 -1.1**
JYS Shirataka 2.02 320 P **Pn** **17 55 24.3 -0.1**
BSO1 Boso 1 2.12 197 P **Pn** **17 55 24.2 -1.1**
MJAR Matsushiro Arr 2.83 268 Pn **Pn** **17 55 35.5 -0.1**
195nm,0.3s,baz=116,slow=12,SNR=511
MJAR Sn **Sn** **17 56 09.6 +0.7**
65nm,0.3s,baz=86,slow=16,SNR=6.5
MJAR LR LR 17 56 50.5
comp=Z,11µm,20.8s,baz=110,slow=45
MAJO Matsushiro 2.83 268*c i*P **Pn** **17 55 36.0 +0.4**
MAJO Matsushiro 2.83 268 *e*Pn **Pn** **17 55 36.1 +0.5**
MAT Matsushiro 2.83 268 P **Pn** **17 55 36.0 +0.4**
MAT S **Sn** **17 56 10.2 +1.2**
MJB9 Matsu-Tunnel 2.84 268 *e*Pn **Pn** **17 55 35.8 +0.1**
JHJ2 Mitsune 3.90 204 *e*Pn **Pn** **17 55 49.6 -0.6**
JHJ Hachijo jima 2 3.91 205 Pn **Pn** **17 55 49.5 -0.8**
161nm,0.3s,baz=360,slow=14,SNR=42
JHJ Sn **Sn** **17 56 32.1 -3.3**
305nm,0.3s,baz=237,slow=23,SNR=8.5
INU Inuyama 4.04 252 *e*Pn **Pn** **17 55 53.2 +1.0**
ERM Erimo 5.43 11*ce*P **Pn** **17 56 11.0 -0.2**
ERM pmax pmax
comp=Z,136nm,0.8s
ERM Erimo 5.43 11 *e*Pn **Pn** **17 56 11.3 +0.1**
ASAJ Asahikawa 7.45 5 Pn **Pn** **17 56 38.7 -0.2**
baz=229,slow=9.0
ASAJ Sn **Sn** **17 58 00.9 -1.7**
baz=90,slow=20
ASAJ Asahikawa 7.45 5 *e*Pn **Pn** **17 56 38.1 -0.8**
ASAJ Sn **Sn** **17 58 00.9 -1.7**
YUK Yuzh-Kuril'sk 7.98 22 *i* P **Pn** **17 56 46.9 +0.6**
CBIJ Chichi jima 9.58 178 *e*Pn **Pn** **17 57 05.0 -3.2**
CBIJ *e*Sn Sn 17 58 42.5 -12
JNU Nakatsue 9.59 251 Pn **Pn** **17 57 09.3 +0.8**
comp=Z,1.2nm,0.3s,baz=55,slow=7.5,SNR=21
JNU Nakatsue 9.59 251 *e*Pn **Pn** **17 57 08.3 -0.1**
KUR Kuril'sk 9.71 27⇓*i*P **Pn** **17 57 09.2 -0.7**
KUR pmax pmax
comp=Z,122nm,0.6s
KUR pmax pmax
comp=N,47nm,0.9s
KUR pmax pmax
comp=E,55nm,0.8s
VLA Vladivostok 9.91 313 *e*P **Pn** **17 57 15.6 +2.9**
MSHR Mys Shultsa 10.05 309*ce*P **Pn** **17 57 17.0 +2.4**
YSS Yuzh-Sakhalins 10.28 4⇑*e*P **Pn** **17 57 18.3 +0.5**
YSS *e*S **Sn** **17 59 10.4 -1.8**
YSS pmax pmax
comp=Z,30nm,1.1s
YSS MLR MLR
comp=Z,2µm,12.0s
YSS MLR MLR
comp=E,3µm,14.0s
YSS Yuzh-Sakhalins 10.28 4 *e*Pn **Pn** **17 57 17.4 -0.4**
USRK Ussuriysk Ar. 10.54 318 Pn **Pn** **17 57 24.6 +3.2**
comp=E,1.1nm,0.3s,baz=136,slow=12,SNR=28
USRK LR LR 18 01 11.7
comp=E,7µm,19.4s,baz=122,slow=36
KSRS Korea Array 11.06 278 Pn **Pn** **17 57 32.4 +4.0**
comp=E,0.7nm,0.3s,baz=93,slow=13,SNR=77
KSRS LR LR 18 01 40.5
comp=E,6µm,19.0s,baz=90,slow=37
KS01 Wonju Array Si 11.08 278 *e*Pn **Pn** **17 57 30.5 +1.8**
KS15 Wonju Array Si 11.09 278 *e*Pn **Pn** **17 57 32.5 +3.7**
KSAR Wonju Array Be 11.09 278 P **Pn** **17 57 32.4 +3.6**
KSAR Wonju Array Be 11.09 278 Pn **Pn** **17 57 32.4 +3.6**
INCN Inchon 12.08 278 *e*Pn **Pn** **17 57 41.3 -1.1**
MDJ Mudanjiang 12.14 314 P Pn 17 57 48.9 +5.7
MDJ S **Sn** **18 00 05.2 +7.6**
MDJ PcP **PcP** **18 03 26.7 +0.4**
MDJ ScP **ScP** **18 06 58.5 +1.0**
MDJ Mudanjiang 12.14 314 ScS ScS 18 10 35.4 +2.1
MDJ pmax pmax
comp=Z,76nm,0.9s
MDJ pmax pmax
comp=Z,570nm,9.5s
MDJ LR LR
comp=N,3µm,18.2s
MDJ LR LR
comp=E,3µm,16.4s
MDJ LR LR
comp=Z,5µm,18.4s
HABR Khabarovsk 12.75 339 *e*P **Pn** **17 57 49.6 -1.9**
HABR *e*S **Sn** **18 00 09.8 -2.8**
HABR pmax pmax
comp=Z,39nm,1.5s
HABR MLR MLR
comp=Z,3µm,14.0s
CN2 Changchun 14.30 305 *e*P **Pn** **17 58 11.7 -1.1**
CN2 *e*S **Sn** **18 00 51.6 +1.1**
CN2 pmax pmax
comp=Z,10.0nm,0.4s
CN2 pmax pmax
comp=Z,200nm,4.0s
CN2 LR LR
comp=Z,3µm,14.0s
CN2 LR LR
comp=Z,5µm,14.0s
CN2 LR LR
comp=Z,6µm,14.0s
KLR Kul'dur 14.49 333 Pn **Pn** **17 58 13.8 -1.5**
comp=Z,0.5nm,0.3s,baz=165,slow=11,SNR=7.9
KLR LR LR 18 03 38.5
comp=Z,3µm,19.7s,baz=146,slow=36
SNY Shenyang 14.96 296 ⇓P **Pn** **17 58 21.1 -0.5**
SNY pmax pmax
comp=Z,31nm,1.5s
SNY pmax pmax
comp=Z,610nm,12.0s
SNY LR LR
comp=Z,5µm,12.3s
SNY LR LR
comp=Z,7µm,14.8s
SNY LR LR
comp=Z,9µm,15.1s
JOW Kunigami 15.07 233 Pn **P** **17 58 26.8 -1.5**
comp=Z,1.2nm,0.3s,baz=22,slow=10.0,SNR=6.7
JOW LR LR 18 03 53.8
comp=Z,1µm,21.4s,baz=52,slow=36
JOW Kunigami 15.07 233 *e*Pn **Pn** **17 58 23.6 +0.4**
comp=Z,34nm,1.0s
DL2 Dalian 16.04 284⇑*i*P **Pn** **17 58 36.0 +0.3**
DL2 S **Sn** **18 01 30.9 -1.9**
DL2 pmax pmax
comp=Z,64nm,0.9s
DL2 pmax pmax
comp=Z,680nm,11.8s
DL2 LR LR
comp=Z,2µm,11.9s
DL2 LR LR
comp=Z,5µm,13.6s
DL2 LR LR
comp=Z,6µm,14.1s
SSE Sheshan 17.93 258 ⇓P **P** **17 59 02.5 +2.6**
SSE S **Sn** **18 02 20.8 +2.1**
SSE pmax pmax
comp=Z,33nm,0.7s
SSE pmax pmax
comp=Z,330nm,11.4s
SSE LR LR
comp=Z,2µm,23.1s
SSE LR LR
comp=Z,590nm,23.1s
SSE LR LR
comp=Z,2µm,20.7s
NJ2 Nanjing 19.43 263 *e*P **Pn** **17 59 17.1 -0.5**
NJ2 pP **pP** **17 59 23.5 +0.4**
NJ2 S **Sn** **18 02 58.4 +3.5**
NJ2 pmax pmax
comp=Z,20nm,0.5s
NJ2 LR LR
comp=Z,2µm,20.6s
NJ2 LR LR
comp=Z,5µm,16.3s
NJ2 LR LR
comp=Z,6µm,15.2s
TIA Tai'an 19.79 276 ⇓P **P** **17 59 18.7 -1.6**
TIA S **S** **18 02 57.8 -4.2**
TIA pmax pmax
comp=Z,50nm,1.4s
TIA pmax pmax
comp=Z,440nm,6.3s
TIA LR LR
comp=Z,2µm,13.7s
TIA LR LR
comp=Z,4µm,15.4s
PEA0 Petropavlovsk- 19.86 29 *e*P **Pn** **17 59 22.4 -0.2**
PEA0B Petropavlovsk- 19.86 29 *e*P **Pn** **17 59 22.2 -0.4**
comp=Z,126nm,1.4s
PET Petropavlovsk 20.18 31 *e*P **P** **17 59 22.5 -1.9**
PET *e*S **S** **18 03 08.9 -0.7**
PET pmax pmax
comp=Z,43nm,1.0s
PET pmax pmax
comp=Z,200nm,3.4s
PET MLR MLR
comp=Z,800nm,17.0s
PET Petropavlovsk 20.18 31 *e*P **P** **17 59 21.5 -2.9**
comp=Z,44nm,1.1s
BJI Beijing 20.29 287 P **P** **17 59 23.7 -2.0**
BJI pmax pmax
comp=Z,25nm,1.6s
BJI pmax pmax
comp=Z,240nm,3.8s
BJI LR LR
comp=Z,2µm,13.5s
BJI LR LR
comp=Z,2µm,15.1s
BJI LR LR
comp=Z,1µm,14.7s
BJT Baijiatuan 20.30 287 *e*P **P** **17 59 24.1 -1.7**
BJT pmax pmax
comp=Z,52nm,0.9s
BJT Baijiatuan 20.30 287 *e*P **P** **17 59 24.1 -1.7**
comp=Z,52nm,0.9s
HIA Hailar 20.32 315 *e*P **P** **17 59 23.3 -2.8**
HIA pmax pmax
comp=Z,25nm,0.8s
HIA Hailar 20.32 315 *e*P **P** **17 59 23.3 -2.8**
comp=Z,25nm,0.8s
YHNB Yeheng 21.16 241 *e*P **P** **17 59 32.8 -2.6**
comp=Z,103nm,1.8s
NACB Ninganchiao 21.32 240 *e*P **P** **17 59 33.6 -3.4**
comp=Z,27nm,1.2s
SSLB Suanglung 22.02 240 *e*P **P** **17 59 41.2 -3.3**
comp=Z,26nm,1.1s
YULB Yu-li 22.04 239 *e*P **P** **17 59 42.4 -2.4**
comp=Z,17nm,0.8s
TPUB Ta-pu 22.56 240 *e*P **P** **17 59 47.3 -3.1**
comp=Z,40nm,1.1s
TWG Pinlang 22.58 238 *e*P **P** **17 59 47.4 -3.1**
comp=Z,181nm,1.0s
QZH Quanzhou 23.00 246 *e*P **P** **17 59 55.7 +0.8**
QZH S **S** **18 03 55.4 -8.5**
QZH LR LR
comp=Z,4µm,14.4s
QZH LR LR
comp=Z,2µm,12.0s
QZH LR LR
comp=Z,5µm,15.0s
CLNS Chul'man 23.10 336 *e*P **P** **17 59 53.8 -1.9**
CLNS *e**PP **pP** **18 00 03.1 +0.5**
CLNS *e* 18 00 12.9
CLNS *e*PPP PPP 18 00 22.1
CLNS *e*S **S** **18 04 00.9 -4.3**
CLNS *e*SS SnSn 18 04 55.5 +17
CLNS pmax pmax
comp=Z,76nm,1.5s
CLNS pmax pmax
comp=E,16nm,1.1s
CLNS pmax pmax
comp=N,78nm,1.6s
CLNS smax smax
comp=E,18nm,1.2s
CLNS smax smax
comp=N,25nm,1.2s
CLNS MLR MLR
comp=Z,3µm,14.0s
CLNS MLR MLR
comp=N,2µm,14.0s
CLNS MLR MLR
comp=E,870nm,12.0s
GUMO Guam 23.18 172 LR LR 18 09 45.1
comp=E,386nm,20.8s,baz=29,slow=39
GUMO Guam 23.18 172 *e*P **P** **17 59 56.0 -0.7**
GUMO pmax pmax
comp=Z,196nm,1.2s
GUMO Guam 23.18 172 *e*P **P** **17 59 56.0 -0.7**
comp=Z,196nm,1.2s
TIY Taiyuan 23.32 281 *e*P **P** **17 59 57.9 -0.2**
TIY sP **sP** **18 00 08.2 0.0**
TIY PP **PnPn** **18 00 26.3 +2.0**
TIY S **S** **18 04 02.5 -6.8**
TIY sS **pS** **18 04 14.5 -2.4**
TIY SS **SnSn** **18 04 52.5 +8.1**
TIY pmax pmax
comp=Z,63nm,1.0s
TIY pmax pmax
comp=Z,270nm,5.4s
TIY LR LR
comp=Z,2µm,13.0s
TIY LR LR
comp=Z,6µm,14.3s
TIY LR LR
comp=Z,6µm,13.8s
WHN Wuhan 23.56 263⇓*i*P **P** **17 59 59.9 -0.6**
WHN S **S** **18 04 09.8 -3.4**
WHN pmax pmax
comp=Z,120nm,0.9s
WHN LR LR
comp=Z,1µm,11.0s
WHN LR LR
comp=Z,10µm,14.0s
WHN LR LR
comp=Z,10µm,14.9s
MA2 Magadan 23.64 12 P **P** **18 00 02.6 +1.7**
comp=Z,29nm,0.9s,baz=183,slow=6.9,SNR=13
MA2 Magadan 23.64 12 *e*P **P** **18 00 01.8 +0.9**
MA2 pmax pmax
comp=Z,58nm,1.1s
MA2 Magadan 23.64 12 *e*P **P** **18 00 01.8 +0.9**
comp=Z,58nm,1.1s
HHC Hu-ho-hao-te 23.82 289 *e*P **P** **18 00 01.3 -1.7**
HHC PP **PnPn** **18 00 37.9 +6.7**
HHC S **S** **18 04 08.4 -9.0**
HHC pmax pmax
comp=Z,35nm,1.2s
HHC pmax pmax
comp=Z,210nm,5.2s
HHC LR LR
comp=Z,3µm,13.7s
HHC LR LR
comp=Z,2µm,14.9s
HHC LR LR
comp=Z,2µm,12.4s
BTO Baotou 24.99 289 *e*P **P** **18 00 09.4 -4.4**
CIT Chita 25.10 317 *e*P **P** **18 00 12.1 -2.4**
CIT *e* 18 00 22.5
CIT *e* 18 00 52.7
CIT pmax pmax
comp=Z,138nm,1.1s
YAK Yakutsk 26.46 347 P **P** **18 00 26.6 0.0**
comp=Z,88nm,0.7s,baz=344,slow=5.8,SNR=83
YAK LR LR 18 11 07.9
comp=Z,2µm,18.1s,baz=149,slow=37
YAK Yakutsk 26.46 347*c i*P **P** **18 00 26.5 -0.1**
YAK *e**PP **sP** **18 00 35.0 -2.0**
YAK *e* 18 01 05.3
YAK *e* 18 03 49.5
YAK *e*S **S** **18 04 57.3 -1.4**
YAK pmax pmax
comp=Z,172nm,1.0s
YAK pmax pmax
comp=N,68nm,1.0s
YAK pmax pmax
comp=E,20nm,1.1s
YAK pmax pmax
comp=Z,96nm,2.3s
YAK pmax pmax
comp=N,54nm,1.3s
YAK pmax pmax
comp=E,124nm,2.2s
YAK smax smax
comp=E,142nm,6.6s
YAK smax smax
comp=N,179nm,4.7s
YAK MLR MLR
comp=Z,3µm,14.0s
YAK MLR MLR
comp=N,2µm,15.0s
YAK MLR MLR
comp=E,807nm,13.0s
YAK Yakutsk 26.46 347 *e*P **P** **18 00 26.0 -0.6**
comp=E,129nm,0.8s
XAN Xi'an 26.81 274 P **P** **18 00 29.6 -0.6**
XAN sP sP 18 00 43.0 +2.5
XAN PP **PnPn** **18 01 14.6 +2.5**
XAN PcP **PcP** **18 03 51.0 -1.6**
XAN S **S** **18 05 03.5 -1.5**
XAN SS **SnSn** **18 06 18.5 +8.5**
XAN pmax pmax
comp=E,22nm,1.1s
XAN pmax pmax
comp=E,290nm,12.8s
XAN LR LR
comp=E,820nm,12.7s
XAN LR LR
comp=E,2µm,13.0s
XAN LR LR
comp=E,4µm,13.2s
SEY Seymchan 27.08 11 P **P** **18 00 33.4 +1.2**
comp=E,23nm,0.9s,baz=198,slow=7.4,SNR=22
ENH Enshi 27.56 266 *e*P **P** **18 00 35.3 -1.6**
comp=E,91nm,0.9s
SMY Shemya 27.73 44 *e*P **P** **18 00 38.0 -0.2**
SMY pmax pmax
comp=Z,368nm,1.7s
SMY Shemya 27.73 44 *e*P **P** **18 00 38.0 -0.2**
comp=Z,368nm,1.7s
ULN Ulaanbaatar 27.75 305*ce*P **P** **18 00 38.1 -0.6**
ULN pmax pmax
comp=Z,77nm,1.0s
ULN Ulaanbaatar 27.75 305 *e*P **P** **18 00 38.0 -0.6**
comp=Z,79nm,1.1s
H11N2 WAKE ISLAND Hy 27.76 121 T T 18 29 54.9
baz=313,slow=75,SNR=366
H11N1 WAKE ISLAND Hy 27.77 121 T T 18 29 52.9
baz=313,slow=75,SNR=502
H11N3 WAKE ISLAND Hy 27.78 121 T T 18 29 56.0
baz=313,slow=75,SNR=396
PCPH Palayan 27.92 226⇑*e*P **P** **18 00 34.7 -5.4**
BOD Bodaibo 27.95 328 *e*P **P** **18 00 39.6 -0.5**
BOD pmax pmax
comp=Z,61nm,1.5s
GZH Guangzhou 27.97 249 *e*P **P** **18 00 37.7 -2.9**
GZH S **S** **18 05 16.6 -6.7**
SONA1 Songino Array 28.18 304 *e*P **P** **18 00 41.5 -0.9**
SONM Songino Array 28.18 304 P **P** **18 00 42.3 -0.2**
comp=Z,50nm,0.8s,baz=105,slow=8.0,SNR=132
SONM LR LR 18 12 20.2
comp=Z,2µm,18.4s,baz=98,slow=37
H11S1 WAKE ISLAND Hy 28.46 123 T T 18 30 47.6
baz=315,slow=76,SNR=295
H11S3 WAKE ISLAND Hy 28.46 123 T T 18 30 53.6
baz=315,slow=76,SNR=331
H11S2 WAKE ISLAND Hy 28.48 123 T T 18 30 43.8
baz=315,slow=76,SNR=373
LZH Lanzhou 30.37 280 *e*P **P** **18 01 00.3 -1.7**
LZH pP pP 18 01 08.5 -0.9
LZH sP sP 18 01 12.0 -0.4
LZH PP **PnPn** **18 01 59.0 -1.6**
LZH S **S** **18 05 56.2 -5.0**
LZH pmax pmax
comp=Z,74nm,1.3s
LZH pmax pmax
comp=Z,260nm,5.2s
LZH LR LR
comp=Z,3µm,12.7s
LZH LR LR
comp=Z,5µm,13.2s
LZH LR LR
comp=Z,5µm,16.4s
IRK Irkutsk 30.51 313 *e*P **P** **18 01 01.7 -1.2**
IRK pmax pmax
comp=Z,48nm,1.8s
ZAK Zakamensk 30.68 309 *e*P **P** **18 01 04.0 -0.5**
ZAK pmax pmax
comp=Z,25nm,1.1s
TLY Talaya 30.74 311 *e*P **P** **18 01 04.8 -0.1**
TLY *e*S **S** **18 06 04.6 -1.9**
TLY pmax pmax
comp=Z,28nm,0.9s
TLY MLR MLR
comp=Z,3µm,16.0s
TLY Talaya 30.74 311 *e*P **P** **18 01 04.9 -0.1**
comp=Z,27nm,0.9s
GYA Guiyang 31.41 261⇑*i*P **P** **18 01 10.1 -1.1**
GYA pP sP 18 01 21.0 -0.6
GYA PcP **PcP** **18 04 06.2 +1.8**
GYA S **S** **18 06 17.8 +0.2**
GYA sS sS 18 06 30.4 +0.7
GYA ScP **ScP** **18 07 46.5 +0.6**
GYA SS **SnSn** **18 08 02.8 +0.4**
GYA ScS **ScS** **18 11 41.5 -2.3**
GYA pmax pmax
comp=Z,70nm,0.9s
GYA pmax pmax
comp=Z,140nm,5.0s
GYA LR LR
comp=Z,680nm,17.4s
GYA LR LR
comp=Z,560nm,17.8s
GYA LR LR
comp=Z,620nm,17.6s
CD2 Chengdu 31.93 271⇑*i*P **P** **18 01 14.5 -1.1**
CD2 pP sP 18 01 23.6 +0.6
CD2 sP sP 18 01 26.6 +0.6
CD2 PP **PnPn** **18 02 22.3 +1.5**
CD2 S **S** **18 06 22.3 -3.1**
CD2 SS **SnSn** **18 08 18.0 +3.3**
CD2 ScS **ScS** **18 11 43.9 -2.2**
CD2 pmax pmax
comp=Z,50nm,0.8s
CD2 pmax pmax
comp=Z,230nm,6.6s
CD2 LR LR
comp=Z,3µm,12.3s
CD2 LR LR
comp=Z,3µm,18.0s
CD2 LR LR
comp=Z,4µm,13.3s
MOY Mondy 32.35 311 *e*P **P** **18 01 19.7 +0.5**
MOY pmax pmax
comp=Z,37nm,1.5s
QIZ Qiongzhong 33.02 246 P **P** **18 01 26.2 +1.0**
QIZ S **S** **18 06 42.9 +0.4**
QIZ ScS **ScS** **18 11 52.3 +0.5**
QIZ pmax pmax
comp=Z,16nm,1.0s
QIZ LR LR
comp=Z,940nm,14.5s
QIZ LR LR
comp=Z,710nm,13.7s
QIZ LR LR
comp=Z,1µm,13.8s
QIZ Qiongzhong 33.02 246 *e*P **P** **18 01 25.9 +0.6**
comp=Z,12nm,0.8s
BILL Bilibino 34.28 16 *e*P **P** **18 01 34.9 -0.8**
BILL *e* 18 02 50.6
BILL *e*PPP PPP 18 03 03.9
BILL pmax pmax
comp=Z,10.0nm,1.1s
KMI Kunming 35.16 262 P **P** **18 01 43.3 -0.7**
KMI pP pP 18 01 51.5 +0.1
KMI sP sP 18 01 54.5 0.0
KMI PP **PP** **18 03 04.4 +0.5**
KMI S **S** **18 07 13.9 -2.0**
KMI sS sS 18 07 26.9 -1.2
KMI pmax pmax
comp=Z,43nm,1.2s
KMI pmax pmax
comp=Z,140nm,3.1s
KMI LR LR
comp=Z,850nm,15.6s
KMI LR LR
comp=Z,870nm,21.8s
KMI LR LR
comp=Z,2µm,20.6s
TIXI Tiksi 35.66 353*ce*P **P** **18 01 48.6 +1.1**
TIXI pmax pmax
comp=Z,31nm,1.7s
TIXI Tiksi 35.66 353 *e*P **P** **18 01 47.4 -0.1**
comp=Z,43nm,1.6s
SLVN Son La 36.18 256 *e*P **P** **18 01 52.5 -0.2**
comp=Z,20nm,1.0s

MYLDM **Lahad Datu** 37.91 220 *e*P P 18 02 09.7 +2.4
comp=Z,19nm,0.8s
KKM **Kota Kinabalu** 38.40 224 *e*P P 18 02 11.7 +0.1
comp=Z,15nm,1.0s
SWI **Sorong** 38.61 197 P P 18 02 15.6 +2.5
UBPT **Khong Chiam** 38.62 246 P P 18 02 13.9 +0.7
comp=Z,48nm,1.0s,comp=Z,910nm
DLV **T Lat** 38.72 239 *e*P P 18 02 14.9 +0.6
comp=Z,76nm,1.3s
MANU **Manus Island** 38.89 171 *e*P P 18 02 16.8 +1.3
comp=Z,213nm,0.8s
JAY **Jayapura** 39.02 182 LR LR 18 16 06.5
comp=Z,18nm,20.6s,slow=33
JAY **Jayapura** 39.02 182 P P 18 02 14.6 -2.0
GENI **Genyem** 39.11 182 P P 18 02 19.0 +1.7
LKP **Lekhapani** 39.69 270 *e*P P 18 02 22.9 +0.8
GTOI **Gorontalo** 39.84 210 P P 18 02 23.4 -0.1
comp=Z,25nm,1.0s,comp=Z,438nm
FAKI **Fak Fak** 40.39 195 P P 18 02 29.5 +1.6
comp=Z,35nm,1.0s
MRSI **Marisa** 40.43 211 P P 18 02 29.7 +1.4
comp=Z,40nm,1.7s,comp=Z,2µm
UTTA **Uttaradit** 40.81 254 P P 18 02 32.4 +0.9
comp=Z,9.1nm,1.0s
LAMP **Lampang** 41.08 255 P P 18 02 34.4 +0.7
comp=Z,8.3nm,0.9s
PBKT **Sadao Pong** 41.19 252 P P 18 02 34.8 +0.2
comp=Z,41nm,1.1s
MOKO **MOKOCHONG** 41.20 269 *e*P P 18 02 35.1 +0.2
MOKO ⇓*ex* x 18 06 26.6
WMQ **Urumqi** 41.22 297 P P 18 02 35.9 +1.2
WMQ pP sP 18 02 44.2 -1.0
WMQ sP pP 18 02 47.7 +5.5
WMQ PP **PnPn** 18 04 19.0 +4.6
WMQ PcP PcP 18 04 42.0 +8.6
WMQ S **S** 18 08 48.8 +1.9
WMQ sS sS 18 09 04.3 +5.1
WMQ **Urumqi** 41.22 297 ScS ScS 18 12 36.0 -1.3
WMQ pmax pmax
comp=Z,79nm,1.3s
WMQ pmax pmax
comp=Z,440nm,3.7s
WMQ LR LR
comp=N,2µm,13.9s
WMQ LR LR
comp=E,1µm,13.1s
WMQ LR LR
comp=Z,1µm,22.3s
WMQ **Urumqi** 41.22 297 P P 18 02 35.6 +0.9
WMQ pP pP 18 02 42.5 +0.3
WMQ sP sP 18 02 47.0 +1.8
WMQ PP **PnPn** 18 04 14.7 +0.3
WMQ S **S** 18 08 47.5 +0.6
WMQ sS sS 18 09 01.2 +2.0
WMQ SS **SS** 18 11 46.4 -3.8
WMQ pmax pmax
comp=Z,75nm,1.7s
WMQ pmax pmax
comp=Z,430nm,4.1s
WMQ LR LR
comp=Z,2µm,17.3s
WMQ LR LR
comp=Z,1µm,15.7s
WMQ LR LR
comp=Z,1µm,22.7s
SANI **Sanana** 41.23 204 P P 18 02 34.9 0.0
comp=Z,51nm,0.8s,comp=Z,693nm
CMMT **Chiang Mai** 41.45 256 P P 18 02 36.9 +0.1
comp=Z,20nm,1.6s
CHTO **Chiang Mai** 41.45 256 P P 18 02 36.9 +0.1
comp=Z,87nm,1.6s
CHTO **Chiang Mai** 41.45 256 *e*P P 18 02 36.5 -0.3
CHTO pmax pmax
comp=Z,15nm,0.9s
CHTO **Chiang Mai** 41.45 256 *e*P P 18 02 36.5 -0.3
comp=Z,15nm,0.9s
ITAN **ITANAGAR** 41.48 271 *e*P P 18 02 37.8 +0.9
ITAN ⇑x x 18 03 47.8
MSAI **Masohi** 41.58 199 P P 18 02 39.6 +1.8
CM31 **Chiang Mai Arr** 41.65 256 *e*P P 18 02 38.7 +0.2
CMAR **Chiang Mai Arr** 41.65 256 LR LR 18 22 06.5
comp=Z,1µm,18.4s,baz=55,slow=39
CM01 **Chiang Mai Arr** 41.66 256 *e*P P 18 02 38.5 0.0
NLAI **Namlea** 42.00 202 P P 18 02 41.5 +0.3
AAI **Ambon** 42.11 200 P P 18 02 43.0 +0.9
ZAA0 **Zalesovo Array** 42.33 313 *e*P P 18 02 43.4 -0.2
ZALV **Zalesovo Beam** 42.33 313 P P 18 02 43.9 +0.3
comp=Z,46nm,0.8s,baz=94,slow=6.5,SNR=105
ZALV LR LR 18 21 01.5
comp=Z,2µm,19.4s,baz=70,slow=37
IMP **Imphal** 42.33 268 *e*P P 18 02 45.0 +1.0
TEZP **TEZPUR** 42.45 271 *e*P P 18 02 44.6 -0.3
LSA **Lhasa** 42.49 276 P P 18 02 46.6 +0.9
LSA pmax pmax
comp=Z,18nm,1.3s
LSA **Lhasa** 42.49 276 *e*P P 18 02 46.4 +0.6
LSA pmax pmax
comp=Z,17nm,0.8s
LSA **Lhasa** 42.49 276 *e*P P 18 02 46.4 +0.6
comp=Z,17nm,0.8s
PCI **Palu** 42.58 213 P P 18 02 46.6 +0.7
comp=Z,35nm,1.0s,comp=Z,639nm
UMPA **Umpang Tak** 43.03 253 P P 18 02 52.0 +2.3
comp=Z,11nm,1.0s
NVS **Novosibirsk** 43.26 314⇓*i*P P 18 02 51.8 +0.8
NVS pmax pmax
comp=Z,39nm,1.0s
NVS pmax pmax
comp=N,8.0nm,0.9s
NVS pmax pmax
comp=E,33nm,1.1s
GUWA **GUWAHATI** 43.53 271 *e*P P 18 02 57.2 +3.6
GUWA AMB AMB 18 02 57.4
comp=Z,37nm,1.0s
SBUM **Sibu** 43.60 226 *e*P P 18 02 54.2 0.0
comp=Z,10.0nm,1.1s
NRIK **Noril'sk** 43.68 335 P P 18 02 55.0 +0.8
comp=Z,10nm,0.8s,baz=106,slow=7.7,SNR=15
TTSI **Tana Toraja** 44.50 212 P P 18 03 08.3 +6.9
MK01 **Makanchi Array** 44.51 302 *e*P P 18 03 01.1 -0.1
MK31 **Makanchi Array** 44.51 302 *e*P P 18 03 01.4 +0.1
MK31 **Makanchi Array** 44.51 302 *e*P P 18 03 01.4 +0.1
MKAR **Makanchi Array** 44.51 302 *e*P P 18 03 01.4 +0.1
MKAR pmax pmax
comp=Z,174nm,0.8s
MKAR **Makanchi Array** 44.51 302 *e*P P 18 03 01.4 +0.1
comp=Z,174nm,0.8s
MAKZ **Makanchi** 44.72 303 *i*P P 18 03 02.4 -0.6
MAKZ pmax pmax
comp=Z,30nm,0.9s
MAKZ **Makanchi** 44.72 303 *e*P P 18 03 03.0 0.0
comp=Z,29nm,0.8s
DHUB **DHUBRI** 44.97 272 *e*P P 18 03 04.8 -0.3
SPSI **Sidrap Palu** 45.34 212 P P 18 03 14.5 +6.4
KSM **Kuching** 45.50 227 *e*P P 18 03 10.4 +1.0
comp=Z,17nm,0.8s
GTK **Tadong** 45.51 274 *e*P P 18 03 09.9 +0.2
TT01 **Tatalina** 45.55 35 *e*P P 18 03 11.3 +2.0
TTA **Tatalina** 45.56 35 *e*P P 18 03 10.7 +1.3
TTA pmax pmax
comp=Z,13nm,1.0s
TTA **Tatalina** 45.56 35 *e*P P 18 03 10.7 +1.3
comp=Z,13nm,1.0s
BBSI **Bau Bau** 45.63 207 P P 18 03 12.3 +1.9
SVW2 **Sparrevohn** 45.64 37 *e*P P 18 03 11.2 +1.2
comp=Z,23nm,1.0s
PMG **Port Moresby** 46.14 173 LR LR 18 22 23.8
comp=Z,66nm,21.3s,baz=5.0,slow=36
PMG **Port Moresby** 46.14 173 *e*P P 18 03 16.0 +1.6
PMG pmax pmax
comp=Z,31nm,1.0s
PMG **Port Moresby** 46.14 173 *e*P P 18 03 16.0 +1.6
comp=Z,31nm,1.0s
TAPN **Taplejung** 46.22 274 *e*P P 18 03 15.9 +0.5
comp=Z,78nm,0.9s
KAPI **Kappang** 46.30 211 *e*P P 18 03 16.4 +0.8
comp=Z,33nm,1.0s
KURK **Kurchatov** 46.34 308*ce*P P 18 03 15.4 -0.3
KURK **Kurchatov** 46.34 308 *e*P P 18 03 15.2 -0.4
comp=Z,66nm,0.9s
ODAN **Odare** 46.69 274 *e*P P 18 03 19.2 +0.2
comp=Z,110nm,1.0s
RSO **Redoubt South** 47.02 38 *e*P P 18 03 22.6 +1.5
PDGK **Podgornoye** 47.16 298 *i*P P 18 03 21.6 -0.7
PDGK pmax pmax
comp=Z,43nm,0.8s
RAMN **Ramite** 47.28 275 *e*P P 18 03 23.8 +0.2
comp=Z,124nm,0.7s
JIRN **Jiri** 47.30 276 *e*P P 18 03 24.6 +0.7
comp=Z,117nm,0.7s
SPU **Mount Spurr** 47.35 37 *e*P P 18 03 26.4 +2.9
CAST **Castle Rocks** 47.37 34 *e*P P 18 03 26.2 +2.7
comp=Z,11nm,0.8s
GUN **Gumba** 47.44 276 *e*P P 18 03 25.4 +0.4
comp=Z,153nm,1.0s
SKLT **Songkhla** 47.57 242 P P 18 03 28.7 +3.1
comp=Z,33nm,0.9s
KTH **Kantishna Hill** 47.89 34 *e*P P 18 03 29.9 +2.2
comp=Z,41nm,1.3s
PKI **Pulchoki** 47.96 276 *e*P P 18 03 28.9 -0.1
comp=Z,87nm,1.0s
PKIN **Phulchoki** 47.97 276 *e*P P 18 03 29.6 +0.6
comp=Z,41nm,0.6s
KKN **Kakani** 47.97 276 *e*P P 18 03 29.2 +0.2
comp=Z,90nm,0.8s
DMN **Daman** 48.19 276 *e*P P 18 03 30.8 +0.1
COLD **Coldfoot** 48.33 29 *e*P P 18 03 33.1 +2.2
comp=Z,21nm,1.5s
GKN **Gorkha** 48.39 277 *e*P P 18 03 32.4 +0.2
comp=Z,204nm,0.9s
RC01 **Rabbit Creek A** 48.48 37 *e*P P 18 03 33.8 +1.6
comp=Z,28nm,1.1s
TOLK **Tonglik Lake Re** 48.66 27 P P 18 03 34.2 +0.7
baz=266
MMRI **Maumere** 48.66 206 *e*P P 18 03 34.3 +0.3
comp=Z,49nm,1.0s
PMR **Palmer** 48.75 36 *e*P P 18 03 36.0 +1.8
PMR pmax pmax
comp=Z,15nm,0.8s
PMR **Palmer** 48.75 36 *e*P P 18 03 36.0 +1.8
comp=Z,15nm,0.8s
MCK **McKinley** 48.78 34 *e*P P 18 03 36.1 +1.6
MCK pmax pmax
comp=Z,14nm,0.8s
MCK **McKinley** 48.78 34 *e*P P 18 03 36.1 +1.6
comp=Z,14nm,0.8s
KULM **Kulim** 48.86 240 *e*P P 18 03 34.2 -1.4
comp=Z,16nm,1.1s
AAA **Alma-Ata** 49.01 299 *e*P P 18 03 37.6 +1.0
AAA pmax pmax
comp=Z,300nm,3.9s
AAA MLR MLR
comp=Z,5µm,17.0s
SOEI **Soe** 49.03 203 P P 18 03 40.5 +3.5
SOEI **Soe** 49.03 203 *e*P P 18 03 39.5 +2.5
comp=Z,94nm,1.0s
MDM **Murphy Dome** 49.07 32 *e*P P 18 03 38.5 +1.8
comp=Z,34nm,0.9s
SML **Sawmill** 49.12 36 *e*P P 18 03 42.1 +5.0
SML pmax pmax
comp=Z,113nm,1.6s
SML **Sawmill** 49.12 36 *e*P P 18 03 42.1 +5.0
comp=Z,113nm,1.6s
WRH **Wood River Hil** 49.14 33 *e*P P 18 03 40.5 +3.3
comp=Z,14nm,1.1s
IPM **Ipoh** 49.18 239 *e*P P 18 03 37.7 -0.4
comp=Z,25nm,0.9s
BOK **Bokaro** 49.30 271 *e*P P 18 03 39.5 +0.5
BOK AMB AMB 18 03 39.9
comp=Z,31nm,1.1s
KOLN **Koldanda** 49.32 277 *e*P P 18 03 39.7 +0.4
comp=Z,89nm,0.9s
DHY **Denali Highway** 49.50 34 *e*P P 18 03 40.3 +0.1
comp=Z,36nm,0.6s
HDA **Harding Lake** 49.63 33 *e*P P 18 03 41.7 +0.7
comp=Z,23nm,1.2s
IL1 **Eielson Array** 49.65 32 *e*P P 18 03 41.1 0.0
ILAR **Eielson Array** 49.65 32 P P 18 03 42.0 +1.0
comp=Z,5.4nm,0.9s,baz=266,slow=6.4,SNR=23
ILB **Eielson Array** 49.65 32 *e*P P 18 03 42.1 +1.0
PYUN **Piuthan** 49.66 278 *e*P P 18 03 42.4 +0.4
comp=Z,185nm,0.8s
MTN **Manton Dam** 50.27 193 *e*P P 18 03 46.1 -0.1
comp=Z,18nm,0.8s
FYU **Fort Yukon** 50.28 30 *e*P P 18 03 47.1 +1.3
comp=Z,90nm,1.6s
KLU **Klutina** 50.29 36 *e*P P 18 03 46.3 +0.2
MID **Middleton Isla** 50.30 39 *e*P P 18 03 47.1 +1.0
MID **Middleton Isla** 50.30 39 *e*P P 18 03 47.0 +1.0
comp=Z,1µm,1.4s
COEN **Coen** 50.39 178 *e*P P 18 03 47.9 +0.6
comp=Z,84nm,1.8s
FRU **Bishkek** 50.73 299 *e*P P 18 03 50.5 +0.9
FRU pmax pmax
comp=Z,57nm,1.8s
FRU MLR MLR
comp=E,2µm,15.0s
KSH **Kashi** 50.77 294⇑*i*P P 18 03 54.3 +4.2
KSH pP sP 18 04 01.3 +0.6
KSH sP pP 18 04 04.9 +7.1
KSH PP **PP** 18 05 51.5 +5.3
KSH S **S** 18 11 08.0 +3.6
KSH sS sS 18 11 20.7 +3.7
KSH SS **SS** 18 14 41.1 +2.3
KSH pmax pmax
comp=E,17nm,1.0s
KSH pmax pmax
comp=E,220nm,4.0s
KSH LR LR
comp=E,1µm,14.1s
KSH LR LR
comp=E,1µm,13.8s
KSH LR LR
comp=E,2µm,13.5s
AAK **Ala-Archa** 50.87 299 *i*P P 18 03 50.1 -0.8
AAK pmax pmax
comp=Z,13nm,0.9s
AAK **Ala-Archa** 50.87 299 *e*P P 18 03 50.8 -0.1
comp=Z,12nm,0.8s
DOT **Dot Lake** 50.95 34 *e*P P 18 03 53.0 +2.0
comp=Z,80nm,1.5s
BVA0 **Borovoye Array** 50.99 313 *i*P P 18 03 51.1 -0.3
BVA0 pmax pmax
comp=Z,26nm,1.0s
BRVK **Borovoye** 51.04 313 *e*P P 18 03 52.0 +0.2
BRVK pmax pmax
comp=Z,30nm,1.0s
BRVK **Borovoye** 51.04 313 *e*P P 18 03 52.0 +0.2
comp=Z,30nm,1.0s
MENT **Mentasta** 51.17 34 *e*P P 18 03 58.2 +5.5
comp=Z,24nm,1.2s
LHMI **Lhok Sumawe** 51.53 244 *e*P P 18 03 57.0 +1.1
comp=Z,50nm,1.0s
PSI **Prapat** 51.84 240 *e*P P 18 03 58.4 +0.1
PSI pmax pmax
comp=Z,11nm,0.9s
PSI **Prapat** 51.84 240 *e*P P 18 03 58.4 +0.1
comp=Z,11nm,0.9s
JAGI **Jajag, Banyuwa** 51.85 216 *e*P P 18 03 57.9 -0.3
comp=Z,38nm,1.1s
EGAK **Eagle** 52.10 32 *e*P P 18 04 01.7 +2.2
comp=Z,14nm,1.1s
BKNI **Bangkinang** 52.20 236 *e*P P 18 04 00.7 -0.2
comp=Z,155nm,1.3s
KEKH **Kekaha** 52.37 89 *e*P P 18 04 02.7 +0.5
comp=Z,121nm,1.6s
SMRI **Semarang** 52.47 221 *e*P P 18 04 01.8 -1.0
comp=Z,106nm,1.2s
PWJI **Pagerwojo** 52.60 218 P P 18 04 03.3 -0.4
SMLA **Simla** 52.98 284 *e*P P 18 04 06.2 -0.3
DHRM **DHARAMSHALA** 53.19 286 *e*P P 18 04 08.0 -0.3
KK31 **Karatay Array** 53.51 300 *i*P P 18 04 10.3 0.0
KK31 pmax pmax
comp=Z,14nm,0.9s
KKAR **Karatay Array** 53.51 300 *e*P P 18 04 10.2 -0.1
KKAR pmax pmax
comp=Z,104nm,0.8s
KKAR **Karatay Array** 53.51 300 *e*P P 18 04 10.2 -0.1
comp=Z,104nm,0.8s
OPA **Opana** 53.89 89 *e*P P 18 04 14.8 +1.5
OPA pmax pmax
comp=Z,202nm,2.0s
OPA **Opana** 53.89 89 *e*P P 18 04 14.8 +1.5
comp=Z,202nm,2.0s
JBP **Jabalpur** 54.34 274⇑*e*P P 18 04 16.9 +0.4
JBP *ex* x 18 15 35.5
HYT **Haines Junctio** 54.42 36 *e*P P 18 04 22.0 +5.2
INK **Inuvik** 54.58 27 P P 18 04 18.5 +0.9
comp=Z,5.3nm,0.8s,baz=280,slow=9.4,SNR=5.2
INK **Inuvik** 54.58 27 *e*P P 18 04 18.1 +0.5
comp=Z,8.3nm,0.6s
SVE **Sverdlovsk** 55.57 319*de*P P 18 04 25.6 +0.6
SVE pmax pmax
comp=Z,57nm,1.5s
SVE MLR MLR
comp=Z,2µm,16.0s
FITZ **Fitzroy Crossi** 56.58 198 *e*P P 18 04 33.0 +0.5
comp=Z,12nm,0.8s
SOKR **Solikamsk** 56.75 323 *e*P P 18 04 32.6 -0.7
SOKR pmax pmax
comp=Z,19nm,1.0s
SOKR MLR MLR
comp=Z,948nm,19.0s
WRAB **Tennant Creek** 56.75 188 *e*P P 18 04 32.6 -1.1
WRAB pmax pmax
comp=Z,47nm,1.4s
WRAB **Tennant Creek** 56.75 188 *e*P P 18 04 32.6 -1.1
comp=Z,47nm,1.4s
WB2 **Warramunga Arr** 56.76 188 *e*P P 18 04 33.2 -0.6
WRA **Warramunga Arr** 56.76 188 P P 18 04 33.0 -0.8
comp=Z,16nm,0.8s,baz=6.3,slow=7.4,SNR=67
WRA LR LR 18 27 58.3
comp=Z,206nm,22.0s,baz=15,slow=35
ARU **Arti** 56.78 319*c i*P P 18 04 33.4 -0.2
ARU 18 05 23.9
ARU 18 06 39.0
ARU S **S** 18 12 24.8 -0.2
ARU SS **SS** 18 16 12.0 -0.5
ARU pmax pmax
comp=Z,78nm,1.7s
ARU MLR MLR
comp=Z,2µm,18.0s
ARU **Arti** 56.78 319 *e*P P 18 04 33.8 +0.1
comp=Z,42nm,1.0s
POHA **Pohakuloa** 56.86 89 *e*P P 18 04 35.5 +0.5
comp=Z,28nm,0.8s
MLOA **Mauna Loa Obse** 56.94 89 *e*P P 18 04 35.9 +0.1
comp=Z,127nm,1.6s
KBL **Kabul** 57.77 291 *e*P P 18 04 40.6 -0.7
KBL pmax pmax
comp=Z,35nm,1.1s
KBL **Kabul** 57.77 291 *e*P P 18 04 40.6 -0.7
comp=Z,35nm,1.1s
ABKAR **Akbulak array** 58.35 310 *e*P P 18 04 44.5 -0.3
comp=Z,133nm,0.7s
HYB **Hyderabad** 58.45 269 *i*P P 18 04 44.0 -2.0
DLBC **Dease Lake** 58.74 38 P P 18 04 48.7 +1.2
comp=Z,2.4nm,0.7s,baz=296,slow=6.9,SNR=3.9
DLBC **Dease Lake** 58.74 38 *e*P P 18 04 49.4 +1.9
comp=Z,28nm,1.4s
AKTO **Aktyubinsk** 59.09 312 *i*P P 18 04 49.1 -0.8
AKTO pmax pmax
comp=Z,20nm,1.0s
AS01 **Alice Springs** 60.48 188 *e*P P 18 04 59.0 -0.7
AS31 **Alice Springs** 60.48 188 *e*P P 18 04 59.2 -0.5
comp=Z,2.7nm,0.6s
ASAR **Alice Springs** 60.49 188 P P 18 04 59.2 -0.5
comp=Z,6.5nm,0.9s,baz=4.2,slow=5.4,SNR=74
ASAR LR LR 18 31 19.7
comp=Z,64nm,21.0s,baz=7.5,slow=36
SPA0 **Spitsbergen Ar** 60.91 349 *e*P P 18 05 03.5 +1.5
KBS **Kingsbay** 61.03 350 *e*P P 18 05 04.7 +1.8
KBS pmax pmax
comp=Z,25nm,1.0s
KBS **Kingsbay** 61.03 350 *e*P P 18 05 04.7 +1.8
comp=Z,25nm,1.0s
MBWA **Marble Bar** 61.17 204 *e*P P 18 05 04.8 +0.3
comp=Z,19nm,0.9s
EIDS **Eidsvold** 62.36 170 *e*P P 18 05 11.9 -0.4
comp=Z,68nm,1.8s
LVZ **Lovozero** 62.52 336 *e*P P 18 05 12.8 -0.3
LVZ pmax pmax
comp=Z,8.0nm,1.1s
LVZ **Lovozero** 62.52 336 *e*P P 18 05 13.6 +0.5
comp=Z,16nm,1.0s
PALK **Pallekele** 62.54 258 P P 18 05 14.7 +0.8
PALK **Pallekele** 62.54 258 *e*P P 18 05 14.2 +0.2
PALK pmax pmax
comp=Z,24nm,0.9s
PALK **Pallekele** 62.54 258 *e*P P 18 05 14.2 +0.2
comp=Z,24nm,0.9s
DZM **Mont Dzumac** 62.94 154 P P 18 05 16.8 +0.4
comp=Z,12nm,0.9s,baz=64,slow=11,SNR=4.1
DZM **Mont Dzumac** 62.94 154 *e*S S 18 13 48.5 +3.6
comp=Z,752nm,28.8s
DZM **Mont Dzumac** 62.94 154 *e*LR LR 18 24 00.0
comp=Z,1µm,21.3s
TMCR **Tamitsa** 63.16 332 *e*P P 18 05 17.6 +0.3
TMCR pmax pmax
comp=Z,35nm,0.4s
YKW3 **Yellowknife Ar** 63.94 30 *e*P P 18 05 24.7 +2.2
comp=Z,14nm,1.2s
YKA **Yellowknife Ar** 63.98 30 P P 18 05 23.9 +1.2
comp=Z,4.7nm,0.9s,baz=293,slow=6.7,SNR=6.1
YKB5 **Yellowknife Ar** 63.98 30 *e*P P 18 05 23.8 +1.1
KLMR **Klimovskoe** 64.18 328 *e*P P 18 05 22.5 -1.5
KLMR *e* 18 07 45.0
KLMR pmax pmax
comp=Z,47nm,1.4s
GEYT **Alibeck** 64.22 299 P P 18 05 24.8 0.0
comp=Z,10.0nm,0.9s,baz=33,slow=3.5,SNR=21
GEYT LR LR 18 34 48.6
comp=Z,523nm,20.5s,baz=40,slow=37
ARA0 **ARCESS Array S** 64.40 340 *e*P P 18 05 25.3 -0.1
ARCES **ARCESS Array B** 64.40 340 P P 18 05 25.1 -0.4
comp=Z,5.6nm,0.9s,baz=55,slow=10,SNR=8.1
ARCES LR LR 18 36 39.2
comp=Z,604nm,21.3s,baz=43,slow=39
ARE0 **ARCESS Array S** 64.40 340 *e*P P 18 05 26.1 +0.7
comp=Z,35nm,1.4s
COCO **West Island** 64.41 230 *e*P P 18 05 24.8 -1.3
COCO **West Island** 64.41 230 *e*P P 18 05 24.8 -1.3
comp=Z,270nm,1.3s
XMAS **Kiritimati** 65.63 107 *e*P P 18 05 32.4 -1.8
comp=Z,113nm,1.4s
LLLB **Lillooet** 66.33 44 *e*P P 18 05 40.5 +2.3
PGC **Sidney** 66.39 46 *e*P P 18 05 38.7 +0.1
comp=Z,20nm,1.4s
AFI **Afiamalu** 66.72 130 *e*P P 18 05 41.3 +0.1
AFI **Afiamalu** 66.72 130 *e*P P 18 05 41.3 +0.1
comp=Z,380nm,1.9s
NLWA **Neilton Lookou** 66.76 47 *e*P P 18 05 41.7 +0.7
comp=Z,21nm,1.0s
E03A **Lebam** 67.36 48 *e*P P 18 05 45.5 +0.8
comp=Z,61nm,1.4s
B05A **Bryant** 67.37 46 P P 18 05 45.1 +0.2
baz=300
B06A **Marblemount** 67.59 46 *e*P P 18 05 47.8 +1.6
comp=Z,25nm,0.5s
MOS **Moscow** 67.67 324 *e*P P 18 05 46.2 -0.4
MOS *e* 18 06 05.7
MOS *e*S S 18 14 42.3 +0.1
MOS pmax pmax
comp=Z,72nm,1.1s
MOS pmax pmax
comp=Z,100nm,1.5s
MOS MLR MLR
comp=Z,900nm,16.0s
D05A **Enumclaw** 67.97 47 *e*P P 18 05 49.8 +1.1
comp=Z,15nm,0.9s
STKA **Stephens Creek** 68.21 180 P P 18 05 48.9 -1.2
comp=Z,3.7nm,0.8s,baz=14,slow=2.0,SNR=4.9
STKA LR LR 18 34 51.1
comp=Z,323nm,21.4s,baz=11,slow=35
STKA **Stephens Creek** 68.21 180 *e*P P 18 05 50.3 +0.2
comp=Z,7.4nm,1.6s
LON **Longmire** 68.30 47 *e*P P 18 05 51.3 +0.5
LON pmax pmax
comp=Z,7.0nm,1.1s
LON **Longmire** 68.30 47 *e*P P 18 05 51.3 +0.5
comp=Z,6.9nm,1.1s
F04A **Amboy** 68.36 48 *e*P P 18 05 52.6 +1.5
comp=Z,24nm,0.9s
COR **Corvallis** 68.50 50 *e*P P 18 05 51.8 -0.2
COR pmax pmax
comp=Z,22nm,0.9s
COR **Corvallis** 68.50 50 *e*P P 18 05 51.8 -0.2
comp=Z,22nm,0.9s
OBN **Obninsk** 68.52 323*ce*P P 18 05 51.9 0.0
OBN *e* 18 06 16.9
OBN *e* 18 08 27.6
OBN *e*PPP PPP 18 10 03.8
OBN pmax pmax
comp=Z,71nm,1.7s
OBN **Obninsk** 68.52 323 *e*P P 18 05 52.1 +0.2
comp=Z,87nm,1.5s
LTY **Liberty** 68.71 46 *e*P P 18 05 54.6 +1.2
comp=Z,45nm,1.8s

LPSR **Galich'ya Gora** 68.72 320 *e*P P 18 05 52.5 -0.8
LPSR pmax pmax
comp=Z,30nm,1.0s
B08A Colville Reser 68.90 45 *e*P P 18 05 55.9 +1.3
comp=Z,11nm,1.1s
I03D Drain, OR 68.93 51 P P 18 05 54.8 +0.1
baz=301
FIA1 FINESS Array S 69.23 332 *e*P P 18 05 56.3 +0.1
FINES FINESS Array B 69.23 332 P P 18 05 56.6 +0.4
comp=Z,12nm,0.8s,baz=57,slow=7.0,SNR=16
FINES LR LR 18 38 32.6
comp=Z,966nm,18.3s,baz=32,slow=38
VSR Storozhevoye 69.35 319 *e*P P 18 05 56.3 -0.9
VSR pmax pmax
comp=Z,30nm,1.1s
VSR MLR MLR
comp=Z,3µm,23.0s
G05D Wamic, OR 69.37 49 P P 18 05 58.4 +0.9
baz=302
EDM Edmonton 69.46 38 *e*P P 18 05 58.4 +0.5
EDM pmax pmax
comp=Z,23nm,1.3s
EDM Edmonton 69.46 38 *e*P P 18 05 58.4 +0.5
comp=Z,23nm,1.3s
I04A Tendick Farm, 69.46 50 P P 18 05 59.6 +1.5
baz=302,SNR=8.2
E07A Sunnyside 69.55 47 *e*P P 18 06 00.0 +1.5
comp=Z,8.1nm,0.8s
L02D Cave Junction, 69.56 52 P P 18 05 59.3 +0.6
baz=301
D08A Wollman Farm, 69.83 46 *e*P P 18 06 01.3 +1.1
comp=Z,10nm,0.9s
I05D Terrebonne, OR 69.83 49 P P 18 06 01.4 +1.0
baz=302
J04D Umpqua Nationa 69.94 51 P P 18 06 01.2 0.0
baz=302,SNR=7.2
JCC Jacoby Creek, 69.99 54 *e*P P 18 06 02.7 +1.4
comp=Z,41nm,1.4s
KHMM Horse Mountain 70.15 53 *e*P P 18 06 04.4 +1.9
comp=Z,19nm,1.0s
NEW Newport 70.20 44 P P 18 06 02.9 +0.4
baz=303
NEW Newport 70.20 44 *e*P P 18 06 03.3 +0.8
NEW Newport 70.20 44 *e*P P 18 06 03.3 +0.8
M02C Callahan 70.44 53 P P 18 06 04.6 +0.4
baz=302,SNR=5.9
J05D Fort Rock, OR 70.46 50 P P 18 06 04.9 +0.5
baz=302,SNR=7.4
K04D Chiloquin, OR 70.48 51 P P 18 06 04.7 +0.2
baz=302
GOF Gofitskoye 70.51 312 ⇑*i*P P 18 06 05.1 +0.7
GOF pmax pmax
comp=Z,38nm,0.9s
KMRM Mail Ridge 70.51 54 *e*P P 18 06 06.1 +1.5
comp=Z,13nm,1.1s
E09A Wood Farm, Sta 70.57 46 *e*P P 18 06 05.9 +1.1
comp=Z,14nm,0.9s
N02D Trinity Center 70.76 53 P P 18 06 06.8 +0.6
baz=302,SNR=6.5
KCPM Cahto Peak 70.87 54 *e*P P 18 06 08.5 +1.6
comp=Z,54nm,1.7s
VSU Vasula 70.88 330 *ce*P P 18 06 07.7 +1.3
VSU pmax pmax
comp=Z,133nm,1.7s
M04C Macdoel 70.88 52 P P 18 06 07.1 +0.2
baz=302,SNR=7.3
K05A Summer Lake 70.97 51 *e*P P 18 06 09.5 +2.0
comp=Z,26nm,0.9s
SUMG Summit 71.03 0 *e*P P 18 06 09.4 +1.8
SUMG pmax pmax
comp=Z,22nm,1.1s
SUMG Summit 71.03 0 *e*P P 18 06 09.3 +1.8
comp=Z,22nm,1.1s
WDC Whiskeytown Da 71.07 53 *e*P P 18 06 09.9 +1.9
WDC pmax pmax
comp=Z,8.0nm,0.9s
WDC Whiskeytown Da 71.07 53 *e*P P 18 06 09.9 +1.9
comp=Z,8.4nm,0.9s
ZEI Tsey 71.21 310 *e*P P 18 06 07.6 -1.4
ZEI pmax pmax
comp=Z,23nm,0.9s
KBZ Khabaz 71.31 311 P P 18 06 10.0 +0.7
comp=Z,18nm,0.9s,baz=57,slow=2.6,SNR=32
KBZ LR LR 18 42 03.9
comp=Z,871nm,18.1s,baz=46,slow=40
KBZ Khabaz 71.31 311 P P 18 06 10.0 +0.7
F10A Beach Ranch, E 71.40 46 *e*P P 18 06 11.6 +1.6
comp=Z,11nm,1.1s
WALA Waterton Lakes 71.52 42 *e*P P 18 06 12.2 +1.5
comp=Z,8.8nm,1.0s
BANOM Banah 71.56 289 P P 18 06 11.6 +0.5
NEY Neytrino 71.68 311 *e*P P 18 06 12.7 +0.9
NEY pmax pmax
comp=Z,2.0nm,0.9s
O03D Paynes Creek 71.70 53 P P 18 06 12.1 +0.3
baz=303,SNR=6.4
BSMT Bassoo Peak 71.73 44 *e*P P 18 06 13.7 +1.7
MOD Modoc Plateau 71.78 51 *e*P P 18 06 13.6 +1.2
comp=Z,7.5nm,0.9s
GDXM Geysers 71.86 55 *e*P P 18 06 13.9 +1.1
comp=Z,14nm,1.3s
BLMT Blacktail Moun 71.87 43 *e*P P 18 06 13.1 +0.2
BMO Blue Mountains 71.98 47 *e*P P 18 06 14.7 +1.2
BMO Blue Mountains 71.98 47 *e*P P 18 06 14.7 +1.2
JTMT Jette 72.07 43 *e*P P 18 06 15.5 +1.5
UOSS Minazif 72.15 288 *e*P P 18 06 14.9 +0.2
comp=Z,23nm,1.0s
YBMT Yellow Bay 72.15 43 *e*P P 18 06 16.0 +1.5
HATD Hatta, Dubai 72.27 288 *i* P P 18 06 15.7 +0.3
SNR=8.1
ORV Oroville 72.30 54 *e*P P 18 06 15.6 +0.3
ORV pmax pmax
comp=Z,9.0nm,0.9s
ORV Oroville 72.30 54 *e*P P 18 06 15.6 +0.3
comp=Z,9.3nm,0.9s
SWMT Swartz Lake 72.36 44 *e*P P 18 06 17.0 +1.2
ASHO Ashiyiah 72.40 288 *i* P P 18 06 16.5 +0.2
SNR=6.7
WVOR Wild Horse Val 72.52 50 *e*P P 18 06 18.3 +1.5
WVOR pmax pmax
comp=Z,11nm,1.3s
WVOR Wild Horse Val 72.52 50 *e*P P 18 06 18.3 +1.5
comp=Z,11nm,1.3s
NAZ Nazwa, Dubai 72.54 288 P P 18 06 16.8 -0.2
MSO Missoula 72.79 44 P P 18 06 18.9 +0.6
baz=306,SNR=5.8
MSO Missoula 72.79 44 *e*P P 18 06 19.6 +1.3
SLMT Seeley Lake 72.80 44 *e*P P 18 06 19.6 +1.2
MICGM Minsk 72.92 326 ⇓*e*P P 18 06 18.0 -0.7
MICGM PM 18 06 20.0
comp=Z,0.1nm,1.0s
MICGM *e*LR LR 18 40 00.0
MICGM LRM MLR 18 42 40.0
comp=Z,1.7nm,12.0s
MNK Minsk 72.92 326 ⇓*e*P P 18 06 18.0 -0.7
MNK pmax pmax
comp=Z,80nm,1.0s
MNK MLR MLR
comp=Z,2µm,12.0s
AFDM Forest Hills D 72.97 54 *e*P P 18 06 21.0 +1.6
comp=Z,7.2nm,1.2s
CHMT Chamberlain Mo 73.12 44 *e*P P 18 06 21.2 +0.8
SOC Sochi 73.31 312 *e*P P 18 06 21.4 +0.1
SOC *e* 18 09 05.6
SOC *e*S S 18 15 47.3 -1.1
SOC *e* 18 16 29.7
SOC *e*SS SS 18 20 31.2 +1.5
SOC pmax pmax
comp=Z,31nm,1.0s
SOC MLR MLR
comp=Z,998nm,18.0s
PAHR Pah Rah Range 73.58 53 *e*P P 18 06 24.9 +1.8
MFID Camas Ranch 73.67 48 *e*P P 18 06 25.1 +1.5
comp=Z,9.8nm,0.9s
PNTR Pine Nut 73.78 53 *e*P P 18 06 26.6 +2.2
FFC Flin Flon 73.86 33 *e*P P 18 06 25.1 +0.8
FFC pmax pmax
comp=Z,15nm,0.8s
FFC Flin Flon 73.86 33 *e*P P 18 06 25.1 +0.8
comp=Z,15nm,0.8s
CMB Columbia Colle 73.86 55 *e*P P 18 06 25.8 +1.1
CMB pmax pmax
comp=Z,13nm,1.0s
CMB Columbia Colle 73.86 55 *e*P P 18 06 25.8 +1.1
comp=Z,13nm,1.0s
ANN Anapa 73.95 314 *e*P P 18 06 18.0 -6.9
ANN *e*S SKiKP 18 15 49.6 -2.2
ANN pmax pmax
comp=Z,43nm,1.5s
ANN MLR MLR
comp=Z,715nm,17.0s
ANN MLR MLR
comp=E,549nm,17.0s
ANN MLR MLR
comp=N,392nm,17.0s
HRY Holter Researc 74.03 43 *e*P P 18 06 27.1 +1.5
YERR Yerington 74.07 53 *e*P P 18 06 27.6 +1.5
comp=N,18nm,1.0s
LRM Limekiln Ridge 74.22 44 *e*P P 18 06 28.2 +1.3
WAKR Walker 74.22 54 *e*P P 18 06 28.8 +1.9
comp=N,7.2nm,0.9s
EGMT Eagleton 74.36 41 P P 18 06 27.7 +0.3
baz=308,SNR=7.8
EGMT Eagleton 74.36 41 *e*P P 18 06 28.5 +1.0
comp=N,13nm,1.0s
NC405 NORSAR Array S 74.39 337 *e*P P 18 06 27.7 +0.4
NC303 NORSAR Array S 74.41 337 *e*P P 18 06 27.7 +0.3
DLMT Dillon 74.41 45 *e*P P 18 06 29.5 +1.7
comp=N,18nm,1.0s
HLID Hailey 74.42 47 P P 18 06 28.6 +0.6
baz=306,SNR=11
HLID Hailey 74.42 47 *e*P P 18 06 29.3 +1.3
BMN Battle Mountai 74.53 51 *e*P P 18 06 29.7 +1.0
BMN pmax pmax
comp=Z,11nm,0.9s
BMN Battle Mountai 74.53 51 *e*P P 18 06 29.7 +1.0
comp=Z,11nm,0.9s
NC204 NORSAR Array S 74.55 338 *e*P P 18 06 27.9 -0.4
NB201 NORSAR Array S 74.56 337 *e*P P 18 06 28.9 +0.6
MCMT McKenzie Canyo 74.58 45 *e*P P 18 06 29.8 +0.7
NB2 NORSAR Subarra 74.60 337 P P 18 06 29.1 +0.6
baz=38,slow=5.9
NB2 NORSAR Subarra 74.60 337 P P 18 06 29.1 +0.6
comp=Z,58nm,1.4s,baz=38,slow=5.9
NOA NORSAR Array B 74.60 337 P P 18 06 28.8 +0.3
comp=Z,18nm,1.0s,baz=38,slow=5.8,SNR=14
NOA LR LR 18 41 35.3
comp=Z,946nm,21.7s,baz=40,slow=38
TVH1 TV Hill, Hawth 74.68 53 *e*P P 18 06 30.0 +0.2
comp=Z,11nm,0.9s
NBO02 NORSAR Array S 74.70 338 *e*P P 18 06 29.4 +0.3
TVH3 East Aurora ar 74.70 54 *e*P P 18 06 31.4 +1.6
comp=Z,14nm,1.0s
AKASG Malin Array Be 74.72 322 P P 18 06 28.9 -0.4
comp=Z,7.3nm,0.5s,baz=44,slow=6.1,SNR=36
AKBB Malin Array Si 74.72 322 *e*P P 18 06 29.0 -0.3
AKBB pmax pmax
comp=Z,33nm,1.0s
AKBB Malin Array Si 74.72 322 *e*P P 18 06 29.0 -0.3
comp=Z,33nm,1.0s
TVH2 Borealis Mine 74.73 53 *e*P P 18 06 30.7 +0.8
comp=Z,8.3nm,0.9s
KIEV Kiev 74.73 322 *e*P P 18 06 28.9 -0.5
KIEV pmax pmax
comp=Z,30nm,1.0s
KIEV Kiev 74.73 322 *e*P P 18 06 28.9 -0.5
comp=Z,30nm,1.0s
NBO00 NORSAR Array S 74.74 338 *e*P P 18 06 29.8 +0.4
AK11 Malin Array Si 74.76 322 *e*P P 18 06 29.3 -0.3
BOZ Bozeman (W) 74.81 44 P P 18 06 30.3 +0.1
baz=307,SNR=15
BOZ Bozeman (W) 74.81 44 *e*P P 18 06 31.7 +1.5
BOZ Bozeman (W) 74.81 44 *e*P P 18 06 31.7 +1.5
NAO01 NORSAR Array S 74.85 337 *e*P P 18 06 30.9 +1.0
PAGB Antelope Grade 75.25 56 *e*P P 18 06 35.0 +2.2
comp=Z,19nm,0.9s
SUW Suwalki 75.31 328 *e*P P 18 06 32.9 +0.2
SUW Suwalki 75.31 328 *e*P P 18 06 32.9 +0.2
YHB Horse Butte 75.57 45 *e*P P 18 06 36.2 +1.6
comp=Z,9.9nm,0.8s
SMMC Simmler 75.66 57 P P 18 06 35.6 +0.5
baz=305
YHH Holmes Hill 75.74 45 *e*P P 18 06 37.4 +1.6
comp=Z,17nm,1.5s
SIM Simferopol' 75.75 316 *e*P P 18 06 34.9 -0.5
SIM *e*S S 18 16 21.0 +5.4
SIM pmax pmax
comp=Z,20nm,1.0s
SIM MLR MLR
comp=Z,900nm,17.0s
VES Vestal, Richgr 75.97 56 P P 18 06 37.6 +0.8
baz=305
FLWY Flagg Ranch 76.26 45 *e*P P 18 06 39.9 +1.3
comp=Z,12nm,1.1s
MARD Mardin 76.27 306 *e*P P 18 06 40.2 +1.5
comp=Z,60nm,1.4s
CWC Cottonwood Cre 76.28 55 P P 18 06 38.2 -0.6
baz=306
RLMT Red Lodge 76.42 44 P P 18 06 40.0 +0.5
baz=309
MOOW Moose Ponds 76.44 45 *e*P P 18 06 41.2 +1.6
comp=Z,9.3nm,1.1s
HVU Hansel Valley 76.45 48 *e*P P 18 06 41.6 +1.9
HVU pmax pmax
comp=Z,9.0nm,0.9s
HVU Hansel Valley 76.45 48 *e*P P 18 06 41.5 +1.9
comp=Z,8.8nm,0.9s
ISA Isabella, Lake 76.47 56 P P 18 06 40.1 +0.3
baz=306
TPAW Teton Pass 76.48 46 *e*P P 18 06 41.7 +1.8
comp=Z,12nm,1.2s
LOHW Long Hollow 76.60 45 *e*P P 18 06 42.6 +2.1
comp=Z,8.8nm,1.3s
REDW Red Top Meadow 76.61 46 *e*P P 18 06 41.5 +0.8
comp=Z,14nm,1.1s
R11A Troy Canyon, C 76.78 52 P P 18 06 41.7 +0.1
baz=306,SNR=22
R11A Troy Canyon, C 76.78 52 *e*P P 18 06 42.4 +0.8
comp=Z,11nm,0.9s
BGU Big Grassy Mou 76.81 49 *e*P P 18 06 42.5 +0.8
comp=Z,8.3nm,1.1s
MPMC Manual Prospec 76.89 55 P P 18 06 42.8 +0.5
baz=306,SNR=9.1
FURC Furnace Creek, 77.06 54 P P 18 06 44.0 +1.0
baz=306,SNR=7.1
LAO LASA Array 77.07 41 P P 18 06 43.2 +0.3
baz=310,SNR=6.5
LAO LASA Array 77.07 41 *e*P P 18 06 44.3 +1.4
comp=Z,20nm,1.1s
LRMC Laurel Mtn Rad 77.10 55 P P 18 06 43.5 +0.1
baz=306
TPNV Topopah Spring 77.18 53 P P 18 06 44.0 +0.1
baz=306,SNR=14
TPNV Topopah Spring 77.18 53 *e*P P 18 06 45.2 +1.3
TPNV pmax pmax
comp=Z,13nm,0.9s
TPNV Topopah Spring 77.18 53 *e*P P 18 06 45.2 +1.3
comp=Z,13nm,0.9s
HWUT Hardware Ranch 77.28 47 *e*P P 18 06 46.0 +1.7
comp=Z,10nm,1.0s
KIS Kishinev 77.31 320 *e*P P 18 06 43.0 -1.2
comp=Z,80nm,1.8s
KIS *e*L L 18 35 00.0
KIS LRM MLR 18 43 28.0
comp=Z,2µm,18.0s
KIS Kishinev 77.31 320 *e*P P 18 06 43.0 -1.2
KIS pmax pmax
comp=Z,76nm,1.8s
KIS MLR MLR
comp=Z,2µm,18.0s
KIS MLR MLR
comp=Z,2µm,18.0s
MILM Milestii Mici 77.37 320 ⇓*i*P P 18 06 44.6 +0.1
DUG Dugway, Tooele 77.39 49 P P 18 06 45.4 +0.5
baz=308,SNR=13
DUG Dugway, Tooele 77.39 49 *e*P P 18 06 46.8 +1.8
DUG Dugway, Tooele 77.39 49 *e*P P 18 06 46.8 +1.8
BW06 Boulder Array 77.73 46 P P 18 06 47.6 +0.7
baz=309,SNR=5.8
BW06 Boulder Array 77.73 46 *e*P P 18 06 47.8 +0.8
PD31 Pinedale Array 77.73 46 *e*P P 18 06 47.2 +0.3
PDAR Pinedale Array 77.73 46 P P 18 06 47.9 +0.9
comp=Z,3.2nm,0.9s,baz=272,slow=2.6,SNR=19
PDAR LR LR 18 38 31.0
comp=Z,72nm,21.1s,baz=334,slow=34
SHOC Shoshone, Teco 77.78 54 P P 18 06 48.1 +1.1
baz=307
GSC Goldstone, Bar 77.79 55 P P 18 06 47.5 +0.2
baz=306
GSC Goldstone, Bar 77.79 55 *e*P P 18 06 48.1 +0.9
GSC pmax pmax
comp=Z,7.0nm,1.0s
GSC Goldstone, Bar 77.79 55 *e*P P 18 06 48.1 +0.9
comp=Z,6.6nm,1.0s
LVV L'vov 77.80 324 *e*P P 18 06 48.4 +1.5
LVV *e* 18 09 42.9
LVV *e*PPP PPP 18 11 40.0
LVV *e*S S 18 16 36.3 -1.6
LVV *e*SSS SSS 18 24 55.9
LVV MLR MLR
comp=N,610nm,15.0s
LVV MLR MLR
comp=E,970nm,15.0s
LVV MLR MLR
comp=Z,1µm,15.0s
CIS Catalina Islan 77.83 57 P P 18 06 48.0 +0.6
baz=306
BFSC Mount Baldy Ra 77.85 56 P P 18 06 48.4 +0.8
baz=306
BEL Belsk 77.87 327 *e*P P 18 06 48.4 +1.2
BEL Belsk 77.87 327 *e*P P 18 06 48.4 +1.2
JLU Jordanelle 77.96 48 *e*P P 18 06 48.9 +0.6
comp=Z,11nm,1.2s
NLU North Lily Min 77.98 49 *e*P P 18 06 49.6 +1.2
comp=Z,11nm,1.0s
SCI San Clemente I 77.98 58 P P 18 06 48.8 +0.5
baz=306
SHPR Sheep Range 78.14 53 *e*P P 18 06 51.3 +2.1
TUQ Turquoise Moun 78.29 55 P P 18 06 50.3 +0.3
baz=307,SNR=5.6
HEC Hector,Ludlow 78.38 55 P P 18 06 51.1 +0.6
baz=307,SNR=5.4
ILGA Ilgaz 78.39 313 *e*P P 18 06 52.5 +1.9
comp=Z,65nm,1.5s
MURC Murrieta 78.53 57 P P 18 06 52.4 +1.1
baz=307
KWP Kalwaria Pacla 78.55 325 *e*P P 18 06 51.8 +0.7
KWP Kalwaria Pacla 78.55 325 *e*P P 18 06 51.8 +0.7
CCUT Cedar City 78.66 52 *e*P P 18 06 52.9 +0.7
comp=Z,8.2nm,1.0s
SZCU Shurtz Canyon 78.80 51 *e*P P 18 06 54.4 +1.4
comp=Z,5.4nm,1.0s
MSU Marysvale 78.81 50 *e*P P 18 06 54.4 +1.4
MSU Marysvale 78.81 50 *e*P P 18 06 54.4 +1.4
GMRC Granite Mounta 78.85 55 P P 18 06 53.7 +0.6
baz=307,SNR=5.4
TMUT Trail Mountain 78.92 49 *e*P P 18 06 54.8 +1.1
comp=Z,26nm,1.6s
PFO Pinyon Flats O 79.02 56 P P 18 06 55.1 +1.0
baz=307
PFO Pinyon Flats O 79.02 56 *e*P P 18 06 54.4 +0.3
PFO pmax pmax
comp=Z,16nm,1.4s
PFO Pinyon Flats O 79.02 56 *e*P P 18 06 54.4 +0.3
comp=Z,16nm,1.4s
TPFO Pinon Flats 79.03 56 P P 18 06 55.2 +1.0
baz=307
LCMT Little Creek M 79.06 52 *e*P P 18 06 55.5 +1.3
comp=Z,11nm,1.0s
MTPU Mount Pierson 79.09 51 *e*P P 18 06 56.0 +1.3
comp=Z,8.3nm,1.0s
BELC Belle Mtn. Jos 79.09 56 P P 18 06 54.1 -0.4
baz=307
BRTR Keskin Array B 79.27 312 P P 18 06 55.8 +0.4
comp=Z,8.8nm,1.0s,baz=35,slow=2.7,SNR=37
KNB Kanab 79.33 52 *e*P P 18 06 57.0 +1.2
KNB pmax pmax
comp=Z,25nm,1.3s
KNB Kanab 79.33 52 *e*P P 18 06 57.0 +1.2
comp=Z,25nm,1.3s
STHS Stebnicka Huta 79.38 325 *e*P P 18 06 57.5 +1.9
STHS pmax pmax
comp=Z,14nm,1.3s
STHS Stebnicka Huta 79.38 325 *e*P P 18 06 57.5 +1.9
UZH Uzhgorod 79.45 324 *e*P P 18 06 55.6 -0.4
UZH *e* 18 07 03.4
UZH *e* 18 07 12.6
UZH *e* 18 11 53.8
UZH *e*S S 18 16 50.0 -5.5
UZH *e* 18 17 51.4
UZH MLR MLR
comp=N,200nm,16.0s
UZH MLR MLR
comp=E,250nm,16.0s
UZH MLR MLR
comp=Z,90nm,16.0s
SRU San Rafael Swe 79.45 49 *e*P P 18 06 57.2 +0.8
SRU pmax pmax
comp=Z,14nm,0.9s
SRU San Rafael Swe 79.45 49 *e*P P 18 06 57.2 +0.8
comp=Z,14nm,0.9s
OJC Ojcow 79.46 326 *e*P P 18 06 57.0 +1.0
OJC Ojcow 79.46 326 *e*P P 18 06 56.4 +0.4
OJC pmax pmax
comp=Z,72nm,1.4s
OJC Ojcow 79.46 326 *e*P P 18 06 56.4 +0.4
comp=Z,72nm,1.4s
MONP Monument Peak, 79.47 57 P P 18 06 56.7 0.0
baz=307
IRM Iron Mountain 79.57 55 P P 18 06 56.5 -0.4
baz=307
CRVS Cervenica-Dubn 79.65 325 *e*P P 18 06 58.1 +1.0
CRVS Cervenica-Dubn 79.65 325 *e*P P 18 06 58.1 +1.0
ULM Lac du Bonnet 79.65 33 P P 18 06 57.1 +0.1
comp=Z,9.0nm,0.9s,baz=325,slow=4.9,SNR=8.9
ULM Lac du Bonnet 79.65 33 *e*P P 18 06 57.4 +0.4
ULM pmax pmax
comp=Z,11nm,0.9s
ULM Lac du Bonnet 79.65 33 *e*P P 18 06 57.4 +0.4
comp=Z,11nm,0.9s
BC3 Big Chuckawall 79.67 56 P P 18 06 57.6 0.0
baz=307
ANTO Ankara 79.68 312 *e*P P 18 06 56.4 -1.1
comp=Z,32nm,1.3s
MLR Muntele Rosu 79.81 320 *e*P P 18 06 58.6 +0.4
MLR pmax pmax
comp=Z,31nm,1.5s
MLR Muntele Rosu 79.81 320 *e*P P 18 06 58.6 +0.4
comp=Z,31nm,1.5s
NIE Niedzica 79.81 326 *e*P P 18 06 59.4 +1.4
NIE Niedzica 79.81 326 *e*P P 18 06 59.4 +1.4
W13A Hualapai Mount 79.82 54 *e*P P 18 06 59.4 +0.8
comp=Z,7.3nm,1.4s
IKP In-Ko-Pah, Jac 79.83 57 P P 18 06 58.6 +0.1
baz=307
SWSC Sam W. Stewart 79.86 57 P P 18 06 58.8 +0.3
baz=307
U15A North Rim 80.02 52 *e*P P 18 07 00.4 +0.7
comp=Z,21nm,1.4s
PDMCI Parker Dam,Lak 80.14 55 P P 18 07 00.1 +0.1
baz=308
O20A White River Ci 80.16 47 P P 18 06 59.9 -0.4
baz=310,SNR=5.4
O20A White River Ci 80.16 47 *e*P P 18 07 01.4 +1.1
comp=Z,11nm,1.0s
A32A Rocking H Ranc 80.33 35 P P 18 07 01.0 +0.3
baz=316
LANS Liptovska Anna 80.38 326 *e*P P 18 07 02.4 +1.3
LANS Liptovska Anna 80.38 326 *e*P P 18 07 02.4 +1.3
KECS Kecovo 80.40 325 *e*P P 18 07 01.9 +0.8
KECS pmax pmax
comp=Z,8.0nm,1.6s
KECS Kecovo 80.40 325 *e*P P 18 07 01.9 +0.8
GLA Glamis 80.45 56 P P 18 07 02.7 +0.9
baz=308
OKC Ostrava-Krasne 80.47 327 *e*P P 18 07 02.4 +0.9
OKC *e*pP pP 18 07 09.5 0.0
OKC AMS AMS 18 45 50.0
comp=Z,1µm,16.8s
OKC Ostrava-Krasne 80.47 327 *e*P P 18 07 02.4 +0.9
OKC *e* 18 07 09.5
OKC MLR MLR
comp=Z,1µm,16.8s
KSP Ksiaz 80.52 328 *e*P P 18 07 02.5 +0.8
KSP Ksiaz 80.52 328 *e*P P 18 07 02.5 +0.8
B32A Ashes, Strandq 80.69 35 P P 18 07 02.8 +0.1
baz=316
MORC Moravsky Berou 80.78 327 ⇑*i*P P 18 07 03.1 -0.1
MORC Moravsky Berou 80.78 327 ⇑P P 18 07 03.1 -0.1
A33A Warroad 80.82 34 P P 18 07 02.6 -0.7
baz=317
DPC Dobruska-Polom 80.88 328 *e*P P 18 07 05.0 +1.3
DPC *e*pP pP 18 07 11.8 +0.1
DPC *e*PP PP 18 10 08.2 +0.7
DPC AMS AMS 18 48 20.0
comp=Z,1µm,13.7s
DPC Dobruska-Polom 80.88 328 *e*P P 18 07 05.0 +1.3
DPC *e* 18 07 11.8
DPC *e* 18 10 08.2

DPC MLR MLR
comp=Z,1µm,13.7s
KRLC Kraliky 80.89 328 *e*P **P** **18 07 04.9 +1.1**
KRLC *e*pP **pP** **18 07 12.4 +0.6**
KRLC Kraliky 80.89 328 *e*P **P** **18 07 04.9 +1.1**
KRLC *e* 18 07 12.4
UPC Upice 80.89 328 *e*P **P** **18 07 04.8 +1.0**
UPC *e*pP **pP** **18 07 11.5 -0.2**
UPC AMS AMS 18 46 00.0
comp=Z,1µm,16.9s
UPC Upice 80.89 328 *e*P **P** **18 07 04.8 +1.0**
UPC *e* 18 07 11.5
UPC MLR MLR
comp=Z,1µm,16.9s
N23A Red Feather La 81.00 45 P **P** **18 07 04.8 0.0**
baz=311,SNR=6.5
N23A Red Feather La 81.00 45 *e*P **P** **18 07 06.1 +1.3**
comp=Z,12nm,0.8s
PHWY Pilot Hill 81.00 45 *e*P **P** **18 07 05.9 +1.0**
comp=Z,6.3nm,0.6s
AGMN Agassiz Nation 81.07 35 P **P** **18 07 04.4 -0.4**
baz=317
AGMN Agassiz Nation 81.07 35 *e*P **P** **18 07 05.3 +0.5**
comp=Z,9.9nm,1.0s
PSZ Piszkesteto 81.08 325 ⇑*i*P **P** **18 07 06.0 +1.1**
PSZ Piszkesteto 81.08 325 *e*P **P** **18 07 05.6 +0.7**
PSZ pmax pmax
comp=Z,56nm,1.4s
PSZ Piszkesteto 81.08 325 *e*P **P** **18 07 05.6 +0.7**
comp=Z,56nm,1.4s
Y14A Wickenburg 81.11 54 *e*P **P** **18 07 06.6 +1.3**
comp=Z,28nm,0.8s
VYHS Vyhne 81.15 326 *e*P **P** **18 07 06.2 +1.0**
VYHS pmax pmax
comp=Z,13nm,1.4s
VYHS Vyhne 81.15 326 *e*P **P** **18 07 06.2 +1.0**
VYHS *e*PP **PP** **18 10 08.2 -1.6**
WUAZ Wupatki 81.17 52 P **P** **18 07 05.4 -0.3**
baz=309,SNR=9.7
WUAZ Wupatki 81.17 52 *e*P **P** **18 07 07.2 +1.5**
113A Mohawk Valley, 81.33 56 *e*P **P** **18 07 07.1 +0.7**
comp=Z,14nm,1.5s
E31A Nome 81.37 37 P **P** **18 07 06.1 -0.2**
baz=316
BRG Berggiesshubel 81.47 330 *e*P **P** **18 07 07.2 +0.4**
comp=Z,27nm,1.6s
comp=N,1µm,14.1s
comp=E,580nm,20.6s
comp=Z,1µm,13.2s
BRG Berggiesshubel 81.47 330 *e*P **P** **18 07 07.2 +0.4**
BRG pmax pmax
comp=Z,27nm,1.6s
BRG MLR MLR
comp=N,1µm,14.1s
BRG MLR MLR
comp=E,580nm,20.6s
BRG MLR MLR
comp=Z,1µm,13.2s
PVCC Panska Ves 81.48 329 AMS AMS 18 46 20.0
comp=Z,1µm,15.5s
B34A Aery, Baudette 81.49 34 P **P** **18 07 07.2 +0.2**
baz=318
CLL Collm 81.52 330 *e*P **P** **18 07 07.0 0.0**
CLL *e*S **S** **18 17 19.0 +1.9**
CLL pmax pmax
comp=Z,51nm,1.5s
CLL MLR MLR
comp=Z,1µm,17.0s
CLL Collm 81.52 330 *e*P **P** **18 07 07.0 0.0**
comp=Z,51nm,1.5s
CLL *i*sP **sP** **18 07 17.7 -0.2**
CLL *e*S **S** **18 17 19.0 +1.9**
CLL *e*PS PnS 18 18 30.0 +24
CLL Collm 81.52 330 *e*P **P** **18 07 07.3 +0.3**
comp=Z,34nm,1.3s
SMCO Snowmass 81.53 47 *e*P **P** **18 07 09.1 +1.2**
comp=Z,5.7nm,0.8s
VRAC Vranov 81.54 327 ⇓*i*P **P** **18 07 08.2 +1.0**
VRAC Vranov 81.54 327 ⇓P **P** **18 07 08.2 +1.0**
F31A Hecla 81.69 38 P **P** **18 07 07.8 -0.2**
baz=316
X16A Lo Mia Camp, P 81.82 53 *e*P **P** **18 07 10.8 +1.5**
comp=Z,7.1nm,0.8s
GOPC GO Pecny, Ondr 81.86 329 *e*P **P** **18 07 09.9 +1.0**
GOPC *e*pP **pP** **18 07 17.0 +0.1**
GOPC AMS AMS 18 46 20.0
comp=Z,1µm,16.7s
GOPC GO Pecny, Ondr 81.86 329 *e*P **P** **18 07 09.9 +1.0**
GOPC *e* 18 07 17.0
GOPC MLR MLR
comp=Z,1µm,16.7s
PRA Prague 81.89 329 *e*P **P** **18 07 10.0 +1.0**
PRA AMS AMS 18 46 30.0
comp=Z,1µm,19.0s
PRA Prague 81.89 329 *e*P **P** **18 07 10.0 +1.0**
PRA MLR MLR
comp=Z,1µm,19.0s
MVCO Mesa Verde 81.89 49 P **P** **18 07 10.1 +0.6**
baz=310
MVCO Mesa Verde 81.89 49 *e*P **P** **18 07 11.1 +1.5**
PRU Pruhonice 81.90 329 *e*P **P** **18 07 10.0 +0.9**
PRU *e*pP **PcP** **18 07 14.8 +0.1**
PRU *e*S **S** **18 17 22.7 +1.6**
PRU AMS AMS 18 46 20.0
comp=Z,1µm,16.9s
PRU Pruhonice 81.90 329 *e*P **P** **18 07 10.0 +0.9**
PRU *e*S **S** **18 17 22.7 +1.6**
PRU MLR MLR
comp=Z,1µm,16.9s
ISCO Idaho Springs 81.91 46 P **P** **18 07 09.9 +0.2**
baz=312
ISCO Idaho Springs 81.91 46 *e*P **P** **18 07 10.4 +0.7**
ISCO pmax pmax
comp=Z,5.0nm,1.0s
ISCO Idaho Springs 81.91 46 *e*P **P** **18 07 10.4 +0.7**
comp=Z,4.8nm,1.0s
B35A Bob, Littlefor 81.99 34 P **P** **18 07 09.7 +0.1**
baz=318
G31A Conde 82.16 38 P **P** **18 07 10.8 +0.3**
baz=316
E33A Westby DABS, E 82.31 36 P **P** **18 07 11.7 +0.4**
baz=317
SUSD Miller 82.34 39 P **P** **18 07 11.2 -0.4**
baz=315
C35A Jirik Farms, M 82.37 34 P **P** **18 07 11.3 -0.3**
baz=318
MPEP Malo Peshtene 82.42 319 *i*P **P** **18 07 13.7 +1.7**
214A Organ Pipe Nat 82.46 56 P **P** **18 07 13.0 +0.5**
baz=309
CSS Mathiatis 82.47 308 *e*P **P** **18 07 12.7 +0.3**
comp=Z,3.0nm,0.8s
G32A Webster 82.49 38 P **P** **18 07 12.3 0.0**
baz=316
S22A 4UR Ranch, Cre 82.55 48 P **P** **18 07 12.9 -0.2**
baz=311
S22A 4UR Ranch, Cre 82.55 48 *e*P **P** **18 07 14.2 +1.1**
comp=Z,4.4nm,0.8s
NKC Novy Kostel 82.57 330 *e*P **P** **18 07 13.7 +1.1**
NKC AMS AMS 18 47 30.0
comp=Z,1µm,14.8s
NKC Novy Kostel 82.57 330 *e*P **P** **18 07 13.7 +1.1**
NKC MLR MLR
comp=Z,1µm,14.8s
F33A 5 Mile Ranch, 82.66 37 P **P** **18 07 13.3 +0.1**
baz=317
KDZ Kurdzhali 82.71 317 *i*P **P** **18 07 15.0 +1.5**
Q24A Divide 82.73 46 P **P** **18 07 13.9 -0.2**
baz=312
C36A Pine Crest Far 82.84 34 P **P** **18 07 14.1 +0.1**
baz=319,SNR=5.8
CONA Conrad Observa 82.90 327 *i*P **P** **18 07 15.4 +0.9**
comp=Z,25nm,1.4s,SNR=11
KHC Kasperske Hory 82.96 329 *e*P **P** **18 07 15.7 +1.0**
KHC *e*pP **pP** **18 07 22.9 +0.2**
KHC *e*sP **sP** **18 07 27.3 +1.7**
KHC AMS AMS 18 47 00.0
comp=Z,1µm,16.7s
KHC Kasperske Hory 82.96 329 *e*P **P** **18 07 15.7 +1.0**
KHC *e* 18 07 27.3
KHC MLR MLR
comp=Z,1µm,16.7s
KHC Kasperske Hory 82.96 329 *e*P **P** **18 07 14.2 -0.5**
comp=Z,12nm,1.4s
G33A Ortonville 83.06 37 P **P** **18 07 15.3 +0.1**
baz=317
H32A Carlson Farm, 83.06 38 P **P** **18 07 15.5 +0.2**
baz=316
THZ Tophouse 83.12 157 *e*P **P** **18 07 15.3 -0.1**
comp=Z,38nm,1.4s
D36A Goodland 83.13 34 P **P** **18 07 15.5 0.0**
baz=319
GEC2 GERESS Array S 83.13 328 *e*P **P** **18 07 15.9 +0.2**
GEC2 pmax pmax
comp=Z,9.0nm,1.1s
GEC2 GERESS Array S 83.13 328 *e*P **P** **18 07 15.9 +0.2**
comp=Z,8.7nm,1.1s
GERES GERESS Array B 83.13 328 P **P** **18 07 16.1 +0.4**
comp=Z,2.8nm,0.7s,baz=46,slow=4.4,SNR=12
GERES LR LR 18 47 42.1
comp=Z,956nm,18.0s,baz=18,slow=38
GEA0 GERESS Array S 83.14 328 *e*P **P** **18 07 15.6 0.0**
C37A Embarrass 83.15 33 P **P** **18 07 15.5 -0.2**
baz=319
J31A Geddes 83.27 40 P **P** **18 07 16.7 +0.4**
baz=315
H33A Prehn Over Nor 83.28 38 P **P** **18 07 16.4 0.0**
baz=316
EYMN Ely 83.29 33 P **P** **18 07 16.8 +0.4**
baz=320,SNR=6.0
EYMN Ely 83.29 33 *e*P **P** **18 07 14.4 -2.0**
comp=Z,11nm,0.9s
SDCO Great Sand Dun 83.34 47 P **P** **18 07 17.0 -0.2**
baz=312,SNR=6.4
SDCO Great Sand Dun 83.34 47 *e*P **P** **18 07 17.3 +0.1**
comp=Z,10nm,1.4s
D37A Cotton 83.47 34 P **P** **18 07 16.9 -0.4**
baz=319
GRFO Grafenberg 83.49 330 *e*P **P** **18 07 18.4 +1.0**
GRFO pmax pmax
comp=Z,43nm,1.3s
GRFO Grafenberg 83.49 330 *e*P **P** **18 07 18.4 +1.0**
comp=Z,43nm,1.3s
C38A Sawhill Land. 83.56 33 P **P** **18 07 17.9 +0.1**
baz=320,SNR=8.3
ARSA Arzberg 83.56 326 *i*P **P** **18 07 18.7 +0.9**
comp=Z,13nm,1.5s
TUC Tucson 83.57 54 P **P** **18 07 17.4 -0.8**
baz=310
TUC Tucson 83.57 54 *e*P **P** **18 07 19.8 +1.5**
TUC pmax pmax
comp=Z,4.0nm,0.9s
TUC Tucson 83.57 54 *e*P **P** **18 07 19.8 +1.5**
comp=Z,3.8nm,0.9s
E36A McGregor 83.58 35 P **P** **18 07 17.5 -0.4**
baz=319
MOA Molln 83.66 327 *i*P **P** **18 07 19.1 +0.8**
comp=Z,21nm,1.5s,SNR=6.9
MMB Musomiste 83.66 318 *i*P **P** **18 07 19.9 +1.4**
KKB Krupnik 83.81 319 *i*P **P** **18 07 20.7 +1.5**
C39A Grand Marais 83.98 32 P **P** **18 07 19.3 -0.6**
baz=321
ECSD EROS Data Cent 84.03 38 P **P** **18 07 20.2 0.0**
baz=317,SNR=5.1
ECSD EROS Data Cent 84.03 38 *e*P **P** **18 07 20.1 -0.2**
comp=Z,8.9nm,0.8s
H35A Sunnyside Ranc 84.20 37 P **P** **18 07 20.7 -0.4**
baz=318,SNR=5.2
SOKA Soboth 84.22 326 *i*P **P** **18 07 21.8 +0.5**
comp=Z,35nm,1.4s,SNR=13
PPT Papeete 84.26 117 LR LR 18 38 00.0
comp=Z,407nm,21.2s,baz=332,slow=31
PPT2 Papete2 84.27 117 *e*LR LR 18 33 47.9
comp=Z,651nm,21.2s,baz=307
OXZ Oxford 84.28 158 *e*P **P** **18 07 21.3 +0.1**
comp=Z,16nm,0.9s
E38A The Farm, Brul 84.28 34 P **P** **18 07 21.9 +0.4**
baz=320
RPZ Rata Peaks 84.35 159 P **P** **18 07 21.5 0.0**
comp=Z,4.6nm,0.8s,baz=253,slow=11,SNR=2.8
T25A Trinidad 84.39 47 P **P** **18 07 22.1 -0.3**
baz=313,SNR=8.1
T25A Trinidad 84.39 47 *e*P **P** **18 07 23.5 +1.1**
comp=Z,13nm,0.9s
VAY Valandovo 84.47 319 *e*P **P** **18 07 23.2 +0.7**
SKO Skopje 84.60 320 *i*P **P** **18 07 24.2 +1.1**
ANMO Albuquerque 84.61 50 P **P** **18 07 23.4 -0.3**
baz=312
ANMO Albuquerque 84.61 50*ce*P **P** **18 07 25.5 +1.9**
ANMO pmax pmax
comp=Z,6.0nm,1.3s
ANMO Albuquerque 84.61 50 *e*P **P** **18 07 24.5 +0.9**
comp=Z,6.5nm,0.9s
F38A Pierce - Schro 84.63 34 P **P** **18 07 23.7 +0.5**
baz=320,SNR=6.6
KBA Koelnbreinsper 84.65 327 *i*P **P** **18 07 24.0 +0.4**
comp=Z,17nm,1.6s
LBZ Lake Benmore 84.72 160 *e*P **P** **18 07 24.4 +1.0**
comp=Z,23nm,1.0s
MYKA Terra Mystica 84.87 327 *i*PcP **P** **18 07 25.2 +0.6**
comp=Z,20nm,1.8s
H37A Dierke Farm, C 85.19 36 P **P** **18 07 26.1 0.0**
baz=319
WTTA Wattenberg 85.23 328 *i*PcP **P** **18 07 27.7 +1.2**
comp=Z,15nm,1.7s
ABTA Abfaltersbach 85.27 328 *i*P **P** **18 07 26.9 +0.3**
comp=Z,8.4nm,1.2s
BIA Bitola 85.34 319 *e*P **P** **18 07 27.5 +0.5**
121A Cookes Peak, D 85.37 53 P **P** **18 07 27.5 0.0**
baz=311
I37A Lemond, Waseca 85.39 36 P **P** **18 07 27.7 +0.6**
baz=319
MOTA Moosalm 85.39 329 *i*P **P** **18 07 27.4 +0.1**
comp=Z,6.0nm,1.0s
H38A Maiden Rock 85.42 35 P **P** **18 07 27.3 +0.1**
baz=319
RETA Reutte 85.42 329 *i*PcP **P** **18 07 27.8 +0.5**
comp=Z,27nm,1.5s
F40A Park Falls 85.45 33 P **P** **18 07 27.9 +0.6**
baz=321
J36A Seneca 1, Swea 85.45 37 P **P** **18 07 27.5 +0.1**
baz=318
G39A Holcombe 85.47 34 P **P** **18 07 27.5 +0.1**
baz=320
OHR Ohrid 85.55 319 *i*P **P** **18 07 28.1 0.0**
SCHQ Schefferville 85.59 16 LR LR 18 46 38.5
comp=Z,244nm,21.4s,baz=324,slow=36
BFO Black Forest 85.72 331 *e*P **P** **18 07 28.8 +0.1**
BFO pmax pmax
comp=Z,38nm,1.4s
BFO Black Forest 85.72 331 *e*P **P** **18 07 28.8 +0.1**
comp=Z,38nm,1.4s
FETA Feichten 85.81 329 *i*PcP **P** **18 07 29.8 +0.4**
comp=Z,7.9nm,1.2s
TAOE Nuku Hiva Isla 85.84 104 *e*LR LR 18 34 37.8
comp=Z,1µm,22.1s
H39A Augusta 85.88 35 P **P** **18 07 29.3 -0.2**
baz=320
I38A Scanlan Farm, 85.88 36 P **P** **18 07 29.6 +0.1**
baz=319
CBKS Cedar Bluff 85.91 43 P **P** **18 07 29.8 0.0**
baz=315
K36A Gilmore City 85.91 38 P **P** **18 07 29.3 -0.4**
baz=318
G40A Rib Lake 85.92 34 P **P** **18 07 29.6 -0.1**
baz=321
DAVA Damuels 85.94 329 *i*PcP **P** **18 07 30.3 +0.3**
comp=Z,16nm,1.1s
L36A Harm Buss Farm 86.20 38 P **P** **18 07 31.0 -0.2**
baz=318
K37A Belmond 86.21 37 P **P** **18 07 30.9 -0.3**
baz=319,SNR=6.3
FUORN Ofenpass-Fuorn 86.32 329 *e*P **P** **18 07 31.4 -0.6**
comp=Z,21nm,1.2s
H40A Chili 86.33 34 P **P** **18 07 31.5 -0.2**
baz=321
J38A Wedel Dairy, R 86.36 36 P **P** **18 07 32.0 +0.1**
baz=319
I39A Houston 86.40 36 P **P** **18 07 32.8 +0.6**
baz=320
O34A Beatrice 86.57 41 P **P** **18 07 33.0 0.0**
baz=317
M36A Felix, Anita 86.61 39 P **P** **18 07 33.8 +0.6**
baz=318
N35A Tabor 86.62 40 P **P** **18 07 33.1 -0.2**
baz=318
L37A Phoenix Point, 86.63 38 P **P** **18 07 34.1 +0.8**
baz=319
H41A Junction City 86.67 34 P **P** **18 07 33.9 +0.5**
baz=321
J39A Decorah 86.71 36 P **P** **18 07 34.0 +0.4**
baz=320
I40A Norwalk 86.79 35 P **P** **18 07 34.4 +0.4**
baz=321
O35A Humboldt 86.92 40 P **P** **18 07 34.7 0.0**
baz=317
P34A Walnut Farm, R 86.96 41 P **P** **18 07 35.5 +0.6**
baz=317
I41A Arkdale 87.00 34 P **P** **18 07 35.0 -0.1**
baz=321
L38A Oak Wood Farm, 87.01 37 P **P** **18 07 35.5 +0.4**
baz=319
M37A Trindle Farm, 87.02 39 P **P** **18 07 35.7 +0.5**
baz=318
K39A Oelwein 87.10 36 P **P** **18 07 35.4 -0.2**
baz=320
J40A Soldiers Grove 87.11 35 P **P** **18 07 35.8 +0.2**
baz=320
Q34A Chapman 87.35 42 P **P** **18 07 37.2 +0.3**
baz=317
P35A Duane Minner, 87.40 41 P **P** **18 07 37.3 +0.2**
baz=317
N37A Lee Faris, Mou 87.43 39 P **P** **18 07 37.6 +0.5**
baz=318
M38A Pleasantville 87.44 38 P **P** **18 07 37.2 0.0**
baz=319
MNTX Cornudas Mount 87.44 52 P **P** **18 07 37.7 +0.2**
baz=312
K40A Colesburg 87.46 36 P **P** **18 07 37.4 +0.1**
baz=320
J41A Loganville 87.47 35 P **P** **18 07 37.3 -0.1**
baz=321
L39A Vinton 87.49 37 P **P** **18 07 38.0 +0.6**
baz=320
AMTX Amarillo 87.54 47 P **P** **18 07 38.1 +0.2**
baz=314
P36A Good Intent, A 87.76 40 P **P** **18 07 39.0 +0.2**
baz=318
Q35A Mercer Eighty, 87.88 41 P **P** **18 07 39.4 0.0**
baz=317
N38A Joes South For 87.89 38 P **P** **18 07 39.5 +0.1**
baz=319
O37A Wolven Farm, M 87.90 39 P **P** **18 07 39.3 -0.2**
baz=318
L40A Anamosa 87.91 36 P **P** **18 07 38.6 -0.8**
baz=320
K41A Shullsburg 87.93 36 P **P** **18 07 38.9 -0.6**
baz=321
TBI Tubuai 88.14 121 *e*LR LR 18 35 42.2
comp=Z,990nm,23.0s,baz=312
TBI Tubuai 88.14 121 *e*T T 19 44 31.7
comp=Z,22nm,0.3s
R35A Emporia Munici 88.19 42 P **P** **18 07 40.3 -0.5**
baz=317
N39A Derby Farms, D 88.19 38 P **P** **18 07 40.4 -0.4**
baz=319
L41A Preston 88.25 36 P **P** **18 07 40.7 -0.3**
baz=321
M40A Post Highland 88.27 37 P **P** **18 07 41.1 -0.1**
baz=320
R36A Gordon, Harris 88.56 41 P **P** **18 07 42.3 -0.3**
baz=318
S35A Otter Creek Ra 88.59 42 P **P** **18 07 42.7 0.0**
baz=317
P38A Dawn 88.62 39 P **P** **18 07 42.7 -0.2**
baz=319
N40A Mertquake, Sal 88.64 37 P **P** **18 07 43.0 +0.1**
baz=320
R37A Teagarden Farm 88.92 41 P **P** **18 07 44.3 0.0**
baz=318
T35A Sooner Cattle 89.04 43 P **P** **18 07 44.0 -0.9**
baz=317
O40A La Belle 89.08 38 P **P** **18 07 44.1 -0.9**
baz=320
N41A Harden Midland 89.13 37 P **P** **18 07 45.3 +0.1**
baz=320
T36A Boggs Farm, Ca 89.28 42 P **P** **18 07 45.5 -0.5**
baz=317
S37A Fort Scott 89.33 41 P **P** **18 07 46.3 +0.1**
baz=318
Q39A Willow Grove F 89.34 39 P **P** **18 07 46.2 -0.1**
baz=319
WMOK Wichita Mounta 89.34 46 P **P** **18 07 45.5 -0.9**
baz=316
N42A Yates City 89.43 37 P **P** **18 07 46.4 -0.2**
baz=321
P40A Paris 89.44 39 P **P** **18 07 46.6 -0.1**
baz=320
O41A Passleys Farm, 89.57 38 P **P** **18 07 46.5 -0.8**
baz=320
T37A Cheneyville 18 89.75 42 P **P** **18 07 48.8 +0.5**
baz=318
P41A Barry, Barry 89.82 38 P **P** **18 07 48.8 +0.3**
baz=320
Q40A Laux Farm, Aux 89.83 39 P **P** **18 07 48.2 -0.3**
baz=320
R39A Chumby, Stover 89.86 40 P **P** **18 07 48.5 -0.2**
baz=319
S38A Stockton 89.92 41 P **P** **18 07 49.4 +0.4**
baz=319
TX31 Lajitas Ar. Si 90.13 53 *e*P **P** **18 07 50.0 -0.3**
TXAR Lajitas Array 90.13 53 P **P** **18 07 51.1 +0.9**
comp=Z,1.5nm,0.7s,baz=296,slow=3.4,SNR=17
TXAR LR LR 18 42 25.5
comp=Z,200nm,21.7s,baz=0.0,slow=32
T38A Diamond 90.15 42 P **P** **18 07 50.1 -0.1**
baz=318
TUL1 Leonard 90.17 43 P **P** **18 07 50.1 -0.2**
baz=318
S39A Bolivar 90.18 41 P **P** **18 07 50.0 -0.2**
baz=319
U37A Salina 90.18 42 P **P** **18 07 50.2 0.0**
baz=318
R40A Maddies Statio 90.27 40 P **P** **18 07 50.3 -0.3**
baz=320
Q41A Truxton 90.29 38 P **P** **18 07 51.0 +0.3**
baz=320
ABTX Abilene, Hawle 90.33 48 P **P** **18 07 50.5 -0.5**
baz=315
Z33A Whitaker Ranch 90.38 47 P **P** **18 07 50.2 -1.0**
baz=316
W36A Wetumka 90.50 44 P **P** **18 07 51.0 -0.8**
baz=317
U38A Gravette 90.55 42 P **P** **18 07 51.8 -0.2**
baz=318
V37A Hulbert 90.55 43 P **P** **18 07 50.9 -1.0**
baz=318
T39A Clever 90.65 41 P **P** **18 07 51.3 -1.1**
baz=319
Q42A Golden Eagle 90.67 38 P **P** **18 07 52.0 -0.5**
baz=321
S40A Lebanon 90.67 40 P **P** **18 07 52.3 -0.2**
baz=320
R41A Rosebud 90.72 39 P **P** **18 07 52.1 -0.6**
baz=320
Z34A Collier Ranch, 90.81 46 P **P** **18 07 52.8 -0.5**
baz=316
X36A Centrahoma 90.84 44 P **P** **18 07 53.6 +0.2**
baz=317
Y35A Marietta 90.94 45 P **P** **18 07 54.2 +0.4**
baz=317
W37B Quinton 90.94 44 P **P** **18 07 54.1 +0.3**
baz=318
V38A Canehill 90.96 42 P **P** **18 07 54.1 +0.2**
baz=318
T40A Mansfield 91.00 40 P **P** **18 07 53.0 -1.1**
baz=320
S41A Jillco Farms, 91.07 40 P **P** **18 07 54.3 -0.1**
baz=320
U39A Green Forest 91.08 42 P **P** **18 07 54.3 -0.1**
baz=319
SFIN Lafayette 91.17 35 P **P** **18 07 53.6 -1.1**
baz=323
P44A Sand Creek, Wi 91.17 37 P **P** **18 07 54.2 -0.6**
baz=322
Y36A Durant 91.37 45 P **P** **18 07 55.2 -0.6**
baz=317
X37A Clayton 91.38 44 P **P** **18 07 55.2 -0.7**
baz=318
V39A Pettigrew 91.39 42 P **P** **18 07 55.6 -0.4**
baz=319
S42A Caledonia 91.42 39 P **P** **18 07 55.2 -0.7**
baz=320
U40A Yellville 91.43 41 P **P** **18 07 55.3 -0.7**
baz=319,SNR=7.6
T41A Mountain View 91.48 40 P **P** **18 07 55.5 -0.7**
baz=320
X38A Whitesboro 91.62 43 P **P** **18 07 57.0 +0.1**
baz=318
333A Richland Sprin 91.65 48 P **P** **18 07 56.3 -0.9**
baz=316
234A Clairette 91.67 47 P **P** **18 07 56.2 -1.0**
baz=316

JCT	**Junction City**	**91.75**	**49**	P		**P**	**18 07 56.4**	**-1.3**
	baz=315							
W39A	**Magazine**	**91.80**	**42**	P		**P**	**18 07 57.2**	**-0.5**
	baz=319							
T42A	**Van Buren**	**91.83**	**40**	P		**P**	**18 07 56.6**	**-1.3**
	baz=320							
V40A	**Witts Springs**	**91.86**	**41**	P		**P**	**18 07 57.5**	**-0.6**
	baz=319							
R44A	**Waltonville**	**91.90**	**38**	P		**P**	**18 07 57.2**	**-1.0**
	baz=322							
U41A	**Viola**	**91.93**	**41**	P		**P**	**18 07 57.0**	**-1.3**
	baz=320							
433A	**Art**	**91.99**	**49**	P		**P**	**18 07 59.8**	**+1.0**
	baz=316							
WHTX	**Lake Whitney,**	**92.08**	**47**	P		**P**	**18 07 59.7**	**+0.6**
	baz=316							
334A	**Lometa**	**92.09**	**48**	P		**P**	**18 07 59.3**	**+0.1**
	baz=316							
X39A	**Fountain Ranch**	**92.13**	**43**	P		**P**	**18 07 59.3**	**-0.1**
	baz=318							
W40A	**Ferguson Farm,**	**92.19**	**42**	P		**P**	**18 07 58.6**	**-0.9**
	baz=319							
T43A	**Greenville**	**92.20**	**39**	P		**P**	**18 08 00.0**	**+0.4**
	baz=321							
V41A	**Mountainview**	**92.23**	**41**	P		**P**	**18 07 59.4**	**-0.4**
	baz=320							
S44A	**Carbondale**	**92.25**	**38**	P		**P**	**18 07 58.2**	**-1.6**
	baz=322							
U42A	**Revenden**	**92.28**	**40**	P		**P**	**18 07 58.4**	**-1.6**
	baz=320							
MIAR	**Mount Ida**	**92.40**	**43**	P		**P**	**18 07 59.5**	**-1.1**
	baz=319							
MIAR	**Mount Ida**	**92.40**	**43**	*e*P		**P**	**18 08 01.6**	**+1.0**
MIAR					pmax	pmax		
	comp=Z,14nm,0.9s							
MIAR	**Mount Ida**	**92.40**	**43**	*e*P		**P**	**18 08 01.6**	**+1.0**
	comp=Z,14nm,0.9s							
WHAR	**Wooly Hollow**	**92.53**	**41**	*e*P		**P**	**18 08 01.9**	**+0.8**
	comp=Z,20nm,0.9s							
V42A	**Cord**	**92.61**	**41**	P		**P**	**18 08 01.8**	**+0.3**
	baz=320							
KEST	**Kesra**	**95.44**	**323**	LR		LR	18 56 35.0	
	comp=Z,494nm,18.8s,baz=355,slow=39							
145A	**Houston Renfro**	**95.85**	**42**	P		**P**	**18 08 15.7**	**-0.7**
	baz=321							
244A	**Avery, Jackson**	**95.87**	**43**	P		**P**	**18 08 15.5**	**-1.0**
	baz=320							
PGAV	**Gavieira, Arco**	**97.05**	**338**	*e*LR		LR	18 47 21.9	
	comp=Z,386nm,18.0s							
MVO	**Moncorvo**	**97.40**	**337**	*e*LR		LR	18 47 32.1	
	comp=Z,547nm,18.0s							
ESDC	**Sonseca Array**	**97.71**	**334**	LR		LR	18 57 03.5	
	comp=Z,562nm,20.7s,baz=355,slow=38							
MTE	**Manteigas**	**98.25**	**337**	*e*LR		LR	18 48 12.8	
	comp=Z,488nm,18.0s							
RKT	**Rikitea**	**98.39**	**112**	*e*LR		LR	18 40 09.9	
	comp=Z,908nm,25.5s,baz=310							
PMRV	**Marv??o**	**99.09**	**336**	*e*LR		LR	18 49 08.1	
	comp=Z,541nm,18.0s							
PVAQ	**Vaqueiros**	**101.03**	**336**	*e*LR		LR	18 50 33.5	
	comp=Z,700nm,18.0s							
DWPF	**Disney Wildern**	**103.83**	**38**	*e*Pdif		**Pdif**	**18 08 52.3**	**+0.1**
TORD	**Torodi Ar. Bea**	**117.75**	**315**	PKP		**PKPdf**	**18 13 36.2**	**-0.3**
	comp=Z,0.2nm,0.5s,baz=5.5,slow=1.1,SNR=3.0							
QSPA	**South Pole Qui**	**126.44**	**180**	*e*PKPdf		**PKPdf**	**18 13 51.7**	**0.0**
SNAA	**Sanae**	**140.50**	**197**	PKP		PKPpre	18 14 11.1	
VNA2	**Neumayer--Watz**	**142.06**	**196**	PKP		PKPpre	18 14 16.0	
	baz=101,slow=2.4							
VNA3	**Neumayer Olymp**	**142.30**	**195**	PKP		PKPpre	18 14 16.2	
VNA1	**Neumayer--Stat**	**142.46**	**196**	PKP		**PKPdf**	**18 14 18.9**	**-2.4**
LPAZ	**La Paz**	**146.65**	**60**	PKPbc		**PKPab**	**18 14 33.4**	**-0.3**
	comp=Z,9.5nm,0.8s,baz=344,slow=2.9,SNR=28							
LPAZ	**La Paz**	**146.65**	**60**	*e*PKPdf		**PKPbc**	**18 14 32.6**	**0.0**
PB11	**IPOC Station P**	**147.80**	**67**	*e*PKPbc		**PKPbc**	**18 14 35.9**	**+0.7**
LVC	**Limon Verde**	**150.05**	**71**	*e*PKPbc		**PKPbc**	**18 14 42.0**	**+0.9**
PLCA	**Paso Flores**	**154.57**	**109**	PKPab		**PKPab**	**18 15 05.8**	**+0.6**
	comp=Z,3.0nm,0.8s,baz=313,slow=5.6,SNR=4.7							

CASC 06 18:02:46.3±1.3, 10.79N×85.13W, h8km±5km, MD3.6, ML3.3, 4D, Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MESS	**Mesas**	**0.08**	**229**	*e*P	Pg	18 02 48.9	+0.4
MESS				*e*S	Sg	18 02 51.0	+1.1
CUI	**Cuipilapa**	**0.14**	**192**	⇓*i*P	Pg	18 02 49.3	0.0
COLC	**Colonia**	**0.14**	**208**	⇓*i*P	Pg	18 02 49.8	+0.4
COLC				*e*S	Sg	18 02 52.4	+0.9
GPS3	**Bodega del ICE**	**0.23**	**261**	*e*P	Pg	18 02 51.9	+0.9
GPS3				*e*S	Sg	18 02 55.7	+1.6
CRZ1	**La Cruz**	**0.56**	**299**	*e*P	Pg	18 02 57.9	+0.6
VCR	**Vista de Mar**	**0.82**	**216**	*e*P	Pg	18 03 02.0	-0.2
CGA2	**Cerro Gallo 2**	**1.01**	**140**	*e*P	Pg	18 03 05.1	-0.7
CGA2				*e*S	Sb	18 03 20.1	+0.2
ACON	**Acoyapa**	**1.17**	**358**	*e*P	Pg	18 03 07.9	-0.9
ACON				*e*S	Sb	18 03 24.1	0.0
ACON				AML	AML	18 03 24.9	
	comp=E,673nm,0.3s						
LCR2	**La Lucha 2**	**1.53**	**133**	*e*P	Pn	18 03 12.6	-1.5
LCR2				*e*S	Sg	18 03 35.1	-0.4
ESPN	**Las Esperanzas**	**1.61**	**30**	*e*P	Pn	18 03 14.5	-0.6
ESPN				*e*S	Sn	18 03 36.6	+0.4
URSC	**Urasca**	**1.64**	**125**	⇓*e*P	Pn	18 03 15.3	-0.3
QCR1	**Quepos**	**1.66**	**145**	*e*P	Pn	18 03 16.2	+0.4
QCR1				*e*S	Sb	18 03 38.3	+0.1
BOAB	**BOACO BROADBAN**	**1.73**	**342**	*e*P	Pn	18 03 15.8	-0.9
BUS	**Buena Vista**	**1.83**	**132**	*e*P	Pn	18 03 18.4	-0.1
BUS				*e*S	Sn	18 03 42.7	+0.5
MOMN	**Momotombo**	**2.12**	**320**	*e*P	Pn	18 03 21.3	-0.8

IDC 06 18:03:38.7±433.0, 38.56N×115.19W, h0km, Error ellipse: s-maj=164.2km s-min=100.2km az=10.0, Nevada

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I57US	**PINON FLAT INF**	**5.05**	**192**	*i*		18 35 40.0	
	baz=9.6,slow=312,SNR=0.1						
I56US	**NEWPORT INFRAS**	**9.80**	**352**	*i*		19 06 20.0	
	baz=170,slow=318,SNR=0.6						
I10CA	**LAC DU BONNET**	**17.91**	**43**	*i*		19 53 10.0	
	baz=234,slow=319,SNR=0.5						

*NIED **06** 18:03:00.36˝.60N×141˝.60E, h14km, Mw4.3 Best double couple: M0 2.67000×10^15 NP1:φ=254.00000°, δ=25.00000°, λ=163.00000°. NP2:φ=360.00000°, δ=83.00000°, λ=66.00000°.*

*IDC **06** 18:03:38.9±0.6, 36˝.68N×141˝.62E, h0km, mb4.1/17, mb1 4.2/22, mb1mx4.1/47, mbtmp4.1/22, ML3.7/5, MS3.5/1, Ms1 3.5/1, ms1mx2.9/33, Error ellipse: s-maj=18.1km s-min=13.6km az=96.0*

*ISCJB **06** 18:03:40.9±0.2, 36˝.62N±0˝.03×141˝.71E±0˝.04, h26km, mb4.5/62, MS4.8/3, Error ellipse: s-maj=4.9km s-min=3.8km az=148.2*

*BJI **06** 18:03:41.5, 36˝.53N×141˝.39E, h21km, mb4.6/29, mB4.9/13, Ms4.5/5, Ms7 4.5/4*

*JMA **06** 18:03:42.1±0.2, 36˝.65N×141˝.64E, h48km±3km, M4.2*

JMA Felt I J1.

*NEIC **06** 18:03:42.8±1.8, 36˝.68N×141˝.63E, h27km±12km, mb4.6/39, Error ellipse: s-maj=6.5km s-min=4.5km az=124.0*

NEIC Recorded [1 JMA] in Fukushima and Ibaraki.

ISC 06 18:03:42.3±0.4, 36˝.64N±0˝.05×141˝.76E±0˝.05, h26km, n121, σ1s67/125, mb4.5/62, MS4.7/3, 1D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ONAJ	**Iwakimizuishiy**	**0.90**	**302**	P	**Pb**	**18 03 57.2**	**-2.1**
JHO	**Hitachi**	**0.95**	**269**	P	**Pb**	**18 03 57.9**	**-2.3**
JFT	**Otama**	**1.44**	**308**	P	**Pn**	**18 04 05.9**	**-0.8**
JMM	**Marumori**	**1.45**	**328**	P	**Pn**	**18 04 05.3**	**-1.6**
JFY	**Yanaizu**	**1.81**	**296**	P	**Pn**	**18 04 12.1**	**+0.2**
JIO	**Ouri**	**1.84**	**350**	P	**Pn**	**18 04 11.0**	**-1.3**
JAG	**Ashikaga**	**1.87**	**264**	P	**Pn**	**18 04 11.4**	**-1.2**
JAG				S	**Sn**	**18 04 33.1**	**-2.2**
MJAR	**Matsushiro Arr**	**2.86**	**269**	Pn	**Pn**	**18 04 25.9**	**-0.3**
	101nm,0.3s,baz=94,slow=9.8,SNR=444						
MJAR				Sn	**Sn**	**18 04 57.9**	**-1.9**
	16nm,0.3s,baz=321,slow=41,SNR=3.0						
MAJO	**Matsushiro**	**2.86**	**269**	*e*Pn	**Pn**	**18 04 26.4**	**+0.1**
MAT	**Matsushiro**	**2.86**	**269**	P	**Pn**	**18 04 26.7**	**+0.4**
MAT				S	**Sn**	**18 05 02.0**	**+2.2**
MJB9	**Matsu-Tunnel**	**2.86**	**269**	*e*Pn	**Pn**	**18 04 26.5**	**+0.2**
JHJ2	**Mitsune**	**3.86**	**205**	*e*Pn	**Pn**	**18 04 40.3**	**+0.3**
JHJ2				*e*Sn	**Sn**	**18 05 20.5**	**-4.0**
JHJ	**Hachijo jima 2**	**3.86**	**205**	Pn	**Pn**	**18 04 41.0**	**+0.9**
	101nm,0.3s,baz=84,slow=21,SNR=22						
JHJ				Sn	**Sn**	**18 05 22.6**	**-2.1**
	137nm,0.3s,baz=73,slow=22,SNR=10						
INU	**Inuyama**	**4.05**	**253**	*e*Pn	**Pn**	**18 04 43.5**	**+0.9**
ERM	**Erimo**	**5.48**	**11**	*e*Pn	**Pn**	**18 05 02.0**	**-0.3**
ERM				*e*Sn	**Sn**	**18 06 02.6**	**-1.8**
ASAJ	**Asahikawa**	**7.50**	**5**	Pn	**Pn**	**18 05 30.7**	**+0.7**
	1.0nm,0.3s,baz=229,slow=19,SNR=9.9						
ASAJ	**Asahikawa**	**7.50**	**5**	*e*Pn	**Pn**	**18 05 29.6**	**-0.4**
CBIJ	**Chichi jima**	**9.52**	**178**	*e*Pn	Pn	18 05 54.5	-3.2
CBIJ				*e*Sn	Sn	18 07 34.1	-10
JNU	**Nakatsue**	**9.60**	**252**	Pn	**Pn**	**18 05 60.0**	**+1.1**
	0.6nm,0.3s,baz=77,slow=4.1,SNR=9.5						
JNU	**Nakatsue**	**9.60**	**252**	*e*Pn	**Pn**	**18 06 01.7**	**+2.9**
USRK	**Ussuriysk Ar.**	**10.60**	**318**	Pn	**Pn**	**18 06 16.0**	**+3.5**
	0.3nm,0.3s,baz=133,slow=12,SNR=15						
KSRS	**Korea Array**	**11.09**	**278**	Pn	**Pn**	**18 06 22.9**	**+3.7**
	0.3nm,0.3s,baz=94,slow=13,SNR=16						
KSRS				LR	LR	18 10 13.9	
	comp=Z,260nm,20.9s,baz=64,slow=36						
KS01	**Wonju Array Si**	**11.11**	**278**	*e*Pn	**Pn**	**18 06 18.6**	**-0.9**
KS15	**Wonju Array Si**	**11.12**	**278**	*e*Pn	**Pn**	**18 06 16.1**	**-3.5**
KSAR	**Wonju Array Be**	**11.12**	**278**	Pn	**Pn**	**18 06 22.9**	**+3.3**
KLR	**Kul'dur**	**14.55**	**333**	Pn	**Pn**	**18 07 06.2**	**-0.1**
	0.1nm,0.3s,baz=141,slow=13,SNR=2.7						
JOW	**Kunigami**	**15.05**	**233**	Pn	**Pn**	**18 07 13.9**	**+0.6**
	0.3nm,0.3s,baz=76,slow=13,SNR=2.3						
JOW	**Kunigami**	**15.05**	**233**	*e*Pn	**Pn**	**18 07 14.2**	**+0.9**
TIA	**Tai'an**	**19.82**	**276**	⇓P	**P**	**18 08 10.7**	**-0.2**
TIA				pmax	pmax		
	comp=Z,10.0nm,1.1s						
PEA0	**Petropavlovsk-**	**19.90**	**29**	*e*P	**P**	**18 08 06.1**	**-5.6**
PEA0B	**Petropavlovsk-**	**19.90**	**29**	*e*P	**P**	**18 08 07.8**	**-3.8**
	15nm,1.0s						
YHNB	**Yeheng**	**21.16**	**241**	*e*P	**P**	**18 08 23.2**	**-2.4**
	37nm,1.5s						
YULB	**Yu-li**	**22.03**	**239**	*e*P	**P**	**18 08 31.6**	**-3.4**
	49nm,2.0s						
TPUB	**Ta-pu**	**22.55**	**240**	*e*P	**P**	**18 08 36.5**	**-4.0**
	26nm,1.2s						
HHC	**Hu-ho-hao-te**	**23.86**	**289**	*e*P	**P**	**18 08 53.5**	**-0.2**
HHC				pmax	pmax		
	comp=Z,22nm,0.9s						
YAK	**Yakutsk**	**26.52**	**347**	P	**P**	**18 09 16.4**	**-1.0**
	5.0nm,0.6s,baz=243,slow=2.8,SNR=5.7						
YAK	**Yakutsk**	**26.52**	**347**	*e*P	**P**	**18 09 15.0**	**-2.4**
	10nm,0.9s						
SZP	**Santa**	**26.74**	**230**	*e*P	**P**	**18 09 16.9**	**-2.9**
	70nm,1.0s						
XAN	**Xi'an**	**26.84**	**274**	P	**P**	**18 09 20.7**	**0.0**
XAN				pP	pP	18 09 29.6	+1.2
XAN				pmax	pmax		
	comp=Z,7.0nm,0.7s						
ENH	**Enshi**	**27.58**	**266**	*e*P	**P**	**18 09 26.7**	**-0.6**
	23nm,0.6s						
H11N2	**WAKE ISLAND Hy**	**27.71**	**121**	T	T	18 38 41.4	
	baz=313,slow=75,SNR=157						
H11N1	**WAKE ISLAND Hy**	**27.72**	**121**	T	T	18 39 02.7	
	baz=313,slow=75,SNR=146						
H11N3	**WAKE ISLAND Hy**	**27.73**	**121**	T	T	18 38 46.6	
	baz=313,slow=75,SNR=131						
ULN	**Ulaanbaatar**	**27.81**	**305**	*e*P	**P**	**18 09 28.5**	**-0.9**
	9.1nm,1.2s						
SONA1	**Songino Array**	**28.23**	**305**	*e*P	**P**	**18 09 32.5**	**-0.6**
SONM	**Songino Array**	**28.24**	**304**	P	**P**	**18 09 31.3**	**-1.9**
	5.1nm,0.7s,baz=109,slow=9.2,SNR=19						
H11S1	**WAKE ISLAND Hy**	**28.41**	**123**	T	T	18 39 56.0	
	baz=314,slow=76,SNR=75						
H11S3	**WAKE ISLAND Hy**	**28.41**	**123**	T	T	18 39 34.8	
	baz=314,slow=76,SNR=82						
H11S2	**WAKE ISLAND Hy**	**28.43**	**123**	T	T	18 40 03.0	
	baz=314,slow=76,SNR=48						
LZH	**Lanzhou**	**30.41**	**280**	*e*P	**P**	**18 09 52.1**	**-0.5**
LZH				pP	pP	18 10 00.5	+0.2
LZH				sP	sP	18 10 03.6	+0.1
LZH				PP	**PnPn**	**18 10 51.2**	**-0.2**
LZH				pmax	pmax		
	comp=Z,23nm,1.3s						
LZH				pmax	pmax		
	comp=Z,78nm,5.0s						
LZH				LR	LR		
	comp=N,310nm,12.9s						
LZH				LR	LR		
	comp=E,340nm,13.0s						
LZH				LR	LR		
	comp=Z,410nm,16.3s						
GYA	**Guiyang**	**31.43**	**261**	*e*P	**P**	**18 10 01.8**	**+0.2**
GYA				pmax	pmax		
	comp=Z,10.0nm,0.8s						
CD2	**Chengdu**	**31.95**	**271**	*e*P	**P**	**18 10 06.0**	**-0.1**
CD2				pP	pP	18 10 14.4	+0.6
CD2				sP	sP	18 10 19.0	+2.0
CD2				pmax	pmax		
	comp=Z,10.0nm,1.0s						
TIXI	**Tiksi**	**35.72**	**353**	*e*P	**P**	**18 10 39.6**	**+1.3**
	17nm,1.8s						
SLVN	**Son La**	**36.19**	**256**	*e*P	**P**	**18 10 43.1**	**+0.1**
	8.9nm,1.3s						
KWAJ	**Kwajalein Atol**	**36.32**	**133**	*e*P	**P**	**18 10 44.3**	**+0.3**
	304nm,1.2s						
MYLDM	**Lahad Datu**	**37.88**	**220**	*e*P	**P**	**18 10 56.3**	**-0.9**
KKM	**Kota Kinabalu**	**38.38**	**224**	*e*P	**P**	**18 11 01.3**	**-0.3**
	11nm,1.0s						
DLV	**T Lat**	**38.71**	**239**	*e*P	**P**	**18 11 05.1**	**+0.6**
	144nm,1.8s						
FAKI	**Fak Fak**	**40.34**	**195**	*e*P	**P**	**18 11 17.9**	**+0.1**
	119nm,1.5s						
WMQ	**Urumqi**	**41.27**	**297**	P	**P**	**18 11 26.7**	**+1.3**
WMQ				pP	pP	18 11 31.7	-1.5
WMQ				sP	sP	18 11 37.9	+1.5
WMQ				pmax	pmax		
	comp=Z,8.0nm,0.9s						
WMQ				pmax	pmax		
	comp=Z,16nm,3.6s						
WMQ				LR	LR		
	comp=N,2μm,12.1s						
WMQ				LR	LR		
	comp=E,1μm,12.9s						
WMQ				LR	LR		
	comp=Z,1μm,23.1s						
CHTO	**Chiang Mai**	**41.46**	**256**	*e*P	**P**	**18 11 27.1**	**0.0**
	4.0nm,0.9s						
CM31	**Chiang Mai Arr**	**41.66**	**256**	*e*P	**P**	**18 11 29.2**	**+0.4**
CMAR	**Chiang Mai Arr**	**41.66**	**256**	P	**P**	**18 11 29.0**	**+0.2**
	1.5nm,0.6s,baz=51,slow=6.1,SNR=14						
CM01	**Chiang Mai Arr**	**41.67**	**256**	*e*P	**P**	**18 11 28.7**	**-0.2**
ZAA0	**Zalesovo Array**	**42.39**	**313**	*e*P	**P**	**18 11 33.4**	**-0.9**
ZALV	**Zalesovo Beam**	**42.39**	**313**	P	**P**	**18 11 34.7**	**+0.4**
	5.3nm,0.6s,baz=97,slow=7.2,SNR=18						
ZALV				PcP	**PcP**	**18 13 27.5**	**+0.4**
	0.9nm,0.5s,baz=42,slow=4.5,SNR=3.5						
LSA	**Lhasa**	**42.52**	**276**	*e*P	**P**	**18 11 35.5**	**-0.7**
	3.0nm,0.6s						
SBUM	**Sibu**	**43.58**	**226**	*e*P	**P**	**18 11 44.8**	**+0.5**
	3.0nm,0.8s						
MK01	**Makanchi Array**	**44.56**	**302**	*e*P	**P**	**18 11 52.0**	**0.0**
MK31	**Makanchi Array**	**44.56**	**303**	*e*P	**P**	**18 11 51.9**	**-0.1**
MKAR	**Makanchi Array**	**44.56**	**303**	*e*P	**P**	**18 11 51.9**	**-0.1**
	23nm,0.6s						
MAKZ	**Makanchi**	**44.77**	**303**	*e*P	**P**	**18 11 53.6**	**-0.1**
	3.0nm,0.8s						
KURK	**Kurchatov**	**46.39**	**308**	*e*P	**P**	**18 12 06.4**	**+0.3**
SOEI	**Soe**	**48.99**	**203**	*e*P	**P**	**18 12 28.3**	**+1.4**
	30nm,1.1s						
IPM	**Ipoh**	**49.17**	**239**	*e*P	**P**	**18 12 27.3**	**-1.1**
	14nm,1.1s						
IL1	**Eielson Array**	**49.68**	**32**	*e*P	**P**	**18 12 31.5**	**-0.2**
ILAR	**Eielson Array**	**49.68**	**32**	P	**P**	**18 12 33.1**	**+1.5**
	0.7nm,0.8s,baz=264,slow=6.6,SNR=6.6						
ILB	**Eielson Array**	**49.68**	**32**	*e*P	**P**	**18 12 31.2**	**-0.4**
KSH	**Kashi**	**50.82**	**294**	*e*P	**P**	**18 12 45.0**	**+4.3**
KSH				pP	sP	18 12 52.0	+0.1
KSH				sP	pP	18 12 56.4	+7.7
KSH				PP	**PP**	**18 14 42.1**	**+5.2**
KSH				S	**S**	**18 19 58.7**	**+3.5**
KSH				sS	sS	18 20 11.8	+3.4
KSH				SS	**SS**	**18 23 31.6**	**+1.9**
KSH				pmax	pmax		
	comp=Z,3.0nm,1.0s						
KSH				pmax	pmax		
	comp=Z,82nm,5.4s						
KSH				LR	LR		
	comp=N,660nm,13.5s						
KSH				LR	LR		
	comp=E,750nm,11.3s						
UGM	**Wanagama**	**53.12**	**220**	*e*P	**P**	**18 12 59.5**	**+1.6**
	839nm,2.0s						
KKAR	**Karatay Array**	**53.56**	**300**	*e*P	**P**	**18 13 00.1**	**-0.8**
	19nm,0.8s						
FITZ	**Fitzroy Crossi**	**56.53**	**198**	P	**P**	**18 13 23.1**	**+0.6**
	1.8nm,0.5s,baz=15,slow=6.4,SNR=16						
FITZ	**Fitzroy Crossi**	**56.53**	**198**	*e*P	**P**	**18 13 23.5**	**+1.1**
	30nm,1.9s						
WRA	**Warramunga Arr**	**56.71**	**188**	P	**P**	**18 13 23.5**	**-0.2**
	1.5nm,0.7s,baz=5.9,slow=7.4,SNR=21						
ARU	**Arti**	**56.84**	**319**	*e*P	**P**	**18 13 23.4**	**-1.0**
	4.8nm,0.8s						
ABKAR	**Akbulak array**	**58.41**	**310**	*e*P	**P**	**18 13 35.1**	**-0.4**
	28nm,0.6s						
AS01	**Alice Springs**	**60.43**	**188**	*e*P	**P**	**18 13 50.1**	**+0.5**
ASAR	**Alice Springs**	**60.43**	**188**	P	**P**	**18 13 50.4**	**+0.8**
	1.1nm,0.7s,baz=11,slow=6.1,SNR=17						
MBWA	**Marble Bar**	**61.13**	**204**	*e*P	**P**	**18 13 55.0**	**+0.7**
	55nm,1.7s						
GEYT	**Alibeck**	**64.27**	**299**	P	**P**	**18 14 15.2**	**-0.2**
	2.6nm,0.5s,baz=59,slow=0.8,SNR=3.1						
B08A	**Colville Reser**	**68.92**	**45**	*e*P	**P**	**18 14 46.7**	**+1.7**
	16nm,2.0s						
FINES	**FINESS Array B**	**69.29**	**332**	P	**P**	**18 14 46.8**	**-0.1**
	1.7nm,0.7s,baz=117,slow=6.6,SNR=4.6						
E09A	**Wood Farm, Sta**	**70.59**	**46**	*e*P	**P**	**18 14 55.5**	**+0.3**
	11nm,1.5s						
K05A	**Summer Lake**	**70.98**	**51**	*e*P	**P**	**18 14 57.9**	**0.0**
	10nm,1.2s						
SUMG	**Summit**	**71.08**	**0**	*e*P	**P**	**18 14 59.2**	**+1.0**
KBZ	**Khabaz**	**71.37**	**311**	P	**P**	**18 14 58.7**	**-1.2**
	2.2nm,0.9s,baz=36,slow=5.4,SNR=5.6						
BMO	**Blue Mountains**	**72.00**	**47**	*e*P	**P**	**18 15 05.2**	**+1.3**
	6.9nm,1.4s						
ORV	**Oroville**	**72.31**	**54**	*e*P	**P**	**18 15 06.0**	**+0.4**
	2.1nm,0.8s						
SWMT	**Swartz Lake**	**72.39**	**44**	*e*P	**P**	**18 15 05.9**	**-0.3**
MFID	**Camas Ranch**	**73.69**	**48**	*e*P	**P**	**18 15 15.8**	**+1.8**
	8.3nm,1.6s						
CMB	**Columbia Colle**	**73.88**	**55**	*e*P	**P**	**18 15 16.1**	**+1.1**
	3.9nm,1.2s						
FFC	**Flin Flon**	**73.89**	**33**	*e*P	**P**	**18 15 16.0**	**+1.3**
	9.8nm,0.3s						
HRY	**Holter Researc**	**74.06**	**43**	*e*P	**P**	**18 15 17.3**	**+1.3**
YERR	**Yerington**	**74.09**	**53**	*e*P	**P**	**18 15 17.3**	**+0.9**
	5.0nm,1.1s						
WAKR	**Walker**	**74.23**	**54**	*e*P	**P**	**18 15 19.4**	**+2.1**
	9.5nm,1.7s						
LRM	**Limekiln Ridge**	**74.24**	**44**	*e*P	**P**	**18 15 19.1**	**+1.8**
DLMT	**Dillon**	**74.43**	**45**	*e*P	**P**	**18 15 19.2**	**+1.0**
	3.9nm,0.4s						
MCMT	**McKenzie Canyo**	**74.60**	**45**	*e*P	**P**	**18 15 18.9**	**-0.5**
NB2	**NORSAR Subarra**	**74.66**	**337**	P	**P**	**18 15 21.1**	**+2.0**
	comp=Z,2.4nm,0.8s,baz=35,slow=5.9						
NOA	**NORSAR Array B**	**74.66**	**337**	P	**P**	**18 15 19.6**	**+0.5**
	comp=Z,2.4nm,0.9s,baz=38,slow=5.7,SNR=3.5						
TVH1	**TV Hill, Hawth**	**74.69**	**53**	*e*P	**P**	**18 15 18.0**	**-2.2**
	comp=Z,4.0nm,0.8s						
AKASG	**Malin Array Be**	**74.78**	**323**	P	**P**	**18 15 19.9**	**-0.1**
	comp=Z,1.2nm,0.5s,baz=47,slow=5.7,SNR=6.0						
AKBB	**Malin Array Si**	**74.78**	**323**	*e*P	**P**	**18 15 19.4**	**-0.6**
	comp=Z,4.4nm,0.8s						
KIEV	**Kiev**	**74.79**	**323**	*e*P	**P**	**18 15 19.6**	**-0.4**
	comp=Z,4.1nm,0.8s						
BOZ	**Bozeman (W)**	**74.83**	**44**	*e*P	**P**	**18 15 22.4**	**+1.8**
PDAR	**Pinedale Array**	**77.75**	**46**	P	**P**	**18 15 38.1**	**+0.8**
	comp=Z,0.5nm,0.7s,baz=273,slow=2.5,SNR=3.7						
BRTR	**Keskin Array B**	**79.32**	**312**	P	**P**	**18 15 46.1**	**+0.2**
	comp=Z,0.9nm,0.8s,baz=108,slow=4.0,SNR=5.7						
BR231	**Keskin MP Arra**	**79.76**	**312**	*e*P	**P**	**18 15 47.9**	**-0.3**
GERES	**GERESS Array B**	**83.19**	**328**	P	**P**	**18 16 06.5**	**+0.2**
	comp=Z,0.6nm,0.6s,baz=49,slow=4.1,SNR=5.1						
TXAR	**Lajitas Array**	**90.15**	**53**	P	**P**	**18 16 42.0**	**+1.4**
	comp=Z,0.7nm,0.8s,baz=277,slow=3.2,SNR=5.4						
LPAZ	**La Paz**	**146.65**	**61**	PKPbc	**PKPbc**	**18 23 23.8**	**+0.9**
	comp=Z,1.9nm,0.6s,baz=301,slow=2.3,SNR=8.0						

SCB 06 18:07:40.9±0.1, 17.52S×66.19W, h37km, Ml3.5/2, 8C-1D, Error ellipse: s-maj=2.8km s-min=1.2km az=27.0, Central Bolivia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
**B

ACER				Sg		Sn	18 14 12.0	-0.5
	120nm,0.4s							
ACER	**Acerenza**	**1.11**	**168**	Pg		**Pg**	**18 13 55.2**	**-0.5**
ACER				Sg		**Sn**	**18 14 12.0**	**-0.5**
	120nm,0.4s							
MRLC	**Muro Lucano**	**1.12**	**185**	Pg		**Pg**	**18 13 55.2**	**-0.7**
	84nm,0.8s							
MRLC	**Muro Lucano**	**1.12**	**185**	Pg		**Pg**	**18 13 55.2**	**-0.7**
	84nm,0.8s							
MCRV	**Calabrutti - M**	**1.15**	**198**	Pg		**Pg**	**18 13 55.4**	**-0.9**
	48nm,0.3s							
MCRV	**Calabrutti - M**	**1.15**	**198**	Pg		**Pg**	**18 13 55.4**	**-0.9**
	48nm,0.3s							
BAI	**Bari**	**1.22**	**129**	*e*Pg		**Pn**	**18 13 58.7**	**+0.7**
BAI				Sg		**Sn**	**18 14 14.8**	**0.0**
CERA	**Filignano**	**1.24**	**257**	Pg		**Pn**	**18 13 58.2**	**-0.2**
CERA	**Filignano**	**1.24**	**257**	Pg		**Pn**	**18 13 58.2**	**-0.2**
SG1	**Sgolgore (BA)**	**1.30**	**142**	*e*Pg		**Pb**	**18 13 59.4**	**+0.1**
SG1				Sg		**Sn**	**18 14 17.0**	**-0.1**
UDBI	**Udbina**	**2.65**	**2**	*e*Pn		**Pn**	**18 14 19.5**	**+1.6**
UDBI				Sn		**Sb**	**18 14 53.6**	**-1.7**
UDBI	**Udbina**	**2.65**	**2**	*e*Pn		**Pn**	**18 14 19.4**	**+1.6**
UDBI				Sn		**Sb**	**18 14 53.5**	**-1.7**
NVLJ	**Novalja**	**2.74**	**349**	Sn		**Sn**	**18 14 52.6**	**0.0**
NVLJ	**Novalja**	**2.74**	**349**	Sn		**Sn**	**18 14 52.5**	**0.0**

MEX 06 18:16:23.8±0.6, 16°58'N×94°41'W, h89km±13km, MD3.9, Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TGIG		**1.25**	**81**	*i* P	Pn	18 16 45.1	-1.3
TGIG				*i* S	Sn	18 17 01.9	-1.7
HUIG	**Huatulco**	**1.82**	**244**	*i* P	Pn	18 16 52.0	-1.6
HUIG				*i* S	Sn	18 17 15.5	-0.8
CCIG	**Comitan**	**2.21**	**97**	*i* P	Pn	18 16 57.4	-1.4
CCIG				*i* S	Sn	18 17 24.2	-1.5
VHO	**Vista Hermosa**	**2.27**	**283**	*i* P	Pn	18 16 57.8	-2.1
VHO				*e*S	Sn	18 17 25.8	-1.6
TPIG	**Tehuac#an**	**3.35**	**303**	*i* P	Pn	18 17 13.6	-0.7
TPIG				*i* S	Sn	18 17 51.7	-1.5
PNIG	**Pinotepa**	**3.57**	**267**	*i* P	Pn	18 17 15.6	-1.4
PNIG				*i* S	Sn	18 17 57.8	-0.4

JMA 06 18:18:34.3±0.3, 43°98'N×148°41'E, h64km, M3.6, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
NEM2	**Nemuro 2**	**2.03**	**253**	P	Pn	18 19 06.9	+0.7
NEM2				*e*S	Sn	18 19 31.3	+0.8
JRA	**Rausu**	**2.38**	**270**	P	Pn	18 19 11.8	+0.9
JNK	**Nakash**	**2.70**	**263**	*e*S	Sn	18 19 48.1	+1.2
JAK	**Akkeshi**	**2.88**	**251**	P	Pn	18 19 18.5	+0.8
JAR	**Ashorobuto**	**3.44**	**260**	P	Pn	18 19 26.7	+1.3
JAR				*e*S	Sn	18 20 06.0	+1.1
JCH	**Churui**	**3.93**	**251**	P	Pn	18 19 33.1	+1.0
JCH				*e*S	Sn	18 20 17.7	+0.8
JKB	**Kayabe**	**5.80**	**251**	P	Pn	18 19 58.6	+0.9
JKB				*e*S	Sn	18 21 00.7	-2.2
JOT	**Ohata**	**6.01**	**247**	*e*S	Sn	18 21 06.1	-2.0
JANG	**Nango**	**6.26**	**237**	*e*S	Sn	18 21 11.4	-2.8

IDC 06 18:48:39.7±1.5, 46°25'N×154°50'E, h0km, mb3.7/4, mb1 3.8/6, mb1mx3.5/46, mbtmp3.7/6, ML2.7/2, Error ellipse: s-maj=50.9km s-min=24.4km az=88.0, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PETK	**Petropavlovsk-**	**7.17**	**16**	Pn	Pn	18 50 25.5	-0.3
	0.6nm,0.3s,baz=188,slow=13,SNR=14						
USRK	**Ussuriysk Ar.**	**15.98**	**271**	Pn	Pn	18 52 26.8	+0.9
	0.3nm,0.3s,baz=64,slow=11,SNR=7.8						
H11N2	**WAKE ISLAND Hy**	**28.35**	**155**	T	T	19 23 59.0	
	baz=342,slow=76,SNR=8.6						
H11N1	**WAKE ISLAND Hy**	**28.36**	**155**	T	T	19 24 00.6	
	baz=342,slow=76,SNR=14						
H11N3	**WAKE ISLAND Hy**	**28.36**	**155**	T	T	19 23 58.8	
	baz=342,slow=76,SNR=6.3						
H11S1	**WAKE ISLAND Hy**	**29.45**	**156**	T	T	19 25 21.1	
	baz=343,slow=76,SNR=13						
H11S3	**WAKE ISLAND Hy**	**29.46**	**156**	T	T	19 25 21.8	
	baz=343,slow=76,SNR=16						
H11S2	**WAKE ISLAND Hy**	**29.47**	**156**	T	T	19 25 23.8	
	baz=343,slow=76,SNR=11						
ZALV	**Zalesovo Beam**	**43.68**	**307**	P	P	18 56 45.2	-0.7
	0.6nm,0.4s,baz=70,slow=5.9,SNR=3.4						
FINES	**FINESS Array B**	**64.90**	**335**	P	P	18 59 20.9	+0.6
	1.5nm,0.8s,baz=28,slow=6.3,SNR=3.9						
WRA	**Warramunga Arr**	**68.36**	**200**	P	P	18 59 42.2	-0.7
	0.6nm,0.6s,baz=20,slow=6.7,SNR=7.3						
ASAR	**Alice Springs**	**72.05**	**200**	P	P	19 00 06.1	+0.6
	0.3nm,0.8s,baz=19,slow=5.9,SNR=3.3						

*ISCJB **06** 19:18:16.4±0.8, 51°43'N±0°03'×16°19'E±0°05, h0km, Error ellipse: s-maj=5.4km s-min=3.5km az=30.8*
*CSEM **06** 19:18:17.3±0.3, 51°46'N×16°18'E, h1km, ML3.0/8, Error ellipse: s-maj=4.6km s-min=4.1km az=25.0*
*WAR **06** 19:18:18.9, 51°44'N×16°20'E, h1km, Mw2.3*
*PRU **06** 19:18:21.0, 51°35'N×16°17'E, h0km*

ISC 06 19:18:16.6±0.9, 51°53'N±0°03'×16°27'E±0°03, h0km, n28, σ0°96/54, Poland

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KSP	**Ksiaz**	**0.68**	**179**	*e*Pg	**Pg**	**19 18 30.1**	**+0.4**
KSP				*e*Sg	**Sg**	**19 18 38.2**	**-0.3**
KSP	**Ksiaz**	**0.68**	**179**	*e*Pg	**Pg**	**19 18 30.1**	**+0.4**
KSP				*e*Sg	**Sg**	**19 18 38.2**	**-0.3**
KSP	**Ksiaz**	**0.68**	**179**	*e*Pg	**Pg**	**19 18 30.1**	**+0.4**
KSP				*e*Sg	**Sg**	**19 18 38.2**	**-0.3**
UPC	**Upice**	**1.03**	**189**	*e*Pg	**Pg**	**19 18 36.4**	**0.0**
UPC				*e*Sg	**Sg**	**19 18 49.1**	**-0.6**
	comp=Z,32nm,0.3s						
UPC	**Upice**	**1.03**	**189**	Pg	**Pg**	**19 18 36.4**	**0.0**
UPC				Sg	**Sg**	**19 18 49.1**	**-0.6**
	32nm,0.3s						
DPC	**Dobruska-Polom**	**1.18**	**178**	*e*Pg	**Pg**	**19 18 39.1**	**0.0**
DPC				*e*Sg	**Sg**	**19 18 53.5**	**-0.9**
	comp=Z,9.4nm,0.3s						
DPC	**Dobruska-Polom**	**1.18**	**178**	Pg	**Pg**	**19 18 39.1**	**0.0**
DPC				Sg	**Sg**	**19 18 53.5**	**-0.9**
	9.4nm,0.3s						
PVCC	**Panska Ves**	**1.47**	**228**	*e*PG	**Pb**	**19 18 45.0**	**+0.3**
PVCC				*e*SG	**Sg**	**19 19 03.3**	**-0.3**
	comp=Z,52nm,0.3s						
PVCC	**Panska Ves**	**1.47**	**228**	Pg	**Pb**	**19 18 45.0**	**+0.3**
PVCC				Sg	**Sg**	**19 19 03.3**	**-0.3**
	52nm,0.3s						
KRLC	**Kraliky**	**1.49**	**167**	*e*PG	**Pb**	**19 18 45.2**	**+0.1**
KRLC				*e*SG	**Sg**	**19 19 03.1**	**-1.3**
KRLC	**Kraliky**	**1.49**	**167**	Pg	**Pb**	**19 18 45.2**	**+0.1**
KRLC				Sg	**Sg**	**19 19 03.1**	**-1.3**
GOPC	**GO Pecny, Ondr**	**1.87**	**211**	*e*PG	**Pb**	**19 18 51.6**	**0.0**
GOPC				*e*SG	**Sb**	**19 19 14.6**	**-0.9**
	comp=Z,6.3nm,0.2s						
GOPC	**GO Pecny, Ondr**	**1.87**	**211**	Pg	**Pb**	**19 18 51.6**	**0.0**
GOPC				Sg	**Sb**	**19 19 14.6**	**-0.9**
	6.3nm,0.2s						
PRU	**Pruhonice**	**1.89**	**216**	*e*PG	**Pb**	**19 18 51.6**	**-0.3**
PRU				*e*SG	**Sn**	**19 19 15.0**	**+0.4**
	comp=Z,7.5nm,0.2s						
PRU	**Pruhonice**	**1.89**	**216**	Pg	**Pb**	**19 18 51.6**	**-0.3**
PRU				Sg	**Sn**	**19 19 15.0**	**+0.4**
	7.5nm,0.2s						
MORC	**Moravsky Berou**	**1.93**	**155**	*e*Pn	**Pn**	**19 18 50.9**	**+0.2**
MORC				*e*Sg	**Sb**	**19 19 17.5**	**+0.2**
CLL	**Collm**	**2.06**	**265**	*e*Pn	**Pn**	**19 18 53.0**	**+0.6**
CLL				*i* Pg	**Pg**	**19 18 56.8**	**+0.8**
CLL				*i*		19 18 59.8	
CLL				*i* Sg	**Sg**	**19 19 22.8**	**+0.2**
	comp=Z,5.0nm,0.6s						
OKC	**Ostrava-Krasne**	**2.07**	**144**	*e*PG	**Pg**	**19 18 57.3**	**+1.0**
OKC				*e*SG	**Sb**	**19 19 22.2**	**+0.9**
	comp=Z,6.5nm,0.5s						
OKC	**Ostrava-Krasne**	**2.07**	**144**	Pg	**Pg**	**19 18 57.3**	**+1.0**
OKC				Sg	**Sb**	**19 19 22.2**	**+0.9**
	comp=Z,6.5nm,0.5s						
VRAC	**Vranov**	**2.23**	**174**	*e*Sg	**Sb**	**19 19 26.1**	**+0.2**
NKC	**Novy Kostel**	**2.74**	**243**	*e*SG	**Sg**	**19 19 43.2**	**-1.5**
	comp=Z,14nm,0.3s						
NKC	**Novy Kostel**	**2.74**	**243**	Sg	**Sg**	**19 19 43.2**	**-1.5**
	comp=Z,14nm,0.3s						
KHC	**Kasperske Hory**	**2.95**	**217**	*e*PG	**Pb**	**19 19 11.1**	**+1.0**
KHC				*e*SN	**Sn**	**19 19 39.0**	**-1.9**
KHC				*e*SG	**Sb**	**19 19 48.1**	**+1.4**
	comp=Z,2.9nm,0.3s						
KHC	**Kasperske Hory**	**2.95**	**217**	Pg	**Pb**	**19 19 11.1**	**+1.0**
KHC				Sn	**Sn**	**19 19 39.0**	**-1.9**
KHC				Sg	**Sb**	**19 19 48.1**	**+1.4**
	comp=Z,2.9nm,0.3s						
LANS	**Liptovska Anna**	**3.14**	**138**	*e*Sg	**Sg**	**19 19 56.8**	**-0.6**
LANS	**Liptovska Anna**	**3.14**	**138**	*e*SG	**Sg**	**19 19 56.8**	**-0.6**
BSD	**Bornholm Skovb**	**3.69**	**348**	*i* P	**Pn**	**19 19 15.8**	**+1.1**
BSD				*i* S	**Sn**	**19 19 56.3**	**-2.5**
BSD	**Bornholm Skovb**	**3.69**	**348**	*e*P	**Pn**	**19 19 15.8**	**+1.1**
BSD				*i* S	**Sn**	**19 19 56.3**	**-2.5**

*IDC **06** 19:21:20.1±2.0, 37°94'S×73°74'W, h0km, mb3.4/3, mb1 3.7/4, mb1mx3.4/34, mbtmp3.4/4, ML3.4/1, Error ellipse: s-maj=66.9km s-min=19.5km az=57.0*
*ISCJB **06** 19:21:21.2±1.3, 37°96'S±0°05×73°9'W±0°2, h18km, mb3.4/3, Error ellipse: s-maj=21.6km s-min=6.6km az=174.9*
*GUC **06** 19:21:21.5±0.7, 37°94'S×74°04'W, h31km±9km, ML3.9*

ISC 06 19:21:22.7±1.3, 37°96'S±0°05×73°7'W±0°2, h18km, n7, σ0°63/9, mb3.3/3, 1C, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PSCH	**Puerto Saavedr**	**0.88**	**163**	*e*P	**Pb**	**19 21 38.5**	**-0.9**
PSCH				*i* S	**Sb**	**19 21 51.5**	**+0.7**
CCHI	**Chillan**	**1.89**	**45**	*e*P	**Pb**	**19 21 56.1**	**-0.5**
CCHI				IAML		19 22 40.3	
	comp=E,2μm,0.6s						
COCH	**Cobquecura**	**1.97**	**23**	*i* P	**Pn**	**19 21 55.0**	**-0.3**
COCH				*e*S	**Sn**	**19 22 19.8**	**+0.3**
COCH				IAML		19 22 37.4	
	comp=E,825nm,0.9s						
PLCA	**Paso Flores**	**3.70**	**139**	Pn	**Pn**	**19 22 19.4**	**+0.3**
	comp=E,0.7nm,0.3s,baz=347,slow=8.1,SNR=22						
PLCA				Lg	Lg	19 23 19.2	
	comp=E,4.6nm,0.3s,baz=258,slow=20,SNR=2.2						
LPAZ	**La Paz**	**22.15**	**14**	P	**P**	**19 26 18.7**	**+0.5**
	comp=E,0.7nm,0.7s,baz=208,slow=17,SNR=2.0						
TXAR	**Lajitas Array**	**72.57**	**333**	P	**P**	**19 32 49.2**	**+0.4**
	comp=E,0.2nm,0.7s,baz=158,slow=9.7,SNR=2.5						
TORD	**Torodi Ar. Bea**	**86.82**	**71**	P	**P**	**19 34 05.9**	**-0.4**
	comp=E,0.4nm,0.6s,baz=223,slow=4.5,SNR=4.1						

*ISCJB **06** 19:25:21.5±0.7, 55°9S±0°1×25°7W±0°2, h10km, mb4.3/7, Error ellipse: s-maj=21.1km s-min=17.1km az=42.3*
*IDC **06** 19:25:22.0±0.9, 55°86S×25°68W, h0km, mb4.2/7, mb1 4.3/7, mb1mx3.9/41, mbtmp4.3/7, Error ellipse: s-maj=28.3km s-min=22.2km az=152.0*
*NEIC **06** 19:25:23.5±0.6, 55°87S×25°71W, h10km, mb4.5/2, Error ellipse: s-maj=18.4km s-min=15.0km az=133.0*

ISC 06 19:25:23.5±0.8, 55°9S±0°1×25°7W±0°2, h10km, n10, σ0°92/10, mb4.2/7, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PMSA	**Palmer Station**	**20.66**	**229**	P	**P**	**19 30 03.1**	**+0.2**
	16nm,0.9s,baz=83,slow=11,SNR=9.3						
PMSA	**Palmer Station**	**20.66**	**229**	*e*P	**P**	**19 30 02.8**	**-0.1**
	7.8nm,0.9s						
QSPA	**South Pole Qui**	**34.39**	**180**	*e*P	**P**	**19 32 10.5**	**+0.1**
	10nm,0.7s						
LVC	**Limon Verde**	**45.95**	**298**	P	**P**	**19 33 47.8**	**+1.0**
	13nm,0.6s,baz=118,slow=8.3,SNR=3.8						
VNDA	**Vanda**	**46.80**	**182**	P	**P**	**19 33 52.1**	**-0.3**
	1.5nm,0.8s,baz=192,slow=6.0,SNR=10						
LPAZ	**La Paz**	**50.97**	**303**	P	**P**	**19 34 24.1**	**-1.7**
	1.4nm,0.5s,baz=138,slow=5.4,SNR=6.3						
MATP	**Matopo**	**53.42**	**71**	P	**P**	**19 34 43.0**	**-0.6**
	2.6nm,0.8s,baz=189,slow=5.3,SNR=6.7						
LSZ	**Lusaka**	**57.52**	**68**	P	**P**	**19 35 13.8**	**+0.7**
	0.7nm,0.3s,baz=212,slow=11,SNR=3.9						
TORD	**Torodi Ar. Bea**	**72.49**	**28**	P	**P**	**19 36 50.0**	**-0.1**
	0.9nm,0.7s,baz=203,slow=5.8,SNR=7.1						
ILAR	**Eielson Array**	**150.62**	**312**	PKPbc	**PKPbc**	**19 45 15.1**	**+1.0**
	1.4nm,0.8s,baz=123,slow=1.2,SNR=12						

IDC 06 19:25:27.0±3.6, 16°88S×174°57W, h0km, mb4.2/3, mb1 4.4/3, mb1mx3.8/33, mbtmp4.2/3, Error ellipse: s-maj=175.0km s-min=76.6km az=156.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**42.33**	**241**	P	P	19 33 23.2	+0.3
	3.6nm,1.0s,baz=110,slow=7.8,SNR=4.5						
WRA	**Warramunga Arr**	**48.43**	**258**	P	P	19 34 11.2	-0.3
	1.2nm,0.4s,baz=94,slow=7.3,SNR=67						
WRA				PcP	PcP	19 35 37.7	-0.2
	0.2nm,0.3s,baz=101,slow=3.1,SNR=4.7						
ASAR	**Alice Springs**	**48.60**	**253**	P	P	19 34 12.5	-0.3
	3.5nm,0.7s,baz=92,slow=8.0,SNR=58						
ASAR				PcP	PcP	19 35 38.2	-0.3
	0.4nm,0.5s,baz=104,slow=3.8,SNR=5.2						

GUC 06 19:33:09.8±0.5, 37°95S×74°18W, h20km±3km, ML3.8, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PSCH	**Puerto Saavedr**	**1.05**	**144**	*i* P	Pb	19 33 27.9	-1.4
PSCH				*i* S	Sb	19 33 41.2	-1.5
COCH	**Cobquecura**	**2.13**	**32**	*i* P	Pn	19 33 44.6	+0.4
COCH				*e*S	Sg	19 34 18.9	+0.5
COCH				IAML		19 34 27.5	
	comp=E,892nm,0.8s						
CCHI	**Chillan**	**2.15**	**52**	*e*P	Pb	19 33 46.9	-1.2
CCHI				*e*S	Sb	19 34 16.4	+2.1
PLCA	**Paso Flores**	**3.96**	**136**	*i* P	Pn	19 34 10.5	+1.0

*IDC **06** 19:40:31.0±2.2, 22°99S×179°87W, h527km±23km, mb3.6/9, mb1 3.8/10, mb1mx3.5/30, mbtmp4.5/10, Error ellipse: s-maj=20.1km s-min=18.7km az=42.0*
*ISCJB **06** 19:40:31.1±0.8, 23°20S±0°09×179°9W±0°2, h543km, mb4.0/10, Error ellipse: s-maj=19.3km s-min=12.1km az=177.9*

ISC 06 19:40:31.9±0.9, 23°3S±0°1×179°9W±0°2, h543km, n11, σ2°07/14, mb4.2/10, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
URZ	**Urewera**	**15.16**	**189**	P	**P**	**19 43 42.8**	**-0.1**
	2.3nm,0.3s,baz=210,slow=20,SNR=8.5						
URZ				S	**S**	**19 46 15.0**	**-5.2**
	0.5nm,0.3s,baz=165,slow=18,SNR=2.4						
RPZ	**Rata Peaks**	**21.72**	**198**	P	**P**	**19 44 46.7**	**+3.0**
	6.0nm,0.5s,baz=27,slow=4.3,SNR=8.6						
STKA	**Stephens Creek**	**35.07**	**247**	P	**P**	**19 46 40.8**	**+1.0**
	5.9nm,0.6s,baz=94,slow=12,SNR=23						
ASAR	**Alice Springs**	**42.26**	**260**	P	**P**	**19 47 38.5**	**+0.4**
	11nm,0.6s,baz=89,slow=7.8,SNR=127						
ASAR				ScP	**ScP**	**19 52 19.8**	**+1.2**
	1.2nm,0.9s,baz=113,slow=4.5,SNR=5.1						
WRA	**Warramunga Arr**	**42.57**	**265**	P	**P**	**19 47 40.4**	**-0.2**
	13nm,0.7s,baz=91,slow=6.0,SNR=478						
WRA				ScP	**ScP**	**19 52 20.7**	**+0.9**
	2.2nm,0.9s,baz=98,slow=3.8,SNR=8.7						
JAY	**Jayapura**	**43.38**	**293**	P	**P**	**19 47 45.6**	**-1.4**
	0.9nm,0.6s,baz=80,slow=24,SNR=4.5						
GUMO	**Guam**	**50.33**	**313**	P	**P**	**19 48 37.9**	**-1.4**
	21nm,0.5s,baz=61,slow=18,SNR=3.9						
VNDA	**Vanda**	**55.01**	**185**	P	**P**	**19 49 13.3**	**+1.6**
	0.2nm,0.5s,baz=354,slow=12,SNR=3.6						
CMAR	**Chiang Mai Arr**	**89.42**	**290**	P	**P**	**19 52 32.4**	**+0.8**
	1.3nm,0.7s,baz=134,slow=3.2,SNR=8.5						
TXAR	**Lajitas Array**	**90.00**	**58**	P	**P**	**19 52 33.9**	**-0.2**
	1.1nm,0.8s,baz=205,slow=6.1,SNR=11						
PDAR	**Pinedale Array**	**92.16**	**44**	P	**P**	**19 52 43.3**	**-0.6**
	0.5nm,0.5s,baz=242,slow=9.5,SNR=5.1						

*IDC **06** 19:46:50.7±4.9, 51°93N×176°39E, h41km±44km, mb3.6/11, mb1 3.9/12, mb1mx3.6/40, mbtmp3.9/12, Error ellipse: s-maj=30.5km s-min=15.8km az=159.0*

*NEIC **06** 19:46:52.2±0.0, 52°11N×176°55E, h20km, ML4.0(AEIC), After AEIC.*

ISC 06 19:46:50.8±0.7, 51°8N±0°1×176°32E±0°05, h40km, n28, σ1°83/26, mb3.9/11, Rat Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SMY	**Shemya**	**1.67**	**306**	P	**Pn**	**19 47 19.5**	**+2.1**
SMY				S	**Sn**	**19 47 40.5**	**+2.9**
GAEA	**Gareloi East**	**3.06**	**88**	P	**Pn**	**19 47 36.9**	**+0.3**
TASE	**Tanaga Southea**	**3.50**	**87**	P	**Pn**	**19 47 44.3**	**+1.6**
TASE				S	**Sn**	**19 48 24.2**	**+1.3**
TAFP	**Tanaga Falls P**	**3.53**	**86**	P	**Pn**	**19 47 44.6**	**+1.5**
TAFP				S	**Sn**	**19 48 25.8**	**+2.2**
KIKV	**Kanaga Island**	**4.04**	**86**	P	**Pn**	**19 47 52.0**	**+2.0**
GSCK	**Great Sitkin C**	**4.66**	**84**	P	**Pn**	**19 47 59.6**	**+1.0**
GSMY	**Great Sitkin M**	**4.73**	**84**	P	**Pn**	**19 48 02.2**	**+2.8**
ATKA	**Atka Island**	**5.87**	**82**	P	**Pn**	**19 48 17.6**	**+2.4**
KOFP	**Korovin Flat P**	**5.94**	**81**	P	**Pn**	**19 48 19.4**	**+3.3**
PETK	**Petropavlovsk-**	**11.44**	**284**	P	**Pn**	**19 49 33.2**	**+1.7**
	baz=104,slow=22,SNR=2.6						
PETK				S	**Sn**	**19 51 35.7**	**-2.2**
	0.5nm,0.3s,baz=78,slow=24,SNR=4.3						
ILAR	**Eielson Array**	**22.89**	**41**	P	**P**	**19 51 48.3**	**-2.3**
	0.7nm,0.7s,baz=242,slow=8.1,SNR=5.2						
KLR	**Kul'dur**	**28.13**	**283**	P	**P**	**19 52 39.0**	**+0.2**
	0.4nm,0.4s,baz=74,slow=9.0,SNR=3.6						
MJAR	**Matsushiro Arr**	**30.89**	**256**	P	**P**	**19 53 02.1**	**-1.2**
	1.6nm,0.7s,baz=42,slow=13,SNR=4.0						
H11N2	**WAKE ISLAND Hy**	**32.83**	**197**	T	T	20 28 31.9	
	baz=11,slow=76,SNR=187						
H11N3	**WAKE ISLAND Hy**	**32.84**	**197**	T	T	20 28 43.1	
	baz=11,slow=76,SNR=206						
H11N1	**WAKE ISLAND Hy**	**32.85**	**197**	T	T	20 28 33.2	
	baz=11,slow=76,SNR=176						
H11S1	**WAKE ISLAND Hy**	**34.06**	**196**	T	T	20 30 13.5	
	baz=11,slow=76,SNR=17						
H11S3	**WAKE ISLAND Hy**	**34.07**	**196**	T	T	20 30 01.5	
	baz=11,slow=76,SNR=15						
H11S2	**WAKE ISLAND Hy**	**34.07**	**196**	T	T	20 30 05.7	
	baz=11,slow=76,SNR=12						
YKA	**Yellowknife Ar**	**37.15**	**46**	P	**P**	**19 53 56.0**	**-1.3**
	2.0nm,0.8s,baz=287,slow=9.0,SNR=2.9						
SONM	**Songino Array**	**43.72**	**294**	P	**P**	**19 54 52.2**	**+0.4**
	1.8nm,0.5s,baz=63,slow=7.2,SNR=10						
TXAR	**Lajitas Array**	**61.57**	**78**	P	**P**	**19 57 03.4**	**-0.6**
	0.5nm,0.4s,baz=311,slow=5.3,SNR=16						
FINES	**FINESS Array B**	**64.66**	**345**	P	**P**	**19 57 21.9**	**-1.9**
	1.8nm,1.0s,baz=18,slow=7.5,SNR=3.2						
CMAR	**Chiang Mai Arr**	**67.95**	**272**	P	**P**	**19 57 46.1**	**+0.6**
	0.2nm,0.3s,baz=24,slow=7.6,SNR=4.4						
AKASG	**Malin Array Be**	**74.15**	**339**	P	**P**	**19 58 21.4**	**-1.2**
	0.5nm,0.4s,baz=20,slow=6.0,SNR=4.6						
WRA	**Warramunga Arr**	**80.28**	**220**	P	**P**	**19 58 56.9**	**-0.4**
	0.5nm,0.6s,baz=30,slow=5.9,SNR=9.0						
ASAR	**Alice Springs**	**83.81**	**218**	P	**P**	**19 59 16.8**	**+1.1**
	0.5nm,0.6s,baz=25,slow=5.0,SNR=7.4						
MAW	**Mawson**	**144.94**	**218**	PKPbc	**PKPab**	**20 06 21.2**	**-0.1**
	1.3nm,0.4s,baz=45,slow=2.9,SNR=2.5						

*ISCJB **06** 19:59:01.5±0.6, 6°83N±0°03×73°07W±0°04, h155km±6km, Error ellipse: s-maj=7.7km s-min=4.1km az=34.9*
*FUNV **06** 19:59:02.9, 6°78N×73°11W, h163km, MW3.4*
*RSNC **06** 19:59:03.9±0.9, 6°79N×73°11W, h144km±5km, ML3.5*

ISC 06 19:59:01.1±1.3, 6°82N±0°04×73°05W±0°04, h161km±8km, n21, σ1°37/38, 1D, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BARC	**Barichara**	**0.26**	**211**	*e*P	**Pn**	**19 59 23.6**	**+0.4**
BARC				*e*S	**Sn**	**19 59 38.2**	**-1.9**
BARC				*i*		19 59 40.2	
	comp=Z,816nm,0.3s						
PAMC	**Pamplona, Colo**	**0.63**	**34**	*e*P	**Pn**	**19 59 26.3**	**+1.4**
PAMC				*e*S	**Sn**	**19 59 42.6**	**-0.6**
PAMC				*i*		19 59 45.8	
	comp=Z,227nm,0.3s						
BRRC	**Barranca, Sant**	**0.72**	**294**	*e*P	**Pn**	**19 59 25.4**	**+0.5**
BRRC				*e*S	**Sn**	**19 59 41.8**	**-1.4**
BRRC				*i*		19 59 46.8	
	comp=Z,301nm,0.2s						
RUSC	**La Rusia**	**0.92**	**182**	*i* P	**Pn**	**19 59 27.5**	**+0.6**
RUSC				*e*S	**Sn**	**19 59 45.4**	**-1.3**
RUSC				*i*		19 59 48.3	
	comp=Z,349nm,0.6s						
CAPV	**Capacho**	**1.27**	**35**	*e*P	**Pn**	**19 59 31.5**	**+1.9**
CAPV				*e*S	**Sn**	**19 59 52.1**	**+0.6**
OCAC	**Ocana**	**1.44**	**349**	*e*P	**Pn**	**19 59 31.8**	**+0.7**
OCAC				*e*S	**Sn**	**19 59 53.9**	**-0.4**
OCAC				*i*		19 59 57.5	
	comp=Z,320nm,0.5s						
ZARC	**Zaragoza, Cauc**	**1.92**	**291**	*e*P	**Pn**	**19 59

JFT				S	Sn	20 02 50.5	-1.5	
JTM	**Tenmabayashi**	**3.55**	**319**	P	Pn	20 02 23.8	+2.4	
JTM				S	Sn	20 03 01.5	-1.9	
BSO1	**Boso 1**	**4.33**	**217**	P	Pn	20 02 31.6	0.0	
JCH	**Churui**	**4.50**	**353**	P	Pn	20 02 35.1	+0.7	
JCH				S	Sn	20 03 24.5	-2.3	
JRY	**Ryogami san**	**4.70**	**245**	P	Pn	20 02 38.1	+0.7	
JRY				S	Sn	20 03 28.0	-4.0	
MJAR	**Matsushiro Arr**	**5.00**	**253**	Pn	Pn	20 02 43.6	+2.2	
	1.6nm,0.3s,baz=86,slow=15,SNR=13							
MJAR				Sn	Sn	20 03 39.5	+0.3	
	0.5nm,0.3s,baz=95,slow=24,SNR=3.3							
ZALV	**Zalesovo Beam**	**42.78**	**312**	P	P	20 09 33.9	+10	
	0.5nm,0.5s,baz=85,slow=12,SNR=2.8							
WRA	**Warramunga Arr**	**58.52**	**191**	P	**P**	**20 11 23.4**	**+0.6**	
	2.2nm,0.9s,baz=10,slow=7.2,SNR=14							

*ISCJB **06** 20:02:27.8±0.8, 6.86N±0.04×73.09W±0.05, h157km±7km, Error ellipse: s-maj=8.8km s-min=5.9km az=32.4*
*FUNV **06** 20:02:29.1, 6.99N×73.21W, h171km, MW3.1*
*RSNC **06** 20:02:29.8±1.0, 6.80N×73.13W, h147km±6km, ML3.1*

ISC 06 20:02:26.6±1.6, **6.86N**±0.05×**73.09W**±0.05, **h167**km±9km, **n16**, σ1¶71/29, **Northern Colombia**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
BARC	**Barichara**	**0.28**	**199**	*eP*		**Pn**	**20 02 49.6**	**+0.2**
BARC				*eS*		**Sn**	**20 03 04.6**	**-2.3**
BARC				*i*			20 03 08.4	
	comp=Z,442nm,0.5s							
PAMC	**Pamplona, Colo**	**0.61**	**39**	*eP*		**Pn**	**20 02 52.4**	**+1.3**
PAMC				*eS*		**Sn**	**20 03 09.4**	**-0.4**
BRRC	**Barranca, Sant**	**0.67**	**292**	*eP*		**Pn**	**20 02 51.6**	**+0.9**
BRRC				*eS*		**Sn**	**20 03 08.6**	**-0.6**
BRRC				*i*			20 03 12.9	
	comp=Z,128nm,0.2s							
RUSC	**La Rusia**	**0.96**	**180**	*eP*		**Pn**	**20 02 53.6**	**+0.3**
RUSC				*eS*		**Sn**	**20 03 12.2**	**-1.6**
RUSC				*i*			20 03 14.3	
	comp=Z,154nm,0.4s							
CAPV	**Capacho**	**1.26**	**38**	*eP*		**Pn**	**20 02 57.3**	**+1.8**
CAPV				*eS*		**Sn**	**20 03 18.4**	**+0.7**
OCAC	**Ocana**	**1.39**	**351**	*eP*		**Pn**	**20 02 58.0**	**+1.3**
OCAC				*eS*		**Sn**	**20 03 20.1**	**+0.3**
OCAC				*i*			20 03 25.7	
	comp=Z,161nm,0.4s							
YOPC	**Yopal, Colombi**	**1.64**	**156**	*eP*		**Pn**	**20 02 59.3**	**+0.3**
YOPC				*eS*		**Sn**	**20 03 23.7**	**-0.4**
ZARC	**Zaragoza, Cauc**	**1.86**	**290**	*eP*		**Pn**	**20 03 02.5**	**+1.2**
ZARC				*eS*		**Sn**	**20 03 27.0**	**-1.2**
ZARC				*i*			20 03 36.8	
	comp=Z,142nm,0.4s							
CHIC	**Chingaza**	**2.31**	**196**	*eP*		**Pn**	**20 03 08.0**	**+1.3**
CHIC				*i*			20 03 44.3	
	comp=Z,105nm,0.4s							
VIGV	**El Vigia**	**2.61**	**41**	*eP*		**Pn**	**20 03 11.3**	**+1.3**
VIGV				*eS*		**Sn**	**20 03 43.2**	**-0.3**
SOCV	**Socops**	**2.63**	**57**	*eP*		**Pn**	**20 03 12.0**	**+1.8**
SOCV				*eS*		**Sn**	**20 03 43.9**	**-0.1**
TOLC	**Tolima**	**3.17**	**225**	*eP*		**Pn**	**20 03 18.9**	**+1.8**
PRAC	**Prado**	**3.60**	**210**	*eP*		**Pn**	**20 03 23.2**	**+0.9**
VIRV	**Villa del Rosa**	**3.68**	**11**	*eP*		**Pn**	**20 03 23.8**	**+0.5**
VIRV				*eS*		**Sn**	**20 04 02.6**	**-5.0**
CURV	**Curarigua**	**4.41**	**44**	*eP*		**Pn**	**20 03 34.2**	**+1.5**
CURV				*eS*		**Sn**	**20 04 22.0**	**-2.2**
BAUV	**El Baul**	**5.41**	**67**	*eP*		**Pn**	**20 03 47.1**	**+1.4**
BAUV				*eS*		**Sn**	**20 04 45.0**	**-2.8**

IDC 06 20:04:05.7±1.8, **29.54S**×**176.36W**, **h0**km, **mb3.9**/2, **mb1 4.1**/3, **mb1mx3.7**/24, **mbtmp3.9**/3, **ML3.6**/1, **MS3.4**/1, **Ms1 3.4**/1, **ms1mx2.8**/26, **Error ellipse: s-maj=38.1km s-min=29.4km az=1.0, Kermadec Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
RAO	**Raoul Island**	**1.39**	**282**	Pn		Pb	20 04 33.3	+0.8
	395nm,0.3s,baz=238,slow=23,SNR=11							
RAO				Sn		Sn	20 04 51.6	+0.2
	535nm,0.3s,baz=63,slow=22,SNR=6.3							
URZ	**Urewera**	**10.24**	**210**	Pn		Pn	20 06 34.2	+0.3
	0.5nm,0.3s,baz=275,slow=2.6,SNR=3.8							
URZ				Sn		Sn	20 08 31.2	+1.7
	1.7nm,0.3s,baz=170,slow=14,SNR=4.8							
DZM	**Mont Dzumac**	**17.17**	**292**	LR		LR	20 13 57.9	
	comp=Z,123nm,18.0s,baz=352,slow=34							
ASAR	**Alice Springs**	**44.59**	**265**	P		P	20 12 19.5	-0.3
	0.8nm,0.5s,baz=104,slow=7.3,SNR=22							
WRA	**Warramunga Arr**	**45.50**	**270**	P		P	20 12 26.4	-0.7
	0.7nm,0.4s,baz=110,slow=8.0,SNR=17							
FINES	**FINESS Array B**	**144.81**	**341**	PKP		PKPbc	20 23 43.1	+0.2
	2.2nm,0.9s,baz=67,slow=4.7,SNR=3.8							
AKASG	**Malin Array Be**	**151.45**	**325**	PKPbc		PKPbc	20 24 01.3	+0.1
	0.2nm,0.3s,baz=52,slow=2.8,SNR=2.6							

IDC 06 20:21:36.7±4.3, **11.44S**×**163.62E**, **h0**km, **mb3.9**/3, **mb1 4.2**/4, **mb1mx3.7**/32, **mbtmp4.0**/4, **ML4.6**/1, **MS3.5**/3, **Ms1 3.5**/3, **ms1mx3.0**/29, **Error ellipse: s-maj=76.2km s-min=43.1km az=69.0, Bougainville-Solomon Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
HNR	**Honiara**	**4.12**	**299**	Pn		Pn	20 22 41.1	+0.1
	35nm,0.3s,baz=140,slow=5.6,SNR=6.7							
HNR				Sn		Sn	20 23 31.6	+1.6
	28nm,0.3s,baz=323,slow=18,SNR=6.8							
HNR				LR		LR	20 24 26.9	
	comp=Z,496nm,18.6s,baz=92,slow=41							
HNR	**Honiara**	**4.12**	**299**	*eP*		Pn	20 22 41.0	-0.1
HNR				*eS*		Sn	20 23 34.0	+3.9
PMG	**Port Moresby**	**16.32**	**276**	LR		LR	20 31 11.4	
	comp=Z,184nm,19.1s,baz=121,slow=35							
WRA	**Warramunga Arr**	**29.39**	**250**	P		P	20 27 42.0	0.0
	1.3nm,0.5s,baz=80,slow=9.2,SNR=17							
ASAR	**Alice Springs**	**30.76**	**243**	P		P	20 27 54.0	-0.1
	0.4nm,0.6s,baz=63,slow=10.0,SNR=10							
ASAR				LR		LR	20 40 02.2	
	comp=Z,74nm,18.1s,baz=137,slow=36							
CMAR	**Chiang Mai Arr**	**70.36**	**294**	P		P	20 32 53.1	+0.1
	0.4nm,0.3s,baz=127,slow=4.4,SNR=4.3							

IDC 06 20:25:23.3±5.9, **21.19S**×**172.28E**, **h0**km, **mb3.9**/3, **mb1 4.2**/3, **mb1mx3.7**/25, **mbtmp3.9**/3, **MS3.3**/1, **Ms1 3.3**/1, **ms1mx2.6**/30, **Error ellipse: s-maj=250.0km s-min=37.7km az=149.0, Southeast of Loyalty Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
AFI	**Afiamalu**	**16.83**	**67**	LR		LR	20 34 14.7	
	comp=Z,100nm,19.0s,baz=42,slow=32							
ASAR	**Alice Springs**	**35.49**	**259**	P		P	20 32 21.9	0.0
	1.1nm,0.6s,baz=96,slow=7.6,SNR=20							
WRA	**Warramunga Arr**	**35.49**	**265**	P		P	20 32 21.8	-0.2
	0.5nm,0.4s,baz=97,slow=7.7,SNR=14							
ILAR	**Eielson Array**	**91.26**	**16**	P		P	20 38 30.1	0.0
	0.6nm,0.7s,baz=227,slow=5.7,SNR=5.4							

*ISCJB **06** 20:33:01.8±0.6, 59.75N±0.03×139.21W±0.05, h11km±5km, Error ellipse: s-maj=5.7km s-min=4.2km az=5.1*
*NEIC **06** 20:33:01.6±0.0, 59.76N×139.12W, h6km, ML2.6(OTT), ML2.6(AEIC), After AEIC.*
*PGC **06** 20:33:01.7±0.0, 59.82N×139.17W, h1km, ML2.6/4, 61km Nne of Yakutat, Ak Southeastern Alaska*

ISC 06 20:33:02.2±0.8, **59.75N**±0.04×**139.26W**±0.03, **h14**km±6km, **n27**, σ1¶36/45, **Southeastern Alaska**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
PNL	**Peninsula**	**0.11**	**221**	P		**Pg**	**20 33 05.3**	**-0.1**
PNL				S		**Sg**	**20 33 07.7**	**0.0**
PNL	**Peninsula**	**0.11**	**221**	P		**Pg**	**20 33 05.3**	**-0.1**
PNL				S		**Sg**	**20 33 07.9**	**+0.2**
YKU2	**Yakutat**	**0.32**	**221**	P		**Pg**	**20 33 09.2**	**+0.5**
YKU2				S		**Sb**	**20 33 15.8**	**+1.2**
DHAK	**Deception Hill**	**0.85**	**141**	P		**Pg**	**20 33 17.3**	**-1.3**
DHAK				S		**Sg**	**20 33 28.6**	**-1.2**
SAMH	**Samovar Hills**	**0.86**	**297**	P		**Pg**	**20 33 18.1**	**-0.6**
SAMH				S		**Sb**	**20 33 31.8**	**+1.6**
YUK7	**Dusty Glacier**	**0.96**	**35**	S		**Sb**	**20 33 33.4**	**+0.1**
RKAV	**Rock Avalanche**	**1.19**	**299**	P		**Pg**	**20 33 23.3**	**-1.7**
RKAV				S		**Sg**	**20 33 40.1**	**-0.3**
YUK6	**Outpost Mounta**	**1.27**	**20**	P		**Pn**	**20 33 25.7**	**-0.1**
YUK6				S		**Sn**	**20 33 42.8**	**-0.1**
HYT	**Haines Junctio**	**1.39**	**38**	P		**Pb**	**20 33 27.4**	**-0.5**
HYT				S		**Sn**	**20 33 45.4**	**0.0**
HYT	**Haines Junctio**	**1.39**	**38**	*ePn*		**Pb**	**20 33 27.7**	**-0.2**
YAH	**Yahtse**	**1.39**	**297**	P		**Pn**	**20 33 26.7**	**-0.6**
PLBC	**Pleasant Camp**	**1.50**	**100**	Pn		**Pn**	**20 33 28.0**	**-0.6**
PLBC				Sg		**Sb**	**20 33 47.1**	**-1.5**
PLBC	**Pleasant Camp**	**1.50**	**100**	P		**Pn**	**20 33 27.1**	**-1.5**
BARN	**Barnard Glacie**	**1.77**	**319**	P		**Pn**	**20 33 32.0**	**-0.6**
BARN				S		**Sn**	**20 33 55.4**	**+0.3**
WAX	**Waxell Ridge**	**1.93**	**293**	P		**Pn**	**20 33 33.4**	**-1.3**
BALM	**Baldy**	**2.00**	**311**	Pn		**Pn**	**20 33 36.0**	**+0.3**
BALM				Sg		**Sn**	**20 34 02.6**	**+2.0**
BALM	**Baldy**	**2.00**	**311**	*ePn*		**Pn**	**20 33 37.0**	**+1.3**
BALM				*eSn*		**Sb**	**20 34 04.4**	**+1.2**
YUK2	**White River**	**2.19**	**340**	Pn		**Pn**	**20 33 39.4**	**+1.2**
WHY	**Whitehorse**	**2.37**	**65**	Pn		**Pn**	**20 33 41.1**	**+0.5**
WHY				Pg		**Pb**	**20 33 44.4**	**-0.2**
WHY				Sn		**Sn**	**20 34 10.3**	**+0.8**
WHY	**Whitehorse**	**2.37**	**65**	*ePn*		**Pn**	**20 33 41.1**	**+0.5**
WHY				*eSn*		**Sn**	**20 34 10.8**	**+1.2**
BMRM	**Bremner River**	**2.92**	**297**	*ePn*		**Pn**	**20 33 48.9**	**+0.6**
BMRM				*eSn*		**Sn**	**20 34 22.0**	**-1.2**
DIV	**Divide**	**3.51**	**296**	*ePn*		**Pn**	**20 33 54.3**	**-2.1**
DIV				*eSn*		**Sb**	**20 34 44.3**	**-2.3**
FID	**Port Fidalgo**	**3.74**	**289**	*ePn*		**Pn**	**20 34 01.2**	**+1.9**
DAWY	**Dawson**	**4.33**	**359**	*ePn*		**Pn**	**20 34 05.6**	**-1.9**
DAWY				*eSg*		**Sg**	**20 35 22.6**	**+1.6**
SCM	**Sheep Creek Mo**	**4.47**	**301**	*ePn*		**Pn**	**20 34 08.6**	**-0.9**
SML	**Sawmill**	**4.90**	**299**	*ePn*		**Pn**	**20 34 16.6**	**+1.2**
DLBC	**Dease Lake**	**4.94**	**101**	Sg		**Sb**	**20 35 32.3**	**+4.8**

IDC 06 20:37:25.6±4.2, **1.87N**×**96.20E**, **h0**km, **mb3.5**/2, **mb1 3.7**/3, **mb1mx3.3**/39, **mbtmp3.5**/3, **ML3.7**/1, **Error ellipse: s-maj=150.0km s-min=31.8km az=61.0, Off west coast of northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
CMAR	**Chiang Mai Arr**	**16.71**	**9**	Pn		Pn	20 41 22.2	+0.9
	0.1nm,0.3s,baz=201,slow=11,SNR=4.4							
H08S2	**Diego Garcia H**	**25.47**	**248**	T		T	21 09 35.9	
	baz=69,slow=76,SNR=17							
H08S3	**Diego Garcia H**	**25.47**	**248**	T		T	21 09 36.4	
	baz=69,slow=76,SNR=14							
H08S1	**Diego Garcia H**	**25.49**	**248**	T		T	21 09 37.3	
	baz=69,slow=76,SNR=16							
WRA	**Warramunga Arr**	**43.23**	**122**	P		P	20 45 28.9	-0.1
	0.2nm,0.9s,baz=302,slow=9.1,SNR=2.9							
ZALV	**Zalesovo Beam**	**52.75**	**352**	P		P	20 46 42.0	-0.3
	0.8nm,0.6s,baz=176,slow=5.6,SNR=4.9							
ZALV				pP			20 46 50.0	
	0.8nm,0.5s,baz=167,slow=5.2,SNR=3.8							

*IDC **06** 21:01:21.5±2.5, 20.30S×178.05W, h575km±22km, mb3.8/13, mb1 4.0/13, mb1mx3.7/31, mbtmp4.8/13, Error ellipse: s-maj=32.0km s-min=15.3km az=134.0*
*ISCJB **06** 21:01:24.0±1.1, 20.3S±0.1×178.35W±0.09, h615km±11km, mb4.6/48, Error ellipse: s-maj=17.8km s-min=9.3km az=148.9*
*NEIC **06** 21:01:24.7±1.0, 20.21S×178.28W, h609km±9km, mb4.7/35, Error ellipse: s-maj=14.5km s-min=7.6km az=147.0*

ISC 06 21:01:23.1±1.2, **20.4S**±0.1×**178.16W**±0.10, **h598**km±11km, **n135**, σ1¶02/150, **mb4.7**/48, **22C-4D, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
MSVF	**Nonsavu**	**4.45**	**306**	*eP*		**P**	**21 02 52.7**	**+0.9**
DZM	**Mont Dzumac**	**14.46**	**261**	P		**P**	**21 04 29.0**	**+2.4**
	1.7nm,0.3s,baz=72,slow=16,SNR=15							
THZ	**Tophouse**	**22.62**	**198**	*eP*		**P**	**21 05 37.0**	**-3.3**
	34nm,1.5s							
TARA	**Tarawa**	**23.30**	**337**	*eP*		**P**	**21 05 43.6**	**-3.0**
	405nm,1.6s							
EIDS	**Eidsvold**	**28.74**	**254**	*eP*		**P**	**21 06 33.6**	**-0.6**
	28nm,1.4s							
ARMA	**Armidale**	**28.99**	**244**	*eP*		**P**	**21 06 38.1**	**+1.6**
	64nm,1.9s							
RABL	**Rabaul**	**33.06**	**295**	*eP*		**P**	**21 07 10.1**	**-1.1**
	33nm,0.4s							
CTA	**Charters Tower**	**33.35**	**264**	P		**P**	**21 07 14.3**	**+0.7**
	9.2nm,0.4s,baz=95,slow=13,SNR=14							
CTAO	**Charters Tower**	**33.35**	**264**	*eP*		**P**	**21 07 14.2**	**+0.6**
	13nm,0.9s							
COEN	**Coen**	**37.43**	**274**	*eP*		**P**	**21 07 47.6**	**+0.3**
	10nm,0.7s							
STKA	**Stephens Creek**	**37.71**	**244**	P		**P**	**21 07 50.8**	**+1.5**
	5.9nm,0.6s,baz=96,slow=10,SNR=18							
STKA				PcP		**PcP**	**21 09 51.7**	**+1.4**
	1.5nm,0.6s,baz=60,slow=0.9,SNR=3.7							
BBOO	**Buckleboo**	**42.47**	**243**	*eP*		**P**	**21 08 28.1**	**+0.9**
	141nm,1.9s							
AS31	**Alice Springs**	**44.40**	**257**	*eP*		**P**	**21 08 42.7**	**+0.4**
AS31				*ePcP*		**PcP**	**21 10 12.9**	**+0.1**
ASAR	**Alice Springs**	**44.40**	**257**	P		**P**	**21 08 42.7**	**+0.4**
	20nm,0.7s,baz=93,slow=7.7,SNR=303							
ASAR				PcP		**PcP**	**21 10 12.9**	**+0.1**
	3.4nm,0.6s,baz=100,slow=4.0,SNR=9.6							
ASAR				ScP		**ScP**	**21 13 11.4**	**+2.8**
	1.3nm,0.8s,baz=96,slow=4.3,SNR=7.0							
ASAR				S		**S**	**21 14 32.9**	**-1.9**
	2.3nm,0.9s,baz=92,slow=15,SNR=14							
WRAB	**Tennant Creek**	**44.46**	**262**	*eP*		**P**	**21 08 42.4**	**-0.4**
	22nm,1.1s							
WR1	**Warramunga Arr**	**44.47**	**262**	*eP*		**P**	**21 08 42.4**	**-0.5**
WR1				*ePcP*		**PcP**	**21 10 13.3**	**+0.3**
WRA	**Warramunga Arr**	**44.47**	**262**	P		**P**	**21 08 42.4**	**-0.5**
	12nm,0.5s,baz=97,slow=8.0,SNR=329							
WRA				PcP		**PcP**	**21 10 13.3**	**+0.2**
	1.8nm,0.8s,baz=92,slow=3.9,SNR=5.0							
WRA				S		**S**	**21 14 33.6**	**-2.3**
	2.6nm,1.0s,baz=94,slow=13,SNR=8.6							
MTN	**Manton Dam**	**49.01**	**270**	*eP*		**P**	**21 09 16.7**	**-0.3**
	23nm,0.8s							
GUMO	**Guam**	**49.61**	**310**	*eP*		**P**	**21 09 21.7**	**+0.3**
	131nm,0.5s							
FAKI	**Fak Fak**	**51.33**	**283**	*eP*		**P**	**21 09 33.5**	**-0.4**
	44nm,1.4s							
FITZ	**Fitzroy Crossi**	**52.90**	**262**	*eP*		**P**	**21 09 45.4**	**+0.3**
	55nm,2.0s							
SOEI	**Soe**	**56.35**	**272**	*eP*		**P**	**21 10 07.8**	**-1.5**
	52nm,0.7s							
MBWA	**Marble Bar**	**57.73**	**257**	*eP*		**P**	**21 10 18.4**	**-0.2**
	84nm,1.8s							
MMRI	**Maumere**	**58.60**	**272**	*eP*		**P**	**21 10 24.1**	**-0.4**
	38nm,1.1s							
KKM	**Kota Kinabalu**	**69.58**	**285**	*eP*		**P**	**21 11 33.9**	**-0.1**
	8.8nm,0.8s							
QSPA	**South Pole Qui**	**69.69**	**180**	*eP*		**P**	**21 11 34.0**	**+0.2**
UGM	**Wanagama**	**69.82**	**269**	*eP*		**P**	**21 11 34.8**	**-0.5**
	756nm,1.9s							
JOW	**Kunigami**	**69.98**	**310**	P		**P**	**21 11 36.3**	**+0.3**
	8.6nm,0.6s,baz=133,slow=12,SNR=6.5							
JOW	**Kunigami**	**69.98**	**310**	*eP*		**P**	**21 11 36.3**	**+0.3**
	88nm,2.0s							
ERM	**Erimo**	**71.65**	**331**	*eP*		**P**	**21 11 43.3**	**-2.0**
	99nm,1.3s							
TWG	**Pinlang**	**73.19**	**303**	*eP*		**P**	**21 11 52.8**	**-1.9**
	31nm,0.6s							
KSM	**Kuching**	**73.25**	**278**	*eP*		**P**	**21 11 56.0**	**+0.8**
	13nm,0.7s							
YULB	**Yu-li**	**73.31**	**303**	*eP*		**P**	**21 11 53.6**	**-1.8**
	44nm,1.9s							
XMIS	**Christmas Isla**	**73.57**	**265**	*eP*		**P**	**21 11 55.3**	**-1.8**
	150nm,1.3s							
SSLB	**Suanglung**	**73.78**	**304**	*eP*		**P**	**21 11 56.9**	**-1.2**
	15nm,1.2s							
TPUB	**Ta-pu**	**73.79**	**303**	*eP*		**P**	**21 11 56.0**	**-2.1**
	23nm,0.8s							
PETK	**Petropavlovsk-**	**76.12**	**345**	P		**P**	**21 12 10.0**	**-0.4**
	6.6nm,0.7s,baz=106,slow=7.4,SNR=9.7							
PEA1	**Petropavlovsk-**	**76.12**	**345**	*eP*		**P**	**21 12 10.0**	**-0.4**
KSRS	**Korea Array**	**76.70**	**319**	P		**P**	**21 12 14.5**	**+0.7**
	2.1nm,0.6s,baz=127,slow=5.5,SNR=8.5							
KS15	**Wonju Array Si**	**76.72**	**319**	*eP*		**P**	**21 12 14.5**	**+0.5**
KSAR	**Wonju Array Be**	**76.72**	**319**	P		**P**	**21 12 14.5**	**+0.5**
USRK	**Ussuriysk Ar.**	**78.78**	**326**	P		**P**	**21 12 26.1**	**+1.1**
	7.3nm,0.8s,baz=143,slow=2.3,SNR=12							
SNDA	**J Saunders Pla**	**79.46**	**48**	*eP*		**P**	**21 12 30.1**	**+1.2**
DANC	**Danby, Needles**	**80.91**	**48**	*eP*		**P**	**21 12 35.3**	**-1.0**
MOD	**Modoc Plateau**	**81.82**	**40**	*eP*		**P**	**21 12 42.5**	**+1.6**
	4.1nm,0.7s							
K05A	**Summer Lake**	**81.96**	**39**	*eP*		**P**	**21 12 43.6**	**+1.9**
	5.8nm,0.6s							
KLR	**Kul'dur**	**82.35**	**330**	P		**P**	**21 12 43.6**	**+0.3**
	2.5nm,0.8s,baz=154,slow=6.7,SNR=5.8							
IPM	**Ipoh**	**82.97**	**277**	*eP*		**P**	**21 12 47.8**	**+0.6**
	12nm,0.7s							
LCMT	**Little Creek M**	**83.63**	**47**	*eP*		**P**	**21 12 51.2**	**+1.1**
	11nm,1.1s							
BMO	**Blue Mountains**	**85.31**	**39**	*eP*		**P**	**21 12 54.0**	**-4.0**
	8.4nm,0.6s							
ENH	**Enshi**	**85.85**	**304**	*eP*		**P**	**21 13 01.9**	**+1.1**
	13nm,1.0s							
F10A	**Beach Ranch, E**	**86.00**	**38**	*eP*		**P**	**21 13 02.2**	**+1.0**
	6.8nm,0.8s							
SEY	**Seymchan**	**86.22**	**347**	P		**P**	**21 13 01.6**	**-0.2**
	7.3nm,0.6s,baz=151,slow=6.0,SNR=21							
SYO	**Syowa Base**	**86.81**	**193**	*eP*		**P**	**21 13 03.8**	**-0.8**
HDA	**Harding Lake**	**87.90**	**13**	*eP*		**P**	**21 13 09.4**	**-0.3**
	40nm,1.5s							
CCB	**Clear Creek Bu**	**87.93**	**13**	*eP*		**P**	**21 13 09.0**	**-0.7**
	11nm,0.6s							
ILAR	**Eielson Array**	**88.23**	**13**	P		**P**	**21 13 10.3**	**-0.8**
	2.1nm,0.4s,baz=216,slow=5.4,SNR=26							
ILB	**Eielson Array**	**88.23**	**13**	*eP*		**P**	**21 13 10.3**	**-0.8**
PD31	**Pinedale Array**	**88.98**	**43**	*eP*		**P**	**21 13 16.1**	**+0.7**
PDAR	**Pinedale Array**	**88.98**	**43**	P		**P**	**21 13 16.1**	**+0.7**
	1.1nm,0.6s,baz=205,slow=4.0,SNR=11							
SMCO	**Snowmass**	**89.00**	**47**	*eP*		**P**	**21 13 16.4**	**+0.5**
	15nm,1.7s							
CM31	**Chiang Mai Arr**	**89.94**	**290**	*eP*		**P**	**21 13 21.9**	**+1.7**
CMAR	**Chiang Mai Arr**	**89.94**	**290**	P		**P**	**21 13 21.9**	**+1.7**
	4.4nm,0.8s,baz=128,slow=2.7,SNR=25							
CHTO	**Chiang Mai**	**90.06**	**290**	*eP*		**P**	**21 13 22.1**	**+1.3**
	7.9nm,0.7s							
ZAA1	**Zalesovo Array**	**110.31**	**321**	*e*PKiKP		**PKiKP**	**21 18 46.5**	**-1.3**
ZALV	**Zalesovo Beam**	**110.31**	**321**	PKiKP		**PKiKP**	**21 18 46.5**	**-1.3**
	0.9nm,0.6s,baz=153,slow=0.9,SNR=4.0							
ARU	**Arti**	**125.02**	**325**	*e*PKPdf		**PKPdf**	**21 19 15.9**	**0.0**
ABKAR	**Akbulak array**	**125.90**	**317**	*e*PKPpre		PKPpre	21 19 11.8	
GEYT	**Alibeck**	**128.59**	**303**	PKP		**PKPdf**	**21 19 24.0**	**+0.6**
	1.7nm,0.6s,baz=315,slow=0.8,SNR=3.9							
ARCES	**ARCESS Array B**	**128.78**	**350**	PKP		**PKPdf**	**21 19 22.3**	**-0.5**
	4.0nm,0.9s,baz=27,slow=0.5,SNR=4.6							
FIA0	**FINESS Array S**	**135.62**	**344**	*e*PKPdf		**PKPdf**	**21 19 36.9**	**+1.0**
FIA0				*e*SKPbc		**SKPbc**	**21 22 13.3**	**+1.4**
FINES	**FINESS Array B**	**135.62**	**344**	PKP		**PKPdf**	**21 19 36.9**	**+1.0**
	1.3nm,0.6s,baz=90,slow=2.0,SNR=7.7							
FINES				SKPbc		**SKPbc**	**21 22 13.3**	**+1.4**
	1.3nm,0.7s,baz=35,slow=5.1,SNR=4.1							
AKASG	**Malin Array Be**	**142.84**	**331**	PKhKP		PKPpre	21 19 46.0	
	8.8nm,0.5s,baz=42,slow=4.4,SNR=48							
AKBB	**Malin Array Si**	**142.84**	**331**	*e*PKPpre		PKPpre	21 19 46.0	
KSRV	**Kasrt alli**	**144.02**	**303**	*eP*		**PKPdf**	**21 19 53.5**	**+1.6**
SORM	**Soroca**	**145.03**	**329**	↑*i*P		**PKPbc**	**21 19 53.7**	**-0.4**
DRWC	**Darouich**	**145.61**	**306**	*eP*		**PKPbc**	**21 19 56.5**	**+0.2**
ROOS	**tl_alroos**	**145.81**	**301**	*eP*		**PKPab**	**21 19 58.0**	**-0.9**
BTCH	**Batrach**	**145.95**	**305**	*eP*		**PKPbc**	**21 19 57.6**	**+0.3**
LEOM	**Leova**	**146.20**	**326**	↑*i*P		**PKPbc**	**21 19 57.7**	**+0.2**
ARNB	**Al Arnab**	**146.38**	**305**	*eP*		**PKPbc**	**21 19 58.1**	**-0.3**
MARH	**Ras Al Marh**	**146.50**	**301**	*eP*		**PKPbc**	**21 19 59.6**	**+0.5**
SALA	**Sala**	**146.61**	**299**	*eP*		**PKPbc**	**21 19 59.2**	**-0.1**
BR101	**Kesk

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ONAJ	**Iwakimizuishiy**	**0.82**	**303**	P	**Pg**	**21 09 28.6**	**-2.4**
JHO	**Hitachi**	**0.88**	**267**	P	**Pg**	**21 09 30.3**	**-1.8**
JFK	**Kawauchi**	**0.95**	**319**	P	**Pg**	**21 09 30.7**	**-2.7**
JYT	**Yasato**	**1.26**	**251**	P	**Pn**	**21 09 35.7**	**-3.1**
JFT	**Otama**	**1.36**	**310**	P	**Pn**	**21 09 38.2**	**-2.1**
JMM	**Marumori**	**1.39**	**330**	P	**Pn**	**21 09 37.1**	**-3.6**
MJAR	**Matsushiro Arr**	**2.78**	**269**	Pn	**Pb**	**21 10 04.9**	**-0.1**
	14nm,0.3s,baz=88,slow=14,SNR=56						
MJAR				Sn	**Sb**	**21 10 40.7**	**+1.6**
	5.5nm,0.3s,baz=103,slow=33,SNR=5.6						
MJAR				LR	LR	21 11 17.5	
	comp=Z,147nm,20.8s,baz=95,slow=39						
MAT	**Matsushiro**	**2.78**	**269**	P	**Pn**	**21 10 00.4**	**+0.6**
MAT				S	**Sb**	**21 10 37.9**	**-1.2**
JHJ	**Hachijo jima 2**	**3.85**	**204**	Pn	**Pb**	**21 10 19.2**	**-4.0**
	27nm,0.3s,baz=105,slow=21,SNR=8.4						
JHJ				Sn	**Sn**	**21 11 00.6**	**+0.8**
	31nm,0.3s,baz=243,slow=23,SNR=6.7						
KSRS	**Korea Array**	**11.01**	**278**	Pn	Pn	21 12 00.2	+7.6
	0.2nm,0.3s,baz=86,slow=13,SNR=9.8						
KSRS				LR	LR	21 16 07.8	
	comp=Z,74nm,20.0s,baz=94,slow=36						
KLR	**Kul'dur**	**14.49**	**333**	LR	LR	21 17 54.5	
	comp=Z,47nm,20.0s,baz=140,slow=35						
H11N2	**WAKE ISLAND Hy**	**27.79**	**121**	T	T	21 44 10.9	
	baz=313,slow=75,SNR=53						
H11N1	**WAKE ISLAND Hy**	**27.79**	**121**	T	T	21 44 10.6	
	baz=313,slow=75,SNR=49						
H11N3	**WAKE ISLAND Hy**	**27.80**	**121**	T	T	21 44 26.4	
	baz=313,slow=75,SNR=54						
SONM	**Songino Array**	**28.16**	**304**	P	**P**	**21 15 10.7**	**+3.0**
	2.6nm,0.9s,baz=106,slow=9.5,SNR=9.5						
H11S1	**WAKE ISLAND Hy**	**28.49**	**123**	T	T	21 45 12.0	
	baz=315,slow=76,SNR=34						
H11S3	**WAKE ISLAND Hy**	**28.49**	**123**	T	T	21 45 12.1	
	baz=315,slow=76,SNR=25						
H11S2	**WAKE ISLAND Hy**	**28.51**	**123**	T	T	21 45 07.7	
	baz=315,slow=76,SNR=22						
ZALV	**Zalesovo Beam**	**42.31**	**313**	P	**P**	**21 17 11.6**	**+2.7**
	1.4nm,0.7s,baz=82,slow=7.4,SNR=7.2						
WRA	**Warramunga Arr**	**56.72**	**188**	P	**P**	**21 19 00.8**	**+1.8**
	1.0nm,0.8s,baz=6.1,slow=7.3,SNR=9.8						
ASAR	**Alice Springs**	**60.44**	**188**	P	**P**	**21 19 27.4**	**+2.4**
	0.7nm,0.8s,baz=9.4,slow=6.2,SNR=5.5						
ARCES	**ARCESS Array B**	**64.42**	**340**	LR	LR	21 52 51.6	
	comp=Z,18nm,19.4s,baz=248,slow=40						
FINES	**FINESS Array B**	**69.24**	**332**	LR	LR	21 51 21.0	
	comp=Z,8.9nm,18.4s,baz=12,slow=36						

KRSC 06 21:22:10.8±1.2, 50.42N×157.63E, h41km±19km, ML3.6, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**1.00**	**286**	*i* P	Pn	21 22 29.4	+1.1
SKR				*i* S	Sn	21 22 41.1	-0.1
ASAK	**Asacha**	**1.98**	**5**	*e*P	Pn	21 22 43.7	+1.9
RUS	**Russkaya**	**2.09**	**15**	*e*P	Pn	21 22 45.1	+1.8
RUS				*e*S	Sn	21 23 09.9	+1.8
MTVR	**Mutnovka**	**2.10**	**9**	*e*P	Pn	21 22 46.1	+2.6
MTVR				*e*S	Sn	21 23 11.0	+2.6
KRMR	**Karymshinskiy**	**2.44**	**7**	*e*P	Pn	21 22 51.4	+3.4
KRMR				*e*S	Sn	21 23 20.4	+3.9
DALK	**Dalny**	**2.71**	**15**	*e*P	Pn	21 22 54.6	+2.8
DALK				*e*S	Sn	21 23 26.9	+3.6
AVH	**Avacha**	**2.93**	**13**	*e*P	Pn	21 22 58.8	+3.9
AVH				*e*S	Sn	21 23 33.6	+4.7
KOK	**Koryaka**	**2.95**	**12**	*e*P	Pn	21 22 59.0	+3.9
SDLR	**Sedlovina**	**2.97**	**15**	*e*P	Pn	21 22 58.5	+3.0
KRER	**Koryakskii**	**2.97**	**13**	*e*P	Pn	21 22 59.2	+3.6
KRER				*e*S	Sn	21 23 34.6	+4.5
SPN	**Mys Shipunski**	**3.07**	**28**	*e*S	Sn	21 23 36.8	+4.7
GNL	**Ganaly**	**3.29**	**3**	*e*P	Pn	21 23 04.0	+4.2
MKZ	**Mys Kozlova**	**4.84**	**30**	*e*P	Pn	21 23 24.8	+3.8

*ISCJB **06** 21:34:07.6±0.7, 6.83N±0.05×73.04W±0.05, h160km±6km, Error ellipse: s-maj=9.8km s-min=5.0km az=44.5*
*FUNV **06** 21:34:07.2, 6.77N×73.28W, h157km, MW2.8*
*RSNC **06** 21:34:10.2±0.9, 6.79N×73.12W, h147km±7km, ML3.0*
ISC 06 21:34:07.4±1.5, 6.84N±0.05×73.06W±0.05, h163km±9km, n16, σ1§16/29, 1C, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BARC	**Barichara**	**0.27**	**207**	*i* P	**Pn**	**21 34 30.1**	**+0.3**
BARC				*e*S	**Sn**	**21 34 45.1**	**-1.7**
BARC				*i*		21 34 46.9	
	comp=Z,175nm,0.3s						
PAMC	**Pamplona, Colo**	**0.61**	**36**	*e*P	**Pn**	**21 34 32.9**	**+1.4**
PAMC				*e*S	**Sn**	**21 34 49.9**	**+0.1**
BRRC	**Barranca, Sant**	**0.70**	**292**	*i*P	**Pn**	**21 34 32.0**	**+0.6**
BRRC				*i*		21 34 32.3	
	comp=Z,454nm,0.1s						
BRRC				*e*S	**Sn**	**21 34 49.1**	**-0.5**
RUSC	**La Rusia**	**0.94**	**182**	*e*P	**Pn**	**21 34 34.1**	**+0.5**
RUSC				*e*S	**Sn**	**21 34 51.9**	**-1.7**
RUSC				*i*		21 34 54.0	
	comp=Z,79nm,0.2s						
CAPV	**Capacho**	**1.26**	**36**	*e*P	**Pn**	**21 34 35.9**	**-0.1**
CAPV				*e*S	**Sn**	**21 34 58.3**	**+0.4**
OCAC	**Ocana**	**1.42**	**349**	*e*P	**Pn**	**21 34 38.1**	**+0.7**
OCAC				*e*S	**Sn**	**21 35 01.0**	**+0.6**
OCAC				*i*		21 35 06.5	
	comp=Z,194nm,0.2s						
ZARC	**Zaragoza, Cauc**	**1.90**	**290**	*e*P	**Pn**	**21 34 42.4**	**+0.1**
ZARC				*e*S	**Sn**	**21 35 08.2**	**-0.9**
ZARC				*i*		21 35 15.3	
	comp=Z,115nm,0.3s						
CHIC	**Chingaza**	**2.29**	**197**	*e*P	**Pn**	**21 34 48.0**	**+0.8**
CHIC				*i*		21 34 50.2	
	comp=Z,26nm,0.1s						
HELC	**Santa Helena**	**2.54**	**255**	*e*P	**Pn**	**21 34 51.5**	**+1.5**
HELC				*i*		21 35 28.5	
	comp=Z,55nm,0.3s						
VIGV	**El Vigia**	**2.60**	**40**	*e*P	**Pn**	**21 34 51.8**	**+1.4**
VIGV				*e*S	**Sn**	**21 35 23.7**	**-0.1**
SOCV	**Socops**	**2.61**	**57**	*e*P	**Pn**	**21 34 51.8**	**+1.2**
SOCV				*e*S	**Sn**	**21 35 24.2**	**+0.2**
TOLC	**Tolima**	**3.17**	**225**	*e*P	**Pn**	**21 34 58.8**	**+0.9**
PRAC	**Prado**	**3.60**	**210**	*e*P	**Pn**	**21 35 04.1**	**+1.1**
PRAC				*e*S	**Sn**	**21 35 45.1**	**-1.0**
VIRV	**Villa del Rosa**	**3.70**	**10**	*e*P	**Pn**	**21 35 04.8**	**+0.6**
VIRV				*e*S	**Sn**	**21 35 45.1**	**-3.3**
CURV	**Curarigua**	**4.40**	**44**	*e*P	**Pn**	**21 35 13.8**	**+0.5**
CURV				*e*S	**Sn**	**21 36 03.6**	**-1.1**
BAUV	**El Baul**	**5.39**	**67**	*e*P	**Pn**	**21 35 26.2**	**0.0**
BAUV				*e*S	**Sn**	**21 36 27.0**	**-0.9**

*CSEM **06** 21:40:14.2±0.6, 38.07N×28.82E, h2km, MD2.7, Error ellipse: s-maj=12.7km s-min=5.6km az=145.0*
*ISK **06** 21:40:16.3, 38.47N×28.29E, h8km, MD2.7*
*DDA **06** 21:40:17.4, 38.45N×28.31E, h6km, Md2.2*
ISC 06 21:40:16.1±1.0, 38.43N±0.06×28.32E±0.07, h9km, n10, σ1§91/13, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MANT	**Manisa**	**0.19**	**73**	*i* P	Pg	21 40 14.6	-5.6
MANT				*i* S	**Sg**	**21 40 17.6**	**-5.4**
KULA	**Kula-Manisa**	**0.28**	**73**	*e*PG	**Pg**	**21 40 23.0**	**+1.3**
KULA				*e*SG	**Sg**	**21 40 27.0**	**+1.6**
KULA	**Kula-Manisa**	**0.28**	**73**	*e*Pg	**Pg**	**21 40 23.0**	**+1.3**
AYDB	**Zeytinkoy-Aydi**	**0.59**	**215**	*e*PG	**Pb**	**21 40 28.9**	**+0.1**
AYDB				*e*SG	**Sb**	**21 40 37.1**	**-0.2**
AYDB	**Zeytinkoy-Aydi**	**0.59**	**215**	*e*Pg	**Pb**	**21 40 28.9**	**+0.1**
AYDB				*e*Sg	**Sb**	**21 40 37.1**	**-0.2**
DEMI	**Demirci**	**0.68**	**27**	*i* P	**Pg**	**21 40 29.9**	**+0.6**
DEMI	**Demirci**	**0.68**	**27**	P	**Pg**	**21 40 29.9**	**+0.6**
BALB	**Balikesir**	**1.25**	**344**	*e*PN	**Pn**	**21 40 39.8**	**0.0**
TVSB	**Tavsanli**	**1.35**	**41**	*e*PN	**Pb**	**21 40 41.9**	**+0.3**
TVSB	**Tavsanli**	**1.35**	**41**	*e*Pn	**Pb**	**21 40 41.9**	**+0.3**

NEIC 06 21:42:02.4±0.0, 52.09N×171.52W, h40km, ML3.5(AEIC), After AEIC., Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATKA	**Atka Island**	**1.66**	**275**	P	Pn	21 42 29.7	+0.8
ATKA				S	Sn	21 42 49.8	+0.8
NIKH	**Nikolski High**	**1.85**	**60**	P	Pn	21 42 32.0	+0.4
NIKH				S	Sn	21 42 55.6	+1.8
OKSO	**Okmok South**	**2.40**	**57**	P	Pn	21 42 41.1	+1.9
OKSO				S	Sn	21 43 10.4	+3.0
OKFG	**Magazine Ridge**	**2.56**	**58**	P	Pn	21 42 43.0	+1.6
OKFG				S	Sn	21 43 14.5	+3.4
GSMY	**Great Sitkin M**	**2.80**	**271**	P	Pn	21 42 46.5	+1.7
GSTD	**Great Sitkin T**	**2.86**	**271**	P	Pn	21 42 47.1	+1.5
GSTD				S	Sn	21 43 21.1	+2.4
MSOM	**Makushin Julie**	**3.26**	**56**	P	Pn	21 42 52.8	+1.9
MGOD	**Makushin Gods**	**3.29**	**57**	P	Pn	21 42 52.7	+1.3
MSW	**Makushin Switc**	**3.39**	**56**	P	Pn	21 42 54.5	+1.7
KIKV	**Kanaga Island**	**3.50**	**269**	P	Pn	21 42 56.0	+1.7
UNV	**Unalaska Valle**	**3.50**	**58**	P	Pn	21 42 55.8	+1.6
UNV				S	Sn	21 43 37.4	+2.9

*LDG **06** 21:46:53.9±0.2, 45.38N×9.40E, h2km, Ml2.4/10, Error ellipse: s-maj=5.4km s-min=2.3km az=106.0*
*CSEM **06** 21:46:54.3±0.1, 45.41N×9.39E, h20km, ML2.7/9, Error ellipse: s-maj=3.0km s-min=2.9km az=46.0*
*ROM **06** 21:46:54.7±0.1, 45.41N×9.39E, h36km±1km, Md2.3/12, Ml2.3/3, Error ellipse: s-maj=2.8km s-min=2.0km az=77.0*
*GEN **06** 21:46:55.2, 45.40N×9.39E, h13km, ML2.0*
ISC 06 21:46:53.6±1.0, 45.39N±0.02×9.39E±0.02, h15km±9km, n76, σ1§44/121, Northern Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTL8	**Castelleone**	**0.28**	**114**	Pg	**Pb**	**21 47 02.5**	**+2.1**
CTL8				Sg	**Sb**	**21 47 09.0**	**+4.0**
CTL8	**Castelleone**	**0.28**	**114**	Pg	**Pb**	**21 47 02.5**	**+2.1**
CTL8				Sg	**Sb**	**21 47 09.0**	**+4.0**
MUGIO	**Muggio**	**0.58**	**335**	Pg	**Pb**	**21 47 06.8**	**+1.2**
MUGIO				Sg	**Sb**	**21 47 15.7**	**+2.0**
MUGIO	**Muggio**	**0.58**	**335**	Pg	**Pb**	**21 47 06.8**	**+1.2**
MUGIO				Sg	**Sb**	**21 47 15.7**	**+2.0**
BOB	**Bobbio (Coli)**	**0.63**	**177**	Pg	**Pb**	**21 47 07.9**	**+1.6**
BOB				Sg	**Sb**	**21 47 17.8**	**+2.9**
BOB	**Bobbio (Coli)**	**0.63**	**177**	Pg	**Pb**	**21 47 07.9**	**+1.6**
BOB				Sg	**Sb**	**21 47 17.8**	**+2.9**
SALO	**Salr**	**0.83**	**74**	Pg	**Pg**	**21 47 09.9**	**+0.3**
SALO				Sg	**Sb**	**21 47 22.0**	**+1.4**
SALO	**Salr**	**0.83**	**74**	Pg	**Pg**	**21 47 09.9**	**+0.3**
SALO				Sg	**Sb**	**21 47 22.0**	**+1.4**
MAGA	**Magasa**	**0.95**	**66**	Pg	**Pg**	**21 47 11.3**	**-0.7**
MAGA				Sg	**Sg**	**21 47 24.8**	**+0.4**
	79nm,0.4s						
MAGA	**Magasa**	**0.95**	**66**	Pg	**Pg**	**21 47 11.3**	**-0.7**
MAGA				Sg	**Sg**	**21 47 24.8**	**+0.4**
	79nm,0.4s						
SC2M	**Scurtabo**	**0.99**	**174**	Pg	**Pb**	**21 47 13.2**	**+0.7**
SC2M				Sg	**Sb**	**21 47 27.4**	**+2.0**
	112nm,0.4s						
SC2M	**Scurtabo**	**0.99**	**174**	P	**Pb**	**21 47 13.2**	**+0.7**
SC2M				S	**Sb**	**21 47 26.4**	**+1.0**
SC2M				Sg	**Sb**	**21 47 27.4**	**+2.0**
	112nm,0.4s						
GRAM	**Graiana**	**1.02**	**152**	P	**Pb**	**21 47 13.8**	**+0.8**
GRAM				S	**Sb**	**21 47 27.4**	**+1.2**
MABI	**Malga Bissina**	**1.03**	**49**	Pg	**Pg**	**21 47 12.8**	**-0.7**
MABI				Sg	**Sg**	**21 47 26.5**	**-0.4**
MABI	**Malga Bissina**	**1.03**	**49**	Pg	**Pg**	**21 47 12.8**	**-0.7**
MABI				Sg	**Sg**	**21 47 26.5**	**-0.4**
PCP	**Piancastagn**	**1.04**	**216**	P	**Pb**	**21 47 14.2**	**+0.8**
PCP				S	**Sb**	**21 47 28.2**	**+1.3**
CODM	**Codolo**	**1.05**	**162**	P	**Pg**	**21 47 14.1**	**+0.1**
CODM				S	**Sg**	**21 47 27.8**	**+0.1**
TUE	**Stuetta**	**1.08**	**358**	Pg	**Pg**	**21 47 14.5**	**0.0**
TUE				Sg	**Sg**	**21 47 28.3**	**-0.3**
TUE	**Stuetta**	**1.08**	**358**	Pg	**Pg**	**21 47 14.5**	**0.0**
TUE				Sg	**Sg**	**21 47 28.3**	**-0.3**
BERNI	**Berninapass**	**1.11**	**23**	Pg	**Pg**	**21 47 15.7**	**+0.6**
BERNI				Sg	**Sg**	**21 47 29.2**	**-0.4**
BERNI	**Berninapass**	**1.11**	**23**	Pg	**Pg**	**21 47 15.7**	**+0.6**
BERNI				Sg	**Sg**	**21 47 29.2**	**-0.4**
TRAV	**Traversella**	**1.17**	**276**	Pg	**Pg**	**21 47 14.1**	**-2.0**
TRAV	**Traversella**	**1.17**	**276**	Pg	**Pg**	**21 47 14.1**	**-2.0**
SATI	**Passo dei Sala**	**1.17**	**295**	P	**Pg**	**21 47 16.6**	**+0.3**
SATI				S	**Sg**	**21 47 31.1**	**-0.6**
FUSIO	**Fusio**	**1.18**	**335**	Pg	**Pg**	**21 47 15.6**	**-0.7**
FUSIO	**Fusio**	**1.18**	**335**	Pg	**Pg**	**21 47 15.6**	**-0.7**
MMK	**Mattmark**	**1.20**	**304**	Pg	**Pg**	**21 47 14.9**	**-1.8**
	21nm,0.2s						
MMK	**Mattmark**	**1.20**	**304**	Pg	**Pg**	**21 47 14.9**	**-1.8**
	21nm,0.2s						
ROVR	**Rover¯¤ Verone**	**1.21**	**77**	Pg	**Pg**	**21 47 14.6**	**-2.3**
ROVR				Sg	**Sg**	**21 47 31.7**	**-0.9**
ROVR	**Rover¯¤ Verone**	**1.21**	**77**	Pg	**Pg**	**21 47 14.6**	**-2.3**
ROVR				Sg	**Sg**	**21 47 31.7**	**-0.9**
SARO	**Sassorosso**	**1.41**	**149**	P	**Pn**	**21 47 19.5**	**+0.8**
SARO				S	**Sg**	**21 47 36.5**	**-2.4**
LPG	**La Plagne**	**1.86**	**274**	*e*Pn	**Pn**	**21 47 25.0**	**-0.2**
LPG				*e*Sn	**Sn**	**21 47 48.4**	**-0.2**
	2.9nm,0.3s						
LPG	**La Plagne**	**1.86**	**274**	*e*Pn	**Pn**	**21 47 25.0**	**-0.2**
LPG	**La Plagne**	**1.86**	**274**	*e*Sn	**Sn**	**21 47 48.4**	**-0.2**
	1.5nm,0.3s						
LPL	**La Plagne**	**1.88**	**275**	*e*Pn	**Pn**	**21 47 25.5**	**+0.1**
LPL				*e*Sn	**Sn**	**21 47 48.7**	**-0.2**
	3.7nm,0.3s						
LPL	**La Plagne**	**1.88**	**275**	*e*Pn	**Pn**	**21 47 25.5**	**+0.1**
LPL	**La Plagne**	**1.88**	**275**	*e*Sn	**Sn**	**21 47 48.7**	**-0.2**
	1.9nm,0.3s						
MBDF	**Montbardon**	**1.98**	**251**	*e*Pn	**Pn**	**21 47 26.0**	**-0.6**
MBDF				*e*Sn	**Sn**	**21 47 50.6**	**-0.6**
	2.2nm,0.2s						
MBDF	**Montbardon**	**1.98**	**251**	*e*Pn	**Pn**	**21 47 26.0**	**-0.6**
MBDF				*e*Sn	**Sn**	**21 47 50.6**	**-0.6**
	1.1nm,0.2s						
SBF	**Sospel**	**2.07**	**223**	*e*Pn	**Pn**	**21 47 28.5**	**+0.6**
SBF				*e*Sn	**Sn**	**21 47 52.7**	**-0.8**
	3.4nm,0.2s						
SBF	**Sospel**	**2.07**	**223**	*e*Pn	**Pn**	**21 47 28.5**	**+0.6**
SBF				*e*Sn	**Sn**	**21 47 52.7**	**-0.8**
	1.7nm,0.2s						
ORIF	**Oris-en-Rattie**	**2.53**	**260**	*e*P	**Pn**	**21 47 36.4**	**+2.2**
ORIF				*e*Sn	**Sn**	**21 48 04.1**	**-0.7**
	5.2nm,0.5s						
ORIF	**Oris-en-Rattie**	**2.53**	**260**	*e*P	**Pn**	**21 47 36.4**	**+2.2**
ORIF				*e*Sn	**Sn**	**21 48 04.1**	**-0.7**
	2.6nm,0.5s						
CABF	**La Chapelle**	**2.61**	**299**	*e*Pn	**Pn**	**21 47 35.6**	**+0.3**
CABF	**La Chapelle**	**2.61**	**299**	*e*Pn	**Pn**	**21 47 35.6**	**+0.3**
FRF	**La Foret Royal**	**2.69**	**228**	*e*Pn	**Pn**	**21 47 36.6**	**+0.3**
FRF				*e*Sn	**Sn**	**21 48 07.0**	**-1.6**
	1.8nm,0.3s						
FRF	**La Foret Royal**	**2.69**	**228**	*e*Pn	**Pn**	**21 47 36.6**	**+0.3**
FRF				*e*Sn	**Sn**	**21 48 07.0**	**-1.6**
	0.9nm,0.3s						
LMR	**La Mourre**	**2.92**	**226**	*e*Pn	**Pn**	**21 47 37.9**	**-1.6**
LMR	**La Mourre**	**2.92**	**226**	*e*Pn	**Pn**	**21 47 37.9**	**-1.6**
HINF	**Hinteralfeld**	**2.99**	**325**	*e*Pn	**Pn**	**21 47 40.4**	**-0.1**
HINF				*e*Sn	**Sn**	**21 48 14.9**	**-1.2**
	3.3nm,0.3s						
HINF	**Hinteralfeld**	**2.99**	**325**	*e*Pn	**Pn**	**21 47 40.4**	**-0.1**
HINF				*e*Sn	**Sn**	**21 48 14.9**	**-1.2**
	1.6nm,0.3s						
SMRF	**Simiane la Rot**	**3.07**	**244**	*e*Pn	**Pn**	**21 47 41.7**	**+0.1**
SMRF	**Simiane la Rot**	**3.07**	**244**	*e*Pn	**Pn**	**21 47 41.7**	**+0.1**
HAU	**Haudompre**	**3.35**	**322**	*e*Pn	**Pn**	**21 47 45.6**	**+0.2**
HAU				*e*Sn	**Sn**	**21 48 23.4**	**-1.5**
	8.8nm,0.3s						
HAU	**Haudompre**	**3.35**	**322**	*e*Pn	**Pn**	**21 47 45.6**	**+0.2**
HAU				*e*Sn	**Sn**	**21 48 23.4**	**-1.5**
	4.4nm,0.3s						
CDF	**Champ du Feu**	**3.35**	**335**	*e*Pn	**Pn**	**21 47 45.1**	**-0.4**
CDF				*e*Sn	**Sn**	**21 48 22.4**	**-2.6**
	2.6nm,0.3s						
CDF	**Champ du Feu**	**3.35**	**335**	*e*Pn	**Pn**	**21 47 45.1**	**-0.4**
CDF				*e*Sn	**Sn**	**21 48 22.4**	**-2.6**
	1.3nm,0.3s						
VIVF	**Saint-Julien-l**	**3.38**	**263**	*e*Pn	**Pn**	**21 47 45.7**	**-0.2**
VIVF	**Saint-Julien-l**	**3.38**	**263**	*e*Pn	**Pn**	**21 47 45.7**	**-0.2**
NVLJ	**Novalja**	**3.97**	**100**	*e*Pn	**Pn**	**21 47 51.8**	**-2.1**
NVLJ				*e*Sn	**Sn**	**21 48 35.3**	**-5.0**
NVLJ	**Novalja**	**3.97**	**100**	*e*Pn	**Pn**	**21 47 51.8**	**-2.1**
NVLJ				*e*Sn	**Sn**	**21 48 35.2**	**-5.0**
PAGF	**Fort de Pagny**	**4.04**	**323**	*e*Pn	**Pn**	**21 47 55.3**	**+0.5**
PAGF	**Fort de Pagny**	**4.04**	**323**	*e*Pn	**Pn**	**21 47 55.3**	**+0.5**
SMF	**Signal de Mont**	**4.07**	**290**	*e*Pn	**Pn**	**21 47 55.6**	**+0.4**
SMF	**Signal de Mont**	**4.07**	**290**	*e*Pn	**Pn**	**21 47 55.6**	**+0.4**
LASF	**Ste Croix**	**4.16**	**253**	*e*Pn	**Pn**	**21 47 56.2**	**-0.3**
LASF	**Ste Croix**	**4.16**	**253**	*e*Pn	**Pn**	**21 47 56.2**	**-0.3**
LOR	**Lormes**	**4.27**	**298**	*e*Pn	**Pn**	**21 47 58.1**	**+0.1**
LOR				*e*Sn	**Sn**	**21 48 45.8**	**-1.8**
	0.8nm,0.2s						
LOR	**Lormes**	**4.27**	**298**	*e*Pn	**Pn**	**21 47 58.1**	**+0.1**
LOR	**Lormes**	**4.27**	**298**	*e*Sn	**Sn**	**21 48 45.8**	**-1.8**
	0.4nm,0.2s						
SSF	**Saint Saulge**	**4.41**	**294**	*e*Pn	**Pn**	**21 47 59.9**	**-0.1**
SSF	**Saint Saulge**	**4.41**	**294**	*e*Pn	**Pn**	**21 47 59.9**	**-0.1**
AVF	**Avril sur Loir**	**4.43**	**291**	*e*Pn	**Pn**	**21 48 00.4**	**+0.2**
AVF	**Avril sur Loir**	**4.43**	**291**	*e*Pn	**Pn**	**21 48 00.4**	**+0.2**
CAF	**Calviac**	**5.21**	**267**	*e*Pn	**Pn**	**21 48 10.5**	**-0.4**
CAF	**Calviac**	**5.21**	**267**	*e*Pn	**Pn**	**21 48 10.5**	**-0.4**

*ISCJB **06** 21:48:09.0±0.8, 53.35N±0.04×7.08E±0.05, h0km, Error ellipse: s-maj=6.0km s-min=3.5km az=34.4*
*CSEM **06** 21:48:10.1±0.5, 53.35N×7.01E, h1km, ML2.2, Error ellipse: s-maj=8.7km s-min=5.3km az=34.0*
*BGR **06** 21:48:10.5±0.7, 53.37N×6.53E, h1km, ML2.8/5, Error ellipse: s-maj=7.8km s-min=5.6km az=110.0*
*BNS **06** 21:48:12.7±0.7, 53.23N×6.54E, h5km±78km, ML2.2*
ISC 06 21:48:11.4±0.8, 53.33N±0.02×6.81E±0.02, h0km, n48, σ1§65/77, The Netherlands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPY4	**Spijk (Roodesc**	**0.08**	**349**	*e*Pg	**Pg**	**21 48 13.2**	**+0.2**
	baz=166						
SPY4				*e*Sg	**Sg**	**21 48 15.6**	**+1.6**
SPY4	**Spijk (Roodesc**	**0.08**	**349**	*e*Pg	**Pg**	**21 48 13.2**	**+0.2**
SPY4				*e*Sg	**Sg**	**21 48 15.6**	**+1.6**
WDB4	**Woudbloem 4**	**0.13**	**200**	*e*Pg	**Pg**	**21 48 14.3**	**+0.4**
	baz=20						
WDB4				*e*Sg	**Sg**	**21 48 18.1**	**+2.6**
WDB4	**Woudbloem 4**	**0.13**	**200**	*e*Pg	**Pg**	**21 48 14.3**	**+0.4**
WDB4				*e*Sg	**Sg**	**21 48 18.1**	**+2.6**
ENM4	**Eenrum**	**0.21**	**291**	*e*Pg	**Pg**	**21 48 16.0**	**+0.5**
	baz=109						
ENM4				*e*Sg	**Sg**	**21 48 20.1**	**+1.9**
ENM4	**Eenrum**	**0.21**	**291**	*e*Pg	**Pg**	**21 48 16.0**	**+0.5**
ENM4				*e*Sg	**Sg**	**21 48 20.1**	**+1.9**
FSW4	**Finsterwolde 4**	**0.22**	**122**	*e*Pg	**Pg**	**21 48 16.5**	**+0.9**
	baz=304						
FSW4				*e*Sg	**Sg**	**21 48 21.1**	**+2.7**
FSW4	**Finsterwolde 4**	**0.22**	**122**	*e*Pg	**Pg**	**21 48 16.5**	**+0.9**
FSW4				*e*Sg	**Sg**	**21 48 21.1**	**+2.7**
ZLV4	**Zuidlaardervee**	**0.24**	**188**	*e*Pg	**Pg**	**21 48 16.8**	**+0.8**
	baz=8.3						
ZLV4				*e*Sg	**Sg**	**21 48 21.6**	**+2.5**
ZLV4	**Zuidlaardervee**	**0.24**	**188**	*e*Pg	**Pg**	**21 48 16.8**	**+0.8**
ZLV4				*e*Sg	**Sg**	**21 48 21.6**	**+2.5**
HWF4	**Haulerwijk**	**0.38**	**227**	*e*Pg	**Pg**	**21 48 19.6**	**+1.0**
	baz=46						
HWF4				*e*Sg	**Sb**	**21 48 27.3**	**-0.1**
HWF4	**Haulerwijk**	**0.38**	**227**	*e*Pg	**Pg**	**21 48 19.6**	**+1.0**
HWF4				*e*Sg	**Sb**	**21 48 27.3**	**-0.1**
SUH4	**Surhuizum**	**0.38**	**252**	*e*Pg	**Pg**	**21 48 19.7**	**+1.0**
	baz=70						
SUH4				*e*Sg	**Sg**	**21 48 25.6**	**+2.0**
SUH4	**Surhuizum**	**0.38**	**252**	*e*Pg	**Pg**	**21 48 19.7**	**+1.0**
SUH4				*e*Sg	**Sg**	**21 48 25.6**	**+2.0**
ENV4	**Elp / Enerveen**	**0.45**	**194**	*e*Pg	**Pg**	**21 48 21.0**	**+1.0**
	baz=14						
ENV4	**Elp / Enerveen**	**0.45**	**194**	*e*Pg	**Pg**	**21 48 21.0**	**+1.0**
WIT	**Witteveen**	**0.

baz=313,slow=75,SNR=26
H11N3 WAKE ISLAND Hy 27.70 121 T T 22 23 32.1
baz=313,slow=75,SNR=32
SONM Songino Array 28.25 304 P **P** **21 54 09.9 +0.2**
0.9nm,0.8s,baz=98,slow=9.1,SNR=5.3
H11S1 WAKE ISLAND Hy 28.39 123 T T 22 24 14.6
baz=315,slow=76,SNR=22
H11S3 WAKE ISLAND Hy 28.40 123 T T 22 24 24.6
baz=315,slow=76,SNR=22
H11S2 WAKE ISLAND Hy 28.41 123 T T 22 24 35.9
baz=315,slow=76,SNR=14
ZALV Zalesovo Beam 42.39 313 P **P** **21 56 12.1 +1.4**
1.0nm,0.4s,baz=106,slow=9.0,SNR=2.6
WRA Warramunga Arr 56.79 188 P **P** **21 58 00.9 +0.2**
0.8nm,0.8s,baz=0.6,slow=6.9,SNR=5.9
ASAR Alice Springs 60.51 188 P **P** **21 58 27.6 +0.9**
0.3nm,0.8s,baz=7.6,slow=7.7,SNR=3.5

*ISCJB **06** 22:21:45.7±0.6, 45˚01N±0˚04×107˚00W±0˚05, h0km, Error ellipse: s-maj=5.2km s-min=4.8km az=5.5*
*IDC **06** 22:21:48.0±1.5, 45˚05N×107˚04W, h0km, mb1 3.6/2, mb1mx3.3/43, mbtmp3.4/2, ML3.1/2, Error ellipse: s-maj=58.4km s-min=8.4km az=134.0*
*NEIC **06** 22:21:47.6±0.7, 45˚09N×106˚96W, h0km, ML2.6, Error ellipse: s-maj=10.2km s-min=9.0km az=128.0, Suspected Mining explosion.*
NEIC 32 km [20 miles] N of Sheridan.
ISC 06 22:21:47.2±0.9, 45˚06N±0˚03×106˚98W±0˚04, h0km, n13, σ1s37/27, Montana

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
RLMT	**Red Lodge**	**1.62**	**273**	*e*Pn		**Pn**		**22 22 17.5**	**+0.3**
RLMT				Sn		**Sn**		**22 22 38.1**	**-0.8**
LAO	**LASA Array**	**1.71**	**18**	*e*Pn		**Pn**		**22 22 18.6**	**+0.2**
LAO				*e*Sn		**Sg**		**22 22 41.7**	**-0.6**
FLWY	**Flagg Ranch**	**2.83**	**251**	*e*Pn		**Pn**		**22 22 34.1**	**+0.3**
FLWY				*e*Sn		**Sn**		**22 23 08.0**	**-0.8**
PDAR	**Pinedale Array**	**2.95**	**220**	Pn		**Pb**		**22 22 39.1**	**-1.7**
	3.1nm,0.3s,baz=48,slow=16,SNR=21								
PDAR				Lg		Lg		22 22 18.3	
	4.8nm,0.3s,baz=41,slow=32,SNR=14								
IMW	**Indian Meadow**	**3.06**	**249**	*e*Pn		**Pn**		**22 22 37.1**	**-0.1**
IMW				*e*Pg		**Pg**		**22 22 46.5**	**+0.6**
IMW				*e*Sn		**Sn**		**22 23 14.6**	**0.0**
SNOW	**Snow King Moun**	**3.15**	**241**	*e*Pn		**Pn**		**22 22 37.0**	**-1.3**
SNOW				Sn		**Sn**		**22 23 15.3**	**-1.3**
BOZ	**Bozeman (W)**	**3.32**	**281**	*e*Pn		**Pn**		**22 22 41.0**	**+0.4**
BOZ				*e*Pg		**Pg**		**22 22 51.3**	**+0.5**
BOZ				*e*Sn		**Sn**		**22 23 20.4**	**-0.5**
BOZ				*e*Sg		**Sg**		**22 23 34.0**	**0.0**
EGMT	**Eagleton**	**3.53**	**328**	*e*Pn		**Pn**		**22 22 43.8**	**+0.4**
EGMT				*e*Pg		**Pg**		**22 22 55.2**	**+0.3**
PHWY	**Pilot Hill**	**3.92**	**163**	*e*Pn		**Pn**		**22 22 49.8**	**+1.0**
PHWY				*e*Pg		**Pg**		**22 23 01.5**	**-0.7**
PHWY				*e*Sg		**Sg**		**22 23 51.5**	**-1.4**
DLMT	**Dillon**	**3.98**	**276**	*e*Pn		**Pn**		**22 22 50.3**	**+0.7**
DLMT				*e*Pg		**Pg**		**22 23 03.4**	**-0.1**
DLMT				*e*Sg		**Sg**		**22 23 55.4**	**+0.3**
ISCO	**Idaho Springs**	**5.35**	**169**	*e*Pn		**Pn**		**22 23 08.5**	**-0.1**
	2.8nm,0.7s								
ISCO				*e*Sg		**Sb**		**22 24 32.2**	**+5.6**
I10CA	**LAC DU BONNET**	**9.01**	**51**	*i*				23 19 30.0	
	baz=239,slow=312,SNR=1.7								
ULM	**Lac du Bonnet**	**9.12**	**51**	Pn		**Pn**		**22 23 59.3**	**-0.6**
	0.3nm,0.3s,baz=240,slow=12,SNR=3.8								
ULM				Lg		Lg		22 26 27.9	
	0.1nm,0.3s,baz=190,slow=6.2,SNR=4.2								

*NIED **06** 22:24:00, 36˚90N×141˚20E, h44km, Mw3.6 Best double couple: M₀3.35000×10¹⁴ NP1:φ₀99.00000°, δ25.00000°, λ155.00000°. NP2:φ₀213.00000°, δ79.00000°, λ67.00000°.*
*ISCJB **06** 22:24:04.2±1.0, 36˚86N±0˚04×141˚28E±0˚08, h38km±11km, mb3.5/3, Error ellipse: s-maj=11.2km s-min=6.3km az=7.1*
*JMA **06** 22:24:05.2±0.1, 36˚88N×141˚16E, h48km±1km, M3.6*
*IDC **06** 22:24:06.7±3.9, 36˚77N×141˚38E, h57km±33km, mb3.3/3, mb1 3.6/7, mb1mx3.3/41, mbtmp3.7/7, ML3.1/4, Error ellipse: s-maj=32.8km s-min=13.2km az=64.0*
ISC 06 22:24:04.8±1.6, 36˚88N±0˚04×141˚29E±0˚08, h31km±9km, n22, σ1s67/27, mb3.6/3, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
ONAJ	**Iwakimizuishiy**	**0.45**	**299**	P		**Pb**		**22 24 14.6**	**+0.1**
ONAJ				S		**Sb**		**22 24 21.2**	**0.0**
JFK	**Kawauchi**	**0.59**	**325**	P		**Pb**		**22 24 16.5**	**-0.2**
JFK				S		**Sb**		**22 24 24.4**	**-0.5**
JHO	**Hitachi**	**0.64**	**245**	P		**Pb**		**22 24 16.7**	**-0.8**
JHO				S		**Sb**		**22 24 24.8**	**-1.4**
JFT	**Otama**	**0.99**	**310**	P		**Pn**		**22 24 22.7**	**+0.1**
JFT				S		**Sn**		**22 24 34.6**	**-1.0**
JMM	**Marumori**	**1.06**	**338**	P		**Pn**		**22 24 23.0**	**-0.5**
JMM				S		**Sn**		**22 24 35.8**	**-1.4**
JSB	**Shiboa**	**1.10**	**275**	P		**Pn**		**22 24 23.7**	**-0.4**
JSB				S		**Sn**		**22 24 36.7**	**-1.6**
JFY	**Yanaizu**	**1.37**	**293**	P		**Pn**		**22 24 27.5**	**-0.3**
JFY				S		**Sn**		**22 24 43.9**	**-1.1**
JAG	**Ashikaga**	**1.55**	**253**	P		**Pn**		**22 24 29.3**	**-0.9**
JAG				S		**Sn**		**22 24 46.9**	**-2.4**
MJAR	**Matsushiro Arr**	**2.50**	**263**	P		**Pn**		**22 24 43.7**	**+0.3**
	5.5nm,0.3s,baz=87,slow=15,SNR=30								
MJAR				S		**Sn**		**22 25 15.9**	**+3.0**
	13nm,0.3s,baz=56,slow=24,SNR=13								
MAT	**Matsushiro**	**2.50**	**263**	P		**Pn**		**22 24 43.9**	**+0.5**
MAT				S		**Sn**		**22 25 14.1**	**+1.2**
JHJ	**Hachijo jima 2**	**3.95**	**199**	P		**Pn**		**22 25 04.7**	**+1.4**
	14nm,0.3s,baz=120,slow=21,SNR=8.0								
JHJ				S		**Sn**		**22 25 48.2**	**-0.4**
	26nm,0.3s,baz=187,slow=23,SNR=9.2								
USRK	**Ussuriysk Ar.**	**10.17**	**319**	P		**Pn**		**22 26 32.1**	**+3.5**
	0.2nm,0.3s,baz=141,slow=13,SNR=5.9								
KSRS	**Korea Array**	**10.69**	**277**	P		**Pn**		**22 26 39.6**	**+3.9**
	0.2nm,0.3s,baz=90,slow=13,SNR=4.2								
SONM	**Songino Array**	**27.79**	**304**	P		**P**		**22 29 52.2**	**+1.2**
	0.5nm,0.5s,baz=105,slow=11,SNR=3.2								
H11N2	**WAKE ISLAND Hy 28.15 120**			T		T		22 59 29.5	
	baz=313,slow=75,SNR=16								
H11N1	**WAKE ISLAND Hy 28.16 120**			T		T		22 59 50.7	
	baz=313,slow=75,SNR=18								
H11N3	**WAKE ISLAND Hy 28.17 120**			T		T		22 59 37.4	
	baz=313,slow=75,SNR=16								
H11S1	**WAKE ISLAND Hy 28.86 122**			T		T		23 00 14.6	
	baz=312,slow=75,SNR=41								
H11S3	**WAKE ISLAND Hy 28.86 123**			T		T		23 00 25.2	
	baz=312,slow=75,SNR=23								
H11S2	**WAKE ISLAND Hy 28.88 123**			T		T		23 00 22.0	
	baz=312,slow=75,SNR=22								
ZALV	**Zalesovo Beam**	**41.95**	**313**	P		**P**		**22 31 51.5**	**-1.0**
	0.5nm,0.4s,baz=65,slow=14,SNR=3.6								
WRA	**Warramunga Arr**	**56.90**	**188**	P		**P**		**22 33 44.9**	**-1.9**
	0.5nm,0.7s,baz=5.8,slow=7.5,SNR=5.8								

*NIED **06** 22:27:00, 42˚20N×142˚50E, h8km, Mw4.4 Best double couple: M₀3.96000×10¹⁵ NP1:φ₀315.00000°, δ28.00000°, λ108.00000°. NP2:φ₀116.00000°, δ63.00000°, λ81.00000°.*
*IDC **06** 22:27:21.5±0.8, 42˚21N×142˚63E, h0km, mb4.0/14, mb1 4.3/17, mb1mx4.1/36, mbtmp4.0/17, ML5.2/1, MS3.5/7, Ms1 3.5/7, ms1mx3.1/31, Error ellipse: s-maj=22.1km s-min=15.8km az=128.0*
*ISCJB **06** 22:27:23.4±0.6, 42˚22N±0˚03×142˚51E±0˚04, h16km±4km, mb4.6/58, MS3.8/9, Error ellipse: s-maj=5.7km s-min=4.0km az=143.3*
*JMA **06** 22:27:24.8±0.1, 42˚25N×142˚59E, h10km±2km, M4.3*
JMA Felt IV J1.
*MOS **06** 22:27:25.6±1.4, 42˚34N×142˚50E, h33km, mb4.6/24, Error ellipse: s-maj=9.4km s-min=5.8km az=88.7*
*BJI **06** 22:27:25.0, 42˚18N×142˚87E, h51km, mb4.5/30, mB4.7/10, Ms4.2/22, Ms7 4.0/20*
*NEIC **06** 22:27:25.1±0.8, 42˚24N×142˚52E, h18km±5km, mb4.8/26, Error ellipse: s-maj=8.4km s-min=5.4km az=138.0*
NEIC Recorded [4 JMA] in southern Hokkaido.
ISC 06 22:27:24.8±0.6, 42˚25N±0˚04×142˚61E±0˚03, h14km±3km, n159, σ1s82/159, mb4.6/58, MS3.7/10, 10C-6D, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
JNBK	**Urakawa-nobuka**	**0.11**	**76**	⇓P		**Pg**		**22 27 27.7**	**-0.4**
JNBK				*e*S		**Sb**		**22 27 31.6**	**+0.3**
ERM	**Erimo**	**0.47**	**120**	*d* iPN		**Pg**		**22 27 34.0**	**-0.1**
ERM	**Erimo**	**0.47**	**120**	*e*Pg		**Pg**		**22 27 34.0**	**-0.1**
ERM				*e*Sn		**Sg**		**22 27 38.8**	**-1.8**
JEM	**Erimo**	**0.47**	**120**	⇑P		**Pg**		**22 27 33.8**	**-0.4**
JBT2	**Biratori 2**	**0.56**	**341**	⇑P		**Pg**		**22 27 35.2**	**-0.5**
JCH	**Churui**	**0.67**	**57**	⇓P		**Pg**		**22 27 37.6**	**-0.2**
JFR	**Furan**	**0.91**	**359**	P		**Pb**		**22 27 41.4**	**-0.9**
JEW	**Eniwo**	**1.04**	**305**	P		**Pb**		**22 27 43.6**	**-0.9**
ASAJ	**Asahikawa**	**1.86**	**360**	Pn		**Pn**		**22 27 56.5**	**+0.3**
ASAJ	**Asahikawa**	**1.86**	**360**	*e*Pn		**Pn**		**22 27 56.1**	**-0.1**
YUK	**Yuzh-Kuril'sk**	**2.97**	**52**	*e*PN		**Pn**		**22 28 12.2**	**+0.7**
YSS	**Yuzh-Sakhalins**	**4.70**	**1**	⇓*e*PN		Pn		22 28 41.0	+5.8
YSS				*e*S		**Sb**		**22 29 38.2**	**-5.1**
YSS				pmax		pmax			
	comp=Z,50nm,1.2s								
YSS				MLR		MLR			
	comp=Z,1μm,11.0s								
YSS				MLR		MLR			
	comp=N,950nm,12.0s								
YSS	**Yuzh-Sakhalins**	**4.70**	**1**	*e*Pn		**Pn**		**22 28 35.6**	**+0.4**
KUR	**Kuril'sk**	**4.84**	**50**	PN		**Pn**		**22 28 38.4**	**+1.4**
KUR				S		**Sn**		**22 29 37.7**	**+4.9**
KUR				MLR		MLR			
	comp=E,1μm,8.0s								
KUR				MLR		MLR			
	comp=Z,998nm,8.0s								
MJB9	**Matsu-Tunnel**	**6.64**	**212**	*e*Pn		**Pn**		**22 28 60.0**	**-1.9**
MAJO	**Matsushiro**	**6.64**	**212**	*d* iPN		**Pn**		**22 29 02.4**	**+0.5**
MAJO	**Matsushiro**	**6.64**	**212**	*e*Pn		**Pn**		**22 29 02.2**	**+0.3**
MAT	**Matsushiro**	**6.64**	**212**	P		**Pn**		**22 29 02.1**	**+0.2**
MAT				*e*S		**Sn**		**22 30 17.0**	**-0.4**
MJAR	**Matsushiro Arr**	**6.64**	**212**	Pn		**Pn**		**22 29 01.8**	**-0.1**
	comp=Z,0.5nm,0.3s,baz=23,slow=15,SNR=5.6								
UGL	**Uglegorsk**	**6.84**	**357**	*e*PN		**Pn**		**22 29 03.4**	**-1.1**
UGL				*e*SS		Sb		22 30 33.5	-11
USRK	**Ussuriysk Ar.**	**8.00**	**288**	Pn		**Pn**		**22 29 23.6**	**+3.2**
	comp=Z,0.1nm,0.3s,baz=106,slow=14,SNR=3.7								
INU	**Inuyama**	**8.16**	**214**	*e*Pn		**Pn**		**22 29 22.9**	**+0.2**
HABR	**Khabarovsk**	**8.18**	**322**	*e*PN		**Pn**		**22 29 21.9**	**-1.0**
HABR				*e*SS		Sn		22 31 06.5	+11
HABR				pmax		pmax			
	comp=N,56nm,2.0s								
HABR				pmax		pmax			
	comp=E,65nm,2.0s								
HABR				pmax		pmax			
	comp=Z,75nm,2.0s								
HABR				MLR		MLR			
	comp=Z,192nm,14.0s								
KLR	**Kul'dur**	**10.30**	**316**	LR		LR		22 34 20.1	
	comp=Z,245nm,18.1s,baz=122,slow=40								
KLR	**Kul'dur**	**10.30**	**316**	*i* PN		**Pn**		**22 29 53.0**	**+1.0**
OKH	**Okha**	**11.31**	**1**	⇑*i* PN		**Pn**		**22 30 05.0**	**-0.7**
OKH				pmax		pmax			
	comp=Z,200nm,7.7s								
OKH				MLR		MLR			
	comp=Z,500nm,14.0s								
KSRS	**Korea Array**	**12.26**	**252**	Pn		**Pn**		**22 30 20.9**	**+2.1**
	comp=Z,0.3nm,0.3s,baz=66,slow=14,SNR=14								
KSRS				LR		LR		22 34 52.7	
	comp=Z,110nm,18.8s,baz=68,slow=37								
KSAR	**Wonju Array Be**	**12.29**	**252**	PN		**Pn**		**22 30 20.9**	**+1.6**
KSAR	**Wonju Array Be**	**12.29**	**252**	Pn		**Pn**		**22 30 20.9**	**+1.6**
SKR	**Severo-Kuril's**	**12.55**	**43**	*e*PN		Pn		22 30 09.6	-13
SKR				pmax		pmax			
	comp=Z,80nm,1.3s								
SKR				pmax		pmax			
	comp=Z,600nm,2.4s								
SKR				MLR		MLR			
	comp=Z,700nm,16.0s								
PEA0	**Petropavlovsk-**	**14.84**	**38**	*e*Pn		**Pn**		**22 30 49.9**	**-4.1**
PETK	**Petropavlovsk-**	**14.84**	**38**	Pn		**Pn**		**22 30 52.7**	**-1.3**
	comp=Z,0.7nm,0.3s,baz=224,slow=4.0,SNR=3.1								
PEA1	**Petropavlovsk-**	**14.84**	**38**	*e*Pn		**Pn**		**22 30 52.8**	**-1.3**
MA2	**Magadan**	**18.07**	**13**	P		**Pn**		**22 31 32.9**	**-2.2**
	comp=Z,0.8nm,0.3s,baz=228,slow=11,SNR=6.5								
JOW	**Kunigami**	**19.35**	**222**	LR		LR		22 39 57.1	
	comp=Z,116nm,20.2s,baz=124,slow=39								
JOW	**Kunigami**	**19.35**	**222**	*e*P		**P**		**22 31 44.6**	**-5.1**
	comp=Z,32nm,1.4s								
BJI	**Beijing**	**20.00**	**273**	P		**P**		**22 31 57.0**	**+0.2**
BJI				S		Sn		22 35 42.5	-0.7
BJI				pmax		pmax			
	comp=Z,6.0nm,0.8s								
BJI				LR		LR			
	comp=Z,180nm,12.1s								
BJI				LR		LR			
	comp=Z,370nm,15.3s								
BJI				LR		LR			
	comp=Z,170nm,16.3s								
YAK	**Yakutsk**	**21.26**	**343**	*i* P		**P**		**22 32 11.3**	**+1.1**
YAK				pmax		pmax			
	comp=Z,16nm,2.0s								
SEY	**Seymchan**	**21.50**	**12**	P		**P**		**22 32 11.2**	**-1.6**
	comp=Z,11nm,1.0s,baz=197,slow=8.8,SNR=14								
HHC	**Hu-ho-hao-te**	**23.21**	**277**	*e*P		**P**		**22 32 33.1**	**+1.8**
HHC				PP		PnPn		22 33 07.9	+11
HHC				S		**S**		**22 36 40.5**	**-2.3**
HHC				SS		**SnSn**		**22 37 23.5**	**+7.1**
HHC				pmax		pmax			
	comp=Z,16nm,1.4s								
HHC				pmax		pmax			
	comp=Z,65nm,4.7s								
HHC				LR		LR			
	comp=Z,140nm,14.9s								
HHC				LR		LR			
	comp=Z,310nm,13.7s								
HHC				LR		LR			
	comp=Z,150nm,11.2s								
TATO	**Taipei**	**24.52**	**232**	*e*P		**P**		**22 32 41.8**	**-1.8**
	comp=Z,63nm,1.3s								
NACB	**Ninganchiao**	**25.07**	**231**	*e*P		**P**		**22 32 47.1**	**-1.6**
	comp=Z,10nm,0.8s								
ULN	**Ulaanbaatar**	**25.58**	**295**	*i* P		**P**		**22 32 51.5**	**-1.8**
YULB	**Yu-li**	**25.85**	**230**	*e*P		**P**		**22 32 54.9**	**-0.9**
	comp=Z,9.3nm,1.1s								
SONA1	**Songino Array**	**26.02**	**295**	*e*P		**P**		**22 32 58.2**	**+0.9**
SONA0	**Songino Array**	**26.02**	**295**	*e*P		**P**		**22 32 57.8**	**+0.5**
	comp=Z,4.7nm,1.0s								
SONM	**Songino Array**	**26.02**	**295**	P		**P**		**22 32 57.8**	**+0.5**
	comp=Z,3.3nm,0.9s,baz=88,slow=7.2,SNR=9.8								
SONM				LR		LR		22 44 09.0	
	comp=Z,112nm,18.1s,baz=60,slow=39								
SONM	**Songino Array**	**26.02**	**295**	P		**P**		**22 32 57.8**	**+0.5**
SONM				pmax		pmax			
	comp=Z,2.0nm,0.8s								
SONM				MLR		MLR			
	comp=Z,112nm,18.1s								
TLY	**Talaya**	**27.91**	**303**	*e*P		**P**		**22 33 12.9**	**-1.3**
TLY				pmax		pmax			
	comp=Z,5.0nm,1.0s								
TLY	**Talaya**	**27.91**	**303**	*e*P		**P**		**22 33 12.9**	**-1.3**
	comp=Z,4.9nm,1.0s								
BILL	**Bilibino**	**28.78**	**18**	*e*P		**P**		**22 33 17.7**	**-4.0**
BILL				*e*				22 34 10.1	
BILL				pmax		pmax			
	comp=Z,4.0nm,1.1s								
H11N2	**WAKE ISLAND Hy 30.43 130**			T		T		23 06 52.5	
	baz=321,slow=75,SNR=34								
H11N1	**WAKE ISLAND Hy 30.44 130**			T		T		23 06 53.3	
	baz=321,slow=75,SNR=7.0								
H11N3	**WAKE ISLAND Hy 30.44 130**			T		T		23 06 53.6	
	baz=321,slow=75,SNR=37								
LZH	**Lanzhou**	**30.48**	**271**	*e*P		**P**		**22 33 38.0**	**+0.7**
LZH				pP		sP		22 33 51.8	+8.3
LZH				sP		pP		22 33 58.5	+17
LZH				PP		**PnPn**		**22 34 40.2**	**+4.2**
LZH				pmax		pmax			
	comp=Z,23nm,1.2s								
LZH				pmax		pmax			
	comp=Z,81nm,5.3s								
LZH				LR		LR			
	comp=Z,320nm,12.7s								
LZH				LR		LR			
	comp=Z,360nm,13.1s								
LZH				LR		LR			
	comp=Z,430nm,16.5s								
H11S1	**WAKE ISLAND Hy 31.29 132**			T		T		23 07 55.1	
	baz=322,slow=76,SNR=38								
H11S3	**WAKE ISLAND Hy 31.30 132**			T		T		23 07 54.2	
	baz=322,slow=76,SNR=25								
H11S2	**WAKE ISLAND Hy 31.31 132**			T		T		23 07 57.6	
	baz=322,slow=76,SNR=23								
CD2	**Chengdu**	**32.92**	**263**	*e*P		**P**		**22 33 56.8**	**-1.9**
CD2				pmax		pmax			
	comp=Z,10.0nm,0.8s								
GYA	**Guiyang**	**33.31**	**253**	*e*P		**P**		**22 34 01.8**	**-0.4**
GYA				pmax		pmax			
	comp=Z,10.0nm,0.9s								
NIKH	**Nikolski High**	**33.82**	**55**	*e*P		**P**		**22 34 06.3**	**+0.2**
	comp=Z,351nm,1.0s								
QIZ	**Qiongzhong**	**36.12**	**240**	P		**P**		**22 34 24.4**	**-2.0**
QIZ				S		**S**		**22 40 03.1**	**-2.5**
QIZ				pmax		pmax			
	comp=Z,6.0nm,1.1s								
QIZ				LR		LR			
	comp=Z,130nm,14.8s								
QIZ				LR		LR			
	comp=Z,120nm,13.5s								
QIZ				LR		LR			
	comp=Z,160nm,14.8s								
KMI	**Kunming**	**36.92**	**255**	P		**P**		**22 34 32.3**	**-1.2**
KMI				pmax		pmax			
	comp=Z,5.0nm,0.5s								
PATS	**Pohnpei**	**37.91**	**154**	*e*P		P		22 34 34.8	-6.8
	comp=Z,175nm,1.9s								
NRIK	**Noril'sk**	**38.99**	**332**	LR		LR		22 51 26.1	
	comp=Z,102nm,18.0s,baz=110,slow=37								
ZAA1	**Zalesovo Array**	**39.26**	**308**	*e*P		**P**		**22 34 51.6**	**-0.9**
ZAA1				*e*PcP		**PcP**		**22 37 00.3**	**-0.9**
ZAA0	**Zalesovo Array**	**39.26**	**308**	*e*P		**P**		**22 34 52.0**	**-0.5**
ZALV	**Zalesovo Beam**	**39.26**	**308**	P		**P**		**22 34 51.6**	**-0.9**
	comp=Z,2.5nm,0.7s,baz=92,slow=7.6,SNR=7.1								
ZALV				PcP		**PcP**		**22 37 00.3**	**-0.9**
	comp=Z,1.2nm,0.7s,baz=85,slow=2.4,SNR=4.2								
ZALV				LR		LR		22 52 00.5	
	comp=Z,79nm,20.7s,baz=91,slow=38								
WMQ	**Urumqi**	**39.54**	**292**	*e*P		**P**		**22 34 56.0**	**+0.8**
WMQ				pP		sP		22 35 10.2	+8.8
WMQ				pmax		pmax			
	comp=Z,6.0nm,0.7s								
WMQ				pmax		pmax			
	comp=Z,74nm,5.3s								
WMQ				LR		LR			
	comp=Z,41nm,15.9s								
WMQ				LR		LR			
	comp=Z,120nm,17.5s								
WMQ				LR		LR			
	comp=Z,70nm,15.9s								
CHGN	**Chignik**	**39.69**	**48**	*e*P		P		22 34 50.0	-6.1
	comp=Z,80nm,0.7s								
MK01	**Makanchi Array**	**42.32**	**298**	*e*P		**P**		**22 35 15.7**	**-2.3**
MK31	**Makanchi Array**	**42.32**	**298**	*e*P		**P**		**22 35 17.3**	**-0.7**
MK31	**Makanchi Array**	**42.32**	**298**	*e*P		**P**		**22 35 17.3**	**-0.7**
MKAR	**Makanchi Array**	**42.32**	**298**	*e*P		**P**		**22 35 16.8**	**-1.2**
MKAR				pmax		pmax			
	comp=Z,22nm,0.9s								
MKAR	**Makanchi Array**	**42.32**	**298**	*e*P		**P**		**22 35 16.8**	**-1.2**
	comp=Z,22nm,0.9s								
CAST	**Castle Rocks**	**42.45**	**37**	*e*P		**P**		**22 35 21.4**	**+2.5**
	comp=Z,42nm,1.8s								
HOM	**Homer**	**42.95**	**43**	*e*P		P		22 35 17.6	-5.2
	comp=Z,690nm,1.6s								
COLD	**Coldfoot**	**43.19**	**32**	*e*P		**P**		**22 35 25.5**	**+0.8**
	comp=Z,18nm,1.6s								
KURK	**Kurchatov**	**43.60**	**304**	*ce*P		**P**		**22 35 27.0**	**-1.2**
KURK				pmax		pmax			
	comp=Z,17nm,1.0s								
KURK	**Kurchatov**	**43.60**	**304**	*e*P		**P**		**22 35 28.1**	**-0.1**
	comp=Z,7.6nm,0.9s								
MCK	**McKinley**	**43.84**	**37**	*e*P		P		22 35 36.9	+6.9
MCK	**McKinley**	**43.84**	**37**	*e*pP		pP		22 35 36.9	+2.4
CM31	**Chiang Mai Arr**	**43.90**	**251**	*e*P		**P**		**22 35 30.7**	**-0.3**
CMAR	**Chiang Mai Arr**	**43.90**	**251**	P		**P**		**22 35 30.7**	**-0.3**
	comp=Z,0.6nm,0.3s,baz=39,slow=7.9,SNR=5.7								
CMAR	**Chiang Mai Arr**	**43.90**	**251**	*ce*P		**P**		**22 35 31.5**	**+0.6**
CMAR				pmax		pmax			
	comp=Z,1.0nm,0.3s								
WRH	**Wood River Hil**	**44.16**	**36**	*e*P		**P**		**22 35 31.7**	**-0.8**
	comp=Z,24nm,1.7s								
COLA	**College**	**44.23**	**35**	*i* P		**P**		**22 35 34.1**	**+1.1**
COLA				pmax		pmax			
	comp=Z,10.0nm,0.9s								
IL1	**Eielson Array**	**44.65**	**35**	*e*P		**P**		**22 35 35.8**	**-0.6**
ILAR	**Eielson Array**	**44.65**	**35**	P		**P**		**22 35 35.8**	**-0.6**
	comp=Z,4.5nm,0.9s,baz=268,slow=6.1,SNR=20								
ILAR				LR		LR		22 54 25.7	
	comp=Z,38nm,20.6s,baz=236,slow=36								
ILB	**Eielson Array**	**44.65**	**35**	*e*P		**P**		**22 35 36.8**	**+0.4**
BRVK	**Borovoye**	**47.92**	**309**	*ce*P		**P**		**22 36 02.7**	**+0.4**
BRVK				pmax		pmax			
	comp=Z,9.0nm,1.0s								
BRVK	**Borovoye**	**47.92**	**309**	*e*P		**P**		**22 36 01.9**	**-0.3**
	comp=Z,5.4nm,1.0s								
KSH	**Kashi**	**49.28**	**290**	*e*P		**P**		**22 36 15.6**	**+2.5**
KSH				pP		sP		22 36 31.0	+12
KSH				PP		**PP**		**22 38 12.1**	**+5.2**
KSH				S		**S**		**22 43 20.1**	**+1.2**
KSH				sS		sS		22 43 47.0	+21
KSH				SS		**SS**		**22 46 50.1**	**+0.1**
KSH				pmax		pmax			
	com

JCC	**Jacoby Creek,**	**66.22**	**56**	*e*P		**P**	**22 38 12.6**	**+0.6**
E09A	**Wood Farm, Sta**	**66.29**	**48**	*e*P		**P**	**22 38 14.3**	**+1.9**
	comp=Z,9.8nm,1.1s							
JTMT	**Jette**	**67.62**	**45**	*e*P		**P**	**22 38 22.9**	**+1.9**
YBMT	**Yellow Bay**	**67.69**	**45**	*e*P		**P**	**22 38 24.0**	**+2.5**
SWMT	**Swartz Lake**	**67.92**	**45**	*e*P		**P**	**22 38 24.9**	**+2.0**
NB2	**NORSAR Subarra**	**69.74**	**337**	P		**P**	**22 38 32.5**	**-1.4**
	comp=Z,5.1nm,1.0s,baz=35,slow=6.5							
NB200	**NORSAR Array S**	**69.74**	**337**	*e*P		**P**	**22 38 32.1**	**-1.8**
NOA	**NORSAR Array B**	**69.74**	**337**	P		**P**	**22 38 32.1**	**-1.8**
	comp=Z,2.6nm,0.7s,baz=36,slow=6.2,SNR=5.3							
BOZ	**Bozeman (W)**	**70.40**	**46**	*e*P		**P**	**22 38 39.8**	**+1.4**
BOZ				pmax	pmax			
	comp=Z,15nm,1.6s							
BOZ	**Bozeman (W)**	**70.40**	**46**	*e*P		**P**	**22 38 39.8**	**+1.4**
	comp=Z,15nm,1.6s							
ANN	**Anapa**	**70.60**	**313**	*e*P		**P**	**22 38 40.5**	**+1.2**
ANN				pmax	pmax			
	comp=Z,26nm,0.9s							
AKASG	**Malin Array Be**	**70.75**	**322**	P		**P**	**22 38 38.3**	**-1.8**
	comp=Z,0.3nm,0.3s,baz=42,slow=6.8,SNR=5.9							
AKASG	**Malin Array Be**	**70.75**	**322**	*ce*P		**P**	**22 38 41.7**	**+1.5**
AKASG				pmax	pmax			
	comp=Z,1.0nm,0.4s							
AKBB	**Malin Array Si**	**70.75**	**322**	*e*P		**P**	**22 38 38.3**	**-1.8**
AKBB				pmax	pmax			
	comp=Z,17nm,1.8s							
AKBB	**Malin Array Si**	**70.75**	**322**	*e*P		**P**	**22 38 38.3**	**-1.8**
	comp=Z,17nm,1.8s							
KIEV	**Kiev**	**70.77**	**322**	*i* P		**P**	**22 38 39.5**	**-0.7**
KIEV				pmax	pmax			
	comp=Z,3.0nm,1.1s							
TPNV	**Topopah Spring**	**73.38**	**55**	*e*P		**P**	**22 38 58.1**	**+1.7**
TPNV				pmax	pmax			
	comp=Z,5.0nm,1.0s							
TPNV	**Topopah Spring**	**73.38**	**55**	*e*P		**P**	**22 38 58.1**	**+1.7**
	comp=Z,4.7nm,1.0s							
BW06	**Boulder Array**	**73.39**	**47**	*e*P		**P**	**22 38 56.5**	**+0.1**
PD31	**Pinedale Array**	**73.39**	**47**	*e*P		**P**	**22 38 56.3**	**-0.2**
PDAR	**Pinedale Array**	**73.39**	**47**	P		**P**	**22 38 56.3**	**-0.2**
	comp=Z,1.0nm,0.8s,baz=304,slow=6.3,SNR=7.8							
CCCA	**Chr Cany lake**	**73.62**	**57**	*e*P		**P**	**22 38 56.4**	**-1.2**
CLTC	**Calectric**	**74.57**	**58**	*e*P		**P**	**22 39 05.4**	**+2.2**
BUR08	**Bucovina Ar. S**	**74.78**	**322**	*e*P		**P**	**22 39 05.7**	**+1.3**
BR101	**Keskin Array S**	**76.09**	**311**	*e*P		**P**	**22 39 12.4**	**+0.4**
BRTR	**Keskin Array B**	**76.09**	**311**	P		**P**	**22 39 12.4**	**+0.4**
	comp=Z,0.7nm,0.7s,baz=60,slow=4.9,SNR=4.0							
BRTR	**Keskin Array B**	**76.09**	**311**	*i* P		**P**	**22 39 16.1**	**+4.1**
BRTR				pmax	pmax			
	comp=Z,1.0nm,0.7s							
DPC	**Dobruska-Polom**	**76.53**	**328**	*e*P		**P**	**22 39 16.8**	**+2.6**
DPC				*ep*P		**sP**	**22 39 22.5**	**+1.8**
DPC	**Dobruska-Polom**	**76.53**	**328**	*e*P		**P**	**22 39 16.8**	**+2.6**
DPC				*e*			22 39 22.5	
CLL	**Collm**	**77.03**	**330**	*i* P		**P**	**22 39 20.7**	**+3.8**
KHC	**Kasperske Hory**	**78.58**	**329**	*ep*P		pP	22 39 33.1	+2.7
KHC	**Kasperske Hory**	**78.58**	**329**	*e*P		P	22 39 33.1	+7.4
ANMO	**Albuquerque**	**80.56**	**51**	*ce*P		**P**	**22 39 38.3**	**+1.4**
ANMO				pmax	pmax			
	comp=Z,2.0nm,1.3s							
FUORN	**Ofenpass-Fuorn**	**81.91**	**329**	*e*P		**P**	**22 39 44.4**	**+0.5**
	comp=Z,10nm,1.3s							
LTX	**Lajitas**	**86.23**	**53**	*e*P		**P**	**22 40 06.7**	**+0.6**
LTX	**Lajitas**	**86.23**	**53**	*e*P		**P**	**22 40 06.7**	**+0.6**
TX31	**Lajitas Ar. Si**	**86.23**	**53**	*e*P		**P**	**22 40 07.2**	**+1.1**
TXAR	**Lajitas Array**	**86.23**	**53**	P		**P**	**22 40 06.7**	**+0.7**
	comp=Z,1.4nm,0.8s,baz=303,slow=2.9,SNR=5.1							
PBMO	**Poglar Bluff**	**87.65**	**40**	*e*P		**P**	**22 40 13.6**	**+0.9**
	comp=Z,16nm,1.4s							
HALT	**Halls**	**88.87**	**40**	*e*P		**P**	**22 40 16.7**	**-1.8**
	comp=Z,297nm,0.6s							
SNAA	**Sanae**	**145.99**	**199**	PKP		**PKPdf**	**22 47 00.3**	**-1.6**
VNA2	**Neumayer--Watz**	**147.57**	**198**	PKP		**PKPbc**	**22 47 06.3**	**-0.9**
	baz=96,slow=1.1							
VNA3	**Neumayer Olymp**	**147.83**	**196**	PKP		**PKPdf**	**22 47 05.4**	**+0.4**

NIED ***06*** *22:43:00, 36.°60N×141.°80E, h26km, Mw4.5 Best double couple: M0 6.57000×10^15 NP1:φs330.00000°, δ40.00000°, λ-124.00000°. NP2:φs191.00000°, δ58.00000°, λ-65.00000°.*

NEIC ***06*** *22:43:47.8±2.8, 36.°58N×141.°69E, h15km±17km, mb4.7/28, Error ellipse: s-maj=7.1km s-min=5.5km az=118.0*

NEIC Recorded [2 JMA] in Fukushima.

ISCJB ***06*** *22:43:48.0±0.2, 36.°57N±0.°03×141.°66E±0.°04, h26km, mb4.5/47, MS3.9/13, Error ellipse: s-maj=4.7km s-min=4.2km az=154.4*

JMA ***06*** *22:43:47.1±0.2, 36.°63N×141.°76E, h54km±5km, M4.5*

JMA Felt II J1.

MOS ***06*** *22:43:48.6±1.5, 36.°60N×141.°76E, h33km, mb4.6/21, Error ellipse: s-maj=10.0km s-min=7.6km az=110.2*

IDC ***06*** *22:43:50.7±4.1, 36.°58N×141.°68E, h36km±33km, mb3.9/14, mb1 4.2/17, mb1mx4.0/32, mbtmp4.2/17, ML4.1/3, MS3.8/20, Ms1 3.8/20, ms1mx3.6/40, Error ellipse: s-maj=22.6km s-min=15.6km az=81.0*

ISC 06 22:43:49.5±0.5, 36.°63N±0.°05×141.°71E±0.°06, h26km, n143, σ1§64/136, mb4.5/47, MS3.9/13, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
ONAJ	**Iwakimizuishiy**	**0.87**	**303**	P		**Pb**	**22 44 03.4**	**-2.6**
JHO	**Hitachi**	**0.92**	**269**	P		**Pn**	**22 44 04.2**	**-2.5**
JFK	**Kawauchi**	**0.99**	**318**	P		**Pn**	**22 44 05.0**	**-2.8**
JFT	**Otama**	**1.41**	**309**	P		**Pn**	**22 44 12.2**	**-1.3**
JMM	**Marumori**	**1.43**	**330**	P		**Pn**	**22 44 11.8**	**-2.4**
JMM				S		**Sn**	**22 44 28.6**	**-3.2**
JAG	**Ashikaga**	**1.83**	**264**	P		**Pn**	**22 44 17.7**	**-1.6**
JIO	**Ouri**	**1.84**	**351**	P		**Pn**	**22 44 16.9**	**-2.6**
JOU	**Okura**	**1.92**	**335**	P		**Pn**	**22 44 19.4**	**-1.2**
MJAR	**Matsushiro Arr**	**2.82**	**269**	Pn		**Pn**	**22 44 32.4**	**-0.5**
	55nm,0.3s,baz=101,slow=10,SNR=146							
MJAR				LR		LR	22 45 41.8	
	comp=Z,702nm,18.5s,baz=115,slow=40							
MAJO	**Matsushiro**	**2.82**	**269**	*e*P		**Pn**	**22 44 33.0**	**+0.1**
MAJO				*e*			22 45 07.4	
MAJO	**Matsushiro**	**2.82**	**269**	*e*Pn		**Pn**	**22 44 33.0**	**+0.1**
MAJO				*e*Sn		**Sn**	**22 45 07.4**	**+1.3**
MAT	**Matsushiro**	**2.82**	**269**	P		**Pn**	**22 44 33.0**	**+0.1**
MAT				S		**Sn**	**22 45 04.8**	**-1.3**
MJB9	**Matsu-Tunnel**	**2.82**	**269**	*e*Pn		**Pn**	**22 44 33.0**	**+0.1**
JHJ2	**Mitsune**	**3.84**	**204**	*e*Pn		**Pn**	**22 44 46.6**	**-0.3**
JHJ	**Hachijo jima 2**	**3.84**	**205**	Pn		**Pn**	**22 44 46.5**	**-0.5**
	69nm,0.3s,baz=320,slow=23,SNR=32							
JHJ				Sn		**Sn**	**22 45 29.8**	**-1.5**
	106nm,0.3s,baz=73,slow=22,SNR=6.6							
JHJ				LR		LR	22 46 39.3	
	comp=Z,1μm,18.5s,baz=92,slow=45							
INU	**Inuyama**	**4.01**	**253**	*e*Pn		**Pn**	**22 44 50.1**	**+0.8**
ERM	**Erimo**	**5.49**	**11**	*e*P		**Pn**	**22 45 07.1**	**-2.5**
ERM				*e*			22 46 09.7	
ERM	**Erimo**	**5.49**	**11**	*e*Pn		**Pn**	**22 45 07.1**	**-2.5**
ERM				*e*Sn		**Sn**	**22 46 09.7**	**-2.2**
ASAJ	**Asahikawa**	**7.51**	**5**	Pn		**Pn**	**22 45 35.8**	**-1.5**
JNU	**Nakatsue**	**9.56**	**252**	*e*Pn		Pn	22 46 12.0	+6.5
USRK	**Ussuriysk Ar.**	**10.58**	**319**	Pn		**Pn**	**22 46 23.0**	**+3.6**
	0.7nm,0.3s,baz=130,slow=12,SNR=14							
USRK				LR		LR	22 50 10.8	
	comp=Z,640nm,19.9s,baz=125,slow=36							
KSRS	**Korea Array**	**11.05**	**278**	Pn		**Pn**	**22 46 30.0**	**+4.2**
	0.3nm,0.3s,baz=88,slow=14,SNR=37							
KSRS				LR		LR	22 50 39.7	
	comp=Z,508nm,19.1s,baz=88,slow=37							
KSRS	**Korea Array**	**11.05**	**278**	P		**Pn**	**22 46 30.0**	**+4.2**
KSRS				MLR		MLR		
	comp=Z,508nm,19.1s							
KS01	**Wonju Array Si**	**11.07**	**279**	*e*Pn		**Pn**	**22 46 24.8**	**-1.3**
KS15	**Wonju Array Si**	**11.08**	**278**	*e*Pn		**Pn**	**22 46 24.0**	**-2.2**
KSAR	**Wonju Array Be**	**11.08**	**278**	P		**Pn**	**22 46 30.0**	**+3.7**
KSAR	**Wonju Array Be**	**11.08**	**278**	Pn		**Pn**	**22 46 30.0**	**+3.7**
KLR	**Kul'dur**	**14.53**	**333**	Pn		**Pn**	**22 47 14.9**	**+1.5**
	comp=Z,0.2nm,0.3s,baz=144,slow=7.8,SNR=5.2							
KLR				LR		LR	22 52 46.5	
	comp=Z,440nm,18.5s,baz=142,slow=37							
JOW	**Kunigami**	**15.02**	**233**	LR		LR	22 53 50.2	
	comp=Z,179nm,18.1s,baz=38,slow=40							
PETK	**Petropavlovsk-**	**19.92**	**29**	LR		LR	22 55 53.2	
	comp=Z,84nm,20.8s,baz=226,slow=36							
MA2	**Magadan**	**23.70**	**12**	LR		LR	22 59 25.4	
	comp=Z,126nm,18.3s,baz=184,slow=39							
YAK	**Yakutsk**	**26.52**	**347**	LR		LR	23 00 06.6	
	comp=Z,318nm,18.6s,baz=146,slow=37							
YAK	**Yakutsk**	**26.52**	**347**	*e*P		**P**	**22 49 25.9**	**+1.3**
YAK				pmax	pmax			
	comp=Z,14nm,0.8s							
SEY	**Seymchan**	**27.14**	**11**	P		**P**	**22 49 32.9**	**+2.7**
	comp=Z,2.4nm,0.6s,baz=188,slow=9.6,SNR=4.7							
ENH	**Enshi**	**27.54**	**266**	*e*P		**P**	**22 49 33.7**	**-0.5**
	comp=Z,16nm,0.8s							
H11N2	**WAKE ISLAND Hy**	**27.74**	**121**	T		T	23 18 58.2	
	baz=313,slow=75,SNR=266							
H11N1	**WAKE ISLAND Hy**	**27.75**	**121**	T		T	23 18 48.3	
	baz=313,slow=75,SNR=334							
H11N3	**WAKE ISLAND Hy**	**27.76**	**121**	T		T	23 18 56.8	
	baz=313,slow=75,SNR=303							
ULN	**Ulaanbaatar**	**27.78**	**305**	*e*P		**P**	**22 49 37.3**	**+1.0**
ULN				pmax	pmax			
	comp=Z,5.0nm,0.9s							
ULN	**Ulaanbaatar**	**27.78**	**305**	*e*P		**P**	**22 49 37.3**	**+1.0**
	comp=Z,5.2nm,0.9s							
SONA1	**Songino Array**	**28.20**	**305**	*e*P		**P**	**22 49 41.1**	**+1.0**
SONA0	**Songino Array**	**28.21**	**305**	*e*P		**P**	**22 49 39.9**	**-0.3**
	comp=Z,5.5nm,0.8s							
SONM	**Songino Array**	**28.21**	**305**	P		**P**	**22 49 39.9**	**-0.3**
	comp=Z,2.7nm,0.7s,baz=112,slow=9.3,SNR=10							
SONM				LR		LR	23 01 28.7	
	comp=Z,152nm,18.7s,baz=98,slow=38							
H11S1	**WAKE ISLAND Hy**	**28.44**	**123**	T		T	23 19 53.3	
	baz=314,slow=76,SNR=215							
H11S3	**WAKE ISLAND Hy**	**28.44**	**123**	T		T	23 19 49.0	
	baz=314,slow=76,SNR=175							
H11S2	**WAKE ISLAND Hy**	**28.46**	**123**	T		T	23 19 51.9	
	baz=314,slow=76,SNR=178							
BILL	**Bilibino**	**34.35**	**16**	*e*P		**P**	**22 50 37.2**	**+3.4**
BILL				*e*			22 51 51.0	
BILL				pmax	pmax			
	comp=Z,3.0nm,1.2s							
SLVN	**Son La**	**36.15**	**256**	*e*P		P	22 50 54.9	+5.0
DLV	**T Lat**	**38.67**	**239**	*e*P		**P**	**22 51 09.3**	**-2.1**
	comp=Z,88nm,1.7s							
MANU	**Manus Island**	**38.84**	**171**	*e*P		**P**	**22 51 09.6**	**-2.9**
	comp=Z,66nm,0.9s							
FAKI	**Fak Fak**	**40.32**	**195**	*e*P		**P**	**22 51 24.4**	**-0.5**
	comp=Z,21nm,1.1s							
CM31	**Chiang Mai Arr**	**41.62**	**256**	*e*P		**P**	**22 51 35.8**	**+0.1**
CM31				*e*S		**S**	**22 57 52.3**	**+1.7**
CMAR	**Chiang Mai Arr**	**41.62**	**256**	P		**P**	**22 51 35.8**	**+0.1**
	comp=Z,1.2nm,0.8s,baz=45,slow=6.7,SNR=6.0							
CM01	**Chiang Mai Arr**	**41.63**	**256**	*e*P		**P**	**22 51 37.1**	**+1.4**
ZAA0	**Zalesovo Array**	**42.36**	**313**	*e*P		**P**	**22 51 41.2**	**0.0**
ZAA1	**Zalesovo Array**	**42.36**	**313**	*e*P		**P**	**22 51 41.5**	**+0.2**
ZALV	**Zalesovo Beam**	**42.36**	**313**	P		**P**	**22 51 41.5**	**+0.2**
	comp=Z,5.0nm,0.7s,baz=96,slow=6.6,SNR=16							
ZALV				LR		LR	23 10 09.5	
	comp=Z,182nm,18.5s,baz=72,slow=37							
NVS	**Novosibirsk**	**43.29**	**314**	*e*P		**P**	**22 51 48.5**	**-0.3**
NRIK	**Noril'sk**	**43.73**	**335**	LR		LR	23 12 48.9	
	comp=Z,157nm,18.1s,baz=112,slow=40							
MK01	**Makanchi Array**	**44.53**	**302**	*e*P		**P**	**22 51 58.9**	**0.0**
MK31	**Makanchi Array**	**44.53**	**302**	*e*P		**P**	**22 51 58.9**	**0.0**
MK31	**Makanchi Array**	**44.53**	**302**	*e*P		**P**	**22 51 58.9**	**0.0**
MKAR	**Makanchi Array**	**44.53**	**302**	*e*P		**P**	**22 51 58.9**	**0.0**
MKAR				pmax	pmax			
	comp=Z,32nm,0.9s							
MKAR	**Makanchi Array**	**44.53**	**302**	*e*P		**P**	**22 51 58.9**	**0.0**
	comp=Z,32nm,0.9s							
PMG	**Port Moresby**	**46.08**	**173**	LR		LR	23 10 28.7	
	comp=Z,43nm,21.8s,baz=290,slow=35							
KURK	**Kurchatov**	**46.37**	**308**	*e*P		**P**	**22 52 12.5**	**-0.8**
KURK				pmax	pmax			
	comp=Z,12nm,0.8s							
KURK	**Kurchatov**	**46.37**	**308**	*e*P		**P**	**22 52 12.5**	**-0.8**
	comp=Z,12nm,0.8s							
MDM	**Murphy Dome**	**49.13**	**32**	*e*P		**P**	**22 52 36.6**	**+2.0**
	comp=Z,14nm,0.9s							
ILAR	**Eielson Array**	**49.71**	**32**	P		**P**	**22 52 39.0**	**0.0**
	comp=Z,1.0nm,0.8s,baz=273,slow=6.5,SNR=9.1							
ILB	**Eielson Array**	**49.71**	**32**	*e*P		**P**	**22 52 39.0**	**0.0**
ILB				*ep*P		**pP**	**22 52 47.1**	**+0.2**
IL1	**Eielson Array**	**49.71**	**32**	*e*P		**P**	**22 52 43.2**	**+4.2**
MTN	**Manton Dam**	**50.21**	**193**	*e*P		**P**	**22 52 42.8**	**-0.4**
	comp=Z,20nm,1.1s							
BRVK	**Borovoye**	**51.07**	**313**	*e*P		**P**	**22 52 50.1**	**+0.6**
BRVK				pmax	pmax			
	comp=Z,4.0nm,1.0s							
BRVK	**Borovoye**	**51.07**	**313**	*e*P		**P**	**22 52 50.1**	**+0.6**
	comp=Z,4.4nm,1.0s							
WRAB	**Tennant Creek**	**56.68**	**188**	*e*P		**P**	**22 53 30.1**	**-0.7**
WRAB				pmax	pmax			
	comp=Z,16nm,1.0s							
WRAB	**Tennant Creek**	**56.68**	**188**	*e*P		**P**	**22 53 30.1**	**-0.7**
	comp=Z,16nm,1.0s							
WB2	**Warramunga Arr**	**56.69**	**188**	*e*P		**P**	**22 53 30.1**	**-0.7**
WR1	**Warramunga Arr**	**56.70**	**188**	*e*P		**P**	**22 53 29.6**	**-1.2**
	comp=Z,29nm,1.3s							
WRA	**Warramunga Arr**	**56.70**	**188**	P		**P**	**22 53 29.6**	**-1.2**
	comp=Z,9.7nm,0.9s,baz=6.2,slow=7.4,SNR=40							
ARU	**Arti**	**56.82**	**319**	P		**P**	**22 53 31.5**	**+0.1**
ARU	**Arti**	**56.82**	**319**	*e*P		**P**	**22 53 30.9**	**-0.4**
	comp=Z,9.7nm,1.1s							
ABKAR	**Akbulak array**	**58.38**	**310**	*e*P		**P**	**22 53 40.5**	**-2.0**
	comp=Z,43nm,0.4s							
AS01	**Alice Springs**	**60.41**	**188**	*e*P		**P**	**22 53 55.3**	**-1.4**
AS31	**Alice Springs**	**60.42**	**188**	*e*P		**P**	**22 53 56.2**	**-0.6**
	comp=Z,1.5nm,0.8s							
ASAR	**Alice Springs**	**60.42**	**188**	P		**P**	**22 53 56.2**	**-0.6**
	comp=Z,3.3nm,0.8s,baz=10.0,slow=5.9,SNR=26							
GEYT	**Alibeck**	**64.24**	**299**	P		**P**	**22 54 22.0**	**-0.4**
	comp=Z,1.3nm,0.4s,baz=128,slow=50,SNR=4.0							
GEYT				LR		LR	23 23 36.2	
	comp=Z,48nm,20.0s,baz=100,slow=37							
ARCES	**ARCESS Array B**	**64.46**	**340**	LR		LR	23 25 03.9	
	comp=Z,87nm,21.1s,baz=78,slow=38							
B927	**Port Alberni**	**65.39**	**46**	*e*P		**P**	**22 54 33.2**	**+3.7**
FL2	**Flat Top 2**	**68.31**	**48**	*e*P		**P**	**22 54 44.8**	**-3.7**
PANH	**Panhandle Gap,**	**68.40**	**47**	*e*P		**P**	**22 54 52.5**	**+3.4**
OBN	**Obninsk**	**68.56**	**323**	*e*P		**P**	**22 54 52.4**	**+2.8**
OBN				*e*			22 55 16.3	
OBN				*e*			22 57 20.8	
OBN				pmax	pmax			
	comp=Z,2.0nm,0.7s							
FIA0	**FINESS Array S**	**69.28**	**332**	*e*P		**P**	**22 54 53.5**	**-0.5**
FIA0	**FINESS Array S**	**69.28**	**332**	*e*P		**P**	**22 54 53.5**	**-0.5**
FINES	**FINESS Array B**	**69.28**	**332**	P		**P**	**22 54 53.5**	**-0.5**
	comp=Z,4.9nm,0.9s,baz=69,slow=7.6,SNR=4.2							
FINES				LR		LR	23 30 33.1	
	comp=Z,72nm,18.1s,baz=26,slow=40							
FINES	**FINESS Array B**	**69.28**	**332**	P		**P**	**22 54 53.5**	**-0.5**
FINES				pmax	pmax			
	comp=Z,3.0nm,1.0s							
FINES				MLR		MLR		
	comp=Z,72nm,18.2s							
MDW	**Midway**	**69.63**	**47**	*e*P		**P**	**22 54 53.8**	**-2.7**
MDW	**Midway**	**69.63**	**47**	*e*P		**P**	**22 54 53.8**	**-2.7**
E09A	**Wood Farm, Sta**	**70.62**	**46**	*e*P		**P**	**22 55 03.4**	**+0.8**
	comp=Z,8.3nm,1.2s							
BMO	**Blue Mountains**	**72.03**	**47**	*e*P		**P**	**22 55 12.1**	**+0.9**
BMO				pmax	pmax			
	comp=Z,6.0nm,1.1s							
BMO	**Blue Mountains**	**72.03**	**47**	*e*P		**P**	**22 55 12.1**	**+0.9**
	comp=Z,5.6nm,1.1s							
LRM	**Limekiln Ridge**	**74.27**	**44**	*e*P		**P**	**22 55 25.3**	**+0.6**
NB2	**NORSAR Subarra**	**74.65**	**337**	P		**P**	**22 55 26.1**	**-0.2**
	comp=Z,6.2nm,1.1s,baz=41,slow=6.2							
NB200	**NORSAR Array S**	**74.65**	**337**	*e*P		**P**	**22 55 26.1**	**-0.2**
NOA	**NORSAR Array B**	**74.65**	**337**	P		**P**	**22 55 26.1**	**-0.2**
	comp=Z,2.7nm,0.8s,baz=40,slow=5.7,SNR=4.6							
NOA				LR		LR	23 31 55.5	
	comp=Z,76nm,19.8s,baz=50,slow=39							
TVH1	**TV Hill, Hawth**	**74.73**	**53**	*e*P		**P**	**22 55 29.0**	**+1.5**
	comp=Z,7.0nm,1.1s							
AKASG	**Malin Array Be**	**74.76**	**322**	P		**P**	**22 55 26.4**	**-0.6**
	comp=Z,0.8nm,0.3s,baz=45,slow=6.6,SNR=5.0							
AKASG				LR		LR	23 30 28.8	
	comp=Z,90nm,20.4s,baz=35,slow=37							
AKBB	**Malin Array Si**	**74.76**	**322**	*e*P		**P**	**22 55 26.5**	**-0.6**
AKBB				pmax	pmax			
	comp=Z,5.0nm,0.9s							
AKBB	**Malin Array Si**	**74.76**	**322**	*e*P		**P**	**22 55 26.4**	**-0.6**
	comp=Z,4.9nm,0.9s							
BOZ	**Bozeman (W)**	**74.87**	**44**	*e*P		**P**	**22 55 28.6**	**+0.6**
BOZ				pmax	pmax			
	comp=Z,4.0nm,1.0s							
BOZ	**Bozeman (W)**	**74.87**	**44**	*e*P		**P**	**22 55 28.6**	**+0.6**
	comp=Z,3.9nm,1.0s							
R11A	**Troy Canyon, C**	**76.83**	**52**	*e*P		**P**	**22 55 40.0**	**+0.6**
	comp=Z,4.3nm,0.9s							
TPNV	**Topopah Spring**	**77.23**	**53**	*e*P		**P**	**22 55 42.2**	**+0.6**
TPNV				pmax	pmax			
	comp=Z,7.0nm,0.9s							
TPNV	**Topopah Spring**	**77.23**	**53**	*e*P		**P**	**22 55 42.2**	**+0.6**
	comp=Z,7.1nm,0.9s							
HWUT	**Hardware Ranch**	**77.33**	**47**	*e*P		**P**	**22 55 43.2**	**+1.1**
	comp=Z,8.8nm,1.3s							
SBI	**Santa Barbara**	**77.41**	**58**	*e*P		**P**	**22 55 42.5**	**+0.1**
DUG	**Dugway, Tooele**	**77.44**	**49**	*e*P		**P**	**22 55 43.7**	**+1.0**
DUG				pmax	pmax			
	comp=Z,6.0nm,0.9s							
DUG	**Dugway, Tooele**	**77.44**	**49**	*e*P		**P**	**22 55 43.7**	**+1.0**
	comp=Z,5.5nm,0.9s							
BW06	**Boulder Array**	**77.78**	**46**	*e*P		**P**	**22 55 43.0**	**-1.7**
PD31	**Pinedale Array**	**77.78**	**46**	*e*P		**P**	**22 55 44.5**	**-0.2**
PDAR	**Pinedale Array**	**77.78**	**46**	P		**P**	**22 55 44.5**	**-0.2**
	comp=Z,0.5nm,0.7s,baz=264,slow=3.0,SNR=5.2							
CCUT	**Cedar City**	**78.71**	**52**	*e*P		**P**	**22 55 50.4**	**+0.5**
	comp=Z,5.1nm,1.0s							
BUR08	**Bucovina Ar. S**	**78.76**	**322**	*e*P		**P**	**22 55 50.4**	**+0.5**
PLM	**Palomar**	**78.95**	**57**	*e*P		**P**	**22 55 47.5**	**-3.8**
PLM	**Palomar**	**78.95**	**57**	*e*P		**P**	**22 55 47.5**	**-3.8**
LCMT	**Little Creek M**	**79.11**	**52**	*e*P		**P**	**22 55 53.2**	**+1.2**
	comp=Z,7.1nm,1.0s							
BR101	**Keskin Array S**	**79.30**	**312**	*e*P		**P**	**22 55 53.0**	**0.0**
BRTR	**Keskin Array B**	**79.30**	**312**	P		**P**	**22 55 53.0**	**0.0**
	comp=Z,1.8nm,1.1s,baz=151,slow=2.8,SNR=6.9							
KNB	**Kanab**	**79.38**	**52**	*e*P		**P**	**22 55 55.2**	**+1.7**
KNB				*e**PP		**pP**	**22 56 02.4**	**+0.5**
KNB	**Kanab**	**79.38**	**52**	*e*P		**P**	**22 55 55.2**	**+1.7**
KNB				*ep*P		**pP**	**22 56 02.4**	**+0.5**
BR231	**Keskin MP Arra**	**79.74**	**312**	*e*P		**P**	**22 55 54.1**	**-1.2**
U15A	**North Rim**	**80.07**	**52**	*e*P		**P**	**22 55 58.5**	**+1.1**
	comp=Z,5.4nm,0.9s							
DPC	**Dobruska-Polom**	**80.92**	**328**	*e*P		**P**	**22 56 02.0**	**+0.6**
DPC				*ex*		x	22 56 11.5	
DPC	**Dobruska-Polom**	**80.92**	**328**	*e*P		**P**	**22 56 02.0**	**+0.6**
DPC				*e*			22 56 11.5	
WUAZ	**Wupatki**	**81.22**	**52**	*e*P		**P**	**22 56 04.9**	**+1.5**
	comp=Z,6.5nm,0.9s							
CLL	**Collm**	**81.56**	**330**	*e*P		**P**	**22 56 04.0**	**-0.7**
GERES	**GERESS Array B**	**83.18**	**328**	P		**P**	**22 56 13.0**	**-0.3**
	comp=Z,0.6nm,0.5s,baz=42,slow=6.1,SNR=5.3							
GERES				LR		LR	23 36 50.2	
	comp=Z,94nm,18.2s,baz=4.0,slow=38							
PPT	**Papeete**	**84.24**	**117**	LR		LR	23 29 22.7	
	comp=Z,55nm,20.6s,baz=254,slow=32							
LTX	**Lajitas**	**90.18**	**53**	*e*P		**P**	**22 56 48.0**	**0.0**
LTX	**Lajitas**	**90.18**	**53**	*e*P		**P**	**22 56 48.0**	**0.0**
TXAR	**Lajitas Array**	**90.18**	**53**	P		**P**	**22 56 48.0**	**0.0**
	comp=Z,0.3nm,0.6s,baz=300,slow=3.1,SNR=3.6							
TXAR	**Lajitas Array**	**90.18**	**53**	P		**P**	**22

BOLV	**Bolvadin**	**1.31**	**319**	*i* P	**Pg**	**23**	**25**	**31.8 -0.6**
BOLV				*i* S	**Sb**	**23**	**25**	**49.3 -0.3**
BOLV	**Bolvadin**	**1.31**	**319**	P	**Pg**	**23**	**25**	**31.8 -0.6**
BOLV				S	**Sb**	**23**	**25**	**49.3 -0.3**
ANTB	**Antalya**	**1.39**	**233**	*e*PN	**Pg**	**23**	**25**	**34.3 +0.4**
ANTB	**Antalya**	**1.39**	**233**	*e*Pn	**Pg**	**23**	**25**	**34.3 +0.4**
SHUT	**Suhut-Afyon**	**1.43**	**305**	*e*PN	**Pg**	**23**	**25**	**34.6 -0.2**
SHUT	**Suhut-Afyon**	**1.43**	**305**	*e*Pn	**Pg**	**23**	**25**	**34.6 -0.2**
KULU	**Kulu**	**1.51**	**30**	*e*PN	**Pb**	**23**	**25**	**35.4 -0.5**
KULU	**Kulu**	**1.51**	**30**	*e*Pn	**Pb**	**23**	**25**	**35.4 -0.5**
KORT	**Korkueli**	**1.53**	**242**	*e*PN	**Pg**	**23**	**25**	**36.5 -0.3**
KORT	**Korkueli**	**1.53**	**242**	*i* P	**Pb**	**23**	**25**	**35.9 -0.5**
KORT				*i* S	**Sg**	**23**	**25**	**57.5 +0.8**
KORT	**Korkueli**	**1.53**	**242**	P	**Pb**	**23**	**25**	**35.9 -0.5**
KORT	**Korkueli**	**1.53**	**242**	*e*Pn	**Pg**	**23**	**25**	**36.5 -0.3**
KORT				S	**Sg**	**23**	**25**	**57.5 +0.8**
KKUL	**Konya-Kulu**	**1.59**	**25**	*i* P	**Pg**	**23**	**25**	**37.5 -0.4**
KKUL				*i* S	**Sg**	**23**	**26**	**01.9 +3.4**
KKUL	**Konya-Kulu**	**1.59**	**25**	P	**Pg**	**23**	**25**	**37.5 -0.4**
BERE	**Bereket-Mersin**	**1.68**	**145**	*e*PN	**Pb**	**23**	**25**	**38.0 -0.8**
BERE	**Bereket-Mersin**	**1.68**	**145**	*e*Pn	**Pb**	**23**	**25**	**38.0 -0.8**
KERG	**Konya-Eregli**	**1.69**	**100**	*i* P	**Pn**	**23**	**25**	**37.0 -0.6**
KERG				*i* S	**Sg**	**23**	**26**	**04.6 +3.1**
KERG	**Konya-Eregli**	**1.69**	**100**	P	**Pn**	**23**	**25**	**37.0 -0.6**
TEVE	**Tevekalti-Mers**	**1.71**	**139**	*e*PN	**Pb**	**23**	**25**	**38.6 -0.8**
TEVE	**Tevekalti-Mers**	**1.71**	**139**	*e*Pn	**Pb**	**23**	**25**	**38.6 -0.8**
SVRH	**Sivrihisar-ESK**	**1.76**	**347**	*e*PN	**Pb**	**23**	**25**	**39.3 -0.8**
SVRH	**Sivrihisar-ESK**	**1.76**	**347**	*e*Pn	**Pb**	**23**	**25**	**39.3 -0.8**
TEKE	**Tekeli-Mersin**	**1.81**	**151**	*e*PN	**Pb**	**23**	**25**	**39.9 -1.0**
TEKE	**Tekeli-Mersin**	**1.81**	**151**	*e*Pn	**Pb**	**23**	**25**	**39.9 -1.0**
GULA	**Gulagac**	**1.84**	**70**	*e*PN	**Pb**	**23**	**25**	**40.4 -1.1**
GULA	**Gulagac**	**1.84**	**70**	*e*Pn	**Pb**	**23**	**25**	**40.4 -1.1**
AFSR	**Afˇar-Bala (A**	**1.89**	**25**	*e*PN	**Pn**	**23**	**25**	**40.9 +0.5**
AFSR	**Afˇar-Bala (A**	**1.89**	**25**	*e*Pn	**Pn**	**23**	**25**	**40.9 +0.5**
ELL	**Elmali**	**1.97**	**241**	*e*PN	**Pb**	**23**	**25**	**42.8 -0.9**
ELL	**Elmali**	**1.97**	**241**	*e*Pn	**Pb**	**23**	**25**	**42.8 -0.9**
IKL	**Isikli**	**1.99**	**138**	*e*PN	**Pn**	**23**	**25**	**42.5 +0.9**
IKL	**Isikli**	**1.99**	**138**	*e*Pn	**Pn**	**23**	**25**	**42.5 +0.9**
KIZK	**Mersin**	**2.09**	**126**	*e*PN	**Pn**	**23**	**25**	**43.9 +0.8**
KIZK	**Mersin**	**2.09**	**126**	*i* P	**Pn**	**23**	**25**	**44.1 +1.0**
KIZK				*i* S	**Sg**	**23**	**26**	**13.5 -1.1**
KIZK	**Mersin**	**2.09**	**126**	P	**Pn**	**23**	**25**	**44.1 +1.0**
MERS	**Mersin**	**2.16**	**113**	*e*PN	**Pn**	**23**	**25**	**44.9 +0.9**
MERS	**Mersin**	**2.16**	**113**	*e*Pn	**Pn**	**23**	**25**	**44.9 +0.9**

NIED ***06*** *23:29:00, 34˚.80N×142˚.60E, h5km, Mw3.9 Best double couple: M₀9.16000×10¹⁴ NP1:φs24.00000°, δ16.00000°, λ-117.00000°. NP2:φs232.00000°, δ76.00000°, λ-82.00000°.*

IDC ***06*** *23:29:19.5±2.2, 34˚.67N×142˚.71E, h0km, mb3.9/3, mb1 4.0/5, mb1mx3.6/48, mbtmp3.8/5, ML3.7/2, MS3.3/2, Ms1 3.3/2, ms1mx2.6/34, Error ellipse: s-maj=56.6km s-min=25.9km az=64.0*

ISCJB ***06*** *23:29:21.6±0.9, 34˚.90N±0˚.05×142˚.77E±0˚.08, h42km, mb3.8/3, MS3.5/1, Error ellipse: s-maj=9.1km s-min=6.8km az=171.4*

JMA ***06*** *23:29:22.4±0.3, 34˚.83N×142˚.63E, h89km, M3.5*

ISC 06 23:29:23.6±1.4, 34˚.81N±0˚.06×142˚.73E±0˚.10, h42km, n25, σ1s50/25, mb3.8/3, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h	m	s ISC
BSO1	**Boso 1**	**1.45**	**264**	P	**Pn**	**23**	**29**	**46.8 -0.1**
BSO1				S	**Sn**	**23**	**30**	**04.6 +0.2**
CHOJ	**Chosi**	**1.77**	**301**	P	**Pn**	**23**	**29**	**51.4 -0.3**
CHOJ				*e*S	**Sn**	**23**	**30**	**12.7 -0.3**
BSO3	**Boso 3**	**1.83**	**270**	P	**Pn**	**23**	**29**	**51.4 -0.9**
BSO4	**Boso 4**	**1.98**	**276**	P	**Pn**	**23**	**29**	**54.5 +0.1**
BSO4				S	**Sn**	**23**	**30**	**17.8 -0.1**
JHJ	**Hachijo jima 2**	**2.98**	**236**	Pn	**Pn**	**23**	**30**	**06.4 -1.9**
	49nm,0.3s,baz=58,slow=24,SNR=4.8							
JHJ				Sn	**Sn**	**23**	**30**	**38.9 -3.9**
	82nm,0.3s,baz=99,slow=22,SNR=5.8							
JOD2	**Odawara 2**	**3.02**	**280**	P	**Pn**	**23**	**30**	**07.7 -1.3**
JAG	**Ashikaga**	**3.12**	**302**	P	**Pn**	**23**	**30**	**09.5 -0.7**
JFT	**Otama**	**3.32**	**325**	P	**Pn**	**23**	**30**	**12.5 -0.6**
JFT				S	**Sn**	**23**	**30**	**49.8 -1.5**
JRY	**Ryogami san**	**3.35**	**292**	P	**Pn**	**23**	**30**	**13.4 -0.1**
JYN	**Shimob**	**3.50**	**282**	P	**Pn**	**23**	**30**	**14.5 -1.0**
MJAR	**Matsushiro Arr**	**4.07**	**296**	Pn	**Pn**	**23**	**30**	**22.9 -0.3**
	2.7nm,0.3s,baz=102,slow=8.8,SNR=9.2							
MAT	**Matsushiro**	**4.07**	**296**	P	**Pn**	**23**	**30**	**23.2 -0.1**
MAT				S	**Sn**	**23**	**31**	**08.5 -1.2**
JNS	**Sasagawa**	**4.07**	**318**	P	**Pn**	**23**	**30**	**22.6 -0.8**
JNS				S	**Sn**	**23**	**31**	**08.4 -1.4**
JMK	**Ichinoseki**	**4.30**	**344**	P	**Pn**	**23**	**30**	**25.1 -1.4**
JMK				S	**Sn**	**23**	**31**	**12.2 -3.3**
USRK	**Ussuriysk Ar.**	**12.51**	**322**	LR	LR	23	36	50.9
	comp=Z,68nm,21.1s,baz=183,slow=36							
H11N2	**WAKE ISLAND Hy**	**26.12**	**119**	T	T	00	02	26.4
	baz=309,slow=75,SNR=20							
H11N1	**WAKE ISLAND Hy**	**26.12**	**119**	T	T	00	02	26.3
	baz=309,slow=75,SNR=23							
H11N3	**WAKE ISLAND Hy**	**26.14**	**119**	T	T	00	02	19.6
	baz=309,slow=75,SNR=19							
H11S1	**WAKE ISLAND Hy**	**26.78**	**121**	T	T	00	03	12.6
	baz=312,slow=76,SNR=28							
H11S3	**WAKE ISLAND Hy**	**26.78**	**121**	T	T	00	03	04.2
	baz=312,slow=76,SNR=27							
H11S2	**WAKE ISLAND Hy**	**26.79**	**121**	T	T	00	03	11.6
	baz=312,slow=76,SNR=21							
PMG	**Port Moresby**	**44.18**	**174**	LR	LR	23	52	44.7
	comp=Z,68nm,21.2s,baz=323,slow=32							
ZALV	**Zalesovo Beam**	**44.21**	**314**	P	**P**	**23**	**37**	**30.7 +2.4**
	0.6nm,0.5s,baz=106,slow=8.4,SNR=3.4							
WRA	**Warramunga Arr**	**55.03**	**190**	P	**P**	**23**	**38**	**51.7 +0.7**
	0.7nm,0.7s,baz=9.4,slow=7.5,SNR=11							
ASAR	**Alice Springs**	**58.76**	**189**	P	**P**	**23**	**39**	**18.6 +1.2**
	1.3nm,1.0s,baz=9.3,slow=7.0,SNR=6.8							

ISCJB ***06*** *23:31:36.0±0.7, 13˚.48N±0˚.07×90˚.51W±0˚.08, h38km, mb4.2/9, MS3.5/6, Error ellipse: s-maj=13.6km s-min=6.4km az=135.2*

NEIC ***06*** *23:31:40.1±0.8, 13˚.57N×90˚.45W, h64km±8km, mb4.2/10, MD4.4(SNET), Error ellipse: s-maj=10.5km s-min=6.2km az=225.0*

NEIC Felt [III] at Ahuachapan, El Salvador.

IDC ***06*** *23:31:41.1±2.1, 13˚.63N×90˚.50W, h72km±22km, mb3.9/3, mb1 3.9/7, mb1mx3.5/45, mbtmp3.9/7, MS3.3/6, Ms1 3.3/6, ms1mx2.9/37, Error ellipse: s-maj=30.4km s-min=14.8km az=47.0*

ISC 06 23:31:37.9±0.8, 13˚.48N±0˚.09×90˚.49W±0˚.08, h38km, n33, σ1s03/31, mb4.2/9, MS3.4/6, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h	m	s ISC
TGUH	**Tegucigalpa,Un**	**3.17**	**79**	*e*Pn	**Pn**	**23**	**32**	**27.1 +1.8**
TGUH				*e*		23	32	53.5
CCIG	**Comitan**	**3.21**	**330**	*e*Pn	**Pn**	**23**	**32**	**28.0 +1.9**
CCIG				*e*Sn	**Sn**	**23**	**33**	**02.9 -0.3**
SCIG	**Sabancuy**	**5.50**	**353**	*e*Pn	**Pn**	**23**	**32**	**58.1 +0.8**
CMIG	**Matias Romero**	**5.56**	**311**	P	**Pn**	**23**	**32**	**59.4 +1.2**
	4.2nm,0.3s,baz=87,slow=8.8,SNR=31							
CMIG				S	**Sn**	**23**	**34**	**01.4 +0.5**
	13nm,0.3s,baz=45,slow=21,SNR=8.4							
CMIG				LR	LR	23	35	16.4
	comp=Z,123nm,19.8s,baz=101,slow=40							
JTS	**JuntasAbangare**	**6.27**	**120**	P	Pn	23	33	13.0 +5.1
	3.1nm,0.3s,baz=356,slow=9.2,SNR=11							
TEIG	**Tepich**	**7.04**	**17**	P	**Pn**	**23**	**33**	**19.2 +0.8**
	0.4nm,0.3s,baz=176,slow=24,SNR=4.7							
WHTX	**Lake Whitney,**	**19.51**	**342**	*e*P	**P**	**23**	**35**	**60.0 -1.9**
	11nm,0.8s							
LRAL	**Lakeview Retre**	**19.73**	**9**	*e*P	**P**	**23**	**36**	**03.7 -0.7**
	6.6nm,0.7s							
LTX	**Lajitas**	**19.96**	**324**	*e*P	**P**	**23**	**36**	**07.6 +0.6**
TXAR	**Lajitas Array**	**19.96**	**324**	P	**P**	**23**	**36**	**07.6 +0.6**
	0.3nm,0.3s,baz=148,slow=11,SNR=18							
TX31	**Lajitas Ar. Si**	**19.96**	**324**	*e*P	**P**	**23**	**36**	**07.3 +0.3**
SWET	**Sewanee**	**22.03**	**10**	*e*P	**P**	**23**	**36**	**28.3 -0.9**
	2.3nm,0.6s							
CPCT	**Cooper Cave**	**22.53**	**13**	*e*P	**P**	**23**	**36**	**34.8 +0.2**
	9.4nm,1.4s							
MNTX	**Cormudas Mount**	**22.71**	**325**	*e*P	**P**	**23**	**36**	**35.5 -1.0**
	2.9nm,1.0s							
TKL	**Tuckaleechee C**	**22.90**	**14**	P	**P**	**23**	**36**	**37.4 -1.0**
	5.2nm,0.5s,baz=174,slow=10,SNR=10.0							
TKL				pP	**sP**	**23**	**36**	**54.6 +1.5**
	5.1nm,0.6s,baz=182,slow=13,SNR=4.1							
TKL				LR	LR	23	45	40.2
	comp=Z,124nm,20.4s,baz=211,slow=37							
TKL	**Tuckaleechee C**	**22.90**	**14**	*e*P	**P**	**23**	**36**	**37.4 -1.0**
	9.7nm,0.9s							
SJG	**San Juan**	**23.86**	**76**	LR	LR	23	45	07.8
	comp=Z,24nm,21.7s,baz=264,slow=34							
WCI	**Wyandotte Cave**	**24.93**	**8**	*e*P	**P**	**23**	**36**	**56.0 -1.6**
	16nm,0.6s							
SADO	**Sadowa**	**32.66**	**15**	LR	LR	23	51	46.2
	comp=Z,83nm,18.3s,baz=222,slow=37							
PTGA	**Pitinga**	**33.38**	**113**	*e*P	**P**	**23**	**38**	**12.7 -0.3**
	4.1nm,0.8s							
SAML	**Samuel**	**35.09**	**128**	*e*P	**P**	**23**	**38**	**26.8 -1.0**
	5.9nm,0.9s							
LPAZ	**La Paz**	**36.92**	**143**	P	**P**	**23**	**38**	**44.6 +0.6**
	1.9nm,0.7s,baz=330,slow=9.1,SNR=8.3							
ULM	**Lac du Bonnet**	**36.94**	**354**	LR		23	55	44.0
	comp=Z,51nm,18.2s,baz=135,slow=39							
SCHQ	**Schefferville**	**45.22**	**19**	LR	LR	23	58	15.7
	comp=Z,82nm,18.1s,baz=360,slow=35							
PLCA	**Paso Flores**	**57.01**	**162**	P	**P**	**23**	**41**	**20.5 +0.5**
	1.7nm,0.7s,baz=19,slow=7.2,SNR=4.2							
PLCA	**Paso Flores**	**57.01**	**162**	*e*P	**P**	**23**	**41**	**20.5 +0.5**
	22nm,1.5s							
LZH	**Lanzhou**	**128.88**	**345**	*e*PKP	**PKPdf**	**23**	**50**	**42.5 +0.3**
LZH				pPKP	sPKPdf	23	50	57.6 -1.1
LZH				sPKP		23	51	03.7
LZH				LR	LR			
	comp=N,97nm,18.1s							
LZH				LR	LR			
	comp=E,100nm,18.0s							
LZH				LR	LR			
	comp=Z,140nm,20.0s							
WR1	**Warramunga Arr**	**136.69**	**255**	*e*PKPdf	**PKPdf**	**23**	**50**	**56.2 -0.8**
WRA	**Warramunga Arr**	**136.69**	**255**	PKP	**PKPdf**	**23**	**50**	**56.2 -0.8**
	comp=Z,0.5nm,0.6s,baz=86,slow=1.9,SNR=7.2							
AS31	**Alice Springs**	**136.87**	**250**	*e*PKPdf	**PKPdf**	**23**	**50**	**56.5 -0.8**
ASAR	**Alice Springs**	**136.87**	**250**	PKP	**PKPdf**	**23**	**50**	**56.5 -0.8**
	comp=Z,0.5nm,0.8s,baz=169,slow=0.9,SNR=4.0							
CM31	**Chiang Mai Arr**	**146.94**	**343**	*e*PKPdf	**PKPdf**	**23**	**51**	**14.5 -0.9**
CMAR	**Chiang Mai Arr**	**146.94**	**343**	PKPbc	**PKPdf**	**23**	**51**	**14.5 -0.9**
	comp=Z,1.4nm,0.7s,baz=339,slow=3.0,SNR=5.5							
CMAR				pPKPbc	sPKPbc	23	51	33.9 +0.2
	comp=Z,1.1nm,0.5s,baz=340,slow=3.0,SNR=2.7							

SJA 06 23:37:10.0±0.4, 31˚.50S×69˚.21W, h108km±2km, ML3.3, MW3.5, San Juan Province

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h	m	s ISC
RTLS	**Leoncito**	**0.30**	**194**	*i* P	Pn	23	37	27.0 +1.0
RTLS				IAML		23	37	27.8
	comp=Z,286nm,0.2s							
RTLS				*i* S	Sn	23	37	39.5 +1.6
SJA	**San Juan**	**0.55**	**93**	*i* P	Pn	23	37	27.7 +0.6
SJA				IAML		23	37	27.7
	comp=Z,546nm,0.2s							
SJA				*i* S	Sn	23	37	40.7 +0.8
RTLL	**Cerro Villicun**	**0.65**	**75**	*i* P	Pn	23	37	28.8 +1.0
RTLL				*i* S	Sn	23	37	42.4 +1.2
RTLL				IAML		23	37	43.1
	comp=N,4μm,0.4s							
RTCV	**Cerro Valdivia**	**0.67**	**122**	*i* P	Pn	23	37	28.6 +0.6
AUSP	**Uspallata**	**0.73**	**192**	*i* P	Pn	23	37	30.0 +1.2
AMOG	**MOGNA**	**0.83**	**48**	*i* P	Pn	23	37	30.0 +0.6
ACCO	**Cerro Coronel**	**0.92**	**8**	*i* P	Pn	23	37	31.6 +1.0
ACCO				*i* S	Sn	23	37	48.2 +2.1
ACCO				IAML		23	37	49.6
	comp=Z,349nm,0.2s							
ASAL	**Salagasta**	**1.13**	**164**	*i* P	Pn	23	37	33.7 +1.1
ACDV	**Cuesta del Vie**	**1.33**	**3**	*i* P	Pn	23	37	36.1 +1.2
AROD	**Rodeo**	**1.35**	**350**	*i* P	Pn	23	37	36.8 +1.5
ARCO	**CERRO ARCO**	**1.36**	**170**	*i* P	Pn	23	37	36.2 +1.1
ARCO				*i* S	Sn	23	37	55.4 +1.2
ARCO				IAML		23	37	57.5
	comp=Z,168nm,0.2s							
AAGR	**Agrelo**	**1.61**	**169**	*i* P	Pn	23	37	39.1 +1.0

IDC ***06*** *23:37:37.0±3.9, 18˚.76S×175˚.81E, h0km, mb4.1/5, mb1 4.4/5, mb1mx4.0/29, mbtmp4.1/5, MS4.0/7, Ms1 4.0/7, ms1mx3.4/38, Error ellipse: s-maj=112.8km s-min=34.8km az=127.0*

ISC 06 23:37:40.5±2.3, 18˚.8S±0˚.4×176˚.0E±0˚.4, h30km, n22, σ0s75/11, mb4.1/5, MS4.9/5, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h	m	s ISC
DZM	**Mont Dzumac**	**9.50**	**249**	LR	LR	23	42	45.6
	comp=Z,109nm,20.0s,baz=33,slow=33							
HNR	**Honiara**	**18.13**	**299**	LR	LR	23	47	45.5
	comp=Z,78nm,19.1s,baz=222,slow=34							
RAR	**Rarotonga**	**22.90**	**100**	LR	LR	23	50	02.0
	comp=Z,122nm,19.9s,baz=130,slow=32							
PPT	**Papeete**	**32.71**	**93**	LR	LR	23	55	37.8
	comp=Z,54nm,19.0s,baz=168,slow=33							
STKA	**Stephens Creek**	**33.52**	**240**	P	**P**	**23**	**44**	**18.5 +0.9**
	6.6nm,0.8s,baz=97,slow=13,SNR=11							
H11S2	**WAKE ISLAND Hy**	**38.20**	**346**	T	T	00	25	36.7
	baz=166,slow=76,SNR=7.8							
H11S3	**WAKE ISLAND Hy**	**38.21**	**346**	T	T	00	25	42.5
	baz=166,slow=76,SNR=6.1							
H11S1	**WAKE ISLAND Hy**	**38.22**	**346**	T	T	00	25	38.9
	baz=166,slow=76,SNR=8.8							
WRA	**Warramunga Arr**	**39.23**	**261**	P	**P**	**23**	**45**	**05.0 -1.4**
	1.0nm,0.8s,baz=96,slow=8.5,SNR=6.5							
ASAR	**Alice Springs**	**39.41**	**255**	P	**P**	**23**	**45**	**07.4 -0.5**
	2.3nm,0.8s,baz=84,slow=9.0,SNR=16							
MJAR	**Matsushiro Arr**	**65.64**	**327**	P	**P**	**23**	**48**	**22.5 +0.6**
	0.9nm,0.3s,baz=150,slow=7.4,SNR=4.0							
USRK	**Ussuriysk Ar.**	**74.51**	**329**	LR	LR	00	15	48.7
	comp=Z,745nm,21.3s,baz=80,slow=31							
KLR	**Kul'dur**	**78.32**	**332**	LR	LR	00	18	16.2
	comp=Z,556nm,20.7s,baz=125,slow=31							
CMAR	**Chiang Mai Arr**	**84.23**	**292**	P	**P**	**23**	**50**	**10.2 +0.6**
	0.4nm,0.3s,baz=134,slow=3.9,SNR=5.7							
SONM	**Songino Array**	**90.84**	**321**	LR	LR	00	27	24.1
	comp=Z,625nm,20.1s,baz=90,slow=33							
DPC	**Dobruska-Polom**	**144.63**	**337**	*e*PKP	PKPbc	23	57	13.3 +0.4
CLL	**Collm**	**144.92**	**341**	*i* PKPbc	**PKPab**	**23**	**57**	**13.4 -0.3**
	comp=Z,6.0nm,0.9s							
BRG	**Berggiesshubel**	**145.00**	**340**	*e*P	**PKPbc**	**23**	**57**	**13.7 -0.3**
	comp=Z,4.9nm,0.9s							
PVCC	**Panska Ves**	**145.09**	**339**	*e*PKP	**PKPdf**	**23**	**57**	**14.6 -0.2**
PRU	**Pruhonice**	**145.56**	**339**	*e*PKP	**PKPdf**	**23**	**57**	**15.6 -0.1**
KHC	**Kasperske Hory**	**146.62**	**339**	*e*PKP	**PKPbc**	**23**	**57**	**18.8 -0.3**
KHC				*ex*	x	23	57	27.7
GERES	**GERESS Array B**	**146.82**	**338**	PKPbc	**PKPbc**	**23**	**57**	**19.2 -0.5**
	comp=Z,1.2nm,0.9s,baz=29,slow=3.0,SNR=5.7							

IDC 06 23:51:33.4±6.8, 22˚.80N×144˚.44E, h85km±58km, mb3.7/9, mb1 3.8/10, mb1mx3.6/41, mbtmp4.0/10, ML4.0/1, Error ellipse: s-maj=60.8km s-min=16.7km az=81.0, Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h	m	s ISC
MJAR	**Matsushiro Arr**	**14.72**	**340**	P	Pn	23	54	56.8 -0.3
	0.6nm,0.3s,baz=160,slow=12,SNR=2.8							
KSRS	**Korea Array**	**20.38**	**319**	P	P	23	56	04.3 +1.1
	1.7nm,0.7s,baz=129,slow=11,SNR=6.1							
KLR	**Kul'dur**	**28.22**	**342**	P	P	23	57	17.5 -0.5
	1.5nm,0.6s,baz=154,slow=9.2,SNR=4.3							
SONM	**Songino Array**	**39.25**	**319**	P	P	23	58	54.2 +0.6
	0.7nm,0.4s,baz=108,slow=4.8,SNR=3.5							
WRA	**Warramunga Arr**	**43.62**	**194**	P	P	23	59	29.5 +0.1
	0.7nm,0.3s,baz=13,slow=8.8,SNR=18							
ASAR	**Alice Springs**	**47.31**	**193**	P	P	23	59	58.0 -0.6
	0.5nm,0.4s,baz=16,slow=7.0,SNR=8.6							
ZALV	**Zalesovo Beam**	**54.08**	**321**	P	P	00	00	48.3 -0.8
	0.6nm,0.4s,baz=90,slow=7.2,SNR=2.8							
KBZ	**Khabaz**	**82.44**	**314**	P	P	00	03	47.3 +0.9
	3.0nm,0.8s,baz=58,slow=5.0,SNR=7.3							
FINES	**FINESS Array B**	**82.69**	**335**	P	P	00	03	47.0 -0.4
	3.3nm,0.9s,baz=68,slow=4.5,SNR=8.8							
BRTR	**Keskin Array B**	**90.43**	**314**	P	P	00	04	25.4 -0.5
	0.6nm,0.8s,baz=52,slow=2.0,SNR=3.7							
LPAZ	**La Paz**	**148.67**	**84**	PKPbc	PKPbc	00	11	12.4 +0.1
	0.8nm,0.7s,baz=342,slow=3.2,SNR=3.9							

ISCJB ***06*** *23:52:50.0±0.9, 22˚.8N±0˚.1×144˚.5E±0˚.3, h100km, mb3.8/10, Error ellipse: s-maj=38.6km s-min=13.6km az=172.3*

IDC ***06*** *23:52:53.1±7.5, 22˚.81N×144˚.35E, h111km±69km, mb3.6/11, mb1 3.7/11, mb1mx3.5/39, mbtmp3.9/11, MS3.3/1, Ms1 3.3/1, ms1mx2.6/28, Error ellipse: s-maj=44.5km s-min=14.0km az=84.0*

ISC 06 23:52:51.9±1.0, 22.8N±0˚.1×144˚.4E±0˚.3, h100km, n12, σ0s87/11, mb3.9/10, Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h	m	s ISC
JOW	**Kunigami**	**15.16**	**289**	LR	LR	00	01	12.2
	comp=Z,105nm,19.0s,baz=286,slow=33							
KSRS	**Korea Array**	**20.34**	**320**	P	**P**	**23**	**57**	**21.1 +1.0**
	0.8nm,0.3s,baz=131,slow=13,SNR=5.0							
USRK	**Ussuriysk Ar.**	**23.65**	**337**	P	**P**	**23**	**57**	**55.1 +1.1**
	1.4nm,0.7s,baz=93,slow=7.7,SNR=3.1							
KLR	**Kul'dur**	**28.20**	**342**	P	**P**	**23**	**58**	**34.8 -0.1**
	0.9nm,0.4s,baz=170,slow=6.1,SNR=2.8							
WRA	**Warramunga Arr**	**43.61**	**194**	P	**P**	**00**	**00**	**46.3 -0.1**
	1.1nm,0.3s,baz=11,slow=8.7,SNR=13							
ASAR	**Alice Springs**	**47.31**	**193**	P	**P**	**00**	**01**	**14.7 -0.8**
	0.6nm,0.5s,baz=19,slow=7.5,SNR=6.8							
ZALV	**Zalesovo Beam**	**54.04**	**321**	P	**P**	**00**	**02**	**04.7 -1.1**
	0.7nm,0.5s,baz=98,slow=6.0,SNR=3.7							
STKA	**Stephens Creek**	**54.44**	**183**	P	**P**	**00**	**02**	**09.7 +0.8**
	0.7nm,0.4s,baz=350,slow=12,SNR=2.2							
ILAR	**Eielson Array**	**60.55**	**27**	P	**P**	**00**	**02**	**51.4 0.0**
	0.4nm,0.6s,baz=245,slow=4.8,SNR=4.2							
KBZ	**Khabaz**	**82.39**	**314**	P	**P**	**00**	**05**	**03.9 +1.0**
	3.7nm,0.8s,baz=68,slow=8.4,SNR=6.2							
FINES	**FINESS Array B**	**82.65**	**335**	P	**P**	**00**	**05**	**03.8 -0.1**
	1.2nm,0.7s,baz=39,slow=4.2,SNR=5.6							
BRTR	**Keskin Array B**	**90.38**	**314**	P	**P**	**00**	**05**	**41.8 -0.6**
	0.7nm,0.8s,baz=70,slow=4.1,SNR=4.3							

GUC 07 00:08:27.8±0.6, 36.06S×73.48W, h49km±4km, ML3.6, 1C, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h	m	s ISC
COCH	**Cobquecura**	**0.57**	**98**	*i* P	Pn	00	08	39.3 -0.6
COCH				*e*S	Sn	00	08	48.4 0.0
COCH				IAML		00	08	49.2
	comp=N,9μm,0.5s							
CCSP	**San Pedro de C**	**0.84**	**159**	*e*P	Pn	00	08	42.9 -0.5
CCSP				*e*S	Sn	00	08	55.1 +0.3
CCSP				IAML		00	08	58.7
	comp=N,4μm,0.3s							
CCHI	**Chillan**	**1.26**	**116**	*e*P	Pn	00	08	48.9 -0.1
CCHI				*e*S	Sn	00	09	05.0 +0.1
CCHI				IAML		00	09	15.2
	comp=E,2μm,0.9s							
GO05	**HualaæØ**	**1.64**	**51**	*e*P	Pn	00	08	54.5 +0.2

NIED ***07*** *00:09:00, 40˚.00N×143˚.50E, h14km, Mw4.8 Best double couple: M₀1.99000×10¹⁶ NP1:φs192.00000°, δ34.00000°,

MDJ Mudanjiang 11.33 299 P Pn 00 12 39.8 +0.5
MDJ pP 00 12 42.4
MDJ sP 00 12 46.3
MDJ pmax pmax
comp=Z,10.0nm,1.1s
MDJ pmax pmax
comp=Z,400nm,6.9s
MDJ LR LR
comp=Z,2µm,13.1s
MDJ LR LR
comp=Z,2µm,14.3s
MDJ LR LR
comp=Z,3µm,14.4s
JNU Nakatsue 12.24 240 Pn **Pn 00 12 51.8 0.0**
comp=Z,0.5nm,0.3s,baz=46,slow=12,SNR=8.0
JNU LR LR 00 17 46.1
comp=Z,11nm,18.9s,baz=48,slow=38
JNU Nakatsue 12.24 240 *e*Pn **Pn 00 12 52.3 +0.5**
KSRS Korea Array 12.45 263 Pn **Pn 00 12 57.0 +2.4**
comp=Z,0.4nm,0.3s,baz=81,slow=14,SNR=25
KSRS LR LR 00 17 25.6
comp=Z,2µm,18.1s,baz=74,slow=36
KSRS Korea Array 12.45 263 P **Pn 00 12 57.0 +2.4**
KSRS MLR MLR
comp=Z,2µm,18.2s
KS01 Wonju Array Si 12.46 264 *e*Pn **Pn 00 12 56.3 +1.5**
KS15 Wonju Array Si 12.48 263 *e*Pn **Pn 00 12 57.0 +1.9**
KSAR Wonju Array Be 12.48 263 P **Pn 00 12 57.0 +1.9**
KSAR Wonju Array Be 12.48 263 Pn **Pn 00 12 57.0 +1.9**
KLR Kul'dur 12.51 322 Pn **Pn 00 12 55.7 +0.3**
comp=Z,0.1nm,0.3s,baz=130,slow=15,SNR=14
KLR Kul'dur 12.51 322 *i*P **Pn 00 12 55.3 -0.1**
CBIJ Chichi jima 12.86 185 *e*Pn **Pn 00 12 56.7 -3.6**
OKH Okha 13.62 358 *e*P **P 00 13 21.7 +2.6**
CN2 Changchun 14.02 292 *e*P **Pn 00 13 15.2 -0.8**
CN2 *es*P P 00 13 26.8 +3.2
CN2 *e*S **Sn 00 15 49.0 -1.6**
CN2 pmax pmax
comp=Z,10.0nm,1.2s
CN2 pmax pmax
comp=Z,200nm,9.0s
CN2 LR LR
comp=Z,1µm,16.0s
CN2 LR LR
comp=Z,1µm,16.0s
CN2 LR LR
comp=Z,1µm,17.0s
SNY Shenyang 15.21 284 ⇓P **Pn 00 13 28.7 -3.5**
SNY S **Sn 00 16 13.7 -6.1**
SNY pmax pmax
comp=Z,6.0nm,0.3s
SNY pmax pmax
comp=Z,210nm,5.7s
SNY LR LR
comp=Z,1µm,12.9s
SNY LR LR
comp=Z,2µm,16.3s
SNY LR LR
comp=Z,2µm,15.7s
PETK Petropavlovsk- 16.34 32 Pn **Pn 00 13 45.9 -0.7**
comp=Z,0.2nm,0.3s,baz=208,slow=9.0,SNR=2.6
PETK LR LR 00 19 34.7
comp=Z,536nm,20.2s,baz=218,slow=36
PEA1 Petropavlovsk- 16.35 32 *e*Pn **Pn 00 13 45.9 -0.8**
PET Petropavlovsk 16.68 33 *i*P **Pn 00 13 51.1 +0.3**
PET pmax pmax
comp=Z,12nm,1.0s
PET Petropavlovsk 16.68 33 *e*Pn **Pn 00 13 45.1 -5.8**
comp=Z,44nm,1.4s
DL2 Dalian 16.96 274 P **Pn 00 13 53.9 -0.6**
DL2 S **Sn 00 17 01.7 -0.4**
DL2 pmax pmax
comp=Z,63nm,1.3s
DL2 pmax pmax
comp=Z,620nm,7.5s
DL2 LR LR
comp=Z,1µm,13.3s
DL2 LR LR
comp=Z,830nm,15.2s
DL2 LR LR
comp=Z,1µm,16.1s
MA2 Magadan 20.18 11 P **P 00 14 31.5 0.0**
comp=Z,24nm,0.8s,baz=184,slow=12,SNR=13
MA2 LR LR 00 23 08.4
comp=Z,718nm,18.7s,baz=198,slow=39
MA2 Magadan 20.18 11 *e*P **P 00 14 31.6 0.0**
comp=Z,20nm,0.7s
CLNS Chul'man 20.84 330 *e*P **P 00 14 36.2 -2.5**
CLNS pmax pmax
comp=Z,24nm,1.1s
CLNS pmax pmax
comp=E,26nm,1.0s
CLNS pmax pmax
comp=N,16nm,0.8s
CLNS MLR MLR
comp=Z,2µm,14.0s
CLNS MLR MLR
comp=E,885nm,14.0s
CLNS MLR MLR
comp=N,1µm,14.0s
BJI Beijing 20.94 279 P **P 00 14 37.0 -2.8**
BJI pmax pmax
comp=N,24nm,1.7s
BJI pmax pmax
comp=N,320nm,6.0s
BJI LR LR
comp=N,1µm,15.4s
BJI LR LR
comp=N,1µm,18.6s
BJI LR LR
comp=N,810nm,18.6s
TIA Tai'an 21.09 268 ⇓P **P 00 14 39.7 -1.9**
TIA S **S 00 18 30.7 -4.3**
TIA pmax pmax
comp=N,50nm,1.0s
TIA LR LR
comp=N,2µm,13.7s
TIA LR LR
comp=N,970nm,13.4s
TIA LR LR
comp=N,3µm,13.2s
NJ2 Nanjing 21.42 256 *e*P **P 00 14 44.2 -0.9**
NJ2 sP **sP 00 14 55.0 -0.6**
NJ2 S **S 00 18 43.1 +1.6**
NJ2 pmax pmax
comp=N,23nm,0.6s
NJ2 LR LR
comp=N,1µm,18.4s
NJ2 LR LR
comp=N,2µm,14.6s
NJ2 LR LR
comp=N,2µm,17.9s
SEY Seymchan 23.63 10 P **P 00 15 07.4 -0.5**
comp=N,28nm,0.8s,baz=196,slow=10,SNR=37
SEY LR LR 00 25 54.4
comp=N,796nm,18.7s,baz=166,slow=41
YAK Yakutsk 23.67 344 P **P 00 15 07.9 -0.4**
comp=N,62nm,0.6s,baz=120,slow=2.4,SNR=18
YAK LR LR 00 25 24.4
comp=N,484nm,18.4s,baz=139,slow=39
YAK Yakutsk 23.67 344 *e*P **P 00 15 05.2 -3.1**
YAK *e* 00 18 48.5
YAK *e*S **S 00 19 15.4 -5.9**
YAK *e* 00 26 18.0
YAK pmax pmax
comp=N,24nm,1.0s
YAK pmax pmax
comp=Z,89nm,0.9s
YAK pmax pmax
comp=E,15nm,0.9s
YAK smax smax
comp=E,207nm,16.3s
YAK smax smax
comp=N,150nm,15.9s
YAK MLR MLR
comp=E,797nm,20.0s
YAK MLR MLR
comp=Z,614nm,17.0s
YAK MLR MLR
comp=N,377nm,17.0s
YAK Yakutsk 23.67 344 *e*P **P 00 15 07.0 -1.3**
comp=N,103nm,0.8s
HHC Hu-ho-hao-te 24.30 283 *e*P **P 00 15 14.6 0.0**
HHC S **S 00 19 27.9 -4.1**
HHC sS pS 00 19 39.4 -0.8
HHC SS **SnSn 00 20 20.0 +4.5**
HHC pmax pmax
comp=N,12nm,1.1s
HHC pmax pmax
comp=N,200nm,5.2s
HHC LR LR
comp=N,370nm,12.4s
HHC LR LR
comp=N,1µm,16.3s
HHC LR LR
comp=N,1µm,15.7s
SMY Shemya 24.46 48 *e*P **P 00 15 15.0 -0.8**
SMY pmax pmax
comp=Z,169nm,1.3s
SMY Shemya 24.46 48 *e*P **P 00 15 15.0 -0.8**
comp=Z,169nm,1.3s
YULB Yu-li 25.00 235 *e*P **P 00 15 20.5 -0.5**
comp=Z,14nm,0.7s
WHN Wuhan 25.52 258 ⇓P **P 00 15 25.8 +0.3**
WHN S **S 00 19 55.2 +3.8**
WHN pmax pmax
comp=Z,160nm,1.0s
WHN pmax pmax
comp=Z,510nm,9.2s
WHN LR LR
comp=Z,5µm,17.0s
WHN LR LR
comp=Z,2µm,14.5s
WHN LR LR
comp=Z,3µm,17.0s
TWG Pinlang 25.56 235 *e*P **P 00 15 26.1 +0.1**
comp=Z,344nm,1.3s
QZH Quanzhou 25.71 242 P **P 00 15 26.4 -0.9**
QZH S **S 00 19 50.3 -4.1**
QZH LR LR
comp=Z,1µm,10.8s
QZH LR LR
comp=Z,630nm,11.0s
QZH LR LR
comp=Z,2µm,14.8s
BOD Bodaibo 26.08 323 *e*P **P 00 15 29.6 -0.8**
BOD pmax pmax
comp=Z,33nm,1.0s
ULN Ulaanbaatar 27.25 299 *ce*P **P 00 15 41.4 +0.2**
ULN pmax pmax
comp=Z,45nm,1.3s
ULN Ulaanbaatar 27.25 299 *e*P **P 00 15 41.6 +0.4**
comp=Z,32nm,1.0s
SONA1 Songino Array 27.69 299 *e*P **P 00 15 45.0 -0.1**
SONA0 Songino Array 27.69 299 *e*P **P 00 15 45.9 +0.8**
comp=Z,27nm,0.9s
SONM Songino Array 27.69 299 P **P 00 15 45.9 +0.8**
comp=Z,9.6nm,0.6s,baz=85,slow=8.3,SNR=58
XAN Xi'an 28.15 269 P **P 00 15 49.5 +0.2**
XAN pP pP 00 15 57.1 +0.1
XAN PP **PnPn 00 16 41.1 +3.7**
XAN S **S 00 20 35.1 +2.1**
XAN pmax pmax
comp=Z,23nm,1.4s
XAN pmax pmax
comp=Z,240nm,8.4s
XAN LR LR
comp=Z,140nm,12.3s
XAN LR LR
comp=Z,1µm,15.0s
XAN LR LR
comp=Z,2µm,14.8s
ENH Enshi 29.33 261 *e*P **P 00 16 00.1 +0.3**
comp=Z,53nm,0.9s
IRK Irkutsk 29.51 308 *e*P **P 00 16 00.9 -0.2**
IRK pmax pmax
comp=Z,50nm,1.8s
TLY Talaya 29.81 307 P **P 00 16 04.5 +0.7**
comp=Z,2.7nm,0.6s,baz=98,slow=15,SNR=6.1
TLY Talaya 29.81 307 *e*P **P 00 16 05.2 +1.4**
TLY *e* 00 17 07.2
TLY *e*S **S 00 20 59.5 +0.7**
TLY *e*SSS SSS 00 22 48.2
TLY pmax pmax
comp=Z,18nm,1.5s
TLY MLR MLR
comp=Z,1µm,16.0s
ZAK Zakamensk 29.90 304 *e*P **P 00 16 04.7 0.0**
ZAK pmax pmax
comp=Z,10.0nm,1.3s
GSTR Great Sitkin T 30.18 53 *e*P **P 00 16 03.1 -3.9**
BILL Bilibino 30.77 17 ⇓*e*P **P 00 16 12.3 +0.2**
BILL *e* 00 16 18.6
BILL *e*S **S 00 21 13.1 -0.3**
BILL pmax pmax
comp=Z,21nm,1.3s
BILL MLR MLR
comp=Z,322nm,17.0s
LZH Lanzhou 31.33 276 *e*P **P 00 16 18.6 +1.0**
LZH pP pP 00 16 26.1 +0.8
LZH sP sP 00 16 29.5 +1.0
LZH PP **PnPn 00 17 22.0 +1.8**
LZH PcP **PcP 00 19 16.1 +5.0**
LZH S **S 00 21 21.3 -1.8**
LZH sS sS 00 21 34.3 -1.6
LZH SS **SnSn 00 23 07.2 0.0**
LZH pmax pmax
comp=Z,39nm,1.2s
LZH pmax pmax
comp=Z,190nm,6.0s
LZH LR LR
comp=Z,1µm,13.2s
LZH LR LR
comp=Z,1µm,13.3s
LZH LR LR
comp=Z,1µm,14.2s
MOY Mondy 31.45 306 *e*P **P 00 16 19.5 +1.1**
TIXI Tiksi 32.64 351 *ce*P **P 00 16 27.5 -0.9**
TIXI pmax pmax
comp=Z,11nm,1.7s
TIXI Tiksi 32.64 351 *e*P **P 00 16 29.1 +0.7**
comp=Z,5.8nm,1.0s
GYA Guiyang 33.41 258 ⇑*i*P **P 00 16 35.2 -0.6**
GYA pP pP 00 16 44.6 +1.0
GYA PP **PP 00 17 49.8 -1.8**
GYA S **S 00 21 54.4 -1.2**
GYA sS sS 00 22 08.9 +0.5
GYA SS **SnSn 00 23 57.5 -0.4**
GYA pmax pmax
comp=Z,20nm,1.0s
GYA pmax pmax
comp=Z,120nm,5.2s
GYA LR LR
comp=Z,580nm,17.5s
GYA LR LR
comp=Z,460nm,17.8s
GYA LR LR
comp=Z,520nm,17.2s
CD2 Chengdu 33.41 267 ⇓*i*P **P 00 16 35.4 -0.3**
CD2 sP sP 00 16 45.1 -1.6
CD2 PP **PnPn 00 17 45.0 -1.9**
CD2 S **S 00 21 53.5 -2.0**
CD2 sS sS 00 22 07.3 -1.0
CD2 SS **SnSn 00 23 54.9 -2.9**
CD2 pmax pmax
comp=Z,20nm,1.0s
CD2 pmax pmax
comp=Z,200nm,7.6s
CD2 LR LR
comp=Z,1µm,15.2s
CD2 LR LR
comp=Z,1µm,16.1s
CD2 LR LR
comp=Z,2µm,14.2s
QIZ Qiongzhong 35.67 244 P **P 00 16 56.8 +1.5**
QIZ S **S 00 22 31.1 +0.8**
QIZ pmax pmax
comp=Z,120nm,8.1s
QIZ LR LR
comp=Z,580nm,15.6s
QIZ LR LR
comp=Z,630nm,14.6s
QIZ LR LR
comp=Z,700nm,15.1s
KMI Kunming 37.10 259 P **P 00 17 08.7 +1.0**
KMI pP pP 00 17 16.4 +0.9
KMI sP sP 00 17 19.5 +0.8
KMI PP **PnPn 00 18 33.0 +0.2**
KMI S **S 00 22 51.3 -1.2**
KMI sS sS 00 23 04.6 -0.8
KMI SS **SnSn 00 25 20.7 -6.7**
KMI pmax pmax
comp=Z,21nm,0.8s
KMI pmax pmax
comp=Z,200nm,5.2s
KMI LR LR
comp=Z,800nm,17.0s
KMI LR LR
comp=Z,770nm,15.8s
KMI LR LR
comp=Z,980nm,16.3s
SLVN Son La 38.43 253 *e*P **P 00 17 19.6 +0.8**
comp=Z,5.9nm,0.8s
WMQ Urumqi 41.09 294 P **P 00 17 42.4 +1.7**
WMQ pP sP 00 17 50.3 -1.5
WMQ sP pP 00 17 53.8 +5.2
WMQ ScP **ScP 00 23 31.0 +3.1**
WMQ S **S 00 23 51.5 -0.4**
WMQ sS sS 00 24 05.8 +0.9
WMQ pmax pmax
comp=Z,22nm,1.1s
WMQ pmax pmax
comp=Z,210nm,3.9s
WMQ LR LR
comp=Z,830nm,16.5s
WMQ LR LR
comp=Z,460nm,13.9s
WMQ LR LR
comp=Z,270nm,20.3s
ZAA0 Zalesovo Array 41.26 310 *e*P **P 00 17 41.8 -0.1**
ZAA0 *e*PcP **PcP 00 19 40.8 +0.6**
ZAA1 Zalesovo Array 41.26 310 *e*P **P 00 17 42.2 +0.3**
ZAA1 *e*PcP **PcP 00 19 40.5 +0.3**
ZALV Zalesovo Beam 41.26 310 P **P 00 17 42.2 +0.3**
comp=Z,12nm,0.8s,baz=87,slow=7.6,SNR=40
ZALV PcP **PcP 00 19 40.5 +0.3**
comp=Z,5.6nm,0.8s,baz=65,slow=3.3,SNR=4.4
ZALV LR LR 00 34 50.3
comp=Z,201nm,20.3s,baz=74,slow=36
MYLDM Lahad Datu 41.31 220 *e*P **P 00 17 42.7 +0.1**
comp=Z,36nm,1.0s
NRIK Noril'sk 41.37 334 P **P 00 17 42.9 +0.3**
comp=Z,6.5nm,0.9s,baz=93,slow=9.0,SNR=8.7
NRIK LR LR 00 35 11.6
comp=Z,455nm,21.3s,baz=109,slow=37
KKM Kota Kinabalu 41.74 223 *e*P **P 00 17 43.7 -2.6**
comp=Z,13nm,0.9s
NVS Novosibirsk 42.10 311 ⇓*i*P **P 00 17 49.9 +1.2**
NVS pmax pmax
comp=Z,23nm,1.1s
NVS pmax pmax
comp=N,3.0nm,0.8s
NVS pmax pmax
comp=E,16nm,1.2s
CHTO Chiang Mai 43.65 254 *e*P **P 00 18 02.7 +1.0**
CHTO pmax pmax
comp=Z,6.0nm,0.7s
CHTO Chiang Mai 43.65 254 *e*P **P 00 18 02.7 +1.0**
comp=Z,6.5nm,0.7s
LSA Lhasa 43.66 273 *e*P **P 00 18 04.4 +2.2**
LSA pmax pmax
comp=Z,45nm,1.8s
LSA Lhasa 43.66 273 *e*P **P 00 18 04.4 +2.2**
comp=Z,45nm,1.8s
CM31 Chiang Mai Arr 43.87 254 *e*P **P 00 18 04.4 +0.9**
CMAR Chiang Mai Arr 43.87 254 P **P 00 18 04.4 +0.9**
comp=Z,1.4nm,0.3s,baz=41,slow=7.4,SNR=9.5
CMAR LR LR 00 36 05.4
comp=Z,146nm,18.9s,baz=58,slow=36
CM01 Chiang Mai Arr 43.88 254 *e*P **P 00 18 03.2 -0.3**
MK01 Makanchi Array 44.05 300 *e*P **P 00 18 04.3 -0.3**
MK31 Makanchi Array 44.05 300 *e*P **P 00 18 03.8 -0.9**
MK31 Makanchi Array 44.05 300 *e*P **P 00 18 03.8 -0.9**
MKAR Makanchi Array 44.05 300 *e*P **P 00 18 05.0 +0.3**
MKAR pmax pmax
comp=Z,48nm,0.8s
MKAR Makanchi Array 44.05 300 *e*P **P 00 18 05.0 +0.3**
comp=Z,48nm,0.8s
KURK Kurchatov 45.51 306 *ce*P **P 00 18 16.4 +0.2**
KURK pmax pmax
comp=Z,111nm,1.0s
KURK Kurchatov 45.51 306 *e*P **P 00 18 15.9 -0.3**
comp=Z,48nm,0.8s
COLA College 45.74 34 *i*P **P 00 18 18.8 +1.0**
COLA pmax pmax
comp=Z,3.0nm,0.9s
HDA Harding Lake 46.15 34 *e*P **P 00 18 23.5 +2.4**
comp=Z,12nm,1.0s
ILAR Eielson Array 46.15 34 P **P 00 18 21.1 0.0**
comp=Z,2.5nm,0.8s,baz=264,slow=6.4,SNR=20
ILAR LR LR 00 37 41.5
comp=Z,141nm,21.6s,baz=281,slow=36
ILB Eielson Array 46.15 34 *e*P **P 00 18 21.4 +0.2**
IL1 Eielson Array 46.16 34 *e*P **P 00 18 20.9 -0.2**
FYU Fort Yukon 46.76 31 *e*P P 00 18 31.2 +5.4
comp=Z,17nm,0.8s
KLU Klutina 46.85 38 *e*P **P 00 18 25.7 -1.0**
PDGK Podgornoye 46.94 296 P **P 00 18 27.9 +0.2**
PDGK pmax pmax
comp=Z,16nm,0.9s
TAPN Taplejung 47.44 272 *e*P **P 00 18 32.5 +0.5**
comp=Z,66nm,1.1s
MENT Mentasta 47.70 36 *e*P P 00 18 38.1 +4.8
comp=Z,25nm,1.1s
ODAN Odare 47.93 272 *e*P **P 00 18 36.8 +1.0**
comp=Z,54nm,1.0s
JIRN Jiri 48.45 274 *e*P **P 00 18 40.3 +0.4**
comp=Z,59nm,0.9s
RAMN Ramite 48.49 273 *e*P **P 00 18 40.8 +0.7**
comp=Z,68nm,0.9s
GUN Gumba 48.56 274 *e*P **P 00 18 41.6 +0.8**
comp=Z,100nm,0.8s
KKN Kakani 49.09 274 *e*P **P 00 18 45.4 +0.8**
comp=Z,75nm,0.8s
PKI Pulchoki 49.09 274 *e*P **P 00 18 45.3 +0.5**
PKIN Phulchoki 49.10 274 *e*P **P 00 18 45.2 +0.4**
DMN Daman 49.31 274 *e*P **P 00 18 46.7 +0.3**
comp=Z,41nm,1.1s
GKN Gorkha 49.47 275 *e*P **P 00 18 48.0 +0.5**
comp=Z,100nm,1.5s
BVA0 Borovoye Array 49.89 311 *i*P **P 00 18 50.2 0.0**
BVA0 pmax pmax
comp=Z,22nm,1.3s
BRVK Borovoye 49.94 311 *ce*P **P 00 18 51.2 +0.7**
BRVK pmax pmax
comp=Z,51nm,1.7s
BRVK Borovoye 49.94 311 *e*P **P 00 18 51.4 +0.9**
comp=Z,29nm,1.3s
KOLN Koldanda 50.38 275 *e*P **P 00 18 55.2 +0.7**
FRU Bishkek 50.46 297 *e*P **P 00 18 55.5 +0.8**
FRU *e* 00 19 04.5
FRU pmax pmax
comp=Z,34nm,2.0s
AAK Ala-Archa 50.62 297 *i*P **P 00 18 55.7 -0.3**
AAK pmax pmax
comp=Z,24nm,1.4s
AAK Ala-Archa 50.62 297 *e*P **P 00 18 56.7 +0.7**
comp=Z,7.2nm,0.9s
PYUN Piuthan 50.68 276 *e*P **P 00 18 57.4 +0.7**
comp=Z,71nm,1.0s
KSH Kashi 50.78 293 *e*P **P 00 19 01.9 +4.6**
KSH pP sP 00 19 09.0 +0.6
KSH sP pP 00 19 13.1 +7.8
KSH PP **PP 00 20 59.1 +5.8**
KSH S **S 00 26 15.7 +4.2**
KSH sS sS 00 26 28.6 +3.9
KSH SS **SS 00 29 48.7 +2.9**
KSH pmax pmax
comp=Z,12nm,1.1s
KSH pmax pmax
comp=Z,140nm,3.9s
KSH LR LR
comp=Z,710nm,15.0s
KSH LR LR
comp=Z,400nm,12.5s
KSH LR LR
comp=Z,930nm,15.1s
HYT Haines Junctio 50.98 38 *e*P **P 00 19 03.0 +4.5**
INK Inuvik 51.04 28 *e*P **P 00 18 59.5 +0.9**
INK pmax pmax
comp=Z,15nm,1.1s
INK Inuvik 51.04 28 *e*P **P 00 18 59.5 +0.9**
comp=Z,15nm,1.1s
MNAS Manas 52.03 297 P **P 00 19 05.2 -1.4**
MNAS pmax pmax
comp=Z,10.0nm,1.0s
KK31 Karatay Array 53.15 299 *i*P **P 00 19 14.0 -0.7**

KK31 pmax pmax
comp=Z,5.0nm,0.8s
KKAR Karatay Array 53.15 299 *e*P **P** **00 19 14.6 -0.1**
KKAR pmax pmax
comp=Z,56nm,0.6s
KKAR Karatay Array 53.15 299 *e*P **P** **00 19 14.6 -0.1**
comp=Z,56nm,0.6s
MTN Manton Dam 53.76 195 *e*P **P** **00 19 19.3 0.0**
comp=Z,20nm,0.8s
SVE Sverdlovsk 54.10 318⇑ *e*P **P** **00 19 22.5 +1.1**
SVE pmax pmax
comp=Z,26nm,1.2s
SVE MLR MLR
comp=Z,2µm,15.0s
SOKR Solikamsk 55.06 322 *e*P **P** **00 19 32.4 +4.2**
SOKR pmax pmax
comp=Z,27nm,1.4s
SOKR MLR MLR
comp=Z,488nm,15.0s
ARU Arti 55.31 318 *c i*P **P** **00 19 30.4 +0.2**
ARU 00 20 32.1
ARU 00 21 35.3
ARU PPP PPP 00 22 44.1
ARU S **S** **00 27 12.8 +0.5**
ARU SS **SS** **00 30 51.4 -4.9**
ARU pmax pmax
comp=Z,38nm,1.7s
ARU MLR MLR
comp=Z,2µm,15.0s
ARU Arti 55.31 318 *e*P **P** **00 19 30.1 -0.1**
comp=Z,33nm,1.3s
AB31 Akbulak array 57.36 309 *i* P **P** **00 19 44.4 -0.5**
AB31 pmax pmax
comp=Z,7.0nm,0.7s
ABKAR Akbulak array 57.36 309 *e*P **P** **00 19 44.8 -0.2**
comp=Z,74nm,0.6s
KBL Kabul 57.95 290 *e*P **P** **00 19 49.6 0.0**
KBL pmax pmax
comp=Z,16nm,0.9s
KBL Kabul 57.95 290 *e*P **P** **00 19 49.6 0.0**
comp=Z,16nm,0.9s
AKTO Aktyubinsk 57.99 311 *i* P **P** **00 19 45.8 -3.6**
AKTO pmax pmax
comp=Z,9.0nm,0.9s
FITZ Fitzroy Crossi 60.11 200 *e*P **P** **00 20 04.7 +0.5**
WRAB Tennant Creek 60.17 190 *e*P **P** **00 20 04.0 -0.7**
WRAB pmax pmax
comp=Z,82nm,1.9s
WRAB Tennant Creek 60.17 190 *e*P **P** **00 20 04.0 -0.7**
comp=Z,82nm,1.9s
WB2 Warramunga Arr 60.18 190 *e*P **P** **00 20 04.1 -0.7**
WR1 Warramunga Arr 60.19 190 *e*P **P** **00 20 04.0 -0.7**
comp=Z,16nm,1.0s
WRA Warramunga Arr 60.19 190 P **P** **00 20 04.0 -0.7**
comp=Z,10.0nm,0.7s,baz=8.4,slow=6.9,SNR=126
WRA Warramunga Arr 60.19 190 P **P** **00 20 04.0 -0.7**
WRA pmax pmax
comp=Z,8.0nm,0.6s
YKA Yellowknife Ar 60.46 31 P **P** **00 20 05.7 -0.5**
comp=Z,0.8nm,0.5s,baz=307,slow=8.4,SNR=3.6
YKA LR LR 00 48 21.0
comp=Z,6.9nm,20.1s,baz=0.0,slow=38
YKA Yellowknife Ar 60.46 31 *ce*P **P** **00 20 10.1 +3.9**
YKA pmax pmax
comp=Z,3.0nm,0.9s
YKB5 Yellowknife Ar 60.46 31 *e*P **P** **00 20 05.7 -0.5**
TMCR Tamitsa 61.00 331 *e*P **P** **00 20 10.4 +0.6**
TMCR pmax pmax
comp=Z,22nm,1.0s
ARCES ARCESS Array B 61.87 339 P **P** **00 20 15.9 +0.2**
comp=Z,4.2nm,0.9s,baz=32,slow=10.0,SNR=4.7
ARCES LR LR 00 50 10.6
comp=Z,315nm,21.5s,baz=44,slow=39
KLMR Klimovskoe 62.20 328 *e*P **P** **00 20 16.7 -1.3**
KLMR *e* 00 20 57.8
KLMR *e* 00 22 33.0
KLMR pmax pmax
comp=Z,43nm,1.4s
GEYT Alibeck 63.90 299 P **P** **00 20 30.2 +0.5**
comp=Z,7.2nm,0.9s,baz=73,slow=6.3,SNR=18
GEYT LR LR 00 49 21.7
comp=Z,136nm,19.4s,baz=65,slow=37
AS01 Alice Springs 63.90 190 *e*P **P** **00 20 29.0 -0.7**
AS31 Alice Springs 63.91 190 *e*P **P** **00 20 31.6 +1.8**
comp=Z,1.8nm,0.8s
ASAR Alice Springs 63.91 190 P **P** **00 20 29.6 -0.2**
comp=Z,3.0nm,0.7s,baz=12,slow=6.6,SNR=27
ASAR LR LR 00 48 22.8
comp=Z,48nm,19.8s,baz=10,slow=36
JOF Joensuu 64.19 332 P **P** **00 20 31.8 +0.7**
JOF pmax pmax
comp=Z,22nm,1.9s
PALK Pallekele 64.62 258 *e*P **P** **00 20 35.1 +0.4**
PALK pmax pmax
comp=Z,52nm,1.2s
PALK Pallekele 64.62 258 *e*P **P** **00 20 35.1 +0.4**
comp=Z,52nm,1.2s
GPW Glacier Peak 64.73 48 *e*P **P** **00 20 37.2 +1.9**
DZM Mont Dzumac 65.29 157 LR LR 00 44 28.4
comp=Z,126nm,21.3s,baz=37,slow=32
LTY Liberty 65.46 48 *e*P **P** **00 20 43.7 +3.9**
comp=Z,19nm,1.9s
MOS Moscow 65.91 323 *e*P **P** **00 20 39.6 -2.8**
MOS pmax pmax
comp=Z,37nm,1.5s
MOS MLR MLR
comp=Z,700nm,15.0s
OBN Obninsk 66.77 323 *e*P **P** **00 20 46.6 -1.3**
OBN *i* 00 20 55.3
OBN *e* 00 23 18.8
OBN *i* S **S** **00 29 38.0 -0.1**
OBN pmax pmax
comp=Z,29nm,1.7s
OBN MLR MLR
comp=Z,862nm,15.0s
NEW Newport 66.90 46 *e*P **P** **00 20 53.7 +4.7**
NEW *e**PP **pP** **00 20 58.4 +1.2**
NEW pmax pmax
comp=Z,6.0nm,0.9s
NEW Newport 66.90 46 *e*P **P** **00 20 53.7 +4.7**
comp=Z,6.0nm,0.9s
NEW *e*pP **pP** **00 20 58.4 +1.2**
FIA1 FINESS Array S 67.02 332 *e*P **P** **00 20 49.9 +0.5**
FIA0 FINESS Array S 67.02 332 *e*P **P** **00 20 49.5 +0.1**
FIA0 FINESS Array S 67.02 332 *e*P **P** **00 20 49.5 +0.1**
FINES FINESS Array B 67.02 332 P **P** **00 20 49.5 +0.1**
comp=Z,8.4nm,0.8s,baz=51,slow=6.1,SNR=18
FINES LR LR 00 53 19.1
comp=Z,729nm,18.3s,baz=33,slow=39
FINES FINESS Array B 67.02 332 *ce*P **P** **00 20 49.7 +0.3**
FINES pmax pmax
comp=Z,8.0nm,0.8s
E09A Wood Farm, Sta 67.32 48 *e*P **P** **00 20 53.5 +1.9**
comp=Z,6.9nm,0.9s
SUMG Summit 67.78 1 *i* P **P** **00 20 55.6 +1.1**
comp=Z,6.5nm,0.8s
SUMG Summit 67.78 1 *i* P **P** **00 20 55.6 +1.1**
SUMG pmax pmax
comp=Z,7.0nm,0.8s
K05A Summer Lake 67.83 52 *e*P **P** **00 20 56.7 +1.5**
comp=Z,22nm,1.4s
VSR Storozhevoye 67.84 319 *e*P **P** **00 20 54.5 -0.3**
VSR pmax pmax
comp=Z,20nm,1.6s
MOD Modoc Plateau 68.66 53 *e*P **P** **00 21 02.7 +2.3**
comp=Z,19nm,1.9s
BMO Blue Mountains 68.75 49 *e*P **P** **00 21 01.6 +0.8**
BMO pmax pmax
comp=Z,4.0nm,1.0s
BMO Blue Mountains 68.75 49 *e*P **P** **00 21 01.6 +0.8**
comp=Z,4.3nm,1.0s
JTMT Jette 68.75 45 *e*P **P** **00 21 01.7 +0.9**
SWMT Swartz Lake 69.05 45 *e*P **P** **00 21 04.2 +1.6**
WVOR Wild Horse Val 69.37 52 *e*P **P** **00 21 06.9 +2.2**
WVOR pmax pmax
comp=Z,5.0nm,1.0s
WVOR Wild Horse Val 69.37 52 *e*P **P** **00 21 06.9 +2.2**
comp=Z,4.8nm,1.0s
GOF Gofitskoye 69.40 312 ⇓*i*P **P** **00 21 05.8 +1.2**
GOF pmax pmax
comp=Z,33nm,0.8s
SLMT Seeley Lake 69.48 45 *e*P **P** **00 21 06.0 +0.7**
MSO Missoula 69.49 46 *e*P P 00 21 10.7 +5.4
comp=Z,20nm,1.8s
NCK Nalchik 70.00 310 *e*P **P** **00 21 08.0 -0.4**
NCK pmax pmax
comp=Z,12nm,1.0s
DUS Dusheti 70.17 309 P **P** **00 21 13.1 +3.5**
DUS Dusheti 70.17 309 P **P** **00 21 13.1 +3.5**
ZEI Tsey 70.24 310 *e*P **P** **00 21 08.7 -1.4**
ZEI pmax pmax
comp=Z,36nm,1.1s
KIV Kislovodsk 70.26 311 *e*P **P** **00 21 10.5 +0.4**
KIV *e*S **S** **00 30 18.7 -1.6**
KIV *e*SS **SS** **00 34 49.5 -0.5**
KIV pmax pmax
comp=Z,41nm,0.9s
KIV pmax pmax
comp=Z,31nm,3.2s
KIV Kislovodsk 70.26 311 *e*P **P** **00 21 11.4 +1.3**
comp=Z,38nm,0.9s
KBZ Khabaz 70.27 311 P **P** **00 21 10.9 +0.9**
comp=Z,12nm,0.9s,baz=76,slow=4.2,SNR=21
KBZ LR LR 00 57 06.2
comp=Z,230nm,18.6s,baz=20,slow=40
SEAG Tbilisi Sea 70.31 308 P **P** **00 21 06.6 -3.7**
TBLG Delisi 70.36 308 P **P** **00 21 11.0 +0.3**
TBLG Delisi 70.36 308 P **P** **00 21 11.0 +0.3**
FFC Flin Flon 70.37 34 *e*P **P** **00 21 10.7 +0.3**
FFC pmax pmax
comp=Z,11nm,0.9s
FFC Flin Flon 70.37 34 *e*P **P** **00 21 10.7 +0.3**
comp=Z,11nm,0.9s
MFID Camas Ranch 70.46 49 *e*P **P** **00 21 12.2 +0.8**
comp=Z,3.6nm,0.9s
ONI Oni 70.62 310 P **P** **00 21 13.5 +1.2**
ONI Oni 70.62 310 P **P** **00 21 13.5 +1.2**
HRY Holter Researc 70.71 45 *e*P **P** **00 21 14.1 +1.3**
LRM Limekiln Ridge 70.92 46 *e*P **P** **00 21 15.0 +0.7**
EGMT Eagleton 71.00 43 *e*P **P** **00 21 14.9 +0.4**
comp=Z,11nm,0.8s
YERR Yerington 71.02 55 *e*P **P** **00 21 17.0 +2.1**
comp=Z,6.3nm,0.8s
DLMT Dillon 71.12 46 *e*P **P** **00 21 18.7 +3.3**
comp=Z,7.2nm,0.9s
HLID Hailey 71.19 49 *e*P **P** **00 21 17.8 +1.9**
comp=Z,3.7nm,0.8s
NACGM Naroch 71.21 327 *e* P **00 21 16.0 +0.5**
NACGM *e*LR LR 00 55 13.0
GNI Garni 71.30 307 *ce*P **P** **00 21 18.9 +2.3**
GNI pmax pmax
comp=Z,45nm,1.3s
AKH Akhalkalaki 71.31 309 P **P** **00 21 17.0 +0.4**
AKH Akhalkalaki 71.31 309 ⇓*i*P **P** **00 21 18.5 +1.9**
AKH Akhalkalaki 71.31 309 P **P** **00 21 17.0 +0.4**
CHVG Ch'k'valeri 71.35 310 P **P** **00 21 18.2 +1.5**
BMN Battle Mountai 71.41 53 *e*P P 00 21 22.1 +4.9
BMN pmax pmax
comp=Z,5.0nm,1.1s
BMN Battle Mountai 71.41 53 *e*P P 00 21 22.1 +4.8
comp=Z,5.4nm,1.1s
STKA Sthens Creek 71.48 182 P **P** **00 21 17.1 -0.2**
comp=Z,2.3nm,0.8s,baz=353,slow=8.1,SNR=4.5
STKA LR LR 00 51 04.8
comp=Z,35nm,21.8s,baz=20,slow=35
STKA Stephens Creek 71.48 182 *e*P **P** **00 21 17.1 -0.2**
comp=Z,9.4nm,1.8s
BOZ Bozeman (W) 71.51 46 *e*P **P** **00 21 18.4 +0.7**
BOZ pmax pmax
comp=Z,8.0nm,0.8s
BOZ Bozeman (W) 71.51 46 *e*P **P** **00 21 18.4 +0.7**
comp=Z,8.3nm,0.8s
TVH1 TV Hill, Hawth 71.63 55 *e*P **P** **00 21 21.3 +2.5**
comp=Z,4.7nm,0.9s
TVH3 East Aurora ar 71.66 55 *e*P **P** **00 21 21.1 +2.3**
comp=Z,3.9nm,0.9s
NC204 NORSAR Array S 72.08 338 *e*P **P** **00 21 21.9 +1.1**
NB2 NORSAR Subarra 72.14 338 P **P** **00 21 21.1 0.0**
comp=Z,10.0nm,0.8s,baz=36,slow=6.2
NB200 NORSAR Array S 72.14 338 *e*P **P** **00 21 21.5 +0.4**
NOA NORSAR Array B 72.14 338 P **P** **00 21 21.5 +0.4**
comp=Z,7.3nm,0.8s,baz=37,slow=6.0,SNR=14
NOA LR LR 00 59 08.8
comp=Z,290nm,18.1s,baz=20,slow=41
SOC Sochi 72.19 312 *e*P **P** **00 21 21.6 0.0**
SOC *e*PPP PPP 00 25 43.3
SOC *e*S **S** **00 30 39.1 -3.4**
SOC *e*SS **SS** **00 35 21.0 +1.6**
SOC pmax pmax
comp=Z,26nm,0.9s
NBO02 NORSAR Array S 72.24 338 *e*P **P** **00 21 22.2 +0.6**
ARTV Arvin 72.38 309 *e*P **P** **00 21 24.4 +1.2**
comp=Z,6.0nm,0.7s
YHH Holmes Hill 72.45 46 *e*P **P** **00 21 28.0 +4.5**
comp=Z,3.9nm,1.0s
IMW Indian Meadow 72.96 47 *e*P **P** **00 21 28.5 +1.9**
comp=Z,6.0nm,0.8s
AKASG Malin Array Be 73.01 323 P **P** **00 21 26.6 +0.2**
comp=Z,3.3nm,0.7s,baz=44,slow=6.0,SNR=20
AKASG LR LR 00 55 26.0
comp=Z,229nm,19.2s,baz=50,slow=37
AKBB Malin Array Si 73.01 323 *e*P **P** **00 21 26.7 +0.3**
AKBB *e**PP **pP** **00 21 35.4 +0.7**
AKBB pmax pmax
comp=Z,12nm,0.9s
AKBB Malin Array Si 73.01 323 *e*P **P** **00 21 26.7 +0.3**
comp=Z,12nm,0.9s
AKBB *e*pP **pP** **00 21 35.4 +0.7**
KIEV Kiev 73.02 323 *e*P **P** **00 21 26.3 -0.1**
KIEV pmax pmax
comp=Z,9.0nm,1.0s
KIEV Kiev 73.02 323 *e*P **P** **00 21 26.6 +0.1**
comp=Z,11nm,0.9s
AK11 Malin Array Si 73.05 323 *e*P **P** **00 21 27.2 +0.6**
MOOW Moose Ponds 73.16 47 *e*P **P** **00 21 29.1 +1.4**
comp=Z,5.2nm,1.0s
HVU Hansel Valley 73.24 49 *e*P **P** **00 21 29.6 +1.5**
HVU pmax pmax
comp=Z,6.0nm,1.0s
HVU Hansel Valley 73.24 49 *e*P **P** **00 21 29.6 +1.5**
comp=Z,6.2nm,1.0s
R11A Troy Canyon, C 73.68 54 *e*P **P** **00 21 32.7 +1.9**
comp=Z,6.4nm,1.3s
SPUT South Promonto 73.73 50 *e*P **P** **00 21 33.1 +2.1**
comp=Z,3.3nm,0.9s
HWUT Hardware Ranch 74.05 49 *e*P **P** **00 21 35.1 +2.1**
comp=Z,6.8nm,1.1s
TPNV Topopah Spring 74.13 55 *e*P **P** **00 21 34.3 +0.9**
TPNV pmax pmax
comp=Z,8.0nm,0.9s
TPNV Topopah Spring 74.13 55 *e*P **P** **00 21 34.3 +0.9**
comp=Z,7.7nm,0.9s
DUG Dugway, Tooele 74.21 51 *e*P **P** **00 21 36.0 +2.1**
DUG pmax pmax
comp=Z,9.0nm,1.2s
DUG Dugway, Tooele 74.21 51 *e*P **P** **00 21 36.0 +2.1**
comp=Z,8.8nm,1.2s
EDW2 Edwards Air Fo 74.28 58 *e*P **P** **00 21 38.6 +4.3**
SIM Simferopol' 74.41 316 P P 00 21 29.0 -5.7
SIM *e*S **S** **00 31 13.0 +5.4**
SIM pmax pmax
comp=Z,8.0nm,0.8s
BW06 Boulder Array 74.46 47 *e*P **P** **00 21 35.0 -0.4**
PD31 Pinedale Array 74.46 47 *e*P **P** **00 21 35.7 +0.4**
PDAR Pinedale Array 74.46 47 P **P** **00 21 35.4 0.0**
comp=Z,1.4nm,0.7s,baz=309,slow=4.3,SNR=13
SBI Santa Barbara 74.46 59 *e*P **P** **00 21 34.8 -0.4**
SHPR Sheep Range 75.09 55 *e*P **P** **00 21 41.0 +1.9**
comp=Z,4.7nm,1.0s
SORM Soroca 75.19 321 ⇓*i*P **P** **00 21 39.1 0.0**
SORM Soroca 75.19 321 ⇓P **P** **00 21 39.1 0.0**
MARD Mardin 75.48 307 *e*P **P** **00 21 43.0 +1.8**
comp=Z,24nm,0.9s
CCUT Cedar City 75.55 53 *e*P **P** **00 21 43.0 +1.2**
comp=Z,14nm,1.6s
KIS Kishinev 75.75 320 *e*P P 00 21 52.0 +10
KIS Kishinev 75.75 320 *e*PP PP 00 24 42.0 +10
KIS LRM MLR 00 58 30.0
comp=Z,500nm,15.0s
KIS Kishinev 75.75 320 *e*P P 00 21 52.0 +10
KIS *e* 00 24 42.0
KIS *e* 00 31 24.0
KIS MLR MLR
comp=Z,800nm,15.0s
KIS MLR MLR
comp=Z,700nm,15.0s
MTPU Mount Pierson 75.96 52 *e*P **P** **00 21 46.6 +2.3**
comp=Z,31nm,1.9s
LCMT Little Creek M 75.96 53 *e*P **P** **00 21 46.0 +2.0**
comp=Z,4.9nm,0.9s
LVV L'vov 76.00 324 *e*P **P** **00 21 45.7 +1.9**
LVV MLR MLR
comp=N,580nm,14.0s
LVV MLR MLR
comp=Z,600nm,15.0s
LVV MLR MLR
comp=E,480nm,14.0s
ULM Lac du Bonnet 76.17 35 P **P** **00 21 44.2 -0.5**
comp=E,3.4nm,0.8s,baz=326,slow=7.3,SNR=3.1
KNB Kanab 76.22 53 *e*P **P** **00 21 47.8 +2.3**
KNB pmax pmax
comp=Z,20nm,1.6s
KNB Kanab 76.22 53 *e*P **P** **00 21 47.8 +2.3**
comp=Z,20nm,1.6s
BORC Borrego Spring 76.31 58 *e*P **P** **00 21 43.8 -2.0**
KWP Kalwaria Pacla 76.72 325 *e*P **P** **00 21 49.5 +1.6**
KWP Kalwaria Pacla 76.72 325 *e*P **P** **00 21 49.5 +1.6**
W13A Hualapai Mount 76.78 55 *e*P **P** **00 21 50.5 +1.8**
comp=Z,2.4nm,0.9s
U15A North Rim 76.92 53 *e*P **P** **00 21 51.0 +1.4**
comp=Z,5.8nm,0.8s
BUR08 Bucovina Ar. S 77.04 322 *e*P **P** **00 21 50.9 +1.1**
BURAR Bucovina Array 77.05 322 ⇑*i*P **P** **00 21 50.7 +0.8**
BURAR Bucovina Array 77.05 322 ⇑P **P** **00 21 50.7 +0.8**
ILGA Ilgaz 77.22 313 *e*P **P** **00 21 53.0 +1.9**
comp=Z,18nm,1.1s
CFR Carcaliu 77.36 319 ⇑*i*P **P** **00 21 51.9 +0.4**
CFR Carcaliu 77.36 319 ⇑P **P** **00 21 51.9 +0.4**
KSRV Kasrt alli 77.51 306 *e*P **P** **00 21 53.6 +1.1**
STHS Stebnicka Huta 77.53 326 *e*P **P** **00 21 53.3 +0.9**
STHS pmax pmax
comp=Z,5.0nm,1.0s
STHS Stebnicka Huta 77.53 326 *e*P **P** **00 21 53.3 +0.9**
OJC Ojcow 77.54 327 *e*P **P** **00 21 53.8 +1.3**
OJC Ojcow 77.54 327 *e*P **P** **00 21 53.6 +1.1**
OJC pmax pmax
comp=Z,20nm,1.0s
OJC Ojcow 77.54 327 *e*P **P** **00 21 53.6 +1.1**
comp=Z,20nm,1.0s
VRI Vrincioaia 77.58 320 ⇓*i*P **P** **00 21 53.5 +0.7**
VRI Vrincioaia 77.58 320 ⇓P **P** **00 21 53.5 +0.7**
UZH Uzhgorod 77.65 325 *e*P **P** **00 21 52.5 -0.6**
UZH *e* 00 22 09.5
CRVS Cervenica-Dubn 77.81 325 *e*P **P** **00 21 55.1 +1.1**
CRVS Cervenica-Dubn 77.81 325 *e*P **P** **00 21 55.1 +1.1**
ARCR ARCALIA 77.84 322 ⇑*i*P **P** **00 21 54.2 0.0**
NIE Niedzica 77.93 326 *e*P **P** **00 21 56.0 +1.3**
NIE Niedzica 77.93 326 *e*P **P** **00 21 56.0 +1.3**
Y14A Wickenburg 78.08 56 *e*P **P** **00 21 57.8 +2.0**
comp=Z,25nm,0.9s
WUAZ Wupatki 78.08 54 *e*P **P** **00 21 57.8 +1.8**
comp=Z,11nm,0.9s
BR101 Keskin Array S 78.16 312 *e*P **P** **00 21 57.0 +0.8**
BR131 Keskin Array S 78.16 312 *e*P **P** **00 21 57.1 +0.8**
BRTR Keskin Array B 78.16 312 P **P** **00 21 57.0 +0.8**
comp=Z,1.7nm,0.8s,baz=110,slow=5.7,SNR=12
BRTR LR LR 01 01 13.5
comp=Z,118nm,18.6s,baz=1.5,slow=39
DOPR Dopca 78.16 321 ⇑*i*P **P** **00 21 56.6 +0.6**
ISR Istrita 78.20 320 ⇓*i*P **P** **00 21 56.7 +0.4**
ISR Istrita 78.20 320 ⇓P **P** **00 21 56.7 +0.4**
DRWC Darouich 78.44 308 *e*P **P** **00 21 56.9 -1.0**
LANS Liptovska Anna 78.49 326 *e*P **P** **00 21 59.9 +2.1**
LANS Liptovska Anna 78.49 326 *e*P **P** **00 21 59.9 +2.1**
OKC Ostrava-Krasne 78.52 327 *e*P **P** **00 21 59.2 +1.3**
OKC *ex* x 00 22 02.2
OKC *e*pP **PcP** **00 22 07.8 +0.8**
OKC AMS AMS 00 59 40.0
comp=Z,400nm,19.7s
OKC Ostrava-Krasne 78.52 327 *e*P **P** **00 21 59.2 +1.3**
OKC *e* 00 22 07.8
OKC MLR MLR
comp=Z,400nm,19.7s
BR231 Keskin MP Arra 78.57 313 *e*P **P** **00 21 57.8 -0.7**
VOIR 78.70 321 ⇑*i*P **P** **00 21 59.7 +0.6**
VOIR 78.70 321 ⇑P **P** **00 21 59.7 +0.6**
X16A Lo Mia Camp, P 78.75 54 *e*P **P** **00 22 01.8 +2.1**
comp=Z,5.5nm,0.8s
MORC Moravsky Berou 78.82 328 ⇓*i*P **P** **00 21 59.5 -0.1**
MORC Moravsky Berou 78.82 328 ⇓P **P** **00 21 59.5 -0.1**
DRGR 78.82 323 ⇓*i*P **P** **00 22 00.5 +0.8**
DRGR 78.82 323 ⇓P **P** **00 22 00.5 +0.8**
DPC Dobruska-Polom 78.86 329 *e*P **P** **00 22 01.4 +1.5**
DPC *e*pP **pP** **00 22 05.8 -2.4**
DPC *es*P **sP** **00 22 10.0 -1.3**
DPC *e*PP **PP** **00 24 59.0 +1.1**
DPC AMS AMS 01 02 00.0
comp=Z,500nm,17.9s
DPC Dobruska-Polom 78.86 329 *e*P **P** **00 22 01.4 +1.5**
DPC *e* 00 22 05.8
DPC *e* 00 22 10.0
DPC *e* 00 24 59.0
DPC MLR MLR
comp=Z,500nm,17.9s
UPC Upice 78.86 329 *e*P **P** **00 22 01.1 +1.3**
UPC AMS AMS 01 02 10.0
comp=Z,700nm,14.9s
UPC Upice 78.86 329 *e*P **P** **00 22 01.1 +1.3**
UPC MLR MLR
comp=Z,700nm,14.9s
KRLC Kraliky 78.89 328 *e*P **P** **00 22 01.1 +1.1**
KRLC *e*pP **pP** **00 22 05.4 -3.0**
KRLC *es*P **PcP** **00 22 09.1 +0.4**
KRLC Kraliky 78.89 328 *e*P **P** **00 22 01.1 +1.1**
KRLC *e* 00 22 05.4
KRLC *e* 00 22 09.1
ARR Arges 78.95 321 ⇓*i*P **P** **00 22 02.0 +1.5**
PSZ Piszkesteto 79.24 325 ⇑*i*P **P** **00 22 02.7 +0.7**
PSZ Piszkesteto 79.24 325 *e*P **P** **00 22 03.3 +1.3**
PSZ pmax pmax
comp=Z,15nm,1.1s
PSZ Piszkesteto 79.24 325 *e*P **P** **00 22 03.3 +1.3**
comp=Z,15nm,1.1s
VYHS Vyhne 79.26 326 *e*P **P** **00 22 03.1 +1.1**
VYHS pmax pmax
comp=Z,7.0nm,1.3s
VYHS Vyhne 79.26 326 *e*P **P** **00 22 03.1 +1.1**
S22A 4UR Ranch, Cre 79.34 49 *e*P P 00 22 08.1 +5.1
comp=Z,12nm,1.8s
ARNB Al Arnab 79.37 308 *e*P **P** **00 22 02.8 -0.2**
BRG Berggiesshubel 79.38 330 *e*P **P** **00 22 02.8 +0.2**
comp=Z,9.4nm,1.3s
BRG *e* 00 22 11.3
comp=Z,6.8nm,1.2s
BRG Berggiesshubel 79.38 330 S **ScS** **00 32 21.0 -2.9**
comp=N,468nm,14.1s
comp=E,328nm,15.5s
comp=Z,610nm,16.0s
BRG Berggiesshubel 79.38 330 *e*P **P** **00 22 02.8 +0.2**
BRG *e* 00 22 11.3
BRG S **ScS** **00 32 21.0 -2.9**
BRG pmax pmax
comp=Z,9.0nm,1.3s
BRG MLR MLR
comp=N,468nm,14.1s
BRG MLR MLR
comp=E,328nm,15.5s
BRG MLR MLR
comp=Z,610nm,16.0s
CLL Collm 79.39 331 ⇓*i*P **P** **00 22 03.1 +0.4**
CLL *i* 00 22 11.5
CLL pmax pmax
comp=Z,12nm,1.0s
CLL Collm 79.39 331 ⇓*i*P **P** **00 22 03.1 +0.4**
comp=Z,12nm,1.0s
CLL *i* pP **pP** **00 22 11.5 +0.5**
CLL Collm 79.39 331 *e*P **P** **00 22 03.0 +0.4**
comp=Z,11nm,0.9s
PVCC Panska Ves 79.42 330 *e*P **P** **00 22 04.2 +1.4**
PVCC *e*pP **pP** **00 22 12.2 +1.0**
PVCC AMS AMS 01 00 30.0
comp=Z,700nm,16.0s
PVCC Panska Ves 79.42 330 *e*P **P** **00 22 04.2 +1.4**
PVCC *e* 00 22 12.2
PVCC MLR MLR
comp=Z,700nm,16.0s
RABH Abou Rabah 79.56 306 *e*P **P** **00 22 03.0 -0.9**
VRAC Vranov 79.57 328 ⇓*i*P **P** **00 22 04.6 +0.9**
VRAC Vranov 79.57 328 ⇓P **P** **00 22 04.6 +0.9**
ROOS tl_alroos 79.68 306 *e*P P 00 21 56.0 -8.7
EYMN Ely 79.80 34 *e*P **P** **00 22 08.8 +3.8**
comp=Z,6.8nm,1.0s
GOPC GO Pecny, Ondr 79.82 329 *e*P **P** **00 22 06.4 +1.4**
GOPC *e*pP **PcP** **00 22 10.9 -1.8**
GOPC *es*P **sP** **00 22 15.0 -1.5**

GOPC				AMS	AMS	01 02 40.0	
	comp=Z,500nm,15.3s						
GOPC	**GO Pecny, Ondr**	**79.82**	**329**	*eP*	**P**	**00 22 06.4**	**+1.4**
GOPC				*e*		00 22 10.9	
GOPC				*e*		00 22 15.0	
GOPC				MLR	MLR		
	comp=Z,500nm,15.3s						
PRA	**Prague**	**79.83**	**329**	*eP*	**P**	**00 22 06.5**	**+1.4**
PRA				AMS	AMS	01 01 00.0	
	comp=Z,500nm,13.1s						
PRA	**Prague**	**79.83**	**329**	*eP*	**P**	**00 22 06.5**	**+1.4**
PRA				MLR	MLR		
	comp=Z,500nm,13.1s						
PRU	**Pruhonice**	**79.86**	**329**	*eP*	**P**	**00 22 06.5**	**+1.3**
PRU				*ep*P	**pP**	**00 22 14.5**	**+0.9**
PRU				*es*P	**sP**	**00 22 17.2**	**+0.5**
PRU				AMS	AMS	01 00 50.0	
	comp=Z,500nm,15.5s						
PRU	**Pruhonice**	**79.86**	**329**	*eP*	**P**	**00 22 06.5**	**+1.3**
PRU				*e*		00 22 14.5	
PRU				*e*		00 22 17.2	
PRU				MLR	MLR		
	comp=Z,500nm,15.5s						
TREC	**Trest**	**80.03**	**328**	*eP*	**P**	**00 22 07.3**	**+1.1**
TREC				*ep*P	**PcP**	**00 22 11.9**	**-1.7**
TREC				*es*P	**pP**	**00 22 15.4**	**+0.8**
TREC				AMS	AMS	01 03 10.0	
	comp=Z,500nm,10.2s						
TREC	**Trest**	**80.03**	**328**	*eP*	**P**	**00 22 07.3**	**+1.1**
TREC				*e*		00 22 11.9	
TREC				*e*		00 22 15.4	
TREC				MLR	MLR		
	comp=Z,500nm,10.2s						
BZS	**Buzias**	**80.20**	**323**	⇑*P*	**P**	**00 22 07.7**	**+0.6**
BZS	**Buzias**	**80.20**	**323**	⇑*P*	**P**	**00 22 07.7**	**+0.6**
MARH	**Ras Al Marh**	**80.28**	**306**	*eP*	P	00 22 15.7	+7.5
NKC	**Novy Kostel**	**80.46**	**331**	AMS	AMS	01 03 30.0	
TOTH	**TOTAH**	**80.75**	**306**	*eP*	**P**	**00 22 08.3**	**-2.1**
KHC	**Kasperske Hory**	**80.92**	**329**	*eP*	**P**	**00 22 12.1**	**+1.1**
KHC				*ep*P	**pP**	**00 22 20.1**	**+0.7**
KHC				*es*P	**sP**	**00 22 24.5**	**+2.0**
KHC				AMS	AMS	01 02 40.0	
	comp=Z,500nm,12.9s						
KHC	**Kasperske Hory**	**80.92**	**329**	*eP*	**P**	**00 22 12.1**	**+1.1**
KHC				*e*		00 22 20.1	
KHC				*e*		00 22 24.5	
KHC				MLR	MLR		
	comp=Z,500nm,12.9s						
KHC	**Kasperske Hory**	**80.92**	**329**	*eP*	**P**	**00 22 12.1**	**+1.1**
	comp=Z,4.3nm,1.0s						
CONA	**Conrad Observa**	**80.95**	**327**	*eP*	**P**	**00 22 12.4**	**+1.2**
	comp=Z,8.7nm,1.1s						
SALA	**Sala**	**80.99**	**305**	*eP*	**P**	**00 22 09.3**	**-2.6**
BRBR	**Barbar**	**81.02**	**306**	*eP*	**P**	**00 22 11.9**	**-0.1**
GEC2	**GERESS Array S**	**81.10**	**329**	*eP*	**P**	**00 22 12.7**	**+0.7**
GEC2				*e**PP	**pP**	**00 22 21.4**	**+1.0**
GEC2	**GERESS Array S**	**81.10**	**329**	*eP*	**P**	**00 22 12.7**	**+0.7**
GEC2				*ep*P	**pP**	**00 22 21.4**	**+1.0**
GERES	**GERESS Array B**	**81.10**	**329**	P	**P**	**00 22 12.4**	**+0.4**
	comp=Z,1.4nm,0.6s,baz=45,slow=4.0,SNR=9.1						
GERES				LR	LR	01 02 49.4	
	comp=Z,317nm,18.7s,baz=356,slow=39						
GEA0	**GERESS Array S**	**81.11**	**329**	*eP*	**P**	**00 22 12.3**	**+0.2**
WET	**Wettzell**	**81.18**	**330**	P	**P**	**00 22 14.0**	**+1.6**
WET				pmax	pmax		
	comp=Z,12nm,1.2s						
ANMO	**Albuquerque**	**81.46**	**51**	*ceP*	**P**	**00 22 17.0**	**+2.7**
ANMO				pmax	pmax		
	comp=Z,3.0nm,1.0s						
ANMO	**Albuquerque**	**81.46**	**51**	*eP*	**P**	**00 22 15.7**	**+1.3**
	comp=Z,4.7nm,1.0s						
TCHB	**Talchebab**	**81.50**	**306**	*eP*	**P**	**00 22 14.0**	**-0.4**
ARSA	**Arzberg**	**81.63**	**327**	*eP*	**P**	**00 22 15.7**	**+0.9**
	comp=Z,5.4nm,1.1s						
MOA	**Molln**	**81.67**	**328**	*eP*	**P**	**00 22 16.0**	**+1.0**
	comp=Z,8.2nm,1.7s						
VTS	**Vitosha**	**81.69**	**320**	*eP*	**P**	**00 22 16.6**	**+1.2**
VTS				pmax	pmax		
	comp=Z,8.0nm,0.8s						
VTS	**Vitosha**	**81.69**	**320**	*eP*	**P**	**00 22 16.6**	**+1.2**
	comp=Z,8.1nm,0.8s						
SCHQ	**Schefferville**	**82.08**	**17**	LR	LR	01 03 53.3	
	comp=Z,96nm,18.4s,baz=24,slow=40						
SOKA	**Soboth**	**82.29**	**327**	*i* P	**P**	**00 22 19.2**	**+0.9**
	comp=Z,17nm,1.1s,SNR=9.6						
OBKA	**Obir**	**82.63**	**327**	*eP*	**P**	**00 22 20.8**	**+0.7**
	comp=Z,4.1nm,0.7s						
KBA	**Koelnbreinsper**	**82.66**	**328**	*eP*cP	**P**	**00 22 21.9**	**+1.5**
	comp=Z,5.0nm,0.8s						
KBA	**Koelnbreinsper**	**82.66**	**328**	P	**P**	**00 22 22.4**	**+2.0**
KBA				pmax	pmax		
	comp=Z,11nm,2.2s						
MYKA	**Terra Mystica**	**82.90**	**328**	*eP*	**P**	**00 22 21.8**	**+0.3**
	comp=Z,5.9nm,1.0s						
ABTA	**Abfaltersbach**	**83.27**	**329**	*eP*	**P**	**00 22 23.3**	**-0.1**
	comp=Z,5.7nm,1.2s						
MOTA	**Moosalm**	**83.33**	**330**	*eP*	**P**	**00 22 24.8**	**+0.9**
	comp=Z,9.2nm,0.9s,SNR=5.7						
RETA	**Reutte**	**83.35**	**330**	*eP*	**P**	**00 22 24.3**	**+0.5**
	comp=Z,12nm,1.0s						
FETA	**Feichten**	**83.75**	**330**	*eP*	**P**	**00 22 26.8**	**+0.8**
	comp=Z,8.1nm,0.9s						
DAVA	**Damuels**	**83.85**	**330**	*eP*	**P**	**00 22 27.1**	**+0.6**
	comp=Z,8.4nm,0.9s						
FUORN	**Ofenpass-Fuorn**	**84.26**	**330**	*eP*	**P**	**00 22 29.8**	**+1.1**
	comp=Z,18nm,0.9s						
MSTX	**Muleshoe**	**84.33**	**50**	*eP*	**P**	**00 22 31.0**	**+1.9**
	comp=Z,10nm,1.0s						
MNTX	**Cornudas Mount**	**84.34**	**53**	*eP*	**P**	**00 22 29.8**	**+0.7**
	comp=Z,5.3nm,0.9s						
PPT	**Papeete**	**84.49**	**118**	LR	LR	00 52 52.6	
	comp=Z,154nm,21.1s,baz=331,slow=30						
TUE	**Stuetta**	**84.73**	**330**	*eP*	**P**	**00 22 31.5**	**+0.4**
	comp=Z,10nm,1.1s						
WMOK	**Wichita Mounta**	**86.07**	**47**	*eP*	**P**	**00 22 38.0**	**+0.3**
WMOK				pmax	pmax		
	comp=Z,4.0nm,0.8s						
WMOK	**Wichita Mounta**	**86.07**	**47**	*eP*	**P**	**00 22 38.0**	**+0.3**
	comp=Z,4.5nm,0.8s						
TX31	**Lajitas Ar. Si**	**87.05**	**54**	*eP*	**P**	**00 22 43.5**	**+0.8**
LTX	**Lajitas**	**87.05**	**54**	*eP*	**P**	**00 22 43.0**	**+0.3**
LTX	**Lajitas**	**87.05**	**54**	*eP*	**P**	**00 22 43.0**	**+0.3**
TXAR	**Lajitas Array**	**87.05**	**54**	P	**P**	**00 22 43.0**	**+0.3**
	comp=Z,2.1nm,0.7s,baz=293,slow=3.9,SNR=22						
TXAR				LR	LR	00 56 02.0	
	comp=Z,49nm,21.6s,baz=0.0,slow=32						
TXAR	**Lajitas Array**	**87.05**	**54**	P	**P**	**00 22 43.0**	**+0.3**
TXAR				pmax	pmax		
	comp=Z,2.0nm,0.7s						
PBMO	**Poplar Bluff**	**88.97**	**40**	*eP*	**P**	**00 22 53.1**	**+1.5**
	comp=Z,10nm,0.9s						
MIAR	**Mount Ida**	**89.06**	**44**	*eP*	**P**	**00 22 52.8**	**+0.7**
MIAR				pmax	pmax		
	comp=Z,7.0nm,0.9s						
MIAR	**Mount Ida**	**89.06**	**44**	*eP*	**P**	**00 22 52.8**	**+0.7**
	comp=Z,7.4nm,0.9s						
WHAR	**Wooly Hollow**	**89.17**	**43**	*eP*	**P**	**00 22 53.0**	**+0.4**
	comp=Z,10nm,1.1s						
KEST	**Kesra**	**93.68**	**324**	LR	LR	01 10 28.8	
	comp=Z,247nm,18.6s,baz=320,slow=39						
ESDC	**Sonseca Array**	**95.38**	**335**	P	**P**	**00 23 21.4**	**+0.1**
	comp=Z,0.4nm,0.7s,baz=9.5,slow=4.5,SNR=3.3						
ESDC				LR	LR	01 12 13.2	
	comp=Z,188nm,18.4s,baz=40,slow=39						
TOA1	**Torodi Ar. Sit**	**116.38**	**318**	*ePKPdf*	**PKPdf**	**00 28 40.6**	**-0.3**
TOA1				*ePP*	**PP**	**00 29 42.1**	**-4.3**
TORD	**Torodi Ar. Bea**	**116.38**	**318**	PKP	**PKPdf**	**00 28 40.6**	**-0.3**
	comp=Z,0.6nm,0.9s,baz=40,slow=2.5,SNR=3.6						
TORD				PP	**PP**	**00 29 42.1**	**-4.3**
	comp=Z,1.2nm,0.9s,baz=37,slow=6.7,SNR=5.9						
SNAA	**Sanae**	**144.01**	**197**	PKP	**PKPab**	**00 29 28.2**	**-0.4**
VNA2	**Neumayer--Watz**	**145.57**	**196**	PKP	**PKPdf**	**00 29 33.5**	**-0.3**
	baz=114,slow=3.1						
VNA3	**Neumayer Olymp**	**145.80**	**195**	PKP	**PKPdf**	**00 29 33.8**	**-0.4**
VNA1	**Neumayer--Stat**	**145.97**	**196**	PKP	**PKPab**	**00 29 35.8**	**+0.1**

WEL 07 00:26:17.5±0.5, 35.75S×178.43E, h214km±6km, ML3.6/5, 1D, Error ellipse: s-maj=9.6km s-min=6.7km az=90.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WMGZ	**Waiomatatini S**	**2.07**	**180**	PN	Pn	00 26 58.2	+0.4
WMGZ				AML	AML	00 27 30.7	
WMGZ				AML	AML	00 27 32.2	
HAZ	**Te Kaha**	**2.07**	**194**	PN	Pn	00 26 57.8	+0.1
HAZ				SN	S	00 27 29.1	+0.1
RUGZ	**Raukumara Rang**	**2.30**	**195**	PN	Pn	00 27 00.2	0.0
PUZ	**Puketiti**	**2.33**	**183**	PN	Pn	00 27 00.3	-0.1
PUZ				SN	S	00 27 33.4	-0.4
TWGZ	**Tauwhareparae**	**2.45**	**188**	PN	Pn	00 27 02.6	+0.8
TWGZ				AML	AML	00 27 40.9	
TWGZ				AML	AML	00 27 52.0	
MWZ	**Matawai**	**2.68**	**195**	PN	Pn	00 27 05.1	+0.8
URZ	**Urewera**	**2.72**	**202**	⇓PN	Pn	00 27 04.9	+0.3
TKGZ	**Te Karaka**	**2.73**	**190**	PN	Pn	00 27 05.1	+0.4
TKGZ				AML	AML	00 27 44.3	
TKGZ				AML	AML	00 27 45.8	
RAGZ	**Rawiri**	**2.86**	**196**	PN	Pn	00 27 07.1	+0.7
RAGZ				AML	AML	00 27 56.2	
RAGZ				AML	AML	00 28 07.2	
RIGZ	**Rimuhau**	**3.00**	**190**	PN	Pn	00 27 08.1	+0.2
RIGZ				AML	AML	00 27 49.9	
KNZ	**Kokohu**	**3.33**	**190**	PN	Pn	00 27 11.3	-0.3
MHGZ	**Mahia Peninsul**	**3.43**	**187**	PN	Pn	00 27 13.1	+0.2
NMHZ	**Naumai**	**3.59**	**201**	PN	Pn	00 27 15.4	+0.6
ARHZ	**Aropaoanui**	**3.69**	**198**	PN	Pn	00 27 16.3	+0.3
BKZ	**Black Stump Fm**	**3.75**	**204**	PN	Pn	00 27 17.0	+0.3
KWHZ	**Kaweka Forest**	**4.00**	**203**	PN	Pn	00 27 20.0	+0.2
BHHZ	**Black Hill Sta**	**4.18**	**206**	PN	Pn	00 27 22.7	+0.7
KRHZ	**Kereru**	**4.22**	**202**	PN	Pn	00 27 21.9	-0.5
KAHZ	**Kahuranaki**	**4.22**	**196**	PN	Pn	00 27 22.4	-0.2
PXZ	**Pawanui**	**4.45**	**196**	PN	Pn	00 27 24.5	-0.8
TSZ	**Takapari Road**	**4.73**	**204**	PN	Pn	00 27 28.4	-0.4
PRHZ	**Porangahau**	**4.73**	**197**	PN	Pn	00 27 28.1	-0.7
BFZ	**Birch Farm**	**5.22**	**199**	PN	Pn	00 27 33.8	-1.1
MRZ	**Mangatainoka R**	**5.40**	**204**	PN	Pn	00 27 35.9	-1.3
OGWZ	**Otaki Gorge**	**5.68**	**206**	PN	Pn	00 27 39.7	-1.0
KIW	**Kapiti Island**	**5.81**	**207**	PN	Pn	00 27 41.2	-1.2
MTW	**Mount Morrison**	**5.87**	**202**	PN	Pn	00 27 41.9	-1.3
TCW	**Tory Channel**	**6.36**	**210**	PN	Pn	00 27 47.6	-1.8
KHZ	**Kahutara**	**7.67**	**208**	PN	Pn	00 28 04.7	-1.6

IDC 07 00:29:51.0±1.6, 6.57S×128.60E, h0km, mb3.8/2, mb1 3.8/4, mb1mx3.6/36, mbtmpg3.7/4, ML3.6/2, MS3.7/1, Ms1 3.7/1, ms1mx2.7/37, Error ellipse: s-maj=250.1km s-min=28.6km az=71.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**14.41**	**158**	Pn	Pn	00 33 15.2	-1.2
	0.3nm,0.3s,baz=335,slow=14,SNR=15						
WRA				Sn	Sn	00 35 42.2	-15
	1.1nm,0.3s,baz=342,slow=22,SNR=9.1						
ASAR	**Alice Springs**	**17.74**	**164**	P	P	00 34 00.4	-0.2
	0.3nm,0.3s,baz=349,slow=10,SNR=10.0						
ASAR				S	Sn	00 37 06.0	-12
	0.3nm,0.3s,baz=343,slow=24,SNR=5.2						
URZ	**Urewera**	**53.96**	**133**	LR	LR	01 04 12.2	
	comp=Z,62nm,18.8s,baz=2.0,slow=38						
SONM	**Songino Array**	**57.61**	**342**	P	P	00 39 43.3	+0.3
	0.3nm,0.4s,baz=144,slow=5.2,SNR=2.4						
ZALV	**Zalesovo Beam**	**70.60**	**334**	P	P	00 41 07.6	-0.4
	0.5nm,0.3s,baz=122,slow=5.2,SNR=4.2						

*NDI **07** 00:33:19.8±1.4, 26.04N±0.07×91.14E±0.03, h21km±5km, n10, σ1°61/19, Northeastern India*

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHL	**Shillong**	**0.82**	**125**	*eP*	**Pb**	**00 33 35.8**	**+0.2**
SHL				*eS*	**Sb**	**00 33 47.4**	**+1.2**
SHL				AML	AML	00 33 48.3	
	comp=E,2μm,0.1s						
SHL				AML	AML	00 33 48.5	
	comp=N,2μm,0.1s						
TURI	**Tura**	**0.88**	**236**	*eP*	**Pn**	**00 33 37.9**	**+0.9**
TURI				*eS*	**Sn**	**00 33 51.1**	**+2.0**
TURI				AML	AML	00 33 51.6	
	comp=E,7μm,0.2s						
TURI				AML	AML	00 33 51.7	
	comp=N,6μm,0.2s						
DHUB	**DHUBRI**	**1.03**	**269**	*i* Pg	**Pn**	**00 33 37.5**	**-1.6**
DHUB				*i* Sg	**Sb**	**00 33 50.3**	**-1.7**
DHUB				AML	AML	00 33 52.1	
	comp=E,4μm,0.2s						
DHUB				AML	AML	00 33 52.1	
	comp=N,3μm,0.2s						
TEZP	**TEZPUR**	**1.60**	**68**	*eP*	**Pn**	**00 33 46.5**	**-0.4**
TEZP				*eS*	**Sn**	**00 34 06.3**	**-0.5**
TEZP				AML	AML	00 34 08.7	
	comp=N,2μm,0.2s						
TEZP				AML	AML	00 34 09.0	
	comp=E,1μm,0.1s						
ITAN	**ITANAGAR**	**2.56**	**64**	*eP*	**Pn**	**00 34 00.3**	**+0.2**
ITAN				*eS*	**Sn**	**00 34 32.1**	**+1.4**
ITAN				AML	AML	00 34 45.5	
	comp=N,844nm,0.2s						
ITAN				AML	AML	00 34 45.8	
	comp=E,1μm,0.3s						
GTK	**Tadong**	**2.60**	**300**	*eP*	**Pn**	**00 34 02.6**	**+1.7**
GTK				*eS*	**Sn**	**00 34 33.8**	**+1.8**
GTK				AML	AML	00 34 36.8	
	comp=N,87nm,0.3s						
GTK				AML	AML	00 34 36.8	
	comp=E,181nm,0.3s						
KOHI	**KOHIMA**	**2.69**	**96**	*eP*	**Pn**	**00 34 02.2**	**0.0**
KOHI				*eS*	**Sn**	**00 34 34.7**	**+0.5**
KOHI				AML	AML	00 34 50.0	
	comp=E,650nm,0.2s						
KOHI				AML	AML	00 34 50.8	
	comp=N,374nm,0.4s						
ZIRO	**ZIRO**	**2.84**	**58**	*eP*	**Pn**	**00 34 03.4**	**-0.7**
ZIRO				*ex*	x	00 34 46.2	
MOKO	**MOKOCHONG**	**3.05**	**84**	*eP*	**Pn**	**00 34 07.2**	**+0.2**
MOKO				*eS*	**Sn**	**00 34 39.7**	**-3.2**
MOKO				AML	AML	00 34 59.4	
	comp=N,214nm,0.5s						
MOKO				AML	AML	00 34 59.7	
	comp=E,284nm,0.3s						
BOK	**Bokaro**	**5.27**	**246**	*eP*	**Pn**	**00 34 37.1**	**-0.3**
BOK				*eS*	**Sn**	**00 35 34.8**	**-2.8**
BOK				AML	AML	00 35 36.9	
	comp=E,29nm,0.2s						
BOK				AML	AML	00 35 37.1	
	comp=N,30nm,0.1s						

*IDC **07** 00:40:29.2±2.8, 37.41N×142.91E, h0km, mb3.7/2, mb1 3.8/3, mb1mx3.4/40, mbtmpg3.5/3, ML3.0/1, Error ellipse: s-maj=70.6km s-min=36.2km az=61.0*
*JMA **07** 00:40:37.0±0.2, 37.32N×141.87E, h31km±3km, M3.2*
ISC 07 00:40:33.4±2.3, 37.33N±0.07×141.99E±0.09, h10km±11km, n16, σ0°70/17, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JFK	**Kawauchi**	**0.89**	**273**	P	**Pn**	**00 40 51.9**	**-0.1**
JFK				S	**Sg**	**00 41 02.3**	**+0.2**
ONAJ	**Iwakimizuishiy**	**0.97**	**257**	P	**Pn**	**00 40 53.3**	**+0.1**
ONAJ				S	**Sg**	**00 41 04.4**	**-0.5**
JMM	**Marumori**	**1.09**	**300**	P	**Pn**	**00 40 54.9**	**+0.2**
JMM				*eS*	**Sg**	**00 41 07.9**	**-0.6**
JIO	**Ouri**	**1.23**	**336**	P	**Pg**	**00 40 57.4**	**+0.3**
JIO				S	**Sb**	**00 41 11.7**	**-1.0**
JFT	**Otama**	**1.33**	**279**	P	**Pg**	**00 40 59.1**	**+0.2**
JFT				S	**Sb**	**00 41 14.8**	**-0.7**
JOU	**Okura**	**1.47**	**315**	P	**Pg**	**00 41 01.5**	**-0.2**
JOU				S	**Sn**	**00 41 19.4**	**0.0**
JYS	**Shirataka**	**1.76**	**301**	P	**Pg**	**00 41 06.9**	**-0.3**
JYS				*eS*	**Sn**	**00 41 26.9**	**+0.4**
MJAR	**Matsushiro Arr**	**3.13**	**257**	Pn	**Pb**	**00 41 29.9**	**+0.8**
	1.1nm,0.3s,baz=89,slow=16,SNR=4.3						
H11N2	**WAKE ISLAND Hy**	**27.91**	**122**	T	T	01 16 07.8	
	baz=315,slow=75,SNR=18						
H11N1	**WAKE ISLAND Hy**	**27.92**	**122**	T	T	01 16 06.6	
	baz=315,slow=75,SNR=17						
H11N3	**WAKE ISLAND Hy**	**27.93**	**122**	T	T	01 16 12.5	
	baz=315,slow=75,SNR=13						
H11S1	**WAKE ISLAND Hy**	**28.64**	**124**	T	T	01 17 07.0	
	baz=316,slow=76,SNR=10						
H11S3	**WAKE ISLAND Hy**	**28.64**	**124**	T	T	01 17 08.2	
	baz=316,slow=76,SNR=10						
H11S2	**WAKE ISLAND Hy**	**28.66**	**124**	T	T	01 17 10.0	
	baz=316,slow=76,SNR=12						
ZALV	**Zalesovo Beam**	**42.06**	**312**	P	**P**	**00 48 26.3**	**+1.2**
	0.5nm,0.4s,baz=106,slow=9.2,SNR=3.3						
WRA	**Warramunga Arr**	**57.42**	**189**	P	**P**	**00 50 21.0**	**-1.3**
	0.5nm,0.5s,baz=5.6,slow=7.4,SNR=11						

GUC 07 00:46:03.8±0.6, 37.87S×74.41W, h10km±12km, ML3.6, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
COCH	**Cobquecura**	**2.17**	**37**	IAML		00 47 26.1	
	comp=E,266nm,0.9s						
CCHI	**Chillan**	**2.25**	**56**	*eP*	Pn	00 46 40.5	-0.5
CCHI				*eS*	Sn	00 47 09.5	+0.8
CCHI				IAML		00 47 25.8	
	comp=N,525nm,0.4s						

MEX 07 00:48:37.0±0.5, 17.21N×96.64W, h78km±5km, MD3.5, Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VHO	**Vista Hermosa**	**0.16**	**213**	*eP*	Pn	00 48 47.4	-1.3
VHO				*eS*	Sn	00 48 55.3	-1.9
TPIG	**Tehuac#an**	**1.39**	**330**	*i* P	Pn	00 48 59.1	-1.9
TPIG				*i* S	Sn	00 49 17.3	-1.6
HUIG	**Huatulco**	**1.52**	**160**	*i* P	Pn	00 49 00.6	-2.0
HUIG				*i* S	Sn	00 49 20.8	-1.0
PNIG	**Pinotepa**	**1.64**	**241**	*eP*	Pn	00 49 02.2	-1.9
PNIG				*i* S	Sn	00 49 22.9	-1.7
TLIG	**Tlapa**	**1.87**	**281**	*eP*	Pn	00 49 06.8	-0.5
TLIG				*eS*	Sn	00 49 29.4	-0.8
PPM	**Popocatepetl**	**2.64**	**315**	*i* P	Pn	00 49 22.3	+4.4
PPM				*i* S	Sn	00 49 47.3	-2.0
YAIG	**Yautepec**	**2.83**	**306**	*i* P	Pn	00 49 20.5	+0.3
YAIG				*i* S	Sn	00 49 51.5	-2.0

*IDC **07** 00:55:27.1±1.3, 31.03N×76.26E, h0km, mb3.7/4, mb1 3.8/4, mb1mx3.5/40, mbtmp3.7/4, Error ellipse: s-maj=38.1km s-min=32.3km az=50.0*
*NDI **07** 00:55:30.3±2.3, 31.31N×76.37E, h10km, ML3.4*
ISC 07 00:55:29.3±1.1, 31.32N±0.03×76.35E±0.05, h13km±7km, n20, σ1°80/31, mb3.7/4, 2C-2D, Northern India

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BHK	**Bhakra**	**0.11**	**31**	*eP*	**Pg**	**00 55 32.0**	**-0.5**
BHK				*ex*	x	00 55 49.4	
JWA	**Jwalamukhi**	**0.55**	**359**	*eP*	**Pb**	**00 55 41.0**	**+0.3**
JWA				*eS*	**Sb**	**00 55 49.0**	**+0.6**
SDNR	**Sundarnagar**	**0.56**	**71**	*eP*	**Pg**	**00 55 39.6**	**-0.7**
SDNR				*eS*	**Sb**	**00 55 50.0**	**+1.1**
PONG	**Pong**	**0.72**	**332**	*eP*	**Pn**	**00 55 45.0**	**-0.1**
PONG				*eS*	**Sn**	**00 55 56.0**	**0.0**
SMLA	**Simla**	**0.73**	**105**	*eP*	**Pb**	**00 55 43.8**	**0.0**
SMLA				*eS*	**Sg**	**00 55 52.9**	**0.0**
SMLA				AML	AML	00 55 53.9	
	comp=N,1μm,0.1s						
SMLA				AML	AML	00 55 53.9	
	comp=E,629nm,0.1s						
THN	**Thein Dam**	**1.23**	**334**	*eP*	**Pb**	**00 55 52.8**	**+0.4**
THN				*ex*	**Sb**	**00 56 06.0**	**-2.2**
KKR	**Kurukshetra**	**1.41**	**163**	*eP*	**Pg**	**00 55 57.3**	**+0.8**
KKR				*eS*	**Sg**	**00 56 15.4**	**+0.5**
DDI	**Dehra Dun**	**1.77**	**124**	*eP*	**Pb**	**00 56 02.3**	**+0.6**
DDI				*eS*	**Sg**	**00 56 25.1**	**-1.3**
DDI				AML	AML	00 56 26.5	
	comp=E,632nm,0.4s						
DDI				AML	AML	00 56 26.9	
	comp=N,1μm,0.3s						
NDI	**New Delhi**	**2.73**	**164**	*ePN*	**Pn**	**00 56 13.0**	**+0.1**
NDI				*eSN*	**Sn**	**00 56 47.0**	**+1.2**
KALG	**Kalgarh**	**2.75**	**130**	*eP*	**Pn**	**00 56 14.6**	**+1.4**
KALG				*eS*	**Sn**	**00 56 46.2**	**0.0**
KALG				AML	AML	00 56 53.1	
	comp=E,213nm,0.5s						
KUDL	**Kundal**	**3.17**	**178**	*eP*	**Pn**	**00 56 19.8**	**+1.0**
KUDL				*ex*	x	00 56 48.6	
KUDL				AML	AML	00 56 59.0	
	comp=N,70nm,0.3s						
KUDL				AML	AML	00 56 59.3	
	comp=E,137nm,0.3s						
KHET	**Khetri**	**3.27**	**188**	*eP*	**Pn**	**00 56 23.1**	**+2.8**
KHET				*eS*	**Sn**	**00 56 57.4**	**-1.6**
KHET				AML	AML	00 57 04.6	
	comp=E,380nm,0.1s						
KHET				AML	AML	00 57 16.2	
	comp=N,93nm,0.5s						
BHPL	**Bhopal**	**8.11**	**173**	*ex*	Pn	00 57 32.1	+5.4
BHPL				*eS*	**Sn**	**00 58 53.4**	**-4.9**
JBP	**Jabalpur**	**8.74**	**157**	*eP*	**Pn**	**00 57 35.6**	**+0.2**
JBP				*eS*	**Sn**	**00 59 08.7**	**-5.1**
MNAS	**Manas**	**11.56**	**346**	⇓*Pn*	**Pn**	**00 58 13.7**	**-0.5**
	comp=N,1.3nm,0.5s						
MNAS				⇑*Sn*	Sn	01 00 12.5	-11
	comp=N,4.8nm,0.8s						
KK31	**Karatay Array**	**12.64**	**340**	⇑*Pn*	**Pn**	**00 58 27.7**	**-1.1**
	comp=N,0.4nm,0.3s,baz=155,slow=13,SNR=14						
KK31				⇓*Sn*	Sn	01 00 37.3	-12
	comp=N,2.1nm,0.5s,baz=151,slow=23,SNR=14						
ZALV	**Zalesovo Beam**	**23.42**	**13**	P	**P**	**01 00 41.0**	**+3.1**
	comp=N,0.5nm,0.4s,baz=188,slow=8.7,SNR=2.1						
FINES	**FINESS Array B**	**44.23**	**328**	P	**P**	**01 03 38.9**	**+0.9**
	comp=N,0.6nm,0.5s,baz=126,slow=7.1,SNR=7.5						
TORD	**Torodi Ar. Bea**	**70.27**	**274**	P	**

	1.7nm,0.2s							
PBDV	**Barranco-do-Ve**	**2.27**	**1**	P		**Pn**	**01 13 58.1**	**+0.8**
PBDV				S		**Sn**	**01 14 24.6**	**+0.6**
	1.7nm,0.2s							
MORF	**Marmelete**	**2.40**	**347**	*e*P		**Pn**	**01 13 59.9**	**+0.8**
MORF	**Marmelete**	**2.40**	**347**	P		**Pn**	**01 13 59.9**	**+0.8**
MORF	**Marmelete**	**2.40**	**347**	P		**Pn**	**01 13 59.9**	**+0.8**
PVAQ	**Vaqueiros**	**2.44**	**5**	*e*Pn		**Pn**	**01 14 00.5**	**+0.9**
PVAQ				*e*Sn		**Sn**	**01 14 28.7**	**+0.6**
PVAQ				A		A	01 14 30.6	
	2.0nm,0.3s							
PVAQ	**Vaqueiros**	**2.44**	**5**	P		**Pn**	**01 14 00.5**	**+0.9**
PVAQ				S		**Sn**	**01 14 28.7**	**+0.6**
	2.0nm,0.3s							
PVAQ	**Vaqueiros**	**2.44**	**5**	P		**Pn**	**01 14 00.5**	**+0.9**
PVAQ				S		**Sn**	**01 14 28.7**	**+0.6**
	2.0nm,0.3s							
ESPR	**Espera**	**2.56**	**42**	P		**Pn**	**01 14 01.7**	**+0.5**
	0.6nm,0.2s,SNR=7.9							
ESPR				S		**Sn**	**01 14 30.9**	**-0.2**
	1.0nm,0.2s,SNR=7.9							
ESPR	**Espera**	**2.56**	**42**	P		**Pn**	**01 14 01.7**	**+0.5**
	0.6nm,0.2s,SNR=7.9							
ESPR				S		**Sn**	**01 14 30.9**	**-0.2**
	1.0nm,0.2s,SNR=7.9							
EGRO	**El Granado**	**2.59**	**9**	P		**Pn**	**01 14 02.6**	**+1.0**
	0.9nm,0.1s,SNR=10							
EGRO				S		**Sn**	**01 14 31.6**	**-0.3**
	1.5nm,0.2s,SNR=7.9							
EGRO	**El Granado**	**2.59**	**9**	P		**Pn**	**01 14 02.6**	**+1.0**
	0.9nm,0.1s,SNR=10							
EGRO				S		**Sn**	**01 14 31.6**	**-0.3**
	1.5nm,0.2s,SNR=7.9							
PTEO	**Sao Teotonio**	**2.64**	**347**	*e*Sn		**Sn**	**01 14 32.8**	**-0.3**
PTEO	**Sao Teotonio**	**2.64**	**347**	S		**Sn**	**01 14 32.8**	**-0.3**
PTEO	**Sao Teotonio**	**2.64**	**347**	S		**Sn**	**01 14 32.8**	**-0.3**
PCVE	**Castro Verde**	**2.66**	**359**	*e*Pn		**Pn**	**01 14 03.8**	**+1.2**
PCVE				*e*Sn		**Sn**	**01 14 33.9**	**+0.3**
PCVE				A		A	01 14 34.8	
	1.9nm,0.2s							
PCVE	**Castro Verde**	**2.66**	**359**	P		**Pn**	**01 14 03.8**	**+1.2**
PCVE				S		**Sn**	**01 14 33.9**	**+0.3**
	1.9nm,0.2s							
PCVE	**Castro Verde**	**2.66**	**359**	P		**Pn**	**01 14 03.8**	**+1.2**
PCVE				S		**Sn**	**01 14 33.9**	**+0.3**
	1.9nm,0.2s							
MESJ	**Messejana**	**2.87**	**356**	*e*P		**Pn**	**01 14 06.6**	**+1.1**
MESJ				*e*S		**Sn**	**01 14 38.1**	**-0.7**
MESJ				AML		AML	01 14 40.5	
	comp=N,2.7nm,0.2s							
MESJ	**Messejana**	**2.87**	**356**	*e*Pn		**Pn**	**01 14 06.8**	**+1.3**
MESJ				*e*Sn		**Sn**	**01 14 38.9**	**+0.1**
MESJ				A		A	01 14 44.2	
	comp=N,2.0nm,0.2s							
MESJ	**Messejana**	**2.87**	**356**	P		**Pn**	**01 14 06.6**	**+1.1**
MESJ				S		**Sn**	**01 14 38.1**	**-0.7**
	comp=N,2.7nm,0.2s							
MESJ	**Messejana**	**2.87**	**356**	P		**Pn**	**01 14 06.6**	**+1.1**
MESJ				S		**Sn**	**01 14 38.1**	**-0.7**
	comp=N,2.7nm,0.2s							
MESJ				*e*Sn		Sn	01 14 38.9	+0.1
	comp=N,2.0nm,0.2s							
EMIN	**Mina Concepcio**	**2.98**	**20**	P		**Pn**	**01 14 07.5**	**+0.4**
	comp=N,0.3nm,0.1s,SNR=6.9							
EMIN				S		**Sn**	**01 14 39.9**	**-1.7**
	comp=N,0.6nm,0.1s,SNR=7.9							
EMIN	**Mina Concepcio**	**2.98**	**20**	P		**Pn**	**01 14 07.5**	**+0.4**
	comp=N,0.3nm,0.1s,SNR=6.9							
EMIN				S		**Sn**	**01 14 39.9**	**-1.7**
	comp=N,0.6nm,0.1s,SNR=7.9							
EMIJ	**Mijas**	**3.05**	**58**	P		**Pn**	**01 14 08.3**	**+0.3**
	comp=N,0.3nm,0.2s,SNR=7.9							
EMIJ				S		**Sn**	**01 14 46.0**	**+2.7**
	comp=N,0.4nm,0.2s,SNR=7.9							
EMIJ	**Mijas**	**3.05**	**58**	P		**Pn**	**01 14 08.3**	**+0.3**
	comp=N,0.3nm,0.2s,SNR=7.9							
EMIJ				S		**Sn**	**01 14 46.0**	**+2.7**
	comp=N,0.4nm,0.2s,SNR=7.9							
PNCL	**Nicolau / Gran**	**3.17**	**352**	*e*Pn		**Pn**	**01 14 10.6**	**+1.0**
PNCL				*e*Sn		**Sn**	**01 14 45.7**	**-0.4**
PNCL				A		A	01 14 49.3	
	comp=N,1.8nm,0.3s							
PNCL	**Nicolau / Gran**	**3.17**	**352**	*e*Pn		**Pn**	**01 14 10.6**	**+1.0**
PNCL				*e*Sn		**Sn**	**01 14 45.7**	**-0.4**
	comp=N,1.8nm,0.3s							
PBAR	**Barrancos**	**3.29**	**13**	*e*Pn		**Pn**	**01 14 13.4**	**+2.2**
PBAR				*e*Sn		**Sn**	**01 14 48.9**	**-0.2**
PBAR				A		A	01 14 52.2	
	comp=N,1.8nm,0.1s							
PBAR	**Barrancos**	**3.29**	**13**	P		**Pn**	**01 14 13.4**	**+2.2**
PBAR				S		**Sn**	**01 14 48.9**	**-0.2**
	comp=N,1.8nm,0.1s							
PBAR	**Barrancos**	**3.29**	**13**	P		**Pn**	**01 14 13.4**	**+2.2**
PBAR				S		**Sn**	**01 14 48.9**	**-0.2**
	comp=N,1.8nm,0.1s							
EVO	**Evora**	**3.56**	**359**	*e*Pn		**Pn**	**01 14 15.9**	**+1.0**
EVO				*e*Sn		**Sn**	**01 14 54.9**	**-0.8**
EVO				A		A	01 14 57.4	
	comp=N,1.4nm,0.3s							
EVO	**Evora**	**3.56**	**359**	P		**Pn**	**01 14 15.9**	**+1.0**
EVO				S		**Sn**	**01 14 54.9**	**-0.8**
	comp=N,1.4nm,0.3s							
EVO	**Evora**	**3.56**	**359**	P		**Pn**	**01 14 15.9**	**+1.0**
EVO				S		**Sn**	**01 14 54.9**	**-0.8**
	comp=N,1.4nm,0.3s							
ECAB	**El Cabril**	**3.72**	**33**	P		**Pn**	**01 14 17.7**	**+0.5**
	comp=N,0.4nm,0.1s,SNR=7.9							
ECAB				S		**Sn**	**01 14 57.4**	**-2.4**
	comp=N,0.2nm,0.1s,SNR=7.9							
ECAB	**El Cabril**	**3.72**	**33**	P		**Pn**	**01 14 17.7**	**+0.5**
	comp=N,0.4nm,0.1s,SNR=7.9							
ECAB				S		**Sn**	**01 14 57.4**	**-2.4**
	comp=N,0.2nm,0.1s,SNR=7.9							
EBAD	**Badajoz**	**3.86**	**11**	P		**Pn**	**01 14 20.5**	**+1.4**
	SNR=7.9							
EBAD				S		**Sn**	**01 15 00.6**	**-2.5**
	SNR=7.9							
EBAD	**Badajoz**	**3.86**	**11**	P		**Pn**	**01 14 20.5**	**+1.4**
	SNR=7.9							
EBAD				S		**Sn**	**01 15 00.6**	**-2.5**
	SNR=7.9							
PESTR	**Estremoz**	**3.90**	**4**	*e*Pn		**Pn**	**01 14 21.0**	**+1.3**
PESTR				*e*Sn		**Sn**	**01 15 04.6**	**+0.3**
PESTR	**Estremoz**	**3.90**	**4**	*e*Pn		**Pn**	**01 14 21.0**	**+1.3**
PESTR				*e*Sn		**Sn**	**01 15 04.6**	**+0.3**
PMAFR	**Mafra**	**4.11**	**346**	P		**Pn**	**01 14 22.2**	**-0.5**
	comp=N,0.7nm,0.1s,SNR=7.9							
PMAFR				S		**Sn**	**01 15 07.4**	**-2.1**
	comp=N,2.8nm,0.2s,SNR=7.9							
PMAFR	**Mafra**	**4.11**	**346**	P		**Pn**	**01 14 22.2**	**-0.5**
	comp=N,0.7nm,0.1s,SNR=7.9							
PMAFR				S		**Sn**	**01 15 07.4**	**-2.1**
	comp=N,2.8nm,0.2s,SNR=7.9							
PMAFR				*e*Sn		Sn	01 15 10.1	+0.6
EALB	**Alboran**	**4.15**	**75**	P		**Pn**	**01 14 23.6**	**+0.5**
	comp=N,2.7nm,0.1s,SNR=7.9							
EALB	**Alboran**	**4.15**	**75**	P		**Pn**	**01 14 23.6**	**+0.5**
	comp=N,2.7nm,0.1s,SNR=7.9							
EADA	**Adamuz**	**4.20**	**40**	P		**Pn**	**01 14 24.6**	**+0.7**
	comp=N,0.6nm,0.1s,SNR=4.1							
EADA				S		**Sn**	**01 15 09.6**	**-2.0**
	comp=N,1.0nm,0.1s,SNR=16							
EADA	**Adamuz**	**4.20**	**40**	P		**Pn**	**01 14 24.5**	**+0.7**
	comp=N,0.6nm,0.1s,SNR=4.1							
PMRV	**Marv??o**	**4.47**	**6**	*e*Pn		**Pn**	**01 14 28.4**	**+0.8**
PMRV	**Marv??o**	**4.47**	**6**	P		**Pn**	**01 14 28.4**	**+0.8**
PMRV	**Marv??o**	**4.47**	**6**	P		**Pn**	**01 14 28.4**	**+0.8**
PTOM	**Tomar**	**4.65**	**356**	*e*Pn		**Pn**	**01 14 31.8**	**+1.8**
PTOM	**Tomar**	**4.65**	**356**	P		**Pn**	**01 14 31.8**	**+1.8**
PTOM	**Tomar**	**4.65**	**356**	P		**Pn**	**01 14 31.8**	**+1.8**
ETOB	**Tobarra**	**6.33**	**53**	P		**Pn**	**01 14 53.3**	**+0.3**
	comp=N,2.7nm,0.7s,SNR=6.1							
ETOB				S		**Sn**	**01 15 59.6**	**-4.5**
	comp=N,0.3nm,0.1s,SNR=7.9							
ETOB	**Tobarra**	**6.33**	**53**	P		**Pn**	**01 14 53.3**	**+0.3**
	comp=N,2.7nm,0.7s,SNR=6.1							

GUC 07 01:19:39.9±0.6, 38°.11S×74°.28W, h14km±5km, ML3.7, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID		Time			Res
				Op		ISC	h	m	s	ISC
COCH	**Cobquecura**	**2.30**	**32**	*e*P		Pn	01	20	17.7	+0.3
COCH				*e*S		Sn	01	20	46.7	+1.2
COCH				IAML			01	20	58.6	
	comp=E,427nm,1.1s									
CCHI	**Chillan**	**2.31**	**50**	*e*P		Pn	01	20	17.5	0.0
CCHI				*e*S		Sn	01	20	46.2	+0.5
CCHI				IAML			01	21	05.0	
	comp=E,585nm,0.8s									
PLCA	**Paso Flores**	**3.90**	**133**	*e*P		Pn	01	20	39.9	+0.4

*IDC **07** 01:23:29.7±0.4, 55°.65N×162°.75E, h0km, mb4.9/36, mb1 5.0/39, mb1mx5.0/46, mbtmp4.9/39, ML4.5/2, MS4.8/41, Ms1 4.8/41, ms1mx4.7/61, Error ellipse: s-maj=11.0km s-min=8.5km az=156.0*

*BJI **07** 01:23:30.6, 55°.84N×162°.19E, h7km, mb5.0/63, mB5.1/51, Ms5.5/65, Ms7 5.2/62*

*KRSC **07** 01:23:31.1±0.8, 55°.58N×163°.36E, h65km±18km, ML5.8, FELT [III-IV] at Krutoberegovo, Ust-Kamchatsk, Nikolskoe; [II-III] at GMS Kronoki, Kluchi (II0).*

*GCMT **07** 01:23:33.7±0.1, 55°.60N×163°.10E, h29km, MW5.4/123, Moment Tensor Solution. s98,c154; s123,c223; Duration: 1s2 Moment tensor: Scale 10^17^Nm; Mrr=0.11±.02; Mθθ=1.21±.02; Mφφ=1.33±.02; Mrθ=0.74±.04; Mθφ=0.36±.02; Mφr=0.65±.04; Best double couple: M=1.64700×10^17^ NP1:φs=232.00000°, δ=88.00000°, λ=-37.00000°. NP2:φs=323.00000°, δ=53.00000°, λ=-178.00000°. Principal axes: T 1.7110, Plg24.0000°, Azm283.0000°; N -0.1210, Plg53.0000°, Azm49.0000°; P -1.5840, Plg26.0000°, Azm181.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

*NEIC **07** 01:23:33.7±1.1, 55°.69N×162°.82E, h24km±7km, mb5.2/164, MS4.9/120 Error ellipse: s-maj=4.1km s-min=2.0km az=159.0*

*ISCJB **07** 01:23:34.9±0.3, 55°.61N±0°.02×162°.95E±0°.02, h52km±2km, mb5.2/298, MS5.0/194, Error ellipse: s-maj=3.3km s-min=1.9km az=161.2*

*MOS **07** 01:23:35.3±1.1, 55°.62N×162°.81E, h54km, mb5.3/119, MS5.0/71, Error ellipse: s-maj=5.1km s-min=3.2km az=84.8*

MOS Felt (III-IV) at Nikol'skoye.

ISC 07 01:23:34.2±0.4, 55°.57N±0°.03×163°.03E±0°.03, h31km±2km, h31km:pP-P,n1114,σ1963/1170, mb5.2/302, MS5.0/195, 44C-14D, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID		Time			Res
				Op		ISC	h	m	s	ISC
KBG	**Krutoberegovo**	**0.71**	**345**	PN		**Pn**	**01**	**23**	**46.6**	**-1.5**
KBG				S		**Sb**	**01**	**23**	**57.5**	**-0.2**
KBG	**Krutoberegovo**	**0.71**	**345**	*i* P		**Pn**	**01**	**23**	**46.6**	**-1.5**
KBG				*i* S		**Sb**	**01**	**23**	**57.5**	**-0.2**
MKZ	**Mys Kozlova**	**1.26**	**217**	PN		**Pn**	**01**	**23**	**55.0**	**-0.6**
MKZ	**Mys Kozlova**	**1.26**	**217**	*i* P		**Pn**	**01**	**23**	**55.0**	**-0.6**
ZLN	**Zelenaya**	**1.33**	**291**	PN		**Pb**	**01**	**23**	**58.0**	**-0.7**
ZLN	**Zelenaya**	**1.33**	**291**	*i* P		**Pb**	**01**	**23**	**58.0**	**-0.7**
SMKR	**Semkarok**	**1.34**	**320**	PN		**Pn**	**01**	**23**	**57.5**	**+0.7**
SMKR	**Semkarok**	**1.34**	**320**	*i* P		**Pn**	**01**	**23**	**57.5**	**+0.7**
CIRR	**Tsirk**	**1.40**	**294**	PN		**Pn**	**01**	**23**	**58.7**	**+1.0**
CIRR	**Tsirk**	**1.40**	**294**	*e*P		**Pn**	**01**	**23**	**58.7**	**+1.0**
LGNR	**Loginova**	**1.42**	**292**	PN		**Pn**	**01**	**23**	**59.1**	**+1.0**
LGNR	**Loginova**	**1.42**	**292**	*i* P		**Pn**	**01**	**23**	**59.1**	**+1.0**
BZMR	**Bezymyannaya**	**1.48**	**285**	PN		**Pn**	**01**	**24**	**00.0**	**+1.2**
BZMR	**Bezymyannaya**	**1.48**	**285**	*i* P		**Pn**	**01**	**24**	**00.0**	**+1.2**
SRKR	**Sorokina**	**1.51**	**317**	PN		**Pn**	**01**	**24**	**00.0**	**+0.9**
SRKR	**Sorokina**	**1.51**	**317**	*i* P		**Pn**	**01**	**24**	**00.0**	**+0.9**
KLY	**Klyuchi**	**1.53**	**300**	PN		**Pn**	**01**	**23**	**58.8**	**-0.5**
KLY	**Klyuchi**	**1.53**	**300**	*i* P		**Pn**	**01**	**23**	**58.8**	**-0.5**
KRSR	**Krestovskiy**	**1.53**	**296**	PN		**Pn**	**01**	**23**	**59.9**	**+0.4**
KRSR	**Krestovskiy**	**1.53**	**296**	*i* P		**Pn**	**01**	**23**	**59.9**	**+0.4**
TUMD	**Tumrok D**	**1.54**	**257**	*i* P		**Pb**	**01**	**24**	**00.9**	**-1.3**
TUMD				*i* S		**Sb**	**01**	**24**	**21.7**	**+0.3**
KIRR	**Kirishev**	**1.57**	**285**	PN		**Pn**	**01**	**24**	**01.3**	**+1.3**
KIRR	**Kirishev**	**1.57**	**285**	*i* P		**Pn**	**01**	**24**	**01.3**	**+1.3**
KMNR	**Kamenistaya**	**1.59**	**278**	PN		**Pb**	**01**	**24**	**02.1**	**-1.0**
KMNR	**Kamenistaya**	**1.59**	**278**	*i* P		**Pb**	**01**	**24**	**02.1**	**-1.0**
KZV	**Kizimen**	**1.63**	**255**	PN		**Pn**	**01**	**24**	**02.0**	**+1.2**
KZV	**Kizimen**	**1.63**	**255**	*i* P		**Pn**	**01**	**24**	**02.0**	**+1.2**
KPT	**Kopyto**	**1.64**	**285**	PN		**Pb**	**01**	**24**	**02.7**	**-1.1**
KPT	**Kopyto**	**1.64**	**285**	*i* P		**Pb**	**01**	**24**	**02.7**	**-1.1**
TUMR	**Tumrok**	**1.67**	**261**	PN		**Pn**	**01**	**24**	**00.9**	**-0.4**
TUMR				S		**Sn**	**01**	**24**	**21.7**	**0.0**
TUMR	**Tumrok**	**1.67**	**261**	*i* P		**Pb**	**01**	**24**	**03.3**	**-1.0**
BKI	**Bering**	**1.72**	**101**	PN		**Pn**	**01**	**23**	**59.4**	**-2.5**
BKI	**Bering**	**1.72**	**101**	*i* P		**Pn**	**01**	**23**	**59.4**	**-2.5**
BKI				*e*S		**Sn**	**01**	**24**	**19.2**	**-3.5**
ESO	**Esso**	**2.47**	**280**	PN		**Pn**	**01**	**24**	**13.8**	**+1.5**
ESO	**Esso**	**2.47**	**280**	*i* P		**Pn**	**01**	**24**	**13.8**	**+1.5**
KII	**Karymskiy**	**2.58**	**235**	PN		**Pn**	**01**	**24**	**14.8**	**+1.0**
KII	**Karymskiy**	**2.58**	**235**	*e*P		**Pn**	**01**	**24**	**14.8**	**+1.0**
SPN	**Mys Shipunski**	**3.04**	**217**	PN		**Pn**	**01**	**24**	**19.3**	**-0.7**
SPN	**Mys Shipunski**	**3.04**	**217**	*e*P		**Pn**	**01**	**24**	**19.3**	**-0.7**
SDLR	**Sedlovina**	**3.33**	**228**	PN		**Pn**	**01**	**24**	**25.7**	**+1.4**
SDLR	**Sedlovina**	**3.33**	**228**	*e*P		**Pn**	**01**	**24**	**25.7**	**+1.4**
KRER	**Koryakskii**	**3.38**	**230**	PN		**Pn**	**01**	**24**	**26.5**	**+1.6**
KRER	**Koryakskii**	**3.38**	**230**	*i* P		**Pn**	**01**	**24**	**26.5**	**+1.6**
KRX	**Arik**	**3.38**	**231**	PN		**Pn**	**01**	**24**	**26.8**	**+1.9**
KRX	**Arik**	**3.38**	**231**	*e*P		**Pn**	**01**	**24**	**26.8**	**+1.9**
AVH	**Avacha**	**3.41**	**229**	PN		**Pn**	**01**	**24**	**27.1**	**+1.9**
AVH	**Avacha**	**3.41**	**229**	*i* P		**Pn**	**01**	**24**	**27.1**	**+1.9**
UGLR	**Uglovaya**	**3.41**	**228**	PN		**Pn**	**01**	**24**	**26.9**	**+1.6**
UGLR	**Uglovaya**	**3.41**	**228**	*i* P		**Pn**	**01**	**24**	**26.9**	**+1.6**
KOK	**Koryaka**	**3.43**	**230**	PN		**Pn**	**01**	**24**	**27.9**	**+2.3**
KOK	**Koryaka**	**3.43**	**230**	*i* P		**Pn**	**01**	**24**	**27.9**	**+2.3**
GNL	**Ganaly**	**3.50**	**240**	PN		**Pn**	**01**	**24**	**28.9**	**+2.4**
GNL	**Ganaly**	**3.50**	**240**	*i* P		**Pn**	**01**	**24**	**28.9**	**+2.4**
DALK	**Dalny**	**3.57**	**226**	PN		**Pn**	**01**	**24**	**28.4**	**+1.1**
DALK				S		**Sn**	**01**	**25**	**10.6**	**+2.2**
DALK	**Dalny**	**3.57**	**226**	*i* P		**Pn**	**01**	**24**	**28.4**	**+1.1**
DALK				*e*S		**Sn**	**01**	**25**	**10.6**	**+2.2**
PET	**Petropavlovsk**	**3.62**	**227**κ	*i* PN		**Pn**	**01**	**24**	**29.4**	**+1.4**
PET				*e*S		**Sn**	**01**	**25**	**10.3**	**+0.8**
PET				pmax	pmax					
	comp=Z,2μm,0.6s									
PET				smax	smax					
	comp=E,14μm,0.8s									
PET				smax	smax					
	comp=N,21μm,0.8s									
PET				MLR	MLR					
	comp=Z,20μm,14.0s									
PET				MLR	MLR					
	comp=Z,12μm,12.0s									
PET	**Petropavlovsk**	**3.62**	**227**	*e*P		**Pn**	**01**	**24**	**29.4**	**+1.4**
PET				*e*S		**Sn**	**01**	**25**	**13.0**	**+3.5**
PET	**Petropavlovsk**	**3.62**	**227**	*e*Pn		**Pn**	**01**	**24**	**29.4**	**+1.4**
PET				*e*Sn		**Sn**	**01**	**25**	**09.3**	**-0.2**
OSSR	**Ossora**	**3.69**	**0**	PN		**Pn**	**01**	**24**	**29.3**	**+0.3**
OSSR	**Ossora**	**3.69**	**0**	*i* P		**Pn**	**01**	**24**	**29.3**	**+0.3**
KRMR	**Karymshinskiy**	**3.98**	**228**	PN		**Pn**	**01**	**24**	**34.7**	**+1.8**
KRMR				S		**Sn**	**01**	**25**	**23.4**	**+5.0**
KRMR	**Karymshinskiy**	**3.98**	**228**	*i* P		**Pn**	**01**	**24**	**34.7**	**+1.8**
KRMR				*i* S		**Sn**	**01**	**25**	**23.4**	**+5.0**
PEA0	**Petropavlovsk-**	**3.98**	**234**	*e*Pn		**Pn**	**01**	**24**	**34.5**	**+1.5**
PEA0				*e*Sn		**Sn**	**01**	**25**	**17.6**	**-0.8**
PEA0B	**Petropavlovsk-**	**3.98**	**234**	*e*Pn		**Pn**	**01**	**24**	**35.0**	**+2.0**
PEA0B				*e*Sn		**Sn**	**01**	**25**	**17.3**	**-1.1**
PETK	**Petropavlovsk-**	**3.98**	**234**	Pn		**Pn**	**01**	**24**	**34.5**	**+1.5**
	comp=Z,52nm,0.3s,baz=70,slow=18,SNR=98									
PETK				Sn		**Sb**	**01**	**25**	**27.4**	**-3.6**
	comp=Z,77nm,0.3s,baz=76,slow=20,SNR=5.4									
PETK				LR		LR	01	26	22.9	
	comp=Z,11μm,20.4s,baz=55,slow=44									
RUS	**Russkaya**	**4.12**	**222**	PN		**Pn**	**01**	**24**	**35.6**	**+0.7**
RUS	**Russkaya**	**4.12**	**222**	*e*P		**Pn**	**01**	**24**	**35.6**	**+0.7**
GRL	**Gorelyy**	**4.20**	**226**	PN		**Pn**	**01**	**24**	**39.3**	**+3.1**
GRL				S		**Sn**	**01**	**25**	**28.3**	**+4.1**
GRL	**Gorelyy**	**4.20**	**226**	*e*P		**Pn**	**01**	**24**	**39.3**	**+3.1**
GRL				*e*S		**Sn**	**01**	**25**	**28.3**	**+4.1**
MTVR	**Mutnovka**	**4.21**	**225**	PN		**Pn**	**01**	**24**	**38.4**	**+2.1**
MTVR				S		**Sn**	**01**	**25**	**29.0**	**+4.6**
MTVR	**Mutnovka**	**4.21**	**225**	*e*P		**Pn**	**01**	**24**	**38.4**	**+2.1**
MTVR				*e*S		**Sn**	**01**	**25**	**29.0**	**+4.6**
APC	**Apacha**	**4.34**	**235**	PN		**Pn**	**01**	**24**	**40.9**	**+2.9**
APC				S		**Sn**	**01**	**25**	**33.1**	**+5.6**
APC	**Apacha**	**4.34**	**235**	*e*P		**Pn**	**01**	**24**	**40.9**	**+2.9**
APC				*e*S		**Sn**	**01**	**25**	**33.1**	**+5.6**
ASAK	**Asacha**	**4.40**	**226**	PN		**Pn**	**01**	**24**	**41.1**	**+2.3**
ASAK				S		**Sn**	**01**	**25**	**32.6**	**+3.6**
ASAK	**Asacha**	**4.40**	**226**	*e*P		**Pn**	**01**	**24**	**41.1**	**+2.3**
ASAK				*e*S		**Sn**	**01**	**25**	**32.6**	**+3.6**

TILK	**Tilichiki**	**5.17**	**17**	PN		**Pn**	**01 24 46.9**	**-2.3**
TILK	**Tilichiki**	**5.17**	**17**	*i* P		**Pn**	**01 24 46.9**	**-2.3**
TILK				*i* S		**Sn**	**01 25 44.0**	**-3.6**
SKR	**Severo-Kuril's**	**6.42**	**223**	*e*PN		**Pn**	**01 25 08.3**	**+1.8**
SKR				pmax	pmax			
	comp=Z,401nm,0.6s							
SKR				MLR	MLR			
	comp=Z,8μm,19.0s							
SKR	**Severo-Kuril's**	**6.42**	**223**	*e*P		**Pn**	**01 25 07.4**	**+0.9**
SMY	**Shemya**	**7.10**	**109**	*e*PN		**Pn**	**01 25 16.1**	**+0.3**
SMY	**Shemya**	**7.10**	**109**	*e*Pn		**Pn**	**01 25 16.1**	**+0.3**
SMY				*e*Sn		**Sn**	**01 26 34.9**	**-0.3**
KMSK	**Kamenskaya**	**7.11**	**12**	PN		**Pn**	**01 25 17.7**	**+1.8**
KMSK	**Kamenskaya**	**7.11**	**12**	*e*P		**Pn**	**01 25 17.7**	**+1.8**
MA2	**Magadan**	**7.71**	**306**	Pn		**Pn**	**01 25 26.1**	**+1.9**
	comp=Z,3.7nm,0.3s,baz=112,slow=10.0,SNR=19							
MA2				Sn		**Sn**	**01 26 53.8**	**+3.4**
	comp=Z,1.4nm,0.3s,baz=0.0,slow=20,SNR=1.7							
MA2				LR		LR	01 28 50.2	
	comp=Z,16μm,18.4s,baz=112,slow=42							
MA2	**Magadan**	**7.71**	**306**	*e*Pn		**Pn**	**01 25 22.2**	**-2.0**
MA2				Sn		**Sn**	**01 26 53.8**	**+3.4**
SEY	**Seymchan**	**9.17**	**328**	Pn		Pn	01 25 48.9	+4.8
	comp=Z,0.5nm,0.3s,baz=146,slow=12,SNR=14							
SEY				Sn		**Sn**	**01 27 34.0**	**+8.0**
	baz=197,slow=19,SNR=1.5							
SEY				LR		LR	01 29 46.0	
	comp=Z,17μm,19.2s,baz=131,slow=42							
OKH	**Okha**	**11.84**	**268**⇑	*i* PN		**Pn**	**01 26 24.3**	**+3.7**
OKH				*i* S		**Sn**	**01 28 39.5**	**+8.1**
OKH				pmax	pmax			
	comp=Z,1μm,9.7s							
OKH				smax	smax			
	comp=E,2μm,12.0s							
OKH				MLR	MLR			
	comp=Z,8μm,15.0s							
BILL	**Bilibino**	**12.61**	**6**d	*i* PN		**Pn**	**01 26 35.2**	**+4.1**
BILL				pmax	pmax			
	comp=Z,80nm,2.1s							
GSTR	**Great Sitkin T**	**12.82**	**97**	*e*Pn		**Pn**	**01 26 35.5**	**+1.4**
NKL	**Nikolayevsk**	**13.24**	**269**	*i* PN		**P**	**01 26 45.0**	**-4.3**
NKL				*e*			01 29 14.0	
NKL				pmax	pmax			
	comp=N,1μm,8.0s							
NKL				pmax	pmax			
	comp=E,2μm,8.0s							
NKL				pmax	pmax			
	comp=Z,2μm,8.0s							
NKL				pmax	pmax			
	comp=N,80nm,1.0s							
NKL				pmax	pmax			
	comp=E,100nm,1.0s							
NKL				pmax	pmax			
	comp=Z,220nm,1.0s							
NKL				MLR	MLR			
	comp=N,2μm,15.0s							
NKL				MLR	MLR			
	comp=E,7μm,15.0s							
NKL				MLR	MLR			
	comp=Z,9μm,15.0s							
ATKA	**Atka Island**	**13.83**	**95**	*e*Pn		**Pn**	**01 26 47.6**	**-0.2**
KUR	**Kuril'sk**	**14.12**	**229**	P		**P**	**01 26 56.1**	**-3.0**
KUR				S		**Sn**	**01

comp=Z,102nm,1.3s
TTA Tatalina 21.86 54 *e*P **P 01 28 25.4 +1.4**
comp=Z,102nm,1.3s
SVW2 Sparrevohn 22.12 59 *e*P **P 01 28 27.3 +0.6**
comp=Z,121nm,1.6s
USRK Ussuriysk Ar. 22.80 253 P **P 01 28 30.8 -3.3**
comp=Z,5.5nm,0.6s,baz=50,slow=12,SNR=11
USRK LR LR 01 37 39.8
comp=Z,5µm,20.2s,baz=45,slow=38
RSO Redoubt South 23.57 60 *e*P **P 01 28 45.1 +3.3**
PPLA Purkeypile 23.61 54 *e*P **P 01 28 43.4 +1.2**
comp=Z,232nm,1.6s
CAST Castle Rocks 23.64 52 *e*P **P 01 28 42.1 -0.2**
CAST *epP* **P 01 28 43.2 +0.9**
SPU Mount Spurr 23.82 58 *e*P **P 01 28 45.1 +1.0**
MDJ Mudanjiang 23.85 257 P **P 01 28 41.3 -3.1**
MDJ S **S 01 32 54.3 -3.8**
MDJ pmax pmax
comp=Z,11nm,0.7s
MDJ pmax pmax
comp=Z,96nm,3.9s
OHAK Old Harbor 23.93 68 *e*P **P 01 28 44.5 -0.5**
comp=Z,115nm,1.4s
KTH Kantishna Hill 24.16 52 *e*P **P 01 28 48.1 +0.9**
comp=Z,94nm,1.4s
KDAK Kodiak Island 24.16 66 *e*P **P 01 28 46.3 -0.8**
KDAK pmax pmax
comp=Z,146nm,1.5s
KDAK MLR MLR
comp=Z,2µm,20.0s
KDAK Kodiak Island 24.16 66 *e*P **P 01 28 46.3 -0.8**
comp=Z,146nm,1.5s
KDAK LR LR
comp=Z,2µm,20.0s
SUA Susitna One 24.41 57 *e*P **P 01 28 50.8 +1.2**
comp=Z,82nm,0.9s
TRF Thorofare Moun 24.45 52 *e*P **P 01 28 50.1 +0.2**
comp=Z,102nm,1.0s
CNPM China Poot 24.47 62 *e*P **P 01 28 49.1 -0.9**
CNPM *epP* **P 01 28 50.5 +0.4**
COLD Coldfoot 24.56 43 *e*P **P 01 28 51.0 +0.3**
comp=Z,34nm,0.8s
BRLK Bradley Lake 24.60 61 *e*P **P 01 28 48.9 -2.3**
comp=Z,40nm,0.7s
RC01 Rabbit Creek A 24.94 58 *e*P **P 01 28 54.4 +0.1**
comp=Z,11nm,0.5s
TOLK Toolik Lake Re 24.95 40 P **P 01 28 54.4 0.0**
baz=263
MCK McKinley 25.03 51 *e*P **P 01 28 55.9 +0.8**
MCK pmax pmax
comp=Z,99nm,1.5s
MCK McKinley 25.03 51 *e*P **P 01 28 55.9 +0.8**
comp=Z,99nm,1.5s
RND Reindeer 25.09 52 *e*P **P 01 28 55.3 -0.4**
RND pmax pmax
comp=Z,147nm,1.5s
RND Reindeer 25.09 52 *e*P **P 01 28 55.3 -0.4**
comp=Z,147nm,1.5s
PMR Palmer 25.16 56 *e*P **P 01 28 56.9 +0.7**
PMR pmax pmax
comp=Z,15nm,0.7s
PMR Palmer 25.16 56 *e*P **P 01 28 56.9 +0.7**
comp=Z,15nm,0.7s
MDM Murphy Dome 25.29 49 *e*P **P 01 28 57.8 +0.4**
comp=Z,35nm,1.2s
WRH Wood River Hil 25.36 50 *e*P **P 01 28 58.3 +0.3**
comp=Z,99nm,1.2s
MJB9 Matsu-Tunnel 25.43 232 *e*P **P 01 28 59.5 +0.6**
comp=Z,46nm,1.2s
MAJO Matsushiro 25.43 232 *e*P **P 01 28 59.4 +0.5**
MAJO pmax pmax
comp=Z,180nm,1.2s
MAJO MLR MLR
comp=Z,3µm,22.0s
MAJO Matsushiro 25.43 232 *e*P **P 01 28 59.4 +0.5**
comp=Z,180nm,1.2s
MAJO LR LR
comp=Z,3µm,22.0s
MJAR Matsushiro Arr 25.43 232 P **P 01 28 59.1 +0.2**
comp=Z,108nm,1.1s,baz=18,slow=8.5,SNR=80
MJAR LR LR 01 39 44.7
comp=Z,2µm,21.1s,baz=50,slow=38
COLA College 25.45 49 *e*P **P 01 28 58.8 0.0**
COLA pmax pmax
comp=Z,18nm,0.6s
COLA MLR MLR
comp=Z,898nm,21.0s
COLA College 25.45 49 *e*P **P 01 28 58.8 0.0**
comp=Z,18nm,0.6s
COLA LR LR
comp=Z,898nm,21.0s
CCB Clear Creek Bu 25.48 49 *e*P **P 01 28 58.8 -0.3**
comp=Z,71nm,1.1s
SML Sawmill 25.51 56 *e*P **P 01 28 59.5 +0.1**
SML pmax pmax
comp=Z,59nm,0.8s
SML Sawmill 25.51 56 *e*P **P 01 28 59.5 +0.1**
comp=Z,59nm,0.8s
DHY Denali Highway 25.79 53 *e*P **P 01 29 01.9 -0.2**
comp=Z,59nm,1.2s
HDA Harding Lake 25.86 50 *e*P **P 01 29 02.3 -0.3**
comp=Z,24nm,0.7s
IL1 Eielson Array 25.87 49 *e*P **P 01 29 01.7 -0.9**
ILAR Eielson Array 25.87 49 P **P 01 29 02.4 -0.2**
comp=Z,8.7nm,0.8s,baz=269,slow=9.2,SNR=64
PcP **PcP 01 32 30.2 -0.6**
comp=Z,0.7nm,0.5s,baz=302,slow=3.2,SNR=4.2
ILAR LR LR 01 39 11.2
comp=Z,458nm,21.2s,baz=276,slow=36
ILB Eielson Array 25.87 49 *e*P **P 01 29 02.4 -0.2**
SCM Sheep Creek Mo 25.97 56 *e*P **P 01 29 04.1 +0.4**
SCM pmax pmax
comp=Z,106nm,0.8s
SCM Sheep Creek Mo 25.97 56 *e*P **P 01 29 04.1 +0.4**
comp=Z,106nm,0.8s
FYU Fort Yukon 26.49 45 *e*P **P 01 29 09.1 +0.9**
BOD Bodaibo 26.55 295 *e*P **P 01 29 06.2 -2.6**
BOD pmax pmax
comp=Z,54nm,1.9s
CN2 Changchun 26.67 260 *e*P P 01 29 02.8 -7.2
CN2 *epP* pP 01 29 06.5 -13
CN2 *e*S **S 01 33 33.8 -9.2**
CN2 pmax pmax
comp=Z,10.0nm,0.8s
CN2 LR LR
comp=N,3µm,16.0s
CN2 LR LR
comp=E,5µm,16.0s
CN2 LR LR
comp=Z,5µm,16.0s
HIA Hailar 26.79 275 *e*P **P 01 29 09.6 -1.5**
HIA pmax pmax
comp=Z,30nm,0.8s
HIA MLR MLR
comp=Z,3µm,19.0s
HIA Hailar 26.79 275 *e*P **P 01 29 09.6 -1.5**
comp=Z,30nm,0.8s
HIA LR LR
comp=Z,3µm,19.0s
INU Inuyama 26.96 232 *e*P **P 01 29 12.9 +0.2**
comp=Z,161nm,1.5s
DOT Dot Lake 27.20 51 *e*P **P 01 29 13.6 -1.1**
comp=Z,261nm,1.8s
BMRM Bremner River 27.42 57 *e*P **P 01 29 16.9 +0.2**
comp=Z,51nm,1.1s
JHJ Hachijo jima 2 27.68 225 LR LR 01 40 58.0
comp=Z,812nm,20.3s,baz=74,slow=38
EGAK Eagle 28.31 48 *e*P **P 01 29 23.8 -0.8**
comp=Z,33nm,0.8s
EGAK LR LR
comp=Z,956nm,19.0s
DAWY Dawson 29.18 50 *e*P **P 01 29 32.8 +0.4**
KSRS Korea Array 29.75 247 P **P 01 29 36.3 -1.2**
comp=Z,8.6nm,0.8s,baz=36,slow=8.9,SNR=23
KSRS PcP **PcP 01 32 41.0 +0.4**
comp=Z,3.6nm,1.0s,baz=33,slow=2.2,SNR=6.0
KSRS LR LR 01 40 46.5
comp=Z,2µm,19.6s,baz=55,slow=35
KSRS Korea Array 29.75 247 P **P 01 29 36.3 -1.2**
KSRS 01 32 41.0
KSRS pmax pmax
comp=Z,9.0nm,0.9s
KSRS MLR MLR
comp=Z,2µm,19.6s
KSAR Wonju Array Be 29.78 247 P **P 01 29 36.3 -1.5**
KSAR 01 32 41.0
KSAR Wonju Array Be 29.78 247 P **P 01 29 36.3 -1.5**
KSAR PcP **PcP 01 32 41.0 +0.3**
HYT Haines Junctio 30.81 55 *e*P **P 01 29 48.7 +1.9**
INK Inuvik 30.86 40 P **P 01 29 47.6 +0.6**
comp=Z,8.9nm,0.6s,baz=296,slow=8.5,SNR=15
INK Inuvik 30.86 40 *e*P **P 01 29 47.4 +0.4**
comp=Z,19nm,0.9s
JNU Nakatsue 31.66 238 P **P 01 29 54.2 -0.3**
comp=Z,3.8nm,0.5s,baz=56,slow=11,SNR=7.1
JNU Nakatsue 31.66 238 *e*P **P 01 29 54.5 0.0**
DL2 Dalian 32.09 256 P **P 01 29 55.4 -2.7**
DL2 S **S 01 35 00.3 -7.8**
DL2 pmax pmax
comp=Z,37nm,0.9s
DL2 pmax pmax
comp=Z,19nm,5.6s
DL2 LR LR
comp=Z,6µm,21.5s
DL2 LR LR
comp=Z,5µm,21.9s
DL2 LR LR
comp=Z,5µm,16.3s
WHY Whitehorse 32.09 55 *e*P **P 01 29 60.0 +1.9**
IRK Irkutsk 33.88 289 *e*P **P 01 30 13.2 -0.5**
IRK pmax pmax
comp=Z,70nm,2.3s
BJI Beijing 34.35 263 P **P 01 30 16.0 -1.8**
BJI S **S 01 35 46.6 +3.4**
BJI pmax pmax
comp=Z,13nm,0.8s
BJI LR LR
comp=Z,5µm,19.1s
BJI LR LR
comp=Z,4µm,17.2s
BJI LR LR
comp=Z,4µm,20.4s
BJT Baijiatuau 34.37 263 PFAKE 01 30 30.0 +12
BJT LR LR
comp=Z,5µm,19.0s
TLY Talaya 34.50 289 *e*P **P 01 30 18.5 -0.6**
TLY *e* 01 31 39.6
TLY *e*S **S 01 35 47.6 +2.3**
TLY pmax pmax
comp=Z,19nm,1.1s
TLY MLR MLR
comp=Z,5µm,15.0s
TLY Talaya 34.50 289 PFAKE 01 30 30.0 +11
TLY LR LR
comp=Z,7µm,20.0s
ULN Ulaanbaatar 34.67 281 *e*P **P 01 30 18.0 -2.7**
ULN pmax pmax
comp=Z,4.0nm,0.6s
ULN MLR MLR
comp=Z,3µm,19.0s
ULN Ulaanbaatar 34.67 281 *e*P **P 01 30 18.0 -2.7**
comp=Z,4.4nm,0.6s
ULN LR LR
comp=Z,3µm,19.0s
NRIK Noril'sk 34.91 323 P **P 01 30 21.6 -0.9**
comp=Z,14nm,1.1s,baz=84,slow=8.1,SNR=11
NRIK LR LR 01 45 52.1
comp=Z,4µm,19.1s,baz=76,slow=39
WRAK Wrangell Islan 34.96 61 PFAKE 01 30 40.0 +17
WRAK LR LR
comp=Z,2µm,20.0s
SONA1 Songino Array 35.04 282 *e*P **P 01 30 22.0 -1.9**
SONM Songino Array 35.05 282 P **P 01 30 22.4 -1.6**
comp=Z,9.2nm,0.8s,baz=57,slow=7.4,SNR=34
SONM PcP **PcP 01 32 54.9 -0.3**
comp=Z,2.7nm,0.6s,baz=66,slow=1.6,SNR=4.6
SONM ScP **ScP 01 36 40.3 +2.1**
comp=Z,1.7nm,1.0s,baz=48,slow=2.1,SNR=3.9
SONM LR LR 01 46 21.6
comp=Z,4µm,18.4s,baz=52,slow=39
DLBC Dease Lake 35.22 57 *e*P **P 01 30 27.0 +1.7**
comp=Z,14nm,0.7s
ZAK Zakamensk 35.37 287 *e*P **P 01 30 24.6 -2.1**
ZAK pmax pmax
comp=Z,9.0nm,1.2s
H11N2 WAKE ISLAND Hy 35.90 174 T T 02 09 38.6
baz=357,slow=76,SNR=2581
H11N3 WAKE ISLAND Hy 35.90 174 T T 02 09 39.6
baz=357,slow=76,SNR=2283
H11N1 WAKE ISLAND Hy 35.91 174 T T 02 09 41.4
baz=357,slow=76,SNR=2435
HHC Hu-ho-hao-te 36.42 268 *e*P **P 01 30 36.4 +0.6**
HHC PP **PP 01 31 59.2 +0.4**
HHC S **S 01 36 14.9 -0.3**
HHC ScS **ScS 01 40 50.4 +0.8**
HHC pmax pmax
comp=Z,17nm,1.1s
HHC pmax pmax
comp=Z,84nm,5.5s
HHC LR LR
comp=Z,2µm,16.5s
HHC LR LR
comp=Z,2µm,15.3s
HHC LR LR
comp=Z,3µm,17.1s
BTO Baotou 37.46 269 *e*P P 01 30 35.0 -10
JOW Kunigami 38.14 236 P **P 01 30 50.2 -0.1**
comp=Z,131nm,1.1s,baz=49,slow=9.9,SNR=16
JOW LR LR 01 45 24.5
comp=Z,1µm,20.5s,baz=47,slow=35
JOW Kunigami 38.14 236 *e*P **P 01 30 50.4 +0.1**
SSE Sheshan 38.19 248 P **P 01 30 50.6 -0.1**
SSE S **S 01 36 38.0 -4.0**
SSE sS **ScP 01 36 48.4 -1.4**
SSE pmax pmax
comp=Z,62nm,1.0s
SSE pmax pmax
comp=Z,150nm,6.4s
SSE LR LR
comp=Z,1µm,17.4s
SSE LR LR
comp=Z,1µm,17.4s
SSE LR LR
comp=Z,2µm,14.9s
NJ2 Nanjing 38.69 251 *e*P **P 01 30 57.7 +2.8**
NJ2 S **S 01 36 55.3 +5.9**
NJ2 pmax pmax
comp=Z,20nm,0.5s
NJ2 pmax pmax
comp=Z,150nm,5.4s
NJ2 LR LR
comp=Z,3µm,19.0s
NJ2 LR LR
comp=Z,2µm,16.8s
NJ2 LR LR
comp=Z,3µm,17.4s
YKA Yellowknife Ar 40.19 45 P **P 01 31 07.9 +0.9**
comp=Z,9.1nm,0.7s,baz=297,slow=7.7,SNR=13
YKA Yellowknife Ar 40.19 45 *ce*P **P 01 31 07.5 +0.5**
YKA pmax pmax
comp=Z,9.0nm,0.7s
RES Resolute Bay 40.37 24 *e*P **P 01 31 07.5 -0.9**
RES pmax pmax
comp=Z,21nm,0.9s
RES Resolute Bay 40.37 24 *e*P **P 01 31 07.5 -0.9**
comp=Z,21nm,0.9s
WHN Wuhan 42.29 254 P **P 01 31 23.6 -1.1**
WHN S **S 01 37 43.2 0.0**
WHN LR LR
comp=Z,6µm,17.6s
WHN LR LR
comp=Z,6µm,16.1s
WHN LR LR
comp=Z,7µm,16.8s
XAN Xi'an 42.68 263 P **P 01 31 24.7 -3.2**
XAN PP **PP 01 33 03.6 -3.5**
XAN PcP **PcP 01 33 21.0 +1.7**
XAN S **S 01 37 43.1 -6.0**
XAN ScS **ScS 01 41 27.5 +1.0**
XAN pmax pmax
comp=Z,6.0nm,1.0s
XAN pmax pmax
comp=Z,120nm,11.6s
XAN LR LR
comp=Z,2µm,19.5s
XAN LR LR
comp=Z,4µm,20.7s
XAN LR LR
comp=Z,6µm,14.6s
ZALV Zalesovo Beam 42.91 302 P **P 01 31 27.3 -2.1**
comp=Z,1.9nm,0.5s,baz=45,slow=7.4,SNR=8.0
ZALV PP **PP 01 33 09.9 +0.9**
comp=Z,1.7nm,0.6s,baz=52,slow=9.3,SNR=1.9
ZALV ScP **ScP 01 37 09.5 +1.5**
comp=Z,0.9nm,0.3s,baz=50,slow=4.6,SNR=3.5
ZALV LR LR 01 51 21.5
comp=Z,2µm,18.7s,baz=63,slow=39
TATO Taipei 42.99 242 PFAKE 01 31 40.0 +10
TATO LR LR
comp=Z,1µm,20.0s
NVS Novosibirsk 43.15 304 ⇑ *i*P **P 01 31 30.2 -1.2**
NVS *e* 01 33 19.9
NVS pmax pmax
comp=Z,50nm,1.2s
NVS pmax pmax
comp=N,19nm,1.3s
NVS pmax pmax
comp=E,34nm,1.5s
YHNB Yeheng 43.30 242 PFAKE 01 31 40.0 +7.0
YHNB LR LR
comp=Z,2µm,20.0s
A04D Lummi Island 44.05 66 P **P 01 31 38.5 -0.2**
baz=308
LZH Lanzhou 44.08 269 *e*P **P 01 31 38.7 -0.6**
LZH pP pP 01 31 41.8 -6.9
LZH sP sP 01 31 43.2 -9.2
LZH PP **PP 01 33 22.0 -0.1**
LZH *e*S **S 01 38 10.0 +0.2**
LZH sS pS 01 38 16.2 -4.4
LZH SS **SS 01 41 18.5 -8.8**
LZH pmax pmax
comp=Z,46nm,1.1s
LZH pmax pmax
comp=Z,190nm,4.3s
LZH LR LR
comp=Z,4µm,15.0s
LZH LR LR
comp=Z,4µm,13.3s
LZH LR LR
comp=Z,6µm,15.2s
NLWA Neilton Lookou 44.27 69 *e*P **P 01 31 42.6 +2.1**
NLWA LR LR
comp=Z,926nm,20.0s
YULB Yu-li 44.41 241 *e*P **P 01 31 42.3 +0.4**
comp=Z,9.6nm,0.6s
MBW Mount Baker 44.43 66 P **P 01 31 43.3 +1.3**
KBS Kingsbay 44.65 352 *e*P **P 01 31 44.4 +1.2**
KBS pmax pmax
comp=Z,93nm,1.4s
KBS MLR MLR
comp=Z,929nm,19.0s
KBS Kingsbay 44.65 352 *e*P **P 01 31 44.4 +1.2**
comp=Z,93nm,1.4s
KBS LR LR
comp=Z,929nm,19.0s
B05A Bryant 44.66 67 P **P 01 31 44.0 +0.5**
baz=309
KIP Kipapa 44.73 124 *ce*P **P 01 31 47.8 +3.4**
TPUB Ta-pu 44.82 242 *e*P **P 01 31 45.0 -0.1**
ENH Enshi 45.19 259 *e*P **P 01 31 45.1 -2.9**
comp=Z,14nm,0.6s
ENH LR LR
comp=Z,3µm,20.0s
F04D Rainier, OR 45.56 70 P **P 01 31 51.4 +0.7**
baz=310
NLW Nelson Butte 45.69 66 P **P 01 31 53.4 +1.5**
EDM Edmonton 45.93 56 *e*P **P 01 31 54.3 +0.7**
EDM pmax pmax
comp=Z,81nm,1.0s
EDM Edmonton 45.93 56 *e*P **P 01 31 54.3 +0.7**
comp=Z,81nm,1.0s
ETW Entiat 45.99 66 P **P 01 31 55.2 +0.9**
TWW Teanaway 46.01 67 P **P 01 31 56.2 +1.7**
WTV Waterville 46.13 66 P **P 01 31 55.8 +0.5**
TBM Table Mountain 46.13 67 P **P 01 31 56.6 +1.2**
I03D Drain, OR 46.94 72 P **P 01 32 02.5 +0.9**
baz=312
G05D Wamic, OR 47.01 69 P **P 01 32 02.9 +0.8**
baz=312
HAWA Hanford 47.19 67 *e*P **P 01 32 04.1 +0.5**
comp=Z,22nm,1.3s
HAWA LR LR
comp=Z,622nm,20.0s
NEW Newport 47.22 64 P **P 01 32 04.2 +0.4**
baz=311,SNR=7.3
NEW Newport 47.22 64 *e*P **P 01 32 04.4 +0.6**
NEW pmax pmax
comp=Z,79nm,1.9s
NEW MLR MLR
comp=Z,972nm,21.0s
NEW Newport 47.22 64 *e*P **P 01 32 04.4 +0.6**
comp=Z,79nm,1.9s
NEW LR LR
comp=Z,972nm,21.0s
POHA Pohakuloa 47.34 122 PFAKE 01 32 20.0 +15
POHA LR LR
comp=Z,867nm,19.0s
CROR Criterion Ridg 47.35 69 P **P 01 32 06.0 +1.1**
I04A Tendick Farm, 47.38 72 P **P 01 32 05.3 +0.2**
baz=312
I05D Terrebonne, OR 47.59 70 P **P 01 32 07.7 +0.9**
baz=312
WMQ Urumqi 47.78 289 P **P 01 32 08.7 +0.4**
WMQ pP pP 01 32 14.9 -2.8
WMQ sP sP 01 32 19.6 -1.8
WMQ PcP **PcP 01 33 39.2 +2.4**
WMQ S **S 01 39 01.1 -1.5**
WMQ pmax pmax
comp=Z,80nm,0.9s
WMQ pmax pmax
comp=Z,190nm,3.7s
WMQ LR LR
comp=Z,820nm,16.5s
WMQ LR LR
comp=Z,530nm,13.1s
WMQ LR LR
comp=Z,280nm,18.1s
L02D Cave Junction, 47.84 74 P **P 01 32 09.8 +1.2**
baz=313
HUMO Hull Mountain 47.89 73 *e*P **P 01 32 10.7 +1.6**
comp=Z,40nm,0.9s
KURK Kurchatov 47.90 301 *ce*P **P 01 32 06.8 -2.1**
KURK Kurchatov 47.90 301 *e*P **P 01 32 06.6 -2.4**
comp=Z,814nm,1.1s
KURK LR LR
comp=Z,5µm,19.0s
KURK Kurchatov 47.90 301 P **P 01 32 07.0 -2.0**
SNR=39
KURK Kurchatov 47.90 301 P **P 01 32 07.0 -2.0**
SNR=39
J04D Umpqua Nationa 47.92 72 P **P 01 32 10.1 +0.6**
baz=313
CD2 Chengdu 47.92 265 ⇓ *i*P **P 01 32 07.9 -1.6**
CD2 pP pP 01 32 12.5 -6.4
CD2 sP sP 01 32 16.7 -5.9
CD2 PP **PP 01 34 01.2 -0.2**
CD2 S **S 01 39 01.8 -3.0**
CD2 sS pS 01 39 09.4 -6.4
CD2 pmax pmax
comp=Z,30nm,0.9s
CD2 pmax pmax
comp=Z,580nm,7.6s
CD2 LR LR
comp=Z,3µm,16.1s
CD2 LR LR
comp=Z,3µm,19.0s
CD2 LR LR
comp=Z,3µm,16.1s
DAG Danmarks Havn 47.92 1 *i*P **P 01 32 07.7 -1.1**
DAG Danmarks Havn 47.92 1 *e*P **P 01 32 07.7 -1.1**
KTRM Thompson Ridge 48.13 74 P **P 01 32 13.1 +2.0**
WALA Waterton Lakes 48.31 61 *e*P **P 01 32 13.1 +0.7**
comp=Z,56nm,1.2s
J05D Fort Rock, OR 48.36 71 P **P 01 32 14.0 +1.2**
baz=313,SNR=13
MK31 Makanchi Array 48.64 295 *i*P **P 01 32 12.2 -2.6**
MK31 pmax pmax
comp=Z,40nm,0.9s
BSMT Bassoo Peak 48.67 63 P **P 01 32 16.4 +1.1**
M02C Callahan 48.77 74 P **P 01 32 16.8 +0.8**
baz=314
MAKZ Makanchi 48.79 296 P **P 01 32 12.7 -3.2**
MAKZ pmax pmax
comp=Z,77nm,1.4s
M04C Macdoel 49.05 73 P **P 01 32 19.3 +1.1**
baz=314,SNR=7.1
N02D Trinity Center 49.14 75 P **P 01 32 20.1 +1.4**
baz=314,SNR=7.9
BMO Blue Mountains 49.38 67 *e*P **P 01 32 21.3 +0.7**

BMO pmax pmax
comp=Z,19nm,1.2s
BMO MLR MLR
comp=Z,761nm,21.0s
BMO Blue Mountains 49.38 67 *eP* **P 01 32 21.3 +0.7**
comp=Z,19nm,1.2s
BMO LR LR
comp=Z,761nm,21.0s
GYA Guiyang 49.70 258 *eP* **P 01 32 25.4 +2.1**
GYA PP **PP 01 34 19.6 +1.8**
GYA S **S 01 39 32.2 +2.2**
GYA pmax pmax
comp=Z,20nm,1.0s
GYA pmax pmax
comp=Z,130nm,6.2s
GYA LR LR
comp=Z,550nm,18.5s
GYA LR LR
comp=Z,480nm,18.8s
GYA LR LR
comp=Z,520nm,18.2s
SZP Santa 49.78 238 *eP* **P 01 32 24.8 +1.0**
comp=Z,240nm,1.1s
MSO Missoula 49.78 63 P **P 01 32 24.1 +0.5**
baz=313,SNR=10
MOD Modoc Plateau 49.80 72 *eP* **P 01 32 25.0 +1.1**
comp=Z,28nm,1.1s
FFC Flin Flon 50.08 49 *eP* **P 01 32 26.0 +0.4**
FFC pmax pmax
comp=Z,9.0nm,0.8s
FFC MLR MLR
comp=Z,1μm,20.0s
FFC Flin Flon 50.08 49 *eP* **P 01 32 26.0 +0.4**
comp=Z,8.8nm,0.8s
FFC LR LR
comp=Z,1μm,20.0s
O03D Paynes Creek 50.10 75 P **P 01 32 27.1 +1.0**
baz=315,SNR=15
BVA0 Borovoye Array 50.20 308 *i* P **P 01 32 24.5 -2.1**
BVA0 pmax pmax
comp=Z,35nm,0.8s
BVAR Borovoye Array 50.20 308 P **P 01 32 24.9 -1.7**
comp=Z,32nm,0.7s,baz=56,slow=8.3,SNR=217
BVAR LR LR 01 56 21.0
comp=Z,3μm,18.4s,baz=42,slow=39
BRVK Borovoye 50.23 308 *ceP* **P 01 32 24.9 -1.9**
BRVK pmax pmax
comp=Z,99nm,0.8s
BRVK Borovoye 50.23 308 *eP* **P 01 32 24.9 -1.9**
comp=Z,120nm,0.8s
BRVK LR LR
comp=Z,2μm,19.0s
BRVK Borovoye 50.23 308 P **P 01 32 25.1 -1.6**
SNR=25
BRVK Borovoye 50.23 308 P **P 01 32 25.1 -1.6**
SNR=25
WVOR Wild Horse Val 50.33 70 *eP* **P 01 32 28.5 +0.6**
WVOR pmax pmax
comp=Z,10.0nm,0.9s
WVOR MLR MLR
comp=Z,587nm,20.0s
WVOR Wild Horse Val 50.33 70 *eP* **P 01 32 28.5 +0.6**
comp=Z,10nm,0.9s
WVOR LR LR
comp=Z,587nm,20.0s
FCC Fort Churchill 50.48 41 *eP* **P 01 32 28.9 +0.4**
FCC pmax pmax
comp=Z,12nm,0.5s
FCC Fort Churchill 50.48 41 *eP* **P 01 32 28.9 +0.4**
comp=Z,12nm,0.5s
KEV Kevo 51.00 342 PFAKE 01 32 40.0 +7.6
KEV LR LR
comp=Z,1μm,19.0s
EGMT Eagleton 51.06 60 P **P 01 32 33.4 +0.2**
baz=314,SNR=6.6
EGMT Eagleton 51.06 60 *eP* **P 01 32 33.4 +0.2**
comp=Z,8.5nm,0.7s
EGMT LR LR
comp=Z,1μm,19.0s
LVZ Lovozero 51.07 338 *eP* **P 01 32 32.5 -0.5**
LVZ pmax pmax
comp=Z,10.0nm,0.9s
LVZ Lovozero 51.07 338 *eP* **P 01 32 31.7 -1.3**
comp=Z,21nm,0.8s
LVZ LR LR
comp=Z,1μm,20.0s
SOKR Solikamsk 51.11 321 *eP* **P 01 32 30.9 -2.4**
SOKR S **S 01 39 49.7 +1.2**
SOKR SS **SS 01 43 20.8 -2.3**
SOKR pmax pmax
comp=Z,61nm,1.7s
SOKR MLR MLR
comp=Z,3μm,16.0s
MFID Camas Ranch 51.14 68 *eP* **P 01 32 33.8 -0.1**
comp=Z,13nm,1.1s
SUMG Summit 51.28 8 *i* P **P 01 32 35.4 +0.5**
comp=Z,13nm,0.9s
SUMG *i* 01 32 44.9
SUMG Summit 51.28 8 *i* P **P 01 32 35.4 +0.5**
SUMG *i* 01 32 44.9
SUMG pmax pmax
comp=Z,13nm,0.9s
SUMG Summit 51.28 8 *eP* **P 01 32 35.2 +0.3**
comp=Z,61nm,1.1s
ARCES ARCESS Array B 51.46 342 P **P 01 32 35.0 -0.8**
comp=Z,10nm,0.9s,baz=26,slow=8.5,SNR=8.6
ARCES PcP **PcP 01 33 49.4 -0.4**
comp=Z,3.4nm,0.6s,baz=31,slow=4.2,SNR=2.6
ARCES LR LR 01 58 19.5
comp=Z,1μm,19.0s,baz=54,slow=41
DLMT Dillon 51.47 64 *eP* **P 01 32 37.4 +1.0**
comp=Z,30nm,1.2s
SVE Sverdlovsk 51.65 317 *eP* **P 01 32 36.8 -0.6**
SVE pmax pmax
comp=Z,28nm,1.6s
SVE MLR MLR
comp=Z,5μm,17.0s
HLID Hailey 51.78 67 P **P 01 32 39.4 +0.6**
baz=314,SNR=5.6
HLID Hailey 51.78 67 *eP* **P 01 32 39.4 +0.6**
comp=Z,13nm,1.3s
HLID LR LR
comp=Z,606nm,21.0s
BOZ Bozeman (W) 51.80 63 P **P 01 32 39.5 +0.6**
baz=314,SNR=11
BOZ Bozeman (W) 51.80 63 *eP* **P 01 32 39.5 +0.6**
BOZ pmax pmax
comp=Z,20nm,1.3s
BOZ MLR MLR
comp=Z,969nm,22.0s
BOZ Bozeman (W) 51.80 63 *eP* **P 01 32 39.5 +0.6**
comp=Z,20nm,1.3s
BOZ LR LR
comp=Z,969nm,22.0s
PDGK Podgornoye 52.45 294 P **P 01 32 42.3 -1.5**
PDGK pmax pmax
comp=Z,26nm,1.3s
CMB Columbia Colle 52.48 76 *eP* **P 01 32 45.3 +1.4**
CMB pmax pmax
comp=Z,194nm,1.7s
CMB Columbia Colle 52.48 76 *eP* **P 01 32 45.3 +1.4**
comp=Z,194nm,1.7s
BMN Battle Mountai 52.49 71 *eP* **P 01 32 45.6 +1.5**
BMN pmax pmax
comp=Z,23nm,1.4s
BMN Battle Mountai 52.49 71 *eP* **P 01 32 45.6 +1.5**
comp=Z,24nm,1.4s
TGY Tagaytay City 52.54 235 LR LR 01 54 36.4
comp=Z,290nm,21.8s,baz=18,slow=36
ARU Arti 52.74 317 P **P 01 32 44.2 -1.3**
comp=Z,5.3nm,0.4s,baz=9.9,slow=2.7,SNR=15
ARU LR LR 01 57 46.8
comp=Z,5μm,19.2s,baz=38,slow=39
ARU Arti 52.74 317 *c i* P **P 01 32 44.0 -1.5**
ARU *PP **sP** **01 33 01.8 +3.1**
ARU 01 33 51.4
ARU 01 34 44.5
ARU PPP PPP 01 35 48.3
ARU S **S 01 40 07.9 -3.1**
ARU 01 42 23.5
ARU SS **SS 01 43 48.4 -0.5**
ARU pmax pmax
comp=Z,22nm,1.2s
ARU MLR MLR
comp=Z,5μm,19.0s
ARU Arti 52.74 317 *eP* **P 01 32 44.0 -1.5**
comp=Z,23nm,0.9s

KMI Kunming 52.94 261 P **P 01 32 49.4 +1.8**
KMI pP pP 01 32 51.0 -6.1
KMI PP **PP 01 34 50.2 +3.0**
KMI S **S 01 40 16.8 +1.9**
KMI sS pS 01 40 19.4 -6.8
KMI pmax pmax
comp=Z,27nm,0.6s
KMI pmax pmax
comp=Z,120nm,5.8s
KMI LR LR
comp=Z,6μm,20.6s
KMI LR LR
comp=Z,4μm,20.6s
KMI LR LR
comp=Z,2μm,15.6s
LKWY Lake 53.14 63 *eP* **P 01 32 50.0 +1.0**
LKWY pmax pmax
comp=Z,19nm,1.0s
LKWY MLR MLR
comp=Z,1μm,21.0s
LKWY Lake 53.14 63 *eP* **P 01 32 50.0 +1.0**
comp=Z,18nm,1.0s
LKWY LR LR
comp=Z,1μm,21.0s
H17A Grant Village 53.17 63 P **P 01 32 50.7 +1.5**
baz=315
H17A Grant Village 53.17 63 *eP* **P 01 32 51.9 +2.7**
comp=Z,45nm,1.4s
RLMT Red Lodge 53.32 62 P **P 01 32 51.1 +0.9**
baz=315,SNR=18
RLMT Red Lodge 53.32 62 *eP* **P 01 32 51.8 +1.5**
comp=Z,20nm,0.8s
RLMT LR LR
comp=Z,718nm,20.0s
FLWY Flagg Ranch 53.33 64 *eP* **P 01 32 52.3 +2.0**
comp=Z,33nm,1.1s
TMCR Tamitsa 53.34 333 *eP* **P 01 32 46.9 -2.9**
TMCR pmax pmax
comp=Z,48nm,1.4s
IMW Indian Meadow 53.34 64 *eP* **P 01 32 51.7 +1.2**
comp=Z,24nm,1.1s
DGMT Dagmar 53.42 56 PFAKE 01 33 00.0 +9.3
DGMT LR LR
comp=Z,815nm,20.0s
MOOW Moose Ponds 53.54 64 *eP* **P 01 32 53.0 +1.1**
comp=Z,20nm,1.3s
TPAW Teton Pass 53.62 64 *eP* **P 01 32 54.0 +1.4**
comp=Z,19nm,1.0s
LAO LASA Array 53.71 59 P **P 01 32 53.6 +0.7**
baz=316,SNR=17
LAO LASA Array 53.71 59 *eP* **P 01 32 54.2 +1.3**
comp=Z,31nm,0.9s
LAO LR LR
comp=Z,741nm,19.0s
LOHW Long Hollow 53.71 64 *eP* **P 01 32 54.8 +1.7**
comp=Z,39nm,1.5s
REDW Red Top Meadow 53.76 64 *eP* **P 01 32 55.0 +1.5**
comp=Z,23nm,1.2s
QIZ Qiongzhong 53.93 250 P **P 01 32 55.8 +1.1**
QIZ S **S 01 40 35.9 +7.8**
QIZ pmax pmax
comp=Z,9.0nm,1.0s
QIZ LR LR
comp=Z,910nm,19.0s
QIZ LR LR
comp=Z,1μm,21.3s
QIZ LR LR
comp=Z,1μm,16.3s
QIZ Qiongzhong 53.93 250 PFAKE 01 33 10.0 +15
QIZ LR LR
comp=Z,857nm,21.0s
MSF Maaselka 53.94 339 P **P 01 32 54.1 -0.1**
TIN Tinemaha, Big 54.37 75 P **P 01 32 59.5 +1.6**
baz=317
HWUT Hardware Ranch 54.65 66 *eP* **P 01 33 01.5 +1.6**
comp=Z,29nm,1.3s
HWUT LR LR
comp=Z,747nm,21.0s
VES Vestal, Richgr 54.79 76 P **P 01 33 01.9 +1.2**
baz=318
BW06 Boulder Array 54.85 64 P **P 01 33 02.2 +0.7**
baz=316,SNR=15
BW06 Boulder Array 54.85 64 *eP* **P 01 33 02.4 +1.0**
comp=Z,22nm,1.2s
BW06 LR LR
comp=Z,607nm,19.0s
PDAR Pinedale Array 54.85 64 P **P 01 33 02.5 +1.0**
comp=Z,5.6nm,0.8s,baz=318,slow=3.4,SNR=37
PDAR LR LR 01 57 07.0
comp=Z,499nm,21.0s,baz=344,slow=37
R11A Troy Canyon, C 54.87 72 P **P 01 33 02.6 +1.1**
baz=317,SNR=13
R11A Troy Canyon, C 54.87 72 *eP* **P 01 33 02.7 +1.1**
comp=Z,21nm,1.4s
GRAC Grapevine Rang 54.89 74 P **P 01 33 03.1 +1.5**
baz=317
CWC Cottonwood Cre 54.90 75 P **P 01 33 03.2 +1.4**
baz=317
DUG Dugway, Tooele 55.01 68 P **P 01 33 03.8 +1.2**
baz=317,SNR=20
DUG Dugway, Tooele 55.01 68 *eP* **P 01 33 03.9 +1.4**
DUG pmax pmax
comp=Z,28nm,1.3s
DUG MLR MLR
comp=Z,557nm,20.0s
DUG Dugway, Tooele 55.01 68 *eP* **P 01 33 03.9 +1.4**
comp=Z,28nm,1.3s
DUG LR LR
comp=Z,557nm,20.0s
SFJD Kangerlussuaq 55.18 15 PFAKE 01 33 20.0 +17
SFJD LR LR
comp=Z,503nm,20.0s
DAC Darwin (Calif) 55.29 75 *eP* **P 01 33 05.7 +1.1**
DAC pmax pmax
comp=Z,2.0nm,0.6s
DAC Darwin (Calif) 55.29 75 *eP* **P 01 33 05.7 +1.1**
comp=Z,1.6nm,0.6s
SLVN Son La 55.29 257 *eP* **P 01 33 03.4 -1.2**
comp=Z,9.5nm,0.7s
OUL Oulu 55.31 339 P **P 01 33 04.4 +0.3**
OUL pmax pmax
comp=Z,23nm,1.0s
FRU Bishkek 55.31 297 *eP* **P 01 33 03.5 -1.0**
FRU pmax pmax
comp=Z,96nm,1.4s
MPMC Manual Prospec 55.51 75 P **P 01 33 07.2 +1.0**
baz=318,SNR=17
AAK Ala-Archa 55.52 297 *ceP* **P 01 33 04.6 -1.6**
AAK pmax pmax
comp=Z,65nm,1.4s
AAK Ala-Archa 55.52 297 *eP* **P 01 33 04.4 -1.7**
TPNV Topopah Spring 55.53 74 P **P 01 33 07.6 +1.2**
baz=318,SNR=24
FURC Furnace Creek, 55.55 74 P **P 01 33 07.6 +1.4**
baz=318,SNR=33
KLMR Klimovskoe 55.66 330 *eP* **P 01 33 03.7 -3.0**
KLMR *eS* **S 01 40 44.4 -5.8**
KLMR pmax pmax
comp=Z,45nm,1.1s
KLMR MLR MLR
comp=Z,1μm,15.0s
LRMC Laurel Mtn Rad 55.83 76 P **P 01 33 09.5 +1.1**
baz=318
ULM Lac du Bonnet 55.89 50 P **P 01 33 09.0 +0.5**
comp=Z,14nm,0.9s,baz=323,slow=7.9,SNR=20
ULM LR LR 02 00 18.7
comp=Z,665nm,18.3s,baz=337,slow=40
LSA Lhasa 55.98 274 P **P 01 33 10.1 +0.1**
LSA pmax pmax
comp=Z,36nm,0.8s
LSA Lhasa 55.98 274 *eP* **P 01 33 09.5 -0.5**
LSA pmax pmax
comp=Z,31nm,0.6s
LSA MLR MLR
comp=Z,2μm,22.0s
LSA Lhasa 55.98 274 *eP* **P 01 33 09.5 -0.5**
comp=Z,31nm,0.6s
LSA LR LR
comp=Z,2μm,22.0s
MDND Maddock 56.00 54 P **P 01 33 10.0 +0.7**
baz=318,SNR=5.7
JOF Joensuu 56.03 336 P **P 01 33 08.7 -0.6**
JOF pmax pmax
comp=Z,40nm,1.1s
EDW2 Edwards Air Fo 56.09 76 P **P 01 33 11.4 +1.1**
baz=318,SNR=14
A31A Linda, St. Vin 56.29 51 P **P 01 33 12.0 +0.6**
baz=318
GSC Goldstone, Bar 56.44 75 P **P 01 33 14.0 +1.3**
baz=318,SNR=16
B31A Greenbush Farm 56.46 52 P **P 01 33 13.2 +0.7**
baz=318
SNCC San Nicolas Is 56.46 79 P **P 01 33 14.1 +1.3**
baz=319
K22A Casper 56.47 62 P **P 01 33 13.7 +0.7**
baz=317
K22A Casper 56.47 62 *eP* **P 01 33 14.0 +1.0**
comp=Z,17nm,1.1s
A32A Rocking H Ranc 56.60 51 P **P 01 33 14.4 +0.8**
baz=318
RSSD Black Hills 56.63 59 P **P 01 33 15.0 +0.8**
baz=318
RSSD Black Hills 56.63 59 *eP* **P 01 33 14.9 +0.7**
RSSD pmax pmax
comp=Z,8.0nm,0.8s
RSSD Black Hills 56.63 59 *eP* **P 01 33 14.8 +0.7**
comp=Z,8.5nm,0.8s
BFSC Mount Baldy Ra 56.76 77 P **P 01 33 16.0 +0.9**
baz=318
FMP Fort Macarthur 56.80 78 P **P 01 33 16.3 +1.1**
baz=319
TUQ Turquoise Moun 56.82 75 P **P 01 33 16.6 +1.1**
baz=318,SNR=12
C31A Landman Farms, 56.89 53 P **P 01 33 16.2 +0.5**
baz=318
CIS Catalina Islan 56.96 78 P **P 01 33 17.6 +1.2**
baz=319
B32A Ashes, Strandq 56.98 51 P **P 01 33 16.5 +0.3**
baz=318
KSH Kashi 57.03 293 P **P 01 33 19.5 +2.5**
KSH PcP **PcP 01 34 14.7 +3.0**
KSH PP **PP 01 35 28.5 +5.0**
KSH PcS **PcS 01 38 11.8 -0.9**
KSH S **S 01 41 12.7 +3.4**
KSH ScS **ScS 01 43 04.5 +0.7**
KSH SS **SS 01 45 02.5 +5.0**
KSH pmax pmax
comp=Z,39nm,1.2s
KSH pmax pmax
comp=Z,110nm,2.6s
KSH LR LR
comp=Z,760nm,15.2s
KSH LR LR
comp=Z,2μm,16.7s
KSH LR LR
comp=Z,1μm,31.2s
HEC Hector,Ludlow 57.05 75 P **P 01 33 17.9 +0.8**
baz=318
KKAR Karatay Array 57.17 299 *eP* **P 01 33 16.3 -1.5**
KKAR Karatay Array 57.17 299 *eP* **P 01 33 16.3 -1.5**
AGMN Agassiz Nation 57.35 51 P **P 01 33 19.4 +0.5**
baz=319,SNR=9.2
AGMN Agassiz Nation 57.35 51 *eP* **P 01 33 19.5 +0.5**
comp=Z,12nm,0.8s
AGMN LR LR
comp=Z,1μm,21.0s
SUF Sumiainen 57.36 338 P **P 01 33 19.1 +0.4**
SUF pmax pmax
comp=Z,48nm,1.5s
AKTO Aktyubinsk 57.41 313 P **P 01 33 17.6 -1.7**
comp=Z,11nm,0.7s,baz=62,slow=7.3,SNR=27
AKTO LR LR 01 58 17.3
comp=Z,1μm,21.8s,baz=31,slow=36
AKTO Aktyubinsk 57.41 313 P **P 01 33 17.2 -2.1**
AKTO pmax pmax
comp=Z,16nm,0.9s
D31A Mcclaflin, Tow 57.45 53 P **P 01 33 19.9 +0.3**
baz=319,SNR=5.4
O20A White River Ci 57.45 65 P **P 01 33 21.2 +1.2**
baz=318,SNR=25
O20A White River Ci 57.45 65 *eP* **P 01 33 21.1 +1.2**
comp=Z,28nm,0.8s
GMRC Granite Mounta 57.45 75 P **P 01 33 21.3 +1.4**
baz=318,SNR=11
B33A Robert and Kas 57.49 51 P **P 01 33 20.1 +0.2**
baz=319
AB31 Akbulak array 57.49 311 *i* P **P 01 33 18.0 -1.8**
AB31 pmax pmax
comp=Z,10.0nm,0.7s
ABKAR Akbulak array 57.49 311 *eP* **P 01 33 18.3 -1.6**
comp=Z,7.8nm,0.5s
MURC Murrieta 57.49 77 P **P 01 33 20.8 +0.7**
baz=319
D32A Dogwood Acres, 57.70 53 P **P 01 33 21.3 -0.1**
baz=319
B34A Aery, Baudette 57.74 50 P **P 01 33 22.2 +0.6**
baz=319,SNR=7.7
E31A Nome 57.74 54 P **P 01 33 21.3 -0.4**
baz=319
VAF Ylistaro 57.78 340 P **P 01 33 22.7 +1.1**
VAF pmax pmax
comp=Z,34nm,1.1s
C33A Trail 57.79 51 P **P 01 33 22.2 +0.1**
baz=319
BELC Belle Mtn. Jos 57.85 76 P **P 01 33 23.3 +0.5**
baz=319
PFO Pinyon Flats O 57.89 76 P **P 01 33 23.2 +0.2**
baz=319
PFO Pinyon Flats O 57.89 76 *eP* **P 01 33 23.9 +0.8**
PFO pmax pmax
comp=Z,18nm,1.2s
PFO MLR MLR
comp=Z,556nm,22.0s
PFO Pinyon Flats O 57.89 76 *eP* **P 01 33 23.9 +0.8**
comp=Z,18nm,1.2s
PFO LR LR
comp=Z,556nm,22.0s
TPFO Pinon Flats 57.89 76 P **P 01 33 24.0 +0.9**
baz=319
N23A Red Feather La 58.06 63 P **P 01 33 25.4 +1.0**
baz=318,SNR=16
IRM Iron Mountain 58.20 75 P **P 01 33 26.6 +1.5**
baz=319,SNR=16
B35A Bob, Littlefor 58.23 50 P **P 01 33 26.1 +1.0**
baz=320,SNR=7.6
BC3 Big Chuckawall 58.41 76 P **P 01 33 27.1 +0.4**
baz=319
FINES FINESS Array B 58.51 337 P **P 01 33 26.2 -0.6**
comp=Z,13nm,0.7s,baz=35,slow=7.9,SNR=35
FINES LR LR 02 01 02.7
comp=Z,1μm,21.5s,baz=28,slow=39
FINES FINESS Array B 58.51 337 *ceP* **P 01 33 26.6 -0.2**
FINES pmax pmax
comp=Z,13nm,0.7s
D34A Park Rapids 58.56 52 P **P 01 33 27.5 +0.1**
baz=320,SNR=19
G31A Conde 58.59 55 P **P 01 33 27.7 0.0**
baz=319
F32A Veblen 58.60 54 P **P 01 33 27.5 -0.3**
baz=319
C35A Jirik Farms, M 58.63 50 P **P 01 33 28.0 +0.1**
baz=320,SNR=7.5
E33A Westby DABS, E 58.63 53 P **P 01 33 28.2 +0.3**
baz=320,SNR=8.4
PDMCI Parker Dam,Lak 58.64 74 P **P 01 33 28.7 +0.5**
baz=319,SNR=12
SKNT Sakolnakorn 58.78 254 P **P 01 33 29.2 -0.1**
comp=Z,28nm,1.2s
IKP In-Ko-Pah, Jac 58.80 77 P **P 01 33 29.2 -0.2**
baz=319
SMCO Snowmass 58.81 65 *eP* **P 01 33 31.0 +1.2**
comp=Z,16nm,0.9s
SUSD Miller 58.83 56 P **P 01 33 29.5 +0.1**
baz=319
Y12C Blythe 58.85 75 P **P 01 33 30.5 +0.9**
baz=319
G32A Webster 58.90 54 P **P 01 33 29.9 +0.1**
baz=319
E34A Wadena 59.00 52 P **P 01 33 30.8 +0.3**
baz=320
F33A 5 Mile Ranch, 59.01 53 P **P 01 33 30.5 0.0**
baz=320,SNR=9.4
PUL Pulkovo 59.01 334 *ceP* **P 01 33 29.4 -0.9**
PUL pmax pmax
comp=Z,51nm,1.0s
ISCO Idaho Springs 59.05 64 P **P 01 33 32.2 +0.9**
baz=319,SNR=24
ISCO Idaho Springs 59.05 64 *eP* **P 01 33 33.3 +2.0**
ISCO pmax pmax
comp=Z,21nm,1.0s
ISCO MLR MLR
comp=Z,717nm,21.0s
ISCO Idaho Springs 59.05 64 *eP* **P 01 33 33.3 +2.0**
comp=Z,22nm,1.0s

ISCO LR LR
comp=Z,717nm,21.0s
D35A Remer 59.07 51 P **P** 01 33 31.3 +0.4
baz=320
C36A Pine Crest Far 59.08 50 P **P** 01 33 31.6 +0.6
baz=320
GLA Glamis 59.21 76 P **P** 01 33 33.0 +0.9
baz=319,SNR=7.6
WUAZ Wupatki 59.23 71 P **P** 01 33 33.4 +1.0
baz=319,SNR=16
WUAZ Wupatki 59.23 71 *e*P **P** 01 33 34.2 +1.8
comp=Z,32nm,1.3s
WUAZ LR LR
comp=Z,531nm,20.0s
UBPT Khong Chiam 59.36 251 P **P** 01 33 34.1 +0.8
comp=Z,40nm,1.6s,comp=Z,914nm
C37A Embarrass 59.38 49 P **P** 01 33 32.8 -0.3
baz=321
G33A Ortonville 59.43 54 P **P** 01 33 33.6 +0.1
baz=320,SNR=5.6
MVCO Mesa Verde 59.49 68 P **P** 01 33 34.8 +0.5
baz=319,SNR=7.2
MVCO Mesa Verde 59.49 68 *e*P **P** 01 33 35.6 +1.3
comp=Z,15nm,1.0s
MVCO LR LR
comp=Z,495nm,19.0s
H32A Carlson Farm, 59.50 55 P **P** 01 33 34.2 +0.2
baz=320,SNR=12
EYMN Ely 59.51 49 P **P** 01 33 34.1 +0.1
baz=321,SNR=14
EYMN Ely 59.51 49 *e*P **P** 01 33 34.4 +0.4
comp=Z,26nm,0.9s
EYMN LR LR
comp=Z,824nm,22.0s
H33A Prehn Over Nor 59.68 54 P **P** 01 33 35.3 +0.1
baz=320,SNR=6.3
D37A Cotton 59.72 50 P **P** 01 33 35.0 -0.4
baz=321,SNR=9.0
TAPN Taplejung 59.72 275 *e*P **P** 01 33 34.8 -1.3
comp=Z,145nm,1.1s
G34A Benson 59.76 53 P **P** 01 33 36.3 +0.6
baz=320
F35A Swanville 59.77 52 P **P** 01 33 36.5 +0.7
baz=320
C38A Sawbill Land. 59.78 49 P **P** 01 33 36.0 +0.1
baz=321,SNR=12
J31A Geddes 59.80 57 P **P** 01 33 36.3 +0.2
baz=320
E36A McGregor 59.85 51 P **P** 01 33 36.5 +0.1
baz=321,SNR=11
Q24A Divide 59.91 64 P **P** 01 33 37.5 +0.3
baz=319,SNR=8.4
LAMP Lampang 59.92 259 P **P** 01 33 36.9 -0.2
comp=Z,17nm,0.8s
S22A 4UR Ranch, Cre 59.96 66 P **P** 01 33 37.4 -0.2
baz=319,SNR=27
OGNE Ogallala 59.98 61 P **P** 01 33 37.9 +0.4
baz=320
OGNE Ogallala 59.98 61 *e*P **P** 01 33 38.9 +1.4
comp=Z,72nm,1.5s
OGNE LR LR
comp=Z,799nm,20.0s
UTTA Uttaradit 60.03 257 P **P** 01 33 38.1 +0.2
comp=Z,15nm,0.8s,comp=Z,142nm
CMMT Chiang Mai 60.07 259 P **P** 01 33 37.4 -0.8
comp=Z,31nm,0.9s
CHTO Chiang Mai 60.07 259 P **P** 01 33 37.5 -0.7
comp=Z,140nm,0.9s
CHTO Chiang Mai 60.07 259 *e*P **P** 01 33 37.3 -0.9
CHTO pmax pmax
comp=Z,24nm,0.9s
CHTO MLR MLR
comp=Z,1μm,19.0s
CHTO Chiang Mai 60.07 259 *e*P **P** 01 33 37.3 -0.9
comp=Z,24nm,0.9s
CHTO LR LR
comp=Z,1μm,19.0s
CHTO Chiang Mai 60.07 259 P **P** 01 33 37.9 -0.3
SNR=9.0
CHTO Chiang Mai 60.07 259 P **P** 01 33 37.9 -0.3
SNR=9.0
H34A Spellman Lake, 60.14 54 P **P** 01 33 38.8 +0.5
baz=320,SNR=10
J32A Parkston 60.16 56 P **P** 01 33 38.7 +0.2
baz=320
C39A Grand Marais 60.19 48 P **P** 01 33 38.6 -0.1
baz=322,SNR=8.5
F36A Milaca 60.24 52 P **P** 01 33 38.0 -1.0
baz=321
ODAN Odare 60.28 275 *e*P **P** 01 33 38.4 -1.5
comp=Z,50nm,0.6s
G35A Watkins 60.30 53 P **P** 01 33 39.8 +0.3
baz=321
GUN Gumba 60.33 277 *e*P **P** 01 33 38.8 -1.5
comp=Z,78nm,0.5s
CMAR Chiang Mai Arr 60.35 259 P **P** 01 33 39.7 -0.5
comp=Z,17nm,0.8s,baz=20,slow=6.7,SNR=66
CMAR LR LR 02 01 25.6
comp=Z,1μm,19.6s,baz=310,slow=38
W18A Petrified Fore 60.41 70 P **P** 01 33 41.1 +0.5
baz=320
W18A Petrified Fore 60.41 70 *e*P **P** 01 33 42.4 +1.9
comp=Z,20nm,0.9s
ECSD EROS Data Cent 60.47 55 P **P** 01 33 40.4 -0.2
baz=320,SNR=7.9
ECSD EROS Data Cent 60.47 55 *e*P **P** 01 33 41.0 +0.4
comp=Z,11nm,0.8s
ECSD LR LR
comp=Z,705nm,21.0s
MOS Moscow 60.49 328 *e*P **P** 01 33 38.5 -2.0
MOS *e* 01 33 49.6
MOS *e* 01 34 26.9
MOS *e* 01 35 50.0
MOS pmax pmax
comp=Z,76nm,1.3s
MOS pmax pmax
comp=Z,200nm,2.1s
MOS MLR MLR
comp=N,1μm,16.0s
MOS MLR MLR
comp=E,1μm,16.0s
MOS MLR MLR
comp=Z,2μm,16.0s
E38A The Farm, Brul 60.53 50 P **P** 01 33 41.8 +0.9
baz=321,SNR=10
H35A Sunnyside Ranc 60.55 53 P **P** 01 33 41.7 +0.6
baz=321,SNR=24
DLV T Lat 60.55 246 *e*P **P** 01 33 42.4 +0.8
comp=Z,131nm,1.4s
I34A Hadley 60.58 54 P **P** 01 33 41.4 0.0
baz=320
G36A St. Michael 60.62 52 P **P** 01 33 41.4 -0.2
baz=321
J33A Davis 60.62 56 P **P** 01 33 42.2 +0.5
baz=320,SNR=5.9
SDCO Great Sand Dun 60.65 65 P **P** 01 33 42.9 +0.6
baz=320,SNR=16
SDCO Great Sand Dun 60.65 65 *e*P **P** 01 33 44.1 +1.8
comp=Z,13nm,1.1s
SDCO LR LR
comp=Z,747nm,22.0s
RAMN Ramite 60.66 276 *e*P **P** 01 33 40.6 -1.8
comp=Z,104nm,0.6s
KKN Kakani 60.76 277 *e*P **P** 01 33 41.6 -1.5
comp=Z,52nm,0.6s
PKI Pulchoki 60.85 277 *e*P **P** 01 33 42.1 -1.8
comp=Z,94nm,0.9s
PKIN Phulchoki 60.86 277 *e*P **P** 01 33 41.8 -2.0
comp=Z,36nm,0.5s
F38A Pierce - Schro 60.89 50 P **P** 01 33 43.5 0.0
baz=321,SNR=15
GKN Gorkha 60.96 278 *e*P **P** 01 33 42.8 -1.6
DMN Daman 61.00 277 *e*P **P** 01 33 43.3 -1.4
comp=Z,73nm,1.1s
VSU Vasula 61.03 335 *ce*P **P** 01 33 44.1 -0.1
VSU pmax pmax
comp=Z,265nm,1.7s
H36A Jessenland, He 61.05 53 P **P** 01 33 45.4 +0.8
baz=321,SNR=7.9
SPMN Marine on St. 61.05 52 P **P** 01 33 45.1 +0.6
baz=321
SPMN Marine on St. 61.05 52 *e*P **P** 01 33 45.8 +1.3
comp=Z,14nm,0.8s
J34A George 61.12 55 P **P** 01 33 45.7 +0.6
baz=321
I35A Creekview Farm 61.13 54 P **P** 01 33 45.1 0.0
baz=321
214A Organ Pipe Nat 61.14 75 P **P** 01 33 46.7 +1.3
baz=320,SNR=11
214A Organ Pipe Nat 61.14 75 *e*P **P** 01 33 46.9 +1.5
comp=Z,79nm,1.0s
K33A Hardington 61.15 56 P **P** 01 33 45.8 +0.5
baz=321,SNR=5.3
KSCO Kaye Shedlock' 61.16 62 P **P** 01 33 46.5 +1.0
baz=320
KSCO Kaye Shedlock' 61.16 62 *e*P **P** 01 33 47.4 +1.8
comp=Z,16nm,0.6s
OBN Obninsk 61.34 328 *ci*P **P** 01 33 45.5 -0.8
OBN *i* 01 33 56.6
OBN *e**PP **sP** 01 34 03.5 +3.9
OBN *i* 01 34 27.2
OBN *e* 01 35 57.4
OBN *i*S **S** 01 41 58.8 -5.4
OBN pmax pmax
comp=Z,80nm,1.7s
OBN MLR MLR
comp=Z,2μm,18.0s
OBN Obninsk 61.34 328 *e*P **P** 01 33 45.4 -0.8
comp=Z,40nm,0.9s
OBN LR LR
comp=Z,2μm,19.0s
J35A Milford 61.40 54 P **P** 01 33 48.0 +1.0
baz=321
I36A Fitzsimmons Fa 61.44 53 P **P** 01 33 48.1 +0.9
baz=321
G38A Ridgeland 61.51 51 P **P** 01 33 47.5 -0.2
baz=322,SNR=7.6
K34A Le Mars 61.51 55 P **P** 01 33 48.8 +1.0
baz=321,SNR=6.7
NB2 NORSAR Subarra 61.62 345 P **P** 01 33 47.3 -0.9
baz=18,slow=6.9
NB2 NORSAR Subarra 61.62 345 P **P** 01 33 47.2 -0.9
NB2 pmax pmax
comp=Z,20nm,0.8s
NB2 NORSAR Subarra 61.62 345 P **P** 01 33 47.3 -0.9
comp=Z,24nm,0.8s,baz=18,slow=6.9
NOA NORSAR Array B 61.62 345 P **P** 01 33 47.6 -0.6
comp=Z,18nm,0.8s,baz=18,slow=6.8,SNR=28
NOA LR LR 02 04 19.6
comp=Z,717nm,18.4s,baz=25,slow=40
T25A Trinidad 61.67 65 P **P** 01 33 50.5 +1.3
baz=320,SNR=10
F40A Park Falls 61.68 49 P **P** 01 33 48.3 -0.5
baz=322
H38A Maiden Rock 61.71 52 P **P** 01 33 49.2 +0.2
baz=322
KOLN Koldanda 61.72 278 *e*P **P** 01 33 47.9 -1.7
comp=Z,40nm,0.5s
G39A Holcombe 61.72 50 P **P** 01 33 48.6 -0.5
baz=322
I37A Lemond, Waseca 61.72 53 P **P** 01 33 50.1 +1.0
baz=322,SNR=7.0
KKM Kota Kinabalu 61.79 235 *e*P **P** 01 33 52.1 +2.1
comp=Z,30nm,0.8s
PYUN Puthan 61.81 279 *e*P **P** 01 33 48.6 -1.6
comp=Z,261nm,1.0s
J36A Seneca 1, Swea 61.83 54 P **P** 01 33 49.9 0.0
baz=321,SNR=12
K35A Storm Lake 61.89 55 P **P** 01 33 49.9 -0.4
baz=321
SWI Sorong 61.93 217 P **P** 01 33 53.9 +3.1
L34A Svendsen Farm, 61.94 56 P **P** 01 33 50.8 +0.2
baz=321,SNR=9.3
TUC Tucson 61.98 73 P **P** 01 33 51.9 +0.8
baz=320
TUC Tucson 61.98 73 *e*P **P** 01 33 52.4 +1.3
TUC pmax pmax
comp=Z,11nm,0.9s
TUC MLR MLR
comp=Z,642nm,20.0s
TUC Tucson 61.98 73 *e*P **P** 01 33 52.4 +1.3
comp=Z,11nm,0.9s
TUC LR LR
comp=Z,642nm,20.0s
G40A Rib Lake 62.16 50 P **P** 01 33 52.2 +0.1
baz=322
I38A Scanlan Farm, 62.19 52 P **P** 01 33 52.6 +0.3
baz=322
M34A Aspy Farms, Fr 62.20 57 P **P** 01 33 52.2 -0.2
baz=321
J37A Redenius Farm, 62.20 53 P **P** 01 33 52.9 +0.5
baz=322,SNR=12
L35A Bielow Farm, R 62.22 56 P **P** 01 33 52.6 +0.2
baz=321
UMPA Umpang Tak 62.22 258 P **P** 01 33 54.1 +1.3
comp=Z,45nm,0.9s,comp=Z,2μm
F41A Three Lakes 62.26 49 P **P** 01 33 51.2 -1.5
baz=323,SNR=8.9
ANMO Albuquerque 62.28 68 P **P** 01 33 54.5 +1.2
baz=320
ANMO Albuquerque 62.28 68 *ce*P **P** 01 33 55.1 +1.8
ANMO pmax pmax
comp=Z,7.0nm,0.9s
ANMO Albuquerque 62.28 68 *e*P **P** 01 33 54.9 +1.6
comp=Z,13nm,0.9s
ANMO LR LR
comp=Z,425nm,20.0s
K36A Gilmore City 62.32 54 P **P** 01 33 53.4 +0.3
baz=322,SNR=10
N33A J Bar K, Exete 62.38 58 P **P** 01 33 53.2 -0.4
baz=321
H40A Chili 62.59 50 P **P** 01 33 54.7 -0.2
baz=322
K37A Belmond 62.59 54 P **P** 01 33 54.8 -0.1
baz=322
L36A Harm Buss Farm 62.63 55 P **P** 01 33 55.3 0.0
baz=322
G41A Antigo 62.65 49 P **P** 01 33 54.9 -0.4
baz=323
M35A Neola 62.65 56 P **P** 01 33 55.6 +0.2
baz=321
SCHQ Schefferville 62.65 30 P **P** 01 33 54.9 -0.3
comp=Z,6.5nm,0.6s,baz=7.6,slow=8.0,SNR=5.0
SCHQ LR LR 02 04 52.0
comp=Z,306nm,19.0s,baz=330,slow=40
J38A Wedel Dairy, R 62.69 53 P **P** 01 33 54.9 -0.6
baz=322
I39A Houston 62.69 52 P **P** 01 33 55.8 +0.2
baz=322
LPSR Galich'ya Gora 62.74 325 *e*P **P** 01 33 54.8 -1.0
LPSR pmax pmax
comp=Z,50nm,0.8s
CBKS Cedar Bluff 62.75 61 P **P** 01 33 55.8 -0.3
baz=321
CBKS Cedar Bluff 62.75 61 *e*P **P** 01 33 56.8 +0.7
CBKS pmax pmax
comp=Z,34nm,0.9s
CBKS MLR MLR
comp=Z,943nm,22.0s
CBKS Cedar Bluff 62.75 61 *e*P **P** 01 33 56.8 +0.7
comp=Z,34nm,0.9s
CBKS LR LR
comp=Z,943nm,22.0s
N34A Lincoln 62.76 57 P **P** 01 33 55.7 -0.4
baz=321
O33A Hebron 62.83 58 P **P** 01 33 56.5 -0.1
baz=321
H41A Junction City 62.91 50 P **P** 01 33 56.5 -0.6
baz=323
J39A Deborah 63.02 52 P **P** 01 33 57.9 +0.1
baz=322,SNR=5.6
L37A Phoenix Point, 63.04 54 P **P** 01 33 57.7 -0.2
baz=322
I40A Norwalk 63.06 51 P **P** 01 33 58.0 -0.1
baz=323
N35A Tabor 63.14 56 P **P** 01 33 59.0 +0.3
baz=322,SNR=6.3
O34A Beatrice 63.17 58 P **P** 01 33 58.6 -0.2
baz=322,SNR=13
KONO Kongsberg 63.19 345 *e*P **P** 01 33 57.8 -0.8
KONO pmax pmax
comp=Z,59nm,1.2s
KONO MLR MLR
comp=Z,1μm,19.0s
KONO Kongsberg 63.19 345 *e*P **P** 01 33 57.8 -0.8
comp=Z,59nm,1.2s
KONO LR LR
comp=Z,1μm,19.0s
L38A Wood Farm, 63.39 54 P **P** 01 34 00.3 0.0
baz=322
J40A Soldiers Grove 63.40 52 P **P** 01 34 00.3 0.0
baz=323
121A Cookes Peak, D 63.43 71 P **P** 01 34 02.0 +1.1
baz=321,SNR=5.3
121A Cookes Peak, D 63.43 71 *e*P **P** 01 34 02.8 +1.9
comp=Z,28nm,1.3s
K39A Oelwein 63.44 53 P **P** 01 34 00.6 0.0
baz=322
SCIA State Center 63.46 54 *e*P **P** 01 34 01.8 +1.1
comp=Z,48nm,0.9s
SCIA LR LR
comp=Z,602nm,20.0s
M37A Trindle Farm, 63.47 55 P **P** 01 34 01.2 +0.4
baz=322
O35A Humboldt 63.48 57 P **P** 01 34 00.7 -0.2
baz=322
N36A Muff Farm, Cla 63.50 56 P **P** 01 34 00.9 -0.2
baz=322
FAKI Fak Fak 63.53 215 P **P** 01 34 03.0 +1.6
comp=Z,41nm,1.5s
FAKI Fak Fak 63.53 215 *e*P **P** 01 34 03.2 +1.8
comp=Z,60nm,1.4s
SRDT SRDT 63.59 256 P **P** 01 34 02.1 +0.2
comp=Z,150nm,1.1s,comp=Z,12μm
IZAR Zarasai 63.59 334 *e*P **P** 01 34 00.8 -0.6
IZAR IAmb IAmb 01 34 04.0
comp=Z,8.3nm,0.9s
P34A Walnut Farm, R 63.60 58 P **P** 01 34 01.5 -0.2
baz=322,SNR=10
GTOI Gorontalo 63.64 226 P **P** 01 34 04.3 +2.2
comp=Z,12nm,1.2s,comp=Z,346nm
J41A Loganville 63.75 51 P **P** 01 34 03.1 +0.4
baz=323
K40A Colesburg 63.78 52 P **P** 01 34 02.4 -0.4
baz=323,SNR=5.4
ISAL Salakas 63.78 334 *e*P **P** 01 34 02.1 -0.5
ISAL IAmb IAmb 01 34 04.5
comp=Z,11nm,1.0s
PATY Pattaya 63.80 254 P **P** 01 34 04.9 +1.7
comp=Z,21nm,1.1s
L39A Vinton 63.84 53 P **P** 01 34 02.9 -0.3
baz=323
VSR Storozhevoye 63.84 324 *e*P **P** 01 34 02.5 -0.6
VSR *e* 01 36 19.1
VSR pmax pmax
comp=Z,70nm,1.6s
M38A Pleasantville 63.85 54 P **P** 01 34 03.4 +0.1
baz=322,SNR=9.1
IDID Didziasalis 63.86 334 *e*P **P** 01 34 02.6 -0.5
IDID IAmb IAmb 01 34 05.8
comp=Z,10nm,0.9s
N37A Lee Faris, Mou 63.90 56 P **P** 01 34 04.0 +0.3
baz=322,SNR=12
IIGN Ignalina 63.96 334 *e*P **P** 01 34 03.2 -0.5
IIGN IAmb IAmb 01 34 05.9
comp=Z,14nm,0.8s
JFWS Jewell Farm 64.00 52 PFAKE 01 34 20.0 +16
JFWS LR LR
comp=Z,851nm,19.0s
P35A Duane Minner, 64.01 58 P **P** 01 34 04.0 -0.4
baz=322
Q34A Chapman 64.04 59 P **P** 01 34 04.6 +0.1
baz=322,SNR=5.6
KSU1 Kansas State U 64.06 58 P **P** 01 34 04.6 -0.1
baz=322
KSU1 Kansas State U 64.06 58 *e*P **P** 01 34 05.4 +0.7
comp=Z,27nm,0.8s
KSU1 LR LR
comp=Z,869nm,21.0s
NACGM Naroch 64.22 334 *e* **P** 01 34 05.0 -0.5
NACGM *e*LR LR 01 59 20.0
MRSI Marisa 64.22 227 P **P** 01 34 06.7 +0.7
comp=Z,40nm,0.9s,comp=Z,7μm
K41A Shullsburg 64.22 52 P **P** 01 34 05.5 -0.3
baz=323
L40A Anamosa 64.25 53 P **P** 01 34 05.4 -0.5
baz=323
M39A Webster 64.28 54 P **P** 01 34 05.8 -0.3
baz=323,SNR=11
MICGM Minsk 64.30 333 ‖ *e*P **P** 01 34 05.0 -1.0
MICGM PM 01 34 06.0
comp=Z,0.1nm,1.0s
MICGM *e*LQ LQ 01 59 30.0
MICGM LQM 02 00 12.0
comp=E,2.6nm,20.0s
MICGM *e*LR LR 02 02 40.0
MICGM LRM MLR 02 05 32.0
comp=Z,3.3nm,14.0s
MNK Minsk 64.30 333 ‖ *e*P **P** 01 34 05.0 -1.0
MNK pmax pmax
comp=Z,80nm,1.0s
MNK MLR MLR
comp=Z,3μm,14.0s
P36A Good Intent, A 64.32 57 P **P** 01 34 06.5 0.0
baz=322
N38A Joes South For 64.33 55 P **P** 01 34 06.2 -0.3
baz=322
R34A Isabella, Hill 64.37 59 P **P** 01 34 06.5 -0.3
baz=322
O37A Wolven Farm, M 64.40 56 P **P** 01 34 07.1 +0.2
baz=322
Q35A Mercer Eighty, 64.52 58 P **P** 01 34 08.2 +0.4
baz=322
L41A Preston 64.56 52 P **P** 01 34 08.2 +0.3
baz=323
N39A Derby Farms, D 64.60 54 P **P** 01 34 08.9 +0.7
baz=323
M40A Post Highland 64.64 53 P **P** 01 34 08.4 -0.1
baz=323
Q36A Arnold C. Orve 64.72 58 P **P** 01 34 09.1 0.0
baz=322
P37A Lathrop 64.76 56 P **P** 01 34 09.2 -0.1
baz=322,SNR=7.5
HNR Honiara 64.81 183 PFAKE 01 34 20.0 +10
HNR LR LR
comp=Z,965nm,19.0s
AMTX Amarillo 64.82 65 P **P** 01 34 10.6 +0.8
baz=322
AMTX Amarillo 64.82 65 *e*P **P** 01 34 10.9 +1.1
comp=Z,17nm,0.9s
R35A Emporia Munici 64.87 59 P **P** 01 34 10.2 +0.2
baz=322
SANI Sanana 64.92 222 P **P** 01 34 10.5 0.0
comp=Z,40nm,1.2s
MSTX Muleshoe 64.97 66 P **P** 01 34 11.3 +0.4
baz=322,SNR=16
MSTX Muleshoe 64.97 66 *e*P **P** 01 34 11.5 +0.7
comp=Z,38nm,1.0s
U32A Winter Ranch, 65.01 62 P **P** 01 34 11.5 +0.5
baz=322
N40A Mertquake, Sal 65.02 54 P **P** 01 34 11.1 +0.2
baz=323
O39A Kirksville 65.08 55 P **P** 01 34 11.2 -0.2
baz=323
M41A Milan 65.10 53 P **P** 01 34 10.9 -0.6
baz=323
P38A Dawn 65.11 56 P **P** 01 34 11.6 0.0
baz=323,SNR=8.2
R36A Gordon, Harris 65.20 58 P **P** 01 34 12.0 -0.2
baz=322
S35A Otter Creek Ra 65.31 59 P **P** 01 34 13.1 +0.2
baz=322,SNR=5.7
MNTX Cornudas Mount 65.36 70 P **P** 01 34 14.1 +0.8
baz=322,SNR=29
MNTX Cornudas Mount 65.36 70 *e*P **P** 01 34 14.9 +1.6
comp=Z,27nm,1.0s
MNTX LR LR
comp=Z,669nm,21.0s
N41A Harden Midland 65.49 53 P **P** 01 34 14.4 +0.4
baz=323
O40A La Belle 65.49 54 P **P** 01 34 14.1 +0.1
baz=323,SNR=10
P39B Salisbury 65.59 55 P **P** 01 34 14.6 0.0
baz=323
S36A Lake Cedric, C 65.63 59 P **P** 01 34 15.2 +0.2
baz=323
N42A Yates City 65.77 53 P **P** 01 34 15.7 -0.1
baz=324
T35A Sooner Cattle 65.82 60 P **P** 01 34 16.5 +0.2
baz=322
Q39A Willow Grove F 65.83 56 P **P** 01 34 16.4 +0.1
baz=323,SNR=19
P40A Paris 65.88 55 P **P** 01 34 16.4 -0.1
baz=323,SNR=13
SUW Suwalki 65.91 335 *e*P **P** 01 34 15.8 -0.7
SUW Suwalki 65.91 335 *e*P **P** 01 34 15.8 -0.7
O41A Passleys Farm, 65.95 54 P **P** 01 34 16.8 -0.2
baz=324,SNR=6.4
S37A Fort Scott 65.97 58 P **P** 01 34 16.9 -0.3
baz=323
T36A Boggs Farm, Ca 66.02 59 P **P** 01 34 17.5 0.0
baz=323
R38A Fenwick Farm, 66.08 57 P **P** 01 34 17.6 -0.2
baz=323

PMG Port Moresby 66.08 197 *e*P P 01 34 18.7 +0.8
PMG pmax pmax
comp=Z,21nm,0.8s
PMG MLR MLR
comp=Z,419nm,19.0s
PMG Port Moresby 66.08 197 *e*P P 01 34 18.7 +0.8
comp=Z,21nm,0.8s
PMG LR LR
comp=Z,419nm,19.0s
P41A Barry, Barry 66.22 54 P P 01 34 18.5 -0.3
baz=324,SNR=9.7
Q40A Laux Farm, Aux 66.30 55 P P 01 34 19.1 -0.1
baz=324,SNR=10
HDIL Hopedale 66.32 52 P P 01 34 19.4 0.0
baz=324
HDIL Hopedale 66.32 52 *e*P P 01 34 19.8 +0.5
comp=Z,31nm,0.6s
HDIL LR LR
comp=Z,786nm,21.0s
PCI Palu 66.35 228 P P 01 34 23.9 +4.1
R39A Chumby, Stover 66.39 56 P P 01 34 19.5 -0.3
baz=323,SNR=16
X32A Elmer 66.40 63 P P 01 34 20.0 0.0
baz=322
WMOK Wichita Mounta 66.41 63 P P 01 34 20.4 +0.3
baz=322,SNR=46
WMOK Wichita Mounta 66.41 63 *e*P P 01 34 20.8 +0.7
WMOK pmax pmax
comp=Z,30nm,0.9s
WMOK MLR MLR
comp=Z,629nm,22.0s
WMOK Wichita Mounta 66.41 63 *e*P P 01 34 20.8 +0.7
comp=Z,30nm,0.9s
WMOK LR LR
comp=Z,629nm,22.0s
T37A Cheneyville 18 66.44 59 P P 01 34 20.2 +0.1
baz=323
S38A Stockton 66.52 57 P P 01 34 20.4 -0.3
baz=323
O43A Sugar Creek Fa 66.53 53 P P 01 34 20.7 0.0
baz=324
V35A Meyer Ranch, C 66.57 61 P P 01 34 20.7 -0.3
baz=323
U36A Oologah 66.62 60 P P 01 34 22.1 +0.8
baz=323
P42A Winchester 66.62 54 P P 01 34 21.3 0.0
baz=324
Q41A Truxton 66.72 55 P P 01 34 21.8 -0.1
baz=324,SNR=10
S39A Bolivar 66.75 57 P P 01 34 21.8 -0.3
baz=323,SNR=8.4
R40A Maddies Statio 66.77 56 P P 01 34 22.0 -0.2
baz=324,SNR=18
T38A Diamond 66.81 58 P P 01 34 22.6 +0.1
baz=323
U37A Salina 66.91 59 P P 01 34 23.5 +0.4
baz=323
P43A Skaggs, Pawnee 66.95 53 P P 01 34 23.6 +0.2
baz=324
TUL1 Leonard 66.97 60 P P 01 34 24.0 +0.4
baz=323
TUL1 Leonard 66.97 60 *e*P P 01 34 24.6 +1.0
comp=Z,22nm,1.0s
V36A Jenks 67.00 60 P P 01 34 24.6 +0.9
baz=323
W35A Tecumseh 67.04 61 P P 01 34 25.0 +0.9
baz=323
Y33A Hilltop Ranch, 67.06 63 P P 01 34 24.7 +0.5
baz=323
Q42A Golden Eagle 67.08 54 P P 01 34 25.2 +1.0
baz=324
GEYT Alibeck 67.16 304 P P 01 34 23.8 -1.0
comp=Z,32nm,1.1s,baz=5.2,slow=3.3,SNR=33
GEYT LR LR 02 07 26.5
comp=Z,2μm,18.6s,baz=30,slow=39
R41A Rosebud 67.18 55 P P 01 34 24.9 0.0
baz=324,SNR=16
S40A Lebanon 67.21 57 P P 01 34 24.9 -0.2
baz=324,SNR=9.7
U38A Gravette 67.24 59 P P 01 34 25.7 +0.5
baz=323
T39A Clever 67.26 58 P P 01 34 25.8 +0.4
baz=324,SNR=6.8
V37A Hulbert 67.31 59 P P 01 34 26.3 +0.5
baz=323
JBP Jabalpur 67.34 278⇑ *e*P P 01 34 24.3 -1.7
AKASG Malin Array Be 67.35 330 P P 01 34 24.8 -0.9
comp=Z,14nm,0.6s,baz=29,slow=6.4,SNR=42
AKASG LR LR 02 07 58.5
comp=Z,3μm,18.3s,baz=30,slow=40
KIEV Kiev 67.36 330*c i*P P 01 34 24.7 -1.1
KIEV pmax pmax
comp=Z,23nm,1.0s
KIEV Kiev 67.36 330 *e*P P 01 34 24.4 -1.4
KIEV LR LR
comp=Z,2μm,20.0s
W36A Wetumka 67.37 61 P P 01 34 27.3 +1.2
baz=323
Q43A New Douglas 67.44 54 P P 01 34 27.0 +0.5
baz=324
SFIN Lafayette 67.44 51 P P 01 34 26.9 +0.4
baz=325
R42A Luebbering 67.47 55 P P 01 34 26.9 +0.3
baz=324,SNR=7.4
P44A Sand Creek, Wi 67.50 53 P P 01 34 27.2 +0.3
baz=325
Z33A Whitaker Ranch 67.56 64 P P 01 34 27.4 0.0
baz=323
T40A Mansfield 67.56 57 P P 01 34 27.4 0.0
baz=324,SNR=7.5
S41A Jillco Farms, 67.58 56 P P 01 34 27.2 -0.2
baz=324,SNR=21
X35A Drake 67.59 62 P P 01 34 27.7 +0.2
baz=323
ABTX Abilene, Hawle 67.64 65 P P 01 34 27.9 0.0
baz=323,SNR=14
ABTX Abilene, Hawle 67.64 65 *e*P P 01 34 28.2 +0.3
comp=Z,22nm,1.0s
V38A Canehill 67.69 59 P P 01 34 28.1 0.0
baz=324,SNR=21
GOF Gofitskoye 67.70 318⇓ *i*P P 01 34 28.0 -0.1
GOF pmax pmax
comp=Z,80nm,0.9s
MAK Makhachkala 67.72 314 *e*P P 01 34 33.1 +5.0
U39A Green Forest 67.72 58 P P 01 34 28.0 -0.3
baz=324,SNR=22
X36A Centrahoma 67.76 61 P P 01 34 29.0 +0.5
baz=323
W37B Quinton 67.76 60 P P 01 34 29.1 +0.5
baz=323,SNR=9.2
R43A Red Bud 67.87 54 P P 01 34 29.3 +0.1
baz=324
S42A Caledonia 67.88 55 P P 01 34 29.1 -0.2
baz=324,SNR=12
GKP Gorka Klasztor 67.92 339 *e*P P 01 34 29.3 +0.1
GKP Gorka Klasztor 67.92 339 *e*P P 01 34 29.3 +0.1
Z34A Collier Ranch, 67.93 63 P P 01 34 29.8 +0.1
baz=323
LMQ La Malbaie 67.93 36 *e*P P 01 34 29.3 -0.2
T41A Mountain View 68.01 56 P P 01 34 30.2 0.0
baz=324,SNR=10.0
133A Hamilton Ranch 68.02 64 P P 01 34 30.5 +0.2
baz=323
U40A Yellville 68.04 58 P P 01 34 30.7 +0.3
baz=324,SNR=11
V39A Pettigrew 68.08 58 P P 01 34 30.3 -0.3
baz=324,SNR=21
TXAR Lajitas Array 68.13 70 P P 01 34 32.5 +1.4
comp=Z,11nm,0.8s,baz=299,slow=4.3,SNR=78
TXAR LR LR 02 02 00.1
comp=Z,355nm,22.0s,baz=0.0,slow=34
SURT Suratani 68.21 253 P P 01 34 32.0 +0.4
comp=Z,31nm,1.0s
X37A Clayton 68.23 60 P P 01 34 31.5 0.0
baz=324
W38A Poteau 68.27 60 P P 01 34 32.2 +0.4
baz=324,SNR=9.6
R44A Waltonville 68.28 54 P P 01 34 31.4 -0.4
baz=325
TTSI Tana Toraja 68.28 227 P P 01 34 40.3 +8.3
Y36A Durant 68.33 62 P P 01 34 33.1 +1.0
baz=323
T42A Van Buren 68.34 56 P P 01 34 32.2 +0.1
baz=324,SNR=6.4
S43A Fulton Ridge, 68.37 55 P P 01 34 32.3 -0.1
baz=324
X38A Whitesboro 68.44 60 P P 01 34 33.0 +0.2
baz=324,SNR=7.4
134A White-Moore Ra 68.48 64 P P 01 34 33.3 +0.2
baz=323
BEL Belsk 68.48 336 *e*P P 01 34 32.9 +0.1
BEL Belsk 68.48 336 *e*P P 01 34 32.9 +0.1
U41A Viola 68.50 57 P P 01 34 33.4 +0.2
baz=324,SNR=8.4
233A Rising Star 68.50 65 P P 01 34 34.1 +0.8
baz=323
V40A Witts Springs 68.50 58 P P 01 34 32.7 -0.6
baz=324,SNR=16
W39A Magazine 68.52 59 P P 01 34 33.8 +0.4
baz=324
KSM Kuching 68.59 239 *e*P P 01 34 35.2 +1.3
comp=Z,50nm,0.8s
KSM LR LR
comp=Z,361nm,19.0s
KRAB Krabi 68.60 253 P P 01 34 34.7 +0.7
comp=Z,93nm,0.8s,comp=Z,965nm
LPIG La Paz 68.63 78 LR LR 02 02 19.6
comp=Z,208nm,19.0s,baz=304,slow=34
TRTT Trang 68.65 252 P P 01 34 34.9 +0.5
comp=Z,73nm,1.0s,comp=Z,762nm
S44A Carbondale 68.65 54 P P 01 34 34.8 +0.6
baz=325
T43A Greenville 68.67 55 P P 01 34 34.7 +0.4
baz=325
SKLT Songkhla 68.71 251 P P 01 34 35.8 +1.1
comp=Z,137nm,0.9s,comp=Z,1μm
Z36A Blue Ridge 68.75 62 P P 01 34 35.7 +0.9
baz=324
KIV Kislovodsk 68.78 318 *e*P P 01 34 33.3 -1.6
KIV *e*S S 01 43 31.9 -4.2
KIV *e*SS SS 01 47 58.5 -1.7
KIV pmax pmax
comp=Z,19nm,1.1s
KIV MLR MLR
comp=Z,1μm,17.0s
KIV Kislovodsk 68.78 318 *e*P P 01 34 33.7 -1.2
comp=Z,21nm,0.8s
U42A Revenden 68.82 56 P P 01 34 35.9 +0.7
baz=324
V41A Mountainview 68.84 57 P P 01 34 35.0 -0.3
baz=324,SNR=13
W40A Ferguson Farm, 68.87 58 P P 01 34 35.3 -0.2
baz=324,SNR=13
KBZ Khabaz 68.89 318 P P 01 34 35.4 -0.1
comp=Z,27nm,0.8s,baz=62,slow=3.3,SNR=58
KBZ LR LR 02 09 54.2
comp=Z,3μm,18.6s,baz=25,slow=40
234A Clairette 68.90 64 P P 01 34 35.7 -0.1
baz=323
ESK Eskdalemuir 68.90 352 *e*P P 01 34 36.3 +0.9
ESK pmax pmax
comp=Z,18nm,0.7s
ESK Eskdalemuir 68.90 352 *e*P P 01 34 36.3 +0.9
comp=Z,18nm,0.7s
X39A Fountain Ranch 68.91 60 P P 01 34 35.9 0.0
baz=324,SNR=10
LONY Lake Ozonia 68.97 40 PFAKE 01 34 50.0 +14
LONY LR LR
comp=Z,632nm,20.0s
S45A Carrier Mills 68.98 54 P P 01 34 36.0 -0.1
baz=325
T44A Benton 68.99 55 P P 01 34 36.3 0.0
baz=325
333A Richland Sprin 69.01 65 P P 01 34 36.7 +0.2
baz=323
Y38A Idabel 69.08 60 P P 01 34 36.9 +0.1
baz=324
SPSI Sidrap Palu 69.14 227 P P 01 34 42.4 +5.1
MIAR Mount Ida 69.15 59 P P 01 34 37.2 -0.1
baz=324,SNR=8.6
MIAR Mount Ida 69.15 59 *e*P P 01 34 38.5 +1.2
MIAR pmax pmax
comp=Z,26nm,1.0s
MIAR MLR MLR
comp=Z,692nm,19.0s
MIAR Mount Ida 69.15 59 *e*P P 01 34 38.5 +1.2
comp=Z,26nm,1.0s
MIAR LR LR
comp=Z,692nm,19.0s
V42A Cord 69.19 57 P P 01 34 37.4 0.0
baz=324
U43A Rector 69.19 56 P P 01 34 37.9 +0.5
baz=325
Z37A Pogue Cattle C 69.22 62 P P 01 34 37.8 +0.1
baz=324
JCT Junction City 69.26 66 P P 01 34 37.8 -0.3
baz=323,SNR=6.8
JCT Junction City 69.26 66 *e*P P 01 34 39.1 +1.0
JCT pmax pmax
comp=Z,33nm,0.9s
JCT MLR MLR
comp=Z,548nm,19.0s
JCT Junction City 69.26 66 *e*P P 01 34 39.1 +1.0
comp=Z,34nm,0.9s
JCT LR LR
comp=Z,548nm,19.0s
W41B Gary Mavity, V 69.28 58 P P 01 34 38.1 0.0
baz=324,SNR=9.9
ZEI Tsey 69.30 317 *e*P P 01 34 35.0 -3.3
ZEI pmax pmax
comp=Z,73nm,1.1s
SEKA Sheki 69.30 313 P P 01 34 35.9 -2.3
GUDG Gudauri 69.34 316 P P 01 34 39.2 +0.6
ACSO Alum Creek Sta 69.35 48 *e*P P 01 34 38.3 -0.1
comp=Z,23nm,1.2s
ACSO LR LR
comp=Z,688nm,20.0s
Y39A Lockesburg 69.38 60 P P 01 34 38.9 +0.2
baz=324
334A Lometa 69.39 65 P P 01 34 39.0 +0.2
baz=323
433A Art 69.41 66 P P 01 34 38.9 0.0
baz=323,SNR=9.3
LVV L'vov 69.55 333 *e*P P 01 34 40.5 +1.0
LVV *e* 01 37 22.2
LVV MLR MLR
comp=E,1μm,18.0s
LVV MLR MLR
comp=N,1μm,18.0s
LVV MLR MLR
comp=Z,2μm,18.0s
X40A Basin Creek Fa 69.56 59 P P 01 34 40.6 +0.8
baz=324
WCI Wyandotte Cave 69.56 52 *e*P P 01 34 41.1 +1.3
WCI pmax pmax
comp=Z,52nm,0.7s
WCI Wyandotte Cave 69.56 52 *e*P P 01 34 41.1 +1.3
comp=Z,52nm,0.7s
ONI Oni 69.64 317 P P 01 34 40.0 -0.3
ONI Oni 69.64 317 P P 01 34 40.0 -0.3
MNGR Mingechevir, A 69.72 313 P P 01 34 38.5 -2.1
434A Burnet 69.78 65 P P 01 34 41.9 +0.6
baz=324
TBLG Delisi 69.86 315 P P 01 34 41.5 -0.1
TBLG Delisi 69.86 315 P P 01 34 41.5 -0.1
SORM Soroca 69.91 330⇑ *i*P P 01 34 40.9 -0.8
ANN Anapa 69.97 322 *e*P P 01 34 43.2 +1.1
ANN *e**PP sP 01 34 59.1 +3.5
ANN *e*S S 01 43 48.7 -1.1
ANN pmax pmax
comp=Z,11nm,0.8s
533A Kerrville 69.98 66 P P 01 34 43.1 +0.6
baz=324
N54A Moraine State 69.98 46 P P 01 34 42.2 -0.1
baz=326
CHVG Ch'k'valeri 70.06 318 P P 01 34 42.9 +0.1
KWP Kalwaria Pacla 70.06 334 *e*P P 01 34 42.5 -0.2
KWP Kalwaria Pacla 70.06 334 *e*P P 01 34 42.5 -0.2
X42A Stuttgart 70.09 58 P P 01 34 43.3 +0.3
baz=325
KAPI Kappang 70.09 227 *e*P P 01 34 44.2 +1.1
comp=Z,28nm,1.1s
KAPI LR LR
comp=Z,260nm,20.0s
GANJ Ganja 70.14 314 P P 01 34 41.0 -2.3
OJC Ojcow 70.22 336 *e*P P 01 34 43.6 0.0
OJC Ojcow 70.22 336 *e*P P 01 34 43.6 0.0
KULM Kulim 70.27 250 *e*P P 01 34 44.7 +0.4
comp=Z,70nm,1.0s
KULM LR LR
comp=Z,946nm,20.0s
PKME Peaks-Kenny Pk 70.28 36 PFAKE 01 35 00.0 +16
PKME LR LR
comp=Z,906nm,20.0s
534A Blanco 70.31 66 P P 01 34 44.5 0.0
baz=324,SNR=9.0
633A Saathoff Ranch 70.40 67 P P 01 34 45.3 +0.3
baz=324
KSP Ksiaz 70.41 338 *e*P P 01 34 45.0 +0.3
KSP Ksiaz 70.41 338 *e*P P 01 34 45.0 +0.3
238A Jacksonville 70.43 62 P P 01 34 45.1 -0.1
baz=324
X43A Marvell 70.47 57 P P 01 34 45.2 -0.2
baz=325
BINY Binghamton 70.52 43 PFAKE 01 35 00.0 +14
BINY LR LR
comp=Z,958nm,21.0s
CLL Collm 70.62 341⇑ *i*P P 01 34 45.6 -0.4
CLL *i* *PP pP 01 34 57.6 +1.8
CLL *e*S S 01 43 53.0 -4.3
CLL pmax pmax
comp=Z,31nm,1.2s
CLL MLR MLR
comp=Z,900nm,18.4s
CLL Collm 70.62 341⇑ *i*P P 01 34 45.6 -0.4
comp=Z,31nm,1.2s
CLL *i* sP pP 01 34 57.6 +1.8
CLL *e*PP PP 01 37 20.0 -1.9
CLL *e*S S 01 43 56.0 -1.3
CLL *e* 01 49 00.0
CLL *e*SSS SSS 01 51 48.0
CLL LmV 02 09 00.0
comp=Z,900nm,18.4s
STHS Stebnicka Huta 70.62 335 *e*P P 01 34 46.8 +0.7
STHS pmax pmax
comp=Z,17nm,0.9s
STHS Stebnicka Huta 70.62 335 *e*P P 01 34 46.8 +0.7
AKH Akhalkalaki 70.63 316⇑ *i*P P 01 34 45.7 -0.8
BGD Bogdanovka 70.71 316 P P 01 34 47.7 +0.6
LKRN Lenkeran, Azer 70.73 311 P P 01 34 44.7 -2.2
IPM Ipoh 70.75 249 *e*P P 01 34 47.1 -0.2
comp=Z,57nm,1.0s
UPC Upice 70.78 338 *e*P P 01 34 47.4 +0.4
UPC *e*S S 01 44 00.8 +1.5
UPC AMS AMS 02 10 50.0
comp=Z,2μm,17.0s
UPC Upice 70.78 338 *e*P P 01 34 47.4 +0.4
UPC *e*S S 01 44 00.8 +1.5
UPC MLR MLR
comp=Z,2μm,17.0s
KIS Kishinev 70.80 329 *e*P P 01 34 46.0 -1.2
comp=Z,70nm,1.5s
KIS Kishinev 70.80 329 *e*PcP PcP 01 34 58.0 -10
KIS *e*S S 01 44 00.0 +0.5
KIS *e*L L 01 59 20.0
KIS LQM 02 04 46.0
comp=Z,1μm,20.0s
KIS LRM MLR 02 10 20.0
comp=Z,2μm,16.0s
KIS Kishinev 70.80 329 *e*P P 01 34 46.0 -1.2
KIS *e* 01 34 58.0
KIS *e* 01 35 04.0
KIS *e*S S 01 44 00.0 +0.5
KIS pmax pmax
comp=Z,72nm,1.5s
KIS MLR MLR
comp=Z,2μm,16.0s
KIS MLR MLR
comp=Z,2μm,16.0s
NIE Niedzica 70.85 335 *e*P P 01 34 48.1 +0.6
NIE Niedzica 70.85 335 *e*P P 01 34 48.1 +0.6
BRG Berggiesshubel 70.85 340 *e*P P 01 34 47.2 -0.3
comp=Z,18nm,1.1s
BRG S S 01 44 04.0 +3.9
comp=N,1μm,18.6s
comp=E,835nm,15.0s
comp=Z,1μm,15.6s
BRG Berggiesshubel 70.85 340 *e*P P 01 34 47.2 -0.3
BRG S S 01 44 04.0 +3.9
BRG pmax pmax
comp=Z,18nm,1.1s
BRG MLR MLR
comp=N,1μm,18.6s
BRG MLR MLR
comp=E,835nm,15.0s
BRG MLR MLR
comp=Z,1μm,15.6s
NATX Nacogdoches 70.86 62 PFAKE 01 35 00.0 +12
NATX LR LR
comp=Z,649nm,22.0s
DPC Dobruska-Polom 70.86 338 *e*P P 01 34 48.2 +0.6
DPC *e*pP pP 01 34 54.8 -2.6
DPC *e*sP sP 01 35 00.2 -0.9
DPC AMS AMS 02 10 10.0
comp=Z,1μm,17.8s
DPC Dobruska-Polom 70.86 338 *e*P P 01 34 48.2 +0.6
DPC *e* 01 35 00.2
DPC MLR MLR
comp=Z,1μm,17.8s
832A Faith Ranch, C 70.92 68 P P 01 34 49.1 +0.9
baz=324,SNR=5.6
OKC Ostrava-Krasne 70.95 337 *e*P P 01 34 48.4 +0.3
OKC *e*pP pP 01 34 55.0 -2.9
OKC *e*sP sP 01 35 00.5 -1.0
OKC *e*S S 01 44 03.8 +2.6
OKC AMS AMS 02 09 30.0
comp=Z,1μm,17.1s
OKC Ostrava-Krasne 70.95 337 *e*P P 01 34 48.4 +0.3
OKC *e* 01 35 00.5
OKC *e*S S 01 44 03.8 +2.6
OKC MLR MLR
comp=Z,1μm,17.1s
SIM Simferopol' 70.97 324 *e*P P 01 34 45.0 -3.2
SIM *e*S S 01 43 49.0 -13
SIM pmax pmax
comp=Z,16nm,1.0s
SIM MLR MLR
comp=Z,4μm,16.0s
IAS Iasi 70.99 330⇑ *i*P P 01 34 48.4 +0.1
KRLC Kraliky 71.03 338 *e*P P 01 34 49.1 +0.5
KRLC *e*sP sP 01 35 01.0 -1.1
KRLC Kraliky 71.03 338 *e*P P 01 34 49.1 +0.5
KRLC *e* 01 35 01.0
CRVS Cervenica-Dubn 71.05 334 *e*P P 01 34 48.9 +0.2
CRVS Cervenica-Dubn 71.05 334 *e*P P 01 34 48.9 +0.2
PVCC Panska Ves 71.06 339 AMS AMS 02 10 00.0
comp=Z,1μm,17.1s
UZH Uzhgorod 71.09 334 *e*P P 01 34 46.3 -2.6
UZH *e* 01 35 00.1
UZH *i* 01 35 15.1
UZH *e* 01 37 34.0
UZH *e*S S 01 43 56.9 -5.9
UZH MLR MLR
comp=N,1μm,15.0s
UZH MLR MLR
comp=E,680nm,15.0s
UZH MLR MLR
comp=Z,450nm,15.0s
SSPA Standing Stone 71.11 45 *e*P P 01 34 49.0 -0.2
comp=Z,59nm,1.0s
MORC Moravsky Berou 71.14 337⇑ *i*P P 01 34 49.8 +0.5
MORC Moravsky Berou 71.14 337 *e*P P 01 34 49.1 -0.2
MORC pmax pmax
comp=Z,89nm,0.9s
MORC Moravsky Berou 71.14 337 *e*P P 01 34 49.1 -0.2
comp=Z,89nm,0.9s
OXF Oxford 71.18 56 *e*P P 01 34 50.1 +0.4
OXF pmax pmax
comp=Z,40nm,0.8s
OXF Oxford 71.18 56 *e*P P 01 34 50.1 +0.4
comp=Z,40nm,0.8s
GNI Garni 71.20 315 *i* P P 01 34 49.4 -0.5
SNR=9.1
GNI Garni 71.20 315*ce*P P 01 34 50.8 +0.8
GNI pmax pmax
comp=Z,213nm,1.7s
GNI Garni 71.20 315 *e*P P 01 34 50.0 0.0
comp=Z,207nm,0.9s
GNI LR LR
comp=Z,3μm,21.0s
GNI Garni 71.20 315 P P 01 34 50.3 +0.4
SNR=8.4
Y44A Strider, Charl 71.25 57 P P 01 34 49.8 -0.3
baz=325
COEN Coen 71.25 200 *e*P P 01 34 50.3 +0.1
comp=Z,25nm,1.1s
X45A UM Field Stati 71.26 56 P P 01 34 50.3 +0.1
baz=325
BURAR Bucovina Array 71.26 331⇑ *i*P P 01 34 49.8 -0.3

BURAR **Bucovina Array** 71.26 331 P P 01 34 49.8 -0.3
LANS **Liptovska Anna** 71.29 336 eP P 01 34 51.3 +1.1
LANS **Liptovska Anna** 71.29 336 eP P 01 34 51.3 +1.1
LEOM **Leova** 71.44 329⇑ iP P 01 34 50.7 -0.3
636A **Smothers Creek** 71.48 65 P P 01 34 52.7 +1.2
baz=324
TRPA **Tarpa** 71.49 333⇑ eP P 01 34 51.8 +0.5
MOX **Moxa** 71.51 341 P P 01 34 51.9 +0.4
MOX pmax pmax
comp=Z,21nm,1.4s
340A **Bronson** 71.52 61 P P 01 34 52.0 +0.2
baz=325
PRA **Prague** 71.52 339 eP P 01 34 52.1 +0.6
PRA esP sP 01 35 04.0 -1.0
PRA AMS AMS 02 10 30.0
comp=Z,2µm,17.4s
PRA **Prague** 71.52 339 eP P 01 34 52.1 +0.6
PRA e 01 35 04.0
PRA MLR MLR
comp=Z,2µm,17.4s
PRU **Pruhonice** 71.58 339 eP P 01 34 52.2 +0.4
PRU esP sP 01 35 04.0 -1.3
PRU eS S 01 44 12.5 +4.0
PRU AMS AMS 02 11 40.0
comp=Z,1µm,14.3s
PRU **Pruhonice** 71.58 339 eP P 01 34 52.2 +0.4
PRU e 01 35 04.0
PRU eS S 01 44 12.5 +4.0
PRU MLR MLR
comp=Z,1µm,14.3s
GOPC **GO Pecny, Ondr** 71.60 339 eP P 01 34 52.4 +0.4
GOPC epP pP 01 34 58.7 -3.1
GOPC esP sP 01 35 04.4 -1.1
GOPC eS S 01 44 12.9 +4.1
GOPC AMS AMS 02 11 40.0
comp=Z,1µm,15.1s
GOPC **GO Pecny, Ondr** 71.60 339 eP P 01 34 52.4 +0.4
GOPC e 01 35 04.4
GOPC eS S 01 44 12.9 +4.1
GOPC MLR MLR
comp=Z,1µm,15.1s
Y45A **Yeager Farm, C** 71.64 57 P P 01 34 53.9 +1.4
baz=326
KECS **Kecovo** 71.67 335 eP P 01 34 52.5 0.0
KECS pmax pmax
comp=Z,5.0nm,1.0s
KECS **Kecovo** 71.67 335 eP P 01 34 52.5 0.0
NAX **Nakhchivan** 71.72 313 P P 01 34 50.7 -2.3
NKC **Novy Kostel** 71.75 341 eP P 01 34 53.3 +0.4
NKC epP pP 01 34 58.7 -4.0
NKC AMS AMS 02 06 10.0
comp=Z,1µm,17.9s
NKC **Novy Kostel** 71.75 341 eP P 01 34 53.3 +0.4
NKC MLR MLR
comp=Z,1µm,17.9s
VRAC **Vranov** 71.79 338⇑ iP P 01 34 53.7 +0.5
933A **Laredo** 71.82 68 P P 01 34 54.8 +1.1
baz=324
736A **Circle Diamond** 71.89 65 P P 01 34 55.5 +1.4
baz=324
Y46A **Houston** 71.95 56 P P 01 34 54.5 +0.1
baz=326,SNR=12
ARCR **ARCALIA** 71.98 332⇓ iP P 01 34 54.0 -0.3
TREC **Trest** 72.04 338 eP P 01 34 55.1 +0.4
TREC epP pP 01 35 02.2 -2.3
TREC esP sP 01 35 07.0 -1.2
TREC eS S 01 44 18.2 +4.3
TREC AMS AMS 02 11 00.0
comp=Z,2µm,17.3s
TREC **Trest** 72.04 338 eP P 01 34 55.1 +0.4
TREC e 01 35 07.0
TREC eS S 01 44 18.2 +4.3
TREC MLR MLR
comp=Z,2µm,17.3s
VYHS **Vyhne** 72.06 336 eP P 01 34 55.2 +0.4
VYHS e 01 35 07.1
VYHS pmax pmax
comp=Z,17nm,1.5s
VYHS MLR MLR
comp=Z,1µm,18.7s
VYHS **Vyhne** 72.06 336 eP P 01 34 55.2 +0.4
VYHS e 01 35 07.1
VYHS eL L 02 10 32.8
TZTN **Tazewell** 72.17 51 eP P 01 34 56.8 +1.1
comp=Z,12nm,0.9s
LHMI **Lhok Sumawe** 72.31 253 eP P 01 34 56.9 +0.2
comp=Z,136nm,1.0s
PSZ **Piszkesteto** 72.34 335⇑ iP P 01 34 56.8 +0.2
PSZ **Piszkesteto** 72.34 335 eP P 01 34 57.5 +0.9
PSZ pmax pmax
comp=Z,86nm,1.8s
PSZ MLR MLR
comp=Z,1µm,21.0s
PSZ **Piszkesteto** 72.34 335⇑ eP P 01 34 57.1 +0.5
PSZ **Piszkesteto** 72.34 335 eP P 01 34 57.5 +0.9
comp=Z,86nm,1.8s
PSZ LR LR
comp=Z,1µm,21.0s
SMOL **Smolenice** 72.36 337 eP P 01 34 57.9 +1.3
SMOL **Smolenice** 72.36 337 eP P 01 34 57.9 +1.3
Y47A **UCPARC, Winfie** 72.41 56 P P 01 34 57.5 +0.4
baz=326
VRI **Vrincioaia** 72.43 330⇑ iP P 01 34 56.9 -0.2
PLOR **Plostina** 72.47 330⇑ iP P 01 34 57.1 -0.2
MEM **Membach** 72.47 345 P P 01 34 57.2 0.0
comp=Z,26nm,1.0s
GRFO **Grafenberg** 72.50 341 eP P 01 34 57.7 +0.3
GRFO pmax pmax
comp=Z,33nm,0.9s
GRFO **Grafenberg** 72.50 341 eP P 01 34 57.6 +0.3
comp=Z,33nm,0.9s
CJR **Cluj-Napoca** 72.52 332⇓ iP P 01 34 58.3 +0.7
VBMS **Vicksburg** 72.52 58 P P 01 34 58.1 +0.4
baz=326
034A **Hebbronville** 72.58 68 P P 01 34 59.7 +1.5
baz=324
244A **Avery, Jackson** 72.59 59 P P 01 34 58.8 +0.6
baz=325
KHC **Kasperske Hory** 72.59 340 eP P 01 34 58.4 +0.4
KHC epP pP 01 35 03.8 -4.0
KHC esP sP 01 35 10.0 -1.4
KHC ePP PP 01 37 31.6 -7.2
KHC eS S 01 44 22.3 +2.1
KHC AMS AMS 02 11 00.0
comp=Z,2µm,17.7s
KHC **Kasperske Hory** 72.59 340 eP P 01 34 58.4 +0.4
KHC e 01 35 10.0
KHC eS S 01 44 22.3 +2.1
KHC MLR MLR
comp=Z,2µm,17.7s
KHC **Kasperske Hory** 72.59 340 eP P 01 34 57.8 -0.2
comp=Z,13nm,1.3s
KVTX **Kingsville** 72.60 67 PFAKE 01 35 10.0 +12
KVTX LR LR
comp=Z,519nm,19.0s
CFR **Carcaliu** 72.65 328⇑ iP P 01 34 58.1 -0.2
SOEI **Soe** 72.66 220 eP P 01 34 59.6 +0.8
comp=Z,62nm,1.3s
DRGR 72.69 333⇑ iP P 01 34 58.6 0.0
WET **Wettzell** 72.71 340 P P 01 34 59.3 +0.6
WET pmax pmax
comp=Z,24nm,1.1s
HYB **Hyderabad** 72.72 276 iP P 01 34 57.0 -2.2
DOPR **Dopca** 72.72 331⇑ iP P 01 34 59.0 +0.2
BCLA **Clavier** 72.76 345 P P 01 34 58.5 -0.4
GERES **GERESS Array B** 72.83 339 P P 01 34 59.7 +0.1
comp=Z,6.8nm,0.7s,baz=35,slow=4.9,SNR=42
GERES LR LR 02 11 44.6
comp=Z,1µm,19.4s,baz=35,slow=40
146A **Union** 72.88 57 P P 01 35 00.3 +0.4
baz=326
Z47A **Carrollton** 72.89 56 P P 01 35 00.2 +0.3
baz=326,SNR=6.9
BUD **Budapest** 72.96 335 P P 01 35 02.7 +2.6
BUD **Budapest** 72.96 335⇑ eP P 01 35 00.9 +0.8
BLA **Blacksburg** 72.97 48 PFAKE 01 35 10.0 +10
BLA LR LR
comp=Z,693nm,20.0s
245A **Little AP, Sta** 72.98 58 P P 01 35 00.8 +0.3
baz=326
Z48A **Northport** 72.98 56 P P 01 35 00.8 +0.3
baz=326
MLR **Muntele Rosu** 73.00 330⇓ iP P 01 35 01.1 +0.5
HARR **Harsova** 73.15 328⇑ iP P 01 35 01.5 +0.2

ISR **Istrita** 73.17 329⇑ iP P 01 35 01.3 -0.2
DOU **Dourbes** 73.18 346 P P 01 35 01.4 0.0
TLB **Topalu** 73.21 328⇓ iP P 01 35 01.6 0.0
TIRR **Tirgusor** 73.22 328⇑ iP P 01 35 01.3 -0.4
TIRR **Tirgusor** 73.22 328 eP P 01 35 00.6 -1.1
TIRR pmax pmax
comp=Z,28nm,1.1s
TIRR **Tirgusor** 73.22 328 eP P 01 35 00.6 -1.1
comp=Z,28nm,1.1s
147A **Livingston** 73.23 57 P P 01 35 01.9 -0.1
baz=326
CONA **Conrad Observa** 73.26 338 eP P 01 35 02.4 +0.4
comp=Z,14nm,0.9s,SNR=8.9
BAIF **Baives** 73.27 346 eP P 01 35 01.4 -0.5
BAIF pmax pmax
comp=Z,23nm,1.1s
PSI **Prapat** 73.28 250 P P 01 35 02.4 -0.2
comp=Z,23nm,0.9s,baz=19,slow=5.5,SNR=13
VOIR 73.30 331⇑ iP P 01 35 02.6 +0.3
SOP **Sopron** 73.33 337 P P 01 35 03.7 +1.3
SOP **Sopron** 73.33 337⇑ eP P 01 35 03.4 +1.0
WLF **Walferdange** 73.37 345 P P 01 35 03.0 +0.5
WLF **Walferdange** 73.37 345 eP P 01 35 02.3 -0.2
WLF pmax pmax
comp=Z,15nm,1.0s
WLF MLR MLR
comp=Z,2µm,19.0s
WLF **Walferdange** 73.37 345 eP P 01 35 02.3 -0.2
comp=Z,15nm,1.0s
WLF LR LR
comp=Z,2µm,19.0s
CBN **Corbin Frederi** 73.39 46 PFAKE 01 35 20.0 +17
CBN LR LR
comp=Z,1µm,20.0s
SIRR **Siria** 73.44 333⇑ iP P 01 35 03.6 +0.5
ARR **Arges** 73.48 331⇓ iP P 01 35 03.3 -0.1
LRAL **Lakeview Retre** 73.53 55 eP P 01 35 03.3 -0.4
comp=Z,13nm,0.7s
247A **Quitman** 73.58 57 P P 01 35 05.3 +1.3
baz=326
MOA **Molln** 73.67 339 eP P 01 35 04.7 +0.4
comp=Z,14nm,1.1s,SNR=7.0
STU **Stuttgart** 73.75 342 eP P 01 35 04.0 -0.7
STU pmax pmax
comp=Z,15nm,0.9s
STU **Stuttgart** 73.75 342 eP P 01 35 04.0 -0.7
comp=Z,15nm,0.9s
248A **Dixon Mills** 73.96 56 P P 01 35 07.0 +0.8
baz=326
ARSA **Arzberg** 73.97 338 iP P 01 35 06.9 +0.8
comp=Z,12nm,0.8s
BZS **Buzias** 74.06 333⇑ iP P 01 35 06.3 -0.3
BKNI **Bangkinang** 74.25 247 eP P 01 35 08.8 +0.7
comp=Z,57nm,0.8s
BFO **Black Forest** 74.32 343 eP P 01 35 07.2 -1.0
BFO pmax pmax
comp=Z,21nm,1.0s
BFO MLR MLR
comp=Z,643nm,20.0s
BFO **Black Forest** 74.32 343 eP P 01 35 07.2 -1.0
comp=Z,20nm,1.0s
BFO LR LR
comp=Z,643nm,20.0s
KMSC **Kings Mountain** 74.33 50 eP P 01 35 08.3 0.0
comp=Z,19nm,0.8s
KMMI **Kalianget** 74.39 231 P P 01 35 16.2 +7.3
BEHE **Becsehely** 74.43 337⇓ eP P 01 35 10.0 +1.2
KBA **Koelnbreinsper** 74.59 339 eP P 01 35 11.0 +1.1
comp=Z,31nm,0.9s,SNR=21
KBA **Koelnbreinsper** 74.59 339 P P 01 35 11.0 +1.1
KBA pmax pmax
comp=Z,39nm,1.0s
SOKA **Soboth** 74.62 338 eP P 01 35 10.5 +0.5
comp=Z,15nm,1.0s,SNR=8.8
ECH **Echery** 74.62 344 eP P 01 35 09.2 -0.7
PERS **Pernice** 74.64 338 iP P 01 35 10.6 +0.5
WATA **Walderalm** 74.69 340 eP P 01 35 11.3 +0.8
comp=Z,10nm,0.7s,SNR=8.0
RETA **Reutte** 74.70 341 eP P 01 35 10.6 +0.2
comp=Z,9.4nm,0.7s,SNR=6.4
WTTA **Wattenberg** 74.75 340 iP P 01 35 11.6 +0.7
comp=Z,15nm,0.7s,SNR=8.0
MOTA **Moosalm** 74.78 341 iP P 01 35 11.6 +0.6
comp=Z,17nm,0.7s,SNR=18
THEF **They Montfort** 74.80 344 eP P 01 35 10.2 -0.7
GOGA **Godfrey** 74.84 53 PFAKE 01 35 20.0 +8.7
GOGA LR LR
comp=Z,760nm,20.0s
OBKA **Obir** 74.89 338 eP P 01 35 12.2 +0.7
comp=Z,28nm,0.9s,SNR=12
MYKA **Terra Mystica** 74.96 339 iP P 01 35 12.5 +0.6
comp=Z,11nm,0.8s
MOF **Molkenrain** 74.98 343 eP P 01 35 11.1 -1.0
BRAL **Brewton** 75.05 57 PFAKE 01 35 30.0 +17
BRAL LR LR
comp=Z,870nm,19.0s
DAVA **Damuels** 75.06 341 iP P 01 35 12.9 +0.3
comp=Z,12nm,1.1s
HINF **Hinteralfeld** 75.06 344 eP P 01 35 11.6 -0.9
HINF pmax pmax
comp=Z,7.0nm,0.8s
ABTA **Abfaltersbach** 75.08 339 eP P 01 35 13.0 +0.4
comp=Z,21nm,0.9s,SNR=13
FLN **La Foliniere** 75.13 349 eP P 01 35 11.9 -0.9
FLN pmax pmax
comp=Z,19nm,0.8s
FETA **Feichten** 75.16 341 iP P 01 35 13.9 +0.7
comp=Z,31nm,0.9s,SNR=11
ROBS **Robic** 75.36 339 iP P 01 35 13.5 -0.6
LOMF **Lomont** 75.52 344 eP P 01 35 13.9 -1.3
BOJS **Bojanci** 75.69 337 iP P 01 35 16.2 +0.1
CNNC **Cliffs of the** 75.71 48 eP P 01 35 17.5 +1.2
comp=Z,30nm,0.8s
CNNC LR LR
comp=Z,723nm,20.0s
BRTR **Keskin Array B** 75.76 322 P P 01 35 16.2 -0.5
comp=Z,12nm,0.8s,baz=57,slow=4.0,SNR=42
BRTR LR LR 02 14 51.9
comp=Z,998nm,18.6s,baz=20,slow=41
ANTO **Ankara** 75.93 323 eP P 01 35 17.5 -0.1
ANTO pmax pmax
comp=Z,111nm,1.1s
ANTO MLR MLR
comp=Z,645nm,19.0s
ANTO **Ankara** 75.93 323 eP P 01 35 17.5 -0.1
comp=Z,111nm,1.1s
ANTO LR LR
comp=Z,645nm,19.0s
ANTO **Ankara** 75.93 323 P P 01 35 17.7 +0.1
SNR=9.4
ANTO **Ankara** 75.93 323 P P 01 35 17.7 +0.1
SNR=9.4
TUE **Stuetta** 75.94 342 eP P 01 35 18.1 +0.3
comp=Z,24nm,0.9s
TUE LR LR
comp=Z,872nm,20.0s
PWJI **Pagerwojo** 76.22 233 P P 01 35 19.5 +0.1
CABF **La Chapelle** 76.36 344 eP P 01 35 19.7 -0.3
CABF pmax pmax
comp=Z,16nm,0.8s
TIGA **Tifton** 76.44 54 P P 01 35 20.7 +0.1
baz=328
NHSC **New Hope** 76.56 50 PFAKE 01 35 30.0 +8.8
NHSC LR LR
comp=Z,916nm,20.0s
AVF **Avril sur Loir** 76.59 346 eP P 01 35 20.6 -0.5
AVF pmax pmax
comp=Z,18nm,1.0s
CTA **Charters Tower** 76.69 196 P P 01 35 22.3 +0.4
comp=Z,9.4nm,0.8s,baz=345,slow=9.0,SNR=10
CTAO **Charters Tower** 76.69 196 eP P 01 35 20.8 -1.1
CTAO pmax pmax
comp=Z,62nm,0.8s
CTAO **Charters Tower** 76.69 196 eP P 01 35 20.8 -1.1
comp=Z,62nm,0.8s
KSRV **Kasrt alli** 77.18 316 eP P 01 35 24.3 -0.4
LPL **La Plagne** 77.32 343 eP P 01 35 26.0 +0.4
LPL pmax pmax
comp=Z,24nm,0.9s
LPG **La Plagne** 77.33 343 eP P 01 35 26.3 +0.6
LPG pmax pmax
comp=Z,34nm,0.9s
AGO **Saint Agoulin** 77.34 346 eP P 01 35 26.2 +0.8
PLDF **La Plantade** 77.35 345 eP P 01 35 26.0 +0.4
DZM **Mont Dzumac** 77.38 177 LR LR 02 06 52.7
comp=Z,432nm,19.0s,baz=38,slow=34

DZM **Mont Dzumac** 77.38 177 eLR LR 01 59 09.2
comp=Z,566nm,22.1s
DRWC **Darouich** 77.42 318 eP P 01 35 24.5 -1.6
PYM **Petit Puy Mans** 77.65 346 eP P 01 35 28.1 +0.8
BNI **Bardonecchia** 77.78 343 eP P 01 35 28.7 +0.7
BNI pmax pmax
comp=Z,27nm,1.1s
BNI MLR MLR
comp=Z,1µm,20.0s
BNI **Bardonecchia** 77.78 343 eP P 01 35 28.7 +0.7
comp=Z,27nm,1.1s
BNI LR LR
comp=Z,1µm,20.0s
BANOM **Banah** 77.84 298 P P 01 35 27.0 -1.6
SSB **Saint Sauveur** 77.89 345 eP P 01 35 28.6 0.0
SSB pmax pmax
comp=Z,10.0nm,0.8s
SSB MLR MLR
comp=Z,874nm,22.0s
SSB **Saint Sauveur** 77.89 345 eP P 01 35 28.6 0.0
comp=Z,9.6nm,0.8s
SSB LR LR
comp=Z,874nm,22.0s
VLC **Villacollemand** 77.98 340 PFAKE 01 35 40.0 +11
VLC LR LR
comp=Z,1µm,19.0s
LBL **Lubilhac** 78.13 346 eP P 01 35 30.4 +0.5
ARNB **Al Arnab** 78.35 319 eP P 01 35 29.8 -1.5
SLNF **Slenfeh** 78.49 318 eP P 01 35 33.2 +1.0
TIR **Tirane** 78.50 333 PFAKE 01 35 40.0 +8.1
TIR LR LR
comp=Z,2µm,19.0s
CAF **Calviac** 78.59 346 eP P 01 35 34.1 +1.7
CAF pmax pmax
comp=Z,22nm,1.2s
HATD **Hatta, Dubai** 78.83 298 iP P 01 35 32.2 -1.8
SNR=6.4
NAZ **Nazwa, Dubai** 78.94 298 P P 01 35 32.7 -1.9
ASHO **Ashiyiah** 78.99 298 P P 01 35 32.9 -2.1
WRAB **Tennant Creek** 79.05 207 eP P 01 35 35.1 +0.1
WRAB pmax pmax
comp=Z,16nm,0.8s
WRAB **Tennant Creek** 79.05 207 eP P 01 35 35.1 +0.1
comp=Z,16nm,0.8s
WRA **Warramunga Arr** 79.06 207 P P 01 35 35.5 +0.4
comp=Z,10nm,0.7s,baz=13,slow=5.8,SNR=85
WRA LR LR 02 09 36.0
comp=Z,137nm,21.9s,baz=50,slow=35
AQU **L'Aquila** 79.09 338 eP P 01 35 35.4 +0.2
AQU pmax pmax
comp=Z,30nm,0.9s
AQU MLR MLR
comp=Z,1µm,19.0s
AQU **L'Aquila** 79.09 338 eP P 01 35 35.4 +0.2
comp=Z,30nm,0.9s
AQU LR LR
comp=Z,1µm,19.0s
RABH **Abou Rabah** 79.14 317 eP P 01 35 36.7 +1.1
HOQ **Hoqain** 79.27 296 P P 01 35 35.4 -1.0
SNR=7.6
HOQ **Hoqain** 79.27 296 P P 01 35 35.4 -1.0
SNR=7.6
TAOE **Nuku Hiva Isla** 79.55 123 eLR LR 02 00 02.8
comp=Z,434nm,21.2s
PALK **Pallekele** 79.70 268 P P 01 35 38.1 -0.8
comp=Z,23nm,0.8s,baz=116,slow=3.2,SNR=6.0
PALK **Pallekele** 79.70 268 eP P 01 35 38.8 -0.1
comp=Z,42nm,1.0s
MARH **Ras Al Marh** 79.78 317 eP P 01 35 38.1 -1.3
JMDO **Jabal Madar** 79.86 295 P P 01 35 38.7 -0.9
SNR=7.7
JMDO **Jabal Madar** 79.86 295 P P 01 35 38.7 -0.9
SNR=7.7
FITZ **Fitzroy Crossi** 79.92 216 P P 01 35 40.3 +0.6
comp=Z,10nm,0.8s,baz=3.2,slow=5.1,SNR=24
FITZ **Fitzroy Crossi** 79.92 216 eP P 01 35 40.2 +0.5
comp=Z,23nm,1.1s
CSS **Mathiatis** 80.12 320 eP P 01 35 39.2 -1.7
comp=Z,6.5nm,1.0s
CSS LR LR
comp=Z,195nm,21.0s
TOTH **TOTAH** 80.38 317 eP P 01 35 36.5 -5.8
BRBR **Barbar** 80.52 317 eP P 01 35 41.3 -2.0
CUC **Castrocucco** 80.79 335 PFAKE 01 36 00.0 +16
CUC LR LR
comp=Z,720nm,20.0s
SALA **Sala** 80.84 317 eP P 01 35 45.6 +0.6
TCHB **Talchebab** 81.17 317 eP P 01 35 44.3 -2.3
TIP **Timpagrande** 81.33 334 eP P 01 35 47.2 -0.2
comp=Z,49nm,1.3s
TIP LR LR
comp=Z,1µm,22.0s
SANT **Santorini** 81.51 327 PFAKE 01 36 00.0 +12
SANT LR LR
comp=Z,1µm,20.0s
CEL **Celeste** 82.42 334 PFAKE 01 36 00.0 +6.9
CEL LR LR
comp=Z,980nm,20.0s
PGAV **Gavieira, Arco** 82.56 353 eP P 01 35 54.8 +1.0
comp=Z,42nm,1.8s
PGAV **Gavieira, Arco** 82.56 353 eS S 01 46 14.1 +5.7
PGAV **Gavieira, Arco** 82.56 353 eLR LR 02 08 37.8
comp=Z,466nm,18.0s
PBRG **Braganca** 82.61 352 eP P 01 35 53.2 -0.8
comp=Z,26nm,1.5s
VSL **Villasalto** 82.67 340 PFAKE 01 36 10.0 +16
VSL LR LR
comp=Z,690nm,19.0s
ASAR **Alice Springs** 82.74 207 P P 01 35 55.5 +0.9
comp=Z,13nm,0.7s,baz=17,slow=5.7,SNR=102
ASAR LR LR 02 12 22.9
comp=Z,122nm,20.7s,baz=12,slow=36
RAR **Rarotonga** 82.75 145 LR LR 02 04 08.6
comp=Z,205nm,21.0s,baz=292,slow=29
PCAB **Cabril** 82.79 353 eP P 01 35 56.8 +1.9
comp=Z,37nm,2.5s
POLO **Lamas de Olo** 83.11 353 eP P 01 35 57.7 +1.0
comp=Z,12nm,2.3s
PPT **Papeete** 83.11 135 LR LR 02 05 18.9
comp=Z,367nm,22.0s,baz=330,slow=30
PPT2 **Papeete2** 83.13 135 eLR LR 02 01 51.8
comp=Z,989nm,23.2s
PVRL **Vila Real** 83.20 353 eP P 01 35 58.2 +1.1
comp=Z,35nm,1.4s
MVO **Moncorvo** 83.27 352 eP P 01 35 58.2 +0.7
comp=Z,40nm,2.2s
MVO **Moncorvo** 83.27 352 eS S 01 46 23.9 +8.3
MVO eSS SS 01 51 48.7 +10
MVO **Moncorvo** 83.27 352 eLR LR 02 08 29.5
comp=Z,710nm,20.0s
CLTB **Caltabellotta** 83.70 336 PFAKE 01 36 10.0 +10
CLTB LR LR
comp=Z,552nm,20.0s
MTE **Manteigas** 84.06 353 eP P 01 36 01.6 +0.1
comp=Z,56nm,1.5s
MTE **Manteigas** 84.06 353 eS S 01 46 30.2 +6.6
MTE **Manteigas** 84.06 353 eLR LR 02 09 26.3
comp=Z,576nm,18.0s
MTE **Manteigas** 84.06 353 eP P 01 36 00.7 -0.9
comp=Z,62nm,1.6s
MTE LR LR
comp=Z,704nm,19.0s
PCAS **Casmilo, Conde** 84.47 353 eP P 01 36 04.8 +1.2
comp=Z,64nm,1.7s
PCAS **Casmilo, Conde** 84.47 353 eS S 01 46 30.5 +2.9
ESDC **Sonseca Array** 84.48 350 P P 01 36 04.1 +0.5
comp=Z,11nm,0.9s,baz=2.0,slow=4.9,SNR=46
PCBR **Castelo Branco** 84.62 353 eP P 01 36 05.3 +1.1
comp=Z,56nm,1.2s
PAB **San Pablo** 84.64 350 eP P 01 36 04.8 +0.3
PAB pmax pmax
comp=Z,25nm,1.1s
PAB MLR MLR
comp=Z,820nm,19.0s
PAB **San Pablo** 84.64 350 eP P 01 36 04.8 +0.3
comp=Z,25nm,1.1s
PAB LR LR
comp=Z,820nm,19.0s
MBWA **Marble Bar** 84.81 220 eP P 01 36 05.4 +0.2
comp=Z,164nm,1.1s
PTOM **Tomar** 84.90 353 eP P 01 36 06.7 +1.0
comp=Z,48nm,1.1s
PMRV **Marv??o** 85.02 353 eP P 01 36 07.0 +0.7
comp=Z,25nm,2.0s
PMRV **Marv??o** 85.02 353 eS S 01 46 37.8 +4.8
PMRV eSS SS 01 52 08.6 +3.8

PMRV	**Marv??o**	**85.02**	**353**	*e*LR		LR	02 09 30.2	
	comp=Z,513nm,18.0s							
WDD	**Wied Dalam**	**85.06**	**335**	PFAKE			01 36 20.0	+13
WDD				LR		LR		
	comp=Z,724nm,19.0s							
PESTR	**Estremoz**	**85.59**	**353**	*e*P		**P**	**01 36 09.8**	**+0.6**
	comp=Z,47nm,1.6s							
PESTR	**Estremoz**	**85.59**	**353**	*e*S		**S**	**01 46 42.0**	**+3.3**
PMAFR	**Mafra**	**85.62**	**354**	*e*S		**S**	**01 46 39.6**	**+0.7**
EVO	**Evora**	**85.95**	**353**	*e*P		**P**	**01 36 11.5**	**+0.5**
	comp=Z,42nm,1.6s							
RAO	**Raoul Island**	**86.04**	**163**	LR		LR	02 08 39.4	
	comp=Z,472nm,21.5s,baz=130,slow=31							
PBAR	**Barrancos**	**86.24**	**352**	*e*P		**P**	**01 36 13.2**	**+0.8**
	comp=Z,108nm,1.6s							
PBAR	**Barrancos**	**86.24**	**352**	*e*S		**S**	**01 46 50.8**	**+5.8**
KEST	**Kesra**	**86.31**	**339**	P		**P**	**01 36 12.8**	**-0.2**
	comp=Z,6.5nm,0.8s,baz=276,slow=0.9,SNR=12							
KEST				LR		LR	02 20 38.6	
	comp=Z,780nm,18.1s,baz=8.5,slow=40							
PCVE	**Castro Verde**	**86.85**	**353**	*e*S		**S**	**01 46 55.1**	**+4.1**
PVAQ	**Vaqueiros**	**87.06**	**353**	*e*P		**P**	**01 36 18.1**	**+1.7**
	comp=Z,34nm,2.3s							
PVAQ	**Vaqueiros**	**87.06**	**353**	*e*S		**S**	**01 46 56.5**	**+3.5**
PVAQ	**Vaqueiros**	**87.06**	**353**	*e*LR		LR	02 12 02.3	
	comp=Z,654nm,18.0s							
TBI	**Tubuai**	**88.38**	**137**	*e*LR		LR	02 04 02.9	
	comp=Z,574nm,32.6s							
STKA	**Stephens Creek**	**89.01**	**198**	P		**P**	**01 36 26.5**	**+1.1**
	comp=Z,2.5nm,0.7s,baz=0.0,slow=4.0,SNR=3.4							
STKA				LR		LR	02 11 57.9	
	comp=Z,230nm,21.4s,baz=13,slow=33							
GTBY	**Guantanamo Bay**	**90.19**	**53**	PFAKE			01 36 40.0	+8.6
GTBY				LR		LR		
	comp=Z,889nm,20.0s							
RTC	**Rabat Centre**	**90.38**	**352**	PFAKE			01 36 40.0	+7.9
RTC				LR		LR		
	comp=Z,2μm,19.0s							
MTDJ	**Mount Denham**	**90.54**	**56**	PFAKE			01 36 50.0	+17
MTDJ				LR		LR		
	comp=Z,443nm,20.0s							
GRTK	**Grand Turk**	**90.55**	**49**	PFAKE			01 36 40.0	+6.9
GRTK				LR		LR		
	comp=Z,699nm,19.0s							
FORT	**Forrest**	**91.06**	**210**	*e*P		**P**	**01 36 35.7**	**+0.7**
	comp=Z,358nm,0.7s							
SDDR	**Presa de Saban**	**92.72**	**50**	PFAKE			01 36 50.0	+6.7
SDDR				LR		LR		
	comp=Z,421nm,19.0s							
URZ	**Urewera**	**94.23**	**169**	LR		LR	02 15 03.9	
	comp=Z,299nm,19.4s,baz=15,slow=33							
SJG	**San Juan**	**95.67**	**46**	PFAKE			01 37 10.0	+13
SJG				LR		LR		
	comp=Z,474nm,19.0s							
SNZO	**South Karori**	**97.02**	**171**	PFAKE			01 37 10.0	+7.9
SNZO				LR		LR		
	comp=Z,466nm,20.0s							
ANWB	**Willy Bob**	**97.81**	**43**	PFAKE			01 37 20.0	+14
ANWB				LR		LR		
	comp=Z,424nm,19.0s							
TAM	**Tamanrasset**	**99.63**	**339**	*e*P		**Pdif**	**01 37 13.9**	**-0.8**
TAM				MLR		MLR		
	comp=Z,722nm,20.0s							
TAM	**Tamanrasset**	**99.63**	**339**	*e*P		**Pdif**	**01 37 13.9**	**-0.8**
TAM				LR		LR		
	comp=Z,722nm,20.0s							
FDF	**Fort de France**	**100.73**	**43**	PFAKE			01 37 30.0	+10
FDF				LR		LR		
	comp=Z,368nm,19.0s							
SDV	**Santo Domingo**	**101.91**	**54**	PFAKE			01 37 40.0	+15
SDV				LR		LR		
	comp=Z,467nm,22.0s							
BBGH	**Gun Hill**	**102.79**	**43**	PFAKE			01 37 40.0	+13
BBGH				LR		LR		
	comp=Z,499nm,19.0s							
MSEY	**Mahe Island**	**103.73**	**282**	PFAKE			01 37 40.0	+7.1
MSEY				LR		LR		
	comp=Z,660nm,19.0s							
OTAV	**Otavalo**	**105.53**	**66**	PFAKE			01 42 10.0	
OTAV				LR		LR		
	comp=Z,222nm,22.0s							
TORD	**Torodi Ar. Bea**	**109.77**	**341**	Pdiff		**Pdif**	**01 38 01.0**	**+1.3**
	comp=Z,0.3nm,0.8s,baz=35,slow=5.3,SNR=2.9							
TORD				PKiKP		**PKiKP**	**01 42 01.6**	**-0.4**
	comp=Z,0.5nm,0.5s,baz=355,slow=2.2,SNR=15							
TORD				PKKPbc		**PKKPbc**	**01 53 04.4**	**+1.5**
	comp=Z,0.3nm,0.5s,baz=170,slow=3.3,SNR=9.2							
KMBO	**Kilima Mbogo**	**110.37**	**300**	PFAKE			01 42 20.0	
KMBO				LR		LR		
	comp=Z,708nm,19.0s							
DBIC	**Dimbokro**	**117.17**	**346**	PKP		**PKPdf**	**01 42 15.9**	**-0.2**
	comp=Z,5.5nm,1.1s,baz=343,slow=2.4,SNR=4.4							
DBIC	**Dimbokro**	**117.17**	**346**	PKIKP		**PKPdf**	**01 42 16.0**	**-0.2**
DBIC				pmax		pmax		
	comp=Z,6.0nm,1.1s							
SAML	**Samuel**	**121.03**	**56**	PFAKE			01 42 40.0	+16
SAML				LR		LR		
	comp=Z,255nm,20.0s							
LPAZ	**La Paz**	**124.86**	**66**	PKP		**PKPdf**	**01 42 31.9**	**+0.4**
	comp=Z,1.1nm,0.9s,baz=289,slow=5.2,SNR=3.9							
LSZ	**Lusaka**	**127.02**	**301**	*e*PKIKP		**PKPdf**	**01 42 34.2**	**-0.9**
LSZ				MLR		MLR		
	comp=Z,721nm,20.0s							
LSZ	**Lusaka**	**127.02**	**301**	*e*PKPdf		**PKPdf**	**01 42 34.2**	**-0.9**
LSZ				LR		LR		
	comp=Z,721nm,20.0s							
RCBR	**Riachuelo**	**128.14**	**24**	PFAKE			01 42 50.0	+13
RCBR				LR		LR		
	comp=Z,253nm,21.0s							
VNDA	**Vanda**	**132.83**	**180**	PKP		**PKPdf**	**01 42 45.4**	**+1.2**
	comp=Z,1.1nm,0.8s,baz=12,slow=2.5,SNR=8.1							
SBA	**Scott Base**	**133.18**	**179**	PFAKE			01 43 00.0	+15
SBA				LR		LR		
	comp=Z,509nm,20.0s							
BOSA	**Boshof**	**139.63**	**294**	PKP		**PKPdf**	**01 42 58.6**	**+0.2**
	comp=Z,3.0nm,0.8s,baz=236,slow=1.7,SNR=3.6							
PLCA	**Paso Flores**	**142.30**	**90**	PKP		**PKPdf**	**01 43 03.8**	**+1.0**
	comp=Z,2.6nm,0.7s,baz=278,slow=2.0,SNR=7.2							
MAW	**Mawson**	**143.00**	**219**	PKhKP		PKPpre	01 42 59.4	
	comp=Z,5.7nm,1.0s,baz=357,slow=7.5,SNR=6.1							
SUR	**Sutherland**	**144.93**	**296**	*e*PKPdf		**PKPdf**	**01 43 08.5**	**+0.7**
TRQA	**Tornquist**	**145.31**	**79**	*e*PKPbc		**PKPab**	**01 43 08.2**	**+0.1**
QSPA	**South Pole Qui**	**145.32**	**180**	*e*PKPbc		**PKPbc**	**01 43 06.3**	**-0.8**
SYO	**Syowa Base**	**151.70**	**219**	*e*PKPbc		**PKPbc**	**01 43 23.4**	**-0.3**
SYO	**Syowa Base**	**151.70**	**219**	*e*pPKPdf		**PKPab**	**01 43 31.4**	**-1.4**
SYO	**Syowa Base**	**151.70**	**219**	*e*PKPab		**PKPab**	**01 43 36.2**	**+3.4**
PMSA	**Palmer Station**	**155.42**	**131**	*e*PKPab		**PKPab**	**01 43 48.2**	**-0.4**
PMSA				LR		LR		
	comp=Z,249nm,19.0s							
SNAA	**Sanae**	**162.75**	**195**	PKP		**PKPab**	**01 44 18.4**	**-2.0**
SNAA	**Sanae**	**162.75**	**195**	*e*PKP2		**PKPab**	**01 44 19.5**	**-0.9**
SNAA	**Sanae**	**162.75**	**195**	*e*PKPab		**PKPab**	**01 44 19.5**	**-0.9**
VNA3	**Neumayer Olymp**	**163.95**	**189**	PKP		**PKPab**	**01 44 24.7**	**-0.9**
VNA2	**Neumayer--Watz**	**164.03**	**191**	PKP		**PKPab**	**01 44 25.5**	**-0.4**
	baz=165,slow=3.7							
VNA1	**Neumayer--Stat**	**164.39**	**191**	PKP		**PKPab**	**01 44 27.1**	**-0.4**

WEL 07 01:26:54.2±0.5, 37°22S×176°52E, h157km±4km, ML3.7/26, 7C-5D, Error ellipse: s-maj=4.8km s-min=4.3km az=90.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
URZ	**Urewera**	**1.14**	**156**	⇑PN	Pn	01 27 21.0	+0.3
URZ				SN	Sn	01 27 42.1	+0.9
URZ				AML	AML	01 27 47.6	
HAZ	**Te Kaha**	**1.14**	**118**	PN	Pn	01 27 20.8	+0.1
HAZ				SN	Sn	01 27 41.6	+0.4
HAZ				AML	AML	01 27 47.3	
HAZ				AML	AML	01 27 47.3	
HAZ				AML	AML	01 27 49.9	
RUGZ	**Raukumara Rang**	**1.18**	**129**	PN	Pn	01 27 20.7	-0.6
MWZ	**Matawai**	**1.37**	**144**	PN	Pn	01 27 22.7	-0.2
MWZ				SN	Sn	01 27 44.7	-0.4
MWZ				AML	AML	01 27 56.4	
PKGZ	**Pakihiroa**	**1.41**	**119**	⇓PN	Pn	01 27 23.5	+0.2
RTZ	**Ruatahuna**	**1.44**	**165**	PN	Pn	01 27 23.7	0.0
RAGZ	**Rawiri**	**1.46**	**151**	PN	Pn	01 27 24.1	+0.2
RAGZ				AML	AML	01 27 54.8	
RAGZ				AML	AML	01 27 55.2	
TWGZ	**Tauwhareparae**	**1.50**	**130**	PN	Pn	01 27 25.1	+0.8
TWGZ				AML	AML	01 27 51.5	
TWGZ				AML	AML	01 27 57.6	
TKGZ	**Te Karaka**	**1.61**	**139**	PN	Pn	01 27 25.8	+0.5
TKGZ				AML	AML	01 27 50.8	
TKGZ				AML	AML	01 27 51.1	
MRHZ	**Matea Rd**	**1.61**	**183**	PN	Pn	01 27 25.6	+0.2
MRHZ				AML	AML	01 27 51.0	
MRHZ				AML	AML	01 27 56.7	
PUZ	**Puketiti**	**1.62**	**122**	PN	Pn	01 27 24.8	-0.7
PUZ				SN	Sn	01 27 48.3	-1.4
PUZ				AML	AML	01 27 51.1	
WMGZ	**Waiomatatini S**	**1.62**	**112**	PN	Pn	01 27 25.5	0.0
WMGZ				AML	AML	01 27 51.3	
WMGZ				AML	AML	01 27 51.5	
SNGZ	**Shannon Statio**	**1.69**	**158**	PN	Pn	01 27 26.4	+0.1
SNGZ				AML	AML	01 27 53.6	
SNGZ				AML	AML	01 27 58.4	
RIGZ	**Rimuhau**	**1.78**	**147**	⇓PN	Pn	01 27 27.1	-0.2
RIGZ				SN	Sn	01 27 52.5	-0.3
RIGZ				AML	AML	01 27 54.3	
CNGZ	**Carnagh Statio**	**1.84**	**134**	PN	Pn	01 27 28.0	+0.1
CNGZ				AML	AML	01 27 56.7	
CNGZ				AML	AML	01 27 56.9	
NMHZ	**Naumai**	**1.88**	**173**	⇓PN	Pn	01 27 28.7	+0.2
NMHZ				AML	AML	01 28 00.3	
NMHZ				AML	AML	01 28 06.1	
WHHZ	**Waihua**	**1.93**	**163**	AML	AML	01 27 55.8	
WHHZ				AML	AML	01 27 59.4	
BKZ	**Black Stump Fm**	**1.94**	**181**	PN	Pn	01 27 28.3	-0.8
BKZ				AML	AML	01 28 00.1	
KNZ	**Kokohu**	**2.01**	**153**	⇑PN	Pn	01 27 29.0	-0.8
KNZ				AML	AML	01 27 59.8	
WTVZ	**West Tongariro**	**2.02**	**201**	PN	Pn	01 27 30.8	+0.7
OTVZ	**Oturere**	**2.05**	**199**	PN	Pn	01 27 31.0	+0.5
ARHZ	**Aropaoanui**	**2.07**	**170**	PN	Pn	01 27 30.1	-0.4
ARHZ				AML	AML	01 27 59.8	
ARHZ				AML	AML	01 28 00.2	
NGZ	**Ngauruhoe**	**2.08**	**200**	PN	Pn	01 27 31.4	+0.6
TUVZ	**Tukino**	**2.15**	**198**	PN	Pn	01 27 31.6	0.0
WHVZ	**Whangaehu Hut**	**2.18**	**199**	PN	Pn	01 27 32.0	0.0
KWHZ	**Kaweka Forest**	**2.20**	**182**	PN	Pn	01 27 31.3	-0.7
KWHZ				AML	AML	01 28 02.9	
KWHZ				AML	AML	01 28 12.5	
MHGZ	**Mahia Peninsul**	**2.21**	**151**	PN	Pn	01 27 31.3	-0.9
MCHZ	**McNeill Hill**	**2.22**	**176**	PN	Pn	01 27 32.0	-0.3
MCHZ				AML	AML	01 28 12.6	
WNVZ	**Wahianoa**	**2.22**	**199**	⇑PN	Pn	01 27 32.2	-0.2
PKVZ	**Pokaka**	**2.26**	**204**	PN	Pn	01 27 32.9	+0.1
MOVZ	**Moawhango**	**2.26**	**195**	PN	Pn	01 27 31.9	-0.9
BHHZ	**Black Hill Sta**	**2.29**	**189**	PN	Pn	01 27 32.0	-1.1
MTVZ	**Mangateitei**	**2.31**	**201**	PN	Pn	01 27 33.3	-0.1
KRHZ	**Kereru**	**2.42**	**183**	PN	Pn	01 27 33.4	-1.3
KRHZ				AML	AML	01 28 15.8	
CKHZ	**Cape Kidnapper**	**2.47**	**170**	⇑PN	Pn	01 27 34.0	-1.2
CKHZ				AML	AML	01 28 07.2	
CKHZ				AML	AML	01 28 07.2	
KAHZ	**Kahuranaki**	**2.58**	**174**	⇑PN	Pn	01 27 35.3	-1.4
KAHZ				AML	AML	01 28 10.2	
PNHZ	**Pukenui**	**2.70**	**185**	PN	Pn	01 27 36.3	-1.8
WAZ	**Wanganui**	**2.80**	**205**	PN	Pn	01 27 38.9	-0.4
PXZ	**Pawanui**	**2.82**	**175**	⇑PN	Pn	01 27 37.4	-2.1
PXZ				*e*SN	Sn	01 28 10.7	-3.9
PXZ				AML	AML	01 28 14.8	
PXZ				AML	AML	01 28 14.8	
PXZ				AML	AML	01 28 14.8	
WPHZ	**Waipukurau**	**2.84**	**181**	PN	Pn	01 27 37.8	-1.9
TSZ	**Takapari Road**	**2.86**	**189**	PN	Pn	01 27 38.1	-2.0
PRHZ	**Porangahau**	**3.04**	**178**	PN	Pn	01 27 39.8	-2.4
PRHZ				AML	AML	01 28 18.1	
PRHZ				AML	AML	01 28 19.0	
DVHZ	**Dannevirke**	**3.08**	**185**	PN	Pn	01 27 40.2	-2.6
POWZ	**Post Office Ro**	**3.22**	**190**	PN	Pn	01 27 42.2	-2.3
ANWZ	**Angora Road**	**3.23**	**181**	⇓PN	Pn	01 27 42.2	-2.5
ANWZ				AML	AML	01 28 22.6	
ANWZ				AML	AML	01 28 24.8	
PRWZ	**Pori Road**	**3.35**	**187**	PN	Pn	01 27 43.6	-2.6
BFZ	**Birch Farm**	**3.46**	**183**	PN	Pn	01 27 44.5	-3.1
MRZ	**Mangatainoka R**	**3.51**	**192**	⇑PN	Pn	01 27 45.0	-3.2
MRZ				*e*SN	Sn	01 28 24.7	-5.6
TIWZ	**Tintock**	**3.58**	**188**	PN	Pn	01 27 46.0	-3.2
CPWZ	**Castlepoint**	**3.69**	**184**	PN	Pn	01 27 47.5	-3.0
OGWZ	**Otaki Gorge**	**3.74**	**196**	⇓PN	Pn	01 27 48.0	-3.2
OGWZ				AML	AML	01 28 36.6	
HOWZ	**Holdsworth Sta**	**3.75**	**192**	PN	Pn	01 27 47.6	-3.7
KIW	**Kapiti Island**	**3.84**	**199**	PN	Pn	01 27 49.2	-3.3
TMWZ	**Te Maipa**	**3.91**	**187**	PN	Pn	01 27 49.7	-3.6
MTW	**Mount Morrison**	**4.01**	**191**	PN	Pn	01 27 50.5	-4.2
TRWZ	**Traveller**	**4.22**	**189**	PN	Pn	01 27 52.9	-4.5
TMSWZ	**Moikau Station**	**4.30**	**193**	PN	Pn	01 27 54.0	-4.5
TCW	**Tory Channel**	**4.34**	**203**	PN	Pn	01 27 55.1	-3.9
PLWZ	**Palliser**	**4.45**	**192**	PN	Pn	01 27 55.6	-4.8
TUWZ	**Tuamarina**	**4.65**	**205**	PN	Pn	01 27 59.0	-4.0
NNZ	**Nelson**	**4.67**	**210**	PN	Pn	01 27 59.5	-3.8
THZ	**Tophouse**	**5.32**	**211**	PN	Pn	01 28 08.5	-3.5
KHZ	**Kahutara**	**5.67**	**203**	PN	Pn	01 28 11.6	-4.9
DSZ	**Denniston Nort**	**5.80**	**217**	PN	Pn	01 28 14.1	-4.2
INZ	**Inchbonnie**	**6.73**	**214**	PN	Pn	01 28 25.8	-4.7
MQZ	**McQueen's Vall**	**7.11**	**203**	*e*PN	Pn	01 28 28.6	-7.0

*ISCJB **07** 01:29:50.1±0.8, 11°60N×61°29W±0°05, h15km±12km, Error ellipse: s-maj=9.1km s-min=3.7km az=39.1*
*TRN **07** 01:29:51.2, 11°50N×61°29W, h55km, MD3.7*
*FUNV **07** 01:29:54.1, 11°30N×61°34W, h2km, MW2.9*

ISC 07 01:29:49.5±1.4, 11°55N±0°03×61°24W±0°04, h15km±11km, n28, σ1°22/45, 1C, Windward Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TOSP	**Speyside**	**0.73**	**109**	*e*	**Pg**	**01 30 03.5**	**-0.4**
TOSP	**Speyside**	**0.73**	**109**	*e*P	**Pn**	**01 30 06.2**	**+0.8**
TOSP				*e*S	**Sn**	**01 30 17.1**	**+0.9**
TRN	**Trinidad (W)**	**0.91**	**190**	⇑*i*P	**Pn**	**01 30 07.8**	**+0.1**
TRN				*e*S	**Sg**	**01 30 19.3**	**+0.3**
TCE	**Chacachacare**	**0.98**	**211**	*e*P	**Pb**	**01 30 08.2**	**-0.1**
TCE				*e*S	**Sb**	**01 30 20.2**	**-0.8**
GUIV	**Guiria**	**1.31**	**227**	*e*P	**Pb**	**01 30 13.8**	**0.0**
GUIV				*e*S	**Sn**	**01 30 29.7**	**-0.9**
SVB	**Belmont**	**1.72**	**360**	*e*P	**Pn**	**01 30 19.8**	**+0.9**
SVB				*e*S	**Sn**	**01 30 40.4**	**-0.2**
SVB				*e*S	**Sb**	**01 30 41.0**	**-1.3**
CRUV	**Carupano**	**2.14**	**246**	*e*P	**Pb**	**01 30 22.7**	**-0.3**
CRUV				*e*S	**Sb**	**01 30 53.0**	**-1.3**
GUNV	**Guanoco**	**2.16**	**231**	*e*P	**Pb**	**01 30 27.3**	**-1.1**
GUNV				*e*S	**Sn**	**01 30 53.0**	**+1.4**
MCLT	**Moule a Chique**	**2.17**	**8**	*e*P	**Pn**	**01 30 25.3**	**+0.1**
MCLT				*e*S	**Sn**	**01 30 50.9**	**-0.9**
SLB	**Belfond**	**2.28**	**5**	*e*P	**Pn**	**01 30 27.6**	**+0.9**
SLB				*e*S	**Sn**	**01 30 54.6**	**+0.1**
SLPA	**Patience**	**2.32**	**8**	*e*P	**Pn**	**01 30 29.0**	**+1.8**
BBSP	**Saint Philip**	**2.33**	**48**	*e*P	**Pn**	**01 30 28.2**	**+0.9**
BBSP				*e*S	**Sn**	**01 30 56.0**	**+0.2**
SLW	**Petit Monier**	**2.48**	**7**	*e*P	**Pn**	**01 30 29.8**	**+0.4**
SLW				*e*S	**Sn**	**01 30 59.4**	**0.0**
BIM	**Bigot**	**2.96**	**3**	*e*P	**Pn**	**01 30 37.2**	**+1.2**
BIM				*e*S	**Sn**	**01 31 09.9**	**-1.4**
TRMF	**Trois Ilets**	**2.98**	**4**	*e*P	**Pn**	**01 30 37.5**	**+1.2**
ZAM	**Aeronautique**	**3.02**	**4**	*e*P	**Pn**	**01 30 38.0**	**+1.2**
FDF	**Fort de France**	**3.17**	**2**	*e*P	**Pn**	**01 30 39.7**	**+0.7**
FDF				*e*S	**Sn**	**01 31 17.8**	**+1.3**
PML	**Morne Lenard**	**3.22**	**1**	*e*P	**Pn**	**01 30 40.6**	**+1.1**
GBMF	**Grand Be**	**3.23**	**1**	*e*P	**Pn**	**01 30 40.6**	**+0.8**
CXM	**Morne La Croix**	**3.25**	**1**	*e*P	**Pn**	**01 30 41.2**	**+1.1**
PCM	**Pelee Case Pet**	**3.25**	**1**	*e*P	**Pn**	**01 30 40.8**	**+0.7**
PCM	**Pelee Case Pet**	**3.25**	**1**	*e*P	**Pn**	**01 30 40.8**	**+0.7**
BAMF	**Morne Balai**	**3.25**	**2**	*e*P	**Pn**	**01 30 41.0**	**+0.9**
RIOV	**Rio Grande**	**3.50**	**189**	*e*P	**Pn**	**01 30 45.1**	**+1.7**
RIOV				*e*S	**Sn**	**01 31 23.0**	**-1.6**
PCRV	**Puerto La Cruz**	**3.60**	**248**	*e*P	**Pn**	**01 30 47.0**	**+2.1**
PCRV				*e*S	**Sn**	**01 31 25.3**	**-1.9**
BBL	**Barber's Block**	**3.96**	**357**	*e*P	**Pn**	**01 30 51.1**	**+1.2**
CUPV	**Cœpira**	**4.71**	**252**	*e*P	**Pn**	**01 31 03.2**	**+3.1**
CUPV				*e*S	**Sn**	**01 31 52.9**	**-1.6**
BAUV	**El Baul**	**7.17**	**250**	*e*P	**Pn**	**01 31 36.0**	**+2.0**

*NNC **07** 01:30:06.7±6.8, 39°85N×74°78E, h0km, mb3.5, mpv3.2, Error ellipse: s-maj=49.1km s-min=32.3km az=161.0*
*KRNET **07** 01:30:06.5±0.1, 39°54N×74°39E, mb3.2*
*ISCJB **07** 01:30:08.0±1.1, 39°47N±0°06×74°40E±0°05, h10km, Error ellipse: s-maj=8.7km s-min=5.2km az=162.2*

ISC 07 01:30:05.0±2.1, 39°3N±0°1×74°40E±0°05, h10km, n20, σ1°30/37, 25C-15D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ARSB	**Arslanbob**	**2.29**	**332**	⇓*i*P	**Pn**	**01 30 44.0**	**+1.0**
	baz=329						
ARSB				⇓*i*S	**Sn**	**01 31 11.6**	**+0.2**
	baz=329						
NRN	**Naryn**	**2.46**	**29**	⇑*i*P	**Pn**	**01 30 46.5**	**+1.0**
	baz=32						
NRN				⇑*i*S	**Sb**	**01 31 16.3**	**-3.7**
	baz=32						
KZA	**Kyzart**	**2.85**	**13**	⇑*i*P	**Pn**	**01 30 52.2**	**+1.3**
	baz=14						
KZA				⇑*i*S	**Sn**	**01 31 25.6**	**0.0**
	baz=14						
BTK	**Batken**	**2.86**	**287**	⇑*i*P	**Pb**	**01 30 55.0**	**-1.2**
	baz=282						
BTK				⇑*i*S	**Sb**	**01 31 30.2**	**-1.1**
	baz=282						
AML	**Almayashu**	**2.88**	**350**	⇑*i*P	**Pn**	**01 30 52.8**	**+1.5**
	baz=348						
AML				⇑*i*S	**Sn**	**01 31 27.0**	**+0.8**
	baz=348						
UCH	**Uchtor**	**2.93**	**2**	⇓*i*P	**Pn**	**01 30 53.5**	**+1.5**
	baz=2.0						
UCH				⇓*i*S	**Sn**	**01 31 28.1**	**+0.6**
	baz=2.0						
ARK	**Arkit**	**3.11**	**324**	⇑*i*P	**Pn**	**01 30 55.3**	**+1.1**
	baz=321						
ARK				⇑*i*S	**Sn**	**01 31 31.1**	**-0.4**
	baz=321						
ULHL	**Ulahol**	**3.26**	**25**	⇑*i*P	**Pn**	**01 30 57.9**	**+1.5**
	baz=27						
ULHL				⇑*i*S	**Sn**	**01 31 34.9**	**-0.5**
	baz=27						
AAK	**Ala-Archa**	**3.34**	**1**	⇓*i*P	**Pn**	**01 30 59.0**	**+1.6**
	baz=1.0						
AAK				⇓*i*S	**Sn**	**01 31 37.4**	**+0.2**
	baz=1.0						
AAK	**Ala-Archa**	**3.34**	**1**	⇓Pg	**Pn**	**01 30 58.7**	**+1.3**
	16nm,0.6s						
AAK				⇓Lg	Lg	01 31 39.6	
	22nm,0.6s						
KBK	**Karagaybulak**	**3.38**	**7**	⇑*i*P	**Pn**	**01 30 59.6**	**+1.6**
	baz=8.0						
KBK				⇑*i*S	**Sn**	**01 31 38.5**	**+0.2**
	baz=8.0						
EKS2	**Erkin-Say**	**3.39**	**352**	⇑*i*P	**Pn**	**01 30 59.9**	**+1.8**
	baz=352						
EKS2				⇑*i*S	**Sn**	**01 31 39.1**	**+0.6**
	baz=352						
BOOM	**Boomskoye usch**	**3.40**	**20**	⇑*i*P	**Pn**	**01 30 59.6**	**+1.4**
	baz=21						
BOOM				⇑*i*S	**Sn**	**01 31 37.4**	**-1.3**
	baz=21						
MNAS	**Manas**	**3.49**	**336**	⇑*i*P	**Pn**	**01 31 01.1**	**+1.6**
	baz=335						
MNAS				⇑*i*S	**Sn**	**01 31 40.9**	**-0.1**
	baz=335						
MNAS	**Manas**	**3.49**	**336**	⇓Pg	**Pn**	**01 30 59.7**	**+0.2**
	5.0nm,0.5s						
MNAS				⇑Lg	Lg	01 31 45.1	
	21nm,0.5s						
KDJ	**Kajisay**	**3.53**	**36**	⇓*i*P	**Pn**	**01 31 02.7**	**+2.6**
	baz=38						
KDJ				⇓*i*S	**Sn**	**01 31 42.1**	**+0.1**
	baz=38						
TKM2	**Tokmak 2**	**3.73**	**14**	⇑*i*P	**Pn**	**01 31 04.3**	**+1.4**
	baz=15						
TKM2				⇑*i*S	**Sn**	**01 31 46.8**	**-0.2**
	baz=15						
TKM2	**Tokmak 2**	**3.73**	**14**	⇓Pg	**Pn**	**01 31 04.0**	**+1.2**
	6.4nm,0.6s						
TKM2				⇑Lg	Lg	01 31 41.8	
	11nm,0.6s						
KK31	**Karatay Array**	**4.80**	**324**	⇓Pn	**Pn**	**01 31 18.2**	**+0.8**
	0.3nm,0.2s,baz=133,slow=13,SNR=6.2						
KK31				⇓Pg	**Pb**	**01 31 30.0**	**+0.8**
	2.1nm,0.5s						
KK31				⇑Sn	**Sn**	**01 32 13.4**	**+0.4**
	2.1nm,0.5s,baz=146,slow=18,SNR=3.5						
KK31				⇓Lg	Lg	01 32 28.8	
	3.1nm,0.4s,baz=128,slow=29,SNR=4.3						
WMQ	**Urumqi**	**10.94**	**61**	*e*P	**Pn**

*ISCJB **07** 01:57:01.9±0.8, 20.6S±0.2×177.7W±0.2, h350km, mb3.6/10, Error ellipse: s-maj=28.7km s-min=17.6km az=140.5*

*IDC **07** 01:57:03.5±6.8, 20.6S×177.6W, h353km±64km, mb3.4/10, mb1 3.6/10, mb1mx3.4/32, mbtmp4.1/10, Error ellipse: s-maj=30.5km s-min=24.0km az=144.0*

ISC 07 01:57:03.1±0.8, 20.6S±0.2×177.7W±0.2, h350km, n16, σ0s76/17, mb3.7/10, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**38.06**	**244**	P		**P**	**02 03 49.6**	**+0.3**
	1.6nm,0.4s,baz=90,slow=12,SNR=7.4							
ASAR	**Alice Springs**	**44.83**	**257**	P		**P**	**02 04 43.8**	**-0.2**
	5.4nm,0.7s,baz=93,slow=8.0,SNR=44							
ASAR				PcP		**PcP**	**02 06 18.4**	**-0.7**
	1.1nm,0.6s,baz=102,slow=3.5,SNR=9.1							
WRA	**Warramunga Arr**	**44.92**	**262**	P		**P**	**02 04 43.9**	**-0.8**
	2.2nm,0.5s,baz=96,slow=5.2,SNR=45							
WRA				PcP		**PcP**	**02 06 19.2**	**-0.2**
	0.5nm,0.6s,baz=98,slow=3.2,SNR=2.9							
VNDA	**Vanda**	**57.88**	**185**	P		**P**	**02 06 18.8**	**-0.1**
	0.6nm,0.9s,baz=14,slow=7.0,SNR=2.4							
PETK	**Petropavlovsk-**	**76.42**	**345**	P		**P**	**02 08 14.7**	**+0.2**
	2.7nm,0.7s,baz=146,slow=6.4,SNR=3.8							
USRK	**Ussuriysk Ar.**	**79.20**	**326**	P		**P**	**02 08 30.5**	**+0.6**
	1.5nm,0.7s,baz=107,slow=5.0,SNR=4.5							
TXAR	**Lajitas Array**	**86.81**	**57**	P		**P**	**02 09 09.8**	**+0.7**
	0.7nm,0.7s,baz=219,slow=5.8,SNR=8.5							
ILAR	**Eielson Array**	**88.30**	**13**	P		**P**	**02 09 13.8**	**-1.3**
	0.3nm,0.6s,baz=218,slow=5.7,SNR=3.9							
PDAR	**Pinedale Array**	**88.78**	**43**	P		**P**	**02 09 18.0**	**-0.2**
	0.3nm,0.6s,baz=204,slow=3.3,SNR=3.9							
CMAR	**Chiang Mai Arr**	**90.45**	**289**	P		**P**	**02 09 27.0**	**+0.8**
	0.7nm,0.4s,baz=106,slow=2.4,SNR=5.7							
AKASG	**Malin Array Be**	**143.23**	**331**	PKhKP		PKPpre	02 15 51.6	
	1.4nm,0.4s,baz=44,slow=4.6,SNR=12							
ASF	**Jabal al Asfar**	**147.10**	**298**	PKPbc		**PKPbc**	**02 16 05.6**	**-0.2**
	2.2nm,0.7s,baz=45,slow=2.9,SNR=6.6							
BRTR	**Keskin Array B**	**147.13**	**312**	PKPbc		**PKPdf**	**02 16 04.5**	**+1.5**
	1.8nm,0.6s,baz=126,slow=3.3,SNR=13							
MMAI	**Mount Meron Ar**	**148.13**	**300**	PKPbc		**PKPbc**	**02 16 08.1**	**-0.4**
	3.7nm,0.6s,baz=86,slow=2.0,SNR=9.9							
MLR	**Muntele Rosu**	**148.46**	**327**	PKPbc		**PKPbc**	**02 16 08.3**	**-0.7**
	0.3nm,0.5s,baz=331,slow=8.5,SNR=8.9							
EIL	**Elat**	**149.21**	**294**	PKPbc		**PKPbc**	**02 16 10.3**	**-0.9**
	1.3nm,0.7s,baz=75,slow=6.0,SNR=4.1							

*ISCJB **07** 02:00:06.1±0.3, 62.90N±0.02×148.28W±0.06, h87km±4km, mb3.6/3, Error ellipse: s-maj=4.3km s-min=3.3km az=175.6*

*NEIC **07** 02:00:07.0±0.0, 62.88N×148.30W, h76km, MG3.4(AEIC), After AEIC.*

*IDC **07** 02:00:10.0±3.5, 63.21N×148.29W, h94km±27km, mb3.4/3, mb1 3.6/4, mb1mx3.2/45, mbtmp3.6/4, Error ellipse: s-maj=35.5km s-min=21.5km az=43.0*

ISC 07 02:00:07.6±0.9, 62.91N±0.03×148.27W±0.03, h73km±7km, n58, σ0s85/72, mb3.4/3, Central Alaska

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
DHY	**Denali Highway**	**0.44**	**67**	P		**Pn**	**02 00 19.9**	**-0.5**
DHY				S		**Sn**	**02 00 30.2**	**+0.4**
RND	**Reindeer**	**0.56**	**332**	P		**Pn**	**02 00 21.1**	**-0.3**
RND				S		**Sn**	**02 00 31.8**	**+0.2**
MCK	**McKinley**	**0.88**	**340**	P		**Pn**	**02 00 24.9**	**+0.1**
MCK				S		**Sn**	**02 00 38.7**	**+1.0**
CUT	**Chulitna**	**1.05**	**242**	P		**Pn**	**02 00 26.1**	**-0.8**
TRF	**Thorofare Moun**	**1.06**	**302**	P		**Pn**	**02 00 27.0**	**-0.2**
TRF				S		**Sn**	**02 00 42.4**	**+0.5**
SML	**Sawmill**	**1.11**	**182**	P		**Pn**	**02 00 26.6**	**-1.1**
SML				S		**Sn**	**02 00 43.1**	**+0.5**
SCM	**Sheep Creek Mo**	**1.17**	**158**	P		**Pn**	**02 00 27.6**	**-0.9**
SCM				S		**Sn**	**02 00 44.7**	**+0.7**
GHO	**Glory Hole Cre**	**1.18**	**195**	P		**Pn**	**02 00 27.6**	**-1.0**
GHO				S		**Sn**	**02 00 43.8**	**-0.5**
PS10	**TAPS Pump St10**	**1.25**	**64**	P		**Pn**	**02 00 30.2**	**+0.8**
PAX	**Paxson**	**1.28**	**86**	P		**Pn**	**02 00 29.9**	**0.0**
PAX				S		**Sn**	**02 00 47.7**	**+1.1**
KTH	**Kantishna Hill**	**1.36**	**299**	P		**Pn**	**02 00 31.0**	**0.0**
KTH				S		**Sn**	**02 00 48.9**	**+0.4**
PMR	**Palmer**	**1.38**	**197**	P		**Pn**	**02 00 30.4**	**-0.8**
PMR				S		**Sn**	**02 00 49.0**	**+0.2**
KNK	**Knik Glacier**	**1.51**	**183**	P		**Pn**	**02 00 32.5**	**-0.3**
KNK				S		**Sn**	**02 00 52.8**	**+1.0**
HARP	**HAARP**	**1.52**	**108**	P		**Pn**	**02 00 33.0**	**+0.1**
PS11	**TAPS Pump St11**	**1.54**	**122**	P		**Pn**	**02 00 33.6**	**+0.4**
WRH	**Wood River Hil**	**1.57**	**3**	P		**Pn**	**02 00 33.4**	**-0.2**
WRH				S		**Sn**	**02 00 53.2**	**0.0**
HDA	**Harding Lake**	**1.61**	**21**	P		**Pn**	**02 00 34.3**	**+0.1**
CCB	**Clear Creek Bu**	**1.75**	**7**	P		**Pn**	**02 00 35.8**	**-0.2**
PS08	**TAPS Pump Stn8**	**1.76**	**21**	P		**Pn**	**02 00 36.5**	**+0.4**
SKT	**Skwentna**	**1.78**	**240**	P		**Pn**	**02 00 36.1**	**-0.3**
PPLA	**Purkeypile**	**1.79**	**271**	P		**Pn**	**02 00 36.5**	**-0.2**
KLU	**Klutina**	**1.80**	**141**	P		**Pn**	**02 00 35.7**	**-1.0**
CAST	**Castle Rocks**	**1.80**	**288**	P		**Pn**	**02 00 36.0**	**-0.7**
SUA	**Susitna One**	**1.86**	**220**	P		**Pn**	**02 00 37.0**	**-0.6**
RC01	**Rabbit Creek A**	**1.96**	**201**	P		**Pn**	**02 00 38.8**	**+0.1**
ILAR	**Eielson Array**	**1.97**	**18**	P		**Pn**	**02 00 38.6**	**-0.2**
	9.6nm,0.3s,baz=200,slow=14,SNR=274							
ILAR				S		**Sn**	**02 00 59.7**	**-2.9**
	34nm,0.3s,baz=204,slow=16,SNR=36							
ILB	**Eielson Array**	**1.97**	**18**	P		**Pn**	**02 00 38.6**	**-0.2**
COLA	**College**	**1.98**	**7**	P		**Pn**	**02 00 39.0**	**0.0**
VLZ	**Valdez**	**2.01**	**152**	P		**Pn**	**02 00 38.1**	**-1.2**
JPK	**Jack Peak**	**2.02**	**156**	P		**Pn**	**02 00 38.5**	**-1.2**
DOT	**Dot Lake**	**2.04**	**67**	P		**Pn**	**02 00 39.7**	**-0.2**
MDM	**Murphy Dome**	**2.06**	**0**	P		**Pn**	**02 00 40.1**	**0.0**
PWL	**Port Wells**	**2.06**	**181**	P		**Pn**	**02 00 39.5**	**-0.6**
MENT	**Mentasta**	**2.08**	**87**	P		**Pn**	**02 00 40.6**	**+0.2**
DIV	**Divide**	**2.14**	**146**	P		**Pn**	**02 00 40.0**	**-1.2**
STLK	**Strandline Lak**	**2.19**	**231**	P		**Pn**	**02 00 41.9**	**0.0**
FID	**Port Fidalgo**	**2.33**	**158**	P		**Pn**	**02 00 42.7**	**-1.1**
SLKM	**Skilak Lake**	**2.58**	**202**	P		**Pn**	**02 00 46.4**	**-0.8**
BMRM	**Bremner River**	**2.61**	**137**	P		**Pn**	**02 00 47.0**	**-0.5**
EYAK	**Cordova Ski Ar**	**2.66**	**152**	P		**Pn**	**02 00 47.3**	**-0.8**
HIN	**Hinchinbrook I**	**2.66**	**161**	P		**Pn**	**02 00 47.1**	**-1.1**
MCARA	**McCarthy VSAT**	**2.90**	**120**	P		**Pn**	**02 00 51.5**	**+0.1**
BCA3	**Beaver Creek A**	**2.96**	**84**	P		**Pn**	**02 00 52.0**	**-0.3**
BRLK	**Bradley Lake**	**3.40**	**203**	P		**Pn**	**02 00 57.4**	**-0.9**
KIAG	**Kiagna River**	**3.43**	**123**	P		**Pn**	**02 00 57.5**	**-1.4**
TTA	**Tatalina**	**3.54**	**274**	P		**Pn**	**02 00 59.3**	**-0.9**
TT01	**Tatalina**	**3.55**	**273**	P		**Pn**	**02 00 59.5**	**-0.7**
BARN	**Barnard Glacie**	**3.63**	**118**	P		**Pn**	**02 01 01.5**	**0.0**
EGAK	**Eagle**	**3.66**	**56**	ePn		**Pn**	**02 01 01.7**	**-0.1**
CNPM	**China Poot**	**3.69**	**204**	P		**Pn**	**02 01 01.5**	**-0.7**
IM3	**Indian Mountai**	**3.89**	**325**	P		**Pn**	**02 01 05.1**	**+0.2**
DAWY	**Dawson**	**4.14**	**70**	P		**Pn**	**02 01 08.8**	**+0.3**
COLD	**Coldfoot**	**4.41**	**350**	P		**Pn**	**02 01 12.5**	**+0.5**
BM3	**Burnt Mountain**	**4.78**	**17**	P		**Pn**	**02 01 17.4**	**+0.3**
INK	**Inuvik**	**8.14**	**42**	P		**Pn**	**02 02 02.0**	**-0.8**
	0.2nm,0.3s,baz=234,slow=15,SNR=3.2							
INK				S		**Sn**	**02 03 30.8**	**-2.3**
	1.3nm,0.3s,baz=355,slow=25,SNR=11							
PDAR	**Pinedale Array**	**30.17**	**114**	P		**P**	**02 06 12.8**	**+2.1**
	0.6nm,1.0s,baz=311,slow=8.2,SNR=3.7							
TXAR	**Lajitas Array**	**44.12**	**118**	P		**P**	**02 08 09.1**	**+0.6**
	0.3nm,0.5s,baz=331,slow=7.2,SNR=4.0							
FINES	**FINESS Array B**	**55.89**	**3**	P		**P**	**02 09 35.1**	**-2.0**
	4.3nm,1.0s,baz=6.8,slow=5.9,SNR=6.0							

*ISCJB **07** 02:14:10.8±0.4, 50.07N±0.03×18.35E±0.02, h0km, Error ellipse: s-maj=3.9km s-min=2.1km az=18.2*

*VIE **07** 02:14:10.9±0.9, 50.16N×18.43E, h0km, mb2.3/5, ML2.6/6, Error ellipse: s-maj=7.5km s-min=6.3km az=106.0, Suspected Mining induced.*

*CSEM **07** 02:14:11.7±0.2, 50.07N×18.39E, h2km, ML3.1/14, Error ellipse: s-maj=4.9km s-min=2.5km az=16.0*

*IPEC **07** 02:14:12.3±0.2, 50.06N×18.48E, h0km±2km, ML2.4/3, Error ellipse: s-maj=2.1km s-min=1.1km az=160.0*

*WAR **07** 02:14:12.5, 50.05N×18.45E, h1km, Mw2.8*

*IDC **07** 02:14:13.9±1.1, 50.05N×18.28E, h0km, mb1 3.3/4, mb1mx3.1/35, mbtmp3.2/4, ML2.3/3, Error ellipse: s-maj=19.7km s-min=10.3km az=150.0*

*PRU **07** 02:14:13.3, 50.10N×18.38E, h0km*

ISC 07 02:14:11.6±0.7, 50.04N±0.03×18.41E±0.02, h0km, n62, σ0s98/112, 7D, Poland

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
RAC	**Raciborz**	**0.14**	**286**	*e*Sg		**Sg**	**02 14 20.0**	**+3.8**
OKC	**Ostrava-Krasne**	**0.27**	**220**	‖*i*Pg		**Pb**	**02 14 18.9**	**-0.4**
OKC				*e*SG		**Sb**	**02 14 23.4**	**-1.0**
	comp=Z,330nm,0.5s							
OKC	**Ostrava-Krasne**	**0.27**	**220**	Pg		**Pb**	**02 14 18.9**	**-0.4**
OKC				Sg		**Sb**	**02 14 23.4**	**-1.0**
	330nm,0.5s							
MORC	**Moravsky Berou**	**0.62**	**245**	*e*Pg		**Pb**	**02 14 24.9**	**-0.4**
MORC				*e*Sg		**Sg**	**02 14 33.1**	**+1.6**
	64nm,0.3s							
OJC	**Ojcow**	**0.91**	**78**	*e*Pg		**Pg**	**02 14 29.3**	**+0.3**
OJC				*e*Sg		**Sb**	**02 14 42.4**	**-0.5**
OJC	**Ojcow**	**0.91**	**78**	*e*Pg		**Pg**	**02 14 29.3**	**+0.3**
OJC				*e*Sg		**Sb**	**02 14 42.4**	**-0.5**
OJC	**Ojcow**	**0.91**	**78**	*e*Pg		**Pg**	**02 14 29.3**	**+0.3**
OJC				*e*Sg		**Sb**	**02 14 42.4**	**-0.5**
KRLC	**Kraliky**	**1.05**	**272**	*e*PG		**Pg**	**02 14 32.1**	**+0.4**
KRLC				*e*SG		**Sb**	**02 14 46.6**	**-0.4**
KRLC	**Kraliky**	**1.05**	**272**	Pg		**Pg**	**02 14 32.1**	**+0.4**
KRLC				Sg		**Sb**	**02 14 46.6**	**-0.4**
LANS	**Liptovska Anna**	**1.13**	**142**	*e*Pg		**Pb**	**02 14 34.5**	**+0.5**
LANS				*e*Sg		**Sn**	**02 14 51.2**	**+0.3**
LANS	**Liptovska Anna**	**1.13**	**142**	*e*PG		**Pb**	**02 14 34.4**	**+0.5**
LANS				*e*SG		**Sn**	**02 14 51.2**	**+0.3**
DPC	**Dobruska-Polom**	**1.38**	**284**	*e*PG		**Pb**	**02 14 38.4**	**+0.2**
DPC				*e*SG		**Sn**	**02 14 57.7**	**+0.7**
	comp=Z,83nm,0.5s							
DPC	**Dobruska-Polom**	**1.38**	**284**	Pg		**Pb**	**02 14 38.4**	**+0.2**
DPC				Sg		**Sn**	**02 14 57.7**	**+0.7**
	83nm,0.5s							
NIE	**Niedzica**	**1.38**	**116**	*e*Pg		**Pb**	**02 14 38.8**	**+0.6**
NIE				*e*Sg		**Sn**	**02 14 59.0**	**+2.0**
NIE	**Niedzica**	**1.38**	**116**	*e*Pg		**Pb**	**02 14 38.8**	**+0.6**
NIE				*e*Sg		**Sn**	**02 14 59.0**	**+2.0**
NIE	**Niedzica**	**1.38**	**116**	*e*Pg		**Pb**	**02 14 38.8**	**+0.6**
NIE				*e*Sg		**Sn**	**02 14 59.0**	**+2.0**
VRAC	**Vranov**	**1.39**	**239**	Pg		**Pb**	**02 14 39.0**	**+0.6**
	6.8nm,0.3s,baz=58,slow=14,SNR=54							
VRAC				Lg		Lg	02 14 57.8	
	14nm,0.3s,baz=145,slow=20,SNR=14							
VRAC	**Vranov**	**1.39**	**239**	*e*Pg		**Pb**	**02 14 38.8**	**+0.4**
VRAC				*e*Sg		**Sb**	**02 14 57.4**	**+0.7**
	38nm,0.3s							
KSP	**Ksiaz**	**1.57**	**301**	*e*Pn		**Pn**	**02 14 40.8**	**0.0**
KSP				*e*Pg		**Pg**	**02 14 42.6**	**+0.9**
KSP				*e*Sg		**Sg**	**02 15 03.4**	**+1.3**
KSP	**Ksiaz**	**1.57**	**301**	*e*Pn		**Pn**	**02 14 40.8**	**0.0**
KSP	**Ksiaz**	**1.57**	**301**	*e*Pn		**Pn**	**02 14 40.8**	**0.0**
KSP				*e*Pg		**Pg**	**02 14 42.6**	**+0.9**
KSP				*e*Sg		**Sg**	**02 15 03.4**	**+1.3**
VYHS	**Vyhne**	**1.57**	**170**	*e*Pg		**Pn**	**02 14 41.3**	**+0.5**
VYHS				*e*Sn		**Sn**	**02 15 02.3**	**+0.4**
VYHS	**Vyhne**	**1.57**	**170**	*e*PG		**Pn**	**02 14 41.3**	**+0.5**
VYHS				*e*SN		**Sn**	**02 15 02.3**	**+0.4**
VYHS				*e*LG		Lg	02 15 10.2	
UPC	**Upice**	**1.61**	**288**	‖*e*PG		**Pg**	**02 14 42.4**	**0.0**
UPC				*e*SG		**Sg**	**02 15 04.7**	**+1.5**
	comp=Z,21nm,0.4s							
UPC	**Upice**	**1.61**	**288**	Pg		**Pg**	**02 14 42.4**	**0.0**
UPC				Sg		**Sg**	**02 15 04.7**	**+1.5**
	21nm,0.4s							
KRUC	**Moravsky**	**1.64**	**234**	*e*Pn		**Pb**	**02 14 42.8**	**+0.1**
KRUC				*e*Sg		**Sg**	**02 15 05.1**	**+0.9**
	35nm,0.4s							
SMOL	**Smolenice**	**1.66**	**203**	*e*Pg		**Pn**	**02 14 42.6**	**+0.7**
SMOL				*e*Sn		**Sn**	**02 15 04.7**	**+0.8**
SMOL	**Smolenice**	**1.66**	**203**	*e*PG		**Pn**	**02 14 42.6**	**+0.7**
SMOL				*e*SN		**Sn**	**02 15 04.7**	**+0.8**
STHS	**Stebnicka Huta**	**1.94**	**108**	*e*Pg		**Pg**	**02 14 49.4**	**+0.6**
STHS	**Stebnicka Huta**	**1.94**	**108**	*e*PG		**Pg**	**02 14 49.4**	**+0.6**
TREC	**Trest**	**2.04**	**250**	‖*e*PN		**Pn**	**02 14 47.5**	**+0.3**
TREC				*e*PG		**Pb**	**02 14 49.6**	**+0.1**
TREC				*e*SG		**Sb**	**02 15 16.8**	**+1.3**
	comp=Z,20nm,0.2s							
TREC	**Trest**	**2.04**	**250**	Pn		**Pn**	**02 14 47.5**	**+0.3**
KECS	**Kecovo**	**2.07**	**138**	*e*Pn		**Pn**	**02 14 48.1**	**+0.5**
KECS				*e*Sn		**Sn**	**02 15 13.1**	**-1.0**
KECS	**Kecovo**	**2.07**	**138**	*e*PN		**Pn**	**02 14 48.1**	**+0.5**
KECS				*e*SN		**Sn**	**02 15 13.1**	**-1.0**
KECS				*e*LG		Lg	02 15 18.3	
CRVS	**Cervenica-Dubn**	**2.29**	**119**	*e*Pg		**Pg**	**02 14 55.4**	**-0.1**
CRVS	**Cervenica-Dubn**	**2.29**	**119**	*e*PG		**Pg**	**02 14 55.4**	**-0.1**
PSZ	**Piszkesteto**	**2.34**	**155**	*e*Pn		**Pn**	**02 14 51.8**	**+0.4**
PSZ	**Piszkesteto**	**2.34**	**155**	*ex*		**Pn**	**02 14 51.8**	**+0.4**
PSZ				*ex*		x	02 15 27.2	
GOPC	**GO Pecny, Ondr**	**2.34**	**268**	*e*PN		**Pn**	**02 14 51.0**	**-0.3**
GOPC				*e*PG		**Pb**	**02 14 54.7**	**0.0**
GOPC				*e*SG		**Sb**	**02 15 25.8**	**+1.7**
	comp=Z,12nm,0.4s							
GOPC	**GO Pecny, Ondr**	**2.34**	**268**	Pn		**Pn**	**02 14 51.0**	**-0.3**
GOPC	**GO Pecny, Ondr**	**2.34**	**268**	Pg		**Pb**	**02 14 54.7**	**0.0**
GOPC				Sg		**Sb**	**02 15 25.8**	**+1.7**
	12nm,0.4s							
PRU	**Pruhonice**	**2.50**	**270**	‖*e*PN		**Pn**	**02 14 53.1**	**-0.3**
PRU				*e*PG		**Pb**	**02 14 57.8**	**+0.5**
PRU				*e*SG		**Sg**	**02 15 30.5**	**-1.2**
	comp=Z,10nm,0.6s							
PRU	**Pruhonice**	**2.50**	**270**	Pn		**Pn**	**02 14 53.1**	**-0.3**
PRU	**Pruhonice**	**2.50**	**270**	Pg		**Pb**	**02 14 57.8**	**+0.5**
PRU				Sg		**Sg**	**02 15 30.5**	**-1.2**
	10nm,0.6s							
PVCC	**Panska Ves**	**2.51**	**283**	‖*e*PG		**Pg**	**02 14 59.4**	**-0.3**
PVCC				*e*SG		**Sg**	**02 15 32.1**	**-0.1**
	comp=Z,25nm,0.4s							
PVCC	**Panska Ves**	**2.51**	**283**	Pg		**Pg**	**02 14 59.4**	**-0.3**
PVCC				Sg		**Sg**	**02 15 32.1**	**-0.1**
	25nm,0.4s							
PRA	**Prague**	**2.56**	**272**	‖*e*PG		**Pb**	**02 14 59.6**	**+1.2**
PRA				*e*SG		**Sg**	**02 15 33.2**	**-0.7**
	comp=Z,18nm,0.7s							
PRA	**Prague**	**2.56**	**272**	Pg		**Pb**	**02 14 59.6**	**+1.2**
PRA				Sg		**Sg**	**02 15 33.2**	**-0.7**
	18nm,0.7s							
CONA	**Conrad Observa**	**2.70**	**219**	Pn		**Pn**	**02 14 56.3**	**0.0**
	1.0nm,0.3s							
BRG	**Berggiesshubel**	**2.97**	**288**	PG		**Pg**	**02 15 08.1**	**-0.4**
BRG				SG		**Sg**	**02 15 48.2**	**+1.2**
	14nm,0.8s							
KHC	**Kasperske Hory**	**3.27**	**256**	*e*PN		**Pn**	**02 15 04.7**	**+0.5**
KHC				*e*PG		**Pg**	**02 15 13.2**	**-1.1**
KHC				*e*SG		**Sg**	**02 15 55.0**	**-1.7**
	comp=Z,21nm,0.6s							
KHC	**Kasperske Hory**	**3.27**	**256**	Pn		**Pn**	**02 15 04.7**	**+0.5**
GERES	**GERESS Array B**	**3.30**	**250**	Pn		**Pn**	**02 15 05.5**	**+0.9**
	0.1nm,0.3s,baz=65,slow=14,SNR=3.4							
GERES				Pg		**Pb**	**02 15 12.8**	**+1.8**
	1.3nm,0.3s,baz=68,slow=17,SNR=16							
GERES				Lg		Lg	02 15 56.5	
	2.1nm,0.3s,baz=66,slow=27,SNR=12							
ARSA	**Arzberg**	**3.39**	**216**	Pn		**Pn**	**02 15 06.6**	**+0.9**
	0.5nm,0.2s							
ARSA				Sg		**Sg**	**02 16 02.8**	**+2.5**
	1.6nm,0.3s							
MOA	**Molln**	**3.50**	**233**	Pn		**Pn**	**02 15 07.7**	**+0.4**
MOA				Sg		**Sg**	**02 16 03.6**	**-0.5**
CLL	**Collm**	**3.67**	**292**	*e*Pg		**Pg**	**02 15 23.0**	**+1.2**
CLL				*e*Sg		**Sg**	**02 16 10.0**	**+0.7**
	comp=Z,12nm,0.9s							
NKC	**Novy Kostel**	**3.84**	**275**	‖*e*PN		**Pn**	**02 15 11.3**	**-0.6**
NKC				*e*PG		**Pg**	**02 15 23.9**	**-1.2**
NKC				*e*SG		**Sg**	**02 16 14.3**	**-0.6**
	comp=Z,11nm,0.5s							
NKC	**Novy Kostel**	**3.84**	**275**	Pn		**Pn**	**02 15 11.3**	**-0.6**
KBA	**Koelnbreinsper**	**4.48**	**231**	Pn		**Pn**	**02 15 21.5**	**+0.6**
	comp=Z,0.4nm,0.3s							
DAVOX	**Davos/Dischmat**	**6.55**	**243**	Pn		**Pn**	**02 15 51.1**	**+1.8**
	comp=Z,0.3nm,0.3s,baz=52,slow=18,SNR=3.9							
DAVOX				Sn		Sb	02 17 16.7	-8.6
	comp=Z,0.2nm,0.3s,baz=127,slow=2.7,SNR=3.2							
DAVOX				Lg		Lg	02 17 43.6	
	comp=Z,0.3nm,0.3s,baz=154,slow=21,SNR=3.6							
FINES	**FINESS Array B**	**12.20**	**18**	Pn		**Pn**	**02 17 03.4**	**-3.1**
	comp=Z,0.1nm,0.3s,baz=200,slow=12,SNR=2.5							
BRTR	**Keskin Array B**	**14.90**	**128**	Pn		**P**	**02 17 48.6**	**-0.8**
	comp=Z,0.3nm,0.3s,baz=316,slow=16,SNR=8.5							

*ISCJB **07** 02:16:32.9±1.3, 24.3S±0.1×179.8E±0.2, h517km, mb3.7/4, Error ellipse: s-maj=25.5km s-min=15.7km az=177.4*

*IDC **07** 02:16:34.2±5.4, 24.3S×179.89E, h526km±60km, mb3.1/4, mb1 3.3/5, mb1mx3.1/21, mbtmp4.0/5, Error ellipse: s-maj=42.4km s-min=26.3km az=12.0*

ISC 07 02:16:33.3±1.1, 24.4S±0.1×179.9E±0.2, h517km, n8, σ0s83/9, mb3.7/4, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
URZ	**Urewera**	**14.06**	**189**	P		**P**	**02 19 34.0**	**+0.7**
	0.7nm,0.3s,baz=179,slow=5.5,SNR=3.5							
URZ				S		**S**	**02 22 00.6**	**-1.1**
	0.8nm,0.3s,baz=239,slow=8.7,SNR=6.1							
STKA	**Stephens Creek**	**34.49**	**249**	P		**P**	**02 22 38.8**	**+0.8**
	0.7nm,0.4s,baz=90,slow=9.1,SNR=5.3							
ASAR	**Alice Springs**	**41.90**	**261**	P		**P**	**02 23 38.3**	**-0.1**
	0.5nm,0.3s,baz=96,slow=7.9,SNR=7.6							
WRA	**Warramunga Arr**	**42.31**	**267**	P		**P**	**02 23 41.3**	**-0.4**
	1.2nm,0.3s,baz=97,slow=8.4,SNR=52							
TXAR	**Lajitas Array**	**90.73**	**58**	P		**P**	**02 28 41.6**	**+0.3**
	0.9nm,0.8s,baz=12,slow=6.5,SNR=11							
AKASG	**Malin Array Be**	**145.32**	**327**	PKPbc		**PKPdf**	**02 35 11.3**	**-0.4**
	1.0nm,0.5s,baz=45,slow=3.7,SNR=4.7							
BRTR	**Keskin Array B**	**147.80**	**307**	PKPbc		**PKPbc**	**02 35 19.1**	**-1.1**
	0.8nm,0.6s,baz=64,slow=3.4,SNR=5.4							
TORD	**Torodi Ar. Bea**	**168.72**	**189**	PKPab		**PKPab**	**02 36 55.2**	**+0.1**
	0.6nm,0.8s,baz=167,slow=3.8,SNR=6.3							

*ISCJB **07** 02:32:15.2±0.5, 44.84N±0.02×17.48E±0.02, h6km±3km, Error ellipse: s-maj=4.1km s-min=2.3km az=28.1*

*BEO **07** 02:32:15.8±0.3, 44.73N×17.42E, h5km±3km, M2.7/1*

*CSEM **07** 02:32:15.8±0.1, 44.82N×17.47E, h5km, ML2.7, Error ellipse: s-maj=3.5km s-min=1.8km az=30.0*

*VIE **07** 02:32:16.5±0.8, 44.81N×17.47E, h8km, mb2.5/5, ML2.5/9, Error ellipse: s-maj=9.7km s-min=5.1km az=12.0*

*PRU **07** 02:32:18.4, 44.88N×17.53E, h18km*

ISC 07 02:32:16.3±1.1, 44.81N±0.02×17.46E±0.02, h10km±8km, n69, σ0s91/113, 6C-1D, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
BLY	**Banja Luka**	**0.20**	**252**	*e*Pg		**Pg**	**02 32 19.9**	**-0.6**
BLY	**Banja Luka**	**0.20**	**252**	‖*i*Pg		**Pg**	**02 32 19.8**	**-0.7**
DOB	**Doboj**	**0.47**	**99**	*e*Pg		**Pg**	**02 32 24.6**	**-0.7**
DOB				*e*Sg		**Sg**	**02 32 31.8**	**+0.3**
SISC	**Sisak**	**1.01**	**311**	*e*Pg		**Pn**	**02 32 36.3**	**-0.2**
SISC				Sg		**Sb**	**02 32 50.1**	**+0.8**
SISC	**Sisak**	**1.01**	**311**	*e*Pg		**Pn**	**02 32 36.3**	**-0.2**
SISC				Sg		**Sb**	**02 32 50.0**	**+0.8**
UDBI	**Udbina**	**1.24**	**257**	*i*Pg		**Pn**	**02 32 38.0**	**-1.7**
UDBI				Sg		**Sb**	**02 32 55.8**	**-0.1**
UDBI	**Udbina**	**1.24**	**257**	*i*Pg		**Pn**	**02 32 38.0**	**-1.7**
UDBI				Sg		**Sb**	**02 32 55.7**	**-0.1**
TEKS	**Tekeris**	**1.50**	**99**	*e*P

IDC 07 03:02:33.1±15.0, 3°.62N×126°.59E, h98km±153km, mb3.6/7, mb1 3.7/7, mb1mx3.5/39, mbtmp3.9/7, MS3.1/1, Ms1 3.1/1, ms1mx2.5/34, Error ellipse: s-maj=73.1km s-min=21.9km az=71.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TGY	**Tagaytay City**	**11.81**	**332**	LR	LR	03 10 55.4	
	comp=Z,86nm,18.8s,baz=232,slow=42						
FITZ	**Fitzroy Crossi**	**21.61**	**182**	P	P	03 07 16.1	+0.8
	1.3nm,0.4s,baz=11,slow=12,SNR=12						
WRA	**Warramunga Arr**	**24.63**	**162**	P	P	03 07 43.5	-1.1
	3.6nm,0.6s,baz=343,slow=10,SNR=28						
ASAR	**Alice Springs**	**28.05**	**166**	P	P	03 08 15.7	+0.3
	0.5nm,0.4s,baz=343,slow=9.8,SNR=10						
STKA	**Stephens Creek**	**38.08**	**159**	P	P	03 09 42.5	+0.1
	2.1nm,0.5s,baz=339,slow=8.7,SNR=5.9						
KLR	**Kul'dur**	**45.65**	**5**	P	P	03 10 45.2	+1.4
	0.7nm,0.5s,baz=191,slow=6.5,SNR=4.5						
SONM	**Songino Array**	**47.35**	**342**	P	P	03 10 56.2	-1.1
	0.4nm,0.5s,baz=142,slow=7.3,SNR=2.9						
ZALV	**Zalesovo Beam**	**60.62**	**333**	P	P	03 12 33.4	-0.1
	0.9nm,0.3s,baz=142,slow=7.3,SNR=2.8						

GUC 07 03:11:01.8±0.5, 21°.68S×68°.66W, h131km±3km, ML3.5, 2C, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB09	**IPOC Station P**	**0.56**	**258**	⇑*i* P	Pn	03 11 22.0	+0.4
PB09				*e*S	Sn	03 11 37.4	+0.8
PB09				IAML		03 11 37.7	
	comp=N,2μm,0.3s						
LVC	**Limon Verde**	**0.96**	**194**	*e*P	Pn	03 11 25.0	+0.1
PB01	**IPOC Station P**	**1.00**	**309**	⇑*i* P	Pn	03 11 25.3	+0.4
PB01				*e*S	Sn	03 11 43.4	+0.9
PB01				IAML		03 11 47.1	
	comp=E,576nm,0.2s						
PB07	**IPOC Station P**	**1.14**	**267**	*e*P	Pn	03 11 27.1	+0.7
PB07				*e*S	Sn	03 11 46.1	+1.1
PB07				IAML		03 11 47.2	
	comp=N,1μm,0.2s						
PB06	**IPOC Station P**	**1.33**	**219**	*e*P	Pn	03 11 29.1	+0.8
PB04	**IPOC Station P**	**1.53**	**244**	*e*P	Pn	03 11 31.3	+0.8
PB04				*e*S	Sn	03 11 53.5	+1.1
PB04				IAML		03 11 55.2	
	comp=N,478nm,0.1s						
PB08	**IPOC Station P**	**1.60**	**343**	*e*P	Pn	03 11 32.4	+0.8
PB08				*e*P	Sn	03 11 54.9	+0.8
PB08				IAML		03 11 56.4	
	comp=E,339nm,0.2s						
PATCX	**Punta Patache**	**1.64**	**301**	*e*P	Pn	03 11 32.4	+0.8
PATCX				*e*S	Sn	03 11 55.4	+1.0
PATCX				IAML		03 11 57.0	
	comp=N,743nm,0.3s						
HMBC	**Humberstone**	**1.81**	**320**	*e*P	Pn	03 11 33.6	0.0
HMBC				*e*S	Sn	03 11 58.5	+0.5
HMBC				IAML		03 12 00.2	
	comp=N,792nm,0.2s						
PB11	**IPOC Station P**	**2.12**	**334**	*e*P	Pn	03 11 37.5	0.0
PB11				*e*S	Sn	03 12 05.1	+0.2

*ISCJB **07** 03:20:14.0±0.4, 4°.94S±0°.04×152°.41E±0°.06, h55km, mb4.7/34, MS3.5/12, Error ellipse: s-maj=8.0km s-min=6.2km az=12.5*
*IDC **07** 03:20:17.3±1.7, 4°.95S×152°.27E, h71km±14km, mb4.2/19, mb1 4.3/22, mb1mx4.3/32, mbtmp4.5/22, MS3.4/13, Ms1 3.4/13, ms1mx3.2/30, Error ellipse: s-maj=15.8km s-min=10.0km az=105.0*
*NEIC **07** 03:20:19.4±1.4, 5°.00S×152°.20E, h91km±12km, mb4.5/7, Error ellipse: s-maj=11.9km s-min=6.8km az=75.0*
*BJI **07** 03:20:20.4, 4°.96S×151°.89E, h94km, mb4.7/31, mB4.9/22*
*DJA **07** 03:20:23.1±0.8, 5°.5±4°×15°.2E±°, h97km±8km, M5.1/15, mb4.9/15, mB5.6/3, MLv5.1/1, Mw(mB)5.1/3*

ISC 07 03:20:15.5±0.5, 4°.94S±0°.06×152°.39E±0°.07, h55km, n65, σ1°64/73, mb4.7/33, MS3.4/12, 1D, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**6.83**	**229**	P	**Pn**	**03 21 55.2**	**+2.1**
	4.9nm,0.3s,baz=54,slow=14,SNR=11						
PMG				S	**Sn**	**03 23 10.0**	**+0.5**
	2.8nm,0.3s,baz=99,slow=19,SNR=3.1						
PMG				LR	LR	03 24 07.4	
	comp=Z,148nm,18.9s,baz=332,slow=34						
PMG	**Port Moresby**	**6.83**	**229**	*e*Pn	**Pn**	**03 21 52.6**	**-0.5**
	89nm,0.9s						
PMG				*e*S	**Sn**	**03 23 11.0**	**+1.4**
HNR	**Honiara**	**8.72**	**121**	LR	LR	03 26 15.6	
	comp=Z,241nm,18.8s,baz=311,slow=41						
JAY	**Jayapura**	**11.91**	**281**	P	**Pn**	**03 23 04.7**	**+1.9**
	0.0nm,0.3s,baz=262,slow=23,SNR=3.5						
JAY	**Jayapura**	**11.91**	**281**	P	**Pn**	**03 23 03.8**	**+1.1**
	12nm,0.7s						
GENI	**Genyem**	**12.42**	**280**	P	**Pn**	**03 23 12.4**	**+2.8**
SMPI	**Sarmi**	**13.96**	**282**	P	**Pn**	**03 23 32.5**	**+1.8**
CTA	**Charters Tower**	**16.20**	**201**	P	**P**	**03 24 01.0**	**-0.9**
	0.1nm,0.3s,baz=21,slow=13,SNR=5.4						
CTAO	**Charters Tower**	**16.20**	**201**	*e*Pn	**P**	**03 24 01.5**	**-0.5**
RKPI	**Ransiki, Papua**	**18.50**	**280**	P	**Pn**	**03 24 28.2**	**+0.1**
GUMO	**Guam**	**19.86**	**338**	P	**Pn**	**03 24 44.0**	**-0.3**
	7.5nm,0.3s,baz=199,slow=11,SNR=6.1						
GUMO				LR	LR	03 31 38.3	
	comp=Z,36nm,20.6s,baz=113,slow=34						
GUMO	**Guam**	**19.86**	**338**	*e*P	**Pn**	**03 24 44.5**	**+0.3**
FAKI	**Fak Fak**	**20.19**	**275**	P	**P**	**03 24 46.3**	**+0.4**
	86nm,1.1s						
FAKI	**Fak Fak**	**20.19**	**275**	*e*P	**P**	**03 24 45.3**	**-0.6**
	73nm,0.9s						
EIDS	**Eidsvold**	**20.35**	**183**	*e*P	**P**	**03 24 47.6**	**+0.1**
	14nm,0.8s						
SAUI	**Saumlaki**	**21.17**	**261**	P	**P**	**03 24 57.8**	**+1.3**
	191nm,0.9s						
SWI	**Sorong**	**21.48**	**280**	P	**P**	**03 25 00.7**	**+0.9**
DZM	**Mont Dzumac**	**21.80**	**143**	P	**P**	**03 25 04.6**	**+1.3**
	20nm,0.7s,baz=331,slow=13,SNR=18						
DZM				LR	LR	03 32 09.9	
	comp=Z,266nm,20.7s,baz=348,slow=33						
BNDI	**Bandanaira**	**22.41**	**270**	P	**P**	**03 25 10.5**	**+0.7**
	275nm,0.7s,9μm						
WRAB	**Tennant Creek**	**23.03**	**228**	*e*P	**P**	**03 25 14.6**	**-1.7**
	17nm,0.6s						
WRA	**Warramunga Arr**	**23.05**	**228**	P	**P**	**03 25 15.1**	**-1.3**
	12nm,0.4s,baz=52,slow=10.0,SNR=68						
WRA				S	**S**	**03 29 20.4**	**-2.9**
	9.9nm,1.3s,baz=50,slow=15,SNR=7.1						
WRA				ScP	**ScP**	**03 32 37.9**	**0.0**
	2.4nm,1.0s,baz=51,slow=2.6,SNR=7.2						
MSAI	**Masohi**	**23.45**	**273**	P	**P**	**03 25 20.4**	**0.0**
ASAR	**Alice Springs**	**25.77**	**222**	P	**P**	**03 25 41.1**	**-0.3**
	7.8nm,0.8s,baz=57,slow=9.1,SNR=46						
ASAR				ScP	**ScP**	**03 32 45.6**	**+0.2**
	1.3nm,1.1s,baz=45,slow=2.8,SNR=5.7						
ASAR				LR	LR	03 35 46.9	
	comp=Z,74nm,20.7s,baz=114,slow=36						
SANI	**Sanana**	**26.51**	**275**	P	**P**	**03 25 47.0**	**-1.2**
STKA	**Stephens Creek**	**28.65**	**199**	P	**P**	**03 26 06.6**	**-0.5**
	2.5nm,0.7s,baz=358,slow=13,SNR=4.5						
STKA				LR	LR	03 36 45.5	
	comp=Z,100nm,21.8s,baz=359,slow=35						
KMSI	**Cibinong**	**28.90**	**280**	P	**P**	**03 26 10.4**	**+0.8**
	222nm,0.5s						
FITZ	**Fitzroy Crossi**	**29.24**	**241**	P	**P**	**03 26 10.8**	**-1.6**
	8.2nm,0.7s,baz=65,slow=8.4,SNR=29						
FITZ	**Fitzroy Crossi**	**29.24**	**241**	*e*P	**P**	**03 26 09.0**	**-3.5**
	3.5nm,0.5s						
GTOI	**Gorontalo**	**29.86**	**280**	P	**P**	**03 26 19.8**	**+1.7**
MBWA	**Marble Bar**	**35.55**	**240**	*e*P	**P**	**03 27 06.0**	**-1.7**
	23nm,0.6s						
KKM	**Kota Kinabalu**	**37.73**	**286**	*e*P	**P**	**03 27 25.5**	**-1.0**
	2.9nm,0.4s						
URZ	**Urewera**	**40.08**	**149**	P	**P**	**03 27 46.9**	**+1.3**
	2.0nm,0.5s,baz=315,slow=16,SNR=4.2						
NACB	**Ninganchiao**	**41.68**	**315**	*e*P	**P**	**03 28 00.1**	**+1.0**
	9.3nm,0.5s						
MJAR	**Matsushiro Arr**	**43.34**	**343**	P	**P**	**03 28 11.5**	**-0.8**
	2.0nm,0.6s,baz=171,slow=7.4,SNR=6.0						
MJAR				LR	LR	03 43 58.2	
	comp=Z,45nm,21.9s,baz=205,slow=33						
KSRS	**Korea Array**	**47.94**	**334**	P	**P**	**03 28 48.2**	**-0.4**
	2.1nm,0.8s,baz=148,slow=8.9,SNR=8.4						
KSRS				LR	LR	03 47 39.8	
	comp=Z,17nm,19.4s,baz=182,slow=34						
KSAR	**Wonju Array Be**	**47.95**	**334**	P	**P**	**03 28 48.2**	**-0.4**
QIZ	**Qiongzhong**	**48.19**	**301**	P	**P**	**03 28 50.8**	**-0.1**
QIZ				S	**S**	**03 35 45.9**	**-0.6**
USRK	**Ussuriysk Ar.**	**52.25**	**342**	P	**P**	**03 29 21.1**	**-0.1**
	2.2nm,0.7s,baz=156,slow=8.1,SNR=5.3						
GYA	**Guiyang**	**54.15**	**308**	*e*P	**P**	**03 29 37.2**	**+1.5**
GYA				pmax	pmax		
	comp=Z,10.0nm,1.0s						
KMI	**Kunming**	**56.73**	**304**	P	**P**	**03 29 55.9**	**+1.6**
KMI				pmax	pmax		
	comp=Z,24nm,0.5s						
KMI				pmax	pmax		
	comp=Z,99nm,4.1s						
KLR	**Kul'dur**	**56.86**	**344**	LR	LR	03 51 43.0	
	comp=Z,38nm,21.8s,slow=33						
CMAR	**Chiang Mai Arr**	**57.57**	**295**	P	**P**	**03 29 59.6**	**-0.5**
	3.7nm,0.8s,baz=107,slow=5.4,SNR=15						
CMAR				LR	LR	03 53 24.6	
	comp=Z,28nm,20.4s,baz=194,slow=35						
PETK	**Petropavlovsk-**	**58.00**	**4**	P	**P**	**03 30 02.8**	**+0.3**
	2.8nm,0.7s,baz=169,slow=11,SNR=3.6						
PETK				LR	LR	03 51 08.7	
	comp=Z,49nm,19.5s,baz=213,slow=32						
CD2	**Chengdu**	**58.52**	**311**	*e*P	**P**	**03 30 09.0**	**+2.4**
CD2				pmax	pmax		
	comp=Z,10.0nm,0.8s						
HHC	**Hu-ho-hao-te**	**58.92**	**325**	*e*P	**P**	**03 30 12.8**	**+3.5**
HHC				S	**S**	**03 38 09.9**	**-1.6**
HHC				pmax	pmax		
	comp=Z,20nm,1.1s						
HHC				pmax	pmax		
	comp=Z,50nm,5.2s						
LZH	**Lanzhou**	**61.05**	**316**	*e*P	**P**	**03 30 23.1**	**-0.9**
LZH				pP	sP	03 30 47.5	+2.2
LZH				sP	PcP	03 30 58.4	-8.4
LZH				PP	**PP**	**03 32 40.6**	**+1.5**
LZH				pmax	pmax		
	comp=Z,20nm,1.3s						
LZH				pmax	pmax		
	comp=Z,78nm,7.2s						
LZH				LR	LR		
	comp=N,280nm,14.7s						
LZH				LR	LR		
	comp=E,280nm,15.2s						
LZH				LR	LR		
	comp=Z,370nm,18.3s						
MA2	**Magadan**	**64.33**	**359**	LR	LR	03 57 58.4	
	comp=Z,24nm,18.9s,baz=327,slow=35						
SONM	**Songino Array**	**66.22**	**328**	P	**P**	**03 30 58.6**	**+0.7**
	1.4nm,0.5s,baz=140,slow=5.8,SNR=11						
SONM				LR	LR	03 58 45.1	
	comp=Z,39nm,21.2s,baz=78,slow=35						
VNDA	**Vanda**	**72.71**	**178**	P	**P**	**03 31 37.5**	**+0.2**
	1.0nm,0.8s,baz=333,slow=6.4,SNR=6.9						
WMQ	**Urumqi**	**75.57**	**317**	P	**P**	**03 31 55.8**	**+1.2**
WMQ				PcP	**pP**	**03 32 09.6**	**-0.5**
WMQ				pP	sP	03 32 16.6	+0.4
WMQ				pmax	pmax		
	comp=Z,8.0nm,0.9s						
WMQ				pmax	pmax		
	comp=Z,140nm,4.1s						
WMQ				LR	LR		
	comp=N,25nm,15.7s						
WMQ				LR	LR		
	comp=E,26nm,17.3s						
ZALV	**Zalesovo Beam**	**81.04**	**326**	P	**P**	**03 32 23.6**	**-0.9**
	11nm,0.6s,baz=111,slow=5.4,SNR=28						
ILAR	**Eielson Array**	**82.44**	**22**	P	**P**	**03 32 30.2**	**-1.4**
	2.5nm,0.7s,baz=251,slow=5.4,SNR=25						
KSH	**Kashi**	**82.72**	**311**	*e*P	**P**	**03 32 35.5**	**+1.7**
KSH				pP	sP	03 33 00.6	+5.0
KSH				PP	**PP**	**03 35 48.6**	**+4.2**
KSH				S	**S**	**03 42 40.4**	**-7.3**
KSH				sS	sS	03 43 25.6	+11
KSH				SS	**SS**	**03 48 08.5**	**-2.6**
KSH				pmax	pmax		
	comp=Z,7.0nm,1.1s						
KSH				pmax	pmax		
	comp=Z,60nm,5.5s						
KSH				LR	LR		
	comp=N,82nm,5.4s						
KSH				LR	LR		
	comp=E,83nm,6.0s						
KSH				LR	LR		
	comp=Z,96nm,8.3s						
QSPA	**South Pole Qui**	**85.02**	**180**	*e*P	**P**	**03 32 44.8**	**-0.3**
	1.2nm,0.5s						
MAW	**Mawson**	**85.29**	**203**	P	**P**	**03 32 45.6**	**-0.5**
	1.2nm,0.5s,baz=18,slow=3.2,SNR=4.0						
NRIK	**Noril'sk**	**85.96**	**341**	P	**P**	**03 32 49.0**	**-0.4**
	3.5nm,0.5s,baz=102,slow=4.4,SNR=4.4						
BVAR	**Borovoye Array**	**89.11**	**323**	P	**P**	**03 33 04.5**	**-0.4**
	9.0nm,0.7s,baz=101,slow=5.8,SNR=14						
SYO	**Syowa Base**	**93.40**	**199**	‖*e*X	P	03 33 19.4	-5.1
PDAR	**Pinedale Array**	**99.24**	**48**	P	**Pdif**	**03 33 51.5**	**-0.4**
	0.7nm,0.6s,baz=225,slow=3.3,SNR=8.7						
CLL	**Collm**	**122.77**	**331**	*e*PKPdf	**PKPdf**	**03 39 05.0**	**-0.4**
GERES	**GERESS Array B**	**123.96**	**328**	PKP	**PKPdf**	**03 39 06.9**	**-1.0**
	1.1nm,0.5s,baz=62,slow=2.0,SNR=8.4						
EKA	**Eskdalemuir Ar**	**126.05**	**343**	PKP	**PKPdf**	**03 39 10.7**	**-0.8**
	0.8nm,0.5s,baz=24,slow=2.6,SNR=5.0						
DAVOX	**Davos/Dischmat**	**127.26**	**328**	PKP	**PKPdf**	**03 39 14.0**	**-0.3**
	1.2nm,0.4s,baz=264,slow=1.3,SNR=2.9						
LPAZ	**La Paz**	**134.71**	**119**	PKP	**PKPdf**	**03 39 30.1**	**+0.2**
	0.6nm,0.5s,baz=135,slow=1.4,SNR=4.6						
TORD	**Torodi Ar. Bea**	**149.96**	**288**	PKPbc	**PKPbc**	**03 39 59.5**	**-1.4**
	7.1nm,0.6s,baz=75,slow=3.1,SNR=75						

*NIED **07** 03:50:00, 36°.90N×142°.40E, h5km, Mw3.5 Best double couple: M0 2.25000×10^14 NP1:φ=8 316.00000°, δ=23.00000°, λ=143.00000°. NP2:φ=8 1.00000°, δ=76.00000°, λ=71.00000°.*
*JMA **07** 03:50:42.3±0.4, 36°.86N×142°.38E, h2km±4km, M3.6*
*ISCJB **07** 03:50:43.4±0.8, 36°.79N±0°.05×142°.42E±0°.06, h15km, mb3.5/3, Error ellipse: s-maj=7.5km s-min=6.8km az=175.4*
*IDC **07** 03:50:43.5±1.4, 36°.80N×142°.32E, h0km, mb3.5/3, mb1 3.6/5, mb1mx3.4/46, mbtmp3.5/5, ML3.3/2, Error ellipse: s-maj=30.3km s-min=26.0km az=125.0*

ISC 07 03:50:45.1±1.1, 36°.82N±0°.05×142°.35E±0°.07, h15km, n19, σ1°37/18, mb3.5/3, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ONAJ	**Iwakimizuishiy**	**1.27**	**283**	P	**Pn**	**03 51 06.6**	**-1.9**
ONAJ				*e*S	**Sb**	**03 51 24.9**	**-0.2**
JFK	**Kawauchi**	**1.30**	**295**	*e*S	**Sb**	**03 51 25.1**	**-0.7**
JHO	**Hitachi**	**1.45**	**262**	P	**Pn**	**03 51 09.7**	**-1.1**
JIO	**Ouri**	**1.81**	**334**	P	**Pn**	**03 51 14.9**	**-0.9**
JIO				*e*S	**Sn**	**03 51 37.7**	**-0.8**
JMK	**Ichinoseki**	**2.31**	**338**	P	**Pn**	**03 51 22.3**	**-0.3**
BSO1	**Boso 1**	**2.43**	**208**	P	**Pn**	**03 51 24.9**	**+1.1**
JOM	**Ohasama**	**2.78**	**343**	P	**Pn**	**03 51 28.7**	**-0.4**
MJAR	**Matsushiro Arr**	**3.34**	**266**	Pn	**Pn**	**03 51 38.3**	**+1.5**
	2.4nm,0.3s,baz=88,slow=14,SNR=11						
MJAR				Sn	**Sn**	**03 52 16.0**	**-0.3**
	1.3nm,0.3s,baz=75,slow=14,SNR=4.6						
MAT	**Matsushiro**	**3.34**	**266**	P	**Pn**	**03 51 38.5**	**+1.6**
MAT				S	**Sn**	**03 52 18.2**	**+1.9**
JHJ	**Hachijo jima 2**	**4.25**	**210**	Pn	**Pn**	**03 51 47.6**	**-1.8**
	7.9nm,0.3s,baz=320,slow=22,SNR=5.2						
JHJ				Sn	**Sn**	**03 52 36.0**	**-2.7**
	8.8nm,0.3s,baz=82,slow=23,SNR=2.8						
H11N2	**WAKE ISLAND Hy**	**27.40**	**122**	T	T	04 25 19.5	
	baz=314,slow=75,SNR=24						
H11N1	**WAKE ISLAND Hy**	**27.40**	**122**	T	T	04 25 16.6	
	baz=314,slow=75,SNR=20						
H11N3	**WAKE ISLAND Hy**	**27.41**	**122**	T	T	04 25 21.0	
	baz=314,slow=75,SNR=20						
H11S1	**WAKE ISLAND Hy**	**28.12**	**124**	T	T	04 26 14.9	
	baz=316,slow=76,SNR=15						
H11S3	**WAKE ISLAND Hy**	**28.12**	**124**	T	T	04 26 10.1	
	baz=316,slow=76,SNR=13						
H11S2	**WAKE ISLAND Hy**	**28.13**	**124**	T	T	04 26 15.8	
	baz=316,slow=76,SNR=11						
SONM	**Songino Array**	**28.53**	**304**	P	**P**	**03 56 40.0**	**-0.1**
	1.0nm,0.7s,baz=101,slow=7.5,SNR=5.8						
ILAR	**Eielson Array**	**49.27**	**32**	P	**P**	**03 59 33.8**	**+0.9**
	0.2nm,0.6s,baz=268,slow=5.1,SNR=4.2						
WRA	**Warramunga Arr**	**56.96**	**189**	P	**P**	**04 00 30.7**	**+0.8**
	0.4nm,0.8s,baz=6.8,slow=7.0,SNR=3.1						

*ISK **07** 03:59:11.8, 38°.45N×28°.32E, h7km, MD2.8*

*ISCJB **07** 03:59:12.2±0.5, 38°.44N±0°.04×28°.35E±0°.05, h9km, Error ellipse: s-maj=7.1km s-min=4.2km az=43.4*
*DDA **07** 03:59:12.4, 38°.45N×28°.34E, h7km, Ml2.8*
*CSEM **07** 03:59:12.4±0.1, 38°.45N×28°.33E, h5km, ML2.8, Error ellipse: s-maj=3.5km s-min=2.6km az=130.0*

ISC 07 03:59:12.4±0.9, 38°.45N±0°.03×28°.34E±0°.03, h9km, n25, σ0°55/32, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MANT	**Manisa**	**0.18**	**78**	*i* P	**Pg**	03 59 09.7	-6.6
KULA	**Kula-Manisa**	**0.26**	**76**	*e*PG	**Pg**	**03 59 18.2**	**+0.5**
KULA				*e*SG	**Sg**	**03 59 21.8**	**+0.5**
KULA	**Kula-Manisa**	**0.26**	**76**	*e*Pg	**Pg**	**03 59 18.2**	**+0.5**
KULA				*e*Sg	**Sg**	**03 59 21.8**	**+0.5**
AYDB	**Zeytinkoy-Aydi**	**0.61**	**215**	*e*PG	**Pg**	**03 59 24.0**	**-0.3**
AYDB				*e*SG	**Sg**	**03 59 32.3**	**-0.1**
AYDB	**Zeytinkoy-Aydi**	**0.61**	**215**	*e*Pg	**Pg**	**03 59 24.0**	**-0.3**
AYDB				*e*Sg	**Sg**	**03 59 32.3**	**-0.1**
DEMI	**Demirci**	**0.66**	**27**	*i* P	**Pg**	**03 59 24.8**	**-0.4**
DEMI				*i* S	**Sg**	**03 59 33.0**	**-0.8**
DEMI	**Demirci**	**0.66**	**27**	P	**Pg**	**03 59 24.8**	**-0.4**
DEMI				S	**Sg**	**03 59 33.0**	**-0.8**
SIMA	**Simav-Kutahya**	**0.81**	**39**	*e*PG	**Pg**	**03 59 27.7**	**-0.3**
SIMA	**Simav-Kutahya**	**0.81**	**39**	*e*Pg	**Pg**	**03 59 27.7**	**-0.3**
DNZL	**Cakiroluk**	**0.95**	**143**	*i* P	**Pg**	**03 59 31.0**	**+0.4**
DNZL	**Cakiroluk**	**0.95**	**143**	P	**Pg**	**03 59 31.0**	**+0.4**
BALB	**Balikesir**	**1.24**	**343**	*e*PN	**Pn**	**03 59 36.0**	**+0.1**
BALB	**Balikesir**	**1.24**	**343**	*e*Pn	**Pn**	**03 59 36.0**	**+0.1**
DKL	**Dikili**	**1.28**	**299**	*e*PN	**Pg**	**03 59 37.0**	**+0.1**
DKL	**Dikili**	**1.28**	**299**	*e*Pn	**Pg**	**03 59 37.0**	**+0.1**
TVSB	**Tavsanli**	**1.33**	**41**	*e*PN	**Pb**	**03 59 37.6**	**+0.1**
TVSB				*e*SN	**Sg**	**03 59 55.8**	**+0.7**
TVSB	**Tavsanli**	**1.33**	**41**	*e*Pn	**Pb**	**03 59 37.7**	**+0.1**
TVSB				*e*Sn	**Sg**	**03 59 55.8**	**+0.7**
URLA	**Izmir**	**1.37**	**267**	*e*PN	**Pn**	**03 59 37.8**	**+0.1**
URLA	**Izmir**	**1.37**	**267**	*e*Pn	**Pn**	**03 59 37.8**	**+0.1**
BALY	**Balya**	**1.40**	**337**	*i* P	**Pg**	**03 59 39.3**	**0.0**
BALY	**Balya**	**1.40**	**337**	P	**Pg**	**03 59 39.3**	**0.0**
KCTX	**Karacabey (Bur**	**1.81**	**1**	*e*PN	**Pn**	**03 59 44.5**	**+0.7**
KCTX	**Karacabey (Bur**	**1.81**	**1**	*e*Pn	**Pn**	**03 59 44.5**	**+0.7**
BORA	**Eskisehir**	**2.18**	**48**	*i* P	**Pg**	**03 59 53.8**	**-0.3**
KDHN	**Kadinhani**	**2.97**	**88**	*i* P	**Pn**	**03 59 57.9**	**-1.8**

IDC 07 04:06:06.3±5.6, 3°.95S×141°.71E, h168km±59km, mb3.0/2, mb1 3.4/3, mb1mx3.1/24, mbtmp3.7/3, Error ellipse: s-maj=135.1km s-min=21.9km az=102.0, New Guinea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAY	**Jayapura**	**1.75**	**325**	P	Pn	04 06 40.0	+0.1
	0.3nm,0.3s,baz=88,slow=23,SNR=11						
JAY				S	Sn	04 07 05.8	+0.1
	0.5nm,0.3s,baz=90,slow=20,SNR=9.1						
WRA	**Warramunga Arr**	**17.44**	**204**	P	P	04 09 58.3	0.0
	0.7nm,0.3s,baz=25,slow=12,SNR=30						
ASAR	**Alice Springs**	**21.00**	**200**	P	P	04 10 36.7	0.0
	0.6nm,0.5s,baz=29,slow=12,SNR=5.3						
ILAR	**Eielson Array**	**85.73**	**24**	P	P	04 18 26.1	0.0
	0.5nm,0.6s,baz=260,slow=4.7,SNR=5.7						

*ISCJB **07** 04:23:05.8±0.6, 24°.85N±0°.03×121°.87E±0°.02, h110km±4km, Error ellipse: s-maj=5.8km s-min=2.9km az=162.1*
*JMA **07** 04:23:05.8±0.1, 24°.79N×121°.82E, h107km±2km, M3.3*
*TAP **07** 04:23:06.2, 24°.85N×121°.86E, h106km, ML4.0, B*

ISC 07 04:23:05.6±1.6, 24°.87N±0°.06×121°.85E±0°.03, h112km±8km, n57, σ0°71/105, 2C-19D, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EGS		**0.08**	**112**	*e*P	**Pn**	**04 23 21.5**	**+0.5**
	baz=95						
EGS				*e*S	**Sn**	**04 23 32.3**	**-0.4**
	baz=95						
ILA	**Ilan**	**0.14**	**221**	*e*P	**Pn**	**04 23 21.6**	**+0.4**
	baz=214						
ILA				*e*S	**Sn**	**04 23 32.7**	**-0.1**
	baz=214						
TWB1	**Santiao Chiao**	**0.18**	**43**	⇑*i* P	**Pn**	**04 23 21.4**	**+0.2**
	baz=46						
TWB1				*i* S	**Sn**	**04 23 32.1**	**-0.9**
	baz=46						
NWF	**Wu-fen Shan**	**0.21**	**342**	*e*P	**Pn**	**04 23 21.5**	**0.0**
	baz=348						
NWF				*e*S	**Sn**	**04 23 32.5**	**-0.9**
	baz=348						
TWE	**Neicheng**	**0.23**	**228**	⇓*i* P	**Pn**	**04 23 21.9**	**+0.5**
	baz=245						
TWE				S	**Sn**	**04 23 33.8**	**+0.6**
	baz=245						
TWC	**Suao**	**0.26**	**181**	P	**Pn**	**04 23 22.0**	**+0.5**
	baz=173						
TWC				S	**Sn**	**04 23 32.9**	**-0.5**
	baz=173						
TWA	**Mucha**	**0.27**	**294**	⇓*i* P	**Pn**	**04 23 21.9**	**+0.4**
	baz=298						
TWA				S	**Sn**	**04 23 33.3**	**-0.2**
	baz=298						
TAP1	**Taipei**	**0.34**	**299**	⇓P	**Pn**	**04 23 21.9**	**+0.2**
	baz=302						
TAP1				*i*

TWQ1	**Liyutan** baz=232	**1.11 242**	⇓*i*P	**Pn**	**04 23 28.7**	**+0.5**
TWQ1	baz=232		*i* S	**Sn**	**04 23 44.5**	**-0.7**
ESL	**Shilin** baz=196	**1.12 200**	*e*P	**Pn**	**04 23 27.5**	**-0.8**
YOJ	**Yonaguni jima** baz=114	**1.13 111**	⇓*i*P	**Pn**	**04 23 28.5**	**+0.1**
YOJ	baz=114		S	**Sn**	**04 23 44.2**	**-1.3**
YOJ	**Yonaguni jima**	**1.13 111**	P	**Pn**	**04 23 28.5**	**+0.1**
YOJ			*e*S	**Sn**	**04 23 45.0**	**-0.6**
TCU	**Taichung** baz=234	**1.29 236**	*e*P	**Pn**	**04 23 30.5**	**+0.4**
TCU	baz=234		S	**Sn**	**04 23 49.1**	**+0.3**
WDT	**Danda** baz=216	**1.29 211**	P	**Pn**	**04 23 31.1**	**+0.6**
WDT	baz=216		*e*S	**Sn**	**04 23 49.4**	**+0.1**
SMLT	**Sun Moon Lake** baz=227	**1.31 222**	P	**Pn**	**04 23 31.4**	**+0.8**
SMLT	baz=227		*e*S	**Sn**	**04 23 49.5**	**+0.1**
TYC	**Yuchr** baz=228	**1.32 223**	⇓*i*P	**Pn**	**04 23 31.3**	**+0.8**
TYC	baz=228		S	**Sn**	**04 23 49.6**	**+0.2**
WNT	**Mingjian** baz=224	**1.46 227**	P	**Pn**	**04 23 32.6**	**+0.6**
WNT	baz=224		S	**Sn**	**04 23 52.6**	**+0.5**
TWF1	**Yuli** baz=197	**1.60 199**	*e*P	**Pn**	**04 23 33.0**	**-0.8**
YUS	**Yu-Shan** baz=217	**1.60 211**	⇓*i*P	**Pn**	**04 23 35.8**	**+1.5**
YUS	baz=217		S	**Sn**	**04 23 57.7**	**+1.6**
ALS	**Alishan** baz=211	**1.66 215**	⇓P	**Pn**	**04 23 35.8**	**+1.0**
ALS	baz=211		S	**Sn**	**04 23 58.1**	**+1.1**
CHN5	**Tsauling** baz=217	**1.66 220**	⇓*i*P	**Pn**	**04 23 35.5**	**+0.8**
CHN5	baz=217		S	**Sn**	**04 23 57.4**	**+0.7**
WGK	**Gukeng** baz=231	**1.67 225**	P	**Pn**	**04 23 35.1**	**+0.5**
WGK	baz=231		*e*S	**Sn**	**04 23 57.4**	**+0.8**
IRIF	**Iriomote-Funau**	**1.79 107**	P	**Pn**	**04 23 36.5**	**+0.4**
IRIF			S	**Sn**	**04 23 58.8**	**-0.5**
ELDTW	**Lidau** baz=197	**1.84 205**	*e*P	**Pn**	**04 23 36.9**	**+0.1**
CHY	**Chiayi** baz=228	**1.89 224**	⇓*i*P	**Pn**	**04 23 38.1**	**+0.8**
CHY	baz=228		*i* S	**Sn**	**04 24 01.7**	**+0.2**
HATJ	**Hateruma jima**	**1.96 114**	P	**Pn**	**04 23 39.0**	**+0.8**
HATJ			*e*S	**Sn**	**04 24 03.1**	**+0.1**
STYT	**Tauyuan** baz=209	**1.98 211**	*e*P	**Pn**	**04 23 39.3**	**+0.8**
WTP	**Ta-pu** baz=212	**1.98 215**	P	**Pn**	**04 23 39.2**	**+0.8**
WTP	baz=212		*e*S	**Sn**	**04 24 03.0**	**-0.6**
TWK	**Hsinying** baz=214	**2.03 218**	⇓P	**Pn**	**04 23 39.7**	**+0.5**
TWK	baz=214		*e*S	**Sn**	**04 24 04.3**	**-0.4**
JKRS	**Kuro-shima**	**2.06 107**	P	**Pn**	**04 23 40.1**	**+0.6**
JKRS			S	**Sn**	**04 24 05.1**	**-0.3**
CHN1	**Nanshi** baz=212	**2.07 216**	P	**Pn**	**04 23 40.4**	**+0.7**
CHN1	baz=212		*e*S	**Sn**	**04 24 05.5**	**-0.1**
SGST	**Jiashian** baz=216	**2.13 213**	*e*P	**Pn**	**04 23 41.0**	**+0.6**
SGST	baz=216		*e*S	**Sn**	**04 24 07.0**	**0.0**
JIJ	**Ishigaki jima**	**2.15 103**	P	**Pn**	**04 23 40.9**	**+0.3**
JIJ			S	**Sn**	**04 24 06.3**	**-1.0**
TWG	**Pinlang** baz=191	**2.17 199**	*e*P	**Pn**	**04 23 40.4**	**-0.5**
JISG	**Ishigakijimahi**	**2.25 97**	P	**Pn**	**04 23 42.6**	**+0.7**
JISG			S	**Sn**	**04 24 09.4**	**-0.4**
PNG	**Penghu** baz=235	**2.47 239**	*e*P	**Pn**	**04 23 44.5**	**-0.2**
PNG	baz=235		*e*S	**Sn**	**04 24 12.7**	**-2.0**
WDGT	**Dungji** baz=228	**2.57 232**	*e*P	**Pn**	**04 23 44.4**	**-1.6**
WDGT	baz=228		*e*S	**Sn**	**04 24 15.3**	**-1.8**
JTJ	**Tarama**	**2.60 95**	P	**Pn**	**04 23 47.5**	**+1.1**
JTJ			S	**Sn**	**04 24 18.3**	**+0.5**
EAST	**Anshuo** baz=192	**2.65 201**	*e*P	**Pn**	**04 23 48.4**	**+1.3**
SCZT	**Fangliau** baz=203	**2.73 205**	*e*P	**Pn**	**04 23 47.1**	**-1.1**
LAY	**Lan-yu** baz=180	**2.84 186**	*e*P	**Pn**	**04 23 49.1**	**-0.5**
SGST	baz=264		*i* S	**Sn**	**04 25 38.5**	**-0.4**
SMLT	**Sun Moon Lake** baz=325	**1.07 314**	*i* P	**Pb**	**04 25 26.4**	**+0.6**
SMLT	baz=325		*i* S	**Sn**	**04 25 38.0**	**-1.1**
CHN5	**Tsauling** baz=298	**1.07 295**	P	**Pb**	**04 25 26.4**	**+0.5**
CHN5	baz=298		*i* S	**Sn**	**04 25 39.2**	**0.0**
WHF	**Hehuan Shan** baz=359	**1.09 337**	*e*P	**Pb**	**04 25 26.5**	**+0.1**
WHF	baz=359		S	**Sn**	**04 25 39.3**	**-0.8**
LAY	**Lan-yu** baz=170	**1.11 189**	*e*P	**Pb**	**04 25 27.7**	**+1.3**
TYC	**Yuchr** baz=328	**1.11 314**	⇓*i*P	**Pb**	**04 25 26.8**	**+0.3**
TYC	baz=328		S	**Sn**	**04 25 39.7**	**-0.2**
EAST	**Anshuo** baz=219	**1.11 228**	*e*P	**Pb**	**04 25 27.2**	**+0.7**
CHN1	**Nanshi** baz=266	**1.11 273**	⇑P	**Pb**	**04 25 27.0**	**+0.6**
CHN1	baz=266		*i* S	**Sn**	**04 25 40.3**	**+0.3**
TWK	**Hsinying** baz=275	**1.15 277**	⇑P	**Pb**	**04 25 27.4**	**+0.2**
TWK	baz=275		S	**Sn**	**04 25 41.1**	**-0.1**
WGK	**Gukeng** baz=311	**1.21 297**	*e*P	**Pb**	**04 25 28.6**	**+0.5**
WGK	baz=311		*e*S	**Sn**	**04 25 42.8**	**+0.4**
WNT	**Mingjian** baz=313	**1.21 308**	*e*P	**Pb**	**04 25 29.2**	**+1.0**
WNT	baz=313		*e*S	**Sb**	**04 25 43.2**	**-0.3**
SGLT	**Jiouru** baz=245	**1.22 251**	*e*P	**Pb**	**04 25 30.5**	**+2.3**
CHN2	**Minshiung** baz=277	**1.22 289**	*e*P	**Pb**	**04 25 28.6**	**+0.3**
CHN2	baz=277		*e*S	**Sb**	**04 25 43.4**	**-0.3**
TWT	**Tachien** baz=333	**1.22 335**	*e*P	**Pb**	**04 25 28.5**	**+0.1**
TWM1	**Shoushan** baz=251	**1.25 256**	*e*P	**Pb**	**04 25 30.5**	**+1.7**
CHY	**Chiayi** baz=287	**1.26 287**	*e*P	**Pb**	**04 25 29.1**	**+0.2**
CHY	baz=287		S	**Sn**	**04 25 43.7**	**+0.1**
CHN3	**Shinhua** baz=277	**1.26 267**	*e*P	**Pb**	**04 25 28.9**	**-0.1**
SCZT	**Fangliau** baz=225	**1.28 234**	*e*P	**Pb**	**04 25 29.6**	**+0.3**
SCZT	baz=225		*e*S	**Sb**	**04 25 46.2**	**+0.8**
ENA	**Nanau** baz=18	**1.28 0**	*e*P	**Pb**	**04 25 30.0**	**+0.6**
NNS	**Nan Shan** baz=4.0	**1.34 346**	*e*P	**Pb**	**04 25 30.3**	**-0.1**
TCU	**Taichung** baz=309	**1.40 316**	*e*P	**Pb**	**04 25 31.5**	**+0.2**
TCU	baz=309		*e*S	**Sn**	**04 25 47.8**	**+0.7**
CHN8	**Yiju** baz=278	**1.42 279**	P	**Pb**	**04 25 31.1**	**-0.5**
CHN8	baz=278		S	**Sn**	**04 25 47.8**	**+0.3**
TSEB	**Hengchuen, Pin** baz=207	**1.45 212**	*e*P	**Pb**	**04 25 33.1**	**+0.9**
TWK1	**Hengchun** baz=209	**1.47 216**	*e*P	**Pb**	**04 25 32.2**	**-0.3**
TWC	**Suao** baz=14	**1.47 4**	*e*P	**Pb**	**04 25 32.6**	**+0.1**
TWC	baz=14		*e*S	**Sb**	**04 25 51.4**	**+0.6**
WSF	**Szhu** baz=291	**1.48 290**	*e*P	**Pb**	**04 25 32.3**	**-0.3**
WSF	baz=291		*e*S	**Sn**	**04 25 48.3**	**-0.7**
TWP	**Hsiaoliuchiu** baz=234	**1.49 238**	*e*P	**Pb**	**04 25 35.1**	**+2.2**
TWQ1	**Liyutan** baz=331	**1.49 324**	*e*P	**Pb**	**04 25 33.8**	**+0.9**
TWQ1	baz=331		*e*S	**Sb**	**04 25 51.3**	**-0.2**
ENTT	**Nioudou** baz=3.0	**1.50 354**	*e*P	**Pb**	**04 25 33.0**	**-0.1**
WTCT	**Tai-ch'eng** baz=301	**1.52 299**	*e*P	**Pb**	**04 25 34.0**	**+0.7**
WTCT	baz=301		S	**Sn**	**04 25 50.2**	**+0.1**
NSY	**Sanyi** baz=333	**1.55 325**	*e*P	**Pb**	**04 25 34.5**	**+0.5**
NSY	baz=333		*e*S	**Sb**	**04 25 53.4**	**+0.1**
NSK	**Sanguang** baz=357	**1.57 347**	*e*P	**Pb**	**04 25 34.5**	**+0.2**
NSK	baz=357		*e*S	**Sn**	**04 25 51.9**	**+0.5**
TWE	**Neicheng** baz=7.0	**1.58 358**	*e*P	**Pb**	**04 25 35.0**	**+0.7**
NSTT	**Nanjuang** baz=344	**1.63 336**	*e*P	**Pb**	**04 25 36.0**	**+0.7**
NSTT	baz=344		*e*S	**Sb**	**04 25 54.5**	**-1.0**
EGS	baz=14	**1.71 6**	*e*P	**Pb**	**04 25 37.2**	**+0.6**
JYNG	**Yonagunijimaku**	**1.71 40**	P	**Pb**	**04 25 38.3**	**+1.6**
JYNG			*e*S	**Sb**	**04 25 59.8**	**+1.9**
YOJ	**Yonaguni jima** baz=56	**1.76 41**	P	**Pb**	**04 25 38.7**	**+1.2**
YOJ	baz=56		*e*S	**Sb**	**04 26 00.1**	**+0.9**
YOJ	**Yonaguni jima**	**1.76 41**	P	**Pb**	**04 25 38.9**	**+1.4**
YOJ			*e*S	**Sb**	**04 26 01.2**	**+2.0**
TWB1	**Santiao Chiao** baz=15	**1.88 7**	*e*P	**Pb**	**04 25 40.1**	**+0.7**
WDGT	**Dungji** baz=273	**1.91 274**	P	**Pn**	**04 25 37.0**	**+0.4**
NWF	**Wu-fen Shan** baz=9.0	**1.93 1**	*e*P	**Pb**	**04 25 40.6**	**+0.2**
PNG	**Penghu** baz=269	**2.05 282**	⇑*i*P	**Pn**	**04 25 39.0**	**+0.5**
PNG	baz=269		*i* S	**Sn**	**04 26 00.6**	**-2.5**
HATJ	**Hateruma jima**	**2.11 64**	P	**Pb**	**04 25 44.0**	**+0.6**
HATJ			S	**Sb**	**04 26 09.7**	**+0.5**
IRIF	**Iriomote-Funau**	**2.18 57**	P	**Pb**	**04 25 45.1**	**+0.4**
IRIF			*e*S	**Sb**	**04 26 12.7**	**+1.4**
JKRS	**Kuro-shima**	**2.36 62**	P	**Pb**	**04 25 47.7**	**+0.1**
JKRS			S	**Sb**	**04 26 16.0**	**-0.3**
JIJ	**Ishigaki jima**	**2.52 61**	P	**Pb**	**04 25 49.2**	**-1.3**
JIJ			S	**Sb**	**04 26 19.4**	**-1.7**
JISG	**Ishigakijimahi**	**2.77 58**	P	**Pb**	**04 25 52.5**	**-2.1**
JISG			S	**Sb**	**04 26 25.3**	**-2.8**
JTJ	**Tarama**	**3.10 61**	P	**Pb**	**04 25 57.3**	**-3.0**
JTJ			S	**Sb**	**04 26 34.7**	**-3.0**

*ISCJB **07** 04:25:08.9±0.3,23°.16N±0°.02×121°.62E±0°.02,h33km±9km, Error ellipse: s-maj=3.7km s-min=2.6km az=160.4*
*TAP **07** 04:25:08.8,23°.18N×121°.55E,h40km,ML3.7,B*
*JMA **07** 04:25:08.0±0.1,23°.17N×121°.50E,h46km±3km,M3.5*

ISC 07 04:25:05.9±1.1,23°.14N±0°.03×121°.73E±0°.02,h28km±12km, n63,σ1s07/105,9C-5D,Taiwan

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CHKT	**Chengkung** baz=242	**0.34 264**	⇓P	**Pn**		**04 25 16.0**	**+1.0**
CHKT	baz=242			*i* S	**Sn**	**04 25 21.0**	**0.0**
TWF1	**Yuli** baz=296	**0.46 298**	⇓*i*P	**Pn**		**04 25 17.0**	**+0.4**
TWF1	baz=296			S	**Sn**	**04 25 23.9**	**0.0**
EHY	**Hungye** baz=317	**0.53 314**	P	**Pn**		**04 25 17.8**	**+0.2**
EHY	baz=317			*e*S	**Sn**	**04 25 25.4**	**-0.2**
ELDTW	**Lidau** baz=271	**0.66 275**	⇑*i*P	**Pb**		**04 25 19.0**	**+0.1**
ELDTW	baz=271			*e*S	**Sb**	**04 25 25.6**	**-2.3**
TTN	**Taitung** baz=231	**0.66 235**	*e*P	**Pn**		**04 25 20.8**	**+1.4**
TWG	**Pinlang** baz=241	**0.69 243**	⇑P	**Pn**		**04 25 19.9**	**+0.1**
TWG	baz=241			*e*S	**Sb**	**04 25 27.3**	**-1.2**
ESL	**Shilin** baz=341	**0.73 338**	*e*P	**Pn**		**04 25 20.8**	**+0.5**
YUS	**Yu-Shan** baz=300	**0.80 296**	⇓*i*P	**Pn**		**04 25 22.1**	**+0.3**
YUS	baz=300			S	**Sb**	**04 25 30.2**	**-2.0**
WDT	**Danda** baz=328	**0.83 318**	⇓*i*P	**Pb**		**04 25 22.4**	**+0.5**
WDT	baz=328			S	**Sb**	**04 25 31.4**	**-1.4**
HWA	**Hwalien** baz=14	**0.84 352**	*e*P	**Pb**		**04 25 23.4**	**+1.5**
ECL	**Taimali** baz=230	**0.90 233**	*e*P	**Pn**		**04 25 22.8**	**+0.1**
STYT	**Tauyuan** baz=263	**0.90 272**	⇑P	**Pb**		**04 25 22.9**	**0.0**
STYT	baz=263			*i* S	**Sb**	**04 25 32.6**	**-2.0**
ALS	**Alishan** baz=297	**0.93 294**	⇑*i*P	**Pb**		**04 25 24.4**	**+0.8**
ALS	baz=297			*i* S	**Sb**	**04 25 34.7**	**-1.0**
TWD	**Chiawan** baz=353	**0.95 352**	P	**Pb**		**04 25 25.0**	**+1.3**
TWD	baz=353			S	**Sb**	**04 25 37.0**	**+1.1**
WTP	**Ta-pu** baz=269	**1.04 276**	⇑*i*P	**Pb**		**04 25 25.6**	**+0.4**
WTP	baz=269			*i* S	**Sn**	**04 25 37.7**	**-0.5**
SGST	**Jiashian** baz=264	**1.06 267**	⇑*i*P	**Pb**		**04 25 26.3**	**+0.7**

TAP 07 04:26:17.9,23°.16N×121°.48E,h37km±1km,ML3.6,C, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CHKT	**Chengkung** baz=240	**0.12 241**	*e*P		Pn	04 26 24.4	-6.1
TWF1	**Yuli** baz=319	**0.26 320**	P		Pn	04 26 25.4	-0.8
TWF1	baz=319		S		Sn	04 26 31.5	-2.4
TWG	**Pinlang** baz=238	**0.50 228**	*e*P		Pn	04 26 28.0	-0.4
YUS	**Yu-Shan** baz=299	**0.58 305**	*e*P		Pn	04 26 30.2	-0.1
YUS	baz=299		*e*S		Sn	04 26 38.9	+0.2
ALS	**Alishan** baz=299	**0.71 300**	*e*P		Pn	04 26 32.6	+0.9

*ISCJB **07** 04:44:04.8±0.5,9°.08S±0°.10×157°.64E±0°.06,h17km, mb4.0/10,MS3.4/5,Error ellipse: s-maj=14.4km s-min=8.1km az=7.4*
*IDC **07** 04:44:04.2±0.8,9°.07S×157°.66E,h0km,mb4.1/9, mb1 4.3/11,mb1mx4.1/24,mbtmp4.1/11,ML3.3/2,MS3.3/8, Ms1 3.3/8,ms1mx3.0/28,Error ellipse: s-maj=22.7km s-min=19.3km az=103.0*
*NEIC **07** 04:44:05.5±0.5,9°.07S×157°.65E,h10km,mb4.1/1,Error ellipse: s-maj=13.8km s-min=11.8km az=179.0*

ISC 07 04:44:07.1±0.6,9°.1S±0°.1×157°.70E±0°.07,h17km,n21, σ2s19/20,mb4.1/10,MS3.4/5,Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara** 28nm,0.3s,baz=243,slow=6.8,SNR=3.1	**2.25 100**	Pn		**Pn**	**04 44 43.1**	**-0.5**
HNR	102nm,0.3s,baz=321,slow=18,SNR=6.3		Sn		**Sn**	**04 45 09.0**	**-2.0**
HNR	comp=Z,504nm,20.9s,baz=298,slow=41		LR		LR	04 45 38.4	
HNR	**Honiara**	**2.25 100**	*e*P		Pn	04 44 39.0	-4.6
HNR			*e*S		**Sn**	**04 45 11.0**	**0.0**
HNR	**Honiara**	**2.25 100**	*e*Pn		**Pn**	**04 44 43.1**	**-0.5**
HNR			*e*S		**Sn**	**04 45 11.7**	**+0.7**
PMG	**Port Moresby** comp=Z,68nm,19.3s,baz=83,slow=34	**10.41 267**	LR		LR	04 49 56.2	
DZM	**Mont Dzumac** comp=Z,165nm,19.3s,baz=30,slow=34	**15.43 148**	LR		LR	04 52 52.5	
JAY	**Jayapura** 0.0nm,0.3s,baz=90,slow=20,SNR=2.6	**18.11 290**	P		**Pn**	**04 48 16.5**	**-1.6**
WRAB	**Tennant Creek** 3.1nm,0.8s	**25.02 242**	*e*P		**P**	**04 49 28.7**	**-1.8**
WRA	**Warramunga Arr** 12nm,0.9s,baz=67,slow=9.7,SNR=22	**25.04 242**	P		**P**	**04 49 29.0**	**-1.7**
WRA	0.5nm,0.6s,baz=72,slow=2.6,SNR=6.8		PcP		**PcP**	**04 53 05.9**	**+0.4**
ASAR	**Alice Springs** 2.6nm,0.9s,baz=67,slow=8.7,SNR=11	**27.00 235**	P		**P**	**04 49 47.2**	**-1.2**
ASAR	comp=Z,62nm,20.6s,baz=52,slow=36		LR		LR	05 00 14.3	
STKA	**Stephens Creek** 5.6nm,0.9s,baz=11,slow=11,SNR=6.7	**27.19 211**	P		**P**	**04 49 50.0**	**+0.1**
STKA	comp=Z,106nm,18.0s,baz=27,slow=34		LR		LR	04 59 31.1	
FITZ	**Fitzroy Crossi** comp=Z,75nm,19.4s,slow=35	**32.39 250**	LR		LR	05 03 09.4	
MJAR	**Matsushiro Arr** 1.2nm,0.4s,baz=154,slow=9.2,SNR=5.2	**48.92 339**	P		**P**	**04 52 49.9**	**-2.5**
MJAR	comp=Z,16nm,21.8s,baz=170,slow=33		LR		LR	05 10 58.4	
PPT	**Papeete** comp=Z,78nm,18.6s,baz=338,slow=33	**51.86 105**	LR		LR	05 12 34.2	
KSRS	**Korea Array** 1.1nm,0.7s,baz=158,slow=7.8,SNR=7.2	**54.02 331**	P		**P**	**04 53 31.1**	**+0.6**
KSAR	**Wonju Array Be** 0.9nm,0.3s,baz=118,slow=4.6,SNR=8.7	**54.03 331**	P		**P**	**04 53 31.1**	**+0.5**
CMAR	**Chiang Mai Arr** 1.3nm,1.0s,baz=262,slow=5.0,SNR=7.0	**64.08 296**	P		**P**	**04 54 40.9**	**+0.1**
VNDA	**Vanda** 0.9nm,0.9s,baz=350,slow=6.2,SNR=5.5	**68.47 179**	P		**P**	**04 55 07.5**	**-0.4**
SONM	**Songino Array** 1.3nm,0.8s,baz=141,slow=6.0,SNR=6.0	**72.51 327**	P		**P**	**04 55 33.8**	**+0.6**
ILAR	**Eielson Array** 1.3nm,1.0s,baz=262,slow=5.0,SNR=7.0	**84.32 21**	P		**P**	**04 56 37.2**	**-0.7**
ESDC	**Sonseca Array** 0.2nm,0.3s,baz=19,slow=3.8,SNR=5.0	**145.39 335**	PKPbc		**PKPab**	**05 03 44.8**	**+0.1**
TORD	**Torodi Ar. Bea** 0.4nm,0.7s,baz=21,slow=1.6,SNR=3.6	**156.11 282**	PKPbc		**PKPdf**	**05 04 09.4**	**+7.6**

GUC 07 04:57:28.2±0.6,21°.10S×68°.95W,h122km±3km,ML3.6, 3C-2D,Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PB01	**IPOC Station P**	**0.50 276**	⇑*i*P		Pn	04 57 47.0	+0.5
PB01			*e*S		Sn	04 58 00.8	+0.5
PB01	comp=N,3μm,0.1s		IAML			04 58 02.0	
PB09	**IPOC Station P**	**0.75 201**	⇑*i*P		Pn	04 57 48.8	+0.5
PB09			*e*S		Sn	04 58 04.8	+1.1
PB09	comp=E,4μm,0.2s		IAML			04 58 07.9	
PB08	**IPOC Station P**	**0.97 349**	⇓*i*P		Pn	04 57 51.3	+0.8
PB08			*e*S		Sn	04 58 08.5	+1.1
PB08	comp=E,743nm,0.1s		IAML			04 58 10.1	
PB07	**IPOC Station P**	**1.07 234**	*e*P		Pn	04 57 52.1	+0.8
PB07			*e*S		Sn	04 58 09.9	+1.1
PB07	comp=E,1μm,0.2s		IAML			04 58 11.7	
HMBC	**Humberstone**	**1.19 313**	*e*P		Pn	04 57 53.4	+0.8
HMBC			*e*S		Sn	04 58 12.1	+1.1
HMBC	comp=N,1μm,0.2s		IAML			04 58 12.8	
PB11	**IPOC Station P**	**1.48 334**	*e*P		Pn	04 57 56.4	+0.6
PB11			*e*S		Sn	04 58 17.8	+1.1
LVC	**Limon Verde**	**1.51 178**	*e*P		Pn	04 57 57.0	+0.7
LVC			*e*S		Sn	04 58 18.8	+1.2
PB04	**IPOC Station P**	**1.66 222**	*e*P		Pn	04 57 58.7	+0.9
PB04			*e*S		Sn	04 58 21.4	+1.0
PB04	comp=N,556nm,0.1s		IAML			04 58 24.4	
PB06	**IPOC Station P**	**1.70 200**	⇑*i*P		Pn	04 57 59.0	+0.7
PB06			*i* S		Sn	04 58 22.2	+0.9
PSGC	**Pisagua**	**1.85 323**	⇓*i*P		Pn	04 58 00.4	+0.4
PSGC			*i* S		Sn	04 58 25.5	+1.1
MNMC	**Minye Minye**	**2.04 343**	*e*P		Pn	04 58 03.5	+0.9
MNMC			*e*S		Sn	04 58 30.0	+1.1
MNMC	comp=E,777nm,0.2s		IAML			04 58 32.8	
ANCH	**Antofagasta**	**2.91 207**	*e*P		Pn	04 58 14.4	+1.1

JSN 07 05:07:33.5±0.6,18°.55N×76°.55W,h0km±11km,MD3.6, Jamaica region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BNJ	**Bonny Gate**	**0.44 239**	*e*P		Pg	05 07 41.9	0.0
STH	**Stony Hill**	**0.53 208**	*i* PA		Pg	05 07 43.5	-0.1
HOJ	**Hope**	**0.57 199**	*i* P		Pg	05 07 44.5	+0.1
YHJ	**Yallahs**	**0.65 175**	*i* P		Pg	05 07 46.2	+0.2
BBJ	**Bamboo Saint A**	**0.70 257**	*i* PA		Pg	05 07 46.5	-0.4
PCJ	**Portland Cotta**	**0.98 216**	*e*P		Pg	05 07 51.2	-1.2
MCJ	**Malvern**	**1.24 240**	*i* P		Pg	05 07 55.6	-1.7
MCJ			*i* S		Sg	05 08 12.5	-0.9
MBJ	**Montego Bay**	**1.25 264**	*i* S		Sg	05 08 13.1	-0.7

*TRN **07** 05:12:46.7,10°.44N×60°.77W,h30km,MD3.1*
*ISCJB **07** 05:12:48.0±1.0,10°.49N±0°.05×61°.22W±0°.07,h88km±7km, Error ellipse: s-maj=12.1km s-min=7.5km az=21.7*
*FUNV **07** 05:12:50.0,10°.62N×61°.30W,h116km,MW2.6*

ISC 07 05:12:47.9±1.5,10°.56N±0°.05×61°.11W±0°.06,h77km±9km, n15,σ2s44/23,Trinidad

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TRN	**Trinidad (W)**	**0.30 287**	*e*P		**Pn**	**05 12 59.4**	**-0.6**
TRN			*e*S		**Sn**	**05 13 09.8**	**+1.1**
TPP	**Pointe-a-Pierr**	**0.41 234**	*e*P		**Pn**	**05 13 00.9**	**+0.3**
TPP			*e*S		**Sn**	**05 13 10.6**	**+0.5**
TOSP	**Speyside**	**0.93 38**	*e*P		**Pn**	**05 13 03.0**	**-3.0**
TOSP			*e*S		**Sn**	**05 13 15.7**	**-3.7**
GUIV	**Guiria**	**1.09 275**	*e*P		**Pn**	**05 13 10.8**	**+2.8**
GUIV			*e*S		**Sn**	**05 13 24.9**	**+1.9**
GRGR	**Grenville**	**1.65 341**	*e*P		**Pn**	**05 13 16.6**	**+1.4**
GRGR			*e*S		**Sn**	**05 13 39.1**	**+3.4**
GUNV	**Guanoco**	**1.84 258**	*e*P		**Pn**	**05 13 19.3**	**+1.6**
GUNV			*e*S		**Sn**	**05 13 39.9**	**-0.4**
CRUV	**Carupano**	**2.09 273**	*e*P		**Pn**	**05 13 19.9**	**-1.1**
CRUV			*e*S		**Sn**	**05 13 43.6**	**-2.6**
RIOV	**Rio Grande**	**2.57 196**	*e*P		**Pn**	**05 13 30.4**	**+2.9**
SVB	**Belmont**	**2.70 357**	*e*P		**Pn**	**05 13 30.8**	**+1.6**
SVB			*e*S		**Sn**	**05 14 03.9**	**+3.0**
ORIV	**Oritupano**	**2.70 237**	*e*P		**Pn**	**05 13 28.9**	**-0.3**
PCRV	**Puerto La Cruz**	**3.49 264**	*e*P		**Pn**	**05 13 38.7**	**-1.2**
PCRV			*e*S		**Sn**	**05 14 15.1**	**-5.0**
CUPV	**Cœpira**	**4.63 264**	*e*P		**Pn**	**05 13 54.2**	**-1.3**
LUEV	**Luepa**	**4.70 184**	*e*P		**Pn**	**05 13 58.1**	**+1.6**
MERV	**Las Mercedes**	**5.27 256**	*e*P		**Pn**	**05 14 02.6**	**-1.6**
BAUV	**El Baul**	**7.02 257**	*e*P		Pn	05 14 25.5	-2.6

*FUNV **07** 05:34:52.7,8°.43N×73°.01W,h6km,MW2.6*
*RSNC **07** 05:34:53.9±0.5,8°.56N×73°.05W,h1km±4km,ML2.4*

ISC 07 05:34:51.5±1.3, 8°50N±0°03×72°95W±0°03, h9^km±12^km, n15, σ1°907/27, Venezuela

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
OCAC	**Ocana**	**0.45**	**235**	*i* P		**Pb**		**05 35 01.7**	**0.0**
OCAC				*e*S		**Sb**		**05 35 08.2**	**-0.5**
OCAC				*i*				05 35 08.6	
	comp=Z,303nm,0.1s								
CAPV	**Capacho**	**0.89**	**135**	*e*P		**Pb**		**05 35 09.3**	**0.0**
CAPV				*e*S		**Sb**		**05 35 21.3**	**0.0**
CODC	**Agust^n Codaz**	**1.51**	**341**	*e*P		**Pb**		**05 35 19.1**	**-0.7**
CODC				*e*S		**Sb**		**05 35 38.2**	**-0.9**
CODC				*i*				05 35 41.7	
	comp=Z,132nm,0.3s								
BRRC	**Barranca, Sant**	**1.58**	**209**	*e*P		**Pg**		**05 35 21.9**	**+0.1**
BRRC				*e*S		**Sg**		**05 35 43.5**	**+1.2**
BRRC				*i*				05 35 48.0	
	comp=Z,37nm,0.2s								
VIGV	**El Vigia**	**1.60**	**78**	*e*P		**Pg**		**05 35 21.7**	**-0.6**
VIGV				*e*S		**Sg**		**05 35 44.1**	**+1.0**
BARC	**Barichara**	**1.91**	**187**	*e*P		**Pg**		**05 35 27.4**	**-0.8**
BARC				*e*S		**Sg**		**05 35 53.1**	**+0.2**
BARC				*i*				05 35 59.9	
	comp=Z,46nm,1.0s								
VIRV	**Villa del Rosa**	**2.06**	**15**	*e*P		**Pb**		**05 35 28.2**	**-1.0**
VIRV				*e*S		**Sb**		**05 35 54.9**	**-0.1**
SOCV	**Socops**	**2.08**	**96**	*e*P		**Pb**		**05 35 28.7**	**-0.8**
SOCV				*e*S		**Sb**		**05 35 54.6**	**-0.9**
ZARC	**Zaragoza, Cauc**	**2.14**	**242**	*e*P		**Pn**		**05 35 28.4**	**+0.9**
ZARC				*e*S		**Sb**		**05 35 56.2**	**-1.0**
ZARC				*i*				05 36 01.1	
	comp=Z,22nm,0.2s								
RUSC	**La Rusia**	**2.59**	**183**	*e*P		**Pb**		**05 35 37.1**	**-1.4**
RUSC				*e*S		**Sb**		**05 36 10.7**	**0.0**
RUSC				*i*				05 36 19.2	
	comp=Z,12nm,0.8s								
SJCC	**San Jacinto, C**	**2.61**	**302**	*e*S		**Sn**		**05 36 05.8**	**+0.1**
SJCC				*i*				05 36 13.4	
	comp=Z,12nm,0.5s								
QARV	**Quebrada Arrib**	**2.93**	**54**	*e*P		**Pn**		**05 35 39.2**	**+0.8**
QARV				*e*S		**Sn**		**05 36 15.2**	**+1.4**
CURV	**Curarigua**	**3.31**	**63**	*e*P		**Pn**		**05 35 45.6**	**+2.0**
MAPV	**Macapo**	**4.63**	**73**	*e*P		**Pn**		**05 36 03.6**	**+1.9**
BAUV	**El Baul**	**4.87**	**84**	*e*P		**Pn**		**05 36 05.5**	**+0.5**
BAUV				*e*S		**Sn**		**05 36 59.4**	**-2.2**

*NIED **07** 05:42:00.38˚70N×142˚10E,h44^km,Mw4.6 Best double couple: M₀9.70000×10^15 NP1:φ₀213.00000°,δ19.00000°, λ97.00000°. NP2:φ₀25.00000°,δ71.00000°,λ87.00000°.*
*JMA **07** 05:42:07.5±0.1,38˚65N×142˚17E,h42^km±1^km,M4.6*
JMA Felt II J1.
*IDC **07** 05:42:10.6±2.0,38˚63N×142˚06E,h65^km±17^km,mb4.2/27, mb1 4.3/33,mb1mx4.2/50,mbtmp4.5/33,MS3.8/20, Ms1 3.8/20,ms1mx3.6/41,Error ellipse: s-maj=14.6km s-min=10.7km az=94.0*
*MOS **07** 05:42:14.3±1.6,39˚38N×140˚59E,h33^km,mb4.9/51,Error ellipse: s-maj=10.7km s-min=6.4km az=115.2*
*NEIC **07** 05:42:17.5±0.8,39˚23N×140˚45E,h43^km±8^km,mb4.6/75, Error ellipse: s-maj=9.2km s-min=5.8km az=142.0*
NEIC Recorded [2 JMA] in Iwate and Miyagi.

ISC 07 05:42:08.8±0.5, 38°64N±0°04×141°99E±0°05, h51^km±3^km, n303, σ1°979/244, mb4.6/141, **MS4.0**/22, **16C-9D, Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
OFUJ	**Ofunato**	**0.51**	**331**	P		**Pn**		**05 42 19.4**	**-0.8**
OFUJ				*e*S		**Sn**		**05 42 27.9**	**-0.5**
JIO	**Ouri**	**0.53**	**250**	P		**Pn**		**05 42 20.3**	**-0.2**
JIO				*e*S		**Sn**		**05 42 29.0**	**+0.1**
JMK	**Ichinoseki**	**0.68**	**298**	P		**Pn**		**05 42 22.5**	**+0.2**
JMK				*e*S		**Sn**		**05 42 33.0**	**+1.0**
JOM	**Ohasama**	**0.99**	**327**	P		**Pn**		**05 42 26.5**	**+0.1**
JOM				*e*S		**Sn**		**05 42 40.4**	**+1.0**
JOU	**Okura**	**1.07**	**256**	P		**Pn**		**05 42 28.3**	**+0.8**
JOU				*e*S		**Sn**		**05 42 43.7**	**+2.3**
JMM	**Marumori**	**1.22**	**231**	P		**Pn**		**05 42 29.5**	**+0.1**
JMM				*e*S		**Sn**		**05 42 45.4**	**+0.6**
JRG	**Rokugo**	**1.30**	**306**	P		**Pn**		**05 42 31.2**	**+0.7**
JTH	**Tanohata**	**1.30**	**356**	P		**Pn**		**05 42 29.3**	**-1.3**
JTH				*e*S		**Sn**		**05 42 46.1**	**-0.8**
JYK	**Kaneyama**	**1.30**	**283**	P		**Pn**		**05 42 31.6**	**+1.0**
JFK	**Kawauchi**	**1.54**	**215**	P		**Pn**		**05 42 33.6**	**-0.4**
JFK				*e*S		**Sn**		**05 42 52.7**	**-0.2**
ERM	**Erimo**	**3.49**	**14**	*e*P		**Pn**		**05 43 00.1**	**-0.4**
ERM	**Erimo**	**3.49**	**14**	*e*Pn		Pn		05 43 07.2	+6.7
MJAR	**Matsushiro Arr**	**3.66**	**236**	P		**Pn**		**05 43 05.7**	**+2.8**
	49nm,0.3s,baz=38,slow=12,SNR=152								
MJAR					LR		LR	05 44 53.2	
	comp=Z,1μm,18.7s,baz=50,slow=44								
MAJO	**Matsushiro**	**3.66**	**236**	*d* iP		**Pn**		**05 43 05.0**	**+2.1**
MAJO	**Matsushiro**	**3.66**	**236**	*e*Pn		**Pn**		**05 43 05.5**	**+2.6**
MAT	**Matsushiro**	**3.66**	**236**	P		**Pn**		**05 43 05.3**	**+2.4**
MAT				*e*S		**Sn**		**05 43 44.3**	**-0.5**
MJB9	**Matsu-Tunnel**	**3.66**	**236**	*e*Pn		**Pn**		**05 43 05.8**	**+2.9**
INU	**Inuyama**	**5.16**	**232**	*e*Pn		**Pn**		**05 43 26.6**	**+3.2**
ASAJ	**Asahikawa**	**5.49**	**5**	*e*Pn		**Pn**		**05 43 30.9**	**+2.9**
JHJ2	**Mitsune**	**5.79**	**198**	*e*Pn		Pn		05 43 44.9	+13
JHJ2				*e*Sn		**Sn**		**05 44 39.1**	**+1.9**
JHJ	**Hachijo jima 2**	**5.79**	**199**	P		**Pn**		**05 43 32.6**	**+0.4**
	32nm,0.3s,baz=317,slow=22,SNR=5.9								
JHJ					S		**Sn**	**05 44 34.0**	**-3.2**
	91nm,0.3s,baz=52,slow=19,SNR=8.5								
KUR	**Kuril'sk**	**7.91**	**32**	P		**Pn**		**05 44 03.7**	**+2.6**
KUR					pmax	pmax			
	comp=Z,98nm,0.5s								
YSS	**Yuzh-Sakhalins**	**8.33**	**4**	*e*P		Pn		05 44 02.0	-4.8
YSS					pmax	pmax			
	comp=Z,30nm,1.6s								
YSS	**Yuzh-Sakhalins**	**8.33**	**4**	*e*Pn		**Pn**		**05 44 07.8**	**+1.0**
USRK	**Ussuriysk Ar.**	**9.34**	**310**	P		**Pn**		**05 44 23.1**	**+2.5**
	comp=Z,2.9nm,0.3s,baz=124,slow=16,SNR=74								
USRK					LR		LR	05 47 50.7	
	comp=Z,722nm,19.4s,baz=114,slow=36								
JNU	**Nakatsue**	**10.56**	**242**	P		**Pn**		**05 44 39.8**	**+2.3**
	comp=Z,1.5nm,0.3s,baz=65,slow=7.2,SNR=25								
JNU	**Nakatsue**	**10.56**	**242**	*e*Pn		**Pn**		**05 44 40.0**	**+2.6**
HABR	**Khabarovsk**	**11.04**	**335**	*e*P		**Pn**		**05 44 42.4**	**-1.4**
HABR					pmax	pmax			
	comp=E,21nm,0.8s								
HABR					pmax	pmax			
	comp=N,38nm,1.6s								
HABR					pmax	pmax			
	comp=Z,42nm,1.6s								
HABR					MLR	MLR			
	comp=Z,333nm,14.0s								
KSRS	**Korea Array**	**11.15**	**268**	P		**Pn**		**05 44 50.3**	**+4.7**
	comp=Z,0.9nm,0.3s,baz=81,slow=14,SNR=45								
KSRS					LR		LR	05 48 46.5	
	comp=Z,455nm,20.6s,baz=82,slow=35								
KLR	**Kul'dur**	**12.89**	**329**	P		**Pn**		**05 45 09.6**	**+0.4**
	comp=Z,0.1nm,0.3s,baz=125,slow=14,SNR=6.6								
KLR					LR		LR	05 50 04.6	
	comp=Z,620nm,19.4s,baz=136,slow=37								
CN2	**Changchun**	**13.47**	**298**	*e*P		Pn		05 45 09.4	-7.7
DL2	**Dalian**	**15.88**	**277**	P		**P**		**05 45 50.5**	**-1.3**
DL2					S		**Sn**	**05 48 38.5**	**-5.3**
DL2					pmax	pmax			
	comp=Z,47nm,1.3s								
DL2					pmax	pmax			
	comp=Z,170nm,7.1s								
DL2					LR	LR			
	comp=N,270nm,15.5s								
DL2					LR	LR			
	comp=E,410nm,14.8s								
DL2					LR	LR			
	comp=Z,510nm,16.9s								
JOW	**Kunigami**	**16.46**	**228**	LR		LR		05 51 48.9	
	comp=Z,97nm,21.6s,baz=116,slow=35								
PETK	**Petropavlovsk-**	**18.08**	**32**	LR		LR		05 53 53.0	
	comp=Z,72nm,18.0s,baz=221,slow=39								
TIA	**Tai'an**	**19.88**	**271**	⇓P		**P**		**05 46 35.9**	**+0.1**
TIA					S		Sn	05 50 33.0	+13
TIA					pmax	pmax			
	comp=Z,20nm,0.9s								
TIA					LR	LR			
	comp=N,180nm,15.2s								
TIA					LR	LR			
	comp=E,310nm,14.3s								
TIA					LR	LR			
	comp=Z,340nm,20.0s								
BJI	**Beijing**	**20.00**	**282**	P		**P**		**05 46 31.0**	**-6.0**
BJI					S		S	05 49 59.1	-20
BJI					pmax	pmax			
	comp=Z,7.0nm,0.5s								
BJI					pmax	pmax			
	comp=Z,93nm,5.8s								
BJI					LR	LR			
	comp=N,130nm,14.9s								
BJI					LR	LR			
	comp=E,390nm,15.0s								
BJI					LR	LR			
	comp=Z,200nm,28.3s								
MA2	**Magadan**	**21.69**	**12**	P		**P**		**05 46 56.6**	**+1.6**
	comp=Z,9.9nm,0.7s,baz=187,slow=11,SNR=6.1								
MA2					LR		LR	05 55 20.0	
	comp=Z,76nm,20.4s,baz=168,slow=36								
MA2	**Magadan**	**21.69**	**12**	*e*P		**P**		**05 46 57.5**	**+2.4**
	comp=Z,16nm,0.7s								
YULB	**Yu-li**	**23.27**	**235**	*e*P		**P**		**05 47 13.3**	**+1.3**
	comp=Z,10nm,0.8s								
HHC	**Hu-ho-hao-te**	**23.44**	**285**	*e*P		**P**		**05 47 09.8**	**-3.8**
HHC					S		S	05 51 05.6	-18
HHC					pmax	pmax			
	comp=Z,14nm,1.1s								
HHC					pmax	pmax			
	comp=Z,57nm,5.0s								
HHC					LR	LR			
	comp=N,150nm,12.2s								
HHC					LR	LR			
	comp=E,700nm,15.7s								
HHC					LR	LR			
	comp=Z,490nm,15.3s								
TPUB	**Ta-pu**	**23.77**	**236**	*e*P		**P**		**05 47 18.0**	**+1.3**
	comp=Z,21nm,0.8s								
TWG	**Pinlang**	**23.83**	**235**	*e*P		**P**		**05 47 20.4**	**+3.2**
	comp=Z,88nm,0.7s								
WHN	**Wuhan**	**24.08**	**259**	P		**P**		**05 47 15.7**	**-3.7**
YAK	**Yakutsk**	**24.61**	**346**	P		**P**		**05 47 23.7**	**-0.3**
	comp=Z,22nm,0.4s,baz=79,slow=1.5,SNR=4.3								
YAK					LR		LR	05 56 42.6	
	comp=Z,37nm,19.2s,baz=274,slow=35								
YAK	**Yakutsk**	**24.61**	**346**	*e*P		**P**		**05 47 21.5**	**-2.5**
YAK					pmax	pmax			
	comp=Z,30nm,1.1s								
YAK					pmax	pmax			
	comp=N,14nm,1.1s								
YAK					pmax	pmax			
	comp=E,7.0nm,1.5s								
SEY	**Seymchan**	**25.13**	**11**	P		**P**		**05 47 29.7**	**+1.0**
	comp=E,14nm,0.9s,baz=197,slow=6.5,SNR=27								
BOD	**Bodaibo**	**26.44**	**326**	*e*P		**P**		**05 47 40.2**	**-0.4**
BOD					pmax	pmax			
	comp=Z,14nm,1.7s								
XAN	**Xi'an**	**26.94**	**270**	P		**P**		**05 47 46.0**	**+0.6**
XAN					sP		pP	05 48 02.8	+4.4
XAN					S		**S**	**05 52 09.8**	**-9.2**
XAN					pmax	pmax			
	comp=Z,12nm,0.8s								
XAN					pmax	pmax			
	comp=Z,100nm,6.4s								
XAN					LR	LR			
	comp=N,56nm,14.2s								
XAN					LR	LR			
	comp=E,170nm,16.8s								
XAN					LR	LR			
	comp=Z,240nm,15.7s								
SONA1	**Songino Array**	**27.30**	**301**	*e*P		**P**		**05 47 49.2**	**+0.6**
SONM	**Songino Array**	**27.30**	**301**	P		**P**		**05 47 49.7**	**+1.0**
	comp=Z,1.8nm,0.6s,baz=103,slow=9.6,SNR=11								
SONM					LR		LR	05 59 08.8	
	comp=Z,219nm,18.1s,baz=83,slow=37								
ENH	**Enshi**	**27.96**	**263**	*e*P		**P**		**05 47 54.6**	**+0.1**
	comp=Z,42nm,0.8s								
H11N2	**WAKE ISLAND Hy**	**28.62**	**124**	T		T		06 18 19.6	
	baz=316,slow=75,SNR=5209								
H11N1	**WAKE ISLAND Hy**	**28.63**	**124**	T		T		06 18 20.2	
	baz=316,slow=75,SNR=4873								
H11N3	**WAKE ISLAND Hy**	**28.64**	**124**	T		T		06 18 20.8	
	baz=316,slow=75,SNR=4745								
H11S1	**WAKE ISLAND Hy**	**29.39**	**126**	T		T		06 19 17.4	
	baz=318,slow=75,SNR=1031								
H11S3	**WAKE ISLAND Hy**	**29.39**	**126**	T		T		06 19 17.2	
	baz=318,slow=75,SNR=2423								
H11S2	**WAKE ISLAND Hy**	**29.41**	**126**	T		T		06 19 19.2	
	baz=318,slow=75,SNR=582								
TLY	**Talaya**	**29.65**	**309**	P		**P**		**05 48 10.4**	**+1.0**
	comp=Z,7.2nm,1.0s,baz=74,slow=5.4,SNR=7.0								
TLY					LR		LR	06 00 46.0	
	comp=Z,318nm,18.4s,baz=112,slow=38								
TLY	**Talaya**	**29.65**	**309**	*e*P		**P**		**05 48 09.9**	**+0.6**
TLY					pmax	pmax			
	comp=Z,15nm,1.1s								
TLY					MLR	MLR			
	comp=Z,256nm,17.0s								
ZAK	**Zakamensk**	**29.66**	**306**	*e*P		**P**		**05 48 10.3**	**+0.8**
ZAK					pmax	pmax			
	comp=Z,11nm,1.1s								
LZH	**Lanzhou**	**30.28**	**277**	*e*P		P		05 48 10.0	-5.2
LZH					pP	pP		05 48 21.0	-7.3
LZH					sP	sP		05 48 26.1	-8.3
LZH					PP	**PnPn**		**05 49 04.2**	**-10**
LZH					pmax	pmax			
	comp=Z,21nm,1.0s								
LZH					pmax	pmax			
	comp=Z,65nm,4.8s								
LZH					LR	LR			
	comp=N,250nm,12.6s								
LZH					LR	LR			
	comp=E,270nm,13.0s								
LZH					LR	LR			
	comp=Z,340nm,16.4s								
GYA	**Guiyang**	**31.96**	**258**	*e*P		**P**		**05 48 31.0**	**+0.9**
GYA					pmax	pmax			
	comp=Z,10.0nm,0.8s								
BILL	**Bilibino**	**32.36**	**17**	⇓*i*P		**P**		**05 48 32.8**	**-0.2**
BILL					pmax	pmax			
	comp=Z,19nm,1.3s								
BILL					MLR	MLR			
	comp=Z,396nm,20.0s								
TIXI	**Tiksi**	**33.76**	**353**	*i* P		**P**		**05 48 46.3**	**+1.2**
TIXI					pmax	pmax			
	comp=Z,3.0nm,0.8s								
QIZ	**Qiongzhong**	**34.02**	**244**	P		**P**		**05 48 50.1**	**+2.2**
QIZ					S		**S**	**05 54 08.3**	**-1.5**
QIZ					LR	LR			
	comp=N,89nm,11.4s								
QIZ					LR	LR			
	comp=E,130nm,14.0s								
QIZ					LR	LR			
	comp=Z,170nm,13.9s								
KMI	**Kunming**	**35.67**	**260**	P		**P**		**05 49 03.4**	**+1.0**
KMI					pmax	pmax			
	comp=Z,19nm,0.8s								
KMI					pmax	pmax			
	comp=Z,73nm,4.1s								
KMI					LR	LR			
	comp=N,170nm,11.1s								
KMI					LR	LR			
	comp=E,170nm,17.2s								
KMI					LR	LR			
	comp=Z,260nm,23.6s								
SLVN	**Son La**	**36.91**	**253**	*e*P		**P**		**05 49 13.8**	**+1.1**
	comp=Z,7.0nm,1.1s								
ZAA0	**Zalesovo Array**	**41.19**	**311**	*e*P		**P**		**05 49 48.4**	**+0.3**
ZALV	**Zalesovo Beam**	**41.19**	**311**	P		**P**		**05 49 48.8**	**+0.7**
	comp=Z,7.8nm,0.5s,baz=87,slow=7.9,SNR=16								
ZALV					PcP		**PcP**	**05 51 46.4**	**0.0**
	comp=Z,1.8nm,0.4s,baz=97,slow=3.1,SNR=3.3								
ZALV					LR		LR	06 07 41.0	
	comp=Z,222nm,18.0s,baz=66,slow=37								
ZALV	**Zalesovo Beam**	**41.19**	**311**	P		**P**		**05 49 48.8**	**+0.7**
ZALV								05 51 46.4	
ZALV					pmax	pmax			
	comp=Z,9.0nm,0.6s								
ZALV					MLR	MLR			
	comp=Z,222nm,18.0s								
NRIK	**Noril'sk**	**42.01**	**334**	P		**P**		**05 49 56.2**	**+1.6**
	comp=Z,3.6nm,0.6s,baz=143,slow=3.9,SNR=4.2								
NRIK					LR		LR	06 08 19.1	
	comp=Z,289nm,19.4s,baz=109,slow=37								
CHTO	**Chiang Mai**	**42.14**	**254**	*e*P		**P**		**05 49 57.6**	**+1.3**
CHTO					pmax	pmax			
	comp=Z,5.0nm,0.6s								
CHTO	**Chiang Mai**	**42.14**	**254**	*e*P		**P**		**05 49 57.6**	**+1.3**
	comp=Z,5.4nm,0.6s								
CMAR	**Chiang Mai Arr**	**42.36**	**254**	P		**P**		**05 49 59.4**	**+1.3**
	comp=Z,1.4nm,0.4s,baz=42,slow=8.1,SNR=7.5								
CMAR	**Chiang Mai Arr**	**42.36**	**254**	*i* P		**P**		**05 49 59.2**	**+1.1**
CMAR					pmax	pmax			
	comp=Z,1.0nm,0.4s								
LSA	**Lhasa**	**42.54**	**274**	*e*P		**P**		**05 50 00.5**	**+0.5**
LSA					pmax	pmax			
	comp=Z,7.0nm,0.9s								
LSA	**Lhasa**	**42.54**	**274**	*e*P		**P**		**05 50 00.5**	**+0.5**
	comp=Z,7.2nm,0.9s								
MK01	**Makanchi Array**	**43.67**	**301**	*e*P		**P**		**05 50 09.2**	**+0.8**
MK31	**Makanchi Array**	**43.67**	**301**	*i* P		**P**		**05 50 09.3**	**+0.9**
MK31					pmax	pmax			
	comp=Z,15nm,0.8s								
MK31	**Makanchi Array**	**43.67**	**301**	*e*P		**P**		**05 50 09.5**	**+1.0**
MKAR	**Makanchi Array**	**43.67**	**301**	*e*P		**P**		**05 50 09.5**	**+1.1**
MKAR	**Makanchi Array**	**43.67**	**301**	*e*P		**P**		**05 50 09.5**	**+1.1**
	comp=Z,93nm,0.7s								
MAKZ	**Makanchi**	**43.88**	**301**	*e*P		**P**		**05 50 10.7**	**+0.6**
MAKZ					pmax	pmax			
	comp=Z,11nm,0.8s								
MAKZ	**Makanchi**	**43.88**	**301**	*e*P		**P**		**05 50 10.7**	**+0.6**
	comp=Z,11nm,0.8s								
SHL	**Shillong**	**43.90**	**268**	*ex*		P		05 50 18.0	+7.3
KURK	**Kurchatov**	**45.31**	**307**	*ce*P		**P**		**05 50 22.0**	**+0.6**
KURK					pmax	pmax			
	comp=Z,135nm,0.8s								
KURK	**Kurchatov**	**45.31**	**307**	*e*P		**P**		**05 50 22.0**	**+0.6**
	comp=Z,39nm,0.9s								
KURK					PcP		**PcP**	**05 52 00.4**	**+0.1**
RSO	**Redoubt South**	**45.37**	**39**	*e*P		P		05 50 29.1	+7.1
KURBB	**Kurchatov Arra**	**45.39**	**307**	P		**P**		**05 50 22.6**	**+0.6**
	comp=Z,33nm,0.8s,baz=82,slow=8.2,SNR=224								
KURBB					PcP		**PcP**	**05 52 00.4**	**-0.2**
	comp=Z,2.1nm,0.7s,baz=88,slow=4.1,SNR=3.8								
KTH	**Kantishna Hill**	**46.17**	**35**	*e*P		pP		05 50 41.0	-0.7
	comp=Z,29nm,1.3s								
PDGK	**Podgornoye**	**46.44**	**297**	P		**P**		**05 50 30.9**	**+0.3**
PDGK					pmax	pmax			
	comp=Z,4.0nm,0.6s								
ODAN	**Odare**	**46.78**	**272**	*e*P		**P**		**05 50 34.8**	**+1.2**
	comp=Z,31nm,0.6s								
RND	**Reindeer**	**47.10**	**35**	*e*P		**pP**		**05 50 49.3**	**+0.2**
RND					pmax	pmax			
	comp=Z,36nm,1.5s								
RND	**Reindeer**	**47.10**	**35**	*e*P		pP		05 50 49.3	+0.2
	comp=Z,36nm,1.5s								
MDM	**Murphy Dome**	**47.32**	**33**	*e*P		pP		05 50 49.7	-0.9
	comp=Z,22nm,1.3s								
JIRN	**Jiri**	**47.34**	**274**	*e*P		**P**		**05 50 39.3**	**+1.2**
	comp=Z,22nm,0.5s								
RAMN	**Ramite**	**47.36**	**273**	*e*P		**P**		**05 50 39.2**	**+1.1**
	comp=Z,54nm,0.8s								
GUN	**Gumba**	**47.47**	**274**	*e*P		**P**		**05 50 40.3**	**+1.3**
	comp=Z,30nm,0.5s								
CCB	**Clear Creek Bu**	**47.51**	**33**	*e*P		pP		05 50 52.2	+0.1
	comp=Z,42nm,1.9s								
ILAR	**Eielson Array**	**47.90**	**33**	P		**P**		**05 50 41.5**	**0.0**
	comp=Z,1.3nm,0.6s,baz=265,slow=6.2,SNR=20								
KKN	**Kakani**	**47.99**	**275**	*e*P		**P**		**05 50 44.0**	**+1.1**
	comp=Z,45nm,0.9s								
PKI	**Pulchoki**	**47.99**	**274**	*e*P		**P**		**05 50 44.0**	**+0.9**
PKIN	**Phulchoki**	**48.00**	**274**	*e*P		**P**		**05 50 43.6**	**+0.5**
	comp=Z,11nm,0.5s								
GKN	**Gorkha**	**48.39**	**275**	*e*P		**P**		**05 50 46.8**	**+0.8**
	comp=Z,19nm,0.5s								
FYU	**Fort Yukon**	**48.50**	**31**	*e*P		pP		05 50 57.9	-1.8
	comp=Z,38nm,1.6s								
KOLN	**Koldanda**	**49.31**	**276**	*e*P		**P**		**05 50 54.2**	**+1.1**
	comp=Z,12nm,0.5s								
MENT	**Mentasta**	**49.46**	**35**	*e*P		pP		05 51 04.7	-2.5
	comp=Z,71nm,0.2s								
PYUN	**Piuthan**	**49.63**	**276**	*e*P		**P**		**05 50 56.6**	**+1.1**
BVAR	**Borovoye Array**	**49.84**	**311**	P		**P**		**05 50 57.2**	**+0.6**
	comp=Z,3.6nm,0.5s,baz=67,slow=7.5,SNR=17								
BVAR					PcP		**PcP**	**05 52 17.4**	**+0.9**
	comp=Z,4.0nm,0.6s,baz=95,slow=4.1,SNR=5.8								
BRVK	**Borovoye**	**49.89**	**311**	*ce*P		**P**		**05 50 57.9**	**+1.0**
BRVK					pmax	pmax			
	comp=Z,13nm,0.7s								
BRVK	**Borovoye**	**49.89**	**311**	*e*P		**P**		**05 50 58.0**	**+1.1**
	comp=Z,8.2nm,1.0s								
AAK	**Ala-Archa**	**50.14**	**297**	P		**P**		**05 50 59.4**	**+0.3**
	comp=Z,1.7nm,0.3s,baz=120,slow=2.6,SNR=6.9								
AAK	**Ala-Archa**	**50.14**	**297**	*e*P		**P**		**05 50 59.5**	**+0.3**
AAK					pmax	pmax			
	comp=Z,4.0nm,0.9s								
AAK	**Ala-Archa**	**50.14**	**297**	*e*P		**P**		**05 50 59.5**	**+0.3**
	comp=Z,4.3nm,0.9s								
KSH	**Kashi**	**50.18**	**293**	P		P		05 51 04.5	+5.0
KSH					pP	pP		05 51 17.4	+4.2
KSH					PcP	PcP		05 52 28.7	+11
KSH					PP	**PP**		**05 52 58.6**	**+3.8**
KSH					S	**S**		**05 58 06.6**	**-1.2**
KSH					sS	sS		05 58 27.7	-3.2
KSH	**Kashi**	**50.18**	**293**	SS		**SS**		**06 01 33.7**	**-7.5**
KSH					pmax	pmax			
	comp=Z,7.0nm,0.8s								
KSH					pmax	pmax			
	comp=Z,82nm,4.5s								
KSH					LR	LR			
	comp=N,80nm,6.5s								
KSH					LR	LR			
	comp=E,130nm,5.1s								
KSH					LR	LR			
	comp=Z,140nm,5.7s								
IPM	**Ipoh**	**50.37**	**238**	*e*P		**P**		**05 51 02.0**	**+1.0**
	comp=Z,15nm,0.6s							

OBN					MLR	MLR				
	comp=Z,76nm,15.0s									
B08A	**Colville Reser**	**67.39**	**46**	*eP*		pP	05 53 12.6	-0.4		
	comp=Z,5.3nm,1.2s									
FINES	**FINESS Array B**	**67.61**	**332**	P		**P**	**05 53 00.1**	**+0.3**		
	comp=Z,9.1nm,0.7s,baz=61,slow=9.0,SNR=22									
FINES				LR		LR	06 24 24.2			
	comp=Z,72nm,21.6s,baz=46,slow=38									
FINES	**FINESS Array B**	**67.61**	**332**	*i* P		**P**	**05 53 00.2**	**+0.5**		
FINES				pmax		pmax				
	comp=Z,9.0nm,0.7s									
E09A	**Wood Farm, Sta**	**69.08**	**47**	*eP*		pP	05 53 22.1	-1.5		
	comp=Z,6.1nm,1.1s									
SUMG	**Summit**	**69.08**	**0**	*i* P		**P**	**05 53 09.7**	**+0.4**		
	comp=Z,6.1nm,0.8s									
SUMG	**Summit**	**69.08**	**0**	*i* P		**P**	**05 53 09.7**	**+0.4**		
SUMG				pmax		pmax				
	comp=Z,6.0nm,0.8s									
GOF	**Gofitskoye**	**69.37**	**312**⇑	*eP*		**P**	**05 53 12.2**	**+1.2**		
GOF				pmax		pmax				
	comp=Z,23nm,0.6s									
K05A	**Summer Lake**	**69.58**	**51**	*eP*		pP	05 53 26.4	-0.6		
	comp=Z,18nm,1.4s									
ZEI	**Tsey**	**70.14**	**309**	*eP*		**P**	**05 53 15.5**	**-0.6**		
ZEI				pmax		pmax				
	comp=Z,17nm,1.0s									
STKA	**Stephens Creek**	**70.16**	**180**	P		**P**	**05 53 16.4**	**+0.6**		
	comp=Z,2.4nm,0.8s,baz=37,slow=9.6,SNR=3.3									
KIV	**Kislovodsk**	**70.20**	**311**	*eP*		**P**	**05 53 17.4**	**+1.1**		
KIV				pmax		pmax				
	comp=Z,31nm,0.9s									
KIV	**Kislovodsk**	**70.20**	**311**	*eP*		**P**	**05 53 17.5**	**+1.1**		
	comp=Z,29nm,0.9s									
KBZ	**Khabaz**	**70.20**	**310**	P		**P**	**05 53 17.0**	**+0.8**		
	comp=Z,10nm,0.9s,baz=54,slow=3.6,SNR=18									
KBZ				LR		LR	06 29 12.8			
	comp=Z,84nm,18.1s,baz=54,slow=40									
KBZ	**Khabaz**	**70.20**	**310**	P		**P**	**05 53 17.0**	**+0.8**		
KBZ				pmax		pmax				
	comp=Z,10.0nm,0.9s									
MOD	**Modoc Plateau**	**70.41**	**52**	*eP*		pP	05 53 30.4	-1.6		
	comp=Z,3.1nm,0.8s									
AKH	**Akhalkalaki**	**71.17**	**308**⇑	*iP*		**P**	**05 53 23.1**	**+0.7**		
PAHR	**Pah Rah Range**	**72.24**	**53**	*eP*		pP	05 53 41.6	-1.6		
	comp=Z,6.0nm,1.0s									
CMB	**Columbia Colle**	**72.57**	**55**	*eP*		**pP**	**05 53 44.2**	**-0.9**		
CMB				pmax		pmax				
	comp=Z,3.0nm,0.7s									
CMB	**Columbia Colle**	**72.57**	**55**	*eP*		pP	05 53 44.2	-0.9		
	comp=Z,3.5nm,0.7s									
ANN	**Anapa**	**72.75**	**314**	*eP*		**P**	**05 53 31.5**	**0.0**		
ANN				pmax		pmax				
	comp=Z,22nm,1.1s									
YERR	**Yerington**	**72.75**	**54**	*eP*		pP	05 53 45.3	-1.0		
	comp=Z,4.9nm,0.9s									
NB2	**NORSAR Subarra**	**72.88**	**337**	P		**P**	**05 53 31.9**	**-0.1**		
	comp=Z,2.0nm,0.6s,baz=36,slow=6.2									
NOA	**NORSAR Array B**	**72.88**	**337**	P		**P**	**05 53 32.0**	**-0.1**		
	comp=Z,4.6nm,0.8s,baz=37,slow=6.0,SNR=7.8									
NOA				LR		LR	06 28 11.2			
	comp=Z,97nm,21.7s,baz=25,slow=38									
NOA	**NORSAR Array B**	**72.88**	**337**	P		**P**	**05 53 32.0**	**-0.1**		
NOA				pmax		pmax				
	comp=Z,5.0nm,0.8s									
NOA				MLR		MLR				
	comp=Z,97nm,21.7s									
BMN	**Battle Mountai**	**73.15**	**52**	*eP*		**pP**	**05 53 47.4**	**-1.3**		
BMN				pmax		pmax				
	comp=Z,4.0nm,0.6s									
BMN	**Battle Mountai**	**73.15**	**52**	*eP*		pP	05 53 47.4	-1.3		
	comp=Z,4.0nm,0.6s									
BOZ	**Bozeman (W)**	**73.28**	**45**	*eP*		**pP**	**05 53 46.5**	**-2.8**		
BOZ				pmax		pmax				
	comp=Z,4.0nm,0.9s									
BOZ	**Bozeman (W)**	**73.28**	**45**	*eP*		pP	05 53 46.5	-2.8		
	comp=Z,3.8nm,0.9s									
AKASG	**Malin Array Be**	**73.31**	**322**	P		**P**	**05 53 34.8**	**+0.1**		
	comp=Z,8.6nm,0.8s,baz=46,slow=6.1,SNR=20									
AKASG				LR		LR	06 28 45.0			
	comp=Z,143nm,18.8s,baz=20,slow=38									
AKASG	**Malin Array Be**	**73.31**	**322**	*i* P		**P**	**05 53 34.7**	**0.0**		
AKASG				pmax		pmax				
	comp=Z,9.0nm,0.8s									
AKBB	**Malin Array Si**	**73.31**	**322**	*eP*		**P**	**05 53 35.2**	**+0.5**		
AKBB				pmax		pmax				
	comp=Z,13nm,0.9s									
AKBB	**Malin Array Si**	**73.31**	**322**	*eP*		**P**	**05 53 35.2**	**+0.5**		
	comp=Z,13nm,0.9s									
KIEV	**Kiev**	**73.32**	**322***c*	*iP*		**P**	**05 53 34.4**	**-0.3**		
KIEV				pmax		pmax				
	comp=Z,14nm,0.9s									
KIEV	**Kiev**	**73.32**	**322**	*eP*		**P**	**05 53 34.8**	**0.0**		
	comp=Z,13nm,0.9s									
AK11	**Malin Array Si**	**73.35**	**322**	*eP*		**P**	**05 53 35.8**	**+0.8**		
TVH1	**TV Hill, Hawth**	**73.36**	**54**	*eP*		pP	05 53 49.1	-1.1		
	comp=Z,5.2nm,1.1s									
TVH3	**East Aurora ar**	**73.39**	**54**	*eP*		pP	05 53 49.8	-0.3		
	comp=Z,4.7nm,1.1s									
TVH2	**Borealis Mine**	**73.41**	**54**	*eP*		pP	05 53 50.2	-0.2		
	comp=Z,2.9nm,0.5s									
H17A	**Grant Village**	**74.61**	**45**	*eP*		pP	05 53 55.7	-1.6		
	comp=Z,6.9nm,1.1s									
HVU	**Hansel Valley**	**75.00**	**48**	*eP*		**pP**	**05 53 57.3**	**-2.2**		
HVU				pmax		pmax				
	comp=Z,4.0nm,0.8s									
HVU	**Hansel Valley**	**75.00**	**48**	*eP*		pP	05 53 57.3	-2.2		
	comp=Z,3.7nm,0.8s									
BGU	**Big Grassy Mou**	**75.38**	**49**	*eP*		pP	05 54 00.6	-1.1		
	comp=Z,6.6nm,1.4s									
R11A	**Troy Canyon, C**	**75.42**	**53**	*eP*		pP	05 53 59.5	-2.4		
	comp=Z,3.3nm,0.9s									
SORM	**Soroca**	**75.44**	**321**⇓	*iP*		**P**	**05 53 47.4**	**+0.3**		
HWUT	**Hardware Ranch**	**75.81**	**48**	*eP*		pP	05 54 02.0	-2.2		
	comp=Z,5.7nm,1.1s									
TPNV	**Topopah Spring**	**75.86**	**54**	*eP*		**pP**	**05 54 02.3**	**-2.2**		
TPNV				pmax		pmax				
	comp=Z,8.0nm,1.1s									
TPNV	**Topopah Spring**	**75.86**	**54**	*eP*		pP	05 54 02.3	-2.2		
	comp=Z,7.5nm,1.1s									
DUG	**Dugway, Tooele**	**75.97**	**50**	*eP*		**pP**	**05 54 02.5**	**-2.5**		
DUG				pmax		pmax				
	comp=Z,5.0nm,0.8s									
DUG	**Dugway, Tooele**	**75.97**	**50**	*eP*		pP	05 54 02.5	-2.5		
	comp=Z,4.6nm,0.8s									
BW06	**Boulder Array**	**76.22**	**46**	*eP*		pP	05 54 03.2	-3.3		
	comp=Z,3.5nm,0.8s									
PD31	**Pinedale Array**	**76.22**	**46**	*eP*		pP	05 54 03.5	-3.0		
PDAR	**Pinedale Array**	**76.22**	**46**	P		**P**	**05 53 52.2**	**+0.2**		
	comp=Z,1.2nm,0.6s,baz=252,slow=1.6,SNR=16									
NLU	**North Lily Min**	**76.56**	**49**	*eP*		pP	05 54 05.6	-2.9		
	comp=Z,3.2nm,0.9s									
SHPR	**Sheep Range**	**76.82**	**54**	*eP*		pP	05 54 08.2	-1.8		
	comp=Z,12nm,1.6s									
BUR08	**Bucovina Ar. S**	**77.32**	**322**	*eP*		**P**	**05 53 59.1**	**+1.2**		
BURAR	**Bucovina Array**	**77.33**	**322**⇓	*iP*		**P**	**05 53 58.9**	**+0.9**		
BURAR	**Bucovina Array**	**77.33**	**322**	P		**P**	**05 53 58.8**	**+0.8**		
MSU	**Marysvale**	**77.41**	**51**	*eP*		pP	05 54 11.1	-2.2		
MSU	**Marysvale**	**77.41**	**51**	*eP*		pP	05 54 11.1	-2.2		
TMUT	**Trail Mountain**	**77.49**	**50**	*eP*		pP	05 54 12.2	-1.7		
	comp=Z,18nm,1.6s									
CFR	**Carcaliu**	**77.55**	**319**⇓	*iP*		**P**	**05 53 59.5**	**+0.4**		
LCMT	**Little Creek M**	**77.70**	**52**	*eP*		pP	05 54 12.8	-2.1		
	comp=Z,4.6nm,0.9s									
MTPU	**Mount Pierson**	**77.70**	**51**	*eP*		pP	05 54 13.3	-1.8		
	comp=Z,5.3nm,0.8s									
VRI	**Vrincioaia**	**77.80**	**320**⇑	*iP*		**P**	**05 54 01.5**	**+1.0**		
VRI	**Vrincioaia**	**77.80**	**320**	P		**P**	**05 54 03.3**	**+2.8**		
TIRR	**Tirgusor**	**77.89**	**318**⇑	*iP*		**P**	**05 54 01.8**	**+0.8**		
STHS	**Stebnicka Huta**	**77.91**	**325**	*eP*		**P**	**05 54 02.8**	**+1.7**		
STHS	**Stebnicka Huta**	**77.91**	**325**	*eP*		**P**	**05 54 02.8**	**+1.7**		
ULM	**Lac du Bonnet**	**77.92**	**34**	P		**P**	**05 54 00.9**	**-0.2**		
	comp=Z,1.0nm,0.6s,baz=316,slow=18,SNR=3.4									
OJC	**Ojcow**	**77.96**	**326**	*eP*		**P**	**05 54 02.7**	**+1.4**		
OJC	**Ojcow**	**77.96**	**326**	*eP*		**P**	**05 54 02.7**	**+1.4**		
KNB	**Kanab**	**77.96**	**52**	*eP*		**pP**	**05 54 14.5**	**-1.9**		
KNB				pmax		pmax				
	comp=Z,5.0nm,1.1s									
KNB	**Kanab**	**77.96**	**52**	*eP*		pP	05 54 14.5	-1.9		
	comp=Z,4.9nm,1.1s									
TLB	**Topalu**	**78.00**	**318**⇑	*iP*		**P**	**05 54 02.6**	**+1.0**		
BRTR	**Keskin Array B**	**78.13**	**312**	P		**P**	**05 54 03.4**	**+0.7**		
	comp=Z,1.7nm,0.6s,baz=46,slow=5.3,SNR=6.8									
CRVS	**Cervenica-Dubn**	**78.18**	**324**	*eP*		**P**	**05 54 03.9**	**+1.3**		
CRVS	**Cervenica-Dubn**	**78.18**	**324**	*eP*		**P**	**05 54 03.9**	**+1.3**		
NIE	**Niedzica**	**78.33**	**325**	*eP*		**P**	**05 54 04.7**	**+1.3**		
NIE	**Niedzica**	**78.33**	**325**	*eP*		**P**	**05 54 04.7**	**+1.3**		
RSSD	**Black Hills**	**78.33**	**42**	*eP*		**pP**	**05 54 15.5**	**-2.9**		
RSSD				pmax		pmax				
	comp=Z,4.0nm,0.8s									
RSSD	**Black Hills**	**78.33**	**42**	*eP*		pP	05 54 15.5	-2.9		
	comp=Z,3.8nm,0.8s									
DOPR	**Dopca**	**78.40**	**320**⇑	*iP*		**P**	**05 54 04.8**	**+0.9**		
ISR	**Istrita**	**78.41**	**319**⇓	*iP*		**P**	**05 54 04.5**	**+0.5**		
W13A	**Hualapai Mount**	**78.51**	**54**	*eP*		pP	05 54 17.6	-1.9		
	comp=Z,1.6nm,0.9s									
BR231	**Keskin MP Arra**	**78.56**	**312**	*eP*		**P**	**05 54 03.9**	**-1.0**		
BR231				*e*PcP		**pP**	**05 54 17.7**	**-1.8**		
U15A	**North Rim**	**78.67**	**52**	*eP*		pP	05 54 18.4	-2.1		
	comp=Z,3.4nm,0.9s									
O20A	**White River Ci**	**78.69**	**47**	*eP*		pP	05 54 18.1	-2.3		
	comp=Z,6.7nm,0.9s									
VOIR		**78.94**	**320**⇓	*iP*		**P**	**05 54 07.8**	**+0.8**		
VOIR		**78.94**	**320**	P		**P**	**05 54 07.7**	**+0.8**		
Y12C	**Blythe**	**78.95**	**56**	*eP*		pP	05 54 19.3	-2.4		
	comp=Z,5.1nm,0.8s									
DRGR		**79.12**	**322**⇑	*iP*		**P**	**05 54 08.9**	**+1.0**		
MORC	**Moravsky Berou**	**79.26**	**327**⇑	*iP*		**P**	**05 54 09.4**	**+0.8**		
MORC	**Moravsky Berou**	**79.26**	**327**	P		**P**	**05 54 09.9**	**+1.3**		
MORC				pmax		pmax				
	comp=Z,46nm,1.0s									
DPC	**Dobruska-Polom**	**79.34**	**328**	*eP*		**P**	**05 54 10.7**	**+1.7**		
DPC	**Dobruska-Polom**	**79.34**	**328**	*eP*		**P**	**05 54 10.7**	**+1.7**		
PSZ	**Piszkesteto**	**79.61**	**325**⇓	*iP*		**P**	**05 54 11.5**	**+1.0**		
PSZ	**Piszkesteto**	**79.61**	**325**	*eP*		**P**	**05 54 11.9**	**+1.4**		
PSZ				pmax		pmax				
	comp=Z,11nm,1.1s									
PSZ	**Piszkesteto**	**79.61**	**325**	*eP*		**P**	**05 54 11.9**	**+1.4**		
	comp=Z,11nm,1.1s									
VYHS	**Vyhne**	**79.66**	**326**	*eP*		**P**	**05 54 12.0**	**+1.3**		
VYHS	**Vyhne**	**79.66**	**326**	*eP*		**P**	**05 54 12.0**	**+1.3**		
Y14A	**Wickenburg**	**79.81**	**55**	*eP*		pP	05 54 24.3	-2.2		
	comp=Z,14nm,0.8s									
WUAZ	**Wupatki**	**79.82**	**53**	*eP*		pP	05 54 24.8	-1.8		
	comp=Z,13nm,1.4s									
BRG	**Berggiesshubel**	**79.90**	**330**	*eP*		**P**	**05 54 12.3**	**+0.3**		
	comp=Z,5.2nm,0.9s									
BRG	**Berggiesshubel**	**79.90**	**330**	*eP*		**P**	**05 54 12.3**	**+0.3**		
BRG				pmax		pmax				
	comp=Z,5.0nm,0.9s									
CLL	**Collm**	**79.93**	**330**	*eP*		**P**	**05 54 12.9**	**+0.8**		
CLL				pmax		pmax				
	comp=Z,10.0nm,0.9s									
CLL	**Collm**	**79.93**	**330**	*i* P		**P**	**05 54 12.4**	**+0.3**		
	comp=Z,9.0nm,0.8s									
CLL	**Collm**	**79.93**	**330**	*eP*		**P**	**05 54 12.8**	**+0.8**		
	comp=Z,10.0nm,0.9s									
SIRR	**Siria**	**80.00**	**323**⇑	*iP*		**P**	**05 54 14.1**	**+1.5**		
SMCO	**Snowmass**	**80.05**	**47**	*eP*		pP	05 54 26.1	-2.0		
	comp=Z,10nm,1.6s									
113A	**Mohawk Valley,**	**80.06**	**56**	*eP*		pP	05 54 25.3	-2.4		
	comp=Z,3.6nm,0.9s									
GOPC	**GO Pecny, Ondr**	**80.31**	**329**	*eP*		**P**	**05 54 15.5**	**+1.3**		
GOPC	**GO Pecny, Ondr**	**80.31**	**329**	*eP*		**P**	**05 54 15.5**	**+1.3**		
PRU	**Pruhonice**	**80.35**	**329**	*eP*		**P**	**05 54 15.3**	**+0.9**		
PRU	**Pruhonice**	**80.35**	**329**	*eP*		**P**	**05 54 15.3**	**+0.9**		
ISCO	**Idaho Springs**	**80.41**	**46**	*eP*		**pP**	**05 54 29.6**	**-0.4**		
ISCO				pmax		pmax				
	comp=Z,11nm,1.7s									
ISCO	**Idaho Springs**	**80.41**	**46**	*eP*		pP	05 54 29.6	-0.4		
	comp=Z,11nm,1.7s									
X16A	**Lo Mia Camp, P**	**80.49**	**53**	*eP*		pP	05 54 27.8	-2.5		
	comp=Z,4.3nm,0.9s									
S22A	**4UR Ranch, Cre**	**81.10**	**48**	*eP*		pP	05 54 31.6	-2.1		
	comp=Z,2.8nm,0.8s									
CONA	**Conrad Observa**	**81.39**	**327**	*i* P		**P**	**05 54 21.2**	**+1.1**		
	comp=Z,7.9nm,1.1s									
KHC	**Kasperske Hory**	**81.41**	**329**	*eP*		**P**	**05 54 21.4**	**+1.3**		
KHC				*ep*P		**pP**	**05 54 36.3**	**+1.5**		
KHC				*es*P		**sP**	**05 54 40.2**	**-0.3**		
KHC	**Kasperske Hory**	**81.41**	**329**	*eP*		**P**	**05 54 21.4**	**+1.3**		
KHC				*e*			05 54 36.3			
KHC	**Kasperske Hory**	**81.41**	**329**	*eP*		**P**	**05 54 21.4**	**+1.3**		
	comp=Z,2.7nm,0.8s									
GERES	**GERESS Array B**	**81.59**	**328**	P		**P**	**05 54 21.6**	**+0.5**		
	comp=Z,1.9nm,0.8s,baz=35,slow=4.9,SNR=10									
GERES				LR		LR	06 33 37.4			
	comp=Z,104nm,18.5s,baz=5.5,slow=38									
GEA0	**GERESS Array S**	**81.59**	**328**	*eP*		**P**	**05 54 21.4**	**+0.3**		
SDCO	**Great Sand Dun**	**81.87**	**48**	*eP*		pP	05 54 38.5	+0.7		
	comp=Z,8.1nm,1.6s									
VTS	**Vitosha**	**81.90**	**319**	*eP*		**P**	**05 54 24.1**	**+1.1**		
VTS				pmax		pmax				
	comp=Z,9.0nm,0.8s									
VTS	**Vitosha**	**81.90**	**319**	*eP*		**P**	**05 54 24.1**	**+1.1**		
	comp=Z,9.1nm,0.8s									
ARSA	**Arzberg**	**82.06**	**326**	*i* P		**P**	**05 54 24.1**	**+0.6**		
	comp=Z,3.6nm,0.8s									
MOA	**Molln**	**82.13**	**327**	*i* P		**P**	**05 54 24.9**	**+1.0**		
	comp=Z,4.6nm,1.0s									
ECSD	**EROS Data Cent**	**82.38**	**39**	*eP*		pP	05 54 38.5	-1.5		
	comp=Z,19nm,1.8s									
SOKA	**Soboth**	**82.71**	**326**	*i* P		**P**	**05 54 27.6**	**+0.6**		
	comp=Z,14nm,1.2s									
T25A	**Trinidad**	**82.92**	**48**	*eP*		pP	05 54 40.5	-2.7		
	comp=Z,5.7nm,0.9s									
OBKA	**Obir**	**83.06**	**326**	*i* P		**P**	**05 54 29.2**	**+0.4**		
	comp=Z,3.4nm,0.8s									
KBA	**Koelnbreinsper**	**83.12**	**327**	*i* P		**P**	**05 54 30.1**	**+0.9**		
	comp=Z,5.4nm,0.8s									
KBA	**Koelnbreinsper**	**83.12**	**327**	P		**P**	**05 54 32.4**	**+3.1**		
KBA				pmax		pmax				
	comp=Z,10.0nm,2.5s									
ANMO	**Albuquerque**	**83.21**	**50**	*eP*		**pP**	**05 54 42.3**	**-2.4**		
ANMO				pmax		pmax				
	comp=Z,15nm,1.8s									
ANMO	**Albuquerque**	**83.21**	**50**	*eP*		pP	05 54 42.3	-2.4		
	comp=Z,15nm,1.8s									
MYKA	**Terra Mystica**	**83.35**	**327**	*i* P		**P**	**05 54 30.1**	**-0.2**		
	comp=Z,5.3nm,0.7s									
WATA	**Walderalm**	**83.65**	**329**	*eP*		**P**	**05 54 32.6**	**+0.7**		
	comp=Z,4.5nm,0.6s									
WTTA	**Wattenberg**	**83.69**	**329**	*i* PcP		**P**	**05 54 33.6**	**+1.4**		
	comp=Z,3.4nm,0.5s									
MOTA	**Moosalm**	**83.84**	**329**	*i* P		**P**	**05 54 33.3**	**+0.4**		
	comp=Z,6.7nm,1.0s									
319A	**Douglas**	**83.85**	**55**	*eP*		pP	05 54 45.9	-2.1		
	comp=Z,10nm,0.8s									
RETA	**Reutte**	**83.86**	**329**	*i* P		**P**	**05 54 33.5**	**+0.6**		
	comp=Z,14nm,1.3s									
PDG	**Podgorica**	**84.00**	**321**⇑	*iP*		**P**	**05 54 34.1**	**+0.5**		
BFO	**Black Forest**	**84.12**	**331**	*e*P		**P**	**05 54 35.4**	**+1.2**		
FETA	**Feichten**	**84.25**	**329**	*i* P		**P**	**05 54 34.6**	**-0.4**		
	comp=Z,4.9nm,0.8s									
DAVA	**Damuels**	**84.38**	**330**	*i* P		**P**	**05 54 35.1**	**-0.5**		
	comp=Z,9.3nm,0.8s									
FUORN	**Ofenpass-Fuorn**	**84.76**	**329**	*eP*		**P**	**05 54 38.4**	**+0.7**		
	comp=Z,14nm,0.8s									
PPT2	**Papeete2**	**84.97**	**117**	*e*LR		LR	06 21 05.8			
	comp=Z,139nm,24.5s									
PPT2	**Papeete2**	**84.97**	**117**	*eT*		T	07 28 41.8			
	comp=Z,9.6nm,0.3s									
TIAR	**Tiarei**	**85.11**	**117**	*eT*		T	07 28 51.2			
	comp=Z,3.2nm,0.2s									
MNTX	**Cornudas Mount**	**86.08**	**52**	*eP*		pP	05 54 57.4	-1.7		
	comp=Z,1.7nm,0.9s									
TAOE	**Nuku Hiva Isla**	**86.12**	**104**	*e*LR		LR	06 21 50.0			
	comp=Z,102nm,23.0s									
TX31	**Lajitas Ar. Si**	**88.78**	**53**	*eP*		P	05 55 06.6	+9.1		
TXAR	**Lajitas Array**	**88.79**	**53**	P		**P**	**05 54 57.7**	**+0.3**		
	comp=Z,0.7nm,0.6s,baz=298,slow=3.2,SNR=10									
TBI	**Tubual**	**88.96**	**121**	*eT*		T	07 33 38.5			
	comp=Z,85nm,0.3s									
ESDC	**Sonseca Array**	**96.05**	**334**		LR	LR	06 43 38.2			
	comp=Z,58nm,19.4s,baz=350,slow=38									
TORD	**Torodi Ar. Bea**	**116.51**	**316**	PKP		**PKPdf**	**06 00 46.9**	**-0.6**		
	comp=Z,0.5nm,0.8s,baz=18,slow=5.0,SNR=2.9									
SNAA	**Sanae**	**142.41**	**197**	PKP		**PKPdf**	**06 01 29.6**	**-5.0**		
VNA2	**Neumayer--Watz**	**143.98**	**197**	PKP		PKPbc	06 01 35.4	0.0		
	baz=92,slow=1.6									
VNA3	**Neumayer Olymp**	**144.23**	**195**	PKP		**PKPab**	**06 01 32.5**	**-3.2**		
VNA1	**Neumayer--Stat**	**144.38**	**196**	PKP		PKPbc	06 01 36.8	+0.2		
LPAZ	**La Paz**	**145.48**	**58**	PKPbc		**PKPdf**	**06 01 42.1**	**-0.2**		
	comp=Z,1.4nm,0.5s,baz=320,slow=2.6,SNR=12									

*IDC **07** 06:07:33.8±1.5, 10.°04N×125.°96E, h65km±13km, mb4.8/28, mb1 4.9/30, mb1mx4.9/33, mbtmp5.1/30, MS4.1/33, Ms1 4.1/33, ms1mx4.1/39, Error ellipse: s-maj=14.2km s-min=8.7km az=75.0*

*MAN **07** 06:07:33, 10.°06N×125.°96E, h138km, mb5.9, ML4.9, MS5.4*

MAN INTENSITY IV - DEL CARMEN SIARGAO ISLAND; BASILISA & LORETO DINAGAT ISLAND; INTENSITY III - SURIGAO CITY; LIBJO DINAGAT ISLAND; PILAR SIARGAO ISLAND.

*BJI **07** 06:07:34.0, 9.°73N×126.°09E, h113km, mb5.1/76, mB5.0/49*

*MOS **07** 06:07:34.0±1.1, 10.°01N×125.°92E, h81km, mb5.4/90, MS4.1/17, Error ellipse: s-maj=8.6km s-min=4.4km az=114.0*

*ISCJB **07** 06:07:35.0±0.3, 10.°06N±0.°02×126.°03E±0.°02, h87km±3km, mb5.2/208, Error ellipse: s-maj=3.9km s-min=2.5km az=164.6*

*KLM **07** 06:07:36.1, 9.°93N×126.°28E, h73km, mb5.2*

*GCMT **07** 06:07:37.3±0.2, 10.°01N×126.°25E, h46km±1km, MW5.2/74, Moment Tensor Solution. s74,c96; s73,c99; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}5.73±.20; $M_{\theta\theta}$1.37±.16; $M_{\phi\phi}$-7.11±.16; $M_{r\theta}$0.64±.15; $M_{r\phi}$-0.36±.14; $M_{\theta\phi}$1.99±.24; Best double couple: $M_0$6.76800×10^{16} NP1:ϕ_s9.00000°, δ54.00000°, λ98.00000°. NP2: ϕ_s175.00000°, δ37.00000°, λ79.00000°. Principal axes: T 6.1030, Plg79.0000°, Azm310.0000°; N 1.3220, Plg6.0000°, Azm184.0000°; P -7.4340, Plg9.0000°, Azm93.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

*NEIC **07** 06:07:37.3±0.5, 9.°98N×125.°95E, h95km±4km, mb5.3/114 Error ellipse: s-maj=4.2km s-min=3.0km az=80.0*

NEIC Felt [IV PIVS] at Basilisa, Del Carmen and Loreto; [III PIVS] at Libjo, Pilar and Surigao; [II PIVS] at Butuan and Mainit. Also felt at Adtugon, Madrid and Solana. Felt [I PIVS] at Tacloban, Leyte.

*DJA **07** 06:07:38.6±0.4, 10.°N±2°×12.°6E±°, h81km±4km, M5.1/28, mb5.3/28, mB5.4/12, MLv5.5/1, Mw(mB)4.8/12*

ISC 07 06:07:37.0±0.5, 10.°03N±0.°03×126.°05E±0.°04, h92km±3km, n830, σ1§40/868, mb5.3/213, 40C-30D, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SCPH	**Surigao**	**0.61**	**246**⇓	*eP*	Pn	06 07 44.9	-7.9
SCPH				*eS*	Sn	06 07 54.3	-10
PLP	**Palo**	**1.54**	**317**⇓	*eP*	Pn	06 07 58.3	-5.2
PLP				*i* S	**Sn**	**06 08 20.9**	**-2.6**
BIPH	**Bislig**	**1.86**	**171**⇓	*eP*	**Pn**	**06 08 03.9**	**-3.6**
BIPH				*eS*	**Sn**	**06 08 28.3**	**-2.3**
CGP	**Cagayan de Oro**	**2.06**	**221**⇑	*iP*	Pn	06 08 04.8	-5.3
CGP				*i* S	**Sn**	**06 08 31.0**	**-4.4**
LLP	**Lapu-Lapu**	**2.07**	**278**⇓	*iP*	**Pn**	**06 08 07.0**	**-3.2**
LLP				*i* S	**Sn**	**06 08 35.9**	**+0.3**
SNPH	**Sibulan**	**2.86**	**256**⇓	*iP*	**Pn**	**06 08 17.6**	**-3.1**
SNPH				*i* S	**Sn**	**06 09 00.8**	**+6.4**
DMPH	**

QIZ LR LR
comp=Z,1μm,21.6s
QIZ Qiongzhong 18.05 302 *eP* **P 06 11 40.9 -0.2**
comp=Z,60nm,0.8s
GUMO Guam 18.75 77 P **Pn 06 11 49.8 -0.5**
comp=Z,1.1nm,0.3s,baz=201,slow=8.6,SNR=3.0
GUMO Guam 18.75 77 *eP* **Pn 06 11 50.6 +0.3**
GUMO pmax pmax
comp=Z,254nm,1.4s
GUMO Guam 18.75 77 *eP* **Pn 06 11 50.6 +0.3**
comp=Z,254nm,1.4s
GENI Genyem 18.84 131 P **Pn 06 11 51.8 +0.5**
MMRI Maumere 18.93 192 P **Pn 06 11 53.6 +1.3**
PBKI Pangkalan Bun 19.11 229 P **Pn 06 11 55.3 +0.8**
JAY Jayapura 19.19 130 P **P 06 11 53.4 -0.3**
comp=Z,0.1nm,0.3s,baz=268,slow=23,SNR=11
JAY Jayapura 19.19 130 P **P 06 11 54.0 +0.3**
SOEI Soe 19.73 185 P **Pn 06 12 02.9 +1.0**
SOEI Soe 19.73 185 *eP* **Pn 06 12 03.6 +1.7**
comp=Z,119nm,0.9s
PLAI Plampang 20.46 204 P Pn 06 12 10.0 -0.3
UBPT Khong Chiam 20.74 287 P **P 06 12 10.3 -0.1**
comp=Z,88nm,1.1s,comp=Z,1μm
TWSI Taliwang, Sumb 20.76 206 P Pn 06 12 13.0 -0.8
KMMI Kalianget 20.80 216 P Pn 06 12 16.1 +1.8
JAGI Jajag, Banyuwa 21.86 213 P **P 06 12 25.4 +3.0**
JAGI Jajag, Banyuwa 21.86 213 *eP* **P 06 12 22.2 -0.2**
comp=Z,69nm,0.8s
GMJI Gumukmas 22.09 215 P **P 06 12 26.7 +1.9**
SKNT Sakolnakorn 22.53 290 P **P 06 12 27.3 -2.2**
comp=Z,85nm,1.0s
NGJI Ngawi 22.58 221 P **P 06 12 33.0 +3.1**
NJ2 Nanjing 22.91 344 *eP* **P 06 12 32.1 -1.0**
NJ2 pmax pmax
comp=Z,61nm,1.0s
SMRI Semarang 23.01 223 P **P 06 12 37.0 +2.7**
SMRI Semarang 23.01 223 *eP* **P 06 12 34.6 +0.2**
comp=Z,283nm,1.1s
WHN Wuhan 23.14 334 P **P 06 12 34.4 -1.0**
WHN S **S 06 16 42.5 +2.9**
WHN LR LR
comp=Z,2μm,21.3s
WHN LR LR
comp=Z,1μm,17.3s
WHN LR LR
comp=Z,2μm,20.9s
TPRI Tanjung Pinang 23.24 248 P **P 06 12 38.3 +1.8**
MTN Manton Dam 23.28 167 P **P 06 12 34.9 -1.8**
baz=23
MTN Manton Dam 23.28 167 *eP* **P 06 12 35.0 -1.8**
comp=Z,225nm,1.4s
WOJI Wonogiri, Jawa 23.28 221 P **P 06 12 38.3 +1.5**
JNU Nakatsue 23.41 10 P **P 06 12 36.1 -1.8**
comp=Z,9.5nm,0.6s,baz=184,slow=2.7,SNR=11
JNU Nakatsue 23.41 10 *eP* **P 06 12 37.0 -1.0**
comp=Z,38nm,1.2s
MYKOM **Kota Tinggi 23.53 251** *eP* **P 06 12 39.8 +0.6**
comp=Z,63nm,0.9s
MYKOM **Kota Tinggi 23.53 251** ⇑P **P 06 12 40.7 +1.6**
SLVN Son La 24.07 300 *eP* **P 06 12 42.6 -1.3**
comp=Z,28nm,1.0s
KPJI Karang Pucung 24.25 225 P **P 06 12 47.9 +2.3**
MANU Manus Island 24.38 118 *eP* **P 06 12 46.1 -0.7**
comp=Z,229nm,0.1s
GYA Guiyang 24.56 314 ⇓*iP* **P 06 12 48.2 -0.3**
GYA pP pP 06 13 11.8 +2.8
GYA sP sP 06 13 24.6 +4.5
GYA PP **PnPn 06 13 29.0 +3.6**
GYA PcP **PcP 06 16 25.3 +0.8**
GYA S **S 06 17 00.2 -2.7**
GYA sS sS 06 17 39.8 +0.9
GYA pmax pmax
comp=Z,20nm,0.8s
GYA pmax pmax
comp=Z,130nm,4.9s
PATY Pattaya 24.84 279 P **P 06 12 56.5 +5.5**
comp=Z,12nm,0.8s,comp=Z,2μm
LEM Lembang 24.85 228 P **P 06 12 55.4 +4.2**
CBJI Citeko 25.16 230 P **P 06 12 58.2 +4.4**
comp=Z,173nm,0.9s
ENH Enshi 25.38 325 *eP* **P 06 12 54.1 -1.7**
comp=Z,70nm,1.2s
IPM Ipoh 25.42 259 *eP* **P 06 12 56.1 -0.2**
comp=Z,101nm,0.8s
SBJI Serang 25.52 232 P **P 06 13 00.3 +3.2**
comp=Z,321nm,1.1s
KULM Kulim 25.60 261 *eP* **P 06 12 59.0 +1.0**
KULM *epP* **pP 06 13 18.2 -0.4**
KNRA Kununurra 25.68 174 P **P 06 12 57.8 -0.7**
baz=26,SNR=9.5
RGRI Rengat 25.75 248 P **P 06 12 59.7 +0.4**
comp=Z,856nm,0.4s,comp=Z,66μm
KLSI 25.79 236 P **P 06 13 01.7 +2.1**
UTTA Uttaradit 25.89 290 P **P 06 13 00.8 +0.3**
comp=Z,19nm,0.8s,comp=Z,173nm
MDSI Maura Dua 26.13 238 P **P 06 13 04.1 +1.4**
TRTT Trang 26.13 267 P **P 06 13 04.5 +1.8**
comp=Z,37nm,0.9s
LWLI Liwa 26.52 237 P **P 06 13 07.8 +1.5**
SRDT SRDT 26.66 282 P **P 06 13 09.3 +1.8**
comp=Z,108nm,1.0s
BKNI Bangkinang 26.68 250 P **P 06 13 09.4 +1.7**
BKNI Bangkinang 26.68 250 *eP* **P 06 13 07.5 -0.1**
comp=Z,143nm,0.9s
KMI Kunming 26.75 307 P **P 06 13 09.2 +0.8**
KMI pP pP 06 13 31.9 +2.7
KMI sP sP 06 13 44.7 +4.7
KMI PP **PnPn 06 13 57.9 +2.7**
KMI S **S 06 17 34.3 -3.5**
KMI SS **SnSn 06 18 56.0 +4.5**
KMI pmax pmax
comp=Z,28nm,0.6s
KMI pmax pmax
comp=Z,120nm,5.4s
KMI LR LR
comp=Z,340nm,16.2s
KMI LR LR
comp=Z,590nm,18.9s
KMI LR LR
comp=Z,790nm,20.4s
SURT Suratani 26.90 270 P **P 06 13 11.5 +1.9**
comp=Z,12nm,1.4s
LAMP Lampang 26.93 291 P **P 06 13 10.6 +0.7**
comp=Z,22nm,0.7s
KSI Kapahiang 27.03 241 P **P 06 13 12.7 +1.8**
comp=Z,69nm,1.2s,comp=Z,9μm
MASI Maura Aman, Be 27.09 242 P **P 06 13 14.2 +2.9**
UMPA Umpang Tak 27.17 286 P **P 06 13 13.4 +1.4**
comp=Z,16nm,0.8s,comp=Z,994nm
TIA Tai'an 27.30 344 ⇑P **P 06 13 12.0 -0.9**
TIA S **S 06 17 52.0 +6.2**
TIA pmax pmax
comp=Z,20nm,0.7s
TIA LR LR
comp=Z,350nm,22.5s
TIA LR LR
comp=Z,290nm,18.4s
TIA LR LR
comp=Z,440nm,20.4s
KS15 Wonju Array Si 27.34 3 *eP* **P 06 13 13.8 +0.4**
KSAR Wonju Array Be 27.34 3 P **P 06 13 13.3 0.0**
KSAR Wonju Array Be 27.34 3 P **P 06 13 13.3 0.0**
KSRS Korea Array 27.36 3 P **P 06 13 13.3 -0.1**
comp=Z,8.4nm,0.7s,baz=186,slow=10,SNR=38
KSRS ScP **ScP 06 20 04.8 +2.0**
comp=Z,1.9nm,0.8s,baz=190,slow=3.4,SNR=4.7
KSRS LR LR 06 23 07.5
comp=Z,228nm,21.6s,baz=188,slow=34
KS01 Wonju Array Si 27.38 3 *eP* **P 06 13 13.2 -0.4**
CM01 Chiang Mai Arr 27.52 291 *eP* **P 06 13 14.9 -0.3**
CMAR Chiang Mai Arr 27.55 291 P **P 06 13 15.2 -0.1**
comp=Z,39nm,1.0s,baz=104,slow=7.5,SNR=28
CMAR PcP **PcP 06 16 31.6 +0.2**
comp=Z,5.6nm,0.5s,baz=92,slow=1.0,SNR=9.5
CMAR ScP **ScP 06 20 06.3 +2.5**
comp=Z,1.1nm,0.3s,baz=75,slow=1.8,SNR=5.0
CMAR LR LR 06 24 27.5
comp=Z,509nm,19.6s,baz=132,slow=37
CMAR Chiang Mai Arr 27.55 291 P **P 06 13 15.3 -0.1**
CMAR 06 16 31.6
CMAR pmax pmax
comp=Z,24nm,0.7s
CMAR MLR MLR
comp=Z,509nm,19.6s
PPI Padang Panjang 27.57 249 P **P 06 13 17.3 +1.7**
comp=Z,73nm,1.1s

CMMT Chiang Mai 27.63 291 P **P 06 13 16.2 0.0**
comp=Z,37nm,1.0s
CHTO Chiang Mai 27.64 291 P **P 06 13 16.1 -0.1**
comp=Z,167nm,1.1s
PDSI Padang 27.69 248 P **P 06 13 19.1 +2.4**
comp=Z,48nm,1.1s
MNSI Mandailing Nat 27.88 252 P **P 06 13 19.2 +0.8**
PSI Prapat 27.88 257 P **P 06 13 18.7 +0.1**
comp=Z,17nm,0.9s,baz=138,slow=23,SNR=7.9
PSI PcP **PcP 06 16 31.9 -0.6**
comp=Z,8.7nm,0.9s,baz=42,slow=12,SNR=4.1
PSI Prapat 27.88 257 *eP* **P 06 13 18.5 0.0**
PSI 06 16 31.9
PSI pmax pmax
comp=Z,36nm,1.0s
PSI Prapat 27.88 257 *eP* **P 06 13 18.5 0.0**
comp=Z,36nm,1.0s
PSI PcP **PcP 06 16 31.9 -0.6**
FITZ Fitzroy Crossi 27.95 181 P **P 06 13 18.4 -0.5**
comp=Z,11nm,0.8s,baz=9.3,slow=7.8,SNR=26
FITZ Fitzroy Crossi 27.95 181 P **P 06 13 18.4 -0.5**
baz=28,SNR=17
FITZ Fitzroy Crossi 27.95 181 *eP* **P 06 13 18.4 -0.5**
comp=Z,34nm,1.0s
PMG Port Moresby 28.53 132 P **P 06 13 23.7 -0.4**
comp=Z,41nm,0.9s,baz=314,slow=18,SNR=2.3
PMG Port Moresby 28.53 132⇓ *eP* **P 06 13 24.1 0.0**
PMG pmax pmax
comp=Z,129nm,1.0s
PMG Port Moresby 28.53 132 *eP* **P 06 13 24.4 +0.2**
comp=Z,38nm,0.8s
XAN Xi'an 28.60 329 P **P 06 13 22.9 -1.7**
XAN pP pP 06 13 44.3 -1.3
XAN PP **PnPn 06 14 16.7 -2.9**
XAN PcP **PcP 06 16 34.1 +0.4**
XAN S **S 06 18 01.4 -5.0**
XAN pmax pmax
comp=Z,190nm,0.7s
XAN pmax pmax
comp=Z,160nm,12.5s
XAN LR LR
comp=Z,280nm,22.3s
XAN LR LR
comp=Z,170nm,27.0s
XAN LR LR
comp=Z,580nm,23.6s
MJAR Matsushiro Arr 28.60 21 P **P 06 13 23.1 -1.5**
comp=Z,2.7nm,0.6s,baz=195,slow=8.9,SNR=5.0
MJAR PcP **PcP 06 16 33.1 -0.5**
comp=Z,3.1nm,0.7s,baz=204,slow=3.1,SNR=4.3
MJAR LR LR 06 24 36.2
comp=Z,324nm,20.5s,baz=190,slow=36
KCSI Kotacane, Aceh 28.80 259 P **P 06 13 30.0 +3.4**
DL2 Dalian 29.03 353 P **P 06 13 28.4 +0.1**
DL2 S **S 06 18 10.6 -2.3**
DL2 pmax pmax
comp=Z,78nm,0.8s
DL2 pmax pmax
comp=Z,120nm,5.3s
DL2 LR LR
comp=Z,370nm,17.6s
DL2 LR LR
comp=Z,310nm,20.6s
SISI Saibi 29.11 249 P **P 06 13 33.0 +3.6**
comp=Z,113nm,1.0s
COEN Coen 29.27 144 P **P 06 13 29.5 -1.2**
baz=29,SNR=5.7
COEN Coen 29.27 144 *eP* **P 06 13 29.7 -0.9**
comp=Z,35nm,0.9s
CD2 Chengdu 29.34 318 P **P 06 13 29.5 -1.8**
CD2 pP pP 06 13 52.2 0.0
CD2 PcP **PcP 06 16 28.5 -7.2**
CD2 S **S 06 18 16.6 -1.6**
CD2 pmax pmax
comp=Z,20nm,0.6s
CD2 pmax pmax
comp=Z,210nm,6.6s
CD2 LR LR
comp=Z,860nm,19.9s
CD2 LR LR
comp=Z,890nm,20.9s
CD2 LR LR
comp=Z,1μm,20.4s
GSI Gunungsitoli 29.61 255 *eP* **P 06 13 34.1 +0.3**
comp=Z,152nm,1.1s
WRAB Tennant Creek 30.87 165⇓ *eP* **P 06 13 43.1 -1.7**
WRAB pmax pmax
comp=Z,53nm,1.0s
WRAB Tennant Creek 30.87 165 *eP* **P 06 13 43.1 -1.7**
comp=Z,20nm,0.8s
WRA Warramunga Arr 30.88 165 P **P 06 13 43.1 -1.8**
comp=Z,13nm,0.7s,baz=343,slow=9.2,SNR=66
WRA PcP **PcP 06 16 39.4 -0.4**
comp=Z,5.7nm,0.6s,baz=343,slow=3.3,SNR=6.5
WRA S **S 06 18 38.2 -4.1**
comp=Z,4.0nm,0.9s,baz=343,slow=16,SNR=6.7
WRA ScP **ScP 06 20 16.0 +1.7**
comp=Z,1.8nm,0.8s,baz=343,slow=3.6,SNR=4.8
WRA LR LR 06 30 18.6
comp=Z,123nm,18.1s,baz=355,slow=44
WB2 Warramunga Arr 30.88 165 *eP* **P 06 13 42.3 -2.5**
WB2 *eP* **P 06 13 43.1 -1.8**
BJT Baijiatuau 31.13 345 *eP* **P 06 13 46.5 -0.4**
BJT pmax pmax
comp=Z,90nm,1.6s
BJT Baijiatuau 31.13 345 *eP* **P 06 13 46.5 -0.4**
comp=Z,90nm,1.6s
BJI Beijing 31.15 345 P **P 06 13 46.4 -0.6**
BJI pmax pmax
comp=Z,29nm,1.4s
BJI pmax pmax
comp=Z,250nm,3.6s
SNY Shenyang 31.75 356 ⇑P **P 06 13 52.3 +0.1**
SNY pmax pmax
comp=Z,81nm,1.0s
SNY pmax pmax
comp=Z,120nm,3.7s
SNY LR LR
comp=Z,170nm,13.9s
SNY LR LR
comp=Z,270nm,16.7s
SNY LR LR
comp=Z,450nm,23.5s
MSHR Mys Shultsa 32.73 7⇑ *eP* **P 06 14 01.9 +1.1**
LZH Lanzhou 32.85 326 ⇑P **P 06 14 01.6 -0.6**
LZH pP pP 06 14 24.5 +1.2
LZH sP sP 06 14 36.3 +2.2
LZH PP **PnPn 06 15 15.2 +0.9**
LZH *eS* **S 06 19 11.3 -1.9**
LZH SS **SnSn 06 21 19.2 -0.2**
LZH pmax pmax
comp=Z,82nm,1.3s
LZH pmax pmax
comp=Z,180nm,4.6s
LZH LR LR
comp=Z,380nm,14.0s
LZH LR LR
comp=Z,490nm,13.3s
LZH LR LR
comp=Z,860nm,16.7s
QIS Mount Isa 33.19 156 P **P 06 14 04.1 -1.0**
baz=33,SNR=14
HHC Hu-ho-hao-te 33.27 340 *eP* **P 06 14 06.2 +0.5**
HHC S **S 06 19 19.2 -0.1**
HHC pmax pmax
comp=Z,56nm,1.1s
HHC pmax pmax
comp=Z,96nm,5.3s
HHC LR LR
comp=Z,380nm,15.7s
HHC LR LR
comp=Z,500nm,24.3s
HHC LR LR
comp=Z,390nm,16.3s
MTSU Mount Surprise 33.29 147 P **P 06 14 05.7 -0.3**
baz=33,SNR=12
BTO Baotou 33.60 338 *eP* **P 06 14 04.4 -4.2**
CN2 Changchun 33.65 359 *eP* **P 06 14 08.2 -0.6**
CN2 *epP* pP 06 14 32.4 +2.4
CN2 *eS* **S 06 19 22.8 -2.1**
CN2 pmax pmax
comp=Z,20nm,1.0s
AS31 Alice Springs 34.36 167 *eP* **P 06 14 13.9 -1.3**
comp=Z,6.6nm,0.6s
ASAR Alice Springs 34.36 167 P **P 06 14 14.1 -1.2**
comp=Z,8.6nm,0.4s,baz=351,slow=6.9,SNR=102

ASAR PcP **PcP 06 16 49.5 +0.2**
comp=Z,6.7nm,0.6s,baz=355,slow=2.8,SNR=9.0
ASAR S **S 06 19 32.6 -3.7**
comp=Z,6.0nm,0.9s,baz=357,slow=22,SNR=9.2
ASAR ScP **ScP 06 20 27.8 +1.5**
comp=Z,2.7nm,0.9s,baz=329,slow=3.2,SNR=3.9
ASAR LR LR 06 28 55.2
comp=Z,188nm,21.6s,baz=347,slow=37
AS01 Alice Springs 34.37 167 *eP* **P 06 14 13.8 -1.5**
USRK Ussuriysk Ar. 34.43 8 P **P 06 14 15.9 +0.4**
comp=Z,7.1nm,0.6s,baz=184,slow=7.4,SNR=21
USRK PcP **PcP 06 16 49.3 +0.1**
comp=Z,2.5nm,0.5s,baz=160,slow=1.1,SNR=5.0
USRK LR LR 06 27 21.0
comp=Z,185nm,20.4s,baz=173,slow=34
MDJ Mudanjiang 34.60 4 P **P 06 14 17.8 +0.8**
MDJ sP sP 06 14 51.9 +3.0
MDJ S **S 06 19 42.9 +3.4**
MDJ PcS **PcS 06 20 30.7 -5.4**
MDJ pmax pmax
comp=Z,34nm,1.4s
MDJ pmax pmax
comp=Z,85nm,2.6s
WRKA Warakurna 34.92 176 P **P 06 14 19.7 -0.3**
baz=35,SNR=50
SHL Shillong 35.88 300 *eP* **P 06 14 29.0 +0.5**
LSA Lhasa 37.99 306 *eP* **P 06 14 46.6 -0.1**
LSA pmax pmax
comp=Z,52nm,1.4s
LSA Lhasa 37.99 306 *eP* **P 06 14 46.6 -0.1**
comp=Z,52nm,1.4s
HABR Khabarovsk 39.06 10 *eP* **P 06 14 52.8 -2.0**
HABR *e* 06 16 24.9
HABR *e* 06 17 00.5
HABR *eS* **S 06 20 45.9 -1.3**
HABR *e* 06 24 13.2
HABR *e* 06 24 51.4
HABR pmax pmax
comp=E,25nm,1.1s
HABR pmax pmax
comp=Z,42nm,1.1s
HABR pmax pmax
comp=N,30nm,1.1s
HABR MLR MLR
comp=Z,79nm,18.0s
KLR Kul'dur 39.37 6*c iP* **P 06 14 57.4 0.0**
YSS Yuzh-Sakhalins 39.44 18 *eP* **P 06 15 02.4 +4.4**
YSS pmax pmax
comp=Z,30nm,2.4s
HIA Hailar 39.47 353 *eP* **P 06 14 58.2 -0.1**
HIA pmax pmax
comp=Z,40nm,0.9s
HIA Hailar 39.47 353 *eP* **P 06 14 58.2 -0.1**
comp=Z,40nm,0.9s
TAPN Taplejung 39.99 301 *eP* **P 06 15 02.6 -0.6**
comp=Z,26nm,0.4s
MORW Morawa 40.05 194 P **P 06 15 04.0 +0.7**
baz=40,SNR=3.1
ODAN Odare 40.11 300 *eP* **P 06 15 03.0 -1.2**
comp=Z,213nm,0.7s
H11S3 WAKE ISLAND Hy 40.20 73 T T 06 58 03.4
baz=262,slow=74,SNR=668
H11S1 WAKE ISLAND Hy 40.21 73 T T 06 58 04.4
baz=262,slow=74,SNR=276
H11S2 WAKE ISLAND Hy 40.21 73 T T 06 58 04.1
baz=262,slow=74,SNR=192
QLP Quilpie 40.45 154 P **P 06 15 05.3 -1.4**
baz=40,SNR=4.0
H11N1 WAKE ISLAND Hy 40.53 71 T T 06 58 26.4
baz=264,slow=74,SNR=928
H11N2 WAKE ISLAND Hy 40.54 71 T T 06 58 26.1
baz=264,slow=74,SNR=533
H11N3 WAKE ISLAND Hy 40.55 71 T T 06 58 32.7
baz=264,slow=74,SNR=785
FORT Forrest 40.62 177 P **P 06 15 07.7 -0.2**
baz=41,SNR=7.9
FORT Forrest 40.62 177 *eP* **P 06 15 08.0 +0.1**
comp=Z,1μm,0.6s
RAMN Ramite 40.81 300 *eP* **P 06 15 09.1 -0.9**
comp=Z,100nm,0.7s
SONM Songino Array 41.17 340 P **P 06 15 12.3 -0.2**
comp=Z,18nm,0.6s,baz=160,slow=9.3,SNR=79
SONM PcP **PcP 06 17 09.9 -0.2**
comp=Z,7.3nm,0.7s,baz=161,slow=2.5,SNR=5.4
SONM ScP **ScP 06 20 55.9 +4.1**
comp=Z,3.9nm,0.8s,baz=147,slow=4.3,SNR=9.4
SONM LR LR 06 34 05.6
comp=Z,301nm,20.6s,baz=141,slow=39
SONA1 Songino Array 41.18 340 *eP* **P 06 15 11.8 -0.8**
KMBL Kambalda 41.35 185 P **P 06 15 13.7 -0.2**
baz=41,SNR=5.8
JIRN Jiri 41.37 301 *eP* **P 06 15 13.6 -1.1**
comp=Z,169nm,0.6s
BLDU Ballidu 41.39 192 P **P 06 15 14.6 +0.3**
baz=41
GUN Gumba 41.70 301 *eP* **P 06 15 16.3 -1.1**
comp=Z,166nm,0.7s
PKI Pulchoki 42.01 300 *eP* **P 06 15 18.1 -1.7**
comp=Z,44nm,0.5s
PKIN Phulchoki 42.02 300 *eP* **P 06 15 18.0 -1.9**
comp=Z,30nm,0.5s
KLBR Kellerberrin 42.14 191 P **P 06 15 20.1 -0.3**
baz=42,SNR=7.9
KKN Kakani 42.18 300 *eP* **P 06 15 19.8 -1.3**
comp=Z,45nm,0.8s
DMN Daman 42.27 300 *eP* **P 06 15 20.3 -1.6**
comp=Z,43nm,0.7s
GKN Gorkha 42.78 301 *eP* **P 06 15 24.1 -1.8**
comp=Z,31nm,0.5s
MUN Mundaring 42.82 192 P **P 06 15 26.4 +0.5**
baz=43
CIT Chita 43.10 349 *eP* **P 06 15 28.5 +0.6**
CIT *e* 06 15 48.3
CIT *e* 06 15 59.5
CIT pmax pmax
comp=Z,131nm,1.2s
NWAO Narrogin (SRO) 43.53 191 P **P 06 15 31.9 +0.3**
baz=44,SNR=11
NWAO P **P 06 15 31.9 +0.3**
baz=44,SNR=11
NWAO Narrogin (SRO) 43.53 191 *eP* **P 06 15 29.8 -1.8**
NWAO pmax pmax
comp=Z,212nm,1.8s
NWAO Narrogin (SRO) 43.53 191 *eP* **P 06 15 29.8 -1.8**
comp=Z,212nm,1.8s
KOLN Koldanda 43.60 300 *eP* **P 06 15 31.3 -1.3**
comp=Z,80nm,0.7s
BBOO Buckleboo 43.66 168 P **P 06 15 32.3 -0.3**
baz=44,SNR=43
BBOO Buckleboo 43.66 168 *eP* **P 06 15 32.3 -0.3**
comp=Z,98nm,0.8s
PYUN Piuthan 44.21 300 *eP* **P 06 15 36.3 -1.2**
comp=Z,77nm,0.7s
STKA Stephens Creek 44.24 161 P **P 06 15 37.1 -0.2**
comp=Z,11nm,0.5s,baz=337,slow=7.7,SNR=21
STKA S **S 06 22 01.9 -2.2**
comp=Z,1.4nm,0.3s,baz=295,slow=19,SNR=3.1
STKA LR LR 06 39 43.9
comp=Z,143nm,18.1s,baz=6.7,slow=44
STKA Stephens Creek 44.24 161 P **P 06 15 37.0 -0.4**
baz=44,SNR=18
STKA Stephens Creek 44.24 161 *eP* **P 06 15 36.9 -0.5**
comp=Z,6.1nm,0.8s
STKA S **S 06 22 01.9 -2.2**
ZAK Zakamensk 44.41 339 *eP* **P 06 15 37.3 -1.3**
ZAK pmax pmax
comp=Z,11nm,1.2s
HTT Hallett 44.92 165 P **P 06 15 43.0 +0.2**
baz=45,SNR=7.4
RKGY Rocky Gully 45.22 191 P **P 06 15 46.0 +1.0**
baz=45,SNR=5.7
TLY Talaya 45.39 341 *eP* **P 06 15 46.0 -0.2**
TLY *eS* S 06 22 35.5 +15
TLY pmax pmax
comp=Z,51nm,0.9s
TLY MLR MLR
comp=Z,169nm,17.0s
TLY Talaya 45.39 341 *eP* **P 06 15 46.7 +0.5**
comp=Z,42nm,0.8s
TLY Talaya 45.39 341 P **P 06 15 46.2 0.0**
SNR=7.3
TLY Talaya 45.39 341 P **P 06 15 46.2 0.0**
SNR=7.3
CMSA Cobar Meteorol 45.41 156 P **P 06 15 46.3 -0.3**
baz=45,SNR=12
MOY Mondy 46.29 339 *eP* **P 06 15 53.6 +0.2**
MOY pmax pmax

comp=Z,45nm,2.3s
HYB Hyderabad 46.63 284 *i* P **P** **06 15 56.0 -0.5**
CLNS Chul'man 46.71 359 *e*P **P** **06 15 57.1 +0.6**
CLNS *e* 06 17 29.2
CLNS *e* 06 17 48.0
CLNS *e*S **S** **06 22 45.9 +6.8**
CLNS *e* 06 26 00.8
CLNS pmax pmax
comp=Z,56nm,0.9s
CLNS pmax pmax
comp=E,13nm,1.1s
CLNS pmax pmax
comp=N,36nm,0.9s
CLNS pmax pmax
comp=Z,9.0nm,1.0s
CLNS pmax pmax
comp=N,9.0nm,1.2s
CLNS pmax pmax
comp=E,8.0nm,1.0s
CLNS smax smax
comp=N,41nm,13.2s
CLNS smax smax
comp=E,281nm,15.2s
ARMA Armidale 47.13 149 P **P** **06 16 00.7 +0.4**
baz=47,SNR=4.7
WMQ Urumqi 47.28 322 P **P** **06 16 01.2 0.0**
WMQ pP pP 06 16 27.1 +3.7
WMQ sP sP 06 16 37.0 +3.2
WMQ PcP **PcP** **06 17 31.7 +0.7**
WMQ S **S** **06 22 46.9 -0.9**
WMQ pmax pmax
comp=E,22nm,0.7s
WMQ pmax pmax
comp=E,81nm,3.7s
WMQ LR LR
comp=E,540nm,15.5s
WMQ LR LR
comp=E,280nm,9.3s
WMQ LR LR
comp=E,250nm,26.7s
BOD Bodaibo 48.58 351 *e*P **P** **06 16 09.8 -1.1**
BOD pmax pmax
comp=Z,46nm,1.1s
ARPS Mount Arapiles 48.86 163 P **P** **06 16 13.4 +0.1**
baz=49,SNR=10
PEA0 Petropavlovsk- 49.95 24 *e*P **P** **06 16 22.3 +0.9**
PEA0B Petropavlovsk- 49.95 24 *e*P **P** **06 16 22.4 +1.0**
comp=Z,34nm,0.9s
PETK Petropavlovsk- 49.95 24 P **P** **06 16 22.6 +1.3**
comp=Z,13nm,0.6s,baz=193,slow=4.3,SNR=16
PETK LR LR 06 36 05.5
comp=Z,171nm,21.9s,baz=223,slow=34
CAN Canberra 50.05 155 *e*P **P** **06 16 23.0 +0.5**
CAN pmax pmax
comp=Z,122nm,1.6s
CAN Canberra 50.05 155 *e*P **P** **06 16 22.9 +0.5**
comp=Z,122nm,1.6s
CNB Canberra Magne 50.20 155 P **P** **06 16 24.6 +1.0**
baz=50,SNR=6.6
PET Petropavlovsk 50.28 25⇓ *e*P **P** **06 16 22.6 -1.2**
PET pmax pmax
comp=Z,11nm,0.8s
TOO Toolangi 50.73 160 P **P** **06 16 28.6 +1.1**
baz=51,SNR=6.3
DZM Mont Dzumac 50.86 129 *e*P **P** **06 16 28.9 0.0**
comp=Z,151nm,1.4s
DZM Mont Dzumac 50.86 129 *e*LR LR 06 31 07.2
comp=Z,501nm,25.6s
POO Poona 51.14 286 *e*P **P** **06 16 31.0 0.0**
YAK Yakutsk 51.98 2 *e*P **P** **06 16 35.9 -0.5**
YAK pmax pmax
comp=Z,128nm,0.9s
YAK pmax pmax
comp=N,51nm,1.1s
YAK pmax pmax
comp=E,13nm,1.1s
YAK Yakutsk 51.98 2 *e*P **P** **06 16 36.6 +0.2**
comp=E,150nm,0.8s
MK01 Makanchi Array 52.07 323 *e*P **P** **06 16 36.6 -0.9**
MK31 Makanchi Array 52.09 323 P **P** **06 16 36.8 -0.8**
MK31 pmax pmax
comp=Z,33nm,0.7s
MK31 Makanchi Array 52.09 323 *e*P **P** **06 16 36.8 -0.8**
MKAR Makanchi Array 52.09 323 *e*P **P** **06 16 36.8 -0.8**
MKAR pmax pmax
comp=Z,257nm,0.7s
MKAR Makanchi Array 52.09 323 *e*P **P** **06 16 36.8 -0.8**
comp=Z,256nm,0.7s
MAKZ Makanchi 52.28 323 P **P** **06 16 37.5 -1.5**
MAKZ pmax pmax
comp=Z,25nm,0.7s
MAKZ Makanchi 52.28 323 *e*P **P** **06 16 38.3 -0.7**
comp=Z,40nm,1.0s
MA2 Magadan 52.82 15 *e*P **P** **06 16 43.6 +0.8**
MA2 pmax pmax
comp=Z,21nm,0.6s
MA2 Magadan 52.82 15 *e*P **P** **06 16 43.6 +0.8**
comp=Z,21nm,0.6s
KSH Kashi 53.23 312 *e*P **P** **06 16 47.1 +0.8**
KSH pP pP 06 17 11.1 +2.2
KSH PcP **PcP** **06 17 53.1 0.0**
KSH PP **PP** **06 18 50.0 +2.7**
KSH S **S** **06 24 07.1 -3.6**
KSH SS **SS** **06 27 46.7 -4.8**
KSH pmax pmax
comp=Z,8.0nm,0.7s
KSH pmax pmax
comp=Z,85nm,5.7s
KSH LR LR
comp=Z,130nm,9.2s
KSH LR LR
comp=Z,520nm,15.5s
KSH LR LR
comp=Z,630nm,20.3s
TKM2 Tokmak 2 54.69 316 P **P** **06 16 54.7 -2.2**
TKM2 pmax pmax
comp=Z,8.0nm,0.8s
ZAA0 Zalesovo Array 54.73 331 *e*P **P** **06 16 55.2 -1.5**
ZALV Zalesovo Beam 54.73 331 P **P** **06 16 55.3 -1.5**
comp=Z,28nm,0.6s,baz=126,slow=6.6,SNR=68
ZALV PcP **PcP** **06 17 57.0 -1.3**
comp=Z,7.7nm,0.6s,baz=138,slow=3.7,SNR=2.9
ZALV LR LR 06 42 46.4
comp=Z,242nm,18.5s,baz=266,slow=39
NVS Novosibirsk 56.01 332⇓ *i* P **P** **06 17 04.9 -1.0**
NVS *i* 06 17 20.6
NVS pmax pmax
comp=Z,47nm,1.0s
NVS pmax pmax
comp=N,28nm,1.1s
NVS pmax pmax
comp=E,26nm,1.1s
SEY Seymchan 56.11 14 *c e*P **P** **06 17 08.1 +1.6**
KURK Kurchatov 56.14 326 *c i*P **P** **06 17 05.9 -1.0**
KURK pmax pmax
comp=Z,248nm,0.7s
KURK Kurchatov 56.14 326 *e*P **P** **06 17 06.1 -0.9**
comp=Z,74nm,0.8s
KURK Kurchatov 56.14 326 P **P** **06 17 06.1 -0.9**
SNR=24
KURK Kurchatov 56.14 326 P **P** **06 17 06.1 -0.9**
SNR=24
KBL Kabul 57.29 305 *e*P **P** **06 17 14.6 -1.1**
KBL pmax pmax
comp=Z,16nm,0.9s
KBL Kabul 57.29 305 *e*P **P** **06 17 14.6 -1.1**
comp=Z,16nm,0.9s
KK31 Karatay Array 58.27 315 *i* P **P** **06 17 20.9 -1.2**
KK31 pmax pmax
comp=Z,9.0nm,0.6s
KKAR Karatay Array 58.27 315 *e*P **P** **06 17 21.3 -0.8**
KKAR pmax pmax
comp=Z,122nm,0.6s
KKAR Karatay Array 58.27 315 *e*P **P** **06 17 21.2 -0.8**
comp=Z,122nm,0.6s
MSVF Nonsavu 58.29 118 *e*P **P** **06 17 24.4 +1.7**
MSVF pmax pmax
comp=Z,41nm,1.0s
MSVF Nonsavu 58.29 118 *e*P **P** **06 17 24.4 +1.7**
comp=Z,41nm,1.0s
TIXI Tiksi 61.60 1 *c i*P **P** **06 17 43.8 -0.5**
TIXI pmax pmax
comp=Z,95nm,0.9s
TIXI Tiksi 61.60 1 *e*P **P** **06 17 44.1 -0.1**
comp=Z,83nm,0.9s
BVA0 Borovoye Array 61.74 326 P **P** **06 17 44.2 -1.5**
BVA0 pmax pmax
comp=Z,24nm,1.1s
BRVK Borovoye 61.81 326 *c i*P **P** **06 17 44.9 -1.2**
BRVK pmax pmax
comp=Z,84nm,0.9s
BRVK Borovoye 61.81 326 *e*P **P** **06 17 45.2 -0.9**
comp=Z,37nm,0.8s
BRVK Borovoye 61.81 326 P **P** **06 17 45.1 -1.0**
SNR=19
BRVK Borovoye 61.81 326 P **P** **06 17 45.1 -1.0**
SNR=19
BILL Bilibino 63.69 16⇑ *i*P **P** **06 17 59.1 +0.8**
BILL pmax pmax
comp=Z,81nm,1.8s
NRIK Noril'sk 64.19 346 P **P** **06 18 01.2 -0.4**
comp=Z,16nm,0.5s,baz=121,slow=6.8,SNR=24
NRIK PcP **sP** **06 18 34.5 -0.6**
comp=Z,15nm,0.7s,baz=129,slow=3.8,SNR=5.0
NRIK LR LR 06 49 35.6
comp=Z,351nm,18.1s,baz=144,slow=39
AFI Afiamalu 66.10 110 LR LR 06 41 34.9
comp=Z,343nm,21.6s,baz=286,slow=31
GEYT Alibeck 66.52 307 P **P** **06 18 16.8 -0.4**
comp=Z,18nm,0.8s,baz=103,slow=4.7,SNR=10
GEYT LR LR 06 51 47.5
comp=Z,182nm,21.5s,baz=105,slow=40
HOQ Hoqain 66.64 291 P **P** **06 18 17.2 -1.0**
SNR=7.0
HOQ Hoqain 66.64 291 P **P** **06 18 17.2 -1.0**
SNR=7.0
AB31 Akbulak array 66.92 319 *i* P **P** **06 18 17.9 -1.6**
AB31 pmax pmax
comp=Z,7.0nm,0.6s
ABKAR Akbulak array 66.92 319 *e*P **P** **06 18 18.4 -1.1**
comp=Z,107nm,0.6s
THZ Tophouse 67.10 144 *e*P **P** **06 18 20.7 -0.1**
comp=Z,27nm,0.7s
LBZ Lake Benmore 67.28 147 *e*P **P** **06 18 22.3 +0.5**
comp=Z,83nm,1.4s
RPZ Rata Peaks 67.30 146 *e*P **P** **06 18 22.6 +0.6**
comp=Z,33nm,0.8s
LTZ Lake Taylor 67.38 145 *e*P **P** **06 18 23.5 +1.0**
comp=Z,18nm,0.9s
BANOM Banah 67.53 294 *i* P **P** **06 18 22.0 -1.9**
SNR=5.1
UOSS Minazif 67.63 293 *e*P **P** **06 18 23.1 -1.3**
comp=Z,17nm,0.8s
HATD Hatta, Dubai 67.70 293 *i* P **P** **06 18 24.1 -0.8**
SNR=11
BKZ Black Stump Fm 67.74 140 *e*P **P** **06 18 25.8 +0.9**
comp=Z,35nm,0.9s
ASHO Ashiyiah 67.77 293 *i* P **P** **06 18 24.3 -1.1**
SNR=16
FAQ Al Faqa, Dubai 68.19 293 *i* P **P** **06 18 26.8 -1.2**
SNR=6.1
SVE Sverdlovsk 68.30 327 *d e*P **P** **06 18 27.1 -0.9**
SVE pmax pmax
comp=Z,63nm,0.7s
ARU Arti 69.31 327 *c i*P **P** **06 18 32.8 -1.5**
ARU 06 18 54.0
ARU 06 21 03.9
ARU PPP PPP 06 22 48.3
ARU S **S** **06 27 33.2 -0.3**
ARU SS **SS** **06 31 57.3 -4.5**
ARU pmax pmax
comp=Z,54nm,0.5s
ARU Arti 69.31 327 *e*P **P** **06 18 32.9 -1.4**
comp=Z,89nm,0.5s
SOKR Solikamsk 70.95 330 *e*P **P** **06 18 41.8 -2.4**
SOKR pmax pmax
comp=Z,13nm,0.6s
CHGN Chignik 73.69 34 *e*P **P** **06 19 01.3 +0.6**
comp=Z,68nm,1.0s
SEKA Sheki 75.10 310 P **P** **06 19 07.5 -1.7**
TT01 Tatalina 75.63 28 *e*P **P** **06 19 13.0 +1.3**
SVW2 Sparrevohn 75.66 29 *e*P **P** **06 19 12.8 +0.8**
comp=Z,59nm,1.4s
OHAK Old Harbor 76.58 33 *e*P **P** **06 19 18.3 +1.1**
comp=Z,45nm,0.7s
TBLG Delisi 76.93 311 P **P** **06 19 19.6 0.0**
TBLG Delisi 76.93 311 P **P** **06 19 19.6 0.0**
KDAK Kodiak Island 76.98 33 *i* P **P** **06 19 20.8 +1.4**
KDAK Kodiak Island 76.98 33 *e*P **P** **06 19 20.9 +1.4**
comp=Z,59nm,0.8s
GNI Garni 76.99 309 LR LR 06 58 31.2
comp=Z,129nm,21.4s,baz=95,slow=40
GNI Garni 76.99 309 *c i*P **P** **06 19 20.0 -0.1**
GNI pmax pmax
comp=Z,98nm,1.3s
GNI Garni 76.99 309 *e*P **P** **06 19 20.2 +0.1**
comp=Z,26nm,0.6s
GNI Garni 76.99 309 P **P** **06 19 20.6 +0.5**
SNR=5.1
GNI Garni 76.99 309 P **P** **06 19 20.6 +0.5**
SNR=5.1
CAST Castle Rocks 77.46 27 *e*P **P** **06 19 23.3 +1.2**
comp=Z,37nm,0.8s
ZEI Tsey 77.52 312 *e*P **P** **06 19 19.9 -3.2**
ZEI pmax pmax
comp=Z,122nm,0.7s
CLDR Caldiran 77.67 308 *i* P **P** **06 19 23.1 -0.9**
NCK Nalchik 77.72 312⇑ *e*P **P** **06 19 23.1 -0.8**
NCK pmax pmax
comp=Z,47nm,0.6s
ONI Oni 77.86 311 P **P** **06 19 25.2 +0.4**
ONI Oni 77.86 311 P **P** **06 19 25.2 +0.4**
AKH Akhalkalaki 77.88 310 P **P** **06 19 25.7 +0.6**
AKH Akhalkalaki 77.88 310⇓ *i*P **P** **06 19 25.6 +0.6**
AKH Akhalkalaki 77.88 310 P **P** **06 19 25.7 +0.6**
BRLK Bradley Lake 77.91 31 *e*P **P** **06 19 25.3 +0.6**
comp=Z,189nm,1.7s
KTH Kantishna Hill 77.98 27 *e*P **P** **06 19 25.4 +0.3**
comp=Z,51nm,1.5s
SUA Susitna One 78.01 29 *e*P **P** **06 19 26.1 +0.7**
comp=Z,34nm,0.8s
KBZ Khabaz 78.21 313 P **P** **06 19 26.0 -0.6**
comp=Z,20nm,0.9s,baz=112,slow=2.7,SNR=28
KBZ LR LR 06 58 15.5
comp=Z,190nm,20.2s,baz=68,slow=39
KBZ Khabaz 78.21 313 P **P** **06 19 26.0 -0.6**
KBZ pmax pmax
comp=Z,20nm,0.9s
KBZ MLR MLR
comp=Z,190nm,20.2s
TRF Thorofare Moun 78.26 27 *e*P **P** **06 19 27.7 +0.9**
comp=Z,33nm,0.7s
KIV Kislovodsk 78.36 313 *e*P **P** **06 19 24.8 -2.8**
KIV pmax pmax
comp=Z,77nm,1.1s
KIV MLR MLR
comp=Z,141nm,18.0s
KIV Kislovodsk 78.36 313 *e*P **P** **06 19 27.3 -0.3**
comp=Z,55nm,0.7s
NEY Neytrino 78.36 312⇑ *e*P **P** **06 19 27.2 -0.5**
NEY pmax pmax
comp=Z,6.0nm,0.8s
COLD Coldfoot 78.40 23 *e*P **P** **06 19 29.1 +1.9**
comp=Z,38nm,0.8s
RC01 Rabbit Creek A 78.49 30 *e*P **P** **06 19 28.5 +0.7**
comp=Z,36nm,1.1s
TUTA Tutak 78.51 308 *i* P **P** **06 19 29.3 +0.7**
TOLK Toolik Lake Re 78.68 22 P **P** **06 19 30.5 +1.7**
baz=268
PMR Palmer 78.78 29 *e*P **P** **06 19 29.8 +0.4**
PMR pmax pmax
comp=Z,25nm,0.7s
PMR Palmer 78.78 29 *e*P **P** **06 19 29.8 +0.4**
comp=Z,25nm,0.7s
CHVG Ch'k'valeri 78.86 312 P **P** **06 19 30.3 +0.1**
MCK McKinley 78.87 27 *e*P **P** **06 19 30.5 +0.6**
MCK pmax pmax
comp=Z,81nm,0.7s
MCK McKinley 78.87 27 *e*P **P** **06 19 30.5 +0.6**
comp=Z,80nm,0.7s
RND Reindeer 78.91 27 *e*P **P** **06 19 30.6 +0.4**
RND pmax pmax
comp=Z,23nm,0.8s
RND Reindeer 78.91 27 *e*P **P** **06 19 30.6 +0.4**
comp=Z,23nm,0.8s
ARTV Artvin 79.07 310 *i* P **P** **06 19 31.7 0.0**
ARTV Artvin 79.07 310 *e*P **P** **06 19 31.9 +0.1**
comp=Z,15nm,0.8s
DAGI Agillar 79.09 310 *i* P **P** **06 19 31.6 -0.1**
EKAR Karacoban 79.10 308 *i* P **P** **06 19 33.0 +1.1**
RAR Rarotonga 79.14 114 LR LR 06 48 42.9
comp=Z,192nm,21.9s,baz=269,slow=31
SML Sawmill 79.16 29 *e*P **P** **06 19 32.5 +0.9**
SML pmax pmax
comp=Z,41nm,0.9s
SML Sawmill 79.16 29 *e*P **P** **06 19 32.5 +0.9**
comp=Z,41nm,0.9s
MDM Murphy Dome 79.17 26 *e*P **P** **06 19 32.4 +0.8**
comp=Z,18nm,0.8s
DDEM Demirkent 79.22 310 *i* P **P** **06 19 32.4 0.0**
WRH Wood River Hil 79.24 26 *e*P **P** **06 19 32.7 +0.9**
comp=Z,16nm,0.9s
COLA College 79.33 26 *e*P **P** **06 19 33.0 +0.7**
COLA pmax pmax
comp=Z,25nm,0.8s
COLA College 79.33 26 *e*P **P** **06 19 33.0 +0.7**
comp=Z,25nm,0.8s
DHY Denali Highway 79.58 28 *e*P **P** **06 19 34.7 +0.8**
comp=Z,16nm,0.7s
KLMR Klimovskoe 79.63 330 *e*P **P** **06 19 31.8 -2.2**
KLMR pmax pmax
comp=Z,49nm,1.2s
SCM Sheep Creek Mo 79.64 29 *e*P **P** **06 19 35.3 +1.1**
SCM pmax pmax
comp=Z,54nm,0.9s
SCM Sheep Creek Mo 79.64 29 *e*P **P** **06 19 35.3 +1.1**
comp=Z,54nm,0.9s
HDA Harding Lake 79.73 26 *e*P **P** **06 19 34.4 -0.1**
comp=Z,30nm,0.7s
IL1 Eielson Array 79.75 26 *e*P **P** **06 19 34.2 -0.4**
ILAR Eielson Array 79.75 26 P **P** **06 19 34.3 -0.3**
comp=Z,13nm,0.7s,baz=239,slow=4.6,SNR=109
ILAR LR LR 06 51 39.8
comp=Z,31nm,21.6s,baz=260,slow=33
ILB Eielson Array 79.75 26 *e*P **P** **06 19 34.3 -0.3**
BTMN Batman 79.82 307 *i* P **P** **06 19 36.0 +0.4**
BNGL BINGOL 79.83 308 *i* P **P** **06 19 36.9 +1.0**
MIR Mirnyy 80.10 193 *i* P P 06 19 47.0 +11
MIR pmax pmax
comp=Z,10.0nm,1.0s
TMCR Tamitsa 80.19 334 *e*P **P** **06 19 35.9 -1.0**
TMCR pmax pmax
comp=Z,37nm,1.3s
KOPT Kop Dagi 80.25 309 *e*P **P** **06 19 39.5 +1.3**
comp=Z,32nm,1.0s
MARD Mardin 80.26 306 *e*P **P** **06 19 38.1 0.0**
comp=Z,46nm,0.6s
VSR Storozhevoye 80.32 320 *e*P **P** **06 19 36.7 -1.2**
VSR pmax pmax
comp=Z,50nm,0.9s
FYU Fort Yukon 80.36 24 *e*P **P** **06 19 39.8 +1.9**
comp=Z,35nm,0.9s
LPSR Galich'ya Gora 80.37 322 *e*P **P** **06 19 36.6 -1.6**
LPSR pmax pmax
comp=Z,90nm,0.7s
DIV Divide 80.42 29 *e*P **P** **06 19 40.2 +1.8**
comp=Z,31nm,0.7s
KBSD Kabsdagh 80.48 306 *e*P **P** **06 19 38.4 -0.8**
HARP HAARP 80.63 28 *e*P **P** **06 19 41.3 +1.8**
comp=Z,262nm,1.9s
SFNV Sufian 80.88 305 *e*P **P** **06 19 40.2 -1.2**
MOS Moscow 80.91 325 *e*P **P** **06 19 37.3 -3.7**
MOS pmax pmax
comp=Z,64nm,0.9s
DOT Dot Lake 81.04 27 *e*P **P** **06 19 42.4 +0.8**
comp=Z,44nm,0.9s
KELT Kelkit 81.18 309 *i* P **P** **06 19 41.2 -1.9**
MENT Mentasta 81.25 28 *e*P **P** **06 19 44.4 +1.6**
comp=Z,18nm,0.6s
OBN Obninsk 81.56 324 *c i*P **P** **06 19 43.2 -1.2**
OBN *e*S **S** **06 29 54.0 +5.1**
OBN *e*SS **SS** **06 35 12.5 +5.2**
OBN pmax pmax
comp=Z,26nm,0.5s
OBN MLR MLR
comp=Z,152nm,22.0s
KSRV Kasrt alli 81.83 305 *e*P **P** **06 19 45.9 -0.4**
ANN Anapa 82.05 314 *e*P **P** **06 19 45.7 -1.5**
ANN *e**PP **pP** **06 20 11.9 +0.5**
ANN *e*S **S** **06 29 52.4 -1.8**
ANN pmax pmax
comp=Z,67nm,1.0s
EGAK Eagle 82.20 26 *e*P **P** **06 19 48.6 +1.0**
comp=Z,16nm,0.8s
JHLN Al Jahlan 82.31 305 *e*P P 06 19 41.5 -7.3
SLMH Al Salmeh 82.86 305 *e*P P 06 19 45.1 -5.6
ABPO Ambohimpanom 82.84 249 *e*P **P** **06 19 51.1 -1.0**
ABPO pmax pmax
comp=Z,20nm,1.3s
ABPO Ambohimpanom 82.84 249 *e*P **P** **06 19 51.1 -1.0**
comp=Z,20nm,1.3s
DAWY Dawson 83.05 26 *e*P **P** **06 19 53.9 +1.7**
comp=Z,47nm,1.3s
JOF Joensuu 83.31 333 P **P** **06 19 53.5 +0.1**
JOF pmax pmax
comp=Z,44nm,0.6s
ROOS tl alroos 83.43 303 *e*P **P** **06 19 54.9 +0.2**
DRWC Darouich 83.61 306 *e*P **P** **06 19 55.2 -0.4**
BTCH Batrach 83.86 305 *e*P **P** **06 19 55.7 -1.2**
MARH Ras Al Marh 84.12 303 *e*P **P** **06 20 00.1 +1.5**
SPA0 Spitsbergen Ar 84.21 349 *e*P **P** **06 19 57.7 -0.1**
SPA0 IAmb IAmb 06 19 58.5
comp=Z,87nm,1.1s
SPA0 Spitsbergen Ar 84.21 349 *e*P **P** **06 19 58.1 +0.4**
TOTH TOTAH 84.25 303 *e*P **P** **06 19 59.1 +0.1**
ARNB Al Arnab 84.27 305 *e*P **P** **06 19 56.0 -3.1**
ARA0 ARCESS Array S 84.34 340 *e*P **P** **06 19 58.3 -0.3**
ARCES ARCESS Array B 84.34 340 P **P** **06 19 58.3 -0.3**
comp=Z,13nm,0.7s,baz=76,slow=6.4,SNR=25
ARCES LR LR 07 02 02.9
comp=Z,118nm,18.8s,baz=100,slow=39
ARE0 ARCESS Array S 84.34 340 *e*P **P** **06 19 58.4 -0.2**
ARE0 IAmb IAmb 06 19 59.0
comp=Z,23nm,0.8s
ARE0 ARCESS Array S 84.34 340 *e*P **P** **06 19 58.6 0.0**
comp=Z,21nm,0.8s
SIM Simferopol' 84.36 315 *e*P **P** **06 19 58.4 -0.8**
SIM pmax pmax
comp=Z,44nm,1.0s
HYT Haines Junctio 84.45 29 *e*P **P** **06 20 02.0 +2.5**
comp=Z,58nm,0.9s
INK Inuvik 84.59 22 *e*P **P** **06 20 00.8 +1.0**
INK pmax pmax
comp=Z,56nm,1.4s
INK Inuvik 84.59 22 *e*P **P** **06 20 00.8 +1.0**
comp=Z,56nm,1.4s
HAMF Hammerfest 84.68 341 *e*P **P** **06 19 59.4 -0.8**
HAMF IAmb IAmb 06 20 00.8
comp=Z,19nm,0.6s
KBS Kingsbay 84.72 350 *e*P **P** **06 20 00.1 -0.2**
KBS IAmb IAmb 06 20 00.8
comp=Z,19nm,0.8s
MMAI Mount Meron Ar 85.16 303 LR LR 07 03 56.3
comp=Z,65nm,18.4s,baz=110,slow=40
OUL Oulu 85.23 335 P **P** **06 20 02.4 -0.6**
OUL pmax pmax
comp=Z,34nm,0.9s
ILGA Ilgaz 85.25 311 *e*P **P** **06 20 03.6 -0.4**
comp=Z,25nm,0.8s
KTK1 Kautokeino 85.26 339 *e*P **P** **06 20 02.4 -0.8**
KTK1 IAmb IAmb 06 20 04.3
comp=Z,13nm,0.9s
BR131 Keskin Array S 85.52 309 *e*P **P** **06 20 04.1 -1.2**
BRTR Keskin Array B 85.52 309 P **P** **06 20 04.0 -1.2**
comp=Z,17nm,0.8s,baz=110,slow=4.6,SNR=64
BRTR LR LR 07 03 04.1
comp=Z,69nm,21.9s,baz=72,slow=39
SUF Sumiainen 85.67 333 P **P** **06 20 04.7 -0.6**
SUF pmax pmax
comp=Z,72nm,1.1s
WHY Whitehorse 85.75 29 *e*P **P** **06 20 08.0 +2.1**
comp=Z,50nm,0.8s
SKAG Skagway 85.79 30 *e*P **P** **06 20 08.1 +2.1**
comp=Z,30nm,0.9s
FIA1 FINESS Array S 86.00 332 *e*P **P** **06 20 06.1 -0.9**
FIA1 *e*P **P** **06 20 06.3 -0.7**
FINES FINESS Array B 86.00 332 P **P** **06 20 06.2 -0.8**
comp=Z,23nm,0.6s,baz=71,slow=5.1,SNR=141
FINES LR LR 07 02 35.6
comp=Z,146nm,18.5s,baz=68,slow=38
EIL Elat 86.06 299 LR LR 07 06 59.4
comp=Z,69nm,18.1s,baz=69,slow=42
KIF Kilpisjarvi 86.10 340 *e*P **P** **06 20 06.0 -1.3**
ANTO Ankara 86.14 310 *e*P **P** **06 20 07.8 -0.4**
ANTO pmax pmax
comp=Z,26nm,0.8s
ANTO Ankara 86.14 310 *e*P **P** **06 20 07.8 -0.4**
comp=Z,26nm,0.8s

CSS Mathiatis 86.54 305 *e*P **P 06 20 09.6 -0.7**
comp=Z,22nm,0.6s
AKASG Malin Array Be 86.61 321 P **P 06 20 08.9 -1.3**
comp=Z,18nm,0.8s,baz=62,slow=5.1,SNR=58
AKASG LR LR 07 04 05.1
comp=Z,92nm,18.3s,baz=70,slow=39
AKBB Malin Array Si 86.61 321 *e*P **P 06 20 09.0 -1.2**
AKBB pmax pmax
comp=Z,69nm,1.3s
AKBB Malin Array Si 86.61 321 *e*P **P 06 20 09.0 -1.2**
comp=Z,69nm,1.3s
KIEV Kiev 86.62 321*c i*P **P 06 20 08.8 -1.4**
KIEV pmax pmax
comp=Z,37nm,1.0s
KIEV Kiev 86.62 321 *e*P **P 06 20 08.9 -1.3**
comp=Z,68nm,1.3s
AK11 Malin Array Si 86.65 321 *e*P **P 06 20 08.9 -1.5**
PPT Papeete 87.69 108 LR LR 06 54 54.8
comp=Z,101nm,19.3s,baz=314,slow=32
PPT2 Papeete2 87.70 108 *e*LR LR 06 48 21.2
comp=Z,272nm,23.8s
SORM Soroca 87.70 318⇓*i*P **P 06 20 14.4 -1.1**
BOLV Bolvadin 87.75 309 *e*P **P 06 20 15.5 -0.6**
comp=Z,26nm,0.8s
TLCR 88.02 315⇑*i*P **P 06 20 16.4 -0.7**
STEI Steigen 88.40 339 *e*P **P 06 20 16.8 -1.6**
TIRR Tirgusor 88.45 315⇑*i*P **P 06 20 18.0 -1.1**
TIRR Tirgusor 88.45 315 *e*P **P 06 20 18.0 -1.1**
TIRR pmax pmax
comp=Z,17nm,0.7s
TIRR Tirgusor 88.45 315 *e*P **P 06 20 18.0 -1.1**
comp=Z,17nm,0.7s
CFR Carcaliu 88.49 316⇓*i*P **P 06 20 18.3 -1.0**
TLB Topalu 88.68 315⇑*i*P **P 06 20 19.3 -0.9**
HARR Harsova 88.74 315⇑*i*P **P 06 20 20.0 -0.5**
HARR Harsova 88.74 315 P **P 06 20 19.9 -0.5**
LOF Lofoten 88.90 340 *e*P **P 06 20 18.9 -1.8**
TBI Tubuai 88.92 114 *e*LR LR 06 48 54.2
comp=Z,476nm,24.2s
KMBO Kilima Mbogo 89.01 269 P **P 06 20 22.9 +0.2**
comp=Z,7.1nm,0.9s,baz=54,slow=7.9,SNR=14
KMBO LR LR 07 01 16.2
comp=Z,112nm,18.1s,baz=80,slow=36
KMBO Kilima Mbogo 89.01 269*ce*P **P 06 20 22.8 +0.1**
KMBO pmax pmax
comp=Z,7.0nm,0.9s
KMBO Kilima Mbogo 89.01 269 *e*P **P 06 20 23.4 +0.7**
comp=Z,28nm,1.4s
PRAR RASCA 89.28 318⇓*i*P **P 06 20 22.7 -0.3**
VRI Vrincioaia 89.30 316⇑*i*P **P 06 20 22.7 -0.4**
VRI Vrincioaia 89.30 316 P **P 06 20 22.6 -0.5**
PLOR Plostina 89.35 316⇓*i*P **P 06 20 23.3 -0.1**
MAW Mawson 89.40 200 P **P 06 20 23.3 +0.4**
comp=Z,8.3nm,0.7s,baz=92,slow=4.5,SNR=16
MAW LR LR 06 59 40.6
comp=Z,81nm,21.2s,baz=66,slow=35
MAW Mawson 89.40 200 *e*P **P 06 20 23.4 +0.4**
comp=Z,9.5nm,1.5s
SUW Suwalki 89.42 325 *e*P **P 06 20 22.1 -1.4**
SUW Suwalki 89.42 325 *e*P **P 06 20 22.1 -1.4**
VNDA Vanda 89.72 173 P **P 06 20 24.9 +0.6**
comp=Z,8.5nm,0.7s,baz=318,slow=6.1,SNR=91
VNDA PKKPbc **PKKPbc 06 37 58.9 -2.0**
comp=Z,1.3nm,1.1s,baz=252,slow=3.2,SNR=5.4
VNDA LR LR 06 59 49.3
comp=Z,137nm,21.3s,baz=320,slow=35
VNDA Vanda 89.72 173 *e*P **P 06 20 24.7 +0.4**
comp=Z,10nm,0.7s
BURAR Bucovina Array 89.88 318⇑*i*P **P 06 20 25.5 -0.5**
BURAR Bucovina Array 89.88 318 P **P 06 20 25.4 -0.5**
BUR08 Bucovina Ar. S 89.88 318 *e*P **P 06 20 25.6 -0.3**
MLR Muntele Rosu 89.92 316 LR LR 07 05 44.4
comp=Z,73nm,21.6s,baz=64,slow=39
MLR Muntele Rosu 89.92 316⇓*i*P **P 06 20 25.9 -0.3**
MLR Muntele Rosu 89.92 316 *e*P **P 06 20 25.6 -0.6**
MLR pmax pmax
comp=Z,11nm,0.9s
MLR Muntele Rosu 89.92 316 *e*P **P 06 20 25.6 -0.6**
comp=Z,11nm,0.9s
LVV L'vov 90.06 321 *e*P **P 06 20 27.2 +0.6**
SBA Scott Base 90.63 172 *e*P **P 06 20 29.7 +1.2**
SBA pmax pmax
comp=Z,11nm,1.0s
SBA Scott Base 90.63 172 *e*P **P 06 20 29.7 +1.2**
comp=Z,11nm,1.0s
HUMR Humele 90.82 315⇓*i*P **P 06 20 28.9 -1.3**
KWP Kalwaria Pacla 90.94 321 *e*P **P 06 20 30.3 -0.4**
KWP Kalwaria Pacla 90.94 321 *e*P **P 06 20 30.3 -0.4**
DAG Danmarks Havn 90.96 352 *i*P **P 06 20 29.6 -0.6**
comp=Z,23nm,0.7s
DAG Danmarks Havn 90.96 352 *i*P **P 06 20 29.6 -0.6**
DAG pmax pmax
comp=Z,16nm,0.7s
CJR Cluj-Napoca 91.18 318⇓*i*P **P 06 20 32.3 +0.4**
UZH Uzhgorod 91.49 320⇓*e*P **P 06 20 32.8 -0.4**
UZH *e* 06 20 53.8
UZH *e* 06 20 59.4
UZH *e* 06 24 10.8
UZH *i*S **S 06 31 22.2 -3.0**
UZH *i* 06 32 41.8
DRGR 91.75 318⇑*i*P **P 06 20 33.8 -0.8**
RES Resolute Bay 91.77 10 *e*P **P 06 20 35.3 +1.3**
RES pmax pmax
comp=Z,24nm,0.8s
RES Resolute Bay 91.77 10 *e*P **P 06 20 35.2 +1.3**
comp=Z,24nm,0.8s
STHS Stebnicka Huta 91.91 321 *e*P **P 06 20 35.2 0.0**
STHS pmax pmax
comp=Z,12nm,0.7s
STHS Stebnicka Huta 91.91 321 *e*P **P 06 20 35.2 0.0**
comp=Z,12nm,0.7s
STHS Stebnicka Huta 91.91 321 *e*P **P 06 20 35.2 0.0**
CRVS Cervenica-Dubn 91.93 320 *e*P **P 06 20 35.1 -0.2**
CRVS Cervenica-Dubn 91.93 320 *e*P **P 06 20 35.1 -0.2**
CRVS Cervenica-Dubn 91.93 320 *e*P **P 06 20 35.1 -0.2**
NIE Niedzica 92.50 321 *e*P **P 06 20 37.9 0.0**
NIE Niedzica 92.50 321 *e*P **P 06 20 37.9 0.0**
OJC Ojcow 92.55 322 *e*P **P 06 20 37.5 -0.5**
OJC Ojcow 92.55 322 *e*P **P 06 20 37.6 -0.5**
OJC pmax pmax
comp=Z,15nm,0.7s
OJC Ojcow 92.55 322 *e*P **P 06 20 37.6 -0.5**
comp=Z,15nm,0.7s
SIRR Siria 92.59 318⇓*i*P **P 06 20 38.2 -0.2**
NC405 NORSAR Array S 92.63 334 *e*P **P 06 20 37.3 -1.0**
KECS Kecovo 92.68 320 *e*P **P 06 20 38.4 -0.3**
KECS pmax pmax
comp=Z,17nm,1.5s
KECS Kecovo 92.68 320 *e*P **P 06 20 38.4 -0.3**
comp=Z,17nm,1.5s
KECS Kecovo 92.68 320 *e*P **P 06 20 38.4 -0.3**
BZS Buzias 92.81 317⇑*i*P **P 06 20 38.0 -1.4**
NB2 NORSAR Subarra 92.88 334 P **P 06 20 37.6 -1.8**
baz=66,slow=4.4
NB2 NORSAR Subarra 92.88 334 P **P 06 20 38.0 -1.4**
NB2 pmax pmax
comp=Z,3.0nm,0.6s
NB2 NORSAR Subarra 92.88 334 P **P 06 20 37.6 -1.8**
comp=Z,6.7nm,0.7s,baz=66,slow=4.4
NOA NORSAR Array B 92.88 334 P **P 06 20 37.8 -1.6**
comp=Z,5.7nm,0.7s,baz=66,slow=4.6,SNR=14
NOA LR LR 07 05 45.8
comp=Z,113nm,21.0s,baz=70,slow=38
NC204 NORSAR Array S 92.97 334 *e*P **P 06 20 38.8 -1.1**
PSZ Piszkesteto 93.23 320⇑*i*P **P 06 20 40.8 -0.6**
PSZ Piszkesteto 93.23 320 *e*P **P 06 20 41.1 -0.3**
PSZ pmax pmax
comp=Z,10.0nm,1.1s
PSZ Piszkesteto 93.23 320⇑*i*P **P 06 20 40.8 -0.6**
PSZ Piszkesteto 93.23 320 *e*P **P 06 20 41.1 -0.3**
comp=Z,9.5nm,1.1s
IDI Anoyia 93.24 306 LR LR 07 09 48.4
comp=Z,64nm,19.8s,baz=76,slow=40
DOMB Dombas 93.33 335 *e*P **P 06 20 40.3 -1.2**
DOMB IAmb IAmb 06 20 42.1
comp=Z,222nm,2.5s
VYHS Vyhne 93.71 320 *e*P **P 06 20 43.2 -0.3**
VYHS pmax pmax
comp=Z,5.0nm,1.1s
VYHS Vyhne 93.71 320 *e*P **P 06 20 43.2 -0.3**
YKW3 Yellowknife Ar 94.03 24 *e*P **P 06 20 45.8 +1.2**
comp=Z,18nm,0.9s
YKA Yellowknife Ar 94.06 24 P **P 06 20 45.5 +0.8**
comp=Z,12nm,0.7s,baz=301,slow=4.7,SNR=20
YKA PKKPbc **PKKPdf 06 37 44.6 -2.2**
comp=Z,1.5nm,0.6s,baz=121,slow=2.6,SNR=5.2
AKN Aaknes 94.11 336 *e*P **P 06 20 44.5 -0.6**
AKN IAmb IAmb 06 20 45.6
comp=Z,39nm,1.0s
KSP Ksiaz 94.43 323 *e*P **P 06 20 47.0 +0.3**
KSP Ksiaz 94.43 323 *e*P **P 06 20 47.0 +0.3**
DPC Dobruska-Polom 94.60 323 *e*P **P 06 20 47.4 -0.2**
DPC Dobruska-Polom 94.60 323 *e*P **P 06 20 47.4 -0.2**
UPC Upice 94.72 323 *e*P **P 06 20 48.0 -0.1**
UPC Upice 94.72 323 *e*P **P 06 20 48.0 -0.1**
VRAC Vranov 94.81 322 LR LR 07 07 55.3
comp=Z,63nm,18.3s,baz=80,slow=38
VRAC Vranov 94.81 322⇓*i*P **P 06 20 48.9 +0.3**
TAOE Nuku Hiva Isla 95.22 98 *e*LR LR 06 51 46.2
comp=Z,423nm,26.7s
PDG Podgorica 95.42 315⇓*i*P **P 06 20 49.2 -2.2**
TREC Trest 95.49 322 *e*P **P 06 20 51.4 -0.3**
TREC Trest 95.49 322 *e*P **P 06 20 51.4 -0.3**
GOPC GO Pecny, Ondr 95.68 323 *e*P **P 06 20 52.2 -0.3**
GOPC GO Pecny, Ondr 95.68 323 *e*P **P 06 20 52.2 -0.3**
BLS5 Blasjo 95.74 333 *e*P **P 06 20 51.6 -0.9**
CONA Conrad Observa 95.77 321 *i* PcP **P 06 20 52.6 -0.4**
comp=Z,14nm,1.4s
PRU Pruhonice 95.80 323 *e*P **P 06 20 52.6 -0.4**
PRU Pruhonice 95.80 323 *e*P **P 06 20 52.6 -0.4**
BRG Berggiesshubel 95.80 324 *e*P **P 06 20 52.9 -0.1**
comp=Z,18nm,1.4s
BRG Berggiesshubel 95.80 324 *e*P **P 06 20 52.9 -0.1**
BRG pmax pmax
comp=Z,18nm,1.4s
LLLB Lillooet 95.88 36 *e*P **P 06 20 55.7 +2.3**
comp=Z,23nm,1.8s
CLL Collm 96.16 324 *i*P **P 06 20 53.7 -0.9**
CLL pmax pmax
comp=Z,11nm,0.9s
CLL Collm 96.16 324 *i*P **P 06 20 53.7 -0.9**
comp=Z,11nm,0.9s
CLL LmV 07 10 00.0
comp=Z,200nm,19.4s
ARSA Arzberg 96.24 320 *i* PcP **P 06 20 54.3 -0.8**
comp=Z,5.6nm,1.0s
E03A Lebam 96.41 41 *e*P **P 06 20 57.4 +1.6**
comp=Z,20nm,1.1s
KHC Kasperske Hory 96.71 322 *e*P **P 06 20 56.6 -0.6**
KHC Kasperske Hory 96.71 322 *e*P **P 06 20 56.3 -1.0**
KHC pmax pmax
comp=Z,3.0nm,0.9s
KHC Kasperske Hory 96.71 322 *e*P **P 06 20 56.2 -1.0**
comp=Z,3.0nm,0.9s
GEC2 GERESS Array S 96.75 322 *e*P **P 06 20 57.4 -0.1**
GEC2 pmax pmax
comp=Z,12nm,0.8s
GEC2 GERESS Array S 96.75 322 *e*P **P 06 20 57.4 -0.1**
comp=Z,12nm,0.8s
GERES GERESS Array B 96.75 322 P **P 06 20 57.0 -0.5**
comp=Z,6.3nm,0.7s,baz=66,slow=4.5,SNR=34
GERES LR LR 07 06 45.0
comp=Z,107nm,21.2s,baz=92,slow=37
GERES GERESS Array B 96.75 322 P **P 06 20 57.0 -0.5**
GERES pmax pmax
comp=Z,6.0nm,0.7s
GERES MLR MLR
comp=Z,107nm,21.2s
GEA0 GERESS Array S 96.75 322 *e*P **P 06 20 56.6 -0.9**
SOKA Soboth 96.76 320 *i* PcP **P 06 20 57.4 -0.1**
comp=Z,7.3nm,1.0s
MOA Molln 96.80 321 *i* PcP **P 06 20 56.9 -0.7**
comp=Z,21nm,0.8s
SUMG Summit 96.95 355 *i*P **P 06 20 58.8 +0.5**
comp=Z,7.0nm,0.8s
SUMG Summit 96.95 355 *i*P **P 06 20 58.8 +0.5**
SUMG pmax pmax
comp=Z,7.0nm,0.8s
WET Wettzell 97.12 323 P Pdif 06 21 00.2 +1.0
WET pmax pmax
comp=Z,28nm,1.9s
OBKA Obir 97.14 320 *i*P **P 06 20 57.4 -1.9**
comp=Z,8.8nm,1.2s
F04A Amboy 97.37 41 *e*P Pdif 06 21 01.3 +1.0
comp=Z,11nm,0.8s
MYKA Terra Mystica 97.67 320 *i* PcP **P 06 21 00.5 -1.1**
comp=Z,8.4nm,1.3s
KBA Koelnbreinsper 97.67 320 *i*P **P 06 21 00.4 -1.4**
comp=Z,9.6nm,0.9s
KBA Koelnbreinsper 97.67 320 P Pdif 06 21 02.1 +0.3
KBA pmax pmax
comp=Z,10.0nm,1.3s
SYO Syowa Base 98.02 201⇑*e*P **P 06 21 01.0 -1.5**
I04A Tendick Farm, 98.19 43 P Pdif 06 21 05.0 +0.9
baz=292
B08A Colville Reser 98.32 38 *e*P Pdif 06 21 05.5 +0.9
comp=Z,6.3nm,0.9s
ABTA Abfaltersbach 98.33 320 *i* Pdiff **P 06 21 03.3 -1.3**
comp=Z,12nm,1.1s
WTTA Wattenberg 98.66 321 *i* Pdiff **P 06 21 05.4 -0.8**
comp=Z,10nm,0.7s
WATA Walderalm 98.67 321 *i* Pdiff **P 06 21 05.4 -0.8**
comp=Z,19nm,1.1s
I05D Terrebonne, OR 98.70 42 P Pdif 06 21 07.8 +1.5
baz=293
MOTA Moosalm 98.96 321 *i* Pdiff **P 06 21 06.7 -0.8**
comp=Z,22nm,1.2s
D08A Wollman Farm, 99.13 39 *e*P **Pdif 06 21 09.2 +1.2**
comp=Z,4.1nm,0.7s
FETA Feichten 99.33 321 *i* Pdiff **Pdif 06 21 08.2 -1.0**
comp=Z,12nm,1.0s
M04C Macdoel 99.35 45 P **Pdif 06 21 10.5 +1.2**
baz=292
NEW Newport 99.69 37 P **Pdif 06 21 11.9 +1.3**
baz=297
NEW Newport 99.69 37 *e*P **Pdif 06 21 12.1 +1.5**
NEW pmax pmax
comp=Z,4.0nm,0.9s
NEW Newport 99.69 37 *e*Pdif **Pdif 06 21 12.1 +1.5**
comp=Z,3.6nm,0.9s
DAVA Damuels 99.73 322 *i* Pdiff **Pdif 06 21 09.6 -1.4**
comp=Z,8.9nm,1.0s
PNTR Pine Nut 101.97 46 *e*Pdif **Pdif 06 21 24.0 +2.8**
MFID Camas Ranch 102.70 41 *e*Pdif **Pdif 06 21 25.7 +1.5**
HLID Hailey 103.54 41 P **Pdif 06 21 29.4 +1.4**
baz=298
HLID Hailey 103.54 41 *e*Pdif **Pdif 06 21 30.5 +2.5**
LAO LASA Array 106.82 35 P **PKiKP 06 25 52.0 -0.1**
baz=306
PDAR Pinedale Array 107.02 39 PKKPbc PKKPbc 06 37 08.5 -3.0
comp=Z,0.8nm,0.7s,baz=139,slow=4.2,SNR=9.3
O20A White River Ci 109.25 41 P **PKiKP 06 25 57.6 +0.7**
baz=302
ULM Lac du Bonnet 109.74 27 PKKPbc PKKPbc 06 36 59.2 -3.6
comp=Z,2.3nm,0.7s,baz=124,slow=4.8,SNR=4.2
C31A Landman Farms, 110.59 30 P **PKiKP 06 25 58.9 -0.1**
baz=313
ISCO Idaho Springs 111.12 40 P **PKiKP 06 25 59.4 -1.2**
baz=304
VNA2 Neumayer--Watz 112.71 195 PKiKP **PKiKP 06 26 02.3 0.0**
baz=79,slow=1.6
VNA3 Neumayer Olymp 113.07 194 PKiKP **PKiKP 06 26 01.2 -1.8**
ANMO Albuquerque 113.19 45 P **PKiKP 06 26 05.3 +0.8**
baz=302
ANMO Albuquerque 113.19 45⇑*i*PKIKP **PKiKP 06 26 06.7 +2.1**
ANMO pmax pmax
comp=Z,5.0nm,2.5s
T25A Trinidad 113.39 42 P **PKiKP 06 26 05.6 +0.7**
baz=304
121A Cookes Peak, D 113.47 48 P **PKiKP 06 26 04.5 -0.7**
baz=300
D37A Cotton 113.56 28 P **PKiKP 06 26 04.6 -0.1**
baz=318
K32A Verdigre 113.93 34 P **PKiKP 06 26 05.5 -0.1**
baz=312
ECSD EROS Data Cent 113.94 33 P **PKiKP 06 26 05.5 0.0**
baz=313
F36A Milaca 114.00 29 P **PKiKP 06 26 05.6 0.0**
baz=317
H35A Sunnyside Ranc 114.19 31 P PKPdf 06 26 06.1 +0.1
baz=315
K34A Le Mars 114.93 33 P PKPdf 06 26 07.1 -0.4
baz=313
G38A Ridgeland 115.31 29 P **PKPdf 06 26 07.5 -0.6**
baz=318
K35A Storm Lake 115.37 33 P **PKPdf 06 26 08.1 -0.2**
baz=314
CBKS Cedar Bluff 115.38 38 P **PKPdf 06 26 07.6 -0.8**
baz=309
I37A Lemond, Waseca 115.40 30 P **PKPdf 06 26 08.2 -0.1**
baz=316
J36A Seneca 1, Swea 115.41 32 P **PKPdf 06 26 07.7 -0.7**
baz=315
F40A Park Falls 115.54 27 P **PKPdf 06 26 08.4 -0.1**
baz=320
G39A Holcombe 115.54 28 P **PKPdf 06 26 08.4 -0.1**
baz=319
L35A Bielow Farm, R 115.62 33 P **PKPdf 06 26 08.6 -0.2**
baz=314
MNTX Cornudas Mount 115.65 48 P **PKPdf 06 26 09.4 +0.3**
baz=302
MNTX Cornudas Mount 115.65 48 *e*PKPdf **PKPdf 06 26 10.6 +1.4**
J37A Redenius Farm, 115.83 31 P **PKPdf 06 26 08.9 -0.3**
baz=316
K36A Gilmore City 115.84 32 P **PKPdf 06 26 09.2 0.0**
baz=315
I38A Scanlan Farm, 115.91 30 P **PKPdf 06 26 08.8 -0.5**
baz=317
H39A Augusta 115.94 29 P **PKPdf 06 26 09.2 -0.1**
baz=318
G40A Rib Lake 116.00 28 P **PKPdf 06 26 09.0 -0.5**
baz=320
F41A Three Lakes 116.13 27 P **PKPdf 06 26 09.3 -0.4**
baz=321
K37A Belmond 116.17 32 P **PKPdf 06 26 09.5 -0.3**
baz=316
O34A Beatrice 116.29 35 P **PKPdf 06 26 09.7 -0.5**
baz=312
H40A Chili 116.40 28 P **PKPdf 06 26 10.2 -0.1**
baz=319
I39A Houston 116.44 30 P **PKPdf 06 26 09.9 -0.4**
baz=318
L37A Phoenix Point, 116.57 32 P **PKPdf 06 26 10.5 -0.1**
baz=315
P34A Walnut Farm, R 116.64 36 P **PKPdf 06 26 10.8 -0.1**
baz=312
J39A Decorah 116.73 30 P **PKPdf 06 26 10.5 -0.4**
baz=318
M37A Trindle Farm, 116.92 33 P **PKPdf 06 26 11.2 -0.1**
baz=315
L38A Oak Wood Farm, 116.97 32 P **PKPdf 06 26 11.2 -0.2**
baz=316
Q34A Chapman 116.98 37 P **PKPdf 06 26 11.8 +0.3**
baz=311
K39A Oelwein 117.11 31 P **PKPdf 06 26 10.4 -1.3**
baz=317
J40A Soldiers Grove 117.16 29 P **PKPdf 06 26 11.2 -0.5**
baz=319
R34A Isabella, Hill 117.21 37 P **PKPdf 06 26 11.4 -0.6**
baz=311
N37A Lee Faris, Mou 117.29 34 P **PKPdf 06 26 12.3 +0.3**
baz=314
U32A Winter Ranch, 117.34 40 P **PKPdf 06 26 12.3 0.0**
baz=308
M38A Pleasantville 117.36 32 P **PKPdf 06 26 12.2 0.0**
baz=316
L39A Vinton 117.48 31 P **PKPdf 06 26 12.2 -0.1**
baz=317
K40A Colesburg 117.48 30 P **PKPdf 06 26 12.4 0.0**
baz=318
J41A Loganville 117.53 29 P **PKPdf 06 26 11.9 -0.5**
baz=319
Q35A Mercer Eighty, 117.55 36 P **PKPdf 06 26 12.5 -0.1**
baz=312
O37A Wolven Farm, M 117.73 34 P **PKPdf 06 26 13.0 +0.1**
baz=314
N38A Joes South For 117.79 33 P **PKPdf 06 26 13.0 0.0**
baz=315
M39A Webster 117.86 32 P **PKPdf 06 26 13.1 0.0**
baz=317
L40A Anamosa 117.91 31 P **PKPdf 06 26 12.8 -0.4**
baz=318
K41A Shullsburg 117.96 30 P **PKPdf 06 26 13.2 -0.1**
baz=319
P37A Lathrop 118.02 35 P **PKPdf 06 26 13.4 -0.1**
baz=314
T34A McClaskey Farm 118.07 38 P **PKPdf 06 26 13.0 -0.7**
baz=310
N39A Derby Farms, D 118.12 32 P **PKPdf 06 26 13.7 +0.1**
baz=316
TX31 Lajitas Ar. Si 118.14 49 *e*PKPdf **PKPdf 06 26 14.6 +0.5**
TXAR Lajitas Array 118.15 49 PKP **PKPdf 06 26 14.9 +0.8**
comp=Z,1.9nm,0.8s,baz=335,slow=0.8,SNR=14
TXAR Lajitas Array 118.15 49 PKIKP **PKPdf 06 26 15.0 +0.8**
TXAR pmax pmax
comp=Z,1.0nm,0.6s
S35A Otter Creek Ra 118.17 37 P **PKPdf 06 26 14.0 +0.2**
baz=311
R36A Gordon, Harris 118.22 36 P **PKPdf 06 26 13.9 0.0**
baz=312
M40A Post Highland 118.25 31 P **PKPdf 06 26 13.8 0.0**
baz=317
P38A Dawn 118.45 34 P **PKPdf 06 26 14.0 -0.3**
baz=315
WMOK Wichita Mounta 118.50 41 P **PKPdf 06 26 14.8 +0.2**
baz=308
O39A Kirksville 118.54 33 P **PKPdf 06 26 14.8 +0.4**
baz=316
T35A Sooner Cattle 118.55 38 P **PKPdf 06 26 14.8 +0.2**
baz=311
S36A Lake Cedric, C 118.57 37 P **PKPdf 06 26 14.7 +0.1**
baz=312
N40A Mertzuake, Sal 118.59 32 P **PKPdf 06 26 14.7 +0.2**
baz=317
R37A Teagarden Farm 118.62 36 P **PKPdf 06 26 14.8 +0.1**
baz=313
M41A Milan 118.77 31 P **PKPdf 06 26 13.7 -1.1**
baz=318
U35A Pawnee 118.77 39 P **PKPdf 06 26 13.8 -1.2**
baz=310
T36A Boggs Farm, Ca 118.84 38 P **PKPdf 06 26 15.4 +0.3**
baz=312
Q38A Cooks Store, C 118.86 35 P **PKPdf 06 26 15.0 -0.1**
baz=314
P39B Salisbury 118.97 34 P **PKPdf 06 26 15.3 0.0**
baz=315
S37A Fort Scott 118.99 36 P **PKPdf 06 26 15.4 0.0**
baz=313
Y33A Hilltop Ranch, 119.04 42 P **PKPdf 06 26 15.5 -0.1**
baz=308
Q39A Willow Grove F 119.16 34 P **PKPdf 06 26 15.9 +0.2**
baz=315
R38A Fenwick Farm, 119.24 35 P **PKPdf 06 26 15.0 -0.8**
baz=314
P40A Paris 119.32 33 P **PKPdf 06 26 16.1 +0.1**
baz=316
U36A Oologah 119.36 38 P **PKPdf 06 26 16.5 +0.3**
baz=311
T37A Cheneyville 18 119.37 37 P **PKPdf 06 26 16.2 +0.1**
baz=312
Z33A Whitaker Ranch 119.39 43 P **PKPdf 06 26 16.6 +0.3**
baz=307
W35A Tecumseh 119.46 40 P **PKPdf 06 26 16.8 +0.4**
baz=310
O41A Passleys Farm, 119.52 32 P **PKPdf 06 26 16.1 -0.3**
baz=317
S38A Stockton 119.62 36 P **PKPdf 06 26 16.5 -0.1**
baz=314
V36A Jenks 119.63 39 P **PKPdf 06 26 17.3 +0.6**
baz=311
R39A Chumby, Stover 119.64 35 P **PKPdf 06 26 16.6 0.0**
baz=315,SNR=5.5
W36A Wetumka 119.88 39 P **PKPdf 06 26 17.3 +0.2**
baz=310
S39A Bolivar 119.91 35 P **PKPdf 06 26 17.1 -0.1**
baz=314,SNR=14
HDIL Hopedale 120.00 31 P **PKPdf 06 26 17.4 +0.1**
baz=319
233A Rising Star 120.06 44 P **PKPdf 06 26 17.9 +0.3**
baz=307
V37A Hulbert 120.06 38 P **PKPdf 06 26 17.4 -0.1**
baz=312,SNR=5.8
R40A Maddies Statio 120.09 34 P **PKPdf 06 26 17.3 -0.1**
baz=315,SNR=7.2
Y35A Marietta 120.14 41 P **PKPdf 06 26 17.8 0.0**
baz=309
U38A Gravette 120.14 37 P **PKPdf 06 26 17.5 -0.2**
baz=313,SNR=6.2
TOA0 Torodi Ar. Sit 120.16 292 *e*PKPdf **PKPdf 06 26 17.3 -0.9**
TOA0 *e*PKPdf **PKPdf 06 26 17.7 -0.5**
TORD Torodi Ar. Bea 120.16 292 PKP **PKPdf 06 26 17.4 -0.8**
comp=Z,7.6nm,0.8s,baz=54,slow=1.8,SNR=57
TORD PKKPbc **PKKPab 06 36 27.7 -0.6**
comp=Z,0.7nm,0.9s,baz=251,slow=4.4,SNR=5.1
X36A Centrahoma 120.16 40 P **PKPdf 06 26 18.3 +0.6**
baz=310
Q41A Truxton 120.18 33 P **PKPdf 06 26 17.8 +0.1**
baz=316
P42A Winchester 120.19 32 P **PKPdf 06 26 18.0 +0.3**
baz=318

134A	White-Moore Ra baz=308	120.28	43	P	PKPdf	06 26 18.8	+0.7
JCT	Junction City baz=305	120.32	46	P	PKPdf	06 26 18.7	+0.4
JCT	Junction City	120.32	46	*e*PKIKP	PKPdf	06 26 19.3	+1.1
JCT	Junction City	120.32	46	*e*PKPdf	PKPdf	06 26 19.3	+1.1
T39A	Clever baz=314	120.34	36	P	PKPdf	06 26 18.4	+0.4
Z35A	Perchaven, San baz=309	120.36	42	P	PKPdf	06 26 18.5	+0.3
W37B	Quinton baz=311	120.37	39	P	PKPdf	06 26 18.4	+0.2
333A	Richland Sprin baz=306	120.41	45	P	PKPdf	06 26 18.7	+0.4
S40A	Lebanon baz=315	120.44	35	P	PKPdf	06 26 18.4	+0.2
HHAR	Hobbs	120.52	37	*e*PKPdf	PKPdf	06 26 18.4	0.0
V38A	Canehill baz=312,SNR=6.1	120.52	38	P	PKPdf	06 26 18.1	-0.3
R41A	Rosebud baz=316	120.57	34	P	PKPdf	06 26 18.6	+0.2
P43A	Skaggs, Pawnee baz=318	120.57	31	P	PKPdf	06 26 18.6	+0.2
234A	Clairette baz=307	120.58	43	P	PKPdf	06 26 19.3	+0.6
Q42A	Golden Eagle baz=317	120.58	33	P	PKPdf	06 26 18.9	+0.5
Y36A	Durant baz=310,SNR=9.0	120.63	41	P	PKPdf	06 26 19.0	+0.4
433A	Art baz=306	120.67	45	P	PKPdf	06 26 18.9	0.0
U39A	Green Forest baz=313,SNR=7.3	120.72	37	P	PKPdf	06 26 18.4	-0.4
T40A	Mansfield baz=315	120.75	35	P	PKPdf	06 26 18.7	-0.1
X37A	Clayton baz=311	120.77	39	P	PKPdf	06 26 19.1	+0.2
S41A	Jillco Farms, baz=316,SNR=6.3	120.88	35	P	PKPdf	06 26 18.9	-0.1
R42A	Luebbering baz=317	120.90	33	P	PKPdf	06 26 19.1	+0.1
334A	Lometa baz=307	120.92	44	P	PKPdf	06 26 19.6	+0.3
Z36A	Blue Ridge baz=309	120.93	41	P	PKPdf	06 26 19.6	+0.3
W38A	Poteau baz=312	120.98	38	P	PKPdf	06 26 19.6	+0.4
V39A	Pettigrew baz=313	120.99	37	P	PKPdf	06 26 19.4	+0.1
Q43A	New Douglas baz=318	121.00	32	P	PKPdf	06 26 19.6	+0.4
WHTX	Lake Whitney, baz=308	121.05	43	P	PKPdf	06 26 20.3	+0.7
X38A	Whitesboro baz=311	121.05	39	P	PKPdf	06 26 20.0	+0.6
533A	Kerrville baz=306	121.10	46	P	PKPdf	06 26 20.1	+0.3
U40A	Yellville baz=314,SNR=11	121.11	36	P	PKPdf	06 26 19.4	-0.1
P44A	Sand Creek, Wi baz=319	121.16	31	P	PKPdf	06 26 19.2	-0.3
434A	Burnet baz=307	121.20	45	P	PKPdf	06 26 20.2	+0.4
SFIN	Lafayette baz=321	121.22	29	P	PKPdf	06 26 19.6	0.0
T41A	Mountain View baz=315	121.25	35	P	PKPdf	06 26 19.7	-0.1
S42A	Caledonia baz=316,SNR=5.4	121.27	34	P	PKPdf	06 26 19.7	-0.1
W39A	Magazine baz=313	121.34	38	P	PKPdf	06 26 20.1	+0.1
136A	Ennis baz=309	121.37	42	P	PKPdf	06 26 21.0	+0.9
R43A	Red Bud baz=318	121.37	33	P	PKPdf	06 26 20.1	+0.2
Q44A	Meyer Farm, Va baz=319	121.39	32	P	PKPdf	06 26 20.4	+0.4
832A	Faith Ranch, C baz=304,SNR=5.5	121.44	48	P	PKPdf	06 26 21.1	+0.8
335A	Moody baz=308	121.50	44	P	PKPdf	06 26 21.1	+0.7
V40A	Witts Springs baz=314,SNR=7.2	121.50	37	P	PKPdf	06 26 20.0	-0.4
534A	Blanco baz=306	121.52	46	P	PKPdf	06 26 21.0	+0.4
X39A	Fountain Ranch baz=312,SNR=11	121.60	39	P	PKPdf	06 26 21.0	+0.5
Y38A	Idabel baz=311	121.60	40	P	PKPdf	06 26 20.6	+0.1
T42A	Van Buren baz=316,SNR=6.5	121.64	35	P	PKPdf	06 26 20.5	0.0
U41A	Viola baz=315,SNR=8.2	121.65	36	P	PKPdf	06 26 20.5	-0.1
236A	Katherine and baz=309	121.66	42	P	PKPdf	06 26 21.4	+0.7
336A	Riesel baz=308	121.83	43	P	PKPdf	06 26 21.2	+0.2
833A	Chaparral WMA, baz=304,SNR=6.0	121.84	48	P	PKPdf	06 26 22.3	+1.2
R44A	Waltonville baz=318	121.84	32	P	PKPdf	06 26 21.0	+0.2
MIAR	Mount Ida baz=312,SNR=5.0	121.91	38	P	PKPdf	06 26 21.5	+0.4
MIAR	Mount Ida	121.91	38	*e*PKIKP	PKPdf	06 26 21.8	+0.7
MIAR	Mount Ida	121.91	38	*e*PKPdf	PKPdf	06 26 21.8	+0.7
V41A	Mountainview baz=314	121.91	36	P	PKPdf	06 26 21.0	-0.1
Y39A	Lockesburg baz=312	121.99	39	P	PKPdf	06 26 21.6	+0.3
U42A	Revenden baz=315	122.04	35	P	PKPdf	06 26 21.3	0.0
T43A	Greenville baz=317	122.05	34	P	PKPdf	06 26 21.3	0.0
237A	Washetta, Mont baz=309	122.14	42	P	PKPdf	06 26 22.3	+0.7
734A	La Parita Cree baz=305	122.15	47	P	PKPdf	06 26 22.5	+0.8
535A	Dale baz=307	122.15	45	P	PKPdf	06 26 22.5	+0.8
S44A	Carbondale baz=318	122.16	33	P	PKPdf	06 26 21.7	+0.3
PBMO	Poplar Bluff	122.19	34	*e*PKPdf	PKPdf	06 26 21.7	+0.1
138A	Matatall Enter baz=310	122.19	41	P	PKPdf	06 26 22.3	+0.6
933A	Laredo baz=304,SNR=8.1	122.32	48	P	PKPdf	06 26 23.6	+1.5
V42A	Cord baz=315	122.34	36	P	PKPdf	06 26 21.8	-0.1
635A	Leesville baz=306	122.39	46	P	PKPdf	06 26 22.9	+0.8
X40A	Basin Creek Fa baz=313	122.40	38	P	PKPdf	06 26 22.5	+0.4
Y40A	Okolona baz=312	122.44	39	P	PKPdf	06 26 22.6	+0.4
U43A	Rector baz=316	122.50	35	P	PKPdf	06 26 22.7	+0.6
337A	Centerville baz=309	122.52	43	P	PKPdf	06 26 23.5	+1.1
S45A	Carrier Mills baz=319	122.53	32	P	PKPdf	06 26 22.9	+0.7
834A	Tilden baz=305	122.56	47	P	PKPdf	06 26 23.6	+1.1
238A	Jacksonville baz=310	122.59	42	P	PKPdf	06 26 23.8	+1.4
V43A	Jonesboro baz=316	122.83	35	P	PKPdf	06 26 23.5	+0.7
338A	Crockett baz=309	122.88	42	P	PKPdf	06 26 24.3	+1.2
239A	Gary baz=310	123.00	41	P	PKPdf	06 26 23.9	+0.6
NATX	Nacogdoches baz=310	123.05	42	P	PKPdf	06 26 24.5	+1.1
034A	Hebbronville baz=304	123.07	48	P	PKPdf	06 26 24.9	+1.4
M54A	Oil Creek Stat baz=329	123.52	23	P	PKPdf	06 26 24.6	+0.6
141A	Papa Simpson, baz=312	123.62	40	P	PKPdf	06 26 25.0	+0.6
Z42A	Norrel Spur, H baz=313	123.76	38	P	PKPdf	06 26 25.6	+0.9
340A	Bronson baz=311	123.77	41	P	PKPdf	06 26 25.4	+0.7
X44A	Crenshaw baz=316	123.98	36	P	PKPdf	06 26 25.2	+0.2
W45A	Hickory Valley baz=317	124.06	35	P	PKPdf	06 26 25.5	+0.3
WVT	Waverly	124.08	33	*e*PKIKP	PKPdf	06 26 25.4	+0.2
WVT	Waverly	124.08	33	*e*PKPdf	PKPdf	06 26 25.4	+0.2
341A	Kurthwood baz=311	124.29	41	P	PKPdf	06 26 26.5	+0.8
Y45A	Yeager Farm, C baz=316	124.78	36	P	PKPdf	06 26 27.2	+0.6
Z45A	Winona baz=316	125.05	37	P	PKPdf	06 26 27.7	+0.6
Y46A	Houston baz=317	125.16	36	P	PKPdf	06 26 27.7	+0.4
145A	Houston Renfro baz=315	125.45	37	P	PKPdf	06 26 28.1	+0.1
N59A	State Game Lan baz=334	125.45	20	P	PKPdf	06 26 28.4	+0.6
Z46A	Louisville baz=316	125.61	36	P	PKPdf	06 26 28.9	+0.7
Y47A	UCPARC, Winfie baz=318	125.72	35	P	PKPdf	06 26 29.1	+0.7
Z48A	Northport baz=318	126.28	35	P	PKPdf	06 26 29.9	+0.4
246A	Jackson Lee, B baz=315	126.34	37	P	PKPdf	06 26 29.7	+0.1
147A	Livingston baz=317	126.38	36	P	PKPdf	06 26 30.3	+0.7
TKL	Tuckaleechee C	126.54	30	*e*PKIKP	PKPdf	06 26 31.0	+1.0
TKL	Tuckaleechee C	126.54	30	*e*PKPdf	PKPdf	06 26 30.9	+1.0
LRAL	Lakeview Retre	126.84	35	*e*PKPdf	PKPdf	06 26 31.7	+1.1
347A	Saraland baz=316	127.13	38	P	PKPdf	06 26 32.3	+1.2
KMSC	Kings Mountain baz=325	128.14	29	P	PKPdf	06 26 34.1	+1.0
KIC	Kosan Boka comp=Z,28nm,0.8s	128.35	286	*e*PKIKP	PKPdf	06 26 34.1	+0.1
DBIC	Dimbokro comp=Z,9.5nm,0.8s,baz=37,slow=3.2,SNR=9.0	128.37	287	PKP	PKPdf	06 26 34.4	+0.4
TIC	Toumodi	128.53	287	*e*PKIKP	PKPdf	06 26 34.2	-0.1
LIC	Lamto comp=Z,45nm,0.8s	128.67	286	*e*PKIKP	PKPdf	06 26 34.6	0.0
GRTK	Grand Turk	144.40	28	*e*PKPdf	PKPdf	06 27 03.2	-0.2
PLCA	Paso Flores comp=Z,16nm,0.7s,baz=240,slow=2.9,SNR=54	146.07	157	PKPbc	PKPab	06 27 07.3	-0.1
SDDR	Presa de Saban	146.48	31	*e*PKPdf	PKPab	06 27 09.4	-0.2
IDE	Isla Desecheo	148.77	25	*e*PKPbc	PKPbc	06 27 15.3	+0.6
CELP	Cerrillos	149.42	24	*e*PKPbc	PKPbc	06 27 16.4	+0.1
SJG	San Juan	149.55	23	*e*PKP2	PKPbc	06 27 17.5	+0.8
SJG	San Juan	149.55	23	*e*P	PKPbc	06 27 15.6	-1.1
SJG	San Juan	149.55	23	*e*PKPbc	PKPbc	06 27 17.5	+0.8
HUMP	Col San Antoni	149.64	23	*e*PKPbc	PKPbc	06 27 17.3	+0.5
STVI	Saint Thomas	149.78	21	*e*PKPbc	PKPbc	06 27 17.7	+0.5
CAPC	Capurgana	150.22	52	*e*P	PKPbc	06 27 18.6	+0.1
SMRT	St. Maarten	150.68	18	*e*PKPbc	PKPbc	06 27 19.6	+0.2
SJCC	San Jacinto, C	151.05	47	*e*P	PKPbc	06 27 19.9	-0.5
TRQA	Tornquist	151.17	167	*e*PKPbc	PKPbc	06 27 20.4	+0.4
MOTC	Monteria, Cord	151.43	50	*e*P	PKPbc	06 27 21.0	-0.3
URIC	Uribia, Colomb	151.93	40	*e*P	PKPbc	06 27 21.0	-1.4
CODC	Agust´›n Codaz	152.26	45	*e*P	PKPbc	06 27 23.1	0.0
ZARC	Zaragoza, Cauc	152.86	51	*e*P	PKPdf	06 27 16.6	-0.6
HELC	Santa Helena	153.13	54	*e*P	PKPbc	06 27 25.1	-0.5
HELC	Santa Helena	153.13	54	*e*PKPbc	PKPbc	06 27 26.0	+0.5
OTAV	Otavalo	153.57	69	*e*PKPbc	PKPbc	06 27 27.8	+1.1
CMBC	Cumbal	153.86	67	*e*P	PKPbc	06 27 29.7	+2.5
BRRC	Barranca, Sant	153.98	50	*e*P	PKPbc	06 27 26.6	-0.4
ROSC	El Rosal comp=Z,3.7nm,0.8s,baz=349,slow=16,SNR=3.3	154.90	55	PKP	PKPdf	06 27 21.6	+1.0
ROSC	comp=Z,6.9nm,0.7s,baz=341,slow=22,SNR=5.6			PKPab	PKPab	06 27 45.0	+0.1
PRAC	Prado	155.07	58	*e*PKPab	PKPab	06 27 46.2	+0.9
RUSC	La Rusia	155.23	51	*e*P	PKPdf	06 27 26.4	+5.2
RUSC	La Rusia	155.23	51	*e*PKPbc	PKPdf	06 27 30.7	+10
CHIC	Chingaza	155.50	54	*e*P	PKPdf	06 27 21.6	+0.1
CPUP	Villa Florida comp=Z,4.3nm,0.8s,baz=159,slow=4.8,SNR=8.9	163.47	169	PKPab	PKPab	06 28 21.6	+0.5
LPAZ	La Paz comp=Z,6.7nm,1.1s,baz=325,slow=1.5,SNR=16	164.86	116	PKP	PKPdf	06 27 33.3	+1.3
LPAZ	comp=Z,3.0nm,0.9s,baz=227,slow=2.4,SNR=3.9			PKPab	PKPab	06 28 29.9	+1.4
PTGA	Pitinga	168.99	33	*e*PKPdf	PKPdf	06 27 34.1	-0.3
PTGA				*e*PKPab	PKPab	06 28 46.3	+0.5
SAML	Samuel	170.83	84	*e*PKPdf	PKPdf	06 27 35.8	+0.3

*KRNET **07** 06:13:14.1±0.1, 41.°04N×69.°54E, mb2.9*
ISC 07 06:13:17.9±2.2, 40.°94N±0.°07×69.°6E±0.°1, h10km, n8, σ1°58/14, 8C-5D, Tajikistan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BTK	Batken baz=135	1.26	134	⇓*i*P	Pg	06 13 40.8	-1.3
BTK	baz=135			⇓*i*S	Sn	06 14 00.3	+1.7
ARK	Arkit baz=67	1.95	63	⇓*i*P	Pn	06 13 50.5	-0.7
ARK	baz=67			⇓*i*S	Sn	06 14 17.3	+1.4
KK31	Karatay Array 4.4nm,0.4s,baz=200,slow=14,SNR=51	2.26	17	⇓Pn	Pn	06 13 55.8	+0.4
KK31	15nm,0.5s,baz=208,slow=27,SNR=14			Sn	Sb	06 14 25.8	-1.1
ARSB	Arslanbob baz=82	2.56	80	⇑*i*P	Pn	06 14 00.0	+0.4
ARSB	baz=82			⇑*i*S	Sn	06 14 33.1	+2.2
TOKL	Toktogul baz=69	2.63	67	⇑*i*P	Pn	06 14 00.6	+0.1
TOKL	baz=69			⇑*i*S	Sn	06 14 34.3	+1.7
AML	Almayashu baz=69	3.27	67	⇑*i*P	Pn	06 14 11.0	+1.4
AML	baz=69			⇑*i*S	Sb	06 14 53.7	-2.7
EKS2	Erkin-Say baz=61	3.55	60	⇑*i*P	Pn	06 14 13.8	+0.7
KZA	Kyzart baz=75	4.37	73	⇑*i*P	Pn	06 14 25.9	+1.2

*CSEM **07** 06:20:04.1±0.6, 49.°95N×18.°68E, h1km, Error ellipse: s-maj=24.0km s-min=6.2km az=7.0*
PRU 07 06:20:08.1, 49.°77N×18.°45E, h0km, Czech and Slovak Republics

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OKC	Ostrava-Krasne	0.21	289	*e*PG	Pg	06 20 11.7	-0.4
OKC				*e*SG	Sg	06 20 15.4	+0.6
OKC	Ostrava-Krasne 2.3nm,0.3s	0.21	289	Pg	Pg	06 20 11.7	-0.4
OKC				Sg	Sg	06 20 15.4	+0.6
MORC	Moravsky Berou	0.59	271	*e*Pg	Pg	06 20 18.8	-0.6
MORC				*e*Sg	Sg	06 20 27.3	+0.3
DPC	Dobruska-Polom	1.49	294	*e*SG	Sg	06 20 54.2	-1.7
DPC	Dobruska-Polom	1.49	294	Sg	Sg	06 20 54.2	-1.7

JMA 07 06:24:50.0, 32.°91N×130.°85E, h9km±1km, M3.6, 2C-1D Broadband fault plane solution: P waves. NP1: ϕs135.00000°, δ59.00000°, λ-56.00000°. NP2: ϕs262.00000°, δ45.00000°, λ-133.00000°. Principal axes: T Plg8.0000°, Azm201.0000°; N Plg29.0000°, Azm295.0000°; P Plg60.0000°, Azm97.0000°; **Kyushu**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JNU	Nakatsue	0.21	6	⇑P	Pg	06 24 54.6	+0.2
JNU				*e*S	Sg	06 24 57.8	+0.4
JTA	Tamana	0.27	281	⇓P	Pg	06 24 55.6	+0.1
JTA				*e*S	Sg	06 24 59.3	+0.2
JIU2	Izumi 2	0.36	185	⇑P	Pg	06 24 57.4	+0.2
JIU2				*e*S	Sg	06 25 02.7	+0.7

*NEIC **07** 06:33:35.9±0.0, 58.°25N×133.°57W, h1km, ML2.8(AEIC), ML3.2(OTT), After OTT.*
PGC 07 06:33:35.9±23.0, 58.°25N×133.°57W, h1km, ML3.2/5, 49km east of Juneau, Ak Southeastern Alaska, Southeastern Alaska

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JIS	Juneau Island	0.43	274	P	Pg	06 33 45.0	+0.9
JIS				S	Sb	06 33 51.5	-1.8
BESE	Bessie Mountai	0.75	296	P	Pg	06 33 50.5	+0.2
BESE				S	Sg	06 34 00.4	+0.3
SKAG	Skagway	1.52	324	P	Pn	06 34 02.6	-1.5
SKAG				S	Sb	06 34 22.0	-2.5
DLBC	Dease Lake	1.88	83	P	Pn	06 34 08.0	-1.2
DLBC				Pg	Pb	06 34 09.8	-1.2
DLBC				Sn	Sn	06 34 31.9	-1.7
DLBC				Sg	Sb	06 34 34.8	-0.2
DLBC	Dease Lake	1.88	83	P	Pn	06 34 07.9	-1.3
PLBC	Pleasant Camp	1.89	311	Pg	Pn	06 34 10.1	+0.8
PLBC				Sg	Sn	06 34 34.2	+0.5
PLBC	Pleasant Camp	1.89	311	P	Pn	06 34 09.9	+0.6
PLBC				S	Sn	06 34 33.4	-0.4
WRAK	Wrangell Islan	1.95	160	P	Pn	06 34 10.3	+0.2
WRAK				S	Sg	06 34 38.6	0.0
WHY	Whitehorse	2.51	345	Pn	Pn	06 34 16.6	-1.3
WHY				Sg	Sb	06 34 51.6	-1.5
WHY	Whitehorse	2.51	345	P	Pn	06 34 16.5	-1.4
CRAG	Craig	2.80	175	P	Pn	06 34 23.3	+1.5
HYT	Haines Junctio	3.27	324	Pn	Pn	06 34 28.2	-0.2
HYT				Pg	Pb	06 34 34.8	+0.1
HYT				Sg	Sb	06 35 16.2	+1.2
PNL	Peninsula	3.33	298	Sg	Sb	06 35 18.6	+1.8
YUK6	Outpost Mounta	3.63	320	Pg	Pb	06 34 41.7	+0.6
YUK6				Sg	Sb	06 35 29.1	+3.4
YUK2	White River	5.08	317	Pg	Pb	06 35 06.9	+1.2
YUK2				Sg	Sg	06 36 16.5	-2.6
FNBB	Fort Nelson	5.56	79	Sg	Sg	06 36 28.1	-6.4
DAWY	Dawson	6.47	337	Pg	Pb	06 35 33.1	+3.9
DAWY				Sg	Sg	06 36 58.4	-5.3

*ISCJB **07** 06:33:47.2±0.7, 6.°83N±0.°03×73.°04W±0.°04, h150km±7km, Error ellipse: s-maj=6.4km s-min=4.0km az=33.0*
*FUNV **07** 06:33:47.5, 6.°88N×73.°11W, h177km, MW2.5*
*RSNC **07** 06:33:49.0±0.4, 6.°82N×73.°07W, h143km±3km, ML2.5*
ISC 07 06:33:46.9±1.4, 6.°84N±0.°04×73.°04W±0.°04, h156km±9km, n19, σ1°29/37, 1C-2D, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BARC	Barichara	0.29	211	*i*P	Pn	06 34 08.4	0.0
BARC				*e*S	Sn	06 34 23.1	-1.9
BARC				*i*		06 34 27.0	
BRRC	comp=Z,88nm,0.5s Barranca, Sant	0.72	292	⇓*i*P	Pn	06 34 10.3	+0.2
BRRC				*i*		06 34 12.4	
BRRC	comp=Z,116nm,0.1s			*e*S	Sn	06 34 27.1	-0.9
RUSC	La Rusia	0.94	183	*e*P	Pn	06 34 12.4	0.0
RUSC				*e*S	Sn	06 34 30.6	-1.3
RUSC				*i*		06 34 32.9	
CAPV	comp=Z,29nm,0.3s Capacho	1.24	35	*e*P	Pn	06 34 16.5	+1.9
CAPV				*e*S	Sn	06 34 37.5	+1.5
OCAC	Ocana	1.42	349	*e*P	Pn	06 34 17.3	+1.0
OCAC				*e*S	Sn	06 34 38.9	0.0
OCAC				*i*		06 34 46.7	
YOPC	comp=Z,61nm,0.2s Yopal, Colombi	1.60	157	*e*S	Sn	06 34 41.6	-0.5
ZARC	Zaragoza, Cauc	1.92	290	*e*P	Pn	06 34 21.6	+0.1
ZARC				*e*S	Sn	06 34 47.2	-1.0
ZARC				*i*		06 34 55.3	
NORC	comp=Z,50nm,0.3s Norcasia	2.22	235	*e*P	Pn	06 34 25.1	+0.1
NORC				*e*S	Sn	06 34 53.7	-0.8
CHIC	Chingaza	2.30	198	*e*P	Pn	06 34 27.2	+0.8
CHIC				*e*S	Sn	06 34 56.9	0.0
CHIC				*i*		06 35 01.9	
ROSC	comp=Z,6.6nm,0.3s El Rosal	2.36	213	*e*P	Pn	06 34 27.8	+0.7
ROSC				*e*S	Sn	06 34 57.4	-0.7
ROSC				*i*		06 35 04.4	
HELC	comp=Z,19nm,0.6s Santa Helena	2.56	256	*e*P	Pn	06 34 30.1	+0.7
HELC				*e*S	Sn	06 35 02.6	+0.4
HELC				*i*		06 35 08.0	
VIGV	comp=Z,22nm,0.4s El Vigia	2.59	40	*e*P	Pn	06 34 30.9	+1.5
VIGV				*e*S	Sn	06 35 02.3	0.0
SOCV	Socops	2.59	56	*e*P	Pn	06 34 31.1	+1.6
SOCV				*e*S	Sn	06 35 03.2	+0.8
CODC	Agust´›n Codaz	3.10	353	*e*P	Pn	06 34 36.8	+1.1
CODC				*i*		06 35 12.6	
CODC	comp=Z,16nm,1.0s			⇑*e*S	Sn	06 35 14.5	+0.7
ELOV	Elorza	3.53	87	*e*P	Pn	06 34 42.7	+1.4
ELOV				*e*S	Sn	06 35 22.9	-0.6
PRAC	Prado	3.61	211	*e*P	Pn	06 34 43.3	+0.9
PRAC				*e*S	Sn	06 35 25.6	+0.1
SJAC	San Juan de Ar	3.66	194	*e*P	Pn	06 34 43.9	+0.8
SJAC				*e*S	Sn	06 35 26.6	-0.1
VIRV	Villa del Rosa	3.69	10	*e*P	Pn	06 34 42.8	-0.6
VIRV				*e*S	Sn	06 35 24.4	-2.9
BAUV	El Baul	5.37	67	⇓*e*P	Pn	06 35 04.6	-0.7
BAUV				*e*S	Sn	06 36 02.4	-4.2

*ISCJB **07** 06:38:14.4±0.6, 6.°85N±0.°03×73.°06W±0.°04, h149km±7km, Error ellipse: s-maj=6.7km s-min=3.8km az=29.2*
*FUNV **07** 06:38:14.8, 6.°66N×73.°15W, h139km, MW2.9*
*RSNC **07** 06:38:15.7±0.4, 6.°83N×73.°07W, h145km±3km, ML2.8*
ISC 07 06:38:14.7±1.4, 6.°83N±0.°03×73.°05W±0.°04, h150km±9km, n19, σ0°73/37, 1D, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BARC	Barichara	0.27	209	*i*P	Pn	06 38 35.4	0.0
BARC				*e*S	Sn	06 38 50.2	-0.9
BARC				*i*		06 38 51.3	
BRRC	comp=Z,156nm,0.4s Barranca, Sant	0.71	293	⇓*i*P	Pn	06 38 37.3	+0.1
BRRC				*e*S	Sn	06 38 54.0	-0.4
BRRC				*i*		06 38 59.9	
RUSC	comp=Z,83nm,0.1s La Rusia	0.93	182	*e*P	Pn	06 38 39.4	-0.1
RUSC				*e*S	Sn	06 38 58.2	-0.1
RUSC				*i*		06 38 59.7	
CAPV	comp=Z,81nm,0.4s Capacho	1.26	35	*e*P	Pn	06 38 43.4	+1.3
CAPV				*e*S	Sn	06 39 02.8	-0.2
OCAC	Ocana	1.43	349	*e*P	Pn	06 38 44.1	+0.5
OCAC				*e*S	Sn	06 39 05.8	0.0
OCAC				*i*		06 39 11.2	
YOPC	comp=Z,93nm,0.2s Yopal, Colombi	1.59	157	*e*S	Sn	06 39 09.1	+0.3
ZARC	Zaragoza, Cauc	1.91	290	*e*P	Pn	06 38 48.6	-0.2
ZARC				*e*S	Sn	06 39 14.4	-0.5
ZARC				*i*		06 39 19.3	
NORC	comp=Z,70nm,0.7s Norcasia	2.20	235	*e*P	Pn	06 38 52.0	-0.2
NORC				*e*S	Sn	06 39 20.5	-0.6
CHIC	Chingaza	2.29	197	*e*P	Pn	06 38 53.7	+0.1
CHIC				*e*S	Sn	06 39 24.3	+0.8
CHIC				*i*		06 39 26.2	
ROSC	comp=Z,26nm,0.4s El Rosal	2.34	213	*e*P	Pn	06 38 54.6	+0.3
ROSC				*e*S	Sn	06 39 25.1	+0.3
ROSC				*i*		06 39 31.9	
HELC	comp=Z,53nm,0.6s Santa Helena	2.54	256	*e*P	Pn	06 38 57.2	+0.6
HELC				*e*S	Sn	06 39 28.8	-0.2
HELC				*i*		06 39 32.6	
VIGV	comp=Z,26nm,0.4s El Vigia	2.60	40	*e*P	Pn	06 38 58.3	+1.2
VIGV				*e*S	Sn	06 39 30.2	+0.4
SOCV	Socops	2.61	56	*e*P	Pn	06 38 57.8	+0.6
SOCV				*e*S	Sn	06 39 30.0	0.0
VILC	Villavicencio,	2.77	193	*e*P	Pn	06 38 59.5	+0.2
VILC				*e*S	Sn	06 39 33.9	+0.1
VILC				*i*		06 39 41.9	
CODC	comp=Z,20nm,0.4s Agust´›n Codaz	3.11	353	*e*P	Pn	06 39 03.3	-0.2
CODC				*e*S	Sn	06 39 41.5	+0.3
CODC				*i*		06 39 45.6	
ELOV	comp=Z,26nm,0.8s Elorza	3.55	87	*e*P	Pn	06 39 09.3	+0.3
ELOV				*e*S	Sn	06 39 48.2	-2.9
PRAC	Prado	3.59	211	*e*P	Pn	06 39 09.8	+0.1
PRAC				*e*S	Sn	06 39 52.6	+0.1
VIRV	Villa del Rosa	3.71	10	*e*P	Pn	06 39 11.1	-0.1
VIRV				*e*S	Sn	06 39 54.0	-1.0
CURV	Curarigua	4.40	44	*e*P	Pn	06 39 21.0	+0.8
CURV				*e*S	Sn	06 40 10.4	-0.9

*ISCJB **07** 06:51:05.9±1.0, 33.°01S±0.°07×138.°6E±0.°1, h10km, Error ellipse: s-maj=13.1km s-min=9.9km az=150.4*
*AUST **07** 06:51:08.6±0.4, 33.°08S×138.°67E, h0km, Error ellipse: s-maj=4.5km s-min=2.5km az=25.0*
*IDC **07** 06:51:17.5±6.8, 32.°00S×139.°01E, h0km, mb1 3.3/3, mb1mx3.2/26, mbtmp3.0/3, ML3.0/3, Error ellipse: s-maj=105.6km s-min=23.4km az=30.0*
ISC 07 06:51:06.9±0.9, 32.°92S±0.°07×138.°66E±0.°05, h10km, n7, σ2s60/11, Near coast of South Australia

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
HTT	**Hallett**	**0.55**	**157**	P		**Pg**		**06 51 15.8**	**-1.9**
	baz=0.4								
BBOO	**Buckleboo**	**2.19**	**272**	P		**Pb**		**06 51 46.8**	**+0.1**
	baz=2.2								
BBOO				S		**Sb**		**06 52 14.9**	**+0.9**
	baz=2.2								
STKA	**Stephens Creek**	**2.69**	**68**	Pn		**Pb**		**06 51 54.8**	**-0.4**
	3.1nm,0.3s,baz=252,slow=12,SNR=74								
STKA				Sn		**Sn**		**06 52 26.1**	**+3.2**
	3.7nm,0.3s,baz=262,slow=14,SNR=7.2								
STKA	**Stephens Creek**	**2.69**	**68**	P		**Pb**		**06 51 54.6**	**-0.6**
	baz=2.8								
ARPS	**Mount Arapiles**	**4.64**	**147**	P		**Pn**		**06 52 17.6**	**+0.5**
	baz=4.5								
ASAR	**Alice Springs**	**10.13**	**334**	Pn		**Pn**		**06 53 35.4**	**+2.9**
	0.1nm,0.3s,baz=172,slow=9.1,SNR=4.2								
ASAR				Sn		**Sn**		**06 55 23.5**	**-2.6**
	0.2nm,0.3s,baz=151,slow=22,SNR=4.2								
WRA	**Warramunga Arr**	**13.49**	**342**	Pn		**Pn**		**06 54 19.5**	**+1.0**
	0.1nm,0.3s,baz=158,slow=12,SNR=4.9								
WRA				Sn		**Sn**		**06 56 43.8**	**-4.7**
	0.1nm,0.3s,baz=172,slow=24,SNR=3.7								

*ISCJB **07** 06:58:40.3±0.4, 37.°25N±0.°02×22.°04E±0.°03, h0km±5km, Error ellipse: s-maj=4.3km s-min=3.4km az=172.5*
*ATH **07** 06:58:40.2, 37.°24N×22.°02E, h8km±4km, ML2.2/9, Error ellipse: s-maj=4.0km s-min=0.8km az=225.0*
*CSEM **07** 06:58:40.5±0.2, 37.°26N×22.°03E, h2km, ML2.2, Error ellipse: s-maj=3.6km s-min=2.6km az=75.0*
*THE **07** 06:58:40.4, 37.°25N×22.°03E, h3km±2km, ML2.6/4, Error ellipse: s-maj=2.8km s-min=0.5km az=186.0*
ISC 07 06:58:40.5±0.9, 37.°25N±0.°02×22.°03E±0.°02, h5km±8km, n74, σ0s70/102, Southern Greece

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
ITM	**Ithomi**	**0.10**	**229**	P		**Pg**		**06 58 42.3**	**-0.4**
ITM				S		**Sg**		**06 58 44.4**	**+0.2**
ITM	**Ithomi**	**0.10**	**229**	P		**Pg**		**06 58 42.3**	**-0.4**
ITM				S		**Sg**		**06 58 44.4**	**+0.2**
ITM	**Ithomi**	**0.10**	**229**	P		**Pg**		**06 58 42.2**	**-0.5**
ITM	**Ithomi**	**0.10**	**229**	P		**Pg**		**06 58 42.0**	**-0.7**
ITM				S		**Sg**		**06 58 44.3**	**+0.2**
ITM					AML	AML		06 58 44.9	
	comp=E,14715μm,0.5s								
ITM					AML	AML		06 58 47.6	
	comp=N,16326μm,0.5s								
VLX	**Vlachokerasia**	**0.31**	**66**	P		**Pg**		**06 58 46.5**	**0.0**
VLX				S		**Sg**		**06 58 50.5**	**-0.1**
VLX	**Vlachokerasia**	**0.31**	**66**	P		**Pg**		**06 58 46.5**	**0.0**
VLX				S		**Sg**		**06 58 50.5**	**-0.1**
VLX	**Vlachokerasia**	**0.31**	**66**	P		**Pg**		**06 58 46.8**	**+0.3**
VLX				S		**Sg**		**06 58 51.2**	**+0.6**
VLX					AML	AML		06 58 56.2	
	comp=E,2206μm,0.6s								
VLX					AML	AML		06 58 57.0	
	comp=N,1330μm,0.6s								
VLX	**Vlachokerasia**	**0.31**	**66**	P		**Pg**		**06 58 46.6**	**+0.1**
VLX				S		**Sg**		**06 58 51.0**	**+0.4**
VLX					AML	AML		06 58 56.2	
	comp=E,2206μm,0.6s								
VLX					AML	AML		06 58 57.0	
	comp=N,1330μm,0.6s								
TRIP	**Tripoli**	**0.34**	**35**	P		**Pg**		**06 58 47.4**	**+0.3**
TRIP				S		**Sg**		**06 58 52.7**	**+1.0**
TRIP	**Tripoli**	**0.34**	**35**	P		**Pg**		**06 58 47.6**	**+0.5**
TRIP				S		**Sg**		**06 58 51.6**	**-0.1**
TRIP					AML	AML		06 58 56.0	
	comp=N,625μm,1.0s								
TRIP					AML	AML		06 58 58.8	
	comp=E,523μm,0.9s								
TRIP	**Tripoli**	**0.34**	**35**	P		**Pg**		**06 58 47.7**	**+0.5**
TRIP				S		**Sb**		**06 58 53.4**	**-1.5**
AMT	**Artemida-Makis**	**0.38**	**319**	P		**Pg**		**06 58 47.6**	**-0.3**
AMT				S		**Sg**		**06 58 53.6**	**+0.7**
AMT	**Artemida-Makis**	**0.38**	**319**	P		**Pg**		**06 58 47.6**	**-0.3**
AMT				S		**Sg**		**06 58 53.4**	**+0.5**
AMT	**Artemida-Makis**	**0.38**	**319**	P		**Pg**		**06 58 48.1**	**+0.2**
AMT				S		**Sb**		**06 58 55.3**	**-0.7**
AMT					AML	AML		06 58 58.3	
	comp=N,2417μm,0.3s								
AMT					AML	AML		06 59 05.3	
	comp=E,2113μm,0.6s								
AMT	**Artemida-Makis**	**0.38**	**319**	P		**Pg**		**06 58 48.1**	**+0.2**
AMT				S		**Sg**		**06 58 53.7**	**+0.8**
AMT					AML	AML		06 58 58.3	
	comp=N,2417μm,0.3s								
AMT					AML	AML		06 59 00.8	
	comp=E,2489μm,0.6s								
PYL	**PYLOS**	**0.42**	**213**	P		**Pg**		**06 58 47.9**	**-0.7**
PYL				S		**Sg**		**06 58 55.0**	**+1.0**
PYL	**PYLOS**	**0.42**	**213**	P		**Pg**		**06 58 47.9**	**-0.7**
PYL				S		**Sg**		**06 58 55.0**	**+1.0**
PYL	**PYLOS**	**0.42**	**213**	P		**Pg**		**06 58 47.4**	**-1.1**
PYL				S		**Sb**		**06 58 55.7**	**-1.3**
PYL					AML	AML		06 58 58.8	
	comp=N,738μm,0.3s								
PYL					AML	AML		06 59 00.5	
	comp=E,1015μm,0.4s								
DRO	**Drossia**	**0.75**	**341**	P		**Pg**		**06 58 54.3**	**-0.5**
DRO	**Drossia**	**0.75**	**341**	P		**Pg**		**06 58 54.3**	**-0.5**
DRO				S		**Sg**		**06 59 05.5**	**+0.9**
DRO	**Drossia**	**0.75**	**341**	P		**Pg**		**06 58 54.9**	**0.0**
DRO				S		**Sg**		**06 59 04.7**	**+0.2**
DRO					AML	AML		06 59 13.5	
	comp=E,719μm,0.4s								
DRO					AML	AML		06 59 15.1	
	comp=N,578μm,0.4s								
DRO	**Drossia**	**0.75**	**341**	P		**Pg**		**06 58 53.2**	**-1.6**
DRO				S		**Sb**		**06 59 06.0**	**-0.5**
DRO					AML	AML		06 59 13.5	
	comp=E,719μm,0.4s								
DRO					AML	AML		06 59 15.1	
	comp=N,578μm,0.4s								
KLV	**Kalavryta, Ach**	**0.80**	**7**	P		**Pg**		**06 58 55.2**	**-0.7**
KLV	**Kalavryta, Ach**	**0.80**	**7**	P		**Pg**		**06 58 55.4**	**-0.5**
KLV				S		**Sg**		**06 59 06.0**	**-0.3**
KLV	**Kalavryta, Ach**	**0.80**	**7**	P		**Pg**		**06 58 55.0**	**-0.8**
KLV				S		**Sg**		**06 59 06.8**	**+0.5**
KLV					AML	AML		06 59 14.1	
	comp=E,237μm,0.6s								
KLV					AML	AML		06 59 16.9	
	comp=N,199μm,0.8s								
KLV	**Kalavryta, Ach**	**0.80**	**7**	P		**Pg**		**06 58 55.3**	**-0.5**
KLV				S		**Sg**		**06 59 05.3**	**-1.0**
KLV					AML	AML		06 59 14.1	
	comp=E,237μm,0.6s								
KLV					AML	AML		06 59 16.9	
	comp=N,199μm,0.8s								
VLI	**Veliai**	**0.90**	**126**	P		**Pg**		**06 58 57.3**	**-0.5**
VLI	**Veliai**	**0.90**	**126**	P		**Pg**		**06 58 57.3**	**-0.5**
VLI				S		**Sg**		**06 59 09.4**	**-0.1**
VLI					AML	AML		06 59 21.2	
	comp=E,153μm,0.8s								
VLI					AML	AML		06 59 21.2	
	comp=N,119μm,0.5s								
VLI	**Veliai**	**0.90**	**126**	P		**Pg**		**06 58 57.1**	**-0.7**
RLS	**Riolos of Patr**	**0.92**	**331**	S		**Sg**		**06 59 10.7**	**+0.5**
RLS	**Riolos of Patr**	**0.92**	**331**	S		**Sb**		**06 59 11.3**	**-0.2**
RLS					AML	AML		06 59 21.0	
	comp=N,220μm,0.6s								
RLS					AML	AML		06 59 24.4	
	comp=E,276μm,0.7s								
RLS	**Riolos of Patr**	**0.92**	**331**	S		**Sg**		**06 59 10.8**	**+0.7**
RLS					AML	AML		06 59 21.0	
	comp=N,220μm,0.6s								
RLS					AML	AML		06 59 24.4	
	comp=E,276μm,0.7s								
THAL	**Thalero**	**0.94**	**33**	P		**Pg**		**06 58 58.6**	**+0.1**
THAL	**Thalero**	**0.94**	**33**	P		**Pb**		**06 58 59.1**	**-0.1**
LAKA	**Lakka**	**0.99**	**358**	P		**Pg**		**06 58 58.9**	**-0.6**
LAKA	**Lakka**	**0.99**	**358**	P		**Pg**		**06 58 58.9**	**-0.6**
LAKA				S		**Sg**		**06 59 12.7**	**+0.3**
LAKA	**Lakka**	**0.99**	**358**	P		**Pg**		**06 58 58.7**	**-0.8**
LAKA				S		**Sg**		**06 59 12.7**	**+0.3**
LAKA					AML	AML		06 59 21.4	
	comp=E,113μm,0.5s								
LAKA					AML	AML		06 59 21.6	
	comp=N,131μm,0.7s								
DID	**Didima**	**1.00**	**75**	P		**Pg**		**06 58 59.3**	**-0.4**
DID	**Didima**	**1.00**	**75**	P		**Pg**		**06 58 59.3**	**-0.4**
DID	**Didima**	**1.00**	**75**	P		**Pb**		**06 59 00.0**	**-0.3**
LTK	**Loutraki**	**1.08**	**44**	P		**Pg**		**06 59 00.4**	**-0.7**
LTK	**Loutraki**	**1.08**	**44**	P		**Pg**		**06 59 00.7**	**-0.5**
LTK	**Loutraki**	**1.08**	**44**	P		**Pg**		**06 59 00.5**	**-0.7**
LTK	**Loutraki**	**1.08**	**44**	P		**Pg**		**06 59 00.7**	**-0.5**
AXS	**Araxos**	**1.08**	**332**	P		**Pg**		**06 59 01.1**	**-0.1**
AXS	**Araxos**	**1.08**	**332**	P		**Pb**		**06 59 01.6**	**0.0**
TRIZ	**Trizonia**	**1.12**	**2**	S		**Sg**		**06 59 16.2**	**-0.2**
TRIZ	**Trizonia**	**1.12**	**2**	S		**Sn**		**06 59 18.3**	**-0.2**
TRIZ	**Trizonia**	**1.12**	**2**	S		**Sg**		**06 59 15.6**	**-0.8**
KALE	**Kalithea**	**1.15**	**4**	P		**Pg**		**06 59 01.3**	**-1.2**
KALE	**Kalithea**	**1.15**	**4**	P		**Pg**		**06 59 01.5**	**-1.0**
KALE	**Kalithea**	**1.15**	**4**	P		**Pg**		**06 59 00.7**	**-1.8**
KALE				S		**Sb**		**06 59 17.7**	**-0.4**
KALE					AML	AML		06 59 27.8	
	comp=E,181μm,0.7s								
KALE					AML	AML		06 59 31.9	
	comp=N,143μm,0.6s								
KALE	**Kalithea**	**1.15**	**4**	P		**Pg**		**06 59 01.1**	**-1.4**
KALE					AML	AML		06 59 23.4	
	comp=N,215μm,0.4s								
KALE					AML	AML		06 59 27.8	
	comp=E,181μm,0.7s								
SERG	**Sergoula**	**1.16**	**1**	P		**Pg**		**06 59 01.7**	**-1.1**
SERG	**Sergoula**	**1.16**	**1**	P		**Pg**		**06 59 01.7**	**-1.1**
PROD	**Prodromos**	**1.23**	**34**	P		**Pg**		**06 59 03.3**	**-0.7**
PROD	**Prodromos**	**1.23**	**34**	P		**Pg**		**06 59 03.2**	**-0.7**
DSF	**Desfina**	**1.23**	**19**	P		**Pg**		**06 59 04.0**	**-0.1**
DSF	**Desfina**	**1.23**	**19**	P		**Pg**		**06 59 03.5**	**-0.6**
DSF	**Desfina**	**1.23**	**19**	P		**Pn**		**06 59 04.5**	**+0.1**
KYTH	**Kithira**	**1.28**	**140**	P		**Pn**		**06 59 06.6**	**+1.5**
ANX	**Ano Chora**	**1.35**	**357**	P		**Pg**		**06 59 05.1**	**-1.2**
ANX	**Ano Chora**	**1.35**	**357**	P		**Pg**		**06 59 05.1**	**-1.2**
ANX				S		**Sn**		**06 59 24.9**	**+0.5**
ANX	**Ano Chora**	**1.35**	**357**	S		**Sn**		**06 59 25.6**	**+1.2**
VILL	**Villia**	**1.37**	**48**	P		**Pg**		**06 59 06.6**	**-0.2**
VIL2	**Platees**	**1.38**	**45**	P		**Pb**		**06 59 07.0**	**+0.2**
PVO	**Paravola**	**1.42**	**344**	P		**Pg**		**06 59 07.8**	**0.0**
PVO	**Paravola**	**1.42**	**344**	P		**Pg**		**06 59 08.5**	**+0.7**
PDO	**Prodromos**	**1.50**	**334**	P		**Pg**		**06 59 09.1**	**-0.2**
PDO	**Prodromos**	**1.50**	**334**	P		**Pg**		**06 59 09.8**	**+0.4**
ANKY	**Antikythira Is**	**1.72**	**143**	P		**Pb**		**06 59 12.5**	**-0.1**
ANKY	**Antikythira Is**	**1.72**	**143**	P		**Pb**		**06 59 12.6**	**+0.1**
AGG	**Agios Georgios**	**1.79**	**8**	P		**Pb**		**06 59 13.3**	**-0.5**
AGG	**Agios Georgios**	**1.79**	**8**	P		**Pb**		**06 59 13.0**	**-0.8**

*NIED **07** 07:06:00, 37.°40N×142.°40E, h5km, Mw3.5 Best double couple: M0 2.04000×10^14 NP1:φ=274.00000°, δ=57.00000°, λ=-33.00000°. NP2:φ=24.00000°, δ=63.00000°, λ=-142.00000°.*
*JMA **07** 07:06:22.2±0.3, 37.°42N×142.°40E, h4km±3km, M3.8*
*ISCJB **07** 07:06:23.5±1.7, 37.°36N±0.°05×142.°46E±0.°08, h15km±12km, mb3.7/4, Error ellipse: s-maj=10.9km s-min=8.4km az=19.5*
*IDC **07** 07:06:32.0±5.4, 37.°13N×142.°08E, h72km±50km, mb3.4/4, mb1 3.6/5, mb1mx3.4/31, mbtmp3.6/5, ML3.0/1, Error ellipse: s-maj=49.3km s-min=25.0km az=98.0*
ISC 07 07:06:23.9±1.6, 37.°56N±0.°09×142.°5E±0.°1, h22km±8km, n24, σ1s38/25, mb3.7/4, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
JIO	**Ouri**	**1.28**	**315**	P		**Pb**		**07 06 46.8**	**-0.5**
JFK	**Kawauchi**	**1.31**	**262**	P		**Pn**		**07 06 45.5**	**-1.5**
JMM	**Marumori**	**1.40**	**283**	P		**Pn**		**07 06 47.3**	**-0.7**
JMM					eS	**Sn**		**07 07 05.3**	**-0.5**
ONAJ	**Iwakimizuishiy**	**1.44**	**252**	P		**Pn**		**07 06 46.7**	**-2.0**
JOU	**Okura**	**1.67**	**300**	P		**Pb**		**07 06 52.7**	**-1.2**
JOU				S		**Sb**		**07 07 13.9**	**-0.5**
JMK	**Ichinoseki**	**1.72**	**324**	P		**Pb**		**07 06 54.5**	**-0.3**
JMK					eS	**Sb**		**07 07 18.2**	**+2.2**
JFT	**Otama**	**1.73**	**269**	P		**Pb**		**07 06 52.5**	**-0.1**
JFT					eS	**Sn**		**07 07 14.3**	**+0.3**
JYS	**Shirataka**	**2.04**	**290**	P		**Pb**		**07 06 58.7**	**-1.6**
JYS					eS	**Sb**		**07 07 24.7**	**-0.6**
JOM	**Ohasama**	**2.14**	**334**		eS	**Sb**		**07 07 28.0**	**0.0**
JYK	**Kaneyama**	**2.17**	**309**	P		**Pb**		**07 07 01.2**	**-1.2**
JRG	**Rokugo**	**2.35**	**322**	P		**Pb**		**07 07 04.7**	**-0.9**
JRG					eS	**Sb**		**07 07 34.9**	**+0.7**
JAG	**Ashikaga**	**2.69**	**246**	P		**Pn**		**07 07 06.4**	**+0.5**
MJAR	**Matsushiro Arr**	**3.59**	**255**	P		**Pn**		**07 07 19.1**	**+0.9**
	1.8nm,0.3s,baz=84,slow=15,SNR=8.0								
MJAR				S		**Sb**		**07 08 12.6**	**+2.9**
	1.2nm,0.3s,baz=218,slow=18,SNR=4.8								
MAT	**Matsushiro**	**3.59**	**255**	P		**Pn**		**07 07 20.3**	**+2.1**
MAT				S		**Sn**		**07 07 59.3**	**-0.6**
H11N2	**WAKE ISLAND Hy**	**27.68**	**123**	T		T		07 40 51.8	
	baz=315,slow=75,SNR=34								
H11N1	**WAKE ISLAND Hy**	**27.69**	**123**	T		T		07 41 00.6	
	baz=315,slow=75,SNR=11								
H11N3	**WAKE ISLAND Hy**	**27.70**	**123**	T		T		07 40 59.5	
	baz=315,slow=75,SNR=26								
SONM	**Songino Array**	**28.23**	**303**	P		**P**		**07 12 17.3**	**+2.1**
	0.3nm,0.4s,baz=90,slow=8.8,SNR=3.1								
H11S1	**WAKE ISLAND Hy**	**28.43**	**125**	T		T		07 41 55.3	
	baz=317,slow=76,SNR=19								
H11S3	**WAKE ISLAND Hy**	**28.43**	**125**	T		T		07 41 53.2	
	baz=317,slow=76,SNR=16								
H11S2	**WAKE ISLAND Hy**	**28.44**	**125**	T		T		07 42 01.2	
	baz=317,slow=76,SNR=20								
ILAR	**Eielson Array**	**48.58**	**33**	P		P		07 15 11.9	+6.6
	0.4nm,0.8s,baz=278,slow=8.0,SNR=4.2								
WRA	**Warramunga Arr**	**57.71**	**189**	P		**P**		**07 16 11.9**	**-0.9**
	1.4nm,0.7s,baz=8.1,slow=7.1,SNR=9.8								
ASAR	**Alice Springs**	**61.43**	**189**	P		**P**		**07 16 37.6**	**-1.0**
	0.8nm,0.7s,baz=16,slow=7.2,SNR=7.0								

*CSEM **07** 07:18:05.5, 37.°02N×24.°37W, h5km, ML3.3*
PDA 07 07:18:05.5±1.2, 37.°02N×24.°37W, h5km, MD4.1, ML3.3, 3C, Error ellipse: s-maj=6.8km s-min=5.4km az=86.0, Azores Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
PSMN	**Pico do Norte,**	**0.56**	**268**	P	i	P	Pg	07 18 14.8	-1.4
PSMN						eS	Sg	07 18 22.3	-1.2
PSMN						A	A	07 18 23.7	
	320nm,0.3s								
PSMN	**Pico do Norte,**	**0.56**	**268**	P	i	P	Pg	07 18 14.8	-1.4
PSMN						eS	Sg	07 18 22.3	-1.2
PSMA	**Santa Maria**	**0.61**	**268**	P	i	P	Pg	07 18 15.4	-1.8
PSMA						eS	Sg	07 18 23.7	-1.4
PSMA						A	A	07 18 28.4	
	291nm,0.4s								
PCALD	**Caldeiras da R**	**1.18**	**311**		eP		Pg	07 18 23.9	-4.2
PCALD					eS		Sg	07 18 37.3	-6.1
PCALD					A		A	07 18 38.2	
	100nm,0.1s								
PDA	**Ponta Delgada**	**1.26**	**305**		eP		Pg	07 18 24.1	-5.6
PDA					eS		Sg	07 18 39.0	-7.0
PDA					A		A	07 18 41.0	
	86nm,0.3s								
PDA	**Ponta Delgada**	**1.26**	**305**		eP		Pg	07 18 24.1	-5.6
PDA					eS		Sg	07 18 39.0	-7.0
PSET	**Sete Cidades**	**1.34**	**307**		eP		Pn	07 18 26.4	-4.5
PSET					eS		Sg	07 18 41.8	-6.8
PSET					A		A	07 18 50.3	
	211nm,0.4s								
PSET	**Sete Cidades**	**1.34**	**307**		eP		Pn	07 18 26.4	-4.5
PSET					eS		Sg	07 18 41.8	-6.8
ADH	**Angra Heroismo**	**2.79**	**307**		eP		Pn	07 18 46.1	-4.7
ADH					eS		Sn	07 19 16.5	-8.4
ADH					A		A	07 19 20.3	
	49nm,0.5s								
ADH	**Angra Heroismo**	**2.79**	**307**		eP		Pn	07 18 46.1	-4.7
ADH					eS		Sn	07 19 16.5	-8.4
PMAN	**Manadas**	**3.36**	**300**		eS		Sn	07 19 30.8	-8.0
PMAN					A		A	07 19 33.8	
	28nm,0.2s								
PMAN	**Manadas**	**3.36**	**300**		eS		Sn	07 19 30.8	-8.0
PGRA	**Graciosa**	**3.49**	**306**		eS		Sn	07 19 33.4	-8.6
PGRA					A		A	07 19 38.3	
	19nm,0.3s								
PGRA	**Graciosa**	**3.49**	**306**		eS		Sn	07 19 33.4	-8.6
ROSA	**Rosais**	**3.50**	**300**		eP		Pn	07 18 56.3	-4.3
ROSA					eS		Sn	07 19 34.0	-8.4
ROSA	**Rosais**	**3.50**	**300**		eP		Pn	07 18 56.3	-4.3
ROSA					eS		Sn	07 19 34.0	-8.4
PICO	**Pico**	**3.54**	**296**		eP		Pn	07 18 57.0	-4.2
PICO					eS		Sn	07 19 35.4	-8.0
PICO					A		A	07 19 37.9	
	20nm,0.2s								
PICO	**Pico**	**3.54**	**296**		eP		Pn	07 18 57.0	-4.2
PICO					eS		Sn	07 19 35.4	-8.0
PCAN	**Candelaria**	**3.57**	**295**		eP		Pn	07 18 57.3	-4.2
PCAN					eS		Sn	07 19 35.0	-9.0
PCAN					A		A	07 19 43.1	
	40nm,0.3s								
PCAN	**Candelaria**	**3.57**	**295**		eP		Pn	07 18 57.3	-4.2
PCAN					eS		Sn	07 19 35.0	-9.0
CALA	**Caldeira**	**3.77**	**296**		eP		Pn	07 18 59.9	-4.4
CALA					eS		Sn	07 19 40.5	-8.6
CALA	**Caldeira**	**3.77**	**296**		eP		Pn	07 18 59.9	-4.4
CALA					eS		Sn	07 19 40.5	-8.6
PCED	**Cedros**	**3.79**	**296**		eP		Pn	07 19 00.0	-4.5
PCED	**Cedros**	**3.79**	**296**		eP		Pn	07 19 00.0	-4.5

*BJI **07** 07:29:26.6, 5.°24S×134.°50E, h30km, mb4.8/39, mB5.0/30, Ms4.8/18, Ms7 4.4/15*
*IDC **07** 07:29:27.4±0.6, 4.°89S×134.°16E, h0km, mb4.4/15, mb1 4.5/19, mb1mx4.4/38, mbtmp4.5/19, ML3.7/3, MS3.9/10, Ms1 3.9/10, ms1mx3.4/39, Error ellipse: s-maj=23.5km s-min=14.3km az=78.0*
*ISCJB **07** 07:29:29.3±0.2, 5.°00S±0.°03×134.°18E±0.°03, h28km, mb4.6/37, MS4.2/8, Error ellipse: s-maj=4.3km s-min=3.7km az=172.2*
*NEIC **07** 07:29:29.4±2.7, 4.°96S×134.°20E, h15km±17km, mb4.7/16, Error ellipse: s-maj=7.5km s-min=6.0km az=55.0*
*DJA **07** 07:29:31.6±0.2, 5°S±2°×13°4E±°, h10km, M5.0/24, mb5.0/24, mB5.5/13, MLv5.2/11, Mw(mB)5.0/13*
ISC 07 07:29:31.9±0.4, 4.°92S±0.°04×134.°10E±0.°04, h28km, n107, σ2s02/117, mb4.6/36, MS4.2/9, 1C, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
FAKI	**Fak Fak**	**2.71**	**317**	P			**Pn**	**07 30 12.8**	**-0.9**
FAKI				S			**Sn**	**07 30 42.9**	**-2.7**
FAKI	**Fak Fak**	**2.71**	**317**	eP	n		**Pn**	**07 30 12.9**	**-0.8**
FAKI				eS	n		**Sn**	**07 30 43.8**	**-1.8**
RKPI	**Ransiki, Papua**	**3.39**	**1**	P			**Pn**	**07 30 23.3**	**+0.4**
RKPI				S			**Sn**	**07 31 00.5**	**-1.7**
SAUI	**Saumlaki**	**4.12**	**222**	P			**Pn**	**07 30 34.7**	**+1.6**
SAUI				S			**Sn**	**07 31 22.6**	**+2.2**
SAUI	**Saumlaki**	**4.12**	**222**	eP	n		**Pn**	**07 30 34.3**	**+1.2**
BNDI	**Bandanaira**	**4.20**	**275**	P			**Pn**	**07 30 34.6**	**+0.5**
SIJI	**Sorong**	**4.92**	**325**	Pn			**Pn**	**07 30 44.4**	**+0.3**
	baz=89,slow=24,SNR=8.5								
SIJI				Sn			**Sn**	**07 31 33.2**	**-6.9**
	29nm,0.3s,baz=83,slow=23,SNR=4.4								
SWI	**Sorong**	**4.93**	**325**	P			**Pn**	**07 30 44.2**	**+0.1**
MSAI	**Masohi**	**5.39**	**287**	P			**Pn**	**07 30 50.2**	**-0.3**
SMPI	**Sarmi**	**5.44**	**58**	P			**Pn**	**07 30 51.7**	**+0.5**
AAI	**Ambon**	**6.02**	**282**	P			**Pn**	**07 30 59.0**	**-0.1**
GENI	**Genyem**	**6.48**	**69**	P			**Pn**	**07 31 07.1**	**+1.6**
JAY	**Jayapura**	**7.01**	**70**	Pn			**Pn**	**07 31 13.7**	**+0.9**
	0.5nm,0.3s,baz=252,slow=21,SNR=16								
JAY				Sn			**Sn**	**07 32 31.7**	**0.0**
	0.1nm,0.3s,baz=90,slow=20,SNR=2.8								
JAY	**Jayapura**	**7.01**	**70**	P			**Pn**	**07 31 14.7**	**+1.9**
NLAI	**Namlea**	**7.18**	**283**	P			**Pn**	**07 31 16.5**	**+1.4**
KDU	**Kakadu**	**7.88**	**192**	P			**Pn**	**07 31 24.8**	**0.0**
	baz=7.9,SNR=32								
MTN	**Manton Dam**	**8.40**	**200**	P			**Pn**	**07 31 31.7**	**-0.2**
	baz=8.4,SNR=76								
MTN	**Manton Dam**	**8.40**	**200**	eP	n		**Pn**	**07 31 31.8**	**-0.2**
SANI	**Sanana**	**8.58**	**289**	P			**Pn**	**07 31 31.5**	**-2.9**
SOEI	**Soe**	**10.87**	**243**	P			**Pn**	**07 32 06.6**	**+0.7**
SOEI	**Soe**	**10.87**	**243**	eP	n		**Pn**	**07 32 05.0**	**-0.9**
KDI	**Kendari**	**11.49**	**274**	P			**Pn**	**07 32 18.6**	**+4.4**
	40nm,1.2s								
KNRA	**Kununurra**	**11.91**	**206**	P			**Pn**	**07 32 18.3**	**-1.6**
	baz=12,SNR=32								
GTOI	**Gorontalo**

KPJI Karang Pucung 25.14 263 P **P** 07 35 01.6 +6.7
53nm,1.2s
STKA Stephens Creek 27.72 166 LR LR 07 47 23.3
comp=Z,576nm,18.0s,baz=3.7,slow=39
PSI Prapat 35.97 282 P **P** 07 36 31.9 +1.1
4.1nm,0.7s,baz=90,slow=6.7,SNR=4.9
PSI Prapat 35.97 282 *eP* **P** 07 36 31.6 +0.8
7.8nm,0.8s
JNU Nakatsue 37.95 356 P **P** 07 36 47.1 -0.2
12nm,0.9s,baz=178,slow=6.1,SNR=9.4
JNU Nakatsue 37.95 356 *eP* **P** 07 36 46.6 -0.7
20nm,1.1s
WHN Wuhan 40.01 333 P **P** 07 37 05.9 +1.5
GYA Guiyang 40.98 321 *eP* **P** 07 37 15.2 +2.5
GYA pmax pmax
comp=Z,10.0nm,1.0s
CM01 Chiang Mai Arr 41.69 305 *eP* **P** 07 37 18.5 0.0
CMAR Chiang Mai Arr 41.72 305 P **P** 07 37 18.6 -0.2
1.5nm,0.6s,baz=132,slow=6.3,SNR=6.4
CMMT Chiang Mai 41.90 305 P P 07 37 25.7 +5.5
8.4nm,1.4s
CHTO Chiang Mai 41.90 305 P P 07 37 25.9 +5.6
26nm,2.1s
KSAR Wonju Array Be 42.54 353 P **P** 07 37 24.7 -0.4
KSRS Korea Array 42.55 353 P **P** 07 37 24.7 -0.5
9.6nm,0.9s,baz=171,slow=9.8,SNR=41
KS01 Wonju Array Si 42.57 353 *eP* **P** 07 37 25.0 -0.4
KMI Kunming 42.67 316 P **P** 07 37 29.8 +3.1
KMI pmax pmax
comp=Z,21nm,0.7s
KMI pmax pmax
comp=Z,140nm,4.8s
XAN Xi'an 45.47 330 P **P** 07 37 47.8 -1.0
XAN pP pP 07 37 53.6 -3.7
XAN pmax pmax
comp=Z,11nm,1.3s
XAN pmax pmax
comp=Z,80nm,8.2s
CD2 Chengdu 45.93 323 *iP* **P** 07 37 52.2 -0.3
CD2 sP sP 07 38 04.2 -0.2
CD2 S **S** 07 44 29.8 -5.8
CD2 pmax pmax
comp=Z,20nm,0.9s
CD2 pmax pmax
comp=Z,200nm,8.5s
CD2 LR LR
comp=E,280nm,15.2s
CD2 LR LR
comp=Z,320nm,19.0s
USRK Ussuriysk Ar. 48.93 358 P **P** 07 38 15.3 -0.2
1.4nm,0.4s,baz=196,slow=7.6,SNR=5.5
MDJ Mudanjiang 49.48 356 P **P** 07 38 19.8 +0.1
MDJ pP pP 07 38 25.0 -3.2
MDJ sP sP 07 38 27.9 -3.7
MDJ pmax pmax
comp=Z,9.0nm,1.6s
MDJ pmax pmax
comp=Z,42nm,3.6s
LZH Lanzhou 49.67 328 *eP* **P** 07 38 22.7 +1.1
LZH pP pP 07 38 30.0 -0.1
LZH sP sP 07 38 33.1 -0.4
LZH PP **PP** 07 40 19.0 +2.7
LZH pmax pmax
comp=Z,23nm,1.3s
LZH pmax pmax
comp=Z,71nm,6.5s
LZH LR LR
comp=N,310nm,14.0s
LZH LR LR
comp=E,330nm,13.7s
LZH LR LR
comp=Z,410nm,17.8s
HHC Hu-ho-hao-te 50.01 338 *eP* **P** 07 38 26.6 +2.6
HHC S **S** 07 45 36.5 +3.2
HHC SS **SS** 07 49 07.1 +0.3
HHC pmax pmax
comp=Z,26nm,1.1s
HHC pmax pmax
comp=Z,62nm,5.4s
HHC LR LR
comp=N,270nm,14.1s
HHC LR LR
comp=E,510nm,16.3s
HHC LR LR
comp=Z,230nm,13.7s
KLR Kul'dur 53.96 358 P **P** 07 38 53.2 +0.1
2.4nm,0.7s,baz=150,slow=8.1,SNR=8.1
KLR LR LR 07 58 18.2
comp=Z,44nm,20.0s,baz=202,slow=32
SONM Songino Array 57.90 338 P **P** 07 39 21.5 0.0
2.2nm,0.9s,baz=157,slow=7.9,SNR=10
SONA1 Songino Array 57.91 338 *eP* **P** 07 39 21.1 -0.6
PETK Petropavlovsk- 61.15 16 P **P** 07 39 44.0 +0.3
1.7nm,0.6s,baz=160,slow=4.6,SNR=2.9
WMQ Urumqi 63.99 324 P **P** 07 40 03.9 +1.0
WMQ pP pP 07 40 08.6 -3.1
WMQ sP sP 07 40 14.8 -0.2
WMQ PcP **PcP** 07 40 37.7 -0.5
WMQ pmax pmax
comp=Z,22nm,0.9s
WMQ pmax pmax
comp=Z,80nm,3.9s
WMQ LR LR
comp=N,80nm,22.7s
WMQ LR LR
comp=E,79nm,30.3s
RAR Rarotonga 65.99 111 LR LR 08 04 51.3
comp=Z,226nm,20.9s,baz=259,slow=32
MK01 Makanchi Array 68.80 325 *eP* **P** 07 40 33.7 0.0
MK31 Makanchi Array 68.82 325 *eP* **P** 07 40 33.9 +0.2
MKAR Makanchi Array 68.82 325 *eP* **P** 07 40 33.9 +0.2
37nm,0.6s
MAKZ Makanchi 69.00 324 *eP* **P** 07 40 35.3 +0.4
14nm,1.0s
KSH Kashi 69.33 315 P **P** 07 40 38.6 +1.4
KSH pP pP 07 40 46.6 +0.6
KSH PcP **PcP** 07 41 01.7 +1.0
KSH PP **PP** 07 43 14.7 +3.9
KSH S **S** 07 49 42.1 -0.3
KSH SS **SS** 07 54 12.3 +2.4
KSH pmax pmax
comp=Z,14nm,1.2s
KSH pmax pmax
comp=Z,68nm,4.4s
KSH LR LR
comp=N,180nm,8.0s
KSH LR LR
comp=E,120nm,6.4s
KSH LR LR
comp=Z,130nm,5.2s
ZAA0 Zalesovo Array 71.61 332 *eP* **P** 07 40 49.5 -1.1
ZALV Zalesovo Beam 71.61 332 P **P** 07 40 49.2 -1.4
1.5nm,0.4s,baz=104,slow=4.7,SNR=5.0
AAK Ala-Archa 71.67 318 *eP* **P** 07 40 52.2 +0.7
5.5nm,1.0s
KURK Kurchatov 72.95 327 *eP* **P** 07 40 58.7 0.0
KURBB Kurchatov Arra 72.95 327 P **P** 07 40 58.1 -0.6
6.0nm,1.0s,baz=124,slow=4.9,SNR=7.5
VNDA Vanda 74.04 174 P **P** 07 41 04.4 -0.3
0.9nm,0.8s,baz=319,slow=7.3,SNR=9.2
KKAR Karatay Array 74.54 317 *eP* **P** 07 41 08.4 +0.2
32nm,0.9s
PPT Papeete 75.50 107 LR LR 08 12 53.9
comp=Z,83nm,19.0s,baz=288,slow=34
MAW Mawson 78.37 202 P **P** 07 41 30.4 +1.0
8.7nm,1.0s,baz=67,slow=5.7,SNR=9.3
MAW Mawson 78.37 202 *eP* **P** 07 41 31.0 +1.5
2.3nm,1.0s
BRVK Borovoye 78.61 326 *eP* **P** 07 41 31.2 +0.2
NRIK Noril'sk 80.58 345 P **P** 07 41 40.4 -1.0
4.4nm,0.7s,baz=133,slow=5.2,SNR=8.5
GEYT Alibeck 82.03 309 P **P** 07 41 48.7 -1.1
2.8nm,0.6s,baz=160,slow=4.7,SNR=6.3
QSPA South Pole Qui 85.04 180 *eP* **P** 07 42 04.4 -0.5
5.8nm,1.0s
CCB Clear Creek Bu 89.33 25 *eP* **P** 07 42 24.2 -1.2
10nm,1.4s
IL1 Eielson Array 89.75 25 *eP* **P** 07 42 25.2 -2.2
ILAR Eielson Array 89.75 25 P **P** 07 42 25.2 -2.2
1.8nm,1.0s,baz=259,slow=4.2,SNR=11
ILAR LR LR 08 21 13.4
comp=Z,38nm,19.9s,baz=261,slow=35
TORD Torodi Ar. Bea 132.36 283 PKP **PKPdf** 07 48 44.1 -0.5
0.9nm,0.8s,baz=71,slow=1.2,SNR=6.0
CPUP Villa Florida 147.02 161 PKPbc **PKPbc** 07 49 12.2 -0.7
6.3nm,0.9s,baz=266,slow=2.2,SNR=10.0
LPAZ La Paz 149.54 134 PKPbc **PKPbc** 07 49 21.8 +1.3
1.1nm,0.5s,baz=263,slow=3.2,SNR=9.3
ROSC El Rosal 151.68 89 PKPbc **PKPbc** 07 49 26.1 +0.7
6.0nm,0.5s,baz=144,slow=4.3,SNR=5.4

NIED ***07*** *07:37:00.37˚40N×143˚07E, h5km, Mw4.3 Best double couple: M₀2.85000×10¹⁵ NP1:φs158.00000°, δ53.00000°, λ-135.00000°. NP2:φs37.00000°, δ56.00000°, λ-47.00000°.*

ISCJB ***07*** *07:37:24.9±1.1, 37˚29N±0˚03×143˚97E±0˚04, h8km±6km, mb4.5/46,MS3.7/9, Error ellipse: s-maj=6.1km s-min=4.7km az=40.3*

IDC ***07*** *07:37:25.0±0.7, 37˚26N×144˚05E, h0km, mb4.3/15, mb1 4.5/20,mb1mx4.3/41,mbtmp4.4/20,ML3.6/3,MS3.3/10, Ms1 3.3/10,ms1mx3.1/53, Error ellipse: s-maj=18.5km s-min=15.2km az=128.0*

NEIC ***07*** *07:37:26.4±0.2, 37˚26N×144˚12E, h10km, mb4.7/17, Error ellipse: s-maj=5.2km s-min=3.8km az=136.0*

BJI ***07*** *07:37:27.8, 37˚44N×144˚19E, h33km, mb4.7/43, mB4.9/27, Ms4.3/24, Ms7 4.0/20*

JMA ***07*** *07:37:29.5±0.3, 37˚41N×143˚75E, h49km, M4.5*

MOS ***07*** *07:37:29.8±1.0, 37˚49N×143˚89E, h33km, mb4.7/23, Error ellipse: s-maj=10.4km s-min=7.4km az=122.0*

ISC 07 07:37:26.9±1.8, 37.35N±0.05×144.05E±0.05, h12km±10km, n163,σ2§10/175, mb4.6/46, MS3.9/10, 4C, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
JIO	**Ouri**	**2.40**	**298**	P		P	**Pn**	**07 38 04.5**	**-1.5**
JIO				S		S	**Sn**	**07 38 30.1**	**-5.3**
JFK	**Kawauchi**	**2.53**	**271**	P		P	**Pn**	**07 38 06.1**	**-1.8**
JFK				S		S	**Sn**	**07 38 32.7**	**-5.9**
OFUJ	**Ofunato**	**2.55**	**313**	P		P	**Pn**	**07 38 06.4**	**-1.6**
OFUJ				S		S	**Sn**	**07 38 33.5**	**-5.5**
ONAJ	**Iwakimizuishiy**	**2.61**	**265**	P		P	**Pn**	**07 38 07.0**	**-1.9**
ONAJ				S		S	**Sn**	**07 38 34.6**	**-5.9**
JMK	**Ichinoseki**	**2.74**	**306**	P		P	**Pn**	**07 38 09.4**	**-1.3**
JFT	**Otama**	**2.96**	**274**	P		P	**Pn**	**07 38 13.2**	**-0.5**
JFT				S		S	**Sn**	**07 38 44.6**	**-4.6**
JOM	**Ohasama**	**3.03**	**315**	P		P	**Pn**	**07 38 13.6**	**-1.0**
JOM				S		S	**Sn**	**07 38 46.2**	**-4.6**
JYK	**Kaneyama**	**3.30**	**299**	P		P	**Pn**	**07 38 17.7**	**-0.7**
JYK				*e*S		S	**Sn**	**07 38 53.6**	**-4.0**
JANG	**Nango**	**3.61**	**327**	P		P	**Pn**	**07 38 22.0**	**-0.6**
BSO1	**Boso 1**	**3.67**	**224**	P		P	**Pn**	**07 38 21.6**	**-1.4**
BSO1				S		S	**Sn**	**07 39 03.1**	**-2.8**
JRY	**Ryogami san**	**4.35**	**254**	P		P	**Pn**	**07 38 31.3**	**-1.5**
JRY				S		S	**Sn**	**07 39 16.8**	**-6.7**
JOD2	**Odawara 2**	**4.52**	**244**	P		P	**Pn**	**07 38 33.4**	**-1.8**
JOT	**Ohata**	**4.65**	**331**	P		P	**Pn**	**07 38 36.8**	**-0.1**
ERM	**Erimo**	**4.71**	**352**	*i* P		P	**Pn**	**07 38 36.5**	**-1.2**
ERM				pmax		pmax			
comp=Z,66nm,0.7s									
ERM	**Erimo**	**4.71**	**352**	*e*Pn		**Pn**		**07 38 37.0**	**-0.6**
MJAR	**Matsushiro Arr**	**4.75**	**262**	Pn		**Pn**		**07 38 37.8**	**-0.5**
comp=Z,48nm,0.3s,baz=91,slow=16,SNR=246									
MJAR				Sn		**Sn**		**07 39 28.6**	**-4.7**
comp=Z,16nm,0.3s,baz=96,slow=26,SNR=10									
MJAR				LR		LR		07 40 34.3	
comp=Z,625nm,21.1s,baz=85,slow=40									
MAJO	**Matsushiro**	**4.75**	**262**	*c iP*		**Pn**		**07 38 38.8**	**+0.4**
MAJO	**Matsushiro**	**4.75**	**262**	*e*Pn		**Pn**		**07 38 38.7**	**+0.4**
MAT	**Matsushiro**	**4.75**	**262**	P		**Pn**		**07 38 38.2**	**-0.2**
MAT				S		**Sn**		**07 39 30.6**	**-2.7**
MJB9	**Matsu-Tunnel**	**4.75**	**262**	*e*Pn		**Pn**		**07 38 38.8**	**+0.4**
JKB	**Kayabe**	**5.09**	**334**	P		**Pn**		**07 38 42.7**	**-0.3**
JCH	**Churui**	**5.28**	**354**	P		**Pn**		**07 38 44.1**	**-1.5**
JCH				S		**Sn**		**07 39 41.0**	**-5.3**
JHJ2	**Mitsune**	**5.47**	**221**	*e*Pn		**Pn**		**07 38 46.0**	**-2.2**
JHJ	**Hachijo jima 2**	**5.48**	**221**	Pn		**Pn**		**07 38 46.2**	**-2.1**
comp=Z,188nm,0.3s,baz=253,slow=7.5,SNR=33									
JHJ				Sn		**Sn**		**07 39 43.4**	**-8.0**
comp=Z,105nm,0.3s,baz=60,slow=20,SNR=5.9									
JHJ				LR		LR		07 41 36.7	
comp=Z,86nm,20.0s,baz=92,slow=47									
JOSM	**Okushiri–Mats**	**5.89**	**325**	P		**Pn**		**07 38 53.7**	**-0.3**
INU	**Inuyama**	**6.02**	**253**	*e*Pn		**Pn**		**07 38 55.5**	**-0.2**
YUK	**Yuzh-Kuril'sk**	**6.81**	**11**	*e*P		**Pn**		**07 39 08.3**	**+1.7**
ASAJ	**Asahikawa**	**6.84**	**351**	*e*Pn		**Pn**		**07 39 07.2**	**+0.2**
KUR	**Kuril'sk**	**8.38**	**19**	P		Pn		07 39 38.8	+11
KUR				*e*S		**Sn**		**07 40 54.4**	**-8.1**
KUR				pmax		pmax			
comp=Z,95nm,0.4s									
KUR				smax		smax			
comp=N,107nm,0.5s									
KUR				smax		smax			
comp=E,206nm,0.5s									
YSS	**Yuzh-Sakhalins**	**9.64**	**355**	*e*P		**Pn**		**07 39 42.9**	**-2.5**
YSS				pmax		pmax			
comp=Z,40nm,1.5s									
USRK	**Ussuriysk Ar.**	**11.41**	**311**	Pn		**Pn**		**07 40 10.2**	**+0.5**
comp=Z,1.3nm,0.3s,baz=118,slow=14,SNR=12									
USRK				LR		LR		07 44 21.9	
comp=Z,261nm,18.2s,baz=122,slow=36									
JNU	**Nakatsue**	**11.57**	**253**	Pn		**Pn**		**07 40 11.6**	**-0.3**
comp=Z,0.6nm,0.3s,baz=71,slow=9.0,SNR=10									
JNU	**Nakatsue**	**11.57**	**253**	*e*Pn		**Pn**		**07 40 12.0**	**+0.1**
KSRS	**Korea Array**	**12.83**	**275**	Pn		**Pn**		**07 40 31.1**	**+2.0**
comp=Z,0.3nm,0.3s,baz=89,slow=13,SNR=32									
KSRS				LR		LR		07 45 24.0	
comp=Z,288nm,18.0s,baz=97,slow=37									
KS01	**Wonju Array Si**	**12.85**	**275**	*e*Pn		**Pn**		**07 40 31.3**	**+1.9**
KS15	**Wonju Array Si**	**12.86**	**275**	*e*Pn		**Pn**		**07 40 32.0**	**+2.5**
KSAR	**Wonju Array Be**	**12.86**	**275**	P		**Pn**		**07 40 31.1**	**+1.6**
KSAR	**Wonju Array Be**	**12.86**	**275**	Pn		**Pn**		**07 40 31.1**	**+1.6**
MDJ	**Mudanjiang**	**13.10**	**308**	P		**Pn**		**07 40 34.8**	**+2.0**
MDJ				S		**Sn**		**07 43 00.5**	**+2.2**
MDJ				pmax		pmax			
comp=Z,9.0nm,0.6s									
KLR	**Kul'dur**	**14.85**	**327**	LR		LR		07 46 50.4	
comp=Z,143nm,18.7s,baz=260,slow=38									
KLR	**Kul'dur**	**14.85**	**327**	*e*P		**Pn**		**07 40 58.6**	**+2.1**
CN2	**Changchun**	**15.52**	**300**	*e*P		**P**		**07 41 08.9**	**-0.9**
DL2	**Dalian**	**17.71**	**282**	P		**P**		**07 41 35.8**	**+1.7**
DL2				S		**Sn**		**07 44 51.5**	**+1.1**
DL2				pmax		pmax			
comp=Z,47nm,0.7s									
DL2				pmax		pmax			
comp=Z,130nm,3.5s									
DL2				LR		LR			
comp=Z,220nm,15.7s									
DL2				LR		LR			
comp=Z,410nm,13.7s									
PETK	**Petropavlovsk-**	**18.40**	**27**	LR		LR		07 50 32.1	
comp=Z,44nm,18.7s,baz=214,slow=43									
MA2	**Magadan**	**22.66**	**9**	LR		LR		07 52 38.1	
comp=Z,32nm,18.2s,baz=106,slow=40									
YHNB	**Yeheng**	**23.12**	**243**	*e*P		**P**		**07 42 32.7**	**-0.2**
comp=Z,38nm,1.5s									
NACB	**Ninganchiao**	**23.27**	**242**	*e*P		**P**		**07 42 34.1**	**-0.3**
comp=Z,14nm,0.7s									
TPUB	**Ta-pu**	**24.51**	**242**	*e*P		**P**		**07 42 45.4**	**-0.8**
comp=Z,18nm,0.6s									
HHC	**Hu-ho-hao-te**	**25.37**	**288**	*e*P		**P**		**07 42 56.0**	**+2.0**
HHC				S		**S**		**07 47 17.9**	**-2.3**
HHC				pmax		pmax			
comp=Z,23nm,1.0s									
HHC				pmax		pmax			
comp=Z,84nm,5.0s									
HHC				LR		LR			
comp=Z,170nm,13.3s									
HHC				LR		LR			
comp=Z,470nm,16.9s									
HHC				LR		LR			
comp=Z,230nm,13.3s									
WHN	**Wuhan**	**25.49**	**263**	P		**P**		**07 42 58.3**	**+3.3**
WHN				S		**S**		**07 47 25.1**	**+3.1**
WHN				LR		LR			
comp=Z,460nm,18.3s									
YAK	**Yakutsk**	**26.27**	**345**	LR		LR		07 54 00.1	
comp=Z,55nm,20.9s,baz=100,slow=38									
YAK	**Yakutsk**	**26.27**	**345**	*e*P		**P**		**07 43 02.1**	**+0.4**
YAK				pmax		pmax			
comp=Z,27nm,0.6s									
YAK	**Yakutsk**	**26.27**	**345**	*e*P		**P**		**07 43 02.1**	**+0.4**
comp=Z,27nm,0.6s									
H11N2	**WAKE ISLAND Hy**	**26.55**	**125**	T		T		08 09 55.1	
baz=317									
H11N1	**WAKE ISLAND Hy**	**26.56**	**125**	T		T		08 09 58.2	
baz=317									
H11N3	**WAKE ISLAND Hy**	**26.57**	**125**	T		T		08 09 56.3	
baz=317									
H11S1	**WAKE ISLAND Hy**	**27.32**	**127**	T		T		08 10 52.5	
baz=318									
H11S3	**WAKE ISLAND Hy**	**27.32**	**127**	T		T		08 10 50.7	
baz=318									
H11S2	**WAKE ISLAND Hy**	**27.33**	**127**	T		T		08 10 54.4	
baz=318									
BOD	**Bodaibo**	**28.42**	**326**	*e*P		**P**		**07 43 18.5**	**-2.6**
BOD				pmax		pmax			
comp=Z,12nm,1.3s									
XAN	**Xi'an**	**28.62**	**274**	P		P		07 43 28.0	+4.8
XAN				pP		sP		07 43 38.4	+10
XAN				pmax		pmax			
comp=Z,12nm,1.2s									
XAN				pmax		pmax			
comp=Z,88nm,12.2s									
SONA1	**Songino Array**	**29.36**	**303**	*e*P		**P**		**07 43 31.3**	**+1.5**
SONA0	**Songino Array**	**29.37**	**303**	*e*P		**P**		**07 43 30.9**	**+1.1**
comp=Z,6.3nm,1.1s									
SONM	**Songino Array**	**29.37**	**303**	P		**P**		**07 43 30.9**	**+1.1**
comp=Z,2.9nm,0.8s,baz=108,slow=9.5,SNR=9.0									
SONM				LR		LR		07 55 29.7	
comp=Z,106nm,18.9s,baz=52,slow=37									
SONM	**Songino Array**	**29.37**	**303**	P		**P**		**07 43 30.9**	**+1.1**
SONM				pmax		pmax			
comp=Z,4.0nm,1.0s									
SONM				MLR		MLR			
comp=Z,106nm,18.9s									
TLY	**Talaya**	**31.73**	**310**	LR		LR		07 57 08.3	
comp=Z,118nm,18.4s,baz=128,slow=37									
ZAK	**Zakamensk**	**31.74**	**307**	*e*P		**P**		**07 43 50.0**	**-0.7**
ZAK				pmax		pmax			
comp=Z,4.0nm,1.3s									
LZH	**Lanzhou**	**32.09**	**280**	*e*P		**P**		**07 43 53.0**	**-1.0**
LZH				pP		sP		07 44 03.5	+4.2
LZH				sP		pP		07 44 07.2	+9.4
LZH				PP		**PnPn**		**07 45 00.1**	**+0.7**
LZH				pmax		pmax			
comp=Z,25nm,1.3s									
LZH				pmax		pmax			
comp=Z,92nm,5.2s									
LZH				LR		LR			
comp=Z,380nm,12.9s									
LZH				LR		LR			
comp=Z,400nm,13.2s									
LZH				LR		LR			
comp=Z,470nm,16.7s									
GYA	**Guiyang**	**33.35**	**262**	P		**P**		**07 44 05.6**	**+0.5**
GYA				pP		sP		07 44 15.8	+5.4
GYA				PP		**PP**		**07 45 18.2**	**-2.3**
GYA				S		**S**		**07 49 22.6**	**-3.2**
GYA				sS		sS		07 49 40.4	+8.4
GYA				pmax		pmax			
comp=Z,20nm,0.8s									
GYA				pmax		pmax			
comp=Z,120nm,5.0s									
GYA				LR		LR			
comp=Z,510nm,17.8s									
GYA				LR		LR			
comp=Z,480nm,18.0s									
GYA				LR		LR			
comp=Z,490nm,17.9s									
CD2	**Chengdu**	**33.78**	**271**	P		**P**		**07 44 09.4**	**+0.7**
CD2				sP		sP		07 44 21.0	+7.0
CD2				S		**S**		**07 49 34.1**	**+1.9**
CD2				SS		**SnSn**		**07 51 38.3**	**+1.6**
CD2				pmax		pmax			
comp=Z,10.0nm,1.0s									
CD2				LR		LR			
comp=Z,280nm,17.1s									
CD2				LR		LR			
comp=Z,250nm,11.4s									
QIZ	**Qiongzhong**	**34.99**	**248**	P		**P**		**07 44 19.3**	**+0.1**
QIZ				S		**S**		**07 49 52.4**	**+1.4**
QIZ				LR		LR			
comp=Z,97nm,6.9s									
KMI	**Kunming**	**37.09**	**263**	P		**P**		**07 44 38.1**	**+0.7**
KMI				pmax		pmax			
comp=Z,15nm,0.6s									
KMI				pmax		pmax			
comp=Z,130nm,5.6s									
WMQ	**Urumqi**	**42.57**	**297**	P		**P**		**07 45 24.5**	**+1.9**
WMQ				ScS		ScS		07 55 20.7	-3.3
WMQ				pmax		pmax			
comp=Z,8.0nm,0.7s									
WMQ				pmax		pmax			
comp=Z,78nm,3.8s									
WMQ				LR		LR			
comp=Z,94nm,8.5s									
WMQ				LR		LR			
comp=Z,58nm,8.5s									
ZAA1	**Zalesovo Array**	**43.26**	**312**	*e*PP		PP		07 47 16.9	+8.6
ZALV	**Zalesovo Beam**	**43.26**	**312**	PcP		**PcP**		**07 47 16.9**	**0.0**
comp=Z,4.0nm,0.7s,baz=78,slow=2.2,SNR=5.1									
CHTO	**Chiang Mai**	**43.41**	**258**	*e*P		**P**		**07 45 30.5**	**+0.9**
CHTO				pmax		pmax			
comp=Z,8.0nm,1.0s									
CHTO	**Chiang Mai**	**43.41**	**258**	*e*P		**P**		**07 45 30.5**	**+0.9**
comp=Z,8.1nm,1.0s									
CM31	**Chiang Mai Arr**	**43.62**	**257**	*e*P		**P**		**07 45 31.8**	**+0.5**
CMAR	**Chiang Mai Arr**	**43.62**	**257**	P		**P**		**07 45 31.8**	**+0.5**
comp=Z,1.9nm,0.4s,baz=47,slow=6.9,SNR=9.7									
CM01	**Chiang Mai Arr**	**43.63**	**257**	*e*P		**P**		**07 45 32.2**	**+0.9**
KDAK	**Kodiak Island**	**45.45**	**42**	*i* P		**P**		**07 45 46.6**	**+1.2**
MK01	**Makanchi Array**	**45.73**	**302**	*e*P		**P**		**07 45 47.9**	**0.0**
MK31	**Makanchi Array**	**45.73**	**302**	*e*P		**P**		**07 45 48.4**	**+0.5**
MK31	**Makanchi Array**	**45.73**	**302**	*e*P		**P**		**07 45 48.4**	**+0.5**
MKAR	**Makanchi Array**	**45.73**	**302**	*e*P		**P**		**07 45 48.4**	**+0.5**
MKAR				pmax		pmax			
comp=Z,20nm,0.8s									
MKAR	**Makanchi Array**	**45.73**	**302**	*e*P		**P**		**07 45 48.4**	**+0.5**
comp=Z,20nm,0.8s									
MAKZ	**Makanchi**	**45.94**	**302**	*e*P		**P**		**07 45 50.2**	**+0.7**
MAKZ				pmax		pmax			
comp=Z,7.0nm,1.3s									
MAKZ	**Makanchi**	**45.94**	**302**	*e*P		**P**		**07 45 50.2**	**+0.7**
comp=Z,6.5nm,1.3s									
KURK	**Kurchatov**	**47.39**	**308**	*c iP*		**P**		**07 46 00.5**	**-0.3**
KURK				pmax		pmax			
comp=Z,32nm,1.3s									
KURK	**Kurchatov**	**47.39**	**308**	*e*P		**P**		**07 46 00.9**	**+0.1**
KURK				*e*P		**P**		**07 46 01.0**	**+0.2**
KURBB	**Kurchatov Arra**	**47.46**	**308**	P		**P**		**07 46 00.9**	**-0.5**
comp=Z,3.2nm,0.5s,baz=81,slow=7.9,SNR=25									
COLA	**College**	**47.68**	**32**	P		**P**		**07 46 03.6**	**+0.8**
COLA				pmax		pmax			
comp=Z,3.0nm,0.9s									
IL1	**Eielson Array**	**48.09**	**33**	*e*P		**P**		**07 46 06.8**	**+0.8**
ILAR	**Eielson Array**	**48.09**	**33**	P		**P**		**07 46 07.2**	**+1.2**
comp=Z,3.2nm,0.8s,baz=267,slow=6.5,SNR=28									
ILB	**Eielson Array**	**48.09**	**33**	*e*P		**P**		**07 46 07.5**	**+1.5**
BRVK	**Borovoye**	**51.97**	**313**	*i* P		**P**		**07 46 35.5**	**-0.1**
BRVK				pmax		pmax			
comp=Z,13nm,1.3s									
AAK	**Ala-Archa**	**52.19**	**299**	*e*P		**P**		**07 46 37.4**	**-0.2**
AAK				pmax		pmax			
comp=Z,4.0nm,1.1s									
KSH	**Kashi**	**52.19**	**295**	*e*P		P		07 46 43.1	+5.4
KSH				pP		sP		07 46 52.7	+10
KSH				S		**S**		**07 54 06.6**	**+4.5**
KSH				sS		sS		07 54 23.5	+15
KSH				SS		**SS**		**07 57 43.7**	**+4.5**
KSH				pmax		pmax			
comp=Z,50nm,3.4s									
KSH				LR		LR			
comp=Z,91nm,5.1s									
KSH				LR		LR			
comp=Z,110nm,5.3s									
KSH				LR		LR			
comp=Z,160nm,7.0s									
INK	**Inuvik**	**53.14**	**27**	P		**P**		**07 46 45.5**	**+1.4**
comp=Z,2.6nm,0.5s,baz=304,slow=5.7,SNR=11									
INK	**Inuvik**	**53.14**	**27**	*e*P		**P**		**07 46 45.2**	**+1.2**
INK				pmax		pmax			
comp=Z,7.0nm,1.1s									
INK	**Inuvik**	**53.14**	**27**	*e*P		**P**		**07 46 45.2**	**+1.2**
comp=Z,7.1nm,1.1s									
KKAR	**Karatay Array**	**54.78**	**301**	*e*P		**P**		**07 46 56.8**	**+0.3**
KKAR				pmax		pmax			
comp=Z,20nm,0.7s									
KKAR	**Karatay Array**	**54.78**	**301**	*e*P		**P**		**07 46 56.8**	**+0.3**
comp=Z,20nm,0.7s									
ARU	**Arti**	**57.51**	**319**

ARU 07 49 22.7
ARU S **S** **07 55 13.5 +0.8**
ARU SS **SS** **07 58 53.8 -8.1**
ARU pmax pmax
comp=Z,15nm,1.2s
ARU Arti 57.51 319 *e*P **P** **07 47 15.9 +0.2**
comp=Z,8.7nm,0.8s
WRAB Tennant Creek 57.71 191 *i* P **P** **07 47 16.3 -1.1**
WRAB pmax pmax
comp=Z,13nm,0.6s
WRAB Tennant Creek 57.71 191 *e*P **P** **07 47 16.4 -1.1**
comp=Z,8.7nm,0.8s
WB2 Warramunga Arr 57.72 191 *e*P **P** **07 47 16.0 -1.5**
WB2 *e*P **P** **07 47 17.0 -0.5**
WR1 Warramunga Arr 57.72 191 *e*P **P** **07 47 16.6 -0.9**
comp=Z,7.3nm,0.7s
WRA Warramunga Arr 57.72 191 P **P** **07 47 16.6 -1.0**
comp=Z,6.4nm,0.6s,baz=11,slow=4.7,SNR=70
WRA Warramunga Arr 57.72 191 *i* P **P** **07 47 16.7 -0.8**
WRA pmax pmax
comp=Z,7.0nm,0.6s
ABKAR Akbulak array 59.34 311 *e*P **P** **07 47 28.8 +0.2**
comp=Z,32nm,0.8s
AS01 Alice Springs 61.43 191 *e*P **P** **07 47 42.8 -0.3**
AS31 Alice Springs 61.44 191 *e*P **P** **07 47 42.7 -0.5**
comp=Z,1.2nm,0.7s
ASAR Alice Springs 61.44 191 P **P** **07 47 42.7 -0.5**
comp=Z,2.4nm,0.8s,baz=7.0,slow=6.2,SNR=19
FIA0 FINESS Array S 69.50 333 *e*P **P** **07 48 35.4 +0.6**
FIA0 FINESS Array S 69.50 333 *e*P **P** **07 48 35.4 +0.6**
FINES FINESS Array B 69.50 333 P **P** **07 48 35.4 +0.6**
comp=Z,3.7nm,0.9s,baz=17,slow=10,SNR=5.2
ZEI Tsey 72.21 310 *e*P **P** **07 48 51.4 -0.6**
KIV Kislovodsk 72.27 312 *e*P **P** **07 48 53.8 +1.6**
KIV pmax pmax
comp=Z,12nm,0.9s
KIV MLR MLR
comp=Z,48nm,18.0s
KBZ Khabaz 72.28 312 P **P** **07 48 53.0 +0.9**
comp=Z,6.0nm,0.9s,baz=359,slow=1.4,SNR=12
NB2 NORSAR Subarra 74.69 338 P **P** **07 49 06.3 +0.3**
comp=Z,1.1nm,0.7s,baz=40,slow=6.2
NB200 NORSAR Array S 74.69 338 *e*P **P** **07 49 05.9 -0.1**
NOA NORSAR Array B 74.69 338 P **P** **07 49 05.9 -0.1**
comp=Z,1.9nm,0.7s,baz=42,slow=5.4,SNR=5.5
AKASG Malin Array Be 75.31 323 P **P** **07 49 09.9 +0.1**
comp=Z,2.5nm,0.6s,baz=45,slow=6.0,SNR=15
AKBB Malin Array Si 75.31 323 *e*P **P** **07 49 10.2 +0.5**
AKBB pmax pmax
comp=Z,6.0nm,0.8s
AKBB Malin Array Si 75.31 323 *e*P **P** **07 49 10.2 +0.5**
comp=Z,6.1nm,0.8s
KIEV Kiev 75.33 323 *i*P **P** **07 49 10.2 +0.4**
KIEV pmax pmax
comp=Z,6.0nm,1.0s
KIEV Kiev 75.33 323 *e*P **P** **07 49 10.2 +0.4**
comp=Z,6.7nm,0.9s
AK11 Malin Array Si 75.36 323 *e*P **P** **07 49 10.4 +0.4**
PD31 Pinedale Array 75.93 47 *e*P **P** **07 49 13.4 -0.4**
PDAR Pinedale Array 75.93 47 P **P** **07 49 14.4 +0.6**
comp=Z,0.4nm,0.6s,baz=256,slow=3.8,SNR=6.0
BUR08 Bucovina Ar. S 79.33 323 *e*P **P** **07 49 33.6 +1.0**
STHS Stebnicka Huta 79.89 326 *e*P **P** **07 49 36.7 +1.3**
STHS Stebnicka Huta 79.89 326 *e*P **P** **07 49 36.7 +1.3**
CRVS Cervenica-Dubn 80.17 326 *e*P **P** **07 49 34.8 -2.1**
CRVS Cervenica-Dubn 80.17 326 *e*P **P** **07 49 34.8 -2.1**
BR101 Keskin Array S 80.20 313 *e*P **P** **07 49 37.6 +0.3**
BRTR Keskin Array B 80.20 313 P **P** **07 49 37.7 +0.3**
comp=Z,0.6nm,0.6s,baz=64,slow=3.4,SNR=4.0
LANS Liptovska Anna 80.87 327 *e*P **P** **07 49 42.0 +1.3**
LANS Liptovska Anna 80.87 327 *e*P **P** **07 49 42.0 +1.3**
KECS Kecovo 80.92 326 *e*P **P** **07 49 42.1 +1.2**
KECS Kecovo 80.92 326 *e*P **P** **07 49 42.1 +1.2**
VYHS Vyhne 81.64 327 *e*P **P** **07 49 45.3 +0.6**
VYHS Vyhne 81.64 327 *e*P **P** **07 49 45.3 +0.6**
CLL Collm 81.84 331 *i*P **P** **07 49 46.4 +0.7**
CLL pmax pmax
comp=Z,10.0nm,0.9s
CLL Collm 81.84 331 *i*P **P** **07 49 46.4 +0.7**
comp=Z,10.0nm,0.9s
GOPC GO Pecny, Ondr 82.25 330 *e*P **P** **07 49 49.1 +1.2**
GOPC GO Pecny, Ondr 82.25 330 *e*P **P** **07 49 49.1 +1.2**
TREC Trest 82.44 329 *e*P **P** **07 49 50.2 +1.2**
TREC Trest 82.44 329 *e*P **P** **07 49 50.2 +1.2**
KHC Kasperske Hory 83.35 330 *e*P **P** **07 49 54.9 +1.2**
KHC Kasperske Hory 83.35 330 *e*P **P** **07 49 54.9 +1.2**
GERES GERESS Array B 83.53 330 P **P** **07 49 55.3 +0.6**
comp=Z,1.6nm,0.7s,baz=35,slow=4.9,SNR=6.7
LTX Lajitas 88.24 54 *e*P **P** **07 50 18.6 +0.2**
LTX Lajitas 88.24 54 *e*P **P** **07 50 18.6 +0.2**
TXAR Lajitas Array 88.24 54 P **P** **07 50 18.6 +0.2**
comp=Z,0.6nm,0.7s,baz=288,slow=3.1,SNR=8.4
TOA1 Torodi Ar. Sit 118.56 317 *e*PKPdf **PKPdf** **07 56 14.6 -0.6**
TORD Torodi Ar. Bea 118.56 317 PKP **PKPdf** **07 56 14.6 -0.6**
comp=Z,0.3nm,0.6s,baz=28,slow=1.4,SNR=3.5
VNA2 Neumayer--Watz 143.20 195 PKP PKPbc 07 56 56.9 +0.1
baz=106,slow=2.1
VNA3 Neumayer Olymp 143.40 194 PKP PKPbc 07 56 57.2 -0.1
VNA1 Neumayer--Stat 143.59 195 PKP PKPbc 07 56 58.1 +0.2
LPAZ La Paz 144.70 62 PKP **PKPdf** **07 57 05.0 +0.3**
comp=Z,0.8nm,0.6s,baz=355,slow=4.7,SNR=6.1

ROM 07 07:43:01.5±0.3, 42°.95N×12°.99E, h11km±1km, Md1.5/3, Ml1.1/3, Error ellipse: s-maj=4.7km s-min=0.9km az=68.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
FDMO	**Fiordimonte**	**0.11**	**41**	Pg	Pg			07 43 05.0	+0.5
FDMO				Sg	Sg			07 43 07.3	+0.7
	64nm,0.6s								
NRCA	**Norcia**	**0.15**	**141**	Pg	Pg			07 43 05.6	+0.6
NRCA				Sg	Sg			07 43 08.5	+1.0
	107nm,0.1s								
SNTG	**Esanatoglia**	**0.31**	**354**	Pg	Pg			07 43 08.1	+0.4
SNTG				Sg	Sb			07 43 13.2	-0.9
	11nm,0.6s								

ISCJB ***07*** *07:50:41.7±0.8, 29°.90N±0°.09×140°.0E±0°.2, h100km, mb3.8/10, Error ellipse: s-maj=24.0km s-min=12.5km az=168.5*
IDC ***07*** *07:50:41.6±3.4, 29°.98N×140°.19E, h90km±29km, mb3.6/9, mb1 3.7/11, mb1mx3.6/42, mbtmp3.9/11, MS3.6/7, Ms1 3.6/7, ms1mx3.2/46, Error ellipse: s-maj=35.0km s-min=18.4km az=84.0*
ISC 07 07:50:43.3±0.9, 30°.1N±0°.1×139°.9E±0°.1, h100km, n27, σ1 9 71/16, mb3.8/10, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
JHJ	**Hachijo jima 2**	**3.05**	**358**	LR	LR			07 52 40.9	
	comp=Z,324nm,18.6s,baz=180,slow=38								
MJAR	**Matsushiro Arr**	**6.62**	**348**	P			**Pn**	**07 52 18.6**	**+0.6**
	0.6nm,0.3s,baz=154,slow=12,SNR=15								
MAT	**Matsushiro**	**6.62**	**348**	P			**Pn**	**07 52 19.3**	**+1.3**
MAT				*e*S			Sn	07 52 47.2	-45
JNU	**Nakatsue**	**8.28**	**294**	P			**Pn**	**07 52 43.3**	**+2.7**
	0.2nm,0.3s,baz=28,slow=4.7,SNR=3.8								
JNU				S			**Sn**	**07 54 09.5**	**-3.0**
	0.3nm,0.3s,baz=305,slow=3.0,SNR=2.1								
KSRS	**Korea Array**	**12.39**	**310**	P			**P**	**07 53 42.5**	**-1.5**
	0.2nm,0.3s,baz=118,slow=11,SNR=6.1								
KSRS				LR			LR	07 57 21.1	
	comp=Z,109nm,20.9s,baz=158,slow=32								
USRK	**Ussuriysk Ar.**	**15.45**	**338**	LR			LR	07 59 56.8	
	comp=Z,84nm,18.6s,baz=154,slow=36								
KLR	**Kul'dur**	**20.13**	**344**	P			Pn	07 55 13.8	+1.8
	1.4nm,0.6s,baz=173,slow=8.1,SNR=4.9								
H11N2	**WAKE ISLAND Hy 26.50 107**			T			T	08 23 41.5	
	baz=298,slow=75,SNR=16								
H11N1	**WAKE ISLAND Hy 26.50 107**			T			T	08 23 49.5	
	baz=298,slow=75,SNR=57								
H11N3	**WAKE ISLAND Hy 26.52 107**			T			T	08 23 42.4	
	baz=298,slow=75,SNR=20								
H11S3	**WAKE ISLAND Hy 26.93 109**			T			T	08 24 17.1	
	baz=300,slow=75,SNR=8.6								
H11S1	**WAKE ISLAND Hy 26.93 109**			T			T	08 24 11.2	
	baz=300,slow=75,SNR=7.3								
H11S2	**WAKE ISLAND Hy 26.94 109**			T			T	08 24 21.0	
	baz=300,slow=75,SNR=7.2								
SONM	**Songino Array**	**31.20**	**314**	P			**P**	**07 56 53.6**	**+0.4**
	0.4nm,0.4s,baz=108,slow=9.5,SNR=3.6								
PMG	**Port Moresby**	**39.85**	**169**	LR			LR	08 14 48.8	
	comp=Z,404nm,19.2s,baz=48,slow=36								
FITZ	**Fitzroy Crossi**	**49.81**	**198**	LR			LR	08 18 16.1	
	comp=Z,188nm,21.4s,baz=254,slow=33								
WRA	**Warramunga Arr**	**50.00**	**187**	P			**P**	**07 59 26.2**	**-1.4**
	3.0nm,0.9s,baz=7.7,slow=8.1,SNR=16								
ASAR	**Alice Springs**	**53.73**	**187**	P			**P**	**07 59 53.8**	**-1.5**
	0.6nm,0.8s,baz=353,slow=5.6,SNR=5.0								
ILAR	**Eielson Array**	**56.11**	**30**	P			**P**	**08 00 09.4**	**-2.6**
	1.2nm,1.2s,baz=270,slow=6.5,SNR=4.1								
FINES	**FINESS Array B**	**74.41**	**333**	P			**P**	**08 02 10.8**	**+0.7**
	2.4nm,0.9s,baz=92,slow=4.2,SNR=2.6								
KBZ	**Khabaz**	**74.53**	**312**	P			**P**	**08 02 12.5**	**+1.4**
	2.2nm,0.8s,baz=63,slow=2.3,SNR=4.4								
AKASG	**Malin Array Be**	**79.05**	**323**	P			**P**	**08 02 36.5**	**+0.1**
	0.5nm,0.5s,baz=43,slow=5.6,SNR=2.7								
NOA	**NORSAR Array B**	**80.12**	**337**	P			**P**	**08 02 42.7**	**+0.7**
	2.2nm,0.9s,baz=45,slow=5.0,SNR=2.9								
BRTR	**Keskin Array B**	**82.53**	**312**	P			**P**	**08 02 56.5**	**+1.2**
	0.8nm,0.8s,baz=19,slow=4.9,SNR=2.9								
VRAC	**Vranov**	**86.26**	**327**	LR			LR	08 44 56.4	
	comp=Z,37nm,18.5s,baz=108,slow=38								
TXAR	**Lajitas Array**	**95.40**	**52**	P			**P**	**08 03 58.4**	**+1.4**
	0.2nm,0.8s,baz=335,slow=4.0,SNR=2.4								
TXAR							LR	08 39 55.9	
	comp=Z,36nm,21.6s,baz=0.0,slow=31								
LPAZ	**La Paz**	**150.91**	**68**	PKPbc			**PKPbc**	**08 10 26.6**	**+0.9**
	1.3nm,0.9s,baz=353,slow=4.7,SNR=5.4								

ISCJB ***07*** *07:55:29.6±0.1, 28°.09S±0°.02×178°.43W±0°.03, h243km, mb5.2/260, Error ellipse: s-maj=4.0km s-min=2.5km az=39.0*
BJI ***07*** *07:55:31.5, 27°.62S×178°.05W, h257km, mb5.2/48, mB5.0/36*
MOS ***07*** *07:55:31.9±0.9, 27°.64S×178°.46W, h252km, mb5.4/46, Error ellipse: s-maj=9.3km s-min=7.7km az=71.7*
IDC ***07*** *07:55:32.5±0.6, 27°.72S×178°.33W, h252km±5km, mb4.5/18, mb1 4.7/19, mb1mx4.5/36, mbtmp5.1/19, Error ellipse: s-maj=11.4km s-min=10.3km az=26.0*
NEIC ***07*** *07:55:32.7±1.3, 27°.77S×178°.46W, h252km±4km, mb5.3/235, Error ellipse: s-maj=14.7km s-min=12.4km az=113.0*
GCMT ***07*** *07:55:32.7±0.1, 27°.80S×178°.15W, h258km, MW5.5/118, Moment Tensor Solution. s111,c168; s118,c193; Duration: 1s4 Moment tensor: Scale 10^17Nm; Mrr-0.93±.03; Mθθ-1.11±.03; Mϕϕ2.04±.03; Mrθ-1.17±.03; Mθϕ0.30±.03; Mϕr-0.11±.03; Best double couple: M◎2.14300×10^17 NP1:ϕ1=42.00000°, δ1=65.00000°, λ1=-36.00000°. NP2:ϕ2=149.00000°, δ2=57.00000°, λ2=-150.00000°. Principal axes: T 2.0880, Plg5.0000°, Azm97.0000°; N 0.1100, Plg47.0000°, Azm192.0000°; P -2.1990, Plg43.0000°, Azm3.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
ISC 07 07:55:31.7±0.4, 27°.76S±0°.05×178°.34W±0°.04, h249km±3km, h249km:pP-P, n921, σ1 9 31/967, mb5.3/258, 44C-49D, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**1.54**	**166**	P			**Pn**	**07 56 12.8**	**+2.6**
	15μm,0.3s,baz=26,slow=1.4,SNR=481								
RAO				S			**S**	**07 56 42.2**	**+1.6**
	8μm,0.3s,baz=84,slow=23,SNR=14								
RAO	**Raoul Island**	**1.54**	**166**	*e*Pn			**Pn**	**07 56 12.6**	**+2.5**
RAO				*e*S			**S**	**07 56 41.3**	**+0.8**
OUZ	**Omahuta**	**10.13**	**221**	*e*Pn			**P**	**07 57 55.1**	**-2.3**
OUZ	**Omahuta**	**10.13**	**221**	*e*PN			**P**	**07 57 55.0**	**-2.5**
MXZ	**Matakaoa Point**	**10.18**	**195**	*e*PN			Pn	07 57 45.1	-7.3
MXZ				*e*SN			S	07 59 33.4	-13
WMGZ	**Waiomatatini S**	**10.40**	**194**	*e*PN			Pn	07 57 48.0	-7.2
HAZ	**Te Kaha**	**10.49**	**197**	*e*PN			Pn	07 57 49.7	-6.6
HAZ				*e*SN			S	07 59 39.7	-14
MSVF	**Nonsavu**	**10.51**	**341**	*e*P			**P**	**07 58 00.3**	**-1.8**
MSVF	**Nonsavu**	**10.51**	**341**	*e*Pn			**P**	**07 58 00.3**	**-1.8**
PKGZ	**Pakihiroa**	**10.54**	**196**	*e*PN			Pn	07 57 49.4	-7.7
PUZ	**Puketiti**	**10.68**	**195**	*e*PN			Pn	07 57 50.2	-8.5
PUZ				*e*SN			S	07 59 43.4	-15
RUGZ	**Raukumara Rang**	**10.71**	**197**	*e*PN			Pn	07 57 52.9	-6.4
TWGZ	**Tauwhareparae**	**10.84**	**196**	*e*SN			S	07 59 51.6	-11
MWZ	**Matawai**	**11.10**	**197**	*e*PN			Pn	07 57 56.1	-7.9
MWZ				*e*SN			S	07 59 56.5	-12
URZ	**Urewera**	**11.14**	**199**	P			Pn	07 57 58.4	-6.1
	1.8nm,0.3s,baz=275,slow=4.2,SNR=46								
URZ				S			S	07 59 58.0	-11
	45nm,0.3s,baz=82,slow=24,SNR=13								
URZ	**Urewera**	**11.14**	**199**	*e*Pn			**Pn**	**07 58 02.1**	**-2.5**
URZ	**Urewera**	**11.14**	**199**	*e*PN			Pn	07 57 56.9	-7.7
URZ				*e*SN			S	07 59 57.3	-12
RIGZ	**Rimuhau**	**11.39**	**196**	*e*PN			Pn	07 57 59.3	-8.4
RTZ	**Ruatahuna**	**11.51**	**199**	*e*PN			Pn	07 58 00.2	-9.1
SNGZ	**Shannon Statio**	**11.57**	**197**	*e*PN			Pn	07 58 00.7	-9.2
NMHZ	**Naumai**	**12.01**	**198**	*e*PN			Pn	07 58 07.3	-8.1
HIZ	**Hauiti**	**12.14**	**206**	*e*Pn			**Pn**	**07 58 17.3**	**+0.3**
HIZ	**Hauiti**	**12.14**	**206**	*e*PN			**Pn**	**07 58 14.0**	**-3.0**
BKZ	**Black Stump Fm**	**12.16**	**199**	*e*Pn			**Pn**	**07 58 15.4**	**-1.9**
WHVZ	**Whangaehu Hut**	**12.56**	**202**	*e*PN			Pn	07 58 17.2	-5.1
PKVZ	**Pokaka**	**12.64**	**203**	*e*PN			**Pn**	**07 58 19.2**	**-4.1**
PXZ	**Pawanui**	**12.87**	**197**	*e*PN			Pn	07 58 16.2	-10
TSZ	**Takapari Road**	**13.15**	**200**	*e*PN			Pn	07 58 20.1	-9.3
BFZ	**Birch Farm**	**13.64**	**198**	*e*Pn			Pn	07 58 29.0	-6.5
BFZ	**Birch Farm**	**13.64**	**198**	*e*PN			Pn	07 58 25.9	-10
MRZ	**Mangatainoka R**	**13.81**	**200**	*e*PN			Pn	07 58 27.4	-10
KIW	**Kapiti Island**	**14.20**	**201**	*e*PN			Pn	07 58 32.4	-10
CAW	**Cannon Point**	**14.38**	**200**	*e*PN			Pn	07 58 34.4	-10
DUWZ	**D'Urville Isla**	**14.49**	**204**	*e*PN			Pn	07 58 37.1	-8.7
TCW	**Tory Channel**	**14.73**	**202**	*e*PN			P	07 58 40.7	-7.8
DZM	**Mont Dzumac**	**14.91**	**289**	P			**Pn**	**07 58 55.4**	**+4.3**
	14nm,0.3s,baz=102,slow=14,SNR=138								
DZM				S			**S**	**08 01 36.4**	**+0.5**
	baz=139,slow=20,SNR=1.6								
DZM	**Mont Dzumac**	**14.91**	**289**	*e*Pn			**Pn**	**07 58 54.5**	**+3.4**
	10.0nm,0.3s								
DZM				*e*Sn			**S**	**08 01 27.6**	**-8.3**
	3μm,27.0s								
NNZ	**Nelson**	**15.05**	**205**	*e*PN			P	07 58 43.9	-8.1
NNZ				*e*SN			S	08 01 23.0	-15
AFI	**Afiamalu**	**15.08**	**25**	P			**P**	**07 58 49.9**	**-2.8**
	44nm,0.3s,baz=130,slow=2.3,SNR=37								
AFI				S			S	08 01 23.7	-16
	27nm,0.3s,baz=240,slow=23,SNR=6.1								
AFI	**Afiamalu**	**15.08**	**25**	*e*P			**P**	**07 58 49.7**	**-2.9**
	2μm,1.5s								
THZ	**Tophouse**	**15.70**	**205**	*e*P			**P**	**07 58 55.1**	**-4.2**
	103nm,1.6s								
THZ	**Tophouse**	**15.70**	**205**	*e*PN			P	07 58 51.4	-7.9
KHZ	**Kahutara**	**16.05**	**202**	*e*P			**P**	**07 58 58.0**	**-5.0**
	44nm,0.9s								
KHZ	**Kahutara**	**16.05**	**202**	*e*PN			P	07 58 55.1	-7.9
INZ	**Inchbonnie**	**17.09**	**206**	*e*PN			**P**	**07 59 10.5**	**-3.8**
OXZ	**Oxford**	**17.38**	**204**	*e*P			**P**	**07 59 14.1**	**-3.4**
	48nm,0.7s								
MQZ	**McQueen's Vall**	**17.50**	**202**	*e*PN			**P**	**07 59 12.8**	**-6.0**
RPZ	**Rata Peaks**	**18.07**	**205**	P			**P**	**07 59 22.9**	**-2.2**
	1.2nm,0.3s,baz=16,slow=16,SNR=6.8								
RPZ				S			S	08 02 27.4	-12
	8.9nm,0.3s,baz=336,slow=20,SNR=20								
RPZ	**Rata Peaks**	**18.07**	**205**	*e*P			**P**	**07 59 24.5**	**-0.6**
	21nm,0.7s								
RAR	**Rarotonga**	**18.11**	**73**	P			**P**	**07 59 26.5**	**+0.9**
	5.9nm,0.3s,baz=233,slow=1.5,SNR=9.9								
RAR	**Rarotonga**	**18.11**	**73**	*e*P			**P**	**07 59 26.3**	**+0.6**
	300nm,1.2s								
FOZ	**Fox Glacier**	**18.42**	**208**	*e*PN			**P**	**07 59 26.0**	**-2.7**
FUNA	**Funafuti**	**19.27**	**353**	*e*P			**P**	**07 59 37.9**	**-0.3**
	373nm,0.8s								
JCZ	**Jackson Bay**	**19.29**	**209**	*e*PN			**P**	**07 59 35.1**	**-3.1**
ARMA	**Armidale**	**26.34**	**257**	*e*P			**P**	**08 00 46.7**	**+1.5**
	18nm,0.8s								
TBI	**Tubuai**	**26.39**	**87**	*e*S			**S**	**08 04 56.6**	**-3.7**
	516nm,28.2s								
TBI	**Tubuai**	**26.39**	**87**	*e*T			T	08 27 37.8	
	19nm,0.3s								
EIDS	**Eidsvold**	**27.42**	**268**	*e*P			**P**	**08 00 56.1**	**+1.4**
	19nm,0.7s								
PAE	**Paea**	**28.31**	**75**	*e*T			T	08 30 03.7	
	12nm,0.3s								
PPT2	**Papeete2**	**28.34**	**75**	*e*S			**S**	**08 05 22.7**	**-8.5**
	508nm,28.0s								
PPT2				*e*LR			LR	08 08 30.0	
	658nm,26.2s								
PPT2	**Papeete2**	**28.34**	**75**	*e*T			T	08 30 06.9	
	8.0nm,0.3s								
TARA	**Tarawa**	**30.14**	**342**	*e*P			**P**	**08 01 18.5**	**-0.3**
	403nm,0.8s								
TOO	**Toolangi**	**31.81**	**243**	P			**P**	**08 01 35.5**	**+2.2**
TOO				pmax	pmax				
	comp=Z,34nm,1.1s								
CTA	**Charters Tower**	**33.16**	**275**	P			**P**	**08 01 46.6**	**+1.4**
	comp=Z,19nm,0.6s,baz=101,slow=11,SNR=28								
CTA				ScP			**ScP**	**08 07 42.5**	**+0.2**
	comp=Z,11nm,1.0s,baz=104,slow=4.2,SNR=4.8								
CTAO	**Charters Tower**	**33.16**	**275**	*e*P			**P**	**08 01 47.0**	**+1.8**
CTAO				pmax	pmax				
	comp=Z,29nm,0.6s								
CTAO	**Charters Tower**	**33.16**	**275**	*e*P			**P**	**08 01 47.0**	**+1.8**
	comp=Z,29nm,0.6s								
STKA	**Stephens Creek**	**34.86**	**253**	P			**P**	**08 02 00.8**	**+1.1**
	comp=Z,6.6nm,0.5s,baz=99,slow=11,SNR=23								
STKA				ScP			**ScP**	**08 07 48.2**	**0.0**
	comp=Z,9.0nm,1.1s,baz=58,slow=4.0,SNR=3.2								
STKA	**Stephens Creek**	**34.86**	**253**	*e*P			**P**	**08 02 00.1**	**+0.4**
STKA				pmax	pmax				
	comp=Z,21nm,1.5s								
STKA	**Stephens Creek**	**34.86**	**253**	*e*P			**P**	**08 02 00.1**	**+0.4**
	comp=Z,21nm,1.5s								
XMAS	**Kiritimati**	**35.81**	**38**	*e*P			**P**	**08 02 08.8**	**+1.0**
	comp=Z,161nm,0.9s								
PMG	**Port Moresby**	**37.26**	**293**	P			**P**	**08 02 20.9**	**+0.9**
	comp=Z,27nm,0.9s,baz=145,slow=13,SNR=3.9								
PMG	**Port Moresby**	**37.26**	**293**	*d*P			**P**	**08 02 21.1**	**+1.0**
PMG				pmax	pmax				
	comp=Z,130nm,0.9s								
COEN	**Coen**	**38.32**	**283**	*e*P			**P**	**08 02 28.7**	**-0.2**
	comp=Z,26nm,1.0s								
KWAJ	**Kwajalein Atol**	**38.80**	**337**	*e*P			**P**	**08 02 33.2**	**+0.4**
KWAJ				pmax	pmax				
	comp=Z,252nm,0.8s								
KWAJ	**Kwajalein Atol**	**38.80**	**337**	*e*P			**P**	**08 02 33.2**	**+0.4**
	comp=Z,252nm,0.8s								
RKT	**Rikitea**	**39.29**	**93**	*e*S			**S**	**08 08 15.5**	**-3.4**
	comp=Z,353nm,27.5s								
TAOE	**Nuku Hiva Isla**	**40.61**	**70**	*e*S			S	08 08 29.0	-10
	comp=Z,313nm,26.4s								
PATS	**Pohnpei**	**41.13**	**323**	*e*P			**P**	**08 02 51.8**	**-0.1**
	comp=Z,83nm,0.9s								
MANU	**Manus Island**	**41.57**	**302**	*e*P			**P**	**08 02 56.2**	**+0.7**
	comp=Z,81nm,0.8s								
AS01	**Alice Springs**	**42.97**	**264**	*e*P			**P**	**08 03 06.5**	**-0.3**
AS31	**Alice Springs**	**43.01**	**264**	*e*P			**P**	**08 03 07.2**	**+0.1**
	comp=Z,4.5nm,0.6s								
ASAR	**Alice Springs**	**43.01**	**264**	P			**P**	**08 03 06.9**	**-0.3**
	comp=Z,11nm,0.7s,baz=88,slow=6.3,SNR=58								
ASAR				ScP			**ScP**	**08 08 18.7**	**-1.0**
	comp=Z,10nm,0.8s,baz=118,slow=4.1,SNR=12								
ASAR				S			**S**	**08 09 10.7**	**-3.1**
	comp=Z,4.4nm,0.8s,baz=108,slow=15,SNR=8.3								
WB2	**Warramunga Arr**	**43.74**	**270**	*e*P			**P**	**08 03 12.5**	**-0.5**
WB2				*e*P			**P**	**08 03 13.1**	**+0.1**
WB2				*e*S			**S**	**08 09 21.6**	**-2.8**
WRAB	**Tennant Creek**	**43.75**	**270**	*c*P			**P**	**08 03 12.2**	**-0.8**
WRAB				pmax	pmax				
	comp=Z,32nm,0.9s								
WRAB	**Tennant Creek**	**43.75**	**270**	*e*P			**P**	**08 03 12.9**	**-0.1**
	comp=Z,35nm,0.8s								
WRA	**Warramunga Arr**	**43.76**	**270**	P			**P**	**08 03 12.7**	**-0.4**
	comp=Z,13nm,0.5s,baz=107,slow=7.6,SNR=149								
WRA				ScP			**ScP**	**08 08 22.6**	**-0.2**
	comp=Z,12nm,0.8s,baz=104,slow=4.0,SNR=7.9								
WRA				S			**S**	**08 09 21.2**	**-3.3**
	comp=Z,14nm,1.0s,baz=104,slow=14,SNR=8.0								
WRA	**Warramunga Arr**	**43.76**	**270**	P			**P**	**08 03 12.7**	**-0.4**
WRA				S			**S**	**08 09 21.2**	**-3.3**
WRA				pmax	pmax				
	comp=Z,14nm,0.5s								
WRA				pmax	pmax				
	comp=N,12nm,0.8s								
WRA				smax	smax				
	comp=N,14nm,1.0s								
JAY	**Jayapura**	**46.46**	**295**	P			**P**	**08 03 34.6**	**+0.2**
	comp=N,3.1nm,0.7s,baz=98,slow=23,SNR=15								
JAY	**Jayapura**	**46.46**	**295**	P			**P**	**08 03 34.8**	**+0.5**
	comp=N,32nm,0.8s,comp=N,291nm								
FORT	**Forrest**	**46.48**	**253**	*e*P			**P**	**08 03 33.4**	**-1.0**
	comp=N,563nm,0.8s								
FORT				*e*pP			**pP**	**08 04 22.8**	**-4.3**
GENI	**Genyem**	**46.84**	**295**	P			**P**	**08 03 38.2**	**+0.9**
	comp=N,115nm,0.8s								
SMPI	**Sarmi**	**48.37**	**294**	P			**P**	**08 03 50.3**	**+1.3**
	comp=N,49nm,0.8s,comp=N,2μm								
MTN	**Manton Dam**	**49.32**	**277**	*e*P			**P**	**08 03 56.0**	**-0.2**

	comp=Z,10nm,1.6s									
INU	**Inuyama**	**75.60**	**324**		*e*P		**P**		**08 06 50.3**	**+1.1**
	comp=Z,133nm,1.1s									
MJAR	**Matsushiro Arr**	**75.91**	**325**		P		**P**		**08 06 51.2**	**+0.2**
	comp=Z,63nm,0.9s,baz=160,slow=5.6,SNR=94									
MJAR	**Matsushiro Arr**	**75.91**	**325**		P		**P**		**08 06 51.2**	**+0.2**
MJAR					pmax		pmax			
	comp=Z,62nm,0.9s									
MAJO	**Matsushiro**	**75.91**	**325**	*d*	iP		**P**		**08 06 51.4**	**+0.4**
MAJO					pmax		pmax			
	comp=Z,536nm,1.0s									
MAJO	**Matsushiro**	**75.91**	**325**		*e*P		**P**		**08 06 51.4**	**+0.4**
	comp=Z,165nm,1.3s									
MAT	**Matsushiro**	**75.91**	**325**		P		**P**		**08 06 51.2**	**+0.2**
MAT					S		**S**		**08 16 08.6**	**-4.1**
MJB9	**Matsu-Tunnel**	**75.91**	**325**		*e*P		**P**		**08 06 51.5**	**+0.5**
	comp=Z,42nm,1.3s									
KASI	**Kota Agung**	**76.09**	**271**		P		**P**		**08 06 51.3**	**-1.3**
	comp=Z,86nm,0.8s									
KLSI		**76.27**	**272**		P		**P**		**08 06 53.5**	**0.0**
	comp=Z,23nm,0.8s									
YOJ	**Yonaguni jima**	**76.73**	**307**		*e*P		**P**		**08 06 55.9**	**+0.1**
YOJ					pmax		pmax			
	comp=Z,257nm,0.9s									
YOJ	**Yonaguni jima**	**76.73**	**307**		*e*P		**P**		**08 06 55.9**	**+0.1**
	comp=Z,257nm,0.9s									
MDSI	**Maura Dua**	**76.85**	**272**		P		**P**		**08 06 55.4**	**-1.4**
	comp=Z,83nm,0.8s,comp=Z,956nm									
TWG	**Pinlang**	**77.12**	**304**		*e*P		**P**		**08 06 56.3**	**-1.7**
	comp=Z,141nm,0.6s									
YULB	**Yu-li**	**77.30**	**305**		*e*P		**P**		**08 06 58.0**	**-1.1**
	comp=Z,14nm,0.6s									
JNU	**Nakatsue**	**77.39**	**318**		*e*P		**P**		**08 06 59.9**	**+0.5**
	comp=Z,308nm,1.6s									
NACB	**Ninganchiao**	**77.57**	**306**		*e*P		**P**		**08 06 60.0**	**-0.5**
	comp=Z,78nm,1.2s									
TPUB	**Ta-pu**	**77.73**	**305**		*e*P		**P**		**08 07 00.4**	**-1.0**
	comp=Z,46nm,0.8s									
SSLB	**Suanglung**	**77.79**	**305**		*e*P		**P**		**08 07 00.6**	**-1.2**
	comp=Z,47nm,0.6s									
YHNB	**Yeheng**	**78.03**	**306**		*e*P		**P**		**08 07 03.2**	**+0.1**
	comp=Z,20nm,0.7s									
TATO	**Taipei**	**78.14**	**306**		*e*P		**P**		**08 07 03.2**	**-0.4**
	comp=Z,75nm,0.8s									
KSI	**Kapahiang**	**78.63**	**272**		P		**P**		**08 07 06.6**	**-0.1**
	comp=Z,110nm,0.6s									
MASI	**Maura Aman, Be**	**79.18**	**272**		P		**P**		**08 07 09.4**	**-0.3**
SYO	**Syowa Base**	**79.61**	**193**	⇓	*e*P		**P**		**08 07 09.0**	**-1.9**
SYO	**Syowa Base**	**79.61**	**193**	⇓	iX		**P**		**08 07 12.8**	**+1.9**
ATKA	**Atka Island**	**79.70**	**3**		*e*P		**P**		**08 07 11.9**	**+0.5**
	comp=Z,149nm,1.0s									
MYKOM	**Kota Tinggi**	**80.05**	**277**		*e*P		**P**		**08 07 14.3**	**0.0**
	comp=Z,55nm,0.8s									
RGRI	**Rengat**	**80.39**	**275**		P		**P**		**08 07 16.9**	**+0.8**
	comp=Z,489nm,0.4s,comp=Z,42µm									
SNAA	**Sanae**	**80.80**	**179**		P		**P**		**08 07 17.6**	**+0.3**
SNAA	**Sanae**	**80.80**	**179**		*e*P		**P**		**08 07 14.7**	**-2.6**
SNAA					pmax		pmax			
	comp=Z,362nm,0.8s									
SNAA	**Sanae**	**80.80**	**179**		*e*P		**P**		**08 07 17.8**	**+0.4**
	comp=Z,34nm,1.5s									
NIKH	**Nikolski High**	**80.81**	**6**		*e*P		**P**		**08 07 18.2**	**+0.9**
	comp=Z,354nm,0.7s									
VNA3	**Neumayer Olymp**	**80.95**	**176**		P		**P**		**08 07 18.3**	**+0.2**
DLV	**T Lat**	**81.03**	**289**		*e*P		**P**		**08 07 20.5**	**+0.9**
	comp=Z,58nm,0.6s									
VNA2	**Neumayer--Watz**	**81.39**	**177**		P		**P**		**08 07 21.0**	**+0.7**
	baz=179,slow=2.7									
VNA1	**Neumayer--Stat**	**81.62**	**177**		P		**P**		**08 07 22.1**	**+0.6**
PDSI	**Padang**	**81.78**	**273**		P		**P**		**08 07 22.0**	**-1.4**
	comp=Z,42nm,0.5s									
PPI	**Padang Panjang**	**82.05**	**274**		P		**P**		**08 07 24.6**	**-0.2**
KSRS	**Korea Array**	**82.14**	**320**		P		**P**		**08 07 25.9**	**+1.2**
	comp=Z,39nm,0.8s,baz=140,slow=5.6,SNR=91									
KS15	**Wonju Array Si**	**82.16**	**320**		*e*P		**P**		**08 07 26.6**	**+1.9**
KS01	**Wonju Array Si**	**82.18**	**320**		*e*P		**P**		**08 07 25.4**	**+0.6**
YSS	**Yuzh-Sakhalins**	**82.24**	**334**	⇓	iP		**P**		**08 07 25.6**	**+0.7**
YSS					pmax		pmax			
	comp=Z,30nm,2.1s									
YSS	**Yuzh-Sakhalins**	**82.24**	**334**		*e*P		**P**		**08 07 26.9**	**+1.9**
	comp=Z,125nm,0.6s									
SNCC	**San Nicolas Is**	**82.43**	**46**		P		**P**		**08 07 27.8**	**+1.5**
	baz=230									
BSC	**Santa Cruz Isl**	**82.84**	**46**		P		**P**		**08 07 29.9**	**+1.5**
	baz=230									
SCI	**San Clemente I**	**82.89**	**47**		P		**P**		**08 07 29.8**	**+1.1**
	baz=230,SNR=5.0									
PET	**Petropavlovsk**	**82.90**	**346**		*e*P		**P**		**08 07 28.5**	**+0.4**
PET					pmax		pmax			
	comp=Z,32nm,0.8s									
PET	**Petropavlovsk**	**82.90**	**346**		*e*P		**P**		**08 07 28.5**	**+0.4**
	comp=Z,32nm,0.8s									
SBC	**Santa Barbara**	**83.08**	**45**		P		**P**		**08 07 30.8**	**+1.2**
	baz=230									
PEA0	**Petropavlovsk-**	**83.19**	**346**		*e*P		**P**		**08 07 30.3**	**+0.7**
PEA0B	**Petropavlovsk-**	**83.19**	**346**		*e*P		**P**		**08 07 30.5**	**+0.8**
	comp=Z,418nm,1.8s									
PETK	**Petropavlovsk-**	**83.19**	**346**		P		**P**		**08 07 30.2**	**+0.5**
	comp=Z,63nm,0.7s,baz=125,slow=6.9,SNR=68									
CIS	**Catalina Islan**	**83.24**	**47**		P		**P**		**08 07 31.5**	**+1.1**
	baz=230,SNR=7.2									
BLG	**Laguna Peak, P**	**83.28**	**46**		P		**P**		**08 07 31.8**	**+1.1**
	baz=230									
MNSI	**Mandailing Nat**	**83.35**	**274**		P		**P**		**08 07 29.9**	**-1.6**
	comp=Z,89nm,0.7s									
SLBS	**Sierra La Lagu**	**83.45**	**59**		*e*P		**P**		**08 07 33.0**	**+1.2**
	comp=Z,65nm,1.4s									
SMMC	**Simmler**	**83.47**	**44**		P		**P**		**08 07 33.3**	**+1.7**
	baz=229									
FMP	**Fort Macarthur**	**83.52**	**47**		P		**P**		**08 07 33.0**	**+1.2**
	baz=230									
SAO	**San Andreas Ge**	**83.53**	**43**		*e*P		**P**		**08 07 33.3**	**+1.4**
SAO					pmax		pmax			
	comp=Z,29nm,0.9s									
SAO	**San Andreas Ge**	**83.53**	**43**		*e*P		**P**		**08 07 33.3**	**+1.4**
	comp=Z,29nm,0.9s									
PMPB	**Monarch Peak**	**83.56**	**43**		*e*P		**P**		**08 07 34.1**	**+2.0**
	comp=Z,33nm,0.9s									
PAGB	**Antelope Grade**	**83.58**	**44**		*e*P		**P**		**08 07 34.2**	**+2.0**
	comp=Z,154nm,1.8s									
QIZ	**Qiongzhong**	**83.60**	**295**		P		**P**		**08 07 33.5**	**+1.0**
QIZ					pP		**pP**		**08 08 31.5**	**-0.5**
QIZ					S		**S**		**08 17 32.1**	**-1.5**
QIZ					sS		**sS**		**08 19 16.6**	**-1.5**
QIZ					pmax		pmax			
	comp=Z,40nm,0.8s									
QIZ	**Qiongzhong**	**83.60**	**295**		*e*P		**P**		**08 07 33.8**	**+1.2**
	comp=Z,31nm,0.8s									
MCCM	**Marconi Confer**	**83.61**	**41**		*e*P		**P**		**08 07 33.8**	**+1.6**
	comp=Z,111nm,1.4s									
109C	**Camp Elliot, M**	**83.78**	**48**		P		**P**		**08 07 34.2**	**+1.0**
	baz=231,SNR=5.8									
IPM	**Ipoh**	**83.81**	**278**		*e*P		**P**		**08 07 33.9**	**+0.1**
	comp=Z,49nm,1.1s									
OSI	**Osito Audit: C**	**83.82**	**46**		P		**P**		**08 07 34.6**	**+1.2**
	baz=230									
DECC	**Green Verdugo**	**83.84**	**46**		P		**P**		**08 07 34.5**	**+1.0**
	baz=230									
PASC	**Pasadena Art C**	**83.88**	**46**		*e*P		**P**		**08 07 34.6**	**+1.0**
	comp=Z,36nm,0.8s									
BAR	**Barrett**	**83.93**	**48**		*e*P		**P**		**08 07 35.1**	**+1.1**
	comp=Z,81nm,1.6s									
MWC	**Mount Wilson**	**83.99**	**46**		*e*P		**P**		**08 07 35.5**	**+1.0**
MWC					pmax		pmax			
	comp=Z,62nm,1.2s									
MWC	**Mount Wilson**	**83.99**	**46**		*e*P		**P**		**08 07 35.5**	**+1.0**
	comp=Z,62nm,1.2s									
MSHR	**Mys Shultsa**	**84.03**	**325**	*d*	iP		**P**		**08 07 35.6**	**+1.5**
VLA	**Vladivostok**	**84.05**	**326**		*e*P		**P**		**08 07 34.1**	**-0.2**
VLA					pmax		pmax			
	comp=Z,46nm,0.9s									
ARVC	**Arvin**	**84.08**	**45**		P		**P**		**08 07 35.9**	**+1.3**
	baz=230,SNR=9.6									
HOPS	**Hopland Field**	**84.08**	**40**		*e*P		**P**		**08 07 36.1**	**+1.5**
	comp=Z,85nm,1.2s									
MURC	**Murrieta**	**84.16**	**47**		P		**P**		**08 07 36.5**	**+1.4**
	baz=231,SNR=23									
MONP	**Monument Peak,**	**84.23**	**48**		P		**P**		**08 07 37.2**	**+1.5**
	baz=232,SNR=38									
BFSC	**Mount Baldy Ra**	**84.26**	**47**		P		**P**		**08 07 36.8**	**+1.1**
	baz=231,SNR=25									
KCPM	**Cahto Peak**	**84.27**	**39**		*e*P		**P**		**08 07 37.0**	**+1.4**
	comp=Z,192nm,1.7s									
IKP	**In-Ko-Pah, Jac**	**84.29**	**49**		P		**P**		**08 07 37.5**	**+1.6**
	baz=232,SNR=25									
NJ2	**Nanjing**	**84.30**	**311**		*e*P		**P**		**08 07 37.3**	**+1.5**
NJ2					pmax		pmax			
	comp=Z,76nm,0.9s									
VES	**Vestal, Richgr**	**84.38**	**45**		P		**P**		**08 07 37.0**	**+0.9**
	baz=230,SNR=22									
EDW2	**Edwards Air Fo**	**84.45**	**46**		P		**P**		**08 07 37.8**	**+1.2**
	baz=231,SNR=41									
KULM	**Kulim**	**84.52**	**279**		*e*P		**P**		**08 07 38.0**	**+0.7**
	comp=Z,27nm,0.9s									
PLCA	**Paso Flores**	**84.53**	**133**		P		**P**		**08 07 37.7**	**+0.6**
	comp=Z,3.1nm,0.7s,baz=246,slow=6.4,SNR=8.3									
KMRM	**Mail Ridge**	**84.56**	**39**		*e*P		**P**		**08 07 39.2**	**+2.2**
	comp=Z,88nm,1.0s									
RCTC	**Rector, Farmer**	**84.58**	**44**		P		**P**		**08 07 37.7**	**+0.7**
	baz=230									
ISA	**Isabella, Lake**	**84.64**	**45**		P		**P**		**08 07 38.9**	**+1.4**
	baz=230,SNR=9.1									
ISA	**Isabella, Lake**	**84.64**	**45**		*e*P		**P**		**08 07 39.0**	**+1.4**
ISA					pmax		pmax			
	comp=Z,95nm,1.4s									
ISA	**Isabella, Lake**	**84.64**	**45**		*e*P		**P**		**08 07 39.0**	**+1.4**
	comp=Z,95nm,1.4s									
PFO	**Pinyon Flats O**	**84.65**	**48**		P		**P**		**08 07 39.0**	**+1.3**
	comp=Z,28nm,1.0s,baz=262,slow=4.0,SNR=28									
PFO	**Pinyon Flats O**	**84.65**	**48**		P		**P**		**08 07 39.0**	**+1.3**
	baz=232,SNR=20									
PFO	**Pinyon Flats O**	**84.65**	**48**		P		**P**		**08 07 39.0**	**+1.3**
PFO					pmax		pmax			
	comp=Z,28nm,1.0s									
PFO	**Pinyon Flats O**	**84.65**	**48**		*e*P		**P**		**08 07 38.9**	**+1.3**
	comp=Z,64nm,1.3s									
TPFO	**Pinon Flats**	**84.65**	**48**		P		**P**		**08 07 39.0**	**+1.4**
	baz=232,SNR=24									
SWSC	**Sam W. Stewart**	**84.67**	**49**		P		**P**		**08 07 39.1**	**+1.5**
	baz=232,SNR=22									
BBRC	**Big Bear Solar**	**84.75**	**47**		P		**P**		**08 07 39.6**	**+1.2**
	baz=231,SNR=7.6									
JCC	**Jacoby Creek,**	**84.80**	**38**		*e*P		**P**		**08 07 39.7**	**+1.7**
	comp=Z,120nm,1.4s									
USRK	**Ussuriysk Ar.**	**84.80**	**327**		P		**P**		**08 07 39.3**	**+1.3**
	comp=Z,48nm,0.9s,baz=138,slow=3.3,SNR=80									
PSI	**Prapat**	**84.86**	**276**		*e*P		**P**		**08 07 38.3**	**-0.9**
PSI					pmax		pmax			
	comp=Z,39nm,0.9s									
PSI	**Prapat**	**84.86**	**276**		*e*P		**P**		**08 07 38.3**	**-0.9**
	comp=Z,39nm,0.9s									
KHMM	**Horse Mountain**	**85.00**	**38**		*e*P		**P**		**08 07 41.1**	**+1.8**
	comp=Z,54nm,0.9s									
CMB	**Columbia Colle**	**85.01**	**42**		*e*P		**P**		**08 07 40.3**	**+1.0**
CMB					pmax		pmax			
	comp=Z,48nm,1.0s									
CMB	**Columbia Colle**	**85.01**	**42**		*e*P		**P**		**08 07 40.2**	**+1.0**
	comp=Z,48nm,1.0s									
LRMC	**Laurel Mtn Rad**	**85.03**	**46**		P		**P**		**08 07 40.8**	**+1.2**
	baz=231,SNR=33									
RRX	**Edison Barstow**	**85.08**	**46**		P		**P**		**08 07 40.9**	**+1.3**
	baz=231									
BELC	**Belle Mtn. Jos**	**85.19**	**48**		P		**P**		**08 07 42.0**	**+1.6**
	baz=232,SNR=55									
UBPT	**Khong Chiam**	**85.25**	**290**		P		**P**		**08 07 42.2**	**+1.4**
	comp=Z,72nm,1.0s,comp=Z,753nm									
AFDM	**Forest Hills D**	**85.26**	**41**		*e*P		**P**		**08 07 41.3**	**+0.8**
	comp=Z,47nm,1.1s									
BC3	**Big Chuckawall**	**85.34**	**48**		P		**P**		**08 07 42.9**	**+1.8**
	baz=232,SNR=45									
KRMB	**Red Mountain**	**85.35**	**38**		*e*P		**P**		**08 07 43.2**	**+2.2**
	comp=Z,44nm,1.2s									
GSI	**Gunungsitoli**	**85.36**	**274**		*e*P		**P**		**08 07 41.7**	**+0.2**
	comp=Z,238nm,1.2s									
ORV	**Oroville**	**85.36**	**40**		*e*P		**P**		**08 07 41.8**	**+0.9**
ORV					pmax		pmax			
	comp=Z,44nm,1.2s									
ORV	**Oroville**	**85.36**	**40**		*e*P		**P**		**08 07 41.8**	**+0.9**
	comp=Z,44nm,1.2s									
CWC	**Cottonwood Cre**	**85.38**	**45**		P		**P**		**08 07 42.3**	**+1.0**
	baz=230									
GLA	**Glamis**	**85.39**	**49**		P		**P**		**08 07 43.2**	**+2.0**
	baz=233,SNR=19									
GLA	**Glamis**	**85.39**	**49**		*e*P		**P**		**08 07 43.2**	**+2.0**
GLA					pmax		pmax			
	comp=Z,102nm,1.1s									
GLA	**Glamis**	**85.39**	**49**		*e*P		**P**		**08 07 43.2**	**+2.0**
	comp=Z,102nm,1.1s									
CHGN	**Chignik**	**85.42**	**11**		*e*P		**P**		**08 07 41.3**	**+0.6**
	comp=Z,166nm,1.3s									
WDC	**Whiskeytown Da**	**85.46**	**39**		*e*P		**P**		**08 07 42.5**	**+1.2**
WDC					pmax		pmax			
	comp=Z,64nm,1.0s									
WDC	**Whiskeytown Da**	**85.46**	**39**		*e*P		**P**		**08 07 42.5**	**+1.2**
	comp=Z,64nm,1.0s									
GSC	**Goldstone, Bar**	**85.47**	**46**		P		**P**		**08 07 43.1**	**+1.4**
	baz=231,SNR=45									
GSC	**Goldstone, Bar**	**85.47**	**46**		*e*P		**P**		**08 07 42.9**	**+1.2**
GSC					pmax		pmax			
	comp=Z,106nm,1.3s									
GSC	**Goldstone, Bar**	**85.47**	**46**		*e*P		**P**		**08 07 42.9**	**+1.2**
	comp=Z,106nm,1.3s									
HEC	**Hector,Ludlow**	**85.48**	**47**		P		**P**		**08 07 43.0**	**+1.3**
	baz=232,SNR=12									
MPMC	**Manual Prospec**	**85.51**	**45**		P		**P**		**08 07 43.1**	**+1.1**
	baz=231,SNR=44									
N02D	**Trinity Center**	**85.63**	**39**		P		**P**		**08 07 44.1**	**+1.7**
	baz=227,SNR=25									
MLAC	**Mammoth, Mammo**	**85.68**	**43**		P		**P**		**08 07 44.2**	**+1.4**
	baz=230,SNR=9.2									
TIN	**Tinemaha, Big**	**85.68**	**44**		P		**P**		**08 07 43.9**	**+1.2**
	baz=230,SNR=5.4									
O03D	**Paynes Creek**	**85.68**	**40**		P		**P**		**08 07 43.5**	**+0.9**
	baz=228,SNR=35									
HSIG		**85.71**	**54**		*e*P		**P**		**08 07 43.8**	**+0.9**
	comp=Z,51nm,1.2s									
M02C	**Callahan**	**85.83**	**38**		P		**P**		**08 07 45.2**	**+1.9**
	baz=227,SNR=31									
IRM	**Iron Mountain**	**85.84**	**48**		P		**P**		**08 07 45.2**	**+1.7**
	baz=232,SNR=69									
WAKR	**Walker**	**85.88**	**42**		*e*P		**P**		**08 07 44.9**	**+1.2**
	comp=Z,55nm,1.1s									
GMRC	**Granite Mounta**	**85.89**	**47**		P		**P**		**08 07 45.2**	**+1.4**
	baz=232,SNR=26									
113A	**Mohawk Valley,**	**85.93**	**50**		*e*P		**P**		**08 07 45.4**	**+1.6**
	comp=Z,84nm,1.4s									
L02D	**Cave Junction,**	**85.95**	**37**		P		**P**		**08 07 45.4**	**+1.6**
	baz=226									
Y12C	**Blythe**	**86.01**	**49**		P		**P**		**08 07 45.9**	**+1.7**
	baz=233,SNR=22									
Y12C	**Blythe**	**86.01**	**49**		*e*P		**P**		**08 07 45.8**	**+1.7**
	comp=Z,43nm,1.0s									
214A	**Organ Pipe Nat**	**86.10**	**51**		P		**P**		**08 07 46.4**	**+1.7**
	baz=234									
TUQ	**Turquoise Moun**	**86.12**	**47**		P		**P**		**08 07 46.2**	**+1.3**
	baz=232,SNR=35									
YBH	**Yreka Blue Hor**	**86.14**	**38**		*e*P		**P**		**08 07 46.0**	**+1.2**
YBH					pmax		pmax			
	comp=Z,40nm,1.4s									
YBH	**Yreka Blue Hor**	**86.14**	**38**		*e*P		**P**		**08 07 46.0**	**+1.2**
	comp=Z,40nm,1.4s									
TVH3	**East Aurora ar**	**86.15**	**43**		*e*P		**P**		**08 07 46.1**	**+1.0**
	comp=Z,36nm,1.2s									
FURC	**Furnace Creek,**	**86.16**	**45**		P		**P**		**08 07 45.9**	**+1.0**
	baz=231,SNR=10									
PNTR	**Pine Nut**	**86.16**	**42**		*e*P		**P**		**08 07 46.2**	**+1.1**
	comp=Z,171nm,1.7s									
GRAC	**Grapevine Rang**	**86.18**	**45**		P		**P**		**08 07 46.5**	**+1.4**
	baz=231,SNR=47									
SHOC	**Shoshone, Teco**	**86.18**	**46**		P		**P**		**08 07 46.3**	**+1.2**
	baz=232,SNR=13									
TVH2	**Borealis Mine**	**86.21**	**43**		*e*P		**P**		**08 07 46.0**	**+0.6**
	comp=Z,34nm,1.3s									
KCSI	**Kotacane, Aceh**	**86.22**	**276**		P		**P**		**08 07 43.7**	**-2.1**
	comp=Z,39nm,0.9s									
TVH1	**Tvill, Hawth**	**86.25**	**43**		*e*P		**P**		**08 07 46.6**	**+0.8**
	comp=Z,55nm,1.4s									
MDJ	**Mudanjiang**	**86.28**	**326**		P		**P**		**08 07 46.9**	**+1.6**
MDJ					pP		pP		08 08 44.2	-0.9
MDJ					sP		sP		08 09 10.5	-0.7
MDJ					S		**S**		**08 18 02.9**	**+4.0**
MDJ					pmax		pmax			
	comp=Z,75nm,1.1s									
MDJ					pmax		pmax			
	comp=Z,170nm,4.0s									
YERR	**Yerington**	**86.31**	**42**		*e*P		**P**		**08 07 46.6**	**+0.8**
	comp=Z,92nm,1.6s									
LDFC	**Landfair**	**86.43**	**47**		*e*P		**P**		**08 07 48.3**	**+1.9**
	comp=Z,156nm,1.2s									
WHN	**Wuhan**	**86.52**	**307**		P		**P**		**08 07 47.6**	**+0.8**
TRTT	**Trang**	**86.56**	**281**		P		**P**		**08 07 48.4**	**+1.0**
	comp=Z,77nm,1.0s,comp=Z,788nm									
HABR	**Khabarovsk**	**86.59**	**331**		*e*P		**P**		**08 07 45.4**	**-1.3**
HABR					*e*PP		**pP**		**08 08 45.4**	**-1.2**
HABR					*e*SP		**sP**		**08 09 12.0**	**-0.6**
HABR					*e*				08 11 09.8	
HABR					*e*S		**SKSac**		**08 17 46.4**	**-2.5**
HABR					*e*				08 18 06.1	
HABR					*e**SS		sS		08 19 38.7	-8.3
HABR					*e*SS		**SS**		**08 23 45.8**	**-3.8**
HABR					MLR		MLR			
	comp=Z,67nm,21.0s									
PDMCI	**Parker Dam,Lak**	**86.59**	**48**		P		**P**		**08 07 48.7**	**+1.7**
	baz=233,SNR=29									
HUMO	**Hull Mountain**	**86.61**	**37**		*e*P		**P**		**08 07 48.5**	**+1.5**
	comp=Z,65nm,1.4s									
TPTI		**86.62**	**275**		P		**P**		**08 07 46.9**	**-0.8**
CHBT	**CHBT**	**86.64**	**286**		P		**P**		**08 07 49.4**	**+1.7**
	comp=Z,89nm,0.9s,comp=Z,3µm									
M04C	**Macdoel**	**86.66**	**39**		P		**P**		**08 07 48.5**	**+1.1**
	baz=228,SNR=9.5									
PAHR	**Pah Rah Range**	**86.69**	**41**		*e*P		**P**		**08 07 48.4**	**+0.8**
	comp=Z,23nm,1.1s									
TPNV	**Topopah Spring**	**86.85**	**45**		P		**P**		**08 07 49.8**	**+1.3**
	baz=232,SNR=27									
TPNV	**Topopah Spring**	**86.85**	**45**		*e*P		**P**		**08 07 49.6**	**+1.2**
TPNV					pmax		pmax			
	comp=Z,34nm,1.1s									
TPNV	**Topopah Spring**	**86.85**	**45**		*e*P		**P**		**08 07 49.6**	**+1.2**
	comp=Z,34nm,1.1s									
Y14A	**Wickenburg**	**87.14**	**49**		*e*P		**P**		**08 07 51.2**	**+1.5**
I03D	**Drain, OR**	**87.14**	**37**		P		**P**		**08 07 50.8**	**+1.3**
	baz=227,SNR=5.2									
W13A	**Hualapai Mount**	**87.24**	**48**		*e*P		**P**		**08 07 51.7**	**+1.3**
	comp=Z,33nm,1.2s									
OHAK	**Old Harbor**	**87.25**	**13**		*e*P		**P**		**08 07 50.5**	**+0.9**
	comp=Z,291nm,1.8s									
SHPR	**Sheep Range**	**87.26**	**46**		*e*P		**P**		**08 07 51.9**	**+1.5**
	comp=Z,64nm,1.5s									
K04D	**Chiloquin, OR**	**87.27**	**38**		P		**P**		**08 07 51.2**	**+1.0**
	baz=228									
SKNT	**Sakolnakorn**	**87.33**	**291**		P		**P**		**08 07 52.3**	**+1.4**
	comp=Z,111nm,1.0s									
J04D	**Umpqua Nationa**	**87.49**	**37**		P		**P**		**08 07 52.7**	**+1.3**
	baz=228,SNR=5.2									
MOD	**Modoc Plateau**	**87.60**	**39**		*e*P		**P**		**08 07 52.7**	**+0.8**
	comp=Z,21nm,0.9s									
TUC	**Tucson**	**87.70**	**52**		P		**P**		**08 07 54.5**	**+2.0**
	baz=235									
TUC	**Tucson**	**87.70**	**52**		*e*P		**P**		**08 07 54.4**	**+1.9**
TUC					pmax		pmax			
	comp=Z,222nm,1.8s									
TUC	**Tucson**	**87.70**	**52**		*e*P		**P**		**08 07 54.4**	**+1.9**
	comp=Z,222nm,1.8s									
I04A	**Tendick Farm,**	**87.71**	**37**		P		**P**		**08 07 53.0**	**+0.8**
	baz=227,SNR=8.5									
K05A	**Summer Lake**	**87.81**	**38**		*e*P		**P**		**08 07 54.1**	**+1.2**
	comp=Z,124nm,1.5s									
CN2	**Changchun**	**87.86**	**323**	⇓	iP		**P**		**08 07 53.9**	**+1.1**
CN2					*e*pP		pP		08 08 59.4	+6.5
CN2					*e*S		**S**		**08 18 13.3**	**-0.7**
CN2					pmax		pmax			
	comp=Z,90nm,1.0s									
CN2					pmax		pmax			
	comp=Z,200nm,3.0s									
KDAK

UTTA	**Uttaradit**	**90.56**	**290**	P		**P**		**08 08 09.4**	**+3.4**
	comp=Z,8.3nm,1.0s									
MA2	**Magadan**	**90.67**	**345**	*d*	*i*P	**P**		**08 08 05.0**	**-0.6**
BJT	**Baijiatuau**	**90.82**	**316**		*e*P	**P**		**08 08 08.0**	**+1.2**
BJT					pmax	pmax				
	comp=Z,61nm,0.7s									
BJT	**Baijiatuau**	**90.82**	**316**		*e*P	**P**		**08 08 08.0**	**+1.2**
	comp=Z,61nm,0.7s									
BJI	**Beijing**	**90.83**	**316**		P	**P**		**08 08 08.3**	**+1.5**
BJI					S	**S**		**08 18 42.8**	**+1.2**
BJI					pmax	pmax				
	comp=Z,79nm,0.8s									
BJI					pmax	pmax				
	comp=Z,280nm,4.1s									
BJI					LR	LR				
	comp=Z,190nm,28.5s									
BJI					LR	LR				
	comp=Z,150nm,36.0s									
BJI					LR	LR				
	comp=Z,160nm,28.5s									
B05A	**Bryant**	**90.90**	**34**		P	**P**		**08 08 08.0**	**+1.1**
	baz=228,SNR=15									
E07A	**Sunnyside**	**90.90**	**36**		*e*P	**P**		**08 08 08.3**	**+1.3**
	comp=Z,46nm,1.1s									
A04D	**Lummi Island**	**90.91**	**33**		P	**P**		**08 08 08.4**	**+1.5**
	baz=227,SNR=9.0									
DUG	**Dugway, Tooele**	**90.95**	**44**		P	**P**		**08 08 08.2**	**+0.6**
	baz=234									
DUG	**Dugway, Tooele**	**90.95**	**44**		*e*P	**P**		**08 08 08.2**	**+0.6**
DUG					pmax	pmax				
	comp=Z,19nm,1.3s									
DUG	**Dugway, Tooele**	**90.95**	**44**		*e*P	**P**		**08 08 08.2**	**+0.6**
	comp=Z,19nm,1.3s									
HAWA	**Hanford**	**90.96**	**36**		*e*P	**P**		**08 08 08.3**	**+1.0**
	comp=Z,44nm,1.2s									
MFID	**Camas Ranch**	**91.10**	**40**		*e*P	**P**		**08 08 08.9**	**+0.8**
	comp=Z,35nm,1.1s									
SPU	**Mount Spurr**	**91.16**	**12**		*e*P	**P**		**08 08 07.4**	**-0.5**
BMO	**Blue Mountains**	**91.17**	**38**		*e*P	**P**		**08 08 08.9**	**+0.5**
BMO					pmax	pmax				
	comp=Z,79nm,1.9s									
BMO	**Blue Mountains**	**91.17**	**38**		*e*P	**P**		**08 08 08.9**	**+0.5**
	comp=Z,79nm,1.9s									
MNTX	**Cornudas Mount**	**91.20**	**55**		P	**P**		**08 08 09.7**	**+1.0**
	baz=238									
MNTX	**Cornudas Mount**	**91.20**	**55**		*e*P	**P**		**08 08 09.6**	**+0.8**
	comp=Z,16nm,0.8s									
TX31	**Lajitas Ar. Si**	**91.22**	**57**		*e*P	**P**		**08 08 09.2**	**+0.1**
TX31					*e*P	**P**		**08 08 09.9**	**+0.9**
TXAR	**Lajitas Array**	**91.22**	**57**		P	**P**		**08 08 09.7**	**+0.6**
	comp=Z,10nm,1.1s,baz=208,slow=6.2,SNR=50									
TXAR					PKKPbc	**PKKPbc**		**08 25 31.4**	**+0.9**
	comp=Z,0.8nm,0.8s,baz=106,slow=2.7,SNR=6.6									
BGU	**Big Grassy Mou**	**91.25**	**44**		*e*P	**P**		**08 08 09.9**	**+1.0**
	comp=Z,38nm,1.8s									
NLU	**North Lily Min**	**91.27**	**45**		*e*P	**P**		**08 08 10.2**	**+1.1**
	comp=Z,25nm,1.3s									
Y22D	**IRIS PASSCAL I**	**91.38**	**52**		P	**P**		**08 08 11.3**	**+1.6**
	baz=237									
LAZ	**Ladron**	**91.40**	**52**		*e*P	**P**		**08 08 11.4**	**+1.5**
TMUT	**Trail Mountain**	**91.43**	**46**		*e*P	**P**		**08 08 11.5**	**+1.5**
	comp=Z,106nm,1.5s									
RC01	**Rabbit Creek A**	**91.54**	**13**		*e*P	**P**		**08 08 10.0**	**+0.4**
	comp=Z,89nm,1.3s									
BNM	**Barren Site**	**91.62**	**52**		*e*P	**P**		**08 08 12.1**	**+1.1**
SUA	**Susitna One**	**91.67**	**13**		*e*P	**P**		**08 08 10.5**	**+0.2**
	comp=Z,64nm,0.6s									
LAMP	**Lampang**	**91.70**	**290**		P	**P**		**08 08 13.5**	**+2.2**
	comp=Z,11nm,0.8s									
LPM	**Los Pinos Moun**	**91.70**	**52**		*e*P	**P**		**08 08 12.4**	**+1.2**
D08A	**Wollman Farm,**	**91.71**	**36**		*e*P	**P**		**08 08 11.8**	**+1.0**
	comp=Z,19nm,0.8s									
SRU	**San Rafael Swe**	**91.76**	**46**		*e*P	**P**		**08 08 12.2**	**+0.8**
SRU					pmax	pmax				
	comp=Z,46nm,1.3s									
SRU	**San Rafael Swe**	**91.76**	**46**		*e*P	**P**		**08 08 12.2**	**+0.8**
	comp=Z,46nm,1.3s									
E09A	**Wood Farm, Sta**	**91.77**	**37**		*e*P	**P**		**08 08 11.6**	**+0.6**
	comp=Z,35nm,1.3s									
SPUT	**South Promonto**	**91.83**	**43**		*e*P	**P**		**08 08 13.0**	**+1.4**
	comp=Z,51nm,1.2s									
TIY	**Taiyuan**	**91.88**	**312**		*e*P	**P**		**08 08 13.4**	**+1.6**
TIY					S	**S**		**08 18 55.2**	**+3.9**
TIY					pmax	pmax				
	comp=Z,53nm,1.1s									
HVU	**Hansel Valley**	**91.91**	**43**		*e*P	**P**		**08 08 12.9**	**+0.9**
HVU					pmax	pmax				
	comp=Z,105nm,1.5s									
HVU	**Hansel Valley**	**91.91**	**43**		*e*P	**P**		**08 08 12.9**	**+0.9**
	comp=Z,104nm,1.5s									
F10A	**Beach Ranch, E**	**91.92**	**38**		*e*P	**P**		**08 08 12.0**	**+0.2**
	comp=Z,22nm,1.0s									
HLID	**Hailey**	**92.01**	**41**		P	**P**		**08 08 13.4**	**+1.0**
	baz=233,SNR=23									
HLID	**Hailey**	**92.01**	**41**		*e*P	**P**		**08 08 13.5**	**+1.0**
	comp=Z,34nm,1.4s									
MVCO	**Mesa Verde**	**92.02**	**49**		P	**P**		**08 08 13.4**	**+0.7**
	baz=236									
MVCO	**Mesa Verde**	**92.02**	**49**		*e*P	**P**		**08 08 12.9**	**+0.2**
	comp=Z,17nm,1.4s									
TT01	**Tatalina**	**92.09**	**10**		*e*P	**P**		**08 08 12.9**	**+0.8**
TTA	**Tatalina**	**92.11**	**10**		*e*P	**P**		**08 08 13.0**	**+0.7**
TTA	**Tatalina**	**92.11**	**10**		*e*P	**P**		**08 08 13.0**	**+0.7**
PMR	**Palmer**	**92.12**	**14**		*e*P	**P**		**08 08 12.6**	**+0.4**
PMR					pmax	pmax				
	comp=Z,24nm,0.8s									
PMR	**Palmer**	**92.12**	**14**		*e*P	**P**		**08 08 12.6**	**+0.4**
	comp=Z,24nm,0.8s									
ANMO	**Albuquerque**	**92.17**	**51**		P	**P**		**08 08 14.3**	**+0.9**
	baz=237									
ANMO	**Albuquerque**	**92.17**	**51**	*d*	*i*P	**P**		**08 08 11.7**	**-1.7**
ANMO					pmax	pmax				
	comp=Z,8.0nm,1.0s									
ANMO	**Albuquerque**	**92.17**	**51**		*e*P	**P**		**08 08 14.3**	**+0.9**
	comp=Z,29nm,1.5s									
CM01	**Chiang Mai Arr**	**92.21**	**290**		*e*P	**P**		**08 08 15.1**	**+1.4**
CMAR	**Chiang Mai Arr**	**92.24**	**290**		P	**P**		**08 08 15.3**	**+1.5**
	comp=Z,6.4nm,0.8s,baz=140,slow=3.6,SNR=29									
CMAR	**Chiang Mai Arr**	**92.24**	**290**		P	**P**		**08 08 15.4**	**+1.5**
CMAR					pmax	pmax				
	comp=Z,7.0nm,0.8s									
XAN	**Xi'an**	**92.28**	**307**		P	**P**		**08 08 14.8**	**+1.1**
XAN					pP	pP		08 09 15.8	+1.7
XAN					PP	**PP**		**08 12 02.5**	**+4.2**
XAN					SKS	**SKSac**		**08 18 21.9**	**-1.0**
XAN					S	**S**		**08 18 54.1**	**-0.8**
XAN					pmax	pmax				
	comp=Z,49nm,1.0s									
XAN					pmax	pmax				
	comp=Z,120nm,6.7s									
B08A	**Colville Reser**	**92.34**	**35**		*e*P	**P**		**08 08 13.8**	**+0.2**
	comp=Z,8.8nm,0.8s									
KMI	**Kunming**	**92.36**	**297**		P	**P**		**08 08 15.6**	**+1.1**
KMI					pmax	pmax				
	comp=Z,24nm,0.8s									
KMI					pmax	pmax				
	comp=Z,150nm,4.6s									
CMMT	**Chiang Mai**	**92.40**	**290**		P	**P**		**08 08 16.2**	**+1.6**
	comp=Z,19nm,1.1s									
CHTO	**Chiang Mai**	**92.41**	**290**		P	**P**		**08 08 16.3**	**+1.7**
	comp=Z,84nm,1.0s									
CHTO	**Chiang Mai**	**92.41**	**290**		*e*P	**P**		**08 08 16.0**	**+1.4**
CHTO					pmax	pmax				
	comp=Z,13nm,0.9s									
CHTO	**Chiang Mai**	**92.41**	**290**		*e*P	**P**		**08 08 16.0**	**+1.4**
	comp=Z,13nm,0.9s									
DIV	**Divide**	**92.44**	**15**		*e*P	**P**		**08 08 14.3**	**+0.5**
	comp=Z,43nm,1.3s									
WRAK	**Wrangell Islan**	**92.47**	**24**		*e*P	**P**		**08 08 15.8**	**+1.9**
	comp=Z,52nm,1.1s									
SML	**Sawmill**	**92.48**	**14**		*e*P	**P**		**08 08 15.1**	**+1.2**
SML					pmax	pmax				
	comp=Z,22nm,0.8s									
SML	**Sawmill**	**92.48**	**14**		*e*P	**P**		**08 08 15.1**	**+1.2**
	comp=Z,22nm,0.8s									
HWUT	**Hardware Ranch**	**92.55**	**44**		*e*P	**P**		**08 08 15.3**	**+0.3**
	comp=Z,9.7nm,0.8s									
BMRM	**Bremner River**	**92.58**	**16**		*e*P	**P**		**08 08 15.5**	**+1.1**
	comp=Z,93nm,1.5s									
LLLB	**Lilooet**	**92.58**	**32**		*e*P	**P**		**08 08 15.2**	**+0.4**
	comp=Z,24nm,1.4s									
SCM	**Sheep Creek Mo**	**92.72**	**14**		*e*P	**P**		**08 08 16.1**	**+1.0**
SCM					pmax	pmax				
	comp=Z,64nm,0.8s									
SCM	**Sheep Creek Mo**	**92.72**	**14**		*e*P	**P**		**08 08 16.1**	**+1.0**
	comp=Z,64nm,0.8s									
BALM	**Baldy**	**93.19**	**17**		*e*P	**P**		**08 08 18.4**	**+1.1**
BALM					pmax	pmax				
	comp=Z,24nm,0.8s									
BALM	**Baldy**	**93.19**	**17**		*e*P	**P**		**08 08 18.4**	**+1.1**
	comp=Z,24nm,0.8s									
CAST	**Castle Rocks**	**93.22**	**12**		*e*P	**P**		**08 08 16.2**	**-1.1**
	comp=Z,35nm,0.9s									
NEW	**Newport**	**93.42**	**36**		P	**P**		**08 08 18.7**	**+0.1**
	baz=231									
NEW	**Newport**	**93.42**	**36**		*e*P	**P**		**08 08 18.7**	**+0.1**
NEW					pmax	pmax				
	comp=Z,7.0nm,1.1s									
NEW	**Newport**	**93.42**	**36**		*e*P	**P**		**08 08 18.7**	**+0.1**
	comp=Z,7.3nm,1.1s									
S22A	**4UR Ranch, Cre**	**93.42**	**49**		P	**P**		**08 08 20.1**	**+0.9**
	baz=237,SNR=15									
S22A	**4UR Ranch, Cre**	**93.42**	**49**		*e*P	**P**		**08 08 20.1**	**+0.9**
	comp=Z,42nm,1.7s									
832A	**Faith Ranch, C**	**93.49**	**60**		P	**P**		**08 08 19.3**	**0.0**
	baz=240									
KTH	**Kantishna Hill**	**93.55**	**12**		*e*P	**P**		**08 08 18.5**	**-0.4**
	comp=Z,30nm,0.9s									
TRF	**Thorofare Moun**	**93.58**	**12**		*e*P	**P**		**08 08 19.1**	**0.0**
	comp=Z,45nm,0.8s									
MCMT	**McKenzie Canyo**	**93.66**	**40**		*e*P	**P**		**08 08 21.0**	**+0.9**
933A	**Laredo**	**93.70**	**61**		P	**P**		**08 08 21.0**	**+0.7**
	baz=241									
O20A	**White River Ci**	**93.80**	**46**		P	**P**		**08 08 21.1**	**+0.3**
	baz=237,SNR=7.5									
O20A	**White River Ci**	**93.80**	**46**		*e*P	**P**		**08 08 21.2**	**+0.4**
	comp=Z,9.5nm,0.8s									
RND	**Reindeer**	**93.81**	**13**		*e*P	**P**		**08 08 20.6**	**+0.5**
RND					pmax	pmax				
	comp=Z,44nm,0.9s									
RND	**Reindeer**	**93.81**	**13**		*e*P	**P**		**08 08 20.6**	**+0.5**
	comp=Z,44nm,0.9s									
034A	**Hebbronville**	**93.89**	**62**		P	**P**		**08 08 22.5**	**+1.3**
	baz=241,SNR=7.7									
833A	**Chaparral WMA,**	**93.95**	**60**		P	**P**		**08 08 21.7**	**+0.2**
	baz=241									
REDW	**Red Top Meadow**	**93.99**	**42**		*e*P	**P**		**08 08 22.2**	**+0.6**
	comp=Z,51nm,1.4s									
TPAW	**Teton Pass**	**94.00**	**42**		*e*P	**P**		**08 08 22.5**	**+0.8**
	comp=Z,63nm,1.6s									
MCK	**McKinley**	**94.09**	**13**		*e*P	**P**		**08 08 21.5**	**+0.2**
MCK					pmax	pmax				
	comp=Z,25nm,0.9s									
MCK	**McKinley**	**94.09**	**13**		*e*P	**P**		**08 08 21.5**	**+0.2**
	comp=Z,25nm,0.9s									
SMCO	**Snowmass**	**94.09**	**48**		*e*P	**P**		**08 08 22.8**	**+0.4**
	comp=Z,9.9nm,0.9s									
SNOW	**Snow King Moun**	**94.10**	**42**		*e*P	**P**		**08 08 23.1**	**+0.9**
	comp=Z,69nm,1.6s									
DLMT	**Dillon**	**94.12**	**40**		*e*P	**P**		**08 08 23.1**	**+1.1**
	comp=Z,17nm,1.4s									
HHC	**Hu-ho-hao-te**	**94.18**	**314**		*e*P	**P**		**08 08 27.0**	**+4.6**
HHC					S	**S**		**08 19 15.7**	**+4.3**
HHC					pmax	pmax				
	comp=Z,30nm,1.1s									
HHC					pmax	pmax				
	comp=Z,110nm,5.1s									
MSO	**Missoula**	**94.24**	**38**		P	**P**		**08 08 22.8**	**+0.3**
	baz=233									
IMW	**Indian Meadow**	**94.24**	**42**		*e*P	**P**		**08 08 23.8**	**+0.9**
	comp=Z,30nm,1.4s									
MSTX	**Muleshoe**	**94.25**	**54**		P	**P**		**08 08 23.2**	**+0.3**
	baz=239,SNR=9.3									
MSTX	**Muleshoe**	**94.25**	**54**		*e*P	**P**		**08 08 23.2**	**+0.3**
	comp=Z,99nm,2.0s									
MOOW	**Moose Ponds**	**94.27**	**42**		*e*P	**P**		**08 08 23.5**	**+0.6**
	comp=Z,10nm,1.2s									
LOHW	**Long Hollow**	**94.28**	**42**		*e*P	**P**		**08 08 23.5**	**+0.6**
	comp=Z,35nm,1.6s									
035A	**Encino**	**94.28**	**62**		P	**P**		**08 08 23.8**	**+0.8**
	baz=241									
SDCO	**Great Sand Dun**	**94.31**	**49**		P	**P**		**08 08 23.7**	**+0.4**
	baz=238,SNR=7.4									
SDCO	**Great Sand Dun**	**94.31**	**49**		*e*P	**P**		**08 08 24.2**	**+0.9**
	comp=Z,19nm,1.6s									
CD2	**Chengdu**	**94.42**	**303**	⇓	*i*P	**P**		**08 08 25.3**	**+1.6**
CD2					sP	sP		08 09 50.1	+0.1
CD2					SKS	**SKSac**		**08 18 33.3**	**-1.5**
CD2					S	**ScS**		**08 19 15.1**	**+0.3**
CD2					pmax	pmax				
	comp=Z,50nm,0.8s									
BW06	**Boulder Array**	**94.43**	**44**		P	**P**		**08 08 23.7**	**0.0**
	baz=236,SNR=11									
BW06	**Boulder Array**	**94.43**	**44**		*e*P	**P**		**08 08 23.6**	**0.0**
BW06					*e*P	**P**		**08 08 23.8**	**0.0**
PD31	**Pinedale Array**	**94.43**	**44**		*e*P	**P**		**08 08 23.7**	**+0.1**
PDAR	**Pinedale Array**	**94.43**	**44**		P	**P**		**08 08 23.4**	**-0.3**
	comp=Z,6.8nm,1.0s,baz=202,slow=3.7,SNR=38									
PDAR					PP	**PP**		**08 12 11.8**	**-3.3**
	comp=Z,0.8nm,0.9s,baz=229,slow=8.2,SNR=5.3									
PDAR					PKKPbc	**PKKPdf**		**08 25 22.1**	**-0.6**
	comp=Z,0.6nm,0.6s,baz=99,slow=2.7,SNR=7.8									
QLMT	**Earthquake Lak**	**94.49**	**41**		*e*P	**P**		**08 08 25.2**	**+1.4**
FLWY	**Flagg Ranch**	**94.49**	**42**		*e*P	**P**		**08 08 25.4**	**+1.5**
	comp=Z,25nm,1.1s									
MENT	**Mentasta**	**94.50**	**15**		*e*P	**P**		**08 08 23.6**	**+0.4**
	comp=Z,19nm,0.7s									
YPP	**Pitchstone Pla**	**94.53**	**42**		*e*P	**P**		**08 08 25.2**	**+1.1**
	comp=Z,11nm,1.4s									
YHB	**Horse Butte**	**94.58**	**41**		*e*P	**P**		**08 08 25.9**	**+1.7**
	comp=Z,9.4nm,1.0s									
YFT	**Old Faithful**	**94.62**	**42**		*e*P	**P**		**08 08 26.8**	**+2.3**
	comp=Z,11nm,1.0s									
YMR	**Madison River**	**94.67**	**41**		*e*P	**P**		**08 08 26.5**	**+1.8**
	comp=Z,37nm,1.5s									
633A	**Saathoff Ranch**	**94.67**	**59**		P	**P**		**08 08 25.1**	**+0.3**
	baz=241									
JCT	**Junction City**	**94.69**	**58**		P	**P**		**08 08 24.8**	**-0.2**
	baz=241									
JCT	**Junction City**	**94.69**	**58**		*e*P	**P**		**08 08 25.0**	**+0.1**
JCT					pmax	pmax				
	comp=Z,8.0nm,0.9s									
JCT	**Junction City**	**94.69**	**58**		*e*P	**P**		**08 08 25.0**	**+0.1**
	comp=Z,7.7nm,0.9s									
T25A	**Trinidad**	**94.73**	**50**		P	**P**		**08 08 25.7**	**+0.6**
	baz=239									
H17A	**Grant Village**	**94.74**	**42**		P	**P**		**08 08 26.9**	**+1.9**
	baz=235,SNR=5.3									
H17A	**Grant Village**	**94.74**	**42**		*e*P	**P**		**08 08 27.3**	**+2.2**
	comp=Z,6.9nm,1.0s									
YHH	**Holmes Hill**	**94.80**	**41**		*e*P	**P**		**08 08 27.1**	**+1.8**
	comp=Z,28nm,1.6s									
BOZ	**Boman (W)**	**94.81**	**40**		P	**P**		**08 08 26.0**	**+0.8**
	baz=235,SNR=9.5									
BOZ	**Bozeman (W)**	**94.81**	**40**		*e*P	**P**		**08 08 25.8**	**+0.6**
BOZ					pmax	pmax				
	comp=Z,8.0nm,1.0s									
BOZ	**Bozeman (W)**	**94.81**	**40**		*e*P	**P**		**08 08 25.8**	**+0.6**
	comp=Z,7.6nm,1.0s									
WRH	**Wood River Hil**	**94.92**	**13**		*e*P	**P**		**08 08 24.9**	**-0.2**
	comp=Z,44nm,1.2s									
DOT	**Dot Lake**	**95.04**	**15**		*e*P	**P**		**08 08 26.0**	**+0.4**
	comp=Z,51nm,0.8s									
533A	**Kerrville**	**95.07**	**59**		P	**P**		**08 08 26.4**	**-0.2**
	baz=241									
CCB	**Clear Creek Bu**	**95.13**	**13**		*e*P	**P**		**08 08 25.6**	**-0.3**
	comp=Z,20nm,0.8s									
835A	**Beeville**	**95.14**	**61**		P	**P**		**08 08 28.2**	**+1.3**
	baz=241									
Q24A	**Divide**	**95.19**	**49**		P	**P**		**08 08 27.8**	**+0.5**
	baz=238									
ISCO	**Idaho Springs**	**95.32**	**48**		P	**P**		**08 08 28.5**	**+0.6**
	baz=238									
ISCO	**Idaho Springs**	**95.32**	**48**		*e*P	**P**		**08 08 27.9**	**0.0**
ISCO					pmax	pmax				
	comp=Z,23nm,1.9s									
ISCO	**Idaho Springs**	**95.32**	**48**		*e*P	**P**		**08 08 27.9**	**0.0**
	comp=Z,23nm,1.9s									
COLA	**College**	**95.33**	**13**		*e*P	**P**		**08 08 26.6**	**-0.2**
COLA					pmax	pmax				
	comp=Z,29nm,0.8s									
COLA	**College**	**95.33**	**13**		*e*P	**P**		**08 08 26.6**	**-0.2**
	comp=Z,30nm,0.8s									
MDM	**Murphy Dome**	**95.33**	**12**		*e*P	**P**		**08 08 26.8**	**-0.1**
	comp=Z,27nm,1.0s									
HRY	**Holter Researc**	**95.34**	**39**		*e*P	**P**		**08 08 28.4**	**+0.8**
433A	**Art**	**95.36**	**58**		P	**P**		**08 08 27.7**	**-0.2**
	baz=241,SNR=13									
IL1	**Eielson Array**	**95.43**	**13**		*e*P	**P**		**08 08 26.8**	**-0.5**
ILAR	**Eielson Array**	**95.43**	**13**		P	**P**		**08 08 26.9**	**-0.4**
	comp=Z,6.3nm,0.7s,baz=223,slow=5.7,SNR=78									
ILAR					PP	**PP**		**08 12 18.5**	**-3.5**
	comp=Z,2.1nm,0.8s,baz=221,slow=6.8,SNR=5.0									
ILB	**Eielson Array**	**95.43**	**13**		*e*P	**P**		**08 08 27.0**	**-0.4**
534A	**Blanco**	**95.48**	**59**		P	**P**		**08 08 28.4**	**-0.1**
	baz=241									
AMTX	**Amarillo**	**95.49**	**53**		P	**P**		**08 08 28.1**	**-0.4**
	baz=240									
N23A	**Red Feather La**	**95.68**	**47**		P	**P**		**08 08 30.1**	**+0.6**
	baz=238,SNR=5.1									
N23A	**Red Feather La**	**95.68**	**47**		*e*P	**P**		**08 08 30.4**	**+0.9**
	comp=Z,12nm,1.2s									
635A	**Leesville**	**95.71**	**60**		P	**P**		**08 08 29.5**	**+0.1**
	baz=241									
333A	**Richland Sprin**	**95.72**	**58**		P	**P**		**08 08 29.3**	**-0.2**
	baz=241									
ABTX	**Abilene, Hawle**	**95.86**	**56**		P	**P**		**08 08 30.0**	**-0.2**
	baz=241									
ABTX	**Abilene, Hawle**	**95.86**	**56**		*e*P	**P**		**08 08 29.9**	**-0.2**
	comp=Z,38nm,1.6s									
434A	**Burnet**	**96.01**	**58**		P	**P**		**08 08 30.4**	**-0.5**
	baz=241									
233A	**Rising Star**	**96.11**	**57**		P	**P**		**08 08 31.1**	**-0.2**
	baz=241									
535A	**Dale**	**96.17**	**59**		P	**P**		**08 08 31.3**	**-0.2**
	baz=242									
BILL	**Bilibino**	**96.19**	**354**		*e*P	**P**		**08 08 31.2**	**+0.5**
BILL					pmax	pmax				
	comp=Z,16nm,0.7s									
K22A	**Casper**	**96.24**	**45**		P	**P**		**08 08 32.1**	**+0.3**
	baz=238									
K22A	**Casper**	**96.24**	**45**		*e*P	**P**		**08 08 32.5**	**+0.7**
	comp=Z,32nm,1.6s									
334A	**Lometa**	**96.28**	**58**		P	**P**		**08 08 31.7**	**-0.3**
	baz=241									
133A	**Hamilton Ranch**	**96.39**	**57**		P	**P**		**08 08 32.5**	**0.0**
	baz=241									
737A	**Port Lavaca**	**96.44**	**61**		P	**P**		**08 08 32.4**	**-0.4**
	baz=242									
DAWY	**Dawson**	**96.49**	**16**		*e*P	**P**		**08 08 32.9**	**+0.7**
	comp=Z,7.1nm,0.8s									
EGAK	**Eagle**	**96.66**	**15**		*e*P	**P**		**08 08 33.8**	**+0.8**
	comp=Z,21nm,1.0s									
234A	**Clairette**	**96.68**	**57**		P	**P**		**08 08 33.6**	**-0.3**
	baz=242									
Z33A	**Whitaker Ranch**	**96.82**	**56**		P	**P**		**08 08 34.2**	**-0.3**
	baz=241									
KSCO	**Kaye Shedlock'**	**96.90**	**50**		P	**P**		**08 08 35.2**	**+0.3**
	baz=240									
KSCO	**Kaye Shedlock'**	**96.90**	**50**		*e*P	**P**		**08 08 36.6**	**+1.8**
	comp=Z,11nm,1.0s									
LZH	**Lanzhou**	**96.90**	**307**	⇑	P	**P**		**08 08 36.5**	**+1.6**
LZH					pP	pP		08 09 36.0	+0.5
LZH					sP	sP		08 10 01.3	-0.1
LZH					PP	**PP**		**08 12 38.3**	**+4.1**
LZH					SKS	**SKSac**		**08 18 47.2**	**-0.6**
LZH					S	**S**		**08 19 35.0**	**-0.2**
LZH					sS	sS		08 21 23.1	+0.6
LZH					SS	**SS**		**08 26 19.2**	**+1.1**
LZH					pmax	pmax				
	comp=Z,39nm,1.5s									
LZH					pmax	pmax				
	comp=Z,170nm,5.2s									
X32A	**Elmer**	**96.98**	**55**		P	**P**		**08 08 34.8**	**-0.4**
	baz=241									
134A	**White-Moore Ra**	**96.99**	**57**		P	**P**		**08 08 35.1**	**-0.1**
	baz=242									
COLD	**Coldfoot**	**97.04**	**11**		*e*P	Pdif		08 08 35.7	+1.1
	comp=Z,33nm,1.6s									
537A	**Green Hill Far**	**97.15**	**60**		P	**P**		**08 08 35.7**	**-0.3**
	baz=242									
EGMT	**Eagleton**	**97.25**	**39**		P	Pdif		08 08 36.2	0.0
	baz=236									
EGMT	**Eagleton**	**97.25**	**39**		*e*P	Pdif		08 08 36.7	+0.6
	comp=Z,21nm,1.4s									
336A	**Riesel**	**97.36**	**59**		P	Pdif		08 08 36.9	0.0
	baz=242									
WMOK	**Wichita Mounta**	**97.50**	**55**		P	**P**		**08 08 37.5**	**-0.1**
	baz=242									
337A	**Centerville**	**98.05**	**59**		P	Pdif		08 08 40.1	+0.1
	baz=242									
438A	**Sam Houston St**	**98.11**	**60**		P	Pdif		08 08 40.4	+0.2
	baz=243									
Y35A	**Marietta**	**98.39**	**56**		P	**P**		**08 08 42.0**	**+0.6**
	baz=242									
TOLK	**Toolik Lake Re**	**98.42**	**10**		P	**P**		**08 08 41.8**	**+1.0**
	baz=206									
LAO	**LASA Array**	**98.55**	**41**		P	**P**		**08 08 42.6**	**+0.7**
	baz=238									
RSSD	**Black Hills**	**98.56**	**45**		P	**P**		**08 08 42.5**	**+0.3**
	baz=240									
RSSD	**Black Hills**	**98.56**	**45**		*e*P	**P**		**08 08

KSH AMB AMB
comp=Z,100nm,10.3s
KSH LR LR
comp=Z,210nm,8.9s
KSH LR LR
comp=Z,150nm,7.3s
KSH LR LR
comp=Z,120nm,6.3s
KURK Kurchatov 118.99 315 *d* PKIKP **PKPdf** 08 13 49.2 -1.1
KURK pmax pmax
comp=Z,97nm,1.0s
KURK Kurchatov 118.99 315 *e*PKPdf **PKPdf** 08 13 49.5 -0.8
BOSA Boshof 119.56 204 PKP **PKPdf** 08 13 52.4 0.0
comp=Z,3.6nm,0.6s,baz=156,slow=3.2,SNR=12
BOSA PKKPbc **PKKPbc** 08 24 03.8 -0.6
comp=Z,2.8nm,0.6s,baz=324,slow=2.4,SNR=10
TKM2 Tokmak 2 119.63 306 PKIKP **PKPdf** 08 13 51.0 -1.1
TKM2 pmax pmax
comp=Z,10.0nm,0.6s
AAK Ala-Archa 120.37 305 PKIKP **PKPdf** 08 13 52.7 -0.8
AAK pmax pmax
comp=Z,8.0nm,0.7s
AAK Ala-Archa 120.37 305 *e*PKPdf **PKPdf** 08 13 53.3 -0.2
KBL Kabul 122.87 295 *e*PKIKP **PKPdf** 08 13 58.8 +0.2
KBL Kabul 122.87 295 *e*PKPdf **PKPdf** 08 13 58.8 +0.2
KK31 Karatay Array 123.34 305 *i* PKIKP **PKPdf** 08 13 58.6 -0.4
KK31 pmax pmax
comp=Z,19nm,0.7s
KKAR Karatay Array 123.34 305 *e*PKIKP **PKPdf** 08 13 58.6 -0.4
KKAR Karatay Array 123.34 305 *e*PKPdf **PKPdf** 08 13 58.6 -0.4
BVA0 Borovoye Array 124.29 317 PKIKP **PKPdf** 08 13 59.8 -0.7
BVA0 pmax pmax
comp=Z,19nm,0.8s
BRVK Borovoye 124.35 317 *d* PKIKP **PKPdf** 08 14 00.0 -0.6
BRVK pmax pmax
comp=Z,81nm,1.3s
BRVK Borovoye 124.35 317 *e*PKPdf **PKPdf** 08 13 60.0 -0.6
LMN Caledonia Moun 125.36 52 *e*PKPdf **PKPdf** 08 14 02.1 -0.6
KBS Kingsbay 128.54 357 *e*PKPdf **PKPdf** 08 14 08.7 +0.8
ILULI Ilulissat 128.62 21 *i* P **PKPdf** 08 14 07.9 -0.3
comp=Z,22nm,0.7s
ILULI Ilulissat 128.62 21 *i* PKIKP **PKPdf** 08 14 07.9 -0.3
ILULI pmax pmax
comp=Z,22nm,0.7s
SPA0 Spitsbergen Ar 129.05 356 *e*PKPdf **PKPdf** 08 14 09.4 +0.4
SFJD Kangerlussuaq 129.72 24 *i* P **PKPdf** 08 14 10.2 -0.2
comp=Z,8.0nm,0.6s
SFJD Kangerlussuaq 129.72 24 *i* PKIKP **PKPdf** 08 14 10.2 -0.2
SFJD pmax pmax
comp=Z,8.0nm,0.6s
LSZ Lusaka 130.09 214 *e*PKIKP **PKPdf** 08 14 13.4 +0.5
LSZ Lusaka 130.09 214 *e*PKPdf **PKPdf** 08 14 13.4 +0.5
SUMG Summit 130.24 15 *i* P **PKPdf** 08 14 12.3 +0.5
comp=Z,19nm,1.0s
SUMG Summit 130.24 15 *i* PKIKP **PKPdf** 08 14 12.3 +0.5
SUMG pmax pmax
comp=Z,19nm,1.0s
SUMG Summit 130.24 15 *e*PKPdf **PKPdf** 08 14 12.1 +0.3
ARU Arti 130.84 322 *i* PKIKP **PKPdf** 08 14 12.5 -0.4
ARU Arti 130.84 322 *e*PKPdf **PKPdf** 08 14 12.4 -0.4
AB31 Akbulak array 130.93 312 *i* PKIKP **PKPdf** 08 14 12.7 -0.5
AB31 pmax pmax
comp=Z,6.0nm,1.0s
ABKAR Akbulak array 130.93 312 *e*PKPdf **PKPdf** 08 14 12.8 -0.4
SOKR Solikamsk 131.04 326 *e*PKIKP **PKPdf** 08 14 11.8 -1.2
SOKR pmax pmax
comp=Z,31nm,0.9s
UOSS Minazif 131.37 280 *e*PKPdf **PKPdf** 08 14 14.7 -0.1
GEYT Alibeck 132.13 297 PKP **PKPdf** 08 14 16.6 +0.6
comp=Z,11nm,0.7s,baz=180,slow=2.2,SNR=16
GEYT SKPbc **SKPbc** 08 17 19.1 +0.4
comp=Z,5.8nm,0.7s,baz=215,slow=1.8,SNR=7.5
LVZ Lovozero 135.24 343 *i* PKIKP **PKPdf** 08 14 18.9 -2.0
LVZ Lovozero 135.24 343 *e*PKPdf **PKPdf** 08 14 19.6 -1.2
HAMF Hammerfest 135.29 350 *e*PKPdf **PKPdf** 08 14 21.8 +1.0
KMBO Kilima Mbogo 135.35 236 PKP **PKPdf** 08 14 23.6 +0.6
comp=Z,2.7nm,0.4s,baz=46,slow=4.2,SNR=10.0
KMBO SKPbc **SKPbc** 08 17 29.6 -0.8
comp=Z,3.1nm,0.7s,baz=90,slow=6.1,SNR=3.7
ARA0 ARCESS Array S 135.95 348 *e*PKPdf **PKPdf** 08 14 21.8 -0.3
ARCES ARCESS Array B 135.95 348 PKhKP PKPpre 08 14 10.6
comp=Z,2.0nm,0.6s,baz=42,slow=3.8,SNR=4.7
ARCES PKP **PKPdf** 08 14 21.6 -0.5
comp=Z,11nm,0.6s,baz=39,slow=0.6,SNR=15
ARCES SKPbc **SKPbc** 08 17 29.2 -0.9
comp=Z,5.5nm,0.7s,baz=20,slow=2.9,SNR=7.6
ARE0 ARCESS Array S 135.95 348 *e*PKPdf **PKPdf** 08 14 21.9 -0.1
ARE0 ARCESS Array S 135.95 348 *e*PKPdf **PKPdf** 08 14 22.0 -0.1
KTK1 Kautokeino 136.81 349 *e*PKPdf **PKPdf** 08 14 24.7 +1.0
TRO Tromso 136.90 351 *e*PKPdf **PKPdf** 08 14 25.1 +1.3
KLMR Klimovskoe 138.28 333 *e*PKIKP **PKPdf** 08 14 24.3 -2.3
KLMR *e* 08 17 16.4
KLMR pmax pmax
comp=Z,35nm,1.0s
H10S3 ASCENSION HYDR 140.24 154 T T 10 51 02.4
baz=204,slow=75,SNR=19
H10S2 ASCENSION HYDR 140.24 154 T T 10 51 07.0
baz=204,slow=75,SNR=11
H10S1 ASCENSION HYDR 140.25 154 T T 10 51 03.6
baz=204,slow=75,SNR=18
DGRG David-gareji 141.91 303 P **PKPdf** 08 14 30.2 -3.7
DGRG David-gareji 141.91 303 PKIKP **PKPdf** 08 14 30.2 -3.7
TBLG Delisi 142.34 303 P **PKPdf** 08 14 32.1 -2.5
TBLG Delisi 142.34 303 PKIKP **PKPdf** 08 14 32.1 -2.5
GNI Garni 142.53 301 *e*PKIKP **PKPdf** 08 14 31.7 -3.5
GNI Garni 142.53 301 *e*PKPpre PKPpre 08 14 32.4
FIA1 FINESS Array S 142.56 341 *e*PKPpre PKPpre 08 14 29.8
FIA1 *e*PKPpre PKPpre 08 14 30.3
FINES FINESS Array B 142.56 341 PKhKP PKPpre 08 14 29.7
comp=Z,5.7nm,0.4s,baz=59,slow=3.1,SNR=75
FINES PP **PP** 08 17 47.3 +2.5
comp=Z,6.8nm,0.8s,baz=13,slow=4.3,SNR=4.5
ZEI Tsey 142.80 305 *i* PKHKP PKPpre 08 14 30.0
ZEI pmax pmax
comp=Z,86nm,1.1s
OBN Obninsk 142.81 327⇑ *e*PKHKP PKPpre 08 14 31.5
OBN *i* 08 14 37.3
OBN *e* 08 17 50.5
OBN *e* 08 21 08.1
OBN *e*SS SS 08 36 06.1 +2.8
OBN pmax pmax
comp=Z,103nm,1.7s
LPSR Galich'ya Gora 142.87 322 *e*PKIKP **PKPdf** 08 14 31.8 -3.3
LPSR pmax pmax
comp=Z,30nm,0.7s
NCK Nalchik 142.89 306 *i* PKIKP **PKPdf** 08 14 33.1 -2.4
GOF Gofitskoye 142.94 309⇑ *i* PKIKP **PKPdf** 08 14 32.9 -2.6
GOF pmax pmax
comp=Z,97nm,0.9s
ONI Oni 143.16 305 P PKPbc 08 14 34.4 +0.5
ONI Oni 143.16 305 PKIKP PKPbc 08 14 34.4 +0.6
BGD Bogdanovka 143.25 303 P **PKPdf** 08 14 36.0 -0.5
AKH Akhalkalaki 143.31 303 P PKPbc 08 14 34.6 +0.1
AKH Akhalkalaki 143.31 303 ⇓ *i* P PKPbc 08 14 34.7 +0.3
AKH Akhalkalaki 143.31 303 PKIKP PKPbc 08 14 34.6 +0.2
KBZ Khabaz 143.34 307 PKP PKPbc 08 14 34.3 +0.2
comp=Z,26nm,0.9s,baz=134,slow=0.5,SNR=27
VSR Storozhevoye 143.35 320 *e*PKIKP PKPbc 08 14 33.4 -0.5
VSR pmax pmax
comp=Z,120nm,1.6s
KIV Kislovodsk 143.44 307 *i* PKIKP PKPbc 08 14 34.8 +0.2
KIV *e*SS SS 08 36 04.9 -7.0
KIV pmax pmax
comp=Z,49nm,0.9s
KIV Kislovodsk 143.44 307 *e*PKPpre PKPbc 08 14 34.4 -0.2
NEY Neytrino 143.56 306 *e*PKIKP PKPbc 08 14 35.0 -0.1
TBLU Trondheim 144.06 353 *e*PKPdf **PKPab** 08 14 34.8 -0.3
ARTV Artvin 144.51 303 *e*PKPbc **PKPdf** 08 14 38.7 0.0
VSU Vasula 144.69 337 *d* PKIKP PKPbc 08 14 37.5 -0.1
VSU pmax pmax
comp=Z,2μm,1.7s
MOL Molde 144.97 355 *e*PKPbc PKPbc 08 14 38.3 -0.1
DOMB Dombas 145.36 354 *e*PKPdf **PKPdf** 08 14 39.4 +0.2
DOMB *ep*PKPdf **pPKPdf** 08 15 43.2 +0.5
AKN Aaknes 145.40 356 *e*PKPdf **PKPbc** 08 14 39.9 +0.2
SOC Sochi 145.62 308 *e*PKP2 **PKPbc** 08 14 41.0 0.0
SOC pmax pmax
comp=Z,69nm,0.6s
MARD Mardin 145.87 296 *e*PKPdf **PKPbc** 08 14 42.0 -0.2
NC303 NORSAR Array S 145.90 352 *e*PKPdf **PKPdf** 08 14 40.5 +0.3
NC204 NORSAR Array S 145.93 352 *e*PKPdf **PKPbc** 08 14 41.3 -0.1
NC405 NORSAR Array S 145.96 351 *e*PKPdf **PKPbc** 08 14 41.2 -0.3
MZRK Al-Mazaregh 146.07 294 *e*P **PKPab** 08 14 43.8 +0.1
NB201 NORSAR Array S 146.08 352 *e*PKPdf **PKPdf** 08 14 40.9 +0.4
FOO Floro 146.08 357 *e*PKPdf **PKPbc** 08 14 41.6 -0.1
NB2 NORSAR Subarra 146.10 352 PKP **PKPbc** 08 14 41.3 -0.6
baz=24,slow=3.3
NB2 NORSAR Subarra 146.10 352 PKP **PKPbc** 08 14 41.3 -0.6
comp=Z,59nm,0.7s,baz=24,slow=3.3
NOA NORSAR Array B 146.10 352 PKPbc **PKPdf** 08 14 40.8 +0.2
comp=Z,83nm,0.9s,baz=16,slow=4.6,SNR=77
NBO02 NORSAR Array S 146.14 352 *e*PKPdf **PKPdf** 08 14 40.2 -0.4
NBO00 NORSAR Array S 146.16 352 *e*PKPdf **PKPbc** 08 14 42.0 -0.1
NAO01 NORSAR Array S 146.33 352 *e*PKPdf **PKPbc** 08 14 42.4 -0.1
NC602 NORSAR Array S 146.35 351 *e*PKPdf **PKPdf** 08 14 41.6 +0.6
NC602 NORSAR Array S 146.35 351 *e*PKPdf **PKPdf** 08 14 41.5 +0.6
HYA Hoyanger 146.46 356 *e*PKPdf **PKPbc** 08 14 42.3 -0.6
SFNV Sufian 146.47 295 *e*P **PKPbc** 08 14 43.0 -0.9
SUE Sulen 146.64 357 *e*PKPbc **PKPbc** 08 14 43.4 0.0
ANN Anapa 146.84 310 *d* PKP2 **PKPbc** 08 14 44.5 0.0
ANN pmax pmax
comp=Z,243nm,1.0s
IZAR Zarasai 146.90 334 *e*P **PKPbc** 08 14 44.8 +0.5
IZAR IAmb IAmb 08 14 45.6
comp=Z,89nm,1.0s
IDID Didziasalis 147.03 334 *e*P **PKPbc** 08 14 44.9 +0.3
IDID IAmb IAmb 08 14 45.8
comp=Z,51nm,1.0s
ISAL Salakas 147.08 334 *e*P **PKPbc** 08 14 45.2 +0.5
ISAL IAmb IAmb 08 14 46.1
comp=Z,48nm,0.9s
MICGM Minsk 147.14 332⇑ *e*P **PKPdf** 08 14 43.0 +0.6
MICGM PM 08 14 44.0
comp=Z,0.3nm,1.0s
MNK Minsk 147.14 332⇑ *e*PKIKP **PKPdf** 08 14 43.0 +0.6
MNK pmax pmax
comp=Z,340nm,1.0s
ASK Askoy 147.19 357 *e*PKPbc **PKPbc** 08 14 44.9 0.0
IIGN Ignalina 147.20 334 *e*P **PKPbc** 08 14 45.2 0.0
IIGN IAmb IAmb 08 14 45.9
comp=Z,77nm,1.0s
OSL Oslo 147.23 352 *e*PKPbc **PKPbc** 08 14 45.1 0.0
BER Bergen 147.28 357 *e*PKPbc **PKPbc** 08 14 45.3 +0.1
NACGM Naroch 147.31 333 *e*P **PKPdf** 08 14 44.0 +1.3
NACGM PM 08 14 45.0
comp=Z,0.4nm,0.8s
LRW Lerwick 147.57 3 *e*P **PKPbc** 08 14 45.2 -0.7
KONO Kongsberg 147.65 352 *e*PKPab **PKPab** 08 14 49.7 +0.6
KONO Kongsberg 147.65 352 *e*PKP2 **PKPbc** 08 14 46.0 -0.2
KONO Kongsberg 147.65 352 *e*PKPbc **PKPbc** 08 14 46.0 -0.2
ODD1 Odda 147.67 355 *e*PKPbc **PKPbc** 08 14 46.4 0.0
BLS5 Blasjo 148.17 355 *e*PKPbc **PKPbc** 08 14 48.1 +0.5
KMY Karmoy 148.46 356 *e*PKPbc **PKPbc** 08 14 48.7 +0.4
STAV Stavanger 148.71 356 *e*PKPbc **PKPbc** 08 14 49.0 +0.1
ROOS tl_alroos 148.89 291 *e*P **PKPbc** 08 14 49.8 -0.5
RABH Abou Rabah 148.95 291 *e*P **PKPbc** 08 14 50.9 +0.5
AKASG Malin Array Be 148.99 325 PKP **PKPdf** 08 14 44.4 -1.1
comp=Z,9.8nm,1.0s,baz=48,slow=2.1,SNR=30
AKASG PKPbc **PKPbc** 08 14 49.4 -0.5
comp=Z,73nm,0.6s,baz=43,slow=2.7,SNR=28
AKBB Malin Array Si 148.99 325 *e*PKIKP **PKPdf** 08 14 45.0 -0.5
AKBB *e* 08 14 55.1
AKBB Malin Array Si 148.99 325 *e*PKPdf **PKPdf** 08 14 45.0 -0.5
AKBB *e*PKPbc **PKPbc** 08 14 49.7 -0.2
AKBB *e*PKPab **PKPab** 08 14 55.1 +0.2
SIM Simferopol' 149.00 312 *e*PKHKP PKPpre 08 14 47.0
SIM pmax pmax
comp=Z,71nm,0.8s
KIEV Kiev 149.00 325 *e*PKIKP **PKPdf** 08 14 44.2 -1.4
KIEV *e* 08 14 55.2
KIEV Kiev 149.00 325 *e*PKPdf **PKPdf** 08 14 44.2 -1.4
KIEV *e*PKPbc **PKPbc** 08 14 49.9 0.0
KIEV *e*PKPab **PKPab** 08 14 55.2 +0.3
AK11 Malin Array Si 149.03 325 *e*PKPdf **PKPdf** 08 14 44.9 -0.7
AK11 *e*PKPbc **PKPbc** 08 14 50.1 +0.1
AK11 *e*PKPab **PKPab** 08 14 55.3 +0.3
HOMB Homborsund 149.12 353 *e*PKPbc **PKPbc** 08 14 50.3 +0.4
SNART Snartemo 149.18 354 *e*PKPbc **PKPbc** 08 14 50.4 +0.3
DRWC Darouich 149.22 296 *e*P **PKPbc** 08 14 51.5 +0.4
MLA1 Latheron 149.26 5 ⇓ *e*P **PKPbc** 08 14 50.2 -0.1
RRH Rhenigidale 149.28 9 ⇓ *e*P **PKPbc** 08 14 50.3 0.0
SUW Suwalki 149.38 335 *e*PKP **PKPbc** 08 14 50.7 0.0
SUW Suwalki 149.38 335 *e*PKP2 **PKPbc** 08 14 50.7 0.0
SALA Sala 149.38 288 *e*P **PKPbc** 08 14 51.2 -0.6
BTCH Batrach 149.44 294 *e*P **PKPbc** 08 14 50.0 -1.6
RRR Rubha Reidh 149.46 8 ⇓ *e*P **PKPbc** 08 14 50.6 -0.2
MARH Ras Al Marh 149.57 291 *e*P **PKPdf** 08 14 46.0 -1.5
TOTH TOTAH 149.63 289 *e*P **PKPbc** 08 14 51.9 -0.2
QASN Qassioun 149.75 290 *e*P **PKPbc** 08 14 54.7 +2.2
ARNB Al Arnab 149.86 294 *e*P **PKPbc** 08 14 51.0 -1.7
KAC Achnashellach 149.87 7 ⇓ *e*P **PKPbc** 08 14 51.8 0.0
KAC *e*P **PKiKP** 08 14 52.1 -0.6
KPL Plockton 149.98 8 ⇓ *e*P **PKPbc** 08 14 52.1 0.0
MCD Coleburn Disti 149.99 5 ⇓ *e*P **PKPbc** 08 14 51.5 -0.6
MCD *e*P **PKiKP** 08 14 51.8 -1.2
HWQ Hawqa 150.00 291 *e*P **PKPbc** 08 14 53.5 +0.5
MDO Dochfour 150.03 7 *e*P **PKPbc** 08 14 51.3 -1.0
MDO *e*P **PKiKP** 08 14 51.4 -1.6
RCY Rachaya 150.12 290 *e*P **PKPbc** 08 14 54.4 +1.0
BHL Bhannes 150.26 290 *e*P **PKPbc** 08 14 54.6 +0.9
MME1 Meikle Cairn 150.28 5 ⇓ *e*P **PKPbc** 08 14 52.2 -0.7
DQRL Deir Qamar 150.34 290 *e*P **PKPbc** 08 14 54.9 +1.1
ILGA Ilgaz 150.59 305 *e*PKPdf **PKPdf** 08 14 49.4 +0.7
ILGA *e*PKPbc **PKiKP** 08 14 55.1 +0.1
DRUM Mains of Drumt 150.71 5 *e*P **PKPbc** 08 14 53.3 -0.6
MUD Monsted U'grnd 150.82 351 *i* P **PKPbc** 08 14 54.2 +0.1
MUD Monsted U'grnd 150.82 351 *i* PKIKP **PKPbc** 08 14 54.2 +0.1
SORM Soroca 150.97 322 ⇓ *i* P **PKPbc** 08 14 54.2 -0.5
SORM Soroca 150.97 322 ⇓ PKIKP **PKPbc** 08 14 54.2 -0.5
BR131 Keskin Array S 151.00 303 *e*PKPdf **PKPdf** 08 14 49.2 -0.1
BR131 *e*PKPbc **PKPbc** 08 14 55.2 -0.1
BRTR Keskin Array B 151.00 303 PKP **PKPdf** 08 14 48.6 -0.7
comp=Z,1.0nm,0.8s,baz=229,slow=1.3,SNR=4.7
BRTR PKPbc **PKPbc** 08 14 54.9 -0.4
comp=Z,22nm,0.7s,baz=136,slow=4.1,SNR=64
BSD Bornholm Skovb 151.02 344 ⇓ *i* P **PKPbc** 08 14 54.5 -0.1
comp=Z,96nm,0.8s
BSD *i* 08 15 02.6
BSD Bornholm Skovb 151.02 344 ⇓ *i* PKIKP **PKPbc** 08 14 54.5 -0.1
BSD *i* 08 15 02.6
BSD pmax pmax
comp=Z,96nm,0.8s
COP Copenhagen 151.03 347 *i* P **PKPbc** 08 14 54.9 +0.3
comp=Z,73nm,0.6s
COP Copenhagen 151.03 347 *i* PKIKP **PKPbc** 08 14 54.9 +0.3
COP pmax pmax
comp=Z,73nm,0.6s
EDU Dundee 151.03 5 ⇓ *e*P **PKPbc** 08 14 54.5 -0.1
EAB Aberfoyle 151.26 7 ⇓ *e*P **PKPbc** 08 14 55.0 -0.2
KIS Kishinev 151.33 319 *ke*PKIKP **PKPbc** 08 14 54.0 -1.6
KIS *i* 08 15 04.0
KIS pmax pmax
comp=Z,200nm,2.0s
KIS pmax pmax
comp=Z,200nm,2.0s
LLD Lille Linde 151.40 347 *i* P **PKPbc** 08 14 56.1 +0.7
comp=Z,230nm,0.7s
LLD Lille Linde 151.40 347 *i* PKIKP **PKPbc** 08 14 56.1 +0.7
LLD pmax pmax
comp=Z,230nm,0.7s
ANTO Ankara 151.59 303 *e*PKIKP **PKPdf** 08 14 50.5 +0.4
ANTO Ankara 151.59 303 *e*PKPdf **PKPdf** 08 14 50.5 +0.4
ANTO *e*PKPbc **PKiKP** 08 14 57.0 0.0
BR231 Keskin MP Arra 151.61 303 *e*PKPdf **PKPdf** 08 14 48.0 -2.1
BR231 *e*PKPdf **PKPdf** 08 14 50.3 +0.2
BR231 *e*PKPbc **PKPbc** 08 14 56.0 -0.7
BR231 *e*PKPbc **PKPbc** 08 14 57.4 +0.7
PGBU Glenifferbraes 151.62 7 *e*P **PKPbc** 08 14 55.6 -0.4
EDI Edinburgh 151.64 6 ⇓ *e*P **PKPbc** 08 14 55.7 -0.3
ESY Stoneypath 151.69 5 ⇓ *e*P **PKPbc** 08 14 55.9 -0.3
BEL Belsk 151.98 334 *e*PKP **PKPbc** 08 14 57.8 +0.9
BEL Belsk 151.98 334 *e*PKIKP **PKPbc** 08 14 57.8 +0.9
GKP Gorka Klasztor 152.02 340 *e*PKP **PKPbc** 08 14 57.3 +0.4
GKP Gorka Klasztor 152.02 340 *e*PKIKP **PKPbc** 08 14 57.3 +0.4
CSS Mathiatis 152.09 293 *e*PKPbc **PKPbc** 08 14 57.9 +0.1
LVV L'vov 152.10 328 *e*PKIKP **PKPbc** 08 14 58.0 +0.7
ESK Eskdalemuir 152.24 6 *e*P **PKPbc** 08 14 56.8 -0.6
ESK Eskdalemuir 152.24 6 *e*PKIKP **PKPbc** 08 14 57.7 +0.3
ESK *e* 08 15 08.5
ESK Eskdalemuir 152.24 6 *e*PKPbc **PKPbc** 08 14 57.7 +0.3
ESK *e*PKPab **PKPab** 08 15 08.5 +0.3
TLCR 152.27 316 ⇑ *i* P **PKPbc** 08 14 58.0 +0.2
TLCR 152.27 316 ⇑ PKIKP **PKPbc** 08 14 58.0 +0.2
ECK Cauldkaine Hil 152.38 6 ⇓ *e*P **PKPbc** 08 14 57.1 -0.6
BHH Howats Hill 152.46 6 *e*P **PKPbc** 08 14 57.8 -0.1
GAL1 Galloway 152.52 8 ⇓ *e*P **PKPbc** 08 14 57.4 -0.6
PRAR RASCA 152.58 322⇑ *i* P **PKPbc** 08 14 58.9 +0.5
CFR Carcaliu 152.69 317 ⇓ *i* P **PKPbc** 08 14 58.8 +0.1
CFR Carcaliu 152.69 317 ⇓ PKIKP **PKPbc** 08 14 58.8 +0.1
BBO1 Bothel 152.81 6 *eP* **PKPbc** 08 14 58.5 -0.2
KWP Kalwaria Pacla 152.84 329 *e*PKPdf **PKPdf** 08 14 51.5 -0.1
KWP *e*PKPab **PKiKP** 08 14 59.4 +0.3
KWP *e*PKPbc **PKPab** 08 15 11.8 +0.8
KWP Kalwaria Pacla 152.84 329 *e*PKIKP **PKPdf** 08 14 51.5 -0.1
TIRR Tirgusor 152.88 315 ⇑ *i* P **PKPbc** 08 14 59.3 +0.2
TIRR Tirgusor 152.88 315 *e*PKIKP **PKPbc** 08 14 58.7 -0.4
TIRR Tirgusor 152.88 315 *e*PKPbc **PKPbc** 08 14 58.7 -0.4
TIRR *e*PKPab **PKPab** 08 15 12.4 +1.1
BUR08 Bucovina Ar. S 152.96 324 *e*PKPbc **PKPbc** 08 14 58.9 -0.5
BUR08 *e*PKPab **PKPab** 08 15 12.6 +0.9
BURAR Bucovina Array 152.97 323 ⇓ *i* P **PKPbc** 08 14 59.9 +0.5
BURAR Bucovina Array 152.97 323 ⇓ PKIKP **PKPbc** 08 14 59.9 +0.5
TLB Topalu 153.04 316 ⇑ *i* P **PKPbc** 08 15 00.2 +0.7
TLB Topalu 153.04 316 ⇑ PKIKP **PKPbc** 08 15 00.2 +0.7
HARR Harsova 153.06 316 ⇑ *i* P **PKPbc** 08 15 00.2 +0.7
HARR Harsova 153.06 316 ⇑ PKIKP **PKPbc** 08 15 00.2 +0.7
VRI Vrincioaia 153.16 319 ⇑ *i* P **PKPbc** 08 14 59.4 -0.4
VRI Vrincioaia 153.16 319 ⇑ PKIKP **PKPbc** 08 14 59.4 -0.4
PLOR Plostina 153.22 319 ⇓ *i* P **PKPbc** 08 14 59.7 -0.2
PLOR Plostina 153.22 319 ⇓ PKIKP **PKPbc** 08 14 59.7 -0.2
BOLV Bolvadin 153.28 302 *e*PKPab **PKPab** 08 15 14.3 +0.9
OJC Ojcow 153.64 333 *e*PKPdf **PKPdf** 08 14 51.9 -0.7
OJC *e*PKPab **PKiKP** 08 15 00.9 +0.2
OJC *e*PKPbc **PKPab** 08 15 14.5 +0.2
OJC Ojcow 153.64 333 *e*PKIKP **PKPdf** 08 14 52.6 0.0
OJC Ojcow 153.64 333 *e*PKPdf **PKPdf** 08 14 52.6 0.0
OJC *e*PKPbc **PKiKP** 08 15 00.9 +0.2
STHS Stebnicka Huta 153.65 330 *e*PKIKP **PKPdf** 08 14 52.8 +0.1
STHS Stebnicka Huta 153.65 330 *e*PKP **PKPdf** 08 14 52.8 +0.1
STHS *e* 08 15 01.1
STHS *e* 08 15 15.4
ISR Istrita 153.68 318 ⇓ *i* P **PKPbc** 08 15 00.1 -0.9
ISR Istrita 153.68 318 ⇓ PKIKP **PKPbc** 08 15 00.1 -0.9
UZH Uzhgorod 153.75 328 *e*PKIKP **PKPbc** 08 15 00.8 -0.1
UZH *e* 08 15 12.8
UZH *e* 08 16 02.6
MLR Muntele Rosu 153.83 319 ⇑ *i* P **PKPbc** 08 15 00.6 -0.8
MLR Muntele Rosu 153.83 319 *e*PKIKP **PKPdf** 08 14 53.1 -0.2
MLR Muntele Rosu 153.83 319 *e*PKPdf **PKPdf** 08 14 53.1 -0.2
MLR *e*PKPbc **PKiKP** 08 15 01.7 +0.3
MLR *e*PKPab **PKPab** 08 15 16.4 +0.9
ISP Isparta 153.83 300 ⇑ *i* P **PKPab** 08 15 15.6 -0.2
ISP Isparta 153.83 300 ⇑ PKP2 **PKPab** 08 15 15.6 -0.2
ISP Isparta 153.83 300 *e*PKPbc **PKPbc** 08 15 01.1 -0.5
DOPR Dopca 153.87 320 ⇑ *i* P **PKPbc** 08 15 02.2 +0.9
CRVS Cervenica-Dubn 153.93 329 *e*PKIKP **PKPdf** 08 14 53.1 -0.1
CRVS *e* 08 15 16.3
CRVS Cervenica-Dubn 153.93 329 *e*PKP **PKPdf** 08 14 53.0 -0.1
CRVS *e* 08 15 02.0
CRVS *e* 08 15 16.3
TRPA Tarpa 153.98 327 ⇓ *e*PKPdf **PKPab** 08 15 16.4 +0.6
SECR 154.01 318 ⇓ *i* P **PKPbc** 08 15 02.6 +1.0
NIE Niedzica 154.05 332 *e*PKPdf **PKPdf** 08 14 53.5 +0.2
NIE *e*PKPab **PKiKP** 08 15 02.5 +0.9
NIE *e*PKPbc **PKPab** 08 15 16.7 +0.5
NIE Niedzica 154.05 332 *e*PKIKP **PKPdf** 08 14 53.5 +0.2
VOIR 154.38 320 ⇑ *i* P **PKPbc** 08 15 02.5 0.0
VOIR 154.38 320 ⇑ PKIKP **PKPbc** 08 15 02.5 0.0
KSP Ksiaz 154.41 338 *e*PKPdf **PKPdf** 08 14 52.4 -1.3
KSP *e*PKPab **PKiKP** 08 15 02.7 +0.5
KSP *e*PKPbc **PKPab** 08 15 18.3 +0.8
KSP Ksiaz 154.41 338 *e*PKIKP **PKPdf** 08 14 52.4 -1.3
OKC Ostrava-Krasne 154.59 335 *e*PKPab **PKPab** 08 15 19.0 +0.6
OKC Ostrava-Krasne 154.59 335 *e*PKP2 **PKPab** 08 15 19.0 +0.6
LANS Liptovska Anna 154.61 332 *e*PKIKP **PKPdf** 08 14 54.9 +0.8
LANS Liptovska Anna 154.61 332 *e*PKP **PKPdf** 08 14 54.9 +0.8
LANS *e* 08 15 04.0
LANS *e* 08 15 19.5
LLW Llanuwchllyn 154.62 8 *eP* **PKPbc** 08 15 06.0 +3.4
ARR Arges 154.65 320 ⇑ *i* P **PKPbc** 08 15 04.4 +1.4
KECS Kecovo 154.68 330 *e*PKP2 **PKPab** 08 15 19.6 +0.8
KECS Kecovo 154.68 330 *e*PKP **PKPab** 08 15 19.6 +0.8
UPC Upice 154.79 338 *e*PKPDF **PKPdf** 08 14 54.5 +0.3
UPC ⇑ *e*PKP **PKiKP** 08 15 03.8 +0.7
UPC *e*PKPAB **PKPab** 08 15 20.3 +1.1
UPC Upice 154.79 338 *e*PKIKP **PKPdf** 08 14 54.5 +0.3
DRGR 154.80 325 ⇑ *i* P **PKPbc** 08 15 03.3 0.0
DRGR 154.80 325 ⇑ PKIKP **PKPbc** 08 15 03.4 +0.1
MORC Moravsky Berou 154.87 335 ⇑ *i* P **PKPab** 08 15 20.5 +0.9
MORC Moravsky Berou 154.87 335 ⇑ PKP2 **PKPab** 08 15 20.5 +0.9
KRLC Kraliky 154.89 337 *e*PKPAB **PKPab** 08 15 20.7 +1.0
KRLC Kraliky 154.89 337 *e*PKP2 **PKPab** 08 15 20.7 +1.0
AKAS Kas 154.90 297 *e*PKPbc **PKPbc** 08 15 03.9 0.0
CWF Charnwood Fore 154.95 4 *eP* **PKPbc** 08 15 00.9 -2.4
CLL Collm 154.96 343 *e*PKIKP **PKPdf** 08 14 54.1 -0.4
CLL *e* 08 15 19.6
CLL Collm 154.96 343 *e*PKPdf **PKPdf** 08 14 54.0 -0.4
comp=Z,12nm,1.3s
CLL ⇓ *i* PKPdiff **PKiKP** 08 15 03.5 +0.2
comp=Z,24nm,0.9s
CLL *i* PKPab **PKPab** 08 15 19.3 -0.6
comp=Z,49nm,1.1s
CLL *ep*PKPdf **pPKPdf** 08 15 58.0 -0.1
CLL Collm 154.96 343 *e*PKPdf **PKPdf** 08 14 54.0 -0.4
CLL *e*PKPbc **PKiKP** 08 15 03.6 +0.2
CLL *e*PKPab **PKPab** 08 15 19.6 -0.3
LOT Lotru 155.09 321 ⇑ *i* P **PKPab** 08 15 19.7 -1.2
BRG Berggiesshubel 155.10 341 *i* PKP **PKPdf** 08 14 54.6 -0.1
comp=Z,21nm,1.3s
BRG *i* 08 15 03.8
comp=Z,15nm,0.8s
BRG *i* 08 15 20.9
comp=Z,45nm,1.1s
BRG Berggiesshubel 155.10 341 *i* PKIKP **PKPdf** 08 14 54.6 -0.1
BRG *i* 08 15 20.9
BRG pmax pmax
comp=Z,21nm,1.3s
BRG pmax pmax
comp=Z,45nm,1.1s
PVCC Panska Ves 155.22 340 *e*PKPDF **PKPdf** 08 14 54.9 +0.1
PVCC ⇑ *e*PKP PKPbc 08 15 04.8
PVCC *e*PKPAB **PKPab** 08 15 22.2 +1.1
PVCC Panska Ves 155.22 340 *e*PKIKP **PKPdf** 08 14 54.9 +0.1
PSZ Piszkesteto 155.36 330 ⇑ *i* P PKPdf 08 15 04.7 +9.5
PSZ Piszkesteto 155.36 330 *e*PKIKP **PKPdf** 08 14 55.3 +0.1
PSZ Piszkesteto 155.36 330 ⇑ *e*PKPdf **PKPab** 08 15 22.6 +0.7
PSZ Piszkesteto 155.36 330 *e*PKPdf **PKPdf** 08 14 55.3 +0.1
VYHS Vyhne 155.38 332 *e*PKPbc **PKPab** 08 15 22.4 +0.5
VYHS Vyhne 155.38 332 *e*PKP **PKPab** 08 15 22.4 +0.5
MCH1 Michaelchurch 155.53 7 *eP* PKPdf 08 15 03.8 +8.6
VRAC Vranov 155.60 336 ⇑ *i* P **PKPab** 08 15 23.9 +1.1
VRAC Vranov 155.60 336 ⇑ PKP2 **PKPab** 08 15 23.9 +1.1
PRA Prague 155.67 340 *e*PKPAB **PKPab** 08 15 23.8 +0.8
PRA Prague 155.67 340 *e*PKP2 **PKPab** 08 15 23.8 +0.8
SIRR Siria 155.69 325 ⇓ *i* P PKPdf 08 15 03.9 +8.3
GOPC GO Pecny, Ondr 155.69 339 *e*PKPDF **PKPdf** 08 14 55.6 +0.1
GOP

GEA0	**GERESS Array S**	**156.98**	**339**	*e*PKPdf	**PKPdf**	**08 14 56.4**	**-0.9**
CONA	**Conrad Observa**	**157.02**	**335**	*i* PKPab	**PKPab**	**08 15 29.7**	**+0.7**
	comp=Z,51nm,1.4s,SNR=9.7						
SNF	**Seneffe**	**157.19**	**356**	PKPab	**PKPab**	**08 15 29.8**	**+0.3**
BCLA	**Clavier**	**157.20**	**354**	PKPab	**PKPab**	**08 15 29.6**	**+0.1**
DOU	**Dourbes**	**157.58**	**355**	PKPab	**PKPab**	**08 15 30.4**	**-0.8**
MOA	**Molln**	**157.66**	**337**	*i* PKPab	**PKPab**	**08 15 32.7**	**+1.0**
	comp=Z,26nm,1.1s,SNR=9.2						
LIC	**Lamto**	**157.66**	**162**	*e*PKP1	**PKPdf**	**08 14 58.2**	**-0.9**
	comp=Z,47nm,1.2s						
ARSA	**Arzberg**	**157.71**	**335**	*i* PKPab	**PKPab**	**08 15 32.5**	**+0.5**
	comp=Z,8.0nm,0.7s						
WLF	**Walferdange**	**157.85**	**352**	PKPab	**PKPab**	**08 15 32.9**	**+0.5**
KIC	**Kosan Boka**	**157.87**	**163**	*e*PKP1	**PKPdf**	**08 14 58.7**	**-0.7**
	comp=Z,98nm,1.7s						
TIC	**Toumodi**	**158.07**	**162**	*e*PKP1	**PKPdf**	**08 14 59.6**	**0.0**
DBIC	**Dimbokro**	**158.14**	**162**	PKP	**PKPdf**	**08 14 59.5**	**-0.1**
	comp=Z,5.3nm,0.8s,baz=137,slow=2.0,SNR=5.5						
DBIC	**Dimbokro**	**158.14**	**162**	*e*PKPdf	**PKPdf**	**08 14 59.9**	**+0.2**
VAY	**Valandovo**	**158.16**	**314**	⇑*i*PKP	**PKPab**	**08 15 34.8**	**+0.7**
SOKA	**Soboth**	**158.37**	**334**	*i* PKPab	**PKPab**	**08 15 35.0**	**+0.1**
	comp=Z,32nm,1.0s,SNR=11						
SKO	**Skopje**	**158.51**	**316**	⇑*e*PKP	**PKPab**	**08 15 37.2**	**+1.6**
KBA	**Koelnbreinsper**	**158.64**	**338**	*i* PKPab	**PKPab**	**08 15 36.7**	**+0.5**
	comp=Z,17nm,0.7s,SNR=6.5						
OBKA	**Obir**	**158.70**	**335**	*i* PKPab	**PKPab**	**08 15 36.5**	**+0.2**
	comp=Z,15nm,0.8s						
MYKA	**Terra Mystica**	**158.92**	**337**	*i* PKPab	**PKPab**	**08 15 37.0**	**-0.3**
	comp=Z,36nm,0.7s,SNR=12						
WATA	**Walderalm**	**158.96**	**341**	*i* PKPab	**PKPab**	**08 15 37.8**	**+0.3**
	comp=Z,39nm,1.1s,SNR=5.1						
WTTA	**Wattenberg**	**159.01**	**341**	*i* PKPab	**PKPab**	**08 15 38.7**	**+1.0**
	comp=Z,24nm,0.7s,SNR=7.0						
RETA	**Reutte**	**159.05**	**343**	*i* PKPab	**PKPab**	**08 15 38.2**	**+0.4**
	comp=Z,27nm,1.0s,SNR=7.2						
MOTA	**Moosalm**	**159.09**	**342**	*i* PKPab	**PKPab**	**08 15 38.8**	**+0.7**
	comp=Z,23nm,1.0s,SNR=6.4						
LJU	**Ljubljana**	**159.09**	**334**	*e*PKPdf	**PKPdf**	**08 14 58.8**	**-1.1**
LJU				*i* PKPab	**PKPab**	**08 15 38.0**	**+0.1**
ECH	**Echery**	**159.13**	**350**	PKP	**PKPab**	**08 15 37.9**	**-0.1**
ABTA	**Abfaltersbach**	**159.20**	**339**	*i* PKPab	**PKPab**	**08 15 38.6**	**+0.1**
	comp=Z,32nm,0.9s,SNR=8.2						
BOJS	**Bojanci**	**159.25**	**332**	*e*PKPdf	**PKPdf**	**08 14 59.4**	**-0.6**
BOJS				*i* PKPab	**PKPdf**	**08 15 38.1**	**-0.6**
THEF	**They Montfort**	**159.29**	**352**	PKP	**PKPab**	**08 15 39.0**	**+0.3**
OHR	**Ohrid**	**159.40**	**315**	*i* PKP	**PKPab**	**08 15 40.1**	**+0.5**
DAVA	**Damuels**	**159.46**	**344**	*i* PKPab	**PKPab**	**08 15 40.0**	**+0.3**
	comp=Z,22nm,0.9s						
MOF	**Molkenrain**	**159.49**	**349**	PKP	**PKPab**	**08 15 39.7**	**0.0**
FETA	**Feichten**	**159.49**	**342**	*i* PKPab	**PKPab**	**08 15 40.0**	**+0.2**
	comp=Z,27nm,1.7s,SNR=5.5						
PDG	**Podgorica**	**159.52**	**320**	⇑*i*P	**PKPab**	**08 15 40.8**	**+0.9**
LOMF	**Lomont**	**160.02**	**350**	PKP	**PKPab**	**08 15 42.0**	**0.0**
AGO	**Saint Agoulin**	**161.70**	**357**	PKP	**PKPab**	**08 15 50.8**	**+1.5**
PLDF	**La Plantade**	**161.75**	**356**	PKP	**PKPab**	**08 15 50.9**	**+1.3**
LBL	**Lubilhac**	**162.51**	**356**	PKP	**PKPab**	**08 15 54.5**	**+1.6**
PGAV	**Gavieira, Arco**	**163.67**	**27**	*e*PKPdf	**PKPdf**	**08 15 05.3**	**+0.4**
MVO	**Moncorvo**	**164.84**	**26**	*e*PKPdf	**PKPdf**	**08 15 06.8**	**+0.9**
MTE	**Manteigas**	**165.28**	**29**	*e*PKPdf	**PKPdf**	**08 15 06.8**	**+0.5**
MTE	**Manteigas**	**165.28**	**29**	*e*PKPdf	**PKPdf**	**08 15 07.2**	**+0.9**
TOA0	**Torodi Ar. Sit**	**165.47**	**180**	*e*PKPdf	**PKPdf**	**08 15 06.5**	**-0.6**
TOA0				*e*PKPdf	**PKPdf**	**08 15 06.5**	**-0.6**
TORD	**Torodi Ar. Bea**	**165.47**	**180**	PKP	**PKPdf**	**08 15 06.3**	**-0.8**
	comp=Z,11nm,1.1s,baz=224,slow=1.4,SNR=33						
TORD				PKPab	**PKPab**	**08 16 06.4**	**-0.1**
	comp=Z,5.1nm,0.8s,baz=175,slow=3.3,SNR=14						
TORD				pPKPab	**pPKPab**	**08 17 09.5**	**+2.4**
	comp=Z,3.1nm,1.0s,baz=179,slow=3.8,SNR=2.7						
PCBR	**Castelo Branco**	**165.77**	**30**	*e*PKPdf	**PKPdf**	**08 15 07.4**	**+0.8**
PMRV	**Marv??o**	**166.14**	**31**	*e*PKPdf	**PKPdf**	**08 15 07.4**	**+0.4**
EVO	**Evora**	**166.55**	**35**	*e*PKPdf	**PKPdf**	**08 15 08.1**	**+0.8**
PNCL	**Nicolau / Gran**	**166.60**	**37**	*e*PKPdf	**PKPdf**	**08 15 08.4**	**+1.1**
PTEO	**Sao Teotonio**	**166.90**	**39**	*e*PKPdf	**PKPdf**	**08 15 08.6**	**+1.0**
ES19	**SONSECA Array**	**167.22**	**20**	*e*PKPdf	**PKPdf**	**08 15 08.2**	**+0.4**
PAB	**San Pablo**	**167.23**	**21**	*e*PKIKP	**PKPdf**	**08 15 09.0**	**+1.1**
PAB	**San Pablo**	**167.23**	**21**	*e*PKPdf	**PKPdf**	**08 15 09.0**	**+1.1**
ESDC	**Sonseca Array**	**167.23**	**20**	PKP	**PKPdf**	**08 15 07.7**	**-0.2**
	comp=Z,0.6nm,0.4s,baz=342,slow=2.3,SNR=14						
ESDC				PKPab	**PKPab**	**08 16 14.5**	**+0.6**
	comp=Z,5.0nm,0.7s,baz=327,slow=4.3,SNR=23						
ESDC				PP	**PP**	**08 20 01.3**	**-0.7**
	comp=Z,0.2nm,0.3s,baz=334,slow=4.8,SNR=4.0						
ESLA	**Sonseca Array**	**167.23**	**20**	*e*PKPdf	**PKPdf**	**08 15 08.8**	**+1.0**
PBAR	**Barrancos**	**167.31**	**33**	*e*PKPdf	**PKPdf**	**08 15 08.5**	**+0.6**
PBDV	**Barranco-do-Ve**	**167.56**	**38**	*e*PKPdf	**PKPdf**	**08 15 09.6**	**+1.5**
TAM	**Tamanrasset**	**173.94**	**216**	*e*PKIKP	**PKPdf**	**08 15 12.5**	**+0.4**
TAM	**Tamanrasset**	**173.94**	**216**	*e*PKPdf	**PKPdf**	**08 15 12.5**	**+0.4**

*CSEM **07** 07:58:14.1,45°.62N×26°.42E,h159km,MD3.3/4*
BUC 07 07:58:14.1±0.9, 45°.62N×26°.42E, h159km±7km, MD3.3/4, 18C-21D, Error ellipse: s-maj=6.3km s-min=5.4km az=71.0, Romania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLOR	**Plostina**	**0.28**	**34**	⇓*i*P	Pn	07 58 35.5	-0.2
PLOR	**Plostina**	**0.28**	**34**	⇓*i*P	Pn	07 58 35.5	-0.2
PLOR				*i* S	Sn	07 58 52.0	-0.2
PLOR	**Plostina**	**0.28**	**34**	⇓*i*P	Pn	07 58 35.5	-0.2
PLOR				*i* S	Sn	07 58 52.0	-0.2
VRI	**Vrincioaia**	**0.33**	**41**	⇑*i*P	Pn	07 58 35.8	0.0
VRI	**Vrincioaia**	**0.33**	**41**	⇑*i*P	Pn	07 58 35.8	0.0
VRI				*i* S	Sn	07 58 51.8	-0.6
VRI	**Vrincioaia**	**0.33**	**41**	⇑*i*P	Pn	07 58 35.8	0.0
VRI				*i* S	Sn	07 58 51.8	-0.6
MLR	**Muntele Rosu**	**0.36**	**249**	⇑*i*P	Pn	07 58 36.2	+0.1
MLR	**Muntele Rosu**	**0.36**	**249**	⇑*i*P	Pn	07 58 36.2	+0.1
MLR				*i* S	Sn	07 58 52.1	-0.7
MLR	**Muntele Rosu**	**0.36**	**249**	⇑*i*P	Pn	07 58 36.2	+0.1
MLR				*i* S	Sn	07 58 52.1	-0.7
GRER		**0.46**	**122**	⇓*i*P	Pn	07 58 35.9	-0.3
GRER		**0.46**	**122**	⇓*i*P	Pn	07 58 35.9	-0.3
GRER				*i* S	Sn	07 58 51.3	-1.8
GRER		**0.46**	**122**	⇓*i*P	Pn	07 58 35.9	-0.3
GRER				*i* S	Sn	07 58 51.3	-1.8
ODBI	**Odobesti**	**0.47**	**72**	⇑*i*P	Pn	07 58 37.2	+1.0
ODBI	**Odobesti**	**0.47**	**72**	⇑*i*P	Pn	07 58 37.2	+1.0
ODBI				*i* S	Sn	07 58 52.4	-0.8
ODBI	**Odobesti**	**0.47**	**72**	⇑*i*P	Pn	07 58 37.2	+1.0
ODBI				*i* S	Sn	07 58 52.4	-0.8
ISR	**Istrita**	**0.51**	**170**	S	Sn	07 58 53.4	-0.3
ISR	**Istrita**	**0.51**	**170**	*i* S	Sn	07 58 53.4	-0.3
ISR	**Istrita**	**0.51**	**170**	*i* S	Sn	07 58 53.4	-0.3
VOIR		**0.98**	**260**	⇑*i*P	Pn	07 58 39.4	-0.2
VOIR		**0.98**	**260**	⇑*i*P	Pn	07 58 39.4	-0.2
VOIR				*i* S	Sn	07 58 58.3	-0.9
VOIR		**0.98**	**260**	⇑*i*P	Pn	07 58 39.4	-0.2
VOIR				*i* S	Sn	07 58 58.3	-0.9
ARR	**Arges**	**1.28**	**259**	⇓*i*P	Pn	07 58 43.3	+1.0
ARR	**Arges**	**1.28**	**259**	⇓*i*P	Pn	07 58 43.3	+1.0
ARR				*i* S	Sn	07 59 02.7	-1.2
ARR	**Arges**	**1.28**	**259**	⇓*i*P	Pn	07 58 43.3	+1.0
ARR				*i* S	Sn	07 59 02.7	-1.2
CFR	**Carcaliu**	**1.28**	**110**	⇓*i*P	Pn	07 58 42.3	+0.1
CFR	**Carcaliu**	**1.28**	**110**	⇓*i*P	Pn	07 58 42.3	+0.1
CFR				*i* S	Sn	07 59 02.5	-1.2
CFR	**Carcaliu**	**1.28**	**110**	⇓*i*P	Pn	07 58 42.3	+0.1
CFR				*i* S	Sn	07 59 02.5	-1.2
HARR	**Harsova**	**1.42**	**131**	⇓*i*P	Pn	07 58 43.8	+0.4
HARR	**Harsova**	**1.42**	**131**	⇓*i*P	Pn	07 58 43.8	+0.4
HARR	**Harsova**	**1.42**	**131**	⇓*i*P	Pn	07 58 43.8	+0.4
LEOM	**Leova**	**1.53**	**55**	⇑*i*P	Pn	07 58 44.9	+0.3
LEOM	**Leova**	**1.53**	**55**	⇑*i*P	Pn	07 58 44.9	+0.3
LEOM				*i* S	Sn	07 59 07.1	-0.9
LEOM	**Leova**	**1.53**	**55**	⇑*i*P	Pn	07 58 44.9	+0.3
LEOM				*i* S	Sn	07 59 07.1	-0.9
TLB	**Topalu**	**1.54**	**131**	⇓*i*P	Pn	07 58 45.1	+0.4
TLB	**Topalu**	**1.54**	**131**	⇓*i*P	Pn	07 58 45.1	+0.4
TLB				*i* S	Sn	07 59 06.7	-1.6
TLB	**Topalu**	**1.54**	**131**	⇓*i*P	Pn	07 58 45.1	+0.4
TLB				*i* S	Sn	07 59 06.7	-1.6
TIRR	**Tirgusor**	**1.83**	**129**	⇓*i*P	Pn	07 58 48.2	+0.4
TIRR	**Tirgusor**	**1.83**	**129**	⇓*i*P	Pn	07 58 48.2	+0.4
TIRR				*i* S	Sn	07 59 12.2	-1.5
TIRR	**Tirgusor**	**1.83**	**129**	⇓*i*P	Pn	07 58 48.2	+0.4
TIRR				*i* S	Sn	07 59 12.2	-1.5
MILM	**Milestii Mici**	**2.11**	**51**	⇑*i*P	Pn	07 58 51.1	+0.2
MILM	**Milestii Mici**	**2.11**	**51**	⇑*i*P	Pn	07 58 51.1	+0.2
MILM				*i* S	Sn	07 59 17.4	-1.9
MILM	**Milestii Mici**	**2.11**	**51**	⇑*i*P	Pn	07 58 51.1	+0.2
MILM				*i* S	Sn	07 59 17.4	-1.9

MEX 07 08:02:09.9±0.5, 17°.11N×94°.38W, h154km±5km, MD3.8, Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMIG	**Matias Romero**	**0.49**	**268**	*eP*	Pn	08 02 30.3	-1.4
CMIG				*eS*	Sn	08 02 46.0	-2.3
TGIG		**1.24**	**105**	*eP*	Pn	08 02 36.1	-1.3
TGIG				*i* S	Sn	08 02 56.6	-1.7
HUIG	**Huatulco**	**2.13**	**232**	*eP*	Pn	08 02 44.8	-2.1
HUIG				*eS*	Sn	08 03 13.4	-1.9
VHO	**Vista Hermosa**	**2.25**	**269**	*eP*	Pn	08 02 47.6	-0.9
VHO				*eS*	Sn	08 03 16.8	-1.4
CCIG	**Comitan**	**2.30**	**111**	*i* P	Pn	08 02 47.0	-2.0
CCIG				*i* S	Sn	08 03 17.1	-1.9
TPIG	**Tehuac#an**	**3.13**	**295**	*i* P	Pn	08 02 55.1	-4.1
TPIG				*i* S	Sn	08 03 35.0	-2.5
PNIG	**Pinotepa**	**3.66**	**259**	*eP*	Pn	08 03 04.2	-1.7
PNIG				*i* S	Sn	08 03 47.3	-2.2

IDC 07 08:10:44.1±64.0, 24°.08S×178°.40W, h0km, mb3.9/3, mb1 4.0/3, mb1mx3.6/35, mbtmp3.9/3, Error ellipse: s-maj=1163.0km s-min=165.1km az=88.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**36.02**	**248**	P	P	08 17 46.4	-0.7
	0.7nm,0.4s,baz=106,slow=11,SNR=4.7						
ASAR	**Alice Springs**	**43.45**	**260**	P	P	08 18 49.0	-0.2
	0.7nm,0.4s,baz=88,slow=7.6,SNR=15						
WRA	**Warramunga Arr**	**43.86**	**266**	P	P	08 18 52.9	+0.4
	0.4nm,0.3s,baz=102,slow=8.4,SNR=9.0						

*ISCJB **07** 08:14:36.8±0.6,24°.84N±0°.04×122°.65E±0°.03,h2km±4km, Error ellipse: s-maj=6.9km s-min=3.7km az=30.0*
*JMA **07** 08:14:36.4±0.2,24°.85N×122°.66E,h1km±4km,M2.5*
*TAP **07** 08:14:38.2,24°.85N×122°.53E,h5km,ML3.0,D*
ISC 07 08:14:37.0±1.2, 24°.84N±0°.05×122°.64E±0°.04, h6km±11km, n20,σ0s74/40, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JYNG	**Yonagunijimaku**	**0.48**	**145**	P	**Pg**	**08 14 46.1**	**-0.1**
JYNG				*eS*	**Sg**	**08 14 52.9**	**+0.4**
YOJ	**Yonaguni jima**	**0.51**	**138**	P	**Pg**	**08 14 46.5**	**-0.3**
YOJ				S	**Sg**	**08 14 53.5**	**+0.1**
TWB1	**Santiao Chiao**	**0.61**	**286**	*eP*	**Pg**	**08 14 49.1**	**+0.3**
	baz=287						
TWB1				*eS*	**Sb**	**08 14 58.7**	**-0.3**
	baz=287						
EGS		**0.64**	**270**	*eP*	**Pg**	**08 14 49.6**	**+0.2**
	baz=269						
EGS				*eS*	**Sb**	**08 14 58.1**	**-1.8**
	baz=269						
TWC	**Suao**	**0.76**	**252**	P	**Pb**	**08 14 52.2**	**-0.3**
	baz=248						
TWC				*eS*	**Sb**	**08 15 01.9**	**-1.2**
	baz=248						
NWF	**Wu-fen Shan**	**0.81**	**286**	*eP*	**Pg**	**08 14 52.5**	**-0.1**
	baz=287						
NWF				*eS*	**Sb**	**08 15 03.2**	**-1.6**
	baz=287						
TWE	**Neicheng**	**0.89**	**262**	*eP*	**Pb**	**08 14 54.5**	**-0.4**
	baz=260						
TWE				*eS*	**Sb**	**08 15 06.3**	**-0.7**
	baz=260						
ENA	**Nanau**	**0.92**	**243**	P	**Pb**	**08 14 55.3**	**0.0**
	baz=239						
ENA				*eS*	**Sb**	**08 15 06.8**	**-0.9**
	baz=239						
PCYT	**Pengchaiyu**	**0.94**	**327**	*eP*	**Pg**	**08 14 54.4**	**-0.6**
	baz=332						
PCYT				*eS*	**Sb**	**08 15 09.1**	**+0.7**
	baz=332						
ENTT	**Nioudou**	**1.00**	**259**	*eP*	**Pb**	**08 14 56.6**	**-0.1**
	baz=256						
ENTT				*eS*	**Sb**	**08 15 09.7**	**-0.4**
	baz=256						
TWD	**Chiawan**	**1.22**	**232**	*eP*	**Pn**	**08 15 00.8**	**+0.3**
	baz=227						
TWD				*eS*	**Sn**	**08 15 18.3**	**+1.0**
	baz=227						
NNS	**Nan Shan**	**1.22**	**251**	*eP*	**Pn**	**08 15 00.9**	**+0.2**
	baz=248						
NNS				*eS*	**Sb**	**08 15 16.1**	**-0.5**
	baz=248						
WHF	**Hehuan Shan**	**1.43**	**241**	*eP*	**Pn**	**08 15 03.7**	**-0.2**
	baz=238						
WHF				*eS*	**Sn**	**08 15 23.1**	**-0.1**
	baz=238						
TWT	**Tachien**	**1.46**	**247**	*eP*	**Pg**	**08 15 04.8**	**-0.1**
	baz=244						
TWT				*eS*	**Sb**	**08 15 23.2**	**-0.3**
	baz=244						
NSTT	**Nanjuang**	**1.51**	**262**	*eP*	**Pb**	**08 15 05.0**	**-0.3**
	baz=260						
NSTT				*eS*	**Sg**	**08 15 26.0**	**+0.6**
	baz=260						
WDT	**Danda**	**1.75**	**232**	*eP*	**Pn**	**08 15 08.5**	**+0.4**
	baz=229						
WDT				*eS*	**Sb**	**08 15 31.6**	**-0.4**
	baz=229						
TYC	**Yuchr**	**1.88**	**240**	*eP*	**Pn**	**08 15 10.7**	**+1.1**
	baz=238						
TYC				*eS*	**Sb**	**08 15 34.6**	**-0.8**
	baz=238						
TWF1	**Yuli**	**1.93**	**220**	*eP*	**Pn**	**08 15 10.3**	**0.0**
	baz=216						
TWF1				*eS*	**Sn**	**08 15 33.8**	**-1.1**
	baz=216						
YUS	**Yu-Shan**	**2.05**	**229**	*eP*	**Pn**	**08 15 12.4**	**0.0**
	baz=226						
YUS				*eS*	**Sn**	**08 15 39.7**	**+1.2**
	baz=226						
CHN5	**Tsauling**	**2.18**	**236**	*eP*	**Pn**	**08 15 15.4**	**+1.5**
	baz=233						
CHN5				*eS*	**Sn**	**08 15 41.9**	**+0.7**
	baz=233						

IDC 07 08:18:09.6±3.3, 10°.51S×162°.16E, h60km±25km, mb3.9/5, mb1 4.1/7, mb1mx3.7/41, mbtmp4.3/7, ML4.2/2, MS3.5/7, Ms1 3.5/7, ms1mx3.2/27, Error ellipse: s-maj=36.0km s-min=18.0km az=54.0, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**2.43**	**296**	P	Pn	08 18 46.0	-0.9
	46nm,0.3s,baz=124,slow=3.1,SNR=18						
HNR				S	Sn	08 19 16.7	+1.2
	121nm,0.3s,baz=241,slow=19,SNR=5.7						
HNR				LR	LR	08 20 00.3	
	comp=Z,408nm,19.0s,baz=146,slow=46						
HNR	**Honiara**	**2.43**	**296**	*i* P	Pn	08 18 45.0	-1.9
HNR				*i* S	Sn	08 19 15.5	0.0
DZM	**Mont Dzumac**	**12.21**	**161**	P	Pn	08 21 00.0	-0.9
	1.4nm,0.3s,baz=218,slow=8.6,SNR=15						
DZM				LR	LR	08 25 00.0	
	comp=Z,279nm,18.4s,baz=16,slow=34						
PMG	**Port Moresby**	**14.81**	**273**	LR	LR	08 26 08.2	
	comp=Z,148nm,18.4s,baz=94,slow=32						
CTA	**Charters Tower**	**18.04**	**236**	P	Pn	08 22 19.0	+2.6
	1.1nm,0.3s,baz=70,slow=12,SNR=12						
AFI	**Afiamalu**	**25.69**	**100**	LR	LR	08 31 11.6	
	comp=Z,141nm,20.7s,baz=116,slow=30						
WRA	**Warramunga Arr**	**28.39**	**247**	P	P	08 23 58.0	-0.7
	3.8nm,0.7s,baz=77,slow=9.0,SNR=27						
STKA	**Stephens Creek**	**28.53**	**219**	P	P	08 24 00.5	+0.7
	2.9nm,0.5s,baz=59,slow=13,SNR=16						
ASAR	**Alice Springs**	**29.93**	**240**	P	P	08 24 11.4	-1.0
	1.3nm,0.5s,baz=62,slow=10.0,SNR=25						
ASAR				LR	LR	08 35 44.1	
	comp=Z,123nm,19.3s,baz=46,slow=35						
PETK	**Petropavlovsk-**	**63.48**	**357**	LR	LR	08 54 06.0	
	comp=Z,28nm,18.8s,baz=205,slow=34						
VNDA	**Vanda**	**67.00**	**180**	P	P	08 28 56.5	+0.7
	1.2nm,0.8s,baz=349,slow=5.1,SNR=11						
VNDA				LR	LR	08 54 14.2	
	comp=Z,41nm,18.0s,baz=280,slow=32						
SONM	**Songino Array**	**76.18**	**325**	P	P	08 29 51.5	0.0
	1.8nm,0.7s,baz=135,slow=5.2,SNR=6.6						

*KRSC **07** 08:24:32.9±1.1,54°.41N×159°.91E,h157km±12km,ML4.3*
*ISCJB **07** 08:24:33.9±0.3,54°.40N±0°.03×159°.90E±0°.07, h153km±3km,mb3.9/11, Error ellipse: s-maj=7.9km s-min=2.9km az=26.6*
*MOS **07** 08:24:33.9±0.4,54°.44N×159°.80E,h155km,mb4.0/9, Error ellipse: s-maj=19.0km s-min=5.0km az=75.5*
*IDC **07** 08:24:35.1±1.6,54°.59N×159°.35E,h151km±15km, mb3.7/11,mb1 3.9/11,mb1mx3.5/55,mbtmp4.1/11, Error ellipse: s-maj=24.6km s-min=13.2km az=133.0*
ISC 07 08:24:34.8±0.7, 54°.41N±0°.03×159°.86E±0°.04, h151km±5km, n82,σ0s86/131, mb3.8/11, 2D, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KII	**Karymskiy**	**0.45**	**213**	PN	**Pn**	**08 24 55.8**	**-0.3**
KII	**Karymskiy**	**0.45**	**213**	*i* P	**Pn**	**08 24 55.8**	**-0.3**
TUMR	**Tumrok**	**0.89**	**11**	PN	**Pn**	**08 24 58.9**	**+0.1**
TUMR				S	**Sn**	**08 25 17.4**	**+0.1**
TUMR	**Tumrok**	**0.89**	**11**	*i* P	**Pn**	**08 24 58.9**	**+0.1**
TUMR				*i* S	**Sn**	**08 25 17.4**	**+0.1**
MKZ	**Mys Kozlova**	**1.10**	**82**	PN	**Pn**	**08 25 00.5**	**0.0**
MKZ				S	**Sn**	**08 25 19.2**	**-0.9**
MKZ	**Mys Kozlova**	**1.10**	**82**	*eP*	**Pn**	**08 25 00.5**	**0.0**
MKZ				*eS*	**Sn**	**08 25 19.2**	**-0.9**
SDLR	**Sedlovina**	**1.27**	**207**	PN	**Pn**	**08 25 02.4**	**+0.1**
SDLR				S	**Sn**	**08 25 23.4**	**+0.2**
SDLR	**Sedlovina**	**1.27**	**207**	*i* P	**Pn**	**08 25 02.4**	**+0.1**
SDLR				*eS*	**Sn**	**08 25 23.4**	**+0.2**
KRX	**Arik**	**1.27**	**215**	PN	**Pn**	**08 25 02.5**	**+0.2**
KRX	**Arik**	**1.27**	**215**	*i* P	**Pn**	**08 25 02.5**	**+0.2**
KRER	**Koryakskii**	**1.29**	**211**	PN	**Pn**	**08 25 02.8**	**+0.3**
KRER				S	**Sn**	**08 25 24.2**	**+0.6**
KRER	**Koryakskii**	**1.29**	**211**	*i* P	**Pn**	**08 25 02.8**	**+0.3**
KRER				*i* S	**Sn**	**08 25 24.2**	**+0.6**
SPN	**Mys Shipunski**	**1.32**	**176**	PN	**Pn**	**08 25 01.9**	**-0.7**
SPN				S	**Sn**	**08 25 22.5**	**-1.3**
SPN	**Mys Shipunski**	**1.32**	**176**	*i* P	**Pn**	**08 25 01.9**	**-0.7**
SPN				*i* S	**Sn**	**08 25 22.5**	**-1.3**
AVH	**Avacha**	**1.33**	**210**	PN	**Pn**	**08 25 03.1**	**+0.4**
AVH				S	**Sn**	**08 25 24.1**	**0.0**
AVH	**Avacha**	**1.33**	**210**	*i* P	**Pn**	**08 25 03.1**	**+0.4**
AVH				*eS*	**Sn**	**08 25 24.1**	**0.0**
KOK	**Koryaka**	**1.33**	**213**	PN	**Pn**	**08 25 03.8**	**+0.9**
KOK	**Koryaka**	**1.33**	**213**	*i* P	**Pn**	**08 25 03.8**	**+0.9**
GNL	**Ganaly**	**1.34**	**238**	PN	**Pn**	**08 25 02.3**	**-0.6**
GNL				S	**Sn**	**08 25 23.9**	**-0.4**
GNL	**Ganaly**	**1.34**	**238**	*i* P	**Pn**	**08 25 02.3**	**-0.6**
GNL				*eS*	**Sn**	**08 25 23.9**	**-0.4**
UGLR	**Uglovaya**	**1.35**	**207**	PN	**Pn**	**08 25 03.3**	**+0.3**
UGLR	**Uglovaya**	**1.35**	**207**	*i* P	**Pn**	**08 25 03.3**	**+0.3**
KMNR	**Kamenistaya**	**1.36**	**9**	PN	**Pn**	**08 25 03.1**	**0.0**
KMNR				S	**Sn**	**08 25 25.0**	**+0.2**
KMNR	**Kamenistaya**	**1.36**	**9**	*i* P	**Pn**	**08 25 03.1**	**0.0**
KMNR				*eS*	**Sn**	**08 25 25.0**	**+0.2**
DALK	**Dalny**	**1.53**	**206**	PN	**Pn**	**08 25 04.4**	**-0.3**
DALK				S	**Sn**	**08 25 27.7**	**+0.1**
DALK	**Dalny**	**1.53**	**206**	*i* P	**Pn**	**08 25 04.4**	**-0.3**
DALK				*eS*	**Sn**	**08 25 27.7**	**+0.1**
PET	**Petropavlovsk**	**1.56**	**208**	*i* PN	**Pn**	**08 25 05.0**	**-0.1**
PET				*eS*	**Sn**	**08 25 28.2**	**0.0**
PET				pmax	pmax		
	comp=Z,532nm,0.7s						
PET				pmax	pmax		
	comp=Z,1μm,1.3s						
PET				smax	smax		
	comp=N,505nm,0.5s						
PET				smax	smax		
	comp=E,484nm,0.6s		

comp=Z,0.8nm,0.4s,baz=354,slow=3.2,SNR=26
ULM Lac du Bonnet 58.02 47 P **P 08 34 12.2 +0.8**
comp=Z,1.5nm,0.4s,baz=324,slow=6.7,SNR=6.9
FINES FINESS Array B 58.85 336 P **P 08 34 13.9 -3.1**
comp=Z,4.5nm,1.0s,baz=19,slow=8.1,SNR=4.4
TXAR Lajitas Array 70.25 67 P **P 08 35 33.4 +1.9**
comp=Z,0.5nm,0.4s,baz=296,slow=5.4,SNR=22
WRA Warramunga Arr 77.22 205 P **P 08 36 11.9 0.0**
comp=Z,1.4nm,0.6s,baz=20,slow=6.1,SNR=26
ASAR Alice Springs 80.91 204 P **P 08 36 32.5 +0.6**
comp=Z,1.2nm,0.7s,baz=18,slow=5.6,SNR=14
ASAR Alice Springs 80.91 204 P **P 08 36 32.5 +0.6**
ASAR pmax pmax
comp=Z,2.0nm,0.9s
ESDC Sonseca Array 85.26 348 P **P 08 36 53.9 -0.4**
comp=Z,0.5nm,0.5s,baz=355,slow=6.0,SNR=4.8

*TAP **07** 09:01:48.4,24.7′76N×122.7′0E,h65km±2km,ML3.1,D*
*JMA **07** 09:01:49.7±0.1,24.8′1N×122.6′6E,h14km±5km,M2.0*
ISC 07 09:01:48.6±1.8,**24.7′8N**±0.′09×**122.6′7E**±0.′05,**h11**km±11km,
n13,σ0°**71/22**,**Taiwan region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JYNG	**Yonagunijimaku**	**0.41**	**143**	P	**Pb**	**09 01 58.3**	**+0.5**
JYNG				eS	**Sb**	**09 02 04.4**	**+0.3**
YOJ	**Yonaguni jima**	**0.44**	**136**	P	**Pb**	**09 01 58.8**	**+0.4**
YOJ				eS	**Sb**	**09 02 05.3**	**+0.3**
TWB1	**Santiao Chiao** baz=291	**0.66**	**290**	P	**Pn**	**09 02 03.3**	**-0.6**
EGS		**0.68**	**276**	eP	**Pb**	**09 02 02.7**	**+0.3**
EGS	baz=271			eS	**Sn**	**09 02 14.5**	**-0.2**
TWC	**Suao** baz=259	**0.77**	**257**	eP	**Pg**	**09 02 03.2**	**-0.3**
TWC				eS	**Sb**	**09 02 14.2**	**-0.3**
NWF	**Wu-fen Shan** baz=280	**0.86**	**290**	eP	**Pn**	**09 02 06.3**	**-0.4**
ENA	**Nanau** baz=252	**0.92**	**248**	P	**Pg**	**09 02 05.9**	**-0.4**
ENA				S	**Sg**	**09 02 18.6**	**+0.3**
ENTT	**Nioudou** baz=263	**1.02**	**262**	eP	**Pn**	**09 02 08.6**	**-0.2**
ENTT				eS	**Sn**	**09 02 23.5**	**+0.3**
NNS	**Nan Shan** baz=257	**1.23**	**254**	eP	**Pb**	**09 02 13.8**	**+1.8**
NNS				eS	**Sn**	**09 02 29.6**	**+1.0**
WHF	**Hehuan Shan** baz=244	**1.43**	**244**	eP	**Pg**	**09 02 15.9**	**-0.3**
WHF				eS	**Sb**	**09 02 33.2**	**-0.7**
TWT	**Tachien** baz=242	**1.46**	**249**	eP	**Pn**	**09 02 14.6**	**-0.5**
WDT	**Danda** baz=228	**1.74**	**234**	eP	**Pn**	**09 02 17.9**	**-1.1**
ALS	**Alishan** baz=224	**2.12**	**234**	eP	**Pn**	**09 02 23.7**	**-0.6**
ALS				eS	**Sn**	**09 02 50.3**	**-0.5**

KRSC 07 09:02:50.3±0.5,**55.′64N**×**163.′35E**,**h50**km±18km,**ML3.5,**
Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBG	**Krutoberegovo**	**0.71**	**330**	*i* P	Pn	09 03 04.5	+0.3
KBG				*i* S	Sn	09 03 15.8	+1.5
SMKR	**Semkarok**	**1.41**	**313**	eP	Pn	09 03 15.8	+2.1
ZLN	**Zelenaya**	**1.48**	**286**	eP	Pn	09 03 16.2	+1.5
ZLN				eS	Sn	09 03 35.6	+2.6
CIRR	**Tsirk**	**1.54**	**289**	eP	Pn	09 03 16.6	+1.1
BKI	**Bering**	**1.56**	**105**	eP	Pn	09 03 17.5	+1.9
BKI				eS	Sn	09 03 37.6	+3.0
SRKR	**Sorokina**	**1.59**	**311**	*i* P	Pn	09 03 18.6	+2.5
KLY	**Klyuchi**	**1.66**	**295**	eP	Pn	09 03 17.0	+0.1
KLY				eS	Sn	09 03 37.0	0.0
KRSR	**Krestovskiy**	**1.67**	**291**	eP	Pn	09 03 18.2	+1.0
KRSR				eS	Sn	09 03 38.9	+1.4
KIRR	**Kirishev**	**1.73**	**282**	eP	Pn	09 03 19.5	+1.5
KMNR	**Kamenistaya**	**1.76**	**275**	eP	Pn	09 03 20.6	+2.1
KMNR				eS	Sn	09 03 42.7	+2.9
KPT	**Kopyto**	**1.79**	**282**	eP	Pn	09 03 20.7	+1.8
KPT				eS	Sn	09 03 43.3	+2.8
TUMR	**Tumrok**	**1.86**	**260**	eP	Pn	09 03 21.6	+1.8
TUMR				eS	Sn	09 03 45.1	+2.9

*ISCJB **07** 09:11:08.7±0.9,24.′89N±0.′03×122.′72E±0.′03,h13km±8km,*
Error ellipse: s-maj=6.4km s-min=3.5km az=30.8
*TAP **07** 09:11:09.3,24.′91N×122.′61E,h8km±1km,ML3.5,D*
*JMA **07** 09:11:09.7±0.2,24.′82N×122.′74E,h33km±4km,M2.7*
ISC 07 09:11:07.1±1.2,**24.′95N**±0.′04×**122.′74E**±0.′03,**h8**km±9km,
n40,σ0°**93/73**,**Taiwan region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JYNG	**Yonagunijimaku**	**0.53**	**159**	P	**Pb**	**09 11 18.7**	**+0.2**
JYNG				eS	**Sg**	**09 11 24.8**	**+0.6**
YOJ	**Yonaguni jima**	**0.54**	**153**	P	**Pb**	**09 11 19.1**	**+0.3**
YOJ				eS	**Sg**	**09 11 25.7**	**+1.0**
TWB1	**Santiao Chiao** baz=280	**0.68**	**275**	P	**Pb**	**09 11 21.3**	**+0.1**
TWB1				S	**Sg**	**09 11 30.1**	**+0.9**
EGS	baz=280	**0.74**	**262**	eP	**Pb**	**09 11 22.6**	**+0.5**
TWC	**Suao** baz=263	**0.88**	**248**	eP	**Pg**	**09 11 24.1**	**+0.2**
TWC	baz=246			eS	**Sg**	**09 11 34.3**	**-1.0**
NWF	**Wu-fen Shan** baz=282	**0.88**	**278**	eP	**Pb**	**09 11 24.6**	**0.0**
NWF				eS	**Sb**	**09 11 36.2**	**-0.3**
PCYT	**Pengchaiyu** baz=326	**0.91**	**319**	P	**Pn**	**09 11 26.1**	**0.0**
PCYT				eS	**Sn**	**09 11 39.4**	**0.0**
TWE	**Neicheng** baz=257	**1.00**	**257**	eP	**Pg**	**09 11 26.2**	**-0.1**
TWE				eS	**Sb**	**09 11 39.7**	**-0.2**
ENA	**Nanau** baz=238	**1.04**	**241**	eP	**Pg**	**09 11 27.1**	**-0.1**
ENA				eS	**Sg**	**09 11 38.8**	**-1.9**
TWA	**Mucha** baz=274	**1.05**	**272**	eP	**Pb**	**09 11 27.8**	**+0.4**
TWY	**Chenhua** baz=291	**1.08**	**288**	eP	**Pg**	**09 11 27.9**	**+0.1**
TWY				eS	**Sb**	**09 11 42.7**	**+0.4**
IRIF	**Iriomote-Funau**	**1.09**	**124**	P	**Pg**	**09 11 27.9**	**-0.1**
ENTT	**Nioudou** baz=254	**1.11**	**254**	eP	**Pn**	**09 11 28.9**	**+0.1**
ENTT				eS	**Sg**	**09 11 42.2**	**-0.5**
NNS	**Nan Shan** baz=247	**1.34**	**248**	eP	**Pb**	**09 11 32.6**	**+0.1**
NNS				eS	**Sb**	**09 11 48.8**	**-1.0**
TWD	**Chiawan** baz=228	**1.35**	**231**	eP	**Pg**	**09 11 32.9**	**-0.1**
TWD				eS	**Sb**	**09 11 49.2**	**-0.8**
JKRS	**Kuro-shima**	**1.35**	**121**	P	**Pn**	**09 11 31.9**	**-0.3**
JIJ	**Ishigaki jima**	**1.40**	**114**	P	**Pn**	**09 11 32.8**	**-0.1**
WHF	**Hehuan Shan** baz=237	**1.56**	**240**	eP	**Pn**	**09 11 35.8**	**+0.4**
WHF				eS	**Sn**	**09 11 54.3**	**-1.8**
TWT	**Tachien** baz=243	**1.58**	**244**	eP	**Pb**	**09 11 37.0**	**+0.4**
TWT				eS	**Sn**	**09 11 55.5**	**-0.7**
NSTT	**Nanjuang** baz=259	**1.61**	**259**	eP	**Pg**	**09 11 38.2**	**+0.2**
NSTT				eS	**Sn**	**09 11 56.2**	**-0.5**
ESL	**Shilin** baz=224	**1.64**	**227**	eP	**Pb**	**09 11 37.6**	**+0.1**
ESL				eS	**Sn**	**09 11 57.0**	**-0.4**
JTJ	**Tarama** baz=224	**1.81**	**99**	P	**Pb**	**09 11 40.0**	**-0.4**
NSY	**Sanyi** baz=253	**1.88**	**254**	eP	**Pb**	**09 11 41.3**	**-0.2**
NSY				eS	**Sb**	**09 12 04.3**	**-0.8**
WDT	**Danda** baz=229	**1.88**	**231**	eP	**Pn**	**09 11 39.4**	**-0.4**
TWQ1	**Liyutan** baz=251	**1.89**	**252**	eP	**Pb**	**09 11 40.9**	**-0.8**
TWQ1				eS	**Sn**	**09 12 03.9**	**+0.4**
SMLT	**Sun Moon Lake** baz=236	**1.98**	**238**	eP	**Pb**	**09 11 43.3**	**-0.2**
SMLT				eS	**Sn**	**09 12 06.4**	**+0.3**
TYC	**Yuchr** baz=237	**2.00**	**239**	eP	**Pb**	**09 11 43.2**	**-0.5**
TYC				eS	**Sn**	**09 12 07.3**	**+0.9**
TWF1	**Yuli** baz=217	**2.06**	**220**	eP	**Pn**	**09 11 41.4**	**-0.5**
TWF1				eS	**Sn**	**09 12 06.0**	**-1.9**
YUS	**Yu-Shan** baz=226	**2.18**	**229**	eP	**Pn**	**09 11 44.7**	**+0.6**
YUS				eS	**Sn**	**09 12 12.1**	**+0.6**
ALS	**Alishan** baz=229	**2.27**	**231**	eP	**Pn**	**09 11 46.5**	**+1.4**
ALS				eS	**Sn**	**09 12 14.1**	**+0.7**
CHN5	**Tsauling** baz=233	**2.31**	**235**	eP	**Pn**	**09 11 47.0**	**+1.5**
CHN5				eS	**Sn**	**09 12 14.7**	**+0.6**
STYT	**Tauyuan** baz=224	**2.54**	**226**	eP	**Pn**	**09 11 48.7**	**+0.1**
STYT				eS	**Sn**	**09 12 19.7**	**+0.1**
WTP	**Ta-pu** baz=227	**2.58**	**229**	eP	**Pn**	**09 11 50.5**	**+1.4**
WTP				eS	**Sn**	**09 12 21.2**	**+0.6**
TWG	**Pinlang** baz=213	**2.61**	**216**	eP	**Pn**	**09 11 49.3**	**-0.2**
TWG				eS	**Sn**	**09 12 22.0**	**+0.7**
TWK	**Hsinying** baz=229	**2.65**	**231**	eP	**Pn**	**09 11 52.4**	**+2.3**
TWK				eS	**Sn**	**09 12 23.2**	**+0.8**
CHN1	**Nanshi** baz=227	**2.67**	**229**	eP	**Pn**	**09 11 52.3**	**+1.9**
CHN1				eS	**Sn**	**09 12 23.8**	**+0.8**
SGST	**Jiashian** baz=225	**2.71**	**227**	eP	**Pb**	**09 11 53.8**	**-2.0**
SGST				eS	**Sn**	**09 12 25.4**	**+1.7**
EAST	**Anshuo** baz=212	**3.08**	**215**	eP	**Pn**	**09 11 58.9**	**+2.8**
EAST				eS	**Sn**	**09 12 33.6**	**+0.4**
SCZT	**Fangliau** baz=215	**3.22**	**218**	eP	**Pn**	**09 12 00.1**	**+2.2**
SCZT				eS	**Sn**	**09 12 36.3**	**0.0**
TWK1	**Hengchun** baz=209	**3.48**	**211**	eP	**Pn**	**09 12 01.2**	**-0.2**
TWK1				eS	**Sn**	**09 12 42.1**	**-0.6**

*NIED **07** 09:46:00,39.′80N×143.′40E,h17km,Mw4.0 Best double couple: M₀9.68000×10¹⁴ NP1:φ₀173.00000°,δ18.00000°, λ52.00000°. NP2:φ₀33.00000°,δ76.00000°,λ101.00000°.*
*JMA **07** 09:46:11.1±0.3,39.′82N×143.′42E,h22km±4km,M4.1*
*IDC **07** 09:46:17.0±3.3,39.′71N×143.′26E,h56km±29km,mb3.6/9, mb1 3.8/13,mb1mx3.6/35,mbtmp3.9/13,ML2.9/4,MS3.2/13, Ms1 3.2/13,ms1mx3.0/53,Error ellipse: s-maj=28.6km s-min=21.9km az=100.0*
ISC 07 09:46:10.8±2.2,**39.′78N**±0.′05×**143.′38E**±0.′07,**h6**km±12km,
n34,σ1°**33/33**,**mb4.0/9**,**MS3.4/8**,**Off east coast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTH	**Tanohata**	**1.18**	**278**	P	**Pg**	**09 46 32.6**	**-0.7**
JTH				eS	**Sg**	**09 46 48.0**	**-0.6**
MIYJ	**Miyakonagasawa**	**1.22**	**261**	P	**Pg**	**09 46 33.6**	**-0.5**
JANG	**Nango**	**1.55**	**293**	P	**Pn**	**09 46 37.7**	**-1.2**
JANG				eS	**Sn**	**09 46 57.6**	**-1.6**
JOM	**Ohasama**	**1.64**	**260**	P	**Pn**	**09 46 40.2**	**+0.1**
JMK	**Ichinoseki**	**1.86**	**244**	P	**Pn**	**09 46 43.0**	**-0.2**
JMK				eS	**Sn**	**09 47 06.2**	**-0.8**
JTM	**Tenmabayashi**	**2.03**	**300**	P	**Pn**	**09 46 45.7**	**+0.2**
JTM				eS	**Sn**	**09 47 10.9**	**-0.3**
JIO	**Ouri**	**2.06**	**231**	P	**Pn**	**09 46 45.1**	**-0.7**
JEM	**Erimo**	**2.24**	**356**	P	**Pn**	**09 46 48.8**	**+0.4**
JOT	**Ohata**	**2.39**	**313**	P	**Pn**	**09 46 50.4**	**0.0**
JYK	**Kaneyama**	**2.49**	**251**	P	**Pn**	**09 46 52.6**	**+0.8**
JNBK	**Urakawa-nobuka**	**2.54**	**350**	P	**Pn**	**09 46 53.0**	**+0.4**
JNBK				S	**Sn**	**09 47 23.9**	**+0.1**
JCH	**Churui**	**2.83**	**360**	P	**Pn**	**09 46 56.1**	**-0.4**
JCH				eS	**Sn**	**09 47 28.2**	**-2.8**
MAT	**Matsushiro**	**5.20**	**233**	P	**Pn**	**09 47 29.4**	**+0.3**
MAT				eS	**Sn**	**09 48 28.6**	**-0.7**
MJAR	**Matsushiro Arr** 0.8nm,0.3s,baz=38,slow=12,SNR=13	**5.20**	**233**	P	**Pn**	**09 47 30.5**	**+1.5**
MJAR				LR	LR	09 49 31.7	
JHJ	comp=Z,103nm,18.6s,baz=35,slow=38 **Hachijo jima 2** comp=Z,62nm,18.8s,baz=118,slow=40	**7.25**	**205**	LR	LR	09 51 03.3	
USRK	**Ussuriysk Ar.** 0.4nm,0.3s,baz=97,slow=13,SNR=12	**9.56**	**301**	P	**Pn**	**09 48 33.2**	**+4.3**
KSRS	**Korea Array** 0.1nm,0.3s,baz=71,slow=14,SNR=7.1	**12.31**	**264**	P	**Pn**	**09 49 08.9**	**+2.4**
KSRS				LR	LR	09 53 34.1	
KLR	comp=Z,128nm,18.6s,baz=65,slow=36 **Kul'dur** 0.1nm,0.3s,baz=144,slow=13,SNR=3.3	**12.56**	**323**	P	**Pn**	**09 49 11.8**	**+1.9**
KLR				LR	LR	09 54 12.0	
JOW	comp=Z,100nm,21.1s,baz=100,slow=38 **Kunigami** comp=Z,48nm,19.2s,baz=117,slow=39	**18.02**	**229**	LR	LR	09 57 52.9	
MA2	**Magadan** comp=Z,17nm,19.7s,baz=120,slow=40	**20.36**	**11**	LR	LR	10 00 01.4	
SEY	**Seymchan** 4.0nm,0.8s,baz=180,slow=14,SNR=6.7	**23.81**	**10**	P	**P**	**09 51 24.2**	**+0.1**
SONM	**Songino Array** 2.0nm,0.8s,baz=86,slow=8.7,SNR=8.1	**27.66**	**299**	P	**P**	**09 51 59.1**	**-0.3**
SONM				LR	LR	10 03 28.3	
TLY	comp=Z,84nm,19.9s,baz=54,slow=37 **Talaya** comp=Z,41nm,18.5s,baz=38,slow=38	**29.81**	**307**	LR	LR	10 05 04.9	
ZALV	**Zalesovo Beam** 3.0nm,0.5s,baz=94,slow=8.7,SNR=3.7	**41.27**	**310**	P	**P**	**09 53 56.3**	**-0.1**
ZALV				LR	LR	10 11 50.6	
NRIK	comp=Z,31nm,18.8s,baz=250,slow=37 **Noril'sk** comp=Z,30nm,18.6s,baz=175,slow=38	**41.46**	**334**	LR	LR	10 11 59.7	
ILAR	**Eielson Array** 0.3nm,0.8s,baz=272,slow=6.2,SNR=3.7	**46.36**	**34**	P	**P**	**09 54 37.2**	**-0.1**
ARU	**Arti** comp=Z,71nm,18.3s,baz=162,slow=39	**55.35**	**318**	LR	LR	10 22 01.0	
SPITS	**Spitsbergen Ar** comp=Z,30nm,18.6s,baz=175,slow=38	**58.13**	**349**	LR	LR	10 23 12.1	
WRA	**Warramunga Arr** 0.5nm,0.9s,baz=5.7,slow=6.9,SNR=4.7	**60.01**	**190**	P	**P**	**09 56 16.5**	**-1.7**
FINES	**FINESS Array B** 2.9nm,0.9s,baz=135,slow=22,SNR=3.1	**67.11**	**332**	P	**P**	**09 57 04.4**	**-0.3**
KBZ	**Khabaz** 2.6nm,0.9s,baz=26,slow=5.6,SNR=4.7	**70.28**	**311**	P	**P**	**09 57 24.2**	**-0.6**
NOA	**NORSAR Array B** 1.6nm,0.7s,baz=27,slow=8.7,SNR=4.0	**72.25**	**338**	P	**P**	**09 57 36.2**	**-0.3**
SFJD	**Kangerlussuaq** comp=Z,27nm,19.0s,baz=300,slow=38	**73.02**	**6**	LR	LR	10 32 14.7	
TXAR	**Lajitas Array** 0.1nm,0.5s,baz=305,slow=3.2,SNR=2.2	**87.24**	**54**	P	**P**	**09 58 59.9**	**+1.5**

*NNC **07** 09:52:56.3±4.6,48.′61N×77.′86E,h0km,mb3.1,mpv2.7, Error ellipse: s-maj=56.1km s-min=20.9km az=64.0, Suspected Mining explosion.*
*SOME **07** 09:52:57.3,48.′67N×77.′98E,h5km*
ISC 07 09:52:55.6±1.5,**48.′62N**±0.′03×**78.′1E**±0.′1,**h0**km,**n7,**
σ0°**88/11**,**8C**,**Eastern Kazakhstan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KURBB	**Kurchatov Arra** 10nm,0.5s,baz=197,slow=16	**2.02**	**7**	⇑Pn	**Pb**	**09 53 32.4**	**-0.8**
KURBB				⇑Lg	Lg	09 53 59.9	
KURK	**Kurchatov** 8.7nm,0.5s,baz=203,slow=26	**2.12**	**9**	⇑Pn	**Pb**	**09 53 35.1**	**+0.2**
KURK				⇑Lg	Lg	09 54 01.9	
SEM	**Semipalatinsk** 6.2nm,0.4s 9.9nm,0.4s	**2.26**	**37**	eP	**Pg**	**09 53 39.0**	**+0.1**
SEM				eS	**Sg**	**09 54 08.9**	**+0.6**
MAKZ	**Makanchi** 24nm,0.1s 0.9nm,0.5s	**3.17**	**123**	⇑Pg	**Pb**	**09 53 52.7**	**0.0**
MAKZ				⇑Lg	Lg	09 54 37.7	
MK31	**Makanchi Array** 3.1nm,0.6s 0.2nm,0.3s,baz=0.0,slow=0.1,SNR=6.7	**3.35**	**121**	⇑Pn Pg	**Pb**	**09 53 54.9**	**-1.0**
MK31				⇑Lg	Lg	**09 53 59.4**	**-0.4**
KAPS	1.0nm,0.6s,baz=308,slow=13,SNR=5.8 **Kapalarasan** 3.7nm,0.6s,baz=307,slow=27,SNR=4.6 1.0nm,0.2s	**3.44**	**165**	eP	**Pg**	09 54 44.7 **09 54 01.2**	**-0.2**
KAPS				eS	**Sg**	**09 54 47.5**	**+1.5**
DJR	8.3nm,1.2s **Jarkent** 1.8nm,0.6s	**4.44**	**164**	eP	**Pg**	**09 54 19.8**	**-0.8**
DJR	6.6nm,0.4s			eS	**Sg**	**09 55 19.2**	**+1.1**

PGC 07 10:00:20.0±9.9,**58.′24N**×**133.′59W**,**h1**km,**ML3.4**/6,**49km east of Juneau, Ak Southeastern Alaska, Southeastern Alaska**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DLBC	**Dease Lake**	**1.89**	**82**	P	Pn	10 00 51.8	-1.7
DLBC				Pg	Pb	10 00 53.6	-1.7
DLBC				Sn	Sn	10 01 17.5	-0.4
DLBC				Sg	Sb	10 01 18.8	-0.6
PLBC	**Pleasant Camp**	**1.89**	**311**	Pg	Pn	10 00 53.9	+0.5
PLBC				Sg	Sn	10 01 18.5	+0.7
WHY	**Whitehorse**	**2.52**	**345**	Pn	Pn	10 01 00.4	-1.7
WHY				Pg	Pb	10 01 05.0	-1.0
WHY				Sg	Sn	10 01 34.7	+1.3
HYT	**Haines Junctio**	**3.27**	**324**	Pn	Pn	10 01 12.7	+0.2
HYT				Pg	Pb	10 01 18.6	-0.2
HYT				Sg	Sb	10 02 00.3	+1.1
PNL	**Peninsula**	**3.33**	**298**	Pg	Pb	10 01 20.6	+0.7
PNL				Sg	Sb	10 02 03.7	+2.8
YUK6	**Outpost Mounta**	**3.64**	**320**	Pg	Pb	10 01 25.5	+0.4
YUK6				Sg	Sb	10 02 12.3	+2.5
YUK3	**Moose Creek**	**4.95**	**319**	Pg	Pb	10 01 48.4	+1.0
YUK3				Sg	Sg	10 02 54.4	-4.3
YUK2	**White River**	**5.09**	**317**	Pg	Pb	10 01 50.6	+0.8
YUK2				Sg	Sb	10 02 56.5	+5.1
FNBB	**Fort Nelson**	**5.58**	**79**	Sg	Sb	10 03 11.8	+6.5
DAWY	**Dawson**	**6.48**	**337**	Sg	Sb	10 03 36.9	+5.5

*ISCJB **07** 10:06:56.7±0.3,5.′41S±0.′04×125.′09E±0.′03,h33km, mb4.5/14,MS3.7/9,Error ellipse: s-maj=5.9km s-min=4.6km az=23.8*
*NEIC **07** 10:06:58.5±0.5,5.′41S×125.′08E,h35km,mb4.3/7,Error ellipse: s-maj=10.1km s-min=6.4km az=47.0*
*IDC **07** 10:06:59.5±3.5,5.′80S×124.′88E,h70km±38km,mb3.7/7, mb1 4.0/10,mb1mx3.7/47,mbtmp4.1/10,ML3.9/3,MS3.8/9, Ms1 3.8/9,ms1mx3.3/29,Error ellipse: s-maj=31.9km s-min=14.8km az=46.0*
*DJA **07** 10:07:02.8±0.9,5.′5S±3.′2×12.′5E±.′,h22km±8km,M4.6/19, mb4.8/19,mB5.2/7,MLv4.5/12,Mw(mB)4.6/7*
ISC 07 10:06:58.6±0.5,**5.′62S**±0.′05×**125.′03E**±0.′04,**h35**km,**n70,**
σ2°**42/61**,**mb4.3/14**,**MS3.7/8**,**Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BBSI	**Bau Bau**	**2.45**	**273**	P	**Pn**	**10 07 35.1**	**-1.0**
BBSI				S	**Sn**	**10 08 09.2**	**+4.4**
KDI	**Kendari**	**2.91**	**304**	P	**Pn**	**10 07 39.0**	**-3.5**
KDI				S	**Sn**	**10 08 09.9**	**-6.4**
NLAI	**Namlea**	**3.14**	**41**	P	**Pn**	**10 07 44.1**	**-1.5**
NLAI				S	**Sn**	**10 08 22.9**	**+1.1**
SANI	**Sanana**	**3.67**	**15**	P	Pn	10 07 47.6	-5.3
AAI	**Ambon**	**3.69**	**59**	P	Pn	10 08 00.8	+7.6
MMRI	**Maumere**	**4.08**	**223**	P	Pn	10 08 09.1	+11
SOEI	**Soe**	**4.18**	**190**	P	Pn	10 08 07.8	+7.8
SOEI	**Soe**	**4.18**	**190**	eP	**Pn**	**10 08 02.6**	**+2.7**
MSAI	**Masohi**	**4.50**	**60**	P	Pn	10 07 58.7	-5.5
BSSI	**Bau Bau, Buton**	**4.54**	**263**	P	**Pn**	**10 08 08.5**	**+3.6**
BSSI				S	**Sn**	**10 08 55.0**	**-1.5**
KAPI	**Kappang** 9.5nm,0.3s,baz=129,slow=5.3,SNR=31	**5.29**	**276**	P	**Pn**	**10 08 14.1**	**-1.0**
KAPI				S	**Sn**	**10 09 13.3**	**-1.6**
	baz=288,slow=19,SNR=3.5			LR	LR	10 10 35.5	
KAPI	comp=Z,2μm,19.1s,baz=88,slow=42 **Kappang**	**5.29**	**276**	ePn	**Pn**	**10 08 15.1**	**0.0**
KAPI				eSn	**Sn**	**10 09 17.4**	**+2.5**
SPSI	**Sidrap Palu**	**5.49**	**287**	P	**Pn**	**10 08 16.7**	**-1.2**
TTSI	**Tana Toraja**	**5.79**	**296**	P	**Pn**	**10 08 22.9**	**+0.9**
GTOI	**Gorontalo** 97nm,0.8s,822nm0.3nm	**6.53**	**342**	P	**Pn**	**10 08 30.5**	**-1.7**
MRSI	**Marisa**	**6.79**	**333**	P	**Pn**	**10 08 33.5**	**-2.4**
PCI	**Palu** 131nm,1.1s,1μm	**6.98**	**312**	P	**Pn**	**10 08 36.8**	**-1.7**
FAKI	**Fak Fak**	**7.68**	**70**	ePn	**Pn**	**10 08 46.6**	**-1.5**
SWI	**Sorong**	**7.81**	**53**	P	**Pn**	**10 08 47.2**	**-2.6**
TWSI	**Taliwang, Sumb** 58nm,0.8s,0.2nm	**8.66**	**249**	P	Pn	10 09 07.9	+6.5
MTN	**Manton Dam**	**9.37**	**140**	ePn	**Pn**	**10 09 12.7**	**+1.4**
JAGI	**Jajag, Banyuwa** 43nm,0.9s	**11.16**	**255**	P	Pn	10 09 40.5	+4.8
JAGI	**Jajag, Banyuwa**	**11.16**	**255**	ePn	**Pn**	**10 09 37.3**	**+1.5**
BLJI	**Banyuglugur** 72nm,1.1s,3μm	**11.55**	**259**	P	Pn	10 09 48.9	+7.8
GMJI	**Gumukmas**	**11.80**	**256**	P	Pn	10 09 56.5	+12
FITZ	**Fitzroy Crossi** 0.5nm,0.3s,baz=6.6,slow=8.2,SNR=19	**12.42**	**177**	P	**Pn**	**10 09 51.8**	**-1.1**
FITZ				S	**Sn**	**10 12 05.9**	**-4.4**
	0.4nm,0.3s,baz=287,slow=11,SNR=2.5			LR	LR	10 15 40.7	
FITZ	comp=Z,197nm,18.5s,baz=4.0,slow=42 **Fitzroy Crossi**	**12.42**	**177**	ePn	**Pn**	**10 09 52.2**	**-0.7**
FITZ				eSn	**Sn**	**10 12 05.5**	**-4.7**
SMPI	**Sarmi**	**14.12**	**76**	P	**P**	**10 10 26.8**	**+3.5**
KKM	**Kota Kinabalu**	**14.55**	**323**	ePn	**Pn**	**10 10 19.0**	**-3.1**
SMRI	**Semarang**	**14.57**	**264**	ePn	**Pn**	**10 10 24.3**	**+2.0**
SBUM	**Sibu** 27nm,1.4s	**15.10**	**302**	ePn	**Pn**	**10 10 28.0**	**-1.4**
GENI	**Genyem**	**15.40**	**79**	P	**P**	**10 10 39.8**	**+2.2**
JAY	**Jayapura** comp=Z,7.8nm,19.2s,baz=168,slow=43	**15.94**	**79**	LR	LR	10 18 38.3	
KPJI	**Karang Pucung** 56nm,0.9s	**16.09**	**263**	P	**P**	**10 10 49.2**	**+4.0**
MBWA	**Marble Bar** 164nm,1.4s	**16.28**	**198**	ePn	**P**	**10 10 48.4**	**+1.1**
KSM	**Kuching** 2.4nm,0.3s	**16.30**	**295**	eP	**Pn**	**10 10 45.0**	**0.0**
WRAB	**Tennant Creek** 28nm,1.3s	**16.87**	**148**	ePn	**P**	**10 10 54.0**	**+0.1**
WRA	**Warramunga Arr** 0.3nm,0.3s,baz=328,slow=13,SNR=16	**16.87**	**148**	P	**Pn**	**10 10 49.8**	**-2.4**
WB2	**Warramunga Arr** 22nm,0.9s	**16.88**	**148**	ePn	**P**	**10 10 54.5**	**+0.4**
COEN	**Coen** 16nm,0.9s	**19.70**	**116**	eP	**Pn**	**10 11 26.4**	**-0.3**
AS31	**Alice Springs** 6.1nm,0.6s	**19.88**	**155**	eP	**Pn**	**10 11 29.6**	**+0.8**
ASAR	**Alice Springs** 1.0nm,0.3s,baz=335,slow=12,SNR=89	**19.88**	**155**	P	**Pn**	**10 11 29.2**	**+0.5**
ASAR				LR	LR	10 18 59.4	
	comp=Z,123nm,21.8s,baz=332,slow=36						

AS01	**Alice Springs**	**19.89**	**155**	*eP*	**Pn**	10 11 29.1	+0.1
KLSI		**20.24**	**272**	P	Pn	10 11 32.9	-0.2
	44nm,1.2s						
MDSI	**Maura Dua**	**20.80**	**272**	P	Pn	10 11 40.8	+1.2
	24nm,1.2s						
PMG	**Port Moresby**	**22.26**	**101**	LR	LR	10 22 20.3	
	comp=Z,149nm,18.9s,baz=236,slow=41						
MASI	**Maura Aman, Be**	**22.85**	**275**	P	**P**	**10 12 01.1**	**+2.0**
	168nm,1.4s						
PPI	**Padang Panjang**	**25.12**	**281**	P	P	10 12 31.7	+11
PSI	**Prapat**	**27.38**	**287**	P	**P**	**10 12 36.8**	**-4.3**
	4.1nm,0.6s,baz=243,slow=9.0,SNR=3.1						
PSI				LR	LR	10 25 20.9	
	comp=Z,292nm,18.5s,baz=104,slow=40						
PSI	**Prapat**	**27.38**	**287**	*eP*	**P**	**10 12 40.0**	**-1.0**
	15nm,1.1s						
NWAO	**Narrogin (SRO)**	**28.12**	**194**	LR	LR	10 24 06.9	
	comp=Z,176nm,18.3s,baz=354,slow=37						
QIZ	**Qiongzhong**	**28.70**	**329**	P	**P**	**10 12 54.3**	**+1.7**
QIZ				S	**S**	**10 17 42.4**	**+2.8**
QIZ				LR	LR		
	comp=N,130nm,18.6s						
QIZ				LR	LR		
	comp=E,110nm,16.5s						
QIZ				LR	LR		
	comp=Z,150nm,7.4s						
STKA	**Stephens Creek**	**30.38**	**151**	P	**P**	**10 13 04.8**	**-2.6**
	comp=Z,1.4nm,0.5s,baz=335,slow=10,SNR=4.7						
HNR	**Honiara**	**34.81**	**98**	LR	LR	10 29 29.0	
	comp=Z,95nm,18.1s,baz=276,slow=39						
CMAR	**Chiang Mai Arr**	**35.13**	**314**	P	**P**	**10 13 48.6**	**-0.5**
	comp=Z,0.7nm,0.3s,baz=137,slow=6.0,SNR=4.3						
MJAR	**Matsushiro Arr**	**43.72**	**15**	P	**P**	**10 14 57.5**	**-2.9**
	comp=Z,3.3nm,1.0s,baz=188,slow=9.1,SNR=6.5						
LZH	**Lanzhou**	**46.00**	**336**	*eP*	**P**	**10 15 19.4**	**+0.6**
LZH				pP	pP	10 15 23.0	-6.2
LZH				sP	sP	10 15 24.5	-8.9
LZH				PP	**PP**	**10 17 08.6**	**+1.4**
LZH				pmax	pmax		
	comp=Z,18nm,1.2s						
LZH				pmax	pmax		
	comp=Z,49nm,5.6s						
LZH				LR	LR		
	comp=N,150nm,14.0s						
LZH				LR	LR		
	comp=E,160nm,14.2s						
LZH				LR	LR		
	comp=Z,190nm,17.5s						
HHC	**Hu-ho-hao-te**	**47.87**	**346**	*eP*	**P**	**10 15 35.6**	**+2.4**
HHC				S	**S**	**10 22 31.5**	**+3.4**
HHC				pmax	pmax		
	comp=Z,19nm,1.1s						
HHC				pmax	pmax		
	comp=Z,63nm,5.1s						
USRK	**Ussuriysk Ar.**	**49.98**	**7**	P	**P**	**10 15 49.6**	**+0.4**
	comp=Z,1.6nm,0.6s,baz=148,slow=8.5,SNR=3.6						
MDJ	**Mudanjiang**	**50.17**	**4**	P	**P**	**10 15 52.3**	**+1.6**
MDJ				pP	pP	10 15 55.4	-5.8
MDJ				pmax	pmax		
	comp=Z,5.0nm,0.5s						
MDJ				pmax	pmax		
	comp=Z,56nm,3.9s						
SONM	**Songino Array**	**55.70**	**345**	P	**P**	**10 16 29.9**	**-1.7**
	comp=Z,0.4nm,0.5s,baz=128,slow=4.3,SNR=3.9						
WMQ	**Urumqi**	**59.62**	**329**	P	**P**	**10 17 01.4**	**+2.2**
WMQ				pmax	pmax		
	comp=Z,7.0nm,0.6s						
WMQ				pmax	pmax		
	comp=Z,52nm,4.7s						
MK01	**Makanchi Array**	**64.41**	**329**	*eP*	**P**	**10 17 32.2**	**+0.9**
MK31	**Makanchi Array**	**64.43**	**329**	*eP*	P	10 17 36.5	+5.1
MKAR	**Makanchi Array**	**64.43**	**329**	*eP*	P	10 17 36.5	+5.1
	comp=Z,45nm,0.3s						
KURBB	**Kurchatov Arra**	**68.81**	**330**	P	**P**	**10 17 56.0**	**-3.2**
	comp=Z,0.2nm,0.3s,baz=152,slow=6.1,SNR=3.2						
KURK	**Kurchatov**	**68.83**	**330**	P	**P**	**10 17 56.0**	**-3.3**
GEYT	**Alibeck**	**75.58**	**311**	LR	LR	10 57 41.1	
	comp=Z,38nm,18.6s,baz=155,slow=40						
ABKAR	**Akbulak array**	**78.39**	**323**	*eP*	**P**	**10 18 56.6**	**+1.1**
	comp=Z,0.2nm,0.3s						
KMBO	**Kilima Mbogo**	**87.68**	**269**	LR	LR	10 55 48.7	
	comp=Z,84nm,19.5s,baz=92,slow=34						

*ISCJB **07** 10:16:36.2±0.1, 17°.98S±0°.03×178°.54W±0°.03, h579km, mb4.6/177, Error ellipse: s-maj=5.1km s-min=2.6km az=143.1*

*IDC **07** 10:16:36.9±1.2, 17°.93S×178°.39W, h577km±13km, mb4.1/22, mb1 4.2/24, mb1mx4.1/31, mbtmp5.0/24, Error ellipse: s-maj=17.3km s-min=9.3km az=151.0*

*NEIC **07** 10:16:38.2±0.9, 17°.96S×178°.55W, h590km±11km, mb4.6/148, Error ellipse: s-maj=6.3km s-min=4.0km az=164.0*

ISC 07 10:16:36.9±0.3, 17°.98S±0°.07×178°.41W±0°.05, h579km, n478, σ19°08/496, mb4.6/177, 11C-4D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MSVF	**Nonsavu**	**3.38**	**274**	*eP*	**P**	**10 18 00.6**	**+3.8**
AFI	**Afiamalu**	**7.55**	**59**	P	**P**	**10 18 31.5**	**+0.1**
	6.8nm,0.3s,baz=146,slow=6.7,SNR=10						
AFI				S	**S**	**10 20 03.0**	**-2.1**
	5.8nm,0.3s,baz=16,slow=17,SNR=4.1						
AFI	**Afiamalu**	**7.55**	**59**	*eS*	**S**	**10 20 02.8**	**-2.3**
NIUE	**Niue**	**8.12**	**99**	P	**P**	**10 18 38.3**	**+1.5**
	baz=8.0,SNR=8.4						
DZM	**Mont Dzumac**	**14.81**	**252**	P	**P**	**10 19 44.5**	**+0.5**
	3.5nm,0.3s,baz=134,slow=22,SNR=34						
DZM	**Mont Dzumac**	**14.81**	**252**	*eP*	**P**	**10 19 43.6**	**-0.4**
NFK	**Norfolk Island**	**16.66**	**226**	P	**P**	**10 20 03.2**	**+2.0**
	baz=17,SNR=4.6						
OUZ	**Omahuta**	**18.59**	**201**	*eP*	**P**	**10 20 22.4**	**+3.7**
	114nm,0.9s						
OUZ	**Omahuta**	**18.59**	**201**	*ePN*	**P**	**10 20 21.6**	**+2.9**
KUZ	**Kuaotunu**	**19.40**	**194**	*ePN*	**P**	**10 20 27.9**	**+1.9**
MKAZ	**Moumakai**	**19.88**	**195**	*ePN*	**P**	**10 20 32.5**	**+2.2**
WMGZ	**Waiomatatini S**	**19.97**	**187**	*ePN*	**P**	**10 20 30.6**	**-0.5**
HAZ	**Te Kaha**	**19.99**	**189**	*ePN*	**P**	**10 20 30.8**	**-0.5**
PKGZ	**Pakihiroa**	**20.08**	**188**	*ePN*	**P**	**10 20 32.2**	**0.0**
PUZ	**Puketiti**	**20.23**	**188**	*ePN*	**P**	**10 20 32.7**	**-0.9**
TWGZ	**Tauwhareparae**	**20.38**	**188**	*ePN*	**P**	**10 20 35.4**	**+0.5**
URZ	**Urewera**	**20.59**	**190**	*eP*	**P**	**10 20 36.0**	**-0.7**
	50nm,0.7s						
URZ	**Urewera**	**20.59**	**190**	*ePN*	**P**	**10 20 34.3**	**-2.4**
MWZ	**Matawai**	**20.59**	**189**	*ePN*	**P**	**10 20 35.1**	**-1.7**
HIZ	**Hauiti**	**21.29**	**195**	*eP*	**P**	**10 20 45.2**	**+2.2**
	162nm,1.8s						
BKZ	**Black Stump Fm**	**21.58**	**191**	*eP*	**P**	**10 20 44.6**	**-1.1**
	18nm,0.6s						
BKZ				*eS*	**S**	**10 24 07.5**	**+1.3**
HNR	**Honiara**	**22.66**	**289**	P	**P**	**10 20 57.4**	**+1.8**
	48nm,0.5s,baz=38,slow=6.3,SNR=4.6						
QRZ	**Quartz Range**	**24.07**	**197**	*ePN*	**P**	**10 21 08.4**	**+0.6**
NNZ	**Nelson**	**24.21**	**195**	*ePN*	**P**	**10 21 08.6**	**-0.4**
THZ	**Tophouse**	**24.85**	**196**	*eP*	**P**	**10 21 15.2**	**+0.5**
	19nm,0.8s						
THZ	**Tophouse**	**24.85**	**196**	*ePN*	**P**	**10 21 14.7**	**-0.1**
KHZ	**Kahutara**	**25.31**	**194**	*ePN*	**P**	**10 21 17.7**	**-1.0**
LTZ	**Lake Taylor**	**25.97**	**196**	*eP*	**P**	**10 21 23.3**	**-1.3**
	66nm,1.5s						
INZ	**Inchbonnie**	**26.14**	**197**	*ePN*	**P**	**10 21 25.3**	**-0.7**
OXZ	**Oxford**	**26.54**	**196**	*eP*	**P**	**10 21 28.2**	**-1.3**
	63nm,1.1s						
WVZ	**Waitaha Valley**	**26.66**	**198**	*ePN*	**P**	**10 21 30.1**	**-0.5**
FOZ	**Fox Glacier**	**27.36**	**199**	*eP*	**P**	**10 21 35.9**	**-0.7**
	45nm,0.7s						
JCZ	**Jackson Bay**	**28.17**	**200**	PN	**P**	**10 21 43.8**	**0.0**
EIDS	**Eidsvold**	**29.25**	**250**	P	**P**	**10 21 53.3**	**-0.1**
	baz=29,SNR=17						
EIDS	**Eidsvold**	**29.25**	**250**	*eP*	**P**	**10 21 53.3**	**0.0**
	25nm,0.6s						
MLZ	**Mavora Lakes**	**29.54**	**199**	*eP*	**P**	**10 21 56.2**	**+0.6**
	152nm,1.7s						
ARMA	**Armidale**	**29.91**	**240**	P	**P**	**10 22 00.4**	**+1.2**
	baz=30,SNR=44						
ARMA	**Armidale**	**29.91**	**240**	*eP*	**P**	**10 22 00.2**	**+1.1**
	26nm,0.6s						
MGCD	**Mangrove Creek**	**31.26**	**235**	P	**P**	**10 22 12.2**	**+1.6**
	baz=31,SNR=16						
RMQ	**Roma**	**31.48**	**249**	P	**P**	**10 22 13.4**	**+0.9**
	baz=32,SNR=44						
RABL	**Rabaul**	**31.89**	**292**	*eP*	**P**	**10 22 15.1**	**-1.0**
	134nm,0.6s						
CNB	**Canberra Magne**	**33.39**	**232**	P	**P**	**10 22 29.9**	**+1.3**
	baz=34,SNR=82						
CTA	**Charters Tower**	**33.44**	**261**	P	**P**	**10 22 29.1**	**-0.1**
	38nm,0.6s,baz=96,slow=11,SNR=90						
CTAO	**Charters Tower**	**33.44**	**261**	*eP*	**P**	**10 22 29.1**	**-0.1**
	45nm,0.6s						
PMG	**Port Moresby**	**34.47**	**280**	P	**P**	**10 22 38.7**	**+0.9**
	159nm,0.8s,baz=78,slow=6.5,SNR=38						
PMG	**Port Moresby**	**34.47**	**280**	*eP*	**P**	**10 22 38.0**	**+0.2**
	165nm,0.8s						
CMSA	**Cobar Meteorol**	**35.12**	**240**	P	**P**	**10 22 43.6**	**+0.6**
	baz=35,SNR=117						
MTSU	**Mount Surprise**	**35.40**	**264**	P	**P**	**10 22 45.4**	**-0.2**
	baz=36,SNR=50						
QLP	**Quilpie**	**35.51**	**249**	P	**P**	**10 22 46.6**	**+0.3**
	baz=36,SNR=46						
COEN	**Coen**	**37.11**	**270**	P	**P**	**10 23 00.1**	**+0.5**
	baz=37,SNR=144						
COEN	**Coen**	**37.11**	**270**	*eP*	**P**	**10 23 00.1**	**+0.6**
	132nm,0.6s						
TOO	**Toolangi**	**37.13**	**231**	P	**P**	**10 23 00.8**	**+1.3**
	baz=37,SNR=19						
STKA	**Stephens Creek**	**38.60**	**241**	P	**P**	**10 23 12.5**	**+1.0**
	27nm,0.5s,baz=90,slow=9.1,SNR=130						
STKA				PcP	**PcP**	**10 25 09.5**	**+0.8**
	3.7nm,0.6s,baz=124,slow=7.3,SNR=2.9						
STKA	**Stephens Creek**	**38.60**	**241**	P	**P**	**10 23 12.5**	**+1.0**
	baz=39,SNR=79						
STKA	**Stephens Creek**	**38.60**	**241**	*eP*	**P**	**10 23 12.3**	**+0.9**
	7.8nm,0.6s						
STKA				PcP	**PcP**	**10 25 09.5**	**+0.8**
ARPS	**Mount Arapiles**	**39.61**	**234**	P	**P**	**10 23 20.2**	**+0.7**
	baz=40,SNR=10						
QIS	**Mount Isa**	**39.64**	**259**	P	**P**	**10 23 18.9**	**-1.1**
	baz=40,SNR=12						
HTT	**Hallett**	**41.11**	**240**	P	**P**	**10 23 32.3**	**+0.7**
	baz=41,SNR=16						
JAY	**Jayapura**	**42.92**	**286**	P	**P**	**10 23 46.4**	**+0.3**
	10nm,0.7s,baz=275,slow=23,SNR=71						
BBOO	**Buckleboo**	**43.37**	**241**	P	**P**	**10 23 49.6**	**+0.3**
	baz=44,SNR=61						
BBOO	**Buckleboo**	**43.37**	**241**	*eP*	**P**	**10 23 49.6**	**+0.3**
	51nm,0.6s						
POHA	**Pohakuloa**	**43.71**	**32**	*eP*	**P**	**10 23 52.8**	**+0.6**
	50nm,0.6s						
KEKH	**Kekaha**	**43.73**	**25**	*eP*	**P**	**10 23 52.2**	**+0.2**
	76nm,0.5s						
HPAH	**Hawaii Prepara**	**43.85**	**32**	*eP*	**P**	**10 23 53.7**	**+0.6**
	98nm,0.5s						
KIP	**Kipapa**	**43.96**	**28**	*eP*	**P**	**10 23 54.1**	**+0.3**
	33nm,0.7s						
HLK	**Haleakala**	**44.20**	**30**	*eP*	**P**	**10 23 56.5**	**+0.5**
	95nm,0.7s						
WB2	**Warramunga Arr**	**44.61**	**260**	*eP*	**P**	**10 23 58.1**	**-0.9**
WB2				*eS*	**S**	**10 29 49.4**	**-4.5**
WRAB	**Tennant Creek**	**44.61**	**260**	*eP*	**P**	**10 23 58.0**	**-0.9**
	54nm,0.6s						
WRA	**Warramunga Arr**	**44.62**	**260**	P	**P**	**10 23 58.0**	**-1.0**
	47nm,0.5s,baz=94,slow=7.1,SNR=604						
WRA				PcP	**PcP**	**10 25 28.9**	**-0.3**
	2.8nm,0.4s,baz=89,slow=3.7,SNR=4.9						
WRA				S	**S**	**10 29 49.2**	**-4.8**
	1.6nm,0.7s,baz=100,slow=13,SNR=5.9						
AS01	**Alice Springs**	**44.73**	**254**	*eP*	**P**	**10 23 59.6**	**-0.3**
AS31	**Alice Springs**	**44.77**	**254**	*eP*	**P**	**10 24 00.1**	**-0.1**
	74nm,0.6s						
ASAR	**Alice Springs**	**44.77**	**254**	P	**P**	**10 24 00.1**	**-0.1**
	237nm,0.5s,baz=88,slow=8.4,SNR=4046						
ASAR				PcP	**PcP**	**10 25 29.2**	**-0.5**
	6.5nm,0.6s,baz=107,slow=3.9,SNR=4.2						
ASAR				S	**S**	**10 29 53.2**	**-2.9**
	4.6nm,1.0s,baz=88,slow=15,SNR=16						
KDU	**Kakadu**	**47.56**	**269**	P	**P**	**10 24 20.8**	**-0.5**
	baz=48,SNR=22						
GUMO	**Guam**	**47.92**	**308**	P	**P**	**10 24 24.0**	**0.0**
	124nm,0.7s,baz=176,slow=7.6,SNR=19						
GUMO	**Guam**	**47.92**	**308**	*eP*	**P**	**10 24 23.8**	**-0.1**
	132nm,0.6s						
WRKA	**Warakurna**	**49.82**	**252**	P	**P**	**10 24 37.9**	**-0.1**
	baz=50,SNR=234						
FORT	**Forrest**	**49.98**	**245**	P	**P**	**10 24 38.4**	**-0.6**
	baz=50,SNR=80						
FORT	**Forrest**	**49.98**	**245**	*eP*	**P**	**10 24 38.3**	**-0.7**
	993nm,0.6s						
KNRA	**Kununurra**	**50.48**	**264**	P	**P**	**10 24 42.3**	**-0.6**
	baz=51,SNR=32						
FAKI	**Fak Fak**	**50.59**	**281**	*eP*	**P**	**10 24 42.9**	**-0.8**
	69nm,1.4s						
FITZ	**Fitzroy Crossi**	**53.02**	**261**	P	**P**	**10 25 00.9**	**-0.2**
	baz=53,SNR=19						
FITZ	**Fitzroy Crossi**	**53.02**	**261**	*eP*	**P**	**10 25 00.9**	**-0.2**
	12nm,0.6s						
KMBL	**Kambalda**	**55.28**	**244**	P	**P**	**10 25 16.0**	**-0.7**
	baz=55,SNR=16						
SOEI	**Soe**	**56.07**	**270**	*eP*	**P**	**10 25 23.7**	**+1.1**
	137nm,0.6s						
MBWA	**Marble Bar**	**58.06**	**256**	*eP*	**P**	**10 25 35.2**	**-0.7**
	34nm,0.6s						
MMRI	**Maumere**	**58.30**	**271**	*eP*	**P**	**10 25 36.8**	**-0.9**
	48nm,0.7s						
MEEK	**Meekatharra**	**58.41**	**249**	P	**P**	**10 25 37.4**	**-0.8**
	baz=58,SNR=11						
KLBR	**Kellerberrin**	**58.80**	**244**	P	**P**	**10 25 40.1**	**-0.7**
	baz=59,SNR=52						
NWAO	**Narrogin (SRO)**	**59.18**	**242**	P	**P**	**10 25 43.1**	**-0.2**
	16nm,0.5s,baz=337,slow=5.4,SNR=21						
NWAO	**Narrogin (SRO)**	**59.18**	**242**	P	**P**	**10 25 43.0**	**-0.2**
	baz=59,SNR=17						
NWAO				P	**P**	**10 25 43.0**	**-0.2**
	baz=59,SNR=17						
NWAO	**Narrogin (SRO)**	**59.18**	**242**	*eP*	**P**	**10 25 42.7**	**-0.6**
	59nm,0.5s						
RKGY	**Rocky Gully**	**59.34**	**240**	P	**P**	**10 25 44.6**	**+0.3**
	baz=59,SNR=5.5						
BLDU	**Ballidu**	**59.75**	**245**	P	**P**	**10 25 46.6**	**-0.5**
	baz=60,SNR=36						
MORW	**Morawa**	**60.45**	**246**	P	**P**	**10 25 51.3**	**-0.4**
	baz=60,SNR=4.5						
KAPI	**Kappang**	**61.70**	**274**	P	**P**	**10 25 59.8**	**-0.4**
	12nm,0.6s,baz=203,slow=0.5,SNR=6.4						
GIRL	**Giralia**	**62.88**	**253**	P	**P**	**10 26 08.5**	**+0.9**
	baz=63,SNR=14						
JAGI	**Jajag, Banyuwa**	**66.04**	**269**	*eP*	**P**	**10 26 26.1**	**-1.7**
	73nm,0.7s						
MYLDM	**Lahad Datu**	**66.33**	**284**	*eP*	**P**	**10 26 30.7**	**+1.2**
	24nm,0.9s						
MJAR	**Matsushiro Arr**	**67.96**	**323**	P	**P**	**10 26 38.1**	**-0.9**
	8.6nm,0.6s,baz=161,slow=5.9,SNR=11						
MAJO	**Matsushiro**	**67.96**	**323**	*eP*	**P**	**10 26 38.3**	**-0.7**
	16nm,0.8s						
MAT	**Matsushiro**	**67.96**	**323**	P	**P**	**10 26 38.1**	**-0.9**
MAT				S	**S**	**10 34 55.0**	**+2.0**
MJB9	**Matsu-Tunnel**	**67.97**	**323**	*eP*	**P**	**10 26 38.3**	**-0.7**
	4.3nm,0.9s						
KKM	**Kota Kinabalu**	**68.76**	**284**	*eP*	**P**	**10 26 44.1**	**-0.3**
	23nm,0.8s						
UGM	**Wanagama**	**69.64**	**268**	*eP*	**P**	**10 26 49.3**	**-0.4**
	139nm,0.5s						
SBUM	**Sibu**	**71.22**	**279**	*eP*	**P**	**10 26 59.2**	**+0.3**
	12nm,0.6s						
TWG	**Pinlang**	**71.71**	**302**	*eP*	**P**	**10 26 59.8**	**-1.7**
	85nm,0.5s						
YULB	**Yu-li**	**71.81**	**303**	*eP*	**P**	**10 27 00.8**	**-1.2**
	12nm,0.6s						
NACB	**Ninganchiao**	**71.95**	**304**	*eP*	**P**	**10 27 02.0**	**-0.9**
	19nm,0.8s						
SSLB	**Suanglung**	**72.27**	**303**	*eP*	**P**	**10 27 03.7**	**-1.2**
	27nm,0.4s						
TPUB	**Ta-pu**	**72.30**	**302**	*eP*	**P**	**10 27 03.4**	**-1.6**
	50nm,0.6s						
CISI	**Cisompet, Garu**	**72.32**	**268**	*eP*	**P**	**10 27 04.0**	**-1.4**
	68nm,0.5s						
KSM	**Kuching**	**72.69**	**277**	*eP*	**P**	**10 27 07.7**	**+0.3**
	59nm,0.7s						
PETK	**Petropavlovsk-**	**73.74**	**345**	P	**P**	**10 27 12.6**	**+0.1**
	2.3nm,0.5s,baz=119,slow=5.4,SNR=5.1						
KSRS	**Korea Array**	**74.75**	**318**	P	**P**	**10 27 18.9**	**+0.4**
	2.9nm,0.6s,baz=129,slow=6.5,SNR=23						
KSAR	**Wonju Array Be**	**74.77**	**318**	P	**P**	**10 27 18.9**	**+0.3**
KS01	**Wonju Array Si**	**74.78**	**318**	*eP*	**P**	**10 27 18.9**	**+0.2**
BSC	**Santa Cruz Isl**	**76.16**	**47**	P	**P**	**10 27 27.6**	**+1.1**
	baz=237						
SBC	**Santa Barbara**	**76.35**	**47**	P	**P**	**10 27 28.7**	**+1.3**
	baz=237						
SCI	**San Clemente I**	**76.38**	**48**	P	**P**	**10 27 28.6**	**+1.0**
	baz=238						
SAO	**San Andreas Ge**	**76.47**	**44**	*eP*	**P**	**10 27 29.5**	**+1.4**
	16nm,0.7s						
SMMC	**Simmler**	**76.63**	**46**	P	**P**	**10 27 30.5**	**+1.4**
	baz=236						
USRK	**Ussuriysk Ar.**	**76.67**	**326**	P	**P**	**10 27 29.5**	**+0.5**
	3.5nm,0.6s,baz=93,slow=5.4,SNR=9.5						
PAGB	**Antelope Grade**	**76.69**	**45**	*eP*	**P**	**10 27 30.5**	**+1.1**
	9.8nm,0.9s						
FMP	**Fort Macarthur**	**76.95**	**48**	P	**P**	**10 27 31.8**	**+1.1**
	baz=238						
KMRM	**Mail Ridge**	**77.06**	**40**	*eP*	**P**	**10 27 32.7**	**+1.4**
	31nm,0.7s						
DECC	**Green Verdugo**	**77.20**	**47**	P	**P**	**10 27 33.0**	**+0.8**
	baz=238						
PASC	**Pasadena Art C**	**77.27**	**48**	*eP*	**P**	**10 27 33.4**	**+0.9**
	13nm,0.8s						
ARVC	**Arvin**	**77.33**	**46**	P	**P**	**10 27 33.6**	**+0.8**
	baz=237						
109C	**Camp Elliot, M**	**77.36**	**49**	P	**P**	**10 27 33.8**	**+0.8**
	baz=239						
MWC	**Mount Wilson**	**77.38**	**48**	*eP*	**P**	**10 27 34.1**	**+0.7**
	18nm,0.7s						
VES	**Vestal, Richgr**	**77.54**	**46**	P	**P**	**10 27 34.4**	**+0.5**
	baz=237,SNR=11						
BAR	**Barrett**	**77.57**	**50**	*eP*	**P**	**10 27 35.2**	**+1.0**
	7.8nm,0.9s						
MURC	**Murrieta**	**77.67**	**48**	P	**P**	**10 27 35.2**	**+0.5**
	baz=239						
BFSC	**Mount Baldy Ra**	**77.67**	**48**	P	**P**	**10 27 35.3**	**+0.5**
	baz=238,SNR=11						
RCTC	**Rector, Farmer**	**77.69**	**45**	P	**P**	**10 27 35.2**	**+0.5**
	baz=237						
EDW2	**Edwards Air Fo**	**77.78**	**47**	P	**P**	**10 27 36.2**	**+0.9**
	baz=238,SNR=20						
OHAK	**Old Harbor**	**77.80**	**14**	*eP*	**P**	**10 27 34.5**	**-0.2**
MONP	**Monument Peak,**	**77.86**	**49**	P	**P**	**10 27 37.0**	**+1.0**
	baz=239,SNR=33						
ISA	**Isabella, Lake**	**77.86**	**46**	P	**P**	**10 27 36.7**	**+0.9**
	baz=237,SNR=5.0						
ISA	**Isabella, Lake**	**77.86**	**46**	*eP*	**P**	**10 27 37.0**	**+1.3**
	15nm,0.8s						
CMB	**Columbia Colle**	**77.89**	**43**	*eP*	**P**	**10 27 36.5**	**+0.7**
	9.2nm,0.8s						
IKP	**In-Ko-Pah, Jac**	**77.96**	**50**	P	**P**	**10 27 37.5**	**+1.1**
	baz=240,SNR=12						
NJ2	**Nanjing**	**77.98**	**309**	*eP*	**P**	**10 27 36.7**	**+0.3**
NJ2				pmax	pmax		
	comp=Z,13nm,0.5s						
WDC	**Whiskeytown Da**	**77.99**	**40**	*eP*	**P**	**10 27 37.4**	**+1.1**
	comp=Z,35nm,1.9s						
AFDM	**Forest Hills D**	**78.03**	**42**	*eP*	**P**	**10 27 37.1**	**+0.6**
	comp=Z,7.1nm,0.9s						
ORV	**Oroville**	**78.04**	**41**	*eP*	**P**	**10 27 37.4**	**+0.9**
	comp=Z,5.5nm,0.9s						
N02D	**Trinity Center**	**78.13**	**40**	P	**P**	**10 27 38.2**	**+1.1**
	baz=234,SNR=6.5						
PFO	**Pinyon Flats O**	**78.20**	**49**	P	**P**	**10 27 38.1**	**+0.4**
	comp=Z,3.2nm,0.7s,baz=258,slow=4.0,SNR=11						
PFO	**Pinyon Flats O**	**78.20**	**49**	P	**P**	**10 27 38.5**	**+0.9**
	baz=239						
PFO	**Pinyon Flats O**	**78.20**	**49**	*eP*	**P**	**10 27 38.8**	**+1.1**
	comp=Z,3.8nm,0.8s						
TPFO	**Pinon Flats**	**78.20**	**49**	P	**P**	**10 27 38.5**	**+0.8**
	baz=239						
BBRC	**Big Bear Solar**	**78.20**	**48**	P	**P**	**10 27 38.5**	**+0.7**
	baz=239						
MDJ	**Mudanjiang**	**78.24**	**325**	P	**P**	**10 27 37.6**	**+0.1**
MDJ				pP	pP	10 29 42.1	+3.1
MDJ				S	**S**	**10 36 49.9**	**+4.2**
MDJ				pmax	pmax		
	comp=Z,16nm,0.8s						
MDJ				pmax	pmax		
	comp=Z,56nm,4.1s						
O03D	**Paynes Creek**	**78.28**	**41**	P	**P**	**10 27 38.4**	**+0.5**
	baz=234						
M02C	**Callahan**	**78.29**	**39**	P	**P**	**10 27 39.1**	**+1.2**
	baz=233,SNR=8.8						
L02D	**Cave Junction,**	**78.30**	**38**	P	**P**	**10 27 38.9**	**+1.0**
	baz=233						
LRMC	**Laurel Mtn Rad**	**78.31**	**47**	P	**P**	**10 27 39.0**	**+0.7**
	baz=238,SNR=5.5						
SWSC	**Sam W. Stewart**	**78.33**	**50**	P	**P**	**10 27 39.3**	**+1.0**
	baz=240,SNR=6.1						
CWC	**Cottonwood Cre**	**78.55**	**46**	P	**P**	**10 27 40.3**	**+0.8**
	baz=238						
YBH	**Yreka Blue Hor**	**78.58**	**39**	*eP*	**P**	**10 27 40.5**	**+1.0**
	comp=Z,11nm,0.8s						
MLAC	**Mammoth, Mammo**	**78.68**	**44**	P	**P**	**10 27 41.2**	**+0.9**
	baz=237						
BELC	**Belle Mtn. Jos**	**78.73**	**49**	P	**P**	**10 27 41.5**	**+1.0**
	baz=239,SNR=16						
MPMC	**Manual Prospec**	**78.75**	**46**	P	**P**	**10 27 41.4**	**+0.8**
	baz=238,SNR=10						
WAKR	**Walker**	**78.77**	**43**	*eP*	**P**	**10 27 41.9**	**+1.2**
	comp=Z,14nm,0.7s						
TIN	**Tinemaha, Big**	**78.78**	**45**	P	**P**	**10 27 41.8**	**+1.2**
	baz=237						
GSC	**Goldstone, Bar**	**78.83**	**47**	P	**P**

comp=Z,17nm,0.6s
F04D Rainier, OR 81.03 35 P P 10 27 53.1 +1.0
baz=232
R11A Troy Canyon, C 81.24 45 P P 10 27 53.9 +0.3
baz=239,SNR=10
R11A Troy Canyon, C 81.24 45 *e*P P 10 27 54.0 +0.4
comp=Z,4.4nm,0.9s
BMN Battle Mountai 81.26 43 *e*P P 10 27 54.4 +0.9
comp=Z,12nm,0.8s
F04A Amboy 81.26 36 *e*P P 10 27 54.0 +0.8
comp=Z,9.8nm,0.6s
LVP Lakeview Peak 81.35 36 P P 10 27 54.4 +0.6
NLWA Neilton Lookou 81.37 34 *e*P P 10 27 54.8 +1.0
comp=Z,7.8nm,0.7s
WVOR Wild Horse Val 81.46 40 *e*P P 10 27 55.3 +0.8
comp=Z,14nm,0.8s
G05D Wamic, OR 81.47 37 P P 10 27 54.8 +0.4
baz=234,SNR=5.6
TDL Tradedollar La 81.63 36 P P 10 27 56.2 +0.9
GULW Guler Mountain 81.72 36 P P 10 27 56.3 +0.6
TUC Tucson 81.74 52 P P 10 27 57.6 +1.5
baz=243
TUC Tucson 81.74 52 *e*P P 10 27 57.7 +1.5
comp=Z,8.8nm,0.9s
LCMT Little Creek M 82.17 47 *e*P P 10 27 59.4 +1.0
comp=Z,9.3nm,0.7s
D05A Enumclaw 82.26 35 *e*P P 10 27 59.5 +1.2
comp=Z,11nm,0.9s
CCUT Cedar City 82.36 47 *e*P P 10 27 59.6 +0.2
comp=Z,7.2nm,0.7s
IPM Ipoh 82.43 277 *e*P P 10 27 59.8 -0.2
SZCU Shurtz Canyon 82.57 47 *e*P P 10 28 01.8 +1.4
comp=Z,6.9nm,0.9s
WUAZ Wupatki 82.79 49 P P 10 28 02.5 +1.0
baz=242
WUAZ Wupatki 82.79 49 *e*P P 10 28 02.7 +1.2
comp=Z,12nm,1.0s
A04D Lummi Island 82.80 33 P P 10 28 01.9 +1.0
baz=232
B05A Bryant 82.84 34 P P 10 28 01.7 +0.5
baz=233
PKCU Pink Cliffs 83.03 47 *e*P P 10 28 05.0 +2.2
comp=Z,34nm,1.7s
DIV Divide 83.06 15 *e*P P 10 28 01.7 -0.3
comp=Z,15nm,0.7s
E07A Sunnyside 83.07 36 *e*P P 10 28 03.2 +0.8
comp=Z,13nm,0.7s
MDW Midway 83.16 36 P P 10 28 03.5 +0.7
HAWA Hanford 83.16 37 *e*P P 10 28 03.6 +0.8
comp=Z,14nm,0.8s
C06D Leavenworth 83.29 35 P P 10 28 04.1 +0.6
baz=234
SCM Sheep Creek Mo 83.29 14 *e*P P 10 28 03.0 -0.2
comp=Z,30nm,0.7s
ETW Entiat 83.41 35 P P 10 28 04.6 +0.3
MTPU Mount Pierson 83.41 47 *e*P P 10 28 06.3 +1.5
comp=Z,7.4nm,0.8s
HPIG 83.46 59 *e*P P 10 28 04.9 -0.2
comp=Z,4.9nm,0.8s
BMO Blue Mountains 83.59 39 *e*P P 10 28 05.5 +0.3
comp=Z,5.3nm,0.9s
MSU Marysvale 83.64 46 *e*P P 10 28 06.8 +1.1
WTV Waterville 83.67 35 P P 10 28 05.5 0.0
SKLT Songkhla 83.67 280 P P 10 28 07.9 +1.8
comp=Z,38nm,0.8s
CAST Castle Rocks 83.69 12 *e*P P 10 28 03.5 -1.6
comp=Z,17nm,0.7s
MFID Camas Ranch 83.72 41 *e*P P 10 28 06.5 +0.6
comp=Z,7.7nm,0.9s
W18A Petrified Fore 83.79 50 P P 10 28 06.8 +0.3
baz=243
MAW Mawson 83.80 200 P P 10 28 06.3 +0.7
comp=Z,2.1nm,0.5s,baz=165,slow=3.9,SNR=9.8
SEY Seymchan 83.84 347 P P 10 28 05.3 -0.5
baz=49,slow=19
D08A Wollman Farm, 83.88 36 *e*P P 10 28 07.1 +0.7
comp=Z,13nm,0.8s
PSI Prapat 83.89 275 *e*P P 10 28 06.3 -1.1
comp=Z,18nm,0.8s
SKNT Sakolnakorn 83.89 290 P P 10 28 07.1 0.0
comp=Z,24nm,0.8s
E09A Wood Farm, Sta 84.02 37 *e*P P 10 28 07.2 +0.1
comp=Z,26nm,1.8s
DUG Dugway, Tooele 84.03 45 P P 10 28 07.8 +0.3
baz=241
DUG Dugway, Tooele 84.03 45 *e*P P 10 28 07.8 +0.3
comp=Z,3.0nm,0.8s
KTH Kantishna Hill 84.04 12 *e*P P 10 28 05.5 -1.3
comp=Z,11nm,0.8s
TRF Thorofare Moun 84.08 12 *e*P P 10 28 07.0 -0.2
comp=Z,46nm,0.7s
121A Cookes Peak, D 84.11 53 P P 10 28 09.4 +1.2
baz=244
121A Cookes Peak, D 84.11 53 *e*P P 10 28 09.5 +1.4
comp=Z,6.5nm,0.8s
F10A Beach Ranch, E 84.25 38 *e*P P 10 28 08.4 +0.1
comp=Z,16nm,0.8s
ENH Enshi 84.31 304 *e*P P 10 28 09.3 +0.4
comp=Z,18nm,0.6s
LLLB Lillooet 84.37 32 *e*P P 10 28 08.9 +0.1
comp=Z,4.6nm,0.8s
B08A Colville Reser 84.39 35 *e*P P 10 28 08.7 -0.2
comp=Z,11nm,0.7s
ZAIG Zacatecas 84.44 64 *e*P P 10 28 12.3 +2.2
comp=Z,4.9nm,0.8s
MCK McKinley 84.61 13 *e*P P 10 28 08.8 -0.8
comp=Z,10nm,0.8s
HLID Hailey 84.68 41 P P 10 28 11.7 +1.0
baz=239
HLID Hailey 84.68 41 *e*P P 10 28 11.5 +0.9
comp=Z,7.8nm,0.7s
TMUT Trail Mountain 84.68 46 *e*P P 10 28 12.0 +1.1
comp=Z,7.0nm,0.7s
TMUT *e*pP pP 10 30 24.3 +9.3
HVU Hansel Valley 84.83 43 *e*P P 10 28 11.9 +0.5
comp=Z,4.1nm,0.7s
SRU San Rafael Swe 85.06 46 *e*P P 10 28 13.2 +0.6
comp=Z,8.3nm,0.7s
GYA Guiyang 85.07 300 *e*P P 10 28 13.2 +0.4
GYA pP pP 10 30 22.4 +5.3
GYA sP sP 10 31 22.0 +6.5
GYA PP **PP** **10 31 43.6 +2.4**
GYA SKS **SKSac** **10 37 39.8 -3.3**
GYA S **SKKSac** **10 37 52.0 +0.5**
GYA pmax pmax
comp=Z,10.0nm,1.0s
JLU Jordanelle 85.14 45 *e*P P 10 28 13.6 +0.6
comp=Z,3.7nm,0.8s
LAZ Ladron 85.40 52 *e*P P 10 28 14.9 +0.6
WRH Wood River Hil 85.44 13 *e*P P 10 28 12.7 -0.8
comp=Z,9.3nm,0.8s
HWUT Hardware Ranch 85.54 44 *e*P P 10 28 15.3 +0.4
comp=Z,4.3nm,0.8s
NEW Newport 85.56 36 P P 10 28 14.7 +0.1
baz=237
NEW Newport 85.56 36 *e*P P 10 28 14.5 -0.1
comp=Z,5.0nm,0.6s
MNTX Cornudas Mount 85.61 55 P P 10 28 16.1 +0.9
baz=246
MNTX Cornudas Mount 85.61 55 *e*P P 10 28 16.3 +1.1
comp=Z,4.8nm,0.7s
MVCO Mesa Verde 85.62 49 P P 10 28 15.7 +0.3
baz=244
DOT Dot Lake 85.63 15 *e*P P 10 28 14.1 -0.4
comp=Z,14nm,0.7s
CCB Clear Creek Bu 85.65 13 *e*P P 10 28 13.2 -1.3
comp=Z,6.0nm,0.6s
COLA College 85.84 13 *e*P P 10 28 14.5 -0.9
comp=Z,19nm,1.4s
ILAR Eielson Array 85.95 13 P P 10 28 14.6 -1.4
comp=Z,2.4nm,0.4s,baz=221,slow=5.2,SNR=61
ILB Eielson Array 85.95 13 *e*P P 10 28 14.9 -1.1
IL1 Eielson Array 85.95 13 *e*P P 10 28 14.5 -1.5
TX31 Lajitas Ar. Si 86.03 58 *e*P P 10 28 18.9 +1.6
TXAR Lajitas Array 86.03 58 P P 10 28 19.1 +1.7
comp=Z,9.2nm,0.7s,baz=218,slow=6.1,SNR=150
ANMO Albuquerque 86.14 52 P P 10 28 18.5 +0.6
baz=245
ANMO Albuquerque 86.14 52 *e*P P 10 28 18.4 +0.6
comp=Z,4.6nm,1.0s
MCMT McKenzie Canyo 86.29 40 *e*P P 10 28 19.3 +0.9
XAN Xi'an 86.30 307 P P 10 28 19.0 +0.6
XAN pP pP 10 30 27.1 +3.9
XAN sP sP 10 31 26.9 +5.5
XAN pmax pmax
comp=Z,25nm,1.1s
XAN pmax pmax
comp=Z,100nm,9.6s
PHET Kaeng Krachan 86.46 285 P P 10 28 21.1 +1.6
MSO Missoula 86.64 38 P P 10 28 20.2 +0.4
baz=239
MSO Missoula 86.64 38 *e*P P 10 28 19.6 -0.1
comp=Z,27nm,1.9s
DLMT Dillon 86.71 40 *e*P P 10 28 20.9 +0.6
comp=Z,7.6nm,0.8s
TPAW Teton Pass 86.83 42 *e*P P 10 28 21.9 +0.9
comp=Z,5.5nm,0.8s
REDW Red Top Meadow 86.84 42 *e*P P 10 28 21.7 +0.8
comp=Z,8.1nm,0.8s
SNOW Snow King Moun 86.95 42 *e*P P 10 28 22.3 +0.8
comp=Z,9.2nm,0.8s
LRM Limekiln Ridge 87.02 40 *e*P P 10 28 22.6 +0.7
IMW Indian Meadow 87.03 42 *e*P P 10 28 22.9 +0.9
comp=Z,12nm,0.8s
S22A 4UR Ranch, Cre 87.05 49 P P 10 28 23.0 +0.8
baz=245
S22A 4UR Ranch, Cre 87.05 49 *e*P P 10 28 23.1 +0.8
comp=Z,3.1nm,0.7s
CHMT Chamberlain Mo 87.09 39 *e*P P 10 28 21.9 -0.2
MOOW Moose Ponds 87.09 42 *e*P P 10 28 23.1 +1.0
comp=Z,3.7nm,0.8s
O20A White River Ci 87.10 46 P P 10 28 22.7 +0.5
baz=244
O20A White River Ci 87.10 46 *e*P P 10 28 22.2 0.0
comp=Z,5.9nm,0.7s
LOHW Long Hollow 87.11 42 *e*P P 10 28 23.0 +0.7
comp=Z,6.1nm,0.8s
QLMT Earthquake Lak 87.17 41 *e*P P 10 28 24.1 +1.6
FLWY Flagg Ranch 87.28 42 *e*P P 10 28 24.2 +1.2
comp=Z,11nm,0.8s
YHB Horse Butte 87.28 41 *e*P P 10 28 24.4 +1.4
comp=Z,8.8nm,0.9s
HHC Hu-ho-hao-te 87.32 314 *e*P P 10 28 23.7 +0.6
HHC S S 10 38 13.1 -2.5
HHC pmax pmax
comp=Z,22nm,1.0s
HHC pmax pmax
comp=Z,81nm,5.0s
YFT Old Faithful 87.36 42 *e*P P 10 28 25.9 +2.5
comp=Z,6.6nm,0.7s
YMR Madison River 87.39 41 *e*P P 10 28 24.9 +1.4
comp=Z,8.5nm,0.7s
BW06 Boulder Array 87.40 43 P P 10 28 23.8 +0.2
baz=243
BW06 Boulder Array 87.40 43 *e*P P 10 28 23.7 0.0
PD31 Pinedale Array 87.40 43 *e*P P 10 28 23.1 -0.5
PDAR Pinedale Array 87.40 43 P P 10 28 23.7 +0.1
comp=Z,6.5nm,0.6s,baz=220,slow=3.2,SNR=96
PDAR PP **PP** 10 31 56.5 -3.0
comp=Z,0.6nm,0.7s,baz=214,slow=6.8,SNR=5.9
BOZ Bozeman (W) 87.42 40 P P 10 28 24.3 +0.7
baz=241
BOZ Bozeman (W) 87.42 40 *e*P P 10 28 24.2 +0.7
comp=Z,15nm,1.7s
COLD Coldfoot 87.48 11 *e*P P 10 28 23.1 0.0
comp=Z,4.3nm,0.8s
H17A Grant Village 87.50 42 P P 10 28 25.9 +1.8
baz=242
H17A Grant Village 87.50 42 *e*P P 10 28 26.1 +2.0
comp=Z,8.7nm,0.8s
YHH Holmes Hill 87.51 41 *e*P P 10 28 25.6 +1.4
comp=Z,3.9nm,0.8s
SMCO Snowmass 87.56 48 *e*P P 10 28 25.2 +0.5
comp=Z,12nm,1.6s
WALA Waterton Lakes 87.79 36 *e*P P 10 28 25.6 +0.4
comp=Z,6.9nm,0.8s
HRY Holter Researc 87.83 39 *e*P P 10 28 26.2 +0.8
SDCO Great Sand Dun 88.01 49 P P 10 28 27.1 +0.4
baz=246
SDCO Great Sand Dun 88.01 49 *e*P P 10 28 27.0 +0.3
comp=Z,13nm,1.9s
MSTX Muleshoe 88.53 54 P P 10 28 29.6 +0.6
baz=247
MSTX Muleshoe 88.53 54 *e*P P 10 28 29.3 +0.3
comp=Z,11nm,0.8s
T25A Trinidad 88.55 50 P P 10 28 29.6 +0.4
baz=246
832A Faith Ranch, C 88.64 60 P P 10 28 30.1 +0.6
baz=249
RLMT Red Lodge 88.66 41 P P 10 28 30.1 +0.7
baz=243
RLMT Red Lodge 88.66 41 *e*P P 10 28 30.6 +1.2
comp=Z,11nm,1.1s
ISCO Idaho Springs 88.78 47 P P 10 28 30.7 +0.4
baz=245
TOLK Toolik Lake Re 88.85 10 P P 10 28 29.6 0.0
baz=207
CMAR Chiang Mai Arr 88.91 290 P P 10 28 31.1 +0.2
comp=Z,3.6nm,0.7s,baz=108,slow=2.6,SNR=4.3
933A Laredo 88.98 61 P P 10 28 32.3 +1.2
baz=249
N23A Red Feather La 89.00 46 P P 10 28 31.7 +0.5
baz=245
N23A Red Feather La 89.00 46 *e*P P 10 28 32.4 +1.2
comp=Z,5.2nm,0.8s
SYO Syowa Base 89.09 193⇑ *e*P P 10 28 28.1 -2.6
SYO Syowa Base 89.09 193⇑ *e*PcP PcP 10 28 31.4 -0.3
833A Chaparral WMA, 89.13 60 P P 10 28 32.6 +0.8
baz=249
034A Hebbronville 89.28 61 P P 10 28 33.3 +0.9
baz=250
K22A Casper 89.35 45 P P 10 28 32.9 +0.2
baz=245
733A Divot King Ran 89.36 60 P P 10 28 34.3 +1.6
baz=249
PHWY Pilot Hill 89.51 46 *e*P P 10 28 34.2 +0.7
comp=Z,4.9nm,0.6s
JCT Junction City 89.57 58 P P 10 28 34.2 +0.5
baz=249
JCT Junction City 89.57 58 *e*P P 10 28 34.4 +0.6
comp=Z,5.8nm,0.7s
035Z Hargill 89.59 62 P P 10 28 34.8 +0.9
baz=250
AMTX Amarillo 89.71 53 P P 10 28 34.9 +0.5
baz=248
AMTX Amarillo 89.71 53 *e*P P 10 28 35.0 +0.6
comp=Z,6.7nm,0.8s
633A Saathoff Ranch 89.71 59 P P 10 28 35.6 +1.2
baz=249
035A Emono 89.72 62 P P 10 28 35.6 +1.1
baz=250
533A Kerrville 90.04 58 P P 10 28 36.7 +0.7
baz=249
433A Art 90.24 58 P P 10 28 37.3 +0.5
baz=249
835A Beeville 90.41 60 P P 10 28 39.2 +1.6
baz=250
ABTX Abilene, Hawle 90.46 56 P P 10 28 37.7 -0.2
baz=249
534A Blanco 90.48 59 P P 10 28 38.7 +0.7
baz=250
333A Richland Sprin 90.53 57 P P 10 28 38.5 +0.4
baz=249
SNAA Sanae 90.53 179 P P 10 28 37.3 -0.2
KSCO Kaye Shedlock' 90.58 49 P P 10 28 38.8 +0.4
baz=247
VNA3 Neumayer Olymp 90.67 176 P P 10 28 38.3 +0.2
635A Leesville 90.83 59 P P 10 28 40.7 +1.1
baz=250
233A Rising Star 90.84 57 P P 10 28 39.7 +0.1
baz=249
434A Burnet 90.92 58 P P 10 28 40.5 +0.5
baz=250
LZH Lanzhou 90.93 308 *e*P P 10 28 36.2 -3.9
LZH pP pP 10 30 48.0 +1.8
LZH sP sP 10 31 48.3 +4.4
LZH PP **PP** **10 32 26.5 -0.7**
LZH pmax pmax
comp=Z,16nm,1.3s
LZH pmax pmax
comp=Z,62nm,9.2s
133A Hamilton Ranch 91.03 56 P P 10 28 40.7 +0.3
baz=249
VNA2 Neumayer--Watz 91.11 177 P P 10 28 41.3 +1.1
baz=199,slow=4.1
334A Lometa 91.13 57 P P 10 28 41.7 +0.8
baz=250
LAO LASA Array 91.26 41 P P 10 28 42.1 +0.8
baz=245
LAO LASA Array 91.26 41 *e*P P 10 28 42.5 +1.2
comp=Z,12nm,0.8s
X32A Elmer 91.38 54 P P 10 28 42.3 +0.3
baz=249
Z33A Whitaker Ranch 91.39 56 P P 10 28 42.5 +0.4
baz=250
234A Clairette 91.44 57 P P 10 28 42.5 +0.2
baz=250
435B Jarrell 91.47 58 P P 10 28 42.7 +0.3
baz=250
RSSD Black Hills 91.61 44 P P 10 28 43.5 +0.3
baz=246
RSSD Black Hills 91.61 44 *e*P P 10 28 43.4 +0.2
comp=Z,4.9nm,0.8s
134A White-Moore Ra 91.68 56 P P 10 28 44.1 +0.7
baz=250
INK Inuvik 91.95 15 P P 10 28 43.0 -0.8
comp=Z,2.2nm,0.5s,baz=201,slow=7.9,SNR=6.2
436A Wall Ranch, Ga 92.10 58 P P 10 28 45.9 +0.6
baz=250
336A Riesel 92.27 58 P P 10 28 46.4 +0.3
baz=250
U32A Winter Ranch, 92.29 53 P P 10 28 46.5 +0.3
baz=249
136A Ennis 92.88 57 P P 10 28 49.4 +0.5
baz=251
X35A Drake 93.17 55 P P 10 28 50.7 +0.5
baz=250
DGMT Dagmar 93.25 40 P P 10 28 51.2 +0.9
baz=247
DGMT Dagmar 93.25 40 *e*P P 10 28 51.2 +0.9
comp=Z,19nm,0.8s
W35A Tecumseh 93.50 54 P P 10 28 52.3 +0.6
baz=251
Y36A Durant 93.54 56 P P 10 28 52.4 +0.5
baz=251
SONM Songino Array 93.60 319 P P 10 28 52.5 +0.4
comp=Z,1.1nm,0.6s,baz=138,slow=4.9,SNR=5.0
R34A Isabella, Hill 94.26 51 P P 10 28 55.6 +0.5
baz=251
T35A Sooner Cattle 94.35 53 P P 10 28 56.0 +0.4
baz=251
YKA Yellowknife Ar 94.39 25 P P 10 28 53.4 -1.7
comp=Z,1.5nm,0.7s,baz=236,slow=4.5,SNR=4.4
V36A Jenks 94.42 54 P P 10 28 56.2 +0.3
baz=251
O33A Hebron 94.60 49 P P 10 28 57.2 +0.6
baz=250
K31A O'Neill 94.63 47 P P 10 28 57.3 +0.6
baz=250
Q34A Chapman 94.69 51 P P 10 28 57.9 +0.9
baz=251
S35A Otter Creek Ra 94.75 52 P P 10 28 58.1 +0.8
baz=251
T36A Boggs Farm, Ca 94.88 53 P P 10 28 58.8 +0.9
baz=251
X38A Whitesboro 94.93 55 P P 10 28 58.6 +0.4
baz=252
P34A Walnut Farm, R 94.98 50 P P 10 28 59.4 +1.1
baz=251
KSU1 Kansas State U 94.99 51 P P 10 28 59.5 +1.2
baz=251
KSU1 Kansas State U 94.99 51 *e*P P 10 28 59.6 +1.2
comp=Z,12nm,0.8s
R35A Emporia Munici 95.05 51 P P 10 28 59.9 +1.2
baz=251
341A Kurthwood 95.23 59 P P 10 29 00.5 +0.9
baz=252
I31A Royce, Wessing 95.26 45 P P 10 29 00.5 +1.0
baz=250
W38A Poteau 95.30 55 P P 10 29 00.9 +1.0
baz=252
S36A Lake Cedric, C 95.31 52 P P 10 29 00.6 +0.7
baz=252
Q35A Mercer Eighty, 95.34 51 P P 10 29 00.8 +0.9
baz=251
H31A Wolsey 95.45 45 P P 10 29 01.4 +1.1
baz=250
P35A Duane Minner, 95.56 50 P P 10 29 01.4 +0.4
baz=251
R36A Gordon, Harris 95.56 52 P P 10 29 01.4 +0.4
baz=252
T37A Cheneyville 18 95.63 53 P P 10 29 01.6 +0.3
baz=252
V38A Canehill 95.63 54 P P 10 29 01.3 -0.1
baz=252
Q36A Arnold C. Orve 95.80 51 P P 10 29 02.6 +0.6
baz=252
S37A Fort Scott 95.89 52 P P 10 29 03.1 +0.6
baz=252
W39A Magazine 95.91 55 P P 10 29 03.3 +0.7
baz=252
T38A Diamond 96.08 53 P P 10 29 03.9 +0.6
baz=252
P36A Good Intent, A 96.19 50 P P 10 29 04.8 +1.1
baz=252
142A Monroe 96.58 58 P P 10 29 06.1 +0.4
baz=253
R38A Fenwick Farm, 96.72 52 P P 10 29 06.6 +0.5
baz=253
N36A Muff Farm, Cla 96.73 49 P P 10 29 06.7 +0.5
baz=252
P37A Lathrop 96.81 51 P P 10 29 06.7 +0.2
baz=252
S39A Bolivar 97.01 53 P Pdif 10 29 07.6 +0.1
baz=253
Q38A Cooks Store, C 97.16 51 P P 10 29 08.6 +0.5
baz=253
V41A Mountainview 97.35 55 P P 10 29 09.5 +0.4
baz=253
F33A 5 Mile Ranch, 97.36 44 P P 10 29 09.1 +0.2
baz=252
R39A Chumby, Stover 97.41 52 P P 10 29 10.1 +0.9
baz=253
P38A Dawn 97.42 51 P P 10 29 09.7 +0.5
baz=253
M37A Trindle Farm, 97.56 49 P P 10 29 10.3 +0.5
baz=253
S40A Lebanon 97.61 53 P P 10 29 11.1 +0.9
baz=253
Q39A Willow Grove F 97.67 52 P P 10 29 10.7 +0.3
baz=253
J36A Seneca 1, Swea 97.93 47 P P 10 29 11.9 +0.4
baz=253
P39B Salisbury 97.96 51 P P 10 29 12.0 +0.3
baz=253
T41A Mountain View 98.01 54 P P 10 29 13.0 +1.0
baz=254
S41A Jillco Farms, 98.18 53 P P 10 29 13.8 +1.0
baz=254
M38A Pleasantville 98.19 49 P P 10 29 13.7 +1.0
baz=253
N39A Derby Farms, D 98.54 50 P P 10 29 14.3 +0.1
baz=254
L38A Oak Wood Farm, 98.56 49 P P 10 29 15.2 +0.9
baz=254
F36A Milaca 99.21 45 P Pdif 10 29 17.1 0.0
baz=254
J39A Decorah 99.78 48 P Pdif 10 29 19.8 +0.2
baz=255
P42A Winchester 99.78 52 P Pdif 10 29 20.4 +0.7
baz=255
J40A Soldiers Grove 100.47 48 P Pdif 10 29 23.3 +0.6
baz=255
KSH Kashi 113.12 306 *e*PKP **PKiKP** **10 34 09.7 +0.2**
KSH PP **PP** **10 35 16.6 +6.0**
KSH sPKP 10 37 24.7
KSH PKS **PKSdf** **10 37 44.6 -1.7**
KSH SKS **SKSdf** **10 40 25.7 -1.7**
KSH Kashi 113.12 306 SS SS 10 50 14.7 +2.2
KSH AMB AMB
comp=Z,59nm,7.4s
KSH LR LR
comp=N,42nm,4.8s
KSH LR LR
comp=E,36nm,4.3s
KSH LR LR
comp=Z,130nm,6.5s
FINES FINESS Array B 133.25 344 PKhKP PKPpre 10 34 41.8
comp=Z,2.5nm,0.9s,baz=22,slow=2.1,SNR=3.3
FINES SKPbc **SKPbc** **10 37 21.5 -0.2**
comp=Z,0.9nm,0.6s,baz=45,slow=0.8,SNR=3.9
AKASG Malin Array Be 140.62 332 PKP **PKPdf** **10 35 02.2 +1.2**
comp=Z,1.2nm,0.3s,baz=40,slow=3.1,SNR=4.4
SORM Soroca 142.85 330⇑ *i*P **PKPdf** **10 35 01.6 -3.5**
TLCR 144.63 326⇓ *i*P **PKPab** **10 35 08.6 -0.7**
BURAR Bucovina Array 144.67 332⇓ *i*P **PKPab** **10 35 09.6 0.0**
BRTR Keskin Array B 144.83 315 PKP PKPbc 10 35 08.8 -0.8
comp=Z,4.0nm,0.4s,baz=142,slow=5.1,SNR=18
STHS Stebnicka Huta 144.85 338 *e*PKP **PKPab** **10 35 09.5 -0.6**
CFR Carcaliu 144.99 327⇑ *i*P **PKPab** **10 35 09.8 -0.9**
CRVS Cervenica-Dubn 145.20 337 *e*PKP **PKPab** **10 35 11.0 -0.4**
VRI Vrincioaia 145.24 329⇑ *i*P **PKPbc** **10 35 10.0 -0.5**
TIRR Tirgusor 145.32 325⇓ *i*P **PKPbc** **10 35 10.7 0.0**

ANTO	**Ankara**	**145.33 316**	*e*PKPbc	**PKPbc**	**10 35 11.0**	**0.0**
HARR	**Harsova**	**145.43 326**	*i*P	**PKPdf**	**10 35 09.3**	**-0.3**
TLB	**Topalu**	**145.44 326**	*i*P	**PKPbc**	**10 35 11.1**	**+0.1**
UPC	**Upice**	**145.55 344**	*e*PKP	**PKPab**	**10 35 11.6**	**-1.2**
DPC	**Dobruska-Polom**	**145.61 343**	*e*PKP	**PKPab**	**10 35 11.9**	**-1.2**
LANS	**Liptovska Anna**	**145.70 339**	*e*PKP	**PKPab**	**10 35 12.6**	**-0.8**
KRLC	**Kraliky**	**145.73 343**	*e*PKP	**PKPbc**	**10 35 12.1**	**+0.3**
MLR	**Muntele Rosu**	**145.89 329**	*i*P	**PKPab**	**10 35 13.1**	**-1.3**
KECS	**Kecovo**	**145.91 337**	*e*PKP	**PKPbc**	**10 35 12.8**	**+0.5**
VOIR		**146.36 330**	*i*P	**PKPbc**	**10 35 14.0**	**+0.3**
DRGR		**146.40 333**	*i*P	**PKPbc**	**10 35 13.7**	**-0.1**
VYHS	**Vyhne**	**146.48 339**	*e*PKP	**PKPbc**	**10 35 14.1**	**+0.2**
ARR	**Arges**	**146.61 330**	*i*P	**PKPbc**	**10 35 15.0**	**+0.6**
KHC	**Kasperske Hory**	**147.44 345**	*e*PKP	**PKPbc**	**10 35 16.4**	**0.0**
GERES	**GERESS Array B**	**147.68 345**	PKPbc	**PKPbc**	**10 35 16.4**	**-0.7**
	comp=Z,2.1nm,0.4s,baz=30,slow=3.3,SNR=18						
BZS	**Buzias**	**147.79 333**	*i*P	**PKPbc**	**10 35 17.1**	**-0.3**
CONA	**Conrad Observa**	**147.93 342**	*i* PKPbc	**PKPbc**	**10 35 17.5**	**-0.2**
	comp=Z,5.2nm,0.9s						
ARSA	**Arzberg**	**148.64 342**	*i* PKiKP	**PKiKP**	**10 35 19.7**	**-0.8**
	comp=Z,1.6nm,0.5s						
SOKA	**Soboth**	**149.30 342**	*i* PKPbc	**PKPbc**	**10 35 20.6**	**-0.5**
	comp=Z,4.6nm,0.9s						
KBA	**Koelnbreinsper**	**149.40 344**	*i* PKiKP	**PKiKP**	**10 35 21.6**	**-0.7**
	comp=Z,2.0nm,0.5s						
RETA	**Reutte**	**149.62 348**	*i* PKPbc	**PKPbc**	**10 35 21.6**	**-0.3**
	comp=Z,11nm,1.6s						
WTTA	**Wattenberg**	**149.64 346**	*i* PKPbc	**PKPbc**	**10 35 21.5**	**-0.6**
	comp=Z,3.0nm,0.4s						
MYKA	**Terra Mystica**	**149.74 343**	*i* PKPbc	**PKPbc**	**10 35 21.2**	**-1.0**
	comp=Z,4.1nm,0.6s						
ABTA	**Abfaltersbach**	**149.92 345**	*i* PKPbc	**PKPbc**	**10 35 21.7**	**-0.9**
	comp=Z,3.0nm,0.5s						
FETA	**Feichten**	**150.07 347**	*e*PKiKP	**PKiKP**	**10 35 23.2**	**-0.5**
	comp=Z,2.1nm,0.6s						
TORD	**Torodi Ar. Bea**	**175.20 181**	PKP	**PKPdf**	**10 35 40.8**	**-1.0**
	comp=Z,0.4nm,0.8s,baz=112,slow=0.8,SNR=2.9						

*IDC **07** 10:22:01.6±1.5,35.95N×141.36E,h0km,mb3.5/2, mb1 3.9/3,mb1mx3.6/31,mbtmp3.6/3,ML3.7/1,Error ellipse: s-maj=39.0km s-min=31.0km az=119.0*
*JMA **07** 10:22:01.4±0.2,36.67N×141.57E,h58km±4km,M3.3*

ISC 07 10:21:57.1±2.4,36°62N±0.07°×141°54E±0.09,h1km±13km, n12,σ0°81/17,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
ONAJ	**Iwakimizuishiy**	**0.77**	**309**	P		**Pn**	**10 22 16.0**	**+0.9**
ONAJ				S		**Sn**	**10 22 27.8**	**+0.4**
JHO	**Hitachi**	**0.78**	**270**	P		**Pn**	**10 22 16.6**	**+1.3**
JHO				*e*S		**Sn**	**10 22 28.2**	**+0.6**
JFK	**Kawauchi**	**0.92**	**325**	P		**Pn**	**10 22 18.0**	**+0.8**
JMM	**Marumori**	**1.38**	**335**	P		**Pn**	**10 22 24.1**	**+0.6**
JMM				S		**Sb**	**10 22 41.3**	**-0.6**
JAG	**Ashikaga**	**1.69**	**264**	P		**Pg**	**10 22 30.2**	**+0.6**
JIO	**Ouri**	**1.84**	**355**	P		**Pn**	**10 22 29.6**	**-0.2**
JKT	**Katashina**	**1.85**	**275**	P		**Pg**	**10 22 33.0**	**+0.5**
JOU	**Okura**	**1.88**	**338**	P		**Pb**	**10 22 32.2**	**0.0**
JOU				S		**Sn**	**10 22 54.8**	**+0.1**
MJAR	**Matsushiro Arr**	**2.69**	**269**	Pn		**Pb**	**10 22 44.8**	**-1.2**
	16nm,0.3s,baz=103,slow=11,SNR=138							
MJAR				Sn		**Sg**	**10 23 22.4**	**-0.9**
	3.5nm,0.3s,baz=50,slow=21,SNR=5.2							
MAT	**Matsushiro**	**2.69**	**269**	P		**Pb**	**10 22 45.3**	**-0.7**
MAT				*e*S		**Sn**	**10 23 13.8**	**-0.8**
ILAR	**Eielson Array**	**49.79**	**32**	P		P	10 31 00.4	+9.5
	0.4nm,0.7s,baz=269,slow=6.0,SNR=3.3							
WRA	**Warramunga Arr**	**56.66**	**188**	P		**P**	**10 31 41.8**	**-0.2**
	0.6nm,0.7s,baz=5.2,slow=7.3,SNR=3.8							

*ISK **07** 10:23:01.0,39.42N×40.40E,h23km,MD2.7*
*DDA **07** 10:23:02.5,39.39N×40.42E,h7km,Md2.6*
*CSEM **07** 10:23:02.2±0.5,39.35N×40.41E,h10km,MD2.7,Error ellipse: s-maj=10.4km s-min=9.3km az=131.0*

ISC 07 10:23:02.6±1.1,39°36N±0.03°×40°36E±0.03,h6km±10km, n12,σ0°74/21,Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
YEDI	**Yedisu-Bingol**	**0.17**	**61**	Pg		**Pg**	**10 23 05.8**	**-0.2**
YEDI				Sg		**Sg**	**10 23 09.1**	**+0.7**
YEDI	**Yedisu-Bingol**	**0.17**	**61**	*i* Pg		**Pg**	**10 23 05.9**	**-0.2**
YEDI				*i* Sg		**Sg**	**10 23 09.1**	**+0.7**
BNGB	**Bing¶**	**0.44**	**146**	PG		**Pg**	**10 23 11.2**	**-0.1**
BNGB				SG		**Sb**	**10 23 19.2**	**-0.6**
BINT	**Bingol**	**0.49**	**168**	*i* Pg		**Pg**	**10 23 11.2**	**-0.9**
BINT				*i* Sg		**Sg**	**10 23 19.2**	**+0.7**
ERZN	**Erzincan**	**0.54**	**295**	*e*PG		**Pg**	**10 23 13.0**	**-0.2**
TNCL	**Tunceli-Merkez**	**0.68**	**249**	*i* P		**Pb**	**10 23 16.9**	**0.0**
TNCL				*i* S		**Sb**	**10 23 27.6**	**+0.9**
TNCL	**Tunceli-Merkez**	**0.68**	**249**	P		**Pb**	**10 23 16.9**	**0.0**
TNCL				S		**Sb**	**10 23 27.5**	**+0.9**
BNGL	**BINGOL**	**0.74**	**123**	*i* P		**Pb**	**10 23 17.5**	**-0.5**
BNGL				*i* S		**Sn**	**10 23 31.9**	**+0.5**
PTK	**Pertek**	**0.88**	**239**	*e*PG		**Pg**	**10 23 19.0**	**-0.6**
PTK	**Pertek**	**0.88**	**239**	*e*Pg		**Pg**	**10 23 19.0**	**-0.6**
KELT	**Kelkit**	**1.16**	**313**	*i* P		**Pb**	**10 23 24.0**	**-1.2**
KELT				*i* S		**Sn**	**10 23 42.4**	**+0.5**
KELT	**Kelkit**	**1.16**	**313**	P		**Pb**	**10 23 24.0**	**-1.2**
KELT				S		**Sn**	**10 23 42.4**	**+0.5**

BKK 07 10:25:30.6±1.1,22°N±5°×10°1E±°,h4km±7km,M3.5/4, MLv3.5/4,Myanmar-China border region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
CHTO	**Chiang Mai**	**3.81**	**205**	Pg		Pb	10 26 39.4	+0.9
CHTO				Pn		Pn	10 26 30.1	-0.1
CHTO				Sg		Sg	10 27 32.1	-1.1
CMMT	**Chiang Mai**	**3.81**	**205**	Pg		Pb	10 26 39.3	+0.8
CMMT				Pn		Pn	10 26 30.3	+0.1
CMMT				Sg		Sg	10 27 32.2	-1.0
LAMP	**Lampang**	**3.88**	**194**	Pg		Pb	10 26 39.3	-0.3
LAMP				Sg		Sg	10 27 33.7	-1.5
UTTA	**Uttaradit**	**4.53**	**181**	Sg		Sg	10 27 53.0	-3.3
SUKH	**Sukhothai**	**4.89**	**191**	Sg		Sg	10 28 06.1	-1.5
QIZ	**Qiongzhong**	**9.21**	**109**	P		Pn	10 27 45.1	+0.8

*CSEM **07** 10:39:46.3,34.13N×25.27E,h20km,ML3.1/2*

ATH 07 10:39:46.3,34°13N×25°27E,h20km±4km,ML3.1/2,Error ellipse: s-maj=5.4km s-min=2.2km az=357.0,Crete

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
SIVA	**Sivas**	**0.97**	**337**	P		Pn	10 40 04.7	0.0
SIVA				S		Sn	10 40 18.0	+0.1
SIVA	**Sivas**	**0.97**	**337**	P		Pn	10 40 04.6	-0.1
SIVA				S		Sn	10 40 19.4	+1.5
SIVA	**Sivas**	**0.97**	**337**	P		Pn	10 40 04.6	-0.1
SIVA				S		Sn	10 40 19.5	+1.6
SIVA				AML		AML	10 40 20.4	
	comp=N,4950μm,0.7s							
SIVA				AML		AML	10 40 21.6	
	comp=E,5088μm,0.5s							
SIVA	**Sivas**	**0.97**	**337**	P		Pn	10 40 04.7	-0.1
SIVA				S		Sn	10 40 17.7	-0.1
SIVA				AML		AML	10 40 20.1	
	comp=N,4950μm,0.7s							
SIVA				AML		AML	10 40 21.6	
	comp=E,5088μm,0.5s							
LAST	**Lasithi**	**1.05**	**10**	P		Pb	10 40 05.9	+0.1
LAST	**Lasithi**	**1.05**	**10**	P		Pb	10 40 05.3	-0.5
LAST	**Lasithi**	**1.05**	**10**	P		Pb	10 40 05.7	-0.2
LAST	**Lasithi**	**1.05**	**10**	P		Pb	10 40 05.5	-0.4
NPS	**Neapolis**	**1.17**	**14**	P		Pn	10 40 06.5	-1.1
NPS				S		Sn	10 40 23.8	+0.8
NPS	**Neapolis**	**1.17**	**14**	P		Pn	10 40 06.0	-1.6
NPS				S		Sn	10 40 24.1	+1.1
NPS				AML		AML	10 40 31.4	
	comp=N,467μm,0.6s							
NPS				AML		AML	10 40 31.6	
	comp=E,660μm,0.8s							
IDI	**Anoyia**	**1.20**	**345**	P		Pb	10 40 08.4	0.0
IDI	**Anoyia**	**1.20**	**345**	P		Pb	10 40 08.6	+0.2
IDI				S		Sn	10 40 25.7	+1.9
IDI	**Anoyia**	**1.20**	**345**	P		Pb	10 40 08.4	0.0
IDI				S		Sn	10 40 25.0	+1.2
IDI				AML		AML	10 40 30.5	
	comp=E,768μm,0.5s							
IDI				AML		AML	10 40 30.8	
	comp=N,414μm,0.5s							
IDI	**Anoyia**	**1.20**	**345**	P		Pn	10 40 07.8	-0.2
IDI				AML		AML	10 40 30.5	
	comp=E,768μm,0.5s							
IDI				AML		AML	10 40 30.8	
	comp=N,414μm,0.5s							
GVD	**Gavdhos**	**1.21**	**307**	P		Pb	10 40 09.2	+0.7
GVD				S		Sn	10 40 26.3	+2.5
GVD	**Gavdhos**	**1.21**	**307**	P		Pb	10 40 09.6	+1.1
GVD				S		Sn	10 40 28.3	+4.5
GVD	**Gavdhos**	**1.21**	**307**	P		Pb	10 40 09.6	+1.2
GVD				S		Sn	10 40 28.4	+4.6
GVD				AML		AML	10 40 34.8	
	comp=N,1073μm,0.6s							
GVD				AML		AML	10 40 40.6	
	comp=E,1201μm,0.4s							
GVD	**Gavdhos**	**1.21**	**307**	P		Pb	10 40 09.2	+0.8
GVD				S		Sn	10 40 26.8	+3.0
ZKR	**Zakros**	**1.26**	**38**	P		Pb	10 40 10.7	+1.3
ZKR	**Zakros**	**1.26**	**38**	P		Pb	10 40 11.2	+1.8
IMMV	**Iera Moni Meta**	**1.70**	**322**	P		Pb	10 40 17.3	+0.4
IMMV	**Iera Moni Meta**	**1.70**	**322**	P		Pb	10 40 17.5	+0.6
IMMV				S		Sb	10 40 41.3	+3.4
IMMV	**Iera Moni Meta**	**1.70**	**322**	P		Pb	10 40 17.7	+0.8
IMMV				S		Sb	10 40 41.2	+3.4
IMMV				AML		AML	10 40 46.5	
	comp=E,446μm,0.5s							
IMMV				AML		AML	10 40 48.8	
	comp=N,608μm,0.6s							
IMMV	**Iera Moni Meta**	**1.70**	**322**	P		Pb	10 40 17.6	+0.7
ANKY	**Antikythira Is**	**2.37**	**318**	P		Pb	10 40 26.9	-1.4
ANKY	**Antikythira Is**	**2.37**	**318**	P		Pb	10 40 27.0	-1.3

MEX 07 11:01:49.6±0.4,14°55N×92°50W,h64km±14km,MD3.8, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
CCIG	**Comitan**	**1.75**	**11**	*e*P		Pn	11 02 16.4	-1.6
CCIG				*i* S		Sn	11 02 37.7	-1.8
TGIG		**2.29**	**345**	*i* P		Pn	11 02 24.4	-0.8
TGIG				*i* S		Sn	11 02 50.1	-2.2

IDC 07 11:07:30.8±8.9,55°51N×85°19E,h0km,Error ellipse: s-maj=52.4km s-min=26.9km az=8.0,Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**1.58**	**188**	*i*			11 17 40.0	
	baz=5.8,slow=317,SNR=16							
ZALV	**Zalesovo Beam**	**1.58**	**188**	Pg		Pn	11 07 59.5	-0.5
	0.5nm,0.3s,baz=11,slow=14,SNR=2.9							
ZALV				Lg		Lg	11 08 20.8	
	0.6nm,0.3s,baz=9.4,slow=28,SNR=2.2							
I34MN	**SONGINO INFRAS**	**15.22**	**112**	*i*			12 39 40.0	
	baz=307,slow=325,SNR=0.7							

IDC 07 11:12:44.1±4.3,19°61S×174°96W,h0km,mb3.8/4, mb1 4.1/5,mb1mx3.8/43,mbtmp3.9/5,ML4.1/1,MS3.3/1, Ms1 3.3/1,ms1mx2.8/28,Error ellipse: s-maj=174.1km s-min=25.4km az=142.0,Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
AFI	**Afiamalu**	**6.43**	**29**	Pn		Pn	11 14 19.4	-0.8
	4.5nm,0.3s,baz=220,slow=15,SNR=5.5							
AFI				Sn		Sn	11 15 30.2	-4.3
	2.1nm,0.3s,baz=139,slow=20,SNR=2.8							
DZM	**Mont Dzumac**	**17.56**	**259**	LR		LR	11 22 45.7	
	comp=Z,96nm,19.2s,baz=78,slow=34							
CTA	**Charters Tower**	**36.43**	**263**	P		P	11 19 52.0	+1.1
	2.1nm,0.4s,baz=79,slow=12,SNR=6.7							
ASAR	**Alice Springs**	**47.51**	**256**	P		P	11 21 20.8	-0.7
	1.0nm,0.9s,baz=99,slow=8.2,SNR=6.5							
WRA	**Warramunga Arr**	**47.56**	**261**	P		P	11 21 21.2	-0.6
	0.3nm,0.3s,baz=97,slow=7.6,SNR=24							
ILAR	**Eielson Array**	**86.84**	**12**	P		P	11 25 30.9	+0.8
	0.3nm,0.7s,baz=224,slow=5.0,SNR=3.9							
GERES	**GERESS Array B**	**150.01**	**349**	PKPbc		PKPbc	11 32 35.5	-1.2
	0.2nm,0.3s,baz=346,slow=3.5,SNR=3.7							

*ISCJB **07** 11:21:46.9±0.2,33.39S±0.03°×72.49W±0.03,h10km, mb4.6/31,MS4.8/18,Error ellipse: s-maj=4.6km s-min=3.1km az=17.2*
*IDC **07** 11:21:46.3±0.6,33.24S×72.24W,h0km,mb4.4/9, mb1 4.5/13,mb1mx4.4/24,mbtmp4.4/13,ML4.7/4,MS4.7/16, Ms1 4.7/16,ms1mx4.6/21,Error ellipse: s-maj=27.3km s-min=15.7km az=86.0*
*GUC **07** 11:21:47.2±0.5,33.36S×72.42W,h25km±9km,ML4.6*
*NEIC **07** 11:21:50.0±1.3,33.30S×72.17W,h19km±8km,mb4.8/24, ML4.6(GUC),Error ellipse: s-maj=8.4km s-min=4.1km az=78.0*
NEIC Felt [II] at Limache, Puchuncavi, San Antonio, Villa Alemana and Vina del Mar. Also felt at Valparaiso.
*GCMT **07** 11:21:50.0±0.2,33.43S×72.55W,h19km,MW5.2/86, Moment Tensor Solution. s48,c56; s86,c123; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr5.12±.21; Mθθ-0.31±.12; Mϕϕ-4.81±.15; Mrθ0.48±.26; Mϕθ1.36±.09; Mϕr-4.64±.33; Best double couple: Mw6.95200×10¹⁶ NP1:φs171.00000°,δ66.00000°,λ.95.00000°. NP2: φs338.00000°,δ24.00000°,λ78.00000°. Principal axes: T 6.9510, Plg68.0000°, Azm91.0000°; N 0.0020, Plg5.0000°, Azm349.0000°; P -6.9540, Plg21.0000°, Azm257.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

ISC 07 11:21:47.7±0.9,33°38S±0.04°×72°45W±0.04°,h7km±5km, n135,σ1°66/139,mb4.8/31,MS4.8/18,1C,Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
CHPI	**Pichilemu**	**1.07**	**160**	*e*P		**Pg**	**11 22 07.0**	**-1.2**
CHPI				*e*S		**Sg**	**11 22 22.4**	**+0.2**
ROC1	**El Roble**	**1.27**	**72**	*e*Pg		**Pn**	**11 22 09.8**	**-2.3**
ROC1				*e*Pn		**Pb**	**11 22 10.8**	**-1.3**
ROCH	**El Roble**	**1.27**	**72**	*e*P		**Pn**	**11 22 10.3**	**-1.8**
ROCH				*e*S		**Sb**	**11 22 28.4**	**-0.5**
ROCH				IAML			11 22 31.1	
	comp=E,23μm,0.7s							
RCDM	**Rinconada Maip**	**1.38**	**95**	*e*P		**Pn**	**11 22 09.7**	**-3.7**
RCDM				*e*S		**Sb**	**11 22 24.5**	**-7.1**
PEL	**Peldehue**	**1.50**	**81**	*e*P		**Pn**	**11 22 13.8**	**-1.2**
PEL				*e*S		**Sn**	**11 22 34.0**	**-0.8**
PEL				IAML			11 22 50.3	
	comp=E,15μm,1.0s							
ANTU	**Antumapu**	**1.53**	**97**	*e*P		**Pn**	**11 22 14.7**	**-0.8**
ANTU				*e*S		**Sn**	**11 22 34.9**	**-0.7**
ANTU				IAML			11 22 44.3	
	comp=N,15μm,1.0s							
CLCH	**Cerro Calan**	**1.60**	**91**	*e*P		**Pn**	**11 22 15.7**	**-0.7**
CLCH				*e*S		**Sn**	**11 22 36.9**	**-0.5**
FSR	**Penalolen**	**1.61**	**94**	*e*P		**Pn**	**11 22 15.9**	**-0.7**
FSR				*e*S		**Sn**	**11 22 37.5**	**-0.1**
FCH	**Farellones**	**1.81**	**89**	*e*P		**Pn**	**11 22 18.9**	**-0.6**
FCH				*e*S		**Sn**	**11 22 43.4**	**+0.6**
NICH	**Los Niches**	**1.91**	**148**	*e*P		**Pn**	**11 22 20.5**	**-0.1**
YECH	**El Yeso**	**2.00**	**99**	*e*P		**Pn**	**11 22 21.9**	**-0.2**
YECH				*e*S		**Sn**	**11 22 48.9**	**+1.4**
AUSP	**Uspallata**	**2.83**	**67**	*i* P		**Pn**	**11 22 34.7**	**+1.2**
ARCO	**CERRO ARCO**	**3.00**	**81**	*i* P		**Pn**	**11 22 37.3**	**+1.5**
ARCO				IAML			11 22 46.2	
	comp=Z,2μm,0.5s							
ARCO				*i* S		**Sg**	**11 23 28.4**	**+4.2**
AAGR	**Agrelo**	**3.05**	**85**	*i* P		**Pn**	**11 22 38.1**	**+1.7**
ASAL	**Salagasta**	**3.14**	**76**	*i* P		**Pn**	**11 22 38.8**	**+1.2**
RTCV	**Cerro Valdivia**	**3.63**	**66**	*i* P		**Pn**	**11 22 45.4**	**+1.0**
LCO	**Las Campanas**	**4.61**	**19**	*e*Pn		**Pn**	**11 22 56.2**	**-1.8**
PLCA	**Paso Flores**	**7.49**	**169**	Pn		**Pn**	**11 23 37.9**	**+0.5**
	comp=Z,9.0nm,0.3s,baz=353,slow=11,SNR=179							
PLCA				LR		LR	11 26 24.3	
	comp=Z,2μm,19.7s,baz=11,slow=37							
TRQA	**Tornquist**	**9.70**	**122**	*e*Pn		**Pn**	**11 24 08.2**	**+0.5**
LVC	**Limon Verde**	**11.18**	**17**	Pn		Pn	11 24 23.1	-5.2
	comp=Z,24nm,0.3s,baz=172,slow=14,SNR=10							
LVC				LR		LR	11 29 16.0	
	comp=Z,12μm,18.9s,baz=217,slow=41							
CHRN	**Cochrane**	**13.85**	**180**	*e*Pn		**Pn**	**11 25 05.3**	**+0.9**
CPUP	**Villa Florida**	**14.88**	**66**	Pn		**Pn**	**11 25 17.1**	**-1.4**
	comp=Z,0.1nm,0.3s,baz=190,slow=6.1,SNR=3.4							
CPUP				Sn		**Sn**	**11 28 08.8**	**+5.3**
	baz=190,slow=9.8,SNR=3.3							
CPUP				LR		LR	11 31 24.5	
	comp=Z,2μm,19.8s,baz=247,slow=39							
CPUP	**Villa Florida**	**14.88**	**66**	*e*Pn		Pn	11 25 13.1	-5.3
CPUP				Sn		**Sn**	**11 28 08.8**	**+5.3**
LPAZ	**La Paz**	**17.46**	**14**	P		**Pn**	**11 25 52.1**	**-0.3**
	comp=Z,0.8nm,0.3s,baz=188,slow=7.5,SNR=36							
LPAZ	**La Paz**	**17.46**	**14**	*e*Pn		**Pn**	**11 25 47.6**	**-4.8**
	comp=Z,32nm,0.9s							
SIV	**San Ignacio**	**20.14**	**33**	P		**P**	**11 26 20.3**	**-2.2**
	comp=Z,0.3nm,0.3s,baz=234,slow=13,SNR=23							
SIV				LR		LR	11 35 21.6	
	comp=Z,3μm,18.1s,baz=230,slow=41							
EFI	**East Falkland**	**21.06**	**154**	*e*P		**P**	**11 26 31.9**	**-0.2**
	comp=Z,98nm,0.8s							
USHA	**Ushuaia**	**21.63**	**174**	P		**P**	**11 26 39.5**	**+1.3**
	comp=Z,47nm,0.9s,baz=327,slow=9.0,SNR=4.0							
USHA				LR		LR	11 36 26.4	
	comp=Z,17μm,19.0s,baz=326,slow=40							
NNA	**Nana**	**21.68**	**348**	P		**P**	**11 26 38.2**	**-0.9**
	comp=Z,15nm,0.7s,baz=215,slow=12,SNR=2.3							
NNA				LR		LR	11 33 31.7	
	comp=Z,1μm,18.3s,baz=179,slow=33							
NNA	**Nana**	**21.68**	**348**	*e*P		**P**	**11 26 39.4**	**+0.3**
	comp=Z,80nm,1.0s							
SPB	**Sao Paulo**	**24.00**	**72**	*e*P		**P**	**11 27 02.0**	**-1.1**
	comp=Z,52nm,1.0s							
SAML	**Samuel**	**25.78**	**21**	*e*P		**P**	**11 27 18.4**	**-0.9**
	comp=Z,17nm,1.0s							
ATAH	**Atahualpa**	**26.70**	**347**	LR		LR	11 36 35.2	
	comp=Z,1μm,18.6s,baz=189,slow=33							
OTAV	**Otavalo**	**33.92**	**349**	*e*P		**P**	**11 28 32.0**	**0.0**
	comp=Z,9.3nm,1.2s							
PTGA	**Pitinga**	**34.53**	**22**	*e*P		**P**	**11 28 35.4**	**-1.4**
	comp=Z,12nm,1.0s							
RUSC	**La Rusia**	**39.07**	**359**	*e*P		**P**	**11 29 16.9**	**+0.9**
	comp=Z,7.2nm,0.9s							
VNA3	**Neumayer Olymp**	**50.06**	**158**	P		**P**	**11 30 42.7**	**+0.1**
VNA1	**Neumayer--Stat**	**50.37**	**157**	P		**P**	**11 30 45.6**	**+0.7**
VNA2	**Neumayer--Watz**	**50.71**	**157**	P		**P**	**11 30 47.9**	**+0.3**
	baz=283,slow=8.7							
CELP	**Cerrillos**	**51.48**	**7**	*e*P		**P**	**11 30 53.0**	**-0.8**
SNAA	**Sanae**	**52.28**	**158**	P		**P**	**11 30 59.4**	**0.0**
SNAA	**Sanae**	**52.28**	**158**	*e*P		**P**	**11 30 59.2**	**-0.1**
	comp=Z,24nm,1.0s							
QSPA	**South Pole Qui**	**56.85**	**180**	*e*P		**P**	**11 31 33.3**	**+0.6**
	comp=Z,21nm,0.9s							
VNDA	**Vanda**	**64.64**	**191**	P		**P**	**11 32 27.7**	**+2.3**
	comp=Z,0.9nm,1.0s,baz=86,slow=4.5,SNR=3.3							
VNDA				LR		LR	11 56 34.0	
	comp=Z,478nm,19.7s,baz=131,slow=32							
SYO	**Syowa Base**	**66.56**	**159**	*e*P		**P**	**11 32 36.2**	**-1.7**
TAOE	**Nuku Hiva Isla**	**66.58**	**275**	*e*S		**S**	**11 41 28.3**	**-2.4**
	comp=Z,220nm,22.4s							
TAOE	**Nuku Hiva Isla**	**66.58**	**275**	*e*LR		LR	11 52 45.2	
	comp=Z,498nm,22.5s							
TBI	**Tubuai**	**67.13**	**256**	*e*S		**S**	**11 41 36.7**	**-0.3**
	comp=Z,529nm,33.5s							
TBI	**Tubuai**	**67.13**	**256**	*e*LR		LR	11 53 08.1	
	comp=Z,1μm,26.5s							
HPIG		**67.78**	**328**	*e*P		**P**	**11 32 47.3**	**+0.9**
	comp=Z,12nm,1.3s							
JCT	**Junction City**	**68.58**	**335**	*e*P		**P**	**11 32 51.8**	**+0.6**
	comp=Z,19nm,1.0s							
TXAR	**Lajitas Aray**	**69.03**	**331**	P		**P**	**11 32 54.5**	**+0.5**
	comp=Z,2.5nm,0.8s,baz=152,slow=6.7,SNR=25							
TXAR				LR		LR	11 59 00.3	
	comp=Z,473nm,18.2s,baz=0.0,slow=32							
TX31	**Lajitas Ar. Si**	**69.03**	**331**	*e*P		**P**	**11 32 54.6**	**+0.5**
WHTX	**Lake Whitney,**	**69.17**	**337**	*e*P		**P**	**11 32 55.0**	**+0.2**
SWET	**Sewanee**	**69.40**	**348**	*e*P		**P**	**11 32 55.6**	**-0.6**
PPT2	**Papeete2**	**69.98**	**262**	*e*S		**S**	**11 42 10.1**	**-1.2**
	comp=Z,352nm,22.0s							
PPT2	**Papeete2**	**69.98**	**262**	*e*LR		LR	11 54 06.9	
	comp=Z,614nm,27.0s							
PPT	**Papeete**	**69.99**	**262**	LR		LR	11 55 36.6	
	comp=Z,171nm,18.1s,baz=117,slow=29							
MIAR	**Mount Ida**	**70.42**	**342**	*e*P		**P**	**11 33 02.5**	**+0.1**
	comp=Z,7.9nm,1.1s							
ABTX	**Abilene, Hawle**	**70.48**	**336**	*e*P		**P**	**11 33 02.9**	**0.0**

TREC	**Trest**	**113.22**	**45**	AMS	AMS	12 28 30.0			
	comp=Z,400nm,20.3s								
UPC	**Upice**	**114.03**	**44**	AMS	AMS	12 28 00.0			
DPC	**Dobruska-Polom**	**114.14**	**45**	AMS	AMS	12 27 50.0			
OKC	**Ostrava-Krasne**	**115.03**	**46**	AMS	AMS	12 30 20.0			
	comp=Z,400nm,17.9s								
WRA	**Warramunga Arr**	**121.13**	**210**	PKP	**PKPdf**	**11 40 39.6**	**-2.2**		
	comp=Z,1.0nm,0.9s,baz=160,slow=1.6,SNR=8.1								
H11S2	**WAKE ISLAND Hy**	**125.43**	**270**	T	T	13 59 50.3			
	baz=118,slow=74,SNR=17								
H11S1	**WAKE ISLAND Hy**	**125.45**	**270**	T	T	13 59 40.2			
	baz=118,slow=74,SNR=4.2								
H11S3	**WAKE ISLAND Hy**	**125.45**	**270**	T	T	13 59 52.0			
	baz=118,slow=74,SNR=9.2								
SEY	**Seymchan**	**139.33**	**330**	PKP	**PKPdf**	**11 41 14.9**	**+0.2**		
	comp=Z,3.0nm,1.0s,baz=180,slow=20,SNR=3.1								
AKTO	**Aktyubinsk**	**140.20**	**49**	PKP	**PKPdf**	**11 41 16.1**	**-0.6**		
	comp=Z,0.8nm,0.4s,baz=0.0,slow=1.0,SNR=4.3								
ABKAR	**Akbulak array**	**141.57**	**51**	*e*PKPdf	**PKPdf**	**11 41 18.8**	**-0.4**		
YAK	**Yakutsk**	**148.04**	**340**	PKPbc	**PKPdf**	**11 41 30.2**	**+0.2**		
	comp=Z,8.0nm,0.4s,baz=184,slow=1.0,SNR=5.8								
YAK	**Yakutsk**	**148.04**	**340**	*e*PKPdf	**PKPdf**	**11 41 30.0**	**+0.1**		
KSM	**Kuching**	**148.15**	**185**	*e*PKPdf	**PKPdf**	**11 41 32.8**	**+1.1**		
HYB	**Hyderabad**	**149.50**	**114**	*i* PKP	**PKPbc**	**11 41 38.0**	**-0.2**		
KKAR	**Karatay Array**	**149.55**	**61**	*e*PKPbc	**PKPbc**	**11 41 36.5**	**-1.1**		
KKAR				*e*PKPab	**sPKPbc**	**11 41 41.6**	**+0.6**		
IPM	**Ipoh**	**150.60**	**167**	*e*PKPdf	**PKPdf**	**11 41 37.2**	**+1.6**		
AAK	**Ala-Archa**	**152.51**	**61**	*e*PKPbc	**PKPbc**	**11 41 45.1**	**+0.3**		
AAK				*e*PKPab	**PKPab**	**11 41 54.9**	**-0.3**		
ZALV	**Zalesovo Beam**	**153.88**	**31**	PKP	**PKPdf**	**11 41 38.6**	**-0.6**		
	comp=Z,1.5nm,0.6s,baz=241,slow=3.1,SNR=4.3								
ZALV				PKPbc	**PKPbc**	**11 41 46.6**	**-0.6**		
	comp=Z,5.0nm,0.8s,baz=298,slow=3.2,SNR=9.0								
KSH	**Kashi**	**153.96**	**67**	*e*PKPbc	**PKPdf**	**11 41 42.3**	**+2.3**		
KSH				pPKP	PKPab	11 42 00.0	-1.4		
KSH				PKS	**PKSdf**	**11 45 14.5**	**+0.2**		
KSH				PP	**PP**	**11 45 40.3**	**+3.9**		
KSH				SKS	**SKSdf**	**11 48 47.2**	**-0.1**		
WMQ	**Urumqi**	**161.35**	**50**	PKP	**PKPdf**	**11 41 48.1**	**-0.8**		
WMQ				sPKP		11 42 05.9			
WMQ				PKPab	**PKPab**	**11 42 34.1**	**+1.1**		
WMQ				PP	**PP**	**11 46 18.5**	**+2.0**		
QIZ	**Qiongzhong**	**165.56**	**189**	PKPbc	**PKPdf**	**11 41 53.3**	**-0.2**		
QIZ				PP	**PP**	**11 46 39.2**	**+1.7**		
QIZ	**Qiongzhong**	**165.56**	**189**	SS	SS	12 07 20.1	+5.7		
QIZ				LR	LR				
	comp=N,170nm,17.6s								
QIZ				LR	LR				
	comp=E,97nm,19.9s								
QIZ				LR	LR				
	comp=Z,210nm,19.4s								
HHC	**Hu-ho-hao-te**	**171.89**	**338**	*e*PKP	**PKPdf**	**11 41 58.4**	**+1.3**		
HHC				PP	**PP**	**11 47 14.6**	**+4.6**		
GYA	**Guiyang**	**173.06**	**173**	*e*PKPbc	**PKPdf**	**11 41 57.2**	**-0.9**		
GYA				PKPab	**pPKPab**	**11 43 27.9**	**+0.5**		
GYA				PKS	PKSdf	11 45 18.8	-12		
GYA				PP	**PP**	**11 47 18.0**	**+2.5**		
GYA				AMB	AMB				
	comp=Z,120nm,8.4s								
LZH	**Lanzhou**	**175.93**	**48**	*e*PKP	**PKPdf**	**11 41 55.6**	**-3.2**		
LZH				pPKP	pPKPdf	11 41 59.0	-2.3		
LZH				sPKP		11 42 00.7			
LZH				PKP	**PKPab**	**11 43 36.0**	**-1.8**		
LZH				LR	LR				
	comp=N,180nm,18.1s								
LZH				LR	LR				
	comp=E,170nm,18.0s								
LZH				LR	LR				
	comp=Z,200nm,20.2s								

*IDC **07** 11:25:25.5±1.4,34.71N×25.28E,h0km,mb3.7/3, mb1 3.8/5,mb1mx3.5/47,mbtmp3.6/5,ML3.6/2,MS3.7/2, Ms1 3.7/2,ms1mx2.5/49,Error ellipse: s-maj=24.4km s-min=11.2km az=55.0*

*ISCJB **07** 11:25:26.9±0.9,34.65N±0.04×25.06E±0.03,h4km±4km, mb3.6/3,MS3.7/2,Error ellipse: s-maj=6.6km s-min=4.2km az=176.7*

*ATH **07** 11:25:28.5,34.75N×25.04E,h16km±1km,ML3.5/10,Error ellipse: s-maj=2.1km s-min=1.0km az=353.0*

*CSEM **07** 11:25:28.2±0.3,34.70N×25.05E,h2km,ML3.7*

*THE **07** 11:25:29.1,34.77N×25.05E,h2km±3km,ML3.7/8,Error ellipse: s-maj=3.8km s-min=1.0km az=162.0*

ISC 07 11:25:28.5±1.2,34.76N±0.04×25.05E±0.02,h14km±8km, n68,σ0°94/98,mb3.8/3,Crete

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SIVA	**Sivas**	**0.33**	**323**	P	**Pb**	**11 25 35.7**	**-0.4**
SIVA				S	**Sb**	**11 25 40.5**	**-0.7**
SIVA	**Sivas**	**0.33**	**323**	P	**Pb**	**11 25 35.7**	**-0.4**
SIVA				S	**Sb**	**11 25 40.5**	**-0.7**
SIVA	**Sivas**	**0.33**	**323**	P	**Pb**	**11 25 36.1**	**0.0**
SIVA				S	**Sb**	**11 25 42.0**	**+0.7**
SIVA				AML	AML	11 25 43.5	
	comp=E,80427µm,0.7s						
SIVA				AML	AML	11 25 45.0	
	comp=N,80843µm,0.6s						
TMBK	**Timbaki Herakl**	**0.39**	**323**	P	**Pb**	**11 25 37.2**	**0.0**
TMBK				S	**Sb**	**11 25 43.5**	**+0.4**
TMBK	**Timbaki Herakl**	**0.39**	**323**	P	**Pb**	**11 25 37.2**	**0.0**
TMBK				S	**Sb**	**11 25 43.5**	**+0.4**
LAST	**Lasithi**	**0.53**	**41**	P	**Pg**	**11 25 39.4**	**+0.3**
LAST				S	**Sb**	**11 25 47.6**	**+0.3**
LAST	**Lasithi**	**0.53**	**41**	P	**Pg**	**11 25 39.4**	**+0.3**
LAST				S	**Sb**	**11 25 47.6**	**+0.3**
LAST	**Lasithi**	**0.53**	**41**	P	**Pb**	**11 25 39.6**	**-0.1**
IDI	**Anoyia**	**0.55**	**346**	Pg	**Pg**	**11 25 39.2**	**-0.1**
	comp=N,115nm,0.3s,baz=186,slow=13,SNR=327						
IDI				Lg	Lg	11 25 46.6	
	comp=N,599nm,0.3s,baz=270,slow=20,SNR=63						
IDI	**Anoyia**	**0.55**	**346**	P	**Pg**	**11 25 39.2**	**-0.1**
IDI				S	**Sb**	**11 25 47.0**	**-0.6**
IDI	**Anoyia**	**0.55**	**346**	P	**Pg**	**11 25 39.2**	**-0.1**
IDI				S	**Sb**	**11 25 47.0**	**-0.6**
IDI	**Anoyia**	**0.55**	**346**	P	**Pg**	**11 25 39.0**	**-0.3**
IDI				S	**Sg**	**11 25 46.7**	**+0.1**
IDI				AML	AML	11 25 48.4	
	comp=E,8785µm,0.3s						
IDI				AML	AML	11 25 48.7	
	comp=N,8708µm,0.2s						
IACM	**Heraklion**	**0.55**	**2**	P	**Pb**	**11 25 40.2**	**+0.3**
IACM				S	**Sb**	**11 25 48.3**	**+0.7**
IACM	**Heraklion**	**0.55**	**2**	P	**Pb**	**11 25 40.2**	**+0.3**
IACM				S	**Sb**	**11 25 48.3**	**+0.7**
IACM	**Heraklion**	**0.55**	**2**	P	**Pg**	**11 25 38.8**	**-0.5**
IACM				S	**Sg**	**11 25 46.8**	**+0.1**
IACM				AML	AML	11 25 58.7	
	comp=N,29447µm,0.4s						
IACM				AML	AML	11 25 59.0	
	comp=E,33630µm,0.4s						
NPS	**Neapolis**	**0.68**	**42**	P	**Pg**	**11 25 41.8**	**0.0**
NPS				S	**Sb**	**11 25 51.8**	**+0.3**
NPS	**Neapolis**	**0.68**	**42**	P	**Pg**	**11 25 41.9**	**0.0**
NPS				S	**Sb**	**11 25 51.7**	**+0.3**
NPS	**Neapolis**	**0.68**	**42**	P	**Pg**	**11 25 41.8**	**0.0**
NPS				S	**Sb**	**11 25 51.8**	**+0.3**
NPS				AML	AML	11 25 54.9	
	comp=N,3561µm,0.4s						
NPS				AML	AML	11 25 58.4	
	comp=E,3834µm,0.4s						
GVD	**Gavdhos**	**0.80**	**276**	P	**Pg**	**11 25 43.8**	**-0.2**
GVD				S	**Sb**	**11 25 55.5**	**+0.7**
GVD	**Gavdhos**	**0.80**	**276**	P	**Pg**	**11 25 43.8**	**-0.2**
GVD				S	**Sg**	**11 25 54.2**	**-0.3**
GVD	**Gavdhos**	**0.80**	**276**	P	**Pb**	**11 25 45.0**	**+0.8**
GVD				S	**Sg**	**11 25 53.7**	**-0.9**
GVD				AML	AML	11 25 59.5	
	comp=E,9483µm,0.6s						
GVD				AML	AML	11 26 04.5	
	comp=N,8996µm,0.4s						
VAM	**Vamos**	**0.95**	**313**	P	**Pg**	**11 25 46.3**	**-0.7**
VAM				S	**Sn**	**11 26 01.3**	**+0.5**
VAM	**Vamos**	**0.95**	**313**	P	**Pg**	**11 25 46.3**	**-0.7**
VAM				S	**Sn**	**11 26 01.3**	**+0.5**
ZKR	**Zakros**	**1.02**	**69**	P	**Pg**	**11 25 47.9**	**-0.4**
ZKR				S	**Sb**	**11 26 02.2**	**+1.0**
ZKR	**Zakros**	**1.02**	**69**	P	**Pg**	**11 25 47.7**	**-0.5**
ZKR				S	**Sb**	**11 26 02.1**	**+0.8**
ZKR				AML	AML	11 26 07.6	
	comp=E,3272µm,0.3s						
ZKR				AML	AML	11 26 11.4	
	comp=N,1412µm,0.4s						
IMMV	**Iera Moni Meta**	**1.12**	**309**	P	**Pb**	**11 25 49.0**	**-0.7**
IMMV				S	**Sn**	**11 26 06.5**	**+1.5**
IMMV	**Iera Moni Meta**	**1.12**	**309**	P	**Pb**	**11 25 49.2**	**-0.5**
IMMV				S	**Sn**	**11 26 05.7**	**+0.7**
IMMV	**Iera Moni Meta**	**1.12**	**309**	P	**Pb**	**11 25 48.6**	**-1.2**
IMMV				S	**Sn**	**11 26 06.1**	**+1.0**
IMMV				AML	AML	11 26 12.8	
	comp=N,3197µm,0.5s						
IMMV				AML	AML	11 26 13.8	
	comp=E,2930µm,0.4s						
THR6	**Thira Island,**	**1.62**	**10**	P	**Pn**	**11 25 57.2**	**+0.6**
THR6	**Thira Island,**	**1.62**	**10**	P	**Pn**	**11 25 57.2**	**+0.6**
SAP1	**Santorini-Akro**	**1.62**	**10**	P	**Pg**	**11 25 59.3**	**-0.4**
SAP1				S	**Sg**	**11 26 21.1**	**+0.3**
SAP1	**Santorini-Akro**	**1.62**	**10**	P	**Pg**	**11 25 59.9**	**+0.2**
SAP1				S	**Sg**	**11 26 21.4**	**+0.6**
SAP1				AML	AML	11 26 24.6	
	comp=E,4983µm,0.3s						
SAP1				AML	AML	11 26 29.5	
	comp=N,4696µm,0.4s						
SANT	**Santorini**	**1.64**	**12**	P	**Pg**	**11 25 59.5**	**-0.6**
SANT				S	**Sg**	**11 26 21.1**	**-0.4**
SANT	**Santorini**	**1.64**	**12**	P	**Pg**	**11 25 60.0**	**-0.1**
SANT				S	**Sg**	**11 26 20.9**	**-0.6**
SANT				AML	AML	11 26 26.5	
	comp=N,1408µm,0.3s						
SANT				AML	AML	11 26 27.8	
	comp=E,1992µm,0.5s						
THR3	**Thira Island,**	**1.67**	**10**	P	**Pb**	**11 25 58.7**	**-0.4**
THR3	**Thira Island,**	**1.67**	**10**	P	**Pb**	**11 25 58.7**	**-0.4**
THR5	**Thira Island,**	**1.67**	**8**	P	**Pn**	**11 25 58.4**	**+1.0**
THR5	**Thira Island,**	**1.67**	**8**	P	**Pn**	**11 25 58.4**	**+1.0**
ANKY	**Antikythira Is**	**1.81**	**308**	P	**Pb**	**11 26 00.9**	**-0.5**
ANKY	**Antikythira Is**	**1.81**	**308**	P	**Pb**	**11 26 00.9**	**-0.5**
ANKY	**Antikythira Is**	**1.81**	**308**	P	**Pb**	**11 26 01.5**	**+0.1**
KARP	**Karpathos**	**1.90**	**65**	P	**Pn**	**11 26 02.0**	**+1.5**
KARP	**Karpathos**	**1.90**	**65**	P	**Pn**	**11 26 02.0**	**+1.5**
KARP	**Karpathos**	**1.90**	**65**	P	**Pn**	**11 26 01.9**	**+1.3**
MHLO	**Agia Marina, M**	**2.00**	**345**	P	**Pn**	**11 26 02.9**	**+1.1**
MHLO	**Agia Marina, M**	**2.00**	**345**	P	**Pn**	**11 26 03.3**	**+1.5**
MHLO				S	**Sb**	**11 26 29.7**	**+0.3**
MHLO	**Agia Marina, M**	**2.00**	**345**	P	**Pn**	**11 26 02.6**	**+0.7**
MHLO				S	**Sb**	**11 26 29.4**	**0.0**
MHLO				AML	AML	11 26 37.4	
	comp=N,3711µm,0.6s						
MHLO				AML	AML	11 26 38.5	
	comp=E,3358µm,0.4s						
KYTH	**Kithira**	**2.22**	**313**	P	**Pb**	**11 26 08.4**	**-0.1**
APE	**Apeiranthos**	**2.34**	**9**	P	**Pb**	**11 26 09.4**	**-1.1**
APE	**Apeiranthos**	**2.34**	**9**	P	**Pb**	**11 26 10.0**	**-0.4**
VLI	**Veliai**	**2.60**	**319**	P	**Pn**	**11 26 11.5**	**+1.3**
VLI	**Veliai**	**2.60**	**319**	P	**Pn**	**11 26 11.9**	**+1.7**
VLI	**Veliai**	**2.60**	**319**	P	**Pn**	**11 26 11.3**	**+1.2**
DID	**Didima**	**3.11**	**332**	P	**Pn**	**11 26 19.1**	**+1.9**
DID	**Didima**	**3.11**	**332**	P	**Pn**	**11 26 18.7**	**+1.5**
VLX	**Vlachokerasia**	**3.39**	**321**	P	**Pn**	**11 26 24.1**	**+3.1**
VLX	**Vlachokerasia**	**3.39**	**321**	P	**Pn**	**11 26 24.7**	**+3.7**
VILL	**Villia**	**3.68**	**338**	P	**Pn**	**11 26 26.9**	**+1.9**
VIL2	**Platees**	**3.73**	**338**	P	**Pn**	**11 26 26.3**	**+0.6**
KSL	**Kastellorizon**	**3.95**	**68**	P	**Pn**	**11 26 29.8**	**+1.1**
AKASG	**Malin Array Be**	**16.22**	**10**	Pn	**Pn**	**11 29 16.7**	**+0.9**
	comp=E,0.7nm,0.3s,baz=203,slow=11,SNR=3.6						
GERES	**GERESS Array B**	**16.40**	**333**	Pn	**Pn**	**11 29 18.7**	**+0.5**
	comp=E,0.1nm,0.3s,baz=139,slow=15,SNR=1.9						
KBZ	**Khabaz**	**16.45**	**52**	Pn	**Pn**	**11 29 18.6**	**-0.1**
	comp=E,0.2nm,0.3s,baz=342,slow=3.2,SNR=2.4						
FINES	**FINESS Array B**	**26.71**	**1**	LR	LR	11 42 40.4	
	comp=E,38nm,18.4s,baz=238,slow=39						
TORD	**Torodi Ar. Bea**	**30.16**	**230**	P	**P**	**11 31 38.1**	**-0.2**
	comp=E,1.1nm,0.7s,baz=34,slow=8.4,SNR=7.1						
KURBB	**Kurchatov Arra**	**41.44**	**51**	P	**P**	**11 33 11.9**	**-2.6**
	comp=E,0.3nm,0.3s,baz=273,slow=8.7,SNR=4.6						
SONM	**Songino Array**	**59.81**	**50**	P	**P**	**11 35 32.2**	**-1.1**
	comp=E,0.4nm,0.4s,baz=272,slow=4.2,SNR=2.3						
ULM	**Lac du Bonnet**	**80.59**	**326**	LR	LR	12 16 27.1	
	comp=E,179nm,18.7s,baz=146,slow=38						

*IDC **07** 11:36:25.4±0.8,51.95N×171.53W,h0km,mb4.2/13, mb1 4.3/15,mb1mx4.0/57,mbtmp4.1/15,ML3.7/2,MS3.5/6, Ms1 3.5/6,ms1mx3.0/48,Error ellipse: s-maj=26.4km s-min=14.3km az=176.0*

*NEIC **07** 11:36:31.4±0.0,52.10N×171.55W,h24km,mb4.4/31, ML4.0(AEIC),After AEIC.*

*ISCJB **07** 11:36:32.1±0.6,52.11N±0.07×171.59W±0.04,h57km±5km, mb4.3/45,MS3.9/9,Error ellipse: s-maj=12.5km s-min=3.7km az=169.1*

ISC 07 11:36:33.8±1.2,52.1N±0.1×171.55W±0.04,h59km±10km, n91,σ1°29/88,mb4.4/45,MS3.8/9,Fox Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KOFP	**Korovin Flat P**	**1.58**	**278**	P	**Pn**	**11 36 57.4**	**-2.1**
ATKA	**Atka Island**	**1.63**	**275**	P	**Pn**	**11 36 58.3**	**-1.9**
ATKA				S	**Sn**	**11 37 19.3**	**-0.8**
NIKH	**Nikolski High**	**1.87**	**61**	P	**Pn**	**11 37 01.1**	**-2.2**
NIKH				S	**Sn**	**11 37 25.8**	**-0.1**
OKSO	**Okmok South**	**2.42**	**57**	P	**Pn**	**11 37 09.8**	**-1.1**
OKSO				S	**Sn**	**11 37 39.8**	**+0.5**
OKFG	**Magazine Ridge**	**2.57**	**58**	P	**Pn**	**11 37 12.2**	**-0.8**
OKFG				S	**Sn**	**11 37 43.9**	**+0.8**
GSMY	**Great Sitkin M**	**2.78**	**271**	P	**Pn**	**11 37 14.9**	**-1.0**
GSTR	**Great Sitkin T**	**2.78**	**272**	*e*Pn	**Pn**	**11 37 18.8**	**+2.9**
GSTD	**Great Sitkin T**	**2.84**	**271**	P	**Pn**	**11 37 16.5**	**-0.2**
GSTD				S	**Sn**	**11 37 50.2**	**+0.6**
GSCK	**Great Sitkin C**	**2.85**	**270**	P	**Pn**	**11 37 16.3**	**-0.5**
MSOM	**Makushin Julie**	**3.27**	**56**	P	**Pn**	**11 37 21.9**	**-0.6**
MSW	**Makushin Switc**	**3.41**	**56**	P	**Pn**	**11 37 23.5**	**-0.9**
UNV	**Unalaska Valle**	**3.52**	**58**	P	**Pn**	**11 37 25.2**	**-0.7**
UNV				S	**Sn**	**11 38 07.6**	**+1.4**
AKUT	**Akutan**	**4.04**	**57**	P	**Pn**	**11 37 33.2**	**+0.3**
SPIA	**Saint Paul Isl**	**5.15**	**8**	P	**Pn**	**11 37 48.4**	**+0.2**
ISLZ	**Isanotski Laza**	**5.38**	**58**	P	**Pn**	**11 37 51.1**	**-0.3**
SDPT	**Sand Point**	**7.33**	**59**	P	**Pn**	**11 38 17.9**	**-0.2**
CHGN	**Chignik**	**8.77**	**56**	*e*Pn	**Pn**	**11 38 34.9**	**-2.9**
SMY	**Shemya**	**8.80**	**280**	*e*Pn	**Pn**	**11 38 36.6**	**-1.5**
SVW2	**Sparrevohn**	**12.56**	**38**	*e*Pn	**Pn**	**11 39 32.3**	**+2.8**
PPLA	**Purkeypile**	**14.94**	**36**	*e*Pn	**Pn**	**11 40 02.5**	**+1.2**
CAST	**Castle Rocks**	**15.30**	**35**	*e*Pn	**Pn**	**11 40 03.1**	**-2.7**
	8.2nm,0.7s						
ILAR	**Eielson Array**	**17.94**	**35**	P	**P**	**11 40 37.3**	**-1.4**
	0.3nm,0.3s,baz=227,slow=9.4,SNR=18						
ILB	**Eielson Array**	**17.94**	**35**	*e*P	**P**	**11 40 37.7**	**-1.0**
PETK	**Petropavlovsk-**	**18.64**	**285**	P	**P**	**11 40 45.7**	**-0.8**
	0.3nm,0.3s,baz=84,slow=15,SNR=4.0						
PETK				LR	LR	11 48 34.1	
	comp=Z,46nm,18.4s,baz=83,slow=39						
HYT	**Haines Junctio**	**20.52**	**51**	*e*P	**P**	**11 41 08.1**	**+1.1**
	11nm,0.9s						
SEY	**Seymchan**	**21.88**	**314**	P	**P**	**11 41 22.0**	**+0.6**
	4.7nm,0.7s,baz=117,slow=11,SNR=10						
DLBC	**Dease Lake**	**24.17**	**58**	P	**P**	**11 41 46.3**	**+2.0**
	3.9nm,0.6s,baz=258,slow=6.9,SNR=8.6						
DLBC	**Dease Lake**	**24.17**	**58**	*e*P	**P**	**11 41 47.4**	**+3.1**
	19nm,1.1s						
INK	**Inuvik**	**24.32**	**34**	P	**P**	**11 41 44.5**	**-0.9**
	2.2nm,0.4s,baz=216,slow=5.0,SNR=7.3						
YKA	**Yellowknife Ar**	**31.43**	**48**	P	**P**	**11 42 48.2**	**-0.8**
	0.7nm,0.4s,baz=274,slow=9.2,SNR=5.5						
YAK	**Yakutsk**	**32.34**	**311**	LR	LR	11 56 29.6	
	comp=Z,34nm,18.6s,baz=77,slow=37						
NEW	**Newport**	**34.38**	**74**	P	**P**	**11 43 15.2**	**+0.2**
	5.4nm,0.8s,baz=296,slow=6.2,SNR=13						
NEW	**Newport**	**34.38**	**74**	*e*P	**P**	**11 43 14.8**	**-0.1**
	5.8nm,0.8s						
EDM	**Edmonton**	**34.48**	**65**	*e*P	**P**	**11 43 16.2**	**+0.5**
	9.4nm,0.6s						
KLR	**Kul'dur**	**35.28**	**288**	LR	LR	11 59 06.9	
	comp=Z,37nm,18.2s,baz=242,slow=38						
MOD	**Modoc Plateau**	**35.71**	**86**	*e*P	**P**	**11 43 27.3**	**+0.7**
	2.2nm,0.7s						
BSMT	**Bassoo Peak**	**35.95**	**74**	*e*P	**P**	**11 43 28.9**	**+0.2**
H11N2	**WAKE ISLAND Hy**	**36.43**	**216**	T	T	12 22 06.9	
	baz=20,slow=75,SNR=6.4						
H11N3	**WAKE ISLAND Hy**	**36.43**	**216**	T	T	12 22 22.2	
	baz=20,slow=75,SNR=4.7						
WVOR	**Wild Horse Val**	**36.44**	**84**	*e*P	**P**	**11 43 32.4**	**-0.4**
	3.6nm,0.9s						
H11N1	**WAKE ISLAND Hy**	**36.44**	**216**	T	T	12 22 22.2	
	baz=20,slow=75,SNR=7.3						
H11S1	**WAKE ISLAND Hy**	**37.62**	**215**	T	T	12 23 39.1	
	baz=22,slow=76,SNR=11						
H11S2	**WAKE ISLAND Hy**	**37.64**	**215**	T	T	12 23 52.6	
	baz=22,slow=76,SNR=12						
H11S3	**WAKE ISLAND Hy**	**37.64**	**215**	T	T	12 23 51.4	
	baz=22,slow=76,SNR=14						
PNTR	**Pine Nut**	**37.80**	**89**	*e*P	**P**	**11 43 45.4**	**+0.9**
	8.3nm,0.7s						
YERR	**Yerington**	**38.09**	**89**	*e*P	**P**	**11 43 47.6**	**+0.8**
	5.3nm,0.9s						
WAKR	**Walker**	**38.26**	**90**	*e*P	**P**	**11 43 49.2**	**+0.9**
	3.5nm,0.7s						
MJAR	**Matsushiro Arr**	**38.34**	**266**	P	**P**	**11 43 51.5**	**+2.7**
	1.9nm,0.9s,baz=42,slow=7.4,SNR=4.2						
MCMT	**McKenzie Canyo**	**38.65**	**77**	*e*P	**P**	**11 43 51.5**	**-0.1**
TVH1	**TV Hill, Hawth**	**38.70**	**89**	*e*P	**P**	**11 43 53.0**	**+0.7**
	4.4nm,0.8s						
TVH3	**East Aurora ar**	**38.73**	**89**	*e*P	**P**	**11 43 53.2**	**+0.9**
	3.0nm,1.0s						
TVH2	**Borealis Mine**	**38.76**	**89**	*e*P	**P**	**11 43 53.1**	**+0.6**
	3.4nm,1.3s						
EGMT	**Eagleton**	**38.82**	**71**	*e*P	**P**	**11 43 53.4**	**+0.6**
	9.1nm,0.8s						
BOZ	**Bozeman (W)**	**38.97**	**75**	*e*P	**P**	**11 43 54.0**	**-0.2**
	8.7nm,1.5s						
YHH	**Holmes Hill**	**39.86**	**76**	*e*P	**P**	**11 44 01.8**	**0.0**
H17A	**Grant Village**	**40.24**	**76**	*e*P	**P**	**11 44 06.5**	**+1.6**
	5.2nm,1.2s						
HVU	**Hansel Valley**	**40.39**	**81**	*e*P	**P**	**11 44 06.2**	**+0.1**
RLMT	**Red Lodge**	**40.63**	**74**	*e*P	**P**	**11 44 08.3**	**+0.4**
	7.8nm,1.0s						
R11A	**Troy Canyon, C**	**40.73**	**87**	*e*P	**P**	**11 44 08.4**	**-0.4**
	2.6nm,0.9s						
TPNV	**Topopah Spring**	**41.20**	**89**	*e*P	**P**	**11 44 13.1**	**+0.3**
	4.6nm,0.8s						
DUG	**Dugway, Tooele**	**41.31**	**83**	*e*P	**P**	**11 44 13.8**	**+0.3**
	3.6nm,1.1s						
BW06	**Boulder Array**	**41.77**	**77**	*e*P	**P**	**11 44 16.9**	**-0.5**
	5.0nm,1.1s						
PD31	**Pinedale Array**	**41.77**	**77**	*e*P	**P**	**11 44 17.1**	**-0.3**
PDAR	**Pinedale Array**	**41.77**	**77**	P	**P**	**11 44 16.9**	**-0.5**
	3.1nm,0.9s,baz=294,slow=5.0,SNR=20						
GSC	**Goldstone, Bar**	**41.92**	**91**	*e*P	**P**	**11 44 18.7**	**+0.1**
	7.2nm,0.9s						
U15A	**North Rim**	**43.97**	**87**	*e*P	**P**	**11 44 35.9**	**+0.5**
	11nm,1.6s						
O20A	**White River Ci**	**44.13**	**80**	*e*P	**P**	**11 44 36.1**	**-0.4**
	6.6nm,0.9s						
MDND	**Maddock**	**44.73**	**66**	*e*P	**P**	**11 44 41.4**	**+0.5**
	20nm,1.0s						
WUAZ	**Wupatki**	**45.13**	**87**	*e*P	**P**	**11 44 44.7**	**+0.2**
	3.8nm,0.8s						
ULM	**Lac du Bonnet**	**45.46**	**61**	P	**P**	**11 44 45.7**	**-0.9**
	2.8nm,0.8s,baz=302,slow=13,SNR=3.4						
NRIK	**Noril'sk**	**46.02**	**331**	LR	LR	12 06 51.6	
	comp=Z,34nm,19.4s,baz=126,slow=40						
T25A	**Trinidad**	**48.34**	**80**	*e*P	**P**	**11 45 09.5**	**-0.1**
	6.8nm,1.1s						
CBKS	**Cedar Bluff**	**50.08**	**75**	*e*P	**P**	**11 45 22.4**	**-0.2**
	10nm,0.9s						
SONM	**Songino Array**	**50.28**	**300**	P	**P**	**11 45 24.2**	**+0.1**
	0.6nm,0.6s,baz=45,slow=7.4,SNR=3.3						
MNTX	**Cornudas Mount**	**51.39**	**86**	*e*P	**P**	**11 45 32.2**	**-0.3**
	1.8nm,0.9s						
HHC	**Hu-ho-hao-te**	**51.76**	**290**	*e*P	**P**	**11 45 35.3**	**0.0**
HHC				S	**S**	**11 52 50.2**	**-2.5**
HHC				sS	sS	11 53 17.2	-1.5
HHC	**Hu-ho-hao-te**	**51.76**	**290**	SS	**SS**	**11 56 24.9**	**-4.4**
HHC				pmax	pmax		
	comp=Z,16nm,1.0s						
HHC				pmax	pmax		
	comp=Z,36nm,5.2s						
HHC				LR	LR		
	comp=N,260nm,16.9s						
HHC			

*IDC **07** 11:41:16.5±0.8,52.°01N×171.°61W,h0km,mb4.0/13, mb1 4.2/14,mb1mx3.9/58,mbtmp4.0/14,ML3.9/1,Error ellipse: s-maj=28.4km s-min=15.7km az=168.0*
*ISCJB **07** 11:41:21.7±0.9,51.°9N±0.°1×171.°53W±0.°06,h51km±7km, mb4.0/15,Error ellipse: s-maj=21.2km s-min=4.4km az=165.9*
*NEIC **07** 11:41:21.8±0.0,51.°98N×171.°56W,h41km,ML3.7(AEIC), After AEIC.*
ISC 07 11:41:23.3±1.8,**52.°0N**±0.°2×**171.°55W**±0.°06,**h50**km±14km, **n36**,σ1§**16**/36,**mb4.0**/15,**Fox Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KOFP	**Korovin Flat P**	**1.60**	**282**	P	**Pn**	**11 41 48.3**	**-1.0**
ATKA	**Atka Island**	**1.65**	**280**	P	**Pn**	**11 41 48.6**	**-1.2**
ATKA				S	**Sn**	**11 42 08.8**	**-1.1**
NIKH	**Nikolski High**	**1.94**	**57**	P	**Pn**	**11 41 52.5**	**-1.3**
NIKH				S	**Sn**	**11 42 17.5**	**+0.6**
OKSO	**Okmok South**	**2.50**	**54**	P	**Pn**	**11 42 01.0**	**-0.5**
OKSO				S	**Sn**	**11 42 32.5**	**+1.8**
OKFG	**Magazine Ridge**	**2.65**	**55**	P	**Pn**	**11 42 03.1**	**-0.4**
OKFG				S	**Sn**	**11 42 34.6**	**+0.2**
GSMY	**Great Sitkin M**	**2.79**	**274**	P	**Pn**	**11 42 05.1**	**-0.3**
GSTD	**Great Sitkin T**	**2.84**	**274**	P	**Pn**	**11 42 06.0**	**-0.3**
GSTD				S	**Sn**	**11 42 40.7**	**+1.5**
GSCK	**Great Sitkin C**	**2.85**	**273**	P	**Pn**	**11 42 06.0**	**-0.3**
MSW	**Makushin Switc**	**3.49**	**54**	P	**Pn**	**11 42 14.7**	**-0.4**
UNV	**Unalaska Valle**	**3.60**	**56**	P	**Pn**	**11 42 16.1**	**-0.4**
UNV				S	**Sn**	**11 42 59.9**	**+2.3**
AKMO	**Akutan Morgan**	**3.97**	**55**	P	**Pn**	**11 42 21.5**	**-0.1**
AKUT	**Akutan**	**4.11**	**56**	P	**Pn**	**11 42 23.1**	**-0.5**
ILAR	**Eielson Array**	**18.06**	**35**	P	**P**	**11 45 27.1**	**-3.0**
	0.2nm,0.3s,baz=213,slow=10,SNR=11						
PETK	**Petropavlovsk-**	**18.68**	**286**	P	**Pn**	**11 45 40.2**	**+2.4**
	0.1nm,0.3s,baz=82,slow=14,SNR=3.5						
SEY	**Seymchan**	**21.98**	**314**	P	**P**	**11 46 14.0**	**+1.4**
	2.6nm,0.7s,baz=106,slow=8.3,SNR=6.2						
DLBC	**Dease Lake**	**24.25**	**58**	P	**P**	**11 46 36.7**	**+1.3**
	4.7nm,0.7s,baz=238,slow=8.5,SNR=6.9						
INK	**Inuvik**	**24.43**	**34**	P	**P**	**11 46 35.4**	**-1.4**
	2.5nm,0.5s,baz=244,slow=6.9,SNR=7.0						
YKA	**Yellowknife Ar**	**31.52**	**48**	P	**P**	**11 47 39.6**	**-0.5**
	0.6nm,0.3s,baz=276,slow=6.9,SNR=8.3						
NEW	**Newport**	**34.41**	**74**	P	**P**	**11 48 06.0**	**+0.3**
	3.0nm,0.5s,baz=300,slow=8.8,SNR=7.3						
H11N2	**WAKE ISLAND Hy**	**36.31**	**216**	T	T	12 26 53.0	
	baz=21,slow=76,SNR=8.5						
H11N3	**WAKE ISLAND Hy**	**36.32**	**216**	T	T	12 26 52.8	
	baz=21,slow=76,SNR=11						
H11N1	**WAKE ISLAND Hy**	**36.33**	**216**	T	T	12 26 53.0	
	baz=21,slow=76,SNR=9.6						
H11S1	**WAKE ISLAND Hy**	**37.51**	**215**	T	T	12 28 18.6	
	baz=21,slow=76,SNR=15						
H11S2	**WAKE ISLAND Hy**	**37.52**	**215**	T	T	12 28 20.9	
	baz=21,slow=76,SNR=14						
H11S3	**WAKE ISLAND Hy**	**37.52**	**215**	T	T	12 28 18.2	
	baz=21,slow=76,SNR=14						
EGMT	**Eagleton**	**38.87**	**71**	*e*P	**P**	**11 48 42.7**	**-0.9**
	6.1nm,0.8s						
PDAR	**Pinedale Array**	**41.80**	**77**	P	**P**	**11 49 08.2**	**+0.1**
	2.2nm,0.7s,baz=294,slow=4.9,SNR=19						
ULM	**Lac du Bonnet**	**45.53**	**61**	P	**P**	**11 49 36.5**	**-1.1**
	1.5nm,0.5s,baz=290,slow=6.9,SNR=5.1						
TXAR	**Lajitas Array**	**54.10**	**87**	P	**P**	**11 50 43.1**	**0.0**
	1.5nm,0.7s,baz=298,slow=5.3,SNR=9.9						
KURK	**Kurchatov**	**61.78**	**317**	P	**P**	**11 51 36.8**	**+0.4**
KURBB	**Kurchatov Arra**	**61.88**	**317**	P	**P**	**11 51 36.8**	**-0.3**
	0.7nm,0.6s,baz=42,slow=6.9,SNR=6.7						
BVAR	**Borovoye Array**	**63.24**	**323**	P	**P**	**11 51 46.7**	**+0.5**
	0.6nm,0.4s,baz=92,slow=10,SNR=4.4						
AKTO	**Aktyubinsk**	**69.68**	**329**	P	**P**	**11 52 26.2**	**-1.1**
	0.7nm,0.4s,baz=11,slow=9.2,SNR=3.9						
CMAR	**Chiang Mai Arr**	**75.39**	**281**	P	**P**	**11 53 02.6**	**+0.9**
	1.1nm,0.7s,baz=25,slow=6.8,SNR=5.1						
WRA	**Warramunga Arr**	**85.70**	**230**	P	**P**	**11 53 56.7**	**0.0**
	0.7nm,1.0s,baz=35,slow=5.3,SNR=3.6						
ASAR	**Alice Springs**	**89.11**	**228**	P	**P**	**11 54 13.2**	**+0.1**
	0.7nm,0.7s,baz=29,slow=4.5,SNR=9.7						

*ISCJB **07** 11:42:31.7±1.0,37.°45N±0.°04×28.°09E±0.°07,h11km±8km, Error ellipse: s-maj=9.6km s-min=6.0km az=28.4*
*CSEM **07** 11:42:31.8±0.2,37.°45N×28.°09E,h10km,ML2.2,Error ellipse: s-maj=5.0km s-min=3.4km az=129.0*
*DDA **07** 11:42:31.5,37.°48N×28.°09E,h7km,Ml2.6*
*ISK **07** 11:42:31.7,37.°46N×28.°04E,h5km,ML2.2*
ISC 07 11:42:31.5±1.3,**37.°43N**±0.°04×**28.°12E**±0.°06,**h8**km±14km, **n14**,σ0§**24**/24,**Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MLSB	**Milas**	**0.30**	**243**	*e*PG	**Pg**	**11 42 37.4**	**-0.1**
MLSB				*e*SG	**Sg**	**11 42 41.7**	**+0.1**
MLSB	**Milas**	**0.30**	**243**	*e*Pg	**Pg**	**11 42 37.4**	**-0.1**
MLSB				*e*Sg	**Sg**	**11 42 41.7**	**+0.1**
AYDB	**Zeytinkoy-Aydi**	**0.54**	**341**	*e*PG	**Pg**	**11 42 42.2**	**+0.1**
AYDB				*e*SG	**Sg**	**11 42 49.3**	**+0.1**
AYDB	**Zeytinkoy-Aydi**	**0.54**	**341**	*e*Pg	**Pg**	**11 42 42.2**	**+0.1**
AYDB				*e*Sg	**Sg**	**11 42 49.3**	**+0.1**
BDM	**Kayabasi**	**0.65**	**236**	*i* P	**Pg**	**11 42 43.8**	**-0.2**
BDRM				*i* S	**Sb**	**11 42 54.3**	**0.0**
BDRM	**Kayabasi**	**0.65**	**236**	P	**Pg**	**11 42 43.8**	**-0.2**
BDRM				S	**Sb**	**11 42 54.3**	**0.0**
BODT	**Bodrum**	**0.74**	**240**	*e*PG	**Pg**	**11 42 45.6**	**-0.2**
BODT				*e*SG	**Sb**	**11 42 56.6**	**-0.4**
BODT	**Bodrum**	**0.74**	**240**	*e*Pg	**Pg**	**11 42 45.6**	**-0.2**
BODT				*e*Sg	**Sb**	**11 42 56.6**	**-0.4**
GCAM	**G?zelcaml?**	**0.75**	**291**	*i* P	**Pg**	**11 42 45.7**	**-0.3**
GCAM				*i* S	**Sg**	**11 42 55.7**	**-0.1**
GCAM	**G?zelcaml?**	**0.75**	**291**	P	**Pg**	**11 42 45.7**	**-0.3**
GCAM				S	**Sg**	**11 42 55.7**	**-0.1**
DNZL	**Cakiroluk**	**0.78**	**71**	*i* P	**Pb**	**11 42 47.5**	**0.0**
DNZL	**Cakiroluk**	**0.78**	**71**	P	**Pb**	**11 42 47.5**	**0.0**
DAT	**Datca**	**0.82**	**212**	*e*PG	**Pb**	**11 42 48.6**	**+0.5**
DAT	**Datca**	**0.82**	**212**	*e*Pg	**Pb**	**11 42 48.6**	**+0.5**

*SOME **07** 12:17:47.7,40.°83N×69.°63E,h20km*
*KRNET **07** 12:17:48.0±0.1,40.°99N×69.°13E,mb2.8*
ISC 07 12:17:48.3±2.4,**40.°98N**±0.°06×**69.3E**±0.°1,**h10**km,**n12**, σ1§**42**/22,**8C-6D,Tajikistan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IUG	**luzhnay**	**1.29**	**25**	*e*P	**Pb**	**12 18 11.9**	**-0.8**
	210nm,0.1s						
IUG				*e*S	**Sn**	**12 18 29.2**	**-0.7**
	146nm,0.5s						
BTK	**Batken**	**1.48**	**128**	⇑*i*P	**Pb**	**12 18 15.2**	**-0.8**
	baz=125						
BTK				⇑*i*S	**Sg**	**12 18 35.3**	**-0.6**
	baz=125						
ARK	**Arkit**	**2.16**	**67**	⇑*i*P	**Pn**	**12 18 24.9**	**+0.4**
	baz=69						
ARK				⇑*i*S	**Sb**	**12 18 52.4**	**-2.1**
	baz=69						
KK31	**Karatay Array**	**2.30**	**23**	Pg	**Pb**	**12 18 30.1**	**+0.1**
	3.7nm,0.3s,baz=201,slow=15,SNR=83						
KK31				Lg	Lg	12 19 00.2	
	17nm,0.5s,baz=194,slow=30,SNR=15						
ARSB	**Arslanbob**	**2.80**	**82**	⇓*i*P	**Pn**	**12 18 34.6**	**+1.3**
	baz=82						
ARSB				⇓*i*S	**Sn**	**12 19 07.5**	**+0.3**
	baz=82						
MNAS	**Manas**	**2.83**	**57**	⇓*i*P	**Pn**	**12 18 34.4**	**+0.7**
	baz=58						
MNAS				⇓*i*S	**Sn**	**12 19 08.3**	**+0.3**
	baz=58						
MNAS	**Manas**	**2.83**	**57**	⇑Pg	**Pb**	**12 18 36.7**	**-2.4**
	2.8nm,0.3s						
MNAS				⇑Lg	Lg	12 19 11.2	
	4.0nm,0.4s						
TOKL	**Toktogul**	**2.85**	**69**	⇓*i*P	**Pn**	**12 18 35.0**	**+1.1**
	baz=70						
TOKL				⇓*i*S	**Sn**	**12 19 08.8**	**+0.5**
	baz=70						
MRKS	**Merke**	**3.42**	**58**	*e*P	**Pb**	**12 18 47.3**	**-1.7**
	6.7nm,0.3s						
MRKS				*e*S	**Sb**	**12 19 29.5**	**-1.2**
	9.0nm,0.2s						
AML	**Almayashu**	**3.49**	**69**	⇑*i*P	**Pn**	**12 18 42.6**	**-0.4**
	baz=70						
AML				⇑*i*S	**Sn**	**12 19 27.2**	**+2.6**
	baz=70						
DGS	**Degeres**	**5.32**	**63**	*e*P	**Pb**	**12 19 20.7**	**-0.7**
	2.8nm,0.3s						
DGS				*e*S	**Sb**	**12 20 27.7**	**+2.4**
	5.3nm,0.4s						
KST	**Kastek**	**5.37**	**65**	*e*P	**Pb**	**12 19 21.8**	**-0.6**
	2.5nm,0.3s						
KST				*e*S	**Sb**	**12 20 29.0**	**+2.1**
	6.3nm,0.4s						

*CSEM **07** 12:21:05.6,42.°61N×42.°95E,h0km,ML1.8*
TIF 07 12:21:06.1,42.°55N×43.°00E,h13km,Western Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ONI	**Oni**	**0.34**	**82**	P	Pb	12 21 13.8	-0.2
ONI				S	Sb	12 21 19.3	0.0
ONI	**Oni**	**0.34**	**82**	P	Pb	12 21 13.7	-0.3
ONI				S	Sb	12 21 19.5	+0.2
AKH	**Akhalkalaki**	**1.19**	**162**	P	Pg	12 21 29.6	+0.6
AKH				S	Sn	12 21 46.3	+1.5
BGD	**Bogdanovka**	**1.35**	**161**	P	Pb	12 21 31.8	+0.3
BGD				S	Sg	12 21 50.1	+0.4
ARTV	**Artvin**	**1.58**	**211**	*i* P	Pn	12 21 34.4	+0.3
DAGI	**Agillar**	**1.68**	**209**	*i* P	Pb	12 21 36.8	-0.1
DAGI				*i* S	Sb	12 21 58.8	+0.8
DDEM	**Demirkent**	**1.90**	**210**	*i* P	Pb	12 21 39.7	-1.0

TIF 07 12:21:42.6,41.°43N×44.°02E,h9km±3km,Western Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BGD	**Bogdanovka**	**0.36**	**242**	P	Pb	12 21 51.2	-0.1
BGD				S	Sb	12 21 56.5	-0.5
BGD	**Bogdanovka**	**0.36**	**242**	P	Pb	12 21 51.2	-0.1
BGD				S	Sb	12 21 55.9	-1.2
AKH	**Akhalkalaki**	**0.40**	**267**	P	Pg	12 21 51.0	+0.6
AKH				S	Sg	12 21 56.5	+0.9
AKH	**Akhalkalaki**	**0.40**	**267**	P	Pg	12 21 51.0	+0.6
AKH				S	Sg	12 21 56.5	+0.9
TBLG	**Delisi**	**0.62**	**61**	P	Pb	12 21 55.1	-0.4
TBLG				S	Sb	12 22 04.4	0.0
TBLG	**Delisi**	**0.62**	**61**	P	Pb	12 21 55.1	-0.5
TBLG				S	Sb	12 22 04.4	0.0

*GUC **07** 12:35:39.6±0.6,33.°28S×72.°46W,h37km±2km,ML4.1*
*NEIC **07** 12:35:39.0±0.0,33.°25S×72.°44W,h37km,MG4.1(GUC), After GUC.*
*IDC **07** 12:35:43.8±3.9,33.°39S×72.°20W,h59km±36km,mb3.3/3, mb1 3.7/5,mb1mx3.5/22,mbtmp3.8/5,ML4.3/2,MS3.1/4, Ms1 3.1/4,ms1mx3.0/11,Error ellipse: s-maj=45.2km s-min=26.7km az=97.0*
ISC 07 12:35:37.9±2.0,**33.°34S**±0.°05×**72.°47W**±0.°07,**h16**km±11km, **n37**,σ2§**29**/52,**4C-9D,Off coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ROC1	**El Roble**	**1.28**	**74**	*e*P	**Pg**	**12 36 02.3**	**-0.3**
ROC1				⇓*e*S	**Sb**	**12 36 17.6**	**-0.4**
ROCH	**El Roble**	**1.28**	**74**	⇑*i*P	**Pb**	**12 36 02.0**	**+0.2**
ROCH				*i* S	**Sg**	**12 36 19.2**	**-0.2**
ROCH				IAML		12 36 27.1	
	comp=N,4μm,0.7s						
RCDM	**Rinconada Maip**	**1.40**	**96**	*e*P	**Pn**	**12 35 58.7**	**-4.1**
RCDM				*i* S	**Sn**	**12 36 16.8**	**-4.3**
PEL	**Peldehue**	**1.51**	**83**	⇑*i*P	**Pb**	**12 36 05.8**	**+0.1**
PEL				*i* S	**Sg**	**12 36 26.2**	**-0.5**
PEL				IAML		12 36 30.2	
	comp=E,4μm,1.0s						
ANTU	**Antumapu**	**1.55**	**99**	*e*P	**Pb**	**12 36 06.5**	**+0.1**
ANTU				IAML		12 36 35.0	
	comp=N,3μm,0.6s						
CLCH	**Cerro Calan**	**1.62**	**92**	⇑*i*P	**Pb**	**12 36 07.4**	**-0.1**
CLCH				*i* S	**Sb**	**12 36 28.7**	**+0.9**
CLCH				IAML		12 36 41.6	
	comp=N,5μm,0.7s						
FSR	**Penalolen**	**1.63**	**95**	*e*P	**Pb**	**12 36 07.9**	**+0.2**
FSR				*i* S	**Sb**	**12 36 29.3**	**+1.2**
FCH	**Farellones**	**1.83**	**90**	*e*P	**Pb**	**12 36 10.7**	**-0.5**
FCH				*i* S	**Sb**	**12 36 34.7**	**+0.8**
FCH				IAML		12 36 41.7	
	comp=E,3μm,0.5s						
NICH	**Los Niches**	**1.95**	**148**	*e*P	**Pb**	**12 36 12.3**	**-0.8**
YECH	**El Yeso**	**2.02**	**100**	⇓*i*P	**Pb**	**12 36 13.9**	**-0.6**
YECH				*i* S	**Sb**	**12 36 40.1**	**+0.6**
AUSP	**Uspallata**	**2.83**	**68**	*i* P	**Pb**	**12 36 26.9**	**-1.4**
AUSP				⇓*e*S	**Sg**	**12 37 07.6**	**-1.3**
ARCO	**CERRO ARCO**	**3.01**	**81**	*i* P	**Pb**	**12 36 29.1**	**-2.2**
ARCO				*i* S	**Sg**	**12 37 18.4**	**+3.6**
ARCO				IAML		12 37 19.7	
	comp=Z,434nm,0.6s						
AAGR	**Agrelo**	**3.07**	**86**	*i* P	**Pb**	**12 36 30.3**	**-1.9**
RTLS	**Leoncito**	**3.09**	**61**	*e*P	**Pb**	**12 36 30.6**	**-2.2**
RTLS				*i* S	**Sg**	**12 37 18.4**	**+1.1**
RTLS				IAML		12 37 23.9	
	comp=Z,389nm,0.7s						
ASAL	**Salagasta**	**3.15**	**77**	*i* P	**Pb**	**12 36 30.8**	**-2.8**
ASAL				⇓*e*S	**Sg**	**12 37 20.8**	**+1.7**
TLL	**Tololo Astrono**	**3.47**	**25**	*e*P	**Pn**	**12 36 33.0**	**+1.4**
TLL				*i* S	**Sn**	**12 37 12.6**	**+0.1**
TLL				IAML		12 37 40.0	
	comp=N,716nm,0.7s						
RTCV	**Cerro Valdivia**	**3.63**	**67**	*e*P	**Pb**	**12 36 37.9**	**-3.9**
RTCV				⇓*e*S	**Sg**	**12 37 34.9**	**+0.3**
RTLL	**Cerro Villicun**	**3.94**	**60**	*e*P	**Pn**	**12 36 42.3**	**+4.6**
RTLL				⇓*e*P	Pn	12 36 42.8	+5.1
RTLL				*e*S	**Sg**	**12 37 40.2**	**-4.1**
ACCO	**Cerro Coronel**	**3.99**	**47**	*e*P	**Pn**	**12 36 43.0**	**+4.3**
AROD	**Rodeo**	**4.07**	**40**	⇓*e*P	**Pn**	**12 36 43.8**	**+4.0**
AMOG	**MOGNA**	**4.14**	**56**	⇓*e*P	**Pn**	**12 36 44.6**	**+4.0**
ACDV	**Cuesta del Vie**	**4.26**	**43**	*e*P	**Pn**	**12 36 46.8**	**+4.5**
ACAN	**Cantantal**	**4.58**	**78**	*e*P	**Pn**	**12 36 49.3**	**+2.7**
LCO	**Las Campanas**	**4.58**	**20**	⇑*i*P	**Pn**	**12 36 47.8**	**+1.1**
LCO				*i* S	**Sn**	**12 37 39.6**	**-0.1**
LCO	**Las Campanas**	**4.58**	**20**	*e*Pn	**Pn**	**12 36 47.8**	**+1.1**
LCO				*e*Sn	**Sn**	**12 37 38.2**	**-1.5**
AGUA	**GUANDACOL**	**5.13**	**43**	⇓*e*P	**Pn**	**12 36 57.8**	**+3.5**
ACLC	**CERRO LA CRUZ**	**6.13**	**52**	*e*P	**Pn**	**12 37 10.4**	**+2.5**
PLCA	**Paso Flores**	**7.53**	**169**	P	**Pn**	**12 37 29.5**	**+2.4**
	comp=N,2.7nm,0.3s,baz=351,slow=12,SNR=19						
PLCA				LR	LR	12 40 08.7	
	comp=N,61nm,21.1s,baz=357,slow=36						
TRQA	**Tornquist**	**9.74**	**122**	*e*Pn	**Pn**	**12 37 58.3**	**+0.9**
	comp=N,42nm,1.5s						
CPUP	**Villa Florida**	**14.88**	**66**	P	**P**	**12 39 12.7**	**-0.6**
	comp=N,0.1nm,0.3s,baz=243,slow=14,SNR=2.9						
CPUP				LR	LR	12 45 14.1	
	comp=N,94nm,20.1s,baz=243,slow=39						
LPAZ	**La Paz**	**17.43**	**14**	P	**P**	**12 39 43.9**	**+1.6**
	comp=N,0.1nm,0.3s,baz=181,slow=7.9,SNR=7.6						
SIV	**San Ignacio**	**20.12**	**34**	P	Pn	12 40 12.5	-0.6
	comp=N,1.2nm,0.8s,baz=231,slow=13,SNR=6.0						
SIV				LR	LR	12 48 41.0	
	comp=N,63nm,19.4s,baz=213,slow=39						
ATAH	**Atahualpa**	**26.65**	**347**	LR	LR	12 51 07.7	
	comp=N,83nm,18.2s,baz=216,slow=34						
SNAA	**Sanae**	**52.33**	**158**	*e*P	**P**	**12 44 47.8**	**-0.7**
	comp=N,255nm,0.9s						
TXAR	**Lajitas Array**	**68.99**	**331**	P	**P**	**12 46 43.5**	**+1.0**
	comp=N,0.4nm,0.8s,baz=168,slow=9.8,SNR=2.2						
TORD	**Torodi Ar. Bea**	**84.33**	**70**	P	**P**	**12 48 08.2**	**-1.3**
	comp=N,0.5nm,0.8s,baz=240,slow=4.8,SNR=2.6						
WRA	**Warramunga Arr**	**121.15**	**210**	PKP	**PKPdf**	**12 54 31.2**	**+0.6**
	comp=N,0.3nm,0.9s,baz=159,slow=1.8,SNR=2.8						

*NEIC **07** 12:52:53.3±0.0,58.°29N×133.°52W,h1km,ML2.8(AEIC), ML3.1(OTT),After OTT.*
PGC 07 12:52:53.3±15.0,**58.°29N×133.°52W,h1km,ML3.1**/3, **52km east of Juneau, Ak Southeastern Alaska, Southeastern Alaska**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIS	**Juneau Island**	**0.46**	**269**	P	Pg	12 53 02.0	0.0
JIS				S	Sg	12 53 08.5	+0.6
BESE	**Bessie Mountai**	**0.76**	**293**	P	Pg	12 53 07.0	-0.8
BESE				S	Sg	12 53 17.3	-0.3
SKAG	**Skagway**	**1.51**	**322**	P	Pn	12 53 19.7	-1.7
SKAG				S	Sb	12 53 38.8	-2.7
DLBC	**Dease Lake**	**1.85**	**84**	P	Pn	12 53 24.9	-1.2
DLBC				Pg	Pb	12 53 26.4	-1.4
DLBC				Sn	Sn	12 53 49.9	-0.2
DLBC				Sg	Sb	12 53 51.6	+0.2
DLBC	**Dease Lake**	**1.85**	**84**	P	Pn	12 53 24.9	-1.3
DLBC				S	Sn	12 53 50.1	0.0
PLBC	**Pleasant Camp**	**1.89**	**310**	Pg	Pn	12 53 27.1	+0.5
PLBC				Sg	Sb	12 53 52.3	-0.3
WRAK	**Wrangell Islan**	**1.98**	**161**	P	Pn	12 53 27.2	-0.5
WRAK				S	Sb	12 53 54.2	-0.9
WHY	**Whitehorse**	**2.48**	**344**	Pn	Pn	12 53 33.6	-1.2
WHY				Sg	Sb	12 54 08.5	-1.3
WHY	**Whitehorse**	**2.48**	**344**	P	Pn	12 53 33.6	-1.3
DHAK	**Deception Hill**	**2.58**	**290**	P	Pn	12 53 35.4	-0.7
CRAG	**Craig**	**2.83**	**175**	P	Pn	12 53 39.4	-0.2
HYT	**Haines Junctio**	**3.26**	**323**	Pn	Pn	12 53 45.7	+0.1
HYT				Pg	Pb	12 53 51.8	-0.1
HYT				Sg	Sb	12 54 33.6	+1.6
PNL	**Peninsula**	**3.34**	**297**	Sg	Sb	12 54 36.8	+2.3
FNBB	**Fort Nelson**	**5.53**	**79**	Sg	Sg	12 55 44.3	-6.5
DAWY	**Dawson**	**6.46**	**336**	Pn	Pn	12 54 27.9	-1.4
DAWY				Sg	Sg	12 56 13.3	-7.1

*NEIC **07** 13:21:44.0±0.0,58.°27N×133.°59W,h1km,ML2.6(AEIC), ML2.9(OTT),After OTT.*
PGC 07 13:21:44.0±15.0,**58.°27N×133.°59W,h1km,ML2.9**/5, **48km east of Juneau, Ak Southeastern Alaska, Southeastern Alaska**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIS	**Juneau Island**	**0.42**	**272**	P	Pg	13 21 52.6	+0.6
JIS				S	Sg	13 21 59.1	+1.7
BESE	**Bessie Mountai**	**0.73**	**296**	P	Pg	13 21 58.5	+0.4
BESE				S	Sg	13 22 07.9	+0.3
SKAG	**Skagway**	**1.50**	**324**	P	Pn	13 22 10.8	-1.2
SKAG				S	Sb	13 22 30.4	-1.7
PLBC	**Pleasant Camp**	**1.87**	**311**	Pg	Pn	13 22 17.6	+0.4
PLBC				Sg	Sb	13 22 42.4	-0.5
DLBC	**Dease Lake**	**1.89**	**83**	P	Pn	13 22 16.0	-1.5
DLBC				Pg	Pb	13 22 17.9	-1.4
DLBC				Sn	Sn	13 22 40.8	-1.2
DLBC				Sg	Sb	13 22 42.7	-0.7
DLBC	**Dease Lake**	**1.89**	**83**	P	Pn	13 22 15.7	-1.8
DLBC				S	Sn	13 22 41.1	-0.8
WRAK	**Wrangell Islan**	**1.97**	**159**	P	Pn	13 22 18.4	-0.1
WRAK				S	Sg	13 22 47.0	-0.3
WHY	**Whitehorse**	**2.49**	**345**	Pn	Pn	13 22 24.4	-1.4
WHY				Sg	Sb	13 22 59.2	-1.6
WHY	**Whitehorse**	**2.49**	**345**	P	Pn	13 22 24.2	-1.5
HYT	**Haines Junctio**	**3.25**	**324**	Pn	Pn	13 22 36.4	+0.1
HYT				Pg	Pb	13 22 42.4	-0.2
HYT				Sg	Sb	13 23 24.5	+1.9
YUK6	**Outpost Mounta**	**3.62**	**320**	Sg	Sg	13 23 38.8	-1.3
YUK2	**White River**	**5.07**	**317**	Sg	Sg	13 24 22.8	-3.8
DAWY	**Dawson**	**6.46**	**337**	Sg	Sg	13 25 05.4	-5.8

*NIED **07** 13:29:00,42.°20N×142.°50E,h5km,Mw5.0 Best double couple: M0=4.15000×10^16 NP1:φs=295.00000°,δ20.00000°, λ63.00000°. NP2:φs=144.00000°,δ72.00000°,λ100.00000°.*
*BJI **07** 13:29:36.8,42.°09N×142.°83E,h9km,mb4.7/56,mB4.8/57, Ms5.0/80,Ms7 4.9/77*
*IDC **07** 13:29:40.2±0.5,42.°17N×142.°61E,h0km,mb4.7/33, mb1 4.7/39,mb1mx4.7/54,mbtmp4.7/39,ML4.1/4,MS4.3/24, Ms1 4.3/24,ms1mx4.2/35,Error ellipse: s-maj=14.0km s-min=11.5km az=121.0*
*ISCJB **07** 13:29:40.8±0.6,42.°20N±0.°03×142.°47E±0.°02,h12km±3km, mb5.1/290,MS4.8/56,Error ellipse: s-maj=4.4km s-min=2.2km az=161.4*
*MOS **07** 13:29:40.6±1.1,42.°28N×142.°42E,h14km,mb5.4/99, MS4.9/24,Error ellipse: s-maj=6.6km s-min=4.7km az=93.1*
*GCMT **07** 13:29:41.5±0.2,42.°26N×142.°40E,h12km,MW5.1/106, Moment Tensor Solution. s51,c68; s106,c162; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr3.45±.09; Mθθ-1.85±.08; Mφφ-1.60±.08; Mrθ1.92±.27; Mrφ1.95±.07; Mθφ-2.50±.29; Best double couple: M0=4.76000×10^16 NP1:φs140.00000°,δ66.00000°,λ96.00000°. NP2: φs306.00000°,δ25.00000°,λ78.00000°. Principal axes: T 4.6680, Plg69.0000°, Azm60.0000°; N 0.1840, Plg5.0000°, Azm317.0000°; P -4.8520, Plg21.0000°, Azm225.0000°; nsta1 refers to body wave waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*NEIC **07** 13:29:41.5±1.0,42.°24N×142.°42E,h8km±6km,mb5.3/212 Error ellipse: s-maj=4.3km s-min=2.5km az=148.0*
NEIC Felt at Sapporo. Also felt at Misawa, Honshu. Recorded [5U JMA] in southern Hokkaido.
*JMA **07** 13:29:43.0±0.2,42.°26N×142.°59E,h10km±2km,M5.1 Broadband fault plane solution: P waves. NP1: φs139.00000°,δ52.00000°,λ88.00000°. NP2: φs323.00000°,δ38.00000°,λ93.00000°. Principal axes: T Plg83.0000°, Azm35.0000°; N Plg2.0000°, Azm141.0000°; P Plg7.0000°, Azm231.0000°;*
ISC 07 13:29:42.8±0.5,**42.°19N**±0.°03×**142.°53E**±0.°03,**h17**km±2km, **h17**km:**pP-P,n912**,σ1§

comp=N,3.1nm,0.3s,baz=24,slow=14,SNR=36
UGL Uglegorsk 6.89 357 *e*PN Pn 13 31 28.1 +5.1
VLA Vladivostok 7.90 280 *e*PN **Pn** **13 31 37.1 +0.2**
USRK Ussuriysk Ar. 7.96 288 Pn **Pn** **13 31 39.4 +1.7**
comp=N,0.7nm,0.3s,baz=94,slow=14,SNR=36
USRK LR LR 13 33 49.1
comp=N,335nm,22.0s,baz=90,slow=31
INU Inuyama 8.08 214 *e*Pn **Pn** **13 31 40.6 +1.3**
HABR Khabarovsk 8.19 323 *e*PN **Pn** **13 31 37.8 -3.0**
HABR pmax pmax
comp=N,29nm,1.6s
HABR pmax pmax
comp=Z,20nm,1.6s
HABR pmax pmax
comp=E,35nm,1.6s
MSHR Mys Shultsa 8.43 276 *i* PN **Pn** **13 31 42.8 -1.3**
JHJ Hachijo jima 2 9.32 194 Pn **Pn** **13 31 54.2 -2.1**
comp=E,14nm,0.3s,baz=291,slow=21,SNR=8.8
JHJ2 Mitsune 9.32 194 *e*Pn **Pn** **13 31 54.5 -1.9**
MDJ Mudanjiang 9.72 289 P **Pn** **13 31 59.6 -2.2**
MDJ S **Sn** **13 33 51.3 +0.7**
MDJ PcP **PcP** **13 38 17.2 +1.4**
MDJ ScP **ScP** **13 41 50.7 +3.6**
MDJ pmax pmax
comp=E,280nm,9.9s
MDJ LR LR
comp=E,3μm,10.6s
MDJ LR LR
comp=E,2μm,12.8s
MDJ LR LR
comp=E,3μm,14.5s
KLR Kul'dur 10.30 317 Pn **Pn** **13 32 13.8 +4.0**
comp=E,0.2nm,0.3s,baz=109,slow=15,SNR=8.6
KLR LR LR 13 36 38.2
comp=E,2μm,18.0s,baz=126,slow=40
NKL Nikolayevsk 11.03 354 *e*PN **Pn** **13 32 20.0 +0.3**
NKL *e*S Sn 13 34 36.0 +13
NKL pmax pmax
comp=N,43nm,1.0s
NKL pmax pmax
comp=Z,86nm,1.0s
NKL pmax pmax
comp=N,1μm,8.0s
NKL pmax pmax
comp=Z,1μm,8.0s
NKL MLR MLR
comp=N,3μm,11.0s
NKL MLR MLR
comp=Z,4μm,11.0s
OKH Okha 11.37 1⇑ *i*PN **Pn** **13 32 24.4 +0.2**
OKH *i* S Sn 13 34 41.1 +10
OKH pmax pmax
comp=Z,700nm,10.6s
OKH smax smax
comp=E,900nm,13.0s
OKH MLR MLR
comp=Z,4μm,15.0s
KSRS Korea Array 12.19 252 Pn **Pn** **13 32 39.4 +3.9**
comp=Z,0.9nm,0.3s,baz=65,slow=13,SNR=49
KSRS LR LR 13 37 10.7
comp=Z,1μm,18.8s,baz=64,slow=37
KS01 Wonju Array Si 12.20 252 *e*Pn **Pn** **13 32 36.5 +0.8**
KS15 Wonju Array Si 12.22 252 *e*Pn **Pn** **13 32 35.6 -0.4**
KSAR Wonju Array Be 12.22 252 PN **Pn** **13 32 39.4 +3.4**
KSAR Wonju Array Be 12.22 252 Pn **Pn** **13 32 39.4 +3.4**
CN2 Changchun 12.61 283 *e*P **Pn** **13 32 43.5 +2.1**
CN2 *es*P P 13 32 49.4 -3.4
CN2 *e*S **Sn** **13 35 03.5 +2.1**
CN2 pmax pmax
comp=Z,10.0nm,1.2s
CN2 pmax pmax
comp=Z,200nm,8.0s
CN2 LR LR
comp=Z,5μm,14.0s
CN2 LR LR
comp=Z,4μm,14.0s
CN2 LR LR
comp=Z,4μm,15.0s
SKR Severo-Kuril's 12.63 43 *e*PN **Pn** **13 32 41.1 -0.4**
JNU Nakatsue 12.92 229 Pn **Pn** **13 32 48.3 +2.6**
comp=Z,0.3nm,0.3s,baz=47,slow=12,SNR=6.9
JNU Nakatsue 12.92 229 *e*Pn **Pn** **13 32 47.3 +1.6**
comp=Z,28nm,1.2s
SNY Shenyang 14.10 275 ||P **P** **13 33 07.1 -2.2**
SNY S **Sn** **13 35 41.8 +4.1**
SNY pmax pmax
comp=Z,10.0nm,0.4s
SNY pmax pmax
comp=Z,750nm,8.3s
SNY LR LR
comp=Z,2μm,13.7s
SNY LR LR
comp=Z,2μm,14.7s
SNY LR LR
comp=Z,3μm,14.7s
PEA0 Petropavlovsk- 14.92 38 *e*Pn **Pn** **13 33 11.2 -1.5**
PEA0B Petropavlovsk- 14.92 38 *e*Pn **Pn** **13 33 12.2 -0.6**
PETK Petropavlovsk- 14.92 38 Pn **Pn** **13 33 11.2 -1.6**
comp=Z,0.8nm,0.3s,baz=216,slow=8.3,SNR=14
PET Petropavlovsk 15.31 39 *e*P **P** **13 33 21.7 -0.9**
PET *e*S **S** **13 36 17.5 -5.8**
PET pmax pmax
comp=Z,50nm,1.2s
PET pmax pmax
comp=Z,1μm,8.5s
PET pmax pmax
comp=Z,700nm,7.7s
PET MLR MLR
comp=Z,2μm,17.0s
PET MLR MLR
comp=Z,2μm,17.0s
DL2 Dalian 16.22 265 P **P** **13 33 31.4 -1.4**
DL2 S **Sn** **13 36 32.2 +2.9**
DL2 pmax pmax
comp=Z,53nm,1.1s
DL2 pmax pmax
comp=Z,720nm,10.8s
DL2 LR LR
comp=Z,2μm,13.1s
DL2 LR LR
comp=Z,2μm,14.9s
DL2 LR LR
comp=Z,3μm,13.7s
MA2 Magadan 18.14 14 P **Pn** **13 33 53.1 -0.6**
comp=Z,0.8nm,0.3s,baz=179,slow=10,SNR=11
MA2 LR LR 13 40 50.7
comp=Z,1μm,20.7s,baz=174,slow=37
CLNS Chul'man 18.51 328 *e*P **Pn** **13 33 59.6 +1.3**
CLNS *e*S **Sn** **13 37 25.7 +1.1**
CLNS pmax pmax
comp=E,11nm,0.9s
CLNS pmax pmax
comp=N,16nm,1.0s
CLNS pmax pmax
comp=Z,19nm,1.0s
CLNS smax smax
comp=N,353nm,12.1s
CLNS smax smax
comp=E,787nm,11.7s
CLNS MLR MLR
comp=E,3μm,12.0s
CLNS MLR MLR
comp=Z,4μm,11.0s
CLNS MLR MLR
comp=N,3μm,10.0s
JOW Kunigami 19.27 222 P **P** **13 34 06.0 -0.5**
comp=N,1.4nm,0.3s,baz=63,slow=18,SNR=3.8
JOW Kunigami 19.27 222 *e*P **P** **13 34 03.8 -2.8**
comp=N,40nm,1.1s
BJI Beijing 19.95 273 P **P** **13 34 12.2 -1.7**
BJI S **S** **13 37 57.5 -0.1**
BJI pmax pmax
comp=N,23nm,1.8s
BJI pmax pmax
comp=N,170nm,3.6s
BJI LR LR
comp=N,2μm,12.5s
BJI LR LR
comp=N,4μm,14.9s
BJI LR LR
comp=N,2μm,15.7s
BJT Baijiatuau 19.96 273 *e*P **P** **13 34 10.7 -3.3**
BJT pmax pmax
comp=Z,76nm,1.4s
BJT Baijiatuau 19.96 273 *e*P **P** **13 34 10.7 -3.3**
comp=Z,76nm,1.4s

TIA Tai'an 20.54 262 ||P **P** **13 34 18.3 -2.0**
TIA S **S** **13 38 05.0 -4.4**
TIA pmax pmax
comp=Z,20nm,1.0s
TIA LR LR
comp=Z,2μm,13.1s
TIA LR LR
comp=Z,1μm,12.6s
TIA LR LR
comp=Z,2μm,12.5s
YAK Yakutsk 21.30 343 P **P** **13 34 27.0 -1.3**
comp=Z,11nm,0.5s,baz=25,slow=0.5,SNR=5.3
YAK LR LR 13 44 15.5
comp=Z,897nm,19.4s,baz=155,slow=41
YAK Yakutsk 21.30 343 *e*P **P** **13 34 25.3 -3.0**
YAK *i* *PP **pP** **13 34 33.1 0.0**
YAK *e*S S 13 38 08.2 -16
YAK *e*SS Sn 13 38 30.8 -0.7
YAK pmax pmax
comp=E,10.0nm,0.8s
YAK smax smax
comp=N,600nm,3.0s
YAK smax smax
comp=E,363nm,3.0s
YAK MLR MLR
comp=Z,2μm,13.0s
YAK MLR MLR
comp=N,1μm,12.0s
YAK MLR MLR
comp=E,651nm,12.0s
YAK Yakutsk 21.30 343 *e*P **P** **13 34 25.9 -2.3**
comp=E,53nm,0.9s
NJ2 Nanjing 21.36 249 *e*P **P** **13 34 29.5 +0.3**
NJ2 S Sn 13 38 29.8 -3.7
NJ2 pmax pmax
comp=E,13nm,0.6s
NJ2 pmax pmax
comp=E,150nm,4.9s
NJ2 LR LR
comp=E,4μm,15.2s
NJ2 LR LR
comp=E,3μm,15.7s
NJ2 LR LR
comp=E,6μm,14.1s
SEY Seymchan 21.57 12 P **P** **13 34 30.0 -1.2**
comp=E,48nm,1.1s,baz=200,slow=8.8,SNR=27
SEY Seymchan 21.57 12 P **P** **13 34 30.0 -1.2**
SEY pmax pmax
comp=Z,48nm,1.1s
HHC Hu-ho-hao-te 23.16 277 *e*P **P** **13 34 48.4 -0.1**
HHC S **S** **13 38 55.4 -4.0**
HHC SS **SnSn** **13 39 39.0 +6.3**
HHC pmax pmax
comp=Z,21nm,1.0s
HHC pmax pmax
comp=Z,180nm,5.3s
HHC LR LR
comp=Z,1μm,10.4s
HHC LR LR
comp=Z,2μm,13.7s
HHC LR LR
comp=Z,1μm,13.3s
TIY Taiyuan 23.44 269 *e*P **P** **13 34 51.0 -0.2**
TIY PP **PnPn** **13 35 19.9 +2.3**
TIY S **S** **13 38 57.2 -6.6**
TIY SS **SnSn** **13 39 45.0 +5.6**
TIY LR LR
comp=Z,1μm,12.7s
TIY LR LR
comp=Z,1μm,12.5s
TIY LR LR
comp=Z,2μm,13.0s
BOD Bodaibo 23.84 321 *e*P **P** **13 34 52.7 -2.1**
BOD pmax pmax
comp=Z,9.0nm,1.9s
TATO Taipei 24.43 232 *e*P **P** **13 34 59.8 -0.8**
comp=Z,80nm,1.0s
YHNB Yeheng 24.73 232 *e*P **P** **13 35 03.5 +0.1**
comp=Z,29nm,0.8s
NACB Ninganchiao 24.99 231 *e*P **P** **13 35 01.5 -4.1**
comp=Z,14nm,0.8s
WHN Wuhan 25.38 252 P **P** **13 35 09.0 -0.1**
WHN S **S** **13 39 32.5 -2.4**
WHN LR LR
comp=Z,2μm,12.6s
WHN LR LR
comp=Z,5μm,13.2s
WHN LR LR
comp=Z,5μm,13.5s
SONA1 Songino Array 25.99 295 *e*P **P** **13 35 13.5 -1.2**
SONM Songino Array 25.99 295 P **P** **13 35 14.7 -0.1**
comp=Z,4.0nm,0.7s,baz=93,slow=8.2,SNR=17
SONM LR LR 13 44 39.9
comp=Z,347nm,21.2s,baz=80,slow=34
QZH Quanzhou 26.21 237⇑ *i*P **P** **13 35 17.3 +0.7**
QZH S **S** **13 39 45.0 -3.0**
QZH LR LR
comp=Z,2μm,12.1s
QZH LR LR
comp=Z,2μm,14.7s
QZH LR LR
comp=Z,3μm,13.0s
TPUB Ta-pu 26.22 231 P **P** **13 35 13.3 -3.5**
comp=Z,18nm,0.8s
TWG Pinlang 26.34 230 *e*P **P** **13 35 15.3 -2.6**
comp=Z,46nm,0.3s
XAN Xi'an 27.53 264 P **P** **13 35 28.3 -0.3**
XAN pP pP 13 35 32.6 -1.2
XAN PP **PnPn** **13 36 15.9 +2.4**
XAN PcP **PcP** **13 38 43.3 -3.1**
XAN S **S** **13 40 06.8 -2.1**
XAN SS **SnSn** **13 41 22.6 +3.1**
XAN pmax pmax
comp=Z,15nm,1.4s
XAN pmax pmax
comp=Z,190nm,12.3s
XAN LR LR
comp=Z,870nm,14.4s
XAN LR LR
comp=Z,830nm,14.3s
XAN LR LR
comp=Z,1μm,14.1s
IRK Irkutsk 27.56 305 *e*P **P** **13 35 28.6 -0.1**
IRK *e*S **S** **13 40 11.7 +2.6**
IRK pmax pmax
comp=Z,65nm,1.7s
TLY Talaya 27.90 303 P **P** **13 35 32.5 +0.8**
comp=Z,3.3nm,0.7s,baz=115,slow=9.7,SNR=3.6
TLY Talaya 27.90 303 *e*P **P** **13 35 28.6 -3.1**
TLY *e*S **S** **13 40 10.5 -3.9**
TLY pmax pmax
comp=Z,5.0nm,0.6s
TLY MLR MLR
comp=Z,1μm,15.0s
TLY Talaya 27.90 303 P **P** **13 35 30.4 -1.3**
comp=Z,13nm,0.5s
ZAK Zakamensk 28.06 301 *e*P **P** **13 35 32.2 -1.0**
ZAK pmax pmax
comp=Z,9.0nm,1.6s
BILL Bilibino 28.85 18⇑ *i*P **P** **13 35 44.2 +4.3**
BILL *e* 13 36 39.8
BILL pmax pmax
comp=Z,36nm,1.6s
BILL MLR MLR
comp=Z,1μm,16.0s
ENH Enshi 29.01 257 *e*P **P** **13 35 39.4 -2.4**
comp=Z,16nm,0.8s
TIXI Tiksi 30.30 351 *e*P **P** **13 35 54.0 +1.3**
TIXI pmax pmax
comp=Z,5.0nm,1.0s
LZH Lanzhou 30.43 271 *e*P **P** **13 35 52.5 -2.0**
LZH pP pP 13 35 55.6 -4.1
LZH PP **PnPn** **13 36 52.2 -0.8**
LZH S **S** **13 40 49.5 -5.2**
LZH pmax pmax
comp=Z,39nm,1.1s
LZH pmax pmax
comp=Z,170nm,4.2s
LZH LR LR
comp=Z,2μm,13.0s
LZH LR LR
comp=Z,2μm,11.6s
LZH LR LR
comp=Z,2μm,13.2s
GZH Guangzhou 30.87 241 P P 13 35 53.2 -5.0
GZH S **S** **13 40 56.1 -5.3**
GZH LR LR
comp=Z,6μm,12.4s
CD2 Chengdu 32.86 263 P **P** **13 36 15.8 0.0**
CD2 pP pP 13 36 18.2 -2.8
CD2 sP sP 13 36 20.5 -2.6
CD2 PP **PnPn** **13 37 24.1 -0.4**
CD2 S **S** **13 41 29.8 -2.7**
CD2 pmax pmax
comp=Z,20nm,0.7s
CD2 pmax pmax
comp=Z,160nm,10.4s
CD2 LR LR
comp=Z,2μm,14.2s
CD2 LR LR
comp=Z,1μm,13.3s
CD2 LR LR
comp=Z,1μm,13.3s
GYA Guiyang 33.24 253 P **P** **13 36 20.0 +0.8**
GYA PP **PnPn** **13 37 30.8 +1.4**
GYA PcP **PcP** **13 39 03.4 +1.9**
GYA S **S** **13 41 38.6 0.0**
GYA ScP **ScP** **13 42 47.0 +2.1**
GYA SS **SnSn** **13 43 38.2 -0.6**
GYA pmax pmax
comp=Z,20nm,0.8s
GYA pmax pmax
comp=Z,140nm,5.2s
GYA LR LR
comp=Z,560nm,17.8s
GYA LR LR
comp=Z,510nm,18.0s
GYA LR LR
comp=Z,630nm,17.6s
QIZ Qiongzhong 36.05 240 P **P** **13 36 44.3 +0.9**
QIZ PP **PP** **13 38 06.2 +0.8**
QIZ S **S** **13 42 25.2 +3.5**
QIZ LR LR
comp=Z,1μm,14.2s
QIZ LR LR
comp=Z,820nm,13.7s
QIZ LR LR
comp=Z,2μm,14.6s
KMI Kunming 36.86 255 P **P** **13 36 51.2 +0.7**
KMI pP pP 13 36 53.8 -2.0
KMI sP sP 13 36 54.9 -3.0
KMI PP **PnPn** **13 38 16.0 +1.5**
KMI S **S** **13 42 34.3 -0.2**
KMI SS **SnSn** **13 45 00.9 -5.7**
KMI pmax pmax
comp=Z,11nm,0.6s
KMI pmax pmax
comp=Z,170nm,6.6s
KMI LR LR
comp=Z,1μm,13.8s
KMI LR LR
comp=Z,1μm,13.6s
KMI LR LR
comp=Z,2μm,14.3s
SLVN Son La 38.44 249 *e*P **P** **13 37 03.1 -0.7**
comp=Z,31nm,1.1s
NRIK Noril'sk 39.02 333 LR LR 13 53 53.8
comp=Z,741nm,18.0s,baz=102,slow=37
ZAA0 Zalesovo Array 39.25 308 *e*P **P** **13 37 09.4 -0.7**
ZALV Zalesovo Beam 39.25 308 P **P** **13 37 11.4 +1.3**
comp=Z,10nm,0.7s,baz=91,slow=7.8,SNR=17
ZALV PcP **PcP** **13 39 18.9 +0.2**
comp=Z,9.7nm,0.7s,baz=91,slow=2.5,SNR=5.5
ZALV ScP **ScP** **13 43 06.8 +0.4**
comp=Z,0.7nm,0.6s,baz=98,slow=3.1,SNR=3.4
WMQ Urumqi 39.51 292 P **P** **13 37 12.3 -0.2**
WMQ pP pP 13 37 16.6 -1.2
WMQ sP sP 13 37 20.8 +0.9
WMQ PP **PnPn** **13 38 48.5 +2.4**
WMQ S **S** **13 43 12.4 -1.7**
WMQ sS sS 13 43 23.3 +0.6
WMQ SS **SS** **13 45 59.9 -8.6**
WMQ pmax pmax
comp=Z,110nm,7.1s
WMQ LR LR
comp=Z,3μm,13.1s
WMQ LR LR
comp=Z,850nm,13.1s
WMQ LR LR
comp=Z,1μm,18.1s
NVS Novosibirsk 40.06 309 *e*P **P** **13 37 20.0 +3.2**
NVS *e*S **S** **13 43 27.1 +5.3**
NVS pmax pmax
comp=Z,58nm,2.0s
NVS pmax pmax
comp=E,38nm,1.9s
NVS smax smax
comp=E,15nm,1.7s
TT01 Tatalina 40.75 38 *e*P **P** **13 37 23.0 +0.5**
TTA Tatalina 40.76 38 *e*P **P** **13 37 21.1 -1.5**
TTA pmax pmax
comp=Z,68nm,1.3s
TTA Tatalina 40.76 38 *e*P **P** **13 37 21.1 -1.5**
comp=Z,68nm,1.3s
SVW2 Sparrevohn 40.97 41 *e*P **P** **13 37 25.2 +0.9**
comp=Z,102nm,1.8s
SKNT Sakolnakorn 41.38 244 P **P** **13 37 29.1 +0.9**
comp=Z,24nm,1.2s,comp=Z,5μm
UBPT Khong Chiam 41.62 241 P P 13 37 39.1 +9.0
DLV T Lat 42.25 235 *e*P **P** **13 37 34.9 -0.6**
comp=Z,36nm,1.1s
MK01 Makanchi Array 42.30 298 *e*P **P** **13 37 34.6 -0.8**
MK31 Makanchi Array 42.30 298 P **P** **13 37 34.8 -0.6**
MK31 pmax pmax
comp=Z,23nm,0.9s
MK31 Makanchi Array 42.30 298 *e*P **P** **13 37 34.2 -1.2**
MKAR Makanchi Array 42.30 298 *e*P **P** **13 37 34.2 -1.2**
MKAR pmax pmax
comp=Z,121nm,0.9s
MKAR Makanchi Array 42.30 298 *e*P **P** **13 37 34.2 -1.2**
comp=Z,121nm,0.9s
OHAK Old Harbor 42.48 46 *e*P **P** **13 37 37.3 +0.7**
comp=Z,66nm,1.2s
MAKZ Makanchi 42.50 298 *e*P **P** **13 37 36.1 -0.9**
MAKZ pmax pmax
comp=Z,30nm,0.9s
MAKZ Makanchi 42.50 298 *e*P **P** **13 37 36.1 -0.9**
comp=Z,30nm,0.9s
PPLA Purkeypile 42.51 38 *e*P **P** **13 37 37.2 +0.2**
comp=Z,232nm,1.4s
CAST Castle Rocks 42.53 37 *e*P **P** **13 37 37.6 +0.5**
comp=Z,74nm,1.1s
SPU Mount Spurr 42.68 41 *e*P **P** **13 37 39.0 +0.7**
KDAK Kodiak Island 42.78 46 *e*P **P** **13 37 40.1 +1.0**
KDAK pmax pmax
comp=Z,218nm,1.9s
KDAK Kodiak Island 42.78 46 *e*P **P** **13 37 40.1 +1.0**
comp=Z,218nm,1.9s
LSA Lhasa 42.83 270 P **P** **13 37 40.3 -0.1**
LSA Lhasa 42.83 270 *e*P **P** **13 37 36.9 -3.5**
LSA pmax pmax
comp=Z,18nm,1.0s
LSA Lhasa 42.83 270 *e*P **P** **13 37 36.9 -3.5**
comp=Z,18nm,1.0s
KTH Kantishna Hill 43.05 37 *e*P **P** **13 37 42.1 +0.8**
comp=Z,199nm,1.2s
UTTA Uttaradit 43.18 249 P P 13 37 50.3 +7.5
comp=Z,6.3nm,0.8s
COLD Coldfoot 43.27 32 *e*P **P** **13 37 43.0 0.0**
comp=Z,107nm,1.5s
LAMP Lampang 43.30 250 P **P** **13 37 48.1 +4.4**
comp=Z,11nm,0.8s,comp=Z,147nm
CHAI Chaiyaphum 43.48 245 P **P** **13 37 45.8 +0.5**
comp=Z,8.9nm,1.0s,comp=Z,91nm
TOLK Toolik Lake Re 43.52 30 P **P** **13 37 43.9 -1.1**
baz=269,SNR=9.9
CMMT Chiang Mai 43.58 251 P **P** **13 37 46.8 +0.7**
comp=Z,16nm,1.7s,comp=Z,292nm
CHTO Chiang Mai 43.59 251 P **P** **13 37 46.9 +0.8**
comp=Z,95nm,1.1s,comp=Z,1μm
CHTO Chiang Mai 43.59 251 *e*P **P** **13 37 45.3 -0.8**
CHTO pmax pmax
comp=Z,12nm,0.8s
CHTO Chiang Mai 43.59 251 *e*P **P** **13 37 45.3 -0.8**
comp=Z,12nm,0.8s
KURK Kurchatov 43.59 304 *i* P **P** **13 37 45.0 -0.7**
KURK pmax pmax
comp=Z,66nm,0.7s
KURK Kurchatov 43.59 304 *e*P **P** **13 37 44.6 -1.2**
comp=Z,34nm,0.8s
PBKT Sadao Pong 43.71 247 P **P** **13 37 48.3 +1.3**
comp=Z,11nm,1.1s

RC01 **Rabbit Creek A** 43.81 41 *e*P P 13 37 47.3 0.0
comp=Z,42nm,1.0s
CMAR **Chiang Mai Arr** 43.82 251 P P 13 37 48.9 +0.8
comp=Z,2.2nm,0.6s,baz=43,slow=6.5,SNR=16
CMAR PcP PcP 13 39 36.4 +2.1
comp=Z,1.9nm,0.9s,baz=47,slow=4.0,SNR=3.0
CMAR LR LR 13 55 46.9
comp=Z,328nm,21.0s,baz=51,slow=36
CM01 **Chiang Mai Arr** 43.84 251 *e*P P 13 37 46.7 -1.4
MCK **McKinley** 43.92 37 *e*P P 13 37 48.5 +0.2
MCK pmax pmax
comp=Z,70nm,1.0s
MCK **McKinley** 43.92 37 *e*P P 13 37 48.5 +0.2
comp=Z,70nm,1.0s
RND **Reindeer** 43.99 37 *e*P P 13 37 48.8 -0.1
RND pmax pmax
comp=Z,76nm,1.1s
RND **Reindeer** 43.99 37 *e*P P 13 37 48.8 -0.1
comp=Z,76nm,1.1s
SUKH **Sukhothai** 44.00 249 P P 13 37 50.8 +1.4
comp=Z,5.9nm,0.9s
PMR **Palmer** 44.04 40 *e*P P 13 37 49.7 +0.5
PMR pmax pmax
comp=Z,81nm,1.7s
PMR **Palmer** 44.04 40 *e*P P 13 37 49.7 +0.5
comp=Z,81nm,1.7s
MDM **Murphy Dome** 44.14 35 *e*P P 13 37 50.2 +0.2
comp=Z,66nm,1.0s
WRH **Wood River Hil** 44.23 36 *e*P P 13 37 50.8 +0.1
comp=Z,42nm,1.1s
COLA **College** 44.31 35 *e*P P 13 37 51.5 +0.2
COLA pmax pmax
comp=Z,135nm,1.0s
COLA **College** 44.31 35 *e*P P 13 37 51.5 +0.2
comp=Z,135nm,1.0s
CCB **Clear Creek Bu** 44.34 35 *e*P P 13 37 51.8 +0.2
comp=Z,33nm,1.2s
SML **Sawmill** 44.39 39 *e*P P 13 37 52.5 +0.4
SML pmax pmax
comp=Z,98nm,1.1s
SML **Sawmill** 44.39 39 *e*P P 13 37 52.5 +0.4
comp=Z,98nm,1.1s
DHY **Denali Highway** 44.69 37 *e*P P 13 37 54.5 0.0
comp=Z,104nm,1.3s
IL1 **Eielson Array** 44.73 35 *e*P P 13 37 54.1 -0.6
ILAR **Eielson Array** 44.73 35 P P 13 37 54.8 +0.1
comp=Z,16nm,0.9s,baz=268,slow=6.4,SNR=63
ILAR LR LR 14 00 09.6
comp=Z,381nm,18.0s,baz=283,slow=41
ILAR **Eielson Array** 44.73 35 P P 13 37 54.8 +0.1
ILAR pmax pmax
comp=Z,21nm,1.0s
ILAR MLR MLR
comp=Z,381nm,18.0s
ILB **Eielson Array** 44.73 35 *e*P P 13 37 53.9 -0.8
HDA **Harding Lake** 44.73 36 *e*P P 13 37 54.2 -0.6
comp=Z,76nm,1.2s
SRAK **Srakaew** 44.80 243 P P 13 37 53.9 -1.9
comp=Z,66nm,0.9s,comp=Z,581nm
SCM **Sheep Creek Mo** 44.86 39 *e*P P 13 37 55.4 -0.5
SCM pmax pmax
comp=Z,57nm,1.0s
SCM **Sheep Creek Mo** 44.86 39 *e*P P 13 37 55.4 -0.5
comp=Z,57nm,1.0s
NAYO **Nakonayok** 45.06 244 P P 13 38 06.4 +8.5
FYU **Fort Yukon** 45.25 32 *e*P P 13 37 59.8 +1.0
comp=Z,285nm,1.8s
PDGK **Podgornoye** 45.30 294 P P 13 38 00.8 +1.1
PDGK pmax pmax
comp=Z,15nm,0.9s
PAX **Paxson** 45.56 37 *e*P P 13 37 59.7 -1.8
PAX pmax pmax
comp=Z,23nm,0.8s
PAX **Paxson** 45.56 37 *e*P P 13 37 59.6 -1.8
comp=Z,23nm,0.8s
DIV **Divide** 45.71 40 *e*P P 13 38 03.7 +1.1
comp=Z,96nm,1.2s
HARP **HAARP** 45.79 38 *e*P P 13 38 03.5 +0.3
comp=Z,104nm,1.1s
FAKI **Fak Fak** 45.86 194 *e*P P 13 38 03.9 -0.3
comp=Z,140nm,1.5s
DOT **Dot Lake** 46.09 36 *e*P P 13 38 05.7 +0.1
comp=Z,117nm,1.3s
BMRM **Bremner River** 46.30 40 *e*P P 13 38 07.9 +0.7
comp=Z,67nm,1.2s
MENT **Mentasta** 46.35 37 *e*P P 13 38 08.3 +0.7
comp=Z,101nm,1.5s
TAPN **Taplejung** 46.64 270 *e*P P 13 38 10.0 -0.6
comp=Z,56nm,0.9s
ODAN **Odare** 47.15 269 *e*P P 13 38 15.0 +0.5
comp=Z,12nm,0.3s
EGAK **Eagle** 47.16 35 *e*P P 13 38 13.8 0.0
comp=Z,102nm,1.1s
PHET **Kaeng Krachan** 47.21 245 P P 13 38 17.1 +2.3
comp=Z,13nm,0.9s
JIRN **Jiri** 47.60 271 *e*P P 13 38 17.7 -0.5
comp=Z,71nm,0.8s
RAMN **Ramite** 47.68 270 *e*P P 13 38 18.7 0.0
comp=Z,76nm,0.7s
GUN **Gumba** 47.69 272 *e*P P 13 38 18.0 -0.9
comp=Z,96nm,0.7s
BVAR **Borovoye Array** 47.86 309 P P 13 38 19.5 0.0
comp=Z,9.9nm,0.4s,baz=81,slow=8.7,SNR=61
BVAR PcP PcP 13 39 48.1 +0.2
comp=Z,5.0nm,0.7s,baz=61,slow=4.1,SNR=3.2
BRVK **Borovoye** 47.91 309*c* *i*P P 13 38 19.9 0.0
BRVK pmax pmax
comp=Z,44nm,1.0s
BRVK **Borovoye** 47.91 309 *e*P P 13 38 19.4 -0.4
comp=Z,25nm,0.8s
SBUM **Sibu** 47.98 223 *e*P P 13 38 20.4 -0.4
comp=Z,13nm,1.0s
DAWY **Dawson** 48.05 35 *e*P P 13 38 21.6 +0.8
comp=Z,15nm,1.0s
TKM2 **Tokmak 2** 48.09 295 P P 13 38 21.3 -0.4
TKM2 pmax pmax
comp=Z,33nm,1.0s
KKN **Kakani** 48.20 272 *e*P P 13 38 23.0 +0.3
comp=Z,64nm,0.8s
PKI **Pulchoki** 48.23 272 *e*P P 13 38 23.1 +0.1
comp=Z,54nm,0.8s
PKIN **Phulchoki** 48.23 272 *e*P P 13 38 23.1 +0.1
comp=Z,41nm,0.8s
DMN **Daman** 48.43 272 *e*P P 13 38 24.9 +0.4
comp=Z,59nm,0.8s
GKN **Gorkha** 48.56 272 *e*P P 13 38 25.5 +0.1
comp=Z,51nm,0.7s
FRU **Bishkek** 48.79 295 *e*P P 13 38 28.0 +1.2
FRU *e* 13 38 36.0
FRU MLR MLR
comp=E,2μm,12.0s
AAK **Ala-Archa** 48.95 295 P P 13 38 28.4 +0.2
comp=E,3.9nm,0.5s,baz=67,slow=4.2,SNR=5.3
AAK **Ala-Archa** 48.95 295 *e*P P 13 38 27.5 -0.7
AAK pmax pmax
comp=Z,11nm,0.9s
AAK **Ala-Archa** 48.95 295 *e*P P 13 38 26.8 -1.5
comp=Z,32nm,1.5s
KSH **Kashi** 49.25 290 *e*P P 13 38 33.4 +2.9
KSH PcP PcP 13 39 56.3 +3.0
KSH PP PP 13 40 28.5 +4.3
KSH S S 13 45 39.0 +3.2
KSH SS SS 13 49 06.1 -0.8
KSH pmax pmax
comp=Z,8.0nm,1.1s
KSH pmax pmax
comp=Z,77nm,3.7s
KSH LR LR
comp=Z,560nm,12.8s
KSH LR LR
comp=Z,1μm,14.7s
KSH LR LR
comp=Z,650nm,11.7s
INK **Inuvik** 49.43 29 P P 13 38 32.2 +0.9
comp=Z,4.1nm,0.4s,baz=317,slow=9.2,SNR=14
INK **Inuvik** 49.43 29 *e*P P 13 38 31.3 0.0
INK pmax pmax
comp=Z,73nm,1.4s
INK **Inuvik** 49.43 29 *e*P P 13 38 31.2 0.0
comp=Z,72nm,1.4s
KOLN **Koldanda** 49.46 273 *e*P P 13 38 32.7 +0.3
comp=Z,53nm,0.9s
HYT **Haines Junctio** 49.70 39 *e*P P 13 38 34.7 +1.1
comp=Z,209nm,1.1s
PYUN **Piuthan** 49.73 274 *e*P P 13 38 35.0 +0.5
comp=Z,138nm,1.0s
KSM **Kuching** 49.79 224 *e*P P 13 38 34.9 +0.1
comp=Z,30nm,0.8s
MNAS **Manas** 50.35 295 P P 13 38 37.6 -1.3
MNAS pmax pmax
comp=Z,21nm,0.7s
TRTT **Trang** 50.91 240 P P 13 38 45.1 +1.9
comp=Z,18nm,1.3s
WHY **Whitehorse** 50.98 39 *e*P P 13 38 42.7 -0.6
comp=Z,52nm,1.3s
KK31 **Karatay Array** 51.42 297 *i*P P 13 38 49.4 +2.6
KK31 pmax pmax
comp=Z,7.0nm,0.8s
KKAR **Karatay Array** 51.42 297 *e*P P 13 38 45.5 -1.3
KKAR pmax pmax
comp=Z,68nm,0.8s
KKAR **Karatay Array** 51.42 297 *e*P P 13 38 45.5 -1.3
comp=Z,68nm,0.8s
SVE **Sverdlovsk** 51.93 316 *e*P P 13 38 50.3 0.0
SVE pmax pmax
comp=Z,31nm,0.7s
SVE MLR MLR
comp=Z,2μm,14.0s
KULM **Kulim** 52.25 237 *e*P P 13 38 53.0 -0.2
comp=Z,33nm,0.8s
IPM **Ipoh** 52.65 236 *e*P P 13 38 55.5 -0.6
comp=Z,14nm,0.8s
MYKOM **Kota Tinggi** 53.09 231 *e*P P 13 38 57.9 -1.5
comp=Z,14nm,0.7s
ARU **Arti** 53.15 316 P P 13 38 59.4 0.0
comp=Z,12nm,0.8s,baz=58,slow=4.9,SNR=13
ARU LR LR 14 03 53.0
comp=Z,230nm,20.0s,baz=66,slow=39
ARU **Arti** 53.15 316*c* *i*P P 13 38 58.8 -0.5
ARU 13 40 55.0
ARU S S 13 46 31.4 +2.5
ARU 13 48 42.9
ARU SS SS 13 50 06.4 -1.4
ARU pmax pmax
comp=Z,29nm,1.2s
ARU MLR MLR
comp=Z,2μm,15.0s
ARU **Arti** 53.15 316 *e*P P 13 38 58.6 -0.7
comp=Z,38nm,1.0s
DLBC **Dease Lake** 54.09 40 *e*P P 13 39 05.3 -1.0
comp=Z,65nm,1.5s
SOEI **Soe** 54.34 202 *e*P P 13 39 09.8 +1.2
comp=Z,43nm,0.9s
JBP **Jabalpur** 54.76 270↓ *e*P P 13 39 15.7 +4.1
PSI **Prapat** 55.26 237 *e*P P 13 39 15.0 -0.4
PSI pmax pmax
comp=Z,29nm,1.0s
PSI **Prapat** 55.26 237 *e*P P 13 39 15.0 -0.4
comp=Z,29nm,1.0s
AB31 **Akbulak array** 55.37 308 *i*P P 13 39 15.3 -0.3
AB31 pmax pmax
comp=Z,18nm,0.7s
ABKAR **Akbulak array** 55.37 308 *e*P P 13 39 14.9 -0.7
comp=Z,215nm,0.8s
AKTO **Aktyubinsk** 55.95 310 P P 13 39 19.7 -0.1
comp=Z,8.8nm,0.8s,baz=66,slow=11,SNR=15
KBL **Kabul** 56.49 288 *e*P P 13 39 22.6 -1.6
KBL pmax pmax
comp=Z,20nm,1.0s
KBL **Kabul** 56.49 288 *e*P P 13 39 22.6 -1.6
comp=Z,20nm,1.0s
RES **Resolute Bay** 57.40 15 P P 13 39 29.0 -0.7
comp=Z,21nm,0.8s,baz=319,slow=4.0,SNR=11
RES **Resolute Bay** 57.40 15 *e*P P 13 39 29.2 -0.5
RES pmax pmax
comp=Z,41nm,0.8s
RES **Resolute Bay** 57.40 15 *e*P P 13 39 29.1 -0.5
comp=Z,42nm,0.8s
APA **Apatity** 58.37 335↓ *i*P P 13 39 44.1 +7.5
APA pmax pmax
comp=Z,8.0nm,1.0s
APA MLR MLR
comp=Z,500nm,15.0s
TMCR **Tamitsa** 58.67 330 *e*P P 13 39 37.8 -0.9
TMCR pmax pmax
comp=Z,47nm,1.4s
KEV **Kevo** 58.95 338 *e*P P 13 39 40.8 +0.2
KEV pmax pmax
comp=Z,61nm,1.6s
KEV **Kevo** 58.95 338 *e*P P 13 39 40.8 +0.2
comp=Z,62nm,1.6s
YKA **Yellowknife Ar** 58.95 32 P P 13 39 41.3 +0.6
comp=Z,6.4nm,0.9s,baz=303,slow=6.5,SNR=7.0
YKA LR LR 14 07 41.6
comp=Z,22nm,19.0s,baz=0.0,slow=39
ARCES **ARCESS Array B** 59.49 339 P P 13 39 44.2 -0.2
comp=Z,2.1nm,0.7s,baz=48,slow=7.3,SNR=3.4
ARCES LR LR 14 08 15.2
comp=Z,308nm,18.6s,baz=56,slow=39
KLMR **Klimovskoe** 59.89 327 *e*P P 13 39 46.2 -1.1
KLMR *e* 13 40 30.3
KLMR pmax pmax
comp=Z,34nm,1.2s
DAG **Danmarks Havn** 60.71 355 *i*P P 13 39 58.7 +6.1
comp=Z,24nm,1.0s
DAG **Danmarks Havn** 60.71 355 *i*P P 13 39 58.7 +6.1
DAG pmax pmax
comp=Z,24nm,1.0s
LLLB **Lillooet** 61.99 46 *e*P P 13 40 00.9 -0.8
comp=Z,43nm,1.3s
GEYT **Alibeck** 62.17 297 P P 13 40 03.1 0.0
comp=Z,8.6nm,0.9s,baz=8.5,slow=3.0,SNR=14
GEYT LR LR 14 06 59.2
comp=Z,213nm,20.4s,baz=80,slow=36
PGC **Sidney** 62.20 48 *e*P P 13 40 03.2 +0.1
comp=Z,20nm,1.0s
WRAB **Tennant Creek** 62.27 189 *e*P P 13 40 04.0 +0.2
WRAB pmax pmax
comp=Z,11nm,0.9s
WRAB **Tennant Creek** 62.27 189 *e*P P 13 40 02.5 -1.4
comp=Z,14nm,0.9s
WB2 **Warramunga Arr** 62.28 189 *e*P P 13 40 01.9 -2.0
WRA **Warramunga Arr** 62.28 189 P P 13 40 02.8 -1.1
comp=Z,2.3nm,0.5s,baz=6.9,slow=6.9,SNR=37
A04D **Lummi Island** 62.58 48 P P 13 40 04.8 -0.8
baz=304
NLWA **Neilton Lookou** 62.66 50 *e*P P 13 40 04.2 -2.1
comp=Z,137nm,1.9s
B05A **Bryant** 63.17 48 P P 13 40 09.5 -0.1
baz=304,SNR=7.2
E03A **Lebam** 63.30 50 *e*P P 13 40 10.8 +0.3
comp=Z,48nm,0.9s
MOS **Moscow** 63.66 322 *e*P P 13 40 12.0 -0.7
MOS *e* 13 44 07.3
MOS pmax pmax
comp=Z,300nm,2.6s
MOS pmax pmax
comp=Z,76nm,1.3s
MOS MLR MLR
comp=Z,2μm,15.0s
D05A **Enumclaw** 63.83 49 *e*P P 13 40 14.2 +0.2
comp=Z,37nm,1.2s
C06D **Leavenworth** 64.03 48 P P 13 40 15.1 -0.3
baz=305
G03D **McMinnville, O** 64.23 52 P P 13 40 16.1 -0.5
baz=305
F04A **Amboy** 64.30 50 *e*P P 13 40 17.1 0.0
comp=Z,41nm,0.9s
OBN **Obninsk** 64.51 322 P P 13 40 18.2 -0.1
comp=Z,16nm,0.4s,baz=50,slow=12,SNR=7.3
OBN **Obninsk** 64.51 322 *de* P P 13 40 19.0 +0.7
OBN *i* 13 40 26.1
OBN *e*S S 13 48 58.8 +2.4
OBN *e*SS SS 13 53 03.7 -2.2
OBN pmax pmax
comp=Z,48nm,1.2s
OBN MLR MLR
comp=Z,1μm,14.0s
LTY **Liberty** 64.53 49 *e*P P 13 40 19.7 +1.0
comp=Z,38nm,1.1s
COR **Corvallis** 64.56 52 *e*P P 13 40 20.1 +1.3
COR pmax pmax
comp=Z,46nm,1.1s
COR **Corvallis** 64.56 52 *e*P P 13 40 20.1 +1.3
comp=Z,46nm,1.1s
B08A **Colville Reser** 64.63 47 *e*P P 13 40 19.9 +0.7
comp=Z,50nm,1.4s
FIA1 **FINESS Array S** 64.67 332 *e*P P 13 40 18.5 -0.7
comp=Z,43nm,0.9s
FINES **FINESS Array B** 64.67 332 P P 13 40 18.7 -0.5
comp=Z,14nm,0.6s,baz=63,slow=8.8,SNR=25
FINES LR LR 14 10 42.3
comp=Z,648nm,18.7s,baz=48,slow=38
FINES **FINESS Array B** 64.67 332 *i*P P 13 40 19.7 +0.5
FINES pmax pmax
comp=Z,14nm,0.6s
EDM **Edmonton** 64.81 40 *e*P P 13 40 19.8 -0.6
EDM pmax pmax
comp=Z,62nm,1.1s
EDM **Edmonton** 64.81 40 *e*P P 13 40 19.8 -0.6
comp=Z,62nm,1.1s
LPSR **Galich'ya Gora** 64.93 319 *e*P P 13 40 21.3 +0.2
LPSR pmax pmax
comp=Z,30nm,1.0s
I03D **Drain, OR** 65.04 53 P P 13 40 21.6 -0.4
baz=305,SNR=6.7
G05D **Wamic, OR** 65.33 51 P P 13 40 23.8 -0.1
baz=306
E07A **Sunnyside** 65.39 49 *e*P P 13 40 27.3 +3.1
comp=Z,44nm,1.0s
SUMG **Summit** 65.53 0 *i*P P 13 40 26.1 +0.9
comp=Z,45nm,0.9s
SUMG **Summit** 65.53 0 *e*P P 13 40 24.5 -0.7
SUMG pmax pmax
comp=Z,46nm,0.9s
SUMG **Summit** 65.53 0 *e*P P 13 40 24.4 -0.7
comp=Z,46nm,0.9s
I04A **Tendick Farm,** 65.54 52 P P 13 40 25.3 0.0
baz=306
D08A **Wollman Farm,** 65.62 48 *e*P P 13 40 26.8 +1.1
comp=Z,124nm,1.9s
VSR **Storozhevoye** 65.66 318 *e*P P 13 40 26.4 +0.6
VSR pmax pmax
comp=Z,30nm,1.4s
VSR MLR MLR
comp=Z,1μm,13.0s
HAWA **Hanford** 65.67 49 *e*P P 13 40 27.3 +1.3
comp=Z,44nm,1.1s
L02D **Cave Junction,** 65.78 54 P P 13 40 26.7 -0.2
baz=306
I05D **Terrebonne, OR** 65.85 51 P P 13 40 26.9 -0.4
baz=306
NEW **Newport** 65.88 46 P P 13 40 26.6 -0.8
baz=307,SNR=13
NEW **Newport** 65.88 46 *e*P P 13 40 27.9 +0.5
NEW pmax pmax
comp=Z,28nm,1.1s
NEW **Newport** 65.88 46 *e*P P 13 40 27.9 +0.5
comp=Z,28nm,1.1s
HUMO **Hull Mountain** 65.91 54 *e*P P 13 40 29.4 +1.7
comp=Z,8.1nm,1.0s
MAK **Makhachkala** 66.01 307 *e*P P 13 40 23.9 -4.3
ASAR **Alice Springs** 66.01 189 P P 13 40 27.9 -0.5
comp=Z,0.8nm,0.6s,baz=2.1,slow=7.3,SNR=16
J04D **Umpqua Nationa** 66.04 53 P P 13 40 28.9 +0.2
baz=306
E09A **Wood Farm, Sta** 66.37 48 *e*P P 13 40 31.3 +0.8
comp=Z,67nm,1.2s
KHMM **Horse Mountain** 66.45 56 *e*P P 13 40 35.6 +4.2
comp=Z,51nm,1.4s
VSU **Vasula** 66.47 329 *e*P P 13 40 31.4 +0.5
VSU pmax pmax
comp=Z,62nm,1.1s
YBH **Yreka Blue Hor** 66.57 54 *e*P P 13 40 32.9 +0.9
YBH pmax pmax
comp=Z,18nm,1.3s
YBH **Yreka Blue Hor** 66.57 54 *e*P P 13 40 32.9 +0.9
comp=Z,18nm,1.3s
M02C **Callahan** 66.68 55 P P 13 40 32.6 -0.1
baz=306
N02D **Trinity Center** 67.02 55 P P 13 40 35.4 +0.5
baz=307
M04C **Macdoel** 67.06 54 P P 13 40 35.0 -0.2
baz=307,SNR=8.7
K05A **Summer Lake** 67.07 53 *e*P P 13 40 36.2 +0.9
comp=Z,66nm,1.1s
WALA **Waterton Lakes** 67.08 44 *e*P P 13 40 35.2 +0.1
comp=Z,49nm,1.4s
F10A **Beach Ranch, E** 67.20 48 *e*P P 13 40 37.0 +1.1
comp=Z,29nm,1.1s
GOF **Gofitskoye** 67.34 311⇑ *e*P P 13 40 37.6 +0.9
GOF pmax pmax
comp=Z,66nm,0.6s
WDC **Whiskeytown Da** 67.36 55 *e*P P 13 40 38.6 +1.7
WDC pmax pmax
comp=Z,24nm,1.1s
WDC **Whiskeytown Da** 67.36 55 *e*P P 13 40 38.6 +1.7
comp=Z,24nm,1.1s
BSMT **Bassoo Peak** 67.37 45 *e*P P 13 40 38.3 +1.2
BLMT **Blacktail Moun** 67.50 45 *e*P P 13 40 38.5 +0.6
JTMT **Jette** 67.70 45 *e*P P 13 40 40.1 +1.0
YBMT **Yellow Bay** 67.77 45 *e*P P 13 40 40.8 +1.2
BMO **Blue Mountains** 67.85 49 *e*P P 13 40 40.5 +0.5
BMO pmax pmax
comp=Z,44nm,1.6s
BMO **Blue Mountains** 67.85 49 *e*P P 13 40 40.5 +0.5
comp=Z,44nm,1.6s
MOD **Modoc Plateau** 67.91 53 *e*P P 13 40 41.3 +0.7
comp=Z,21nm,1.4s
NCK **Nalchik** 67.98 309 *e*P P 13 40 41.8 +1.0
NCK pmax pmax
comp=Z,8.0nm,0.9s
O03D **Paynes Creek** 67.98 55 P P 13 40 41.0 0.0
baz=307
SWMT **Swartz Lake** 68.00 45 *e*P P 13 40 41.5 +0.5
KVAR **Kislovodsk Arr** 68.21 310 P P 13 40 43.7 +1.4
comp=Z,32nm,0.9s,baz=260,slow=5.4,SNR=9.6
KIV **Kislovodsk** 68.22 310 *e*P P 13 40 42.6 +0.2
KIV *e*S S 13 49 43.3 +1.3
KIV *e*SS SS 13 54 03.7 -0.5
KIV pmax pmax
comp=Z,25nm,5.4s
KIV pmax pmax
comp=Z,105nm,1.1s
ZEI **Tsey** 68.23 308 *e*P P 13 40 41.8 -0.8
ZEI pmax pmax
comp=Z,39nm,0.7s
KBZ **Khabaz** 68.24 310 P P 13 40 44.0 +1.7
comp=Z,11nm,0.8s,baz=70,slow=3.8,SNR=13
KBZ LR LR 14 11 54.7
comp=Z,302nm,19.6s,baz=36,slow=37
SLMT **Seeley Lake** 68.44 45 *e*P P 13 40 44.1 +0.3
MSO **Missoula** 68.46 46 P P 13 40 43.7 -0.2
baz=309,SNR=7.9
MSO **Missoula** 68.46 46 *e*P P 13 40 44.7 +0.8
comp=Z,39nm,1.2s
IZAR **Zarasai** 68.54 327 *e*P P 13 40 42.7 -1.3
IZAR lAmb lAmb 13 40 54.0
comp=Z,11nm,0.6s
WVOR **Wild Horse Val** 68.57 52 *e*P P 13 40 44.4 -0.2
WVOR pmax pmax
comp=Z,32nm,1.4s
WVOR **Wild Horse Val** 68.57 52 *e*P P 13 40 44.4 -0.2
comp=Z,32nm,1.4s
ORV **Oroville** 68.61 56 *e*P P 13 40 44.5 -0.3
ORV pmax pmax
comp=Z,8.0nm,0.8s
ORV **Oroville** 68.61 56 *e*P P 13 40 44.5 -0.3
comp=Z,8.3nm,0.8s
NEY **Neytrino** 68.63 309 *e*P P 13 40 45.2 +0.1
NEY pmax pmax
comp=Z,1.0nm,1.0s
IDID **Didziasalis** 68.64 326 *e*P P 13 40 42.9 -1.8
ISAL **Salakas** 68.71 327 *e*P P 13 40 43.5 -1.6
ISAL lAmb lAmb 13 40 54.3
comp=Z,21nm,1.1s
MICGM **Minsk** 68.73 325 *e* P 13 40 47.0 +1.8
MICGM *e*LQ LQ 14 08 16.0
MICGM *e*LR LR 14 12 12.0
MICGM LRM MLR 14 14 22.0
comp=Z,1.7nm,12.0s
MNK **Minsk** 68.73 325 *e*P P 13 40 47.0 +1.8
MNK MLR MLR
comp=Z,2μm,12.0s
CHMT **Chamberlain Mo** 68.77 45 *e*P P 13 40 46.0 0.0
IIGN **Ignalina** 68.83 327 *e*P P 13 40 44.4 -1.5
IIGN lAmb lAmb 13 40 54.6
comp=Z,16nm,0.8s
NACGM **Naroch** 68.91 326 *e* P 13 40 46.0 -0.4
NACGM *e*LR LR 14 10 28.0
FFC **Flin Flon** 68.93 34 *e*P P 13 40 47.4 +0.9
FFC pmax pmax
comp=Z,39nm,1.2s
FFC **Flin Flon** 68.93 34 *e*P P 13 40 47.4 +0.9
comp=Z,39nm,1.2s
AFDM **Forest Hills D** 69.31 56 *e*P P 13 40 50.5 +1.3
comp=Z,16nm,1.3s
GNI **Garni** 69.36 306 *e*P P 13 40 49.7 +0.1
GNI pmax pmax
comp=Z,67nm,1.2s

NC405 NORSAR Array S 69.57 337 eP P 13 40 50.0 -0.3
MFID Camas Ranch 69.57 50 eP P 13 40 51.8 +0.9
comp=Z,27nm,1.3s
NC303 NORSAR Array S 69.58 337 eP P 13 40 49.9 -0.5
HRY Holter Researc 69.65 45 eP P 13 40 51.9 +0.6
NC204 NORSAR Array S 69.71 337 eP P 13 40 51.3 0.0
NB201 NORSAR Array S 69.74 337 eP P 13 40 51.6 +0.2
NB2 NORSAR Subarra 69.77 337 P P 13 40 51.5 -0.2
baz=35,slow=6.5
NB2 NORSAR Subarra 69.77 337 P P 13 40 51.5 -0.2
comp=Z,25nm,0.9s,baz=35,slow=6.5
NOA NORSAR Array B 69.77 337 P P 13 40 51.0 -0.7
comp=Z,6.8nm,0.6s,baz=37,slow=6.2,SNR=17
NOA LR LR 14 14 54.1
comp=Z,250nm,18.9s,baz=20,slow=39
NOA NORSAR Array B 69.77 337 P P 13 40 51.0 -0.7
NOA pmax pmax
comp=Z,10.0nm,0.7s
NOA MLR MLR
comp=Z,250nm,18.9s
PAHR Pah Rah Range 69.81 54 eP P 13 40 52.4 0.0
comp=Z,19nm,1.3s
NBO02 NORSAR Array S 69.87 337 eP P 13 40 52.0 -0.2
EGMT Eagleton 69.87 43 P P 13 40 52.4 -0.1
baz=311
EGMT Eagleton 69.87 43 eP P 13 40 52.7 +0.2
comp=Z,84nm,1.3s
LRM Limekiln Ridge 69.90 46 eP P 13 40 53.3 +0.3
NBO00 NORSAR Array S 69.90 337 eP P 13 40 52.8 +0.4
PNTR Pine Nut 70.06 55 eP P 13 40 54.7 +0.7
comp=Z,19nm,1.1s
DLMT Dillon 70.12 46 eP P 13 40 54.8 +0.6
comp=Z,44nm,1.1s
CMB Columbia Colle 70.23 56 eP P 13 40 55.6 +0.7
CMB pmax pmax
comp=Z,14nm,1.1s
CMB Columbia Colle 70.23 56 eP P 13 40 55.6 +0.7
comp=Z,14nm,1.1s
HLID Hailey 70.28 49 P P 13 40 56.7 +1.4
baz=310
HLID Hailey 70.28 49 eP P 13 40 56.4 +1.2
comp=Z,30nm,1.6s
MCMT McKenzie Canyo 70.33 47 eP P 13 40 57.2 +1.6
YERR Yerington 70.34 55 eP P 13 40 56.5 +0.7
comp=Z,18nm,1.0s
ARTV Artvin 70.38 308 eP P 13 40 55.4 -0.6
comp=Z,18nm,1.3s
BOZ Bozeman (W) 70.48 46 P P 13 40 56.3 -0.2
baz=311,SNR=19
BOZ Bozeman (W) 70.48 46 eP P 13 40 57.0 +0.5
BOZ pmax pmax
comp=Z,42nm,1.1s
BOZ Bozeman (W) 70.48 46 eP P 13 40 57.0 +0.5
comp=Z,42nm,1.1s
WAKR Walker 70.52 55 eP P 13 40 57.7 +0.8
comp=Z,9.5nm,1.0s
ANN Anapa 70.60 313 eP P 13 40 58.9 +1.9
ANN e*PP pP 13 41 02.2 -0.3
ANN pmax pmax
comp=Z,32nm,0.9s
BMN Battle Mountai 70.65 53 eP P 13 40 58.7 +1.1
BMN pmax pmax
comp=Z,21nm,1.3s
BMN Battle Mountai 70.65 53 eP P 13 40 58.7 +1.1
comp=Z,21nm,1.3s
SFJD Kangerlussuaq 70.67 5 eP P 13 40 56.5 -0.5
SFJD pmax pmax
comp=Z,36nm,1.3s
SFJD Kangerlussuaq 70.67 5 eP P 13 40 56.5 -0.5
comp=Z,36nm,1.3s
AKASG Malin Array Be 70.76 322 P P 13 40 58.2 +0.3
comp=Z,8.4nm,0.7s,baz=43,slow=6.7,SNR=16
AKBB Malin Array Si 70.76 322 eP P 13 40 57.3 -0.5
AKBB pmax pmax
comp=Z,28nm,1.1s
AKBB Malin Array Si 70.76 322 eP P 13 40 57.3 -0.5
comp=Z,28nm,1.1s
KIEV Kiev 70.78 322 d iP P 13 40 57.9 0.0
KIEV pmax pmax
comp=Z,21nm,1.1s
KIEV Kiev 70.78 322 eP P 13 40 57.2 -0.7
comp=Z,26nm,1.1s
AK11 Malin Array Si 70.81 322 eP P 13 40 57.5 -0.6
TVH1 TV Hill, Hawth 70.96 55 eP P 13 41 00.7 +0.9
comp=Z,22nm,1.2s
TVH3 East Aurora ar 70.99 55 eP P 13 41 01.1 +1.3
comp=Z,13nm,1.0s
QLMT Earthquake Lak 71.09 46 eP P 13 41 01.1 +0.9
UOSS Minazif 71.10 287 eP P 13 40 59.4 -0.9
comp=Z,45nm,1.5s
YHB Horse Butte 71.27 46 eP P 13 41 01.2 -0.1
comp=Z,21nm,0.9s
GCMT Greycliff 71.39 45 eP P 13 41 02.6 +0.7
YHH Holmes Hill 71.43 46 eP P 13 41 03.2 +0.8
comp=Z,19nm,1.0s
YNR Norris Junctio 71.57 46 eP P 13 41 03.7 +0.5
comp=Z,32nm,1.4s
PAGB Antelope Grade 71.75 58 eP P 13 41 06.0 +1.9
comp=Z,40nm,1.4s
YPP Pitchstone Pla 71.80 46 eP P 13 41 05.8 +1.2
comp=Z,64nm,1.9s
H17A Grant Village 71.83 46 P P 13 41 05.3 +0.5
baz=312,SNR=10
H17A Grant Village 71.83 46 eP P 13 41 06.3 +1.5
comp=Z,38nm,1.1s
IMW Indian Meadow 71.97 47 eP P 13 41 07.2 +1.6
comp=Z,31nm,1.1s
FLWY Flagg Ranch 71.98 47 P P 13 41 05.6 0.0
comp=Z,110nm,2.0s
RLMT Red Lodge 72.05 45 P P 13 41 06.2 +0.2
baz=312
RLMT Red Lodge 72.05 45 eP P 13 41 08.0 +1.9
comp=Z,24nm,1.3s
MOOW Moose Ponds 72.17 47 eP P 13 41 07.2 +0.4
comp=Z,23nm,1.0s
SMMC Simmler 72.18 58 P P 13 41 06.8 0.0
baz=310
TPAW Teton Pass 72.23 47 eP P 13 41 07.5 +0.3
comp=Z,32nm,1.3s
SIM Simferopol' 72.27 315 eP P 13 41 07.2 +0.1
SIM eS SKiKP 13 50 36.0 -6.1
DGMT Dagmar 72.30 40 P P 13 41 07.3 +0.1
baz=314
DGMT Dagmar 72.30 40 eP P 13 41 07.5 +0.3
comp=Z,57nm,1.0s
LOHW Long Hollow 72.34 47 eP P 13 41 08.8 +1.0
comp=Z,54nm,1.8s
HVU Hansel Valley 72.35 49 eP P 13 41 08.6 +0.8
HVU pmax pmax
comp=Z,13nm,1.0s
HVU Hansel Valley 72.35 49 eP P 13 41 08.6 +0.8
comp=Z,13nm,1.0s
SNOW Snow King Moun 72.36 47 eP P 13 41 08.7 +0.7
comp=Z,16nm,1.0s
REDW Red Top Meadow 72.37 47 eP P 13 41 07.1 -0.9
comp=Z,24nm,1.2s
VES Vestal, Richgr 72.42 57 P P 13 41 08.4 +0.3
baz=310
LAO LASA Array 72.54 42 P P 13 41 08.7 0.0
baz=314
LAO LASA Array 72.54 42 eP P 13 41 09.3 +0.6
comp=Z,58nm,1.3s
CWC Cottonwood Cre 72.66 56 P P 13 41 10.0 +0.2
baz=310
GRAC Grapevine Rang 72.75 56 P P 13 41 10.8 +0.7
baz=310,SNR=6.8
BGU Big Grassy Mou 72.77 50 eP P 13 41 10.0 -0.3
ISA Isabella, Lake 72.91 57 P P 13 41 11.0 -0.1
baz=310
R11A Troy Canyon, C 72.95 54 P P 13 41 11.7 +0.3
baz=311,SNR=12
R11A Troy Canyon, C 72.95 54 eP P 13 41 12.5 +1.0
comp=Z,19nm,1.4s
SORM Soroca 72.97 320 ⇓ iP P 13 41 11.5 +0.4
SORM Soroca 72.97 320 ⇓ P P 13 41 11.5 +0.4
DAC Darwin (Calif) 73.07 56 eP P 13 41 12.8 +0.6
DAC pmax pmax
comp=Z,10.0nm,1.1s
DAC Darwin (Calif) 73.07 56 eP P 13 41 12.8 +0.6
comp=Z,10nm,1.1s
HWUT Hardware Ranch 73.14 49 eP P 13 41 13.0 +0.4
comp=Z,27nm,1.3s
MPMC Manual Prospec 73.27 56 P P 13 41 13.7 +0.3
baz=310,SNR=13
DUG Dugway, Tooele 73.37 51 P P 13 41 14.1 +0.3
baz=312
DUG Dugway, Tooele 73.37 51 eP P 13 41 14.3 +0.4
DUG pmax pmax
comp=Z,25nm,1.3s
DUG Dugway, Tooele 73.37 51 eP P 13 41 14.3 +0.4
comp=Z,25nm,1.3s
FURC Furnace Creek, 73.40 56 P P 13 41 13.8 0.0
baz=311,SNR=9.0
TPNV Topopah Spring 73.46 55 P P 13 41 14.5 +0.1
baz=311,SNR=13
TPNV Topopah Spring 73.46 55 eP P 13 41 14.6 +0.1
TPNV pmax pmax
comp=Z,37nm,1.3s
TPNV Topopah Spring 73.46 55 eP P 13 41 14.6 +0.1
comp=Z,37nm,1.3s
BW06 Boulder Array 73.47 47 P P 13 41 14.4 -0.2
baz=313,SNR=18
BW06 Boulder Array 73.47 47 eP P 13 41 14.9 +0.3
comp=Z,18nm,1.0s
PD31 Pinedale Array 73.47 47 eP P 13 41 14.3 -0.2
PDAR Pinedale Array 73.47 47 P P 13 41 14.6 0.0
comp=Z,3.2nm,0.6s,baz=321,slow=2.1,SNR=25
PDAR LR LR 14 15 16.2
comp=Z,72nm,19.1s,baz=342,slow=37
LRMC Laurel Mtn Rad 73.53 57 P P 13 41 15.5 +0.6
baz=310
KIS Kishinev 73.54 319 eP P 13 41 19.0 +4.5
KIS LRM MLR 14 16 54.0
comp=Z,2μm,14.0s
KIS Kishinev 73.54 319 eP P 13 41 19.0 +4.5
KIS MLR MLR
comp=Z,2μm,14.0s
KIS MLR MLR
comp=N,1μm,13.0s
KIS MLR MLR
comp=E,900nm,11.0s
MARD Mardin 73.55 306 eP P 13 41 14.8 -0.1
comp=E,60nm,0.9s
STKA Stephens Creek 73.71 181 P P 13 41 18.6 +3.1
comp=E,3.2nm,1.1s,baz=336,slow=12,SNR=2.2
STKA LR LR 14 19 51.2
comp=E,36nm,18.7s,baz=15,slow=41
EDW2 Edwards Air Fo 73.72 58 P P 13 41 16.0 +0.1
baz=310,SNR=8.6
LVV L'vov 73.73 324 eP P 13 41 18.0 +2.4
LVV eS S 13 50 48.0 +2.4
LVV MLR MLR
comp=Z,1μm,14.0s
JLU Jordanelle 73.88 50 eP P 13 41 16.0 -1.0
comp=Z,34nm,1.5s
NLU North Lily Min 73.95 50 eP P 13 41 16.7 -0.7
comp=Z,18nm,1.2s
MWC Mount Wilson 74.10 58 eP P 13 41 17.8 -0.5
MWC pmax pmax
comp=Z,19nm,1.2s
MWC Mount Wilson 74.10 58 eP P 13 41 17.8 -0.5
comp=Z,19nm,1.2s
SHOC Shoshone, Teco 74.13 56 P P 13 41 18.5 +0.3
baz=311
GSC Goldstone, Bar 74.19 57 P P 13 41 19.4 +0.7
baz=311
GSC Goldstone, Bar 74.19 57 eP P 13 41 18.5 -0.2
GSC pmax pmax
comp=Z,14nm,1.1s
GSC Goldstone, Bar 74.19 57 eP P 13 41 18.5 -0.2
comp=Z,14nm,1.1s
BFSC Mount Baldy Ra 74.34 58 P P 13 41 19.7 +0.1
baz=311
SHPR Sheep Range 74.41 55 eP P 13 41 21.0 +0.9
comp=Z,20nm,1.1s
KWP Kalwaria Pacla 74.45 324 eP P 13 41 21.4 +1.6
KWP Kalwaria Pacla 74.45 324 eP P 13 41 21.4 +1.6
TUQ Turquoise Moun 74.64 56 P P 13 41 22.1 +0.8
baz=311
ULM Lac du Bonnet 74.74 35 P P 13 41 21.7 +0.2
comp=Z,3.4nm,0.8s,baz=345,slow=10,SNR=4.0
ULM LR LR 14 18 01.3
comp=Z,268nm,18.6s,baz=320,slow=39
ULM Lac du Bonnet 74.74 35 eP P 13 41 23.6 +2.1
comp=Z,26nm,1.1s
HEC Hector,Ludlow 74.79 57 P P 13 41 22.6 +0.5
baz=311,SNR=11
BUR08 Bucovina Ar. S 74.80 322 eP P 13 41 21.4 -0.6
CCUT Cedar City 74.80 53 eP P 13 41 21.8 -0.6
comp=Z,13nm,1.1s
BURAR Bucovina Array 74.81 321 ⇑ iP P 13 41 22.4 +0.3
BURAR Bucovina Array 74.81 321 ⇑ P P 13 41 22.4 +0.3
TMUT Trail Mountain 74.89 50 eP P 13 41 22.5 -0.5
comp=Z,16nm,1.0s
SZCU Shutz Canyon 74.94 53 eP P 13 41 22.4 -0.7
comp=Z,11nm,1.1s
TESR Tescani 74.94 320 ⇑ iP P 13 41 22.5 -0.2
MURC Murrieta 75.05 58 P P 13 41 24.3 +0.7
baz=311
ILGA Ilgaz 75.14 312 eP P 13 41 24.4 +0.1
comp=Z,18nm,0.9s
CFR Carcaliu 75.17 318 ⇑ iP P 13 41 26.8 +2.8
CFR Carcaliu 75.17 318 ⇑ P P 13 41 26.8 +2.8
MTPU Mount Pierson 75.17 52 eP P 13 41 27.5 +2.8
comp=Z,13nm,1.0s
K22A Casper 75.18 45 P P 13 41 24.6 +0.2
baz=314
K22A Casper 75.18 45 eP P 13 41 26.5 +2.1
comp=Z,38nm,1.3s
LCMT Little Creek M 75.23 53 eP P 13 41 25.0 +0.3
comp=Z,12nm,1.0s
GMRC Granite Mounta 75.23 56 P P 13 41 25.2 +0.4
baz=311
OJC Ojcow 75.24 326 eP P 13 41 24.2 -0.2
OJC Ojcow 75.24 326 eP P 13 41 24.2 -0.2
OJC Ojcow 75.24 326 eP P 13 41 24.1 -0.3
comp=Z,37nm,0.9s
STHS Stebnicka Huta 75.24 325 eP P 13 41 26.2 +1.8
STHS pmax pmax
comp=Z,15nm,1.0s
STHS Stebnicka Huta 75.24 325 eP P 13 41 26.2 +1.8
VRI Vrincioaia 75.36 319 ⇑ iP P 13 41 28.3 +3.1
VRI Vrincioaia 75.36 319 ⇑ P P 13 41 28.3 +3.1
UZH Uzhgorod 75.38 324 eP P 13 41 23.4 -1.8
UZH e 13 41 28.6
UZH e 13 41 37.0
SRU San Rafael Swe 75.41 50 eP P 13 41 25.6 -0.2
SRU pmax pmax
comp=Z,28nm,0.9s
SRU San Rafael Swe 75.41 50 eP P 13 41 25.6 -0.2
comp=Z,28nm,0.9s
PLOR Plostina 75.41 319 ⇓ iP P 13 41 28.9 +3.4
PLOR Plostina 75.41 319 ⇓ P P 13 41 28.9 +3.4
RSSD Black Hills 75.44 43 P P 13 41 25.6 -0.3
baz=315
RSSD Black Hills 75.44 43 eP P 13 41 26.3 +0.4
RSSD pmax pmax
comp=Z,26nm,1.0s
RSSD Black Hills 75.44 43 eP P 13 41 26.3 +0.4
comp=Z,26nm,1.0s
PFO Pinyon Flats O 75.51 58 P P 13 41 26.3 -0.1
baz=311
PFO Pinyon Flats O 75.51 58 eP P 13 41 26.0 -0.4
PFO pmax pmax
comp=Z,14nm,1.1s
PFO Pinyon Flats O 75.51 58 eP P 13 41 25.9 -0.4
comp=Z,14nm,1.1s
TPFO Pinon Flats 75.51 58 P P 13 41 26.6 +0.2
baz=311
CRVS Cervenica-Dubn 75.54 324 eP P 13 41 28.3 +2.1
CRVS Cervenica-Dubn 75.54 324 eP P 13 41 28.2 +2.1
BELC Belle Mtn. Jos 75.54 57 P P 13 41 27.0 +0.4
baz=311
TIRR Tirgusor 75.55 318 ⇓ iP P 13 41 31.5 +5.3
TIRR Tirgusor 75.55 318 ⇓ P P 13 41 31.5 +5.3
TLB Topalu 75.64 318 ⇑ iP P 13 41 30.0 +3.3
TLB Topalu 75.64 318 ⇑ P P 13 41 30.0 +3.3
NIE Niedzica 75.64 325 eP P 13 41 28.5 +1.7
NIE Niedzica 75.64 325 eP P 13 41 28.5 +1.7
B32A Ashes, Strandq 75.86 36 P P 13 41 28.1 +0.2
baz=319
A33A Warroad 75.94 35 P P 13 41 27.8 -0.6
baz=320
IRM Iron Mountain 75.97 57 P P 13 41 29.7 +0.8
baz=312,SNR=12
ISR Istrita 75.99 319 ⇓ iP P 13 41 31.8 +2.9
ISR Istrita 75.99 319 ⇓ P P 13 41 31.8 +2.9
O20A White River Ci 75.99 48 P P 13 41 29.3 +0.2
baz=314
O20A White River Ci 75.99 48 eP P 13 41 28.9 -0.3
comp=Z,26nm,1.2s
MONP Monument Peak, 76.00 58 P P 13 41 29.7 +0.3
baz=312
MLR Muntele Rosu 76.01 320 eP P 13 41 28.9 -0.2
MLR pmax pmax
comp=Z,24nm,1.6s
MLR Muntele Rosu 76.01 320 eP P 13 41 28.9 -0.2
comp=Z,24nm,1.6s
BR131 Keskin Array S 76.09 311 eP P 13 41 29.0 -0.7
BRTR Keskin Array B 76.09 311 P P 13 41 30.4 +0.7
comp=Z,3.7nm,0.7s,baz=67,slow=3.2,SNR=8.4
BRTR LR LR 14 18 09.2
comp=Z,226nm,18.8s,baz=17,slow=38
BRTR Keskin Array B 76.09 311 i P P 13 41 31.1 +1.5
BRTR pmax pmax
comp=Z,4.0nm,0.8s
BC3 Big Chuckawall 76.11 57 P P 13 41 30.6 +0.8
baz=312
W13A Hualapai Mount 76.12 55 eP P 13 41 30.3 +0.4
comp=Z,11nm,1.0s
KSP Ksiaz 76.17 328 eP P 13 41 31.9 +2.1
KSP Ksiaz 76.17 328 eP P 13 41 31.8 +2.1
U15A North Rim 76.19 53 eP P 13 41 31.0 +0.6
comp=Z,23nm,1.1s
LANS Liptovska Anna 76.20 325 eP P 13 41 33.5 +3.5
LANS Liptovska Anna 76.20 325 eP P 13 41 33.5 +3.5
OKC Ostrava-Krasne 76.22 327 eP P 13 41 31.8 +1.8
OKC ex x 13 41 39.0
OKC AMS AMS 14 19 40.0
comp=Z,800nm,11.2s
OKC Ostrava-Krasne 76.22 327 eP P 13 41 31.8 +1.8
OKC e 13 41 39.0
OKC MLR MLR
comp=Z,800nm,11.2s
AGMN Agassiz Nation 76.23 36 P P 13 41 30.6 +0.5
baz=320
AGMN Agassiz Nation 76.23 36 eP P 13 41 29.9 -0.1
comp=Z,38nm,1.1s
KECS Kecovo 76.28 325 eP P 13 41 32.0 +1.7
KECS pmax pmax
comp=Z,35nm,2.7s
KECS Kecovo 76.28 325 eP P 13 41 32.0 +1.7
D31A Mcclaflin, Tow 76.34 38 P P 13 41 30.8 0.0
baz=319
IKP In-Ko-Pah, Jac 76.36 58 P P 13 41 31.7 +0.5
baz=312
SWSC Sam W. Stewart 76.36 58 P P 13 41 31.6 +0.5
baz=312
B33A Robert and Kas 76.37 36 P P 13 41 30.8 -0.1
baz=320
VOIR 76.48 320 ⇑ iP P 13 41 33.5 +1.8
VOIR 76.48 320 ⇑ P P 13 41 33.5 +1.8
BR231 Keskin MP Arra 76.49 312 eP P 13 41 29.6 -2.2
PDMCI Parker Dam,Lak 76.49 56 P P 13 41 32.5 +0.7
baz=312
MORC Moravsky Berou 76.51 327 ⇑ iP P 13 41 34.8 +3.1
MORC Moravsky Berou 76.51 327 eP P 13 41 31.8 +0.1
MORC pmax pmax
comp=Z,89nm,1.0s
MORC Moravsky Berou 76.51 327 eP P 13 41 31.8 +0.1
comp=Z,89nm,1.0s
UPC Upice 76.55 328 eP P 13 41 33.5 +1.6
UPC ePCP sP 13 41 40.5 +1.0
UPC AMS AMS 14 19 00.0
comp=Z,1μm,13.1s
UPC Upice 76.55 328 eP P 13 41 33.5 +1.6
UPC e 13 41 40.5
UPC MLR MLR
comp=Z,1μm,13.1s
DPC Dobruska-Polom 76.55 328 eP P 13 41 33.0 +1.1
DPC ePCP sP 13 41 40.9 +1.3
DPC AMS AMS 14 19 30.0
comp=Z,1μm,12.6s
DPC Dobruska-Polom 76.55 328 eP P 13 41 33.0 +1.1
DPC e 13 41 40.9
DPC MLR MLR
comp=Z,1μm,12.6s
DRGR 76.57 322 ⇑ iP P 13 41 35.4 +3.3
DRGR 76.57 322 ⇑ P P 13 41 35.4 +3.3
D32A Dogwood Acres, 76.60 37 P P 13 41 32.0 -0.2
baz=319
B34A Aery, Baudette 76.61 35 P P 13 41 31.7 -0.5
baz=320
Y12C Blythe 76.62 57 P P 13 41 33.7 +1.1
baz=312
Y12C Blythe 76.62 57 eP P 13 41 33.4 +0.8
comp=Z,37nm,1.5s
E31A Nome 76.63 38 P P 13 41 32.8 +0.4
baz=319
C33A Trail 76.68 36 P P 13 41 32.0 -0.6
baz=320
PHWY Pilot Hill 76.69 46 eP P 13 41 33.1 -0.2
comp=Z,29nm,1.4s
N23A Red Feather La 76.72 46 P P 13 41 33.4 +0.1
baz=315
N23A Red Feather La 76.72 46 eP P 13 41 33.5 +0.2
comp=Z,45nm,1.5s
ARR Arges 76.73 320 ⇑ iP P 13 41 34.7 +1.6
GLA Glamis 76.90 57 P P 13 41 34.5 +0.3
baz=312
GLA Glamis 76.90 57 eP P 13 41 35.1 +0.9
GLA pmax pmax
comp=Z,18nm,1.1s
GLA Glamis 76.90 57 eP P 13 41 35.1 +0.9
comp=Z,18nm,1.1s
PSZ Piszkesteto 76.96 324 ⇑ iP P 13 41 37.2 +2.9
PSZ Piszkesteto 76.96 324 eP P 13 41 35.0 +0.7
PSZ pmax pmax
comp=Z,23nm,1.1s
PSZ Piszkesteto 76.96 324 eP P 13 41 35.0 +0.7
comp=Z,23nm,1.1s
VYHS Vyhne 76.97 325 eP P 13 41 35.3 +1.0
VYHS pmax pmax
comp=Z,23nm,1.9s
VYHS Vyhne 76.97 325 eP P 13 41 35.3 +1.0
F31A Hecla 76.99 39 P P 13 41 34.1 -0.3
baz=318
BRG Berggiesshubel 77.05 329 e(P) P 13 41 42.4 +7.7
comp=Z,12nm,1.1s
BRG Berggiesshubel 77.05 329 eP P 13 41 42.4 +7.7
BRG pmax pmax
comp=Z,13nm,1.1s
CLL Collm 77.05 330 eP P 13 41 34.6 0.0
CLL pmax pmax
comp=Z,26nm,0.9s
CLL Collm 77.05 330 eP P 13 41 35.0 +0.3
comp=Z,14nm,1.0s
CLL i pP sP 13 41 42.3 0.0
comp=Z,26nm,0.9s
CLL eS S 13 51 19.0 -3.3
CLL Collm 77.05 330 eP P 13 41 34.6 0.0
comp=Z,26nm,0.9s
PVCC Panska Ves 77.09 329 eP P 13 41 36.7 +1.8
PVCC AMS AMS 14 19 20.0
comp=Z,900nm,12.2s
PVCC Panska Ves 77.09 329 eP P 13 41 36.7 +1.8
PVCC MLR MLR
comp=Z,900nm,12.2s
B35A Bob, Littlefor 77.10 35 P P 13 41 35.0 0.0
baz=321
D33A AnnSam, Waubun 77.11 37 P P 13 41 35.8 +0.6
baz=320
C34A RKJ Ranch, Bem 77.14 36 P P 13 41 34.9 -0.4
baz=320
VRAC Vranov 77.26 327 P P 13 41 37.1 +1.2
comp=Z,5.4nm,0.5s,baz=40,slow=7.2,SNR=8.2
VRAC Vranov 77.26 327 ⇓ iP P 13 41 39.6 +3.7
VRAC Vranov 77.26 327 P P 13 41 37.1 +1.2
VRAC pmax pmax
comp=Z,23nm,1.2s
WUAZ Wupatki 77.35 53 P P 13 41 37.8 +0.9
baz=313
WUAZ Wupatki 77.35 53 eP P 13 41 37.6 +0.8
comp=Z,27nm,1.4s
SMCO Snowmass 77.36 48 eP P 13 41 37.7 +0.6
comp=Z,21nm,1.0s
Y14A Wickenburg 77.43 56 eP P 13 41 38.3 +1.1
comp=Z,58nm,1.0s
D34A Park Rapids 77.44 36 P P 13 41 37.0 0.0
baz=320
G31A Conde 77.48 39 P P 13 41 37.4 +0.2
baz=319
GOPC GO Pecny, Ondr 77.50 328 ePCP PcP 13 41 46.3 -1.3
GOPC AMS AMS 14 19 40.0
comp=Z,1μm,13.2s
GOPC GO Pecny, Ondr 77.50 328 eP PcP 13 41 46.3 -1.3
GOPC MLR MLR
comp=Z,1μm,13.2s
C35A Jirik Farms, M 77.50 35 P P 13 41 37.0 -0.2

baz=321
PRA Prague 77.51 329 AMS AMS 14 19 40.0
comp=Z,1µm,12.8s
E33A Westby DABS, E 77.53 37 P P 13 41 38.8 +1.4
baz=320
PRU Pruhonice 77.53 329 *e*P P 13 41 38.7 +1.3
PRU *e*PCP PcP 13 41 46.4 -1.3
PRU AMS AMS 14 19 40.0
comp=Z,900nm,12.1s
PRU Pruhonice 77.53 329 *e*P P 13 41 38.7 +1.3
PRU *e* 13 41 46.4
PRU MLR MLR
comp=Z,900nm,12.1s
ISCO Idaho Springs 77.67 47 P P 13 41 38.9 +0.1
baz=315,SNR=6.4
ISCO Idaho Springs 77.67 47 *e*P P 13 41 39.7 +0.9
ISCO pmax pmax
comp=Z,54nm,1.6s
ISCO Idaho Springs 77.67 47 *e*P P 13 41 39.7 +0.9
comp=Z,54nm,1.6s
SUSD Miller 77.71 40 P P 13 41 39.4 +0.9
baz=318
TREC Trest 77.72 328 AMS AMS 14 20 10.0
comp=Z,1µm,13.1s
113A Mohawk Valley, 77.75 57 *e*P P 13 41 38.6 -0.3
comp=Z,12nm,1.2s
G32A Webster 77.79 39 P P 13 41 39.8 +0.9
baz=319
MVCO Mesa Verde 77.87 51 P P 13 41 40.3 +0.4
baz=314
MVCO Mesa Verde 77.87 51 *e*P P 13 41 40.6 +0.7
comp=Z,22nm,0.9s
F33A 5 Mile Ranch, 77.90 38 P P 13 41 39.2 -0.3
baz=320
H31A Wolsey 77.91 40 P P 13 41 39.4 -0.2
baz=318
C36A Pine Crest Far 77.94 35 P P 13 41 39.3 -0.4
baz=322,SNR=8.3
D35A Remer 77.95 36 P P 13 41 38.8 -1.0
baz=321
BZS Buzias 77.95 322 ⇑ *i*P P 13 41 41.0 +1.2
BZS Buzias 77.95 322 ⇑P P 13 41 41.0 +1.2
X16A Lo Mia Camp, P 78.06 54 *e*P P 13 41 42.0 +1.1
comp=Z,18nm,1.0s
NKC Novy Kostel 78.13 330 AMS AMS 14 20 10.0
comp=Z,1µm,12.8s
E35A Pequot Lakes 78.20 36 P P 13 41 41.3 +0.1
baz=321
I31A Royce, Wessing 78.22 40 P P 13 41 41.2 -0.2
baz=319
C37A Embarrass 78.24 34 P P 13 41 41.0 -0.4
baz=322,SNR=5.9
D36A Goodland 78.25 35 P P 13 41 41.2 -0.2
baz=321
G33A Ortonville 78.33 38 P P 13 41 42.0 +0.1
baz=320
EYMN Ely 78.35 34 P P 13 41 41.7 -0.3
baz=322,SNR=6.0
EYMN Ely 78.35 34 *e*P P 13 41 42.1 +0.1
comp=Z,55nm,1.1s
H32A Carlson Farm, 78.39 39 P P 13 41 42.3 0.0
baz=319
S22A 4UR Ranch, Cre 78.45 49 P P 13 41 42.8 -0.3
baz=315,SNR=14
S22A 4UR Ranch, Cre 78.45 49 *e*P P 13 41 44.1 +1.0
comp=Z,18nm,1.2s
Q24A Divide 78.52 47 P P 13 41 44.1 +0.6
baz=316
H33A Prehn Over Nor 78.58 39 P P 13 41 43.7 +0.4
baz=320
D37A Cotton 78.58 35 P P 13 41 43.2 -0.1
baz=322,SNR=5.0
KHC Kasperske Hory 78.60 329 *e*P P 13 41 44.1 +0.7
KHC *ex* x 13 41 51.7
KHC AMS AMS 14 20 20.0
comp=Z,1µm,11.9s
KHC Kasperske Hory 78.60 329 *e*P P 13 41 43.7 +0.3
KHC pmax pmax
comp=Z,8.0nm,1.0s
KHC Kasperske Hory 78.60 329 *e*P P 13 41 43.7 +0.3
comp=Z,8.5nm,1.0s
C38A Sawbill Land. 78.62 34 P P 13 41 43.3 -0.3
baz=322,SNR=6.6
CONA Conrad Observa 78.65 327 *i* sP P 13 41 45.8 +2.1
comp=Z,15nm,1.3s
G34A Benson 78.66 38 P P 13 41 44.5 +0.8
baz=320
J31A Geddes 78.67 41 P P 13 41 44.2 +0.3
baz=318
E36A McGregor 78.73 36 P P 13 41 43.7 -0.4
baz=321,SNR=6.0
OGNE Ogallala 78.75 44 P P 13 41 44.6 +0.1
baz=317
GEC2 GERESS Array S 78.78 328 *e*P P 13 41 43.0 -1.4
GEC2 pmax pmax
comp=Z,7.0nm,0.9s
GEC2 GERESS Array S 78.78 328 *e*P P 13 41 43.0 -1.4
comp=Z,7.1nm,0.9s
GERES GERESS Array B 78.78 328 P P 13 41 47.0 +2.5
comp=Z,1.2nm,0.6s,baz=56,slow=3.4,SNR=5.7
GERES LR LR 14 22 47.4
comp=Z,266nm,18.6s,baz=32,slow=40
GERES GERESS Array B 78.78 328 P P 13 41 47.0 +2.5
GERES pmax pmax
comp=Z,1.0nm,0.6s
GEA0 GERESS Array S 78.79 328 *e*P P 13 41 46.8 +2.3
C39A Grand Marais 79.01 33 P P 13 41 45.5 -0.1
baz=323
I33A Coleman 79.03 39 P P 13 41 46.0 +0.2
baz=320
GRFO Grafenberg 79.03 330 *e*P P 13 41 49.2 +3.5
GRFO pmax pmax
comp=Z,31nm,0.9s
GRFO Grafenberg 79.03 330 *e*P P 13 41 49.2 +3.5
comp=Z,31nm,0.9s
H34A Spellman Lake, 79.03 38 P P 13 41 45.4 -0.4
baz=320
J32A Parkston 79.04 40 P P 13 41 46.0 +0.1
baz=319
F36A Milaca 79.12 36 P P 13 41 46.0 -0.2
baz=321
K31A O'Neill 79.17 41 P P 13 41 46.8 +0.2
baz=319
SDCO Great Sand Dun 79.19 48 P P 13 41 47.5 +0.3
baz=316
SDCO Great Sand Dun 79.19 48 *e*P P 13 41 47.7 +0.6
comp=Z,17nm,1.1s
G35A Watkins 79.19 37 P P 13 41 46.5 -0.2
baz=321
ARSA Arzberg 79.33 326 *i* sP P 13 41 51.3 +3.9
comp=Z,9.7nm,1.3s
ECSD EROS Data Cent 79.36 39 P P 13 41 47.5 -0.1
baz=320,SNR=10
ECSD EROS Data Cent 79.36 39 *e*P P 13 41 48.0 +0.4
comp=Z,52nm,1.2s
MOA Molln 79.36 327 *i* sP P 13 41 50.3 +2.7
comp=Z,7.8nm,1.0s
E38A The Farm, Brul 79.39 35 P P 13 41 47.7 0.0
baz=322
H35A Sunnyside Ranc 79.44 38 P P 13 41 48.3 +0.3
baz=321
I34A Hadley 79.47 39 P P 13 41 48.3 0.0
baz=320
VTS Vitosha 79.49 319 *e*P P 13 41 48.9 +0.4
VTS pmax pmax
comp=Z,18nm,1.0s
VTS Vitosha 79.49 319 *e*P P 13 41 48.9 +0.4
comp=Z,18nm,1.0s
J33A Davis 79.50 40 P P 13 41 48.0 -0.4
baz=320
F37A Hinrichs Farm, 79.62 36 P P 13 41 48.3 -0.7
baz=322
F38A Pierce - Schro 79.76 35 P P 13 41 49.8 0.0
baz=322,SNR=6.6
KSCO Kaye Shedlock' 79.85 46 P P 13 41 51.4 +0.9
baz=317
TUC Tucson 79.90 55 P P 13 41 51.3 +0.4
baz=314
TUC Tucson 79.90 55 *e*P P 13 41 51.3 +0.4
TUC pmax pmax
comp=Z,11nm,1.1s
TUC Tucson 79.90 55 *e*P P 13 41 51.3 +0.4
comp=Z,11nm,1.1s
SPMN Marine on St. 79.94 36 P P 13 41 50.6 -0.1
baz=322
H36A Jessenland, He 79.94 37 P P 13 41 51.4 +0.7
baz=321
SOKA Soboth 79.99 326 *i* pP P 13 41 52.3 +1.2
comp=Z,18nm,0.9s
L32A Elgin 80.00 41 P P 13 41 51.7 +0.5
baz=319
J34A George 80.01 39 P P 13 41 51.7 +0.5
baz=320
I35A Creekview Farm 80.02 38 P P 13 41 51.2 0.0
baz=321
K33A Hardington 80.03 40 P P 13 41 51.6 +0.3
baz=320
SCHQ Schefferville 80.15 17 P P 13 41 52.3 +0.6
comp=Z,12nm,1.0s,baz=21,slow=12,SNR=3.0
SCHQ LR LR 14 21 43.8
comp=Z,259nm,18.3s,baz=288,slow=39
SCHQ Schefferville 80.15 17 *e*P P 13 41 51.9 +0.2
comp=Z,30nm,1.0s
T25A Trinidad 80.23 48 P P 13 41 53.3 +0.5
baz=316,SNR=11
T25A Trinidad 80.23 48 *e*P P 13 41 52.4 -0.3
comp=Z,32nm,1.0s
L33A Hoskins 80.23 41 P P 13 41 52.8 +0.4
baz=320
J35A Milford 80.30 39 P P 13 41 52.7 0.0
baz=321
OBKA Obir 80.33 326 *i* sP P 13 41 55.5 +2.6
comp=Z,12nm,1.3s
BGNE Belgrade 80.37 42 P P 13 41 53.5 +0.3
baz=319
BGNE Belgrade 80.37 42 *e*P P 13 41 53.1 -0.1
G38A Ridgeland 80.39 36 P P 13 41 53.3 +0.1
baz=322
K34A Le Mars 80.40 40 P P 13 41 53.2 -0.1
baz=320
F40A Park Falls 80.53 34 P P 13 41 53.9 0.0
baz=323
G39A Holcombe 80.60 35 P P 13 41 53.8 -0.5
baz=323
H38A Maiden Rock 80.60 36 P P 13 41 54.6 +0.3
baz=322
MYKA Terra Mystica 80.60 327 *i* sP P 13 41 56.3 +2.0
comp=Z,8.7nm,1.0s
I37A Lemond, Waseca 80.62 37 P P 13 41 54.8 +0.4
baz=322
LAZ Ladron 80.63 52 *e*P P 13 41 55.6 +0.8
ANMO Albuquerque 80.64 51 P P 13 41 55.7 +0.7
baz=316
ANMO Albuquerque 80.64 51 *e*P P 13 41 53.3 -1.6
ANMO pmax pmax
comp=Z,9.0nm,1.1s
ANMO Albuquerque 80.64 51 *e*P P 13 41 55.7 +0.7
comp=Z,19nm,1.2s
M33A Taylor Creek F 80.72 41 P P 13 41 55.0 -0.1
baz=320
J36A Seneca 1, Swea 80.72 38 P P 13 41 55.3 +0.3
baz=321
K35A Storm Lake 80.78 39 P P 13 41 56.1 +0.8
baz=321
L34A Svendsen Farm, 80.81 40 P P 13 41 56.2 +0.7
baz=320
WATA Walderalm 80.84 329 *i* PcP P 13 41 59.7 +4.0
comp=Z,12nm,0.7s
WTTA Wattenberg 80.87 329 *i* sP P 13 41 57.9 +2.0
comp=Z,5.8nm,0.8s
ABTA Abfaltersbach 80.95 328 *i* sP P 13 41 58.3 +2.1
comp=Z,6.2nm,0.9s
MOTA Moosalm 81.01 329 *i* PcP P 13 41 60.0 +3.3
comp=Z,36nm,1.0s
G40A Rib Lake 81.02 35 P P 13 41 57.2 +0.6
baz=323
RETA Reutte 81.02 329 *i* sP P 13 41 58.9 +2.3
comp=Z,23nm,1.3s
H39A Augusta 81.03 36 P P 13 41 57.2 +0.6
baz=323
M34A Aspy Farms, Fr 81.07 41 P P 13 41 57.4 +0.6
baz=320
I38A Scanlan Farm, 81.08 37 P P 13 41 57.4 +0.5
baz=322
J37A Redenius Farm, 81.10 38 P P 13 41 57.3 +0.3
baz=322
F41A Three Lakes 81.10 34 P P 13 41 54.5 -2.5
baz=324
K36A Gilmore City 81.21 39 P P 13 41 57.6 +0.1
baz=321
FETA Feichen 81.42 329 *i* sP P 13 42 01.6 +2.8
comp=Z,17nm,0.9s
H40A Chili 81.46 35 P P 13 41 58.3 -0.6
baz=323
319A Douglas 81.47 55 *e*P P 13 42 03.2 +3.9
comp=Z,14nm,1.0s
K37A Belmond 81.48 38 P P 13 41 58.8 -0.2
baz=322,SNR=5.7
PDG Podgorica 81.49 321 ⇓ *i*P P 13 42 00.6 +1.6
CBKS Cedar Bluff 81.51 44 P P 13 41 58.8 -0.5
baz=318
CBKS Cedar Bluff 81.51 44 *e*P P 13 41 59.6 +0.3
CBKS pmax pmax
comp=Z,55nm,1.0s
CBKS Cedar Bluff 81.51 44 *e*P P 13 41 59.6 +0.3
comp=Z,55nm,1.0s
DAVA Damuels 81.52 330 *i* sP P 13 42 01.7 +2.4
comp=Z,24nm,1.0s
L36A Harm Buss Farm 81.52 39 P P 13 41 58.8 -0.4
baz=321
M35A Neola 81.53 40 P P 13 41 59.1 -0.2
baz=320
121A Cookes Peak, D 81.56 54 P P 13 42 00.7 +0.8
baz=315
121A Cookes Peak, D 81.56 54 *e*P P 13 42 00.9 +1.1
comp=Z,23nm,1.0s
I39A Houston 81.58 36 P P 13 41 59.2 -0.4
baz=323
J38A Wedel Dairy, R 81.58 37 P P 13 41 59.3 -0.2
baz=322
O33A Hebron 81.66 42 P P 13 41 59.6 -0.4
baz=320
H41A Junction City 81.78 35 P P 13 42 00.2 -0.4
baz=324
J39A Decorah 81.91 37 P P 13 42 01.4 +0.2
baz=323
L37A Phoenix Point, 81.93 39 P P 13 42 01.2 -0.2
baz=322,SNR=6.1
FUORN Ofenpass-Fuorn 81.93 329 *e*P P 13 42 00.5 -1.2
comp=Z,42nm,1.0s
DAVOX Davos/Dischmat 81.95 329 P P 13 42 03.5 +1.8
comp=Z,3.1nm,0.4s,baz=13,slow=9.4,SNR=4.6
M36A Felix, Anita 81.96 40 P P 13 42 02.0 +0.4
baz=321
K38A Parkersburg 81.97 38 P P 13 42 02.0 +0.4
baz=322
O34A Beatrice 82.02 42 P P 13 42 02.6 +0.7
baz=320
I41A Arkdale 82.13 35 P P 13 42 02.2 -0.2
baz=324
L38A Oak Wood Farm, 82.29 38 P P 13 42 03.2 -0.1
baz=322
J40A Soldiers Grove 82.29 36 P P 13 42 02.9 -0.4
baz=323
K39A Oelwein 82.33 37 P P 13 42 03.3 -0.2
baz=323
O35A Humboldt 82.34 41 P P 13 42 03.8 +0.2
baz=320
SCIA State Center 82.35 39 *e*P P 13 42 04.6 +1.0
comp=Z,93nm,1.1s
N36A Muff Farm, Cla 82.38 40 P P 13 42 03.2 -0.5
baz=321
TUE Stuetta 82.41 329 *e*P P 13 42 04.3 +0.2
comp=Z,16nm,1.1s
P34A Walnut Farm, R 82.44 42 P P 13 42 04.1 0.0
baz=320
J41A Loganville 82.63 36 P P 13 42 04.9 -0.1
baz=324
K40A Colesburg 82.67 37 P P 13 42 04.9 -0.3
baz=323
L39A Vinton 82.74 38 P P 13 42 05.4 -0.2
baz=323,SNR=6.1
M38A Pleasantville 82.75 39 P P 13 42 06.4 +0.7
baz=322
N37A Lee Faris, Mou 82.78 40 P P 13 42 05.7 -0.2
baz=321
P35A Duane Minner, 82.86 42 P P 13 42 06.9 +0.6
baz=320
Q34A Chapman 82.86 43 P P 13 42 07.2 +0.8
baz=320
KSU1 Kansas State U 82.89 42 P P 13 42 06.7 +0.2
baz=320
O36A Bolckow 82.91 41 P P 13 42 07.3 +0.7
baz=321
K41A Shullsburg 83.11 36 P P 13 42 07.7 +0.2
baz=324
L40A Anamosa 83.14 37 P P 13 42 07.2 -0.4
baz=323,SNR=5.8
M39A Webster 83.17 38 P P 13 42 07.3 -0.6
baz=322
R34A Isabella, Hill 83.18 43 P P 13 42 08.2 +0.2
baz=320
P36A Good Intent, A 83.19 41 P P 13 42 08.3 +0.3
baz=321
N38A Joes South For 83.22 39 P P 13 42 08.0 -0.2
baz=322
SENIN Lac Senin/Sane 83.26 331 *e*P P 13 42 07.8 -0.7
comp=Z,7.7nm,0.8s
O37A Wolven Farm, M 83.28 40 P P 13 42 08.5 +0.1
baz=322
AMTX Amarillo 83.39 48 P P 13 42 09.8 +0.6
baz=318
AMTX Amarillo 83.39 48 *e*P P 13 42 09.9 +0.6
comp=Z,30nm,1.0s
VLDQ Val d'Or 83.39 26 *e*P P 13 42 07.7 -1.1
comp=Z,49nm,0.9s
MSTX Muleshoe 83.45 49 P P 13 42 10.0 +0.4
baz=317
L41A Preston 83.45 37 P P 13 42 09.1 -0.2
baz=324
N39A Derby Farms, D 83.49 39 P P 13 42 09.6 +0.1
baz=322,SNR=5.7
M40A Post Highland 83.53 38 P P 13 42 09.7 -0.1
baz=323,SNR=6.0
MNTX Cornudas Mount 83.58 53 P P 13 42 10.7 +0.6
baz=316
MNTX Cornudas Mount 83.58 53 *e*P P 13 42 10.8 +0.6
comp=Z,17nm,1.2s
P37A Lathrop 83.63 41 P P 13 42 10.2 0.0
baz=321
O38A Galt 83.63 40 P P 13 42 10.5 +0.2
baz=322
LOR Lormes 83.69 333 *e*P P 13 42 12.6 +2.1
LOR pmax pmax
comp=Z,25nm,1.0s
R35A Emporia Munici 83.69 43 P P 13 42 10.9 +0.2
baz=320
S34A Willow Spring 83.71 44 P P 13 42 10.6 -0.1
baz=320
N40A Mertquake, Sal 83.91 38 P P 13 42 11.8 +0.1
baz=323
P38A Dawn 83.99 40 P P 13 42 12.2 +0.1
baz=322,SNR=6.0
M41A Milan 83.99 37 P P 13 42 11.8 -0.3
baz=324
R36A Gordon, Harris 84.04 42 P P 13 42 12.3 -0.2
baz=321,SNR=6.2
S35A Otter Creek Ra 84.12 43 P P 13 42 13.2 +0.4
baz=320,SNR=10.0
T34A McClaskey Farm 84.19 44 P P 13 42 13.2 0.0
baz=320
LPL La Plagne 84.19 330 *e*P P 13 42 16.1 +2.8
LPL pmax pmax
comp=Z,20nm,1.2s
LPG La Plagne 84.20 330 *e*P P 13 42 14.4 +1.0
LPG pmax pmax
comp=Z,120nm,0.9s
AVF Avril sur Loir 84.27 333 *e*P P 13 42 15.0 +1.6
AVF pmax pmax
comp=Z,29nm,0.9s
O40A La Belle 84.38 39 P P 13 42 14.1 -0.1
baz=323
R37A Teagarden Farm 84.38 42 P P 13 42 14.4 +0.2
baz=321
N41A Harden Midland 84.39 38 P P 13 42 14.4 +0.3
baz=323
S36A Lake Cedric, C 84.46 43 P P 13 42 15.0 +0.5
baz=321
Q38A Cooks Store, C 84.47 41 P P 13 42 15.2 +0.6
baz=322
P39B Salisbury 84.47 40 P P 13 42 14.6 +0.1
baz=322
BNI Bardonecchia 84.60 330 *e*P P 13 42 15.1 -0.2
BNI pmax pmax
comp=Z,16nm,1.0s
BNI Bardonecchia 84.60 330 *e*P P 13 42 15.1 -0.2
comp=Z,16nm,1.0s
T35A Sooner Cattle 84.61 44 P P 13 42 16.0 +0.6
baz=320
N42A Yates City 84.66 37 P P 13 42 16.4 +0.9
baz=324
P40A Paris 84.77 39 P P 13 42 16.4 +0.3
baz=323
S37A Fort Scott 84.81 42 P P 13 42 15.8 -0.5
baz=321
T36A Boggs Farm, Ca 84.83 43 P P 13 42 16.8 +0.4
baz=321
O41A Passleys Farm, 84.85 38 P P 13 42 16.4 -0.1
baz=323
U35A Pawnee 84.92 44 P P 13 42 17.4 +0.5
baz=320
R38A Fenwick Farm, 84.94 41 P P 13 42 17.4 +0.5
baz=322
X32A Elmer 85.04 47 P P 13 42 18.5 +0.9
baz=319
WMOK Wichita Mounta 85.08 46 P P 13 42 18.8 +1.0
baz=319
WMOK Wichita Mounta 85.08 46 *e*P P 13 42 18.6 +0.8
WMOK pmax pmax
comp=Z,20nm,1.0s
WMOK Wichita Mounta 85.08 46 *e*P P 13 42 18.6 +0.8
comp=Z,20nm,1.0s
TCF Toulx Ste Croi 85.09 334 *e*P P 13 42 21.5 +3.9
TCF pmax pmax
comp=Z,25nm,1.5s
P41A Barry, Barry 85.12 39 P P 13 42 18.6 +0.8
baz=323
Q40A Laux Farm, Aux 85.18 40 P P 13 42 18.9 +0.7
baz=323
HDIL Hopedale 85.21 37 P P 13 42 18.3 +0.1
baz=324
HDIL Hopedale 85.21 37 *e*P P 13 42 18.4 +0.1
comp=Z,62nm,1.0s
T37A Cheneyville 18 85.26 43 P P 13 42 19.3 +0.7
baz=321
S38A Stockton 85.37 42 P P 13 42 19.6 +0.5
baz=322
U36A Oologah 85.42 44 P P 13 42 19.8 +0.4
baz=321
O43A Sugar Creek Fa 85.42 37 P P 13 42 19.4 0.0
baz=324
P42A Winchester 85.52 38 P P 13 42 20.3 +0.4
baz=324
S39A Bolivar 85.61 41 P P 13 42 20.4 +0.1
baz=322
Q41A Truxton 85.61 39 P P 13 42 20.6 +0.3
baz=323
T38A Diamond 85.64 42 P P 13 42 20.2 -0.3
baz=322,SNR=9.9
R40A Maddies Statio 85.65 40 P P 13 42 19.8 -0.7
baz=323,SNR=6.2
Y33A Hilltop Ranch, 85.71 47 P P 13 42 20.8 -0.1
baz=320
U37A Salina 85.72 43 P P 13 42 20.6 -0.2
baz=321
TUL1 Leonard 85.76 44 P P 13 42 21.3 +0.3
baz=321
V36A Jenks 85.78 44 P P 13 42 21.6 +0.4
baz=321
W35A Tecumseh 85.78 45 P P 13 42 22.1 +0.9
baz=320
P43A Skaggs, Pawnee 85.85 38 P P 13 42 21.6 +0.2
baz=324
Q42A Golden Eagle 85.97 39 P P 13 42 22.8 +0.7
baz=324
TRQ Mont Tremblant 85.98 25 *e*P P 13 42 21.6 -0.5
LMQ La Malbaie 86.02 22 *e*P P 13 42 21.2 -0.9
U38A Gravette 86.06 43 P P 13 42 23.0 +0.3
baz=322
R41A Rosebud 86.07 40 P P 13 42 22.5 -0.1
baz=323
S40A Lebanon 86.08 41 P P 13 42 22.5 -0.2
baz=323
T39A Clever 86.11 42 P P 13 42 22.9 +0.1
baz=322
V37A Hulbert 86.11 43 P P 13 42 23.0 +0.1
baz=321
W36A Wetumka 86.13 45 P P 13 42 23.3 +0.4
baz=321
Z33A Whitaker Ranch 86.18 47 P P 13 42 23.5 +0.3
baz=319
ABTX Abilene, Hawle 86.20 48 P P 13 42 23.6 +0.3
baz=319
PPT Papeete 86.21 118 LR LR 14 21 17.8

comp=Z,171nm,18.5s,baz=308,slow=36
PLVO Plevna 86.22 27 *e*P P 13 42 22.9 -0.3
comp=Z,16nm,0.9s
PPT2 Papeete2 86.23 118 *e*LR LR 14 10 04.8
comp=Z,158nm,22.5s
X35A Drake 86.30 46 P P 13 42 23.7 -0.1
baz=320
TX31 Lajitas Ar. Si 86.31 53 *e*P P 13 42 24.4 +0.3
TXAR Lajitas Array 86.31 53 P P 13 42 24.6 +0.6
comp=Z,2.8nm,0.8s,baz=294,slow=3.3,SNR=30
SFIN Lafayette 86.32 36 P P 13 42 23.8 0.0
baz=326
Q43A New Douglas 86.33 38 P P 13 42 23.9 +0.1
baz=324
R42A Luebbering 86.36 39 P P 13 42 24.3 +0.3
baz=324
P44A Sand Creek, Wi 86.40 37 P P 13 42 25.1 +0.9
baz=325
HHAR Hobbs 86.41 42 *e*P P 13 42 25.6 +1.3
comp=Z,24nm,1.1s
T40A Mansfield 86.43 41 P P 13 42 24.8 +0.4
baz=323
S41A Jillco Farms, 86.46 40 P P 13 42 24.1 -0.4
baz=323
X36A Centrahoma 86.50 45 P P 13 42 25.7 +0.9
baz=321
V38A Canehill 86.50 43 P P 13 42 25.3 +0.5
baz=322
W37B Quinton 86.54 44 P P 13 42 25.2 +0.3
baz=321
U39A Green Forest 86.56 42 P P 13 42 24.5 -0.5
baz=322,SNR=9.9
Z34A Collier Ranch, 86.58 47 P P 13 42 25.6 +0.4
baz=320
133A Hamilton Ranch 86.61 48 P P 13 42 25.8 +0.4
baz=319
TAOE Nuku Hiva Isla 86.63 105 *e*LR LR 14 09 57.7
comp=Z,300nm,22.3s
Y35A Marietta 86.64 46 P P 13 42 26.3 +0.8
baz=320
Q44A Meyer Farm, Va 86.68 38 P P 13 42 26.2 +0.7
baz=324
R43A Red Bud 86.76 39 P P 13 42 26.7 +0.7
baz=324
S42A Caledonia 86.77 40 P P 13 42 26.6 +0.6
baz=324
LFF La Frestale 86.77 334 *e*P P 13 42 29.2 +3.3
LFF pmax pmax
comp=Z,81nm,1.4s
T41A Mountain View 86.88 41 P P 13 42 26.9 +0.3
baz=323
U40A Yellville 86.89 42 P P 13 42 26.3 -0.4
baz=322,SNR=9.9
V39A Pettigrew 86.91 43 P P 13 42 27.2 +0.4
baz=322
X37A Clayton 87.00 44 P P 13 42 27.7 +0.5
baz=321
Y36A Durant 87.05 45 P P 13 42 27.3 -0.2
baz=321
W38A Poteau 87.06 44 P P 13 42 28.3 +0.8
baz=322
233A Rising Star 87.06 48 P P 13 42 28.5 +0.9
baz=319
R44A Waltonville 87.18 38 P P 13 42 28.9 +0.9
baz=324
X38A Whitesboro 87.22 44 P P 13 42 29.2 +0.9
baz=321
S43A Fulton Ridge, 87.26 39 P P 13 42 29.1 +0.7
baz=324
Y37A Hugo 87.34 45 P P 13 42 29.3 +0.4
baz=321
W39A Magazine 87.34 43 P P 13 42 29.6 +0.8
baz=322
V40A Witts Springs 87.34 42 P P 13 42 29.0 +0.1
baz=322
U41A Viola 87.36 41 P P 13 42 29.5 +0.6
baz=323
135A Vickery Place, 87.47 47 P P 13 42 29.9 +0.3
baz=320
234A Clairette 87.50 48 P P 13 42 30.1 +0.4
baz=320
333A Richland Sprin 87.54 49 P P 13 42 31.2 +1.3
baz=319
S44A Carbondale 87.55 39 P P 13 42 30.7 +1.0
baz=324
U42A Revenden 87.69 41 P P 13 42 31.1 +0.6
baz=323
V41A Mountainview 87.69 42 P P 13 42 31.0 +0.5
baz=323
W40A Ferguson Farm, 87.70 43 P P 13 42 31.0 +0.4
baz=322
X39A Fountain Ranch 87.71 44 P P 13 42 31.6 +1.0
baz=322
JCT Junction City 87.72 50 P P 13 42 32.4 +1.6
baz=319
JCT Junction City 87.72 50 *e*P P 13 42 31.1 +0.3
JCT pmax pmax
comp=Z,40nm,1.6s
JCT Junction City 87.72 50 *e*P P 13 42 31.1 +0.3
comp=Z,40nm,1.6s
PBMO Poplar Bluff 87.73 40 *e*P P 13 42 31.2 +0.5
comp=Z,44nm,0.9s
Y38A Idabel 87.84 44 P P 13 42 32.3 +1.0
baz=322
S45A Carrier Mills 87.87 38 P P 13 42 32.5 +1.2
baz=325
WHTX Lake Whitney, 87.88 47 P P 13 42 32.2 +0.7
baz=320
T44A Benton 87.88 39 P P 13 42 31.9 +0.5
baz=324
433A Art 87.91 49 P P 13 42 32.0 +0.3
baz=319
Z37A Pogue Cattle C 87.94 45 P P 13 42 32.1 +0.3
baz=321
334A Lometa 87.95 48 P P 13 42 32.4 +0.6
baz=320
MIAR Mount Ida 87.95 43 P P 13 42 32.8 +1.0
baz=322
MIAR Mount Ida 87.95 43 *e*P P 13 42 32.8 +1.0
MIAR pmax pmax
comp=Z,23nm,1.0s
MIAR Mount Ida 87.95 43 *e*P P 13 42 32.8 +1.0
comp=Z,22nm,1.0s
X301 Greenbrier Sit 88.00 42 *e*P P 13 42 32.3 +0.3
comp=Z,22nm,1.2s
WHAR Wooly Hollow 88.02 42 *e*P P 13 42 32.5 +0.4
comp=Z,28nm,0.9s
V42A Cord 88.05 41 P P 13 42 33.1 +0.9
baz=323
W41B Gary Mavity, V 88.13 42 P P 13 42 33.2 +0.6
baz=323
Y39A Lockesburg 88.17 44 P P 13 42 33.5 +0.7
baz=322
ACSO Alum Creek Sta 88.17 33 *e*P P 13 42 33.2 +0.5
comp=Z,20nm,0.8s
434A Burnet 88.33 49 P P 13 42 33.9 +0.2
baz=320
M54A Oil Creek Stat 88.38 30 P P 13 42 34.4 +0.7
baz=330
X40A Basin Creek Fa 88.38 43 P P 13 42 34.8 +1.0
baz=322
335A Moody 88.44 48 P P 13 42 34.5 +0.3
baz=320
533A Kerrville 88.46 50 P P 13 42 35.0 +0.7
baz=319
138A Matatall Enter 88.64 45 P P 13 42 36.3 +1.2
baz=321
N54A Moraine State 88.73 31 P P 13 42 36.1 +0.7
baz=330
534A Blanco 88.81 49 P P 13 42 37.0 +1.1
baz=320
633A Saathoff Ranch 88.84 50 P P 13 42 37.6 +1.5
baz=319
Z40A Long Farm, Mag 89.06 44 P P 13 42 38.5 +1.5
baz=322
WVT Waverly 89.48 39 *e*P P 13 42 38.0 -1.0
WVT pmax pmax
comp=Z,16nm,1.0s
WVT Waverly 89.48 39 *e*P P 13 42 38.0 -1.0
comp=Z,16nm,1.0s
SSPA Standing Stone 89.80 30 *e*P P 13 42 40.6 +0.2
comp=Z,46nm,1.1s
O56A Blue Knob Stat 89.87 30 P P 13 42 41.4 +0.6
baz=331
636A Smothers Creek 90.02 49 P P 13 42 42.7 +1.1
baz=320
N59A State Game Lan 90.31 28 P P 13 42 43.3 +0.5
baz=333

TZTN Tazewell 91.05 35 *e*P P 13 42 46.9 +0.6
comp=Z,25nm,1.4s
KEST Kesra 91.42 324 LR LR 14 28 59.7
comp=Z,254nm,18.5s,baz=310,slow=39
ES19 SONSECA Array 92.98 335 *e*P P 13 42 53.7 -1.5
ESDC Sonseca Array 93.02 335 P P 13 42 56.8 +1.4
comp=Z,0.3nm,0.3s,baz=23,slow=3.5,SNR=7.5
ESDC LR LR 14 29 10.9
comp=Z,197nm,19.9s,baz=50,slow=38
TORD Torodi Ar. Bea 114.21 318 PKP PKPdf 13 48 20.6 -1.1
comp=Z,0.7nm,0.9s,baz=46,slow=4.2,SNR=3.2
TORD PP PP 13 49 12.0 -4.0
comp=Z,4.8nm,1.1s,baz=16,slow=6.3,SNR=8.6
VNDA Vanda 120.04 175 PKP **PKPdf 13 48 31.4 +0.4**
comp=Z,0.4nm,0.6s,baz=342,slow=6.4,SNR=3.4
SAML Samuel 139.90 42 *e*PKPdf **PKPdf 13 49 10.3 -0.1**
LPAZ La Paz 143.17 55 PKP **PKPdf 13 49 18.9 +1.9**
comp=Z,3.5nm,0.9s,baz=15,slow=7.0,SNR=8.4
LPAZ La Paz 143.17 55 *e*PKPdf **PKPdf 13 49 19.1 +2.1**
PB11 IPOC Station P 144.81 61 *e*PKPdf **PKPdf 13 49 19.0 -0.2**
PB01 IPOC Station P 145.84 62 *e*PKPdf **PKPab 13 49 22.0 +0.2**
SNAA Sanae 145.92 199 PKP **PKPbc 13 49 20.0 -0.2**
SNAA Sanae 145.92 199 *e*PKIKP **PKPab 13 49 20.5 -0.2**
SNAA Sanae 145.92 199 *e*PKPdf **PKPab 13 49 20.5 -0.2**
VNA2 Neumayer--Watz 147.50 198 PKP **PKPab 13 49 28.5 +1.8**
baz=93,slow=1.6
VNA3 Neumayer Olymp 147.76 196 PKP **PKPbc 13 49 24.5 -0.9**
VNA1 Neumayer--Stat 147.90 198 PKP **PKPbc 13 49 26.3 +0.6**

*ISK **07** 13:30:18.8, 37˚.37N×36˚.32E, h8km, ML4.0*
*IDC **07** 13:30:18.8±1.0, 37˚.29N×36˚.22E, h0km, mb3.9/8, mb1 3.9/12, mb1mx3.7/49, mbtmp3.8/12, ML3.8/4, MS3.1/4, Ms1 3.1/4, ms1mx2.7/44, Error ellipse: s-maj=19.3km s-min=15.6km az=110.0*
*NEIC **07** 13:30:18.8±0.0, 37˚.38N×36˚.33E, h7km, mb4.2/1, ML4.0(ISK), ML4.2(DDA), After ISK.*
*NSSC **07** 13:30:19.6±1.5, 37˚.36N×36˚.37E, h7km±6km, MD2.0, ML3.7*
*ISCJB **07** 13:30:19.5±0.4, 37˚.36N±0˚.02×36˚.34E±0˚.02, h13km±3km, mb4.1/12, MS3.0/2, Error ellipse: s-maj=2.7km s-min=2.5km az=137.1*
*CSEM **07** 13:30:19.8±0.1, 37˚.38N×36˚.34E, h8km, ML4.0, Error ellipse: s-maj=3.2km s-min=2.9km az=55.0*
*ISN **07** 13:30:21.9±1.3, 37˚.01N×37˚.60E, h0km±14km, ML4.0*
*GII **07** 13:30:23.3±0.0, 37˚.15N×36˚.25E, h1km, MD3.8/1*
*NIC **07** 13:30:23.7±0.2, 37˚.75N×35˚.65E, h16km, mb4.3, ML4.0*
*DDA **07** 13:30:43.6, 37˚.35N×36˚.31E, h7km, Ml4.2*
ISC 07 13:30:20.0±0.9, 37˚.36N±0˚.02×36˚.32E±0˚.02, h9km±6km, n177, σ1$26/231, mb4.0/12, 5C-6D, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
ANDN	**Andirin**	**0.22**	**5**	⇑	*i*P	**Pg**		**13 30 23.7**	**-0.8**
ANDN					*i*S	**Sg**		**13 30 27.9**	**+0.3**
ANDN	**Andirin**	**0.22**	**5**		P	**Pg**		**13 30 23.7**	**-0.8**
ANDN					S	**Sg**		**13 30 28.0**	**+0.3**
KOZT	**Kozan**	**0.41**	**287**		PG	**Pg**		**13 30 27.2**	**-0.9**
KOZT					SG	**Sg**		**13 30 33.9**	**+0.4**
KOZT	**Kozan**	**0.41**	**287**	*i*	Pg	**Pg**		**13 30 27.2**	**-0.9**
KOZT				*i*	Sg	**Sg**		**13 30 33.9**	**+0.4**
KMRS	**Kahramanmaras**	**0.48**	**72**		PG	**Pg**		**13 30 29.0**	**-0.5**
KMRS					SG	**Sg**		**13 30 36.0**	**+0.2**
KMRS	**Kahramanmaras**	**0.48**	**72**		Pg	**Pg**		**13 30 28.9**	**-0.5**
KMRS				*i*	Sg	**Sg**		**13 30 36.0**	**+0.2**
KMRS	**Kahramanmaras**	**0.48**	**72**		Pg	**Pg**		**13 30 28.9**	**-0.5**
CEYT	**Ceyhan**	**0.57**	**233**	*e*	PG	**Pg**		**13 30 30.4**	**-0.7**
CEYT	**Ceyhan**	**0.57**	**233**		Pg	**Pg**		**13 30 30.9**	**-0.2**
CEYT	**Ceyhan**	**0.57**	**233**		Pg	**Pg**		**13 30 30.9**	**-0.2**
GAZ	**Gaziantep**	**0.73**	**104**	*e*	PG	**Pg**		**13 30 33.6**	**-0.5**
GAZ	**Gaziantep**	**0.73**	**104**	*e*	Pg	**Pg**		**13 30 33.6**	**-0.5**
GAZ	**Gaziantep**	**0.73**	**104**		Pg	**Pg**		**13 30 33.8**	**-0.3**
DRWC	**Darouich**	**0.79**	**159**	*e*	P	**Pg**		**13 30 34.9**	**-0.2**
DRWC					eS	**Sg**		**13 30 45.1**	**-0.3**
DRWC					AML	AML		13 30 47.8	
	comp=E,5μm,0.4s								
DRWC					AML	AML		13 30 49.7	
	comp=N,7μm,0.6s								
DRWC	**Darouich** SNR=72	**0.79**	**159**	*e*	P	**Pg**		**13 30 34.9**	**-0.2**
DRWC					eS	**Sg**		**13 30 45.1**	**-0.3**
	comp=N,7μm,0.6s,SNR=92								
KUZU	**Kuzuini**	**0.84**	**134**	⇑	*i*P	**Pg**		**13 30 36.2**	**0.0**
KUZU					*i*S	**Sb**		**13 30 47.9**	**-0.3**
KUZU	**Kuzuini**	**0.84**	**134**		P	**Pg**		**13 30 36.2**	**0.0**
KUZU					S	**Sb**		**13 30 47.9**	**-0.3**
TAHT	**Tahtakopru-Hat**	**0.99**	**186**	*e*	PG	**Pg**		**13 30 38.1**	**-0.8**
TAHT	**Tahtakopru-Hat**	**0.99**	**186**	*e*	Pg	**Pg**		**13 30 38.1**	**-0.8**
GZT	**Gaziantep**	**0.99**	**90**	⇑	*i*P	**Pg**		**13 30 38.5**	**-0.5**
GZT					*i*S	**Sn**		**13 30 57.4**	**+2.9**
SARI	**SarD1z-Kayseri**	**1.05**	**4**	*e*	PG	**Pg**		**13 30 38.6**	**-1.5**
YAHY	**KAYSERI_Yahyal**	**1.06**	**314**	⇓	*i*P	**Pg**		**13 30 38.1**	**-2.1**
YAHY					*i*S	**Sn**		**13 30 56.4**	**+0.3**
YAHY	**KAYSERI_Yahyal**	**1.06**	**314**		P	**Pg**		**13 30 38.2**	**-2.1**
YAHY					S	**Sn**		**13 30 56.4**	**+0.3**
KRTS	**Karatas**	**1.09**	**224**	*e*	PN	**Pg**		**13 30 40.8**	**-0.1**
KRTS	**Karatas**	**1.09**	**224**	*e*	Pn	**Pg**		**13 30 40.8**	**-0.1**
BTCH	**Batrach**	**1.32**	**175**	*e*	P	**Pn**		**13 30 44.8**	**0.0**
BTCH					eS	**Sb**		**13 31 01.3**	**-0.9**
BTCH					AML	AML		13 31 06.7	
	comp=N,7μm,0.3s								
BTCH					AML	AML		13 31 10.6	
	comp=E,3μm,0.5s								
BTCH	**Batrach** SNR=61	**1.32**	**175**	*e*	P	**Pn**		**13 30 44.8**	**0.0**
BTCH					eS	**Sb**		**13 31 01.3**	**-0.9**
	comp=E,3μm,0.5s,SNR=62								
DARE	**Darende-Malaty**	**1.52**	**37**	*e*	PN	**Pn**		**13 30 47.0**	**-0.5**
DARE	**Darende-Malaty**	**1.52**	**37**	*e*	Pn	**Pn**		**13 30 47.0**	**-0.5**
MERS	**Mersin**	**1.52**	**252**	*e*	PN	**Pn**		**13 30 45.7**	**-1.8**
MERS	**Mersin**	**1.52**	**252**	*e*	Pn	**Pn**		**13 30 45.7**	**-1.8**
ARNB	**Al Arnab**	**1.52**	**191**	*e*	P	**Pn**		**13 30 46.6**	**-0.9**
ARNB					eS	**Sn**		**13 31 06.2**	**-1.3**
ARNB					AML	AML		13 31 12.3	
	comp=E,838nm,0.7s								
ARNB					AML	AML		13 31 14.9	
	comp=N,1μm,0.5s								
ARNB	**Al Arnab** SNR=61	**1.52**	**191**	*e*	P	**Pn**		**13 30 46.6**	**-0.9**
ARNB					eS	**Sn**		**13 31 06.2**	**-1.3**
	comp=N,1μm,0.5s,SNR=62								
BNN	**Bunyan**	**1.54**	**346**	*e*	PN	**Pn**		**13 30 47.0**	**-0.8**
BNN	**Bunyan**	**1.54**	**346**	*e*	Pn	**Pn**		**13 30 47.0**	**-0.8**
NIG	**Nigde**	**1.55**	**299**	*e*	PN	**Pn**		**13 30 47.1**	**-0.9**
NIG	**Nigde**	**1.55**	**299**	*e*	Pn	**Pn**		**13 30 47.1**	**-0.9**
CUGUR	**Gurin_S¨VAS**	**1.56**	**29**	*i*	P	**Pb**		**13 30 49.0**	**-0.1**
CUGUR					*i*S	**Sg**		**13 31 10.6**	**+0.6**
CUGUR	**Gurin_S¨VAS**	**1.56**	**29**		P	**Pb**		**13 30 49.0**	**-0.1**
CUGUR					S	**Sg**		**13 31 10.6**	**+0.6**
ATAB	**Bozova**	**1.57**	**85**	⇑	*i*P	**Pn**		**13 30 46.9**	**-1.3**
ATAB					*i*S	**Sn**		**13 31 07.8**	**-1.0**
ATAB	**Bozova**	**1.57**	**85**		P	**Pn**		**13 30 46.9**	**-1.3**
ATAB					S	**Sn**		**13 31 07.8**	**-1.0**
SLMH	**Al Salmeh**	**1.72**	**131**	*e*	P	**Pn**		**13 30 49.7**	**-0.5**
SLMH					eS	**Sn**		**13 31 10.1**	**-2.3**
SLMH					AML	AML		13 31 23.5	
	comp=Z,4μm,0.7s								
KERG	**Konya-Eregli**	**1.75**	**272**	⇓	*i*P	**Pn**		**13 30 49.4**	**-1.3**
KERG					*i*S	**Sg**		**13 31 16.4**	**+0.2**
KERG	**Konya-Eregli**	**1.75**	**272**		P	**Pn**		**13 30 49.4**	**-1.3**
KERG					S	**Sg**		**13 31 16.4**	**+0.2**
AVNS	**Nevsehir-Avano**	**1.85**	**322**	⇓	*i*P	**Pn**		**13 30 52.4**	**+0.3**
AVNS					*i*S	**Sg**		**13 31 19.9**	**+0.3**
AVNS	**Nevsehir-Avano**	**1.85**	**322**		P	**Pn**		**13 30 52.4**	**+0.3**
AVNS					S	**Sg**		**13 31 19.9**	**+0.3**
SURC	**SANLIURFA_SURC**	**1.89**	**104**	⇑	*i*P	**Pn**		**13 30 51.4**	**-1.1**
SURC					*i*S	**Sg**		**13 31 20.7**	**-0.1**
SURC	**SANLIURFA_SURC**	**1.89**	**104**		P	**Pn**		**13 30 51.4**	**-1.1**
SURC					S	**Sg**		**13 31 20.7**	**-0.1**
CUALT	**Altinyayla-SIV**	**1.94**	**10**	⇓	*i*P	**Pn**		**13 30 54.0**	**+0.6**
CUALT					*i*S	**Sg**		**13 31 22.6**	**+0.2**
CUALT	**Altinyayla-SIV**	**1.94**	**10**		P	**Pn**		**13 30 54.0**	**+0.6**
KIZK	**Mersin**	**1.95**	**244**	*e*	PN	**Pn**		**13 30 52.5**	**-0.8**
KIZK	**Mersin**	**1.95**	**244**	*i*	P	**Pn**		**13 30 53.1**	**-0.3**
KIZK				*i*	S	**Sg**		**13 31 21.7**	**-1.0**
KIZK	**Mersin**	**1.95**	**244**		P	**Pn**		**13 30 53.1**	**-0.3**
KIZK					S	**Sg**		**13 31 21.7**	**-1.0**
URFA	**Urfa**	**1.99**	**87**	*e*	PN	**Pn**		**13 30 52.7**	**-1.3**
URFA					eSN	**Sn**		**13 31 19.2**	**+0.1**
URFA	**Urfa**	**1.99**	**87**	*e*	Pn	**Pn**		**13 30 52.7**	**-1.3**
URFA					eSn	**Sn**		**13 31 19.2**	**+0.1**

CUSAR Sarkisla-SIVAS 2.06 358 ⇓ *i*P **Pn 13 30 54.8 -0.1**
CUSAR *i*S **Sg 13 31 28.0 +1.9**
CUSAR Sarkisla-SIVAS 2.06 358 P **Pn 13 30 54.8 -0.1**
SULT Sultanhani-AKS 2.38 292 *e*PN **Pn 13 30 59.3 0.0**
SULT Sultanhani-AKS 2.38 292 *e*Pn **Pn 13 30 59.3 0.0**
IKL Isikli 2.39 243 *e*PN **Pn 13 30 58.8 -0.6**
IKL Isikli 2.39 243 *e*Pn **Pn 13 30 58.8 -0.6**
AKSY AKSARAY - Alti 2.40 303 *i*P **Pn 13 30 60.0 +0.4**
AKSY *i*S **Sn 13 31 28.5 -0.6**
AKSY AKSARAY - Alti 2.40 303 P **Pn 13 31 00.0 +0.4**
AKSY S **Sn 13 31 28.5 -0.6**
YOZ Yozgat 2.41 341 *e*PN **Pn 13 30 59.6 -0.2**
YOZ Yozgat 2.41 341 *e*Pn **Pn 13 30 59.6 -0.2**
TEVE Tevekalti-Mers 2.48 249 *e*PN **Pn 13 31 01.4 +0.7**
TEVE Tevekalti-Mers 2.48 249 *e*Pn **Pn 13 31 01.4 +0.7**
SCER sogukcermik 2.58 14 *i*P **Pn 13 31 02.8 +0.7**
SCER *i*S **Sg 13 31 45.1 +2.3**
SCER sogukcermik 2.58 14 P **Pn 13 31 02.8 +0.7**
BERE Bereket-Mersin 2.68 249 *e*PN **Pn 13 31 04.6 +1.1**
BERE Bereket-Mersin 2.68 249 *e*Pn **Pn 13 31 04.6 +1.1**
SERE Sereflikochisa 2.69 307 *e*PN **Pn 13 31 03.5 0.0**
SERE Sereflikochisa 2.69 307 *e*Pn **Pn 13 31 03.6 0.0**
CDAG Cicekdag 2.73 327 ⇓ *i*P **Pn 13 31 04.9 +0.7**
CDAG *i*S **Sg 13 31 47.0 -0.7**
CDAG Cicekdag 2.73 327 P **Pn 13 31 04.9 +0.7**
ERMK Ermenek 2.82 256 *i*P **Pn 13 31 05.5 +0.1**
ERMK Ermenek 2.82 256 P **Pn 13 31 05.6 +0.1**
TEKE Tekeli-Mersin 2.85 246 *e*PN **Pn 13 31 06.2 +0.6**
TEKE Tekeli-Mersin 2.85 246 *e*Pn **Pn 13 31 06.2 +0.6**
LFK Lefkose 3.06 228 *e*PN **Pn 13 31 09.3 +0.6**
LFK Lefkose 3.06 228 *e*Pn **Pn 13 31 09.3 +0.6**
HDMB Hadim 3.09 264 *e*PN **Pn 13 31 09.9 +0.8**
HDMB Hadim 3.09 264 *e*Pn **Pn 13 31 10.0 +0.8**
HWQ Hawqa 3.09 186 *e*P **Pn 13 31 09.6 +0.5**
HWQ Hawqa 3.09 186 *e*Pn **Pn 13 31 09.6 +0.5**
BRTR Keskin Array B 3.16 319 Pn **Pn 13 31 11.2 +1.1**
comp=Z,2.5nm,0.3s,baz=140,slow=14,SNR=107
SFNV Sufian 3.18 106 *e*P **Pn 13 31 10.0 -0.3**
SFNV *e*S **Sn 13 31 45.7 -2.7**
SFNV AML AML 13 32 07.3
comp=Z,1μm,0.5s
SFNV Sufian 3.18 106 *e*P **Pn 13 31 10.0 -0.3**
SNR=47
SFNV *e*S **Sn 13 31 45.7 -2.7**
comp=Z,1μm,0.5s,SNR=49
ROOS tl_alroos 3.28 166 *e*P **Pn 13 31 11.8 +0.2**
ROOS *e*S **Sn 13 31 49.8 -1.0**
ROOS AML AML 13 32 11.3
comp=E,626nm,0.6s
ROOS AML AML 13 32 17.0
comp=N,865nm,0.6s
ROOS tl_alroos 3.28 166 *e*P **Pn 13 31 11.8 +0.2**
SNR=47
ROOS *e*S **Sn 13 31 49.8 -1.0**
comp=N,865nm,0.6s,SNR=49
MAMC Mammari 3.33 230 P **Pn 13 31 14.0 +1.8**
MAMC Mammari 3.33 230 P **Pn 13 31 14.0 +1.8**
baz=36
MARH Ras Al Marh 3.33 178 *e*P **Pn 13 31 12.5 0.0**
MARH AML AML 13 32 17.2
comp=E,252nm,0.5s
MARH AML AML 13 32 17.5
comp=N,158nm,0.5s
MARH Ras Al Marh 3.33 178 *e*P **Pn 13 31 12.5 0.0**
SNR=47
KBSD Kabsdagh 3.39 95 *e*P **Pn 13 31 12.2 -0.9**
KBSD *e*S **Sn 13 31 51.8 -1.7**
KBSD AML AML 13 32 18.1
comp=Z,725nm,0.7s
KBSD Kabsdagh 3.39 95 *e*P **Pn 13 31 12.2 -0.9**
SNR=47
KBSD *e*S **Sn 13 31 51.8 -1.7**
comp=Z,725nm,0.7s,SNR=49
CSS Mathiatis 3.40 226 Pn **Pn 13 31 15.2 +1.9**
CSS Mathiatis 3.40 226 Pn **Pn 13 31 15.2 +1.9**
CSS Mathiatis 3.40 226 P **Pn 13 31 15.9 +2.6**
CSS S **Sn 13 31 56.0 +2.2**
CSS Mathiatis 3.40 226 *e*Pn **Pn 13 31 15.2 +1.9**
CSS Mathiatis 3.40 226 P **Pn 13 31 15.9 +2.6**
baz=33
CSS S **Sn 13 31 56.0 +2.2**
BHL Bhannes 3.49 189 *e*P **Pn 13 31 12.4 -2.2**
BHL Bhannes 3.49 189 *e*P **Pn 13 31 12.4 -2.2**
ALFC Alefka 3.73 235 P **Pn 13 31 18.4 +0.6**
ALFC S **Sn 13 32 01.7 -0.1**
ALFC Alefka 3.73 235 P **Pn 13 31 18.4 +0.6**
baz=42
ALFC S **Sn 13 32 01.7 -0.1**
ANTO Ankara 3.73 313 *e*Pn **Pn 13 31 17.8 -0.1**
ANTO Ankara 3.73 313 *e*Pn **Pn 13 31 17.8 -0.1**
SZAC Souni 3.81 228 P **Pn 13 31 20.7 +1.8**
SZAC Souni 3.81 228 P **Pn 13 31 20.7 +1.8**
baz=36
RCY Rachaya 3.87 186 *e*P **Pn 13 31 20.8 +0.9**
BRBR Barbar 3.95 185 *e*P **Pn 13 31 20.4 -0.6**
BRBR *e*S **Sn 13 32 06.3 -1.3**
BRBR AML AML 13 32 37.1
comp=E,204nm,0.7s
BRBR AML AML 13 32 42.9
comp=N,260nm,0.8s
BRBR Barbar 3.95 185 *e*P **Pn 13 31 20.4 -0.6**
SNR=47
BRBR *e*S **Sn 13 32 06.3 -1.3**
comp=N,260nm,0.8s,SNR=49
AKMC Akamas 3.98 235 P **Pn 13 31 22.2 +1.0**
AKMC Akamas 3.98 235 P **Pn 13 31 22.2 +1.0**
baz=43
TOTH TOTAH 3.99 179 *e*P **Pn 13 31 22.7 +1.3**
TOTH *e*S **Sn 13 32 06.8 -1.6**
TOTH AML AML 13 32 31.0
comp=N,182nm,0.5s
TOTH AML AML 13 32 40.2
comp=E,133nm,0.5s
TOTH TOTAH 3.99 179 *e*P **Pn 13 31 22.7 +1.3**
SNR=47
TOTH *e*S **Sn 13 32 06.8 -1.6**
comp=E,133nm,0.5s,SNR=49
KSDI Kefar Szold 4.19 188 Pn **Pn 13 31 25.2 +1.1**
KSDI Kefar Szold 4.19 188 Pn **Pn 13 31 25.2 +1.1**
KSHT Keshet 4.39 186 Pn **Pn 13 31 28.6 +1.7**
KSHT Keshet 4.39 186 Pn **Pn 13 31 28.6 +1.7**
MMC7 Mount Meron ar 4.39 190 Pn **Pn 13 31 27.3 +0.3**
MMC7 Mount Meron ar 4.39 190 Pn **Pn 13 31 27.3 +0.3**
MMA0B Mount Meron ar 4.40 190 Pn **Pn 13 31 27.6 +0.6**
MMA0B Sn **Sn 13 32 19.1 +0.6**
MMA0B Mount Meron ar 4.40 190 Pn **Pn 13 31 27.6 +0.6**
MMA0B Sn **Sn 13 32 19.1 +0.6**
MMAI Mount Meron Ar 4.40 190 Pn **Pn 13 31 27.4 +0.3**
comp=E,11nm,0.3s,baz=15,slow=13,SNR=24
MMAI Sn **Sn 13 32 18.2 -0.2**
comp=E,19nm,0.3s,baz=360,slow=24,SNR=10
ISP Isparta 4.63 277 Pn **Pn 13 31 29.1 -1.1**
ISP Isparta 4.63 277 Pn **Pn 13 31 29.1 -1.1**
SALA Sala 4.65 176 *e*P **Pn 13 31 30.9 +0.3**
SALA *e*S **Sn 13 32 21.7 -3.1**
SALA AML AML 13 33 06.5
comp=N,156nm,0.5s
SALA Sala 4.65 176 *e*P **Pn 13 31 30.9 +0.3**
SNR=47
SALA *e*S **Sn 13 32 21.7 -3.1**
comp=N,156nm,0.5s,SNR=49
MMLI Mount Malkishu 4.96 189 Pn **Pn 13 31 36.4 +1.6**
MMLI Mount Malkishu 4.96 189 Pn **Pn 13 31 36.4 +1.6**
HMDT Nahal Hemdat 5.13 188 Pn **Pn 13 31 39.5 +2.4**
HMDT Nahal Hemdat 5.13 188 Pn **Pn 13 31 39.5 +2.4**
SLTI Sal'it 5.21 192 Pn **Pn 13 31 39.8 +1.6**
SLTI Sal'it 5.21 192 Pn **Pn 13 31 39.8 +1.6**
RTB Rutbah 5.41 142 *e*Pn **Pn 13 31 41.2 +0.2**
SNR=21
RTB *e*Sn **Sn 13 32 38.5 -4.9**
SNR=21
DSI Dead Sea 5.83 188 Pn **Pn 13 31 48.1 +1.5**
DSI Dead Sea 5.83 188 Pn **Pn 13 31 48.1 +1.5**
PRNI Paran 7.07 189 Pn **Pn 13 32 05.0 +1.2**
BHD Baghdad 7.75 119 *e*Pn **Pn 13 32 15.9 +3.0**
SNR=21
BHD *e*Sn **Sn 13 33 34.6 -6.2**
SNR=21
KBZ Khabaz 8.09 36 LR LR 13 35 36.3
comp=N,141nm,19.3s,baz=244,slow=39
IDI Anoyia 9.45 261 Pn **Pn 13 32 34.5 -2.0**
comp=N,1.1nm,0.3s,baz=342,slow=19,SNR=6.5
IDI LR LR 13 36 53.5

comp=N,63nm,18.1s,baz=66,slow=42
NSR Nassriya 10.30 125 *e*Pn Pn 13 32 56.0 +8.0
SNR=21
NSR *e*Sn **Sn 13 34 44.0 +0.4**
SNR=2.0
AKASG Malin Array Be 14.27 341 Pn **Pn 13 33 42.1 -0.1**
comp=N,0.8nm,0.3s,baz=151,slow=12,SNR=5.0
GEYT Alibeck 17.27 81 P **P 13 34 25.1 +2.1**
comp=N,0.2nm,0.3s,baz=251,slow=4.4,SNR=3.2
OBKA Obir 18.55 306 *i* P **Pn 13 34 40.4 +3.2**
comp=N,6.5nm,1.1s
MYKA Terra Mystica 19.18 306 *i* P **Pn 13 34 46.3 +1.5**
comp=N,15nm,1.0s
MOA Molln 19.26 310 pP **P 13 34 44.1 -0.7**
comp=N,2.7nm,0.8s
ABTA Abfaltersbach 19.95 306 *i* Pn **P 13 34 53.0 +0.7**
comp=N,3.0nm,0.5s
ABTA Abfaltersbach 19.95 306 Pn **P 13 34 53.0 +0.7**
comp=N,3.0nm,0.5s
GERES GERESS Array B 20.03 312 P **P 13 34 54.0 +0.7**
comp=N,0.9nm,0.6s,baz=125,slow=12,SNR=5.3
AKTO Aktyubinsk 20.28 43 P Pn 13 34 56.9 -0.9
comp=N,1.2nm,0.7s,baz=238,slow=12,SNR=3.0
AKTO LR LR 13 43 44.8
comp=N,42nm,18.1s,baz=214,slow=40
WTTA Wattenberg 20.69 306 *i* pP **P 13 35 00.6 +0.1**
comp=N,5.1nm,0.6s
WTTA Wattenberg 20.69 306 Pn **P 13 35 00.6 +0.1**
comp=N,5.1nm,0.6s
WATA Walderalm 20.75 307 *i* Pn **P 13 34 59.0 -2.1**
comp=N,3.0nm,0.5s
ABKAR Akbulak array 20.80 48 *e*P Pn 13 35 02.9 -1.0
comp=N,0.8nm,0.6s
ABKAR Akbulak array 20.80 48 *e*P Pn 13 35 02.9 -1.1
comp=N,0.8nm,0.6s
MOTA Moosalm 21.06 306 *i* P **P 13 35 04.9 +0.5**
comp=N,3.6nm,0.6s
MOTA Moosalm 21.06 306 P **P 13 35 04.9 +0.5**
comp=N,3.6nm,0.6s
FETA Feichten 21.20 305 *i* P **P 13 35 07.1 +1.2**
comp=N,8.2nm,1.4s
FETA Feichten 21.20 305 P **P 13 35 07.1 +1.2**
comp=N,8.2nm,1.4s
RETA Reutte 21.32 306 *i* Pn **P 13 35 06.7 -0.5**
comp=N,5.1nm,0.7s
RETA Reutte 21.32 306 Pn **P 13 35 06.7 -0.5**
comp=N,5.1nm,0.7s
DAVA Damuels 21.83 305 *i* pP **P 13 35 12.2 -0.5**
comp=N,8.0nm,1.0s
DAVA Damuels 21.83 305 Pn **P 13 35 12.2 -0.5**
comp=N,8.0nm,1.0s
BFO Black Forest 23.14 307 *e*P **P 13 35 25.5 -1.0**
comp=N,7.3nm,0.9s
BFO Black Forest 23.14 307 *e*P **P 13 35 25.4 -1.0**
comp=N,7.3nm,0.9s
FINES FINESS Array B 24.95 348 P **P 13 35 45.2 +1.8**
comp=N,2.5nm,0.8s,baz=180,slow=7.4,SNR=5.8
ATD Arta Tunnel 26.38 165 LR LR 13 45 04.4
comp=N,66nm,18.6s,baz=78,slow=34
BVAR Borovoye Array 28.33 45 P **P 13 36 15.6 +1.7**
comp=N,0.4nm,0.4s,baz=228,slow=7.6,SNR=3.0
ARCES ARCESS Array B 32.77 353 P **P 13 36 53.1 +0.1**
comp=N,1.4nm,0.6s,baz=169,slow=9.8,SNR=4.1
TORD Torodi Ar. Bea 39.17 241 P **P 13 37 47.9 -0.4**
comp=N,5.7nm,0.9s,baz=45,slow=7.7,SNR=36
DBIC Dimbokro 48.28 241 P **P 13 38 59.9 -1.8**
comp=N,2.4nm,0.5s,baz=25,slow=5.1,SNR=4.0
HHC Hu-ho-hao-te 56.79 61 *e*P **P 13 40 04.4 -0.3**
HHC pmax pmax
comp=Z,25nm,1.3s
HHC pmax pmax
comp=Z,110nm,5.4s
KSAR Wonju Array Be 69.61 58 P **P 13 41 29.6 0.0**
KSAR Wonju Array Be 69.61 58 P **P 13 41 29.6 0.0**
KSRS Korea Array 69.62 58 P **P 13 41 29.6 -0.1**
comp=Z,0.9nm,0.7s,baz=294,slow=6.2,SNR=4.9

---

*AZER **07** 13:49:21.1±11.0, 42.°78N×46.°00E, h2km, Error ellipse: s-maj=7.9km s-min=5.0km az=299.0*
*IDC **07** 13:49:22.8±0.8, 42.°85N×45.°98E, h0km, mb3.7/4, mb1 3.8/10, mb1mx3.6/49, mbtmp3.8/10, ML3.7/5, MS2.6/3, Ms1 2.6/3, ms1mx2.3/45, Error ellipse: s-maj=11.3km s-min=10.0km az=165.0*
*TIF **07** 13:49:23.1, 42.°83N×46.°27E, h8km±1km*
*MOS **07** 13:49:23.8±0.9, 42.°90N×46.°37E, h13km, mb4.0/4, Error ellipse: s-maj=5.7km s-min=4.3km az=34.3*
*CSEM **07** 13:49:24.4±0.1, 42.°90N×46.°28E, h2km, mb4.0, Error ellipse: s-maj=4.4km s-min=2.4km az=23.0*
ISC 07 13:49:23.9±1.0, 42.°85N±0.°02×46.°28E±0.°01, h10km±7km, n161, σ1§47/269, mb3.8/5, 28C-30D, Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
UNCR	**Uncukul**	**0.40**	**110**	⇓*i*PG		**Pg**	**13 49 31.0**	**-0.8**
UNCR				*i* S		**Sb**	**13 49 39.3**	**-0.1**
UNCR				pmax	pmax			
	comp=Z,4μm,0.3s							
UNCR	**Uncukul**	**0.40**	**110**	*i* Pg		**Pg**	**13 49 31.0**	**-0.8**
	comp=Z,4μm,0.3s							
UNCR				*i* Sg		**Sb**	**13 49 39.3**	**-0.1**
DBC	**Dubki**	**0.44**	**67**	⇓*i*PG		**Pg**	**13 49 32.2**	**-0.3**
DBC				*i* S		**Sb**	**13 49 39.9**	**-0.6**
DBC				pmax	pmax			
	comp=Z,370nm,0.1s							
DBC	**Dubki**	**0.44**	**67**	*i* Pg		**Pg**	**13 49 32.2**	**-0.3**
	comp=Z,370nm,0.1s							
DBC				*i* Sg		**Sb**	**13 49 39.9**	**-0.6**
XNZR	**Khunzakh**	**0.44**	**134**	⇓*i*PG		**Pg**	**13 49 31.7**	**-0.9**
XNZR				*e*			13 49 38.6	
XNZR	**Khunzakh**	**0.44**	**134**	*i* Pg		**Pg**	**13 49 31.7**	**-0.9**
XNZR				*e*Sg		**Sg**	**13 49 38.6**	**+0.3**
KRNR	**Karanay**	**0.46**	**93**	⇓*i*PG		**Pg**	**13 49 32.2**	**-0.8**
KRNR				*e*S		**Sb**	**13 49 40.2**	**-1.0**
KRNR	**Karanay**	**0.46**	**93**	*i* Pg		**Pg**	**13 49 32.2**	**-0.8**
KRNR				*e*Sg		**Sb**	**13 49 40.2**	**-1.0**
GROC	**Groznyy**	**0.50**	**315**	*e*PG		**Pb**	**13 49 34.6**	**-0.3**
GROC				*e*			13 49 41.3	
GROC				pmax	pmax			
	comp=Z,130nm,0.5s							
GROC				smax	smax			
	comp=N,3μm,0.7s							
GROC				smax	smax			
	comp=N,2μm,0.6s							
GROC				smax	smax			
	comp=E,1μm,0.7s							
GROC	**Groznyy**	**0.50**	**315**	*e*Pg		**Pb**	**13 49 34.6**	**-0.3**
	comp=E,130nm,0.5s							
GROC				*e*Sg		**Sb**	**13 49 41.3**	**-1.0**
	comp=E,2μm,0.6s							
ARKR	**Arakani**	**0.58**	**115**	⇓*i*PG		**Pg**	**13 49 34.5**	**-0.7**
ARKR				*i* S		**Sb**	**13 49 44.0**	**-0.5**
ARKR				pmax	pmax			
	comp=Z,1μm,0.3s							
ARKR	**Arakani**	**0.58**	**115**	*i* Pg		**Pg**	**13 49 34.5**	**-0.7**
	comp=Z,1μm,0.3s							
ARKR				*i* Sg		**Sb**	**13 49 44.0**	**-0.5**
BUJR	**Buynaksk**	**0.61**	**92**	⇑*i*PG		**Pg**	**13 49 36.0**	**+0.3**
BUJR				*e*S		**Sb**	**13 49 47.0**	**+1.7**
BUJR	**Buynaksk**	**0.61**	**92**	*i* Pg		**Pg**	**13 49 36.0**	**+0.3**
BUJR				*e*Sg		**Sb**	**13 49 47.0**	**+1.7**
GNBR	**Gunib**	**0.68**	**132**	⇑*i*PG		**Pg**	**13 49 36.2**	**-0.9**
GNBR				*e*			13 49 46.2	
GNBR				pmax	pmax			
	comp=Z,1μm,0.3s							
GNBR				smax	smax			
	comp=E,20μm,0.8s							
GNBR				smax	smax			
	comp=N,9μm,0.3s							
GNBR	**Gunib**	**0.68**	**132**	*i* Pg		**Pg**	**13 49 36.2**	**-0.9**
	comp=N,1μm,0.3s							
GNBR				*e*Sg		**Sg**	**13 49 46.2**	**+0.2**
	comp=N,9μm,0.3s							
MAK	**Makhachkala**	**0.91**	**82**	*e*PG		**Pb**	**13 49 42.1**	**+0.4**
MAK				*e*			13 49 57.3	
MAK				pmax	pmax			
	comp=Z,62nm,0.5s							
MAK				smax	smax			
	comp=N,1μm,0.6s							
MAK				smax	smax			
	comp=E,960nm,0.4s							
MAK				smax	smax			
	comp=N,365nm,0.5s							
MAK	**Makhachkala**	**0.91**	**82**	*e*Pg		**Pb**	**13 49 42.1**	**+0.4**
	comp=N,62nm,0.5s							
MAK				*e*Sg		**Sn**	**13 49 57.3**	**+1.5**
	comp=N,365nm,0.5s							
KMKR	**Kumukh**	**0.94**	**140**	⇑*i*PG		**Pg**	**13 49 41.5**	**-0.5**
KMKR				*e*S		**Sb**	**13 49 55.5**	**+0.5**
KMKR				pmax	pmax			
	comp=Z,352nm,0.2s							
KMKR	**Kumukh**	**0.94**	**140**	*i* Pg		**Pg**	**13 49 41.5**	**-0.5**
	comp=Z,352nm,0.2s							
KMKR				*e*Sg		**Sb**	**13 49 55.5**	**+0.5**
KMGR	**Komgaron**	**1.06**	**282**	⇓*i*PG		**Pn**	**13 49 44.7**	**-0.2**
KMGR				*e*S		**Sn**	**13 49 59.8**	**0.0**
KMGR	**Komgaron**	**1.06**	**282**	*i* Pg		**Pn**	**13 49 44.7**	**-0.2**
KMGR				*e*Sg		**Sn**	**13 49 59.8**	**0.0**
VLKR	**Vladikavkaz**	**1.20**	**280**	*e*PG		**Pn**	**13 49 46.9**	**+0.1**
VLKR				*e*S		**Sn**	**13 50 03.4**	**+0.3**
VLKR	**Vladikavkaz**	**1.20**	**280**	*e*Pg		**Pn**	**13 49 46.9**	**+0.1**
VLKR				*e*Sg		**Sn**	**13 50 03.4**	**+0.3**
URKR	**Urkarakh**	**1.21**	**124**	*i* PG		**Pb**	**13 49 47.0**	**0.0**
URKR				*i* S		**Sn**	**13 50 05.0**	**+1.4**
URKR				pmax	pmax			
	comp=Z,1μm,0.2s							
URKR	**Urkarakh**	**1.21**	**124**	*i* Pg		**Pb**	**13 49 47.0**	**0.0**
	comp=Z,1μm,0.2s							
URKR				*i* Sg		**Sn**	**13 50 05.0**	**+1.4**
ZKTA	**Zakatala**	**1.24**	**168**	⇑P		**Pb**	**13 49 46.2**	**-1.1**
ZKTA				⇑S		**Sb**	**13 50 02.6**	**-0.8**
BTKR	**Batakoyurt**	**1.38**	**293**	*e*PG		**Pg**	**13 49 50.1**	**-0.3**
BTKR				*e*S		**Sg**	**13 50 08.9**	**+0.6**
BTKR	**Batakoyurt**	**1.38**	**293**	*e*Pg		**Pg**	**13 49 50.1**	**-0.3**
BTKR				*e*Sg		**Sg**	**13 50 08.9**	**+0.6**
GUDG	**Gudauri**	**1.39**	**255**	P		**Pb**	**13 49 49.8**	**-0.3**
GUDG				S		**Sg**	**13 50 09.4**	**+0.9**
DUS	**Dusheti**	**1.39**	**238**	P		**Pn**	**13 49 49.6**	**+0.1**
DUS				S		**Sg**	**13 50 09.6**	**+0.8**
DUS	**Dusheti**	**1.39**	**238**	PG		**Pn**	**13 49 49.6**	**+0.1**
DUS				S		**Sg**	**13 50 09.6**	**+0.8**
DUS	**Dusheti**	**1.39**	**238**	Pg		**Pn**	**13 49 49.6**	**+0.1**
DUS				Sg		**Sg**	**13 50 09.6**	**+0.8**
TRKR	**Terskaya**	**1.43**	**308**	*e*PG		**Pg**	**13 49 52.5**	**+1.1**
TRKR				*e*S		**Sg**	**13 50 12.1**	**+2.2**
TRKR	**Terskaya**	**1.43**	**308**	*e*Pg		**Pg**	**13 49 52.5**	**+1.1**
TRKR				*e*Sg		**Sg**	**13 50 12.1**	**+2.2**
LACR	**Lac**	**1.46**	**270**	⇓*i*PG		**Pn**	**13 49 50.3**	**-0.2**
LACR				*e*S		**Sg**	**13 50 10.4**	**-0.5**
LACR	**Lac**	**1.46**	**270**	*i* Pg		**Pn**	**13 49 50.3**	**-0.2**
LACR				*e*Sg		**Sg**	**13 50 10.4**	**-0.5**
ARNR	**Ardon**	**1.50**	**283**	⇓*i*PG		**Pg**	**13 49 52.9**	**+0.1**
ARNR				*e*S		**Sg**	**13 50 13.8**	**+1.6**
ARNR	**Ardon**	**1.50**	**283**	*i* Pg		**Pg**	**13 49 52.9**	**+0.1**
ARNR				*e*Sg		**Sg**	**13 50 13.8**	**+1.6**
SEAG	**Tbilisi Sea**	**1.54**	**226**	P		**Pb**	**13 49 52.5**	**-0.1**
SEAG				S		**Sg**	**13 50 13.2**	**-0.3**
TBLG	**Delisi**	**1.60**	**226**	P		**Pn**	**13 49 52.7**	**+0.4**
TBLG				S		**Sb**	**13 50 14.2**	**+0.3**
TBLG	**Delisi**	**1.60**	**226**	PN		**Pn**	**13 49 52.7**	**+0.4**
TBLG	**Delisi**	**1.60**	**226**	Pn		**Pn**	**13 49 52.7**	**+0.4**
TBLG	**Delisi**	**1.60**	**226**	P		**Pb**	**13 49 53.1**	**-0.5**
TBLG				S		**Sb**	**13 50 14.2**	**+0.3**
KORR	**Kora**	**1.64**	**279**	*i* PN		**Pb**	**13 49 53.6**	**-0.7**
KORR				*i* S		**Sg**	**13 50 15.9**	**-0.8**
KORR	**Kora**	**1.64**	**279**	*i* Pn		**Pb**	**13 49 53.6**	**-0.7**
KORR				*i* Sg		**Sg**	**13 50 15.9**	**-0.8**
STDR	**Stavd-Durt**	**1.71**	**288**	*e*PN		**Pg**	**13 49 56.4**	**-0.3**
STDR				*e*S		**Sg**	**13 50 19.7**	**+0.9**
STDR	**Stavd-Durt**	**1.71**	**288**	*e*Pn		**Pg**	**13 49 56.4**	**-0.3**
STDR				*e*Sg		**Sg**	**13 50 19.7**	**+0.9**
PRTR	**Priterechnaya**	**1.72**	**302**	*e*PN		**Pg**	**13 49 56.6**	**-0.2**
PRTR				*e*S		**Sg**	**13 50 20.4**	**+1.3**
PRTR	**Priterechnaya**	**1.72**	**302**	*e*Pn		**Pg**	**13 49 56.6**	**-0.2**
PRTR				*e*Sg		**Sg**	**13 50 20.4**	**+1.3**
DRN	**Derbent**	**1.72**	**118**	*e*PN		**Pb**	**13 49 56.0**	**+0.3**
DRN				*e*S		**Sg**	**13 50 19.6**	**+0.3**
DRN				pmax	pmax			
	comp=Z,285nm,0.5s							
DRN	**Derbent**	**1.72**	**118**	*e*Pn		**Pb**	**13 49 56.0**	**+0.3**
	comp=Z,285nm,0.5s							
DRN				*e*Sg		**Sg**	**13 50 19.6**	**+0.3**
AKT	**Akhty**	**1.74**	**141**	*e*PN		**Pn**	**13 49 54.9**	**+0.6**
AKT				*e*S		**Sn**	**13 50 17.2**	**+0.5**
AKT				pmax	pmax			
	comp=Z,283nm,0.5s							
AKT	**Akhty**	**1.74**	**141**	*e*Pn		**Pn**	**13 49 54.9**	**+0.6**
	comp=Z,283nm,0.5s							
AKT				*e*Sg		**Sn**	**13 50 17.2**	**+0.5**
ZEI	**Tsey**	**1.75**	**269**	⇓*i*PN		**Pb**	**13 49 55.6**	**-0.7**
ZEI	**Tsey**	**1.75**	**269**	*i* Pn		**Pb**	**13 49 55.6**	**-0.7**
SEKA	**Sheki**	**1.77**	**157**	⇑P		**Pb**	**13 49 56.0**	**-0.6**
SEKA				⇑S		**Sg**	**13 50 21.5**	**+0.5**
SEKA	**Sheki**	**1.77**	**157**	PN		**Pb**	**13 49 56.0**	**-0.6**
SEKA				S		**Sg**	**13 50 20.3**	**-0.7**
SEKA	**Sheki**	**1.77**	**157**	P		**Pb**	**13 49 56.0**	**-0.6**
SEKA				Sg		**Sg**	**13 50 20.3**	**-0.7**
SEKA				S		**Sg**	**13 50 21.5**	**+0.5**
LSNR	**Lesken**	**1.85**	**284**	*e*PN		**Pb**	**13 49 57.6**	**-0.3**
LSNR	**Lesken**	**1.85**	**284**	*e*Pn		**Pb**	**13 49 57.6**	**-0.3**
QZX	**Qazax, Azerbai**	**1.91**	**201**	⇑P		**Pn**	**13 49 57.1**	**+0.5**
	SNR=53							
QZX				⇑S		**Sg**	**13 50 24.0**	**-1.5**
QZX	**Qazax, Azerbai**	**1.91**	**201**	S		**Sg**	**13 50 24.0**	**-1.5**
DIGR	**Digorskoe uzhe**	**1.99**	**272**	⇓*i*PN		**Pb**	**13 49 59.1**	**-1.2**
DIGR	**Digorskoe uzhe**	**1.99**	**272**	*i* Pn		**Pb**	**13 49 59.1**	**-1.2**
QSAR	**Qusar**	**1.99**	**131**	⇑P		**Pb**	**13 50 00.4**	**+0.2**
	SNR=27							
QSAR				⇓S		**Sg**	**13 50 28.5**	**+0.7**
QSAR	**Qusar**	**1.99**	**131**	P		**Pb**	**13 50 00.4**	**+0.2**
	SNR=27							
QSAR				S		**Sg**	**13 50 28.5**	**+0.7**
NCK	**Nalchik**	**2.07**	**289**	*e*PN		**Pn**	**13 49 58.8**	**0.0**
NCK	**Nalchik**	**2.07**	**289**	*e*Pn		**Pn**	**13 49 58.8**	**0.0**
ONI	**Oni**	**2.10**	**264**	P		**Pb**	**13 50 01.2**	**-1.0**
ONI				S		**Sb**	**13 50 28.3**	**0.0**
ONI	**Oni**	**2.10**	**264**	PN		**Pb**	**13 50 01.2**	**-1.0**
ONI				S		**Sg**	**13 50 31.3**	**-0.1**
ONI	**Oni**	**2.10**	**264**	Pn		**Pb**	**13 50 01.2**	**-1.0**
ONI				Sn		**Sg**	**13 50 31.3**	**-0.1**
MNGR	**Mingechevir, A**	**2.16**	**164**	⇑P		**Pb**	**13 50 02.6**	**-0.5**
MNGR				⇑S		**Sg**	**13 50 33.4**	**+0.1**
MNGR	**Mingechevir, A**	**2.16**	**164**	PN		**Pb**	**13 50 03.7**	**+0.6**
MNGR				S		**Sg**	**13 50 32.9**	**-0.4**
MNGR	**Mingechevir, A**	**2.16**	**164**	P		**Pb**	**13 50 02.6**	**-0.5**
MNGR	**Mingechevir, A**	**2.16**	**164**	Pn		**Pb**	**13 50 03.7**	**+0.6**
MNGR				Sn		**Sg**	**13 50 32.9**	**-0.4**
MNGR				S		**Sg**	**13 50 33.4**	**+0.1**
GDB	**GEDABAY**	**2.16**	**191**	⇑P		**Pn**	**13 50 01.1**	**+0.9**
	SNR=83							
GDB				⇓S		**Sb**	**13 50 29.8**	**-0.4**
XNQ	**Khinaliq**	**2.17**	**140**	⇓P		**Pb**	**13 50 03.5**	**0.0**
	SNR=21							
XNQ				⇑S		**Sg**	**13 50 32.8**	**-1.0**
XNQ	**Khinaliq**	**2.17**	**140**	P		**Pb**	**13 50 03.5**	**0.0**
	SNR=21							
XNQ				S		**Sg**	**13 50 32.8**	**-1.0**
GANJ	**Ganja**	**2.20**	**179**	⇑P		**Pn**	**13 50 01.8**	**+1.2**
GANJ				⇓S		**Sb**	**13 50 32.2**	**+1.0**
GANJ	**Ganja**	**2.20**	**179**	PN		**Pn**	**13 50 01.8**	**+1.2**
GANJ				S		**Sb**	**13 50 31.6**	**+0.4**
GANJ	**Ganja**	**2.20**	**179**	Sn		**Sb**	**13 50 31.6**	**+0.4**
GANJ				S		**Sb**	**13 50 32.2**	**+1.0**
QUBA	**Quba, Azerbaij**	**2.22**	**131**	⇑P		**Pb**	**13 50 04.9**	**+0.7**
	SNR=19							
QUBA				⇓S		**Sg**	**13 50 36.3**	**+1.0**
QUBA	**Quba, Azerbaij**	**2.22**	**131**	P		**Pb**	**13 50 04.9**	**+0.7**
	SNR=19							
QUBA				S		**Sg**	**13 50 36.3**	**+1.0**
QBL	**Gabala**	**2.23**	**148**	⇓P		**Pb**	**13 50 03.6**	**-0.7**
	SNR=13							
QBL				⇑S		**Sg**	**13 50 36.8**	**+1.3**
QBL	**Gabala**	**2.23**	**148**	P		**Pb**	**13 50 03.6**	**-0.7**
	SNR=13							
QBL				S		**Sg**	**13 50 36.8**	**+1.3**
KBTC	**Kuba-Taba**	**2.31**	**296**	*e*PN		**Pn**	**13 50 03.6**	**+1.5**
KBTC				*e*S		**Sb**	**13 50 33.2**	**-1.1**
KBTC	**Kuba-Taba**	**2.31**	**296**	*e*Pn		**Pn**	**13 50 03.6**	**+1.5**
KBTC				*e*Sn		**Sb**	**13 50 33.2**	**-1.1**
IML	**Ismayilli**	**2.50**	**145**	⇓P		**Pb**	**13 50 08.2**	**-0.7**
	SNR=8.1							
IML				⇓S		**Sb**	**13 50 41.6**	**+1.9**
IML	**Ismayilli**	**2.50**	**145**	P		**Pb**	**13 50 08.2**	**-0.7**
	SNR=8.1							
IML				S		**Sb**	**13 50 41.6**	**+1.9**
AKH	**Akhalkalaki**	**2.52**	**236**	P		**Pn**	**13 50 06.8**	**+1.6**
AKH				S		**Sb**	**13 50 41.3**	**+0.6**
AKH	**Akhalkalaki**	**2.52**	**236**	PN		**Pb**	**13 50 07.8**	**-1.7**
AKH				S		**Sb**	**13 50 41.2**	**+0.6**
AKH	**Akhalkalaki**	**2.52**	**236**	Pn		**Pb**	**13 50 07.8**	**-1.7**
AKH				Sn		**Sb**	**13 50 41.2**	**+0.6**
BGD	**Bogdanovka**	**2.55**	**233**	P		**Pb**	**13 50 09.4**	**-0.5**
BGD				S		**Sb**	**13 50 41.6**	**+0.2**
PYA1	**Pyatigorsk**	**2.62**	**299**	*e*PN		**Pn**	**13 50 06.2**	**-0.1**
PYA1				*e*S		**Sn**	**13 50 38.6**	**+0.4**
PYA1	**Pyatigorsk**	**2.62**	**299**	*e*Pn		**Pn**	**13 50 06.2**	**-0.1**
PYA1				*e*Sn		**Sn**	**13 50 38.6**	**+0.4**
KBZ	**Khabaz**	**2.62**	**291**	Pn		**Pn**	**13 50 06.2**	**-0.1**
	comp=Z,2.3nm,0.3s,baz=140,slow=3.0,SNR=23							
KBZ				LR		LR	13 50 42.8	
	comp=Z,61nm,20.1s,baz=334,slow=33							
KBZ				Lg		Lg	13 50 43.8	
	comp=Z,29nm,0.3s,baz=0.0,slow=16,SNR=11							
SIZA	**Siyzn**	**2.64**	**131**	⇑P		**Pb**	**13 50 10.7**	**-0.6**
	SNR=8.5							
SIZA				⇑S		**Sg**	**13 50 47.7**	**-0.9**
SIZA	**Siyzn**	**2.64**	**131**	P		**Pb**	**13 50 10.7**	**-0.6**
	SNR=8.5							
SIZA				S		**Sg**	**13 50 47.7**	**-0.9**
NEY	**Neytrino**	**2.64**	**280**	*e*PN		**Pn**	**13 50 08.3**	**+1.5**
NEY	**Neytrino**	**2.64**	**280**	*e*Pn		**Pn**	**13 50 08.3**	**+1.5**
BRDA	**Brd**	**2.67**	**165**	⇑P		**Pn**	**13 50 09.1**	**+2.2**
	SNR=7.2							
BRDA				⇓S		**Sb**	**13 50 44.3**	**-0.4**
PQL	**Pirkuli**	**2.69**	**139**	⇑P		**Pb**	**13 50 11.4**	**-0.8**
	SNR=14							
PQL				⇓S		**Sg**	**13 50 48.5**	**-1.7**
PQL	**Pirkuli**	**2.69**	**139**	P		**Pb**	**13 50 11.4**	**-0.8**
	SNR=14							
PQL				S		**Sg**	**13 50 48.5**	**-1.7**
ZRD	**Zardab**	**2.77**	**157**	⇓S		**Sb**	**13 50 48.7**	**+1.0**
ZRD	**Zardab**	**2.77**	**157**	S		**Sb**	**13 50 48.7**	**+1.0**
BEYR	**Belyy Ugol+**	**2.78**	**296**	*e*PN		**Pn**	**13 50 08.7**	**+0.2**
BEYR				*e*S		**Sn**	**13 50 43.0**	**+0.8**
BEYR	**Belyy Ugol+**	**2.78**	**296**	*e*Pn		**Pn**	**13 50 08.7**	**+0.2**
BEYR				*e*Sn		**Sn**	**13 50 43.0**	**+0.8**
SHA1	**Shidzhatmaz**	**2.79**	**290**	*e*PN		**Pn**	**13 50 09.4**	**+0.5**
SHA1				*e*S		**Sn**	**13 50 44.0**	**+1.2**
SHA1	**Shidzhatmaz**	**2.79**	**290**	*e*Pn		**Pn**	**13 50 09.4**	**+0.5**
SHA1				*e*Sn		**Sn**	**13 50 44.0**	**+1.2**
ATGJ	**Altiaghaj**	**2.81**	**134**	⇓P		**Pb**	**13 50 12.3**	**-1.9**
ATGJ				⇑S		**Sg**	**13 50 51.5**	**-2.6**
ATGJ	**Altiaghaj**	**2.81**	**134**	P		**Pb**	**13 50 12.3**	**-1.9**
ATGJ				S		**Sg**	**13 50 51.5**	**-2.6**
KVAR	**Kislovodsk Arr**	**2.84**	**294**	Pn		**Pn**	**13 50 09.6**	**+0.1**
	baz=105,slow=12,SNR=19							
KVAR				Lg		Lg	13 50 44.5	
	baz=195,slow=4.0,SNR=4.6							
KVAR				LR		LR	13 51 33.4	
	comp=Z,100nm,20.3s,baz=140,slow=50							
KDMR	**Kurdemir**	**2.85**	**149**	⇓S		**Sb**	**13 50 51.3**	**+1.4**
KDMR	**Kurdemir**	**2.85**	**149**	S		**Sb**	**13 50 51.3**	**+1.4**
GNI	**Garni**	**2.94**	**204**	Pn		**Pn**	**13 50 12.9**	**+2.1**
	comp=Z,6.9nm,0.3s,baz=6.4,slow=6.8,SNR=16							
GNI				Lg		Lg	13 50 54.1	
	comp=Z,12nm,0.3s,baz=202,slow=19,SNR=4.8							
EAK	**Akyaka**	**2.94**	**224**	*i* P		**Pb**	**13 50 14.3**	**-2.3**
EAK				*i* S		**Sb**	**13 50 52.2**	**-0.5**
EAK	**Akyaka**	**2.94**	**224**	P		**Pb**	**13 50 14.3**	**-2.3**
EAK				S		**Sb**	**13 50 52.2**	**-0.5**
GBS	**Qobustan**	**3.05**	**138**	⇓P		**Pb**	**13 50 15.7**	**-2.7**
GBS				⇓S		**Sb**	**13 50 55.6**	**-0.1**
GBS	**Qobustan**	**3.05**	**138**	P		**Pb**	**13 50 15.7**	**-2.7**
GBS				S		**Sb**	**13 50 55.6**	**-0.1**
CHVG	**Ch'k'valeri**	**3.09**	**269**	P		**Pg**	**13 50 22.0**	**-1.2**
CHVG				S		**Sg**	**13 51 06.3**	**+3.1**
GOF	**Gofitskoye**	**3.22**	**314**	⇑*e*PN		**Pg**	**13 50 25.4**	**-0.1**
GOF				*e*S		**Sn**	**13 50 55.2**	**+2.3**
GOF				pmax	pmax			
	comp=Z,30nm,0.4s							
GOF				smax	smax			
	comp=N,152nm,0.7s							
GOF				smax	smax			
	comp=E,226nm,0.7s							
GOF	**Gofitskoye**	**3.22**	**314**	*e*Pn		**Pg**	**13 50 25.4**	**-0.1**
	comp=E,30nm,0.4s							
GOF				*e*Sn		**Sn**	**13 50 55.2**	**+2.3**
	comp=E,152nm,0.7s							
DOMR	**Dombai**	**3.44**	**279**	*e*PN		**Pg**	**13 50 30.1**	**+0.2**
DOMR				*e*S		**Sg**	**13 51 11.2**	**-3.3**
DOMR	**Dombai**	**3.44**	**279**	*e*Pn		**Pg**	**13 50 30.1**	**+0.2**
DOMR				*e*Sb		**Sg**	**13 51 11.2**	**-3.3**
ALIB	**Äli-Bayra**	**3.54**	**144**	⇑P		**Pb**	**

ZALV	**Zalesovo Beam**	**27.55**	**53**	P		**P**		**13 55 12.6**	**+1.9**
	comp=Z,0.6nm,0.5s,baz=271,slow=8.5,SNR=2.4								
HHC	**Hu-ho-hao-te**	**47.56**	**69**	*e*P		**P**		**13 58 02.0**	**+2.3**
HHC				pmax		pmax			
	comp=Z,18nm,1.2s								
HHC				pmax		pmax			
	comp=Z,130nm,4.6s								

GUC 07 13:53:27.7±0.8, 38°09'S×74°01'W, h37km±5km, ML4.0, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
PSCH	**Puerto Saavedr**	**0.86**	**146**	*e*P		Pn	13 53 42.9	-0.4
PSCH				*i* S		Sn	13 53 54.6	0.0
CCSP	**San Pedro de C**	**1.44**	**30**	IAML			13 54 26.8	
	comp=N,3μm,0.4s							
CCHI	**Chillan**	**2.14**	**47**	IAML			13 54 49.8	
	comp=N,1μm,1.0s							
COCH	**Cobquecura**	**2.19**	**27**	IAML			13 54 44.6	
	comp=E,650nm,0.6s							

DHMR 07 13:55:49.2±0.7, 12°58'N×47°26'E, h7km±7km, ML3.5, Eastern Gulf of Aden

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
BDHA	**Al Bayda'**	**2.15**	**310**	*i* P		Pb	13 56 27.3	-1.4
BDHA				*i* S		Sb	13 56 56.9	+1.2
BDHA				AML		AML	13 56 58.8	
	comp=E,1μm,0.6s							
ADEN	**Aden**	**2.23**	**275**	*i* S		Sb	13 56 58.8	+1.1
DHBB	**Dhamar BB**	**3.42**	**306**	*i* S		Sb	13 57 29.9	-2.4
UDYN	**Al 'Udayn**	**3.49**	**294**	*i* P		Pn	13 56 43.3	+2.2
UDYN				*i* S		Sb	13 57 30.8	-3.3
UDYN				AML		AML	13 57 32.2	
	comp=N,79nm,0.3s							
HAJJ	**Hajjah**	**4.71**	**312**	*i* S		Sn	13 58 01.2	+5.1

*ISCJB **07** 14:01:04.6±0.4, 37°.34N×36°.03×36°.31E±0°.03, h2km±6km, Error ellipse: s-maj=4.5km s-min=3.8km az=28.9*
*DDA **07** 14:01:04.7, 37°.37N×36°.33E, h7km, Ml2.9*
*ISK **07** 14:01:04.2, 37°.34N×36°.33E, h8km, MD3.0*
*CSEM **07** 14:01:04.6±0.1, 37°.35N×36°.29E, h8km, ML2.9, Error ellipse: s-maj=4.3km s-min=3.1km az=29.0*

ISC 07 14:01:04.8±0.9, 37°.35N±0°.02×36°.31E±0°.02, h9km±8km, n35, σ0°71/50, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
ANDN	**Andirin**	**0.23**	**7**	*i* P		**Pg**	**14 01 09.5**	**-0.1**
ANDN				*i* S		**Sg**	**14 01 13.0**	**+0.3**
ANDN	**Andirin**	**0.23**	**7**	P		**Pg**	**14 01 09.5**	**-0.1**
ANDN				S		**Sg**	**14 01 13.0**	**+0.3**
KAMA	**Osmaniye**	**0.33**	**120**	*i* P		**Pg**	**14 01 11.1**	**-0.3**
KAMA				*i* S		**Sg**	**14 01 16.1**	**+0.3**
KAMA	**Osmaniye**	**0.33**	**120**	P		**Pg**	**14 01 11.1**	**-0.3**
KAMA				S		**Sg**	**14 01 16.1**	**+0.3**
KOZT	**Kozan**	**0.40**	**288**	PG		**Pg**	**14 01 12.3**	**-0.5**
KOZT				SG		**Sg**	**14 01 19.6**	**+1.5**
KOZT	**Kozan**	**0.40**	**288**	*i* Pg		**Pg**	**14 01 12.3**	**-0.5**
KOZT				*i* Sg		**Sg**	**14 01 19.6**	**+1.5**
HCB	**Kahramanmara¯**	**0.48**	**91**	*i* P		**Pg**	**14 01 14.0**	**-0.2**
HCB				*i* S		**Sg**	**14 01 20.6**	**+0.2**
KMRS	**Kahramanmaras**	**0.49**	**72**	PG		**Pg**	**14 01 14.2**	**-0.2**
KMRS				SG		**Sg**	**14 01 21.0**	**0.0**
KMRS	**Kahramanmaras**	**0.49**	**72**	*i* Sg		**Sg**	**14 01 21.0**	**0.0**
CEYT	**Ceyhan**	**0.56**	**233**	*e*PG		**Pg**	**14 01 16.1**	**+0.3**
AKO	**Adana**	**0.70**	**279**	*i* P		**Pg**	**14 01 17.4**	**-0.9**
GAZ	**Gaziantep**	**0.74**	**104**	*e*PG		**Pb**	**14 01 19.4**	**-0.6**
GAZ	**Gaziantep**	**0.74**	**104**	*e*Pg		**Pb**	**14 01 19.4**	**-0.6**
KUZU	**Kuzuini**	**0.84**	**133**	*i* P		**Pb**	**14 01 21.3**	**-0.4**
KUZU				*i* S		**Sb**	**14 01 33.3**	**+0.2**
KUZU	**Kuzuini**	**0.84**	**133**	P		**Pb**	**14 01 21.3**	**-0.4**
KUZU				S		**Sb**	**14 01 33.3**	**+0.2**
TAHT	**Tahtakopru-Hat**	**0.98**	**186**	*e*PG		**Pg**	**14 01 23.3**	**-0.4**
TAHT	**Tahtakopru-Hat**	**0.98**	**186**	*e*Pg		**Pg**	**14 01 23.3**	**-0.4**
YAHY	**KAYSERI_Yahyal**	**1.05**	**315**	*i* P		**Pg**	**14 01 23.8**	**-1.3**
YAHY				*i* S		**Sn**	**14 01 40.7**	**-0.1**
YAHY	**KAYSERI_Yahyal**	**1.05**	**315**	P		**Pg**	**14 01 23.8**	**-1.3**
YAHY				S		**Sn**	**14 01 40.7**	**-0.1**
SARI	**SarD1z-Kayseri**	**1.05**	**5**	*e*PG		**Pb**	**14 01 25.6**	**+0.2**
SARI				*e*SG		**Sn**	**14 01 40.9**	**-0.1**
KRTS	**Karatas**	**1.08**	**224**	*e*PG		**Pb**	**14 01 25.6**	**-0.1**
KRTS	**Karatas**	**1.08**	**224**	*e*Pg		**Pb**	**14 01 25.6**	**-0.1**
GULE	**Gulek**	**1.22**	**267**	*i* P		**Pb**	**14 01 27.2**	**-1.1**
GULE				*i* S		**Sn**	**14 01 46.8**	**+1.8**
GULE	**Gulek**	**1.22**	**267**	P		**Pb**	**14 01 27.2**	**-1.1**
DED	**Mersin**	**1.27**	**252**	*i* P		**Pn**	**14 01 27.3**	**-1.4**
DED				*i* S		**Sn**	**14 01 47.8**	**+1.9**
YAYL	**Yayladag**	**1.33**	**187**	*e*PN		**Pn**	**14 01 29.5**	**-0.2**
YAYL	**Yayladag**	**1.33**	**187**	*e*Pn		**Pn**	**14 01 29.5**	**-0.2**
MERS	**Mersin**	**1.51**	**252**	*e*PN		**Pn**	**14 01 31.7**	**-0.4**
MERS	**Mersin**	**1.51**	**252**	*e*Pn		**Pn**	**14 01 31.7**	**-0.4**
DARE	**Darende-Malaty**	**1.53**	**37**	*e*PN		**Pb**	**14 01 33.3**	**-0.1**
DARE	**Darende-Malaty**	**1.53**	**37**	*e*Pn		**Pb**	**14 01 33.3**	**-0.1**
BNN	**Bunyan**	**1.54**	**346**	*e*PN		**Pn**	**14 01 33.1**	**+0.5**
BNN	**Bunyan**	**1.54**	**346**	*e*Pn		**Pn**	**14 01 33.1**	**+0.5**
NIG	**Nigde**	**1.54**	**300**	*e*PN		**Pn**	**14 01 32.8**	**0.0**
NIG	**Nigde**	**1.54**	**300**	*e*Pn		**Pn**	**14 01 32.8**	**0.0**

*NIED **07** 14:26:00, 38°.40N×142°.20E, h44km, Mw3.8 Best double couple: M₀6.57000×10¹⁴ NP1:φ₁328.00000°, δ24.00000°, λ-123.00000°. NP2:φ₂183.00000°, δ70.00000°, λ-76.00000°.*
*IDC **07** 14:26:15.9±2.0, 38°.46N×142°.84E, h0km, mb3.8/4, mb1 3.9/8, mb1mx3.6/40, mbtmp3.8/8, ML3.6/3, MS3.1/2, Ms1 3.1/2, ms1mx2.6/53, Error ellipse: s-maj=48.0km s-min=21.6km az=65.0*
*ISCJB **07** 14:26:21.7±1.1, 38°.36N±0°.04×142°.31E±0°.09, h43km±9km, mb4.1/7, MS3.7/1, Error ellipse: s-maj=12.0km s-min=6.4km az=6.6*
*JMA **07** 14:26:22.7±0.1, 38°.41N×142°.22E, h37km±1km, M4.1*
JMA Felt I J1
*NEIC **07** 14:26:27.1±1.1, 38°.20N×142°.18E, h73km±9km, mb4.5/2, Error ellipse: s-maj=16.1km s-min=10.1km az=98.0*
NEIC Recorded [1 JMA] in Iwate and Miyagi.

ISC 07 14:26:21.6±2.1, 38°.38N±0°.05×142°.42E±0°.08, h31km±18km, n29, σ2°03/38, mb4.1/7, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
JIO	**Ouri**	**0.84**	**275**	P		**Pn**	**14 26 36.0**	**-1.3**
JIO				S		**Sn**	**14 26 44.9**	**-3.7**
OFUJ	**Ofunato**	**0.91**	**320**	P		**Pn**	**14 26 37.6**	**-0.6**
OFUJ				S		**Sn**	**14 26 47.8**	**-2.5**
JMK	**Ichinoseki**	**1.09**	**302**	P		**Pn**	**14 26 40.0**	**-0.8**
JOU	**Okura**	**1.38**	**270**	P		**Pn**	**14 26 44.0**	**-0.7**
JOU				S		**Sn**	**14 26 59.5**	**-2.3**
JMM	**Marumori**	**1.38**	**249**	P		**Pn**	**14 26 43.4**	**-1.3**
JMM				S		**Sn**	**14 26 58.8**	**-3.0**
JOM	**Ohasama**	**1.40**	**322**	P		**Pn**	**14 26 45.0**	**0.0**
JOM				*e*S		**Sn**	**14 27 01.3**	**-1.1**
JFK	**Kawauchi**	**1.58**	**231**	P		**Pn**	**14 26 46.5**	**-1.1**
JFK				S		**Sn**	**14 27 04.0**	**-3.0**
JYK	**Kaneyama**	**1.70**	**289**	P		**Pn**	**14 26 48.8**	**-0.3**
JRG	**Rokugo**	**1.72**	**307**	P		**Pn**	**14 26 49.7**	**+0.3**
JFT	**Otama**	**1.85**	**243**	P		**Pn**	**14 26 51.3**	**0.0**
JFT				*e*S		**Sn**	**14 27 12.4**	**-1.2**
JYS	**Shirataka**	**1.85**	**266**	P		**Pn**	**14 26 50.7**	**-0.5**
JYS				*e*S		**Sn**	**14 27 11.3**	**-2.3**
ERM	**Erimo**	**3.67**	**9**	*e*P		**Pn**	**14 27 24.7**	**-1.0**
MAJO	**Matsushiro**	**3.82**	**243**	*e*Pn		**Pn**	**14 27 20.6**	**+2.3**
MAT	**Matsushiro**	**3.82**	**243**	P		**Pn**	**14 27 20.7**	**+2.5**
MAT				S		**Sn**	**14 28 05.9**	**+3.8**
MJAR	**Matsushiro Arr**	**3.82**	**243**	Pn		**Pn**	**14 27 19.8**	**+1.6**
	3.7nm,0.3s,baz=111,slow=2.8,SNR=24							
MJAR				LR		LR	14 29 11.4	
	comp=Z,74nm,19.9s,baz=100,slow=42							
JHJ2	**Mitsune**	**5.67**	**203**	*e*Pn		**Pn**	**14 27 43.6**	**0.0**
JHJ	**Hachijo jima 2**	**5.67**	**203**	Pn		**Pn**	**14 27 43.7**	**0.0**
	12nm,0.3s,baz=100,slow=22,SNR=9.4							
JHJ				Sn		**Sn**	**14 28 43.0**	**-4.7**
	4.4nm,0.3s,baz=44,slow=15,SNR=2.7							
USRK	**Ussuriysk Ar.**	**9.76**	**310**	Pn		**Pn**	**14 28 41.6**	**+1.9**
	0.2nm,0.3s,baz=118,slow=14,SNR=4.6							
KSRS	**Korea Array**	**11.49**	**270**	Pn		**Pn**	**14 29 07.2**	**+3.9**
	0.1nm,0.3s,baz=80,slow=14,SNR=5.4							
KSAR	**Wonju Array Be**	**11.52**	**270**	Pn		**Pn**	**14 29 07.2**	**+3.4**
SONM	**Songino Array**	**27.72**	**302**	P		**P**	**14 32 07.7**	**+0.5**
	0.3nm,0.4s,baz=92,slow=9.2,SNR=2.0							
ENH	**Enshi**	**28.26**	**263**	*e*P		**P**	**14 32 12.1**	**0.0**
	3.9nm,0.6s							
ZALV	**Zalesovo Beam**	**41.61**	**311**	P		**P**	**14 34 06.7**	**+0.2**
	0.7nm,0.3s,baz=90,slow=4.3,SNR=3.0							
KURK	**Kurchatov**	**45.74**	**307**	*e*P		**P**	**14 34 39.7**	**0.0**
	19nm,0.6s							
ABKAR	**Akbulak array**	**57.68**	**310**	*e*P		**P**	**14 36 09.0**	**+0.1**
WRAB	**Tennant Creek**	**58.50**	**189**	*e*P		**P**	**14 36 15.0**	**+0.2**
	9.7nm,1.3s							
WRA	**Warramunga Arr**	**58.51**	**189**	P		**P**	**14 36 14.8**	**-0.1**
	1.9nm,1.1s,baz=7.8,slow=7.7,SNR=9.9							
ASAR	**Alice Springs**	**62.23**	**189**	P		**P**	**14 36 40.6**	**+0.2**
	0.8nm,0.9s,baz=0.1,slow=5.0,SNR=5.5							
GNI	**Garni**	**71.54**	**307**	LR		LR	15 10 42.5	
	comp=Z,45nm,19.4s,baz=258,slow=37							

IDC 07 14:32:10.3±10.0, 20°.37S×167°.59E, h0km, mb3.6/3, mb1 3.8/3, mb1mx3.5/23, mbtmp3.6/3, Error ellipse: s-maj=181.6km s-min=39.3km az=93.0, Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
DZM	**Mont Dzumac**	**2.00**	**212**	Pn		Pn	14 32 44.5	-1.0
	3.9nm,0.3s,baz=82,slow=10,SNR=115							
DZM				Sn		Sn	14 33 12.3	+0.9
	18nm,0.3s,baz=138,slow=20,SNR=13							
STKA	**Stephens Creek**	**25.93**	**239**	P		P	14 37 45.0	+0.5
	1.6nm,0.7s,baz=62,slow=10,SNR=4.5							
WRA	**Warramunga Arr**	**31.19**	**265**	P		P	14 38 31.0	-0.5
	0.1nm,0.3s,baz=90,slow=8.8,SNR=2.5							
ASAR	**Alice Springs**	**31.36**	**258**	P		P	14 38 33.5	+0.4
	1.5nm,0.9s,baz=83,slow=8.9,SNR=12							

JMA 07 14:34:18.6±0.1, 36°.61N×141°.54E, h59km±3km, M3.1, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
ONAJ	**Iwakimizuishiy**	**0.77**	**310**	P		Pn	14 34 33.6	-0.1
JHO	**Hitachi**	**0.78**	**270**	P		Pn	14 34 33.6	-0.2
JHO				*e*S		Sn	14 34 45.1	+0.2
JFK	**Kawauchi**	**0.92**	**325**	P		Pn	14 34 35.9	+0.2
JFT	**Otama**	**1.32**	**314**	P		Pn	14 34 42.5	+1.6
JMM	**Marumori**	**1.39**	**335**	P		Pn	14 34 41.9	+0.2
MAT	**Matsushiro**	**2.68**	**270**	P		Pn	14 35 02.1	+2.7
MAT				S		Sn	14 35 35.3	+4.6

KRSC 07 14:47:16.8±0.8, 55°.51N×163°.26E, h59km±20km, ML3.5, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
KBG	**Krutoberegovo**	**0.81**	**337**	*e*P		Pn	14 47 31.8	-0.5
KBG				*e*S		Sn	14 47 43.3	-0.5
MKZ	**Mys Kozlova**	**1.30**	**223**	*e*P		Pn	14 47 40.0	+1.3
MKZ				*e*S		Sn	14 47 56.2	+1.1
SMKR	**Semkarok**	**1.47**	**318**	*e*P		Pn	14 47 43.1	+2.0
SMKR				*e*S		Sn	14 47 59.9	+0.5
ZLN	**Zelenaya**	**1.48**	**291**	*i* P		Pn	14 47 43.2	+2.0
ZLN				*e*S		Sn	14 48 01.9	+2.3
CIRR	**Tsirk**	**1.54**	**294**	*e*P		Pn	14 47 43.6	+1.5
LGNR	**Loginova**	**1.56**	**293**	*e*P		Pn	14 47 44.0	+1.5
BKI	**Bering**	**1.58**	**100**	*e*P		Pn	14 47 45.0	+2.6
BKI				*e*S		Sn	14 48 05.1	+3.3
BZMR	**Bezymyannaya**	**1.63**	**286**	*e*P		Pn	14 47 45.5	+2.2
SRKR	**Sorokina**	**1.64**	**315**	*e*P		Pn	14 47 45.7	+2.3
SRKR				*e*S		Sn	14 48 05.6	+2.1
KLY	**Klyuchi**	**1.68**	**300**	*i* P		Pn	14 47 44.2	+0.4
KLY				*e*S		Sn	14 48 04.5	+0.3
KIRR	**Kirishev**	**1.71**	**286**	*e*P		Pn	14 47 47.0	+2.6
KIRR				*e*S		Sn	14 48 09.0	+3.7
KMNR	**Kamenistaya**	**1.73**	**279**	*e*P		Pn	14 47 47.4	+2.7
KMNR				*e*S		Sn	14 48 09.9	+4.1
KPT	**Kopyto**	**1.78**	**286**	*e*P		Pn	14 47 47.5	+2.2
KPT				*e*S		Sn	14 48 09.8	+2.9
TUMR	**Tumrok**	**1.79**	**264**	*e*P		Pn	14 47 48.4	+2.9
TUMR				*e*S		Sn	14 48 09.9	+2.7
ESO	**Esso**	**2.62**	**281**	*e*P		Pn	14 47 59.7	+3.1
ESO				*e*S		Sn	14 48 30.5	+3.4
SPN	**Mys Shipunski**	**3.07**	**219**	*e*P		Pn	14 48 05.4	+2.6
SPN				*e*S		Sn	14 48 39.7	+1.4
SDLR	**Sedlovina**	**3.40**	**231**	*e*P		Pn	14 48 10.6	+3.2
SDLR				*e*S		Sn	14 48 50.7	+4.2
KRER	**Koryakskii**	**3.44**	**232**	*e*P		Pn	14 48 11.0	+3.0
GNL	**Ganaly**	**3.59**	**242**	*e*P		Pn	14 48 14.1	+4.1
DALK	**Dalny**	**3.63**	**229**	*e*P		Pn	14 48 13.5	+3.1
DALK				*e*S		Sn	14 48 54.1	+2.3
OSSR	**Ossora**	**3.75**	**358**	P		Pn	14 48 15.5	+3.4
KRMR	**Karymshinskiy**	**4.04**	**230**	*e*P		Pn	14 48 19.9	+3.9
KRMR				*e*S		Sn	14 49 05.2	+3.3
RUS	**Russkaya**	**4.17**	**224**	*e*P		Pn	14 48 21.0	+3.3
RUS				*e*S		Sn	14 49 07.3	+2.2

*DDA **07** 14:51:09.2, 37°.79N×27°.34E, h7km, Ml2.6*
*CSEM **07** 14:51:14.8, 38°.55N×26°.12E, h6km, MD2.4*
*ISK **07** 14:51:14.8, 38°.55N×26°.12E, h6km, MD2.4*

ISC 07 14:51:14.9±1.2, 38°.58N±0°.04×26°.16E±0°.06, h8km±16km, n9, σ0°25/12, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
CHOS	**Chios island**	**0.20**	**203**	*e*PG		**Pg**	**14 51 19.3**	**+0.3**
CHOS				*e*SG		**Sg**	**14 51 21.6**	**-0.3**
CHOS	**Chios island**	**0.20**	**203**	*e*Pg		**Pg**	**14 51 19.3**	**+0.3**
CHOS				*e*Sg		**Sg**	**14 51 21.6**	**-0.3**
URLA	**Izmir**	**0.41**	**122**	*e*PG		**Pb**	**14 51 24.1**	**-0.2**
URLA	**Izmir**	**0.41**	**122**	*e*Pg		**Pb**	**14 51 24.2**	**-0.2**
ZEY	**¯zmir**	**0.43**	**141**	*i* P		**Pb**	**14 51 24.7**	**-0.1**
ZEY				*i* S		**Sb**	**14 51 31.7**	**+0.2**
SIGR	**SIGRI**	**0.68**	**340**	*e*PG		**Pb**	**14 51 28.8**	**-0.1**
SIGR	**SIGRI**	**0.68**	**340**	*e*Pg		**Pb**	**14 51 28.8**	**-0.1**
DKL	**Dikili**	**0.77**	**50**	*e*PG		**Pg**	**14 51 29.8**	**+0.2**
DKL	**Dikili**	**0.77**	**50**	*e*Pg		**Pg**	**14 51 29.8**	**+0.2**

*CSEM **07** 14:52:25.2, 38°.92N×35°.85E, h3km, MD2.7*

ISK 07 14:52:25.2, 38°.92N×35°.85E, h3km, MD2.7, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
BNN	**Bunyan**	**0.07**	**182**	*e*PG		Pg	14 52 26.9	+0.2
BNN				*e*SG		Sg	14 52 28.6	+0.9
BNN	**Bunyan**	**0.07**	**182**	*e*Pg		Pg	14 52 26.9	+0.2
BNN				*e*Sg		Sg	14 52 28.6	+0.9
SARI	**SarD1z-Kayseri**	**0.68**	**139**	*e*PG		Pg	14 52 38.3	+0.1
SARI				*e*SG		Sb	14 52 49.7	0.0
DARE	**Darende-Malaty**	**1.32**	**105**	*e*PN		Pb	14 52 51.5	+0.7
KOZT	**Kozan**	**1.44**	**181**	*e*PN		Pb	14 52 52.5	-0.1
KOZT	**Kozan**	**1.44**	**181**	*e*Pn		Pb	14 52 52.5	-0.1
CORM	**Corum**	**1.57**	**324**	*e*PN		Pg	14 52 55.5	+0.2
CORM	**Corum**	**1.57**	**324**	*e*Pn		Pg	14 52 55.5	+0.2

*NEIC **07** 15:09:16.7±0.0, 58°.31N×133°.52W, h1km, ML2.7(OTT), After OTT.*

PGC 07 15:09:16.7±12.0, 58°.31N×133°.52W, h1km, ML2.7/4, 52km east of Juneau, Ak Southeastern Alaska, Southeastern Alaska

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
DLBC	**Dease Lake**	**1.84**	**84**	P		Pn	15 09 48.8	-0.8
DLBC				Pg		Pb	15 09 49.6	-1.6
DLBC				Sn		Sn	15 10 12.9	-0.6
DLBC				Sg		Sb	15 10 14.7	-0.1
DLBC	**Dease Lake**	**1.84**	**84**	*e*Pn		Pn	15 09 49.1	-0.4
DLBC				*e*Sn		Sn	15 10 13.4	-0.1
PLBC	**Pleasant Camp**	**1.88**	**309**	Pg		Pn	15 09 50.2	+0.3
PLBC				Sg		Sb	15 10 15.1	-0.5
PLBC	**Pleasant Camp**	**1.88**	**309**	Pg		Pn	15 09 50.2	+0.3
PLBC				Sg		Sb	15 10 15.1	-0.5
WRAK	**Wrangell Islan**	**2.00**	**161**	*e*Pn		Pn	15 09 50.3	-1.1
WRAK				*e*Sn		Sb	15 10 18.4	-0.6
WHY	**Whitehorse**	**2.46**	**344**	Pn		Pn	15 09 55.1	-2.9
WHY				Pg		Pb	15 10 00.5	-1.3
WHY				Sg		Sb	15 10 31.2	-1.4
WHY	**Whitehorse**	**2.46**	**344**	Pn		Pn	15 09 55.1	-2.9
HYT	**Haines Junctio**	**3.24**	**323**	Pn		Pn	15 10 08.1	-0.6
HYT				Pg		Pb	15 10 14.3	-0.7
HYT				Sg		Sb	15 10 56.2	+1.2
HYT	**Haines Junctio**	**3.24**	**323**	Pn		Pn	15 10 08.1	-0.6
YUK2	**White River**	**5.07**	**317**	Sg		Sg	15 11 53.4	-5.8
FNBB	**Fort Nelson**	**5.53**	**79**	Sg		Sg	15 12 08.1	-6.0
DAWY	**Dawson**	**6.44**	**336**	Sg		Sg	15 12 36.0	-7.1

*CSEM **07** 15:18:56.5±0.1, 43°.09N×21°.19E, h2km, ML2.5, Error ellipse: s-maj=2.4km s-min=2.4km az=178.0*
*BEO **07** 15:18:57.0±0.2, 43°.10N×21°.19E, h5km, M2.5/7*
*SKO **07** 15:18:57.6, 43°.08N×21°.15E, h2km*
*THE **07** 15:18:59.2, 43°.07N×21°.09E, h24km±4km, ML2.6/1, Error ellipse: s-maj=4.3km s-min=0.7km az=220.0*

ISC 07 15:18:55.8±0.8, 43°.13N±0°.02×21°.20E±0°.01, h15km±6km, n75, σ1°11/119, 14C-3D, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
SELS	**Selova**	**0.11**	**327**	*e*Pg		**Pg**	**15 18 59.6**	**+0.4**
SELS				*e*Sg		**Sg**	**15 19 01.8**	**+0.3**
SMRK	**Smrekonice**	**0.32**	**217**	P		**Pg**	**15 19 02.3**	**-0.1**
SMRK				S		**Sg**	**15 19 06.4**	**-0.6**
BARS	**Barje**	**0.55**	**124**	↑*i* Pg		**Pb**	**15 19 07.5**	**+0.4**
BARS				*e*Sg		**Sg**	**15 19 13.6**	**-0.3**
BARS	**Barje**	**0.55**	**124**	↑*i* Pg		**Pb**	**15 19 07.5**	**+0.4**
BARS				*e*Sg		**Sg**	**15 19 13.6**	**-0.3**
BOVS	**Bovan**	**0.63**	**36**	*e*Pg		**Pn**	**15 19 09.0**	**-1.2**
BOVS				*e*Sg		**Sn**	**15 19 16.9**	**-0.2**
BOVS	**Bovan**	**0.63**	**36**	*e*Pg		**Pn**	**15 19 09.0**	**-1.2**
BOVS				*e*Sg		**Sn**	**15 19 16.9**	**-0.2**
ZATK	**Zatriq**	**0.80**	**212**	P		**Pb**	**15 19 11.0**	**-0.5**
PEJK	**Peje**	**0.83**	**235**	P		**Pg**	**15 19 12.0**	**0.0**
PEJK				S		**Sb**	**15 19 22.7**	**-0.4**
GRUS	**Gruza**	**0.84**	**335**	*e*Pg		**Pn**	**15 19 13.4**	**+0.3**
GRUS				*e*Sg		**Sn**	**15 19 25.3**	**+0.1**
GRUS	**Gruza**	**0.84**	**335**	*e*Pg		**Pn**	**15 19 13.4**	**+0.3**
GRUS				*e*Sg		**Sn**	**15 19 25.3**	**+0.1**
IVAS	**Ivanjica**	**0.89**	**301**	*i* Pg		**Pn**	**15 19 13.0**	**-0.8**
IVAS	**Ivanjica**	**0.89**	**301**	*i* Pg		**Pn**	**15 19 13.0**	**-0.8**
BOLS	**Boljevac**	**0.89**	**38**	↓*i* Pg		**Pn**	**15 19 13.7**	**-0.1**
BOLS	**Boljevac**	**0.89**	**38**	↓*i* Pg		**Pn**	**15 19 13.7**	**-0.1**
BEY	**Berane**	**0.99**	**256**	P		**Pg**	**15 19 15.8**	**+0.8**
ZAGS	**Zajecar**	**1.02**	**47**	*e*Pg		**Pg**	**15 19 15.6**	**+0.2**
ZAGS				*e*Sg		**Sn**	**15 19 30.0**	**+0.4**
ZAGS	**Zajecar**	**1.02**	**47**	*e*Pg		**Pg**	**15 19 15.6**	**+0.2**
ZAGS				*e*Sg		**Sn**	**15 19 30.0**	**+0.4**
ZAPS	**Zavoj**	**1.06**	**82**	*e*Pg		**Pg**	**15 19 16.3**	**+0.1**
ZAPS				*e*Sg		**Sg**	**15 19 30.4**	**+0.4**
ZAPS	**Zavoj**	**1.06**	**82**	*e*Pg		**Pg**	**15 19 16.3**	**+0.1**
ZAPS				*e*Sg		**Sg**	**15 19 30.4**	**+0.4**
SKO	**Skopje**	**1.17**	**171**	*e*Pg		**Pb**	**15 19 17.9**	**+0.2**
SKO				*i* Sg		**Sn**	**15 19 33.2**	**-0.1**
SKO	**Skopje**	**1.17**	**171**	*e*Pg		**Pb**	**15 19 17.9**	**+0.2**
SKO				*i* Sg		**Sn**	**15 19 33.2**	**-0.1**
TRUS	**Trudelj**	**1.24**	**333**	*e*Pg		**Pg**	**15 19 20.2**	**+0.5**
TRUS				*e*Sg		**Sg**	**15 19 37.1**	**+1.3**
TRUS	**Trudelj**	**1.24**	**333**	*e*Pg		**Pg**	**15 19 20.2**	**+0.5**
TRUS				*e*Sg		**Sg**	**15 19 37.1**	**+1.3**
DIVS	**Divibare**	**1.31**	**318**	P		**Pg**	**15 19 21.1**	**+0.1**
DIVS				S		**Sg**	**15 19 38.6**	**+0.5**
DIVS	**Divibare**	**1.31**	**318**	↑*i* Pg		**Pg**	**15 19 21.2**	**+0.2**
DIVS				*e*Sg		**Sg**	**15 19 39.1**	**+1.0**
DIVS	**Divibare**	**1.31**	**318**	P		**Pg**	**15 19 21.1**	**+0.1**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KOFP	**Korovin Flat P**	**1.56**	**275**	P	**Pn**	**15 19 44.0**	**-0.7**
ATKA	**Atka Island**	**1.62**	**272**	P	**Pn**	**15 19 44.5**	**-0.9**
ATKA				S	**Sn**	**15 20 05.5**	**+0.3**
NIKH	**Nikolski High**	**1.83**	**63**	P	**Pn**	**15 19 46.4**	**-1.9**
NIKH				S	**Sn**	**15 20 08.7**	**-1.7**
OKSO	**Okmok South**	**2.38**	**59**	P	**Pn**	**15 19 55.4**	**-0.4**
OKSO				S	**Sn**	**15 20 25.4**	**+1.6**
OKFG	**Magazine Ridge**	**2.54**	**59**	P	**Pn**	**15 19 57.5**	**-0.4**
OKFG				S	**Sn**	**15 20 29.2**	**+1.7**
GSMY	**Great Sitkin M**	**2.77**	**269**	P	**Pn**	**15 20 01.5**	**+0.3**
GSTD	**Great Sitkin T**	**2.83**	**269**	P	**Pn**	**15 20 02.1**	**+0.2**
GSTD				S	**Sn**	**15 20 37.1**	**+2.3**
GSCK	**Great Sitkin C**	**2.84**	**268**	P	**Pn**	**15 20 02.1**	**+0.1**
ETKA	**Kagalaska Isla**	**3.01**	**266**	P	**Pn**	**15 20 04.4**	**+0.1**
ADAG	**Mount Adagdak**	**3.12**	**268**	P	**Pn**	**15 20 06.8**	**+1.0**
MGOD	**Makushin Gods**	**3.26**	**58**	P	**Pn**	**15 20 07.1**	**-0.8**
MSW	**Makushin Switc**	**3.37**	**57**	P	**Pn**	**15 20 09.5**	**+0.3**
KIRH	**Kanaga Island**	**3.43**	**267**	P	**Pn**	**15 20 11.1**	**+1.1**
KIKV	**Kanaga Island**	**3.48**	**267**	P	**Pn**	**15 20 11.2**	**+0.4**
UNV	**Unalaska Valle**	**3.48**	**59**	P	**Pn**	**15 20 10.8**	**0.0**
UNV				S	**Sn**	**15 20 52.0**	**+1.2**
TAPA	**Tanaga Point A**	**3.88**	**267**	P	**Pn**	**15 20 16.6**	**+0.3**
TAFL	**Tanaga Flats**	**3.94**	**266**	P	**Pn**	**15 20 17.3**	**+0.3**
TAFP	**Tanaga Falls P**	**3.98**	**268**	P	**Pn**	**15 20 17.5**	**0.0**
AKUT	**Akutan**	**4.00**	**58**	*e*Pn	**Pn**	**15 20 20.3**	**+2.4**
WESP	**Westdahl Peak**	**4.71**	**58**	P	**Pn**	**15 20 28.1**	**+0.4**
SPIA	**Saint Paul Isl**	**5.07**	**8**	P	**Pn**	**15 20 33.3**	**+0.8**
SDPT	**Sand Point**	**7.30**	**60**	P	**Pn**	**15 21 03.6**	**+0.6**
ILAR	**Eielson Array** 0.6nm,0.3s,baz=225,slow=9.2,SNR=34	**17.88**	**36**	P	**Pn**	**15 23 21.3**	**-2.2**
ILAR				LR	LR	15 30 08.2	
	comp=Z,75nm,19.4s,baz=246,slow=37						
PETK	**Petropavlovsk-** 1.4nm,0.3s,baz=87,slow=14,SNR=17	**18.61**	**285**	P	**P**	**15 23 30.9**	**-0.8**
PETK				LR	LR	15 30 35.9	
	comp=Z,28nm,20.7s,baz=88,slow=37						
SEY	**Seymchan** 2.1nm,0.6s,baz=120,slow=21,SNR=5.7	**21.82**	**314**	P	**P**	**15 24 06.1**	**-0.1**
DLBC	**Dease Lake** 18nm,0.9s,baz=288,slow=8.8,SNR=15	**24.14**	**59**	P	**P**	**15 24 30.6**	**+1.1**
DLBC				*e*Pn	**P**	**15 24 31.6**	**+2.0**
INK	**Inuvik** 6.7nm,0.4s,baz=236,slow=7.3,SNR=30	**24.25**	**34**	P	**P**	**15 24 30.6**	**+0.2**
YKA	**Yellowknife Ar** 1.6nm,0.4s,baz=274,slow=9.1,SNR=7.2	**31.38**	**48**	P	**P**	**15 25 32.5**	**-1.6**
YKA				LR	LR	15 38 37.6	
	comp=Z,12nm,18.7s,baz=180,slow=37						
WVOR	**Wild Horse Val** 2.4nm,0.7s	**36.44**	**84**	P	**P**	**15 26 19.1**	**+0.8**
H11N2	**WAKE ISLAND Hy** baz=21,slow=76,SNR=28	**36.49**	**216**	T	T	16 04 46.6	
H11N1	**WAKE ISLAND Hy** baz=13,slow=76,SNR=31	**36.51**	**216**	T	T	16 04 49.6	
H11S1	**WAKE ISLAND Hy** baz=21,slow=76,SNR=78	**37.69**	**215**	T	T	16 06 21.2	
H11S2	**WAKE ISLAND Hy** baz=21,slow=76,SNR=58	**37.70**	**215**	T	T	16 06 27.2	
H11S3	**WAKE ISLAND Hy** baz=21,slow=76,SNR=38	**37.70**	**215**	T	T	16 06 20.8	
MJAR	**Matsushiro Arr** 1.3nm,0.7s,baz=59,slow=7.3,SNR=5.7	**38.34**	**266**	P	**P**	**15 26 33.3**	**-1.1**
MAJO	**Matsushiro**	**38.34**	**266**	*e*P	**P**	**15 26 36.4**	**+2.0**
FFC	**Flin Flon** 2.8nm,0.4s	**39.97**	**58**	*e*P	**P**	**15 26 47.7**	**0.0**
PDAR	**Pinedale Array** 1.9nm,0.4s,baz=298,slow=3.5,SNR=13	**41.76**	**77**	P	**P**	**15 27 02.8**	**-0.1**
PDAR				LR	LR	15 42 41.0	
	comp=Z,48nm,18.4s,baz=248,slow=34						
KSRS	**Korea Array** 2.9nm,0.8s,baz=58,slow=7.6,SNR=14	**44.08**	**275**	P	**P**	**15 27 22.1**	**+0.8**
KSRS				LR	LR	15 44 05.8	
	comp=Z,22nm,20.1s,baz=98,slow=34						
KSAR	**Wonju Array Be**	**44.12**	**275**	P	**P**	**15 27 22.1**	**+0.5**
ULM	**Lac du Bonnet** 2.1nm,0.6s,baz=284,slow=8.5,SNR=3.8	**45.42**	**61**	P	**P**	**15 27 31.9**	**0.0**
NRIK	**Norilʹsk** comp=Z,43nm,18.4s,baz=100,slow=40	**45.94**	**331**	LR	LR	15 49 38.7	
SONM	**Songino Array** 0.6nm,0.5s,baz=53,slow=7.4,SNR=3.0	**50.23**	**300**	P	**P**	**15 28 07.8**	**-1.5**
SONM				LR	LR	15 51 33.7	
	comp=Z,35nm,19.0s,baz=64,slow=39						
WMOK	**Wichita Mounta** 4.2nm,1.3s	**53.34**	**79**	*e*P	**P**	**15 28 35.4**	**+2.9**
TXAR	**Lajitas Array** 0.8nm,0.6s,baz=299,slow=5.4,SNR=18	**54.10**	**87**	P	**P**	**15 28 37.6**	**-0.6**
ZALV	**Zelesovo Beam** comp=Z,24nm,18.3s,baz=248,slow=37	**56.64**	**311**	LR	LR	15 54 28.3	
FINES	**FINESS Array B** 2.2nm,0.8s,baz=20,slow=6.1,SNR=4.7	**65.86**	**351**	P	**P**	**15 29 57.3**	**-0.8**
FINES				LR	LR	16 01 33.5	
	comp=Z,18nm,18.2s,baz=245,slow=39						
NOA	**NORSAR Array B** 1.6nm,0.7s,baz=25,slow=6.6,SNR=11	**67.11**	**359**	LR	LR	15 58 12.3	
CMAR	**Chiang Mai Arr** 0.5nm,0.8s,baz=36,slow=6.0,SNR=6.2	**75.34**	**281**	P	**P**	**15 30 57.2**	**+0.8**
ESDC	**Sonseca Array** 0.7nm,0.5s,baz=352,slow=5.0,SNR=5.7	**87.89**	**10**	P	**P**	**15 32 01.6**	**-0.8**
ASAR	**Alice Springs** 1.3nm,0.6s,baz=28,slow=4.8,SNR=18	**89.25**	**228**	P	**P**	**15 32 08.4**	**-0.3**

DDA ***07*** *15:21:04.0,38˚.50N×28˚.32E,h7km,Md1.9*
ISK ***07*** *15:21:03.8,38˚.45N×28˚.30E,h6km,MD2.5*
ISCJB ***07*** *15:21:04.0±0.7,38˚.47N±0˚.04×28˚.31E±0.05,h9km, Error ellipse: s-maj=6.4km s-min=4.7km az=137.8*
CSEM ***07*** *15:21:04.4±0.2,38˚.47N×28˚.30E,h5km,MD2.5, Error ellipse: s-maj=3.9km s-min=2.8km az=138.0*

IDC 07 15:21:03.9±1.2, 38˚.47N±0˚.03×28˚.31E±0˚.03, h9km, n13, σ1 s56/21, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MANT	**Manisa**	**0.19**	**85**	*i* P	Pg	15 21 02.0	-6.0
MANT				*i* S	**Sg**	**15 21 04.8**	**-6.0**
KULA	**Kula-Manisa**	**0.28**	**82**	*e*PG	**Pg**	**15 21 10.4**	**+1.0**
KULA				*e*SG	**Sg**	**15 21 14.1**	**+0.9**
KULA	**Kula-Manisa**	**0.28**	**82**	*e*Pg	**Pg**	**15 21 10.4**	**+1.0**
KULA				*e*Sg	**Sg**	**15 21 14.1**	**+0.9**
AKS	**Akhisar**	**0.56**	**316**	*e*PG	**Pg**	**15 21 15.1**	**+0.3**
AKS				*e*SG	**Sb**	**15 21 23.9**	**-0.2**
AKS	**Akhisar**	**0.56**	**316**	*e*Pg	**Pg**	**15 21 15.1**	**+0.3**
AKS				*e*Sg	**Sb**	**15 21 23.9**	**-0.2**
AYDB	**Zeytinkoy-Aydi**	**0.62**	**212**	*e*PG	**Pg**	**15 21 16.4**	**+0.5**
AYDB				*e*SG	**Sg**	**15 21 24.0**	**-0.1**
AYDB	**Zeytinkoy-Aydi**	**0.62**	**212**	*e*Pg	**Pg**	**15 21 16.4**	**+0.5**
AYDB				*e*Sg	**Sg**	**15 21 24.0**	**-0.1**
DEMI	**Demirci**	**0.65**	**29**	*i* P	**Pg**	**15 21 17.1**	**+0.7**
DEMI				*i* S	**Sg**	**15 21 24.7**	**-0.3**
DEMI	**Demirci**	**0.65**	**29**	P	**Pg**	**15 21 17.1**	**+0.7**
DEMI				S	**Sg**	**15 21 24.7**	**-0.3**
SIMA	**Simav-Kutahya**	**0.80**	**41**	*e*PG	**Pg**	**15 21 20.2**	**+0.8**
SIMA	**Simav-Kutahya**	**0.80**	**41**	*e*Pg	**Pg**	**15 21 20.2**	**+0.8**
TVSB	**Tavsanli**	**1.32**	**42**	*e*PN	**Pg**	**15 21 29.8**	**+0.5**
TVSB	**Tavsanli**	**1.32**	**42**	*e*Pn	**Pg**	**15 21 29.8**	**+0.5**

IDC 07 15:37:50.4±11.0, 41˚.95S×79˚.66E,h0km, mb3.8/4, mb1 4.0/4, mb1mx3.7/22, mbtmp3.8/4, MS3.7/9, Ms1 3.7/9, ms1mx3.4/25, Error ellipse: s-maj=270.9km s-min=48.1km az=51.0, Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MAW	**Mawson** comp=Z,126nm,20.3s,baz=58,slow=31	**27.27**	**194**	LR	LR	15 52 01.6	
H01W2	**Cape Leeuwin H** baz=245,slow=74,SNR=12	**27.78**	**87**	T	T	16 12 24.0	
H01W3	**Cape Leeuwin H** baz=245,slow=74,SNR=13	**27.78**	**87**	T	T	16 12 24.6	
H01W1	**Cape Leeuwin H** baz=245,slow=74,SNR=12	**27.79**	**87**	T	T	16 12 25.0	
BOSA	**Boshof** comp=Z,76nm,18.1s,baz=108,slow=32	**45.65**	**269**	LR	LR	16 02 25.5	
VNDA	**Vanda** comp=Z,104nm,18.1s,baz=279,slow=34	**47.77**	**163**	LR	LR	16 05 17.5	
ASAR	**Alice Springs** 0.5nm,0.7s,baz=228,slow=6.9,SNR=14	**48.28**	**85**	P		15 46 33.2	-0.2
ASAR				LR	LR	16 04 00.1	
	comp=Z,74nm,21.6s,baz=218,slow=32						
STKA	**Stephens Creek** 3.0nm,1.0s,baz=221,slow=3.5,SNR=2.9	**49.56**	**99**	P	P	15 46 43.4	+0.2
STKA				LR	LR	16 04 59.0	
	comp=Z,73nm,18.1s,baz=207,slow=33						
WRA	**Warramunga Arr** 1.0nm,0.7s,baz=231,slow=7.4,SNR=8.3	**50.84**	**82**	P	P	15 46 52.8	-0.2
CMAR	**Chiang Mai Arr** 0.9nm,0.8s,baz=210,slow=7.6,SNR=4.6	**62.70**	**21**	P	P	15 48 17.1	0.0
CMAR				LR	LR	16 10 23.5	
	comp=Z,30nm,21.4s,baz=70,slow=31						
DZM	**Mont Dzumac** comp=Z,50nm,18.8s,baz=229,slow=33	**73.28**	**105**	LR	LR	16 18 34.2	
GEYT	**Alibeck** comp=Z,40nm,18.2s,baz=130,slow=32	**81.90**	**343**	LR	LR	16 21 44.1	
DBIC	**Dimbokro** comp=Z,42nm,20.7s,baz=102,slow=33	**90.35**	**279**	LR	LR	16 27 02.0	

ISCJB ***07*** *16:02:48.5±0.4,37˚.33N±0˚.02×36˚.32E±0˚.02,h9km±3km, Error ellipse: s-maj=3.1km s-min=2.8km az=170.5*
ISK ***07*** *16:02:48.2,37˚.35N×36˚.31E,h8km,MD3.5,ML3.2*
CSEM ***07*** *16:02:48.7±0.1,37˚.35N×36˚.29E,h5km,MD2.8, Error ellipse: s-maj=2.6km s-min=2.4km az=96.0*
DDA ***07*** *16:02:48.1,37˚.35N×36˚.29E,h14km,Md2.8*
NSSC ***07*** *16:02:50.0±1.7,37˚.26N×36˚.29E,h0km±7km,MD2.0,ML2.8*

ISC 07 16:02:48.6±0.9, 37˚.37N±0˚.02×36˚.30E±0˚.02, h12km±7km, n95, σ1 s37/132, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ANDN	**Andirin**	**0.22**	**10**	*i* P	**Pg**	**16 02 53.4**	**+0.1**
ANDN				*i* S	**Sg**	**16 02 57.0**	**+0.5**
ANDN	**Andirin**	**0.22**	**10**	P	**Pg**	**16 02 53.4**	**+0.1**
ANDN				S	**Sg**	**16 02 57.0**	**+0.5**
KAMA	**Osmaniye**	**0.35**	**121**	*i* P	**Pg**	**16 02 55.2**	**-0.4**
KAMA				*i* S	**Sg**	**16 02 58.2**	**-2.1**
KAMA	**Osmaniye**	**0.35**	**121**	P	**Pg**	**16 02 55.2**	**-0.4**
KAMA				S	**Sg**	**16 02 58.2**	**-2.1**
KOZT	**Kozan**	**0.39**	**287**	PG	**Pg**	**16 02 56.3**	**-0.1**
KOZT				*e*SG	**Sb**	**16 03 03.6**	**+0.1**
KOZT	**Kozan**	**0.39**	**287**	*i* Pg	**Pg**	**16 02 56.3**	**-0.1**
KOZT				*e*Sg	**Sb**	**16 03 03.6**	**+0.1**
HCB	**Kahramanmara¯**	**0.49**	**93**	*i* P	**Pg**	**16 02 58.0**	**-0.2**
HCB				*i* S	**Sg**	**16 03 03.4**	**-1.2**
KMRS	**Kahramanmaras**	**0.50**	**74**	PG	**Pg**	**16 02 57.9**	**-0.5**
KMRS				*e*SG	**Sg**	**16 03 04.7**	**-0.4**
KMRS	**Kahramanmaras**	**0.50**	**74**	*i* Pg	**Pg**	**16 02 57.9**	**-0.5**
KMRS				*e*Sg	**Sg**	**16 03 04.7**	**-0.4**
DORT	**Dortyol-Hatay**	**0.55**	**188**	*e*PG	**Pg**	**16 02 59.4**	**+0.1**
DORT	**Dortyol-Hatay**	**0.55**	**188**	*e*Pg	**Pg**	**16 02 59.4**	**+0.1**
CEYT	**Ceyhan**	**0.56**	**231**	*e*PG	**Pg**	**16 02 59.7**	**+0.1**
CEYT	**Ceyhan**	**0.56**	**231**	*e*Pg	**Pg**	**16 02 59.7**	**+0.1**
GAZ	**Gaziantep**	**0.76**	**105**	*e*PG	**Pg**	**16 03 03.2**	**0.0**
GAZ	**Gaziantep**	**0.76**	**105**	*e*Pg	**Pg**	**16 03 03.3**	**0.0**
DRWC	**Darouich**	**0.80**	**158**	*e*P	**Pg**	**16 03 04.1**	**0.0**
DRWC				AML	AML	16 03 19.1	
	comp=E,910nm,0.4s						
DRWC				AML	AML	16 03 19.9	
	comp=N,760nm,0.3s						
DRWC	**Darouich** SNR=75	**0.80**	**158**	*e*P	**Pg**	**16 03 04.1**	**0.0**
KUZU	**Kuzuini**	**0.86**	**133**	*i* P	**Pb**	**16 03 06.1**	**+0.6**
KUZU				*i* S	**Sg**	**16 03 14.6**	**-1.8**
KUZU	**Kuzuini**	**0.86**	**133**	P	**Pb**	**16 03 06.1**	**+0.6**
KUZU				S	**Sg**	**16 03 14.6**	**-1.8**
TAHT	**Tahtakopru-Hat**	**0.99**	**185**	*e*PG	**Pb**	**16 03 07.7**	**-0.1**
TAHT	**Tahtakopru-Hat**	**0.99**	**185**	*e*Pg	**Pb**	**16 03 07.7**	**-0.1**
YAHY	**KAYSERI_Yahyal**	**1.04**	**315**	*i* P	**Pg**	**16 03 07.9**	**-0.7**
YAHY				*i* S	**Sb**	**16 03 23.4**	**+1.2**
YAHY	**KAYSERI_Yahyal**	**1.04**	**315**	P	**Pg**	**16 03 07.9**	**-0.7**
YAHY				S	**Sb**	**16 03 23.4**	**+1.2**
SARI	**SarD1z-Kayseri**	**1.04**	**5**	*e*PG	**Pg**	**16 03 08.9**	**+0.2**
KRTD	**Karatas-Adana**	**1.05**	**223**	*e*PG	**Pb**	**16 03 08.7**	**0.0**
KRTD	**Karatas-Adana**	**1.05**	**223**	*e*Pg	**Pb**	**16 03 08.7**	**0.0**
KRTS	**Karatas**	**1.08**	**223**	*e*PN	**Pb**	**16 03 09.5**	**+0.2**
KRTS	**Karatas**	**1.08**	**223**	*e*Pn	**Pb**	**16 03 09.5**	**+0.2**
BTCH	**Batrach**	**1.33**	**174**	*e*P	**Pn**	**16 03 13.6**	**+0.4**
BTCH				*e*S	**Sb**	**16 03 29.1**	**-1.6**
BTCH				AML	AML	16 03 35.7	
	comp=N,695nm,0.4s						
BTCH				AML	AML	16 03 39.6	
	comp=E,482nm,0.4s						
BTCH	**Batrach** SNR=57	**1.33**	**174**	*e*P	**Pn**	**16 03 13.6**	**+0.4**
BTCH				*e*S	**Sb**	**16 03 29.1**	**-1.6**
	comp=E,482nm,0.4s,SNR=49						
YAYL	**Yayladag**	**1.34**	**187**	*e*PN	**Pn**	**16 03 12.1**	**-1.2**
YAYL	**Yayladag**	**1.34**	**187**	*e*Pn	**Pn**	**16 03 12.1**	**-1.2**
MERS	**Mersin**	**1.50**	**251**	*e*PN	**Pn**	**16 03 15.3**	**-0.2**
MERS	**Mersin**	**1.50**	**251**	*e*Pn	**Pn**	**16 03 15.3**	**-0.2**
BNN	**Bunyan**	**1.52**	**347**	*e*PN	**Pn**	**16 03 16.7**	**+0.8**
BNN	**Bunyan**	**1.52**	**347**	*e*Pn	**Pn**	**16 03 16.7**	**+0.8**
DARE	**Darende-Malaty**	**1.52**	**38**	*e*PN	**Pn**	**16 03 16.7**	**+0.9**
DARE	**Darende-Malaty**	**1.52**	**38**	*e*Pn	**Pn**	**16 03 16.7**	**+0.9**
ARNB	**Al Arnab**	**1.53**	**190**	*e*P	**Pn**	**16 03 16.1**	**+0.3**
ARNB				*e*S	**Sn**	**16 03 34.9**	**-0.8**
ARNB				AML	AML	16 03 41.2	
	comp=N,233nm,0.4s						
ARNB				AML	AML	16 03 53.5	
	comp=E,181nm,0.5s						
ARNB	**Al Arnab** SNR=57	**1.53**	**190**	*e*P	**Pn**	**16 03 16.1**	**+0.3**
ARNB				*e*S	**Sn**	**16 03 34.9**	**-0.8**
	comp=E,181nm,0.5s,SNR=49						
NIG	**Nigde**	**1.53**	**300**	*e*PN	**Pn**	**16 03 16.7**	**+0.7**
NIG	**Nigde**	**1.53**	**300**	*e*Pn	**Pn**	**16 03 16.7**	**+0.7**
CUGUR	**Gurin_S¨VAS**	**1.56**	**29**	*i* P	**Pg**	**16 03 18.7**	**+0.2**
CUGUR				*i* S	**Sn**	**16 03 30.0**	**-6.6**
CUGUR	**Gurin_S¨VAS**	**1.56**	**29**	P	**Pg**	**16 03 18.7**	**+0.2**
AVNS	**Nevsehir-Avano**	**1.84**	**322**	*i* P	**Pn**	**16 03 21.8**	**+1.7**
AVNS				*i* S	**Sn**	**16 03 41.6**	**-1.8**
AVNS	**Nevsehir-Avano**	**1.84**	**322**	P	**Pn**	**16 03 21.8**	**+1.7**
CUALT	**Altinyayla-SIV**	**1.94**	**11**	*i* P	**Pb**	**16 03 23.6**	**-0.4**
CUALT				*i* S	**Sb**	**16 03 48.5**	**+0.3**
CUALT	**Altinyayla-SIV**	**1.94**	**11**	P	**Pb**	**16 03 23.6**	**-0.4**
CUALT				S	**Sb**	**16 03 48.5**	**+0.3**
KIZK	**Mersin**	**1.94**	**243**	*e*PN	**Pn**	**16 03 22.5**	**+1.1**
URFA	**Urfa**	**2.01**	**87**	*e*PN	**Pn**	**16 03 23.4**	**+0.9**
URFA	**Urfa**	**2.01**	**87**	*e*Pn	**Pn**	**16 03 23.4**	**+0.9**
CUKAN	**kangal_SIVAS**	**2.15**	**25**	*i* P	**Pn**	**16 03 25.2**	**+0.7**
CUKAN				*i* S	**Sn**	**16 03 49.9**	**-1.4**
CUKAN	**kangal_SIVAS**	**2.15**	**25**	P	**Pn**	**16 03 25.2**	**+0.7**
SULT	**Sultanhani-AKS**	**2.35**	**291**	*e*PN	**Pn**	**16 03 28.4**	**+1.2**
SULT	**Sultanhani-AKS**	**2.35**	**291**	*e*Pn	**Pn**	**16 03 28.4**	**+1.2**
IKL	**Isikli**	**2.38**	**243**	*e*PN	**Pn**	**16 03 28.2**	**+0.7**
IKL	**Isikli**	**2.38**	**243**	*e*Pn	**Pn**	**16 03 28.2**	**+0.7**
YOZ	**Yozgat**	**2.40**	**342**	*e*PN	**Pn**	**16 03 29.2**	**+1.3**
YOZ	**Yozgat**	**2.40**	**342**	*e*Pn	**Pn**	**16 03 29.2**	**+1.3**
ELZG	**Elazig**	**2.41**	**61**	*i* P	**Pn**	**16 03 28.8**	**+0.8**
ELZG				*i* S	**Sn**	**16 03 52.7**	**-4.9**
ELZG	**Elazig**	**2.41**	**61**	P	**Pn**	**16 03 28.8**	**+0.8**
TEVE	**Tevekalti-Mers**	**2.47**	**249**	*e*PN	**Pn**	**16 03 29.8**	**+1.0**
TEVE	**Tevekalti-Mers**	**2.47**	**249**	*e*Pn	**Pn**	**16 03 29.8**	**+1.0**
AKKU	**Akkuyu-Mersin**	**2.51**	**242**	*e*PN	**Pn**	**16 03 30.3**	**+1.0**
AKKU	**Akkuyu-Mersin**	**2.51**	**242**	*e*Pn	**Pn**	**16 03 30.3**	**+1.0**
SCER	**sogukcermik**	**2.58**	**14**	*i* P	**Pn**	**16 03 28.6**	**-1.8**
SCER				*i* S	**Sn**	**16 04 00.0**	**-1.6**
SVRC	**Sivrice-ELAZID**	**2.59**	**66**	*e*PN	**Pn**	**16 03 31.6**	**+1.1**
SVRC	**Sivrice-ELAZID**	**2.59**	**66**	*e*Pn	**Pn**	**16 03 31.6**	**+1.1**
SVSK	**Karacayir**	**2.60**	**12**	*e*PN	**Pn**	**16 03 31.8**	**+1.3**
SVSK	**Karacayir**	**2.60**	**12**	*e*Pn	**Pn**	**16 03 31.8**	**+1.3**
SERE	**Sereflikochisa**	**2.67**	**307**	*e*PN	**Pn**	**16 03 32.7**	**+1.1**
SERE	**Sereflikochisa**	**2.67**	**307**	*e*Pn	**Pn**	**16 03 32.7**	**+1.1**
PTK	**Pertek**	**2.88**	**57**	*e*PN	**Pn**	**16 03 35.7**	**+1.2**
PTK	**Pertek**	**2.88**	**57**	*e*Pn	**Pn**	**16 03 35.7**	**+1.2**
TNCL	**Tunceli-Merkez**	**3.09**	**55**	*i* P	**Pb**	**16 03 44.6**	**+1.0**
TNCL				*i* S	**Sb**	**16 04 20.7**	**-0.7**
DYBB	**Diyarbakir**	**3.10**	**78**	*e*PN	**Pn**	**16 03 39.0**	**+1.5**
RSDY	**Resadiye-TOKAT**	**3.13**	**15**	*e*PN	**Pn**	**16 03 39.2**	**+1.4**
RSDY	**Resadiye-TOKAT**	**3.13**	**15**	*e*Pn	**Pn**	**16 03 39.2**	**+1.4**
DIY	**Diyarbakir**	**3.16**	**79**	*e*Pn	**Pn**	**16 03 39.0**	**+0.7**
ROOS	**tl_alroos**	**3.29**	**166**	*e*P	**Pn**	**16 03 41.6**	**+1.5**
ROOS				*e*S	**Sn**	**16 04 20.0**	**+0.8**
ROOS				AML	AML	16 04 37.5	
	comp=N,111nm,0.7s						
ROOS				AML	AML	16 04 40.3	
	comp=E,68nm,0.6s						
ROOS	**tl_alroos** SNR=45	**3.29**	**166**	*e*P	**Pn**	**16 03 41.6**	**+1.5**
ROOS				*e*S	**Sn**	**16 04 20.0**	**+0.8**
	comp=E,68nm,0.6s,SNR=40						
MAZI	**Mazidag**	**3.31**	**87**	*e*PN	**Pn**	**16 03 41.8**	**+1.5**
MAZI	**Mazidag**	**3.31**	**87**	*e*Pn	**Pn**	**16 03 41.8**	**+1.5**
MARH	**Ras Al Marh**	**3.34**	**177**	*e*P	**Pn**	**16 03 41.7**	**+0.8**
MARH				*e*S	**Sn**	**16 04 20.1**	**-0.6**
MARH				AML	AML	16 04 49.2	
	comp=N,19nm,0.5s						
MARH				AML	AML	16 04 49.6	
	comp=E,41nm,0.8s						
MARH	**Ras Al Marh** SNR=45	**3.34**	**177**	*e*P	**Pn**	**16 03 41.7**	**+0.8**
MARH				*e*S	**Sn**	**16 04 20.1**	**-0.6**
	comp=E,41nm,0.8s,SNR=40						
KBSD	**Kabsdagh**	**3.41**	**95**	*e*P	**Pn**	**16 03 44.5**	**+2.8**
KBSD				*e*S	**Sn**	**16 04 24.1**	**+2.0**
KBSD				AML	AML	16 04 55.3	
	comp=N,116nm,0.6s						
KBSD				AML	AML	16 04 56.6	
	comp=E,149nm,0.5s						
KBSD	**Kabsdagh** SNR=45	**3.41**	**95**	*e*P	**Pn**	**16 03 44.5**	**+2.8**
KBSD				*e*S	**Sn**	**16 04 24.1**	**+2.0**
	comp=E,149nm,0.5s,SNR=40						
MARD	**Mardin**	**3.57**	**89**	*i* P	**Pn**	**16 03 44.2**	**+0.2**
MARD				*i* S	**Sb**	**16 04 32.1**	**-3.1**
KELT	**Kelkit**	**3.61**	**39**	*i* P	**Pn**	**16 03 45.1**	**+0.5**
KELT				*i* S	Sn	16 04 09.8	-18
KELT	**Kelkit**	**3.61**	**39**	P	**Pn**	**16 03 45.1**	**+0.5**
BRBR	**Barbar**	**3.96**	**184**	*e*P	**Pn**	**16 03 51.6**	**+2.2**
BRBR				*e*S	**Sn**	**16 04 36.0**	**+0.1**
BRBR				AML	AML	16 05 05.7	
	comp=E,23nm,0.6s						
BRBR				AML	AML	16 05 12.1	
	comp=N,22nm,0.7s						
BRBR	**Barbar** SNR=45	**3.96**	**184**	*e*P	**Pn**	**16 03 51.6**	**+2.2**
BRBR				*e*S	**Sn**	**16 04 36.0**	**+0.1**
	comp=N,22nm,0.7s,SNR=40						
BTMN	**Batman**	**3.98**	**81**	*i* P	**Pb**	**16 04 00.4**	**+1.6**
BTMN				*i* S	**Sb**	**16 04 51.2**	**+4.3**
SALA	**Sala**	**4.66**	**175**	*e*P	**Pn**	**16 04 01.2**	**+2.2**
SALA				*e*S	**Sn**	**16 04 52.8**	**-0.3**
SALA				AML	AML	16 05 25.2	
	comp=N,25nm,0.4s						
SALA	**Sala** SNR=45	**4.66**	**175**	*e*P	**Pn**	**16 04 01.2**	**+2.2**
SALA				*e*S	**Sn**	**16 04 52.8**	**-0.3**
	comp=N,25nm,0.4s,SNR=40						

NEIC ***07*** *16:09:22.2±1.6,2˚.91S×152˚.12E,h35km,mb4.8/2, Error ellipse: s-maj=58.7km s-min=17.2km az=119.0*

IDC 07 16:09:20.5±3.2, 3˚.10S×151˚.66E, h0km, mb4.5/3, mb1 4.8/3, mb1mx3.8/27, mbtmp4.5/3, Error ellipse: s-maj=113.6km s-min=44.6km az=118.0, New Ireland region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby** 1.4nm,0.3s,baz=143,slow=20,SNR=5.0	**7.70**	**215**	Sn	Sn	16 12 49.3	+7.4
CTAO	**Charters Tower**	**17.69**	**197**	P	P	16 13 30.4	+1.0
WRAB	**Tennant Creek** 36nm,0.6s	**23.78**	**224**	*e*P	P	16 14 35.3	+0.4
WRA	**Warramunga Arr** 24nm,0.5s,baz=48,slow=9.7,SNR=321	**23.79**	**224**	P	P	16 14 35.4	+0.3
ASAR	**Alice Springs** 0.8nm,0.5s,baz=45,slow=8.0,SNR=14	**26.70**	**218**	P	P	16 15 00.8	-0.9
FITZ	**Fitzroy Crossi** 3.0nm,0.3s,baz=55,slow=7.7,SNR=41	**29.53**	**238**	P	P	16 15 28.2	+1.2
FITZ	**Fitzroy Crossi** 3.5nm,0.4s	**29.53**	**238**	*e*P	P	16 15 28.0	+1.0
TORD	**Torodi Ar. Bea** 0.2nm

AVH	**Avacha**	**3.53**	**231**	PN	**Pn**	**16 33 11.4**	**+0.3**
AVH				S	**Sn**	**16 33 53.3**	**+1.3**
AVH	**Avacha**	**3.53**	**231**	*e*P	**Pn**	**16 33 11.4**	**+0.3**
AVH				*e*S	**Sn**	**16 33 53.3**	**+1.3**
UGLR	**Uglovaya**	**3.53**	**230**	PN	**Pn**	**16 33 11.4**	**+0.3**
UGLR	**Uglovaya**	**3.53**	**230**	*e*P	**Pn**	**16 33 11.4**	**+0.3**
GNL	**Ganaly**	**3.64**	**241**	PN	**Pn**	**16 33 13.6**	**+0.9**
GNL	**Ganaly**	**3.64**	**241**	*e*P	**Pn**	**16 33 13.6**	**+0.9**
DALK	**Dalny**	**3.68**	**228**	PN	**Pn**	**16 33 13.4**	**+0.3**
DALK				S	**Sn**	**16 33 55.7**	**0.0**
DALK	**Dalny**	**3.68**	**228**	*e*P	**Pn**	**16 33 13.4**	**+0.3**
DALK				*e*S	**Sn**	**16 33 55.7**	**0.0**
OSSR	**Ossora**	**3.70**	**358**	PN	**Pn**	**16 33 14.1**	**+0.7**
OSSR				S	**Sn**	**16 33 56.4**	**+0.3**
OSSR	**Ossora**	**3.70**	**358**	*e*P	**Pn**	**16 33 14.1**	**+0.7**
OSSR				*e*S	**Sn**	**16 33 56.4**	**+0.3**
PET	**Petropavlovsk**	**3.73**	**229**	*e*PN	**Pn**	**16 33 14.5**	**+0.7**
PET				*e*S	**Sn**	**16 33 59.2**	**+2.4**
PET	comp=Z,70nm,0.5s			pmax	pmax		
PET	comp=N,203nm,0.5s			smax	smax		
KRMR	**Karymshinskiy**	**4.09**	**230**	PN	**Pn**	**16 33 19.3**	**+0.5**
KRMR				S	**Sn**	**16 34 05.8**	**0.0**
KRMR	**Karymshinskiy**	**4.09**	**230**	*e*P	**Pn**	**16 33 19.3**	**+0.5**
KRMR				*e*S	**Sn**	**16 34 05.8**	**0.0**
PETK	**Petropavlovsk-**	**4.10**	**236**	PN	**Pn**	**16 33 19.8**	**+0.8**
	comp=N,3.4nm,0.3s,baz=66,slow=17,SNR=33						
RUS	**Russkaya**	**4.22**	**224**	PN	**Pn**	**16 33 20.9**	**+0.3**
RUS				S	**Sn**	**16 34 09.9**	**+0.9**
RUS	**Russkaya**	**4.22**	**224**	*e*P	**Pn**	**16 33 20.9**	**+0.3**
RUS				*e*S	**Sn**	**16 34 09.9**	**+0.9**
MTVR	**Mutnovka**	**4.32**	**227**	PN	**Pn**	**16 33 23.0**	**+1.0**
MTVR				S	**Sn**	**16 34 12.1**	**+0.5**
MTVR	**Mutnovka**	**4.32**	**227**	*e*P	**Pn**	**16 33 23.0**	**+1.0**
MTVR				*e*S	**Sn**	**16 34 12.1**	**+0.5**
APC	**Apacha**	**4.47**	**236**	PN	**Pn**	**16 33 25.3**	**+1.3**
APC				S	**Sn**	**16 34 16.7**	**+1.6**
APC	**Apacha**	**4.47**	**236**	*e*P	**Pn**	**16 33 25.3**	**+1.3**
APC				*e*S	**Sn**	**16 34 16.7**	**+1.6**
ASAK	**Asacha**	**4.51**	**227**	PN	**Pn**	**16 33 25.5**	**+0.9**
ASAK	**Asacha**	**4.51**	**227**	*e*P	**Pn**	**16 33 25.5**	**+0.9**
KMSK	**Kamenskaya**	**7.09**	**11**	PN	**Pn**	**16 34 01.3**	**+1.5**
KMSK	**Kamenskaya**	**7.09**	**11**	*e*P	**Pn**	**16 34 01.3**	**+1.5**
MA2	**Magadan**	**7.85**	**306**	LR	LR	16 37 25.0	
	comp=N,45nm,21.4s,baz=150,slow=35						
KLR	**Kul'dur**	**20.15**	**265**	LR	LR	16 45 57.0	
	comp=N,35nm,18.7s,baz=296,slow=40						
MJAR	**Matsushiro Arr**	**25.56**	**232**	P	**P**	**16 37 43.4**	**-1.1**
	comp=N,0.9nm,0.4s,baz=41,slow=8.4,SNR=6.5						
ILAR	**Eielson Array**	**25.75**	**49**	P	**P**	**16 37 47.4**	**+1.4**
	comp=N,0.2nm,0.6s,baz=276,slow=8.1,SNR=2.6						
FINES	**FINESS Array B**	**58.58**	**338**	P	P	16 42 21.7	+10
	comp=N,9.8nm,1.1s,baz=61,slow=11,SNR=3.6						
TXAR	**Lajitas Array**	**67.98**	**70**	P	**P**	**16 43 14.2**	**-0.5**
	comp=N,0.1nm,0.4s,baz=282,slow=4.4,SNR=2.9						
WRA	**Warramunga Arr**	**79.13**	**208**	P	**P**	**16 44 19.4**	**-0.7**
	comp=N,0.3nm,0.6s,baz=13,slow=5.6,SNR=6.0						
ASAR	**Alice Springs**	**82.80**	**207**	P	**P**	**16 44 39.6**	**+0.1**
	comp=N,0.5nm,0.7s,baz=12,slow=5.7,SNR=7.2						

*BJI **07** 16:56:38.6, 38.81N×125.96E, h6km, ML3.6/5*
*KMA **07** 16:56:40.0±1.1, 38.62N×125.93E, h7km±3km, Error ellipse: s-maj=11.7km s-min=1.9km az=6.0*
*ISCJB **07** 16:56:44.2±0.6, 38.44N±0.06×125.94E±0.06, h33km, Error ellipse: s-maj=9.9km s-min=5.2km az=25.6*

ISC 07 16:56:44.7±1.1, 38°44N±0.07×126°02E±0.04, h35km, n11, σ2s46/16, 5C-7D, North Korea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSMUS	**Musan**	**0.80**	**133**	⇑P	**Pn**	**16 56 59.4**	**0.0**
	SNR=108						
YNCB	**YEONCHEON**	**0.82**	**119**	⇓P	**Pn**	**16 56 58.9**	**-0.8**
	SNR=529						
YNCB				⇓S	**Sn**	**16 57 12.3**	**+1.7**
KSDDC	**Dongducheon**	**0.98**	**123**	⇓P	**Pn**	**16 57 01.6**	**-0.3**
	SNR=30						
KSBAR	**Backryungdo**	**1.13**	**246**	⇓P	**Pn**	**16 57 01.6**	**-2.4**
	SNR=180						
KSDEI	**Deokjeokdo**	**1.19**	**177**	⇓P	**Pn**	**16 57 05.5**	**+0.7**
	SNR=117						
DACB	**Daecheong-do R**	**1.20**	**240**	⇑P	**Pn**	**16 57 04.1**	**-0.9**
	SNR=133						
KSCWO	**Cheorwon**	**1.23**	**106**	⇑P	**Pn**	**16 57 05.2**	**-0.2**
	SNR=52						
KSCWO				⇓S	**Sn**	**16 57 24.7**	**+3.9**
HWCB	**Hwacheon**	**1.31**	**99**	⇑P	**Pn**	**16 57 05.7**	**-0.8**
	SNR=345						
HWCB				⇑S	**Sn**	**16 57 25.5**	**+2.6**
DL2	**Dalian**	**3.47**	**279**	Pg	**Pn**	**16 57 38.8**	**+2.6**
DL2				Sg	**Sn**	**16 58 20.7**	**+4.6**
DL2	comp=N,250nm,0.7s			smax	smax		
DL2	comp=E,120nm,0.7s			smax	smax		
SNY	**Shenyang**	**3.87**	**332**	⇓Pg	**Pn**	**16 57 41.3**	**-0.3**
SNY				Sg	**Sn**	**16 58 27.7**	**+1.9**
SNY	comp=N,75nm,0.6s			smax	smax		
SNY	comp=E,150nm,0.5s			smax	smax		
WMQ	**Urumqi**	**29.18**	**293**	*e*P	**P**	**17 02 39.1**	**-3.6**

*IDC **07** 17:00:05.9±1.2, 33.35S×72.31W, h0km, mb3.7/4, mb1 3.9/7, mb1mx3.8/33, mbtmp3.8/7, ML4.0/3, MS3.0/4, Ms1 3.0/4, ms1mx2.8/21, Error ellipse: s-maj=41.6km s-min=19.7km az=85.0*
*ISCJB **07** 17:00:06.4±1.1, 33.39S±0.04×72.50W±0.05, h15km±8km, mb4.1/5, MS3.4/3, Error ellipse: s-maj=7.7km s-min=6.8km az=41.3*
*GUC **07** 17:00:07.5±0.5, 33.37S×72.45W, h37km±6km, ML4.1*
*NEIC **07** 17:00:09.9±0.7, 33.35S×72.27W, h25km, mb4.8/1, Error ellipse: s-maj=18.5km s-min=9.4km az=91.0*
*SJA **07** 17:00:10.3±1.1, 33.00S×72.27W, h10km, ML3.9, MW3.9*

ISC 07 17:00:06.6±3.2, 33.43S±0.06×72.37W±0.07, h2km±20km, n38, σ1s15/38, mb4.1/5, MS3.1/3, 5C-6D, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHPI	**Pichilemu**	**1.00**	**163**	*e*P	**Pb**	**17 00 26.6**	**0.0**
ROC1	**El Roble**	**1.22**	**68**	*e*P	Pn	17 00 29.6	-1.2
ROC1				⇓eS	**Sb**	**17 00 46.0**	**-0.8**
ROCH	**El Roble**	**1.23**	**68**	⇑P	Pn	17 00 29.6	-1.3
ROCH				*i* S	**Sb**	**17 00 46.6**	**-0.3**
ROCH	comp=E,6μm,0.4s			IAML		17 00 49.8	
PEL	**Peldehue**	**1.44**	**79**	⇑*i*P	Pn	17 00 33.3	-0.4
PEL				*i* S	**Sn**	**17 00 53.2**	**+0.1**
PEL	comp=E,4μm,0.5s			IAML		17 01 01.8	
ANTU	**Antumapu**	**1.46**	**96**	*e*P	**Pn**	**17 00 34.1**	**+0.2**
ANTU				*e*S	**Sn**	**17 00 53.3**	**-0.3**
ANTU	comp=E,4μm,0.6s			IAML		17 01 02.0	
CLCH	**Cerro Calan**	**1.53**	**89**	⇑*i*P	Pn	17 00 35.0	0.0
CLCH				*i* S	**Sn**	**17 00 55.8**	**+0.3**
CLCH	comp=E,5μm,0.7s			IAML		17 01 05.8	
FSR	**Penalolen**	**1.54**	**92**	⇑*i*P	Pn	**17 00 35.5**	**+0.4**
FSR				*i* S	**Sb**	**17 00 56.5**	**+0.8**
FCH	**Farellones**	**1.74**	**87**	*e*P	Pn	**17 00 38.1**	**+0.1**
FCH				*i* S	**Sn**	**17 01 01.9**	**+0.9**
FCH	comp=N,2μm,0.6s			IAML		17 01 10.5	
NICH	**Los Niches**	**1.83**	**149**	*e*P	Pn	**17 00 39.9**	**+0.9**
TALC	**Talca**	**2.05**	**163**	⇑*i*P	Pn	**17 00 42.3**	**+0.2**
AUSP	**Uspallata**	**2.78**	**65**	⇓*e*P	Pn	**17 00 55.1**	**+2.7**
ARCO	**CERRO ARCO**	**2.94**	**79**	⇓*e*P	**Pb**	**17 01 00.1**	**+0.3**
ARCO	comp=Z,518nm,0.4s			IAML		17 01 04.5	
RTLS	**Leoncito**	**3.06**	**59**	*e*P	**Pn**	**17 00 58.1**	**+2.0**
ASAL	**Salagasta**	**3.08**	**75**	*e*P	**Pb**	**17 01 00.4**	**-1.7**
RTCV	**Cerro Valdivia**	**3.59**	**65**	*e*P	**Pn**	**17 01 03.9**	**+0.7**
RTLL	**Cerro Villicun**	**3.90**	**59**	*e*P	**Pn**	**17 01 09.8**	**+2.3**
ACCO	**Cerro Coronel**	**3.99**	**46**	⇓*e*P	**Pn**	**17 01 10.8**	**+1.8**
ACCO	comp=Z,198nm,0.6s			IAML		17 02 17.9	
AROD	**Rodeo**	**4.08**	**38**	*e*P	**Pn**	**17 01 10.8**	**+0.5**
AMOG	**MOGNA**	**4.12**	**54**	*e*P	**Pn**	**17 01 12.3**	**+1.7**
ACAN	**Cantantal**	**4.51**	**77**	⇓*e*P	**Pn**	**17 01 17.4**	**+1.6**
LCO	**Las Campanas**	**4.63**	**18**	*e*P	Pn	17 01 15.7	-2.1
AVFE	**Valle Fertil**	**5.00**	**58**	*e*P	**Pn**	**17 01 23.5**	**+0.7**
AVFE	comp=Z,99nm,0.5s			IAML		17 02 51.1	
AGUA	**GUANDACOL**	**5.14**	**41**	⇓*e*P	**Pn**	**17 01 25.7**	**+1.1**
ACLC	**CERRO LA CRUZ**	**6.11**	**51**	*e*P	**Pn**	**17 01 37.9**	**-0.2**
PLCA	**Paso Flores**	**7.43**	**169**	Pn	**Pn**	**17 01 56.8**	**+0.7**
	comp=Z,1.2nm,0.3s,baz=351,slow=12,SNR=15						
PLCA				Lg	Lg	17 04 04.8	
	comp=Z,0.1nm,0.3s,baz=270,slow=20,SNR=2.5						
PLCA				LR	LR	17 04 43.9	
	comp=Z,52nm,19.0s,baz=4.0,slow=37						
TRQA	**Tornquist**	**9.62**	**122**	*e*Pn	**Pn**	**17 02 26.3**	**+0.2**
CPUP	**Villa Florida**	**14.83**	**65**	Pn	**Pn**	**17 03 37.6**	**+0.3**
	comp=Z,0.1nm,0.3s,baz=225,slow=14,SNR=2.2						
CPUP				Lg	Lg	17 07 43.1	
	comp=Z,0.1nm,0.3s,baz=317,slow=14,SNR=3.4						
CPUP				LR	LR	17 09 09.3	
	comp=Z,69nm,21.6s,baz=252,slow=37						
LPAZ	**La Paz**	**17.49**	**14**	P	**Pn**	**17 04 11.0**	**-1.3**
	comp=Z,0.1nm,0.3s,baz=186,slow=7.2,SNR=6.8						
SIV	**San Ignacio**	**20.14**	**33**	P	**P**	**17 04 40.6**	**-1.5**
	comp=Z,3.1nm,0.9s,baz=226,slow=11,SNR=5.9						
SIV				LR	LR	17 13 40.5	
	comp=Z,84nm,18.8s,baz=352,slow=41						
USHA	**Ushuaia**	**21.57**	**174**	LR	LR	17 14 26.7	
	comp=Z,735nm,18.6s,baz=164,slow=40						
NNA	**Nana**	**21.73**	**348**	LR	LR	17 11 20.5	
	comp=Z,44nm,19.7s,baz=180,slow=31						
SAML	**Samuel**	**25.80**	**21**	*e*P	**P**	**17 05 39.7**	**+0.7**
	comp=Z,1.0nm,0.6s						
SNAA	**Sanae**	**52.21**	**158**	P	**P**	**17 09 18.6**	**+0.1**
	comp=Z,2.0nm,0.9s,baz=252,slow=9.6,SNR=4.0						
SNAA	**Sanae**	**52.21**	**158**	*e*P	**P**	**17 09 17.9**	**-0.6**
	comp=Z,112nm,1.0s						
QSPA	**South Pole Qui**	**56.80**	**180**	*e*P	**P**	**17 09 53.8**	**+1.8**
	comp=Z,9.4nm,1.0s						
TXAR	**Lajitas Array**	**69.11**	**331**	P	**P**	**17 11 13.7**	**-0.5**
	comp=Z,0.3nm,0.6s,baz=149,slow=7.4,SNR=3.7						
TORD	**Torodi Ar. Bea**	**84.28**	**70**	P	**P**	**17 12 38.7**	**-1.5**
	comp=Z,1.2nm,0.9s,baz=247,slow=4.0,SNR=5.9						
ZALV	**Zalesovo Beam**	**153.89**	**31**	PKPbc	**PKPbc**	**17 20 06.9**	**+0.1**
	comp=Z,0.3nm,0.3s,baz=296,slow=4.6,SNR=3.0						

*ISCJB **07** 17:07:50.8±0.5, 1.57S±0.09×101.79E±0.09, h215km±6km, mb3.4/5, Error ellipse: s-maj=19.4km s-min=6.6km az=136.6*
*IDC **07** 17:07:50.4±2.8, 1.91S×101.58E, h207km±27km, mb3.2/6, mb1 3.3/7, mb1mx3.0/41, mbtmp3.7/7, Error ellipse: s-maj=51.4km s-min=14.5km az=56.0*
*DJA **07** 17:07:52.4±0.5, 2°S±5'×10°2E±°, h195km±6km, M3.9/9, mb4.5/1, MLv3.6/9*

ISC 07 17:07:52.0±0.8, 1.59S±0.08×101.79E±0.08, h212km±7km, n17, σ1s21/22, mb3.5/5, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SDSI	**Sungai Dareh**	**0.74**	**331**	P	**S**	**17 08 46.7**	**+2.2**
PDSI	**Padang**	**1.49**	**297**	P	Pn	**17 08 25.9**	**-0.8**
PDSI				S	**Sn**	**17 08 51.7**	**-1.7**
MASI	**Maura Aman, Be**	**1.61**	**164**	P	Pn	**17 08 27.2**	**-0.5**
MASI				S	**S**	**17 08 56.0**	**+0.6**
PPI	**Padang Panjang**	**1.79**	**309**	P	Pn	**17 08 29.7**	**+0.4**
PPI				S	**S**	**17 08 56.9**	**-1.3**
JMBI	**JAMBI**	**1.85**	**91**	P	Pn	**17 08 28.8**	**-1.1**
KSI	**Kapahiang**	**2.20**	**159**	P	Pn	**17 08 34.1**	**+0.6**
KSI				S	**S**	**17 09 07.2**	**+1.5**
SISI	**Saibi**	**2.71**	**275**	P	Pn	**17 08 39.2**	**+0.2**
SISI				S	**S**	**17 09 15.0**	**-0.3**
MDSI	**Maura Dua**	**3.74**	**140**	P	Pn	**17 08 50.1**	**-0.9**
KLSI		**4.25**	**136**	P	Pn	**17 08 56.7**	**-0.7**
PSI	**Prapat**	**5.22**	**327**	P	Pn	**17 09 08.7**	**-0.9**
	2.0nm,0.3s,baz=157,slow=11,SNR=10						
TSI	**Tuntungan**	**6.00**	**327**	P	Pn	**17 09 19.3**	**-0.1**
CMAR	**Chiang Mai Arr**	**20.12**	**352**	P	**P**	**17 12 11.7**	**+1.8**
	0.7nm,0.4s,baz=184,slow=8.3,SNR=7.5						
WRA	**Warramunga Arr**	**36.67**	**122**	P	**P**	**17 14 37.5**	**-1.4**
	0.4nm,0.9s,baz=304,slow=8.5,SNR=3.7						
ASAR	**Alice Springs**	**38.07**	**128**	P	**P**	**17 14 49.1**	**-1.4**
	0.3nm,0.6s,baz=301,slow=8.2,SNR=6.4						
SONM	**Songino Array**	**49.38**	**4**	P	**P**	**17 16 21.8**	**+1.6**
	1.6nm,0.5s,baz=185,slow=10,SNR=11						
ZALV	**Zalesovo Beam**	**57.12**	**348**	P	**P**	**17 17 16.1**	**-0.1**
	1.1nm,0.3s,baz=169,slow=5.4,SNR=7.6						
BRTR	**Keskin Array B**	**74.37**	**312**	P	**P**	**17 19 06.5**	**-0.4**
	0.6nm,0.7s,baz=116,slow=8.4,SNR=3.8						

*DDA **07** 17:35:06.4, 38.47N×28.30E, h7km, Md2.7*
*ISK **07** 17:35:06.7, 38.49N×28.33E, h6km, MD3.1*
*CSEM **07** 17:35:07.0±0.1, 38.48N×28.32E, h2km, MD2.7, Error ellipse: s-maj=2.1km s-min=1.8km az=138.0*

ISC 07 17:35:06.5±1.1, 38°48N±0.02×28°33E±0.02, h4km±11km, n42, σ1s02/55, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MANT	**Manisa**	**0.18**	**85**	*i* P	Pg	17 35 03.5	-6.6
MANT				*i* S	**Sg**	**17 35 07.1**	**-5.5**
KULA	**Kula-Manisa**	**0.26**	**81**	*e*PG	**Pg**	**17 35 12.6**	**+0.9**
KULA				*e*SG	**Sg**	**17 35 16.3**	**+1.2**
KULA	**Kula-Manisa**	**0.26**	**81**	*e*Pg	**Pg**	**17 35 12.6**	**+0.9**
KULA				*e*Sg	**Sg**	**17 35 16.3**	**+1.2**
AKS	**Akhisar**	**0.57**	**315**	*e*PG	**Pg**	**17 35 17.3**	**-0.2**
AKS				*e*SG	**Sg**	**17 35 25.9**	**+1.0**
AKS	**Akhisar**	**0.57**	**315**	*e*Pg	**Pg**	**17 35 17.3**	**-0.2**
AKS				*e*Sg	**Sg**	**17 35 25.9**	**+1.0**
AYDB	**Zeytinkoy-Aydi**	**0.63**	**213**	*e*PG	**Pg**	**17 35 19.1**	**+0.4**
AYDB	**Zeytinkoy-Aydi**	**0.63**	**213**	*e*Pg	**Pg**	**17 35 19.1**	**+0.4**
DEMI	**Demirci**	**0.64**	**28**	*i* P	**Pg**	**17 35 19.3**	**+0.4**
DEMI				*i* S	**Sg**	**17 35 26.4**	**-0.9**
DEMI	**Demirci**	**0.64**	**28**	P	**Pg**	**17 35 19.3**	**+0.4**
DEMI				S	**Sg**	**17 35 26.4**	**-0.9**
SIMA	**Simav-Kutahya**	**0.79**	**40**	*e*PG	**Pg**	**17 35 22.1**	**+0.4**
SIMA				*e*SG	**Sg**	**17 35 32.5**	**+0.4**
SIMA	**Simav-Kutahya**	**0.79**	**40**	*e*Pg	**Pg**	**17 35 22.2**	**+0.4**
SIMA				*e*Sg	**Sg**	**17 35 32.5**	**+0.4**
DENT	**Denizli**	**0.91**	**142**	*e*PG	**Pg**	**17 35 24.3**	**+0.3**
DENT	**Denizli**	**0.91**	**142**	*e*Pg	**Pg**	**17 35 24.3**	**+0.3**
KHL	**Karahalli**	**0.95**	**99**	*e*PG	**Pb**	**17 35 25.9**	**+0.3**
KHL	**Karahalli**	**0.95**	**99**	*e*Pg	**Pb**	**17 35 25.9**	**+0.3**
BALB	**Balikesir**	**1.21**	**343**	*e*PN	**Pn**	**17 35 30.8**	**+0.6**
BALB				*e*SN	**Sn**	**17 35 47.1**	**0.0**
BALB	**Balikesir**	**1.21**	**343**	*e*Pn	**Pn**	**17 35 30.8**	**+0.6**
BALB				*e*Sn	**Sn**	**17 35 47.2**	**0.0**
MLSB	**Milas**	**1.26**	**201**	*e*PN	**Pb**	**17 35 31.1**	**+0.3**
MLSB	**Milas**	**1.26**	**201**	*e*Pn	**Pb**	**17 35 31.1**	**+0.3**
DKL	**Dikili**	**1.26**	**299**	*e*PN	**Pn**	**17 35 31.4**	**+0.5**
FOCM	**Fo¯ça**	**1.27**	**281**	*e*PN	**Pg**	**17 35 31.9**	**+0.9**
CAND	**Candarli**	**1.29**	**292**	*e*PN	**Pg**	**17 35 32.5**	**+1.3**
TVSB	**Tavsanli**	**1.31**	**42**	*e*PN	**Pg**	**17 35 32.5**	**+0.7**
TVSB	**Tavsanli**	**1.31**	**42**	*e*Pn	**Pg**	**17 35 32.5**	**+0.7**
URLA	**Izmir**	**1.37**	**266**	*i* P	**Pg**	**17 35 32.8**	**0.0**
URLA				*i* S	**Sb**	**17 35 49.8**	**-0.7**
URLA	**Izmir**	**1.37**	**266**	P	**Pg**	**17 35 32.8**	**0.0**
URLA				S	**Sb**	**17 35 49.8**	**-0.7**
ZEY	**¯zmir**	**1.46**	**261**	*i* P	**Pb**	**17 35 33.9**	**-0.2**
ZEY				*i* S	**Sb**	**17 35 51.2**	**-1.8**
BODT	**Bodrum**	**1.63**	**210**	*e*PN	**Pn**	**17 35 36.5**	**+0.6**
BODT	**Bodrum**	**1.63**	**210**	*e*Pn	**Pn**	**17 35 36.5**	**+0.6**
ORLT	**Orhaneli**	**1.63**	**15**	*e*PN	**Pb**	**17 35 36.9**	**-0.3**
ORLT	**Orhaneli**	**1.63**	**15**	*e*Pn	**Pb**	**17 35 36.9**	**-0.3**
DALY	**Dalyan (Mu¯la**	**1.68**	**171**	*e*PN	**Pb**	**17 35 37.6**	**-0.3**
DALY	**Dalyan (Mu¯la**	**1.68**	**171**	*e*Pn	**Pb**	**17 35 37.6**	**-0.3**
KCTX	**Karacabey (Bur**	**1.79**	**1**	*e*PN	**Pb**	**17 35 38.9**	**-0.9**
CHOS	**Chios island**	**1.79**	**268**	*e*PN	**Pb**	**17 35 39.5**	**-0.4**
CHOS	**Chios island**	**1.79**	**268**	*e*Pn	**Pb**	**17 35 39.5**	**-0.4**
DAT	**Datca**	**1.84**	**199**	*e*PN	**Pb**	**17 35 40.3**	**-0.5**
DAT	**Datca**	**1.84**	**199**	*e*Pn	**Pb**	**17 35 40.3**	**-0.5**
EDC	**Edincik**	**1.90**	**349**	*e*PN	**Pn**	**17 35 39.8**	**+0.1**
EDC	**Edincik**	**1.90**	**349**	*e*Pn	**Pn**	**17 35 39.8**	**+0.1**
SIGR	**SIGRI**	**2.07**	**292**	*e*PN	**Pn**	**17 35 42.9**	**+0.9**
SIGR	**SIGRI**	**2.07**	**292**	*e*Pn	**Pn**	**17 35 42.9**	**+0.9**

*IDC **07** 17:40:03.0±1.1, 29.08N×51.36E, h0km, mb3.8/10, mb1 4.0/14, mb1mx3.8/39, mbtmp3.9/14, ML3.5/4, MS2.9/1, Ms1 2.9/1, ms1mx2.1/48, Error ellipse: s-maj=24.6km s-min=19.0km az=34.0*
*THR **07** 17:40:04.5±0.3, 29.20N×51.15E, h16km±11km, ML3.7*
*TEH **07** 17:40:05.7, 29.25N×51.29E, h17km, ML3.6*
*ISCJB **07** 17:40:05.1±0.5, 29.14N±0.04×51.06E±0.04, h16km, mb3.7/11, Error ellipse: s-maj=7.1km s-min=4.2km az=39.1*
*CSEM **07** 17:40:06.4±0.4, 29.08N×51.12E, h20km, ML3.7, Error ellipse: s-maj=10.5km s-min=6.3km az=44.0*
*ISN **07** 17:40:16.7±12.0, 29.14N×49.87E, h15km±69km, ML3.6*

ISC 07 17:40:05.5±0.6, 29°09N±0.05×51°18E±0.05, h16km, n51, σ1s10/57, mb3.8/11, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AHBU	**AHRAM**	**0.24**	**156**	*e*Pg	**Pg**	**17 40 11.8**	**+0.8**
AHBU				*e*Sg	**Sb**	**17 40 17.3**	**+1.7**
ISRV	**Sarvestan**	**1.71**	**80**	*e*Pn	**Pn**	**17 40 36.2**	**+1.2**
ISRV				*e*Sg	**Sg**	**17 41 00.6**	**-0.2**
ISRV	comp=E,14μm,0.4s			eAMB	AMB	17 41 16.1	
ISRV	**Sarvestan**	**1.71**	**80**	*e*Pn	**Pn**	**17 40 36.2**	**+1.2**
ISRV				*e*Sg	**Sg**	**17 41 00.6**	**-0.2**
GHIR	**Ghir-Karzin**	**1.78**	**116**	*e*Pg	**Pb**	**17 40 38.4**	**+0.6**
GHIR				*e*Sg	**Sg**	**17 41 03.0**	**+0.2**
GHIR	comp=E,641nm,0.4s			AML	AML	17 41 07.3	
GHIR	**Ghir-Karzin**	**1.78**	**116**	*e*Pn	**Pb**	**17 40 37.7**	**-0.1**
IPAR	**Pars**	**1.79**	**65**	*e*Pn	**Pn**	**17 40 36.7**	**+0.6**
IPAR				*e*AMB	AMB	17 41 02.4	
IPAR	comp=Z,9μm,0.4s						
IPAR	**Pars**	**1.79**	**65**	*e*Pn	**Pn**	**17 40 36.7**	**+0.6**
IRAM	**Ramesheh**	**2.90**	**21**	*e*Pn	**Pn**	**17 40 51.9**	**+0.6**
IRAM				*e*AMB	AMB	17 41 39.5	
IRAM	comp=Z,2μm,0.3s						
IRAM	**Ramesheh**	**2.90**	**21**	*e*Pn	**Pn**	**17 40 51.9**	**+0.6**
IGAR	**Gharneh**	**3.39**	**12**	*e*Pn	**Pn**	**17 40 58.7**	**+0.8**
IGAR				*e*AMB	AMB	17 41 43.6	
IGAR	comp=Z,576nm,0.1s						
ISAD	**Sadrabad**	**3.55**	**37**	*e*Pn	**Pn**	**17 41 01.2**	**+1.0**
ISAD				*e*AMB	AMB	17 42 04.7	
ISAD	comp=Z,1μm,0.4s						
ISAD	**Sadrabad**	**3.55**	**37**	*e*Pn	**Pn**	**17 41 01.2**	**+1.0**
IPIR	**Pirpir**	**3.59**	**356**	*e*Pn	**Pn**	**17 41 01.7**	**+0.8**
IPIR				*e*AMB	AMB	17 41 48.7	
IPIR	comp=Z,737nm,0.2s						
IPIR	**Pirpir**	**3.59**	**356**	*e*Pn	**Pn**	**17 41 01.7**	**+0.8**
IMEH	**Mehriz**	**3.75**	**51**	*e*Pn	**Pn**	**17 41 03.8**	**+0.8**
IMEH				*e*AMB	AMB	17 42 07.3	
IMEH	comp=Z,2μm,0.8s						
IMEH	**Mehriz**	**3.75**	**51**	*e*Pn	**Pn**	**17 41 03.8**	**+0.8**
IZEF	**Zefreh**	**3.92**	**14**	*e*Pn	**Pn**	**17 41 05.9**	**+0.6**
IZEF				*e*AMB	AMB	17 41 54.6	
IZEF	comp=Z,354nm,0.3s						
IZEF	**Zefreh**	**3.92**	**14**	*e*Pn	**Pn**	**17 41 05.9**	**+0.6**
NASN	**Na'in**	**3.95**	**20**	*e*Pn	**Pn**	**17 41 05.6**	**-0.2**
NASN	**Na'in**	**3.95**	**20**	*e*Pn	**Pn**	**17 41 05.6**	**-0.2**
IKLH	**Kolahrood**	**4.23**	**5**	*e*Pn	**Pn**	**17 41 11.0**	**+1.4**
IKLH				*e*AMB	AMB	17 41 13.4	
IKLH	comp=Z,550nm,0.1s						
IKLH	**Kolahrood**	**4.23**	**5**	*e*Pn	**Pn**	**17 41 11.0**	**+1.4**
QAM	**Ghamsar**	**4.66**	**3**	*e*Pn	**Pn**	**17 41 16.6**	**+1.1**
QAM				*e*AMB	AMB	17 41 18.2	
QAM	comp=Z,762nm,0.1s						
KHMZ	**Khomeyn**	**4.75**	**348**	*e*Pn	**Pn**	**17 41 16.2**	**-0.5**
KHMZ	**Khomeyn**	**4.75**	**348**	*e*Pn	**Pn**	**17 41 16.2**	**-0.5**
NSR	**Nassriya**	**4.77**	**295**	*e*Pg	**Pn**	**17 41 16.0**	**-0.7**
NSR	SNR=9.0			*e*Sg	**Sn**	**17 42 11.0**	**-0.7**
	SNR=9.0						
IRAZ	**Razeghan**	**6.39**	**351**	*e*Pn	**Pn**	**17 41 40.3**	**

	comp=N,1μm,0.3s							
KHET					AML	AML	17 59 02.9	
	comp=E,2μm,0.3s							
KKR	**Kurukshetra**	**1.36**	**347**	*e*P		**Pn**	**17 58 43.1**	**+0.2**
KKR				*e*S		**Sb**	**17 59 00.8**	**0.0**
KKR					AML	AML	17 59 02.5	
	comp=Z,1μm,0.3s							
KALG	**Kalgarh**	**1.63**	**58**	*e*P		**Pn**	**17 58 44.5**	**-2.2**
KALG				*e*S		**Sn**	**17 59 06.8**	**-0.6**
DDI	**Dehra Dun**	**1.85**	**24**	*e*P		**Pn**	**17 58 50.6**	**+0.8**
DDI				*e*S		**Sb**	**17 59 17.1**	**+2.1**
DDI					AML	AML	17 59 19.5	
	comp=N,2μm,0.2s							
DDI					AML	AML	17 59 19.6	
	comp=E,2μm,0.2s							
SMLA	**Simla**	**2.48**	**360**	*e*P		**Pn**	**17 58 59.5**	**+1.1**
SMLA				*e*P		**Pb**	**17 58 60.0**	**-2.9**
SMLA				*e*S		**Sn**	**17 59 29.3**	**+0.9**
SMLA				*e*S		**Sb**	**17 59 29.6**	**-3.6**
SMLA					IAML		17 59 37.5	
	comp=N,805nm,0.6s							
SMLA					IAML		17 59 40.2	
	comp=E,2μm,0.2s							
PTH	**Pithoragarh**	**2.82**	**70**	*e*P		**Pn**	**17 59 04.2**	**+1.0**
PTH				*ex*		**Sn**	**17 59 36.9**	**0.0**
BHK	**Bhakra**	**2.85**	**347**	*e*P		**Pn**	**17 59 02.0**	**-1.4**
BHK				*e*S		**Sn**	**17 59 34.8**	**-2.7**
SDNR	**Sundarnagar**	**2.86**	**357**	*e*P		**Pn**	**17 59 05.0**	**+1.4**
SDNR				*ex*		**Sb**	**17 59 44.6**	**+0.5**
JWA	**Jwalamukhi**	**3.30**	**348**	*e*P		**Pn**	**17 59 11.0**	**+1.4**
JWA				*ex*		**Sg**	**18 00 09.0**	**+4.3**
JHNI	**Jhansi**	**3.38**	**159**	*e*P		**Pn**	**17 59 14.0**	**+3.2**
JHNI				*e*S		**Sn**	**17 59 54.0**	**+3.3**
THN	**Thein Dam**	**3.99**	**342**	*e*P		**Pn**	**17 59 19.0**	**-0.1**
THN				*ex*		**Sb**	**18 00 18.4**	**+1.9**
PYUN	**Piuthan**	**5.16**	**95**	*e*Pn		**Pn**	**17 59 36.3**	**+1.0**
PYUN				*e*Sn		**Sn**	**18 00 33.8**	**-0.8**
BHPL	**Bhopal**	**5.38**	**178**	*e*P		**Pn**	**17 59 39.2**	**+1.0**
BHPL				*e*S		**Sn**	**18 00 36.0**	**-3.9**
KOLN	**Koldanda**	**5.74**	**97**	*e*Pn		**Pn**	**17 59 44.3**	**+0.9**
KOLN				*e*Sn		**Sn**	**18 00 47.7**	**-1.3**
	comp=E,55nm,0.3s							
JBP	**Jabalpur**	**6.00**	**154**	*e*P		**Pn**	**17 59 47.5**	**+0.7**
JBP				*e*S		**Sn**	**18 00 51.6**	**-3.7**
CHCP	**Chirah Chowk**	**6.02**	**327**	P		**Pn**	**17 59 47.6**	**+0.5**
THW	**Thamme Wali**	**6.25**	**313**	P		**Pn**	**17 59 50.5**	**+0.3**
GKN	**Gorkha**	**6.61**	**94**	*e*Pn		**Pn**	**17 59 55.4**	**+0.1**
GKN				*e*Sn		**Sn**	**18 01 07.0**	**-3.5**
	comp=E,85nm,0.2s							
CEP	**Cherat**	**6.86**	**320**	P		**Pn**	**17 59 59.4**	**+0.7**
DMN	**Daman**	**7.08**	**96**	*e*Pn		**Pn**	**18 00 01.8**	**-0.1**
DMN				*e*Sn		**Sn**	**18 01 19.1**	**-3.1**
	comp=E,48nm,0.4s							
KKN	**Kakani**	**7.20**	**95**	*e*Pn		**Pn**	**18 00 03.9**	**+0.4**
KKN				*e*Sn		**Sn**	**18 01 22.3**	**-2.9**
	comp=E,71nm,0.3s							
PKIN	**Phulchoki**	**7.34**	**96**	*e*Pn		**Pn**	**18 00 05.1**	**-0.3**
PKIN				*e*Sn		**Sn**	**18 01 25.3**	**-3.3**
	comp=E,48nm,0.3s							
PKI	**Pulchoki**	**7.35**	**96**	*e*Pn		**Pn**	**18 00 05.1**	**-0.5**
PKI				*e*Sn		**Sn**	**18 01 25.9**	**-3.1**
	comp=E,77nm,0.5s							
NGP	**Nagpur**	**7.64**	**167**	*e*P		**Pn**	**18 00 10.6**	**+1.2**
NGP				*e*S		**Sn**	**18 01 31.5**	**-4.2**
GUN	**Gumba**	**7.71**	**93**	*e*Pn		**Pn**	**18 00 11.2**	**+0.6**
GUN				*e*Sn		**Sn**	**18 01 34.2**	**-3.7**
	comp=E,52nm,0.2s							
JIRN	**Jiri**	**8.02**	**95**	*e*Pn		**Pn**	**18 00 15.1**	**+0.2**
JIRN				*e*Sn		**Sn**	**18 01 42.3**	**-3.2**
	comp=E,74nm,0.2s							
RAMN	**Ramite**	**8.52**	**99**	*e*Pn		**Pn**	**18 00 21.5**	**-0.1**
RAMN				*e*Sn		**Sn**	**18 01 54.1**	**-3.4**
	comp=E,121nm,0.4s							
KBL	**Kabul**	**9.09**	**312**	*e*Pn		**Pn**	**18 00 30.3**	**+0.9**
KBL				*e*Sn		**Sn**	**18 02 06.6**	**-4.9**
ODAN	**Odare**	**9.22**	**99**	*e*Pn		**Pn**	**18 00 30.9**	**-0.4**
ODAN				*e*Sn		**Sn**	**18 02 10.8**	**-4.1**
	comp=E,42nm,0.3s							
TAPN	**Taplejung**	**9.40**	**95**	*e*Pn		**Pn**	**18 00 33.4**	**-0.4**
TAPN				*e*Sn		**Sn**	**18 02 14.9**	**-4.5**
	comp=E,52nm,0.6s							
BOM	**Bombay**	**10.48**	**203**	*ex*		**Pn**	**18 00 50.4**	**+2.1**
BOM				*ex*		**Sn**	**18 02 46.8**	**+1.3**
KSH	**Kashi**	**10.90**	**355**	P		Pn	18 00 48.9	-5.2
KSH				S		Sn	18 02 39.2	-17
LSA	**Lhasa**	**12.26**	**82**	*e*Pn		**Pn**	**18 01 14.7**	**+1.6**
AAK	**Ala-Archa**	**14.14**	**352**	Pn		**Pn**	**18 01 35.8**	**-2.6**
	comp=E,0.8nm,0.3s,baz=173,slow=9.1,SNR=6.7							
KKAR	**Karatay Array**	**15.40**	**341**	*e*Pn		**Pn**	**18 01 51.2**	**-4.1**
	comp=E,44nm,0.3s							
KKAR				*e*Sn		Sn	18 04 30.9	-15
WMQ	**Urumqi**	**17.35**	**26**	P		**Pn**	**18 02 17.1**	**-3.0**
WMQ				pP		P	18 02 23.4	+2.0
WMQ				sP		sP	18 02 26.4	-1.5
WMQ				PP		**PnPn**	**18 02 34.1**	**+3.8**
WMQ				pmax		pmax		
	comp=E,11nm,0.7s							
WMQ				pmax		pmax		
	comp=E,48nm,6.5s							
MAKZ	**Makanchi**	**18.53**	**10**	*e*Pn		**P**	**18 02 32.2**	**-2.1**
	comp=E,2.2nm,0.6s							
MK01	**Makanchi Array**	**18.55**	**11**	*e*P		**P**	**18 02 34.3**	**-0.2**
MK31	**Makanchi Array**	**18.57**	**11**	*e*P		**P**	**18 02 34.8**	**0.0**
MKAR	**Makanchi Array**	**18.57**	**11**	*e*P		**P**	**18 02 34.8**	**0.0**
	comp=E,14nm,0.9s							
KURBB	**Kurchatov Arra**	**21.98**	**2**	P		**P**	**18 03 11.6**	**-0.2**
	comp=E,9.3nm,0.6s,baz=190,slow=10,SNR=108							
KURK	**Kurchatov**	**22.08**	**2**	*e*P		**P**	**18 03 12.8**	**0.0**
	comp=E,15nm,0.6s							
CHTO	**Chiang Mai**	**22.17**	**111**	*e*P		**P**	**18 03 15.1**	**+1.0**
	comp=E,13nm,1.6s							
CMAR	**Chiang Mai Arr**	**22.35**	**112**	P		**P**	**18 03 17.4**	**+1.4**
	comp=E,1.1nm,0.7s,baz=291,slow=10,SNR=3.2							
LZH	**Lanzhou**	**23.68**	**65**	*e*P		**P**	**18 03 31.5**	**+1.8**
LZH				pP		pP	18 03 34.6	+0.2
LZH				sP		sP	18 03 36.2	-0.2
LZH				*e*PP		**PnPn**	**18 04 02.0**	**+5.0**
LZH				pmax		pmax		
	comp=E,21nm,1.0s							
LZH				pmax		pmax		
	comp=E,49nm,4.2s							
LZH				LR		LR		
	comp=E,250nm,11.0s							
LZH				LR		LR		
	comp=E,280nm,11.5s							
LZH				LR		LR		
	comp=E,300nm,14.3s							
ABKAR	**Akbulak array**	**24.46**	**332**	*e*P		**P**	**18 03 35.8**	**-0.9**
BVAR	**Borovoye Array**	**24.88**	**350**	P		**P**	**18 03 41.2**	**+0.8**
	comp=E,0.8nm,0.4s,baz=172,slow=14,SNR=9.3							
BRVK	**Borovoye**	**24.93**	**350**	*e*P		**P**	**18 03 41.5**	**+0.6**
ZAA0	**Zalesovo Array**	**25.90**	**10**	*e*P		**P**	**18 03 50.0**	**+0.3**
ZALV	**Zalesovo Beam**	**25.90**	**10**	P		**P**	**18 03 50.1**	**+0.4**
	comp=E,1.2nm,0.3s,baz=204,slow=8.9,SNR=7.8							
AKTO	**Aktyubinsk**	**26.16**	**332**	LR		LR	18 14 05.9	
	comp=E,21nm,18.6s,baz=73,slow=36							
GNI	**Garni**	**28.97**	**302**	LR		LR	18 17 51.0	
	comp=E,50nm,21.5s,baz=267,slow=40							
SONM	**Songino Array**	**29.64**	**42**	P		**P**	**18 04 24.4**	**+1.0**
	comp=E,0.6nm,0.7s,baz=226,slow=9.0,SNR=3.6							
HHC	**Hu-ho-hao-te**	**30.58**	**57**	*e*P		**P**	**18 04 34.0**	**+2.2**
HHC				S		**S**	**18 09 32.3**	**-0.9**
HHC				pmax		pmax		
	comp=E,11nm,1.0s							
HHC				pmax		pmax		
	comp=E,62nm,5.3s							
HHC				LR		LR		
	comp=E,92nm,14.1s							
HHC				LR		LR		
	comp=E,97nm,13.9s							
CN2	**Changchun**	**41.20**	**55**	*e*P		**P**	**18 06 03.5**	**+1.0**
ARCES	**ARCESS Array B**	**50.35**	**339**	P		**P**	**18 07 14.9**	**+0.5**
	comp=E,0.7nm,0.6s,baz=116,slow=5.6,SNR=3.8							
GERES	**GERESS Array B**	**51.88**	**311**	P		**P**	**18 07 28.1**	**+1.7**
	comp=E,0.5nm,0.5s,baz=51,slow=13,SNR=4.5							
WRA	**Warramunga Arr**	**73.34**	**124**	P		**P**	**18 09 49.0**	**-0.9**
	comp=E,0.6nm,0.8s,baz=318,slow=6.2,SNR=3.6							
WRAB	**Tennant Creek**	**73.34**	**124**	*e*P		**P**	**18 09 53.0**	**+3.1**
ASAR	**Alice Springs**	**75.42**	**128**	P		**P**	**18 10 01.8**	**-0.1**
	comp=E,0.2nm,0.5s,baz=312,slow=6.0,SNR=3.8							

*NEIC **07** 17:58:15.2±3.2,2°.62N×125°.57E,h54km±31km, mb4.5/3, Error ellipse: s-maj=20.8km s-min=7.0km az=88.0*

*IDC **07** 17:58:16.6±3.2,2°.61N×125°.58E,h66km±29km, mb3.8/16, mb1 3.8/17,mb1mx3.7/46,mbtmp4.1/17,ML2.8/1,MS2.8/3, Ms1 2.9/3,ms1mx2.6/38,Error ellipse: s-maj=32.1km s-min=9.8km az=76.0*

*ISCJB **07** 17:58:19.4±0.4,2°.67N±0°.05×125°.84E±0°.07,h109km, mb4.2/19,Error ellipse: s-maj=10.1km s-min=7.2km az=10.0*

*DJA **07** 17:58:19.5±2.7,3°.N±10°×12°6E±°, h19km±23km, M4.6/5, mb4.7/3,MLv4.5/5*

ISC 07 17:58:21.3±0.5,2°.65N±0°.07×125°.8E±0°.1,h109km,n31, σ1s21/32,mb4.2/19,Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KMSI	**Cibinong**	**2.76**	**222**	P	**Pn**	**17 59 03.6**	**-0.5**
GTOI	**Gorontalo**	**3.44**	**234**	P	**Pn**	**17 59 13.1**	**-0.1**
MRSI	**Marisa**	**4.43**	**241**	P	**Pn**	**17 59 27.5**	**+1.0**
KAPI	**Kappang**	**9.73**	**218**	LR	LR	18 04 24.3	
	comp=Z,47nm,18.4s,baz=2.8,slow=38						
MTKI	**Muara Teweh, K**	**11.48**	**252**	P	**Pn**	**18 01 02.7**	**+0.7**
TGY	**Tagaytay City**	**12.35**	**337**	LR	LR	18 07 20.9	
	comp=Z,28nm,20.5s,baz=112,slow=44						
GENI	**Genyem**	**15.27**	**110**	P	**P**	**18 01 53.5**	**0.0**
JAY	**Jayapura**	**15.75**	**109**	P	**Pn**	**18 01 55.8**	**-1.4**
	0.0nm,0.3s,baz=268,slow=22,SNR=4.8						
FITZ	**Fitzroy Crossi**	**20.62**	**180**	P	**P**	**18 02 50.3**	**-1.8**
	1.7nm,0.9s,baz=18,slow=9.6,SNR=4.3						
WRAB	**Tennant Creek**	**23.96**	**160**	*e*P	**P**	**18 03 25.1**	**-0.6**
	2.9nm,0.3s						
WRA	**Warramunga Arr**	**23.97**	**160**	P	**P**	**18 03 25.3**	**-0.5**
	1.9nm,0.6s,baz=338,slow=10,SNR=50						
WRA				S	**S**	**18 07 38.4**	**+3.6**
	2.7nm,0.8s,baz=339,slow=18,SNR=9.4						
JOW	**Kunigami**	**24.16**	**5**	P	**P**	**18 03 27.9**	**+0.4**
	8.8nm,0.6s,baz=156,slow=10.0,SNR=3.4						
MBWA	**Marble Bar**	**24.40**	**194**	*e*P	**P**	**18 03 27.3**	**-2.4**
	24nm,0.9s						
ASAR	**Alice Springs**	**27.32**	**164**	P	**P**	**18 03 55.8**	**-0.4**
	0.8nm,0.8s,baz=331,slow=7.0,SNR=24						
ASAR				PcP	**PcP**	**18 07 14.2**	**+1.1**
	1.0nm,0.8s,baz=346,slow=2.3,SNR=9.9						
CMAR	**Chiang Mai Arr**	**30.65**	**303**	LR	LR	18 18 30.3	
	comp=Z,38nm,18.1s,baz=182,slow=40						
KSAR	**Wonju Array Be**	**34.67**	**3**	P	**P**	**18 05 00.2**	**-0.3**
KSAR				PcP	**PcP**	**18 07 33.9**	**+1.6**
KSRS	**Korea Array**	**34.69**	**3**	P	**P**	**18 05 00.2**	**-0.4**
	1.7nm,0.5s,baz=182,slow=10.0,SNR=19						
KSRS				PcP	**PcP**	**18 07 33.9**	**+1.6**
	0.8nm,0.7s,baz=172,slow=3.8,SNR=4.6						
MJAR	**Matsushiro Arr**	**35.61**	**17**	P	**P**	**18 05 07.5**	**-1.1**
	2.0nm,0.8s,baz=198,slow=9.2,SNR=6.0						
STKA	**Stephens Creek**	**37.47**	**158**	P	**P**	**18 05 24.6**	**+0.1**
	1.6nm,0.7s,baz=334,slow=8.4,SNR=5.5						
USRK	**Ussuriysk Ar.**	**41.73**	**7**	P	**P**	**18 05 59.8**	**+0.2**
	0.8nm,0.5s,baz=201,slow=8.0,SNR=4.2						
KLR	**Kul'dur**	**46.68**	**5**	P	**P**	**18 06 39.3**	**+0.3**
	1.8nm,0.5s,baz=200,slow=7.3,SNR=6.5						
SONM	**Songino Array**	**48.03**	**342**	P	**P**	**18 06 50.0**	**+0.4**
	0.9nm,0.9s,baz=150,slow=6.7,SNR=3.1						
PETK	**Petropavlovsk-**	**56.77**	**22**	P	**P**	**18 07 55.3**	**+1.4**
	4.9nm,0.8s,baz=157,slow=1.5,SNR=4.9						
KURBB	**Kurchatov Arra**	**62.15**	**328**	P	**P**	**18 08 29.9**	**-1.0**
	1.9nm,0.5s,baz=132,slow=6.8,SNR=35						
KURK	**Kurchatov**	**62.16**	**328**	*e*P	**P**	**18 08 29.6**	**-1.4**
	31nm,0.5s						
BVAR	**Borovoye Array**	**67.72**	**327**	P	**P**	**18 09 05.9**	**-1.2**
	0.5nm,0.4s,baz=90,slow=4.4,SNR=7.8						
BRVK	**Borovoye**	**67.80**	**327**	*e*P	**P**	**18 09 06.8**	**-0.7**
	1.9nm,0.4s						
NRIK	**Noril'sk**	**71.25**	**347**	P	**P**	**18 09 28.2**	**-0.1**
	5.8nm,0.6s,baz=132,slow=5.5,SNR=11						
VNDA	**Vanda**	**82.48**	**173**	P	**P**	**18 10 31.9**	**+0.7**
	1.4nm,0.8s,baz=323,slow=6.8,SNR=7.3						
FINES	**FINESS Array B**	**92.34**	**332**	P	**P**	**18 11 18.4**	**-0.9**
	2.2nm,0.6s,baz=33,slow=8.3,SNR=5.1						
TORD	**Torodi Ar. Bea**	**122.37**	**287**	PKP	**PKPdf**	**18 17 04.5**	**-0.3**
	0.5nm,0.7s,baz=32,slow=2.5,SNR=4.0						

*DDA **07** 18:07:14.0,38°.49N×28°.29E,h10km,Md2.6*

ISC 07 18:07:13.7±1.8,38°.5N±0°.2×28°.2E±0°.1,h9km,n4,σ0s19/4, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MANT	**Manisa**	**0.25**	**96**	*i* P	Pg	18 07 12.2	-6.6
MANT				*i* S	Sg	18 07 15.0	-7.2
KULA	**Kula-Manisa**	**0.33**	**91**	*e*PG	**Pg**	**18 07 20.4**	**+0.1**
KULA				*e*SG	**Sg**	**18 07 24.5**	**-0.1**
AYDB	**Zeytinkoy-Aydi**	**0.64**	**206**	*e*PG	**Pb**	**18 07 27.0**	**0.0**
TVSB	**Tavsanli**	**1.33**	**45**	*e*PN	**Pn**	**18 07 38.5**	**0.0**

IDC 07 18:17:57.8±25.0,17°.85S×177°.82W,h576km±238km, mb3.2/3,mb1 3.4/3,mb1mx2.8/29,mbtmp4.2/3,Error ellipse: s-maj=188.4km s-min=91.3km az=88.0,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**39.15**	**241**	P	P	18 24 37.0	0.0
	2.3nm,0.9s,baz=105,slow=16,SNR=2.7						
WRA	**Warramunga Arr**	**45.20**	**259**	P	P	18 25 24.2	-0.4
	1.4nm,0.4s,baz=95,slow=7.1,SNR=46						
ASAR	**Alice Springs**	**45.35**	**254**	P	P	18 25 25.6	-0.1
	2.6nm,0.5s,baz=90,slow=8.3,SNR=132						
ASAR				PcP	PcP	18 26 52.4	-0.6
	0.5nm,0.4s,baz=105,slow=3.9,SNR=8.7						
BRTR	**Keskin Array B**	**145.14**	**315**	PKPbc	PKPdf	18 36 31.0	+0.3
	0.6nm,0.7s,baz=66,slow=3.6,SNR=3.2						

*IDC **07** 18:19:57.7±2.1,54°.10N×164°.86W,h0km, mb3.5/2, mb1 3.8/3,mb1mx3.4/44,mbtmp3.5/3,ML3.7/1,MS2.8/1, Ms1 2.8/1,ms1mx2.3/32,Error ellipse: s-maj=44.0km s-min=29.1km az=167.0*

*NEIC **07** 18:20:00.7±0.0,53°.47N×165°.16W,h25km,ML3.4(AEIC), After AEIC.*

ISC 07 18:19:59.2±1.6,53°.54N±0°.08×165°.10W±0°.04, h14km±10km,n37,σ1s05/38,Fox Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AKSA	**Akutan Strait**	**0.69**	**330**	P	**Pn**	**18 20 14.4**	**-0.1**
AKSA				S	**Sn**	**18 20 24.7**	**-0.4**
AKUT	**Akutan**	**0.71**	**327**	P	**Pn**	**18 20 15.0**	**+0.2**
AKUT				S	**Sn**	**18 20 26.2**	**+0.6**
AKMO	**Akutan Morgan**	**0.77**	**316**	P	**Pn**	**18 20 15.6**	**-0.1**
AKMO				S	**Sn**	**18 20 27.0**	**-0.1**
AKV	**Akutan Volcano**	**0.78**	**319**	P	**Pn**	**18 20 15.8**	**0.0**
AKV				S	**Sn**	**18 20 27.9**	**+0.6**
AKLV	**Akutan Long Va**	**0.80**	**321**	P	**Pn**	**18 20 16.0**	**-0.1**
AKLV				S	**Sn**	**18 20 27.4**	**-0.4**
AKRB	**Akutan Reef Bi**	**0.82**	**316**	P	**Pn**	**18 20 16.6**	**+0.2**
AKRB				S	**Sn**	**18 20 29.3**	**+1.0**
AKGG	**Akutan Green G**	**0.84**	**322**	P	**Pn**	**18 20 17.0**	**+0.4**
AKGG				S	**Sn**	**18 20 29.4**	**+0.6**
UNV	**Unalaska Valle**	**0.89**	**291**	P	**Pb**	**18 20 16.5**	**+0.1**
UNV				S	**Sb**	**18 20 28.7**	**+0.7**
WESP	**Westdahl Peak**	**0.98**	**13**	P	**Pn**	**18 20 19.1**	**+0.5**
WESE	**West Dahl East**	**0.98**	**18**	P	**Pn**	**18 20 18.9**	**+0.3**
MNAT	**Makushin Natee**	**1.00**	**291**	P	**Pg**	**18 20 18.6**	**+0.1**
MREP	**Makushin Rep't**	**1.01**	**286**	P	**Pn**	**18 20 19.2**	**+0.1**
MTBL	**Makushin Table**	**1.03**	**295**	P	**Pn**	**18 20 19.3**	**0.0**
MSW	**Makushin Switc**	**1.07**	**291**	P	**Pb**	**18 20 19.4**	**0.0**
MSW				S	**Sg**	**18 20 34.0**	**+0.4**
WESN	**West Dahl Nort**	**1.07**	**16**	P	**Pn**	**18 20 20.8**	**+1.0**
MGOD	**Makushin Gods**	**1.08**	**284**	P	**Pb**	**18 20 19.3**	**-0.4**
MCIR	**Makushin Cirqu**	**1.14**	**292**	P	**Pg**	**18 20 21.1**	**0.0**
SSLW	**Shishaldin Wes**	**1.36**	**25**	P	**Pg**	**18 20 24.6**	**-0.7**
SSLN	**Shishaldin Nor**	**1.43**	**27**	P	**Pg**	**18 20 26.7**	**+0.1**
OKFG	**Magazine Ridge**	**1.68**	**267**	P	**Pn**	**18 20 28.2**	**0.0**
OKSO	**Okmok South**	**1.84**	**265**	P	**Pn**	**18 20 29.7**	**-0.7**
NIKH	**Nikolski High**	**2.32**	**257**	P	**Pn**	**18 20 36.2**	**-0.8**
CHGN	**Chignik**	**4.75**	**52**	P	**Pn**	**18 21 11.8**	**+1.6**
CHGN				S	**Pb**	**18 21 23.2**	**+1.2**
ANPB	**Aniakchak Plen**	**5.09**	**47**	P	**Pn**	**18 21 11.2**	**-3.8**
SVW2	**Sparrevohn**	**9.15**	**30**	P	**Pn**	**18 22 07.1**	**-3.5**
TTO1	**Tatalina**	**10.53**	**23**	P	**Pn**	**18 22 29.0**	**-0.4**
STLK	**Strandline Lak**	**10.68**	**36**	P	Pn	18 22 23.2	-8.4
SKT	**Skwentna**	**11.12**	**35**	P	Pn	18 22 29.5	-8.1
ILAR	**Eielson Array**	**14.55**	**32**	Pn	Pn	18 23 13.8	-11
	0.1nm,0.3s,baz=222,slow=13,SNR=5.3						
PETK	**Petropavlovsk-**	**22.06**	**284**	P	**P**	**18 24 53.5**	**+0.1**
	0.9nm,0.5s,baz=68,slow=14,SNR=4.1						
PETK				LR	LR	18 33 59.0	
	comp=Z,22nm,19.8s,baz=321,slow=38						
H11N2	**WAKE ISLAND Hy**	**40.03**	**223**	T	T	19 10 19.2	
	baz=25,slow=76,SNR=14						
H11N3	**WAKE ISLAND Hy**	**40.04**	**223**	T	T	19 10 20.2	
	baz=25,slow=76,SNR=18						
H11N1	**WAKE ISLAND Hy**	**40.05**	**223**	T	T	19 10 17.8	
	baz=25,slow=76,SNR=13						
H11S1	**WAKE ISLAND Hy**	**41.21**	**223**	T	T	19 11 45.1	
	baz=25,slow=76,SNR=45						
H11S2	**WAKE ISLAND Hy**	**41.23**	**223**	T	T	19 11 42.5	
	baz=25,slow=76,SNR=32						
H11S3	**WAKE ISLAND Hy**	**41.23**	**223**	T	T	19 11 46.5	
	baz=25,slow=76,SNR=11						
TXAR	**Lajitas Array**	**50.19**	**93**	P	**P**	**18 28 54.6**	**+0.2**
	0.4nm,0.6s,baz=305,slow=5.1,SNR=5.3						

*IDC **07** 19:04:34.8±1.9,52°.54N×172°.40W,h0km,mb3.4/3, mb1 3.7/4,mb1mx3.4/44,mbtmp3.3/4,ML3.5/1,Error ellipse: s-maj=84.5km s-min=33.8km az=149.0*

*ISCJB **07** 19:04:41.3±0.9,52°.0N±0°.1×171°.60W±0°.09,h44km, mb3.4/3,Error ellipse: s-maj=21.4km s-min=4.6km az=163.6*

*NEIC **07** 19:04:42.1±0.0,52°.07N×171°.56W,h49km,ML3.1(AEIC), After AEIC.*

ISC 07 19:04:42.7±1.0,52°.2N±0°.2×171°.70W±0°.07,h44km,n18, σ1s50/17,mb3.2/3,Fox Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KOFP	**Korovin Flat P**	**1.48**	**273**	P	**Pn**	**19 05 07.5**	**+0.6**
ATKA	**Atka Island**	**1.54**	**271**	P	**Pn**	**19 05 07.8**	**+0.2**
ATKA				S	**Sn**	**19 05 27.6**	**+1.2**
NIKH	**Nikolski High**	**1.89**	**65**	P	**Pn**	**19 05 11.7**	**-0.8**
NIKH				S	**Sn**	**19 05 34.5**	**-0.7**
OKSO	**Okmok South**	**2.43**	**60**	P	**Pn**	**19 05 20.1**	**+0.1**
OKSO				S	**Sn**	**19 05 50.1**	**+1.6**
OKFG	**Magazine Ridge**	**2.59**	**61**	P	**Pn**	**19 05 22.9**	**+0.8**
OKFG				S	**Sn**	**19 05 54.6**	**+2.3**
GSTD	**Great Sitkin T**	**2.75**	**268**	P	**Pn**	**19 05 25.1**	**+0.8**
MSW	**Makushin Switc**	**3.42**	**58**	P	**Pn**	**19 05 34.2**	**+0.7**
UNV	**Unalaska Valle**	**3.54**	**60**	P	**Pn**	**19 05 35.8**	**+0.8**
UNV				S	**Sn**	**19 06 16.8**	**+1.3**
ILAR	**Eielson Array**	**17.90**	**36**	P	**Pn**	**19 08 44.8**	**-3.3**
	0.1nm,0.3s,baz=231,slow=10,SNR=2.8						
H11N2	**WAKE ISLAND Hy**	**36.47**	**215**	T	T	19 50 12.3	
	baz=11						
H11N3	**WAKE ISLAND Hy**	**36.48**	**215**	T	T	19 50 11.9	
	baz=11,slow=74,SNR=2.2						
H11N1	**WAKE ISLAND Hy**	**36.49**	**215**	T	T	19 50 10.2	
	baz=11,slow=74,SNR=3.7						
H11S1	**WAKE ISLAND Hy**	**37.67**	**215**	T	T	19 51 45.3	
	baz=23,slow=74,SNR=4.1						
H11S2	**WAKE ISLAND Hy**	**37.68**	**215**	T	T	19 51 44.1	
	baz=23,slow=74,SNR=3.2						
H11S3	**WAKE ISLAND Hy**	**37.68**	**215**	T	T	19 51 46.3	
	baz=23						
PDAR	**Pinedale Array**	**41.83**	**77**	P	**P**	**19 12 29.0**	**+0.7**
	0.2nm,0.4s,baz=316,slow=6.3,SNR=2.8						
TXAR	**Lajitas Array**	**54.18**	**87**	P	**P**	**19 14 05.0**	**+1.3**
	0.1nm,0.4s,baz=294,slow=6.7,SNR=2.9						
ASAR	**Alice Springs**	**89.21**	**228**	P	**P**	**19 17 31.8**	**-1.9**
	0.5nm,0.8s,baz=24,slow=5.3,SNR=4.6						

IDC 07 19:06:48.6±26.0,16°.93S×172°.75W,h0km,mb4.1/4, mb1 4.2/4,mb1mx3.7/32,mbtmp4.1/4,Error ellipse: s-maj=499.1km s-min=53.0km az=65.0,Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
URZ	**Urewera**	**23.04**	**201**	P	P	19 11 55.3	-0.1
	3.1nm,0.5s,baz=33,slow=17,SNR=3.5						
STKA	**Stephens Creek**	**43.84

ISP	**Isparta**	**1.32**	**46**	*e*Pn	**Pg**	**19 16 39.1**	**0**	**0.0**
DATC	**Datca-Mugla**	**1.35**	**264**	*e*PN	**Pn**	**19 16 38.7**		**-0.4**
DATC	**Datca-Mugla**	**1.35**	**264**	*e*Pn	**Pn**	**19 16 38.7**		**-0.4**
DAT	**Datca**	**1.42**	**263**	*e*PN	**Pb**	**19 16 40.0**		**-0.7**
DAT	**Datca**	**1.42**	**263**	*i* P	**Pg**	**19 16 41.6**		**+0.6**
DAT				*i* S	**Sg**	**19 17 01.8**		**+2.4**
DAT	**Datca**	**1.42**	**263**	*e*Pn	**Pb**	**19 16 40.1**		**-0.7**
DAT	**Datca**	**1.42**	**263**	P	**Pg**	**19 16 41.6**		**+0.6**
DAT				S	**Sg**	**19 17 01.8**		**+2.4**
KHL	**Karahalli**	**1.42**	**6**	*e*PN	**Pb**	**19 16 40.3**		**-0.5**
KHL	**Karahalli**	**1.42**	**6**	*e*Pn	**Pb**	**19 16 40.3**		**-0.5**
SUTC	**Sutluce-Ispart**	**1.45**	**66**	*e*PN	**Pb**	**19 16 40.8**		**-0.5**
SUTC	**Sutluce-Ispart**	**1.45**	**66**	*e*Pn	**Pb**	**19 16 40.8**		**-0.5**
BDRM	**Kayabasi**	**1.52**	**276**	*i* S	**Sb**	**19 17 01.3**		**-0.6**
BDRM	**Kayabasi**	**1.52**	**276**	S	**Sb**	**19 17 01.3**		**-0.6**
AYDB	**Zeytinkoy-Aydi**	**1.54**	**313**	*e*PN	**Pn**	**19 16 41.7**		**-0.3**
AYDB	**Zeytinkoy-Aydi**	**1.54**	**313**	*e*Pn	**Pn**	**19 16 41.7**		**-0.3**
BODT	**Bodrum**	**1.62**	**276**	*e*PN	**Pn**	**19 16 42.5**		**-0.5**
BODT	**Bodrum**	**1.62**	**276**	*e*Pn	**Pn**	**19 16 42.5**		**-0.5**
KULA	**Kula-Manisa**	**1.69**	**342**	*e*PN	**Pn**	**19 16 43.6**		**-0.3**
KULA	**Kula-Manisa**	**1.69**	**342**	*e*Pn	**Pn**	**19 16 43.6**		**-0.3**
HDMB	**Hadim**	**2.53**	**88**	*e*PN	**Pn**	**19 16 57.0**		**+1.4**
HDMB	**Hadim**	**2.53**	**88**	*e*Pn	**Pn**	**19 16 57.0**		**+1.4**
TVSB	**Tavsanli**	**2.54**	**2**	*e*PN	**Pn**	**19 16 56.1**		**+0.5**
TVSB	**Tavsanli**	**2.54**	**2**	*e*Pn	**Pn**	**19 16 56.1**		**+0.5**
KONT	**Konya--Tatoy**	**2.62**	**66**	*e*PN	**Pn**	**19 16 57.8**		**+1.0**
KONT	**Konya--Tatoy**	**2.62**	**66**	*e*Pn	**Pn**	**19 16 57.8**		**+1.0**

IDC ***07*** *19:29:10.1±1.6,0.°81N×97.°31E, h0km, mb3.8/5, mb1 3.9/7, mb1mx3.7/34, mbtmp3.7/7, ML3.6/2, MS3.1/3, Ms1 3.1/3, ms1mx2.7/32, Error ellipse: s-maj=50.0km s-min=21.6km az=62.0*

DJA ***07*** *19:29:26.2±3.8, 1°N±4°×9°8E±°, h20km±39km, M3.6/6, MLv3.6/6*

ISC 07 19:29:15.9±1.1, 1.°06N±0.°07×97.°5E±0.°2, h27km, n24, σ1s36/12, mb3.9/5, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PBSI	**Pulau Batu**	**1.37**	**144**	P	Pb	19 29 47.3	+6.3
MNSI	**Mandailing Nat**	**2.13**	**97**	P	**Pn**	**19 29 50.0**	**+0.2**
TPTI		**2.21**	**353**	P	Pb	19 30 03.1	+7.9
PSI	**Prapat**	**2.26**	**40**	Pn	**Pn**	**19 29 52.0**	**+0.3**
	5.0nm,0.3s,baz=294,slow=2.7,SNR=4.2						
PSI				LR	LR	19 30 44.0	
	comp=Z,152nm,19.3s,baz=260,slow=38						
KCSI	**Kotacane, Aceh**	**2.47**	**7**	P	**Pn**	**19 29 55.7**	**+1.3**
TSI	**Tuntungan**	**2.66**	**24**	P	**Pb**	**19 30 04.0**	**+1.0**
SISI	**Saibi**	**2.87**	**146**	P	**Pb**	**19 30 08.6**	**+2.1**
PPI	**Padang Panjang**	**3.29**	**117**	P	**Pn**	**19 30 06.4**	**+0.6**
CMAR	**Chiang Mai Arr**	**17.35**	**5**	P	**Pn**	**19 33 16.2**	**-0.1**
	0.2nm,0.3s,baz=190,slow=11,SNR=6.3						
CMAR				LR	LR	19 40 50.0	
	comp=Z,31nm,19.4s,baz=188,slow=40						
H08S2	**Diego Garcia H**	**26.37**	**250**	T	T	20 01 50.7	
	baz=72,slow=76,SNR=399						
H08S3	**Diego Garcia H**	**26.37**	**250**	T	T	20 01 50.3	
	baz=72,slow=76,SNR=355						
H08S1	**Diego Garcia H**	**26.38**	**250**	T	T	20 01 51.3	
	baz=72,slow=76,SNR=379						
H08N1	**Diego Garcia H**	**27.41**	**254**	T	T	20 04 15.8	
	baz=60,slow=74,SNR=3.5						
H08N2	**Diego Garcia H**	**27.42**	**254**	T	T	20 04 15.8	
	baz=60,slow=74,SNR=4.6						
H08N3	**Diego Garcia H**	**27.43**	**254**	T	T	20 04 15.2	
	baz=60						
H01W3	**Cape Leeuwin H**	**39.02**	**158**	T	T	20 17 48.6	
	baz=334,slow=76,SNR=17						
H01W2	**Cape Leeuwin H**	**39.03**	**158**	T	T	20 17 48.6	
	baz=334,slow=76,SNR=20						
H01W1	**Cape Leeuwin H**	**39.03**	**158**	T	T	20 17 49.8	
	baz=334,slow=76,SNR=16						
WRA	**Warramunga Arr**	**41.73**	**122**	P	**P**	**19 37 00.9**	**-2.2**
	0.3nm,0.5s,baz=304,slow=9.3,SNR=5.1						
ASAR	**Alice Springs**	**43.10**	**127**	P	**P**	**19 37 12.4**	**-1.7**
	0.3nm,0.6s,baz=298,slow=7.9,SNR=7.0						
SONM	**Songino Array**	**47.23**	**8**	P	**P**	**19 37 47.1**	**+0.4**
	0.8nm,0.7s,baz=189,slow=10,SNR=6.6						
ZALV	**Zalesovo Beam**	**53.74**	**351**	P	**P**	**19 38 35.9**	**+0.2**
	1.8nm,0.4s,baz=183,slow=6.2,SNR=11						
FINES	**FINESS Array B**	**80.25**	**332**	P	**P**	**19 41 23.1**	**-0.9**
	2.0nm,0.9s,baz=113,slow=2.5,SNR=3.3						
SPITS	**Spitsbergen Ar**	**87.14**	**348**	LR	LR	20 27 56.2	
	comp=Z,38nm,18.2s,baz=30,slow=40						

IDC ***07*** *19:33:46.5±2.8, 37.°48N×143.°74E, h0km, mb3.5/3, mb1 3.6/5, mb1mx3.4/29, mbtmp3.6/5, ML3.3/2, MS2.9/3, Ms1 2.9/3, ms1mx2.4/36, Error ellipse: s-maj=58.6km s-min=31.2km az=74.0*

ISCJB ***07*** *19:33:48.6±1.1, 37.°81N±0.°05×143.°38E±0.°08, h33km, mb3.5/3, MS3.3/2, Error ellipse: s-maj=9.3km s-min=6.4km az=163.0*

JMA ***07*** *19:33:49.2±0.2, 37.°84N×143.°32E, h42km, M3.4*

ISC 07 19:33:49.9±1.5, 37.°76N±0.°05×143.°5E±0.°1, h35km, n20, σ2s31/27, mb3.5/3, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JIO	**Ouri**	**1.79**	**293**	P	**Pn**	**19 34 17.2**	**-1.2**
JIO				*e*S	**Sn**	**19 34 37.0**	**-2.9**
OFUJ	**Ofunato**	**1.92**	**314**	P	**Pn**	**19 34 18.3**	**-1.8**
OFUJ				S	**Sn**	**19 34 40.0**	**-3.0**
JFK	**Kawauchi**	**2.08**	**260**	P	**Pn**	**19 34 21.8**	**-0.6**
JFK				*e*S	**Sn**	**19 34 44.6**	**-2.5**
JMM	**Marumori**	**2.10**	**274**	P	**Pn**	**19 34 21.9**	**-0.7**
JMM				S	**Sn**	**19 34 45.1**	**-2.5**
JMK	**Ichinoseki**	**2.12**	**305**	P	**Pn**	**19 34 21.5**	**-1.3**
JMK				*e*S	**Sn**	**19 34 45.7**	**-2.1**
JOU	**Okura**	**2.28**	**286**	P	**Pn**	**19 34 24.4**	**-0.7**
JOU				*e*S	**Sn**	**19 34 50.3**	**-1.6**
JOM	**Ohasama**	**2.40**	**316**	P	**Pn**	**19 34 25.7**	**-1.0**
JOM				*e*S	**Sn**	**19 34 52.8**	**-2.1**
JFT	**Otama**	**2.48**	**265**	*e*S	**Sn**	**19 34 55.3**	**-1.6**
JYK	**Kaneyama**	**2.69**	**296**	P	**Pn**	**19 34 30.4**	**-0.3**
JRG	**Rokugo**	**2.74**	**307**	P	**Pn**	**19 34 30.8**	**-0.6**
JRG				*e*S	**Sn**	**19 35 00.9**	**-2.4**
JAG	**Ashikaga**	**3.46**	**249**	P	**Pn**	**19 34 41.8**	**+0.5**
BSO1	**Boso 1**	**3.69**	**214**	P	**Pn**	**19 34 43.3**	**-0.6**
JRY	**Ryogami san**	**4.04**	**246**	P	**Pn**	**19 34 49.4**	**+0.1**
MJAR	**Matsushiro Arr**	**4.36**	**255**	Pn	**Pn**	**19 34 56.2**	**+2.6**
	0.8nm,0.3s,baz=89,slow=15,SNR=6.5						
MJAR				Sn	**Sn**	**19 35 45.7**	**+2.4**
	0.5nm,0.3s,baz=93,slow=28,SNR=5.6						
JHJ	**Hachijo jima 2**	**5.51**	**214**	Pn	**Pn**	**19 35 07.7**	**-1.8**
	5.6nm,0.3s,baz=90,slow=20,SNR=6.9						
JHJ				Sn	**Sn**	**19 36 05.7**	**-6.0**
	2.2nm,0.3s,baz=73,slow=20,SNR=3.3						
JHJ				LR	LR	19 37 23.1	
	comp=Z,25nm,18.9s,baz=120,slow=40						
SONM	**Songino Array**	**28.74**	**302**	P	P	19 39 49.2	+5.1
	0.5nm,0.7s,baz=80,slow=7.9,SNR=3.0						
ZALV	**Zalesovo Beam**	**42.63**	**312**	P	**P**	**19 41 46.6**	**+4.0**
	0.4nm,0.4s,baz=83,slow=8.0,SNR=2.5						
WRA	**Warramunga Arr**	**58.03**	**190**	P	**P**	**19 43 39.8**	**+0.5**
	0.4nm,0.7s,baz=9.4,slow=7.2,SNR=4.3						
MLR	**Muntele Rosu**	**79.86**	**321**	LR	LR	20 25 46.3	
	comp=Z,8.0nm,18.2s,baz=312,slow=39						
VRAC	**Vranov**	**81.38**	**328**	LR	LR	20 25 14.7	
	comp=Z,19nm,19.8s,baz=314,slow=38						

NNC ***07*** *19:35:54.4±3.4, 44.°34N×77.°20E, h0km, mb2.6, mpv2.2, Error ellipse: s-maj=25.0km s-min=12.6km az=161.0*

SOME ***07*** *19:35:56.9, 42.°07N×77.°62E, h15km*

KRNET 07 19:35:56.2±0.1, 42.°07N×77.°63E, h24km, mb1.9, 19C-16D, Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KDJ	**Kajisay**	**0.34**	**280**	⇓*i*P	Pb	19 36 03.7	-0.2
	baz=280						
KDJ				⇓*i*S	Sb	19 36 08.5	-0.7
	baz=280						
PRZ	**Przheval'sk**	**0.70**	**54**	⇑*i*P	Pb	19 36 09.5	-0.5
	baz=55						
PRZ				⇑*i*S	Sb	19 36 19.4	+0.1
	baz=55						
ANVS	**Anan'yevo**	**0.71**	**2**	⇑*i*P	Pb	19 36 10.4	+0.3
	baz=2.0						
ANVS				⇑*i*S	Sb	19 36 20.0	+0.5
	baz=2.0						
ULHL	**Ulahol**	**1.05**	**280**	⇓*i*P	Pb	19 36 15.9	+0.1
	baz=279						
ULHL				⇓*i*S	Sn	19 36 30.0	+0.4
	baz=279						
TNSS	**Tian-Shan**	**1.09**	**333**	*e*P	Pn	19 36 16.5	+0.1
	8.2nm,0.1s						
TNSS				*e*S	Sb	19 36 30.5	-0.1
	11nm,0.3s						
SATY	**Saty**	**1.14**	**30**	⇑*i*P	Pb	19 36 17.9	+0.6
	2.9nm,0.1s						
SATY				⇑*i*S	Sb	19 36 32.5	+0.7
	47nm,0.1s						
MDOK	**Medeo**	**1.17**	**339**	P	Pb	19 36 18.0	+0.2
MDOK				S	Sb	19 36 33.6	+0.9
MDOK	**Medeo**	**1.17**	**339**	*e*P	Pb	19 36 18.4	+0.5
	5.7nm,0.2s						
MDOK				*e*S	Sb	19 36 33.9	+1.2
	11nm,0.3s						
IZV	**Izvestkoviy**	**1.22**	**322**	*e*P	Pb	19 36 18.6	-0.2
	7.9nm,0.1s						
IZV				*e*S	Sb	19 36 34.4	+0.2
	8.0nm,0.1s						
KOTS	**Kotyrbulak**	**1.22**	**342**	*e*P	Pb	19 36 18.7	-0.1
	12nm,0.1s						
KOTS				*e*S	Sb	19 36 34.3	+0.1
	9.1nm,0.2s						
AAA	**Alma-Ata**	**1.25**	**335**	*e*P	Pb	19 36 20.4	+1.2
	88nm,0.2s						
AAA				*e*S	Sb	19 36 37.3	+2.4
	59nm,0.2s						
BOOM	**Boomskoye usch**	**1.32**	**289**	⇑*i*P	Pb	19 36 20.6	+0.2
	baz=289						
BOOM				⇑*i*S	Sb	19 36 38.9	+1.9
	baz=289						
NRN	**Naryn**	**1.38**	**243**	⇓*i*P	Pb	19 36 22.1	+0.6
	baz=243						
NRN				⇓*i*S	Sb	19 36 41.0	+2.2
	baz=243						
MTBS	**Maitube**	**1.38**	**320**	*e*P	Pb	19 36 22.0	+0.6
	4.9nm,0.1s						
MTBS				⇓*i*S	Sb	19 36 39.7	+1.1
	8.0nm,0.2s						
KURS	**Kuram**	**1.47**	**16**	*e*P	Pb	19 36 22.5	-0.4
	1.1nm,0.3s						
KURS				*e*S	Sb	19 36 40.9	-0.3
	5.3nm,0.3s						
UZB	**Uzynbulak**	**1.48**	**43**	*e*P	Pb	19 36 23.6	+0.3
	1.5nm,0.1s						
UZB				*e*S	Sb	19 36 43.0	+1.3
	10.0nm,0.1s						
KST	**Kastek**	**1.57**	**309**	*e*P	Pb	19 36 25.7	+1.1
	2.2nm,0.1s						
KST				⇑*i*S	Sb	19 36 46.6	+2.6
	11nm,0.6s						
KPKS	**Kokpek**	**1.59**	**29**	*e*P	Pb	19 36 26.0	+1.0
	7.9nm,0.1s						
KPKS				*e*S	Sb	19 36 46.5	+1.7
	38nm,0.2s						
TKM2	**Tokmak 2**	**1.73**	**300**	⇓*i*P	Pb	19 36 27.7	+0.3
	baz=300						
TKM2				⇓*e*S	Sb	19 36 50.0	+1.3
	baz=300						
TKM2	**Tokmak 2**	**1.73**	**300**	⇓P	Pb	19 36 27.4	+0.1
	0.9nm,0.3s						
TKM2				⇑S	Sb	19 36 51.4	+2.7
	10nm,0.4s						
SHLS	**Shalkode**	**1.73**	**51**	*e*P	Pb	19 36 33.2	+5.8
	1.2nm,0.1s						
SHLS				*e*S	Sb	19 36 58.9	+10
	9.1nm,0.2s						
KZA	**Kyzart**	**1.77**	**271**	⇑*e*P	Pb	19 36 28.2	-0.1
	baz=271						
KZA				⇑*i*S	Sb	19 36 50.9	+0.7
	baz=271						
KTBS	**Karatobe**	**1.78**	**337**	*e*P	Pb	19 36 28.0	-0.2
	2.1nm,0.2s						
KTBS				*e*S	Sb	19 36 50.0	0.0
	1.8nm,0.2s						
DGS	**Degeres**	**1.80**	**311**	*e*P	Pb	19 36 28.8	+0.2
	2.1nm,0.2s						
DGS				*e*S	Sb	19 36 51.6	+0.9
	3.8nm,0.2s						
CHKK	**Chushkaly**	**1.84**	**345**	*e*P	Pb	19 36 29.7	+0.5
	4.9nm,0.3s						
CHKK				*e*S	Sb	19 36 52.9	+1.1
	32nm,0.1s						
PDGK	**Podgornoye**	**1.86**	**47**	⇑*i*P	Pb	19 36 29.3	-0.3
	baz=47						
PDGK				⇑*i*S	Sb	19 36 53.1	+0.7
	baz=47						
PDGK	**Podgornoye**	**1.86**	**47**	⇓P	Pb	19 36 29.7	+0.2
	0.4nm,0.2s						
PDGK				⇑S	Sb	19 36 54.1	+1.7
	8.2nm,0.6s						
KUU	**Kurty**	**2.05**	**333**	*e*P	Pb	19 36 33.6	+0.9
	4.7nm,0.2s						
KUU				*e*S	Sb	19 37 00.6	+2.7
	3.0nm,0.2s						
KBK	**Karagaybulak**	**2.07**	**287**	⇑*e*P	Pb	19 36 32.4	-0.8
	baz=287						
KBK				⇑*i*S	Sb	19 36 59.3	+0.7
	baz=287						
MNBS	**Baschi**	**2.08**	**15**	*e*P	Pb	19 36 32.3	-1.1
	3.8nm,0.3s						
MNBS				*e*S	Sb	19 36 57.8	-1.1
	51nm,0.3s						
ARXS	**Arharly**	**2.14**	**4**	*e*P	Pb	19 36 34.5	+0.1
	1.8nm,0.1s						
ARXS				*e*S	Sb	19 37 01.5	+0.9
	13nm,0.1s						
CHMS	**Chumysh**	**2.32**	**294**	⇓*e*P	Pb	19 36 36.2	-1.2
	baz=294						
CHMS				⇓*i*S	Sb	19 37 05.5	-0.1
	baz=294						
AAK	**Ala-Archa**	**2.39**	**285**	⇑*e*P	Pb	19 36 37.0	-1.7
	baz=285						
AAK				⇑*i*S	Sb	19 37 07.3	-0.5
	baz=285						
KTMS	**Ketmen**	**2.43**	**55**	*e*P	Pb	19 36 39.4	+0.1
	1.0nm,0.2s						
KTMS				*e*S	Sb	19 37 10.0	+1.1
	6.2nm,0.2s						
DJR	**Jarkent**	**2.75**	**34**	*e*P	Pb	19 36 45.6	+0.8
	1.5nm,0.5s						
DJR				⇓*i*S	Sb	19 37 20.4	+2.2
	6.5nm,0.3s						
EKS2	**Erkin-Say**	**2.92**	**283**	⇓*e*P	Pn	19 36 43.7	+2.5
	baz=283						
EKS2				⇓*i*S	Sb	19 37 19.4	-3.4
	baz=283						
MRKS	**Merke**	**3.33**	**283**	*e*P	Pb	19 36 56.1	+1.5
	0.7nm,0.1s						
MRKS				*e*S	Sb	19 37 38.8	+4.1
	2.0nm,0.3s						
KAPS	**Kapalarasan**	**3.45**	**21**	*e*P	Pb	19 36 58.1	+1.5
	0.6nm,0.4s						
KAPS				*e*S	Sb	19 37 42.3	+4.3
	1.4nm,0.3s						

IDC ***07*** *19:36:16.1±2.9, 37.°30N×142.°58E, h0km, mb3.3/2, mb1 3.5/4, mb1mx3.3/27, mbtmp3.5/4, ML3.3/2, Error ellipse: s-maj=48.2km s-min=35.6km az=52.0*

JMA ***07*** *19:36:17.2±0.2, 37.°16N×142.°27E, h0km, M3.7*

ISCJB ***07*** *19:36:18.0±1.7, 37.°17N±0.°05×142.°36E±0.°07, h12km±14km, mb3.1/2, Error ellipse: s-maj=10.0km s-min=8.0km az=13.0*

ISC 07 19:36:17.6±2.6, 37.°16N±0.°05×142.°22E±0.°07, h6km±15km, n22, σ1s32/27, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JFK	**Kawauchi**	**1.09**	**281**	P	**Pn**	**19 36 39.3**	**-0.2**
JFK				*e*S	**Sn**	**19 36 55.0**	**0.0**
ONAJ	**Iwakimizuishiy**	**1.14**	**267**	P	**Pn**	**19 36 39.8**	**-0.4**
ONAJ				*e*S	**Sn**	**19 36 57.2**	**+1.1**
JMM	**Marumori**	**1.33**	**302**	P	**Pn**	**19 36 42.7**	**-0.3**
JMM				S	**Sg**	**19 37 01.9**	**+1.4**
JIO	**Ouri**	**1.46**	**332**	P	**Pn**	**19 36 44.3**	**-0.2**
JIO				*e*S	**Sg**	**19 37 04.4**	**-0.2**
JFT	**Otama**	**1.54**	**284**	P	**Pb**	**19 36 46.8**	**+0.2**
JFT				*e*S	**Sg**	**19 37 08.6**	**+1.4**
JOU	**Okura**	**1.72**	**315**	P	**Pb**	**19 36 49.1**	**-0.6**
JOU				*e*S	**Sb**	**19 37 12.5**	**+1.0**
JMK	**Ichinoseki**	**1.95**	**336**	P	**Pb**	**19 36 53.2**	**-0.4**
JMK				*e*S	**Sb**	**19 37 17.3**	**-0.9**
JYS	**Shirataka**	**2.01**	**302**	P	**Pb**	**19 36 53.8**	**-0.8**
JYS				*e*S	**Sb**	**19 37 18.9**	**-0.9**
JFY	**Yanaizu**	**2.02**	**278**	P	**Pb**	**19 36 54.2**	**-0.6**
JOM	**Ohasama**	**2.42**	**343**	P	**Pb**	**19 37 00.0**	**-1.5**
JRG	**Rokugo**	**2.55**	**331**	P	**Pb**	**19 37 02.2**	**-1.7**
MJAR	**Matsushiro Arr**	**3.28**	**260**	Pn	**Pb**	**19 37 13.3**	**-2.8**
	2.2nm,0.3s,baz=89,slow=15,SNR=12						
MJAR				Sn	**Sb**	**19 37 55.8**	**-0.6**
	1.5nm,0.3s,baz=130,slow=28,SNR=4.0						
MAT	**Matsushiro**	**3.28**	**260**	P			
MAT				S	**Sb**	**19 37 55.6**	**-0.8**
JHJ	**Hachijo jima 2**	**4.50**	**207**	Pn	**Pn**	**19 37 28.4**	**+2.1**
	4.3nm,0.3s,baz=72,slow=20,SNR=4.7						
JHJ				Sn	**Sn**	**19 38 17.1**	**-1.9**
	5.7nm,0.3s,baz=53,slow=20,SNR=3.0						
H11N2	**WAKE ISLAND Hy**	**27.67**	**122**	T	T	20 11 04.2	
	baz=314,slow=75,SNR=6.9						
H11N1	**WAKE ISLAND Hy**	**27.67**	**122**	T	T	20 11 03.6	
	baz=314,slow=75,SNR=5.1						
H11N3	**WAKE ISLAND Hy**	**27.68**	**122**	T	T	20 11 05.9	
	baz=314,slow=75,SNR=4.6						
SONM	**Songino Array**	**28.25**	**304**	P	**P**	**19 42 12.2**	**+0.7**
	0.2nm,0.4s,baz=101,slow=7.5,SNR=2.9						
H11S1	**WAKE ISLAND Hy**	**28.39**	**124**	T	T	20 12 00.7	
	baz=316,slow=75,SNR=5.8						
H11S3	**WAKE ISLAND Hy**	**28.40**	**124**	T	T	20 12 02.4	
	baz=316,slow=75,SNR=4.0						
H11S2	**WAKE ISLAND Hy**	**28.41**	**124**	T	T	20 12 01.3	
	baz=316,slow=75,SNR=4.2						
WRA	**Warramunga Arr**	**57.28**	**189**	P	**P**	**19 46 06.9**	**+0.7**
	0.1nm,0.5s,baz=6.3,slow=7.1,SNR=3.3						

ISC 07 20:01:39.7±0.9, 49.°82N±0.°05×18.°44E±0.°02, h0km, n11, σ1s02/21, 3D, Czech and Slovak Republics

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
OKC	**Ostrava-Krasne**	**0.19**	**277**	⇓*i*PG	**Pg**	**20 01 44.7**	**+1.4**
OKC				*e*SG	**Sg**	**20 01 47.8**	**+2.0**
	comp=Z,66nm,0.5s						
LANS	**Liptovska Anna**	**0.95**	**134**	*e*PG	**Pg**	**20 01 57.7**	**-0.1**
LANS				*e*SG	**Sb**	**20 02 11.6**	**-0.5**
OJC	**Ojcow**	**0.97**	**65**	*e*Pg	**Pg**	**20 01 57.3**	**-1.0**
OJC				*e*Sg	**Sg**	**20 02 10.4**	**-0.4**
KRLC	**Kraliky**	**1.10**	**284**	*e*PG	**Pg**	**20 02 00.1**	**-0.7**
KRLC				*e*SG	**Sb**	**20 02 15.9**	**-0.7**
NIE	**Niedzica**	**1.27**	**107**	*e*Pg	**Pg**	**20 02 04.2**	**+0.1**
NIE				*e*Sg	**Sb**	**20 02 22.0**	**+0.5**
VYHS	**Vyhne**	**1.35**	**169**	*e*PG	**Pg**	**20 02 04.9**	**-0.7**
VYHS				*e*SN	**Sg**	**20 02 23.1**	**+0.1**
VYHS				*e*LG	Lg	20 02 25.9	
DPC	**Dobruska-Polom**	**1.46**	**292**	*e*PG	**Pn**	**20 02 07.2**	**-0.3**
DPC				*e*SG	**Sn**	**20 02 27.7**	**+0.4**
	comp=Z,3.2nm,0.3s						
UPC	**Upice**	**1.71**	**295**	⇓*e*PG	**Pn**	**20 02 11.1**	**+0.4**
UPC				*e*SG	**Sg**	**20 02 35.1**	**+0.6**
STHS	**Stebnicka Huta**	**1.87**	**101**	*e*PG	**Pg**	**20 02 15.7**	**+0.2**
STHS				*e*SN	**Sg**	**20 02 41.4**	**+1.7**
PRU	**Pruhonice**	**2.52**	**275**	⇓*e*SG	**Sg**	**20 02 59.5**	**-1.3**
KHC	**Kasperske Hory**	**3.24**	**260**	*e*PG	**Pg**	**20 02 40.0**	**-1.8**
KHC				*e*SG	**Sg**	**20 03 25.0**	**+1.2**

ISCJB ***07*** *20:16:50.3±0.4, 4.°99S±0.°04×129.°43E±0.°09, h182km, mb3.6/6, Error ellipse: s-maj=12.4km s-min=5.3km az=171.6*

IDC ***07*** *20:16:54.9±2.1, 4.°95S×129.°64E, h210km±25km, mb3.4/6, mb1 3.5/10, mb1mx3.3/37, mbtmp4.0/10, MS2.9/1, Ms1 2.9/1, ms1mx2.4/14, Error ellipse: s-maj=41.2km s-min=12.4km az=76.0*

ISC 07 20:16:51.4±0.7, 5.°14S±0.°06×129.°5E±0.°1, h182km, n24, σ1s74/27, mb3.7/6, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SIJI	**Sorong**	**4.59**	**23**	P	**Pn**	**20 18 01.7**	**+1.5**
	7.0nm,0.3s,baz=270,slow=23,SNR=15						
SIJI				S	**Sn**	**20 18 50.5**	**-3.7**
	17nm,0.3s,baz=270,slow=24,SNR=24						
KAPI	**Kappang**	**9.71**	**270**	LR	LR	20 23 47.0	
	comp=Z,58nm,18.3s,baz=13,slow=42						
FITZ	**Fitzroy Crossi**	**13.42**	**196**	P	**P**	**20 19 58.4**	**+0.4**
	0.5nm,0.3s,baz=15,slow=10,SNR=29						
FITZ				S	**Sn**	**20 22 21.9**	**-2.4**
	0.2nm,0.3s,baz=328,slow=19,SNR=3.0						
WRA	**Warramunga Arr**	**15.45**	**163**	P	**P**	**20 20 22.0**	**+1.6**
	0.4nm,0.3s,baz=342,slow=12,SNR=16						
WRA				S	**S**	**20 23 07.9**	**-4.7**
	1.2nm,0.3s,baz=334,slow=22,SNR=9.8						
ASAR	**Alice Springs**	**18.90**	**167**	P	**Pn**	**20 21 02.3**	**+1.3**
	0.9nm,0.3s,baz=350,slow=11,SNR=30						
ASAR				S	**S**	**20 24 23.4**	**-0.2**
	0.3nm,0.3s,baz=348,slow=20,SNR=17						
STKA	**Stephens Creek**	**28.91**	**158**	P	**P**	**20 22 35.6**	**+2.2**
	1.1nm,0.8s,baz=330,slow=8.1,SNR=2.7						
CMAR	**Chiang Mai Arr**	**38.18**	**309**	P	**P**	**20 23 54.8**	**+1.2**
	1.7nm,0.7s,baz=133,slow=7.3,SNR=14

JSB				S	**Sb**	**20 48 51.5**	**+1.1**
JYT	**Yasato**	**0.61**	**204**	⇑P	**Pg**	**20 48 43.4**	**0.0**
JYT				*e*S	**Sg**	**20 48 51.8**	**+0.4**
JFK	**Kawauchi**	**0.65**	**27**	⇑P	**Pg**	**20 48 44.0**	**-0.2**
JFK				S	**Sg**	**20 48 52.8**	**+0.1**
JFT	**Otama**	**0.74**	**350**	⇓P	**Pb**	**20 48 46.8**	**-0.1**
JFT				S	**Sb**	**20 48 57.6**	**+0.3**
JFY	**Yanaizu**	**0.89**	**314**	P	**Pn**	**20 48 49.9**	**-0.7**
JFY				S	**Sb**	**20 49 02.0**	**+0.5**
JAG	**Ashikaga**	**0.92**	**247**	⇑P	**Pg**	**20 48 49.4**	**+0.1**
JAG				S	**Sb**	**20 49 02.6**	**+0.3**
MJAR	**Matsushiro Arr**	**1.86**	**263**	P	**Pb**	**20 49 05.4**	**-0.6**
	44nm,0.3s,baz=80,slow=12,SNR=153						
MJAR				S	**Sb**	**20 49 28.9**	**-0.6**
	83nm,0.3s,baz=87,slow=28,SNR=22						
MJAR				LR	LR	20 50 06.4	
	comp=Z,156nm,21.1s,baz=100,slow=49						
MAT	**Matsushiro**	**1.86**	**263**	P	**Pb**	**20 49 05.2**	**-0.8**
MAT				S	**Sg**	**20 49 31.2**	**-0.4**
JHJ	**Hachijo jima 2**	**3.71**	**189**	P	**Pn**	**20 49 31.6**	**+2.4**
	8.9nm,0.3s,baz=77,slow=19,SNR=4.5						
JHJ				S	**Sn**	**20 50 13.2**	**+0.1**
	9.1nm,0.3s,baz=72,slow=20,SNR=3.6						
JHJ				LR	LR	20 50 56.1	
	comp=Z,71nm,20.1s,baz=75,slow=38						
USRK	**Ussuriysk Ar.**	**9.84**	**321**	P	Pn	20 50 58.5	+5.1
	0.2nm,0.3s,baz=125,slow=12,SNR=5.9						
KSRS	**Korea Array**	**10.07**	**278**	LR	LR	20 54 36.6	
	comp=Z,36nm,18.3s,baz=106,slow=36						
KLR	**Kul'dur**	**13.98**	**336**	P	**Pn**	**20 51 51.9**	**+2.0**
	0.1nm,0.3s,baz=169,slow=18,SNR=2.0						
YAK	**Yakutsk**	**26.16**	**348**	LR	LR	21 05 16.3	
	comp=Z,24nm,18.0s,baz=286,slow=38						
SONM	**Songino Array**	**27.32**	**305**	P	**P**	**20 54 17.0**	**-0.1**
	1.6nm,0.8s,baz=109,slow=9.1,SNR=11						
H11N2	**WAKE ISLAND Hy 28.65**	**119**		T	T	21 24 13.6	
	baz=312,slow=75,SNR=91						
H11N1	**WAKE ISLAND Hy 28.66**	**119**		T	T	21 24 13.9	
	baz=312,slow=75,SNR=116						
H11N3	**WAKE ISLAND Hy 28.67**	**119**		T	T	21 24 14.7	
	baz=312,slow=75,SNR=80						
H11S1	**WAKE ISLAND Hy 29.34**	**121**		T	T	21 25 03.5	
	baz=314,slow=76,SNR=346						
H11S3	**WAKE ISLAND Hy 29.34**	**121**		T	T	21 25 02.3	
	baz=314,slow=76,SNR=208						
H11S2	**WAKE ISLAND Hy 29.36**	**121**		T	T	21 25 02.8	
	baz=314,slow=76,SNR=146						
CMAR	**Chiang Mai Arr**	**40.73**	**255**	LR	LR	21 12 50.3	
	comp=Z,15nm,20.4s,baz=205,slow=36						
ZALV	**Zalesovo Beam**	**41.55**	**313**	P	**P**	**20 56 19.2**	**-0.2**
	2.2nm,0.6s,baz=98,slow=7.0,SNR=10						
ILAR	**Eielson Array**	**50.09**	**32**	P	**P**	**20 57 26.8**	**-0.1**
	0.6nm,0.9s,baz=282,slow=4.5,SNR=5.2						
INK	**Inuvik**	**54.94**	**27**	P	**P**	**20 58 02.6**	**0.0**
	3.2nm,0.7s,baz=225,slow=14,SNR=4.2						
WRA	**Warramunga Arr**	**56.72**	**187**	P	**P**	**20 58 14.8**	**-1.1**
	0.6nm,0.5s,baz=1.5,slow=7.4,SNR=6.9						
ASAR	**Alice Springs**	**60.45**	**187**	P	**P**	**20 58 41.2**	**-0.6**
	1.1nm,0.9s,baz=357,slow=5.9,SNR=7.0						
STKA	**Stephens Creek**	**68.31**	**179**	P	**P**	**20 59 33.1**	**-0.1**
	2.6nm,1.0s,baz=337,slow=15,SNR=2.5						
FINES	**FINESS Array B**	**68.69**	**332**	P	**P**	**20 59 34.8**	**-0.6**
	5.3nm,0.9s,baz=19,slow=13,SNR=4.0						
AKASG	**Malin Array Be**	**74.05**	**322**	P	**P**	**21 00 07.2**	**-0.7**
	0.6nm,0.4s,baz=47,slow=5.6,SNR=3.8						
PDAR	**Pinedale Array**	**78.36**	**45**	P	**P**	**21 00 32.9**	**-0.1**
	0.6nm,0.7s,baz=270,slow=1.5,SNR=6.2						
GERES	**GERESS Array B**	**82.54**	**328**	P	**P**	**21 00 54.6**	**-0.4**
	0.5nm,0.5s,baz=38,slow=6.8,SNR=4.7						
TXAR	**Lajitas Array**	**85.85**	**52**	P	**P**	**21 01 36.4**	**+0.3**
	0.5nm,0.6s,baz=282,slow=2.5,SNR=7.7						
LPAZ	**La Paz**	**147.44**	**59**	PKPbc	**PKPbc**	**21 08 17.5**	**+0.1**
	1.2nm,0.8s,baz=239,slow=5.9,SNR=3.4						

*ISK **07** 21:18:39.9, 38.47N×28.28E, h5km, MD2.6*
*ISCJB **07** 21:18:40.2±0.6, 38.48N±0.03×28.28E±0.05, h9km, Error ellipse: s-maj=5.6km s-min=4.5km az=42.8*
*CSEM **07** 21:18:40.5±0.1, 38.48N×28.28E, h8km, MD2.3, Error ellipse: s-maj=3.4km s-min=2.8km az=131.0*
*DDA **07** 21:18:40.3, 38.49N×28.31E, h7km, Md2.3*
ISC 07 21:18:40.2±1.1, 38.48N±0.03×28.31E±0.03, h9km, n19, σ1§38/27, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
MANT	**Manisa**	**0.19**	**86**	*i*	P	Pg		21 18 37.9	-6.5
MANT				*i*	S	**Sg**		**21 18 41.1**	**-6.1**
KULA	**Kula-Manisa**	**0.28**	**82**	*e*	P	**Pg**		**21 18 47.0**	**+1.2**
KULA				*e*	SG	**Sg**		**21 18 50.8**	**+1.3**
KULA	**Kula-Manisa**	**0.28**	**82**	*e*	Pg	**Pg**		**21 18 47.0**	**+1.2**
KULA				*e*	Sg	**Sg**		**21 18 50.8**	**+1.3**
AKHS	**Akhisar**	**0.56**	**316**	*i*	P	**Pg**		**21 18 51.2**	**+0.1**
AKHS				*i*	S	**Sg**		**21 18 59.0**	**+0.6**
AKHS	**Akhisar**	**0.56**	**316**	P		**Pg**		**21 18 51.2**	**+0.1**
AKHS				S		**Sg**		**21 18 59.0**	**+0.6**
AKS	**Akhisar**	**0.56**	**316**	*e*	PG	**Pg**		**21 18 50.8**	**-0.3**
AKS	**Akhisar**	**0.56**	**316**	*e*	Pg	**Pg**		**21 18 50.8**	**-0.3**
AYDB	**Zeytinkoy-Aydi**	**0.63**	**212**	*e*	PG	**Pg**		**21 18 52.9**	**+0.6**
AYDB				*e*	SG	**Sg**		**21 19 00.2**	**-0.4**
AYDB	**Zeytinkoy-Aydi**	**0.63**	**212**	*e*	Pg	**Pg**		**21 18 52.9**	**+0.6**
AYDB				*e*	Sg	**Sg**		**21 19 00.2**	**-0.4**
DEMI	**Demirci**	**0.65**	**29**	*i*	P	**Pg**		**21 18 53.0**	**+0.2**
DEMI				*i*	S	**Sg**		**21 19 01.1**	**-0.2**
DEMI	**Demirci**	**0.65**	**29**	P		**Pg**		**21 18 53.0**	**+0.2**
DEMI				S		**Sg**		**21 19 01.1**	**-0.2**
SIMA	**Simav-Kutahya**	**0.80**	**41**	*e*	PG	**Pg**		**21 18 55.9**	**+0.3**
SIMA	**Simav-Kutahya**	**0.80**	**41**	*e*	Pg	**Pg**		**21 18 55.9**	**+0.3**
BALB	**Balikesir**	**1.21**	**344**	*e*	PN	**Pg**		**21 19 03.8**	**+0.4**
BALB	**Balikesir**	**1.21**	**344**	*e*	Pn	**Pg**		**21 19 03.8**	**+0.4**
MLSB	**Milas**	**1.25**	**200**	*e*	Pn	**Pn**		**21 19 03.8**	**-0.2**
MLSB	**Milas**	**1.25**	**200**	*e*	Pn	**Pn**		**21 19 03.8**	**-0.2**
TVSB	**Tavsanli**	**1.32**	**42**	*e*	Pn	**Pg**		**21 19 06.1**	**+0.5**
TVSB	**Tavsanli**	**1.32**	**42**	*e*	Pn	**Pg**		**21 19 06.1**	**+0.5**

IDC 07 21:23:33.0±2.1, 6.64S×103.52E, h0km, mb3.8/8, mb1 3.9/8, mb1mx3.6/42, mbtmp3.8/8, Error ellipse: s-maj=85.3km s-min=18.5km az=55.0, Southwest of Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**25.34**	**350**	P		P	P	21 29 02.0	+0.2
	0.3nm,0.3s,baz=184,slow=8.8,SNR=2.7								
H08S2	**Diego Garcia H**	**30.80**	**266**	T		T	T	22 01 53.4	
	baz=88								
H08S3	**Diego Garcia H**	**30.80**	**266**	T		T	T	22 01 53.4	
	baz=88								
H08S1	**Diego Carcia H**	**30.82**	**266**	T		T	T	22 01 53.4	
	baz=88								
WRA	**Warramunga Arr**	**32.70**	**117**	P		P	P	21 30 06.7	-0.8
	0.5nm,0.6s,baz=291,slow=12,SNR=4.5								
ASAR	**Alice Springs**	**33.74**	**123**	P		P	P	21 30 16.9	+0.3
	0.9nm,0.9s,baz=301,slow=8.0,SNR=5.1								
STKA	**Stephens Creek**	**43.48**	**130**	P		P	P	21 31 37.9	-0.3
	1.5nm,0.8s,baz=297,slow=8.8,SNR=3.3								
SONM	**Songino Array**	**54.30**	**2**	P		P	P	21 33 01.7	+0.5
	0.9nm,0.7s,baz=180,slow=9.7,SNR=7.8								
USRK	**Ussuriysk Ar.**	**56.75**	**24**	P		P	P	21 33 17.6	-1.1
	1.0nm,0.6s,baz=207,slow=5.3,SNR=4.9								
ZALV	**Zalesovo Beam**	**62.38**	**348**	P		P	P	21 33 57.9	+0.5
	0.5nm,0.4s,baz=162,slow=5.5,SNR=3.8								
BVAR	**Borovoye Array**	**65.73**	**339**	P		P	P	21 34 18.2	-1.3
	0.6nm,0.5s,baz=129,slow=7.1,SNR=3.2								
TXAR	**Lajitas Array**	**145.85**	**45**	PKPbc		PKPab	PKPab	21 43 16.1	+0.6
	0.2nm,0.7s,baz=253,slow=0.9,SNR=3.1								

*NIED **07** 21:35:00, 40.10N×142.50E, h44km, Mw3.7 Best double couple: M0 3.41000×10^14 NP1:φ=227.00000°, δ=26.00000°, λ=132.00000°. NP2:φ=2.00000°, δ=71.00000°, λ=72.00000°.*
JMA 07 21:35:39.8±0.1, 40.10N×142.48E, h34km±1km, M3.8, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
JTH	**Tanohata**	**0.50**	**251**	P		Pb		21 35 50.4	0.0
JTH				*e*S		Sn		21 35 58.0	0.0
MIYJ	**Miyakonagasawa**	**0.73**	**224**	P		Pn		21 35 53.4	-0.3
MIYJ				S		Sn		21 36 02.9	-0.7
JANG	**Nango**	**0.79**	**291**	P		Pn		21 35 54.3	-0.2
JANG				S		Sn		21 36 04.3	-0.8
JKZ	**Kuzumaki**	**0.89**	**263**	P		Pn		21 35 56.3	+0.4
JKZ				S		Sn		21 36 07.8	+0.1
JOM	**Ohasama**	**1.11**	**236**	P		Pn		21 35 59.6	+0.7
JOM				*e*S		Sb		21 36 14.5	-0.2
OFUJ	**Ofunato**	**1.20**	**212**	P		Pn		21 36 00.6	+0.5
JTM	**Tenmabayashi**	**1.28**	**303**	P		Pn		21 36 01.9	+0.7
JTM				S		Sn		21 36 17.8	+0.6
JAH	**Hinai**	**1.42**	**274**	P		Pn		21 36 04.3	+1.2
JAH				S		Sb		21 36 22.2	-1.2
JMK	**Ichinoseki**	**1.50**	**221**	P		Pn		21 36 05.5	+1.2
JMK				*e*S		Sb		21 36 24.7	-1.2
MAT	**Matsushiro**	**4.89**	**225**	P		Pn		21 36 53.9	+3.0
MAT				S		Sn		21 37 48.6	+2.3

SJA 07 21:39:23.5±0.7, 31.36S×68.65W, h107km±4km, ML3.0, MW3.5, San Juan Province

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
RTLL	**Cerro Villicun**	**0.16**	**78**	*i*	P	P	Pn	21 39 39.6	+1.1
RTLL					IAML			21 39 39.7	
	comp=Z,572nm,0.2s								
RTLL				*i*	S	Sn		21 39 50.8	+1.1
SJA	**San Juan**	**0.18**	**154**	*i*	P	P	Pn	21 39 39.2	+0.7
SJA					IAML			21 39 39.4	
	comp=Z,430nm,0.2s								
SJA				*i*	S	Sn		21 39 50.2	+0.4
AMOG	**MOGNA**	**0.44**	**18**	*i*	P	Pn		21 39 40.7	+0.9
RTCV	**Cerro Valdivia**	**0.51**	**169**	*i*	P	Pn		21 39 40.7	+0.6
ACCO	**Cerro Coronel**	**0.85**	**335**	*i*	P	Pn		21 39 44.5	+1.1
ACCO				*i*	S	Sn		21 40 00.1	+1.9
ACCO					IAML			21 40 00.3	
	comp=Z,182nm,0.4s								
AUSP	**Uspallata**	**1.06**	**216**	*i*	P	Pn		21 39 46.4	+1.0
AVFE	**Valle Fertil**	**1.24**	**56**	*i*	P	Pn		21 39 48.1	+0.8
AVFE				*i*	S	Sn		21 40 06.2	+1.1
AVFE					IAML			21 40 07.0	
	comp=Z,157nm,0.3s								
ARCO	**CERRO ARCO**	**1.50**	**189**	*i*	P	Pn		21 39 51.3	+1.1
ARCO				*i*	S	Sn		21 40 11.8	+1.3
ARCO					IAML			21 40 14.2	
	comp=Z,132nm,0.3s								

*NIED **07** 21:41:00, 36.70N×143.60E, h5km, Mw3.8 Best double couple: M0 5.83000×10^14 NP1:φ=76.00000°, δ=28.00000°, λ=-96.00000°. NP2:φ=263.00000°, δ=62.00000°, λ=-87.00000°.*
*IDC **07** 21:41:50.9±0.8, 36.55N×144.08E, h0km, mb3.7/12, mb1 3.9/16, mb1mx3.8/44, mbtmp3.7/16, ML3.7/3, MS3.0/5, Ms1 3.0/5, ms1mx2.6/41, Error ellipse: s-maj=19.4km s-min=19.3km az=33.0*
*ISCJB **07** 21:41:54.5±0.6, 36.66N±0.06×143.65E±0.05, h33km, mb3.7/13, MS3.7/2, Error ellipse: s-maj=8.1km s-min=6.0km az=5.8*
*JMA **07** 21:41:55.4±0.3, 36.69N×143.62E, h61km, M3.7*
ISC 07 21:41:56.3±0.7, 36.62N±0.06×143.72E±0.07, h35km, n29, σ2§15/34, mb3.8/13, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
ONAJ	**Iwakimizuishiy**	**2.39**	**282**	P		P	**Pn**	**21 42 32.1**	**-0.9**
ONAJ				S		S	**Sn**	**21 42 58.8**	**-2.3**
JHO	**Hitachi**	**2.53**	**271**	P		P	**Sn**	**21 42 34.1**	**-0.8**
JFT	**Otama**	**2.85**	**289**	S		S	**Sn**	**21 43 10.9**	**-1.5**
BSO1	**Boso 1**	**2.97**	**229**	P		P	**Pn**	**21 42 39.9**	**-0.6**
BSO1				X				21 43 16.7	
JMK	**Ichinoseki**	**3.05**	**320**	P		P	**Pn**	**21 42 40.5**	**-1.6**
JOM	**Ohasama**	**3.43**	**327**	P		P	**Pn**	**21 42 45.7**	**-1.6**
JOM				S		S	**Sn**	**21 43 21.8**	**-4.9**
JAG	**Ashikaga**	**3.44**	**268**	P		P	**Pn**	**21 42 47.1**	**-0.3**
JAG				*e*S		S	**Sn**	**21 43 24.3**	**-2.7**
JYK	**Kaneyama**	**3.51**	**312**	P		P	**Pn**	**21 42 47.2**	**-1.2**
JYK				*e*S		S	**Sn**	**21 43 26.3**	**-2.4**
JRY	**Ryogami san**	**3.94**	**263**	P		P	**Pn**	**21 42 53.7**	**-0.6**
MJAR	**Matsushiro Arr**	**4.43**	**271**	Pn		Pn	**Pn**	**21 43 01.6**	**+0.5**
	4.9nm,0.3s,baz=97,slow=11,SNR=24								
MJAR				LR		LR		21 45 16.4	
	comp=Z,38nm,19.0s,baz=95,slow=44								
MAT	**Matsushiro**	**4.44**	**271**	P		P	**Pn**	**21 43 01.7**	**+0.6**
MAT				S		S	**Sn**	**21 43 49.1**	**-2.5**
JHJ	**Hachijo jima 2**	**4.76**	**224**	Pn		Pn	**Pn**	**21 43 04.6**	**-1.0**
	12nm,0.3s,baz=66,slow=20,SNR=7.3								
JHJ				Sn		Sn	**Sn**	**21 43 55.2**	**-4.4**
	34nm,0.3s,baz=90,slow=20,SNR=6.9								
USRK	**Ussuriysk Ar.**	**11.71**	**314**	Pn		Pn	**Pn**	**21 44 41.2**	**+0.5**
	0.1nm,0.3s,baz=128,slow=14,SNR=6.5								
KSRS	**Korea Array**	**12.65**	**278**	Pn		Pn	**Pn**	**21 44 56.5**	**+2.8**
	0.2nm,0.3s,baz=88,slow=15,SNR=3.3								
KSRS				LR		LR	LR	21 49 16.1	
	comp=Z,22nm,19.0s,baz=22,slow=34								
KLR	**Kul'dur**	**15.32**	**329**	Pn		Pn	**Pn**	**21 45 26.5**	**-3.3**
	0.1nm,0.3s,baz=137,slow=13,SNR=4.2								
KLR				LR		LR	LR	21 52 56.5	
	comp=Z,48nm,18.0s,baz=132,slow=43								
SONM	**Songino Array**	**29.55**	**304**	P		P	**P**	**21 48 01.5**	**+3.9**
	0.7nm,0.7s,baz=109,slow=7.7,SNR=5.8								
ZALV	**Zalesovo Beam**	**43.55**	**313**	P		P	**P**	**21 49 60.0**	**+3.5**
	0.2nm,0.3s,baz=94,slow=7.5,SNR=2.7								
KURBB	**Kurchatov Arra**	**47.71**	**309**	P		P	**P**	**21 50 30.4**	**+1.0**
	0.6nm,0.5s,baz=83,slow=7.9,SNR=3.7								
ILAR	**Eielson Array**	**48.85**	**32**	P		P	**P**	**21 50 36.2**	**-1.8**
	0.7nm,0.7s,baz=258,slow=6.5,SNR=6.6								
BVAR	**Borovoye Array**	**52.21**	**313**	P		P	**P**	**21 51 06.5**	**+3.0**
	0.2nm,0.5s,baz=62,slow=7.2,SNR=2.5								
WRA	**Warramunga Arr**	**56.95**	**191**	P		P	**P**	**21 51 38.2**	**0.0**
	0.5nm,0.5s,baz=12,slow=7.4,SNR=5.6								
ASAR	**Alice Springs**	**60.68**	**190**	P		P	**P**	**21 52 04.1**	**+0.1**
	0.4nm,0.8s,baz=7.4,slow=7.9,SNR=3.3								
GEYT	**Alibeck**	**65.65**	**300**	P		P	**P**	**21 52 37.8**	**+0.8**
	1.3nm,0.6s,baz=35,slow=5.4,SNR=3.7								
NEW	**Newport**	**69.12**	**45**	LR		LR	LR	22 22 04.7	
	comp=Z,41nm,19.9s,baz=2.5,slow=35								
KBZ	**Khabaz**	**72.56**	**312**	P		P	**P**	**21 53 19.7**	**-0.1**
	1.1nm,0.8s,baz=343,slow=3.8,SNR=3.7								
NOA	**NORSAR Array B**	**75.27**	**338**	P		P	**P**	**21 53 36.4**	**+1.0**
	0.4nm,0.5s,baz=57,slow=7.3,SNR=2.6								
PDAR	**Pinedale Array**	**76.62**	**46**	P		P	**P**	**21 53 42.5**	**-1.2**
	0.2nm,0.5s,baz=252,slow=3.0,SNR=3.8								
TXAR	**Lajitas Array**	**88.89**	**54**	P		P	**P**	**21 54 46.6**	**-0.7**
	0.5nm,0.7s,baz=314,slow=2.2,SNR=7.7								
TKL	**Tuckaleechee C**	**95.62**	**37**	P		P	**P**	**21 55 18.4**	**+0.2**
	2.4nm,0.9s,baz=307,slow=15								
TKL				LR		LR	LR	22 39 51.0	
	comp=Z,25nm,21.6s,baz=347,slow=36								

*IDC **07** 21:47:33.8±1.2, 15.32N×122.59E, h0km, mb3.5/5, mb1 3.7/5, mb1mx3.4/45, mbtmp3.5/5, MS3.1/4, Ms1 3.1/4, ms1mx2.7/27, Error ellipse: s-maj=28.3km s-min=19.9km az=71.0*
*ISCJB **07** 21:47:37.8±1.0, 15.37N±0.05×122.56E±0.09, h42km±11km, mb3.5/5, MS3.2/3, Error ellipse: s-maj=15.2km s-min=7.0km az=165.5*
*MAN **07** 21:47:37, 15.42N×122.38E, h5km, mb4.8, ML3.7, MS3.7*
ISC 07 21:47:38.2±1.7, 15.36N±0.05×122.51E±0.06, h29km±14km, n23, σ1§19/20, mb3.4/5, MS3.4/3, 3C-1D, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PCPH	**Palayan**	**1.38**	**279**	⇑*e*	P	**Pn**		**21 47 59.6**	**-1.8**
PCPH				*e*	S	**Sn**		**21 48 18.8**	**+0.1**
GQP	**Guinayangan**	**1.45**	**182**	⇓*e*	P	**Pn**		**21 48 01.3**	**-1.2**
GQP				*i*	S	**Sn**		**21 48 19.5**	**-1.1**
LQP	**Lukban**	**1.56**	**217**	⇑*e*	P	**Pb**		**21 48 05.5**	**-1.0**
CAUP	**Cauayan**	**1.71**	**337**	*e*	P	**Pn**		**21 48 06.5**	**+0.4**
CAUP				*e*	S	**Sn**		**21 48 26.7**	**-0.2**
TGY	**Tagaytay City**	**1.97**	**231**	Pn		**Pn**		**21 48 10.2**	**+0.5**
	241nm,0.3s,baz=5.9,slow=4.9,SNR=16								
TGY				Sn		**Sn**		**21 48 34.9**	**+1.4**
	238nm,0.3s,baz=354,slow=19,SNR=3.7								
TGY	**Tagaytay City**	**1.97**	**231**	⇑*i*	P	**Pn**		**21 48 10.8**	**+1.1**
TGY				*i*	S	**Sb**		**21 48 37.1**	**-0.5**
BOAC	**Boac**	**2.00**	**199**	*e*	P	**Pn**		**21 48 11.1**	**+1.0**
AUQP	**San Andres**	**2.03**	**175**	*e*	P	**Pb**		**21 48 16.9**	**+2.4**
PVCP	**Virac**	**2.37**	**138**	*e*	P	**Pb**		**21 48 19.8**	**-0.5**
SCZP	**Santa Cruz**	**2.54**	**280**	*e*	P	Pb		21 48 29.2	+6.2
BOLP	**Bolinao**	**2.70**	**292**	*e*	P	**Pn**		**21 48 20.4**	**+0.8**
JOW	**Kunigami**	**12.62**	**24**	LR		LR		21 55 06.8	
	comp=Z,28nm,21.1s,baz=219,slow=36								
CMAR	**Chiang Mai Arr**	**22.75**	**281**	P		P	**P**	**21 52 37.4**	**-0.9**
	0.7nm,0.6s,baz=93,slow=7.7,SNR=2.9								
JHJ	**Hachijo jima 2**	**23.62**	**38**	LR		LR		22 00 15.5	
	comp=Z,29nm,21.3s,baz=302,slow=32								
SONM	**Songino Array**	**35.02**	**341**	P		P	**P**	**21 54 28.9**	**+0.6**
	0.7nm,0.9s,baz=161,slow=8.1,SNR=4.0								
WRA	**Warramunga Arr**	**36.96**	**161**	P		P	**P**	**21 54 43.7**	**-1.4**
	0.5nm,0.8s,baz=344,slow=9.1,SNR=3.0								
ASAR	**Alice Springs**	**40.36**	**164**	P		P	**P**	**21 55 13.4**	**-0.2**
	0.3nm,0.5s,baz=340,slow=7.4,SNR=3.8								
H11S3	**WAKE ISLAND Hy 42.30**	**79**		T		T	T	22 41 03.2	
	baz=274,slow=74,SNR=4.0								
H11S1	**WAKE ISLAND Hy 42.32**	**79**		T		T	T	22 41 02.7	
	baz=274,slow=74,SNR=3.5								
H11S2	**WAKE ISLAND Hy 42.32**	**79**		T		T	T	22 41 02.7	
	baz=274,slow=74,SNR=2.5								
ZALV	**Zalesovo Beam**	**48.43**	**331**	P		P	**P**	**21 56 18.6**	**+0.8**
	2.3nm,0.8s,baz=116,slow=6.8,SNR=8.2								
GEYT	**Alibeck**	**60.60**	**305**	LR		LR	LR	22 27 12.4	
	comp=Z,28nm,18.8s,baz=5.0,slow=39								
NOA	**NORSAR Array B**	**86.59**	**333**	LR		LR	LR	22 43 14.8	
	comp=Z,21nm,18.1s,baz=10.0,slow=39								

*ISCJB **07** 21:51:46.2±0.5, 58.48N±0.03×133.48W±0.06, h10km, Error ellipse: s-maj=5.5km s-min=3.7km az=37.2*
*NEIC **07** 21:51:48.0±0.0, 58.37N×133.49W, h1km, ML3.0(AEIC), ML3.4(OTT), After OTT.*
*PGC **07** 21:51:48.7±15.0, 58.37N×133.49W, h1km, ML3.4/5, 55km east of Juneau, Ak Southeastern Alaska*
ISC 07 21:51:47.0±0.8, 58.41N±0.04×133.44W±0.03, h10km, n16, σ1§70/27, Southeastern Alaska

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
JIS	**Juneau Island**	**0.51**	**255**	P		P	**Pg**	**21 51 56.6**	**-0.3**
JIS				S		S	**Sg**	**21 52 03.1**	**-0.5**
BESE	**Bessie Mountai**	**0.76**	**284**	P		P	**Pg**	**21 52 01.6**	**0.0**
SKAG	**Skagway**	**1.44**	**318**	P		P	**Pb**	**21 52 14.0**	**+0.2**
DLBC	**Dease Lake**	**1.80**	**88**	P		P	**Pb**	**21 52 19.6**	**-0.4**
DLBC				Pg		Pg	**Pg**	**21 52 21.3**	**-0.1**
DLBC				Sn		Sn	**Sg**	**21 52 44.6**	**-0.1**
DLBC				Sg		Sb	**Sb**	**21 52 46.4**	**+3.8**
DLBC	**Dease Lake**	**1.80**	**88**	P		P	**Pg**	**21 52 20.9**	**-0.5**
DLBC				S		Sg	**Sg**	**21 52 46.2**	**+1.5**
PLBC	**Pleasant Camp**	**1.84**	**306**	Pg		Pg	**Pb**	**21 52 21.6**	**-0.7**
PLBC				Sg		Sg	**Sg**	**21 52 46.4**	**+0.2**
WRAK	**Wrangell Islan**	**2.08**	**163**	P		P	**Pn**	**21 52 21.9**	**+0.1**
WRAK				S		Sb	**Sb**	**21 52 49.9**	**-0.8**
WHY	**Whitehorse**	**2.37**	**343**	P		Pn	**Pn**	**21 52 28.1**	**-1.7**
WHY				Sg		Sg	**Sg**	**21 53 02.1**	**-1.1**
WHY	**Whitehorse**	**2.37**	**343**	P		P	**Pb**	**21 52 28.1**	**-1.7**
CRAG	**Craig**	**2.95**	**176**	P		P	**Pn**	**21 52 33.9**	**+0.1**
HYT	**Haines Junctio**	**3.18**	**321**	Pn		Pn	**Pn**	**21 52 39.8**	**+2.7**
HYT				Sg		Sg	**Sg**	**21 53 28.3**	**-0.8**
PNL	**Peninsula**	**3.33**	**295**	P		P	**Pn**	**21 52 40.3**	**+1.2**
YUK6	**Outpost Mounta**	**3.56**	**318**	Pg		Pg	**Pb**	**21 52 52.2**	**+2.1**
YUK6				Sg		Sg	**Sg**	**21 53 39.9**	**-1.3**
YUK1	**Sand Pete Hill**	**5.15**	**320**	Pn		Pn	**Pn**	**21 53 06.0**	**+1.9**
YUK1				Sg		Sg	**Sg**	**21 54 28.6**	**-3.5**
FNBB	**Fort Nelson**	**5.47**	**81**	Sg		Sg	**Sg**	**21 54 40.0**	**-2.4**
DAWY	**Dawson**	**6.36**	**336**	Sg	

CHTO				Sg	**Sg**	**22 31 43.5**	**-0.2**
LAMP	**Lampang**	**4.15**	**193**	Pg	**Pg**	**22 30 51.2**	**-1.3**
LAMP				Pn	**Pn**	**22 30 38.1**	**+1.7**
LAMP				Sg	**Sg**	**22 31 45.3**	**-1.0**
UTTA	**Uttaradit**	**4.82**	**181**	Sg	**Sg**	**22 32 06.7**	**-1.1**
SUKH	**Sukhothai**	**5.16**	**190**	Sg	**Sg**	**22 32 18.4**	**-0.5**
PBKT	**Sadao Pong**	**6.00**	**177**	Sg	**Sg**	**22 32 42.0**	**-3.6**
UMPA	**Umpang Tak**	**6.56**	**195**	Sg	**Sg**	**22 32 58.4**	**-5.3**
CHAI	**Chaiyaphum**	**6.78**	**169**	Sg	**Sb**	**22 32 56.0**	**+4.0**
WMQ	**Urumqi**	**23.72**	**336**	*eP*	**P**	**22 34 44.7**	**-0.5**

IDC 07 22:34:01.1±25.0, 4°.40N×126°.65E, h0km, mb4.0/4, mb1 4.2/4, mb1mx3.7/40, mbtmp4.0/4, Error ellipse: s-maj=421.9km s-min=98.7km az=150.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**22.38**	**183**	P	P	22 39 00.8	-0.3
	2.6nm,0.6s,baz=8.5,slow=12,SNR=6.0						
WRA	**Warramunga Arr**	**25.34**	**163**	P	P	22 39 30.1	+0.2
	4.7nm,0.8s,baz=343,slow=10,SNR=16						
ASAR	**Alice Springs**	**28.77**	**166**	P	P	22 40 00.5	-0.3
	0.5nm,0.5s,baz=346,slow=6.9,SNR=5.5						
STKA	**Stephens Creek**	**38.77**	**159**	P	P	22 41 27.6	+0.1
	4.0nm,0.9s,baz=336,slow=10,SNR=5.0						

*ISCJB **07** 22:40:19.3±0.9, 16°.45N±0°.05×98°.85W±0°.03, h8km±7km, mb4.0/5, Error ellipse: s-maj=9.0km s-min=4.9km az=7.6*
*NEIC **07** 22:40:21.9±0.0, 16°.36N×98°.86W, h12km, mb4.0/5, MD4.1(MEX), After MEX.*
*MEX **07** 22:40:21.9±0.4, 16°.36N×98°.86W, h12km±6km, MD4.1*
ISC 07 22:40:20.2±1.3, 16°.35N±0°.06×98°.87W±0°.03, h13km±10km, n35, σ2.942/46, mb3.9/5, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.71**	**86**	*i* P	**Pg**	**22 40 33.6**	**-0.4**
PNIG				*e*S	**Sg**	**22 40 42.7**	**-0.8**
PNIG	**Pinotepa**	**0.71**	**86**	*i* P	**Pg**	**22 40 33.6**	**-0.4**
PNIG				*e*S	**Sg**	**22 40 42.7**	**-0.8**
ACX	**Acapulco**	**1.08**	**299**	*e*P	Pb	22 40 36.3	-4.4
ACX				*e*Pn	Pn	22 40 50.3	+9.3
ACX	**Acapulco**	**1.08**	**299**	*e*P	Pb	22 40 36.3	-4.4
ACX				*e*S	**Sb**	**22 40 50.3**	**-4.4**
ACP2	**Acapulco**	**1.11**	**298**	*e*P	**Pb**	**22 40 40.0**	**-1.1**
ACP2				*e*S	**Sb**	**22 40 53.3**	**-2.2**
TLIG	**Tlapa**	**1.24**	**13**	*e*Pg	**Pn**	**22 40 41.1**	**-2.2**
TLIG				*e*Pn	**Pn**	**22 40 41.3**	**-2.0**
TLIG				*e*Sn	**Sb**	**22 40 56.9**	**-2.6**
TLIG	**Tlapa**	**1.24**	**13**	*e*P	**Pn**	**22 40 41.3**	**-2.0**
TLIG				*e*S	**Sb**	**22 40 56.0**	**-3.5**
CAIG	**El Cayaco**	**1.51**	**298**	*e*P	**Pn**	**22 40 45.2**	**-1.7**
CAIG	**El Cayaco**	**1.51**	**298**	*e*P	**Pn**	**22 40 45.2**	**-1.7**
MEIG	**Mezcala**	**1.72**	**336**	*e*P	**Pn**	**22 40 48.2**	**-1.8**
MEIG				*i* S	**Sn**	**22 41 09.5**	**-2.3**
MEIG	**Mezcala**	**1.72**	**336**	*e*P	**Pn**	**22 40 48.2**	**-1.8**
MEIG				*i* S	**Sn**	**22 41 09.5**	**-2.3**
PLIG	**Platanillo**	**2.12**	**344**	*e*Pn	**Pn**	**22 40 54.3**	**-1.1**
PLIG				*e*Sn	**Sn**	**22 41 19.1**	**-2.5**
PLIG	**Platanillo**	**2.12**	**344**	*e*P	**Pn**	**22 40 54.3**	**-1.1**
PLIG				*i* S	**Sn**	**22 41 19.1**	**-2.5**
VHO	**Vista Hermosa**	**2.17**	**70**	*e*Pn	**Pn**	**22 40 54.9**	**-1.3**
VHO				*e*Sn	**Sn**	**22 41 20.6**	**-2.3**
VHO	**Vista Hermosa**	**2.17**	**70**	*e*P	**Pn**	**22 40 54.9**	**-1.3**
VHO				*i* S	**Sn**	**22 41 20.6**	**-2.3**
ARIG	**Puente Sto Nin**	**2.38**	**324**	*e*P	**Pn**	**22 40 58.3**	**-0.7**
ARIG				*i* S	**Sn**	**22 41 25.6**	**-2.4**
TPIG	**Tehuac#an**	**2.51**	**35**	*e*P	**Pn**	**22 40 59.4**	**-1.4**
TPIG				*e*S	**Sn**	**22 41 29.2**	**-2.2**
TPIG	**Tehuac#an**	**2.51**	**35**	*e*P	**Pn**	**22 40 59.4**	**-1.4**
TPIG				*e*S	**Sn**	**22 41 29.2**	**-2.2**
HUIG	**Huatulco**	**2.72**	**102**	*e*P	**Pn**	**22 41 02.7**	**-0.8**
HUIG				*i* S	**Sn**	**22 41 33.5**	**-2.7**
HUIG	**Huatulco**	**2.72**	**102**	*e*P	**Pn**	**22 41 02.7**	**-0.8**
HUIG				*i* S	**Sn**	**22 41 33.5**	**-2.7**
UNM	**Universidad Na**	**2.98**	**354**	*e*Pn	**Pn**	**22 41 08.7**	**+1.4**
UNM				*e*Sn	**Sn**	**22 41 43.9**	**+0.9**
MOIG	**Morelia**	**3.98**	**327**	*e*Pn	Pn	22 41 27.2	+6.1
LVIG	**Laguna Verde**	**4.09**	**34**	*e*Pn	Pn	22 41 18.5	-3.9
LVIG				*e*Pg	**Pb**	**22 41 34.8**	**+2.9**
LVIG				*e*Sn	**Sn**	**22 42 04.8**	**-5.2**
TX31	**Lajitas Ar. Si**	**13.66**	**342**	*e*Pn	**Pn**	**22 43 38.2**	**+4.6**
EBZ	**Ebenezer Churc**	**20.56**	**23**	*e*P	Pn	22 45 04.0	+3.2
X16A	**Lo Mia Camp, P**	**21.24**	**330**	*e*P	P	22 45 16.0	+10
	7.6nm,1.5s						
T25A	**Trinidad**	**21.28**	**348**	*e*P	**P**	**22 45 10.3**	**+3.8**
	4.4nm,0.8s						
WUAZ	**Wupatki**	**22.11**	**332**	*e*P	P	22 45 23.0	+7.5
	4.3nm,1.0s						
S22A	**4UR Ranch, Cre**	**22.44**	**343**	*e*P	**P**	**22 45 19.5**	**+0.3**
	14nm,1.8s						
SRU	**San Rafael Swe**	**24.87**	**338**	*e*P	**P**	**22 45 44.7**	**+2.0**
	17nm,1.9s						
LEVU	**Levan**	**25.69**	**336**	*e*P	**P**	**22 45 53.1**	**+2.9**
WLHM	**Little Horse**	**26.23**	**322**	*e*P	**P**	**22 45 58.8**	**+3.6**
LRDM	**Redding Peak**	**31.00**	**325**	*e*P	P	22 46 45.0	+7.6
VT2	**Vantage 2**	**35.20**	**335**	*e*P	P	22 47 19.5	+5.6
OBSR	**Observation Ro**	**35.92**	**333**	*e*P	P	22 47 29.6	+9.2

*ISCJB **07** 22:44:49.6±0.7, 10°.88S±0°.08×74°.14W±0°.05, h100km, mb3.8/3, Error ellipse: s-maj=12.2km s-min=6.6km az=20.6*
*IDC **07** 22:44:52.3±1.7, 10°.99S×74°.33W, h123km±20km, mb3.5/3, mb1 3.6/7, mb1mx3.4/29, mbtmp3.9/7, Error ellipse: s-maj=22.4km s-min=15.4km az=41.0*
ISC 07 22:44:50.7±0.8, 10°.90S±0°.09×74°.15W±0°.07, h100km, n10, σ1.960/12, mb3.5/3, Central Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NNA	**Nana**	**2.85**	**247**	P	**Pn**	**22 45 35.6**	**+1.1**
	50nm,0.3s,baz=89,slow=8.8,SNR=47						
NNA				S	**Sn**	**22 46 07.1**	**-1.2**
	99nm,0.3s,baz=330,slow=21,SNR=15						
ATAH	**Atahualpa**	**5.62**	**311**	P	**Pn**	**22 46 13.0**	**+0.8**
	2.4nm,0.3s,baz=158,slow=1.9,SNR=12						
ATAH				S	**Sn**	**22 47 16.2**	**+0.5**
	3.2nm,0.3s,baz=118,slow=23,SNR=6.9						
LPAZ	**La Paz**	**7.93**	**133**	P	**Pn**	**22 46 45.5**	**+1.6**
	0.2nm,0.3s,baz=317,slow=10,SNR=6.0						
SIV	**San Ignacio**	**13.69**	**113**	P	**Pn**	**22 48 03.3**	**+2.5**
	0.3nm,0.3s,baz=314,slow=10.0,SNR=5.2						
SIV				S	**Sn**	**22 50 29.0**	**-2.6**
	0.2nm,0.3s,baz=239,slow=5.9,SNR=2.2						
TXAR	**Lajitas Array**	**49.10**	**325**	P	**P**	**22 53 26.9**	**-1.5**
	0.3nm,0.5s,baz=150,slow=8.7,SNR=8.7						
SCHQ	**Schefferville**	**65.77**	**5**	P	**P**	**22 55 25.1**	**+0.3**
	3.5nm,0.5s,baz=210,slow=15,SNR=6.2						
TORD	**Torodi Ar. Bea**	**78.96**	**74**	P	**P**	**22 56 43.9**	**-0.2**
	0.2nm,0.4s,baz=240,slow=3.8,SNR=10						
ZALV	**Zalesovo Beam**	**133.90**	**17**	PKP	**PKPdf**	**23 03 54.9**	**-1.1**
	0.6nm,0.5s,baz=336,slow=3.2,SNR=3.1						
SONM	**Songino Array**	**143.18**	**359**	PKP	PKPbc	23 04 12.1	+1.5
	0.1nm,0.3s,baz=26,slow=3.7,SNR=2.5						
KSRS	**Korea Array**	**146.94**	**327**	PKPbc	**PKPdf**	**23 04 19.7**	**-0.3**
	0.7nm,0.4s,baz=337,slow=5.8,SNR=3.7						

IDC 07 22:45:02.1±14.0, 20°.65S×177°.22W, h440km±125km, mb3.5/6, mb1 3.7/6, mb1mx3.3/23, mbtmp4.3/6, Error ellipse: s-maj=115.6km s-min=44.4km az=127.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**34.20**	**264**	P	P	22 51 09.7	+0.3
	2.3nm,0.2s,baz=77,slow=11,SNR=3.7						
ASAR	**Alice Springs**	**45.19**	**257**	P	P	22 52 38.5	+0.2
	3.2nm,0.6s,baz=89,slow=8.3,SNR=28						
ASAR				PcP	PcP	22 54 09.6	-0.2
	0.5nm,0.5s,baz=97,slow=4.3,SNR=5.7						
WRA	**Warramunga Arr**	**45.30**	**262**	P	P	22 52 38.5	-0.7
	1.8nm,0.4s,baz=97,slow=7.8,SNR=31						
USRK	**Ussuriysk Ar.**	**79.50**	**325**	P	P	22 56 21.9	+0.2
	2.7nm,0.8s,baz=114,slow=4.8,SNR=4.4						
ILAR	**Eielson Array**	**88.31**	**13**	P	P	22 57 04.7	-0.3
	0.5nm,0.4s,baz=214,slow=6.2,SNR=4.1						
CMAR	**Chiang Mai Arr**	**90.85**	**289**	P	P	22 57 17.8	-0.1
	0.7nm,0.5s,baz=142,slow=1.5,SNR=6.1						
AKASG	**Malin Array Be**	**143.50**	**332**	PKhKP	PKPpre	23 03 41.4	
	1.4nm,0.5s,baz=42,slow=4.6,SNR=7.9						
BRTR	**Keskin Array B**	**147.48**	**313**	PKPbc	PKPbc	23 03 55.1	-0.9
	0.9nm,0.5s,baz=145,slow=5.3,SNR=6.4						
GERES	**GERESS Array B**	**150.54**	**345**	PKPbc	PKPbc	23 04 03.0	0.0
	0.4nm,0.5s,baz=20,slow=3.1,SNR=5.2						

RSPR 07 23:00:36.5, 17°.09N×68°.52W, h53km±7km, MD3.6/8, 7C-1D, Mona Passage

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IMPR	**Mona Island, P**	**1.13**	**30**	*e*P	Pn	23 00 55.0	-1.0
CRPR	**Cabo Rojo, PR**	**1.62**	**56**	*e*P	Pn	23 01 01.9	-0.8
LSP	**Las Mesas**	**1.74**	**51**	*e*S	Sn	23 01 24.7	-0.7
LSP	**Las Mesas**	**1.74**	**51**	*e*P	Pn	23 01 03.5	-0.9
GBPR	**Guanica, Bosqu**	**1.79**	**60**	*e*S	Sn	23 01 25.5	-0.8
OBIP	**Obispado Ponce**	**2.06**	**62**	*e*S	Sn	23 01 32.2	-0.9
OBIP	**Obispado Ponce**	**2.06**	**62**	*e*P	Pn	23 01 07.9	-0.7
CELP	**Cerrillos**	**2.09**	**62**	*e*P	Pn	23 01 08.3	-0.8
AOPR	**Arecibo Observ**	**2.09**	**53**	*e*S	Sn	23 01 33.1	-1.0
AOPR	**Arecibo Observ**	**2.09**	**53**	*e*P	Pn	23 01 08.6	-0.6
HUMP	**Col San Antoni**	**2.75**	**67**	*e*P	Pn	23 01 17.5	-0.6
HUMP	**Col San Antoni**	**2.75**	**67**	*e*S	Sn	23 01 49.7	-0.5
CBYP	**Canovanas**	**2.80**	**65**	*e*P	Pn	23 01 18.2	-0.6
CBYP	**Canovanas**	**2.80**	**65**	*e*S	Sn	23 01 50.6	-0.8

*NEIC **07** 23:11:29.9±0.0, 37°.38S×176°.85E, h172km, MG4.2(WEL), After WEL.*
WEL 07 23:11:30.1±0.5, 37°.39S×176°.85E, h171km±4km, ML4.2/52, 20C-7D, Error ellipse: s-maj=2.6km s-min=1.8km az=0.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WHRZ	**Whale Island**	**0.48**	**168**	*e*PN	Pn	23 11 54.3	+0.6
OPRZ	**Ohinepanea**	**0.51**	**207**	⇑PN	Pn	23 11 53.7	-0.1
TGRZ	**Tauranga**	**0.58**	**234**	⇑PN	Pn	23 11 54.1	0.0
HAZ	**Te Kaha**	**0.83**	**117**	PN	Pn	23 11 55.2	-0.4
HAZ				AML	AML	23 12 19.8	
HAZ				AML	AML	23 12 20.4	
RUGZ	**Raukumara Rang**	**0.88**	**131**	PN	Pn	23 11 55.1	-0.9
TARZ	**Mount Tarawera**	**0.89**	**198**	PN	Pn	23 11 56.6	+0.5
URZ	**Urewera**	**0.89**	**167**	*e*Pn	Pn	23 11 55.9	-0.2
URZ				*e*S	Sn	23 12 14.9	-1.3
URZ	**Urewera**	**0.89**	**167**	⇑PN	Pn	23 11 55.7	-0.3
URZ				*e*SN	Sn	23 12 15.8	-0.4
URZ				AML	AML	23 12 19.7	
MWZ	**Matawai**	**1.09**	**150**	PN	Pn	23 11 57.2	-0.4
MWZ				*e*S	Sn	23 12 27.4	+8.5
MWZ	**Matawai**	**1.09**	**150**	⇑PN	Pn	23 11 57.2	-0.4
MWZ				AML	AML	23 12 27.3	
MWZ				AML	AML	23 12 27.4	
PKGZ	**Pakihiroa**	**1.10**	**117**	PN	Pn	23 11 57.8	+0.1
TOZ	**Tahuroa Road**	**1.12**	**252**	⇑PN	Pn	23 11 58.0	+0.2
MXZ	**Matakaoa Point**	**1.17**	**99**	*e*Pn	Pn	23 11 58.4	+0.2
MXZ				*e*S	Sn	23 12 19.4	-0.6
MXZ	**Matakaoa Point**	**1.17**	**99**	⇓PN	Pn	23 11 58.2	-0.1
MXZ				AML	AML	23 12 26.0	
MXZ				AML	AML	23 12 28.1	
RAGZ	**Rawiri**	**1.19**	**158**	PN	Pn	23 11 58.7	+0.2
RAGZ				AML	AML	23 12 25.2	
RAGZ				AML	AML	23 12 30.8	
TWGZ	**Tauwhareparae**	**1.19**	**132**	PN	Pn	23 11 59.3	+0.8
TWGZ				AML	AML	23 12 32.0	
TWGZ				AML	AML	23 12 34.5	
RTZ	**Ruatahuna**	**1.23**	**175**	PN	Pn	23 11 58.5	-0.3
ALRZ	**Allen Road**	**1.24**	**199**	PN	Pn	23 11 59.0	+0.2
PUZ	**Puketiti**	**1.31**	**122**	PN	Pn	23 11 59.3	-0.2
PUZ				SN	Sn	23 12 21.3	-0.8
PUZ				AML	AML	23 12 33.4	
TKGZ	**Te Karaka**	**1.31**	**143**	PN	Pn	23 11 59.9	+0.4
TKGZ				AML	AML	23 12 24.2	
TKGZ				AML	AML	23 12 25.8	
WMGZ	**Waiomatatini S**	**1.32**	**110**	PN	Pn	23 11 59.7	+0.2
WMGZ				SN	Sn	23 12 22.4	+0.2
WMGZ				AML	AML	23 12 31.6	
MKAZ	**Moumakai**	**1.38**	**281**	PN	Pn	23 11 59.9	-0.1
MKAZ				SN	Sn	23 12 23.5	+0.4
TLZ	**Tolley Road**	**1.40**	**227**	PN	Pn	23 12 00.6	+0.3
SNGZ	**Shannon Statio**	**1.45**	**165**	PN	Pn	23 12 00.7	0.0
SNGZ				SN	Sn	23 12 24.0	-0.5
SNGZ				AML	AML	23 12 26.3	
MRHZ	**Matea Rd**	**1.48**	**193**	PN	Pn	23 12 01.0	-0.1
MRHZ				AML	AML	23 12 31.8	
MRHZ				AML	AML	23 12 32.3	
RIGZ	**Rimuhau**	**1.50**	**151**	PN	Pn	23 12 01.5	+0.3
RIGZ				AML	AML	23 12 26.2	
RIGZ				AML	AML	23 12 27.9	
CNGZ	**Carnagh Statio**	**1.53**	**136**	PN	Pn	23 12 02.6	+1.1
CNGZ				AML	AML	23 12 27.6	
CNGZ				AML	AML	23 12 27.9	
NMHZ	**Naumai**	**1.71**	**181**	PN	Pn	23 12 03.4	0.0
NMHZ				AML	AML	23 12 40.7	
NMHZ				AML	AML	23 12 41.0	
WHHZ	**Waihua**	**1.71**	**170**	PN	Pn	23 12 03.6	+0.2
WHHZ				AML	AML	23 12 30.4	
WHHZ				AML	AML	23 12 31.0	
PRGZ	**Paritu Road**	**1.74**	**152**	PN	Pn	23 12 03.7	+0.1
PRGZ				AML	AML	23 12 32.3	
PRGZ				AML	AML	23 12 32.6	
KNZ	**Kokohu**	**1.76**	**158**	PN	Pn	23 12 03.6	-0.2
KNZ				*e*S	Sn	23 12 32.6	+2.6
KNZ	**Kokohu**	**1.76**	**158**	⇓PN	Pn	23 12 03.6	-0.2
KNZ				AML	AML	23 12 30.5	
KNZ				AML	AML	23 12 32.6	
RITZ	**Rihia Road**	**1.77**	**206**	*e*PN	Pn	23 12 04.0	0.0
BKZ	**Black Stump Fm**	**1.80**	**189**	*e*Pn	Pn	23 12 03.4	-1.0
BKZ				*e*S	Sn	23 12 29.6	-1.4
BKZ	**Black Stump Fm**	**1.80**	**189**	PN	Pn	23 12 03.4	-0.9
BKZ				AML	AML	23 12 39.7	
BKZ				AML	AML	23 12 44.3	
ARHZ	**Aropaoanui**	**1.88**	**176**	PN	Pn	23 12 04.9	-0.2
ARHZ				AML	AML	23 12 34.4	
ARHZ				AML	AML	23 12 44.1	
HIZ	**Hauiti**	**1.93**	**234**	*e*Pn	Pn	23 12 06.3	+0.5
HIZ	**Hauiti**	**1.93**	**234**	⇓PN	Pn	23 12 06.0	+0.3
MHGZ	**Mahia Peninsul**	**1.95**	**155**	⇑PN	Pn	23 12 06.0	+0.1
MHGZ				AML	AML	23 12 35.9	
MHGZ				AML	AML	23 12 36.1	
KRVZ	**Karewarewa**	**1.95**	**209**	PN	Pn	23 12 05.8	-0.2
WTVZ	**West Tongariro**	**1.99**	**209**	⇓PN	Pn	23 12 06.2	-0.2
OTVZ	**Oturere**	**2.00**	**207**	⇑PN	Pn	23 12 06.5	-0.1
TWVZ	**Taurewa**	**2.01**	**213**	*e*Pn	Pn	23 12 06.7	-0.1
TWVZ	**Taurewa**	**2.01**	**213**	PN	Pn	23 12 06.6	-0.1
NGZ	**Ngauruhoe**	**2.04**	**208**	⇑PN	Pn	23 12 06.9	-0.1
MCHZ	**McNeill Hill**	**2.06**	**183**	PN	Pn	23 12 06.8	-0.3
MCHZ				AML	AML	23 12 50.1	
MCHZ				AML	AML	23 12 51.4	
KWHZ	**Kaweka Forest**	**2.06**	**189**	PN	Pn	23 12 06.6	-0.6
KWHZ				AML	AML	23 12 46.0	
KWHZ				AML	AML	23 12 47.6	
TUVZ	**Tukino**	**2.10**	**206**	*e*Pn	Pn	23 12 07.2	-0.5
TUVZ	**Tukino**	**2.10**	**206**	⇑PN	Pn	23 12 07.2	-0.5
WHVZ	**Whangaehu Hut**	**2.13**	**207**	⇑PN	Pn	23 12 07.6	-0.6
DRZ	**Dome Shelter**	**2.14**	**208**	*e*Pn	Pn	23 12 07.8	-0.6
DRZ	**Dome Shelter**	**2.14**	**208**	PN	Pn	23 12 07.8	-0.6
WNVZ	**Wahianoa**	**2.17**	**207**	*e*Pn	Pn	23 12 07.8	-0.7
WNVZ	**Wahianoa**	**2.17**	**207**	⇑PN	Pn	23 12 07.8	-0.7
BHHZ	**Black Hill Sta**	**2.19**	**196**	⇑PN	Pn	23 12 07.5	-1.2
BHHZ				AML	AML	23 12 41.8	
BHHZ				AML	AML	23 12 42.9	
MOVZ	**Moawhango**	**2.19**	**203**	*e*Pn	Pn	23 12 07.5	-1.2
MOVZ	**Moawhango**	**2.19**	**203**	⇑PN	Pn	23 12 07.4	-1.2
PKVZ	**Pokaka**	**2.23**	**211**	⇓PN	Pn	23 12 08.7	-0.5
MTVZ	**Mangateitei**	**2.27**	**208**	PN	Pn	23 12 09.1	-0.5
CKHZ	**Cape Kidnapper**	**2.27**	**176**	PN	Pn	23 12 09.1	-0.5
CKHZ				AML	AML	23 12 41.4	
CKHZ				AML	AML	23 12 41.6	
KRHZ	**Kereru**	**2.28**	**189**	PN	Pn	23 12 08.4	-1.3
KRHZ				AML	AML	23 12 44.2	
KRHZ				AML	AML	23 12 46.3	
KAHZ	**Kahuranaki**	**2.40**	**179**	PN	Pn	23 12 10.4	-0.7
KAHZ				AML	AML	23 12 44.4	
KAHZ				AML	AML	23 12 46.1	
PNHZ	**Pukenui**	**2.57**	**191**	PN	Pn	23 12 11.4	-1.7
PNHZ				AML	AML	23 12 47.2	
PNHZ				AML	AML	23 12 47.9	
PXZ	**Pawanui**	**2.64**	**180**	Pn	Pn	23 12 12.6	-1.2
PXZ				*e*S	Sn	23 12 48.7	+0.7
PXZ	**Pawanui**	**2.64**	**180**	⇑PN	Pn	23 12 12.6	-1.2
PXZ				AML	AML	23 12 48.1	
PXZ				AML	AML	23 12 48.7	
WPHZ	**Waipukurau**	**2.69**	**187**	⇑PN	Pn	23 12 12.9	-1.6
WPHZ				AML	AML	23 12 51.7	
WPHZ				AML	AML	23 12 54.8	
TSZ	**Takapari Road**	**2.75**	**194**	PN	Pn	23 12 13.5	-1.8
TSZ				AML	AML	23 12 53.0	
TSZ				AML	AML	23 12 53.2	
WAZ	**Wanganui**	**2.78**	**211**	⇓PN	Pn	23 12 14.5	-1.0
PRHZ	**Porangahau**	**2.88**	**183**	⇑PN	Pn	23 12 15.2	-1.6
PRHZ				AML	AML	23 12 56.2	
PRHZ				AML	AML	23 12 57.5	
DVHZ	**Dannevirke**	**2.96**	**190**	PN	Pn	23 12 15.5	-2.2
DVHZ				AML	AML	23 12 53.5	
DVHZ				AML	AML	23 12 56.4	
OHWZ	**Ohakea**	**3.06**	**203**	PN	Pn	23 12 17.9	-1.0
ANWZ	**Angora Road**	**3.08**	**185**	⇑PN	Pn	23 12 17.5	-1.7
ANWZ				AML	AML	23 12 58.5	
ANWZ				AML	AML	23 12 59.8	
POWZ	**Post Office Ro**	**3.12**	**195**	PN	Pn	23 12 17.7	-2.0
POWZ				AML	AML	23 13 00.6	
POWZ				AML	AML	23 13 00.9	
PRWZ	**Pori Road**	**3.23**	**192**	PN	Pn	23 12 19.3	-1.8
PRWZ				AML	AML	23 13 02.0	
PRWZ				AML	AML	23 13 02.4	
BFZ	**Birch Farm**	**3.32**	**188**	*e*Pn	Pn	23 12 19.9	-2.3
BFZ				*e*S	Sn	23 13 03.3	+0.3
BFZ	**Birch Farm**	**3.32**	**188**	PN	Pn	23 12 19.9	-2.3
BFZ				AML	AML	23 13 03.3	
BFZ				AML	AML	23 13 04.2	
MRZ	**Mangatainoka R**	**3.41**	**196**	*e*Pn	Pn	23 12 20.7	-2.7
MRZ	**Mangatainoka R**	**3.41**	**196**	⇑PN	Pn	23 12 20.7	-2.7
MRZ				AML	AML	23 13 03.8	
MRZ				AML	AML	23 13 04.4	
TIWZ	**Tintock**	**3.46**	**192**	⇑PN	Pn	23 12 21.7	-2.4
TIWZ				AML	AML	23 13 06.7	
TIWZ				AML	AML	23 13 07.9	
HOWZ	**Holdsworth Sta**	**3.65**	**196**	PN	Pn	23 12 23.3	-3.1
HOWZ				AML	AML	23 13 10.4	
HOWZ				AML	AML	23 13 10.8	
OGWZ	**Otaki Gorge**	**3.66**	**200**	PN	Pn	23 12 23.7	-2.8
OGWZ				AML	AML	23 13 08.9	
OGWZ				AML	AML	23 13 09.5	
KIW	**Kapiti Island**	**3.78**	**203**	*e*Pn	Pn	23 12 24.8	-3.2
KIW				*e*S	Sn	23 13 11.8	-1.6
KIW	**Kapiti Island**	**3.78**	**203**	PN	Pn	23 12 24.8	-3.3
KIW				AML	AML	23 13 10.4	
KIW				AML	AML	23 13 11.8	
TMWZ	**Te Maipa**	**3.79**	**191**	⇑PN	Pn	23 12 25.1	-3.0
TMWZ				AML	AML	23 13 12.9	
TMWZ				AML	AML	23 13 13.6	
MTW	**Mount Morrison**	**3.91**	**195**	Pn	Pn	23 12 26.1	-3.5
MTW				*e*S	Sn	23 13 17.3	+1.1
MTW	**Mount Morrison**	**3.91**	**195**	PN	Pn	23 12 26.1	-3.5
MTW				AML	AML	23 13 17.3	
MTW				AML	AML	23 13 19.1	
CAW	**Cannon Point**	**3.96**	**200**	Pn	Pn	23 12 26.9	-3.4
CAW				*e*S	Sn	23 13 14.8	-2.7
CAW	**Cannon Point**	**3.96**	**200**	PN	Pn	23 12 26.9	-3.4
CAW				AML	AML	23 13 14.8	
CAW				AML	AML	23 13 14.9	
DUWZ	**D'Urville Isla**	**4.10**	**213**	*e*Pn	Pn	23 12 28.6	-3.6
DUWZ	**D'Urville Isla**	**4.10**	**213**	PN	Pn	23 12 28.5	-3.6
TRWZ	**Traveller**	**4.10**	**192**	Pn	Pn	23 12 28.8	-3.3
TRWZ				*e*S	Sn	23 13 20.0	+0.1
TRWZ	**Traveller**	**4.10**	**192**	⇓PN	Pn	23 12 28.8	-3.3
TRWZ				AML	AML	23 13 20.9	
TRWZ				AML	AML	23 13 21.2	
PAWZ	**Paruwai Farm**	**4.14**	**195**	Pn	Pn	23 12 29.0	-3.6
PAWZ	**Paruwai Farm**	**4.14**	**195**	PN	Pn	23 12 29.0	-3.6
PAWZ				AML	AML	23 13 18.3	
PAWZ				AML	AML	23 13 20.1

46nm,1.1s
OXZ eS Sn 23 40 41.0 -4.1
MQZ McQueen's Vall 16.73 209 *e*Pn Pn 23 37 37.5 -3.2
130nm,1.6s
MQZ McQueen's Vall 16.73 209 *e*SN Sn 23 40 36.8 -9.0
RAR Rarotonga 17.01 65 LR LR 23 41 29.1
comp=Z,98nm,21.6s,baz=254,slow=28
DZM Mont Dzumac 17.23 291 P Pn 23 37 47.2 0.0
0.1nm,0.3s,baz=131,slow=19,SNR=1.6
DZM LR LR 23 43 06.0
comp=Z,209nm,19.5s,baz=174,slow=33
DZM Mont Dzumac 17.23 291 *e*LR LR 23 41 54.3
606nm,27.1s
DZM Mont Dzumac 17.23 291 *e*Pn Pn 23 37 47.2 0.0
24nm,1.2s
RPZ Rata Peaks 17.45 212 P P 23 37 52.7 +1.9
2.0nm,0.3s,baz=236,slow=1.5,SNR=7.4
RPZ S Sn 23 40 54.7 -8.6
0.9nm,0.3s,baz=23,slow=8.3,SNR=2.4
RPZ Rata Peaks 17.45 212 *e*Pn Pn 23 37 46.5 -3.1
32nm,0.9s
RPZ *e*Sn Sn 23 40 54.7 -8.6
ODZ Otahua Downs 18.67 210 *e*P Pn 23 38 04.7 +0.1
29nm,1.0s
MLZ Mavora Lakes 20.08 214 *e*P P 23 38 17.8 -1.8
83nm,1.5s
TBI Tubuai 24.73 82 *e*LR LR 23 44 52.7
464nm,34.8s
PPT2 Papeete2 27.10 70 *e*LR LR 23 45 55.3
315nm,28.5s
PPT Papeete 27.11 70 LR LR 23 46 22.9
comp=Z,101nm,21.3s,baz=236,slow=28
HNR Honiara 29.91 307 LR LR 23 51 00.5
comp=Z,67nm,18.5s,baz=138,slow=35
CTA Charters Tower 35.17 277 P P 23 40 41.2 +0.9
3.8nm,0.6s,baz=123,slow=10,SNR=4.4
CTAO Charters Tower 35.17 277 *e*P P 23 40 41.5 +1.2
34nm,1.7s
STKA Stephens Creek 36.17 255 P P 23 40 50.2 +1.5
7.6nm,0.9s,baz=94,slow=9.6,SNR=8.7
STKA LR LR 23 55 16.4
comp=Z,175nm,18.2s,baz=32,slow=36
STKA Stephens Creek 36.17 255 *e*P P 23 40 50.1 +1.4
1.9nm,1.0s
TAOE Nuku Hiva Isla 39.55 66 *e*LR LR 23 51 24.8
207nm,27.7s
PMG Port Moresby 39.62 293 LR LR 23 54 34.8
comp=Z,78nm,20.0s,baz=158,slow=32
BBOO Buckleboo 40.68 253 *e*P P 23 41 26.0 -0.6
165nm,1.9s
AS01 Alice Springs 44.64 265 *e*P P 23 41 59.2 +0.3
AS31 Alice Springs 44.68 265 *e*P P 23 41 59.5 +0.2
3.2nm,0.9s
ASAR Alice Springs 44.68 265 P P 23 41 59.5 +0.3
6.0nm,0.8s,baz=105,slow=8.2,SNR=36
ASAR PcP PP 23 43 43.1 -0.6
0.4nm,0.6s,baz=99,slow=4.8,SNR=2.4
ASAR LR LR 23 59 06.8
comp=Z,142nm,20.4s,baz=116,slow=34
WC3 Warramunga Arr 45.56 270 *e*P P 23 42 04.0 -2.2
6.9nm,0.7s
WB2 Warramunga Arr 45.58 270 *e*P P 23 42 06.3 -0.1
WRAB Tennant Creek 45.59 270 *e*P P 23 42 03.8 -2.7
7.4nm,0.8s
WR1 Warramunga Arr 45.59 270 *e*P P 23 42 06.3 -0.2
40nm,1.7s
WRA Warramunga Arr 45.59 270 P P 23 42 06.3 -0.2
8.0nm,0.8s,baz=107,slow=7.8,SNR=22
WRA LR LR 23 59 27.0
comp=Z,102nm,19.2s,baz=130,slow=34
FORT Forrest 47.75 254 *e*P P 23 42 22.1 -1.2
448nm,1.0s
JAY Jayapura 48.85 295 P P 23 42 32.1 +0.1
0.6nm,0.9s,baz=103,slow=23,SNR=3.8
VNDA Vanda 49.16 186 LR LR 00 01 01.9
comp=Z,24nm,19.3s,baz=316,slow=33
FITZ Fitzroy Crossi 53.89 268 P P 23 43 10.5 +0.9
4.6nm,0.7s,baz=160,slow=8.3,SNR=7.3
FITZ LR LR 00 06 12.7
comp=Z,118nm,18.1s,slow=36
FITZ Fitzroy Crossi 53.89 268 *e*P P 23 43 08.6 -1.0
GUMO Guam 56.93 313 LR LR 00 06 32.6
comp=Z,43nm,18.1s,baz=155,slow=35
MIDW Midway 57.38 359 *e*P P 23 43 38.9 +4.5
39nm,0.7s
QSPA South Pole Qui 60.62 180 *e*P P 23 43 57.9 +1.1
MMRI Maumere 61.03 277 *e*P P 23 43 57.9 -2.2
109nm,1.6s
MYLDM Lahad Datu 71.35 287 *e*P P 23 45 04.1 -2.3
38nm,1.6s
MAW Mawson 73.69 200 P P 23 45 23.7 +4.3
2.0nm,0.8s,baz=102,slow=7.6,SNR=4.5
MAW Mawson 73.69 200 *e*P P 23 45 23.7 +4.3
4.5nm,1.6s
KKM Kota Kinabalu 73.73 287 *e*P P 23 45 20.2 -0.4
27nm,1.0s
SBUM Sibu 75.21 281 *e*P P 23 45 25.8 -3.4
10nm,1.1s
MJAR Matsushiro Arr 78.37 324 P P 23 45 43.9 -2.6
1.8nm,0.9s,baz=160,slow=4.4,SNR=3.6
MJAR LR LR 00 14 30.3
comp=Z,24nm,20.7s,baz=260,slow=31
PLCA Paso Flores 82.01 132 LR LR 00 17 23.7
comp=Z,28nm,18.8s,baz=336,slow=32
SBI Santa Barbara 82.78 45 *e*P P 23 46 16.9 +6.8
DGR Domenigoni Val 84.16 46 *e*P P 23 46 24.6 +7.4
CRY Cary Ranch 84.27 46 *e*P P 23 46 23.4 +5.5
KSRS Korea Array 84.65 319 P P 23 46 16.4 -3.2
0.5nm,0.4s,baz=149,slow=4.6,SNR=2.5
KSRS LR LR 00 21 57.8
comp=Z,18nm,18.8s,baz=105,slow=34
KSAR Wonju Array Be 84.66 319 P P 23 46 16.4 -3.2
PSI Prapat 86.86 275 P P 23 46 31.6 +0.2
4.4nm,0.6s,baz=174,slow=9.1,SNR=4.3
PSI Prapat 86.86 275 *e*P P 23 46 31.6 +0.2
11nm,1.0s
USRK Ussuriysk Ar. 87.25 326 P P 23 46 30.5 -1.8
1.2nm,0.5s,baz=98,slow=7.4,SNR=4.4
TLIG Tlapa 88.25 69 *e*P P 23 46 45.3 +7.3
79nm,2.0s
TXAR Lajitas Array 90.62 56 P P 23 46 46.4 -2.4
1.0nm,0.9s,baz=210,slow=5.2,SNR=6.7
VT2 Vantage 2 91.44 35 *e*P P 23 46 54.7 +2.7
ANMO Albuquerque 91.83 50 P P 23 46 53.9 -0.5
1.2nm,0.8s,baz=194,slow=5.1,SNR=4.8
ENH Enshi 92.35 304 *e*P P 23 46 57.9 +1.3
12nm,1.1s
PDAR Pinedale Array 94.43 43 P P 23 47 03.5 -2.7
0.5nm,0.8s,baz=183,slow=3.0,SNR=4.8
PDAR LR LR 00 25 02.1
comp=Z,33nm,18.1s,baz=72,slow=33
CM31 Chiang Mai Arr 94.54 289 *e*P P 23 47 08.6 +1.6
CMAR Chiang Mai Arr 94.54 289 P P 23 47 08.6 +1.6
0.8nm,0.6s,baz=123,slow=3.3,SNR=4.9
ILAR Eielson Array 96.70 12 P P 23 47 13.8 -2.0
0.4nm,0.6s,baz=236,slow=5.3,SNR=4.7
LPAZ La Paz 97.12 113 LR LR 00 21 09.3
comp=Z,22nm,21.9s,baz=290,slow=29
ARCES ARCESS Array B 138.00 349 PKP **PKPdf 23 53 09.0 -0.9**
3.0nm,0.7s,baz=56,slow=6.7,SNR=6.4
FINES FINESS Array B 144.78 342 PKP **PKPab 23 53 20.1 -1.1**
12nm,0.9s,baz=48,slow=3.5,SNR=25
KBZ Khabaz 145.84 305 PKPbc **PKPdf 23 53 22.6 -1.9**
2.3nm,1.0s,baz=156,slow=7.8,SNR=3.8
NB2 NORSAR Subarra148.05 353 PKP **PKPdf 23 53 29.6 +1.8**
comp=Z,7.9nm,0.7s,baz=8.7,slow=2.9
NOA NORSAR Array B 148.05 353 PKPbc **PKPbc 23 53 30.2 -0.8**
comp=Z,5.2nm,0.6s,baz=13,slow=4.4,SNR=14
AKASG Malin Array Be 151.45 325 PKPbc **PKPbc 23 53 39.1 -0.5**
comp=Z,2.4nm,0.5s,baz=45,slow=2.5,SNR=16
BRTR Keskin Array B 153.47 301 PKPbc **PKPbc 23 53 43.6 -1.0**
comp=Z,0.9nm,0.9s,baz=43,slow=2.2,SNR=4.8
CLL Collm 157.12 345 *e*PKPab **PKPab 23 54 10.0 -2.0**
TORD Torodi Ar. Bea 163.63 173 PKP **PKPdf 23 53 50.3 +0.6**
comp=Z,0.8nm,0.8s,baz=186,slow=0.9,SNR=4.8
TORD PKPab **PKPab 23 54 43.6 +2.4**
comp=Z,1.8nm,0.8s,baz=187,slow=3.7,SNR=9.2
ESDC Sonseca Array 168.02 30 PKP **PKPdf 23 53 53.0 +0.4**
comp=Z,0.1nm,0.5s,baz=23,slow=3.3,SNR=3.1

MEX 07 23:35:23.4±0.3, 16°87'N×99°93'W, h31km±2km, MD3.5, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ACP2	**Acapulco**	**0.04**	**88**	*e*P	Pb	23 35 27.1	-1.6
ACP2				*e*S	Sb	23 35 30.7	-1.6
ACX	**Acapulco**	**0.07**	**93**	*i* P	Pb	23 35 25.2	-3.6
ACX				*i* S	Sb	23 35 28.2	-4.3
CAIG	**El Cayaco**	**0.36**	**299**	*e*P	Pb	23 35 30.2	-1.7
CAIG				*i* S	Sb	23 35 36.0	-1.7
MEIG	**Mezcala**	**1.09**	**16**	*e*P	Pn	23 35 40.2	-2.5
MEIG				*i* S	Sn	23 35 53.8	-2.9
ARIG	**Puente Sto Nin**	**1.45**	**344**	*i* P	Pn	23 35 45.6	-2.0
ARIG				*i* S	Sn	23 36 03.2	-2.4
TLIG	**Tlapa**	**1.48**	**62**	*e*P	Pn	23 35 46.5	-1.5
TLIG				*i* S	Sn	23 36 03.2	-3.0
PLIG	**Platanillo**	**1.57**	**15**	*i* P	Pn	23 35 47.5	-1.7
PLIG				*i* S	Sn	23 36 06.5	-2.0
ZIIG	**Zihuatanejo**	**1.64**	**297**	*i* P	Pn	23 35 48.4	-1.7
ZIIG				*i* S	Sn	23 36 07.7	-2.3
PNIG	**Pinotepa**	**1.80**	**105**	*i* P	Pn	23 35 50.9	-1.4
PNIG				*i* S	Sn	23 36 11.3	-2.7
YAIG	**Yautepec**	**2.14**	**23**	*i* P	Pn	23 35 55.4	-1.8
YAIG				*i* S	Sn	23 36 20.1	-2.7

IDC 07 23:54:03.6±2.5, 5°60'N×123°98'E, h546km±29km, mb3.1/8, mb1 3.3/8, mb1mx2.9/36, mbtmp4.1/8, Error ellipse: s-maj=54.9km s-min=12.9km az=62.0, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**23.60**	**176**	P	P	23 58 31.3	-0.9
	2.3nm,0.6s,baz=6.6,slow=9.0,SNR=11						
WRA	**Warramunga Arr**	**27.35**	**158**	P	P	23 59 04.8	-0.5
	3.8nm,0.4s,baz=339,slow=9.5,SNR=46						
WRA				ScP	ScP	00 04 55.3	-0.5
	0.2nm,0.4s,baz=345,slow=3.1,SNR=2.9						
CMAR	**Chiang Mai Arr**	**27.57**	**300**	P	P	23 59 07.9	+0.6
	0.6nm,0.3s,baz=113,slow=6.9,SNR=4.9						
ASAR	**Alice Springs**	**30.66**	**162**	P	P	23 59 34.3	+0.3
	3.0nm,0.5s,baz=340,slow=7.0,SNR=41						
STKA	**Stephens Creek**	**40.87**	**157**	P	P	00 00 59.1	+0.7
	1.6nm,0.4s,baz=334,slow=9.4,SNR=6.0						
SONM	**Songino Array**	**44.70**	**343**	P	P	00 01 27.7	-0.5
	0.4nm,0.5s,baz=143,slow=8.1,SNR=3.0						
ZALV	**Zalesovo Beam**	**57.70**	**334**	P	P	00 03 01.9	-0.2
	0.7nm,0.4s,baz=137,slow=4.6,SNR=2.6						
BRTR	**Keskin Array B**	**86.73**	**309**	P	P	00 05 49.7	-0.5
	0.4nm,0.6s,baz=125,slow=11,SNR=4.1						
TORD	**Torodi Ar. Bea**	**119.73**	**288**	PKP	PKPdf	00 11 52.5	-0.4
	0.2nm,0.5s,baz=67,slow=2.0,SNR=6.8						

NIED ***08*** *00:12:00, 36°20N×141°10E, h41km, Mw3.8 Best double couple: M₀6.31000×10¹⁴ NP1:φ₁208.00000°, δ26.00000°, λ-33.00000°. NP2:φ₂329.00000°, δ76.00000°, λ-112.00000°.*
ISCJB ***08*** *00:12:07.6±0.7, 36°17N±0°03×141°07E±0°07, h43km±7km, mb3.8/8, MS3.6/2, Error ellipse: s-maj=10.1km s-min=5.6km az=0.2*
JMA ***08*** *00:12:08.6±0.1, 36°13N×141°00E, h46km±2km, M3.6*
JMA Felt I J1.
IDC ***08*** *00:12:20.9±1.2, 35°71N×139°58E, h112km±11km, mb3.5/7, mb1 3.6/9, mb1mx3.3/44, mbtmp3.8/9, MS3.6/2, Ms1 3.6/2, ms1mx2.6/30, Error ellipse: s-maj=28.4km s-min=10.2km az=74.0*
ISC 08 00:12:07.9±1.5, 36°23N±0°04×141°06E±0°07, h27km±11km, n27, σ0°92/24, mb3.9/8, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHOJ	**Chosi**	**0.55**	**197**	P	**Pb**	**00 12 18.8**	**-0.1**
CHOJ				S	**Sb**	**00 12 25.7**	**-0.7**
JHO	**Hitachi**	**0.55**	**314**	P	**Pn**	**00 12 20.3**	**+0.3**
JHO				S	**Sn**	**00 12 28.4**	**+0.1**
JYT	**Yasato**	**0.70**	**270**	P	**Pn**	**00 12 21.7**	**-0.3**
JYT				S	**Sb**	**00 12 31.0**	**+0.3**
ONAJ	**Iwakimizuishiy**	**0.90**	**347**	P	**Pn**	**00 12 25.2**	**+0.4**
ONAJ				S	**Sn**	**00 12 37.2**	**+0.2**
JFK	**Kawauchi**	**1.15**	**353**	P	**Pn**	**00 12 28.6**	**+0.4**
JFK				S	**Sn**	**00 12 42.9**	**-0.2**
JAG	**Ashikaga**	**1.31**	**279**	P	**Pn**	**00 12 30.6**	**+0.1**
MJAR	**Matsushiro Arr**	**2.32**	**279**	P	**Pn**	**00 12 45.5**	**+1.2**
	14nm,0.3s,baz=99,slow=8.1,SNR=87						
MJAR				S	**Sn**	**00 13 13.1**	**+1.1**
	11nm,0.3s,baz=115,slow=20,SNR=6.7						
MAT	**Matsushiro**	**2.32**	**279**	P	**Pn**	**00 12 45.4**	**+1.0**
MAT				S	**Sn**	**00 13 10.9**	**-1.2**
JHJ	**Hachijo jima 2**	**3.27**	**199**	P	**Pn**	**00 12 59.8**	**+2.4**
	23nm,0.3s,baz=61,slow=23,SNR=3.8						
JHJ				S	**Sn**	**00 13 34.2**	**-1.3**
	22nm,0.3s,baz=236,slow=20,SNR=2.9						
USRK	**Ussuriysk Ar.**	**10.55**	**322**	P	Pn	00 14 46.2	+8.9
	0.1nm,0.3s,baz=120,slow=14,SNR=3.1						
H11N2	**WAKE ISLAND Hy**	**27.99**	**119**	T	T	00 47 19.6	
	baz=312,slow=75,SNR=18						
H11N1	**WAKE ISLAND Hy**	**28.00**	**119**	T	T	00 47 19.5	
	baz=312,slow=75,SNR=14						
H11N3	**WAKE ISLAND Hy**	**28.01**	**119**	T	T	00 47 17.8	
	baz=312,slow=75,SNR=18						
H11S1	**WAKE ISLAND Hy**	**28.67**	**121**	T	T	00 48 00.9	
	baz=313,slow=76,SNR=46						
H11S3	**WAKE ISLAND Hy**	**28.67**	**121**	T	T	00 48 09.7	
	baz=313,slow=76,SNR=36						
H11S2	**WAKE ISLAND Hy**	**28.69**	**121**	T	T	00 48 03.7	
	baz=313,slow=76,SNR=39						
CMAR	**Chiang Mai Arr**	**41.02**	**256**	LR	LR	00 37 10.7	
	comp=Z,18nm,20.6s,baz=185,slow=38						
ZALV	**Zalesovo Beam**	**42.25**	**313**	P	**P**	**00 19 58.7**	**+0.1**
	0.7nm,0.4s,baz=103,slow=7.0,SNR=2.8						
KURBB	**Kurchatov Arra**	**46.28**	**309**	P	**P**	**00 20 31.2**	**+0.3**
	1.2nm,0.4s,baz=82,slow=7.6,SNR=8.2						
ILAR	**Eielson Array**	**50.33**	**32**	P	P	00 21 14.4	+13
	1.0nm,0.7s,baz=269,slow=6.4,SNR=9.9						
WRA	**Warramunga Arr**	**56.22**	**188**	P	**P**	**00 21 44.3**	**-1.4**
	0.5nm,0.4s,baz=6.2,slow=7.4,SNR=12						
ASAR	**Alice Springs**	**59.95**	**188**	P	**P**	**00 22 11.0**	**-0.7**
	0.7nm,0.8s,baz=14,slow=7.9,SNR=4.9						
BBB	**Bella Bella**	**62.84**	**44**	LR	LR	00 44 57.2	
	comp=Z,226nm,21.8s,baz=184,slow=30						
AKASG	**Malin Array Be**	**74.76**	**322**	P	**P**	**00 23 45.1**	**-0.2**
	0.6nm,0.4s,baz=47,slow=5.6,SNR=3.7						
NB2	**NORSAR Subarra**	**74.82**	**337**	P	**P**	**00 23 45.8**	**+0.3**
	comp=Z,0.7nm,0.5s,baz=41,slow=5.9						
NOA	**NORSAR Array B**	**74.82**	**337**	P	**P**	**00 23 46.3**	**+0.7**
	comp=Z,0.8nm,0.5s,baz=43,slow=5.5,SNR=3.5						
PDAR	**Pinedale Array**	**78.44**	**45**	P	P	00 24 15.7	+9.1
	comp=Z,0.3nm,0.7s,baz=324,slow=6.0,SNR=3.2						

SOME ***08*** *00:15:39.9, 39°33N×76°10E, h10km*
IDC ***08*** *00:15:48.5±0.8, 39°54N×75°63E, h0km, mb3.9/16, mb1 4.0/21, mb1mx3.9/52, mbtmp3.9/21, ML3.4/5, MS2.9/5, Ms1 2.9/5, ms1mx2.6/50, Error ellipse: s-maj=17.2km s-min=14.0km az=77.0*
MOS ***08*** *00:15:49.7±1.7, 39°58N×75°52E, h15km, mb4.2/11, Error ellipse: s-maj=11.6km s-min=5.8km az=96.3*
BJI ***08*** *00:15:50.3, 39°91N×75°36E, h7km, ML3.7/6*
KRNET ***08*** *00:15:51.3±0.1, 39°74N×75°63E, mb4.3*
NEIC ***08*** *00:15:55.6±0.9, 39°76N×75°56E, h47km±7km, mb4.4/7, Error ellipse: s-maj=8.9km s-min=6.4km az=166.0*
NNC ***08*** *00:15:55.9±0.8, 39°96N×75°45E, h0km, mb4.3, mpv4.0, Error ellipse: s-maj=7.6km s-min=5.7km az=167.0*
ISC 08 00:15:54.0±1.2, 39°64N±0°04×75°51E±0°03, h32km±9km, n141, σ1°97/170, mb4.0/21, MS2.8/3, 50C-11D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSH	**Kashi**	**0.38**	**109**	⇑*i*Pg	**Pn**	**00 16 05.8**	**+2.4**
KSH				Sg	**Sn**	**00 16 16.3**	**+6.5**
KSH				smax	smax		
	comp=N,3μm,0.4s						
KSH				smax	smax		
	comp=E,3μm,0.6s						
NRN	**Naryn**	**1.83**	**12**	⇑*i*P	**Pn**	**00 16 23.0**	**-0.5**
	baz=9.0						
NRN				⇑*i*S	**Sn**	**00 16 44.9**	**-0.8**
	baz=9.0						
KZA	**Kyzart**	**2.44**	**356**	⇑*i*P	**Pn**	**00 16 33.3**	**+1.3**
	baz=353						
KZA				⇑*i*S	**Sn**	**00 17 03.9**	**+3.0**
	baz=353						
ARSB	**Arslanbob**	**2.55**	**312**	⇓*e*P	**Pn**	**00 16 35.1**	**+1.8**
	baz=309						
ARSB				⇓*i*S	**Sb**	**00 17 08.7**	**-1.5**
ULHL	**Ulahol**	**2.66**	**12**	⇑*i*P	**Pn**	**00 16 36.2**	**+1.4**
	baz=10.0						
ULHL				⇑*i*S	**Sn**	**00 17 08.0**	**+2.0**
	baz=10.0						
UCH	**Uchtor**	**2.69**	**344**	⇑*i*P	**Pn**	**00 16 37.0**	**+1.6**
	baz=342						
UCH				⇑*i*S	**Sb**	**00 17 11.6**	**-2.8**
	baz=342						
AML	**Almayashu**	**2.84**	**332**	⇑*i*P	**Pn**	**00 16 39.6**	**+2.1**
	baz=329						
AML				⇑*i*S	**Sb**	**00 17 15.7**	**-3.0**
	baz=329						
BOOM	**Boomskoye usch**	**2.86**	**6**	⇑*i*P	**Pn**	**00 16 38.9**	**+1.3**
	baz=5.0						
BOOM				⇑*i*S	**Sn**	**00 17 12.6**	**+1.6**
	baz=5.0						
KBK	**Karagaybulak**	**3.04**	**352**	⇑*i*P	**Pn**	**00 16 42.2**	**+2.2**
	baz=350						
KBK				⇑*i*S	**Sn**	**00 17 18.5**	**+3.1**
	baz=350						
TOKL	**Toktogul**	**3.04**	**320**	⇑*e*P	**Pn**	**00 16 42.1**	**+2.1**
	baz=317						
TOKL				⇑*i*S	**Sn**	**00 17 19.8**	**+4.4**
	baz=317						
AAK	**Ala-Archa**	**3.09**	**346**	Pn	**Pn**	**00 16 43.1**	**+2.4**
	36nm,0.3s,baz=153,slow=8.3,SNR=315						
AAK				Sn	**Sb**	**00 17 23.1**	**-2.4**
	74nm,0.3s,baz=292,slow=19,SNR=16						
AAK	**Ala-Archa**	**3.09**	**346**	⇑*i*P	**Pn**	**00 16 43.0**	**+2.4**
	baz=344						
AAK				⇑*i*S	**Sn**	**00 17 19.9**	**+3.4**
	baz=344						
AAK	**Ala-Archa**	**3.09**	**346**	⇑Pn	**Pn**	**00 16 41.8**	**+1.1**
	148nm,0.7s						
AAK				⇑Lg	Lg	00 17 24.1	
	264nm,0.5s						
AAK	**Ala-Archa**	**3.09**	**346**	*e*Pn	**Pn**	**00 16 43.1**	**+2.4**
AAK				*e*Sn	**Sn**	**00 17 12.8**	**-3.7**
FRU1	**Bishkek**	**3.23**	**348**	⇑*i*P	**Pn**	**00 16 44.2**	**+1.6**
	baz=347						
FRU1				⇑*i*S	**Sn**	**00 17 22.1**	**+2.1**
	baz=347						
FRU	**Bishkek**	**3.26**	**348**	*e*PN	**Pn**	**00 16 46.0**	**+3.1**
FRU				*i* S	**Sb**	**00 17 30.0**	**-0.3**
FRU				pmax	pmax		
	comp=Z,200nm,1.4s						
FRU				smax	smax		
	comp=N,920nm,1.6s						
TKM2	**Tokmak 2**	**3.27**	**1**	⇑*i*P	**Pn**	**00 16 45.0**	**+1.7**
	baz=360						
TKM2				⇑*i*S	**Sn**	**00 17 23.1**	**+1.9**
	baz=360						
TKM2	**Tokmak 2**	**3.27**	**1**	⇑Pn	**Pn**	**00 16 45.2**	**+1.9**
	comp=N,60nm,0.6s						
TKM2				⇑Lg	Lg	00 17 29.7	
	comp=N,250nm,0.8s						
TKM2	**Tokmak 2**	**3.27**	**1**	*e*PN	**Pn**	**00 16 45.2**	**+1.9**
EKS2	**Erkin-Say**	**3.29**	**337**	⇑*i*P	**Pn**	**00 16 45.6**	**+2.3**
	baz=335						
EKS2				⇑*i*S	**Sn**	**00 17 25.4**	**+4.0**
	baz=335						
CHMS	**Chumysh**	**3.40**	**351**	⇑*i*P	**Pn**	**00 16 47.1**	**+2.3**
	baz=349						
CHMS				⇑*i*S	**Sn**	**00 17 27.2**	**+3.1**
	baz=349						
KST	**Kastek**	**3.41**	**6**	*e*P	**Pn**	**00 16 47.1**	**+2.0**
	comp=N,36nm,0.7s						
KST				*e*S	**Sb**	**00 17 35.6**	**+0.7**
	comp=N,323nm,0.8s						
ARK	**Arkit**	**3.45**	**310**	⇑*i*P	**Pn**	**00 16 47.3**	**+1.8**
	baz=307						
ARK				⇑*i*S	**Sn**	**00 17 29.1**	**+3.8**
	baz=307						
IZV	**Izvestkoviy**	**3.49**	**13**	*e*P	**Pn**	**00 16 47.6**	**+1.4**
	comp=N,112nm,0.6s						
IZV				*e*S	**Sb**	**00 17 36.6**	**-0.5**
	comp=N,287nm,0.6s						
ANVS	**Anan'yevo**	**3.53**	**27**	⇑*i*P	**Pn**	**00 16 47.9**	**+1.1**
	baz=26						
ANVS				⇑*i*S	**Sn**	**00 17 28.4**	**+0.8**
	baz=26						
MRKS	**Merke**	**3.54**	**332**	*e*P	Pn	00 16 51.1	+4.2
	comp=N,60nm,0.3s						
MRKS				*e*S	**Sb**	**00 17 41.6**	**+3.0**
	comp=N,364nm,0.5s						
MTBS	**Maitube**	**3.55**	**11**	*e*P	**Pn**	**00 16 49.3**	**+2.3**
	comp=N,116nm,0.6s						
MTBS				*e*S	**Sb**	**00 17 39.5**	**+0.7**
	comp=N,209nm,0.4s						
TNSS	**Tian-Shan**	**3.56**	**17**	*e*P	**Pn**	**00 16 48.9**	**+1.5**
	comp=N,195nm,0.7s						
TNSS				*e*S	**Sb**	**00 17 38.8**	**-0.5**
	comp=N,334nm,0.9s						
PRZ	**Przheval'sk**	**3.58**	**37**	⇓*i*P	**Pn**	**00 16 48.6**	**+1.1**
	baz=37						
PRZ				⇓*i*S	**Sn**	**00 17 29.1**	**+0.3**
	baz=37						
DGS	**Degeres**	**3.60**	**3**	*e*P	**Pn**	**00 16 49.2**	**+1.5**
	comp=N,165nm,0.5s						
DGS				*e*S	**Sb**	**00 17 39.4**	**-0.9**
	comp=N,280nm,0.6s						
BTK	**Batken**	**3.63**	**278**	⇑*e*P	**Pn**	**00 16 51.5**	**+3.4**
	baz=276						
BTK				⇑*i*S	**Sb**	**00 17 36.6**	**-4.6**
	baz=276						
MNAS	**Manas**	**3.63**	**322**	⇑*i*P	**Pn**	**00 16 50.1**	**+1.9**
	baz=320						
MNAS				⇑*i*S	**Sn**	**00 17 33.9**	**+3.9**
	baz=320						
MNAS	**Manas**	**3.63**	**322**	⇑Pn	**Pn**	**00 16 50.0**	**+1.8**
	comp=N,20nm,0.5s						
MNAS				⇑Lg	Lg	00 17 42.7	
	comp=N,130nm,1.1s						
MNAS	**Manas**	**3.63**	**322**	PN	**Pn**	**00 16 49.0**	**+0.8**
USP	**Ospenovka**	**3.70**	**349**	⇑*i*P	**Pn**	**00 16 50.7**	**+1.8**
	baz=347						
USP				⇑*i*S	**Sn**	**00 17 34.4**	**+3.0**
	baz=347						
MDOK	**Medeo**	**3.70**	**18**	⇓Pn	**Pn**	**00 16 51.0**	**+1.9**
MDOK				⇓Lg	Lg	00 17 43.8	
MDOK	**Medeo**	**3.70**	**18**	*e*P	**Pn**	**00 16 51.0**	**+1.9**
	comp=N,54nm,0.6s						
MDOK				*e*S	**Sb**	**00 17 42.2**	**-1.0**
	comp=N,145nm,1.0s						
AAA	**Alma-Ata**	**3.72**	**16**	*e*PN	**Pn**	**00 16 52.3**	**+3.1**
AAA				*e*S	**Sb**	**00 17 44.7**	**+1.2**
AAA				pmax	pmax		
	comp=Z,144nm,0.7s						
AAA				smax	smax		
	comp=E,352nm,0.7s						
KNDC	**Almaty**	**3.73**	**17**	⇓Pn	**Pn**	**00 16 51.2**	**+1.7**
	comp=E,124nm,0.8s						
KNDC				⇓Lg	Lg	00 17 45.2	
	comp=E,372nm,0.8s						
KOTS	**Kotyrbulak**	**3.79**	**18**	*e*P	**Pn**	**00 16 52.1**	**+1.8**
KOTS				*e*S	**Sb**	**00 17 44.4**	**-1.2**
SATY	**Saty**	**4.05**	**32**	*e*P	**Pn**	**00 16 55.8**	**+1.9**
	comp=E,19nm,0.7s						
SATY				*e*S	**Sb**	**00 17 50.4**	**-2.8**
	comp=E,183nm,1.3s						
KTBS	**Karatobe**	**4.16**	**12**	*e*P	**Pn**	**00 16 57.7**	**+2.4**
KTBS				*e*S	**Sb**	**00 17 54.0**	**-2.2**
KUU	**Kurty**	**4.29**	**8**	*e*P	Pn	00 17 01.9	+4.8
	comp=E,36nm,0.5s						
KUU				*e*S	**Sb**	**00 18 01.0**	**+1.0**
	comp=E,335nm,0.6s						
KURS	**Kuram**	**4.33**	**27**	*e*P	**Pn**	**00 16 59.3**	**+1.7**
KURS				*e*S	**Sb**	**00 17 56.9**	**-4.3**
CHKK	**

comp=E,144nm,1.0s
PDGK Podgornoye 4.74 38 PN **Pn 00 17 05.0 +1.6**
IUG Iuzhnay 4.84 303 *eP* **Pb 00 17 20.5 +2.3**
comp=E,42nm,0.5s
IUG *eS* Sb 00 18 33.3 +17
comp=E,187nm,1.1s
ARXS Arharly 4.88 20 *eP* Pb 00 17 12.2 -6.6
comp=E,10nm,0.9s
ARXS *eS* **Sb 00 18 18.6 +1.6**
comp=E,75nm,0.9s
MNBS Baschi 4.93 25 *eP* Pn 00 17 11.4 +5.4
comp=E,14nm,0.7s
MNBS *eS* **Sb 00 18 17.4 -1.0**
comp=E,48nm,0.5s
KK31 Karatay Array 5.11 314 ⇑Pn **Pn 00 17 09.0 +0.8**
comp=E,3.5nm,0.4s,baz=123,slow=13,SNR=104
KK31 ⇓Lg Lg 00 18 30.5
comp=E,18nm,0.6s,baz=131,slow=29,SNR=4.4
KK31 Karatay Array 5.11 314 *e*PN **Pn 00 17 08.9 +0.7**
KKAR Karatay Array 5.11 314 *e*PN **Pn 00 17 09.3 +1.1**
KKAR Karatay Array 5.11 314 *e*Pn **Pn 00 17 09.3 +1.1**
KKAR *e*Sn **Sn 00 18 03.7 -2.4**
KTMS Ketmen 5.26 42 *eP* Pb 00 17 19.1 -6.1
comp=E,3.0nm,0.4s
KTMS *eS* **Sb 00 18 30.9 +3.0**
comp=E,29nm,1.1s
DJR Jarkent 5.67 33 *eP* Pn 00 17 22.9 +6.9
comp=E,23nm,0.5s
DJR *eS* **Sb 00 18 37.3 -2.3**
comp=E,18nm,0.7s
TDK Taldyqorghan 5.77 21 *eP* Pb 00 17 27.8 -6.0
comp=E,9.7nm,0.2s
TDK *eS* **Sb 00 18 45.8 +3.3**
comp=E,24nm,0.6s
CHCP Chirah Chowk 6.24 197 P Pn 00 17 30.6 +6.7
KAPS Kapalarasan 6.32 26 *eP* Pb 00 17 36.9 -6.2
comp=E,12nm,0.5s
KAPS ⇑*i*S **Sb 00 19 01.5 +3.4**
comp=E,21nm,0.6s
CEP Cherat 6.49 208 P Pn 00 17 33.5 +6.1
KBL Kabul 7.25 227 *eP* **Pn 00 17 40.4 +2.5**
KBL Kabul 7.25 227 *e*Pn **Pn 00 17 40.4 +2.5**
THW Thamme Wali 7.48 205 P Pn 00 17 46.2 +5.3
SARP Sargodha 8.04 197 P Pn 00 17 52.7 +4.1
MK01 Makanchi Array 8.68 33 *e*Pn **Pn 00 17 57.8 +0.6**
MK31 Makanchi Array 8.69 32 Pn **Pn 00 17 58.3 +0.8**
comp=E,2.3nm,0.6s,baz=213,slow=14,SNR=9.8
MK31 ⇓Lg Lg 00 20 24.8
comp=E,6.5nm,0.8s
MK31 Makanchi Array 8.69 32 *eP* **Pn 00 17 58.3 +0.8**
MK31 Makanchi Array 8.69 32 *e*Pn **Pn 00 17 58.9 +1.4**
MKAR Makanchi Array 8.69 32 *eP* **Pn 00 17 58.9 +1.4**
MKAR Makanchi Array 8.69 32 *e*Pn **Pn 00 17 58.9 +1.4**
WMQ Urumqi 10.02 61 P **Pn 00 18 14.5 -1.2**
KURBB Kurchatov Arra 11.18 10 Pn **Pn 00 18 31.1 -0.4**
comp=E,0.0nm,0.3s,baz=192,slow=12,SNR=6.4
KURBB Lg Lg 00 21 36.0
comp=E,0.1nm,0.3s,baz=196,slow=31,SNR=4.3
KURBB Kurchatov Arra 11.18 10 ⇑Lg Lg 00 21 42.7
comp=E,31nm,0.8s
KURK Kurchatov 11.29 10 *eP* **Pn 00 18 32.8 -0.1**
KURK Kurchatov 11.29 10 *e*Pn **Pn 00 18 31.1 -1.8**
KURK Lg Lg 00 21 36.0
PYUN Piuthan 13.08 149 *eP* **Pn 00 18 56.3 -1.4**
comp=E,27nm,0.4s
KOLN Koldanda 13.62 148 *eP* **Pn 00 19 03.5 -1.6**
comp=E,25nm,0.4s
BVA0 Borovoye Array 13.84 347 Pn **Pn 00 19 08.8 +1.1**
comp=E,4.3nm,0.7s,baz=144,slow=8.5,SNR=17
BVA0 ⇑Lg Lg 00 23 02.6
comp=E,10.0nm,1.0s,baz=160,slow=24,SNR=3.6
BVAR Borovoye Array 13.84 347 Pn **Pn 00 19 05.7 -2.0**
comp=E,0.3nm,0.3s,baz=155,slow=13,SNR=16
BVAR Lg Lg 00 23 02.6
comp=E,0.3nm,0.3s,baz=153,slow=28,SNR=6.5
GKN Gorkha 13.86 144 *eP* **Pn 00 19 06.9 -1.4**
comp=E,28nm,0.3s
BRVK Borovoye 13.89 347 *eP* **Pn 00 19 07.7 -0.7**
BRVK Borovoye 13.89 347 *e*Pn **Pn 00 19 06.4 -2.0**
KKN Kakani 14.34 143 *eP* **Pn 00 19 13.0 -1.9**
comp=E,21nm,0.5s
DMN Daman 14.41 144 *eP* **Pn 00 19 14.1 -1.9**
comp=E,13nm,0.4s
GUN Gumba 14.52 141 *eP* **Pn 00 19 16.5 -1.1**
comp=E,19nm,0.3s
PKIN Phulchoki 14.57 143 *eP* **Pn 00 19 16.4 -1.8**
comp=E,16nm,0.3s
PKI Pulchoki 14.58 143 *eP* **Pn 00 19 16.6 -1.8**
comp=E,23nm,0.4s
AB31 Akbulak array 14.67 316 Pn **Pn 00 19 21.6 +2.6**
comp=E,2.2nm,0.7s,baz=122,slow=12,SNR=26
ABKAR Akbulak array 14.67 316 *e*Pn **Pn 00 19 17.7 -1.3**
JIRN Jiri 14.88 140 *eP* **Pn 00 19 21.1 -1.4**
comp=E,419nm,0.4s
ZAA0 Zalesovo Array 15.64 21 *e*Pn **Pn 00 19 30.5 -1.4**
ZALV Zalesovo Beam 15.64 21 Pn **Pn 00 19 29.7 -2.2**
comp=E,0.2nm,0.3s,baz=208,slow=10,SNR=7.7
ZALV LR LR 00 25 44.4
comp=E,62nm,18.1s,baz=259,slow=38
ZAA1 Zalesovo Array 15.65 21 *e*Pn **Pn 00 19 29.7 -2.2**
RAMN Ramite 15.68 141 *eP* **Pn 00 19 30.0 -2.7**
comp=E,30nm,0.4s
TAPN Taplejung 15.92 137 *eP* **Pn 00 19 33.6 -2.3**
comp=E,8.3nm,0.3s
ODAN Odare 16.14 139 *eP* **Pn 00 19 36.6 -2.2**
comp=E,24nm,0.6s
AKTO Aktyubinsk 16.36 317 Pn **Pn 00 19 40.6 -0.5**
comp=E,0.2nm,0.3s,baz=116,slow=19,SNR=7.2
AKTO Lg Lg 00 24 28.3
comp=E,0.1nm,0.3s,baz=209,slow=19,SNR=2.2
AKTO LR LR 00 25 34.7
comp=E,27nm,18.8s,baz=204,slow=36
AKTO Aktyubinsk 16.36 317 ⇑Pn **P 00 19 44.2 +0.4**
comp=E,4.7nm,1.0s
ARU Arti 20.16 332 P **P 00 20 25.5 +0.1**
comp=E,3.4nm,0.7s,baz=133,slow=6.4,SNR=9.1
ARU Lg Lg 00 26 29.7
comp=E,0.7nm,0.3s,baz=294,slow=19,SNR=2.5
ARU LR LR 00 28 53.4
comp=E,41nm,20.9s,baz=129,slow=39
ARU Arti 20.16 332*d* *i*P **P 00 20 25.8 +0.4**
ARU 00 20 34.8
ARU pmax pmax
comp=E,2.0nm,0.6s
ARU Arti 20.16 332 *e*P **P 00 20 25.9 +0.4**
comp=E,4.7nm,0.8s
ARU Lg Lg 00 26 29.7
GNI Garni 23.55 281 P **P 00 21 01.3 -0.4**
comp=E,4.6nm,0.8s,baz=98,slow=19,SNR=3.5
SONA0 Songino Array 23.65 60 *eP* **P 00 21 01.9 -0.6**
comp=E,2.9nm,1.2s
SONM Songino Array 23.65 60 P **P 00 21 01.9 -0.6**
comp=E,0.3nm,0.4s,baz=278,slow=10.0,SNR=3.0
KBZ Khabaz 24.60 290 LR LR 00 32 36.3
comp=E,42nm,19.1s,baz=42,slow=41
KVAR Kislovodsk Arr 24.74 291 LR LR 00 32 16.2
comp=E,20nm,18.0s,baz=7.0,slow=40
HHC Hu-ho-hao-te 27.43 76 *eP* P 00 21 45.7 +8.8
HHC pmax pmax
comp=E,10.0nm,1.3s
HHC pmax pmax
comp=E,48nm,5.3s
BR101 Keskin Array S 32.01 284 *eP* **P 00 22 18.7 +1.2**
BRTR Keskin Array B 32.01 284 P **P 00 22 18.7 +1.2**
comp=E,1.7nm,0.7s,baz=95,slow=8.0,SNR=10
BR231 Keskin MP Arra 32.63 284 *eP* **P 00 22 19.5 -3.4**
AKASG Malin Array Be 33.92 305 P **P 00 22 33.7 -0.2**
comp=E,0.2nm,0.3s,baz=79,slow=7.8,SNR=3.8
AKBB Malin Array Si 33.92 305 *eP* **P 00 22 33.7 -0.2**
AKBB pmax pmax
comp=E,4.0nm,1.0s
AKBB Malin Array Si 33.92 305 *eP* **P 00 22 33.7 -0.2**
comp=E,3.7nm,1.0s
FIA1 FINESS Array S 37.00 323 *eP* **P 00 22 60.0 -0.2**
FIA0 FINESS Array S 37.00 323 *eP* **P 00 22 59.8 -0.4**
FIA0 FINESS Array S 37.00 323 *eP* **P 00 22 59.8 -0.4**
FINES FINESS Array B 37.00 323 P **P 00 22 59.8 -0.4**
comp=E,1.9nm,0.5s,baz=113,slow=9.1,SNR=20
FINES FINESS Array B 37.00 323 *i* P **P 00 22 59.5 -0.7**
FINES pmax pmax
comp=E,2.0nm,0.4s
ARA0 ARCESS Array S 39.70 335 *eP* **P 00 23 22.1 -0.7**
ARCES ARCESS Array B 39.70 335 P **P 00 23 22.7 -0.1**
comp=E,2.0nm,0.6s,baz=113,slow=9.3,SNR=5.1
NB200 NORSAR Array S 44.10 321 *eP* **P 00 23 58.5 -0.4**
NOA NORSAR Array B 44.10 321 P **P 00 23 58.5 -0.4**
comp=Z,0.8nm,0.6s,baz=91,slow=8.1,SNR=2.6
GERES GERESS Array B 44.10 303 P **P 00 23 59.5 +0.3**
comp=Z,1.4nm,0.7s,baz=61,slow=6.7,SNR=9.2
GEA0 GERESS Array S 44.11 303 *eP* **P 00 24 00.0 +0.9**
ESDC Sonseca Array 59.14 298 P **P 00 25 51.7 +0.1**
comp=Z,0.8nm,0.6s,baz=56,slow=7.3,SNR=9.7
TOA1 Torodi Ar. Sit 69.31 270 *eP* **P 00 26 58.4 0.0**
comp=Z,18nm,1.8s
TORD Torodi Ar. Bea 69.31 270 P **P 00 26 58.4 -0.1**
comp=Z,0.8nm,0.5s,baz=50,slow=5.6,SNR=20
INK Inuvik 70.19 11 P **P 00 27 01.8 -1.2**
comp=Z,3.6nm,0.9s,baz=32,slow=2.7,SNR=4.5
INK Inuvik 70.19 11 P **P 00 27 01.8 -1.2**
INK pmax pmax
comp=Z,3.0nm,0.7s
INK Inuvik 70.19 11 *eP* **P 00 27 01.8 -1.2**
comp=Z,15nm,1.5s
ILAR Eielson Array 70.75 18 P **P 00 27 05.4 -1.1**
comp=Z,0.5nm,0.7s,baz=328,slow=5.5,SNR=5.2
ILB Eielson Array 70.75 18 *eP* **P 00 27 05.4 -1.1**
YKA Yellowknife Ar 77.88 5 P **P 00 27 47.6 -0.5**
comp=Z,1.1nm,0.6s,baz=343,slow=5.7,SNR=3.9
YKB5 Yellowknife Ar 77.88 5 *eP* **P 00 27 47.6 -0.5**
WR1 Warramunga Arr 80.77 125 *eP* **P 00 28 03.3 -1.1**
comp=Z,19nm,1.5s
WRA Warramunga Arr 80.77 125 P **P 00 28 03.3 -1.1**
comp=Z,0.2nm,0.6s,baz=320,slow=4.4,SNR=3.0
AS31 Alice Springs 83.26 128 *eP* **P 00 28 17.9 +0.5**
comp=Z,8.3nm,1.9s
ASAR Alice Springs 83.26 128 P **P 00 28 17.9 +0.5**
comp=Z,0.3nm,0.5s,baz=316,slow=5.1,SNR=3.7

KRSC 08 00:16:43.5±0.7, 55.47N×163.27E, h18km±8km, ML3.7, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KBG	**Krutoberegovo**	**0.85**	**338**	*eP*	Pb	00 16 58.8	-0.9
KBG				*eS*	Sb	00 17 10.9	+0.1
MKZ	**Mys Kozlova**	**1.27**	**225**	*eP*	Pb	00 17 06.7	-0.2
MKZ				*eS*	Sn	00 17 23.4	+0.4
BKI	**Bering**	**1.56**	**99**	*eP*	Pb	00 17 11.4	-0.5
BKI				*eS*	Sb	00 17 32.4	+1.1
BZMR	**Bezymyannaya**	**1.64**	**288**	*eP*	Pn	00 17 11.9	+0.3
BZMR				S	Sb	00 17 34.7	+1.0
KIRR	**Kirishev**	**1.73**	**288**	*eP*	Pb	00 17 14.0	-0.8
KMNR	**Kamenistaya**	**1.75**	**281**	*eP*	Pb	00 17 14.2	-0.9
KMNR				*eS*	Sb	00 17 37.4	+0.7
TUMR	**Tumrok**	**1.79**	**265**	*eP*	Pb	00 17 15.4	-0.5
KRER	**Koryakskii**	**3.42**	**233**	P	Pn	00 17 38.6	+2.5
KRMR	**Karymshinskiy**	**4.02**	**231**	P	Pn	00 17 47.3	+3.3
KRMR				S	Sn	00 18 35.2	+4.6

*ISCJB **08** 00:30:33.1±0.3, 58.56N±0.03×153.14W±0.06, h78km±4km, mb3.8/1, Error ellipse: s-maj=5.8km s-min=3.8km az=40.3*
*NEIC **08** 00:30:35.6±0.0, 58.56N×153.29W, h63km, ML3.3(AEIC), After AEIC.*
*IDC **08** 00:30:36.3±6.3, 58.79N×152.91W, h65km±62km, mb3.4/1, mb1 4.0/5, mb1mx3.4/40, mbtmp4.0/5, ML3.9/4, Error ellipse: s-maj=49.6km s-min=34.5km az=47.0*
ISC 08 00:30:34.7±1.0, 58.58N±0.04×153.19W±0.04, h67km±8km, n77, σ0°88/90, Kodiak Island region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FOPK	**Fourpeaked Vol**	**0.23**	**321**	P	**Pn**	**00 30 44.5**	**-0.7**
FOSS	**Fourpeaked Sta**	**0.34**	**310**	P	**Pn**	**00 30 45.4**	**-0.5**
CDD	**Cape Douglas**	**0.42**	**326**	P	**Pn**	**00 30 46.2**	**-0.4**
FONW	**Fourpeaked Sta**	**0.46**	**304**	P	**Pn**	**00 30 46.3**	**-0.7**
FONW				S	**Sn**	**00 30 55.4**	**-0.5**
KAPH	**Katmai Pasha**	**0.60**	**272**	P	**Pn**	**00 30 47.9**	**-0.5**
KAPH				S	**Sn**	**00 30 58.2**	**-0.3**
AUI	**Augustine Isla**	**0.77**	**351**	P	**Pn**	**00 30 50.2**	**0.0**
AUI				S	**Sn**	**00 31 02.0**	**+0.4**
AUE	**Augustine Isla**	**0.79**	**353**	P	**Pn**	**00 30 50.8**	**+0.4**
AUE				S	**Sn**	**00 31 02.3**	**+0.3**
KARR	**Katmai Rainbow**	**0.80**	**265**	P	**Pn**	**00 30 50.4**	**-0.1**
KARR				S	**Sn**	**00 31 01.5**	**-0.8**
AUNW	**Augustine NWes**	**0.82**	**350**	P	**Pn**	**00 30 51.0**	**+0.3**
AUNW				S	**Sn**	**00 31 02.1**	**-0.4**
KDAK	**Kodiak Island**	**0.86**	**158**	P	**Pn**	**00 30 50.9**	**-0.3**
KDAK				S	**Sn**	**00 31 03.9**	**+0.4**
KAWH	**Katmai**	**0.87**	**258**	P	**Pn**	**00 30 50.9**	**-0.6**
KAHC	**Katmai Hardscr**	**0.95**	**275**	P	**Pn**	**00 30 51.9**	**-0.6**
KAKN	**Katmai Knife C**	**1.02**	**255**	P	**Pn**	**00 30 52.8**	**-0.6**
KAKN				S	**Sn**	**00 31 07.0**	**-0.3**
KABR	**Katmai Barrier**	**1.04**	**245**	P	**Pn**	**00 31 05.5**	**+0.2**
KVTA	**Katmai Vly 10**	**1.12**	**261**	P	**Pn**	**00 30 54.3**	**-0.3**
KELA	**Mount Kelaz**	**1.34**	**265**	P	**Pn**	**00 30 56.8**	**-0.7**
HOM	**Homer**	**1.35**	**36**	P	**Pn**	**00 30 58.2**	**+0.8**
HOM				S	**Sn**	**00 31 17.3**	**+2.7**
OHAK	**Old Harbor**	**1.36**	**182**	P	**Pn**	**00 30 57.1**	**-0.5**
ILS	**Iliamna Low So**	**1.39**	**3**	P	**Pn**	**00 30 58.2**	**+0.1**
CNPM	**China Poot**	**1.39**	**46**	P	**Pn**	**00 30 58.4**	**+0.3**
ILIM	**Iliamna**	**1.51**	**4**	P	**Pn**	**00 30 59.9**	**+0.2**
BRLK	**Bradley Lake**	**1.68**	**44**	P	**Pn**	**00 31 01.9**	**-0.1**
PLK3	**Peulik 3**	**1.86**	**243**	P	**Pn**	**00 31 04.5**	**+0.1**
PLK3				S	**Sn**	**00 31 26.8**	**-0.1**
RED	**Redoubt Volcan**	**1.86**	**6**	P	**Pn**	**00 31 04.6**	**+0.2**
RDWB	**Redoubt West**	**1.92**	**5**	P	**Pn**	**00 31 05.5**	**+0.2**
RDWB				S	**Sn**	**00 31 28.8**	**+0.1**
PLK4	**Peulik 4**	**1.93**	**242**	P	**Pn**	**00 31 05.5**	**+0.2**
PLK1	**Peulik 1**	**1.97**	**248**	P	**Pn**	**00 31 06.0**	**+0.2**
RDJH	**Redoubt Jeurge**	**2.03**	**5**	P	**Pn**	**00 31 07.2**	**+0.4**
RDJH				S	**Sn**	**00 31 32.2**	**+1.1**
SLKM	**Skilak Lake**	**2.46**	**37**	P	**Pn**	**00 31 12.2**	**-0.2**
CKL	**Chakachamna La**	**2.66**	**9**	P	**Pn**	**00 31 16.2**	**+0.9**
SPCR	**Spurr Chakacha**	**2.68**	**10**	P	**Pn**	**00 31 16.2**	**+0.7**
SPWE	**Spurr West**	**2.72**	**6**	P	**Pn**	**00 31 17.2**	**+1.1**
SVW2	**Sparrevohn**	**2.80**	**336**	P	**Pn**	**00 31 16.9**	**-0.1**
STLK	**Strandline Lak**	**3.01**	**13**	P	**Pn**	**00 31 20.6**	**+0.6**
FIB	**Fire Island**	**3.01**	**29**	P	**Pn**	**00 31 20.9**	**+1.1**
RC01	**Rabbit Creek A**	**3.06**	**33**	P	**Pn**	**00 31 20.9**	**+0.2**
ANNE	**Aniakchak Nort**	**3.10**	**239**	P	**Pn**	**00 31 20.8**	**-0.3**
SUA	**Susitna One**	**3.15**	**22**	P	**Pn**	**00 31 22.6**	**+0.8**
PWL	**Port Wells**	**3.36**	**45**	P	**Pn**	**00 31 24.1**	**-0.6**
SKT	**Skwentna**	**3.51**	**13**	P	**Pn**	**00 31 26.9**	**+0.2**
PMR	**Palmer**	**3.64**	**32**	P	**Pn**	**00 31 28.1**	**-0.4**
KNK	**Knik Glacier**	**3.71**	**38**	P	**Pn**	**00 31 29.5**	**+0.1**
GHO	**Glory Hole Cre**	**3.85**	**32**	P	**Pn**	**00 31 31.3**	**-0.1**
FID	**Port Fidalgo**	**4.04**	**55**	P	**Pn**	**00 31 32.4**	**-1.6**
SMI	**Sawmill**	**4.05**	**35**	P	**Pn**	**00 31 33.9**	**-0.2**
JPK	**Jack Peak**	**4.15**	**50**	P	**Pn**	**00 31 34.8**	**-0.8**
EYAK	**Cordova Ski Ar**	**4.27**	**59**	P	**Pn**	**00 31 36.5**	**-0.6**
VLZ	**Valdez**	**4.30**	**51**	P	**Pn**	**00 31 37.0**	**-0.6**
PPLA	**Purkeypile**	**4.36**	**6**	P	**Pn**	**00 31 38.3**	**-0.2**
SCM	**Sheep Creek Mo**	**4.38**	**39**	P	**Pn**	**00 31 38.6**	**-0.1**
DIV	**Divide**	**4.53**	**52**	P	**Pn**	**00 31 40.2**	**-0.6**
TT01	**Tatalina**	**4.56**	**343**	P	**Pn**	**00 31 41.3**	**+0.3**
TTA	**Tatalina**	**4.58**	**344**	P	**Pn**	**00 31 41.6**	**+0.2**
KLU	**Klutina**	**4.67**	**48**	P	**Pn**	**00 31 42.2**	**-0.5**
BMRM	**Bremner River**	**4.96**	**57**	P	**Pn**	**00 31 45.7**	**-0.8**
RND	**Reindeer**	**5.28**	**22**	P	**Pn**	**00 31 51.5**	**+0.5**
DHY	**Denali Highway**	**5.33**	**30**	P	**Pn**	**00 31 51.7**	**-0.1**
MCK	**McKinley**	**5.57**	**20**	P	**Pn**	**00 31 55.5**	**+0.7**
KIAG	**Kiagna River**	**5.96**	**62**	P	**Pn**	**00 31 59.6**	**-0.7**
RKAV	**Rock Avalanche**	**6.29**	**69**	P	**Pn**	**00 32 05.1**	**+0.4**
BARN	**Barnard Glacie**	**6.33**	**62**	P	**Pn**	**00 32 05.5**	**+0.2**
WRH	**Wood River Hil**	**6.39**	**20**	P	**Pn**	**00 32 05.5**	**-0.6**
SAMH	**Samovar Hills**	**6.54**	**71**	P	**Pn**	**00 32 08.7**	**+0.5**
CCB	**Clear Creek Bu**	**6.61**	**21**	P	**Pn**	**00 32 08.1**	**-0.8**
MDM	**Murphy Dome**	**6.82**	**18**	P	**Pn**	**00 32 11.5**	**-0.4**
ILAR	**Eielson Array**	**6.90**	**23**	P	**Pn**	**00 32 12.1**	**-0.9**
	1.1nm,0.3s,baz=209,slow=14,SNR=30						
ILAR				S	**Sn**	**00 33 24.5**	**-5.4**
	1.1nm,0.3s,baz=206,slow=24,SNR=5.4						
ILB	**Eielson Array**	**6.90**	**23**	P	**Pn**	**00 32 12.3**	**-0.6**
IL1	**Eielson Array**	**6.90**	**23**	P	**Pn**	**00 32 11.9**	**-1.1**
BCA3	**Beaver Creek A**	**7.16**	**46**	P	**Pn**	**00 32 16.9**	**+0.2**
PNL	**Peninsula**	**7.18**	**75**	P	**Pn**	**00 32 16.9**	**0.0**
IM3	**Indian Mountai**	**7.44**	**358**	P	**Pn**	**00 32 20.0**	**-0.3**
WHY	**Whitehorse**	**9.51**	**70**	P	**Pn**	**00 32 48.0**	**-0.7**
BM3	**Burnt Mountain**	**9.68**	**20**	P	**Pn**	**00 32 50.2**	**-0.8**
DLBC	**Dease Lake**	**12.10**	**81**	P	**Pn**	**00 33 22.9**	**-1.2**
	0.9nm,0.3s,baz=270,slow=6.1,SNR=7.0						
INK	**Inuvik**	**13.06**	**34**	P	**Pn**	**00 33 35.6**	**-1.3**
	0.1nm,0.3s,baz=234,slow=7.6,SNR=3.8						
YKA	**Yellowknife Ar**	**19.17**	**62**	P	**P**	**00 34 52.4**	**0.0**
	0.4nm,0.3s,baz=275,slow=10.0,SNR=11						
SONM	**Songino Array**	**55.55**	**307**	P	**P**	**00 40 04.1**	**+1.3**
	0.6nm,0.6s,baz=36,slow=7.4,SNR=3.7						

*GUC **08** 00:38:37.0±0.3, 33.26S×72.44W, h38km±1km, ML3.5*
ISC 08 00:38:29.7±3.5, 33.22S±0.09×72.7W±0.2, h12km, n14, σ1°91/23, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ROCH	**El Roble**	**1.44**	**80**	*eP*	**Pg**	**00 38 59.3**	**+2.0**
ROCH				*eS*	**Sn**	**00 39 16.1**	**+1.3**
ROCH				IAML		00 39 19.6	
	comp=E,2μm,0.8s						
PEL	**Peldehue**	**1.69**	**88**	*eP*	**Pg**	**00 39 02.7**	**+0.5**
PEL				*eS*	**Sg**	**00 39 22.0**	**-2.0**
PEL				IAML		00 39 32.8	
	comp=N,861nm,0.5s						
ANTU	**Antumapu**	**1.76**	**102**	*eP*	**Pg**	**00 39 03.6**	**+0.1**
ANTU				*eS*	**Sg**	**00 39 24.1**	**-2.3**
ANTU				IAML		00 39 32.0	
	comp=N,1μm,0.8s						
CLCH	**Cerro Calan**	**1.82**	**96**	*eP*	**Pg**	**00 39 04.8**	**+0.2**
CLCH				*eS*	**Sg**	**00 39 25.8**	**-2.4**
CLCH				IAML		00 39 36.7	
	comp=N,1μm,0.7s						
FSR	**Penalolen**	**1.83**	**99**	*eP*	**Pb**	**00 39 04.8**	**+1.6**
FSR				*eS*	**Sg**	**00 39 26.1**	**-2.6**
SJCH	**San Jose de Ma**	**2.00**	**103**	*eP*	**Pb**	**00 39 07.2**	**+1.1**
SJCH				*eS*	**Sb**	**00 39 30.4**	**-0.7**
SJCH				IAML		00 39 40.5	
	comp=N,434nm,0.4s						
FCH	**Farellones**	**2.02**	**94**	*eP*	**Pb**	**00 39 08.2**	**+1.6**
FCH				*eS*	**Sg**	**00 39 32.0**	**-2.7**
AUSP	**Uspallata**	**2.96**	**71**	*i* P	**Pb**	**00 39 24.3**	**+1.7**
ARCO	**CERRO ARCO**	**3.19**	**84**	*i* P	**Pb**	**00 39 26.2**	**-0.1**
ARCO				IAML		00 39 34.5	
	comp=Z,146nm,0.4s						
ARCO				*i* S	**Sg**	**00 40 16.2**	**+4.1**
AAGR	**Agrelo**	**3.25**	**89**	*i* P	**Pb**	**00 39 26.0**	**-1.4**
ASAL	**Salagasta**	**3.31**	**80**	*i* P	**Pb**	**00 39 27.5**	**-0.9**
ACCO	**Cerro Coronel**	**4.05**	**51**	*i* P	**Pb**	**00 39 40.2**	**-1.0**
ACCO				*i* S	**Sg**	**00 40 40.8**	**+0.8**
ACCO				IAML		00 40 53.0	
	comp=Z,36nm,0.5s						
AROD	**Rodeo**	**4.10**	**43**	*i* P	**Pb**	**00 39 40.8**	**-1.3**
AMOG	**MOGNA**	**4.23**	**59**	*i* P	**Pb**	**00 39 41.9**	**-2.2**

*ISCJB **08** 00:42:12.6±0.5, 42.11N±0.07×133.63E±0.09, h448km, mb3.3/8, Error ellipse: s-maj=9.4km s-min=8.4km az=143.8*
*IDC **08** 00:42:14.0±1.0, 41.99N×133.63E, h464km±7km, mb3.0/9, mb1 3.2/13, mb1mx3.0/36, mbtmp3.8/13, Error ellipse: s-maj=22.4km s-min=14.5km az=88.0*
*JMA **08** 00:42:15.4±0.5, 41.75N×134.24E, h509km, M3.5*
ISC 08 00:42:13.5±0.7, 42.03N±0.09×133.76E±0.08, h448km, n19, σ1°75/21, mb3.4/8, Primorye

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
USRK	**Ussuriysk Ar.**	**2.53**	**330**	P	**P**	**00 43 19.9**	**+3.1**
	6.3nm,0.3s,baz=147,slow=5.0,SNR=97						
USRK				S	**S**	**00 44 11.1**	**+2.6**
	baz=162,slow=10.0,SNR=3.3						
JKB	**Kayabe**	**5.43**	**89**	P	**P**	**00 43 44.0**	**+2.2**
JOT	**Ohata**	**5.50**	**94**	P	**P**	**00 43 45.0**	**+2.5**
KSRS	**Korea Array**	**6.41**	**226**	P	**P**	**00 43 53.7**	**+1.8**
	0.7nm,0.3s,baz=44,slow=9.8,SNR=9.5						
JHS	**Saijyo**	**7.04**	**184**	P	**P**	**00 44 00.8**	**+2.1**
JCH	**Churui**	**7.14**	**82**	P	**P**	**00 44 01.1**	**+1.5**
JCH				*eS*	**S**	**00 45 25.5**	**-1.0**
KLR	**Kul'dur**	**7.34**	**350**	P	**P**	**00 44 02.8**	**+1.2**
	1.2nm,0.3s,baz=171,slow=8.4,SNR=26						
JNU	**Nakatsue**	**9.18**	**195**	P	**P**	**00 44 21.1**	**-0.7**
	1.2nm,0.3s,baz=15,slow=16,SNR=4.1						
JTO	**Tosashimizu**	**9.19**	**185**	P	**P**	**00 44 23.5**	**+1.7**
JSJ	**Shimokoshiki**	**10.82**	**199**	P	**P**	**00 44 40.7**	**+1.0**
SONM	**Songino Array**	**20.16**	**296**	P	**P**	**00 46 16.3**	**-0.1**
	1.0nm,0.4s,baz=95,slow=9.6,SNR=7.0						
ILAR	**Eielson Array**	**48.58**	**34**	P	**P**	**00 50 14.3**	**+0.2**
	0.5nm,0.5s,baz=285,slow=8.4,SNR=7.7						
ARCES	**ARCESS Array B**	**57.16**	**337**	P	**P**	**00 51 15.0**	**-0.7**
	0.6nm,0.4s,baz=48,slow=7.4,SNR=3.1						
FINES	**FINESS Array B**	**61.56**	**329**	P	**P**	**00 51 44.2**	**-1.1**
	2.4nm,0.6s,baz=71,slow=7.2,SNR=11						
WRA	**Warramunga Arr**	**61.66**	**179**	P	**P**	**00 51 45.0**	**-1.5**
	0.3nm,0.4s,baz=354,slow=7.5,SNR=7.4						
AKASG	**Malin Array Be**	**66.68**	**318**	P	**P**	**00 52 16.4**	**-1.8**
	0.3nm,0.2s,baz=50,slow=6.5,SNR=4.8						
NOA	**NORSAR Array B**	**67.19**	**334**	P	**P**	**00 52 19.8**	**-1.6**
	1.0nm,0.8s,baz=57,slow=7.5,SNR=2.9						
GERES	**GERESS Array B**	**75.27**	**324**	P	**P**	**00 53 08.2**	**-1.0**
	0.3nm,0.4s,baz=36,slow=8.5,SNR=3.4						
PDAR	**Pinedale Array**	**78.18**	**42**	P	**P**	**00 53 25.6**	**0.0**
	0.3nm,0.6s,baz=129,slow=2.1,SNR=3.6						

*ISCJB **08** 00:58:42.4±0.5, 27.10N±0.07×126.48E±0.06, h150km±6km, mb3.8/5, Error ellipse: s-maj=13.6km s-min=3.6km az=141.1*
*JMA **08** 00:58:44.7±0.3, 27.09N×126.54E, h146km±5km, M3.7*
*IDC **08** 00:58:44.7±4.0, 27.29N×126.82E, h162km±64km, mb3.5/5, mb1 3.6/5, mb1mx3.2/40, mbtmp4.0/5, MS3.5/2, Ms1 3.5/2, ms1mx2.6/33, Error ellipse: s-maj=160.1km s-min=14.6km az=65.0*
ISC 08 00:58:43.5±0.9, 27.08N±0.07×126.52E±0.06, h155km±8km, n31, σ1°48/46, mb3.7/5, Northwest of Ryukyu Islands

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

0.7nm,0.5s,baz=351,slow=8.3,SNR=4.0
ASAR Alice Springs 50.95 171 P **P** **01 07 31.2 +1.9**
0.4nm,0.4s,baz=0.0,slow=15,SNR=10
WSAR Wadi Sarin 60.90 283 LR LR 01 38 11.1
comp=Z,230nm,20.9s,slow=39

MEX 08 01:01:47.4±0.4, 16°.34N×98°.88W, h15km±6km, MD3.6, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
						ISC	h m s	ISC
PNIG	**Pinotepa**	**0.72**	**86**	*i* P		Pg	01 01 59.0	-2.5
PNIG				*i* S		Sg	01 02 08.4	-2.6
TLIG	**Tlapa**	**1.25**	**14**	*e*P		Pn	01 02 06.6	-3.8
TLIG				*e*S		Sb	01 02 21.7	-5.0
CAIG	**El Cayaco**	**1.50**	**298**	*e*P		Pn	01 02 10.5	-3.3
CAIG				*e*S		Sn	01 02 27.6	-5.6
MEIG	**Mezcala**	**1.73**	**336**	*e*P		Pn	01 02 14.0	-3.0
MEIG				*e*S		Sn	01 02 34.3	-4.5
VHO	**Vista Hermosa**	**2.18**	**70**	*e*P		Pn	01 02 21.9	-1.5

*NNC **08** 01:06:39.8±0.7, 44°.87N×80°.78E, h0km, mb2.8, mpv2.4, Error ellipse: s-maj=33.5km s-min=4.1km az=120.0*
*SOME **08** 01:06:40.2, 44°.83N×80°.83E, h20km*
ISC 08 01:06:40.2±1.3, 44°.84N±0°.04×80°.95E±0°.05, h25km±16km, n20, σ1§41/39, 6C-2D, Kazakhstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
						ISC	h m s	ISC
KAPS	**Kapalarasan**	**1.21**	**292**	*e*P		**Pn**	**01 07 01.4**	**-0.3**
	1.8nm,0.1s							
KAPS				*e*S		**Sn**	**01 07 16.5**	**-0.8**
KTMS	**Ketmen**	**1.46**	**197**	*e*P		**Pn**	**01 07 04.8**	**-0.3**
	9.5nm,0.4s							
KTMS				*e*S		**Sn**	**01 07 22.8**	**-0.7**
	25nm,0.2s							
PDGK	**Podgornoye**	**1.84**	**215**	⇑Pn		**Pb**	**01 07 12.9**	**-0.5**
	3.3nm,0.6s							
PDGK				⇓Sn		**Sb**	**01 07 36.4**	**+0.4**
	33nm,0.5s							
MNBS	**Baschi**	**1.98**	**248**	*e*P		**Pn**	**01 07 13.2**	**+0.9**
	35nm,0.3s							
MNBS				*e*S		**Sn**	**01 07 37.0**	**+0.7**
	72nm,0.4s							
MAKZ	**Makanchi**	**2.09**	**20**	⇑Pn		**Pb**	**01 07 17.2**	**-0.2**
	1.0nm,0.5s							
MAKZ				⇑Sn		**Sb**	**01 07 43.5**	**+0.5**
	3.7nm,0.5s							
KPKS	**Kokpek**	**2.14**	**231**	*e*P		**Pb**	**01 07 17.7**	**-0.6**
	22nm,0.2s							
KPKS				*e*S		**Sb**	**01 07 45.5**	**+1.1**
	112nm,0.4s							
MK31	**Makanchi Array**	**2.16**	**25**	⇓Pn		**Pb**	**01 07 18.0**	**-0.7**
	0.3nm,0.2s,baz=205,slow=14,SNR=53							
MK31				⇑Sn		**Sb**	**01 07 46.2**	**+1.1**
	16nm,0.7s,baz=203,slow=26,SNR=32							
UZB	**Uzynbulak**	**2.19**	**220**	*e*P		**Pb**	**01 07 17.7**	**-1.6**
	2.7nm,0.4s							
UZB				*e*S		**Sb**	**01 07 45.0**	**-1.1**
	27nm,0.4s							
ARXS	**Arharly**	**2.32**	**255**	*e*P		**Pb**	**01 07 19.6**	**-1.8**
	16nm,0.4s							
ARXS				*e*S		**Sb**	**01 07 48.2**	**-1.5**
	56nm,0.4s							
KURS	**Kuram**	**2.42**	**237**	*e*P		**Pb**	**01 07 23.2**	**+0.2**
	5.3nm,0.8s							
KURS				*e*S		**Sb**	**01 07 54.4**	**+2.0**
	9.8nm,0.3s							
SATY	**Saty**	**2.56**	**227**	*e*P		**Pb**	**01 07 25.2**	**-0.4**
	10.0nm,0.1s							
SATY				*e*S		**Sb**	**01 07 58.1**	**+1.4**
	113nm,0.4s							
CHKK	**Chushkaly**	**3.01**	**252**	*e*P		**Pb**	**01 07 30.4**	**-2.7**
	2.7nm,0.4s							
CHKK				*e*S		**Sb**	**01 08 06.6**	**-2.9**
	32nm,0.4s							
KOTS	**Kotyrbulak**	**3.20**	**241**	*e*P		**Pb**	**01 07 35.8**	**-0.6**
KOTS				*e*S		**Sb**	**01 08 15.8**	**+0.7**
KTBS	**Karatobe**	**3.27**	**251**	*e*P		**Pb**	**01 07 36.9**	**-0.7**
KTBS				*e*S		**Sb**	**01 08 17.5**	**+0.6**
MDOK	**Medeo**	**3.28**	**241**	*e*P		**Pb**	**01 07 37.7**	**0.0**
	4.4nm,0.4s							
MDOK				*e*S		**Sb**	**01 08 19.3**	**+2.0**
	11nm,0.6s							
TNSS	**Tian-Shan**	**3.41**	**239**	*e*P		**Pb**	**01 07 40.6**	**+0.5**
	3.0nm,0.6s							
TNSS				*e*S		**Sb**	**01 08 23.7**	**+2.4**
	6.9nm,0.5s							
KUU	**Kurty**	**3.44**	**256**	*e*P		**Pb**	**01 07 41.3**	**+0.8**
	2.6nm,0.1s							
KUU				*e*S		**Sb**	**01 08 24.9**	**+3.1**
	13nm,0.3s							
IZV	**Izvestkoviy**	**3.62**	**242**	*e*P		**Pb**	**01 07 41.8**	**-1.7**
	3.1nm,0.5s							
IZV				*e*S		**Sb**	**01 08 25.9**	**-1.2**
	6.6nm,0.7s							
DGS	**Degeres**	**4.06**	**249**	*e*P		**Pb**	**01 07 50.2**	**-0.9**
	3.1nm,0.3s							
DGS				*e*S		**Sb**	**01 08 40.5**	**+0.7**
	5.3nm,0.5s							
TKM2	**Tokmak 2**	**4.32**	**245**	⇑Pg		**Pb**	**01 07 57.6**	**+2.0**
	1.1nm,0.7s							
TKM2				⇑Lg		Lg	01 08 51.2	
	4.3nm,0.7s							

*MOS **08** 01:08:55.9±1.7, 56°.64N×121°.54E, h8km, mb4.4/1, Error ellipse: s-maj=24.1km s-min=16.6km az=49.0*
*BYKL **08** 01:08:56.0±0.6, 56°.70N×121°.62E*
*YARS **08** 01:08:56.7±0.2, 56°.63N±0°.01×121°.56E±0°.01, h10km*
ISC 08 01:08:53.1±0.6, 56°.68N±0°.03×121°.54E±0°.02, h10km, n64, σ2§75/94, 5C-1D, Southeastern Siberia

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
						ISC	h m s	ISC
KHNR	**Khani**	**0.89**	**286**	*e*Pg		**Pn**	**01 09 13.2**	**+1.6**
KHNR				*e*Pb		**Pb**	**01 09 15.2**	**+4.6**
KHNR				*e*Sg		**Sn**	**01 09 25.6**	**+1.0**
KHN	**Khani**	**0.99**	**285**	*e*P		**Pg**	**01 09 13.2**	**+1.1**
KHN				*e*S		**Sg**	**01 09 25.4**	**+0.5**
CRS	**Chara**	**1.81**	**278**	*e*Pg		**Pg**	**01 09 29.1**	**+1.4**
CRS				*e*			01 09 36.7	
CRS				max			01 09 37.1	
	598nm,0.9s							
CRS				*e*Sg		**Sg**	**01 09 53.7**	**+2.5**
CRS				Smax			01 09 56.3	
	2μm,0.7s							
CRS	**Chara**	**1.81**	**278**	*e*P		**Pg**	**01 09 29.9**	**+2.2**
CRS				*e*			01 09 53.6	
CRS				pmax		pmax		
	comp=Z,601nm,0.7s							
CRS				smax		smax		
	comp=N,3μm,1.8s							
CRS	**Chara**	**1.81**	**278**	*e*P		**Pg**	**01 09 30.3**	**+2.6**
CRS				*e*S		**Sg**	**01 09 53.7**	**+2.5**
CLNS	**Chul'man**	**1.85**	**84**	*e*Pg		**Pg**	**01 09 29.4**	**+0.8**
CLNS				*e*Sg		**Sg**	**01 09 52.9**	**+0.3**
CLNS				*e*			01 09 58.0	
CLNS	**Chul'man**	**1.85**	**84**	*e*P		**Pg**	**01 09 30.3**	**+1.7**
CLNS				*e*			01 09 54.1	
CLNS				pmax		pmax		
	comp=Z,93nm,0.4s							
CLNS				pmax		pmax		
	comp=N,13nm,0.3s							
CLNS				pmax		pmax		
	comp=E,23nm,0.3s							
CLNS				smax		smax		
	comp=Z,85nm,0.3s							
CLNS				smax		smax		
	comp=N,268nm,0.3s							
CLNS				smax		smax		
	comp=E,411nm,0.4s							
CLNS	**Chul'man**	**1.85**	**84**	*e*P		**Pg**	**01 09 30.7**	**+2.1**
CLNS				*e*S		**Sg**	**01 09 54.2**	**+1.6**
IENR	**Iengra**	**1.90**	**103**	⇑*i*Pg		**Pg**	**01 09 29.7**	**+0.2**
IENR				*e*Sn		**Sg**	**01 09 53.4**	**-0.7**
IENR				*e*Sg		**Sg**	**01 09 55.6**	**+1.5**
IENR	**Iengra**	**1.90**	**103**	*e*P		**Pg**	**01 09 31.1**	**+1.6**
IENR				*e*S		**Sg**	**01 09 55.5**	**+1.5**
TNDR	**Tynda**	**2.36**	**129**	⇑*i*Pg		**Pg**	**01 09 37.6**	**-0.7**
TNDR				*e*Sg		**Sg**	**01 10 09.0**	**+0.1**
TNDR	**Tynda**	**2.36**	**129**	*e*P		**Pb**	**01 09 35.8**	**+0.1**
TNDR				*e*P		**Pg**	**01 09 37.7**	**-0.6**
TNDR				*e*S		**Sb**	**01 10 04.0**	**-0.9**
TNDR				*e*S		**Sg**	**01 10 08.7**	**-0.2**
TUP	**Tupik**	**2.44**	**202**	*e*Pn		**Pn**	**01 09 35.7**	**+2.8**
TUP				⇑*i*Pg		**Pb**	**01 09 38.7**	**+1.8**
TUP				Pmax			01 09 44.2	
	comp=E,104nm,0.5s							
TUP				*e*Sg		**Sg**	**01 10 10.4**	**-0.8**
TUP				Smax			01 10 11.9	
	comp=E,3μm,0.6s							
TUP	**Tupik**	**2.44**	**202**	*e*P		**Pn**	**01 09 35.7**	**+2.8**
TUP				*e*S		**Sb**	**01 10 05.7**	**-1.3**
TUP				smax		smax		
	comp=E,3μm,0.6s							
TUP	**Tupik**	**2.44**	**202**	*e*P		**Pn**	**01 09 35.7**	**+2.8**
TUP				*e*P		**Pb**	**01 09 38.7**	**+1.8**
TUP				*e*S		**Sg**	**01 10 10.4**	**-0.8**
ALDR	**Aldan**	**2.84**	**46**	*e*P		**Pb**	**01 09 43.1**	**-0.7**
ALDR				*e*P		**Pg**	**01 09 49.2**	**+1.8**
ALDR				*e*S		**Sb**	**01 10 17.1**	**-1.5**
ALDR				*e*S		**Sg**	**01 10 25.6**	**+1.4**
NLYR	**Nelyaty**	**3.23**	**269**	⇑*i*Pn		**Pb**	**01 09 48.8**	**-1.7**
NLYR				*e*Pg		**Pg**	**01 09 53.7**	**-1.2**
NLYR				*e*			01 10 00.1	
NLYR				max			01 10 00.8	
	comp=E,107nm,0.5s							
NLYR				*e*Sg		**Sg**	**01 10 36.1**	**-0.6**
NLYR				Smax			01 10 40.1	
	comp=E,999nm,1.0s							
NLYR	**Nelyaty**	**3.23**	**269**	*e*P		**Pn**	**01 09 48.5**	**+4.7**
NLYR				*e*			01 10 34.5	
NLYR				smax		smax		
	comp=E,998nm,1.0s							
NLYR	**Nelyaty**	**3.23**	**269**	*e*P		**Pb**	**01 09 48.8**	**-1.7**
NLYR				*e*P		**Pg**	**01 09 53.7**	**-1.2**
NLYR				*e*S		**Sg**	**01 10 36.1**	**-0.6**
OLMR	**Olekminsk**	**3.75**	**352**	*e*P		**Pg**	**01 10 04.5**	**-0.2**
OLMR				*e*S		**Sg**	**01 10 53.4**	**+0.2**
KROS	**Kirovskiy**	**3.82**	**124**	*e*S		**Sb**	**01 10 50.7**	**+3.8**
BOD	**Bodaibo**	**4.25**	**289**	*e*Pg		**Pb**	**01 10 10.7**	**+3.0**
BOD				*e*Sn		**Sn**	**01 10 48.3**	**+1.0**
BOD				*e*Sg		**Sg**	**01 11 06.8**	**-2.5**
BOD				Smax			01 11 11.0	
	comp=E,339nm,1.1s							
BOD	**Bodaibo**	**4.25**	**289**	*e*P		**Pn**	**01 10 02.1**	**+4.4**
BOD				pmax		pmax		
	comp=Z,20nm,0.7s							
BOD	**Bodaibo**	**4.25**	**289**	*e*S		**Sg**	**01 11 06.8**	**-2.5**
SVKR	**Severomuysk**	**4.47**	**266**	*e*Pg		**Pb**	**01 10 16.3**	**+4.7**
SVKR				Pmax			01 10 22.0	
	comp=Z,172nm,0.2s							
SVKR				*e*Sg		**Sg**	**01 11 15.5**	**-0.9**
SVKR				Smax			01 11 21.2	
	comp=Z,661nm,0.6s							
SVKR	**Severomuysk**	**4.47**	**266**	*e*P		**Pb**	**01 10 16.3**	**+4.7**
SVKR				*e*S		**Sg**	**01 11 15.5**	**-0.9**
BMKR	**Bomnak**	**4.58**	**113**	*e*P		**Pg**	**01 10 18.4**	**-2.3**
BMKR				*e*S		**Sn**	**01 10 56.8**	**+1.2**
BMKR				*e*S		**Sg**	**01 11 19.5**	**-0.5**
UKT	**Uakit**	**4.59**	**258**	*e*Pn		**Pn**	**01 10 07.2**	**+4.7**
UKT				⇑*i*Pg		**Pb**	**01 10 17.7**	**+4.1**
UKT				Pmax			01 10 28.5	
	comp=Z,26nm,0.5s							
UKT				*i* Sg		**Sg**	**01 11 19.1**	**-1.2**
UKT				Smax			01 11 24.0	
	comp=Z,253nm,0.9s							
UKT	**Uakit**	**4.59**	**258**	*e*P		**Pn**	**01 10 07.0**	**+4.5**
UKT				pmax		pmax		
	comp=Z,46nm,1.0s							
UKT	**Uakit**	**4.59**	**258**	*e*P		**Pn**	**01 10 07.2**	**+4.7**
UKT				*e*P		**Pb**	**01 10 17.7**	**+4.1**
UKT				*e*S		**Sg**	**01 11 19.1**	**-1.2**
CGD	**Chagda**	**5.29**	**63**	*e*S		**Sg**	**01 11 39.8**	**-2.9**
YOA	**Uoyan**	**5.48**	**268**	*e*Sg		**Sg**	**01 11 48.0**	**-0.7**
YOA				*e*			01 11 53.4	
YOA				max			01 11 54.2	
	comp=Z,1μm,0.8s							
YOA	**Uoyan**	**5.48**	**268**	*e*S		**Sg**	**01 11 48.0**	**-0.7**
VTMR	**Vitim**	**5.51**	**304**	*e*		Pg	01 11 26.3	+48
VTMR				*e*Sg		**Sg**	**01 11 49.1**	**-0.7**
VTMR	**Vitim**	**5.51**	**304**	*e*S		**Sg**	**01 11 49.3**	**-0.5**
KMO	**Kumora**	**5.81**	**266**	*e*Pn		Pn	01 10 12.9	-6.3
KMO				*e*			01 10 30.8	
KMO				*e*Pg		Pb	01 10 40.1	+5.7
KMO				Pmax			01 10 45.8	
	comp=Z,19nm,1.3s							
KMO				*e*Sg		**Sg**	**01 11 57.2**	**-2.3**
KMO				Smax			01 12 04.4	
	comp=Z,366nm,1.1s							
YLYR	**Ulyunkhan**	**6.13**	**257**	⇓*i*Pn		**Pn**	**01 10 27.7**	**+4.1**
YLYR				*e*			01 10 37.1	
YLYR				*e*Pg		Pb	01 10 45.5	+5.7
YLYR				Pmax			01 10 54.2	
	comp=Z,8.0nm,0.9s							
YLYR				*e*Sg		**Sg**	**01 12 07.1**	**-2.5**
YLYR				*e*			01 12 10.4	
YLYR				max			01 12 12.2	
	comp=Z,200nm,1.2s							
CIT	**Chita**	**6.60**	**228**	*e*Sg		**Sg**	**01 12 19.9**	**-4.8**
CIT				Smax			01 12 24.9	
	comp=Z,415nm,1.1s							
NIZ	**Nizh Angarsk**	**6.75**	**267**	*e*		Pg	01 11 59.0	+57
NIZ				*e*Sg		**Sg**	**01 12 25.1**	**-4.4**
NIZ				Smax			01 12 31.1	
	comp=Z,96nm,1.1s							
YAK	**Yakutsk**	**6.79**	**34**	*e*P		**Pn**	**01 10 32.6**	**+0.1**
YAK				*e*			01 11 50.9	
YAK				pmax		pmax		
	comp=Z,13nm,0.4s							
YAK				smax		smax		
	comp=E,16nm,0.4s							
YAK				smax		smax		
	comp=N,11nm,0.6s							
YAK	**Yakutsk**	**6.79**	**34**	*e*S		**Sn**	**01 11 51.7**	**+2.0**
YAK				*e*S		**Sg**	**01 12 25.8**	**-4.8**
SYVR	**Suvo**	**7.27**	**250**	*e*Pn		**Pn**	**01 10 43.2**	**+4.0**
SYVR				*e*			01 10 51.8	
SYVR				*e*Pg		Pb	01 11 06.9	+7.7
SYVR				Pmax			01 11 12.7	
	comp=N,4.0nm,0.4s							
SYVR				*e*Sg		**Sg**	**01 12 43.1**	**-3.0**
SYVR				*e*			01 12 54.3	
SYVR				max			01 12 57.8	
	comp=N,166nm,1.2s							
SYVR	**Suvo**	**7.27**	**250**	*e*P		**Pn**	**01 10 43.0**	**+3.8**
SYVR				pmax		pmax		
	comp=Z,10.0nm,0.8s							
USMR	**Ust'-Maya**	**7.76**	**56**	*e*S		**Sg**	**01 12 56.6**	**-5.2**
YCRN	**Chernyshevskiy**	**7.81**	**328**	*e*P		**Pn**	**01 10 51.3**	**+4.7**
YCRN				*e*P		Pg	01 11 17.7	-4.8
YCRN				*e*S		**Sn**	**01 12 16.3**	**+1.3**
YCRN				*e*S		**Sg**	**01 12 59.9**	**-3.6**
MXMB	**Maximikha**	**8.12**	**250**	*e*		Pg	01 12 12.1	+44
MXMB				*e*Sg		**Sg**	**01 13 06.0**	**-7.2**
OGRR	**Ongureny**	**8.54**	**255**	*e*		**Pg**	**01 11 35.1**	**-1.3**
OGRR				*e*Sg		**Sg**	**01 13 21.3**	**-5.6**
OGRR				Smax			01 13 33.5	
	comp=Z,73nm,1.1s							
KELR	**Kotokel**	**8.72**	**249**	*e*			01 13 01.5	
KELR				*e*Sg		**Sg**	**01 13 28.5**	**-4.1**
KPC	**Khapcheranga**	**8.89**	**222**	*e*Pn		**Pn**	**01 11 04.0**	**+2.5**
KPC				*e*Pg		Pg	01 11 37.8	-5.2
KPC				*e*			01 13 30.8	
KPC				*e*Sg		**Sg**	**01 13 34.9**	**-3.1**
KPC				Smax			01 13 38.2	
	comp=Z,214nm,1.4s							
KPC	**Khapcheranga**	**8.89**	**222**	*e*P		**Pn**	**01 11 03.5**	**+2.0**
KPC				pmax		pmax		
	comp=Z,3.0nm,0.7s							
ZRHB	**Zarechye**	**9.31**	**250**	*e*Sg		Sn	01 13 45.7	+54
ZRHB				Smax			01 14 24.9	
	comp=Z,443nm,1.4s							
UUDB	**Ulan-Yde**	**9.43**	**245**	*e*		Pn	01 12 04.1	+55
UUDB				*e*Sg		Sn	01 13 51.0	+56
UUDB				*e*			01 13 58.1	
UUDB				max			01 13 59.5	
	comp=Z,248nm,1.3s							
TRG	**Tyrgan**	**9.62**	**252**	*e*		Pn	01 11 35.7	+24
TRG				*e*Sg		Sn	01 13 55.4	+56
TRG				Smax			01 14 11.0	
	comp=Z,61nm,1.5s							
KAB	**Kabansk**	**9.84**	**248**	*e*Sg		Sn	01 14 05.2	+60
HRMR	**Khuramsha**	**9.93**	**245**	*e*		Pn	01 12 05.0	+49
HRMR				*e*Sg		Sn	01 14 01.9	+55
HRMR				Smax			01 14 22.4	
	comp=Z,312nm,0.8s							
BGT	**Bolshoye Golou**	**10.49**	**250**	*e*Sg			01 14 23.9	
BGT				Smax			01 14 36.9	
	comp=Z,52nm,1.3s							
LSTR	**Listvyanka**	**10.88**	**251**	*e*Sg			01 14 35.8	
LSTR				Smax			01 14 48.8	
	comp=Z,41nm,1.4s							
IVK	**Ivanovka**	**11.14**	**251**	*e*Sg			01 14 42.4	
IVK				Smax			01 14 57.7	
	comp=Z,46nm,2.1s							
TLY	**Talaya**	**11.61**	**252**	*e*Sg			01 14 58.1	
TLY				Smax			01 15 23.5	
	comp=Z,27nm,1.4s							
ARS	**Arshan**	**12.12**	**255**	*e*			01 13 31.1	
ARS				*e*			01 14 47.3	
ARS				*e*Sg			01 15 12.3	
ARS				Smax			01 15 30.4	
	comp=Z,77nm,1.0s							
ZAK	**Zakamensk**	**12.54**	**247**	*e*Sg			01 15 23.1	
ZAK				Smax			01 15 56.4	
	comp=Z,52nm,1.7s							
MOY	**Mondy**	**13.02**	**256**	*e*		P	01 12 44.0	+35
MOY				*e*Sg		S	01 15 42.7	+54
MOY				Smax			01 16 03.4	
	comp=Z,46nm,1.7s							
ORL	**Orlik**	**13.24**	**261**	*e*			01 15 14.2	
ORL				*e*Sg		S	01 15 47.4	+55
ORL				Smax			01 16 04.9	
	comp=Z,97nm,1.4s							
MOMR	**Moma**	**14.15**	**37**	*e*S		S	01 16 15.6	+65

*ISCJB **08** 01:23:16.8±0.5, 3°.41S±0°.09×68°.40E±0°.08, h12km, mb4.3/29, MS3.7/15, Error ellipse: s-maj=13.1km s-min=11.1km az=173.4*
*IDC **08** 01:23:16.8±0.6, 3°.48S×68°.38E, h0km, mb4.1/18, mb1 4.3/18, mb1mx4.1/37, mbtmp4.1/18, MS3.7/16, Ms1 3.7/16, ms1mx3.5/40, Error ellipse: s-maj=18.4km s-min=15.2km az=162.0*
*NEIC **08** 01:23:18.2±0.3, 3°.46S×68°.38E, h10km, mb4.6/4, Error ellipse: s-maj=11.4km s-min=9.6km az=149.0*
ISC 08 01:23:18.5±0.6, 3°.5S±0°.1×68°.4E±0°.1, h12km, n52, σ0§79/39, mb4.4/29, MS3.8/15, Chagos Archipelago region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
						ISC	h m s	ISC
H08N2	**Diego Garcia H**	**3.85**	**138**		T	T	01 28 37.2	
	baz=317,slow=75,SNR=1142							
H08N3	**Diego Garcia H**	**3.86**	**138**		T	T	01 28 38.3	
	baz=317,slow=75,SNR=1373							
H08N1	**Diego Garcia H**	**3.88**	**138**		T	T	01 28 40.0	
	baz=317,slow=75,SNR=1196							
H08S3	**Diego Garcia H**	**5.81**	**136**		T	T	01 30 43.6	
	baz=306,slow=76							
H08S1	**Diego Garcia H**	**5.81**	**136**		T	T	01 30 43.0	
	baz=306,slow=76							
H08S2	**Diego Garcia H**	**5.83**	**136**		T	T	01 30 49.9	
	baz=306,slow=76							
PALK	**Pallekele**	**16.27**	**49**		LR	LR	01 32 08.9	
	comp=Z,689nm,18.7s,baz=296,slow=33							
OPO	**Ambohidrampo**	**25.61**	**233**		LR	LR	01 37 05.1	
	comp=Z,336nm,18.8s,baz=24,slow=32							
ATD	**Arta Tunnel**	**29.45**	**301**		LR	LR	01 38 47.8	
	comp=Z,28nm,18.7s,baz=88,slow=32							
CMAR	**Chiang Mai Arr**	**37.15**	**53**		P	**P**	**01 30 29.9**	**+0.3**
	1.5nm,0.3s,baz=243,slow=9.5,SNR=6.7							
CMAR					LR	LR	01 43 36.7	
	comp=Z,101nm,20.6s,baz=228,slow=33							
LSZ	**Lusaka**	**41.28**	**251**		P	**P**	**01 31 04.5**	**+0.2**
	4.5nm,1.0s,baz=82,slow=7.4,SNR=7.1							
GEYT	**Ailbeck**	**42.27**	**348**		LR	LR	01 47 47.0	
	comp=Z,126nm,21.1s,baz=140,slow=35							
MATP	**Matopo**	**42.35**	**243**		P	**P**	**01 31 12.8**	**-0.2**
	3.5nm,0.9s,baz=36,slow=6.9,SNR=5.3							
AAK	**Ala-Archa**	**46.22**	**6**		P	**P**	**01 31 45.3**	**+1.6**
	1.3nm,0.4s,baz=204,slow=7.7,SNR=8.4							
AAK	**Ala-Archa**	**46.22**	**6**	*e*P		**P**	**01 31 45.0**	**+1.3**
	9.0nm,1.3s							
BOSA	**Boshof**	**48.01**	**234**		P	**P**	**01 31 57.4**	**-0.6**
	4.2nm,1.0s,baz=37,slow=6.6,SNR=3.8							
BOSA					LR	LR	01 50 05.0	
	comp=Z,141nm,18.8s,baz=48,slow=34							
ENH	**Enshi**	**51.63**	**46**	*e*P		**P**	**01 32 23.0**	**-2.3**
	2.5nm,0.4s							
KBZ	**Khabaz**	**52.28**	**337**		P	**P**	**01 32 30.6**	**+0.8**
	3.6nm,0.8s,baz=150,slow=5.8,SNR=9.4							
ABKAR	**Akbulak array**	**53.01**	**353**	*e*P		**P**	**01 32 35.5**	**+0.3**
	8.5nm,1.3s							
BRTR	**Keskin Array B**	**53.53**	**327**		P	**P**	**01 32 39.6**	**+0.1**
	0.8nm,0.8s,baz=128,slow=10.0,SNR=7.2							
BRTR					LR	LR	01 55 52.0	
	comp=Z,42nm,18.7s,baz=122,slow=36							
KURK	**Kurchatov**	**54.68**	**8**	*e*P		**P**	**01 32 47.3**	**-0.1**
	81nm,1.4s							
ZALV	**Zalesovo Beam**	**58.83**	**11**		P	**P**	**01 33 16.7**	**-0.1**
	2.3nm,0.7s,baz=216,slow=7.4,SNR=7.4							
ZALV					LR	LR	01 58 04.0	
	comp=Z,68nm,20.4s,baz=248,slow=36							
SONM	**Songino Array**	**60.95**	**28**		P	**P**	**01 33 32.9**	**+1.3**
	4.4nm,0.8s,baz=220,slow=6.4,SNR=25							
SONM					LR	LR	01 59 47.5	
	comp=Z,337nm,20.6s,baz=214,slow=36							
AKASG	**Malin Array Be**	**63.52**	**333**		P	**P**	**01 33 47.2**	**-1.5**
	0.6nm,0.6s,baz=132,slow=5.6,SNR=4.8							
MAW	**Mawson**	**64.14**	**182**		LR	LR	01 55 20.1	
	comp=Z,95nm,19.6s,baz=59,slow=30							
ASAR	**Alice Springs**	**66.21**	**114**		P	**P**	**01 34 07.5**	**+0.6**
	1.4nm,0.8s,baz=274,slow=6.1,SNR=9.3							
ASAR					LR	LR	01 59 52.6	
	comp=Z,40nm,20.3s,baz=281,slow=33							
WRA	**Warramunga Arr**	**66.23**	**110**		P	**P**	**01 34 07.5**	**+0.5**
	4.2nm,1.0s,baz=284,slow=6.2,SNR=18							
WRAB	**Tennant Creek**	**66.24**	**110**	*e*P		**P**	**01 34 07.7**	**+0.6**
	7.1nm,0.9s							
TORD	**Torodi Ar. Bea**	**68.22**	**286**		P	**P**	**01 34 19.9**	**+0.2**
	1.2nm,1

NIED ***08*** *01:38:00, 37.80N× 142.00E, h20km, Mw3.8 Best double couple: M₀6.52000×10¹⁴ NP1:φ₉160.00000°, δ35.00000°, λ-91.00000°. NP2:φ₉342.00000°, δ55.00000°, λ-89.00000°.*

IDC ***08*** *01:38:26.6±0.8, 37.76N× 142.21E, h0km, mb3.9/7, mb1 4.0/11, mb1mx3.8/42, mbtmp3.8/11, ML3.6/3, MS2.9/3, Ms1 2.9/3, ms1mx2.5/37, Error ellipse: s-maj=20.8km s-min=17.9km az=127.0*

ISCJB ***08*** *01:38:27.3±1.2, 37.79N±0.04× 142.13E±0.06, h15km±8km, mb3.8/8, MS2.9/1, Error ellipse: s-maj=9.0km s-min=6.5km az=35.1*

JMA ***08*** *01:38:29.3±0.2, 37.82N× 142.04E, h34km±4km, M4.0*

ISC 08 01:38:26.8±1.9, 37°80N±0.05× 142°10E±0.06, h3km±11km, n33, σ1§30/36, mb3.7/8, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIO	**Ouri**	**0.88**	**318**	P	**Pb**	**01 38 44.8**	**0.0**
JIO				*eS*	**Sg**	**01 38 55.1**	**-0.1**
JMM	**Marumori**	**1.04**	**274**	P	**Pg**	**01 38 47.1**	**+0.4**
JMM				*eS*	**Sg**	**01 38 59.2**	**-0.9**
JFK	**Kawauchi**	**1.06**	**247**	P	**Pg**	**01 38 47.5**	**+0.3**
JFK				*eS*	**Sg**	**01 39 00.2**	**-0.8**
JOU	**Okura**	**1.27**	**297**	P	**Pg**	**01 38 50.9**	**-0.2**
JOU				*eS*	**Sg**	**01 39 06.5**	**-1.0**
JMK	**Ichinoseki**	**1.34**	**329**	P	**Pn**	**01 38 51.9**	**-0.6**
JFT	**Otama**	**1.43**	**259**	P	**Pn**	**01 38 53.6**	**0.0**
JFT				*eS*	**Sb**	**01 39 10.8**	**-1.8**
JYS	**Shirataka**	**1.66**	**285**	P	**Pn**	**01 38 56.8**	**-0.1**
JYS				*eS*	**Sn**	**01 39 18.2**	**-0.5**
JYK	**Kaneyama**	**1.77**	**310**	P	**Pn**	**01 38 57.8**	**-0.5**
JOM	**Ohasama**	**1.79**	**340**	P	**Pn**	**01 38 58.4**	**-0.2**
JFY	**Yanaizu**	**1.94**	**259**	P	**Pn**	**01 39 00.9**	**+0.2**
JFY				*eS*	**Sn**	**01 39 24.1**	**-1.5**
JRG	**Rokugo**	**1.97**	**325**	P	**Pn**	**01 39 01.0**	**-0.1**
JYA	**Atsumi**	**2.04**	**294**	P	**Pn**	**01 39 02.0**	**-0.1**
MJAR	**Matsushiro Arr** 6.2nm,0.3s,baz=85,slow=16,SNR=30	**3.35**	**249**	Pn	**Pn**	**01 39 21.4**	**+1.2**
MJAR				Sn	**Sn**	**01 40 03.8**	**+3.3**
MAT	**Matsushiro** 4.5nm,0.3s,baz=65,slow=17,SNR=4.7	**3.35**	**249**	P	**Pn**	**01 39 21.4**	**+1.3**
MAT				S	**Sn**	**01 40 01.6**	**+1.2**
JHJ	**Hachijo jima 2** 12nm,0.3s,baz=74,slow=15,SNR=3.3	**5.04**	**203**	Pn	**Pn**	**01 39 44.0**	**+0.8**
JHJ	28nm,0.3s,baz=78,slow=22,SNR=8.3			Sn	**Sn**	**01 40 38.2**	**-3.7**
JHJ	comp=Z,84nm,20.1s,baz=90,slow=41			LR	LR	01 41 54.8	
USRK	**Ussuriysk Ar.** 0.2nm,0.3s,baz=123,slow=13,SNR=3.0	**9.96**	**313**	Pn	**Pn**	**01 40 52.5**	**+1.7**
KSRS	**Korea Array** 0.3nm,0.3s,baz=83,slow=14,SNR=2.5	**11.25**	**273**	Pn	**Pn**	**01 41 10.0**	**+1.6**
KSRS	comp=Z,44nm,18.2s,baz=26,slow=36			LR	LR	01 45 13.4	
YAK	**Yakutsk** comp=Z,37nm,19.5s,baz=267,slow=37	**25.45**	**346**	LR	LR	01 54 05.3	
SONM	**Songino Array** 0.4nm,0.4s,baz=102,slow=7.8,SNR=3.4	**27.82**	**303**	P	**P**	**01 44 19.2**	**+1.8**
H11N2	**WAKE ISLAND Hy** baz=316,slow=75,SNR=82	**28.09**	**123**	T	T	02 13 40.0	
H11N1	**WAKE ISLAND Hy** baz=316,slow=75,SNR=74	**28.09**	**123**	T	T	02 13 50.3	
H11N3	**WAKE ISLAND Hy** baz=316,slow=75,SNR=52	**28.10**	**123**	T	T	02 13 46.5	
H11S1	**WAKE ISLAND Hy** baz=317,slow=76,SNR=84	**28.83**	**125**	T	T	02 14 39.6	
H11S3	**WAKE ISLAND Hy** baz=317,slow=76,SNR=99	**28.83**	**125**	T	T	02 14 41.7	
H11S2	**WAKE ISLAND Hy** baz=317,slow=76,SNR=90	**28.85**	**125**	T	T	02 14 42.8	
ZALV	**Zalesovo Beam** 0.6nm,0.4s,baz=81,slow=6.3,SNR=3.0	**41.81**	**312**	P	**P**	**01 46 17.3**	**-0.2**
ILAR	**Eielson Array** 0.3nm,0.6s,baz=260,slow=5.4,SNR=4.1	**48.56**	**33**	P	**P**	**01 47 11.8**	**+0.8**
WRA	**Warramunga Arr** 4.3nm,0.6s,baz=6.1,slow=7.2,SNR=11	**57.89**	**189**	P	**P**	**01 48 19.7**	**-0.4**
ASAR	**Alice Springs** 1.6nm,0.7s,baz=11,slow=6.9,SNR=12	**61.62**	**189**	P	**P**	**01 48 45.9**	**+0.1**
AKASG	**Malin Array Be** 0.2nm,0.3s,baz=49,slow=5.4,SNR=2.9	**74.03**	**322**	P	**P**	**01 50 01.8**	**-2.0**
PDAR	**Pinedale Array** 0.5nm,0.6s,baz=294,slow=1.5,SNR=5.6	**76.74**	**46**	P	**P**	**01 50 19.3**	**-0.6**
TXAR	**Lajitas Array** 0.3nm,0.6s,baz=298,slow=3.3,SNR=4.3	**89.22**	**53**	P	**P**	**01 51 25.1**	**+0.6**
LPAZ	**La Paz** 1.9nm,0.8s,baz=4.0,slow=5.3,SNR=7.3	**145.84**	**59**	PKPbc	**PKPdf**	**01 58 08.2**	**0.0**

IDC ***08*** *02:12:27.4±1.1, 38.87S× 176.69E, h76km±8km, mb3.3/2, mb1 3.6/3, mb1mx3.3/25, mbtmp3.6/3, MS3.4/1, Ms1 3.4/1, ms1mx2.8/8, Error ellipse: s-maj=37.1km s-min=15.1km az=128.0*

ISCJB ***08*** *02:12:29.1±0.3, 38.57S±0.02× 176.52E±0.03, h95km±3km, mb3.6/2, Error ellipse: s-maj=4.5km s-min=3.4km az=33.1*

NEIC ***08*** *02:12:31.0±0.0, 38.52S× 176.51E, h79km, ML4.3(WEL), After WEL.*

WEL ***08*** *02:12:31.0±0.1, 38.51S× 176.51E, h78km±1km, ML4.4/51, Mw4.1, Error ellipse: s-maj=0.6km s-min=0.5km az=90.0, 4. WEL Felt between Taupo, Wellington and Hawkes Bay, maximum reported intensity MM.*

ISC 08 02:12:29.3±0.8, 38°56S±0.03× 176°52E±0.03, h90km±5km, n215, σ1§27/226, 34C-21D, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PRRZ	**Plateau Road**	**0.11**	**300**	P*	**Pn**	**02 12 42.0**	**-0.2**
PRRZ	**Plateau Road**	**0.11**	**300**	⇑P*	**Pn**	**02 12 42.0**	**-0.2**
ALRZ	**Allen Road**	**0.14**	**267**	P*	**Pn**	**02 12 42.0**	**-0.2**
ALRZ	**Allen Road**	**0.14**	**267**	P*	**Pn**	**02 12 42.0**	**-0.2**
RRRZ	**Republican Roa**	**0.22**	**360**	P*	**Pn**	**02 12 42.3**	**-0.2**
RRRZ	**Republican Roa**	**0.22**	**360**	⇑P*	**Pn**	**02 12 42.3**	**-0.2**
HRRZ	**Handcock Road**	**0.24**	**312**	P*	**Pn**	**02 12 42.5**	**-0.1**
HRRZ	**Handcock Road**	**0.24**	**312**	⇑P*	**Pn**	**02 12 42.5**	**-0.1**
WPRZ	**Whakapapatarin**	**0.28**	**277**	P*	**Pn**	**02 12 42.9**	**+0.1**
WPRZ	**Whakapapatarin**	**0.28**	**277**	⇑P*	**Pn**	**02 12 42.9**	**+0.1**
WPRZ				S*	**Sn**	**02 12 52.4**	**-0.3**
MRHZ	**Matea Rd**	**0.29**	**195**	⇑P*	**Pn**	**02 12 43.0**	**+0.2**
MRHZ				S*	**Sn**	**02 12 52.3**	**-0.6**
MRHZ				AML	AML	02 12 54.3	
TARZ	**Mount Tarawera**	**0.32**	**359**	P*	**Pn**	**02 12 42.9**	**-0.1**
TARZ	**Mount Tarawera**	**0.32**	**359**	⇑P*	**Pn**	**02 12 42.9**	**-0.1**
HSRZ	**Hossack Road**	**0.32**	**319**	⇑P*	**Pn**	**02 12 43.1**	**+0.1**
HLRZ	**Highlands Stat**	**0.33**	**337**	P*	**Pn**	**02 12 43.4**	**+0.4**
RTZ	**Ruatahuna**	**0.37**	**100**	⇓P*	**Pn**	**02 12 43.4**	**+0.1**
RTZ				S*	**Sn**	**02 12 53.4**	**-0.2**
GRRZ	**Galatos Road**	**0.38**	**303**	⇑P*	**Pn**	**02 12 43.6**	**+0.3**
MKRZ	**Makatiti**	**0.42**	**355**	P*	**Pn**	**02 12 44.0**	**+0.4**
MKRZ	**Makatiti**	**0.42**	**355**	P*	**Pn**	**02 12 44.0**	**+0.4**
WHTZ	**Whakaora**	**0.45**	**256**	P*	**Pn**	**02 12 44.6**	**+0.8**
WHTZ	**Whakaora**	**0.45**	**256**	P*	**Pn**	**02 12 44.6**	**+0.8**
UTU	**Utuhina**	**0.46**	**326**	P*	**Pn**	**02 12 44.1**	**+0.3**
UTU	**Utuhina**	**0.46**	**326**	⇑P*	**Pn**	**02 12 44.1**	**+0.3**
OMRZ	**Omania**	**0.46**	**346**	P*	**Pn**	**02 12 43.8**	**-0.1**
OMRZ	**Omania**	**0.46**	**346**	⇑P*	**Pn**	**02 12 43.8**	**-0.1**
EDRZ	**Edgecumbe**	**0.48**	**22**	P*	**Pn**	**02 12 43.9**	**-0.2**
EDRZ	**Edgecumbe**	**0.48**	**22**	P*	**Pn**	**02 12 43.8**	**-0.2**
KUTZ	**Kaahu Road**	**0.55**	**277**	P*	**Pn**	**02 12 44.9**	**+0.4**
KUTZ	**Kaahu Road**	**0.55**	**277**	⇑P*	**Pn**	**02 12 44.9**	**+0.4**
URZ	**Urewera** 507nm,0.3s,baz=245,slow=4.3,SNR=3649	**0.55**	**58**	P	**Pn**	**02 12 44.2**	**-0.3**
URZ				S	**Sn**	**02 12 55.0**	**-0.8**
URZ	848nm,0.3s,baz=102,slow=20,SNR=129			LR	LR	02 13 11.3	
URZ	**Urewera**	**0.55**	**58**	⇓P*	**Pn**	**02 12 44.3**	**-0.2**
URZ	**Urewera**	**0.55**	**58**	⇓P*	**Pn**	**02 12 44.3**	**-0.2**
URZ	comp=Z,266nm,18.9s,baz=320,slow=64			S*	**Sn**	**02 12 54.5**	**-1.3**
URZ				AML	AML	02 12 56.2	
KARZ	**Kaharoa**	**0.57**	**338**	P*	**Pn**	**02 12 44.8**	**0.0**
KARZ	**Kaharoa**	**0.57**	**338**	⇑P*	**Pn**	**02 12 44.8**	**0.0**
NMHZ	**Naumai**	**0.59**	**157**	Pn	**Pn**	**02 12 46.3**	**+1.4**
NMHZ	**Naumai**	**0.59**	**157**	⇑Pn	**Pn**	**02 12 46.3**	**+1.4**
NMHZ				AML	AML	02 12 59.6	
NMHZ				AML	AML	02 13 00.3	
BKZ	**Black Stump Fm**	**0.61**	**182**	⇑P*	**Pn**	**02 12 45.8**	**+0.6**
BKZ	**Black Stump Fm**	**0.61**	**182**	⇑P*	**Pn**	**02 12 45.8**	**+0.6**
BKZ				*eS**	**Sn**	**02 12 56.9**	**0.0**
BKZ				AML	AML	02 12 58.4	
WATZ	**Wairara**	**0.63**	**256**	P*	**Pn**	**02 12 45.8**	**+0.5**
WATZ				S*	**Sn**	**02 12 57.8**	**+0.6**
WATZ	**Wairara**	**0.63**	**256**	⇓P*	**Pn**	**02 12 45.8**	**+0.5**
RATZ	**Rangitukua**	**0.66**	**242**	P*	**Pn**	**02 12 46.2**	**+0.6**
RATZ	**Rangitukua**	**0.66**	**242**	⇓P*	**Pn**	**02 12 46.2**	**+0.6**
RITZ	**Rihia Road**	**0.66**	**230**	P*	**Pn**	**02 12 46.6**	**+1.0**
RITZ	**Rihia Road**	**0.66**	**230**	P*	**Pn**	**02 12 46.6**	**+1.0**
SNGZ	**Shannon Statio**	**0.68**	**110**	Pn	**Pn**	**02 12 46.7**	**+0.9**
SNGZ	**Shannon Statio**	**0.68**	**110**	⇓Pn	**Pn**	**02 12 46.7**	**+0.9**
SNGZ				AML	AML	02 13 05.9	
SNGZ				AML	AML	02 13 06.7	
RAGZ	**Rawiri**	**0.71**	**85**	P*	**Pn**	**02 12 46.4**	**+0.3**
RAGZ	**Rawiri**	**0.71**	**85**	⇓P*	**Pn**	**02 12 46.4**	**+0.3**
RAGZ				AML	AML	02 12 59.5	
RAGZ				AML	AML	02 12 59.6	
OPRZ	**Ohinepanea**	**0.71**	**3**	P*	**Pn**	**02 12 45.8**	**-0.2**
OPRZ	**Ohinepanea**	**0.71**	**3**	⇓P*	**Pn**	**02 12 45.7**	**-0.2**
KATZ	**Kakaramea**	**0.77**	**237**	P*	**Pn**	**02 12 47.5**	**+0.8**
KATZ	**Kakaramea**	**0.77**	**237**	P*	**Pn**	**02 12 47.5**	**+0.8**
WHNZ	**Waihua**	**0.77**	**133**	PN	**Pn**	**02 12 47.8**	**+1.3**
WHNZ				AML	AML	02 13 06.5	
WHNZ				AML	AML	02 13 07.7	
WHRZ	**Whale Island**	**0.79**	**28**	P*	**Pn**	**02 12 46.3**	**-0.4**
ARHZ	**Aropaoanui**	**0.80**	**152**	Pn	**Pn**	**02 12 48.2**	**+1.3**
ARHZ	**Aropaoanui**	**0.80**	**152**	⇑PN	**Pn**	**02 12 48.2**	**+1.3**
ARHZ				AML	AML	02 13 06.4	
ARHZ				AML	AML	02 13 07.1	
TLZ	**Tolley Road**	**0.80**	**286**	P*	**Pn**	**02 12 47.5**	**+0.6**
TLZ	**Tolley Road**	**0.80**	**286**	⇑P*	**Pn**	**02 12 47.5**	**+0.6**
MWZ	**Matawai**	**0.82**	**75**	P*	**Pn**	**02 12 47.1**	**0.0**
MWZ	**Matawai**	**0.82**	**75**	P*	**Pn**	**02 12 47.1**	**0.0**
MWZ				AML	AML	02 13 05.2	
MWZ				AML	AML	02 13 05.2	
KMRZ	**Kaimai**	**0.84**	**327**	⇑P*	**Pn**	**02 12 47.7**	**+0.3**
TGRZ	**Tauranga**	**0.85**	**346**	P*	**Pn**	**02 12 48.2**	**+0.8**
TGRZ	**Tauranga**	**0.85**	**346**	⇑P*	**Pn**	**02 12 47.6**	**+0.2**
KRVZ	**Karewarewa**	**0.87**	**231**	P*	**Pn**	**02 12 48.8**	**+1.0**
KRVZ	**Karewarewa**	**0.87**	**231**	⇓P*	**Pn**	**02 12 48.8**	**+1.0**
KWHZ	**Kaweka Forest**	**0.87**	**185**	⇑P*	**Pn**	**02 12 49.1**	**+1.3**
KWHZ				AML	AML	02 13 06.4	
KWHZ				AML	AML	02 13 07.0	
MCHZ	**McNeill Hill**	**0.90**	**171**	Pn	**Pn**	**02 12 49.6**	**+1.6**
MCHZ	**McNeill Hill**	**0.90**	**171**	⇑PN	**Pn**	**02 12 49.6**	**+1.6**
MCHZ				AML	AML	02 13 09.6	
MCHZ				AML	AML	02 13 10.2	
OTVZ	**Oturere**	**0.90**	**227**	P*	**Pn**	**02 12 48.6**	**+0.5**
OTVZ	**Oturere**	**0.90**	**227**	P*	**Pn**	**02 12 48.6**	**+0.5**
WTVZ	**West Tongariro**	**0.91**	**232**	P*	**Pn**	**02 12 49.2**	**+1.0**
WTVZ	**West Tongariro**	**0.91**	**232**	⇓P*	**Pn**	**02 12 49.2**	**+1.0**
NGZ	**Ngauruhoe**	**0.94**	**229**	P*	**Pn**	**02 12 49.8**	**+1.2**
NGZ	**Ngauruhoe**	**0.94**	**229**	⇓P*	**Pn**	**02 12 49.8**	**+1.2**
TUVZ	**Tukino**	**0.98**	**223**	P*	**Pn**	**02 12 50.1**	**+1.2**
TUVZ	**Tukino**	**0.98**	**223**	P*	**Pn**	**02 12 50.1**	**+1.2**
TWVZ	**Taurewa**	**0.99**	**238**	P*	**Pn**	**02 12 49.8**	**+0.8**
TWVZ	**Taurewa**	**0.99**	**238**	⇓P*	**Pn**	**02 12 49.8**	**+0.8**
RIGZ	**Rimuhau**	**0.99**	**99**	⇑PN	**Pn**	**02 12 50.1**	**+1.1**
RIGZ				AML	AML	02 13 11.2	
RIGZ				AML	AML	02 13 18.9	
BHHZ	**Black Hill Sta**	**1.00**	**201**	P*	**Pn**	**02 12 50.2**	**+1.1**
BHHZ				S*	**Sn**	**02 13 04.5**	**+0.6**
BHHZ	**Black Hill Sta**	**1.00**	**201**	⇑P*	**Pn**	**02 12 50.2**	**+1.1**
BHHZ				S*	**Sn**	**02 13 04.5**	**+0.6**
BHHZ				AML	AML	02 13 11.3	
KNZ	**Kokohu**	**1.02**	**118**	Pn	**Pn**	**02 12 50.1**	**+0.8**
KNZ	**Kokohu**	**1.02**	**118**	⇓PN	**Pn**	**02 12 50.1**	**+0.8**
KNZ				AML	AML	02 13 11.9	
KNZ				AML	AML	02 13 12.8	
WHVZ	**Whangaehu Hut**	**1.02**	**225**	P*	**Pn**	**02 12 50.7**	**+1.2**
WHVZ	**Whangaehu Hut**	**1.02**	**225**	⇓P*	**Pn**	**02 12 50.7**	**+1.2**
FWVZ	**Far West T-bar**	**1.03**	**227**	P*	**Pn**	**02 12 50.5**	**+0.9**
FWVZ	**Far West T-bar**	**1.03**	**227**	P*	**Pn**	**02 12 50.5**	**+0.9**
DRZ	**Dome Shelter**	**1.03**	**226**	P*	**Pn**	**02 12 51.0**	**+1.2**
DRZ	**Dome Shelter**	**1.03**	**226**	⇑P*	**Pn**	**02 12 50.9**	**+1.2**
MOVZ	**Moawhango**	**1.04**	**215**	P*	**Pn**	**02 12 50.4**	**+0.9**
MOVZ				S*	**Sn**	**02 13 04.7**	**0.0**
MOVZ	**Moawhango**	**1.04**	**215**	P*	**Pn**	**02 12 50.4**	**+0.9**
MOVZ				S*	**Sn**	**02 13 04.7**	**0.0**
WNVZ	**Wahianoa**	**1.05**	**223**	P*	**Pn**	**02 12 50.9**	**+1.1**
WNVZ	**Wahianoa**	**1.05**	**223**	⇓P*	**Pn**	**02 12 50.9**	**+1.1**
TKGZ	**Te Karaka**	**1.05**	**84**	Pn	**Pn**	**02 12 51.0**	**+1.3**
TKGZ	**Te Karaka**	**1.05**	**84**	PN	**Pn**	**02 12 51.0**	**+1.3**
TKGZ				AML	AML	02 13 06.8	
TKGZ				AML	AML	02 13 07.0	
RUGZ	**Raukumara Rang**	**1.09**	**58**	⇓P*	**Pn**	**02 12 49.9**	**-0.3**
KRHZ	**Kereru**	**1.09**	**186**	PN	**Pn**	**02 12 51.1**	**+0.9**
KRHZ				AML	AML	02 13 11.2	
KRHZ				AML	AML	02 13 12.0	
PRGZ	**Paritu Road**	**1.13**	**109**	Pn	**Pn**	**02 12 51.5**	**+0.9**
PRGZ	**Paritu Road**	**1.13**	**109**	⇑PN	**Pn**	**02 12 51.5**	**+0.9**
PRGZ				AML	AML	02 13 16.0	
PRGZ				AML	AML	02 13 17.5	
TOZ	**Tahuroa Road**	**1.15**	**316**	P*	**Pn**	**02 12 51.4**	**+0.7**
TOZ	**Tahuroa Road**	**1.15**	**316**	⇑P*	**Pn**	**02 12 51.4**	**+0.7**
WIZ	**White Island**	**1.16**	**28**	P*	**Pn**	**02 12 50.8**	**-0.1**
MTVZ	**Mangateitei**	**1.16**	**224**	P*	**Pn**	**02 12 52.4**	**+1.4**
MTVZ	**Mangateitei**	**1.16**	**224**	⇓P*	**Pn**	**02 12 52.4**	**+1.4**
PKVZ	**Pokaka**	**1.17**	**231**	P*	**Pn**	**02 12 52.3**	**+1.2**
PKVZ	**Pokaka**	**1.17**	**231**	P*	**Pn**	**02 12 52.3**	**+1.2**
CKHZ	**Cape Kidnapper**	**1.19**	**159**	Pn	**Pn**	**02 12 52.3**	**+1.1**
CKHZ	**Cape Kidnapper**	**1.19**	**159**	PN	**Pn**	**02 12 52.3**	**+1.1**
CKHZ				AML	AML	02 13 10.1	
CKHZ				AML	AML	02 13 10.4	
TWGZ	**Tauwhareparae**	**1.21**	**72**	Pn	**Pn**	**02 12 52.5**	**+0.9**
TWGZ	**Tauwhareparae**	**1.21**	**72**	PN	**Pn**	**02 12 52.5**	**+0.9**
TWGZ				AML	AML	02 13 16.2	
TWGZ				AML	AML	02 13 16.3	
MHGZ	**Mahia Peninsul**	**1.24**	**119**	Pn	**Pn**	**02 12 52.9**	**+1.0**
MHGZ	**Mahia Peninsul**	**1.24**	**119**	⇑PN	**Pn**	**02 12 52.9**	**+1.0**
MHGZ				AML	AML	02 13 16.1	
MHGZ				AML	AML	02 13 21.7	
KAHZ	**Kahuranaki**	**1.27**	**167**	Pn	**Pn**	**02 12 53.2**	**+0.9**
KAHZ	**Kahuranaki**	**1.27**	**167**	⇑PN	**Pn**	**02 12 53.2**	**+0.9**
KAHZ				AML	AML	02 13 20.6	
KAHZ				AML	AML	02 13 21.4	
HAZ	**Te Kaha**	**1.28**	**52**	⇓P*	**Pn**	**02 12 52.1**	**-0.3**
HAZ				AML	AML	02 13 13.0	
HAZ				AML	AML	02 13 13.0	
HAZ				AML	AML	02 13 14.3	
HIZ	**Hauiti**	**1.30**	**271**	Pn	**Pn**	**02 12 54.7**	**+2.1**
HIZ	**Hauiti**	**1.30**	**271**	PN	**Pn**	**02 12 53.9**	**+1.3**
CNGZ	**Carnagh Statio**	**1.33**	**87**	Pn	**Pn**	**02 12 54.0**	**+1.1**
CNGZ	**Carnagh Statio**	**1.33**	**87**	PN	**Pn**	**02 12 54.0**	**+1.1**
CNGZ				AML	AML	02 13 27.8	
CNGZ				AML	AML	02 13 28.1	
PNHZ	**Pukenui**	**1.38**	**190**	Pn	**Pn**	**02 12 54.1**	**+0.5**
PNHZ	**Pukenui**	**1.38**	**190**	PN	**Pn**	**02 12 54.1**	**+0.5**
PNHZ				AML	AML	02 13 19.4	
PNHZ				AML	AML	02 13 20.5	
PKGZ	**Pakihiroa**	**1.40**	**62**	⇓PN	**Pn**	**02 12 54.7**	**+0.9**
PUZ	**Puketiti**	**1.45**	**71**	Pn	**Pn**	**02 12 56.2**	**+1.7**
PUZ	**Puketiti**	**1.45**	**71**	PN	**Pn**	**02 12 55.1**	**+0.6**
PUZ				AML	AML	02 13 22.2	
PUZ				AML	AML	02 13 38.1	
VRZ	**Vera Road**	**1.48**	**247**	P*	**Pn**	**02 12 56.0**	**+1.1**
VRZ	**Vera Road**	**1.48**	**247**	P*	**Pn**	**02 12 56.0**	**+1.1**
PXZ	**Pawanui**	**1.50**	**170**	Pn	**Pn**	**02 12 55.4**	**+0.3**
PXZ	**Pawanui**	**1.50**	**170**	⇑PN	**Pn**	**02 12 55.4**	**+0.3**
PXZ				AML	AML	02 13 39.3	
PXZ				AML	AML	02 13 39.4	
PXZ				AML	AML	02 13 42.2	
PXZ				AML	AML	02 13 42.2	
WPHZ	**Waipukurau**	**1.51**	**182**	Pn	**Pn**	**02 12 55.7**	**+0.5**
WPHZ	**Waipukurau**	**1.51**	**182**	PN	**Pn**	**02 12 55.7**	**+0.5**
WPHZ				AML	AML	02 13 28.6	
WPHZ				AML	AML	02 13 33.2	
TSZ	**Takapari Road**	**1.56**	**196**	Pn	**Pn**	**02 12 56.3**	**+0.4**
TSZ	**Takapari Road**	**1.56**	**196**	PN	**Pn**	**02 12 56.3**	**+0.4**
TSZ				AML	AML	02 13 22.6	
TSZ				AML	AML	02 13 22.9	
WMGZ	**Waiomatatini S**	**1.67**	**64**	PN	**Pn**	**02 12 57.9**	**+0.7**
WMGZ				AML	AML	02 13 30.6	
WMGZ				AML	AML	02 13 38.6	
WAZ	**Wanganui**	**1.69**	**224**	Pn	**Pn**	**02 12 59.3**	**+1.8**
WAZ	**Wanganui**	**1.69**	**224**	PN	**Pn**	**02 12 59.3**	**+1.8**
PRHZ	**Porangahau**	**1.71**	**177**	Pn	**Pn**	**02 12 58.2**	**+0.4**
PRHZ	**Porangahau**	**1.71**	**177**	PN	**Pn**	**02 12 58.2**	**+0.4**
PRHZ				AML	AML	02 13 42.9	
PRHZ				AML	AML	02 13 47.3	
MXZ	**Matakaoa Point**	**1.73**	**56**	P*	**Pn**	**02 12 59.3**	**+1.3**
MXZ	**Matakaoa Point**	**1.73**	**56**	P*	**Pn**	**02 12 59.3**	**+1.3**
MXZ				AML	AML	02 13 03.6	
MXZ				AML	AML	02 13 31.1	
DVHZ	**Dannevirke**	**1.76**	**189**	Pn	**Pn**	**02 12 58.3**	**-0.2**
DVHZ	**Dannevirke**	**1.76**	**189**	PN	**Pn**	**02 12 58.3**	**-0.2**
DVHZ				AML	AML	02 13 31.7	
DVHZ				AML	AML	02 13 32.7	
MKAZ	**Moumakai**	**1.80**	**323**	Pn	**Pn**	**02 12 59.8**	**+0.8**
MKAZ	**Moumakai**	**1.80**	**323**	PN	**Pn**	**02 12 59.8**	**+0.8**
LREZ	**Lake Rotokare**	**1.88**	**241**	⇓PN	**Pn**	**02 13 02.0**	**+2.1**
OHWZ	**Ohakea**	**1.89**	**209**	PN	**Pn**	**02 13 01.5**	**+1.4**
ANWZ	**Angora Road**	**1.90**	**181**	PN	**Pn**	**02 13 00.2**	**0.0**
ANWZ				AML	AML	02 13 45.2	
ANWZ				AML	AML	02 13 47.9	
KUZ	**Kuaotunu**	**1.91**	**341**	Pn	**Pn**	**02 13 00.9**	**+0.5**
KUZ	**Kuaotunu**	**1.91**	**341**	⇑PN	**Pn**	**02 13 00.9**	**+0.5**
POWZ	**Post Office Ro**	**1.92**	**197**	Pn	**Pn**	**02 13 03.1**	**+2.6**
POWZ	**Post Office Ro**	**1.92**	**197**	PN	**Pn**	**02 13 03.1**	**+2.6**
POWZ				AML	AML	02 13 35.0	
POWZ				AML	AML	02 13 35.1	
NEZ	**North Egmont**	**2.02**	**249**	Pn	**Pn**	**02 13 04.1**	**+2.3**
NEZ	**North Egmont**	**2.02**	**249**	⇑PN	**Pn**	**02 13 04.1**	**+2.3**
PRWZ	**Pori Road**	**2.04**	**192**	Pn	**Pn**	**02 13 02.3**	**+0.2**
PRWZ	**Pori Road**	**2.04**	**192**	PN	**Pn**	**02 13 02.3**	**+0.2**
PRWZ				AML	AML	02 13 46.3	
PRWZ				AML	AML	02 13 50.1	
PKE	**Pukeiti**	**2.07**	**251**	Pn	**Pn**	**02 13 04.4**	**+1.9**
PKE	**Pukeiti**	**2.07**	**251**	PN	**Pn**	**02 13 04.4**	**+1.9**
KHEZ	**Kahui Hut**	**2.08**	**248**	Pn	**Pn**	**02 13 04.8**	**+2.0**
KHEZ	**Kahui Hut**	**2.08**	**248**	⇓PN	**Pn**	**02 13 04.8**	**+2.0**
BFZ	**Birch Farm**	**2.13**	**186**	Pn	**Pn**	**02 13 03.9**	**+0.5**
BFZ	**Birch Farm**	**2.13**	**186**	PN	**Pn**	**02 13 03.8**	**+0.5**
BFZ				AML	AML	02 13 47.2	
BFZ				AML	AML	02 13 47.2	
BFZ				AML	AML	02 13 50.0	
BFZ				AML	AML	02 13 51.7	
MRZ	**Mangatainoka R**	**2.22**	**199**	Pn	**Pn**	**02 13 04.0**	**-0.5**
MRZ	**Mangatainoka R**	**2.22**	**199**	⇑PN	**Pn**	**02 13 04.0**	**-0.5**
MRZ				AML	AML	02 13 42.9	
MRZ				AML	AML	02 13 43.0	
WTAZ	**Waiatarua**	**2.23**	**316**	Pn	**Pn**	**02 13 05.0**	**+0.4**
WTAZ	**Waiatarua**	**2.23**	**316**	PN	**Pn**	**02 13 05.0**	**+0.4**
TIWZ	**Tintock**	**2.27**	**192**	Pn	**Pn**	**02 13 05.7**	**+0.6**
TIWZ	**Tintock**	**2.27**	**192**	PN	**Pn**	**02 13 05.7**	**+0.6**
TIWZ				AML	AML	02 13 46.9	
TIWZ				AML	AML	02 13 48.8	
CPWZ	**Castlepoint**	**2.36**	**186**	Pn	**Pn**	**02 13 06.0**	**-0.3**
CPWZ	**Castlepoint**	**2.36**	**186**	PN	**Pn**	**02 13 06.0**	**-0.3**
CPWZ				AML	AML	02 13 55.0	
CPWZ		

JIO	**Ouri**	**2.15**	**313**	P		**Pn**	**02 16 44.2**	**-1.7**
JIO				S		**Sn**	**02 17 08.6**	**-2.8**
JMM	**Marumori**	**2.22**	**293**	P		**Pn**	**02 16 44.7**	**-2.1**
JMM				S		**Sn**	**02 17 10.0**	**-3.1**
JFT	**Otama**	**2.47**	**283**	P		**Pn**	**02 16 48.8**	**-1.5**
JFT				S		**Sn**	**02 17 16.6**	**-2.8**
JMK	**Ichinoseki**	**2.57**	**319**	P		**Pn**	**02 16 50.3**	**-1.4**
JMK				S		**Sn**	**02 17 20.1**	**-1.8**
JOM	**Ohasama**	**2.95**	**327**	P		**Pn**	**02 16 56.7**	**-0.2**
JOM				S		**Sn**	**02 17 29.4**	**-1.7**
JYK	**Kaneyama**	**3.04**	**310**	P		**Pn**	**02 16 57.2**	**-1.0**
BSO1	**Boso 1**	**3.05**	**220**	P		**Pn**	**02 16 55.2**	**-2.7**
JAG	**Ashikaga**	**3.20**	**261**	P		**Pn**	**02 16 58.3**	**-2.1**
JRY	**Ryogami san**	**3.73**	**256**	P		**Pn**	**02 17 05.2**	**-2.5**
JRY				S		**Sn**	**02 17 45.5**	**-5.1**
JOD2	**Odawara 2**	**3.88**	**244**	P		**Pn**	**02 17 07.1**	**-2.6**
MJAR	**Matsushiro Arr**	**4.17**	**265**	Pn		**Pn**	**02 17 12.5**	**-1.2**
	21nm,0.3s,baz=88,slow=14,SNR=138							
MJAR				Sn		**Sn**	**02 17 59.7**	**-1.6**
	9.0nm,0.3s,baz=289,slow=15,SNR=6.6							
MJAR				LR		LR	02 19 02.3	
	comp=Z,418nm,20.6s,baz=85,slow=43							
MAJO	**Matsushiro**	**4.17**	**265**	*e*P		**Pn**	**02 17 12.5**	**-1.2**
MAJO	**Matsushiro**	**4.17**	**265**	*e*Pn		**Pn**	**02 17 12.5**	**-1.2**
MAT	**Matsushiro**	**4.17**	**265**	P		**Pn**	**02 17 12.8**	**-0.9**
MAT				S		**Sn**	**02 17 57.2**	**-4.1**
JHJ	**Hachijo jima 2**	**4.87**	**218**	Pn		**Pn**	**02 17 19.9**	**-3.5**
	29nm,0.3s,baz=74,slow=21,SNR=7.9							
JHJ				Sn		Sn	02 18 09.4	-9.3
	51nm,0.3s,baz=66,slow=20,SNR=3.6							
ERM	**Erimo**	**5.00**	**358**	*e*P		**Pn**	**02 17 23.3**	**-1.7**
ERM				*e*S		**Sn**	**02 18 15.5**	**-6.1**
ERM	**Erimo**	**5.00**	**358**	*e*Pn		**Pn**	**02 17 23.3**	**-1.7**
ERM				*e*S		**Sn**	**02 18 15.5**	**-6.1**
YUK	**Yuzh-Kuril'sk**	**7.26**	**14**	*e*P		**Pn**	**02 17 53.4**	**-2.8**
KUR	**Kuril'sk**	**8.88**	**21**	P		Pn	02 18 09.1	-9.2
KUR				*e*S		**Sn**	**02 19 50.0**	**-7.2**
KUR				smax		smax		
	comp=N,98nm,0.3s							
KUR				smax		smax		
	comp=E,40nm,0.3s							
VLA	**Vladivostok**	**10.70**	**308**	*e*P		**Pn**	**02 18 42.6**	**-0.6**
JNU	**Nakatsue**	**10.94**	**253**	Pn		**Pn**	**02 18 42.1**	**-4.6**
	comp=E,0.4nm,0.3s,baz=61,slow=13,SNR=2.1							
JNU	**Nakatsue**	**10.94**	**253**	*e*Pn		**Pn**	**02 18 45.6**	**-1.1**
USRK	**Ussuriysk Ar.**	**11.23**	**313**	Pn		**Pn**	**02 18 49.9**	**-0.6**
	comp=E,0.8nm,0.3s,baz=118,slow=12,SNR=10							
USRK				LR		LR	02 23 33.9	
	comp=E,211nm,18.0s,baz=116,slow=40							
KSRS	**Korea Array**	**12.32**	**277**	Pn		**Pn**	**02 19 05.0**	**-0.5**
	comp=E,0.3nm,0.3s,baz=92,slow=13,SNR=11							
KSRS				LR		LR	02 23 30.5	
	comp=E,76nm,18.7s,baz=82,slow=36							
KSRS	**Korea Array**	**12.32**	**277**	P		**Pn**	**02 19 05.0**	**-0.5**
KSRS				MLR		MLR		
	comp=Z,76nm,18.7s							
KSAR	**Wonju Array Be**	**12.35**	**277**	P		**Pn**	**02 19 05.0**	**-0.9**
KSAR	**Wonju Array Be**	**12.35**	**277**	Pn		**Pn**	**02 19 05.0**	**-0.9**
KLR	**Kul'dur**	**14.84**	**329**	Pn		**Pn**	**02 19 37.2**	**-2.6**
	comp=Z,0.5nm,0.3s,baz=132,slow=15,SNR=9.0							
KLR				LR		LR	02 25 38.1	
	comp=Z,144nm,19.5s,baz=134,slow=38							
JOW	**Kunigami**	**16.33**	**236**	LR		LR	02 26 11.1	
	comp=Z,114nm,20.6s,baz=90,slow=37							
NJ2	**Nanjing**	**20.77**	**263**	*e*P		**P**	**02 20 51.0**	**+0.5**
NJ2				pmax		pmax		
	comp=Z,120nm,1.0s							
HIA	**Hailar**	**21.04**	**313**	*e*P		**P**	**02 20 55.1**	**+1.7**
HIA	**Hailar**	**21.04**	**313**	*e*Pn		**P**	**02 20 55.0**	**+1.7**
BJI	**Beijing**	**21.45**	**286**	P		**P**	**02 20 56.6**	**-1.2**
BJI				S		**S**	**02 24 51.5**	**-2.6**
BJI				pmax		pmax		
	comp=Z,11nm,1.0s							
BJI				LR		LR		
	comp=Z,140nm,14.5s							
BJI				LR		LR		
	comp=Z,130nm,10.0s							
MA2	**Magadan**	**23.08**	**10**	LR		LR	02 31 32.8	
	comp=Z,89nm,19.1s,baz=84,slow=40							
GUMO	**Guam**	**23.37**	**176**	LR		LR	02 28 57.0	
	comp=Z,89nm,20.3s,baz=54,slow=33							
WHN	**Wuhan**	**24.91**	**264**	⇑P		**P**	**02 21 36.0**	**+3.6**
WHN				S		**S**	**02 26 00.1**	**+6.5**
WHN				LR		LR		
	comp=Z,320nm,18.6s							
HHC	**Hu-ho-hao-te**	**24.96**	**289**	*e*P		**P**	**02 21 33.2**	**+0.3**
HHC				S		**S**	**02 25 50.1**	**-4.4**
HHC				pmax		pmax		
	comp=Z,8.0nm,1.0s							
HHC				pmax		pmax		
	comp=Z,89nm,6.1s							
HHC				LR		LR		
	comp=Z,170nm,13.9s							
HHC				LR		LR		
	comp=Z,270nm,13.7s							
YAK	**Yakutsk**	**26.45**	**346**	P		**P**	**02 21 46.1**	**+0.1**
	comp=Z,16nm,0.5s,baz=151,slow=0.4,SNR=4.6							
YAK				LR		LR	02 32 39.1	
	comp=Z,118nm,19.7s,baz=147,slow=37							
YAK	**Yakutsk**	**26.45**	**346**	*e*P		**P**	**02 21 45.2**	**-0.8**
YAK				*e**PP		**sP**	**02 22 00.0**	**+0.7**
YAK				*e*			02 22 27.3	
YAK				*e*S		**S**	**02 26 21.4**	**+4.0**
YAK				*e**SS		**sS**	**02 26 35.4**	**+2.5**
YAK				*e*SS		**SnSn**	**02 27 19.8**	**-0.2**
YAK				pmax		pmax		
	comp=Z,25nm,0.9s							
YAK				pmax		pmax		
	comp=N,9.0nm,1.0s							
YAK				pmax		pmax		
	comp=E,10.0nm,1.3s							
YAK				pmax		pmax		
	comp=Z,15nm,0.6s							
YAK				pmax		pmax		
	comp=N,14nm,0.9s							
YAK				smax		smax		
	comp=N,341nm,4.1s							
YAK				smax		smax		
	comp=E,147nm,3.8s							
YAK				MLR		MLR		
	comp=Z,97nm,6.0s							
YAK				MLR		MLR		
	comp=N,72nm,5.0s							
SEY	**Seymchan**	**26.53**	**9**	P		**P**	**02 21 48.1**	**+1.3**
	comp=N,4.7nm,0.5s,baz=198,slow=7.8,SNR=8.2							
H11N2	**WAKE ISLAND Hy**	**26.82**	**124**	T		T	02 49 53.2	
	baz=314,slow=75,SNR=2.7							
H11N1	**WAKE ISLAND Hy**	**26.82**	**124**	T		T	02 49 53.9	
	baz=314,slow=75,SNR=3.9							
H11N3	**WAKE ISLAND Hy**	**26.83**	**124**	T		T	02 49 58.2	
	baz=314,slow=75,SNR=3.1							
H11S1	**WAKE ISLAND Hy**	**27.56**	**126**	T		T	02 50 51.2	
	baz=317,slow=76,SNR=5.3							
H11S3	**WAKE ISLAND Hy**	**27.56**	**126**	T		T	02 50 48.6	
	baz=317,slow=76,SNR=6.6							
H11S2	**WAKE ISLAND Hy**	**27.57**	**126**	T		T	02 50 53.9	
	baz=317,slow=76,SNR=6.6							
XAN	**Xi'an**	**28.10**	**274**	P		**P**	**02 22 03.2**	**+2.0**
XAN				pP		sP	02 22 12.0	-2.5
XAN				PP		**PnPn**	**02 22 52.1**	**+2.7**
XAN				S		**S**	**02 26 42.4**	**-1.7**
XAN				pmax		pmax		
	comp=N,8.0nm,1.3s							
XAN				pmax		pmax		
	comp=N,77nm,5.8s							
XAN				LR		LR		
	comp=N,150nm,15.2s							
XAN				LR		LR		
	comp=N,98nm,15.8s							
XAN				LR		LR		
	comp=N,170nm,12.7s							
BOD	**Bodaibo**	**28.39**	**327**	*e*P		**P**	**02 22 03.4**	**-0.1**
BOD				pmax		pmax		
	comp=Z,23nm,1.2s							
ENH	**Enshi**	**28.89**	**267**	*e*P		**P**	**02 22 09.0**	**+0.7**
	comp=Z,14nm,0.8s							
SONM	**Songino Array**	**29.09**	**304**	P		**P**	**02 22 10.7**	**+0.7**
	comp=Z,2.0nm,0.5s,baz=91,slow=7.7,SNR=14							
SONM				LR		LR	02 34 51.4	
	comp=Z,58nm,18.1s,baz=48,slow=39							
ZAK	**Zakamensk**	**31.51**	**308**	*e*P		**P**	**02 22 27.8**	**-3.5**
ZAK				pmax		pmax		
	comp=Z,5.0nm,1.2s							
TLY	**Talaya**	**31.53**	**310**	*e*P		**P**	**02 22 28.4**	**-2.9**
TLY				pmax		pmax		
	comp=Z,6.0nm,0.8s							
TLY				MLR		MLR		
	comp=Z,70nm,14.0s							
LZH	**Lanzhou**	**31.61**	**280**	*e*P		**P**	**02 22 33.5**	**+1.1**
LZH				pP		sP	02 22 44.3	-1.4
LZH				sP		pP	02 22 48.0	+6.2
LZH				PP		**PnPn**	**02 23 37.6**	**+1.2**
LZH				pmax		pmax		
	comp=Z,24nm,1.3s							
LZH				pmax		pmax		
	comp=Z,75nm,5.0s							
LZH				LR		LR		
	comp=Z,380nm,12.9s							
LZH				LR		LR		
	comp=Z,390nm,13.2s							
LZH				LR		LR		
	comp=Z,430nm,16.5s							
GYA	**Guiyang**	**32.76**	**262**	*e*P		**P**	**02 22 42.6**	**+0.1**
GYA				pmax		pmax		
	comp=Z,10.0nm,0.9s							
KMI	**Kunming**	**36.51**	**263**	P		**P**	**02 23 15.3**	**+0.3**
KMI				pmax		pmax		
	comp=Z,12nm,0.5s							
KMI				pmax		pmax		
	comp=Z,100nm,4.8s							
WMQ	**Urumqi**	**42.24**	**297**	P		**P**	**02 24 03.3**	**+0.8**
WMQ				pP		sP	02 24 13.5	-2.4
WMQ				S		**S**	**02 30 20.2**	**-0.6**
WMQ				pmax		pmax		
	comp=Z,8.0nm,0.8s							
WMQ				pmax		pmax		
	comp=Z,19nm,3.5s							
WMQ				LR		LR		
	comp=Z,50nm,16.7s							
WMQ				LR		LR		
	comp=Z,50nm,19.5s							
CMAR	**Chiang Mai Arr**	**43.01**	**257**	P		**P**	**02 24 08.4**	**-0.5**
	comp=Z,1.1nm,0.3s,baz=46,slow=7.7,SNR=3.1							
CMAR				LR		LR	02 43 54.1	
	comp=Z,34nm,20.4s,baz=45,slow=39							
ZALV	**Zalesovo Beam**	**43.08**	**312**	P		**P**	**02 24 08.7**	**-0.3**
	comp=Z,3.3nm,0.8s,baz=94,slow=6.1,SNR=9.5							
ZALV				PcP		**PcP**	**02 25 58.4**	**-0.2**
	comp=Z,3.2nm,0.5s,baz=91,slow=3.4,SNR=6.8							
ZALV				LR		LR	02 42 35.0	
	comp=Z,45nm,20.7s,baz=60,slow=37							
NRIK	**Noril'sk**	**43.94**	**335**	P		**P**	**02 24 15.8**	**0.0**
	comp=Z,3.0nm,0.6s,baz=114,slow=6.9,SNR=4.5							
NRIK				LR		LR	02 44 11.4	
	comp=Z,142nm,18.4s,baz=104,slow=38							
NVS	**Novosibirsk**	**43.98**	**314**	*e*P		**P**	**02 24 16.7**	**+0.4**
KDAK	**Kodiak Island**	**46.07**	**42**	*ce*P		**P**	**02 24 33.5**	**+0.7**
KURK	**Kurchatov**	**47.17**	**308**	*c i*P		**P**	**02 24 41.2**	**-0.3**
KURK				pmax		pmax		
	comp=Z,30nm,1.0s							
KURK	**Kurchatov**	**47.17**	**308**	*e*P		**P**	**02 24 41.3**	**-0.3**
	comp=Z,136nm,0.7s							
KURBB	**Kurchatov Arra**	**47.24**	**308**	P		**P**	**02 24 42.1**	**-0.1**
	comp=Z,4.8nm,0.8s,baz=82,slow=8.1,SNR=32							
COLA	**College**	**48.26**	**32**	*e*P		**P**	**02 24 51.1**	**+1.3**
COLA				pmax		pmax		
	comp=Z,7.0nm,1.0s							
COLA	**College**	**48.26**	**32**	*e*P		**P**	**02 24 51.1**	**+1.3**
	comp=Z,7.4nm,1.0s							
ILAR	**Eielson Array**	**48.67**	**32**	P		**P**	**02 24 53.5**	**+0.4**
	comp=Z,6.9nm,0.8s,baz=266,slow=6.4,SNR=66							
DOT	**Dot Lake**	**49.95**	**34**	*e*P		**P**	**02 25 03.0**	**+0.2**
	comp=Z,4.6nm,0.7s							
BRVK	**Borovoye**	**51.79**	**313**	*e*P		**P**	**02 25 15.8**	**-1.0**
BRVK				pmax		pmax		
	comp=Z,6.0nm,1.1s							
KSH	**Kashi**	**51.84**	**295**	*e*P		**P**	**02 25 21.3**	**+3.8**
KSH				sP		sP	02 25 35.3	+4.2
KSH				PP		**PP**	**02 27 20.3**	**+5.0**
KSH				S		**S**	**02 32 40.3**	**+2.5**
KSH				sS		sS	02 32 57.0	+3.1
KSH				SS		**SS**	**02 36 15.4**	**+1.0**
KSH				pmax		pmax		
	comp=Z,5.0nm,1.1s							
KSH				pmax		pmax		
	comp=Z,64nm,3.4s							
KSH				LR		LR		
	comp=Z,140nm,4.9s							
KSH				LR		LR		
	comp=Z,79nm,4.9s							
KSH				LR		LR		
	comp=Z,77nm,5.7s							
AAK	**Ala-Archa**	**51.87**	**299**	*e*P		**P**	**02 25 17.2**	**-0.5**
AAK				pmax		pmax		
	comp=Z,3.0nm,0.9s							
INK	**Inuvik**	**53.69**	**27**	P		**P**	**02 25 31.6**	**+1.1**
	comp=Z,5.7nm,0.6s,baz=292,slow=6.8,SNR=18							
INK	**Inuvik**	**53.69**	**27**	*e*P		**P**	**02 25 31.4**	**+0.9**
	comp=Z,3.6nm,0.5s							
WRAB	**Tennant Creek**	**57.28**	**190**	*i* P		**P**	**02 25 54.0**	**-2.9**
WRAB				pmax		pmax		
	comp=Z,44nm,2.5s							
WRAB	**Tennant Creek**	**57.28**	**190**	*e*P		**P**	**02 25 55.2**	**-1.7**
	comp=Z,6.8nm,0.8s							
WRA	**Warramunga Arr**	**57.29**	**190**	P		**P**	**02 25 55.0**	**-1.9**
	comp=Z,4.7nm,0.8s,baz=9.9,slow=7.5,SNR=28							
ARU	**Arti**	**57.40**	**319**	*d i*P		**P**	**02 25 57.4**	**0.0**
ARU							02 26 48.0	
ARU							02 28 02.8	
ARU				PPP		PPP	02 29 23.6	
ARU				S		**S**	**02 33 54.7**	**+2.8**
ARU				SS		**SS**	**02 37 42.7**	**+1.6**
ARU				pmax		pmax		
	comp=Z,12nm,1.7s							
ARU	**Arti**	**57.40**	**319**	*e*P		**P**	**02 25 57.6**	**+0.2**
	comp=Z,3.1nm,0.7s							
DLBC	**Dease Lake**	**57.67**	**38**	P		**P**	**02 26 01.3**	**+1.9**
	comp=Z,4.8nm,0.9s,baz=292,slow=7.8,SNR=5.8							
ABKAR	**Akbulak array**	**59.14**	**311**	*e*P		**P**	**02 26 09.3**	**-0.4**
	comp=Z,6.5nm,0.9s							
AKTO	**Aktyubinsk**	**59.84**	**313**	LR		LR	02 53 37.7	
	comp=Z,50nm,18.1s,slow=38							
ASAR	**Alice Springs**	**61.01**	**190**	P		**P**	**02 26 21.4**	**-1.4**
	comp=Z,2.9nm,0.8s,baz=13,slow=6.8,SNR=20							
ASAR				LR		LR	02 53 18.0	
	comp=Z,25nm,20.6s,baz=240,slow=37							
RES	**Resolute Bay**	**62.22**	**15**	*e*P		**P**	**02 26 30.4**	**+0.2**
RES	**Resolute Bay**	**62.22**	**15**	*e*P		**P**	**02 26 30.4**	**+0.2**
YKA	**Yellowknife Ar**	**63.03**	**31**	P		**P**	**02 26 36.5**	**+0.7**
	comp=Z,2.8nm,0.8s,baz=306,slow=6.9,SNR=5.5							
ARCES	**ARCESS Array B**	**64.56**	**340**	P		**P**	**02 26 46.6**	**+0.8**
	comp=Z,1.4nm,0.7s,baz=58,slow=8.6,SNR=3.7							
ARCES				LR		LR	02 57 57.5	
	comp=Z,31nm,19.4s,baz=52,slow=39							
GEYT	**Alibeck**	**65.20**	**300**	P		**P**	**02 26 50.2**	**-0.4**
	comp=Z,3.2nm,0.7s,baz=75,slow=7.8,SNR=5.6							
STKA	**Stephens Creek**	**68.56**	**182**	P		**P**	**02 27 12.1**	**+0.4**
	comp=Z,1.3nm,0.6s,baz=20,slow=9.6,SNR=3.1							
OBN	**Obninsk**	**69.04**	**324**	*e*P		**P**	**02 27 13.2**	**-1.3**
OBN				pmax		pmax		
	comp=Z,4.0nm,0.8s							
NEW	**Newport**	**69.05**	**45**	P		**P**	**02 27 15.9**	**+1.1**
	comp=Z,1.7nm,0.8s,baz=292,slow=7.9,SNR=4.2							
NEW	**Newport**	**69.05**	**45**	P		**P**	**02 27 15.9**	**+1.1**
NEW				pmax		pmax		
	comp=Z,4.0nm,1.0s							
FINES	**FINESS Array B**	**69.55**	**333**	P		**P**	**02 27 17.8**	**+0.2**
	comp=Z,4.5nm,0.7s,baz=60,slow=7.5,SNR=9.3							
FINES				LR		LR	03 02 12.7	
	comp=Z,56nm,18.1s,baz=42,slow=40							
NCK	**Nalchik**	**71.80**	**311**	*e*P		**P**	**02 27 30.7**	**-1.0**
NCK				pmax		pmax		
	comp=Z,3.0nm,0.6s							
KIV	**Kislovodsk**	**72.09**	**312**	*e*P		**P**	**02 27 32.3**	**-1.2**
KIV				pmax		pmax		
	comp=Z,12nm,1.1s							
KBZ	**Khabaz**	**72.09**	**311**	P		**P**	**02 27 33.8**	**+0.5**
	comp=Z,2.7nm,0.8s,baz=54,slow=5.0,SNR=6.3							
NEY	**Neytrino**	**72.47**	**311**	*e*P		**P**	**02 27 35.2**	**-0.7**
NEY				pmax		pmax		
	comp=Z,1.0nm,1.2s							
MFID	**Camas Ranch**	**72.47**	**49**	*e*P		**P**	**02 27 36.9**	**+1.0**
	comp=Z,1.6nm,0.7s							
GNI	**Garni**	**72.96**	**308**	*e*P		**P**	**02 27 38.4**	**-0.4**
GNI				pmax		pmax		
	comp=Z,11nm,0.9s							
NB2	**NORSAR Subarra**	**74.80**	**338**	P		**P**	**02 27 49.2**	**+0.2**
	comp=Z,1.6nm,0.8s,baz=37,slow=5.9							
NOA	**NORSAR Array B**	**74.80**	**338**	P		**P**	**02 27 49.6**	**+0.5**
	comp=Z,3.5nm,0.9s,baz=37,slow=5.8,SNR=5.8							
NOA				LR		LR	03 06 37.5	
	comp=Z,58nm,18.8s,baz=30,slow=40							
AKASG	**Malin Array Be**	**75.26**	**323**	P		**P**	**02 27 51.0**	**-0.8**
	comp=Z,1.1nm,0.4s,baz=47,slow=6.1,SNR=6.7							
AKASG				LR		LR	03 02 44.5	
	comp=Z,35nm,18.2s,baz=315,slow=37							
AKASG	**Malin Array Be**	**75.26**	**323**	*ce*P		**P**	**02 27 51.7**	**-0.1**
AKASG				pmax		pmax		
	comp=Z,2.0nm,0.6s							
KIEV	**Kiev**	**75.27**	**323**	*e*P		**P**	**02 27 50.1**	**-1.8**
KIEV				pmax		pmax		
	comp=Z,3.0nm,0.9s							
FRB	**Frobisher Bay**	**76.42**	**14**	P		**P**	**02 27 58.1**	**-0.1**
	comp=Z,12nm,0.8s,baz=329,slow=8.3,SNR=3.5							
FRB	**Frobisher Bay**	**76.42**	**14**	P		**P**	**02 27 58.1**	**-0.1**
FRB				pmax		pmax		
	comp=Z,11nm,0.7s							
PDAR	**Pinedale Array**	**76.56**	**46**	P		**P**	**02 28 00.3**	**+0.6**
	comp=Z,1.6nm,0.8s,baz=256,slow=2.1,SNR=15							
BRTR	**Keskin Array B**	**80.02**	**313**	P		**P**	**02 28 19.0**	**+0.2**
	comp=Z,0.9nm,0.8s,baz=101,slow=6.4,SNR=7.3							
BRTR	**Keskin Array B**	**80.02**	**313**	P		**P**	**02 28 19.0**	**+0.2**
BRTR				pmax		pmax		
	comp=Z,1.0nm,0.8s							
DPC	**Dobruska-Polom**	**81.29**	**329**	*e*P		**P**	**02 28 26.3**	**+1.0**
DPC	**Dobruska-Polom**	**81.29**	**329**	*e*P		**P**	**02 28 26.3**	**+1.0**
VYHS	**Vyhne**	**81.62**	**326**	*e*P		**P**	**02 28 27.9**	**+0.9**
VYHS	**Vyhne**	**81.62**	**326**	*e*P		**P**	**02 28 27.9**	**+0.9**
CLL	**Collm**	**81.88**	**331**	*e*P		**P**	**02 28 28.0**	**-0.3**
CLL				pmax		pmax		
	comp=Z,5.0nm,0.7s							
CLL	**Collm**	**81.88**	**331**	*e*P		**P**	**02 28 28.0**	**-0.3**
	comp=Z,5.0nm,0.7s							
KHC	**Kasperske Hory**	**83.36**	**329**	*e*P		**P**	**02 28 36.6**	**+0.5**
KHC	**Kasperske Hory**	**83.36**	**329**	*e*P		**P**	**02 28 36.6**	**+0.5**
ANMO	**Albuquerque**	**83.39**	**51**	*i* P		**P**	**02 28 35.3**	**-1.5**
ANMO				pmax		pmax		
	comp=Z,5.0nm,1.0s							
ANMO	**Albuquerque**	**83.39**	**51**	*e*P		**P**	**02 28 38.0**	**+1.3**
	comp=Z,6.0nm,1.1s							
GERES	**GERESS Array B**	**83.54**	**329**	P		**P**	**02 28 37.1**	**+0.1**
	comp=Z,0.8nm,0.6s,baz=43,slow=4.5,SNR=4.6							
GERES				LR		LR	03 09 09.1	
	comp=Z,45nm,18.3s,baz=302,slow=38							
121A	**Cookes Peak, D**	**84.12**	**53**	*e*P		**P**	**02 28 41.6**	**+1.1**
	comp=Z,5.9nm,0.8s							
RPZ	**Rata Peaks**	**84.20**	**160**	LR		LR	03 04 25.8	
	comp=Z,63nm,19.4s,baz=253,slow=34							
BCLA	**Clavier**	**85.42**	**335**	P		**P**	**02 28 46.8**	**+0.4**
	comp=Z,23nm,2.2s							
TXAR	**Lajitas Array**	**88.89**	**54**	P		**P**	**02 29 04.5**	**+0.7**
	comp=Z,2.0nm,0.7s,baz=298,slow=3.6,SNR=27							
KEST	**Kesra**	**95.97**	**324**	LR		LR	03 19 21.3	
	comp=Z,14nm,19.1s,baz=274,slow=40							
TORD	**Torodi Ar. Bea**	**118.43**	**317**	PKP		**PKPdf**	**02 34 56.2**	**-1.0**
	comp=Z,0.3nm,0.6s,baz=234,slow=1.8,SNR=4.7							
MAW	**Mawson**	**120.20**	**206**	PKP		**PKPdf**	**02 34 58.3**	**-0.5**
	comp=Z,1.7nm,0.9s,baz=105,slow=4.6,SNR=3.5							
LPAZ	**La Paz**	**145.34**	**62**	PKPbc		**PKPbc**	**02 35 48.0**	**+0.1**
	comp=Z,3.3nm,0.8s,baz=2.6,slow=6.3,SNR=13							
USHA	**Ushuaia**	**151.95**	**140**	PKPbc		**PKPbc**	**02 36 00.9**	**-2.4**
	comp=Z,37nm,1.0s,baz=204,slow=2.7,SNR=3.8							
PLCA	**Paso Flores**	**153.43**	**109**	PKP		**PKPdf**	**02 35 59.6**	**0.0**
	comp=Z,2.7nm,0.9s,baz=273,slow=8.8,SNR=3.5							
PLCA				PKPbc		**PKiKP**	**02 36 07.6**	**+0.3**
	comp=Z,3.0nm,0.9s,baz=326,slow=3.2,SNR=3.1							

*ISCJB **08** 02:27:18.0±0.6, 39°.28N±0°.03×115°.63W±0°.07, h9km, Error ellipse: s-maj=7.5km s-min=4.4km az=5.5*
*NEIC **08** 02:27:18.4±0.0, 39°.27N×115°.77W, h8km, ML3.6(REN), After REN.*

ISC 08 02:27:18.5±0.9, 39°.26N±0°.03×115°.79W±0°.04, h9km, n17, σ2s 26/28, Nevada

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time	Res
								h m s	ISC
R11A	**Troy Canyon, C**	**0.93**	**170**	P		**Pg**		**02 27 34.0**	**-2.2**
	baz=351								
R11A	**Troy Canyon, C**	**0.93**	**170**	*e*S		**Sg**		**02 27 46.4**	**-1.9**
BMN	**Battle Mountai**	**1.61**	**317**	*e*Pn		**Pn**		**02 27 46.5**	**-0.7**
BMN				*e*S		**Sg**		**02 28 09.7**	**-0.5**
TPNV	**Topopah Spring**	**2.34**	**189**	P		**Pn**		**02 27 57.0**	**-0.2**
	baz=9.0								
TPNV				Sb		**Sb**		**02 28 31.2**	**+1.3**
	baz=9.0								
DUG	**Dugway, Tooele**	**2.48**	**67**	P		**Pn**		**02 27 58.8**	**-0.3**
	baz=249								
DUG	**Dugway, Tooele**	**2.48**	**67**	*e*Pn		**Pn**		**02 27 58.4**	**-0.7**
DUG				*e*S		**Sb**		**02 28 34.4**	**+0.5**
GRAC	**Grapevine Rang**	**2.58**	**209**	Pb		**Pb**		**02 28 04.2**	**-0.7**
	baz=28								
GRAC				Sb		**Sg**		**02 28 40.4**	**-1.0**
	baz=28								
MLAC	**Mammoth, Mammo**	**2.89**	**237**	Sb		**Sb**		**02 28 48.9**	**+3.0**
	baz=55								
FURC	**Furnace Creek,**	**2.92**	**197**	Sb		**Sb**		**02 28 49.6**	**+3.3**
	baz=17								
DAC	**Darwin (Calif)**	**3.30**	**206**	*e*Pn

ATKA				S		**Sn**	**02 46 03.5**	**+0.2**	
NIKH	**Nikolski High**	**1.88**	**58**	P		**Pn**	**02 45 45.5**	**0.0**	
NIKH				S		**Sn**	**02 46 07.7**	**-0.3**	
OKSO	**Okmok South**	**2.43**	**55**	P		**Pn**	**02 45 53.7**	**+0.5**	
OKSO				S		**Sn**	**02 46 23.3**	**+1.6**	
OKFG	**Magazine Ridge**	**2.59**	**56**	P		**Pn**	**02 45 56.1**	**+0.8**	
GSMY	**Great Sitkin M**	**2.83**	**273**	P		**Pn**	**02 45 58.9**	**+0.3**	
GSTD	**Great Sitkin T**	**2.88**	**273**	P		**Pn**	**02 46 00.2**	**+0.8**	
GSTD				S		**Sn**	**02 46 33.8**	**+0.9**	
GSCK	**Great Sitkin C**	**2.89**	**272**	P		**Pn**	**02 46 00.1**	**+0.6**	
ETKA	**Kagalaska Isla**	**3.05**	**269**	P		**Pn**	**02 46 02.0**	**+0.3**	
MSOM	**Makushin Julie**	**3.29**	**55**	P		**Pn**	**02 46 05.8**	**+0.9**	
MSW	**Makushin Switc**	**3.42**	**54**	P		**Pn**	**02 46 06.4**	**-0.4**	
UNV	**Unalaska Valle**	**3.53**	**57**	*e*Pn		**Pn**	**02 46 08.9**	**+0.6**	
UNV				*e*S		**Sn**	**02 46 51.1**	**+2.4**	
TAFP	**Tanaga Falls P**	**4.02**	**271**	P		**Pn**	**02 46 16.2**	**+1.1**	
TAFP				S		**Sn**	**02 47 01.3**	**+0.5**	
ILAR	**Eielson Array**	**17.99**	**35**	P		**Pn**	**02 49 20.8**	**-1.6**	
	0.1nm,0.3s,baz=231,slow=10,SNR=4.1								
H11N2	**WAKE ISLAND Hy**	**36.38**	**216**	T		T	03 30 45.4		
	baz=22,slow=75,SNR=6.5								
H11N3	**WAKE ISLAND Hy**	**36.39**	**216**	T		T	03 30 46.4		
	baz=22,slow=75,SNR=6.2								
H11N1	**WAKE ISLAND Hy**	**36.40**	**216**	T		T	03 30 43.4		
	baz=22,slow=75,SNR=6.7								
H11S1	**WAKE ISLAND Hy**	**37.57**	**215**	T		T	03 32 15.4		
	baz=21								
H11S2	**WAKE ISLAND Hy**	**37.59**	**215**	T		T	03 32 15.4		
	baz=21								
H11S3	**WAKE ISLAND Hy**	**37.59**	**215**	T		T	03 32 13.7		
	baz=21								
ZALV	**Zalesovo Beam**	**56.80**	**317**	P		**P**	**02 54 55.0**	**-0.3**	
	0.6nm,0.3s,baz=38,slow=7.7,SNR=2.4								
KURK	**Kurchatov**	**61.77**	**317**	P		**P**	**02 55 29.6**	**0.0**	
KURBB	**Kurchatov Arra**	**61.87**	**317**	P		**P**	**02 55 29.6**	**-0.7**	
	0.8nm,0.7s,baz=47,slow=6.8,SNR=6.7								
AKTO	**Aktyubinsk**	**69.66**	**329**	P		**P**	**02 56 20.0**	**-0.5**	
	1.1nm,0.6s,baz=45,slow=10.0,SNR=5.5								
ASAR	**Alice Springs**	**89.17**	**228**	P		**P**	**02 58 06.6**	**-0.1**	
	0.4nm,0.6s,baz=34,slow=4.3,SNR=4.3								

*TIF **08** 02:48:57.9, 43.04N×44.19E, h9km±3km*
*CSEM **08** 02:48:59.2±1.0, 43.02N×44.19E, h5km, MD2.7, Error ellipse: s-maj=20.7km s-min=8.8km az=26.0*
*DDA **08** 02:49:31.2, 41.60N×41.67E, h7km, Md2.7*
ISC 08 02:48:58.7±2.1, 43.08N±0.10×44.18E±0.06, h18km±9km, n22, σ1°68/38, Western Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUDG	**Gudauri**	**0.66**	**160**	P	**Pg**	**02 49 10.6**	**-1.1**
GUDG				S	**Sg**	**02 49 18.9**	**-1.5**
GUDG	**Gudauri**	**0.66**	**160**	P	**Pg**	**02 49 10.6**	**-1.1**
GUDG				S	**Sg**	**02 49 19.4**	**-1.1**
ONI	**Oni**	**0.72**	**228**	P	**Pb**	**02 49 11.9**	**-0.9**
ONI				S	**Sb**	**02 49 22.3**	**-0.1**
DUS	**Dusheti**	**1.06**	**158**	P	**Pg**	**02 49 19.6**	**+0.2**
DUS				S	**Sg**	**02 49 37.4**	**+4.1**
DUS	**Dusheti**	**1.06**	**158**	P	**Pg**	**02 49 19.6**	**+0.2**
DUS				S	**Sg**	**02 49 37.4**	**+4.1**
TBLG	**Delisi**	**1.41**	**163**	P	**Pb**	**02 49 24.2**	**-0.4**
TBLG				S	**Sg**	**02 49 43.8**	**-0.6**
TBLG	**Delisi**	**1.41**	**163**	P	**Pb**	**02 49 24.4**	**-0.1**
TBLG				S	**Sb**	**02 49 43.2**	**+1.0**
CHVG	**Ch'k'valeri**	**1.58**	**257**	P	**Pg**	**02 49 28.5**	**-0.6**
CHVG				S	**Sg**	**02 49 51.7**	**+2.0**
CHVG	**Ch'k'valeri**	**1.58**	**257**	P	**Pg**	**02 49 28.5**	**-0.6**
CHVG				S	**Sg**	**02 49 51.7**	**+2.0**
AKH	**Akhalkalaki**	**1.75**	**197**	P	**Pb**	**02 49 29.3**	**-1.0**
AKH				S	**Sn**	**02 49 49.1**	**-1.1**
AKH	**Akhalkalaki**	**1.75**	**197**	P	**Pb**	**02 49 29.3**	**-1.0**
AKH				S	**Sn**	**02 49 49.1**	**-1.1**
BGD	**Bogdanovka**	**1.87**	**193**	P	**Pn**	**02 49 29.6**	**-0.4**
BGD				S	**Sg**	**02 49 58.3**	**-0.6**
BGD	**Bogdanovka**	**1.87**	**193**	P	**Pn**	**02 49 29.6**	**-0.4**
BGD				S	**Sg**	**02 49 58.3**	**-0.6**
EPOS	**Posof**	**1.91**	**215**	*i* P	**Pb**	**02 49 32.8**	**-0.3**
EPOS				*i* S	**Sb**	**02 49 58.3**	**+1.7**
EPOS	**Posof**	**1.91**	**215**	P	**Pb**	**02 49 32.8**	**-0.3**
EPOS				S	**Sb**	**02 49 58.3**	**+1.7**
ARTV	**Artvin**	**2.53**	**222**	*i* P	**Pn**	**02 49 40.1**	**+1.1**
ARTV	**Artvin**	**2.53**	**222**	P	**Pn**	**02 49 40.1**	**+1.1**
DBOC	**Borcka**	**2.55**	**228**	*i* P	**Pn**	**02 49 36.2**	**-2.9**
DBOC	**Borcka**	**2.55**	**228**	P	**Pn**	**02 49 36.2**	**-2.9**
DAGI	**Agillar**	**2.62**	**221**	*i* P	**Pb**	**02 49 44.0**	**-1.1**
DAGI				*i* S	**Sb**	**02 50 19.0**	**+2.1**
DDEM	**Demirkent**	**2.84**	**220**	*i* P	**Pn**	**02 49 45.3**	**+2.1**
DDEM	**Demirkent**	**2.84**	**220**	P	**Pn**	**02 49 45.3**	**+2.1**

IDC 08 02:51:43.7±57.0, 23.17S×177.25W, h0km, mb4.0/3, mb1 4.2/3, mb1mx3.8/23, mbtmp4.0/3, Error ellipse: s-maj=1041.0km s-min=162.5km az=87.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**37.33**	**247**	P	P	02 58 57.0	-0.9
	2.1nm,0.8s,baz=94,slow=12,SNR=4.5						
ASAR	**Alice Springs**	**44.64**	**259**	P	P	02 59 58.4	0.0
	1.4nm,0.4s,baz=91,slow=7.0,SNR=25						
WRA	**Warramunga Arr**	**44.98**	**265**	P	P	03 00 01.4	+0.3
	0.9nm,0.4s,baz=101,slow=8.4,SNR=27						

*ISK **08** 02:58:51.4, 36.62Nx35.79E, h8km, MD2.6*
*DDA **08** 02:58:51.4, 36.58Nx35.72E, h7km, Md2.6*
*ISCJB **08** 02:58:52.3±0.4, 36.63N±0.02×35.73E±0.03, h11km±4km, Error ellipse: s-maj=4.2km s-min=3.6km az=25.2*
*CSEM **08** 02:58:52.3±0.2, 36.63Nx35.73E, h15km, MD2.6, Error ellipse: s-maj=1.4km s-min=3.2km az=33.0*
ISC 08 02:58:52.0±1.0, 36.61N±0.02×35.73E±0.02, h18km±4km, n37, σ0°93/56, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YURE	**YUREGIR**	**0.23**	**341**	*i* P	**Pg**	**02 58 57.9**	**+0.4**
YURE				*i* S	**Sg**	**02 59 02.8**	**+1.6**
YURE	**YUREGIR**	**0.23**	**341**	P	**Pg**	**02 58 57.9**	**+0.4**
YURE				S	**Sg**	**02 59 02.8**	**+1.6**
KRTD	**Karatas-Adana**	**0.25**	**267**	*e*PG	**Pb**	**02 58 57.9**	**-0.1**
KRTD	**Karatas-Adana**	**0.25**	**267**	*e*Pg	**Pb**	**02 58 57.9**	**-0.1**
KRTS	**Karatas**	**0.29**	**264**	*e*PG	**Pb**	**02 58 58.6**	**0.0**
KRTS				*e*SG	**Sb**	**02 59 03.7**	**+0.7**
KRTS	**Karatas**	**0.29**	**264**	*e*Pg	**Pb**	**02 58 58.6**	**0.0**
KRTS				*e*Sg	**Sb**	**02 59 03.7**	**+0.7**
CEYT	**Ceyhan**	**0.40**	**2**	*e*PG	**Pg**	**02 58 59.5**	**-0.9**
CEYT				*e*SG	**Sg**	**02 59 05.3**	**-0.7**
CEYT	**Ceyhan**	**0.40**	**2**	*e*Pg	**Pg**	**02 58 59.5**	**-0.9**
CEYT				*e*Sg	**Sg**	**02 59 05.3**	**-0.7**
TAHT	**Tahtakopru-Hat**	**0.43**	**122**	*e*PG	**Pg**	**02 58 60.0**	**-0.9**
TAHT	**Tahtakopru-Hat**	**0.43**	**122**	*e*Pg	**Pg**	**02 59 00.0**	**-0.9**
YAYL	**Yayladag**	**0.65**	**152**	*e*PG	**Pg**	**02 59 03.7**	**-1.1**
YAYL	**Yayladag**	**0.65**	**152**	*i* P	**Pg**	**02 59 03.4**	**-1.4**
YAYL				*i* S	**Sg**	**02 59 13.3**	**-0.2**
YAYL	**Yayladag**	**0.65**	**152**	*e*Pg	**Pg**	**02 59 03.7**	**-1.1**
YAYL				S	**Sg**	**02 59 13.3**	**-0.2**
DRWC	**Darouich**	**0.76**	**89**	*e*P	**Pb**	**02 59 07.3**	**+0.6**
	SNR=107						
DRWC				*e*S	**Sb**	**02 59 16.8**	**+0.1**
	57nm,0.2s,SNR=106						
ARNB	**Al Arnab**	**0.77**	**165**	*e*P	**Pn**	**02 59 08.3**	**+0.2**
	SNR=104						
ARNB				*e*S	**Sn**	**02 59 20.8**	**+1.6**
	20nm,0.2s,SNR=103						
BTCH	**Batrach**	**0.82**	**134**	*e*P	**Pn**	**02 59 09.5**	**+0.8**
	SNR=57						
BTCH				*e*S	**Sb**	**02 59 20.6**	**+2.1**
	26nm,0.2s,SNR=58						
DED	**Mersin**	**0.83**	**296**	*i* P	**Pg**	**02 59 07.6**	**-0.5**
DED				*i* S	**Sb**	**02 59 19.0**	**+0.3**
KOZT	**Kozan**	**0.88**	**5**	*e*PG	**Pb**	**02 59 08.3**	**-0.4**
KOZT	**Kozan**	**0.88**	**5**	*e*Pg	**Pb**	**02 59 08.3**	**-0.4**
KAMA	**Osmaniye**	**0.95**	**52**	*i* P	**Pg**	**02 59 09.4**	**-1.1**
KAMA				*i* S	**Sg**	**02 59 21.1**	**-2.0**
MERS	**Mersin**	**1.00**	**285**	*e*PG	**Pn**	**02 59 11.8**	**+0.5**
MERS	**Mersin**	**1.00**	**285**	*e*Pg	**Pn**	**02 59 11.8**	**+0.5**
GULE	**Gulek**	**1.02**	**312**	*i* S	**Sg**	**02 59 24.2**	**-1.0**
GULE	**Gulek**	**1.02**	**312**	S	**Sg**	**02 59 24.2**	**-1.0**
ANDN	**Andirin**	**1.09**	**27**	*i* P	**Pn**	**02 59 13.5**	**+0.9**
ANDN				*i* S	**Sn**	**02 59 29.4**	**+2.1**
ANDN	**Andirin**	**1.09**	**27**	P	**Pn**	**02 59 13.5**	**+0.9**
KUZU	**Kuzuini**	**1.10**	**81**	*i* P	**Pn**	**02 59 12.9**	**+0.3**
KUZU				*i* S	**Sn**	**02 59 28.0**	**+0.7**
KUZU	**Kuzuini**	**1.10**	**81**	P	**Pn**	**02 59 12.9**	**+0.3**
KUZU				S	**Sn**	**02 59 28.0**	**+0.7**
HCB	**Kahramanmara~**	**1.20**	**52**	*i* P	**Pg**	**02 59 13.7**	**-1.6**
HCB				*i* S	**Sb**	**02 59 30.1**	**+0.7**
KMRS	**Kahramanmaras**	**1.30**	**46**	*e*PN	**Pb**	**02 59 15.8**	**-0.1**
KMRS	**Kahramanmaras**	**1.30**	**46**	*e*Pn	**Pb**	**02 59 15.8**	**-0.1**
GAZ	**Gaziantep**	**1.32**	**64**	*e*PN	**Pb**	**02 59 16.2**	**-0.1**
GAZ	**Gaziantep**	**1.32**	**64**	*e*Pn	**Pb**	**02 59 16.2**	**-0.1**
KERG	**Konya-Eregli**	**1.52**	**303**	*i* P	**Pn**	**02 59 18.6**	**+0.2**
KERG				*i* S	**Sn**	**02 59 36.7**	**-1.1**
KERG	**Konya-Eregli**	**1.52**	**303**	P	**Pn**	**02 59 18.6**	**+0.2**
KERG				S	**Sn**	**02 59 36.7**	**-1.1**
KEBE	**Keben-Mersin**	**1.63**	**265**	*e*PN	**Pb**	**02 59 21.6**	**0.0**
KEBE	**Keben-Mersin**	**1.63**	**265**	*e*Pn	**Pb**	**02 59 21.6**	**0.0**

*ISCJB **08** 03:04:51.1±0.6, 6.82N±0.03×73.06W±0.04, h157km±5km, Error ellipse: s-maj=7.6km s-min=3.8km az=34.4*
*FUNV **08** 03:04:52.2, 6.81Nx73.10W, h167km, MW2.3*
*RSNC **08** 03:04:52.9±0.5, 6.79Nx73.09W, h149km±3km, ML2.5*
ISC 08 03:04:51.2±1.4, 6.81N±0.04×73.05W±0.05, h158km±8km, n23, σ0°78/41, 2C, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BARC	**Barichara**	**0.25**	**211**	*e*P	**Pn**	**03 05 12.8**	**-0.1**
BARC				*e*S	**Sn**	**03 05 28.3**	**-1.2**
BARC				*i*		03 05 31.9	
	comp=Z,53nm,0.7s						
GIRC	**Giron, Santand**	**0.30**	**332**	*e*P	**Pn**	**03 05 13.1**	**+0.2**
GIRC				*e*S	**Sn**	**03 05 28.8**	**-0.7**
PAMC	**Pamplona, Colo**	**0.63**	**34**	*e*P	**Pn**	**03 05 15.8**	**+1.0**
PAMC				*e*S	**Sn**	**03 05 32.5**	**-0.2**
BRRC	**Barranca, Sant**	**0.72**	**294**	*i* P	**Pn**	**03 05 14.8**	**+0.2**
BRRC				*e*S	**Sn**	**03 05 31.9**	**-0.7**
BRRC				*i*		03 05 35.9	
	comp=Z,39nm,0.1s						
RUSC	**La Rusia**	**0.91**	**182**	*e*P	**Pn**	**03 05 16.8**	**+0.2**
RUSC				*e*S	**Sn**	**03 05 35.2**	**-0.9**
RUSC				*i*		03 05 36.9	
	comp=Z,20nm,0.4s						
CBRI	**Barrientos, No**	**0.93**	**16**	*e*P	**Pn**	**03 05 17.2**	**+0.7**
CAPV	**Capacho**	**1.28**	**35**	*e*P	**Pn**	**03 05 20.8**	**+1.4**
CAPV				*e*S	**Sn**	**03 05 41.6**	**+0.5**
OCAC	**Ocana**	**1.44**	**349**	*e*S	**Sn**	**03 05 44.5**	**+0.6**
OCAC				*i*		03 05 48.9	
	comp=Z,34nm,0.2s						
ZARC	**Zaragoza, Cauc**	**1.92**	**291**	*e*P	**Pn**	**03 05 26.0**	**+0.1**
ZARC				*e*S	**Sn**	**03 05 52.1**	**-0.5**
ZARC				*i*		03 05 57.4	
	comp=Z,25nm,0.2s						
NORC	**Norcasia**	**2.19**	**236**	*e*P	**Pn**	**03 05 29.1**	**0.0**
NORC				*e*S	**Sn**	**03 05 57.4**	**-1.0**
CHIC	**Chingaza**	**2.27**	**197**	*e*P	**Pn**	**03 05 30.8**	**+0.4**
CHIC				*e*S	**Sn**	**03 06 01.0**	**+0.4**
CHIC				*i*		03 06 08.7	
	comp=Z,10nm,0.4s						
ROSC	**El Rosal**	**2.33**	**213**	*e*P	**Pn**	**03 05 31.3**	**+0.2**
ROSC				*e*S	**Sn**	**03 06 02.0**	**+0.2**
ROSC				*i*		03 06 10.8	
	comp=Z,34nm,0.4s						
HELC	**Santa Helena**	**2.54**	**256**	*e*P	**Pn**	**03 05 34.3**	**+0.8**
HELC				*e*S	**Sn**	**03 06 06.3**	**+0.1**
HELC				*i*		03 06 11.8	
	comp=Z,12nm,0.5s						
VIGV	**El Vigia**	**2.62**	**40**	*e*P	**Pn**	**03 05 35.2**	**+1.0**
VIGV				*e*S	**Sn**	**03 06 06.5**	**-1.0**
SOCV	**Socops**	**2.62**	**56**	*e*P	**Pn**	**03 05 35.3**	**+1.1**
SOCV				*e*S	**Sn**	**03 06 07.4**	**-0.1**
GUYC	**Guyana, Colomb**	**2.81**	**236**	*e*P	**Pn**	**03 05 37.1**	**+0.1**
GUYC				*e*S	**Sn**	**03 06 12.6**	**+0.2**
GUYC				*i*		03 06 19.6	
	comp=Z,28nm,0.4s						
CODC	**Agust`n Codaz**	**3.13**	**353**	*e*P	**Pn**	**03 05 41.2**	**+0.7**
CODC				*e*S	**Sn**	**03 06 19.1**	**+0.3**
CODC				*i*		03 06 27.1	
	comp=Z,13nm,0.8s						
PRAC	**Prado**	**3.58**	**211**	*e*P	**Pn**	**03 05 46.6**	**+0.3**
PRAC				*e*S	**Sn**	**03 06 29.0**	**-0.1**
SJAC	**San Juan de Ar**	**3.63**	**194**	*e*P	**Pn**	**03 05 47.3**	**+0.3**
SJAC				*e*S	**Sn**	**03 06 30.8**	**+0.4**
VIRV	**Villa del Rosa**	**3.72**	**10**	*e*P	**Pn**	**03 05 48.2**	**+0.1**
VIRV				*e*S	**Sn**	**03 06 29.6**	**-2.8**
CURV	**Curarigua**	**4.41**	**44**	*e*P	**Pn**	**03 05 57.7**	**+0.5**
BAUV	**El Baul**	**5.40**	**67**	*e*P	**Pn**	**03 06 09.4**	**-0.6**
MAPV	**Macapo**	**5.45**	**56**	*e*P	**Pn**	**03 06 10.5**	**-0.2**

MEX 08 03:08:14.9±0.6, 13.81N×92.19W, h84km±38km, MD3.9, Off coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CCIG	**Comitan**	**2.46**	**1**	*e*P	Pn	03 08 52.8	-0.5
CCIG				*i* S	Sn	03 09 21.2	-1.4
TGIG		**3.09**	**343**	*i* P	Pn	03 09 00.2	-1.4
TGIG				*i* S	Sn	03 09 36.3	-1.3

*PGC **08** 03:59:18.4±58.0, 58.30Nx133.56W, h10km, ML2.8/4, 50km east of Juneau, Ak Southeastern Alaska*
*NEIC **08** 03:59:18.4±0.0, 58.30Nx133.56W, h10km, ML2.6(AEIC), ML2.8(OTT), After OTT.*
ISC 08 03:59:17.1±1.3, 58.24N±0.04×133.52W±0.04, h7km±11km, n15, σ2°10/29, Southeastern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIS	**Juneau Island**	**0.46**	**275**	P	**Pg**	**03 59 26.2**	**+0.3**
JIS				S	**Sg**	**03 59 32.2**	**+0.4**
BESE	**Bessie Mountai**	**0.78**	**296**	P	**Pg**	**03 59 31.5**	**-0.6**
BESE				S	**Sg**	**03 59 41.7**	**-0.5**
SKAG	**Skagway**	**1.54**	**323**	*e*Pn	**Pn**	**03 59 44.4**	**-0.5**
SKAG				*e*S	**Sg**	**04 00 06.0**	**-0.5**
DLBC	**Dease Lake**	**1.85**	**82**	Pn	**Pn**	**03 59 50.4**	**+1.0**
DLBC				Sn	**Sn**	**04 00 14.5**	**+1.4**
DLBC	**Dease Lake**	**1.85**	**82**	*e*Pn	**Pn**	**03 59 50.7**	**+1.3**
DLBC				*e*S	**Sn**	**04 00 13.4**	**+0.4**
PLBC	**Pleasant Camp**	**1.92**	**311**	Pn	**Pn**	**03 59 50.6**	**+0.5**
PLBC				Sn	**Sn**	**04 00 14.5**	**0.0**
PLBC	**Pleasant Camp**	**1.92**	**311**	P	**Pn**	**03 59 49.7**	**-0.4**
PLBC				S	**Sb**	**04 00 14.9**	**-1.5**
WRAK	**Wrangell Islan**	**1.94**	**160**	*e*Pn	**Pn**	**03 59 51.5**	**+1.1**
WRAK				*e*S	**Sb**	**04 00 18.7**	**+1.7**
WHY	**Whitehorse**	**2.52**	**345**	Pn	**Pn**	**03 59 57.3**	**-1.3**
WHY				Sn	**Sn**	**04 00 29.2**	**-0.5**
WHY	**Whitehorse**	**2.52**	**345**	P	**Pn**	**03 59 58.6**	**0.0**
WHY				S	**Sb**	**04 00 31.7**	**-2.4**
CRAG	**Craig**	**2.79**	**175**	*e*Pn	**Pn**	**04 00 00.0**	**-2.1**
CRAG				*e*S	**Sn**	**04 00 31.7**	**-4.3**
HYT	**Haines Junctio**	**3.29**	**324**	Pg	**Pb**	**04 00 16.1**	**+0.3**
HYT				Sg	**Sb**	**04 00 58.4**	**+2.3**
YUK6	**Outpost Mounta**	**3.66**	**320**	Pg	**Pb**	**04 00 24.4**	**+2.3**
YUK6				Sg	**Sg**	**04 01 14.9**	**+0.4**
FNBB	**Fort Nelson**	**5.54**	**79**	Sg	**Sg**	**04 02 12.2**	**-2.6**
DAWY	**Dawson**	**6.50**	**337**	Pg	**Pb**	**04 01 15.1**	**+4.8**
DAWY				Sg	**Sg**	**04 02 40.2**	**-5.1**

*KRNET **08** 04:19:11.4±0.1, 39.16Nx75.60E, mb3.0*
*SOME **08** 04:19:14.6, 39.52Nx75.22E, h0km*
*NNC **08** 04:19:16.9±2.8, 39.48Nx75.35E, h0km, mb3.7, mpv3.3, Error ellipse: s-maj=19.9km s-min=16.8km az=147.0*
ISC 08 04:19:13.2±1.1, 39.44N±0.05×75.40E±0.03, h10km, n38, σ1°90/71, 34C-7D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NRN	**Naryn**	**2.04**	**13**	*i* P	**Pg**	**04 19 52.5**	**+0.2**
	baz=7.0						
NRN				*i* S	**Sg**	**04 20 22.1**	**+3.3**
	baz=7.0						
ARSB	**Arslanbob**	**2.64**	**316**	*i* P	**Pg**	**04 20 02.5**	**-1.2**
	baz=318						
ARSB				*i* S	**Sg**	**04 20 38.0**	**+0.1**
	baz=318						
KZA	**Kyzart**	**2.64**	**358**	*i* P	**Pb**	**04 19 59.5**	**-1.2**
	baz=355						
KZA				*i* S	**Sg**	**04 20 37.5**	**-0.4**
	baz=355						
ULHL	**Ulahol**	**2.87**	**13**	*i* P	**Pb**	**04 20 02.7**	**-1.9**
	baz=9.0						
ULHL				*i* S	**Sb**	**04 20 41.1**	**+1.2**
	baz=9.0						
AML	**Almayashu**	**2.98**	**335**	*i* P	**Pb**	**04 20 06.2**	**-0.4**
	baz=334						
AML				*i* S	**Sg**	**04 20 47.6**	**-1.4**
	baz=334						
BOOM	**Boomskoye usch**	**3.07**	**7**	*i* P	**Pb**	**04 20 07.3**	**-0.7**
	baz=4.0						
BOOM				*i* S	**Sb**	**04 20 45.9**	**+0.3**
	baz=4.0						
KBK	**Karagaybulak**	**3.23**	**354**	*i* P	**Pb**	**04 20 08.6**	**-2.1**
	baz=352						
KBK				*i* S	**Sb**	**04 20 52.1**	**+1.9**
	baz=352						
AAK	**Ala-Archa**	**3.27**	**348**	Pg	**Pg**	**04 20 16.2**	**+0.5**
	7.6nm,0.5s						
AAK				Sn	**Sb**	**04 20 48.5**	**-2.7**
	13nm,0.8s						
AAK				Lg	Lg	04 20 59.7	
	34nm,1.1s						
EKS2	**Erkin-Say**	**3.44**	**340**	*i* P	**Pb**	**04 20 11.6**	**-2.7**
	baz=339						
EKS2				*i* S	**Sb**	**04 20 57.2**	**+0.9**
	baz=339						
TKM2	**Tokmak 2**	**3.48**	**2**	*i* P	**Pb**	**04 20 11.6**	**-3.4**
	baz=360						
TKM2				*i* S	**Sb**	**04 20 57.2**	**-0.2**
	baz=360						
TKM2	**Tokmak 2**	**3.48**	**2**	Pn	**Pb**	**04 20 11.3**	**-3.7**
	6.0nm,0.4s						
TKM2				Pg	**Pg**	**04 20 19.7**	**-0.2**
	8.9nm,0.5s						
TKM2				Sn	**Sb**	**04 20 55.5**	**-1.9**
	14nm,0.8s						
TKM2				Lg	Lg	04 21 06.6	
	24nm,0.5s						
KST	**Kastek**	**3.62**	**7**	*e*P	**Pg**	**04 20 22.1**	**-0.5**
	2.9nm,0.5s						
KST				*e*S	**Sg**	**04 21 10.7**	**+1.2**
	54nm,0.4s						
MRKS	**Merke**	**3.69**	**334**	*e*P	**Pg**	**04 20 21.6**	**-2.1**
	8.8nm,0.6s						
MRKS				*e*S	**Sg**	**04 21 10.1**	**-1.5**
	9.3nm,0.4s						
IZV	**Izvestkoviy**	**3.71**	**14**	*e*P	**Pg**	**04 20 23.8**	**-0.4**
	13nm,0.5s						
IZV				*e*S	**Sg**	**04 21 13.8**	**+1.6**
	29nm,0.7s						
MNAS	**Manas**	**3.75**	**325**	Pg	**Pb**	**04 20 17.8**	**-1.8**
	baz=326						
MNAS				*i* S	**Sb**	**04 21 05.0**	**-0.1**
	baz=326						
MNAS	**Manas**	**3.75**	**325**	Pg	**Pg**	**04 20 23.4**	**-1.6**
	3.0nm,0.5s						
MNAS				Lg	Lg	04 21 15.0	
	11nm,0.7s						
ANVS	**Anan'yevo**	**3.75**	**26**	*i* P	**Pb**	**04 20 15.1**	**-4.5**
	baz=23						
ANVS				*i* S	**Sb**	**04 21 00.6**	**-4.6**
	baz=23						
MTBS	**Maitube**	**3.77**	**12**	*e*P	**Pg**	**04 20 25.4**	**+0.1**
	7.1nm,0.4s						
MTBS				*e*S	**Sg**	**04 21 15.8**	**+1.8**
	21nm,0.5s						
TNSS	**Tian-Shan**	**3.78**	**17**	*e*P	**Pg**	**04 20 25.4**	**-0.2**
	11nm,0.6s						
TNSS				*e*S	**Sg**	**04 21 16.4**	**+2.0**
	36nm,0.9s						
PRZ	**Przheval'sk**	**3.79**	**36**	*e*P	**Pn**	**04 20 14.8**	**+3.0**
	baz=32						
PRZ				*i* S	**Sn**	**04 20 59.9**	**+3.3**
	baz=32						
DGS	**Degeres**	**3.81**	**4**	*e*P	**Pg**	**04 20 24.8**	**-1.3**
	15nm,0.6s						
DGS				*e*S	**Sg**	**04 21 15.4**	**0.0**
	18nm,0.6s						
MDOK	**Medeo**	**3.92**	**18**	*e*P	**Pg**	**04 20 27.7**	**-0.6**
	5.3nm,0.3s						
MDOK				*e*S	**Sg**	**04 21 20.3**	**+1.3**
	47nm,1.0s						
KOTS	**Kotyrbulak**	**4.00**	**18**	*e*P	**Pg**	**04 20 29.1**	**-0.8**
KOTS				*e*S	**Sg**	**04 21 22.8**	**+1.1**
SATY	**Saty**	**4.26**	**31**	*e*P	**Pg**	**04 20 34.1**	**-0.8**
	16nm,0.8s						
SATY				*e*S	**Sg**	**04 21 31.4**	**+1.3**
	26nm,0.9s						
KTBS	**Karatobe**	**4.37**	**12**	*e*P	**Pg**	**04 20 35.7**	**-1.2**
KTBS				*e*S	**Sg**	**04 21 34.1**	**+0.5**
KUU	**Kurty**	**4.50**	**9**	*e*P	**Pg**	**04 20 37.7**	**-1.7**
	7.7nm,0.5s						
KUU				*e*S	**Sg**	**04 21 37.6**	**-0.1**
	48nm,0.8s						
KURS	**Kuram**	**4.55**	**26**	*e*P	**Pg**	**04 20 37.7**	**-2.5**
	3.5nm,0.7s

1.9nm,0.6s,baz=112,slow=7.4,SNR=7.4
ASAR LR LR 05 03 32.1
comp=Z,160nm,18.1s,baz=98,slow=36
WRA Warramunga Arr 45.57 270 P **P 04 45 09.3 -1.2**
2.1nm,0.7s,baz=109,slow=7.6,SNR=20
WRA pP **sP 04 45 20.4 +0.7**
2.0nm,0.6s,baz=109,slow=7.7,SNR=7.6
KLR Kul'dur 90.96 329 LR LR 05 26 42.4
comp=Z,31nm,18.9s,baz=235,slow=33
FINES FINESS Array B 144.72 342 PKP **PKPab 04 56 24.2 -0.8**
2.1nm,0.9s,baz=46,slow=8.2,SNR=3.6
FINES pPKP **pPKPdf 04 56 35.1 +1.7**
1.8nm,0.8s,baz=46,slow=8.2,SNR=1.7
AKASG Malin Array Be 151.39 325 PKPbc **PKPbc 04 56 41.5 -2.0**
0.6nm,0.4s,baz=46,slow=2.7,SNR=5.3
BRTR Keskin Array B 153.42 301 PKPab **PKPab 04 57 02.0 +1.0**
0.9nm,0.7s,baz=54,slow=2.1,SNR=4.8
TORD Torodi Ar. Bea 163.70 173 PKPab **PKPab 04 57 46.6 +1.1**
1.1nm,0.9s,baz=189,slow=5.2,SNR=5.1

---

*ISK **08** 04:37:54.7, 40°.36N×31°.88E, h19km, MD2.4*
*ISCJB **08** 04:37:57.3±0.9, 40°.93N±0°.07×31°.54E±0°.04, h1km±11km, Error ellipse: s-maj=11.6km s-min=5.2km az=168.1*
*CSEM **08** 04:37:57.7±0.2, 40°.87N×31°.54E, h10km, MD2.5, Error ellipse: s-maj=8.4km s-min=3.5km az=165.0*
*DDA **08** 04:37:57.7, 40°.91N×31°.54E, h7km, Md2.5*
ISC 08 04:37:57.3±1.2, 40°.83N±0°.06×31°.59E±0°.05, h11km±10km, n15, σ1s39/23, Turkey

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
BCAM	**Yenicaga**	**0.36**	**93**	*i*	P		**Pb**	**04 38 06.2**	**+0.4**
BCAM				*i*	S		**Sb**	**04 38 12.0**	**+0.6**
MDUB	**Mudurnu**	**0.47**	**220**	*e*	PG		**Pg**	**04 38 06.7**	**+0.2**
MDUB				*e*	SG		**Sg**	**04 38 13.6**	**+0.8**
MDUB	**Mudurnu**	**0.47**	**220**	*e*	Pg		**Pg**	**04 38 06.7**	**+0.2**
MDUB				*e*	Sg		**Sg**	**04 38 13.6**	**+0.8**
SAHE	**Sakarya_HENDEK**	**0.56**	**272**	*i*	P		**Pg**	**04 38 08.4**	**+0.2**
SAHE				*i*	S		**Sg**	**04 38 15.5**	**-0.1**
SAHE	**Sakarya_HENDEK**	**0.56**	**272**		P		**Pg**	**04 38 08.4**	**+0.2**
SAHE					S		**Sg**	**04 38 15.5**	**-0.1**
GULT	**Gulveren**	**0.91**	**244**	*e*	PG		**Pg**	**04 38 14.5**	**-0.4**
GULT				*e*	SG		**Sn**	**04 38 30.0**	**+0.6**
GULT	**Gulveren**	**0.91**	**244**	*e*	Pg		**Pg**	**04 38 14.5**	**-0.4**
GULT				*e*	Sg		**Sn**	**04 38 30.0**	**+0.6**
SAFT	**Safranbolu**	**0.92**	**64**	*e*	PG		**Pb**	**04 38 15.2**	**-0.1**
SAFT	**Safranbolu**	**0.92**	**64**	*e*	Pg		**Pb**	**04 38 15.2**	**-0.1**
BORA	**Eskisehir**	**1.29**	**223**	*i*	P		**Pg**	**04 38 22.2**	**+0.2**
BORA				*i*	S		**Sn**	**04 38 41.7**	**+3.1**
BORA	**Eskisehir**	**1.29**	**223**		P		**Pg**	**04 38 22.2**	**+0.2**
ARMT	**Armutlu**	**2.09**	**264**	*e*	PN		**Pn**	**04 38 32.5**	**+0.2**
ARMT	**Armutlu**	**2.09**	**264**	*e*	Pn		**Pn**	**04 38 32.5**	**+0.2**
TVSB	**Tavsanli**	**2.14**	**230**	*e*	PN		**Pn**	**04 38 29.6**	**-3.5**
TVSB	**Tavsanli**	**2.14**	**230**	*e*	Pn		**Pn**	**04 38 29.6**	**-3.5**

---

*IDC **08** 04:58:40.0±1.2, 35°.87N×24°.29E, h64km±18km, mb3.4/7, mb1 3.7/9, mb1mx3.5/35, mbtmp3.9/9, Error ellipse: s-maj=26.8km s-min=17.1km az=166.0*
*ATH **08** 04:58:40.5, 35°.89N×24°.16E, h60km±3km, ML3.8/9, Error ellipse: s-maj=3.3km s-min=0.8km az=202.0*
*CSEM **08** 04:58:41.0±0.2, 35°.83N×24°.10E, h73km±4km, ML3.9, Error ellipse: s-maj=4.7km s-min=2.5km az=20.0*
*THE **08** 04:58:42.0, 35°.86N×24°.13E, h60km±1km, ML3.9/17, Error ellipse: s-maj=1.9km s-min=0.4km az=198.0*
*NIC **08** 04:58:44.0±0.2, 35°.53N×24°.74E, h38km, mb4.7, ML4.2*
*HLW **08** 04:58:44.2, 35°.20N×24°.72E, h8km±14km, Md3.4, Ml3.5*
*GII **08** 04:58:46.5±0.0, 35°.31N×25°.17E, h1km, mb4.0/1, MD3.6/4*
*DDA **08** 04:59:21.6, 36°.66N×25°.43E, h62km, Ml3.5*
ISC 08 04:58:39.2±0.6, 35°.82N±0°.03×24°.16E±0°.03, h74km±6km, n300, σ2s38/369, mb3.6/8, Crete

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
IMMV	**Iera Moni Meta**	**0.38**	**202**		P		**Pn**	**04 58 53.1**	**+1.6**
IMMV					S		**Sn**	**04 59 01.1**	**+0.7**
IMMV	**Iera Moni Meta**	**0.38**	**202**		P		**Pn**	**04 58 53.1**	**+1.6**
IMMV	**Iera Moni Meta**	**0.38**	**202**		P		**Pn**	**04 58 53.8**	**+2.3**
IMMV					S		**Sn**	**04 59 01.1**	**+0.7**
IMMV					AML	AML		04 59 01.3	
	comp=N,69951µm,0.2s								
IMMV					AML	AML		04 59 01.8	
	comp=E,42059µm,0.2s								
VAM	**Vamos**	**0.41**	**175**		P		**Pn**	**04 58 53.3**	**+1.6**
VAM					S		**Sn**	**04 59 01.6**	**+0.8**
VAM	**Vamos**	**0.41**	**175**		P		**Pn**	**04 58 53.3**	**+1.6**
VAM	**Vamos**	**0.41**	**175**		P		**Pn**	**04 58 53.8**	**+2.2**
VAM					S		**Sn**	**04 59 00.1**	**-0.7**
VAM					AML	AML		04 59 03.0	
	comp=E,58119µm,0.3s								
VAM					AML	AML		04 59 03.2	
	comp=N,63709µm,0.1s								
ANKY	**Antikythira Is**	**0.70**	**274**		P		**Pn**	**04 58 55.9**	**+1.5**
ANKY					S		**Sn**	**04 59 06.1**	**+0.5**
ANKY	**Antikythira Is**	**0.70**	**274**		P		**Pn**	**04 58 55.9**	**+1.5**
ANKY	**Antikythira Is**	**0.70**	**274**		P		**Pn**	**04 58 56.5**	**+2.2**
ANKY					S		**Sn**	**04 59 06.3**	**+0.7**
ANKY					AML	AML		04 59 07.1	
	comp=E,13999µm,0.3s								
ANKY					AML	AML		04 59 08.0	
	comp=N,11651µm,0.2s								
IDI	**Anoyia**	**0.80**	**131**		P		**Pn**	**04 58 56.8**	**+1.2**
	comp=N,118nm,0.3s,baz=262,slow=8.3,SNR=2306								
IDI					S		**Sn**	**04 59 07.6**	**-0.1**
	comp=N,322nm,0.3s,baz=72,slow=20,SNR=32								
IDI	**Anoyia**	**0.80**	**131**		P		**Pn**	**04 58 56.8**	**+1.2**
IDI					S		**Sn**	**04 59 09.5**	**+1.7**
IDI	**Anoyia**	**0.80**	**131**		P		**Pn**	**04 58 56.8**	**+1.2**
IDI					S		**Sn**	**04 59 09.5**	**+1.7**
IDI	**Anoyia**	**0.80**	**131**		P		**Pn**	**04 58 56.2**	**+0.6**
MHLO	**Agia Marina, M**	**0.89**	**13**		P		**Pn**	**04 58 58.0**	**+1.4**
MHLO					S		**Sn**	**04 59 10.2**	**+0.6**
MHLO	**Agia Marina, M**	**0.89**	**13**		P		**Pn**	**04 58 58.0**	**+1.4**
MHLO	**Agia Marina, M**	**0.89**	**13**		P		**Pn**	**04 58 58.9**	**+2.3**
MHLO					S		**Sn**	**04 59 07.8**	**-1.8**
MHLO					AML	AML		04 59 12.1	
	comp=N,15027µm,0.3s								
MHLO					AML	AML		04 59 13.4	
	comp=E,23593µm,0.3s								
TMBK	**Timbaki Herakl**	**0.90**	**146**		P		**Pn**	**04 58 59.5**	**+2.9**
TMBK					S		**Sn**	**04 59 12.4**	**+2.8**
TMBK	**Timbaki Herakl**	**0.90**	**146**		P		**Pn**	**04 58 59.5**	**+2.9**
TMBK					S		**Sn**	**04 59 12.4**	**+2.8**
IACM	**Heraklion**	**0.91**	**124**		P		**Pn**	**04 58 58.7**	**+2.0**
IACM					S		**Sn**	**04 59 12.6**	**+2.8**
IACM	**Heraklion**	**0.91**	**124**		P		**Pn**	**04 58 58.6**	**+1.9**
IACM					S		**Sn**	**04 59 12.6**	**+2.8**
IACM	**Heraklion**	**0.91**	**124**		P		**Pn**	**04 58 58.5**	**+1.7**
SIVA	**Sivas**	**0.96**	**146**		P		**Pn**	**04 59 00.4**	**+3.0**
SIVA					S		**Sn**	**04 59 13.1**	**+2.1**
SIVA	**Sivas**	**0.96**	**146**		P		**Pn**	**04 59 00.3**	**+2.9**
SIVA					S		**Sn**	**04 59 13.1**	**+2.1**
SIVA	**Sivas**	**0.96**	**146**		P		**Pn**	**04 59 00.9**	**+3.5**
GVD	**Gavdhos**	**0.98**	**183**		P		**Pn**	**04 59 00.0**	**+2.3**
GVD					S		**Sn**	**04 59 14.2**	**+2.8**
GVD	**Gavdhos**	**0.98**	**183**		P		**Pn**	**04 58 59.9**	**+2.3**
GVD					S		**Sn**	**04 59 14.2**	**+2.8**
GVD	**Gavdhos**	**0.98**	**183**		P		**Pn**	**04 58 59.7**	**+2.0**
KYTH	**Kithira**	**1.00**	**297**		P		**Pn**	**04 58 59.5**	**+1.5**
KYTH					S		**Sn**	**04 59 12.5**	**+0.5**
KYTH	**Kithira**	**1.00**	**297**		P		**Pn**	**04 58 59.2**	**+1.2**
KYTH					AML	AML		04 59 14.1	
	comp=N,8192µm,0.2s								
KYTH					AML	AML		04 59 14.6	
	comp=E,8246µm,0.6s								
THR5	**Thira Island,**	**1.14**	**58**		P		**Pn**	**04 59 01.3**	**+1.7**
THR5	**Thira Island,**	**1.14**	**58**		P		**Pn**	**04 59 01.3**	**+1.7**
SAP1	**Santorini-Akro**	**1.14**	**61**		P		**Pn**	**04 59 01.6**	**+1.9**
SAP1	**Santorini-Akro**	**1.14**	**61**		P		**Pn**	**04 59 02.3**	**+2.6**
THR6	**Thira Island,**	**1.14**	**62**		P		**Pn**	**04 59 01.7**	**+2.0**
THR6	**Thira Island,**	**1.14**	**62**		P		**Pn**	**04 59 01.7**	**+2.0**
THR3	**Thira Island,**	**1.17**	**59**		P		**Pn**	**04 59 01.8**	**+1.8**
THR3	**Thira Island,**	**1.17**	**59**		P		**Pn**	**04 59 01.8**	**+1.8**
THT1	**Athinios (Pele**	**1.18**	**61**		P		**Pn**	**04 59 01.9**	**+1.8**
THT1					S		**Sn**	**04 59 17.9**	**+2.1**
THT1	**Athinios (Pele**	**1.18**	**61**		P		**Pn**	**04 59 01.9**	**+1.8**
THT1					S		**Sn**	**04 59 17.9**	**+2.1**
SANT	**Santorini**	**1.19**	**62**		P		**Pn**	**04 59 02.2**	**+1.9**
SANT	**Santorini**	**1.19**	**62**		P		**Pn**	**04 59 02.2**	**+1.9**
SANT	**Santorini**	**1.19**	**62**		P		**Pn**	**04 59 02.9**	**+2.6**
LAST	**Lasithi**	**1.26**	**121**		P		**Pn**	**04 59 03.5**	**+2.2**
LAST					S		**Sn**	**04 59 20.9**	**+3.0**
LAST	**Lasithi**	**1.26**	**121**		P		**Pn**	**04 59 03.5**	**+2.2**
LAST					S		**Sn**	**04 59 20.9**	**+3.0**
LAST	**Lasithi**	**1.26**	**121**		P		**Pn**	**04 59 03.5**	**+2.2**
LAST					AML	AML		04 59 20.6	
	comp=N,3456µm,0.4s								
LAST					AML	AML		04 59 21.4	
	comp=E,3451µm,0.3s								
NPS	**Neapolis**	**1.31**	**115**		P		**Pn**	**04 59 03.9**	**+2.0**
NPS					S		**Sn**	**04 59 21.7**	**+2.8**
NPS	**Neapolis**	**1.31**	**115**		P		**Pn**	**04 59 03.5**	**+1.6**
NPS					S		**Sn**	**04 59 21.7**	**+2.8**
NPS	**Neapolis**	**1.31**	**115**		P		**Pn**	**04 59 02.9**	**+1.1**
VLI	**Veliai**	**1.33**	**313**		P		**Pn**	**04 59 03.3**	**+1.2**
VLI					S		**Sn**	**04 59 20.3**	**+0.9**
VLI	**Veliai**	**1.33**	**313**		P		**Pn**	**04 59 03.4**	**+1.3**
VLI	**Veliai**	**1.33**	**313**		P		**Pn**	**04 59 03.5**	**+1.3**
VLI					AML	AML		04 59 21.3	
	comp=N,3800µm,0.2s								
VLI					AML	AML		04 59 22.6	
	comp=E,4164µm,0.3s								
SERI	**Serifos**	**1.37**	**11**		P		**Pn**	**04 59 03.8**	**+1.2**
SERI	**Serifos**	**1.37**	**11**		P		**Pn**	**04 59 04.1**	**+1.5**
SERI					S		**Sn**	**04 59 19.4**	**-0.7**
APE	**Apeiranthos**	**1.67**	**41**		P		**Pn**	**04 59 07.9**	**+1.3**
APE					S		**Sn**	**04 59 29.8**	**+2.5**
APE	**Apeiranthos**	**1.67**	**41**		P		**Pn**	**04 59 08.4**	**+1.8**
APE					S		**Sn**	**04 59 29.8**	**+2.5**
APE	**Apeiranthos**	**1.67**	**41**		P		**Pn**	**04 59 09.0**	**+2.4**
APE					S		**Sn**	**04 59 27.1**	**-0.2**
APE					AML	AML		04 59 28.3	
	comp=N,4230µm,0.2s								
APE					AML	AML		04 59 29.1	
	comp=E,2579µm,0.3s								
ZKR	**Zakros**	**1.82**	**112**		P		**Pn**	**04 59 11.2**	**+2.6**
ZKR	**Zakros**	**1.82**	**112**		P		**Pn**	**04 59 11.2**	**+2.6**
DID	**Didima**	**1.84**	**337**		P		**Pn**	**04 59 10.5**	**+1.6**
DID					S		**Sn**	**04 59 32.7**	**+1.4**
DID	**Didima**	**1.84**	**337**		P		**Pn**	**04 59 10.5**	**+1.6**
DID	**Didima**	**1.84**	**337**		P		**Pn**	**04 59 10.4**	**+1.6**
DID					AML	AML		04 59 33.5	
	comp=N,2787µm,0.6s								
DID					AML	AML		04 59 33.8	
	comp=E,3840µm,0.3s								
VLY	**Voula,Athens**	**2.05**	**352**		P		**Pn**	**04 59 13.6**	**+2.0**
VLY					S		**Sn**	**04 59 37.2**	**+0.9**
VLY	**Voula,Athens**	**2.05**	**352**		P		**Pn**	**04 59 13.6**	**+2.0**
VLY	**Voula,Athens**	**2.05**	**352**		P		**Pn**	**04 59 12.7**	**+1.1**
VLX	**Vlachokerasia**	**2.11**	**318**		P		**Pn**	**04 59 14.5**	**+2.0**
VLX					S		**Sn**	**04 59 38.9**	**+1.1**
VLX	**Vlachokerasia**	**2.11**	**318**		P		**Pn**	**04 59 14.5**	**+2.0**
VLX	**Vlachokerasia**	**2.11**	**318**		P		**Pn**	**04 59 14.5**	**+2.0**
ATHU	**Athens Univers**	**2.17**	**352**		P		**Pn**	**04 59 14.4**	**+1.2**
ATHU	**Athens Univers**	**2.17**	**352**		P		**Pn**	**04 59 14.4**	**+1.2**
ATHU	**Athens Univers**	**2.17**	**352**		P		**Pn**	**04 59 13.8**	**+0.7**
ATH	**Athens Observa**	**2.18**	**351**		P		**Pn**	**04 59 15.2**	**+1.9**
ATH	**Athens Observa**	**2.18**	**351**		P		**Pn**	**04 59 15.2**	**+1.9**
ATH	**Athens Observa**	**2.18**	**351**		P		**Pn**	**04 59 14.5**	**+1.2**
KARY	**Karystos**	**2.22**	**6**		P		**Pn**	**04 59 16.1**	**+2.2**
KARY					S		**Sn**	**04 59 42.5**	**+2.1**
KARY	**Karystos**	**2.22**	**6**		P		**Pn**	**04 59 16.1**	**+2.2**
KARY					S		**Sn**	**04 59 42.5**	**+2.1**
PYL	**PYLOS**	**2.23**	**300**		P		**Pn**	**04 59 15.2**	**+1.2**
PYL	**PYLOS**	**2.23**	**300**		P		**Pn**	**04 59 15.2**	**+1.2**
PYL	**PYLOS**	**2.23**	**300**		P		**Pn**	**04 59 13.9**	**-0.1**
PTL	**Penteli**	**2.24**	**354**		P		**Pn**	**04 59 16.2**	**+2.0**
PTL	**Penteli**	**2.24**	**354**		P		**Pn**	**04 59 16.2**	**+2.0**
PTL	**Penteli**	**2.24**	**354**		P		**Pn**	**04 59 16.7**	**+2.5**
ITM	**Ithomi**	**2.25**	**308**		P		**Pn**	**04 59 15.6**	**+2.2**
ITM	**Ithomi**	**2.25**	**308**		P		**Pn**	**04 59 16.3**	**+2.0**
ITM	**Ithomi**	**2.25**	**308**		P		**Pn**	**04 59 16.4**	**+2.0**
TRIP	**Tripoli**	**2.28**	**319**		P		**Pn**	**04 59 16.8**	**+2.0**
TRIP	**Tripoli**	**2.28**	**319**		P		**Pn**	**04 59 17.0**	**+2.2**
LOUT	**Loutraki**	**2.36**	**337**		P		**Pn**	**04 59 18.1**	**+2.3**
LOUT	**Loutraki**	**2.36**	**337**		P		**Pn**	**04 59 17.7**	**+1.9**
LOUT	**Loutraki**	**2.36**	**337**		P		**Pn**	**04 59 17.8**	**+1.9**
LTK	**Loutraki**	**2.40**	**337**		P		**Pn**	**04 59 18.1**	**+1.8**
LTK	**Loutraki**	**2.40**	**337**		P		**Pn**	**04 59 18.2**	**+1.9**
LTK	**Loutraki**	**2.40**	**337**		P		**Pn**	**04 59 18.3**	**+2.0**
VILL	**Villia**	**2.44**	**344**		P		**Pn**	**04 59 18.8**	**+1.9**
VILL	**Villia**	**2.44**	**344**		P		**Pn**	**04 59 18.8**	**+1.9**
KARP	**Karpathos**	**2.46**	**95**		P		**Pn**	**04 59 19.2**	**+2.0**
KARP	**Karpathos**	**2.46**	**95**		P		**Pn**	**04 59 18.4**	**+1.2**
VIL2	**Platees**	**2.49**	**344**		P		**Pn**	**04 59 18.8**	**+1.2**
THAL	**Thalero**	**2.52**	**332**		P		**Pn**	**04 59 20.0**	**+2.1**
THAL	**Thalero**	**2.52**	**332**		P		**Pn**	**04 59 19.7**	**+1.9**
THAL	**Thalero**	**2.52**	**332**		P		**Pn**	**04 59 19.8**	**+1.9**
EREA	**Eretria**	**2.60**	**356**		P		**Pn**	**04 59 21.3**	**+2.2**
EREA	**Eretria**	**2.60**	**356**		P		**Pn**	**04 59 21.3**	**+2.2**
AMT	**Artemida-Makis**	**2.61**	**312**		P		**Pn**	**04 59 21.4**	**+2.3**
AMT	**Artemida-Makis**	**2.61**	**312**		P		**Pn**	**04 59 21.5**	**+2.4**
PROD	**Prodromos**	**2.63**	**338**		P		**Pn**	**04 59 21.1**	**+1.6**
PROD	**Prodromos**	**2.63**	**338**		P		**Pn**	**04 59 21.0**	**+1.5**
KLV	**Kalavryta, Ach**	**2.74**	**325**		P		**Pn**	**04 59 22.9**	**+1.9**
KLV	**Kalavryta, Ach**	**2.74**	**325**		P		**Pn**	**04 59 22.9**	**+1.9**
KLV	**Kalavryta, Ach**	**2.74**	**325**		P		**Pn**	**04 59 22.4**	**+1.4**
SMG	**Samos**	**2.86**	**48**		P		**Pn**	**04 59 24.6**	**+2.0**
SMG	**Samos**	**2.86**	**48**		P		**Pn**	**04 59 24.0**	**+1.4**
SMG	**Samos**	**2.86**	**48**		P		**Pn**	**04 59 23.4**	**+0.8**
DRO	**Drossia**	**2.89**	**318**		P		**Pn**	**04 59 25.4**	**+2.4**
DRO	**Drossia**	**2.89**	**318**		P		**Pn**	**04 59 25.6**	**+2.5**
DSF	**Desfina**	**2.90**	**334**		P		**Pn**	**04 59 24.7**	**+1.6**
DSF	**Desfina**	**2.90**	**334**		P		**Pn**	**04 59 24.7**	**+1.6**
DSF	**Desfina**	**2.90**	**334**		P		**Pn**	**04 59 23.6**	**+0.4**
DAT	**Datca**	**2.91**	**71**	*i*	P		**Pn**	**04 59 25.2**	**+1.9**
DAT				*i*	S		**Sn**	**04 59 56.6**	**-0.7**
DAT	**Datca**	**2.91**	**71**		P		**Pn**	**04 59 25.2**	**+1.9**
DAT					S		**Sn**	**04 59 56.6**	**-0.7**
BDRM	**Kayabasi**	**2.93**	**64**	*i*	P		**Pn**	**04 59 25.8**	**+2.3**
BDRM				*i*	S		**Sn**	**04 59 56.5**	**-1.1**
BDRM	**Kayabasi**	**2.93**	**64**		P		**Pn**	**04 59 25.8**	**+2.3**
BDRM					S		**Sn**	**04 59 56.5**	**-1.1**
LKR	**Lokris**	**2.97**	**342**		P		**Pn**	**04 59 25.7**	**+1.6**
LKR	**Lokris**	**2.97**	**342**		P		**Pn**	**04 59 25.7**	**+1.6**
LKR	**Lokris**	**2.97**	**342**		P		**Pn**	**04 59 25.1**	**+1.1**
LAKA	**Lakka**	**2.98**	**325**		P		**Pn**	**04 59 25.8**	**+1.6**
LAKA	**Lakka**	**2.98**	**325**		P		**Pn**	**04 59 25.9**	**+1.7**
LAKA	**Lakka**	**2.98**	**325**		P		**Pn**	**04 59 25.5**	**+1.3**
CHOS	**Chios island**	**2.98**	**30**		P		**Pn**	**04 59 26.6**	**+2.4**
CHOS	**Chios island**	**2.98**	**30**		P		**Pn**	**04 59 26.6**	**+2.4**
KALE	**Kalithea**	**3.03**	**328**		P		**Pn**	**04 59 26.7**	**+1.8**
KALE	**Kalithea**	**3.03**	**328**		P		**Pn**	**04 59 26.7**	**+1.8**
KALE	**Kalithea**	**3.03**	**328**		P		**Pn**	**04 59 25.5**	**+0.5**
TRIZ	**Trizonia**	**3.04**	**327**		P		**Pn**	**04 59 26.6**	**+1.6**
TRIZ	**Trizonia**	**3.04**	**327**		P		**Pn**	**04 59 26.1**	**+1.2**
ZEY	**˜zmir**	**3.06**	**37**	*i*	P		**Pn**	**04 59 26.0**	**+0.8**
ZEY				*i*	S		**Sn**	**05 00 01.1**	**+0.3**
SERG	**Sergoula**	**3.09**	**328**		P		**Pn**	**04 59 27.4**	**+1.8**
SERG	**Sergoula**	**3.09**	**328**		P		**Pn**	**04 59 27.4**	**+1.8**
GCAM	**G?zelcaml?**	**3.10**	**52**	*i*	P		**Pn**	**04 59 23.4**	**-2.4**
GCAM				*i*	S		**Sn**	**05 00 00.2**	**-1.6**
GCAM	**G?zelcaml?**	**3.10**	**52**		P		**Pn**	**04 59 23.4**	**-2.4**
GCAM					S		**Sn**	**05 00 00.2**	**-1.6**
RLS	**Riolos of Patr**	**3.10**	**317**		P		**Pn**	**04 59 27.9**	**+2.1**
RLS	**Riolos of Patr**	**3.10**	**317**		P		**Pn**	**04 59 27.8**	**+1.9**
DGB	**˜zmir**	**3.12**	**44**	*i*	P		**Pn**	**04 59 27.2**	**+1.1**
DGB				*i*	S		**Sn**	**05 00 01.1**	**-1.1**
SMIA	**Simia**	**3.15**	**346**		P		**Pn**	**04 59 29.0**	**+2.5**
SMIA	**Simia**	**3.15**	**346**		P		**Pn**	**04 59 29.0**	**+2.5**
URLA	**Izmir**	**3.20**	**37**	*i*	P		**Pn**	**04 59 29.0**	**+1.8**
URLA				*i*	S		**Sn**	**05 00 04.1**	**-0.2**
URLA	**Izmir**	**3.20**	**37**		P		**Pn**	**04 59 29.0**	**+1.8**
URLA					S		**Sn**	**05 00 04.1**	**-0.2**
ARG	**Arkhangelos**	**3.24**	**82**		P		**Pn**	**04 59 30.7**	**+3.0**
ARG	**Arkhangelos**	**3.24**	**82**		P		**Pn**	**04 59 30.7**	**+3.0**
ARG	**Arkhangelos**	**3.24**	**82**		P		**Pn**	**04 59 30.8**	**+3.1**
AXS	**Araxos**	**3.25**	**318**		P		**Pn**	**04 59 29.9**	**+2.0**
AXS	**Araxos**	**3.25**	**318**		P		**Pn**	**04 59 29.6**	**+1.8**
AOS	**Alonnisos**	**3.35**	**356**		P		**Pn**	**04 59 31.0**	**+1.8**
AOS	**Alonnisos**	**3.35**	**356**		P		**Pn**	**04 59 30.6**	**+1.4**
SKIA	**Skiathos**	**3.39**	**351**		P		**Pn**	**04 59 32.0**	**+2.3**
SKIA	**Skiathos**	**3.39**	**351**		P		**Pn**	**04 59 31.8**	**+2.1**
SKIA	**Skiathos**	**3.39**	**351**		P		**Pn**	**04 59 31.9**	**+2.1**
AGG	**Agios Georgios**	**3.51**	**336**		P		**Pn**	**04 59 33.6**	**+2.2**
AGG	**Agios Georgios**	**3.51**	**336**		P		**Pn**	**04 59 33.2**	**+1.8**
AGG	**Agios Georgios**	**3.51**	**336**		P		**Pn**	**04 59 32.7**	**+1.2**
KFL	**Anninata**	**3.54**	**311**		P		**Pn**	**04 59 32.8**	**+1.1**
KFL	**Anninata**	**3.54**	**311**		P		**Pn**	**04 59 31.4**	**-0.4**
NEO	**Neokhori**	**3.56**	**348**		P		**Pn**	**04 59 34.0**	**+1.9**
NEO	**Neokhori**	**3.56**	**348**		P		**Pn**	**04 59 33.7**	**+1.6**
PDO	**Prodromos**	**3.65**	**320**		P		**Pn**	**04 59 36.3**	**+3.0**
PDO	**Prodromos**	**3.65**	**320**		P		**Pn**	**04 59 36.8**	**+3.5**
TURN	**Turunc**	**3.74**	**72**	*i*	P		**Pn**	**04 59 33.4**	**-1.2**
TURN				*i*	S		**Sn**	**05 00 12.0**	**-5.4**
TURN	**Turunc**	**3.74**	**72**		P		**Pn**	**04 59 33.3**	**-1.2**
DALY	**Dalyan (Mu˘la**	**3.77**	**73**	*i*	P		**Pn**	**04 59 38.6**	**+3.8**
DALY				*i*	S		**Sn**	**05 00 19.7**	**+1.7**
DALY	**Dalyan (Mu˘la**	**3.77**	**73**		P		**Pn**	**04 59 38.6**	**+3.8**
DALY					S		**Sn**	**05 00 19.7**	**+1.7**
FETY	**Fethiye**	**4.07**	**77**		P		**Pn**	**04 59 42.5**	**+3.5**
FETY					S		**Sn**	**05 00 25.0**	**-0.4**
DSL	**Palaion Diasel**	**4.11**	**325**		P		**Pn**	**04 59 41.7**	**+2.2**
DSL	**Palaion Diasel**	**4.11**	**325**		P		**Pn**	**04 59 41.4**	**+1.9**
DSL	**Palaion Diasel**	**4.11**	**325**		P		**Pn**	**04 59 40.7**	**+1.1**
SLUM	**Salum**	**4.40**	**168**		P		**Pn**	**04 59 41.5**	**-2.1**
	baz=173								
SLUM					AMP			05 00 00.0	
	comp=E,60µm,0.1s,logA/T=5.8,baz=173								
SLUM					S		**Sn**	**05 00 25.2**	**-8.4**
	baz=173								
SLUM	**Salum**	**4.40**	**168**		P		**Pn**	**04 59 41.5**	**-2.1**
KSL	**Kastellorizon**	**4.41**	**84**		P		**Pn**	**04 59 46.3**	**+2.6**
KSL	**Kastellorizon**	**4.41**	**84**		P		**Pn**	**04 59 46.2**	**+2.6**
KSL	**Kastellorizon**	**4.41**	**84**		P		**Pn**	**04 59 45.2**	**+1.5**
AKAS	**Kas**	**4.44**	**83**	*i*	P		**Pn**	**04 59 46.1**	**+2.0**
AKAS				*i*	S		**Sn**	**05 00 32.7**	**-1.9**
GOLH	**Golhisar**	**4.58**	**70**	*i*	P		**Pn**	**04 59 49.6**	**+3.5**
GOLH				*i*	S		**Sn**	**05 00 39.1**	**+1.1**
GOLH	**Golhisar**	**4.58**	**70**		P		**Pn**	**04 59 49.6**	**+3.5**
GOLH					S		**Sn**	**05 00 39.1**	**+1.1**
PENT	**Pentalofos**	**4.98**	**332**		P		**Pn**	**04 59 53.4**	**+1.9**
PENT	**Pentalofos**	**4.98**	**332**		P		**Pn**	**04 59 53.4**	**+1.9**
KORT	**Korkueli**	**5.13**	**75**	*i*	P		**Pn**	**04 59 57.8**	**+4.1**
KORT				*i*	S		**Sn**	**

MARH	**Ras Al Marh**	**10.28**	**96**	*e*P		**Pn**	**05 01 02.7**	**-1.4**
	SNR=90								
MZDA	**Masada**	**10.37**	**112**	Pn		**Pn**	**05 01 02.9**	**-2.1**
MZDA				Sn		**Sn**	**05 02 51.3**	**-8.3**
MZDA	**Masada**	**10.37**	**112**	Pn		**Pn**	**05 01 02.9**	**-2.1**
TOTH	**TOTAH**	**10.41**	**100**	*e*P		**Pn**	**05 01 04.1**	**-1.5**
TOTH				*e*S		Sn	05 02 45.4	-15
TOTH				AML		AML	05 03 01.0	
	comp=N,17nm,0.4s								
TOTH				AML		AML	05 03 01.9		
	comp=E,24nm,0.6s								
TOTH	**TOTAH**	**10.41**	**100**	*e*P		**Pn**	**05 01 04.1**	**-1.5**
	SNR=90								
PRNI	**Paran**	**10.61**	**118**	Pn		**Pn**	**05 01 06.7**	**-1.6**
PRNI				Sn		Sn	05 02 56.3	-9.0
PRNI	**Paran**	**10.61**	**118**	Pn		**Pn**	**05 01 06.7**	**-1.6**
ZFRI	**Zfri**	**10.62**	**116**	Pn		**Pn**	**05 01 06.7**	**-1.8**
ZFRI				Sn		Sn	05 02 56.6	-9.0
ZFRI	**Zfri**	**10.62**	**116**	Pn		**Pn**	**05 01 06.7**	**-1.8**
UDBI	**Udbina**	**10.80**	**326**	Sn		**Pn**	**05 01 09.7**	**-1.2**
UDBI	**Udbina**	**10.80**	**326**	*i* Pn		**Pn**	**05 01 10.1**	**-0.8**
UDBI				Sn		**Sn**	**05 03 03.2**	**-6.9**
UDBI	**Udbina**	**10.80**	**326**	*i* Pn		**Pn**	**05 01 10.1**	**-0.8**
HRFI	**Mount Harif**	**10.81**	**119**	Pn		**Pn**	**05 01 09.6**	**-1.4**
HRFI				Sn		**Sn**	**05 03 01.5**	**-8.8**
HRFI	**Mount Harif**	**10.81**	**119**	Pn		**Pn**	**05 01 09.6**	**-1.4**
SALA	**Sala**	**10.86**	**103**	*e*P		**Pn**	**05 01 11.7**	**-0.2**
SALA				*e*S		Sn	05 02 56.7	-15
SALA				AML		AML	05 03 08.9	
	comp=N,19nm,0.5s								
SALA	**Sala**	**10.86**	**103**	*e*P		**Pn**	**05 01 11.7**	**-0.2**
	SNR=90								
MBRI	**Mt Berech**	**10.86**	**121**	Pn		**Pn**	**05 01 10.5**	**-1.3**
MBRI				Sn		Sn	05 03 02.6	-9.1
MBRI	**Mt Berech**	**10.86**	**121**	Pn		**Pn**	**05 01 10.5**	**-1.3**
ROOS	**tl_alroos**	**10.90**	**95**	*e*P		**Pn**	**05 01 11.7**	**-0.6**
ROOS				*e*S		Sn	05 02 58.0	-15
ROOS				AML		AML	05 03 12.0	
	comp=E,15nm,0.4s								
ROOS				AML		AML	05 03 12.4		
	comp=N,28nm,0.4s								
ROOS	**tl_alroos**	**10.90**	**95**	*e*P		**Pn**	**05 01 11.7**	**-0.6**
	SNR=90								
EIL	**Elat**	**10.96**	**121**	P		**Pn**	**05 01 11.8**	**-1.3**
	comp=N,2.5nm,0.3s,baz=299,slow=2,1,SNR=70								
EIL				S		Sn	05 03 04.3	-10	
	comp=N,3.5nm,0.3s,baz=281,slow=19,SNR=9.6								
EIL	**Elat**	**10.96**	**121**	Pn		**Pn**	**05 01 11.8**	**-1.3**
EIL				Sn		Sn	05 03 04.9	-9.1	
HDK1	**Dakhla**	**11.19**	**155**	P		**Pn**	**05 01 15.0**	**-1.3**
	baz=156								
HDK1	**Dakhla**	**11.19**	**155**	P		**Pn**	**05 01 15.0**	**-1.3**
NVLJ	**Novalja**	**11.25**	**324**	*e*Pn		**Pn**	**05 01 15.1**	**-1.8**
NVLJ				Sn		Sn	05 03 11.2	-10	
AKRG	**Al Kharijah**	**11.64**	**150**	P		**Pn**	**05 01 21.4**	**-1.0**
	baz=151								
OZLJ	**Ozalj**	**11.79**	**329**	*e*Pn		**Pn**	**05 01 22.7**	**-1.6**
OZLJ	**Ozalj**	**11.79**	**329**	*e*Pn		**Pn**	**05 01 22.7**	**-1.6**
BOJS	**Bojanci**	**11.79**	**328**	*i* Pn		**Pn**	**05 01 23.9**	**-0.5**
BOJS				*i* Sn		**Sn**	**05 03 26.3**	**-7.8**
BOJS	**Bojanci**	**11.79**	**328**	*i* Pn		**Pn**	**05 01 23.9**	**-0.5**
VISS	**Visnje**	**12.21**	**328**	*i* Pn		**Pn**	**05 01 30.4**	**+0.4**
VISS				*i* Sn		Sn	05 03 35.3	-8.9	
VISS	**Visnje**	**12.21**	**328**	*i* Pn		**Pn**	**05 01 30.4**	**+0.4**
JAVS	**Javornik**	**12.62**	**326**	*i* Pn		**Pn**	**05 01 33.6**	**-2.1**
JAVS				*i* Sn		Sn	05 03 45.3	-9.2	
JAVS	**Javornik**	**12.62**	**326**	*i* Pn		**Pn**	**05 01 33.6**	**-2.1**
PERS	**Pernice**	**12.76**	**331**	*i* Pn		**Pn**	**05 01 36.2**	**-1.4**
PERS				*i* Sn		Sn	05 03 48.1	-10	
PERS	**Pernice**	**12.76**	**331**	*i* Pn		**Pn**	**05 01 36.2**	**-1.4**
GERES	**GERESS Array B**	**15.12**	**333**	P		**P**	**05 02 14.3**	**+2.3**
	comp=N,0.2nm,0.3s,baz=156,slow=12,SNR=7.7								
AKASG	**Malin Array Be**	**15.32**	**12**	P		**P**	**05 02 14.2**	**+0.1**
	comp=N,2.9nm,0.3s,baz=204,slow=10.0,SNR=8.6								
KBZ	**Khabaz**	**16.41**	**56**	P		**P**	**05 02 28.1**	**+1.9**
	comp=N,0.3nm,0.3s,baz=263,slow=6.4,SNR=6.5								
ESDC	**Sonseca Array**	**22.52**	**288**	P		**P**	**05 03 33.9**	**+1.0**
	comp=N,0.3nm,0.3s,baz=80,slow=9.3,SNR=6.3								
MDT	**Midelt**	**23.91**	**271**	P		**P**	**05 03 49.1**	**+2.8**
	comp=N,2.1nm,0.7s,baz=88,slow=16,SNR=6.0								
FINES	**FINESS Array B**	**25.68**	**2**	P		**P**	**05 04 01.8**	**-0.1**
	comp=N,1.1nm,0.5s,baz=178,slow=9.3,SNR=4.4								
FINES				PcP		**PcP**	**05 07 31.8**	**+1.5**	
	comp=N,1.7nm,1.0s,baz=163,slow=1.5,SNR=4.3								
EKA	**Eskdalemuir Ar**	**27.03**	**325**	P		**P**	**05 04 17.2**	**+3.0**
	comp=N,1.2nm,0.6s,baz=127,slow=9.0,SNR=7.2								
AKTO	**Aktyubinsk**	**28.42**	**48**	P		**P**	**05 04 27.3**	**+0.7**
	comp=N,0.6nm,0.3s,baz=254,slow=7.4,SNR=3.5								
TORD	**Torodi Ar. Bea**	**30.31**	**228**	P		**P**	**05 04 46.3**	**+2.6**
	comp=N,0.3nm,0.4s,baz=32,slow=9.4,SNR=7.7								
TORD				pP		**pP**	**05 05 03.2**	**+2.0**	
	comp=N,0.7nm,0.6s,baz=37,slow=9.1,SNR=8.5								
SONM	**Songino Array**	**59.70**	**51**	P		**P**	**05 08 37.7**	**+1.7**
	comp=N,0.5nm,0.7s,baz=292,slow=4.5,SNR=2.8								
HHC	**Hu-ho-hao-te**	**65.95**	**56**	*e*P		P	05 09 24.6	+7.0	
HHC				pmax		pmax			
	comp=Z,24nm,1.4s								
HHC				pmax		pmax			
	comp=Z,65nm,5.2s								

*ISCJB **08** 04:59:42.9±0.4, 43°.17N±0°.02×19°.14E±0°.03, h11km±6km, Error ellipse: s-maj=4.3km s-min=2.3km az=28.6*
*CSEM **08** 04:59:43.6±0.1, 43°.14N×19°.15E, h2km, ML2.1, Error ellipse: s-maj=2.5km s-min=1.5km az=120.0*
*PDG **08** 04:59:43.6±0.2, 43°.14N×19°.13E, h13km±1km, MD2.2/2, ML2.1/13, Error ellipse: s-maj=0.2km s-min=0.3km az=0.0*
*BEO **08** 04:59:44.4±0.3, 43°.14N×19°.18E, h0km, M2.0/6*
ISC 08 04:59:44.1±0.9, 43°.14N±0°.02×19°.16E±0°.02, h9km±8km, n47, σ8°80/89, 13C-13D, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h m s		ISC
UPM	**Unac-Piva**	**0.20**	**288**	↑*i*Pg	**Pg**	**04 59 47.7**		**-0.5**
UPM				*e*Sg	**Sg**	**04 59 51.0**		**-0.1**
UPM	**Unac-Piva**	**0.20**	**288**	P	**Pg**	**04 59 47.8**		**-0.5**
UPM				*e*Sg	**Sg**	**04 59 51.0**		**-0.1**
PLE	**Pljevlja**	**0.25**	**42**	↓*i*Pg	**Pg**	**04 59 49.3**		**+0.1**
PLE				*e*Sg	**Sg**	**04 59 53.5**		**+0.8**
PLE	**Pljevlja**	**0.25**	**42**	↓*i*Pg	**Pg**	**04 59 49.3**		**+0.1**
PLE				*e*Sg	**Sg**	**04 59 53.5**		**+0.8**
NKY	**Niksic**	**0.35**	**200**	↑*i*Pg	**Pg**	**04 59 50.4**		**-0.7**
NKY				*e*Sg	**Sg**	**04 59 55.8**		**+0.1**
NKY	**Niksic**	**0.35**	**200**	↑*i*Pg	**Pg**	**04 59 50.4**		**-0.7**
NKY				*e*Sg	**Sg**	**04 59 55.8**		**+0.1**
NKME	**Niksic**	**0.41**	**202**	↑*i*Pg	**Pg**	**04 59 51.4**		**-0.6**
NKME				*e*Sg	**Sg**	**04 59 57.7**		**+0.3**
NKME	**Niksic**	**0.41**	**202**	↑*i*Pg	**Pg**	**04 59 51.4**		**-0.6**
NKME				*e*Sg	**Sg**	**04 59 57.7**		**+0.3**
BRY	**Bratogost**	**0.52**	**242**	↓*i*Pg	**Pg**	**04 59 52.9**		**-1.2**
BRY				*e*Sg	**Sg**	**05 00 00.8**		**-0.1**
BRY	**Bratogost**	**0.52**	**242**	↓*i*Pg	**Pg**	**04 59 52.9**		**-1.2**
BRY				*e*Sg	**Sg**	**05 00 00.8**		**-0.1**
BEY	**Berane**	**0.60**	**116**	↓*i*Pg	**Pg**	**04 59 55.4**		**-0.4**
BEY	**Berane**	**0.60**	**116**	P	**Pg**	**04 59 55.9**		**+0.1**
BEY				*e*Sg	**Sb**	**05 00 05.1**		**-0.3**
IVA	**Berane**	**0.60**	**116**	↓*i*Pg	**Pg**	**04 59 55.4**		**-0.4**
IVA				*e*Sg	**Sb**	**05 00 05.1**		**-0.3**
CEME	**Cevo**	**0.62**	**197**	↑*i*Pg	**Pg**	**04 59 54.8**		**-1.3**
CEME				*e*Sg	**Sg**	**05 00 04.7**		**+0.4**
CEME	**Cevo**	**0.62**	**197**	↑*i*Pg	**Pg**	**04 59 54.8**		**-1.3**
CEME				*e*Sg	**Sg**	**05 00 04.7**		**+0.4**
PDG	**Podgorica**	**0.72**	**174**	*e*Pg	**Pg**	**04 59 56.7**		**-1.1**
PDG				*e*Sg	**Sg**	**05 00 07.3**		**+0.1**
PDG	**Podgorica**	**0.72**	**174**	↑*i*Pg	**Pg**	**04 59 56.8**		**-1.1**
PDG				*e*Sg	**Sg**	**05 00 07.3**		**+0.1**
TTG	**Podgorica**	**0.72**	**174**	↑*i*Pg	**Pg**	**04 59 56.8**		**-1.1**
TTG				*e*Sg	**Sb**	**05 00 08.4**		**-0.1**
TREB	**Trebinje**	**0.73**	**235**	*e*Pg	**Pg**	**04 59 58.1**		**-0.1**
TREB				*e*Sg	**Sg**	**05 00 07.0**		**-0.7**
TREB	**Trebinje**	**0.73**	**235**	*e*Pg	**Pg**	**04 59 57.9**		**-0.3**
TREB				*e*Sg	**Sg**	**05 00 07.0**		**-0.7**
BBLS	**Lazići**	**0.74**	**14**	*e*Pg	**Pg**	**04 59 57.8**		**-0.6**
BBLS				*e*Sg	**Sg**	**05 00 07.3**		**-0.9**
BBLS	**Lazići**	**0.74**	**14**	↓*i*Pg	**Pg**	**04 59 57.8**		**-0.6**
BBLS				*e*Sg	**Sg**	**05 00 07.3**		**-0.9**
PVY	**Plav**	**0.80**	**133**	↑*i*Pg	**Pg**	**04 59 58.8**		**-0.8**
PVY				*e*Sg	**Sb**	**05 00 11.8**		**+0.6**
PVY	**Plav**	**0.80**	**133**	↑*i*Pg	**Pg**	**04 59 58.8**		**-0.8**
PVY				*e*Sg	**Sb**	**05 00 11.8**		**+0.6**
IVAS	**Ivanjica**	**0.84**	**59**	*e*Pg	**Pg**	**04 59 59.5**		**-0.8**
IVAS				*e*Sg	**Sg**	**05 00 09.1**		**-2.2**
IVAS	**Ivanjica**	**0.84**	**59**	*e*Pg	**Pg**	**04 59 59.5**		**-0.8**
IVAS				*e*Sg	**Sg**	**05 00 09.1**		**-2.2**
HCY	**Herceg Novi**	**0.85**	**215**	↓*i*Pg	**Pg**	**04 59 59.6**		**-0.8**
HCY				*e*Sg	**Sb**	**05 00 12.3**		**-0.1**
HCY	**Herceg Novi**	**0.85**	**215**	*e*Pg	**Pg**	**04 59 59.7**		**-0.7**
HCY				*e*Sg	**Sg**	**05 00 10.9**		**-0.6**
BUM	**Brajici-Budva**	**0.86**	**193**	↑*i*Pg	**Pg**	**04 59 59.5**		**-1.2**
BUM				*e*Sg	**Sb**	**05 00 12.9**		**0.0**
BUM	**Brajici-Budva**	**0.86**	**193**	↑*i*Pg	**Pg**	**04 59 59.5**		**-1.2**
BUM				*e*Sg	**Sb**	**05 00 12.9**		**0.0**
DRME	**Dracevica, Mon**	**0.96**	**179**	↓*i*Pg	**Pg**	**05 00 01.4**		**-1.0**
DRME				*e*Sg	**Sb**	**05 00 16.7**		**+1.2**
DRME	**Dracevica, Mon**	**0.96**	**179**	↓*i*Pg	**Pg**	**05 00 01.4**		**-1.0**
DRME				*e*Sg	**Sg**	**05 00 15.0**		**+0.1**
PEJK	**Peje**	**0.96**	**121**	P	**Pg**	**05 00 02.5**		**-0.1**
PEJK				S	**Sg**	**05 00 15.2**		**+0.1**
DIVS	**Divibare**	**1.13**	**32**	*e*Pg	**Pg**	**05 00 04.9**		**-0.8**
DIVS	**Divibare**	**1.13**	**32**	↓*i*Pg	**Pg**	**05 00 05.0**		**-0.8**
DIVS				*e*Sg	**Sb**	**05 00 21.2**		**+0.6**
ULC	**Ulcinj**	**1.18**	**177**	↓*i*Pg	**Pg**	**05 00 05.8**		**-0.9**
ULC				*e*Sg	**Sn**	**05 00 24.1**		**+1.2**
ULC	**Ulcinj**	**1.18**	**177**	↓*i*Pg	**Pg**	**05 00 05.8**		**-0.9**
ZATK	**Zatriq**	**1.28**	**122**	P	**Pg**	**05 00 08.0**		**-0.7**
GRUS	**Gruza**	**1.35**	**56**	*e*Pg	**Pb**	**05 00 09.9**		**+0.3**
GRUS				*e*Sg	**Sg**	**05 00 27.4**		**-0.3**
GRUS	**Gruza**	**1.35**	**56**	*e*Pg	**Pb**	**05 00 09.9**		**+0.3**
GRUS				*e*Sg	**Sg**	**05 00 27.4**		**-0.3**
TRUS	**Trudelj**	**1.41**	**40**	*e*Pg	**Pb**	**05 00 11.2**		**+0.7**
TRUS				*e*Sg	**Sg**	**05 00 28.9**		**-0.5**
TRUS	**Trudelj**	**1.41**	**40**	*e*Pg	**Pb**	**05 00 11.2**		**+0.7**
TRUS				*e*Sg	**Sg**	**05 00 28.9**		**-0.5**
TEKS	**Tekeris**	**1.43**	**11**	*e*Pg	**Pg**	**05 00 11.2**		**-0.3**
TEKS				*e*Sg	**Sg**	**05 00 29.5**		**-0.6**
TEKS	**Tekeris**	**1.43**	**11**	*e*Pg	**Pg**	**05 00 11.2**		**-0.3**
TEKS				*e*Sg	**Sg**	**05 00 29.5**		**-0.6**
SELS	**Selova**	**1.44**	**86**	*e*Pg	**Pg**	**05 00 11.4**		**-0.2**
SELS				*e*Sg	**Sg**	**05 00 28.4**		**-1.8**
SELS	**Selova**	**1.44**	**86**	*e*Pg	**Pg**	**05 00 11.4**		**-0.2**
SELS				*e*Sg	**Sg**	**05 00 28.4**		**-1.8**
BOVS	**Bovan**	**1.92**	**74**	*e*Pn	**Pg**	**05 00 21.3**		**+0.4**

*FUNV **08** 05:10:09.2, 6°.88N×73°.46W, h168km, MW2.2*
*ISCJB **08** 05:10:10.6±0.7, 6°.83N±0°.03×73°.12W±0°.04, h157km±6km, Error ellipse: s-maj=7.8km s-min=4.1km az=32.8*
*RSNC **08** 05:10:11.5±0.5, 6°.81N×73°.09W, h153km±3km, ML2.5*
ISC 08 05:10:10.7±1.4, 6°.84N±0°.04×73°.12W±0°.05, h157km±8km, n20, σ1°08/38, 1C, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h m s		ISC
GIRC	**Giron, Santand**	**0.25**	**342**	*e*P	**Pn**	**05 10 32.1**		**0.0**
GIRC				*e*S	**Sn**	**05 10 48.1**		**-0.4**
BARC	**Barichara**	**0.26**	**195**	*i* P	**Pn**	**05 10 31.9**		**-0.4**
BARC				*e*S	**Sn**	**05 10 47.9**		**-0.9**
BARC				*i*		05 10 50.0		
	comp=Z,53nm,0.3s							
PAMC	**Pamplona, Colo**	**0.64**	**40**	*e*P	**Pn**	**05 10 34.7**		**+0.5**
PAMC				*e*S	**Sn**	**05 10 51.9**		**-0.2**
BRRC	**Barranca, Sant**	**0.65**	**294**	↑*i*P	**Pn**	**05 10 33.8**		**+0.2**
BRRC				*i*		05 10 34.1		
	comp=Z,93nm,0.2s							
BRRC				*e*S	**Sn**	**05 10 51.3**		**+0.2**
RUSC	**La Rusia**	**0.95**	**178**	*e*P	**Pn**	**05 10 35.8**		**-0.5**
RUSC				*e*S	**Sn**	**05 10 54.9**		**-1.0**
RUSC				*i*		05 10 55.6		
	comp=Z,17nm,0.3s							
CAPV	**Capacho**	**1.29**	**38**	*e*P	**Pn**	**05 10 39.9**		**+0.9**
CAPV				*e*S	**Sn**	**05 11 02.0**		**+1.3**
OCAC	**Ocana**	**1.40**	**352**	*e*P	**Pn**	**05 10 40.5**		**+0.6**
OCAC				*e*S	**Sn**	**05 11 02.5**		**0.0**
OCAC				*i*		05 11 09.0		
	comp=Z,32nm,0.6s							
ZARC	**Zaragoza, Cauc**	**1.84**	**291**	*e*P	**Pn**	**05 10 44.6**		**+0.1**
ZARC				*e*S	**Sn**	**05 11 11.1**		**+0.6**
ZARC				*i*		05 11 15.8		
	comp=Z,36nm,0.4s							
NORC	**Norcasia**	**2.16**	**234**	*e*P	**Pn**	**05 10 47.9**		**-0.3**
NORC				*e*S	**Sn**	**05 11 16.7**		**-0.3**
CHIC	**Chingaza**	**2.28**	**196**	*e*P	**Pn**	**05 10 50.0**		**0.0**
CHIC				*e*S	**Sn**	**05 11 19.7**		**-0.6**
CHIC				*i*		05 11 27.2		
	comp=Z,13nm,0.2s							
ROSC	**El Rosal**	**2.32**	**211**	*e*P	**Pn**	**05 10 50.1**		**-0.3**
ROSC				*i*		05 11 29.3		
	comp=Z,22nm,0.5s							
HELC	**Santa Helena**	**2.48**	**255**	*e*P	**Pn**	**05 10 53.0**		**+0.7**
HELC				*e*S	**Sn**	**05 11 25.0**		**+0.6**
HELC				*i*		05 11 30.6		
	comp=Z,20nm,0.4s							
VIGV	**El Vigia**	**2.64**	**41**	*e*P	**Pn**	**05 10 54.0**		**+0.1**
VIGV				*e*S	**Sn**	**05 11 27.4**		**+0.1**
SOCV	**Socops**	**2.66**	**57**	*e*P	**Pn**	**05 10 54.6**		**+0.5**
SOCV				*e*S	**Sn**	**05 11 30.3**		**+2.6**
GUYC	**Guyana, Colomb**	**2.77**	**235**	*e*P	**Pn**	**05 10 56.8**		**+0.8**
GUYC				*e*S	**Sn**	**05 11 32.0**		**+1.0**
GUYC				*i*		05 11 37.7		
	comp=Z,23nm,0.6s							
CODC	**Agust´›n Codaz**	**3.09**	**354**	*e*P	**Pn**	**05 10 59.8**		**+0.3**
CODC				*e*S	**Sn**	**05 11 37.6**		**+0.2**
CODC				*i*		05 11 47.3		
	comp=Z,18nm,0.7s							
PRAC	**Prado**	**3.57**	**210**	*e*P	**Pn**	**05 11 06.2**		**+0.5**
PRAC				*e*S	**Sn**	**05 11 48.6**		**+0.2**
SJAC	**San Juan de Ar**	**3.64**	**193**	*e*P	**Pn**	**05 11 06.7**		**0.0**
SJAC				*e*S	**Sn**	**05 11 49.5**		**-0.7**
VIRV	**Villa del Rosa**	**3.70**	**11**	*e*P	**Pn**	**05 11 05.9**		**-1.4**
VIRV				*e*S	**Sn**	**05 11 46.8**		**-4.6**
CURV	**Curarigua**	**4.43**	**45**	*e*P	**Pn**	**05 11 17.2**		**+0.3**

*KRSC **08** 05:14:43.1±0.7, 54°.37N×160°.48E, h111km±10km, ML4.1*
*ISCJB **08** 05:14:44.2±0.4, 54°.36N±0°.03×160°.51E±0°.07, h110km±4km, mb3.4/4, Error ellipse: s-maj=7.8km s-min=2.8km az=30.0*
*MOS **08** 05:14:44.1±0.7, 54°.37N×160°.51E, h107km, mb3.9/3, Error ellipse: s-maj=16.0km s-min=4.9km az=74.9*
*IDC **08** 05:14:44.4±3.3, 54°.02N×160°.93E, h93km±39km, mb3.3/4, mb1 3.7/5, mb1mx3.3/38, mbtmp3.6/5, Error ellipse: s-maj=92.3km s-min=19.3km az=138.0*
ISC 08 05:14:45.1±0.8, 54°.37N±0°.03×160°.46E±0°.04, h105km±6km, n74, σ0°62/108, mb3.4/4, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h m s		ISC
KII	**Karymskiy**	**0.68**	**241**	PN	**Pn**	**05 15 02.4**		**-0.5**
KII	**Karymskiy**	**0.68**	**241**	*e*P	**Pn**	**05 15 02.4**		**-0.5**
KZV	**Kizimen**	**0.75**	**353**	PN	**Pn**	**05 15 02.9**		**-0.7**
KZV	**Kizimen**	**0.75**	**353**	*e*P	**Pn**	**05 15 02.9**		**-0.7**
MKZ	**Mys Kozlova**	**0.76**	**75**	PN	**Pn**	**05 15 03.9**		**+0.4**
MKZ				S	**Sn**	**05 15 18.2**		**+0.8**
MKZ	**Mys Kozlova**	**0.76**	**75**	*e*P	**Pn**	**05 15 03.9**		**+0.4**
MKZ				*e*S	**Sn**	**05 15 18.2**		**+0.8**
TUMD	**Tumrok D**	**0.83**	**358**	*e*P	**Pn**	**05 15 03.1**		**-1.1**
TUMD				*e*S	**Sn**	**05 15 18.4**		**-0.3**
TUMR	**Tumrok**	**0.93**	**349**	PN	**Pn**	**05 15 05.0**		**-0.3**
TUMR				S	**Sn**	**05 15 20.3**		**-0.2**
TUMR	**Tumrok**	**0.93**	**349**	*i* P	**Pn**	**05 15 05.0**		**-0.3**
TUMR				*i* S	**Sn**	**05 15 20.3**		**-0.2**
SPN	**Mys Shipunski**	**1.30**	**192**	PN	**Pn**	**05 15 08.9**		**-0.4**
SPN				S	**Sn**	**05 15 27.1**		**-0.4**
SPN	**Mys Shipunski**	**1.30**	**192**	*e*P	**Pn**	**05 15 08.9**		**-0.4**
SPN				*e*S	**Sn**	**05 15 27.1**		**-0.4**
KMNR	**Kamenistaya**	**1.39**	**355**	PN	**Pn**	**05 15 10.3**		**-0.1**
KMNR				S	**Sn**	**05 15 28.7**		**-0.9**
KMNR	**Kamenistaya**	**1.39**	**355**	*e*P	**Pn**	**05 15 10.3**		**-0.1**
KMNR				*e*S	**Sn**	**05 15 28.7**		**-0.9**
SDLR	**Sedlovina**	**1.44**	**221**	PN	**Pn**	**05 15 11.4**		**+0.4**
SDLR				S	**Sn**	**05 15 31.7**		**+1.1**
SDLR	**Sedlovina**	**1.44**	**221**	*e*P	**Pn**	**05 15 11.4**		**+0.4**
SDLR				*e*S	**Sn**	**05 15 31.7**		**+1.1**
KRER	**Koryakskii**	**1.47**	**224**	PN	**Pn**	**05 15 11.8**		**+0.3**
KRER	**Koryakskii**	**1.47**	**224**	*e*P	**Pn**	**05 15 11.8**		**+0.3**
KRX	**Arik**	**1.48**	**227**	PN	**Pn**	**05 15 10.9**		**-0.6**
KRX	**Arik**	**1.48**	**227**	*e*P	**Pn**	**05 15 10.9**		**-0.6**
AVH	**Avacha**	**1.51**	**223**	PN	**Pn**	**05 15 11.7**		**-0.1**
AVH	**Avacha**	**1.51**	**223**	*e*P	**Pn**	**05 15 11.7**		**-0.1**
UGLR	**Uglovaya**	**1.52**	**220**	PN	**Pn**	**05 15 12.4**		**+0.5**
UGLR				S	**Sn**	**05 15 33.2**		**+0.9**
UGLR	**Uglovaya**	**1.52**	**220**	*e*P	**Pn**	**05 15 12.4**		**+0.5**
UGLR				*e*S	**Sn**	**05 15 33.2**		**+0.9**
KOK	**Koryaka**	**1.53**	**226**	PN	**Pn**	**05 15 12.4**		**+0.3**
KOK	**Koryaka**	**1.53**	**226**	*e*P	**Pn**	**05 15 12.4**		**+0.3**
BZMR	**Bezymyannaya**	**1.57**	**1**	PN	**Pn**	**05 15 12.3**		**-0.3**
BZMR	**Bezymyannaya**	**1.57**	**1**	*e*P	**Pn**	**05 15 12.3**		**-0.3**
KIRR	**Kirishev**	**1.59**	**358**	PN	**Pn**	**05 15 12.6**		**-0.2**
KIRR	**Kirishev**	**1.59**	**358**	*e*P	**Pn**	**05 15 12.6**		**-0.2**
KPT	**Kopyto**	**1.60**	**355**	PN	**Pn**	**05 15 12.3**		**-0.7**
KPT	**Kopyto**	**1.60**	**355**	*e*P	**Pn**	**05 15 12.3**		**-0.7**
GNL	**Ganaly**	**1.63**	**246**	PN	**Pn**	**05 15 13.0**		**-0.3**
GNL				S	**Sn**	**05 15 34.9**		**+0.1**
GNL	**Ganaly**	**1.63**	**246**	*e*P	**Pn**	**05 15 13.0**		**-0.3**
GNL				*e*S	**Sn**	**05 15 34.9**		**+0.1**
ZLN	**Zelenaya**	**1.66**	**7**	PN	**Pn**	**05 15 14.3**		**+0.6**
ZLN				S	**Sn**	**05 15 36.5**		**+1.1**
ZLN	**Zelenaya**	**1.66**	**7**	*e*P	**Pn**	**05 15 14.3**		**+0.6**
ZLN				*e*S	**Sn**	**05 15 36.5**		**+1.1**
DALK	**Dalny**	**1.68**	**218**	PN	**Pn**	**05 15 14.0**		**+0.2**
DALK				S	**Sn**	**05 15 35.9**		**+0.2**
DALK	**Dalny**	**1.68**	**218**	*e*P	**Pn**	**05 15 14.0**		**+0.2**
DALK				*e*S	**Sn**	**05 15 35.9**		**+0.2**
LGNR	**Loginova**	**1.72**	**4**	PN	**Pn**	**05 15 14.9**		**+0.3**
LGNR	**Loginova**	**1.72**	**4**	*e*P	**Pn**	**05 15 14.9**		**+0.3**
PET	**Petropavlovsk**	**1.73**	**219**	*e*PN	**Pn**	**05 15 14.6**		**+0.2**
PET				*e*S	**Sn**	**05 15 36.9**		**+0.3**
PET				pmax	pmax			
	comp=Z,48nm,0.4s							
PET				smax	smax			
	comp=N,607nm,0.7s							
PET				smax	smax			
	comp=E,406nm,0.8s							
CIRR	**Tsirk**	**1.76**	**5**	PN	**Pn**	**05 15 15.3**		**+0.4**
CIRR	**Tsirk**	**1.76**	**5**	*e*P	**Pn**	**05 15 15.3**		**+0.4**
KRSR	**Krestovskiy**	**1.85**	**2**	PN	**Pn**	**05 15 15.4**		**-0.6**
KRSR	**Krestovskiy**	**1.85**	**2**	*e*P	**Pn**	**05 15 15.4**		**-0.6**
ESO	**Esso**	**1.86**	**328**	PN	**Pn**	**05 15 14.9**		**-1.1**
ESO	**Esso**	**1.86**	**328**	*e*P	**Pn**	**05 15 14.9**		**-1.1**
KLY	**Klyuchi**	**1.95**	**3**	PN	**Pn**	**05 15 17.5**		**+0.3**
KLY	**Klyuchi**	**1.95**	**3**	*e*P	**Pn**	**05

BUY				S	Sb	05 56 55.4	-0.3	
KAVV	Kandilli-Istan	1.60	22	*e*PN	Pg	05 56 40.7	-0.2	
KAVV	Kandilli-Istan	1.60	22	*e*PN	Pg	05 56 40.7	-0.2	
ISK	Istanbul-Kandi	1.60	22	*e*PN	Pb	05 56 40.1	-0.1	
ISK	Istanbul-Kandi	1.60	22	*e*Pn	Pb	05 56 40.1	-0.1	
HRT	Hereke	1.64	40	*e*PN	Pb	05 56 40.8	-0.1	
HRT	Hereke	1.64	40	*e*Pn	Pb	05 56 40.8	-0.1	
AYDB	Zeytinkoy-Aydi	1.66	191	*e*PN	Pb	05 56 42.1	+0.9	
AYDB	Zeytinkoy-Aydi	1.66	191	*e*Pn	Pb	05 56 42.1	+0.9	
CTKS	Kestanelik-??a	1.67	6	*e*PN	Pb	05 56 41.3	0.0	
CTKS	Kestanelik-??a	1.67	6	*e*Pn	Pb	05 56 41.3	0.0	
BORA	Eskisehir	1.71	79	*i* P	Pb	05 56 42.3	+0.2	
BORA				*i* S	Sg	05 57 05.8	+0.7	
BORA	Eskisehir	1.71	79	P	Pb	05 56 42.3	+0.2	
BORA				S	Sg	05 57 05.8	+0.7	
GADA	Gvkgeada	1.93	289	*e*PN	Pb	05 56 45.9	+0.1	
GADA	Gvkgeada	1.93	289	*e*Pn	Pb	05 56 45.9	+0.1	
SAHE	Sakarya_HENDEK	2.35	56	*i* P	Pg	05 56 54.2	-1.0	
SAHE				*i* S	Sg	05 57 25.5	-0.2	
SAHE	Sakarya_HENDEK	2.35	56	P	Pg	05 56 54.2	-1.0	

ISCJB ***08*** *05:56:19.6±0.7, 36.54N±0.04×71.11E±0.08, h100km, Error ellipse: s-maj=10.3km s-min=5.0km az=153.8*
NNC ***08*** *05:56:25.8±1.0, 36.87N×70.91E, h118km±11km, mb3.2, mpv3.9, Error ellipse: s-maj=8.9km s-min=4.1km az=160.0*

ISC 08 05:56:20.2±1.2, 36.58N±0.09×70.97E±0.08, h100km, n15, σ2.6s69/21, 6C-6D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZET	**Dzherino**	**2.80**	**323**	⇑P	**Pn**	**05 57 06.3**	**+2.9**
	5.5nm,0.1s						
DZET				⇓S	**Sn**	**05 57 37.8**	**+1.2**
	142nm,0.5s						
MNAS	**Manas**	**6.02**	**11**	⇓P	**Pn**	**05 57 48.7**	**+1.8**
	6.8nm,0.6s						
MNAS				⇓S	**Sn**	**05 58 53.9**	**-0.5**
	5.3nm,0.4s						
KK31	**Karatay Array**	**6.53**	**357**	⇑P	**Pn**	**05 57 55.6**	**+1.9**
	9.2nm,0.3s,baz=178,slow=12,SNR=131						
KK31				S	**Sn**	**05 59 05.3**	**-1.2**
	5.5nm,0.2s,baz=188,slow=24,SNR=7.8						
AAK	**Ala-Archa**	**6.63**	**23**	⇓P	**Pn**	**05 57 57.3**	**+2.1**
	5.2nm,0.5s						
AAK				⇑S	**Sn**	**05 59 10.1**	**+0.7**
	10nm,0.7s						
TKM2	**Tokmak 2**	**7.27**	**28**	⇓P	**Pn**	**05 58 06.3**	**+2.4**
	2.6nm,0.4s						
TKM2				⇑S	**Sn**	**05 59 26.1**	**+1.2**
	1.8nm,0.5s						
PYUN	**Piuthan**	**13.21**	**126**	*e*P	**Pn**	**05 59 23.6**	**-0.5**
	6.6nm,0.4s						
KOLN	**Koldanda**	**13.83**	**126**	*e*P	**Pn**	**05 59 31.2**	**-1.0**
	3.1nm,0.3s						
GKN	**Gorkha**	**14.37**	**123**	*e*P	**Pn**	**05 59 37.8**	**-1.2**
	7.2nm,0.4s						
KKN	**Kakani**	**14.94**	**122**	*e*P	**Pn**	**05 59 44.7**	**-1.7**
	5.6nm,0.4s						
AB31	**Akbulak array**	**15.00**	**331**	⇑P	**Pn**	**05 59 48.0**	**+1.2**
	0.4nm,0.5s,baz=160,slow=11,SNR=11						
AB31				⇓S	**Sn**	**06 02 23.6**	**-8.6**
	0.5nm,0.4s,baz=152,slow=23,SNR=5.4						
PKIN	**Phulchoki**	**15.16**	**122**	*e*P	**Pn**	**05 59 47.4**	**-1.8**
	3.7nm,0.3s						
PKI	**Pulchoki**	**15.17**	**122**	*e*P	**Pn**	**05 59 47.5**	**-1.9**
	5.7nm,0.4s						
GUN	**Gumba**	**15.28**	**120**	*e*P	**Pn**	**05 59 48.8**	**-2.0**
	9.8nm,0.4s						
JIRN	**Jiri**	**15.65**	**120**	*e*P	**Pn**	**05 59 53.1**	**-2.4**
	15nm,0.4s						
AKTO	**Aktyubinsk**	**16.70**	**330**	⇑P	**P**	**06 00 09.7**	**+1.1**
	2.2nm,0.9s						

IDC 08 05:56:36.5±2.4, 16.31S×69.15W, h192km±8km, mb3.8/2, mb1 3.7/2, mb1mx3.2/22, mbtmp4.3/2, Error ellipse: s-maj=81.8km s-min=46.2km az=2.0, Peru-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**0.98**	**89**	P	Pn	05 57 05.4	-0.6
	48nm,0.3s,baz=276,slow=7.8,SNR=1899						
LPAZ				S	Sn	05 57 29.2	+0.6
	4.6nm,0.3s,baz=75,slow=20,SNR=9.2						
DBIC	**Dimbokro**	**67.57**	**76**	P	P	06 07 12.2	-0.6
	1.9nm,0.6s,baz=238,slow=9.7,SNR=4.9						
TORD	**Torodi Ar. Bea**	**75.88**	**72**	P	P	06 08 02.4	0.0
	2.0nm,0.7s,baz=256,slow=5.4,SNR=21						
SONM	**Songino Array**	**148.35**	**6**	PKPbc	PKPbc	06 16 00.9	+0.6
	0.3nm,0.4s,baz=338,slow=4.9,SNR=3.7						

ISCJB ***08*** *05:56:39.3±0.6, 50.27N±0.04×18.73E±0.03, h0km, Error ellipse: s-maj=5.8km s-min=3.0km az=9.6*
IPEC ***08*** *05:56:39.7±0.2, 50.32N×18.77E, h0km, ML1.8/3, Error ellipse: s-maj=2.2km s-min=0.8km az=170.0*
CSEM ***08*** *05:56:40.0±0.2, 50.29N×18.77E, h2km, ML2.6/5, Error ellipse: s-maj=5.1km s-min=2.5km az=6.0*
PRU ***08*** *05:56:40.6, 50.32N×18.74E, h0km*

ISC 08 05:56:40.1±0.9, 50.21N±0.05×18.74E±0.02, h0km, n21, σ0.57/34, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OKC	**Ostrava-Krasne**	**0.53**	**226**	*e*PG	**Pb**	**05 56 52.4**	**+0.1**
OKC				*e*SG	**Sb**	**05 57 01.0**	**+0.5**
	comp=Z,12nm,0.3s						
OKC	**Ostrava-Krasne**	**0.53**	**226**	Pg	**Pb**	**05 56 52.4**	**+0.1**
OKC				Sg	**Sb**	**05 57 01.0**	**+0.5**
	12nm,0.3s						
OJC	**Ojcow**	**0.68**	**89**	*e*Pg	**Pg**	**05 56 52.4**	**-0.7**
OJC				*e*Sg	**Sg**	**05 57 02.3**	**+0.4**
OJC	**Ojcow**	**0.68**	**89**	*e*Pg	**Pg**	**05 56 52.4**	**-0.7**
OJC				*e*Sg	**Sg**	**05 57 02.3**	**+0.4**
MORC	**Moravsky Berou**	**0.89**	**241**	*e*Pg	**Pb**	**05 56 58.2**	**-0.1**
MORC				*e*Sg	**Sb**	**05 57 09.8**	**-0.9**
	14nm,0.3s,baz=55						
LANS	**Liptovska Anna**	**1.16**	**156**	*e*Pg	**Pn**	**05 57 03.4**	**-0.2**
LANS	**Liptovska Anna**	**1.16**	**156**	*e*PG	**Pn**	**05 57 03.4**	**-0.2**
LANS				*e*SG	**Sn**	**05 57 20.0**	**-0.1**
KRLC	**Kraliky**	**1.27**	**265**	*e*SG	**Sb**	**05 57 21.5**	**-0.2**
KRLC	**Kraliky**	**1.27**	**265**	Sg	**Sb**	**05 57 21.5**	**-0.2**
NIE	**Niedzica**	**1.28**	**127**	*e*Pg	**Pg**	**05 57 04.8**	**+0.1**
NIE				*e*Sg	**Sn**	**05 57 23.8**	**+0.6**
DPC	**Dobruska-Polom**	**1.56**	**276**	*e*PG	**Pn**	**05 57 09.1**	**0.0**
DPC				*e*SG	**Sg**	**05 57 30.0**	**-0.1**
	comp=Z,5.8nm,0.3s						
DPC	**Dobruska-Polom**	**1.56**	**276**	Pg	**Pn**	**05 57 09.1**	**0.0**
DPC				Sg	**Sg**	**05 57 30.0**	**-0.1**
	5.8nm,0.3s						
VRAC	**Vranov**	**1.66**	**238**	*e*Pn	**Pb**	**05 57 11.2**	**-0.3**
	baz=53						
VRAC				*e*Sg	**Sg**	**05 57 34.0**	**+0.7**
	9.1nm,0.2s,baz=53						
KSP	**Ksiaz**	**1.69**	**293**	*e*Pg	**Pg**	**05 57 12.4**	**+0.1**
KSP				*e*Sg	**Sg**	**05 57 35.0**	**+0.8**
KSP	**Ksiaz**	**1.69**	**293**	*e*Pg	**Pg**	**05 57 12.4**	**+0.1**
KSP				*e*Sg	**Sg**	**05 57 35.0**	**+0.8**
VYHS	**Vyhne**	**1.72**	**178**	*e*Sn	**Sn**	**05 57 34.3**	**+0.5**
VYHS	**Vyhne**	**1.72**	**178**	*e*SN	**Sn**	**05 57 34.3**	**+0.5**
VYHS				eLG	Lg	05 57 40.5	
STHS	**Stebnicka Huta**	**1.81**	**115**	*e*Pn	**Pn**	**05 57 12.6**	**+0.2**
STHS	**Stebnicka Huta**	**1.81**	**115**	*e*PN	**Pn**	**05 57 12.6**	**+0.2**
STHS				eLG	Lg	05 57 52.7	
KRUC	**Moravsky**	**1.91**	**234**	*e*Pn	**Pb**	**05 57 14.9**	**-0.8**
	baz=50						
KRUC				*e*Sg	**Sg**	**05 57 41.9**	**+0.6**
	5.4nm,0.4s,baz=50						
KHC	**Kasperske Hory**	**3.52**	**254**	*e*SG	**Sg**	**05 58 31.3**	**-1.8**
	comp=Z,3.6nm,0.4s						

IDC 08 06:15:02.6±3.4, 29.93S×138.95E, h0km, mb1 2.9/3, mb1mx2.9/20, mbtmp2.7/3, ML2.4/3, Error ellipse: s-maj=153.4km s-min=16.7km az=47.0, South Australia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**2.99**	**131**	Pn	Pn	06 15 51.4	0.0
	0.2nm,0.3s,baz=311,slow=16,SNR=3.0						
STKA				Pg	Pg	06 15 58.6	-1.4
	0.7nm,0.3s,baz=293,slow=13,SNR=8.3						
STKA				Sn	Sn	06 16 28.7	+0.8
	1.1nm,0.3s,baz=360,slow=13,SNR=5.3						
STKA				Lg	Lg	06 16 36.2	
	1.3nm,0.3s,baz=255,slow=10,SNR=7.6						
ASAR	**Alice Springs**	**7.70**	**323**	Pn	Pn	06 16 55.7	-0.3
	0.0nm,0.3s,baz=152,slow=12,SNR=4.3						
WRA	**Warramunga Arr**	**10.79**	**336**	Pn	Pn	06 17 38.2	-0.2
	0.1nm,0.3s,baz=155,slow=12,SNR=5.0						

NNC 08 06:31:25.6±5.0, 36.91N×70.99E, h0km, mb3.6, mpv3.2, 4C-3D, Error ellipse: s-maj=41.1km s-min=23.3km az=178.0, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZET	**Dzherino**	**2.55**	**319**	⇑P	**Pn**	**06 32 08.1**	**-0.3**
	6.2nm,0.3s						
DZET				⇓S	**Sn**	**06 32 41.8**	**+1.6**
	67nm,0.6s						
MNAS	**Manas**	**5.69**	**11**	⇑P	**Pn**	**06 32 52.5**	**+1.0**
	0.9nm,0.4s						
MNAS				⇑S	**Sn**	**06 34 00.5**	**+2.9**
	5.6nm,0.5s						
KK31	**Karatay Array**	**6.20**	**357**	⇓P	**Pn**	**06 32 56.9**	**-1.4**
	0.2nm,0.3s,baz=170,slow=12,SNR=8.7						
KK31				⇑S	**Sn**	**06 34 08.2**	**-1.7**
	1.4nm,0.5s,baz=180,slow=20,SNR=6.5						
TKM2	**Tokmak 2**	**6.97**	**29**	⇓P	**Pn**	**06 33 09.8**	**+0.7**
	2.9nm,0.5s						

WEL 08 06:32:02.0±0.5, 39.84S×173.78E, h247km±4km, ML3.9/33, 9C-11D, Error ellipse: s-maj=2.6km s-min=1.6km az=90.0, Off west coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NMEZ	**Namu Road**	**0.43**	**10**	PN	Pn	06 32 34.5	+0.1
KHEZ	**Kahui Hut**	**0.58**	**18**	PN	Pn	06 32 34.8	-0.2
PREZ	**Palmer Road**	**0.58**	**30**	PN	Pn	06 32 34.9	0.0
NEZ	**North Egmont**	**0.62**	**23**	*e*PN	Pn	06 32 35.3	+0.2
PKE	**Pukeiti**	**0.67**	**14**	PN	Pn	06 32 35.0	-0.2
DREZ	**Durham Road**	**0.73**	**27**	PN	Pn	06 32 35.3	-0.1
WAZ	**Wanganui**	**0.93**	**85**	⇓PN	Pn	06 32 37.0	+0.6
WAZ				SN	S	06 33 02.6	-0.7
DUWZ	**D'Urville Isla**	**0.96**	**174**	PN	Pn	06 32 36.6	+0.1
VRZ	**Vera Road**	**1.04**	**47**	PN	Pn	06 32 36.1	-0.9
OHWZ	**Ohakea**	**1.23**	**108**	PN	Pn	06 32 38.6	+0.5
OHWZ				SN	S	06 33 04.9	-1.6
PKVZ	**Pokaka**	**1.33**	**66**	PN	Pn	06 32 38.6	-0.3
KIW	**Kapiti Island**	**1.33**	**140**	PN	Pn	06 32 38.8	0.0
KIW				AML	AML	06 33 04.9	
KIW				AML	AML	06 33 05.4	
QRZ	**Quartz Range**	**1.37**	**224**	⇑PN	Pn	06 32 38.4	-0.6
MTVZ	**Mangateitei**	**1.38**	**71**	PN	Pn	06 32 39.2	-0.1
NNZ	**Nelson**	**1.41**	**192**	⇑PN	Pn	06 32 39.1	-0.2
TCW	**Tory Channel**	**1.42**	**165**	PN	Pn	06 32 39.5	+0.1
TCW				AML	AML	06 33 08.0	
TCW				AML	AML	06 33 08.0	
OGWZ	**Otaki Gorge**	**1.44**	**133**	PN	Pn	06 32 39.6	+0.1
OGWZ				AML	AML	06 33 08.0	
OGWZ				AML	AML	06 33 08.4	
TRVZ	**Turoa**	**1.47**	**69**	PN	Pn	06 32 39.8	-0.3
FWVZ	**Far West T-bar**	**1.49**	**67**	⇓PN	Pn	06 32 39.9	-0.4
TWVZ	**Taurewa**	**1.50**	**60**	PN	Pn	06 32 39.5	-0.6
WNVZ	**Wahianoa**	**1.50**	**70**	⇓PN	Pn	06 32 40.0	-0.2
WNVZ				SN	S	06 33 07.0	-3.2
WHVZ	**Whangaehu Hut**	**1.50**	**69**	PN	Pn	06 32 40.2	-0.2
NGZ	**Ngauruhoe**	**1.56**	**65**	PN	Pn	06 32 40.4	-0.3
TUVZ	**Tukino**	**1.56**	**69**	⇑PN	Pn	06 32 40.7	0.0
HIZ	**Hauiti**	**1.57**	**33**	⇓PN	Pn	06 32 39.9	-0.7
WTVZ	**West Tongariro**	**1.58**	**63**	PN	Pn	06 32 40.5	-0.3
MOVZ	**Moawhango**	**1.58**	**75**	PN	Pn	06 32 40.3	-0.5
CAW	**Cannon Point**	**1.60**	**143**	PN	Pn	06 32 40.6	-0.2
CAW				AML	AML	06 33 11.0	
CAW				AML	AML	06 33 11.5	
MRZ	**Mangatainoka R**	**1.60**	**121**	PN	Pn	06 32 40.7	-0.1
OTVZ	**Oturere**	**1.61**	**66**	⇑PN	Pn	06 32 41.1	0.0
POWZ	**Post Office Ro**	**1.62**	**110**	PN	Pn	06 32 41.0	0.0
POWZ				AML	AML	06 33 11.5	
KRVZ	**Karewarewa**	**1.62**	**63**	⇑PN	Pn	06 32 41.0	-0.2
TSZ	**Takapari Road**	**1.69**	**98**	PN	Pn	06 32 41.5	0.0
HOWZ	**Holdsworth Sta**	**1.69**	**129**	PN	Pn	06 32 41.3	-0.2
BHHZ	**Black Hill Sta**	**1.80**	**79**	PN	Pn	06 32 42.0	-0.5
PRWZ	**Pori Road**	**1.82**	**114**	PN	Pn	06 32 43.0	+0.4
PRWZ				AML	AML	06 33 14.5	
PRWZ				AML	AML	06 33 15.1	
MTW	**Mount Morrison**	**1.86**	**136**	PN	Pn	06 32 42.7	-0.2
MTW				AML	AML	06 33 13.6	
MTW				AML	AML	06 33 14.3	
TIWZ	**Tintock**	**1.86**	**121**	PN	Pn	06 32 43.0	+0.1
TIWZ				AML	AML	06 33 14.9	
TIWZ				AML	AML	06 33 15.5	
PNHZ	**Pukenui**	**1.86**	**93**	PN	Pn	06 32 43.1	+0.1
PNHZ				AML	AML	06 33 13.9	
PNHZ				AML	AML	06 33 16.3	
BSWZ	**Blackbirch Sta**	**1.87**	**178**	PN	Pn	06 32 43.0	0.0
BSWZ				AML	AML	06 33 13.9	
DVHZ	**Dannevirke**	**1.89**	**105**	⇓PN	Pn	06 32 43.3	+0.1
DVHZ				AML	AML	06 33 14.9	
DVHZ				AML	AML	06 33 15.0	
MSWZ	**Moikau Station**	**1.93**	**145**	PN	Pn	06 32 43.4	-0.2
MSWZ				AML	AML	06 33 15.6	
MSWZ				AML	AML	06 33 15.9	
KRHZ	**Kereru**	**2.01**	**85**	AML	AML	06 33 17.3	
KRHZ				AML	AML	06 33 17.9	
THZ	**Tophouse**	**2.03**	**199**	⇑PN	Pn	06 32 44.1	-0.4
TMWZ	**Te Maipa**	**2.05**	**129**	AML	AML	06 33 17.3	
TMWZ				AML	AML	06 33 17.7	
WPHZ	**Waipukurau**	**2.06**	**97**	PN	Pn	06 32 45.1	+0.3
WPHZ				AML	AML	06 33 18.4	
WPHZ				AML	AML	06 33 21.5	
PLWZ	**Palliser**	**2.06**	**147**	PN	Pn	06 32 44.5	-0.2
PLWZ				AML	AML	06 33 17.2	
PLWZ				AML	AML	06 33 17.2	
BFZ	**Birch Farm**	**2.06**	**115**	PN	Pn	06 32 44.9	+0.1
KWHZ	**Kaweka Forest**	**2.08**	**79**	PN	Pn	06 32 44.5	-0.5
KWHZ				AML	AML	06 33 18.0	
KWHZ				AML	AML	06 33 18.4	
TRWZ	**Traveller**	**2.13**	**138**	PN	Pn	06 32 45.4	+0.1
TRWZ				AML	AML	06 33 19.4	
TRWZ				AML	AML	06 33 19.6	
ANWZ	**Angora Road**	**2.15**	**108**	PN	Pn	06 32 46.2	+0.6
ANWZ				AML	AML	06 33 21.1	
ANWZ				AML	AML	06 33 22.4	
BKZ	**Black Stump Fm**	**2.20**	**73**	⇓PN	Pn	06 32 45.8	-0.4
BKZ				AML	AML	06 33 17.2	
BKZ				AML	AML	06 33 17.3	
PRHZ	**Porangahau**	**2.23**	**102**	⇑PN	Pn	06 32 46.9	+0.5
MCHZ	**McNeill Hill**	**2.29**	**81**	⇓PN	Pn	06 32 47.7	+0.7
MCHZ				AML	AML	06 33 24.9	
PXZ	**Pawanui**	**2.38**	**96**	⇓PN	Pn	06 32 48.2	+0.4
PXZ				AML	AML	06 33 24.6	
PXZ				AML	AML	06 33 25.8	
KAHZ	**Kahuranaki**	**2.38**	**90**	PN	Pn	06 32 48.5	+0.6
KAHZ				AML	AML	06 33 26.1	
KAHZ				AML	AML	06 33 26.6	
DSZ	**Denniston Nort**	**2.42**	**218**	PN	Pn	06 32 47.4	-0.8
NMHZ	**Naumai**	**2.46**	**73**	PN	Pn	06 32 49.2	+0.5
NMHZ				AML	AML	06 33 25.3	
NMHZ				AML	AML	06 33 25.6	
CKHZ	**Cape Kidnapper**	**2.55**	**87**	PN	Pn	06 32 50.1	+0.7
CKHZ				AML	AML	06 33 29.0	
ARHZ	**Aropaoanui**	**2.55**	**78**	PN	Pn	06 32 50.0	+0.5
ARHZ				AML	AML	06 33 27.3	
ARHZ				AML	AML	06 33 27.4	
KHZ	**Kahutara**	**2.58**	**184**	⇑PN	Pn	06 32 49.0	-0.7
KHZ				AML	AML	06 33 24.9	
URZ	**Urewera**	**3.04**	**60**	PN	Pn	06 32 53.3	-1.4
URZ				AML	AML	06 33 31.0	
URZ				AML	AML	06 33 31.0	
KNZ	**Kokohu**	**3.12**	**76**	PN	Pn	06 32 55.5	-0.2
LTZ	**Lake Taylor**	**3.15**	**201**	PN	Pn	06 32 54.9	-1.0
MHGZ	**Mahia Peninsul**	**3.27**	**79**	PN	Pn	06 32 57.5	+0.3
MWZ	**Matawai**	**3.28**	**64**	PN	Pn	06 32 56.2	-1.3
RIGZ	**Rimuhau**	**3.29**	**71**	PN	Pn	06 32 57.3	-0.2
RIGZ				AML	AML	06 33 38.9	
RIGZ				AML	AML	06 33 38.9	
INZ	**Inchbonnie**	**3.38**	**211**	PN	Pn	06 32 57.1	-1.2
TKGZ	**Te Karaka**	**3.46**	**67**	AML	AML	06 33 41.3	
TKGZ				AML	AML	06 33 41.3	
RUGZ	**Raukumara Rang**	**3.57**	**60**	PN	Pn	06 32 59.3	-1.5
TWGZ	**Tauwhareparae**	**3.67**	**64**	AML	AML	06 33 50.2	
TWGZ				AML	AML	06 33 55.7	
OXZ	**Oxford**	**3.72**	**200**	⇑PN	Pn	06 33 00.7	-1.6
HAZ	**Te Kaha**	**3.76**	**58**	PN	Pn	06 33 00.9	-1.9
PKGZ	**Pakihiroa**	**3.88**	**61**	PN	Pn	06 33 02.0	-2.3
PUZ	**Puketiti**	**3.91**	**65**	⇓PN	Pn	06 33 03.7	-0.9
MQZ	**McQueen's Vall**	**3.95**	**192**	PN	Pn	06 33 02.8	-2.2
WVZ	**Waitaha Valley**	**3.96**	**214**	⇓PN	Pn	06 33 03.7	-1.3
WMGZ	**Waiomatatini S**	**4.14**	**62**	PN	Pn	06 33 06.4	-1.0
WMGZ				AML	AML	06 33 54.9	
WMGZ				AML	AML	06 33 55.4	
MXZ	**Matakaoa Point**	**4.21**	**59**	PN	Pn	06 33 07.1	-1.1
RPZ	**Rata Peaks**	**4.37**	**207**	⇓PN	Pn	06 33 08.7	-1.3
FOZ	**Fox Glacier**	**4.73**	**218**	PN	Pn	06 33 12.2	-2.1
LBZ	**Lake Benmore**	**5.27**	**209**	PN	Pn	06 33 19.0	-1.9
JCZ	**Jackson Bay**	**5.63**	**220**	PN	Pn	06 33 23.4	-2.1
ODZ	**Otahua Downs**	**5.69**	**203**	PN	Pn	06 33 25.8	-0.3
WKZ	**Wanaka**	**6.11**	**214**	PN	Pn	06 33 28.6	-2.7
TUZ	**Tuapeka**	**6.83**	**205**	PN	Pn	06 33 38.7	-1.6

SOME ***08*** *06:36:40.1, 44.68N×82.23E, h20km*
NNC ***08*** *06:36:41.9±1.9, 44.68N×82.27E, h0km, mb3.3, mpv2.8, Error ellipse: s-maj=25.5km s-min=4.6km az=117.0*
ISCJB ***08*** *06:36:43.3±1.3, 44.69N±0.06×82.3E±0.1, h10km, Error ellipse: s-maj=14.2km s-min=4.8km az=29.0*

ISC 08 06:36:41.1±1.6, 44.71N±0.05×82.21E±0.09, h10km, n9, σ1.8s10/18, 1C-4D, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DJR	**Jarkent**	**1.77**	**259**	*e*P	**Pb**	**06 37 13.3**	**-0.4**
	8.9nm,0.2s						
DJR				*e*S	**Sg**	**06 37 36.8**	**-1.1**
	8.0nm,0.5s						
KTMS	**Ketmen**	**1.84**	**227**	*e*P	**Pb**	**06 37 14.4**	**-0.4**
	1.9nm,0.2s						
KTMS				*e*S	**Sg**	**06 37 38.8**	**-1.3**
	18nm,0.7s						
MK31	**Makanchi Array**	**2.09**	**2**	⇓Pn	**Pb**	**06 37 19.0**	**0.0**
	5.2nm,0.3s,baz=182,slow=13,SNR=101						
MK31				Sn	**Sb**	**06 37 46.2**	**+1.1**
	3.9nm,0.3s,baz=183,slow=27,SNR=16						
KAPS	**Kapalarasan**	**2.11**	**287**	*e*P	**Pb**	**06 37 18.6**	**-0.7**
	1.7nm,0.2s						
KAPS				*e*S	**Sb**	**06 37 45.9**	**+0.3**
	6.4nm,0.5s						
MAKZ	**Makanchi**	**2.11**	**356**	⇑Pn	**Pb**	**06 37 18.8**	**-0.6**
	3.7nm,0.5s						
MAKZ				⇓Sn	**Sg**	**06 37 47.1**	**-1.8**
	7.9nm,0.5s						
PDGK	**Podgornoye**	**2.40**	**236**	⇓Pn	**Pn**	**06 37 21.5**	**+1.0**
	1.5nm,0.5s						
PDGK				⇓Sn	**Sb**	**06 37 54.5**	**+0.5**
	4.4nm,0.6s						
UZB	**Uzynbulak**	**2.78**	**237**	*e*P	**Pb**	**06 37 30.0**	**-1.0**
	2.7nm,0.4s						
UZB				*e*S	**Sb**	**06 38 05.8**	**+0.7**
	3.4nm,0.2s						
KPKS	**Kokpek**	**2.83**	**245**	*e*P	**Pb**	**06 37 30.9**	**-0.8**
	7.0nm,0.2s						
KPKS				*e*S	**Sb**	**06 38 06.7**	**+0.3**
	15nm,0.4s						
ARXS	**Arharly**	**3.18**	**263**	*e*P	**Pb**	**06 37 37.7**	**+0.1**
	1.8nm,0.4s						
ARXS				*e*S	**Sb**	**06 38 18.9**	**+2.5**
	8.4nm,0.5s						

ISCJB ***08*** *06:40:06.1±0.6, 58.51N±0.03×133.47W±0.06, h10km, Error ellipse: s-maj=5.3km s-min=3.5km az=42.3*
NEIC ***08*** *06:40:09.4±0.0, 58.37N×133.55W, h5km, ML2.8(AEIC), ML3.2(OTT), After OTT.*
PGC ***08*** *06:40:09.4±12.0, 58.37N×133.55W, h5km, ML3.2/8, 51km east of Juneau, Ak Southeastern Alaska*

ISC 08 06:40:07.1±0.9, 58.36N±0.05×133.38W±0.03, h10km, n25, σ1.9s83/42, Southeastern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIS	**Juneau Island**	**0.54**	**261**	P	**Pg**	**06 40 16.6**	**-1.0**
JIS				S	**Sg**	**06 40 23.3**	**-1.4**
BESE	**Bessie Mountai**	**0.81**	**286**	P	**Pg**	**06 40 21.6**	**-1.1**
BESE				S	**Sg**	**06 40 31.3**	**-1.9**
SKAG	**Skagway**	**1.50**	**318**	P	**Pb**	**06 40 34.5**	**-0.4**
SKAG				S	**Sb**	**06 40 53.5**	**-0.5**
DLBC	**Dease Lake**	**1.76**	**86**	Pn	**Pb**	**06 40 39.6**	**0.0**
DLBC				Sg	**Sg**	**06 41 05.9**	**+2.1**
DLBC	**Dease Lake**	**1.76**	**86**	P	**Pb**	**06 40 39.5**	**-0.1**
PLBC	**Pleasant Camp**	**1.90**	**307**	Pn	**Pb**	**06 40 41.1**	**-0.8**
PLBC				Sn	**Sb**	**06 41 04.9**	**-0.7**
PLBC	**Pleasant Camp**	**1.90**	**307**	P	**Pb**	**06 40 41.0**

BSO3	Boso 3	0.22	11	P	Pn	06 52 14.5	+0.1
BSO4	Boso 4	0.41	346	P	Pn	06 52 16.9	-0.3
BSO1	Boso 1	0.43	81	P	Pb	06 52 15.4	0.0
KTR	Katsuura	0.57	348	P	Pb	06 52 18.0	-0.1
KTR				S	Sb	06 52 26.4	+0.5
TATJ	Tateyama 2	0.64	314	P	Pn	06 52 21.0	+0.6
TATJ				S	Sn	06 52 31.4	+1.5
JIM2	Oshima 3	0.86	279	P	Pn	06 52 24.1	+0.7
JIM2				S	Sn	06 52 36.5	+1.3
KTJJ	Kamata 2	1.20	287	P	Pb	06 52 28.3	-0.4
KTJJ				S	Sn	06 52 43.4	-0.2
JOD2	Odawara 2	1.31	301	P	Pn	06 52 29.4	-0.3
JHJ	Hachijo jima 2	1.57	201	P	Pb	06 52 34.9	-0.2
	24nm,0.3s,baz=319,slow=14,SNR=8.1						
JHJ				S	Sb	06 52 54.5	+0.1
	36nm,0.3s,baz=4.0,slow=22,SNR=10.0						
MJAR	Matsushiro Arr	2.68	317	P	Pn	06 52 47.5	-1.0
	2.8nm,0.3s,baz=172,slow=14,SNR=9.9						
MAT	Matsushiro	2.68	317	P	Pn	06 52 48.1	-0.3
MAT				S	Sn	06 53 18.7	-1.5
WRA	Warramunga Arr	54.54	187	P	P	07 01 31.9	-1.0
	0.6nm,0.5s,baz=3.9,slow=7.6,SNR=14						
LPAZ	La Paz	148.57	62	PKPbc	PKPab	07 11 57.8	+1.4
	0.5nm,0.4s,baz=293,slow=4.5,SNR=8.2						

IDC 08 07:27:07.4±33.0, 3°.95N×127°.07E, h0km, mb3.9/4, mb1 4.1/4, mb1mx3.6/41, mbtmp3.9/4, MS3.1/1, Ms1 3.1/1, ms1mx2.4/40, Error ellipse: s-maj=562.0km s-min=102.0km az=148.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	Fitzroy Crossi	21.96	184	P	P	07 32 02.5	-0.3
	2.3nm,1.0s,baz=54,slow=9.1,SNR=3.5						
WRA	Warramunga Arr	24.80	164	P	P	07 32 30.6	-0.7
	1.1nm,0.3s,baz=345,slow=8.9,SNR=42						
ASAR	Alice Springs	28.25	167	P	P	07 33 01.6	-0.8
	0.2nm,0.3s,baz=348,slow=7.5,SNR=4.8						
STKA	Stephens Creek	38.22	160	P	P	07 34 30.4	+1.3
	3.5nm,0.7s,baz=352,slow=6.7,SNR=7.3						
YAK	Yakutsk	57.98	1	LR	LR	08 07 48.6	
	comp=Z,15nm,18.0s,baz=360,slow=42						

MEX 08 07:40:57.8±0.4, 27°.99N×111°.98W, h13km±8km, MD3.8, Gulf of California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SRIG	Santa Rosalia	0.70	200	eP	Pg	07 41 09.4	-2.1
SRIG				eS	Sg	07 41 18.6	-2.2
HSIG		1.37	41	eP	Pn	07 41 19.1	-3.5
HSIG				i S	Sn	07 41 35.1	-5.6

JMA 08 07:44:36.1±0.1, 35°.81N×140°.89E, h11km±1km, M3.0, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHOJ	Chosi	0.11	193	P	Pg	07 44 38.9	0.0
CHOJ				S	Sg	07 44 41.0	0.0
JYT	Yasato	0.70	307	P	Pg	07 44 49.5	-0.2
JYT				S	Sg	07 44 58.8	-0.1
BSO3	Boso 3	1.05	197	P	Pb	07 44 56.0	-0.2
MAT	Matsushiro	2.29	289	P	Pn	07 45 13.3	-0.5
MAT				eS	Sn	07 45 39.4	-2.7

*DJA **08** 07:55:53.6±0.8, 2°.5S×10°.0E±°, h71km±9km, M3.6/7, MLv3.6/7*
*IDC **08** 07:55:54.7±4.8, 2°.95S×100°.64E, h0km, mb3.7/3, mb1 4.1/3, mb1mx3.5/54, mbtmp3.8/3, Error ellipse: s-maj=174.4km s-min=27.9km az=61.0*
*ISCJB **08** 07:55:55.1±0.6, 2°.34S±0°.06×100°.54E±0°.05, h50km, mb3.8/3, Error ellipse: s-maj=9.3km s-min=6.5km az=20.3*
ISC 08 07:55:56.9±1.0, 2°.38S±0°.07×100°.52E±0°.05, h50km, n13, σ2s59/11, mb3.9/3, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PPSI	Pulau Pagai	0.64	233	P	Pn	07 56 08.5	-1.4
PPSI				S	Sn	07 56 19.2	0.0
PDSI	Padang	1.46	358	P	Pn	07 56 19.7	-1.2
SDSI	Sungai Dareh	1.70	32	P	Pn	07 56 22.9	-1.2
SISI	Saibi	1.77	306	P	Pn	07 56 22.2	-2.9
SISI				S	Sn	07 56 45.1	-1.4
MASI	Maura Aman, Be	1.88	114	P	Pn	07 56 24.0	-2.6
MASI				S	Sn	07 56 47.5	-1.7
CMAR	Chiang Mai Arr	20.76	356	P	Pn	08 00 43.1	+6.5
	3.0nm,0.6s,baz=188,slow=10,SNR=12						
H08S2	Diego Garcia H	28.40	258	T	T	08 31 56.9	
	baz=80,slow=75,SNR=9.2						
H08S3	Diego Garcia H	28.40	258	T	T	08 31 56.7	
	baz=80,slow=75,SNR=38						
H08S1	Diego Garcia H	28.41	258	T	T	08 31 58.1	
	baz=80,slow=75,SNR=8.7						
WRA	Warramunga Arr	37.35	120	P	P	08 03 06.2	+1.2
	1.0nm,0.7s,baz=297,slow=8.8,SNR=8.4						
ASAR	Alice Springs	38.61	126	P	P	08 03 15.6	0.0
	0.3nm,0.5s,baz=310,slow=8.1,SNR=5.0						
USRK	Ussuriysk Ar.	54.24	28	P	P	08 05 31.2	+13
	2.0nm,0.6s,baz=220,slow=8.7,SNR=7.6						
TXAR	Lajitas Array	144.68	38	PKPbc	PKPdf	08 15 34.2	+5.3
	0.2nm,0.8s,baz=328,slow=3.2,SNR=3.4						

*NIED **08** 07:56:00, 36°.20N×141°.00E, h35km, Mw3.5 Best double couple: M0 1.71000×10^14 NP1:φs 11.00000°, δ36.00000°, λ-92.00000°. NP2:φs 194.00000°, δ54.00000°, λ-88.00000°.*
*IDC **08** 07:56:50.6±1.4, 36°.07N×141°.07E, h0km, mb3.3/3, mb1 3.5/4, mb1mx3.3/47, mbtmp3.2/4, ML2.9/1, Error ellipse: s-maj=30.8km s-min=28.3km az=32.0*
*ISCJB **08** 07:56:53.1±1.0, 36°.19N±0°.05×141°.07E±0°.08, h33km±6km, mb3.4/3, Error ellipse: s-maj=11.3km s-min=7.9km az=150.9*
*JMA **08** 07:56:53.8, 36°.20N×141°.01E, h35km±1km, M3.5*
JMA Felt I J1.
ISC 08 07:56:52.7±2.5, 36°.14N±0°.07×141°.05E±0°.08, h17km±15km, n9, σ1s07/14, mb3.4/3, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHOJ	Chosi	0.47	200	P	Pn	07 57 04.3	-0.2
CHOJ				S	Sn	07 57 11.5	-0.9
JHO	Hitachi	0.61	320	P	Pb	07 57 04.9	+0.1
JHO				S	Sb	07 57 12.8	-0.3
JYT	Yasato	0.70	277	P	Pn	07 57 06.6	-1.1
JYT				S	Sg	07 57 16.2	+0.5
ONAJ	Iwakimizuishiy	0.98	348	P	Pb	07 57 10.0	-1.2
MJAR	Matsushiro Arr	2.33	281	Pn	Pn	07 57 30.6	+0.4
	3.4nm,0.3s,baz=94,slow=9.0,SNR=16						
MJAR				Sn	Sn	07 57 59.8	+1.4
	4.1nm,0.3s,baz=140,slow=17,SNR=6.4						
MAT	Matsushiro	2.33	281	P	Pn	07 57 30.8	+0.6
MAT				eS	Sn	07 57 56.5	-2.0
ILAR	Eielson Array	50.40	32	P	P	08 05 49.6	+1.0
	0.4nm,0.8s,baz=269,slow=7.8,SNR=4.1						
WRA	Warramunga Arr	56.14	188	P	P	08 06 31.8	+0.5
	0.3nm,0.5s,baz=3.4,slow=7.3,SNR=5.6						
ASAR	Alice Springs	59.87	188	P	P	08 06 57.3	-0.1
	0.2nm,0.7s,baz=31,slow=7.6,SNR=3.3						

*NIED **08** 07:57:00, 38°.50N×141°.90E, h47km, Mw3.9 Best double couple: M0 6.96000×10^14 NP1:φs 29.00000°, δ45.00000°, λ-172.00000°. NP2:φs 294.00000°, δ84.00000°, λ-45.00000°.*
*JMA **08** 07:57:28.1±0.1, 38°.51N×141°.93E, h45km±1km, M3.7*
JMA Felt I J1.
*IDC **08** 07:57:31.4±3.1, 38°.41N×141°.93E, h70km±30km, mb3.5/6, mb1 3.8/11, mb1mx3.5/50, mbtmp3.8/11, ML3.8/4, MS2.6/4, Ms1 2.6/4, ms1mx2.4/28, Error ellipse: s-maj=32.9km s-min=18.6km az=97.0*
ISC 08 07:57:25.1±1.7, 38°.46N±0°.04×141°.95E±0°.06, h15km±10km, n31, σ1s60/30, mb3.7/6, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIO	Ouri	0.47	269	P	Pn	07 57 38.4	+1.0
JIO				S	Sn	07 57 45.4	0.0
OFUJ	Ofunato	0.66	340	P	Pn	07 57 40.4	+0.5
OFUJ				S	Sn	07 57 48.9	-1.1
JMK	Ichinoseki	0.75	311	P	Pn	07 57 42.0	+0.8
JMK				S	Sn	07 57 51.7	-0.6
JOU	Okura	1.02	265	P	Pn	07 57 45.8	+0.9
JOU				S	Sn	07 57 58.8	-0.1
JMM	Marumori	1.09	237	P	Pg	07 57 46.8	+0.6
JMM				S	Sn	07 58 00.2	-0.5
JOM	Ohasama	1.13	333	P	Pg	07 57 47.2	+0.2
JYK	Kaneyama	1.33	291	P	Pg	07 57 50.1	-0.6
JYK				S	Sg	07 58 06.5	-1.5
JFK	Kawauchi	1.39	218	P	Pb	07 57 51.2	+0.4
JFK				S	Sn	07 58 07.5	-0.5
JRG	Rokugo	1.39	313	P	Pb	07 57 50.9	+0.1
JYS	Shirataka	1.50	261	P	Pb	07 57 52.9	+0.2
MAT	Matsushiro	3.54	238	P	Pb	07 58 24.2	-3.3
MAT				eS	Sb	07 59 08.8	-1.5
MJAR	Matsushiro Arr	3.54	238	P	Pb	07 58 24.4	-3.1
	10.0nm,0.3s,baz=36,slow=13,SNR=8.3						
MJAR				LR	LR	08 00 01.5	
	comp=Z,135nm,19.6s,baz=50,slow=43						
JHJ	Hachijo jima 2	5.62	199	P	Pn	07 58 49.5	+1.4
	22nm,0.3s,baz=124,slow=18,SNR=6.3						
JHJ				S	Sn	07 59 50.7	-1.6
	23nm,0.3s,baz=116,slow=22,SNR=6.7						
USRK	Ussuriysk Ar.	9.43	311	P	Pn	07 59 45.5	+5.1
	0.3nm,0.3s,baz=132,slow=14,SNR=8.7						
JNU	Nakatsue	10.45	243	P	Pn	07 59 57.9	+3.4
	0.6nm,0.3s,baz=348,slow=2.4,SNR=5.3						
KSRS	Korea Array	11.12	269	P	Pn	08 00 07.7	+4.2
	0.5nm,0.3s,baz=81,slow=14,SNR=3.5						
KLR	Kul'dur	13.03	329	LR	LR	08 05 56.1	
	comp=Z,33nm,18.1s,baz=298,slow=39						
JOW	Kunigami	16.32	229	LR	LR	08 07 20.6	
	comp=Z,24nm,18.9s,baz=10,slow=36						
MA2	Magadan	21.87	12	LR	LR	08 12 20.0	
	comp=Z,7.6nm,20.4s,baz=109,slow=40						
H11N2	WAKE ISLAND Hy 28.55	124		T	T	08 33 35.9	
	baz=316,slow=76,SNR=364						
H11N1	WAKE ISLAND Hy 28.56	124		T	T	08 33 40.1	
	baz=316,slow=76,SNR=437						
H11N3	WAKE ISLAND Hy 28.57	124		T	T	08 33 40.8	
	baz=316,slow=76,SNR=521						
H11S1	WAKE ISLAND Hy 29.31	126		T	T	08 34 33.3	
	baz=318,slow=76,SNR=235						
H11S3	WAKE ISLAND Hy 29.31	126		T	T	08 34 34.0	
	baz=318,slow=76,SNR=306						
H11S2	WAKE ISLAND Hy 29.33	126		T	T	08 34 34.3	
	baz=318,slow=76,SNR=38						
KURBB	Kurchatov Arra	45.47	307	P	P	08 05 42.5	-1.0
	0.6nm,0.3s,baz=81,slow=8.4,SNR=5.9						
ILAR	Eielson Array	48.06	33	P	P	08 06 03.2	-0.4
	0.4nm,0.6s,baz=266,slow=6.1,SNR=7.0						
WRA	Warramunga Arr	58.53	188	P	P	08 07 19.9	-1.0
	0.9nm,0.5s,baz=5.8,slow=7.1,SNR=13						
ASAR	Alice Springs	62.26	188	P	P	08 07 46.1	-0.3
	0.4nm,0.7s,baz=6.6,slow=5.8,SNR=4.2						
PDAR	Pinedale Array	76.36	46	P	P	08 09 13.7	-0.3
	0.4nm,0.5s,baz=180,slow=1.2,SNR=5.9						
TXAR	Lajitas Array	88.91	53	P	P	08 10 19.1	-0.2
	0.2nm,0.6s,baz=316,slow=2.5,SNR=3.1						

*SOME **08** 08:03:48.8, 44°.72N×82°.08E, h0km*
*NNC **08** 08:03:51.9±0.9, 44°.75N×82°.07E, h0km, mb3.2, mpv2.7, Error ellipse: s-maj=13.7km s-min=2.0km az=116.0*
ISC 08 08:03:47.5±2.0, 44°.71N±0°.06×82°.3E±0°.1, h3km±19km, n10, σ0s56/20, 5C-1D, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DJR	Jarkent	1.83	259	eP	Pb	08 04 21.0	-0.6
	6.2nm,0.4s						
DJR				eS	Sn	08 04 44.4	+0.7
	9.3nm,0.6s						
KTMS	Ketmen	1.88	229	eP	Pg	08 04 23.5	-0.1
	2.2nm,0.5s						
KTMS				eS	Sg	08 04 48.7	+0.7
	9.1nm,0.4s						
MK31	Makanchi Array	2.08	0	⇑Pn	Pg	08 04 27.9	+0.5
	2.2nm,0.3s,baz=180,slow=15,SNR=139						
MK31				⇑Sn	Sg	08 04 55.2	+0.8
	1.5nm,0.2s,baz=188,slow=32,SNR=18						
MAKZ	Makanchi	2.11	354	⇑Pn	Pg	08 04 27.5	-0.4
	2.7nm,0.4s						
MAKZ				⇑Sn	Sg	08 04 55.1	-0.1
	4.7nm,0.5s						
KAPS	Kapalarasan	2.16	286	eP	Pb	08 04 26.6	-0.7
	1.9nm,0.4s						
KAPS				eS	Sb	08 04 53.8	-0.6
	3.5nm,0.6s						
PDGK	Podgornoye	2.45	237	⇑Pn	Pb	08 04 31.6	-0.6
	2.0nm,0.5s						
PDGK				⇓Sn	Sb	08 05 02.4	-0.4
	12nm,0.7s						
UZB	Uzynbulak	2.83	238	eP	Pb	08 04 38.2	-0.6
	1.4nm,0.4s						
UZB				eS	Sb	08 05 14.0	+0.1
	2.6nm,0.2s						
MNBS	Baschi	2.86	259	eP	Pb	08 04 38.9	-0.4
	4.7nm,0.3s						
MNBS				eS	Sb	08 05 15.1	+0.4
	18nm,0.5s						
KPKS	Kokpek	2.88	246	eP	Pb	08 04 39.2	-0.3
	3.5nm,0.2s						
KPKS				eS	Sb	08 05 15.2	-0.1
	17nm,0.6s						
ARXS	Arharly	3.23	263	eP	Pb	08 04 45.1	-0.5
	1.2nm,0.6s						
ARXS				eS	Sb	08 05 25.9	+0.5
	7.3nm,0.5s						

WEL 08 08:14:21.0±0.5, 37°.23S×175°.94E, h251km±7km, ML3.6/8, 4C-1D, Error ellipse: s-maj=10.0km s-min=9.8km az=0.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	Urewera	1.39	138	⇓PN	Pn	08 14 58.8	+0.3
URZ				SN	S	08 15 27.2	-1.0
MUGZ	Murupara	1.41	152	PN	Pn	08 14 58.3	-0.4
MUGZ				SN	S	08 15 28.4	-0.1
HAZ	Te Kaha	1.56	110	⇑PN	Pn	08 15 00.2	+0.4
RUGZ	Raukumara Rang	1.56	119	PN	Pn	08 14 59.7	-0.3
MRHZ	Matea Rd	1.65	167	PN	Pn	08 15 01.0	+0.4
MWZ	Matawai	1.68	132	PN	Pn	08 15 00.8	0.0
PKGZ	Pakihiroa	1.82	112	PN	Pn	08 15 02.7	+0.6
TWGZ	Tauwhareparae	1.88	121	PN	Pn	08 15 03.0	+0.5
TWGZ				SN	S	08 15 34.6	-0.7
TWGZ				AML	AML	08 15 36.3	
SNGZ	Shannon Statio	1.91	145	PN	Pn	08 15 02.8	0.0
SNGZ				AML	AML	08 15 33.8	
SNGZ				AML	AML	08 15 36.7	
MXZ	Matakaoa Point	1.92	101	PN	Pn	08 15 03.2	+0.5
TKGZ	Te Karaka	1.94	129	PN	Pn	08 15 02.9	0.0
TKGZ				AML	AML	08 15 35.3	
TKGZ				AML	AML	08 15 37.7	
BKZ	Black Stump Fm	1.98	167	⇑PN	Pn	08 15 03.1	-0.4
BKZ				AML	AML	08 15 34.7	
WMGZ	Waiomatatini S	2.06	107	PN	Pn	08 15 04.2	+0.1
WMGZ				AML	AML	08 15 38.9	
WMGZ				AML	AML	08 15 39.1	
RIGZ	Rimuhau	2.06	136	PN	Pn	08 15 03.8	-0.4
RIGZ				AML	AML	08 15 36.2	
RIGZ				AML	AML	08 15 36.3	
WNVZ	Wahianoa	2.12	187	PN	Pn	08 15 04.8	0.0
ARHZ	Aropaoanui	2.20	158	PN	Pn	08 15 04.7	-0.6
KWHZ	Kaweka Forest	2.23	170	PN	Pn	08 15 05.2	-0.5
KWHZ				AML	AML	08 15 39.6	
KWHZ				AML	AML	08 15 40.0	
KNZ	Kokohu	2.25	143	PN	Pn	08 15 05.6	-0.3
BHHZ	Black Hill Sta	2.26	178	PN	Pn	08 15 05.2	-0.8
KRHZ	Kereru	2.44	172	PN	Pn	08 15 06.5	-1.2
WAZ	Wanganui	2.63	196	PN	Pn	08 15 09.3	-0.3
KAHZ	Kahuranaki	2.67	164	PN	Pn	08 15 08.5	-1.5
PNHZ	Pukenui	2.69	176	PN	Pn	08 15 08.5	-1.7
TSZ	Takapari Road	2.83	180	⇑PN	Pn	08 15 09.7	-1.9
OGWZ	Otaki Gorge	3.63	189	PN	Pn	08 15 17.7	-2.8
OGWZ				AML	AML	08 16 05.7	

KIW	Kapiti Island	3.72	192	PN	Pn	08 15 18.6	-2.9
CAW	Cannon Point	3.94	190	PN	Pn	08 15 20.8	-3.2
TCW	Tory Channel	4.18	197	PN	Pn	08 15 24.0	-2.9
NNZ	Nelson	4.45	206	PN	Pn	08 15 27.1	-3.0
NNZ				SN	S	08 16 19.4	-5.8
QRZ	Quartz Range	4.47	215	PN	Pn	08 15 27.3	-3.0
TUWZ	Tuamarina	4.47	200	PN	Pn	08 15 27.4	-3.0
THZ	Tophouse	5.10	206	⇑PN	Pn	08 15 34.4	-3.6
KHZ	Kahutara	5.50	199	PN	Pn	08 15 39.1	-3.7
INZ	Inchbonnie	6.49	211	PN	Pn	08 15 50.0	-5.0

*NIED **08** 08:22:00, 36°.00N×140°.30E, h50km, Mw3.6 Best double couple: M0 3.20000×10^14 NP1:φs 289.00000°, δ39.00000°, λ103.00000°. NP2:φs 93.00000°, δ52.00000°, λ80.00000°.*
*IDC **08** 08:22:34.8±1.2, 35°.96N×140°.30E, h0km, mb3.5/3, mb1 3.8/4, mb1mx3.5/32, mbtmp3.6/4, ML3.5/1, MS1.8/1, Ms1 1.8/1, ms1mx1.7/29, Error ellipse: s-maj=26.7km s-min=20.7km az=77.0*
*ISCJB **08** 08:22:38.7±0.8, 35°.98N±0°.06×140°.23E±0°.08, h45km±8km, mb3.6/3, Error ellipse: s-maj=11.3km s-min=8.9km az=142.8*
*JMA **08** 08:22:39.3±0.1, 35°.99N×140°.23E, h41km±1km, M3.5 Broadband fault plane solution: P waves. NP1: φs 123.00000°, δ85.00000°, λ116.00000°. NP2: φs 223.00000°, δ27.00000°, λ11.00000°. Principal axes: T Plg44.0000°, Azm59.0000°; N Plg26.0000°, Azm301.0000°; P Plg35.0000°, Azm191.0000°;*
JMA Felt II J1.
ISC 08 08:22:39.7±1.6, 35°.97N±0°.05×140°.16E±0°.07, h33km±4km, n9, σ1s08/15, mb3.7/3, 1C-2D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JYT	Yasato	0.26	6	⇓P	Pn	08 22 47.1	+0.3
JYT				S	Sb	08 22 52.3	+0.4
JAG	Ashikaga	0.73	308	⇓P	Pn	08 22 53.5	-0.2
JAG				S	Sn	08 23 03.8	+0.1
JRY	Ryogami san	1.02	273	⇑P	Pn	08 22 57.8	0.0
JRY				S	Sn	08 23 10.9	-0.1
MJAR	Matsushiro Arr	1.68	290	Pn	Pn	08 23 07.3	+0.6
	6.0nm,0.3s,baz=93,slow=13,SNR=28						
MJAR				Sn	Sn	08 23 28.9	+1.7
	12nm,0.3s,baz=143,slow=12,SNR=13						
MAT	Matsushiro	1.68	290	P	Pn	08 23 07.7	+0.9
MAT				eS	Sn	08 23 24.7	-2.5
JHJ	Hachijo jima 2	2.86	186	Pn	Pn	08 23 22.9	-0.1
	20nm,0.3s,baz=145,slow=23,SNR=8.7						
JHJ				Sn	Sn	08 23 57.0	+0.7
	22nm,0.3s,baz=280,slow=23,SNR=5.9						
JHJ				LR	LR	08 23 59.6	
	comp=Z,17nm,21.6s,baz=81,slow=30						
ILAR	Eielson Array	50.93	32	P	P	08 31 36.9	-0.5
	0.9nm,0.9s,baz=268,slow=5.7,SNR=9.0						
WRA	Warramunga Arr	55.88	187	P	P	08 32 13.2	-0.9
	0.3nm,0.3s,baz=1.5,slow=7.6,SNR=12						
ASAR	Alice Springs	59.61	187	P	P	08 32 41.2	+0.8
	0.1nm,0.4s,baz=20,slow=12,SNR=3.6						

*ISCJB **08** 08:25:49.0±1.4, 43°.43N±0°.09×146°.99E±0°.10, h44km±20km, Error ellipse: s-maj=17.9km s-min=7.2km az=144.8*
*JMA **08** 08:25:48.8±0.3, 43°.34N×146°.99E, h45km±4km, M3.3*
*SKHL **08** 08:25:50.9±0.9, 43°.49N×147°.00E, h29km, mb3.7/3*
ISC 08 08:25:49.0±2.9, 43°.4N±0°.1×147°.02E±0°.10, h32km±16km, n9, σ0s61/17, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHO	Shikotan	0.49	344	eP	Pn	08 25 59.9	+0.1
SHO				AMB	AMB	08 26 00.3	
	70nm,0.5s						
SHO				eS	Sb	08 26 06.3	-0.2
SHO				A	A	08 26 07.8	
	2μm,0.2s						
NEM2	Nemuro 2	0.93	268	P	Pn	08 26 05.4	-0.4
NEM2				eS	Sn	08 26 17.9	-0.1
YUK	Yuzh-Kuril'sk	1.05	308	AMB	AMB	08 26 07.1	
	180nm,0.4s						
YUK				AMB	AMB	08 26 07.1	
	60nm,0.4s						
YUK				eP	Pn	08 26 07.4	-0.1
YUK				i S	Sn	08 26 20.5	-0.5
YUK				A	A	08 26 22.0	
	650nm,0.5s						
JRA	Rausu	1.48	292	P	Pn	08 26 13.5	+0.2
JRA				eS	Sn	08 26 31.7	+0.2
JNK	Nakash	1.68	277	P	Pn	08 26 16.1	-0.1
JNK				eS	Sn	08 26 36.6	0.0
JAK	Akkeshi	1.74	257	P	Pn	08 26 17.0	0.0
JAK				eS	Sn	08 26 37.0	-1.1
KUR	Kuril'sk	1.94	18	eP	Pn	08 26 20.3	+0.7
KUR				AMB	AMB	08 26 20.6	
	40nm,0.4s						
KUR				eS	Sn	08 26 41.9	-0.9
KUR				A	A	08 26 45.5	
	150nm,0.2s						
JTKR	Abashiri--Toko	2.33	285	P	Pn	08 26 26.1	+1.1
JAR	Ashorobuto	2.37	269	P	Pn	08 26 26.3	+0.7
JAR				eS	Sn	08 26 53.9	+0.3

*ROM **08** 08:41:17.6±0.2, 44°.11N×12°.78E, h22km±2km, Md2.3/16, Ml1.9/15, Error ellipse: s-maj=2.4km s-min=2.0km az=174.0*
*ISCJB **08** 08:41:18.6±0.8, 44°.09N±0°.05×12°.70E±0°.05, h10km±9km, Error ellipse: s-maj=8.4km s-min=5.9km az=10.2*
*CSEM **08** 08:41:18.3±0.3, 44°.11N×12°.71E, h2km, ML2.7/8, Error ellipse: s-maj=5.2km s-min=4.4km az=165.0*
ISC 08 08:41:18.5±1.1, 44°.09N±0°.04×12°.73E±0°.03, h18km±8km, n33, σ0s58/52, Northern Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PESA	Pesaro	0.17	151	Pg	Pb	08 41 23.1	0.0
PESA				Sg	Sg	08 41 26.6	+0.6
	637nm,0.2s						
PESA	Pesaro	0.17	151	Pg	Pb	08 41 23.1	0.0
PESA				Sg	Sg	08 41 26.6	+0.6
	637nm,0.2s						
FSSB	Fossombrone	0.40	175	Pg	Pg	08 41 26.2	-0.5
FSSB				Sg	Sg	08 41 32.5	+0.2
	120nm,0.1s						
FSSB	Fossombrone	0.40	175	Pg	Pg	08 41 26.2	-0.5
FSSB				Sg	Sg	08 41 32.5	+0.2
	120nm,0.1s						
CPGN	Carpegna, Ital	0.41	226	Pg	Pb	08 41 27.3	-0.1
	15μm,13.0s						
CPGN	Carpegna, Ital	0.41	226	Pg	Pb	08 41 27.3	-0.1
	15μm,13.0s						
MPAG	Monte Paganucc	0.46	177	Pg	Pg	08 41 27.3	-0.6
MPAG				Sg	Sg	08 41 34.2	0.0
	61nm,0.2s						
MPAG	Monte Paganucc	0.46	177	Pg	Pg	08 41 27.3	-0.6
MPAG				Sg	Sg	08 41 34.2	0.0
	61nm,0.2s						
T0502	Localit˜ San	0.47	246	Pg	Pb	08 41 28.1	-0.1
T0502				Sg	Sb	08 41

ARVD	**Arcevia**	**0.61**	**165**	Pg	**Pg**	**08 41 30.4**	**-0.2**
	17nm,0.6s							
ATPC	**Poggio Castell**	**0.64**	**198**	Pg	**Pg**	**08 41 30.3**	**-0.8**
ATPC				Sg	**Sb**	**08 41 40.9**	**+1.1**
	50nm,0.4s							
ATPC	**Poggio Castell**	**0.64**	**198**	Pg	**Pg**	**08 41 30.3**	**-0.8**
ATPC				Sg	**Sb**	**08 41 40.9**	**+1.1**
	50nm,0.4s							
SSFR	**Montelago di S**	**0.65**	**176**	Pg	**Pg**	**08 41 30.6**	**-0.8**
	84nm,0.2s							
SSFR	**Montelago di S**	**0.65**	**176**	Pg	**Pg**	**08 41 30.6**	**-0.8**
	84nm,0.2s							
SFI	**Santa Sofia**	**0.66**	**254**	Pg	**Pg**	**08 41 31.4**	**-0.2**
	90nm,2.1s							
SFI	**Santa Sofia**	**0.66**	**254**	Pg	**Pg**	**08 41 31.4**	**-0.2**
	90nm,2.1s							
ASQU	**Asqua**	**0.74**	**247**	Pg	**Pb**	**08 41 32.9**	**0.0**
ASQU	**Asqua**	**0.74**	**247**	Pg	**Pb**	**08 41 32.9**	**0.0**
ATVO	**AVT- Monte Val**	**0.74**	**198**	Pg	**Pg**	**08 41 32.5**	**-0.6**
ATVO				Sg	**Sb**	**08 41 43.4**	**+0.6**
	23nm,0.4s							
ATVO	**AVT- Monte Val**	**0.74**	**198**	Pg	**Pg**	**08 41 32.5**	**-0.6**
ATVO				Sg	**Sb**	**08 41 43.4**	**+0.6**
	23nm,0.4s							
MURB	**Monte Urbino**	**0.84**	**190**	Pg	**Pg**	**08 41 34.5**	**-0.4**
	51nm,0.3s							
MURB	**Monte Urbino**	**0.84**	**190**	Pg	**Pg**	**08 41 34.5**	**-0.4**
	51nm,0.3s							
ATCC	**AVT- Casa Cast**	**0.91**	**184**	Pg	**Pg**	**08 41 35.1**	**-1.0**
	40nm,0.6s							
ATCC	**AVT- Casa Cast**	**0.91**	**184**	Pg	**Pg**	**08 41 35.1**	**-1.0**
	40nm,0.6s							
NVLJ	**Novalja**	**1.61**	**72**	*e*Pn	**Pb**	**08 41 47.8**	**+0.1**
NVLJ				Sn	**Sg**	**08 42 10.3**	**-0.1**
NVLJ	**Novalja**	**1.61**	**72**	*e*Pn	**Pb**	**08 41 47.8**	**+0.1**
NVLJ				Sn	**Sg**	**08 42 10.3**	**-0.1**

*NEIC **08** 08:44:28.8±0.0, 58.˚40N×133.˚47W, h5km, ML2.5(AEIC), ML2.8(OTT), After OTT.*

PGC 08 08:44:28.8±16.0, 58.˚40N×133.˚47W, h5km, ML2.8/5, 56km east of Juneau, Ak Southeastern Alaska, Southeastern Alaska

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JIS	**Juneau Island**	**0.50**	**256**	P	Pg	08 44 36.3	-2.0
JIS				S	Sg	08 44 42.7	-2.0
BESE	**Bessie Mountai**	**0.75**	**284**	P	Pg	08 44 41.5	-1.6
BESE				S	Sg	08 44 51.7	-1.1
SKAG	**Skagway**	**1.43**	**319**	P	Pn	08 44 55.6	+0.2
SKAG				S	Sg	08 45 15.6	+0.8
DLBC	**Dease Lake**	**1.81**	**87**	Pn	Pn	08 44 59.5	-1.2
DLBC				Sg	Sn	08 45 24.4	+0.3
DLBC	**Dease Lake**	**1.81**	**87**	P	Pn	08 45 01.1	+0.3
DLBC				S	Sg	08 45 26.3	-0.7
PLBC	**Pleasant Camp**	**1.84**	**306**	Pn	Pn	08 45 00.8	-0.1
PLBC				Sg	Sn	08 45 24.7	+0.2
PLBC	**Pleasant Camp**	**1.84**	**306**	P	Pn	08 45 00.8	-0.1
PLBC				S	Sn	08 45 25.0	+0.4
WRAK	**Wrangell Islan**	**2.08**	**162**	P	Pn	08 45 01.9	-2.3
WHY	**Whitehorse**	**2.38**	**343**	Pn	Pn	08 45 07.1	-1.4
WHY				Sg	Sb	08 45 42.6	+0.8
WHY	**Whitehorse**	**2.38**	**343**	P	Pn	08 45 08.5	0.0
HYT	**Haines Junctio**	**3.18**	**322**	Pn	Pn	08 45 19.4	-0.1
HYT				Pg	Pb	08 45 25.7	-0.1
HYT				Sg	Sb	08 46 06.7	+1.9
YUK6	**Outpost Mounta**	**3.56**	**318**	Sg	Sb	08 46 17.2	+1.4
YUK2	**White River**	**5.01**	**316**	Sg	Sg	08 47 08.5	-1.1
FNBB	**Fort Nelson**	**5.49**	**80**	Sg	Sg	08 47 19.5	-5.3
DAWY	**Dawson**	**6.36**	**336**	Pg	Pb	08 46 24.3	+4.4
DAWY				Sg	Sg	08 47 46.7	-6.0

IDC 08 08:54:13.4±2.8, 7.˚57S×114.˚61E, h0km, mb3.4/3, mb1 3.7/3, mb1mx3.4/32, mbtmp3.4/3, MS4.3/1, Ms1 4.3/1, ms1mx3.1/14, Error ellipse: s-maj=191.5km s-min=25.8km az=48.0, Bali Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**22.74**	**125**	P	P	08 59 16.4	-0.9
	0.4nm,0.6s,baz=303,slow=9.1,SNR=3.6						
ASAR	**Alice Springs**	**24.47**	**133**	P	P	08 59 35.4	+1.0
	0.2nm,0.5s,baz=303,slow=8.6,SNR=4.1						
CMAR	**Chiang Mai Arr**	**30.12**	**329**	P	P	09 00 25.1	-0.1
	1.3nm,0.3s,baz=150,slow=9.6,SNR=5.9						
PMG	**Port Moresby**	**32.24**	**96**	LR	LR	09 14 27.9	
	comp=Z,464nm,18.3s,baz=28,slow=38						

WEL 08 08:56:38.4±0.3, 37.˚67S×176.˚13E, h183km±3km, ML3.7/33, 2C-10D, Error ellipse: s-maj=3.5km s-min=3.2km az=90.0, North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MUGZ	**Murupara**	**0.96**	**148**	PN	Pn	08 57 06.4	+0.3
URZ	**Urewera**	**0.98**	**128**	PN	Pn	08 57 06.4	+0.2
URZ				SN	Sn	08 57 27.3	-0.4
URZ				AML	AML	08 57 28.9	
RTZ	**Ruatahuna**	**1.16**	**145**	⇓PN	Pn	08 57 07.8	+0.1
RTZ				SN	Sn	08 57 30.1	-0.4
MRHZ	**Matea Rd**	**1.19**	**169**	PN	Pn	08 57 08.1	+0.2
MRHZ				SN	Sn	08 57 30.3	-0.6
MRHZ				AML	AML	08 57 32.2	
RUGZ	**Raukumara Rang**	**1.27**	**104**	PN	Pn	08 57 08.1	-0.5
MWZ	**Matawai**	**1.29**	**121**	PN	Pn	08 57 08.6	-0.1
MWZ				AML	AML	08 57 34.4	
MWZ				AML	AML	08 57 42.1	
RAGZ	**Rawiri**	**1.31**	**130**	PN	Pn	08 57 09.3	+0.3
RAGZ				AML	AML	08 57 34.6	
RAGZ				AML	AML	08 57 43.4	
HAZ	**Te Kaha**	**1.32**	**94**	⇓PN	Pn	08 57 08.7	-0.2
HAZ				SN	Sn	08 57 32.1	-0.4
HAZ				AML	AML	08 57 32.5	
HAZ				AML	AML	08 57 32.5	
HAZ				AML	AML	08 57 32.7	
SNGZ	**Shannon Statio**	**1.47**	**140**	PN	Pn	08 57 10.4	+0.1
SNGZ				AML	AML	08 57 35.6	
SNGZ				AML	AML	08 57 40.7	
WTVZ	**West Tongariro**	**1.51**	**196**	PN	Pn	08 57 11.1	+0.3
BKZ	**Black Stump Fm**	**1.53**	**169**	⇓PN	Pn	08 57 10.4	-0.4
BKZ				AML	AML	08 57 35.0	
BKZ				AML	AML	08 57 35.2	
NMHZ	**Naumai**	**1.53**	**160**	PN	Pn	08 57 11.4	+0.5
NMHZ				AML	AML	08 57 44.5	
NMHZ				AML	AML	08 57 45.3	
TWGZ	**Tauwhareparae**	**1.55**	**110**	PN	Pn	08 57 11.4	+0.3
TWGZ				SN	Sn	08 57 36.7	+0.2
TWGZ				AML	AML	08 57 40.4	
NGZ	**Ngauruhoe**	**1.56**	**195**	PN	Pn	08 57 11.9	+0.6
PKGZ	**Pakihiroa**	**1.56**	**99**	PN	Pn	08 57 11.3	+0.1
TKGZ	**Te Karaka**	**1.56**	**120**	PN	Pn	08 57 11.3	+0.2
TKGZ				AML	AML	08 57 39.7	
TKGZ				AML	AML	08 57 39.8	
TUVZ	**Tukino**	**1.64**	**193**	PN	Pn	08 57 12.3	+0.2
FWVZ	**Far West T-bar**	**1.65**	**196**	PN	Pn	08 57 12.7	+0.5
RIGZ	**Rimuhau**	**1.66**	**129**	PN	Pn	08 57 12.1	0.0
RIGZ				AML	AML	08 57 39.8	
RIGZ				AML	AML	08 57 40.4	
WHHZ	**Waihua**	**1.66**	**149**	PN	Pn	08 57 12.1	0.0
WHHZ				AML	AML	08 57 38.3	
WHHZ				AML	AML	08 57 42.9	
WHVZ	**Whangaehu Hut**	**1.67**	**194**	⇑PN	Pn	08 57 12.6	+0.1
WNVZ	**Wahianoa**	**1.71**	**194**	⇓PN	Pn	08 57 12.7	-0.1
PKVZ	**Pokaka**	**1.73**	**200**	PN	Pn	08 57 13.0	+0.1
ARHZ	**Aropaoanui**	**1.74**	**157**	PN	Pn	08 57 12.9	0.0
ARHZ				AML	AML	08 57 39.2	
ARHZ				AML	AML	08 57 40.8	
MXZ	**Matakaoa Point**	**1.74**	**87**	PN	Pn	08 57 13.4	+0.5
PUZ	**Puketiti**	**1.74**	**104**	PN	Pn	08 57 12.5	-0.4
MOVZ	**Moawhango**	**1.76**	**189**	PN	Pn	08 57 12.6	-0.6
KWHZ	**Kaweka Forest**	**1.77**	**173**	PN	Pn	08 57 13.0	-0.3
KWHZ				AML	AML	08 57 39.8	
KWHZ				AML	AML	08 57 43.8	
MTVZ	**Mangateitei**	**1.79**	**196**	PN	Pn	08 57 13.5	0.0
KNZ	**Kokohu**	**1.82**	**139**	⇓PN	Pn	08 57 13.3	-0.4
BHHZ	**Black Hill Sta**	**1.82**	**182**	⇓PN	Pn	08 57 13.0	-0.8
BHHZ				AML	AML	08 57 43.5	
WMGZ	**Waiomatatini S**	**1.82**	**96**	PN	Pn	08 57 13.6	-0.1
WMGZ				AML	AML	08 57 42.1	
WMGZ				AML	AML	08 57 42.2	
MCHZ	**McNeill Hill**	**1.83**	**166**	PN	Pn	08 57 14.0	+0.2
CNGZ	**Carnagh Statio**	**1.84**	**117**	PN	Pn	08 57 14.5	+0.6
PRGZ	**Paritu Road**	**1.87**	**133**	PN	Pn	08 57 14.0	-0.3
PRGZ				AML	AML	08 57 43.9	
PRGZ				AML	AML	08 57 45.0	
KRHZ	**Kereru**	**1.98**	**175**	PN	Pn	08 57 14.8	-0.7
KRHZ				AML	AML	08 57 45.1	
KRHZ				AML	AML	08 57 45.2	
MHGZ	**Mahia Peninsul**	**2.04**	**137**	PN	Pn	08 57 15.7	-0.3
CKHZ	**Cape Kidnapper**	**2.12**	**160**	⇓PN	Pn	08 57 16.4	-0.6
CKHZ				AML	AML	08 57 47.4	
CKHZ				AML	AML	08 57 47.6	
KAHZ	**Kahuranaki**	**2.21**	**165**	⇓PN	Pn	08 57 17.2	-0.7
KAHZ				AML	AML	08 57 49.4	
KAHZ				AML	AML	08 57 49.9	
PNHZ	**Pukenui**	**2.25**	**179**	PN	Pn	08 57 17.0	-1.3
PNHZ				AML	AML	08 57 49.1	
PNHZ				AML	AML	08 57 50.9	
WAZ	**Wanganui**	**2.27**	**203**	PN	Pn	08 57 18.3	-0.3
TSZ	**Takapari Road**	**2.39**	**183**	PN	Pn	08 57 18.4	-1.6
TSZ				AML	AML	08 57 51.8	
WPHZ	**Waipukurau**	**2.41**	**174**	PN	Pn	08 57 18.7	-1.4
PXZ	**Pawanui**	**2.43**	**167**	⇓PN	Pn	08 57 18.9	-1.4
PXZ				AML	AML	08 57 53.3	
OHWZ	**Ohakea**	**2.61**	**194**	PN	Pn	08 57 21.5	-1.0
PRHZ	**Porangahau**	**2.63**	**171**	PN	Pn	08 57 21.0	-1.7
PRHZ				AML	AML	08 57 57.0	
PRHZ				AML	AML	08 57 57.0	
ANWZ	**Angora Road**	**2.80**	**175**	⇑PN	Pn	08 57 22.9	-1.8
ANWZ				AML	AML	08 57 58.4	
ANWZ				AML	AML	08 58 01.1	
PRWZ	**Pori Road**	**2.89**	**182**	PN	Pn	08 57 23.9	-1.8
PRWZ				AML	AML	08 58 01.3	
MRZ	**Mangatainoka R**	**3.02**	**188**	AML	AML	08 58 03.0	
MRZ				AML	AML	08 58 03.4	
OGWZ	**Otaki Gorge**	**3.23**	**193**	PN	Pn	08 57 27.4	-2.6
OGWZ				AML	AML	08 58 07.2	
OGWZ				AML	AML	08 58 08.3	
HOWZ	**Holdsworth Sta**	**3.26**	**188**	PN	Pn	08 57 27.2	-3.1
KIW	**Kapiti Island**	**3.33**	**196**	PN	Pn	08 57 28.1	-3.0
TMWZ	**Te Maipa**	**3.44**	**183**	PN	Pn	08 57 29.5	-3.0
TMWZ				AML	AML	08 58 11.3	
MTW	**Mount Morrison**	**3.52**	**188**	PN	Pn	08 57 29.9	-3.6
CAW	**Cannon Point**	**3.53**	**193**	PN	Pn	08 57 30.5	-3.2
CAW				AML	AML	08 58 15.2	
DUWZ	**D'Urville Isla**	**3.57**	**208**	PN	Pn	08 57 31.3	-2.8
TRWZ	**Traveller**	**3.74**	**185**	PN	Pn	08 57 32.9	-3.4
MSWZ	**Moikau Station**	**3.81**	**190**	PN	Pn	08 57 33.2	-3.9
MSWZ				AML	AML	08 58 19.0	
MSWZ				AML	AML	08 58 19.0	
TCW	**Tory Channel**	**3.82**	**201**	PN	Pn	08 57 34.1	-3.2
TCW				AML	AML	08 58 20.7	
PLWZ	**Palliser**	**3.96**	**190**	PN	Pn	08 57 34.9	-4.1
TUWZ	**Tuamarina**	**4.12**	**203**	PN	Pn	08 57 37.6	-3.5
TUWZ				AML	AML	08 58 25.9	
NNZ	**Nelson**	**4.13**	**210**	PN	Pn	08 57 37.8	-3.4
QRZ	**Quartz Range**	**4.21**	**220**	PN	Pn	08 57 38.8	-3.5
BSWZ	**Blackbirch Sta**	**4.40**	**203**	PN	Pn	08 57 41.2	-3.5
THZ	**Tophouse**	**4.79**	**210**	PN	Pn	08 57 45.8	-3.8
KHZ	**Kahutara**	**5.14**	**202**	⇓PN	Pn	08 57 50.0	-4.2
DSZ	**Denniston Nort**	**5.26**	**218**	PN	Pn	08 57 51.6	-4.2
LTZ	**Lake Taylor**	**5.90**	**209**	PN	Pn	08 57 59.7	-4.4
INZ	**Inchbonnie**	**6.19**	**214**	PN	Pn	08 58 03.7	-4.2
OXZ	**Oxford**	**6.45**	**208**	PN	Pn	08 58 05.9	-5.4
MQZ	**McQueen's Vall**	**6.58**	**203**	PN	Pn	08 58 06.4	-6.6
ODZ	**Otahua Downs**	**8.44**	**207**	PN	Pn	08 58 32.3	-5.1

*IDC **08** 08:58:43.8±0.7, 16.˚17S×177.˚79E, h0km, mb4.3/14, mb1 4.5/14, mb1mx4.3/29, mbtmp4.3/14, MS4.3/25, Ms1 4.3/25, ms1mx4.2/30, Error ellipse: s-maj=25.1km s-min=16.4km az=133.0*

*BJI **08** 08:58:44.9, 17.˚23S×177.˚72E, h26km, mb4.9/15, mB5.1/10, Ms4.8/8, Ms7 4.6/6*

*ISCJB **08** 08:58:45.5±0.2, 16.˚34S±0.˚04×177.˚91E±0.˚05, h21km, mb4.9/84, MS4.3/25, Error ellipse: s-maj=7.8km s-min=5.1km az=35.1*

*NEIC **08** 08:58:49.3±0.2, 16.˚36S×177.˚85E, h35km, mb5.1/68, Error ellipse: s-maj=8.9km s-min=4.7km az=128.0*

*GCMT **08** 08:58:49.3±0.1, 16.˚23S×177.˚88E, h16km, MW5.2/112, Moment Tensor Solution. s62,c87; s112,c187; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}0.60±.14; $M_{\theta\theta}$-0.89±.13; $M_{\phi\phi}$0.28±.12; $M_{r\theta}$1.50±.36; $M_{r\phi}$6.56±.11; $M_{\theta\phi}$-0.50±.34; Best double couple: M_o6.75800×10^{16} NP1:ϕ=267.00000°, δ87.00000°, λ-12.00000°. NP2: ϕ=358.00000°, δ78.00000°, λ-177.00000°. Principal axes: T 6.3590, Plg7.0000°, Azm313.0000°; N 0.7980, Plg78.0000°, Azm75.0000°; P -7.1570, Plg11.0000°, Azm222.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

ISC 08 08:58:47.0±0.4, 16.˚40S±0.˚06×178.˚10E±0.˚08, h21km, n229, σ1.˚09/216, mb5.1/84, MS4.4/26, 1C, Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MSVF	**Nonsavu**	**1.32**	**182**	*e*Pn	**Pn**	**08 59 08.5**	**-1.9**
MSVF				*e*Sn	**Sb**	**08 59 28.7**	**+0.9**
AFI	**Afiamalu**	**10.09**	**77**	LR	LR	09 04 21.9	
	comp=Z,2μm,19.2s,baz=256,slow=33						
DZM	**Mont Dzumac**	**12.36**	**241**	LR	LR	09 05 40.4	
	comp=Z,3μm,21.7s,baz=64,slow=34						
DZM	**Mont Dzumac**	**12.36**	**241**	*e*LR	LR	09 04 44.9	
	6μm,26.6s						
RAO	**Raoul Island**	**13.30**	**165**	LR	LR	09 06 06.6	
	comp=Z,2μm,19.5s,baz=336,slow=32						
HNR	**Honiara**	**18.99**	**289**	LR	LR	09 09 10.5	
	comp=Z,516nm,20.9s,baz=124,slow=34						
RAR	**Rarotonga**	**21.48**	**106**	LR	LR	09 11 37.7	
	comp=Z,176nm,18.7s,baz=278,slow=36						
URZ	**Urewera**	**21.79**	**182**	P	**P**	**09 03 39.7**	**+2.1**
	8.5nm,0.9s,baz=61,slow=4.4,SNR=3.5						
URZ				LR	LR	09 10 54.5	
	comp=Z,2μm,18.8s,baz=7.0,slow=33						
URZ	**Urewera**	**21.79**	**182**	*e*P	**P**	**09 03 39.5**	**+2.0**
	75nm,1.4s						
HIZ	**Hauiti**	**22.21**	**187**	*e*P	**P**	**09 03 42.6**	**+0.6**
	250nm,1.8s						
BFZ	**Birch Farm**	**24.25**	**183**	*e*P	**P**	**09 04 04.1**	**+1.6**
	115nm,0.7s						
EIDS	**Eidsvold**	**26.73**	**246**	*e*P	**P**	**09 04 25.4**	**+0.2**
	13nm,1.2s						
RPZ	**Rata Peaks**	**27.88**	**191**	LR	LR	09 15 10.6	
	comp=Z,722nm,18.1s,baz=357,slow=35						
CTA	**Charters Tower**	**30.44**	**258**	P	**P**	**09 04 56.4**	**-1.9**
	8.2nm,1.1s,baz=68,slow=11,SNR=2.7						
PPT2	**Papeete2**	**30.92**	**97**	*e*S	**S**	**09 10 04.6**	**-1.5**
	131nm,25.2s						
PPT2				*e*LQ	LQ	09 11 52.1	
	3μm,26.5s						
PPT2				*e*LR	LR	09 13 10.7	
	2μm,28.8s,baz=263						
PPT	**Papeete**	**30.92**	**97**	LR	LR	09 14 20.7	
	comp=Z,164nm,20.4s,baz=267,slow=30						
TBI	**Tubuai**	**31.23**	**108**	*e*LQ	LQ	09 12 01.2	
	3μm,26.0s						
TBI				*e*LR	LR	09 13 15.1	
	2μm,31.0s,baz=279						
H11S2	**WAKE ISLAND Hy**	**36.44**	**342**	T	T	09 44 09.6	
	baz=163,slow=76,SNR=23						
H11S3	**WAKE ISLAND Hy**	**36.45**	**342**	T	T	09 44 11.0	
	baz=163,slow=76,SNR=18						
H11S1	**WAKE ISLAND Hy**	**36.46**	**342**	T	T	09 44 09.8	
	baz=163,slow=76,SNR=26						
STKA	**Stephens Creek**	**36.50**	**238**	P	**P**	**09 05 51.1**	**+0.1**
	9.4nm,0.8s,baz=63,slow=6.5,SNR=17						
STKA				LR	LR	09 18 52.1	
	comp=Z,754nm,21.2s,baz=67,slow=33						
STKA	**Stephens Creek**	**36.50**	**238**	*e*P	**P**	**09 05 50.9**	**-0.1**
	2.6nm,0.8s						
WB2	**Warramunga Arr**	**41.63**	**258**	*e*P	**P**	**09 06 31.9**	**-2.2**
WR1	**Warramunga Arr**	**41.64**	**258**	*e*P	**P**	**09 06 31.3**	**-2.9**
	40nm,1.9s						
WRA	**Warramunga Arr**	**41.64**	**258**	P	**P**	**09 06 31.3**	**-2.9**
	3.2nm,0.9s,baz=95,slow=8.8,SNR=12						
WRA				LR	LR	09 21 34.1	
	comp=Z,369nm,20.4s,baz=95,slow=33						
AS01	**Alice Springs**	**41.97**	**253**	*e*P	**P**	**09 06 34.9**	**-1.9**
AS31	**Alice Springs**	**42.01**	**253**	*e*P	**P**	**09 06 35.7**	**-1.5**
	2.7nm,0.8s						
ASAR	**Alice Springs**	**42.01**	**253**	P	**P**	**09 06 35.2**	**-2.0**
	8.8nm,0.9s,baz=83,slow=7.9,SNR=39						
ASAR				LR	LR	09 22 07.9	
	comp=Z,821nm,21.8s,baz=89,slow=34						
RKT	**Rikitea**	**44.52**	**106**	*e*S	**S**	**09 13 30.1**	**-1.9**
	364nm,29.8s						
RKT				*e*LQ	LQ	09 17 17.2	
	1μm,31.0s						
RKT				*e*LR	LR	09 19 22.7	
	1μm,30.0s,baz=273						
VNDA	**Vanda**	**61.68**	**184**	P	**P**	**09 09 04.8**	**+1.8**
	0.7nm,0.8s,baz=356,slow=6.6,SNR=3.8						
VNDA				LR	LR	09 32 48.9	
	comp=Z,233nm,19.1s,baz=25,slow=33						
MJAR	**Matsushiro Arr**	**64.74**	**325**	P	**P**	**09 09 22.4**	**-1.4**
	3.5nm,1.1s,baz=156,slow=6.5,SNR=6.2						
MJAR				LR	LR	09 31 59.8	
	comp=Z,200nm,21.8s,baz=135,slow=31						
KSRS	**Korea Array**	**71.38**	**320**	LR	LR	09 36 13.0	
	comp=Z,221nm,21.4s,baz=118,slow=32						
PETK	**Petropavlovsk-**	**71.43**	**347**	P	**P**	**09 10 05.0**	**-0.6**
	3.1nm,0.8s,baz=100,slow=8.3,SNR=3.6						
PETK				LR	LR	09 38 21.1	
	comp=Z,99nm,18.9s,baz=163,slow=33						
PEA1	**Petropavlovsk-**	**71.43**	**347**	*e*P	**P**	**09 10 05.0**	**-0.6**
USRK	**Ussuriysk Ar.**	**73.52**	**327**	LR	LR	09 37 20.1	
	comp=Z,208nm,21.0s,baz=137,slow=32						
QSPA	**South Pole Qui**	**73.64**	**180**	*e*P	**P**	**09 10 19.1**	**+0.3**
NJ2	**Nanjing**	**74.42**	**311**	*e*P	**P**	**09 10 23.6**	**-0.1**
NJ2				pmax	pmax		
	comp=Z,84nm,1.2s						
QIZ	**Qiongzhong**	**75.79**	**295**	P	**P**	**09 10 30.9**	**-1.0**
QIZ				S	**S**	**09 20 11.6**	**-1.6**
QIZ				LR	LR		
	comp=E,160nm,15.7s						
KMRM	**Mail Ridge**	**78.06**	**42**	*e*P	**P**	**09 10 46.5**	**+2.1**
	38nm,1.2s						
KHMM	**Horse Mountain**	**78.41**	**41**	*e*P	**P**	**09 10 48.9**	**+2.5**
	38nm,1.3s						
VES	**Vestal, Richgr**	**78.89**	**47**	P	**P**	**09 10 49.1**	**+0.1**
	baz=241						
CMB	**Columbia Colle**	**79.09**	**45**	*e*P	**P**	**09 10 50.7**	**+0.6**
	10nm,1.1s						
N02D	**Trinity Center**	**79.11**	**41**	P	**P**	**09 10 49.8**	**-0.3**
	baz=237						
ORV	**Oroville**	**79.13**	**43**	*e*P	**P**	**09 10 50.8**	**+0.6**
	12nm,1.3s						
AFDM	**Forest Hills D**	**79.17**	**44**	*e*P	**P**	**09 10 51.8**	**+1.4**
	11nm,1.2s						
EDW2	**Edwards Air Fo**	**79.20**	**49**	P	**P**	**09 10 50.5**	**-0.3**
	baz=242						
M02C	**Callahan**	**79.25**	**41**	P	**P**	**09 10 50.9**	**0.0**
	baz=237						
MONP	**Monument Peak,**	**79.43**	**51**	P	**P**	**09 10 52.3**	**+0.1**
	baz=243						
IKP	**In-Ko-Pah, Jac**	**79.55**	**51**	P	**P**	**09 10 52.0**	**-0.8**
	baz=243						
LRMC	**Laurel Mtn Rad**	**79.72**	**48**	P	**P**	**09 10 53.5**	**-0.1**
	baz=242						
PFO	**Pinyon Flats O**	**79.73**	**50**	P	**P**	**09 10 55.2**	**+1.4**
	1.0nm,0.6s,baz=258,slow=9.6,SNR=3.3						
PFO	**Pinyon Flats O**	**79.73**	**50**	P	**P**	**09 10 53.6**	**-0.2**
	baz=243						
PFO	**Pinyon Flats O**	**79.73**	**50**	*e*P	**P**	**09 10 55.1**	**+1.3**
	7.9nm,1.2s						
TPFO	**Pinon Flats**	**79.73**	**50**	P	**P**	**09 10 53.7**	**-0.1**
	baz=243						
CWC	**Cottonwood Cre**	**79.89**	**47**	P	**P**	**09 10 53.6**	**-1.0**
	baz=241						
SWSC	**Sam W. Stewart**	**79.92**	**51**	P	**P**	**09 10 54.6**	**0.0**
	baz=243						
MLAC	**Mammoth, Mammo**	**79.95**	**46**	P	**P**	**09 10 55.4**	**+0.4**
	baz=240						
WAKR	**Walker**	**79.97**	**45**	*e*P	**P**	**09 10 56.4**	**+1.4**
	28nm,1.5s						
M04C	**Macdoel**	**80.10**	**41**	P	**P**	**09 10 55.6**	**+0.1**
	baz=238						
MPMC	**Manual Prospec**	**80.13**	**48**	P	**P**	**09 10 55.7**	**-0.3**
	baz=242,SNR=20						
PNTR	**Pine Nut**	**80.16**	**44**	*e*P	**P**	**09 10 57.2**	**+1.1**
BELC	**Belle Mtn. Jos**	**80.25**	**50**	P	**P**	**09 10 56.1**	**-0.5**
	baz=243,SNR=6.5						
GSC	**Goldstone, Bar**	**80.26**	**49**	P	**P**	**09 10 56.7**	**+0.1**
	baz=242						
TVH3	**East Aurora ar**	**80.32**	**45**	*e*P	**P**	**09 10 58.0**	**+1.1**
	16nm,1.4s						
YERR	**Yerington**	**80.35**	**45**	*e*P	**P**	**09 10 57.6**	**+0.6**
	22nm,1.5s						
TVH2	**Borealis Mine**	**80.37**	**45**	*e*P	**P**	**09 10 58.0**	**+0.8**
	16nm,1.5s						
HEC	**Hector,Ludlow**	**80.38**	**49**	P	**P**	**09 10 56.5**	**-0.7**
	baz=243						
BJI	**Beijing**	**80.39**	**317**	P	**P**	**09 10 57.9**	**+1.0**
BJI				PP	**PP**	**09 14 00.9**	**+0.6**
BJI				S	**S**	**09 21 02.6**	**+0.7**
BJI				pmax	pmax		
	comp=Z,7.0nm,0.7s						
BJI				LR	LR		
	comp=N,200nm,20.8s						
BJI				LR	LR		
	comp=E,130n

TUC	**Tucson**	**83.47**	**54**	*e*P	**P**	**09 11 14.9**	**+1.4**
	23nm,1.4s						
RND	**Reindeer**	**83.60**	**14**	*e*P	**P**	**09 11 13.4**	**0.0**
	19nm,1.0s						
LCMT	**Little Creek M**	**83.61**	**49**	*e*P	**P**	**09 11 15.2**	**+1.1**
	18nm,1.4s						
LTY	**Liberty**	**83.73**	**37**	*e*P	**P**	**09 11 14.6**	**+0.1**
	7.4nm,1.2s						
CCUT	**Cedar City**	**83.75**	**48**	*e*P	**P**	**09 11 15.2**	**+0.1**
	18nm,1.3s						
X16A	**Lo Mia Camp, P**	**83.83**	**52**	*e*P	**P**	**09 11 16.8**	**+1.4**
	19nm,1.4s						
HHC	**Hu-ho-hao-te**	**83.85**	**316**	*e*P	**P**	**09 11 16.8**	**+1.5**
HHC				sP	sP	09 11 28.0	+3.2
HHC				S	**S**	**09 21 42.5**	**+4.7**
HHC				sS	ScS	09 21 55.0	+4.5
HHC				pmax	pmax		
	comp=Z,28nm,0.9s						
HHC				pmax	pmax		
	comp=Z,93nm,7.5s						
HHC				LR	LR		
	comp=N,200nm,16.2s						
HHC				LR	LR		
	comp=E,280nm,23.0s						
HHC				LR	LR		
	comp=Z,160nm,18.6s						
MCK	**McKinley**	**83.86**	**14**	*e*P	**P**	**09 11 14.3**	**-0.4**
	18nm,1.3s						
HAWA	**Hanford**	**83.94**	**38**	*e*P	**P**	**09 11 15.6**	**+0.1**
SZCU	**Shurtz Canyon**	**83.97**	**48**	*e*P	**P**	**09 11 18.0**	**+1.9**
	30nm,1.4s						
U15A	**North Rim**	**84.04**	**49**	*e*P	**P**	**09 11 17.7**	**+1.1**
	20nm,1.0s						
MAW	**Mawson**	**84.12**	**200**	P	**P**	**09 11 15.8**	**-0.3**
	1.6nm,0.8s,baz=133,slow=5.1,SNR=5.3						
MAW				LR	LR	09 44 30.8	
	comp=Z,195nm,20.9s,baz=68,slow=33						
MAW	**Mawson**	**84.12**	**200**	*e*P	**P**	**09 11 17.6**	**+1.5**
	1.9nm,1.1s						
KMI	**Kunming**	**84.18**	**298**	P	**P**	**09 11 17.6**	**+0.1**
KMI				pmax	pmax		
	comp=Z,14nm,0.5s						
KMI				pmax	pmax		
	comp=Z,110nm,4.1s						
WUAZ	**Wupatki**	**84.34**	**51**	P	**P**	**09 11 18.4**	**+0.5**
	baz=246						
WUAZ	**Wupatki**	**84.34**	**51**	*e*P	**P**	**09 11 19.2**	**+1.2**
	24nm,1.4s						
PKCU	**Pink Cliffs**	**84.46**	**49**	*e*P	**P**	**09 11 20.9**	**+2.1**
	43nm,1.6s						
WRH	**Wood River Hil**	**84.68**	**14**	*e*P	**P**	**09 11 20.0**	**+1.2**
	19nm,1.4s						
MFID	**Camas Ranch**	**84.75**	**42**	*e*P	**P**	**09 11 20.9**	**+1.1**
	28nm,1.5s						
MTPU	**Mount Pierson**	**84.81**	**48**	*e*P	**P**	**09 11 21.8**	**+1.3**
	22nm,1.3s						
CCB	**Clear Creek Bu**	**84.90**	**14**	*e*P	**P**	**09 11 19.9**	**0.0**
	9.8nm,1.1s						
MSU	**Marysvale**	**85.02**	**48**	*e*P	**P**	**09 11 22.7**	**+1.3**
MDM	**Murphy Dome**	**85.06**	**14**	*e*P	**P**	**09 11 20.9**	**+0.1**
	20nm,1.4s						
COLA	**College**	**85.08**	**14**	*e*P	**P**	**09 11 20.8**	**+0.1**
	38nm,1.8s						
F10A	**Beach Ranch, E**	**85.11**	**39**	*e*P	**P**	**09 11 22.3**	**+0.8**
	21nm,1.3s						
IL1	**Eielson Array**	**85.22**	**14**	*e*P	**P**	**09 11 20.5**	**-1.1**
ILAR	**Eielson Array**	**85.22**	**14**	P	**P**	**09 11 20.4**	**-1.1**
	3.3nm,1.0s,baz=233,slow=5.9,SNR=18						
ILAR				LR	LR	09 42 30.7	
	comp=Z,177nm,21.4s,baz=231,slow=31						
ILB	**Eielson Array**	**85.22**	**14**	*e*P	**P**	**09 11 21.5**	**0.0**
CMAR	**Chiang Mai Arr**	**85.23**	**291**	P	**P**	**09 11 19.4**	**-3.2**
	0.5nm,0.3s,baz=101,slow=3.8,SNR=3.0						
CMAR				LR	LR	09 47 59.2	
	comp=Z,69nm,20.0s,baz=158,slow=35						
DUG	**Dugway, Tooele**	**85.30**	**46**	P	**P**	**09 11 23.1**	**+0.4**
	baz=244						
DUG	**Dugway, Tooele**	**85.30**	**46**	*e*P	**P**	**09 11 23.4**	**+0.7**
	21nm,1.5s						
W18A	**Petrified Fore**	**85.40**	**52**	P	**P**	**09 11 23.1**	**-0.3**
	baz=247						
HLID	**Hailey**	**85.73**	**42**	P	**P**	**09 11 24.8**	**0.0**
	baz=243						
HLID	**Hailey**	**85.73**	**42**	*e*P	**P**	**09 11 25.9**	**+1.1**
	8.1nm,1.0s						
121A	**Cookes Peak, D**	**85.89**	**55**	P	**P**	**09 11 24.4**	**-1.5**
	baz=248						
HVU	**Hansel Valley**	**86.02**	**44**	*e*P	**P**	**09 11 27.2**	**+1.0**
	22nm,1.2s						
TMUT	**Trail Mountain**	**86.03**	**47**	*e*P	**P**	**09 11 27.8**	**+1.2**
	35nm,1.6s						
NEW	**Newport**	**86.30**	**37**	P	**P**	**09 11 26.7**	**-0.6**
	baz=241						
JLU	**Jordanelle**	**86.41**	**46**	*e*P	**P**	**09 11 30.4**	**+2.1**
	22nm,1.4s						
SRU	**San Rafael Swe**	**86.44**	**48**	*e*P	**P**	**09 11 28.9**	**+0.5**
	16nm,1.3s						
MCMT	**McKenzie Canyo**	**87.31**	**42**	*e*P	**P**	**09 11 34.1**	**+1.5**
LZH	**Lanzhou**	**87.34**	**309**	*e*P	**P**	**09 11 34.0**	**+1.2**
LZH				pP	pP	09 11 41.0	+1.2
LZH				sP	sP	09 11 43.8	+1.5
LZH				PP	**PP**	**09 15 00.5**	**+3.0**
LZH				pmax	pmax		
	comp=Z,17nm,1.5s						
LZH				pmax	pmax		
	comp=Z,83nm,9.2s						
LZH				LR	LR		
	comp=N,380nm,17.0s						
LZH				LR	LR		
	comp=E,390nm,16.7s						
LZH				LR	LR		
	comp=Z,460nm,19.6s						
MNTX	**Cornudas Mount**	**87.48**	**56**	P	**P**	**09 11 33.0**	**-0.4**
	baz=249						
MNTX	**Cornudas Mount**	**87.48**	**56**	*e*P	**P**	**09 11 34.2**	**+0.8**
	16nm,1.8s						
MSO	**Missoula**	**87.52**	**40**	P	**P**	**09 11 33.3**	**-0.1**
	baz=243						
DLMT	**Dillon**	**87.70**	**41**	*e*P	**P**	**09 11 35.1**	**+0.8**
	19nm,1.2s						
ANMO	**Albuquerque**	**87.81**	**53**	P	**P**	**09 11 34.9**	**-0.3**
	baz=249						
ANMO	**Albuquerque**	**87.81**	**53**	*e*P	**P**	**09 11 35.6**	**+0.4**
	6.0nm,1.3s						
TPAW	**Teton Pass**	**87.96**	**44**	*e*P	**P**	**09 11 37.1**	**+1.2**
	27nm,1.5s						
REDW	**Red Top Meadow**	**87.98**	**44**	*e*P	**P**	**09 11 36.2**	**+0.4**
	39nm,1.4s						
TX31	**Lajitas Ar. Si**	**88.05**	**59**	*e*P	**P**	**09 11 36.9**	**+0.6**
LTX	**Lajitas**	**88.05**	**59**	*e*P	**P**	**09 11 37.3**	**+1.0**
TXAR	**Lajitas Array**	**88.05**	**59**	P	**P**	**09 11 37.3**	**+1.0**
	0.8nm,1.0s,baz=217,slow=5.6,SNR=5.2						
TXAR				LR	LR	09 45 31.1	
	comp=Z,291nm,18.1s,baz=0.0,slow=32						
SNOW	**Snow King Moun**	**88.08**	**44**	*e*P	**P**	**09 11 37.1**	**+0.8**
	24nm,1.3s						
IMW	**Indian Meadow**	**88.14**	**43**	*e*P	**P**	**09 11 37.5**	**+0.9**
	26nm,1.4s						
MOOW	**Moose Ponds**	**88.21**	**43**	*e*P	**P**	**09 11 37.3**	**+0.4**
	11nm,1.4s						
BOZ	**Bozeman (W)**	**88.42**	**41**	P	**P**	**09 11 37.6**	**-0.1**
	baz=245						
BOZ	**Bozeman (W)**	**88.42**	**41**	*e*P	**P**	**09 11 39.0**	**+1.3**
	17nm,1.4s						
O20A	**White River Ci**	**88.46**	**47**	P	**P**	**09 11 38.3**	**+0.2**
	baz=247						
S22A	**4UR Ranch, Cre**	**88.57**	**50**	P	**P**	**09 11 37.6**	**-1.3**
	baz=248						
H17A	**Grant Village**	**88.59**	**43**	P	**P**	**09 11 39.1**	**+0.3**
	baz=246						
BW06	**Boulder Array**	**88.59**	**45**	P	**P**	**09 11 38.7**	**-0.1**
	baz=246						
BW06	**Boulder Array**	**88.59**	**45**	*e*P	**P**	**09 11 38.1**	**-0.7**
PD31	**Pinedale Array**	**88.60**	**45**	*e*P	**P**	**09 11 39.2**	**+0.4**
PDAR	**Pinedale Array**	**88.60**	**45**	P	**P**	**09 11 38.8**	**0.0**
	1.5nm,1.0s,baz=240,slow=2.9,SNR=8.2						
PDAR				LR	LR	09 46 10.7	
	comp=Z,267nm,18.1s,baz=252,slow=32						
SMCO	**Snowmass**	**89.00**	**49**	*e*P	**P**	**09 11 42.4**	**+1.4**
	15nm,1.4s						
SDCO	**Great Sand Dun**	**89.55**	**50**	P	**P**	**09 11 42.5**	**-0.9**
	baz=249						
SYO	**Syowa Base**	**89.84**	**194**	*e*X	P	09 11 49.2	+5.3
ISCO	**Idaho Springs**	**90.21**	**48**	P	**P**	**09 11 46.7**	**+0.2**
	baz=249						
ISCO	**Idaho Springs**	**90.21**	**48**	*e*P	**P**	**09 11 46.9**	**+0.4**
	11nm,1.4s						
SONM	**Songino Array**	**90.25**	**320**	LR	LR	09 47 39.2	
	comp=Z,76nm,21.6s,baz=99,slow=33						
MSTX	**Muleshoe**	**90.32**	**55**	P	**P**	**09 11 47.0**	**+0.1**
	baz=251						
N23A	**Red Feather La**	**90.37**	**47**	P	**P**	**09 11 47.1**	**-0.1**
	baz=249						
N23A	**Red Feather La**	**90.37**	**47**	*e*P	**P**	**09 11 48.1**	**+1.0**
	27nm,1.5s						
K22A	**Casper**	**90.61**	**46**	P	**P**	**09 11 48.4**	**+0.2**
	baz=248						
832A	**Faith Ranch, C**	**90.77**	**61**	P	**P**	**09 11 48.4**	**-0.6**
	baz=252						
933A	**Laredo**	**91.15**	**62**	P	**P**	**09 11 50.1**	**-0.6**
	baz=252						
JCT	**Junction City**	**91.59**	**59**	P	**P**	**09 11 52.2**	**-0.6**
	baz=252						
JCT	**Junction City**	**91.59**	**59**	*e*P	**P**	**09 11 55.6**	**+2.8**
	9.1nm,1.2s						
934A	**Benavides**	**91.79**	**62**	P	**P**	**09 11 52.9**	**-0.8**
	baz=253						
633A	**Saathoff Ranch**	**91.80**	**60**	P	**P**	**09 11 53.6**	**-0.1**
	baz=252						
SNAA	**Sanae**	**92.14**	**180**	*e*P	**P**	**09 11 55.4**	**+0.7**
	7.1nm,1.1s						
433A	**Art**	**92.26**	**59**	P	**P**	**09 11 55.3**	**-0.6**
	baz=252						
LAO	**LASA Array**	**92.30**	**42**	P	**P**	**09 11 55.0**	**-0.7**
	baz=249						
ABTX	**Abilene, Hawle**	**92.38**	**57**	P	**P**	**09 11 56.2**	**-0.2**
	baz=252						
ABTX	**Abilene, Hawle**	**92.38**	**57**	*e*P	**P**	**09 11 57.2**	**+0.8**
	26nm,1.4s						
333A	**Richland Sprin**	**92.52**	**58**	P	**P**	**09 11 56.7**	**-0.3**
	baz=253						
534A	**Blanco**	**92.55**	**60**	P	**P**	**09 11 56.8**	**-0.4**
	baz=253						
835A	**Beeville**	**92.57**	**61**	P	**P**	**09 11 56.1**	**-1.2**
	baz=253						
233A	**Rising Star**	**92.79**	**58**	P	**P**	**09 11 58.6**	**+0.3**
	baz=253						
RSSD	**Black Hills**	**92.83**	**45**	P	**P**	**09 11 58.8**	**+0.4**
	baz=250						
RSSD	**Black Hills**	**92.83**	**45**	*e*P	**P**	**09 11 59.9**	**+1.5**
	24nm,1.4s						
434A	**Burnet**	**92.95**	**59**	P	**P**	**09 11 59.1**	**0.0**
	baz=253						
133A	**Hamilton Ranch**	**92.96**	**57**	P	**P**	**09 11 59.5**	**+0.4**
	baz=253						
334A	**Lometa**	**93.13**	**58**	P	**P**	**09 11 58.8**	**-1.1**
	baz=253						
234A	**Clairette**	**93.41**	**58**	P	**P**	**09 12 01.5**	**+0.4**
	baz=253						
435B	**Jarrell**	**93.50**	**59**	P	**P**	**09 12 01.5**	**-0.1**
	baz=253						
WMOK	**Wichita Mounta**	**93.70**	**55**	P	**P**	**09 12 03.1**	**+0.7**
	baz=253						
YKA	**Yellowknife Ar**	**94.39**	**25**	LR	LR	09 50 36.6	
	comp=Z,26nm,18.3s,baz=180,slow=33						
PLCA	**Paso Flores**	**94.77**	**135**	LR	LR	09 44 57.3	
	comp=Z,117nm,21.6s,baz=312,slow=29						
W35A	**Tecumseh**	**95.32**	**55**	P	**P**	**09 12 09.9**	**0.0**
	baz=254						
T34A	**McClaskey Farm**	**95.59**	**53**	P	**P**	**09 12 10.7**	**-0.3**
	baz=254						
W36A	**Wetumka**	**95.83**	**55**	P	**P**	**09 12 12.0**	**-0.1**
	baz=254						
T35A	**Sooner Cattle**	**96.08**	**53**	P	**P**	**09 12 12.7**	**-0.6**
	baz=254						
P34A	**Walnut Farm, R**	**96.56**	**51**	P	**P**	**09 12 15.2**	**-0.2**
	baz=254						
V37A	**Hulbert**	**96.88**	**55**	P	**P**	**09 12 16.9**	**0.0**
	baz=255						
T37A	**Chenoyville 18**	**97.37**	**54**	P	**P**	**09 12 18.7**	**-0.4**
	baz=255						
U38A	**Gravette**	**97.61**	**54**	P	**P**	**09 12 19.9**	**-0.3**
	baz=256						
T38A	**Diamond**	**97.83**	**54**	P	**P**	**09 12 21.1**	**-0.1**
	baz=256						
ULM	**Lac du Bonnet**	**99.93**	**41**	LR	LR	09 51 26.5	
	comp=Z,253nm,19.9s,baz=282,slow=32						
WMQ	**Urumqi**	**101.45**	**312**	P	**Pdif**	**09 12 37.8**	**+0.6**
WMQ				pmax	pmax		
	comp=Z,12nm,0.7s						
WMQ				pmax	pmax		
	comp=Z,46nm,5.5s						
WMQ				LR	LR		
	comp=N,88nm,24.5s						
WMQ				LR	LR		
	comp=E,120nm,24.5s						
WMQ				LR	LR		
	comp=Z,130nm,24.5s						
Z47A	**Carrollton**	**101.93**	**59**	Pdiff	**Pdif**	**09 12 39.6**	**+0.1**
	baz=258						
KSH	**Kashi**	**109.50**	**307**	*e*Pdif	**Pdif**	**09 13 12.1**	**-1.1**
O56A	**Blue Knob Stat**	**110.49**	**53**	PKiKP	**PKiKP**	**09 17 17.5**	**-0.7**
	baz=266						
N59A	**State Game Lan**	**112.66**	**52**	PKiKP	**PKiKP**	**09 17 21.0**	**-1.2**
	baz=268						
KHC	**Kasperske Hory**	**145.00**	**342**	*e*PKP	**PKPab**	**09 18 22.3**	**+0.2**
KHC				*e*pPKP	pPKPab	09 18 28.6	-0.4
GEC2	**GERESS Array S**	**145.22**	**342**	*e*PKPbc	**PKPbc**	**09 18 22.4**	**-0.5**
GERES	**GERESS Array B**	**145.22**	**342**	PKP	**PKPbc**	**09 18 22.4**	**-0.5**
	2.2nm,0.9s,baz=24,slow=5.4,SNR=5.1						
GEA0	**GERESS Array S**	**145.23**	**342**	*e*PKPbc	**PKPbc**	**09 18 22.6**	**-0.2**
AKAS	**Kas**	**145.77**	**311**	*e*PKPdf	**PKPdf**	**09 18 23.4**	**-1.2**
PERS	**Pernice**	**146.70**	**338**	*i* PKPbc	**PKPab**	**09 18 28.2**	**-0.3**
VISS	**Visnje**	**147.51**	**338**	*i* PKPbc	**PKPab**	**09 18 34.7**	**+3.1**
BOJS	**Bojanci**	**147.62**	**337**	*i* PKPbc	**PKPbc**	**09 18 30.5**	**+0.6**
JAVS	**Javornik**	**147.71**	**339**	*e*PKPbc	**PKPab**	**09 18 32.0**	**-0.6**
DAVOX	**Davos/Dischmat**	**148.17**	**345**	PKPbc	**PKPbc**	**09 18 30.3**	**-1.4**
	2.4nm,0.6s,baz=335,slow=14,SNR=2.9						
TORD	**Torodi Ar. Bea**	**175.25**	**228**	PKPab	**PKPab**	**09 20 34.0**	**+1.6**
	0.7nm,1.0s,baz=145,slow=5.3,SNR=2.9						
TOA1	**Torodi Ar. Sit**	**175.25**	**228**	*e*PKPab	**PKPab**	**09 20 34.0**	**+1.6**

*ISK **08** 09:04:08.6, 37˚.13N×37˚.29E, h5km, ML2.5*
*ISCJB **08** 09:04:09.9±1.0, 37˚.14N±0˚.06×37˚.25E±0˚.04, h2km±7km, Error ellipse: s-maj=10.9km s-min=5.3km az=177.2*
*CSEM **08** 09:04:09.9±0.4, 37˚.16N×37˚.24E, h5km, ML3.0, Error ellipse: s-maj=12.9km s-min=7.5km az=7.0*
*DDA **08** 09:04:10.1, 37˚.14N×37˚.21E, h7km, Ml3.0*
ISC 08 09:04:09.6±1.5, 37˚.13N±0˚.06×37˚.25E±0˚.03, h2km±12km, n18, σ0s78/27, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
GAZ	**Gaziantep**	**0.06**	**323**	*e*PG		**Pg**		**09 04 10.4**	**-0.3**
GAZ	**Gaziantep**	**0.06**	**323**	*e*Pg		**Pg**		**09 04 10.5**	**-0.3**
GZT	**Gaziantep**	**0.34**	**47**	*i* P		**Pn**		**09 04 23.5**	**+1.8**
HCB	**Kahramanmara˜**	**0.35**	**308**	*i* P		**Pg**		**09 04 16.4**	**0.0**
KAMA	**Osmaniye**	**0.47**	**277**	*i* P		**Pg**		**09 04 19.0**	**+0.3**
KAMA				*i* S		**Sg**		**09 04 25.7**	**+0.9**
ANDN	**Andirin**	**0.85**	**302**	*i* P		**Pn**		**09 04 27.6**	**-1.3**
ANDN	**Andirin**	**0.85**	**302**	P		**Pn**		**09 04 27.5**	**-1.3**
SURC	**SANLIURFA_SURC**	**1.11**	**102**	*i* P		**Pn**		**09 04 32.8**	**+0.5**
SURC				*i* S		**Sn**		**09 04 48.0**	**-0.3**
SURC	**SANLIURFA_SURC**	**1.11**	**102**	P		**Pn**		**09 04 32.8**	**+0.5**
SURC				S		**Sn**		**09 04 48.0**	**-0.3**
TAHT	**Tahtakopru-Hat**	**1.14**	**229**	*e*PN		**Pn**		**09 04 31.8**	**-0.8**
TAHT				*e*SN		**Sn**		**09 04 49.4**	**+0.5**
TAHT	**Tahtakopru-Hat**	**1.14**	**229**	*e*Pn		**Pn**		**09 04 31.8**	**-0.8**
TAHT				*e*Sn		**Sn**		**09 04 49.4**	**+0.5**
KOZT	**Kozan**	**1.19**	**288**	*e*PN		**Pn**		**09 04 33.0**	**-0.3**
KOZT				*e*SN		**Sn**		**09 04 51.0**	**+0.9**
KOZT	**Kozan**	**1.19**	**288**	*e*Pn		**Pn**		**09 04 33.0**	**-0.3**
KOZT				*e*Sn		**Sn**		**09 04 51.0**	**+0.9**
URFA	**Urfa**	**1.29**	**75**	*e*PN		**Pn**		**09 04 33.8**	**-0.9**
URFA				*e*SN		**Sn**		**09 04 52.2**	**-0.4**
URFA	**Urfa**	**1.29**	**75**	*e*Pn		**Pn**		**09 04 33.8**	**-0.9**
URFA				*e*Sn		**Sn**		**09 04 52.2**	**-0.4**
SARI	**SarD1z-Kayseri**	**1.44**	**333**	*e*PN		**Pg**		**09 04 37.5**	**+0.3**
DARE	**Darende-Malaty**	**1.45**	**7**	*e*PN		**Pg**		**09 04 37.1**	**-0.4**
DARE	**Darende-Malaty**	**1.45**	**7**	*e*Pn		**Pg**		**09 04 37.1**	**-0.4**

PGC 08 09:10:49.6±16.0, 58˚.43N×133˚.49W, h10km, ML2.1/3, 56km east of Juneau, Ak Southeastern Alaska, Southeastern Alaska

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PLBC	**Pleasant Camp**	**1.81**	**306**			Pn	Pn	09 11 20.7	-0.1
PLBC						Sg	Sb	09 11 46.1	+0.5
DLBC	**Dease Lake**	**1.82**	**88**			Pn	Pn	09 11 20.6	-0.4
DLBC						Sn	Sn	09 11 40.8	-3.3
DLBC						Sg	Sb	09 11 46.1	+0.3
DLBC	**Dease Lake**	**1.82**	**88**	*e*P		Pn		09 11 20.7	-0.3
	15nm,0.6s								
WHY	**Whitehorse**	**2.35**	**343**			Pn	Pn	09 11 27.8	-0.5
WHY						Sn	Sn	09 11 57.1	-0.1
WHY						Sg	Sb	09 12 02.5	+1.4
HYT	**Haines Junctio**	**3.15**	**321**			Pg	Pb	09 11 46.1	+0.3
HYT						Sg	Sb	09 12 27.4	+3.1

*NEIC **08** 09:28:15.8±0.0, 58˚.39N×133˚.43W, h10km, ML2.9(AEIC), ML3.4(OTT), After OTT.*
PGC 08 09:28:15.8±6.0, 58˚.39N×133˚.43W, h10km, ML3.4/9, 58km east of Juneau, Ak Southeastern Alaska, Southeastern Alaska

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
JIS	**Juneau Island**	**0.52**	**257**			P	Pg	09 28 22.9	-2.9
JIS						S	Sg	09 28 29.7	-2.9
BESE	**Bessie Mountai**	**0.77**	**285**			P	Pg	09 28 27.9	-2.8
BESE						S	Sg	09 28 38.5	-2.3
SKAG	**Skagway**	**1.45**	**318**			P	Pn	09 28 40.6	-1.5
SKAG						S	Sg	09 29 02.8	+0.2
DLBC	**Dease Lake**	**1.79**	**87**			Pn	Pn	09 28 45.9	-0.9
DLBC						Sg	Sb	09 29 11.1	-0.2
DLBC	**Dease Lake**	**1.79**	**87**			P	Pn	09 28 47.5	+0.6
DLBC						S	Sb	09 29 12.2	+1.0
PLBC	**Pleasant Camp**	**1.86**	**306**			Pn	Pn	09 28 47.4	-0.3
PLBC						Sg	Sn	09 29 12.1	+0.9
PLBC	**Pleasant Camp**	**1.86**	**306**			P	Pn	09 28 47.7	0.0
PLBC						S	Sn	09 29 11.5	+0.3
WRAK	**Wrangell Islan**	**2.07**	**163**			P	Pn	09 28 48.3	-2.2
WHY	**Whitehorse**	**2.39**	**343**			Pn	Pn	09 28 53.9	-1.2
WHY						Sn	Sn	09 29 22.8	-1.6
WHY						Sg	Sb	09 29 28.7	+0.2
WHY	**Whitehorse**	**2.39**	**343**			P	Pn	09 28 54.5	-0.7
CRAG	**Craig**	**2.94**	**177**			P	Pn	09 29 00.4	-2.1
HYT	**Haines Junctio**	**3.20**	**321**			Pn	Pn	09 29 06.5	+0.3
HYT						Sg	Sb	09 29 53.4	+1.6
HYT	**Haines Junctio**	**3.20**	**321**			P	Pn	09 29 06.3	+0.1
YUK7	**Dusty Glacier**	**3.22**	**314**			Pn	Pb	09 29 10.5	-2.7
YUK7						Sg	Sg	09 29 56.5	-2.7
PNL	**Peninsula**	**3.34**	**295**			Pn	Pn	09 29 07.7	-0.4
PNL						Pg	Pb	09 29 14.4	-0.7
PNL						Sg	Sb	09 29 57.9	+2.2
PNL	**Peninsula**	**3.34**	**295**			P	Pn	09 29 06.9	-1.2
YUK5	**Granite Creek**	**3.54**	**323**			Pg	Pb	09 29 18.1	-0.5
YUK5						Sg	Sb	09 30 04.7	+2.9
YUK6	**Outpost Mounta**	**3.58**	**318**			Pg	Pb	09 29 19.2	0.0
YUK6						Sg	Sg	09 30 10.5	-0.1
YUK3	**Moose Creek**	**4.89**	**317**			Pg	Pb	09 29 41.6	+0.1
YUK3						Sg	Sg	09 30 49.7	-2.8
YUK2	**White River**	**5.03**	**316**			Pg	Pb	09 29 43.5	-0.4
YUK2						Sg	Sg	09 30 56.6	-0.6
BALM	**Baldy**	**5.23**	**304**			Pg	Pb	09 29 49.4	+2.1
DIB	**Dawson Inlet,**	**5.23**	**174**			Pn	Pn	09 29 32.6	-1.4
DIB						Sg	Sb	09 30 55.4	+5.3
BVCY	**Beaver Creek**	**5.46**	**321**			Pg	Pb	09 29 52.8	+1.7
BVCY						Sg	Sg	09 31 08.2	-2.7
FNBB	**Fort Nelson**	**5.47**	**80**			Pg	Pg	09 29 56.9	-3.5
FNBB						Sg	Sg	09 31 06.9	-4.3
DAWY	**Dawson**	**6.37**	**336**			Pn	Pn	09 29 48.3	-1.5
DAWY						Pg	Pb	09 30 11.5	+4.7
DAWY						Sg	Sg	09 31 34.4	-5.8
DOT	**Dot Lake**	**7.37**	**320**			Pn	Pn	09 30 03.4	0.0
DOT						Pg	Pb	09 30 30.0	+6.3
DOT						Sg	Sg	09 32 12.9	+0.8
INK	**Inuvik**	**9.95**	**360**			Pn	Pn	09 30 37.6	-1.0
INK						Sg	Sn	09 33 25.7	+55

*IDC **08** 09:46:10.7±18.0, 10˚.64S×116˚.19E, h0km, mb3.9/3, mb1 4.0/4, mb1mx3.6/31, mbtmp3.9/4, ML3.8/1, Error ellipse: s-maj=279.2km s-min=55.1km az=148.0*
*ISCJB **08** 09:46:17.3±0.8, 11˚.34S±0˚.05×116˚.16E±0˚.05, h16km, mb4.0/2, Error ellipse: s-maj=8.8km s-min=5.4km az=39.5*
*DJA **08** 09:46:21.7±0.9, 11˚S±8˚×11˚6E±˚, h30km±14km, M4.3/11, MLv4.3/11*
ISC 08 09:46:18.5±1.0, 11˚.32S±0˚.08×116˚.17E±0˚.06, h16km, n14, σ1s04/21, South of Sumbawa

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
TWSI	**Taliwang, Sumb**	**2.66**	**15**	P		**Pn**		**09 47 01.1**	**+0.3**
TWSI				S		**Sn**		**09 47 32.5**	**-0.2**
IGBI	**Denpasar**	**2.68**	**338**	P		**Pn**		**09 47 02.3**	**+1.2**
IGBI				S		**Sn**		**09 47 32.9**	**-0.4**
DNP	**Denpasar**	**2.79**	**340**	P		**Pn**		**09 47 02.9**	**+0.3**
DNP				S		**Sn**		**09 47 35.7**	**-0.3**
PLAI	**Plampang**	**2.94**	**33**	P		**Pn**		**09 47 05.0**	**+0.4**
SRBI	**Singaraja**	**3.35**	**344**	P		**Pn**		**09 47 11.3**	**+1.0**
JAGI	**Jajag, Banyuwa**	**3.46**	**325**	P		**Pn**		**09 47 12.5**	**+0.7**
JAGI				S		**Sn**		**09 47 52.3**	**-0.2**
ABJI	**Asem Bagus**	**3.99**	**331**	P		**Pn**		**09 47 19.6**	**+0.5**
GMJI	**Gumukmas**	**4.05**	**318**

ENTT	**Nioudou**	**0.94**	**310**	*eP*	**Pn**	**09 53 53.4**	**+0.3**
	baz=309						
ENTT				*eS*	**Sg**	**09 54 05.3**	**-0.4**
	baz=309						
NNS	**Nan Shan**	**0.99**	**294**	*eP*	**Pn**	**09 53 54.1**	**+0.2**
	baz=293						
NNS				*eS*	**Sn**	**09 54 07.5**	**+0.1**
	baz=293						
WHF	**Hehuan Shan**	**1.01**	**276**	*eP*	**Pg**	**09 53 54.5**	**-0.2**
	baz=275						
WHF				*eS*	**Sg**	**09 54 07.6**	**-0.5**
	baz=275						
NSK	**Sanguang**	**1.12**	**305**	*eP*	**Pb**	**09 53 55.6**	**-0.1**
	baz=304						
NSK				*eS*	**Sb**	**09 54 09.9**	**+0.1**
	baz=304						
NWF	**Wu-fen Shan**	**1.16**	**333**	*eP*	**Pb**	**09 53 56.8**	**+0.4**
	baz=333						
NWF				*eS*	**Sg**	**09 54 12.2**	**-0.4**
	baz=333						
WDT	**Danda**	**1.16**	**256**	*eP*	**Pn**	**09 53 56.0**	**-0.4**
	baz=255						
WDT				*eS*	**Sb**	**09 54 11.2**	**-0.2**
	baz=255						
TWF1	**Yuli**	**1.19**	**235**	*eP*	**Pn**	**09 53 55.9**	**-0.6**
	baz=234						
TWF1				*eS*	**Sb**	**09 54 11.6**	**-0.4**
	baz=234						
IRIF	**Iriomote-Funau**	**1.28**	**76**	P	**Pn**	**09 53 57.7**	**0.0**
IRIF				S	**Sn**	**09 54 14.2**	**-0.1**
NSTT	**Nanjuang**	**1.38**	**296**	*eS*	**Sb**	**09 54 17.7**	**+0.4**
	baz=295						
TYC	**Yuchr**	**1.39**	**265**	*eP*	**Pn**	**09 53 59.8**	**+0.7**
	baz=264						
TYC				*eS*	**Sb**	**09 54 17.8**	**+0.4**
	baz=264						
YUS	**Yu-Shan**	**1.41**	**247**	*eP*	**Pn**	**09 54 00.4**	**+0.5**
	baz=246						
YUS				*eS*	**Sn**	**09 54 18.2**	**0.0**
	baz=246						
JKRS	**Kuro-shima**	**1.51**	**82**	P	**Pn**	**09 54 02.3**	**+1.4**
JKRS				*eS*	**Sn**	**09 54 21.1**	**+1.0**
ALS	**Alishan**	**1.52**	**250**	*eP*	**Pn**	**09 54 01.6**	**+0.2**
	baz=249						
ALS				*eS*	**Sn**	**09 54 21.2**	**+0.5**
	baz=249						
CHN5	**Tsauling**	**1.61**	**255**	*eP*	**Pn**	**09 54 02.8**	**+0.5**
	baz=253						
CHN5				*eS*	**Sn**	**09 54 23.4**	**+0.8**
	baz=253						
JIJ	**Ishigaki jima**	**1.65**	**78**	P	**Pn**	**09 54 03.3**	**+0.5**
JIJ				S	**Sn**	**09 54 23.4**	**-0.2**
CHN4	**Tsaushan**	**1.76**	**248**	*eP*	**Pb**	**09 54 06.2**	**-0.4**
	baz=246						
CHN4				*eS*	**Sb**	**09 54 27.8**	**-0.6**
	baz=246						
JISG	**Ishigakijimahi**	**1.86**	**72**	P	**Pn**	**09 54 06.2**	**+0.6**
JISG				*eS*	**Sn**	**09 54 28.7**	**+0.2**
JTJ	**Tarama**	**2.21**	**74**	*eS*	**Sn**	**09 54 38.4**	**+1.0**

NNC 08 10:08:03.2±2.4, 37°.18N×71°.49E, h0km, mb3.5, mpv3.1, 3C-2D, Error ellipse: s-maj=19.9km s-min=10.9km az=153.0, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZET	**Dzherino**	**2.65**	**308**	⇓P	Pn	10 08 47.2	-0.2
	2.3nm,0.3s						
DZET				⇓S	Sn	10 09 21.8	+1.5
	18nm,0.4s						
MNAS	**Manas**	**5.36**	**8**	⇑P	Pn	10 09 25.2	+0.7
	1.4nm,0.4s						
MNAS				⇑S	Sn	10 10 28.7	+1.7
	2.9nm,0.4s						
KK31	**Karatay Array**	**5.96**	**353**	P	Pn	10 09 32.4	-0.4
	0.6nm,0.2s,baz=176,slow=12,SNR=32						
KK31				⇑S	Sn	10 10 42.0	+0.3
	1.2nm,0.6s,baz=30,slow=10.0,SNR=5.0						

*ISCJB **08** 10:26:59.5±0.8, 55°.4S×0°.1×28°.2W±0°.3, h10km, mb4.1/5, MS3.4/4, Error ellipse: s-maj=23.5km s-min=15.1km az=152.6*

*IDC **08** 10:27:00.2±0.8, 55°.41S×28°.22W, h0km, mb4.1/5, mb1 4.3/7, mb1mx3.9/41, mbtmp4.2/7, ML4.6/2, MS3.3/6, Ms1 3.3/6, ms1mx3.1/25, Error ellipse: s-maj=29.0km s-min=19.2km az=68.0*

ISC 08 10:27:01.7±0.8, 55°.5S±0°.1×28°.3W±0°.2, h10km, n16, σ1s0.00/11, mb4.2/5, MS3.3/4, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SNAA	**Sanae**	**19.55**	**156**	P	**P**	**10 31 28.4**	**-0.7**
	1.3nm,0.3s,baz=303,slow=10,SNR=36						
SNAA				LR	LR	10 37 45.7	
	comp=Z,67nm,20.7s,baz=336,slow=33						
PMSA	**Palmer Station**	**19.82**	**228**	P	**Pn**	**10 31 33.9**	**+0.2**
	0.3nm,0.3s,baz=100,slow=6.1,SNR=4.0						
PMSA				LR	LR	10 37 31.2	
	comp=Z,92nm,18.9s,baz=120,slow=32						
PLCA	**Paso Flores**	**31.27**	**280**	LR	LR	10 47 46.6	
	comp=Z,36nm,18.1s,baz=159,slow=40						
CPUP	**Villa Florida**	**35.94**	**312**	P	**P**	**10 34 01.3**	**-0.9**
	3.6nm,0.9s,baz=166,slow=5.7,SNR=5.3						
CPUP				LR	LR	10 47 19.9	
	comp=Z,53nm,20.0s,baz=160,slow=34						
MAW	**Mawson**	**41.00**	**144**	P	**P**	**10 34 44.2**	**-0.1**
	0.7nm,0.5s,baz=243,slow=14,SNR=3.9						
MAW				LR	LR	10 49 56.0	
	comp=Z,45nm,18.9s,baz=243,slow=34						
VNDA	**Vanda**	**47.14**	**183**	P	**P**	**10 35 33.5**	**+0.1**
	1.3nm,0.6s,baz=184,slow=6.6,SNR=14						
H10S2	**ASCENSION HYDR**	**47.62**	**18**	T	T	11 27 26.3	
	baz=190,slow=74,SNR=19						
H10S3	**ASCENSION HYDR**	**47.62**	**18**	T	T	11 27 26.6	
	baz=190,slow=74,SNR=18						
H10S1	**ASCENSION HYDR**	**47.64**	**18**	T	T	11 27 27.8	
	baz=190,slow=74,SNR=16						
LBTB	**Lobatse**	**49.45**	**75**	LR	LR	10 51 46.5	
	comp=Z,71nm,19.9s,baz=266,slow=30						
LPAZ	**La Paz**	**49.52**	**306**	P	**P**	**10 35 53.2**	**+0.1**
	2.1nm,0.8s,baz=164,slow=7.8,SNR=7.7						
TORD	**Torodi Ar. Bea**	**72.85**	**31**	P	**P**	**10 38 30.3**	**-0.3**
	5.3nm,0.7s,baz=199,slow=6.5,SNR=24						
FINES	**FINESS Array B**	**124.15**	**28**	PKP	**PKPdf**	**10 45 59.8**	**+0.8**
	1.6nm,0.8s,baz=145,slow=4.7,SNR=4.0						
YKA	**Yellowknife Ar**	**135.30**	**319**	PKP	**PKPdf**	**10 46 22.3**	**+2.2**
	0.9nm,0.8s,baz=138,slow=2.5,SNR=3.5						
ILAR	**Eielson Array**	**149.25**	**313**	PKPbc	**PKPbc**	**10 46 48.0**	**-1.0**
	3.4nm,0.7s,baz=123,slow=2.3,SNR=31						
SONM	**Songino Array**	**151.32**	**86**	PKPbc	**PKPbc**	**10 46 55.0**	**+0.3**
	0.8nm,0.5s,baz=240,slow=4.8,SNR=3.9						

*IDC **08** 10:30:13.8±2.4, 24°.51S×179°.99W, h477km±25km, mb3.8/19, mb1 4.0/20, mb1mx3.8/33, mbtmp4.6/20, Error ellipse: s-maj=17.2km s-min=11.2km az=63.0*

*NEIC **08** 10:30:15.6±0.9, 24°.57S×179°.97E, h499km±9km, mb4.8/6, Error ellipse: s-maj=10.7km s-min=8.7km az=80.0*

*ISCJB **08** 10:30:16.4±0.5, 24°.59S±0°.06×179°.85E±0°.10, h517km, mb4.2/24, Error ellipse: s-maj=11.9km s-min=8.2km az=172.8*

ISC 08 10:30:17.2±0.5, 24°.61S±0°.07×179°.91E±0°.10, h517km, n39, σ1s33/42, mb4.4/24, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**7.06**	**345**	*eP*	**P**	**10 32 02.4**	**-2.3**
	16nm,0.6s						
DZM	**Mont Dzumac**	**12.63**	**279**	P	**P**	**10 33 03.7**	**+1.2**
	2.5nm,0.3s,baz=104,slow=18,SNR=28						
DZM	**Mont Dzumac**	**12.63**	**279**	*eP*	**P**	**10 33 02.2**	**-0.3**
	56nm,1.0s						
DZM				P	P	10 33 03.7	+1.2
URZ	**Urewera**	**13.81**	**189**	P	**P**	**10 33 12.5**	**-2.0**
	0.8nm,0.3s,baz=54,slow=2.4,SNR=5.4						
URZ				S	**S**	**10 35 37.6**	**-3.2**
	1.7nm,0.3s,baz=229,slow=23,SNR=9.6						
RPZ	**Rata Peaks**	**20.39**	**199**	P	**P**	**10 34 17.2**	**-1.0**
	4.5nm,0.4s,baz=22,slow=3.4,SNR=8.4						
EIDS	**Eidsvold**	**26.13**	**262**	*eP*	**P**	**10 35 10.0**	**+0.2**
	23nm,1.0s						
CTA	**Charters Tower**	**31.41**	**271**	P	**P**	**10 35 56.5**	**+0.7**
	34nm,0.3s,baz=95,slow=11,SNR=89						
CTAO	**Charters Tower**	**31.41**	**271**	*eP*	**P**	**10 35 56.3**	**+0.5**
	284nm,0.6s						
STKA	**Stephens Creek**	**34.39**	**249**	P	**P**	**10 36 21.5**	**+0.5**
	8.6nm,0.4s,baz=89,slow=8.5,SNR=69						
PMG	**Port Moresby**	**34.66**	**290**	P	**P**	**10 36 23.4**	**+0.1**
	30nm,0.9s,baz=68,slow=3.2,SNR=5.7						
ASAR	**Alice Springs**	**41.85**	**261**	P	**P**	**10 37 21.8**	**-0.1**
	5.2nm,0.3s,baz=90,slow=6.8,SNR=211						
WRAB	**Tennant Creek**	**42.28**	**267**	*eP*	**P**	**10 37 24.4**	**-0.8**
	30nm,0.8s						
WRA	**Warramunga Arr**	**42.29**	**267**	P	**P**	**10 37 24.7**	**-0.6**
	25nm,0.6s,baz=104,slow=8.1,SNR=56						
WRA				ScP	**ScP**	**10 42 13.3**	**+4.7**
	5.9nm,0.8s,baz=102,slow=4.0,SNR=17						
JAY	**Jayapura**	**43.73**	**294**	P	**P**	**10 37 36.2**	**-0.5**
	1.5nm,0.6s,baz=95,slow=23,SNR=16						
FITZ	**Fitzroy Crossi**	**50.70**	**266**	P	**P**	**10 38 29.5**	**+0.4**
	14nm,0.6s,baz=107,slow=7.7,SNR=34						
GUMO	**Guam**	**51.10**	**314**	P	**P**	**10 38 31.0**	**-1.0**
	13nm,0.5s,baz=212,slow=13,SNR=3.5						
SIJI	**Sorong**	**52.59**	**289**	P	**P**	**10 38 42.7**	**-0.2**
	58nm,0.3s,baz=177,slow=19,SNR=3.3						
VNDA	**Vanda**	**53.67**	**185**	P	**P**	**10 38 51.1**	**+1.6**
	0.3nm,0.4s,baz=1.2,slow=8.7,SNR=3.4						
QSPA	**South Pole Qui**	**65.48**	**180**	*eP*	**P**	**10 40 09.5**	**+0.8**
	55nm,1.2s						
MJAR	**Matsushiro Arr**	**72.44**	**326**	P	**P**	**10 40 50.3**	**-0.6**
	0.9nm,0.6s,baz=157,slow=5.5,SNR=6.7						
MAW	**Mawson**	**77.06**	**200**	P	**P**	**10 41 17.5**	**+1.1**
	2.1nm,0.5s,baz=134,slow=6.4,SNR=11						
PMSA	**Palmer Station**	**78.29**	**157**	P	**P**	**10 41 23.7**	**+0.6**
	4.6nm,0.6s,baz=242,slow=3.1,SNR=5.4						
KSRS	**Korea Array**	**78.74**	**320**	P	**P**	**10 41 26.5**	**+0.7**
	1.7nm,0.7s,baz=130,slow=5.9,SNR=8.4						
KSAR	**Wonju Array Be**	**78.75**	**320**	P	**P**	**10 41 26.5**	**+0.6**
PETK	**Petropavlovsk-**	**79.77**	**347**	P	**P**	**10 41 31.1**	**+0.1**
	2.0nm,0.6s,baz=120,slow=7.9,SNR=5.6						
USRK	**Ussuriysk Ar.**	**81.32**	**327**	P	**P**	**10 41 39.2**	**0.0**
	1.3nm,0.5s,baz=135,slow=3.9,SNR=5.4						
CMB	**Columbia Colle**	**83.77**	**43**	*eP*	**P**	**10 41 52.2**	**+0.4**
	12nm,0.9s						
SNAA	**Sanae**	**83.96**	**179**	P	**P**	**10 41 51.9**	**-0.4**
	1.2nm,0.5s,baz=331,slow=23,SNR=5.6						
CMAR	**Chiang Mai Arr**	**89.70**	**290**	P	**P**	**10 42 22.1**	**+1.8**
	1.9nm,0.8s,baz=141,slow=3.0,SNR=8.7						
TXAR	**Lajitas Array**	**90.87**	**58**	P	**P**	**10 42 26.6**	**+0.9**
	2.5nm,0.8s,baz=212,slow=6.6,SNR=32						
PDAR	**Pinedale Array**	**93.25**	**44**	P	**P**	**10 42 36.0**	**-0.5**
	0.7nm,0.8s,baz=162,slow=3.8,SNR=6.7						
KURK	**Kurchatov**	**115.66**	**316**	PKP	**PKPdf**	**10 47 59.4**	**-0.8**
KURBB	**Kurchatov Arra**	**115.70**	**316**	PKP	**PKPdf**	**10 47 59.4**	**-0.9**
	0.3nm,0.4s,baz=95,slow=1.6,SNR=4.7						
FINES	**FINESS Array B**	**139.09**	**341**	SKPbc	**SKPbc**	**10 51 32.1**	**+1.5**
	3.9nm,0.8s,baz=29,slow=3.2,SNR=7.8						
AKASG	**Malin Array Be**	**145.52**	**327**	PKPbc	**PKPdf**	**10 48 56.2**	**+0.3**
	1.6nm,0.4s,baz=42,slow=3.8,SNR=5.6						
MMAI	**Mount Meron Ar**	**147.92**	**293**	PKPbc	**PKPbc**	**10 49 05.7**	**+1.2**
	4.1nm,0.5s,baz=67,slow=7.4,SNR=4.4						
BRTR	**Keskin Array B**	**147.94**	**306**	PKPbc	**PKPbc**	**10 49 04.0**	**-0.3**
	1.4nm,0.6s,baz=137,slow=3.5,SNR=6.0						
CLL	**Collm**	**151.51**	**343**	*ePKPab*	**PKPab**	**10 49 21.0**	**-2.1**
TORD	**Torodi Ar. Bea**	**168.47**	**189**	PKP	**PKPdf**	**10 49 24.4**	**-0.7**
	0.8nm,0.9s,baz=321,slow=1.8,SNR=3.4						
TORD				PKPab	**PKPab**	**10 50 37.3**	**-0.5**
	0.9nm,0.6s,baz=169,slow=3.8,SNR=6.7						

*IDC **08** 10:30:41.1±0.6, 10°.40N×62°.59W, h0km, mb4.1/15, mb1 4.4/17, mb1mx4.1/60, mbtmp4.2/17, ML4.2/2, MS3.1/4, Ms1 3.1/4, ms1mx2.7/42, Error ellipse: s-maj=21.5km s-min=13.6km az=85.0*

*TRN **08** 10:30:46.4, 10°.25N×62°.77W, h13km, MD4.4*

*ISCJB **08** 10:30:47.9±0.2, 10°.28N±0°.02×62°.76W±0°.02, h69km±3km, mb4.1/18, Error ellipse: s-maj=4.4km s-min=2.2km az=139.4*

*FUNV **08** 10:30:49.7, 10°.19N×62°.60W, h44km, MW4.4*

*NEIC **08** 10:30:49.4±0.6, 10°.35N×62°.72W, h64km±7km, mb4.4/4, MD4.4(TRN), MW4.4(CAR), Error ellipse: s-maj=9.5km s-min=7.6km az=117.0*

ISC 08 10:30:48.7±0.8, 10°.26N±0°.04×62°.75W±0°.03, h56km±8km, n119, σ1s36/138, mb4.2/18, 7C-4D, Near coast of Venezuela

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUNV	**Guanoco**	**0.22**	**243**	⇑*eP*	**Pn**	**10 30 58.5**	**+0.7**
GUNV				*eS*	Sn	10 31 05.6	+1.2
CRUV	**Carupano**	**0.63**	**310**	*eP*	**Pn**	**10 31 02.4**	**+0.4**
CRUV				*eS*	**Sn**	**10 31 12.5**	**+0.9**
GUIV	**Guiria**	**0.64**	**53**	⇑*eP*	**Pn**	**10 31 01.5**	**-0.6**
GUIV				*eS*	**Sn**	**10 31 10.3**	**-1.4**
TCE	**Chacachacare**	**1.07**	**66**	*eP*	**Pn**	**10 31 08.8**	**+1.3**
TCE				*eS*	**Sn**	**10 31 22.9**	**+1.4**
TCE	**Chacachacare**	**1.07**	**66**	P	**Pn**	**10 31 08.8**	**+1.3**
TPP	**Pointe-a-Pierr**	**1.27**	**87**	*eP*	**Pn**	**10 31 11.4**	**+1.1**
TPP				*eS*	**Sn**	**10 31 27.3**	**+0.8**
TPP	**Pointe-a-Pierr**	**1.27**	**87**	P	**Pn**	**10 31 11.4**	**+1.1**
TPP				*eS*	**Sn**	**10 31 26.6**	**+0.1**
ORIV	**Oritupano**	**1.35**	**209**	⇓*eP*	**Pn**	**10 31 11.1**	**-0.3**
ORIV				*eS*	**Sn**	**10 31 28.5**	**+0.1**
TRN	**Trinidad (W)**	**1.38**	**74**	⇑*iP*	**Pn**	**10 31 12.5**	**+0.9**
TRN	**Trinidad (W)**	**1.38**	**74**	*e*	Pn	10 31 16.0	+4.4
TRN				*eS*	**Sn**	**10 31 30.4**	**+1.6**
TRN	**Trinidad (W)**	**1.38**	**74**	P	**Pn**	**10 31 12.5**	**+0.9**
PCRV	**Puerto La Cruz**	**1.86**	**268**	Pn	**Pn**	**10 31 19.9**	**+1.6**
	16nm,0.3s,baz=63,slow=5.4,SNR=65						
PCRV	**Puerto La Cruz**	**1.86**	**268**	*eP*	**Pn**	**10 31 19.9**	**+1.6**
PCRV				*eS*	**Sn**	**10 31 41.8**	**+1.0**
GRGR	**Grenville**	**2.15**	**30**	*eP*	**Pn**	**10 31 22.4**	**+0.2**
GRGR				*eS*	**Sn**	**10 31 49.4**	**+1.8**
GRGR	**Grenville**	**2.15**	**30**	*ePn*	**Pn**	**10 31 19.1**	**-3.1**
GRGR				S	**Sn**	**10 31 49.9**	**+2.3**
RIOV	**Rio Grande**	**2.37**	**157**	⇓*eP*	**Pn**	**10 31 23.9**	**-1.3**
PRGV	**PARIAGUAN**	**2.40**	**232**	*eP*	**Pn**	**10 31 26.6**	**+0.9**
PRGV				*eS*	**Sn**	**10 31 54.8**	**+1.0**
TOSP	**Speyside**	**2.40**	**64**	⇑*iP*	**Pn**	**10 31 25.5**	**-0.2**
TOSP				*eS*	**Sn**	**10 31 53.4**	**-0.6**
TOSP	**Speyside**	**2.40**	**64**	P	**Pn**	**10 31 25.5**	**-0.2**
TOSP				S	**Sn**	**10 31 52.8**	**-1.2**
TOSP	**Speyside**	**2.40**	**64**	⇑*iP*	**Pn**	**10 31 25.2**	**-0.5**
CUPV	**Cœpira**	**3.00**	**266**	*eP*	**Pn**	**10 31 35.8**	**+1.8**
CUPV				*eS*	**Sn**	**10 32 09.0**	**+0.3**
SVB	**Belmont**	**3.33**	**26**	*eP*	**Pn**	**10 31 38.6**	**+0.2**
SVB				*eS*	**Sn**	**10 32 18.1**	**+1.4**
SVB	**Belmont**	**3.33**	**26**	P	**Pn**	**10 31 38.6**	**+0.2**
SVB				S	**Sn**	**10 32 17.1**	**+0.4**
SFAN	**Fancy Village**	**3.46**	**26**	*eP*	**Pn**	**10 31 40.9**	**+0.7**
BIRV	**Birongo**	**3.47**	**274**	⇑*eP*	**Pn**	**10 31 43.0**	**+2.7**
BIRV				*eS*	**Sn**	**10 32 21.4**	**+1.1**
MERV	**Las Mercedes**	**3.64**	**254**	*eP*	**Pn**	**10 31 43.9**	**+1.2**
MERV				*eS*	**Sn**	**10 32 24.1**	**-0.3**
MCLT	**Moule a Chique**	**3.85**	**27**	*eP*	**Pn**	**10 31 46.0**	**+0.4**
MCLT				*eS*	**Sn**	**10 32 30.7**	**+1.0**
MCLT	**Moule a Chique**	**3.85**	**27**	P	**Pn**	**10 31 46.0**	**+0.4**
MCLT				S	**Sn**	**10 32 28.4**	**-1.2**
SLDE	**Delcer**	**3.89**	**25**	*eP*	**Pn**	**10 31 47.1**	**+1.1**
SLDE				*eS*	**Sn**	**10 32 31.9**	**+1.5**
SLDE	**Delcer**	**3.89**	**25**	P	**Pn**	**10 31 47.1**	**+1.1**
SLB	**Belfond**	**3.92**	**25**	*eP*	**Pn**	**10 31 47.3**	**+0.8**
SLB				*eS*	**Sn**	**10 32 31.8**	**+0.6**
SLTA	**Morne Tabac**	**3.95**	**25**	*eS*	**Sn**	**10 32 31.9**	**-0.3**
SLPA	**Patience**	**3.99**	**26**	*eP*	**Pn**	**10 31 48.4**	**+1.0**
SLPA	**Patience**	**3.99**	**26**	*eS*	**Sn**	**10 32 34.5**	**+1.5**
FUNV	**FUNVISIS**	**4.00**	**273**	*eP*	**Pn**	**10 31 49.6**	**+1.9**
FUNV				*eS*	**Sn**	**10 32 34.0**	**+0.5**
SLW	**Petit Monier**	**4.13**	**25**	*eP*	**Pn**	**10 31 50.8**	**+1.4**
SLW	**Petit Monier**	**4.13**	**25**	*eS*	**Sn**	**10 32 36.5**	**0.0**
SLW	**Petit Monier**	**4.13**	**25**	P	**Pn**	**10 31 49.4**	**0.0**
BBGH	**Gun Hill**	**4.24**	**47**	*eP*	**Pn**	**10 31 53.0**	**+2.2**
BBGH	**Gun Hill**	**4.24**	**47**	*eS*	**Sn**	**10 32 39.6**	**+0.6**
BBGH	**Gun Hill**	**4.24**	**47**	Pn	**Pn**	**10 31 49.7**	**-1.1**
BBSP	**Saint Philip**	**4.28**	**48**	*eP*	**Pn**	**10 31 52.8**	**+1.4**
BBSP	**Saint Philip**	**4.28**	**48**	*eS*	**Sn**	**10 32 41.7**	**+1.6**
BIM	**Bigot**	**4.53**	**21**	*eP*	**Pn**	**10 31 56.1**	**+1.2**
BIM	**Bigot**	**4.53**	**21**	*eS*	**Sn**	**10 32 45.0**	**-1.4**
TRMF	**Trois Ilets**	**4.56**	**21**	*eP*	**Pn**	**10 31 56.0**	**+0.8**
LUEV	**Luepa**	**4.57**	**164**	⇓*eP*	**Pn**	**10 31 52.9**	**-2.7**
LUEV				*eS*	Sn	10 32 40.9	-6.6
ZAM	**Aeronautique**	**4.60**	**21**	*eP*	**Pn**	**10 31 56.6**	**+0.8**
MVM	**Montagne Vaucl**	**4.63**	**23**	*eP*	**Pn**	**10 31 57.1**	**+0.8**
FDF	**Fort de France**	**4.71**	**19**	*eP*	**Pn**	**10 31 57.9**	**+0.5**
FDF	**Fort de France**	**4.71**	**19**	*eS*	**Sn**	**10 32 50.1**	**-0.6**
FDF	**Fort de France**	**4.71**	**19**	*ePn*	**Pn**	**10 31 56.8**	**-0.6**
PML	**Morne Lenard**	**4.74**	**19**	*eP*	**Pn**	**10 31 58.8**	**+1.0**
GBMF	**Grand Be**	**4.76**	**19**	*eP*	**Pn**	**10 31 58.7**	**+0.6**
PCM	**Pelee Case Pet**	**4.77**	**18**	*eP*	**Pn**	**10 31 58.6**	**+0.5**
PCM	**Pelee Case Pet**	**4.77**	**18**	*eP*	**Pn**	**10 31 58.9**	**+0.8**
CXM	**Morne La Croix**	**4.78**	**19**	*eP*	**Pn**	**10 31 59.2**	**+0.8**
BAMF	**Morne Balai**	**4.79**	**19**	*eP*	**Pn**	**10 31 59.2**	**+0.8**
TURV	**Turiamo**	**5.02**	**273**	⇑*eP*	**Pn**	**10 32 03.0**	**+1.5**
BBL	**Barber's Block**	**5.38**	**13**	*eP*	**Pn**	**10 32 06.9**	**+0.5**
BBL	**Barber's Block**	**5.38**	**13**	*eS*	**Sn**	**10 33 06.7**	**-0.4**
BAUV	**El Baul**	**5.38**	**256**	*eP*	**Pn**	**10 32 07.2**	**+0.7**
BAUV				*eS*	**Sn**	**10 33 05.3**	**-2.0**
MAPV	**Macapo**	**5.64**	**266**	*eP*	**Pn**	**10 32 11.2**	**+1.1**
MAPV				*eS*	**Sn**	**10 33 11.2**	**-2.5**
TBG	**Guadaloupe-3**	**5.66**	**11**	*eP*	**Pn**	**10 32 11.1**	**+0.8**
TBG	**Guadaloupe-3**	**5.66**	**11**	*eS*	**Sn**	**10 33 14.6**	**+0.6**
MGG	**Marie-Galante**	**5.79**	**14**	*eP*	**Pn**	**10 32 13.6**	**+1.5**
MGG	**Marie-Galante**	**5.79**	**14**	*eS*	**Sn**	**10 33 17.8**	**+0.6**
PHG	**Guadaloupe-2**	**5.82**	**11**	*eP*	**Pn**	**10 32 13.7**	**+1.1**
DOG	**Dongo Capester**	**5.84**	**11**	*eP*	**Pn**	**10 32 13.8**	**+1.0**
MLG	**Mont-d'or**	**5.85**	**10**	⇓*iP*	**Pn**	**10 32 13.9**	**+0.9**
FNG	**Fond-Bernard**	**5.85**	**10**	*eP*	**Pn**	**10 32 13.9**	**+0.8**
TEPV	**Terepaima**	**6.35**	**268**	*eP*	**Pn**	**10 32 20.6**	**+0.7**
MLYT	**Lee's Yard**	**6.44**	**5**	*eP*	**Pn**	**10 32 22.6**	**+1.5**
MLYT	**Lee's Yard**	**6.44**	**5**	*eS*	**Sn**	**10 33 32.9**	**-0.4**
SIQV	**Siquisique**	**6.96**	**274**	*eP*	**Pn**	**10 32 28.7**	**+0.5**
CURV	**Curarigua**	**7.11**	**269**	*eP*	**Pn**	**10 32 31.0**	**+0.7**
SEUS	**St. Eustatius**	**7.19**	**358**	*eP*	**Pn**	**10 32 33.1**	**+1.8**
SEUS	**St. Eustatius**	**7.19**	**358**	*eS*	Sn	10 34 04.4	+13
MONV	**Montecano**	**7.29**	**284**	*eP*	**Pn**	**10 32 34.1**	**+1.4**
SABA	**Saba**	**7.33**	**356**	*eP*	**Pn**	**10 32 35.1**	**+1.8**
ELOV	**Elorza**	**7.41**	**245**	*eP*	**Pn**	**10 32 33.8**	**-0.5**
ANWB	**Willy Bob**	**7.42**	**7**	*eP*	**Pn**	**10 32 35.2**	**+0.8**
ANWB	**Willy Bob**	**7.42**	**7**	*eS*	**Sn**	**10 33 56.4**	**-0.9**
ANWB	**Willy Bob**	**7.42**	**7**	*ePn*	**Pn**	**10 32 30.2**	**-4.3**
SMRT	**St. Maarten**	**7.75**	**358**	*eP*	**Pn**	**10 32 40.0**	**+1.1**
DABV	**Dabajuro**	**7.79**	**276**	*eP*	**Pn**	**10 32 39.9**	**+0.4**
SDV	**Santo Domingo**	**7.90**	**261**	Pn	**Pn**	**10 32 41.9**	**+0.7**
	4.3nm,0.3s,baz=93,slow=9.3,SNR=3.0						
SDV				Sn	**Sn**	**10 34 04.0**	**-5.3**
	6.7nm,0.3s,baz=0.0,slow=15,SNR=4.0						
SOCV	**Socops**	**8.24**	**257**	*eP*	**Pn**	**10 32 45.5**	**-0.3**
CAPV	**Capacho**	**9.74**	**257**	*eP*	**Pn**	**10 33 06.3**	**-0.2**
OCAC	**Ocana**	**10.63**	**260**	*eP*	**Pn**	**10 33 17.2**	**-1.3**
RUSC	**La Rusia**	**11.12**	**248**	*eP*	**Pn**	**10 33 23.2**	**-2.4**
PTGA	**Pitinga**	**11.27**	**166**	Pn	Pn	10 33 23.7	-3.4
	9.6nm,0.3s,baz=341,slow=15,SNR=58						
PTGA				Sn	Sn	10 35 20.9	-11
	2.3nm,0.3s,baz=270,slow=20,SNR=6.4						
PTGA				Lg	Lg	10 36 27.3	
	3.8nm,0.3s,baz=77,slow=23,SNR=4.1						
PTGA				LR	LR	10 37 57.6	
	comp=Z,57nm,19.9s,baz=338,slow=38						
ZARC	**Zaragoza, Cauc**	**12.28**	**258**	*eP*	**Pn**	**10 33 37.1**	**-3.9**
ROSC	**El Rosal**	**12.67**	**246**	LR	LR	10 39 38.0	
	comp=Z,55nm,20.5s,baz=137,slow=42						
MOTC	**Monteria, Cord**	**12.83**	**264**	*eP*	**Pn**	**10 33

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JJS	**Sakaide**	**0.34**	**37**	⇑P	Pg	10 58 09.3	0.0
JJS				S	Sg	10 58 14.3	+0.2
JMN	**Monobe**	**0.41**	**156**	⇓P	Pg	10 58 10.3	-0.1
JMN				S	Sg	10 58 15.7	-0.3
JET	**Tanbara**	**0.61**	**239**	⇑P	Pg	10 58 13.9	-0.4
JET				S	Sg	10 58 22.2	-0.3
JAI	**Aioi**	**0.71**	**115**	⇓P	Pg	10 58 15.9	-0.2
JAI				S	Sg	10 58 25.1	-0.4
JAD	**Aida**	**0.93**	**26**	⇑P	Pb	10 58 19.4	-0.6
JAD				S	Sb	10 58 31.7	-0.5
JKU	**Kubokawa**	**0.94**	**213**	⇑P	Pb	10 58 19.7	-0.5
JHM	**Kurahashi**	**0.95**	**273**	⇓P	Pb	10 59 19.4	-1.1
JHS	**Saijyo**	**1.01**	**333**	⇓P	Pb	10 58 20.8	-0.6
JHS				S	Sb	10 58 34.3	-0.2
JAJ2	**Tsuna**	**1.05**	**72**	S	Sb	10 58 35.7	+0.1
MAT	**Matsushiro**	**4.43**	**55**	P	Pn	10 59 10.2	+1.3
MAT				S	Sn	11 00 02.0	+1.8

IDC 08 11:16:32.0±7.9, 6°28S×149°29E, h57km±64km, mb3.2/2, mb1 3.6/4, mb1mx3.3/32, mbtmp3.6/4, ML3.7/1 Error ellipse: s-maj=104.6km s-min=50.5km az=127.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.76**	**214**	P	Pn	11 17 28.5	+0.9
	3.2nm,0.3s,baz=1.8,slow=5.6,SNR=9.6						
PMG				S	Sn	11 18 11.6	+1.0
	10.0nm,0.3s,baz=174,slow=15,SNR=8.5						
WRA	**Warramunga Arr**	**19.89**	**226**	P	P	11 20 57.8	-1.1
	0.2nm,0.3s,baz=51,slow=11,SNR=11						
ASAR	**Alice Springs**	**22.76**	**219**	P	P	11 21 29.1	-0.7
	0.4nm,0.6s,baz=55,slow=9.1,SNR=8.3						
ASAR				pP	pP	11 21 43.0	+0.4
	0.5nm,0.6s,baz=49,slow=9.9,SNR=4.1						
FITZ	**Fitzroy Crossi**	**25.89**	**241**	P	P	11 21 58.4	-0.4
	1.6nm,0.7s,baz=61,slow=12,SNR=3.8						
TORD	**Torodi Ar. Bea**	**147.37**	**285**	PKPbc	PKPbc	11 36 10.7	+0.2
	0.3nm,0.8s,baz=103,slow=3.0,SNR=4.3						

*DDA **08** 11:20:27.1, 39°.64N×28°.52E, h7km, Md2.6*
*ISK **08** 11:20:27.8, 39°.59N×28°.59E, h5km, MD2.5*
*CSEM **08** 11:20:28.3±0.2, 39°.60N×28°.55E, h5km, MD2.5, Error ellipse: s-maj=6.1km s-min=4.7km az=43.0*
ISC 08 11:20:27.6±1.1, 39°.57N±0°.02×28°.52E±0°.03, h10km±14km, n30, σ1s65/38, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BALB	**Balikesir**	**0.50**	**278**	*e*PG	**Pb**	**11 20 38.9**	**+0.3**
BALB	**Balikesir**	**0.50**	**278**	*e*Pg	**Pb**	**11 20 38.9**	**+0.3**
DEMI	**Demirci**	**0.55**	**164**	*i* P	**Pg**	**11 20 39.3**	**+1.0**
DEMI				*i* S	**Sg**	**11 20 47.5**	**+2.0**
DEMI	**Demirci**	**0.55**	**164**	P	**Pg**	**11 20 39.3**	**+1.0**
DEMI				S	**Sg**	**11 20 47.5**	**+2.0**
TVSB	**Tavsanli**	**0.74**	**99**	*e*PG	**Pg**	**11 20 42.2**	**+0.4**
TVSB				*e*SG	**Sg**	**11 20 51.0**	**-0.5**
TVSB	**Tavsanli**	**0.74**	**99**	*e*Pg	**Pg**	**11 20 42.3**	**+0.4**
IGD	**Bursa**	**0.87**	**37**	*i* P	**Pg**	**11 20 42.4**	**-2.0**
IGD				*i* S	**Sg**	**11 20 55.3**	**-0.4**
EDC	**Edincik**	**0.93**	**327**	*e*PG	**Pb**	**11 20 46.0**	**+0.2**
EDC	**Edincik**	**0.93**	**327**	*e*Pg	**Pb**	**11 20 46.0**	**+0.2**
ARMT	**Armutlu**	**1.03**	**15**	*e*PG	**Pb**	**11 20 47.2**	**-0.3**
ARMT	**Armutlu**	**1.03**	**15**	*e*Pg	**Pb**	**11 20 47.3**	**-0.3**
KULA	**Kula-Manisa**	**1.06**	**174**	*e*PG	**Pg**	**11 20 48.9**	**+0.9**
MANT	**Manisa**	**1.08**	**179**	*i* P	Pg	11 20 42.5	-5.9
MANT				*i* S	**Sg**	**11 20 56.6**	**-5.8**
MANT	**Manisa**	**1.08**	**179**	P	Pg	11 20 42.5	-5.9
MANT				S	**Sg**	**11 20 56.6**	**-5.8**
SBT5	**Esenkoy-Cinarc**	**1.09**	**14**	*e*PG	**Pb**	**11 20 48.6**	**-0.1**
SBT5	**Esenkoy-Cinarc**	**1.09**	**14**	*e*Pg	**Pb**	**11 20 48.6**	**-0.1**
KRBG	**Karabiga-Canak**	**1.25**	**312**	*e*PN	**Pn**	**11 20 52.4**	**+1.2**
KRBG	**Karabiga-Canak**	**1.25**	**312**	*e*Pn	**Pn**	**11 20 52.4**	**+1.2**
ADVT	**Abdulvahap**	**1.27**	**47**	*e*PN	**Pg**	**11 20 51.5**	**-0.5**
ADVT	**Abdulvahap**	**1.27**	**47**	*e*Pn	**Pg**	**11 20 51.5**	**-0.5**
SBT2	**Guzelce-Avcila**	**1.31**	**360**	*e*PN	**Pg**	**11 20 52.9**	**+0.2**
SBT2	**Guzelce-Avcila**	**1.31**	**360**	*e*Pn	**Pg**	**11 20 52.9**	**+0.2**
BUY	**Buyukada**	**1.36**	**19**	*e*PN	**Pg**	**11 20 53.7**	**0.0**
BUY	**Buyukada**	**1.36**	**19**	*e*Pn	**Pg**	**11 20 53.7**	**0.0**
SBT3	**Marmara-Eregli**	**1.38**	**342**	*e*PN	**Pg**	**11 20 54.0**	**-0.1**
SBT3	**Marmara-Eregli**	**1.38**	**342**	*e*Pn	**Pg**	**11 20 54.0**	**-0.1**
SART	**Tekirdag**	**1.52**	**318**	*i* P	**Pn**	**11 20 54.0**	**-1.0**
SART				*i* S	**Sg**	**11 21 17.4**	**+0.9**
SART	**Tekirdag**	**1.52**	**318**	P	**Pn**	**11 20 54.0**	**-1.0**
SART				S	**Sg**	**11 21 17.4**	**+0.9**
BORA	**Eskisehir**	**1.52**	**78**	*i* P	**Pn**	**11 20 55.7**	**+0.7**
BORA				*i* S	**Sg**	**11 21 17.4**	**+0.8**
BORA	**Eskisehir**	**1.52**	**78**	P	**Pn**	**11 20 55.7**	**+0.7**
BORA				S	**Sg**	**11 21 17.4**	**+0.8**

*ISCJB **08** 11:20:50.7±1.6, 18°.84S±0°.09×167°.6E±0°.2, h28km, mb3.9/4, Error ellipse: s-maj=30.8km s-min=12.1km az=6.7*
*IDC **08** 11:20:52.7±1.7, 18°.89S×167°.71E, h32km±7km, mb3.7/5, mb1 4.0/6, mb1mx3.7/29, mbtmp3.9/6, ML3.4/1, Error ellipse: s-maj=41.6km s-min=23.5km az=135.0*
ISC 08 11:20:52.8±1.4, 18°.9S×167°.6E±0°.2, h28km, n6, σ0s73/9, mb4.0/4, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**3.38**	**199**	Pn	**Pn**	**11 21 43.7**	**-0.1**
	3.8nm,0.3s,baz=105,slow=14,SNR=36						
DZM				Sn	**Sn**	**11 22 23.1**	**+0.1**
	4.6nm,0.3s,baz=126,slow=23,SNR=5.4						
CTA	**Charters Tower**	**20.20**	**263**	P	Pn	11 25 27.6	+0.1
	2.5nm,0.7s,baz=82,slow=8.2,SNR=3.7						
CTA				pP	sP	11 25 35.7	-1.0
	7.5nm,0.8s,baz=94,slow=11,SNR=5.9						
WRA	**Warramunga Arr**	**31.40**	**262**	P	**P**	**11 27 10.5**	**-1.2**
	0.3nm,0.4s,baz=84,slow=6.0,SNR=3.9						
ASAR	**Alice Springs**	**31.75**	**255**	P	**P**	**11 27 14.4**	**-0.3**
	2.4nm,0.5s,baz=84,slow=8.3,SNR=39						
ASAR				pP	**pP**	**11 27 23.4**	**+0.4**
	4.1nm,0.8s,baz=82,slow=8.8,SNR=13						
FITZ	**Fitzroy Crossi**	**39.78**	**264**	P	**P**	**11 28 23.6**	**0.0**
	2.2nm,0.6s,baz=111,slow=8.7,SNR=5.1						
FITZ				pP	**pP**	**11 28 32.3**	**+0.3**
	4.0nm,0.8s,baz=99,slow=11,SNR=3.8						
ILAR	**Eielson Array**	**90.33**	**18**	P	**P**	**11 33 50.1**	**-0.7**
	0.5nm,0.9s,baz=243,slow=5.0,SNR=4.7						
ILAR				pP	**pP**	**11 34 00.8**	**+1.0**
	0.3nm,0.6s,baz=241,slow=5.0,SNR=2.6						

IDC 08 11:35:06.1±8.1, 18°.93S×167°.56E, h48km±93km, mb3.7/3, mb1 4.0/4, mb1mx3.6/26, mbtmp3.9/4, ML3.1/1, MS2.9/1, Ms1 2.9/1, ms1mx2.5/26, Error ellipse: s-maj=81.0km s-min=38.0km az=156.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**3.29**	**198**	P	Pn	11 35 55.4	+0.1
	2.0nm,0.3s,baz=139,slow=23,SNR=11						
DZM				S	Sn	11 36 33.7	+0.4
	5.3nm,0.3s,baz=111,slow=21,SNR=6.0						
HNR	**Honiara**	**11.98**	**321**	LR	LR	11 41 18.3	
	comp=Z,54nm,18.3s,baz=155,slow=31						
CTA	**Charters Tower**	**20.12**	**263**	P	Pn	11 39 38.8	+0.5
	2.7nm,0.9s,baz=74,slow=12,SNR=4.3						
CTA				pP	pP	11 39 47.5	+0.1
	7.1nm,0.8s,baz=91,slow=12,SNR=8.6						
WRA	**Warramunga Arr**	**31.32**	**263**	P	P	11 41 21.6	-0.5
	0.3nm,0.4s,baz=83,slow=6.2,SNR=3.1						
ASAR	**Alice Springs**	**31.66**	**255**	P	P	11 41 25.5	+0.3
	2.7nm,0.6s,baz=82,slow=8.7,SNR=25						
ASAR				pP	pP	11 41 35.1	-2.6
	5.0nm,0.8s,baz=80,slow=8.8,SNR=19						
ILAR	**Eielson Array**	**90.42**	**18**	P	P	11 48 01.9	0.0
	0.7nm,0.9s,baz=222,slow=6.2,SNR=6.9						

*NNC **08** 11:38:28.7±1.2, 39°.58N×73°.44E, h1km±8km, mb3.3, mpv2.9, Error ellipse: s-maj=12.2km s-min=5.4km az=131.0*
*KRNET **08** 11:38:29.9±0.1, 39°.44N×73°.20E, mb2.6*
ISC 08 11:38:27.1±1.8, 39°.35N±0°.07×73°.28E±0°.05, h10km±14km, n13, σ1s50/22, 20C-8D, Tajikistan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARSB	**Arslanbob**	**1.98**	**353**	⇑*i*P	**Pg**	**11 39 05.1**	**0.0**
	baz=355						
ARSB				⇑*i*S	**Sg**	**11 39 30.9**	**+0.1**
	baz=355						
BTK	**Batken**	**2.03**	**291**	⇑*i*P	**Pg**	**11 39 05.9**	**0.0**
	baz=289						
BTK				⇑*i*S	**Sg**	**11 39 31.9**	**-0.3**
	baz=289						
ARK	**Arkit**	**2.64**	**338**	⇑*i*P	**Pb**	**11 39 14.2**	**-0.4**
	baz=339						
ARK				⇑*i*S	**Sb**	**11 39 46.9**	**-0.2**
	baz=339						
AML	**Almayashu**	**2.79**	**6**	⇑*i*P	**Pb**	**11 39 16.1**	**-1.2**
	baz=7.0						
AML				⇑*i*S	**Sb**	**11 39 51.4**	**-0.4**
	baz=7.0						
NRN	**Naryn**	**2.94**	**44**	⇑*e*P	**Pb**	**11 39 19.9**	**+0.2**
	baz=46						
NRN				⇑*i*S	**Sb**	**11 39 56.4**	**+0.6**
	baz=46						
KZA	**Kyzart**	**3.11**	**28**	⇑*i*P	**Pb**	**11 39 20.8**	**-1.9**
	baz=30						
KZA				⇑*i*S	**Sb**	**11 40 00.3**	**-0.5**
	baz=30						
MNAS	**Manas**	**3.19**	**350**	⇓*i*P	**Pb**	**11 39 21.8**	**-2.1**
	baz=350						
MNAS				⇓*i*S	**Sb**	**11 40 00.9**	**-1.9**
	baz=350						
MNAS	**Manas**	**3.19**	**350**	⇑Pg	**Pb**	**11 39 21.9**	**-1.9**
	1.2nm,0.3s						
MNAS				⇓Lg	Lg	11 40 05.2	
	12nm,0.4s						
AAK	**Ala-Archa**	**3.41**	**15**	⇑Pg	**Pb**	**11 39 25.9**	**-1.7**
	3.8nm,0.5s						
AAK				⇓Lg	Lg	11 40 10.1	
	8.1nm,0.6s						
DZET	**Dzherino**	**3.51**	**262**	⇓Pn	**Pb**	**11 39 26.7**	**-2.6**
	2.0nm,0.5s						
DZET				⇑Pg	**Pg**	**11 39 35.9**	**+1.6**
	8.6nm,0.6s						
DZET				⇑Lg	Lg	11 40 25.8	
	26nm,0.6s						
TKM2	**Tokmak 2**	**3.97**	**25**	⇑Pg	**Pb**	**11 39 37.0**	**-0.3**
TKM2				⇑Lg	Lg	11 40 27.3	
	7.2nm,1.1s						
KK31	**Karatay Array**	**4.29**	**332**	⇑Pn	**Pn**	**11 39 33.5**	**+1.1**
	0.4nm,0.3s,baz=160,slow=14,SNR=7.3						
KK31				⇓Pg	**Pb**	**11 39 45.6**	**+3.0**
	0.5nm,0.3s,baz=147,slow=17,SNR=3.6						
KK31				⇓Sn	**Sn**	**11 40 23.1**	**+0.5**
	3.4nm,0.3s,baz=167,slow=30,SNR=4.5						
KK31				⇑Lg	Lg	11 40 41.4	
	5.0nm,0.3s,baz=179,slow=35,SNR=4.1						
PDGK	**Podgornoye**	**6.13**	**48**	⇓Lg	Lg	11 41 37.9	
	2.2nm,0.7s						

*JMA **08** 11:41:46.7±0.2, 22°.26N×121°.52E, h4km, M3.0*
*ISCJB **08** 11:41:47.7±0.6, 22°.21N±0°.03×121°.50E±0°.03, h18km±5km, Error ellipse: s-maj=4.8km s-min=4.5km az=4.1*
*TAP **08** 11:41:48.3, 22°.26N×121°.38E, h10km±1km, ML2.9, C*
ISC 08 11:41:48.3±1.0, 22°.24N±0°.04×121°.46E±0°.03, h27km±9km, n38, σ1s18/68, 2C, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LAY	**Lan-yu**	**0.21**	**158**	⇑*i*P	**Pb**	**11 41 54.9**	**+0.4**
	baz=143						
LAY				*e*S	**Sb**	**11 41 59.1**	**+0.6**
	baz=143						
TAW	**Tawu**	**0.54**	**283**	*e*P	**Pb**	**11 41 58.5**	**-0.8**
	baz=282						
TAW				*e*S	**Sb**	**11 42 05.6**	**-1.2**
	baz=282						
EAST	**Anshuo**	**0.59**	**284**	⇑*i*P	**Pb**	**11 41 59.4**	**-0.7**
	baz=283						
EAST				*e*S	**Sb**	**11 42 06.6**	**-1.5**
	baz=283						
ECL	**Taimali**	**0.59**	**307**	P	**Pb**	**11 41 59.2**	**-0.9**
	baz=310						
ECL				S	**Sb**	**11 42 06.5**	**-1.7**
	baz=310						
TTN	**Taitung**	**0.59**	**330**	*e*P	**Pb**	**11 41 60.0**	**-0.2**
	baz=336						
TTN				*e*S	**Sn**	**11 42 10.3**	**+0.5**
	baz=336						
TSEB	**Hengchuen, Pin**	**0.62**	**237**	*e*S	**Sb**	**11 42 09.6**	**+0.6**
	baz=233						
TWK1	**Hengchun**	**0.68**	**244**	P	**Pb**	**11 42 01.0**	**-0.6**
	baz=238						
TWK1				*e*S	**Sb**	**11 42 09.3**	**-1.3**
	baz=238						
TWG	**Pinlang**	**0.68**	**328**	*e*P	**Pb**	**11 42 00.7**	**-1.0**
	baz=333						
TWG				*e*S	**Sb**	**11 42 09.5**	**-1.3**
	baz=333						
HEN	**Hengchun**	**0.71**	**251**	*e*P	**Pb**	**11 42 01.5**	**-0.7**
	baz=246						
HEN				*e*S	**Sb**	**11 42 10.8**	**-0.8**
	baz=246						
SCZT	**Fangliau**	**0.79**	**280**	P	**Pb**	**11 42 02.6**	**-0.9**
	baz=278						
SCZT				*e*S	**Sb**	**11 42 12.4**	**-1.5**
	baz=278						
CHKT	**Chengkung**	**0.86**	**354**	*e*P	**Pb**	**11 42 04.3**	**-0.4**
	baz=359						
CHKT				*e*S	**Sb**	**11 42 15.6**	**-0.4**
	baz=359						
ELDTW	**Lidau**	**1.03**	**337**	*e*P	**Pn**	**11 42 07.5**	**+0.3**
	baz=340						
TWF1	**Yuli**	**1.12**	**352**	*e*P	**Pb**	**11 42 09.2**	**+0.1**
	baz=356						
TWF1				*e*S	**Sn**	**11 42 24.2**	**+1.4**
	baz=356						
TWM1	**Shoushan**	**1.12**	**301**	*e*P	**Pb**	**11 42 09.5**	**+0.3**
	baz=302						
STYT	**Tauyuan**	**1.13**	**325**	*e*P	**Pn**	**11 42 07.9**	**-0.5**
	baz=327						
SGST	**Jiashian**	**1.17**	**316**	*e*P	**Pn**	**11 42 09.2**	**+0.2**
	baz=318						
SGST				*e*S	**Sn**	**11 42 24.5**	**+0.5**
	baz=318						
WTP	**Ta-pu**	**1.27**	**322**	*e*P	**Pb**	**11 42 11.3**	**-0.4**
	baz=324						
WTP				*e*S	**Sb**	**11 42 27.7**	**0.0**
	baz=324						
CHN1	**Nanshi**	**1.28**	**318**	P	**Pb**	**11 42 12.2**	**+0.4**
	baz=319						
CHN1				*e*S	**Sb**	**11 42 28.9**	**+1.0**
	baz=319						
YUS	**Yu-Shan**	**1.33**	**339**	*e*P	**Pn**	**11 42 12.1**	**+0.4**
	baz=342						
TWK	**Hsinying**	**1.36**	**319**	*e*P	**Pb**	**11 42 12.4**	**-0.9**
	baz=320						
TWK				*e*S	**Sb**	**11 42 30.7**	**+0.4**
	baz=320						
CHN4	**Tsaushan**	**1.37**	**324**	P	**Pb**	**11 42 13.1**	**-0.2**
	baz=326						
CHN4				*e*S	**Sb**	**11 42 30.9**	**+0.4**
	baz=326						
ALS	**Alishan**	**1.41**	**335**	*e*P	**Pb**	**11 42 13.7**	**-0.4**
	baz=337						
ALS				*e*S	**Sb**	**11 42 32.0**	**+0.3**
	baz=337						
CHN5	**Tsauling**	**1.53**	**332**	*e*P	**Pb**	**11 42 15.7**	**-0.5**
	baz=334						
CHN5				*e*S	**Sb**	**11 42 36.1**	**+0.9**
	baz=334						
WDT	**Danda**	**1.54**	**349**	*e*P	**Pb**	**11 42 15.4**	**-1.1**
	baz=351						
WDT				*e*S	**Sb**	**11 42 35.5**	**-0.2**
	baz=351						
SMLT	**Sun Moon Lake**	**1.72**	**343**	*e*P	**Pb**	**11 42 18.3**	**-1.1**
	baz=344						
SMLT				*e*S	**Sb**	**11 42 39.8**	**-0.7**
	baz=344						
TYC	**Yuchr**	**1.75**	**342**	*e*P	**Pb**	**11 42 19.7**	**-0.1**
	baz=343						
TYC				*e*S	**Sb**	**11 42 39.9**	**-1.4**
	baz=343						
WHF	**Hehuan Shan**	**1.91**	**355**	*e*S	**Sb**	**11 42 44.6**	**-1.7**
	baz=356						
TWT	**Tachien**	**2.02**	**353**	*e*P	**Pn**	**11 42 22.0**	**+1.2**
	baz=354						
TWT				*e*S	**Sb**	**11 42 47.7**	**-1.7**
	baz=354						
NNS	**Nan Shan**	**2.19**	**358**	*e*S	**Sb**	**11 42 51.9**	**-2.4**
ENTT	**Nioudou**	**2.39**	**2**	*e*P	**Pn**	**11 42 27.6**	**+1.8**
	baz=4.0						
NSTT	**Nanjuang**	**2.42**	**350**	*e*P	**Pn**	**11 42 28.1**	**+2.0**
	baz=351						
NSTT				*e*S	**Sn**	**11 42 57.5**	**+2.6**
	baz=351						
NSK	**Sanguang**	**2.43**	**358**	*e*P	**Pn**	**11 42 27.6**	**+1.2**
	baz=359						
NSK				*e*S	**Sn**	**11 42 57.4**	**+2.2**
	baz=359						
JYNG	**Yonagunijimaku**	**2.59**	**31**	P	**Pn**	**11 42 31.2**	**+2.7**
JYNG				S	**Sn**	**11 43 01.3**	**+2.2**
HATJ	**Hateruma jima**	**2.81**	**50**	P	**Pn**	**11 42 32.0**	**+0.4**
HATJ				S	**Sn**	**11 43 03.3**	**-1.3**
IRIF	**Iriomote-Funau**	**2.95**	**45**	P	**Pn**	**11 42 34.2**	**+0.8**
IRIF				*e*S	**Sn**	**11 43 07.4**	**-0.5**
JKRS	**Kuro-shima**	**3.07**	**49**	P	**Pn**	**11 42 35.6**	**+0.5**
JKRS				*e*S	**Sn**	**11 43 09.1**	**-1.9**
JIJ	**Ishigaki jima**	**3.25**	**49**	P	**Pn**	**11 42 37.8**	**+0.3**
JIJ				S	**Sn**	**11 43 13.0**	**-2.3**
JISG	**Ishigakijimahi**	**3.51**	**48**	P	**Pn**	**11 42 41.4**	**+0.3**
JISG				*e*S	**Sn**	**11 43 20.5**	**-1.2**

*TIF **08** 11:51:31.9, 42°.54N×42°.97E, h13km*
*DDA **08** 11:51:33.9, 42°.39N×43°.03E, h5km, Md2.7*
*CSEM **08** 11:51:36.6±0.5, 42°.22N×42°.98E, h2km, MD2.7, Error ellipse: s-maj=14.5km s-min=4.3km az=166.0*
ISC 08 11:51:31.1±1.6, 42°.58N±0°.06×43°.00E±0°.03, h1km±15km, n15, σ0s75/23, Western Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ONI	**Oni**	**0.34**	**88**	P	**Pb**	**11 51 39.5**	**-0.4**
ONI				S	**Sb**	**11 51 45.4**	**-0.4**
CHVG	**Ch'k'valeri**	**0.69**	**282**	P	**Pb**	**11 51 46.0**	**+0.1**
CHVG				S	**Sb**	**11 51 56.1**	**+0.2**
EPOS	**Posof**	**1.09**	**191**	*i* P	**Pg**	**11 51 51.1**	**-0.9**
EPOS	**Posof**	**1.09**	**191**	P	**Pg**	**11 51 51.1**	**-0.9**
BGD	**Bogdanovka**	**1.39**	**161**	P	**Pb**	**11 51 58.4**	**+0.5**
BGD				S	**Sn**	**11 52 16.9**	**+0.1**
TBLG	**Delisi**	**1.55**	**123**	P	Pg	11 52 05.6	+4.9
TBLG				S	**Sg**	**11 52 21.4**	**+0.7**
DBOC	**Borcka**	**1.58**	**219**	*i* P	**Pg**	**11 52 01.5**	**+0.1**
DBOC				*i* S	**Sg**	**11 52 22.2**	**+0.4**
DBOC	**Borcka**	**1.58**	**219**	P	**Pg**	**11 52 01.5**	**+0.1**
ARTV	**Artvin**	**1.60**	**210**	*i* P	**Pg**	**11 52 01.2**	**-0.6**
ARTV				*i* S	**Sg**	**11 52 23.2**	**+0.6**
ARTV	**Artvin**	**1.60**	**210**	P	**Pg**	**11 52 01.2**	**-0.6**
DAGI	**Agillar**	**1.70**	**209**	*i* P	**Pg**	**11 52 03.3**	**-0.4**
DAGI				*i* S	**Sg**	**11 52 26.4**	**+0.6**
DDEM	**Demirkent**	**1.93**	**209**	*i* P	**Pg**	**11 52 06.7**	**-0.3**
DDEM				*i* S	**Sg**	**11 52 32.6**	**-0.3**
DDEM	**Demirkent**	**1.93**	**209**	P	**Pb**	**11 52 06.7**	**-0.3**
DGRG	**David-gareji**	**2.10**	**122**	P	**Pg**	**11 52 10.7**	**-0.6**
DGRG				S	**Sg**	**11 52 40.7**	**+2.2**
DGRG	**David-gareji**	**2.10**	**122**	P	**Pg**	**11 52 10.6**	**-0.6**

*ISCJB **08** 11:57:46.2±0.6, 36°.70N±0°.04×71°.11E±0°.08, h200km, Error ellipse: s-maj=10.3km s-min=4.1km az=155.2*
*NNC **08** 11:57:50.5±1.3, 36°.98N×70°.97E, h209km±11km, mb2.6, mpv3.5, Error ellipse: s-maj=14.0km s-min=7.0km az=147.0*
ISC 08 11:57:46.4±0.9, 36°.71N±0°.07×71°.11E±0°.08, h200km, n19, σ1s18/26, 4C-4D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZET	**Dzherino**	**2.76**	**320**	⇑P	**Pn**	**11 58 35.2**	**+1.9**
	13nm,0.4s						
DZET				⇑S	**Sn**	**11 59 10.1**	**+0.1**
	356nm,0.5s						
THN	**Thein Dam**	**5.72**	**137**	*e*P	**Pn**	**11 59 10.5**	**+0.5**
THN				*e*S	**Sn**	**12 00 14.8**	**-1.2**
MNAS	**Manas**	**5.87**	**10**	⇓P	**Pn**	**11 59 13.6**	**+1.7**
	1.7nm,0.3s						
MNAS				⇓S	**Sn**	**12 00 20.3**	**+0.6**
	15nm,0.4s						
KK31	**Karatay Array**	**6.40**	**356**	⇑P	**Pn**	**11 59 19.8**	**+1.0**
	1.0nm,0.3s,baz=178,slow=12,SNR=25						
KK31				S	**Sn**	**12 00 30.4**	**-1.5**
	8.7nm,0.3s,baz=179,slow=21,SNR=7.5						
AAK	**Ala-Archa**	**6.47**	**23**	⇑P	**Pn**	**11 59 21.4**	**+1.6**
	6.1nm,0.7s						
AAK				S	**Sn**	**12 00 34.2**	**+0.4**
	12nm,0.7s						
TKM2	**Tokmak 2**	**7.10**	**28**	⇓P	**Pn**	**11 59 29.8**	**+1.9**
	1.4nm,0.5s						
TKM2				S	**Sn**	**12 00 47.6**	**-1.1**
	6.6nm,0.8s						
PYUN	**Piuthan**	**13.20**	**127**	*e*P	**Pn**	**12 00 46.1**	**-0.5**
	14nm,0.5s						
KOLN	**Koldanda**	**13.82**	**127**	*e*P	**Pn**	**12 00 53.3**	**-1.0**
	3.5nm,0.3s						
GKN	**Gorkha**	**14.35**	**123**	*e*P	**P**	**12 01 02.2**	**0.0**
	12nm,0.5s						
DMN	**Daman**	**14.92**	**123**	*e*P	**P**	**12 01 08.7**	**0.0**
	9.9nm,0.4s						
KKN	**Kakani**	**14.92**	**123**	*e*P	**P**	**12 01 08.9**	**+0.3**
	7.1nm,0.5s						
AB31	**Akbulak array**	**14.94**	**331**	P	**Pn**	**12 01 06.3**	**-1.3**
	0.9nm,0.5s,baz=142,slow=12,SNR=17						
AB31				S	**S**	**12 03 52.0**	**-1.4**
	1.0nm,0.8s,baz=147,slow=22,SNR=4.2						
PKIN	**Phulchoki**	**15.13**	**123**	*e*P	**P**	**12 01 11.2**	**+0.1**
	6.3nm,0.4s						
PKI	**Pulchoki**	**15.15**	**123**	*e*P	**P**	**12 01 11.7**	**+0.4**
	6.3nm,0.3s						
GUN	**Gumba**	**15.25**	**121**	*e*P	**P**	**12 01 14.2**	**+1.8**
	7.3nm,0.4s						
JIRN	**Jiri**	**15.62**	**121**	*e*P	**Pn**	**12 01 18.5**	**+1.9**
	100nm,0.4s						
RAMN	**Ramite**	**16.36**	**122**	*e*

BUC 08 12:09:30.2±1.3, 45.08N×28.25E, h7km±28km, MD2.0/2, 6C-2D, Error ellipse: s-maj=7.9km s-min=2.6km az=134.0, Ukraine-Moldova-Southwestern Russia region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CFR	**Carcaliu**	**0.13**	**321**	⇑*iP*	Pg	12 09 33.1	+0.1
CFR				*i* S	Sg	12 09 35.2	+0.4
CFR	**Carcaliu**	**0.13**	**321**	⇑*iP*	Pg	12 09 33.1	+0.1
CFR				*i* S	Sg	12 09 35.2	+0.4
TLCR		**0.41**	**74**	⇑*iP*	Pg	12 09 38.6	+0.4
TLCR		**0.41**	**74**	S	Sb	12 09 45.2	-1.1
TLCR		**0.41**	**74**	⇑*iP*	Pg	12 09 38.6	+0.4
TLCR				*i* S	Sb	12 09 45.2	-1.1
TLB	**Topalu**	**0.51**	**197**	⇑*iP*	Pg	12 09 40.7	+0.6
TLB	**Topalu**	**0.51**	**197**	⇑*iP*	Pg	12 09 40.7	+0.6
TLB				*i* S	Sb	12 09 48.1	-1.1
TIRR	**Tirgusor**	**0.63**	**169**	⇓*iP*	Pg	12 09 42.7	+0.4
TIRR	**Tirgusor**	**0.63**	**169**	⇓*iP*	Pg	12 09 42.7	+0.4
TIRR				*i* S	Sg	12 09 51.1	+0.6

IDC 08 12:12:07.4±8.7, 4.11S×151.68E, h0km, mb3.5/3, mb1 3.8/3, mb1mx3.5/25, mbtmp3.6/3, MS3.3/6, Ms1 3.3/6, ms1mx2.9/29, Error ellipse: s-maj=192.3km s-min=42.8km az=91.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**9.77**	**123**	LR	LR	12 18 11.6	
	comp=Z,426nm,21.1s,baz=289,slow=37						
GUMO	**Guam**	**18.84**	**339**	LR	LR	12 24 06.0	
	comp=Z,48nm,18.9s,baz=152,slow=38						
DZM	**Mont Dzumac**	**22.89**	**143**	LR	LR	12 24 53.5	
	comp=Z,119nm,21.6s,baz=228,slow=34						
WRA	**Warramunga Arr**	**23.09**	**226**	P	P	12 17 13.9	-1.0
	1.6nm,0.9s,baz=48,slow=9.5,SNR=4.0						
ASAR	**Alice Springs**	**25.93**	**220**	P	P	12 17 42.3	+0.8
	0.7nm,1.1s,baz=61,slow=8.3,SNR=3.6						
MJAR	**Matsushiro Arr**	**42.36**	**344**	LR	LR	12 36 08.2	
	comp=Z,21nm,21.6s,baz=55,slow=34						
KLR	**Kul'dur**	**55.88**	**344**	LR	LR	12 45 07.5	
	comp=Z,16nm,19.5s,slow=35						
CMAR	**Chiang Mai Arr**	**56.57**	**295**	P	P	12 21 52.3	-0.1
	0.6nm,0.5s,baz=108,slow=5.2,SNR=4.7						
PETK	**Petropavlovsk-**	**57.23**	**4**	LR	LR	12 42 15.2	
	comp=Z,29nm,20.9s,baz=186,slow=32						

*ISCJB **08** 12:31:26.9±1.3, 6.2S±0.2×154.69E±0.06, h100km, mb4.2/5, Error ellipse: s-maj=22.6km s-min=7.6km az=7.4*
*IDC **08** 12:31:28.3±3.2, 6.23S×154.67E, h96km±26km, mb4.1/5, mb1 4.1/9, mb1mx3.7/38, mbtmp4.4/9, MS3.3/8, Ms1 3.3/8, ms1mx3.0/27, Error ellipse: s-maj=32.0km s-min=19.4km az=7.0*

ISC 08 12:31:28.1±1.3, 6.3S±0.2×154.74E±0.08, h100km, n18, σ1°56/13, mb4.3/5, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**6.05**	**122**	P	**Pn**	**12 32 55.7**	**+0.7**
	20nm,0.3s,baz=276,slow=4.7,SNR=6.3						
HNR				LR	LR	12 35 47.8	
	comp=Z,138nm,18.9s,baz=226,slow=42						
HNR	**Honiara**	**6.05**	**122**	P	**Pn**	**12 32 51.0**	**-4.0**
HNR				S	**Sn**	**12 34 05.0**	**+2.1**
PMG	**Port Moresby**	**8.13**	**247**	P	**Pn**	**12 33 22.8**	**-0.7**
	2.9nm,0.3s,baz=55,slow=9.3,SNR=11						
PMG				S	**Sn**	**12 34 53.7**	**-0.1**
	3.1nm,0.3s,baz=159,slow=21,SNR=12						
PMG				LR	LR	12 37 01.7	
	comp=Z,89nm,18.4s,baz=44,slow=41						
CTA	**Charters Tower**	**16.03**	**210**	P	**P**	**12 35 09.9**	**+0.6**
	0.2nm,0.3s,baz=24,slow=16,SNR=3.2						
DZM	**Mont Dzumac**	**19.37**	**145**	P	**Pn**	**12 35 47.8**	**-0.4**
	0.7nm,0.3s,baz=297,slow=18,SNR=5.6						
WRA	**Warramunga Arr**	**24.04**	**234**	P	**P**	**12 36 34.5**	**+0.4**
	18nm,0.9s,baz=56,slow=9.4,SNR=56						
ASAR	**Alice Springs**	**26.48**	**227**	P	**P**	**12 36 55.8**	**-0.4**
	6.8nm,0.6s,baz=56,slow=9.4,SNR=195						
ASAR				LR	LR	12 46 07.5	
	comp=Z,74nm,19.9s,baz=328,slow=33						
H11S3	**WAKE ISLAND Hy**	**27.27**	**25**	T	T	13 05 37.6	
	baz=202,SNR=22						
H11S2	**WAKE ISLAND Hy**	**27.28**	**25**	T	T	13 05 44.4	
	baz=202,slow=74						
H11S1	**WAKE ISLAND Hy**	**27.29**	**25**	T	T	13 05 41.5	
	baz=202,slow=74						
STKA	**Stephens Creek**	**28.30**	**204**	P	**P**	**12 37 12.2**	**-0.1**
	2.6nm,0.6s,baz=28,slow=12,SNR=4.9						
STKA				LR	LR	12 48 03.0	
	comp=Z,71nm,18.2s,baz=216,slow=35						
RPZ	**Rata Peaks**	**39.97**	**162**	LR	LR	12 55 01.4	
	comp=Z,38nm,18.7s,baz=268,slow=35						
PETK	**Petropavlovsk-**	**59.19**	**2**	LR	LR	13 08 28.9	
	comp=Z,17nm,18.4s,baz=140,slow=38						
CMAR	**Chiang Mai Arr**	**60.24**	**295**	P	**P**	**12 41 26.9**	**+0.6**
	1.2nm,0.7s,baz=118,slow=4.8,SNR=6.1						
ILAR	**Eielson Array**	**82.78**	**22**	LR	LR	13 13 38.9	
	comp=Z,37nm,21.7s,baz=261,slow=31						
MAW	**Mawson**	**84.98**	**203**	P	**P**	**12 43 53.1**	**+1.2**
	1.9nm,0.5s,baz=103,slow=6.3,SNR=12						
PDAR	**Pinedale Array**	**98.39**	**48**	LR	LR	13 21 51.2	
	comp=Z,24nm,19.5s,baz=90,slow=31						
TORD	**Torodi Ar. Bea**	**152.58**	**286**	PKPbc	**PKPbc**	**12 51 13.6**	**-0.4**
	0.6nm,0.7s,baz=66,slow=2.5,SNR=4.1						

NNC 08 12:34:17.9±2.8, 54.52N×85.97E, h0km, mb3.9, mpv3.0, 8C-2D, Error ellipse: s-maj=61.5km s-min=15.0km az=144.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZAA0	**Zalesovo Array**	**0.89**	**230**	⇑P	Pg	12 34 34.0	-0.9
	0.4nm,0.3s						
ZAA0				⇑S	Sb	12 34 47.7	-0.8
	2.2nm,0.3s						
ZAA0				⇑Rg	Rg	12 34 49.9	
KURK	**Kurchatov**	**5.88**	**233**	⇑Pn	Pn	12 35 48.0	+1.9
	3.8nm,1.0s						
KURK				⇑Lg	Lg	12 37 25.9	
	4.7nm,0.9s						
KURBB	**Kurchatov Arra**	**5.98**	**232**	⇓Pn	Pn	12 35 48.7	+1.1
	4.0nm,0.8s						
KURBB				⇑Sn	Sn	12 36 56.3	-0.5
	2.7nm,0.7s						
KURBB				⇑Lg	Lg	12 37 28.7	
	7.5nm,0.7s						
MK31	**Makanchi Array**	**8.08**	**198**	⇓Pn	Pn	12 36 17.1	+0.6
	1.7nm,0.6s,baz=30,slow=15,SNR=19						
MK31				⇑Lg	Lg	12 38 32.8	
	5.0nm,1.1s,baz=27,slow=32,SNR=4.6						

*NIED **08** 12:34:00, 39.10N×142.60E, h20km, Mw3.5 Best double couple: M0 1.72000×10^14 NP1: φ=150.00000°, δ=33.00000°, λ=-46.00000°. NP2: φ=281.00000°, δ=67.00000°, λ=-114.00000°.*
*JMA **08** 12:34:57.9±0.1, 39.14N×142.60E, h28km±1km, M3.8*
*IDC **08** 12:34:59.6±1.4, 38.25N×143.12E, h0km, mb3.6/3, mb1 3.8/5, mb1mx3.6/33, mbtmp3.7/5, ML3.2/2, Error ellipse: s-maj=61.7km s-min=25.0km az=123.0*

ISC 08 12:34:55.7±2.1, 39.11N±0.04×142.69E±0.08, h15km±10km, n18, σ1°19/24, mb3.7/3, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OFUJ	**Ofunato**	**0.80**	**268**	P	**Pg**	**12 35 11.8**	**+0.5**
OFUJ				*e*S	**Sg**	**12 35 21.6**	**-0.2**
MIYJ	**Miyakonagasawa**	**0.82**	**305**	P	**Pg**	**12 35 11.8**	**0.0**
MIYJ				*e*S	**Sg**	**12 35 21.6**	**-1.0**
JTH	**Tanohata**	**1.05**	**323**	P	**Pb**	**12 35 15.7**	**+0.1**
JTH				*e*S	**Sb**	**12 35 28.7**	**-0.5**
JOM	**Ohasama**	**1.15**	**289**	P	**Pn**	**12 35 17.2**	**0.0**
JOM				*e*S	**Sb**	**12 35 31.0**	**-0.9**
JMK	**Ichinoseki**	**1.16**	**263**	P	**Pn**	**12 35 17.4**	**+0.1**
JMK				*e*S	**Sb**	**12 35 31.4**	**-0.8**
JIO	**Ouri**	**1.24**	**239**	P	**Pn**	**12 35 18.4**	**0.0**
JIO				*e*S	**Sb**	**12 35 32.9**	**-1.6**
JKZ	**Kuzumaki**	**1.37**	**310**	P	**Pn**	**12 35 20.8**	**+0.4**
JKZ				*e*S	**Sn**	**12 35 37.6**	**-0.7**
JANG	**Nango**	**1.56**	**325**	P	**Pn**	**12 35 23.3**	**+0.4**
JANG				*e*S	**Sn**	**12 35 42.2**	**-0.6**
JRG	**Rokugo**	**1.62**	**281**	P	**Pn**	**12 35 25.1**	**+1.3**
JOU	**Okura**	**1.75**	**246**	P	**Pn**	**12 35 26.5**	**+1.0**
JOU				*e*S	**Sn**	**12 35 48.1**	**+0.5**
MJAR	**Matsushiro Arr**	**4.38**	**236**	Pn	**Pn**	**12 36 05.2**	**+3.6**
	1.1nm,0.3s,baz=41,slow=11,SNR=11						
JHJ	**Hachijo jima 2**	**6.42**	**202**	Pn	**Pn**	**12 36 28.6**	**-1.1**
	2.7nm,0.3s,baz=274,slow=23,SNR=4.3						
JHJ				Sn	**Sn**	**12 37 40.9**	**-1.9**
	3.7nm,0.3s,baz=75,slow=22,SNR=2.8						
H11N2	**WAKE ISLAND Hy**	**28.44**	**126**	T	T	13 11 18.8	
	baz=318,slow=75,SNR=70						
H11N1	**WAKE ISLAND Hy**	**28.45**	**126**	T	T	13 11 19.5	
	baz=318,slow=75,SNR=56						
H11N3	**WAKE ISLAND Hy**	**28.46**	**126**	T	T	13 11 20.2	
	baz=318,slow=75,SNR=47						
ILAR	**Eielson Array**	**47.21**	**33**	P	P	12 43 38.1	+11
	0.6nm,0.8s,baz=266,slow=6.4,SNR=6.5						
WRA	**Warramunga Arr**	**59.26**	**189**	P	**P**	**12 44 56.9**	**+0.4**
	0.8nm,0.5s,baz=4.8,slow=7.0,SNR=6.1						
ASAR	**Alice Springs**	**62.98**	**189**	P	**P**	**12 45 22.6**	**+0.9**
	0.3nm,0.7s,baz=8.9,slow=6.6,SNR=4.9						

MEX 08 12:44:07.3±0.4, 16.29N×98.10W, h3km±3km, MD3.6, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.10**	**346**	*e*P	Pg	12 44 09.1	-0.3
PNIG				*i* S	Sg	12 44 10.8	0.0
TLIG	**Tlapa**	**1.34**	**341**	*e*P	Pg	12 44 28.8	-4.2
TLIG				*i* S	Sg	12 44 45.9	-4.5
VHO	**Vista Hermosa**	**1.52**	**59**	*e*P	Pn	12 44 31.6	-4.0
VHO				*i* S	Sn	12 44 51.2	-4.8
ACX	**Acapulco**	**1.78**	**289**	*e*P	Pn	12 44 32.8	-6.2
ACX				*i* S	Sn	12 44 55.5	-6.6
MEIG	**Mezcala**	**2.18**	**318**	*e*P	Pn	12 44 42.1	-2.4
MEIG				*e*S	Sn	12 45 08.4	-3.6
CAIG	**El Cayaco**	**2.21**	**290**	*e*P	Pn	12 44 42.2	-2.6
CAIG				*i* S	Sn	12 45 08.0	-4.6

SJA 08 12:44:49.0±0.7, 31.75S×68.28W, h121km±5km, ML3.0, MW3.8, San Juan Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RTCV	**Cerro Valdivia**	**0.25**	**243**	*i* P	Pn	12 45 06.1	+0.2
RTLL	**Cerro Villicun**	**0.45**	**338**	*i* P	Pn	12 45 07.6	+0.8
RTLL				IAML		12 45 07.6	
	comp=Z,341nm,0.1s						
RTLL				*i* S	Sn	12 45 21.4	+1.1
AMOG	**MOGNA**	**0.83**	**347**	*i* P	Pn	12 45 10.2	+0.6
ASAL	**Salagasta**	**0.96**	**209**	*i* P	Pn	12 45 11.7	+0.8
AUSP	**Uspallata**	**1.05**	**243**	*i* P	Pn	12 45 12.8	+0.9
ACAN	**Cantantal**	**1.06**	**120**	*i* P	Pn	12 45 12.9	+1.2
ARCO	**CERRO ARCO**	**1.22**	**207**	*i* P	Pn	12 45 14.5	+0.9
ARCO				IAML		12 45 14.8	
	comp=Z,225nm,0.3s						
ARCO				*i* S	Sn	12 45 32.7	+0.5
AVFE	**Valle Fertil**	**1.29**	**33**	*i* P	Pn	12 45 15.0	+0.7
AVFE				*i* S	Sn	12 45 34.0	+0.6
AVFE				IAML		12 45 35.1	
	comp=Z,45nm,0.3s						
ACCO	**Cerro Coronel**	**1.34**	**330**	*i* P	Pn	12 45 16.2	+1.2
ACCO				IAML		12 45 16.6	
	comp=Z,287nm,0.2s						
ACCO				*i* S	Sn	12 45 36.5	+1.8
AAGR	**Agrelo**	**1.41**	**199**	*i* P	Pn	12 45 16.7	+1.1
ACHE	**Chepes**	**1.50**	**67**	*i* P	Pn	12 45 17.5	+0.8
ACDV	**Cuesta del Vie**	**1.73**	**335**	*i* P	Pn	12 45 20.6	+1.2
AROD	**Rodeo**	**1.88**	**327**	*i* P	Pn	12 45 22.8	+1.5

*IDC **08** 13:17:25.1±1.2, 44.59N×10.55E, h0km, mb3.8/3, mb1 4.0/8, mb1mx3.7/47, mbtmp3.8/8, ML4.1/5, MS2.8/8, Ms1 2.8/8, ms1mx2.6/50, Error ellipse: s-maj=29.0km s-min=12.5km az=124.0*
*GEN **08** 13:17:26.7, 44.70N×10.27E, h0km, ML3.6*
*CSEM **08** 13:17:27.3±0.1, 44.67N×10.29E, h10km, ML4.1/33, Error ellipse: s-maj=1.6km s-min=1.4km az=25.0*
*ISCJB **08** 13:17:28.0±0.2, 44.65N±0.01×10.25E±0.01, h29km±2km, mb3.8/3, MS2.8/2, Error ellipse: s-maj=1.8km s-min=1.5km az=173.8*
*ROM **08** 13:17:28.0±0.1, 44.64N×10.20E, h20km±1km, Ml3.7/83, Error ellipse: s-maj=1.1km s-min=1.0km az=112.0*
*PRU **08** 13:17:28.6, 44.75N×10.44E, h4km*
*LDG **08** 13:17:29.3±0.1, 44.69N×10.48E, h20km, Md3.3/4, Ml3.9/18, Error ellipse: s-maj=2.6km s-min=1.7km az=39.0*
*STR **08** 13:17:31.7±0.2, 44.82N×10.12E, h10km, Ml4.1, Error ellipse: s-maj=0.0km s-min=0.0km az=0.0*

ISC 08 13:17:26.9±0.9, 44.61N±0.01×10.30E±0.01, h17km±7km, n410, σ1°48/580, mb4.0/3, 33C-15D, Northern Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PRMA	**PARMA**	**0.15**	**3**	⇓*i*Pg	**Pb**	**13 17 32.0**	**+0.7**
PRMA				Sg	**Sb**	**13 17 35.7**	**+1.4**
	39µm,0.4s						
PRMA	**PARMA**	**0.15**	**3**	⇓*i*Pg	**Pb**	**13 17 32.0**	**+0.7**
NOVE	**Novellara**	**0.35**	**58**	Pg	**Pb**	**13 17 35.6**	**+0.9**
NOVE				Sg	**Sn**	**13 17 43.2**	**-0.6**
	12µm,0.3s						
NOVE	**Novellara**	**0.35**	**58**	Pg	**Pb**	**13 17 35.6**	**+0.9**
CODM	**Codolo**	**0.39**	**236**	P	**Pb**	**13 17 35.3**	**-0.1**
CODM				S	**Sb**	**13 17 41.5**	**+0.4**
SARO	**Sassorosso**	**0.43**	**170**	P	**Pn**	**13 17 37.0**	**-1.4**
SARO				S	**Sn**	**13 17 44.1**	**-1.9**
VLC	**Villacollemand**	**0.46**	**172**	Pg	**Pn**	**13 17 37.3**	**-1.4**
VLC				Sg	**Sn**	**13 17 45.1**	**-1.4**
	9µm,1.0s						
VLC	**Villacollemand**	**0.46**	**172**	Pg	**Pn**	**13 17 37.3**	**-1.4**
VLC				Sg	**Sn**	**13 17 45.1**	**-1.4**
	9µm,1.0s						
ZCCA	**Zocca**	**0.55**	**118**	Pg	**Pn**	**13 17 40.5**	**+0.5**
ZCCA				Sg	**Sn**	**13 17 48.6**	**-0.2**
	2µm,0.4s						
ZCCA	**Zocca**	**0.55**	**118**	Pg	**Pn**	**13 17 40.5**	**+0.5**
SC2M	**Scurtabo**	**0.59**	**250**	⇑*i*Pg	**Pg**	**13 17 38.3**	**-0.2**
SC2M				Sg	**Sb**	**13 17 47.1**	**+0.3**
	6µm,0.3s						
SC2M	**Scurtabo**	**0.59**	**250**	P	**Pg**	**13 17 38.3**	**-0.2**
SC2M				S	**Sg**	**13 17 46.7**	**+0.3**
SC2M				Sg	**Sb**	**13 17 47.1**	**+0.3**
	6µm,0.3s						
BDI	**Bagni Di Lucca**	**0.59**	**159**	Pg	**Pn**	**13 17 39.8**	**-0.8**
BDI				Sg	**Sn**	**13 17 49.3**	**-0.5**
	4µm,0.7s						
BDI	**Bagni Di Lucca**	**0.59**	**159**	Pg	**Pn**	**13 17 39.8**	**-0.8**
BDI				Sg	**Sn**	**13 17 49.3**	**-0.5**
	4µm,0.7s						
RAVA	**Ravarino**	**0.60**	**76**	Pg	**Pn**	**13 17 41.5**	**+0.9**
	5µm,0.4s						
SBPO	**S.Benedetto Po**	**0.62**	**45**	Pg	**Pn**	**13 17 41.2**	**+0.3**
SBPO				Sg	**Sn**	**13 17 50.7**	**+0.2**
	6µm,0.3s						
BOB	**Bobbio (Coli)**	**0.63**	**285**	Pg	**Pg**	**13 17 39.3**	**0.0**
BOB				Sg	**Sg**	**13 17 47.8**	**+0.1**
	5µm,0.6s						
BOB	**Bobbio (Coli)**	**0.63**	**285**	Pg	**Pg**	**13 17 39.3**	**0.0**
BOB				Sg	**Sg**	**13 17 47.8**	**+0.1**
	5µm,0.6s						
MSSA	**Maissana**	**0.63**	**243**	Pg	**Pg**	**13 17 39.2**	**-0.2**
MSSA				Sg	**Sb**	**13 17 48.5**	**+0.3**
	2µm,0.8s						
MSSA	**Maissana**	**0.63**	**243**	Pg	**Pg**	**13 17 39.2**	**-0.2**
MSSA				Sg	**Sb**	**13 17 48.5**	**+0.3**
	2µm,0.8s						
POPM	**Popiglio**	**0.65**	**150**	P	**Pn**	**13 17 41.3**	**-0.1**
POPM				S	**Sn**	**13 17 50.5**	**-0.8**
MAIM	**Mastiano**	**0.71**	**169**	Pg	**Pn**	**13 17 41.5**	**-0.7**
MAIM				Sg	**Sn**	**13 17 52.2**	**-0.5**
	2µm,0.5s						
MAIM	**Mastiano**	**0.71**	**169**	Pg	**Pn**	**13 17 41.5**	**-0.7**
MAIM				Sg	**Sn**	**13 17 52.2**	**-0.5**
	2µm,0.5s						
FNVD	**Fontana Vidola**	**0.74**	**127**	Pg	**Pn**	**13 17 43.0**	**+0.4**
FNVD				Sg	**Sn**	**13 17 55.8**	**+2.3**
	3µm,0.6s						
FNVD	**Fontana Vidola**	**0.74**	**127**	Pg	**Pn**	**13 17 43.0**	**+0.4**
CTL8	**Castelleone**	**0.77**	**330**	Pg	**Pb**	**13 17 41.8**	**0.0**
CTL8				Sg	**Sb**	**13 17 52.7**	**+0.8**
CTL8	**Castelleone**	**0.77**	**330**	Pg	**Pb**	**13 17 41.8**	**0.0**
CTL8				Sg	**Sb**	**13 17 52.7**	**+0.8**
PTF	**Prato**	**0.85**	**139**	*e*Pg	**Pn**	**13 17 44.4**	**+0.2**
PTF	**Prato**	**0.85**	**139**	Pg	**Pn**	**13 17 44.8**	**+0.6**
PTF				Sg	**Sn**	**13 17 58.4**	**+2.1**
PTF	**Prato**	**0.85**	**139**	*e*Pg	**Pn**	**13 17 44.4**	**+0.2**
PTF				Sg	**Sn**	**13 17 58.4**	**+2.1**
MTRZ	**Monterenzio**	**0.87**	**105**	Pg	**Pn**	**13 17 47.7**	**+3.4**
	4µm,0.6s						
SEI	**Scarperia**	**0.94**	**126**	Pg	**Pn**	**13 17 46.8**	**+1.4**
SEI	**Scarperia**	**0.94**	**126**	Pg	**Pn**	**13 17 46.8**	**+1.4**
CRMI	**Carmignano**	**0.95**	**149**	Pg	**Pn**	**13 17 46.5**	**+1.0**
CRMI				Sg	**Sn**	**13 18 01.0**	**+2.3**
	2µm,0.8s						
CRMI	**Carmignano**	**0.95**	**149**	Pg	**Pn**	**13 17 46.5**	**+1.0**
CRMI				Sg	**Sn**	**13 18 01.0**	**+2.3**
	2µm,0.8s						
SALO	**Salr**	**1.02**	**9**	Pg	**Pb**	**13 17 46.8**	**+0.7**
SALO				Sg	**Sn**	**13 18 01.6**	**+1.2**
	12µm,0.6s						
SALO	**Salr**	**1.02**	**9**	Pg	**Pb**	**13 17 46.8**	**+0.7**
IMOL	**Imola, Italy**	**1.06**	**103**	Pg	**Pg**	**13 17 50.6**	**+3.1**
IMOL				Sg	**Sn**	**13 18 05.4**	**+4.1**
FIR	**Firenze**	**1.08**	**140**	Pg	**Pg**	**13 17 50.1**	**+2.3**
	2µm,0.4s						
FIR	**Firenze**	**1.08**	**140**	Pg	**Pg**	**13 17 50.1**	**+2.3**
	2µm,0.4s						
VMG	**Vicchio**	**1.10**	**126**	Pg	**Pg**	**13 17 49.2**	**+0.9**
VMG	**Vicchio**	**1.10**	**126**	Pg	**Pg**	**13 17 49.2**	**+0.9**
BALD	**Monte Baldo**	**1.13**	**19**	*e*Pg	**Pn**	**13 17 48.5**	**+0.3**
BALD				*e*Sg	**Sb**	**13 18 03.9**	**+1.2**
BALD	**Monte Baldo**	**1.13**	**19**	*e*Pg	**Pn**	**13 17 48.5**	**+0.3**
BALD				*e*Sg	**Sb**	**13 18 03.9**	**+1.2**
ROVR	**Rover˜¤ Verone**	**1.17**	**28**	Pg	**Pn**	**13 17 48.8**	**+0.2**
ROVR				Sg	**Sg**	**13 18 05.4**	**+0.5**
	15µm,0.3s						
ROVR	**Rover˜¤ Verone**	**1.17**	**28**	Pg	**Pn**	**13 17 48.8**	**+0.2**
ROVR				Sg	**Sg**	**13 18 05.4**	**+0.5**
	15µm,0.3s						
MAGA	**Magasa**	**1.19**	**11**	Pg	**Pn**	**13 17 48.9**	**+0.1**
MAGA				Sg	**Sb**	**13 18 05.3**	**+1.1**
	15µm,0.5s						
MAGA	**Magasa**	**1.19**	**11**	Pg	**Pn**	**13 17 48.9**	**+0.1**
MAGA				Sg	**Sb**	**13 18 05.3**	**+1.1**
	15µm,0.5s						
MARN	**Marana (Italy)**	**1.21**	**32**	⇑*e*Pg	**Pn**	**13 17 49.3**	**+0.2**
MARN				*e*Sg	**Sn**	**13 18 05.8**	**+0.7**
MARN	**Marana (Italy)**	**1.21**	**32**	*e*Pg	**Pn**	**13 17 49.3**	**+0.2**
MARN				*e*Sg	**Sn**	**13 18 05.8**	**+0.7**
TEOL	**Teolo**	**1.23**	**52**	Pg	**Pg**	**13 17 50.7**	**+0.1**
TEOL				Sg	**Sg**	**13 18 07.3**	**+0.7**
	9µm,0.4s						
TEOL	**Teolo**	**1.23**	**52**	⇑*e*Pg	**Pn**	**13 17 49.6**	**+0.3**
TEOL	**Teolo**	**1.23**	**52**	Pg	**Pg**	**13 17 50.7**	**+0.1**
TEOL				Sg	**Sg**	**13 18 07.3**	**+0.7**
	9µm,0.4s						
PCP	**Piancastagn**	**1.26**	**267**	Pg	**Pn**	**13 17 50.4**	**+0.7**
PCP				Sg	**Sb**	**13 18 05.5**	**-0.6**
	1µm,0.7s						
PCP	**Piancastagn**	**1.26**	**267**	P	**Pn**	**13 17 50.3**	**+0.6**
ADRI	**Adria, Italy**	**1.29**	**70**	*e*Pg	**Pg**	**13 17 52.4**	**+0.5**
ADRI	**Adria, Italy**	**1.29**	**70**	*e*Pg	**Pg**	**13 17 52.4**	**+0.5**
SFI	**Santa Sofia**	**1.32**	**122**	Pn	**Pg**	**13 17 54.4**	**+2.1**
	1µm,0.7s						
ASQU	**Asqua**	**1.34**	**127**	Pn	**Pg**	**13 17 53.5**	**+0.7**
	1µm,1.0s						
ASQU	**Asqua**	**1.34**	**127**	Pn	**Pg**	**13 17 53.5**	**+0.7**
	1µm,1.0s						
SASS	**Sassa´´´´´**	**1.38**	**168**	Pg	**Pg**	**13 17 52.5**	**-1.0**
SASS				Sg	**Sg**	**13 18 11.2**	**-0.3**
	526nm,0.5s						
SASS	**Sassa´´´´´**	**1.38**	**168**	Pg	**Pg**	**13 17 52.5**	**-1.0**
SASS				Sg	**Sg**	**13 18 11.2**	**-0.3**
	526nm,0.5s						
RNI	**Roncone**	**1.39**	**9**	⇑*e*Pg	**Pn**	**13 17 51.9**	**+0.2**
RNI				*e*Sg	**Sn**	**13 18 09.8**	**0.0**
RNI	**Roncone**	**1.39**	**9**	*e*Pg	**Pn**	**13 17 51.9**	**+0.2**
RNI				*e*Sg	**Sn**	**13 18 09.8**	**0.0**
DDS	**Dosso del Somm**	**1.42**	**26**	⇓*e*Pg	**Pn**	**13 17 52.0**	**0.0**
DDS				*e*Sg	**Sn**	**13 18 11.3**	**+0.9**
DDS	**Dosso del Somm**	**1.42**	**26**	*e*Pg	**Pn**	**13 17 52.0**	**0.0**
DDS				*e*Sg	**Sn**	**13 18 11.3**	**+0.9**
QLNO	**Quiliano**	**1.43**	**259**	Pn	**Pn**	**13 17 52.8**	**+0.7**
	391nm,0.6s						
QLNO	**Quiliano**	**1.43**	**259**	Pn	**Pn**	**13 17 52.8**	**+0.7**
	391nm,0.6s						
MABI	**Malga Bissina**	**1.45**	**6**	Pn	**Pn**	**13 17 52.9**	**+0.3**
MABI				Sn	**Sn**	**13 18 11.5**	**+0.2**
	2µm,0.3s						
MABI	**Malga Bissina**	**1.45**	**6**	Pn	**Pn**	**13 17 52.9**	**+0.3**
MABI				Sn	**Sn**	**13 18 11.5**	**+0.2**
	2µm,0.3s						
FINB	**Finale Ligure**	**1.48**	**254**	Pn	**Pn**	**13 17 53.0**	**+0.2**
	1µm,0.4s						
FINB	**Finale Ligure**	**1.48**	**254**	Pn	**Pn**	**13 17 53.0**	**+0.2**
	1µm,0.4s						
T0502	**

	440nm,0.8s								
CASP	**Castiglione de**	1.86	167		Pn	Pb	13 17 59.2	-1.3
	440nm,0.8s								
CELB	**S.Piero in Cam**	1.86	182		Pg	Pb	13 17 59.1	-1.5
IMI	**Imperia**	1.87	249		Pn	Pn	13 17 58.4	+0.3
	430nm,0.4s								
IMI	**Imperia**	1.87	249		P	Pn	13 17 58.6	+0.5
OZOL	**Ozolo**	1.87	16	⇓	*e*Pn	Pn	13 17 59.2	+1.0
OZOL					*e*Sn	Sn	13 18 22.8	+1.3
OZOL	**Ozolo**	1.87	16		*e*Pn	Pn	13 17 59.2	+1.0
OZOL					*e*Sn	Sn	13 18 22.8	+1.3
VARN	**Col Varnada, M**	1.88	42	⇓	*e*Pn	Pn	13 17 58.4	+0.1
VARN					*e*Sn	Sn	13 18 21.9	+0.3
VARN	**Col Varnada, M**	1.88	42		*e*Pn	Pn	13 17 58.4	+0.1
VARN					*e*Sn	Sn	13 18 21.9	+0.3
ATPC	**Poggio Castell**	1.92	125		Pn	Pb	13 18 01.7	+0.2
	453nm,0.5s								
ATPC	**Poggio Castell**	1.92	125		Pn	Pb	13 18 01.7	+0.2
	453nm,0.5s								
PIEI	**Pieia**	1.94	123		Pn	Pb	13 18 02.3	+0.6
	326nm,1.0s								
PIEI	**Pieia**	1.94	123		Pn	Pb	13 18 02.3	+0.6
	323nm,1.0s								
PESA	**Pesaro**	1.94	109		Pn	Pb	13 18 01.2	-0.6
	531nm,0.4s								
PESA	**Pesaro**	1.94	109		Pn	Pb	13 18 01.2	-0.6
	531nm,0.4s								
ARCI	**Arcidosso**	1.95	154		Pn	Pb	13 18 01.1	-1.0
	136nm,0.7s								
ARCI	**Arcidosso**	1.95	154		Pn	Pb	13 18 01.1	-1.0
	136nm,0.7s								
ATVO	**AVT- Monte Val**	1.95	128		Pn	Pb	13 18 01.7	-0.4
	628nm,0.8s								
ATVO	**AVT- Monte Val**	1.95	128		Pn	Pb	13 18 01.7	-0.4
	628nm,0.8s								
APPI	**Appiano**	1.98	19		Pn	Pn	13 18 00.5	+0.8
	2µm,0.4s								
APPI	**Appiano**	1.98	19		Pn	Pn	13 18 00.5	+0.8
	2µm,0.4s								
TUE	**Stuetta**	1.98	341		Pn	Pn	13 18 00.8	+1.0
	745nm,0.6s								
TUE	**Stuetta**	1.98	341		Pn	Pn	13 18 00.8	+1.0
	745nm,0.6s								
KOSI	**Kohlern**	2.00	22		Pn	Pn	13 18 00.9	+0.8
	809nm,0.4s								
KOSI	**Kohlern**	2.00	22		Pn	Pn	13 18 00.9	+0.8
	809nm,0.4s								
FSSB	**Fossombrone**	2.00	116		Pn	Pb	13 18 02.6	-0.3
	601nm,0.4s								
FSSB	**Fossombrone**	2.00	116		Pn	Pb	13 18 02.6	-0.3
	601nm,0.4s								
FUORN	**Ofenpass-Fuorn**	2.01	359		Pn	Pn	13 18 01.7	+1.4
	509nm,0.5s								
FUORN	**Ofenpass-Fuorn**	2.01	359		Pn	Pn	13 18 01.7	+1.4
	509nm,0.5s								
MOSI	**Grossmontoni**	2.01	5		Pn	Pn	13 18 01.6	+1.3
	2µm,0.5s								
MOSI	**Grossmontoni**	2.01	5		Pn	Pn	13 18 01.6	+1.3
	2µm,0.5s								
NEGI	**Seborga**	2.02	249		Pn	Pn	13 18 00.6	+0.4
	526nm,0.7s								
NEGI	**Seborga**	2.02	249		Pn	Pn	13 18 00.6	+0.4
	526nm,0.7s								
NEGI					S	Sn	13 18 23.3	-1.7
TRAV	**Traversella**	2.02	297		Pn	Pn	13 17 59.8	-0.5
	706nm,0.3s								
TRAV	**Traversella**	2.02	297		Pn	Pn	13 17 59.8	-0.5
	706nm,0.3s								
TRAV	**Traversella**	2.02	297		P	Pn	13 18 00.1	-0.2
TRAV					S	Sn	13 18 23.1	-2.1
MPAG	**Monte Paganucc**	2.02	118		Pn	Pb	13 18 03.0	-0.3
	451nm,0.7s								
MPAG	**Monte Paganucc**	2.02	118		Pn	Pb	13 18 03.0	-0.3
	451nm,0.7s								
ATTE	**AVT- Monte Tez**	2.05	133		Pn	Pb	13 18 02.2	-1.5
	388nm,0.5s								
ATTE	**AVT- Monte Tez**	2.05	133		Pn	Pb	13 18 02.2	-1.5
	388nm,0.5s								
FRON	**Frontone**	2.06	121		Pn	Pb	13 18 03.8	-0.1
	531nm,0.9s								
FRON	**Frontone**	2.06	121		Pn	Pb	13 18 03.8	-0.1
	531nm,0.9s								
AGOR	**Agordo**	2.08	36		Pn	Pn	13 18 01.6	+0.6
	893nm,0.3s								
AGOR	**Agordo**	2.08	36	⇓	*e*Pn	Pn	13 18 01.8	+0.8
MCIV	**Monte Civitell**	2.09	151		Pn	Pb	13 18 03.8	-0.5
	107nm,0.8s								
MCIV	**Monte Civitell**	2.09	151		Pn	Pb	13 18 03.8	-0.5
	107nm,0.8s								
MURB	**Monte Urbino**	2.10	129		Pn	Pb	13 18 03.6	-0.9
	798nm,0.3s								
MURB	**Monte Urbino**	2.10	129		Pn	Pb	13 18 03.6	-0.9
	798nm,0.3s								
ENR	**Entracque**	2.10	260		Pn	Pn	13 18 02.5	+1.2
	448nm,0.9s								
ENR	**Entracque**	2.10	260		P	Pn	13 18 02.6	+1.2
ENR					S	Sn	13 18 26.0	-1.1
SACS	**San Casciano d**	2.11	146		Pn	Pb	13 18 04.1	-0.7
	322nm,0.9s								
SSFR	**Montelago di S**	2.14	122		Pn	Pb	13 18 04.9	-0.3
	421nm,0.2s								
SSFR	**Montelago di S**	2.14	122		Pn	Pb	13 18 04.9	-0.3
	421nm,0.2s								
MGAB	**Montegabbione**	2.15	142		Pn	Pb	13 18 04.4	-0.9
	337nm,0.5s								
MGAB	**Montegabbione**	2.15	142		Pn	Pb	13 18 04.4	-0.9
	337nm,0.5s								
STV	**Sant Anna di V**	2.16	261		Pn	Pn	13 18 03.3	+1.1
	263nm,1.0s								
STV	**Sant Anna di V**	2.16	261		P	Pn	13 18 03.4	+1.2
STV					S	Sn	13 18 27.3	-1.4
FUSIO	**Fusio**	2.17	329		Pn	Pn	13 18 02.6	+0.2
	820nm,0.6s								
FUSIO	**Fusio**	2.17	329		Pn	Pn	13 18 02.6	+0.2
	820nm,0.6s								
BHB	**Bricherasio**	2.18	277		Pn	Pn	13 18 03.6	+1.2
	412nm,0.7s								
BHB	**Bricherasio**	2.18	277		P	Pn	13 18 03.5	+1.2
BHB					S	Sn	13 18 26.9	-2.1
DOI	**San Damiano**	2.19	268		Pn	Pn	13 18 04.1	+1.5
	735nm,0.7s								
DOI	**San Damiano**	2.19	268		Pn	Pn	13 18 04.1	+1.5
	735nm,0.7s								
MMK	**Mattmark**	2.19	312		Pn	Pn	13 18 04.1	+1.4
	382nm,0.3s								
MMK	**Mattmark**	2.19	312		Pn	Pn	13 18 04.1	+1.4
	382nm,0.3s								
DAVOX	**Davos/Dischmat**	2.19	352		Pn	Pn	13 18 04.6	+1.8
	81nm,0.3s,baz=328,slow=23,SNR=273								
DAVOX					Sn	Sb	13 18 32.7	-0.4
	140nm,0.3s,baz=162,slow=21,SNR=15								
DAVOX					LR	LR	13 19 10.0		
	comp=Z,299nm,18.5s,baz=78,slow=47								
DAVOX	**Davos/Dischmat**	2.19	352		Pn	Pn	13 18 04.5	+1.8
	518nm,0.4s								
DAVOX	**Davos/Dischmat**	2.19	352		Pn	Pn	13 18 04.5	+1.8
	518nm,0.4s								
SBF	**Sospel**	2.19	251		*e*Pn	Pn	13 18 03.8	+1.2
	SNR=1.0								
SBF					*e*Sn	Sb	13 18 32.3	-0.7
	595nm,0.4s,SNR=1.0								
SBF	**Sospel**	2.19	251		*e*Pn	Pn	13 18 03.8	+1.2
	SNR=1.0								
SBF					*e*Sn	Sb	13 18 32.3	-0.7
	298nm,0.4s,SNR=1.0								
ARVD	**Arcevia**	2.21	119		Pn	Pb	13 18 05.6	-0.7
	381nm,1.2s								
ARVD	**Arcevia**	2.21	119		Pn	Pb	13 18 05.6	-0.7
	381nm,1.2s								
ATCC	**AVT- Casa Cast**	2.21	129		Pn	Pb	13 18 05.3	-1.1
	650nm,0.9s								
ATCC	**AVT- Casa Cast**	2.21	129		Pn	Pb	13 18 05.3	-1.1
	650nm,0.9s								
RSP	**Reno Superiore**	2.22	285		Pn	Pn	13 18 02.0	-1.1
	237nm,0.4s								
RSP	**Reno Superiore**	2.22	285		Pn	Pn	13 18 02.0	-1.1
	237nm,0.4s								
RSP	**Reno Superiore**	2.22	285		P	Pn	13 18 02.4	-0.7
ABSI	**Aberstueckl**	2.23	18		Pn	Pn	13 18 04.5	+1.2
	1µm,0.5s								
ABSI	**Aberstueckl**	2.23	18		Pn	Pn	13 18 04.5	+1.2
	1µm,0.5s								
CIMO	**Cimolais**	2.27	41	⇑	*e*Pn	Pn	13 18 03.6	0.0
CIMO					*e*Sn	Sn	13 18 31.1	-0.1
CIMO	**Cimolais**	2.27	41		*e*Pn	Pn	13 18 03.6	0.0
CIMO					*e*Sn	Sn	13 18 31.1	-0.1
PGF	**Pioggiola**	2.27	205		*e*Pn	Pn	13 18 05.0	+1.3
PGF					*e*Sn	Sb	13 18 34.0	-1.3
	60nm,0.3s								
PGF	**Pioggiola**	2.27	205		*e*Pn	Pn	13 18 05.0	+1.3
PGF					*e*Sn	Sb	13 18 34.0	-1.3
	30nm,0.3s								
LATE	**Laterza**	2.28	151		Pn	Pb	13 18 06.4	-1.1
	223nm,1.0s								
LATE	**Laterza**	2.28	151		Pn	Pb	13 18 06.4	-1.1
	223nm,1.0s								
PZZ	**Stroppo**	2.28	268		Pn	Pn	13 18 05.2	+1.3
	581nm,0.6s								
SNTG	**Esanatoglia**	2.34	125		Pn	Pb	13 18 07.8	-0.8
	239nm,0.6s								
SNTG	**Esanatoglia**	2.34	125		Pn	Pb	13 18 07.8	-0.8
	239nm,0.6s								
STAL	**STALIGIAL**	2.37	45		Pn	Pn	13 18 07.0	+2.0
	1µm,0.3s								
STAL	**STALIGIAL**	2.37	45		Pn	Pn	13 18 07.0	+2.0
	1µm,0.3s								
LSD	**Lago del Serru**	2.40	292		Pn	Pn	13 18 07.3	+1.7
	207nm,0.7s								
OG22	**Abries**	2.40	276		Pn	Pn	13 18 07.1	+1.5
OG22	**Abries**	2.40	276		Pn	Pn	13 18 07.1	+1.5
CING	**Cingoli**	2.43	120		Pn	Pb	13 18 08.6	-1.5
	211nm,0.7s								
CING	**Cingoli**	2.43	120		Pn	Pb	13 18 08.6	-1.5
	211nm,0.7s								
FETA	**Feichten**	2.43	7		*e*Pn	Pn	13 18 07.6	+1.6
	6.2nm,0.2s,SNR=37								
FETA					*i* Sn	Sn	13 18 37.7	+2.3
	137nm,0.4s								
FETA	**Feichten**	2.43	7		Pn	Pn	13 18 07.6	+1.6
	6.2nm,0.2s,SNR=37								
FETA					Sn	Sn	13 18 37.7	+2.3
	137nm,0.4s								
MBDF	**Montbardon**	2.52	274		*e*Pn	Pn	13 18 09.3	+2.1
	SNR=1.0								
MBDF	**Montbardon**	2.52	274		*e*P	Pb	13 18 11.0	-0.8
MBDF					*e*Sn	Sn	13 18 39.6	+2.0
	253nm,0.5s,SNR=1.0								
MBDF	**Montbardon**	2.52	274		*e*Pn	Pn	13 18 09.3	+2.1
	SNR=1.0								
MBDF	**Montbardon**	2.52	274		*e*P	Pb	13 18 11.0	-0.8
MBDF					*e*Sn	Sn	13 18 39.6	+2.0
	127nm,0.5s,SNR=1.0								
PLONS	**Plons/SG**	2.52	346		Pg	Pn	13 18 09.2	+2.0
	348nm,0.4s								
FUSE	**Fusea**	2.62	46		*e*Pn	Pn	13 18 08.6	+0.2
FUSE	**Fusea**	2.62	46		*e*Pn	Pn	13 18 08.6	+0.2
ABTA	**Abfaltersbach**	2.64	35		*e*Pn	Pn	13 18 10.4	+1.6
	14nm,0.3s,SNR=36								
ABTA	**Abfaltersbach**	2.64	35		Pn	Pn	13 18 10.4	+1.6
	14nm,0.3s,SNR=36								
FVI	**Forni Avoltri**	2.64	40		Pg	Pn	13 18 09.4	+0.6
	322nm,0.5s								
COLI	**Coloredo**	2.65	54		*e*Pn	Pn	13 18 09.1	+0.3
COLI	**Coloredo**	2.65	54		*e*Pn	Pn	13 18 09.1	+0.3
LPG	**La Plagne**	2.67	291		*e*Pn	Pn	13 18 10.8	+1.4
	SNR=1.0								
LPG					*e*Sg	Sg	13 18 53.0	+0.3
LPG	**La Plagne**	2.67	291		*e*Pn	Pn	13 18 10.8	+1.4
	SNR=1.0								
LPG					*e*Sg	Sg	13 18 53.0	+0.3
TRI	**Trieste**	2.68	65		Pn	Pn	13 18 09.1	-0.2
TRI	**Trieste**	2.68	65		Pn	Pn	13 18 09.1	-0.2
LPL	**La Plagne**	2.69	291		*e*Pn	Pn	13 18 10.8	+1.3
LPL	**La Plagne**	2.69	291		*e*Pg	Pg	13 18 17.9	-0.5
LPL	**La Plagne**	2.69	291		*e*Pn	Pn	13 18 10.8	+1.3
LPL	**La Plagne**	2.69	291		*e*Pg	Pg	13 18 17.9	-0.5
DAVA	**Damuels**	2.69	354		*e*Pn	Pn	13 18 11.9	+2.3
	134nm,0.4s,SNR=45								
DAVA					*i* Sn	Sn	13 18 44.5	+2.7
	246nm,0.2s								
DAVA	**Damuels**	2.69	354		Pn	Pn	13 18 11.9	+2.3
	134nm,0.4s,SNR=45								
DAVA					Sn	Sn	13 18 44.5	+2.7
	246nm,0.2s								
MOTA	**Moosalm**	2.79	11		*e*Pn	Pn	13 18 13.4	+2.5
	66nm,0.2s,SNR=32								
MOTA					*i* Sn	Sb	13 18 49.0	-1.3
	157nm,0.3s								
MOTA	**Moosalm**	2.79	11		Pn	Pn	13 18 13.4	+2.5
	66nm,0.2s,SNR=32								
MOTA					Sn	Sb	13 18 49.0	-1.3
	157nm,0.3s								
WTTA	**Wattenberg**	2.81	19		*e*Pn	Pn	13 18 13.3	+2.1
	106nm,0.3s,SNR=30								
WTTA					Sn	Sb	13 18 49.7	-1.3
	155nm,0.3s								
WTTA	**Wattenberg**	2.81	19		Pn	Pn	13 18 13.3	+2.1
	106nm,0.3s,SNR=30								
WTTA					Sn	Sb	13 18 49.7	-1.3
	155nm,0.3s								
DRE	**Drenchia**	2.83	55		*e*Pn	Pn	13 18 11.7	+0.4
DRE	**Drenchia**	2.83	55		*e*Pn	Pn	13 18 11.7	+0.4
FRF	**La Foret Royal**	2.83	250		*e*Pn	Pn	13 18 12.5	+1.1
	SNR=1.0								
FRF					*e*Sn	Sn	13 18 46.0	+0.9
	177nm,0.4s,SNR=1.0								
FRF	**La Foret Royal**	2.83	250		*e*Pn	Pn	13 18 12.5	+1.1
	SNR=1.0								
FRF					*e*Sn	Sn	13 18 46.0	+0.9
	88nm,0.4s,SNR=1.0								
WATA	**Walderalm**	2.87	18		*e*Pn	Pn	13 18 14.1	+2.2
	94nm,0.2s,SNR=29								
WATA	**Walderalm**	2.87	18		Pn	Pn	13 18 14.1	+2.2
	94nm,0.2s,SNR=29								
RETA	**Reutte**	2.89	6		*e*Pn	Pn	13 18 14.3	+2.0
	14nm,0.1s,SNR=12								
RETA					Sn	Sn	13 18 49.4	+2.7
	108nm,0.2s								
RETA	**Reutte**	2.89	6		Pn	Pn	13 18 14.3	+2.0
	14nm,0.1s,SNR=12								
RETA					Sn	Sn	13 18 49.4	+2.7
	108nm,0.2s								
JAVS	**Javornik**	2.95	63		*i* Pn	Pn	13 18 13.1	0.0
JAVS					*i* Sn	Sn	13 18 47.5	-0.6
JAVS	**Javornik**	2.95	63		Pn	Pn	13 18 13.1	0.0
JAVS					*i* Sn	Sn	13 18 47.5	-0.6
ACOM	**Acomizza, Ital**	2.97	48		*e*Pn	Pn	13 18 14.1	+0.7
ACOM	**Acomizza, Ital**	2.97	48		*e*Pn	Pn	13 18 14.1	+0.7
LMR	**La Mourre**	3.02	246		*e*Pn	Pn	13 18 14.4	+0.5
	SNR=1.0								
LMR					*e*Sn	Sn	13 18 49.6	-0.1
	206nm,0.3s,SNR=1.0								
LMR	**La Mourre**	3.02	246		*e*Pn	Pn	13 18 14.4	+0.5
	SNR=1.0								
LMR					*e*Sn	Sn	13 18 49.6	-0.1
	103nm,0.3s,SNR=1.0								
GDM	**Grand'Maison**	3.03	283		Pn	Pn	13 18 16.1	+1.9
GDM	**Grand'Maison**	3.03	283		Pn	Pn	13 18 16.1	+1.9
MYKA	**Terra Mystica**	3.09	48		*e*Pn	Pn	13 18 16.1	+1.1
	4.6nm,0.1s,SNR=5.6								
MYKA					*i* Sn	Sn	13 18 51.6	0.0
	27nm,0.1s								
MYKA	**Terra Mystica**	3.09	48		Pn	Pn	13 18 16.1	+1.1
	4.6nm,0.1s,SNR=5.6								
MYKA					Sn	Sn	13 18 51.6	0.0
	27nm,0.1s								
CEY	**Cerknica**	3.13	67	⇑	*i* Pn	Pn	13 18 15.3	-0.1
ORIF	**Oris-en-Rattie**	3.16	277		*e*Pn	Pn	13 18 18.0	+2.0
	SNR=1.0								
ORIF	**Oris-en-Rattie**	3.16	277		*e*P	Pb	13 18 20.5	-2.2
ORIF	**Oris-en-Rattie**	3.16	277		*e*Pn	Pn	13 18 18.0	+2.0
	SNR=1.0								
ORIF	**Oris-en-Rattie**	3.16	277		*e*P	Pb	13 18 20.5	-2.2
AQU	**L'Aquila**	3.19	134	⇑	*i* Pn	Pb	13 18 20.1	-3.0
KBA	**Koelnbreinsper**	3.26	40		*e*Pn	Pn	13 18 19.0	+1.7
	10nm,0.2s,SNR=15								
KBA					*i* Sn	Sn	13 18 56.5	+0.7
	52nm,0.3s								
KBA	**Koelnbreinsper**	3.26	40		Pn	Pn	13 18 19.0	+1.7
	10nm,0.2s,SNR=15								
KBA					Sn	Sn	13 18 56.5	+0.7
	52nm,0.3s								
NVLJ	**Novalja**	3.27	89		*i* Pn	Pn	13 18 18.5	+1.3
NVLJ					Sn	Sn	13 18 55.4	-0.3
NVLJ	**Novalja**	3.27	89		*i* Pn	Pn	13 18 18.5	+1.3
NVLJ					Sn	Sn	13 18 55.4	-0.3
GRN	**Grenoble**	3.30	283		Pn	Pn	13 18 19.8	+2.0
GRN	**Grenoble**	3.30	283		Pn	Pn	13 18 19.8	+2.0
LJU	**Ljubljana**	3.31	63		*e*Pn	Pn	13 18 18.0	+0.1
LJU	**Ljubljana**	3.31	63	⇑	*i* Pn	Pn	13 18 18.4	+0.5
VISS	**Visnje**	3.42	68		*i* Pn	Pn	13 18 20.1	+0.7
VISS					*i* Sn	Sn	13 18 59.4	-0.2
SMRF	**Simiane la Rot**	3.45	261		*e*Pn	Pn	13 18 22.5	+2.6
	SNR=1.0								
SMRF					*e*Sn	Sn	13 19 03.1	+2.7
	SNR=1.0								
SMRF					*e*Sg	Sg	13 19 15.1	-2.7
	74nm,0.6s,SNR=1.0								
SMRF	**Simiane la Rot**	3.45	261		*e*Pn	Pn	13 18 22.5	+2.6
	SNR=1.0								
SMRF					*e*Sn	Sn	13 19 03.1	+2.7
	SNR=1.0								
SMRF					*e*Sg	Sg	13 19 15.1	-2.7
	37nm,0.6s,SNR=1.0								
OBKA	**Obir**	3.54	56		*i* Pn	Pn	13 18 21.9	+0.8
	3.9nm,0.2s								
OBKA					*e*Sn	Sn	13 19 04.0	+1.5
	62nm,0.3s								
OBKA	**Obir**	3.54	56		Pn	Pn	13 18 21.9	+0.8
	3.9nm,0.2s								
OBKA					Sn	Sn	13 19 04.0	+1.5
	62nm,0.3s								
CABF	**La Chapelle**	3.57	306		*e*Pn	Pn	13 18 23.0	+1.4
CABF	**La Chapelle**	3.57	306		*e*Pn	Pn	13 18 23.0	+1.4
BOJS	**Bojanci**	3.62	74		*i* Pn	Pn	13 18 22.9	+0.7
BOJS					*i* Sn	Sn	13 19 04.5	0.0
BOJS	**Bojanci**	3.62	74		*i* Pn	Pn	13 18 22.9	+0.7
BOJS					*i* Sn	Sn	13 19 04.4	0.0
FELD	**Feldberg im Sc**	3.63	335		Pn	Pn	13 18 22.4	-0.1
FELD	**Feldberg im Sc**	3.63	335		Pg	Pg	13 18 34.8	-1.7
FELD					Sg	Sg	13 19 22.8	-0.8
SPAK	**Spaichingen-Ko**	3.65	344		Sg	Sg	13 19 23.5	-0.5
LOMF	**Lomont**	3.66	320		Pn	Pn	13 18 23.5	+0.8
LOMF					Sg	Sg	13 19 23.5	-0.8
LOMF	**Lomont**	3.66	320		Pn	Pn	13 18 23.5	+0.8
LOMF					Sg	Sg	13 19 23.5	-0.8
OZLJ	**Ozalj**	3.79	73		*i* Pn	Pn	13 18 25.7	+1.2
OZLJ					Sn	Sn	13 19 08.4	-0.3
OZLJ	**Ozalj**	3.79	73		*i* Pn	Pn	13 18 25.7	+1.2
OZLJ					Sn	Sn	13 19 08.4	-0.3
CRES	**Cresnjev**	3.84	70	⇑	*i* Pn	Pn	13 18 25.6	+0.4
UDBI	**Udbina**	3.91	89		*e*Pn	Pn	13 18 28.6	+2.5
UDBI					Sn	Sn	13 19 12.3	+0.7
UDBI	**Udbina**	3.91	89		*e*Pn	Pn	13 18 28.6	+2.5
UDBI					Sn	Sn	13 19 12.3	+0.7
SOKA	**Soboth**	3.91	56		*e*Pn	Pn	13 18 27.0	+0.8
	3.9nm,0.3s,SNR=8.4								
SOKA					*i* Sn	Sn	13 19 13.4	+1.7
	19nm,0.4s								
SOKA	**Soboth**	3.91	56		Pn	Pn	13 18 27.0	+0.8
	3.9nm,0.3s,SNR=8.4								
SOKA					Sn	Sn	13 19 13.4	+1.7
	19nm,0.4s								
MOF	**Molkenrain**	3.92	327		Pn	Pn	13 18 26.8	+0.5
MOF					Sg	Sg	13 19 31.2	-1.4
PERS	**Pernice**	3.94	57		*i* Pn	Pn	13 18 27.0	+0.4
HINF	**Hinteralfeld**	4.00	324		*e*Pn	Pn	13 18 27.8	+0.4
	SNR=1.0								
HINF					*e*Sn	Sn	13 19 12.6	-1.3
	66nm,0.3s,SNR=1.0								
VIVF	**Saint-Julien-l**	4.02	275		*e*Pn	Pn	13 18 29.4	+1.7
	SNR=1.0								
VIVF					*e*Sn	Sn	13 19 14.6	+0.2
	36nm,0.5s,SNR=1.0								
VIVF	**Saint-Julien-l**	4.02	275		*e*Pn	Pn	13 18 29.4	+1.7
	SNR=1.0								
VIVF					*e*Sn	Sn	13 19 14.6	+0.2
	18nm,0.5s,SNR=1.0								
SSB	**Saint Sauveur**	4.14	281		Pn	Pn	13 18 30.9	+1.5
SSB	**Saint Sauveur**	4.14	281		Pn	Pn	13 18 30.9	+1.5
ECH	**Echery**	4.21	330		Pn	Pn	13 18 30.7	+0.4
ECH					Sg	Sg	13 19 40.8	-1.2
ECH	**Echery**	4.21	330		Pn	Pn	13 18 30.7	+0.4
ECH					Sg	Sg	13 19 40.8	-1.2
MOA	**Molln**	4.25	39		*i* Pn	Pn	13 18 32.2	+1.3
	21nm,0.2s,SNR=18								
MOA					*e*Sn	Sn	13 19 20.9	+0.9
	41nm,0.3s								
MOA	**Molln**	4.25	39		Pn	Pn	13 18 32.2	+1.3
	21nm,0.2s,SNR=18								
MOA					Sn	Sn	13 19 20.9	+0.9
	41nm,0.3s								
CDF	**Champ du Feu**	4.34	332		*e*Pn	Pn	13 18 32.1	0.0
	SNR=1.0								
CDF					*e*Sn	Sn	13 19 18.9	-3.4
	80nm,0.3s,SNR=1.0								
CDF	**Champ du Feu**	4.34	332		*e*Pn	Pn	13 18 32

LOR	**Lormes**	**5.22**	**303**	*e*Pn		**Pn**	**13 18 45.5**	**+1.3**
	SNR=1.0							
LOR				*e*Sn		**Sn**	**13 19 42.9**	**-1.0**
	18nm,0.3s,SNR=1.0							
AGO	**Saint Agoulin**	**5.26**	**288**	Pn		**Pn**	**13 18 45.8**	**+1.1**
AGO	**Saint Agoulin**	**5.26**	**288**	Pn		**Pn**	**13 18 45.8**	**+1.1**
MEZF	**Maizieres J'vi**	**5.31**	**319**	*e*Pn		**Pn**	**13 18 46.9**	**+1.5**
	baz=128,SNR=1.0							
MEZF				*e*Sn		**Sn**	**13 19 44.7**	**-1.5**
	39nm,0.4s,SNR=1.0							
MEZF	**Maizieres J'vi**	**5.31**	**319**	*e*Pn		**Pn**	**13 18 46.9**	**+1.5**
	SNR=1.0							
MEZF				*e*Sn		**Sn**	**13 19 44.7**	**-1.5**
	19nm,0.4s,SNR=1.0							
AVF	**Avril sur Loir**	**5.33**	**297**	*e*Pn		**Pn**	**13 18 46.9**	**+1.2**
	SNR=1.0							
AVF				*e*Sn		**Sn**	**13 19 45.7**	**-1.0**
	22nm,0.4s,SNR=1.0							
AVF	**Avril sur Loir**	**5.33**	**297**	*e*Pn		**Pn**	**13 18 46.9**	**+1.2**
	SNR=1.0							
AVF				*e*Sn		**Sn**	**13 19 45.7**	**-1.0**
	11nm,0.4s,SNR=1.0							
SSF	**Saint Saulge**	**5.34**	**300**	*e*Pn		**Pn**	**13 18 46.8**	**+1.0**
	SNR=1.0							
SSF				*e*Sn		**Sn**	**13 19 44.9**	**-2.0**
	36nm,0.4s,SNR=1.0							
SSF	**Saint Saulge**	**5.34**	**300**	*e*Pn		**Pn**	**13 18 46.8**	**+1.0**
	SNR=1.0							
SSF				*e*Sn		**Sn**	**13 19 44.9**	**-2.0**
	18nm,0.4s,SNR=1.0							
RUP	**Ruppelstein**	**5.55**	**338**	Pn		**Pn**	**13 18 48.9**	**+0.2**
RUP				Sg		**Sg**	**13 20 24.9**	**-0.1**
BGF	**Bois d'Agland**	**5.58**	**293**	*e*Pn		**Pn**	**13 18 50.4**	**+1.3**
	SNR=1.0							
BGF	**Bois d'Agland**	**5.58**	**293**	*e*Pn		**Pn**	**13 18 50.4**	**+1.3**
	SNR=1.0							
CDT	**Castel del Mon**	**5.63**	**127**	*e*Pn		**Pn**	**13 18 50.8**	**+1.0**
NKC	**Novy Kostel**	**5.81**	**14**	*e*PN		**Pn**	**13 18 51.2**	**-1.1**
NKC				*ex*		x	13 19 00.8	
NKC				*e*SN		**Sn**	**13 19 55.1**	**-3.4**
NKC				*ex*		x	13 20 31.9	
NKC	**Novy Kostel**	**5.81**	**14**	Pn		**Pn**	**13 18 51.2**	**-1.1**
TCF	**Toulx Ste Croi**	**5.93**	**289**	*e*Pn		**Pn**	**13 18 54.9**	**+0.9**
TCF				*e*Sn		**Sn**	**13 20 00.5**	**-1.1**
	15nm,0.3s,SNR=1.0							
TCF	**Toulx Ste Croi**	**5.93**	**289**	*e*Pn		**Pn**	**13 18 54.9**	**+0.9**
BAI	**Bari**	**5.97**	**124**	*e*Pn		**Pn**	**13 18 56.3**	**+1.9**
MTLF	**Montolieu**	**5.97**	**261**	*e*Pn		**Pn**	**13 18 56.7**	**+2.2**
	SNR=1.0							
MTLF				*e*Sn		**Sn**	**13 20 02.8**	**+0.4**
	7.2nm,0.5s,SNR=1.0							
MTLF	**Montolieu**	**5.97**	**261**	*e*Pn		**Pn**	**13 18 56.7**	**+2.2**
	SNR=1.0							
MTLF				*e*Sn		**Sn**	**13 20 02.8**	**+0.4**
	3.6nm,0.5s,SNR=1.0							
PRU	**Pruhonice**	**6.10**	**27**	*e*PN		**Pn**	**13 18 56.3**	**+0.1**
PRU				*e*SN		**Sn**	**13 20 02.4**	**-3.2**
PRU				*ex*		x	13 20 15.3	
PRU				*e*SG		**Sg**	**13 20 37.9**	**-4.7**
	24nm,0.5s							
PRU				AMS		AMS	13 21 30.0	
PRU	**Pruhonice**	**6.10**	**27**	Pn		**Pn**	**13 18 56.3**	**+0.1**
GOPC	**GO Pecny, Ondr**	**6.12**	**28**	*e*PN		**Pn**	**13 18 56.7**	**+0.2**
GOPC				*e*SN		**Sn**	**13 20 02.6**	**-3.5**
GOPC				*ex*		x	13 20 17.1	
GOPC				*e*SG		**Sg**	**13 20 36.0**	**-7.2**
	comp=Z,53nm,0.9s							
GOPC				AMS		AMS	13 21 30.0	
GOPC	**GO Pecny, Ondr**	**6.12**	**28**	Pn		**Pn**	**13 18 56.7**	**+0.2**
TREB	**Trebinje**	**6.14**	**105**	⇑*i*Pn		**Pn**	**13 18 57.7**	**+0.9**
PRA	**Prague**	**6.14**	**26**	*e*SN		**Sn**	**13 20 03.8**	**-2.7**
PRA				*ex*		x	13 20 13.7	
PRA				*e*SG		**Sg**	**13 20 37.9**	**-5.9**
	50nm,0.7s							
BRY	**Bratogost**	**6.21**	**103**	⇑*i*Pn		**Pn**	**13 18 59.8**	**+2.0**
HCY	**Herceg Novi**	**6.34**	**107**	⇑*i*Pn		**Pn**	**13 19 01.6**	**+2.1**
VRAC	**Vranov**	**6.37**	**40**	Pn		**Pn**	**13 18 58.5**	**-1.5**
	1.3nm,0.3s,baz=232,slow=11,SNR=3.4							
VRAC				Sn		**Sn**	**13 20 09.2**	**-3.0**
	1.6nm,0.3s,baz=276,slow=14,SNR=4.8							
VRAC				LR		LR	13 21 26.1	
	comp=Z,43nm,19.5s,baz=236,slow=38							
VRAC	**Vranov**	**6.37**	**40**	⇑*i*P		**Pn**	**13 18 59.9**	**-0.1**
VRAC	**Vranov**	**6.37**	**40**	⇑*i*P		**Pn**	**13 18 59.9**	**-0.1**
UPM	**Unac-Piva**	**6.37**	**100**	⇑*i*Pn		**Pn**	**13 19 02.7**	**+2.5**
VALF	**Valcebollere**	**6.42**	**253**	Pn		**Pn**	**13 19 03.0**	**+2.3**
VALF	**Valcebollere**	**6.42**	**253**	Pn		**Pn**	**13 19 03.0**	**+2.3**
BBLS	**Lazići**	**6.58**	**93**	⇑*i*Pn		**Pn**	**13 19 03.7**	**+0.8**
PVCC	**Panska Ves**	**6.58**	**24**	*e*PN		**Pn**	**13 19 02.7**	**-0.2**
PVCC				*e*SN		**Sn**	**13 20 14.8**	**-2.7**
PVCC				*e*SG		**Sg**	**13 20 53.4**	**-4.7**
	76nm,0.8s							
PVCC				AMS		AMS	13 21 50.0	
	comp=Z,200nm,11.3s							
PVCC	**Panska Ves**	**6.58**	**24**	Pn		**Pn**	**13 19 02.7**	**-0.2**
TEKS	**Tekeris**	**6.59**	**87**	*i* Pn		**Pn**	**13 19 04.0**	**+1.0**
MEM	**Membach**	**6.67**	**336**	PN		**Pn**	**13 19 06.3**	**+2.4**
BRG	**Berggiesshubel**	**6.73**	**20**	PN		**Pn**	**13 19 04.3**	**-0.5**
BRG				SN		**Sn**	**13 20 18.5**	**-2.5**
BRG				SG		**Sg**	**13 21 00.8**	**-1.9**
	38nm,1.0s							
PDG	**Podgorica**	**6.86**	**105**	⇓*i*P		**Pn**	**13 19 09.1**	**+2.4**
PDG	**Podgorica**	**6.86**	**105**	S		**Sn**	**13 20 23.0**	**-1.4**
PDG	**Podgorica**	**6.86**	**105**	*e*Pn		**Pn**	**13 19 08.8**	**+2.1**
PDG	**Podgorica**	**6.86**	**105**	⇓*i*P		**Pn**	**13 19 09.1**	**+2.4**
DRME	**Dracevica, Mon**	**6.91**	**107**	⇑*i*Pn		**Pn**	**13 19 08.5**	**+1.2**
CLL	**Collm**	**6.94**	**14**	*e*Pn		**Pn**	**13 19 07.0**	**-0.7**
CLL				*e*			13 19 50.0	
CLL				*e*			13 20 10.0	
CLL				*e*Sn		**Sn**	**13 20 22.0**	**-4.2**
CLL				*e*			13 20 32.0	
CLL				*e*Sg		**Sg**	**13 21 06.0**	**-3.5**
DIVS	**Divibare**	**6.97**	**91**	*e*Pn		**Pn**	**13 19 07.7**	**-0.5**
DPC	**Dobruska-Polom**	**7.04**	**33**	*e*PN		**Pn**	**13 19 08.6**	**-0.6**
DPC				*e*SN		**Sn**	**13 20 24.6**	**-4.2**
DPC				*ex*		x	13 20 38.5	
DPC				*e*SG		**Sg**	**13 21 07.2**	**-5.5**
	27nm,0.7s							
DPC				AMS		AMS	13 22 00.0	
	comp=Z,200nm,12.2s							
DPC	**Dobruska-Polom**	**7.04**	**33**	Pn		**Pn**	**13 19 08.6**	**-0.6**
UPC	**Upice**	**7.05**	**31**	⇑*e*PN		**Pn**	**13 19 09.2**	**-0.1**
UPC				*e*SN		**Sn**	**13 20 25.2**	**-3.7**
UPC				*ex*		x	13 20 38.4	
UPC				*e*SG		**Sg**	**13 21 07.2**	**-5.7**
	72nm,1.0s							
UPC				AMS		AMS	13 22 10.0	
	comp=Z,200nm,12.7s							
VYHS	**Vyhne**	**7.05**	**54**	*e*Pn		**Pn**	**13 19 09.2**	**-0.1**
VYHS	**Vyhne**	**7.05**	**54**	*e*PN		**Pn**	**13 19 09.2**	**-0.1**
VYHS				*e*SN		**Sn**	**13 20 22.4**	**-6.6**
MORC	**Moravsky Berou**	**7.14**	**41**	⇓*i*P		**Pn**	**13 19 10.8**	**+0.2**
MORC	**Moravsky Berou**	**7.14**	**41**	S		**Sn**	**13 20 27.2**	**-4.1**
MORC	**Moravsky Berou**	**7.14**	**41**	⇓*i*P		**Pn**	**13 19 10.8**	**+0.2**
IVAS	**Ivanjica**	**7.17**	**95**	*e*Pn		**Pn**	**13 19 10.6**	**-0.4**
TRUS	**Trudelj**	**7.25**	**90**	⇓*i*Pn		**Pn**	**13 19 12.5**	**+0.5**
GRUS	**Gruza**	**7.51**	**92**	⇓*i*Pn		**Pn**	**13 19 16.6**	**+1.0**
TIR	**Tirane**	**7.73**	**112**	⇑*i*P		**Pn**	**13 19 19.7**	**+1.0**
TIR	**Tirane**	**7.73**	**112**	⇑*i*P		**Pn**	**13 19 19.7**	**+1.0**
SELS	**Selova**	**7.93**	**96**	⇑*i*Pn		**Pn**	**13 19 21.7**	**+0.3**
BZS	**Buzias**	**8.07**	**79**	⇑*i*P		**Pn**	**13 19 22.8**	**-0.4**
BZS	**Buzias**	**8.07**	**79**	S		**Sn**	**13 20 49.7**	**-4.3**
BZS	**Buzias**	**8.07**	**79**	⇑*i*P		**Pn**	**13 19 22.8**	**-0.4**
MDVR	**Moldovita**	**8.13**	**85**	⇓*i*P		**Pn**	**13 19 24.5**	**+0.3**
MDVR	**Moldovita**	**8.13**	**85**	⇓*i*P		**Pn**	**13 19 24.5**	**+0.3**
BOVS	**Bovan**	**8.26**	**93**	*i* Pn		**Pn**	**13 19 26.9**	**+1.0**
BOLS	**Boljevac**	**8.41**	**91**	⇑*i*Pn		**Pn**	**13 19 27.4**	**-0.5**
BARS	**Barje**	**8.53**	**98**	⇑*i*Pn		**Pn**	**13 19 30.2**	**+0.6**
GRR	**Gorron**	**8.57**	**300**	*e*Pn		**Pn**	**13 19 30.9**	**+0.8**
	SNR=1.0							
GRR	**Gorron**	**8.57**	**300**	*e*Pn		**Pn**	**13 19 30.9**	**+0.8**
	SNR=1.0							
ZAGS	**Zajecar**	**8.61**	**91**	⇓*i*Pn		**Pn**	**13 19 30.8**	**+0.1**
DRGR		**8.96**	**72**	⇑*i*P		**Pn**	**13 19 35.6**	**+0.1**
DRGR		**8.96**	**72**	S		**Sn**	**13 21 09.7**	**-6.2**
DRGR		**8.96**	**72**	⇑*i*P		**Pn**	**13 19 35.6**	**+0.1**
VTS	**Vitosha**	**9.58**	**98**	⇑*i*P		**Pn**	**13 19 45.0**	**+0.9**
VTS	**Vitosha**	**9.58**	**98**	⇑*i*P		**Pn**	**13 19 45.0**	**+0.9**
MLR	**Muntele Rosu**	**11.11**	**80**	LR		LR	13 25 45.3	
	comp=Z,21nm,19.1s,baz=216,slow=46							
ESDC	**Sonseca Array**	**11.68**	**250**	Pn		**Pn**	**13 20 14.7**	**+1.9**
	0.6nm,0.3s,baz=61,slow=13,SNR=4.8							
IDI	**Anoyia**	**14.54**	**125**	LR		LR	13 28 47.3	
	comp=Z,36nm,18.0s,baz=308,slow=47							
NOA	**NORSAR Array B**	**16.47**	**2**	LR		LR	13 27 39.1	
	comp=Z,20nm,21.4s,baz=240,slow=37							
FINES	**FINESS Array B**	**19.25**	**23**	P		**P**	**13 21 50.1**	**0.0**
	0.4nm,0.3s,baz=208,slow=9.8,SNR=14							
ARCES	**ARCESS Array B**	**26.16**	**12**	LR		LR	13 33 08.5	
	comp=Z,22nm,18.0s,baz=196,slow=36							
TORD	**Torodi Ar. Bea**	**32.21**	**196**	P		**P**	**13 23 54.8**	**+0.7**
	0.6nm,0.8s,baz=9.9,slow=9.0,SNR=3.4							
TORD				LR		LR	13 36 35.6	
	comp=Z,21nm,19.4s,baz=250,slow=36							
SONM	**Songino Array**	**62.22**	**49**	P		**P**	**13 27 48.5**	**+1.0**
	1.3nm,0.9s,baz=309,slow=7.1,SNR=5.9							
YKA	**Yellowknife Ar**	**64.53**	**335**	P		**P**	**13 28 03.0**	**+0.7**
	0.7nm,0.5s,baz=41,slow=6.4,SNR=6.2							

IDC 08 13:18:04.1±5.3, 24°.61S×179°.75E, h499km±61km, mb3.2/6, mb1 3.4/7, mb1mx3.1/24, mbtmp4.0/7, Error ellipse: s-maj=35.2km s-min=26.4km az=180.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
URZ	**Urewera**	**13.80**	**189**	P		13 21 01.1	-0.4
	1.1nm,0.3s,baz=325,slow=5.7,SNR=2.4						
STKA	**Stephens Creek**	**34.26**	**249**	P		13 24 08.5	+0.7
	1.3nm,0.4s,baz=94,slow=8.5,SNR=5.7						
ASAR	**Alice Springs**	**41.70**	**261**	P		13 25 08.7	-0.2
	1.3nm,0.8s,baz=94,slow=8.1,SNR=13						
WRA	**Warramunga Arr**	**42.14**	**267**	P		13 25 11.8	-0.5
	2.8nm,0.5s,baz=104,slow=8.0,SNR=20						
MAW	**Mawson**	**77.01**	**201**	P		13 29 04.6	-0.1
	0.5nm,0.4s,baz=102,slow=9.3,SNR=4.4						
TXAR	**Lajitas Array**	**91.00**	**58**	P		13 30 14.5	-0.4
	0.5nm,0.7s,baz=234,slow=7.7,SNR=5.0						
PDAR	**Pinedale Array**	**93.35**	**44**	P		13 30 25.9	+0.3
	0.2nm,0.5s,baz=232,slow=10,SNR=3.1						

SJA 08 13:21:20.0±0.5, 29°.73S×68°.73W, h154km±5km, MD3.5, San Juan Province

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AGUA	**GUANDACOL**	**0.32**	**41**	*i* P		13 21 41.2	0.0
AGUA				*i* S		13 21 57.6	+0.4
ACLC	**CERRO LA CRUZ**	**1.58**	**79**	*i* P		13 21 51.6	+0.8
ACLC				*i* S		13 22 14.7	+0.3
ACHE	**Chepes**	**2.28**	**129**	*i* P		13 21 59.9	+1.1
ACHE				*i* S		13 22 29.1	+0.3

*HEL **08** 13:28:55.4±0.4, 67°.60N×34°.25E, h0km, ML2.2, Explosion*
*NAO **08** 13:28:55.2±1.6, 67°.52N×34°.09E, ML2.8*
*CSEM **08** 13:28:57.0±0.6, 67°.52N×33°.83E, h2km, ML2.8, Error ellipse: s-maj=12.5km s-min=6.3km az=83.0, Mining explosion.*
*UPP **08** 13:28:58.0±2.8, 67°.67N×33°.85E, h0km, ML1.8, Suspected explosion*

ISC 08 13:28:54.8±1.8, 67°.55N±0°.04×34°.16E±0°.09, h0km, n41, σ1s57/61, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
APZ9	**Apatity**	**0.29**	**274**	Pg	**Pg**	**13 29 00.8**	**+0.5**
APZ9				Lg	Lg	13 29 04.5	
APZ9				Rg	Rg	13 29 05.5	
APZ9	**Apatity**	**0.29**	**274**	Pg	**Pg**	**13 29 00.8**	**+0.5**
APZ9				Lg	Lg	13 29 04.5	
APZ9				Rg	Rg	13 29 05.5	
APZ9	**Apatity**	**0.29**	**274**	Pg	**Pg**	**13 29 00.8**	**+0.5**
	SNR=90						
APZ9				Lg	Lg	13 29 04.6	
APA0	**Apatity Array**	**0.45**	**277**	Pg	**Pg**	**13 29 03.4**	**0.0**
	baz=101,slow=16						
APA0				Lg	Lg	13 29 09.5	
	baz=74,slow=37						
APA0				Rg	Rg	13 29 11.3	
	baz=75,slow=37						
APA0	**Apatity Array**	**0.45**	**277**	Pg	**Pg**	**13 29 03.4**	**0.0**
	baz=101,slow=16						
APA0				Lg	Lg	13 29 09.5	
	baz=74,slow=37						
APA0				Rg	Rg	13 29 11.3	
	baz=75,slow=37						
APA0	**Apatity Array**	**0.45**	**277**	Pg	**Pg**	**13 29 03.4**	**0.0**
	SNR=90						
APA0				Lg	Lg	13 29 09.5	
	SNR=174						
KU6	**Riekki**	**2.28**	**230**	*e*PB	**Pb**	**13 29 36.6**	**-0.2**
KU6				MSG		13 30 04.3	
	comp=Z,12nm,0.2s						
KU6				*e*SG	**Sg**	**13 30 07.3**	**-0.7**
KU6	**Riekki**	**2.28**	**230**	Pb	**Pb**	**13 29 36.5**	**-0.2**
KU6				Sg	**Sg**	**13 30 07.3**	**-0.7**
MSF	**Maaselka**	**2.62**	**233**	*e*PG	**Pb**	**13 29 43.0**	**+0.5**
MSF				*e*SG	**Sb**	**13 30 17.0**	**+1.9**
MSF	**Maaselka**	**2.62**	**233**	Pg	**Pb**	**13 29 43.0**	**+0.5**
MSF				Sg	**Sb**	**13 30 17.0**	**+1.9**
RNF	**Rovaniemi**	**3.33**	**257**	*e*P	**Pn**	**13 29 50.4**	**+2.5**
RNF	**Rovaniemi**	**3.33**	**257**	P	**Pn**	**13 29 50.4**	**+2.5**
KEV	**Kevo**	**3.42**	**313**	*e*P	**Pn**	**13 29 50.5**	**+1.2**
KEV				*e*S	**Sn**	**13 30 29.1**	**-1.5**
KEV	**Kevo**	**3.42**	**313**	P	**Pn**	**13 29 50.5**	**+1.2**
KEV				S	**Sn**	**13 30 29.0**	**-1.5**
ARA0	**ARCESS Array S**	**3.75**	**306**	Pn	**Pn**	**13 29 54.2**	**+0.4**
	baz=123,slow=16						
ARA0				Sn	**Sn**	**13 30 37.4**	**-1.2**
	baz=123,slow=22						
ARA0				Lg	Lg	13 30 48.5	
	baz=128,slow=28						
ARA0	**ARCESS Array S**	**3.75**	**306**	Pn	**Pn**	**13 29 54.2**	**+0.4**
	baz=123,slow=16						
ARA0				Sn	**Sn**	**13 30 37.4**	**-1.2**
	baz=123,slow=22						
ARA0				Lg	Lg	13 30 48.5	
	baz=128,slow=28						
ARA0	**ARCESS Array S**	**3.75**	**306**	Pn	**Pn**	**13 29 54.2**	**+0.4**
	SNR=50						
ARA0				Sn	**Sn**	**13 30 37.4**	**-1.2**
	SNR=50						
ARA0				Lg	Lg	13 30 48.5	
	SNR=50						
ARE0	**ARCESS Array S**	**3.75**	**306**	*e*P	**Pn**	**13 29 53.9**	**+0.1**
ARE0				*e*S	**Sn**	**13 30 38.0**	**-0.6**
ARE0	**ARCESS Array S**	**3.75**	**306**	P	**Pn**	**13 29 53.9**	**+0.1**
ARE0				S	**Sn**	**13 30 38.0**	**-0.6**
HEF	**Hetta**	**4.05**	**287**	*e*P	**Pn**	**13 29 58.7**	**+0.8**
HEF				*e*S	**Sn**	**13 30 46.2**	**+0.3**
HEF	**Hetta**	**4.05**	**287**	P	**Pn**	**13 29 58.7**	**+0.8**
HEF				S	**Sn**	**13 30 46.2**	**+0.3**
OUL	**Oulu**	**4.15**	**237**	*e*PB	**Pb**	**13 30 07.4**	**-1.2**
OUL	**Oulu**	**4.15**	**237**	Pb	**Pb**	**13 30 07.4**	**-1.2**
TOF	**Tornio**	**4.16**	**254**	*e*P	**Pn**	**13 30 01.3**	**+1.9**
LANU	**Lannavaara**	**4.64**	**282**	P	**Pn**	**13 30 06.1**	**0.0**
LANU				S	**Sn**	**13 30 56.9**	**-3.7**
LANU	**Lannavaara**	**4.64**	**282**	*e*P	**Pn**	**13 30 06.7**	**+0.6**
LANU	**Lannavaara**	**4.64**	**282**	P	**Pn**	**13 30 06.6**	**+0.6**
LANU				S	**Sn**	**13 30 56.9**	**-3.7**
MASU	**Masugnsbyn**	**4.67**	**274**	P	**Pn**	**13 30 07.5**	**+1.0**
MASU				S	**Sn**	**13 31 00.7**	**-0.7**
ERTU	**Ertsjaerv**	**4.79**	**263**	P	**Pn**	**13 30 09.8**	**+1.7**
ERTU				S	**Sn**	**13 31 04.5**	**+0.3**
ERTU	**Ertsjaerv**	**4.79**	**263**	P	**Pn**	**13 30 09.8**	**+1.7**
ERTU				S	**Sn**	**13 31 04.5**	**+0.3**
JOF	**Joensuu**	**4.81**	**196**	*e*P	**Pn**	**13 30 09.6**	**+1.3**
JOF				*e*S	**Sn**	**13 31 04.7**	**+0.1**
JOF	**Joensuu**	**4.81**	**196**	P	**Pn**	**13 30 09.5**	**+1.3**
JOF				S	**Sn**	**13 31 04.6**	**+0.1**
HARU	**Harads**	**5.38**	**261**	P	**Pn**	**13 30 16.2**	**0.0**
HARU	**Harads**	**5.38**	**261**	P	**Pn**	**13 30 16.2**	**0.0**
SJUU	**Sjulsmark**	**5.42**	**254**	P	**Pn**	**13 30 17.8**	**+1.1**
SJUU	**Sjulsmark**	**5.42**	**254**	P	**Pn**	**13 30 17.8**	**+1.1**
RATU	**Laukkuluspa**	**5.56**	**280**	P	**Pn**	**13 30 19.4**	**+0.8**
NIKU	**Nikkaluokta**	**5.76**	**280**	P	**Pn**	**13 30 22.0**	**+0.6**
NIKU	**Nikkaluokta**	**5.76**	**280**	P	**Pn**	**13 30 22.0**	**+0.6**
FIA0	**FINESS Array S**	**7.05**	**213**	Sn	**Sn**	**13 31 54.4**	**-5.4**
	baz=35,slow=18						
FIA0				Lg	Lg	13 32 32.7	
	baz=21,slow=28						
FIA0	**FINESS Array S**	**7.05**	**213**	Sn	**Sn**	**13 31 54.4**	**-5.4**
	baz=35,slow=18						
FIA0				Lg	Lg	13 32 32.7	
	baz=21,slow=28						

IDC 08 13:29:54.3±6.8, 55°.41N×85°.20E, h0km, Error ellipse: s-maj=41.9km s-min=24.1km az=9.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**1.48**	**189**	*i*		13 38 40.0	
	baz=7.1,slow=322,SNR=70						
ZALV	**Zalesovo Beam**	**1.48**	**189**	Pg	Pn	13 30 21.4	-0.8
	0.7nm,0.3s,baz=5.7,slow=12,SNR=3.7						
ZALV				Lg	Lg	13 30 41.5	
	1.2nm,0.3s,baz=10,slow=28,SNR=7.7						
I34MN	**SONGINO INFRAS**	**15.18**	**111**	*i*		15 00 00.0	
	baz=309,slow=327,SNR=1.3						

*NIED **08** 13:38:00, 37°.30N×141°.90E, h32km, Mw5.1 Best double couple: M0 4.34000×10^16 NP1:φs80.00000°, δ30.00000°, λ-75.00000°. NP2:φs243.00000°, δ61.00000°, λ-99.00000°.*
*BJI **08** 13:38:08.0, 37°.15N×142°.19E, h31km, mb5.0/81, mB4.9/60, Ms4.8/87, Ms7 4.7/79*
*ISCJB **08** 13:38:11.4±0.4, 37°.24N±0°.02×141°.91E±0°.02, h36km±3km, mb5.0/182, MS4.7/165, Error ellipse: s-maj=3.4km s-min=2.7km az=151.8*
*JMA **08** 13:38:11.2±0.2, 37°.27N×141°.92E, h40km±4km, M5.2 JMA Felt III J1.*
*MOS **08** 13:38:11.5±1.0, 37°.24N×141°.90E, h38km, mb5.1/87, MS4.5/37, Error ellipse: s-maj=6.6km s-min=4.2km az=109.6*
*GCMT **08** 13:38:13.2±0.2, 37°.42N×141°.87E, h37km, MW5.1/81, Moment Tensor Solution. s63,c91; s81,c127; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr=4.65±.15; Mθθ 3.32±.09; Mφφ 1.33±.09; Mrθ 2.06±.10; Mrφ 1.22±.06; Mθφ 1.31±.09; Best double couple: Mo 4.92100×10^16 NP1:φs241.00000°, δ60.00000°, λ-93.00000°. NP2: φs67.00000°, δ30.00000°, λ-85.00000°. Principal axes: T 4.5400, Plg15.0000°, Azm333.0000°; N 0.7630, Plg2.0000°, Azm243.0000°; P -5.3030, Plg75.0000°, Azm144.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*NEIC **08** 13:38:13.2±0.6, 37°.24N×141°.84E, h37km±5km, mb5.2/70, MS4.7/101 Error ellipse: s-maj=4.6km s-min=3.1km az=127.0*
NEIC Felt at Chiba. Recorded [3 JMA] in Fukushima and Miyagi.
*IDC **08** 13:38:13.4±2.3, 37°.22N×141°.92E, h39km±19km, mb4.5/45, mb1 4.6/50, mb1mx4.6/63, mbtmp4.7/50, ML4.0/5, MS4.5/37, Ms1 4.5/37, ms1mx4.5/38, Error ellipse: s-maj=11.6km s-min=8.6km az=85.0*

ISC 08 13:38:12.9±0.3, 37°.24N±0°.03×141°.99E±0°.04, h39km±1km, h39km:pP-P, n745, σ1s43/728, mb5.0/185, MS4.7/165, 34C-22D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JFK	**Kawauchi**	**0.90**	**278**	⇓P	**Pn**	**13 38 26.8**	**-2.3**
JFK				S	**Sn**	**13 38 37.4**	**-3.5**
ONAJ	**Iwakimizuishiy**	**0.96**	**262**	⇓P	**Pn**	**13 38 27.8**	**-2.2**
ONAJ				S	**Sn**	**13 38 39.3**	**-3.2**
JMM	**Marumori**	**1.14**	**304**	⇑P	**Pn**	**13 38 30.3**	**-2.0**
JMM				S	**Sn**	**13 38 43.6**	**-3.0**
JHO	**Hitachi**	**1.30**	**241**	P	**Pn**	**13 38 32.5**	**-2.1**
JIO	**Ouri**	**1.31**	**337**	⇑P	**Pn**	**13 38 31.9**	**-2.8**
JIO				S	**Sn**	**13 38 47.3**	**-3.6**
JFT	**Otama**	**1.34**	**282**	⇑P	**Pn**	**13 38 34.2**	**-1.0**
JFT				S	**Sn**	**13 38 50.1**	**-1.7**
JOU	**Okura**	**1.54**	**317**	⇑P	**Pn**	**13 38 36.4**	**-1.4**
JOU				S	**Sn**	**13 38 55.5**	**-1.0**
JMK	**Ichinoseki**	**1.81**	**341**	P	**Pn**	**13 38 40.8**	**-0.8**
JYS	**Shirataka**	**1.81**	**303**	⇑P	**Pn**	**13 38 40.6**	**-1.0**
JYS				*e*S	**Sn**	**13 39 02.8**	**-0.5**
JFY	**Yanaizu**	**1.83**	**276**	⇑P	**Pn**	**13 38 40.9**	**-0.9**
JYA	**Atsumi**	**2.25**	**308**	⇑P	**Pn**	**13 38 46.8**	**-0.8**
JHK	**Hiroka**	**2.37**	**271**	⇑P	**Pn**	**13 38 48.7**	**-0.6**
JOD2	**Odawara 2**	**3.07**	**231**	⇓P	**Pn**	**13 38 59.6**	**+0.7**
MJAR	**Matsushiro Arr**

comp=Z,0.4nm,0.3s,baz=136,slow=9.7,SNR=7.8
KLR LR LR 13 46 56.1
comp=Z,4μm,18.3s,baz=140,slow=37
CN2 Changchun 14.17 303 *e*P **Pn** **13 41 31.1 +0.1**
CN2 *es*P P 13 41 43.3 +5.5
CN2 *e*S **Sn** **13 44 06.3 -0.5**
CN2 pmax pmax
comp=Z,20nm,1.3s
CN2 pmax pmax
comp=Z,200nm,4.0s
CN2 LR LR
comp=Z,800nm,16.0s
CN2 LR LR
comp=Z,2μm,16.0s
CN2 LR LR
comp=Z,2μm,19.0s
SNY Shenyang 14.92 294 ⇑P **Pn** **13 41 41.9 +0.9**
SNY S **Sn** **13 44 27.8 +2.8**
SNY pmax pmax
comp=Z,14nm,0.9s
SNY pmax pmax
comp=Z,200nm,3.6s
SNY LR LR
comp=Z,1μm,12.2s
SNY LR LR
comp=Z,4μm,15.3s
SNY LR LR
comp=Z,6μm,14.9s
JOW Kunigami 15.57 232 LR LR 13 47 27.7
comp=Z,726nm,21.8s,baz=64,slow=36
JOW Kunigami 15.57 232 *e*Pn **Pn** **13 41 42.7 -6.9**
comp=Z,25nm,1.2s
DL2 Dalian 16.12 282 P **P** **13 41 59.3 -0.1**
DL2 S **Sn** **13 44 58.5 +4.3**
DL2 pmax pmax
comp=Z,67nm,0.8s
DL2 pmax pmax
comp=Z,390nm,8.6s
DL2 LR LR
comp=Z,600nm,10.1s
DL2 LR LR
comp=Z,2μm,13.1s
DL2 LR LR
comp=Z,2μm,19.2s
PETK Petropavlovsk- 19.28 30 P **Pn** **13 42 34.9 -0.5**
comp=Z,0.5nm,0.3s,baz=208,slow=9.1,SNR=6.9
PETK LR LR 13 49 38.9
comp=Z,804nm,21.9s,baz=214,slow=36
PET Petropavlovsk 19.60 31 *e*P **Pn** **13 42 39.7 +0.5**
PET *e*S **S** **13 46 11.9 -4.7**
PET pmax pmax
comp=Z,36nm,1.0s
PET MLR MLR
comp=Z,2μm,18.0s
PET MLR MLR
comp=Z,1μm,18.0s
NJ2 Nanjing 19.71 262 *e*P **Pn** **13 42 42.8 +2.1**
NJ2 pmax pmax
comp=Z,44nm,1.1s
TIA Tai'an 19.95 275 ⇑P **P** **13 42 39.8 -1.8**
TIA S **Sn** **13 46 30.5 +3.7**
TIA pmax pmax
comp=Z,20nm,1.2s
TIA LR LR
comp=Z,960nm,14.1s
TIA LR LR
comp=Z,2μm,14.9s
TIA LR LR
comp=Z,2μm,15.1s
HIA Hailar 20.09 314 PFAKE 13 43 00.0 +15
HIA LR LR
comp=Z,3μm,19.0s
BJI Beijing 20.34 286 P **P** **13 42 43.1 -2.7**
BJI sP **pP** **13 42 55.5 -0.1**
BJI S **S** **13 46 33.3 +1.8**
BJI sS **sS** **13 46 42.2 -5.0**
BJI pmax pmax
comp=Z,21nm,0.9s
BJI pmax pmax
comp=Z,150nm,3.7s
BJI LR LR
comp=Z,1μm,13.8s
BJI LR LR
comp=Z,520nm,18.5s
BJI LR LR
comp=Z,740nm,22.5s
BJT Baijiatuau 20.34 286 *e*P **P** **13 42 44.3 -1.5**
BJT pmax pmax
comp=Z,42nm,0.9s
BJT MLR MLR
comp=Z,858nm,21.0s
BJT Baijiatuau 20.34 286 *e*P **P** **13 42 44.3 -1.5**
comp=Z,42nm,0.9s
BJT LR LR
comp=Z,858nm,21.0s
YOJ Yonaguni jima 20.64 237 *e*P **P** **13 42 47.3 -1.8**
YOJ Yonaguni jima 20.64 237 *e*P **P** **13 42 47.3 -1.8**
TATO Taipei 21.34 241 PFAKE 13 43 10.0 +13
TATO LR LR
comp=Z,641nm,21.0s
YHNB Yeheng 21.61 240 *e*P **P** **13 42 54.4 -5.4**
comp=Z,21nm,0.9s
YHNB LR LR
comp=Z,712nm,20.0s
SSLB Suanglung 22.48 239 *e*P **P** **13 43 04.4 -4.6**
comp=Z,17nm,0.8s
YULB Yu-li 22.51 238 *e*P **P** **13 43 05.7 -3.6**
comp=Z,24nm,0.6s
TPUB Ta-pu 23.02 239 *e*P **P** **13 43 11.4 -3.3**
comp=Z,57nm,0.4s
MA2 Magadan 23.05 11 P **P** **13 43 15.6 +1.0**
comp=Z,15nm,0.7s,baz=178,slow=10,SNR=7.3
MA2 LR LR 13 53 01.4
comp=Z,750nm,18.5s,baz=208,slow=38
QZH Quanzhou 23.42 245 ⇑*i*P **P** **13 43 15.1 -3.4**
QZH S **S** **13 47 23.8 -5.3**
QZH pmax pmax
comp=Z,110nm,0.8s
QZH LR LR
comp=Z,3μm,22.2s
QZH LR LR
comp=Z,3μm,20.2s
QZH LR LR
comp=Z,2μm,23.1s
TIY Taiyuan 23.42 280 *e*P **P** **13 43 17.7 -0.9**
TIY S **S** **13 47 22.4 -6.7**
TIY SS **SnSn** **13 48 13.7 +7.2**
TIY pmax pmax
comp=Z,89nm,9.0s
TIY LR LR
comp=Z,440nm,13.6s
TIY LR LR
comp=Z,2μm,13.8s
TIY LR LR
comp=Z,2μm,13.7s
GUMO Guam 23.70 173 LR LR 13 52 47.6
comp=Z,620nm,21.4s,baz=32,slow=37
GUMO Guam 23.70 173 *e*P **P** **13 43 20.5 -0.7**
GUMO pmax pmax
comp=Z,272nm,1.2s
GUMO Guam 23.70 173 *e*P **P** **13 43 20.5 -0.7**
comp=Z,272nm,1.2s
HHC Hu-ho-hao-te 23.84 288 *e*P **P** **13 43 22.8 +0.2**
HHC pP pP 13 43 32.0 -1.2
HHC PP **PnPn** **13 43 58.3 +6.8**
HHC S **S** **13 47 35.4 -0.6**
HHC pmax pmax
comp=Z,30nm,0.9s
HHC pmax pmax
comp=Z,130nm,4.0s
HHC LR LR
comp=Z,760nm,12.9s
HHC LR LR
comp=Z,830nm,12.7s
HHC LR LR
comp=Z,1μm,15.8s
WHN Wuhan 23.84 262 ⇑P **P** **13 43 22.2 -0.3**
WHN pP **pP** **13 43 32.5 -0.6**
WHN S **S** **13 47 35.2 -0.7**
WHN pmax pmax
comp=Z,58nm,0.8s
WHN LR LR
comp=Z,1μm,14.4s
WHN LR LR
comp=Z,2μm,13.0s
WHN LR LR
comp=Z,3μm,18.2s

CIT Chita 24.85 316 *e*P **P** **13 43 29.8 -1.8**
CIT *e* 13 43 37.0
CIT *e* 13 43 47.2
CIT *e* 13 44 13.6
YAK Yakutsk 25.97 347 P **P** **13 43 41.8 +0.3**
comp=Z,26nm,0.5s,baz=129,slow=1.0,SNR=13
YAK LR LR 13 54 12.2
comp=Z,2μm,19.2s,baz=96,slow=37
YAK Yakutsk 25.97 347 *e*P **P** **13 43 42.1 +0.6**
YAK *e**PP **pP** **13 43 49.3 -2.9**
YAK *e* 13 44 20.8
YAK *e*S **S** **13 48 11.6 +2.4**
YAK *e**SS **sS** **13 48 25.6 -1.4**
YAK pmax pmax
comp=Z,57nm,1.4s
YAK pmax pmax
comp=N,40nm,1.6s
YAK pmax pmax
comp=E,29nm,1.6s
YAK pmax pmax
comp=Z,500nm,3.2s
YAK pmax pmax
comp=E,406nm,3.4s
YAK pmax pmax
comp=N,743nm,3.4s
YAK smax smax
comp=N,1μm,3.0s
YAK smax smax
comp=E,627nm,3.3s
YAK MLR MLR
comp=Z,3μm,14.0s
YAK MLR MLR
comp=N,2μm,14.0s
YAK MLR MLR
comp=E,1μm,14.0s
YAK Yakutsk 25.97 347 P **P** **13 43 39.3 -2.2**
comp=E,97nm,0.9s
SEY Seymchan 26.50 11 P **P** **13 43 47.4 +1.1**
comp=E,13nm,0.6s,baz=190,slow=7.8,SNR=53
SEY LR LR 13 55 49.1
comp=E,755nm,18.7s,baz=151,slow=40
XAN Xi'an 26.99 273 P **P** **13 43 50.3 -0.8**
XAN sP pP 13 44 02.9 +1.1
XAN PP **PnPn** **13 44 33.2 -1.3**
XAN PcP **PcP** **13 47 13.3 +1.3**
XAN S **S** **13 48 20.6 -5.4**
XAN pmax pmax
comp=E,32nm,1.0s
XAN pmax pmax
comp=E,120nm,7.8s
XAN LR LR
comp=E,250nm,13.8s
XAN LR LR
comp=E,750nm,15.2s
XAN LR LR
comp=E,980nm,15.2s
BOD Bodaibo 27.60 327 *e*P **P** **13 43 56.6 +0.3**
BOD pmax pmax
comp=Z,37nm,1.0s
ULN Ulaanbaatar 27.62 304 *ce*P **P** **13 43 57.5 +0.7**
ULN pmax pmax
comp=Z,25nm,1.2s
ULN Ulaanbaatar 27.62 304 *e*P **P** **13 43 55.3 -1.5**
comp=Z,18nm,0.9s
ULN LR LR
comp=Z,919nm,19.0s
ENH Enshi 27.81 265 *e*P **P** **13 43 57.1 -1.4**
comp=Z,133nm,1.2s
ENH LR LR
comp=Z,527nm,19.0s
H11N2 WAKE ISLAND Hy 27.86 122 T T 14 13 27.5
baz=315,slow=75,SNR=506
H11N1 WAKE ISLAND Hy 27.87 122 T T 14 13 28.9
baz=315,slow=75,SNR=629
H11N3 WAKE ISLAND Hy 27.88 122 T T 14 13 16.9
baz=315,slow=75,SNR=579
WAKE Wake Island 28.01 123 PFAKE 13 44 10.0 +10
WAKE LR LR
comp=Z,2μm,21.0s
SONA1 Songino Array 28.05 304 *e*P **P** **13 43 59.8 -0.8**
SONM Songino Array 28.05 303 P **P** **13 44 01.0 +0.4**
comp=Z,17nm,0.7s,baz=102,slow=9.2,SNR=52
SONM LR LR 13 55 34.3
comp=Z,1μm,18.7s,baz=89,slow=37
GZH Guangzhou 28.37 248 P **P** **13 43 59.0 -4.5**
GZH S **S** **13 48 42.6 -5.2**
GZH pmax pmax
comp=Z,200nm,2.7s
H11S1 WAKE ISLAND Hy 28.59 124 T T 14 14 25.6
baz=316,slow=76,SNR=741
H11S3 WAKE ISLAND Hy 28.59 124 T T 14 14 27.8
baz=316,slow=76,SNR=204
H11S2 WAKE ISLAND Hy 28.61 124 T T 14 14 27.2
baz=316,slow=76,SNR=653
TGY Tagaytay City 29.71 225 LR LR 13 56 05.4
comp=Z,197nm,18.3s,baz=34,slow=36
LZH Lanzhou 30.48 280 *e*P **P** **13 44 22.1 -0.3**
LZH pP pP 13 44 30.5 -2.7
LZH sP sP 13 44 34.3 -3.5
LZH PP **PnPn** **13 45 22.3 +0.3**
LZH PcP **PcP** **13 47 21.3 +0.4**
LZH S **S** **13 49 18.2 -3.0**
LZH sS sS 13 49 36.0 -3.1
LZH SS **SnSn** **13 50 59.6 +0.5**
LZH pmax pmax
comp=Z,92nm,1.3s
LZH pmax pmax
comp=Z,180nm,4.1s
LZH LR LR
comp=Z,590nm,14.3s
LZH LR LR
comp=Z,2μm,15.2s
LZH LR LR
comp=Z,2μm,17.3s
ZAK Zakamensk 30.50 308 *e*P **P** **13 44 21.6 -0.7**
ZAK pmax pmax
comp=Z,11nm,1.1s
TLY Talaya 30.54 311 P **P** **13 44 23.1 +0.5**
comp=Z,7.9nm,0.7s,baz=105,slow=5.8,SNR=11
TLY LR LR 13 57 16.0
comp=Z,2μm,19.0s,baz=106,slow=37
TLY Talaya 30.54 311 *e*P **P** **13 44 23.3 +0.8**
TLY *e*S **S** **13 49 19.3 -2.2**
TLY *e*SSS SSS 13 51 18.0
TLY pmax pmax
comp=Z,22nm,1.3s
TLY MLR MLR
comp=Z,1μm,15.0s
GYA Guiyang 31.71 260 ⇓*i*P **P** **13 44 32.1 -1.1**
GYA pP pP 13 44 43.2 -0.8
GYA PP **PnPn** **13 45 40.0 +2.1**
GYA PcP **PcP** **13 47 27.6 +3.3**
GYA S **S** **13 49 41.8 +1.4**
GYA pmax pmax
comp=Z,50nm,1.1s
GYA pmax pmax
comp=Z,130nm,5.3s
GYA LR LR
comp=Z,560nm,17.8s
GYA LR LR
comp=Z,510nm,18.0s
GYA LR LR
comp=Z,630nm,17.6s
CD2 Chengdu 32.13 270 ⇑*i*P **P** **13 44 36.1 -0.7**
CD2 pP pP 13 44 46.2 -1.4
CD2 PP **PnPn** **13 45 44.5 +1.2**
CD2 PcP **PcP** **13 47 25.5 +0.2**
CD2 S **S** **13 49 43.5 -3.3**
CD2 sS sS 13 49 58.9 -5.8
CD2 SS **SnSn** **13 51 40.5 +1.4**
CD2 ScS **ScS** **13 55 03.9 -0.8**
CD2 pmax pmax
comp=Z,60nm,0.8s
CD2 pmax pmax
comp=Z,160nm,4.2s
CD2 LR LR
comp=Z,1μm,15.5s
CD2 LR LR
comp=Z,2μm,16.6s
CD2 LR LR
comp=Z,2μm,14.3s
MOY Mondy 32.16 310 *e*P **P** **13 44 37.1 +0.2**
QIZ Qiongzhong 33.43 246 P **P** **13 44 49.7 +1.5**
QIZ S **S** **13 50 11.5 +4.4**
QIZ pmax pmax
comp=Z,27nm,1.4s
QIZ pmax pmax
comp=Z,110nm,5.1s
QIZ LR LR
comp=Z,640nm,18.6s
QIZ LR LR
comp=Z,710nm,20.6s
QIZ LR LR
comp=Z,450nm,16.6s
QIZ Qiongzhong 33.43 246 PFAKE 13 45 00.0 +12
QIZ LR LR
comp=Z,470nm,19.0s
DAV Davao City (W) 33.55 210 PFAKE 13 45 00.0 +11
DAV LR LR
comp=Z,509nm,21.0s
BILL Bilibino 33.70 16 ⇑*e*P **P** **13 44 49.4 -0.6**
BILL *e* 13 44 56.6
BILL *e* 13 46 05.3
BILL pmax pmax
comp=Z,8.0nm,1.1s
BILL MLR MLR
comp=Z,347nm,18.0s
MIDW Midway 35.13 93 PFAKE 13 45 20.0 +17
MIDW LR LR
comp=Z,788nm,19.0s
TIXI Tiksi 35.14 353 PFAKE 13 45 10.0 +7.7
TIXI LR LR
comp=Z,1μm,19.0s
KMI Kunming 35.45 261 P **P** **13 45 06.0 +0.2**
KMI pP pP 13 45 15.9 -0.8
KMI sP sP 13 45 19.6 -1.7
KMI PP **PP** **13 46 27.5 +0.8**
KMI S **S** **13 50 36.1 -2.4**
KMI sS sS 13 50 53.6 -2.9
KMI SS **SnSn** **13 53 01.3 +1.4**
KMI pmax pmax
comp=Z,43nm,1.1s
KMI pmax pmax
comp=Z,140nm,4.1s
KMI LR LR
comp=Z,450nm,15.5s
KMI LR LR
comp=Z,950nm,18.9s
KMI LR LR
comp=Z,950nm,19.6s
SLVN Son La 36.53 255 *e*P **P** **13 45 15.0 0.0**
comp=Z,20nm,1.4s
KKM Kota Kinabalu 38.95 223 PFAKE 13 45 50.0 +15
KKM LR LR
comp=Z,356nm,19.0s
UBPT Khong Chiam 39.03 246 P **P** **13 45 37.3 +1.3**
comp=Z,27nm,1.7s,comp=Z,940nm
SKNT Sakolnakorn 39.05 249 P **P** **13 45 37.0 +0.8**
comp=Z,38nm,1.1s
DLV T Lat 39.18 239 *e*P **P** **13 45 38.4 +0.9**
comp=Z,50nm,1.1s
SWI Sorong 39.20 197 P **P** **13 45 37.9 +0.5**
JAY Jayapura 39.57 182 P **P** **13 45 41.2 +0.6**
comp=Z,0.5nm,0.6s,baz=92,slow=24,SNR=8.0
FAKI Fak Fak 40.97 195 *e*P **P** **13 45 52.6 +0.5**
comp=Z,40nm,0.8s
WMQ Urumqi 41.16 297 P **P** **13 45 54.9 +1.4**
WMQ sP sP 13 46 07.8 -1.3
WMQ PP **PnPn** **13 47 33.5 +0.1**
WMQ ScP **ScP** **13 51 37.2 -1.7**
WMQ S **S** **13 52 05.8 +1.7**
WMQ pmax pmax
comp=Z,37nm,0.7s
WMQ pmax pmax
comp=Z,130nm,4.3s
WMQ LR LR
comp=Z,750nm,15.3s
WMQ LR LR
comp=Z,670nm,18.1s
WMQ LR LR
comp=Z,590nm,23.7s
UTTA Uttaradit 41.17 253 P P 13 46 00.4 +6.6
comp=Z,5.1nm,0.9s
CHAI Chaiyaphum 41.21 250 P **P** **13 45 54.8 +0.7**
comp=Z,10nm,1.1s,comp=Z,86nm
PBKT Sadao Pong 41.56 252 P **P** **13 45 57.6 +0.6**
comp=Z,16nm,1.4s
CMMT Chiang Mai 41.79 256 P **P** **13 45 59.3 +0.5**
comp=Z,13nm,1.7s
CHTO Chiang Mai 41.79 256 P **P** **13 45 59.4 +0.6**
comp=Z,57nm,1.7s
CHTO Chiang Mai 41.79 256 *e*P **P** **13 45 56.8 -2.0**
CHTO pmax pmax
comp=Z,17nm,1.3s
CHTO MLR MLR
comp=Z,489nm,21.0s
CHTO Chiang Mai 41.79 256 *e*P **P** **13 45 56.8 -2.0**
comp=Z,17nm,1.3s
CHTO LR LR
comp=Z,489nm,21.0s
CMAR Chiang Mai Arr 41.99 256 P **P** **13 46 00.7 +0.1**
comp=Z,3.0nm,0.7s,baz=45,slow=7.5,SNR=16
CMAR PcP **PcP** **13 47 56.3 +1.1**
comp=Z,3.6nm,0.9s,baz=12,slow=3.2,SNR=5.5
CMAR LR LR 14 04 31.4
comp=Z,355nm,20.2s,baz=69,slow=38
CM01 Chiang Mai Arr 42.00 255 *e*P **P** **13 46 00.5 -0.1**
SUKH Sukhothai 42.04 254 P **P** **13 46 01.8 +1.0**
comp=Z,6.5nm,1.0s
ZALV Zalesovo Beam 42.11 312 P **P** **13 46 01.1 +0.1**
comp=Z,22nm,0.8s,baz=85,slow=6.7,SNR=22
ZALV PcP **PcP** **13 47 55.9 +0.8**
comp=Z,3.1nm,0.6s,baz=108,slow=3.2,SNR=2.6
ZALV LR LR 14 04 13.2
comp=Z,1μm,19.1s,baz=70,slow=37
LSA Lhasa 42.65 275 P **P** **13 46 07.0 +0.7**
LSA pmax pmax
comp=Z,17nm,1.1s
LSA Lhasa 42.65 275 *e*P **P** **13 46 04.8 -1.5**
LSA pmax pmax
comp=Z,35nm,1.0s
LSA MLR MLR
comp=Z,488nm,21.0s
LSA Lhasa 42.65 275 *e*P **P** **13 46 04.8 -1.5**
comp=Z,35nm,1.0s
LSA LR LR
comp=Z,488nm,21.0s
AAI Ambon 42.70 201 P **P** **13 46 07.0 +0.8**
AAI pmax pmax
comp=Z,86nm,1.1s
NVS Novosibirsk 43.03 314 *e*P **P** **13 46 08.7 +0.2**
NVS *e*S **S** **13 52 31.9 +0.7**
NVS pmax pmax
comp=Z,35nm,1.0s
NVS pmax pmax
comp=N,5.0nm,0.5s
NVS pmax pmax
comp=E,6.0nm,0.4s
NVS smax smax
comp=N,4.0nm,1.0s
NVS smax smax
comp=E,10.0nm,0.9s
NRIK Noril'sk 43.27 335 P **P** **13 46 10.5 +0.3**
comp=E,2.2nm,0.3s,baz=117,slow=7.5,SNR=3.8
NRIK PcP **PcP** **13 47 59.7 +1.1**
comp=E,2.2nm,0.4s,baz=166,slow=6.5,SNR=2.9
NRIK LR LR 14 05 21.2
comp=E,2μm,18.1s,baz=102,slow=38
MK01 Makanchi Array 44.40 302 *e*P **P** **13 46 19.4 -0.3**
MK31 Makanchi Array 44.40 302 P **P** **13 46 19.3 -0.4**
MK31 pmax pmax
comp=Z,34nm,0.8s
MK31 Makanchi Array 44.40 302 *e*P **P** **13 46 19.4 -0.2**
MKAR Makanchi Array 44.40 302 *e*P **P** **13 46 19.5 -0.2**
MKAR Makanchi Array 44.40 302 *e*P **P** **13 46 19.4 -0.2**
comp=Z,238nm,0.9s
MAKZ Makanchi 44.61 302 P **P** **13 46 20.5 -0.8**
MAKZ pmax pmax
comp=Z,20nm,0.8s
MAKZ Makanchi 44.61 302 *e*P **P** **13 46 21.3 -0.1**
comp=Z,30nm,0.8s
PHET Kaeng Krachan 44.87 249 P **P** **13 46 27.0 +3.3**
comp=Z,15nm,0.8s
SVW2 Sparrevohn 45.08 37 *e*P **P** **13 46 25.8 +1.0**
comp=Z,36nm,1.4s
TARA Tarawa 45.70 134 PFAKE 13 46 40.0 +10
TARA LR LR
comp=Z,95nm,19.0s
KSM Kuching 46.03 227 *e*P **P** **13 46 34.2 +1.4**
comp=Z,25nm,0.8s
KSM LR LR
comp=Z,231nm,19.0s

KURK Kurchatov 46.16 308 P **P** 13 46 32.9 -0.6
KURK pmax pmax
comp=Z,42nm,0.5s
KURK Kurchatov 46.16 308 *e*P **P** 13 46 33.1 -0.4
comp=Z,121nm,1.1s
KURK LR LR
comp=Z,2μm,19.0s
KURBB Kurchatov Arra 46.23 308 P **P** 13 46 33.6 -0.5
comp=Z,48nm,0.7s,baz=83,slow=8.0,SNR=121
TAPN Taplejung 46.38 274 *e*P **P** 13 46 36.0 0.0
comp=Z,22nm,0.5s
RSO Redoubt South 46.45 38 *e*P **P** 13 46 36.6 +0.7
KDAK Kodiak Island 46.63 42 *e*P **P** 13 46 37.6 +0.5
KDAK pmax pmax
comp=Z,34nm,0.9s
KDAK MLR MLR
comp=Z,249nm,22.0s
KDAK Kodiak Island 46.63 42 *e*P **P** 13 46 37.6 +0.5
comp=Z,34nm,0.9s
KDAK LR LR
comp=Z,249nm,22.0s
PMG Port Moresby 46.66 173 PFAKE 13 46 50.0 +12
PMG LR LR
comp=Z,437nm,22.0s
PPLA Purkeypile 46.73 35 *e*P **P** 13 46 39.6 +1.5
comp=Z,61nm,1.6s
SPU Mount Spurr 46.79 37 *e*P **P** 13 46 39.8 +1.5
CAST Castle Rocks 46.79 34 *e*P **P** 13 46 40.2 +1.9
comp=Z,75nm,2.0s
ODAN Odare 46.86 274 *e*P **P** 13 46 39.5 -0.1
comp=Z,80nm,1.0s
KAPI Kappang 46.88 211 *e*P **P** 13 46 40.7 +1.2
comp=Z,86nm,1.4s
KAPI LR LR
comp=Z,325nm,21.0s
PDGK Podgornoye 47.08 298 P **P** 13 46 40.5 -0.5
KTH Kantishna Hill 47.32 34 *e*P **P** 13 46 42.7 +0.2
comp=Z,18nm,1.0s
RAMN Ramite 47.45 274 *e*P **P** 13 46 44.2 0.0
comp=Z,125nm,1.0s
JIRN Jiri 47.46 275 *e*P **P** 13 46 44.5 +0.1
comp=Z,326nm,0.7s
GUN Gumba 47.59 276 *e*P **P** 13 46 45.6 +0.2
comp=Z,71nm,0.5s
COLD Coldfoot 47.75 29 *e*P **P** 13 46 47.3 +1.7
comp=Z,8.3nm,1.2s
TOLK Toolik Lake Re 48.07 27 P **P** 13 46 47.8 -0.5
baz=266
PKI Pulchoki 48.12 276 *e*P **P** 13 46 49.0 -0.5
comp=Z,37nm,0.7s
KKN Kakani 48.12 276 *e*P **P** 13 46 49.4 0.0
comp=Z,120nm,1.2s
PKIN Phulchoki 48.12 276 *e*P **P** 13 46 48.9 -0.6
comp=Z,9.6nm,0.4s
PMR Palmer 48.18 37 *e*P **P** 13 46 49.5 +0.4
PMR pmax pmax
comp=Z,15nm,0.8s
PMR Palmer 48.18 37 *e*P **P** 13 46 49.5 +0.4
comp=Z,15nm,0.8s
MCK McKinley 48.20 34 *e*P **P** 13 46 50.1 +0.8
MCK pmax pmax
comp=Z,17nm,0.9s
MCK McKinley 48.20 34 *e*P **P** 13 46 50.1 +0.8
comp=Z,18nm,0.9s
RND Reindeer 48.25 34 *e*P **P** 13 46 50.4 +0.7
RND Reindeer 48.25 34 *e*P **P** 13 46 50.4 +0.7
comp=Z,140nm,0.5s
DMN Daman 48.34 276 *e*P **P** 13 46 51.0 -0.1
comp=Z,22nm,0.7s
MDM Murphy Dome 48.49 32 *e*P **P** 13 46 53.1 +1.5
comp=Z,66nm,1.6s
GKN Gorkha 48.54 277 *e*P **P** 13 46 52.4 -0.1
comp=Z,207nm,1.1s
WRH Wood River Hil 48.56 33 *e*P **P** 13 46 52.9 +0.9
comp=Z,22nm,1.2s
COLA College 48.66 32 *e*P **P** 13 46 51.3 -1.4
COLA pmax pmax
comp=Z,8.0nm,0.8s
COLA MLR MLR
comp=Z,271nm,19.0s
COLA College 48.66 32 *e*P **P** 13 46 51.3 -1.4
comp=Z,7.7nm,0.8s
COLA LR LR
comp=Z,271nm,19.0s
CCB Clear Creek Bu 48.68 33 *e*P **P** 13 46 54.0 +1.1
comp=Z,6.7nm,0.8s
DHY Denali Highway 48.93 35 *e*P **P** 13 46 56.5 +1.5
comp=Z,21nm,0.5s
SCM Sheep Creek Mo 49.02 36 *e*P **P** 13 46 56.8 +1.1
SCM pmax pmax
comp=Z,41nm,0.5s
SCM Sheep Creek Mo 49.02 36 *e*P **P** 13 46 56.8 +1.1
comp=Z,41nm,0.5s
HDA Harding Lake 49.06 33 *e*P **P** 13 46 56.5 +0.6
comp=Z,59nm,1.6s
IL1 Eielson Array 49.07 32 *e*P **P** 13 46 55.6 -0.3
ILAR Eielson Array 49.07 32 P **P** 13 46 56.3 +0.4
comp=Z,7.1nm,0.7s,baz=261,slow=5.9,SNR=117
ILAR LR LR 14 09 01.7
comp=Z,203nm,20.4s,baz=280,slow=38
ILB Eielson Array 49.07 32 *e*P **P** 13 46 56.4 +0.4
MMRI Maumere 49.25 206 *e*P **P** 13 46 57.5 -0.3
comp=Z,38nm,0.9s
KULM Kulim 49.32 240 PFAKE 13 47 10.0 +12
KULM LR LR
comp=Z,345nm,21.0s
HNR Honiara 49.39 156 PFAKE 13 47 10.0 +11
HNR LR LR
comp=Z,944nm,22.0s
KOLN Koldanda 49.46 277 *e*P **P** 13 46 59.7 0.0
comp=Z,54nm,1.0s
SOEI Soe 49.62 203 *e*P **P** 13 47 01.0 +0.2
comp=Z,139nm,1.1s
IPM Ipoh 49.64 239 *e*P **P** 13 46 59.4 -1.5
comp=Z,25nm,0.8s
FYU Fort Yukon 49.70 30 *e*P **P** 13 47 02.8 +2.2
comp=Z,76nm,1.8s
PYUN Piuthan 49.80 278 *e*P **P** 13 47 02.4 +0.2
comp=Z,271nm,1.2s
DIV Divide 49.83 37 *e*P **P** 13 47 03.6 +1.8
comp=Z,72nm,1.4s
TKM2 Tokmak 2 49.94 298 P **P** 13 47 02.9 -0.2
TKM2 pmax pmax
comp=Z,22nm,0.6s
DOT Dot Lake 50.38 34 *e*P **P** 13 47 06.3 +0.4
comp=Z,84nm,0.4s
BMRM Bremner River 50.41 37 *e*P **P** 13 47 07.6 +1.3
comp=Z,29nm,1.1s
MENT Mentasta 50.60 35 *e*P **P** 13 47 09.1 +1.5
comp=Z,43nm,1.5s
FRU Bishkek 50.65 299⇑ *e*P **P** 13 47 09.0 +0.7
FRU *e* 13 47 17.0
FRU *e* 13 54 28.0
FRU pmax pmax
comp=Z,40nm,2.0s
KSH Kashi 50.74 294 P **P** 13 47 13.2 +4.1
KSH pP sP 13 47 23.0 -1.9
KSH sP pP 13 47 26.2 +5.8
KSH PP **PP** **13 49 10.2 +5.0**
KSH S **S** **13 54 26.1 +4.1**
KSH sS sS 13 54 43.5 +2.9
KSH SS **SS** **13 57 59.1 +2.7**
KSH pmax pmax
comp=Z,9.0nm,1.0s
KSH pmax pmax
comp=Z,57nm,5.5s
KSH LR LR
comp=Z,1μm,17.8s
KSH LR LR
comp=Z,730nm,16.2s
KSH LR LR
comp=Z,2μm,15.8s
BVAR Borovoye Array 50.77 312 P **P** 13 47 08.8 -0.2
comp=Z,5.0nm,0.6s,baz=69,slow=8.1,SNR=16
AAK Ala-Archa 50.79 298 P **P** 13 47 09.3 -0.2
comp=Z,6.5nm,0.6s,baz=88,slow=4.6,SNR=8.7
AAK Ala-Archa 50.79 298 *e*P **P** 13 47 09.7 +0.2
AAK pmax pmax
comp=Z,11nm,0.9s
AAK MLR MLR
comp=Z,1μm,20.0s
AAK Ala-Archa 50.79 298 *e*P **P** 13 47 09.7 +0.2
comp=Z,10nm,0.9s
AAK LR LR
comp=Z,1μm,20.0s
BRVK Borovoye 50.83 312 P **P** 13 47 08.8 -0.6
BRVK pmax pmax
comp=Z,12nm,0.9s
BRVK Borovoye 50.83 312 *e*P **P** 13 47 09.4 0.0
BRVK LR LR
comp=Z,591nm,20.0s
MTN Manton Dam 50.86 194 *e*P **P** 13 47 09.9 0.0
comp=Z,68nm,1.4s
COEN Coen 50.94 179 *e*P **P** 13 47 11.6 +1.1
comp=Z,27nm,0.9s
EGAK Eagle 51.52 32 *e*P **P** 13 47 15.2 +0.8
EGAK LR LR
comp=Z,187nm,20.0s
MNAS Manas 52.24 299 P **P** 13 47 20.3 0.0
MNAS pmax pmax
comp=Z,23nm,0.7s
PSI Prapat 52.30 240 P **P** 13 47 21.0 +0.1
comp=Z,8.9nm,0.8s,baz=54,slow=4.8,SNR=11
PSI LR LR 14 09 28.3
comp=Z,250nm,21.3s,slow=36
PSI Prapat 52.30 240 *e*P **P** 13 47 21.1 +0.1
comp=Z,13nm,0.7s
DAWY Dawson 52.38 33 *e*P **P** 13 47 22.3 +1.4
comp=Z,28nm,1.7s
KK31 Karatay Array 53.42 300 *i* P **P** 13 47 28.7 -0.1
KK31 pmax pmax
comp=Z,6.0nm,0.6s
KKAR Karatay Array 53.42 300 *e*P **P** 13 47 28.4 -0.4
KKAR pmax pmax
comp=Z,10.0nm,0.6s
KKAR Karatay Array 53.42 300 *e*P **P** 13 47 28.4 -0.4
comp=Z,10nm,0.6s
HYT Haines Junctio 53.86 37 *e*P **P** 13 47 34.7 +2.8
INK Inuvik 53.99 27 P **P** 13 47 33.8 +1.2
comp=Z,6.4nm,0.7s,baz=302,slow=7.3,SNR=44
WHY Whitehorse 55.15 37 *e*P **P** 13 47 43.6 +2.4
SVE Sverdlovsk 55.29 319‖ *e*P **P** 13 47 43.0 +0.8
SVE pmax pmax
comp=Z,48nm,1.1s
SOKR Solikamsk 56.44 323 *e*P P 13 47 56.8 +6.5
SOKR pmax pmax
comp=Z,23nm,1.1s
SOKR MLR MLR
comp=Z,414nm,16.0s
ARU Arti 56.51 319 P **P** 13 47 50.8 -0.1
comp=Z,9.2nm,0.5s,baz=73,slow=4.8,SNR=22
ARU Arti 56.51 319 *d i* P **P** 13 47 50.7 -0.1
ARU 13 48 46.6
ARU 13 49 52.6
ARU S **S** **13 55 40.9 +1.6**
ARU 13 57 32.4
ARU SS **SS** **13 59 21.5 -4.9**
ARU pmax pmax
comp=Z,48nm,1.7s
ARU MLR MLR
comp=Z,1μm,17.0s
ARU Arti 56.51 319 *e*P **P** 13 47 50.8 -0.1
ARU LR LR
comp=Z,1μm,19.0s
CTA Charters Tower 57.16 175 P **P** 13 47 56.0 +0.1
comp=Z,2.1nm,0.5s,baz=6.3,slow=9.3,SNR=9.1
CTA Charters Tower 57.16 175 P **P** 13 47 56.0 +0.1
CTA pmax pmax
comp=Z,2.0nm,0.5s
WRAB Tennant Creek 57.32 189 *d i* P **P** 13 47 56.7 -0.3
WRAB pmax pmax
comp=Z,112nm,1.2s
WRAB Tennant Creek 57.32 189 *e*P **P** 13 47 57.3 +0.3
comp=Z,31nm,0.8s
WRAB LR LR
comp=Z,754nm,20.0s
FUNA Funafuti 57.32 135 PFAKE 13 48 10.0 +13
FUNA LR LR
comp=Z,12μm,19.0s
WB2 Warramunga Arr 57.33 189 *e*P **P** 13 47 56.9 -0.2
WRA Warramunga Arr 57.33 189 P **P** 13 47 56.9 -0.2
comp=Z,20nm,0.6s,baz=5.9,slow=7.5,SNR=90
WRA LR LR 14 12 26.1
comp=Z,170nm,19.4s,baz=50,slow=36
KBL Kabul 57.77 291 *e*P **P** 13 48 00.2 -0.2
KBL Kabul 57.77 291 *e*P **P** 13 48 00.2 -0.2
AB31 Akbulak array 58.16 310 P **P** 13 48 01.7 -0.9
AB31 pmax pmax
comp=Z,8.0nm,0.5s
DLBC Dease Lake 58.18 38 *e*P **P** 13 48 05.2 +2.4
HYB Hyderabad 58.67 269 *i* P **P** 13 48 06.0 -0.7
HYB *e* 13 48 16.0
AKTO Aktyubinsk 58.88 312 P **P** 13 48 07.1 -0.6
comp=Z,6.6nm,0.9s,baz=77,slow=7.2,SNR=15
SPITS Spitsbergen Ar 60.41 349 P **P** 13 48 17.9 +0.1
comp=Z,3.7nm,0.6s,baz=81,slow=10,SNR=4.8
AS01 Alice Springs 61.05 188 *e*P **P** 13 48 21.0 -1.8
AS31 Alice Springs 61.06 188 *e*P **P** 13 48 23.1 +0.2
ASAR Alice Springs 61.06 188 P **P** 13 48 23.0 +0.1
comp=Z,12nm,0.8s,baz=14,slow=6.1,SNR=116
ASAR LR LR 14 14 43.4
comp=Z,220nm,21.0s,baz=356,slow=36
MBWA Marble Bar 61.76 204 *e*P **P** 13 48 27.8 +0.2
MBWA LR LR
comp=Z,522nm,20.0s
LVZ Lovozero 62.11 336 PFAKE 13 48 40.0 +11
LVZ LR LR
comp=Z,1μm,19.0s
APA Apatity 62.69 336⇑ *e*P **P** 13 48 32.6 -0.7
APA pmax pmax
comp=Z,5.0nm,0.9s
APA MLR MLR
comp=Z,1μm,17.0s
PALK Pallekele 62.86 258 LR LR 14 17 05.4
comp=Z,269nm,20.9s,baz=116,slow=37
EIDS Eidsvold 62.87 171 *e*P **P** 13 48 36.1 +1.2
DZM Mont Dzumac 63.34 155 P **P** 13 48 37.3 -0.9
comp=Z,45nm,1.3s,baz=21,slow=10,SNR=8.1
DZM Mont Dzumac 63.34 155 *e*P **P** 13 48 39.5 +1.3
comp=Z,109nm,1.4s
DZM Mont Dzumac 63.34 155 *e*LR LR 14 07 01.7
comp=Z,1μm,21.5s
DZM Mont Dzumac 63.34 155 *e*P **P** 13 48 39.4 +1.2
YKA Yellowknife Ar 63.40 30 P **P** 13 48 38.5 +0.5
comp=Z,2.7nm,0.7s,baz=300,slow=5.6,SNR=17
YKA LR LR 14 19 51.8
comp=Z,7.3nm,18.2s,baz=0.0,slow=39
KEV Kevo 63.41 339 PFAKE 13 48 50.0 +12
KEV LR LR
comp=Z,381nm,20.0s
KLMR Klimovskoe 63.82 328 *e*P **P** 13 48 38.9 -2.0
KLMR *e* 13 50 58.9
KLMR *e*SS SS 14 01 19.3 -1.4
KLMR pmax pmax
comp=Z,37nm,1.5s
KLMR MLR MLR
comp=Z,235nm,12.0s
ARCES ARCESS Array B 63.96 339 P **P** 13 48 42.1 +0.4
comp=Z,1.7nm,0.6s,baz=39,slow=7.8,SNR=4.6
ARCES LR LR 14 20 38.5
comp=Z,677nm,18.5s,baz=41,slow=40
GEYT Alibeck 64.14 299 P **P** 13 48 43.5 +0.1
comp=Z,5.0nm,0.6s,baz=31,slow=3.5,SNR=9.9
GEYT LR LR 14 19 36.8
comp=Z,200nm,18.1s,baz=110,slow=39
MSVF Nonsavu 64.38 142 PFAKE 13 49 00.0 +15
MSVF LR LR
comp=Z,557nm,21.0s
COCO West Island 64.92 230 PFAKE 13 49 00.0 +11
COCO LR LR
comp=Z,2μm,19.0s
MSF Maaselka 65.05 335 P **P** 13 48 49.4 +0.5
MSF pmax pmax
comp=Z,16nm,2.2s
XMAS Kiritimati 65.59 107 PFAKE 13 49 10.0 +17
XMAS LR LR
comp=Z,6.0nm,19.0s
OUL Oulu 66.60 336 P **P** 13 48 58.4 -0.4
OUL pmax pmax
comp=Z,15nm,1.0s
MOS Moscow 67.36 324 *e*P **P** 13 49 02.7 -1.1
MOS *e* 13 49 11.4
MOS pmax pmax
comp=Z,46nm,1.2s
G03D McMinnville, O 67.69 50 P **P** 13 49 07.0 +0.9
baz=301
ARMA Armidale 67.91 171 *e*P **P** 13 49 09.4 +1.8
OBN Obninsk 68.20 323⇑ *e*P **P** 13 49 07.9 -1.2
OBN *i* 13 49 17.2
OBN *i* 13 51 38.6
OBN *e*S **S** **13 58 10.8 +4.4**
OBN *e*SS **SS** **14 02 28.7 -0.1**
OBN pmax pmax
comp=Z,60nm,2.0s
OBN MLR MLR
comp=Z,515nm,17.0s
OBN Obninsk 68.20 323 PFAKE 13 49 20.0 +11
OBN LR LR
comp=Z,480nm,19.0s
B08A Colville Reser 68.36 45 *e*P **P** 13 49 11.9 +1.5
I03D Drain, OR 68.42 51 P **P** 13 49 10.3 -0.4
baz=301
LPSR Galich'ya Gora 68.44 320 *e*P **P** 13 49 10.5 -0.1
LPSR pmax pmax
comp=Z,30nm,0.9s
STKA Stephens Creek 68.76 180 P **P** 13 49 13.6 +0.9
comp=Z,9.3nm,0.8s,baz=344,slow=6.8,SNR=14
STKA LR LR 14 18 14.6
comp=Z,263nm,21.7s,baz=17,slow=35
STKA Stephens Creek 68.76 180 *e*P **P** 13 49 13.5 +0.8
FIA1 FINESS Array S 68.84 332 *e*P **P** 13 49 13.2 +0.2
FINES FINESS Array B 68.84 332 P **P** 13 49 13.1 +0.1
comp=Z,4.5nm,0.7s,baz=31,slow=9.6,SNR=23
FINES LR LR 14 21 32.7
comp=Z,538nm,18.8s,baz=29,slow=38
FORT Forrest 68.91 193 *e*P **P** 13 49 14.8 +1.1
I04A Tendick Farm, 68.95 51 P **P** 13 49 14.2 +0.1
baz=302
VSR Storozhevoye 69.08 319 *e*P **P** 13 49 13.6 -1.0
VSR pmax pmax
comp=Z,20nm,0.8s
G06A Carlson Farm, 69.26 49 *e*P **P** 13 49 17.9 +1.8
D08A Wollman Farm, 69.29 46 *e*P **P** 13 49 17.6 +1.4
HAWA Hanford 69.30 47 *e*P **P** 13 49 17.9 +1.8
J04D Umpqua Nationa 69.43 51 P **P** 13 49 18.4 +1.2
baz=302
NEW Newport 69.66 44 P **P** 13 49 17.9 -0.4
baz=304
NEW Newport 69.66 44 *e*P **P** 13 49 18.9 +0.5
NEW *e**PP **pP** **13 49 28.0 -2.0**
NEW MLR MLR
comp=Z,197nm,20.0s
NEW Newport 69.66 44 *e*P **P** 13 49 18.9 +0.5
NEW *e*pP **pP** **13 49 28.0 -2.0**
NEW LR LR
comp=Z,197nm,20.0s
YBH Yreka Blue Hor 69.85 53 *e*P **P** 13 49 21.8 +2.0
YBH Yreka Blue Hor 69.85 53 *e*P **P** 13 49 21.8 +2.0
J05D Fort Rock, OR 69.94 51 P **P** 13 49 20.5 +0.1
baz=303
K04D Chiloquin, OR 69.98 51 P **P** 13 49 20.1 -0.5
baz=303
E09A Wood Farm, Sta 70.04 46 *e*P **P** 13 49 22.1 +1.4
N02D Trinity Center 70.26 53 P **P** 13 49 22.4 +0.1
baz=303
GOF Gofitskoye 70.30 312 *e*P **P** 13 49 21.9 -0.4
GOF pmax pmax
comp=Z,30nm,0.9s
M04C Macdoel 70.38 52 P **P** 13 49 23.4 +0.4
baz=303
K05A Summer Lake 70.46 51 *e*P **P** 13 49 25.6 +2.1
SUMG Summit 70.47 0 *i* P **P** 13 49 23.9 +0.5
SUMG Summit 70.47 0 *e*P **P** 13 49 24.1 +0.7
SUMG Summit 70.47 0 *e*P **P** 13 49 24.1 +0.7
VSU Vasula 70.51 330 *ce*P **P** 13 49 22.4 -0.9
VSU pmax pmax
comp=Z,49nm,1.7s
WDC Whiskeytown Da 70.58 54 *e*P **P** 13 49 26.0 +1.9
WDC Whiskeytown Da 70.58 54 *e*P **P** 13 49 26.0 +1.9
NCK Nalchik 70.82 310 *i* P **P** 13 49 24.5 -1.0
NCK pmax pmax
comp=Z,14nm,0.4s
WALA Waterton Lakes 70.97 42 *e*P **P** 13 49 24.6 -2.0
comp=Z,50nm,1.8s
KVAR Kislovodsk Arr 71.11 311 P **P** 13 49 27.6 +0.2
comp=Z,19nm,0.8s,baz=36,slow=7.9,SNR=20
KBZ Khabaz 71.11 311 P **P** 13 49 27.6 +0.4
comp=Z,15nm,0.9s,baz=18,slow=2.2,SNR=26
KBZ LR LR 14 25 29.4
comp=Z,369nm,18.8s,baz=53,slow=40
KIV Kislovodsk 71.12 311 P **P** 13 49 27.5 +0.1
KIV Kislovodsk 71.12 311 *e*P **P** 13 49 27.3 -0.1
KIV *e*S **S** **13 58 41.9 +0.6**
KIV *e*SS **SS** **14 03 18.2 +3.8**
KIV pmax pmax
comp=Z,43nm,1.1s
KIV pmax pmax
comp=Z,6.0nm,4.1s
KIV Kislovodsk 71.12 311 *e*P **P** 13 49 26.9 -0.5
comp=Z,44nm,0.9s
KIV LR LR
comp=Z,445nm,19.0s
MOD Modoc Plateau 71.27 51 *e*P **P** 13 49 30.0 +1.5
BMO Blue Mountains 71.45 47 *e*P **P** 13 49 30.7 +1.3
BMO Blue Mountains 71.45 47 *e*P **P** 13 49 30.7 +1.3
JTMT Jette 71.53 44 *e*P **P** 13 49 31.6 +1.8
BANOM Banah 71.58 289 *i* P **P** 13 49 30.6 +0.2
SNR=8.9
ORV Oroville 71.80 54 *e*P **P** 13 49 32.3 +0.8
ORV Oroville 71.80 54 *e*P **P** 13 49 32.3 +0.8
SWMT Swartz Lake 71.82 44 *e*P **P** 13 49 33.1 +1.5
GNI Garni 71.95 307 P **P** 13 49 33.1 +0.5
comp=Z,4.3nm,0.5s,baz=164,slow=4.8,SNR=4.9
GNI Garni 71.95 307 P **P** 13 49 33.1 +0.5
GNI LR LR
comp=Z,523nm,19.0s
WVOR Wild Horse Val 72.01 50 *e*P **P** 13 49 34.3 +1.5
WVOR MLR MLR
comp=Z,187nm,19.0s
WVOR Wild Horse Val 72.01 50 *e*P **P** 13 49 34.3 +1.5
WVOR LR LR
comp=Z,187nm,19.0s
AKH Akhalkalaki 72.04 309⇑ *i* P **P** 13 49 34.6 +1.5
UOSS Minazif 72.18 288 *e*P **P** 13 49 34.1 +0.1
MSO Missoula 72.25 44 P **P** 13 49 34.7 +0.5
baz=306
MSO Missoula 72.25 44 *e*P **P** 13 49 35.6 +1.4
SLMT Seeley Lake 72.25 44 *e*P **P** 13 49 35.5 +1.2
HATD Hatta, Dubai 72.30 288 *i* P **P** 13 49 34.9 +0.1
SNR=6.5
ASHO Ashiyiah 72.44 288 P **P** 13 49 35.5 -0.1
AFDM Forest Hills D 72.48 54 *e*P **P** 13 49 37.9 +2.3
MICGM Minsk 72.58 326 *e*P **P** 13 49 37.0 +1.1
MICGM *e*LR LR 14 23 58.0
MNK Minsk 72.58 326 *e*P **P** 13 49 37.0 +1.1
MFID Camas Ranch 73.14 48 *e*P **P** 13 49 41.1 +1.5
FFC Flin Flon 73.28 33 *e*P **P** 13 49 41.1 +1.1
FFC Flin Flon 73.28 33 *e*P **P** 13 49 41.1 +1.1
CMB Columbia Colle 73.37 55 *e*P **P** 13 49 42.4 +1.5
CMB Columbia Colle 73.37 55 *e*P **P** 13 49 42.4 +1.5
HRY Holter Researc 73.49 44 *e*P P 13 49 46.6 +5.0
YERR Yerington 73.58 53 *e*P **P** 13 49 43.9 +1.6
LRM Limekiln Ridge 73.67 45 *e*P **P** 13 49 44.2 +1.4
WAKR Walker 73.72 54 *e*P **P** 13 49 45.2 +2.0
EGMT Eagleton 73.81 42 P **P** 13 49 43.2 -0.2
baz=308,SNR=7.1
EGMT Eagleton 73.81 42 *e*P **P** 13 49 44.4 +1.0
EGMT LR LR
comp=Z,207nm,21.0s
DLMT Dillon 73.87 45 *e*P **P** 13 49 45.4 +1.5
comp=Z,27nm,1.2s
HLID Hailey 73.89 47 P **P** 13 49 45.1 +1.0
baz=306
HLID Hailey 73.89 47 *e*P **P** 13 49 45.2 +1.2
BMN Battle Mountai 74.02 51 *e*P **P** 13 49 46.6 +1.7
BMN Battle Mountai 74.02 51 *e*P **P** 13 49 46.6 +1.7
NB2 NORSAR Subarra 74.17 337 P **P** 13 49 44.9 -0.3
baz=39,slow=6.2
NB2 NORSAR Subarra 74.17 337 P **P** 13 49 44.9 -0.3
NB2 pmax pmax
comp=Z,20nm,1.3s
NB2 NORSAR Subarra 74.17 337 P **P** 13 49 44.9 -0.3
comp=Z,24nm,1.2s,baz=39,slow=6.2
NOA NORSAR Array B 74.17 337 P **P** 13 49 45.3 +0.1
comp=Z,7.1nm,1.0s,baz=38,slow=5.8,SNR=11
NOA LR LR 14 24 43.1
comp=Z,858nm,21.9s,baz=50,slow=38
TVH1 TV Hill, Hawth 74.18 54 *e*P **P** 13 49 47.5 +1.4
TVH3 East Aurora ar 74.20 54 *e*P **P** 13 49 47.8 +1.8
TVH2 Borealis Mine 74.23 54 *e*P **P** 13 49 48.2 +1.9
BOZ Bozeman (W) 74.27 44 P **P** 13 49 47.2 +1.0
baz=308,SNR=14
BOZ Bozeman (W) 74.27 44 *e*P **P** 13 49 47.5 +1.3
BOZ MLR MLR
comp=Z,207nm,19.0s
BOZ Bozeman (W) 74.27 44 *e*P **P** 13 49 47.5 +1.3
BOZ LR LR
comp=Z,207nm,19.0s

AKASG Malin Array Be 74.41 322 P **P** **13 49 46.4 -0.3**
comp=Z,5.0nm,0.6s,baz=44,slow=6.3,SNR=28
AKASG LR LR 14 26 13.5
comp=Z,397nm,18.2s,baz=40,slow=39
KIEV Kiev 74.42 323*d* iP **P** **13 49 46.2 -0.6**
KIEV pmax pmax
comp=Z,17nm,0.9s
KIEV Kiev 74.42 323 PFAKE 13 50 00.0 +13
KIEV LR LR
comp=Z,787nm,19.0s
QLMT Earthquake Lak 74.85 45 *e*P **P** **13 49 51.5 +1.8**
YHB Horse Butte 75.03 45 *e*P **P** **13 49 52.4 +1.7**
YHH Holmes Hill 75.20 45 *e*P **P** **13 49 53.3 +1.5**
GCMT Greycliff 75.24 43 *e*P **P** **13 49 53.3 +1.5**
VES Vestal, Richgr 75.48 56 P **P** **13 49 53.6 +0.4**
baz=306
SIM Simferopol' 75.50 316 P **P** **13 49 52.6 -0.5**
SIM pmax pmax
comp=Z,16nm,0.9s
SIM MLR MLR
comp=Z,600nm,18.0s
YPP Pitchstone Pla 75.54 45 *e*P **P** **13 49 56.7 +2.9**
LKWY Lake 75.59 45 PFAKE 13 50 10.0 +16
LKWY LR LR
comp=Z,195nm,19.0s
H17A Grant Village 75.60 45 P **P** **13 49 56.8 +2.8**
baz=308
SFJD Kangerlussuaq 75.64 5 PFAKE 13 50 10.0 +17
SFJD LR LR
comp=Z,448nm,19.0s
IMW Indian Meadow 75.70 45 *e*P **P** **13 49 56.8 +2.1**
FLWY Flagg Ranch 75.72 45 *e*P **P** **13 49 55.9 +1.2**
comp=Z,48nm,1.6s
KONO Kongsberg 75.76 337 PFAKE 13 50 10.0 +16
KONO LR LR
comp=Z,895nm,21.0s
CWC Cottonwood Cre 75.79 55 P **P** **13 49 55.7 +0.5**
baz=306
RLMT Red Lodge 75.87 44 P **P** **13 49 55.0 -0.6**
baz=309
RLMT Red Lodge 75.87 44 PFAKE 13 50 10.0 +14
RLMT LR LR
comp=Z,292nm,20.0s
MOOW Moose Ponds 75.90 46 *e*P **P** **13 49 56.4 +0.6**
comp=Z,8.6nm,1.1s
GRAC Grapevine Rang 75.93 54 P **P** **13 49 57.2 +1.4**
baz=306,SNR=8.0
TPAW Teton Pass 75.94 46 *e*P **P** **13 49 58.0 +2.0**
REDW Red Top Meadow 76.08 46 *e*P **P** **13 49 55.5 -1.3**
comp=Z,20nm,1.4s
R11A Troy Canyon, C 76.27 52 P **P** **13 49 59.0 +1.1**
baz=307,SNR=21
R11A Troy Canyon, C 76.27 52 *e*P **P** **13 49 56.0 -1.8**
comp=Z,29nm,1.4s
MPMC Manual Prospec 76.40 55 P **P** **13 49 59.5 +0.9**
baz=306,SNR=9.3
LAO LASA Array 76.51 41 P **P** **13 50 00.1 +1.1**
baz=310
SORM Soroca 76.52 321⇑ *i* P **P** **13 49 59.2 +0.4**
FURC Furnace Creek, 76.57 54 P **P** **13 50 00.3 +1.0**
baz=307,SNR=6.7
LRMC Laurel Mtn Rad 76.62 56 P **P** **13 50 00.8 +0.9**
baz=306,SNR=5.2
TPNV Topopah Spring 76.68 54 P **P** **13 50 01.2 +1.0**
baz=307,SNR=18
HWUT Hardware Ranch 76.75 48 *e*P **P** **13 49 59.6 -0.9**
comp=Z,41nm,1.5s
HWUT LR LR
comp=Z,97nm,19.0s
EDW2 Edwards Air Fo 76.77 56 P **P** **13 50 01.9 +1.3**
baz=306,SNR=6.6
DUG Dugway, Tooele 76.87 49 P **P** **13 50 02.6 +1.5**
baz=308,SNR=8.9
DUG Dugway, Tooele 76.87 49 *e*P **P** **13 50 01.8 +0.6**
DUG pmax pmax
comp=Z,9.0nm,0.8s
DUG Dugway, Tooele 76.87 49 *e*P **P** **13 50 01.8 +0.6**
comp=Z,8.8nm,0.8s
KIS Kishinev 77.03 320 *e*P **P** **13 50 01.0 -0.7**
KIS Kishinev 77.03 320 *e*PcP **PcP** **13 50 10.0 -2.6**
KIS *e*S **S** **13 59 46.0 -1.4**
KIS LRM MLR 14 26 57.0
comp=Z,800nm,15.0s
KIS Kishinev 77.03 320 *e*P **P** **13 50 01.0 -0.7**
KIS *e* 13 50 10.0
KIS *e*S **S** **13 59 46.0 -1.4**
KIS MLR MLR
comp=Z,1μm,15.0s
BW06 Boulder Array 77.19 46 P **P** **13 50 03.5 +0.4**
baz=309,SNR=8.7
BW06 Boulder Array 77.19 46 *e*P **P** **13 50 01.1 -2.0**
comp=Z,2.8nm,0.6s
BW06 LR LR
comp=Z,160nm,21.0s
PDAR Pinedale Array 77.19 46 P **P** **13 50 03.8 +0.7**
comp=Z,2.2nm,0.5s,baz=273,slow=1.8,SNR=36
GSC Goldstone, Bar 77.30 55 P **P** **13 50 04.2 +0.6**
baz=307
CIS Catalina Islan 77.35 58 P **P** **13 50 04.5 +0.6**
baz=306
BFSC Mount Baldy Ra 77.37 57 P **P** **13 50 04.7 +0.6**
baz=307
LVV L'vov 77.48 324 *e*P **P** **13 50 05.8 +1.6**
LVV MLR MLR
comp=Z,900nm,15.0s
LVV MLR MLR
comp=E,800nm,15.0s
LVV MLR MLR
comp=N,400nm,16.0s
TUQ Turquoise Moun 77.80 55 P **P** **13 50 06.5 +0.1**
baz=307,SNR=8.6
HEC Hector,Ludlow 77.89 55 P **P** **13 50 07.6 +0.6**
baz=307
KWP Kalwaria Pacla 78.23 325 *e*P **P** **13 50 09.2 +0.8**
KWP Kalwaria Pacla 78.23 325 *e*P **P** **13 50 09.2 +0.8**
GMRC Granite Mounta 78.36 55 P **P** **13 50 10.3 +0.7**
baz=307,SNR=5.3
BURAR Bucovina Array 78.43 322⇓ *i* P **P** **13 50 10.1 +0.4**
TESR Tescani 78.47 320⇓ *i* P **P** **13 50 10.0 +0.2**
PFO Pinyon Flats O 78.54 57 P **P** **13 50 11.4 +0.8**
comp=N,5.6nm,1.1s,baz=304,slow=7.0,SNR=7.8
PFO Pinyon Flats O 78.54 57 P **P** **13 50 11.3 +0.7**
baz=307
PFO Pinyon Flats O 78.54 57 P **P** **13 50 11.4 +0.8**
PFO pmax pmax
comp=Z,2.0nm,0.5s
PFO Pinyon Flats O 78.54 57 P **P** **13 50 11.4 +0.8**
PFO LR LR
comp=Z,425nm,21.0s
TPFO Pinon Flats 78.55 57 P **P** **13 50 11.2 +0.6**
baz=307
CFR Carcaliu 78.59 319⇑ *i* P **P** **13 50 09.9 -0.6**
BELC Belle Mtn. Jos 78.61 56 P **P** **13 50 10.8 -0.2**
baz=307
ODBI Odobesti 78.76 320⇓ *i* P **P** **13 50 14.1 +2.7**
VRI Vrincioaia 78.86 320 P **P** **13 50 13.8 +1.8**
PLOR Plostina 78.91 320⇓ *i* P **P** **13 50 13.2 +0.9**
TIRR Tirgusor 78.93 318⇓ *i* P **P** **13 50 13.5 +1.2**
K22A Casper 78.98 44 P **P** **13 50 13.1 +0.2**
baz=311
MONP Monument Peak, 79.00 57 P **P** **13 50 13.6 +0.4**
baz=307
TLB Topalu 79.04 318⇑ *i* P **P** **13 50 13.6 +0.7**
STHS Stebnicka Huta 79.05 325 *e*P **P** **13 50 14.4 +1.4**
STHS pmax pmax
comp=Z,9.0nm,1.1s
STHS Stebnicka Huta 79.05 325 *e*P **P** **13 50 14.4 +1.4**
BRTR Keskin Array B 79.06 312 P **P** **13 50 13.4 +0.1**
comp=Z,5.7nm,0.9s,baz=104,slow=5.2,SNR=26
BRTR LR LR 14 29 50.6
comp=Z,197nm,18.7s,baz=54,slow=39
BRTR Keskin Array B 79.06 312 *i* P **P** **13 50 13.3 0.0**
BRTR pmax pmax
comp=Z,6.0nm,0.9s
MDND Maddock 79.06 37 P **P** **13 50 13.8 +0.7**
baz=315
ULM Lac du Bonnet 79.07 34 P **P** **13 50 13.1 +0.1**
comp=Z,6.0nm,1.0s,baz=296,slow=5.6,SNR=4.0
ULM LR LR 14 26 18.1
comp=Z,145nm,20.7s,baz=302,slow=36
IRM Iron Mountain 79.08 55 P **P** **13 50 14.4 +0.9**
baz=308,SNR=7.0
OJC Ojcow 79.12 326 *e*P **P** **13 50 13.9 +0.6**
OJC Ojcow 79.12 326 *e*P **P** **13 50 13.9 +0.6**
UZH Uzhgorod 79.13 324 *e*P **P** **13 50 12.8 -0.5**
UZH *i* 13 50 24.0
UZH *i* 13 50 30.2
UZH *i* 13 55 02.2
UZH *e*S **S** **14 00 06.6 -3.3**
UZH *i* 14 00 16.9
UZH *e* 14 00 28.2
UZH MLR MLR
comp=N,700nm,16.0s
UZH MLR MLR
comp=E,700nm,16.0s
UZH MLR MLR
comp=Z,300nm,16.0s
BC3 Big Chuckawall 79.18 56 P **P** **13 50 14.8 +0.7**
baz=308,SNR=5.4
CRVS Cervenica-Dubn 79.32 325 *e*P **P** **13 50 14.8 +0.4**
CRVS Cervenica-Dubn 79.32 325 *e*P **P** **13 50 14.8 +0.4**
IKP In-Ko-Pah, Jac 79.35 57 P **P** **13 50 16.0 +1.0**
baz=308
RSSD Black Hills 79.36 42 P **P** **13 50 15.3 +0.3**
baz=312
SWSC Sam W. Stewart 79.38 57 P **P** **13 50 15.9 +0.9**
baz=308
A31A Linda, St. Vin 79.43 35 P **P** **13 50 15.7 +0.6**
baz=316
ANTO Ankara 79.47 312 PFAKE 13 50 30.0 +15
ANTO LR LR
comp=Z,247nm,20.0s
ISR Istrita 79.47 319⇑ *i* P **P** **13 50 16.6 +1.3**
DOPR Dopca 79.48 321⇓ *i* P **P** **13 50 16.5 +1.1**
NIE Niedzica 79.48 326 *e*P **P** **13 50 16.2 +1.0**
NIE Niedzica 79.48 326 *e*P **P** **13 50 16.3 +1.0**
MLR Muntele Rosu 79.52 320 P **P** **13 50 15.8 +0.1**
comp=Z,0.5nm,0.4s,baz=74,slow=2.8,SNR=7.0
MLR Muntele Rosu 79.52 320⇑ *i* P **P** **13 50 16.9 +1.2**
O20A White River Ci 79.63 47 P **P** **13 50 17.4 +0.9**
baz=310
PDMCI Parker Dam,Lak 79.65 55 P **P** **13 50 17.4 +1.0**
baz=308
Y12C Blythe 79.74 55 P **P** **13 50 17.8 +0.9**
baz=308
A32A Rocking H Ranc 79.76 35 P **P** **13 50 16.8 0.0**
baz=316
GLA Glamis 79.97 56 P **P** **13 50 19.2 +0.9**
baz=308
VOIR 80.02 320⇑ *i* P **P** **13 50 19.0 +0.6**
VOIR 80.02 320 P **P** **13 50 19.3 +0.9**
VOIR pmax pmax
comp=Z,8.0nm,1.1s
LANS Liptovska Anna 80.05 326 *e*P **P** **13 50 19.6 +1.2**
LANS Liptovska Anna 80.05 326 *e*P **P** **13 50 19.6 +1.2**
KECS Kecovo 80.07 325 *e*P **P** **13 50 18.9 +0.4**
KECS pmax pmax
comp=Z,5.0nm,1.0s
KECS Kecovo 80.07 325 *e*P **P** **13 50 18.9 +0.4**
B32A Ashes, Strandq 80.12 35 P **P** **13 50 18.4 -0.4**
baz=316
OKC Ostrava-Krasne 80.12 327 *e*P **P** **13 50 19.0 +0.3**
OKC AMS AMS 14 28 50.0
comp=Z,700nm,14.9s
OKC Ostrava-Krasne 80.12 327 *e*P **P** **13 50 19.0 +0.3**
OKC MLR MLR
comp=Z,700nm,14.9s
KSP Ksiaz 80.16 328 *e*P **P** **13 50 19.6 +0.7**
KSP Ksiaz 80.16 328 *e*P **P** **13 50 19.6 +0.7**
DRGR 80.23 323⇑ *i* P **P** **13 50 19.2 -0.3**
A33A Warroad 80.25 34 P **P** **13 50 19.7 +0.2**
baz=317
ARR Arges 80.28 321⇓ *i* P **P** **13 50 21.0 +1.3**
MORC Moravsky Berou 80.43 327⇓ *i* P **P** **13 50 20.9 +0.4**
MORC Moravsky Berou 80.43 327 *e*P **P** **13 50 18.0 -2.5**
MORC pmax pmax
comp=Z,106nm,1.3s
MORC Moravsky Berou 80.43 327 *e*P **P** **13 50 18.0 -2.5**
comp=Z,106nm,1.3s
N23A Red Feather La 80.46 45 P **P** **13 50 21.5 +0.4**
baz=312
AGMN Agassiz Nation 80.50 35 PFAKE 13 50 30.0 +9.2
AGMN LR LR
comp=Z,273nm,20.0s
DPC Dobruska-Polom 80.52 328 *e*P **P** **13 50 21.6 +0.6**
DPC *e*pP **pP** **13 50 33.4 +0.6**
DPC AMS AMS 14 30 10.0
comp=Z,700nm,15.1s
DPC Dobruska-Polom 80.52 328 *e*P **P** **13 50 21.6 +0.6**
DPC *e* 13 50 33.4
DPC MLR MLR
comp=Z,700nm,15.1s
UPC Upice 80.53 328 *e*P **P** **13 50 22.0 +1.0**
UPC AMS AMS 14 28 40.0
comp=Z,700nm,16.9s
UPC Upice 80.53 328 *e*P **P** **13 50 22.0 +1.0**
UPC MLR MLR
comp=Z,700nm,16.9s
WUAZ Wupatki 80.67 52 P **P** **13 50 23.0 +0.8**
baz=309
WUAZ Wupatki 80.67 52 *e*P **P** **13 50 22.1 -0.1**
comp=Z,14nm,1.1s
PSZ Piszkesteto 80.75 325⇑ *i* P **P** **13 50 22.9 +0.6**
PSZ Piszkesteto 80.75 325 *e*P **P** **13 50 20.2 -2.1**
PSZ pmax pmax
comp=Z,41nm,1.3s
PSZ MLR MLR
comp=Z,492nm,19.0s
PSZ Piszkesteto 80.75 325 *e*P **P** **13 50 20.1 -2.1**
comp=Z,41nm,1.3s
PSZ LR LR
comp=Z,492nm,19.0s
VYHS Vyhne 80.81 326 *e*P **P** **13 50 23.4 +0.9**
VYHS pmax pmax
comp=Z,12nm,1.4s
VYHS Vyhne 80.81 326 *e*P **P** **13 50 23.4 +0.9**
BRG Berggiesshubel 81.11 330 *i* P **P** **13 50 24.3 +0.3**
comp=Z,15nm,1.1s
BRG Berggiesshubel 81.11 330 *i* P **P** **13 50 24.3 +0.3**
BRG pmax pmax
comp=Z,15nm,1.1s
BRG MLR MLR
comp=N,481nm,16.1s
BRG MLR MLR
comp=E,503nm,15.2s
BRG MLR MLR
comp=Z,857nm,15.0s
PVCC Panska Ves 81.12 329 *e*P **P** **13 50 25.2 +1.2**
PVCC AMS AMS 14 30 10.0
comp=Z,700nm,16.5s
PVCC Panska Ves 81.12 329 *e*P **P** **13 50 25.2 +1.2**
PVCC MLR MLR
comp=Z,700nm,16.5s
CLL Collm 81.14 330⇓ *i* P **P** **13 50 24.0 -0.2**
CLL *e*S **S** **14 00 33.0 +2.0**
CLL pmax pmax
comp=Z,26nm,1.0s
CLL Collm 81.14 330⇓ *i* P **P** **13 50 24.0 -0.2**
comp=Z,26nm,1.0s
CLL *e* 13 50 33.0
CLL *e*S **S** **14 00 33.0 +2.0**
CLL *e*SS SS 14 06 06.0 +21
CLL *e*(SSS) 14 09 48.0
VRAC Vranov 81.19 327 P **P** **13 50 25.3 +0.8**
comp=Z,11nm,0.9s,baz=50,slow=4.8,SNR=16
VRAC Vranov 81.19 327⇑ *i* P **P** **13 50 25.3 +0.8**
MVCO Mesa Verde 81.37 50 P **P** **13 50 27.2 +1.2**
baz=311
MVCO Mesa Verde 81.37 50 *e*P **P** **13 50 25.2 -0.8**
comp=Z,24nm,1.4s
ISCO Idaho Springs 81.38 46 P **P** **13 50 27.1 +1.1**
baz=312
ISCO Idaho Springs 81.38 46 PFAKE 13 50 40.0 +14
ISCO LR LR
comp=Z,168nm,19.0s
B35A Bob, Littlefor 81.42 34 P **P** **13 50 25.8 +0.1**
baz=318
GOPC GO Pecny, Ondr 81.50 329 *e*P **P** **13 50 27.1 +1.0**
GOPC AMS AMS 14 29 40.0
comp=Z,700nm,15.4s
GOPC GO Pecny, Ondr 81.50 329 *e*P **P** **13 50 27.1 +1.0**
GOPC MLR MLR
comp=Z,700nm,15.4s
PRU Pruhonice 81.54 329 *e*P **P** **13 50 27.3 +1.0**
PRU *e*pP **pP** **13 50 39.3 +1.1**
PRU AMS AMS 14 29 40.0
comp=Z,700nm,15.6s
PRU Pruhonice 81.54 329 *e*P **P** **13 50 27.3 +1.0**
PRU *e* 13 50 39.3
PRU MLR MLR
comp=Z,700nm,15.6s
BZS Buzias 81.60 322⇓ *i* P **P** **13 50 26.8 +0.1**
G31A Conde 81.60 38 P **P** **13 50 27.2 +0.5**
baz=316
D34A Park Rapids 81.70 35 P **P** **13 50 26.8 -0.4**
baz=318
E33A Westby DABS, E 81.74 36 P **P** **13 50 27.7 +0.2**
baz=317
ASF Jabal al Asfar 81.77 304 P **P** **13 50 28.3 +0.3**
comp=Z,4.0nm,0.7s,baz=235,slow=2.7,SNR=6.6
C35A Jirik Farms, M 81.80 34 P **P** **13 50 27.7 0.0**
baz=318
URZ Urewera 81.82 153 P **P** **13 50 27.2 -0.4**
comp=Z,5.7nm,0.7s,baz=173,slow=17,SNR=3.8
214A Organ Pipe Nat 81.98 56 P **P** **13 50 29.9 +0.9**
baz=309
F33A 5 Mile Ranch, 82.09 37 P **P** **13 50 29.4 +0.1**
baz=317
ISP Isparta 82.14 312 PFAKE 13 50 40.0 +10
ISP LR LR
comp=Z,219nm,21.0s
Q24A Divide 82.20 46 P **P** **13 50 30.7 +0.3**
baz=312
NKC Novy Kostel 82.20 330 *e*P **P** **13 50 30.2 +0.4**
NKC AMS AMS 14 30 30.0
comp=Z,700nm,15.4s
NKC Novy Kostel 82.20 330 *e*P **P** **13 50 30.2 +0.4**
NKC MLR MLR
comp=Z,700nm,15.4s
MOX Moxa 82.21 331 P **P** **13 50 31.1 +1.3**
MOX pmax pmax
comp=Z,11nm,1.4s
MMAI Mount Meron Ar 82.22 306 P **P** **13 50 30.4 +0.1**
comp=Z,8.6nm,0.8s,baz=44,slow=6.1,SNR=9.7
D35A Remer 82.22 35 P **P** **13 50 29.3 -0.7**
baz=318
C36A Pine Crest Far 82.26 34 P **P** **13 50 29.9 -0.3**
baz=319
CSS Mathiatis 82.30 308 PFAKE 13 50 40.0 +9.4
CSS LR LR
comp=Z,62nm,20.0s
G33A Ortonville 82.49 37 P **P** **13 50 31.1 -0.3**
baz=317
CONA Conrad Observa 82.56 327 *i* P **P** **13 50 32.2 +0.4**
comp=Z,21nm,1.4s,SNR=8.4
C37A Embarrass 82.58 34 P **P** **13 50 31.5 -0.3**
baz=320
KHC Kasperske Hory 82.60 329 *e*P **P** **13 50 32.6 +0.6**
KHC *e*pP **pP** **13 50 41.0 -2.8**
KHC AMS AMS 14 31 30.0
comp=Z,700nm,14.8s
KHC Kasperske Hory 82.60 329 *e*P **P** **13 50 32.6 +0.6**
KHC *e* 13 50 43.9
KHC MLR MLR
comp=Z,700nm,14.8s
KHC Kasperske Hory 82.60 329 P **P** **13 50 31.4 -0.6**
comp=Z,9.9nm,1.1s
F34A Alexandria 82.62 36 P **P** **13 50 32.1 +0.1**
baz=318
EYMN Ely 82.71 33 P **P** **13 50 32.4 -0.1**
baz=320
EYMN Ely 82.71 33 *e*P **P** **13 50 29.5 -3.0**
comp=Z,14nm,1.1s
EYMN LR LR
comp=Z,207nm,21.0s
H33A Prehn Over Nor 82.71 38 P **P** **13 50 32.4 -0.2**
baz=317
GERES GERESS Array B 82.77 328 P **P** **13 50 33.0 +0.1**
comp=Z,4.0nm,0.6s,baz=42,slow=5.8,SNR=19
GERES LR LR 14 30 41.2
comp=Z,480nm,18.4s,baz=17,slow=38
SDCO Great Sand Dun 82.81 48 P **P** **13 50 34.1 +0.5**
baz=312
SDCO Great Sand Dun 82.81 48 PFAKE 13 50 50.0 +16
SDCO LR LR
comp=Z,137nm,19.0s
WET Wettzell 82.88 329 P **P** **13 50 34.4 +1.0**
WET pmax pmax
comp=Z,21nm,1.6s
F35A Swanville 82.89 36 P **P** **13 50 33.6 +0.1**
baz=318
D37A Cotton 82.90 34 P **P** **13 50 33.1 -0.4**
baz=319
VTS Vitosha 82.96 319⇓ *i* P **P** **13 50 35.0 +0.9**
C38A Sawbill Land. 82.98 33 P **P** **13 50 33.6 -0.3**
baz=320
E36A McGregor 83.01 35 P **P** **13 50 34.0 0.0**
baz=319
TUC Tucson 83.08 55 P **P** **13 50 35.8 +1.0**
baz=310
TUC Tucson 83.08 55 PFAKE 13 50 50.0 +15
TUC LR LR
comp=Z,266nm,19.0s
EKA Eskdalemuir Ar 83.09 341 P **P** **13 50 34.4 +0.1**
comp=Z,2.1nm,0.6s,baz=39,slow=5.2,SNR=5.7
EKA Eskdalemuir Ar 83.09 341 P **P** **13 50 34.4 +0.1**
EKA pmax pmax
comp=Z,3.0nm,0.8s
ESK Eskdalemuir 83.11 341 PFAKE 13 50 50.0 +16
ESK LR LR
comp=Z,544nm,21.0s
H34A Spellman Lake, 83.20 37 P **P** **13 50 34.8 -0.3**
baz=317
ARSA Arzberg 83.22 327 *i* P **P** **13 50 35.7 +0.5**
comp=Z,3.5nm,0.6s
MOA Molln 83.31 328 *i* P **P** **13 50 36.3 +0.7**
comp=Z,10.0nm,1.1s
F36A Milaca 83.38 35 P **P** **13 50 35.3 -0.7**
baz=319
C39A Grand Marais 83.40 32 P **P** **13 50 35.9 -0.2**
baz=321
ECSD EROS Data Cent 83.47 39 P **P** **13 50 36.3 -0.2**
baz=317
H35A Sunnyside Ranc 83.63 37 P **P** **13 50 37.4 +0.1**
baz=318
E38A The Farm, Brul 83.71 34 P **P** **13 50 37.0 -0.7**
baz=320
SNZO South Karori 83.71 156 PFAKE 13 50 50.0 +13
SNZO LR LR
comp=Z,441nm,20.0s
T25A Trinidad 83.86 47 P **P** **13 50 40.0 +1.1**
baz=313
PERS Pernice 83.87 326 *i* P **P** **13 50 38.6 0.0**
SOKA Soboth 83.88 326 *i* P **P** **13 50 38.9 +0.3**
comp=Z,27nm,1.3s,SNR=12
F38A Pierce - Schro 84.06 35 P **P** **13 50 39.7 +0.2**
baz=320
ANMO Albuquerque 84.10 50 P **P** **13 50 41.5 +1.4**
baz=312
ANMO Albuquerque 84.10 50 *e*P **P** **13 50 40.9 +0.7**
ANMO pmax pmax
comp=Z,15nm,1.3s
ANMO MLR MLR
comp=Z,243nm,20.0s
ANMO Albuquerque 84.10 50 *e*P **P** **13 50 40.9 +0.7**
comp=Z,15nm,1.3s
ANMO LR LR
comp=Z,243nm,20.0s
SOH Sokhos 84.14 318 P **P** **13 50 40.8 +0.8**
SOH pmax pmax
comp=Z,9.0nm,1.5s
SPMN Marine on St. 84.19 35 P **P** **13 50 41.1 +1.0**
baz=319
VAY Valandovo 84.19 319 *i* P **P** **13 50 40.7 +0.5**
SKO Skopje 84.31 320 *i* P **P** **13 50 41.8 +0.9**
PPT Papeete 84.32 117 LR LR 14 22 20.4
comp=Z,199nm,21.3s,baz=326,slow=31
PPT2 Papeete2 84.33 117 *e*LR LR 14 16 54.5
comp=Z,422nm,24.0s
TIAR Tiarei 84.47 117 *e*T T 15 23 42.0
comp=Z,2.2nm,0.3s
MYKA Terra Mystica 84.52 327 *i* P **P** **13 50 41.3 -0.6**
comp=Z,3.3nm,0.7s
H37A Dierke Farm, C 84.62 36 P **P** **13 50 42.8 +0.5**
baz=319
VISS Visnje 84.63 326 *i* P **P** **13 50 42.1 -0.2**
EIL Elat 84.65 303 P **P** **13 50 42.8 0.0**
comp=Z,12nm,0.9s,baz=14,slow=3.2,SNR=13
G38A Ridgeland 84.67 35 P **P** **13 50 42.5 -0.1**
baz=320
BOJS Bojanci 84.68 326 *i* P **P** **13 50 42.3 -0.3**
BCLA Clavier 84.73 334 P **P** **13 50 43.6 +0.9**
comp=Z,17nm,1.6s
I37A Lemond, Waseca 84.82 37 P **P** **13 50 43.6 +0.2**
baz=319
H38A Maiden Rock 84.85 36 P **P** **13 50 43.1 -0.4**
baz=320
121A Cookes Peak, D 84.87 53 P **P** **13 50 45.1 +1.1**

baz=312
121A Cookes Peak, D 84.87 53 *e*P P 13 50 41.9 -2.1
comp=Z,24nm,1.4s
F40A Park Falls 84.87 34 P P 13 50 43.9 +0.3
baz=321
L34A Svendsen Farm, 84.88 40 P P 13 50 43.2 -0.5
baz=317
J36A Seneca 1, Swea 84.88 38 P P 13 50 43.0 -0.7
baz=318
G39A Holcombe 84.89 35 P P 13 50 43.6 -0.1
baz=320
JAVS Javornik 84.91 326 *i* P P 13 50 42.9 -1.0
ABTA Abfaltersbach 84.91 328 *i* P P 13 50 43.6 -0.3
comp=Z,3.8nm,0.7s
SCHQ Schefferville 85.01 16 LR LR 14 33 40.2
comp=Z,160nm,18.1s,baz=286,slow=39
MOTA Moosalm 85.03 329 *i* PcP P 13 50 45.2 +0.7
comp=Z,3.6nm,0.5s
RETA Reutte 85.06 329 *i* PcP P 13 50 44.8 +0.2
comp=Z,25nm,1.1s,SNR=8.1
WLF Walferdange 85.06 333 PFAKE 13 51 00.0 +16
WLF LR LR
comp=Z,650nm,20.0s
OHR Ohrid 85.27 320 *i* P P 13 50 45.5 -0.3
J37A Redenius Farm, 85.28 37 P P 13 50 45.8 +0.1
baz=319
I38A Scanlan Farm, 85.31 36 P P 13 50 45.6 -0.2
baz=320
BFO Black Forest 85.34 331 *e*P P 13 50 44.6 -1.3
BFO pmax pmax
comp=Z,60nm,1.4s
BFO MLR MLR
comp=Z,414nm,19.0s
BFO Black Forest 85.34 331 *e*P P 13 50 44.6 -1.3
comp=Z,60nm,1.4s
BFO LR LR
comp=Z,414nm,19.0s
FETA Feichten 85.44 329 *i* PcP P 13 50 47.1 +0.5
comp=Z,11nm,1.0s
F41A Three Lakes 85.46 33 P P 13 50 44.8 -1.8
baz=322
DAVA Damuels 85.58 330 *i* P P 13 50 46.8 -0.4
comp=Z,18nm,0.8s
TIR Tirane 85.58 320 PFAKE 13 51 00.0 +13
TIR LR LR
comp=Z,1μm,19.0s
K37A Belmond 85.64 38 P P 13 50 47.7 +0.2
baz=319
CDF Champ du Feu 85.68 332 *e*P P 13 50 47.5 -0.2
CDF pmax pmax
comp=Z,33nm,1.2s
H40A Chili 85.76 35 P P 13 50 48.5 +0.4
baz=321
I39A Houston 85.83 36 P P 13 50 48.1 -0.3
baz=320
DAVOX Davos/Dischmat 85.98 329 P P 13 50 49.7 +0.3
comp=Z,2.7nm,0.6s,baz=242,slow=1.8,SNR=6.0
M36A Felix, Anita 86.05 39 P P 13 50 49.1 -0.4
baz=318
L37A Phoenix Point, 86.07 38 P P 13 50 49.6 0.0
baz=319
H41A Junction City 86.09 34 P P 13 50 49.9 +0.2
baz=321
SANT Santorini 86.09 314 PFAKE 13 51 00.0 +10
SANT LR LR
comp=Z,236nm,22.0s
J39A Decorah 86.14 36 P P 13 50 49.8 -0.2
baz=320
HINF Hinteralfeld 86.33 332 *e*P P 13 50 50.2 -0.7
HINF pmax pmax
comp=Z,26nm,1.4s
O35A Humboldt 86.36 41 P P 13 50 51.0 -0.1
baz=318
P34A Walnut Farm, R 86.41 42 P P 13 50 51.1 -0.3
baz=317
I41A Arkdale 86.43 35 P P 13 50 51.8 +0.4
baz=321
N36A Muff Farm, Cla 86.44 40 P P 13 50 52.0 +0.5
baz=318
L38A Oak Wood Farm, 86.45 38 P P 13 50 51.6 +0.1
baz=319
TUE Stuetta 86.45 329 *e*P P 13 50 49.9 -1.8
comp=Z,6.9nm,0.9s
TUE LR LR
comp=Z,597nm,19.0s
K39A Oelwein 86.53 37 P P 13 50 51.5 -0.4
baz=320
Q34A Chapman 86.80 42 P P 13 50 53.5 +0.2
baz=317
P35A Duane Minner, 86.84 41 P P 13 50 53.2 -0.3
baz=318
KSU1 Kansas State U 86.85 42 PFAKE 13 51 10.0 +17
KSU1 LR LR
comp=Z,222nm,20.0s
N37A Lee Faris, Mou 86.87 39 P P 13 50 54.0 +0.5
baz=319
M38A Pleasantville 86.88 38 P P 13 50 53.8 +0.2
baz=319
K40A Colesburg 86.89 36 P P 13 50 53.8 +0.2
baz=320
J41A Loganville 86.90 35 P P 13 50 54.0 +0.3
baz=321
L39A Vinton 86.92 37 P P 13 50 54.3 +0.5
baz=320
MNTX Cornudas Mount 86.94 52 P P 13 50 54.4 +0.3
baz=313
AMTX Amarillo 87.01 48 P P 13 50 54.2 -0.3
baz=314
JFWS Jewell Farm 87.14 36 PFAKE 13 51 10.0 +15
JFWS LR LR
comp=Z,248nm,20.0s
Q35A Mercer Eighty, 87.33 42 P P 13 50 55.6 -0.3
baz=318
M39A Webster 87.33 38 P P 13 50 55.5 -0.3
baz=320
O37A Wolven Farm, M 87.34 40 P P 13 50 56.0 +0.1
baz=319
L40A Anamosa 87.34 37 P P 13 50 55.7 -0.2
baz=320
K41A Shullsburg 87.36 36 P P 13 50 56.0 +0.1
baz=321
R35A Emporia Munici 87.64 42 P P 13 50 57.7 +0.4
baz=318
M40A Post Highland 87.71 37 P P 13 50 57.7 +0.1
baz=320
O38A Galt 87.71 39 P P 13 50 58.0 +0.4
baz=319
VLC Villacollemand 87.88 327 PFAKE 13 51 10.0 +12
VLC LR LR
comp=Z,440nm,19.0s
AQU L'Aquila 87.96 325 PFAKE 13 51 10.0 +11
AQU LR LR
comp=Z,443nm,22.0s
R36A Gordon, Harris 88.00 42 P P 13 50 59.2 +0.1
baz=318
S35A Otter Creek Ra 88.04 42 P P 13 50 59.6 +0.4
baz=317
P38A Dawn 88.06 40 P P 13 50 59.4 +0.1
baz=319
N40A Mertquake, Sal 88.07 38 P P 13 50 59.6 +0.2
baz=320
M41A Milan 88.20 37 P P 13 51 00.1 +0.2
baz=321
TBI Tubuai 88.24 121 *e*LR LR 14 18 48.6
comp=Z,495nm,26.0s
TBI Tubuai 88.24 121 *e*T T 15 28 26.9
comp=Z,43nm,0.3s
LPL La Plagne 88.28 330 *e*P P 13 51 01.4 +0.9
LPL pmax pmax
comp=Z,6.0nm,0.8s
AVF Avril sur Loir 88.49 333 *e*P P 13 51 01.2 0.0
AVF pmax pmax
comp=Z,39nm,1.4s
T35A Sooner Cattle 88.50 43 P P 13 51 01.6 +0.1
baz=317
O40A La Belle 88.51 38 P P 13 51 01.4 0.0
baz=320
Q38A Cooks Store, C 88.51 40 P P 13 51 01.5 0.0
baz=319
CUC Castrocucco 88.63 322 PFAKE 13 51 10.0 +7.9
CUC LR LR
comp=Z,461nm,19.0s
BNI Bardonecchia 88.69 330 PFAKE 13 51 10.0 +7.7
BNI LR LR
comp=Z,561nm,20.0s
T36A Boggs Farm, Ca 88.73 43 P P 13 51 02.1 -0.5
baz=318
Q39A Willow Grove F 88.78 40 P P 13 51 02.9 +0.2
baz=319
S37A Fort Scott 88.78 42 P P 13 51 03.0 +0.2
baz=318
WMOK Wichita Mounta 88.80 46 P P 13 51 03.5 +0.5
baz=316
N42A Yates City 88.86 37 P P 13 51 03.0 0.0
baz=321
P40A Paris 88.88 39 P P 13 51 03.4 +0.2
baz=320
R38A Fenwick Farm, 88.94 41 P P 13 51 03.4 -0.1
baz=319
O41A Passleys Farm, 89.00 38 P P 13 51 04.0 +0.2
baz=321
T37A Cheneyville 18 89.20 42 P P 13 51 05.1 +0.4
baz=318
SGMF Saint Gilles 89.21 337 *e*P P 13 51 04.5 0.0
SGMF pmax pmax
comp=Z,76nm,1.6s
P41A Barry, Barry 89.26 38 P P 13 51 05.5 +0.6
baz=321
Q40A Laux Farm, Aux 89.27 39 P P 13 51 05.2 +0.2
baz=320
R39A Chumby, Stover 89.30 40 P P 13 51 05.5 +0.3
baz=319
SSB Saint Sauveur 89.33 331 PFAKE 13 51 20.0 +15
SSB LR LR
comp=Z,585nm,20.0s
HDIL Hopedale 89.43 36 PFAKE 13 51 20.0 +14
HDIL LR LR
comp=Z,413nm,19.0s
T38A Diamond 89.60 42 P P 13 51 06.7 +0.1
baz=319
S39A Bolivar 89.62 41 P P 13 51 06.3 -0.4
baz=319
TXAR Lajitas Array 89.63 53 P P 13 51 07.4 +0.4
comp=Z,2.2nm,0.7s,baz=302,slow=2.9,SNR=22
TXAR LR LR 14 25 16.0
comp=Z,118nm,21.7s,baz=0.0,slow=32
U37A Salina 89.63 43 P P 13 51 07.1 +0.4
baz=318
V36A Jenks 89.64 44 P P 13 51 07.2 +0.4
baz=318
R40A Maddies Statio 89.71 40 P P 13 51 06.9 -0.1
baz=320
Q41A Truxton 89.73 39 P P 13 51 07.1 0.0
baz=320
ABTX Abilene, Hawle 89.81 48 P P 13 51 08.2 +0.5
baz=316
Z33A Whitaker Ranch 89.85 47 P P 13 51 08.0 +0.2
baz=316
CEL Celeste 89.91 320 PFAKE 13 51 20.0 +12
CEL LR LR
comp=Z,512nm,20.0s
W36A Wetumka 89.95 44 P P 13 51 08.8 +0.5
baz=318
U38A Gravette 90.00 42 P P 13 51 08.1 -0.4
baz=319
V37A Hulbert 90.00 43 P P 13 51 09.0 +0.5
baz=318
X35A Drake 90.08 45 P P 13 51 08.9 0.0
baz=317
Q42A Golden Eagle 90.11 38 P P 13 51 09.6 +0.7
baz=321
S40A Lebanon 90.12 40 P P 13 51 09.2 +0.2
baz=320
R41A Rosebud 90.16 39 P P 13 51 09.4 +0.2
baz=320
X36A Centrahoma 90.30 45 P P 13 51 10.6 +0.7
baz=317
W37B Quinton 90.39 44 P P 13 51 10.5 +0.1
baz=318
V38A Canehill 90.42 43 P P 13 51 10.6 +0.1
baz=319
T40A Mansfield 90.45 41 P P 13 51 10.3 -0.3
baz=320
R42A Luebbering 90.46 39 P P 13 51 10.8 +0.2
baz=321
S41A Jillco Farms, 90.51 40 P P 13 51 10.8 -0.1
baz=320
U39A Green Forest 90.52 42 P P 13 51 10.8 -0.2
baz=319
CAF Calviac 90.55 333 *e*P P 13 51 11.4 +0.4
CAF pmax pmax
comp=Z,13nm,1.2s
233A Rising Star 90.68 48 P P 13 51 12.0 +0.3
baz=316
Z35A Perchaven, San 90.69 46 P P 13 51 11.7 -0.1
baz=317
Y36A Durant 90.83 45 P P 13 51 12.4 0.0
baz=318
X37A Clayton 90.83 44 P P 13 51 12.9 +0.5
baz=318
S42A Caledonia 90.86 39 P P 13 51 12.3 -0.2
baz=321
U40A Yellville 90.87 41 P P 13 51 12.5 0.0
baz=320
T41A Mountain View 90.92 40 P P 13 51 12.3 -0.4
baz=320
W38A Poteau 90.95 43 P P 13 51 13.4 +0.5
baz=318
X38A Whitesboro 91.07 44 P P 13 51 13.6 +0.1
baz=318
333A Richland Sprin 91.12 48 P P 13 51 14.0 +0.2
baz=316
JCT Junction City 91.23 50 PFAKE 13 51 30.0 +16
JCT LR LR
comp=Z,187nm,20.0s
W39A Magazine 91.25 43 P P 13 51 14.4 +0.1
baz=319
433A Art 91.47 49 P P 13 51 15.7 +0.3
baz=316
334A Lometa 91.56 48 P P 13 51 16.1 +0.3
baz=316
X39A Fountain Ranch 91.58 43 P P 13 51 16.6 +0.7
baz=319
W40A Ferguson Farm, 91.64 42 P P 13 51 16.3 +0.2
baz=319
T43A Greenville 91.64 39 P P 13 51 16.3 +0.2
baz=321
V41A Mountainview 91.67 41 P P 13 51 16.4 +0.1
baz=320
CLTB Caltabellotta 91.78 322 PFAKE 13 51 30.0 +13
CLTB LR LR
comp=Z,394nm,19.0s
MIAR Mount Ida 91.85 43 P P 13 51 17.6 +0.5
baz=319
MIAR Mount Ida 91.85 43 PFAKE 13 51 30.0 +13
MIAR LR LR
comp=Z,288nm,19.0s
434A Burnet 91.92 48 P P 13 51 17.8 +0.3
baz=316
VSL Villasalto 92.08 325 PFAKE 13 51 30.0 +12
VSL LR LR
comp=Z,373nm,20.0s
534A Blanco 92.36 49 P P 13 51 19.6 0.0
baz=316
WDD Wied Dalam 92.47 320 PFAKE 13 51 30.0 +10
WDD LR LR
comp=Z,401nm,19.0s
ACSO Alum Creek Sta 92.55 33 PFAKE 13 51 30.0 +10
ACSO LR LR
comp=Z,284nm,19.0s
M54A Oil Creek Stat 92.86 30 P P 13 51 22.5 +0.8
baz=328
NATX Nacogdoches 93.33 45 PFAKE 13 51 40.0 +16
NATX LR LR
comp=Z,357nm,21.0s
KVTX Kingsville 94.49 50 PFAKE 13 51 40.0 +11
KVTX LR LR
comp=Z,334nm,20.0s
KEST Kesra 95.13 323 LR LR 14 39 43.4
comp=Z,532nm,18.8s,baz=348,slow=39
BLA Blacksburg 96.17 33 PFAKE 13 51 50.0 +13
BLA LR LR
comp=Z,284nm,19.0s
ESDC Sonseca Array 97.30 334 LR LR 14 40 11.4
comp=Z,637nm,20.3s,baz=20,slow=38
PAB San Pablo 97.55 334 PFAKE 13 51 50.0 +6.7
PAB LR LR
comp=Z,828nm,20.0s
MTE Manteigas 97.83 337 PFAKE 13 52 00.0 +16
MTE LR LR
comp=Z,562nm,19.0s
CNNC Cliffs of the 98.92 32 PFAKE 13 52 00.0 +11
CNNC LR LR
comp=Z,445nm,20.0s
KMBO Kilima Mbogo 102.40 278 PFAKE 13 52 20.0 +15
KMBO LR LR
comp=Z,145nm,19.0s
RTC Rabat Centre 103.42 334 PFAKE 13 52 20.0 +11
RTC LR LR
comp=Z,1μm,19.0s
TEIG Tepich 105.78 49 PFAKE 13 56 40.0
TEIG LR LR
comp=Z,12nm,20.0s
TAM Tamanrasset 107.56 318 PFAKE 13 56 50.0
TAM LR LR
comp=Z,262nm,19.0s
GTBY Guantanamo Bay 113.25 38 PFAKE 13 57 00.0
GTBY LR LR
comp=Z,203nm,21.0s
JTS JuntasAbangare 115.42 53 PFAKE 13 57 00.0 +8.9
JTS LR LR
comp=Z,44nm,20.0s
SBA Scott Base 115.81 174 PFAKE 13 57 00.0 +10
SBA LR LR
comp=Z,439nm,20.0s
SDDR Presa de Saban 115.88 35 PFAKE 13 57 00.0 +8.0
SDDR LR LR
comp=Z,365nm,19.0s
TORD Torodi Ar. Bea 117.51 315 PKP PKPdf 13 56 54.6 -0.5
comp=Z,0.8nm,0.5s,baz=31,slow=1.8,SNR=11
SJG San Juan 118.89 31 PFAKE 13 57 10.0 +12
SJG LR LR
comp=Z,230nm,19.0s
MAW Mawson 119.93 206 PKP PKPdf 13 56 58.7 +0.6
comp=Z,1.5nm,0.8s,baz=137,slow=5.4,SNR=3.8
FDF Fort de France 123.90 27 PFAKE 13 57 20.0 +13
FDF LR LR
comp=Z,135nm,21.0s
SDV Santo Domingo 124.87 40 PFAKE 13 57 20.0 +10
SDV LR LR
comp=Z,182nm,20.0s
GRGR Grenville 126.09 29 PFAKE 13 57 20.0 +8.4
GRGR LR LR
comp=Z,238nm,20.0s
DBIC Dimbokro 126.45 318 PKP PKPdf 13 57 12.4 +0.1
comp=Z,3.7nm,0.7s,baz=47,slow=4.1,SNR=3.9
QSPA South Pole Qui 126.99 180 *e*PKPdf PKPdf 13 57 11.6 -0.1
OTAV Otavalo 127.22 55 PFAKE 13 57 30.0 +16
OTAV LR LR
comp=Z,112nm,19.0s
TSUM Tsumeb 128.55 274 PFAKE 13 57 30.0 +14
TSUM LR LR
comp=Z,170nm,19.0s
PTGA Pitinga 138.39 34 PFAKE 13 57 50.0 +15
PTGA LR LR
comp=Z,51μm,21.0s
SNAA Sanae 141.08 197 *e*PKIKP PKPdf 13 57 34.9 -3.1
SNAA Sanae 141.08 197 *e*PKPdf PKPdf 13 57 34.9 -3.1
SAML Samuel 143.77 45 PFAKE 13 58 00.0 +16
SAML LR LR
comp=Z,217nm,19.0s
ASCN Ascension 143.78 318 PFAKE 13 58 00.0 +16
ASCN LR LR
comp=Z,616nm,21.0s
LPAZ La Paz 146.19 60 PKPbc PKPbc 13 57 50.5 +0.2
comp=Z,15nm,0.8s,baz=349,slow=4.2,SNR=38
LVC Limon Verde 149.67 70 *e*PKPdf PKPdf 13 57 55.9 +1.4
LCO Las Campanas 151.53 83 *e*PKPbc PKPbc 13 58 03.9 +0.5
TRQA Tornquist 161.01 100 PFAKE 13 58 20.0 +11
TRQA LR LR
comp=Z,154nm,20.0s

JMA 08 13:38:13.8±0.2, 38.76N×142.59E, h25km±3km, M3.3, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OFUJ	**Ofunato**	**0.79**	**294**	P	Pb	13 38 28.7	-0.1
OFUJ				*e*S	Sb	13 38 38.9	-0.2
MIYJ	**Miyakonagasawa**	**1.01**	**324**	P	Pn	13 38 31.8	-0.6
MIYJ				*e*S	Sb	13 38 44.3	-1.3
JMK	**Ichinoseki**	**1.09**	**281**	P	Pn	13 38 33.4	0.0
JOM	**Ohasama**	**1.23**	**306**	P	Pn	13 38 35.7	+0.2
JTH	**Tanohata**	**1.30**	**335**	P	Pn	13 38 36.9	+0.5
JRG	**Rokugo**	**1.65**	**293**	P	Pb	13 38 42.4	-1.1
JYK	**Kaneyama**	**1.75**	**276**	P	Pn	13 38 43.5	+1.0

*SOF **08** 13:50:29.9, 45.68N×26.47E, h140km, MD3.5*
*SIGU **08** 13:50:30.8, 45.66N×26.57E, h128km, mb3.6*
*ISCJB **08** 13:50:31.2±0.2, 45.64N±0.01×26.54E±0.02, h123km±1km, mb4.0/18, Error ellipse: s-maj=2.4km s-min=2.3km az=20.8*
*BUC **08** 13:50:31.7±0.8, 45.65N×26.50E, h128km±8km, MD4.5/4, Error ellipse: s-maj=5.3km s-min=4.5km az=340.0*
*CSEM **08** 13:50:31.9±0.1, 45.63N×26.54E, h121km±1km, mb4.1/5, Error ellipse: s-maj=3.0km s-min=2.5km az=160.0*
*MOS **08** 13:50:31.4±0.8, 45.64N×26.57E, h119km, mb4.2/10, Error ellipse: s-maj=7.6km s-min=5.9km az=105.0*
*NEIC **08** 13:50:32.4±0.0, 45.65N×26.57E, h114km, mb4.2/5, After BUC.*
NEIC Felt at Bucharest.
*IDC **08** 13:50:32.5±0.4, 45.63N×26.45E, h114km±4km, mb3.7/14, mb1 3.7/19, mb1mx3.6/36, mbtmp4.0/19, MS3.0/2, Ms1 3.0/2, ms1mx2.2/45, Error ellipse: s-maj=14.9km s-min=11.9km az=150.0*
*THE **08** 13:50:36.2, 45.27N×26.38E, h117km±16km, ML3.8/6, Error ellipse: s-maj=16.5km s-min=2.1km az=192.0*

ISC 08 13:50:32.7±0.5, 45.63N±0.02×26.55E±0.02, h123km±3km, n277, σ1§45/396, mb4.1/18, 59C-59D, Romania

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PLOR	**Plostina**	**0.23**	**18**	P	**Pn**	**13 50 49.3**	**-0.5**
PLOR				S	**Sn**	**13 51 01.2**	**-1.5**
PLOR	**Plostina**	**0.23**	**18**	⇑*i*P	**Pn**	**13 50 49.3**	**-0.5**
PLOR	**Plostina**	**0.23**	**18**	⇑*i*P	**Pn**	**13 50 49.3**	**-0.5**
PLOR				*i* S	**Sn**	**13 51 01.2**	**-1.5**
PLOR	**Plostina**	**0.23**	**18**	P	**Pn**	**13 50 49.2**	**-0.5**
PLOR				S	**Sn**	**13 51 01.2**	**-1.5**
PLOR	**Plostina**	**0.23**	**18**	⇑*i*P	**Pn**	**13 50 49.3**	**-0.5**
PLOR				*i* S	**Sn**	**13 51 01.2**	**-1.5**
VRI	**Vrincioaia**	**0.27**	**28**	P	**Pn**	**13 50 49.6**	**-0.4**
VRI				S	**Sn**	**13 51 01.5**	**-1.3**
VRI	**Vrincioaia**	**0.27**	**28**	⇑*i*P	**Pn**	**13 50 49.5**	**-0.4**
VRI	**Vrincioaia**	**0.27**	**28**	⇑*i*P	**Pn**	**13 50 49.5**	**-0.4**
VRI				*i* S	**Sn**	**13 51 01.6**	**-1.3**
VRI	**Vrincioaia**	**0.27**	**28**	P	**Pn**	**13 50 49.5**	**-0.4**
VRI				S	**Sn**	**13 51 01.6**	**-1.3**
VRI	**Vrincioaia**	**0.27**	**28**	⇑*i*P	**Pn**	**13 50 49.5**	**-0.4**
VRI				*i* S	**Sn**	**13 51 01.6**	**-1.3**
VRI	**Vrincioaia**	**0.27**	**28**	P	**Pn**	**13 50 49.5**	**-0.4**
VRI				S	**Sn**	**13 51 01.6**	**-1.3**
ODBI	**Odobesti**	**0.38**	**70**	⇑*i*P	**Pn**	**13 50 50.9**	**+0.6**
ODBI	**Odobesti**	**0.38**	**70**	⇑*i*P	**Pn**	**13 50 50.9**	**+0.6**
ODBI	**Odobesti**	**0.38**	**70**	⇑*i*P	**Pn**	**13 50 50.9**	**+0.6**
GRER		**0.39**	**130**	⇑*i*P	**Pn**	**13 50 51.0**	**+0.6**
GRER		**0.39**	**130**	⇑*i*P	**Pn**	**13 50 51.0**	**+0.6**
GRER				*i* S	**Sn**	**13 51 04.0**	**+0.3**
GRER		**0.39**	**130**	⇑*i*P	**Pn**	**13 50 51.0**	**+0.6**
GRER				*i* S	**Sn**	**13 51 04.0**	**+0.3**
MLR	**Muntele Rosu**	**0.45**	**252**	P	**Pn**	**13 50 50.4**	**-0.4**
MLR				S	**Sn**	**13 51 03.1**	**-1.4**
MLR	**Muntele Rosu**	**0.45**	**252**	LR	LR	13 50 42.1	
	comp=Z,11nm,18.1s,baz=86,slow=26						
MLR				P	**Pn**	**13 50 50.4**	**-0.4**
	229nm,0.3s,baz=23,slow=2.0,SNR=7392						
MLR				S	**Sn**	**13 51 03.5**	**-1.0**
	117nm,0.3s,baz=218,slow=22,SNR=35						
MLR	**Muntele Rosu**	**0.45**	**252**	⇑*i*P	**Pn**	**13 50 50.4**	**-0.4**
MLR	**Muntele Rosu**	**0.45**	**252**	⇑*i*P	**Pn**	**13 50 50.4**	**-0.4**
MLR				*i* S	**Sn**	**13 51 03.4**	**-1.0**
PETR	**Petresti**	**0.49**	**79**	⇑*i*P	**Pn**	**13 50 51.1**	**+0.3**
PETR	**Petresti**	**0.49**	**79**	⇑*i*P	**Pn**	**13 50 51.1**	**+0.3**
PETR				*i* S	**Sn**	**13 51 04.6**	**+0.1**
PETR	**Petresti**	**0.49**	**79**	⇑*i*P	**Pn**	**13 50 51.1**	**+0.3**
PETR				*i* S	**Sn**	**13 51 04.6**	**+0.1**
ISR	**Istrita**	**0.51**	**180**	⇑*i*P	**Pn**	**13 50 50.9**	**-0.2**
ISR	**Istrita**	**0.51**	**180**	⇑*i*P	**Pn**	**13 50 50.9**	**-0.2**
ISR				*i* S	**Sn**	**13 51 05.3**	**+0.3**
ISR	**Istrita**	**0.51**	**180**	P	**Pn**	**13 50 50.9**	**-0.2**
ISR	**Istrita**	**0.51**	**180**	⇑*i*P	**Pn**	**13 50 50.9**	**-0.2**
ISR				*i* S	**Sn**	**13 51 05.3**	**+0.3**
SECR		**0.69**	**210**	⇑*i*P	**Pn**	**13 50 52.4**	**+0.1**
SECR		**0.69**	**210**	⇑*i*P	**Pn**	**13 50 52.4**	**+0.1**

SECR					*i* S		**Sn**	**13 51 07.4**	**+0.4**
SECR			**0.69**	**210**	⇑*i* P		**Pn**	**13 50 52.4**	**+0.1**
SECR					*i* S		**Sn**	**13 51 07.4**	**+0.4**
PGOR	**Pogoanele**		**0.79**	**157**	⇑*i* P		**Pn**	**13 50 53.1**	**+0.1**
PGOR	**Pogoanele**		**0.79**	**157**	⇑*i* P		**Pn**	**13 50 53.1**	**+0.1**
PGOR					*i* S		**Sn**	**13 51 08.7**	**+0.4**
PGOR	**Pogoanele**		**0.79**	**157**	⇑*i* P		**Pn**	**13 50 53.1**	**+0.1**
PGOR					*i* S		**Sn**	**13 51 08.7**	**+0.4**
DOPR	**Dopca**		**0.88**	**293**	⇑*i* P		**Pn**	**13 50 53.3**	**-0.5**
DOPR	**Dopca**		**0.88**	**293**	⇑*i* P		**Pn**	**13 50 53.3**	**-0.5**
DOPR					*i* S		**Sn**	**13 51 08.2**	**-1.6**
DOPR	**Dopca**		**0.88**	**293**	⇑*i* P		**Pn**	**13 50 53.3**	**-0.5**
DOPR					*i* S		**Sn**	**13 51 08.2**	**-1.6**
TESR	**Tescani**		**0.88**	**4**	⇓*i* P		**Pn**	**13 50 53.3**	**-0.6**
TESR	**Tescani**		**0.88**	**4**	⇓*i* P		**Pn**	**13 50 53.3**	**-0.6**
TESR					*i* S		**Sn**	**13 51 07.6**	**-2.3**
TESR	**Tescani**		**0.88**	**4**	⇓*i* P		**Pn**	**13 50 53.3**	**-0.6**
TESR					*i* S		**Sn**	**13 51 07.6**	**-2.3**
SULR			**0.98**	**192**	⇑*i* P		**Pn**	**13 50 54.7**	**0.0**
SULR			**0.98**	**192**	⇑*i* P		**Pn**	**13 50 54.7**	**0.0**
SULR					*i* S		**Sn**	**13 51 11.4**	**+0.1**
SULR			**0.98**	**192**	⇑*i* P		**Pn**	**13 50 54.7**	**0.0**
SULR					*i* S		**Sn**	**13 51 11.4**	**+0.1**
VOIR			**1.07**	**260**	⇑*i* P		**Pn**	**13 50 55.0**	**-0.8**
VOIR			**1.07**	**260**	⇑*i* P		**Pn**	**13 50 55.0**	**-0.8**
VOIR					*i* S		**Sn**	**13 51 11.3**	**-1.9**
VOIR			**1.07**	**260**	P		**Pn**	**13 50 54.9**	**-0.8**
VOIR					S		**Sn**	**13 51 11.3**	**-1.9**
VOIR			**1.07**	**260**	⇑*i* P		**Pn**	**13 50 55.0**	**-0.8**
VOIR					*i* S		**Sn**	**13 51 11.3**	**-1.9**
MTUR	**Matau**		**1.12**	**249**	⇑*i* P		**Pn**	**13 50 56.2**	**-0.1**
MTUR	**Matau**		**1.12**	**249**	⇑*i* P		**Pn**	**13 50 56.2**	**-0.1**
MTUR	**Matau**		**1.12**	**249**	⇑*i* P		**Pn**	**13 50 56.2**	**-0.1**
GIUM	**Giurgiulesti**		**1.18**	**97**	P		**Pn**	**13 50 57.0**	**+0.3**
GIUM					S		**Sn**	**13 51 14.4**	**-0.5**
GIUM	**Giurgiulesti**		**1.18**	**97**	P		**Pn**	**13 50 57.0**	**+0.3**
GIUM					S		**Sn**	**13 51 14.4**	**-0.5**
CFR	**Carcaliu**		**1.21**	**112**	⇓*i* P		**Pn**	**13 50 56.4**	**-0.6**
CFR	**Carcaliu**		**1.21**	**112**	⇓*i* P		**Pn**	**13 50 56.4**	**-0.6**
CFR					*i* S		**Sn**	**13 51 13.3**	**-2.1**
CFR	**Carcaliu**		**1.21**	**112**	P		**Pn**	**13 50 56.4**	**-0.6**
CFR					S		**Sn**	**13 51 13.3**	**-2.1**
CFR	**Carcaliu**		**1.21**	**112**	⇓*i* P		**Pn**	**13 50 56.4**	**-0.6**
CFR					*i* S		**Sn**	**13 51 13.3**	**-2.1**
CFR	**Carcaliu**		**1.21**	**112**	P		**Pn**	**13 50 56.4**	**-0.6**
CFR					S		**Sn**	**13 51 13.3**	**-2.1**
BUC1	**Bucharest**		**1.34**	**196**	⇑*i* P		**Pn**	**13 50 58.2**	**-0.3**
BUC1	**Bucharest**		**1.34**	**196**	⇑*i* P		**Pn**	**13 50 58.2**	**-0.3**
BUC1					*i* S		**Sn**	**13 51 17.0**	**-1.0**
BUC1	**Bucharest**		**1.34**	**196**	P		**Pn**	**13 50 58.1**	**-0.4**
BUC1					S		**Sn**	**13 51 16.9**	**-1.0**
BUC1	**Bucharest**		**1.34**	**196**	P		**Pn**	**13 50 58.1**	**-0.4**
BUC1					*i* S		**Sn**	**13 51 17.0**	**-1.0**
HARR	**Harsova**		**1.36**	**133**	⇓*i* P		**Pn**	**13 50 58.4**	**-0.3**
HARR	**Harsova**		**1.36**	**133**	⇓*i* P		**Pn**	**13 50 58.4**	**-0.3**
HARR	**Harsova**		**1.36**	**133**	P		**Pn**	**13 50 58.4**	**-0.3**
HARR	**Harsova**		**1.36**	**133**	⇓*i* P		**Pn**	**13 50 58.4**	**-0.3**
ARR	**Arges**		**1.37**	**260**	⇑*i* P		**Pn**	**13 50 58.5**	**-0.4**
ARR	**Arges**		**1.37**	**260**	⇑*i* P		**Pn**	**13 50 58.5**	**-0.4**
ARR					*i* S		**Sn**	**13 51 16.6**	**-2.2**
ARR	**Arges**		**1.37**	**260**	⇑*i* P		**Pn**	**13 50 58.5**	**-0.4**
ARR					*i* S		**Sn**	**13 51 16.6**	**-2.2**
LEOM	**Leova**		**1.45**	**54**	P		**Pn**	**13 50 59.8**	**+0.1**
LEOM					S		**Sn**	**13 51 18.6**	**-1.6**
LEOM	**Leova**		**1.45**	**54**	⇓*i* P		**Pn**	**13 50 59.8**	**+0.1**
LEOM	**Leova**		**1.45**	**54**	⇓*i* P		**Pn**	**13 50 59.8**	**+0.1**
LEOM					*i* S		**Sn**	**13 51 18.7**	**-1.5**
LEOM	**Leova**		**1.45**	**54**	⇓*i* P		**Pn**	**13 50 59.8**	**+0.1**
LEOM					*i* S		**Sn**	**13 51 18.7**	**-1.5**
TLB	**Topalu**		**1.49**	**134**	⇓*i* P		**Pn**	**13 50 59.9**	**-0.2**
TLB	**Topalu**		**1.49**	**134**	⇓*i* P		**Pn**	**13 50 59.9**	**-0.2**
TLB					*i* S		**Sn**	**13 51 19.0**	**-2.0**
TLB	**Topalu**		**1.49**	**134**	⇓*i* P		**Pn**	**13 50 59.9**	**-0.2**
TLB					*i* S		**Sn**	**13 51 19.0**	**-2.0**
HUMR	**Humele**		**1.57**	**226**	⇑*i* P		**Pn**	**13 51 00.4**	**-0.7**
HUMR	**Humele**		**1.57**	**226**	⇑*i* P		**Pn**	**13 51 00.4**	**-0.7**
HUMR					*i* S		**Sn**	**13 51 21.1**	**-1.6**
HUMR	**Humele**		**1.57**	**226**	⇑*i* P		**Pn**	**13 51 00.4**	**-0.7**
HUMR					*i* S		**Sn**	**13 51 21.1**	**-1.6**
TLCR			**1.66**	**105**	⇓*i* P		**Pn**	**13 51 01.8**	**-0.3**
TLCR			**1.66**	**105**	⇓*i* P		**Pn**	**13 51 01.8**	**-0.3**
TLCR					*i* S		**Sn**	**13 51 23.8**	**-0.7**
TLCR			**1.66**	**105**	P		**Pn**	**13 51 01.7**	**-0.3**
TLCR					S		**Sn**	**13 51 23.8**	**-0.7**
TLCR			**1.66**	**105**	⇓*i* P		**Pn**	**13 51 01.8**	**-0.3**
TLCR					*i* S		**Sn**	**13 51 23.8**	**-0.7**
CVDA	**Cernavoda**		**1.67**	**140**	⇓*i* P		**Pn**	**13 51 02.3**	**0.0**
CVDA	**Cernavoda**		**1.67**	**140**	⇓*i* P		**Pn**	**13 51 02.3**	**0.0**
CVDA					*i* S		**Sn**	**13 51 23.1**	**-1.8**
CVDA	**Cernavoda**		**1.67**	**140**	⇓*i* P		**Pn**	**13 51 02.3**	**0.0**
CVDA					*i* S		**Sn**	**13 51 23.1**	**-1.8**
IAS	**Iasi**		**1.71**	**24**	⇓*i* P		**Pn**	**13 51 01.6**	**-1.1**
IAS	**Iasi**		**1.71**	**24**	⇓*i* P		**Pn**	**13 51 01.6**	**-1.1**
IAS					*i* S		**Sn**	**13 51 23.9**	**-1.8**
IAS	**Iasi**		**1.71**	**24**	P		**Pn**	**13 51 01.6**	**-1.1**
IAS					S		**Sn**	**13 51 23.9**	**-1.8**
IAS	**Iasi**		**1.71**	**24**	⇓*i* P		**Pn**	**13 51 01.6**	**-1.1**
IAS					*i* S		**Sn**	**13 51 23.9**	**-1.8**
TIRR	**Tirgusor**		**1.77**	**131**	⇓*i* P		**Pn**	**13 51 03.3**	**-0.1**
TIRR	**Tirgusor**		**1.77**	**131**	⇓*i* P		**Pn**	**13 51 03.3**	**-0.1**
TIRR					*i* S		**Sn**	**13 51 24.7**	**-2.2**
TIRR	**Tirgusor**		**1.77**	**131**	*eP*		**Pn**	**13 51 03.3**	**-0.1**
TIRR					*e*			13 51 25.1	
TIRR	**Tirgusor**		**1.77**	**131**	⇓*i* P		**Pn**	**13 51 03.3**	**-0.1**
TIRR					*e*S		**Sn**	**13 51 25.1**	**-1.7**
TIRR	**Tirgusor**		**1.77**	**131**	*e*Pn		**Pn**	**13 51 03.3**	**-0.1**
TIRR					*e*Sn		**Sn**	**13 51 25.1**	**-1.7**
LOT	**Lotru**		**1.96**	**266**	⇑*i* P		**Pn**	**13 51 05.1**	**-0.8**
LOT	**Lotru**		**1.96**	**266**	⇑*i* P		**Pn**	**13 51 05.1**	**-0.8**
LOT					*i* S		**Sn**	**13 51 29.1**	**-2.2**
LOT	**Lotru**		**1.96**	**266**	⇑*i* P		**Pn**	**13 51 05.1**	**-0.8**
LOT					*i* S		**Sn**	**13 51 29.1**	**-2.2**
MILM	**Milestii Mici**		**2.03**	**50**	P		**Pn**	**13 51 06.5**	**-0.1**
MILM					S		**Sn**	**13 51 30.4**	**-2.2**
MILM	**Milestii Mici**		**2.03**	**50**	⇓*i* P		**Pn**	**13 51 06.6**	**-0.1**
MILM	**Milestii Mici**		**2.03**	**50**	⇓*i* P		**Pn**	**13 51 06.6**	**-0.1**
MILM					*i* S		**Sn**	**13 51 30.7**	**-1.9**
MILM	**Milestii Mici**		**2.03**	**50**	P		**Pn**	**13 51 06.5**	**-0.1**
MILM					*i* S		**Sn**	**13 51 30.7**	**-1.9**
KIS	**Kishinev**		**2.08**	**48**	⇓*i* P		**Pn**	**13 51 06.5**	**-0.8**
	6µm,0.4s								
KIS					*i* S		**Sn**	**13 51 32.0**	**-1.8**
	7µm,0.9s								
KIS	**Kishinev**		**2.08**	**48**ĸ	*i*P		**Pn**	**13 51 06.5**	**-0.8**
KIS					*i* S		**Sn**	**13 51 32.0**	**-1.8**
KIS					pmax	pmax			
	comp=Z,6µm,0.4s								
KIS					smax	smax			
	comp=E,7µm,0.9s								
KIS					smax	smax			
	comp=N,6µm,0.9s								
KIS					smax	smax			
	comp=E,7µm,0.9s								
KIS	**Kishinev**		**2.08**	**48**	⇓*i* P		**Pn**	**13 51 06.5**	**-0.8**
KIS					Pm			13 51 07.0	
KIS					*i* S		**Sn**	**13 51 32.0**	**-1.8**
KIS					Sm			13 51 32.5	
KIS	**Kishinev**		**2.08**	**48**	⇓*i* P		**Pn**	**13 51 06.5**	**-0.8**
	comp=E,6µm,0.4s								
KIS					*i* S		**Sn**	**13 51 32.0**	**-1.8**
	comp=E,7µm,0.9s								
EFOR	**EFORIE**		**2.15**	**136**	⇑*i* P		**Pn**	**13 51 08.3**	**+0.2**
EFOR	**EFORIE**		**2.15**	**136**	⇑*i* P		**Pn**	**13 51 08.3**	**+0.2**
EFOR					*i* S		**Sn**	**13 51 34.2**	**-1.0**
EFOR	**EFORIE**		**2.15**	**136**	⇑*i* P		**Pn**	**13 51 08.3**	**+0.2**
EFOR					*i* S		**Sn**	**13 51 34.2**	**-1.0**
ZIMR			**2.15**	**204**	S		**Sn**	**13 51 33.1**	**-2.1**
ZIMR			**2.15**	**204**	*i* S		**Sn**	**13 51 33.1**	**-2.1**
BURAR	**Bucovina Array**		**2.19**	**336**	⇑*i* P		**Pn**	**13 51 09.7**	**+1.0**
BURAR	**Bucovina Array**		**2.19**	**336**	⇑*i* P		**Pn**	**13 51 09.7**	**+1.0**
BURAR					*i* S		**Sn**	**13 51 36.6**	**+0.3**
BURAR	**Bucovina Array**		**2.19**	**336**	P		**Pn**	**13 51 09.7**	**+1.0**
BURAR					S		**Sn**	**13 51 34.9**	**-1.4**
BURAR	**Bucovina Array**		**2.19**	**336**	⇑*i* P		**Pn**	**13 51 09.7**	**+1.0**
BURAR					*i* S		**Sn**	**13 51 36.6**	**+0.3**
PSN	**Preselentsi**		**2.27**	**149**	*i* P		**Pn**	**13 51 10.1**	**+0.4**
CJR	**Cluj-Napoca**		**2.32**	**299**	⇓*i* P		**Pn**	**13 51 09.9**	**-0.4**
CJR	**Cluj-Napoca**		**2.32**	**299**	⇓*i* P		**Pn**	**13 51 09.9**	**-0.4**
CJR	**Cluj-Napoca**		**2.32**	**299**	⇓*i* P		**Pn**	**13 51 09.9**	**-0.4**
MANR	**Mangalia**		**2.33**	**141**	⇓*i* P		**Pn**	**13 51 10.3**	**-0.1**
MANR	**Mangalia**		**2.33**	**141**	⇓*i* P		**Pn**	**13 51 10.3**	**-0.1**
MANR					*i* S		**Sn**	**13 51 36.8**	**-2.4**
MANR	**Mangalia**		**2.33**	**141**	⇓*i* P		**Pn**	**13 51 10.3**	**-0.1**
CRAR	**CRAIOVA**		**2.35**	**237**	S		**Sn**	**13 51 37.2**	**-2.5**
CRAR	**CRAIOVA**		**2.35**	**237**	*i* S		**Sn**	**13 51 37.2**	**-2.5**
SZH	**Strazhica**		**2.41**	**191**	*i* P		**Pn**	**13 51 10.8**	**-0.6**
PRD	**Provadia**		**2.51**	**166**	*i* P		**Pn**	**13 51 13.3**	**+0.6**
PVL	**Pavlikeni**		**2.57**	**200**	*i* P		**Pn**	**13 51 14.7**	**+1.2**
ROIA	**ROIAK**		**2.61**	**167**	*i* P		**Pn**	**13 51 14.3**	**+0.3**
SORM	**Soroca**		**2.79**	**26**	P		**Pn**	**13 51 15.4**	**-0.8**
SORM					S		**Sn**	**13 51 46.9**	**-3.0**
SORM	**Soroca**		**2.79**	**26**	⇓*i* P		**Pn**	**13 51 15.5**	**-0.8**
SORM	**Soroca**		**2.79**	**26**	⇓*i* P		**Pn**	**13 51 15.5**	**-0.8**
SORM					*i* S		**Sn**	**13 51 47.2**	**-2.7**
SORM	**Soroca**		**2.79**	**26**	⇓*i* P		**Pn**	**13 51 15.5**	**-0.8**
SORM					S		**Sn**	**13 51 46.9**	**-3.0**
KSV	**Kosov**		**2.87**	**340**	*eP*		**Pn**	**13 51 16.6**	**-0.7**
KSV					Pm			13 51 25.6	
KSV					*e*S		**Sn**	**13 51 49.2**	**-2.6**
KSV					Sm			13 51 55.4	
KMPD	**K-Podol'skiy**		**2.93**	**359**	*eP*		**Pn**	**13 51 17.2**	**-0.9**
KMPD					*e*S		**Sn**	**13 51 50.6**	**-2.6**
NSLU	**Nyzhne Selyshc**		**2.94**	**332**	*eP*		Pn	13 51 23.1	+4.9
NSLU					Pm			13 51 34.3	
NSLU					*e*S		Sn	13 52 02.3	+9.0
NSLU					Sm			13 52 07.1	
NDNU	**Novodnistrovsk**		**3.02**	**10**	*eP*		**Pn**	**13 51 17.8**	**-1.4**
NDNU					Pm			13 51 19.0	
NDNU					*e*S		**Sn**	**13 51 52.6**	**-2.5**
NDNU					Sm			13 51 53.8	
MPEP	**Malo Peshtene**		**3.04**	**222**	*i* P		**Pn**	**13 51 18.9**	**-0.7**
KORU	**Korolevo**		**3.44**	**318**	*eP*		**Pn**	**13 51 24.4**	**-0.5**
BZS	**Buzias**		**3.46**	**271**	⇓*i* P		**Pn**	**13 51 24.3**	**-0.8**
BZS	**Buzias**		**3.46**	**271**	⇓*i* P		**Pn**	**13 51 24.3**	**-0.8**
BZS	**Buzias**		**3.46**	**271**	⇓*i* P		**Pn**	**13 51 24.3**	**-0.8**
SIRR	**Siria**		**3.47**	**282**	⇓*i* P		**Pn**	**13 51 24.7**	**-0.5**
SIRR	**Siria**		**3.47**	**282**	⇓*i* P		**Pn**	**13 51 24.7**	**-0.5**
SIRR	**Siria**		**3.47**	**282**	⇓*i* P		**Pn**	**13 51 24.7**	**-0.5**
PGB	**Panagyurishte**		**3.53**	**210**	*i* P		**Pn**	**13 51 26.5**	**+0.4**
HORU	**Horodok**		**3.58**	**359**	⇓*i* P		**Pn**	**13 51 25.7**	**-1.0**
HORU					*e*S		**Sn**	**13 52 06.5**	**-2.0**
BRIU	**Brid**		**3.63**	**320**	*eP*		**Pn**	**13 51 26.7**	**-0.6**
ZAPS	**Zavoj**		**3.66**	**231**	⇓*i* Pn		**Pn**	**13 51 26.8**	**-1.1**
KUBS	**Kucevo**		**3.67**	**252**	*i* Pn		**Pn**	**13 51 24.8**	**-3.0**
BERU	**Beregovo**		**3.73**	**316**	*eP*		**Pn**	**13 51 27.0**	**-1.6**
BERU					*e*S		**Sn**	**13 52 09.6**	**-2.4**
BOLS	**Boljevac**		**3.74**	**243**	⇑*i* Pn		**Pn**	**13 51 25.6**	**-3.2**
EDRB	**Edirne**		**3.79**	**178**	P		**Pn**	**13 51 29.3**	**-0.2**
EDRB					S		**Sn**	**13 52 09.4**	**-4.0**
EDRB	**Edirne**		**3.79**	**178**	P		**Pn**	**13 51 29.3**	**-0.2**
EDRB					S		**Sn**	**13 52 09.4**	**-4.0**
VTS	**Vitosha**		**3.88**	**220**	P		**Pn**	**13 51 29.7**	**-1.1**
VTS					S		**Sn**	**13 52 12.8**	**-3.0**
VTS	**Vitosha**		**3.88**	**220**	⇓*i* P		**Pn**	**13 51 29.6**	**-1.2**
VTS	**Vitosha**		**3.88**	**220**	⇓*i* P		**Pn**	**13 51 29.6**	**-1.2**
VTS	**Vitosha**		**3.88**	**220**	*i* P		**Pn**	**13 51 30.3**	**-0.5**
VTS	**Vitosha**		**3.88**	**220**	P		**Pn**	**13 51 29.7**	**-1.1**
VTS					S		**Sn**	**13 52 12.8**	**-3.0**
MORS	**Morshin**		**3.94**	**334**	*e*S		**Sn**	**13 52 16.8**	**-0.1**
BOVS	**Bovan**		**3.99**	**242**	*e*Pn		**Pn**	**13 51 30.7**	**-1.5**
RZN	**Rozhen**		**4.16**	**199**	*i* P		**Pn**	**13 51 34.4**	**-0.3**
UZH	**Uzhgorod**		**4.17**	**317**	*eP*		**Pn**	**13 51 34.5**	**-0.1**
UZH					*e*			13 52 23.3	
UZH	**Uzhgorod**		**4.17**	**317**	*eP*		**Pn**	**13 51 34.5**	**-0.1**
UZH					*e*S		**Sn**	**13 52 23.3**	**+0.7**
BARS	**Barje**		**4.42**	**232**	⇑*i* Pn		**Pn**	**13 51 37.3**	**-0.6**
GRUS	**Gruza**		**4.51**	**249**	*e*Pn		**Pn**	**13 51 37.8**	**-1.2**
LVV	**L'vov**		**4.52**	**339**	*e*S		**Sn**	**13 52 31.0**	**-0.2**
MMB	**Musomiste**		**4.53**	**208**	*i* P		**Pn**	**13 51 39.6**	**+0.1**
RDO	**Rodhopi**		**4.54**	**190**	P		**Pn**	**13 51 39.9**	**+0.3**
RDO					S		**Sn**	**13 52 27.4**	**-4.1**
RDO	**Rodhopi**		**4.54**	**190**	P		**Pn**	**13 51 39.9**	**+0.3**
RDO					S		**Sn**	**13 52 27.4**	**-4.1**
SELS	**Selova**		**4.58**	**240**	⇓*i* Pn		**Pn**	**13 51 38.3**	**-1.7**
TRUS	**Trudelj**		**4.58**	**254**	⇑*i* Pn		**Pn**	**13 51 38.9**	**-1.2**
NVR	**Nevrokopi**		**4.71**	**205**	P		**Pn**	**13 51 41.3**	**-0.5**
NVR					S		**Sn**	**13 52 32.0**	**-3.5**
NVR	**Nevrokopi**		**4.71**	**205**	P		**Pn**	**13 51 41.3**	**-0.5**
NVR					S		**Sn**	**13 52 32.0**	**-3.5**
ALN	**Alexandroupoli**		**4.75**	**185**	P		**Pn**	**13 51 42.0**	**-0.3**
ALN					S		**Sn**	**13 52 34.0**	**-2.4**
ALN	**Alexandroupoli**		**4.75**	**185**	P		**Pn**	**13 51 42.0**	**-0.3**
ALN					S		**Sn**	**13 52 34.0**	**-2.4**
CRVS	**Cervenica-Dubn**		**4.76**	**315**	*eP*		**Pn**	**13 51 42.3**	**-0.2**
CRVS	**Cervenica-Dubn**		**4.76**	**315**	*eP*		**Pn**	**13 51 42.3**	**-0.2**
CRVS	**Cervenica-Dubn**		**4.76**	**315**	*e*PN		**Pn**	**13 51 42.2**	**-0.2**
FGSL	**Fruska Gora**		**4.77**	**267**	*e*Pn		**Pn**	**13 51 41.5**	**-1.1**
KAVA	**Kavala**		**4.87**	**198**	P		**Pn**	**13 51 43.3**	**-0.6**
KAVA					S		**Sn**	**13 52 35.9**	**-3.3**
KAVA	**Kavala**		**4.87**	**198**	P		**Pn**	**13 51 43.3**	**-0.6**
KAVA					S		**Sn**	**13 52 35.9**	**-3.3**
DIVS	**Divibare**		**4.91**	**254**	⇓*i* Pn		**Pn**	**13 51 42.9**	**-1.6**
SRS	**Serrai**		**5.00**	**207**	P		**Pn**	**13 51 45.1**	**-0.6**
SRS					S		**Sn**	**13 52 39.7**	**-2.8**
SRS	**Serrai**		**5.00**	**207**	P		**Pn**	**13 51 45.1**	**-0.6**
SRS					S		**Sn**	**13 52 39.7**	**-2.8**
IVAS	**Ivanjica**		**5.01**	**248**	*i* Pn		**Pn**	**13 51 44.0**	**-1.9**
KECS	**Kecovo**		**5.03**	**307**	*eP*		**Pn**	**13 51 45.5**	**-0.5**
KECS	**Kecovo**		**5.03**	**307**	*eP*		**Pn**	**13 51 45.5**	**-0.5**
KECS	**Kecovo**		**5.03**	**307**	*e*PN		**Pn**	**13 51 45.5**	**-0.5**
TEKS	**Tekeris**		**5.09**	**260**	*i* Pn		**Pn**	**13 51 45.6**	**-1.3**
PSZ	**Piszkesteto**		**5.11**	**299**	⇓*i* P		**Pn**	**13 51 46.9**	**-0.3**
PSZ	**Piszkesteto**		**5.11**	**299**	⇓*i* P		**Pn**	**13 51 46.9**	**-0.3**
SEV	**Sevastopol'**		**5.16**	**100**	*eP**		**Pn**	**13 51 45.9**	**-1.8**
SEV					*e*S		**Sn**	**13 52 43.4**	**-2.7**
SEV	**Sevastopol'**		**5.16**	**100**	*eP**		**Pn**	**13 51 45.9**	**-1.8**
SEV					Pm			13 51 47.3	
SEV					*e*S		**Sn**	**13 52 43.4**	**-2.7**
SEV					Sm			13 52 46.5	
SEV	**Sevastopol'**		**5.16**	**100**	*eP**		**Pn**	**13 51 45.9**	**-1.8**
SEV					*e*S		**Sn**	**13 52 43.4**	**-2.7**
KNT	**Kendrikon**		**5.20**	**212**	P		**Pn**	**13 51 47.9**	**-0.5**
KNT	**Kendrikon**		**5.20**	**212**	P		**Pn**	**13 51 47.9**	**-0.5**
SMTH	**Samothraki Isl**		**5.21**	**189**	P		**Pn**	**13 51 48.5**	**-0.1**
SMTH	**Samothraki Isl**		**5.21**	**189**	P		**Pn**	**13 51 48.5**	**-0.1**
STHS	**Stebnicka Huta**		**5.22**	**318**	*eP**		**Pn**	**13 51 48.9**	**+0.3**
STHS	**Stebnicka Huta**		**5.22**	**318**	*eP**		**Pn**	**13 51 48.9**	**+0.3**
STHS	**Stebnicka Huta**		**5.22**	**318**	*e*PN		**Pn**	**13 51 48.9**	**+0.3**
SOH	**Sokhos**		**5.34**	**207**	P		**Pn**	**13 51 49.8**	**-0.6**
SOH					S		**Sn**	**13 52 47.3**	**-3.4**
SOH	**Sokhos**		**5.34**	**207**	P		**Pn**	**13 51 49.8**	**-0.6**
SOH					S		**Sn**	**13 52 47.5**	**-3.4**
KIEV	**Kiev**		**5.37**	**18**	*eP**		**Pn**	**13 51 49.2**	**-1.3**
KIEV					*e*			13 52 48.4	
KIEV					pmax	pmax			
	comp=Z,6.0nm,0.4s								
KIEV	**Kiev**		**5.37**	**18**	*eP**		**Pn**	**13 51 49.2**	**-1.3**
	comp=Z,6.0nm,0.4s								
KIEV					*e*S		**Sn**	**13 52 48.4**	**-2.7**
KIEV	**Kiev**		**5.37**	**18**	*e*Pn		**Pn**	**13 51 49.2**	**-1.3**
	comp=Z,6.3nm,0.4s								
KIEV					*e*Sn		**Sn**	**13 52 48.4**	**-2.7**
AKASG	**Malin Array Be**		**5.38**	**18**	P		**Pn**	**13 51 49.5**	**-1.2**
	comp=Z,8.7nm,0.3s,baz=205,slow=11,SNR=19								
AKASG					S		**Sn**	**13 52 46.1**	**-5.3**
	comp=Z,13nm,0.3s,baz=193,slow=15,SNR=4.7								
SIM	**Simferopol'**		**5.38**	**95**	*ce**		**Pn**	**13 51 50.5**	**-0.3**
SIM					S		**Sn**	**13 52 49.7**	**-1.9**
SIM					pmax	pmax			
	comp=Z,32nm,0.7s								
SIM					smax	smax			
	comp=N,43nm,0.9s								
SIM					smax	smax			
	comp=E,86nm,1.0s								
SIM	**Simferopol'**		**5.38**	**95**	*eP*		**Pn**	**13 51 50.6**	**-0.3**
SIM					Pm			13 51 55.7	
SIM					*e*S		**Sn**	**13 52 51.0**	**-0.6**
SIM					Sm			13 53 12.6	
SIM	**Simferopol'**		**5.38**	**95**	*eP*		**Pn**	**13 51 50.5**	**-0.3**
	comp=E,32nm,0.7s								
SIM					S		**Sn**	**13 52 49.7**	**-1.9**
	comp=E,43nm,0.9s								
BBLS	**Lazići**		**5.39**	**253**	*ePn*		**Pn**	**13 51 49.7**	**-1.2**
YAL	**Yalta**		**5.51**	**99**	*eP*		**Pn**	**13 51 51.7**	**-0.8**
YAL					*e*S		**Sn**	**13 52 52.8**	**-1.8**
YAL	**Yalta**		**5.51**	**99**	*eP*		**Pn**	**13 51 51.7**	**-0.8**
YAL					Pm			13 51 54.6	
YAL					*e*S		**Sn**	**13 52 52.8**	**-1.8**
YAL					Sm			13 52 58.3	
YAL	**Yalta**		**5.51**	**99**	*eP*		**Pn**	**13 51 51.7**	**-0.8**
YAL					*e*S		**Sn**	**13 52 52.8**	**-1.8**
ALU	**Alushta**		**5.63**	**97**	*eP*		**Pn**	**13 51 53.9**	**-0.3**
ALU					*e*S		**Sn**	**13 52 56.2**	**-1.5**
ALU	**Alushta**		**5.63**	**97**	*eP*		**Pn**	**13 51 53.9**	**-0.3**
ALU					Pm			13 51 54.8	
ALU					*e*S		**Sn**	**13 52 56.2**	**-1.5**
ALU					Sm			13 52 59.0	
ALU	**Alushta**		**5.63**	**97**	*eP*		**Pn**	**13 51 53.9**	**-0.3**
ALU					*e*S		**Sn**	**13 52 56.2**	**-1.5**
LANS	**Liptovska Anna**		**5.96**	**309**	*eP*		**Pn**	**13 51 56.1**	**-2.4**
LANS	**Liptovska Anna**		**5.96**	**309**	*eP*		**Pn**	**13 51 56.1**	**-2.4**
LANS	**Liptovska Anna**		**5.96**	**309**	*e*PN		**Pn**	**13 51 56.1**	**-2.4**
SUDU	**Sudak**		**6.01**	**94**	*eP*		**Pn**	**13 51 57.6**

σ0.74/9, mb4.0/8, **Mid-Indian Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H08S1	**Diego Garcia H**	**9.32**	**43**	T	T	14 13 01.5	
	baz=223,slow=76,SNR=364						
H08S2	**Diego Garcia H**	**9.33**	**43**	T	T	14 13 02.4	
	baz=223,slow=76,SNR=352						
H08S3	**Diego Garcia H**	**9.34**	**43**	T	T	14 13 02.9	
	baz=223,slow=76						
H08N3	**Diego Garcia H**	**9.49**	**31**	T	T	14 13 34.8	
	baz=210,slow=76,SNR=1372						
H08N1	**Diego Garcia H**	**9.50**	**31**	T	T	14 13 37.6	
	baz=210,slow=76,SNR=1567						
H08N2	**Diego Garcia H**	**9.51**	**31**	T	T	14 13 36.8	
	baz=210,slow=76,SNR=1785						
BOSA	**Boshof**	**40.22**	**243**	P	**P**	**14 09 05.6**	**+0.4**
	2.8nm,0.8s,baz=100,slow=6.1,SNR=2.4						
BOSA				LR	LR	14 22 54.8	
	comp=Z,50nm,19.2s,baz=27,slow=32						
CMAR	**Chiang Mai Arr**	**46.12**	**46**	P	**P**	**14 09 53.9**	**+1.1**
	0.5nm,0.4s,baz=226,slow=9.9,SNR=4.4						
CMAR				LR	LR	14 25 53.1	
	comp=Z,64nm,20.1s,baz=176,slow=32						
H01W3	**Cape Leeuwin H**	**47.64**	**124**	T	T	15 01 04.3	
	baz=282,slow=75,SNR=17						
H01W2	**Cape Leeuwin H**	**47.64**	**124**	T	T	15 01 04.4	
	baz=282,slow=75,SNR=20						
H01W1	**Cape Leeuwin H**	**47.66**	**124**	T	T	15 01 05.0	
	baz=282,slow=75,SNR=20						
ASAR	**Alice Springs**	**64.27**	**109**	P	**P**	**14 12 03.4**	**-0.6**
	1.0nm,0.9s,baz=267,slow=6.0,SNR=9.3						
WRA	**Warramunga Arr**	**65.07**	**105**	P	**P**	**14 12 09.3**	**0.0**
	0.9nm,0.7s,baz=271,slow=5.4,SNR=7.9						
WRAB	**Tennant Creek**	**65.08**	**105**	*eP*	**P**	**14 12 09.2**	**-0.2**
	3.0nm,0.9s						
ZALV	**Zalesovo Beam**	**70.08**	**12**	P	**P**	**14 12 39.0**	**-1.1**
	0.8nm,0.7s,baz=194,slow=3.0,SNR=3.3						
SONM	**Songino Array**	**71.77**	**27**	P	**P**	**14 12 51.0**	**+0.3**
	0.4nm,0.4s,baz=219,slow=5.3,SNR=3.9						
MJAR	**Matsushiro Arr**	**84.78**	**50**	P	**P**	**14 14 02.7**	**-0.1**
	2.0nm,1.1s,baz=249,slow=5.2,SNR=5.5						
PDAR	**Pinedale Array**	**151.62**	**353**	PKPbc	**PKPbc**	**14 21 22.9**	**-0.3**
	0.9nm,0.7s,baz=82,slow=2.5,SNR=6.4						

JMA 08 14:13:09.4±0.1, 38.°44N×144.°52E, h36km, M3.8, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OFUJ	**Ofunato**	**2.32**	**287**	P	Pn	14 13 46.7	+1.7
OFUJ				*eS*	Sn	14 14 14.5	+2.2
MIYJ	**Miyakonagasawa**	**2.39**	**299**	P	Pn	14 13 47.3	+1.3
MIYJ				*eS*	Sn	14 14 15.8	+1.8
JIO	**Ouri**	**2.49**	**271**	P	Pn	14 13 49.1	+1.8
JIO				*eS*	Sn	14 14 17.9	+1.4
JMK	**Ichinoseki**	**2.63**	**282**	P	Pn	14 13 51.4	+2.1
JMK				*eS*	Sn	14 14 22.5	+2.5
JOM	**Ohasama**	**2.72**	**293**	P	Pn	14 13 52.4	+1.9
JOM				*eS*	Sn	14 14 24.5	+2.4
JOU	**Okura**	**3.03**	**270**	P	Pn	14 13 57.1	+2.3
JOU				*eS*	Sn	14 14 32.2	+2.4
JRG	**Rokugo**	**3.18**	**289**	P	Pn	14 13 59.5	+2.7
JYK	**Kaneyama**	**3.29**	**280**	P	Pn	14 14 01.0	+2.6
JYK				*eS*	Sn	14 14 39.3	+3.0
JFT	**Otama**	**3.43**	**256**	P	Pn	14 14 03.0	+2.7
JFT				*eS*	Sn	14 14 42.3	+2.6
JAH	**Hinai**	**3.48**	**301**	*eS*	Sn	14 14 43.4	+2.5
JTM	**Tenmabayashi**	**3.55**	**312**	*eS*	Sn	14 14 43.5	+0.9
JOT	**Ohata**	**3.97**	**319**	*eS*	Sn	14 14 52.0	-0.9
JCH	**Churui**	**4.26**	**348**	P	Pn	14 14 11.4	-0.3
JCH				*eS*	Sn	14 14 57.8	-2.4
NEM2	**Nemuro 2**	**5.01**	**10**	P	Pn	14 14 19.6	-2.3
NEM2				*eS*	Sn	14 15 12.1	-6.4
JRY	**Ryogami san**	**5.09**	**243**	P	Pn	14 14 25.0	+1.8
JRY				*eS*	Sn	14 15 20.4	-0.4
MAT	**Matsushiro**	**5.37**	**251**	P	Pn	14 14 30.2	+3.3
MAT				*eS*	Sn	14 15 31.3	+3.9
JTKR	**Abashiri--Toko**	**5.54**	**355**	P	Pn	14 14 28.6	-0.7
JTKR				*eS*	Sn	14 15 28.3	-3.4

*KRNET **08** 14:43:04.9±0.1, 41.°97N×72.°52E, h20km, mb2.6*
*NNC **08** 14:43:06.0±0.8, 42.°03N×72.°49E, h9km±5km, mb3.4, mpv2.9, Error ellipse: s-maj=7.1km s-min=3.8km az=169.0*
*SOME **08** 14:43:06.4, 42.°00N×72.°47E, h15km*
ISC 08 14:43:02.7±1.1, 41.°94N±0.°03×72.°51E±0.°02, h5km±11km, n35, σ1.°25/68, 30C-15D, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TOKL	**Toktogul**	**0.27**	**91**	⇓*iP*	**Pb**	**14 43 11.1**	**+1.0**
	baz=97						
TOKL				⇓*iS*	**Sb**	**14 43 14.7**	**-0.3**
	baz=97						
ARK	**Arkit**	**0.43**	**250**	⇑*iP*	**Pn**	**14 43 13.5**	**-2.1**
	baz=245						
ARK				⇑*iS*	**Sb**	**14 43 20.8**	**+1.1**
	baz=245						
MNAS	**Manas**	**0.54**	**360**	⇓*iP*	**Pn**	**14 43 14.7**	**-2.5**
	baz=359						
MNAS				⇓*iS*	**Sb**	**14 43 23.3**	**+0.4**
	baz=359						
MNAS	**Manas**	**0.54**	**360**	⇓*P*	**Pn**	**14 43 15.8**	**-1.4**
	14nm,0.2s						
MNAS				⇑*S*	**Sb**	**14 43 23.3**	**+0.4**
	40nm,0.2s						
ARSB	**Arslanbob**	**0.71**	**150**	⇑*iP*	**Pb**	**14 43 18.7**	**+1.0**
	baz=152						
ARSB				⇑*iS*	**Sb**	**14 43 29.9**	**+2.1**
	baz=152						
AML	**Almayashu**	**0.90**	**78**	⇑*iP*	**Pb**	**14 43 20.9**	**-0.2**
	baz=79						
AML				⇑*iS*	**Sg**	**14 43 33.0**	**+1.2**
	baz=79						
MRKS	**Merke**	**0.96**	**33**	*eP*	**Pn**	**14 43 23.6**	**+0.7**
	25nm,0.1s						
MRKS				*eS*	**Sn**	**14 43 36.1**	**-1.0**
	171nm,0.4s						
EKS2	**Erkin-Say**	**1.18**	**52**	⇑*iP*	**Pn**	**14 43 26.4**	**+0.4**
	baz=53						
EKS2				⇑*iS*	**Sn**	**14 43 42.6**	**0.0**
	baz=53						
UCH	**Uchtor**	**1.52**	**79**	⇑*iP*	**Pg**	**14 43 33.1**	**+1.2**
	baz=79						
UCH				⇑*iS*	**Sg**	**14 43 53.0**	**+1.4**
	baz=79						
AAK	**Ala-Archa**	**1.63**	**64**	⇓*P*	**Pg**	**14 43 35.3**	**+1.4**
	6.2nm,0.5s						
AAK				⇑*S*	**Sg**	**14 43 55.6**	**+0.5**
	12nm,0.4s						
FRU1	**Bishkek**	**1.79**	**60**	⇑*iP*	**Pg**	**14 43 37.9**	**+0.8**
	baz=61						
FRU1				⇑*iS*	**Sg**	**14 44 01.4**	**+1.0**
	baz=61						
IUG	**Iuzhnay**	**1.85**	**277**	*eP*	**Pg**	**14 43 40.0**	**+1.8**
	96nm,0.2s						
IUG				*eS*	**Sg**	**14 44 04.2**	**+1.9**
	221nm,0.3s						
KK31	**Karatay Array**	**1.88**	**309**	⇓*P*n	**Pg**	**14 43 37.6**	**-1.0**
	0.8nm,0.2s,baz=124,slow=16,SNR=127						
KK31				⇓*P*g	**Pb**	**14 43 39.2**	**+1.7**
	3.1nm,0.2s						
KK31				⇑Lg	Lg	14 44 03.7	
	22nm,0.3s,baz=129,slow=28,SNR=17						
KBK	**Karagaybulak**	**1.95**	**68**	⇓*iP*	**Pg**	**14 43 39.7**	**-0.3**
	baz=68						
KBK				⇓*iS*	**Sg**	**14 44 05.4**	**+0.2**
	baz=68						
CHMS	**Chumysh**	**1.97**	**57**	⇓*iP*	**Pg**	**14 43 39.8**	**-0.6**
	baz=57						
CHMS				⇓*iS*	**Sg**	**14 44 05.5**	**-0.4**
	baz=57						
USP	**Ospenovka**	**1.98**	**47**	⇑*iP*	**Pg**	**14 43 40.2**	**-0.4**
	baz=48						
USP				⇑*iS*	**Sg**	**14 44 06.0**	**-0.2**
	baz=48						
KZA	**Kyzart**	**2.05**	**85**	⇑*iP*	**Pg**	**14 43 41.3**	**-0.7**
	baz=86						
KZA				⇑*iS*	**Sg**	**14 44 08.5**	**0.0**
	baz=86						
BTK	**Batken**	**2.28**	**215**	⇑*iP*	**Pg**	**14 43 44.8**	**-1.5**
	baz=215						
BTK				⇑*iS*	**Sg**	**14 44 13.7**	**-2.1**
	baz=215						
TKM2	**Tokmak 2**	**2.49**	**66**	⇑*iP*	**Pb**	**14 43 47.7**	**-0.2**
	baz=66						
TKM2				⇑*iS*	**Sb**	**14 44 19.5**	**+0.6**
	baz=66						
TKM2	**Tokmak 2**	**2.49**	**66**	⇑*P*n	**Pb**	**14 43 47.2**	**-0.8**
	1.8nm,0.3s						
TKM2				⇓*P*g	**Pg**	**14 43 51.9**	**+1.6**
	5.1nm,0.3s						
TKM2				⇑Lg	Lg	14 44 23.6	
	18nm,0.5s						
BOOM	**Boomskoye usch**	**2.61**	**77**	⇑*eP*	**Pb**	**14 43 49.1**	**-0.9**
	baz=77						
BOOM				⇑*iS*	**Sb**	**14 44 21.1**	**-1.3**
	baz=77						
NRN	**Naryn**	**2.67**	**100**	⇑*iP*	**Pb**	**14 43 49.9**	**-1.2**
	baz=101						
NRN				⇑*iS*	**Sn**	**14 44 22.3**	**+2.9**
	baz=101						
DGS	**Degeres**	**2.74**	**61**	*eP*	**Pg**	**14 43 57.0**	**+1.9**
	3.4nm,0.5s						
DGS				*eS*	**Sg**	**14 44 32.9**	**+2.3**
	13nm,0.5s						
KST	**Kastek**	**2.78**	**66**	*eP*	**Pg**	**14 43 55.0**	**-1.0**
	2.3nm,0.4s						
KST				*eS*	**Sg**	**14 44 30.4**	**-1.7**
	31nm,0.9s						
MTBS	**Maitube**	**3.13**	**66**	*eP*	**Pg**	**14 44 02.6**	**0.0**
	2.9nm,0.2s						
MTBS				*eS*	**Sg**	**14 44 43.3**	**+0.1**
	18nm,0.5s						
IZV	**Izvestkoviy**	**3.23**	**69**	*eP*	**Pg**	**14 44 04.5**	**0.0**
	3.4nm,0.6s						
IZV				*eS*	**Sg**	**14 44 46.8**	**+0.5**
	17nm,1.1s						
KUU	**Kurty**	**3.42**	**54**	*eP*	**Pg**	**14 44 07.7**	**-0.6**
	7.6nm,0.1s						
KUU				*eS*	**Sg**	**14 44 51.9**	**-0.7**
	8.3nm,0.1s						
TNSS	**Tian-Shan**	**3.46**	**70**	*eP*	**Pg**	**14 44 09.6**	**+0.5**
	3.0nm,0.6s						
TNSS				*eS*	**Sg**	**14 44 55.2**	**+1.3**
	8.6nm,0.3s						
KTBS	**Karatobe**	**3.54**	**59**	*eP*	**Pg**	**14 44 08.7**	**-1.8**
KTBS				*eS*	**Sg**	**14 44 53.9**	**-2.5**
MDOK	**Medeo**	**3.57**	**69**	*eP*	**Pg**	**14 44 10.7**	**-0.4**
	2.6nm,0.4s						
MDOK				*eS*	**Sg**	**14 44 56.8**	**-0.6**
	11nm,0.6s						
KOTS	**Kotyrbulak**	**3.64**	**68**	*eP*	**Pg**	**14 44 13.0**	**+0.7**
KOTS				*eS*	**Sg**	**14 45 00.8**	**+1.3**
CHKK	**Chushkaly**	**3.81**	**58**	*eP*	**Pg**	**14 44 15.7**	**+0.1**
	4.4nm,0.7s						
CHKK				*eS*	**Sg**	**14 45 05.7**	**+0.8**
	22nm,0.2s						
ARXS	**Arharly**	**4.51**	**58**	*eP*	**Pg**	**14 44 28.1**	**-1.0**
	1.6nm,0.6s						
ARXS				*eS*	**Sg**	**14 45 26.7**	**-0.8**
	12nm,1.0s						
PDGK	**Podgornoye**	**5.33**	**73**	⇓*P*g	**Pg**	**14 44 42.9**	**-2.0**
	1.7nm,0.8s						
PDGK				⇓Lg	Lg	14 45 56.3	
	6.5nm,0.8s						
AB31	**Akbulak array**	**11.43**	**314**	⇑P	**Pn**	**14 45 46.6**	**+0.2**
	0.6nm,0.6s,baz=119,slow=13,SNR=7.5						

MEX 08 14:47:41.8±0.9, 16.°76N×95.°10W, h126km±17km, MD3.7, Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HUIG	**Huatulco**	**1.39**	**225**	*i*P	Pn	14 48 06.7	-1.7
HUIG				*i*S	Sn	14 48 27.3	-1.3
VHO	**Vista Hermosa**	**1.60**	**281**	*eP*	Pn	14 48 10.0	-0.9
VHO				*i*S	Sn	14 48 31.1	-2.1
TGIG		**1.89**	**89**	*i*P	Pn	14 48 13.5	-0.8
TGIG				*i*S	Sn	14 48 36.6	-2.6
TPIG	**Tehuac#an**	**2.72**	**308**	*i*P	Pn	14 48 23.9	-0.9
TPIG				*i*S	Sn	14 48 55.8	-2.1
PNIG	**Pinotepa**	**2.93**	**263**	*i*P	Pn	14 48 25.7	-1.7
PNIG				*i*S	Sn	14 48 59.9	-2.6

*ISCJB **08** 14:51:36.0±0.5, 21.°33S±0.°04×67.°25W±0.°04, h199km±6km, mb3.9/2, Error ellipse: s-maj=6.9km s-min=4.8km az=42.3*
*IDC **08** 14:51:36.7±1.4, 21.°24S×67.°09W, h193km±18km, mb3.5/2, mb1 3.4/5, mb1mx3.2/32, mbtmp3.9/5, Error ellipse: s-maj=35.3km s-min=14.2km az=105.0*
*SJA **08** 14:51:37.6±1.0, 21.°41S×67.°21W, h187km±24km, ML3.4, MW3.5*
*GUC **08** 14:51:37.4±0.6, 21.°32S×67.°74W, h230km±7km, ML4.1*
ISC 08 14:51:36.4±0.9, 21.°31S±0.°05×67.°22W±0.°04, h195km±9km, n24, σ1.°23/42, 7C-4D, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YJA	**Yavi**	**1.81**	**119**	*eP*	**Pn**	**14 52 14.4**	**+1.3**
YJA				*eS*	**Sn**	**14 52 39.9**	**-1.7**
YJA				IAML		14 52 46.0	
	comp=Z,136nm,0.8s						
PB09	**IPOC Station P**	**1.94**	**255**	⇑*iP*	**Pn**	**14 52 15.2**	**+1.0**
PB09				*i*S	**Sn**	**14 52 44.1**	**+0.6**
PB09				IAML		14 52 47.1	
	comp=N,1μm,0.2s						
LVC	**Limon Verde**	**2.04**	**230**	P	**Pn**	**14 52 16.1**	**+0.7**
	baz=49,slow=9.1						
LVC				S	**Sn**	**14 52 45.7**	**0.0**
	comp=N,447nm,0.3s,baz=214,slow=20,SNR=13						
LVC	**Limon Verde**	**2.04**	**230**	*eP*	**Pn**	**14 52 16.0**	**+0.7**
LVC				*i*S	**Sn**	**14 52 45.8**	**+0.1**
LVC	**Limon Verde**	**2.04**	**230**	*eP*	**Pn**	**14 52 16.0**	**+0.7**
PB01	**IPOC Station P**	**2.13**	**277**	⇑*iP*	**Pn**	**14 52 16.5**	**+0.4**
PB01				*eS*	**Sn**	**14 52 46.3**	**-0.6**
PB01				IAML		14 52 48.4	
	comp=N,476nm,0.1s						
PB08	**IPOC Station P**	**2.15**	**302**	⇓*iP*	**Pn**	**14 52 18.0**	**+1.4**
PB08				*i*S	**Sn**	**14 52 49.0**	**+1.3**
PB08				IAML		14 52 50.0	
	comp=E,279nm,0.8s						
PB07	**IPOC Station P**	**2.52**	**260**	⇑*iP*	**Pn**	**14 52 20.6**	**+0.2**
PB07				*i*S	**Sn**	**14 52 53.0**	**-1.7**
PB07				IAML		14 52 53.7	
	comp=N,955nm,0.2s						
HJA	**Humahuaca**	**2.53**	**139**	*eP*	**Pn**	**14 52 22.1**	**+1.4**
HJA				*eS*	**Sn**	**14 52 53.9**	**-1.5**
HJA				IAML		14 52 57.2	
	comp=Z,152nm,0.5s						
PB06	**IPOC Station P**	**2.59**	**237**	⇑*iP*	**Pn**	**14 52 21.3**	**+0.1**
PB06				*i*S	**Sn**	**14 52 55.5**	**-0.7**
PB06				IAML		14 52 56.8	
	comp=E,560nm,0.2s						
HMBC	**Humberstone**	**2.70**	**292**	⇓*iP*	**Pn**	**14 52 22.4**	**-0.1**
HMBC				*i*S	**Sn**	**14 52 56.6**	**-1.6**
HMBC				IAML		14 52 57.9	
	comp=E,678nm,0.3s						
PB11	**IPOC Station P**	**2.75**	**304**	⇓*iP*	**Pn**	**14 52 23.5**	**+0.4**
PB11				*i*S	**Sn**	**14 52 58.8**	**-0.6**
PATCX	**Punta Patache**	**2.78**	**279**	⇑*iP*	**Pn**	**14 52 23.6**	**+0.3**
PATCX				*i*S	**Sn**	**14 52 58.0**	**-1.9**
PATCX				IAML		14 53 00.3	
	comp=E,729nm,0.2s						
PB04	**IPOC Station P**	**2.91**	**249**	*eP*	**Pn**	**14 52 24.9**	**0.0**
PB04				*i*S	**Sn**	**14 53 00.6**	**-2.1**
PB04				IAML		14 53 03.9	
	comp=E,502nm,0.2s						
MNMC	**Minye Minye**	**3.11**	**314**	⇓*iP*	**Pn**	**14 52 28.5**	**+1.0**
MNMC				*i*S	**Sn**	**14 53 07.5**	**+0.3**
MNMC				IAML		14 53 09.5	
	comp=E,611nm,0.2s						
PSGC	**Pisagua**	**3.21**	**301**	⇑*iP*	**Pn**	**14 52 27.8**	**-0.7**
PSGC				*i*S	**Sn**	**14 53 06.7**	**-2.4**
PSGC				IAML		14 53 09.7	
	comp=N,178nm,0.4s						
AZAP	**Zapla**	**3.52**	**146**	*eP*	**Pn**	**14 52 32.5**	**+0.2**
AZAP				*eS*	**Sn**	**14 53 14.7**	**-1.5**
ANCH	**Antofagasta**	**3.78**	**231**	⇑*iP*	**Pn**	**14 52 35.9**	**+0.6**
ANCH				*i*S	**Sn**	**14 53 18.9**	**-2.6**
LPAZ	**La Paz**	**5.06**	**350**	P	**Pn**	**14 52 53.7**	**+1.5**
	comp=N,1.1nm,0.3s,baz=172,slow=7.1,SNR=19						
LPAZ				S	**Sn**	**14 53 51.3**	**-0.4**
	comp=N,0.3nm,0.3s,baz=300,slow=18,SNR=6.1						
SIV	**San Ignacio**	**7.87**	**49**	P	**Pn**	**14 53 26.6**	**-1.5**
	comp=N,1.9nm,0.3s,baz=249,slow=8.6,SNR=22						
PLCA	**Paso Flores**	**19.57**	**188**	P	**P**	**14 55 51.6**	**+2.1**
	comp=N,0.2nm,0.3s,baz=4.1,slow=12,SNR=4.0						
PTGA	**Pitinga**	**21.64**	**20**	P	**P**	**14 56 10.2**	**-1.3**
	comp=N,1.3nm,0.3s,baz=221,slow=11,SNR=4.6						
TORD	**Torodi Ar. Bea**	**75.81**	**70**	P	**P**	**15 03 01.3**	**-0.1**
	comp=N,1.6nm,0.6s,baz=256,slow=5.3,SNR=15						
ASAR	**Alice Springs**	**130.79**	**206**	PKP	**PKPdf**	**15 10 25.4**	**+0.3**
	comp=N,0.3nm,0.8s,baz=126,slow=1.9,SNR=4.5						

*GEN **08** 15:02:25.0, 44.°72N×10.°31E, h4km, ML2.8*
*ROM **08** 15:02:25.9±0.1, 44.°63N×10.°24E, h21km±1km, Md2.9/38, Ml2.8/37, Error ellipse: s-maj=1.5km s-min=1.4km az=106.0*
*ISCJB **08** 15:02:26.2±0.2, 44.°63N±0.°01×10.°24E±0.°02, h23km±2km, Error ellipse: s-maj=2.6km s-min=2.2km az=40.7*
*CSEM **08** 15:02:26.2±0.1, 44.°63N×10.°26E, h20km, ML3.5/22, Error ellipse: s-maj=2.4km s-min=2.2km az=110.0*
*LDG **08** 15:02:27.1±0.2, 44.°59N×10.°38E, h20km, Md2.9/2, Ml3.1/4, Error ellipse: s-maj=4.7km s-min=3.6km az=79.0*
ISC 08 15:02:25.9±0.8, 44.°62N±0.°01×10.°25E±0.°01, h17km±6km, n146, σ1.°10/215, 2C, Northern Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PRMA	**PARMA**	**0.15**	**17**	Pg	**Pb**	**15 02 29.8**	**-0.4**
PRMA				Sg	**Sg**	**15 02 34.0**	**+1.2**
	6μm,0.9s						
PRMA	**PARMA**	**0.15**	**17**	Pg	**Pb**	**15 02 29.8**	**-0.4**
PRMA				Sg	**Sg**	**15 02 34.0**	**+1.2**
	6μm,0.9s						
GRAM	**Graiana**	**0.19**	**226**	P	**Pb**	**15 02 30.5**	**-0.4**
GRAM				S	**Sg**	**15 02 34.7**	**+0.9**
CODM	**Codolo**	**0.37**	**231**	P	**Pg**	**15 02 33.3**	**-0.3**
CODM				S	**Sb**	**15 02 40.6**	**+1.1**
NOVE	**Novellara**	**0.37**	**62**	Pg	**Pg**	**15 02 33.6**	**0.0**
NOVE				Sg	**Sb**	**15 02 40.9**	**+1.4**
	1μm,0.3s						
NOVE	**Novellara**	**0.37**	**62**	Pg	**Pg**	**15 02 33.6**	**0.0**
NOVE				Sg	**Sb**	**15 02 40.9**	**+1.4**
	1μm,0.3s						
SARO	**Sassorosso**	**0.45**	**166**	P	**Pg**	**15 02 34.8**	**-0.2**
SARO				S	**Sb**	**15 02 42.3**	**+0.5**
VLC	**Villacollemand**	**0.47**	**168**	Pg	**Pg**	**15 02 35.3**	**-0.1**
VLC				Sg	**Sg**	**15 02 42.6**	**+0.8**
	1μm,0.6s						
VLC	**Villacollemand**	**0.47**	**168**	Pg	**Pg**	**15 02 35.3**	**-0.1**
VLC				Sg	**Sg**	**15 02 42.6**	**+0.8**
	1μm,0.6s						
SC2M	**Scurtabo**	**0.56**	**247**	Pg	**Pb**	**15 02 36.7**	**-0.5**
SC2M				Sg	**Sg**	**15 02 45.2**	**+0.7**
	1μm,0.3s						
SC2M	**Scurtabo**	**0.56**	**247**	P	**Pb**	**15 02 36.3**	**-0.9**
SC2M	**Scurtabo**	**0.56**	**247**	Pg	**Pb**	**15 02 36.7**	**-0.5**
SC2M				Sg	**Sg**	**15 02 45.2**	**+0.7**
	1μm,0.3s						
ZCCA	**Zocca**	**0.58**	**117**	Pg	**Pg**	**15 02 38.6**	**+1.1**
ZCCA				Sg	**Sb**	**15 02 45.8**	**+0.2**
	243nm,0.6s						
ZCCA	**Zocca**	**0.58**	**117**	Pg	**Pg**	**15 02 38.6**	**+1.1**
ZCCA				Sg	**Sb**	**15 02 45.8**	**+0.2**
	243nm,0.6s						
BOB	**Bobbio (Coli)**	**0.59**	**284**	Pg	**Pb**	**15 02 37.8**	**0.0**
BOB				Sg	**Sg**	**15 02 46.4**	**+0.8**
	403nm,0.5s						
BOB	**Bobbio (Coli)**	**0.59**	**284**	Pg	**Pb**	**15 02 37.8**	**0.0**
BOB				Sg	**Sg**	**15 02 46.4**	**+0.8**
	403nm,0.5s						
MSSA	**Maissana**	**0.61**	**240**	Pg	**Pb**	**15 02 37.2**	**-0.9**
MSSA				Sg	**Sb**	**15 02 45.8**	**-0.6**
	242nm,0.3s						
MSSA	**Maissana**	**0.61**	**240**	Pg	**Pb**	**15 02 37.2**	**-0.9**
MSSA				Sg	**Sb**	**15 02 45.8**	**-0.6**
	242nm,0.3s						
BDI	**Bagni Di Lucca**	**0.61**	**156**	Pg	**Pb**	**15 02 37.7**	**-0.4**
BDI				Sg	**Sg**	**15 02 47.0**	**+0.8**
	609nm,0.6s						
BDI	**Bagni Di Lucca**	**0.61**	**156**	Pg	**Pb**	**15 02 37.7**	**-0.4**
BDI				Sg	**Sg**	**15 02 47.0**	**+0.8**
	609nm,0.6s						
POPM	**Popiglio**	**0.68**	**148**	P	**Pb**	**15 02 39.2**	**-0.1**
POPM				S	**Sb**	**15 02 48.4**	**0.0**
MAIM	**Mastiano**	**0.73**	**166**	Pg	**Pb**	**15 02 39.4**	**-0.6**
MAIM				Sg	**Sb**	**15 02 49.6**	**-0.1**
	209nm,0.5s						
MAIM	**Mastiano**	**0.73**	**166**	P	**Pb**	**15 02 39.5**	**-0.6**
MAIM				Sg	**Sb**	**15 02 49.6**	**-0.1**
	209nm,0.5s						
MAIM				S	**Sg**	**15 02 50.6**	**+0.8**
FNVD	**Fontana Vidola**	**0.77**	**126**	Pg	**Pb**	**15 02 40.9**	**+0.1**
	216nm,0.5s						
FNVD	**Fontana Vidola**	**0.77**	**126**	Pg	**Pb**	**15 02 40.9**	**+0.1**
	216nm,0.5s						
PTF	**Prato**	**0.89**	**138**	Pg	**Pb**	**15 02 42.7**	**0.0**
PTF	**Prato**	**0.89**	**138**	Pg	**Pb**	**15 02 42.7**	**0.0**
MTRZ	**Monterenzio**	**0.90**	**105**	Pg	**Pn**	**15 02 44.9**	**+1.1**
MTRZ	**Monterenzio**	**0.90**	**105**	Pg	**Pn**	**15 02 44.9**	**+1.1**
SEI	**Scarperia**	**0.97**	**125**	Pg	**Pb**	**15 02 44.6**	**+0.3**
SEI				Sg	**Sg**	**15 02 58.0**	**+0.4**
SEI	**Scarperia**	**0.97**	**125**	Pg	**Pb**	**15 02 44.6**	**+0.3**
SEI				Sg	**Sg**	**15 02 58.0**	**+0.4**
CRMI	**Carmignano**	**0.98**	**148**	Pg	**Pb**	**15 02 44.8**	**+0.5**
CRMI				Sg	**Sn**	**15 02 58.6**	**+0.3**
	158nm,0.8s						
CRMI	**Carmignano**	**0.98**	**148**	Pg	**Pb**	**15 02 44.8**	**+0.5**
CRMI				Sg	**Sn**	**15 02 58.6**	**+0.3**
	158nm,0.8s						
SALO	**Salr**	**1.01**	**11**	Pg	**Pb**	**15 02 44.9**	**-0.1**
SALO				Sg	**Sn**	**15 02 59.6**	**+0.4**
	731nm,0.6s						
SALO	**Salr**	**1.01**	**11**	Pg	**Pb**	**15 02 44.9**	**-0.1**
SALO				Sg	**Sn**	**15 02 59.6**	**+0.4**
	731nm,0.6s						
BALD	**Monte Baldo**	**1.13**

74nm,0.3s
MABI Malga Bissina 1.44 7 Pn **Pn** 15 02 50.8 -0.6
MABI Sn **Sn** 15 03 09.5 -0.5
74nm,0.3s
MUGIO Muggio 1.56 327 Pn **Pb** 15 02 54.2 0.0
72nm,0.4s
MUGIO Muggio 1.56 327 Pn **Pb** 15 02 54.2 0.0
72nm,0.4s
TRIF Trifonti 1.58 163 Pn **Pb** 15 02 54.4 -0.2
38nm,0.5s
TRIF Trifonti 1.58 163 Pn **Pb** 15 02 54.4 -0.2
38nm,0.5s
CRE Caprese Michel 1.58 129 Pn **Pb** 15 02 54.6 -0.1
55nm,0.7s
CRE Caprese Michel 1.58 129 Pn **Pb** 15 02 54.6 -0.1
55nm,0.7s
PANI Panarotta 1.62 28 *e*Pg **Pn** 15 02 53.1 -0.6
PANI Panarotta 1.62 28 *e*Pg **Pn** 15 02 53.2 -0.6
VARE Varese 1.63 320 Pn **Pn** 15 02 54.0 +0.2
117nm,0.6s
VARE Varese 1.63 320 Pn **Pn** 15 02 54.0 +0.2
117nm,0.6s
RORO Rocca Rossa 1.65 253 Pn **Pn** 15 02 54.0 0.0
34nm,0.3s
RORO Rocca Rossa 1.65 253 Pn **Pn** 15 02 54.0 0.0
34nm,0.3s
CGRP Cima Grappa 1.67 40 Pn **Pn** 15 02 53.7 -0.7
131nm,0.6s
CGRP Cima Grappa 1.67 40 *e*Pg **Pn** 15 02 54.0 -0.4
CGRP *e*Sg **Sn** 15 03 15.1 -0.3
CGRP Cima Grappa 1.67 40 Pn **Pn** 15 02 53.7 -0.7
131nm,0.6s
CGRP Cima Grappa 1.67 40 *e*Pg **Pn** 15 02 54.0 -0.4
CGRP *e*Sg **Sn** 15 03 15.1 -0.3
PARC Parchiule 1.73 124 Pn **Pb** 15 02 56.7 -0.4
PARC Parchiule 1.73 124 Pn **Pb** 15 02 56.7 -0.4
CAFI Castiglion Fio 1.79 136 Pn **Pn** 15 02 57.3 +1.4
38nm,0.8s
CAFI Castiglion Fio 1.79 136 Pn **Pn** 15 02 57.3 +1.4
38nm,0.8s
BERNI Berninapass 1.80 355 Pn **Pn** 15 02 56.4 +0.1
55nm,0.5s
BERNI Berninapass 1.80 355 Pn **Pn** 15 02 56.4 +0.1
55nm,0.5s
CARE Lago del Cares 1.83 10 *e*Pn **Pn** 15 02 56.5 -0.3
IMI Imperia 1.84 248 P **Pn** 15 02 56.6 -0.1
BRMO Bormio 1.85 3 Pn **Pn** 15 02 57.1 +0.1
34nm,0.7s
BRMO Bormio 1.85 3 Pn **Pn** 15 02 57.1 +0.1
34nm,0.7s
OZOL Ozolo 1.87 17 *e*Pn **Pn** 15 02 57.2 +0.1
TUE Stuetta 1.96 341 Pn **Pn** 15 02 58.6 +0.2
37nm,0.4s
TUE Stuetta 1.96 341 Pn **Pn** 15 02 58.6 +0.2
37nm,0.4s
PIEI Pieia 1.97 123 Pn **Pb** 15 03 00.9 -0.4
13nm,0.6s
APPI Appiano 1.98 20 Pn **Pn** 15 02 58.4 -0.2
2µm,2.9s
APPI Appiano 1.98 20 Pn **Pn** 15 02 58.4 -0.2
2µm,2.9s
TRAV Traversella 1.99 297 Pn **Pn** 15 02 57.7 -1.0
75nm,0.3s
TRAV Traversella 1.99 297 Pn **Pn** 15 02 57.7 -1.0
75nm,0.3s
ATVO AVT- Monte Val 1.99 128 Pn **Pn** 15 03 00.1 +1.4
42nm,0.8s
ATVO AVT- Monte Val 1.99 128 Pn **Pn** 15 03 00.1 +1.4
42nm,0.8s
NEGI Seborga 1.99 248 P **Pn** 15 02 58.9 +0.2
FUORN Ofenpass-Fuorn 2.00 0 Pn **Pn** 15 03 00.0 +1.0
48nm,0.9s
FUORN Ofenpass-Fuorn 2.00 0 Pn **Pn** 15 03 00.0 +1.0
48nm,0.9s
KOSI Kohlern 2.00 23 Pn **Pn** 15 02 58.7 -0.3
100nm,0.8s
KOSI Kohlern 2.00 23 Pn **Pn** 15 02 58.7 -0.3
100nm,0.8s
MOSI Grossmontoni 2.00 6 Pn **Pn** 15 02 59.7 +0.6
162nm,0.7s
MOSI Grossmontoni 2.00 6 Pn **Pn** 15 02 59.7 +0.6
162nm,0.7s
ENR Entracque 2.07 260 P **Pn** 15 03 01.2 +1.3
ENR S **Sn** 15 03 26.0 +0.7
SBF Sospel 2.16 250 *e*Pn **Pn** 15 03 01.6 +0.5
SBF Sospel 2.16 250 *e*Pn **Pn** 15 03 01.6 +0.5
DAVOX Davos/Dischmat 2.17 353 Pn **Pn** 15 03 02.3 +0.9
31nm,0.6s
DAVOX Davos/Dischmat 2.17 353 Pn **Pn** 15 03 02.3 +0.9
31nm,0.6s
PGF Pioggiola 2.27 204 *e*Pn **Pn** 15 03 02.8 +0.2
PGF Pioggiola 2.27 204 *e*Pn **Pn** 15 03 02.8 +0.2
CIMO Cimolais 2.28 42 *e*Pn **Pn** 15 03 01.8 -1.0
CIMO Cimolais 2.28 42 *e*Pn **Pn** 15 03 01.8 -1.0
MBDF Montbardon 2.49 274 *e*P **Pb** 15 03 08.6 -1.5
MBDF Montbardon 2.49 274 *e*P **Pb** 15 03 08.6 -1.5
LPG La Plagne 2.63 291 *e*Pn **Pb** 15 03 11.0 -1.7
LPG La Plagne 2.63 291 *e*Pn **Pb** 15 03 11.0 -1.7
LPL La Plagne 2.65 291 *e*P **Pb** 15 03 12.0 -1.0
DAVA Damuels 2.68 355 *e*Pn **Pn** 15 03 10.2 +1.9
4.5nm,0.1s,SNR=4.8
DAVA Damuels 2.68 355 Pn **Pn** 15 03 10.2 +1.9
4.5nm,0.1s,SNR=4.8
FRF La Foret Royal 2.81 249 *e*Pn **Pn** 15 03 10.2 +0.3
FRF *e*Sn **Sn** 15 03 43.6 +0.3
22nm,0.3s
FRF La Foret Royal 2.81 249 *e*Pn **Pn** 15 03 10.2 +0.3
FRF *e*Sn **Sn** 15 03 43.6 +0.3
11nm,0.3s
WTTA Wattenberg 2.81 20 *e*Pn **Pn** 15 03 11.4 +1.2
5.5nm,0.2s,SNR=5.7
WTTA Wattenberg 2.81 20 Pn **Pn** 15 03 11.4 +1.2
5.5nm,0.2s,SNR=5.7
SKDS Skadanscina 2.82 70 *i* Pn **Pn** 15 03 08.7 -1.4
SKDS *i* Sn **Sn** 15 03 40.9 -2.8
comp=Z,14nm,0.2s
SKDS Skadanscina 2.82 70 Pn **Pn** 15 03 08.7 -1.4
SKDS *i* Sn **Sn** 15 03 40.9 -2.8
comp=Z,14nm,0.2s
WATA Walderalm 2.87 18 *e*Pn **Pn** 15 03 12.3 +1.4
comp=Z,3.9nm,0.2s,SNR=6.9
WATA *e*Sn **Sn** 15 03 47.9 +2.9
comp=Z,7.4nm,0.3s
WATA Walderalm 2.87 18 Pn **Pn** 15 03 12.3 +1.4
comp=Z,3.9nm,0.2s,SNR=6.9
WATA Sn **Sn** 15 03 47.9 +2.9
comp=Z,7.4nm,0.3s
LMR La Mourre 3.00 246 *e*Pn **Pn** 15 03 12.5 0.0
LMR *e*Sn **Sn** 15 03 47.3 -0.6
comp=Z,23nm,0.4s
LMR La Mourre 3.00 246 *e*Pn **Pn** 15 03 12.5 0.0
LMR *e*Sn **Sn** 15 03 47.3 -0.6
comp=Z,12nm,0.4s
ORIF Oris-en-Rattie 3.13 277 *e*P **Pn** 15 03 18.1 +3.7
ORIF Oris-en-Rattie 3.13 277 *e*P **Pn** 15 03 18.1 +3.7
NVLJ Novalja 3.30 89 *e*Pn **Pn** 15 03 16.0 -0.6
NVLJ Sn **Sn** 15 03 52.7 -2.7
NVLJ Novalja 3.30 89 *e*Pn **Pn** 15 03 16.0 -0.6
NVLJ Sn **Sn** 15 03 52.7 -2.7
SMRF Simiane la Rot 3.42 261 *e*Pn **Pn** 15 03 20.7 +2.3
SMRF Simiane la Rot 3.42 261 *e*Pn **Pn** 15 03 20.7 +2.3
UDBI Udbina 3.94 89 *e*Pn **Pn** 15 03 25.9 +0.4
UDBI Sn **Sn** 15 04 09.8 -1.6
UDBI Udbina 3.94 89 *e*Pn **Pn** 15 03 25.9 +0.4
UDBI Sn **Sn** 15 04 09.7 -1.6
HINF Hinteralfeld 3.97 325 *e*Sn **Sn** 15 04 11.4 -0.7
comp=Z,6.0nm,0.3s
HINF Hinteralfeld 3.97 325 *e*Sn **Sn** 15 04 11.4 -0.7
comp=Z,3.0nm,0.3s
HAU Haudompre 4.33 323 *e*Pn **Pn** 15 03 30.9 0.0
HAU *e*Sn **Sn** 15 04 19.9 -1.1
comp=Z,8.3nm,0.3s
HAU Haudompre 4.33 323 *e*Pn **Pn** 15 03 30.9 0.0
HAU *e*Sn **Sn** 15 04 19.9 -1.1
comp=Z,4.2nm,0.3s
KHC Kasperske Hory 5.05 26 *e*PN **Pn** 15 03 40.1 -0.7
KHC *e*PB **Pb** 15 03 53.2 -0.6
KHC *e*SN **Sn** 15 04 35.1 -3.6
KHC *e*SB **Sb** 15 05 00.6 +6.4
KHC Kasperske Hory 5.05 26 Pn **Pn** 15 03 40.1 -0.7
KHC Sn **Sn** 15 04 35.1 -3.6
AVF Avril sur Loir 5.30 297 *e*Pn **Pn** 15 03 44.7 +0.6
AVF Avril sur Loir 5.30 297 *e*Pn **Pn** 15 03 44.7 +0.6
BGF Bois d'Agland 5.55 293 *e*Pn **Pn** 15 03 47.9 +0.3
BGF Bois d'Agland 5.55 293 *e*Pn **Pn** 15 03 47.9 +0.3

SGMF Saint Gilles 9.56 297 *e*P Pn 15 04 48.2 +5.6

*ROM **08** 15:09:55.9±0.1,44°.63N×10°.26E,h20km±3km,MI2.5/8, Error ellipse: s-maj=2.8km s-min=1.6km az=110.0*
*CSEM **08** 15:09:55.9±0.2,44°.62N×10°.28E,h20km,ML3.5/4,Error ellipse: s-maj=4.3km s-min=3.2km az=93.0*
*ISCJB **08** 15:09:56.1±0.4,44°.62N±0°.03×10°.29E±0°.05,h25km±5km, Error ellipse: s-maj=6.1km s-min=4.4km az=173.3*
ISC 08 15:09:55.8±0.9,44°.60N±0°.02×10°.28E±0°.03,h18km±3km, n37,σ1ş02/58,Northern Italy

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PRMA	**PARMA**	**0.17**	**7**	Pg	**Pb**	**15 09 59.7**	**-0.1**
PRMA				Sg	**Sg**	**15 10 03.6**	**+0.1**
	3µm,0.6s						
PRMA	**PARMA**	**0.17**	**7**	Pg	**Pb**	**15 09 59.7**	**-0.1**
PRMA				Sg	**Sg**	**15 10 03.6**	**+0.1**
	3µm,0.6s						
NOVE	**Novellara**	**0.37**	**56**	Pg	**Pg**	**15 10 03.7**	**+0.1**
NOVE	**Novellara**	**0.37**	**56**	Pg	**Pg**	**15 10 03.7**	**+0.1**
SARO	**Sassorosso**	**0.42**	**168**	P	**Pg**	**15 10 04.8**	**+0.3**
SARO				S	**Sb**	**15 10 12.2**	**+1.4**
VLC	**Villacollemand**	**0.44**	**170**	Pg	**Pg**	**15 10 05.2**	**+0.3**
VLC				Sg	**Sb**	**15 10 13.1**	**+1.7**
VLC	**Villacollemand**	**0.44**	**170**	Pg	**Pg**	**15 10 05.2**	**+0.3**
VLC				Sg	**Sb**	**15 10 13.1**	**+1.7**
ZCCA	**Zocca**	**0.55**	**116**	Pg	**Pn**	**15 10 08.5**	**-0.3**
	64nm,0.5s						
ZCCA	**Zocca**	**0.55**	**116**	Pg	**Pn**	**15 10 08.5**	**-0.3**
	64nm,0.5s						
SC2M	**Scurtabo**	**0.57**	**251**	Pg	**Pb**	**15 10 06.7**	**-0.5**
SC2M				Sg	**Sb**	**15 10 16.2**	**+1.2**
	339nm,0.3s						
SC2M	**Scurtabo**	**0.57**	**251**	Pg	**Pb**	**15 10 06.7**	**-0.5**
SC2M				S	**Sb**	**15 10 15.9**	**+0.9**
SC2M				Sg	**Sb**	**15 10 16.2**	**+1.2**
	339nm,0.3s						
BDI	**Bagni Di Lucca**	**0.58**	**157**	Pg	**Pg**	**15 10 07.8**	**+0.4**
BDI				Sg	**Sn**	**15 10 17.4**	**-0.8**
BDI	**Bagni Di Lucca**	**0.58**	**157**	Pg	**Pg**	**15 10 07.8**	**+0.4**
BDI				Sg	**Sn**	**15 10 17.4**	**-0.8**
MSSA	**Maissana**	**0.62**	**243**	Pg	**Pb**	**15 10 07.9**	**-0.2**
	71nm,0.3s						
MSSA	**Maissana**	**0.62**	**243**	Pg	**Pb**	**15 10 07.9**	**-0.2**
	71nm,0.3s						
BOB	**Bobbio (Coli)**	**0.62**	**286**	Pg	**Pg**	**15 10 08.2**	**0.0**
BOB	**Bobbio (Coli)**	**0.62**	**286**	Pg	**Pg**	**15 10 08.2**	**0.0**
POPM	**Popiglio**	**0.65**	**148**	P	**Pb**	**15 10 08.7**	**+0.2**
POPM				S	**Sb**	**15 10 17.2**	**0.0**
FNVD	**Fontana Vidola**	**0.74**	**125**	Pg	**Pg**	**15 10 10.9**	**+0.6**
	69nm,0.5s						
FNVD	**Fontana Vidola**	**0.74**	**125**	Pg	**Pg**	**15 10 10.9**	**+0.6**
	69nm,0.5s						
SALO	**Salr**	**1.04**	**9**	Pg	**Pb**	**15 10 15.3**	**0.0**
SALO	**Salr**	**1.04**	**9**	Pg	**Pb**	**15 10 15.3**	**0.0**
ROVR	**Rover¯¤ Verone**	**1.19**	**28**	Pg	**Pn**	**15 10 17.1**	**-0.6**
ROVR				Sg	**Sn**	**15 10 33.8**	**+0.3**
	211nm,0.4s						
ROVR	**Rover¯¤ Verone**	**1.19**	**28**	Pg	**Pn**	**15 10 17.1**	**-0.6**
ROVR				Sg	**Sn**	**15 10 33.8**	**+0.3**
	211nm,0.4s						
MAGA	**Magasa**	**1.21**	**12**	Pg	**Pn**	**15 10 17.2**	**-0.7**
MAGA				Sg	**Sn**	**15 10 33.6**	**-0.2**
	264nm,0.5s						
MAGA	**Magasa**	**1.21**	**12**	Pg	**Pn**	**15 10 17.2**	**-0.7**
MAGA				Sg	**Sn**	**15 10 33.6**	**-0.2**
	264nm,0.5s						
MABI	**Malga Bissina**	**1.47**	**6**	Pg	**Pn**	**15 10 20.8**	**-0.8**
	22nm,0.3s						
MABI	**Malga Bissina**	**1.47**	**6**	Pg	**Pn**	**15 10 20.8**	**-0.8**
	22nm,0.3s						
APPI	**Appiano**	**2.00**	**19**	Pg	**Pn**	**15 10 28.6**	**-0.2**
APPI	**Appiano**	**2.00**	**19**	Pg	**Pn**	**15 10 28.6**	**-0.2**
FETA	**Feichten**	**2.45**	**7**	Pn	**Pn**	**15 10 36.9**	**+1.9**
	0.5nm,0.1s						
FETA				*i* Sn	**Sb**	**15 11 11.2**	**+2.0**
	1.3nm,0.3s						
FETA	**Feichten**	**2.45**	**7**	Pn	**Pn**	**15 10 36.9**	**+1.9**
	0.5nm,0.1s						
ABTA	**Abfaltersbach**	**2.66**	**35**	Pg	**Pb**	**15 10 44.8**	**+1.8**
	1.7nm,0.3s						
ABTA				*i* Sn	**Sb**	**15 11 15.3**	**0.0**
	1.9nm,0.3s						
NVLJ	**Novalja**	**3.28**	**89**	*e*Pn	**Pn**	**15 10 45.5**	**-0.8**
NVLJ				Sn	**Sn**	**15 11 22.9**	**-1.9**
NVLJ	**Novalja**	**3.28**	**89**	*e*Pn	**Pn**	**15 10 45.4**	**-0.8**
NVLJ				Sn	**Sn**	**15 11 22.8**	**-1.9**
KHC	**Kasperske Hory**	**5.07**	**25**	*e*PN	**Pn**	**15 11 09.9**	**-1.0**
KHC				*ex*	x	15 11 13.8	
KHC				*e*SN	**Sn**	**15 12 06.4**	**-2.6**
KHC	**Kasperske Hory**	**5.07**	**25**	Pn	**Pn**	**15 11 09.9**	**-1.0**
KHC				Sn	**Sn**	**15 12 06.4**	**-2.6**

IDC 08 15:10:46.8±1.7,5°.64S×145°.82E,h0km,mb3.3/2, mb1 3.7/4,mb1mx3.5/31,mbtmp3.5/4,ML2.8/2,Error ellipse: s-maj=58.4km s-min=28.2km az=111.0,Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**3.97**	**161**	Pn	Pn	15 11 50.0	+1.0
	6.3nm,0.3s,baz=291,slow=9.1,SNR=28						
PMG				Sn	Sn	15 12 29.1	-7.2
	5.0nm,0.3s,baz=12,slow=9.5,SNR=3.6						
WRA	**Warramunga Arr**	**18.07**	**217**	P	Pn	15 14 58.6	-1.0
	0.1nm,0.3s,baz=44,slow=12,SNR=4.6						
ASAR	**Alice Springs**	**21.28**	**211**	P	P	15 15 34.7	-0.4
	0.5nm,0.6s,baz=35,slow=12,SNR=8.7						
ILAR	**Eielson Array**	**85.62**	**23**	P	P	15 23 27.2	+0.2
	0.3nm,0.6s,baz=257,slow=4.9,SNR=6.5						

*ISCJB **08** 15:19:45.0±0.3,13°.36N±0°.03×120°.68E±0°.04,h80km±3km, mb4.5/31,Error ellipse: s-maj=6.0km s-min=4.9km az=172.2*
*MAN **08** 15:19:45,13°.42N×120°.59E,h55km,mb4.6,ML3.5,MS3.4*
*IDC **08** 15:19:46.2±0.8,13°.58N×121°.04E,h87km±7km,mb3.8/7, mb1 3.9/7,mb1mx3.4/43,mbtmp4.1/7,Error ellipse: s-maj=42.6km s-min=14.7km az=61.0*
*NEIC **08** 15:19:47.0±0.6,13°.49N×120°.89E,h92km±6km,mb4.7/17, Error ellipse: s-maj=8.5km s-min=4.8km az=69.0*
ISC 08 15:19:46.5±0.6,13°.42N±0°.04×120°.66E±0°.04,h76km±4km, n72,σ1ş51/87,mb4.5/31,5C-3D,Mindoro

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PGP	**Puerto Galera**	**0.30**	**74⇑**	*e*P	**Pn**	**15 19 56.7**	**-1.7**
PGP				*i* S	**Sn**	**15 20 05.1**	**-2.1**
LUBP	**Lubang**	**0.51**	**308**	*e*P	**Pn**	**15 19 59.0**	**-1.0**
LUBP				*e*S	**Sn**	**15 20 07.9**	**-2.0**
TGY	**Tagaytay City**	**0.73**	**22**	P	**Pn**	**15 20 01.9**	**-0.4**
	790nm,0.3s,baz=22,slow=18,SNR=41						
TGY				S	**Sn**	**15 20 13.8**	**-0.2**
	2µm,0.3s,baz=288,slow=20,SNR=76						
TGY	**Tagaytay City**	**0.73**	**22⇑**	*i* P	**Pn**	**15 20 02.1**	**-0.2**
TGY				*i* S	**Sn**	**15 20 13.9**	**-0.2**
LQP	**Lukban**	**1.10**	**51⇑**	*e*P	**Pn**	**15 20 06.8**	**0.0**
LQP				*e*S	**Sn**	**15 20 20.8**	**-1.2**
BOAC	**Boac**	**1.16**	**88**	*e*P	**Pn**	**15 20 07.1**	**-0.2**
BOAC				*e*S	**Sn**	**15 20 22.5**	**-0.3**
GQP	**Guinayangan**	**1.81**	**74⇓**	*e*P	**Pn**	**15 20 16.0**	**+0.3**
GQP				*e*S	**Sn**	**15 20 39.8**	**+1.9**
AUQP	**San Andres**	**1.97**	**93**	*e*P	**Pn**	**15 20 19.5**	**+1.7**
PCPH	**Palayan**	**2.17**	**11⇑**	*e*P	**Pn**	**15 20 19.8**	**-0.8**
PCPH				*e*S	**Sn**	**15 20 46.8**	**+0.1**
ENPP	**El Nido**	**2.51**	**209**	*e*P	**Pn**	**15 20 24.6**	**-0.5**
RCP	**Roxas**	**2.75**	**132⇑**	*e*P	**Pn**	**15 20 29.2**	**+0.8**
BOLP	**Bolinao**	**3.03**	**346**	*e*P	**Pn**	**15 20 31.9**	**-0.4**
CAUP	**Cauayan**	**3.68**	**18**	*e*P	**Pn**	**15 20 42.3**	**+1.2**
PPR	**Puerto Princes**	**4.08**	**208⇓**	*e*P	**Pn**	**15 20 46.0**	**-0.5**
PPR				*e*S	**Sn**	**15 21 30.9**	**-2.2**
MYLDM	**Lahad Datu**	**8.46**	**195**	*e*Pn	**Pn**	**15 21 50.1**	**+3.8**
SBUM	**Sibu**	**13.72**	**218**	*e*P	**P**	**15 23 06.7**	**+2.9**
JOW	**Kunigami**	**15.13**	**27**	*e*P	**P**	**15 23 18.3**	**-1.2**
	33nm,1.1s						
GYA	**Guiyang**	**18.45**	**317**	*e*P	**Pn**	**15 23 59.0**	**+1.8**
GYA				pP	pP	15 24 13.6	+2.0
GYA				PP	**sP**	**15 24 18.4**	**-2.9**
GYA				S	**S**	**15 27 20.2**	**-2.2**
GYA				sS	sS	15 27 44.0	-4.1
GYA				pmax	pmax		
	comp=Z,10.0nm,0.7s						
GYA				pmax	pmax		
	comp=Z,110nm,4.8s						
KMI	**Kunming**	**20.50**	**307**	P	Pn	15 24 21.1	-0.5
KMI				pmax	pmax		
	comp=Z,5.0nm,0.7s						
KMI				pmax	pmax		
	comp=Z,80nm,4.1s						
CM01	**Chiang Mai Arr**	**21.44**	**286**	*e*P	**P**	**15 24 30.7**	**+2.0**
CMAR	**Chiang Mai Arr**	**21.46**	**286**	P	**P**	**15 24 30.8**	**+2.0**
	comp=Z,2.7nm,0.9s,baz=97,slow=8.4,SNR=15						
CHTO	**Chiang Mai**	**21.53**	**287**	*e*P	**P**	**15 24 30.9**	**+1.3**
	comp=Z,4.5nm,1.1s						
XAN	**Xi'an**	**23.13**	**335**	P	**P**	**15 24 45.2**	**-1.1**
XAN				pP	pP	15 25 05.2	+2.8
XAN				pmax	pmax		
	comp=Z,7.0nm,0.6s						
XAN				pmax	pmax		
	comp=Z,87nm,6.4s						
CD2	**Chengdu**	**23.35**	**321⇓**	*i* P	**P**	**15 24 49.0**	**+0.6**
CD2				pP	pP	15 25 09.2	+4.4
CD2				sP	sP	15 25 20.7	+6.4
CD2				pmax	pmax		
	comp=Z,30nm,1.0s						
PSI	**Prapat**	**23.93**	**246**	*e*P	**P**	**15 24 54.1**	**+0.2**
	comp=Z,38nm,2.0s						
CBIJ	**Chichi jima**	**24.30**	**53**	*e*P	**P**	**15 24 53.9**	**-3.0**
	comp=Z,54nm,0.9s						
KS15	**Wonju Array Si**	**24.78**	**14**	*e*P	**P**	**15 25 00.4**	**-0.7**
KS01	**Wonju Array Si**	**24.82**	**14**	*e*P	**P**	**15 25 00.4**	**-1.1**
BJI	**Beijing**	**26.81**	**352**	P	**P**	**15 25 19.0**	**-0.5**
BJI				S	**S**	**15 29 50.0**	**-0.1**
BJI				sS	**sS**	**15 30 26.1**	**+5.1**
BJI				pmax	pmax		
	comp=Z,5.0nm,0.8s						
BJI				LR	LR		
	comp=N,320nm,17.4s						
BJI				LR	LR		
	comp=E,640nm,17.8s						
BJI				LR	LR		
	comp=Z,540nm,22.0s						
LZH	**Lanzhou**	**27.16**	**329**	*e*P	**P**	**15 25 23.5**	**+0.6**
LZH				pP	pP	15 25 44.3	+3.6
LZH				sP	sP	15 25 56.0	+6.3
LZH				PP	**PnPn**	**15 26 13.6**	**+3.3**
LZH				pmax	pmax		
	comp=Z,21nm,1.0s						
LZH				pmax	pmax		
	comp=Z,75nm,4.9s						
LZH				LR	LR		
	comp=N,280nm,12.3s						
LZH				LR	LR		
	comp=E,290nm,12.9s						
LZH				LR	LR		
	comp=Z,350nm,15.2s						
MTN	**Manton Dam**	**28.08**	**158**	*e*P	**P**	**15 25 31.1**	**0.0**
	comp=Z,16nm,1.3s						
HHC	**Hu-ho-hao-te**	**28.46**	**345**	*e*P	**P**	**15 25 35.3**	**+0.9**
HHC				pmax	pmax		
	comp=Z,18nm,1.0s						
HHC				pmax	pmax		
	comp=Z,120nm,5.3s						
LSA	**Lhasa**	**31.74**	**305**	*e*P	**P**	**15 26 04.9**	**+1.0**
	comp=Z,5.7nm,0.6s						
TAPN	**Taplejung**	**33.73**	**299**	*e*P	**P**	**15 26 21.8**	**+0.7**
	comp=Z,18nm,0.7s						
ODAN	**Odare**	**33.86**	**298**	*e*P	**P**	**15 26 22.7**	**+0.5**
	comp=Z,49nm,0.7s						
RAMN	**Ramite**	**34.56**	**298**	*e*P	**P**	**15 26 29.0**	**+0.7**
	comp=Z,42nm,0.7s						
JIRN	**Jiri**	**35.11**	**299**	*e*P	**P**	**15 26 33.9**	**+0.8**
	comp=Z,75nm,0.8s						
GUN	**Gumba**	**35.45**	**299**	*e*P	**P**	**15 26 36.6**	**+0.6**
	comp=Z,39nm,0.7s						
PKI	**Pulchoki**	**35.75**	**299**	*e*P	**P**	**15 26 38.5**	**-0.1**
	comp=Z,25nm,0.9s						
PKIN	**Phulchoki**	**35.76**	**299**	*e*P	**P**	**15 26 38.5**	**-0.1**
	comp=Z,20nm,0.8s						
WRA	**Warramunga Arr**	**35.78**	**158**	P	**P**	**15 26 36.7**	**-1.8**
	comp=Z,1.4nm,0.5s,baz=335,slow=9.7,SNR=13						
WB2	**Warramunga Arr**	**35.78**	**158**	*e*P	**P**	**15 26 36.5**	**-2.0**
	comp=Z,35nm,1.9s						
WC3	**Warramunga Arr**	**35.81**	**158**	*e*P	**P**	**15 26 37.6**	**-1.1**
	comp=Z,8.3nm,1.2s						
KKN	**Kakani**	**35.92**	**299**	*e*P	**P**	**15 26 40.1**	**+0.2**
	comp=Z,27nm,0.9s						
DMN	**Daman**	**36.02**	**299**	*e*P	**P**	**15 26 40.8**	**0.0**
	comp=Z,36nm,1.0s						
SONM	**Songino Array**	**36.31**	**344**	P	**P**	**15 26 42.1**	**-0.8**
	comp=Z,2.2nm,0.7s,baz=160,slow=9.1,SNR=8.4						
SONA1	**Songino Array**	**36.32**	**344**	*e*P	**P**	**15 26 42.3**	**-0.7**
GKN	**Gorkha**	**36.52**	**299**	*e*P	**P**	**15 26 44.8**	**-0.2**
	comp=Z,24nm,1.1s						
KOLN	**Koldanda**	**37.35**	**298**	*e*P	**P**	**15 26 51.9**	**-0.2**
	comp=Z,9.4nm,0.8s						
PYUN	**Piuthan**	**37.95**	**299**	*e*P	**P**	**15 26 57.2**	**0.0**
	comp=Z,29nm,0.9s						
AS31	**Alice Springs**	**39.07**	**161**	*e*P	**P**	**15 27 05.5**	**-0.8**
	comp=Z,1.0nm,0.6s						
ASAR	**Alice Springs**	**39.07**	**161**	P	**P**	**15 27 05.5**	**-0.8**
	comp=Z,1.1nm,0.5s,baz=339,slow=7.0,SNR=32						
ASAR				PcP	**PcP**	**15 29 13.4**	**-1.6**
	comp=Z,0.3nm,0.8s,baz=336,slow=3.0,SNR=3.3						
AS01	**Alice Springs**	**39.08**	**160**	*e*P	**P**	**15 27 05.6**	**-0.8**
WMQ	**Urumqi**	**41.41**	**323**	P	**P**	**15 27 25.6**	**+0.2**
WMQ				pP	pP	15 27 47.7	+3.7
WMQ				pmax	pmax		
	comp=Z,12nm,0.7s						
WMQ				pmax	pmax		
	comp=Z,150nm,5.3s						
WMQ				LR	LR		
	comp=N,110nm,26.5s						
WMQ				LR	LR		
	comp=E,140nm,24.5s						
WMQ				LR	LR		
	comp=Z,85nm,28.5s						
CTAO	**Charters Tower**	**41.75**	**142**	*e*P	**P**	**15 27 26.8**	**-1.7**
	comp=Z,12nm,1.3s						
NWAO	**Narrogin (SRO)**	**46.20**	**184**	*e*P	**P**	**15 28 03.2**	**-0.7**
	comp=Z,49nm,1.5s						
MK01	**Makanchi Array**	**46.22**	**324**	*e*P	**P**	**15 28 04.2**	**+0.3**
MK31	**Makanchi Array**	**46.23**	**324**	*e*P	**P**	**15 28 04.2**	**+0.1**
MKAR	**Makanchi Array**	**46.23**	**324**	*e*P	**P**	**15 28 04.3**	**+0.3**
	comp=Z,30nm,0.8s						
MAKZ	**Makanchi**	**46.42**	**324**	*e*P	**P**	**15 28 05.1**	**-0.4**
	comp=Z,3.8nm,0.7s						
KSH	**Kashi**	**47.06**	**312**	*e*P	**P**	**15 28 13.3**	**+2.6**
KSH				sP	sP	15 28 48.0	+10
KSH				PP	**PP**	**15 30 06.1**	**+4.0**
KSH				S	**S**	**15 34 58.4**	**+1.2**
KSH				sS	sS	15 35 38.6	+9.2
KSH	**Kashi**	**47.06**	**312**	SS	SS	15 38 21.7	-3.3
KSH				pmax	pmax		
	comp=Z,11nm,1.5s						
KSH				pmax	pmax		
	comp=Z,74nm,4.1s						
KSH				LR	LR		
	comp=N,79nm,4.5s						
KSH				LR	LR		
	comp=E,130nm,5.1s						

Error ellipse: s-maj=1.5km s-min=1.3km az=174.0
*CSEM **08** 15:23:20.0±0.1, 44°.63N×10°.27E, h20km, ML3.9/12, Error ellipse: s-maj=2.9km s-min=2.5km az=120.0*
*ISCJB **08** 15:23:20.0±0.2, 44°.62N±0°.02×10°.28E±0°.02, h25km±2km, Error ellipse: s-maj=3.0km s-min=2.7km az=138.8*
*PRU **08** 15:23:20.0, 44°.66N×10°.57E, h0km*
*LDG **08** 15:23:20.1±0.5, 44°.68N×10°.20E, h20km, Ml3.2/11, Error ellipse: s-maj=11.3km s-min=9.7km az=33.0*

ISC 08 15:23:19.3±0.9, 44°.63N±0°.02×10°.20E±0°.02, h25km±5km, n115, σ1§66/168, 2C, Northern Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PRMA	**PARMA**	**0.16**	**32**	Pg	**Pb**	**15 23 23.9**	**-0.6**
PRMA				Sg	**Sb**	**15 23 28.3**	**+0.3**
	5μm,0.5s						
PRMA	**PARMA**	**0.16**	**32**	Pg	**Pb**	**15 23 23.9**	**-0.6**
PRMA				Sg	**Sb**	**15 23 28.3**	**+0.3**
	5μm,0.5s						
GRAM	**Graiana**	**0.17**	**214**	P	**Pb**	**15 23 24.4**	**-0.2**
GRAM				S	**Sb**	**15 23 28.6**	**+0.4**
CODM	**Codolo**	**0.34**	**226**	P	**Pb**	**15 23 27.4**	**+0.4**
CODM				S	**Sb**	**15 23 33.7**	**+1.5**
NOVE	**Novellara**	**0.41**	**65**	Pg	**Pb**	**15 23 27.6**	**-0.4**
NOVE				Sg	**Sn**	**15 23 35.1**	**-1.3**
NOVE	**Novellara**	**0.41**	**65**	Pg	**Pb**	**15 23 27.6**	**-0.4**
NOVE				Sg	**Sn**	**15 23 35.1**	**-1.3**
SARO	**Sassorosso**	**0.47**	**162**	P	**Pb**	**15 23 28.8**	**-0.2**
SARO				S	**Sb**	**15 23 35.9**	**+0.3**
VLC	**Villacollemand**	**0.49**	**164**	Pg	**Pb**	**15 23 29.3**	**0.0**
VLC				Sg	**Sb**	**15 23 36.8**	**+0.7**
	2μm,0.7s						
VLC	**Villacollemand**	**0.49**	**164**	Pg	**Pb**	**15 23 29.3**	**0.0**
VLC				Sg	**Sb**	**15 23 36.8**	**+0.7**
	2μm,0.7s						
SC2M	**Scurtabo**	**0.52**	**245**	Pg	**Pb**	**15 23 30.7**	**+0.8**
SC2M				Sg	**Sb**	**15 23 39.2**	**+2.1**
	798nm,0.4s						
SC2M	**Scurtabo**	**0.52**	**245**	Pg	**Pb**	**15 23 30.7**	**+0.8**
SC2M				Sg	**Sb**	**15 23 39.2**	**+2.1**
	798nm,0.4s						
BOB	**Bobbio (Coli)**	**0.55**	**285**	Pg	**Pb**	**15 23 31.8**	**+1.4**
BOB				Sg	**Sb**	**15 23 39.9**	**+1.9**
BOB	**Bobbio (Coli)**	**0.55**	**285**	Pg	**Pb**	**15 23 31.8**	**+1.4**
BOB				Sg	**Sb**	**15 23 39.9**	**+1.9**
MSSA	**Maissana**	**0.58**	**238**	Pg	**Pb**	**15 23 31.5**	**+0.7**
MSSA				Sg	**Sb**	**15 23 39.9**	**+1.2**
	311nm,0.2s						
MSSA	**Maissana**	**0.58**	**238**	Pg	**Pb**	**15 23 31.5**	**+0.7**
MSSA				Sg	**Sb**	**15 23 39.9**	**+1.2**
	311nm,0.2s						
ZCCA	**Zocca**	**0.62**	**116**	Pg	**Pn**	**15 23 32.7**	**+0.1**
	191nm,0.5s						
ZCCA	**Zocca**	**0.62**	**116**	Pg	**Pn**	**15 23 32.7**	**+0.1**
	191nm,0.5s						
BDI	**Bagni Di Lucca**	**0.63**	**153**	Pg	**Pb**	**15 23 31.7**	**-0.1**
BDI				Sg	**Sb**	**15 23 40.8**	**+0.5**
	720nm,0.4s						
BDI	**Bagni Di Lucca**	**0.63**	**153**	Pg	**Pb**	**15 23 31.7**	**-0.1**
BDI				Sg	**Sb**	**15 23 40.8**	**+0.5**
	720nm,0.4s						
POPM	**Popiglio**	**0.71**	**145**	P	**Pb**	**15 23 33.3**	**+0.3**
POPM				S	**Sn**	**15 23 43.4**	**-0.4**
MAIM	**Mastiano**	**0.74**	**163**	Pg	**Pb**	**15 23 33.4**	**-0.2**
MAIM				Sg	**Sb**	**15 23 44.0**	**+0.7**
	326nm,0.6s						
MAIM	**Mastiano**	**0.74**	**163**	P	**Pb**	**15 23 33.4**	**-0.2**
MAIM				Sg	**Sb**	**15 23 44.0**	**+0.7**
	326nm,0.6s						
MAIM				S	**Sn**	**15 23 44.4**	**-0.3**
FNVD	**Fontana Vidola**	**0.81**	**124**	Pg	**Pn**	**15 23 35.3**	**+0.1**
	380nm,0.6s						
FNVD	**Fontana Vidola**	**0.81**	**124**	Pg	**Pn**	**15 23 35.3**	**+0.1**
	380nm,0.6s						
PTF	**Prato**	**0.92**	**137**	Pg	**Pn**	**15 23 36.8**	**+0.2**
PTF				Sg	**Sn**	**15 23 48.6**	**-0.4**
PTF	**Prato**	**0.92**	**137**	Pg	**Pn**	**15 23 36.8**	**+0.2**
PTF				Sg	**Sn**	**15 23 48.6**	**-0.4**
CRMI	**Carmignano**	**1.01**	**146**	Pg	**Pb**	**15 23 38.6**	**+0.6**
CRMI				Sn	**Sn**	**15 23 51.1**	**-0.1**
	199nm,0.6s						
CRMI	**Carmignano**	**1.01**	**146**	Pg	**Pb**	**15 23 38.6**	**+0.6**
CRMI				Sn	**Sn**	**15 23 51.1**	**-0.1**
	199nm,0.6s						
SALO	**Salr**	**1.02**	**13**	Pg	**Pb**	**15 23 39.0**	**+0.7**
SALO				Sg	**Sn**	**15 23 52.4**	**+0.9**
	1μm,0.8s						
SALO	**Salr**	**1.02**	**13**	Pg	**Pb**	**15 23 39.0**	**+0.7**
SALO				Sg	**Sn**	**15 23 52.4**	**+0.9**
	1μm,0.8s						
BALD	**Monte Baldo**	**1.14**	**22**	*e*Pg	**Pb**	**15 23 40.6**	**+0.1**
BALD				*e*Sg	**Sn**	**15 23 56.0**	**+1.1**
BALD	**Monte Baldo**	**1.14**	**22**	*e*Pg	**Pb**	**15 23 40.6**	**+0.1**
BALD				*e*Sg	**Sn**	**15 23 56.0**	**+1.1**
PCP	**Piancastagn**	**1.18**	**266**	Pn	**Pb**	**15 23 43.3**	**+2.2**
PCP				Sn	**Sb**	**15 23 58.0**	**+2.0**
	209nm,0.5s						
PCP	**Piancastagn**	**1.18**	**266**	P	**Pb**	**15 23 42.7**	**+1.6**
PCP	**Piancastagn**	**1.18**	**266**	Pn	**Pb**	**15 23 43.3**	**+2.2**
PCP				Sn	**Sb**	**15 23 58.0**	**+2.0**
	209nm,0.5s						
MAGA	**Magasa**	**1.19**	**15**	Pn	**Pn**	**15 23 40.9**	**+0.5**
MAGA				Sn	**Sb**	**15 23 57.2**	**+1.0**
	1μm,0.5s						
MAGA	**Magasa**	**1.19**	**15**	Pn	**Pn**	**15 23 40.9**	**+0.5**
MAGA				Sn	**Sb**	**15 23 57.2**	**+1.0**
	1μm,0.5s						
ROVR	**Rover¯¤ Verone**	**1.19**	**31**	Pn	**Pn**	**15 23 40.8**	**+0.3**
ROVR				Sn	**Sb**	**15 23 56.9**	**+0.6**
	1μm,0.4s						
ROVR	**Rover¯¤ Verone**	**1.19**	**31**	Pn	**Pn**	**15 23 40.8**	**+0.3**
ROVR				Sn	**Sb**	**15 23 56.9**	**+0.6**
	1μm,0.4s						
MARN	**Marana (Italy)**	**1.24**	**35⇑**	*e*Pg	**Pn**	**15 23 41.3**	**+0.3**
MARN				*e*Sg	**Sb**	**15 23 58.1**	**+0.5**
MARN	**Marana (Italy)**	**1.24**	**35**	*e*Pg	**Pn**	**15 23 41.3**	**+0.3**
MARN				*e*Sg	**Sb**	**15 23 58.1**	**+0.5**
TEOL	**Teolo**	**1.28**	**54**	Pn	**Pn**	**15 23 41.8**	**+0.3**
TEOL				Sn	**Sb**	**15 23 59.2**	**+0.6**
	1μm,0.7s						
TEOL	**Teolo**	**1.28**	**54⇑**	*e*Pg	**Pn**	**15 23 41.6**	**+0.1**
TEOL				*e*Sg	**Sb**	**15 23 59.5**	**+0.9**
TEOL	**Teolo**	**1.28**	**54**	Pn	**Pn**	**15 23 41.8**	**+0.3**
TEOL				Sn	**Sb**	**15 23 59.2**	**+0.6**
	1μm,0.7s						
TEOL				*e*Sg	**Sb**	**15 23 59.5**	**+0.9**
RNI	**Roncone**	**1.39**	**12**	*e*Pg	**Pn**	**15 23 43.9**	**+0.7**
RNI	**Roncone**	**1.39**	**12**	*e*Pg	**Pn**	**15 23 43.9**	**+0.7**
SASS	**Sassa**	**1.42**	**165**	Pn	**Pb**	**15 23 44.8**	**-0.2**
	124nm,0.5s						
SASS	**Sassa**	**1.42**	**165**	Pn	**Pb**	**15 23 44.8**	**-0.2**
	124nm,0.5s						
DDS	**Dosso del Somm**	**1.44**	**29**	*e*Pg	**Pn**	**15 23 44.1**	**+0.3**
DDS	**Dosso del Somm**	**1.44**	**29**	*e*Pg	**Pn**	**15 23 44.2**	**+0.3**
MABI	**Malga Bissina**	**1.44**	**9**	Pn	**Pn**	**15 23 44.9**	**+0.9**
	157nm,0.5s						
MABI	**Malga Bissina**	**1.44**	**9**	Pn	**Pn**	**15 23 44.9**	**+0.9**
	157nm,0.5s						
RORO	**Rocca Rossa**	**1.61**	**252**	P	**Pb**	**15 23 48.8**	**+0.5**
CGRP	**Cima Grappa**	**1.69**	**42**	*e*Pg	**Pn**	**15 23 47.5**	**+0.1**
CGRP	**Cima Grappa**	**1.69**	**42**	*e*Pg	**Pn**	**15 23 47.5**	**+0.1**
IMI	**Imperia**	**1.80**	**247**	P	**Pn**	**15 23 50.7**	**+1.9**
CARE	**Lago del Cares**	**1.83**	**11**	*e*Pn	**Pn**	**15 23 50.7**	**+1.3**
CARE	**Lago del Cares**	**1.83**	**11**	*e*Pn	**Pn**	**15 23 50.7**	**+1.3**
OZOL	**Ozolo**	**1.88**	**18**	*e*Pn	**Pn**	**15 23 51.2**	**+1.3**
OZOL	**Ozolo**	**1.88**	**18**	*e*Pn	**Pn**	**15 23 51.2**	**+1.3**
NEGI	**Seborga**	**1.95**	**247**	P	**Pn**	**15 23 53.1**	**+2.2**
SBF	**Sospel**	**2.13**	**250**	*e*Pn	**Pb**	**15 23 56.3**	**-0.8**
	SNR=1.0						
SBF				*e*Sn	**Sn**	**15 24 13.4**	**-5.5**
	70nm,0.4s,SNR=1.0						
SBF	**Sospel**	**2.13**	**250**	*e*Pn	**Pb**	**15 23 56.3**	**-0.8**
	SNR=1.0						
PGF	**Pioggiola**	**2.25**	**203**	*e*Pn	**Pn**	**15 23 57.3**	**+2.2**
	SNR=1.0						
PGF	**Pioggiola**	**2.25**	**203**	*e*Pn	**Pn**	**15 23 57.3**	**+2.2**
	SNR=1.0						
MBDF	**Montbardon**	**2.44**	**274**	*e*Pn	**Pb**	**15 24 01.6**	**-1.0**
	SNR=1.0						
MBDF				*e*Sn	**Sn**	**15 24 19.9**	**-7.0**
	SNR=1.0						
MBDF	**Montbardon**	**2.44**	**274**	*e*Pn	**Pb**	**15 24 01.6**	**-1.0**
	SNR=1.0						
LPG	**La Plagne**	**2.59**	**291**	*e*Sn	**Sn**	**15 24 23.4**	**-7.3**
	SNR=1.0						
LPG				*e*Sg	**Sb**	**15 24 35.5**	**-1.2**
	33nm,0.4s,SNR=1.0						
DAVA	**Damuels**	**2.67**	**355**	Pn	**Pn**	**15 24 03.9**	**+3.1**
	SNR=7.5						
DAVA	**Damuels**	**2.67**	**355**	Pn	**Pn**	**15 24 03.9**	**+3.1**
	SNR=7.5						
ABTA	**Abfaltersbach**	**2.67**	**37**	*e*Pn	**Pn**	**15 24 03.0**	**+2.2**
	2.0nm,0.2s						
ABTA	**Abfaltersbach**	**2.67**	**37**	Pn	**Pn**	**15 24 03.0**	**+2.2**
	2.0nm,0.2s						
VINO	**Villanova**	**2.71**	**52**	*e*Pn	**Pn**	**15 24 01.0**	**-0.3**
VINO	**Villanova**	**2.71**	**52**	*e*Pn	**Pn**	**15 24 01.0**	**-0.3**
FRF	**La Foret Royal**	**2.77**	**249**	*e*Pn	**Pn**	**15 24 04.4**	**+2.3**
	SNR=1.0						
FRF	**La Foret Royal**	**2.77**	**249**	*e*Pn	**Pn**	**15 24 04.4**	**+2.3**
	SNR=1.0						
MOTA	**Moosalm**	**2.79**	**13**	*e*Pn	**Pn**	**15 24 05.6**	**+3.1**
	11nm,0.2s,SNR=8.5						
MOTA	**Moosalm**	**2.79**	**13**	Pn	**Pn**	**15 24 05.6**	**+3.1**
	11nm,0.2s,SNR=8.5						
WTTA	**Wattenberg**	**2.82**	**20**	*e*Pn	**Pn**	**15 24 05.4**	**+2.5**
	SNR=5.1						
WTTA	**Wattenberg**	**2.82**	**20**	Pn	**Pn**	**15 24 05.4**	**+2.5**
	SNR=5.1						
SKDS	**Skadanscina**	**2.86**	**70**	*i* Pn	**Pn**	**15 24 02.7**	**-0.6**
SKDS	**Skadanscina**	**2.86**	**70**	Pn	**Pn**	**15 24 02.7**	**-0.6**
WATA	**Walderalm**	**2.87**	**19**	*i* Pn	**Pn**	**15 24 06.7**	**+3.1**
	8.7nm,0.2s						
WATA	**Walderalm**	**2.87**	**19**	Pn	**Pn**	**15 24 06.7**	**+3.1**
	8.7nm,0.2s						
LMR	**La Mourre**	**2.96**	**245**	*e*Pn	**Pn**	**15 24 06.9**	**+2.3**
	SNR=1.0						
LMR	**La Mourre**	**2.96**	**245**	*e*Pn	**Pn**	**15 24 06.9**	**+2.3**
	SNR=1.0						
JAVS	**Javornik**	**3.01**	**64**	*i* Pn	**Pn**	**15 24 05.1**	**-0.3**
JAVS	**Javornik**	**3.01**	**64**	*i* Pn	**Pn**	**15 24 05.1**	**-0.3**
ORIF	**Oris-en-Rattie**	**3.09**	**277**	*e*Pn	**Pb**	**15 24 12.4**	**-1.1**
	SNR=1.0						
ORIF				*e*Sg	**Sb**	**15 24 49.0**	**-1.8**
	48nm,0.6s,SNR=1.0						
ORIF	**Oris-en-Rattie**	**3.09**	**277**	*e*Pn	**Pb**	**15 24 12.4**	**-1.1**
	SNR=1.0						
ORIF				*e*Sg	**Sb**	**15 24 49.0**	**-1.8**
	24nm,0.6s,SNR=1.0						
NVLJ	**Novalja**	**3.34**	**89**	*e*Pn	**Pn**	**15 24 10.1**	**+0.2**
NVLJ				Sn	**Sn**	**15 24 47.6**	**-1.1**
NVLJ	**Novalja**	**3.34**	**89**	*e*Pn	**Pn**	**15 24 10.0**	**+0.2**
NVLJ				Sn	**Sn**	**15 24 47.6**	**-1.1**
SMRF	**Simiane la Rot**	**3.38**	**260**	*e*Sn	**Sn**	**15 24 45.0**	**-4.8**
	16nm,0.6s,SNR=1.0						
CABF	**La Chapelle**	**3.50**	**306**	*e*Pn	**Pn**	**15 24 15.4**	**+3.2**
	SNR=1.0						
CABF	**La Chapelle**	**3.50**	**306**	*e*Pn	**Pn**	**15 24 15.4**	**+3.2**
	SNR=1.0						
OZLJ	**Ozalj**	**3.86**	**73**	*e*Pn	**Pn**	**15 24 17.7**	**+0.7**
OZLJ				Sn	**Sn**	**15 25 00.4**	**-1.1**
OZLJ	**Ozalj**	**3.86**	**73**	*e*Pn	**Pn**	**15 24 17.7**	**+0.7**
OZLJ				Sn	**Sn**	**15 25 00.3**	**-1.1**
VIVF	**Saint-Julien-l**	**3.94**	**275**	*e*Pn	**Pn**	**15 24 22.4**	**+4.2**
	SNR=1.0						
VIVF	**Saint-Julien-l**	**3.94**	**275**	*e*Pn	**Pn**	**15 24 22.4**	**+4.2**
	SNR=1.0						
HINF	**Hinteralfeld**	**3.94**	**325**	*e*Pn	**Pn**	**15 24 18.4**	**+0.2**
	SNR=1.0						
HINF				*e*Sn	Sn	15 24 55.0	-8.7
	SNR=1.0						
HINF	**Hinteralfeld**	**3.94**	**325**	*e*Pn	**Pn**	**15 24 18.4**	**+0.2**
	SNR=1.0						
UDBI	**Udbina**	**3.98**	**89**	*e*Pn	**Pn**	**15 24 19.5**	**+0.8**
UDBI				Sn	**Sn**	**15 25 05.7**	**+1.1**
UDBI	**Udbina**	**3.98**	**89**	*e*Pn	**Pn**	**15 24 19.5**	**+0.8**
UDBI				Sn	**Sn**	**15 25 05.7**	**+1.1**
CDF	**Champ du Feu**	**4.29**	**333**	*e*Pn	**Pn**	**15 24 23.9**	**+0.9**
	SNR=1.0						
CDF	**Champ du Feu**	**4.29**	**333**	*e*Pn	**Pn**	**15 24 23.9**	**+0.9**
	SNR=1.0						
HAU	**Haudompre**	**4.30**	**323**	*e*Pn	**Pn**	**15 24 23.9**	**+0.8**
	SNR=1.0						
HAU	**Haudompre**	**4.30**	**323**	*e*Pn	**Pn**	**15 24 23.9**	**+0.8**
	SNR=1.0						
LASF	**Ste Croix**	**4.58**	**265**	*e*Sg	**Sb**	**15 25 31.1**	**-2.5**
	10nm,0.8s,SNR=1.0						
KHC	**Kasperske Hory**	**5.07**	**26**	*e*PN	**Pn**	**15 24 34.1**	**+0.5**
KHC				*e*SN	**Sn**	**15 25 29.1**	**-2.2**
KHC	**Kasperske Hory**	**5.07**	**26**	Pn	**Pn**	**15 24 34.1**	**+0.5**
KHC				Sn	**Sn**	**15 25 29.1**	**-2.2**
LOR	**Lormes**	**5.15**	**303**	*e*Pn	**Pn**	**15 24 34.5**	**-0.2**
	SNR=1.0						
LOR	**Lormes**	**5.15**	**303**	*e*Pn	**Pn**	**15 24 34.5**	**-0.2**
	SNR=1.0						
MEZF	**Maizieres J'vi**	**5.25**	**319**	*e*Pn	**Pn**	**15 24 36.0**	**-0.1**
	SNR=1.0						
MEZF	**Maizieres J'vi**	**5.25**	**319**	*e*Pn	**Pn**	**15 24 36.0**	**-0.1**
	SNR=1.0						
AVF	**Avril sur Loir**	**5.26**	**297**	*e*Sn	Sn	15 25 23.1	-13
	2.6nm,0.3s,SNR=1.0						

*GEN **08** 15:23:36.8, 44°.73N×10°.31E, h6km, ML3.1*
*PRU **08** 15:23:37.5, 44°.66N×10°.40E, h0km*
*ROM **08** 15:23:38.2±0.1, 44°.64N×10°.23E, h18km±3km, MI3.2/11, Error ellipse: s-maj=1.9km s-min=1.6km az=117.0*
*ISCJB **08** 15:23:38.5±0.3, 44°.63N±0°.02×10°.23E±0°.03, h20km±4km, Error ellipse: s-maj=4.4km s-min=3.5km az=29.2*
*CSEM **08** 15:23:38.3±0.2, 44°.61N×10°.24E, h20km, ML3.7/13, Error ellipse: s-maj=4.3km s-min=3.5km az=107.0*
*VIE **08** 15:23:39.2±0.4, 44°.63N×10°.44E, h10km, mb3.2/1, ML3.2/3, Error ellipse: s-maj=9.5km s-min=2.6km az=105.0*

ISC 08 15:23:37.7±0.9, 44°.64N±0°.02×10°.24E±0°.02, h17km±6km, n46, σ1§20/72, Northern Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PRMA	**PARMA**	**0.14**	**22**	Pg	**Pg**	**15 23 41.7**	**+0.1**
PRMA				Sg	**Sb**	**15 23 46.1**	**+1.5**
	5μm,0.5s						
PRMA	**PARMA**	**0.14**	**22**	Pg	**Pg**	**15 23 41.7**	**+0.1**
PRMA				Sg	**Sb**	**15 23 46.1**	**+1.5**
	5μm,0.5s						
GRAM	**Graiana**	**0.19**	**221**	P	**Pg**	**15 23 42.4**	**0.0**
GRAM				S	**Sb**	**15 23 46.4**	**+0.3**
CODM	**Codolo**	**0.37**	**229**	P	**Pb**	**15 23 46.0**	**+0.2**
CODM				S	**Sb**	**15 23 52.4**	**+1.1**
NOVE	**Novellara**	**0.38**	**64**	Pg	**Pg**	**15 23 45.8**	**+0.4**
NOVE	**Novellara**	**0.38**	**64**	Pg	**Pg**	**15 23 45.8**	**+0.4**
SARO	**Sassorosso**	**0.47**	**166**	P	**Pg**	**15 23 46.9**	**-0.2**
SARO				S	**Sb**	**15 23 53.9**	**-0.2**
VLC	**Villacollemand**	**0.49**	**168**	Pg	**Pg**	**15 23 47.4**	**-0.1**
VLC				Sg	**Sb**	**15 23 55.0**	**+0.3**
	2μm,0.7s						
VLC	**Villacollemand**	**0.49**	**168**	Pg	**Pg**	**15 23 47.4**	**-0.1**
VLC				Sg	**Sb**	**15 23 55.0**	**+0.3**
	2μm,0.7s						
SC2M	**Scurtabo**	**0.56**	**246**	Pg	**Pg**	**15 23 49.1**	**+0.4**
SC2M				Sg	**Sb**	**15 23 57.9**	**+1.3**
	798nm,0.4s						
SC2M	**Scurtabo**	**0.56**	**246**	Pg	**Pg**	**15 23 49.1**	**+0.4**
SC2M				S	**Sb**	**15 23 57.3**	**+0.7**
SC2M				Sg	**Sb**	**15 23 57.9**	**+1.3**
	798nm,0.4s						
BOB	**Bobbio (Coli)**	**0.58**	**283**	Pg	**Pn**	**15 23 50.7**	**-0.5**
BOB	**Bobbio (Coli)**	**0.58**	**283**	Pg	**Pn**	**15 23 50.7**	**-0.5**
MSSA	**Maissana**	**0.61**	**239**	Pg	**Pg**	**15 23 49.8**	**+0.1**
MSSA				Sg	**Sb**	**15 23 58.4**	**+0.2**
	311nm,0.2s						
MSSA	**Maissana**	**0.61**	**239**	Pg	**Pg**	**15 23 49.8**	**+0.1**
MSSA				Sg	**Sb**	**15 23 58.4**	**+0.2**
	311nm,0.2s						
BDI	**Bagni Di Lucca**	**0.63**	**156**	Pg	**Pg**	**15 23 50.0**	**-0.1**
BDI				Sg	**Sb**	**15 23 59.3**	**+0.6**
	720nm,0.4s						
BDI	**Bagni Di Lucca**	**0.63**	**156**	Pg	**Pg**	**15 23 50.0**	**-0.1**
BDI				Sg	**Sb**	**15 23 59.3**	**+0.6**
	720nm,0.4s						
POPM	**Popiglio**	**0.70**	**148**	P	**Pg**	**15 23 51.2**	**-0.1**
CRMI	**Carmignano**	**0.99**	**148**	Pg	**Pn**	**15 23 57.1**	**+0.3**
CRMI				Sg	**Sn**	**15 24 11.0**	**+0.5**
	199nm,0.6s						
CRMI	**Carmignano**	**0.99**	**148**	Pg	**Pn**	**15 23 57.1**	**+0.3**
CRMI				Sg	**Sn**	**15 24 11.0**	**+0.5**
	199nm,0.6s						
SALO	**Salr**	**1.00**	**11**	Pg	**Pg**	**15 23 57.6**	**+0.5**
	1μm,0.8s						
SALO	**Salr**	**1.00**	**11**	Pg	**Pg**	**15 23 57.6**	**+0.5**
	1μm,0.8s						
ROVR	**Rover¯¤ Verone**	**1.17**	**30**	Pg	**Pn**	**15 23 59.0**	**-0.4**
ROVR				Sg	**Sg**	**15 24 15.8**	**+0.2**
	1μm,0.4s						
ROVR	**Rover¯¤ Verone**	**1.17**	**30**	Pg	**Pn**	**15 23 59.0**	**-0.4**
ROVR				Sg	**Sg**	**15 24 15.8**	**+0.2**
	1μm,0.4s						
MAGA	**Magasa**	**1.17**	**13**	Pg	**Pn**	**15 23 59.6**	**+0.2**
MAGA				Sg	**Sb**	**15 24 14.7**	**+0.2**
	1μm,0.5s						
MAGA	**Magasa**	**1.17**	**13**	Pg	**Pn**	**15 23 59.6**	**+0.2**
MAGA				Sg	**Sb**	**15 24 14.7**	**+0.2**
	1μm,0.5s						
PCP	**Piancastagn**	**1.22**	**266**	Pg	**Pb**	**15 24 00.9**	**+0.7**
PCP				Sg	**Sn**	**15 24 16.4**	**+0.4**
	209nm,0.5s						
PCP	**Piancastagn**	**1.22**	**266**	Pg	**Pb**	**15 24 00.9**	**+0.7**
PCP				Sg	**Sn**	**15 24 16.4**	**+0.4**
	209nm,0.5s						
TEOL	**Teolo**	**1.25**	**54**	Pg	**Pg**	**15 24 02.1**	**+0.4**
TEOL				Sg	**Sg**	**15 24 18.1**	**+0.1**
	1μm,0.7s						
TEOL	**Teolo**	**1.25**	**54**	Pg	**Pg**	**15 24 02.1**	**+0.4**
TEOL				Sg	**Sg**	**15 24 18.1**	**+0.1**
	1μm,0.7s						
DAVA	**Damuels**	**2.66**	**355**	Pn	**Pn**	**15 24 22.0**	**+2.1**
MOTA	**Moosalm**	**2.77**	**12**	Pn	**Pn**	**15 24 24.0**	**+2.5**
	7.2nm,0.2s						
MOTA				Sn	**Sb**	**15 24 59.2**	**-1.4**
	25nm,0.4s						
WATA	**Walderalm**	**2.86**	**19**	Pn	**Pn**	**15 24 25.4**	**+2.8**
	10nm,0.3s						
HINF	**Hinteralfeld**	**3.96**	**325**	*e*Sg	**Sn**	**15 25 20.1**	**-3.4**
	6.1nm,0.3s,SNR=1.0						
HINF	**Hinteralfeld**	**3.96**	**325**	*e*Sg	**Sn**	**15 25 20.1**	**-3.4**
	12nm,0.3s,SNR=1.0						
CDF	**Champ du Feu**	**4.29**	**333**	*e*Sg	**Sn**	**15 25 33.1**	**+1.1**
	6.8nm,0.3s,SNR=1.0						
CDF	**Champ du Feu**	**4.29**	**333**	*e*Sg	**Sn**	**15 25 33.1**	**+1.1**
	14nm,0.3s,SNR=1.0						
HAU	**Haudompre**	**4.32**	**323**	*e*Sg	**Sn**	**15 25 29.6**	**-2.8**
	14nm,0.4s,SNR=1.0						
HAU	**Haudompre**	**4.32**	**323**	*e*Sg	**Sn**	**15 25 29.6**	**-2.8**
	27nm,0.4s,SNR=1.0						
KHC	**Kasperske Hory**	**5.04**	**26**	*e*PN	**Pn**	**15 24 52.1**	**-0.4**
KHC				*ex*	x	15 24 56.1	
KHC				*e*SN	**Sn**	**15 25 47.2**	**-3.2**
KHC	**Kasperske Hory**	**5.04**	**26**	Pn	**Pn**	**15 24 52.1**	**-0.4**
LOR	**Lormes**	**5.17**	**303**	*e*Sg	**Sn**	**15 25 53.2**	**-0.2**
	5.4nm,0.4s,SNR=1.0						
LOR	**Lormes**	**5.17**	**303**	*e*Sg	**Sn**	**15 25 53.2**	**-0.2**
	11nm,0.4s,SNR=1.0						
SSF	**Saint Saulge**	**5.29**	**300**	*e*Sg	**Sn**	**15 25 55.2**	**-1.2**
	5.7nm,0.4s,SNR=1.0						
SSF	**Saint Saulge**	**5.29**	**300**	*e*Sg	**Sn**	**15 25 55.2**	**-1.2**
	2.8nm,0.4s,SNR=1.0						
GOPC	**GO Pecny, Ondr**	**6.12**	**29**	*e*SN	**Sn**	**15 26 14.3**	**-2.5**

*ISCJB **08** 15:25:54.0±1.0, 31°.2N±0°.1×115°.64W±0°.09, h23km±11km, Error ellipse: s-maj=27.7km s-min=6.8km az=25.6*
*MEX **08** 15:25:55.5±0.6, 31°.06N×115°.70W, h9km±24km, MD3.6*
*ECX **08** 15:25:55.1±0.6, 31°.19N×115°.65W, h5km, MD2.5, ML2.6*

ISC 08 15:25:52.7±1.1, 31°.17N±0°.07×115°.57W±0°.08, h28km±9km, n10, σ0§26/19, 3D, Baja California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPIG	**San Pedro Mart**	**0.15**	**143**	*e*P	**Pn**	**15 25 59.3**	**-0.1**
SPIG				*e*S	**Sb**	**15 26 02.8**	**+0.2**
SPIG	**San Pedro Mart**	**0.15**	**143**	*e*P	**Pn**	**15 25 59.4**	**-0.1**
SPIG				*i* S	**Sb**	**15 26 02.6**	**0.0**
SPX	**San Pedro Mart**	**0.15**	**143⇓**	*e*P	**Pn**	**15 25 59.4**	**-0.1**
SPX				*e*S	**Sb**	**15 26 02.7**	**0.0**
SPX				IAML		15 26 03.3	
	comp=E,595nm,0.3s						
SPX				⇓*e*		15 26 03.3	
ZAX	**El Zacaton**	**0.69**	**300**	*e*P	**Pb**	**

KUR AMS AMS 15 29 25.0
comp=N,5µm,15.0s
SKR Severo-Kuril's 4.67 28 *e*PN **Pn** **15 28 19.5 -1.2**
SKR pmax pmax
comp=Z,2µm,0.6s
SKR MLR MLR
comp=Z,2µm,18.0s
SKR MLR MLR
comp=Z,1µm,12.0s
SKR Severo-Kuril's 4.67 28 *e*P **Pn** **15 28 19.4 -1.2**
SKR AMB AMB 15 28 37.1
comp=Z,2µm,0.6s
SKR *e*S **Sn** **15 29 09.4 -4.1**
SKR A A 15 29 36.5
comp=Z,2µm,0.6s
SKR A A 15 29 40.3
comp=Z,2µm,1.0s
SKR AMS AMS 15 30 38.0
comp=Z,1µm,13.0s
SHO Shikotan 4.96 239*c i*PN **Pn** **15 28 24.0 -0.8**
SHO *i* S **Sn** **15 29 21.4 +0.6**
SHO pmax pmax
comp=Z,928nm,0.6s
SHO pmax pmax
comp=N,173nm,0.4s
SHO smax smax
comp=N,2µm,0.5s
SHO Shikotan 4.96 239 *e*P **Pn** **15 28 24.4 -0.4**
SHO AMB AMB 15 28 38.5
comp=N,170nm,0.6s
SHO AMB AMB 15 28 38.5
comp=N,930nm,0.6s
SHO *e*S **Sn** **15 29 21.4 +0.6**
SHO A A 15 29 37.4
comp=N,2µm,0.5s
YUK Yuzh-Kuril'sk 5.46 244*c i*PN **Pn** **15 28 33.0 +1.4**
YUK *i* S **Sn** **15 29 36.4 +3.4**
YUK pmax pmax
comp=N,567nm,0.5s
YUK pmax pmax
comp=Z,1µm,0.5s
YUK pmax pmax
comp=E,353nm,0.4s
YUK smax smax
comp=N,1µm,0.5s
YUK smax smax
comp=E,3µm,0.7s
YUK MLR MLR
comp=Z,3µm,15.0s
YUK MLR MLR
comp=N,5µm,14.0s
YUK Yuzh-Kuril'sk 5.46 244 *i* P **Pn** **15 28 33.2 +1.6**
YUK AMB AMB 15 28 42.4
comp=N,570nm,0.5s
YUK AMB AMB 15 28 42.4
comp=N,350nm,0.5s
YUK AMB AMB 15 28 42.4
comp=N,1µm,0.5s
YUK *i* S **Sn** **15 29 35.2 +2.2**
YUK A A 15 29 54.7
comp=N,1µm,0.7s
YUK A A 15 29 54.7
comp=N,3µm,0.7s
YUK AMS AMS 15 34 41.0
comp=N,5µm,15.0s
YUK AMS AMS 15 34 41.0
comp=N,3µm,15.0s
NEM2 Nemuro 2 5.90 239 P **Pn** **15 28 36.8 -0.8**
NEM2 *e*S **Sn** **15 29 42.0 -1.8**
JRA Rausu 5.97 246 P **Pn** **15 28 40.4 +1.8**
JNK Nakash 6.40 245 P **Pn** **15 28 45.5 +1.0**
JTKR Abashiri--Toko 6.73 250 P **Pn** **15 28 51.1 +2.1**
JAK Akkeshi 6.74 240 P **Pn** **15 28 48.5 -0.6**
JAK *e*S **Sn** **15 30 02.3 -2.1**
YSS Yuzh-Sakhalins 6.83 277‖ *e*PN **Pn** **15 28 53.1 +2.7**
YSS *e*S **Sn** **15 30 11.5 +4.8**
YSS pmax pmax
comp=Z,220nm,0.9s
YSS pmax pmax
comp=E,260nm,0.8s
YSS MLR MLR
comp=E,600nm,15.0s
YSS MLR MLR
comp=Z,500nm,15.0s
YSS Yuzh-Sakhalins 6.83 277 *e*P **Pn** **15 28 53.0 +2.7**
YSS AMB AMB 15 28 55.3
comp=Z,260nm,0.9s
YSS AMB AMB 15 28 55.3
comp=Z,220nm,0.9s
YSS *e*S **Sn** **15 30 08.1 +1.4**
YSS A A 15 30 11.3
comp=Z,118nm,0.5s
YSS AMS AMS 15 32 24.0
comp=Z,600nm,15.0s
YSS AMS AMS 15 32 24.0
comp=Z,500nm,15.0s
YSS Yuzh-Sakhalins 6.83 277 *e*Pn **Pn** **15 28 52.2 +1.8**
JMP Maruseppu 7.08 252 P **Pn** **15 28 56.2 +2.4**
JAR Ashorobuto 7.14 246 P **Pn** **15 28 54.4 -0.3**
JAR *e*S **Sn** **15 30 15.8 +1.4**
JSE Soyaes 7.26 261 P **Pn** **15 28 59.4 +3.2**
PEA0 Petropavlovsk- 7.27 25 *e*Pn **Pn** **15 28 55.7 -0.6**
PEA0B Petropavlovsk- 7.27 25 *e*Pn **Pn** **15 28 55.2 -1.1**
PETK Petropavlovsk- 7.27 25 P **Pn** **15 28 56.0 -0.3**
comp=Z,8.1nm,0.3s,baz=179,slow=11,SNR=125
PETK S **Sn** **15 30 20.8 +3.5**
baz=184,slow=19,SNR=1.7
PETK LR LR 15 31 51.9
comp=Z,1µm,18.1s,baz=219,slow=39
JOB Onbets 7.31 243 P **Pn** **15 28 57.3 +0.4**
JOB *e*S **Sn** **15 30 17.8 -0.7**
PET Petropavlovsk 7.49 29 *e*PN **Pn** **15 28 59.0 -0.3**
PET *e*S **Sn** **15 30 18.7 -4.0**
PET pmax pmax
comp=Z,258nm,0.8s
PET smax smax
comp=N,517nm,0.9s
PET MLR MLR
comp=Z,736nm,18.9s
PET MLR MLR
comp=Z,1µm,15.1s
PET Petropavlovsk 7.49 29 *e*P **Pn** **15 28 59.0 -0.3**
PET AMB AMB 15 29 08.0
comp=Z,260nm,0.8s
PET *e*S **Sn** **15 30 18.7 -4.0**
PET A A 15 30 40.0
comp=Z,520nm,0.9s
PET AMS AMS 15 31 51.5
comp=Z,1µm,15.0s
PET Petropavlovsk 7.49 29 *e*Pn **Pn** **15 28 57.0 -2.3**
JKK2 Kamakawa 2 7.53 252 P **Pn** **15 29 02.5 +2.5**
ASAJ Asahikawa 7.54 254 P **Pn** **15 29 03.0 +3.0**
ASAJ Asahikawa 7.54 254 *e*Pn **Pn** **15 29 02.9 +2.9**
UGL Uglegorsk 7.57 293 *e*PN **Pn** **15 28 59.6 -0.8**
UGL *e*S **Sn** **15 30 25.9 +1.2**
UGL Uglegorsk 7.57 293 *i*P **Pn** **15 29 03.8 +3.4**
UGL AMB AMB 15 29 04.5
comp=Z,130nm,0.8s
UGL *e*S **Sn** **15 30 28.0 +3.3**
UGL A A 15 30 38.5
comp=Z,90nm,0.8s
UGL A A 15 30 38.5
comp=Z,250nm,0.8s
JWK2 Keihoku 7.63 264 P Pn 15 29 06.9 +5.5
JCH Churui 7.76 242 P **Pn** **15 29 02.6 -0.5**
JCH *e*S **Sn** **15 30 26.6 -2.9**
TYV Tymovskoe 7.88 306 *e*P **Pn** **15 29 07.0 +2.3**
TYV AMB AMB 15 29 16.3
comp=Z,330nm,0.9s
JFR Furan 7.96 248 P **Pn** **15 29 07.4 +1.6**
JAB Ashibetsu 8.04 251 P **Pn** **15 29 09.7 +2.8**
ERM Erimo 8.23 240*ce*PN **Pn** **15 29 10.3 +0.7**
ERM pmax pmax
comp=Z,229nm,1.2s
ERM Erimo 8.23 240 *e*P **Pn** **15 29 10.3 +0.7**
ERM Erimo 8.23 240 *e*Pn **Pn** **15 29 10.2 +0.6**
JBT2 Biratori 2 8.29 246 P **Pn** **15 29 10.6 +0.2**
JNBK Urakawa-nobuka 8.32 242 P **Pn** **15 29 09.7 -1.1**
JEW Eniwo 8.85 249 P **Pn** **15 29 19.1 +1.2**
JKB Kayabe 9.60 245 P **Pn** **15 29 26.9 -1.4**
JKB *e*S **Sn** **15 31 09.1 -5.5**
JSH Shimam 9.85 251 P **Pn** **15 29 32.7 +1.0**
JYM2 Yakumo 2 9.90 247 P **Pn** **15 29 31.6 -0.7**
JTM Tenmabayashi 10.23 240 P **Pn** **15 29 35.0 -1.8**
JTM *e*S **Sn** **15 31 22.5 -7.5**

JANG Nango 10.23 237 P **Pn** **15 29 33.6 -3.3**
JANG *e*S Sn 15 31 20.4 -10
JTH Tanohata 10.33 234 P **Pn** **15 29 34.1 -4.1**
JTH *e*S Sn 15 31 22.4 -10
JOSM Okushiri--Mats 10.49 249 P **Pn** **15 29 39.7 -0.7**
OFUJ Ofunato 11.04 231 P **Pn** **15 29 44.1 -3.9**
TEY Ternei 11.34 268 *e*P **Pn** **15 29 56.2 +4.2**
TEY AMB AMB 15 30 01.0
comp=Z,50nm,1.0s
JRG Rokugo 11.39 235 P **Pn** **15 29 49.8 -2.9**
GRNR Gornyy 11.53 297 *e*P **Pn** **15 29 56.4 +1.8**
GRNR AMB AMB 15 29 57.7
comp=Z,30nm,1.0s
JOG2 Oga 2 11.54 239 P **Pn** **15 29 52.1 -2.6**
JIO Ouri 11.67 230 P **Pn** **15 29 52.8 -3.7**
JIO *e*S Sn 15 31 55.6 -10
HABR Khabarovsk 12.07 285 *e*PN **Pn** **15 30 01.0 -1.0**
HABR pmax pmax
comp=N,70nm,2.3s
HABR pmax pmax
comp=Z,95nm,2.3s
HABR pmax pmax
comp=E,100nm,2.3s
HABR MLR MLR
comp=Z,434nm,14.0s
HABR Khabarovsk 12.07 285 *e*P **Pn** **15 30 01.0 -1.0**
JYA Atsumi 12.46 235 P **Pn** **15 30 04.5 -2.9**
MA2 Magadan 13.04 356 P **Pn** **15 30 14.3 -0.9**
comp=Z,9.5nm,0.3s,baz=164,slow=12,SNR=48
MA2 LR LR 15 34 54.0
comp=Z,743nm,20.9s,baz=186,slow=36
JFY Yanaizu 13.32 231 P **Pn** **15 30 16.7 -2.4**
EKMR Ekimchan 14.26 304 *e*P **Pn** **15 30 32.0 +0.3**
EKMR AMB AMB 15 30 41.6
comp=Z,5.0nm,0.7s
KLR Kul'dur 14.28 288 P **Pn** **15 30 33.0 +1.1**
comp=Z,0.0nm,0.3s,baz=94,slow=12,SNR=3.5
KLR Kul'dur 14.28 288 *i* P **Pn** **15 30 33.8 +1.9**
KLR Kul'dur 14.28 288 *e*P **Pn** **15 30 33.8 +1.9**
USRK Ussuriysk Ar. 14.74 268 P **Pn** **15 30 37.8 -0.1**
comp=Z,0.9nm,0.3s,baz=77,slow=12,SNR=37
USRK LR LR 15 36 03.8
comp=Z,710nm,20.4s,baz=74,slow=36
MJAR Matsushiro Arr 14.76 232 P **Pn** **15 30 35.9 -2.4**
comp=Z,0.7nm,0.3s,baz=27,slow=13,SNR=59
MJB9 Matsu-Tunnel 14.76 232 *e*Pn **Pn** **15 30 35.2 -3.2**
MAJO Matsushiro 14.76 232*d i*P **Pn** **15 30 35.9 -2.4**
MAJO pmax pmax
comp=Z,237nm,0.7s
MAJO Matsushiro 14.76 232 *e*P **Pn** **15 30 35.9 -2.4**
MAJO Matsushiro 14.76 232 *e*Pn **Pn** **15 30 35.0 -3.3**
MAT Matsushiro 14.76 232 P **Pn** **15 30 35.2 -3.1**
MAT S **Sn** **15 33 21.2 +0.6**
SMY Shemya 15.12 58 *e*P **Pn** **15 30 40.0 -2.8**
SMY pmax pmax
comp=Z,350nm,1.5s
SMY Shemya 15.12 58 *e*Pn **Pn** **15 30 40.0 -2.8**
comp=Z,354nm,1.5s
VLA Vladivostok 15.16 264 *i* P **P** **15 30 46.2 -1.2**
VLA pmax pmax
comp=Z,18nm,0.7s
MDJ Mudanjiang 16.28 271 P **Pn** **15 30 56.0 -1.7**
MDJ pP pP 15 31 11.3 -0.6
MDJ sP sP 15 31 19.8 +0.9
MDJ pmax pmax
comp=Z,18nm,1.0s
MDJ pmax pmax
comp=Z,120nm,5.6s
MDJ LR LR
comp=Z,320nm,17.1s
MDJ LR LR
comp=Z,440nm,18.1s
MDJ LR LR
comp=Z,580nm,20.1s
MDJ Mudanjiang 16.28 271 *e*Pn **Pn** **15 30 56.6 -1.0**
comp=Z,56nm,1.3s
INU Inuyama 16.30 232 *e*Pn **Pn** **15 30 55.9 -2.0**
comp=Z,71nm,0.9s
SEY Seymchan 16.36 359 P **Pn** **15 30 58.1 -0.4**
comp=Z,1.5nm,0.3s,baz=177,slow=11,SNR=24
JHJ2 Mitsune 16.68 221 *e*Pn **P** **15 31 05.5 +1.1**
comp=Z,247nm,1.0s
JHJ Hachijo jima 2 16.69 221 P **P** **15 31 05.8 +1.4**
comp=Z,2.3nm,0.3s,baz=294,slow=3.5,SNR=5.6
BMKR Bomnak 17.09 307 *e*P **Pn** **15 31 08.0 +0.2**
BMKR AMB AMB 15 31 13.0
comp=Z,7.0nm,0.7s
ZEA Zeya 17.73 303 *e*P **Pn** **15 31 15.0 -0.5**
ZEA AMB AMB 15 31 35.6
comp=Z,40nm,1.0s
KROS Kirovskiy 18.06 305 *e*P **Pn** **15 31 19.6 0.0**
KROS AMB AMB 15 31 33.1
comp=Z,8.0nm,0.9s
CN2 Changchun 19.37 272 *e*P **P** **15 31 33.7 -0.1**
CN2 *ep*P pP 15 31 45.7 -0.4
CN2 *e*S **S** **15 35 02.0 -7.8**
CN2 pmax pmax
comp=Z,10.0nm,0.6s
CN2 pmax pmax
comp=Z,200nm,3.0s
CN2 LR LR
comp=Z,200nm,21.0s
CN2 LR LR
comp=Z,400nm,21.0s
CN2 LR LR
comp=Z,600nm,21.0s
YAK Yakutsk 20.29 328 P **P** **15 31 43.9 +0.3**
comp=Z,9.6nm,0.3s,baz=147,slow=0.8,SNR=13
YAK Yakutsk 20.29 328 *e*P **P** **15 31 44.3 +0.7**
YAK pmax pmax
comp=Z,58nm,2.0s
YAK pmax pmax
comp=N,38nm,1.7s
YAK pmax pmax
comp=E,42nm,1.5s
YAK Yakutsk 20.29 328 *e*P **P** **15 31 44.3 +0.7**
YAK Yakutsk 20.29 328 *e*P **P** **15 31 43.2 -0.4**
comp=E,64nm,0.8s
KSRS Korea Array 20.48 252 P **P** **15 31 47.2 +1.3**
comp=E,15nm,0.7s,baz=56,slow=11,SNR=38
KSRS LR LR 15 38 38.9
comp=E,282nm,20.2s,baz=64,slow=33
KS01 Wonju Array Si 20.48 252 *e*P **P** **15 31 47.3 +1.3**
KS15 Wonju Array Si 20.51 252 *e*P **P** **15 31 47.3 +1.0**
KSAR Wonju Array Be 20.51 252 P **P** **15 31 47.3 +1.0**
KSAR Wonju Array Be 20.51 252 P **P** **15 31 47.2 +1.0**
CBIJ Chichi jima 21.18 207 *e*P **P** **15 31 53.9 +0.4**
comp=E,97nm,0.9s
INCN Inchon 21.31 254 *e*P **P** **15 31 56.6 +1.7**
comp=E,42nm,0.9s
JNU Nakatsue 21.40 239 P **P** **15 31 57.0 +1.1**
comp=E,39nm,0.9s,baz=36,slow=7.0,SNR=18
JNU Nakatsue 21.40 239 *e*P **P** **15 31 57.4 +1.5**
comp=E,38nm,0.8s
BILL Bilibino 22.60 13‖ *i*P **P** **15 32 08.9 +0.5**
BILL *i* 15 32 23.5
BILL pmax pmax
comp=Z,10.0nm,0.8s
BILL Bilibino 22.60 13 *e*P **P** **15 32 08.9 +0.5**
NIKH Nikolski High 25.39 61 *e*P **P** **15 32 34.8 0.0**
comp=Z,235nm,1.4s
BOD Bodaibo 25.86 310 *e*P P 15 32 49.9 +11
BOD pmax pmax
comp=Z,11nm,1.4s
GAMB Gambell 26.11 36 *e*P **P** **15 32 40.0 -1.1**
comp=Z,65nm,1.2s
UNV Unalaska Valle 26.78 59 *e*P **P** **15 32 46.1 -1.2**
comp=Z,178nm,1.6s
BJI Beijing 27.19 269 P **P** **15 32 50.7 -0.3**
BJI S **S** **15 37 23.8 -1.9**
BJI pmax pmax
comp=Z,5.0nm,1.8s
BJI pmax pmax
comp=Z,110nm,9.5s
BJI LR LR
comp=Z,310nm,17.8s
BJI LR LR
comp=Z,640nm,18.2s
BJI LR LR
comp=Z,540nm,21.7s
JOW Kunigami 27.61 233 P **P** **15 32 55.8 +0.9**
comp=Z,22nm,0.9s,baz=96,slow=3.1,SNR=7.9
JOW Kunigami 27.61 233 *e*P **P** **15 32 55.9 +0.9**
comp=Z,90nm,1.2s
TIA Tai'an 28.41 261 *e*P **P** **15 33 02.7 +0.7**
TIA pmax pmax
comp=Z,10.0nm,0.7s
H11N2 WAKE ISLAND Hy 29.23 152 T T 16 04 29.7
baz=340,slow=76,SNR=7439
H11N1 WAKE ISLAND Hy 29.24 152 T T 16 04 47.7
baz=340,slow=76,SNR=7329
H11N3 WAKE ISLAND Hy 29.24 152 T T 16 04 47.9
baz=340,slow=76,SNR=4794
NJ2 Nanjing 29.68 253 *e*P **P** **15 33 14.2 +0.9**
MIDW Midway 29.78 118 *e*P **P** **15 33 15.1 +0.9**
comp=Z,195nm,1.7s
HHC Hu-ho-hao-te 30.02 274 *e*P **P** **15 33 18.3 +1.9**
HHC pP pP 15 33 32.8 +2.5
HHC S **S** **15 38 09.4 -1.1**
HHC sS sS 15 38 37.7 +3.6
HHC pmax pmax
comp=Z,9.0nm,1.0s
HHC pmax pmax
comp=Z,120nm,4.5s
HHC LR LR
comp=Z,340nm,13.8s
HHC LR LR
comp=Z,340nm,13.3s
HHC LR LR
comp=Z,320nm,17.3s
H11S1 WAKE ISLAND Hy 30.31 153 T T 16 05 53.5
baz=341,slow=76,SNR=8309
H11S3 WAKE ISLAND Hy 30.32 153 T T 16 05 49.5
baz=341,slow=76,SNR=5333
H11S2 WAKE ISLAND Hy 30.33 153 T T 16 06 01.2
baz=341,slow=76,SNR=7715
ULN Ulaanbaatar 30.67 289*ce*P **P** **15 33 24.4 +2.3**
ULN pmax pmax
comp=Z,15nm,2.5s
ULN Ulaanbaatar 30.67 289 *e*P **P** **15 33 24.7 +2.6**
comp=Z,5.6nm,1.1s
SONA1 Songino Array 31.10 290 *e*P **P** **15 33 25.5 -0.4**
SONM Songino Array 31.11 289 P **P** **15 33 25.5 -0.5**
comp=Z,1.7nm,0.9s,baz=76,slow=7.9,SNR=3.9
SONM LR LR 15 46 59.7
comp=Z,240nm,18.1s,baz=81,slow=38
TT01 Tatalina 32.71 41 *e*P **P** **15 33 39.3 -0.4**
TTA Tatalina 32.72 41 *e*P **P** **15 33 39.8 -0.1**
TTA pmax pmax
comp=Z,30nm,1.1s
TTA Tatalina 32.72 41 *e*P **P** **15 33 39.8 -0.1**
comp=Z,30nm,1.1s
SVW2 Sparrevohn 32.80 45 *e*P **P** **15 33 40.8 +0.4**
comp=Z,14nm,1.0s
GUMO Guam 33.57 194 LR LR 15 48 29.4
comp=Z,106nm,18.5s,baz=16,slow=38
WHN Wuhan 33.62 255‖ *e*P **P** **15 33 48.3 +0.4**
WHN *e*S **S** **15 39 04.7 -1.8**
WHN LR LR
comp=Z,600nm,15.4s
OHAK Old Harbor 34.09 52 *e*P **P** **15 33 50.6 -1.1**
comp=Z,62nm,1.1s
SSLB Suanglung 34.15 239 *e*P **P** **15 33 52.1 -0.5**
comp=Z,6.7nm,0.8s
RSO Redoubt South 34.18 46 *e*P **P** **15 33 51.8 -0.9**
YULB Yu-li 34.24 238 *e*P **P** **15 33 53.4 0.0**
comp=Z,9.5nm,0.8s
KDAK Kodiak Island 34.42 51 *e*P **P** **15 33 53.6 -0.9**
KDAK pmax pmax
comp=Z,50nm,0.9s
KDAK Kodiak Island 34.42 51 *e*P **P** **15 33 53.6 -0.9**
comp=Z,50nm,0.8s
PPLA Purkeypile 34.46 42 *e*P **P** **15 33 55.5 +0.4**
comp=Z,74nm,1.4s
SPU Mount Spurr 34.51 45 *e*P **P** **15 33 55.3 -0.1**
CAST Castle Rocks 34.53 41 *e*P **P** **15 33 55.4 -0.1**
comp=Z,20nm,1.1s
TPUB Ta-pu 34.71 239 *e*P **P** **15 33 57.8 +0.3**
comp=Z,19nm,0.8s
TWG Pinlang 34.81 238 *e*P **P** **15 33 57.5 -0.8**
comp=Z,156nm,1.1s
CNPM China Poot 34.98 48 *e*P **P** **15 33 59.0 -0.4**
comp=Z,81nm,1.6s
KTH Kantishna Hill 35.06 40 *e*P **P** **15 34 00.2 +0.1**
comp=Z,81nm,1.1s
XAN Xi'an 35.22 265 P **P** **15 34 01.7 -0.1**
XAN pP pP 15 34 16.7 +0.9
XAN S **S** **15 39 27.7 -3.6**
XAN pmax pmax
comp=Z,16nm,1.2s
XAN pmax pmax
comp=Z,100nm,7.4s
XAN LR LR
comp=Z,140nm,14.8s
XAN LR LR
comp=Z,370nm,15.7s
TRF Thorofare Moun 35.34 41 *e*P **P** **15 34 02.5 -0.2**
comp=Z,28nm,0.6s
COLD Coldfoot 35.61 34 *e*P **P** **15 34 05.0 +0.2**
comp=Z,26nm,0.8s
RC01 Rabbit Creek A 35.63 45 *e*P **P** **15 34 04.1 -0.9**
comp=Z,32nm,1.0s
PMR Palmer 35.90 44 *e*P **P** **15 34 06.9 -0.3**
PMR pmax pmax
comp=Z,10.0nm,0.8s
PMR Palmer 35.90 44 *e*P **P** **15 34 06.9 -0.3**
comp=Z,10nm,0.8s
MCK McKinley 35.95 40 *e*P **P** **15 34 07.5 -0.2**
MCK pmax pmax
comp=Z,37nm,1.0s
MCK McKinley 35.95 40 *e*P **P** **15 34 07.5 -0.2**
MCK McKinley 35.95 40 *e*P **P** **15 34 07.5 -0.2**
comp=Z,37nm,1.0s
RND Reindeer 35.98 41 *e*P **P** **15 34 07.5 -0.6**
RND pmax pmax
comp=Z,40nm,1.0s
RND Reindeer 35.98 41 *e*P **P** **15 34 07.5 -0.6**
comp=Z,40nm,1.1s
MDM Murphy Dome 36.27 38 *e*P **P** **15 34 10.7 +0.3**
comp=Z,35nm,1.0s
SML Sawmill 36.27 43 *e*P **P** **15 34 10.2 -0.3**
SML pmax pmax
comp=Z,86nm,1.0s
SML Sawmill 36.27 43 *e*P **P** **15 34 10.2 -0.3**
comp=Z,86nm,1.0s
WRH Wood River Hil 36.32 39 *e*P **P** **15 34 10.9 +0.1**
comp=Z,15nm,0.9s
COLA College 36.43 38 *e*P **P** **15 34 12.2 +0.5**
COLA pmax pmax
comp=Z,56nm,0.6s
COLA College 36.43 38 *e*P **P** **15 34 12.1 +0.5**
COLA College 36.43 38 *e*P **P** **15 34 12.2 +0.5**
comp=Z,56nm,0.6s
CCB Clear Creek Bu 36.45 39 *e*P **P** **15 34 11.4 -0.4**
comp=Z,20nm,1.0s
DHY Denali Highway 36.66 41 *e*P **P** **15 34 13.4 -0.5**
comp=Z,63nm,1.4s
SCM Sheep Creek Mo 36.75 43 *e*P **P** **15 34 14.3 -0.3**
SCM pmax pmax
comp=Z,39nm,1.1s
SCM Sheep Creek Mo 36.75 43 *e*P **P** **15 34 14.3 -0.3**
comp=Z,39nm,1.1s
HDA Harding Lake 36.82 39 *e*P **P** **15 34 14.5 -0.5**
comp=Z,24nm,1.0s
IL1 Eielson Array 36.84 38 *e*P **P** **15 34 14.4 -0.8**
ILAR Eielson Array 36.84 38 P **P** **15 34 14.8 -0.5**
comp=Z,8.6nm,1.0s,baz=260,slow=6.7,SNR=51
ILAR pP **pP** **15 34 28.8 -0.5**
comp=Z,26nm,1.1s,baz=260,slow=7.1,SNR=22
ILAR LR LR 15 51 19.1
comp=Z,166nm,19.9s,baz=285,slow=39
ILB Eielson Array 36.84 38 *e*P **P** **15 34 14.4 -0.8**
ENH Enshi 37.06 259 *e*P **P** **15 34 16.5 -1.0**
comp=Z,21nm,0.9s
FYU Fort Yukon 37.53 35 *e*P **P** **15 34 21.7 +0.7**
comp=Z,72nm,0.9s
PAX Paxson 37.53 41 *e*P **P** **15 34 21.1 -0.2**
PAX pmax pmax
comp=Z,8.0nm,0.8s
PAX Paxson 37.53 41 *e*P **P** **15 34 21.1 -0.2**
comp=Z,8.1nm,0.8s
DIV Divide 37.55 44 *e*P **P** **15 34 21.4 0.0**
comp=Z,26nm,0.8s
LZH Lanzhou 37.60 272 *e*P **P** **15 34 23.5 +1.3**
LZH pP pP 15 34 38.7 +2.3
LZH sP sP 15 34 46.0 +3.1
LZH PP **PnPn** **15 35 53.0 +2.8**
LZH *e*S **S** **15 40 07.2 -0.7**
LZH sS sS 15 40 32.7 +0.9
LZH *e*SS **SnSn** **15 42 42.3 -8.3**
LZH pmax pmax
comp=Z,51nm,1.4s

LZH pmax pmax
comp=Z,150nm,4.5s
LZH LR LR
comp=Z,420nm,13.0s
LZH LR LR
comp=Z,400nm,14.0s
LZH LR LR
comp=Z,760nm,16.8s
DOT Dot Lake 38.12 40 *e*P **P** 15 34 25.4 -0.7
comp=Z,300nm,0.8s
BMRM Bremner River 38.13 45 *e*P **P** 15 34 26.8 +0.5
comp=Z,37nm,1.0s
MENT Mentasta 38.33 41 *e*P **P** 15 34 27.9 0.0
comp=Z,24nm,1.3s
MENT *e*S **S** 15 40 21.2 +3.1
NRIK Noril'sk 38.73 329 LR LR 15 51 07.3
comp=Z,100nm,20.6s,baz=127,slow=37
BALM Baldy 39.22 44 *e*P **P** 15 34 35.8 +0.4
BALM pmax pmax
comp=Z,23nm,1.0s
BALM Baldy 39.22 44 *e*P **P** 15 34 35.8 +0.4
comp=Z,23nm,1.0s
EGAK Eagle 39.29 38 *e*P **P** 15 34 35.3 -0.6
comp=Z,49nm,1.0s
DAWY Dawson 40.13 39 *e*P **P** 15 34 43.0 0.0
comp=Z,11nm,0.9s
CD2 Chengdu 40.58 265⇑ *i*P **P** 15 34 47.7 +0.7
CD2 pP pP 15 35 01.3 0.0
CD2 sP sP 15 35 11.8 +4.1
CD2 PP **PP** **15 36 23.5 +2.3**
CD2 S **S** **15 40 51.1 -1.4**
CD2 sS sS 15 41 14.8 -1.8
CD2 pmax pmax
comp=Z,40nm,0.8s
CD2 pmax pmax
comp=Z,100nm,7.8s
CD2 LR LR
comp=Z,190nm,14.3s
CD2 LR LR
comp=Z,190nm,14.3s
CD2 LR LR
comp=Z,270nm,16.7s
GYA Guiyang 41.40 257⇑ *i*P **P** 15 34 53.2 -0.7
GYA pP pP 15 35 11.4 +3.2
GYA PP **PnPn** **15 36 34.0 -1.2**
GYA S **S** **15 41 05.2 +0.3**
GYA sS sS 15 41 32.8 +3.8
GYA SS **SS** **15 44 02.6 -7.8**
GYA pmax pmax
comp=Z,20nm,0.8s
GYA pmax pmax
comp=Z,120nm,5.6s
GYA LR LR
comp=Z,460nm,17.8s
GYA LR LR
comp=Z,410nm,18.0s
GYA LR LR
comp=Z,430nm,17.6s
HYT Haines Junctio 41.58 44 *e*P **P** 15 34 56.3 +1.4
comp=Z,93nm,1.8s
INK Inuvik 41.93 32 *e*P **P** 15 34 58.0 +0.5
INK pmax pmax
comp=Z,20nm,0.8s
INK Inuvik 41.93 32 *e*P **P** 15 34 57.6 +0.2
comp=Z,20nm,0.8s
ZALV Zalesovo Beam 42.46 306 P **P** 15 34 59.7 -2.3
comp=Z,0.3nm,0.3s,baz=57,slow=5.3,SNR=2.4
ZALV PcP **PcP** **15 36 53.4 -0.5**
comp=Z,1.3nm,0.6s,baz=70,slow=1.7,SNR=3.7
ZALV LR LR 15 54 12.1
comp=Z,94nm,18.7s,baz=70,slow=38
WHY Whitehorse 42.87 44 *e*P **P** 15 35 06.8 +1.4
comp=Z,19nm,0.9s
SKAG Skagway 42.97 45 *e*P **P** 15 35 07.4 +1.3
comp=Z,8.5nm,1.0s
QIZ Qiongzhong 44.53 247 P **P** 15 35 19.4 +0.4
QIZ PP **PP** **15 37 04.7 +1.0**
QIZ S **S** **15 41 51.6 +1.0**
QIZ pmax pmax
comp=Z,84nm,9.3s
QIZ LR LR
comp=Z,190nm,17.6s
QIZ LR LR
comp=Z,100nm,18.8s
QIZ LR LR
comp=Z,210nm,19.6s
WMQ Urumqi 44.71 291 P **P** 15 35 22.0 +1.7
WMQ pP pP 15 35 37.5 +2.7
WMQ ScP **ScP** **15 40 52.0 +2.8**
WMQ S **S** **15 41 52.9 0.0**
WMQ pmax pmax
comp=Z,15nm,0.6s
WMQ pmax pmax
comp=Z,110nm,4.7s
WMQ LR LR
comp=Z,120nm,22.5s
WMQ LR LR
comp=Z,140nm,22.5s
WMQ LR LR
comp=Z,72nm,26.3s
KMI Kunming 44.93 259 P **P** 15 35 23.7 +1.2
KMI pmax pmax
comp=Z,12nm,0.5s
KMI pmax pmax
comp=Z,140nm,5.4s
DLBC Dease Lake 45.90 46 *e*P **P** 15 35 31.0 +1.4
comp=Z,19nm,1.0s
SLVN Son La 46.73 254 *e*P **P** 15 35 36.8 +0.3
comp=Z,7.6nm,0.9s
MK31 Makanchi Array 46.75 297 *e*P **P** 15 35 34.7 -1.6
MK31 Makanchi Array 46.75 297 *e*P **P** 15 35 34.7 -1.6
MKAR Makanchi Array 46.75 297 *e*P **P** 15 35 35.0 -1.4
MKAR pmax pmax
comp=Z,17nm,0.7s
MKAR Makanchi Array 46.75 297 *e*P **P** 15 35 34.4 -1.9
comp=Z,17nm,0.7s
MK01 Makanchi Array 46.76 297 *e*P **P** 15 35 35.0 -1.4
KURK Kurchatov 47.20 304 *i* P **P** 15 35 39.4 -0.4
KURK pmax pmax
comp=Z,9.0nm,0.9s
KURK Kurchatov 47.20 304 *e*P **P** 15 35 39.4 -0.4
KURK Kurchatov 47.20 304 *e*P **P** 15 35 38.1 -1.7
comp=Z,4.0nm,0.9s
LSA Lhasa 49.99 273 *e*P **P** 15 36 03.4 +1.3
LSA pmax pmax
comp=Z,11nm,0.7s
LSA Lhasa 49.99 273 *e*P **P** 15 36 03.4 +1.3
comp=Z,11nm,0.7s
BRVK Borovoye 50.77 309 *i* P **P** 15 36 07.8 +0.8
BRVK pmax pmax
comp=Z,3.0nm,0.6s
YKA Yellowknife Ar 51.21 37 P **P** 15 36 10.2 0.0
comp=Z,3.6nm,0.8s,baz=295,slow=6.9,SNR=9.5
YKA PcP **PcP** **15 37 25.0 +0.3**
comp=Z,2.1nm,0.7s,baz=298,slow=4.3,SNR=4.6
YKA LR LR 16 00 13.2
comp=Z,9.2nm,19.0s,baz=0.0,slow=39
YKA Yellowknife Ar 51.21 37 *i* P **P** 15 36 10.3 +0.1
YKA pmax pmax
comp=Z,4.0nm,0.8s
CHTO Chiang Mai 51.80 256 *e*P **P** 15 36 16.6 +1.4
CHTO pmax pmax
comp=Z,12nm,0.8s
CHTO Chiang Mai 51.80 256 *e*P **P** 15 36 15.9 +0.7
comp=Z,12nm,0.8s
CMAR Chiang Mai Arr 52.06 256 P **P** 15 36 18.2 +1.2
comp=Z,4.7nm,0.8s,baz=36,slow=7.4,SNR=30
CMAR pP **pP** **15 36 32.9 +1.1**
comp=Z,7.7nm,0.8s,baz=40,slow=7.3,SNR=15
CMAR LR LR 16 00 21.9
comp=Z,156nm,19.0s,baz=59,slow=38
CM01 Chiang Mai Arr 52.07 256 *e*P **P** 15 36 18.1 +0.9
FAKI Fak Fak 52.52 206 *e*P **P** 15 36 20.8 +0.3
comp=Z,24nm,1.0s
FAKI *e*pP **pP** **15 36 35.5 +0.3**
LLLB Lilooet 53.61 52 *e*P **P** 15 36 29.1 +0.9
comp=Z,12nm,0.8s
AAK Ala-Archa 53.64 296 *e*P **P** 15 36 30.6 +1.9
AAK pmax pmax
comp=Z,7.0nm,1.1s
TAPN Taplejung 53.82 273 *e*P **P** 15 36 29.5 -0.8
comp=Z,19nm,0.7s
ODAN Odare 54.35 273 *e*P **P** 15 36 34.3 +0.2
comp=Z,48nm,1.1s
KSH Kashi 54.44 292 *e*P **P** 15 36 38.7 +4.2
KSH pP sP 15 36 53.7 -2.0
KSH PP **PP** **15 38 42.7 +5.9**
KSH S **S** **15 44 11.3 +2.2**
KSH sS sS 15 44 38.0 +4.0
KSH SS **SS** **15 47 54.4 +2.9**
KSH pmax pmax
comp=Z,56nm,5.1s
KSH LR LR
comp=Z,170nm,12.6s
KSH LR LR
comp=Z,110nm,10.8s
KSH LR LR
comp=Z,130nm,7.0s
JIRN Jiri 54.67 274 *e*P **P** 15 36 36.6 0.0
comp=Z,51nm,0.7s
RAMN Ramite 54.84 273 *e*P **P** 15 36 37.9 +0.2
comp=Z,57nm,0.7s
ARU Arti 54.92 317 *d i*P **P** 15 36 36.1 -1.5
ARU 15 37 37.9
ARU 15 38 37.3
ARU S **S** **15 44 13.9 -0.9**
ARU SS **SS** **15 47 59.4 +1.3**
ARU pmax pmax
comp=Z,2.0nm,1.0s
RPW Rockport 54.96 54 P **P** 15 36 38.4 +0.4
KKN Kakani 55.21 275 *e*P **P** 15 36 40.3 -0.1
comp=Z,56nm,1.1s
PKI Pulchoki 55.26 275 *e*P **P** 15 36 41.0 +0.2
comp=Z,18nm,0.8s
PKIN Phulchoki 55.27 275 *e*P **P** 15 36 40.8 0.0
comp=Z,10.0nm,0.6s
DMN Daman 55.45 275 *e*P **P** 15 36 42.6 +0.5
comp=Z,43nm,0.9s
GKN Gorkha 55.52 276 *e*P **P** 15 36 42.7 +0.2
comp=Z,42nm,0.8s
NLW Nelson Butte 55.82 54 P **P** 15 36 45.1 +0.8
PMG Port Moresby 55.98 187 LR LR 15 56 43.3
comp=Z,50nm,21.7s,baz=336,slow=32
HNR Honiara 56.16 171 LR LR 15 58 32.9
comp=Z,64nm,21.5s,baz=31,slow=33
B08A Colville Reser 56.22 53 *e*P **P** 15 36 47.1 +0.1
comp=Z,10nm,0.8s
KOLN Koldanda 56.38 276 *e*P **P** 15 36 49.2 +0.5
comp=Z,26nm,0.8s
PYUN Piuthan 56.59 277 *e*P **P** 15 36 51.0 +0.8
comp=Z,50nm,1.1s
EDM Edmonton 56.62 46 *e*P **P** 15 36 50.2 +0.3
EDM Edmonton 56.62 46 *e*P **P** 15 36 50.2 +0.3
comp=Z,51nm,0.8s
D08A Wollman Farm, 57.19 54 *e*P **P** 15 36 53.6 -0.3
comp=Z,7.9nm,0.9s
CROR Criterion Ridg 57.20 57 P **P** 15 36 55.2 +1.1
HAWA Hanford 57.23 55 *e*pP pP 15 37 09.9 +0.8
VTHM Trough 57.33 57 P **P** 15 36 56.3 +1.3
NEW Newport 57.49 52 *e*P **P** 15 36 56.6 +0.5
NEW *e**PP **pP** **15 37 12.2 +1.2**
NEW Newport 57.49 52 *e*P **P** 15 36 56.6 +0.5
NEW Newport 57.49 52 *e*P **P** 15 36 56.6 +0.5
comp=Z,13nm,1.1s
NEW *e*pP **pP** **15 37 12.2 +1.2**
ARCES ARCESS Array B 57.89 341 LR LR 16 06 39.0
comp=Z,79nm,18.4s,baz=38,slow=41
E09A Wood Farm, Sta 57.94 55 *e*P **P** 15 36 59.4 +0.2
comp=Z,16nm,0.9s
ABKAR Akbulak array 58.30 310 *e*P **P** 15 37 01.9 +0.3
comp=Z,22nm,0.6s
K05A Summer Lake 58.57 60 *e*P **P** 15 37 03.9 0.0
comp=Z,11nm,0.8s
WALA Waterton Lakes 58.75 50 *e*P **P** 15 37 05.0 +0.1
comp=Z,23nm,0.7s
F10A Beach Ranch, E 58.77 55 *e*P **P** 15 37 05.1 0.0
comp=Z,6.3nm,0.9s
BSMT Bassoo Peak 59.00 52 P **P** 15 37 07.4 +0.6
BLMT Blacktail Moun 59.14 51 *e*P **P** 15 37 08.7 +0.9
BLMT *e*pP **pP** **15 37 21.2 -1.6**
JTMT Jette 59.34 52 *e*P **P** 15 37 09.7 +0.6
JTMT *e*pP **pP** **15 37 23.2 -0.9**
BMO Blue Mountains 59.39 56 *e*P **P** 15 37 10.1 +0.6
BMO pmax pmax
comp=Z,8.0nm,1.0s
BMO Blue Mountains 59.39 56 *e*P **P** 15 37 10.1 +0.6
comp=Z,7.8nm,1.0s
MOD Modoc Plateau 59.41 60 *e*P **P** 15 37 10.6 +0.9
comp=Z,8.2nm,0.8s
SWMT Swartz Lake 59.63 52 *e*P **P** 15 37 11.6 +0.5
SLMT Seeley Lake 60.07 52 *e*P **P** 15 37 14.1 0.0
MSO Missoula 60.08 52 *e*P **P** 15 37 14.5 +0.3
comp=Z,17nm,0.9s
WVOR Wild Horse Val 60.08 59 *e*P **P** 15 37 15.1 +0.9
WVOR pmax pmax
comp=Z,10.0nm,0.9s
WVOR Wild Horse Val 60.08 59 *e*P **P** 15 37 15.1 +0.9
comp=Z,9.6nm,0.9s
ORV Oroville 60.10 63 *e*P **P** 15 37 14.5 +0.2
ORV pmax pmax
comp=Z,4.0nm,1.0s
ORV Oroville 60.10 63 *e*P **P** 15 37 14.5 +0.2
comp=Z,4,4nm,1.0s
CHMT Chamberlain Mo 60.40 52 *e*P **P** 15 37 16.4 -0.1
SUMG Summit 60.86 4⇓ *i*P **P** 15 37 18.9 -0.5
comp=Z,31nm,0.8s
SUMG Summit 60.86 4⇓ *i*P **P** 15 37 18.9 -0.5
SUMG pmax pmax
comp=Z,31nm,0.8s
SUMG Summit 60.86 4 *e*P **P** 15 37 18.7 -0.7
comp=Z,36nm,0.9s
COEN Coen 60.89 191 *e*P **P** 15 37 20.8 +1.1
comp=Z,14nm,0.8s
COEN *e*pP **pP** **15 37 36.7 +1.9**
FFC Flin Flon 61.03 40 *e*P **P** 15 37 21.0 +0.6
FFC Flin Flon 61.03 40 *e*P **P** 15 37 21.3 +0.9
FFC Flin Flon 61.03 40 *e*P **P** 15 37 20.5 +0.1
comp=Z,18nm,1.0s
MFID Camas Ranch 61.11 56 *e*P **P** 15 37 21.8 +0.6
comp=Z,5.3nm,0.9s
MFID *e*pP **pP** **15 37 36.3 0.0**
HRY Holter Researc 61.29 51 *e*P **P** 15 37 23.1 +0.7
LRM Limekiln Ridge 61.51 52 *e*P **P** 15 37 24.6 +0.6
PNTR Pine Nut 61.55 62 *e*P **P** 15 37 25.8 +1.4
comp=Z,9.8nm,0.8s
EGMT Eagleton 61.57 49 *e*P **P** 15 37 24.5 +0.2
comp=Z,28nm,0.9s
DLMT Dillon 61.72 53 *e*P **P** 15 37 25.8 +0.4
comp=Z,38nm,2.0s
HLID Hailey 61.83 55 *e*P **P** 15 37 26.8 +0.6
comp=Z,4.8nm,1.0s
YERR Yerington 61.84 62 *e*P **P** 15 37 27.2 +0.9
comp=Z,8.9nm,0.9s
YERR *e*pP **pP** **15 37 40.0 -1.4**
MCMT McKenzie Canyo 61.91 54 *e*P **P** 15 37 26.9 +0.1
WAKR Walker 62.02 63 *e*P **P** 15 37 28.8 +1.3
comp=Z,5.2nm,0.9s
BOZ Bozeman (W) 62.10 52 *e*P **P** 15 37 28.6 +0.7
BOZ Bozeman (W) 62.10 52 *e*P **P** 15 37 28.4 +0.4
comp=Z,67nm,1.8s
BMN Battle Mountai 62.15 60 *e*P **P** 15 37 29.5 +1.2
BMN Battle Mountai 62.15 60 *e*P **P** 15 37 29.0 +0.7
comp=Z,8.4nm,0.8s
TVH3 East Aurora ar 62.49 62 *e*P **P** 15 37 31.1 +0.4
comp=Z,3.9nm,0.9s
QLMT Earthquake Lak 62.70 53 *e*P **P** 15 37 32.8 +0.9
YHB Horse Butte 62.88 53 *e*P **P** 15 37 34.0 +0.8
comp=Z,13nm,0.9s
GCMT Greycliff 63.04 51 *e*P **P** 15 37 34.8 +0.7
YHH Holmes Hill 63.04 53 *e*P **P** 15 37 35.1 +0.8
comp=Z,8.4nm,0.9s
YNR Norris Junctio 63.18 53 *e*P **P** 15 37 36.0 +0.8
comp=Z,8.6nm,0.9s
YFT Old Faithful 63.26 53 *e*P **P** 15 37 37.8 +2.0
comp=Z,7.6nm,0.8s
YPP Pitchstone Pla 63.40 53 *e*P **P** 15 37 38.3 +1.6
comp=Z,11nm,1.5s
LKWY Lake 63.43 53 *e*P **P** 15 37 39.2 +2.3
LKWY pmax pmax
comp=Z,10.0nm,0.6s
LKWY Lake 63.43 53 *e*P **P** 15 37 39.2 +2.3
comp=Z,10nm,0.6s
H17A Grant Village 63.44 53 *e*P **P** 15 37 39.2 +2.3
comp=Z,14nm,1.0s
IMW Indian Meadow 63.56 53 *e*P **P** 15 37 38.6 +0.7
comp=Z,11nm,1.1s
FLWY Flagg Ranch 63.58 53 *e*P **P** 15 37 39.1 +1.3
comp=Z,7.7nm,0.9s
RLMT Red Lodge 63.69 51 *e*P **P** 15 37 39.2 +0.7
comp=Z,28nm,1.5s
MOOW Moose Ponds 63.77 53 *e*P **P** 15 37 39.8 +0.7
comp=Z,6.1nm,0.8s
TPAW Teton Pass 63.82 54 *e*P **P** 15 37 41.1 +1.6
comp=Z,18nm,0.8s
HVU Hansel Valley 63.89 56 *e*P **P** 15 37 41.2 +1.3
HVU Hansel Valley 63.89 56 *e*P **P** 15 37 40.8 +0.9
comp=Z,6.8nm,0.9s
LOHW Long Hollow 63.93 53 *e*P **P** 15 37 41.0 +0.8
comp=Z,22nm,1.5s
REDW Red Top Meadow 63.96 54 *e*P **P** 15 37 41.3 +0.9
comp=Z,14nm,0.8s
FIA1 FINESS Array S 64.05 335 *e*P **P** 15 37 38.9 -1.4
FINES FINESS Array B 64.05 335 P **P** 15 37 39.2 -1.1
comp=Z,7.9nm,0.7s,baz=36,slow=7.6,SNR=25
DGMT Dagmar 64.11 46 *e*P **P** 15 37 41.8 +0.7
comp=Z,31nm,0.8s
LAO LASA Array 64.27 49 *e*P **P** 15 37 42.8 +0.6
comp=Z,26nm,0.9s
LAO *e*pP **pP** **15 37 58.4 +1.1**
R11A Troy Canyon, C 64.45 61 *e*P **P** 15 37 43.8 +0.2
comp=Z,5.8nm,0.8s
HWUT Hardware Ranch 64.69 56 *e*P **P** 15 37 45.9 +0.7
comp=Z,19nm,1.4s
DUG Dugway, Tooele 64.89 57 *e*P **P** 15 37 47.6 +1.2
DUG Dugway, Tooele 64.89 57 *e*P **P** 15 37 47.6 +1.2
comp=Z,13nm,1.0s
TPNV Topopah Spring 64.95 62 *e*P **P** 15 37 47.4 +0.5
TPNV Topopah Spring 64.95 62 *e*P **P** 15 37 46.9 +0.1
comp=Z,9.9nm,1.1s
BW06 Boulder Array 65.06 54 *e*P **P** 15 37 47.7 +0.1
comp=Z,0.6nm,0.9s
PD31 Pinedale Array 65.06 54 *e*P **P** 15 37 47.4 -0.1
PDAR Pinedale Array 65.06 54 P **P** 15 37 47.9 +0.3
comp=Z,8.3nm,0.8s,baz=289,slow=1.9,SNR=63
PDAR pP **pP** **15 38 03.0 +0.3**
comp=Z,5.5nm,0.7s,baz=264,slow=2.8,SNR=11
PDAR LR LR 16 05 37.8
comp=Z,32nm,21.0s,baz=334,slow=35
MWC Mount Wilson 65.61 65 *e*P **P** 15 37 51.3 +0.2
MWC *e**PP **pP** **15 38 07.3 +0.9**
MWC pmax pmax
comp=Z,23nm,1.4s
MWC Mount Wilson 65.61 65 *e*P **P** 15 37 51.3 +0.2
comp=Z,22nm,1.4s
MWC *e*pP **pP** **15 38 07.3 +0.9**
GSC Goldstone, Bar 65.68 64 *e*P **P** 15 37 52.3 +0.8
GSC *e**PP **pP** **15 38 07.7 +1.0**
GSC Goldstone, Bar 65.68 64 *e*P **P** 15 37 51.9 +0.4
comp=Z,6.1nm,0.8s
GSC *e*pP **pP** **15 38 07.7 +1.0**
MPU Maple Canyon 65.70 57 *e*P **P** 15 37 51.8 +0.2
comp=Z,9.7nm,0.9s
CCUT Cedar City 66.30 60 *e*P **P** 15 37 55.5 -0.2
comp=Z,6.5nm,0.9s
MSU Marysvale 66.37 59 *e*P **P** 15 37 57.4 +1.4
MSU Marysvale 66.37 59 *e*P **P** 15 37 57.1 +1.1
TMUT Trail Mountain 66.42 57 *e*P **P** 15 37 57.1 +0.7
comp=Z,10nm,1.0s
GEYT Alibeck 66.43 301 P **P** 15 37 55.8 -0.3
comp=Z,2.6nm,0.6s,baz=32,slow=10,SNR=3.3
GEYT LR LR 16 09 03.1
comp=Z,120nm,18.4s,baz=75,slow=38
SZCU Shurtz Canyon 66.44 60 *e*P **P** 15 37 57.1 +0.7
comp=Z,5.5nm,0.9s
MTPU Mount Pierson 66.68 59 *e*P **P** 15 37 59.4 +1.2
comp=Z,7.4nm,0.8s
LCMT Little Creek M 66.73 60 *e*P **P** 15 37 59.1 +0.9
comp=Z,11nm,0.8s
K22A Casper 66.81 52 *e*P **P** 15 37 58.9 +0.2
comp=Z,9.2nm,0.8s
ULM Lac du Bonnet 66.82 41 P **P** 15 37 57.6 -0.8
comp=Z,6.0nm,0.7s,baz=286,slow=9.1,SNR=7.5
ULM LR LR 16 09 44.3
comp=Z,64nm,18.8s,baz=312,slow=38
LDFC Landfair 66.88 63 *e*P **P** 15 37 59.3 +0.1
comp=Z,27nm,1.1s
SRU San Rafael Swe 66.94 57 *e*P **P** 15 38 00.5 +0.9
SRU San Rafael Swe 66.94 57 *e*P **P** 15 38 00.2 +0.6
comp=Z,17nm,0.8s
KNB Kanab 66.98 60 *e*P **P** 15 38 01.4 +1.5
KNB Kanab 66.98 60 *e*P **P** 15 38 01.1 +1.3
comp=Z,15nm,0.9s
RSSD Black Hills 67.14 50 *e*P **P** 15 38 01.1 +0.3
RSSD Black Hills 67.14 50 *e*P **P** 15 38 00.7 -0.1
comp=Z,19nm,0.7s
BAR Barrett 67.49 66 *e*P **P** 15 38 03.1 +0.1
comp=Z,6.8nm,0.9s
BAR *e*pP **pP** **15 38 18.8 +0.5**
W13A Hualapai Mount 67.61 62 *e*P **P** 15 38 04.2 +0.2
comp=Z,6.3nm,1.0s
U15A North Rim 67.69 60 *e*P **P** 15 38 05.3 +0.8
comp=Z,12nm,1.1s
NC405 NORSAR Array S 68.09 341 *e*P **P** 15 38 05.4 -0.9
Y12C Blythe 68.12 64 *e*P **P** 15 38 07.2 +0.3
comp=Z,13nm,1.0s
NC204 NORSAR Array S 68.16 341 *e*P **P** 15 38 06.5 -0.3
NB201 NORSAR Array S 68.24 341 *e*P **P** 15 38 06.5 -0.8
NB2 NORSAR Subarra 68.27 341 P **P** 15 38 06.3 -1.1
comp=Z,10nm,0.8s,baz=28,slow=6.5
NOA NORSAR Array B 68.27 341 P **P** 15 38 06.0 -1.4
comp=Z,9.3nm,0.7s,baz=28,slow=6.3,SNR=26
NOA LR LR 16 11 58.3
comp=Z,84nm,19.0s,baz=25,slow=39
WRAB Tennant Creek 68.27 199 *ce*P **P** 15 38 08.8 +1.0
WRAB pmax pmax
comp=Z,13nm,0.7s
WRA Warramunga Arr 68.28 199 P **P** 15 38 07.9 0.0
comp=Z,5.9nm,0.8s,baz=20,slow=6.8,SNR=37
WRA pP **pP** **15 38 23.9 +0.6**
comp=Z,7.3nm,0.8s,baz=18,slow=6.8,SNR=15
WRA Warramunga Arr 68.28 199 *i* P **P** 15 38 08.1 +0.2
WRA pmax pmax
comp=Z,6.0nm,0.8s
N23A Red Feather La 68.32 53 *e*P **P** 15 38 08.4 +0.1
comp=Z,16nm,1.2s
NBO02 NORSAR Array S 68.34 341 *e*P **P** 15 38 06.8 -1.1
GLA Glamis 68.40 64 *e*P **P** 15 38 08.2 -0.5
GLA pmax pmax
comp=Z,12nm,0.8s
GLA Glamis 68.40 64 *e*P **P** 15 38 08.2 -0.5
comp=Z,12nm,0.8s
WUAZ Wupatki 68.85 60 *e*P **P** 15 38 11.9 +0.3
comp=Z,7.7nm,0.9s
WUAZ *e*pP **pP** **15 38 28.4 +1.4**
FITZ Fitzroy Crossi 68.88 208 *e*P **P** 15 38 12.6 +1.0
comp=Z,13nm,0.9s
Y14A Wickenburg 68.93 63 *e*P **P** 15 38 11.9 -0.1
comp=Z,31nm,0.8s
113A Mohawk Valley, 69.25 64 *e*P **P** 15 38 13.2 -0.7
comp=Z,6.6nm,1.1s
ISCO Idaho Springs 69.26 54 *e*P **P** 15 38 15.4 +1.1
ISCO Idaho Springs 69.26 54 *e*P **P** 15 38 14.7 +0.4
comp=Z,9.0nm,0.8s
MVCO Mesa Verde 69.40 57 *e*P **P** 15 38 15.0 -0.1
comp=Z,11nm,0.8s
X16A Lo Mia Camp, P 69.56 61 *e*P **P** 15 38 16.7 +0.7
comp=Z,9.9nm,0.9s
KONO Kongsberg 69.88 341 *ce*P **P** 15 38 17.7 +0.4
KONO pmax pmax
comp=Z,69nm,1.2s
S22A 4UR Ranch, Cre 69.99 56 *e*P **P** 15 38 19.4 +0.6
comp=Z,8.7nm,0.9s
Q24A Divide 70.09 54 *e*P **P** 15 38 19.8 +0.3
comp=Z,6.3nm,0.9s
OGNE Ogallala 70.41 51 *e*P **P** 15 38 21.3 +0.3
comp=Z,43nm,0.8s
EYMN Ely 70.46 40 *e*P **P** 15 38 20.0 -1.1
comp=Z,7.4nm,0.8s
KIV Kislovodsk 70.69 314 *e*P **P** 15 38 21.8 -0.9
KIV pmax pmax
comp=Z,7.0nm,1.0s
KIV MLR MLR
comp=Z,91nm,17.0s
SDCO Great Sand Dun 70.75 55 *e*P **P** 15 38 23.7 +0.3
KBZ Khabaz 70.75 314 P **P** 15 38 21.4 -1.5
comp=Z,1.0nm,0.4s,baz=72,slow=3.2,SNR=4.5
KBZ LR LR 16 14 03.5
comp=Z,70nm,18.8s,baz=48,slow=40
ECSD EROS Data Cent 71.19 46 *e*P **P** 15 38 24.6 -1.1
comp=Z,15nm,0.9s
TUC Tucson 71.40 63 *e*P **P** 15 38 27.3 +0.1
TUC pmax pmax
comp=Z,5.0nm,0.8s
TUC Tucson 71.40 63 *e*P **P** 15 38 27.3 +0.1
comp=Z,4.9nm,0.8s
KSCO Kaye Shedlock' 71.46 53 *e*P **P** 15 38 26.8 -0.7
comp=Z,11nm,0.9s
AKASG Malin Array Be 71.50 326 P **P** 15 38 26.3 -1.1
comp=Z,2.0nm,0.3s,baz=34,slow=6.3,SNR=24

AKBB	**Malin Array Si**	**71.50**	**326**	*e*P		**P**	**15 38 26.1**	**-1.3**
AKBB	comp=Z,9.0nm,0.7s			pmax	pmax				
AKBB	**Malin Array Si**	**71.50**	**326**	*e*P		**P**	**15 38 26.1**	**-1.3**
	comp=Z,8.6nm,0.7s								
KIEV	**Kiev**	**71.52**	**326**	*e*P		**P**	**15 38 26.1**	**-1.3**
KIEV	comp=Z,9.0nm,0.7s			pmax	pmax				
KIEV	**Kiev**	**71.52**	**326**	*e*P		**P**	**15 38 26.1**	**-1.3**
	comp=Z,8.5nm,0.7s								
AK11	**Malin Array Si**	**71.54**	**326**	*e*P		**P**	**15 38 26.2**	**-1.4**
T25A	**Trinidad**	**71.79**	**55**	*e*P		**P**	**15 38 29.8**	**+0.1**
	comp=Z,12nm,1.0s								
AS01	**Alice Springs**	**71.97**	**198**	*e*P		**P**	**15 38 31.1**	**+0.6**
AS31	**Alice Springs**	**71.98**	**198**	*e*P		**P**	**15 38 31.3**	**+0.8**
	comp=Z,2.3nm,0.6s								
ASAR	**Alice Springs**	**71.98**	**198**	P		**P**	**15 38 31.9**	**+1.4**
ASAR	comp=Z,6.5nm,0.7s,baz=13,slow=5.0,SNR=124			pP		**PcP**	**15 38 48.4**	**-0.4**
ASAR	comp=Z,4.7nm,0.8s,baz=9.3,slow=5.6,SNR=7.6			LR	LR		16 08 06.4		
	comp=Z,45nm,21.9s,baz=8.5,slow=34								
LAZ	**Ladron**	**72.14**	**59**	*e*P		**P**	**15 38 32.7**	**+1.0**
ANMO	**Albuquerque**	**72.16**	**58**	*ce*P		**P**	**15 38 33.1**	**+1.3**
ANMO	comp=Z,3.0nm,1.0s			pmax	pmax				
ANMO	**Albuquerque**	**72.16**	**58**	*e*P		**P**	**15 38 32.1**	**+0.2**
	comp=Z,5.8nm,0.8s								
319A	**Douglas**	**72.97**	**62**	*e*P		**P**	**15 38 37.6**	**+1.0**
	comp=Z,33nm,0.8s								
SCHQ	**Schefferville**	**73.55**	**23**	LR		LR	16 16 34.3		
	comp=Z,111nm,18.0s,baz=286,slow=40								
SORM	**Soroca**	**73.90**	**325**⇑	*i*P		**P**	**15 38 40.7**	**-0.9**
SORM	**Soroca**	**73.90**	**325**	⇑P		**P**	**15 38 40.7**	**-0.9**
SCIA	**State Center**	**74.22**	**45**	*e*P		**P**	**15 38 43.4**	**-0.2**
	comp=Z,42nm,0.7s								
KSU1	**Kansas State U**	**74.61**	**49**	*e*P		**P**	**15 38 44.6**	**-1.4**
	comp=Z,19nm,0.6s								
KWP	**Kalwaria Pacla**	**74.80**	**329**	*e*P		**P**	**15 38 47.0**	**+0.1**
KWP	**Kalwaria Pacla**	**74.80**	**329**	*e*P		**P**	**15 38 47.0**	**+0.1**
AMTX	**Amarillo**	**74.95**	**55**	*e*P		**P**	**15 38 48.3**	**+0.2**
	comp=Z,21nm,0.8s								
MNTX	**Cornudas Mount**	**75.09**	**60**	*e*P		**P**	**15 38 49.6**	**+0.7**
MNTX				*e*PcP		**PcP**	**15 39 03.0**	**+0.7**
OJC	**Ojcow**	**75.31**	**331**	*e*P		**P**	**15 38 49.6**	**-0.2**
OJC	**Ojcow**	**75.31**	**331**	*e*P		**P**	**15 38 49.6**	**-0.2**
STHS	**Stebnicka Huta**	**75.49**	**330**	*e*P		**P**	**15 38 50.8**	**-0.1**
STHS	comp=Z,5.0nm,0.8s			pmax	pmax				
STHS	**Stebnicka Huta**	**75.49**	**330**	*e*P		**P**	**15 38 50.8**	**-0.1**
BUR08	**Bucovina Ar. S**	**75.53**	**326**	*e*P		**P**	**15 38 50.6**	**-0.6**
BURAR	**Bucovina Array**	**75.55**	**326**⇓	*i*P		**P**	**15 38 51.0**	**-0.3**
BURAR	**Bucovina Array**	**75.55**	**326**	⇓P		**P**	**15 38 51.0**	**-0.3**
CRVS	**Cervenica-Dubn**	**75.85**	**329**	*e*P		**P**	**15 38 52.7**	**-0.2**
CRVS	**Cervenica-Dubn**	**75.85**	**329**	*e*P		**P**	**15 38 52.7**	**-0.2**
TESR	**Tescani**	**75.90**	**325**⇑	*i*P		**P**	**15 38 52.7**	**-0.5**
OKC	**Ostrava-Krasne**	**76.18**	**332**	AMS		AMS	16 18 50.0		
DPC	**Dobruska-Polom**	**76.32**	**333**	*e*P		**P**	**15 38 55.7**	**+0.1**
DPC	**Dobruska-Polom**	**76.32**	**333**	*e*P		**P**	**15 38 55.7**	**+0.1**
LANS	**Liptovska Anna**	**76.33**	**331**	*e*P		**P**	**15 38 56.2**	**+0.5**
LANS	**Liptovska Anna**	**76.33**	**331**	*e*P		**P**	**15 38 56.2**	**+0.5**
MORC	**Moravsky Berou**	**76.43**	**332**	*e*P		**P**	**15 38 56.0**	**-0.3**
MORC	comp=Z,59nm,0.6s			pmax	pmax				
MORC	**Moravsky Berou**	**76.43**	**332**	*e*P		**P**	**15 38 56.0**	**-0.3**
	comp=Z,60nm,0.6s								
CLL	**Collm**	**76.47**	**335**	*i*P		**P**	**15 38 55.6**	**-0.8**
CLL	comp=Z,14nm,0.9s			pmax	pmax				
CLL	**Collm**	**76.47**	**335**	*i*P		**P**	**15 38 55.6**	**-0.8**
	comp=Z,14nm,0.9s								
CLL	**Collm**	**76.47**	**335**	*e*P		**P**	**15 38 55.4**	**-1.0**
	comp=Z,11nm,0.7s								
KECS	**Kecovo**	**76.55**	**330**	*e*P		**P**	**15 38 56.8**	**-0.1**
KECS	comp=Z,2.0nm,0.9s			pmax	pmax				
KECS	**Kecovo**	**76.55**	**330**	*e*P		**P**	**15 38 56.8**	**-0.1**
BRG	**Berggiesshubel**	**76.59**	**335**	*e*(P)		**P**	**15 38 56.3**	**-0.7**
	comp=Z,3.6nm,0.9s								
BRG	**Berggiesshubel**	**76.59**	**335**	*e*P		**P**	**15 38 56.3**	**-0.7**
BRG	comp=Z,4.0nm,0.9s			pmax	pmax				
WMOK	**Wichita Mounta**	**76.67**	**53**	*e*P		**P**	**15 38 57.5**	**-0.4**
WMOK	comp=Z,7.0nm,0.9s			pmax	pmax				
WMOK	**Wichita Mounta**	**76.67**	**53**	*e*P		**P**	**15 38 57.5**	**-0.4**
	comp=Z,6.6nm,0.9s								
PVCC	**Panska Ves**	**76.70**	**334**	AMS		AMS	16 15 40.0		
MLR	**Muntele Rosu**	**77.02**	**325**⇑	*i*P		**P**	**15 39 00.1**	**+0.4**
MLR	**Muntele Rosu**	**77.02**	**325**	*e*P		**P**	**15 38 59.4**	**-0.3**
MLR	comp=Z,6.0nm,0.7s			pmax	pmax				
MLR	**Muntele Rosu**	**77.02**	**325**	*e*P		**P**	**15 38 59.4**	**-0.3**
	comp=Z,6.0nm,0.7s								
VYHS	**Vyhne**	**77.11**	**331**	*e*P		**P**	**15 38 59.9**	**-0.2**
VYHS	comp=Z,3.0nm,0.8s			pmax	pmax				
VYHS	**Vyhne**	**77.11**	**331**	*e*P		**P**	**15 38 59.9**	**-0.2**
DRGR		**77.18**	**327**⇑	*i*P		**P**	**15 39 00.2**	**-0.4**
DRGR		**77.18**	**327**	⇑P		**P**	**15 39 00.2**	**-0.4**
GOPC	**GO Pecny, Ondr**	**77.18**	**334**	AMS		AMS	16 16 30.0		
	comp=Z,100nm,12.2s								
PRU	**Pruhonice**	**77.19**	**334**	*e*P		**P**	**15 39 00.2**	**-0.2**
PRU	**Pruhonice**	**77.19**	**334**	*e*P		**P**	**15 39 00.2**	**-0.2**
VOIR		**77.41**	**325**⇓	*i*P		**P**	**15 39 01.4**	**-0.5**
VOIR		**77.41**	**325**	⇓P		**P**	**15 39 01.4**	**-0.5**
NKC	**Novy Kostel**	**77.59**	**335**	*e*P		**P**	**15 39 02.4**	**-0.3**
NKC	**Novy Kostel**	**77.59**	**335**	*e*P		**P**	**15 39 02.4**	**-0.3**
ARR	**Arges**	**77.64**	**325**⇑	*i*P		**P**	**15 39 04.1**	**+1.0**
TX31	**Lajitas Ar. Si**	**77.81**	**60**	*e*P		**P**	**15 39 05.0**	**+0.6**
TXAR	**Lajitas Array**	**77.81**	**60**	P		**P**	**15 39 04.3**	**-0.1**
	comp=Z,6.0nm,0.8s,baz=298,slow=4.2,SNR=50								
TXAR	comp=Z,15nm,0.6s,baz=301,slow=4.3,SNR=31			pP		**pP**	**15 39 20.1**	**+0.1**
HHAR	**Hobbs**	**78.12**	**49**	*e*P		**P**	**15 39 05.2**	**-0.7**
	comp=Z,9.4nm,0.9s								
KHC	**Kasperske Hory**	**78.24**	**334**	*e*P		**P**	**15 39 06.4**	**0.0**
KHC				*ep*P		**pP**	**15 39 20.4**	**-1.6**
KHC	**Kasperske Hory**	**78.24**	**334**	*e*P		**P**	**15 39 06.0**	**-0.4**
KHC	comp=Z,4.0nm,1.0s			pmax	pmax				
KHC	**Kasperske Hory**	**78.24**	**334**	*e*P		**P**	**15 39 06.0**	**-0.4**
	comp=Z,3.6nm,1.0s								
BR131	**Keskin Array S**	**78.30**	**316**	*e*P		**P**	**15 39 06.8**	**-0.2**
BRTR	**Keskin Array B**	**78.30**	**316**	P		**P**	**15 39 05.9**	**-1.1**
	comp=Z,2.2nm,0.8s,baz=64,slow=4.3,SNR=12								
BRTR	**Keskin Array B**	**78.30**	**316**	*i*P		**P**	**15 39 07.1**	**+0.1**
BRTR	comp=Z,2.0nm,0.8s			pmax	pmax				
HPIG		**78.33**	**63**	*e*P		**P**	**15 39 06.0**	**-1.5**
	comp=Z,11nm,1.0s								
GERES	**GERESS Array B**	**78.46**	**334**	P		**P**	**15 39 06.5**	**-1.1**
	comp=Z,1.8nm,0.7s,baz=28,slow=6.0,SNR=9.8								
BZS	**Buzias**	**78.58**	**327**⇑	*i*P		**P**	**15 39 05.9**	**-2.3**
BZS	**Buzias**	**78.58**	**327**	⇑P		**P**	**15 39 05.9**	**-2.3**
CONA	**Conrad Observa**	**78.59**	**332**	*i*P		**P**	**15 39 08.0**	**-0.4**
	comp=Z,6.0nm,0.7s								
BR231	**Keskin MP Arra**	**78.61**	**317**	*e*P		**P**	**15 39 07.5**	**-1.1**
STKA	**Stephens Creek**	**78.76**	**190**	LR		LR	16 13 47.3		
	comp=Z,52nm,20.1s,baz=21,slow=35								
MEM	**Membach**	**78.98**	**339**	P		**P**	**15 39 10.0**	**-0.3**
	comp=Z,9.2nm,1.0s								
MOA	**Molln**	**79.17**	**333**	*i*P		**P**	**15 39 11.6**	**+0.1**
	comp=Z,4.1nm,0.7s								
JCT	**Junction City**	**79.25**	**57**	*e*P		**P**	**15 39 12.1**	**-0.2**
JCT	comp=Z,11nm,0.8s			pmax	pmax				
JCT	**Junction City**	**79.25**	**57**	*e*P		**P**	**15 39 12.1**	**-0.2**
	comp=Z,11nm,0.8s								
BCLA	**Clavier**	**79.33**	**339**	P		**P**	**15 39 12.3**	**+0.1**
PBMO	**Poplar Bluff**	**79.54**	**47**	*e*P		**P**	**15 39 13.2**	**-0.4**
	comp=Z,58nm,1.8s								
MIAR	**Mount Ida**	**79.64**	**50**	*e*P		**P**	**15 39 14.3**	**+0.1**
MIAR	comp=Z,11nm,0.9s			pmax	pmax				
MIAR	**Mount Ida**	**79.64**	**50**	*e*P		**P**	**15 39 14.2**	**+0.1**
	comp=Z,11nm,0.9s								
WHAR	**Wooly Hollow**	**79.74**	**49**	*e*P		**P**	**15 39 14.1**	**-0.7**
	comp=Z,22nm,1.1s								
BAIF	**Baives**	**79.92**	**340**	*e*P		**P**	**15 39 15.0**	**-0.5**
BAIF	comp=Z,24nm,1.5s			pmax	pmax				
SOKA	**Soboth**	**79.96**	**332**	*i*P		**P**	**15 39 15.9**	**+0.1**
	comp=Z,7.1nm,0.7s								
PERS	**Pernice**	**79.97**	**332**	*i*P		**P**	**15 39 15.3**	**-0.6**
KBA	**Koelnbreinsper**	**80.14**	**333**	*i*P		**P**	**15 39 17.4**	**+0.5**
	comp=Z,13nm,0.7s								
FORT	**Forrest**	**80.18**	**201**	*e*P		**P**	**15 39 19.1**	**+2.2**
	comp=Z,458nm,0.9s								
WCI	**Wyandotte Cave**	**80.41**	**43**	*e*P		**P**	**15 39 18.0**	**-0.4**
WCI	comp=Z,23nm,0.9s			pmax	pmax				
WCI	**Wyandotte Cave**	**80.41**	**43**	*e*P		**P**	**15 39 18.0**	**-0.4**
	comp=Z,22nm,0.9s								
WATA	**Walderalm**	**80.45**	**334**	*i*P		**P**	**15 39 18.8**	**+0.2**
	comp=Z,9.2nm,0.7s								
BFO	**Black Forest**	**80.47**	**337**	*i*P		**P**	**15 39 18.5**	**0.0**
BFO	**Black Forest**	**80.47**	**337**	*e*P		**P**	**15 39 17.5**	**-1.0**
	comp=Z,8.6nm,1.0s								
WTTA	**Wattenberg**	**80.49**	**334**	*i*P		**P**	**15 39 19.1**	**+0.2**
	comp=Z,5.7nm,0.7s								
VTS	**Vitosha**	**80.52**	**325**⇑	*i*P		**P**	**15 39 15.9**	**-3.1**
VTS	**Vitosha**	**80.52**	**325**	*e*P		**P**	**15 39 17.7**	**-1.3**
VTS	comp=Z,9.0nm,0.9s			pmax	pmax				
VTS	**Vitosha**	**80.52**	**325**	*e*P		**P**	**15 39 17.7**	**-1.3**
	comp=Z,9.1nm,0.9s								
RETA	**Reutte**	**80.55**	**335**	*i*P		**P**	**15 39 19.2**	**+0.1**
	comp=Z,3.5nm,0.6s								
MOTA	**Moosalm**	**80.58**	**335**	*i*P		**P**	**15 39 19.4**	**+0.1**
	comp=Z,9.9nm,0.9s								
CDF	**Champ du Feu**	**80.68**	**337**	*e*P		**P**	**15 39 19.2**	**-0.5**
CDF	comp=Z,3.0nm,0.3s			pmax	pmax				
ABTA	**Abfaltersbach**	**80.69**	**333**	*i*P		**P**	**15 39 19.6**	**-0.2**
	comp=Z,3.2nm,0.8s								
VISS	**Visnje**	**80.79**	**332**	*i*P		**P**	**15 39 19.5**	**-0.7**
BOJS	**Bojanci**	**80.92**	**331**	*i*P		**P**	**15 39 20.4**	**-0.5**
JAVS	**Javornik**	**80.96**	**332**	*i*P		**P**	**15 39 19.9**	**-1.4**
FETA	**Feichten**	**80.98**	**335**	*i*P		**P**	**15 39 21.8**	**+0.3**
	comp=Z,6.0nm,0.9s								
HINF	**Hinteralfeld**	**81.34**	**337**	*e*P		**P**	**15 39 22.3**	**-0.9**
HINF	comp=Z,10.0nm,1.1s			pmax	pmax				
WVT	**Waverly**	**81.34**	**45**	*e*P		**P**	**15 39 23.0**	**-0.3**
WVT	comp=Z,10.0nm,0.8s			pmax	pmax				
WVT	**Waverly**	**81.34**	**45**	*e*P		**P**	**15 39 23.0**	**-0.3**
	comp=Z,9.5nm,0.8s								
DAVOX	**Davos/Dischmat**	**81.45**	**335**	P		**P**	**15 39 22.9**	**-1.0**
	comp=Z,3.5nm,0.7s,baz=19,slow=16,SNR=3.2								
FUORN	**Ofenpass-Fuorn**	**81.48**	**335**	*e*P		**P**	**15 39 24.3**	**+0.1**
	comp=Z,6.5nm,0.8s								
TUE	**Stuetta**	**81.88**	**335**	*e*P		**P**	**15 39 26.2**	**0.0**
	comp=Z,7.0nm,0.8s								
GRR	**Gorron**	**82.62**	**343**	*e*P		**P**	**15 39 29.5**	**-0.3**
GRR	comp=Z,24nm,1.2s			pmax	pmax				
SWET	**Sewanee**	**83.00**	**45**	*e*P		**P**	**15 39 31.4**	**-0.7**
	comp=Z,7.1nm,0.8s								
LPL	**La Plagne**	**83.49**	**337**	*e*P		**P**	**15 39 34.8**	**+0.1**
LPL	comp=Z,8.0nm,1.1s			pmax	pmax				
LPG	**La Plagne**	**83.50**	**337**	*e*P		**P**	**15 39 35.0**	**+0.2**
LPG	comp=Z,7.0nm,0.9s			pmax	pmax				
TKL	**Tuckaleechee C**	**83.67**	**43**	P		**P**	**15 39 34.9**	**-0.6**
	comp=Z,6.5nm,0.7s,baz=138,slow=1.6,SNR=6.9								
BLA	**Blacksburg**	**83.93**	**40**	*e*P		**P**	**15 39 36.4**	**-0.4**
BLA	comp=Z,15nm,0.8s			pmax	pmax				
BLA	**Blacksburg**	**83.93**	**40**	*e*P		**P**	**15 39 36.4**	**-0.4**
	comp=Z,15nm,0.8s								
ORIF	**Oris-en-Rattie**	**84.27**	**337**	*e*P		**P**	**15 39 39.0**	**+0.5**
ORIF	comp=Z,6.0nm,0.8s			pmax	pmax				
SSB	**Saint Sauveur**	**84.29**	**338**	*e*P		**P**	**15 39 37.6**	**-0.9**
SSB	comp=Z,7.0nm,0.8s			pmax	pmax				
SSB	**Saint Sauveur**	**84.29**	**338**	*e*P		**P**	**15 39 37.6**	**-0.9**
	comp=Z,7.2nm,0.8s								
VIVF	**Saint-Julien-l**	**84.65**	**338**	*e*P		**P**	**15 39 40.5**	**+0.2**
VIVF	comp=Z,10.0nm,1.1s			pmax	pmax				
EPF	**Esparros**	**87.44**	**340**	*e*P		**P**	**15 39 53.4**	**-0.7**
EPF	comp=Z,3.0nm,0.9s			pmax	pmax				
ESDC	**Sonseca Array**	**91.60**	**342**	P		**P**	**15 40 12.5**	**-1.2**
	comp=Z,0.2nm,0.3s,baz=29,slow=3.4,SNR=4.9								
ESDC	comp=Z,44nm,21.9s,baz=100,slow=38			LR	LR		16 24 58.8		
KEST	**Kesra**	**91.66**	**331**	LR	LR		16 26 46.0		
	comp=Z,82nm,18.8s,baz=279,slow=39								
PLCA	**Paso Flores**	**148.48**	**95**	PKPbc		**PKPbc**	**15 46 53.0**	**+0.1**
	comp=Z,3.0nm,0.8s,baz=268,slow=5.7,SNR=5.6								
PLCA	comp=Z,7.4nm,0.7s,baz=279,slow=3.5,SNR=6.7			pPKPbc		**pPKPbc**	**15 47 10.5**	**+1.3**
PLCA	**Paso Flores**	**148.48**	**95**	PKP2		**PKPbc**	**15 46 53.0**	**+0.1**
PLCA	comp=Z,3.0nm,0.8s			pmax	pmax				
CPUP	**Villa Florida**	**148.79**	**60**	PKPbc		**PKPbc**	**15 46 54.0**	**0.0**
	comp=Z,5.2nm,0.8s,baz=325,slow=3.0,SNR=9.0								

*IDC **08** 15:30:32.3±1.0, 19°09N×65°13W, h0km, mb3.6/5, mb1 3.9/6, mb1mx3.6/42, mbtmp3.7/6, ML3.9/1, Error ellipse: s-maj=25.4km s-min=21.5km az=87.0*
*TRN **08** 15:30:36.8, 18°91N×65°25W, h40km*
*NEIC **08** 15:30:39.0±0.0, 18°86N×65°19W, h37km, mb4.2/1, After RSPR.*
NEIC Felt [V] at Loiza and [III] at San Juan. Also felt at Aibonito, Canovanas, Carolina, Ceiba, Culebra, Fajardo, Gurabo, Luquillo and Rio Grande.
*RSPR **08** 15:30:39.1, 18°86N×65°19W, h47km±4km, MD3.9/15*

ISC 08 15:30:35.7±1.2, 18°94N±0°04×65°18W±0°02, h21km±4km, n100, σ1s58/137, mb3.6/4, 23C-23D, Puerto Rico region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
STVI	**Saint Thomas**	**0.62**	**160**⇑	*e*P		**Pn**		**15 30 50.0**	**+0.7**
STVI	**Saint Thomas**	**0.62**	**160**⇓	*e*P		**Pn**		**15 30 50.1**	**+0.7**
STVI				*e*S		**Sn**		**15 30 58.4**	**-0.2**
STVI	**Saint Thomas**	**0.62**	**160**⇑	*e*P		**Pn**		**15 30 50.0**	**+0.7**
STVI				*e*S		**Sn**		**15 30 58.4**	**-0.2**
STVI	**Saint Thomas**	**0.62**	**160**⇑	*e*P		**Pn**		**15 30 50.0**	**+0.7**
STVI				*e*Sn		**Sn**		**15 30 58.3**	**-0.3**
CBYP	**Canovanas**	**0.92**	**224**⇓	*e*P		**Pn**		**15 30 54.0**	**+0.5**
CBYP	**Canovanas**	**0.92**	**224**	⇓*i*P		**Pn**		**15 30 54.0**	**+0.5**
CBYP	**Canovanas**	**0.92**	**224**	⇓*i*P		**Pn**		**15 30 54.0**	**+0.5**
CBYP				*e*S		**Sn**		**15 31 05.7**	**-0.5**
CBYP	**Canovanas**	**0.92**	**224**	⇓*e*P		**Pn**		**15 30 54.0**	**+0.5**
CBYP				*e*Sn		**Sb**		**15 31 05.2**	**+0.3**
HUMP	**Col San Antoni**	**1.01**	**219**⇑	*e*P		**Pn**		**15 30 55.4**	**+0.7**
HUMP				*e*S		**Sb**		**15 31 07.5**	**+0.1**
HUMP	**Col San Antoni**	**1.01**	**219**	⇓*e*P		**Pn**		**15 30 55.4**	**+0.7**
HUMP	**Col San Antoni**	**1.01**	**219**⇑	*e*P		**Pn**		**15 30 55.4**	**+0.7**
HUMP				*e*S		**Sb**		**15 31 07.5**	**+0.1**
HUMP	**Col San Antoni**	**1.01**	**219**	⇓*e*P		**Pn**		**15 30 55.4**	**+0.7**
HUMP				*e*S		**Sb**		**15 31 07.6**	**+0.1**
SJG	**San Juan**	**1.23**	**228**⇓	*e*P		**Pb**		**15 30 58.3**	**+0.1**
SJG	**San Juan**	**1.23**	**228**	*e*S		**Sn**		**15 31 13.1**	**-0.6**
SJG	**San Juan**	**1.23**	**228**	Pn		**Pb**		**15 30 58.4**	**+0.1**
	80nm,0.3s,baz=66,slow=11,SNR=94								
SJG				Sn		**Sn**		**15 31 13.3**	**-0.4**
	281nm,0.3s,baz=273,slow=18,SNR=33								
SJG	**San Juan**	**1.23**	**228**	⇓*e*P		**Pb**		**15 30 58.3**	**+0.1**
SJG				*e*S		**Sn**		**15 31 13.1**	**-0.6**
CDVI	**St. Croix**	**1.24**	**161**	*e*Pn		**Pb**		**15 30 59.5**	**+1.1**
CDVI				*e*Sn		**Sb**		**15 31 14.5**	**+0.4**
CELP	**Cerrillos**	**1.58**	**237**	⇓*i*P		**Pb**		**15 31 03.6**	**-0.6**
CELP				*e*S		**Sn**		**15 31 21.9**	**-0.5**
CELP	**Cerrillos**	**1.58**	**237**	⇓*i*P		**Pb**		**15 31 03.6**	**-0.6**
CELP				*e*S		**Sn**		**15 31 21.9**	**-0.5**
CELP	**Cerrillos**	**1.58**	**237**	⇓*i*P		**Pb**		**15 31 03.6**	**-0.6**
CELP				*e*Sn		**Sn**		**15 31 21.2**	**-1.1**
AOPR	**Arecibo Observ**	**1.60**	**249**	*e*S		**Sn**		**15 31 22.5**	**-0.4**
AOPR	**Arecibo Observ**	**1.60**	**249**	⇓*i*P		**Pn**		**15 31 03.7**	**+0.9**
AOPR	**Arecibo Observ**	**1.60**	**249**	⇑*e*P		**Pb**		**15 31 03.8**	**-0.8**
AOPR	**Arecibo Observ**	**1.60**	**249**	⇓*i*P		**Pn**		**15 31 03.7**	**+0.9**
AOPR				*e*S		**Sn**		**15 31 22.5**	**-0.4**
AOPR	**Arecibo Observ**	**1.60**	**249**	⇓*i*P		**Pn**		**15 31 03.7**	**+0.9**
AOPR				*e*S		**Sn**		**15 31 22.5**	**-0.4**
OBIP	**Obispado Ponce**	**1.62**	**237**	*e*S		**Sn**		**15 31 22.1**	**-1.1**
OBIP	**Obispado Ponce**	**1.62**	**237**	⇓*i*P		**Pn**		**15 31 03.1**	**0.0**
OBIP	**Obispado Ponce**	**1.62**	**237**	⇓*i*P		**Pn**		**15 31 03.1**	**0.0**
OBIP				*e*S		**Sn**		**15 31 22.1**	**-1.1**
OBIP	**Obispado Ponce**	**1.62**	**237**	⇓*i*P		**Pn**		**15 31 03.1**	**0.0**
OBIP				*e*S		**Sn**		**15 31 22.1**	**-1.1**
ICMP	**Isla Caja de M**	**1.65**	**231**	*e*S		**Sn**		**15 31 23.4**	**-0.7**
ICMP	**Isla Caja de M**	**1.65**	**231**⇑	*e*P		**Pb**		**15 31 05.1**	**-0.4**
ICMP	**Isla Caja de M**	**1.65**	**231**⇑	*e*P		**Pb**		**15 31 05.1**	**-0.4**
ICMP				*e*S		**Sn**		**15 31 23.4**	**-0.7**
GBPR	**Guanica, Bosqu**	**1.88**	**240**	*e*S		**Sn**		**15 31 29.0**	**-0.6**
GBPR	**Guanica, Bosqu**	**1.88**	**240**⇑	*e*P		**Pb**		**15 31 08.2**	**-1.0**
GBPR	**Guanica, Bosqu**	**1.88**	**240**⇑	*e*P		**Pb**		**15 31 08.2**	**-1.0**
GBPR				*e*S		**Sn**		**15 31 29.0**	**-0.6**
GBPR	**Guanica, Bosqu**	**1.88**	**240**⇑	*e*P		**Pb**		**15 31 08.2**	**-1.0**
GBPR				*e*S		**Sn**		**15 31 29.0**	**-0.6**
AGPR	**Aguadilla, PR**	**1.89**	**256**	*e*S		**Sn**		**15 31 29.7**	**-0.2**
AGPR	**Aguadilla, PR**	**1.89**	**256**⇑	*e*P		**Pn**		**15 31 07.8**	**+1.0**
AGPR	**Aguadilla, PR**	**1.89**	**256**⇑	*e*P		**Pn**		**15 31 07.8**	**+1.0**
AGPR				*e*S		**Sn**		**15 31 29.7**	**-0.2**
AGPR	**Aguadilla, PR**	**1.89**	**256**⇑	*e*P		**Pn**		**15 31 07.8**	**+1.0**
AGPR				*e*S		**Sn**		**15 31 29.7**	**-0.2**
AGP	**Aguadilla**	**1.93**	**254**	*e*Pn		**Pn**		**15 31 07.1**	**-0.3**
AGP				*e*Sn		**Sn**		**15 31 26.1**	**-5.0**
LSP	**Las Mesas**	**1.96**	**248**⇑	*e*P		**Pn**		**15 31 08.9**	**+1.2**
LSP	**Las Mesas**	**1.96**	**248**⇑	*e*P		**Pn**		**15 31 08.9**	**+1.2**
LSP	**Las Mesas**	**1.96**	**248**⇑	*e*P		**Pn**		**15 31 08.9**	**+1.2**
MPR	**Mayaguez**	**1.99**	**249**	*e*Pn		**Pn**		**15 31 09.1**	**+0.9**
MPR				*e*Sn		**Sn**		**15 31 32.8**	**+0.2**
CRPR	**Cabo Rojo, PR**	**2.05**	**243**⇓	*e*P		**Pn**		**15 31 10.4**	**+1.4**
CRPR	**Cabo Rojo, PR**	**2.05**	**243**	*e*S		**Sn**		**15 31 33.9**	**-0.1**
CRPR	**Cabo Rojo, PR**	**2.05**	**243**⇓	*e*P		**Pn**		**15 31 10.4**	**+1.4**
CRPR				*e*S		**Sn**		**15 31 33.9**	**-0.1**
CRPR	**Cabo Rojo, PR**	**2.05**	**243**⇓	*e*P		**Pn**		**15 31 10.4**	**+1.4**
CRPR				*e*S		**Sn**		**15 31 33.9**	**-0.1**
SMRT	**St. Maarten**	**2.19**	**113**⇑	*e*P		**Pn**		**15 31 11.7**	**+0.8**
SMRT	**St. Maarten**	**2.19**	**113**	*e*S		**Sn**		**15 31 38.5**	**+1.2**
SMRT	**St. Maarten**	**2.19**	**113**	*e*P		**Pn**		**15 31 11.7**	**+0.8**
SMRT				*e*S		**Sb**		**15 31 40.2**	**-1.0**
SMRT	**St. Maarten**	**2.19**	**113**⇑	*e*P		**Pn**		**15 31 11.7**	**+0.8**
SMRT				*e*S		**Sn**		**15 31 38.5**	**+1.2**
IDE	**Isla Desecheo**	**2.24**	**256**⇓	*e*P		**Pn**		**15 31 12.5**	**+0.9**
IDE	**Isla Desecheo**	**2.24**	**256**⇓	*e*P		**Pn**		**15 31 12.5**	**+0.9**
IDE				*e*S		**Sn**		**15 31 38.5**	**-0.2**
IDE	**Isla Desecheo**	**2.24**	**256**	*e*Sn		**Sn**		**15 31 38.5**	**-0.2**
SABA	**Saba**	**2.26**	**125**⇑	*e*P		**Pn**		**15 31 12.3**	**+0.4**
SABA	**Saba**	**2.26**	**125**	*e*P		**Pn**		**15 31 13.2**	**+1.3**
SABA				*e*S		**Sb**		**15 31 42.8**	**-0.6**

FITZ	**Fitzroy Crossi**	**25.76**	**239**	P		P	15 48 38.6	0.0	
	3.2nm,0.4s,baz=58,slow=10,SNR=18								
STKA	**Stephens Creek**	**27.19**	**193**	P		P	15 48 52.7	+1.2	
	1.5nm,0.9s,baz=31,slow=16,SNR=3.5								

*ISCJB **08** 15:43:51.7±0.2, 44°.67N±0'.01×10°.26E±0'.02, h14km±1km, Error ellipse: s-maj=1.9km s-min=1.8km az=33.7*
*GEN **08** 15:43:51.5, 44°.70N×10°.30E, h1km, ML3.1*
*ROM **08** 15:43:52.5±0.1, 44°.63N×10°.23E, h18km±1km, Md3.0/46, Ml3.0/61, Error ellipse: s-maj=1.4km s-min=1.1km az=92.0*
*CSEM **08** 15:43:52.1±0.1, 44°.66N×10°.27E, h10km, ML3.6/25, Error ellipse: s-maj=1.9km s-min=1.8km az=61.0*
*LDG **08** 15:43:53.2±0.2, 44°.64N×10°.47E, h20km, Ml3.5/14, Error ellipse: s-maj=4.4km s-min=4.0km az=25.0*
*PRU **08** 15:43:54.4, 44°.75N×10°.54E, h8km*
*STR **08** 15:43:56.8±0.6, 44°.95N×10°.39E, h10km, Ml3.5, Error ellipse: s-maj=0.0km s-min=0.0km az=0.0*

ISC 08 15:43:52.3±0.9, 44°.65N±0'.01×10°.26E±0'.01, h19km±2km, n249, σ1§33/355, 1C, Northern Italy

Code	Station Name	Δ°	AZ°	Phase	ID	Time h m s	Res ISC
				Op	ISC		
PRMA	**PARMA**	**0.12**	**17**	Pg	**Pg**	**15 43 56.5**	**+0.2**
PRMA				Sg	**Sg**	**15 44 00.6**	**+1.6**
	5µm,0.4s						
PRMA	**PARMA**	**0.12**	**17**	Pg	**Pg**	**15 43 56.5**	**+0.2**
GRAM	**Graiana**	**0.21**	**222**	P	**Pb**	**15 43 57.1**	**0.0**
NOVE	**Novellara**	**0.35**	**65**	Pg	**Pg**	**15 44 00.4**	**+0.6**
NOVE				Sg	**Sb**	**15 44 07.6**	**+2.3**
	2µm,0.7s						
NOVE	**Novellara**	**0.35**	**65**	Pg	**Pg**	**15 44 00.4**	**+0.6**
CODM	**Codolo**	**0.39**	**229**	P	**Pg**	**15 44 00.0**	**-0.5**
SARO	**Sassorosso**	**0.47**	**168**	P	**Pg**	**15 44 01.5**	**-0.5**
SARO				S	**Sg**	**15 44 08.9**	**+0.4**
VLC	**Villacollemand**	**0.50**	**170**	Pg	**Pg**	**15 44 01.8**	**-0.6**
VLC				Sg	**Sg**	**15 44 09.5**	**+0.3**
	792nm,0.4s						
VLC	**Villacollemand**	**0.50**	**170**	Pg	**Pg**	**15 44 01.8**	**-0.6**
VLC				Sg	**Sg**	**15 44 09.5**	**+0.3**
	792nm,0.4s						
SC2M	**Scurtabo**	**0.58**	**245**	Pg	**Pb**	**15 44 02.9**	**-0.8**
SC2M				Sg	**Sb**	**15 44 11.9**	**+0.4**
	2µm,0.3s						
SC2M	**Scurtabo**	**0.58**	**245**	P	**Pb**	**15 44 03.0**	**-0.8**
SC2M				Sg	**Sb**	**15 44 11.9**	**+0.4**
	2µm,0.3s						
SC2M				S	**Sg**	**15 44 12.8**	**+1.2**
ZCCA	**Zocca**	**0.59**	**120**	Pg	**Pg**	**15 44 05.1**	**+1.0**
ZCCA				Sg	**Sg**	**15 44 12.7**	**+0.6**
	816nm,1.0s						
ZCCA	**Zocca**	**0.59**	**120**	Pg	**Pg**	**15 44 05.1**	**+1.0**
ZCCA				Sg	**Sg**	**15 44 12.7**	**+0.6**
	816nm,1.0s						
BOB	**Bobbio (Coli)**	**0.59**	**282**	Pg	**Pb**	**15 44 03.9**	**-0.1**
BOB				Sg	**Sg**	**15 44 13.5**	**+1.3**
	1µm,0.6s						
BOB	**Bobbio (Coli)**	**0.59**	**282**	Pg	**Pb**	**15 44 03.9**	**-0.1**
BOB				Sg	**Sg**	**15 44 13.5**	**+1.3**
	1µm,0.6s						
MSSA	**Maissana**	**0.63**	**238**	Pg	**Pb**	**15 44 03.9**	**-0.7**
MSSA				Sg	**Sb**	**15 44 12.6**	**-0.4**
	413nm,0.3s						
MSSA	**Maissana**	**0.63**	**238**	Pg	**Pb**	**15 44 03.9**	**-0.7**
MSSA				Sg	**Sb**	**15 44 12.6**	**-0.4**
	413nm,0.3s						
BDI	**Bagni Di Lucca**	**0.63**	**158**	Pg	**Pb**	**15 44 04.4**	**-0.3**
BDI				Sg	**Sg**	**15 44 13.8**	**+0.4**
	676nm,0.3s						
BDI	**Bagni Di Lucca**	**0.63**	**158**	Pg	**Pb**	**15 44 04.4**	**-0.3**
BDI				Sg	**Sg**	**15 44 13.8**	**+0.4**
	676nm,0.3s						
POPM	**Popiglio**	**0.70**	**149**	P	**Pb**	**15 44 05.9**	**0.0**
POPM				S	**Sg**	**15 44 16.0**	**+0.5**
MAIM	**Mastiano**	**0.75**	**167**	Pg	**Pb**	**15 44 06.0**	**-0.8**
MAIM				Sg	**Sb**	**15 44 16.5**	**-0.1**
	395nm,0.6s						
MAIM	**Mastiano**	**0.75**	**167**	P	**Pb**	**15 44 06.2**	**-0.6**
MAIM				S	**Sb**	**15 44 16.2**	**-0.4**
MAIM				Sg	**Sb**	**15 44 16.5**	**-0.1**
	395nm,0.6s						
FNVD	**Fontana Vidola**	**0.78**	**128**	Pg	**Pb**	**15 44 07.6**	**+0.3**
FNVD				Sg	**Sg**	**15 44 19.2**	**+1.2**
	395nm,0.6s						
FNVD	**Fontana Vidola**	**0.78**	**128**	Pg	**Pb**	**15 44 07.6**	**+0.3**
FNVD				Sg	**Sg**	**15 44 19.2**	**+1.2**
	395nm,0.6s						
PTF	**Prato**	**0.90**	**140**	Pg	**Pb**	**15 44 09.5**	**+0.2**
PTF	**Prato**	**0.90**	**140**	Pg	**Pb**	**15 44 09.5**	**+0.2**
SEI	**Scarperia**	**0.98**	**127**	Pn	**Pb**	**15 44 11.2**	**+0.5**
SEI	**Scarperia**	**0.98**	**127**	Pn	**Pb**	**15 44 11.2**	**+0.5**
SALO	**Salr**	**0.99**	**11**	Pg	**Pb**	**15 44 11.5**	**+0.7**
SALO				Sg	**Sn**	**15 44 25.8**	**+1.2**
	2µm,0.5s						
SALO	**Salr**	**0.99**	**11**	Pg	**Pb**	**15 44 11.5**	**+0.7**
SALO				Sg	**Sn**	**15 44 25.8**	**+1.2**
	2µm,0.5s						
CRMI	**Carmignano**	**1.00**	**149**	Pg	**Pb**	**15 44 11.1**	**+0.1**
CRMI				Sg	**Sb**	**15 44 24.2**	**+0.5**
	406nm,0.5s						
CRMI	**Carmignano**	**1.00**	**149**	Pg	**Pb**	**15 44 11.1**	**+0.1**
CRMI				Sg	**Sb**	**15 44 24.2**	**+0.5**
	406nm,0.5s						
BALD	**Monte Baldo**	**1.10**	**21**	*e*Pg	**Pn**	**15 44 12.9**	**0.0**
BALD				*e*Sg	**Sn**	**15 44 28.8**	**+1.0**
BALD	**Monte Baldo**	**1.10**	**21**	*e*Pg	**Pn**	**15 44 12.9**	**0.0**
BALD				*e*Sg	**Sn**	**15 44 28.8**	**+1.0**
VMG	**Vicchio**	**1.15**	**126**	Pn	**Pg**	**15 44 15.8**	**+1.3**
VMG	**Vicchio**	**1.15**	**126**	Pn	**Pg**	**15 44 15.8**	**+1.3**
ROVR	**Rover¯¤ Verone**	**1.15**	**30**	Pn	**Pn**	**15 44 13.5**	**0.0**
ROVR				Sn	**Sn**	**15 44 29.4**	**+0.6**
	2µm,0.4s						
ROVR	**Rover¯¤ Verone**	**1.15**	**30**	Pn	**Pn**	**15 44 13.5**	**0.0**
ROVR				Sn	**Sn**	**15 44 29.4**	**+0.6**
	2µm,0.4s						
MAGA	**Magasa**	**1.16**	**13**	Pg	**Pn**	**15 44 13.3**	**-0.3**
MAGA				Sg	**Sn**	**15 44 29.5**	**+0.6**
MAGA	**Magasa**	**1.16**	**13**	Pg	**Pn**	**15 44 13.3**	**-0.3**
MAGA				Sg	**Sn**	**15 44 29.5**	**+0.6**
MARN	**Marana (Italy)**	**1.19**	**34**	*e*Pg	**Pn**	**15 44 13.8**	**-0.2**
MARN				*e*Sg	**Sn**	**15 44 30.5**	**+0.8**
MARN	**Marana (Italy)**	**1.19**	**34**	*e*Pg	**Pn**	**15 44 13.8**	**-0.2**
MARN				*e*Sg	**Sn**	**15 44 30.5**	**+0.8**
TEOL	**Teolo**	**1.23**	**54**	Pn	**Pn**	**15 44 14.1**	**-0.3**
	2µm,0.7s						
TEOL	**Teolo**	**1.23**	**54**	*e*Pg	**Pn**	**15 44 14.0**	**-0.3**
TEOL				*e*Sg	**Sg**	**15 44 32.4**	**+0.4**
TEOL	**Teolo**	**1.23**	**54**	Pn	**Pn**	**15 44 14.1**	**-0.3**
	2µm,0.7s						
TEOL				*e*Sg	**Sg**	**15 44 32.4**	**+0.4**
PCP	**Piancastagn**	**1.23**	**266**	Pn	**Pn**	**15 44 14.8**	**+0.2**
	241nm,0.6s						
PCP	**Piancastagn**	**1.23**	**266**	Pn	**Pn**	**15 44 14.8**	**+0.2**
	241nm,0.6s						
PCP	**Piancastagn**	**1.23**	**266**	P	**Pb**	**15 44 15.5**	**+0.5**
PCP				S	**Sb**	**15 44 30.7**	**+0.2**
GROG	**Isola di Gorgo**	**1.25**	**192**	Pn	**Pn**	**15 44 14.7**	**0.0**
	208nm,0.6s						
GROG	**Isola di Gorgo**	**1.25**	**192**	Pn	**Pn**	**15 44 14.7**	**0.0**
	208nm,0.6s						
RNI	**Roncone**	**1.35**	**11**	*e*Pg	**Pn**	**15 44 16.4**	**0.0**
RNI				*e*Sg	**Sb**	**15 44 35.8**	**+1.6**
RNI	**Roncone**	**1.35**	**11**	*e*Pg	**Pn**	**15 44 16.4**	**0.0**
RNI				*e*Sg	**Sb**	**15 44 35.8**	**+1.6**
SFI	**Santa Sofia**	**1.36**	**123**	Pn	**Pg**	**15 44 18.9**	**+0.4**
	241nm,0.7s						
SFI	**Santa Sofia**	**1.36**	**123**	Pn	**Pg**	**15 44 18.9**	**+0.4**
	241nm,0.7s						
ASQU	**Asqua**	**1.39**	**127**	Pn	**Pb**	**15 44 18.4**	**+0.7**
	121nm,0.6s						
ASQU	**Asqua**	**1.39**	**127**	Pn	**Pb**	**15 44 18.4**	**+0.7**
	121nm,0.6s						
DDS	**Dosso del Somm**	**1.39**	**28**	*e*Pg	**Pn**	**15 44 16.8**	**-0.1**
DDS				*e*Sg	**Sb**	**15 44 36.6**	**+1.3**
DDS	**Dosso del Somm**	**1.39**	**28**	*e*Pg	**Pn**	**15 44 16.8**	**-0.1**
DDS				*e*Sg	**Sb**	**15 44 36.6**	**+1.3**
QLNO	**Quiliano**	**1.41**	**257**	Pn	**Pn**	**15 44 17.3**	**+0.3**
	97nm,0.4s						
QLNO	**Quiliano**	**1.41**	**257**	Pn	**Pn**	**15 44 17.3**	**+0.3**
	97nm,0.4s						
MABI	**Malga Bissina**	**1.42**	**7**	Pn	**Pn**	**15 44 17.3**	**+0.1**
	250nm,0.6s						
MABI	**Malga Bissina**	**1.42**	**7**	Pn	**Pn**	**15 44 17.3**	**+0.1**
	250nm,0.6s						
SASS	**Sassa´´´´**	**1.43**	**167**	Pn	**Pn**	**15 44 17.5**	**+0.3**
	105nm,0.4s						
SASS	**Sassa´´´´**	**1.43**	**167**	Pn	**Pn**	**15 44 17.5**	**+0.3**
	105nm,0.4s						
MUGIO	**Muggio**	**1.54**	**326**	Pn	**Pn**	**15 44 18.9**	**+0.1**
	182nm,0.5s						
MUGIO	**Muggio**	**1.54**	**326**	Pn	**Pn**	**15 44 18.9**	**+0.1**
	182nm,0.5s						
T0502	**Localit˜ San**	**1.54**	**118**	Pn	**Pg**	**15 44 21.7**	**-0.3**
	594µm,39.0s						
FROS	**Frosini**	**1.58**	**156**	Pn	**Pn**	**15 44 20.0**	**+0.7**
	194nm,0.9s						
FROS	**Frosini**	**1.58**	**156**	Pn	**Pn**	**15 44 20.0**	**+0.7**
	194nm,0.9s						
PANI	**Panarotta**	**1.59**	**28**	*e*Pg	**Pn**	**15 44 19.7**	**0.0**
CRE	**Caprese Michel**	**1.59**	**130**	Pn	**Pb**	**15 44 21.2**	**0.0**
	153nm,0.6s						
CRE	**Caprese Michel**	**1.59**	**130**	Pn	**Pb**	**15 44 21.2**	**0.0**
	153nm,0.6s						
TRIF	**Trifonti**	**1.60**	**163**	Pn	**Pn**	**15 44 20.8**	**+1.2**
	66nm,0.4s						
TRIF	**Trifonti**	**1.60**	**163**	Pn	**Pn**	**15 44 20.8**	**+1.2**
	66nm,0.4s						
VARE	**Varese**	**1.61**	**320**	Pn	**Pb**	**15 44 22.0**	**+0.5**
	192nm,0.4s						
VARE	**Varese**	**1.61**	**320**	Pn	**Pb**	**15 44 22.0**	**+0.5**
	192nm,0.4s						
CGRP	**Cima Grappa**	**1.64**	**41**	Pn	**Pn**	**15 44 20.1**	**-0.2**
	430nm,0.8s						
CGRP	**Cima Grappa**	**1.64**	**41ⁿ**	*e*Pg	**Pn**	**15 44 20.2**	**0.0**
CGRP				*e*Sg	**Sn**	**15 44 41.5**	**+0.5**
CGRP	**Cima Grappa**	**1.64**	**41**	Pn	**Pn**	**15 44 20.1**	**-0.2**
	430nm,0.8s						
CGRP				*e*Sg	**Sn**	**15 44 41.5**	**+0.5**
RORO	**Rocca Rossa**	**1.67**	**252**	Pn	**Pn**	**15 44 21.0**	**+0.6**
	66nm,0.3s						
RORO	**Rocca Rossa**	**1.67**	**252**	Pn	**Pn**	**15 44 21.0**	**+0.6**
	66nm,0.3s						
RORO	**Rocca Rossa**	**1.67**	**252**	P	**Pn**	**15 44 21.4**	**+1.0**
RORO				S	**Sn**	**15 44 39.9**	**-1.4**
CPGN	**Carpegna, Ital**	**1.71**	**119**	Pn	**Pb**	**15 44 23.9**	**+0.8**
	2096µm,47.0s						
CPGN	**Carpegna, Ital**	**1.71**	**119**	Pn	**Pb**	**15 44 23.9**	**+0.8**
	2096µm,47.0s						
PARC	**Parchiule**	**1.74**	**124**	Pn	**Pb**	**15 44 23.4**	**-0.2**
	69nm,0.6s						
PARC	**Parchiule**	**1.74**	**124**	Pn	**Pb**	**15 44 23.4**	**-0.2**
	69nm,0.6s						
BERNI	**Berninapass**	**1.77**	**355**	Pn	**Pn**	**15 44 23.2**	**+1.0**
	112nm,0.5s						
BERNI	**Berninapass**	**1.77**	**355**	Pn	**Pn**	**15 44 23.2**	**+1.0**
	112nm,0.5s						
CARE	**Lago del Cares**	**1.80**	**10**	*e*Pn	**Pn**	**15 44 23.4**	**+0.8**
CARE	**Lago del Cares**	**1.80**	**10**	*e*Pn	**Pn**	**15 44 23.4**	**+0.8**
CAFI	**Castiglion Fio**	**1.80**	**136**	Pn	**Pb**	**15 44 24.1**	**-0.6**
	117nm,0.6s						
CAFI	**Castiglion Fio**	**1.80**	**136**	Pn	**Pb**	**15 44 24.1**	**-0.6**
	117nm,0.6s						
BRMO	**Bormio**	**1.83**	**2**	Pn	**Pn**	**15 44 23.8**	**+1.0**
	53nm,0.6s						
BRMO	**Bormio**	**1.83**	**2**	Pn	**Pn**	**15 44 23.8**	**+1.0**
	53nm,0.6s						
OZOL	**Ozolo**	**1.84**	**17**	*e*Pn	**Pn**	**15 44 23.8**	**+0.8**
OZOL	**Ozolo**	**1.84**	**17**	*e*Pn	**Pn**	**15 44 23.8**	**+0.8**
IMI	**Imperia**	**1.86**	**247**	Pn	**Pn**	**15 44 23.2**	**+0.1**
IMI	**Imperia**	**1.86**	**247**	P	**Pn**	**15 44 23.3**	**+0.1**
VARN	**Col Varnada, M**	**1.87**	**43**	*e*Pn	**Pn**	**15 44 23.5**	**+0.2**
VARN	**Col Varnada, M**	**1.87**	**43**	*e*Pn	**Pn**	**15 44 23.5**	**+0.2**
CELB	**S.Piero in Cam**	**1.90**	**181**	Pn	**Pn**	**15 44 23.6**	**-0.2**
	51nm,0.2s						
CELB	**S.Piero in Cam**	**1.90**	**181**	Pn	**Pn**	**15 44 23.6**	**-0.2**
	51nm,0.2s						
CASP	**Castiglione de**	**1.91**	**167**	Pn	**Pn**	**15 44 24.0**	**+0.2**
	114nm,0.8s						
CASP	**Castiglione de**	**1.91**	**167**	Pn	**Pn**	**15 44 24.0**	**+0.2**
	114nm,0.8s						
TUE	**Stuetta**	**1.93**	**341**	Pn	**Pn**	**15 44 25.3**	**+1.0**
	128nm,0.5s						
TUE	**Stuetta**	**1.93**	**341**	Pn	**Pn**	**15 44 25.3**	**+1.0**
	128nm,0.5s						
APPI	**Appiano**	**1.95**	**20**	Pn	**Pn**	**15 44 25.2**	**+0.7**
	274nm,0.4s						
APPI	**Appiano**	**1.95**	**20**	Pn	**Pn**	**15 44 25.2**	**+0.7**
	274nm,0.4s						
ATPC	**Poggio Castell**	**1.97**	**126**	Pn	**Pn**	**15 44 26.4**	**+1.8**
	93nm,0.6s						
ATPC	**Poggio Castell**	**1.97**	**126**	Pn	**Pn**	**15 44 26.4**	**+1.8**
	93nm,0.6s						
FUORN	**Ofenpass-Fuorn**	**1.97**	**360**	Pn	**Pn**	**15 44 26.4**	**+1.5**
	104nm,0.6s						
FUORN	**Ofenpass-Fuorn**	**1.97**	**360**	Pn	**Pn**	**15 44 26.4**	**+1.5**
	104nm,0.6s						
KOSI	**Kohlern**	**1.98**	**23**	Pn	**Pn**	**15 44 25.4**	**+0.5**
	235nm,1.0s						
KOSI	**Kohlern**	**1.98**	**23**	Pn	**Pn**	**15 44 25.4**	**+0.5**
	235nm,1.0s						
MOSI	**Grossmontoni**	**1.98**	**6**	Pn	**Pn**	**15 44 26.2**	**+1.3**
	359nm,0.7s						
MOSI	**Grossmontoni**	**1.98**	**6**	Pn	**Pn**	**15 44 26.2**	**+1.3**
	359nm,0.7s						
PIEI	**Pieia**	**1.98**	**123**	Pn	**Pn**	**15 44 26.6**	**+1.8**
	66nm,1.0s						
PIEI	**Pieia**	**1.98**	**123**	Pn	**Pn**	**15 44 26.6**	**+1.8**
	66nm,1.0s						
TRAV	**Traversella**	**1.98**	**297**	Pn	**Pb**	**15 44 27.9**	**+0.1**
	203nm,0.3s						
TRAV	**Traversella**	**1.98**	**297**	Pn	**Pb**	**15 44 27.9**	**+0.1**
	203nm,0.3s						
ATVO	**AVT- Monte Val**	**2.00**	**129**	Pn	**Pn**	**15 44 26.1**	**+1.0**
	135nm,0.8s						
ATVO	**AVT- Monte Val**	**2.00**	**129**	Pn	**Pn**	**15 44 26.1**	**+1.0**
	135nm,0.8s						
ARCI	**Arcidosso**	**2.00**	**154**	Pn	**Pn**	**15 44 26.0**	**+0.9**
	39nm,0.8s						
ARCI	**Arcidosso**	**2.00**	**154**	Pn	**Pn**	**15 44 26.0**	**+0.9**
	39nm,0.8s						
NEGI	**Seborga**	**2.01**	**247**	P	**Pn**	**15 44 26.2**	**+1.0**
NEGI				S	**Sn**	**15 44 47.8**	**-2.0**
FSSB	**Fossombrone**	**2.05**	**117**	Pn	**Pn**	**15 44 27.0**	**+1.3**
	125nm,0.4s						
FSSB	**Fossombrone**	**2.05**	**117**	Pn	**Pn**	**15 44 27.0**	**+1.3**
	125nm,0.4s						
AGOR	**Agordo**	**2.06**	**37**	Pn	**Pn**	**15 44 25.9**	**0.0**
	122nm,0.4s						
MPAG	**Monte Paganucc**	**2.07**	**119**	Pn	**Pn**	**15 44 27.3**	**+1.3**
	170nm,1.3s						
MPAG	**Monte Paganucc**	**2.07**	**119**	Pn	**Pn**	**15 44 27.3**	**+1.3**
	170nm,1.3s						
ENR	**Entracque**	**2.08**	**259**	Pn	**Pn**	**15 44 27.0**	**+0.8**
	78nm,0.6s						
ENR	**Entracque**	**2.08**	**259**	Pn	**Pn**	**15 44 27.0**	**+0.8**
	78nm,0.6s						
ENR	**Entracque**	**2.08**	**259**	P	**Pn**	**15 44 27.3**	**+1.1**
ENR				S	**Sn**	**15 44 52.0**	**+0.3**
ATTE	**AVT- Monte Tez**	**2.09**	**133**	Pn	**Pn**	**15 44 27.9**	**+1.5**
	95nm,0.7s						
ATTE	**AVT- Monte Tez**	**2.09**	**133**	Pn	**Pn**	**15 44 27.9**	**+1.5**
	95nm,0.7s						
FUSIO	**Fusio**	**2.13**	**329**	Pn	**Pn**	**15 44 27.4**	**+0.5**
	135nm,0.5s						
FUSIO	**Fusio**	**2.13**	**329**	Pn	**Pn**	**15 44 27.4**	**+0.5**
	135nm,0.5s						
MURB	**Monte Urbino**	**2.14**	**130**	Pn	**Pn**	**15 44 28.3**	**+1.2**
	247nm,0.3s						
MURB	**Monte Urbino**	**2.14**	**130**	Pn	**Pn**	**15 44 28.3**	**+1.2**
	247nm,0.3s						
STV	**Sant Anna di V**	**2.14**	**260**	Pn	**Pn**	**15 44 28.1**	**+1.0**
	61nm,0.9s						
STV	**Sant Anna di V**	**2.14**	**260**	Pn	**Pn**	**15 44 28.1**	**+1.0**
	61nm,0.9s						
STV	**Sant Anna di V**	**2.14**	**260**	P	**Pn**	**15 44 28.5**	**+1.4**
STV				S	**Sn**	**15 44 53.0**	**-0.2**
BHB	**Bricherasio**	**2.15**	**276**	Pn	**Pn**	**15 44 29.1**	**+2.0**
BHB	**Bricherasio**	**2.15**	**276**	Pn	**Pn**	**15 44 29.1**	**+2.0**
DAVOX	**Davos/Dischmat**	**2.15**	**353**	Pn	**Pn**	**15 44 29.1**	**+1.8**
	93nm,0.4s						
DAVOX	**Davos/Dischmat**	**2.15**	**353**	Pn	**Pn**	**15 44 29.1**	**+1.8**
	93nm,0.4s						
DOI	**San Damiano**	**2.16**	**267**	Pn	**Pn**	**15 44 28.7**	**+1.3**
	157nm,0.5s						
DOI	**San Damiano**	**2.16**	**267**	Pn	**Pn**	**15 44 28.7**	**+1.3**
	157nm,0.5s						
SBF	**Sospel**	**2.18**	**250**	*e*Pn	**Pn**	**15 44 28.3**	**+0.7**
	SNR=1.0						
SBF				*e*Sn	**Sn**	**15 44 56.3**	**+2.2**
	176nm,0.4s,SNR=1.0						
SBF	**Sospel**	**2.18**	**250**	*e*Pn	**Pn**	**15 44 28.3**	**+0.7**
	SNR=1.0						
SBF				*e*Sn	**Sn**	**15 44 56.3**	**+2.2**
	88nm,0.4s,SNR=1.0						
SSFR	**Montelago di S**	**2.18**	**123**	Pn	**Pn**	**15 44 29.3**	**+1.7**
	82nm,0.6s						
SSFR	**Montelago di S**	**2.18**	**123**	Pn	**Pn**	**15 44 29.3**	**+1.7**
	82nm,0.6s						
RSP	**Reno Superiore**	**2.19**	**284**	Pn	**Pn**	**15 44 28.5**	**+0.7**
RSP	**Reno Superiore**	**2.19**	**284**	Pn	**Pn**	**15 44 28.5**	**+0.7**
MGAB	**Montegabbione**	**2.19**	**142**	Pn	**Pn**	**15 44 29.1**	**+1.4**
	74nm,0.6s						
MGAB	**Montegabbione**	**2.19**	**142**	Pn	**Pn**	**15 44 29.1**	**+1.4**
	74nm,0.6s						
PZZ	**Stroppo**	**2.25**	**267**	Pn	**Pn**	**15 44 30.2**	**+1.5**
	125nm,0.5s						
ATCC	**AVT- Casa Cast**	**2.26**	**130**	Pn	**Pn**	**15 44 30.3**	**+1.7**
	114nm,0.8s						
ATCC	**AVT- Casa Cast**	**2.26**	**130**	Pn	**Pn**	**15 44 30.3**	**+1.7**
	114nm,0.8s						
PGF	**Pioggiola**	**2.29**	**204**	*e*Pn	**Pn**	**15 44 29.4**	**+0.2**
	SNR=1.0						
PGF				*e*Sn	**Sn**	**15 44 55.6**	**-1.3**
	20nm,0.2s,SNR=1.0						
PGF	**Pioggiola**	**2.29**	**204**	*e*Pn	**Pn**	**15 44 29.4**	**+0.2**
	SNR=1.0						
PGF				*e*Sn	**Sn**	**15 44 55.6**	**-1.3**
	10nm,0.2s,SNR=1.0						
STAL	**STALIGIAL**	**2.36**	**46**	Pn	**Pn**	**15 44 29.6**	**-0.4**
	124nm,0.4s						
STAL	**STALIGIAL**	**2.36**	**46**	Pn	**Pn**	**15 44 29.6**	**-0.4**
	124nm,0.4s						
FETA	**Feichten**	**2.39**	**8**	Pn	**Pn**	**15 44 32.7**	**+2.0**
	1.4nm,0.1s						
FETA				*i* Sn	**Sn**	**15 45 02.2**	**+2.7**
	15nm,0.4s						
FETA	**Feichten**	**2.39**	**8**	Pn	**Pn**	**15 44 32.7**	**+2.0**
	1.4nm,0.1s						
FETA				Sn	**Sn**	**15 45 02.2**	**+2.7**
	15nm,0.4s						
MBDF	**Montbardon**	**2.49**	**273**	*e*Pn	**Pn**	**15 44 33.4**	**+1.4**
	SNR=1.0						
MBDF				*e*Sn	**Sn**	**15 45 04.0**	**+2.1**
	60nm,0.4s,SNR=1.0						
MBDF	**Montbardon**	**2.49**	**273**	*e*Pn	**Pn**	**15 44 33.4**	**+1.4**
	SNR=1.0						
MBDF				*e*Sn	**Sn**	**15 45 04.0**	**+2.1**
	30nm,0.4s,SNR=1.0						
ABTA	**Abfaltersbach**	**2.62**	**36**	Pn	**Pn**	**15 44 34.9**	**+1.2**
	2.5nm,0.3s						
ABTA				*i* Sn	**Sn**	**15 45 06.0**	**+0.9**
	21nm,0.5s						
ABTA	**Abfaltersbach**	**2.62**	**36**	Pn	**Pn**	**15 44 34.9**	**+1.2**
	2.5nm,0.3s						
ABTA				Sn	**Sn**	**15 45 06.0**	**+0.9**
	21nm,0.5s						
LPG	**La Plagne**	**2.63**	**290**	*e*Pn	**Pn**	**15 44 35.4**	**+1.4**
	SNR=1.0						
LPG	**La Plagne**	**2.63**	**290**	*e*Pn	**Pn**	**15 44 35.4**	**+1.4**
	SNR=1.0						
LPL	**La Plagne**	**2.65**	**290**	*e*Pn	**Pn**	**15 44 35.4**	**+1.2**
	SNR=1.0						
LPL	**La Plagne**	**2.65**	**290**	*e*Pn	**Pn**	**15 44 35.4**	**+1.2**
	SNR=1.0						
DAVA	**Damuels**	**2.65**	**354**	Pn	**Pn**	**15 44 36.9**	**+2.8**
	11nm,0.2s						
DAVA				*e*Sn	**Sn**	**15 45 09.1**	**+3.3**
	53nm,0.3s,SNR=5.8						
DAVA	**Damuels**	**2.65**	**354**	Pn	**Pn**	**15 44 36.9**	**+2.8**
	11nm,0.2s						
DAVA				Sn	**Sn**	**15 45 09.1**	**+3.3**
	53nm,0.3s,SNR=5.8						
MOTA	**Moosalm**	**2.76**	**12**	*i* Pn	**Pn**	**15 44 38.3**	**+2.7**
	3.9nm,0.2s						
MOTA				*i* Sn	**Sb**	**15 45 13.4**	**-1.2**
	41nm,0.4s						
MOTA	**Moosalm**	**2.76**	**12**	Pn	**Pn**	**15 44 38.3**	**+2.7**
	3.9nm,0.2s						
MOTA				Sn	**Sb**	**15 45 13.4**	**-1.2**
	41nm,0.4s						
WTTA	**Wattenberg**	**2.78**	**20**	*e*Pn	**Pn**	**15 44 39.3**	**+3.3**
	SNR=7.4						
WTTA	**Wattenberg**	**2.78**	**20**	Pn	**Pn**	**15 44 39.3**	**+3.3**
	SNR=7.4						
SKDS	**Skadanscina**	**2.80**	**70**	*i* Pn	**Pn**	**15 44 35.3**	**-0.8**
SKDS				*i*

HINF eSn Sn 15 45 37.7 -0.1
HINF Hinteralfeld 3.95 324 ePn Pn 15 44 52.7 +0.8
SNR=1.0
HINF eSn Sn 15 45 37.7 -0.1
VIVF Saint-Julien-l 3.99 275 ePn Pn 15 44 53.4 +1.0
SNR=1.0
VIVF eSn Sn 15 45 39.6 +1.0
8.1nm,0.3s,SNR=1.0
VIVF Saint-Julien-l 3.99 275 ePn Pn 15 44 53.4 +1.0
SNR=1.0
VIVF eSn Sn 15 45 39.6 +1.0
4.1nm,0.3s,SNR=1.0
ECH Echery 4.16 330 Pn Pn 15 44 55.1 +0.3
ECH Echery 4.16 330 Pg Pg 15 45 12.0 0.0
ECH Echery 4.16 330 Pn Pn 15 44 55.1 +0.3
ECH Echery 4.16 330 Pg Pg 15 45 12.0 0.0
MOA Molln 4.24 40 iPn Pn 15 44 57.2 +1.4
2.1nm,0.2s,SNR=7.9
MOA iSn Sn 15 45 46.0 +1.3
8.5nm,0.4s
MOA Molln 4.24 40 Pn Pn 15 44 57.2 +1.4
2.1nm,0.2s,SNR=7.9
MOA Sn Sn 15 45 46.0 +1.3
8.5nm,0.4s
CDF Champ du Feu 4.29 332 ePn Pn 15 44 56.8 +0.2
CDF eSn Sn 15 45 44.9 -1.3
18nm,0.3s,SNR=1.0
CDF Champ du Feu 4.29 332 ePn Pn 15 44 56.8 +0.2
CDF eSn Sn 15 45 44.9 -1.3
9.2nm,0.3s,SNR=1.0
HAU Haudompre 4.32 322 ePn Pn 15 44 57.7 +0.8
SNR=1.0
HAU eSn Sn 15 45 45.2 -1.5
HAU Haudompre 4.32 322 ePn Pn 15 44 57.7 +0.8
SNR=1.0
HAU eSn Sn 15 45 45.2 -1.5
LASF Ste Croix 4.63 265 ePn Pn 15 45 02.5 +1.3
SNR=1.0
LASF eSn Sn 15 45 55.1 +0.7
7.1nm,0.5s,SNR=1.0
LASF Ste Croix 4.63 265 ePn Pn 15 45 02.5 +1.3
SNR=1.0
LASF eSn Sn 15 45 55.1 +0.7
3.5nm,0.5s,SNR=1.0
THEF They Montfort 4.64 322 Pn Pn 15 45 02.3 +0.9
THEF They Montfort 4.64 322 Pn Pn 15 45 02.3 +0.9
SMF Signal de Mont 4.93 296 ePn Pn 15 45 06.4 +1.1
SNR=1.0
SMF eSn Sn 15 46 02.2 +0.5
17nm,0.5s,SNR=1.0
SMF Signal de Mont 4.93 296 ePn Pn 15 45 06.4 +1.1
SNR=1.0
SMF eSn Sn 15 46 02.2 +0.5
8.4nm,0.5s,SNR=1.0
KHC Kasperske Hory 5.03 26 ePN Pn 15 45 06.7 0.0
KHC eSN Sn 15 46 01.8 -2.4
KHC eSG Sg 15 46 34.4 +0.9
KHC Kasperske Hory 5.03 26 Pn Pn 15 45 06.7 0.0
KHC Sn Sn 15 46 01.8 -2.4
LOR Lormes 5.18 303 ePn Pn 15 45 09.0 +0.3
SNR=1.0
LOR eSn Sn 15 46 05.7 -2.2
24nm,0.4s,SNR=1.0
LOR Lormes 5.18 303 ePn Pn 15 45 09.0 +0.3
SNR=1.0
LOR eSn Sn 15 46 05.7 -2.2
12nm,0.4s,SNR=1.0
SSF Saint Saulge 5.30 299 eSn Sn 15 46 09.7 -1.2
8.8nm,0.4s,SNR=1.0
SSF Saint Saulge 5.30 299 eSn Sn 15 46 09.7 -1.2
4.4nm,0.4s,SNR=1.0
RUP Ruppelstein 5.51 338 Pn Pn 15 45 14.1 +0.8
NKC Novy Kostel 5.78 14 eSN Sn 15 46 19.4 -3.3
MTLF Montolieu 5.95 260 ePn Pn 15 45 19.9 +0.6
MTLF Montolieu 5.95 260 ePn Pn 15 45 19.9 +0.6
PRU Pruhonice 6.08 27 eSN Sn 15 46 27.4 -2.7
PRU ex x 15 47 04.8
GOPC GO Pecny, Ondr 6.10 29 eSN Sn 15 46 27.7 -2.9
GOPC eSG Sg 15 47 02.0 -5.9
comp=Z,4.8nm,0.5s
DPC Dobruska-Polom 7.02 34 eSG Sg 15 47 31.8 -5.7
5.0nm,0.7s
UPC Upice 7.03 31 eSG Sg 15 47 31.7 -6.0
ETSF Etsaut 8.03 261 eSn Sn 15 47 14.9 -3.2
0.8nm,0.2s,SNR=1.0

*ISCJB **08** 15:49:18.6±0.7, 13°.1N±0°.1×143°.25E±0°.10, h200km, mb3.4/8, Error ellipse: s-maj=15.1km s-min=13.5km az=1.7*
*IDC **08** 15:49:21.1±0.8, 13°.13N×143°.62E, h221km±11km, mb3.2/8, mb1 3.3/9, mb1mx3.1/44, mbtmp3.8/9, Error ellipse: s-maj=28.1km s-min=12.5km az=84.0*
ISC 08 15:49:19.9±0.9, 13°.1N±0°.1×143°.3E±0°.1, h200km, n10, σ1§19/11, mb3.5/8, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**1.59**	**72**	P		**Pn**	**15 49 55.6**	**+1.2**
	24nm,0.3s,baz=152,slow=23,SNR=62							
GUMO				S		**Sn**	**15 50 21.6**	**+0.4**
	18nm,0.3s,baz=332,slow=23,SNR=12							
JOW	**Kunigami**	**19.62**	**316**	P		**P**	**15 53 35.2**	**+2.0**
	0.6nm,0.3s,baz=108,slow=20,SNR=4.1							
JNU	**Nakatsue**	**22.93**	**332**	P		**P**	**15 54 07.2**	**+0.5**
	1.3nm,0.2s,baz=20,slow=19,SNR=17							
USRK	**Ussuriysk Ar.**	**32.47**	**345**	P		**P**	**15 55 30.7**	**-0.7**
	1.0nm,0.8s,baz=155,slow=38,SNR=2.8							
WRA	**Warramunga Arr**	**34.01**	**195**	P		**P**	**15 55 45.1**	**+0.2**
	1.4nm,0.6s,baz=18,slow=9.6,SNR=14							
ASAR	**Alice Springs**	**37.69**	**194**	P		**P**	**15 56 16.0**	**-0.2**
	0.4nm,0.7s,baz=15,slow=12,SNR=7.5							
SONM	**Songino Array**	**46.26**	**326**	P		**P**	**15 57 25.9**	**+0.6**
	0.3nm,0.5s,baz=151,slow=9.7,SNR=2.3							
KURBB	**Kurchatov Arra**	**64.01**	**320**	P		**P**	**15 59 32.4**	**+0.3**
	0.2nm,0.3s,baz=105,slow=7.0							
ILAR	**Eielson Array**	**69.65**	**25**	P		**P**	**16 00 05.8**	**-1.6**
	0.2nm,0.4s,baz=254,slow=5.7,SNR=6.1							
FINES	**FINESS Array B**	**90.95**	**335**	P		**P**	**16 01 59.5**	**-1.4**
	0.6nm,0.3s,baz=73,slow=4.9,SNR=8.0							

*IDC **08** 16:00:47.6±0.6, 11°.52N×143°.63E, h0km, mb4.1/17, mb1 4.2/18, mb1mx4.1/35, mbtmp4.1/18, ML3.7/1, MS3.3/8, Ms1 3.3/8, ms1mx3.0/33, Error ellipse: s-maj=23.7km s-min=13.2km az=83.0*
*BJI **08** 16:00:49.1, 11°.06N×143°.85E, h41km, mb4.7/22, mB5.0/17, Ms4.9/6, Ms7 4.6/6*
*ISCJB **08** 16:00:50.4±0.3, 11°.48N±0°.04×143°.68E±0°.05, h33km, mb4.6/56, MS3.5/9, Error ellipse: s-maj=7.6km s-min=6.1km az=18.0*
*NEIC **08** 16:00:50.5±2.7, 11°.49N×143°.67E, h21km±19km, mb5.0/33, Error ellipse: s-maj=7.4km s-min=5.9km az=96.0*
ISC 08 16:00:52.5±0.5, 11°.51N±0°.06×143°.76E±0°.08, h35km, n82, σ1§16/78, mb4.7/56, MS3.4/9, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**2.33**	**27**	Pn		**Pn**	**16 01 29.4**	**+1.1**
	17nm,0.3s,baz=340,slow=14,SNR=23							
GUMO				Sn		**Sn**	**16 01 56.4**	**+0.6**
	46nm,0.3s,baz=185,slow=16,SNR=6.8							
PATS	**Pohnpei**	**15.09**	**107**	ePn		**Pn**	**16 04 23.5**	**+0.3**
	164nm,1.6s							
CBIJ	**Chichi jima**	**15.58**	**355**	ePn		**Pn**	**16 04 25.9**	**-3.6**
	292nm,1.9s							
PMG	**Port Moresby**	**21.05**	**171**	P		**P**	**16 05 33.3**	**-0.3**
	6.1nm,0.7s,baz=338,slow=19,SNR=2.7							
JOW	**Kunigami**	**21.09**	**318**	P		**P**	**16 05 33.6**	**-0.3**
	4.8nm,0.5s,baz=121,slow=24,SNR=8.3							
JOW					LR	LR	16 13 06.9	
	comp=Z,67nm,18.8s,baz=110,slow=35							
JOW	**Kunigami**	**21.09**	**318**	eP		**P**	**16 05 34.2**	**+0.3**
	12nm,0.9s							
JHJ	**Hachijo jima 2**	**21.82**	**351**		LR	LR	16 13 31.4	
	comp=Z,54nm,21.0s,baz=86,slow=35							
H11S3	**WAKE ISLAND Hy**	**23.19**	**70**	T		T	16 29 48.2	
	baz=253,slow=75,SNR=14							
H11S1	**WAKE ISLAND Hy**	**23.21**	**70**	T		T	16 29 53.4	
	baz=253,slow=75,SNR=2.5							
H11S2	**WAKE ISLAND Hy**	**23.21**	**70**	T		T	16 30 00.6	
	baz=253,slow=75,SNR=12							
H11N1	**WAKE ISLAND Hy**	**23.70**	**67**	T		T	16 30 35.1	
	baz=250							
H11N2	**WAKE ISLAND Hy**	**23.71**	**67**	T		T	16 31 18.0	
	baz=250							
H11N3	**WAKE ISLAND Hy**	**23.72**	**67**	T		T	16 30 47.2	
	baz=250							
YULB	**Yu-li**	**24.43**	**302**	eP		**P**	**16 06 07.0**	**-1.0**
	4.6nm,0.9s							
JNU	**Nakatsue**	**24.54**	**333**	P		**P**	**16 06 07.7**	**-1.3**
	2.3nm,0.6s,baz=44,slow=4.3,SNR=7.3							
MJAR	**Matsushiro Arr**	**25.42**	**350**	P		**P**	**16 06 15.2**	**-1.7**
	1.3nm,0.7s,baz=163,slow=8.9,SNR=3.5							
KSRS	**Korea Array**	**29.49**	**334**	LR		LR	16 17 38.3	
	comp=Z,28nm,19.1s,baz=219,slow=34							
NJ2	**Nanjing**	**30.73**	**316**	eP		**P**	**16 07 04.5**	**+0.1**
WB2	**Warramunga Arr**	**32.60**	**197**	eP		**P**	**16 07 20.0**	**-0.9**
WRA	**Warramunga Arr**	**32.60**	**197**	P		**P**	**16 07 19.9**	**-1.0**
	2.9nm,0.9s,baz=21,slow=9.9,SNR=12							
WRA					PcP	**PcP**	**16 10 08.1**	**+1.2**
	0.5nm,0.7s,baz=355,slow=2.6,SNR=3.6							
USRK	**Ussuriysk Ar.**	**34.12**	**345**	P		**P**	**16 07 34.1**	**+0.2**
	0.9nm,0.7s,baz=140,slow=7.9,SNR=3.2							
AS01	**Alice Springs**	**36.25**	**195**	eP		**P**	**16 07 52.6**	**+0.1**
AS31	**Alice Springs**	**36.26**	**195**	eP		**P**	**16 07 52.9**	**+0.3**
	1.0nm,0.6s							
ASAR	**Alice Springs**	**36.27**	**195**	P		**P**	**16 07 52.1**	**-0.6**
	0.5nm,0.6s,baz=18,slow=12,SNR=12							
ASAR					PcP	**PcP**	**16 10 18.4**	**+1.0**
	0.4nm,0.6s,baz=34,slow=2.8,SNR=7.3							
BJI	**Beijing**	**37.44**	**324**	P		**P**	**16 08 02.4**	**-0.1**
BJI					pmax	pmax		
	comp=Z,10.0nm,0.5s							
GYA	**Guiyang**	**37.94**	**298**	eP		**P**	**16 08 07.8**	**+0.8**
GYA					pmax	pmax		
	comp=Z,10.0nm,1.0s							
DZM	**Mont Dzumac**	**40.11**	**146**	P		**P**	**16 08 26.0**	**+0.8**
	4.7nm,0.8s,baz=272,slow=8.1,SNR=6.4							
MBWA	**Marble Bar**	**40.14**	**216**	eP		**P**	**16 08 24.4**	**-0.9**
	52nm,1.5s							
HHC	**Hu-ho-hao-te**	**40.68**	**322**	eP		**P**	**16 08 29.4**	**-0.3**
HHC					pmax	pmax		
	comp=Z,26nm,0.9s							
HHC					pmax	pmax		
	comp=Z,110nm,4.9s							
KMI	**Kunming**	**41.06**	**295**	P		**P**	**16 08 33.6**	**+0.4**
KMI					pmax	pmax		
	comp=Z,10.0nm,0.7s							
KMI					pmax	pmax		
	comp=Z,54nm,4.2s							
PETK	**Petropavlovsk-**	**42.97**	**12**	LR		LR	16 28 23.7	
	comp=Z,28nm,19.1s,baz=222,slow=38							
LZH	**Lanzhou**	**43.52**	**311**	eP		**P**	**16 08 51.0**	**-2.0**
LZH					pP	pP	16 09 02.5	-0.8
LZH					sP	sP	16 09 07.2	-0.3
LZH					PP	**PP**	**16 10 34.1**	**-0.5**
LZH					pmax	pmax		
	comp=Z,20nm,1.2s							
LZH					pmax	pmax		
	comp=Z,78nm,6.0s							
LZH					LR	LR		
	comp=N,390nm,13.6s							
LZH					LR	LR		
	comp=E,400nm,14.0s							
LZH					LR	LR		
	comp=Z,500nm,18.2s							
CMAR	**Chiang Mai Arr**	**43.75**	**285**	P		**P**	**16 08 55.3**	**+0.4**
	1.5nm,0.5s,baz=84,slow=6.3,SNR=9.7							
SONM	**Songino Array**	**47.83**	**327**	P		**P**	**16 09 26.8**	**0.0**
	0.6nm,0.5s,baz=108,slow=27,SNR=6.1							
SONM					LR	LR	16 30 06.4	
	comp=Z,38nm,19.7s,baz=198,slow=37							
SONA1	**Songino Array**	**47.83**	**327**	eP		**P**	**16 09 26.1**	**-0.8**
AFI	**Afiamalu**	**50.81**	**119**	eP		**P**	**16 09 47.7**	**-2.2**
	91nm,1.4s							
NIKH	**Nikolski High**	**56.00**	**32**	eP		**P**	**16 10 25.3**	**-2.1**
	120nm,0.8s							
WMQ	**Urumqi**	**57.80**	**315**	P		**P**	**16 10 41.6**	**+1.1**
WMQ					pmax	pmax		
	comp=Z,11nm,0.6s							
WMQ					pmax	pmax		
	comp=Z,24nm,3.7s							
SDPT	**Sand Point**	**61.46**	**33**	eP		**P**	**16 11 05.3**	**-0.1**
	57nm,1.2s							
MK01	**Makanchi Array**	**62.23**	**317**	eP		**P**	**16 11 10.9**	**0.0**
MK31	**Makanchi Array**	**62.25**	**317**	eP		**P**	**16 11 10.1**	**-0.8**
MKAR	**Makanchi Array**	**62.25**	**317**	eP		**P**	**16 11 10.1**	**-0.8**
	17nm,0.8s							
MAKZ	**Makanchi**	**62.46**	**317**	eP		**P**	**16 11 12.8**	**+0.4**
	4.8nm,0.8s							
ZAA0	**Zalesovo Array**	**62.69**	**325**	eP		**P**	**16 11 13.5**	**-0.1**
ZALV	**Zalesovo Beam**	**62.69**	**325**	P		**P**	**16 11 13.5**	**-0.1**
	1.0nm,0.4s,baz=112,slow=6.5,SNR=4.7							
KURK	**Kurchatov**	**65.48**	**321**	eP		**P**	**16 11 31.1**	**-0.9**
	13nm,0.8s							
KSH	**Kashi**	**65.65**	**308**	eP		**P**	**16 11 35.4**	**+1.8**
KSH					pP	sP	16 11 48.6	+0.2
KSH					PP	**PP**	**16 14 02.4**	**+4.1**
KSH					S	**S**	**16 20 16.1**	**-1.2**
KSH					sS	sS	16 20 38.5	+3.5
KSH					SS	**SS**	**16 24 33.0**	**+1.3**
KSH					pmax	pmax		
	comp=Z,23nm,2.0s							
KSH					pmax	pmax		
	comp=Z,110nm,4.2s							
KSH					LR	LR		
	comp=N,81nm,5.3s							
KSH					LR	LR		
	comp=E,100nm,6.0s							
KSH					LR	LR		
	comp=Z,140nm,5.8s							
NRIK	**Noril'sk**	**67.74**	**341**	P		**P**	**16 11 46.1**	**-0.1**
	3.1nm,0.6s,baz=108,slow=11,SNR=4.7							
PPLA	**Purkuvpile**	**68.12**	**26**	eP		**P**	**16 11 49.8**	**+1.0**
	32nm,1.6s							
CAST	**Castle Rocks**	**68.33**	**26**	eP		**P**	**16 11 50.9**	**+0.9**
	5.1nm,1.0s							
RC01	**Rabbit Creek A**	**68.70**	**29**	eP		**P**	**16 11 52.5**	**+0.2**
	51nm,1.6s							
KTH	**Kantishna Hill**	**68.87**	**26**	eP		**P**	**16 11 53.7**	**+0.3**
	21nm,1.7s							
SML	**Sawmill**	**69.54**	**28**	eP		**P**	**16 11 58.4**	**+0.8**
	20nm,1.3s							
RND	**Reindeer**	**69.72**	**26**	eP		**P**	**16 11 58.9**	**+0.3**
	19nm,1.8s							
SCM	**Sheep Creek Mo**	**70.01**	**28**	eP		**P**	**16 12 01.6**	**+1.0**
	58nm,1.7s							
COLD	**Coldfoot**	**70.27**	**22**	eP		**P**	**16 12 03.0**	**+1.1**
	24nm,1.8s							
WRH	**Wood River Hil**	**70.32**	**25**	eP		**P**	**16 12 02.6**	**+0.4**
	6.9nm,1.2s							
MDM	**Murphy Dome**	**70.39**	**25**	eP		**P**	**16 12 03.7**	**+1.0**
	22nm,1.9s							
CCB	**Clear Creek Bu**	**70.48**	**25**	eP		**P**	**16 12 03.2**	**0.0**
	20nm,1.9s							
DIV	**Divide**	**70.59**	**29**	eP		**P**	**16 12 04.8**	**+0.8**
	16nm,1.0s							
HDA	**Harding Lake**	**70.78**	**25**	eP		**P**	**16 12 05.2**	**+0.1**
	20nm,1.2s							
ILAR	**Eielson Array**	**70.90**	**25**	P		**P**	**16 12 05.5**	**-0.3**
	0.6nm,0.8s,baz=255,slow=5.0,SNR=4.1							
ILB	**Eielson Array**	**70.90**	**25**	eP		**P**	**16 12 04.9**	**-0.8**
IL1	**Eielson Array**	**70.90**	**25**	eP		**P**	**16 12 04.8**	**-1.0**
BRVK	**Borovoye**	**70.95**	**322**	eP		**P**	**16 12 06.8**	**+0.4**
	6.0nm,0.8s							
DOT	**Dot Lake**	**71.86**	**27**	eP		**P**	**16 12 12.2**	**+0.6**
	14nm,0.8s							
MENT	**Mentasta**	**71.88**	**27**	eP		**P**	**16 12 12.6**	**+0.8**
	5.9nm,1.0s							
EGAK	**Eagle**	**73.31**	**26**	eP		**P**	**16 12 21.8**	**+1.6**
	28nm,1.9s							
DAWY	**Dawson**	**73.97**	**26**	eP		**P**	**16 12 25.7**	**+1.5**
	5.7nm,0.9s							
HYT	**Haines Junctio**	**74.53**	**30**	eP		**P**	**16 12 29.5**	**+1.9**
	6.2nm,0.8s							
SKAG	**Skagway**	**75.55**	**31**	eP		**P**	**16 12 34.8**	**+1.5**
	14nm,1.2s							
WHY	**Whitehorse**	**75.81**	**30**	eP		**P**	**16 12 36.7**	**+1.7**
	4.7nm,0.8s							
INK	**Inuvik**	**76.69**	**22**	P		**P**	**16 12 40.3**	**+0.7**
	2.5nm,0.8s,baz=222,slow=9.0,SNR=5.6							
ABKAR	**Akbulak array**	**77.35**	**318**	eP		**P**	**16 12 43.5**	**-0.3**
	22nm,0.8s							
ARU	**Arti**	**77.85**	**326**	eP		**P**	**16 12 45.7**	**-0.7**
	4.1nm,1.1s							
GEYT	**Alibeck**	**79.62**	**307**	LR		LR	16 53 23.6	
	comp=Z,28nm,18.2s,baz=165,slow=40							
YKA	**Yellowknife Ar**	**85.19**	**27**	P		**P**	**16 13 26.3**	**+1.3**
	0.9nm,0.6s,baz=288,slow=4.9,SNR=5.4							
ARCES	**ARCESS Array B**	**88.72**	**342**	P		**P**	**16 13 42.6**	**+0.5**
	1.2nm,0.8s,baz=73,slow=6.7,SNR=2.5							
FINES	**FINESS Array B**	**92.58**	**335**	P		**P**	**16 13 58.6**	**-1.5**
	1.4nm,0.8s,baz=28,slow=4.5,SNR=4.4							
FINES					LR	LR	16 59 06.1	
	comp=Z,29nm,18.2s,baz=104,slow=38							
AKASG	**Malin Array Be**	**96.08**	**324**	LR		LR	17 00 09.3	
	comp=Z,22nm,18.2s,baz=350,slow=37							
TORD	**Torodi Ar. Bea**	**135.09**	**302**	PKP		**PKPdf**	**16 20 09.9**	**+0.7**
	0.2nm,0.5s,baz=321,slow=2.0,SNR=2.6							
LPAZ	**La Paz**	**148.70**	**102**	PKPbc		**PKPbc**	**16 20 39.7**	**+1.8**
	3.3nm,0.8s,baz=291,slow=2.3,SNR=12							

*JMA **08** 16:01:17.7±0.2, 43°.37N×147°.73E, h9km, M3.4*
*SKHL **08** 16:01:18.1±0.3, 43°.44N×148°.05E, h30km, mb3.8/3*
ISC 08 16:01:18.6±4.3, 43°.4N±0°.1×148°.1E±0°.1, h18km±27km, n11, σ3§48/17, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
SHO	**Shikotan**	**1.00**	**298**	iP		**Pb**	**16 01 35.0**	**-2.5**
SHO					AMB	AMB	16 01 35.9	
	8.0nm,0.2s							
SHO					AMB	AMB	16 01 35.9	
	20nm,0.2s							
SHO				*i* S		**Sb**	**16 01 47.6**	**-2.7**
SHO				A		A	16 01 49.0	
	510nm,0.2s							
NEM2	**Nemuro 2**	**1.68**	**270**	P		**Pn**	**16 01 44.2**	**-2.9**
NEM2				*e*S		**Sn**	**16 02 03.6**	**-4.6**
YUK	**Yuzh-Kuril'sk**	**1.71**	**293**	*i* P		**Pn**	**16 01 45.2**	**-2.3**
YUK					AMB	AMB	16 01 46.6	
	50nm,0.2s							
YUK				*i* S		**Sn**	**16 02 05.4**	**-3.5**
YUK				A		A	16 02 07.9	
	400nm,0.4s							
YUK				A		A	16 02 07.9	
	280nm,0.4s							
KUR	**Kuril'sk**	**1.84**	**356**	*i* P		**Pn**	**16 01 46.7**	**-2.6**
KUR					AMB	AMB	16 01 47.5	
	20nm,0.2s							
KUR				*i* S		**Sn**	**16 02 08.4**	**-3.7**
KUR				A		A	16 02 10.3	
	440nm,0.4s							
KUR				A		A	16 02 10.3	
	210nm,0.4s							
JRA	**Rausu**	**2.19**	**285**	*e*S		**Sn**	**16 02 17.6**	**-3.2**
JNK	**Nakash**	**2.43**	**276**	P		**Pn**	**16 01 55.0**	**-2.4**
JNK				*e*S		**Sn**	**16 02 22.3**	**-4.4**
JAK	**Akkeshi**	**2.49**	**262**	P		**Pn**	**16 01 56.0**	**-2.2**
JAK				*e*S		**Sn**	**16 02 24.0**	**-4.0**
JTKR	**Abashiri--Toko**	**3.06**	**282**	P		**Pn**	**16 02 05.1**	**-0.9**
JAR	**Ashorobuto**	**3.12**	**270**	*e*S		**Sn**	**16 02 40.2**	**-3.6**
JCH	**Churui**	**3.53**	**259**	P		**Pn**	**16 02 10.8**	**-1.7**
JNBK	**Urakawa-nobuka**	**4.05**	**256**	P		**Pn**	**16 02 18.2**	**-1.5**

*GEN **08** 16:06:44.1, 44°.71N×10°.28E, h15km, ML2.5*
*CSEM **08** 16:06:44.6±0.1, 44°.67N×10°.30E, h8km, ML3.2/13, Error ellipse: s-maj=3.6km s-min=2.8km az=112.0*
*ISCJB **08** 16:06:45.3±0.2, 44°.63N±0°.02×10°.27E±0°.03, h18km±3km, Error ellipse: s-maj=3.3km s-min=2.4km az=28.5*
*ROM **08** 16:06:45.0±0.1, 44°.63N×10°.25E, h18km±3km, MI2.6/24, Error ellipse: s-maj=2.0km s-min=1.4km az=93.0*
*LDG **08** 16:06:45.9±0.5, 44°.61N×10°.55E, h20km, MI2.9/5, Error ellipse: s-maj=11.8km s-min=7.0km az=79.0*
ISC 08 16:06:44.8±0.9, 44°.66N±0°.01×10°.29E±0°.02, h18km±4km, n123, σ1§20/173, 1C, Northern Italy

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
PRMA	**PARMA**	**0.11**	**8**	Pg		**Pg**	**16 06 48.6**	**+0.1**
PRMA					Sg	**Sg**	**16 06 53.2**	**+2.1**
	3µm,0.5s							
PRMA	**PARMA**	**0.11**	**8**	Pg		**Pg**	**16 06 48.6**	**+0.1**
GRAM	**Graiana**	**0.23**	**225**	P		**Pg**	**16 06 49.6**	**-0.6**
GRAM				S		**Sg**	**16 06 53.7**	**-0.3**
NOVE	**Novellara**	**0.33**	**65**	Pg		**Pb**	**16 06 53.0**	**+0.8**
NOVE	**Novellara**	**0.33**	**65**	Pg		**Pb**	**16 06 53.0**	**+0.8**
CODM	**Codolo**	**0.41**	**230**	P		**Pg**	**16 06 52.4**	**-0.9**
CODM				S		**Sg**	**16 06 58.4**	**-0.6**
SARO	**Sassorosso**	**0.48**	**171**	P		**Pg**	**16 06 53.9**	**-0.6**
VLC	**Villacollemand**	**0.50**	**172**	Pg		**Pg**	**16 06 54.3**	**-0.6**
VLC					Sg	**Sg**	**16 07 01.6**	**0.0**
	544nm,0.6s							
VLC	**Villacollemand**	**0.50**	**172**	Pg		**Pg**	**16 06 54.3**	**-0.6**
VLC					Sg	**Sg**	**16 07 01.6**	**0.0**
	544nm,0.6s							
ZCCA	**Zocca**	**0.58**	**122**	Pg		**Pb**	**16 06 57.3**	**+1.0**
	98nm,0.6s							
ZCCA	**Zocca**	**0.58**	**122**	Pg		**Pb**	**16 06 57.3**	**+1.0**
	98nm,0.6s							
SC2M	**Scurtabo**	**0.60**	**245**	Pg		**Pg**	**16 06 55.4**	**-1.3**
SC2M					Sg	**Sg**	**16 07 04.5**	**-0.2**
	681nm,0.3s							
SC2M	**Scurtabo**	**0.60**	**245**	P		**Pg**	**16 06 55.4**	**-1.3**
SC2M					Sg	**Sg**	**16 07 04.5**	**-0.2**
	681nm,0.3s							
BOB	**Bobbio (Coli)**	**0.61**	**281**	Pg		**Pg**	**16 06 56.6**	**-0.4**
BOB					Sg	**Sg**	**16 07 05.2**	**0.0**
	246nm,0.6s							
BOB	**Bobbio (Coli)**	**0.61**	**281**	Pg		**Pg**	**16 06 56.6**	**-0.4**
BOB					Sg	**Sg**	**16 07 05.2**	**0.0**
	246nm,0.6s							
BDI	**Bagni Di Lucca**	**0.63**	**160**	Pg		**Pb**	**16 06 56.9**	**-0.4**
BDI					Sg	**Sg**	**16 07 05.5**	**-0.2**
	217nm,0.4s							
BDI	**Bagni Di Lucca**	**0.63**	**160**	Pg		**Pb**	**16 06 56.9**	**-0.4**
BDI					Sg	**Sg**	**16 07 05.5**	**-0.2**
	217nm,0.4s							
MSSA	**Maissana**	**0.65**	**239**	Pg		**Pb**	**16 06 56.7**	**-0.9**
MSSA	**Maissana**	**0.65**	**239**	Pg		**Pb**	**16 06 56.7**	**-0.9**
POPM	**Popiglio**	**0.70**	**151**	P		**Pb**	**16 06 58.3**	**-0.1**
MAIM	**Mastiano**	**0.76**	**169**	Pg		**Pb**	**16 06 58.7**	**-0.7**
MAIM					Sg	**Sb**	**16 07 08.7**	**-0.6**
	94nm,0.5s							
MAIM	**Mastiano**	**0.76**	**169**	P		**Pb**	**16 06 58.7**	**-0.7**
MAIM					Sg	**Sb**	**16 07 08.7**	**-0.6**
	94nm,0.5s							
FNVD	**Fontana Vidola**	**0.77**	**129**	Pg		**Pg**	**16 07 00.3**	**+0.5**
	134nm,0.8s							
FNVD	**Fontana Vidola**	**0.77**	**129**	Pg		**Pg**	**16 07 00.3**	**+0.5**
	134nm,0.8s							
SEI	**Scarperia**	**0.97**	**128**	Pg		**Pg**	**16 07 04.1**	**+0.5**
SEI	**Scarperia**	**0.97**	**128**	Pg		**Pg**	**16 07 04.1**	**+0.5**
SALO	**Salr**	**0.98**	**10**	Pg		**Pg**	**16 07 04.2**	**+0.4**
SALO					Sg	**Sn**	**16 07 17.5**	**+0.5**
	339nm

TEOL				*e*Sg		**Sg**	**16 07 25.0**	**+1.2**
PCP	**Piancastagn**	**1.25**	**265**	Pn		**Pn**	**16 07 08.0**	**+0.5**
	87nm,0.6s							
PCP	**Piancastagn**	**1.25**	**265**	Pn		**Pn**	**16 07 08.0**	**+0.5**
	87nm,0.6s							
RNI	**Roncone**	**1.34**	**10**	*e*Pg		**Pn**	**16 07 08.8**	**0.0**
RNI				*e*Sg		**Sg**	**16 07 27.4**	**-0.9**
RNI	**Roncone**	**1.34**	**10**	*e*Pg		**Pn**	**16 07 08.8**	**0.0**
RNI				*e*Sg		**Sg**	**16 07 27.4**	**-0.9**
SFI	**Santa Sofia**	**1.34**	**123**	Pn		**Pg**	**16 07 11.5**	**+0.8**
	45nm,0.7s							
SFI	**Santa Sofia**	**1.34**	**123**	Pn		**Pg**	**16 07 11.5**	**+0.8**
	45nm,0.7s							
ASQU	**Asqua**	**1.38**	**128**	Pn		**Pb**	**16 07 10.9**	**+0.9**
	26nm,0.7s							
ASQU	**Asqua**	**1.38**	**128**	Pn		**Pb**	**16 07 10.9**	**+0.9**
	26nm,0.7s							
DDS	**Dosso del Somm**	**1.38**	**27**	*e*Pg		**Pn**	**16 07 09.2**	**-0.1**
DDS				*e*Sg		**Sg**	**16 07 29.1**	**-0.3**
DDS	**Dosso del Somm**	**1.38**	**27**	*e*Pg		**Pn**	**16 07 09.2**	**-0.1**
DDS				*e*Sg		**Sg**	**16 07 29.1**	**-0.3**
MABI	**Malga Bissina**	**1.41**	**6**	Pn		**Pn**	**16 07 09.6**	**-0.1**
	43nm,0.5s							
MABI	**Malga Bissina**	**1.41**	**6**	Pn		**Pn**	**16 07 09.6**	**-0.1**
	43nm,0.5s							
MUGIO	**Muggio**	**1.54**	**326**	Pn		**Pb**	**16 07 13.1**	**+0.2**
	42nm,0.4s							
MUGIO	**Muggio**	**1.54**	**326**	Pn		**Pb**	**16 07 13.1**	**+0.2**
	42nm,0.4s							
PANI	**Panarotta**	**1.58**	**27**	*e*Pg		**Pn**	**16 07 12.3**	**+0.3**
CRE	**Caprese Michel**	**1.58**	**130**	Pn		**Pb**	**16 07 13.8**	**+0.3**
	33nm,0.9s							
CRE	**Caprese Michel**	**1.58**	**130**	Pn		**Pb**	**16 07 13.8**	**+0.3**
	33nm,0.9s							
CGRP	**Cima Grappa**	**1.62**	**40**	*e*Pg		**Pn**	**16 07 13.2**	**+0.5**
CGRP	**Cima Grappa**	**1.62**	**40**	*e*Pg		**Pn**	**16 07 13.2**	**+0.5**
CARE	**Lago del Cares**	**1.79**	**9**	*e*Pn		**Pn**	**16 07 16.0**	**+0.9**
CARE	**Lago del Cares**	**1.79**	**9**	*e*Pn		**Pn**	**16 07 16.0**	**+0.9**
OZOL	**Ozolo**	**1.83**	**17**	*e*Pn		**Pn**	**16 07 16.4**	**+1.0**
OZOL	**Ozolo**	**1.83**	**17**	*e*Pn		**Pn**	**16 07 16.4**	**+1.0**
TUE	**Stuetta**	**1.93**	**340**	Pn		**Pn**	**16 07 16.8**	**-0.2**
	24nm,0.3s							
TUE	**Stuetta**	**1.93**	**340**	Pn		**Pn**	**16 07 16.8**	**-0.2**
	24nm,0.3s							
APPI	**Appiano**	**1.94**	**19**	Pn		**Pn**	**16 07 17.3**	**+0.4**
	32µm,16.0s							
APPI	**Appiano**	**1.94**	**19**	Pn		**Pn**	**16 07 17.3**	**+0.4**
	32µm,16.0s							
MOSI	**Grossmontoni**	**1.97**	**5**	Pn		**Pn**	**16 07 18.8**	**+1.4**
	129nm,0.8s							
MOSI	**Grossmontoni**	**1.97**	**5**	Pn		**Pn**	**16 07 18.8**	**+1.4**
	129nm,0.8s							
TRAV	**Traversella**	**2.00**	**296**	Pn		**Pn**	**16 07 17.9**	**+0.2**
TRAV	**Traversella**	**2.00**	**296**	Pn		**Pn**	**16 07 17.9**	**+0.2**
DAVOX	**Davos/Dischmat**	**2.15**	**352**	Pn		**Pn**	**16 07 21.2**	**+1.4**
	21nm,0.5s							
DAVOX	**Davos/Dischmat**	**2.15**	**352**	Pn		**Pn**	**16 07 21.2**	**+1.4**
	21nm,0.5s							
DOI	**San Damiano**	**2.18**	**267**	Pn		**Pn**	**16 07 21.1**	**+0.9**
DOI	**San Damiano**	**2.18**	**267**	Pn		**Pn**	**16 07 21.1**	**+0.9**
ABSI	**Aberstueckl**	**2.19**	**19**	Pn		**Pn**	**16 07 21.4**	**+0.9**
	86nm,0.9s							
ABSI	**Aberstueckl**	**2.19**	**19**	Pn		**Pn**	**16 07 21.4**	**+0.9**
	86nm,0.9s							
SBF	**Sospel**	**2.20**	**250**	*e*Pn		**Pn**	**16 07 21.5**	**+1.0**
SBF				*e*Sn		**Sb**	**16 07 49.8**	**-1.2**
	25nm,0.3s							
SBF	**Sospel**	**2.20**	**250**	*e*Pn		**Pn**	**16 07 21.5**	**+1.0**
SBF				*e*Sn		**Sb**	**16 07 49.8**	**-1.2**
	13nm,0.3s							
PGF	**Pioggiola**	**2.31**	**204**	*e*Pn		**Pn**	**16 07 22.2**	**+0.2**
PGF	**Pioggiola**	**2.31**	**204**	*e*Pn		**Pn**	**16 07 22.2**	**+0.2**
FETA	**Feichten**	**2.38**	**7**	*e*Pn		**Pn**	**16 07 25.0**	**+1.9**
	1.0nm,0.3s							
FETA				*e*Sn		**Sb**	**16 07 58.1**	**+1.7**
	3.3nm,0.4s							
FETA	**Feichten**	**2.38**	**7**	Pn		**Pn**	**16 07 25.0**	**+1.9**
	1.0nm,0.3s							
MBDF	**Montbardon**	**2.51**	**273**	*e*Pn		**Pb**	**16 07 27.7**	**-1.7**
MBDF				*e*Sg		**Sg**	**16 08 08.1**	**+2.5**
	5.2nm,0.2s							
MBDF	**Montbardon**	**2.51**	**273**	*e*Pn		**Pb**	**16 07 27.7**	**-1.7**
MBDF				*e*Sg		**Sg**	**16 08 08.1**	**+2.5**
	2.6nm,0.2s							
ABTA	**Abfaltersbach**	**2.61**	**36**	*i* Pn		**Pn**	**16 07 28.0**	**+1.9**
ABTA	**Abfaltersbach**	**2.61**	**36**	Pn		**Pn**	**16 07 28.0**	**+1.9**
LPG	**La Plagne**	**2.65**	**290**	*e*Pn		**Pb**	**16 07 29.6**	**-2.2**
LPG	**La Plagne**	**2.65**	**290**	*e*Pn		**Pb**	**16 07 29.6**	**-2.2**
DAVA	**Damuels**	**2.65**	**354**	*e*Pn		**Pb**	**16 07 30.0**	**-1.7**
	SNR=5.3							
DAVA	**Damuels**	**2.65**	**354**	Pn		**Pb**	**16 07 30.0**	**-1.7**
	SNR=5.3							
LPL	**La Plagne**	**2.67**	**290**	*e*Pn		**Pb**	**16 07 31.9**	**-0.2**
LPL				*e*Sn		**Sb**	**16 08 04.1**	**-0.4**
	9.0nm,0.3s							
LPL	**La Plagne**	**2.67**	**290**	*e*Pn		**Pb**	**16 07 31.9**	**-0.2**
LPL				*e*Sn		**Sb**	**16 08 04.1**	**-0.4**
	4.5nm,0.3s							
MOTA	**Moosalm**	**2.75**	**12**	*e*Pn		**Pb**	**16 07 31.0**	**-2.4**
	5.2nm,0.2s,SNR=8.0							
MOTA				*i* Sn		**Sn**	**16 08 00.5**	**-0.4**
	3.4nm,0.2s							
MOTA	**Moosalm**	**2.75**	**12**	Pn		**Pb**	**16 07 31.0**	**-2.4**
	5.2nm,0.2s,SNR=8.0							
MOTA				Sn		**Sn**	**16 08 00.5**	**-0.4**
	3.4nm,0.2s							
WTTA	**Wattenberg**	**2.77**	**19**	*e*P		**Pb**	**16 07 31.9**	**-2.0**
	SNR=6.2							
WTTA	**Wattenberg**	**2.77**	**19**	P		**Pb**	**16 07 31.9**	**-2.0**
	SNR=6.2							
SKDS	**Skadanscina**	**2.78**	**70**	*i* Pn		**Pn**	**16 07 27.8**	**-0.6**
SKDS	**Skadanscina**	**2.78**	**70**	Pn		**Pn**	**16 07 27.8**	**-0.6**
WATA	**Walderalm**	**2.83**	**18**	*e*Pn		**Pn**	**16 07 31.8**	**+2.7**
	5.3nm,0.2s,SNR=5.9							
WATA				*i* Sn		**Sn**	**16 08 01.7**	**-1.1**
	2.6nm,0.2s							
WATA	**Walderalm**	**2.83**	**18**	Pn		**Pn**	**16 07 31.8**	**+2.7**
	5.3nm,0.2s,SNR=5.9							
WATA				Sn		**Sn**	**16 08 01.7**	**-1.1**
	2.6nm,0.2s							
FRF	**La Foret Royal**	**2.84**	**249**	*e*Pn		**Pn**	**16 07 29.6**	**+0.3**
FRF	**La Foret Royal**	**2.84**	**249**	*e*Pn		**Pn**	**16 07 29.6**	**+0.3**
LMR	**La Mourre**	**3.03**	**245**	*e*Pn		**Pn**	**16 07 31.6**	**-0.2**
LMR	**La Mourre**	**3.03**	**245**	*e*Pn		**Pn**	**16 07 31.6**	**-0.2**
MYKA	**Terra Mystica**	**3.07**	**49**	*i* Pn		**Pg**	**16 07 42.4**	**-1.2**
	SNR=5.5							
ORIF	**Oris-en-Rattie**	**3.15**	**276**	*e*Pn		**Pn**	**16 07 36.8**	**+3.2**
ORIF				*e*Sn		**Sn**	**16 08 14.6**	**+3.8**
ORIF	**Oris-en-Rattie**	**3.15**	**276**	*e*Pn		**Pn**	**16 07 36.8**	**+3.2**
ORIF				*e*Sn		**Sn**	**16 08 14.6**	**+3.8**
NVLJ	**Novalja**	**3.27**	**90**	*e*Pn		**Pn**	**16 07 34.2**	**-0.9**
NVLJ				Sn		**Sn**	**16 08 12.1**	**-1.4**
NVLJ	**Novalja**	**3.27**	**90**	*e*Pn		**Pn**	**16 07 34.1**	**-0.9**
NVLJ				Sn		**Sn**	**16 08 12.1**	**-1.4**
SMRF	**Simiane la Rot**	**3.45**	**260**	*e*Pn		**Pn**	**16 07 39.4**	**+1.7**
SMRF	**Simiane la Rot**	**3.45**	**260**	*e*Pn		**Pn**	**16 07 39.4**	**+1.7**
HINF	**Hinteralfeld**	**3.96**	**324**	*e*Pn		**Pn**	**16 07 44.4**	**-0.2**
HINF	**Hinteralfeld**	**3.96**	**324**	*e*Pn		**Pn**	**16 07 44.4**	**-0.2**
VIVF	**Saint-Julien-l**	**4.01**	**275**	*e*Pn		**Pn**	**16 07 47.9**	**+2.6**
VIVF				*e*Sn		**Sn**	**16 08 34.1**	**+2.3**
	2.0nm,0.2s							
VIVF	**Saint-Julien-l**	**4.01**	**275**	*e*Pn		**Pn**	**16 07 47.9**	**+2.6**
VIVF				*e*Sn		**Sn**	**16 08 34.1**	**+2.3**
	1.0nm,0.2s							
HAU	**Haudompre**	**4.32**	**322**	*e*Sn		**Sn**	**16 08 40.4**	**+0.9**
	4.5nm,0.2s							
HAU	**Haudompre**	**4.32**	**322**	*e*Sn		**Sn**	**16 08 40.4**	**+0.9**
	2.2nm,0.2s							
KHC	**Kasperske Hory**	**5.01**	**26**	*e*PN		**Pn**	**16 07 59.2**	**+0.1**
KHC				*e*SN		**Sn**	**16 08 54.5**	**-2.0**
KHC				*e*SG		**Sg**	**16 09 24.1**	**-1.4**
KHC	**Kasperske Hory**	**5.01**	**26**	Pn		**Pn**	**16 07 59.2**	**+0.1**
KHC				Sn		**Sn**	**16 08 54.5**	**-2.0**
KHC				Sg		**Sg**	**16 09 24.1**	**-1.4**

*GEN **08** 16:07:13.6,44°.71N×10°.28E,h11km,ML2.4*
*CSEM **08** 16:07:14.3±0.1,44°.62N×10°.25E,h19km,ML2.7,Error ellipse: s-maj=2.7km s-min=2.3km az=92.0*
ROM 08 16:07:14.7±0.2,**44°.62N**×**10°.26E**,**h16**km±3km,**Ml2.7**/10,
Error ellipse: s-maj=1.9km s-min=1.4km az=94.0,
Northern Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PRMA	**PARMA**	**0.15**	**15**	Pg	Pg	16 07 18.3	-0.5
PRMA				Sg	Sb	16 07 22.4	+0.2
	3µm,0.5s						
PRMA	**PARMA**	**0.15**	**15**	Pg	Pg	16 07 18.3	-0.5
PRMA				Sg	Sb	16 07 22.4	+0.2
	3µm,0.5s						
GRAM	**Graiana**	**0.18**	**228**	P	Pg	16 07 18.9	-0.4
GRAM				S	Sb	16 07 23.1	0.0
CODM	**Codolo**	**0.37**	**232**	P	Pb	16 07 22.8	0.0
CODM				S	Sb	16 07 28.1	-0.2
NOVE	**Novellara**	**0.38**	**61**	Pg	Pg	16 07 22.3	-0.1
NOVE				Sg	Sb	16 07 29.3	+0.8
NOVE	**Novellara**	**0.38**	**61**	Pg	Pg	16 07 22.3	-0.1
NOVE				Sg	Sb	16 07 29.3	+0.8
SARO	**Sassorosso**	**0.44**	**166**	P	Pg	16 07 23.3	-0.4
SARO				S	Sb	16 07 30.5	0.0
VLC	**Villacollemand**	**0.47**	**168**	Pg	Pg	16 07 23.7	-0.3
VLC				Sg	Sb	16 07 31.3	+0.2
	544nm,0.6s						
VLC	**Villacollemand**	**0.47**	**168**	Pg	Pg	16 07 23.7	-0.3
VLC				Sg	Sb	16 07 31.3	+0.2
	544nm,0.6s						
SC2M	**Scurtabo**	**0.56**	**248**	Pg	Pg	16 07 25.2	-0.6
SC2M				Sg	Sb	16 07 34.0	+0.2
	681nm,0.3s						
SC2M	**Scurtabo**	**0.56**	**248**	P	Pg	16 07 25.3	-0.5
SC2M				S	Sb	16 07 33.7	-0.1
SC2M				Sg	Sg	16 07 34.0	+0.8
	681nm,0.3s						
BOB	**Bobbio (Coli)**	**0.60**	**285**	Pg	Pg	16 07 26.4	-0.1
BOB				Sg	Sb	16 07 35.2	+0.2
	246nm,0.6s						
BOB	**Bobbio (Coli)**	**0.60**	**285**	Pg	Pg	16 07 26.4	-0.1
BOB				Sg	Sb	16 07 35.2	+0.2
	246nm,0.6s						
BDI	**Bagni Di Lucca**	**0.60**	**156**	Pg	Pg	16 07 26.1	-0.5
BDI				Sg	Sg	16 07 34.8	+0.1
	217nm,0.4s						
BDI	**Bagni Di Lucca**	**0.60**	**156**	Pg	Pg	16 07 26.1	-0.5
BDI				Sg	Sg	16 07 34.8	+0.1
	217nm,0.4s						
MSSA	**Maissana**	**0.61**	**241**	Pg	Pg	16 07 26.3	-0.4
MSSA				Sg	Sg	16 07 34.8	0.0
MSSA	**Maissana**	**0.61**	**241**	Pg	Pg	16 07 26.3	-0.4
MSSA				Sg	Sg	16 07 34.8	0.0
POPM	**Popiglio**	**0.67**	**148**	P	Pg	16 07 27.5	-0.4
POPM				S	Sb	16 07 37.9	+0.8
MAIM	**Mastiano**	**0.72**	**166**	Pg	Pg	16 07 28.8	0.0
MAIM				Sg	Sb	16 07 38.8	+0.4
	94nm,0.5s						
MAIM	**Mastiano**	**0.72**	**166**	Pg	Pg	16 07 28.8	0.0
MAIM				Sg	Sb	16 07 38.8	+0.4
	94nm,0.5s						
CRMI	**Carmignano**	**0.97**	**148**	Pg	Pn	16 07 33.8	+0.1
	100nm,1.0s						
CRMI	**Carmignano**	**0.97**	**148**	Pg	Pn	16 07 33.8	+0.1
	100nm,1.0s						
SALO	**Salr**	**1.02**	**11**	Pg	Pb	16 07 33.7	-0.3
SALO				Sg	Sn	16 07 48.6	+0.2
	339nm,0.5s						
SALO	**Salr**	**1.02**	**11**	Pg	Pb	16 07 33.7	-0.3
SALO				Sg	Sn	16 07 48.6	+0.2
	339nm,0.5s						
ROVR	**Rover¯¤ Verone**	**1.18**	**29**	Pn	Pn	16 07 36.3	-0.4
ROVR				Sn	Sb	16 07 51.6	-0.3
	338nm,0.4s						
ROVR	**Rover¯¤ Verone**	**1.18**	**29**	Pn	Pn	16 07 36.3	-0.4
ROVR				Sn	Sb	16 07 51.6	-0.3
	338nm,0.4s						
MAGA	**Magasa**	**1.19**	**13**	Pg	Pn	16 07 36.4	-0.4
MAGA				Sg	Sb	16 07 51.3	-0.8
	462nm,0.4s						
MAGA	**Magasa**	**1.19**	**13**	Pg	Pn	16 07 36.4	-0.4
MAGA				Sg	Sb	16 07 51.3	-0.8
	462nm,0.4s						

*ISK **08** 16:17:59.3,39°.09N×29°.06E,h16km,MD2.5*
*DDA **08** 16:17:60.0,39°.10N×29°.06E,h7km,Ml2.7*
*CSEM **08** 16:18:00.2±0.1,39°.09N×29°.06E,h5km,ML2.7,Error ellipse: s-maj=4.1km s-min=2.4km az=163.0*
ISC 08 16:18:00.2±0.9,**39°.07N**±0°.03×**29°.05E**±0°.02,**h11**km±8km,
n20,σ1**§29**/35,**Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DEMI	**Demirci**	**0.26**	**264**	*i* P	Pg	**16 18 06.0**	**+0.3**
DEMI				*i* S	Sg	**16 18 09.7**	**+0.4**
DEMI	**Demirci**	**0.26**	**264**	P	Pg	**16 18 05.9**	**+0.3**
DEMI				S	Sg	**16 18 09.7**	**+0.4**
GEDZ	**Gediz**	**0.28**	**95**	*e*PG	Pg	**16 18 05.8**	**-0.1**
GEDZ				*e*SG	Sg	**16 18 10.4**	**+0.7**
GEDZ	**Gediz**	**0.28**	**95**	*e*Pg	Pg	**16 18 05.8**	**-0.1**
GEDZ				*e*Sg	Sg	**16 18 10.4**	**+0.7**
TVSB	**Tavsanli**	**0.49**	**40**	*e*PG	Pg	**16 18 09.1**	**-0.8**
TVSB				*e*SG	Sg	**16 18 16.3**	**-0.2**
TVSB	**Tavsanli**	**0.49**	**40**	*e*Pg	Pg	**16 18 09.1**	**-0.8**
TVSB				*e*Sg	Sg	**16 18 16.3**	**-0.2**
KULA	**Kula-Manisa**	**0.63**	**209**	*e*PG	Pg	**16 18 12.7**	**+0.2**
KULA				*e*SG	Sg	**16 18 21.8**	**+0.9**
KULA	**Kula-Manisa**	**0.63**	**209**	*e*Pg	Pg	**16 18 12.7**	**+0.2**
KULA				*e*Sg	Sg	**16 18 21.8**	**+0.9**
MANT	**Manisa**	**0.70**	**214**	*i* P	Pg	16 18 07.2	-6.6
MANT				*i* S	Sg	**16 18 16.5**	**-6.4**
AKS	**Akhisar**	**0.99**	**259**	*e*PG	Pg	**16 18 19.0**	**-0.2**
AKS				*e*SG	Sb	**16 18 33.2**	**+0.8**
AKS	**Akhisar**	**0.99**	**259**	*e*Pg	Pg	**16 18 19.0**	**-0.2**
AKS				*e*Sg	Sb	**16 18 33.2**	**+0.8**
BALB	**Balikesir**	**1.07**	**302**	*e*PG	Pg	**16 18 20.2**	**-0.7**
BALB	**Balikesir**	**1.07**	**302**	*e*Pg	Pg	**16 18 20.2**	**-0.7**
IGD	**Bursa**	**1.20**	**5**	*i* P	Pn	**16 18 23.2**	**+0.3**
IGD				*i* S	Sn	**16 18 38.9**	**-0.4**
BALY	**Balya**	**1.30**	**302**	*i* P	Pg	**16 18 25.1**	**0.0**
BALY				*i* S	Sn	**16 18 42.3**	**+0.5**
BALY	**Balya**	**1.30**	**302**	P	Pg	**16 18 25.1**	**0.0**
BALY				S	Sn	**16 18 42.3**	**+0.5**
BORA	**Eskisehir**	**1.35**	**53**	*i* P	Pn	**16 18 24.7**	**-0.5**
BORA				*i* S	Sn	**16 18 44.3**	**+1.1**
BORA	**Eskisehir**	**1.35**	**53**	P	Pn	**16 18 24.7**	**-0.5**
BORA				S	Sn	**16 18 44.3**	**+1.1**
ESKT	**Eskisehir**	**1.46**	**72**	*i* P	Pb	**16 18 27.3**	**-0.3**
SEYT	**Eskypehyr**	**1.46**	**72**	P	Pb	**16 18 27.3**	**-0.2**

*CSEM **08** 16:25:10.8±0.3,51°.45N×16°.13E,h2km,ML3.6/8,Error ellipse: s-maj=4.8km s-min=3.4km az=7.0*
*IDC **08** 16:25:11.6±0.7,51°.48N×16°.06E,h0km,mb1 3.3/4, mb1mx3.1/34,mbtmp3.1/4,ML2.9/4,Error ellipse: s-maj=11.6km s-min=6.9km az=118.0*
ISC 08 16:25:10.8±1.2,**51°.48N**±0°.04×**16°.14E**±0°.02,**h15**km±9km,
n47,σ1**§38**/89,**11D**,**Poland**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.65**	**171**	*i* Pg	Pg	**16 25 23.1**	**-0.4**
KSP				*e*Sg	Sg	**16 25 31.2**	**-0.9**
KSP	**Ksiaz**	**0.65**	**171**	⇓*i* Pg	Pg	**16 25 23.1**	**-0.4**
KSP				*e*Sg	Sg	**16 25 31.2**	**-0.9**
KSP	**Ksiaz**	**0.65**	**171**	*i* Pg	Pg	**16 25 23.1**	**-0.4**
KSP				*e*Sg	Sg	**16 25 31.2**	**-0.9**
UPC	**Upice**	**0.98**	**185**	⇓*i* PG	Pg	**16 25 29.4**	**-0.4**
UPC				*e*SG	Sg	**16 25 42.0**	**-0.6**
	comp=Z,158nm,0.3s						
UPC	**Upice**	**0.98**	**185**	Pg	Pg	**16 25 29.4**	**-0.4**
UPC				Sg	Sg	**16 25 42.0**	**-0.6**
	158nm,0.3s						
DPC	**Dobruska-Polom**	**1.14**	**174**	⇓*i* PG	Pg	**16 25 32.0**	**-0.8**
DPC				*e*SG	Sg	**16 25 46.8**	**-0.9**
	comp=Z,51nm,0.4s						
DPC	**Dobruska-Polom**	**1.14**	**174**	Pg	Pg	**16 25 32.0**	**-0.8**
DPC				Sg	Sg	**16 25 46.8**	**-0.9**
	51nm,0.4s						
PVCC	**Panska Ves**	**1.38**	**227**	⇓*e*PG	Pb	**16 25 37.3**	**+1.1**
PVCC				*e*SG	Sn	**16 25 55.9**	**+2.5**
	comp=Z,373nm,0.5s						
PVCC	**Panska Ves**	**1.38**	**227**	Pg	Pb	**16 25 37.3**	**+1.1**
KRLC	**Kraliky**	**1.47**	**164**	⇓*e*PG	Pn	**16 25 37.7**	**+0.9**
KRLC				*e*SG	Sg	**16 25 56.4**	**-1.7**
KRLC	**Kraliky**	**1.47**	**164**	Pg	Pn	**16 25 37.7**	**+0.9**
KRLC				Sg	Sg	**16 25 56.4**	**-1.7**
BRG	**Berggiesshubel**	**1.51**	**247**	PN	Pb	**16 25 39.2**	**+0.7**
BRG				PG	Pg	**16 25 40.5**	**+0.6**
BRG				SG	Sg	**16 26 00.7**	**+1.2**
	90nm,0.3s						
PRA	**Prague**	**1.78**	**218**	⇓*e*PN	Pb	**16 25 43.0**	**-0.1**
PRA				*e*SG	Sg	**16 26 07.3**	**-0.8**
	comp=Z,44nm,0.4s						
PRA	**Prague**	**1.78**	**218**	Pn	Pb	**16 25 43.0**	**-0.1**
PRA				Sg	Sg	**16 26 07.3**	**-0.8**
	44nm,0.4s						
GOPC	**GO Pecny, Ondr**	**1.79**	**209**	⇓*e*PN	Pb	**16 25 43.3**	**0.0**
GOPC				*e*PG	Pg	**16 25 44.5**	**-0.7**
GOPC				*e*SG	Sg	**16 26 07.7**	**-0.7**
	comp=Z,33nm,0.3s						
GOPC	**GO Pecny, Ondr**	**1.79**	**209**	Pn	Pb	**16 25 43.3**	**0.0**
PRU	**Pruhonice**	**1.81**	**215**	⇓*e*PN	Pn	**16 25 43.2**	**+1.8**
PRU				*e*PG	Pg	**16 25 44.8**	**-0.7**
PRU				*ex*	x	16 26 01.7	
PRU				*e*SG	Sg	**16 26 08.2**	**-0.8**
	comp=Z,53nm,0.4s						
PRU	**Pruhonice**	**1.81**	**215**	Pn	Pn	**16 25 43.2**	**+1.8**
MORC	**Moravsky Berou**	**1.93**	**152**	*e*Pn	Pn	**16 25 43.9**	**+0.8**
MORC				*e*Sg	Sb	**16 26 10.1**	**+0.6**
OKC	**Ostrava-Krasne**	**2.08**	**141**	⇓*e*PN	Pn	**16 25 45.8**	**+0.6**
OKC				*e*PG	Pb	**16 25 49.2**	**+0.9**
OKC				*e*SG	Sb	**16 26 15.1**	**+1.1**
	comp=Z,38nm,0.6s						
OKC	**Ostrava-Krasne**	**2.08**	**141**	Pn	Pn	**16 25 45.8**	**+0.6**
VRAC	**Vranov**	**2.20**	**172**	*e*Pn	Pn	**16 25 48.4**	**+1.7**
VRAC				*e*Sg	Sb	**16 26 18.0**	**+0.8**
OJC	**Ojcow**	**2.64**	**117**	*e*Pg	Pg	**16 26 01.2**	**-0.2**
OJC				*e*Sg	Sg	**16 26 35.0**	**-0.7**
OJC	**Ojcow**	**2.64**	**117**	*e*Pg	Pg	**16 26 01.2**	**-0.2**
OJC				*e*Sg	Sg	**16 26 35.0**	**-0.7**
OJC	**Ojcow**	**2.64**	**117**	*e*Pg	Pg	**16 26 01.2**	**-0.2**
OJC				*e*Sg	Sg	**16 26 35.0**	**-0.7**
NKC	**Novy Kostel**	**2.65**	**243**	⇓*e*PN	Pn	**16 25 55.5**	**+2.5**
NKC				*e*PG	Pg	**16 26 01.2**	**-0.4**
NKC				*e*SG	Sg	**16 26 36.2**	**+0.2**
	comp=Z,68nm,0.3s						
NKC	**Novy Kostel**	**2.65**	**243**	Pn	Pn	**16 25 55.5**	**+2.5**
KHC	**Kasperske Hory**	**2.87**	**216**	⇓*e*PN	Pn	**16 25 58.3**	**+2.3**
KHC				*e*PG	Pg	**16 26 03.9**	**-1.9**
KHC				*e*SN	Sn	**16 26 32.0**	**+1.7**
KHC				*e*SG	Sg	**16 26 40.6**	**-2.4**
	comp=Z,19nm,0.3s						
KHC	**Kasperske Hory**	**2.87**	**216**	Pn	Pn	**16 25 58.3**	**+2.3**
GERES	**GERESS Array B**	**3.07**	**212**	Pn	Pn	**16 26 01.3**	**+2.5**
	0.8nm,0.3s,baz=32,slow=13,SNR=12						
GERES				Pg	Pb	**16 26 07.2**	**+2.0**
	6.0nm,0.3s,baz=30,slow=17,SNR=5.4						
GERES				Sn	Sn	**16 26 36.2**	**+0.9**
	2.5nm,0.3s,baz=33,slow=20,SNR=5.5						
GERES				Lg	Lg	16 26 47.2	
	7.5nm,0.3s,baz=30,slow=25,SNR=11						
SMOL	**Smolenice**	**3.09**	**164**	*e*Pn	Pn	16 25 55.1	-3.9
SMOL	**Smolenice**	**3.09**	**164**	*e*PN	Pn	16 25 55.1	-3.9
SMOL				*e*PG	Pg	**16 26 08.9**	**-1.0**
SMOL				*e*SG	Sg	**16 26 50.5**	**+0.6**
LANS	**Liptovska Anna**	**3.16**	**136**	*e*Pg	Pg	**16 26 11.7**	**+0.3**
LANS				*e*Sg	Sg	**16 26 52.3**	**-0.1**
LANS	**Liptovska Anna**	**3.16**	**136**	*e*PG	Pg	**16 26 11.7**	**+0.3**
LANS				*e*SG	Sg	**16 26 52.3**	**-0.1**
VYHS	**Vyhne**	**3.46**	**149**	*e*Pg	Pg	**16 26 16.4**	**-0.7**
VYHS				*e*Sg	Sg	**16 27 00.9**	**-1.0**
VYHS	**Vyhne**	**3.46**	**149**	*e*PG	Pg	**16 26 16.4**	**-0.7**
VYHS				*e*SG	Sg	**16 27 00.9**	**-1.0**
VYHS				*e*LG	Lg	16 27 14.6	
BSD	**Bornholm Skovb**	**3.71**	**349**	*i* P	Pn	**16 26 08.6**	**+1.1**
BSD				*i* S	Sn	**16 26 51.3**	**+0.4**
BSD	**Bornholm Skovb**	**3.71**	**349**	*i* P	Pn	**16 26 08.6**	**+1.1**
	SNR=56	

PB04					IAML		16 37 59.8	
	comp=N,784nm,0.3s							
PATCX	**Punta Patache**	**1.69**	**314**	⇑*i*	P	Pn	16 37 43.6	+0.5
PATCX				*i*	S	Sn	16 38 07.1	+1.1
PB08	**IPOC Station P**	**1.87**	**351**	⇑*i*	P	Pn	16 37 46.6	+1.0
PB08				*i*	S	Sn	16 38 12.1	+1.8
PB08					IAML		16 38 13.7	
	comp=E,407nm,0.4s							
HMBC	**Humberstone**	**1.97**	**330**	⇑*i*	P	Pn	16 37 46.6	+0.1
HMBC				*i*	S	Sn	16 38 13.3	+1.2
HMBC					IAML		16 38 14.7	
	comp=N,431nm,0.2s							
ANCH	**Antofagasta**	**2.21**	**221**	*i*	P	Pn	16 37 50.2	+0.9
ANCH				*i*	S	Sn	16 38 17.9	+0.8
PB11	**IPOC Station P**	**2.36**	**341**	⇑*i*	P	Pn	16 37 51.4	0.0
PB11				*i*	S	Sn	16 38 21.4	+0.7
PSGC	**Pisagua**	**2.68**	**333**	⇑*i*	P	Pn	16 37 54.5	-0.8
PSGC				*i*	S	Sn	16 38 27.5	-0.5
MNMC	**Minye Minye**	**2.94**	**346**	⇑*i*	P	Pn	16 37 59.2	+0.2
MNMC				*i*	S	Sn	16 38 35.2	+0.9
MNMC					IAML		16 38 38.1	
	comp=N,459nm,0.5s							

IDC 08 16:51:48.1±80.0, 17°.96S×169°.23E, h0km, mb3.7/3, mb1 3.9/3, mb1mx3.5/23, mbtmp3.7/3, MS3.3/2, Ms1 3.3/2, ms1mx2.7/24, Error ellipse: s-maj=1351.0km s-min=135.2km az=72.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**23.05**	**289**	LR	LR	17 03 10.4	
	comp=Z,78nm,20.3s,baz=287,slow=30						
STKA	**Stephens Creek**	**28.54**	**236**	P	P	16 57 46.0	+0.4
	2.7nm,0.8s,baz=68,slow=5.4,SNR=2.6						
WRA	**Warramunga Arr**	**33.03**	**261**	P	P	16 58 25.6	+0.2
	0.4nm,0.9s,baz=91,slow=8.8,SNR=2.4						
ASAR	**Alice Springs**	**33.45**	**254**	P	P	16 58 28.6	-0.5
	1.0nm,0.9s,baz=86,slow=9.0,SNR=18						
KSRS	**Korea Array**	**67.45**	**325**	LR	LR	17 29 42.6	
	comp=Z,220nm,20.1s,baz=206,slow=34						

MEX 08 17:16:17.9±0.3, 27°.64N×111°.68W, h5km±11km, MD3.8, Gulf of California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SRIG	**Santa Rosalia**	**0.59**	**238**	*i* P	Pg	17 16 28.6	-0.6
SRIG				*i* S	Sg	17 16 37.3	+0.5
HSIG		**1.52**	**25**	*e*P	Pn	17 16 42.3	-3.5
HSIG				*e*S	Sn	17 17 01.6	-4.4
CGIG		**4.24**	**49**	*e*P	Pn	17 17 20.8	-2.4
CGIG				*i* S	Sn	17 18 09.3	-3.9

MEX 08 17:28:12.9±0.3, 14°.33N×92°.27W, h66km±10km, MD3.5, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CCIG	**Comitan**	**1.95**	**4**	*i* P	Pn	17 28 42.6	-1.4
CCIG				*i* S	Sn	17 29 05.6	-2.0
TGIG		**2.57**	**342**	*i* P	Pn	17 28 52.4	+0.1

*ISCJB **08** 17:41:45.2±0.7, 5°.77S±0°.08×153°.88E±0°.05, h50km, mb3.7/6, MS3.2/1, Error ellipse: s-maj=12.2km s-min=7.7km az=3.3*
*IDC **08** 17:41:47.1±2.2, 5°.74S×153°.87E, h51km±20km, mb3.5/6, mb1 3.8/9, mb1mx3.6/25, mbtmp3.9/9, ML3.1/2, MS3.1/3, Ms1 3.1/3, ms1mx2.8/16, Error ellipse: s-maj=20.6km s-min=15.8km az=174.0*
ISC 08 17:41:47.4±0.7, 5°.7S±0°.1×153°.88E±0°.08, h50km, n13, σ1§63/15, mb3.7/6, New Ireland region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**7.05**	**122**	P	**Pn**	**17 43 27.6**	**-0.4**
	baz=180,slow=4.0,SNR=2.2						
HNR				S	**Sn**	**17 44 47.5**	**+0.6**
	5.4nm,0.3s,baz=188,slow=7.4,SNR=2.5						
HNR				LR	LR	17 46 05.3	
	comp=Z,128nm,19.5s,baz=220,slow=37						
PMG	**Port Moresby**	**7.59**	**241**	P	**Pn**	**17 43 36.8**	**+1.3**
	5.2nm,0.3s,baz=48,slow=4.0,SNR=18						
PMG				S	**Sn**	**17 45 00.2**	**0.0**
	1.1nm,0.3s,baz=289,slow=17,SNR=2.0						
PMG				LR	LR	17 46 40.2	
	comp=Z,121nm,21.6s,baz=54,slow=39						
CTA	**Charters Tower**	**16.07**	**207**	P	**Pn**	**17 45 28.3**	**-1.9**
	0.1nm,0.3s,baz=18,slow=14,SNR=4.8						
WRA	**Warramunga Arr**	**23.67**	**232**	P	**P**	**17 46 54.2**	**-0.4**
	2.3nm,0.8s,baz=54,slow=9.6,SNR=14						
WRA				PcP	**PcP**	**17 50 37.5**	**-0.7**
	0.7nm,0.7s,baz=57,slow=2.1,SNR=4.5						
ASAR	**Alice Springs**	**26.22**	**225**	P	**P**	**17 47 17.2**	**-0.6**
	1.1nm,0.7s,baz=55,slow=9.1,SNR=36						
ASAR				PcP	**PcP**	**17 50 43.1**	**-0.7**
	0.9nm,0.6s,baz=59,slow=2.5,SNR=12						
ASAR				ScP	**ScP**	**17 54 19.0**	**-0.6**
	0.3nm,0.8s,baz=51,slow=3.0,SNR=3.9						
ASAR				LR	LR	17 57 52.6	
	comp=Z,66nm,18.4s,baz=176,slow=37						
H11S3	**WAKE ISLAND Hy 27.19**		**27**	T	T	18 15 46.6	
	baz=208,slow=76,SNR=11						
H11S2	**WAKE ISLAND Hy 27.20**		**27**	T	T	18 15 45.4	
	baz=208,slow=76,SNR=11						
H11S1	**WAKE ISLAND Hy 27.21**		**27**	T	T	18 15 48.1	
	baz=208,slow=76,SNR=8.5						
KSRS	**Korea Array**	**49.31**	**333**	P	**P**	**17 50 29.5**	**-2.0**
	1.1nm,0.8s,baz=141,slow=7.9,SNR=6.6						
CMAR	**Chiang Mai Arr**	**59.24**	**295**	P	**P**	**17 51 44.7**	**+0.5**
	0.5nm,0.6s,baz=119,slow=5.6,SNR=3.9						
SONM	**Songino Array**	**67.68**	**328**	P	**P**	**17 52 39.3**	**-0.3**
	0.4nm,0.5s,baz=123,slow=5.3,SNR=2.4						
ILAR	**Eielson Array**	**82.62**	**22**	P	**P**	**17 54 05.6**	**+0.6**
	0.3nm,0.7s,baz=247,slow=6.7,SNR=4.8						
TORD	**Torodi Ar. Bea**	**151.61**	**287**	PKPbc	**PKPdf**	**18 01 35.4**	**+4.4**
	0.8nm,0.7s,baz=75,slow=3.1,SNR=4.9						

*SOME **08** 17:47:29.5, 45°.68N×81°.05E, h0km*
*NNC **08** 17:47:30.8±0.9, 45°.76N×80°.99E, h0km, mb2.5, mpv2.6, Error ellipse: s-maj=17.8km s-min=5.0km az=122.0*
ISC 08 17:47:29.9±1.3, 45°.68N±0°.04×81°.04E±0°.05, h4km±13km, n20, σ1§45/33, 4C-5D, Kazakhstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAPS	**Kapalarasan**	**1.25**	**252**	*e*P	**Pb**	**17 47 53.7**	**-0.4**
	8.4nm,0.1s						
KAPS				*e*S	**Sn**	**17 48 11.3**	**-0.2**
	20nm,0.1s						
MAKZ	**Makanchi**	**1.30**	**30**	⇓P	**Pg**	**17 47 54.7**	**-0.2**
	0.8nm,0.2s						
MAKZ				⇓S	**Sn**	**17 48 11.4**	**-1.4**
	2.3nm,0.4s						
MK31	**Makanchi Array**	**1.41**	**38**	⇑P	**Pg**	**17 47 57.1**	**+0.1**
	1.4nm,0.2s,baz=218,slow=18,SNR=110						
MK31				⇓S	**Sg**	**17 48 15.6**	**+0.3**
	1.9nm,0.2s,baz=214,slow=30,SNR=13						
DJR	**Jarkent**	**1.61**	**214**	*e*P	**Pg**	**17 48 01.4**	**+0.5**
	18nm,0.1s						
DJR				*e*S	**Sg**	**17 48 24.9**	**+3.2**
	24nm,0.3s						
KTMS	**Ketmen**	**2.29**	**193**	*e*P	**Pb**	**17 48 11.9**	**0.0**
	4.6nm,0.2s						
KTMS				*e*S	**Sg**	**17 48 43.2**	**-0.2**
	36nm,0.2s						
PDGK	**Podgornoye**	**2.60**	**206**	⇑Pg	**Pg**	**17 48 19.1**	**-0.6**
	4.5nm,0.9s						
PDGK				⇓Lg	Lg	17 48 53.2	
	6.2nm,0.4s						
ARXS	**Arharly**	**2.71**	**238**	*e*P	**Pb**	**17 48 19.8**	**+0.8**
	7.4nm,0.2s						
ARXS				*e*S	**Sg**	**17 48 56.1**	**-0.9**
	16nm,0.2s						
SHLS	**Shalkode**	**2.77**	**205**	*e*P	**Pb**	**17 48 18.8**	**-1.2**
	5.5nm,0.3s						
SHLS				*e*S	**Sb**	**17 48 55.1**	**+0.8**
	25nm,0.4s						
KPKS	**Kokpek**	**2.78**	**218**	*e*P	**Pb**	**17 48 20.1**	**-0.1**
	8.2nm,0.1s						
KPKS				*e*S	**Sg**	**17 48 57.4**	**-1.9**
	24nm,0.4s						
UZB	**Uzynbulak**	**2.92**	**210**	*e*P	**Pb**	**17 48 23.2**	**+0.5**
	1.6nm,0.1s						
UZB				*e*S	**Sg**	**17 49 02.5**	**-1.1**
	12nm,0.3s						
KURS	**Kuram**	**3.00**	**224**	*e*P	**Pb**	**17 48 25.2**	**+1.2**
KURS				*e*S	**Sg**	**17 49 06.0**	**-0.3**
CHKK	**Chushkaly**	**3.41**	**239**	*e*P	**Pb**	**17 48 32.4**	**+1.4**
	1.1nm,0.2s						
CHKK				*e*S	**Sg**	**17 49 18.4**	**-1.2**
	6.4nm,0.2s						
KTBS	**Karatobe**	**3.68**	**239**	*e*P	**Pb**	**17 48 37.0**	**+1.5**
KTBS				*e*S	**Sg**	**17 49 26.4**	**-1.6**
KUU	**Kurty**	**3.79**	**244**	*e*P	**Pb**	**17 48 38.9**	**+1.4**
	3.7nm,0.3s						
KUU				*e*S	**Sg**	**17 49 29.5**	**-2.2**
	6.0nm,0.2s						
MDOK	**Medeo**	**3.81**	**230**	*e*P	**Pb**	**17 48 40.1**	**+2.3**
	2.6nm,0.4s						
MDOK				*e*S	**Sg**	**17 49 31.8**	**-0.5**
	2.6nm,0.8s						
TNSS	**Tian-Shan**	**3.95**	**229**	*e*P	**Pb**	**17 48 42.0**	**+1.6**
	1.7nm,0.3s						
TNSS				*e*S	**Sg**	**17 49 35.0**	**-1.7**
	3.5nm,0.1s						
DGS	**Degeres**	**4.49**	**239**	*e*P	**Pb**	**17 48 52.2**	**+2.8**
	1.2nm,0.3s						
DGS				*e*S	**Sg**	**17 49 52.1**	**-2.0**
	4.3nm,0.3s						
TKM2	**Tokmak 2**	**4.78**	**237**	⇓Lg	Lg	17 50 02.3	
	1.8nm,0.8s						
KURBB	**Kurchatov Arra**	**5.22**	**342**	⇑Lg	Lg	17 50 13.5	
	12nm,0.7s						
KURK	**Kurchatov**	**5.29**	**343**	⇑Lg	Lg	17 50 14.1	
	2.7nm,0.7s						

*NEIC **08** 17:49:05.8±0.0, 16°.65N×93°.91W, h153km, MD4.0(MEX), After MEX.*
MEX 08 17:49:05.8±0.4, 16°.65N×93°.91W, h153km±6km, MD4.0, Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TGIG		**0.76**	**80**	*i* P	Pn	17 49 27.7	-1.4
TGIG				*i* S	Sn	17 49 44.7	-2.1
TGIG		**0.76**	**80**	*i* P	Pn	17 49 27.7	-1.4
TGIG				*i* S	Sn	17 49 44.7	-2.1
CCIG	**Comitan**	**1.74**	**102**	*e*P	Pn	17 49 37.3	-1.0
CCIG				*i* S	Sn	17 50 01.7	-1.4
CCIG	**Comitan**	**1.74**	**102**	*e*P	Pn	17 49 37.3	-1.0
CCIG				*i* S	Sn	17 50 01.7	-1.4
HUIG	**Huatulco**	**2.29**	**248**	*i* P	Pn	17 49 43.4	-1.2
HUIG				*i* S	Sn	17 50 12.8	-1.5
HUIG	**Huatulco**	**2.29**	**248**	*i* P	Pn	17 49 43.4	-1.2
HUIG				*i* S	Sn	17 50 12.8	-1.5
VHO	**Vista Hermosa**	**2.74**	**279**	*i* P	Pn	17 49 48.1	-2.1
VHO				*i* S	Sn	17 50 22.1	-2.4
VHO	**Vista Hermosa**	**2.74**	**279**	*i* P	Pn	17 49 48.1	-2.1
VHO				*i* S	Sn	17 50 22.1	-2.4
TPIG	**Tehuac#an**	**3.74**	**299**	*i* P	Pn	17 50 01.8	-1.1
TPIG				*i* S	Sn	17 50 45.8	-1.4
TPIG	**Tehuac#an**	**3.74**	**299**	*i* P	Pn	17 50 01.8	-1.1
TPIG				*i* S	Sn	17 50 45.8	-1.4
LVIG	**Laguna Verde**	**3.88**	**322**	*i* P	Pn	17 50 03.7	-0.9
LVIG				*i* S	Sn	17 50 48.2	-2.1
LVIG	**Laguna Verde**	**3.88**	**322**	*i* P	Pn	17 50 03.7	-0.9
LVIG				*i* S	Sn	17 50 48.2	-2.1

*GEN **08** 17:59:03.8, 44°.69N×10°.31E, h0km, ML2.7*
*CSEM **08** 17:59:04.5±0.1, 44°.66N×10°.24E, h10km, ML3.2/15, Error ellipse: s-maj=2.1km s-min=2.0km az=62.0*
*ISCJB **08** 17:59:05.2±0.2, 44°.64N±0°.01×10°.22E±0°.02, h24km±2km, Error ellipse: s-maj=2.2km s-min=2.1km az=165.5*
*ROM **08** 17:59:05.0±0.1, 44°.64N×10°.21E, h18km±2km, Md2.9/56, Ml2.8/48, Error ellipse: s-maj=1.3km s-min=1.0km az=59.0*
*LDG **08** 17:59:05.1±0.2, 44°.63N×10°.43E, h20km, Ml3.1/14, Error ellipse: s-maj=4.4km s-min=4.3km az=98.0*
ISC 08 17:59:04.6±0.9, 44°.66N±0°.01×10°.24E±0°.01, h19km±2km, n209, σ1§29/299, 1D, Northern Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PRMA	**PARMA**	**0.12**	**27**	Pg	**Pg**	**17 59 08.9**	**+0.3**
PRMA				Sg	**Sg**	**17 59 12.8**	**+1.6**
	3µm,0.5s						
PRMA	**PARMA**	**0.12**	**27**	Pg	**Pg**	**17 59 08.9**	**+0.3**
GRAM	**Graiana**	**0.21**	**216**	P	**Pb**	**17 59 09.5**	**+0.2**
GRAM				S	**Sb**	**17 59 13.5**	**+1.1**
NOVE	**Novellara**	**0.37**	**68**	Pg	**Pg**	**17 59 12.6**	**+0.3**
NOVE				Sg	**Sn**	**17 59 20.1**	**-1.4**
	1µm,0.6s						
NOVE	**Novellara**	**0.37**	**68**	Pg	**Pg**	**17 59 12.6**	**+0.3**
CODM	**Codolo**	**0.39**	**226**	P	**Pg**	**17 59 12.3**	**-0.4**
CODM				S	**Sb**	**17 59 19.3**	**+0.7**
SARO	**Sassorosso**	**0.49**	**166**	P	**Pg**	**17 59 14.0**	**-0.6**
SARO				S	**Sg**	**17 59 21.0**	**-0.3**
VLC	**Villacollemand**	**0.51**	**168**	Pg	**Pg**	**17 59 14.3**	**-0.7**
VLC				Sg	**Sg**	**17 59 22.0**	**+0.1**
	805nm,1.0s						
VLC	**Villacollemand**	**0.51**	**168**	Pg	**Pg**	**17 59 14.3**	**-0.7**
VLC				Sg	**Sg**	**17 59 22.0**	**+0.1**
	805nm,1.0s						
SC2M	**Scurtabo**	**0.57**	**243**	Pg	**Pg**	**17 59 15.4**	**-0.5**
SC2M				Sg	**Sb**	**17 59 24.3**	**+0.8**
	776nm,0.3s						
SC2M	**Scurtabo**	**0.57**	**243**	P	**Pg**	**17 59 15.4**	**-0.5**
SC2M				Sg	**Sb**	**17 59 24.3**	**+0.8**
	776nm,0.3s						
BOB	**Bobbio (Coli)**	**0.57**	**281**	Pg	**Pg**	**17 59 16.4**	**+0.3**
BOB				Sg	**Sg**	**17 59 24.3**	**+0.4**
	430nm,0.7s						
BOB	**Bobbio (Coli)**	**0.57**	**281**	Pg	**Pg**	**17 59 16.4**	**+0.3**
BOB				Sg	**Sg**	**17 59 24.3**	**+0.4**
	430nm,0.7s						
ZCCA	**Zocca**	**0.61**	**120**	Pg	**Pg**	**17 59 17.8**	**+1.0**
ZCCA				Sg	**Sb**	**17 59 25.4**	**+0.6**
	209nm,0.6s						
ZCCA	**Zocca**	**0.61**	**120**	Pg	**Pg**	**17 59 17.8**	**+1.0**
ZCCA				Sg	**Sb**	**17 59 25.4**	**+0.6**
	209nm,0.6s						
MSSA	**Maissana**	**0.62**	**236**	Pg	**Pb**	**17 59 17.0**	**+0.2**
MSSA				Sg	**Sg**	**17 59 25.1**	**-0.2**
	154nm,0.4s						
MSSA	**Maissana**	**0.62**	**236**	Pg	**Pb**	**17 59 17.0**	**+0.2**
MSSA				Sg	**Sg**	**17 59 25.1**	**-0.2**
	154nm,0.4s						
BDI	**Bagni Di Lucca**	**0.65**	**157**	Pg	**Pb**	**17 59 16.8**	**-0.5**
BDI				Sg	**Sb**	**17 59 26.3**	**+0.3**
BDI	**Bagni Di Lucca**	**0.65**	**157**	Pg	**Pb**	**17 59 16.8**	**-0.5**
BDI				Sg	**Sb**	**17 59 26.3**	**+0.3**
CTL8	**Castelleone**	**0.70**	**331**	Pg	**Pg**	**17 59 18.8**	**+0.4**
CTL8	**Castelleone**	**0.70**	**331**	Pg	**Pg**	**17 59 18.8**	**+0.4**
POPM	**Popiglio**	**0.72**	**149**	P	**Pb**	**17 59 18.1**	**-0.4**
POPM				S	**Sb**	**17 59 27.0**	**-1.0**
MAIM	**Mastiano**	**0.77**	**166**	Pg	**Pb**	**17 59 18.5**	**-0.8**
MAIM				Sg	**Sb**	**17 59 29.2**	**-0.1**
	183nm,0.7s						
MAIM	**Mastiano**	**0.77**	**166**	P	**Pb**	**17 59 18.5**	**-0.8**
MAIM				S	**Sb**	**17 59 29.3**	**-0.1**
FNVD	**Fontana Vidola**	**0.80**	**128**	Pg	**Pb**	**17 59 20.2**	**+0.2**
FNVD	**Fontana Vidola**	**0.80**	**128**	Pg	**Pb**	**17 59 20.2**	**+0.2**
PTF	**Prato**	**0.92**	**139**	Pg	**Pb**	**17 59 21.8**	**-0.2**
PTF				Sg	**Sn**	**17 59 35.7**	**+0.4**
PTF	**Prato**	**0.92**	**139**	Pg	**Pb**	**17 59 21.8**	**-0.2**
PTF				Sg	**Sn**	**17 59 35.7**	**+0.4**
MTRZ	**Monterenzio**	**0.92**	**108**	Pg	**Pn**	**17 59 23.8**	**+1.2**
MTRZ				Sg	**Sn**	**17 59 36.0**	**+0.7**
	272nm,0.7s						
MTRZ	**Monterenzio**	**0.92**	**108**	Pg	**Pn**	**17 59 23.8**	**+1.2**
MTRZ				Sg	**Sn**	**17 59 36.0**	**+0.7**
	272nm,0.7s						
GENL	**Genova Univers**	**0.94**	**255**	P	**Pb**	**17 59 23.0**	**+0.7**
GENL				S	**Sg**	**17 59 36.2**	**+0.8**
SALO	**Salr**	**0.98**	**12**	Pg	**Pn**	**17 59 23.7**	**+0.4**
SALO				Sg	**Sn**	**17 59 38.0**	**+1.3**
	1µm,0.5s						
SALO	**Salr**	**0.98**	**12**	Pg	**Pn**	**17 59 23.7**	**+0.4**
SALO				Sg	**Sn**	**17 59 38.0**	**+1.3**
	1µm,0.5s						
SEI	**Scarperia**	**1.01**	**127**	Pn	**Pb**	**17 59 24.0**	**+0.6**
SEI	**Scarperia**	**1.01**	**127**	Pn	**Pb**	**17 59 24.0**	**+0.6**
CRMI	**Carmignano**	**1.02**	**149**	Pg	**Pb**	**17 59 23.7**	**+0.1**
CRMI				Sg	**Sg**	**17 59 38.1**	**+0.4**
	158nm,0.6s						
CRMI	**Carmignano**	**1.02**	**149**	Pg	**Pb**	**17 59 23.7**	**+0.1**
CRMI				Sg	**Sg**	**17 59 38.1**	**+0.4**
	158nm,0.6s						
BALD	**Monte Baldo**	**1.10**	**22**	*e*Pg	**Pn**	**17 59 25.7**	**+0.5**
BALD				*e*Sg	**Sg**	**17 59 41.2**	**+0.7**
BALD	**Monte Baldo**	**1.10**	**22**	*e*Pg	**Pn**	**17 59 25.7**	**+0.5**
BALD				*e*Sg	**Sg**	**17 59 41.2**	**+0.7**
MAGA	**Magasa**	**1.15**	**14**	Pn	**Pn**	**17 59 26.0**	**+0.3**
MAGA				Sn	**Sg**	**17 59 42.0**	**+0.1**
	1µm,0.4s						
MAGA	**Magasa**	**1.15**	**14**	Pn	**Pn**	**17 59 26.0**	**+0.3**
MAGA				Sn	**Sg**	**17 59 42.0**	**+0.1**
	1µm,0.4s						
ROVR	**Rover¯¤ Verone**	**1.15**	**31**	Pn	**Pn**	**17 59 25.8**	**0.0**
	1µm,0.4s						
ROVR	**Rover¯¤ Verone**	**1.15**	**31**	Pn	**Pn**	**17 59 25.8**	**0.0**
	1µm,0.4s						
VMG	**Vicchio**	**1.17**	**126**	Pn	**Pg**	**17 59 27.4**	**+0.2**
VMG	**Vicchio**	**1.17**	**126**	Pn	**Pg**	**17 59 27.4**	**+0.2**
MARN	**Marana (Italy)**	**1.19**	**35**	*e*Pg	**Pn**	**17 59 26.4**	**+0.1**
MARN				*e*Sg	**Sn**	**17 59 42.5**	**+0.5**
MARN	**Marana (Italy)**	**1.19**	**35**	*e*Pg	**Pn**	**17 59 26.4**	**+0.1**
MARN				*e*Sg	**Sn**	**17 59 42.5**	**+0.5**
PCP	**Piancastagn**	**1.22**	**265**	Pn	**Pb**	**17 59 27.7**	**+0.7**
	92nm,0.5s						
PCP	**Piancastagn**	**1.22**	**265**	Pn	**Pb**	**17 59 27.7**	**+0.7**
	92nm,0.5s						
PCP				S	**Sn**	**17 59 43.8**	**+1.2**
TEOL	**Teolo**	**1.23**	**55**	Pn	**Pn**	**17 59 26.6**	**-0.2**
	740nm,0.4s						
TEOL	**Teolo**	**1.23**	**55**	*e*Pg	**Pn**	**17 59 26.6**	**-0.2**
TEOL				*e*Sg	**Sg**	**17 59 44.2**	**-0.3**
TEOL	**Teolo**	**1.23**	**55**	*e*Pg	**Pn**	**17 59 26.6**	**-0.2**
TEOL				*e*Sg	**Sg**	**17 59 44.2**	**-0.3**
GROG	**Isola di Gorgo**	**1.26**	**192**	Pn	**Pn**	**17 59 27.0**	**-0.1**
	103nm,0.8s						
GROG	**Isola di Gorgo**	**1.26**	**192**	Pn	**Pn**	**17 59 27.0**	**-0.1**
	103nm,0.8s						
RNI	**Roncone**	**1.35**	**11**	⇓*e*Pg	**Pn**	**17 59 29.1**	**+0.5**
RNI				*e*Sg	**Sb**	**17 59 46.9**	**+0.6**
RNI	**Roncone**	**1.35**	**11**	*e*Pg	**Pn**	**17 59 29.1**	**+0.5**
RNI				*e*Sg	**Sb**	**17 59 46.9**	**+0.6**
SFI	**Santa Sofia**	**1.38**	**123**	Pn	**Pg**	**17 59 31.1**	**-0.1**
	92nm,0.7s						
SFI	**Santa Sofia**	**1.38**	**123**	Pn	**Pg**	**17 59 31.1**	**-0.1**
	92nm,0.7s						
DDS	**Dosso del Somm**	**1.39**	**28**	*e*Pg	**Pn**	**17 59 29.2**	**+0.1**
DDS	**Dosso del Somm**	**1.39**	**28**	*e*Pg	**Pn**	**17 59 29.2**	**+0.1**
MABI	**Malga Bissina**	**1.41**	**8**	Pn	**Pn**	**17 59 29.9**	**+0.5**
	130nm,0.3s						
MABI	**Malga Bissina**	**1.41**	**8**	Pn	**Pn**	**17 59 29.9**	**+0.5**
	130nm,0.3s						
ASQU	**Asqua**	**1.41**	**127**	Pn	**Pb**	**17 59 30.8**	**+0.5**
	70nm,1.0s						
ASQU	**Asqua**	**1.41**	**127**	Pn	**Pb**	**17 59 30.8**	**+0.5**
	70nm,1.0s						
SASS	**Sassa**	**1.44**	**167**	Pn	**Pn**	**17 59 29.8**	**+0.1**
	46nm,0.5s						
SASS	**Sassa**	**1.44**	**167**	Pn	**Pn**	**17 59 29.8**	**+0.1**
	46nm,0.5s						
FINB	**Finale Ligure**	**1.45**	**251**	Pn	**Pn**	**17 59 30.7**	**+0.9**
	170nm,0.4s						
FINB	**Finale Ligure**	**1.45**	**251**	Pn	**Pn**	**17 59 30.7**	**+0.9**
	170nm,0.4s						
MUGIO	**Muggio**	**1.52**	**327**	Pn	**Pb**	**17 59 32.1**	**-0.1**
	87nm,0.4s						
MUGIO	**Muggio**	**1.52**	**327**	Pn	**Pb**	**17 59 32.1**	**-0.1**
	87nm,0.4s						
PANI	**Panarotta**	**1.59**	**29**	*e*Pg	**Pn**	**17 59 32.1**	**+0.3**
VARE	**Varese**	**1.59**	**320**	Pn	**Pn**	**17 59 33.0**	**+1.2**
	121nm,0.5s						
VARE	**Varese**	**1.59**	**320**	Pn	**Pn**	**17 59 33.0**	**+1.2**
	121nm,0.5s						
CRE	**Caprese Michel**	**1.61**	**130**	Pn	**Pb**	**17 59 33.8**	**0.0**
	53nm,0.4s						
CRE	**Caprese Michel**	**1.61**	**130**	Pn	**Pb**	**17 59 33.8**	**0.0**
	53nm,0.4s						
CGRP	**Cima Grappa**	**1.64**	**42**	Pn	**Pn**	**17 59 32.6**	**0.0**
	300nm,1.1s						
CGRP	**Cima Grappa**	**1.64**	**42**	*e*Pg	**Pn**	**17 59 32.6**	**0.0**
CGRP				*e*Sg	**Sn**	**17 59 53.9**	**+0.6**
CGRP	**Cima Grappa**	**1.64**	**42**	Pn	**Pn**	**17 59 32.6**	**0.0**
	300nm,1.1s						
CGRP				*e*Sg	**Sn**	**17 59 53.9**	**+0.6**
RORO	**Rocca Rossa**	**1.65**	**251**	P	**Pn**	**17 59 32.8**	**+0.3**
RORO				S	**Sn**	**17 59 53.6**	**+0.4**
MONC	**Moncucco Torin**	**1.69**	**285**	Pn	**Pn**	**17 59 34.4**	**+1.2**
MONC	**Moncucco Torin**	**1.69**	**285**	Pn	**Pn**	**17 59 34.4**	**+1.2**
BERNI	**Berninapass**	**1.76**	**355**	Pn	**Pn**	**17 59 35.4**	**+1.1**
	55nm,0.4s						
BERNI	**Berninapass**	**1.76**	**355**	Pn	**Pn**	**17 59 35.4**	**+1.1**
	55nm,0.4s						
PARC	**Parchiule**	**1.76**	**124**	Pn	**Pb**	**17 59 36.1**	**-0.2**
	33nm,0.8s						
PARC	**Parchiule**	**1.76**	**124**	Pn	**Pb**	**17 59 36.1**	**-0.2**
	33nm,0.8s						
CARE	**Lago del Cares**	**1.79**	**10**	*e*Pn	**Pn**	**17 59 35.9**	**+1.1**
CARE	**Lago del Cares**	**1.79**	**10**	*e*Pn	**Pn**	**17 59 35.9**	**+1.1**
BRMO	**Bormio**	**1.

ATTE	AVT- Monte Tez	2.12	133	Pn		Pn	17 59 40.5	+1.5
	33nm,0.6s							
DAVOX	Davos/Dischmat	2.13	353	Pn		Pn	17 59 41.4	+2.0
	45nm,0.4s							
DAVOX	Davos/Dischmat	2.13	353	Pn		Pn	17 59 41.4	+2.0
	45nm,0.4s							
MURB	Monte Urbino	2.16	129	Pn		Pn	17 59 41.3	+1.7
	99nm,0.3s							
MURB	Monte Urbino	2.16	129	Pn		Pn	17 59 41.3	+1.7
	99nm,0.3s							
SBF	Sospel	2.17	249	ePn		Pn	17 59 39.3	-0.4
	SNR=1.0							
SBF	Sospel	2.17	249	ePn		Pn	17 59 39.3	-0.4
	SNR=1.0							
ABSI	Aberstueckl	2.20	20	Pn		Pn	17 59 42.0	+1.7
	180nm,0.8s							
ABSI	Aberstueckl	2.20	20	Pn		Pn	17 59 42.0	+1.7
	180nm,0.8s							
SSFR	Montelago di S	2.21	123	Pn		Pn	17 59 42.2	+2.0
	33nm,0.3s							
SSFR	Montelago di S	2.21	123	Pn		Pn	17 59 42.2	+2.0
	33nm,0.3s							
MGAB	Montegabbione	2.21	142	Pn		Pn	17 59 41.9	+1.6
	33nm,0.7s							
MGAB	Montegabbione	2.21	142	Pn		Pn	17 59 41.9	+1.6
	33nm,0.7s							
CIMO	Cimolais	2.26	42	ePn		Pn	17 59 41.1	+0.1
CIMO	Cimolais	2.26	42	ePn		Pn	17 59 41.1	+0.1
ATCC	AVT- Casa Cast	2.28	130	Pn		Pn	17 59 42.5	+1.3
	313nm,2.7s							
ATCC	AVT- Casa Cast	2.28	130	Pn		Pn	17 59 42.5	+1.3
	313nm,2.7s							
PGF	Pioggiola	2.30	204	ePn		Pn	17 59 40.3	-1.2
	SNR=1.0							
PGF				eSg		Sn	18 00 07.9	-1.4
	6.4nm,0.2s,SNR=1.0							
PGF	Pioggiola	2.30	204	ePn		Pn	17 59 40.3	-1.2
	SNR=1.0							
STAL	STALIGIAL	2.36	47	Pn		Pn	17 59 43.5	+1.1
	76nm,0.2s							
STAL	STALIGIAL	2.36	47	Pn		Pn	17 59 43.5	+1.1
	76nm,0.2s							
MBDF	Montbardon	2.47	273	ePn		Pn	17 59 45.4	+1.4
	SNR=1.0							
MBDF				eSn		Sn	18 00 11.1	-2.7
	SNR=1.0							
MBDF				eSg		Sg	18 00 23.9	-0.3
	22nm,0.5s,SNR=1.0							
MBDF	Montbardon	2.47	273	ePn		Pn	17 59 45.4	+1.4
	SNR=1.0							
MBDF				eSn		Sn	18 00 11.1	-2.7
	SNR=1.0							
MBDF				eSg		Sg	18 00 23.9	-0.3
	11nm,0.5s,SNR=1.0							
LPG	La Plagne	2.61	290	ePn		Pn	17 59 46.4	+0.4
	SNR=1.0							
LPG				eSn		Sn	18 00 14.4	-2.9
	31nm,0.5s,SNR=1.0							
LPG	La Plagne	2.61	290	ePn		Pn	17 59 46.4	+0.4
	SNR=1.0							
LPG				eSn		Sn	18 00 14.4	-2.9
	16nm,0.5s,SNR=1.0							
LPL	La Plagne	2.63	290	ePn		Pn	17 59 47.4	+1.2
	SNR=1.0							
LPL				eSn		Sn	18 00 15.0	-2.6
	28nm,0.6s,SNR=1.0							
LPL	La Plagne	2.63	290	ePn		Pn	17 59 47.4	+1.2
	SNR=1.0							
LPL				eSn		Sn	18 00 15.0	-2.6
	14nm,0.6s,SNR=1.0							
DAVA	Damuels	2.64	355	i Pn		Pn	17 59 48.9	+2.7
	4.0nm,0.1s							
DAVA				i Sn		Sb	18 00 21.5	-1.9
	21nm,0.2s							
DAVA	Damuels	2.64	355	Pn		Pn	17 59 48.9	+2.7
	4.0nm,0.1s							
DAVA				Sn		Sb	18 00 21.5	-1.9
	21nm,0.2s							
SABO	M.te Sabotino	2.71	60	ePn		Pn	17 59 47.4	+0.2
SABO	M.te Sabotino	2.71	60	ePn		Pn	17 59 47.4	+0.2
MOTA	Moosalm	2.75	12	ePn		Pn	17 59 50.7	+2.9
	4.1nm,0.2s							
MOTA				i Sn		Sb	18 00 25.9	-0.7
	11nm,0.3s							
MOTA	Moosalm	2.75	12	Pn		Pn	17 59 50.7	+2.9
	4.1nm,0.2s							
MOTA				Sn		Sb	18 00 25.9	-0.7
	11nm,0.3s							
WTTA	Wattenberg	2.78	20	ePn		Pb	17 59 51.8	-1.9
	SNR=4.5							
WTTA	Wattenberg	2.78	20	Pn		Pb	17 59 51.8	-1.9
	SNR=4.5							
FRF	La Foret Royal	2.81	248	ePn		Pn	17 59 49.5	+1.0
	SNR=1.0							
FRF				eSn		Sn	18 00 18.4	-3.5
	21nm,0.4s,SNR=1.0							
FRF	La Foret Royal	2.81	248	ePn		Pn	17 59 49.5	+1.0
	SNR=1.0							
SKDS	Skadanscina	2.82	70	i Pn		Pn	17 59 47.6	-0.9
SKDS				i Sn		Sn	18 00 20.1	-1.9
	comp=Z,10.0nm,0.1s							
SKDS	Skadanscina	2.82	70	i Pn		Pn	17 59 47.7	-0.9
SKDS				i Sn		Sn	18 00 20.1	-1.9
	comp=Z,10.0nm,0.1s							
SKDS	Skadanscina	2.82	70	i Pn		Pn	17 59 47.7	-0.9
SKDS				i Sn		Sn	18 00 20.1	-1.9
	comp=Z,10.0nm,0.1s							
WATA	Walderalm	2.83	19	ePn		Pn	17 59 51.8	+2.9
	comp=Z,2.2nm,0.1s,SNR=5.0							
WATA				i Sn		Sb	18 00 27.2	-1.7
	comp=Z,3.9nm,0.2s							
WATA	Walderalm	2.83	19	Pn		Pn	17 59 51.8	+2.9
	comp=Z,2.2nm,0.1s,SNR=5.0							
WATA				Sn		Sb	18 00 27.2	-1.7
	comp=Z,3.9nm,0.2s							
DRE	Drenchia	2.83	57	ePn		Pn	17 59 49.0	+0.1
DRE	Drenchia	2.83	57	ePn		Pn	17 59 49.0	+0.1
RETA	Reutte	2.85	7	eSn		Sn	18 00 26.4	+3.5
	comp=Z,6.9nm,0.3s,SNR=4.9							
RETA	Reutte	2.85	7	Sn		Sn	18 00 26.4	+3.5
	comp=Z,6.9nm,0.3s,SNR=4.9							
ACOM	Acomizza, Ital	2.97	49	ePn		Pn	17 59 51.8	+0.9
ACOM	Acomizza, Ital	2.97	49	ePn		Pn	17 59 51.8	+0.9
LMR	La Mourre	3.00	245	ePn		Pn	17 59 51.5	+0.4
	SNR=1.0							
LMR				eSn		Sn	18 00 26.0	-0.5
	comp=Z,23nm,0.3s							
LMR	La Mourre	3.00	245	ePn		Pn	17 59 51.5	+0.4
	SNR=1.0							
LMR				eSn		Sn	18 00 26.0	-0.5
	comp=Z,12nm,0.3s							
ORIF	Oris-en-Rattie	3.11	276	ePn		Pn	17 59 55.4	+2.7
	SNR=1.0							
ORIF				eSn		Sn	18 00 26.4	-3.1
	comp=Z,22nm,0.5s,SNR=1.0							
ORIF	Oris-en-Rattie	3.11	276	ePn		Pn	17 59 55.4	+2.7
	SNR=1.0							
ORIF				eSn		Sn	18 00 26.4	-3.1
	comp=Z,11nm,0.5s,SNR=1.0							
NVLJ	Novalja	3.31	90	ePn		Pn	17 59 55.4	+0.1
NVLJ				Sn		Sn	18 00 32.7	-1.4
NVLJ	Novalja	3.31	90	ePn		Pn	17 59 55.4	+0.1
NVLJ				Sn		Sn	18 00 32.6	-1.4
SMRF	Simiane la Rot	3.42	260	ePn		Pn	17 59 59.3	+2.4
	SNR=1.0							
SMRF	Simiane la Rot	3.42	260	ePn		Pn	17 59 59.3	+2.4
	SNR=1.0							
CABF	La Chapelle	3.50	305	ePn		Pn	17 59 58.4	+0.3
	SNR=1.0							
CABF				eSn		Sn	18 00 41.0	+1.9
	comp=Z,7.6nm,0.5s,SNR=1.0							
CABF	La Chapelle	3.50	305	ePn		Pn	17 59 58.4	+0.3
	SNR=1.0							
CABF				eSn		Sn	18 00 41.0	+1.9
	comp=Z,3.8nm,0.5s,SNR=1.0							
OZLJ	Ozalj	3.82	74	ePn		Pn	18 00 02.5	+0.1
OZLJ				Sn		Sn	18 00 45.2	-1.5
OZLJ	Ozalj	3.82	74	ePn		Pn	18 00 02.4	+0.1
OZLJ				Sn		Sn	18 00 45.2	-1.5
HINF	Hinteralfeld	3.93	325	ePn		Pn	18 00 05.4	+1.4
	SNR=1.0							
HINF				eSn		Sn	18 00 47.6	-2.0
	comp=Z,9.5nm,0.3s,SNR=1.0							
HINF	Hinteralfeld	3.93	325	ePn		Pn	18 00 05.4	+1.4
	SNR=1.0							
HINF				eSn		Sn	18 00 47.6	-2.0
	comp=Z,4.8nm,0.3s,SNR=1.0							

UDBI	Udbina	3.95	90	ePn		Pn	18 00 06.2	+2.0
UDBI				Sn		Sn	18 00 49.4	-0.6
UDBI	Udbina	3.95	90	ePn		Pn	18 00 06.1	+2.0
UDBI				Sn		Sn	18 00 49.4	-0.6
VIVF	Saint-Julien-l	3.97	275	ePn		Pn	18 00 05.9	+1.5
	SNR=1.0							
VIVF	Saint-Julien-l	3.97	275	ePn		Pn	18 00 05.9	+1.5
	SNR=1.0							
MOA	Molln	4.24	40	i Pn		Pn	18 00 09.7	+1.6
	comp=Z,1.1nm,0.1s							
MOA				i Sn		Sn	18 00 57.9	+0.8
	comp=Z,4.0nm,0.3s							
MOA	Molln	4.24	40	Pn		Pn	18 00 09.7	+1.6
	comp=Z,1.1nm,0.1s							
MOA				Sn		Sn	18 00 57.9	+0.8
	comp=Z,4.0nm,0.3s							
CDF	Champ du Feu	4.27	332	ePn		Pn	18 00 08.9	+0.2
	SNR=1.0							
CDF				eSn		Sn	18 00 55.1	-2.9
	comp=Z,6.6nm,0.2s,SNR=1.0							
CDF	Champ du Feu	4.27	332	ePn		Pn	18 00 08.9	+0.2
	SNR=1.0							
CDF				eSn		Sn	18 00 55.1	-2.9
	comp=Z,3.3nm,0.2s,SNR=1.0							
HAU	Haudompre	4.29	323	ePn		Pn	18 00 08.9	0.0
	SNR=1.0							
HAU				eSn		Sn	18 00 56.6	-1.9
	comp=Z,11nm,0.2s,SNR=1.0							
HAU	Haudompre	4.29	323	ePn		Pn	18 00 08.9	0.0
	SNR=1.0							
HAU				eSn		Sn	18 00 56.6	-1.9
	comp=Z,5.6nm,0.2s,SNR=1.0							
KHC	Kasperske Hory	5.02	26	ePN		Pn	18 00 19.2	+0.3
KHC				eSN		Sn	18 01 14.3	-2.1
KHC				eSG		Sg	18 01 46.8	+1.1
KHC	Kasperske Hory	5.02	26	Pn		Pn	18 00 19.2	+0.3
KHC				Sn		Sn	18 01 14.3	-2.1
KHC				Sg		Sg	18 01 46.8	+1.1
LOR	Lormes	5.16	303	ePn		Pn	18 00 21.5	+0.8
	SNR=1.0							
LOR				eSn		Sn	18 01 18.7	-1.0
	comp=Z,10nm,0.4s,SNR=1.0							
LOR	Lormes	5.16	303	ePn		Pn	18 00 21.5	+0.8
	SNR=1.0							
LOR				eSn		Sn	18 01 18.7	-1.0
	comp=Z,5.2nm,0.4s,SNR=1.0							
AVF	Avril sur Loir	5.27	296	ePn		Pn	18 00 25.0	+2.7
	SNR=1.0							
AVF	Avril sur Loir	5.27	296	ePn		Pn	18 00 25.0	+2.7
	SNR=1.0							
SSF	Saint Saulge	5.28	299	ePn		Pn	18 00 25.5	+3.1
	SNR=1.0							
SSF				eSn		Sn	18 01 24.2	+1.5
	comp=Z,2.7nm,0.3s,SNR=1.0							
SSF	Saint Saulge	5.28	299	ePn		Pn	18 00 25.5	+3.1
	SNR=1.0							
SSF				eSn		Sn	18 01 24.2	+1.5
	comp=Z,1.4nm,0.3s,SNR=1.0							
BGF	Bois d'Agland	5.52	293	ePn		Pn	18 00 25.5	-0.2
	SNR=1.0							
BGF	Bois d'Agland	5.52	293	ePn		Pn	18 00 25.5	-0.2
	SNR=1.0							
PRU	Pruhonice	6.08	27	eSN		Sn	18 01 39.8	-2.5
GOPC	GO Pecny, Ondr	6.10	29	eSN		Sn	18 01 41.3	-1.5
FLN	La Foliniere	8.43	303	eSn		Sn	18 02 26.9	-13
	comp=Z,5.2nm,0.6s,SNR=1.0							

CSEM ***08*** *18:08:05.0, 45°.60N×14°.25E, h0km, ML0.8*
LJU 08 18:08:05.0, 45°.61N×14°.25E, h9km, ML0.8, 2C,
Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
KNDS	Knezji Dol	0.12	130	⇑	i Pg	Pg	18 08 07.7	-0.2
KNDS					i Sg	Sg	18 08 10.2	+0.3
	comp=Z,6.0nm,0.1s							
KNDS	Knezji Dol	0.12	130	⇑	i Pg	Pg	18 08 07.7	-0.2
KNDS					i Sg	Sg	18 08 10.2	+0.3
	comp=Z,6.0nm,0.1s							
SKDS	Skadanscina	0.18	251		i Pg	Pg	18 08 08.6	-0.2
SKDS					i Sg	Sg	18 08 11.9	+0.6
	comp=Z,7.0nm,0.1s							
SKDS	Skadanscina	0.18	251		i Pg	Pg	18 08 08.6	-0.1
SKDS					i Sg	Sg	18 08 11.9	+0.6
	comp=Z,7.0nm,0.1s							
CEY	Cerknica	0.18	43		i Pg	Pg	18 08 08.6	-0.3
CEY					i Sg	Sg	18 08 11.8	+0.2
CEY	Cerknica	0.18	43		i Pg	Pg	18 08 08.6	-0.3
CEY					i Sg	Sg	18 08 11.8	+0.3
VISS	Visnje	0.46	64		i Pg	Pg	18 08 14.6	+0.6
VISS	Visnje	0.46	64		i Pg	Pb	18 08 14.6	-0.6

ISCJB ***08*** *18:27:58.4±0.5, 23°.61N±0°.02×122°.01E±0°.03, h15km±7km, Error ellipse: s-maj=4.8km s-min=2.5km az=43.5*
JMA ***08*** *18:27:58.7±0.1, 23°.66N×121°.94E, h23km, M2.1*
TAP ***08*** *18:27:59.3, 23°.65N×121°.95E, h19km, ML2.7, C*
ISC 08 18:27:57.8±1.1, 23°.61N±0°.02×121°.96E±0°.03, h16km±9km, n36, σ0s58/69, Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
TWD	Chiawan	0.58	325		i P	Pb	18 28 09.5	-0.1
TWD					S	Sg	18 28 17.4	+0.4
	baz=323							
TWF1	Yuli	0.66	248		i P	Pn	18 28 12.3	-0.3
TWF1					i S	Sn	18 28 21.9	-0.9
	baz=233							
CHKT	Chengkung	0.75	227		P	Pb	18 28 12.7	+0.3
CHKT					S	Sb	18 28 22.1	-0.3
	baz=213							
WHF	Hehuan Shan	0.83	310		P	Pb	18 28 14.2	-0.1
WHF					eS	Sg	18 28 25.0	-0.2
	baz=308							
ENA	Nanau	0.84	346		i P	Pb	18 28 14.2	0.0
ENA					i S	Sg	18 28 25.1	-0.3
	baz=337							
YUS	Yu-Shan	0.94	263		P	Pn	18 28 16.6	-0.2
YUS					eS	Sb	18 28 28.5	+0.1
	baz=260							
ELDTW	Lidau	0.96	245		eP	Pb	18 28 16.3	0.0
ELDTW					S	Sg	18 28 28.5	-0.7
	baz=242							
TWT	Tachien	0.96	312		P	Pb	18 28 16.6	+0.3
TWT					S	Sg	18 28 28.6	-0.7
	baz=309							
NNS	Nan Shan	0.99	327		eP	Pg	18 28 16.8	-0.3
NNS					eS	Sg	18 28 29.5	-0.5
	baz=326							
TWC	Suao	1.00	354		P	Pg	18 28 17.2	-0.1
TWC					eS	Sg	18 28 30.2	-0.2
	baz=354							
SMLT	Sun Moon Lake	1.01	286		eP	Pn	18 28 17.9	+0.3
SMLT					eS	Sg	18 28 30.4	-0.3
	baz=283							
TYC	Yuchr	1.05	286		eP	Pb	18 28 17.6	-0.2
TYC					eS	Sg	18 28 32.0	-0.1
	baz=284							
ALS	Alishan	1.07	265		P	Pn	18 28 19.1	+0.6
ALS					eS	Sn	18 28 34.0	+0.8
	baz=262							
ENTT	Nioudou	1.09	341		i P	Pb	18 28 18.3	0.0
ENTT					S	Sb	18 28 32.4	-0.1
	baz=340							
TWG	Pinlang	1.13	226		eP	Pb	18 28 18.5	-0.6
TWG					eS	Sb	18 28 33.4	-0.3
	baz=238							
TWE	Neicheng	1.14	346		P	Pb	18 28 19.4	+0.1
TWE					eS	Sb	18 28 34.3	+0.4
	baz=346							

CHN5	Tsauling	1.18	270		eP	Pg	18 28 21.0	+0.4
	baz=267							
CHN5					eS	Sn	18 28 37.0	+1.4
	baz=267							
STYT	Tauyuan	1.19	248		eP	Pg	18 28 20.6	-0.3
	baz=246							
STYT					eS	Sb	18 28 35.5	+0.2
	baz=246							
NSK	Sanguang	1.20	333		P	Pn	18 28 20.0	-0.1
	baz=331							
NSK					S	Sb	18 28 34.8	-0.8
	baz=331							
JYNG	Yonagunijimaku	1.23	47		P	Pb	18 28 20.8	0.0
JYNG					eS	Sb	18 28 35.5	-0.9
EGS		1.23	359		eP	Pg	18 28 21.5	-0.1
	baz=14							
EGS					eS	Sg	18 28 37.9	+0.2
	baz=14							
YOJ	Yonaguni jima	1.28	48		P	Pb	18 28 21.7	+0.1
YOJ					S	Sn	18 28 38.4	+0.4
CHN4	Tsaushan	1.28	259		eP	Pg	18 28 23.0	+0.5
	baz=245							
CHN4					eS	Sg	18 28 40.6	+1.2
	baz=245							
WTP	Ta-pu	1.29	254		eP	Pg	18 28 22.7	0.0
	baz=252							
WTP					S	Sg	18 28 39.9	+0.4
	baz=252							
TWQ1	Liyutan	1.31	304		eS	Sg	18 28 40.3	-0.1
	baz=302							
NSTT	Nanjuang	1.35	319		eP	Pg	18 28 23.5	-0.3
	baz=318							
NSTT					eS	Sb	18 28 40.0	+0.2
	baz=318							
ECL	Taimali	1.37	223		eP	Pb	18 28 23.3	+0.2
	baz=232							
ECL					eS	Sn	18 28 37.9	-2.3
	baz=232							
CHN1	Nanshi	1.38	253		P	Pg	18 28 24.4	-0.1
	baz=251							
CHN1					eS	Sg	18 28 43.7	+1.2
	baz=251							
TWK	Hsinying	1.40	256		eP	Pg	18 28 24.7	0.0
	baz=254							
TWK					eS	Sg	18 28 43.2	+0.2
	baz=254							
EAST	Anshuo	1.59	220		eP	Pg	18 28 28.3	-0.2
	baz=220							
LAY	Lan-yu	1.61	194		eP	Pn	18 28 26.1	+0.4
	baz=194							
IRIF	Iriomote-Funau	1.77	66		P	Pn	18 28 28.6	+0.7
IRIF					S	Sn	18 28 50.6	+0.5
JKRS	Kuro-shima	1.98	71		P	Pn	18 28 31.6	+0.9
JKRS					S	Sn	18 28 55.0	-0.1
JIJ	Ishigaki jima	2.13	69		P	Pn	18 28 33.5	+0.7
JIJ					S	Sn	18 28 58.5	-0.5
JISG	Ishigakijimahi	2.36	65		P	Pn	18 28 35.5	-0.4
JISG					S	Sn	18 29 03.7	-0.9
JTJ	Tarama	2.71	67		P	Pn	18 28 41.4	+0.7
JTJ					S	Sn	18 29 13.4	+0.2

ISCJB ***08*** *18:40:46.7±0.5, 17°.1S±0°.1×177°.46W±0°.09, h403km, mb3.7/14, Error ellipse: s-maj=17.9km s-min=7.9km az=150.8*
IDC ***08*** *18:40:46.5±1.9, 17°.05S×177°.55W, h377km±20km, mb3.5/13, mb1 3.8/15, mb1mx3.6/26, mbtmp4.3/15, Error ellipse: s-maj=18.4km s-min=12.0km az=139.0*
ISC 08 18:40:48.3±0.5, 17°.0S±0°.1×177°.44W±0°.09, h403km, n46, σ1s16/52, mb3.7/14, 4C-5D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
AFI	Afiamalu	6.29	61		P	P	18 42 22.8	-1.2
	20nm,0.3s,baz=160,slow=1.5,SNR=20							
AFI					S	S	18 43 38.0	-4.6
	3.5nm,0.3s,baz=229,slow=20,SNR=2.7							
DZM	Mont Dzumac	15.98	249		P	P	18 44 11.1	-0.4
	0.4nm,0.3s,baz=80,slow=15,SNR=5.3							
URZ	Urewera	21.67	192		P	P	18 45 06.2	-1.5
	9.0nm,0.5s,baz=289,slow=2.6,SNR=9.8							
STKA	Stephens Creek	39.85	240		P	P	18 47 44.6	-0.4
	2.7nm,0.5s,baz=95,slow=10,SNR=18							
JAY	Jayapura	43.56	285		P	P	18 48 14.7	-0.3
	0.3nm,0.5s,baz=95,slow=23,SNR=6.5							
WRA	Warramunga Arr	45.70	259		P	P	18 48 30.3	-1.2
	0.9nm,0.3s,baz=89,slow=7.7,SNR=21							
WRA					PcP	PcP	18 50 01.6	-0.1
	0.4nm,0.7s,baz=90,slow=4.8,SNR=4.9							
WRA					S	S	18 54 41.1	-2.9
	0.5nm,0.7s,baz=94,slow=14,SNR=3.2							
ASAR	Alice Springs	45.92	253		P	P	18 48 32.6	-0.5
	5.5nm,0.4s,baz=88,slow=7.9,SNR=129							
ASAR					PcP	PcP	18 50 02.7	+0.3
	1.2nm,0.6s,baz=100,slow=4.4,SNR=5.2							
ASAR					S	S	18 54 44.4	-2.6
	1.2nm,0.9s,baz=87,slow=16,SNR=8.4							
VNDA	Vanda	61.38	185		P	P	18 50 23.9	+1.1
	1.0nm,0.7s,baz=350,slow=9.8,SNR=6.5							
MJAR	Matsushiro Arr	67.77	323		P	P	18 51 04.0	-0.3
	1.1nm,0.8s,baz=160,slow=5.7,SNR=4.9							
PETK	Petropavlovsk-	73.08	345		P	P	18 51 35.8	+0.2
	1.7nm,0.7s,baz=112,slow=8.6,SNR=4.6							
TXAR	Lajitas Array	84.75	57		P	P	18 52 41.6	+2.7
	2.9nm,0.8s,baz=220,slow=6.4,SNR=38							
ILAR	Eielson Array	84.84	13		P	P	18 52 38.4	0.0
	2.1nm,0.5s,baz=222,slow=5.4,SNR=5.8							
PDAR	Pinedale Array	86.09	43		P	P	18 52 46.4	+1.1
	0.6nm,0.5s,baz=211,slow=3.7,SNR=8.1							
CMAR	Chiang Mai Arr	89.46	289		P	P	18 53 03.4	+2.0
	0.7nm,0.9s,baz=113,slow=6.0,SNR=2.7							
YKA	Yellowknife Ar	93.16	24		P	P	18 53 17.4	-0.1
	0.5nm,0.5s,baz=244,slow=4.5,SNR=3.5							
SONM	Songino Array	93.50	319		P	P	18 53 19.5	0.0
	0.3nm,0.5s,baz=72,slow=11,SNR=2.8							
ARCES	ARCESS Array B	125.62	350		PKP	PKPdf	18 59 01.9	0.0
	2.2nm,0.6s,baz=338,slow=1.3,SNR=7.1							
FINES	FINESS Array B	132.60	345		PKP	PKPdf	18 59 14.6	-0.8
	1.6nm,0.8s,baz=48,slow=2.8,SNR=5.0							
NOA	NORSAR Array B	135.62	354		PKP	PKPdf	18 59 22.1	+0.9
	1.2nm,0.9s,baz=73,slow=14,SNR=2.5							
BURAR	Bucovina Array	144.27	333	‖	iP	PKPdf	18 59 37.9	+0.7
CFR	Carcaliu	144.70	328	‖	iP	PKPab	18 59 38.5	+0.4
BRTR	Keskin Array B	144.81	316		PKP	PKPab	18 59 39.1	+0.2
	1.9nm,0.6s,baz=128,slow=5.4,SNR=14							
CLL	Collm	144.81	349	‖	iPKPbc	PKPab	18 59 38.6	+0.3
	comp=Z,11nm,0.6s							
VRI	Vrincioaia	144.90	330	⇑	iP	PKPab	18 59 38.9	0.0
UPC	Upice	144.91	345		ePKP	PKPab	18 59 39.5	+0.8
DPC	Dobruska-Polom	144.97	345		ePKP	PKPab	18 59 39.9	+0.8
BRG	Berggiesshubel	145.04	347		eP	PKPab	18 59 39.5	+0.4
	comp=Z,6.6nm,0.8s							
PVCC	Panska Ves	145.22	347		ePKP	PKPab	18 59 40.5	+0.6
MLR	Muntele Rosu	145.55	330	⇑	iP	PKPab	18 59 41.9	+0.3
PRU	Pruhonice	145.74	346	

mb1 4.2/3, **mb1mx3.7**/34, **mbtmp3.9**/3, **MS3.3**/4, **Ms1 3.3**/4, **ms1mx2.9**/36, **Error ellipse: s-maj=394.7km s-min=36.4km az=144.0, Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**9.52**	**66**	LR	LR	18 56 58.0	
	comp=Z,97nm,18.7s,baz=166,slow=35						
DZM	**Mont Dzumac**	**12.72**	**249**	LR	LR	18 58 27.0	
	comp=Z,168nm,21.4s,baz=40,slow=33						
PPT	**Papeete**	**29.68**	**94**	LR	LR	19 07 31.4	
	comp=Z,35nm,18.3s,baz=186,slow=33						
STKA	**Stephens Creek**	**36.66**	**240**	LR	LR	19 13 28.6	
	comp=Z,76nm,18.6s,baz=216,slow=36						
WRA	**Warramunga Arr**	**42.43**	**260**	P	P	18 59 19.4	-0.6
	1.4nm,1.0s,baz=96,slow=8.4,SNR=3.9						
ASAR	**Alice Springs**	**42.63**	**254**	P	P	18 59 21.9	+0.3
	3.2nm,0.9s,baz=86,slow=7.8,SNR=26						
ILAR	**Eielson Array**	**86.44**	**14**	P	P	19 04 07.2	0.0
	0.7nm,0.8s,baz=227,slow=6.1,SNR=6.1						

*IDC **08** 19:01:54.4±2.5, 43˚.29N×105˚.24W, h0km, mb1 3.6/2, mb1mx3.2/57, mbtmp3.4/2, ML3.2/2, Error ellipse: s-maj=59.6km s-min=10.4km az=157.0*

*ISCJB **08** 19:01:56.2±0.6, 43˚.68N±0˚.05×105˚.11W±0˚.07, h0km, Error ellipse: s-maj=7.4km s-min=7.0km az=32.5*

*NEIC **08** 19:01:57.5±0.7, 43˚.65N×105˚.08W, h0km, ML3.0, Error ellipse: s-maj=10.2km s-min=9.5km az=130.0, Suspected Mining explosion.*

NEIC 73 km [45 miles] WSW of Newcastle.

ISC 08 19:01:55.3±1.1, **43˚.67N**±0˚.05×**105˚.26W**±0˚.05, **h0**km, **n23**, σ**2**s**71**/**23**, **Wyoming**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RSSD	**Black Hills**	**0.99**	**63**	*e*Pn	**Pn**	**19 02 16.8**	**+0.1**
K22A	**Casper**	**1.38**	**223**	*e*Pn	**Pg**	**19 02 21.0**	**-0.7**
PHWY	**Pilot Hill**	**2.38**	**184**	*e*Pn	**Pb**	**19 02 37.8**	**-1.3**
LAO	**LASA Array**	**3.09**	**348**	*e*Pn	**Pn**	**19 02 46.9**	**+1.5**
RLMT	**Red Lodge**	**3.22**	**298**	*e*Pn	**Pn**	**19 02 49.8**	**+2.6**
PDAR	**Pinedale Array**	**3.27**	**255**	Pn	**Pn**	**19 02 50.1**	**+2.1**
	1.6nm,0.3s,baz=76,slow=16,SNR=38						
PDAR				Pg	**Pb**	**19 02 54.1**	**-0.2**
	5.6nm,0.3s,baz=77,slow=20,SNR=48						
PDAR				Lg	Lg	19 03 36.0	
	9.4nm,0.3s,baz=78,slow=34,SNR=12						
BW06	**Boulder Array**	**3.27**	**255**	*e*Pn	**Pn**	**19 02 50.0**	**+1.9**
OGNE	**Ogallala**	**3.63**	**138**	*e*Pn	**Pn**	**19 02 55.4**	**+2.6**
LKWY	**Lake**	**3.81**	**285**	*e*Pn	**Pb**	**19 03 02.0**	**-1.5**
LOHW	**Long Hollow**	**3.88**	**271**	*e*Pn	**Pn**	**19 03 00.3**	**+3.9**
ISCO	**Idaho Springs**	**3.88**	**184**	*e*Pn	**Pn**	**19 02 57.8**	**+1.3**
H17A	**Grant Village**	**3.90**	**282**	*e*Pn	**Pb**	**19 03 03.1**	**-1.9**
MOOW	**Moose Ponds**	**3.98**	**273**	*e*Pn	**Pn**	**19 03 01.0**	**+3.3**
REDW	**Red Top Meadow**	**4.08**	**268**	*e*Pn	**Pb**	**19 03 05.0**	**-3.1**
IMW	**Indian Meadow**	**4.12**	**275**	*e*Pn	**Pb**	**19 03 04.8**	**-4.0**
TPAW	**Teton Pass**	**4.14**	**269**	*e*Pn	**Pb**	**19 03 05.4**	**-3.8**
DGMT	**Dagmar**	**4.85**	**8**	*e*Pn	**Pn**	**19 03 11.2**	**+1.7**
HWUT	**Hardware Ranch**	**5.09**	**248**	*e*Pn	**Pn**	**19 03 16.3**	**+3.4**
	4.5nm,0.4s						
EGMT	**Eagleton**	**5.36**	**326**	*e*Pn	**Pn**	**19 03 20.6**	**+3.9**
	5.9nm,0.5s						
SDCO	**Great Sand Dun**	**5.92**	**182**	*e*Pn	**Pn**	**19 03 28.0**	**+3.5**
DUG	**Dugway, Tooele**	**6.62**	**241**	*e*Pn	**Pn**	**19 03 36.0**	**+2.1**
	1.5nm,0.4s						
ULM	**Lac du Bonnet**	**9.18**	**41**	Pn	**Pn**	**19 04 09.8**	**+0.9**
	0.6nm,0.3s,baz=227,slow=13,SNR=5.2						
ULM				Lg	Lg	19 06 52.9	
	0.4nm,0.3s,baz=317,slow=18,SNR=4.7						
I56US	**NEWPORT INFRAS**	**9.45**	**303**	*i*		20 01 30.0	
	baz=115,slow=310,SNR=1.9						

*ISCJB **08** 19:02:46.6±0.2, 51˚.740N±0˚.010×6˚.08E±0˚.02, h10km±1km, mb4.2/8, MS3.4/5, Error ellipse: s-maj=1.7km s-min=1.6km az=16.5*

*LDG **08** 19:02:48.8±0.1, 51˚.76N×6˚.08E, h10km, Md4.4/3, Ml4.6/63, Error ellipse: s-maj=3.6km s-min=3.4km az=130.0*

*CSEM **08** 19:02:48.8±0.1, 51˚.70N×6˚.10E, h10km, ML4.7/20, Error ellipse: s-maj=1.7km s-min=1.6km az=64.0*

*IDC **08** 19:02:48.6±1.0, 51˚.64N×6˚.00E, h0km, mb3.5/4, mb1 3.9/11, mb1mx3.7/56, mbtmp3.7/11, ML4.1/7, MS2.7/6, Ms1 2.8/6, ms1mx2.5/43, Error ellipse: s-maj=17.9km s-min=12.8km az=45.0*

*BNS **08** 19:02:50.6±1.0, 51˚.65N×6˚.18E, h4km±22km, ML4.4*

*NAO **08** 19:02:50.5±4.4, 52˚.05N×5˚.62E, ML3.1*

*NEIC **08** 19:02:50.3±0.0, 51˚.68N×6˚.03E, h6km, mb4.2/3, ML4.4(SZGRF), ML4.4(LDG), After SZGRF.*

NEIC Felt in parts of the Netherlands and western Germany.

*UCC **08** 19:02:50.6, 51˚.66N×6˚.16E, h18km, ML4.3*

*BGS **08** 19:02:51.1, 51˚.79N×5˚.84E, h10km, ML4.5*

*BGR **08** 19:02:51.1±0.2, 51˚.63N×6˚.34E, h5km, ML4.4/18, Error ellipse: s-maj=3.3km s-min=3.3km az=98.0*

*PRU **08** 19:02:53.4, 51˚.57N×6˚.55E, h1km, M4.2*

*STR **08** 19:02:54.7±0.2, 51˚.40N×6˚.22E, h10km, Ml4.3, Error ellipse: s-maj=0.0km s-min=0.0km az=0.0*

ISC 08 19:02:49.5±0.4, **51.71N**±0˚.02×**6.12E**±0˚.02, **h21**km±1km, **n745**, σ**2**s**55**/**997**, **mb4.3**/8, **MS3.5**/5, **37C-31D, Germany**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OPLO	**Oploo**	**0.23**	**237**	*e*Pg	**Pb**	**19 02 55.7**	**+0.3**
OPLO				*e*Sg	**Sb**	**19 02 59.9**	**+0.4**
OPLO	**Oploo**	**0.23**	**237**	*e*Pg	**Pb**	**19 02 55.7**	**+0.3**
OPLO				*e*Sg	**Sb**	**19 02 60.0**	**+0.4**
OPLO	**Oploo**	**0.23**	**237**	Pg	**Pb**	**19 02 55.7**	**+0.3**
OPLO				*e*Sg	**Sb**	**19 02 59.9**	**+0.4**
OPLO	**Oploo**	**0.23**	**237**	Pg	**Pb**	**19 02 55.7**	**+0.3**
OPLO				Sg	**Sb**	**19 02 60.0**	**+0.4**
WTSB	**Winterswijk**	**0.49**	**59**	*e*Pg	**Pb**	**19 02 60.0**	**+0.5**
WTSB				*e*Sg	**Sb**	**19 03 06.3**	**0.0**
WTSB	**Winterswijk**	**0.49**	**59**	*e*Pg	**Pb**	**19 02 60.0**	**+0.5**
WTSB				*e*Sg	**Sb**	**19 03 06.2**	**-0.1**
WTSB	**Winterswijk**	**0.49**	**59**	Pg	**Pb**	**19 03 00.0**	**+0.5**
WTSB				Sg	**Sb**	**19 03 06.2**	**-0.1**
HKB	**Herkenbosch**	**0.53**	**176**	P	**Pb**	**19 02 59.3**	**-0.8**
HKB				S	**Sb**	**19 03 06.5**	**-0.8**
	comp=N,6μm,0.2s						
HKB	**Herkenbosch**	**0.53**	**176**	P	**Pb**	**19 02 59.2**	**-0.8**
HKB				S	**Sb**	**19 03 06.4**	**-0.8**
	comp=N,6μm,0.2s						
RODG	**Roetgen-Dahlhe**	**0.57**	**176**	*e*Pg	**Pb**	**19 03 00.2**	**-0.7**
RODG	**Roetgen-Dahlhe**	**0.57**	**176**	Pg	**Pb**	**19 03 00.2**	**-0.7**
LAUG	**Laupendahl**	**0.63**	**125**	*e*Pg	**Pb**	**19 03 01.2**	**-0.7**
LAUG				*e*Sg	**Sb**	**19 03 08.6**	**-1.8**
LAUG	**Laupendahl**	**0.63**	**125**	Pg	**Pb**	**19 03 01.2**	**-0.7**
LAUG				Sg	**Sb**	**19 03 08.6**	**-1.8**
BD09	**Hochneukirch**	**0.66**	**160**	*e*Pg	**Pb**	**19 03 01.9**	**-0.4**
BD09	**Hochneukirch**	**0.66**	**160**	Pg	**Pb**	**19 03 01.9**	**-0.4**
BD11	**Borschemich**	**0.66**	**162**	*e*Pg	**Pb**	**19 03 02.1**	**-0.3**
BD11	**Borschemich**	**0.66**	**162**	Pg	**Pb**	**19 03 02.1**	**-0.3**
BOPT	**Opiter**	**0.67**	**207**	P	**Pb**	**19 03 03.1**	**+0.5**
BOPT				S	**Sb**	**19 03 12.1**	**+0.6**
BOPT	**Opiter**	**0.67**	**207**	P	**Pb**	**19 03 03.1**	**+0.5**
BOPT				S	**Sb**	**19 03 12.1**	**+0.6**
HES	**Velbert-Hesper**	**0.68**	**120**	*i* Pg	**Pb**	**19 03 01.4**	**-1.2**
HES	**Velbert-Hesper**	**0.68**	**120**	Pg	**Pb**	**19 03 01.4**	**-1.2**
BUG	**Bochum--Univer**	**0.77**	**110**	*e*Pg	**Pb**	**19 03 04.1**	**-0.1**
BUG				*e*Sg	**Sb**	**19 03 13.2**	**-1.0**
BUG	**Bochum--Univer**	**0.77**	**110**	Pg	**Pb**	**19 03 04.1**	**-0.1**
BUG				Sg	**Sb**	**19 03 13.2**	**-1.0**
BUG	**Bochum--Univer**	**0.77**	**110**	Pg	**Pb**	**19 03 04.1**	**-0.1**
BUG				Sg	**Sb**	**19 03 13.2**	**-1.0**
BD03	**Millendorf**	**0.77**	**159**	*e*Pg	**Pb**	**19 03 04.2**	**-0.1**
BD03	**Millendorf**	**0.77**	**159**	Pg	**Pb**	**19 03 04.2**	**-0.1**
BD05	**Hambach**	**0.81**	**163**	*e*Pg	**Pb**	**19 03 04.8**	**-0.1**
BD05	**Hambach**	**0.81**	**163**	Pg	**Pb**	**19 03 04.8**	**-0.1**
BD01	**Bergheim Laure**	**0.82**	**156**	*e*Pg	**Pb**	**19 03 05.1**	**0.0**
BD01	**Bergheim Laure**	**0.82**	**156**	Pg	**Pb**	**19 03 05.1**	**0.0**
BDSL	**Dessel**	**0.82**	**233**	P	**Pn**	**19 03 06.0**	**+0.2**
BDSL				S	**Sn**	**19 03 17.6**	**+0.3**
BDSL	**Dessel**	**0.82**	**233**	P	**Pn**	**19 03 06.0**	**+0.2**
BDSL				S	**Sn**	**19 03 17.6**	**+0.3**
JUE	**Julich**	**0.82**	**167**	*e*Pg	**Pb**	**19 03 05.0**	**-0.1**
JUE	**Julich**	**0.82**	**167**	Pg	**Pb**	**19 03 05.0**	**-0.1**
PLH	**Pulheim**	**0.84**	**148**	*i* Pg	**Pb**	**19 03 04.9**	**-0.4**
PLH				*e*Sg	**Sb**	**19 03 14.3**	**-1.8**
	comp=N,2μm,0.2s						
PLH	**Pulheim**	**0.84**	**148**	Pg	**Pb**	**19 03 04.9**	**-0.4**
PLH				Sg	**Sb**	**19 03 14.3**	**-1.8**
	comp=N,2μm,0.2s						
BD07	**Roetschberg**	**0.85**	**155**	*e*Pg	**Pb**	**19 03 05.6**	**+0.1**
BD07	**Roetschberg**	**0.85**	**155**	Pg	**Pb**	**19 03 05.6**	**+0.1**
BD08	**Hambach Funkst**	**0.86**	**164**	*e*Pg	**Pb**	**19 03 06.0**	**+0.2**
BD08	**Hambach Funkst**	**0.86**	**164**	Pg	**Pb**	**19 03 06.0**	**+0.2**
BA05	**Sindorf**	**0.87**	**156**	*e*Pg	**Pb**	**19 03 06.1**	**+0.2**
BA05	**Sindorf**	**0.87**	**156**	Pg	**Pb**	**19 03 06.1**	**+0.2**
ENTS	**Ennepetalsperr**	**0.94**	**120**	*i* Pg	**Pb**	**19 03 07.0**	**-0.1**
ENTS				*e*Sg	**Sb**	**19 03 17.7**	**-1.3**
ENTS	**Ennepetalsperr**	**0.94**	**120**	Pg	**Pb**	**19 03 07.0**	**-0.1**
ENTS				Sg	**Sb**	**19 03 17.7**	**-1.3**
HGN	**Heimansgroeve**	**0.96**	**187**	*e*Pg	**Pb**	**19 03 07.6**	**-0.1**
HGN				*e*Sg	**Sb**	**19 03 19.4**	**-0.2**
HGN	**Heimansgroeve**	**0.96**	**187**	*e*Pg	**Pb**	**19 03 07.4**	**0.0**
HGN				*e*Sg	**Sb**	**19 03 18.7**	**-0.9**
HGN	**Heimansgroeve**	**0.96**	**187**	Pg	**Pb**	**19 03 07.0**	**-0.4**
HGN				Sg	**Sb**	**19 03 18.7**	**-0.9**
HGN	**Heimansgroeve**	**0.96**	**187**	Pg	**Pb**	**19 03 07.0**	**-0.4**
HGN				Sg	**Sb**	**19 03 18.7**	**-0.9**
BEBN	**Eben Emael**	**0.96**	**197**	P	**Pb**	**19 03 07.4**	**0.0**
BEBN				S	**Sb**	**19 03 19.8**	**+0.2**
	comp=E,5μm,0.3s						
BEBN	**Eben Emael**	**0.96**	**197**	P	**Pb**	**19 03 07.4**	**0.0**
BEBN				S	**Sb**	**19 03 19.7**	**+0.2**
	comp=E,5μm,0.3s						
GSH	**Grosshau**	**0.99**	**170**	*e*Pg	**Pn**	**19 03 08.0**	**-0.2**
GSH				*e*Sg	**Sb**	**19 03 20.2**	**-0.4**
	comp=E,4μm,0.1s						
GSH	**Grosshau**	**0.99**	**170**	Pg	**Pn**	**19 03 08.0**	**-0.2**
GSH				Sg	**Sb**	**19 03 20.2**	**-0.4**
	comp=E,4μm,0.1s						
BNS	**Bensberg**	**1.00**	**138**	*e*Pg	**Pb**	**19 03 08.4**	**+0.2**
BNS				*e*Sg	**Sb**	**19 03 20.7**	**-0.2**
	comp=E,1μm,0.2s						
BNS	**Bensberg**	**1.00**	**138**	Pg	**Pb**	**19 03 08.4**	**+0.2**
BNS				Sg	**Sb**	**19 03 20.7**	**-0.2**
	comp=E,1μm,0.2s						
DREG	**Dreilaegerbach**	**1.05**	**176**	*e*Pg	**Pn**	**19 03 08.9**	**-0.1**
DREG	**Dreilaegerbach**	**1.05**	**176**	Pg	**Pn**	**19 03 08.9**	**-0.1**
HOBG	**Hohbusch**	**1.06**	**133**	*e*Pg	**Pb**	**19 03 09.3**	**+0.2**
HOBG	**Hohbusch**	**1.06**	**133**	Pg	**Pb**	**19 03 09.3**	**+0.2**
KLL	**Kalltalsperre**	**1.07**	**173**	*e*Pg	**Pn**	**19 03 09.2**	**-0.1**
KLL	**Kalltalsperre**	**1.07**	**173**	Pg	**Pn**	**19 03 09.2**	**-0.1**
MEM	**Membach**	**1.11**	**184**	P	**Pn**	**19 03 09.6**	**-0.1**
MEM				S	**Sb**	**19 03 23.9**	**0.0**
MEM	**Membach**	**1.11**	**184**	*e*Pg	**Pn**	**19 03 09.6**	**-0.1**
MEM				*e*Sg	**Sb**	**19 03 23.7**	**-0.2**
MEM	**Membach**	**1.11**	**184**	P	**Pn**	**19 03 09.6**	**-0.1**
MEM				Sg	**Sb**	**19 03 23.7**	**-0.2**
BLCH	**La Chartreuse**	**1.12**	**197**	P	**Pn**	**19 03 10.1**	**+0.1**
BLCH				S	**Sb**	**19 03 24.8**	**+0.4**
	comp=N,7μm,0.5s						
BLCH	**La Chartreuse**	**1.12**	**197**	P	**Pn**	**19 03 10.0**	**+0.1**
BLCH				S	**Sb**	**19 03 24.7**	**+0.4**
	comp=N,7μm,0.5s						
WIT	**Witteveen**	**1.15**	**17**	*e*Pg	**Pb**	**19 03 13.2**	**+2.4**
WIT				*e*Sg	**Sb**	**19 03 29.4**	**+4.1**
WIT	**Witteveen**	**1.15**	**17**	*e*Pn	**Pb**	**19 03 12.1**	**+1.4**
WIT				*e*Pg	**Pn**	**19 03 13.3**	**+2.9**
WIT				*e*Sg	**Sb**	**19 03 28.9**	**+3.6**
WIT	**Witteveen**	**1.15**	**17**	Pn	**Pb**	**19 03 12.1**	**+1.4**
WBS	**Wahnbachtalspe**	**1.17**	**141**	*e*Pg	**Pb**	**19 03 10.9**	**-0.1**
WBS				*e*Sg	**Sn**	**19 03 24.5**	**-1.3**
	comp=N,5μm,0.2s						
WBS	**Wahnbachtalspe**	**1.17**	**141**	Pg	**Pb**	**19 03 10.9**	**-0.1**
WBS				Sg	**Sn**	**19 03 24.5**	**-1.3**
	comp=N,5μm,0.2s						
IBBN	**Ibbenburen**	**1.18**	**59**	*e*Pn	**Pb**	**19 03 11.5**	**+0.4**
IBBN				*e*Pg	**Pn**	**19 03 12.4**	**+1.7**
IBBN				*e*Sg	**Sb**	**19 03 27.1**	**+1.2**
IBBN	**Ibbenburen**	**1.18**	**59**	Pn	**Pb**	**19 03 11.5**	**+0.4**
IBBN	**Ibbenburen**	**1.18**	**59**	Pn	**Pb**	**19 03 11.5**	**+0.4**
IBBN				Pg	**Pn**	**19 03 12.4**	**+1.7**
IBBN				Sg	**Sb**	**19 03 27.1**	**+1.2**
BSTI	**Sart Tilman**	**1.18**	**197**	P	**Pb**	**19 03 11.1**	**-0.1**
BSTI	**Sart Tilman**	**1.18**	**197**	P	**Pb**	**19 03 11.1**	**-0.1**
STB	**Steinbach**	**1.21**	**158**	*e*Pg	**Pn**	**19 03 11.4**	**+0.2**
STB				*e*Sg	**Sn**	**19 03 26.5**	**-0.4**
STB	**Steinbach**	**1.21**	**158**	Pg	**Pn**	**19 03 11.4**	**+0.2**
STB				Sg	**Sn**	**19 03 26.5**	**-0.4**
SORT	**Sorpetalsperre**	**1.22**	**107**	*e*Pg	**Pb**	**19 03 11.7**	**-0.1**
SORT				*e*Sg	**Sn**	**19 03 26.3**	**-0.7**
	comp=N,3μm,0.1s						
SORT	**Sorpetalsperre**	**1.22**	**107**	Pg	**Pb**	**19 03 11.7**	**-0.1**
SORT				Sg	**Sn**	**19 03 26.3**	**-0.7**
	comp=N,3μm,0.1s						
OLFT	**Oleftalsperre**	**1.23**	**171**	*e*Pg	**Pb**	**19 03 12.3**	**+0.1**
OLFT				*e*Sg	**Sn**	**19 03 27.1**	**-0.4**
OLFT	**Oleftalsperre**	**1.23**	**171**	Pg	**Pb**	**19 03 12.3**	**+0.1**
OLFT				Sg	**Sn**	**19 03 27.1**	**-0.4**
TDN	**Todenfeld**	**1.25**	**155**	*e*Pg	**Pn**	**19 03 12.1**	**+0.3**
TDN				*e*Sg	**Sn**	**19 03 27.4**	**-0.6**
	comp=N,603nm,0.1s						
TDN	**Todenfeld**	**1.25**	**155**	Pg	**Pn**	**19 03 12.1**	**+0.3**
TDN				Sg	**Sn**	**19 03 27.4**	**-0.6**
	comp=N,603nm,0.1s						
AHRW	**Bad Neuenahr-A**	**1.32**	**152**	*e*Pb	**Pb**	**19 03 13.6**	**0.0**
AHRW				*e*Pg	**Pn**	**19 03 15.1**	**+2.4**
AHRW				*e*Sg	**Sb**	**19 03 30.4**	**+0.4**
AHRW	**Bad Neuenahr-A**	**1.32**	**152**	Pn	**Pb**	**19 03 13.6**	**0.0**
BCLA	**Clavier**	**1.39**	**202**	P	**Pn**	**19 03 14.0**	**+0.3**
BCLA				S	**Sn**	**19 03 30.8**	**-0.6**
	comp=N,2μm,1.0s						
BCLA	**Clavier**	**1.39**	**202**	P	**Pn**	**19 03 13.9**	**+0.3**
BCLA				S	**Sn**	**19 03 30.8**	**-0.6**
	comp=N,2μm,0.9s						
UCC	**Uccle**	**1.43**	**231**	P	**Pb**	**19 03 16.5**	**+0.9**
UCC	**Uccle**	**1.43**	**231**	P	**Pb**	**19 03 16.4**	**+0.9**
BIW	**Bindweide**	**1.46**	**132**	*e*Pg	**Pn**	**19 03 15.4**	**+0.7**
BIW	**Bindweide**	**1.46**	**132**	Pg	**Pn**	**19 03 15.4**	**+0.7**
HILG	**Hillesheim**	**1.47**	**166**	*e*Pg	**Pn**	**19 03 15.1**	**+0.4**
HILG	**Hillesheim**	**1.47**	**166**	Pg	**Pn**	**19 03 15.1**	**+0.4**
BCES	**Court-Saint-Et**	**1.47**	**222**	P	**Pn**	**19 03 15.4**	**+0.7**
BCES				S	**Sn**	**19 03 33.2**	**-0.1**
BCES	**Court-Saint-Et**	**1.47**	**222**	P	**Pn**	**19 03 15.4**	**+0.7**
BCES				S	**Sn**	**19 03 33.2**	**-0.1**
BGES	**Gesves**	**1.48**	**206**	P	**Pn**	**19 03 15.3**	**+0.4**
BGES				S	**Sb**	**19 03 35.2**	**+0.6**
BGES	**Gesves**	**1.48**	**206**	P	**Pn**	**19 03 15.2**	**+0.4**
BGES				S	**Sb**	**19 03 35.2**	**+0.6**
BLI	**Bleialf**	**1.49**	**176**	*e*Pg	**Pn**	**19 03 15.3**	**+0.3**
BLI	**Bleialf**	**1.49**	**176**	Pg	**Pn**	**19 03 15.3**	**+0.3**
BHE	**Schloss Buerre**	**1.52**	**153**	*e*Pg	**Pn**	**19 03 16.1**	**+0.7**
BHE				*e*Sg	**Sn**	**19 03 33.7**	**-0.8**
	comp=N,2μm,0.2s						
BHE	**Schloss Buerre**	**1.52**	**153**	Pg	**Pn**	**19 03 16.1**	**+0.7**
LOH	**Wallersheim-Lo**	**1.56**	**170**	*e*Pg	**Pn**	**19 03 16.6**	**+0.6**
LOH				*e*Sg	**Sn**	**19 03 35.2**	**-0.2**
	comp=N,2μm,0.1s						
LOH	**Wallersheim-Lo**	**1.56**	**170**	Pg	**Pn**	**19 03 16.6**	**+0.6**
LKLB	**Kalborn**	**1.61**	**180**	P	**Pn**	**19 03 17.1**	**+0.4**
LKLB				S	**Sn**	**19 03 37.1**	**+0.2**
	comp=E,2μm,0.4s						
LKLB	**Kalborn**	**1.61**	**180**	P	**Pn**	**19 03 17.1**	**+0.4**
LKLB				S	**Sn**	**19 03 37.1**	**+0.2**
	comp=E,2μm,0.4s						
BRQR	**Ronquières**	**1.63**	**228**	P	**Pn**	**19 03 17.6**	**+0.7**
BRQR	**Ronquières**	**1.63**	**228**	P	**Pn**	**19 03 17.5**	**+0.7**
KOE	**Koeppel**	**1.64**	**141**	*e*Pg	**Pn**	**19 03 17.9**	**+0.7**
KOE	**Koeppel**	**1.64**	**141**	Pg	**Pn**	**19 03 17.9**	**+0.7**
BMRD	**Maredsous**	**1.65**	**212**	P	**Pn**	**19 03 17.8**	**+0.6**
BMRD	**Maredsous**	**1.65**	**212**	P	**Pn**	**19 03 17.8**	**+0.6**
RCHB	**Rochefort**	**1.66**	**200**	P	**Pn**	**19 03 17.7**	**+0.4**
RCHB	**Rochefort**	**1.66**	**200**	P	**Pn**	**19 03 17.6**	**+0.4**
BSKQ	**Steenkerk**	**1.67**	**231**	P	**Pn**	**19 03 18.0**	**+0.5**
BSKQ	**Steenkerk**	**1.67**	**231**	P	**Pn**	**19 03 17.9**	**+0.5**
BGG	**Burgeitz**	**1.69**	**152**	*e*Pg	**Pn**	**19 03 17.9**	**+0.1**
LVIA	**Vianden**	**1.78**	**178**	P	**Pn**	**19 03 19.5**	**+0.5**
LVIA	**Vianden**	**1.78**	**178**	P	**Pn**	**19 03 19.5**	**+0.5**
GIVF	**Givet**	**1.81**	**207**	*e*P	**Pn**	**19 03 19.9**	**+0.5**
GIVF	**Givet**	**1.81**	**207**	*e*Pg	**Pb**	**19 03 22.7**	**+0.8**
	SNR=1.0						
GIVF				*e*Sn	**Sn**	**19 03 39.4**	**-2.2**
	SNR=1.0						
GIVF				*e*Sg	**Sb**	**19 03 45.8**	**+1.7**
	comp=E,2μm,0.3s,SNR=1.0						
GIVF	**Givet**	**1.81**	**207**	*e*P	**Pn**	**19 03 19.9**	**+0.5**
GIVF	**Givet**	**1.81**	**207**	*e*Pg	**Pb**	**19 03 22.7**	**+0.8**
	SNR=1.0						
GIVF				*e*Sn	**Sn**	**19 03 39.4**	**-2.2**
	SNR=1.0						
GIVF				*e*Sg	**Sb**	**19 03 45.8**	**+1.7**
	comp=E,1μm,0.3s,SNR=1.0						
GIVF	**Givet**	**1.81**	**207**	*e*P	**Pn**	**19 03 19.9**	**+0.5**
GIVF				*e*Pg	**Pb**	**19 03 22.7**	**+0.8**
GIVF				*e*Sn	**Sn**	**19 03 39.4**	**-2.2**
GIVF				*e*Sg	**Sb**	**19 03 45.8**	**+1.7**
	comp=E,1μm,0.3s,SNR=1.0						
DOU	**Dourbes**	**1.88**	**211**	↑P	**Pn**	**19 03 21.1**	**+0.6**
DOU	**Dourbes**	**1.88**	**211**	P	**Pn**	**19 03 21.0**	**+0.6**
BBOU	**Bougnies**	**1.91**	**227**	↓P	**Pn**	**19 03 22.1**	**+1.4**
BBOU	**Bougnies**	**1.91**	**227**	P	**Pn**	**19 03 22.1**	**+1.4**
BOST	**Ostende**	**2.04**	**258**	P	**Pn**	**19 03 23.0**	**+0.4**
BOST				S	**Sn**	**19 03 47.7**	**+0.4**
BOST	**Ostende**	**2.04**	**258**	P	**Pn**	**19 03 47.0**	**+0.4**
BOST				S	**Sn**	**19 03 47.7**	**+0.4**
ABH	**Alteburg**	**2.05**	**153**	*e*Pg	**Pn**	**19 03 23.4**	**+0.7**
ABH	**Alteburg**	**2.05**	**153**	Pn	**Pn**	**19 03 23.9**	**+1.2**
ABH	**Alteburg**	**2.05**	**153**	Pg	**Pb**	**19 03 27.2**	**+1.2**
ABH				Sg	**Sb**	**19 03 51.6**	**+0.6**
BAIF	**Baives**	**2.05**	**217**	*e*P	**Pn**	**19 03 23.4**	**+0.7**
BAIF	**Baives**	**2.05**	**217**	*e*Pg	**Pb**	**19 03 26.8**	**+0.8**
	SNR=1.0						
BAIF				*e*Sn	**Sn**	**19 03 45.0**	**-2.6**
	comp=E,1μm,0.4s,SNR=1.0						
BAIF				*e*Sg	**Sb**	**19 03 53.7**	**+2.7**
	comp=E,1μm,0.4s						
BAIF	**Baives**	**2.05**	**217**	*e*P	**Pn**	**19 03 23.4**	**+0.7**
BAIF	**Baives**	**2.05**	**217**	*e*Pg	**Pb**	**19 03 26.8**	**+0.8**
	SNR=1.0						
BAIF				*e*Sn	**Sn**	**19 03 45.0**	**-2.6**
	comp=E,583nm,0.4s,SNR=1.0						
BAIF				*e*Sg	**Sb**	**19 03 53.7**	**+2.7**
	comp=E,614nm,0.4s						
BAIF	**Baives**	**2.05**	**217**	*e*P	**Pn**	**19 03 23.4**	**+0.7**
BAIF				*e*Pg	**Pb**	**19 03 26.8**	**+0.8**
BAIF				*e*Sn	**Sn**	**19 03 45.0**	**-2.6**
BAIF				*e*Sg	**Sb**	**19 03 53.7**	**+2.7**
WLF	**Walferdange**	**2.05**	**179**	↓P	**Pn**	**19 03 23.0**	**+0.3**
WLF	**Walferdange**	**2.05**	**179**	*e*Pn	**Pn**	**19 03 23.2**	**+0.5**
WLF				*e*Sg	**Sb**	**19 03 51.2**	**+0.2**
WLF	**Walferdange**	**2.05**	**179**	Pn	**Pn**	**19 03 23.2**	**+0.5**
WLF				*e*Sn	**Sn**	**19 03 46.9**	**-0.7**
WLF	**Walferdange**	**2.05**	**179**	*e*Pn	**Pn**	**19 03 22.8**	**+0.1**
WLF				*e*Sn	**Sn**	**19 03 46.9**	**-0.7**
TNS	**Taunus Mts**	**2.10**	**134**	↓*e*Pn	**Pn**	**19 03 24.1**	**+0.7**
TNS				*e*Sg	**Sb**	**19 03 52.5**	**0.0**
TNS	**Taunus Mts**	**2.10**	**134**	Pn	**Pn**	**19 03 24.1**	**+0.7**

MOX					*e*Sg	**Sb**	**19 04 40.3 +4.0**		
MOX	**Moxa**	**3.62**	**105**	Pn	**Pn**	**19 03 45.5 +1.2**			
BFO	**Black Forest**	**3.67**	**156**‖	*e*Pn	**Pn**	**19 03 45.6 +0.5**			
BFO				*e*Sg	**Sb**	**19 04 43.7 +5.9**			
BFO	**Black Forest**	**3.67**	**156**	Pn	**Pn**	**19 03 45.6 +0.5**			
BFO	**Black Forest**	**3.67**	**156**	*e*Pn	**Pn**	**19 03 45.6 +0.5**			
BFO				*e*Sn	**Sb**	**19 04 35.0 -2.9**			
HAU	**Haudompre**	**3.71**	**178**	*e*Pn	**Pn**	**19 03 45.9 +0.3**			
	SNR=1.0								
HAU	**Haudompre**	**3.71**	**178**	*e*P	**Pb**	**19 03 58.0 +3.6**			
HAU				*e*Sg	**Sb**	**19 04 45.0 +6.0**			
	comp=N,650nm,0.3s,SNR=1.0								
HAU	**Haudompre**	**3.71**	**178**	*e*Pn	**Pn**	**19 03 45.9 +0.3**			
	SNR=1.0								
HAU				*e*Sg	**Sb**	**19 04 45.0 +6.0**			
	comp=N,325nm,0.3s,SNR=1.0								
HAU	**Haudompre**	**3.71**	**178**	*e*Pn	**Pn**	**19 03 45.9 +0.3**			
HAU				*e*Sg	**Sb**	**19 04 45.0 +6.0**			
HMNX	**Herstmonceux**	**3.73**	**259**	*e*P	**Pn**	**19 03 47.5 +1.8**			
HMNX				*e*S	**Sn**	**19 04 29.7 +0.9**			
HMNX				AML	AML	19 04 32.4			
	comp=N,2µm,0.6s								
HMNX				AML	AML	19 04 33.0			
	comp=E,2µm,0.5s								
HMNX	**Herstmonceux**	**3.73**	**259**	*e*P	**Pn**	**19 03 47.5 +1.8**			
HMNX				*e*S	**Sn**	**19 04 29.7 +0.9**			
HMNX				AML	AML	19 04 32.4			
	comp=N,2µm,0.6s								
HMNX				AML	AML	19 04 33.0			
	comp=E,2µm,0.5s								
HMNX	**Herstmonceux**	**3.73**	**259**	*e*P	**Pn**	**19 03 47.5 +1.8**			
HMNX				*e*S	**Sn**	**19 04 29.7 +0.9**			
	comp=E,2µm,0.5s,SNR=53								
GRA1	**Grafenberg Arr**	**3.83**	**120**	Pn	**Pn**	**19 03 48.8 +1.7**			
GRA1				Sg	**Sb**	**19 04 49.7 +7.6**			
GRF	**Grafenberg Arr**	**3.83**	**120**	*e*Pn	**Pn**	**19 03 48.8 +1.7**			
GRF				*e*Sg	**Sb**	**19 04 49.7 +7.6**			
GRFO	**Grafenberg**	**3.83**	**120**	*e*Pn	**Pn**	**19 03 48.7 +1.6**			
GRFO	**Grafenberg**	**3.83**	**120**	*e*Pn	**Pn**	**19 03 48.7 +1.6**			
GRFO				*e*Sn	**Sb**	**19 04 41.7 -0.4**			
MOF	**Molkenrain**	**3.92**	**170**	Pn	**Pn**	**19 03 48.8 +0.3**			
MOF				Sg	**Sb**	**19 04 51.6 +6.6**			
MOF	**Molkenrain**	**3.92**	**170**	Pn	**Pn**	**19 03 48.8 +0.3**			
MOF				Sg	**Sb**	**19 04 51.6 +6.6**			
HINF	**Hinteralfeld**	**3.93**	**173**	*e*Pn	**Pn**	**19 03 48.7 +0.1**			
	SNR=1.0								
HINF				*e*Sn	**Sn**	**19 04 30.5 -3.5**			
	comp=E,146nm,0.4s								
HINF				*e*Sg	**Sb**	**19 04 52.9 +7.7**			
	comp=E,433nm,0.5s								
HINF	**Hinteralfeld**	**3.93**	**173**	*e*Pn	**Pn**	**19 03 48.7 +0.1**			
	SNR=1.0								
HINF				*e*Sn	**Sn**	**19 04 30.5 -3.5**			
	comp=E,73nm,0.4s								
HINF				*e*Sg	**Sb**	**19 04 52.9 +7.7**			
	comp=E,216nm,0.5s								
HINF	**Hinteralfeld**	**3.93**	**173**	*e*Pn	**Pn**	**19 03 48.7 +0.1**			
HINF				*e*Sn	**Sn**	**19 04 30.5 -3.5**			
HINF				*e*Sg	**Sb**	**19 04 52.9 +7.7**			
SPAK	**Spaichingen-Ko**	**4.00**	**153**	Pn	**Pn**	**19 03 50.3 +0.6**			
SPAK				Sg	**Sb**	**19 04 56.1 +8.7**			
FELD	**Feldberg im Sc**	**4.03**	**162**	Pn	**Pn**	**19 03 50.6 +0.5**			
FELD				Sg	**Sb**	**19 04 56.8 +8.6**			
MANZ	**Manzenberg**	**4.17**	**112**	*e*Pn	**Pn**	**19 03 53.1 +1.2**			
MANZ				*e*Sg	**Sb**	**19 04 55.5 +3.4**			
MANZ	**Manzenberg**	**4.17**	**112**	Pn	**Pn**	**19 03 53.1 +1.2**			
NKC	**Novy Kostel**	**4.27**	**108**	*e*PN	**Pn**	**19 03 54.5 +1.3**			
NKC				*e*SB	**Sb**	**19 04 59.6 +4.7**			
	comp=E,420nm,0.5s								
NKC	**Novy Kostel**	**4.27**	**108**	Pn	**Pn**	**19 03 54.5 +1.3**			
LMK	**Market Rasen**	**4.30**	**296**	*e*P	**Pn**	**19 03 55.8 +2.2**			
LMK				AML	AML	19 05 21.0			
	comp=N,1µm,0.5s								
LMK				AML	AML	19 05 24.2			
	comp=E,1µm,0.6s				

WTTA Wattenberg 5.72 139 i Pn Pn 19 04 15.2 +1.9
comp=E,2.4nm,0.2s
WTTA eSn Sn 19 05 21.9 +3.4
comp=E,23nm,0.4s
WTTA Wattenberg 5.72 139 Pn Pn 19 04 15.2 +1.9
comp=E,2.4nm,0.2s
WTTA Sn Sn 19 05 21.9 +3.4
comp=E,23nm,0.4s
FUORN Ofenpass-Fuorn 5.78 150 ePn Pn 19 04 16.5 +2.4
FUORN Ofenpass-Fuorn 5.78 150 ePn Pn 19 04 16.5 +2.4
JQE Queens East 5.78 247 eP Pn 19 04 13.9 0.0
JQE Queens East 5.78 247 eP Pn 19 04 13.9 0.0
JQE Queens East 5.78 247 eP Pn 19 04 13.9 0.0
JQE Queens East 5.78 247 eP Pn 19 04 13.9 0.0
GOPC GO Pecny, Ondr 5.79 105 eSB Sb 19 05 46.8 +8.3
comp=E,86nm,0.5s
JRS Jersey 5.82 248 eP Pn 19 04 14.3 -0.1
JRS Jersey 5.82 248 eP Pn 19 04 14.3 -0.1
JRS Jersey 5.82 248 eP Pn 19 04 14.3 -0.1
JRS Jersey 5.82 248 eP Pn 19 04 14.3 -0.1
FOEL Foel Wylfa 5.84 285 eP Pn 19 04 16.4 +1.7
FOEL AML AML 19 05 52.3
comp=N,192nm,0.6s
FOEL AML AML 19 06 03.5
comp=E,107nm,0.7s
FOEL Foel Wylfa 5.84 285 eP Pn 19 04 16.4 +1.7
FOEL AML AML 19 05 52.3
comp=N,192nm,0.6s
FOEL AML AML 19 06 03.5
comp=E,107nm,0.7s
FOEL Foel Wylfa 5.84 285 eP Pn 19 04 16.4 +1.7
FOEL AML AML 19 05 52.3
comp=N,192nm,0.6s
FOEL AML AML 19 06 03.5
comp=E,107nm,0.7s
FOEL Foel Wylfa 5.84 285 eP Pn 19 04 16.4 +1.7
JSA Saint Aubin 5.86 248 eP Pn 19 04 15.0 -0.1
JSA AML AML 19 05 20.2
comp=E,285nm,0.3s
JSA AML AML 19 06 08.5
comp=N,199nm,0.6s
JSA Saint Aubin 5.86 248 eP Pn 19 04 15.0 -0.1
JSA AML AML 19 05 20.2
comp=E,285nm,0.3s
JSA AML AML 19 06 08.5
comp=N,199nm,0.6s
JSA Saint Aubin 5.86 248 eP Pn 19 04 15.0 -0.1
JSA AML AML 19 05 20.2
comp=E,285nm,0.3s
JSA AML AML 19 06 08.5
comp=N,199nm,0.6s
JSA Saint Aubin 5.86 248 eP Pn 19 04 15.0 -0.1
PLDF La Plantade 5.98 197 Pn Pn 19 04 17.4 +0.6
PLDF La Plantade 5.98 197 Pn Pn 19 04 17.4 +0.6
AGO Saint Agoulin 6.00 200 Pn Pn 19 04 17.5 +0.5
AGO Saint Agoulin 6.00 200 Pn Pn 19 04 17.5 +0.5
TCF Toulx Ste Croi 6.00 207 ePn Pn 19 04 16.5 -0.6
SNR=1.0
TCF eSn Sn 19 05 19.3 -5.9
comp=N,91nm,0.5s
TCF eSg Sb 19 05 56.9 +12
comp=N,223nm,0.5s
TCF Toulx Ste Croi 6.00 207 ePn Pn 19 04 16.5 -0.6
SNR=1.0
TCF Toulx Ste Croi 6.00 207 ePn Pn 19 04 16.5 -0.6
TCF eSn Sn 19 05 19.3 -5.9
TCF eSg Sb 19 05 56.9 +12
LLW Llanuwychllyn 6.11 285 eP Pn 19 04 19.4 +1.0
LLW Llanuwychllyn 6.11 285 eP Pn 19 04 19.4 +1.0
LLW Llanuwychllyn 6.11 285 eP Pn 19 04 19.4 +1.0
LLW Llanuwychllyn 6.11 285 eP Pn 19 04 19.4 +1.0
LPL La Plagne 6.21 176 ePn Pn 19 04 20.8 +0.7
SNR=1.0
LPL eSg Sb 19 06 02.9 +12
comp=N,74nm,0.6s
LPL La Plagne 6.21 176 ePn Pn 19 04 20.8 +0.7
SNR=1.0
LPL La Plagne 6.21 176 ePn Pn 19 04 20.8 +0.7
LPL eSg Sb 19 06 02.9 +12
LPG La Plagne 6.23 176 ePn Pn 19 04 21.2 +0.7
SNR=1.0
LPG eSg Sb 19 06 04.5 +13
comp=N,191nm,1.0s
LPG La Plagne 6.23 176 ePn Pn 19 04 21.2 +0.7
SNR=1.0
LPG La Plagne 6.23 176 ePn Pn 19 04 21.2 +0.7
LPG eSg Sb 19 06 04.5 +13
KESW Keswick, Cumbr 6.25 301 eP Pn 19 04 21.6 +1.2
KESW AML AML 19 06 20.9
comp=E,113nm,0.5s
KESW AML AML 19 06 24.8
comp=N,104nm,0.9s
KESW Keswick, Cumbr 6.25 301 eP Pn 19 04 21.6 +1.2
KESW AML AML 19 06 20.9
comp=E,113nm,0.5s
KESW AML AML 19 06 24.8
comp=N,104nm,0.9s
KESW Keswick, Cumbr 6.25 301 eP Pn 19 04 21.6 +1.2
KESW AML AML 19 06 20.9
comp=E,113nm,0.5s
KESW AML AML 19 06 24.8
comp=N,104nm,0.9s
KESW Keswick, Cumbr 6.25 301 eP Pn 19 04 21.6 +1.2
BSD Bornholm Skovb 6.27 54 i P Pn 19 04 19.5 -1.0
BSD Bornholm Skovb 6.27 54 i P Pn 19 04 19.6 -1.0
SNR=46
PYM Petit Puy Mans 6.31 200 Pn Pn 19 04 21.9 +0.6
PYM Petit Puy Mans 6.31 200 Pn Pn 19 04 21.9 +0.6
WPM1 Penmaenmawr 6.31 288 eP Pn 19 04 22.8 +1.6
WPM1 Penmaenmawr 6.31 288 eP Pn 19 04 22.8 +1.6
WPM1 Penmaenmawr 6.31 288 eP Pn 19 04 22.8 +1.6
WPM1 Penmaenmawr 6.31 288 eP Pn 19 04 22.8 +1.6
LPW Lampeter 6.32 278 eP Pn 19 04 22.0 +0.7
LPW AML AML 19 05 31.9
comp=E,126nm,0.5s
LPW AML AML 19 05 33.0
comp=N,119nm,0.2s
LPW Lampeter 6.32 278 eP Pn 19 04 22.0 +0.7
LPW AML AML 19 05 31.9
comp=E,126nm,0.5s
LPW AML AML 19 05 33.0
comp=N,119nm,0.2s
LPW Lampeter 6.32 278 eP Pn 19 04 22.0 +0.7
LPW AML AML 19 05 31.9
comp=E,126nm,0.5s
LPW AML AML 19 05 33.0
comp=N,119nm,0.2s
LPW Lampeter 6.32 278 eP Pn 19 04 22.0 +0.7
UPC Upice 6.35 97 ePN Pn 19 04 23.0 +1.2
UPC eSN Sn 19 05 36.3 +2.7
UPC eSB Sb 19 06 06.4 +12
comp=N,218nm,0.9s
UPC AMS AMS 19 07 00.0
comp=N,300nm,8.1s
UPC Upice 6.35 97 Pn Pn 19 04 23.0 +1.2
DYA Yadsworthy 6.46 263 eP Pn 19 04 23.5 +0.2
DYA AML AML 19 05 51.7
comp=E,70nm,0.5s
DYA AML AML 19 06 26.1
comp=N,85nm,0.5s
DYA Yadsworthy 6.46 263 eP Pn 19 04 23.5 +0.2
DYA AML AML 19 05 51.7
comp=E,70nm,0.5s
DYA AML AML 19 06 26.1
comp=N,85nm,0.5s
DYA Yadsworthy 6.46 263 eP Pn 19 04 23.5 +0.2
DYA AML AML 19 05 51.7
comp=E,70nm,0.5s
DYA AML AML 19 06 26.1
comp=N,85nm,0.5s
DYA Yadsworthy 6.46 263 ePn Pn 19 04 23.2 -0.1
DYA Yadsworthy 6.46 263 eP Pn 19 04 23.5 +0.2
DYA Yadsworthy 6.46 263 ePn Pn 19 04 23.2 -0.1
ABTA Abfaltersbach 6.50 137 ePn Pn 19 04 26.5 +2.6
comp=N,1.9nm,0.6s,SNR=7.2
ABTA Sn Sn 19 05 38.0 +0.6
comp=N,11nm,0.2s
ABTA Abfaltersbach 6.50 137 Pn Pn 19 04 26.5 +2.6
comp=N,1.9nm,0.6s,SNR=7.2
ABTA Sn Sn 19 05 38.0 +0.6
comp=N,11nm,0.2s
ECK Cauldkaine Hil 6.52 306 eP Pn 19 04 25.1 +1.0
ECK Cauldkaine Hil 6.52 306 eP Pn 19 04 25.1 +1.0
ECK Cauldkaine Hil 6.52 306 eP Pn 19 04 25.1 +1.0
ECK Cauldkaine Hil 6.52 306 eP Pn 19 04 25.1 +1.0

SSB Saint Sauveur 6.52 190 Pn Pn 19 04 24.4 +0.2
SSB Saint Sauveur 6.52 190 Pn Pn 19 04 24.4 +0.2
SSB Saint Sauveur 6.52 190 ePn Pn 19 04 23.4 -0.9
MOA Molln 6.54 123 i Pn Pn 19 04 26.1 +1.6
comp=N,3.7nm,0.1s,SNR=7.2
MOA i Sn Sn 19 05 37.7 -0.6
comp=N,22nm,0.6s
MOA Sg Sb 19 06 21.0 +21
comp=N,41nm,0.4s
MOA Molln 6.54 123 Pn Pn 19 04 26.1 +1.6
comp=N,3.7nm,0.1s,SNR=7.2
MOA Sn Sn 19 05 37.7 -0.6
comp=N,22nm,0.6s
MOA Sg Sb 19 06 21.0 +21
comp=N,41nm,0.4s
FABU Falkenberg 6.55 33 P Pn 19 04 23.8 -0.7
FABU S Sn 19 05 32.4 -6.1
FABU Falkenberg 6.55 33 P Pn 19 04 23.8 -0.7
MFF Saint Martin d 6.56 221 ePn Pn 19 04 24.6 0.0
SNR=1.0
MFF eSn Sn 19 05 32.8 -5.9
comp=N,142nm,0.3s
MFF eSg Sb 19 06 13.5 +13
comp=N,170nm,0.6s,SNR=1.0
MFF Saint Martin d 6.56 221 ePn Pn 19 04 24.6 0.0
SNR=1.0
MFF Saint Martin d 6.56 221 ePn Pn 19 04 24.6 0.0
MFF eSn Sn 19 05 32.8 -5.9
MFF eSg Sb 19 06 13.5 +13
WME Myndd Eilian 6.57 289 eP Pn 19 04 25.9 +1.1
WME Myndd Eilian 6.57 289 eP Pn 19 04 25.9 +1.1
WME Myndd Eilian 6.57 289 eP Pn 19 04 25.9 +1.1
WME Myndd Eilian 6.57 289 eP Pn 19 04 25.9 +1.1
SGMF Saint Gilles 6.58 242 ePn Pn 19 04 24.5 -0.4
SNR=1.0
SGMF eSn Sn 19 05 32.6 -6.5
comp=N,57nm,0.3s
SGMF eSg Sb 19 06 13.7 +13
comp=N,213nm,0.7s
SGMF Saint Gilles 6.58 242 ePn Pn 19 04 24.5 -0.4
SNR=1.0
SGMF Saint Gilles 6.58 242 ePn Pn 19 04 24.5 -0.4
SGMF eSn Sn 19 05 32.6 -6.5
SGMF eSg Sb 19 06 13.7 +13
DPC Dobruska-Polom 6.58 98 ePN Pn 19 04 27.7 +2.7
DPC ex x 19 04 40.3
DPC eSN Sn 19 05 45.8 +6.4
DPC eSB Sb 19 06 12.6 +11
comp=N,105nm,0.8s
DPC AMS AMS 19 07 00.0
comp=N,300nm,6.0s
DPC Dobruska-Polom 6.58 98 Pn Pn 19 04 27.7 +2.7
DEL Delary 6.59 41 P Pn 19 04 24.9 -0.2
DEL S Sn 19 05 34.2 -5.3
DEL Delary 6.59 41 P Pn 19 04 24.9 -0.2
WLF1 Llynfaes 6.61 288 eP Pn 19 04 26.4 +1.1
WLF1 AML AML 19 05 40.7
comp=N,40nm,0.4s
WLF1 AML AML 19 06 19.1
comp=E,38nm,0.6s
WLF1 Llynfaes 6.61 288 eP Pn 19 04 26.4 +1.1
WLF1 AML AML 19 05 40.7
comp=N,40nm,0.4s
WLF1 AML AML 19 06 19.1
comp=E,38nm,0.6s
WLF1 Llynfaes 6.61 288 eP Pn 19 04 26.4 +1.1
WLF1 AML AML 19 05 40.7
comp=N,40nm,0.4s
WLF1 AML AML 19 06 19.1
comp=E,38nm,0.6s
WLF1 Llynfaes 6.61 288 eP Pn 19 04 26.4 +1.1
EKA Eskdalemuir Ar 6.61 307 Pn Pn 19 04 26.5 +1.1
baz=116,slow=13,SNR=406
EKA Sn Sn 19 05 37.3 -2.7
baz=119,slow=26,SNR=14
KBA Koelnbreinsper 6.62 132 i Pn Pn 19 04 28.6 +3.0
comp=E,9.4nm,0.2s
KBA Sn Sn 19 05 42.8 +2.4
comp=E,27nm,0.3s
KBA Koelnbreinsper 6.62 132 Pn Pn 19 04 28.6 +3.0
comp=E,9.4nm,0.2s
KBA Sn Sn 19 05 42.8 +2.4
comp=E,27nm,0.3s
ONSU Onsala 6.62 28 P Pn 19 04 24.5 -0.9
ESK Eskdalemuir 6.63 307 eP Pn 19 04 26.5 +0.9
ESK AML AML 19 05 49.6
comp=N,77nm,0.3s
ESK AML AML 19 05 51.0
comp=E,89nm,0.7s
ESK Eskdalemuir 6.63 307 eP Pn 19 04 26.5 +0.9
ESK AML AML 19 05 49.6
comp=N,77nm,0.3s
ESK AML AML 19 05 51.0
comp=E,89nm,0.7s
ESK Eskdalemuir 6.63 307 eP Pn 19 04 26.5 +0.9
ESK AML AML 19 05 49.6
comp=N,77nm,0.3s
ESK AML AML 19 05 51.0
comp=E,89nm,0.7s
ESK Eskdalemuir 6.63 307 eP Pn 19 04 26.5 +0.9
ESK Eskdalemuir 6.63 307 ePn Pn 19 04 26.4 +0.9
ESY Stoneypath 6.67 313 eP Pn 19 04 27.1 +1.0
ESY Stoneypath 6.67 313 eP Pn 19 04 27.1 +1.0
ESY Stoneypath 6.67 313 eP Pn 19 04 27.1 +1.0
ESY Stoneypath 6.67 313 eP Pn 19 04 27.1 +1.0
SNART Snartemo 6.67 5 eP Pn 19 04 25.5 -0.6
SNART eS Sn 19 05 37.8 -3.6
SNART IAML 19 05 43.5
comp=Z,68nm,0.7s
SNART Snartemo 6.67 5 i P Pn 19 04 26.9 +0.8
SNR=46
BNI Bardonecchia 6.68 177 ePn Pn 19 04 26.8 +0.4
BNI Bardonecchia 6.68 177 ePn Pn 19 04 26.8 +0.4
HTL Hartland 6.68 268 eP Pn 19 04 27.1 +0.8
HTL eS Sn 19 05 38.7 -2.9
HTL AML AML 19 05 41.3
comp=N,97nm,0.4s
HTL AML AML 19 05 41.9
comp=E,50nm,0.6s
HTL Hartland 6.68 268 eP Pn 19 04 27.1 +0.8
HTL eS Sn 19 05 38.7 -2.9
HTL AML AML 19 05 41.3
comp=N,97nm,0.4s
HTL AML AML 19 05 41.9
comp=E,50nm,0.6s
HTL Hartland 6.68 268 eP Pn 19 04 27.1 +0.8
HTL eS Sn 19 05 38.7 -2.9
HTL AML AML 19 05 41.3
comp=N,97nm,0.4s
HTL AML AML 19 05 41.9
comp=E,50nm,0.6s
HTL Hartland 6.68 268 eP Pn 19 04 27.1 +0.8
WPS Cemaes, Angles 6.69 289 eP Pn 19 04 27.8 +1.4
WPS AML AML 19 05 40.7
comp=E,49nm,0.4s
WPS AML AML 19 05 41.2
comp=N,65nm,0.2s
WPS Cemaes, Angles 6.69 289 eP Pn 19 04 27.8 +1.4
WPS AML AML 19 05 40.7
comp=E,49nm,0.4s
WPS AML AML 19 05 41.2
comp=N,65nm,0.2s
WPS Cemaes, Angles 6.69 289 eP Pn 19 04 27.8 +1.4
WPS AML AML 19 05 40.7
comp=E,49nm,0.4s
WPS AML AML 19 05 41.2
comp=N,65nm,0.2s
WPS Cemaes, Angles 6.69 289 eP Pn 19 04 27.8 +1.4
HOMB Homborsund 6.71 11 eP Pn 19 04 26.5 -0.2
HOMB eS Sn 19 05 39.1 -3.3
HOMB IAML 19 05 42.7
comp=Z,41nm,0.2s
HOMB Homborsund 6.71 11 i P Pn 19 04 27.9 +1.2
SNR=46
LBL Lubilhac 6.76 197 Pn Pn 19 04 28.1 +0.6
LBL Lubilhac 6.76 197 Pn Pn 19 04 28.1 +0.6
ORIF Oris-en-Rattie 6.80 181 ePn Pn 19 04 28.3 +0.2
SNR=1.0
ORIF eSg Sb 19 06 22.2 +14
comp=Z,130nm,0.6s
ORIF Oris-en-Rattie 6.80 181 ePn Pn 19 04 28.3 +0.2
SNR=1.0
ORIF Oris-en-Rattie 6.80 181 ePn Pn 19 04 28.3 +0.2
ORIF eSg Sb 19 06 22.2 +14
ROSF Rostrenen 6.93 244 ePn Pn 19 04 29.4 -0.3

SNR=1.0
ROSF eSn Sn 19 05 42.0 -5.8
comp=Z,93nm,0.4s
ROSF eSg Sb 19 06 25.8 +15
comp=Z,139nm,0.7s
ROSF Rostrenen 6.93 244 ePn Pn 19 04 29.4 -0.3
SNR=1.0
ROSF Rostrenen 6.93 244 ePn Pn 19 04 29.4 -0.3
ROSF eSn Sn 19 05 42.0 -5.8
ROSF eSg Sb 19 06 25.8 +15
VIVF Saint-Julien-l 6.93 189 ePn Pn 19 04 29.3 -0.5
SNR=1.0
VIVF eSn Sn 19 05 42.3 -5.6
comp=Z,47nm,0.4s,SNR=1.0
VIVF eSg Sb 19 06 24.5 +13
comp=Z,105nm,0.5s
VIVF Saint-Julien-l 6.93 189 ePn Pn 19 04 29.3 -0.5
SNR=1.0
VIVF Saint-Julien-l 6.93 189 ePn Pn 19 04 29.3 -0.5
VIVF eSn Sn 19 05 42.3 -5.6
VIVF eSg Sb 19 06 24.5 +13
EDI Edinburgh 6.93 311 eP Pn 19 04 31.2 +1.5
EDI Edinburgh 6.93 311 eP Pn 19 04 31.2 +1.5
SNR=51
KRLC Kraliky 6.95 99 eSB Sb 19 06 24.5 +13
WIM Isle of Man 6.96 295 eP Pn 19 04 30.8 +0.6
WIM Isle of Man 6.96 295 eP Pn 19 04 30.8 +0.6
WIM Isle of Man 6.96 295 eP Pn 19 04 30.8 +0.6
WIM Isle of Man 6.96 295 eP Pn 19 04 30.8 +0.6
MBDF Montbardon 7.00 176 ePn Pn 19 04 32.2 +1.3
SNR=1.0
MBDF eSg Sb 19 06 28.2 +15
comp=Z,68nm,0.6s
MBDF Montbardon 7.00 176 ePn Pn 19 04 32.2 +1.3
SNR=1.0
MBDF Montbardon 7.00 176 ePn Pn 19 04 32.2 +1.3
MBDF eSg Sb 19 06 28.2 +15
BORU Boraas 7.08 30 P Pn 19 04 31.2 -0.5
BORU Boraas 7.08 30 P Pn 19 04 31.2 -0.5
MYKA Terra Mystica 7.08 133 i Pn Pn 19 04 35.6 +3.6
comp=Z,1.0nm,0.2s
MYKA i Sn Sn 19 05 51.1 -0.6
comp=Z,11nm,0.3s
MYKA Sg Sb 19 06 39.8 +24
comp=Z,18nm,0.6s
TJOU Tjoern 7.08 24 P Pn 19 04 30.6 -1.2
TJOU Tjoern 7.08 24 P Pn 19 04 30.6 -1.2
RJF Les Rejaudoux 7.10 207 ePn Pn 19 04 30.9 -1.2
SNR=1.0
RJF eSn Sn 19 05 46.5 -5.6
comp=Z,65nm,0.5s
RJF eSg Sb 19 06 31.6 +15
comp=Z,287nm,0.7s
RJF Les Rejaudoux 7.10 207 ePn Pn 19 04 30.9 -1.2
SNR=1.0
RJF Les Rejaudoux 7.10 207 ePn Pn 19 04 30.9 -1.2
RJF eSn Sn 19 05 46.5 -5.6
RJF eSg Sb 19 06 31.6 +15
VRAC Vranov 7.10 106 Pn Pn 19 04 34.7 +2.6
comp=Z,1.3nm,0.3s,baz=287,slow=17,SNR=7.4
VRAC Lg Lg 19 06 29.5
comp=Z,6.7nm,0.3s,baz=221,slow=15,SNR=12
QUIF Quistinic 7.10 241 ePn Pn 19 04 31.3 -0.8
SNR=1.0
QUIF eSn Sn 19 05 46.2 -5.9
comp=Z,82nm,0.4s
QUIF Quistinic 7.10 241 ePn Pn 19 04 31.3 -0.8
SNR=1.0
QUIF Quistinic 7.10 241 ePn Pn 19 04 31.3 -0.8
QUIF eSn Sn 19 05 46.2 -5.9
GNOU Gnosjoe 7.14 36 P Pn 19 04 32.8 +0.2
GNOU Gnosjoe 7.14 36 P Pn 19 04 32.8 +0.2
GAL1 Galloway 7.22 300 eP Pn 19 04 34.3 +0.7
GAL1 Galloway 7.22 300 eP Pn 19 04 34.3 +0.7
GAL1 Galloway 7.22 300 eP Pn 19 04 34.3 +0.7
GAL1 Galloway 7.22 300 eP Pn 19 04 34.3 +0.7
STAV Stavanger 7.24 358 eP Pn 19 04 32.8 -1.2
STAV IAML 19 05 53.9
comp=Z,54nm,0.3s
STAV Stavanger 7.24 358 eP Pn 19 04 32.8 -1.2
SNR=51
CAF Calviac 7.31 203 ePn Pn 19 04 33.8 -1.2
SNR=1.0
CAF eSn Sn 19 05 51.3 -5.9
comp=Z,62nm,0.6s,SNR=1.0
CAF eSg Sb 19 06 36.9 +15
comp=Z,147nm,0.6s
CAF Calviac 7.31 203 ePn Pn 19 04 33.8 -1.2
SNR=1.0
CAF Calviac 7.31 203 ePn Pn 19 04 33.8 -1.2
CAF eSn Sn 19 05 51.3 -5.9
CAF eSg Sb 19 06 36.9 +15
CCA1 Carnmenellis 7.33 262 eP Pn 19 04 34.7 -0.5
CCA1 AML AML 19 05 55.1
comp=N,68nm,0.4s
CCA1 AML AML 19 05 58.8
comp=E,79nm,0.3s
CCA1 Carnmenellis 7.33 262 eP Pn 19 04 34.7 -0.5
CCA1 AML AML 19 05 55.1
comp=N,68nm,0.4s
CCA1 AML AML 19 05 58.8
comp=E,79nm,0.3s
CCA1 Carnmenellis 7.33 262 eP Pn 19 04 34.7 -0.5
CCA1 AML AML 19 05 55.1
comp=N,68nm,0.4s
CCA1 AML AML 19 05 58.8
comp=E,79nm,0.3s
CCA1 Carnmenellis 7.33 262 eP Pn 19 04 34.7 -0.5
CONA Conrad Observa 7.35 117 ePn Pn 19 04 39.3 +3.7
comp=E,1.2nm,0.3s
CONA Sg Sb 19 06 38.2 +15
comp=E,54nm,0.6s
PGBU Glenifferbraes 7.50 307 eP Pn 19 04 39.0 +1.5
PGBU AML AML 19 06 12.9
comp=E,44nm,0.6s
PGBU AML AML 19 06 20.3
comp=N,47nm,0.4s
PGBU Glenifferbraes 7.50 307 eP Pn 19 04 39.0 +1.5
PGBU AML AML 19 06 12.9
comp=E,44nm,0.6s
PGBU AML AML 19 06 20.3
comp=N,47nm,0.4s
PGBU Glenifferbraes 7.50 307 eP Pn 19 04 39.0 +1.5
PGBU AML AML 19 06 12.9
comp=E,44nm,0.6s
PGBU AML AML 19 06 20.3
comp=N,47nm,0.4s
PGBU Glenifferbraes 7.50 307 eP Pn 19 04 39.0 +1.5
MORC Moravsky Berou 7.51 100 ⇑i P Sn 19 06 02.8 +0.7
MORC S Sg 19 06 46.1
MORC Moravsky Berou 7.51 100 ePn Pn 19 04 39.4 +1.7
MORC Moravsky Berou 7.51 100 ePn Pn 19 04 39.4 +1.7
KMY Karmoy 7.53 357 ⇑i P Pn 19 04 37.3 -0.6
KMY IAML 19 06 01.3
comp=Z,54nm,0.2s
KMY Karmoy 7.53 357 ⇑i P Pn 19 04 37.3 -0.6
SNR=51
ARSA Arzberg 7.58 122 i Pn Pn 19 04 41.9 +3.2
comp=Z,7.5nm,0.4s,SNR=7.8
ARSA eSn Sn 19 06 13.1 +9.2
comp=Z,19nm,0.6s
ARSA Sg Sb 19 06 47.1 +17
comp=Z,32nm,0.7s
ARSA Arzberg 7.58 122 Pn Pn 19 04 41.9 +3.2
comp=Z,7.5nm,0.4s,SNR=7.8
OBKA Obir 7.60 130 i Pn Pn 19 04 42.3 +3.3
comp=Z,14nm,0.5s,SNR=6.4
OBKA Sn Sn 19 06 07.4 +3.0
comp=Z,26nm,0.6s
VANU Vaenersborg 7.60 24 P Pn 19 04 38.1 -0.8
VANU Vaenersborg 7.60 24 P Pn 19 04 38.1 -0.8
EAB Aberfoyle 7.62 310 eP Pn 19 04 40.4 +1.2
EAB Aberfoyle 7.62 310 eP Pn 19 04 40.4 +1.2
EAB Aberfoyle 7.62 310 eP Pn 19 04 40.4 +1.2
EAB Aberfoyle 7.62 310 eP Pn 19 04 40.4 +1.2
LFF La Frestale 7.66 210 ePn Pn 19 04 39.1 -0.7
SNR=1.0
LFF eSn Sn 19 05 59.3 -6.6
comp=Z,90nm,0.4s,SNR=1.0
LFF eSg Sb 19 06 48.7 +16
comp=Z,368nm,0.7s
LFF La Frestale 7.66 210 ePn Pn 19 04 39.1 -0.7
SNR=1.0
LFF La Frestale 7.66 210 ePn Pn 19 04 39.1 -0.7
LFF eSn Sn 19 05 59.3 -6.6

LFF				eSg	Sb	19 06 48.7	+16		
MME1	**Meikle Cairn**	**7.70**	**320**	*e*P	**Pn**	**19 04 40.9**	**+0.6**		
MME1	**Meikle Cairn**	**7.70**	**320**	*e*P	**Pn**	**19 04 40.9**	**+0.6**		
MME1	**Meikle Cairn**	**7.70**	**320**	*e*P	**Pn**	**19 04 40.9**	**+0.6**		
MME1	**Meikle Cairn**	**7.70**	**320**	*e*P	**Pn**	**19 04 40.9**	**+0.6**		
GMM	**Mts of Mourne**	**7.71**	**294**	*e*P	**Pn**	**19 04 40.2**	**-0.2**		
GMM	**Mts of Mourne**	**7.71**	**294**	*e*P	**Pn**	**19 04 40.2**	**-0.2**		
GMM	**Mts of Mourne**	**7.71**	**294**	*e*P	**Pn**	**19 04 40.2**	**-0.2**		
GMM	**Mts of Mourne**	**7.71**	**294**	*e*P	**Pn**	**19 04 40.2**	**-0.2**		
SOKA	**Soboth**	**7.71**	**127**	*i* Pn	**Pn**	**19 04 43.1**	**+2.5**		
	comp=Z,2.4nm,0.2s,SNR=14								
SOKA				*e*Sn	**Sn**	**19 06 06.9**	**-0.3**		
	comp=Z,455nm,0.0s								
SOKA				Sg	Sb	19 06 59.3	+25		
	comp=Z,19nm,0.8s								
SOKA	**Soboth**	**7.71**	**127**	Pn	**Pn**	**19 04 43.1**	**+2.5**		
	comp=Z,2.4nm,0.2s,SNR=14								
SOKA				Sn	**Sn**	**19 06 06.9**	**-0.3**		
	comp=Z,455nm,0.0s								
BLS5	**Blasjo**	**7.73**	**1**	*e*P	**Pn**	**19 04 40.6**	**0.0**		
BLS5				IAML		19 06 05.6			
	comp=Z,22nm,0.4s								
BLS5	**Blasjo**	**7.73**	**1**	*e*P	**Pn**	**19 04 40.7**	**0.0**		
	SNR=51								
SMRF	**Simiane la Rot**	**7.75**	**183**	*e*Pn	**Pn**	**19 04 40.8**	**-0.2**		
	SNR=1.0								
SMRF				*e*Sg	Sb	19 06 52.5	+18		
	comp=Z,48nm,0.8s								
SMRF	**Simiane la Rot**	**7.75**	**183**	*e*Pn	**Pn**	**19 04 40.8**	**-0.2**		
	SNR=1.0								
SMRF	**Simiane la Rot**	**7.75**	**183**	*e*Pn	**Pn**	**19 04 40.8**	**-0.2**		
SMRF				eSg	Sb	19 06 52.5	+18		
DSB	**Dublin**	**7.78**	**286**	*e*Pn	**Pn**	**19 04 41.8**	**+0.4**		
DSB	**Dublin**	**7.78**	**286**	*e*Pn	**Pn**	**19 04 41.8**	**+0.4**		
LASF	**Ste Croix**	**7.79**	**192**	*e*Pn	**Pn**	**19 04 41.3**	**-0.3**		
	SNR=1.0								
LASF				*e*Sg	Sb	19 06 54.5	+18		
	comp=Z,125nm,0.6s								
LASF	**Ste Croix**	**7.79**	**192**	*e*Pn	**Pn**	**19 04 41.3**	**-0.3**		
	SNR=1.0								
LASF	**Ste Croix**	**7.79**	**192**	*e*Pn	**Pn**	**19 04 41.3**	**-0.3**		
LASF				eSg	Sb	19 06 54.5	+18		
FKPU	**Falk**	**7.80**	**31**	P	**Pn**	**19 04 41.5**	**-0.2**		
FKPU	**Falk**	**7.80**	**31**	P	**Pn**	**19 04 41.5**	**-0.2**		
TRI	**Trieste**	**7.85**	**137**	*e*Pn	**Pn**	**19 04 44.4**	**+2.0**		
TRI	**Trieste**	**7.85**	**137**	*e*Pn	**Pn**	**19 04 44.4**	**+2.0**		
OKC	**Ostrava-Krasne**	**7.86**	**99**	*e*SB	Sb	19 06 54.7	+17		
	comp=Z,264nm,1.4s								
OKC				AMS	AMS	19 07 50.0			
	comp=Z,200nm,9.1s								
SBF	**Sospel**	**7.90**	**173**	*e*Pn	**Pn**	**19 04 42.4**	**-0.8**		
SBF				*e*Sn	**Sn**	**19 06 06.7**	**-5.2**		
	comp=Z,64nm,0.7s								
SBF	**Sospel**	**7.90**	**173**	*e*Pn	**Pn**	**19 04 42.4**	**-0.8**		
SBF	**Sospel**	**7.90**	**173**	*e*Pn	**Pn**	**19 04 42.4**	**-0.8**		
SBF				eSn	**Sn**	**19 06 06.7**	**-5.2**		
MCD	**Coleburn Disti**	**8.00**	**321**	*e*P	**Pn**	**19 04 44.9**	**+0.5**		
MCD	**Coleburn Disti**	**8.00**	**321**	*e*P	**Pn**	**19 04 44.9**	**+0.5**		
MCD	**Coleburn Disti**	**8.00**	**321**	*e*P	**Pn**	**19 04 44.9**	**+0.5**		
MCD	**Coleburn Disti**	**8.00**	**321**	*e*P	**Pn**	**19 04 44.9**	**+0.5**		
MON	**Monaco**	**8.04**	**173**	*e*Pn	**Pn**	**19 04 44.5**	**-0.4**		
MON	**Monaco**	**8.04**	**173**	*e*Pn	**Pn**	**19 04 44.5**	**-0.4**		
VLC	**Villacollemand**	**8.08**	**158**	*e*Pn	**Pn**	**19 04 43.4**	**-2.2**		
FRF	**La Foret Royal**	**8.16**	**177**	*e*Pn	**Pn**	**19 04 46.8**	**+0.1**		
	SNR=1.0								
FRF				*e*Sg	Sb	19 07 06.6	+20		
	comp=Z,76nm,1.0s								
FRF	**La Foret Royal**	**8.16**	**177**	*e*Pn	**Pn**	**19 04 46.8**	**+0.1**		
	SNR=1.0								
FRF	**La Foret Royal**	**8.16**	**177**	*e*Pn	**Pn**	**19 04 46.8**	**+0.1**		
FRF				eSg	Sb	19 07 06.6	+20		
KONO	**Kongsberg**	**8.19**	**13**	*e*P	**Pn**	**19 04 46.3**	**-0.7**		
KONO				IAML		19 06 28.5			
	comp=Z,15nm,0.5s								
KONO	**Kongsberg**	**8.19**	**13**	*e*P	**Pn**	**19 04 46.3**	**-0.7**		
	SNR=51								
KONO	**Kongsberg**	**8.19**	**13**	*e*Pn	**Pn**	**19 04 46.2**	**-0.8**		
KONO				*e*Sn	**Sn**	**19 06 14.5**	**-4.3**		
ODD1	**Odda**	**8.22**	**2**	*e*P	**Pn**	**19 04 47.6**	**+0.2**		
ODD1				IAML		19 06 28.7			
	comp=Z,44nm,0.4s								
ODD1	**Odda**	**8.22**	**2**	*e*P	**Pn**	**19 04 47.7**	**+0.2**		
	SNR=51								
NASU	**Vaermlandsnaes**	**8.28**	**26**	P	**Pn**	**19 04 47.4**	**-0.7**		
NASU	**Vaermlandsnaes**	**8.28**	**26**	P	**Pn**	**19 04 47.4**	**-0.7**		
MDO	**Dochfour**	**8.36**	**317**	*e*P	**Pn**	**19 04 49.4**	**+0.1**		
MDO	**Dochfour**	**8.36**	**317**	*e*P	**Pn**	**19 04 49.4**	**+0.1**		
MDO	**Dochfour**	**8.36**	**317**	*e*P	**Pn**	**19 04 49.4**	**+0.1**		
MDO	**Dochfour**	**8.36**	**317**	*e*P	**Pn**	**19 04 49.4**	**+0.1**		
LMR	**La Mourre**	**8.39**	**178**	*e*Pn	**Pn**	**19 04 49.6**	**-0.1**		
	SNR=1.0								
LMR				*e*Sg	Sb	19 07 11.8	+19		
	comp=Z,28nm,0.8s								
LMR	**La Mourre**	**8.39**	**178**	*e*Pn	**Pn**	**19 04 49.6**	**-0.1**		
	SNR=1.0								
LMR	**La Mourre**	**8.39**	**178**	*e*Pn	**Pn**	**19 04 49.6**	**-0.1**		
LMR				eSg	Sb	19 07 11.8	+19		
OSL	**Oslo**	**8.64**	**16**	*e*S	**Sn**	**19 06 21.4**	**-8.4**		
OSL				IAML		19 06 35.1			
	comp=Z,17nm,0.5s								
OZLJ	**Ozalj**	**8.69**	**131**	*e*Pn	**Pn**	**19 04 56.3**	**+2.4**		
OZLJ				Sn	**Sn**	**19 06 30.2**	**-0.9**		
OZLJ	**Ozalj**	**8.69**	**131**	*e*Pn	**Pn**	**19 04 56.2**	**+2.4**		
OZLJ				Sn	**Sn**	**19 06 30.1**	**-0.9**		
BER	**Bergen**	**8.70**	**357**	*e*P	**Pn**	**19 04 52.8**	**-1.2**		
BER				IAML		19 06 37.4			
	comp=Z,19nm,0.4s								
BER	**Bergen**	**8.70**	**357**	*e*P	**Pn**	**19 04 52.8**	**-1.2**		
	SNR=51								
OJC	**Ojcow**	**8.77**	**94**	*e*Pn	**Pn**	**19 04 55.8**	**+0.9**		
OJC	**Ojcow**	**8.77**	**94**	*e*Pn	**Pn**	**19 04 55.8**	**+0.9**		
MTLF	**Montolieu**	**8.78**	**199**	*e*Pn	**Pn**	**19 04 55.0**	**-0.1**		
	SNR=1.0								
MTLF				*e*Sg	Sn	19 07 24.3	+51		
	comp=Z,56nm,0.7s								
MTLF	**Montolieu**	**8.78**	**199**	*e*Pn	**Pn**	**19 04 55.0**	**-0.1**		
	SNR=1.0								
MTLF	**Montolieu**	**8.78**	**199**	*e*Pn	**Pn**	**19 04 55.0**	**-0.1**		
MTLF				eSg	Sn	19 07 24.3	+51		
VYHS	**Vyhne**	**8.79**	**107**	*e*Pn	**Pn**	**19 04 58.3**	**+3.1**		
VYHS	**Vyhne**	**8.79**	**107**	*e*PN	**Pn**	**19 04 58.3**	**+3.1**		
VYHS	**Vyhne**	**8.79**	**107**	*e*SG	Sn	19 07 17.2	+44		
KAC	**Achnashellach**	**8.80**	**316**	*e*P	**Pn**	**19 04 55.5**	**+0.3**		
KAC	**Achnashellach**	**8.80**	**316**	*e*P	**Pn**	**19 04 55.5**	**+0.3**		
KAC	**Achnashellach**	**8.80**	**316**	*e*P	**Pn**	**19 04 55.5**	**+0.3**		
KAC	**Achnashellach**	**8.80**	**316**	*e*P	**Pn**	**19 04 55.5**	**+0.3**		
ASK	**Askoy**	**8.81**	**357**	*e*P	**Pn**	**19 04 53.9**	**-1.5**		
ASK				IAML		19 06 47.5			
	comp=Z,18nm,0.4s								
KPL	**Plockton**	**8.86**	**314**	*e*P	**Pn**	**19 04 56.7**	**+0.6**		
KPL				AML	AML	19 06 35.5			
	comp=E,28nm,0.3s								
KPL				AML	AML	19 06 36.1			
	comp=N,29nm,0.5s								
KPL	**Plockton**	**8.86**	**314**	*e*P	**Pn**	**19 04 56.7**	**+0.6**		
KPL				AML	AML	19 06 35.5			
	comp=E,28nm,0.3s								
KPL				AML	AML	19 06 36.1			
	comp=N,29nm,0.5s								
KPL	**Plockton**	**8.86**	**314**	*e*P	**Pn**	**19 04 56.7**	**+0.6**		
KPL				*e*P	**Pn**	**19 04 56.8**	**+0.6**		
KPL				AML	AML	19 06 35.5			
	comp=E,28nm,0.3s								
KPL				AML	AML	19 06 36.1			
	comp=N,29nm,0.5s								
KPL	**Plockton**	**8.86**	**314**	*e*P	**Pn**	**19 04 56.8**	**+0.7**		
	SNR=51								
LANS	**Liptovska Anna**	**8.90**	**102**	*e*PN	Pn	19 05 03.7	+6.9		
LANS				*e*		19 07 34.1			
NVLJ	**Novalja**	**9.24**	**137**	*e*Pn	**Pn**	**19 05 03.4**	**+2.1**		
NVLJ				Sn	**Sn**	**19 06 45.7**	**+1.1**		
NVLJ	**Novalja**	**9.24**	**137**	*e*Pn	**Pn**	**19 05 03.4**	**+2.1**		
NVLJ				Sn	**Sn**	**19 06 45.6**	**+1.1**		
LRW	**Lerwick**	**9.38**	**337**	*e*P	**Pn**	**19 05 02.9**	**-0.3**		
LRW	**Lerwick**	**9.38**	**337**	*e*P	**Pn**	**19 05 02.9**	**-0.3**		
	SNR=51								
SUE	**Sulen**	**9.40**	**356**	*e*P	**Pn**	**19 05 02.6**	**-0.8**		
SUE				*e*S	**Sn**	**19 06 41.3**	**-7.1**		
SUE				IAML		19 07 15.9			
	comp=Z,7.5nm,0.6s								
SUE	**Sulen**	**9.40**	**356**	*e*P	**Pn**	**19 05 02.6**	**-0.8**		
	SNR=51								
HFS	**Hagfors**	**9.45**	**24**	Pn	**Pn**	**19 05 02.5**	**-1.6**		
	baz=206,slow=14								
HFS				Sn	**Sn**	**19 06 41.8**	**-7.8**		
	baz=204,slow=28								
HFS	**Hagfors**	**9.45**	**24**	Pn	**Pn**	**19 05 02.5**	**-1.6**		
	baz=206,slow=14								
HFS				Sn	**Sn**	**19 06 41.8**	**-7.8**		
	baz=204,slow=28								
HYA	**Hoyanger**	**9.48**	**0**	*e*P	**Pn**	**19 05 03.9**	**-0.6**		
HYA				IAML		19 07 18.3			
	comp=Z,14nm,0.5s								
HYA	**Hoyanger**	**9.48**	**0**	*e*P	**Pn**	**19 05 03.9**	**-0.6**		
	SNR=51								
EPF	**Esparros**	**9.53**	**206**	*e*Pn	**Pn**	**19 05 03.6**	**-1.8**		
	SNR=1.0								
EPF				*e*Sn	**Sn**	**19 06 43.5**	**-8.2**		
	comp=Z,20nm,0.4s								
EPF				*e*Sg		19 07 47.9			
	comp=Z,72nm,0.7s								
EPF	**Esparros**	**9.53**	**206**	*e*Pn	**Pn**	**19 05 03.6**	**-1.8**		
	SNR=1.0								
EPF	**Esparros**	**9.53**	**206**	*e*Pn	**Pn**	**19 05 03.6**	**-1.8**		
EPF				*e*Sn	**Sn**	**19 06 43.5**	**-8.2**		
EPF				*e*Sg		19 07 47.9			
NAO01	**NORSAR Array S**	**9.53**	**14**	*e*Pn	**Pn**	**19 05 03.2**	**-2.1**		
NAO01				*e*Sn	**Sn**	**19 06 43.4**	**-8.1**		
NC602	**NORSAR Array S**	**9.53**	**16**	*e*P	**Pn**	**19 05 03.9**	**-1.5**		
NC602				IAML		19 06 48.6			
	comp=Z,35nm,0.2s								
NC602	**NORSAR Array S**	**9.53**	**16**	*e*Pn	**Pn**	**19 05 02.8**	**-2.5**		
NC602				*e*Sn	Sn	19 06 42.7	-9.0		
SALF	**Salau**	**9.56**	**202**	Pn	**Pn**	**19 05 06.0**	**+0.1**		
SALF	**Salau**	**9.56**	**202**	Pn	**Pn**	**19 05 06.0**	**+0.1**		
UDBI	**Udbina**	**9.65**	**134**	*i* Pn	**Pn**	**19 05 09.4**	**+2.2**		
UDBI				Sn	**Sn**	**19 06 53.4**	**-1.5**		
UDBI	**Udbina**	**9.65**	**134**	*i* Pn	**Pn**	**19 05 09.3**	**+2.2**		
NBO00	**NORSAR Array S**	**9.69**	**14**	*e*Pn	**Pn**	**19 05 05.4**	**-2.1**		
NBO00				*e*Sn	**Sn**	**19 06 47.0**	**-8.6**		
NBO02	**NORSAR Array S**	**9.72**	**14**	*e*Pn	**Pn**	**19 05 06.2**	**-1.8**		
NBO02				*e*Sn	Sn	19 06 46.4	-10		
ORDF	**Ordiarp**	**9.75**	**212**	Pn	**Pn**	**19 05 09.0**	**+0.6**		
ORDF	**Ordiarp**	**9.75**	**212**	Pn	**Pn**	**19 05 09.0**	**+0.6**		
NB2	**NORSAR Subarra**	**9.77**	**15**	Pn	**Pn**	**19 05 06.8**	**-1.8**		
	baz=201,slow=14								
NB2				Sn	**Sn**	**19 06 53.4**	**-4.1**		
	baz=201,slow=28								
NB2	**NORSAR Subarra**	**9.77**	**15**	Pn	**Pn**	**19 05 06.8**	**-1.8**		
	baz=201,slow=14								
NB2				Sn	**Sn**	**19 06 53.4**	**-4.1**		
	baz=201,slow=28								
NOA	**NORSAR Array B**	**9.77**	**15**	Pn	**Pn**	**19 05 06.9**	**-1.7**		
	comp=Z,0.9nm,0.3s,baz=160,slow=20,SNR=9.8								
NOA				Sn	Sn	19 06 48.2	-9.3		
	comp=Z,3.6nm,0.3s,baz=295,slow=21,SNR=10								
NOA				LR	LR	19 09 43.2			
	comp=Z,18nm,18.6s,baz=280,slow=42								
KECS	**Kecovo**	**9.78**	**104**	*e*PN	**Pn**	**19 05 13.0**	**+4.1**		
KECS	**Kecovo**	**9.78**	**104**	*e*SG	Sn	19 07 52.2	+54		
NB201	**NORSAR Array S**	**9.79**	**15**	*e*Pn	**Pn**	**19 05 06.1**	**-2.7**		
NB201				*e*Sn	Sn	19 06 48.0	-10		
OSSF	**Osses**	**9.82**	**213**	Pn	**Pn**	**19 05 10.0**	**+0.7**		
OSSF	**Osses**	**9.82**	**213**	Pn	**Pn**	**19 05 10.0**	**+0.7**		
STHS	**Stebnicka Huta**	**9.90**	**97**	*e*PN	**Pn**	**19 05 14.5**	**+4.1**		
STHS	**Stebnicka Huta**	**9.90**	**97**	*e*SG	Sn	19 07 56.2	+55		
ETSF	**Etsaut**	**9.91**	**210**	*e*Pn	**Pn**	**19 05 08.3**	**-2.4**		
	SNR=1.0								
ETSF				*e*Sn	Sn	19 06 51.8	-9.4		
	comp=Z,15nm,0.3s								
ETSF				*e*Sg		19 07 58.3			
	comp=Z,130nm,0.9s								
ETSF	**Etsaut**	**9.91**	**210**	*e*Pn	**Pn**	**19 05 08.3**	**-2.4**		
ETSF				*e*Sn	Sn	19 06 51.8	-9.4		
ETSF				*e*Sg		19 07 58.3			
NC405	**NORSAR Array S**	**9.92**	**16**	*e*Pn	**Pn**	**19 05 08.2**	**-2.4**		
NC204	**NORSAR Array S**	**9.92**	**13**	*e*Pn	**Pn**	**19 05 09.7**	**-1.1**		
NC204	**NORSAR Array S**	**9.92**	**13**	*e*Pn	**Pn**	**19 05 09.7**	**-1.1**		
NC204				*e*Sn	Sn	19 06 51.9	-9.5		
FOO	**Floro**	**9.93**	**357**	*e*P	**Pn**	**19 05 12.2**	**+1.4**		
FOO	**Floro**	**9.93**	**357**	*e*P	**Pn**	**19 05 12.1**	**+1.4**		
	SNR=51								
SJPF	**Ste Jean**	**9.93**	**213**	*e*Pn	**Pn**	**19 05 08.8**	**-2.1**		
	SNR=1.0								
SJPF				*e*Sn	**Sn**	**19 06 52.8**	**-8.9**		
	comp=Z,31nm,0.6s								
SJPF				*e*Sg		19 07 57.9			
	comp=Z,61nm,0.8s								
SJPF	**Ste Jean**	**9.93**	**213**	*e*Pn	**Pn**	**19 05 08.8**	**-2.1**		
SJPF				*e*Sn	**Sn**	**19 06 52.8**	**-8.9**		
SJPF				*e*Sg		19 07 57.9			
NC303	**NORSAR Array S**	**9.96**	**15**	*e*Pn	**Pn**	**19 05 09.6**	**-1.6**		
NC303				*e*Sn	**Sn**	**19 06 57.1**	**-5.2**		
CRVS	**Cervenica-Dubn**	**10.21**	**100**	*e*PN	Pn	19 05 23.2	+8.5		
CRVS	**Cervenica-Dubn**	**10.21**	**100**	*e*SG	Sn	19 08 00.4	+52		
AKN	**Aaknes**	**10.51**	**2**	*e*P	**Pn**	**19 05 18.5**	**-0.1**		
AKN				IAML		19 07 43.2			
	comp=Z,7.9nm,0.6s								
AKN	**Aaknes**	**10.51**	**2**	*e*P	**Pn**	**19 05 18.5**	**-0.1**		
	SNR=51								
ISAL	**Salakas**	**12.47**	**64**	*e*P	**Pn**	**19 05 45.9**	**+0.3**		
ISAL	**Salakas**	**12.47**	**64**	*e*P	**Pn**	**19 05 45.9**	**+0.3**		
IIGN	**Ignalina**	**12.49**	**65**	*e*P	**Pn**	**19 05 44.6**	**-1.3**		
IIGN	**Ignalina**	**12.49**	**65**	*e*P	**Pn**	**19 05 44.6**	**-1.3**		
IZAR	**Zarasai**	**12.57**	**63**	*e*P	**Pn**	**19 05 50.1**	**+3.2**		
IZAR	**Zarasai**	**12.57**	**63**	*e*P	**Pn**	**19 05 50.1**	**+3.2**		
IDID	**Didziasalis**	**12.78**	**66**	*e*P	**Pn**	**19 05 46.9**	**-2.8**		
BUR08	**Bucovina Ar. S**	**13.01**	**101**	*e*Pn	**Pn**	**19 05 54.0**	**+1.0**		
BUR08	**Bucovina Ar. S**	**13.01**	**101**	*e*Pn	**Pn**	**19 05 54.0**	**+1.0**		
BURAR	**Bucovina Array**	**13.03**	**101**	*i* P	**Pn**	**19 05 55.0**	**+1.7**		
PBRG	**Braganca**	**13.24**	**227**	*e*P	**Pn**	**19 05 54.7**	**-1.5**		
	comp=Z,21nm,1.5s								
PBRG	**Braganca**	**13.24**	**227**	*e*P	**Pn**	**19 05 54.7**	**-1.5**		
	comp=Z,21nm,1.5s								
ES19	**SONSECA Array**	**13.88**	**214**	*e*Pn	**Pn**	**19 06 03.8**	**-1.2**		
ES19	**SONSECA Array**	**13.88**	**214**	*e*Pn	**Pn**	**19 06 03.8**	**-1.2**		
ES19				*e*Sn	Sn	19 08 27.4	-11		
MVO	**Moncorvo**	**13.88**	**226**	*e*P	**Pn**	**19 06 04.3**	**-0.7**		
	comp=Z,21nm,1.5s								
MVO	**Moncorvo**	**13.88**	**226**	*e*P	**Pn**	**19 06 04.3**	**-0.7**		
	comp=Z,21nm,1.5s								
PCAB	**Cabril**	**13.91**	**230**	*e*P	**Pn**	**19 06 06.6**	**+1.3**		
PCAB	**Cabril**	**13.91**	**230**	*e*P	**Pn**	**19 06 06.6**	**+1.3**		
ESDC	**Sonseca Array**	**13.93**	**214**	Pn	**Pn**	**19 06 04.0**	**-1.6**		
	comp=Z,2.1nm,0.3s,baz=30,slow=13,SNR=8.6								
ESDC				Sn	Sn	19 08 28.9	-11		
	comp=Z,1.7nm,0.3s,baz=29,slow=24,SNR=6.9								
ESDC				LR	LR	19 11 41.7			
	comp=Z,35nm,18.4s,baz=85,slow=39								
ESLA	**Sonseca Array**	**13.93**	**214**	*e*Pn	**Pn**	**19 06 03.7**	**-1.9**		
ESLA	**Sonseca Array**	**13.93**	**214**	*e*Pn	**Pn**	**19 06 03.7**	**-1.9**		
POLO	**Lamas de Olo**	**14.06**	**228**	*e*P	**Pn**	**19 06 06.0**	**-1.5**		
	comp=Z,6.6nm,1.6s								
PVRL	**Vila Real**	**14.11**	**228**	*e*P	**Pn**	**19 06 07.0**	**-1.0**		
	comp=Z,13nm,1.4s								
PAB	**San Pablo**	**14.18**	**215**	*e*Pn	**Pn**	**19 06 07.7**	**-1.4**		
PAB	**San Pablo**	**14.18**	**215**	*e*Pn	**Pn**	**19 06 07.7**	**-1.4**		
MLR	**Muntele Rosu**	**14.50**	**108**	*e*Pn	**Pn**	**19 06 14.4**	**+1.0**		
MLR	**Muntele Rosu**	**14.50**	**108**	*e*Pn	**Pn**	**19 06 14.4**	**+1.0**		
KIEV	**Kiev**	**14.50**	**85**	*e*Pn	**Pn**	**19 06 13.4**	**+0.1**		
KIEV	**Kiev**	**14.50**	**85**	*e*Pn	**Pn**	**19 06 13.4**	**+0.1**		
AKASG	**Malin Array Be**	**14.51**	**85**	Pn	**Pn**	**19 06 12.1**	**-1.4**		
	comp=Z,1.4nm,0.3s,baz=286,slow=13,SNR=3.7								
FIA0	**FINESS Array S**	**14.63**	**41**	Pn	**Pn**	**19 06 13.3**	**-1.7**		
	baz=234,slow=11								
FIA0				Sn	**Sn**	**19 08 48.0**	**-8.2**		
	baz=245,slow=22								
FIA0	**FINESS Array S**	**14.63**	**41**	Pn	**Pn**	**19 06 13.3**	**-1.7**		
	baz=234,slow=11								
FIA0				Sn	**Sn**	**19 08 48.0**	**-8.2**		
	baz=245,slow=22								
FINES	**FINESS Array B**	**14.63**	**41**	Pn	**Pn**	**19 06 13.7**	**-1.3**		
	comp=Z,0.3nm,0.3s,baz=240,slow=12,SNR=15								
FINES				Sn	**Sn**	**19 08 47.8**	**-8.4**		
	comp=Z,0.7nm,0.3s,baz=250,slow=21,SNR=5.8								
FINES				LR	LR	19 12 21.7			
	comp=Z,28nm,19.6s,baz=205,slow=39								
FIA1	**FINESS Array S**	**14.63**	**41**	*e*Pn	**Pn**	**19 06 13.3**	**-1.6**		
PVIS	**Viseu**	**14.63**	**227**	*e*P	**Pn**	**19 06 11.3**	**-3.9**		
	comp=Z,20nm,1.9s								
MTE	**Manteigas**	**14.73**	**225**	*e*P	**Pn**	**19 06 16.1**	**-0.5**		
MTE	**Manteigas**	**14.73**	**225**	*e*Pn	**Pn**	**19 06 14.6**	**-1.9**		
MTE	**Manteigas**	**14.73**	**225**	*e*Pn	**Pn**	**19 06 14.6**	**-1.9**		
PCBR	**Castelo Branco**	**15.16**	**224**	*e*P	**Pn**	**19 06 22.1**	**-0.1**		
PCAS	**Casmilo, Conde**	**15.44**	**227**	*e*P	**Pn**	**19 06 25.4**	**-0.5**		
PMRV	**Marv??o**	**15.47**	**223**	*e*P	**Pn**	**19 06 26.1**	**-0.2**		
PBAR	**Barrancos**	**16.39**	**219**	*e*P	**Pn**	**19 06 38.0**	**-0.1**		
	comp=Z,33nm,1.6s								
PBEJ	**Beja**	**16.85**	**221**	*e*P	**Pn**	**19 06 44.0**	**0.0**		
PNCL	**Nicolau / Gran**	**17.06**	**223**	*e*P	**Pn**	**19 06 47.1**	**+0.6**		
PNCL	**Nicolau / Gran**	**17.06**	**223**	*e*P	**Pn**	**19 06 47.1**	**+0.6**		
PCVE	**Castro Verde**	**17.26**	**221**	*e*P	**Pn**	**19 06 49.5**	**+0.4**		
PCVE	**Castro Verde**	**17.26**	**221**	*e*P	**Pn**	**19 06 49.5**	**+0.4**		
PVAQ	**Vaqueiros**	**17.33**	**220**	*e*P	**Pn**	**19 06 50.3**	**+0.4**		
	comp=Z,31nm,1.6s								
PVAQ	**Vaqueiros**	**17.33**	**220**	*e*P	**Pn**	**19 06 50.3**	**+0.4**		
	comp=Z,31nm,1.6s								
PBDV	**Barranco-do-Ve**	**17.55**	**220**	*e*P	**P**	**19 06 54.0**	**+0.3**		
PBDV	**Barranco-do-Ve**	**17.55**	**220**	*e*P	**P**	**19 06 54.0**	**+0.3**		
MORF	**Marmelete**	**17.79**	**222**	*e*P	**P**	**19 06 56.4**	**0.0**		
MORF	**Marmelete**	**17.79**	**222**	*e*P	**P**	**19 06 56.4**	**0.0**		
OBN	**Obninsk**	**18.39**	**67**	*e*P	**P**	**19 07 00.9**	**-1.9**		
	comp=Z,30nm,1.5s								
ARA0	**ARCESS Array S**	**20.07**	**20**	P	**P**	**19 07 22.0**	**+0.9**		
	baz=214,slow=12								
ARA0	**ARCESS Array S**	**20.07**	**20**	P	**P**	**19 07 22.0**	**+0.9**		
	baz=214,slow=12								
ARA0	**ARCESS Array S**	**20.07**	**20**	P	**P**	**19 07 22.0**	**+0.9**		
	SNR=51								
ARCES	**ARCESS Array B**	**20.07**	**20**	P	Pn	19 07 22.2	-0.7		
	comp=Z,1.9nm,0.8s,baz=216,slow=12,SNR=8.2								
ARE0	**ARCESS Array S**	**20.07**	**20**	*e*P	**P**	**19 07 21.9**	**+0.9**		
	comp=Z,22nm,1.4s								
ARE0	**ARCESS Array S**	**20.07**	**20**	*e*P	**P**	**19 07 21.9**	**+0.9**		
	comp=Z,22nm,1.4s								
APA0	**Apatity Array**	**20.65**	**29**	P	Pn	19 07 28.5	-1.1		
APA0	**Apatity Array**	**20.65**	**29**	P	Pn	19 07 28.5	-1.1		
APA0	**Apatity Array**	**20.65**	**29**	P	Pn	19 07 28.5	-1.2		
	SNR=51								
ILGA	**Ilgaz**	**21.69**	**109**	*e*P	**P**	**19 07 41.5**	**+2.5**		
	comp=Z,8.8nm,1.2s								
ILGA	**

az=148.5
*NEIC **08** 19:28:19.8±1.1, 15°.27S×174°.48W, h35km, mb4.4/1, Error ellipse: s-maj=64.7km s-min=14.4km az=148.0*
ISC 08 19:28:20.0±1.3, 15°.2S±0°.4×174°.6W±0°.3, h35km, n33, σ1§46/18, mb4.3/7, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**2.98**	**65**	Pn			Pn	19 28 52.6	-12
	22nm,0.3s,baz=221,slow=14,SNR=8.0								
AFI				T			T	19 31 33.6	
	32nm,0.3s,baz=274,slow=16,SNR=5.5								
AFI	**Afiamalu**	**2.98**	**65**	Pn			Pn	19 28 52.6	-12
AFI				*e*Pn			Pn	19 28 52.9	-12
AFI				TT				19 31 33.6	
MSVF	**Nonsavu**	**7.53**	**249**	*e*Pn			**Pn**	**19 30 05.6**	**-1.8**
	974nm,0.8s								
DZM	**Mont Dzumac**	**19.25**	**246**	*e*LR			LR	19 38 36.3	
	2μm,21.8s								
PAE	**Paea**	**24.07**	**99**	*e*T			T	19 57 28.4	
	7.0nm,0.3s								
PPT2	**Papeete2**	**24.07**	**99**	*e*LQ			LQ	19 38 11.1	
	2μm,22.5s								
PPT2				*e*LR			LR	19 39 10.7	
	940nm,21.5s								
TBI	**Tubuai**	**25.00**	**113**	*e*LQ			LQ	19 38 39.7	
	3μm,22.8s								
TBI				*e*LR			LR	19 39 44.4	
	977nm,21.8s								
TBI	**Tubuai**	**25.00**	**113**	*e*T			T	19 58 41.3	
	27nm,0.3s								
RKT	**Rikitea**	**38.11**	**108**	*e*LR			LR	19 45 45.9	
	846nm,23.8s								
RKT	**Rikitea**	**38.11**	**108**	*e*T			T	20 15 01.1	
	12nm,0.3s								
H11S2	**WAKE ISLAND Hy**	**38.24**	**330**	T			T	20 16 47.4	
	baz=149,slow=76,SNR=1047								
H11S3	**WAKE ISLAND Hy**	**38.25**	**330**	T			T	20 16 40.3	
	baz=149,slow=76,SNR=204								
H11S1	**WAKE ISLAND Hy**	**38.25**	**330**	T			T	20 16 41.8	
	baz=149,slow=76,SNR=263								
H11N3	**WAKE ISLAND Hy**	**39.20**	**332**	T			T	20 17 52.4	
	baz=150,slow=76,SNR=863								
H11N1	**WAKE ISLAND Hy**	**39.21**	**332**	T			T	20 17 49.0	
	baz=150,slow=76,SNR=812								
H11N2	**WAKE ISLAND Hy**	**39.22**	**332**	T			T	20 17 53.8	
	baz=150,slow=76,SNR=889								
STKA	**Stephens Creek**	**43.17**	**239**	P			**P**	**19 36 18.5**	**+0.9**
	7.7nm,1.2s,baz=54,slow=2.4,SNR=4.2								
WRA	**Warramunga Arr**	**48.80**	**257**	P			**P**	**19 37 03.1**	**+0.9**
	4.1nm,1.2s,baz=92,slow=7.8,SNR=6.3								
ASAR	**Alice Springs**	**49.11**	**252**	P			**P**	**19 37 05.8**	**+1.2**
	6.1nm,0.9s,baz=86,slow=6.2,SNR=9.4								
ASAR				LR			LR	19 57 12.7	
	comp=Z,1μm,20.9s,baz=78,slow=35								
TXAR	**Lajitas Array**	**81.43**	**57**	P			**P**	**19 40 32.2**	**-1.8**
	0.4nm,0.9s,baz=198,slow=3.6,SNR=5.7								
ANMO	**Albuquerque**	**81.53**	**50**	P			**P**	**19 40 33.4**	**-1.1**
	0.4nm,0.6s,baz=250,slow=5.0,SNR=6.4								
ILAR	**Eielson Array**	**82.47**	**12**	P			**P**	**19 40 37.1**	**-1.4**
	1.2nm,1.0s,baz=215,slow=5.8,SNR=7.2								
INK	**Inuvik**	**88.35**	**14**	P			**P**	**19 41 10.4**	**+2.7**
	1.1nm,0.8s,baz=206,slow=6.6,SNR=3.2								
INK	**Inuvik**	**88.35**	**14**	P			**P**	**19 41 10.1**	**+2.4**
	1.5nm,0.7s								
DPC	**Dobruska-Polom**	**143.85**	**348**	*e*PKP			**PKPdf**	**19 47 50.4**	**-1.3**
DPC				*ep*PKP			**pPKPdf**	**19 48 05.0**	**+1.9**
KMBO	**Kilima Mbogo**	**144.61**	**245**	PKP			**PKPdf**	**19 47 54.5**	**+0.1**
	0.6nm,0.3s,baz=22,slow=5.9,SNR=3.5								
VRAC	**Vranov**	**144.79**	**347**	PKPbc			**PKPdf**	**19 47 53.3**	**0.0**
	0.9nm,0.3s,baz=50,slow=1.1,SNR=6.8								
MLR	**Muntele Rosu**	**145.22**	**334**	PKPbc			**PKPab**	**19 47 54.5**	**+0.4**
	0.2nm,0.5s,baz=312,slow=5.2,SNR=6.4								
BRTR	**Keskin Array B**	**145.30**	**320**	PKPbc			**PKPab**	**19 47 54.3**	**-0.2**
	0.3nm,0.5s,baz=80,slow=1.5,SNR=5.4								
KHC	**Kasperske Hory**	**145.52**	**351**	*e*P			PKPdf	19 47 43.8	-11
KHC	**Kasperske Hory**	**145.52**	**351**	*e*PKP			**PKPab**	**19 47 55.2**	**+0.3**
KHC				*ex*			x	19 48 10.3	
GERES	**GERESS Array B**	**145.78**	**350**	PKPbc			**PKPab**	**19 47 55.2**	**-0.7**
	1.2nm,1.0s,baz=135,slow=0.4,SNR=6.4								
ESDC	**Sonseca Array**	**154.27**	**17**	PKPab			**PKPab**	**19 48 30.5**	**-0.2**
	0.2nm,0.5s,baz=326,slow=3.3,SNR=4.8								

*IDC **08** 19:45:54.8±2.2, 29°.86S×176°.08W, h0km, mb3.9/4, mb1 4.1/5, mb1mx3.8/28, mbtmp3.9/5, ML3.3/1, Error ellipse: s-maj=45.3km s-min=35.1km az=26.0*
*ISCJB **08** 19:45:58.1±1.9, 30°.05S±0°.08×176°.1W±0°.2, h33km, mb3.9/4, Error ellipse: s-maj=23.3km s-min=10.7km az=165.9*
ISC 08 19:45:59.8±1.9, 29°.9S±0°.1×176°.1W±0°.2, h35km, n7, σ1§00/9, mb4.1/4, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**1.72**	**293**	Pn			**Pn**	**19 46 26.7**	**-0.5**
	258nm,0.3s,baz=98,slow=19,SNR=3.1								
RAO					Sn		**Sn**	**19 46 47.6**	**-0.3**
	518nm,0.3s,baz=256,slow=23,SNR=5.8								
URZ	**Urewera**	**10.03**	**212**	Pn			**Pn**	**19 48 20.8**	**-0.6**
	0.3nm,0.3s,baz=286,slow=6.2,SNR=6.0								
URZ					Sn		**Sn**	**19 50 12.9**	**+0.2**
	4.8nm,0.3s,baz=7.7,slow=21,SNR=13								
CTA	**Charters Tower**	**35.35**	**277**	P			**P**	**19 52 53.6**	**+1.4**
	1.0nm,0.4s,baz=103,slow=13,SNR=5.1								
ASAR	**Alice Springs**	**44.78**	**266**	P			**P**	**19 54 09.8**	**-0.5**
	0.3nm,0.4s,baz=106,slow=8.3,SNR=9.8								
WRA	**Warramunga Arr**	**45.73**	**271**	P			**P**	**19 54 17.0**	**-0.9**
	1.1nm,0.5s,baz=110,slow=8.0,SNR=9.3								
FITZ	**Fitzroy Crossi**	**54.01**	**269**	P			**P**	**19 55 21.9**	**+1.1**
	1.6nm,0.8s,baz=140,slow=7.9,SNR=3.3								
FINES	**FINESS Array B**	**145.24**	**341**	PKPbc			**PKPdf**	**20 05 32.1**	**-1.0**
	2.2nm,0.9s,baz=90,slow=1.4,SNR=7.4								

*SOME **08** 19:46:45.8, 39°.17N×71°.15E, h15km*
*ISCJB **08** 19:46:48.5±0.1, 38°.82N±0°.01×70°.64E±0°.02, h34km, mb4.9/189, MS4.3/59, Error ellipse: s-maj=1.9km s-min=1.7km az=6.9*
*KRNET **08** 19:46:48.4±0.1, 39°.05N×70°.59E, mb5.0*
*MOS **08** 19:46:48.8±0.9, 39°.06N×70°.76E, h33km, mb5.1/90, MS4.3/29, Error ellipse: s-maj=5.7km s-min=3.7km az=127.8*
*GCMT **08** 19:46:49.7±0.4, 39°.00N×70°.45E, h41km±1km, MW4.9/71, Moment Tensor Solution. s30,c38; s71,c105; Duration: 0 Moment tensor: Scale 10^16 Nm; Mrr0.84±.12; Mθθ1.00±.09; Mφφ-1.84±.09; Mrθ-1.30±.10; Mθφ-1.53±.07; Mφr0.28±.08; Best double couple: Mo2.57800×10^16 NP1:φs243.00000°, δ69.00000°, λ149.00000°. NP2: φs345.00000°, δ61.00000°, λ24.00000°. Principal axes: T 2.6250, Plg36.0000°, Azm201.0000°; N -0.0940, Plg53.0000°, Azm32.0000°; P -2.5310, Plg5.0000°, Azm295.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*NEIC **08** 19:46:49.7±0.1, 38°.98N×70°.70E, mb5.0/69 Error ellipse: s-maj=3.9km s-min=3.0km az=9.0*
NEIC Felt at Dushanbe and Gharm.
*IDC **08** 19:46:49.4±0.5, 38°.94N×70°.73E, h28km±3km, mb4.6/38, mb1 4.7/46, mb1mx4.7/52, mbtmp4.8/46, ML4.3/8, MS4.3/35, Ms1 4.3/35, ms1mx4.2/45, Error ellipse: s-maj=9.0km s-min=7.4km az=10.0*
*BJI **08** 19:46:50.1, 39°.09N×70°.69E, h51km, mb4.9/57, mB4.8/44, ML5.2/4, Ms4.6/48, Ms7 4.3/46*
*NNC **08** 19:46:51.2±2.5, 39°.01N×70°.39E, h30km±15km, mb5.5, mpv5.0, Error ellipse: s-maj=18.7km s-min=14.0km az=163.0*
ISC 08 19:46:50.0±0.3, 38°.98N±0°.03×70°.64E±0°.02, h33km±2km, h33km:pP-P, n630, σ2§05/733, mb5.0/196, MS4.4/61, 92C-47D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
BTK	**Batken**	**1.09**	**7**	⇑*i*P			**Pn**	**19 47 09.0**	**-0.1**
	baz=10.0								
BTK				⇑*i*S			**Sn**	**19 47 23.0**	**0.0**
	baz=10.0								
ARSB	**Arslanbob**	**2.95**	**37**	⇑*i*P			**Pb**	**19 47 38.6**	**-3.4**
	baz=38								
ARSB				⇑*i*S			**Sb**	**19 48 15.0**	**-2.7**
	baz=38								
ARK	**Arkit**	**2.99**	**19**	⇓*i*P			**Pb**	**19 47 39.0**	**-3.7**
	baz=21								
ARK				⇓*i*S			**Sb**	**19 48 15.8**	**-3.0**
	baz=21								
TOKL	**Toktogul**	**3.41**	**29**	⇓*i*P			**Pn**	**19 47 44.6**	**+3.6**
	baz=30								
TOKL				⇓*i*S			**Sn**	**19 48 25.5**	**+5.1**
	baz=30								
CHM	**Chimkent**	**3.43**	**347**	*e*P			**Pn**	**19 47 45.3**	**+4.2**
	2μm,0.3s								
CHM				*e*S			**Sb**	**19 48 28.5**	**-2.8**
	10μm,0.6s								
MNAS	**Manas**	**3.78**	**21**	⇓*i*P			**Pn**	**19 47 49.8**	**+3.7**
	baz=22								
MNAS				⇓*i*S			**Sn**	**19 48 34.4**	**+4.9**
	baz=22								
MNAS	**Manas**	**3.78**	**21**	⇓Pn			**Pn**	**19 47 48.8**	**+2.7**
	168nm,0.6s								
MNAS				⇑Pg			Pb	19 48 03.1	+7.0
	966nm,0.9s								
MNAS				⇑Sn			**Sn**	**19 48 34.1**	**+4.6**
	895nm,0.6s								
MNAS				⇓Lg			Lg	19 48 56.1	
	2μm,0.7s								
MNAS	**Manas**	**3.78**	**21**	PN			**Pn**	**19 47 49.3**	**+3.2**
MNAS								19 48 34.1	
MNAS								19 48 50.0	
MNAS	comp=Z,2μm,0.9s					pmax	pmax		
MNAS	comp=N,2μm,1.2s					smax	smax		
AML	**Almayashu**	**3.91**	**35**	⇑*i*P			**Pn**	**19 47 51.2**	**+3.0**
	baz=36								
AML				⇑*i*S			**Sn**	**19 48 38.8**	**+5.6**
	baz=36								
DZA	**Taraz**	**3.94**	**7**	⇓*i*P			**Pn**	**19 47 51.9**	**+3.6**
	comp=N,1μm,0.8s								
DZA				*e*S			**Sb**	**19 48 39.7**	**-6.3**
	comp=N,5μm,0.8s								
KK31	**Karatay Array**	**4.12**	**359**	Pn			**Pn**	**19 47 52.6**	**+1.9**
	comp=N,143nm,0.5s,baz=191,slow=16,SNR=2578								
KK31				⇑Pg			Pb	19 48 06.9	+5.1
	comp=N,705nm,0.8s								
KK31				⇓Lg			Lg	19 48 57.0	
	comp=N,6μm,0.9s,baz=180,slow=28,SNR=20								
KK31	**Karatay Array**	**4.12**	**359**	*e*PN			**Pn**	**19 47 53.3**	**+2.6**
KK31						pmax	pmax		
	comp=Z,676nm,0.7s								
KKAR	**Karatay Array**	**4.12**	**359**	*e*PN			**Pn**	**19 47 53.0**	**+2.3**
KKAR	**Karatay Array**	**4.12**	**359**	*e*Pn			**Pn**	**19 47 53.0**	**+2.3**
KSH	**Kashi**	**4.17**	**81**	P			**Pn**	**19 47 49.6**	**-1.9**
KSH				S			**Sn**	**19 48 33.0**	**-6.2**
KSH						smax	smax		
	comp=Z,7μm,0.7s								
KSH						smax	smax		
	comp=Z,5μm,0.9s								
MRKS	**Merke**	**4.24**	**27**	*e*P			Pn	19 47 57.2	+4.8
	comp=Z,235nm,0.3s								
MRKS				*e*S			**Sb**	**19 48 48.8**	**-5.9**
	comp=Z,1μm,0.4s								
EKS2	**Erkin-Say**	**4.38**	**32**	⇑*i*P			**Pn**	**19 47 57.9**	**+3.5**
	baz=33								
EKS2				⇑*i*S			**Sn**	**19 48 49.6**	**+5.3**
	baz=33								
KBL	**Kabul**	**4.61**	**197**	*e*PN			**Pn**	**19 48 01.8**	**+4.2**
KBL	**Kabul**	**4.61**	**197**	*e*Pn			**Pn**	**19 48 01.8**	**+4.2**
AAK	**Ala-Archa**	**4.68**	**37**	Pn			**Pn**	**19 48 01.8**	**+3.3**
	comp=Z,88nm,0.3s,baz=154,slow=4.0,SNR=162								
AAK					Sn		**Sn**	**19 48 57.6**	**+5.9**
	comp=Z,74nm,0.3s,baz=262,slow=5.1,SNR=4.3								
AAK					Lg		Lg	19 49 14.9	
	comp=Z,87nm,0.3s,baz=16,slow=9.5,SNR=12								
AAK					LR		LR	19 50 04.5	
	comp=Z,4μm,21.5s,baz=220,slow=42								
AAK	**Ala-Archa**	**4.68**	**37**	⇑*i*P			**Pn**	**19 48 02.2**	**+3.7**
	baz=38								
AAK				⇑*i*S			**Sn**	**19 48 56.2**	**+4.5**
	baz=38								
AAK	**Ala-Archa**	**4.68**	**37**	⇑Pn			**Pn**	**19 48 02.3**	**+3.7**
	comp=Z,767nm,0.9s								
AAK				⇓Sn			**Sn**	**19 48 55.0**	**+3.3**
	comp=Z,1μm,0.8s								
AAK				⇑Lg			Lg	19 49 13.7	
	comp=Z,3μm,1.0s								
AAK	**Ala-Archa**	**4.68**	**37**	PN			**Pn**	**19 48 02.2**	**+3.7**
AAK								19 48 55.0	
AAK						pmax	pmax		
	comp=Z,767nm,1.0s								
AAK						smax	smax		
	comp=N,1μm,0.8s								
AAK	**Ala-Archa**	**4.68**	**37**	Pn			**Pn**	**19 48 02.4**	**+3.9**
	SNR=226								
AAK	**Ala-Archa**	**4.68**	**37**	P			**Pn**	**19 48 02.4**	**+3.9**
	SNR=226								
KZA	**Kyzart**	**4.68**	**47**	⇓*i*P			**Pn**	**19 48 02.5**	**+3.8**
	baz=48								
KZA				⇓*i*S			**Sn**	**19 48 57.9**	**+5.8**
	baz=48								
NRN	**Naryn**	**4.78**	**57**	⇑*e*P			**Pn**	**19 48 04.0**	**+4.0**
	baz=58								
NRN				⇑*i*S			**Sn**	**19 48 58.1**	**+3.7**
	baz=58								
FRU1	**Bishkek**	**4.88**	**37**	⇑*i*P			**Pn**	**19 48 05.6**	**+4.5**
	baz=38								
FRU1				⇑*i*S			**Sn**	**19 49 00.5**	**+4.0**
	baz=38								
FRU	**Bishkek**	**4.89**	**37**	*e*PN			**Pn**	**19 48 06.0**	**+4.8**
FRU				*i*				19 48 20.0	
FRU				*i*	S		**Sn**	**19 49 04.0**	**+7.3**
FRU				*i*				19 49 28.0	
FRU	comp=E,2μm,1.3s					pmax	pmax		
KBK	**Karagaybulak**	**4.92**	**40**	⇑*i*P			**Pn**	**19 48 05.6**	**+3.8**
	baz=41								
KBK				⇑*i*S			**Sn**	**19 49 02.7**	**+5.1**
	baz=41								
CHMS	**Chumysh**	**5.08**	**36**	⇑*i*P			**Pn**	**19 48 06.7**	**+2.8**
	baz=37								
CHMS				⇑*i*S			**Sn**	**19 49 05.7**	**+4.3**
	baz=37								
USP	**Ospenovka**	**5.18**	**33**	⇑*i*P			**Pn**	**19 48 08.1**	**+2.8**
	baz=34								
USP				⇑*i*S			**Sn**	**19 49 08.1**	**+4.2**
	baz=34								
CEP	**Cherat**	**5.25**	**168**	P			Pn	**19 48 10.0**	**+3.7**
BOOM	**Boomskoye usch**	**5.34**	**47**	⇑*i*P			**Pn**	**19 48 12.3**	**+4.7**
	baz=48								
BOOM				⇑*i*S			**Sn**	**19 49 11.0**	**+3.0**
	baz=48								
TKM2	**Tokmak 2**	**5.44**	**42**	⇑*i*P			**Pn**	**19 48 12.9**	**+3.9**
	baz=43								
TKM2				⇑*i*S			**Sn**	**19 49 15.4**	**+4.9**
	baz=43								
TKM2	**Tokmak 2**	**5.44**	**42**	⇓Pn			**Pn**	**19 48 12.2**	**+3.2**
	comp=E,272nm,0.6s								
TKM2				⇑Sn			**Sn**	**19 49 15.5**	**+5.0**
	comp=E,1μm,0.8s								
TKM2				⇓Lg			Lg	19 49 49.7	
	comp=E,1μm,0.8s								
TKM2	**Tokmak 2**	**5.44**	**42**	PN			**Pn**	**19 48 12.2**	**+3.2**
TKM2								19 49 15.5	
TKM2								19 49 34.5	
TKM2						pmax	pmax		
	comp=Z,273nm,0.6s								
TKM2						smax	smax		
	comp=N,2μm,1.3s								
CHCP	**Chirah Chowk**	**5.72**	**157**	P			**Pn**	**19 48 16.7**	**+4.0**
KST	**Kastek**	**5.72**	**43**	*e*P			**Pb**	**19 48 25.2**	**-3.8**
	comp=N,40nm,0.6s								
KST				*e*S			**Sb**	**19 49 36.8**	**-0.2**
	comp=N,948nm,0.5s								
DGS	**Degeres**	**5.76**	**41**	*e*P			**Pb**	**19 48 25.3**	**-4.4**
	comp=N,224nm,0.5s								
DGS				*e*S			**Sb**	**19 49 37.2**	**-1.1**
	comp=N,1μm,0.6s								
KDJ	**Kajisay**	**5.89**	**56**	⇑*i*P			**Pn**	**19 48 18.8**	**+3.6**
	baz=56								
KDJ				⇑*i*S			**Sn**	**19 49 26.0**	**+4.4**
	baz=56								
MTBS	**Maitube**	**6.03**	**45**	*e*P			Pb	19 48 29.6	-4.7
	comp=N,132nm,0.3s								
MTBS				*e*S			**Sb**	**19 49 44.4**	**-1.5**
	comp=N,481nm,0.5s								
IZV	**Izvestkoviy**	**6.07**	**46**	*e*P			**Pb**	**19 48 30.9**	**-4.2**
	comp=N,320nm,0.6s								
IZV				*e*S			**Sb**	**19 49 47.2**	**0.0**
	comp=N,1μm,0.8s								
THW	**Thamme Wali**	**6.24**	**171**	P			**Pn**	**19 48 22.5**	**+2.7**
TNSS	**Tian-Shan**	**6.26**	**48**	*e*P			**Pb**	**19 48 34.0**	**-4.4**
	comp=N,238nm,0.4s								
TNSS				*e*S			**Sb**	**19 49 52.8**	**-0.1**
	comp=N,1μm,0.4s								
AAA	**Alma-Ata**	**6.35**	**46**	*i* PN			Pn	19 48 26.6	+5.3
AAA				*i* S			**Sn**	**19 49 38.8**	**+6.1**
AAA						pmax	pmax		
	comp=Z,300nm,0.9s								
AAA						smax	smax		
	comp=E,1μm,1.0s								
AAA						MLR	MLR		
	comp=Z,5μm,5.0s								
KNDC	**Almaty**	**6.38**	**46**	⇓Pn			**Pn**	**19 48 25.1**	**+3.4**
KNDC				⇓Lg			Lg	19 50 13.4	
MDOK	**Medeo**	**6.39**	**47**	⇑Pn			**Pn**	**19 48 25.0**	**+2.9**
MDOK					Lg		Lg	19 50 13.8	
MDOK	**Medeo**	**6.39**	**47**	*e*P			**Pb**	**19 48 37.2**	**-3.4**
	comp=Z,218nm,0.7s								
MDOK				*e*S			**Sb**	**19 49 58.0**	**+1.4**
	comp=Z,797nm,0.6s								
KOTS	**Kotyrbulak**	**6.47**	**47**	*e*P			**Pb**	**19 48 38.3**	**-3.7**
KOTS				*e*S			**Sb**	**19 50 00.0**	**+1.1**
KUU	**Kurty**	**6.51**	**39**	*e*P			**Pb**	**19 48 39.3**	**-3.2**
	comp=Z,267nm,0.7s								
KUU				*e*S			**Sb**	**19 50 01.2**	**+1.4**
	comp=Z,851nm,0.8s								
KTBS	**Karatobe**	**6.56**	**42**	*e*P			**Pb**	**19 48 40.1**	**-3.2**
KTBS				*e*S			**Sb**	**19 50 02.9**	**+1.7**
CHKK	**Chushkaly**	**6.81**	**42**	*e*P			**Pb**	**19 48 44.1**	**-3.5**
	comp=Z,136nm,0.4s								
CHKK				*e*S			**Sb**	**19 50 09.5**	**+0.9**
	comp=Z,616nm,0.4s								
SATY	**Saty**	**7.14**	**53**	*e*P			**Pb**	**19 48 50.8**	**-2.5**
	comp=Z,230nm,0.8s								
SATY				*e*S			**Sb**	**19 50 21.4**	**+3.3**
	comp=Z,770nm,0.6s								
SARP	**Sargodha**	**7.23**	**166**	P			**Pn**	**19 48 34.5**	**+1.0**
KURS	**Kuram**	**7.24**	**49**	*e*P			**Pb**	**19 48 51.9**	**-3.0**
KURS				*e*S			**Sb**	**19 50 23.4**	**+2.5**
ARXS	**Arharly**	**7.50**	**44**	*e*P			**Pb**	**19 48 57.9**	**-1.5**
	comp=Z,119nm,0.5s								
ARXS				*e*S			**Sb**	**19 50 33.3**	**+4.9**
	comp=Z,512nm,0.7s								
UZB	**Uzynbulak**	**7.58**	**54**	*e*P			**Pb**	**19 48 59.0**	**-1.7**
	comp=Z,54nm,0.4s								
UZB				*e*S			**Sb**	**19 50 35.4**	**+4.8**
	comp=Z,419nm,0.9s								
THN	**Thein Dam**	**7.72**	**146**	*e*P			**Pn**	**19 48 40.0**	**-0.2**
THN				*e*S			**Sn**	**19 50 05.0**	**-1.5**
MNBS	**Baschi**	**7.73**	**46**	*e*P			**Pb**	**19 49 01.4**	**-2.0**
	comp=Z,85nm,0.5s								
MNBS				*e*S			**Sb**	**19 50 38.9**	**+3.9**
	comp=Z,219nm,0.3s								
PDGK	**Podgornoye**	**7.96**	**54**	⇑Pn			**Pn**	**19 48 45.6**	**+2.0**
	comp=Z,0.1nm,0.0s								
PDGK				⇑Pg			Pb	19 49 19.6	+12
	comp=Z,368nm,1.6s								
PDGK				⇓Lg			Lg	19 50 56.7	
	comp=Z,1μm,0.9s								
PDGK	**Podgornoye**	**7.96**	**54**	P			**Pn**	**19 48 45.5**	**+2.0**
PDGK						pmax	pmax		
	comp=Z,89nm,0.8s								
PONG	**Pong**	**8.24**	**147**	*e*P			**Pn**	**19 48 48.0**	**+0.8**
PONG				*e*S			**Sn**	**19 50 16.0**	**-3.1**
JWA	**Jwalamukhi**	**8.48**	**145**	*e*P			**Pn**	**19 48 51.0**	**+0.5**
JWA				*e*S			**Sn**	**19 50 22.0**	**-3.1**
BHK	**Bhakra**	**8.90**	**146**	*ex*			Pn	19 49 03.0	+6.7
BHK				*e*S			**Sn**	**19 50 33.6**	**-1.9**
SDNR	**Sundarnagar**	**9.08**	**143**	*e*P			**Pn**	**19 48 59.0**	**+0.2**
SDNR				*ex*			x	19 50 31.6	
GEYT	**Alibeck**	**9.88**	**268**	Pn			**Pn**	**19 49 08.3**	**-1.4**
	comp=Z,5.3nm,0.3s,baz=92,slow=9.2,SNR=31								
GEYT					Sn		**Sn**	**19 50 60.0**	**+0.4**
	comp=Z,32nm,0.3s,baz=128,slow=21,SNR=6.2								
GEYT					Lg		Lg	19 52 01.9	
	baz=243,slow=40,SNR=2.4								
GEYT					LR		LR	19 53 53.5	
	comp=Z,2μm,18.5s,baz=85,slow=43								
DDI	**Dehra Dun**	**10.57**	**143**	*e*P			**Pn**	**19 49 18.9**	**-0.4**
DDI				*e*S			**Sn**	**19 51 10.2**	**-6.3**
DDI						IAML		19 52 49.2	
DDI	comp=N,524nm,1.6s					IAML		19 52 52.0	
	comp=E,708nm,1.3s								
MAKZ	**Makanchi**	**11.41**	**43**	*e*P			**Pn**	**19 49 32.3**	**+1.7**
MAKZ	**Makanchi**	**11.41**	**43**	*e*Pn			**Pn**	**19 49 32.3**	**+1.7**
MK01	**Makanchi Array**	**11.56**	**44**	*e*Pn			**Pn**	**19 49 34.5**	**+1.8**
MK31	**Makanchi Array**	**11.57**	**44**	⇓Pn			**Pn**	**19 49 35.1**	**+2.3**
	comp=E,36nm,0.8s								
MK31				⇑Lg			Lg	19 53 03.2	
	comp=E,176nm,1.1s								
MK31	**Makanchi Array**	**11.57**	**44**	*e*P			**Pn**	**19 49 34.3**	**+1.6**
MK31	**Makanchi Array**	**11.57**	**44**	*e*Pn			**Pn**	**19 49 34.4**	**+1.6**
MKAR	**Makanchi Array**	**11.57**	**44**	*e*P			**Pn**	**19 49 34.2**	**+1.5**
MKAR	**Makanchi Array**	**11.57**	**44**	*e*Pn			**Pn**	**19 49 34.3**	**+1.5**
NDI	**New Delhi**	**11.63**	**150**	*e*P			**Pn**	**19 49 33.0**	**-0.7**
NDI				*e*S			**Sn**	**19 51 38.0**	**-4.4**
AB31	**Akbulak array**	**12.81**	**327**	⇓Pn			**Pn**	**19 49 48.0**	**-1.8**
	comp=E,79nm,0.6s								
AB31				⇓Sn			**Sn**	**19 52 08.0**	**-3.2**
	comp=E,390nm,1

AKTO smax smax
comp=N,116nm,0.7s
PYUN Piuthan 14.94 133 *e*P **Pn 19 50 14.7 -4.4**
comp=N,126nm,0.5s
KOLN Koldanda 15.54 132 *e*P **Pn 19 50 23.0 -3.9**
comp=N,82nm,0.6s
GKN Gorkha 15.98 129 *e*P **Pn 19 50 28.5 -4.1**
comp=N,131nm,0.4s
KKN Kakani 16.53 128 *e*P **Pn 19 50 36.2 -3.4**
comp=N,102nm,0.5s
DMN Daman 16.55 129 *e*P **Pn 19 50 36.0 -3.9**
comp=N,104nm,0.8s
BHPL Bhopal 16.72 158 *e*P **Pn 19 50 39.6 -2.2**
BHPL IAmb IAmb 19 50 45.2
comp=Z,56nm,0.8s
BHPL *ex* x 19 53 37.8
PKIN Phulchoki 16.75 128 *e*P **Pn 19 50 38.9 -3.6**
comp=Z,59nm,0.5s
PKI Pulchoki 16.77 128 *e*P **Pn 19 50 39.2 -3.5**
comp=Z,85nm,0.7s
GUN Gumba 16.82 126 *e*P **Pn 19 50 39.7 -3.6**
comp=Z,60nm,0.4s
JIRN Jiri 17.19 126 *e*P **Pn 19 50 44.7 -3.3**
comp=Z,875nm,0.5s
JBP Jabalpur 17.66 150⇑*e*P **Pn 19 50 53.9 +0.4**
JBP *ex* x 19 53 57.7
BANOM Banah 17.75 227 *i*P **Pn 19 50 54.6 +0.1**
SNR=15
BANOM Banah 17.75 227 Pn **Pn 19 50 54.2 -0.4**
SNR=6.6
BANOM Banah 17.75 227 P **Pn 19 50 54.2 -0.4**
SNR=6.6
ZAA0 Zalesovo Array 17.82 28 ⇑Pn **Pn 19 50 53.3 -2.0**
comp=Z,12nm,1.1s
ZAA0 ⇑Lg Lg 19 56 20.1
comp=Z,29nm,1.3s
ZAA0 Zalesovo Array 17.82 28 *e*Pn **Pn 19 50 53.6 -1.7**
ZALV Zalesovo Beam 17.82 28 Pn **Pn 19 50 54.2 -1.1**
comp=Z,2.2nm,0.3s,baz=232,slow=12,SNR=57
ZALV LR LR 19 58 14.5
comp=Z,1μm,20.9s,baz=250,slow=38
MAK Makhachkala 17.90 290 *e*P **Pn 19 50 54.4 -2.0**
MAK *e*S **Sn 19 54 13.1 -1.8**
MAK pmax pmax
comp=Z,54nm,0.2s
RAMN Ramite 17.95 127 *e*P **Pn 19 50 53.2 -4.1**
comp=Z,136nm,0.6s
NVS Novosibirsk 18.00 24 *i*P **Pn 19 50 57.0 -0.5**
NVS pmax pmax
comp=Z,73nm,0.9s
NVS pmax pmax
comp=N,39nm,0.8s
NVS pmax pmax
comp=E,14nm,0.7s
TAPN Taplejung 18.37 124 *e*P **P 19 50 58.4 -3.9**
comp=E,45nm,0.5s
ODAN Odare 18.50 126 *e*P **P 19 50 59.8 -4.0**
comp=E,52nm,0.5s
UOSS Minazif 18.56 225 *e*P **P 19 51 03.8 -0.4**
comp=E,21nm,0.8s
HATD Hatta, Dubai 18.70 225 P **Pn 19 51 06.1 -0.1**
WSAR Wadi Sarin 18.73 217 Pn **Pn 19 51 06.4 -0.2**
comp=E,1.0nm,0.3s,baz=70,slow=11,SNR=13
WSAR LR LR 20 00 01.5
comp=E,726nm,21.9s,baz=65,slow=42
NAZ Nazwa, Dubai 18.83 227 *i*P **Pn 19 51 08.6 +0.8**
SNR=7.8
NAZ Nazwa, Dubai 18.83 227 P **Pn 19 51 08.7 +0.9**
SNR=7.4
NAZ Nazwa, Dubai 18.83 227 P **Pn 19 51 08.7 +0.9**
SNR=7.4
ASHO Ashiyiah 18.85 225 *i*P **Pn 19 51 08.6 +0.6**
SNR=16
ASHO Ashiyiah 18.85 225 P **Pn 19 51 08.5 +0.4**
SNR=9.7
ASHO Ashiyiah 18.85 225 P **Pn 19 51 08.5 +0.4**
SNR=9.7
FAQ Al Faqa, Dubai 19.06 226 P **Pn 19 51 11.3 +0.7**
GROC Groznyy 19.17 291 *e*P **Pn 19 51 12.4 +0.6**
GROC *e*S **S 19 54 45.7 -0.4**
GROC pmax pmax
comp=Z,237nm,1.6s
NGP Nagpur 19.18 155 *e*P **P 19 51 10.9 -0.1**
NGP *ex* x 19 51 17.7
comp=Z,52nm,1.1s
ARU Arti 19.21 339 Pn **P 19 51 11.0 0.0**
comp=Z,0.0nm,0.3s,baz=147,slow=8.7,SNR=84
ARU Sn **Sn 19 54 39.9 -6.3**
comp=Z,0.0nm,0.3s,baz=172,slow=22,SNR=4.9
ARU Lg Lg 19 56 58.5
comp=Z,0.0nm,0.3s,baz=302,slow=16,SNR=2.2
ARU LR LR 19 59 04.9
comp=Z,2μm,19.1s,baz=144,slow=38
ARU Arti 19.21 339*d* *i*P **P 19 51 10.7 -0.3**
ARU S **Sn 19 54 46.0 -0.2**
ARU pmax pmax
comp=Z,114nm,1.2s
ARU Arti 19.21 339 *e*P **P 19 51 10.6 -0.3**
comp=Z,71nm,0.9s
ARU Sn **Sn 19 54 39.9 -6.3**
ARU Lg Lg 19 56 58.5
LSA Lhasa 19.27 113 P **Pn 19 51 13.2 -0.3**
LSA pmax pmax
comp=Z,8.0nm,0.8s
LSA Lhasa 19.27 113 *e*P **Pn 19 51 13.2 -0.3**
LSA pmax pmax
comp=Z,29nm,0.8s
LSA Lhasa 19.27 113 *e*P **Pn 19 51 13.2 -0.3**
comp=Z,29nm,0.8s
ARQ Araqi 19.69 222 P **Pn 19 51 17.8 -0.3**
SNR=8.8
ARQ Araqi 19.69 222 P **Pn 19 51 17.8 -0.3**
SNR=8.8
JMDO Jabal Madar 19.72 217 P **Pn 19 51 18.6 +0.1**
SNR=5.8
JMDO Jabal Madar 19.72 217 P **Pn 19 51 18.6 +0.1**
SNR=5.8
TBLG Delisi 19.91 286 P **Pn 19 51 20.8 +0.2**
TBLG Delisi 19.91 286 P **Pn 19 51 20.8 +0.2**
BOK Bokaro 19.92 135 *e*P **P 19 51 19.4 +0.4**
BOK IAmb IAmb 19 51 20.1
comp=Z,89nm,0.6s
BOK *ex* x 19 54 42.3
GNI Garni 19.98 282 P **Pn 19 51 22.9 +1.2**
comp=Z,31nm,0.8s,baz=146,slow=6.7,SNR=22
GNI LR LR 20 00 33.5
comp=Z,565nm,19.4s,baz=104,slow=41
GNI Garni 19.98 282 P **Pn 19 51 22.0 +0.3**
GUDG Gudauri 20.11 288 P Pn 19 51 24.1 +1.0
POO Poona 20.57 171 *e*P **P 19 51 27.2 +1.1**
POO IAmb IAmb 19 51 31.4
comp=Z,99nm,0.6s
BGD Bogdanovka 20.78 285 P Pn 19 51 31.1 +0.1
NCK Nalchik 20.79 291⇓*i*P **P 19 51 29.1 +0.7**
NCK pmax pmax
comp=Z,66nm,0.6s
AKH Akhalkalaki 20.85 285 P Pn 19 51 32.0 +0.2
AKH Akhalkalaki 20.85 285 P Pn 19 51 32.0 +0.2
ONI Oni 20.87 289 P Pn 19 51 32.0 +0.1
ONI Oni 20.87 289 P Pn 19 51 32.0 +0.2
KBZ Khabaz 21.31 292 P **P 19 51 34.0 +0.1**
comp=Z,20nm,0.7s,baz=117,slow=8.4,SNR=55
KBZ LR LR 20 02 00.4
comp=Z,860nm,18.6s,baz=92,slow=43
KBZ Khabaz 21.31 292 P **P 19 51 34.0 +0.1**
KBZ pmax pmax
comp=Z,20nm,0.7s
KBZ MLR MLR
comp=Z,860nm,18.7s
GOF Gofitskoye 21.33 295⇓*i*P **P 19 51 35.6 +1.5**
GOF *i*S Sn 19 55 33.6 -3.8
GOF pmax pmax
comp=Z,284nm,1.0s
GOF smax smax
comp=N,110nm,1.0s
KVAR Kislovodsk Arr 21.47 292 P **P 19 51 35.5 -0.2**
comp=N,39nm,0.6s,baz=257,slow=2.8,SNR=67
KVAR LR LR 20 02 05.7
comp=N,820nm,18.7s,baz=76,slow=42
KIV Kislovodsk 21.48 292 *i*P **P 19 51 36.0 +0.2**
SNR=30
KIV Kislovodsk 21.48 292 *e*P **P 19 51 35.7 -0.1**
KIV *e* 19 51 56.1
KIV *e*S **S 19 55 31.7 -0.6**
KIV pmax pmax
comp=Z,70nm,0.9s
KIV MLR MLR
comp=Z,556nm,14.0s
KIV Kislovodsk 21.48 292 *e*P **P 19 51 35.3 -0.5**
comp=Z,86nm,0.7s
KIV Kislovodsk 21.48 292 P **P 19 51 36.2 +0.3**
SNR=27
KIV Kislovodsk 21.48 292 P **P 19 51 36.2 +0.3**
SNR=27
CHVG Ch'k'valeri 21.88 289 P **P 19 51 42.4 +2.4**
ARTV Artvin 22.04 285 *e*P **P 19 51 43.9 +1.9**
comp=Z,43nm,1.0s
SHL Shillong 22.32 121 *e*P **P 19 51 44.0 -1.2**
SHL IAmb IAmb 19 51 47.0
comp=Z,61nm,0.8s
SOKR Solikamsk 22.43 341*c* *i*P **P 19 51 44.3 -1.5**
SOKR S **S 19 55 48.7 -1.2**
SOKR pmax pmax
comp=Z,59nm,1.5s
SOKR MLR MLR
comp=Z,1μm,14.0s
HYB Hyderabad 22.57 160 *i*P **P 19 51 47.0 -0.6**
HYB *e*S **S 19 55 45.0 -8.0**
HYB Hyderabad 22.57 160 *e*P **P 19 51 47.0 -0.6**
HYB IAmb IAmb 19 51 49.4
comp=Z,54nm,0.9s
MARD Mardin 23.50 275 *e*P **P 19 51 58.6 +1.5**
comp=Z,68nm,1.0s
GOA Goa 23.57 172 *e*P **P 19 51 58.5 +0.9**
SOC Sochi 23.61 291 *e*P **P 19 51 59.8 +1.8**
SOC *e**SP **sP 19 52 15.0 +3.8**
SOC *e* 19 52 23.6
SOC *e*S **S 19 56 09.9 -0.3**
SOC *e*SS **SnSn 19 56 49.1 +0.6**
SOC pmax pmax
comp=Z,28nm,0.6s
SOC MLR MLR
comp=Z,630nm,18.0s
VIS Vishakhapatnam 23.89 149 *i*P **P 19 52 00.9 +0.1**
VIS *i*x x 19 56 56.3
MOY Mondy 24.63 49 *e*P **P 19 52 09.0 +1.6**
MOY pmax pmax
comp=Z,14nm,1.3s
VSR Storozhevoye 25.16 309 *e*P **P 19 52 11.6 -0.4**
VSR *e**PP **sP 19 52 24.8 -0.6**
VSR pmax pmax
comp=Z,40nm,0.7s
VSR MLR MLR
comp=Z,970nm,14.0s
VORR Voronezh 25.27 310 P **P 19 52 20.0 +7.0**
VORR pmax pmax
comp=Z,250nm,0.8s
ANN Anapa 25.28 294 *e*P **P 19 52 17.9 +4.7**
ANN *e**PP **sP 19 52 28.0 +1.4**
ANN *e*S **S 19 56 38.5 +1.7**
ANN pmax pmax
comp=Z,62nm,0.8s
ANN MLR MLR
comp=E,377nm,18.0s
ANN MLR MLR
comp=N,572nm,18.0s
ANN MLR MLR
comp=Z,450nm,18.0s
ZAK Zakamensk 25.65 53 *e*P **P 19 52 15.6 -1.1**
ZAK pmax pmax
comp=Z,25nm,1.4s
LPSR Galich'ya Gora 25.73 312 *e*P **P 19 52 16.5 -0.7**
LPSR *e**PP **sP 19 52 31.2 +0.7**
LPSR pmax pmax
comp=Z,40nm,0.7s
TLY Talaya 26.20 50 P **P 19 52 22.4 +0.8**
comp=Z,4.4nm,0.6s,baz=241,slow=8.8,SNR=4.2
TLY LR LR 20 03 57.5
comp=Z,120nm,20.0s,baz=260,slow=39
TLY Talaya 26.20 50 *e*P **P 19 52 22.6 +1.0**
TLY *e*S **S 19 56 53.3 +1.9**
TLY pmax pmax
comp=Z,14nm,0.9s
TLY MLR MLR
comp=Z,248nm,18.0s
TLY Talaya 26.20 50 *e*P **P 19 52 22.4 +0.8**
comp=Z,15nm,0.9s
TOKA Tokat 26.25 284 *e*P **P 19 52 21.0 -1.2**
comp=Z,54nm,1.2s
LZH Lanzhou 26.41 86 *e*P **P 19 52 24.2 +0.5**
LZH pP sP 19 52 37.0 -0.1
LZH sP pP 19 52 43.5 +10
LZH PP **PnPn 19 53 08.1 +4.1**
LZH *e*S **S 19 56 52.2 -3.0**
LZH sS sS 19 57 12.3 +1.6
LZH SS **SnSn 19 58 02.5 +5.3**
LZH pmax pmax
comp=Z,27nm,1.0s
LZH pmax pmax
comp=Z,190nm,5.2s
LZH LR LR
comp=Z,940nm,12.5s
LZH LR LR
comp=Z,830nm,13.1s
LZH LR LR
comp=Z,1μm,15.2s
IRK Irkutsk 26.73 49 *e*P **P 19 52 26.5 +0.1**
IRK pmax pmax
comp=Z,24nm,0.7s
SONM Songino Array 27.24 59 P **P 19 52 31.4 +0.3**
comp=Z,3.0nm,0.9s,baz=260,slow=10,SNR=18
SONM PcP **PcP 19 55 50.2 -0.2**
comp=Z,3.3nm,0.9s,baz=255,slow=2.4,SNR=3.8
SONM LR LR 20 04 26.5
comp=Z,891nm,18.7s,baz=264,slow=39
SONA1 Songino Array 27.24 59 *e*P **P 19 52 30.6 -0.6**
MOS Moscow 27.59 318 *e*P **P 19 52 33.8 -0.1**
MOS *e* 19 52 42.0
MOS *e*S **S 19 57 09.6 -3.5**
MOS *e*SSS SSS 19 58 32.3
MOS pmax pmax
comp=Z,61nm,0.9s
SIM Simferopol' 27.64 294*ce*P **P 19 52 32.8 -1.7**
SIM S **S 19 57 15.4 +1.2**
SIM pmax pmax
comp=Z,28nm,0.7s
ULN Ulaanbaatar 27.68 59*ce*P **P 19 52 34.6 -0.5**
ULN pmax pmax
comp=Z,10.0nm,1.7s
ULN Ulaanbaatar 27.68 59 *e*P **P 19 52 34.1 -0.9**
comp=Z,11nm,1.0s
OBN Obninsk 27.91 317 P **P 19 52 36.8 +0.1**
comp=Z,42nm,0.8s,baz=61,slow=6.0,SNR=7.2
OBN Obninsk 27.91 317⇓*i*P **P 19 52 36.3 -0.5**
OBN *i* 19 52 44.9
OBN *e* 19 53 27.5
OBN *e*S **S 19 57 23.1 +5.0**
OBN *e*SS **SnSn 19 58 33.4 +0.3**
OBN pmax pmax
comp=Z,22nm,0.8s
OBN MLR MLR
comp=Z,426nm,17.0s
OBN Obninsk 27.91 317 *e*P **P 19 52 36.5 -0.3**
comp=Z,82nm,1.1s
ASF Jabal al Asfar 28.16 267 P **P 19 52 42.3 +2.8**
comp=Z,0.8nm,0.3s,baz=31,slow=14,SNR=6.0
ASF PcP **PcP 19 55 54.2 +1.4**
comp=Z,3.7nm,0.8s,baz=114,slow=5.5,SNR=3.6
CD2 Chengdu 28.20 96⇓*i*P **P 19 52 41.0 +1.3**
CD2 pP pP 19 52 49.8 +0.7
CD2 sP sP 19 52 56.6 +3.5
CD2 PP **PnPn 19 53 34.0 +5.6**
CD2 S **S 19 57 16.4 -6.9**
CD2 SS **SnSn 19 58 44.4 +3.6**
CD2 pmax pmax
comp=Z,20nm,1.0s
CD2 pmax pmax
comp=Z,90nm,8.2s
CD2 LR LR
comp=Z,470nm,13.1s
CD2 LR LR
comp=Z,560nm,14.3s
CD2 LR LR
comp=Z,660nm,13.1s
ILGA Ilgaz 28.22 286 *e*P **P 19 52 41.4 +1.3**
comp=Z,30nm,0.8s
BR131 Keskin Array S 28.50 283 *e*P **P 19 52 43.3 +0.9**
BRTR Keskin Array B 28.50 283 P **P 19 52 43.8 +1.3**
comp=Z,16nm,0.8s,baz=89,slow=7.5,SNR=84
BRTR LR LR 20 05 56.3
comp=Z,240nm,18.8s,baz=96,slow=40
BRTR Keskin Array B 28.50 283 *i*P **P 19 52 43.7 +1.3**
BRTR pmax pmax
comp=Z,14nm,0.7s
MMAI Mount Meron Ar 29.00 269 PcP **PcP 19 55 56.1 +1.3**
comp=Z,1.9nm,0.6s,baz=95,slow=6.8,SNR=3.9
MMAI LR LR 20 07 16.7
comp=Z,319nm,19.3s,baz=50,slow=42
ANTO Ankara 29.11 284 *e*P **P 19 52 49.3 +1.5**
ANTO pmax pmax
comp=Z,53nm,1.3s
ANTO Ankara 29.11 284 *e*P **P 19 52 49.3 +1.5**
comp=Z,53nm,1.3s
ANTO Ankara 29.11 284 P **P 19 52 49.7 +1.9**
SNR=7.3
ANTO Ankara 29.11 284 P **P 19 52 49.7 +1.9**
SNR=7.3
BR231 Keskin MP Arra 29.13 284 *e*P **P 19 52 44.4 -3.6**
KLMR Klimovskoe 29.20 329 *e*P **P 19 52 46.8 -1.4**
KLMR *e* 19 55 54.3
KLMR pmax pmax
comp=Z,43nm,1.3s
KLMR MLR MLR
comp=Z,321nm,14.0s
KMI Kunming 30.34 108 P **P 19 53 00.1 +1.2**
KMI pP sP 19 53 13.5 +1.2
KMI sP pP 19 53 19.1 +11
KMI PP **PnPn 19 54 00.7 +3.0**
KMI S **S 19 57 55.2 -2.1**
KMI sS sS 19 58 15.3 +2.4
KMI SS **ScP 19 59 36.4 -2.1**
KMI pmax pmax
comp=Z,7.0nm,0.7s
KMI pmax pmax
comp=Z,120nm,4.6s
KMI LR LR
comp=Z,340nm,17.0s
KMI LR LR
comp=Z,340nm,15.9s
KMI LR LR
comp=Z,450nm,15.9s
XAN Xi'an 31.00 87 P **P 19 53 04.4 -0.1**
XAN sP sP 19 53 21.7 +3.7
XAN PP **PnPn 19 54 04.1 -2.0**
XAN PcP **PcP 19 56 04.7 +4.7**
XAN S **S 19 57 59.0 -8.3**
XAN pmax pmax
comp=Z,17nm,0.7s
XAN pmax pmax
comp=Z,98nm,6.3s
XAN LR LR
comp=Z,440nm,17.9s
XAN LR LR
comp=Z,780nm,16.6s
XAN LR LR
comp=Z,940nm,18.8s
AKASG Malin Array Be 31.22 306 P **P 19 53 06.2 0.0**
comp=Z,7.3nm,0.6s,baz=113,slow=8.1,SNR=32
AKASG LR LR 20 08 00.6
comp=Z,711nm,19.9s,baz=95,slow=41
AKBB Malin Array Si 31.22 306 *e*P **P 19 53 06.4 +0.2**
AKBB Malin Array Si 31.22 306 *e*P **P 19 53 06.4 +0.2**
KIEV Kiev 31.23 306⇑*i*P **P 19 53 06.4 +0.1**
KIEV pmax pmax
comp=Z,12nm,0.6s
KIEV Kiev 31.23 306 *e*P **P 19 53 06.1 -0.2**
comp=Z,22nm,0.9s
HHC Hu-ho-hao-te 31.25 73 *e*P **P 19 53 06.7 0.0**
HHC pP pP 19 53 15.1 -1.0
HHC sP sP 19 53 28.3 +8.2
HHC S **S 19 58 07.6 -3.5**
HHC sS sS 19 58 32.7 +6.0
HHC pmax pmax
comp=Z,13nm,1.1s
HHC pmax pmax
comp=Z,110nm,5.1s
HHC LR LR
comp=Z,500nm,15.3s
HHC LR LR
comp=Z,320nm,14.0s
HHC LR LR
comp=Z,430nm,18.2s
AK11 Malin Array Si 31.25 306 *e*P **P 19 53 06.3 -0.2**
KIS Kishinev 31.32 299 *e*P **P 19 53 07.0 -0.1**
comp=Z,100nm,0.8s
KIS *e*pP **sP 19 53 24.0 +3.5**
KIS Kishinev 31.32 299 *e*PP PP 19 54 20.0 +2.0
KIS *e*S **S 19 58 13.0 +1.2**
comp=Z,300nm,0.5s
KIS LRM MLR 20 10 12.0
comp=Z,600nm,16.0s
KIS Kishinev 31.32 299 *e*P **P 19 53 07.0 -0.1**
KIS *e* 19 53 24.0
KIS *e* 19 54 20.0
KIS *e*S **S 19 58 13.0 +1.2**
KIS pmax pmax
comp=Z,120nm,0.8s
KIS MLR MLR
comp=Z,600nm,16.0s
MILM Milestii Mici 31.32 298⇑*i*P **P 19 53 08.3 +1.2**
SORM Soroca 31.64 301⇑*i*P **P 19 53 10.3 +0.4**
SORM Soroca 31.64 301⇑P **P 19 53 10.3 +0.4**
CHTO Chiang Mai 31.69 121 P **P 19 53 13.5 +2.8**
comp=Z,35nm,1.2s
CHTO Chiang Mai 31.69 121 *e*P **P 19 53 11.1 +0.4**
CHTO pmax pmax
comp=Z,5.0nm,0.8s
CHTO Chiang Mai 31.69 121 *e*P **P 19 53 11.1 +0.4**
comp=Z,5.2nm,0.8s
CMMT Chiang Mai 31.70 121 P **P 19 53 13.1 +2.4**
comp=Z,7.5nm,1.2s
TMCR Tamitsa 31.70 333 *e*P **P 19 53 10.6 +0.4**
TMCR pmax pmax
comp=Z,50nm,1.3s
NRIK Noril'sk 31.75 11 P **P 19 53 10.5 -0.2**
comp=Z,9.0nm,0.8s,baz=210,slow=3.9,SNR=5.9
NRIK pP **pP 19 53 19.5 -0.6**
comp=Z,19nm,0.9s,baz=217,slow=6.8,SNR=5.5
NRIK LR LR 20 07 49.6
comp=Z,937nm,18.0s,baz=202,slow=40
CFR Carcaliu 31.86 295⇑*i*P **P 19 53 13.0 +1.1**
CFR Carcaliu 31.86 295⇑P **P 19 53 13.0 +1.1**
CMAR Chiang Mai Arr 31.95 122 P **P 19 53 11.8 -1.1**
comp=Z,4.6nm,0.9s,baz=314,slow=8.7,SNR=14
CMAR PcP **PcP 19 56 03.5 +0.9**
comp=Z,3.5nm,0.8s,baz=292,slow=4.4,SNR=7.0
CMAR LR LR 20 09 11.5
comp=Z,314nm,19.1s,baz=316,slow=42
CMAR Chiang Mai Arr 31.95 122 *i*P **P 19 53 12.6 -0.3**
CMAR pmax pmax
comp=Z,5.0nm,0.9s
CM01 Chiang Mai Arr 31.98 122 *e*P **P 19 53 12.0 -1.2**
CIT Chita 32.29 52 *e*P **P 19 53 15.2 -0.5**
CIT *e* 19 53 24.2
LAMP Lampang 32.36 121 P **P 19 53 16.6 +0.1**
comp=Z,9.0nm,0.8s
GYA Guiyang 32.57 102⇑*i*P **P 19 53 18.3 -0.2**
GYA pP sP 19 53 32.8 +0.9
GYA PP **PnPn 19 54 29.0 +2.5**
GYA S **S 19 58 29.2 -2.8**
GYA SS **SnSn 20 00 28.4 +1.0**
GYA pmax pmax
comp=Z,20nm,0.6s
GYA pmax pmax
comp=Z,120nm,5.4s
GYA LR LR
comp=Z,540nm,17.8s
GYA LR LR
comp=Z,510nm,18.0s
GYA LR LR
comp=Z,530nm,17.6s
MICGM Minsk 32.58 313 *e*P P 19 53 27.0 +8.9
MICGM *e*LR LR 20 07 06.0
MNK Minsk 32.58 313 *e*P P 19 53 27.0 +8.9
ODBI Odobesti 32.58 296⇓*i*P **P 19 53 21.7 +3.5**
PUL Pulkovo 32.75 323⇓*e*P **P 19 53 20.4 +0.9**
PUL pmax pmax
comp=Z,117nm,0.9s
VRI Vrincioaia 32.81 297⇑*i*P **P 19 53 22.3 +2.1**
VRI Vrincioaia 32.81 297⇑P **P 19 53 22.3 +2.1**
TESR Tescani 32.82 298⇑*i*P **P 19 53 21.9 +1.6**
PALK Pallekele 32.84 161 P **P 19 53 20.9 +0.1**
comp=Z,7.9nm,0.7s,baz=296,slow=8.2,SNR=7.7
PLOR Plostina 32.86 297⇑*i*P **P 19 53 22.9 +2.2**
PLOR Plostina 32.86 297⇑P **P 19 53 22.9 +2.2**
ENH Enshi 32.92 93 *e*P **P 19 53 21.8 +0.4**

comp=Z,16nm,0.9s
ISR Istrita 32.99 295⇑ *i*P **P** **19 53 25.0 +3.1**
ISR Istrita 32.99 295⇑ P **P** **19 53 25.0 +3.1**
PRAR RASCA 33.08 299⇓ *i*P **P** **19 53 24.0 +1.4**
SUKH Sukhothai 33.10 122 P **P** **19 53 23.4 +0.4**
comp=Z,11nm,0.8s,comp=Z,91nm
NACGM **Naroch 33.28 313** *e* **P** **19 53 24.0 -0.2**
NACGM *e*LQ LQ 20 05 18.0
NACGM *e*LR LR 20 07 28.0
IDID Didziasalis 33.38 314 *e*P **P** **19 53 25.5 +0.5**
IDID IAmb IAmb 19 53 26.9
comp=Z,5.4nm,0.8s
MLR Muntele Rosu 33.38 296 P **P** **19 53 28.0 +2.6**
comp=Z,5.6nm,0.7s,baz=3.2,slow=1.3,SNR=46
MLR Muntele Rosu 33.38 296⇓ *i*P **P** **19 53 28.3 +2.9**
MLR Muntele Rosu 33.38 296 P **P** **19 53 28.0 +2.6**
MLR pmax pmax
comp=Z,6.0nm,0.7s
MLR Muntele Rosu 33.38 296 *e*P **P** **19 53 27.1 +1.7**
comp=Z,35nm,0.9s
SLVN Son La 33.47 112 *e*P **P** **19 53 26.2 -0.1**
comp=Z,6.3nm,0.9s
UMPA Umpang Tak 33.53 125 P **P** **19 53 30.1 +3.3**
comp=Z,9.0nm,0.9s,comp=Z,101nm
JOF Joensuu 33.60 328 P **P** **19 53 27.9 +1.0**
BOD Bodaibo 33.65 42 *e*P **P** **19 53 26.8 -0.6**
BOD pmax pmax
comp=Z,28nm,1.1s
IIGN Ignalina 33.67 314 *e*P **P** **19 53 28.1 +0.5**
IIGN IAmb IAmb 19 53 29.2
comp=Z,7.3nm,0.9s
DOPR Dopca 33.73 297⇓ *i*P **P** **19 53 30.5 +2.2**
IZAR Zarasai 33.73 315 *e*P **P** **19 53 28.6 +0.5**
IZAR IAmb IAmb 19 53 30.2
comp=Z,10nm,0.7s
BURAR Bucovina Array 33.75 300⇑ *i*P **P** **19 53 29.8 +1.2**
BURAR Bucovina Array 33.75 300 ⇑P **P** **19 53 29.8 +1.2**
BUR08 Bucovina Ar. S 33.76 300 *e*P **P** **19 53 29.3 +0.7**
ISAL Salakas 33.77 314 *e*P **P** **19 53 28.9 +0.5**
ISAL IAmb IAmb 19 53 30.6
comp=Z,6.7nm,0.9s
VOIR 34.01 296⇑ *i*P **P** **19 53 32.5 +1.7**
VOIR 34.01 296 ⇑P **P** **19 53 32.5 +1.7**
VSU Vasula 34.09 319⇑ *i*P **P** **19 53 31.3 +0.1**
VSU pmax pmax
comp=Z,45nm,0.7s
ARR Arges 34.31 296⇑ *i*P **P** **19 53 35.4 +2.0**
ARCR ARCALIA 34.37 299⇓ *i*P **P** **19 53 36.3 +2.5**
LVV L'vov 34.50 304 *e*P **P** **19 53 36.6 +1.7**
LVV *e*S **S** **19 58 59.3 -1.9**
LVV MLR MLR
comp=N,1μm,19.0s
LVV MLR MLR
comp=Z,400nm,17.0s
KARP Karpathos 34.53 278 *e*P **P** **19 53 35.9 +0.5**
comp=Z,22nm,0.8s
PBKT Sadao Pong 34.64 122 P **P** **19 53 37.0 +0.6**
comp=Z,27nm,1.1s,comp=Z,866nm
BJI Beijing 34.85 73 P **P** **19 53 37.9 -0.1**
BJI PP **PnPn** **19 54 56.0 +1.1**
BJI S **S** **19 59 03.6 -3.2**
BJI sS **sS** **19 59 24.8 +2.3**
BJI pmax pmax
comp=Z,16nm,0.7s
BJI pmax pmax
comp=Z,150nm,4.7s
BJI LR LR
comp=Z,640nm,15.5s
BJI LR LR
comp=Z,640nm,18.7s
BJI LR LR
comp=Z,580nm,22.7s
CJR Cluj-Napoca 34.91 298⇓ *i*P **P** **19 53 41.0 +2.5**
CJR Cluj-Napoca 34.91 298 ⇓P **P** **19 53 41.0 +2.5**
LOT Lotru 34.91 296⇓ *i*P **P** **19 53 40.9 +2.3**
LVZ Lovozero 35.06 337⇓ *e*P **P** **19 53 39.6 +0.1**
LVZ pmax pmax
comp=Z,31nm,1.7s
LVZ Lovozero 35.06 337 *e*P **P** **19 53 39.5 -0.1**
comp=Z,25nm,1.1s
APA Apatity 35.25 336⇑ *i*P P 19 53 46.3 +5.2
APA *i* 19 54 57.4
APA *i*S **S** **19 59 17.0 +4.7**
APA *i*SS **SS** **20 01 50.0 +4.1**
APA pmax pmax
comp=Z,10.0nm,0.8s
APA MLR MLR
comp=Z,2μm,16.0s
FIA1 FINESS Array S 35.29 324 *e*P **P** **19 53 41.5 0.0**
FINES FINESS Array B 35.29 324 P **P** **19 53 41.9 +0.4**
comp=Z,13nm,0.8s,baz=120,slow=9.3,SNR=75
FINES LR LR 20 08 59.3
comp=Z,1μm,18.9s,baz=108,slow=38
KWP Kalwaria Pacla 35.36 303 *e*P **P** **19 53 44.0 +1.7**
KWP Kalwaria Pacla 35.36 303 *e*P **P** **19 53 44.0 +1.7**
DRGR 35.51 299⇑ *i*P **P** **19 53 45.5 +1.8**
DRGR 35.51 299 ⇑P **P** **19 53 45.5 +1.8**
TRPA Tarpa 35.53 301⇑ *e*P **P** **19 53 45.2 +1.5**
UZH Uzhgorod 35.67 302 *i*P **P** **19 53 46.0 +1.1**
UZH *e* 19 53 57.0
UZH *e* 19 54 02.5
UZH *e* 19 55 03.6
UZH *e* 19 56 15.9
UZH *i*S **S** **19 59 18.0 -1.1**
SUF Sumiainen 35.69 326 P **P** **19 53 46.0 +1.1**
SUF pmax pmax
comp=Z,34nm,0.9s
VTS Vitosha 35.73 291⇑ *i*P **P** **19 53 47.7 +2.0**
VTS Vitosha 35.73 291 *e*P **P** **19 53 47.0 +1.2**
VTS pmax pmax
comp=Z,12nm,0.5s
VTS Vitosha 35.73 291 *e*P **P** **19 53 47.0 +1.2**
comp=Z,12nm,0.5s
CHAI Chaiyaphum 35.80 121 P **P** **19 53 46.7 +0.4**
comp=Z,13nm,0.8s,comp=Z,96nm
CRVS Cervenica-Dubn 36.20 302 *e*P **P** **19 53 51.3 +1.7**
CRVS *e* 19 55 11.2
CRVS Cervenica-Dubn 36.20 302 *e*P **P** **19 53 51.3 +1.7**
CRVS *e*PP **PnPn** **19 55 11.2 -0.3**
SIRR Siria 36.28 298⇑ *i*P **P** **19 53 52.5 +2.2**
STHS Stebnicka Huta 36.32 303 *e*P **P** **19 53 50.8 +0.2**
STHS pmax pmax
comp=Z,4.0nm,0.8s
STHS Stebnicka Huta 36.32 303 *e*P **P** **19 53 50.8 +0.2**
IDI Anoyia 36.37 279 P **P** **19 53 51.7 +0.5**
comp=Z,7.5nm,0.7s,baz=48,slow=13,SNR=6.1
BZS Buzias 36.39 297⇓ *i*P **P** **19 53 53.3 +2.1**
BZS Buzias 36.39 297 ⇓P **P** **19 53 53.3 +2.1**
SKNT Sakolnakorn 36.40 118 P **P** **19 53 51.3 -0.2**
comp=Z,61nm,1.0s
PHET Kaeng Krachan 36.50 127 P **P** **19 53 53.4 +1.0**
comp=Z,42nm,0.7s,comp=Z,361nm
NAYO Nakonayok 36.51 124 P **P** **19 53 53.1 +0.6**
comp=Z,73nm,0.9s,comp=Z,13μm
WHN Wuhan 36.59 90 ⇑P **P** **19 53 53.3 +0.2**
TIA Tai'an 36.63 79 *e*P **P** **19 53 53.6 +0.3**
TIA pmax pmax
comp=Z,20nm,0.8s
KECS Kecovo 36.87 302 *e*P **P** **19 53 56.9 +1.6**
KECS pmax pmax
comp=Z,4.0nm,0.8s
KECS Kecovo 36.87 302 *e*P **P** **19 53 56.9 +1.6**
NIE Niedzica 36.94 303 *e*P **P** **19 53 57.6 +1.8**
NIE Niedzica 36.94 303 *e*P **P** **19 53 57.6 +1.8**
SRAK Srakaew 37.21 123 P P 19 54 03.2 +4.8
comp=Z,53nm,1.0s
OJC Ojcow 37.22 305 *e*P **P** **19 53 59.1 +0.9**
OJC Ojcow 37.22 305 *e*P **P** **19 53 58.8 +0.6**
OJC pmax pmax
comp=Z,29nm,1.1s
OJC Ojcow 37.22 305 *e*P **P** **19 53 58.8 +0.6**
comp=Z,29nm,1.1s
FNA Florina 37.45 289 P **P** **19 54 01.0 +0.7**
LANS Liptovska Anna 37.50 303 *e*P **P** **19 54 02.4 +1.8**
LANS *e* 19 55 24.7
LANS Liptovska Anna 37.50 303 *e*P **P** **19 54 02.4 +1.8**
LANS *e*PP **PP** **19 55 24.7 -1.6**
VYHS Vyhne 37.97 302 *e*P **P** **19 54 05.7 +1.2**
VYHS pmax pmax
comp=Z,7.0nm,1.2s
VYHS Vyhne 37.97 302 *e*P **P** **19 54 05.7 +1.2**
VYHS *e*PP **PP** **19 55 30.4 -1.0**
OKC Ostrava-Krasne 38.31 304 *e*PP PP 19 55 35.5 +0.4
OKC AMS AMS 20 12 10.0
comp=Z,300nm,14.9s
PDG Podgorica 38.62 292⇓ *i*P **P** **19 54 10.3 +0.2**
MORC Moravsky Berou 38.70 304⇑ *i*P **P** **19 54 12.2 +1.5**
MORC Moravsky Berou 38.70 304 *e*P **P** **19 54 11.5 +0.7**
MORC pmax pmax
comp=Z,31nm,1.0s
MORC Moravsky Berou 38.70 304 *e*P **P** **19 54 11.5 +0.7**
comp=Z,31nm,1.0s
GKP Gorka Klasztor 38.74 310 *e*P **P** **19 54 10.9 0.0**
GKP Gorka Klasztor 38.74 310 *e*P **P** **19 54 10.9 0.0**
ARA0 ARCESS Array S 38.75 337 *e*P **P** **19 54 10.8 0.0**
ARCES ARCESS Array B 38.75 337 P **P** **19 54 10.8 0.0**
comp=Z,6.9nm,0.6s,baz=114,slow=8.2,SNR=29
ARCES pP **pP** **19 54 20.0 -0.4**
comp=Z,3.5nm,0.5s,baz=91,slow=4.9,SNR=5.5
ARCES LR LR 20 11 14.1
comp=Z,2μm,18.1s,baz=124,slow=38
ARE0 ARCESS Array S 38.75 337 *e*P **P** **19 54 11.3 +0.4**
ARE0 IAmb IAmb 19 54 20.2
comp=Z,23nm,1.1s
ARE0 IAMs_20 IAMs_20 20 10 48.3
comp=Z,2μm,19.5s
ARE0 ARCESS Array S 38.75 337 *e*P **P** **19 54 11.1 +0.2**
comp=Z,22nm,1.1s
SURT Suratani 39.12 132 P **P** **19 54 16.8 +2.3**
comp=Z,14nm,0.7s
KTK1 Kautokeino 39.24 335 *e*P **P** **19 54 14.9 0.0**
KTK1 *e*pP **sP** **19 54 28.2 -0.3**
QIZ Qiongzhong 39.24 109 P **P** **19 54 15.0 -0.5**
QIZ S **S** **20 00 12.4 -1.6**
QIZ LR LR
comp=Z,180nm,17.3s
QIZ LR LR
comp=Z,270nm,20.6s
QIZ LR LR
comp=Z,450nm,16.3s
VRAC Vranov 39.36 303 P **P** **19 54 17.6 +1.4**
comp=Z,14nm,0.8s,baz=79,slow=8.4,SNR=20
VRAC Vranov 39.36 303⇑ *i*P **P** **19 54 18.1 +1.9**
KSP Ksiaz 39.42 306 *e*P **P** **19 54 18.1 +1.4**
KSP Ksiaz 39.42 306 *e*P **P** **19 54 18.1 +1.4**
DPC Dobruska-Polom 39.44 305 *e*P **P** **19 54 18.3 +1.4**
DPC *e*pP **pP** **19 54 27.4 +0.9**
DPC *e*sP **sP** **19 54 30.2 -0.2**
DPC *e*PP **PP** **19 55 48.9 +1.3**
DPC *e*x x 19 55 58.1
DPC AMS AMS 20 12 50.0
comp=Z,600nm,20.5s
DPC Dobruska-Polom 39.44 305 *e*P **P** **19 54 18.3 +1.4**
DPC *e* 19 54 27.4
DPC *e* 19 54 30.2
DPC *e* 19 55 48.9
DPC MLR MLR
comp=Z,600nm,20.5s
NJ2 Nanjing 39.47 85 *e*P **P** **19 54 17.9 +0.6**
NJ2 pmax pmax
comp=Z,61nm,0.8s
UPC Upice 39.62 305 *e*P **P** **19 54 19.8 +1.4**
UPC AMS AMS 20 12 50.0
comp=Z,600nm,17.7s
UPC Upice 39.62 305 *e*P **P** **19 54 19.8 +1.4**
UPC MLR MLR
comp=Z,600nm,17.7s
HAMF Hammerfest 39.82 338 *e*P **P** **19 54 20.3 +0.6**
HAMF IAmb IAmb 19 54 31.7
comp=Z,102nm,1.7s
SNY Shenyang 39.88 68 ⇓P P 19 54 28.4 +7.8
SNY S **S** **20 00 27.8 +4.6**
SNY pmax pmax
comp=Z,11nm,0.5s
SNY pmax pmax
comp=Z,300nm,5.1s
SNY LR LR
comp=N,660nm,18.0s
SNY LR LR
comp=E,590nm,15.1s
SNY LR LR
comp=Z,610nm,14.2s
CONA Conrad Observa 40.01 301 *i*P **P** **19 54 22.9 +1.2**
comp=Z,18nm,0.8s,SNR=18
ARSA Arzberg 40.33 300 *i*P **P** **19 54 25.4 +1.1**
comp=Z,8.9nm,0.7s,SNR=8.4
GOPC GO Pecny, Ondr 40.47 304 AMS AMS 20 13 30.0
comp=Z,600nm,16.9s
PVCC Panska Ves 40.54 305 *e*P **P** **19 54 27.2 +1.2**
PVCC AMS AMS 20 13 20.0
comp=Z,500nm,17.6s
PVCC Panska Ves 40.54 305 *e*P **P** **19 54 27.2 +1.2**
PVCC MLR MLR
comp=Z,500nm,17.6s
TRTT Trang 40.54 132 P **P** **19 54 26.8 +0.5**
comp=Z,28nm,0.7s
PRU Pruhonice 40.62 305 *e*P **P** **19 54 27.8 +1.2**
PRU *e*pP **pP** **19 54 36.9 +0.7**
PRU *e*sP **sP** **19 54 39.9 -0.2**
PRU *e*PP **PnPn** **19 56 03.8 -0.6**
PRU AMS AMS 20 13 40.0
comp=Z,700nm,25.5s
PRU Pruhonice 40.62 305 *e*P **P** **19 54 27.8 +1.2**
PRU *e* 19 54 36.9
PRU *e* 19 54 39.9
PRU *e* 19 56 03.8
PRU MLR MLR
comp=Z,700nm,25.5s
PERS Pernice 40.71 299 *i*P **P** **19 54 28.6 +1.1**
SOKA Soboth 40.76 300 *i*P **P** **19 54 29.1 +1.1**
comp=Z,14nm,0.7s,SNR=17
CN2 Changchun 40.77 65 *e*P **P** **19 54 25.4 -2.5**
CN2 *e*pP sP 19 54 40.7 -0.8
CN2 *e*S **S** **20 00 30.4 -6.0**
CN2 pmax pmax
comp=Z,10.0nm,0.6s
CN2 pmax pmax
comp=Z,200nm,3.0s
CN2 LR LR
comp=Z,300nm,17.0s
CN2 LR LR
comp=Z,500nm,17.0s
CN2 LR LR
comp=Z,600nm,19.0s
BOJS Bojanci 40.82 298 *i*P **P** **19 54 29.6 +1.2**
TRO Tromso 40.90 335 *e*P **P** **19 54 30.7 +2.1**
BRG Berggiesshubel 40.90 306 *i*P **P** **19 54 30.9 +2.0**
comp=Z,19nm,0.8s
BRG *e* 19 56 22.2
comp=Z,23nm,1.2s
comp=N,294nm,17.3s
comp=E,399nm,14.9s
comp=Z,554nm,16.1s
BRG Berggiesshubel 40.90 306 *i*P **P** **19 54 30.9 +2.0**
BRG pmax pmax
comp=Z,19nm,0.8s
BRG MLR MLR
comp=N,294nm,17.3s
BRG MLR MLR
comp=E,399nm,14.9s
BRG MLR MLR
comp=Z,554nm,16.1s
VISS Visnje 41.05 298 *i*P **P** **19 54 31.5 +1.3**
MOA Molln 41.08 301 *i*P **P** **19 54 31.4 +0.9**
comp=Z,12nm,0.9s,SNR=8.2
OBKA Obir 41.12 299 *i*P **P** **19 54 32.2 +1.3**
comp=Z,20nm,1.3s,SNR=6.7
GEC2 GERESS Array S 41.30 303 *e*P **P** **19 54 33.6 +1.2**
GEC2 pmax pmax
comp=Z,10.0nm,0.9s
GEC2 GERESS Array S 41.30 303 *e*P **P** **19 54 33.6 +1.2**
comp=Z,9.7nm,0.9s
GERES GERESS Array B 41.30 303 P **P** **19 54 33.7 +1.2**
comp=Z,5.3nm,0.6s,baz=78,slow=7.4,SNR=29
GERES LR LR 20 14 22.1
comp=Z,374nm,19.7s,baz=98,slow=40
GEA0 GERESS Array S 41.31 303 *e*P **P** **19 54 33.3 +0.9**
KHC Kasperske Hory 41.34 303 *e*P **P** **19 54 33.8 +1.1**
KHC AMS AMS 20 12 40.0
comp=Z,400nm,18.3s
KHC Kasperske Hory 41.34 303 *e*P **P** **19 54 33.8 +1.1**
KHC MLR MLR
comp=Z,400nm,18.3s
KHC Kasperske Hory 41.34 303 *e*P **P** **19 54 33.5 +0.8**
comp=Z,7.4nm,0.7s
CLL Collm 41.45 307 *i*P **P** **19 54 34.1 +0.7**
CLL *e**PP **pP** **19 54 43.0 0.0**
CLL pmax pmax
comp=Z,13nm,0.9s
CLL MLR MLR
comp=Z,500nm,18.0s
CLL Collm 41.45 307 *i*P **P** **19 54 34.1 +0.7**
comp=Z,13nm,0.9s
CLL *e*pP **pP** **19 54 43.0 0.0**
CLL *e*PP **PP** **19 56 08.0 -1.3**
CLL *i*pPP 19 56 17.1
CLL *i*sPP 19 56 21.8
CLL *e*ScP **ScP** **20 00 15.0 -3.3**
CLL LmV 20 15 00.0
comp=Z,500nm,18.0s
CLL Collm 41.45 307 *e*P **P** **19 54 33.5 +0.1**
comp=Z,12nm,0.8s
MOR8 Moi Rana 41.53 329 *e*P **P** **19 54 33.4 -0.5**
MOR8 IAmb IAmb 19 54 57.8
comp=Z,24nm,1.0s
MOR8 *e*PP **PP** **19 56 10.8 +0.9**
JAVS Javornik 41.56 299 *i*P **P** **19 54 35.3 +0.8**
SKLT Songkhla 41.62 132 P **P** **19 54 35.6 +0.5**
comp=Z,48nm,0.9s,comp=Z,801nm
STEI Steigen 41.64 332 *e*P **P** **19 54 35.3 +0.5**
MYKA Terra Mystica 41.71 300 *i*P **P** **19 54 36.9 +1.2**
comp=Z,11nm,0.6s,SNR=8.3
CUC Castrocucco 41.76 289 *e*P **P** **19 54 37.5 +1.4**
comp=Z,14nm,0.7s
TRI Trieste 41.81 298 *e*P **P** **19 54 36.9 +0.5**
TRI pmax pmax
comp=Z,55nm,1.4s
TRI Trieste 41.81 298 *e*P **P** **19 54 36.9 +0.5**
comp=Z,55nm,1.4s
KBA Koelnbreinsper 41.83 300 P **P** **19 54 37.8 +1.0**
comp=Z,14nm,0.7s
NKC Novy Kostel 41.92 305 AMS AMS 20 14 10.0
comp=Z,700nm,19.5s
NC405 NORSAR Array S 42.01 322 *e*P **P** **19 54 38.3 +0.4**
NC602 NORSAR Array S 42.07 321 *e*P **P** **19 54 38.1 -0.2**
NC602 IAMs_20 IAMs_20 20 12 43.6
comp=Z,1μm,21.4s
NC602 NORSAR Array S 42.07 321 *e*P **P** **19 54 38.5 +0.1**
KONS Konsvik 42.12 330 *e*P **P** **19 54 39.0 +0.4**
STOK Stokkvaagen 42.13 329 *e*P **P** **19 54 39.3 +0.6**
YAK Yakutsk 42.14 37 P **P** **19 54 38.6 -0.3**
comp=Z,49nm,0.6s,baz=246,slow=0.9,SNR=30
YAK Yakutsk 42.14 37 *e*P **P** **19 54 38.2 -0.7**
YAK *e* 19 54 47.1
YAK pmax pmax
comp=Z,62nm,1.0s
YAK pmax pmax
comp=N,3.0nm,0.8s
YAK pmax pmax
comp=E,26nm,1.4s
YAK Yakutsk 42.14 37 *e*P **P** **19 54 38.0 -0.9**
comp=E,62nm,0.7s
NC303 NORSAR Array S 42.19 322 *e*P **P** **19 54 39.8 +0.4**
NB201 NORSAR Array S 42.21 321 *e*P **P** **19 54 39.7 +0.1**
NB2 NORSAR Subarra 42.25 321 P **P** **19 54 39.6 -0.3**
baz=94,slow=8.6
NB2 NORSAR Subarra 42.25 321 P **P** **19 54 39.5 -0.4**
NB2 pmax pmax
comp=Z,12nm,0.6s
NB2 NORSAR Subarra 42.25 321 P **P** **19 54 39.6 -0.3**
comp=Z,14nm,0.6s,baz=94,slow=8.6
NOA NORSAR Array B 42.25 321 P **P** **19 54 39.7 -0.3**
comp=Z,13nm,0.6s,baz=94,slow=8.1,SNR=51
NOA LR LR 20 13 15.8
comp=Z,628nm,18.4s,baz=105,slow=38
LOF Lofoten 42.31 332 *e*P **P** **19 54 40.2 -0.1**
NAO01 NORSAR Array S 42.40 321 *e*P **P** **19 54 40.9 -0.1**
NBO02 NORSAR Array S 42.42 321 *e*P **P** **19 54 41.0 -0.2**
OSL Oslo 42.44 320 *e*P **P** **19 54 41.8 +0.4**
ABTA Abfaltersbach 42.45 300 *i*P **P** **19 54 41.9 +0.1**
comp=Z,7.2nm,0.6s,SNR=8.3
NBO00 NORSAR Array S 42.46 321 *e*P **P** **19 54 41.5 -0.1**
NC204 NORSAR Array S 42.48 322 *e*P **P** **19 54 42.2 +0.4**
HOPEN Hopen 42.53 346 *e*P **P** **19 54 43.2 +1.3**
BJO Bjornoya 42.78 342 *e*P **P** **19 54 44.5 +0.5**
AQU L'Aquila 42.85 294 *e*P **P** **19 54 46.4 +1.4**
AQU pmax pmax
comp=Z,20nm,0.9s
AQU L'Aquila 42.85 294 *e*P **P** **19 54 46.4 +1.4**
comp=Z,20nm,0.9s
WTTA Wattenberg 42.94 301 *i*P **P** **19 54 46.0 +0.1**
comp=Z,20nm,0.9s,SNR=7.1
WATA Walderalm 42.96 301 *i*P **P** **19 54 46.4 +0.4**
comp=Z,6.8nm,0.5s,SNR=8.5
KONO Kongsberg 43.00 319 *e*P **P** **19 54 46.2 +0.3**
KONO Kongsberg 43.00 319 *e*P **P** **19 54 45.9 -0.1**
KONO pmax pmax
comp=Z,15nm,0.9s
KONO Kongsberg 43.00 319 *e*P **P** **19 54 45.9 -0.1**
comp=Z,15nm,0.9s
KULM Kulim 43.16 133 *e*P **P** **19 54 47.5 -0.2**
comp=Z,37nm,1.5s
KULM Kulim 43.16 133 ⇓P **P** **19 54 47.8 +0.1**
MOTA Moosalm 43.28 301 *i*P **P** **19 54 48.8 +0.3**
comp=Z,18nm,0.8s,SNR=22
DOMB Dombas 43.33 323 *e*P **P** **19 54 48.9 +0.2**
RETA Reutte 43.48 302 *i*P **P** **19 54 50.3 +0.3**
comp=Z,5.1nm,0.5s
HOMB Homborsund 43.58 317 *e*P **P** **19 54 51.2 +0.5**
FETA Feichten 43.59 301 *i*P **P** **19 54 50.7 -0.4**
comp=Z,5.9nm,0.6s,SNR=10
TIXI Tiksi 43.59 23*c* *i*P **P** **19 54 50.3 -0.3**
TIXI pmax pmax
comp=Z,29nm,0.8s
TIXI Tiksi 43.59 23 *e*P **P** **19 54 50.1 -0.4**
comp=Z,52nm,0.8s
KLR Kul'dur 43.95 56 P **P** **19 54 53.5 -0.2**
comp=Z,3.2nm,0.6s,baz=284,slow=5.8,SNR=12
FUORN Ofenpass-Fuorn 43.99 300 *e*P **P** **19 54 54.3 -0.1**
comp=Z,14nm,0.8s
IPM Ipoh 44.03 133 *e*P **P** **19 54 54.3 -0.5**
comp=Z,37nm,0.8s
IPM Ipoh 44.03 133 ⇑P **P** **19 54 54.7 0.0**
DAVA Damuels 44.10 301 *i*P **P** **19 54 55.8 +0.6**
comp=Z,33nm,0.6s,SNR=16
DAVOX Davos/Dischmat 44.21 301 P **P** **19 54 56.4 +0.2**
comp=Z,34nm,0.6s,baz=103,slow=5.4,SNR=84
SNART Snartemo 44.26 317 *e*P **P** **19 54 56.5 +0.4**
PSI Prapat 44.28 137 P **P** **19 54 55.8 -1.1**
comp=Z,8.2nm,0.8s,baz=325,slow=9.5,SNR=8.9
PSI Prapat 44.28 137 *e*P **P** **19 54 55.5 -1.3**
comp=Z,8.1nm,0.7s
AKN Aaknes 44.31 323 IAMs_20 IAMs_20 20 14 03.8
comp=Z,1μm,20.7s
KS01 Wonju Array Si 44.36 73 *e*P **P** **19 54 55.7 -1.5**
KS15 Wonju Array Si 44.36 73 *e*P **P** **19 54 56.3 -0.9**
KSAR Wonju Array Be 44.36 73 P **P** **19 54 56.5 -0.7**
KSAR *PP **pP** **19 55 05.5 -1.4**
KSAR Wonju Array Be 44.36 73 P **P** **19 54 56.5 -0.7**
KSAR pP **pP** **19 55 05.5 -1.4**
KSRS Korea Array 44.39 73 P **P** **19 54 56.5 -0.9**
comp=Z,4.4nm,0.7s,baz=289,slow=5.8,SNR=20
KSRS pP **pP** **19 55 05.5 -1.6**
comp=Z,6.5nm,0.7s,baz=122,slow=40,SNR=7.4
VLC Villacolemand 44.50 297 *e*P **P** **19 54 58.0 -0.2**
comp=Z,36nm,0.7s
KTGM Kuala Trenggan 44.57 130 ⇓P **P** **19 55 00.7 +1.6**
BLS5 Blasjo 44.61 319 *e*P **P** **19 54 59.9 +1.0**
TUE Stuetta 44.64 300 *e*P **P** **19 54 58.2 -1.4**
comp=Z,10.0nm,0.7s
BFO Black Forest 44.91 303 *e*P **P** **19 55 01.1 -0.3**
BFO pmax pmax
comp=Z,14nm,0.8s
BFO Black Forest 44.91 303 *e*P **P** **19 55 01.1 -0.3**
comp=Z,14nm,0.8s
SSLB Suanglung 44.99 94 *e*P **P** **19 55 03.7 +1.3**
comp=Z,16nm,0.9s
SPA0 Spitsbergen Ar 45.02 346 *e*P **P** **19 55 03.0 +1.0**
SPA0 IAmb IAmb 19 55 25.2
comp=Z,69nm,1.3s
SPITS Spitsbergen Ar 45.02 346 LR LR 20 16 11.4
comp=Z,477nm,18.4s,baz=155,slow=39
LANF Langenberg 45.11 304 *e*P **P** **19 55 04.4 +1.4**
BER Bergen 45.13 320 *e*P **P** **19 55 03.7 +0.8**
ASK Askoy 45.20 321 *e*P **P** **19 55 04.1 +0.6**
USRK Ussuriysk Ar. 45.25 63 P **P** **19 55 02.9 -1.2**
comp=Z,2.2nm,0.7s,baz=269,slow=11,SNR=5.6
USRK LR LR 20 15 42.1
comp=Z,769nm,20.4s,baz=202,slow=38
FRIM Kepong 45.39 134 ⇑P **P** **19 55 06.4 +0.9**
CDF Champ du Feu 45.57 303 *e*P **P** **19 55 07.6 +0.8**
CDF pmax pmax
comp=Z,12nm,0.9s
ECH Echery 45.69 303 *e*P **P** **19 55 07.6 -0.1**
MOF Molkenrain 45.79 303⇑ *e*P **P** **19 55 09.2 +0.6**

MEM	**Membach**	**45.92**	**307**	P		**P**		**19 55 11.0**	**+1.6**	
	comp=Z,13nm,1.5s									
HINF	**Hinteralfeld**	**45.98**	**303**	*e*P		**P**		**19 55 09.8**	**-0.2**	
HINF					pmax	pmax				
	comp=Z,15nm,0.6s									
WLF	**Walferdange**	**46.03**	**305**	P		**P**		**19 55 11.7**	**+1.5**	
	comp=Z,22nm,1.2s									
WLF	**Walferdange**	**46.03**	**305**	*e*P		**P**		**19 55 11.8**	**+1.5**	
WLF					pmax	pmax				
	comp=Z,27nm,0.8s									
WLF	**Walferdange**	**46.03**	**305**	*e*P		**P**		**19 55 11.8**	**+1.5**	
	comp=Z,27nm,0.8s									
SENIN	**Lac Senin/Sane**	**46.04**	**301**	*e*P		**P**		**19 55 10.9**	**+0.2**	
	comp=Z,27nm,0.6s									
LOMF	**Lomont**	**46.11**	**302**⇑	*e*P		**P**		**19 55 10.9**	**-0.2**	
KBS	**Kingsbay**	**46.14**	**347**	*e*P		**P**		**19 55 11.5**	**+0.8**	
THEF	**They Montfort**	**46.45**	**304**⇑	*e*P		**P**		**19 55 14.3**	**+0.6**	
LPG	**La Plagne**	**46.64**	**300**	*e*P		**P**		**19 55 15.7**	**+0.2**	
LPG					pmax	pmax				
	comp=Z,20nm,0.6s									
LPL	**La Plagne**	**46.65**	**300**	*e*P		**P**		**19 55 16.6**	**+1.1**	
LPL					pmax	pmax				
	comp=Z,33nm,0.6s									
CABF	**La Chapelle**	**46.79**	**301**	*e*P		**P**		**19 55 17.5**	**+1.1**	
CABF					pmax	pmax				
	comp=Z,21nm,0.7s									
BNI	**Bardonecchia**	**46.81**	**299**	*e*P		**P**		**19 55 17.3**	**+0.6**	
BNI					pmax	pmax				
	comp=Z,33nm,1.1s									
BNI	**Bardonecchia**	**46.81**	**299**	*e*P		**P**		**19 55 17.2**	**+0.6**	
	comp=Z,33nm,1.1s									
DOU	**Dourbes**	**46.92**	**306**	P		**P**		**19 55 18.3**	**+1.1**	
ORIF	**Oris-en-Rattie**	**47.39**	**299**	*e*P		**P**		**19 55 20.4**	**-0.7**	
ORIF					pmax	pmax				
	comp=Z,7.0nm,0.6s									
BKNI	**Bangkinang**	**47.48**	**137**	P		**P**		**19 55 20.8**	**-1.2**	
	comp=Z,116nm,0.5s									
PPI	**Padang Panjang**	**47.80**	**138**	P		**P**		**19 55 24.9**	**+0.5**	
	comp=Z,31nm,0.7s									
MYKOM	**Kota Tinggi**	**47.84**	**132**	*e*P		**P**		**19 55 25.0**	**+0.2**	
	comp=Z,33nm,0.8s									
MYKOM	**Kota Tinggi**	**47.84**	**132**	⇑P		**P**		**19 55 25.4**	**+0.7**	
SSB	**Saint Sauveur**	**48.19**	**300**	*e*P		**P**		**19 55 27.4**	**+0.1**	
SSB					pmax	pmax				
	comp=Z,16nm,0.9s									
SSB	**Saint Sauveur**	**48.19**	**300**	*e*P		**P**		**19 55 27.4**	**+0.1**	
	comp=Z,16nm,0.9s									
PDSI	**Padang**	**48.22**	**138**	P		**P**		**19 55 27.7**	**0.0**	
	comp=Z,25nm,0.7s,comp=Z,2µm									
VIVF	**Saint-Julien-l**	**48.23**	**299**	*e*P		**P**		**19 55 27.8**	**+0.3**	
VIVF					pmax	pmax				
	comp=Z,21nm,0.6s									
JNU	**Nakatsue**	**48.29**	**77**	P		**P**		**19 55 28.4**	**+0.2**	
	comp=Z,14nm,0.7s,baz=296,slow=2.3,SNR=23									
JNU	**Nakatsue**	**48.29**	**77**	*e*P		**P**		**19 55 28.5**	**+0.3**	
	comp=Z,15nm,0.7s									
AVF	**Avril sur Loir**	**48.55**	**302**	*e*P		**P**		**19 55 29.8**	**-0.1**	
AVF					pmax	pmax				
	comp=Z,25nm,0.7s									
PLDF	**La Plantade**	**48.61**	**301**⇑	*e*P		**P**		**19 55 32.0**	**+1.5**	
AGO	**Saint Agoulin**	**48.91**	**301**⇑	*e*P		**P**		**19 55 34.5**	**+1.7**	
LBIL	**Lubilhac**	**49.08**	**300**⇑	*e*P		**P**		**19 55 36.2**	**+2.1**	
PYM	**Petit Puy Mans**	**49.08**	**301**⇑	*e*P		**P**		**19 55 35.9**	**+1.8**	
CAF	**Calviac**	**49.97**	**300**	*e*P		**P**		**19 55 41.4**	**+0.5**	
CAF					pmax	pmax				
	comp=Z,16nm,1.0s									
JMIC	**Jan Mayen**	**50.21**	**335**	LR		LR		20 17 16.6		
	comp=Z,508nm,19.8s,baz=70,slow=36									
KMBO	**Kilima Mbogo**	**50.33**	**226**	P		**P**		**19 55 46.0**	**+2.0**	
	comp=Z,5.2nm,0.8s,baz=35,slow=12,SNR=12									
KMBO					LR	LR		20 20 09.5		
	comp=Z,127nm,18.1s,baz=90,slow=40									
KMBO	**Kilima Mbogo**	**50.33**	**226**	*e*P		**P**		**19 55 42.2**	**-1.9**	
	comp=Z,5.8nm,0.8s									
FLN	**La Foliniere**	**50.46**	**306**	*e*P		**P**		**19 55 44.0**	**-0.5**	
FLN					pmax	pmax				
	comp=Z,32nm,1.1s									
MASI	**Maura Aman, Be**	**51.04**	**138**	P		**P**		**19 55 49.3**	**+0.1**	
	comp=Z,143nm,0.8s,comp=Z,4µm									
KSI	**Kapahiang**	**51.66**	**138**	P		**P**		**19 55 53.1**	**-0.7**	
	comp=Z,135nm,0.8s									
SGMF	**Saint Gilles**	**51.93**	**306**	*e*P		**P**		**19 55 55.2**	**-0.3**	
SGMF					pmax	pmax				
	comp=Z,21nm,0.7s									
KSM	**Kuching**	**51.99**	**126**	*e*P		**P**		**19 55 56.5**	**+0.2**	
	comp=Z,21nm,0.8s									
DAG	**Danmarks Havn**	**52.28**	**343**⇑	*i*P		**P**		**19 55 58.0**	**+0.4**	
	comp=Z,30nm,0.8s									
DAG	**Danmarks Havn**	**52.28**	**343**⇑	*i*P		**P**		**19 55 58.0**	**+0.4**	
DAG					pmax	pmax				
	comp=Z,23nm,0.8s									
MJB9	**Matsu-Tunnel**	**52.34**	**70**	*e*P		**P**		**19 55 58.0**	**-0.7**	
	comp=Z,3.0nm,0.8s									
MAJO	**Matsushiro**	**52.34**	**70**	*e*P		**P**		**19 55 57.9**	**-0.9**	
MAJO					pmax	pmax				
	comp=Z,12nm,0.8s									
MAJO	**Matsushiro**	**52.34**	**70**	*e*P		**P**		**19 55 57.9**	**-0.9**	
	comp=Z,12nm,0.8s									
MAT	**Matsushiro**	**52.34**	**70**	P		**P**		**19 55 57.4**	**-1.4**	
MJAR	**Matsushiro Arr**	**52.34**	**70**	P		**P**		**19 55 57.8**	**-1.0**	
	comp=Z,6.2nm,0.8s,baz=292,slow=9.5,SNR=21									
MJAR				pP		**pP**		**19 56 06.6**	**-2.0**	
	comp=Z,6.9nm,0.9s,baz=289,slow=8.6,SNR=8.8									
PPBI	**Pangkal Pinang**	**52.36**	**133**	P		**P**		**19 55 59.5**	**+0.5**	
	comp=Z,51nm,0.9s									
QUIF	**Quistinic**	**52.43**	**305**	*e*P		**P**		**19 55 58.6**	**-0.6**	
QUIF					pmax	pmax				
	comp=Z,10.0nm,0.5s									
LWLI	**Liwa**	**53.58**	**137**	P		**P**		**19 56 08.1**	**0.0**	
	comp=Z,78nm,0.7s,comp=Z,1µm									
KLSI		**53.67**	**136**	P		**P**		**19 56 07.0**	**-1.6**	
	comp=Z,19nm,0.8s,comp=Z,1µm									
STKI	**Sintang**	**53.81**	**126**	P		**P**		**19 56 11.7**	**+1.9**	
GUD	**Guadarrama**	**55.80**	**297**	P		**P**		**19 56 24.4**	**+0.3**	
ES19	**SONSECA Array**	**56.02**	**296**	*e*P		**P**		**19 56 25.9**	**+0.3**	
ESDC	**Sonseca Array**	**56.08**	**296**	P		**P**		**19 56 26.1**	**+0.1**	
	comp=Z,5.4nm,0.5s,baz=59,slow=7.5,SNR=55									
ESDC				pP		**pP**		**19 56 35.1**	**-0.8**	
	comp=Z,2.1nm,0.5s,baz=59,slow=7.2,SNR=6.4									
ESDC					LR	LR		20 25 35.6		
	comp=Z,118nm,18.7s,baz=15,slow=41									
ESLA	**Sonseca Array**	**56.08**	**296**	*e*P		**P**		**19 56 25.9**	**-0.1**	
	comp=Z,37nm,1.5s									
PAB	**San Pablo**	**56.40**	**296**	*e*P		**P**		**19 56 28.7**	**+0.4**	
PAB					pmax	pmax				
	comp=Z,10.0nm,1.0s									
PAB	**San Pablo**	**56.40**	**296**	*e*P		**P**		**19 56 28.7**	**+0.4**	
	comp=Z,10nm,1.0s									
BILL	**Bilibino**	**56.52**	**27**⇑	*i*P		**P**		**19 56 28.8**	**+0.2**	
BILL				*e*S		S		20 04 33.9	+16	
BILL					pmax	pmax				
	comp=Z,7.0nm,1.0s									
BILL					MLR	MLR				
	comp=Z,587nm,18.0s									
MTKI	**Muara Teweh, K**	**56.77**	**123**	P		**P**		**19 56 33.2**	**+2.1**	
	comp=Z,31nm,0.7s,comp=Z,1µm									
TAM	**Tamanrasset**	**57.05**	**274**	*e*P		**P**		**19 56 33.6**	**+0.4**	
TAM					pmax	pmax				
	comp=Z,5.0nm,1.0s									
TAM	**Tamanrasset**	**57.05**	**274**	*e*P		**P**		**19 56 33.6**	**+0.4**	
	comp=Z,5.4nm,1.0s									
POLO	**Lamas de Olo**	**57.99**	**300**	*e*P		**P**		**19 56 40.5**	**+1.0**	
PCAB	**Cabril**	**58.00**	**300**	*e*P		**P**		**19 56 41.7**	**+2.2**	
PGAV	**Gavieira, Arco**	**58.05**	**300**	*e*P		**P**		**19 56 41.2**	**+1.2**	
	comp=Z,43nm,1.5s									
PETK	**Petropavlovsk-**	**58.40**	**45**	LR		LR		20 22 40.0		
	comp=Z,202nm,20.3s,baz=218,slow=37									
PMRV	**Marv??o**	**58.57**	**297**	*e*P		**P**		**19 56 44.8**	**+1.3**	
SUMG	**Summit**	**58.63**	**341**⇑	*i*P		**P**		**19 56 44.9**	**+1.0**	
	comp=Z,48nm,0.8s									
SUMG	**Summit**	**58.63**	**341**⇑	*i*P		**P**		**19 56 44.9**	**+1.0**	
SUMG					pmax	pmax				
	comp=Z,48nm,0.8s									
SUMG	**Summit**	**58.63**	**341**	*e*P		**P**		**19 56 44.5**	**+0.6**	
PBAR	**Barrancos**	**58.89**	**296**	*e*P		**P**		**19 56 46.4**	**+0.7**	
PVAQ	**Vaqueiros**	**59.72**	**295**	*e*P		**P**		**19 56 52.2**	**+0.7**	
MESJ	**Messejana**	**59.87**	**296**	*e*P		**P**		**19 56 53.4**	**+0.9**	
	comp=Z,26nm,1.6s									
PBDV	**Barranco-do-Ve**	**59.95**	**295**	*e*P		**P**		**19 56 54.3**	**+1.2**	
MRSI	**Marisa**	**60.49**	**116**	P		**P**		**19 56 57.3**	**+0.3**	
ILULI	**Ilulissat**	**63.97**	**340**	*i*P		**P**		**19 57 20.0**	**+0.5**	
	comp=Z,43nm,0.7s									
ILULI	**Ilulissat**	**63.97**	**340**	*i*P		**P**		**19 57 20.0**	**+0.5**	
ILULI					pmax	pmax				
	comp=Z,43nm,0.7s									
LBMI	**Labuha**	**65.22**	**113**	P		P		19 57 37.2	+8.7	
SFJD	**Kangerlussuaq**	**65.35**	**338**	LR		LR		20 26 22.2		
	comp=Z,281nm,20.9s,baz=346,slow=36									
SFJD	**Kangerlussuaq**	**65.35**	**338**	*i*P		**P**		**19 57 28.3**	**-0.2**	
SFJD	**Kangerlussuaq**	**65.35**	**338**	*i*P		**P**		**19 57 28.3**	**-0.2**	
TORD	**Torodi Ar. Bea**	**65.52**	**267**	P		**P**		**19 57 30.0**	**-0.5**	
	comp=Z,6.7nm,0.8s,baz=46,slow=5.7,SNR=56									
LSZ	**Lusaka**	**66.98**	**225**	*e*P		**P**		**19 57 40.2**	**+0.4**	
LSZ					pmax	pmax				
	comp=Z,4.0nm,0.8s									
LSZ	**Lusaka**	**66.98**	**225**	*e*P		**P**		**19 57 40.2**	**+0.4**	
	comp=Z,3.7nm,0.8s									
NRS	**Narsarsuaq**	**67.55**	**332**	*i*P		**P**		**19 57 43.1**	**+0.4**	
	comp=Z,20nm,0.7s									
NRS	**Narsarsuaq**	**67.55**	**332**	*i*P		**P**		**19 57 43.1**	**+0.4**	
NRS					pmax	pmax				
	comp=Z,20nm,0.7s									
TOLK	**Toolik Lake Re**	**68.60**	**15**	P		**P**		**19 57 49.4**	**+0.1**	
	baz=327									
SOEI	**Soe**	**69.50**	**122**	*e*P		**P**		**19 57 53.9**	**-1.8**	
COLD	**Coldfoot**	**69.66**	**16**	*e*P		**P**		**19 57 56.0**	**+0.2**	
INK	**Inuvik**	**71.51**	**9**	*e*P		**P**		**19 58 07.2**	**+0.2**	
INK					pmax	pmax				
	comp=Z,13nm,0.6s									
INK	**Inuvik**	**71.51**	**9**	*e*P		**P**		**19 58 07.2**	**+0.2**	
	comp=Z,13nm,0.6s									
TTA	**Tatalina**	**71.80**	**21**	*e*P		**P**		**19 58 09.0**	**0.0**	
TTA	**Tatalina**	**71.80**	**21**	*e*P		**P**		**19 58 09.0**	**0.0**	
TT01	**Tatalina**	**71.82**	**21**	*e*P		**P**		**19 58 09.2**	**+0.2**	
MDM	**Murphy Dome**	**72.02**	**16**	*e*P		**P**		**19 58 10.3**	**+0.1**	
COLA	**College**	**72.18**	**16**	*e*P		**P**		**19 58 11.6**	**+0.5**	
COLA	**College**	**72.18**	**16**	*e*P		**P**		**19 58 11.6**	**+0.5**	
CAST	**Castle Rocks**	**72.43**	**19**	*e*P		**P**		**19 58 12.7**	**0.0**	
ILAR	**Eielson Array**	**72.47**	**7**	P		**P**		**19 58 12.1**	**-0.8**	
	comp=Z,7.0nm,0.8s,baz=325,slow=5.1,SNR=57									
ILAR				pP		**pP**		**19 58 21.6**	**-1.5**	
	comp=Z,6.0nm,0.9s,baz=322,slow=5.1,SNR=13									
ILAR					LR	LR		20 36 37.6		
	comp=Z,107nm,18.2s,baz=268,slow=41									
KTH	**Kantishna Hill**	**72.60**	**18**	*e*P		**P**		**19 58 13.3**	**-0.4**	
HDA	**Harding Lake**	**72.78**	**16**	*e*P		**P**		**19 58 13.9**	**-0.8**	
PPLA	**Purkeypile**	**72.84**	**19**	*e*P		**P**		**19 58 14.8**	**-0.5**	
	comp=Z,7.8nm,0.5s									
MCK	**McKinley**	**72.92**	**17**	*e*P		**P**		**19 58 15.6**	**0.0**	
MCK	**McKinley**	**72.92**	**17**	*e*P		**P**		**19 58 15.6**	**0.0**	
EGAK	**Eagle**	**73.61**	**14**	*e*P		**P**		**19 58 19.8**	**+0.2**	
DOT	**Dot Lake**	**74.06**	**15**	*e*P		**P**		**19 58 21.9**	**-0.3**	
	comp=Z,21nm,1.0s									
PAX	**Paxson**	**74.36**	**16**	*e*P		**P**		**19 58 23.4**	**-0.8**	
PAX					pmax	pmax				
	comp=Z,18nm,0.8s									
PAX	**Paxson**	**74.36**	**16**	*e*P		**P**		**19 58 23.4**	**-0.8**	
	comp=Z,18nm,0.8s									
DBIC	**Dimbokro**	**74.56**	**266**	P		**P**		**19 58 25.7**	**-0.2**	
	comp=Z,3.4nm,0.6s,baz=51,slow=6.8,SNR=7.9									
DBIC					LR	LR		20 35 44.8		
	comp=Z,102nm,18.0s,baz=11,slow=39									
DAWY	**Dawson**	**74.58**	**13**	*e*P		**P**		**19 58 25.0**	**-0.3**	
	comp=Z,9.3nm,0.8s									
PMR	**Palmer**	**74.71**	**18**	*e*P		**P**		**19 58 25.9**	**-0.1**	
PMR	**Palmer**	**74.71**	**18**	*e*P		**P**		**19 58 25.9**	**-0.1**	
SML	**Sawmill**	**74.72**	**18**	*e*P		**P**		**19 58 25.8**	**-0.3**	
SML					pmax	pmax				
	comp=Z,8.0nm,0.9s									
SML	**Sawmill**	**74.72**	**18**	*e*P		**P**		**19 58 25.8**	**-0.3**	
	comp=Z,8.4nm,0.9s									
RSO	**Reboubt South**	**74.72**	**21**	*e*P		**P**		**19 58 27.9**	**+1.5**	
HARP	**HAARP**	**74.93**	**16**	*e*P		**P**		**19 58 28.5**	**+1.1**	
RC01	**Rabbit Creek A**	**74.99**	**19**	*e*P		**P**		**19 58 27.0**	**-0.6**	
GENI	**Genyem**	**75.86**	**105**	P		**P**		**19 58 33.0**	**-0.4**	
TSUM	**Tsumeb**	**76.24**	**231**	*e*P		**P**		**19 58 36.2**	**+0.7**	
	comp=Z,25nm,1.3s									
BMRM	**Bremner River**	**76.33**	**17**	*e*P		**P**		**19 58 35.6**	**+0.2**	
	comp=Z,16nm,0.8s									
FITZ	**Fitzroy Crossi**	**76.60**	**127**	P		**P**		**19 58 37.2**	**-0.2**	
	comp=Z,6.8nm,0.9s,baz=330,slow=6.2,SNR=8.3									
KDAK	**Kodiak Island**	**77.01**	**22**	*i*P		**P**		**19 58 39.0**	**-0.2**	
YKA	**Yellowknife Ar**	**78.78**	**2**	P		**P**		**19 58 49.0**	**0.0**	
	comp=Z,17nm,0.7s,baz=351,slow=5.6,SNR=61									
YKA				pP		**PcP**		**19 58 58.2**	**+0.5**	
	comp=Z,11nm,0.8s,baz=350,slow=5.4,SNR=12									
YKA					LR	LR		20 35 56.6		
	comp=Z,22nm,21.9s,baz=0.0,slow=37									
BOSA	**Boshof**	**79.47**	**220**	P		**P**		**19 58 53.5**	**+0.2**	
	comp=Z,14nm,0.9s,baz=37,slow=7.7,SNR=9.9									
BOSA					LR	LR		20 36 02.9		
	comp=Z,193nm,20.4s,baz=132,slow=37									
SCHQ	**Schefferville**	**79.71**	**337**	P		**P**		**19 58 53.7**	**-0.5**	
	comp=Z,9.6nm,0.7s,baz=40,slow=7.2,SNR=5.2									
SCHQ					LR	LR		20 33 11.1		
	comp=Z,366nm,21.9s,baz=72,slow=35									
DLBC	**Dease Lake**	**81.42**	**11**	*e*P		**P**		**19 59 04.0**	**+0.6**	
	comp=Z,4.4nm,0.7s									
WRA	**Warramunga Arr**	**83.54**	**122**	P		**P**		**19 59 14.2**	**-0.7**	
	comp=Z,15nm,0.7s,baz=325,slow=5.1,SNR=79									
WRA				PKKPbc		**PKKPbc**		**20 17 33.8**	**+1.4**	
	comp=Z,0.6nm,0.5s,baz=135,slow=2.2,SNR=6.7									
WRAB	**Tennant Creek**	**83.54**	**122**	*e*P		**P**		**19 59 13.9**	**-1.0**	
WRAB					pmax	pmax				
	comp=Z,30nm,1.1s									
WRAB	**Tennant Creek**	**83.54**	**122**	*e*P		**P**		**19 59 13.9**	**-1.0**	
	comp=Z,30nm,1.1s									
ASAR	**Alice Springs**	**85.90**	**125**	P		**P**		**19 59 26.0**	**-0.8**	
	comp=Z,8.9nm,0.8s,baz=312,slow=4.9,SNR=93									
ASAR				pP		**pP**		**19 59 35.9**	**-1.3**	
	comp=Z,3.3nm,0.6s,baz=314,slow=4.9,SNR=8.9									
ASAR				PKKPbc		**PKKPbc**		**20 17 27.6**	**+0.7**	
	comp=Z,0.2nm,0.3s,baz=125,slow=3.3,SNR=6.0									
FFC	**Flin Flon**	**86.45**	**356**	*e*P		**P**		**19 59 28.6**	**-0.5**	
FFC					pmax	pmax				
	comp=Z,12nm,0.8s									
FFC	**Flin Flon**	**86.45**	**356**	*e*P		**P**		**19 59 28.6**	**-0.5**	
	comp=Z,12nm,0.8s									
EDM	**Edmonton**	**88.11**	**2**	*e*P		**P**		**19 59 37.6**	**+0.4**	
EDM					pmax	pmax				
	comp=Z,22nm,0.7s									
EDM	**Edmonton**	**88.11**	**2**	*e*P		**P**		**19 59 37.6**	**+0.4**	
	comp=Z,22nm,0.7s									
ULM	**Lac du Bonnet**	**90.36**	**351**	P		**P**		**19 59 47.2**	**-0.5**	
	comp=Z,3.2nm,0.7s,baz=346,slow=4.3,SNR=3.5									
ULM					LR	LR		20 42 26.2		
	comp=Z,222nm,20.5s,baz=347,slow=37									
A33A	**Warroad**	**91.59**	**351**	P		**P**		**19 59 53.4**	**-0.1**	
	baz=11									
CTAO	**Charters Tower**	**91.83**	**114**	*e*P		**P**		**19 59 54.7**	**-0.2**	
CTAO	**Charters Tower**	**91.83**	**114**	*e*P		**P**		**19 59 54.7**	**-0.2**	
	comp=Z,111nm,1.1s									
EYMN	**Ely**	**92.00**	**348**	P		**P**		**19 59 55.4**	**-0.1**	
	baz=14									
AGMN	**Agassiz Nation**	**92.28**	**351**	P		**P**		**19 59 56.5**	**-0.1**	
	baz=10									
B05A	**Bryant**	**92.40**	**8**	P		**P**		**19 59 56.7**	**-0.5**	
	baz=350									
NEW	**Newport**	**92.86**	**5**	P		**P**		**19 59 59.9**	**+0.5**	
	baz=354									
NEW	**Newport**	**92.86**	**5**	*e*P		**P**		**19 59 59.6**	**+0.2**	
NEW					pmax	pmax				
	comp=Z,8.0nm,0.8s									
NEW	**Newport**	**92.86**	**5**	*e*P		**P**		**19 59 59.6**	**+0.2**	
	comp=Z,8.4nm,0.8s									
F41A	**Three Lakes**	**93.72**	**346**	P		**P**		**20 00 03.5**	**+0.2**	
	baz=16									
F39A	**Loretta**	**93.88**	**347**	P		**P**		**20 00 04.0**	**-0.1**	
	baz=14									
LAO	**LASA Array**	**94.67**	**358**	P		**P**		**20 00 08.4**	**+0.7**	
	baz=2.4									
BOZ	**Bozeman (W)**	**95.78**	**2**	P		**P**		**20 00 13.3**	**+0.3**	
	baz=358									
H34A	**Spellman Lake,**	**95.84**	**350**	P		**P**		**20 00 13.5**	**+0.5**	
	baz=10									
RLMT	**Red Lodge**	**96.28**	**360**	*e*P		**P**		**20 00 16.2**	**+0.8**	
	comp=Z,7.7nm,1.4s									
IMW	**Indian Meadow**	**97.49**	**1**	*e*P		Pdif		20 00 22.0	+1.0	
	comp=Z,1.4nm,0.7s									
PDAR	**Pinedale Array**	**98.63**	**0**	P		Pdif		20 00 26.2	+0.1	
	comp=Z,0.3nm,0.6s,baz=5.7,slow=3.0,SNR=3.8									
PDAR					LR	LR		20 49 52.4		
	comp=Z,116nm,18.1s,baz=3.5,slow=38									
SYO	**Syowa Base**	**110.11**	**191**⇓	*e*Pdiff		**Pdif**		**20 01 17.0**	**+1.2**	
VNDA	**Vanda**	**127.96**	**164**	PKP		**PKPdf**		**20 05 51.1**	**+0.1**	
	comp=Z,1.3nm,0.9s,baz=284,slow=3.8,SNR=5.2									
QSPA	**South Pole Qui**	**128.77**	**180**	*e*PKPdf		**PKPdf**		**20 05 52.8**	**-0.2**	
CPUP	**Villa Florida**	**134.97**	**270**	PKP		**PKPdf**		**20 06 05.7**	**-0.2**	
	comp=Z,4.9nm,0.7s,baz=22,slow=1.2,SNR=12									
LPAZ	**La Paz**	**137.53**	**290**	PKP		**PKPdf**		**20 06 12.3**	**+0.7**	
	comp=Z,1.9nm,0.7s,baz=338,slow=1.9,SNR=7.5									
TRQA	**Tornquist**	**143.25**	**256**	*e*PKPpre		PKPpre		20 06 17.5		
ACLC	**CERRO LA CRUZ**	**143.93**	**272**	*e*P		PKPbc		20 06 20.9	+0.7	
MRA	**San Martin**	**144.22**	**267**	*e*P		PKPbc		20 06 21.1	+0.2	
ACHE	**Chepes**	**144.46**	**269**	*e*P		**PKPab**		**20 06 21.2**	**-0.3**	
VCA	**Vinchina**	**144.59**	**274**	*e*P		**PKPab**		**20 06 21.8**	**-0.3**	
AVFE	**Valle Fertil**	**144.86**	**271**	*e*P		**PKPab**		**20 06 22.6**	**-0.3**	
AGUA	**GUANDACOL**	**145.16**	**273**	*e*P		**PKPbc**		**20 06 23.4**	**-0.6**	
ACAN	**Cantantal**	**145.31**	**268**	*e*P		**PKPbc**		**20 06 23.7**	**-0.6**	
AMOG	**MOGNA**	**145.79**	**271**	*e*P		**PKPdf**		**20 06 24.7**	**-0.6**	
ACCO	**Cerro Coronel**	**146.09**	**272**	*e*P		**PKPdf**		**20 06 26.0**	**-0.2**	
RTCV	**Cerro Valdivia**	**146.20**	**269**	*e*P		**PKPdf**		**20 06 25.4**	**-0.6**	
AROD	**Rodeo**	**146.22**	**273**	*e*P		**PKPdf**		**20 06 26.2**	**-0.2**	
ASAL	**Salagasta**	**146.72**	**268**	*e*P		**PKPdf**		**20 06 26.4**	**-0.5**	
ARCO	**CERRO ARCO**	**146.89**	**268**	IAML				20 16 33.1		
	comp=Z,76nm,0.5s									
AAGR	**Agrelo**	**146.90**	**268**	*e*P		**PKPdf**		**20 06 26.9**	**-0.3**	
AUSP	**Uspallata**	**147.01**	**269**	*e*P		**PKPdf**		**20 06 27.4**	**-0.3**	
PLCA	**Paso Flores**	**150.32**	**254**	PKPbc		**PKPbc**		**20 06 38.4**	**+0.7**	
	comp=Z,26nm,0.8s,baz=160,slow=2.2,SNR=25									
PLCA	**Paso Flores**	**150.32**	**254**	*e*P		**PKPdf**		**20 06 32.1**	**-0.3**	

KRSC 08 19:47:45.4±1.1, 51.89N×158.81E, h42km±14km, ML3.5,
Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
RUS	**Russkaya**	**0.57**	**342**	*e*P		Pn	19 47 58.4	+1.2
RUS				*e*P		Pn	19 47 58.4	+1.2
RUS				*e*S		Sn	19 48 06.3	+0.7
RUS				*e*S		Sn	19 48 06.4	+0.8
MTVR	**Mutnovka**	**0.71**	**328**	*e*P		Pn	19 48 00.5	+1.3
MTVR				*e*S		Sn	19 48 10.0	+1.0
ASAK	**Asacha**	**0.75**	**312**	*e*P		Pn	19 48 01.5	+1.9
ASAK				*e*S		Sn	19 48 11.6	+1.8
KRMR	**Karymshinskiy**	**1.03**	**337**	*e*P		Pn	19 48 04.7	+1.3
KRMR				*e*S		Sn	19 48 17.4	+0.8
DALK	**Dalny**	**1.15**	**358**	*e*P		Pn	19 48 06.1	+1.1
DALK				*e*S		Sn	19 48 19.7	+0.3

*HEL **08** 20:14:58.8±0.3,67.˝78N×20.˝15E,h0km,ML1.7, Explosion*
*CSEM **08** 20:15:00.5±0.6,67.˝76N×20.˝80E,h2km,ML1.7, Error ellipse: s-maj=15.2km s-min=6.8km az=69.0,Mining explosion.*

BER 08 20:15:02.9±2.7, 67.˝76N×20.˝45E, h0km, ML1.6, Suspected explosion, Sweden

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KIF	**Kilpisjarvi**	**1.25**	**6**	*e*P	Pg	20 15 24.3	-2.6
KIF				*e*S	Sg	20 15 41.9	-1.2
KIF	**Kilpisjarvi**	**1.25**	**6**	*e*PN	Pg	20 15 23.9	-2.9
KIF				MSG		20 15 38.3	
	comp=Z,11nm,0.2s						
KIF				*e*SB	Sg	20 15 39.1	-3.9
KIF	**Kilpisjarvi**	**1.25**	**6**	Pn	Pg	20 15 23.9	-3.0
KIF	**Kilpisjarvi**	**1.25**	**6**	*e*P	Pg	20 15 24.3	-2.6
	SNR=70						
KIF				Sb	Sg	20 15 39.1	-4.0
KIF				*e*S	Sb	20 15 41.9	-2.1
	SNR=70						
HEF	**Hetta**	**1.37**	**60**	*e*P	Pg	20 15 25.6	-3.4
HEF				*e*S	Sg	20 15 45.9	-0.9
HEF	**Hetta**	**1.37**	**60**	*e*PN	Pg	20 15 25.9	-3.1
HEF				MSG		20 15 43.7	
	comp=Z,5.1nm,0.2s						
HEF				*e*SN	Sg	20 15 46.2	-0.5
HEF	**Hetta**	**1.37**	**60**	*e*P	Pg	20 15 25.6	-3.5
	SNR=50						
HEF	**Hetta**	**1.37**	**60**	Pn	Pg	20 15 25.9	-3.2
HEF				*e*S	Sg	20 15 45.9	-0.8
	SNR=50						
HEF				Sn	Sb	20 15 46.2	-1.1
KTK1	**Kautokeino**	**1.62**	**38**	*e*P	Pn	20 15 29.8	-3.0
KTK1				*e*S	Sn	20 15 53.4	-0.9
KTK1				IAML		20 15 57.7	
	comp=Z,7.9nm,0.4s						
KTK1	**Kautokeino**	**1.62**	**38**	*e*P	Pn	20 15 29.8	-2.9
	SNR=50						
KTK1				*e*S	Sn	20 15 53.4	-0.9
	SNR=50						
TRO	**Tromso**	**1.96**	**344**	*e*P	Pn	20 15 36.4	-0.9
TRO				IAML		20 16 06.1	
	comp=Z,8.0nm,0.4s						
TRO	**Tromso**	**1.96**	**344**	*e*P	Pn	20 15 36.4	-0.9
	SNR=50						
STEI	**Steigen**	**1.98**	**277**	IAML		20 16 05.2	
	comp=Z,10nm,0.4s						
TOF	**Tornio**	**2.28**	**136**	*e*PG	Pn	20 15 41.0	-0.7
TOF				*e*SG	Sb	20 16 13.7	+0.2
TOF	**Tornio**	**2.28**	**136**	Pg	Pn	20 15 41.0	-0.7
TOF				Sg	Sb	20 16 13.6	+0.1
RNF	**Rovaniemi**	**2.46**	**116**	*e*PG	Pn	20 15 44.5	+0.3
RNF				*e*SG	Sb	20 16 18.2	-0.5
RNF	**Rovaniemi**	**2.46**	**116**	Pg	Pn	20 15 44.5	+0.3
RNF				Sg	Sb	20 16 18.2	-0.5
ARE0	**ARCESS Array S**	**2.57**	**44**	*e*P	Pn	20 15 46.0	+0.4
ARE0				*e*S	Sn	20 16 18.3	+0.7
ARE0				IAML		20 16 24.3	
	comp=Z,5.2nm,0.3s						
ARE0	**ARCESS Array S**	**2.57**	**44**	*e*PB	Pn	20 15 43.9	-1.8
ARE0				*e*SG	Sb	20 16 20.8	-1.0
ARE0	**ARCESS Array S**	**2.57**	**44**	Pb	Pn	20 15 43.9	-1.8
ARE0	**ARCESS Array S**	**2.57**	**44**	*e*P	Pn	20 15 46.0	+0.3
	SNR=50						
ARE0				*e*S	Sn	20 16 18.3	+0.7
	SNR=50						
ARE0				Sg	Sb	20 16 20.8	-1.0
LOF	**Lofoten**	**2.63**	**281**	IAML		20 16 24.3	
	comp=Z,5.8nm,0.4s						
MOR8	**Moi Rana**	**2.85**	**239**	IAML		20 16 27.5	
	comp=Z,7.4nm,0.7s						
HAMF	**Hammerfest**	**3.11**	**20**	IAML		20 16 47.0	
	comp=Z,7.5nm,0.5s						
OUL	**Oulu**	**3.47**	**138**	*e*P	Pn	20 15 56.1	-1.9
OUL				*e*S	Sn	20 16 36.1	-3.6
OUL	**Oulu**	**3.47**	**138**	P	Pn	20 15 56.0	-2.0
OUL				S	Sn	20 16 36.0	-3.7
MSF	**Maaselka**	**3.87**	**115**	*e*PB	Pn	20 16 05.3	+1.7
MSF	**Maaselka**	**3.87**	**115**	Pb	Pn	20 16 05.3	+1.7
KUI6	**Riekki**	**4.11**	**111**	*e*PG	Pb	20 16 17.1	+1.1
KUI6				*e*		20 17 13.8	
KUI6	**Riekki**	**4.11**	**111**	Pg	Pb	20 16 17.0	+1.0
VAF	**Ylistaro**	**4.83**	**168**	*e*P	Pn	20 16 13.9	-2.9
VAF				*e*		20 17 14.1	
VAF	**Ylistaro**	**4.83**	**168**	P	Pn	20 16 13.8	-2.9

*GUC **08** 20:15:28.8±0.7,33.˝25S×72.˝48W,h36km±7km,ML3.3*
ISC 08 20:15:29.7±4.7, 33.˝5S×0.˚1×72.˝3W×0.˚1, h2km±21km, n19, σ1§43/30, 1C-3D, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ROC1	**El Roble**	**1.18**	**66**	*e*P	**Pn**	**20 15 51.3**	**-2.1**
ROC1				*e*S	**Sb**	**20 16 06.8**	**-1.9**
ROCH	**El Roble**	**1.18**	**66**	⇓*i*P	**Pn**	**20 15 51.1**	**-2.3**
ROCH				*i* S	**Sb**	**20 16 08.5**	**-0.3**
ROCH				IAML		20 16 12.0	
	comp=E,824nm,0.6s						
PEL	**Peldehue**	**1.38**	**77**	⇑*i*P	**Pn**	**20 15 55.1**	**-1.0**
PEL				*i* S	**Sn**	**20 16 15.2**	**+0.2**
PEL				IAML		20 16 21.2	
	comp=N,752nm,0.3s						
ANTU	**Antumapu**	**1.39**	**95**	*e*P	**Pn**	**20 15 55.9**	**-0.3**
ANTU				IAML		20 16 20.4	
	comp=E,722nm,0.5s						
CLCH	**Cerro Calan**	**1.47**	**88**	⇓*i*P	**Pn**	**20 15 56.6**	**-0.7**
CLCH				*i* S	**Sn**	**20 16 17.7**	**+0.5**
CLCH				IAML		20 16 29.8	
	comp=N,975nm,0.5s						
FCH	**Farellones**	**1.68**	**86**	⇓*i*P	**Pn**	**20 16 00.2**	**-0.2**
FCH				*i* S	**Sn**	**20 16 23.5**	**+0.8**
FCH				IAML		20 16 33.5	
	comp=E,479nm,0.4s						
AUSP	**Uspallata**	**2.74**	**64**	*e*P	**Pn**	**20 16 15.7**	**+0.7**
AAGR	**Agrelo**	**2.92**	**83**	*e*P	**Pn**	**20 16 17.9**	**+0.5**
ASAL	**Salagasta**	**3.03**	**74**	*e*P	**Pn**	**20 16 19.4**	**+0.6**
ASAL				*e*S	**Sg**	**20 17 07.6**	**+0.5**
RTCV	**Cerro Valdivia**	**3.54**	**64**	*e*P	**Pn**	**20 16 26.5**	**+0.7**
ACCO	**Cerro Coronel**	**3.97**	**45**	*e*P	**Pn**	**20 16 32.5**	**+0.6**
ACCO				*e*S	**Sb**	**20 17 30.1**	**+0.9**
AROD	**Rodeo**	**4.07**	**37**	*e*P	**Pn**	**20 16 33.0**	**-0.3**
AROD				*e*S	**Sb**	**20 17 31.3**	**-0.8**
AMOG	**MOGNA**	**4.09**	**53**	*e*P	**Pn**	**20 16 33.8**	**+0.5**
ACAN	**Cantantal**	**4.46**	**76**	*e*P	**Pn**	**20 16 39.5**	**+1.1**
AVFE	**Valle Fertil**	**4.97**	**57**	*e*P	**Pn**	**20 16 45.1**	**-0.3**
AVFE				*e*S	**Sb**	**20 18 00.7**	**+3.1**
AVFE				IAML		20 18 14.4	
	comp=Z,22nm,0.5s						
AGUA	**GUANDACOL**	**5.12**	**40**	*e*P	**Pn**	**20 16 47.1**	**-0.5**
ACHE	**Chepes**	**5.29**	**66**	*e*P	**Pn**	**20 16 50.9**	**+1.0**
ACHE				*e*S	**Sb**	**20 18 02.6**	**-4.4**
VCA	**Vinchina**	**5.87**	**38**	*e*P	**Pn**	**20 16 57.2**	**-0.7**
VCA				*e*S	**Sb**	**20 18 24.9**	**+1.1**
ACLC	**CERRO LA CRUZ**	**6.08**	**50**	*e*P	**Pn**	**20 17 00.8**	**0.0**
ACLC				*e*S	Sb	20 18 19.6	-10

*NEIC **08** 20:15:31.3±0.0, 18.˚64N×102.˝26W,h64km,MD4.1(MEX), After MEX.*
MEX 08 20:15:31.3±0.6, 18.˚64N×102.˝26W, h64km±9km, MD4.1, Michoacan

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
URUA	**Uruapan**	**0.80**	**13**	*e*P	Pn	20 15 45.0	-2.2
URUA				*e*S	Sn	20 15 56.8	-2.1
MMIG	**Aquila**	**1.09**	**252**	*e*P	Pn	20 15 48.6	-2.1
MMIG				*e*S	Sn	20 16 03.7	-1.4
MMIG	**Aquila**	**1.09**	**252**	*e*P	Pn	20 15 48.6	-2.1
MMIG				*e*S	Sn	20 16 03.7	-1.4
ZIIG	**Zihuatanejo**	**1.27**	**144**	*e*P	Pn	20 15 52.0	-1.1
ZIIG				*e*S	Sn	20 16 07.9	-1.5
ZIIG	**Zihuatanejo**	**1.27**	**144**	*e*P	Pn	20 15 52.0	-1.1
ZIIG				*e*S	Sn	20 16 07.9	-1.5
MOIG	**Morelia**	**1.45**	**44**	*e*P	Pn	20 15 54.3	-1.3
MOIG				*e*S	Sn	20 16 12.2	-1.6
MOIG	**Morelia**	**1.45**	**44**	*e*P	Pn	20 15 54.3	-1.3
MOIG				*e*S	Sn	20 16 12.2	-1.6
EZ5V		**1.52**	**304**	*e*P	Pn	20 15 55.4	-1.3
EZ5V				*e*S	Sn	20 16 14.1	-1.6
R15V		**1.72**	**288**	*e*P	Pn	20 15 57.6	-1.5
R15V				*e*S	Sn	20 16 18.7	-1.4
IGIG	**Irapuato, Guan**	**2.28**	**22**	*i* P	Pn	20 16 05.5	-1.3
IGIG				*i* S	Sn	20 16 32.3	-1.7
PLIG	**Platanillo**	**2.63**	**95**	*e*P	Pn	20 16 10.9	-0.6
PLIG				*i* S	Sn	20 16 40.2	-2.0
PLIG	**Platanillo**	**2.63**	**95**	*e*P	Pn	20 16 10.9	-0.6
PLIG				*i* S	Sn	20 16 40.2	-2.0
YAIG	**Yautepec**	**3.03**	**85**	*i* P	Pn	20 16 15.9	-1.1
YAIG				*i* S	Sn	20 16 51.0	-1.3
YAIG	**Yautepec**	**3.03**	**85**	*i* P	Pn	20 16 15.9	-1.1
YAIG				*i* S	Sn	20 16 51.0	-1.3
DEIG	**Demacu**	**3.46**	**61**	*e*P	Pn	20 16 22.7	-0.3
DEIG				*i* S	Sn	20 17 01.7	-1.2
DEIG	**Demacu**	**3.46**	**61**	*e*P	Pn	20 16 22.7	-0.3
DEIG				*i* S	Sn	20 17 01.7	-1.2
ZAIG	**Zacatecas**	**4.12**	**356**	*i* P	Pn	20 16 30.4	-1.7
ZAIG				*i* S	Sn	20 17 17.9	-1.2
ZAIG	**Zacatecas**	**4.12**	**356**	*i* P	Pn	20 16 30.4	-1.7
ZAIG				*i* S	Sn	20 17 17.9	-1.2

BER 08 20:16:21.3±0.4, 66.˚60N×12.˝76E, h0km±999km, ML0.3, 1C, Northern Norway

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KONS	**Konsvik**	**0.17**	**124**	*e*	Pg	20 16 24.3	-0.3
KONS	**Konsvik**	**0.17**	**124**	⇑*i*P	Pg	20 16 24.3	-0.3
KONS				*e*S	Sg	20 16 26.7	-0.1
KONS				IAML		20 16 27.1	
	comp=Z,4.2nm,0.2s						
STOK	**Stokkvaagen**	**0.28**	**158**	*e*P	Pg	20 16 26.4	-0.3
STOK				*e*S	Sg	20 16 30.3	-0.1
STOK				IAML		20 16 30.6	
	comp=N,6.5nm,0.1s						
MOR8	**Moi Rana**	**0.80**	**121**	*e*P	Pg	20 16 36.8	+0.2

*SJA **08** 20:29:09.4±0.6,31.˚05S×71.˚74W,h3km±11km,ML3.3, MW3.6*
*GUC **08** 20:29:13.2±0.6,31.˚17S×71.˚41W,h37km±50km,ML3.2*
ISC 08 20:29:10.7±2.6, 31.˚08S±0.˚06×72.˝2W±0.˝2, h35km, n21, σ0§89/31, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TLL	**Tololo Astrono**	**1.48**	**52**	*i* P	**Pn**	**20 29 34.9**	**-0.3**
TLL				*i* S	**Sn**	**20 29 50.8**	**-2.6**
TLL				IAML		20 29 53.9	
	comp=N,592nm,0.6s						
ROCH	**El Roble**	**2.12**	**153**	*i* P	**Pn**	**20 29 44.9**	**+1.0**
ROCH				*e*S	**Sn**	**20 30 08.8**	**-0.4**
ROCH				IAML		20 30 11.9	
	comp=E,408nm,0.8s						
PEL	**Peldehue**	**2.41**	**149**	*i* P	**Pn**	**20 29 48.4**	**+0.7**
PEL				*i* S	**Sn**	**20 30 14.8**	**-1.2**
PEL				IAML		20 30 17.6	
	comp=N,257nm,0.6s						
AROD	**Rodeo**	**2.49**	**69**	*e*P	**Pn**	**20 29 49.5**	**+0.4**
RTLS	**Leoncito**	**2.55**	**107**	*e*P	**Pn**	**20 29 50.0**	**+0.2**
AUSP	**Uspallata**	**2.62**	**116**	*e*P	**Pn**	**20 29 51.8**	**+0.9**
CLCH	**Cerro Calan**	**2.69**	**150**	*i* P	**Pn**	**20 29 52.1**	**+0.5**
CLCH				*i* S	**Sn**	**20 30 21.6**	**-1.3**
CLCH				IAML		20 30 37.6	
	comp=E,347nm,0.5s						
ACCO	**Cerro Coronel**	**2.71**	**80**	*e*P	**Pn**	**20 29 52.6**	**+0.6**
ACCO				*e*S	**Sn**	**20 30 23.9**	**+0.1**
FCH	**Farellones**	**2.74**	**145**	*e*P	**Pn**	**20 29 52.9**	**+0.3**
FCH				*e*S	**Sn**	**20 30 23.1**	**-1.5**
FCH				IAML		20 30 33.2	
	comp=E,137nm,0.2s						
ACDV	**Cuesta del Vie**	**2.77**	**72**	*e*P	**Pn**	**20 29 52.9**	**0.0**
ACDV				*e*S	**Sn**	**20 30 25.4**	**+0.2**
AMOG	**MOGNA**	**3.15**	**88**	*e*P	**Pn**	**20 29 57.7**	**-0.2**
RTCV	**Cerro Valdivia**	**3.19**	**105**	*e*P	**Pn**	**20 29 58.4**	**-0.1**
ASAL	**Salagasta**	**3.21**	**119**	*e*P	**Pn**	**20 29 59.3**	**+0.6**
ARCO	**CERRO ARCO**	**3.26**	**123**	*e*P	**Pn**	**20 30 00.1**	**+0.6**
ARCO				IAML		20 30 16.1	
	comp=Z,63nm,0.4s						
AAGR	**Agrelo**	**3.46**	**126**	*e*P	**Pn**	**20 30 03.4**	**+1.1**
AGUA	**GUANDACOL**	**3.55**	**64**	*e*P	**Pn**	**20 30 04.2**	**+0.7**
AGUA				*e*S	**Sn**	**20 30 44.7**	**+0.4**
AVFE	**Valle Fertil**	**4.07**	**85**	*e*P	**Pn**	**20 30 11.2**	**+0.7**
AVFE				IAML		20 31 13.5	
	comp=Z,63nm,0.5s						
VCA	**Vinchina**	**4.15**	**57**	*e*P	**Pn**	**20 30 12.8**	**+0.9**
ACAN	**Cantantal**	**4.40**	**107**	*e*P	**Pn**	**20 30 15.3**	**+0.2**
ACHE	**Chepes**	**4.71**	**92**	*e*P	**Pn**	**20 30 20.2**	**+0.7**
ACHE				*e*S	**Sn**	**20 31 12.5**	**-0.5**
ACLC	**CERRO LA CRUZ**	**4.80**	**71**	*e*P	**Pn**	**20 30 21.8**	**+1.1**
ACLC				*e*S	**Sn**	**20 31 15.4**	**+0.2**

IDC 08 20:36:11.3±1.5, 15.˚94S×177.˚69E, h0km, mb4.0/6, mb1 4.3/6, mb1mx3.9/24, mbtmp4.0/6, MS3.5/5, Ms1 3.5/5, ms1mx3.1/41, Error ellipse: s-maj=99.7km s-min=22.0km az=148.0, Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**12.26**	**238**	LR	LR	20 42 43.2	
	comp=Z,175nm,21.8s,baz=36,slow=32						
DZM	**Mont Dzumac**	**12.26**	**238**	*e*LR	LR	20 41 08.6	
	418nm,26.1s						
HNR	**Honiara**	**18.48**	**288**	LR	LR	20 46 43.7	
	comp=Z,107nm,18.0s,baz=204,slow=34						
RAR	**Rarotonga**	**21.98**	**107**	LR	LR	20 49 12.7	
	comp=Z,53nm,18.1s,baz=288,slow=36						
PPT2	**Papeete2**	**31.36**	**98**	*e*LR	LR	20 50 32.9	
	135nm,31.6s						
STKA	**Stephens Creek**	**36.41**	**238**	P	P	20 43 17.9	+0.1
	4.0nm,0.7s,baz=44,slow=8.5,SNR=7.6						
WRA	**Warramunga Arr**	**41.36**	**258**	P	P	20 43 59.3	-0.2
	2.7nm,1.1s,baz=90,slow=8.5,SNR=6.9						
ASAR	**Alice Springs**	**41.78**	**252**	P	P	20 44 02.5	-0.4
	4.2nm,0.9s,baz=83,slow=8.8,SNR=28						
LPIG	**La Paz**	**80.74**	**62**	LR	LR	21 16 11.8	
	comp=Z,51nm,19.9s,baz=220,slow=30						
BBB	**Bella Bella**	**82.45**	**30**	LR	LR	21 20 53.1	
	comp=Z,44nm,18.2s,baz=228,slow=32						
ILAR	**Eielson Array**	**84.87**	**14**	P	P	20 48 47.5	-0.1
	1.2nm,0.9s,baz=225,slow=5.6,SNR=9.5						
TXAR	**Lajitas Array**	**88.14**	**59**	P	P	20 49 04.1	-0.6
	0.5nm,0.8s,baz=219,slow=6.9,SNR=4.5						
PDAR	**Pinedale Array**	**88.54**	**45**	P	P	20 49 06.7	+0.3
	0.2nm,0.4s,baz=264,slow=8.8,SNR=3.4						
GERES	**GERESS Array B 144.67 342**			PKP	PKPdf	20 55 51.0	+0.8
	0.2nm,0.4s,baz=258,slow=1.8,SNR=3.2						

*LDG **08** 20:36:08.8±1.4,44.˚85N×11.˚24E,h20km,Ml3.1/1, Error ellipse: s-maj=36.6km s-min=12.0km az=92.0*
*PRU **08** 20:36:11.8,44.˚44N×10.˚31E,h0km*
*GEN **08** 20:36:14.0,44.˚70N×10.˚30E,h21km,ML2.3*
*CSEM **08** 20:36:15.7±0.2,44.˚58N×10.˚28E,h15km,ML2.3, Error ellipse: s-maj=6.3km s-min=4.9km az=107.0*
*ISCJB **08** 20:36:15.6±0.5,44.˚60N±0.˚04×10.˚30E±0.˚04,h26km±8km, Error ellipse: s-maj=7.4km s-min=5.2km az=174.0*
*VIE **08** 20:36:16.0±0.4,44.˚63N×10.˚57E,h10km,mb2.1/7,ML3.2/9, Error ellipse: s-maj=15.6km s-min=3.3km az=107.0*
ISC 08 20:36:15.4±1.1, 44.˚61N±0.˚04×10.˚26E±0.˚03, h23km±12km, n39, σ1§77/46, Northern Italy

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CODM	**Codolo**	**0.37**	**233**	P	**Pb**	**20 36 22.7**	**-0.7**
CODM				S	**Sb**	**20 36 29.5**	**+0.7**
SARO	**Sassorosso**	**0.44**	**167**	P	**Pb**	**20 36 24.1**	**-0.5**
SARO				S	**Sb**	**20 36 30.8**	**0.0**
SC2M	**Scurtabo**	**0.56**	**248**	P	**Pb**	**20 36 25.7**	**-0.9**
SC2M				S	**Sb**	**20 36 34.6**	**+0.4**
POPM	**Popiglio**	**0.67**	**148**	P	**Pb**	**20 36 28.5**	**+0.1**
POPM				S	**Sn**	**20 36 38.7**	**-0.4**
MAIM	**Mastiano**	**0.72**	**167**	P	**Pb**	**20 36 29.0**	**-0.2**
MAIM				S	**Sb**	**20 36 39.0**	**+0.4**
SBF	**Sospel**	**2.17**	**251**	*e*Pn	**Pn**	**20 36 50.6**	**+0.6**
SBF	**Sospel**	**2.17**	**251**	*e*Pn	**Pn**	**20 36 50.6**	**+0.6**
PGF	**Pioggiola**	**2.26**	**204**	*e*Pn	**Pn**	**20 36 51.5**	**+0.2**
PGF	**Pioggiola**	**2.26**	**204**	*e*Pn	**Pn**	**20 36 51.5**	**+0.2**
FETA	**Feichten**	**2.43**	**8**	Pn	**Pn**	**20 36 55.1**	**+1.3**
	0.7nm,0.2s						
MBDF	**Montbardon**	**2.49**	**274**	*e*Pn	**Pn**	**20 36 57.1**	**+2.5**
MBDF	**Montbardon**	**2.49**	**274**	*e*Pn	**Pn**	**20 36 57.1**	**+2.5**
LPG	**La Plagne**	**2.64**	**291**	*e*P	**Pb**	**20 37 00.3**	**-1.8**
LPG	**La Plagne**	**2.64**	**291**	*e*P	**Pb**	**20 37 00.3**	**-1.8**
ABTA	**Abfaltersbach**	**2.65**	**36**	Pn	**Pn**	**20 36 58.2**	**+1.4**
	0.9nm,0.3s						
LPL	**La Plagne**	**2.66**	**291**	*e*Pn	**Pn**	**20 36 56.5**	**-0.5**
LPL	**La Plagne**	**2.66**	**291**	*e*Pn	**Pn**	**20 36 56.5**	**-0.5**
DAVA	**Damuels**	**2.69**	**354**	Pn	**Pn**	**20 36 59.3**	**+2.0**
	3.3nm,0.2s						
MOTA	**Moosalm**	**2.79**	**12**	Pn	**Pn**	**20 37 01.0**	**+2.2**
	3.1nm,0.2s						
FRF	**La Foret Royal**	**2.81**	**249**	*e*Pn	**Pn**	**20 36 59.5**	**+0.7**
FRF	**La Foret Royal**	**2.81**	**249**	*e*Pn	**Pn**	**20 36 59.5**	**+0.7**
SKDS	**Skadanscina**	**2.82**	**69**	*i* Pn	**Pn**	**20 36 57.9**	**-1.1**
WTTA	**Wattenberg**	**2.82**	**19**	Pn	**Pn**	**20 37 01.9**	**+2.8**
	3.6nm,0.3s						
WATA	**Walderalm**	**2.87**	**18**	Pn	**Pn**	**20 37 02.3**	**+2.5**
	2.4nm,0.2s						
RETA	**Reutte**	**2.90**	**7**	Pn	**Pn**	**20 37 01.6**	**+1.5**
	0.8nm,0.2s						
VOJS	**Vojsko**	**2.92**	**60**	*i* Pn	**Pn**	**20 36 59.8**	**-0.7**
LMR	**La Mourre**	**3.00**	**246**	*e*Pn	**Pn**	**20 37 01.8**	**+0.4**
LMR	**La Mourre**	**3.00**	**246**	*e*Pn	**Pn**	**20 37 01.8**	**+0.4**
ORIF	**Oris-en-Rattie**	**3.14**	**277**	*e*Pn	**Pn**	**20 37 06.3**	**+2.9**
ORIF	**Oris-en-Rattie**	**3.14**	**277**	*e*Pn	**Pn**	**20 37 06.3**	**+2.9**
NVLJ	**Novalja**	**3.29**	**89**	*e*Pn	**Pn**	**20 37 05.3**	**-0.2**
SMRF	**Simiane la Rot**	**3.42**	**261**	*e*Pn	**Pn**	**20 37 09.5**	**+2.2**
SMRF	**Simiane la Rot**	**3.42**	**261**	*e*Pn	**Pn**	**20 37 09.5**	**+2.2**
HAU	**Haudompre**	**4.34**	**323**	*e*Sn	**Sn**	**20 38 06.4**	**-3.4**
	12nm,0.3s						
HAU	**Haudompre**	**4.34**	**323**	*e*Sn	**Sn**	**20 38 06.4**	**-3.4**
	6.2nm,0.3s						
LASF	**Ste Croix**	**4.63**	**266**	*e*Pn	**Pn**	**20 37 27.0**	**+3.2**
LASF	**Ste Croix**	**4.63**	**266**	*e*Pn	**Pn**	**20 37 27.0**	**+3.2**
KHC	**Kasperske Hory**	**5.06**	**26**	*e*PN	**Pn**	**20 37 29.2**	**-0.6**
KHC				*e*SN	**Sn**	**20 38 29.3**	**+1.9**
KHC	**Kasperske Hory**	**5.06**	**26**	Pn	**Pn**	**20 37 29.2**	**-0.6**
KHC				Sn	**Sn**	**20 38 29.3**	**+1.9**

*IDC **08** 20:36:40.5±3.0,44.˚64N×10.˚48E,h0km,mb1 3.7/4, mb1mx3.3/37,mbtmp3.6/4,ML3.6/4, Error ellipse: s-maj=42.0km s-min=22.0km az=139.0*
*GEN **08** 20:36:41.5,44.˚68N×10.˚29E,h19km,ML3.3*
*ISCJB **08** 20:36:42.3±0.2,44.˚66N±0.˚01×10.˚23E±0.˚02,h29km±2km, Error ellipse: s-maj=2.6km s-min=1.8km az=159.6*
*CSEM **08** 20:36:42.0±0.1,44.˚66N×10.˚28E,h15km,ML3.6/25, Error ellipse: s-maj=2.4km s-min=2.0km az=159.0*
*ROM **08** 20:36:42.3±0.1,44.˚64N×10.˚20E,h20km±2km, Md3.2/10, Ml3.2/20, Error ellipse: s-maj=1.8km s-min=1.4km az=88.0*
*PRU **08** 20:36:43.0,44.˚68N×10.˚47E,h9km*
*LDG **08** 20:36:43.4±0.1,44.˚64N×10.˚42E,h20km, Ml3.6/24, Error ellipse: s-maj=3.3km s-min=2.8km az=73.0*
*STR **08** 20:36:56.1±0.2,45.˚35N×9.˚29E,h10km,Ml3.4, Error ellipse: s-maj=0.0km s-min=0.0km az=0.0*
ISC 08 20:36:42.5±0.8, 44.˚66N±0.˚01×10.˚26E±0.˚01, h22km±4km, n247, σ1§41/363, 5C, Northern Italy

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PRMA	**PARMA**	**0.11**	**20**	Pg	**Pb**	**20 36 46.4**	**-0.8**
PRMA				Sg	**Sb**	**20 36 50.8**	**+0.5**
	2µm,0.5s						
PRMA	**PARMA**	**0.11**	**20**	Pg	**Pb**	**20 36 46.4**	**-0.8**
NOVE	**Novellara**	**0.35**	**67**	Pg	**Pb**	**20 36 50.0**	**-0.1**
NOVE				Sg	**Sn**	**20 36 57.3**	**-1.3**
	439nm,0.8s						
NOVE	**Novellara**	**0.35**	**67**	Pg	**Pb**	**20 36 50.0**	**-0.1**
CODM	**Codolo**	**0.40**	**227**	P	**Pb**	**20 36 49.8**	**-1.1**
CODM				S	**Sb**	**20 36 56.1**	**-0.5**
SARO	**Sassorosso**	**0.49**	**168**	P	**Pb**	**20 36 51.3**	**-1.2**
SARO				S	**Sb**	**20 36 58.1**	**-1.1**
VLC	**Villacollemand**	**0.51**	**170**	Pg	**Pb**	**20 36 51.9**	**-0.9**
VLC				Sg	**Sb**	**20 36 59.6**	**-0.2**
VLC	**Villacollemand**	**0.51**	**170**	Pg	**Pb**	**20 36 51.9**	**-0.9**
VLC				Sg	**Sb**	**20 36 59.6**	**-0.2**
SC2M	**Scurtabo**	**0.58**	**244**	Pg	**Pb**	**20 36 53.0**	**-1.0**
SC2M				Sg	**Sb**	**20 37 02.4**	**+0.6**
SC2M	**Scurtabo**	**0.58**	**244**	Pg	**Pb**	**20 36 53.0**	**-1.0**
SC2M				Sg	**Sb**	**20 37 02.4**	**+0.6**
BOB	**Bobbio (Coli)**	**0.59**	**281**	Pg	**Pb**	**20 36 54.1**	**-0.1**
	157nm,0.7s						
BOB	**Bobbio (Coli)**	**0.59**	**281**	Pg	**Pb**	**20 36 54.1**	**-0.1**
	157nm,0.7s						
ZCCA	**Zocca**	**0.60**	**121**	Pg	Pn	**20 36 55.2**	**-0.5**
ZCCA	**Zocca**	**0.60**	**121**	Pg	Pn	**20 36 55.2**	**-0.5**
RAVA	**Ravarino**

PCP	**Piancastagn**	**1.23**	**265**		Pn	**Pb**	**20 37 05.8**	**+0.7**
	559nm,0.6s								
PCP	**Piancastagn**	**1.23**	**265**		P	**Pn**	**20 37 04.4**	**0.0**
PCP	**Piancastagn**	**1.23**	**265**		Pn	**Pb**	**20 37 05.8**	**+0.7**
	559nm,0.6s								
PCP					S	**Sb**	**20 37 21.5**	**+0.9**
GROG	**Isola di Gorgo**	**1.26**	**192**		Pn	**Pn**	**20 37 04.4**	**-0.4**
GROG					Sn	**Sn**	**20 37 20.9**	**-0.1**
GROG	**Isola di Gorgo**	**1.26**	**192**		Pn	**Pn**	**20 37 04.4**	**-0.4**
GROG					Sn	**Sn**	**20 37 20.9**	**-0.1**
RNI	**Roncone**	**1.34**	**11**	*e*Pg		**Pn**	**20 37 05.9**	**-0.2**
RNI	**Roncone**	**1.34**	**11**	*e*Pg		**Pn**	**20 37 05.9**	**-0.2**
SFI	**Santa Sofia**	**1.37**	**123**		Pn	**Pb**	**20 37 08.4**	**+1.0**
	469nm,1.0s								
SFI	**Santa Sofia**	**1.37**	**123**		Pn	**Pb**	**20 37 08.4**	**+1.0**
	469nm,1.0s								
DDS	**Dosso del Somm**	**1.38**	**28**	*e*Pg		**Pn**	**20 37 06.5**	**-0.1**
DDS	**Dosso del Somm**	**1.38**	**28**	*e*Pg		**Pn**	**20 37 06.5**	**-0.1**
ASQU	**Asqua**	**1.40**	**128**		Pn	**Pb**	**20 37 09.0**	**+1.0**
	198nm,0.7s								
MABI	**Malga Bissina**	**1.41**	**7**		Pn	**Pn**	**20 37 07.4**	**+0.5**
	231nm,0.5s								
MABI	**Malga Bissina**	**1.41**	**7**		Pn	**Pn**	**20 37 07.4**	**+0.5**
	231nm,0.5s								
QLNO	**Quiliano**	**1.41**	**257**		Pn	**Pn**	**20 37 07.3**	**+0.5**
QLNO	**Quiliano**	**1.41**	**257**		Pn	**Pn**	**20 37 07.3**	**+0.5**
SASS	**Sassa´´´´**	**1.44**	**167**		Pn	**Pn**	**20 37 07.4**	**+0.2**
SASS	**Sassa´´´´**	**1.44**	**167**		Pn	**Pn**	**20 37 07.4**	**+0.2**
FINB	**Finale Ligure**	**1.47**	**251**		Pn	**Pn**	**20 37 08.0**	**+0.4**
FINB	**Finale Ligure**	**1.47**	**251**		Pn	**Pn**	**20 37 08.0**	**+0.4**
PANI	**Panarotta**	**1.58**	**28**	*e*Pg		**Pn**	**20 37 09.6**	**+0.3**
TRIF	**Trifonti**	**1.61**	**163**		Pn	**Pb**	**20 37 10.8**	**-0.8**
	188nm,0.7s								
TRIF	**Trifonti**	**1.61**	**163**		Pn	**Pb**	**20 37 10.8**	**-0.8**
	188nm,0.7s								
BERNI	**Berninapass**	**1.76**	**355**		Pn	**Pn**	**20 37 12.5**	**+0.6**
BERNI	**Berninapass**	**1.76**	**355**		Pn	**Pn**	**20 37 12.5**	**+0.6**
CARE	**Lago del Cares**	**1.79**	**10**	*e*Pn		**Pn**	**20 37 13.1**	**+0.8**
CARE	**Lago del Cares**	**1.79**	**10**	*e*Pn		**Pn**	**20 37 13.1**	**+0.8**
BRMO	**Bormio**	**1.82**	**2**		Pn	**Pn**	**20 37 13.3**	**+0.8**
	87nm,0.6s								
BRMO	**Bormio**	**1.82**	**2**		Pn	**Pn**	**20 37 13.3**	**+0.8**
	87nm,0.6s								
IMI	**Imperia**	**1.86**	**247**		P	**Pn**	**20 37 13.2**	**+0.2**
IMI					S	**Sn**	**20 37 33.8**	**-2.1**
APPI	**Appiano**	**1.94**	**20**		Pn	**Pn**	**20 37 14.3**	**+0.1**
	370nm,0.5s								
APPI	**Appiano**	**1.94**	**20**		Pn	**Pn**	**20 37 14.3**	**+0.1**
	370nm,0.5s								
NEGI	**Seborga**	**2.01**	**247**		P	**Pn**	**20 37 15.5**	**+0.4**
NEGI					S	**Sn**	**20 37 39.6**	**+0.1**
AGOR	**Agordo**	**2.05**	**37**	*e*Pn		**Pn**	**20 37 15.6**	**-0.1**
DAVOX	**Davos/Dischmat**	**2.14**	**353**		Pn	**Pn**	**20 37 18.8**	**+1.8**
	18nm,0.3s,baz=164,slow=11,SNR=45								
DAVOX					Sn	**Sb**	**20 37 46.8**	**0.0**
	18nm,0.3s,baz=167,slow=20,SNR=6.8								
SBF	**Sospel**	**2.18**	**250**	*e*Pn		**Pn**	**20 37 18.1**	**+0.6**
SBF					*e*Sn	**Sn**	**20 37 43.0**	**-0.8**
	290nm,0.4s,SNR=1.0								
SBF	**Sospel**	**2.18**	**250**	*e*Pn		**Pn**	**20 37 18.1**	**+0.6**
SBF					*e*Sn	**Sn**	**20 37 43.0**	**-0.8**
	145nm,0.4s,SNR=1.0								
SSFR	**Montelago di S**	**2.19**	**123**		Pn	**Pb**	**20 37 20.6**	**-0.9**
ABSI	**Aberstueckl**	**2.20**	**19**		Pn	**Pn**	**20 37 19.0**	**+1.2**
	544nm,0.8s								
ABSI	**Aberstueckl**	**2.20**	**19**		Pn	**Pn**	**20 37 19.0**	**+1.2**
	544nm,0.8s								
CIMO	**Cimolais**	**2.25**	**42**	*e*Pn		**Pn**	**20 37 17.7**	**-0.7**
CIMO	**Cimolais**	**2.25**	**42**	*e*Pn		**Pn**	**20 37 17.7**	**-0.7**
PGF	**Pioggiola**	**2.30**	**204**	*e*Pn		**Pn**	**20 37 18.7**	**-0.5**
	SNR=1.0								
PGF					*e*Sn	**Sn**	**20 37 45.2**	**-1.7**
	38nm,0.3s,SNR=1.0								
PGF	**Pioggiola**	**2.30**	**204**	*e*Pn		**Pn**	**20 37 18.7**	**-0.5**
	SNR=1.0								
PGF					*e*Sn	**Sn**	**20 37 45.2**	**-1.7**
	19nm,0.3s,SNR=1.0								
OG22	**Abries**	**2.37**	**275**		Pn	**Pb**	**20 37 24.7**	**+0.2**
OG22					Sg	**Sb**	**20 37 53.7**	**+0.3**
OG22	**Abries**	**2.37**	**275**		Pn	**Pb**	**20 37 24.7**	**+0.2**
OG22					Sg	**Sb**	**20 37 53.7**	**+0.3**
FETA	**Feichten**	**2.38**	**8**	*e*Pn		**Pb**	**20 37 22.6**	**-2.2**
	9.1nm,0.5s,SNR=7.2								
FETA	**Feichten**	**2.38**	**8**		Pn	**Pb**	**20 37 22.6**	**-2.2**
	9.1nm,0.5s,SNR=7.2								
MBDF	**Montbardon**	**2.49**	**273**	*e*Pn		**Pn**	**20 37 22.9**	**+1.1**
	SNR=1.0								
MBDF					*e*Sn	**Sn**	**20 37 52.5**	**+1.0**
	145nm,0.6s								
MBDF	**Montbardon**	**2.49**	**273**	*e*Pn		**Pn**	**20 37 22.9**	**+1.1**
	SNR=1.0								
MBDF					*e*Sn	**Sn**	**20 37 52.5**	**+1.0**
	72nm,0.6s								
FUSE	**Fusea**	**2.60**	**47**	*e*Pn		**Pn**	**20 37 22.4**	**-0.9**
FUSE	**Fusea**	**2.60**	**47**	*e*Pn		**Pn**	**20 37 22.4**	**-0.9**
ABTA	**Abfaltersbach**	**2.62**	**36**	*i* Pn		**Pn**	**20 37 24.9**	**+1.4**
	5.0nm,0.2s								
ABTA					*i* Sn	**Sb**	**20 37 59.2**	**-1.2**
	32nm,0.5s								
ABTA	**Abfaltersbach**	**2.62**	**36**		Pn	**Pn**	**20 37 24.9**	**+1.4**
	5.0nm,0.2s								
ABTA					Sn	**Sb**	**20 37 59.2**	**-1.2**
	32nm,0.5s								
RISI	**Rein**	**2.62**	**28**		Pn	**Pn**	**20 37 25.0**	**+1.4**
	400nm,0.5s								
RISI	**Rein**	**2.62**	**28**		Pn	**Pn**	**20 37 25.0**	**+1.4**
	400nm,0.5s								
LPG	**La Plagne**	**2.62**	**290**	*e*Pn		**Pn**	**20 37 24.9**	**+1.2**
	SNR=1.0								
LPG					*e*Sn	**Sn**	**20 37 56.4**	**+1.4**
	136nm,0.7s								
LPG	**La Plagne**	**2.62**	**290**	*e*Pn		**Pn**	**20 37 24.9**	**+1.2**
	SNR=1.0								
LPG					*e*Sn	**Sn**	**20 37 56.4**	**+1.4**
	68nm,0.7s								
DAVA	**Damuels**	**2.64**	**354**	*e*Pn		**Pn**	**20 37 26.4**	**+2.5**
	57nm,0.4s,SNR=22								
DAVA					*i* Sn	**Sb**	**20 37 59.5**	**-1.7**
	51nm,0.4s								
DAVA	**Damuels**	**2.64**	**354**		Pn	**Pn**	**20 37 26.4**	**+2.5**
	57nm,0.4s,SNR=22								
DAVA					Sn	**Sb**	**20 37 59.5**	**-1.7**
	51nm,0.4s								
LPL	**La Plagne**	**2.64**	**290**	*e*Pn		**Pn**	**20 37 25.0**	**+1.1**
LPL	**La Plagne**	**2.64**	**290**	*e*P		**Pb**	**20 37 28.5**	**-0.7**
	SNR=1.0								
LPL					*e*Sn	**Sn**	**20 37 56.0**	**+0.6**
	106nm,0.6s,SNR=1.0								
LPL	**La Plagne**	**2.64**	**290**	*e*Pn		**Pn**	**20 37 25.0**	**+1.1**
LPL	**La Plagne**	**2.64**	**290**	*e*P		**Pb**	**20 37 28.5**	**-0.7**
	SNR=1.0								
LPL					*e*Sn	**Sn**	**20 37 56.0**	**+0.6**
	53nm,0.6s,SNR=1.0								
VINO	**Villanova**	**2.66**	**52**	*e*Pn		**Pn**	**20 37 23.4**	**-0.6**
VINO	**Villanova**	**2.66**	**52**	*e*Pn		**Pn**	**20 37 23.4**	**-0.6**
ZOU	**Zoufplan**	**2.69**	**44**	*e*Pn		**Pn**	**20 37 25.0**	**+0.4**
TRI	**Trieste**	**2.69**	**66**	*e*Pn		**Pn**	**20 37 23.5**	**-0.9**
TRI	**Trieste**	**2.69**	**66**	*e*Pn		**Pn**	**20 37 23.5**	**-0.9**
MOTA	**Moosalm**	**2.75**	**12**	*e*Pn		**Pn**	**20 37 28.1**	**+2.7**
	29nm,0.3s,SNR=21								
MOTA	**Moosalm**	**2.75**	**12**		Pn	**Pn**	**20 37 28.1**	**+2.7**
	29nm,0.3s,SNR=21								
WTTA	**Wattenberg**	**2.77**	**20**		Pn	**Pn**	**20 37 28.0**	**+2.2**
	25nm,0.3s,SNR=19								
WTTA					*i* Sn	**Sb**	**20 38 04.1**	**-1.0**
	43nm,0.7s								
WTTA	**Wattenberg**	**2.77**	**20**		Pn	**Pn**	**20 37 28.0**	**+2.2**
	25nm,0.3s,SNR=19								
SKDS	**Skadanscina**	**2.80**	**70**	*i* Pn		**Pn**	**20 37 25.1**	**-0.9**
SKDS					*i* Sn	**Sn**	**20 37 57.5**	**-1.6**
SKDS	**Skadanscina**	**2.80**	**70**	*i* Pn		**Pn**	**20 37 25.1**	**-0.9**
SKDS					*i* Sn	**Sn**	**20 37 57.5**	**-1.6**
FRF	**La Foret Royal**	**2.83**	**248**	*e*Pn		**Pn**	**20 37 26.4**	**+0.1**
	SNR=1.0								
FRF					*e*Sn	**Sn**	**20 37 59.2**	**-0.4**
	114nm,0.4s,SNR=1.0								
FRF	**La Foret Royal**	**2.83**	**248**	*e*Pn		**Pn**	**20 37 26.4**	**+0.1**
	SNR=1.0								
FRF					*e*Sn	**Sn**	**20 37 59.2**	**-0.4**
	57nm,0.4s,SNR=1.0								
WATA	**Walderalm**	**2.83**	**18**	*e*Pn		**Pn**	**20 37 28.9**	**+2.4**
	4.7nm,0.2s,SNR=13								
WATA					*i* Sn	**Sb**	**20 38 04.8**	**-1.8**
	18nm,0.3s								
WATA	**Walderalm**	**2.83**	**18**		Pn	**Pn**	**20 37 28.9**	**+2.4**
	4.7nm,0.2s,SNR=13								
WATA					Sn	**Sb**	**20 38 04.8**	**-1.8**
	18nm,0.3s								
RETA	**Reutte**	**2.85**	**7**	*e*Pn		**Pn**	**20 37 28.7**	**+2.1**
	SNR=8.8								
RETA					*i* Sn	**Sb**	**20 38 04.1**	**-3.0**
	13nm,0.3s								
RETA	**Reutte**	**2.85**	**7**		Pn	**Pn**	**20 37 28.7**	**+2.1**
	SNR=8.8								
RETA					Sn	**Sb**	**20 38 04.1**	**-3.0**
	13nm,0.3s								
VOJS	**Vojsko**	**2.90**	**61**	*i* Pn		**Pn**	**20 37 26.9**	**-0.5**
VOJS	**Vojsko**	**2.90**	**61**	*i* Pn		**Pn**	**20 37 26.9**	**-0.5**
GDM	**Grand'Maison**	**2.99**	**282**		Pn	**Pb**	**20 37 32.0**	**-3.2**
GDM	**Grand'Maison**	**2.99**	**282**		Pg	**Pb**	**20 37 38.1**	**+2.9**
GDM	**Grand'Maison**	**2.99**	**282**		Pn	**Pb**	**20 37 32.0**	**-3.2**
GDM	**Grand'Maison**	**2.99**	**282**		Pg	**Pb**	**20 37 38.1**	**+2.9**
LMR	**La Mourre**	**3.02**	**245**	*e*Pn		**Pn**	**20 37 28.8**	**-0.1**
	SNR=1.0								
LMR					*e*Sn	**Sn**	**20 38 02.5**	**-1.8**
	74nm,0.3s,SNR=1.0								
LMR	**La Mourre**	**3.02**	**245**	*e*Pn		**Pn**	**20 37 28.8**	**-0.1**
	SNR=1.0								
LMR					*e*Sn	**Sn**	**20 38 02.5**	**-1.8**
	37nm,0.3s,SNR=1.0								
ORIF	**Oris-en-Rattie**	**3.13**	**276**	*e*Pn		**Pn**	**20 37 32.1**	**+1.6**
ORIF	**Oris-en-Rattie**	**3.13**	**276**	*e*P		**Pb**	**20 37 34.6**	**-2.9**
	SNR=1.0								
ORIF					*e*Sn	**Sn**	**20 38 07.7**	**+0.5**
	122nm,0.6s								
ORIF	**Oris-en-Rattie**	**3.13**	**276**	*e*Pn		**Pn**	**20 37 32.1**	**+1.6**
ORIF	**Oris-en-Rattie**	**3.13**	**276**	*e*P		**Pb**	**20 37 34.6**	**-2.9**
	SNR=1.0								
ORIF					*e*Sn	**Sn**	**20 38 07.7**	**+0.5**
	61nm,0.6s								
GRN	**Grenoble**	**3.26**	**282**		Pn	**Pn**	**20 37 35.5**	**+3.2**
GRN	**Grenoble**	**3.26**	**282**		Pg	**Pb**	**20 37 43.1**	**+3.5**
GRN	**Grenoble**	**3.26**	**282**		Pn	**Pn**	**20 37 35.5**	**+3.2**
GRN	**Grenoble**	**3.26**	**282**		Pg	**Pb**	**20 37 43.1**	**+3.5**
NVLJ	**Novalja**	**3.29**	**90**	*e*Pn		**Pn**	**20 37 32.6**	**-0.1**
NVLJ					Sn	**Sn**	**20 38 10.0**	**-1.2**
NVLJ	**Novalja**	**3.29**	**90**	*e*Pn		**Pn**	**20 37 32.5**	**-0.1**
NVLJ					Sn	**Sn**	**20 38 09.9**	**-1.2**
SMRF	**Simiane la Rot**	**3.43**	**260**	*e*Pn		**Pn**	**20 37 36.4**	**+1.8**
	SNR=1.0								
SMRF					*e*Sn	**Sn**	**20 38 14.0**	**-0.6**
	49nm,0.6s								
SMRF	**Simiane la Rot**	**3.43**	**260**	*e*Pn		**Pn**	**20 37 36.4**	**+1.8**
	SNR=1.0								
SMRF					*e*Sn	**Sn**	**20 38 14.0**	**-0.6**
	24nm,0.6s								
CABF	**La Chapelle**	**3.52**	**305**	*e*Pn		**Pn**	**20 37 36.7**	**+0.8**
	SNR=1.0								
CABF					*e*Sn	**Sn**	**20 38 14.8**	**-2.0**
	22nm,0.4s								
CABF	**La Chapelle**	**3.52**	**305**	*e*Pn		**Pn**	**20 37 36.7**	**+0.8**
	SNR=1.0								
CABF					*e*Sn	**Sn**	**20 38 14.8**	**-2.0**
	11nm,0.4s								
OBKA	**Obir**	**3.53**	**57**	*i* Pn		**Pn**	**20 37 36.1**	**0.0**
	0.4nm,0.1s								
OBKA					*e*Sn	**Sn**	**20 38 18.9**	**+1.7**
	16nm,0.4s								
OBKA	**Obir**	**3.53**	**57**		Pn	**Pn**	**20 37 36.1**	**0.0**
	0.4nm,0.1s								
OBKA					Sn	**Sn**	**20 38 18.9**	**+1.7**
	16nm,0.4s								
FELD	**Feldberg im Sc**	**3.58**	**335**		Pn	**Pn**	**20 37 37.3**	**+0.6**
FELD	**Feldberg im Sc**	**3.58**	**335**		Pg	**Pb**	**20 37 47.0**	**+1.9**
LOMF	**Lomont**	**3.60**	**320**		Pn	**Pn**	**20 37 37.8**	**+0.8**
LOMF					Sg	**Sn**	**20 38 22.1**	**+3.3**
LOMF	**Lomont**	**3.60**	**320**		Pn	**Pn**	**20 37 37.8**	**+0.8**
OZLJ	**Ozalj**	**3.81**	**74**	*e*Pn		**Pn**	**20 37 40.0**	**+0.3**
OZLJ					Sn	**Sn**	**20 38 22.1**	**-1.6**
OZLJ	**Ozalj**	**3.81**	**74**	*e*Pn		**Pn**	**20 37 40.0**	**+0.3**
OZLJ					Sn	**Sn**	**20 38 22.1**	**-1.6**
MOF	**Molkenrain**	**3.86**	**327**		Pn	**Pn**	**20 37 40.6**	**+0.1**
MOF					Sg	**Sb**	**20 38 30.8**	**-5.3**
MOF	**Molkenrain**	**3.86**	**327**		Pn	**Pn**	**20 37 40.6**	**+0.1**
SOKA	**Soboth**	**3.91**	**57**	*e*Pn		**Pn**	**20 37 41.3**	**+0.1**
	3.3nm,0.6s								
SOKA					*i* Sn	**Sn**	**20 38 27.2**	**+0.8**
	8.5nm,0.5s								
SOKA	**Soboth**	**3.91**	**57**		Pn	**Pn**	**20 37 41.3**	**+0.1**
	3.3nm,0.6s								
SOKA					Sn	**Sn**	**20 38 27.2**	**+0.8**
	8.5nm,0.5s								
UDBI	**Udbina**	**3.93**	**90**	*e*Pn		**Pn**	**20 37 42.2**	**+0.6**
UDBI					Sn	**Sn**	**20 38 26.3**	**-0.8**
UDBI	**Udbina**	**3.93**	**90**	*e*Pn		**Pn**	**20 37 42.2**	**+0.6**
UDBI					Sn	**Sn**	**20 38 26.2**	**-0.8**
HINF	**Hinteralfeld**	**3.94**	**324**	*e*Pn		**Pn**	**20 37 41.8**	**+0.1**
	SNR=1.0								
HINF					*e*Sn	**Sn**	**20 38 25.7**	**-1.5**
	24nm,0.5s								
HINF	**Hinteralfeld**	**3.94**	**324**	*e*Pn		**Pn**	**20 37 41.8**	**+0.1**
	SNR=1.0								
HINF					*e*Sn	**Sn**	**20 38 25.7**	**-1.5**
	12nm,0.5s								
VIVF	**Saint-Julien-l**	**3.98**	**275**	*e*Pn		**Pn**	**20 37 43.5**	**+1.3**
	SNR=1.0								
VIVF					*e*Sn	**Sn**	**20 38 27.6**	**-0.7**
	18nm,0.4s,SNR=1.0								
VIVF	**Saint-Julien-l**	**3.98**	**275**	*e*Pn		**Pn**	**20 37 43.5**	**+1.3**
	SNR=1.0								
VIVF					*e*Sn	**Sn**	**20 38 27.6**	**-0.7**
	8.8nm,0.4s,SNR=1.0								
SSB	**Saint Sauveur**	**4.11**	**281**		Pn	**Pn**	**20 37 46.1**	**+2.2**
SSB	**Saint Sauveur**	**4.11**	**281**		Pn	**Pn**	**20 37 46.1**	**+2.2**
ECH	**Echery**	**4.15**	**330**		Pn	**Pn**	**20 37 44.7**	**+0.2**
ECH					Sg	**Sb**	**20 38 41.0**	**-3.5**
ECH	**Echery**	**4.15**	**330**		Pn	**Pn**	**20 37 44.7**	**+0.2**
CDF	**Champ du Feu**	**4.28**	**332**	*e*Pn		**Pn**	**20 37 45.5**	**-0.8**
	SNR=1.0								
CDF					*e*Sn	**Sn**	**20 38 33.5**	**-2.1**
	25nm,0.4s								
CDF	**Champ du Feu**	**4.28**	**332**	*e*Pn		**Pn**	**20 37 45.5**	**-0.8**
	SNR=1.0								
CDF					*e*Sn	**Sn**	**20 38 33.5**	**-2.1**
	12nm,0.4s								
HAU	**Haudompre**	**4.30**	**322**	*e*Pn		**Pn**	**20 37 47.0**	**+0.4**
	SNR=1.0								
HAU					*e*Sn	**Sn**	**20 38 33.6**	**-2.5**
	32nm,0.4s,SNR=1.0								
HAU	**Haudompre**	**4.30**	**322**	*e*Pn		**Pn**	**20 37 47.0**	**+0.4**
	SNR=1.0								
HAU					*e*Sn	**Sn**	**20 38 33.6**	**-2.5**
	16nm,0.4s,SNR=1.0								
LASF	**Ste Croix**	**4.63**	**265**	*e*Pn		**Pn**	**20 37 51.7**	**+0.6**
	SNR=1.0								
LASF					*e*Sn	**Sn**	**20 38 43.4**	**-0.7**
	9.8nm,0.4s,SNR=1.0								
LASF	**Ste Croix**	**4.63**	**265**	*e*Pn		**Pn**	**20 37 51.7**	**+0.6**
	SNR=1.0								
LASF					*e*Sn	**Sn**	**20 38 43.4**	**-0.7**
	4.9nm,0.4s,SNR=1.0								
THEF	**They Montfort**	**4.63**	**322**		Pn	**Pn**	**20 37 51.6**	**+0.5**
THEF	**They Montfort**	**4.63**	**322**		Pn	**Pn**	**20 37 51.6**	**+0.5**
GERES	**GERESS Array B**	**4.81**	**28**		Pn	**Pn**	**20 37 53.5**	**-0.1**
	3.4nm,0.3s,baz=205,slow=13,SNR=53								
GERES					Sn	**Sn**	**20 38 48.1**	**-0.5**
	4.1nm,0.3s,baz=211,slow=22,SNR=12								
PLDF	**La Plantade**	**4.86**	**288**		Pn	**Pn**	**20 37 56.6**	**+2.3**
PLDF					Sg	**Sb**	**20 39 07.3**	**+2.3**
PLDF	**La Plantade**	**4.86**	**288**		Pn	**Pn**	**20 37 56.6**	**+2.3**
SMF	**Signal de Mont**	**4.92**	**296**	*e*Pn		**Pn**	**20 37 55.0**	**0.0**
	SNR=1.0								
SMF					*e*Sn	**Sn**	**20 38 50.7**	**-0.5**
	27nm,0.5s,SNR=1.0								
SMF	**Signal de Mont**	**4.92**	**296**	*e*Pn		**Pn**	**20 37 55.0**	**0.0**
	SNR=1.0								
SMF					*e*Sn	**Sn**	**20 38 50.7**	**-0.5**
	14nm,0.5s,SNR=1.0								
PAGF	**Fort de Pagny**	**4.99**	**323**	*e*Pn		**Pn**	**20 37 56.4**	**+0.4**
PAGF	**Fort de Pagny**	**4.99**	**323**	*e*Pn		**Pn**	**20 37 56.4**	**+0.4**
LBL	**Lubilhac**	**5.01**	**279**		Pn	**Pn**	**20 37 58.8**	**+2.4**
LBL					Sg	**Sb**	**20 39 15.6**	**+6.3**
LBL	**Lubilhac**	**5.01**	**279**		Pn	**Pn**	**20 37 58.8**	**+2.4**
KHC	**Kasperske Hory**	**5.02**	**26**	*i* Pn		**Pn**	**20 37 56.5**	**+0.1**
KHC					*e*Sn	**Sn**	**20 38 51.2**	**-2.5**
KHC					*e*Sg	Sb	20 39 21.8	+12
	comp=Z,37nm,0.9s								
KHC	**Kasperske Hory**	**5.02**	**26**		Pn	**Pn**	**20 37 56.5**	**+0.1**
KHC					Sn	**Sn**	**20 38 51.2**	**-2.5**
KHC					Sg	Sb	20 39 21.8	+12
	37nm,0.9s								
SFTF	**Sexfontaines**	**5.06**	**316**	*e*Pn		**Pn**	**20 37 57.4**	**+0.5**
SFTF	**Sexfontaines**	**5.06**	**316**	*e*Pn		**Pn**	**20 37 57.4**	**+0.5**
CONA	**Conrad Observa**	**5.07**	**48**	*i* Pn		**Pn**	**20 37 57.6**	**+0.4**
	SNR=5.4								
CONA	**Conrad Observa**	**5.07**	**48**		Pn	**Pn**	**20 37 57.6**	**+0.4**
	SNR=5.4								
LOR	**Lormes**	**5.17**	**303**	*e*Pn		**Pn**	**20 37 58.5**	**0.0**
	SNR=1.0								
LOR					*e*Sn	**Sn**	**20 38 56.7**	**-0.7**
	29nm,0.4s,SNR=1.0								
LOR	**Lormes**	**5.17**	**303**	*e*Pn		**Pn**	**20 37 58.5**	**0.0**
	SNR=1.0								
LOR					*e*Sn	**Sn**	**20 38 56.7**	**-0.7**
	15nm,0.4s,SNR=1.0								
AGO	**Saint Agoulin**	**5.21**	**288**		Pn	**Pn**	**20 38 01.4**	**+2.3**
AGO	**Saint Agoulin**	**5.21**	**288**		Pn	**Pn**	**20 38 01.4**	**+2.3**
PYM	**Petit Puy Mans**	**5.24**	**285**		Pn	**Pn**	**20 38 01.1**	**+1.6**
PYM	**Petit Puy Mans**	**5.24**	**285**		Pn	**Pn**	**20 38 01.1**	**+1.6**
MEZF	**Maizieres J'vi**	**5.26**	**319**	*e*Pn		**Pn**	**20 38 00.0**	**+0.3**
MEZF	**Maizieres J'vi**	**5.26**	**319**	*e*Pn		**Pn**	**20 38 00.0**	**+0.3**
AVF	**Avril sur Loir**	**5.28**	**296**	*e*Pn		**Pn**	**20 38 00.3**	**+0.3**
	SNR=1.0								
AVF					*e*Sn	**Sn**	**20 38 58.7**	**-1.5**
	8.0nm,0.6s,SNR=1.0								
AVF	**Avril sur Loir**	**5.28**	**296**	*e*Pn		**Pn**	**20 38 00.3**	**+0.3**
	SNR=1.0								
AVF					*e*Sn	**Sn**	**20 38 58.7**	**-1.5**
	4.0nm,0.6s,SNR=1.0								
SSF	**Saint Saulge**	**5.29**	**299**	*e*Pn		**Pn**	**20 38 00.0**	**-0.2**
	SNR=1.0								
SSF					*e*Sn	**Sn**	**20 38 59.7**	**-0.7**
	9.7nm,0.4s,SNR=1.0								
SSF	**Saint Saulge**	**5.29**	**299**	*e*Pn		**Pn**	**20 38 00.0**	**-0.2**
	SNR=1.0								
SSF					*e*Sn	**Sn**	**20 38 59.7**	**-0.7**
	4.8nm,0.4s,SNR=1.0								
RUP	**Ruppelstein**	**5.49**	**338**		Pn	**Pn**	**20 38 03.7**	**+0.7**
BGF	**Bois d'Agland**	**5.54**	**293**	*e*Pn		**Pn**	**20 38 04.0**	**+0.5**
	SNR=1.0								
BGF					*e*Sn	**Sn**	**20 39 04.8**	**-1.6**
	38nm,0.4s								
BGF	**Bois d'Agland**	**5.54**	**293**	*e*Pn		**Pn**	**20 38 04.0**	**+0.5**
	SNR=1.0								
BGF					*e*Sn	**Sn**	**20 39 04.8**	**-1.6**
	19nm,0.4s								
NKC	**Novy Kostel**	**5.77**	**14⇑**	*e*PN		**Pn**	**20 38 06.0**	**-0.7**
NKC					*e*SN	**Sn**	**20 39 10.1**	**-2.1**
NKC					*e*SG	Sb	20 39 44.9	+14
NKC	**Novy Kostel**	**5.77**	**14**		Pn	**Pn**	**20 38 06.0**	**-0.7**
CAF	**Calviac**	**5.84**	**275**	*e*Pn		**Pn**	**20 38 08.6**	**+0.9**
	SNR=1.0								
CAF	**Calviac**	**5.84**	**275**	*e*Pn		**Pn**	**20 38 08.6**	**+0.9**
	SNR=1.0								
TCF	**Toulx Ste Croi**	**5.89**	**289**	*e*Pn

DGB	**ˉzmir**	**1.18**	**251**	*i* P	**Pn**	**20 40 07.0**	**-0.2**
DGB				*i* S	**Sg**	**20 40 21.3**	**-0.6**
MLSB	**Milas**	**1.22**	**200**	*e*Pn	**Pg**	**20 40 07.0**	**-0.4**
MLSB	**Milas**	**1.22**	**200**	*e*Pn	**Pg**	**20 40 07.0**	**-0.4**
BALB	**Balikesir**	**1.24**	**345**	*e*PN	**Pn**	**20 40 07.9**	**-0.2**
BALB	**Balikesir**	**1.24**	**345**	*e*Pn	**Pn**	**20 40 07.9**	**-0.2**
DKL	**Dikili**	**1.25**	**300**	*e*PN	**Pg**	**20 40 07.8**	**-0.3**
DKL	**Dikili**	**1.25**	**300**	*e*Pn	**Pg**	**20 40 07.8**	**-0.3**
URLA	**Izmir**	**1.34**	**267**	*e*PN	**Pg**	**20 40 09.5**	**-0.2**
URLA	**Izmir**	**1.34**	**267**	*i* P	**Pg**	**20 40 11.1**	**+1.4**
URLA				*i* S	**Sn**	**20 40 28.9**	**+1.1**
URLA	**Izmir**	**1.34**	**267**	*e*Pn	**Pg**	**20 40 09.5**	**-0.2**
URLA	**Izmir**	**1.34**	**267**	P	**Pg**	**20 40 11.1**	**+1.4**
URLA				S	**Sn**	**20 40 28.9**	**+1.1**
TVSB	**Tavsanli**	**1.35**	**42**	*e*PN	**Pg**	**20 40 09.9**	**-0.1**
TVSB	**Tavsanli**	**1.35**	**42**	*e*Pn	**Pg**	**20 40 09.9**	**-0.1**
BALY	**Balya**	**1.40**	**338**	*i* P	**Pg**	**20 40 10.6**	**-0.2**
BALY				*i* S	**Sb**	**20 40 28.6**	**-0.3**
BALY	**Balya**	**1.40**	**338**	P	**Pg**	**20 40 10.6**	**-0.2**
BALY				S	**Sb**	**20 40 28.6**	**-0.3**
ZEY	**ˉzmir**	**1.43**	**262**	*i* P	**Pg**	**20 40 11.7**	**+0.4**
ZEY				*i* S	**Sg**	**20 40 29.7**	**0.0**
BDRM	**Kayabasi**	**1.53**	**206**	*i* P	**Pn**	**20 40 11.6**	**-0.6**
BDRM				*i* S	**Sg**	**20 40 33.9**	**+0.7**
BDRM	**Kayabasi**	**1.53**	**206**	P	**Pn**	**20 40 11.6**	**-0.6**
BDRM				S	**Sg**	**20 40 33.9**	**+0.7**
KCTX	**Karacabey (Bur**	**1.82**	**1**	*e*PN	**Pn**	**20 40 16.4**	**+0.2**
KCTX	**Karacabey (Bur**	**1.82**	**1**	*e*Pn	**Pn**	**20 40 16.4**	**+0.2**

NIED ***08*** *20:58:00, 37˚.10N×142˚.20E, h5km, Mw4.4 Best double couple: M₀3.77000×10¹⁵ NP1:φs131.00000°,δ12.00000°, λ26.00000°. NP2:φs16.00000°,δ85.00000°,λ101.00000°.*

ISCJB ***08*** *20:58:02.2±1.2, 37˚.09N±0˚.03×142˚.19E±0˚.06, h15km±7km, mb4.4/41, MS3.7/5, Error ellipse: s-maj=8.2km s-min=4.9km az=16.1*

IDC ***08*** *20:58:02.1±0.7, 37˚.07N×142˚.14E, h0km, mb4.3/19, mb1 4.3/23, mb1mx4.2/58, mbtmp4.2/23, ML4.1/3, MS3.4/9, Ms1 3.4/9, ms1mx3.0/40, Error ellipse: s-maj=17.5km s-min=15.4km az=94.0*

NEIC ***08*** *20:58:03.5±0.5, 37˚.09N×142˚.22E, h10km, mb4.6/9, Error ellipse: s-maj=11.4km s-min=7.8km az=127.0*

NEIC Recorded [1˚JMA] in Fukushima.

JMA ***08*** *20:58:03.0±0.2, 37˚.08N×142˚.22E, h38km, M4.4*

JMA Felt I J1.

MOS ***08*** *20:58:05.5±1.1, 37˚.15N×142˚.15E, h33km, mb4.7/24, Error ellipse: s-maj=11.0km s-min=7.3km az=128.5*

BJI ***08*** *20:58:09.0, 37˚.36N×141˚.31E, h24km, mb4.7/33, mB4.8/19, Ms4.4/13, Ms7 4.1/12*

ISC 08 20:58:06.6±2.8, 37˚.12N±0˚.04×142˚.08E±0˚.06, h28km±19km, n112, σ1ˢ55/112, mb4.5/41, MS3.8/5, 7C-1D, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JFK	**Kawauchi**	**1.00**	**285**	P	**Pn**	**20 58 22.6**	**-2.1**
JFK				*e*S	**Sn**	**20 58 36.1**	**-1.8**
ONAJ	**Iwakimizuishiy**	**1.03**	**270**	P	**Pn**	**20 58 22.8**	**-2.4**
JMM	**Marumori**	**1.27**	**306**	P	**Pn**	**20 58 26.4**	**-2.0**
JMM				*e*S	**Sn**	**20 58 43.7**	**-0.9**
JHO	**Hitachi**	**1.32**	**248**	P	**Pn**	**20 58 26.4**	**-2.7**
JHO				*e*S	**Sn**	**20 58 43.9**	**-1.8**
JFT	**Otama**	**1.45**	**287**	P	**Pn**	**20 58 30.1**	**-0.8**
JFT				*e*S	**Sn**	**20 58 49.5**	**+0.5**
JIO	**Ouri**	**1.46**	**337**	P	**Pn**	**20 58 28.5**	**-2.5**
JIO				*e*S	**Sn**	**20 58 47.1**	**-2.1**
JOU	**Okura**	**1.68**	**318**	P	**Pn**	**20 58 32.7**	**-1.4**
JOU				*e*S	**Sn**	**20 58 54.5**	**-0.2**
JFY	**Yanaizu**	**1.92**	**279**	P	**Pn**	**20 58 36.6**	**-0.8**
JYS	**Shirataka**	**1.94**	**305**	P	**Pn**	**20 58 36.9**	**-0.8**
JMK	**Ichinoseki**	**1.96**	**340**	P	**Pn**	**20 58 36.0**	**-1.9**
JAG	**Ashikaga**	**2.22**	**253**	P	**Pn**	**20 58 40.0**	**-1.5**
JAG				*e*S	**Sn**	**20 59 07.8**	**-0.2**
JYK	**Kaneyama**	**2.26**	**323**	P	**Pn**	**20 58 40.8**	**-1.2**
JOM	**Ohasama**	**2.44**	**345**	P	**Pn**	**20 58 42.8**	**-1.6**
JAW	**Awa shima**	**2.62**	**302**	P	**Pn**	**20 58 47.5**	**+0.6**
BSO1	**Boso 1**	**2.62**	**200**	P	**Pn**	**20 58 46.0**	**-0.4**
JRY	**Ryogami san**	**2.79**	**248**	P	**Pn**	**20 58 47.9**	**-1.4**
MJAR	**Matsushiro Arr**	**3.16**	**261**	Pn	**Pn**	**20 58 53.9**	**-0.5**
	29nm,0.3s,baz=91,slow=16,SNR=164						
MAJO	**Matsushiro**	**3.16**	**261**	*e*P	**Pn**	**20 58 54.8**	**+0.3**
MAJO	**Matsushiro**	**3.16**	**261**	*e*Pn	**Pn**	**20 58 54.4**	**-0.1**
JHJ2	**Mitsune**	**4.41**	**206**	*e*Pn	**Pn**	**20 59 09.9**	**-1.6**
JHJ	**Hachijo jima 2**	**4.41**	**206**	Pn	**Pn**	**20 59 10.2**	**-1.4**
	40nm,0.3s,baz=65,slow=18,SNR=16						
JHJ				Sn	**Sn**	**21 00 00.1**	**-2.0**
	73nm,0.3s,baz=253,slow=22,SNR=7.4						
JHJ				LR	LR	21 00 25.5	
	comp=Z,108nm,19.6s,baz=83,slow=33						
ERM	**Erimo**	**4.96**	**9**	*ce*P	**Pn**	**20 59 17.4**	**-1.8**
ERM				pmax	pmax		
	comp=Z,17nm,1.0s						
ERM	**Erimo**	**4.96**	**9**	*e*Pn	**Pn**	**20 59 17.3**	**-1.8**
JNU	**Nakatsue**	**10.01**	**250**	Pn	**Pn**	**21 00 31.0**	**+2.5**
	comp=Z,1.1nm,0.3s,baz=46,slow=4.7,SNR=26						
USRK	**Ussuriysk Ar.**	**10.43**	**316**	Pn	**Pn**	**21 00 34.5**	**+0.4**
	comp=Z,0.4nm,0.3s,baz=117,slow=15,SNR=5.8						
USRK				LR	LR	21 04 11.9	
	comp=Z,125nm,20.8s,baz=155,slow=35						
KSRS	**Korea Array**	**11.29**	**276**	Pn	**Pn**	**21 00 49.3**	**+3.4**
	comp=Z,0.4nm,0.3s,baz=89,slow=13,SNR=40						
KSRS				LR	LR	21 05 00.7	
	comp=Z,235nm,18.6s,baz=89,slow=37						
KSAR	**Wonju Array Be**	**11.32**	**276**	P	**Pn**	**21 00 49.3**	**+2.9**
KSAR	**Wonju Array Be**	**11.32**	**276**	Pn	**Pn**	**21 00 49.3**	**+2.9**
KLR	**Kul'dur**	**14.25**	**331**	Pn	**Pn**	**21 01 25.0**	**-1.3**
	comp=Z,0.4nm,0.3s,baz=155,slow=7.3,SNR=9.2						
KLR				LR	LR	21 06 52.8	
	comp=Z,145nm,18.6s,baz=155,slow=37						
KLR	**Kul'dur**	**14.25**	**331**	P	**Pn**	**21 01 25.0**	**-1.3**
KLR				MLR	MLR		
	comp=Z,145nm,18.6s						
KLR	**Kul'dur**	**14.25**	**331**	Pn	**Pn**	**21 01 25.0**	**-1.3**
JOW	**Kunigami**	**15.55**	**233**	LR	LR	21 06 58.2	
	comp=Z,50nm,20.5s,baz=24,slow=34						
TPUB	**Ta-pu**	**23.02**	**239**	*e*P	**P**	**21 03 07.8**	**-1.7**
	comp=Z,17nm,0.6s						
MA2	**Magadan**	**23.16**	**11**	*ce*P	**P**	**21 03 10.6**	**+0.1**
HHC	**Hu-ho-hao-te**	**23.95**	**288**	*e*P	**P**	**21 03 14.0**	**-4.5**
HHC				S	S	21 07 19.4	-14
HHC				pmax	pmax		
	comp=Z,19nm,1.3s						
HHC				pmax	pmax		
	comp=Z,86nm,4.7s						
HHC				LR	LR		
	comp=Z,330nm,14.9s						
HHC				LR	LR		
	comp=Z,250nm,14.9s						
HHC				LR	LR		
	comp=Z,140nm,12.4s						
YAK	**Yakutsk**	**26.11**	**347**	P	**P**	**21 03 36.9**	**-0.8**
	comp=Z,9.5nm,0.4s,baz=238,slow=1.5,SNR=4.9						
YAK	**Yakutsk**	**26.11**	**347**	*e*P	**P**	**21 03 36.9**	**-0.8**
YAK				pmax	pmax		
	comp=Z,12nm,0.8s						
YAK				pmax	pmax		
	comp=N,10.0nm,1.4s						
YAK				pmax	pmax		
	comp=E,3.0nm,0.9s						
XAN	**Xi'an**	**27.07**	**273**	P	**P**	**21 03 46.5**	**-0.2**
XAN				pP	pP	21 03 56.6	+1.6
XAN				pmax	pmax		
	comp=E,13nm,0.6s						
XAN				pmax	pmax		
	comp=E,83nm,5.2s						
H11N2	**WAKE ISLAND Hy**	**27.73**	**122**	T	T	21 32 50.2	
	baz=319,slow=74,SNR=89						
H11N1	**WAKE ISLAND Hy**	**27.74**	**122**	T	T	21 32 57.1	
	baz=319,slow=74,SNR=198						
BOD	**Bodaibo**	**27.75**	**327**	*e*P	**P**	**21 03 52.1**	**-0.4**
BOD				pmax	pmax		
	comp=Z,15nm,1.4s						
H11N3	**WAKE ISLAND Hy**	**27.75**	**122**	T	T	21 32 50.0	
	baz=319						
ULN	**Ulaanbaatar**	**27.75**	**304**	*ce*P	**P**	**21 03 52.8**	**-0.1**
ULN				pmax	pmax		
	comp=Z,6.0nm,0.6s						
ULN	**Ulaanbaatar**	**27.75**	**304**	*e*P	**P**	**21 03 52.6**	**-0.2**
	comp=Z,7.0nm,0.7s						
ENH	**Enshi**	**27.87**	**265**	*e*P	**P**	**21 03 53.5**	**-0.5**
	comp=Z,29nm,0.8s						
SONM	**Songino Array**	**28.18**	**304**	P	**P**	**21 03 56.7**	**+0.1**
	comp=Z,9.8nm,0.7s,baz=102,slow=9.1,SNR=85						
H11S1	**WAKE ISLAND Hy**	**28.46**	**124**	T	T	21 33 51.9	
	baz=316						
H11S3	**WAKE ISLAND Hy**	**28.46**	**124**	T	T	21 33 41.9	
	baz=316,slow=74,SNR=74						
H11S2	**WAKE ISLAND Hy**	**28.47**	**124**	T	T	21 33 33.7	
	baz=316,slow=74,SNR=58						
ZAK	**Zakamensk**	**30.64**	**308**	*e*P	**P**	**21 04 17.7**	**-0.7**
ZAK				pmax	pmax		
	comp=Z,9.0nm,1.2s						
TLY	**Talaya**	**30.68**	**311**	P	**P**	**21 04 19.2**	**+0.5**
	comp=Z,7.0nm,0.7s,baz=29,slow=1.6,SNR=11						
TLY				LR	LR	21 16 44.0	
	comp=Z,55nm,18.3s,baz=103,slow=36						
TLY	**Talaya**	**30.68**	**311**	*e*P	**P**	**21 04 19.6**	**+0.9**
TLY				pmax	pmax		
	comp=Z,10.0nm,0.7s						
TLY				MLR	MLR		
	comp=Z,96nm,18.0s						
GYA	**Guiyang**	**31.76**	**261**	*i*P	**P**	**21 04 27.4**	**-1.1**
GYA				pmax	pmax		
	comp=Z,30nm,0.9s						
MOY	**Mondy**	**32.30**	**310**	*e*P	**P**	**21 04 32.8**	**-0.2**
CMAR	**Chiang Mai Arr**	**42.04**	**256**	P	**P**	**21 05 56.2**	**+0.4**
	comp=Z,1.2nm,0.7s,baz=42,slow=7.6,SNR=8.6						
ZALV	**Zalesovo Beam**	**42.26**	**312**	P	**P**	**21 05 57.5**	**+0.4**
	comp=Z,6.2nm,0.5s,baz=90,slow=7.4,SNR=40						
ZALV				LR	LR	21 24 11.5	
	comp=Z,85nm,18.7s,baz=250,slow=37						
LSA	**Lhasa**	**42.74**	**275**	*e*P	**P**	**21 06 02.9**	**+1.0**
LSA				pmax	pmax		
	comp=Z,9.0nm,0.8s						
LSA	**Lhasa**	**42.74**	**275**	*e*P	**P**	**21 06 02.9**	**+1.0**
	comp=Z,8.6nm,0.8s						
NVS	**Novosibirsk**	**43.17**	**314**	*i* P	**P**	**21 06 05.5**	**+1.0**
NRIK	**Noril'sk**	**43.42**	**335**	LR	LR	21 25 17.1	
	comp=Z,103nm,18.6s,baz=109,slow=38						
KURK	**Kurchatov**	**46.30**	**308**	*e*P	**P**	**21 06 29.0**	**-0.6**
KURK				pmax	pmax		
	comp=Z,70nm,1.2s						
KURK	**Kurchatov**	**46.30**	**308**	*e*P	**P**	**21 06 28.8**	**-0.8**
	comp=Z,68nm,0.5s						
KURBB	**Kurchatov Arra**	**46.37**	**308**	P	**P**	**21 06 30.0**	**-0.1**
	comp=Z,5.7nm,0.4s,baz=82,slow=7.8,SNR=53						
TAPN	**Taplejung**	**46.47**	**274**	*e*P	**P**	**21 06 32.2**	**+0.6**
	comp=Z,17nm,0.4s						
ODAN	**Odare**	**46.94**	**274**	*e*P	**P**	**21 06 35.7**	**+0.5**
	comp=Z,21nm,0.7s						
PDGK	**Podgornoye**	**47.21**	**298**	P	**P**	**21 06 37.2**	**+0.2**
PDGK				pmax	pmax		
	comp=Z,7.0nm,0.6s						
JIRN	**Jiri**	**47.54**	**275**	*e*P	**P**	**21 06 40.4**	**+0.4**
	comp=Z,111nm,0.4s						
GUN	**Gumba**	**47.68**	**276**	*e*P	**P**	**21 06 42.3**	**+1.2**
	comp=Z,32nm,0.7s						
PKI	**Pulchoki**	**48.20**	**276**	*e*P	**P**	**21 06 45.9**	**+0.8**
	comp=Z,9.7nm,0.7s						
KKN	**Kakani**	**48.21**	**276**	*e*P	**P**	**21 06 46.1**	**+1.1**
	comp=Z,24nm,0.7s						
PKIN	**Phulchoki**	**48.21**	**276**	*e*P	**P**	**21 06 45.8**	**+0.7**
	comp=Z,9.0nm,0.6s						
DMN	**Daman**	**48.43**	**276**	*e*P	**P**	**21 06 47.1**	**+0.4**
	comp=Z,24nm,0.9s						
GKN	**Gorkha**	**48.63**	**277**	*e*P	**P**	**21 06 48.5**	**+0.3**
	comp=Z,36nm,0.7s						
ILAR	**Eielson Array**	**49.14**	**32**	P	**P**	**21 06 51.1**	**-0.3**
	comp=Z,1.4nm,0.7s,baz=265,slow=6.4,SNR=16						
KOLN	**Koldanda**	**49.55**	**277**	*e*P	**P**	**21 06 55.8**	**+0.5**
	comp=Z,21nm,0.8s						
PYUN	**Piuthan**	**49.89**	**278**	*e*P	**P**	**21 06 58.3**	**+0.4**
	comp=Z,30nm,0.8s						
KSH	**Kashi**	**50.86**	**294**	*e*P	P	21 07 09.9	+4.9
KSH				PP	**PP**	**21 09 07.6**	**+6.4**
KSH				pmax	pmax		
	comp=Z,2.0nm,0.8s						
KSH				pmax	pmax		
	comp=Z,120nm,4.9s						
KSH				LR	LR		
	comp=Z,130nm,5.3s						
KSH				LR	LR		
	comp=Z,84nm,4.4s						
KSH				LR	LR		
	comp=Z,120nm,6.5s						
BVAR	**Borovoye Array**	**50.91**	**312**	P	**P**	**21 07 05.3**	**+0.3**
	comp=Z,3.1nm,0.6s,baz=69,slow=7.6,SNR=18						
AAK	**Ala-Archa**	**50.92**	**299**	P	**P**	**21 07 09.3**	**+3.9**
	comp=Z,4.4nm,0.5s,baz=123,slow=4.4,SNR=14						
AAK	**Ala-Archa**	**50.92**	**299**	*e*P	**P**	**21 07 08.8**	**+3.4**
AAK				pmax	pmax		
	comp=Z,4.0nm,0.6s						
AAK	**Ala-Archa**	**50.92**	**299**	*e*P	**P**	**21 07 08.8**	**+3.4**
	comp=Z,4.2nm,0.6s						
BRVK	**Borovoye**	**50.97**	**312**	*ce*P	**P**	**21 07 04.9**	**-0.5**
BRVK				pmax	pmax		
	comp=Z,21nm,2.5s						
BRVK	**Borovoye**	**50.97**	**312**	*e*P	**P**	**21 07 05.4**	**0.0**
MNAS	**Manas**	**52.37**	**299**	P	**P**	**21 07 17.2**	**+1.0**
MNAS				pmax	pmax		
	comp=Z,14nm,0.6s						
KKAR	**Karatay Array**	**53.55**	**300**	*e*P	**P**	**21 07 24.7**	**-0.1**
KKAR				pmax	pmax		
	comp=Z,3.0nm,0.5s						
KKAR	**Karatay Array**	**53.55**	**300**	*e*P	**P**	**21 07 24.7**	**-0.1**
	comp=Z,3.3nm,0.5s						
INK	**Inuvik**	**54.07**	**27**	P	**P**	**21 07 28.7**	**+0.6**
	comp=Z,1.5nm,0.5s,baz=326,slow=8.1,SNR=4.7						
INK	**Inuvik**	**54.07**	**27**	P	**P**	**21 07 28.7**	**+0.6**
INK				pmax	pmax		
	comp=Z,1.0nm,0.4s						
ARU	**Arti**	**56.65**	**319**	*c i*P	**P**	**21 07 46.9**	**0.0**
ARU						21 08 41.5	
ARU						21 09 51.9	
ARU				S	**S**	**21 15 34.4**	**-2.7**
ARU				pmax	pmax		
	comp=Z,12nm,1.7s						
ARU	**Arti**	**56.65**	**319**	*e*P	**P**	**21 07 46.8**	**-0.1**
	comp=Z,4.7nm,0.6s						
WRA	**Warramunga Arr**	**57.22**	**189**	P	**P**	**21 07 50.3**	**-1.0**
	comp=Z,1.5nm,0.7s,baz=7.8,slow=7.7,SNR=12						
KBL	**Kabul**	**57.89**	**291**	P	**P**	**21 07 57.2**	**+1.0**
KBL				pmax	pmax		
	comp=Z,4.0nm,1.2s						
ABKAR	**Akbulak array**	**58.30**	**310**	*e*P	**P**	**21 07 58.3**	**-0.3**
	comp=Z,3.5nm,0.6s						
ASAR	**Alice Springs**	**60.95**	**189**	P	**P**	**21 08 16.4**	**-0.7**
	comp=Z,0.8nm,0.7s,baz=9.8,slow=6.7,SNR=8.6						
KLMR	**Klimovskoe**	**63.97**	**328**	*e*P	**P**	**21 08 35.5**	**-1.4**
KLMR				pmax	pmax		
	comp=Z,13nm,1.5s						
ARCES	**ARCESS Array B**	**64.11**	**340**	LR	LR	21 41 31.0	
	comp=Z,55nm,18.1s,baz=180,slow=41						
GEYT	**Alibeck**	**64.26**	**299**	P	**P**	**21 08 39.7**	**+0.4**
	comp=Z,2.0nm,0.5s,baz=90,slow=24,SNR=4.5						
FINES	**FINESS Array B**	**68.99**	**332**	P	**P**	**21 09 09.2**	**+0.3**
	comp=Z,4.0nm,0.8s,baz=77,slow=10.0,SNR=9.6						
KBZ	**Khabaz**	**71.25**	**311**	P	**P**	**21 09 24.2**	**+1.1**
	comp=Z,1.6nm,0.6s,baz=8.8,slow=7.1,SNR=5.9						
KIV	**Kislovodsk**	**71.26**	**311**	*e*P	**P**	**21 09 24.2**	**+0.9**
KIV				pmax	pmax		
	comp=Z,7.0nm,1.0s						
KIV	**Kislovodsk**	**71.26**	**311**	*e*P	**P**	**21 09 24.8**	**+1.5**
	comp=Z,5.9nm,0.8s						
NB2	**NORSAR Subarra**	**74.32**	**338**	P	**P**	**21 09 41.2**	**+0.1**
	comp=Z,1.3nm,0.6s,baz=39,slow=6.2						
NOA	**NORSAR Array B**	**74.32**	**338**	P	**P**	**21 09 40.9**	**-0.2**
	comp=Z,0.9nm,0.5s,baz=38,slow=5.9,SNR=5.2						
AKASG	**Malin Array Be**	**74.56**	**323**	P	**P**	**21 09 42.5**	**-0.1**
	comp=Z,1.9nm,0.5s,baz=46,slow=5.9,SNR=8.2						
KIEV	**Kiev**	**74.57**	**323**	*i* P	**P**	**21 09 44.2**	**+1.6**
KIEV				pmax	pmax		
	comp=Z,3.0nm,0.7s						
PDAR	**Pinedale Array**	**77.23**	**46**	P	**P**	**21 09 58.3**	**0.0**
	comp=Z,0.2nm,0.4s,baz=257,slow=3.6,SNR=3.3						
BRTR	**Keskin Array B**	**79.20**	**312**	P	**P**	**21 10 09.7**	**+0.6**
	comp=Z,0.7nm,0.8s,baz=123,slow=4.6,SNR=4.2						
BRTR	**Keskin Array B**	**79.20**	**312**	*ce*P	**P**	**21 10 10.8**	**+1.7**
BRTR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
DPC	**Dobruska-Polom**	**80.67**	**328**	*e*P	**P**	**21 10 18.6**	**+1.8**
DPC	**Dobruska-Polom**	**80.67**	**328**	*e*P	**P**	**21 10 18.6**	**+1.8**
TXAR	**Lajitas Array**	**89.64**	**53**	P	**P**	**21 11 03.4**	**+1.3**
	comp=Z,0.4nm,0.8s,baz=268,slow=2.3,SNR=3.9						
TORD	**Torodi Ar. Bea**	**117.65**	**315**	PKP	**PKPdf**	**21 16 49.9**	**-0.6**
	comp=Z,0.3nm,0.9s,baz=251,slow=1.6,SNR=4.1						

IDC ***08*** *21:03:40.9±0.7, 19˚.08S×167˚.81E, h0km, mb4.5/16, mb1 4.7/17, mb1mx4.5/41, mbtmp4.5/17, ML4.3/1, MS3.8/16, Ms1 3.8/16, ms1mx3.7/25, Error ellipse: s-maj=21.5km s-min=15.2km az=98.0*

BJI ***08*** *21:03:41.9, 19˚.20S×167˚.89E, h23km, mb4.8/33, mB5.1/23, Ms5.0/10, Ms7 4.7/8*

ISCJB ***08*** *21:03:43.0±0.2, 19˚.07S±0˚.04×167˚.64E±0˚.04, h20km, mb4.9/64, MS4.0/17, Error ellipse: s-maj=6.1km s-min=4.5km az=139.7*

NEIC ***08*** *21:03:46.5±0.2, 19˚.07S×167˚.66E, h35km, mb5.0/51, Error ellipse: s-maj=6.5km s-min=5.3km az=147.0*

GCMT ***08*** *21:03:46.5±0.3, 19˚.03S×167˚.62E, h17km±1km, MW4.9/80, Moment Tensor Solution. s19,c22; s80,c109; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr~1.69±.19; Mθθ-1.26±.11; Mφφ2.95±.13; Mrθ-0.50±.30; Mθφ-1.14±.08; Mφr~0.11±.25; Best double couple: M₀2.68900×10¹⁶ NP1:φs132.00000°,δ58.00000°,λ-141.00000°. NP2: φs19.00000°,δ58.00000°,λ-39.00000°. Principal axes: T 3.2390, Plg0.0000°, Azm256.0000°; N -1.1000, Plg41.0000°, Azm166.0000°; P -2.1390, Plg49.0000°, Azm346.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

ISC 08 21:03:44.5±0.4, 19˚.19S±0˚.05×167˚.70E±0˚.07, h20km, n184, σ1ˢ36/182, mb5.0/64, MS3.9/17, 1C, Vanuatu Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**3.10**	**202**	Pn	**Pn**	**21 04 31.8**	**-0.5**
	37nm,0.3s,baz=63,slow=12,SNR=641						
DZM				Sn	**Sn**	**21 05 08.0**	**-0.8**
	150nm,0.3s,baz=135,slow=23,SNR=18						
DZM				LR	LR	21 05 12.2	
	comp=Z,439nm,18.7s,baz=33,slow=28						
DZM	**Mont Dzumac**	**3.10**	**202**	*e*Pn	**Pn**	**21 04 31.0**	**-1.3**
	274nm,0.3s						
DZM				*e*Sn	**Sn**	**21 05 07.5**	**-1.3**
	474nm,0.3s						
DZM	**Mont Dzumac**	**3.10**	**202**	*e*Pn	**Pn**	**21 04 31.0**	**-1.3**
DZM				*e*Sn	**Sn**	**21 05 09.0**	**+0.2**
MSVF	**Nonsavu**	**9.93**	**83**	*e*Pn	**Pn**	**21 06 09.3**	**+3.0**
HNR	**Honiara**	**12.27**	**321**	LR	LR	21 09 41.2	
	comp=Z,234nm,19.9s,baz=178,slow=29						
EIDS	**Eidsvold**	**16.55**	**245**	P	**P**	**21 07 37.8**	**-0.3**
	baz=17,SNR=4.0						
EIDS	**Eidsvold**	**16.55**	**245**	*e*Pn	**P**	**21 07 38.4**	**+0.4**
	39nm,1.3s						
OUZ	**Omahuta**	**16.80**	**163**	*e*Pn	**P**	**21 07 41.1**	**+0.5**
	32nm,0.8s						
RMQ	**Roma**	**18.89**	**244**	P	**Pn**	**21 08 07.1**	**+2.6**
	baz=19,SNR=16						
CTA	**Charters Tower**	**20.22**	**264**	P	Pn	21 08 21.0	+0.6
	26nm,0.9s,baz=88,slow=13,SNR=30						
CTAO	**Charters Tower**	**20.22**	**264**	*e*P	Pn	21 08 20.6	+0.2
	36nm,0.9s						
AFI	**Afiamalu**	**20.36**	**78**	LR	LR	21 14 52.1	
	comp=Z,507nm,20.5s,baz=256,slow=33						
URZ	**Urewera**	**20.69**	**159**	P	Pn	21 08 27.3	+1.6
	12nm,0.8s,baz=353,slow=11,SNR=7.3						
URZ				LR	LR	21 15 21.5	
	comp=Z,498nm,20.4s,baz=344,slow=34						
URZ	**Urewera**	**20.69**	**159**	*e*P	Pn	21 08 27.7	+2.0
	24nm,0.8s						
BKZ	**Black Stump Fm**	**21.31**	**161**	*e*P	**P**	**21 08 32.2**	**+2.1**
	14nm,0.8s						
PMG	**Port Moresby**	**22.13**	**293**	P	**P**	**21 08 40.0**	**+1.0**
	13nm,0.8s,baz=70,slow=13,SNR=3.1						
PMG				LR	LR	21 16 10.4	
	comp=Z,664nm,18.5s,baz=115,slow=34						
PMG	**Port Moresby**	**22.13**	**293**	*e*P	**P**	**21 08 39.3**	**+0.3**
	12nm,0.6s						
MTSU	**Mount Surprise**	**22.18**	**269**	P	**P**	**21 08 41.4**	**+1.9**
	baz=22,SNR=10.0						
QLP	**Quilpie**	**22.81**	**247**	P	**P**	**21 08 47.4**	**+1.2**
	baz=23,SNR=17						
CNB	**Canberra Magne**	**22.82**	**222**	P	**P**	**21 08 47.1**	**+0.8**
	baz=23,SNR=12						
CAN	**Canberra**	**23.05**	**222**	*e*P	**P**	**21 08 50.4**	**+1.7**
	28nm,0.9s						
CMSA	**Cobar Meteorol**	**23.32**	**234**	P	**P**	**21 08 52.6**	**+1.2**
	baz=23,SNR=16						
COEN	**Coen**	**24.06**	**279**	P	**P**	**21 08 59.9**	**+1.2**
	baz=24,SNR=11						
COEN	**Coen**	**24.06**	**279**	*e*P	**P**	**21 08 59.5**	**+0.8**
	156nm,1.6s						
MILA	**Mila**	**24.09**	**219**	P	**P**	**21 08 59.2**	**+0.4**
	baz=24,SNR=5.3						
OXZ	**Oxford**	**24.34**	**172**	*e*P	**P**	**21 09 02.4**	**+1.4**
	54nm,1.2s						
RPZ	**Rata Peaks**	**24.61**	**174**	P	**P**	**21 09 04.7**	**+1.3**
	18nm,0.6s,baz=290,

VNDA				LR	LR	21 34 23.0			
	comp=Z,50nm,21.3s,baz=353,slow=32								
VNDA	**Vanda**	**58.43**	**181**	*eP*	**P**	**21 13 38.9**	**+0.5**		
	10nm,1.5s								
MJAR	**Matsushiro Arr**	**62.05**	**333**	P	**P**	**21 14 02.0**	**-1.6**		
	0.4nm,0.4s,baz=183,slow=8.0,SNR=3.4								
TPUB	**Ta-pu**	**62.40**	**311**	*eP*	**P**	**21 14 04.5**	**-1.8**		
	22nm,0.9s								
SSLB	**Suanglung**	**62.47**	**311**	*eP*	**P**	**21 14 05.5**	**-1.3**		
	6.6nm,0.8s								
YHNB	**Yeheng**	**62.73**	**312**	*eP*	**P**	**21 14 08.0**	**-0.5**		
	25nm,0.9s								
DLV	**T Lat**	**66.03**	**293**	*eP*	**P**	**21 14 29.2**	**-1.3**		
KSRS	**Korea Array**	**67.66**	**327**	P	**P**	**21 14 40.2**	**+0.1**		
	0.7nm,0.5s,baz=140,slow=6.5,SNR=5.4								
KSRS				LR	LR	21 41 38.3			
	comp=Z,30nm,19.3s,baz=143,slow=34								
KSAR	**Wonju Array Be**	**67.67**	**327**	P	**P**	**21 14 40.2**	**0.0**		
NJ2	**Nanjing**	**69.17**	**317**	*eP*	**P**	**21 14 50.4**	**+0.7**		
YSS	**Yuzh-Sakhalins**	**69.58**	**342**	*eP*	**P**	**21 14 51.3**	**-0.6**		
	5.4nm,0.5s								
IPM	**Ipoh**	**69.65**	**282**	*eP*	**P**	**21 14 53.0**	**-0.2**		
	11nm,0.9s								
KULM	**Kulim**	**70.30**	**283**	*eP*	**P**	**21 14 56.4**	**-0.8**		
	4.9nm,0.8s								
QSPA	**South Pole Qui**	**70.86**	**180**	*eP*	**P**	**21 14 59.8**	**-0.1**		
	31nm,0.8s								
USRK	**Ussuriysk Ar.**	**71.04**	**334**	P	**P**	**21 15 00.9**	**-0.1**		
	1.1nm,0.6s,baz=108,slow=6.3,SNR=4.7								
PETK	**Petropavlovsk-**	**72.52**	**354**	LR	LR	21 40 21.6			
	comp=Z,58nm,21.7s,baz=160,slow=30								
ENH	**Enshi**	**74.53**	**310**	*eP*	**P**	**21 15 20.6**	**-1.4**		
	21nm,1.4s								
GYA	**Guiyang**	**74.60**	**306**	P	**P**	**21 15 24.0**	**+1.3**		
GYA				*pP*	sP	21 15 32.6	+0.9		
GYA				PP	**PP**	**21 18 13.2**	**+3.4**		
GYA				S	**S**	**21 24 57.0**	**-0.7**		
GYA				sS	sS	21 25 11.8	+3.2		
GYA				SKS	**SKSac**	**21 25 25.4**	**-5.0**		
GYA				SS	**SS**	**21 29 46.7**	**+1.3**		
GYA				pmax	pmax				
	comp=Z,20nm,1.0s								
GYA				pmax	pmax				
	comp=Z,120nm,6.6s								
GYA				LR	LR				
	comp=N,440nm,20.2s								
GYA				LR	LR				
	comp=E,410nm,20.0s								
GYA				LR	LR				
	comp=Z,430nm,20.4s								
KLR	**Kul'dur**	**75.24**	**337**	P	**P**	**21 15 26.0**	**+0.3**		
	0.6nm,0.3s,baz=117,slow=4.5,SNR=3.3								
BJI	**Beijing**	**75.99**	**322**	P	**P**	**21 15 29.8**	**-0.4**		
BJI				PP	**PP**	**21 18 20.4**	**-0.7**		
BJI				S	**S**	**21 25 18.5**	**+6.2**		
BJI				SS	**SS**	**21 30 08.4**	**+2.7**		
BJI				pmax	pmax				
	comp=Z,10.0nm,1.3s								
KMI	**Kunming**	**77.02**	**303**	P	**P**	**21 15 37.4**	**+0.8**		
KMI				pmax	pmax				
	comp=Z,11nm,1.0s								
KMI				pmax	pmax				
	comp=Z,130nm,4.4s								
CM01	**Chiang Mai Arr**	**77.13**	**295**	*eP*	**P**	**21 15 37.2**	**+0.1**		
CMAR	**Chiang Mai Arr**	**77.16**	**295**	P	**P**	**21 15 37.6**	**+0.3**		
	3.0nm,0.8s,baz=131,slow=4.3,SNR=16								
CHTO	**Chiang Mai**	**77.31**	**295**	*eP*	**P**	**21 15 37.8**	**-0.4**		
	4.9nm,0.9s								
MAW	**Mawson**	**77.93**	**202**	P	**P**	**21 15 41.9**	**+1.2**		
	5.5nm,0.9s,baz=110,slow=7.7,SNR=10.0								
MAW	**Mawson**	**77.93**	**202**	*eP*	**P**	**21 15 41.4**	**+0.7**		
	2.5nm,1.1s								
CD2	**Chengdu**	**79.06**	**308**	*eP*	**P**	**21 15 47.1**	**-0.5**		
CD2				sP	sP	21 15 59.2	+2.6		
CD2				pmax	pmax				
	comp=Z,10.0nm,1.3s								
HHC	**Hu-ho-hao-te**	**79.25**	**320**	*eP*	**P**	**21 15 49.4**	**+0.9**		
HHC				pmax	pmax				
	comp=Z,19nm,1.0s								
HHC				pmax	pmax				
	comp=Z,95nm,6.9s								
HIA	**Hailar**	**80.35**	**330**	*eP*	**P**	**21 15 53.0**	**-1.2**		
LZH	**Lanzhou**	**81.62**	**313**	*eP*	**P**	**21 16 00.5**	**-1.0**		
LZH				*pP*	sP	21 16 09.4	-1.1		
LZH				sP	pP	21 16 13.0	+4.9		
LZH				PP	**PP**	**21 19 09.7**	**+1.2**		
LZH				pmax	pmax				
	comp=Z,20nm,1.5s								
LZH				pmax	pmax				
	comp=Z,93nm,8.7s								
LZH				LR	LR				
	comp=N,210nm,17.2s								
LZH				LR	LR				
	comp=E,220nm,16.8s								
LZH				LR	LR				
	comp=Z,290nm,19.3s								
SYO	**Syowa Base**	**84.57**	**197**[1]	*eP*	**P**	**21 16 15.0**	**-1.0**		
ULN	**Ulaanbaatar**	**85.97**	**324**	*eP*	**P**	**21 16 23.3**	**-0.1**		
	16nm,0.9s								
SONM	**Songino Array**	**86.31**	**324**	P	**P**	**21 16 24.8**	**-0.3**		
	8.2nm,0.8s,baz=150,slow=5.3,SNR=44								
SONA1	**Songino Array**	**86.32**	**324**	*eP*	**P**	**21 16 24.1**	**-1.0**		
YAK	**Yakutsk**	**86.40**	**343**	*eP*	**P**	**21 16 24.0**	**-1.0**		
	12nm,0.7s								
PMSA	**Palmer Station**	**87.45**	**160**	*eP*	**P**	**21 16 30.5**	**+0.2**		
WDC	**Whiskeytown Da**	**87.86**	**46**	*eP*	**P**	**21 16 33.1**	**+0.4**		
	24nm,1.5s								
N02D	**Trinity Center**	**87.94**	**45**	P	**P**	**21 16 33.6**	**+0.5**		
	baz=242								
M02C	**Callahan**	**88.03**	**45**	P	**P**	**21 16 33.7**	**+0.2**		
	baz=242								
ORV	**Oroville**	**88.11**	**47**	*eP*	**P**	**21 16 33.4**	**-0.4**		
	8.9nm,1.1s								
CAST	**Castle Rocks**	**88.12**	**17**	*eP*	**P**	**21 16 30.7**	**-2.6**		
	9.5nm,0.8s								
AFDM	**Forest Hills D**	**88.20**	**48**	*eP*	**P**	**21 16 34.3**	**0.0**		
	11nm,1.1s								
CMB	**Columbia Colle**	**88.22**	**49**	*eP*	**P**	**21 16 32.7**	**-1.7**		
	5.4nm,0.9s								
LSA	**Lhasa**	**88.27**	**302**	*eP*	**P**	**21 16 34.7**	**-0.7**		
TRF	**Thorofare Moun**	**88.65**	**18**	*eP*	**P**	**21 16 35.5**	**-0.5**		
	6.6nm,0.8s								
M04C	**Macdoel**	**88.89**	**45**	P	**P**	**21 16 37.0**	**-0.6**		
	baz=243								
MONP	**Monument Peak,**	**89.01**	**55**	P	**P**	**21 16 37.8**	**-0.7**		
	baz=246								
WAKR	**Walker**	**89.09**	**49**	*eP*	**P**	**21 16 38.7**	**-0.1**		
	8.3nm,1.1s								
SNAA	**Sanae**	**89.14**	**183**	P	**P**	**21 16 37.7**	**-0.6**		
SNAA	**Sanae**	**89.14**	**183**	*eP*	**P**	**21 16 37.5**	**-0.7**		
	8.3nm,1.0s								
CWC	**Cottonwood Cre**	**89.20**	**51**	P	**P**	**21 16 38.8**	**-0.5**		
	baz=246								
MCK	**McKinley**	**89.25**	**18**	*eP*	**P**	**21 16 38.4**	**-0.2**		
	2.1nm,0.7s								
MPMC	**Manual Prospec**	**89.48**	**51**	P	**P**	**21 16 39.6**	**-1.0**		
	baz=246								
PAHR	**Pah Rah Range**	**89.64**	**48**	*eP*	**P**	**21 16 41.3**	**0.0**		
	17nm,1.3s								
BELC	**Belle Mtn. Jos**	**89.77**	**54**	P	**P**	**21 16 41.0**	**-1.0**		
	baz=247								
VNA3	**Neumayer Olymp**	**89.78**	**181**	P	**P**	**21 16 40.6**	**-0.7**		
K05A	**Summer Lake**	**89.94**	**44**	*eP*	**P**	**21 16 41.7**	**-0.9**		
	65nm,1.8s								
GRAC	**Grapevine Rang**	**89.95**	**51**	P	**P**	**21 16 42.1**	**-0.5**		
	baz=246								
J05D	**Fort Rock, OR**	**89.96**	**44**	P	**P**	**21 16 42.5**	**-0.1**		
	baz=243								
MOD	**Modoc Plateau**	**89.97**	**45**	*eP*	**P**	**21 16 42.4**	**-0.4**		
E03A	**Lebam**	**90.00**	**40**	*eP*	**P**	**21 16 42.4**	**-0.1**		
	40nm,1.1s								
VNA2	**Neumayer--Watz**	**90.06**	**182**	P	**P**	**21 16 42.3**	**-0.3**		
WRH	**Wood River Hil**	**90.06**	**18**	*eP*	**P**	**21 16 41.1**	**-1.2**		
FURC	**Furnace Creek,**	**90.11**	**51**	P	**P**	**21 16 42.9**	**-0.3**		
	baz=246								
CCB	**Clear Creek Bu**	**90.27**	**18**	*eP*	**P**	**21 16 41.7**	**-1.6**		
HDA	**Harding Lake**	**90.34**	**18**	*eP*	**P**	**21 16 43.8**	**+0.1**		
	9.5nm,1.0s								
MDM	**Murphy Dome**	**90.39**	**17**	*eP*	**P**	**21 16 42.2**	**-1.7**		
F04A	**Amboy**	**90.41**	**41**	*eP*	**P**	**21 16 44.4**	**-0.1**		
	18nm,0.8s								
IRM	**Iron Mountain**	**90.48**	**54**	P	**P**	**21 16 45.7**	**+0.5**		
	baz=247								
ILAR	**Eielson Array**	**90.63**	**18**	P	**P**	**21 16 43.1**	**-1.9**		
	3.5nm,0.7s,baz=236,slow=5.4,SNR=12								
ILAR				LR	LR	21 49 31.9			
	comp=Z,35nm,20.0s,baz=218,slow=30								
ILB	**Eielson Array**	**90.63**	**18**	*eP*	**P**	**21 16 46.0**	**+0.9**		
IL1	**Eielson Array**	**90.63**	**18**	*eP*	**P**	**21 16 42.6**	**-2.4**		
TPNV	**Topopah Spring**	**90.75**	**51**	P	**P**	**21 16 46.3**	**-0.2**		
	baz=247								
SLBS	**Sierra La Lagu**	**90.88**	**65**	*eP*	**P**	**21 16 48.4**	**+1.1**		
	24nm,1.4s								
LON	**Longmire**	**91.16**	**40**	*eP*	**P**	**21 16 47.2**	**-0.8**		
	5.5nm,0.9s								
PDMCI	**Parker Dam,Lak**	**91.31**	**54**	P	**P**	**21 16 48.4**	**-0.5**		
	baz=248								
WVOR	**Wild Horse Val**	**91.31**	**45**	*eP*	**P**	**21 16 48.6**	**-0.3**		
	10nm,1.0s								
A04D	**Lummi Island**	**91.53**	**38**	P	**P**	**21 16 49.3**	**-0.2**		
	baz=242								
COLD	**Coldfoot**	**91.61**	**15**	*eP*	**P**	**21 16 49.1**	**-0.5**		
R11A	**Troy Canyon, C**	**91.79**	**50**	P	**P**	**21 16 50.7**	**-0.6**		
	baz=247								
EGAK	**Eagle**	**92.36**	**20**	*eP*	**P**	**21 16 52.2**	**-0.9**		
	5.2nm,0.8s								
HAWA	**Hanford**	**92.41**	**41**	*eP*	**P**	**21 16 55.2**	**+1.4**		
	26nm,1.5s								
U15A	**North Rim**	**93.50**	**53**	*eP*	**P**	**21 16 59.3**	**-0.1**		
WMQ	**Urumqi**	**96.13**	**314**	P	**P**	**21 17 10.7**	**-0.3**		
WMQ				pmax	pmax				
	comp=Z,12nm,0.7s								
WMQ				pmax	pmax				
	comp=Z,25nm,4.1s								
WMQ				LR	LR				
	comp=N,180nm,39.3s								
WMQ				LR	LR				
	comp=E,360nm,39.0s								
INK	**Inuvik**	**96.97**	**19**	*eP*	**P**	**21 17 13.0**	**-1.1**		
LOHW	**Long Hollow**	**97.21**	**46**	*eP*	Pdif	21 17 17.8	+1.7		
TXAR	**Lajitas Array**	**98.03**	**62**	LR	LR	21 54 02.6			
	comp=Z,47nm,19.7s,baz=0.0,slow=31								
YKA	**Yellowknife Ar**	**101.30**	**28**	P	**Pdif**	**21 17 32.5**	**-1.1**		
	1.1nm,0.6s,baz=261,slow=5.0,SNR=5.4								
ARU	**Arti**	**116.35**	**324**	*e*PKPdf	**PKPdf**	**21 22 25.4**	**-0.9**		
SAML	**Samuel**	**122.59**	**115**	*e*PKPdf	**PKPdf**	**21 22 37.8**	**-1.8**		
ARCES	**ARCESS Array B**	**124.65**	**345**	PKP	**PKPdf**	**21 22 41.1**	**-0.9**		
	1.4nm,0.6s,baz=45,slow=1.5,SNR=5.4								
FINES	**FINESS Array B**	**129.99**	**337**	PKP	**PKPdf**	**21 22 51.8**	**-0.5**		
	2.0nm,0.9s,baz=2.4,slow=3.3,SNR=3.4								
PSZ	**Piszkesteto**	**141.24**	**325**	*e*PKPdf	**PKPdf**	**21 23 11.7**	**-2.1**		
MORC	**Moravsky Berou**	**141.28**	**329**	*e*PKPdf	**PKPdf**	**21 23 10.9**	**-2.9**		
CONA	**Conrad Observa**	**143.34**	**328**	*i* PKPdf	PKPbc	21 23 14.4	-0.3		
	4.7nm,1.0s								
KHC	**Kasperske Hory**	**143.60**	**331**	*e*PKP	**PKPdf**	**21 23 16.4**	**-1.5**		
KHC				*ep*PKP	**pPKPdf**	**21 23 28.2**	**+3.4**		
GERES	**GERESS Array B**	**143.75**	**331**	PKP	PKPbc	21 23 15.6	-0.2		
	1.3nm,0.8s,baz=101,slow=1.4,SNR=6.6								
ARSA	**Arzberg**	**143.96**	**327**	*i* PKPdf	PKPbc	21 23 16.1	-0.3		
	5.1nm,1.2s								
MOA	**Molln**	**144.18**	**329**	*i* PKPdf	PKPbc	21 23 17.2	+0.2		
	6.9nm,0.8s,SNR=5.9								
PERS	**Pernice**	**144.58**	**327**	*i* PKPdf	PKPbc	21 23 17.9	-0.5		
PERS				*i*		21 23 30.4			
SOKA	**Soboth**	**144.59**	**327**	*i* PKPdf	**PKPab**	**21 23 17.8**	**-0.5**		
	6.2nm,0.7s,SNR=7.8								
OBKA	**Obir**	**144.96**	**327**	*i* PKPdf	**PKPab**	**21 23 18.9**	**-0.8**		
	9.0nm,1.0s,SNR=5.7								
KBA	**Koelnbreinsper**	**145.17**	**329**	*i* PKPdf	**PKPbc**	**21 23 19.4**	**-1.0**		
	9.7nm,0.9s								
BOJS	**Bojanci**	**145.24**	**325**	*i* PKPdf	**PKPdf**	**21 23 20.6**	**-0.3**		
VISS	**Visnje**	**145.27**	**326**	*i* PKPdf	**PKPab**	**21 23 20.3**	**-0.4**		
VISS				*i*		21 23 31.9			
MYKA	**Terra Mystica**	**145.33**	**328**	*i* PKPdf	**PKPbc**	**21 23 19.8**	**-1.0**		
	8.2nm,0.8s,SNR=5.8								
MEM	**Membach**	**145.44**	**339**	PKP	**PKPab**	**21 23 20.6**	**-0.5**		
MEM				APKP	**pPKPdf**	**21 23 33.6**	**+5.7**		
JAVS	**Javornik**	**145.62**	**327**	*i* PKPdf	**PKPdf**	**21 23 20.9**	**-0.6**		
JAVS				*i*		21 23 33.5			
STU	**Stuttgart**	**145.77**	**334**	*e*PKPbc	**PKPab**	**21 23 21.8**	**-0.7**		
ABTA	**Abfaltersbach**	**145.81**	**329**	*i* PKPab	**PKPdf**	**21 23 21.1**	**-0.8**		
	25nm,1.0s,SNR=14								
WTTA	**Wattenberg**	**145.85**	**331**	*i* PKPab	**PKPbc**	**21 23 22.0**	**-0.7**		
	16nm,1.0s,SNR=6.6								
RCBR	**Riachuelo**	**145.96**	**135**	*e*PKPbc	**PKPdf**	**21 23 22.5**	**-0.6**		
MOTA	**Moosalm**	**146.04**	**331**	*i* PKPab	**PKPbc**	**21 23 22.5**	**-0.6**		
	22nm,1.0s,SNR=18								
RETA	**Reutte**	**146.09**	**332**	*i* PKPab	**PKPbc**	**21 23 22.5**	**-0.7**		
	10.0nm,1.1s								
WLF	**Walferdange**	**146.19**	**338**	PKP	**PKPab**	**21 23 23.7**	**-0.3**		
WLF	**Walferdange**	**146.19**	**338**	*e*PKPbc	**PKPab**	**21 23 23.4**	**-0.6**		
DOU	**Dourbes**	**146.34**	**340**	PKP	**PKPbc**	**21 23 23.4**	**-0.3**		
DOU				APKP	**pPKPdf**	**21 23 35.9**	**+6.4**		
FETA	**Feichten**	**146.45**	**331**	*i* PKPbc	**PKPdf**	**21 23 22.8**	**-0.3**		
	14nm,0.9s,SNR=8.3								
BFO	**Black Forest**	**146.47**	**335**	*e*PKPbc	**PKPbc**	**21 23 23.7**	**-0.6**		
DAVA	**Damuels**	**146.63**	**332**	*i* PKPab	**PKPbc**	**21 23 24.3**	**-0.6**		
	12nm,1.0s								
TUE	**Stuetta**	**147.49**	**332**	*e*PKPbc	**PKPbc**	**21 23 27.1**	**-0.3**		
AQU	**L'Aquila**	**148.28**	**322**	*e*PKPbc	**PKPbc**	**21 23 29.7**	**+0.2**		
VLC	**Villacollemand**	**148.70**	**328**	*e*PKPbc	**PKPbc**	**21 23 29.9**	**-0.6**		
BNI	**Bardonecchia**	**149.77**	**333**	*e*PKPbc	**PKPbc**	**21 23 33.1**	**-0.2**		
SSB	**Saint Sauveur**	**150.47**	**335**	*e*PKPbc	**PKPbc**	**21 23 34.2**	**-0.6**		
ESDC	**Sonseca Array**	**158.36**	**342**	PKPab	**PKPab**	**21 24 14.0**	**-1.0**		
	0.1nm,0.3s,baz=21,slow=4.9,SNR=4.6								
TORD	**Torodi Ar. Bea**	**165.28**	**248**	PKP	**PKPdf**	**21 23 47.2**	**-1.2**		
	1.1nm,1.0s,baz=250,slow=0.6,SNR=5.3								
TORD				PKPab	**PKPab**	**21 24 45.7**	**-0.3**		
	1.8nm,1.0s,baz=106,slow=6.6,SNR=5.5								

NIED ***08*** *22:06:00, 39.80N×142.30E, h5km, Mw4.5 Best double couple: M0 7.26000×10^15 NP1:ϕs 185.00000°, δ53.00000°, λ152.00000°. NP2:ϕs 292.00000°, δ68.00000°, λ40.00000°.*
JMA ***08*** *22:06:17.6± 0.1, 39.80N×142.29E, h22km± 1km, M4.8*
JMA Felt III J1.
ISCJB ***08*** *22:06:18.1± 0.5, 39.81N± 0.02×142.23E± 0.03, h21km± 3km, mb4.6/117, MS4.0/30, Error ellipse: s-maj=4.3km s-min=3.4km az=44.3*
MOS ***08*** *22:06:19.9± 1.1, 39.93N×142.23E, h33km, mb4.8/51, Error ellipse: s-maj=7.5km s-min=5.3km az=94.2*
BJI ***08*** *22:06:20.7, 39.80N×142.20E, h35km, mb4.6/49, mB4.9/36, Ms4.4/41, Ms7 4.1/38*
IDC ***08*** *22:06:21.7± 2.6, 39.76N×142.25E, h39km± 23km, mb4.2/24, mb1 4.4/29, mb1mx4.2/45, mbtmp4.4/29, ML4.2/4, MS3.8/26, Ms1 3.8/26, ms1mx3.7/40, Error ellipse: s-maj=15.2km s-min=12.4km az=98.0*
NEIC ***08*** *22:06:22.1± 0.5, 39.81N×142.19E, h40km± 5km, mb4.7/77, Error ellipse: s-maj=5.1km s-min=3.3km az=132.0*
NEIC Felt at Misawa. Recorded [3 JMA] in Iwate.

ISC 08 22:06:20.1±0.6, 39.85N± 0.03×142.27E± 0.04, h27km± 3km, n305, σ1$70/313, mb4.7/117, MS4.0/31, 12C-16D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
JTH	**Tanohata**	**0.32**	**286**	P			**Pb**	**22 06 25.2**	**-2.4**
JTH				*eS*			**Sb**	**22 06 30.5**	**-2.2**
MIYJ	**Miyakonagasawa**	**0.44**	**232**	P			**Pb**	**22 06 26.3**	**-3.1**
MIYJ				S			**Sb**	**22 06 32.2**	**-3.5**
JKZ	**Kuzumaki**	**0.73**	**281**	P			**Pn**	**22 06 31.9**	**-2.8**
JKZ				*eS*			**Sb**	**22 06 42.1**	**-1.9**
JANG	**Nango**	**0.78**	**312**	P			**Pn**	**22 06 32.3**	**-3.0**
JANG				*eS*			**Sb**	**22 06 43.1**	**-2.1**
JOM	**Ohasama**	**0.84**	**244**	P			**Pn**	**22 06 33.2**	**-3.0**
JOM				*eS*			**Sn**	**22 06 44.1**	**-3.6**
OFUJ	**Ofunato**	**0.90**	**211**	P			**Pn**	**22 06 33.2**	**-3.8**
OFUJ				*eS*			**Sn**	**22 06 44.6**	**-4.5**
JMK	**Ichinoseki**	**1.21**	**222**	P			**Pn**	**22 06 38.6**	**-2.6**
JMK				*eS*			**Sn**	**22 06 53.9**	**-2.9**
ERM	**Erimo**	**2.26**	**17**	*ceP*			**Pn**	**22 06 54.9**	**-0.8**
ERM				pmax	pmax				
	comp=Z,173nm,1.0s								
ERM	**Erimo**	**2.26**	**17**	*e*Pn			**Pn**	**22 06 55.1**	**-0.6**
ASAJ	**Asahikawa**	**4.27**	**3**	*e*Pn			**Pn**	**22 07 23.9**	**+0.7**
MJB9	**Matsu-Tunnel**	**4.60**	**225**	*e*Pn			**Pn**	**22 07 29.1**	**+1.2**
MAJO	**Matsushiro**	**4.60**	**225**	*eP*			**Pn**	**22 07 28.8**	**+0.9**
MAJO	**Matsushiro**	**4.60**	**225**	*e*Pn			**Pn**	**22 07 28.8**	**+0.9**
MAT	**Matsushiro**	**4.60**	**225**	P			**Pn**	**22 07 28.2**	**+0.3**
MAT				S			**Sn**	**22 08 25.3**	**+4.9**
MJAR	**Matsushiro Arr**	**4.60**	**225**	Pn			**Pn**	**22 07 28.9**	**+1.0**
	comp=Z,12nm,0.3s,baz=32,slow=11,SNR=120								
MJAR				LR			LR	22 09 46.4	
	comp=Z,122nm,21.6s,baz=75,slow=45								
YUK	**Yuzh-Kuril'sk**	**4.96**	**31**[1]	*eP*			**Pn**	**22 07 30.4**	**-2.4**
INU	**Inuyama**	**6.13**	**224**	*e*Pn			**Pn**	**22 07 50.6**	**+1.7**
KUR	**Kuril'sk**	**6.78**	**36**	*ci*P			**Pn**	**22 07 56.6**	**-1.1**
KUR				*eS*			**Sn**	**22 09 11.8**	**-2.2**
KUR				pmax	pmax				
	comp=E,79nm,0.5s								
KUR				pmax	pmax				
	comp=Z,275nm,0.5s								
KUR				pmax	pmax				
	comp=N,88nm,0.3s								
KUR				smax	smax				
	comp=N,145nm,0.4s								
KUR				smax	smax				
	comp=E,101nm,0.5s								
KUR				MLR	MLR				
	comp=Z,606nm,12.0s								
KUR				MLR	MLR				
	comp=N,883nm,13.0s								
JHJ2	**Mitsune**	**7.01**	**197**	*e*Pn			**Pn**	**22 07 59.5**	**-1.5**
JHJ2				*e*Sn			**Sn**	**22 09 15.7**	**-4.1**
JHJ	**Hachijo jima 2**	**7.01**	**197**	Pn			**Pn**	**22 07 58.6**	**-2.4**
	comp=N,29nm,0.3s,baz=322,slow=17,SNR=27								
JHJ				Sn			**Sn**	**22 09 16.0**	**-3.8**
	comp=N,29nm,0.3s,baz=248,slow=22,SNR=5.7								
JHJ				LR	LR			22 10 53.0	
	comp=N,712nm,18.4s,baz=19,slow=39								
YSS	**Yuzh-Sakhalins**	**7.11**	**3**	*eP*			**Pn**	**22 08 01.1**	**-1.1**
YSS				*eS*			**Sn**	**22 09 19.4**	**-2.7**
YSS				pmax	pmax				
	comp=Z,60nm,1.2s								
YSS				pmax	pmax				
	comp=Z,300nm,5.2s								
YSS				MLR	MLR				
	comp=N,1μm,14.0s								
YSS				MLR	MLR				
	comp=Z,1μm,14.0s								
YSS	**Yuzh-Sakhalins**	**7.11**	**3**	*e*Pn			**Pn**	**22 08 02.3**	**0.0**
USRK	**Ussuriysk Ar.**	**8.80**	**303**	Pn			**Pn**	**22 08 26.1**	**+0.7**
	comp=Z,0.9nm,0.3s,baz=101,slow=15,SNR=14								
USRK				LR	LR			22 11 36.9	
	comp=Z,590nm,18.6s,baz=117,slow=36								
HABR	**Khabarovsk**	**10.05**	**331**	*eP*			**Pn**	**22 08 39.7**	**-2.9**
HABR				*eS*			**Sn**	**22 10 30.8**	**-3.6**
HABR				MLR	MLR				
	comp=Z,351nm,13.0s								
MDJ	**Mudanjiang**	**10.53**	**301**	P			Pn	22 08 54.3	+5.1
MDJ				S			**Sn**	**22 10 46.7**	**+0.4**
MDJ				pmax	pmax				
	comp=Z,22nm,1.1s								
MDJ				pmax	pmax				
	comp=Z,250nm,5.3s								
MDJ				LR	LR				
	comp=Z,690nm,17.8s								
MDJ				LR	LR				
	comp=Z,320nm,19.9s								
MDJ				LR	LR				
	comp=Z,410nm,16.8s								
MDJ	**Mudanjiang**	**10.53**	**301**	*e*Pn			**Pn**	**22 08 49.1**	**-0.1**
	comp=Z,13nm,0.9s								
JNU	**Nakatsue**	**11.36**	**237**	Pn			**Pn**	**22 09 02.2**	**+1.6**
	comp=Z,0.9nm,0.3s,baz=353,slow=1.1,SNR=7.9								
KSRS	**Korea Array**	**11.47**	**263**	Pn			**Pn**	**22 09 04.7**	**+2.6**
	comp=Z,2.1nm,0.3s,baz=72,slow=14,SNR=29								
KSRS				LR	LR			22 12 56.6	
	comp=Z,282nm,20.0s,baz=74,slow=34								
KS01	**Wonju Array Si**	**11.49**	**263**	*e*Pn			**Pn**	**22 09 04.3**	**+2.0**
KS15	**Wonju Array Si**	**11.51**	**262**	*e*Pn			**Pn**	**22 09 03.3**	**+0.7**
KSAR	**Wonju Array Be**	**11.51**	**262**	P			**Pn**	**22 09 04.7**	**+2.2**
KSAR	**Wonju Array Be**	**11.51**	**262**	Pn			**Pn**	**22 09 04.7**	**+2.2**
KLR	**Kul'dur**	**12.00**	**325**	LR	LR			22 13 51.3	
	comp=Z,330nm,18.7s,baz=141,slow=37								
KLR	**Kul'dur**	**12.00**	**325**	*i* P			**Pn**	**22 09 09.6**	**+0.4**
CN2	**Changchun**	**13.15**	**293**	*e*P			**Pn**	**22 09 28.5**	**+3.5**
CN2				*es*P			P	22 09 43.5	+8.7
CN2

comp=Z,123nm,19.6s,baz=358,slow=35
ULN Ulaanbaatar 26.44 299⇑ *e*P **P 22 11 55.0 +0.2**
ULN pmax pmax
comp=Z,7.0nm,1.5s
ULN Ulaanbaatar 26.44 299 *e*P **P 22 11 54.7 -0.1**
SONA1 Songino Array 26.88 299 *e*P **P 22 11 58.9 +0.2**
SONM Songino Array 26.88 299 P **P 22 11 58.9 +0.2**
comp=Z,1.9nm,0.5s,baz=90,slow=9.4,SNR=7.7
SONM LR LR 22 23 10.3
comp=Z,145nm,19.5s,baz=92,slow=38
ENH Enshi 28.35 261 *e*P **P 22 12 10.9 -1.0**
comp=Z,14nm,0.8s
TLY Talaya 29.08 307 LR LR 22 24 24.5
comp=Z,174nm,19.4s,baz=98,slow=37
TLY Talaya 29.08 307 *e*P **P 22 12 19.9 +1.7**
TLY pmax pmax
comp=Z,7.0nm,1.1s
TLY MLR MLR
comp=Z,221nm,16.0s
H11N2 WAKE ISLAND Hy 29.14 126 T T 22 42 47.4
baz=319,slow=75
ZAK Zakamensk 29.14 304 *e*P **P 22 12 17.2 -1.6**
ZAK pmax pmax
comp=Z,5.0nm,1.2s
H11N1 WAKE ISLAND Hy 29.15 126 T T 22 42 47.5
baz=319,slow=75
H11N3 WAKE ISLAND Hy 29.16 126 T T 22 42 48.1
baz=319,slow=75
H11S1 WAKE ISLAND Hy 29.95 128 T T 22 43 53.1
baz=320,slow=76,SNR=1976
H11S3 WAKE ISLAND Hy 29.95 128 T T 22 43 52.9
baz=320,slow=76,SNR=1265
H11S2 WAKE ISLAND Hy 29.96 128 T T 22 43 54.4
baz=320,slow=76,SNR=1485
LZH Lanzhou 30.37 275 *e*P **P 22 12 31.5 +1.6**
LZH pP sP 22 12 44.6 +3.6
LZH sP pP 22 12 50.4 +13
LZH PP PnPn 22 13 33.0 +4.5
LZH *e*S S 22 17 26.3 -2.5
LZH sS sS 22 17 49.0 +7.2
LZH *e*SS SnSn 22 19 05.0 +0.4
LZH pmax pmax
comp=Z,29nm,1.3s
LZH pmax pmax
comp=Z,120nm,4.5s
LZH LR LR
comp=Z,460nm,12.7s
LZH LR LR
comp=Z,380nm,13.0s
LZH LR LR
comp=Z,550nm,15.3s
BILL Bilibino 31.14 17⇓ *e*P **P 22 12 36.7 +0.6**
BILL pmax pmax
comp=Z,12nm,1.1s
BILL MLR MLR
comp=Z,155nm,18.0s
QIZ Qiongzhong 34.76 243 P **P 22 13 10.2 +2.0**
QIZ S **S 22 18 43.0 +6.0**
QIZ LR LR
comp=Z,250nm,16.5s
QIZ LR LR
comp=Z,290nm,14.5s
QIZ LR LR
comp=Z,300nm,12.8s
KMI Kunming 36.12 258 P **P 22 13 21.3 +1.1**
KMI pmax pmax
comp=Z,9.0nm,1.0s
KMI pmax pmax
comp=Z,110nm,4.1s
SLVN Son La 37.48 252 *e*P **P 22 13 31.8 +0.2**
comp=Z,5.6nm,0.9s
WMQ Urumqi 40.24 294 P **P 22 13 56.0 +1.5**
WMQ sP sP 22 14 14.4 +8.7
WMQ pmax pmax
comp=Z,12nm,0.8s
WMQ pmax pmax
comp=Z,71nm,3.8s
ZAA0 Zalesovo Array 40.57 310 *e*P **P 22 13 57.2 +0.2**
ZALV Zalesovo Beam 40.57 310 P **P 22 13 56.8 -0.2**
comp=Z,6.0nm,0.6s,baz=89,slow=7.5,SNR=16
ZALV LR LR 22 31 35.1
comp=Z,213nm,18.0s,baz=70,slow=37
NRIK Noril'sk 41.02 334 LR LR 22 31 55.0
comp=Z,293nm,18.1s,baz=80,slow=37
NVS Novosibirsk 41.43 311 *e*P **P 22 14 05.9 +1.9**
CHTO Chiang Mai 42.69 253 *e*P **P 22 14 13.4 -1.3**
CHTO pmax pmax
comp=Z,15nm,1.4s
CHTO Chiang Mai 42.69 253 *e*P **P 22 14 13.4 -1.3**
comp=Z,15nm,1.4s
LSA Lhasa 42.69 273 *e*P **P 22 14 16.1 +0.9**
LSA pmax pmax
comp=Z,5.0nm,0.6s
LSA Lhasa 42.69 273 *e*P **P 22 14 16.1 +0.9**
comp=Z,5.3nm,0.6s
SVW2 Sparrevohn 42.90 39 *e*P **P 22 14 17.9 +1.9**
comp=Z,12nm,1.0s
CMAR Chiang Mai Arr 42.91 253 P **P 22 14 16.4 -0.1**
comp=Z,1.6nm,0.7s,baz=42,slow=6.7,SNR=9.1
CMAR LR LR 22 32 46.8
comp=Z,104nm,19.4s,baz=167,slow=37
CM01 Chiang Mai Arr 42.92 253 *e*P **P 22 14 16.6 -0.1**
MK01 Makanchi Array 43.25 300 *e*P **P 22 14 18.9 -0.1**
MK31 Makanchi Array 43.25 300 *e*P **P 22 14 19.0 0.0**
MK31 Makanchi Array 43.25 300 *e*P **P 22 14 19.0 0.0**
MKAR Makanchi Array 43.25 300 *e*P **P 22 14 19.0 0.0**
MKAR pmax pmax
comp=Z,37nm,0.6s
MKAR Makanchi Array 43.25 300 *e*P **P 22 14 19.0 0.0**
comp=Z,37nm,0.6s
MAKZ Makanchi 43.45 300 *e*P **P 22 14 21.0 +0.3**
MAKZ pmax pmax
comp=Z,5.0nm,0.8s
MAKZ Makanchi 43.45 300 *e*P **P 22 14 21.0 +0.3**
comp=Z,4.7nm,0.8s
RSO Redoubt South 44.30 40 *e*P **P 22 14 29.6 +2.2**
CAST Castle Rocks 44.53 36 *e*P **P 22 14 30.9 +1.8**
comp=Z,7.8nm,0.8s
KDAK Kodiak Island 44.58 44 *i* P **P 22 14 30.0 +0.5**
KURK Kurchatov 44.77 306 *ce*P **P 22 14 30.6 -0.5**
KURK pmax pmax
comp=Z,67nm,1.2s
KURK Kurchatov 44.77 306 *e*P **P 22 14 31.5 +0.3**
comp=Z,12nm,0.6s
KURBB Kurchatov Arra 44.85 306 P **P 22 14 31.7 0.0**
comp=Z,6.8nm,0.5s,baz=81,slow=8.6,SNR=20
KTH Kantishna Hill 45.05 36 *e*P **P 22 14 35.0 +1.7**
comp=Z,30nm,1.1s
TRF Thorofare Moun 45.34 36 *e*P **P 22 14 36.2 +0.5**
comp=Z,18nm,1.5s
COLD Coldfoot 45.38 30 *e*P **P 22 14 36.4 +0.7**
comp=Z,9.3nm,1.0s
MCK McKinley 45.93 35 *e*P **P 22 14 41.1 +0.9**
MCK pmax pmax
comp=Z,14nm,1.2s
MCK McKinley 45.93 35 *e*P **P 22 14 41.1 +0.9**
comp=Z,14nm,1.2s
PMR Palmer 45.98 38 *e*P **P 22 14 40.8 +0.2**
PMR pmax pmax
comp=Z,7.0nm,0.6s
PMR Palmer 45.98 38 *e*P **P 22 14 40.8 +0.2**
comp=Z,7.3nm,0.6s
RND Reindeer 45.99 36 *e*P **P 22 14 41.3 +0.6**
RND pmax pmax
comp=Z,22nm,1.3s
RND Reindeer 45.99 36 *e*P **P 22 14 41.3 +0.6**
comp=Z,22nm,1.3s
PDGK Podgornoye 46.10 296 P **P 22 14 42.4 +0.4**
PDGK pmax pmax
comp=Z,6.0nm,1.3s
MDM Murphy Dome 46.19 34 *e*P **P 22 14 43.6 +1.5**
comp=Z,10nm,0.9s
WRH Wood River Hil 46.27 34 *e*P **P 22 14 43.6 +0.9**
comp=Z,6.7nm,0.9s
COLA College 46.35 34 *e*P **P 22 14 44.1 +0.7**
COLA pmax pmax
comp=Z,13nm,0.8s
COLA College 46.35 34 *e*P **P 22 14 44.1 +0.7**
comp=Z,13nm,0.8s
CCB Clear Creek Bu 46.38 34 *e*P **P 22 14 44.9 +1.2**
comp=Z,10.0nm,1.2s
TAPN Taplejung 46.47 272 *e*P **P 22 14 45.9 +0.7**
DHY Denali Highway 46.68 36 *e*P **P 22 14 47.0 +0.7**
comp=Z,9.4nm,0.9s
HDA Harding Lake 46.77 34 *e*P **P 22 14 47.7 +1.0**
comp=Z,7.9nm,1.0s
IL1 Eielson Array 46.77 34 *e*P **P 22 14 46.6 -0.1**
ILAR Eielson Array 46.77 34 P **P 22 14 47.3 +0.5**
comp=Z,5.1nm,0.7s,baz=264,slow=6.3,SNR=40
ILB Eielson Array 46.77 34 *e*P **P 22 14 47.2 +0.5**
ODAN Odare 46.96 271 *e*P **P 22 14 49.4 +0.4**
FYU Fort Yukon 47.34 31 *e*P **P 22 14 53.8 +2.7**
comp=Z,93nm,1.7s
JIRN Jiri 47.48 273 *e*P **P 22 14 53.9 +0.7**
RAMN Ramite 47.52 272 *e*P **P 22 14 54.2 +0.8**
GUN Gumba 47.60 274 *e*P **P 22 14 54.5 +0.4**
DIV Divide 47.64 39 *e*P **P 22 14 55.5 +1.9**
comp=Z,28nm,1.2s
DOT Dot Lake 48.10 35 *e*P **P 22 14 57.5 +0.4**
comp=Z,45nm,1.6s
KKN Kakani 48.12 274 *e*P **P 22 14 58.3 +0.3**
PKI Pulchoki 48.13 273 *e*P **P 22 14 58.3 +0.1**
PKIN Phulchoki 48.14 273 *e*P **P 22 14 58.2 0.0**
MENT Mentasta 48.35 36 *e*P **P 22 14 59.9 +0.9**
comp=Z,12nm,1.0s
GKN Gorkha 48.51 274 *e*P **P 22 15 01.1 +0.2**
EGAK Eagle 49.21 33 *e*P **P 22 15 05.9 +0.4**
comp=Z,11nm,0.8s
BVAR Borovoye Array 49.21 311 P **P 22 15 05.6 -0.2**
comp=Z,3.0nm,0.5s,baz=81,slow=8.0,SNR=15
PMG Port Moresby 49.22 174 *e*P **P 22 15 06.8 +0.7**
PMG Port Moresby 49.22 174 *e*P **P 22 15 06.8 +0.7**
BRVK Borovoye 49.26 311⇑ *e*P **P 22 15 06.8 +0.6**
BRVK pmax pmax
comp=Z,11nm,1.1s
BRVK Borovoye 49.26 311 *e*P **P 22 15 06.4 +0.3**
comp=Z,7.5nm,0.5s
KOLN Koldanda 49.42 275 *e*P **P 22 15 08.3 +0.3**
PYUN Piuthan 49.72 275 *e*P **P 22 15 10.8 +0.5**
KSH Kashi 49.92 292 *e*P **P 22 15 16.1 +4.6**
KSH pP sP 22 15 28.1 +5.2
KSH PP **PP 22 17 11.5 +5.2**
KSH S **S 22 22 22.2 +2.0**
KSH sS sS 22 22 43.1 +10
KSH SS **SS 22 25 52.1 -0.7**
KSH pmax pmax
comp=Z,43nm,4.6s
KSH LR LR
comp=Z,170nm,5.0s
KSH LR LR
comp=Z,160nm,10.7s
KSH LR LR
comp=Z,85nm,8.1s
DAWY Dawson 50.08 34 *e*P **P 22 15 13.0 +0.6**
comp=Z,2.0nm,0.7s
KULM Kulim 50.84 239 *e*P **P 22 15 19.0 +0.4**
comp=Z,2.0nm,0.6s
MNAS Manas 51.21 297 P **P 22 15 21.9 +0.6**
MNAS pmax pmax
comp=Z,9.0nm,1.0s
INK Inuvik 51.58 28 P **P 22 15 24.5 +1.1**
comp=Z,9.7nm,0.8s,baz=298,slow=6.5,SNR=23
INK LR LR 22 39 08.9
comp=Z,104nm,18.3s,baz=274,slow=38
HYT Haines Junctio 51.65 38 *e*P **P 22 15 26.8 +2.5**
comp=Z,27nm,1.0s
MMRI Maumere 51.69 206 *e*P **P 22 15 25.2 +0.4**
comp=Z,17nm,0.8s
KKAR Karatay Array 52.33 299 *e*P **P 22 15 29.3 -0.1**
KKAR pmax pmax
comp=Z,29nm,0.8s
KKAR Karatay Array 52.33 299 *e*P **P 22 15 29.3 -0.1**
comp=Z,29nm,0.8s
WHY Whitehorse 52.94 38 *e*P **P 22 15 34.7 +0.9**
WHY *ep*P **sP 22 15 47.1 +1.9**
SVE Sverdlovsk 53.51 317 *e*P **P 22 15 39.0 +1.1**
COEN Coen 53.54 179 *e*P **P 22 15 37.6 -0.8**
comp=Z,10.0nm,1.0s
ARU Arti 54.72 317 *d i*P **P 22 15 46.5 -0.2**
ARU 22 16 47.7
ARU 22 17 45.5
ARU PPP PPP 22 19 00.2
ARU S **S 22 23 25.1 -0.1**
ARU SS **SS 22 27 00.9 -6.8**
ARU pmax pmax
comp=Z,10.0nm,1.0s
ARU MLR MLR
comp=Z,272nm,15.0s
ARU Arti 54.72 317 *e*P **P 22 15 46.1 -0.6**
comp=Z,21nm,1.4s
DLBC Dease Lake 56.01 39 P **P 22 15 57.7 +1.7**
comp=Z,1.1nm,0.3s,baz=268,slow=12,SNR=4.0
DLBC LR LR 22 41 17.6
comp=Z,66nm,18.6s,baz=340,slow=37
DLBC Dease Lake 56.01 39 *e*P **P 22 15 57.4 +1.4**
comp=Z,3.2nm,0.8s
ABKAR Akbulak array 56.66 309 *e*P **P 22 16 00.7 -0.1**
comp=Z,43nm,0.6s
KBL Kabul 57.07 290 *e*P **P 22 16 04.0 -0.1**
KBL pmax pmax
comp=Z,8.0nm,0.8s
KBL Kabul 57.07 290 *e*P **P 22 16 04.0 -0.1**
comp=Z,7.6nm,0.8s
SPITS Spitsbergen Ar 57.90 349 LR LR 22 44 17.2
comp=Z,106nm,18.0s,baz=85,slow=39
BBB Bella Bella 59.59 46 LR LR 22 43 44.6
comp=Z,20nm,18.4s,baz=292,slow=38
FITZ Fitzroy Crossi 59.71 198 *e*P **P 22 16 21.9 -0.4**
RES Resolute Bay 59.71 15 LR LR 22 43 40.6
comp=Z,42nm,18.3s,baz=244,slow=37
WRAB Tennant Creek 59.93 189 *e*P **P 22 16 22.0 -1.8**
WRAB pmax pmax
comp=Z,15nm,1.0s
WRAB Tennant Creek 59.93 189 *e*P **P 22 16 22.0 -1.8**
comp=Z,15nm,1.0s
WB2 Warramunga Arr 59.94 189 *e*P **P 22 16 22.8 -1.1**
comp=Z,12nm,0.8s
WRA Warramunga Arr 59.94 189 P **P 22 16 22.4 -1.5**
comp=Z,6.3nm,0.6s,baz=7.2,slow=7.0,SNR=64
YKA Yellowknife Ar 61.04 31 P **P 22 16 31.2 +0.3**
comp=Z,2.5nm,0.7s,baz=299,slow=6.3,SNR=7.5
YKA Yellowknife Ar 61.04 31 *i* P **P 22 16 31.6 +0.6**
YKA pmax pmax
comp=Z,3.0nm,0.7s
ARCES ARCESS Array B 61.60 339 P **P 22 16 34.8 +0.1**
comp=Z,2.6nm,0.8s,baz=54,slow=7.9,SNR=4.6
ARCES LR LR 22 48 11.0
comp=Z,111nm,18.6s,baz=24,slow=41
KLMR Klimovskoe 61.75 327 *e*P **P 22 16 34.8 -0.9**
KLMR pmax pmax
comp=Z,16nm,1.4s
GEYT Alibeck 63.08 298 P **P 22 16 45.0 -0.1**
comp=Z,3.3nm,0.7s,baz=23,slow=1.9,SNR=11
AS01 Alice Springs 63.66 189 *e*P **P 22 16 47.1 -1.8**
ASAR Alice Springs 63.67 189 P **P 22 16 47.8 -1.2**
comp=Z,4.5nm,0.7s,baz=3.4,slow=5.2,SNR=43
DZM Mont Dzumac 65.61 155 *e*P **P 22 17 02.1 +0.4**
comp=Z,25nm,1.2s
OBN Obninsk 66.25 323⇓ *e*P **P 22 17 04.8 -0.6**
OBN pmax pmax
comp=Z,12nm,1.3s
LPSR Galich'ya Gora 66.58 320 *e*P **P 22 17 06.5 -1.1**
LPSR pmax pmax
comp=Z,9.0nm,1.0s
FINES FINESS Array B 66.64 332 P **P 22 17 07.8 0.0**
comp=Z,6.1nm,0.7s,baz=40,slow=7.4,SNR=17
FINES LR LR 22 48 23.6
comp=Z,115nm,21.1s,baz=30,slow=38
VSR Storozhevoye 67.27 318 *e*P **P 22 17 12.1 +0.1**
VSR pmax pmax
comp=Z,10.0nm,1.3s
SUMG Summit 67.87 0 *i* P **P 22 17 16.6 +0.6**
comp=Z,10nm,0.8s
SUMG Summit 67.87 0 *i* P **P 22 17 16.6 +0.6**
SUMG pmax pmax
comp=Z,10.0nm,0.8s
SUMG Summit 67.87 0 *e*P **P 22 17 16.5 +0.6**
comp=Z,12nm,1.0s
SEKA Sheki 68.44 306 P **P 22 17 17.8 -1.8**
K05A Summer Lake 68.66 52 *e*P **P 22 17 23.1 +1.9**
comp=Z,9.1nm,0.8s
MNGR Mingechevir, A 68.75 306 P **P 22 17 19.8 -1.7**
GANJ Ganja 69.30 306 P **P 22 17 23.1 -1.9**
MOD Modoc Plateau 69.49 52 *e*P **P 22 17 27.2 +0.9**
comp=Z,3.1nm,0.8s
JTMT Jette 69.50 44 *e*P **P 22 17 27.8 +1.6**
BMO Blue Mountains 69.54 48 *e*P **P 22 17 27.4 +0.9**
BMO pmax pmax
comp=Z,2.0nm,0.8s
BMO Blue Mountains 69.54 48 *e*P **P 22 17 27.4 +0.9**
comp=Z,2.3nm,0.8s
KIV Kislovodsk 69.58 311 *e*P **P 22 17 27.7 +1.0**
KIV *e*S **S 22 26 33.8 +0.7**
KIV pmax pmax
comp=Z,22nm,1.0s
KIV MLR MLR
comp=Z,106nm,17.0s
KIV Kislovodsk 69.58 311 *e*P **P 22 17 27.8 +1.0**
comp=Z,18nm,0.8s
KBZ Khabaz 69.59 310 P **P 22 17 28.0 +1.4**
comp=Z,6.9nm,0.8s,baz=14,slow=1.0,SNR=12
KBZ Khabaz 69.59 310 P **P 22 17 28.0 +1.4**
KBZ pmax pmax
comp=Z,7.0nm,0.8s
SWMT Swartz Lake 69.80 45 *e*P **P 22 17 29.3 +1.3**
WVOR Wild Horse Val 70.18 51 *e*P **P 22 17 31.3 +0.8**
WVOR pmax pmax
comp=Z,5.0nm,1.2s
WVOR Wild Horse Val 70.18 51 *e*P **P 22 17 31.3 +0.8**
comp=Z,5.0nm,1.2s
SLMT Seeley Lake 70.23 45 *e*P **P 22 17 31.7 +0.9**
ARMA Armidale 70.45 171 *e*P **P 22 17 32.1 +0.1**
comp=Z,14nm,1.1s
GNI Garni 70.57 306 *e*P **P 22 17 32.1 -0.9**
GNI pmax pmax
comp=Z,39nm,0.9s
GNI Garni 70.57 306 *e*P **P 22 17 32.1 -0.9**
comp=Z,39nm,0.9s
FFC Flin Flon 70.98 34 *e*P **P 22 17 36.0 +1.1**
FFC pmax pmax
comp=Z,4.0nm,0.8s
FFC Flin Flon 70.98 34 *e*P **P 22 17 36.0 +1.1**
comp=Z,4.2nm,0.8s
MFID Camas Ranch 71.25 49 *e*P **P 22 17 37.7 +0.7**
STKA Stephens Creek 71.37 181 P **P 22 17 36.9 -0.5**
comp=Z,3.8nm,0.8s,baz=30,slow=2.6,SNR=4.3
NC405 NORSAR Array S 71.64 337 *e*P **P 22 17 39.9 +1.0**
ARTV Artvin 71.68 309 *e*P **P 22 17 40.4 +0.7**
comp=Z,3.0nm,0.6s
LRM Limekiln Ridge 71.68 45 *e*P **P 22 17 41.0 +1.3**
EGMT Eagleton 71.72 42 *e*P **P 22 17 40.1 +0.4**
comp=Z,6.2nm,0.9s
NB2 NORSAR Subarra 71.85 337 P **P 22 17 40.0 -0.2**
comp=Z,1.7nm,0.6s,baz=39,slow=6.2
NOA NORSAR Array B 71.85 337 P **P 22 17 40.3 +0.1**
comp=Z,2.7nm,0.7s,baz=39,slow=5.9,SNR=10
NOA LR LR 22 54 29.0
comp=Z,88nm,18.2s,baz=75,slow=40
BOZ Bozeman (W) 72.27 45 *e*P **P 22 17 43.8 +0.7**
BOZ pmax pmax
comp=Z,4.0nm,0.8s
BOZ Bozeman (W) 72.27 45 *e*P **P 22 17 43.8 +0.7**
comp=Z,4.1nm,0.8s
AKASG Malin Array Be 72.48 322 P **P 22 17 44.1 +0.1**
comp=Z,2.6nm,0.5s,baz=42,slow=5.9,SNR=8.9
AKASG Malin Array Be 72.48 322 *ce*P **P 22 17 44.5 +0.5**
AKASG pmax pmax
comp=Z,3.0nm,0.5s
KIEV Kiev 72.50 322⇓ *i*P **P 22 17 44.3 +0.2**
KIEV pmax pmax
comp=Z,10.0nm,1.5s
KIEV Kiev 72.50 322 *e*P **P 22 17 44.3 +0.2**
comp=Z,4.3nm,0.6s
BBOO Buckleboo 72.53 185 *e*P **P 22 17 44.6 +0.3**
comp=Z,24nm,1.0s
H17A Grant Village 73.61 46 *e*P **P 22 17 53.0 +1.8**
comp=Z,6.4nm,1.3s
IMW Indian Meadow 73.73 46 *e*P **P 22 17 53.2 +1.3**
comp=Z,3.4nm,1.0s
MOOW Moose Ponds 73.93 46 *e*P **P 22 17 54.1 +1.1**
comp=Z,3.1nm,1.6s
R11A Troy Canyon, C 74.51 53 *e*P **P 22 17 57.8 +1.3**
comp=Z,5.7nm,1.4s
SORM Soroca 74.64 321⇓ *i*P **P 22 17 57.3 +0.5**
SORM Soroca 74.64 321⇓ P **P 22 17 57.3 +0.5**
DUG Dugway, Tooele 75.02 50 *e*P **P 22 18 00.2 +0.9**
DUG Dugway, Tooele 75.02 50 *e*P **P 22 18 00.2 +0.9**
BW06 Boulder Array 75.22 46 *e*P **P 22 18 00.4 -0.1**
PD31 Pinedale Array 75.22 46 *e*P **P 22 18 01.4 +0.9**
PDAR Pinedale Array 75.22 46 P **P 22 18 01.3 +0.7**
comp=Z,1.4nm,0.7s,baz=271,slow=1.8,SNR=14
SHPR Sheep Range 75.93 54 *e*P **P 22 18 05.7 +1.1**
comp=Z,4.3nm,1.0s
CCUT Cedar City 76.38 52 *e*P **P 22 18 07.8 +0.5**
comp=Z,2.4nm,0.9s
BUR08 Bucovina Ar. S 76.51 322 *e*P **P 22 18 08.6 +1.0**
BURAR Bucovina Array 76.52 322⇓ *i*P **P 22 18 08.8 +1.1**
BURAR Bucovina Array 76.52 322⇓ P **P 22 18 08.8 +1.1**
TESR Tescani 76.60 320⇑ *i*P **P 22 18 08.3 +0.2**
LCMT Little Creek M 76.80 53 *e*P **P 22 18 11.8 +2.3**
comp=Z,3.3nm,0.9s
K22A Casper 76.97 45 *e*P **P 22 18 10.9 +0.4**
STHS Stebnicka Huta 77.04 325 *e*P **P 22 18 11.1 +0.6**
STHS pmax pmax
comp=Z,4.0nm,0.9s
STHS Stebnicka Huta 77.04 325 *e*P **P 22 18 11.1 +0.6**
SRU San Rafael Swe 77.07 50 *e*P **P 22 18 10.8 -0.3**
SRU pmax pmax
comp=Z,6.0nm,0.9s
SRU San Rafael Swe 77.07 50 *e*P **P 22 18 10.8 -0.3**
comp=Z,5.5nm,0.9s
OJC Ojcow 77.08 326 *e*P **P 22 18 12.0 +1.4**
OJC Ojcow 77.08 326 *e*P **P 22 18 12.0 +1.3**
TLB Topalu 77.24 318⇓ *i*P **P 22 18 13.6 +1.9**
TLB Topalu 77.24 318⇓ P **P 22 18 13.6 +1.9**
CRVS Cervenica-Dubn 77.32 324 *e*P **P 22 18 13.4 +1.3**
CRVS Cervenica-Dubn 77.32 324 *e*P **P 22 18 13.4 +1.3**
BRTR Keskin Array B 77.49 312 P **P 22 18 14.8 +1.4**
comp=Z,1.2nm,0.8s,baz=134,slow=3.8,SNR=5.3
BRTR LR LR 22 57 18.1
comp=Z,33nm,19.0s,baz=24,slow=39
DOPR Dopca 77.61 320⇓ *i*P **P 22 18 16.6 +2.9**
U15A North Rim 77.76 53 *e*P **P 22 18 16.9 +1.9**
BR231 Keskin MP Arra 77.91 312 *e*P **P 22 18 14.0 -1.7**
LANS Liptovska Anna 78.02 326 *e*P **P 22 18 15.5 -0.5**
LANS Liptovska Anna 78.02 326 *e*P **P 22 18 15.5 -0.5**
OKC Ostrava-Krasne 78.06 327 AMS AMS 22 56 40.0
comp=Z,200nm,14.1s
VOIR 78.15 320⇓ *i*P **P 22 18 19.5 +2.6**
VOIR 78.15 320⇓ P **P 22 18 19.5 +2.6**
MORC Moravsky Berou 78.36 327⇑ *i*P **P 22 18 19.2 +1.3**
MORC Moravsky Berou 78.36 327 *e*P **P 22 18 18.8 +0.9**
MORC pmax pmax
comp=Z,14nm,0.8s
MORC Moravsky Berou 78.36 327 *e*P **P 22 18 18.8 +0.9**
comp=Z,14nm,0.8s
ARR Arges 78.41 320⇑ *i*P **P 22 18 21.2 +3.0**
PV10 Paradox Valley 78.42 49 *e*P **P 22 18 20.8 +2.1**
DPC Dobruska-Polom 78.43 328 *e*P **P 22 18 21.1 +2.8**
DPC Dobruska-Polom 78.43 328 *e*P **P 22 18 21.1 +2.8**
UPC Upice 78.43 328 AMS AMS 23 00 00.0
comp=Z,200nm,11.4s
PV05 Paradox Valley 78.58 50 *e*P **P 22 18 20.0 +0.4**
VYHS Vyhne 78.79 326 *e*P **P 22 18 21.9 +1.7**
VYHS pmax pmax
comp=Z,7.0nm,2.5s
VYHS Vyhne 78.79 326 *e*P **P 22 18 21.9 +1.7**
HUMR Humele 78.84 320⇓ *i*P P 22 18 26.0 +5.5
WUAZ Wupatki 78.91 53 *e*P **P 22 18 23.1 +1.7**
comp=Z,8.6nm,1.1s
CLL Collm 78.99 330 *e*P **P 22 18 22.0 +0.8**
CLL pmax pmax
comp=Z,9.0nm,1.4s
CLL Collm 78.99 330 *e*P **P 22 18 22.0 +0.8**
comp=Z,9.0nm,1.4s
CLL Collm 78.99 330 *e*P **P 22 18 22.0 +0.8**
PVCC Panska Ves 79.00 329 *e*P **P 22 18 22.0 +0.7**
PVCC Panska Ves 79.00 329 *e*P **P 22 18 22.0 +0.7**
PRU Pruhonice 79.43 329 *e*P **P 22 18 25.2 +1.5**
PRU AMS AMS 22 57 40.0
comp=Z,200nm,14.6s
PRU Pruhonice 79.43 329 *e*P **P 22 18 25.2 +1.5**
PRU MLR MLR
comp=Z,200nm,14.6s
BZS Buzias 79.68 322⇑ *i*P **P 22 18 27.5 +2.4**
BZS Buzias 79.68 322⇑ P **P 22 18 27.5 +2.4**
S22A 4UR Ranch, Cre 80.13 49 *e*P **P 22 18 30.0 +1.9**
comp=Z,14nm,1.8s
KHC Kasperske Hory 80.49 329 *e*P **P 22 18 30.8 +1.2**
KHC *ep*P **sP 22 18 42.9 +1.7**
KHC AMS AMS 22 58 20.0
comp=Z,200nm,15.5s
KHC Kasperske Hory 80.49 329 *e*P **P 22 18 30.7 +1.2**
KHC pmax pmax
comp=Z,2.0nm,1.0s
KHC Kasperske Hory 80.49 329 *e*P **P 22 18 30.7 +1.2**
comp=Z,2.2nm,1.0s

GERES	**GERESS Array B**	**80.67**	**328**	P		**P**		**22 18 31.1**	**+0.6**
	comp=Z,0.8nm,0.6s,baz=28,slow=6.0,SNR=5.2								
GERES				LR		LR		22 57 21.9	
	comp=Z,95nm,20.9s,baz=324,slow=38								
GRFO	**Grafenberg**	**80.97**	**330**	*e*P		**P**		**22 18 32.4**	**+0.4**
GRFO				pmax		pmax			
	comp=Z,5.0nm,0.7s								
GRFO	**Grafenberg**	**80.97**	**330**	*e*P		**P**		**22 18 32.4**	**+0.4**
	comp=Z,4.8nm,0.7s								
VTS	**Vitosha**	**81.13**	**319**	‖ *i*P		**P**		**22 18 34.5**	**+1.3**
VTS	**Vitosha**	**81.13**	**319**	*e*P		**P**		**22 18 34.0**	**+0.8**
VTS				pmax		pmax			
	comp=Z,5.0nm,1.0s								
VTS	**Vitosha**	**81.13**	**319**	*e*P		**P**		**22 18 34.0**	**+0.8**
	comp=Z,5.0nm,1.0s								
T25A	**Trinidad**	**81.94**	**48**	*e*P		**P**		**22 18 38.9**	**+1.2**
	comp=Z,5.5nm,0.8s								
ANMO	**Albuquerque**	**82.27**	**51**	*e*P		**P**		**22 18 40.4**	**+1.0**
ANMO				pmax		pmax			
	comp=Z,6.0nm,1.2s								
ANMO	**Albuquerque**	**82.27**	**51**	*e*P		**P**		**22 18 40.4**	**+1.0**
	comp=Z,6.0nm,1.2s								
PDG	**Podgorica**	**83.19**	**321**	‖ *i*P		**P**		**22 18 45.5**	**+1.7**
FUORN	**Ofenpass-Fuorn**	**83.84**	**329**	*e*P		**P**		**22 18 47.2**	**-0.2**
MSTX	**Muleshoe**	**85.12**	**49**	*e*P		**P**		**22 18 55.1**	**+1.1**
	comp=Z,6.0nm,0.9s								
TX31	**Lajitas Ar. Si**	**87.88**	**53**	*e*P		**P**		**22 19 09.6**	**+2.1**
TXAR	**Lajitas Array**	**87.88**	**53**	P		**P**		**22 19 08.0**	**+0.5**
	comp=Z,0.7nm,0.6s,baz=293,slow=3.7,SNR=12								
ESDC	**Sonseca Array**	**95.05**	**334**	LR		LR		23 06 31.1	
	comp=Z,64nm,19.3s,baz=100,slow=38								
TORD	**Torodi Ar. Bea**	**115.78**	**317**	PP		PP		22 26 03.1	+0.1
	comp=Z,0.9nm,1.0s,baz=13,slow=6.7,SNR=3.9								
SNAA	**Sanae**	**143.63**	**198**	PKP		PKPab		22 25 47.6	-0.4
SNAA	**Sanae**	**143.63**	**198**	*e*PKIKP		PKPab		22 25 48.0	+0.1
SNAA	**Sanae**	**143.63**	**198**	*e*PKPdf		PKPab		22 25 48.0	+0.1
LPAZ	**La Paz**	**144.64**	**57**	PKP		PKPbc		22 25 54.3	+0.2
	comp=Z,1.2nm,0.6s,baz=64,slow=7.1,SNR=5.2								
VNA3	**Neumayer Olymp**	**145.46**	**196**	PKP		**PKPdf**		**22 25 53.6**	**-0.8**
LCO	**Las Campanas**	**150.88**	**78**	*e*PKPbc		**PKPbc**		**22 26 11.1**	**+0.5**

*CSEM **08** 22:15:29.1, 37.˚18N×22.˚00E, h8km, ML2.0/4*

ATH 08 22:15:29.1, 37.˚18N×22.˚00E, h8km±3km, ML2.0/4, Error ellipse: s-maj=3.5km s-min=1.1km az=249.0, Southern Greece

Code	Station Name	Δ°	AZ°	Phase	ID		Time		Res
				Op		ISC	h m s		ISC
ITM	**Ithomi**	**0.06**	**268**	P		Pg	22 15 31.0		0.0
ITM				S		Sg	22 15 32.2		-0.1
ITM	**Ithomi**	**0.06**	**268**	P		Pg	22 15 31.0		0.0
ITM				S		Sg	22 15 32.1		-0.2
ITM				AML		AML	22 15 33.0		
	comp=E,7478μm,0.2s								
ITM				AML		AML	22 15 33.0		
	comp=N,5291μm,0.2s								
PYL	**PYLOS**	**0.35**	**216**	P		Pg	22 15 36.3		+0.3
PYL	**PYLOS**	**0.35**	**216**	P		Pg	22 15 36.5		+0.5
VLX	**Vlachokerasia**	**0.36**	**58**	P		Pg	22 15 36.3		+0.1
VLX				S		Sg	22 15 41.5		+0.5
VLX	**Vlachokerasia**	**0.36**	**58**	P		Pg	22 15 36.5		+0.3
VLX				S		Sg	22 15 41.6		+0.6
VLX				AML		AML	22 15 41.8		
	comp=E,622μm,0.3s								
VLX				AML		AML	22 15 42.6		
	comp=N,523μm,0.3s								
TRIP	**Tripoli**	**0.41**	**32**	P		Pg	22 15 37.0		-0.2
TRIP				S		Sg	22 15 43.0		+0.4
TRIP	**Tripoli**	**0.41**	**32**	P		Pg	22 15 36.9		-0.2
TRIP				S		Sg	22 15 43.1		+0.5
TRIP				AML		AML	22 15 44.3		
	comp=N,112μm,0.5s								
TRIP				AML		AML	22 15 45.5		
	comp=E,157μm,0.4s								
AMT	**Artemida-Makis**	**0.42**	**327**	P		Pg	22 15 36.6		-0.7
AMT				S		Sg	22 15 43.6		+0.8
AMT	**Artemida-Makis**	**0.42**	**327**	P		Pg	22 15 36.0		-1.3
AMT				S		Sg	22 15 44.0		+1.2
AMT				AML		AML	22 15 45.5		
	comp=N,1435μm,0.3s								
AMT				AML		AML	22 15 45.7		
	comp=E,1256μm,0.2s								
DRO	**Drossia**	**0.80**	**344**	P		Pg	22 15 44.6		0.0
DRO	**Drossia**	**0.80**	**344**	P		Pg	22 15 44.9		+0.3
KLV	**Kalavryta, Ach**	**0.87**	**8**	P		Pg	22 15 45.0		-0.9
KLV	**Kalavryta, Ach**	**0.87**	**8**	P		Pg	22 15 44.3		-1.5
VLI	**Veliai**	**0.88**	**121**	P		Pg	22 15 46.4		+0.3
VLI				S		Sg	22 15 57.6		0.0
VLI	**Veliai**	**0.88**	**121**	P		Pb	22 15 46.8		+0.1
VLI				S		Sg	22 15 56.8		-0.9
RLS	**Riolos of Patr**	**0.97**	**334**	P		Pg	22 15 47.7		-0.1
RLS	**Riolos of Patr**	**0.97**	**334**	P		Pb	22 15 48.0		-0.2

PRU 08 22:16:51.6, 50.˚26N×12.˚42E, h10km, West Bohemia Swarm, Germany

Code	Station Name	Δ°	AZ°	Phase	ID		Time		Res
				Op		ISC	h m s		ISC
NKC	**Novy Kostel**	**0.03**	**146**	*e*PG		Pg	22 16 53.7		+0.2
NKC				*e*SG		Sg	22 16 54.5		-0.4
	comp=Z,108nm,0.2s								
WET	**Wettzell**	**1.16**	**165**	*e*SG		Sb	22 17 28.1		-0.6
KHC	**Kasperske Hory**	**1.36**	**146**	*e*SG		Sn	22 17 34.9		+0.2
PRU	**Pruhonice**	**1.39**	**100**	*e*SG		Sn	22 17 35.6		+0.1
	comp=Z,1.2nm,0.2s								

*GEN **08** 22:27:05.8, 44.˚73N×10.˚31E, h3km, ML2.2*
*ISCJB **08** 22:27:07.3±0.2, 44.˚63N±0.˚01×10.˚21E±0.˚02, h23km±2km, Error ellipse: s-maj=2.6km s-min=2.3km az=19.8*
*CSEM **08** 22:27:07.3±0.1, 44.˚63N×10.˚24E, h20km, ML2.8/22, Error ellipse: s-maj=2.4km s-min=2.0km az=94.0*
*ROM **08** 22:27:07.1±0.1, 44.˚65N×10.˚22E, h19km±2km, Md2.8/30, Ml2.4/27, Error ellipse: s-maj=1.4km s-min=1.1km az=97.0*
*LDG **08** 22:27:07.3±0.1, 44.˚62N×10.˚48E, h20km, Ml2.7/9, Error ellipse: s-maj=3.9km s-min=3.3km az=147.0*

ISC 08 22:27:06.9±0.9, 44.˚64N±0.˚01×10.˚25E±0.˚01, h18km±2km, n120, σ1s90/204, Northern Italy

Code	Station Name	Δ°	AZ°	Phase	ID		Time		Res
				Op		ISC	h m s		ISC
PRMA	**PARMA**	**0.13**	**21**	Pg		**Pg**	**22 27 10.9**		**-0.1**
PRMA				Sg		**Sg**	**22 27 15.1**		**+1.4**
	2μm,0.5s								
PRMA	**PARMA**	**0.13**	**21**	Pg		**Pg**	**22 27 10.9**		**-0.1**
PRMA				Sg		**Sg**	**22 27 15.1**		**+1.4**
	2μm,0.5s								
GRAM	**Graiana**	**0.20**	**221**	P		**Pb**	**22 27 11.8**		**+0.2**
GRAM				S		**Sg**	**22 27 15.7**		**+0.3**
NOVE	**Novellara**	**0.37**	**65**	Pg		**Pg**	**22 27 14.7**		**0.0**
NOVE				Sg		**Sb**	**22 27 21.7**		**+1.3**
	416nm,0.3s								
NOVE	**Novellara**	**0.37**	**65**	Pg		**Pg**	**22 27 14.7**		**0.0**
NOVE				Sg		**Sb**	**22 27 21.7**		**+1.3**
	416nm,0.3s								
CODM	**Codolo**	**0.38**	**229**	P		**Pg**	**22 27 14.8**		**-0.1**
CODM				S		**Sb**	**22 27 21.5**		**+0.7**
SARO	**Sassorosso**	**0.47**	**166**	P		**Pg**	**22 27 16.0**		**-0.5**
SARO				S		**Sg**	**22 27 23.6**		**+0.6**
VLC	**Villacollemand**	**0.49**	**168**	Pg		**Pg**	**22 27 16.6**		**-0.3**
VLC				Sg		**Sg**	**22 27 24.2**		**+0.6**
	112nm,0.3s								
VLC	**Villacollemand**	**0.49**	**168**	Pg		**Pg**	**22 27 16.6**		**-0.3**
VLC				Sg		**Sg**	**22 27 24.2**		**+0.6**
	112nm,0.3s								
SC2M	**Scurtabo**	**0.56**	**245**	Pg		**Pb**	**22 27 17.5**		**-0.7**
SC2M				Sg		**Sg**	**22 27 26.5**		**+0.7**
	205nm,0.3s								
SC2M	**Scurtabo**	**0.56**	**245**	Pg		**Pb**	**22 27 17.5**		**-0.7**
SC2M	**Scurtabo**	**0.56**	**245**	P		**Pb**	**22 27 17.8**		**-0.4**
SC2M				Sg		**Sg**	**22 27 26.5**		**+0.7**
	205nm,0.3s								
BOB	**Bobbio (Coli)**	**0.58**	**283**	Pg		**Pb**	**22 27 18.5**		**-0.1**
BOB				Sg		**Sb**	**22 27 26.5**		**0.0**
	132nm,0.4s								
BOB	**Bobbio (Coli)**	**0.58**	**283**	Pg		**Pb**	**22 27 18.5**		**-0.1**
BOB				Sg		**Sb**	**22 27 26.5**		**0.0**
	132nm,0.4s								
ZCCA	**Zocca**	**0.60**	**119**	Pg		**Pg**	**22 27 19.7**		**+0.9**
ZCCA				Sg		**Sg**	**22 27 28.1**		**+1.2**
ZCCA	**Zocca**	**0.60**	**119**	Pg		**Pg**	**22 27 19.7**		**+0.9**
ZCCA				Sg		**Sg**	**22 27 28.1**		**+1.2**
MSSA	**Maissana**	**0.62**	**238**	Pg		**Pb**	**22 27 18.9**		**-0.2**
MSSA				Sg		**Sb**	**22 27 27.3**		**-0.1**
	46nm,0.4s								
MSSA	**Maissana**	**0.62**	**238**	Pg		**Pb**	**22 27 18.9**		**-0.2**
MSSA				Sg		**Sb**	**22 27 27.3**		**-0.1**
	46nm,0.4s								
BDI	**Bagni Di Lucca**	**0.63**	**157**	Pg		**Pb**	**22 27 18.9**		**-0.5**
BDI				Sg		**Sg**	**22 27 28.6**		**+0.6**
	110nm,0.3s								
BDI	**Bagni Di Lucca**	**0.63**	**157**	Pg		**Pb**	**22 27 18.9**		**-0.5**
BDI				Sg		**Sg**	**22 27 28.6**		**+0.6**
	110nm,0.3s								
POPM	**Popiglio**	**0.70**	**148**	P		**Pb**	**22 27 20.5**		**-0.1**
POPM				S		**Sb**	**22 27 29.6**		**-0.2**
MAIM	**Mastiano**	**0.75**	**166**	Pg		**Pb**	**22 27 21.5**		**+0.1**
MAIM				Sg		**Sb**	**22 27 31.4**		**+0.1**
	58nm,0.6s								
MAIM	**Mastiano**	**0.75**	**166**	P		**Pb**	**22 27 20.8**		**-0.6**
MAIM	**Mastiano**	**0.75**	**166**	Pg		**Pb**	**22 27 21.5**		**+0.1**
MAIM				Sg		**Sb**	**22 27 31.4**		**+0.1**
	58nm,0.6s								
MAIM				S		**Sg**	**22 27 31.7**		**+0.1**
FNVD	**Fontana Vidola**	**0.79**	**127**	Pg		**Pb**	**22 27 22.1**		**0.0**
FNVD				Sg		**Sg**	**22 27 33.7**		**+0.9**
	68nm,0.4s								
FNVD	**Fontana Vidola**	**0.79**	**127**	Pg		**Pb**	**22 27 22.1**		**0.0**
FNVD				Sg		**Sg**	**22 27 33.7**		**+0.9**
	68nm,0.4s								
PTF	**Prato**	**0.90**	**139**	Pg		**Pb**	**22 27 23.9**		**-0.1**
PTF	**Prato**	**0.90**	**139**	Pg		**Pb**	**22 27 23.9**		**-0.1**
SEI	**Scarperia**	**0.99**	**126**	Pn		**Pg**	**22 27 26.7**		**+0.5**
SEI				Sn		**Sn**	**22 27 40.4**		**+1.0**
SEI	**Scarperia**	**0.99**	**126**	Pn		**Pg**	**22 27 26.7**		**+0.5**
SEI				Sn		**Sn**	**22 27 40.4**		**+1.0**
SALO	**Salr**	**0.99**	**11**	Pg		**Pb**	**22 27 25.8**		**+0.2**
SALO				Sg		**Sn**	**22 27 39.8**		**+0.2**
	326nm,0.6s								
SALO	**Salr**	**0.99**	**11**	Pg		**Pb**	**22 27 25.8**		**+0.2**
SALO				Sg		**Sn**	**22 27 39.8**		**+0.2**
	326nm,0.6s								
CRMI	**Carmignano**	**1.00**	**148**	Pg		**Pb**	**22 27 25.6**		**-0.1**
CRMI				Sg		**Sg**	**22 27 39.5**		**0.0**
	51nm,0.7s								
CRMI	**Carmignano**	**1.00**	**148**	Pg		**Pb**	**22 27 25.6**		**-0.1**
CRMI				Sg		**Sg**	**22 27 39.5**		**0.0**
	51nm,0.7s								
BALD	**Monte Baldo**	**1.11**	**21**	*e*Pg		**Pb**	**22 27 27.6**		**-0.2**
BALD				*e*Sg		**Sg**	**22 27 43.5**		**+0.2**
BALD	**Monte Baldo**	**1.11**	**21**	*e*Pg		**Pb**	**22 27 27.6**		**-0.2**
BALD				*e*Sg		**Sg**	**22 27 43.5**		**+0.2**
VMG	**Vicchio**	**1.15**	**126**	Pn		**Pb**	**22 27 29.1**		**+0.8**
VMG				Sn		**Sg**	**22 27 45.6**		**+1.2**
VMG	**Vicchio**	**1.15**	**126**	Pn		**Pb**	**22 27 29.1**		**+0.8**
ROVR	**Rover¯¤ Verone**	**1.16**	**30**	Pn		**Pn**	**22 27 28.0**		**-0.4**
ROVR				Sn		**Sn**	**22 27 44.2**		**+0.4**
	501nm,0.4s								
ROVR	**Rover¯¤ Verone**	**1.16**	**30**	Pn		**Pn**	**22 27 28.0**		**-0.4**
ROVR				Sn		**Sn**	**22 27 44.2**		**+0.4**
	501nm,0.4s								
MAGA	**Magasa**	**1.16**	**13**	Pn		**Pn**	**22 27 28.3**		**-0.1**
MAGA				Sn		**Sn**	**22 27 44.1**		**+0.2**
	368nm,0.4s								
MAGA	**Magasa**	**1.16**	**13**	Pn		**Pn**	**22 27 28.3**		**-0.1**
MAGA				Sn		**Sn**	**22 27 44.1**		**+0.2**
	368nm,0.4s								
MARN	**Marana (Italy)**	**1.21**	**34**	*e*Pg		**Pn**	**22 27 28.3**		**-0.6**
MARN				*e*Sg		**Sn**	**22 27 45.3**		**+0.6**
MARN	**Marana (Italy)**	**1.21**	**34**	*e*Pg		**Pn**	**22 27 28.3**		**-0.6**
MARN				*e*Sg		**Sn**	**22 27 45.3**		**+0.6**
TEOL	**Teolo**	**1.24**	**54**	Pn		**Pn**	**22 27 29.1**		**-0.2**
TEOL				Sn		**Sn**	**22 27 45.8**		**+0.3**
	279nm,0.4s								
TEOL	**Teolo**	**1.24**	**54**	*e*Pg		**Pn**	**22 27 29.0**		**-0.2**
TEOL				*e*Sg		**Sn**	**22 27 46.5**		**+1.0**
TEOL	**Teolo**	**1.24**	**54**	Pn		**Pn**	**22 27 29.1**		**-0.2**
TEOL				Sn		**Sn**	**22 27 45.8**		**+0.3**
	279nm,0.4s								
TEOL				*e*Sg		**Sn**	**22 27 46.5**		**+1.0**
RNI	**Roncone**	**1.36**	**11**	*e*Pg		**Pn**	**22 27 31.4**		**+0.2**
RNI				*e*Sg		**Sg**	**22 27 50.5**		**-0.6**
RNI	**Roncone**	**1.36**	**11**	*e*Pg		**Pn**	**22 27 31.4**		**+0.2**
RNI				*e*Sg		**Sg**	**22 27 50.5**		**-0.6**
SFI	**Santa Sofia**	**1.37**	**122**	Pn		**Pg**	**22 27 33.1**		**-0.2**
	37nm,0.9s								
SFI	**Santa Sofia**	**1.37**	**122**	Pn		**Pg**	**22 27 33.1**		**-0.2**
	37nm,0.9s								
ASQU	**Asqua**	**1.40**	**127**	Pn		**Pb**	**22 27 32.9**		**+0.4**
	23nm,0.8s								
ASQU	**Asqua**	**1.40**	**127**	Pn		**Pb**	**22 27 32.9**		**+0.4**
	23nm,0.8s								
DDS	**Dosso del Somm**	**1.41**	**28**	*e*Pg		**Pn**	**22 27 31.5**		**-0.2**
DDS				*e*Sg		**Sb**	**22 27 50.6**		**+0.3**
DDS	**Dosso del Somm**	**1.41**	**28**	*e*Pg		**Pn**	**22 27 31.5**		**-0.2**
DDS				*e*Sg		**Sb**	**22 27 50.6**		**+0.3**
SASS	**Sassa´´´´´**	**1.42**	**167**	Pn		**Pn**	**22 27 32.3**		**+0.5**
	20nm,0.7s								
SASS	**Sassa´´´´´**	**1.42**	**167**	Pn		**Pn**	**22 27 32.3**		**+0.5**
	20nm,0.7s								
MABI	**Malga Bissina**	**1.42**	**7**	Pn		**Pn**	**22 27 32.6**		**+0.6**
MABI				Sn		**Sn**	**22 27 49.9**		**-0.5**
	34nm,0.3s								
MABI	**Malga Bissina**	**1.42**	**7**	Pn		**Pn**	**22 27 32.6**		**+0.6**
MABI				Sn		**Sn**	**22 27 49.9**		**-0.5**
	34nm,0.3s								
MUGIO	**Muggio**	**1.54**	**327**	Pn		**Pb**	**22 27 35.3**		**+0.4**
	29nm,0.2s								
MUGIO	**Muggio**	**1.54**	**327**	Pn		**Pb**	**22 27 35.3**		**+0.4**
	29nm,0.2s								
CRE	**Caprese Michel**	**1.60**	**129**	Pn		**Pb**	**22 27 35.8**		**-0.1**
	22nm,0.3s								
CRE	**Caprese Michel**	**1.60**	**129**	Pn		**Pb**	**22 27 35.8**		**-0.1**
	22nm,0.3s								
TRIF	**Trifonti**	**1.60**	**163**	Pn		**Pn**	**22 27 35.3**		**+1.0**
	18nm,1.0s								
TRIF	**Trifonti**	**1.60**	**163**	Pn		**Pn**	**22 27 35.3**		**+1.0**
	18nm,1.0s								
PANI	**Panarotta**	**1.60**	**28**	*e*Pg		**Pn**	**22 27 34.4**		**-0.1**
CGRP	**Cima Grappa**	**1.65**	**41**	Pn		**Pn**	**22 27 34.6**		**-0.6**
	69nm,0.7s								
CGRP	**Cima Grappa**	**1.65**	**41**	*e*Pg		Pn	**22 27 34.9**		**-0.3**
CGRP				*e*Sg		**Sn**	**22 27 55.9**		**-0.1**
CGRP	**Cima Grappa**	**1.65**	**41**	Pn		**Pn**	**22 27 34.6**		**-0.6**
	69nm,0.7s								
CGRP	**Cima Grappa**	**1.65**	**41**	*e*Pg		Pn	**22 27 34.9**		**-0.3**
CGRP				*e*Sg		**Sn**	**22 27 55.9**		**-0.1**
PARC	**Parchiule**	**1.75**	**124**	Pn		**Pb**	**22 27 38.2**		**-0.2**
PARC	**Parchiule**	**1.75**	**124**	Pn		**Pb**	**22 27 38.2**		**-0.2**
BERNI	**Berninapass**	**1.78**	**355**	Pn		**Pn**	**22 27 37.9**		**+1.0**
	17nm,0.3s								
BERNI	**Berninapass**	**1.78**	**355**	Pn		**Pn**	**22 27 37.9**		**+1.0**
	17nm,0.3s								
BRMO	**Bormio**	**1.83**	**3**	Pn		**Pn**	**22 27 38.5**		**+0.9**
	6.0nm,0.5s								
BRMO	**Bormio**	**1.83**	**3**	Pn		**Pn**	**22 27 38.5**		**+0.9**
	6.0nm,0.5s								
OZOL	**Ozolo**	**1.85**	**18**	*e*Pn		**Pn**	**22 27 38.1**		**+0.3**
OZOL	**Ozolo**	**1.85**	**18**	*e*Pn		**Pn**	**22 27 38.1**		**+0.3**
TUE	**Stuetta**	**1.94**	**341**	Pn		**Pn**	**22 27 39.8**		**+0.7**
	27nm,0.5s								
TUE	**Stuetta**	**1.94**	**341**	Pn		**Pn**	**22 27 39.8**		**+0.7**
	27nm,0.5s								
APPI	**Appiano**	**1.96**	**20**	Pn		**Pn**	**22 27 39.8**		**+0.5**
	122μm,29.0s								
APPI	**Appiano**	**1.96**	**20**	Pn		**Pn**	**22 27 39.8**		**+0.5**
	122μm,29.0s								
KOSI	**Kohlern**	**1.99**	**23**	Pn		**Pn**	**22 27 40.1**		**+0.4**
	32nm,0.7s								
KOSI	**Kohlern**	**1.99**	**23**	Pn		**Pn**	**22 27 40.1**		**+0.4**
	32nm,0.7s								
SBF	**Sospel**	**2.17**	**250**	*e*Pn		**Pn**	**22 27 42.9**		**+0.8**
SBF				*e*Sn		**Sn**	**22 28 08.8**		**+0.3**
	16nm,0.3s								
SBF	**Sospel**	**2.17**	**250**	*e*Pn		**Pn**	**22 27 42.9**		**+0.8**
SBF				*e*Sn		**Sn**	**22 28 08.8**		**+0.3**
	8.0nm,0.3s								
CIMO	**Cimolais**	**2.27**	**42**	*e*Pn		**Pn**	**22 27 43.3**		**-0.2**
CIMO	**Cimolais**	**2.27**	**42**	*e*Pn		**Pn**	**22 27 43.3**		**-0.2**
PGF	**Pioggiola**	**2.28**	**204**	*e*Pn		**Pn**	**22 27 43.5**		**-0.2**
PGF				*e*Sn		**Sn**	**22 28 10.0**		**-1.4**
	3.7nm,0.3s								
PGF	**Pioggiola**	**2.28**	**204**	*e*Pn		**Pn**	**22 27 43.5**		**-0.2**
PGF				*e*Sn		**Sn**	**22 28 10.0**		**-1.4**
	1.9nm,0.3s								
FETA	**Feichten**	**2.40**	**8**	Pn		**Pb**	**22 27 48.9**		**-0.7**
	1.8nm,0.4s								
FETA				*i* Sn		**Sn**	**22 28 11.6**		**-2.9**
	1.1nm,0.2s								
LPG	**La Plagne**	**2.62**	**290**	*e*Pn		**Pn**	**22 27 49.9**		**+1.3**
LPG				*e*Sn		**Sn**	**22 28 21.1**		**+1.1**
	16nm,0.7s								
LPG	**La Plagne**	**2.62**	**290**	*e*Pn		**Pn**	**22 27 49.9**		**+1.3**
LPG				*e*Sn		**Sn**	**22 28 21.1**		**+1.1**
	8.1nm,0.7s								
ABTA	**Abfaltersbach**	**2.64**	**36**	Pn		**Pn**	**22 27 50.9**		**+2.3**
	0.4nm,0.2s								
ABTA				Sn		**Sn**	**22 28 20.2**		**+0.1**
	3.8nm,0.4s								
ABTA	**Abfaltersbach**	**2.64**	**36**	Pn		**Pn**	**22 27 50.9**		**+2.3**
	0.4nm,0.2s								
ABTA				Sn		**Sn**	**22 28 20.2**		**+0.1**
	3.8nm,0.4s								
LPL	**La Plagne**	**2.64**	**291**	*e*P		**Pb**	**22 27 53.5**		**-0.2**
LPL				*e*Sn		**Sn**	**22 28 20.4**		**0.0**
	5.0nm,0.3s								
DAVA	**Damuels**	**2.66**	**355**	*i* Pn		**Pn**	**22 27 51.3**		**+2.4**
	1.5nm,0.2s								
DAVA				Sn		**Sn**	**22 28 23.7**		**+3.0**
	8.6nm,0.2s								
DAVA	**Damuels**	**2.66**	**355**	Pn		**Pn**	**22 27 51.3**		**+2.4**
	1.5nm,0.2s								
DAVA				Sn		**Sn**	**22 28 23.7**		**+3.0**
	8.6nm,0.2s								
MOTA	**Moosalm**	**2.77**	**12**	*i* Pn		**Pn**	**22 27 53.1**		**+2.6**
	1.1nm,0.2s								
MOTA				*i* Sn		**Sb**	**22 28 28.1**		**-1.4**
	8.1nm,0.5s								
FRF	**La Foret Royal**	**2.81**	**249**	*e*Pn		**Pn**	**22 27 51.4**		**+0.5**
FRF				*e*Sn		**Sn**	**22 28 24.4**		**+0.1**
	3.6nm,0.2s								
FRF	**La Foret Royal**	**2.81**	**249**	*e*Pn		**Pn**	**22 27 51.4**		**+0.5**
FRF				*e*Sn		**Sn**	**22 28 24.4**		**+0.1**
	1.8nm,0.2s								
WATA	**Walderalm**	**2.85**	**19**	*i* Sn		**Sb**	**22 28 30.3**		**-1.5**
	2.6nm,0.2s								
RETA	**Reutte**	**2.87**	**7**	*e*Pn		**Pn**	**22 27 53.8**		**+2.0**
	0.4nm,0.1s								
RETA				*e*Sn		**Sn**	**22 28 28.3**		**+2.5**
	2.7nm,0.3s								
RETA	**Reutte**	**2.87**	**7**	Pn		**Pn**	**22 27 53.8**		**+2.0**
	0.4nm,0.1s								
RETA				Sn		**Sn**	**22 28 28.3**		**+2.5**
	2.7nm,0.3s								
LMR	**La Mourre**	**3.00**	**245**	*e*Pn		**Pn**	**22 27 53.7**		**+0.2**
LMR				*e*Sn		**Sn**	**22 28 27.6**		**-1.3**
	5.9nm,0.3s								
LMR	**La Mourre**	**3.00**	**245**	*e*Pn		**Pn**	**22 27 53.7**		**+0.2**
LMR				*e*Sn		**Sn**	**22 28 27.6**		**-1.3**
	3.0nm,0.3s								
NVLJ	**Novalja**	**3.30**	**90**	*e*Pn		**Pn**	**22 27 57.1**		**-0.6**
NVLJ				Sn		**Sn**	**22 28 34.6**		**-1.9**
NVLJ	**Novalja**	**3.30**	**90**	*e*Pn		**Pn**	**22 27 57.1**		**-0.6**
NVLJ				Sn		**Sn**	**22 28 34.5**		**-1.9**
OZLJ	**Ozalj**	**3.82**	**73**	*i* Pn		**Pn**	**22 28 04.0**		**-0.8**
OZLJ				Sn		**Sn**	**22 28 47.2**		**-1.9**
OZLJ	**Ozalj**	**3.82**	**73**	*i* Pn		**Pn**	**22 28 03.9**		**-0.8**
OZLJ				Sn		**Sn**	**22 28 47.2**		**-1.9**
UDBI	**Udbina**	**3.94**	**90**	*e*Pn		**Pn**	**22 28 06.4**		**-0.2**
UDBI				Sn		**Sn**	**22 28 50.5**		**-1.8**
UDBI	**Udbina**	**3.94**	**90**	*e*Pn		**Pn**	**22 28 06.3**		**-0.2**
UDBI				Sn		**Sn**	**22 28 50.5**		**-1.8**
HINF	**Hinteralfeld**	**3.95**	**325**	*e*Pn		**Pn**

OKCE	**Okmok Cone E**	**2.56**	**56**	P		**Pn**	**22 33 24.4**	**+0.5**
OKFG	**Magazine Ridge**	**2.68**	**58**	P		**Pn**	**22 33 25.7**	**+0.2**
OKFG				S		**Sn**	**22 33 57.2**	**+0.5**
MGOD	**Makushin Gods**	**3.41**	**57**	P		**Pn**	**22 33 35.3**	**-0.2**
MSW	**Makushin Switc**	**3.51**	**56**	P		**Pn**	**22 33 36.8**	**-0.2**
MTBL	**Makushin Table**	**3.59**	**56**	P		**Pn**	**22 33 39.2**	**+1.1**
UNV	**Unalaska Valle**	**3.62**	**58**	P		**Pn**	**22 33 38.0**	**-0.5**
AKRB	**Akutan Reef Bi**	**3.98**	**56**	P		**Pn**	**22 33 43.5**	**+0.1**
AKMO	**Akutan Morgan**	**4.00**	**57**	P		**Pn**	**22 33 44.6**	**+1.0**
AKGG	**Akutan Green G**	**4.06**	**56**	P		**Pn**	**22 33 45.1**	**+0.6**
AKUT	**Akutan**	**4.14**	**57**	*e*Pn		**Pn**	**22 33 46.3**	**+0.8**
AKSA	**Akutan Strait**	**4.18**	**58**	P		**Pn**	**22 33 46.5**	**+0.4**
WESP	**Westdahl Peak**	**4.85**	**57**	P		**Pn**	**22 33 55.4**	**0.0**
SPIA	**Saint Paul Isl**	**5.21**	**9**	P		**Pn**	**22 34 00.6**	**+0.3**
DT1	**Dutton Round H**	**6.39**	**58**	P		**Pn**	**22 34 16.6**	**+0.2**
SDPT	**Sand Point**	**7.44**	**59**	P		**Pn**	**22 34 29.9**	**-0.8**
ILAR	**Eielson Array**	**18.04**	**36**	P		**P**	**22 36 50.8**	**-0.8**
	0.3nm,0.3s,baz=232,slow=9.9,SNR=10							
EGAK	**Eagle**	**20.19**	**39**	*e*P		**P**	**22 37 14.8**	**-0.3**
	4.5nm,0.6s							
DLBC	**Dease Lake**	**24.28**	**58**	P		**P**	**22 37 58.8**	**+1.6**
	5.6nm,0.8s,baz=295,slow=8.6,SNR=8.9							
INK	**Inuvik**	**24.41**	**34**	P		**P**	**22 37 56.9**	**-1.3**
	1.5nm,0.5s,baz=237,slow=10,SNR=7.3							
YKA	**Yellowknife Ar**	**31.53**	**48**	P		**P**	**22 39 01.4**	**-0.4**
	0.7nm,0.4s,baz=276,slow=7.3,SNR=4.8							
YKA				LR		LR	22 51 58.7	
	comp=Z,7.8nm,19.7s,baz=0.0,slow=37							
NEW	**Newport**	**34.48**	**74**	P		**P**	**22 39 28.2**	**+0.4**
	4.1nm,0.8s,baz=298,slow=6.7,SNR=6.4							
H11N2	**WAKE ISLAND Hy**	**36.33**	**215**	T		T	23 18 12.5	
	baz=21,slow=75,SNR=14							
H11N3	**WAKE ISLAND Hy**	**36.34**	**215**	T		T	23 18 15.7	
	baz=21,slow=75,SNR=47							
H11N1	**WAKE ISLAND Hy**	**36.35**	**215**	T		T	23 18 14.0	
	baz=21,slow=75,SNR=13							
H11S1	**WAKE ISLAND Hy**	**37.53**	**215**	T		T	23 19 43.6	
	baz=21,slow=76,SNR=42							
H11S2	**WAKE ISLAND Hy**	**37.54**	**215**	T		T	23 19 46.0	
	baz=21,slow=76,SNR=69							
H11S3	**WAKE ISLAND Hy**	**37.54**	**215**	T		T	23 19 42.3	
	baz=21,slow=76,SNR=24							
USRK	**Uesuriysk Ar.**	**37.55**	**281**	LR		LR	22 54 33.1	
	comp=Z,31nm,20.4s,baz=34,slow=35							
MJAR	**Matsushiro Arr**	**38.25**	**266**	P		**P**	**22 40 01.7**	**+1.6**
	0.5nm,0.3s,baz=36,slow=7.5,SNR=4.1							
PDAR	**Pinedale Array**	**41.87**	**77**	P		**P**	**22 40 29.9**	**-0.3**
	1.1nm,0.6s,baz=297,slow=4.8,SNR=13							
KSRS	**Korea Array**	**44.02**	**275**	LR		LR	22 58 59.1	
	comp=Z,10nm,20.5s,baz=240,slow=36							
SONM	**Songino Array**	**50.23**	**300**	P		**P**	**22 41 35.6**	**-0.2**
	0.2nm,0.4s,baz=76,slow=6.4,SNR=4.2							
TXAR	**Lajitas Array**	**54.19**	**87**	P		**P**	**22 42 05.0**	**-0.4**
	1.2nm,0.7s,baz=297,slow=5.5,SNR=11							
ZALV	**Zalesovo Beam**	**56.69**	**317**	P		**P**	**22 42 24.4**	**+1.6**
	0.3nm,0.4s,baz=14,slow=8.0,SNR=2.5							
ZALV				PcP		**PcP**	**22 43 18.0**	**-0.4**
	0.4nm,0.4s,baz=86,slow=1.9,SNR=3.8							
FINES	**FINESS Array B**	**65.98**	**351**	P		**P**	**22 43 23.8**	**-1.6**
	2.4nm,1.0s,baz=20,slow=6.1,SNR=3.7							
AKTO	**Aktyubinsk**	**69.56**	**329**	LR		LR	23 17 52.4	
	comp=Z,25nm,18.2s,slow=39							
AAK	**Ala-Archa**	**69.71**	**314**	LR		LR	23 17 54.4	
	comp=Z,50nm,19.2s,baz=214,slow=39							
ABKAR	**Akbulak array**	**69.94**	**327**	*e*P		**P**	**22 43 49.9**	**-0.7**
	0.8nm,0.5s							
CMAR	**Chiang Mai Arr**	**75.28**	**281**	P		**P**	**22 44 22.6**	**-0.1**
	2.0nm,0.9s,baz=26,slow=6.5,SNR=8.1							
ASAR	**Alice Springs**	**89.10**	**228**	P		**P**	**22 45 35.1**	**+0.4**
	0.7nm,0.5s,baz=29,slow=4.8,SNR=11							
BOSA	**Boshof**	**153.40**	**325**	PKPbc		**PKPbc**	**22 52 37.7**	**+0.3**
	2.0nm,0.5s,baz=32,slow=2.2,SNR=7.7							

GEN ***08*** *22:38:55.9,44.˚72N×10.˚28E,h22km,ML1.7*
CSEM ***08*** *22:38:57.0±0.2,44.˚62N×10.˚27E,h19km±1km, ML2.5/6, Error ellipse: s-maj=4.0km s-min=3.1km az=74.0*
ROM 08 22:38:57.0±0.1,44.˚64N×10.˚25E,h21km±2km,Md2.3/14, **Ml1.9/5,Error ellipse: s-maj=1.5km s-min=1.1km az=98.0,Northern Italy**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PRMA	**PARMA**	**0.13**	**20**	Pg	Pb	22 39 01.1	-2.1
PRMA				Sg	Sb	22 39 05.3	-2.2
PRMA	**PARMA**	**0.13**	**20**	Pg	Pb	22 39 01.1	-2.1
PRMA				Sg	Sb	22 39 05.3	-2.2
NOVE	**Novellara**	**0.37**	**65**	Pg	Pb	22 39 04.9	+0.2
NOVE				Sg	Sb	22 39 11.1	+1.1
	112nm,0.3s						
NOVE	**Novellara**	**0.37**	**65**	Pg	Pb	22 39 04.9	+0.2
NOVE				Sg	Sb	22 39 11.1	+1.1
	112nm,0.3s						
CODM	**Codolo**	**0.38**	**229**	P	Pb	22 39 04.6	-0.3
CODM				S	Sb	22 39 11.4	+1.0
SARO	**Sassorosso**	**0.47**	**166**	P	Pb	22 39 05.9	-0.7
SARO				S	Sb	22 39 13.6	+0.5
VLC	**Villacollemand**	**0.49**	**168**	Pg	Pb	22 39 06.7	-0.2
VLC				Sg	Sb	22 39 14.4	+0.7
	44nm,0.4s						
VLC	**Villacollemand**	**0.49**	**168**	Pg	Pb	22 39 06.7	-0.2
VLC				Sg	Sb	22 39 14.4	+0.7
	44nm,0.4s						
SC2M	**Scurtabo**	**0.56**	**245**	Pg	Pb	22 39 07.6	-0.7
SC2M				Sg	Sb	22 39 16.9	+1.0
	87nm,0.3s						
SC2M	**Scurtabo**	**0.56**	**245**	P	Pb	22 39 07.6	-0.7
SC2M				S	Sb	22 39 16.6	+0.7
SC2M				Sg	Sn	22 39 16.9	-1.6
	87nm,0.3s						
BOB	**Bobbio (Coli)**	**0.58**	**283**	Pg	Pb	22 39 08.6	-0.1
BOB				Sg	Sb	22 39 17.6	+1.0
	51nm,0.7s						
BOB	**Bobbio (Coli)**	**0.58**	**283**	Pg	Pb	22 39 08.6	-0.1
BOB				Sg	Sb	22 39 17.6	+1.0
	51nm,0.7s						
BDI	**Bagni Di Lucca**	**0.63**	**157**	Pg	Pb	22 39 09.0	-0.4
BDI				Sg	Sb	22 39 18.5	+0.6
	27nm,0.3s						
BDI	**Bagni Di Lucca**	**0.63**	**157**	Pg	Pb	22 39 09.0	-0.4
BDI				Sg	Sb	22 39 18.5	+0.6
	27nm,0.3s						
POPM	**Popiglio**	**0.70**	**148**	P	Pb	22 39 10.4	-0.1
POPM				S	Sb	22 39 20.4	+0.7
MAIM	**Mastiano**	**0.75**	**166**	Pn	Pb	22 39 10.9	-0.4
MAIM				Sn	Sb	22 39 21.7	+0.7
MAIM	**Mastiano**	**0.75**	**166**	P	Pb	22 39 11.0	-0.3
MAIM				S	Sb	22 39 20.4	-0.6
MAIM				Sn	Sn	22 39 21.7	-1.2
PTF	**Prato**	**0.90**	**139**	Pg	Pb	22 39 13.8	-0.1
PTF				Sg	Sn	22 39 27.0	+0.2
PTF	**Prato**	**0.90**	**139**	Pg	Pb	22 39 13.8	-0.1
PTF				Sg	Sn	22 39 27.0	+0.2
CRMI	**Carmignano**	**1.00**	**148**	Pn	Pn	22 39 16.2	+0.5
CRMI				Sn	Sn	22 39 29.7	+0.6
CRMI	**Carmignano**	**1.00**	**148**	Pn	Pn	22 39 16.2	+0.5
CRMI				Sn	Sn	22 39 29.7	+0.6
SALO	**Salr**	**1.00**	**11**	Pn	Pn	22 39 16.0	+0.2
SALO				Sn	Sn	22 39 29.5	+0.3
SALO	**Salr**	**1.00**	**11**	Pn	Pn	22 39 16.0	+0.2
SALO				Sn	Sn	22 39 29.5	+0.3
ROVR	**Rover˜¤ Verone**	**1.16**	**30**	Pn	Pn	22 39 18.0	-0.1
ROVR				Sn	Sn	22 39 34.6	+1.2
ROVR	**Rover˜¤ Verone**	**1.16**	**30**	Pn	Pn	22 39 18.0	-0.1
ROVR				Sn	Sn	22 39 34.6	+1.2
MAGA	**Magasa**	**1.17**	**13**	Pn	Pn	22 39 18.1	-0.1
MAGA				Sn	Sn	22 39 33.8	+0.3
MAGA	**Magasa**	**1.17**	**13**	Pn	Pn	22 39 18.1	-0.1
MAGA				Sn	Sn	22 39 33.8	+0.3
TEOL	**Teolo**	**1.24**	**54**	Pn	Pb	22 39 19.6	-0.1
TEOL				Sn	Sb	22 39 36.0	+0.8
TEOL	**Teolo**	**1.24**	**54**	Pn	Pb	22 39 19.6	-0.1
TEOL				Sn	Sb	22 39 36.0	+0.8
MABI	**Malga Bissina**	**1.43**	**7**	Pn	Pb	22 39 23.1	+0.1
MABI	**Malga Bissina**	**1.43**	**7**	Pn	Pb	22 39 23.1	+0.1
DAVA	**Damuels**	**2.66**	**355**	*i* Pn	Pb	22 39 41.5	-2.5
	0.9nm,0.4s						
DAVA				*i* Sn	Sb	22 40 13.8	-2.4
	8.6nm,0.5s						
DAVA	**Damuels**	**2.66**	**355**	Pn	Pb	22 39 41.5	-2.5
	0.9nm,0.4s						
DAVA				Sn	Sb	22 40 13.8	-2.4
	8.6nm,0.5s						
MOTA	**Moosalm**	**2.77**	**12**	*i* Sn	Sb	22 40 18.2	-1.1
	1.5nm,0.4s						
NVLJ	**Novalja**	**3.30**	**90**	*e*Pn	Pn	22 39 45.1	-2.2
NVLJ				Sn	Sn	22 40 24.9	-1.1
NVLJ	**Novalja**	**3.30**	**90**	*e*Pn	Pn	22 39 45.1	-2.3
NVLJ				Sn	Sn	22 40 24.8	-1.2

NIED ***08*** *22:42:00,44.˚00N×148.˚10E,h50km,Mw3.5 Best double couple: M0 2.32000×10^14 NP1:φs239.00000°,δ61.00000°, λ-166.00000°. NP2:φs142.00000°,δ78.00000°, λ-30.00000°.*
JMA ***08*** *22:42:40.8±0.4,44.˚03N×148.˚05E,h0km,M4.2*
SKHL ***08*** *22:42:41.3±0.8,44.˚40N×148.˚37E,h52km±7km,mb3.7/3*
ISC 08 22:42:39.1±4.0,44.˚34N±0.˚09×148.˚4E±0.˚2,h27km±28km, n13,σ1ş36/20,Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**0.98**	**336**	*e*P	**Pn**	**22 42 57.3**	**+0.3**
KUR				AMB	AMB	22 42 57.8	
	80nm,0.2s						
KUR				AMB	AMB	22 42 57.8	
	130nm,0.2s						
KUR				AMB	AMB	22 42 57.8	
	30nm,0.2s						
KUR				*e*S	**Sb**	**22 43 09.0**	**-0.8**
KUR				A	A	22 43 10.0	
	110nm,0.3s						
KUR				A	A	22 43 10.0	
	710nm,0.3s						
SHO	**Shikotan**	**1.24**	**248**	*e*P	**Pn**	**22 43 00.6**	**0.0**
SHO				AMB	AMB	22 43 03.9	
	60nm,0.8s						
SHO				*e*S	**Sn**	**22 43 14.7**	**-1.7**
SHO				A	A	22 43 20.3	
	580nm,0.5s						
YUK	**Yuzh-Kuril'sk**	**1.86**	**261**	*i* P	**Pn**	**22 43 09.9**	**+0.7**
YUK				AMB	AMB	22 43 13.2	
	30nm,0.2s						
YUK				AMB	AMB	22 43 13.2	
	90nm,0.2s						
YUK				AMB	AMB	22 43 13.2	
	20nm,0.2s						
YUK				*i* S	**Sn**	**22 43 32.0**	**+0.1**
YUK				A	A	22 43 37.2	
	50nm,0.2s						
YUK				A	A	22 43 37.2	
	140nm,0.2s						
NEM2	**Nemuro 2**	**2.17**	**244**	P	**Pn**	**22 43 13.2**	**-0.2**
NEM2				*e*S	**Sn**	**22 43 37.3**	**-2.0**
JRA	**Rausu**	**2.41**	**262**	P	**Pn**	**22 43 18.2**	**+1.5**
JNK	**Nakash**	**2.78**	**256**	P	**Pn**	**22 43 22.9**	**+1.1**
JNK				*e*S	**Sn**	**22 43 53.6**	**-0.8**
JAK	**Akkeshi**	**3.02**	**245**	P	**Pn**	**22 43 25.6**	**+0.5**
JAK				*e*S	**Sn**	**22 43 58.2**	**-2.1**
JAR	**Ashorobuto**	**3.52**	**254**	P	**Pn**	**22 43 34.0**	**+2.0**
JAR				*e*S	**Sn**	**22 44 13.6**	**+0.8**
JCH	**Churui**	**4.06**	**247**	P	**Pn**	**22 43 40.5**	**+1.0**
JNBK	**Urakawa-nobuka**	**4.62**	**245**	P	**Pn**	**22 43 48.7**	**+1.6**
YSS	**Yuzh-Sakhalins**	**4.75**	**305**	*e*P	**Pn**	**22 43 49.9**	**+1.0**
JKB	**Kayabe**	**5.94**	**248**	P	**Pn**	**22 44 06.7**	**+1.5**
JOT	**Ohata**	**6.17**	**244**	P	**Pn**	**22 44 09.4**	**+1.0**

ISCJB ***08*** *22:44:22.6±0.6,58.˚52N±0.˚03×133.˚48W±0.˚06,h10km, Error ellipse: s-maj=5.4km s-min=3.8km az=34.7*
NEIC ***08*** *22:44:23.7±0.0,58.˚26N×133.˚53W,h5km,ML2.9(AEIC), ML3.3(OTT),After OTT.*
PGC ***08*** *22:44:24.0±7.0,58.˚26N×133.˚53W,h5km,ML3.3/8, 52km east of Juneau, Ak Southeastern Alaska*
ISC 08 22:44:23.8±0.9,58.˚35N±0.˚04×133.˚41W±0.˚03,h10km,n20, σ1ş56/40,Southeastern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIS	**Juneau Island**	**0.52**	**263**	P	**Pg**	**22 44 33.0**	**-0.9**
JIS				S	**Sg**	**22 44 39.5**	**-1.2**
BESE	**Bessie Mountai**	**0.80**	**288**	P	**Pg**	**22 44 38.0**	**-1.1**
BESE				S	**Sg**	**22 44 47.8**	**-1.7**
SKAG	**Skagway**	**1.50**	**319**	P	**Pn**	**22 44 50.7**	**0.0**
SKAG				S	**Sg**	**22 45 12.0**	**0.0**
DLBC	**Dease Lake**	**1.78**	**86**	Pn	**Pb**	**22 44 55.9**	**-0.7**
DLBC				Sg	**Sg**	**22 45 22.1**	**+1.0**
DLBC	**Dease Lake**	**1.78**	**86**	P	**Pb**	**22 44 55.9**	**-0.7**
PLBC	**Pleasant Camp**	**1.90**	**307**	Pn	**Pb**	**22 44 57.0**	**-1.4**
PLBC				Sg	**Sb**	**22 45 22.2**	**0.0**
PLBC	**Pleasant Camp**	**1.90**	**307**	P	**Pb**	**22 44 57.0**	**-1.4**
PLBC				S	**Sb**	**22 45 22.0**	**-0.2**
WRAK	**Wrangell Islan**	**2.02**	**163**	P	**Pn**	**22 44 58.3**	**+0.5**
WHY	**Whitehorse**	**2.44**	**343**	Pn	**Pn**	**22 45 04.2**	**+0.5**
WHY				Pg	**Pg**	**22 45 08.9**	**-1.6**
WHY				Sn	**Sn**	**22 45 34.7**	**+1.0**
WHY				Sg	**Sb**	**22 45 38.4**	**+0.5**
WHY	**Whitehorse**	**2.44**	**343**	P	**Pn**	**22 45 04.3**	**+0.5**
HYT	**Haines Junctio**	**3.24**	**322**	Pn	**Pn**	**22 45 16.2**	**+1.3**
HYT				Pg	**Pb**	**22 45 22.5**	**+1.0**
HYT				Sg	**Sb**	**22 46 03.4**	**+2.4**
HYT	**Haines Junctio**	**3.24**	**322**	P	**Pn**	**22 45 16.7**	**+1.9**
YUK7	**Dusty Glacier**	**3.26**	**314**	Pg	**Pb**	**22 45 21.8**	**0.0**
YUK7				Sg	**Sg**	**22 45 37.6**	**+0.9**
PNL	**Peninsula**	**3.37**	**296**	Pg	**Pb**	**22 45 24.1**	**+0.5**
PNL				Sg	**Sb**	**22 46 07.0**	**+2.5**
YUK5	**Granite Creek**	**3.59**	**323**	Pn	**Pn**	**22 45 20.8**	**+1.2**
YUK5				Pg	**Pb**	**22 45 28.3**	**+0.9**
YUK5				Sg	**Sg**	**22 46 14.9**	**-4.0**
YUK6	**Outpost Mounta**	**3.62**	**318**	Pn	**Pn**	**22 45 21.3**	**+1.2**
YUK6				Pg	**Pb**	**22 45 28.6**	**+0.6**
YUK6				Sg	**Sg**	**22 46 19.0**	**-1.0**
YUK3	**Moose Creek**	**4.93**	**317**	Pg	**Pb**	**22 45 52.9**	**+2.7**
YUK3				Sg	**Sg**	**22 47 01.2**	**-0.7**
YUK2	**White River**	**5.08**	**316**	Pn	**Pn**	**22 45 41.4**	**+1.5**
YUK2				Pg	**Pb**	**22 45 54.9**	**+2.2**
YUK2				Sg	**Sg**	**22 47 04.5**	**-2.1**
FNBB	**Fort Nelson**	**5.46**	**80**	Sg	**Sg**	**22 47 17.4**	**-1.6**
DAWY	**Dawson**	**6.42**	**336**	Sg	**Sg**	**22 47 46.4**	**-3.3**

GEN ***08*** *22:55:04.4,44.˚71N×10.˚30E,h12km,ML3.1*
ISCJB ***08*** *22:55:04.2±0.2,44.˚70N±0.˚01×10.˚27E±0.˚01,h15km±1km, Error ellipse: s-maj=1.7km s-min=1.7km az=38.0*
ROM ***08*** *22:55:05.5±0.1,44.˚64N×10.˚21E,h19km±2km,Md3.2/21, Ml3.2/36,Error ellipse: s-maj=1.5km s-min=1.3km az=82.0*
CSEM ***08*** *22:55:05.1±0.1,44.˚67N×10.˚31E,h12km,ML3.5/32,Error ellipse: s-maj=1.9km s-min=1.7km az=9.0*
PRU ***08*** *22:55:06.5,44.˚69N×10.˚48E,h9km*
LDG ***08*** *22:55:07.5±0.1,44.˚63N×10.˚39E,h20km,Md3.0/3, Ml3.4/15,Error ellipse: s-maj=2.7km s-min=1.6km az=41.0*
STR ***08*** *22:55:08.8±0.2,44.˚82N×10.˚24E,h10km,Ml3.6,Error ellipse: s-maj=0.0km s-min=0.0km az=0.0*
ISC 08 22:55:05.5±0.9,44.˚66N±0.˚01×10.˚26E±0.˚01,h19km±2km, n260,σ1ş31/387,5C-2D,Northern Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PRMA	**PARMA**	**0.11**	**18**	*i*Pg	**Pg**	**22 55 09.3**	**-0.2**
PRMA				Sg	**Sg**	**22 55 13.6**	**+1.5**
	15µm,0.6s						
PRMA	**PARMA**	**0.11**	**18**	*i*Pg	**Pg**	**22 55 09.3**	**-0.2**
NOVE	**Novellara**	**0.35**	**66**	Pg	**Pg**	**22 55 12.9**	**-0.1**
NOVE				Sg	**Sb**	**22 55 20.4**	**+2.0**
	3µm,0.4s						
NOVE	**Novellara**	**0.35**	**66**	Pg	**Pg**	**22 55 12.9**	**-0.1**
CODM	**Codolo**	**0.40**	**228**	P	**Pg**	**22 55 12.8**	**-1.0**
CODM				S	**Sg**	**22 55 18.9**	**-0.6**
SARO	**Sassorosso**	**0.48**	**168**	P	**Pg**	**22 55 14.5**	**-0.9**
SARO				S	**Sg**	**22 55 21.3**	**-0.7**
VLC	**Villacollemand**	**0.51**	**170**	Pg	**Pb**	**22 55 14.9**	**-0.9**
VLC				Sg	**Sg**	**22 55 22.0**	**-0.6**
	4µm,1.0s						
VLC	**Villacollemand**	**0.51**	**170**	Pg	**Pb**	**22 55 14.9**	**-0.9**
VLC				Sg	**Sg**	**22 55 22.0**	**-0.6**
	4µm,1.0s						
SC2M	**Scurtabo**	**0.58**	**244**	Pg	**Pb**	**22 55 15.8**	**-1.2**
SC2M				Sg	**Sb**	**22 55 23.9**	**-0.9**
SC2M	**Scurtabo**	**0.58**	**244**	P	**Pb**	**22 55 15.9**	**-1.1**
SC2M				Sg	**Sb**	**22 55 23.9**	**-0.9**
SC2M				S	**Sg**	**22 55 25.0**	**+0.1**
BOB	**Bobbio (Coli)**	**0.59**	**281**	Pg	**Pb**	**22 55 16.8**	**-0.4**
BOB				Sg	**Sb**	**22 55 25.0**	**-0.1**
	1µm,0.6s						
ZCCA	**Zocca**	**0.59**	**121**	Pg	**Pg**	**22 55 18.0**	**+0.6**
ZCCA				Sg	**Sg**	**22 55 26.5**	**+1.1**
	634nm,0.5s						
ZCCA	**Zocca**	**0.59**	**121**	Pg	**Pg**	**22 55 18.0**	**+0.6**
SBPO	**S.Benedetto Po**	**0.61**	**50**	Pg	**Pg**	**22 55 18.3**	**+0.7**
SBPO				Sg	**Sn**	**22 55 27.7**	**-0.7**
	1µm,0.4s						
SBPO	**S.Benedetto Po**	**0.61**	**50**	Pg	**Pg**	**22 55 18.3**	**+0.7**
RAVA	**Ravarino**	**0.62**	**81**	Pg	**Pg**	**22 55 18.3**	**+0.5**
	2µm,0.7s						
RAVA	**Ravarino**	**0.62**	**81**	Pg	**Pg**	**22 55 18.3**	**+0.5**
	2µm,0.7s						
MSSA	**Maissana**	**0.63**	**238**	Pg	**Pb**	**22 55 16.9**	**-1.0**
MSSA				Sg	**Sb**	**22 55 25.9**	**-0.5**
	584nm,0.4s						
MSSA	**Maissana**	**0.63**	**238**	Pg	**Pb**	**22 55 16.9**	**-1.0**
MSSA				Sg	**Sb**	**22 55 25.9**	**-0.5**
	584nm,0.4s						
BDI	**Bagni Di Lucca**	**0.64**	**158**	Pg	**Pb**	**22 55 17.2**	**-0.8**
BDI				Sg	**Sb**	**22 55 26.8**	**+0.3**
	1µm,0.6s						
BDI	**Bagni Di Lucca**	**0.64**	**158**	Pg	**Pb**	**22 55 17.2**	**-0.8**
BDI				Sg	**Sb**	**22 55 26.8**	**+0.3**
	1µm,0.6s						
POPM	**Popiglio**	**0.71**	**150**	P	**Pb**	**22 55 18.7**	**-0.5**
POPM				S	**Sb**	**22 55 27.6**	**-0.9**
CTL8	**Castelleone**	**0.71**	**330**	Pn	**Pb**	**22 55 19.3**	**0.0**
	827nm,0.4s						
CTL8	**Castelleone**	**0.71**	**330**	Pn	**Pb**	**22 55 19.3**	**0.0**
	827nm,0.4s						
GAZZ	**Gazzo Veronese**	**0.75**	**52**	*e*Pg	**Pg**	**22 55 20.7**	**+0.6**
GAZZ	**Gazzo Veronese**	**0.75**	**52**	*e*Pg	**Pg**	**22 55 20.7**	**+0.6**
MAIM	**Mastiano**	**0.76**	**168**	Pg	**Pb**	**22 55 20.1**	**0.0**
MAIM				Sg	**Sb**	**22 55 29.8**	**-0.2**
	435nm,0.5s						
MAIM	**Mastiano**	**0.76**	**168**	P	**Pb**	**22 55 19.1**	**-1.0**
MAIM	**Mastiano**	**0.76**	**168**	Pg	**Pb**	**22 55 20.1**	**0.0**
MAIM				Sg	**Sb**	**22 55 29.8**	**-0.2**
	435nm,0.5s						
FNVD	**Fontana Vidola**	**0.79**	**128**	Pg	**Pb**	**22 55 20.4**	**-0.2**
FNVD				Sg	**Sg**	**22 55 31.7**	**+0.3**
	577nm,0.4s						
FNVD	**Fontana Vidola**	**0.79**	**128**	Pg	**Pb**	**22 55 20.4**	**-0.2**
FNVD				Sg	**Sg**	**22 55 31.7**	**+0.3**
	577nm,0.4s						
MTRZ	**Monterenzio**	**0.91**	**108**	Pn	**Pg**	**22 55 24.2**	**+1.1**
MTRZ	**Monterenzio**	**0.91**	**108**	Pn	**Pg**	**22 55 24.2**	**+1.1**
PTF	**Prato**	**0.91**	**140**	Pg	**Pb**	**22 55 22.3**	**-0.3**
PTF				Sg	**Sn**	**22 55 36.4**	**+0.6**
PTF	**Prato**	**0.91**	**140**	Pg	**Pb**	**22 55 22.3**	**-0.3**
SALO	**Salr**	**0.98**	**11**	Pn	**Pn**	**22 55 24.5**	**+0.3**
SALO				Sn	**Sn**	**22 55 39.0**	**+1.4**
	3µm,0.6s						
SALO	**Salr**	**0.98**	**11**	Pn	**Pn**	**22 55 24.5**	**+0.3**
SALO				Sn	**Sn**	**22 55 39.0**	**+1.4**
	3µm,0.6s						
SEI	**Scarperia**	**0.99**	**127**	Pg	**Pn**	**22 55 24.6**	**+0.2**
SEI				Sg	**Sn**	**22 55 38.0**	**+0.2**
SEI	**Scarperia**	**0.99**	**127**	Pg	**Pn**	**22 55 24.6**	**+0.2**
SEI				Sg	**Sn**	**22 55 38.0**	**+0.2**
CRMI	**Carmignano**	**1.00**	**149**	Pn	**Pb**	**22 55 24.1**	**-0.2**
CRMI				Sn	**Sg**	**22 55 39.0**	**+0.7**
	425nm,0.6s						
CRMI	**Carmignano**	**1.00**	**149**	Pn	**Pb**	**22 55 24.1**	**-0.2**
CRMI				Sn	**Sg**	**22 55 39.0**	**+0.7**
	425nm,0.6s						
IMOL	**Imola, Italy**	**1.10**	**105**	Pg	**Pg**	**22 55 28.2**	**+1.4**
FIR	**Firenze**	**1.14**	**141**	Pg	**Pg**	**22 55 27.8**	**+0.3**
	531nm,0.5s						
FIR	**Firenze**	**1.14**	**141**	Pg	**Pg**	**22 55 27.8**	**+0.3**
	531nm,0.5s						
ROVR	**Rover˜¤ Verone**	**1.14**	**30**	Pn	Pn	**22 55 26.3**	**-0.3**
ROVR				Sn	**Sn**	**22 55 42.7**	**+0.9**
ROVR	**Rover˜¤ Verone**	**1.14**	**30**	Pn	Pn	**22 55 26.3**	**-0.3**
ROVR				Sn	**Sn**	**22 55 42.7**	**+0.9**
MAGA	**Magasa**	**1.15**	**13**	Pn	Pn	**22 55 26.4**	**-0.2**
MAGA				Sn	**Sn**	**22 55 42.4**	**+0.5**
MAGA	**Magasa**	**1.15**	**13**	Pn	Pn	**22 55 26.4**	**-0.2**
MAGA				Sn	**Sn**	**22 55 42.4**	**+0.5**
VMG	**Vicchio**	**1.15**	**127**	Pn	**Pg**	**22 55 28.8**	**+1.0**
VMG	**Vicchio**	**1.15**	**127**	Pn	**Pg**	**22 55 28.8**	**+1

RORO	**Rocca Rossa**	**1.67**	**252**	Pn		**Pn**	**22 55 34.1**	**+0.5**
	79nm,0.4s								
RORO	**Rocca Rossa**	**1.67**	**252**	Pn		**Pn**	**22 55 34.1**	**+0.5**
	79nm,0.4s								
CPGN	**Carpegna, Ital**	**1.71**	**119**	Pg		**Pb**	**22 55 36.9**	**+0.6**
	456µm,33.0s								
CPGN	**Carpegna, Ital**	**1.71**	**119**	Pg		**Pb**	**22 55 36.9**	**+0.6**
	456µm,33.0s								
PARC	**Parchiule**	**1.74**	**125**	Pn		**Pb**	**22 55 36.4**	**-0.5**
	83nm,0.5s								
PARC	**Parchiule**	**1.74**	**125**	Pn		**Pb**	**22 55 36.4**	**-0.5**
	83nm,0.5s								
BERNI	**Berninapass**	**1.76**	**355**	Pn		**Pn**	**22 55 35.9**	**+0.7**
	124nm,0.5s								
BERNI	**Berninapass**	**1.76**	**355**	Pn		**Pn**	**22 55 35.9**	**+0.7**
	124nm,0.5s								
CARE	**Lago del Cares**	**1.79**	**10**	*e*Pn		**Pn**	**22 55 36.1**	**+0.4**
CARE	**Lago del Cares**	**1.79**	**10**	*e*Pn		**Pn**	**22 55 36.1**	**+0.4**
OZOL	**Ozolo**	**1.83**	**17**	*e*Pn		**Pn**	**22 55 36.7**	**+0.7**
OZOL	**Ozolo**	**1.83**	**17**	*e*Pn		**Pn**	**22 55 36.7**	**+0.7**
ATMC	**Monte Cedrone**	**1.84**	**130**	Pn		**Pn**	**22 55 36.7**	**+0.6**
	143nm,0.5s								
ATMC	**Monte Cedrone**	**1.84**	**130**	Pn		**Pn**	**22 55 36.7**	**+0.6**
	143nm,0.5s								
IMI	**Imperia**	**1.86**	**247**	Pn		**Pn**	**22 55 36.3**	**-0.1**
	127nm,0.3s								
IMI	**Imperia**	**1.86**	**247**	Pn		**Pn**	**22 55 36.3**	**-0.1**
	127nm,0.3s								
VARN	**Col Varnada, M**	**1.86**	**44**	*e*Pn		**Pn**	**22 55 36.2**	**-0.2**
VARN	**Col Varnada, M**	**1.86**	**44**	*e*Pn		**Pn**	**22 55 36.2**	**-0.2**
TUE	**Stuetta**	**1.93**	**341**	Pn		**Pn**	**22 55 38.2**	**+0.8**
TUE	**Stuetta**	**1.93**	**341**	Pn		**Pn**	**22 55 38.2**	**+0.8**
AGOR	**Agordo**	**2.05**	**37**	*e*Pn		**Pn**	**22 55 38.9**	**-0.1**
SBF	**Sospel**	**2.18**	**250**	*e*Pn		**Pn**	**22 55 41.4**	**+0.6**
	SNR=1.0								
SBF				*e*Sn		**Sn**	**22 56 08.5**	**+1.2**
	275nm,0.6s,SNR=1.0								
SBF	**Sospel**	**2.18**	**250**	*e*Pn		**Pn**	**22 55 41.4**	**+0.6**
	SNR=1.0								
SBF				*e*Sn		**Sn**	**22 56 08.5**	**+1.2**
	138nm,0.6s,SNR=1.0								
CIMO	**Cimolais**	**2.25**	**42**	*e*Pn		**Pn**	**22 55 41.5**	**-0.2**
CIMO	**Cimolais**	**2.25**	**42**	*e*Pn		**Pn**	**22 55 41.5**	**-0.2**
PGF	**Pioggiola**	**2.30**	**204**	*e*Pn		**Pn**	**22 55 42.5**	**0.0**
	SNR=1.0								
PGF				*e*Sn		**Sn**	**22 56 10.0**	**-0.3**
	14nm,0.2s,SNR=1.0								
PGF	**Pioggiola**	**2.30**	**204**	*e*Pn		**Pn**	**22 55 42.5**	**0.0**
	SNR=1.0								
PGF				*e*Sn		**Sn**	**22 56 10.0**	**-0.3**
	6.8nm,0.2s,SNR=1.0								
FETA	**Feichten**	**2.39**	**8**	*e*Pn		**Pn**	**22 55 45.4**	**+1.7**
	3.7nm,0.4s,SNR=9.5								
FETA	**Feichten**	**2.39**	**8**	Pn		**Pn**	**22 55 45.4**	**+1.7**
	3.7nm,0.4s,SNR=9.5								
MBDF	**Montbardon**	**2.49**	**273**	*e*Pn		**Pn**	**22 55 47.1**	**+2.0**
	SNR=1.0								
MBDF	**Montbardon**	**2.49**	**273**	*e*P		**Pb**	**22 55 48.6**	**-1.1**
MBDF				*e*Sn		**Sb**	**22 56 18.5**	**-1.5**
	58nm,0.4s,SNR=1.0								
MBDF	**Montbardon**	**2.49**	**273**	*e*Pn		**Pn**	**22 55 47.1**	**+2.0**
	SNR=1.0								
MBDF	**Montbardon**	**2.49**	**273**	*e*P		**Pb**	**22 55 48.6**	**-1.1**
MBDF				*e*Sn		**Sb**	**22 56 18.5**	**-1.5**
	29nm,0.4s,SNR=1.0								
ABTA	**Abfaltersbach**	**2.62**	**36**	*e*Pn		**Pn**	**22 55 47.8**	**+1.0**
	1.8nm,0.2s,SNR=16								
ABTA	**Abfaltersbach**	**2.62**	**36**	Pn		**Pn**	**22 55 47.8**	**+1.0**
	1.8nm,0.2s,SNR=16								
LPG	**La Plagne**	**2.63**	**290**	*e*Pn		**Pn**	**22 55 49.3**	**+2.2**
	SNR=1.0								
LPG	**La Plagne**	**2.63**	**290**	*e*Pn		**Pn**	**22 55 49.3**	**+2.2**
	SNR=1.0								
DAVA	**Damuels**	**2.64**	**354**	*e*Pn		**Pn**	**22 55 49.3**	**+2.1**
	23nm,0.4s,SNR=20								
DAVA				Sn		**Sb**	**22 56 22.3**	**-2.1**
	71nm,0.3s								
DAVA	**Damuels**	**2.64**	**354**	Pn		**Pn**	**22 55 49.3**	**+2.1**
	23nm,0.4s,SNR=20								
DAVA				Sn		**Sb**	**22 56 22.3**	**-2.1**
	71nm,0.3s								
LPL	**La Plagne**	**2.65**	**290**	*e*Pn		**Pn**	**22 55 48.5**	**+1.2**
	SNR=1.0								
LPL	**La Plagne**	**2.65**	**290**	*e*P		**Pb**	**22 55 52.8**	**+0.5**
LPL	**La Plagne**	**2.65**	**290**	*e*Pg		**Pg**	**22 55 55.5**	**-0.7**
LPL	**La Plagne**	**2.65**	**290**	*e*Pn		**Pn**	**22 55 48.5**	**+1.2**
	SNR=1.0								
LPL	**La Plagne**	**2.65**	**290**	*e*Pg		**Pg**	**22 55 55.5**	**-0.7**
MOTA	**Moosalm**	**2.75**	**12**	*e*Pn		**Pn**	**22 55 51.2**	**+2.5**
	6.6nm,0.1s,SNR=37								
MOTA				*i* Sn		**Sb**	**22 56 26.5**	**-1.0**
	42nm,0.4s								
MOTA	**Moosalm**	**2.75**	**12**	Pn		**Pn**	**22 55 51.2**	**+2.5**
	6.6nm,0.1s,SNR=37								
MOTA				Sn		**Sb**	**22 56 26.5**	**-1.0**
	42nm,0.4s								
WTTA	**Wattenberg**	**2.78**	**20**	*e*Pn		**Pn**	**22 55 50.9**	**+1.8**
	17nm,0.4s,SNR=16								
WTTA				*i* Sn		**Sn**	**22 56 25.2**	**+3.1**
	28nm,0.3s								
WTTA	**Wattenberg**	**2.78**	**20**	Pn		**Pn**	**22 55 50.9**	**+1.8**
	17nm,0.4s,SNR=16								
WTTA				Sn		**Sn**	**22 56 25.2**	**+3.1**
	28nm,0.3s								
SKDS	**Skadanscina**	**2.80**	**70**	*i* Pn		**Pn**	**22 55 48.0**	**-1.2**
SKDS				*i* Sn		**Sn**	**22 56 20.2**	**-2.3**
	comp=Z,33nm,0.1s								
SKDS	**Skadanscina**	**2.80**	**70**	Pn		**Pn**	**22 55 48.0**	**-1.2**
SKDS				*i* Sn		**Sn**	**22 56 20.2**	**-2.3**
	comp=Z,33nm,0.1s								
FRF	**La Foret Royal**	**2.83**	**248**	*e*Pn		**Pn**	**22 55 49.9**	**+0.3**
	SNR=1.0								
FRF				*e*Sn		**Sn**	**22 56 23.8**	**+0.7**
	comp=Z,65nm,0.4s								
FRF	**La Foret Royal**	**2.83**	**248**	*e*Pn		**Pn**	**22 55 49.9**	**+0.3**
	SNR=1.0								
FRF				*e*Sn		**Sn**	**22 56 23.8**	**+0.7**
	comp=Z,33nm,0.4s								
WATA	**Walderalm**	**2.83**	**18**	*e*Pn		**Pn**	**22 55 51.8**	**+2.0**
	comp=Z,5.2nm,0.1s,SNR=25								
WATA				*i* Sn		**Sb**	**22 56 28.6**	**-1.2**
	comp=Z,14nm,0.2s								
WATA	**Walderalm**	**2.83**	**18**	Pn		**Pn**	**22 55 51.8**	**+2.0**
	comp=Z,5.2nm,0.1s,SNR=25								
WATA				Sn		**Sb**	**22 56 28.6**	**-1.2**
	comp=Z,14nm,0.2s								
RETA	**Reutte**	**2.85**	**7**	Pn		**Pn**	**22 55 51.6**	**+1.6**
	comp=Z,4.6nm,0.2s,SNR=7.8								
RETA				*i* Sn		**Sn**	**22 56 26.6**	**+2.8**
	comp=Z,30nm,0.4s								
RETA	**Reutte**	**2.85**	**7**	Pn		**Pn**	**22 55 51.6**	**+1.6**
	comp=Z,4.6nm,0.2s,SNR=7.8								
RETA				Sn		**Sn**	**22 56 26.6**	**+2.8**
	comp=Z,30nm,0.4s								
VOJS	**Vojsko**	**2.90**	**60**	*i* Pn		**Pn**	**22 55 49.8**	**-0.9**
VOJS	**Vojsko**	**2.90**	**60**	*i* Pn		**Pn**	**22 55 49.8**	**-0.9**
LMR	**La Mourre**	**3.02**	**245**	*e*Pn		**Pn**	**22 55 51.9**	**-0.3**
LMR				*e*Sn		**Sn**	**22 56 27.8**	**+0.1**
	comp=Z,66nm,0.4s								
LMR	**La Mourre**	**3.02**	**245**	*e*Pn		**Pn**	**22 55 51.9**	**-0.3**
LMR				*e*Sn		**Sn**	**22 56 27.8**	**+0.1**
	comp=Z,33nm,0.4s								
MYKA	**Terra Mystica**	**3.08**	**49**	*i* Pn		**Pn**	**22 55 53.6**	**+0.4**
	comp=Z,2.3nm,0.3s								
MYKA	**Terra Mystica**	**3.08**	**49**	Pn		**Pn**	**22 55 53.6**	**+0.4**
	comp=Z,2.3nm,0.3s								
ORIF	**Oris-en-Rattie**	**3.13**	**276**	*e*Pn		**Pn**	**22 55 55.0**	**+1.1**
	SNR=1.0								
ORIF	**Oris-en-Rattie**	**3.13**	**276**	*e*P		**Pb**	**22 55 57.9**	**-2.7**
ORIF	**Oris-en-Rattie**	**3.13**	**276**	*e*Pn		**Pn**	**22 55 55.0**	**+1.1**
	SNR=1.0								
ORIF	**Oris-en-Rattie**	**3.13**	**276**	*e*P		**Pb**	**22 55 57.9**	**-2.7**
CEY	**Cerknica**	**3.13**	**68**	⇑*i* Pn		**Pn**	**22 55 52.5**	**-1.4**
KBA	**Koelnbreinsper**	**3.24**	**41**	*i* Pn		**Pn**	**22 55 56.5**	**+1.1**
	comp=Z,4.4nm,0.3s								
KBA				*i* Sn		**Sn**	**22 56 34.9**	**+1.4**
	comp=Z,11nm,0.3s								
KBA	**Koelnbreinsper**	**3.24**	**41**	Pn		**Pn**	**22 55 56.5**	**+1.1**
	comp=Z,4.4nm,0.3s								
KBA				Sn		**Sn**	**22 56 34.9**	**+1.4**
	comp=Z,11nm,0.3s								
AQU	**L'Aquila**	**3.24**	**134**	*e*Pn		**Pn**	**22 55 57.6**	**+2.2**
NVLJ	**Novalja**	**3.29**	**90**	*e*Pn		**Pn**	**22 55 55.5**	**-0.5**
NVLJ				Sn		**Sn**	**22 56 32.9**	**-1.6**
NVLJ	**Novalja**	**3.29**	**90**	*e*Pn		**Pn**	**22 55 55.4**	**-0.5**
NVLJ				Sn		**Sn**	**22 56 32.9**	**-1.6**
LJU	**Ljubljana**	**3.31**	**64**	⇑*i* Pn		**Pn**	**22 55 55.6**	**-0.6**
SMRF	**Simiane la Rot**	**3.43**	**260**	*e*Pn		**Pn**	**22 56 00.1**	**+2.1**
	SNR=1.0								
SMRF				*e*Sn		**Sn**	**22 56 42.1**	**+4.0**
	SNR=1.0								
SMRF				*e*Sg		**Sg**	**22 56 59.7**	**+3.9**
	comp=Z,26nm,0.5s,SNR=1.0								
SMRF	**Simiane la Rot**	**3.43**	**260**	*e*Pn		**Pn**	**22 56 00.1**	**+2.1**
	SNR=1.0								
SMRF				*e*Sn		**Sn**	**22 56 42.1**	**+4.0**
	SNR=1.0								
SMRF				*e*Sg		**Sg**	**22 56 59.7**	**+3.9**
	comp=Z,13nm,0.5s,SNR=1.0								
CABF	**La Chapelle**	**3.52**	**305**	*e*Pn		**Pn**	**22 56 00.6**	**+1.4**
	SNR=1.0								
CABF	**La Chapelle**	**3.52**	**305**	*e*Pn		**Pn**	**22 56 00.6**	**+1.4**
	SNR=1.0								
OBKA	**Obir**	**3.53**	**57**	*i* Pn		**Pn**	**22 55 59.6**	**+0.2**
	comp=Z,0.4nm,0.1s								
OBKA				*i* Sn		**Sg**	**22 56 57.9**	**-1.1**
	comp=Z,65nm,0.6s								
OBKA	**Obir**	**3.53**	**57**	Pn		**Pn**	**22 55 59.6**	**+0.2**
	comp=Z,0.4nm,0.1s								
FELD	**Feldberg im Sc**	**3.58**	**335**	Pn		**Pn**	**22 56 00.9**	**+0.8**
FELD				Sg		**Sg**	**22 57 00.7**	**+0.2**
SPAK	**Spaichingen-Ko**	**3.59**	**344**	Pn		**Pn**	**22 56 00.5**	**+0.3**
SPAK				Sg		**Sg**	**22 57 01.2**	**+0.3**
LOMF	**Lomont**	**3.60**	**320**	Pn		**Pn**	**22 56 02.0**	**+1.7**
LOMF				Sg		**Sg**	**22 57 02.7**	**+1.5**
LOMF	**Lomont**	**3.60**	**320**	Pn		**Pn**	**22 56 02.0**	**+1.7**
LOMF				Sg		**Sg**	**22 57 02.7**	**+1.5**
OZLJ	**Ozalj**	**3.81**	**74**	*i* Pn		**Pn**	**22 56 02.9**	**-0.2**
OZLJ				*i* Sn		**Sn**	**22 56 45.7**	**-1.5**
OZLJ	**Ozalj**	**3.81**	**74**	*i* Pn		**Pn**	**22 56 02.8**	**-0.2**
OZLJ				Sn		**Sn**	**22 56 45.6**	**-1.5**
CRES	**Cresnjev**	**3.85**	**71**	⇑*i* Pn		**Pn**	**22 56 02.9**	**-0.8**
MOF	**Molkenrain**	**3.86**	**327**	Pn		**Pn**	**22 56 04.0**	**+0.1**
MOF				Sg		**Sg**	**22 57 10.4**	**+0.9**
MOF	**Molkenrain**	**3.86**	**327**	Pn		**Pn**	**22 56 04.0**	**+0.1**
MOF				Sg		**Sg**	**22 57 10.4**	**+0.9**
SOKA	**Soboth**	**3.91**	**57**	*i* Pn		**Pn**	**22 56 04.3**	**-0.2**
	comp=Z,1.9nm,0.3s								
SOKA				*i* Sn		**Sn**	**22 56 50.4**	**+0.6**
	comp=Z,5.9nm,0.4s								
SOKA	**Soboth**	**3.91**	**57**	Pn		**Pn**	**22 56 04.3**	**-0.2**
	comp=Z,1.9nm,0.3s								
SOKA				Sn		**Sn**	**22 56 50.4**	**+0.6**
	comp=Z,5.9nm,0.4s								
UDBI	**Udbina**	**3.93**	**90**	*e*Pn		**Pn**	**22 56 05.7**	**+0.8**
UDBI				Sn		**Sn**	**22 56 48.8**	**-1.7**
UDBI	**Udbina**	**3.93**	**90**	*e*Pn		**Pn**	**22 56 05.6**	**+0.8**
UDBI				Sn		**Sn**	**22 56 48.7**	**-1.7**
HINF	**Hinteralfeld**	**3.95**	**324**	*e*Pn		**Pn**	**22 56 05.2**	**+0.2**
	SNR=1.0								
HINF				*e*Sn		**Sn**	**22 56 50.6**	**-0.2**
HINF				*e*Sg		**Sg**	**22 57 11.7**	**-0.5**
	comp=Z,20nm,0.5s,SNR=1.0								
HINF	**Hinteralfeld**	**3.95**	**324**	*e*Pn		**Pn**	**22 56 05.2**	**+0.2**
	SNR=1.0								
HINF				*e*Sn		**Sn**	**22 56 50.6**	**-0.2**
HINF				*e*Sg		**Sg**	**22 57 11.7**	**-0.5**
	comp=Z,10nm,0.5s,SNR=1.0								
VIVF	**Saint-Julien-l**	**3.99**	**275**	*e*Pn		**Pn**	**22 56 06.8**	**+1.2**
	SNR=1.0								
VIVF	**Saint-Julien-l**	**3.99**	**275**	*e*Pn		**Pn**	**22 56 06.8**	**+1.2**
	SNR=1.0								
ECH	**Echery**	**4.16**	**330**	Pn		**Pn**	**22 56 08.3**	**+0.4**
ECH				Sg		**Sg**	**22 57 19.7**	**+0.8**
ECH	**Echery**	**4.16**	**330**	Pn		**Pn**	**22 56 08.3**	**+0.4**
ECH				Sg		**Sg**	**22 57 19.7**	**+0.8**
MOA	**Molln**	**4.23**	**40**	*i* Pn		**Pn**	**22 56 09.3**	**+0.4**
	comp=Z,2.3nm,0.2s								
MOA				*i* Sn		**Sn**	**22 56 58.5**	**+0.7**
	comp=Z,7.3nm,0.3s								
MOA	**Molln**	**4.23**	**40**	Pn		**Pn**	**22 56 09.3**	**+0.4**
	comp=Z,2.3nm,0.2s								
MOA				Sn		**Sn**	**22 56 58.5**	**+0.7**
	comp=Z,7.3nm,0.3s								
CDF	**Champ du Feu**	**4.28**	**332**	*e*Pn		**Pn**	**22 56 09.6**	**-0.1**
	SNR=1.0								
CDF				*e*Sn		**Sn**	**22 56 58.5**	**-0.7**
	comp=Z,23nm,0.3s								
CDF	**Champ du Feu**	**4.28**	**332**	*e*Pn		**Pn**	**22 56 09.6**	**-0.1**
	SNR=1.0								
CDF				*e*Sn		**Sn**	**22 56 58.5**	**-0.7**
	comp=Z,12nm,0.3s								
HAU	**Haudompre**	**4.31**	**322**	*e*Pn		**Pn**	**22 56 10.2**	**+0.2**
	SNR=1.0								
HAU				*e*Sn		**Sn**	**22 56 59.0**	**-0.7**
	comp=Z,26nm,0.3s,SNR=1.0								
HAU	**Haudompre**	**4.31**	**322**	*e*Pn		**Pn**	**22 56 10.2**	**+0.2**
	SNR=1.0								
HAU				*e*Sn		**Sn**	**22 56 59.0**	**-0.7**
	comp=Z,13nm,0.3s,SNR=1.0								
ARSA	**Arzberg**	**4.49**	**53**	*i* Pn		**Pn**	**22 56 12.2**	**-0.3**
	comp=Z,2.7nm,0.3s								
ARSA	**Arzberg**	**4.49**	**53**	Pn		**Pn**	**22 56 12.2**	**-0.3**
	comp=Z,2.7nm,0.3s								
LASF	**Ste Croix**	**4.63**	**265**	*e*Pn		**Pn**	**22 56 15.8**	**+1.4**
	SNR=1.0								
LASF	**Ste Croix**	**4.63**	**265**	*e*Pn		**Pn**	**22 56 15.8**	**+1.4**
	SNR=1.0								
THEF	**They Montfort**	**4.63**	**322**	Pn		**Pn**	**22 56 14.6**	**+0.2**
THEF				Sg		**Sg**	**22 57 35.6**	**+1.4**
THEF	**They Montfort**	**4.63**	**322**	Pn		**Pn**	**22 56 14.6**	**+0.2**
THEF				Sg		**Sg**	**22 57 35.6**	**+1.4**
PLDF	**La Plantade**	**4.87**	**288**	Pn		**Pn**	**22 56 19.8**	**+2.1**
PLDF	**La Plantade**	**4.87**	**288**	Pn		**Pn**	**22 56 19.8**	**+2.1**
SMF	**Signal de Mont**	**4.92**	**296**	*e*Pn		**Pn**	**22 56 19.8**	**+1.4**
	SNR=1.0								
SMF				*e*Sn		**Sn**	**22 57 14.7**	**-0.1**
	comp=Z,11nm,0.3s,SNR=1.0								
SMF	**Signal de Mont**	**4.92**	**296**	*e*Pn		**Pn**	**22 56 19.8**	**+1.4**
	SNR=1.0								
SMF				*e*Sn		**Sn**	**22 57 14.7**	**-0.1**
	comp=Z,5.7nm,0.3s,SNR=1.0								
BLY	**Banja Luka**	**4.93**	**87**	⇑*i* Pn		**Pn**	**22 56 18.8**	**+0.3**
LBL	**Lubilhac**	**5.01**	**279**	Pn		**Pn**	**22 56 21.3**	**+1.6**
LBL	**Lubilhac**	**5.01**	**279**	Pn		**Pn**	**22 56 21.3**	**+1.6**
KHC	**Kasperske Hory**	**5.02**	**26**	*e*PN		**Pn**	**22 56 19.4**	**-0.3**
KHC				*e*SN		**Sn**	**22 57 14.7**	**-2.5**
KHC				*ex*		x	22 57 43.9	
	comp=Z,19nm,0.7s								
KHC	**Kasperske Hory**	**5.02**	**26**	Pn		**Pn**	**22 56 19.4**	**-0.3**
KHC				Sn		**Sn**	**22 57 14.7**	**-2.5**
KHC				Sg		**Sg**	**22 57 43.9**	**-2.6**
	comp=Z,19nm,0.7s								
CONA	**Conrad Observa**	**5.07**	**48**	*i* Pn		**Pn**	**22 56 20.6**	**+0.1**
	comp=Z,3.2nm,0.5s,SNR=5.0								
CONA				*i* Sn		**Sn**	**22 57 17.8**	**-0.8**
	comp=Z,4.4nm,0.5s								
CONA	**Conrad Observa**	**5.07**	**48**	Pn		**Pn**	**22 56 20.6**	**+0.1**
	comp=Z,3.2nm,0.5s,SNR=5.0								
CONA				Sn		**Sn**	**22 57 17.8**	**-0.8**
	comp=Z,4.4nm,0.5s								
LOR	**Lormes**	**5.17**	**303**	*e*Pn		**Pn**	**22 56 22.9**	**+1.1**
	baz=116,SNR=1.0								
LOR				*e*Sn		**Sn**	**22 57 20.3**	**-0.7**
	comp=Z,14nm,0.4s,baz=124,SNR=1.0								
LOR	**Lormes**	**5.17**	**303**	*e*Pn		**Pn**	**22 56 22.9**	**+1.1**
	SNR=1.0								
LOR				*e*Sn		**Sn**	**22 57 20.3**	**-0.7**
	comp=Z,7.1nm,0.4s,SNR=1.0								
AGO	**Saint Agoulin**	**5.22**	**288**	Pn		**Pn**	**22 56 23.9**	**+1.4**
AGO	**Saint Agoulin**	**5.22**	**288**	Pn		**Pn**	**22 56 23.9**	**+1.4**
AVF	**Avril sur Loir**	**5.29**	**296**	*e*Pn		**Pn**	**22 56 24.5**	**+1.1**
	SNR=1.0								
AVF				*e*Sn		**Sn**	**22 57 26.3**	**+2.5**
	comp=Z,6.9nm,0.6s,SNR=1.0								
AVF	**Avril sur Loir**	**5.29**	**296**	*e*Pn		**Pn**	**22 56 24.5**	**+1.1**
	SNR=1.0								
AVF				*e*Sn		**Sn**	**22 57 26.3**	**+2.5**
	comp=Z,3.5nm,0.6s,SNR=1.0								
SSF	**Saint Saulge**	**5.30**	**299**	*e*Pn		**Pn**	**22 56 24.2**	**+0.7**
	SNR=1.0								
SSF	**Saint Saulge**	**5.30**	**299**	*e*Pn		**Pn**	**22 56 24.2**	**+0.7**
	SNR=1.0								
RUP	**Ruppelstein**	**5.50**	**338**	Pn		**Pn**	**22 56 26.7**	**+0.4**
BGF	**Bois d'Agland**	**5.54**	**293**	*e*Pn		**Pn**	**22 56 27.7**	**+0.8**
	SNR=1.0								
BGF				*e*Sn		**Sn**	**22 57 28.8**	**-1.2**
	SNR=1.0								
BGF				*e*Sg		**Sg**	**22 58 04.9**	**+1.7**
	comp=Z,12nm,0.7s,SNR=1.0								
BGF	**Bois d'Agland**	**5.54**	**293**	*e*Pn		**Pn**	**22 56 27.7**	**+0.8**
	SNR=1.0								
BGF				*e*Sg		**Sg**	**22 58 04.9**	**+1.7**
	comp=Z,6.2nm,0.7s,SNR=1.0								
NKC	**Novy Kostel**	**5.77**	**14**	*e*PN		**Pn**	**22 56 30.7**	**+0.6**
NKC				*e*SN		**Sn**	**22 57 32.4**	**-3.3**
NKC	**Novy Kostel**	**5.77**	**14**	Pn		**Pn**	**22 56 30.7**	**+0.6**
CAF	**Calviac**	**5.84**	**276**	*e*Pn		**Pn**	**22 56 32.4**	**+1.3**
	SNR=1.0								
CAF	**Calviac**	**5.84**	**276**	*e*Pn		**Pn**	**22 56 32.4**	**+1.3**
	SNR=1.0								
TCF	**Toulx Ste Croi**	**5.89**	**289**	*e*Pn		**Pn**	**22 56 33.0**	**+1.2**
TCF				*e*Sn		**Sn**	**22 57 38.3**	**-0.4**
	comp=Z,9.3nm,0.5s,SNR=1.0								
TCF	**Toulx Ste Croi**	**5.89**	**289**	*e*Pn		**Pn**	**22 56 33.0**	**+1.2**
TCF				*e*Sn		**Sn**	**22 57 38.3**	**-0.4**
	comp=Z,4.7nm,0.5s,SNR=1.0								
MTLF	**Montolieu**	**5.95**	**260**	*e*Pn		**Pn**	**22 56 34.3**	**+1.8**
	SNR=1.0								
MTLF				*e*Sn		**Sn**	**22 57 42.3**	**+2.2**
	comp=Z,3.3nm,0.4s,SNR=1.0								
MTLF	**Montolieu**	**5.95**	**260**	*e*Pn		**Pn**	**22 56 34.3**	**+1.8**
	SNR=1.0								
MTLF				*e*Sn		**Sn**	**22 57 42.3**	**+2.2**
	comp=Z,1.6nm,0.4s,SNR=1.0								
PRU	**Pruhonice**	**6.07**	**27**	*e*PN		**Pn**	**22 56 33.6**	**-0.6**
PRU				*e*SN		**Sn**	**22 57 40.9**	**-2.2**
PRU				*ex*		x	22 58 14.9	
	comp=Z,17nm,0.9s								
PRU	**Pruhonice**	**6.07**	**27**	Pn		**Pn**	**22 56 33.6**	**-0.6**
GOPC	**GO Pecny, Ondr**	**6.09**	**29**	*e*PN		**Pn**	**22 56 34.2**	**-0.2**
GOPC				*e*SN		**Sn**	**22 57 40.8**	**-2.8**
GOPC				*ex*		x	22 57 54.2	
GOPC				*ex*		x	22 58 16.9	
	comp=Z,14nm,0.8s								
GOPC	**GO Pecny, Ondr**	**6.09**	**29**	Pn		**Pn**	**22 56 34.2**	**-0.2**
TREB	**Trebinje**	**6.17**	**105**	*e*Pn		**Pn**	**22 56 33.9**	**-1.7**
BRY	**Bratogost**	**6.24**	**103**	*e*Pn		**Pn**	**22 56 37.1**	**+0.4**
UPM	**Unac-Piva**	**6.41**	**100**	⇑*i* Pn		**Pn**	**22 56 40.0**	**+1.0**
PVCC	**Panska Ves**	**6.55**	**25**	*e*SN		**Sn**	**22 57 53.2**	**-1.7**
PVCC				*ex*		x	22 58 32.0	
	comp=Z,16nm,0.7s								
PVCC	**Panska Ves**	**6.55**	**25**	Sn		**Sn**	**22 57 53.2**	**-1.7**
PVCC				Sg		**Sg**	**22 58 32.0**	**-3.6**
	comp=Z,16nm,0.7s								
BBLS	**Lazići**	**6.61**	**94**	*e*Pn		**Pn**	**22 56 41.2**	**-0.5**
TEKS	**Tekeris**	**6.62**	**88**	*e*Pn		**Pn**	**22 56 41.4**	**-0.3**
BRG	**Berggiesshubel**	**6.69**	**20**	PN		**Pn**	**22 56 42.2**	**-0.5**
BRG				*e*			22 57 53.7	
BRG				*e*			22 58 07.0	
BRG	**Berggiesshubel**	**6.69**	**20**	SG		**Sg**	**22 58 42.0**	**+1.9**
	comp=Z,7.2nm,0.8s								
CLL	**Collm**	**6.90**	**14**	*i* Pn		**Pn**	**22 56 45.0**	**-0.5**
CLL				*e*Sn		**Sn**	**22 57 55.0**	**-8.5**
CLL				*e*			22

ISHM	**Shahmirzad**	**4.38**	**329**	*e*Pn		**Pn**	**23 06 36.9**	**+1.1**
ISHM				*e*AMB		AMB	23 07 38.4	
	comp=Z,2µm,0.2s							
IPIR	**Pirpir**	**4.43**	**279**	*e*Pn		**Pn**	**23 06 39.9**	**+3.4**
IPIR				*e*AMB		AMB	23 07 57.0	
	comp=Z,752nm,0.2s							
IPIR	**Pirpir**	**4.43**	**279**	*e*Pn		**Pn**	**23 06 39.9**	**+3.4**
IFIR	**Firoozkooh**	**4.50**	**323**	*e*Pn		**Pn**	**23 06 38.0**	**+0.5**
IFIR				*e*AMB		AMB	23 07 59.3	
	comp=Z,968nm,0.2s							
IFIR	**Firoozkooh**	**4.50**	**323**	*e*Pn		**Pn**	**23 06 38.0**	**+0.5**
GHIR	**Ghir-Karzin**	**4.63**	**216**	*e*Pn		**Pn**	**23 06 41.5**	**+2.3**
GHIR	**Ghir-Karzin**	**4.63**	**216**	*e*Pn		**Pn**	**23 06 41.5**	**+2.3**
BNDS	**Bandar-Abbas**	**4.67**	**179**	*e*Pn		**Pn**	**23 06 42.0**	**+2.3**
BNDS	**Bandar-Abbas**	**4.67**	**179**	*e*Pn		**Pn**	**23 06 42.0**	**+2.3**
GHVR	**GHOM**	**4.67**	**302**	*e*Pn		**Pn**	**23 06 41.5**	**+1.9**
GHVR					AML	AML	23 08 15.3	
	comp=N,44nm,0.5s							
GHVR	**GHOM**	**4.67**	**302**	*e*Pn		**Pn**	**23 06 41.5**	**+1.9**
IDMV	**Damavand**	**4.85**	**317**	*e*Pn		**Pn**	**23 06 43.4**	**+1.1**
IDMV				*e*AMB		AMB	23 08 12.9	
	comp=Z,923nm,0.2s							
IDMV	**Damavand**	**4.85**	**317**	*e*Pn		**Pn**	**23 06 43.4**	**+1.1**
IAKL	**Akhelmad**	**5.02**	**25**	*e*Pn		**Pn**	**23 06 46.0**	**+1.3**
IAKL				*e*AMB		AMB	23 07 07.1	
	comp=Z,483nm,0.3s							
ISFR	**Sfrayin**	**5.21**	**17**	*e*Pn		**Pn**	**23 06 48.6**	**+1.4**
ISFR				*e*AMB		AMB	23 08 27.8	
	comp=Z,567nm,0.3s							
IAFJ	**Afjeh**	**5.23**	**317**	*e*AMB		AMB	23 08 23.5	
	comp=Z,1µm,0.3s							
CHTH	**Charan**	**5.61**	**314**	*e*Pn		**Pn**	**23 06 53.8**	**+1.1**
CHTH	**Charan**	**5.61**	**314**	*e*Pn		**Pn**	**23 06 53.8**	**+1.1**
BJRD	**Bojnurd**	**5.71**	**11**	*e*Pn		**Pn**	**23 06 55.0**	**+1.0**
BJRD	**Bojnurd**	**5.71**	**11**	*e*Pn		**Pn**	**23 06 55.0**	**+1.0**
IEMG	**Emamgholi**	**5.73**	**21**	*e*Pn		**Pn**	**23 06 55.5**	**+1.2**
IEMG				*e*AMB		AMB	23 06 57.2	
	comp=Z,313nm,0.1s							
IEMG	**Emamgholi**	**5.73**	**21**	*e*Pn		**Pn**	**23 06 55.5**	**+1.2**
GEYT	**Alibeck**	**6.07**	**15**	Pn		**Pn**	**23 07 00.2**	**+1.4**
	comp=Z,1.4nm,0.3s,baz=197,slow=15,SNR=21							
GEYT				Sn		**Sn**	**23 08 08.2**	**0.0**
	baz=219,slow=20,SNR=1.9							
WSAR	**Wadi Sarin**	**9.09**	**165**	Pn		**Pn**	**23 07 42.4**	**+2.1**
	comp=Z,0.1nm,0.3s,baz=12,slow=9.3,SNR=2.1							
WSAR				Sn		**Sn**	**23 09 21.1**	**-1.5**
	baz=101,slow=18,SNR=1.8							
ASF	**Jabal al Asfar**	**16.26**	**275**	Pn		**Pn**	**23 09 16.2**	**-1.3**
	comp=Z,0.4nm,0.3s,baz=89,slow=11,SNR=5.8							
AKTO	**Aktyubinsk**	**18.39**	**4**	P		**P**	**23 09 45.0**	**+1.1**
	comp=Z,0.1nm,0.3s,baz=176,slow=11,SNR=4.6							
BRTR	**Keskin Array B**	**19.68**	**299**	P		**P**	**23 09 59.0**	**+0.7**
	comp=Z,0.1nm,0.3s,baz=116,slow=11,SNR=9.1							
BVAR	**Borovoye Array**	**23.35**	**22**	P		**P**	**23 10 38.1**	**+0.8**
	comp=Z,0.4nm,0.6s,baz=230,slow=8.9,SNR=3.0							
TORD	**Torodi Ar. Bea**	**53.06**	**262**	P		**P**	**23 14 45.7**	**-0.8**
	comp=Z,1.0nm,0.6s,baz=62,slow=7.5,SNR=15							

*NIED **08** 23:12:00,30.60N×131.60E,h17km,Mw3.9 Best double couple: M₀9.11000×10¹⁴ NP1:φ₀213.00000°,δ41.00000°,λ75.00000°. NP2:φ₀52.00000°,δ51.00000°,λ103.00000°.*
*ISCJB **08** 23:12:07.5±0.9,30.63N±0.04×131.62E±0.07,h44km±8km, mb3.7/7, MS3.4/4, Error ellipse: s-maj=11.5km s-min=5.3km az=23.7*
*JMA **08** 23:12:07.5±0.2,30.62N×131.60E,h33km±2km,M3.7*
*IDC **08** 23:12:09.8±2.0,30.73N×131.49E,h43km±19km, mb3.7/7, mb1 3.7/10,mb1mx3.4/45,mbtmp3.8/10,ML3.0/3,MS3.4/5, Ms1 3.4/5,ms1mx2.9/43, Error ellipse: s-maj=36.5km s-min=13.6km az=79.0*

ISC 08 23:12:07.4±1.9,30.62N±0.05×131.54E±0.08,h27km±13km, n24,σ0ˢ91/31,mb3.9/7,MS3.5/4,Kyushu

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
JTN	**Tanegashima 3**	**0.49**	**274**	P	P	**Pn**	**23 12 18.4**	**-0.2**
JTN				*e*S	S	**Sn**	**23 12 26.2**	**0.0**
JTSR	**Tashiro 2**	**0.76**	**316**	P	P	**Pn**	**23 12 22.3**	**-0.1**
JTSR				*e*S	S	**Sn**	**23 12 33.1**	**+0.1**
JNAR	**Kushima--Naru**	**0.93**	**346**	P	P	**Pn**	**23 12 25.0**	**+0.3**
JNAR				*e*S	S	**Sn**	**23 12 37.5**	**+0.3**
JYAK	**Yakushimahirau**	**0.97**	**247**	P	P	**Pn**	**23 12 25.8**	**+0.5**
JYAK				*e*S	S	**Sn**	**23 12 39.3**	**+1.2**
JKC	**Kuchinoerabu**	**1.17**	**262**	P	P	**Pb**	**23 12 29.1**	**+0.1**
JKC				*e*S	S	**Sn**	**23 12 44.8**	**+1.7**
JSU	**Suzuyama**	**1.28**	**314**	P	P	**Pn**	**23 12 30.0**	**+0.4**
JSU				*e*S	S	**Sb**	**23 12 47.2**	**+0.2**
JTZ	**Takazaki**	**1.33**	**343**	P	P	**Pn**	**23 12 30.7**	**+0.5**
JTZ				*e*S	S	**Sb**	**23 12 48.2**	**-0.2**
JTSN	**Tsuno**	**1.62**	**359**	P	P	**Pn**	**23 12 34.1**	**-0.1**
JTSN				*e*S	S	**Sn**	**23 12 55.1**	**+1.0**
JNN	**Nakanoshima**	**1.64**	**242**	*e*S	S	**Sb**	**23 12 56.4**	**-0.8**
JZO	**Okuchi**	**1.71**	**332**	P	P	**Pn**	**23 12 36.0**	**+0.5**
JZO				*e*S	S	**Sn**	**23 12 57.1**	**+0.5**
JNU	**Nakatsue**	**2.55**	**347**	P	P	**Pn**	**23 12 48.2**	**+1.1**
	2.5nm,0.3s,baz=168,slow=3.7,SNR=10.0							
JNU				S	S	**Sn**	**23 13 16.6**	**-0.8**
	5.3nm,0.3s,baz=90,slow=7.1,SNR=3.8							
JOW	**Kunigami**	**4.74**	**218**	P	P	**Pn**	**23 13 18.4**	**+1.2**
	1.8nm,0.3s,baz=130,slow=24,SNR=10							
JOW				S	S	**Sn**	**23 14 09.2**	**-2.0**
	3.2nm,0.3s,baz=7.5,slow=14,SNR=12							
MJAR	**Matsushiro Arr**	**8.11**	**42**	P	P	**Pn**	**23 14 02.7**	**-0.6**
	0.5nm,0.3s,baz=234,slow=13,SNR=4.3							
USRK	**Ussuriysk Ar.**	**13.56**	**1**	LR	LR	LR	23 20 37.5	
	comp=Z,92nm,20.3s,baz=177,slow=38							
SONM	**Songino Array**	**25.80**	**319**	P	P	**P**	**23 17 35.6**	**-0.7**
	0.9nm,0.6s,baz=132,slow=10.0,SNR=6.0							
SONM				LR	LR	LR	23 29 52.7	
	comp=Z,49nm,18.4s,baz=172,slow=41							
ZALV	**Zalesovo Beam**	**40.70**	**319**	LR	LR	LR	23 38 13.9	
	comp=Z,56nm,18.5s,baz=70,slow=38							
KURBB	**Kurchatov Arra**	**43.86**	**313**	P	P	**P**	**23 20 10.1**	**-1.1**
	0.6nm,0.2s,baz=98,slow=8.8,SNR=4.5							
NRIK	**Norilʹsk**	**46.05**	**340**	LR	LR	LR	23 41 38.5	
	comp=Z,49nm,18.6s,baz=79,slow=38							
WRA	**Warramunga Arr**	**50.35**	**177**	P	P	**P**	**23 21 03.5**	**+1.5**
	0.8nm,0.6s,baz=359,slow=7.9,SNR=4.1							
ASAR	**Alice Springs**	**54.03**	**177**	P	P	**P**	**23 21 30.9**	**+1.4**
	0.3nm,0.6s,baz=11,slow=13,SNR=6.4							
ARCES	**ARCESS Array B**	**67.00**	**338**	LR	LR	LR	23 58 10.7	
	comp=Z,44nm,18.2s,baz=79,slow=41							
FINES	**FINESS Array B**	**70.48**	**331**	P	P	**P**	**23 23 18.6**	**-0.6**
	0.6nm,0.5s,baz=79,slow=9.9,SNR=5.5							
AKASG	**Malin Array Be**	**74.08**	**320**	P	P	**P**	**23 23 40.1**	**-0.8**
	0.3nm,0.3s,baz=53,slow=5.2,SNR=7.2							
BRTR	**Keskin Array B**	**76.63**	**308**	P	P	**P**	**23 23 56.5**	**+0.5**
	1.0nm,0.8s,baz=84,slow=5.0,SNR=6.2							

*KRNET **08** 23:19:20.5±0.1,39.09N×70.26E,mb3.0*
*NNC **08** 23:19:24.5±1.2,39.19N×70.61E,h0km±4km,mb3.7, mpv3.3, Error ellipse: s-maj=10.1km s-min=7.4km az=150.0*

ISC 08 23:19:25.6±2.4,39.1N±0.1×70.54E±0.08,h17km,n19, σ0ˢ95/38,31C-8D,Tajikistan

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
BTK	**Batken**	**0.94**	**13**	⇑*i*P		**Pb**	**23 19 40.4**	**-3.2**
	baz=24							
BTK				⇑*i*S		**Sb**	**23 19 55.5**	**-0.4**
	baz=24							
ARK	**Arkit**	**2.87**	**22**	⇑*i*P		**Pn**	**23 20 09.5**	**-1.2**
	baz=25							
ARK				⇑*i*S		**Sn**	**23 20 46.3**	**+1.3**
	baz=25							
ARSB	**Arslanbob**	**2.88**	**40**	⇑*i*P		**Pn**	**23 20 09.4**	**-1.4**
	baz=42							
ARSB				⇑*i*S		**Sn**	**23 20 46.2**	**+1.1**
	baz=42							
TOKL	**Toktogul**	**3.31**	**32**	⇓*i*P		**Pn**	**23 20 16.4**	**-0.4**
	baz=34							
TOKL				⇓*i*S		**Sn**	**23 20 56.9**	**+1.0**
	baz=34							
MNAS	**Manas**	**3.66**	**23**	⇑*e*P		**Pn**	**23 20 21.1**	**-0.5**
	baz=26							
MNAS				⇑*i*S		**Sn**	**23 21 05.5**	**+1.0**
	baz=26							
MNAS	**Manas**	**3.66**	**23**	⇓Pn		**Pn**	**23 20 21.7**	**+0.1**
	1.1nm,0.3s							
MNAS				⇓Pg		**Pb**	**23 20 30.7**	**+0.7**
	6.1nm,0.6s							
MNAS				⇑Sn		**Sn**	**23 21 06.1**	**+1.6**
	13nm,0.3s							
MNAS				⇑Lg		Lg	23 21 18.7	
	18nm,0.5s							
AML	**Almayashu**	**3.83**	**38**	⇑*i*P		**Pn**	**23 20 24.0**	**-0.2**
	baz=39							
AML				⇑*i*S		**Sn**	**23 21 09.7**	**+0.6**
	baz=39							
KK31	**Karatay Array**	**3.96**	**360**	Pn		**Pn**	**23 20 25.8**	**+0.2**
	3.5nm,0.7s,baz=189,slow=14,SNR=25							
KK31				⇓Pg		**Pb**	**23 20 35.8**	**+0.8**
	1.7nm,0.3s,baz=197,slow=21,SNR=7.7							
KK31				Lg		Lg	23 21 29.6	
	13nm,0.4s,baz=180,slow=28,SNR=8.5							
EKS2	**Erkin-Say**	**4.29**	**34**	⇑*i*P		**Pn**	**23 20 30.6**	**+0.4**
	baz=36							
EKS2				⇑*i*S		**Sn**	**23 21 20.5**	**+0.5**
	baz=36							
AAK	**Ala-Archa**	**4.61**	**39**	⇑*i*P		**Pn**	**23 20 34.6**	**0.0**
	baz=41							
AAK				⇑*i*S		**Sn**	**23 21 28.5**	**+0.8**
	baz=41							
AAK	**Ala-Archa**	**4.61**	**39**	⇑Pn		**Pn**	**23 20 35.1**	**+0.5**
	2.6nm,0.5s							
AAK				⇓Pg		**Pb**	**23 20 45.5**	**-0.6**
	3.8nm,0.4s							
AAK				⇑Sn		**Sn**	**23 21 28.8**	**+1.0**
	9.4nm,0.7s							
AAK				⇑Lg		Lg	23 21 48.9	
	15nm,0.6s							
KZA	**Kyzart**	**4.63**	**49**	⇓*i*P		**Pn**	**23 20 35.4**	**+0.2**
	baz=50							
KZA				⇓*i*S		**Sn**	**23 21 30.3**	**+1.5**
	baz=50							
KBK	**Karagaybulak**	**4.85**	**42**	⇑*i*P		**Pn**	**23 20 38.3**	**+0.3**
	baz=43							
KBK				⇑*i*S		**Sn**	**23 21 34.0**	**+0.2**
	baz=43							
CHMS	**Chumysh**	**5.00**	**38**	⇑*i*P		**Pn**	**23 20 39.5**	**-0.4**
	baz=40							
CHMS				⇑*i*S		**Sn**	**23 21 37.5**	**+0.2**
	baz=40							
USP	**Ospenovka**	**5.09**	**35**	⇑*i*P		**Pn**	**23 20 40.6**	**-0.6**
	baz=36							
USP				⇑*i*S		**Sn**	**23 21 39.1**	**-0.5**
	baz=36							
TKM2	**Tokmak 2**	**5.38**	**44**	⇑*i*P		**Pn**	**23 20 45.0**	**-0.2**
	baz=45							
TKM2				⇑*i*S		**Sn**	**23 21 47.3**	**+0.5**
	baz=45							
TKM2	**Tokmak 2**	**5.38**	**44**	⇑Pn		**Pn**	**23 20 45.6**	**+0.3**
	2.8nm,0.4s							
TKM2				⇑Sn		**Sn**	**23 21 48.2**	**+1.4**
	14nm,1.1s							
AB31	**Akbulak array**	**12.64**	**327**	⇑Pn		**Pn**	**23 22 24.8**	**+0.2**
	0.7nm,0.5s,baz=109,slow=8.6,SNR=15							
AKTO	**Aktyubinsk**	**14.35**	**326**	⇑Pn		**Pn**	**23 22 48.3**	**+0.3**
	2.5nm,0.6s							

*IDC **08** 23:22:14.6±1.6,0.74N×126.56E,h0km,mb4.4/4, mb1 4.6/5,mb1mx3.9/32,mbtmp4.4/5,ML3.7/2,MS3.4/5, Ms1 3.4/5,ms1mx2.9/31, Error ellipse: s-maj=49.1km s-min=24.1km az=94.0*
*ISCJB **08** 23:22:24.4±0.9,0.00N±0.09×126.14E±0.08,h47km, mb4.6/7,MS3.4/3, Error ellipse: s-maj=13.7km s-min=10.5km az=34.6*
*NEIC **08** 23:22:24.0±1.3,0.18N×126.38E,h35km,mb4.3/3, Error ellipse: s-maj=27.8km s-min=11.9km az=225.0*

ISC 08 23:22:25.8±1.3,0.1N±0.1×126.3E±0.1,h47km,n15, σ1ˢ51/11,mb4.5/7,MS3.4/3,Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
KAPI	**Kappang**	**8.21**	**232**	Pn		**Pn**	**23 24 24.9**	**+2.4**
	1.7nm,0.3s,baz=350,slow=5.9,SNR=5.0							
KAPI				Sn		**Sn**	**23 25 52.3**	**-1.7**
	0.8nm,0.3s,baz=266,slow=15,SNR=2.1							
KAPI				LR		LR	23 28 34.9	
	comp=Z,236nm,22.0s,baz=19,slow=43							
KKM	**Kota Kinabalu**	**11.66**	**301**	Pn		**Pn**	**23 25 09.6**	**-0.2**
TGY	**Tagaytay City**	**14.93**	**340**	LR		LR	23 31 39.9	
	comp=Z,115nm,21.9s,baz=202,slow=39							
KSM	**Kuching**	**16.01**	**275**	*e*Pn		**Pn**	**23 26 06.3**	**-1.7**
	6.9nm,0.6s							
FITZ	**Fitzroy Crossi**	**18.04**	**182**	P		**P**	**23 26 34.5**	**+1.3**
	0.1nm,0.3s,baz=3.6,slow=11,SNR=3.0							
WRAB	**Tennant Creek**	**21.38**	**159**	*e*P		**P**	**23 27 09.5**	**-0.1**
	27nm,0.9s							
WRA	**Warramunga Arr**	**21.39**	**159**	P		**P**	**23 27 09.4**	**-0.2**
	18nm,0.8s,baz=337,slow=11,SNR=45							
ASAR	**Alice Springs**	**24.71**	**163**	P		**P**	**23 27 44.2**	**+1.3**
	9.4nm,0.8s,baz=338,slow=7.5,SNR=50							
COCO	**West Island**	**31.63**	**246**	*e*P		**P**	**23 28 43.9**	**-0.8**
	235nm,0.4s							
NWAO	**Narrogin (SRO)**	**33.88**	**194**	LR		LR	23 44 47.9	
	comp=Z,91nm,18.2s,baz=300,slow=39							
STKA	**Stephens Creek**	**34.91**	**157**	P		**P**	**23 29 11.5**	**-1.6**
	6.5nm,0.8s,baz=346,slow=8.5,SNR=7.6							
KSRS	**Korea Array**	**37.26**	**2**	LR		LR	23 45 32.7	
	comp=Z,53nm,19.6s,baz=219,slow=38							
MJAR	**Matsushiro Arr**	**37.97**	**16**	P		P	23 29 27.6	-12
	0.7nm,0.4s,baz=181,slow=8.0,SNR=4.1							
LSA	**Lhasa**	**44.59**	**315**	P		**P**	**23 30 34.6**	**+0.5**
	2.2nm,0.5s							
SONM	**Songino Array**	**50.64**	**343**	LR		LR	23 54 22.5	
	comp=Z,36nm,19.3s,baz=188,slow=38							

*ISCJB **08** 23:42:16.6±0.7,40.20N±0.03×34.38E±0.04,h1km±6km, Error ellipse: s-maj=5.7km s-min=4.6km az=29.4*
*ISK **08** 23:42:16.4,40.22N×34.39E,h4km,MD2.8*
*CSEM **08** 23:42:16.7±0.1,40.20N×34.38E,h2km,MD2.8, Error ellipse: s-maj=2.9km s-min=2.7km az=120.0*
*DDA **08** 23:42:16.6,40.19N×34.43E,h7km,Ml2.4*

ISC 08 23:42:16.8±1.1,40.20N±0.02×34.39E±0.03,h8km±8km, n29,σ0ˢ61/43,Turkey

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
CORM	**Corum**	**0.18**	**98**	*e*PG		**Pg**	**23 42 20.3**	**-0.2**
CORM				*e*SG		**Sg**	**23 42 23.9**	**+0.8**
CORM	**Corum**	**0.18**	**98**	*e*Pg		**Pg**	**23 42 20.3**	**-0.2**
CORM				*e*Sg		**Sg**	**23 42 23.9**	**+0.8**
COAL	**Corum-Alaca**	**0.46**	**83**	*i* P		**Pg**	**23 42 25.0**	**-0.7**
COAL				*i* S		**Sg**	**23 42 31.9**	**+0.3**
COAL	**Corum-Alaca**	**0.46**	**83**	P		**Pg**	**23 42 25.0**	**-0.7**
COAL				S		**Sg**	**23 42 31.9**	**+0.3**
CTAK	**Corum_Osmancik**	**0.54**	**34**	*i* P		**Pg**	**23 42 27.0**	**-0.2**
CTAK				*i* S		**Sb**	**23 42 35.8**	**-0.8**
CTAK	**Corum_Osmancik**	**0.54**	**34**	P		**Pg**	**23 42 27.0**	**-0.2**
CTAK				S		**Sb**	**23 42 35.8**	**-0.8**
CDAG	**Cicekdag**	**0.58**	**182**	*i* P		**Pg**	**23 42 27.5**	**-0.5**
CDAG				*i* S		**Sb**	**23 42 36.7**	**-1.0**
CDAG	**Cicekdag**	**0.58**	**182**	P		**Pg**	**23 42 27.5**	**-0.5**
CDAG				S		**Sb**	**23 42 36.7**	**-1.0**
CANT	**Cankiri**	**0.71**	**304**	*e*PG		**Pg**	**23 42 30.6**	**+0.1**
YOZ	**Yozgat**	**0.91**	**128**	*e*PG		**Pb**	**23 42 34.9**	**0.0**
YOZ	**Yozgat**	**0.91**	**128**	*e*Pg		**Pb**	**23 42 34.9**	**0.0**
ILGA	**Ilgaz**	**0.99**	**329**	*i* P		**Pb**	**23 42 36.2**	**-0.2**
ILGA	**Ilgaz**	**0.99**	**329**	P		**Pb**	**23 42 36.2**	**-0.2**
AFSR	**Afʹar-Bala (A**	**1.27**	**234**	*e*PN		**Pb**	**23 42 41.1**	**0.0**
AFSR	**Afʹar-Bala (A**	**1.27**	**234**	*e*Pn		**Pb**	**23 42 41.1**	**0.0**
HAVZ	**Havza**	**1.33**	**49**	*i* P		**Pn**	**23 42 41.3**	**-0.5**
HAVZ				*i* S		**Sn**	**23 43 00.3**	**+0.6**
HAVZ	**Havza**	**1.33**	**49**	P		**Pn**	**23 42 41.3**	**-0.5**
HAVZ				S		**Sn**	**23 43 00.3**	**+0.6**
AVNS	**Nevsehir-Avano**	**1.44**	**166**	*i* P		**Pn**	**23 42 42.9**	**-0.4**
AVNS				*i* S		**Sn**	**23 43 03.1**	**+0.6**
AVNS	**Nevsehir-Avano**	**1.44**	**166**	P		**Pn**	**23 42 42.9**	**-0.4**
AVNS				S		**Sn**	**23 43 03.1**	**+0.6**
KULU	**Kulu**	**1.58**	**223**	*e*PN		**Pb**	**23 42 46.2**	**-0.2**
KULU	**Kulu**	**1.58**	**223**	*e*Pn		**Pb**	**23 42 46.2**	**-0.2**
CUSAR	**Sarkisla-SIVAS**	**1.63**	**118**	*i* P		**Pb**	**23 42 47.0**	**-0.1**
CUSAR				*i* S		**Sn**	**23 43 07.9**	**+0.7**
CUSAR	**Sarkisla-SIVAS**	**1.63**	**118**	P		**Pb**	**23 42 47.0**	**-0.1**
CUSAR				S		**Sn**	**23 43 07.9**	**+0.7**
BNN	**Bunyan**	**1.76**	**140**	*e*PN		**Pb**	**23 42 48.9**	**-0.5**
BNN	**Bunyan**	**1.76**	**140**	*e*Pn		**Pb**	**23 42 48.9**	**-0.5**
GULA	**Gulagac**	**1.86**	**184**	*e*PN		**Pn**	**23 42 49.9**	**+0.8**
GULA	**Gulagac**	**1.86**	**184**	*e*Pn		**Pn**	**23 42 49.9**	**+0.8**
SVSK	**Karacayir**	**2.02**	**97**	*e*PN		**Pn**	**23 42 52.3**	**+1.2**
SVSK	**Karacayir**	**2.02**	**97**	*e*Pn		**Pn**	**23 42 52.3**	**+1.2**

*ISCJB **08** 23:46:07.4±0.7,26.45N±0.08×96.08E±0.05,h83km, mb3.7/9, Error ellipse: s-maj=11.3km s-min=6.0km az=2.9*
*IDC **08** 23:46:10.6±4.1,26.43N×96.44E,h120km±39km,mb3.4/9, mb1 3.6/10,mb1mx3.2/48,mbtmp3.8/10,MS3.4/2, Ms1 3.4/2,ms1mx2.7/33, Error ellipse: s-maj=55.3km s-min=14.3km az=53.0*

ISC 08 23:46:07.8±0.8,26.50N±0.08×96.21E±0.08,h83km,n32, σ2ˢ28/48,mb3.8/9,Myanmar

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
LKP	**Lekhapani**	**0.89**	**339**	*e*P		**Pn**	**23 46 27.3**	**+1.5**
LKP				*e*S		**Sn**	**23 46 42.2**	**+3.1**
LKP				AML		AML	23 46 43.4	
	comp=E,3µm,0.2s							
LKP				AML		AML	23 46 43.6	
	comp=N,3µm,0.4s							
DIBR	**DIBRUGARH**	**1.50**	**310**	*i* x		**Pn**	**23 46 35.5**	**+2.2**
DIBR				*i* Sg		**Sn**	**23 46 56.7**	**+4.2**
DIBR				AML		AML	23 46 57.9	
	comp=N,2µm,0.4s							
DIBR				AML		AML	23 46 58.1	
	comp=E,2µm,0.4s							
MOKO	**MOKOCHONG**	**1.53**	**264**	*e*P		Pn	23 46 38.1	+4.4
MOKO				AML		AML	23 47 04.0	
	comp=E,2µm,0.2s							
MOKO				AML		AML	23 47 04.3	
	comp=N,2µm,0.3s							
ITAN	**ITANAGAR**	**2.31**	**287**	*e*P		**Pn**	**23 46 47.2**	**+3.3**
ITAN				AML		AML	23 47 19.5	
	comp=N,2µm,0.2s							
ITAN				AML		AML	23 47 19.9	
	comp=E,2µm,0.2s							
ZIRO	**ZIRO**	**2.34**	**297**	*e*P		**Pn**	**23 46 47.0**	**+2.5**
ZIRO				*e*S		**Sn**	**23 47 15.5**	**+3.1**
ZIRO				AML		AML	23 47 17.9	
	comp=N,3µm,0.2s							
ZIRO				AML		AML	23 47 18.1	
	comp=E,3µm,0.2s							
IMP	**Imphal**	**2.63**	**231**	*e*P		**Pn**	**23 46 52.0**	**+3.7**
IMP				*ex*		**Sn**	**23 47 24.0**	**+4.7**
IMP				AML		AML	23 47 31.6	
	comp=N,263nm,0.3s							
IMP				AML		AML	23 47 31.7	
	comp=E,131nm,0.6s							
TEZP	**TEZPUR**	**3.05**	**273**	*e*P		**Pn**	**23 46 57.0**	**+3.1**
TEZP				AML		AML	23 47 34.0	
	comp=N,775nm,0.1s							
TEZP				AML		AML	23 47 34.4	
	comp=E,881nm,0.2s							
TURI	**Tura**	**5.37**	**261**	*e*P		**Pn**	**23 47 28.9**	**+3.5**
TURI				AML		AML	23 48 33.9	
	comp=E,509nm,0.2s							
TURI				AML		AML	23 48 34.0	
	comp=N,438nm,0.2s							
DHUB	**DHUBRI**	**5.60**	**266**	*e*P		**Pn**	**23 47 30.1**	**+1.6**
DHUB				*ex*		**Sn**	**23 48 32.8**	**+1.3**
DHUB				AML		AML	23 48 36.4	
	comp=E,175nm,0.2s							
DHUB				AML		AML	23 48 36.4	
	comp=N,113nm,0.1s							
GTK	**Tadong**	**6.84**	**279**	*e*P		**Pn**	**23 47 47.0**	**+1.4**
GTK				AML		AML	23 49 05.7	
	comp=E,74nm,0.2s							
GTK				AML		AML	23 49 06.0	
	comp=N,130nm,0.3s							
TAPN	**Taplejung**	**7.63**	**278**	*e*Pn		**Sn**	**23 47 57.9**	**+1.3**
TAPN				*e*Sn		**Sn**	**23 49 22.2**	**+0.6**
	comp=N,73nm,0.3s							
ODAN	**Odare**	**7.89**	**275**	*e*Pn		**Pn**	**23 48 01.5**	**+1.4**
ODAN				*e*Sn		**Sn**	**23 49 28.2**	**+0.2**
	comp=N,106nm,0.5s							
CMAR	**Chiang Mai Arr**	**8.39**	**162**	P		**Pn**	**23 48 07.5**	**+0.8**
	comp=N,0.8nm,0.3s,baz=337,slow=14,SNR=8.5							
RAMN	**Ramite**	**8.60**	**275**	*e*Pn		**Pn**	**23 48 11.3**	**+1.6**
RAMN				*e*Sn		**Sn**	**23 49 45.3**	**0.0**
	comp=N,77nm,0.5s							
JIRN	**Jiri**	**9.00**	**280**	*e*Pn		**Pn**	**23 48 16.7**	**+1.4**
JIRN				*e*Sn		**Sn**	**23 49 53.8**	**-1.4**
	comp=N,396nm,0.3s							
GUN	**Gumba**	**9.30**	**281**	*e*Pn		**Pn**	**23 48 20.8**	**+1.4**
GUN				*e*Sn		**Sn**	**23 50 00.6**	**-1.9**

WRA	**Warramunga Arr**	**21.86**	**160**	P	**P**	**00 05 42.9**	**-0.5**
	16nm,0.6s,baz=337,slow=11,SNR=62						
GUMO	**Guam**	**22.30**	**54**	LR	LR	00 13 48.4	
	comp=Z,40nm,21.1s,baz=255,slow=35						
PMG	**Port Moresby**	**22.89**	**116**	*eP*	**P**	**00 05 54.3**	**-0.1**
	4.0nm,0.5s						
ASAR	**Alice Springs**	**25.22**	**164**	P	**P**	**00 06 15.9**	**-0.1**
	3.8nm,0.6s,baz=344,slow=11,SNR=28						
COCO	**West Island**	**32.07**	**246**	*eP*	**P**	**00 07 16.3**	**-0.9**
	571nm,0.5s						
CHTO	**Chiang Mai**	**32.49**	**305**	P	**P**	**00 07 21.3**	**+0.4**
	1.0nm,0.4s						
STKA	**Stephens Creek**	**35.37**	**157**	P	**P**	**00 07 45.9**	**+0.2**
	4.2nm,0.6s,baz=326,slow=8.7,SNR=9.1						
KSAR	**Wonju Array Be**	**36.64**	**2**	P	**P**	**00 07 57.5**	**+1.0**
KSRS	**Korea Array**	**36.66**	**2**	P	**P**	**00 07 57.5**	**+0.9**
	0.8nm,0.5s,baz=181,slow=9.0,SNR=4.0						
MJAR	**Matsushiro Arr**	**37.34**	**16**	P	**P**	**00 08 02.3**	**-0.3**
	0.7nm,0.4s,baz=203,slow=8.0,SNR=3.1						
USRK	**Ussuriysk Ar.**	**43.65**	**6**	P	**P**	**00 08 54.0**	**-0.4**
	2.1nm,0.7s,baz=184,slow=5.4,SNR=5.1						
KLR	**Kul'dur**	**48.62**	**5**	P	**P**	**00 09 33.9**	**+0.5**
	2.0nm,0.8s,baz=169,slow=5.2,SNR=4.6						
SONM	**Songino Array**	**50.14**	**342**	P	**P**	**00 09 45.8**	**+0.6**
	0.3nm,0.3s,baz=128,slow=6.7,SNR=2.7						
SONM				LR	LR	00 34 19.0	
	comp=Z,32nm,18.1s,baz=178,slow=40						
TLY	**Talaya**	**54.37**	**343**	P	**P**	**00 10 16.6**	**+0.1**
	4.4nm,0.7s						
ZALV	**Zalesovo Beam**	**63.22**	**334**	P	**P**	**00 11 18.5**	**+0.6**
	0.5nm,0.4s,baz=118,slow=8.3,SNR=2.7						
NRIK	**Noril'sk**	**73.35**	**347**	P	**P**	**00 12 19.8**	**-1.1**
	1.6nm,0.6s,baz=135,slow=4.3,SNR=2.1						
VNDA	**Vanda**	**80.42**	**173**	P	**P**	**00 13 00.6**	**0.0**
	0.8nm,0.8s,baz=323,slow=5.3,SNR=3.8						
VNDA				LR	LR	00 47 25.4	
	comp=Z,29nm,19.4s,baz=331,slow=35						
MAW	**Mawson**	**80.79**	**200**	P	**P**	**00 13 03.4**	**+0.7**
	0.4nm,0.4s,baz=61,slow=13,SNR=3.2						
SBA	**Scott Base**	**81.33**	**172**	*eP*	**P**	**00 13 06.4**	**+0.9**
	2.4nm,0.4s						
TORD	**Torodi Ar. Bea**	**123.58**	**286**	PKP	**PKPdf**	**00 19 47.6**	**-0.3**
	0.5nm,0.7s,baz=24,slow=1.6,SNR=4.1						
TXAR	**Lajitas Array**	**123.66**	**54**	PKP	**PKPdf**	**00 19 48.7**	**+0.9**
	0.2nm,0.6s,baz=294,slow=2.7,SNR=2.1						

*IDC **09** 00:02:03.8±2.1, 12°.18N×86°.67W, h0km, mb4.0/4, mb1 4.3/5, mb1mx3.8/34, mbtmp4.0/5, MS3.2/4, Ms1 3.2/4, ms1mx2.8/30, Error ellipse: s-maj=112.1km s-min=26.2km az=52.0*

*ISCJB **09** 00:02:06.6±0.3, 11°.61N±0°.03×87°.13W±0°.03, h49km, mb4.1/15, MS3.1/3, Error ellipse: s-maj=5.9km s-min=2.9km az=37.8*

*NEIC **09** 00:02:07.2±0.9, 11°.88N×86°.97W, h35km, mb4.2/9, Error ellipse: s-maj=36.4km s-min=10.7km az=47.0*

*CASC **09** 00:02:07.6±1.1, 11°.65N×87°.09W, h33km±13km, ML3.6, mb4.2(NEIC)*

ISC 09 00:02:07.5±0.8, 11°.65N±0°.05×87°.07W±0°.05, h49km, n66, σ0s88/66, mb4.0/15, MS3.3/3, 3C, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
COPN	**Copaltepe**	**0.71**	**42**	*eP*	**Pn**	**00 02 21.7**	**+0.3**
CRUN	**El Crucero**	**0.83**	**66**	*eP*	**Pn**	**00 02 23.7**	**+0.6**
XAVN	**Gruta Xavier**	**0.89**	**56**	*eP*	**Pn**	**00 02 23.7**	**0.0**
MOMN	**Momotombo**	**0.92**	**35**	*eP*	**Pn**	**00 02 24.4**	**+0.2**
CNGN	**Cerro Negro**	**0.92**	**23**	*eP*	**Pn**	**00 02 24.4**	**+0.1**
CNGN				*eS*	**Sn**	**00 02 37.5**	**+0.9**
TISN	**Laguna Tiscapa**	**0.93**	**58**	*eP*	**Pn**	**00 02 23.5**	**-0.8**
MGAN	**Managua**	**0.95**	**58**	*eP*	**Pn**	**00 02 24.7**	**+0.2**
MGAN				*eS*	**Sn**	**00 02 38.1**	**+1.0**
MGAN				AML	AML	00 03 00.0	
	comp=E,1000nm,0.4s						
MASN	**Masaya**	**0.96**	**69**	*eP*	**Pn**	**00 02 25.3**	**+0.5**
CONN	**Concepcion**	**1.42**	**93**	*eP*	**Pn**	**00 02 30.6**	**-0.4**
CRZ1	**La Cruz**	**1.52**	**112**	*eP*	**Pn**	**00 02 31.8**	**-0.6**
BOAB	**BOACO BROADBAN**	**1.59**	**60**	*eP*	**Pn**	**00 02 33.2**	**-0.1**
ESTN	**Estel**	**1.60**	**25**	*eP*	**Pn**	**00 02 34.1**	**+0.6**
CNCH	**Conchagua**	**1.78**	**335**	*eP*	**Pn**	**00 02 36.1**	**+0.1**
CNCH				*eS*	**Sn**	**00 02 59.0**	**+1.5**
ACON	**Acoyapa**	**1.89**	**80**	*eP*	**Pn**	**00 02 37.0**	**-0.4**
GPS3	**Bodega del ICE**	**1.90**	**118**	*eP*	**Pn**	**00 02 38.1**	**+0.6**
MESS	**Mesas**	**2.05**	**116**	*eP*	**Pn**	**00 02 40.3**	**+0.6**
VCR	**Vista de Mar**	**2.07**	**137**	*eP*	**Pn**	**00 02 39.2**	**-0.8**
COLC	**Colonia**	**2.08**	**118**	*eP*	**Pn**	**00 02 40.5**	**+0.5**
CUI	**Cuipilapa**	**2.12**	**118**	*eP*	**Pn**	**00 02 41.1**	**+0.6**
VSM	**San Miguel**	**2.12**	**327**	*eP*	**Pn**	**00 02 41.4**	**+0.5**
LCY	**Lacayo**	**2.13**	**326**	*eP*	**Pn**	**00 02 41.1**	**+0.3**
PACA	**Pacaya**	**2.18**	**326**	*eP*	**Pn**	**00 02 41.5**	**0.0**
CAHU	**Cacaocuatique**	**2.38**	**332**	*eP*	**Pn**	**00 02 45.0**	**+0.7**
TGUH	**Tegucigalpa,Un**	**2.40**	**355**	*eP*	**Pn**	**00 02 45.3**	**+0.9**
JTS	**JuntasÁbangare**	**2.48**	**123**	Pn	**Pn**	**00 02 45.8**	**+0.3**
	baz=16,slow=16						
JTS				Sn	**Sn**	**00 03 14.4**	**-0.3**
	comp=E,56nm,0.3s,baz=13,slow=18,SNR=2.7						
ARE1	**Arenal 1**	**2.60**	**117**	*iP*	**Pn**	**00 02 47.7**	**+0.6**
SNVI	**San Vicente**	**2.60**	**319**	*eP*	**Pn**	**00 02 47.4**	**+0.1**
LFRS	**El Faro**	**2.76**	**316**	*iP*	**Pn**	**00 02 49.4**	**0.0**
LBRS	**Las Brisas**	**2.83**	**317**	*eP*	**Pn**	**00 02 50.7**	**+0.3**
LFU	**La Fuente**	**2.88**	**317**	*eP*	**Pn**	**00 02 51.5**	**+0.4**
SNET	**Serv Nac Est T**	**2.92**	**314**	AML	AML	00 03 57.5	
	comp=Z,577nm,0.2s						
BOQS	**Boqueron**	**2.99**	**314**	*eP*	**Pn**	**00 02 53.0**	**+0.4**
CGA2	**Cerro Gallo 2**	**3.03**	**122**	*eP*	**Pn**	**00 02 54.0**	**+0.8**
SBLS	**San Blas**	**3.31**	**311**	*eP*	**Pn**	**00 02 57.4**	**+0.3**
SNJE	**San Jose**	**3.31**	**312**	*eP*	**Pn**	**00 02 58.2**	**+1.1**
MONT	**Ecomontaæa**	**3.33**	**311**	*eP*	**Pn**	**00 02 57.6**	**+0.2**
MTO3	**Montecristo**	**3.53**	**321**	*eP*	**Pn**	**00 03 00.6**	**+0.5**
RBDL	**Robledal**	**3.53**	**314**	*eP*	**Pn**	**00 03 01.4**	**+1.3**
LCR2	**La Lucha 2**	**3.56**	**122**	*eP*	**Pn**	**00 03 02.3**	**+1.7**
CUS1	**Cusmapa**	**3.59**	**309**	*eP*	**Pn**	**00 03 01.2**	**+0.4**
QCR1	**Quepos**	**3.61**	**127**	*eP*	**Pn**	**00 03 02.1**	**+1.1**
URSC	**Urasca**	**3.71**	**119**	*eP*	**Pn**	**00 03 03.8**	**+1.3**
IXG	**Ixpaco**	**4.14**	**308**	*eP*	**Pn**	**00 03 08.4**	**-0.1**
MRL	**Marmol**	**4.25**	**323**	*eP*	**Pn**	**00 03 11.3**	**+1.5**
DRK0	**Durika**	**4.45**	**122**	*eP*	**Pn**	**00 03 14.6**	**+1.9**
BRU2	**Volcan**	**5.16**	**123**	*eP*	**Pn**	**00 03 24.0**	**+1.5**
TBS2		**5.19**	**123**	*eP*	**Pn**	**00 03 25.0**	**+2.1**
ICO	**Coco Island**	**5.07**	**180**	*eP*	**Pn**	**00 03 35.1**	**+0.4**
CMIG	**Matias Romero**	**9.30**	**306**	LR	LR	00 08 23.1	
	comp=Z,201nm,21.0s,baz=120,slow=41						
TXAR	**Lajitas Array**	**23.42**	**321**	P	**P**	**00 07 12.5**	**0.0**
	comp=Z,3.7nm,0.6s,baz=128,slow=12,SNR=26						
MIAR	**Mount Ida**	**23.55**	**346**	*eP*	**P**	**00 07 12.4**	**-1.1**
	comp=Z,5.0nm,0.8s						
LPIG	**La Paz**	**25.30**	**302**	LR	LR	00 17 23.7	
	comp=Z,85nm,18.7s,baz=63,slow=36						
WMOK	**Wichita Mounta**	**25.34**	**337**	*eP*	**P**	**00 07 29.6**	**-0.3**
	comp=Z,23nm,1.0s						
MSTX	**Muleshoe**	**26.44**	**330**	*eP*	**P**	**00 07 39.2**	**-0.8**
	comp=Z,7.7nm,0.8s						
KSU1	**Kansas State U**	**28.63**	**344**	*eP*	**P**	**00 07 58.5**	**-0.8**
	comp=Z,6.2nm,0.9s						
ACSO	**Alum Creek Sta**	**28.70**	**7**	*eP*	**P**	**00 07 59.6**	**-0.5**
	comp=Z,1.7nm,0.4s						
ANMO	**Albuquerque**	**29.12**	**326**	*eP*	**P**	**00 08 04.4**	**+0.3**
	comp=Z,0.3nm,0.6s						
PV10	**Paradox Valley**	**33.06**	**327**	*eP*	**P**	**00 08 38.8**	**0.0**
	comp=Z,40nm,0.4s						
LPAZ	**La Paz**	**33.49**	**146**	LR	LR	00 22 37.2	
	comp=Z,76nm,20.4s,baz=16,slow=37						
RSSD	**Black Hills**	**35.51**	**339**	P	**P**	**00 08 58.5**	**-1.3**
	comp=Z,1.2nm,0.8s						
PDAR	**Pinedale Array**	**36.65**	**332**	P	**P**	**00 09 10.2**	**+0.6**
	comp=Z,0.7nm,0.5s,baz=121,slow=8.6,SNR=7.9						
HWUT	**Hardware Ranch**	**36.75**	**329**	P	**P**	**00 09 09.0**	**-1.5**
	comp=Z,1.8nm,0.5s						
REDW	**Red Top Meadow**	**37.71**	**331**	*eP*	**P**	**00 09 18.6**	**-0.1**
	comp=Z,4.1nm,0.5s						
ULM	**Lac du Bonnet**	**39.16**	**351**	P	**P**	**00 09 28.3**	**-2.2**
	comp=Z,1.3nm,0.5s,baz=174,slow=9.2,SNR=3.7						
HLID	**Hailey**	**39.61**	**328**	*eP*	**P**	**00 09 34.6**	**+0.1**
	comp=Z,0.2nm,0.4s						
YKA	**Yellowknife Ar**	**54.48**	**345**	P	**P**	**00 11 31.3**	**+1.5**
	comp=Z,0.5nm,0.7s,baz=142,slow=7.3,SNR=3.8						
YKA				LR	LR	00 35 15.3	
	comp=Z,4.2nm,18.1s,baz=180,slow=37						

IDC 09 00:11:02.5±26.0, 18°.87S×179°.78E, h685km±179km, mb2.9/6, mb1 3.1/6, mb1mx2.8/33, mbtmp4.1/6, Error ellipse: s-maj=327.2km s-min=49.3km az=86.0, Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**31.60**	**262**	P	P	00 16 34.4	+0.3
	1.5nm,0.3s,baz=84,slow=9.2,SNR=3.5						
STKA	**Stephens Creek**	**36.66**	**242**	P	P	00 17 15.6	0.0
	3.0nm,1.0s,baz=83,slow=8.1,SNR=2.7						
JAY	**Jayapura**	**41.55**	**288**	P	P	00 17 54.5	-0.2
	0.3nm,0.5s,baz=92,slow=23,SNR=3.1						
WRA	**Warramunga Arr**	**42.78**	**261**	P	P	00 18 03.9	-0.2
	1.5nm,0.4s,baz=97,slow=7.3,SNR=16						
ASAR	**Alice Springs**	**42.88**	**255**	P	P	00 18 04.7	-0.2
	2.4nm,0.6s,baz=89,slow=7.8,SNR=26						
FITZ	**Fitzroy Crossi**	**51.18**	**262**	P	P	00 19 06.6	+0.2
	2.7nm,1.0s,baz=95,slow=4.9,SNR=4.3						

DJA 09 00:19:16.9±0.6, 3°.5S±5°.×113°.4E±°, h122km±10km, M4.2/5, mb4.3/2, MLv4.2/5, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RKPI	**Ransiki, Papua**	**1.45**	**16**	P	Pn	00 19 42.1	-1.8
RKPI				S	Sn	00 20 03.8	-0.6
FAKI	**Fak Fak**	**1.52**	**270**	P	Pn	00 19 43.2	-1.5
FAKI				S	Sn	00 20 07.5	+1.7
SWI	**Sorong**	**3.23**	**309**	P	Pn	00 20 06.8	+0.5
SWI				S	Sn	00 20 43.8	-0.6
BNDI	**Bandanaira**	**4.18**	**247**	P	Pn	00 20 23.3	+4.4
SMPI	**Sarmi**	**5.02**	**80**	P	Pn	00 20 29.7	-0.5

WEL 09 00:26:22.9±0.3, 36°.55S×177°.54E, h135km±6km, ML3.6/7, 2D, Error ellipse: s-maj=5.2km s-min=4.7km az=90.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**1.18**	**149**	PN	Pn	00 26 48.1	+0.1
MXZ				SN	Sn	00 27 07.1	-0.1
HAZ	**Te Kaha**	**1.22**	**171**	PN	Pn	00 26 48.6	+0.3
HAZ				SN	Sn	00 27 08.0	+0.2
HAZ				AML	AML	00 27 10.8	
PKGZ	**Pakihiroa**	**1.40**	**162**	PN	Pn	00 26 50.3	0.0
RUGZ	**Raukumara Rang**	**1.42**	**176**	PN	Pn	00 26 50.0	-0.6
WMGZ	**Waiomatatini S**	**1.45**	**152**	PN	Pn	00 26 50.6	-0.1
WMGZ				SN	Sn	00 27 12.1	+0.1
WMGZ				AML	AML	00 27 13.4	
PUZ	**Puketiti**	**1.62**	**160**	PN	Pn	00 26 52.4	-0.4
PUZ				SN	Sn	00 27 14.2	-1.4
TWGZ	**Tauwhareparae**	**1.66**	**168**	PN	Pn	00 26 53.6	+0.4
TWGZ				SN	Sn	00 27 16.6	+0.2
TWGZ				AML	AML	00 27 20.5	
URZ	**Urewera**	**1.74**	**191**	PN	Pn	00 26 54.3	+0.2
URZ				SN	Sn	00 27 18.2	+0.2
MWZ	**Matawai**	**1.78**	**180**	PN	Pn	00 26 54.6	0.0
MWZ				SN	Sn	00 27 19.1	+0.2
TKGZ	**Te Karaka**	**1.90**	**173**	PN	Pn	00 26 55.7	-0.2
TKGZ				AML	AML	00 27 22.4	
TKGZ				AML	AML	00 27 22.6	
CNGZ	**Carnagh Statio**	**2.00**	**165**	PN	Pn	00 26 57.0	-0.2
RIGZ	**Rimuhau**	**2.16**	**175**	PN	Pn	00 26 58.5	-0.6
RIGZ				AML	AML	00 27 29.1	
RIGZ				AML	AML	00 27 29.8	
KNZ	**Kokohu**	**2.47**	**178**	PN	Pn	00 27 01.6	-1.3
ARHZ	**Aropaoanui**	**2.75**	**189**	PN	Pn	00 27 05.2	-1.1
ARHZ				AML	AML	00 27 42.0	
MCHZ	**McNeill Hill**	**2.97**	**193**	*e*PN	Pn	00 27 07.8	-1.4
CKHZ	**Cape Kidnapper**	**3.13**	**187**	*e*PN	Pn	00 27 09.0	-2.3
KRHZ	**Kereru**	**3.23**	**196**	PN	Pn	00 27 10.3	-2.3
KAHZ	**Kahuranaki**	**3.28**	**189**	PN	Pn	00 27 11.4	-2.0
PXZ	**Pawanui**	**3.52**	**189**	SN	Sn	00 27 53.0	-4.8

KRSC 09 00:49:28.9±0.9, 53°.65N×160°.74E, h57km±18km, ML3.7, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPN	**Mys Shipunski**	**0.70**	**218**	*eP*	Pn	00 49 45.0	+2.0
SPN				*eS*	Sn	00 49 55.1	+1.9
KII	**Karymskiy**	**0.86**	**297**	*eP*	Pn	00 49 45.8	+0.8
KII				*eS*	Sn	00 49 56.5	-0.4
MKZ	**Mys Kozlova**	**1.08**	**32**	*eP*	Pn	00 49 49.9	+2.1
MKZ				*eS*	Sn	00 50 03.9	+2.0
SDLR	**Sedlovina**	**1.17**	**252**	*eP*	Pn	00 49 51.0	+1.8
SDLR				*eS*	Sn	00 50 06.6	+1.3
UGLR	**Uglovaya**	**1.23**	**250**	*eP*	Pn	00 49 52.0	+2.1
UGLR				*eS*	Sn	00 50 07.3	+1.7
KRER	**Koryakskii**	**1.24**	**255**	*eP*	Pn	00 49 52.2	+2.0
KRER				*eS*	Sn	00 50 07.4	+1.4
AVH	**Avacha**	**1.26**	**253**	*eP*	Pn	00 49 52.3	+2.0
AVH				*eS*	Sn	00 50 06.6	+0.3
KRX	**Arik**	**1.28**	**258**	*eP*	Pn	00 49 52.3	+1.6
KRX				*eS*	Sn	00 50 07.5	+0.5
KOK	**Koryaka**	**1.31**	**255**	*eP*	Pn	00 49 52.7	+1.7
KOK				*eS*	Sn	00 50 09.1	+1.6
DALK	**Dalny**	**1.34**	**243**	*eP*	Pn	00 49 53.2	+1.9
DALK				*eS*	Sn	00 50 09.8	+1.7
PET	**Petropavlovsk**	**1.40**	**244**	*eP*	Pn	00 49 54.1	+2.0
PET				*eS*	Sn	00 50 11.0	+1.5
GNL	**Ganaly**	**1.66**	**273**	*eP*	Pn	00 49 57.2	+1.4
TUMR	**Tumrok**	**1.67**	**348**	*eP*	Pn	00 49 58.0	+2.0
TUMR				*eS*	Sn	00 50 17.7	+1.5
RUS	**Russkaya**	**1.81**	**229**	*eP*	Pn	00 49 59.4	+1.7
RUS				*eP*	Pn	00 49 59.5	+1.8
RUS				*eS*	Sn	00 50 21.0	+1.4
RUS				*eS*	Sn	00 50 21.1	+1.5
MTVR	**Mutnovka**	**1.94**	**234**	*eP*	Pn	00 50 02.1	+2.6
MTVR				*eS*	Sn	00 50 26.2	+3.4
KMNR	**Kamenistaya**	**2.13**	**352**	*eP*	Pn	00 50 05.8	+3.6
KMNR				*eS*	Sn	00 50 38.8	+3.3
ASAK	**Asacha**	**2.13**	**235**	*eP*	Pn	00 50 05.1	+2.9
APC	**Apacha**	**2.27**	**253**	*eP*	Pn	00 50 07.6	+3.7
APC				*eS*	Sn	00 50 34.6	+3.9
BZMR	**Bezymyannaya**	**2.29**	**357**	*eP*	Pn	00 50 08.0	+3.6
ZLN	**Zelenaya**	**2.37**	**1**	*eP*	Pn	00 50 09.5	+4.0
ZLN				*eS*	Sn	00 50 37.7	+4.3
ESO	**Esso**	**2.57**	**333**	*eP*	Pn	00 50 09.3	+1.3
KRSR	**Krestovskiy**	**2.58**	**358**	*eP*	Pn	00 50 11.7	+3.5
KRSR				*eS*	Sn	00 50 42.0	+3.6
KLY	**Klyuchi**	**2.67**	**359**	*eP*	Pn	00 50 11.5	+2.1
KLY				*eS*	Sn	00 50 43.4	+2.9
SMKR	**Semkarok**	**2.97**	**8**	*eS*	Sn	00 50 49.9	+1.9
SRKR	**Sorokina**	**3.02**	**5**	*eP*	Pn	00 50 17.4	+3.1
SRKR				*eS*	Sn	00 50 52.6	+3.4
BKI	**Bering**	**3.43**	**61**	*eP*	Pn	00 50 22.4	+2.6
BKI				*eS*	Sn	00 50 59.3	+0.2

*DDA **09** 01:01:40.1, 39°.93N×42°.09E, h7km, Ml2.5*

*ISK **09** 01:01:40.5, 39°.91N×41°.91E, h13km, MD2.7*

*CSEM **09** 01:01:40.4±0.4, 39°.89N×41°.95E, h15km, MD2.7, Error ellipse: s-maj=10.0km s-min=7.1km az=28.0*

*ISCJB **09** 01:01:41.1±0.5, 39°.90N±0°.02×41°.96E±0°.04, h12km±4km, Error ellipse: s-maj=4.8km s-min=4.0km az=176.3*

ISC 09 01:01:40.2±1.0, 39°.90N±0°.03×41°.97E±0°.03, h12km±6km, n17, σ0s74/33, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOMI	**Horasan**	**0.15**	**341**	*i* P	**Pg**	**01 01 43.8**	**-0.1**
HOMI				*i* S	**Sb**	**01 01 47.7**	**+1.1**
ERZM	**Erzurum**	**0.46**	**270**	*i* P	**Pb**	**01 01 50.9**	**+0.4**
ERZM				*i* S	**Sb**	**01 01 57.6**	**+0.1**
ERZM	**Erzurum**	**0.46**	**270**	P	**Pb**	**01 01 50.9**	**+0.4**
ERZM				S	**Sb**	**01 01 57.6**	**+0.1**
EZM	**Erzurum**	**0.47**	**270**	*e*PG	**Pb**	**01 01 50.5**	**-0.1**
EZM				*e*SG	**Sb**	**01 01 57.8**	**+0.2**
EKAR	**Karacoban**	**0.65**	**173**	*i* P	**Pg**	**01 01 51.8**	**-1.1**
EKAR				*i* S	**Sb**	**01 02 04.5**	**+1.7**
EKAR	**Karacoban**	**0.65**	**173**	P	**Pg**	**01 01 51.8**	**-1.1**
EKAR				S	**Sb**	**01 02 04.5**	**+1.7**
SENK	**Senkaya-Erzuru**	**0.72**	**24**	*e*PG	**Pb**	**01 01 55.3**	**+0.4**
SENK				*e*SG	**Sb**	**01 02 05.8**	**+1.0**
TUTA	**Tutak**	**0.82**	**127**	*i* P	**Pg**	**01 01 55.1**	**-1.1**
TUTA				*i* S	**Sb**	**01 02 08.4**	**+0.6**
TUTA	**Tutak**	**0.82**	**127**	P	**Pg**	**01 01 55.1**	**-1.1**
TUTA				S	**Sb**	**01 02 08.4**	**+0.6**
VRTB	**Varto-Mus**	**0.84**	**208**	*e*PG	**Pb**	**01 01 57.1**	**+0.2**
VRTB				*e*SG	**Sb**	**01 02 08.9**	**+0.7**
VRTB	**Varto-Mus**	**0.84**	**208**	*e*Pg	**Pb**	**01 01 57.1**	**+0.2**
VRTB				*e*Sg	**Sb**	**01 02 08.9**	**+0.7**
AGRB	**Hanur-Agry**	**0.85**	**112**	*e*PG	**Pn**	**01 01 58.1**	**-0.1**
AGRB				*e*SG	**Sn**	**01 02 11.3**	**+0.4**
AGRB	**Hanur-Agry**	**0.85**	**112**	*e*Pg	**Pn**	**01 01 58.2**	**-0.1**
AGRB				*e*Sg	**Sn**	**01 02 11.3**	**+0.4**
DDEM	**Demirkent**	**1.00**	**351**	*i* P	**Pb**	**01 01 59.3**	**-0.3**
DDEM				*i* S	**Sn**	**01 02 14.9**	**+0.4**
DDEM	**Demirkent**	**1.00**	**351**	P	**Pb**	**01 01 59.3**	**-0.3**
DDEM				S	**Sn**	**01 02 14.9**	**+0.4**
DAGI	**Agillar**	**1.17**	**358**	*i* P	**Pb**	**01 02 02.0**	**-0.5**
DAGI				*i* S	**Sn**	**01 02 18.3**	**-0.4**
YEDI	**Yedisu-Bingol**	**1.19**	**248**	*e*PN	**Pn**	**01 02 02.9**	**-0.1**

DJA 09 01:08:33.8±0.5, 9°.S±6°.×117°.5E±°, h73km±7km, M3.5/13, MLv3.5/13, Bali region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IGBI	**Denpasar**	**0.57**	**78**	P	Pn	01 08 47.4	-0.2
IGBI				S	Sn	01 09 01.8	+4.1
JAGI	**Jajag, Banyuwa**	**0.63**	**318**	P	Pn	01 08 48.2	0.0
DNP	**Denpasar**	**0.68**	**67**	P	Pn	01 08 48.6	-0.1
DNP				S	Sn	01 09 06.1	+6.5
SRBI	**Singaraja**	**1.05**	**36**	P	Pn	01 08 55.5	+2.3
ABJI	**Asem Bagus**	**1.19**	**343**	P	Pn	01 08 55.3	+0.5
GMJI	**Gumukmas**	**1.30**	**300**	P	Pn	01 08 57.3	+1.0
GMJI				S	Sn	01 09 14.6	+1.4
BLJI	**Banyuglugur**	**1.54**	**321**	P	Pn	01 08 56.6	-2.8
BLJI				S	Sn	01 09 19.3	+0.7
KMMI	**Kalianget**	**1.97**	**342**	P	Pn	01 09 05.2	0.0
TWSI	**Taliwang, Sumb**	**2.28**	**85**	P	Pn	01 09 09.1	-0.3
TWSI				S	Sn	01 09 37.6	+1.0
PWJI	**Pagerwojo**	**2.89**	**288**	P	Pn	01 09 18.6	+1.0
PWJI				S	Sn	01 09 51.7	+0.3
PLAI	**Plampang**	**3.16**	**88**	P	Pn	01 09 22.0	+0.7
PLAI				S	Sn	01 09 59.6	+1.7
PCJI	**Pacitan**	**3.45**	**282**	P	Pn	01 09 25.6	+0.5

*NIED **09** 01:21:00, 36°.70N×143°.56E, h5km, Mw3.9 Best double couple: M0 8.51000×10^14 NP1:φs70.00000°, δ24.00000°, λ-91.00000°. NP2:φs251.00000°, δ66.00000°, λ-89.00000°.*

*IDC **09** 01:21:05.2±0.8, 36°.55N×143°.92E, h0km, mb3.9/13, mb1 4.1/17, mb1mx3.9/46, mbtmp3.9/17, ML3.8/3, MS2.9/7, Ms1 2.9/7, ms1mx2.8/30, Error ellipse: s-maj=21.1km s-min=18.2km az=134.0*

*ISCJB **09** 01:21:08.9±0.5, 36°.71N±0°.03×143°.57E±0°.04, h33km, mb3.9/15, MS3.1/3, Error ellipse: s-maj=4.9km s-min=4.2km az=42.2*

*JMA **09** 01:21:09.5±0.2, 36°.72N×143°.54E, h72km, M3.8*

*NEIC **09** 01:21:10.7±0.6, 36°.54N×143°.71E, h35km, mb4.2/2, Error ellipse: s-maj=16.2km s-min=9.7km az=162.0*

ISC 09 01:21:11.1±0.7, 36°.73N±0°.05×143°.60E±0°.07, h35km, n49, σ1s72/55, mb3.9/15, MS3.1/3, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JFK	**Kawauchi**	**2.27**	**287**	P	**Pn**	**01 21 44.9**	**-1.3**
JFK				S	**Sn**	**01 22 11.3**	**-1.7**
ONAJ	**Iwakimizuishiy**	**2.28**	**280**	P	**Pn**	**01 21 45.2**	**-1.1**
ONAJ				S	**Sn**	**01 22 12.0**	**-1.1**
JHO	**Hitachi**	**2.44**	**268**	P	**Pn**	**01 21 47.3**	**-1.2**
CHOJ	**Chosi**	**2.44**	**246**	P	**Pn**	**01 21 47.5**	**-1.0**
JFT	**Otama**	**2.72**	**288**	P	**Pn**	**01 21 51.4**	**-1.0**
JFT				*e*S	**Sn**	**01 22 23.2**	**-0.9**
JMK	**Ichinoseki**	**2.91**	**320**	P	**Pn**	**01 21 53.4**	**-1.5**
JMK	

TXAR	**Lajitas Array**	**88.90**	**54**	P	**P**	**01 34 01.5**	**-0.7**
	0.6nm,0.8s,baz=292,slow=2.6,SNR=5.7						
SAML	**Samuel**	**143.19**	**48**	*e*PKPdf	**PKPdf**	**01 40 43.5**	**+1.5**

*GEN **09** 01:49:01.7, 44.70N×10.32E, h0km, ML2.6*
*CSEM **09** 01:49:03.4±0.1, 44.63N×10.26E, h20km, ML3.5/7, Error ellipse: s-maj=3.3km s-min=2.9km az=96.0*
*ROM **09** 01:49:03.2±0.1, 44.63N×10.22E, h22km±2km, Md2.8/13, Ml2.7/16, Error ellipse: s-maj=1.8km s-min=1.3km az=110.0*
*LDG **09** 01:49:03.0±0.2, 44.78N×10.39E, h20km, Md2.9/2, Ml3.1/2, Error ellipse: s-maj=5.2km s-min=4.1km az=4.0*
*ISCJB **09** 01:49:03.4±0.2, 44.62N±0.02×10.28E±0.03, h25km±2km, Error ellipse: s-maj=3.4km s-min=2.5km az=37.9*
*PRU **09** 01:49:04.1, 44.61N×10.65E, h15km*

ISC 09 01:49:03.3±0.8, 44°64N±0.02×10°30E±0.02, h20km±4km, n85, σ1§11/136, Northern Italy

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PRMA	**PARMA**	**0.12**	**5**	Pg	**Pg**	**01 49 07.2**	**-0.3**
PRMA				Sg	**Sg**	**01 49 11.5**	**+1.2**
	452nm,0.4s						
PRMA	**PARMA**	**0.12**	**5**	Pg	**Pg**	**01 49 07.2**	**-0.3**
PRMA				Sg	**Sg**	**01 49 11.5**	**+1.2**
	452nm,0.4s						
GRAM	**Graiana**	**0.23**	**228**	P	**Pb**	**01 49 07.7**	**-1.0**
GRAM				S	**Sb**	**01 49 11.9**	**-0.4**
NOVE	**Novellara**	**0.34**	**62**	Pg	**Pb**	**01 49 11.7**	**+1.1**
NOVE				Sg	**Sn**	**01 49 18.5**	**-0.8**
	2µm,1.0s						
NOVE	**Novellara**	**0.34**	**62**	Pg	**Pb**	**01 49 11.7**	**+1.1**
NOVE				Sg	**Sn**	**01 49 18.5**	**-0.8**
	2µm,1.0s						
CODM	**Codolo**	**0.41**	**232**	P	**Pg**	**01 49 10.2**	**-1.7**
CODM				S	**Sg**	**01 49 17.5**	**-0.1**
SARO	**Sassorosso**	**0.46**	**171**	P	**Pg**	**01 49 11.9**	**-1.0**
SARO				S	**Sg**	**01 49 19.1**	**-0.2**
VLC	**Villacollemand**	**0.49**	**173**	Pg	**Pg**	**01 49 12.7**	**-0.6**
VLC				Sg	**Sb**	**01 49 20.4**	**+0.5**
VLC	**Villacollemand**	**0.49**	**173**	Pg	**Pg**	**01 49 12.7**	**-0.6**
VLC				Sg	**Sb**	**01 49 20.4**	**+0.5**
ZCCA	**Zocca**	**0.57**	**121**	Pg	**Pn**	**01 49 15.9**	**-0.4**
	184nm,0.5s						
ZCCA	**Zocca**	**0.57**	**121**	Pg	**Pn**	**01 49 15.9**	**-0.4**
	184nm,0.5s						
SC2M	**Scurtabo**	**0.60**	**247**	Pg	**Pb**	**01 49 13.9**	**-1.2**
SC2M				Sg	**Sb**	**01 49 22.9**	**-0.1**
	520nm,0.4s						
SC2M	**Scurtabo**	**0.60**	**247**	P	**Pb**	**01 49 14.1**	**-1.0**
SC2M				S	**Sb**	**01 49 23.0**	**-0.1**
BDI	**Bagni Di Lucca**	**0.62**	**160**	Pg	**Pb**	**01 49 15.1**	**-0.4**
BDI				Sg	**Sg**	**01 49 24.2**	**+0.2**
BDI	**Bagni Di Lucca**	**0.62**	**160**	Pg	**Pb**	**01 49 15.1**	**-0.4**
BDI				Sg	**Sg**	**01 49 24.2**	**+0.2**
BOB	**Bobbio (Coli)**	**0.62**	**282**	Pg	**Pb**	**01 49 15.1**	**-0.4**
	190nm,0.5s						
BOB	**Bobbio (Coli)**	**0.62**	**282**	Pg	**Pb**	**01 49 15.1**	**-0.4**
	190nm,0.5s						
MSSA	**Maissana**	**0.65**	**240**	Pg	**Pb**	**01 49 15.2**	**-0.8**
MSSA				Sg	**Sb**	**01 49 23.8**	**-0.8**
	178nm,0.6s						
MSSA	**Maissana**	**0.65**	**240**	Pg	**Pb**	**01 49 15.2**	**-0.8**
MSSA				Sg	**Sb**	**01 49 23.8**	**-0.8**
	178nm,0.6s						
POPM	**Popiglio**	**0.68**	**151**	P	**Pb**	**01 49 16.5**	**0.0**
POPM				S	**Sb**	**01 49 25.7**	**+0.2**
MAIM	**Mastiano**	**0.74**	**169**	Pg	**Pg**	**01 49 17.8**	**-0.1**
MAIM				Sg	**Sg**	**01 49 27.7**	**-0.1**
	195nm,0.7s						
MAIM	**Mastiano**	**0.74**	**169**	P	**Pb**	**01 49 17.1**	**-0.4**
MAIM	**Mastiano**	**0.74**	**169**	Pg	**Pg**	**01 49 17.8**	**-0.1**
MAIM				S	**Sg**	**01 49 27.7**	**-0.1**
FNVD	**Fontana Vidola**	**0.76**	**129**	Pg	**Pg**	**01 49 18.5**	**+0.3**
	316nm,0.9s						
FNVD	**Fontana Vidola**	**0.76**	**129**	Pg	**Pg**	**01 49 18.5**	**+0.3**
	316nm,0.9s						
PTF	**Prato**	**0.88**	**141**	Pg	**Pb**	**01 49 20.2**	**+0.3**
PTF	**Prato**	**0.88**	**141**	Pg	**Pb**	**01 49 20.2**	**+0.3**
CRMI	**Carmignano**	**0.98**	**150**	Pg	**Pg**	**01 49 22.6**	**+0.2**
	196nm,0.9s						
CRMI	**Carmignano**	**0.98**	**150**	Pg	**Pg**	**01 49 22.6**	**+0.2**
	196nm,0.9s						
SALO	**Salr**	**0.99**	**9**	Pg	**Pb**	**01 49 22.2**	**+0.4**
	564nm,0.6s						
SALO	**Salr**	**0.99**	**9**	Pg	**Pb**	**01 49 22.2**	**+0.4**
	564nm,0.6s						
ROVR	**Rover¯¤ Verone**	**1.14**	**28**	Pg	**Pb**	**01 49 24.9**	**+0.4**
ROVR				Sg	**Sg**	**01 49 40.5**	**-0.1**
	221nm,0.2s						
ROVR	**Rover¯¤ Verone**	**1.14**	**28**	Pg	**Pb**	**01 49 24.9**	**+0.4**
ROVR				Sg	**Sg**	**01 49 40.5**	**-0.1**
	221nm,0.2s						
MAGA	**Magasa**	**1.16**	**11**	Pg	**Pn**	**01 49 24.2**	**-0.3**
MAGA				Sg	**Sg**	**01 49 40.9**	**-0.1**
	489nm,0.4s						
MAGA	**Magasa**	**1.16**	**11**	Pg	**Pn**	**01 49 24.2**	**-0.3**
MAGA				Sg	**Sg**	**01 49 40.9**	**-0.1**
	489nm,0.4s						
MARN	**Marana (Italy)**	**1.19**	**33**	*e*Pg	**Pn**	**01 49 24.5**	**-0.3**
MARN				*e*Sg	**Sg**	**01 49 41.9**	**0.0**
TEOL	**Teolo**	**1.21**	**53**	Pg	**Pb**	**01 49 25.8**	**+0.3**
TEOL				Sg	**Sg**	**01 49 42.6**	**0.0**
	515nm,0.4s						
TEOL	**Teolo**	**1.21**	**53**	*e*Pg	**Pb**	**01 49 25.6**	**+0.1**
TEOL				*e*Sg	**Sg**	**01 49 43.1**	**+0.5**
TEOL	**Teolo**	**1.21**	**53**	Pg	**Pb**	**01 49 25.8**	**+0.3**
TEOL				Sg	**Sg**	**01 49 42.6**	**0.0**
	515nm,0.4s						
RNI	**Roncone**	**1.36**	**10**	*e*Pg	**Pn**	**01 49 27.2**	**-0.1**
RNI				*e*Sg	**Sg**	**01 49 46.7**	**-0.7**
DDS	**Dosso del Somm**	**1.39**	**27**	*e*Pg	**Pn**	**01 49 27.2**	**-0.5**
DDS				*e*Sg	**Sb**	**01 49 47.0**	**+1.0**
SASS	**Sassa´´´´´**	**1.41**	**168**	Pg	**Pn**	**01 49 28.3**	**+0.4**
	62nm,0.5s						
SASS	**Sassa´´´´´**	**1.41**	**168**	Pg	**Pn**	**01 49 28.3**	**+0.4**
	62nm,0.5s						
MABI	**Malga Bissina**	**1.42**	**6**	Pg	**Pn**	**01 49 28.5**	**+0.3**
	48nm,0.5s						
MABI	**Malga Bissina**	**1.42**	**6**	Pg	**Pn**	**01 49 28.5**	**+0.3**
	48nm,0.5s						
FINB	**Finale Ligure**	**1.49**	**252**	Pg	**Pn**	**01 49 28.9**	**0.0**
	128nm,0.4s						
FINB	**Finale Ligure**	**1.49**	**252**	Pg	**Pn**	**01 49 28.9**	**0.0**
	128nm,0.4s						
PANI	**Panarotta**	**1.58**	**27**	*e*Pg	**Pn**	**01 49 30.3**	**-0.2**
PANI				*e*Sg	**Sb**	**01 49 52.5**	**+0.7**
CGRP	**Cima Grappa**	**1.63**	**40**	*e*Pg	**Pn**	**01 49 30.8**	**-0.3**
OZOL	**Ozolo**	**1.84**	**16**	*e*Pn	**Pn**	**01 49 34.1**	**+0.3**
SBF	**Sospel**	**2.20**	**250**	*e*Pn	**Pn**	**01 49 39.0**	**+0.2**
SBF	**Sospel**	**2.20**	**250**	*e*Pn	**Pn**	**01 49 39.0**	**+0.2**
PGF	**Pioggiola**	**2.30**	**205**	*e*Pn	**Pn**	**01 49 40.5**	**+0.4**
PGF				*e*Sn	**Sn**	**01 50 08.4**	**+0.5**
PGF	**Pioggiola**	**2.30**	**205**	*e*Pn	**Pn**	**01 49 40.5**	**+0.4**
PGF				*e*Sn	**Sn**	**01 50 08.4**	**+0.5**
FETA	**Feichten**	**2.40**	**7**	Pn	**Pn**	**01 49 42.6**	**+1.0**
	0.7nm,0.2s						
MBDF	**Montbardon**	**2.52**	**273**	*e*P	**Pn**	**01 49 45.7**	**+2.5**
MBDF	**Montbardon**	**2.52**	**273**	*e*P	**Pn**	**01 49 45.7**	**+2.5**
ABTA	**Abfaltersbach**	**2.61**	**36**	Pn	**Pn**	**01 49 44.8**	**+0.3**
	1.3nm,0.2s						
ABTA				*e*Sn	**Sn**	**01 50 15.6**	**-0.1**
	2.3nm,0.2s						
DAVA	**Damuels**	**2.66**	**354**	*e*Pn	**Pn**	**01 49 47.4**	**+2.2**
	6.8nm,0.3s						
DAVA				Sn	**Sb**	**01 50 20.5**	**-2.1**
	30nm,0.5s						
MOTA	**Moosalm**	**2.76**	**11**	*e*Pn	**Pn**	**01 49 48.7**	**+2.2**
	4.2nm,0.2s						
SKDS	**Skadanscina**	**2.78**	**70**	*i* Pn	**Pn**	**01 49 45.8**	**-1.0**
SKDS				*i* Sn	**Sn**	**01 50 17.8**	**-1.9**
	comp=Z,7.0nm,0.1s						
WTTA	**Wattenberg**	**2.78**	**19**	Pn	**Pn**	**01 49 48.9**	**+2.0**
	comp=Z,6.3nm,0.3s						
WTTA				Sn	**Sb**	**01 50 24.1**	**-2.0**
	comp=Z,7.7nm,0.3s						
WTTA	**Wattenberg**	**2.78**	**19**	*e*PN	**Pn**	**01 49 48.7**	**+1.8**
WATA	**Walderalm**	**2.84**	**18**	*e*Pn	**Pn**	**01 49 49.7**	**+2.1**
	comp=Z,4.1nm,0.2s						
FRF	**La Foret Royal**	**2.84**	**249**	*e*Pn	**Pn**	**01 49 47.5**	**-0.1**
FRF				*e*Sn	**Sn**	**01 50 21.9**	**+0.6**
	comp=Z,13nm,0.3s						
FRF	**La Foret Royal**	**2.84**	**249**	*e*Pn	**Pn**	**01 49 47.5**	**-0.1**
FRF				*e*Sn	**Sn**	**01 50 21.9**	**+0.6**
	comp=Z,6.4nm,0.3s						
RETA	**Reutte**	**2.86**	**6**	Pn	**Pn**	**01 49 49.3**	**+1.4**
	comp=Z,1.3nm,0.2s						
LMR	**La Mourre**	**3.03**	**246**	*e*Pn	**Pn**	**01 49 49.5**	**-0.6**
LMR				*e*Sn	**Sn**	**01 50 25.7**	**-0.2**
	comp=Z,11nm,0.3s						
LMR	**La Mourre**	**3.03**	**246**	*e*Pn	**Pn**	**01 49 49.5**	**-0.6**
LMR				*e*Sn	**Sn**	**01 50 25.7**	**-0.2**
	comp=Z,5.7nm,0.3s						
ORIF	**Oris-en-Rattie**	**3.16**	**277**	*e*P	**Pn**	**01 49 55.1**	**+3.1**
ORIF	**Oris-en-Rattie**	**3.16**	**277**	*e*P	**Pn**	**01 49 55.1**	**+3.1**
NVLJ	**Novalja**	**3.27**	**90**	*e*Pn	**Pn**	**01 49 53.5**	**+0.2**
NVLJ					Sn	**Sn**	**01 50 30.7**	**-0.9**
SMRF	**Simiane la Rot**	**3.46**	**261**	*e*P	**Pn**	**01 49 58.1**	**+2.1**
SMRF				*e*S	**Sn**	**01 50 39.7**	**+3.3**
SMRF	**Simiane la Rot**	**3.46**	**261**	*e*P	**Pn**	**01 49 58.1**	**+2.1**
SMRF				*e*S	**Sn**	**01 50 39.7**	**+3.3**
OBKA	**Obir**	**3.52**	**56**	*e*Pn	**Pn**	**01 49 57.7**	**+0.8**
	comp=Z,0.3nm,0.1s						
OZLJ	**Ozalj**	**3.78**	**73**	*i* Pn	**Pn**	**01 50 00.5**	**0.0**
OZLJ					Sn	**Sn**	**01 50 42.0**	**-2.4**
UDBI	**Udbina**	**3.91**	**90**	*e*Pn	**Pn**	**01 50 03.5**	**+1.3**
UDBI					Sn	**Sn**	**01 50 46.5**	**-1.0**
MOA	**Molln**	**4.23**	**39**	*i* Pn	**Pn**	**01 50 07.5**	**+0.9**
	comp=Z,0.5nm,0.1s						
MOA				*e*Sn	**Sn**	**01 50 56.8**	**+1.4**
	comp=Z,3.0nm,0.3s						
CDF	**Champ du Feu**	**4.31**	**332**	*e*P	**Pn**	**01 50 07.3**	**-0.5**
CDF				*e*S	**Sn**	**01 50 55.4**	**-2.1**
CDF	**Champ du Feu**	**4.31**	**332**	*e*P	**Pn**	**01 50 07.3**	**-0.5**
CDF				*e*S	**Sn**	**01 50 55.4**	**-2.1**
HAU	**Haudompre**	**4.34**	**322**	*e*P	**Pn**	**01 50 08.0**	**-0.1**
HAU				*e*S	**Sn**	**01 50 58.0**	**-0.1**
HAU	**Haudompre**	**4.34**	**322**	*e*P	**Pn**	**01 50 08.0**	**-0.1**
HAU				*e*S	**Sn**	**01 50 58.0**	**-0.1**
KHC	**Kasperske Hory**	**5.02**	**25**	*e*PN	**Pn**	**01 50 16.8**	**-0.7**
KHC				*e*SN	**Sn**	**01 51 12.5**	**-2.4**
KHC				*ex*	x	01 51 41.0	
KHC	**Kasperske Hory**	**5.02**	**25**	Pn	**Pn**	**01 50 16.8**	**-0.7**
KHC				Sn	**Sn**	**01 51 12.5**	**-2.4**
CONA	**Conrad Observa**	**5.07**	**48**	*e*Pn	**Pn**	**01 50 20.1**	**+1.9**
	comp=Z,0.4nm,0.2s						

JMA 09 01:57:51.1±0.1, 36°84N×141°11E, h49km±1km, M2.2, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ONAJ	**Iwakimizuishiy**	**0.36**	**316**	P	Pn	01 58 00.5	-0.3
ONAJ				S	Sn	01 58 07.1	-0.6
JHO	**Hitachi**	**0.49**	**242**	P	Pn	01 58 02.0	-0.2
JHO				S	Sn	01 58 09.6	-0.5
JFK	**Kawauchi**	**0.56**	**340**	P	Pn	01 58 02.7	-0.4
JFK				S	Sn	01 58 10.9	-0.7
JFT	**Otama**	**0.92**	**318**	P	Pn	01 58 08.6	+0.9
JFT				S	Sn	01 58 20.4	+0.5
JMM	**Marumori**	**1.05**	**346**	P	Pn	01 58 09.3	-0.2
JMM				*e*S	Sn	01 58 22.0	-0.3
JFY	**Yanaizu**	**1.26**	**297**	P	Pn	01 58 12.8	+0.5
MAT	**Matsushiro**	**2.35**	**264**	P	Pn	01 58 28.2	+0.9
MAT				*e*S	Sn	01 58 56.0	+1.0

*NIED **09** 02:07:00, 37.70N×143.10E, h11km, Mw3.4 Best double couple: M0 1.21000×10^14 NP1:φs306.00000°, δ71.00000°, λ163.00000°. NP2:φs42.00000°, δ74.00000°, λ20.00000°.*

JMA 09 02:07:19.3±0.3, 37°73N×143°11E, h31km, M3.6, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JIO	**Ouri**	**1.57**	**298**	P	Pn	02 07 46.0	+1.0
JIO				*e*S	Sn	02 08 05.5	+1.3
OFUJ	**Ofunato**	**1.76**	**320**	P	Pn	02 07 48.7	+1.0
JFK	**Kawauchi**	**1.81**	**259**	P	Pn	02 07 49.4	+1.0
JMM	**Marumori**	**1.84**	**275**	P	Pn	02 07 49.4	+0.7
JMM				*e*S	Sn	02 08 11.9	+0.9
JMK	**Ichinoseki**	**1.92**	**310**	P	Pn	02 07 51.2	+1.3
JMK				*e*S	Sn	02 08 14.7	+1.7
JFT	**Otama**	**2.21**	**265**	P	Pn	02 07 56.0	+2.1
JFT				*e*S	Sn	02 08 22.0	+1.8
JYK	**Kaneyama**	**2.47**	**300**	P	Pn	02 07 59.5	+2.1
JAG	**Ashikaga**	**3.20**	**247**	P	Pn	02 08 09.3	+1.8
BSO1	**Boso 1**	**3.52**	**210**	P	Pn	02 08 14.4	+3.0
BSO1				*e*S	Sn	02 08 54.8	+3.1
JRY	**Ryogami san**	**3.78**	**244**	P	Pn	02 08 18.1	+2.6
MAT	**Matsushiro**	**4.09**	**255**	P	Pn	02 08 19.8	+0.1
MAT				*e*S	Sn	02 09 08.8	+2.2

*NEIC **09** 02:18:11.1±0.0, 58°37N×133°47W, h1km, ML2.9(AEIC), ML3.3(OTT), After OTT.*
*PGC **09** 02:18:11.1±1.6, 58°37N×133°47W, h1km, ML3.3/9, 55km east of Juneau, Ak Southeastern Alaska*

ISC 09 02:18:10.5±1.0, 58°36N±0.05×133°42W±0.03, h10km, n28, σ1§61/53, Southeastern Alaska

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JIS	**Juneau Island**	**0.52**	**261**	P	**Pg**	**02 18 18.9**	**-1.6**
JIS				S	**Sg**	**02 18 25.5**	**-1.8**
BESE	**Bessie Mountai**	**0.79**	**287**	P	**Pg**	**02 18 24.0**	**-1.6**
BESE				S	**Sg**	**02 18 34.6**	**-1.3**
SKAG	**Skagway**	**1.48**	**319**	P	**Pn**	**02 18 37.2**	**0.0**
SKAG				S	**Sb**	**02 18 57.2**	**+0.2**
DLBC	**Dease Lake**	**1.79**	**86**	Pn	**Pn**	**02 18 42.3**	**+0.7**
DLBC				Sg	**Sb**	**02 19 07.3**	**+1.4**
DLBC	**Dease Lake**	**1.79**	**86**	P	**Pn**	**02 18 42.1**	**+0.6**
DLBC				S	**Sb**	**02 19 07.5**	**+1.6**
PLBC	**Pleasant Camp**	**1.88**	**307**	Pn	**Pn**	**02 18 43.7**	**+1.0**
PLBC				Sg	**Sb**	**02 19 08.4**	**-0.1**
PLBC	**Pleasant Camp**	**1.88**	**307**	P	**Pn**	**02 18 43.0**	**+0.3**
WRAK	**Wrangell Islan**	**2.03**	**163**	P	**Pn**	**02 18 44.1**	**-0.6**
WHY	**Whitehorse**	**2.42**	**343**	Pn	**Pn**	**02 18 50.2**	**-0.1**
WHY				Pg	**Pb**	**02 18 55.1**	**+0.9**
WHY				Sn	**Sn**	**02 19 18.8**	**-1.2**
WHY				Sg	**Sb**	**02 19 24.8**	**+0.6**
WHY	**Whitehorse**	**2.42**	**343**	P	**Pn**	**02 18 50.5**	**+0.2**
CRAG	**Craig**	**2.90**	**177**	P	**Pn**	**02 18 56.2**	**-0.5**
HYT	**Haines Junctio**	**3.23**	**322**	Pn	**Pn**	**02 19 02.3**	**+1.0**
HYT				Pg	**Pb**	**02 19 08.5**	**+0.5**
HYT				Sg	**Sb**	**02 19 49.5**	**+2.2**
HYT	**Haines Junctio**	**3.23**	**322**	P	**Pn**	**02 19 02.6**	**+1.2**
YUK7	**Dusty Glacier**	**3.25**	**314**	Pg	**Pb**	**02 19 08.8**	**+0.4**
YUK7				Sg	**Sg**	**02 19 53.7**	**-1.1**
PNL	**Peninsula**	**3.36**	**296**	Pn	**Pn**	**02 19 03.5**	**+0.4**
PNL				Pg	**Pb**	**02 19 10.2**	**+0.1**
PNL				Sg	**Sb**	**02 19 53.1**	**+2.2**
PNL	**Peninsula**	**3.36**	**296**	P	**Pn**	**02 19 03.3**	**+0.3**
YUK5	**Granite Creek**	**3.57**	**323**	Pn	**Pn**	**02 19 06.9**	**+0.8**
YUK5				Pg	**Pb**	**02 19 14.1**	**+0.2**
YUK5				Sg	**Sb**	**02 19 59.1**	**+1.8**
YUK6	**Outpost Mounta**	**3.60**	**318**	Pn	**Pn**	**02 19 07.3**	**+0.7**
YUK6				Pg	**Pb**	**02 19 14.7**	**+0.2**
YUK6				Sg	**Sg**	**02 20 05.9**	**-0.3**
PCA	**Pinnacle**	**3.92**	**299**	Pg	**Pb**	**02 19 20.2**	**+0.5**
CTGM	**Chitina Glacie**	**4.79**	**306**	Pg	**Pb**	**02 19 35.7**	**+1.1**
CTGM				Sg	**Sb**	**02 20 37.0**	**+4.8**
YUK3	**Moose Creek**	**4.91**	**317**	Pg	**Pb**	**02 19 37.9**	**+1.2**
YUK2	**White River**	**5.06**	**316**	Pn	**Pn**	**02 19 27.2**	**+0.7**
YUK2				Pg	**Pb**	**02 19 39.6**	**+0.5**
YUK2				Sg	**Sg**	**02 20 51.9**	**-0.9**
DIB	**Dawson Inlet,**	**5.20**	**174**	Pn	**Pn**	**02 19 28.5**	**+0.3**
BALM	**Baldy**	**5.25**	**304**	Pg	**Pb**	**02 19 44.8**	**+2.3**
DAWY	**Dawson**	**6.41**	**336**	Pg	Pb	02 20 07.7	+5.7
DAWY				Sg	**Sg**	**02 21 30.7**	**-5.3**
DAWY	**Dawson**	**6.41**	**336**	*e*Pn	**Pn**	**02 19 45.0**	**+0.1**
	5.0nm,0.8s						
DAWY				*e*Pg	Pg	02 20 08.1	-5.0
DAWY				*e*Sn	**Sn**	**02 20 58.8**	**+0.7**
DAWY				*e*Sg	**Sg**	**02 21 33.4**	**-2.6**
EGAK	**Eagle**	**7.42**	**333**	*e*Pn	**Pn**	**02 20 01.6**	**+2.9**
	50nm,1.0s						
EGAK				*e*Pg	Pg	02 20 26.4	-6.0
EGAK				*e*Sn	**Sn**	**02 21 23.7**	**+1.0**
EGAK				*e*Sg	**Sg**	**02 22 04.8**	**-3.5**
INK	**Inuvik**	**9.99**	**360**	*e*Pn	**Pn**	**02 20 35.3**	**+1.5**
	5.9nm,1.1s						

*ISCJB **09** 02:18:27.0±1.4, 36°50S±0.04×74°85W±0.04, h5km±9km, mb4.2/24, Error ellipse: s-maj=6.1km s-min=5.1km az=161.8*
*IDC **09** 02:18:28.2±0.7, 36°39S×74°89W, h0km, mb4.0/10, mb1 4.2/12, mb1mx4.1/29, mbtmp4.0/12, ML4.2/2, MS3.5/2, Ms1 3.5/2, ms1mx2.9/27, Error ellipse: s-maj=29.3km s-min=16.6km az=79.0*
*GUC **09** 02:18:29.7±0.5, 36°62S×74°86W, h23km±3km, ML3.6*
*NEIC **09** 02:18:31.5±2.8, 36°41S×74°79W, h21km±20km, mb4.5/17, Error ellipse: s-maj=14.3km s-min=6.1km az=89.0*

ISC 09 02:18:28.5±4.3, 36°52S±0.04×74°87W±0.07, h3km±27km, n62, σ1§97/77, mb4.3/25, 2C-3D, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CCSP	**San Pedro de C**	**1.46**	**104**	*e*P	**Pn**	**02 18 53.5**	**-2.1**
CCSP				*e*S	**Sn**	**02 19 11.9**	**-3.2**
CCSP				IAML		02 19 12.8	
	comp=N,2µm,0.3s						
COCH	**Cobquecura**	**1.73**	**78**	*i* P	**Pn**	**02 18 58.1**	**-1.2**
COCH				*i* S	**Sn**	**02 19 20.2**	**-1.6**
COCH				IAML		02 19 20.5	
	comp=N,614nm,0.8s						
CCHI	**Chillan**	**2.25**	**93**	*e*P	**Pn**	**02 19 06.4**	**-0.2**
CCHI				*e*S	**Sn**	**02 19 33.5**	**-1.3**
CCHI				IAML		02 19 41.8	
	comp=N,1µm,0.4s						
PSCH	**Puerto Saavedr**	**2.56**	**153**	*i* P	**Pn**	**02 19 09.0**	**-1.8**
PSCH				*e*S	**Sn**	**02 19 38.0**	**-4.6**
LNCH	**Linares**	**2.73**	**77**	*i* P	**Pn**	**02 19 13.2**	**+0.1**
LNCH				*i* S	**Sn**	**02 19 45.9**	**-0.7**
TALC	**Talca**	**2.85**	**68**	*e*P	**Pn**	**02 19 15.2**	**+0.3**
TALC				*e*S	**Sn**	**02 19 49.3**	**-0.4**
VLCH	**Valdivia**	**3.53**	**159**	*i* P	**Pn**	**02 19 21.3**	**-2.8**
VLCH				*e*S	**Sn**	**02 20 01.5**	**-4.8**
ROC1	**El Roble**	**4.75**	**43**	*e*P	**Pn**	**02 19 41.2**	**0.0**
ROC1				*e*S	**Sn**	**02 20 34.3**	**-2.5**
ROC1	**El Roble**	**4.75**	**43**	*e*Pn	**Pn**	**02 19 40.0**	**-1.1**
PLCA	**Paso Flores**	**5.40**	**143**	Pn	**Pn**	**02 19 50.0**	**0.0**
	comp=N,2.6nm,0.3s,baz=344,slow=11,SNR=52						
PLCA				Sn	**Sn**	**02 20 57.4**	**+4.8**
	comp=N,6.0nm,0.3s,baz=234,slow=19,SNR=3.4						
PLCA				LR	LR	02 22 15.9	
	comp=N,273nm,19.1s,baz=329,slow=41						
PLCA	**Paso Flores**	**5.40**	**143**	*e*P	**Pn**	**02 19 48.9**	**-1.0**
PLCA	**Paso Flores**	**5.40**	**143**	*i* P	**Pn**	**02 19 49.8**	**-0.1**
PLCA				IAML		02 19 58.7	
	comp=Z,86nm,0.5s						
PLCA				*i* S	**Sn**	**02 20 57.2**	**+4.6**
AAGR	**Agrelo**	**6.04**	**57**	*e*P	**Pn**	**02 20 00.4**	**+1.7**
AUSP	**Uspallata**	**6.24**	**48**	*i* P	**Pn**	**02 20 03.0**	**+1.3**
AUSP				*e*S	**Sn**	**02 21 17.1**	**+3.5**
ASAL	**Salagasta**	**6.33**	**54**	*i* P	**Pn**	**02 20 04.4**	**+1.6**
ASAL				*e*S	**Sn**	**02 21 20.8**	**+5.1**
RTLS	**Leoncito**	**6.59**	**46**	*i* P	**Pn**	**02 20 07.3**	**+0.8**
RTLS				IAML		02 20 18.2	
	comp=Z,24nm,0.4s						
RTLS				*i* S	**Sn**	**02 21 27.4**	**+5.1**
RTCV	**Cerro Valdivia**	**7.00**	**50**	*i* P	**Pn**	**02 20 12.1**	**+0.1**
ACAN	**Cantantal**	**7.63**	**59**	*e*P	**Pn**	**02 20 21.3**	**+0.8**
AMOG	**MOGNA**	**7.69**	**46**	*e*P	**Pn**	**02 20 21.1**	**-0.3**
AMOG				*i* S	**Sn**	**02 21 48.6**	**-0.5**
LCO	**Las Campanas**	**8.27**	**26**	*e*Pn	**Pn**	**02 20 27.1**	**-2.4**
LCO				*e*Sn	**Sn**	**02 21 58.5**	**-5.0**
AVFE	**Valle Fertil**	**8.51**	**49**	*e*P	**Pn**	**02 20 31.2**	**-1.4**
AVFE				*e*S	**Sn**	**02 22 05.8**	**-3.3**
AGUA	**GUANDACOL**	**8.82**	**39**	*e*P	**Pn**	**02 20 37.2**	**+0.3**
ACLC	**CERRO LA CRUZ**	**9.70**	**45**	*e*P	**Pn**	**02 20 48.0**	**-1.1**
TRQA	**Tornquist**	**10.39**	**102**	*e*Pn	**Pn**	**02 20 59.4**	**+1.1**
CHRN	**Cochrane**	**10.86**	**172**	*e*Pn	**Pn**	**02 21 05.8**	**+1.1**
CPUP	**Villa Florida**	**18.06**	**61**	P	**P**	**02 22 40.3**	**-0.7**
	comp=Z,0.1nm,0.3s,baz=252,slow=20,SNR=2.6						
USHA	**Ushuaia**	**18.85**	**168**	LR	LR	02 29 43.2	
	comp=Z,245nm,21.0s,baz=348

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHJ2	**Mitsune**	**2.37**	**282**	P	**Pn**	**02 19 49.6**	**-2.0**
JHCJ	**Hachijojimakas**	**2.38**	**281**	P	**Pn**	**02 19 49.8**	**-1.9**
JHCJ				*e*S	**Sn**	**02 20 18.4**	**-1.3**
BSO1	**Boso 1**	**2.40**	**326**	P	**Pn**	**02 19 50.7**	**-0.7**
BSO1				*e*S	**Sn**	**02 20 21.1**	**+1.8**
JHJ	**Hachijo jima 2**	**2.40**	**282**	Pn	**Pn**	**02 19 49.8**	**-2.2**
	28nm,0.3s,baz=63,slow=22,SNR=14						
JHJ				Sn	**Sn**	**02 20 17.9**	**-2.3**
	91nm,0.3s,baz=42,slow=22,SNR=9.0						
JHJ				LR	LR	02 20 45.0	
	comp=Z,113nm,18.4s,baz=109,slow=39						
BSO3	**Boso 3**	**2.75**	**322**	P	**Pn**	**02 19 55.6**	**-0.9**
JOD2	**Odawara 2**	**3.90**	**313**	P	**Pn**	**02 20 11.9**	**-0.6**
JOD2				*e*S	**Sn**	**02 20 56.1**	**-0.9**
JYN	**Shimob**	**4.39**	**311**	P	**Pn**	**02 20 19.0**	**-0.3**
JYN				*e*S	**Sn**	**02 21 08.5**	**-0.6**
JRY	**Ryogami san**	**4.53**	**319**	P	**Pn**	**02 20 20.7**	**-0.4**
JRY				*e*S	**Sn**	**02 21 13.2**	**+0.7**
JAG	**Ashikaga**	**4.56**	**326**	P	**Pn**	**02 20 20.8**	**-0.8**
JAG				*e*S	**Sn**	**02 21 12.1**	**-1.1**
JFT	**Otama**	**5.19**	**340**	P	**Pn**	**02 20 28.8**	**-1.3**
JFT				*e*S	**Sn**	**02 21 26.1**	**-2.6**
MJAR	**Matsushiro Arr**	**5.29**	**318**	Pn	**Pn**	**02 20 30.5**	**-1.1**
	2.5nm,0.3s,baz=150,slow=14,SNR=12						
MJAR				Sn	**Sn**	**02 21 31.5**	**+0.2**
	1.8nm,0.3s,baz=114,slow=22,SNR=4.5						
MAJO	**Matsushiro**	**5.29**	**318**	*e*Pn	**Pn**	**02 20 31.4**	**-0.2**
	14nm,0.6s						
MAT	**Matsushiro**	**5.29**	**318**	P	**Pn**	**02 20 30.3**	**-1.4**
MAT				*e*S	**Sn**	**02 21 29.6**	**-1.8**
MAT	**Matsushiro**	**5.29**	**318**	*e*S	**Sn**	**02 21 31.8**	**+0.4**
JMK	**Ichinoseki**	**6.38**	**350**	P	**Pn**	**02 20 44.6**	**-1.8**
JMK				*e*S	**Sn**	**02 21 52.1**	**-5.7**
KSRS	**Korea Array**	**12.93**	**296**	LR	LR	02 26 15.7	
	comp=Z,30nm,21.7s,baz=197,slow=33						
USRK	**Ussuriysk Ar.**	**14.19**	**327**	Pn	**Pn**	**02 22 32.9**	**-0.2**
	0.1nm,0.3s,baz=110,slow=11,SNR=2.7						
SONM	**Songino Array**	**31.18**	**310**	P	**P**	**02 25 29.6**	**+0.3**
	0.7nm,0.7s,baz=109,slow=7.8,SNR=4.1						
CMAR	**Chiang Mai Arr**	**41.55**	**261**	P	**P**	**02 26 58.0**	**+0.2**
	1.0nm,0.4s,baz=42,slow=8.5,SNR=3.6						
ZALV	**Zalesovo Beam**	**45.64**	**316**	P	**P**	**02 27 31.4**	**+1.2**
	0.9nm,0.5s,baz=105,slow=9.1,SNR=3.8						
WRA	**Warramunga Arr**	**52.90**	**190**	P	**P**	**02 28 24.6**	**-1.4**
	0.6nm,0.6s,baz=9.3,slow=7.5,SNR=4.6						
BRVK	**Borovoye**	**54.34**	**315**	*e*P	**P**	**02 28 37.0**	**+0.8**
	2.2nm,0.3s						
KKAR	**Karatay Array**	**56.23**	**303**	*e*P	**P**	**02 28 51.4**	**+1.4**
	1.3nm,0.7s						
ASAR	**Alice Springs**	**56.62**	**190**	P	**P**	**02 28 52.0**	**-0.8**
	0.3nm,0.8s,baz=15,slow=7.7,SNR=2.4						
ABKAR	**Akbulak array**	**61.54**	**312**	*e*P	**P**	**02 29 27.3**	**+0.6**
	1.0nm,0.4s						
FINES	**FINESS Array B**	**73.14**	**333**	P	**P**	**02 30 41.4**	**+1.7**
	1.1nm,0.5s,baz=54,slow=9.5,SNR=7.2						
ASF	**Jabal al Asfar**	**84.77**	**305**	LR	LR	03 10 53.4	
	comp=Z,73nm,21.7s,slow=37						

*GEN **09** 02:28:38.8, 44°.73N×10°.32E, h3km, ML1.7*
*ISCJB **09** 02:28:40.0±0.3, 44°.61N±0°.02×10°.24E±0°.04, h28km±4km, Error ellipse: s-maj=5.1km s-min=4.0km az=175.5*
*ROM **09** 02:28:39.9±0.1, 44°.62N×10°.23E, h22km±2km, Md2.4/13, Ml2.1/6, Error ellipse: s-maj=2.3km s-min=1.4km az=112.0*
*CSEM **09** 02:28:39.8±0.2, 44°.63N×10°.24E, h20km, ML2.7/8, Error ellipse: s-maj=4.0km s-min=3.2km az=95.0*
ISC 09 02:28:40.2±0.9, 44°.63N±0°.02×10°.24E±0°.02, h25km±5km, n50, σ1÷07/86, Northern Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PRMA	**PARMA**	**0.15**	**20**	Pg	**Pb**	**02 28 44.1**	**-1.1**
PRMA				Sg	**Sb**	**02 28 48.3**	**-0.3**
PRMA	**PARMA**	**0.15**	**20**	Pg	**Pb**	**02 28 44.1**	**-1.1**
PRMA				Sg	**Sb**	**02 28 48.3**	**-0.3**
GRAM	**Graiana**	**0.19**	**223**	P	**Pb**	**02 28 44.8**	**-0.9**
GRAM				S	**Sb**	**02 28 48.7**	**-0.8**
CODM	**Codolo**	**0.37**	**230**	P	**Pb**	**02 28 48.0**	**-0.2**
CODM				S	**Sn**	**02 28 54.5**	**-1.9**
NOVE	**Novellara**	**0.38**	**63**	Pg	**Pb**	**02 28 47.7**	**-0.7**
NOVE				Sg	**Sn**	**02 28 55.5**	**-1.1**
NOVE	**Novellara**	**0.38**	**63**	Pg	**Pb**	**02 28 47.7**	**-0.7**
NOVE				Sg	**Sn**	**02 28 55.5**	**-1.1**
SARO	**Sassorosso**	**0.46**	**166**	P	**Pb**	**02 28 49.1**	**-0.6**
SARO				S	**Sb**	**02 28 56.2**	**0.0**
VLC	**Villacollemand**	**0.48**	**168**	Pg	**Pb**	**02 28 49.6**	**-0.4**
VLC				Sg	**Sn**	**02 28 57.5**	**-1.6**
	38nm,0.2s						
VLC	**Villacollemand**	**0.48**	**168**	Pg	**Pb**	**02 28 49.6**	**-0.4**
VLC				Sg	**Sn**	**02 28 57.5**	**-1.6**
	38nm,0.2s						
SC2M	**Scurtabo**	**0.55**	**247**	Pg	**Pb**	**02 28 50.8**	**-0.5**
SC2M				Sg	**Sb**	**02 28 59.4**	**+0.5**
	61nm,0.3s						
SC2M	**Scurtabo**	**0.55**	**247**	P	**Pb**	**02 28 50.8**	**-0.5**
SC2M				Sg	**Sb**	**02 28 59.4**	**+0.5**
	61nm,0.3s						
SC2M				S	**Sn**	**02 28 59.9**	**-1.1**
BOB	**Bobbio (Coli)**	**0.58**	**284**	Pg	**Pb**	**02 28 51.9**	**0.0**
BOB	**Bobbio (Coli)**	**0.58**	**284**	Pg	**Pb**	**02 28 51.9**	**0.0**
BDI	**Bagni Di Lucca**	**0.62**	**156**	Pg	**Pb**	**02 28 52.1**	**-0.3**
BDI				Sg	**Sb**	**02 29 00.5**	**-0.2**
	33nm,0.3s						
BDI	**Bagni Di Lucca**	**0.62**	**156**	Pg	**Pb**	**02 28 52.1**	**-0.3**
BDI				Sg	**Sb**	**02 29 00.5**	**-0.2**
	33nm,0.3s						
POPM	**Popiglio**	**0.69**	**147**	P	**Pb**	**02 28 53.4**	**-0.1**
MAIM	**Mastiano**	**0.73**	**166**	Pg	**Pb**	**02 28 53.9**	**-0.4**
MAIM	**Mastiano**	**0.73**	**166**	P	**Pb**	**02 28 53.5**	**-0.8**
MAIM	**Mastiano**	**0.73**	**166**	Pg	**Pb**	**02 28 53.9**	**-0.4**
PTF	**Prato**	**0.89**	**138**	Pg	**Pn**	**02 28 57.0**	**-0.2**
PTF	**Prato**	**0.89**	**138**	Pg	**Pn**	**02 28 57.0**	**-0.2**
SALO	**Salr**	**1.01**	**11**	Pg	**Pn**	**02 28 59.4**	**+0.5**
SALO				Sg	**Sn**	**02 29 13.4**	**+1.1**
	84nm,0.5s						
SALO	**Salr**	**1.01**	**11**	Pg	**Pn**	**02 28 59.4**	**+0.5**
SALO				Sg	**Sn**	**02 29 13.4**	**+1.1**
	84nm,0.5s						
BALD	**Monte Baldo**	**1.13**	**21**	*e*Pg	**Pn**	**02 29 00.5**	**-0.2**
BALD	**Monte Baldo**	**1.13**	**21**	*e*Pg	**Pn**	**02 29 00.5**	**-0.2**
ROVR	**Rover˜¤ Verone**	**1.18**	**30**	Pg	**Pb**	**02 29 01.3**	**-0.6**
ROVR				Sg	**Sn**	**02 29 17.7**	**+1.2**
	142nm,0.5s						
ROVR	**Rover˜¤ Verone**	**1.18**	**30**	Pg	**Pb**	**02 29 01.3**	**-0.6**
ROVR				Sg	**Sn**	**02 29 17.7**	**+1.2**
	142nm,0.5s						
MAGA	**Magasa**	**1.18**	**13**	Pg	**Pb**	**02 29 01.3**	**-0.7**
MAGA				Sg	**Sn**	**02 29 17.5**	**+0.9**
MAGA	**Magasa**	**1.18**	**13**	Pg	**Pb**	**02 29 01.3**	**-0.7**
MAGA				Sg	**Sn**	**02 29 17.5**	**+0.9**
MARN	**Marana (Italy)**	**1.22**	**34**	*e*Pg	**Pn**	**02 29 01.4**	**-0.3**
MARN				*e*Sg	**Sb**	**02 29 18.2**	**+0.2**
MARN	**Marana (Italy)**	**1.22**	**34**	*e*Pg	**Pn**	**02 29 01.4**	**-0.3**
MARN				*e*Sg	**Sb**	**02 29 18.2**	**+0.2**
TEOL	**Teolo**	**1.25**	**54**	Pg	**Pb**	**02 29 02.9**	**-0.2**
TEOL				Sg	**Sb**	**02 29 19.8**	**+1.0**
TEOL	**Teolo**	**1.25**	**54**	*e*Pg	**Pb**	**02 29 02.5**	**-0.6**
TEOL	**Teolo**	**1.25**	**54**	Pg	**Pb**	**02 29 02.9**	**-0.2**
TEOL				Sg	**Sb**	**02 29 19.8**	**+1.0**
RNI	**Roncone**	**1.38**	**11**	*e*Pg	**Pn**	**02 29 04.0**	**-0.1**
RNI				*e*Sg	**Sb**	**02 29 23.1**	**+0.4**
RNI	**Roncone**	**1.38**	**11**	*e*Pg	**Pn**	**02 29 04.0**	**-0.1**
RNI				*e*Sg	**Sb**	**02 29 23.1**	**+0.4**
MABI	**Malga Bissina**	**1.44**	**7**	Pg	**Pn**	**02 29 05.2**	**+0.3**
	14nm,0.4s						
MABI	**Malga Bissina**	**1.44**	**7**	Pg	**Pn**	**02 29 05.2**	**+0.3**
	14nm,0.4s						
FETA	**Feichten**	**2.42**	**8**	Pn	**Pn**	**02 29 17.1**	**-1.2**
	0.2nm,0.3s						
FETA				Sn	**Sn**	**02 29 45.5**	**-1.7**
	0.8nm,0.3s						
FETA	**Feichten**	**2.42**	**8**	Pn	**Pn**	**02 29 17.1**	**-1.2**
	0.2nm,0.3s						
FETA				Sn	**Sn**	**02 29 45.5**	**-1.7**
	0.8nm,0.3s						
DAVA	**Damuels**	**2.67**	**355**	Pn	**Pn**	**02 29 20.5**	**-1.3**
	0.4nm,0.1s						
DAVA				Sn	**Sn**	**02 29 52.7**	**-0.8**
	3.1nm,0.3s						
DAVA	**Damuels**	**2.67**	**355**	Pn	**Pn**	**02 29 20.5**	**-1.3**
	0.4nm,0.1s						
DAVA				Sn	**Sn**	**02 29 52.7**	**-0.8**
	3.1nm,0.3s						
MOTA	**Moosalm**	**2.78**	**12**	Pn	**Pb**	**02 29 26.0**	**-3.3**
	0.4nm,0.2s						
MOTA				Sn	**Sb**	**02 30 00.8**	**-2.2**
	1.9nm,0.4s						
MOTA	**Moosalm**	**2.78**	**12**	Pn	**Pb**	**02 29 26.0**	**-3.3**
	0.4nm,0.2s						
MOTA				Sn	**Sb**	**02 30 00.8**	**-2.2**
	1.9nm,0.4s						
RETA	**Reutte**	**2.88**	**7**	Sn	**Sn**	**02 29 56.7**	**-1.9**
	1.1nm,0.3s						
RETA	**Reutte**	**2.88**	**7**	Sn	**Sn**	**02 29 56.7**	**-1.9**
	1.1nm,0.3s						
NVLJ	**Novalja**	**3.31**	**89**	*e*Pn	**Pn**	**02 29 30.0**	**-0.4**
NVLJ				Sn	**Sn**	**02 30 07.7**	**-1.1**
NVLJ	**Novalja**	**3.31**	**89**	*e*Pn	**Pn**	**02 29 29.9**	**-0.4**
NVLJ				Sn	**Sn**	**02 30 07.7**	**-1.1**
UDBI	**Udbina**	**3.94**	**89**	*i* Pn	**Pn**	**02 29 40.1**	**+0.9**
UDBI				Sn	**Sn**	**02 30 23.4**	**-1.4**
UDBI	**Udbina**	**3.94**	**89**	*i* Pn	**Pn**	**02 29 40.1**	**+0.9**
UDBI				Sn	**Sn**	**02 30 23.3**	**-1.4**

*CSEM **09** 02:29:23.2, 44°.64N×10°.32E, h20km, ML1.8/3*
ROM 09 02:29:23.2±0.3, 44°.64N×10°.32E, h20km±6km, Ml1.8/3, Error ellipse: s-maj=4.4km s-min=3.0km az=81.0, Northern Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PRMA	**PARMA**	**0.13**	**359**	Pg	Pb	02 29 26.9	-0.6
PRMA				Sg	Sb	02 29 31.2	+0.8
PRMA	**PARMA**	**0.13**	**359**	Pg	Pb	02 29 26.9	-0.6
PRMA				Sg	Sb	02 29 31.2	+0.8
NOVE	**Novellara**	**0.33**	**60**	Pg	Pb	02 29 30.6	+0.3
NOVE	**Novellara**	**0.33**	**60**	Pg	Pb	02 29 30.6	+0.3
VLC	**Villacollemand**	**0.48**	**174**	Pg	Pb	02 29 32.4	-0.5
VLC				Sg	Sb	02 29 40.1	+0.6
	38nm,0.2s						
VLC	**Villacollemand**	**0.48**	**174**	Pg	Pb	02 29 32.4	-0.5
VLC				Sg	Sb	02 29 40.1	+0.6
	38nm,0.2s						
BDI	**Bagni Di Lucca**	**0.61**	**161**	Pg	Pb	02 29 34.8	-0.4
BDI				Sg	Sb	02 29 44.6	+1.3
	33nm,0.3s						
BDI	**Bagni Di Lucca**	**0.61**	**161**	Pg	Pb	02 29 34.8	-0.4
BDI				Sg	Sb	02 29 44.6	+1.3
	33nm,0.3s						
BOB	**Bobbio (Coli)**	**0.63**	**282**	Pg	Pb	02 29 35.9	+0.2
BOB	**Bobbio (Coli)**	**0.63**	**282**	Pg	Pb	02 29 35.9	+0.2
PTF	**Prato**	**0.86**	**141**	Pg	Pn	02 29 40.1	-0.2
PTF	**Prato**	**0.86**	**141**	Pg	Pn	02 29 40.1	-0.2
ROVR	**Rover˜¤ Verone**	**1.14**	**28**	Pg	Pb	02 29 44.3	-0.1
	142nm,0.5s						
ROVR	**Rover˜¤ Verone**	**1.14**	**28**	Pg	Pb	02 29 44.3	-0.1
	142nm,0.5s						

*VIE **09** 02:33:24.3±1.1, 50°.23N×12°.49E, h8km, mb1.9/1, ML2.0/2, Error ellipse: s-maj=2.1km s-min=2.6km az=53.0*
*CSEM **09** 02:33:25.3±0.3, 50°.21N×12°.52E, h5km, ML2.6/6, Error ellipse: s-maj=6.8km s-min=4.0km az=23.0*
*PRU **09** 02:33:25.6, 50°.26N×12°.51E, h2km, West Bohemia Swarm*
ISC 09 02:33:25.3±1.0, 50°.24N±0°.04×12°.55E±0°.06, h6km±10km, n14, σ0÷47/19, 3C, Germany

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NKC	**Novy Kostel**	**0.06**	**263**	*i* Pg	**Pg**	**02 33 27.0**	**+0.1**
NKC				*e*SG	**Sg**	**02 33 28.0**	**-0.1**
	comp=Z,768nm,0.1s						
NKC	**Novy Kostel**	**0.06**	**263**	Pg	**Pg**	**02 33 27.0**	**+0.1**
NKC				Sg	**Sg**	**02 33 28.0**	**-0.1**
	768nm,0.1s						
CLL	**Collm**	**1.11**	**15**	*i* Pg	**Pg**	**02 33 46.2**	**-0.3**
CLL				*i*		02 33 48.0	
CLL				*i* Sg	**Sg**	**02 34 01.0**	**+0.2**
	comp=Z,9.0nm,0.6s						
PRA	**Prague**	**1.23**	**97**	*e*SG	**Sn**	**02 34 06.2**	**+0.4**
PRA	**Prague**	**1.23**	**97**	Sg	**Sn**	**02 34 06.2**	**+0.4**
KHC	**Kasperske Hory**	**1.30**	**148**	*e*PG	**Pn**	**02 33 49.8**	**-0.2**
KHC				*e*SG	**Sg**	**02 34 06.9**	**0.0**
	comp=Z,5.6nm,0.2s						
KHC	**Kasperske Hory**	**1.30**	**148**	Pg	**Pn**	**02 33 49.8**	**-0.2**
KHC				Sg	**Sg**	**02 34 06.9**	**0.0**
	comp=Z,5.6nm,0.2s						
PRU	**Pruhonice**	**1.31**	**100**	*e*SG	**Sn**	**02 34 08.3**	**+0.4**
	comp=Z,6.0nm,0.2s						
PRU	**Pruhonice**	**1.31**	**100**	Sg	**Sn**	**02 34 08.3**	**+0.4**
	comp=Z,6.0nm,0.2s						
GOPC	**GO Pecny, Ondr**	**1.48**	**102**	*e*SG	**Sg**	**02 34 13.5**	**+0.7**
	comp=Z,5.6nm,0.2s						
GOPC	**GO Pecny, Ondr**	**1.48**	**102**	Sg	**Sg**	**02 34 13.5**	**+0.7**
	comp=Z,5.6nm,0.2s						
DPC	**Dobruska-Polom**	**2.42**	**86**	*e*SG	**Sg**	**02 34 42.4**	**-0.7**
	comp=Z,1.5nm,0.3s						
DPC	**Dobruska-Polom**	**2.42**	**86**	Sg	**Sg**	**02 34 42.4**	**-0.7**
	comp=Z,1.5nm,0.3s						
MOA	**Molln**	**2.65**	**154**	Sg	**Sg**	**02 34 49.5**	**-0.8**
	comp=Z,0.8nm,0.2s						

*SJA **09** 02:33:45.7±0.8, 22°.05S×68°.69W, h292km±46km, ML5.1, MW5.1*
*SCB **09** 02:33:50.8±0.9, 22°.35S×68°.64W, h98km, Ml5.0/2, Error ellipse: s-maj=24.7km s-min=7.9km az=43.0*
*ISCJB **09** 02:33:52.0±0.2, 22°.33S±0°.02×68°.74W±0°.03, h102km±2km, mb5.3/219, Error ellipse: s-maj=4.7km s-min=3.3km az=154.3*
*NEIC **09** 02:33:53.0±0.0, 22°.42S×68°.91W, h99km, mb5.3/188, After GUC.*
NEIC Felt [IV] at Calama, Oficina Maria Elena and Tocopilla; [III] at Alto Hospicio, Iquique, Mejillones, Quillagua and San Pedro de Atacama; [II] at Antofagasta and Huara.
*IDC **09** 02:33:53.2±0.3, 22°.43S×68°.68W, h95km±2km, mb4.9/21, mb1 5.0/27, mb1mx5.0/33, mbtmp5.2/27, MS4.0/6, Ms1 4.0/6, ms1mx3.7/20, Error ellipse: s-maj=12.4km s-min=9.4km az=79.0*
*GCMT **09** 02:33:53.0±0.2, 22°.57S×68°.93W, h123km±1km, MW5.4/120, Moment Tensor Solution. s87,c115; s120,c205; Duration: 1ś2 Moment tensor: Scale 10^17 Nm; Mrr=0.95±.03; Mθθ=0.54±.03; Mφφ=1.49±.03; Mrθ=0.67±.02; Mrφ=-0.07±.03; Mθφ=-0.22±.03; Best double couple: Mo=1.48300×10^17 NP1:φs=328.00000°, δ60.00000°, λ=-132.00000°. NP2:φs=209.00000°, δ50.00000°, λ=-40.00000°. Principal axes: T 1.5190, Plg6.0000°, Azm86.0000°; N -0.0710, Plg36.0000°, Azm352.0000°; P -1.4470, Plg54.0000°, Azm184.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*GUC **09** 02:33:53.2±0.5, 22°.42S×68°.90W, h99km±3km, ML5.7*
*BJI **09** 02:33:53.4, 22°.40S×68°.50W, h101km, mB5.2/19*
*MOS **09** 02:33:55.7±1.1, 22°.22S×68°.70W, h123km, mb5.2/40, Error ellipse: s-maj=14.0km s-min=6.2km az=111.0*
ISC 09 02:33:53.1±0.2, 22°.42S±0°.03×68°.78W±0°.03, h99km±2km, h99km:pP-P, n995, σ1ś21/1127, mb5.3/219, 16C-6D, Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**0.23**	**212**	P	**Pn**	**02 34 07.3**	**-0.4**
	baz=32,slow=3.0						
LVC				S	**Sn**	**02 34 17.6**	**-1.0**
	400μm,0.3s,baz=216,slow=20,SNR=100						
LVC	**Limon Verde**	**0.23**	**212**	*e*Pn	**Pn**	**02 34 07.1**	**-0.6**
LVC				*e*Sn	**Sn**	**02 34 17.4**	**-1.2**
PB09	**IPOC Station P**	**0.75**	**325**	*e*P	**Pn**	**02 34 11.3**	**+0.2**
PB09				*e*S	**Sn**	**02 34 24.5**	**0.0**
PB09				IAML		02 34 26.8	
	comp=E,384μm,1.5s						
PB06	**IPOC Station P**	**0.79**	**248**	*e*P	**Pn**	**02 34 10.7**	**-0.7**
PB06				*e*S	**Sn**	**02 34 24.3**	**-0.8**
PB07	**IPOC Station P**	**1.23**	**304**	*e*P	**Pn**	**02 34 15.9**	**-0.3**
PB07				*e*S	**Sn**	**02 34 33.1**	**-0.6**
PB07				IAML		02 34 33.8	
	comp=E,145μm,1.0s						
PB04	**IPOC Station P**	**1.27**	**273**	*e*P	**Pn**	**02 34 15.8**	**-0.8**
PB04				*e*S	**Sn**	**02 34 33.3**	**-1.2**
PB04	**IPOC Station P**	**1.27**	**273**	*e*Pn	**Pn**	**02 34 15.9**	**-0.8**
PB04				*e*Sn	**Sn**	**02 34 34.2**	**-0.2**
PB02	**IPOC Station P**	**1.51**	**316**	*e*P	**Pn**	**02 34 19.4**	**0.0**
PB02				*e*S	**Sn**	**02 34 38.8**	**-0.6**
PB02				IAML		02 34 40.1	
	comp=N,140μm,0.9s						
PB01	**IPOC Station P**	**1.52**	**334**	*e*P	**Pn**	**02 34 19.7**	**+0.1**
PB01				*e*S	**Sn**	**02 34 39.8**	**+0.1**
PB01				IAML		02 34 41.4	
	comp=N,127μm,0.5s						
PB01	**IPOC Station P**	**1.52**	**334**	*e*Pn	**Pn**	**02 34 20.2**	**+0.6**
PB01				*e*Sn	**Sn**	**02 34 39.8**	**+0.1**
ANCH	**Antofagasta**	**1.96**	**230**	*i* P	**Pn**	**02 34 25.0**	**-0.1**
ANCH				*i* S	**Sn**	**02 34 48.5**	**-1.0**
PB10	**IPOC Station P**	**1.97**	**236**	*e*P	**Pn**	**02 34 23.3**	**-1.8**
PB10				*e*S	**Sn**	**02 34 45.8**	**-3.9**
PB10	**IPOC Station P**	**1.97**	**236**	*e*Pn	**Pn**	**02 34 23.9**	**-1.3**
PB10				*e*Sn	**Sn**	**02 34 45.2**	**-4.4**
PATCX	**Punta Patache**	**2.04**	**321**	*e*P	**Pn**	**02 34 25.4**	**-0.8**
PATCX				*e*S	**Sn**	**02 34 51.4**	**0.0**
PB08	**IPOC Station P**	**2.29**	**351**	*i* P	**Pn**	**02 34 30.5**	**+0.7**
PB11	**IPOC Station P**	**2.77**	**343**	*i* P	**Pn**	**02 34 35.0**	**-0.9**
PB11	**IPOC Station P**	**2.77**	**343**	*e*Pn	**Pn**	**02 34 35.4**	**-0.5**
PB11				*e*Sn	**Sn**	**02 35 03.9**	**-4.9**
YJA	**Yavi**	**3.03**	**86**	*i* P	**Pn**	**02 34 42.0**	**+2.3**
MOCB	**Mochara**	**3.14**	**69**	*e*Pn	**Pn**	**02 34 41.6**	**+0.5**
HJA	**Humahuaca**	**3.21**	**105**	*i* P	**Pn**	**02 34 44.4**	**+2.5**
SLA	**San Lorenzo**	**3.78**	**128**	*i* P	**Pn**	**02 34 52.1**	**+2.6**
SLA				IAML		02 34 54.4	
	comp=Z,2μm,0.7s						
SLA				*i* S	**Sn**	**02 35 40.6**	**+7.6**
ASTB	**Santa Barbara**	**4.26**	**112**	*i* P	**Pn**	**02 34 55.8**	**-0.1**
FSA	**Cafayete**	**4.48**	**146**	*i* P	**Pn**	**02 35 00.3**	**+1.4**
AHML	**Horco Molle**	**5.36**	**145**	*i* P	**Pn**	**02 35 11.3**	**+0.6**
BBOJ	**La Paz, Jacaqu**	**5.44**	**6**	*i* Pn	**Pn**	**02 35 14.0**	**+1.7**
BBOE	**La Paz, Chanca**	**5.62**	**8**	*i* Pn	**Pn**	**02 35 16.4**	**+1.6**
BBOD	**La Paz, Gloria**	**5.75**	**2**	*i* Pn	**Pn**	**02 35 17.9**	**+1.4**
BBOD				*i* Sn	**Sn**	**02 36 21.8**	**+0.3**
	comp=Z,749nm,0.9s						
LPAZ	**La Paz**	**6.13**	**6**	P	**Pn**	**02 35 23.6**	**+1.9**
	comp=Z,13nm,0.3s,baz=178,slow=2.1,SNR=217						
LPAZ	**La Paz**	**6.13**	**6**	*i* Pn	**Pn**	**02 35 22.7**	**+1.0**
LPAZ	**La Paz**	**6.13**	**6**	*e*Pn	**Pn**	**02 35 22.9**	**+1.2**
BBOB	**La Paz, Bander**	**6.27**	**6**	*i* Pn	**Pn**	**02 35 24.6**	**+1.0**
BBOB				*i* Sn	**Sn**	**02 36 33.0**	**-1.1**
	comp=Z,860nm,0.8s						
LCO	**Las Campanas**	**6.79**	**194**	*e*Pn	Pn	02 35 24.9	-5.4
SIV	**San Ignacio**	**9.69**	**50**	P	**Pn**	**02 36 07.3**	**-2.3**
	comp=Z,30nm,0.3s,baz=253,slow=12,SNR=484						
SIV				S	**Sn**	**02 37 49.1**	**-7.6**
	comp=Z,12nm,0.3s,baz=195,slow=16,SNR=3.7						
SIV	**San Ignacio**	**9.69**	**50**	*e*P	**Pn**	**02 36 06.5**	**-3.1**
PEL	**Peldehue**	**10.82**	**189**	P	**Pn**	**02 36 24.5**	**-0.4**
PEL				pmax	pmax		
	comp=Z,275nm,1.0s						
CPUP	**Villa Florida**	**11.14**	**113**	P	**Pn**	**02 36 26.8**	**-2.4**
	comp=Z,1.3nm,0.3s,baz=296,slow=12,SNR=54						
CPUP				S	**Sn**	**02 38 26.1**	**-5.7**
	comp=Z,0.7nm,0.3s,baz=221,slow=20,SNR=2.1						
CPUP	**Villa Florida**	**11.14**	**113**	*e*Pn	**Pn**	**02 36 26.5**	**-2.8**
CPUP				S	**Sn**	**02 38 26.1**	**-5.7**
NNA	**Nana**	**12.91**	**322**	P	**Pn**	**02 36 54.7**	**+1.7**
	comp=Z,1.2nm,0.3s,baz=186,slow=15,SNR=4.5						
NNA				S	**Sn**	**02 39 11.9**	**-3.1**
	comp=Z,5.8nm,0.3s,baz=71,slow=18,SNR=4.4						
SAML	**Samuel**	**14.43**	**23**	*e*Pn	**Pn**	**02 37 08.5**	**-4.2**
TRQA	**Tornquist**	**16.65**	**161**	*e*Pn	**Pn**	**02 37 37.5**	**-2.9**
	comp=Z,205nm,0.8s						
TRQA				*e*S	**Sn**	**02 40 46.4**	**+1.2**
ATAH	**Atahualpa**	**17.80**	**327**	P	**Pn**	**02 37 56.9**	**+2.0**
	comp=Z,0.4nm,0.3s,baz=190,slow=11,SNR=8.1						
PLCA	**Paso Flores**	**18.32**	**184**	P	**P**	**02 37 58.7**	**-0.9**
	comp=Z,3.4nm,0.3s,baz=31,slow=13,SNR=125						
PLCA				PcP	**PcP**	**02 42 28.0**	**+0.8**
	comp=Z,0.9nm,0.3s,baz=49,slow=2.6,SNR=11						
PLCA				LR	LR	02 46 13.9	
	comp=Z,652nm,19.2s,baz=26,slow=40						
PLCA	**Paso Flores**	**18.32**	**184**	*e*P	**P**	**02 37 58.7**	**-0.9**
	comp=Z,488nm,1.4s						
PLCA				PcP	**PcP**	**02 42 28.0**	**+0.8**
SPB	**Sao Paulo**	**19.69**	**98**	*e*P	**P**	**02 38 12.9**	**-1

comp=Z,22nnm,1.0s,baz=349,slow=5.8,SNR=2.6
PMSA S **S** 02 47 57.3 +5.2
comp=Z,3.1nm,0.4s,baz=256,slow=23,SNR=26
PMSA Palmer Station 42.46 177 *e*P **P** 02 41 38.3 +0.4
comp=Z,138nm,1.0s
PMSA PcP **PcP** 02 43 30.2 +1.2
PMSA S **S** 02 47 57.3 +5.2
TLIG Tlapa 49.28 321 *e*P **P** 02 42 32.8 +0.6
comp=Z,26nm,1.0s
DWPF Disney Wildern 51.70 346 *e*P **P** 02 42 50.5 +0.4
comp=Z,249nm,1.0s
TIGA Tifton 55.40 345 P **P** 02 43 16.7 -0.4
baz=164
TIGA Tifton 55.40 345 *e*P **P** 02 43 16.4 -0.7
comp=Z,90nm,1.0s
ZAIG Zacatecas 55.67 322 *e*P **P** 02 43 21.3 +1.7
comp=Z,46nm,0.9s
ZAIG *e*pP **pP** 02 43 46.0 +2.3
RGRS Roger Stewart 56.08 348 *e*P **P** 02 43 21.7 -0.2
RGRS *e*pP **pP** 02 43 47.5 +1.5
BRAL Brewton 56.09 341 *e*P **P** 02 43 20.9 -1.1
CSU Charleston Sou 56.14 349 *e*pP pP 02 43 47.9 +1.4
447A Lucedale 56.24 339 P **P** 02 43 23.0 -0.1
baz=158
NHSC New Hope 56.27 348 *e*P **P** 02 43 23.9 +0.6
comp=Z,901nm,1.1s
446A Poplarville 56.47 339 P **P** 02 43 24.8 +0.1
baz=157
348A Jackson 56.58 340 P **P** 02 43 25.6 +0.2
baz=159
445A Amite 56.75 338 P **P** 02 43 27.2 +0.5
baz=156
347A Saraland 56.77 340 P **P** 02 43 26.5 -0.3
baz=158
444A Pine Grove 56.88 337 P **P** 02 43 28.2 +0.5
baz=156
346A Big Creek Wild 57.05 339 P **P** 02 43 28.5 -0.4
baz=157
034A Hebbronville 57.06 328 P **P** 02 43 29.7 +0.7
baz=147
248A Dixon Mills 57.16 341 P **P** 02 43 29.2 -0.3
baz=159
345A Thompson Farm, 57.17 338 P **P** 02 43 29.6 -0.1
baz=157
GOGA Godfrey 57.26 345 *e*P **P** 02 43 29.5 -0.8
GOGA pmax pmax
comp=Z,52nm,1.2s
GOGA Godfrey 57.26 345 *e*P **P** 02 43 29.5 -0.8
comp=Z,52nm,1.2s
443A Delano Plantat 57.30 336 P **P** 02 43 31.4 +0.8
baz=155
247A Quitman 57.39 340 P **P** 02 43 30.9 -0.3
baz=158
344A Westbrook Farm 57.55 338 P **P** 02 43 32.4 +0.1
baz=156
JSC Jenkinsville 57.62 348 *e*P **P** 02 43 33.3 +0.5
JSC Jenkinsville 57.62 348 *e*P **P** 02 43 33.3 +0.5
JSC *e*pP **pP** 02 43 57.0 -0.1
835A Beeville 57.68 330 P **P** 02 43 34.4 +1.1
baz=148
245A Little AP, Sta 57.79 339 P **P** 02 43 33.7 -0.4
baz=157
933A Laredo 57.81 328 P **P** 02 43 34.7 +0.4
baz=147
LRAL Lakeview Retre 57.82 342 *e*P **P** 02 43 33.1 -1.1
comp=Z,54nm,1.2s
441A DeRidder 57.82 335 P **P** 02 43 35.5 +1.2
baz=153
834A Tilden 57.89 329 P **P** 02 43 35.5 +0.7
baz=147
736A Circle Diamond 57.89 331 P **P** 02 43 36.2 +1.4
baz=149
637A Eagle Lake 57.98 332 P **P** 02 43 36.4 +1.0
baz=150
CNNC Cliffs of the 57.99 351 *e*P **P** 02 43 34.0 -1.3
comp=Z,102nm,1.2s
342A Flagon Creek P 58.05 336 P **P** 02 43 36.7 +0.9
baz=154
244A Avery, Jackson 58.07 338 P **P** 02 43 35.7 -0.2
baz=156
146A Union 58.07 340 P **P** 02 43 35.5 -0.5
baz=158
440A Kirbyville 58.12 334 P **P** 02 43 37.4 +1.1
baz=153
243A Waterproof 58.20 337 P **P** 02 43 37.3 +0.4
baz=155
Z47A Carrollton 58.29 341 P **P** 02 43 36.5 -0.9
baz=159
Z48A Northport 58.30 342 P **P** 02 43 36.6 -0.9
baz=160
145A Houston Renfro 58.33 339 P **P** 02 43 37.5 -0.2
baz=157
341A Kurthwood 58.34 335 P **P** 02 43 38.5 +0.6
baz=154
636A Smothers Creek 58.34 331 P **P** 02 43 38.7 +0.8
baz=149
833A Chaparral WMA, 58.46 328 P **P** 02 43 39.2 +0.4
baz=147
KMSC Kings Mountain 58.47 348 P **P** 02 43 38.9 +0.2
baz=167
KMSC Kings Mountain 58.47 348 *e*P **P** 02 43 38.4 -0.3
KMSC *e*pP **pP** 02 44 03.2 +0.2
comp=Z,30nm,1.1s
439A Center Grove, 58.49 334 P **P** 02 43 40.0 +1.0
baz=152
734A La Parita Cree 58.49 329 P **P** 02 43 39.4 +0.4
baz=148
144A Alexander Plac 58.51 339 P **P** 02 43 39.0 0.0
baz=157
537A Green Hill Far 58.52 332 P **P** 02 43 39.9 +0.7
baz=150
Z46A Louisville 58.55 340 P **P** 02 43 39.2 -0.1
baz=158
635A Leesville 58.59 330 P **P** 02 43 39.8 +0.1
baz=149
242A Grayson 58.61 337 P **P** 02 43 39.8 +0.1
baz=155
340A Bronson 58.69 335 P **P** 02 43 41.0 +0.7
baz=153
832A Faith Ranch, C 58.71 328 P **P** 02 43 40.7 +0.1
baz=146
733A Divot King Ran 58.74 329 P **P** 02 43 40.9 +0.1
baz=147
438A Sam Houston St 58.75 333 P **P** 02 43 41.7 +1.0
baz=151
536A Bastrop 58.85 331 P **P** 02 43 41.7 +0.2
baz=149
241A Mo Tay, Goldon 58.85 336 P **P** 02 43 42.4 +1.0
baz=154
339A Huntington 58.88 334 P **P** 02 43 42.3 +0.7
baz=152
143A Socs Landing, 58.92 338 P **P** 02 43 42.9 +1.1
baz=156
Z45A Winona 58.95 340 P **P** 02 43 42.0 -0.1
baz=158
142A Monroe 58.97 337 P **P** 02 43 42.8 +0.6
baz=155
535A Dale 59.04 331 P **P** 02 43 42.8 0.0
baz=149
Z44A Pea Ridge, Bel 59.11 339 P **P** 02 43 43.0 -0.1
baz=157
Y46A Houston 59.16 341 P **P** 02 43 42.4 -1.1
baz=158
VNA3 Neumayer Olymp 59.17 161 P **P** 02 43 43.3 +0.1
240A Hunter Patters 59.19 335 P **P** 02 43 44.6 +0.8
baz=153
338A Crockett 59.21 334 P **P** 02 43 44.9 +1.0
baz=152
NATX Nacogdoches 59.30 334 *e*P **P** 02 43 44.6 +0.1
comp=Z,115nm,1.3s
633A Saathoff Ranch 59.30 329 P **P** 02 43 44.8 +0.2
baz=147
436A Wall Ranch, Ga 59.33 332 P **P** 02 43 45.3 +0.5
baz=150
Y45A Yeager Farm, C 59.36 340 P **P** 02 43 44.7 -0.2
baz=158
VNA1 Neumayer--Stat 59.38 160 P **P** 02 43 45.2 +0.6
337A Centerville 59.41 333 P **P** 02 43 46.2 +0.9
baz=151
534A Blanco 59.45 330 P **P** 02 43 44.9 -0.7
baz=148
239A Gary 59.45 335 P **P** 02 43 46.3 +0.8
baz=152
CPCT Cooper Cave 59.45 345 *e*P **P** 02 43 45.0 -0.5
comp=Z,90nm,1.2s
TKL Tuckaleechee C 59.48 346 *e*P **P** 02 43 45.3 -0.4
TKL pmax pmax
comp=Z,164nm,1.1s
TKL Tuckaleechee C 59.48 346 *e*P **P** 02 43 45.3 -0.4
comp=Z,164nm,1.1s
SWET Sewanee 59.58 344 *e*P **P** 02 43 45.9 -0.5
comp=Z,59nm,1.2s
140A Cam and Jess, 59.65 336 P **P** 02 43 47.9 +1.0
baz=154
Y44A Strider, Charl 59.66 339 P **P** 02 43 46.5 -0.4
baz=157
238A Jacksonville 59.70 334 P **P** 02 43 48.2 +1.0
baz=152
VNA2 Neumayer--Watz 59.75 160 P **P** 02 43 47.4 +0.2
baz=284,slow=7.4
X45A UM Field Stati 59.83 340 P **P** 02 43 47.5 -0.6
baz=158
Y43A Makayla and Ka 59.85 339 P **P** 02 43 48.1 -0.1
baz=156
336A Riesel 59.88 332 P **P** 02 43 48.6 +0.1
baz=150
OXF Oxford 59.91 340 *e*P **P** 02 43 47.8 -0.9
OXF pmax pmax
comp=Z,133nm,1.0s
OXF Oxford 59.91 340 *e*P **P** 02 43 47.8 -0.9
comp=Z,133nm,1.0s
OXF *e*pP **pP** 02 44 11.8 -1.2
Z41A Richland Creek 59.92 337 P **P** 02 43 49.1 +0.3
baz=154
237A Washetta, Mont 59.98 334 P **P** 02 43 49.8 +0.6
baz=151
434A Burnet 60.02 331 P **P** 02 43 48.8 -0.7
baz=148
335A Moody 60.04 332 P **P** 02 43 49.6 -0.1
baz=149
Y42A Garnett, Star 60.08 338 P **P** 02 43 49.9 0.0
baz=156
X44A Crenshaw 60.14 340 P **P** 02 43 49.2 -1.0
baz=157
Z40A Long Farm, Mag 60.14 336 P **P** 02 43 51.1 +0.8
baz=154
CCAR Cane Creek 60.15 338 *e*P **P** 02 43 51.0 +0.8
comp=Z,109nm,1.0s
CCAR *e*pP **pP** 02 44 16.5 +1.7
URVA University of 60.23 352 *e*P **P** 02 43 51.2 +0.4
URVA *e*pP **pP** 02 44 16.1 +0.8
VWCC Virginia Weste 60.27 350 *e*P **P** 02 43 50.5 -0.6
VWCC *e*pP **pP** 02 44 16.7 +1.1
236A Katherine and 60.28 333 P **P** 02 43 51.8 +0.6
baz=150
TZTN Tazewell 60.28 346 *e*P **P** 02 43 50.3 -0.9
comp=Z,134nm,1.3s
BLA Blacksburg 60.31 349 *e*P **P** 02 43 51.9 +0.5
BLA pmax pmax
comp=Z,292nm,1.4s
BLA Blacksburg 60.31 349 *e*P **P** 02 43 51.9 +0.5
comp=Z,292nm,1.4s
433A Art 60.34 330 P **P** 02 43 51.4 -0.3
baz=148
X43A Marvell 60.39 339 P **P** 02 43 51.8 -0.1
baz=157
JSRW J. Sargeant Re 60.40 352 *e*P **P** 02 43 51.5 -0.4
JSRW *e*pP **pP** 02 44 17.4 +1.0
WLAR White Oak Lake 60.42 337 *e*P **P** 02 43 53.1 +1.0
comp=Z,293nm,0.8s
Z39A Irene McRaven, 60.42 336 P **P** 02 43 53.1 +1.0
baz=153
W45A Hickory Valley 60.44 341 P **P** 02 43 51.3 -1.0
baz=158
334A Lometa 60.45 331 P **P** 02 43 52.0 -0.5
baz=149
JCT Junction City 60.45 329 *e*P **P** 02 43 52.7 +0.2
JCT pmax pmax
comp=Z,45nm,0.8s
JCT Junction City 60.45 329 *e*P **P** 02 43 52.7 +0.2
comp=Z,45nm,0.8s
JCT *e*pP **pP** 02 44 14.2 -2.7
RKT Rikitea 60.53 255 *e*S S 02 52 15.5 +14
comp=Z,510nm,21.5s
RKT *e*LR LR 03 01 58.9
comp=Z,906nm,31.5s
WHTX Lake Whitney, 60.66 332 P **P** 02 43 53.7 -0.2
baz=150
WHTX Lake Whitney, 60.66 332 *e*P **P** 02 43 53.5 -0.4
comp=Z,78nm,1.3s
WHTX *e*pP **pP** 02 44 18.6 +0.3
HPIG 60.67 322 *e*P **P** 02 43 54.5 +0.3
comp=Z,31nm,1.1s
136A Ennis 60.69 333 P **P** 02 43 54.2 +0.2
baz=151
Z38A Mt. Pleasant 60.74 335 P **P** 02 43 54.9 +0.6
baz=152
Y40A Okolona 60.77 337 P **P** 02 43 54.7 +0.1
baz=154
333A Richland Sprin 60.78 330 P **P** 02 43 54.3 -0.4
baz=148
V45A Humboldt 60.92 341 P **P** 02 43 54.3 -1.2
baz=159
Z37A Pogue Cattle C 60.95 334 P **P** 02 43 56.3 +0.6
baz=152
WVT Waverly 60.95 342 *e*P **P** 02 43 54.7 -1.0
WVT pmax pmax
comp=Z,169nm,1.2s
WVT Waverly 60.95 342 *e*P **P** 02 43 54.7 -1.0
comp=Z,169nm,1.2s
234A Clairette 60.97 332 P **P** 02 43 55.9 0.0
baz=149
Y39A Lockesburg 61.01 336 P **P** 02 43 56.3 +0.2
baz=153
X40A Bassin Creek Fa 61.04 337 P **P** 02 43 56.2 -0.1
baz=155
UALR University of 61.12 338 *e*P **P** 02 43 56.7 -0.2
comp=Z,62nm,1.0s
UALR *e*pP **pP** 02 44 22.3 +0.9
HALT Halls 61.19 341 *e*P **P** 02 43 55.1 -2.2
HALT *e*pP **pP** 02 44 22.9 +1.1
Y38A Idabel 61.24 335 P **P** 02 43 57.6 -0.1
baz=153
W42A Bald Knob 61.30 339 P **P** 02 43 57.4 -0.6
baz=156
233A Rising Star 61.32 331 P **P** 02 43 58.3 -0.1
baz=148
Z36A Blue Ridge 61.34 334 P **P** 02 43 58.7 +0.3
baz=151
MIAR Mount Ida 61.36 337 *e*P **P** 02 43 58.3 -0.2
MIAR pmax pmax
comp=Z,66nm,0.8s
MIAR Mount Ida 61.36 337 *e*P **P** 02 43 58.3 -0.2
comp=Z,66nm,0.8s
SNAA Sanae 61.38 161 P **P** 02 43 58.3 0.0
SNAA Sanae 61.38 161 *d*iP **P** 02 43 58.0 -0.3
SNAA Sanae 61.38 161 *e*P **P** 02 43 58.0 -0.3
comp=Z,142nm,1.0s
U45A Rockin P Farm, 61.42 342 P **P** 02 43 57.8 -1.1
baz=159
V43A Jonesboro 61.45 340 P **P** 02 43 58.6 -0.4
baz=157
TXAR Lajitas Array 61.45 325 P **P** 02 43 59.5 +0.2
comp=Z,6.4nm,0.9s,baz=149,slow=8.5,SNR=55
TXAR pP **pP** 02 44 24.8 +0.9
comp=Z,2.8nm,0.7s,baz=148,slow=7.4,SNR=6.3
TXAR PKP2bc 03 13 19.1
comp=Z,0.6nm,0.8s,baz=216,slow=1.1,SNR=5.2
TXAR PKP2ab 03 13 27.9
comp=Z,0.5nm,1.0s,baz=248,slow=0.7,SNR=4.3
TXAR Lajitas Array 61.45 325 P **P** 02 43 59.6 +0.2
TXAR *PP **pP** 02 44 24.8 +0.9
TXAR pmax pmax
comp=Z,7.0nm,0.9s
TXAR pmax pmax
comp=Z,3.0nm,0.7s
TX31 Lajitas Ar. Si 61.45 325 *e*P **P** 02 43 59.6 +0.2
UTMT University of 61.45 342 *e*pP pP 02 44 24.5 +0.9
W41B Gary Mavity, V 61.45 338 P **P** 02 43 58.5 -0.6
baz=155
X39A Fountain Ranch 61.52 336 P **P** 02 43 59.9 +0.3
baz=154
X301 Greenbrier Sit 61.56 338 *e*P **P** 02 43 59.7 -0.2
comp=Z,47nm,0.8s
WHAR Woody Hollow 61.57 338 *e*P **P** 02 43 59.5 -0.4
comp=Z,50nm,0.9s
U44B Burton Farm, H 61.59 341 P **P** 02 43 59.5 -0.5
baz=158
Y37A Hugo 61.63 335 P **P** 02 44 01.0 +0.7
baz=152
Z35A Perchaven, San 61.73 333 P **P** 02 44 01.2 +0.2
baz=150
V42A Cord 61.74 339 P **P** 02 43 59.9 -1.1
baz=156
W40A Ferguson Farm, 61.75 338 P **P** 02 44 01.3 +0.2
baz=155
U44A Portageville 61.84 341 P **P** 02 44 01.4 -0.3
baz=158
X38A Whitesboro 61.93 336 P **P** 02 44 02.7 +0.4
baz=153
U43A Rector 61.94 340 P **P** 02 44 01.7 -0.6
baz=158
SDMD Soldier's Deli 61.96 353 *e*pP pP 02 44 28.1 +1.1
V41A Mountainview 61.97 339 P **P** 02 44 01.9 -0.7
baz=156
PARMO Parma 62.01 341 *e*P **P** 02 44 02.8 -0.1
PARMO *e*pP **pP** 02 44 27.5 +0.1
W39A Magazine 62.01 337 P **P** 02 44 03.2 +0.3
baz=154
Z34A Collier Ranch, 62.05 333 P **P** 02 44 03.3 +0.1
baz=150
X37A Clayton 62.07 335 P **P** 02 44 03.5 +0.2
baz=152
Y35A Marietta 62.14 334 P **P** 02 44 04.1 +0.4
baz=150
ABTX Abilene, Hawle 62.17 331 P **P** 02 44 04.0 -0.1
baz=148
ABTX Abilene, Hawle 62.17 331 *e*P **P** 02 44 03.5 -0.5
comp=Z,60nm,1.1s
ABTX *e*pP **pP** 02 44 28.7 +0.1
W38A Poteau 62.17 336 P **P** 02 44 04.4 +0.5
baz=153
U42A Revenden 62.19 340 P **P** 02 44 03.2 -0.8
baz=157
V40A Witts Springs 62.22 338 P **P** 02 44 03.7 -0.6
baz=155
PBMO Poplar Bluff 62.32 340 *e*P **P** 02 44 04.3 -0.6
comp=Z,65nm,0.9s
PSUB Penn St. - Bra 62.33 354 *e*pP pP 02 44 30.4 +1.0
Z33A Whitaker Ranch 62.34 332 P **P** 02 44 05.2 0.0
baz=149
T44A Benton 62.35 341 P **P** 02 44 04.4 -0.6
baz=158
U41A Viola 62.40 339 P **P** 02 44 04.7 -0.8
baz=156
X36A Centrahoma 62.44 334 P **P** 02 44 05.1 -0.6
baz=151
MVL Millersville 62.49 353 *e*pP pP 02 44 32.2 +1.7
WCI Wyandotte Cave 62.53 345 *e*P **P** 02 44 05.2 -1.1
WCI pmax pmax
comp=Z,150nm,1.2s
WCI Wyandotte Cave 62.53 345 *e*P **P** 02 44 05.2 -1.1
comp=Z,150nm,1.2s
V39A Pettigrew 62.54 337 P **P** 02 44 06.2 -0.3
baz=154
X35A Drake 62.54 334 P **P** 02 44 05.8 -0.7
baz=151
T43A Greenville 62.56 341 P **P** 02 44 05.9 -0.6
baz=158
W37B Quinton 62.58 336 P **P** 02 44 06.8 +0.2
baz=152
MCWV Mont Chateau 62.61 350 *e*pP pP 02 44 33.0 +1.6
S45A Carrier Mills 62.61 342 P **P** 02 44 05.8 -1.0
baz=160
USIN University of 62.63 343 *e*P **P** 02 44 06.2 -0.7
USIN *e*pP **pP** 02 44 31.2 -0.3
U40A Yellville 62.73 338 P **P** 02 44 07.1 -0.5
baz=155
T42A Van Buren 62.76 340 P **P** 02 44 06.7 -1.1
baz=157
S44A Carbondale 62.82 342 P **P** 02 44 07.4 -0.8
baz=159
V38A Canehill 62.84 337 P **P** 02 44 08.0 -0.4
baz=154
W36A Wetumka 62.89 335 P **P** 02 44 08.1 -0.6
baz=152
S43A Fulton Ridge, 62.95 341 P **P** 02 44 08.1 -1.0
baz=158
U39A Green Forest 62.97 338 P **P** 02 44 08.6 -0.6
baz=154
T41A Mountain View 62.99 339 P **P** 02 44 08.6 -0.7
baz=156
BRNJ Basking Ridge 63.01 355 *e*pP pP 02 44 34.0 0.0
O56A Blue Knob Stat 63.02 352 P **P** 02 44 10.1 +0.5
baz=170
HHAR Hobbs 63.04 337 *e*P **P** 02 44 09.4 -0.4
comp=Z,89nm,1.2s
V37A Hulbert 63.12 336 P **P** 02 44 10.1 -0.2
baz=153
W35A Tecumseh 63.16 334 P **P** 02 44 09.5 -1.0
baz=151
R44A Waltonville 63.28 342 P **P** 02 44 10.1 -1.1
baz=159
SSPA Standing Stone 63.30 352 *e*P **P** 02 44 11.4 +0.1
comp=Z,377nm,1.3s
T40A Mansfield 63.33 339 P **P** 02 44 11.0 -0.7
baz=156
U38A Gravette 63.34 337 P **P** 02 44 11.2 -0.5
baz=154
V36A Jenks 63.34 335 P **P** 02 44 11.4 -0.3
baz=152
S42A Caledonia 63.35 341 P **P** 02 44 10.5 -1.2
baz=157
TUL1 Leonard 63.40 336 *e*P **P** 02 44 11.3 -0.7
comp=Z,78nm,0.9s
OLIL Olney 63.47 343 *e*P **P** 02 44 11.5 -1.0
OLIL *e*pP **pP** 02 44 36.1 -1.0
BLO Bloomington 63.48 345 *e*P **P** 02 44 11.5 -1.0
BLO *e**PP **pP** 02 44 37.0 -0.2
BLO Bloomington 63.48 345 *e*P **P** 02 44 11.5 -1.0
BLO *e*pP **pP** 02 44 37.0 -0.2
S41A Jillco Farms, 63.48 340 P **P** 02 44 12.0 -0.6
baz=156
T39A Clever 63.51 338 P **P** 02 44 12.3 -0.5
baz=155
YLE Yale 63.52 357 *e*pP pP 02 44 39.2 +1.9
R43A Red Bud 63.55 342 P **P** 02 44 12.1 -1.0
baz=158
U37A Salina 63.58 336 P **P** 02 44 13.1 -0.2
baz=153
WMOK Wichita Mounta 63.58 333 *e*P **P** 02 44 12.2 -1.2
WMOK pmax pmax
comp=Z,14nm,0.9s
WMOK Wichita Mounta 63.58 333 *e*P **P** 02 44 12.2 -1.2
comp=Z,14nm,0.9s
V35A Meyer Ranch, C 63.67 335 P **P** 02 44 13.3 -0.6
baz=151
ACSO Alum Creek Sta 63.72 348 *e*P **P** 02 44 13.8 -0.3
comp=Z,168nm,1.1s
ACSO *e*pP **pP** 02 44 38.1 -0.7
S40A Lebanon 63.73 339 P **P** 02 44 13.7 -0.6
baz=156
R42A Luebbering 63.82 341 P **P** 02 44 14.3 -0.5
baz=158
T38A Diamond 63.84 337 P **P** 02 44 14.9 -0.1
baz=154
Q44A Meyer Farm, Va 63.88 343 P **P** 02 44 14.1 -1.0
baz=159
N54A Moraine State 63.91 351 P **P** 02 44 15.5 +0.2
baz=169
R41A Rosebud 64.01 340 P **P** 02 44 15.5 -0.6
baz=157
S39A Bolivar 64.09 339 P **P** 02 44 16.3 -0.3
baz=155
Q43A New Douglas 64.11 342 P **P** 02 44 15.4 -1.3
baz=159
T37A Cheneyville 18 64.14 337 P **P** 02 44 16.8 -0.1
baz=153
U35A Pawnee 64.16 335 P **P** 02 44 17.0 -0.1
baz=151
MNTX Cornudas Mount 64.22 326 *e*P **P** 02 44 17.2 -0.4
comp=Z,26nm,1.1s
S38A Stockton 64.24 338 P **P** 02 44 17.1 -0.5
baz=154
R40A Maddies Statio 64.29 340 P **P** 02 44 17.3 -0.6
baz=156
P44A Sand Creek, Wi 64.30 343 P **P** 02 44 16.9 -1.0
baz=160
Q42A Golden Eagle 64.32 341 P **P** 02 44 17.4 -0.7
baz=158
M54A Oil Creek Stat 64.39 351 P **P** 02 44 18.7 +0.1
baz=169
T36A Boggs Farm, Ca 64.44 336 P **P** 02 44 18.6 -0.3
baz=152
T35A Sooner Cattle 64.55 336 P **P** 02 44 19.4 -0.3
baz=152
R39A Chumby, Stover 64.56 339 P **P** 02 44 19.5 -0.1
baz=155
Q41A Truxton 64.57 341 P **P** 02 44 19.1 -0.6
baz=157
ALLY Alegheny Colle 64.61 351 *e*pP pP 02 44 45.6 +1.0
BINY Binghamton 64.63 354 *e*P **P** 02 44 20.9 +0.8

comp=Z,122nm,1.1s
S37A Fort Scott 64.68 337 P P 02 44 20.3 -0.2
baz=154
P43A Skaggs, Pawnee 64.71 342 P P 02 44 19.4 -1.1
baz=159
R38A Fenwick Farm, 64.74 338 P P 02 44 20.5 -0.3
baz=154
MSTX Muleshoe 64.74 329 eP P 02 44 20.8 -0.3
comp=Z,76nm,1.1s
SFIN Lafayette 64.76 345 eP P 02 44 19.1 -1.8
comp=Z,121nm,1.3s
Q40A Laux Farm, Aux 64.87 340 P P 02 44 21.0 -0.6
baz=156
P42A Winchester 64.89 342 P P 02 44 20.6 -1.2
baz=158
T34A McClaskey Farm 64.91 335 P P 02 44 21.9 0.0
baz=151
S36A Lake Cedric, C 64.92 337 P P 02 44 21.8 -0.2
baz=153
TRY Troy 64.98 356 epP pP 02 44 48.7 +1.7
AMTX Amarillo 64.98 330 eP P 02 44 21.9 -0.7
comp=Z,20nm,0.9s
U32A Winter Ranch, 65.08 333 P P 02 44 22.9 -0.2
baz=149
S35A Otter Creek Ra 65.15 336 P P 02 44 23.3 -0.2
baz=152
R37A Teagarden Farm 65.17 338 P P 02 44 23.2 -0.4
baz=154
P41A Barry, Barry 65.18 341 P P 02 44 22.6 -1.1
baz=158
Q39A Willow Grove F 65.20 339 P P 02 44 23.3 -0.5
baz=156
O43A Sugar Creek Fa 65.25 343 P P 02 44 22.8 -1.2
baz=159
HSIG 65.31 320 eP P 02 44 25.9 +1.2
comp=Z,66nm,1.3s
Q38A Cooks Store, C 65.34 339 P P 02 44 24.5 -0.2
baz=155
P40A Paris 65.35 340 P P 02 44 24.1 -0.7
baz=156
O42A Bath 65.38 342 P P 02 44 23.3 -1.6
baz=158
R36A Gordon, Harris 65.42 337 P P 02 44 24.9 -0.3
baz=153
S34A Willow Spring 65.47 336 P P 02 44 25.3 -0.3
baz=151
HDIL Hopedale 65.50 343 eP P 02 44 23.6 -2.0
comp=Z,15nm,0.6s
HDIL epP pP 02 44 50.0 -0.4
P39B Salisbury 65.53 340 P P 02 44 25.3 -0.6
baz=156
O41A Passleys Farm, 65.54 342 P P 02 44 24.5 -1.4
baz=158
Q37A Longview Farm, 65.55 338 P P 02 44 25.6 -0.4
baz=154
BUF Buffalo 65.67 352 eP P 02 44 26.9 +0.2
BUF epP pP 02 44 52.7 +1.2
R35A Emporia Munici 65.67 337 P P 02 44 26.9 0.0
baz=152
O40A La Belle 65.84 341 P P 02 44 26.9 -0.9
baz=157
HNH Hanover 65.87 357 eP P 02 44 28.8 +0.8
HNH epP pP 02 44 54.7 +1.9
P38A Dawn 65.91 339 P P 02 44 27.9 -0.5
baz=155
NVL N'lazarevskaya 65.94 159 ⇓i P P 02 44 30.1 +2.0
N42A Yates City 65.95 342 P P 02 44 27.5 -1.1
baz=159
Q36A Arnold C. Orve 65.97 337 P P 02 44 27.9 -0.8
baz=153
R34A Isabella, Hill 66.05 336 P P 02 44 29.1 -0.1
baz=151
N41A Harden Midland 66.08 342 P P 02 44 28.2 -1.1
baz=158
319A Douglas 66.08 323 eP P 02 44 31.1 +1.3
Q35A Mercer Eighty, 66.09 337 P P 02 44 29.1 -0.5
baz=153
121A Cookes Peak, D 66.14 324 eP P 02 44 31.1 +0.9
comp=Z,32nm,1.2s
P37A Lathrop 66.15 339 P P 02 44 29.1 -0.7
baz=154
O39A Kirksville 66.17 340 P P 02 44 29.2 -0.7
baz=156
NCB Newcomb 66.25 356 eP P 02 44 30.8 +0.4
NCB epP pP 02 44 56.7 +1.5
O38A Galt 66.34 340 P P 02 44 30.5 -0.5
baz=155
N40A Mertquake, Sal 66.45 341 P P 02 44 30.7 -1.0
baz=157
P36A Good Intent, A 66.47 338 P P 02 44 31.2 -0.8
baz=154
Q34A Chapman 66.48 336 P P 02 44 31.6 -0.4
baz=152
KSU1 Kansas State U 66.51 337 eP P 02 44 32.2 0.0
comp=Z,47nm,0.8s
O37A Wolven Farm, M 66.60 339 P P 02 44 32.1 -0.6
baz=155
M41A Milan 66.60 342 P P 02 44 31.4 -1.4
baz=158
P35A Duane Minner, 66.67 337 P P 02 44 32.4 -0.8
baz=153
N39A Derby Farms, D 66.72 341 P P 02 44 32.5 -1.0
baz=156
BNM Barren Site 66.79 326 eP P 02 44 35.4 +1.0
O36A Bolckow 66.84 338 P P 02 44 33.4 -0.9
baz=154
N38A Joes South For 66.87 340 P P 02 44 33.7 -0.8
baz=156
M40A Post Highland 66.91 342 P P 02 44 33.5 -1.1
baz=157
LONY Lake Ozonia 66.92 355 eP P 02 44 35.2 +0.5
comp=Z,70nm,1.3s
LPM Los Pinos Moun 66.92 326 eP P 02 44 36.2 +1.1
LPM epP PcP 02 45 02.0 -1.0
P34A Walnut Farm, R 66.98 337 P P 02 44 35.1 -0.1
baz=152
FRNY Flat Rock 67.07 356 eP P 02 44 36.2 +0.6
FRNY epP pP 02 45 01.5 +1.1
N37A Lee Faris, Mou 67.16 339 P P 02 44 35.8 -0.4
baz=155
M39A Webster 67.17 341 P P 02 44 35.4 -0.9
baz=157
LAZ Ladron 67.25 326 eP P 02 44 38.5 +1.3
O35A Humboldt 67.29 338 P P 02 44 35.9 -1.2
baz=153
ANMO Albuquerque 67.33 327 ⇓i P P 02 44 38.6 +0.9
ANMO pmax pmax
comp=Z,45nm,1.2s
ANMO Albuquerque 67.33 327 eP P 02 44 38.8 +1.0
comp=Z,29nm,0.8s
PKME Peaks-Kenny Pk 67.36 360 eP P 02 44 37.7 +0.3
comp=Z,61nm,1.4s
M38A Pleasantville 67.43 340 P P 02 44 37.0 -0.9
baz=156
L40A Anamosa 67.43 342 P P 02 44 36.9 -1.1
baz=158
N36A Muff Farm, Cla 67.46 339 P P 02 44 37.7 -0.4
baz=154
CBKS Cedar Bluff 67.47 334 eP P 02 44 38.8 +0.5
CBKS pmax pmax
comp=Z,140nm,0.8s
CBKS Cedar Bluff 67.47 334 eP P 02 44 38.8 +0.5
comp=Z,140nm,0.8s
O34A Beatrice 67.50 337 P P 02 44 37.8 -0.6
baz=152
SADO Sadowa 67.53 352 eP P 02 44 37.8 -0.7
comp=Z,62nm,1.1s
PLVO Plevna 67.56 354 eP P 02 44 39.1 +0.4
PLVO epP PcP 02 45 04.6 -0.6
TUC Tucson 67.63 322 eP P 02 44 40.7 +1.1
TUC pmax pmax
comp=Z,42nm,1.2s
TUC Tucson 67.63 322 eP P 02 44 40.7 +1.1
comp=Z,42nm,1.2s
K41A Shullsburg 67.68 343 P P 02 44 38.6 -0.9
baz=159
M37A Trindle Farm, 67.69 340 P P 02 44 39.5 -0.1
baz=155
L39A Vinton 67.71 342 P P 02 44 38.8 -0.9
baz=157
O33A Hebron 67.73 336 P P 02 44 39.7 -0.2
baz=151
N35A Tabor 67.73 338 P P 02 44 39.3 -0.6
baz=153
QSPA South Pole Qui 67.78 180 eP P 02 44 40.7 +0.6
SCIA State Center 67.88 341 eP P 02 44 40.0 -0.8
comp=Z,100nm,1.1s
JFWS Jewell Farm 67.95 343 eP P 02 44 40.6 -0.6
JFWS pmax pmax
comp=Z,305nm,1.8s
JFWS Jewell Farm 67.95 343 eP P 02 44 40.6 -0.6
comp=Z,305nm,1.8s
M36A Felix, Anita 67.98 339 P P 02 44 41.0 -0.4
baz=154
K40A Colesburg 68.00 342 P P 02 44 40.6 -0.9
baz=158
N34A Lincoln 68.00 338 P P 02 44 40.9 -0.7
baz=153
L38A Oak Wood Farm, 68.02 341 P P 02 44 40.9 -0.8
baz=156
LMN Caledonia Moun 68.04 3 eP P 02 44 42.0 +0.3
comp=Z,23nm,0.9s
K39A Oelwein 68.21 342 P P 02 44 41.9 -1.0
baz=157
L37A Phoenix Point, 68.25 340 P P 02 44 42.3 -0.8
baz=155
N33A J Bar K, Exete 68.26 337 P P 02 44 43.1 -0.1
baz=152
M35A Neola 68.29 339 P P 02 44 42.8 -0.6
baz=153
J41A Loganville 68.31 343 P P 02 44 42.7 -0.7
baz=159
K38A Parkersburg 68.42 341 P P 02 44 43.4 -0.8
baz=156
TRQ Mont Tremblant 68.51 356 eP P 02 44 44.8 +0.1
L36A Harm Buss Farm 68.51 340 P P 02 44 44.4 -0.4
baz=154
LIC Lamto 68.53 73 eP P 02 44 44.4 -1.1
comp=Z,145nm,1.2s
J40A Soldiers Grove 68.53 343 P P 02 44 44.0 -0.8
baz=158
214A Organ Pipe Nat 68.54 321 P P 02 44 46.7 +1.5
baz=136
214A Organ Pipe Nat 68.54 321 eP P 02 44 46.5 +1.2
comp=Z,187nm,0.9s
M34A Aspy Farms, Fr 68.62 338 P P 02 44 45.0 -0.4
baz=153
TIC Toumodi 68.73 73 eP P 02 44 45.7 -1.0
J39A Decorah 68.74 342 P P 02 44 45.2 -0.9
baz=157
PQI Presque Isle 68.76 1 eP P 02 44 46.6 +0.4
comp=Z,91nm,1.5s
K37A Belmond 68.79 341 P P 02 44 45.5 -1.0
baz=156
L35A Bielow Farm, R 68.81 339 P P 02 44 46.1 -0.5
baz=154
KSCO Kaye Shedlock' 68.84 332 P P 02 44 47.7 +0.8
baz=147
KSCO Kaye Shedlock' 68.84 332 eP P 02 44 47.8 +0.8
comp=Z,41nm,0.6s
KSCO epP pP 02 45 13.3 +1.3
KIC Kosan Boka 68.84 73 eP P 02 44 46.5 -0.9
comp=Z,184nm,1.1s
DBIC Dimbokro 68.88 73 P P 02 44 47.0 -0.6
comp=Z,45nm,0.8s,baz=221,slow=6.7,SNR=41
DBIC pP pP 02 45 12.7 0.0
comp=Z,79nm,0.9s,baz=219,slow=6.1,SNR=8.8
DBIC Dimbokro 68.88 73 eP P 02 44 47.0 -0.6
comp=Z,122nm,1.0s
DBIC pP pP 02 45 12.7 0.0
M33A Taylor Creek F 68.90 337 P P 02 44 46.7 -0.5
baz=152
I41A Arde 68.92 344 P P 02 44 46.4 -0.8
baz=159
K36A Gilmore City 68.93 340 P P 02 44 46.8 -0.5
baz=155
J38A Wedel Dairy, R 68.95 342 P P 02 44 46.6 -0.8
baz=157
I40A Norwalk 68.96 343 P P 02 44 46.8 -0.7
baz=159
L34A Svendsen Farm, 68.96 338 P P 02 44 47.0 -0.5
baz=153
SDCO Great Sand Dun 69.09 330 eP P 02 44 49.8 +1.0
comp=Z,52nm,1.0s
BGNE Belgrade 69.10 337 eP P 02 44 48.2 -0.2
comp=Z,439nm,0.9s
W18A Petrified Fore 69.16 325 eP P 02 44 49.6 +0.5
comp=Z,57nm,1.3s
I39A Houston 69.17 343 P P 02 44 48.1 -0.7
baz=158
K35A Storm Lake 69.25 339 P P 02 44 48.8 -0.5
baz=154
J37A Redenius Farm, 69.26 341 P P 02 44 48.5 -0.8
baz=156
H41A Junction City 69.39 344 P P 02 44 49.2 -0.9
baz=160
L33A Hoskins 69.45 338 P P 02 44 50.0 -0.6
baz=152
K34A Le Mars 69.51 339 P P 02 44 50.4 -0.5
baz=153
J36A Seneca 1, Swea 69.52 340 P P 02 44 50.3 -0.6
baz=155
X16A Lo Mia Camp, P 69.56 323 eP P 02 44 53.3 +1.6
I38A Scanlan Farm, 69.57 342 P P 02 44 50.6 -0.7
baz=157
L32A Elgin 69.57 337 P P 02 44 51.0 -0.4
baz=151
H40A Chili 69.58 344 P P 02 44 50.5 -0.8
baz=159
LMQ La Malbaie 69.65 359 eP P 02 44 51.7 0.0
J35A Milford 69.83 340 P P 02 44 51.8 -1.0
baz=154
G41A Antigo 69.83 345 P P 02 44 52.1 -0.7
baz=160
I37A Lemond, Waseca 69.86 341 P P 02 44 52.4 -0.6
baz=156
H39A Augusta 69.87 343 P P 02 44 52.4 -0.6
baz=158
Q24A Divide 69.92 331 P P 02 44 54.9 +1.1
baz=144
J34A George 70.00 339 P P 02 44 53.4 -0.4
baz=154
I36A Fitzsimmons Fa 70.04 341 P P 02 44 53.4 -0.7
baz=155
MVCO Mesa Verde 70.13 327 eP P 02 44 56.1 +1.0
comp=Z,39nm,0.9s
K32A Verdigre 70.13 338 P P 02 44 53.9 -0.8
baz=152
G40A Rib Lake 70.13 344 P P 02 44 53.7 -0.9
baz=159
H38A Maiden Rock 70.14 342 P P 02 44 53.9 -0.8
baz=157
I35A Creekview Farm 70.19 340 P P 02 44 54.6 -0.5
baz=154
OGNE Ogallala 70.20 334 eP P 02 44 56.3 +1.0
comp=Z,61nm,0.9s
OGNE epP PcP 02 45 18.1 +1.5
H37A Dierke Farm, C 70.23 342 P P 02 44 54.8 -0.5
baz=156
F41A Three Lakes 70.30 345 P P 02 44 55.1 -0.6
baz=160
WUAZ Wupatki 70.34 324 eP P 02 44 58.1 +1.7
comp=Z,56nm,1.0s
J33A Davis 70.36 339 P P 02 44 55.6 -0.5
baz=153
K31A O'Neill 70.38 337 P P 02 44 56.4 +0.2
baz=151
G39A Holcombe 70.40 343 P P 02 44 55.2 -1.1
baz=158
G38A Ridgeland 70.48 343 P P 02 44 56.0 -0.8
baz=158
GLA Glamis 70.51 320 P P 02 44 58.7 +1.4
baz=135
GLA Glamis 70.51 320 eP P 02 44 59.2 +1.9
GLA pmax pmax
comp=Z,22nm,0.9s
GLA Glamis 70.51 320 eP P 02 44 59.2 +1.9
comp=Z,22nm,0.9s
H36A Jessenland, He 70.53 341 P P 02 44 56.8 -0.2
baz=156
ECSD EROS Data Cent 70.61 339 eP P 02 44 57.4 -0.2
comp=Z,73nm,1.4s
VLDQ Val d'Or 70.63 354 eP P 02 44 57.9 +0.3
comp=Z,80nm,1.2s
I34A Hadley 70.64 340 P P 02 44 57.4 -0.4
baz=154
J32A Parkston 70.71 338 P P 02 44 57.6 -0.7
baz=152
F40A Park Falls 70.72 344 P P 02 44 57.9 -0.3
baz=159
SPMN Marine on St. 70.79 342 eP P 02 44 57.8 -0.8
comp=Z,59nm,1.1s
ISCO Idaho Springs 70.80 331 eP P 02 45 00.1 +0.8
ISCO pmax pmax
comp=Z,28nm,0.9s
ISCO Idaho Springs 70.80 331 eP P 02 45 00.1 +0.8
comp=Z,28nm,0.9s
PV01 Paradox Valley 70.88 328 eP P 02 45 01.0 +1.3
H35A Sunnyside Ranc 70.91 341 P P 02 44 58.7 -0.7
baz=155
F39A Loretta 70.92 344 P P 02 44 59.0 -0.4
baz=158
SMCO Snowmass 70.93 329 eP P 02 45 01.1 +0.9
comp=Z,32nm,0.9s
I33A Coleman 70.95 339 P P 02 44 59.2 -0.5
baz=153
J31A Geddes 70.95 337 P P 02 44 59.3 -0.4
baz=151
IKP In-Ko-Pah, Jac 71.00 319 P P 02 45 01.9 +1.5
baz=134
PDMCI Parker Dam,Lak 71.00 321 P P 02 45 01.6 +1.4
baz=136
SWSC Sam W. Stewart 71.02 319 P P 02 45 01.8 +1.5
baz=134
G36A St. Michael 71.07 342 P P 02 44 59.8 -0.6
baz=156
PV05 Paradox Valley 71.10 327 eP P 02 45 01.2 +0.2
PV05 epP pP 02 45 27.9 +1.7
I32A Karley and Nic 71.16 339 P P 02 45 00.6 -0.3
baz=152
H34A Spellman Lake, 71.17 340 P P 02 45 00.6 -0.4
baz=154
F37A Hinrichs Farm, 71.20 343 P P 02 45 00.7 -0.4
baz=157
F38A Pierce - Schro 71.21 343 P P 02 45 00.7 -0.5
baz=158
PV04 Paradox Valley 71.25 328 eP P 02 45 03.0 +1.2
E39A Mellen 71.26 344 P P 02 45 01.1 -0.4
baz=159
G35A Watkins 71.27 341 P P 02 45 01.2 -0.4
baz=155
PV10 Paradox Valley 71.30 328 eP P 02 45 03.1 +0.8
BC3 Big Chuckawall 71.31 320 P P 02 45 04.0 +1.7
baz=135
BAR Barrett 71.37 319 eP P 02 45 03.9 +1.4
comp=Z,38nm,1.0s
W13A Hualapai Mount 71.43 322 eP P 02 45 04.7 +1.7
PV09 Paradox Valley 71.44 328 eP P 02 45 04.7 +1.6
IRM Iron Mountain 71.48 321 P P 02 45 04.6 +1.5
baz=135
U15A North Rim 71.52 324 eP P 02 45 05.4 +1.8
I31A Royce, Wessing 71.53 338 P P 02 45 03.0 -0.1
baz=151
H32A Carlson Farm, 71.57 339 P P 02 45 03.1 -0.4
baz=152
F36A Milaca 71.58 342 P P 02 45 02.5 -0.9
baz=156
G34A Benson 71.65 340 P P 02 45 03.0 -0.8
baz=154
E38A The Farm, Brul 71.72 344 P P 02 45 03.6 -0.7
baz=158
G33A Ortonville 71.86 340 P P 02 45 04.4 -0.7
baz=153
TPFO Pinon Flats 71.87 320 P P 02 45 06.9 +1.3
baz=134
BELC Belle Mtn. Jos 71.88 320 P P 02 45 07.2 +1.5
baz=135
F35A Swanville 71.88 341 P P 02 45 04.6 -0.6
baz=155
PFO Pinyon Flats O 71.88 320 P P 02 45 07.2 +1.6
comp=Z,15nm,0.9s,baz=117,slow=5.3,SNR=15
PFO Pinyon Flats O 71.88 320 P P 02 45 07.2 +1.6
baz=134
H31A Wolsey 71.90 338 P P 02 45 04.9 -0.5
baz=151
PHWY Pilot Hill 71.95 332 eP P 02 45 06.9 +0.8
comp=Z,54nm,1.3s
PHWY epP pP 02 45 32.8 +1.5
F34A Alexandria 72.03 341 P P 02 45 05.6 -0.5
baz=154
SUSD Miller 72.04 338 P P 02 45 05.6 -0.6
baz=151
E36A McGregor 72.10 343 P P 02 45 06.0 -0.5
baz=156
LDFC Landfair 72.11 321 eP P 02 45 08.1 +1.0
comp=Z,51nm,1.1s
GMRC Granite Mounta 72.22 321 P P 02 45 09.3 +1.6
baz=135
KNB Kanab 72.24 324 eP P 02 45 09.7 +1.9
KNB pmax pmax
comp=Z,89nm,1.1s
KNB Kanab 72.24 324 eP P 02 45 09.7 +1.9
comp=Z,89nm,1.1s
G32A Webster 72.25 339 P P 02 45 06.7 -0.8
baz=152
PKCU Pink Cliffs 72.28 325 eP P 02 45 10.1 +1.9
comp=Z,20nm,1.1s
O20A White River Ci 72.29 329 eP P 02 45 09.1 +1.1
comp=Z,62nm,0.8s
MURC Murrieta 72.32 319 P P 02 45 09.5 +1.4
baz=134
F33A 5 Mile Ranch, 72.39 340 P P 02 45 07.5 -0.7
baz=154
LCMT Little Creek M 72.46 324 eP P 02 45 10.6 +1.6
comp=Z,22nm,1.0s
D37A Cotton 72.46 343 P P 02 45 08.2 -0.4
baz=157
E35A Pequot Lakes 72.46 342 P P 02 45 08.1 -0.6
baz=155
G31A Conde 72.46 339 P P 02 45 08.3 -0.5
baz=152
C39A Grand Marais 72.50 345 P P 02 45 08.1 -0.8
baz=160
SRU San Rafael Swe 72.61 327 eP P 02 45 11.0 +1.1
SRU pmax pmax
comp=Z,48nm,0.8s
SRU San Rafael Swe 72.61 327 eP P 02 45 11.0 +1.1
comp=Z,48nm,0.8s
E34A Wadena 72.65 341 P P 02 45 09.3 -0.4
baz=155
HEC Hector,Ludlow 72.65 321 P P 02 45 11.9 +1.7
baz=135
MTPU Mount Pierson 72.66 325 eP P 02 45 12.2 +1.7
comp=Z,19nm,0.9s
D36A Goodland 72.68 343 P P 02 45 09.2 -0.7
baz=157
C38A Sawbill Land. 72.68 344 P P 02 45 08.9 -1.0
baz=158
SZCU Shurtz Canyon 72.81 324 eP P 02 45 12.8 +1.7
comp=Z,55nm,1.7s
TUQ Turquoise Moun 72.84 321 P P 02 45 12.6 +1.3
baz=135
D35A Remer 72.84 342 P P 02 45 10.4 -0.5
baz=156
E33A Westby DABS, E 72.89 341 P P 02 45 10.4 -0.8
baz=154
CCUT Cedar City 72.92 324 eP P 02 45 13.1 +1.2
comp=Z,52nm,1.0s
C37A Embarrass 72.93 344 P P 02 45 10.8 -0.6
baz=158
EYMN Ely 72.95 344 eP P 02 45 11.1 -0.4
comp=Z,91nm,1.4s
MSU Marysvale 73.00 326 eP P 02 45 13.9 +1.6
MSU Marysvale 73.00 326 eP P 02 45 13.9 +1.6
BFSC Mount Baldy Ra 73.03 319 P P 02 45 13.7 +1.1
baz=133
F31A Hecla 73.04 339 P P 02 45 11.7 -0.4
baz=152
RWWY Rawlins 73.04 331 eP P 02 45 13.4 +0.8
comp=Z,4µm,0.6s
TMUT Trail Mountain 73.09 327 eP P 02 45 14.1 +1.2
comp=Z,57nm,1.8s
C36A Pine Crest Far 73.12 343 P P 02 45 12.1 -0.5
baz=157
SHPR Sheep Range 73.16 322 eP P 02 45 14.8 +1.6
comp=Z,24nm,1.2s
GSC Goldstone, Bar 73.26 321 P P 02 45 15.1 +1.4
baz=134
GSC Goldstone, Bar 73.26 321 eP P 02 45 15.2 +1.4
GSC pmax pmax
comp=Z,37nm,1.3s
GSC Goldstone, Bar 73.26 321 eP P 02 45 15.2 +1.4
comp=Z,37nm,1.3s
MWC Mount Wilson 73.27 319 eP P 02 45 15.6 +1.7
MWC pmax pmax
comp=Z,24nm,0.9s
MWC Mount Wilson 73.27 319 eP P 02 45 15.6 +1.7
comp=Z,24nm,0.9s
E32A Braaten, Kindr 73.30 340 P P 02 45 13.1 -0.5
baz=153
PASC Pasadena Art C 73.31 319 eP P 02 45 15.0 +1.1
comp=Z,37nm,1.0s
SHOC Shoshone, Teco 73.37 321 P P 02 45 15.6 +1.3

baz=135
C35A **Jirik Farms, M** 73.38 343 P P 02 45 13.4 -0.7
baz=156
D33A **AnnSam, Waubun** 73.41 341 P P 02 45 13.7 -0.5
baz=154
DECC **Green Verdugo** 73.45 319 P P 02 45 16.3 +1.5
baz=133
K22A **Casper** 73.51 332 P P 02 45 15.9 +0.7
baz=144
K22A **Casper** 73.51 332 eP P 02 45 15.9 +0.7
comp=Z,42nm,1.1s
E31A **Nome** 73.53 340 P P 02 45 14.6 -0.4
baz=152
C34A **RKJ Ranch, Bem** 73.60 342 P P 02 45 14.6 -0.8
baz=155
RSSD **Black Hills** 73.67 334 eP P 02 45 16.9 +0.7
RSSD pmax pmax
comp=Z,45nm,0.8s
RSSD **Black Hills** 73.67 334 eP P 02 45 16.9 +0.7
comp=Z,45nm,0.8s
EDW2 **Edwards Air Fo** 73.67 320 P P 02 45 17.1 +1.0
baz=133
D32A **Dogwood Acres,** 73.77 340 P P 02 45 15.8 -0.5
baz=153
MPU **Maple Canyon** 73.85 327 eP P 02 45 18.6 +1.3
LRMC **Laurel Mtn Rad** 73.90 320 P P 02 45 18.9 +1.3
baz=134
PSUT **Pine Spring** 73.90 325 eP P 02 45 20.0 +2.4
comp=Z,19nm,0.9s
D31A **Mcclaflin, Tow** 73.91 340 P P 02 45 16.8 -0.4
baz=152
B35A **Bob, Littlefor** 73.92 343 P P 02 45 16.5 -0.7
baz=156
C33A **Trail** 73.95 341 P P 02 45 16.6 -0.7
baz=154
NLU **North Lily Min** 74.03 327 eP P 02 45 19.6 +1.3
comp=Z,37nm,1.4s
TPNV **Topopah Spring** 74.09 322 eP P 02 45 20.5 +1.8
TPNV pmax pmax
comp=Z,27nm,0.9s
TPNV **Topopah Spring** 74.09 322 eP P 02 45 20.5 +1.8
comp=Z,27nm,0.9s
FURC **Furnace Creek,** 74.10 321 P P 02 45 20.1 +1.7
baz=134
MPMC **Manual Prospec** 74.18 321 P P 02 45 20.1 +0.8
baz=134
JLU **Jordanelle** 74.20 328 eP P 02 45 20.5 +1.2
comp=Z,58nm,1.4s
C32A **Crookston** 74.23 341 P P 02 45 18.4 -0.7
baz=154
B34A **Aery, Baudette** 74.28 342 P P 02 45 18.7 -0.6
baz=155
B33A **Robert and Kas** 74.36 342 P P 02 45 19.1 -0.6
baz=154
DAC **Darwin (Calif)** 74.39 321 eP P 02 45 21.4 +0.9
DAC pmax pmax
comp=Z,26nm,1.0s
DAC **Darwin (Calif)** 74.39 321 eP P 02 45 21.4 +0.9
comp=Z,26nm,1.0s
AGMN **Agassiz Nation** 74.46 342 eP P 02 45 20.3 0.0
comp=Z,30nm,0.8s
PMPS **Porto Santo** 74.47 44 eP P 02 45 22.0 +1.3
ISA **Isabella, Lake** 74.49 320 P P 02 45 22.4 +1.5
baz=133
ISA **Isabella, Lake** 74.49 320 eP P 02 45 22.9 +2.0
ISA pmax pmax
comp=Z,37nm,1.0s
ISA **Isabella, Lake** 74.49 320 eP P 02 45 22.9 +2.0
comp=Z,37nm,1.0s
C31A **Landman Farms,** 74.58 340 P P 02 45 20.7 -0.4
baz=152
DUG **Dugway, Tooele** 74.58 326 eP P 02 45 22.8 +1.3
DUG pmax pmax
comp=Z,34nm,1.1s
DUG **Dugway, Tooele** 74.58 326 eP P 02 45 22.8 +1.3
comp=Z,34nm,1.1s
R11A **Troy Canyon, C** 74.71 324 eP P 02 45 23.8 +1.5
comp=Z,23nm,1.2s
B32A **Ashes, Strandq** 74.75 341 P P 02 45 21.6 -0.4
baz=154
GRAC **Grapevine Rang** 74.76 322 P P 02 45 24.1 +1.7
baz=134
PKM **Mcpherson Peak** 74.78 319 P P 02 45 24.3 +1.6
baz=132
CWC **Cottonwood Cre** 74.79 321 P P 02 45 24.1 +1.4
baz=134
A33A **Warroad** 74.90 342 P P 02 45 22.4 -0.4
baz=155
SBA **Scott Base** 74.95 190 eP P 02 45 24.4 +1.5
SBA pmax pmax
comp=Z,69nm,1.2s
SBA **Scott Base** 74.95 190 eP P 02 45 24.4 +1.5
comp=Z,69nm,1.2s
BW06 **Boulder Array** 74.96 330 eP P 02 45 23.9 +0.2
comp=Z,16nm,1.0s
PD31 **Pinedale Array** 74.96 330 eP P 02 45 23.9 +0.3
PDAR **Pinedale Array** 74.96 330 P P 02 45 23.9 +0.3
comp=Z,3.7nm,0.6s,baz=151,slow=6.8,SNR=38
PDAR pP pP 02 45 49.1 +0.1
comp=Z,3.3nm,0.7s,baz=106,slow=11,SNR=3.7
VES **Vestal, Richgr** 74.98 320 P P 02 45 24.9 +1.3
baz=133
HWUT **Hardware Ranch** 75.02 328 eP P 02 45 24.7 +0.7
comp=Z,43nm,1.1s
B31A **Greenbush Farm** 75.11 341 P P 02 45 23.6 -0.5
baz=153
SMMC **Simmler** 75.18 319 P P 02 45 26.4 +1.6
baz=132
A32A **Rocking H Ranc** 75.20 342 P P 02 45 24.2 -0.4
baz=154
PPT2 **Papeete2** 75.22 257 eS S 02 55 09.9 +13
comp=Z,334nm,26.0s
PPT2 **Papeete2** 75.22 257 eLR LR 03 08 47.7
comp=Z,730nm,32.8s
MDND **Maddock** 75.23 339 P P 02 45 25.2 +0.4
baz=151
MDND **Maddock** 75.23 339 eP P 02 45 24.9 +0.1
comp=Z,196nm,0.9s
MDND epP pP 02 45 50.3 +0.2
PPT **Papeete** 75.23 257 P P 02 45 26.5 +0.9
comp=Z,41nm,0.8s,baz=50,slow=6.6,SNR=3.6
SPUT **South Promonto** 75.23 327 eP P 02 45 26.0 +0.9
comp=Z,32nm,0.8s
BGU **Big Grassy Mou** 75.24 327 eP P 02 45 26.0 +0.8
comp=Z,26nm,1.2s
TIN **Tinemaha, Big** 75.30 321 P P 02 45 27.4 +1.8
baz=134
A31A **Linda, St. Vin** 75.42 341 P P 02 45 25.4 -0.4
baz=153
SYO **Syowa Base** 75.61 159 i P P 02 45 25.2 -1.5
SYO **Syowa Base** 75.61 159 ij eP cP cP 02 45 36.4 -2.8
PAGB **Antelope Grade** 75.61 319 eP P 02 45 28.8 +1.5
comp=Z,41nm,1.1s
HVU **Hansel Valley** 75.75 328 eP P 02 45 28.8 +0.7
HVU pmax pmax
comp=Z,24nm,0.9s
HVU **Hansel Valley** 75.75 328 eP P 02 45 28.8 +0.7
comp=Z,24nm,0.9s
VNDA **Vanda** 75.97 190 P P 02 45 30.2 +1.5
comp=Z,22nm,0.9s,baz=138,slow=4.7,SNR=68
VNDA **Vanda** 75.97 190 eP P 02 45 30.2 +1.5
comp=Z,39nm,1.1s
REDW **Red Top Meadow** 76.02 330 eP P 02 45 30.2 +0.5
comp=Z,41nm,0.9s
MLAC **Mammoth, Mammo** 76.05 321 P P 02 45 32.2 +2.2
baz=133
SNOW **Snow King Moun** 76.05 330 eP P 02 45 30.6 +0.7
comp=Z,49nm,0.8s
LOHW **Long Hollow** 76.10 330 eP P 02 45 30.4 +0.3
comp=Z,28nm,0.7s
TPAW **Teton Pass** 76.17 330 eP P 02 45 31.2 +0.7
comp=Z,37nm,0.8s
ULM **Lac du Bonnet** 76.22 342 P P 02 45 29.9 -0.5
comp=Z,20nm,0.6s,baz=161,slow=6.0,SNR=40
ULM pP pP 02 45 54.7 -1.1
comp=Z,14nm,0.6s,baz=150,slow=4.6,SNR=5.5
ULM LR LR 03 22 00.5
comp=Z,80nm,20.6s,baz=160,slow=38
ULM **Lac du Bonnet** 76.22 342 eP P 02 45 29.9 -0.5
comp=Z,119nm,1.6s
ULM pP pP 02 45 54.7 -1.1
PMPB **Monarch Peak** 76.26 319 eP P 02 45 33.6 +2.6
comp=Z,28nm,0.9s
MOOW **Moose Ponds** 76.27 330 eP P 02 45 31.3 +0.2
comp=Z,15nm,0.7s
IMW **Indian Meadow** 76.47 330 eP P 02 45 33.5 +1.2
comp=Z,49nm,0.9s
FLWY **Flagg Ranch** 76.51 330 eP P 02 45 33.9 +1.5
comp=Z,82nm,0.9s
TVH2 **Borealis Mine** 76.51 322 eP P 02 45 34.5 +1.8
comp=Z,22nm,1.5s
TVH3 **East Aurora ar** 76.53 322 eP P 02 45 34.5 +1.8
comp=Z,33nm,1.5s
TVH1 **TV Hill, Hawth** 76.57 322 eP P 02 45 34.4 +1.3
comp=Z,26nm,1.2s
LAO **LASA Array** 76.66 335 eP P 02 45 33.8 +0.7
LAO epP pP 02 45 59.5 +1.0
RLMT **Red Lodge** 76.67 332 eP P 02 45 34.3 +1.0
comp=Z,34nm,0.8s
H17A **Grant Village** 76.69 331 P P 02 45 35.2 +1.6
baz=141
LKWY **Lake** 76.74 331 eP P 02 45 35.4 +1.6
LKWY pmax pmax
comp=Z,40nm,1.0s
LKWY **Lake** 76.74 331 eP P 02 45 35.4 +1.6
comp=Z,40nm,1.0s
YFT **Old Faithful** 76.85 330 eP P 02 45 37.1 +2.7
comp=Z,36nm,1.0s
SCHQ **Schefferville** 76.95 1 P P 02 45 34.4 0.0
comp=Z,7.9nm,0.8s,baz=177,slow=3.9,SNR=4.6
SCHQ pP pP 02 46 00.0 +0.2
comp=Z,12nm,0.8s,baz=197,slow=6.3,SNR=3.7
SCHQ LR LR 03 23 59.0
comp=Z,41nm,18.1s,baz=298,slow=39
YNR **Norris Junctio** 76.99 331 eP P 02 45 37.2 +2.1
comp=Z,19nm,0.9s
WAKR **Walker** 76.99 321 eP P 02 45 37.3 +2.0
comp=Z,35nm,1.4s
YMR **Madison River** 77.08 331 eP P 02 45 37.5 +1.8
comp=Z,53nm,0.9s
YHH **Holmes Hill** 77.12 331 eP P 02 45 37.5 +1.5
comp=Z,59nm,1.0s
YERR **Yerington** 77.20 322 eP P 02 45 37.8 +1.4
comp=Z,42nm,1.4s
YERR epP pP 02 46 04.5 +2.6
CMB **Columbia Colle** 77.22 321 eP P 02 45 37.1 +0.7
CMB pmax pmax
comp=Z,15nm,1.3s
CMB **Columbia Colle** 77.22 321 eP P 02 45 37.1 +0.7
comp=Z,15nm,1.3s
YHB **Horse Butte** 77.25 330 eP P 02 45 38.4 +1.8
comp=Z,52nm,0.9s
DGMT **Dagmar** 77.36 337 eP P 02 45 37.5 +0.7
comp=Z,123nm,1.0s
GCMT **Greycliff** 77.38 332 eP P 02 45 38.0 +0.8
QLMT **Earthquake Lak** 77.42 330 eP P 02 45 39.3 +1.8
PNTR **Pine Nut** 77.48 322 eP P 02 45 40.0 +2.0
comp=Z,38nm,0.9s
TORD **Torodi Ar. Bea** 77.55 70 P P 02 45 37.7 -0.9
comp=Z,73nm,0.7s,baz=250,slow=5.2,SNR=166
TORD pP pP 02 46 03.5 -0.6
comp=Z,31nm,0.8s,baz=249,slow=5.4,SNR=4.3
PAHR **Pah Rah Range** 77.77 322 eP P 02 45 41.0 +1.5
comp=Z,61nm,0.9s
HLID **Hailey** 77.88 328 eP P 02 45 41.5 +1.4
comp=Z,52nm,0.8s
SUR **Sutherland** 78.02 120 eP P 02 45 41.7 +0.4
comp=Z,49nm,1.0s
MCMT **McKenzie Canyo** 78.07 330 P P 02 45 42.8 +1.6
BOZ **Bozeman (W)** 78.09 331 eP P 02 45 42.1 +0.9
BOZ pmax pmax
comp=Z,22nm,1.1s
BOZ **Bozeman (W)** 78.09 331 eP P 02 45 42.1 +0.9
comp=Z,22nm,1.1s
AFDM **Forest Hills D** 78.17 321 eP P 02 45 42.5 +0.8
comp=Z,20nm,1.0s
DLMT **Dillon** 78.36 330 eP P 02 45 43.9 +1.3
comp=Z,59nm,1.3s
MFID **Camas Ranch** 78.47 327 eP P 02 45 44.5 +1.2
comp=Z,56nm,1.4s
LRM **Limekiln Ridge** 78.64 330 eP P 02 45 45.4 +1.1
LRM epP pP 02 46 11.6 +1.8
ORV **Oroville** 78.88 321 eP P 02 45 46.7 +1.2
ORV pmax pmax
comp=Z,44nm,1.0s
ORV **Oroville** 78.88 321 eP P 02 45 46.7 +1.2
comp=Z,44nm,1.0s
HRY **Holter Researc** 79.04 331 eP P 02 45 47.4 +1.1
HRY epP pP 02 46 13.6 +1.8
EGMT **Eagleton** 79.17 333 eP P 02 45 47.6 +0.7
WVOR **Wild Horse Val** 79.24 325 eP P 02 45 48.0 +0.5
WVOR pmax pmax
comp=Z,11nm,1.0s
WVOR **Wild Horse Val** 79.24 325 eP P 02 45 48.0 +0.5
comp=Z,11nm,1.0s
O03D **Paynes Creek** 79.54 322 P P 02 45 49.1 -0.1
baz=132
TSUM **Tsumeb** 79.66 107 eP P 02 45 50.6 +0.2
comp=Z,23nm,0.8s
MOD **Modoc Plateau** 79.78 324 eP P 02 45 51.2 +0.8
comp=Z,39nm,1.0s
CHMT **Chamberlain Mo** 79.83 331 eP P 02 45 51.6 +0.9
MSO **Missoula** 80.08 330 eP P 02 45 53.1 +1.2
MSO epP pP 02 46 19.3 +1.8
WDC **Whiskeytown Da** 80.16 321 eP P 02 45 51.7 -0.6
WDC pmax pmax
comp=Z,24nm,0.7s
WDC **Whiskeytown Da** 80.16 321 eP P 02 45 51.7 -0.6
comp=Z,24nm,0.7s
SLMT **Seeley Lake** 80.18 331 eP P 02 45 53.4 +0.8
SLMT epP pP 02 46 19.4 +1.2
BMO **Blue Mountains** 80.25 327 eP P 02 45 53.7 +0.8
BMO pmax pmax
comp=Z,42nm,1.0s
BMO **Blue Mountains** 80.25 327 eP P 02 45 53.7 +0.8
comp=Z,42nm,1.0s
N02D **Trinity Center** 80.51 322 P P 02 45 54.1 -0.2
baz=131
M04C **Macdoel** 80.55 323 P P 02 45 55.2 +0.6
baz=132
KMRM **Mail Ridge** 80.61 321 eP P 02 45 56.7 +1.8
comp=Z,86nm,1.3s
SWMT **Swartz Lake** 80.61 331 eP P 02 45 55.7 +1.0
K05A **Summer Lake** 80.65 324 eP P 02 45 56.5 +1.3
comp=Z,69nm,0.9s
M02C **Callahan** 80.87 322 P P 02 45 56.3 +0.1
baz=131
YBMT **Yellow Bay** 80.88 331 eP P 02 45 57.2 +1.0
YBMT epP pP 02 46 23.4 +1.6
JTMT **Jette** 80.92 331 eP P 02 45 57.4 +1.0
F10A **Beach Ranch, E** 81.01 328 eP P 02 45 57.6 +0.8
comp=Z,29nm,0.8s
KHMM **Horse Mountain** 81.04 321 eP P 02 45 58.8 +1.6
comp=Z,31nm,1.0s
K04D **Chiloquin, OR** 81.06 323 P P 02 45 58.1 +0.9
baz=132
BLMT **Blacktail Moun** 81.15 331 eP P 02 45 58.6 +0.9
BLMT epP pP 02 46 25.0 +1.6
J05D **Fort Rock, OR** 81.21 324 P P 02 45 59.1 +1.0
baz=132
BSMT **Bassoo Peak** 81.22 331 eP P 02 45 59.1 +1.0
KTRM **Thompson Ridge** 81.50 322 P P 02 46 00.7 +1.0
KRMB **Red Mountain** 81.56 321 eP P 02 46 01.3 +1.4
comp=Z,27nm,0.9s
J04D **Umpqua Nationa** 81.66 324 P P 02 46 01.3 +0.8
baz=132
HUMO **Hull Mountain** 81.72 323 eP P 02 46 00.9 +0.3
comp=Z,14nm,1.2s
WALA **Waterton Lakes** 81.73 332 eP P 02 46 01.3 +0.6
comp=Z,44nm,0.9s
WALA epP pP 02 46 27.2 +0.9
L02D **Cave Junction,** 81.79 322 P P 02 46 01.8 +0.8
baz=130
PFVI **Vila Bisbo** 81.81 44 eP P 02 46 02.8 +1.6
E09A **Wood Farm, Sta** 81.84 328 eP P 02 46 01.5 +0.4
comp=Z,46nm,1.7s
I05D **Terrebonne, OR** 81.98 325 P P 02 46 03.2 +1.2
baz=132
MORF **Marmelete** 82.03 44 eP P 02 46 02.3 -0.1
MORF AMb AMB 02 46 04.8
comp=Z,29nm,1.7s
MORF **Marmelete** 82.03 44 eP P 02 46 03.5 +1.1
MORF **Marmelete** 82.03 44 eP P 02 46 02.3 -0.1
PTEO **Sao Teotonio** 82.12 44 eP P 02 46 04.5 +1.7
comp=Z,73nm,1.4s
I04A **Tendick Farm,** 82.19 324 P P 02 46 03.0 -0.1
baz=131
G06A **Carlson Farm,** 82.21 326 eP P 02 46 04.8 +1.6
comp=Z,21nm,1.0s
G06A epP pP 02 46 30.0 +1.1
HAWA **Hanford** 82.44 327 eP P 02 46 04.3 +0.1
comp=Z,38nm,0.8s
HAWA epP pP 02 46 31.5 +1.5
PBDV **Barranco-do-Ve** 82.46 45 eP P 02 46 05.8 +1.2
comp=Z,85nm,1.5s
G05D **Wamic, OR** 82.57 326 P P 02 46 06.5 +1.5
baz=132
PNCL **Nicolau / Gran** 82.58 44 eP P 02 46 06.3 +1.1
comp=Z,22nm,1.3s
NEW **Newport** 82.60 330 P P 02 46 04.9 -0.2
comp=Z,6.8nm,0.7s,baz=148,slow=5.8,SNR=12
NEW **Newport** 82.60 330 eP P 02 46 05.3 +0.2
NEW pmax pmax
comp=Z,16nm,1.1s
NEW **Newport** 82.60 330 eP P 02 46 05.3 +0.2
comp=Z,16nm,1.1s
D08A **Wollman Farm,** 82.60 328 eP P 02 46 05.8 +0.7
comp=Z,16nm,0.8s
PCVE **Castro Verde** 82.61 44 eP P 02 46 06.5 +1.1
MESJ **Messejana** 82.62 44 eP P 02 46 05.6 +0.1
MESJ AMb AMB 02 46 08.4
comp=Z,26nm,2.5s
MESJ **Messejana** 82.62 44 eP P 02 46 06.6 +1.2
comp=Z,24nm,1.2s
MESJ **Messejana** 82.62 44 eP P 02 46 05.5 +0.1
KEBM **Edson Butte** 82.66 322 eP P 02 46 07.5 +1.9
comp=Z,73nm,1.1s
PVAQ **Vaqueiros** 82.69 45 eP P 02 46 07.0 +1.2
E07A **Sunnyside** 82.72 327 eP P 02 46 06.8 +1.0
comp=Z,12nm,0.8s
TDH **Tom, Dick, Har** 82.85 325 P P 02 46 07.2 +0.5
BOSA **Boshof** 82.91 118 P P 02 46 07.2 -0.3
comp=Z,47nm,0.9s,baz=258,slow=4.2,SNR=50
BOSA **Boshof** 82.91 118 eP P 02 46 07.2 -0.3
comp=Z,64nm,0.9s
PBEJ **Beja** 82.95 44 eP P 02 46 08.2 +1.1
comp=Z,20nm,1.4s
EVO **Evora** 83.15 44 eP P 02 46 08.9 +0.7
COR **Corvallis** 83.19 324 eP P 02 46 09.9 +1.7
COR pmax pmax
comp=Z,66nm,0.9s
COR **Corvallis** 83.19 324 eP P 02 46 09.9 +1.7
comp=Z,66nm,0.9s
SAW **Saint Andrews** 83.28 328 P P 02 46 09.3 +0.7
MAW **Mawson** 83.42 163 P P 02 46 09.4 +0.3
comp=Z,61nm,0.8s,baz=218,slow=6.0,SNR=161
MAW **Mawson** 83.42 163 eP P 02 46 09.4 +0.3
comp=Z,17nm,0.9s
FCC **Fort Churchill** 83.55 347 eP P 02 46 09.2 -0.4
FCC pmax pmax
comp=Z,33nm,0.9s
FCC **Fort Churchill** 83.55 347 eP P 02 46 09.2 -0.4
comp=Z,34nm,0.9s
WTV **Waterville** 83.55 328 P P 02 46 10.6 +0.6
PBAR **Barrancos** 83.57 44 eP P 02 46 11.0 +0.7
comp=Z,34nm,1.1s
F04A **Amboy** 83.61 326 eP P 02 46 10.7 +0.4
comp=Z,44nm,1.0s
F04A epP pP 02 46 37.5 +1.4
PESTR **Estremoz** 83.62 43 eP P 02 46 11.8 +1.2
comp=Z,22nm,1.4s
ETW **Entiat** 83.67 328 P P 02 46 11.3 +0.6
B08A **Colville Reser** 83.71 329 eP P 02 46 10.8 0.0
comp=Z,24nm,1.1s
PCAS **Casmilo, Conde** 83.74 42 eP P 02 46 12.0 +0.9
comp=Z,30nm,1.4s
LON **Longmire** 83.84 326 eP P 02 46 11.5 -0.1
LON pmax pmax
comp=Z,8.0nm,0.8s
LON **Longmire** 83.84 326 eP P 02 46 11.4 -0.1
comp=Z,7.7nm,0.8s
PMRV **Marv??o** 84.07 43 eP P 02 46 13.3 +0.5
D05A **Enumclaw** 84.22 327 eP P 02 46 13.6 +0.2
comp=Z,43nm,0.8s
PCBR **Castelo Branco** 84.25 43 eP P 02 46 15.2 +1.5
comp=Z,20nm,1.5s
PTO **Porto** 84.31 41 eP P 02 46 15.0 +1.0
comp=Z,47nm,1.4s
LBTB **Lobatse** 84.53 115 eP P 02 46 15.7 -0.1
LBTB pmax pmax
comp=Z,41nm,0.9s
LBTB **Lobatse** 84.53 115 eP P 02 46 15.7 -0.1
comp=Z,41nm,0.9s
LBTB epP pP 02 46 42.3 +0.7
MTE **Manteigas** 84.53 42 eP P 02 46 16.1 +0.9
E03A **Lebam** 84.61 326 eP P 02 46 16.4 +1.1
comp=Z,42nm,1.0s
EDM **Edmonton** 84.64 335 eP P 02 46 14.4 -1.0
EDM pmax pmax
comp=Z,41nm,0.9s
EDM **Edmonton** 84.64 335 eP P 02 46 14.4 -1.0
comp=Z,41nm,0.9s
EDM epP pP 02 46 39.9 -1.4
RPW **Rockport** 84.83 328 P P 02 46 16.0 -0.5
JCW **Jim Creek** 84.86 327 P P 02 46 16.3 -0.4
POLO **Lamas de Olo** 84.94 41 eP P 02 46 17.9 +0.6
B05A **Bryant** 84.99 327 P P 02 46 16.8 -0.4
baz=132
PCAB **Cabril** 85.00 41 eP P 02 46 19.5 +2.0
PGAV **Gavieira, Arco** 85.00 41 eP P 02 46 23.5 +5.9
comp=Z,47nm,1.6s
CMW **Cultus Mountai** 85.11 328 P P 02 46 17.9 -0.1
TAM **Tamanrasset** 85.12 63 eP P 02 46 18.7 0.0
TAM pmax pmax
comp=Z,23nm,1.1s
TAM **Tamanrasset** 85.12 63 eP P 02 46 18.7 0.0
comp=Z,23nm,1.1s
TAM epP pP 02 46 44.0 -0.6
MVO **Moncorvo** 85.29 42 eP P 02 46 20.0 +1.0
comp=Z,43nm,1.3s
NLWA **Neilton Lookou** 85.32 326 eP P 02 46 19.4 +0.5
comp=Z,30nm,1.0s
A04D **Lummi Island** 85.60 328 P P 02 46 20.3 +0.1
baz=132
MCW **Mount Constitu** 85.64 327 P P 02 46 20.9 +0.4
MCW **Mount Constitu** 85.64 327 P P 02 46 20.9 +0.4
PBRG **Braganca** 85.84 41 eP P 02 46 22.2 +0.5
comp=Z,31nm,1.5s
PGC **Sidney** 85.92 327 eP P 02 46 21.7 -0.1
comp=Z,57nm,1.1s
PAB **San Pablo** 86.08 44 eP P 02 46 22.8 -0.2
PAB pmax pmax
comp=Z,27nm,1.1s
PAB **San Pablo** 86.08 44 eP P 02 46 22.8 -0.2
comp=Z,27nm,1.1s
ESDC **Sonseca Array** 86.40 44 P P 02 46 24.7 +0.2
comp=Z,4.3nm,1.0s,baz=236,slow=4.6,SNR=17
ESDC pP pP 02 46 51.1 +0.6
comp=Z,3.8nm,0.8s,baz=234,slow=5.2,SNR=4.8
ESDC LR LR 03 23 25.6
comp=Z,88nm,19.7s,baz=220,slow=34
ESLA **Sonseca Array** 86.40 44 eP P 02 46 24.8 +0.3
ES19 **SONSECA Array** 86.45 44 eP P 02 46 25.0 +0.2
ES19 epP pP 02 46 49.7 -1.0
LLLB **Lillooet** 86.46 329 eP P 02 46 24.3 -0.2
LLLB epP pP 02 46 50.3 -0.2
MIR **Mirnyy** 90.25 173 i P P 02 46 42.0 -0.3
MIR pmax pmax
comp=Z,4.0nm,1.2s
LSZ **Lusaka** 90.52 107 eP P 02 46 45.7 +1.0
LSZ pmax pmax
comp=Z,31nm,1.4s
LSZ **Lusaka** 90.52 107 eP P 02 46 45.6 +1.0
comp=Z,31nm,1.4s
YKA **Yellowknife Ar** 92.09 341 P P 02 46 50.6 0.0
comp=Z,27nm,0.7s,baz=135,slow=4.5,SNR=145
YKA pP pP 02 47 17.1 +0.4
comp=Z,9.9nm,0.7s,baz=135,slow=4.5,SNR=6.5
BKZ **Black Stump Fm** 93.58 225 eP P 02 46 59.6 +1.2
URZ **Urewera** 93.66 226 P P 02 46 59.5 +0.9
comp=Z,12nm,1.0s,baz=121,slow=6.1,SNR=5.5
KEST **Kesra** 93.76 53 P P 02 46 59.0 -0.1
comp=Z,4.5nm,0.8s,baz=244,slow=11,SNR=3.7
RPZ **Rata Peaks** 94.36 219 P P 02 47 03.1 +1.2
comp=Z,10nm,0.9s,baz=139,slow=11,SNR=2.5
DLBC **Dease Lake** 95.07 332 P P 02 47 05.3 +0.8
comp=Z,14nm,0.9s,baz=132,slow=5.0,SNR=9.5
DLBC pP pP 02 47 31.1 +0.4
comp=Z,7.7nm,0.9s,baz=139,slow=7.3,SNR=3.1
DLBC **Dease Lake** 95.07 332 eP P 02 47 04.9 +0.4
comp=Z,18nm,1.0s
DLBC pP pP 02 47 31.1 +0.4
DAVOX **Davos/Dischmat** 98.65 43 PKKPbc PKKPbc 03 03 50.4 -0.8
comp=Z,1.6nm,0.7s,baz=274,slow=23,SNR=2.9
GRFO **Grafenberg** 100.60 41 eP Pdif 02 47 29.1 -0.5
GRFO **Grafenberg** 100.60 41 ePdif Pdif 02 47 29.1 -0.5
GERES **GERESS Array B** 101.81 42 Pdiff Pdif 02 47 37.6 +2.5
comp=Z,0.7nm,0.8s,baz=258,slow=4.0,SNR=4.4
GERES PKKPbc PKKPbc 03 03 42.2 +0.1
comp=Z,0.1nm,0.2s,baz=72,slow=4.3,SNR=4.0

GERES **GERESS Array B 101.81 42** *e*P **Pdif** **02 47 38.6 +3.5**
GERES pmax pmax
comp=Z,1.0nm,0.8s
KHC Kasperske Hory 101.83 42 *e*PP PP 02 51 47.7 +0.2
KHC *e*SP SP 03 00 42.1 +0.6
INK Inuvik 101.84 340 PKKPbc PKKPbc 03 03 40.5 -2.0
comp=Z,3.7nm,1.0s,baz=50,slow=2.4,SNR=6.0
INK Inuvik 101.84 340 *e*P **Pdif** **02 47 34.7 +0.1**
INK Inuvik 101.84 340 *e*Pdif **Pdif** **02 47 34.7 +0.1**
INK PKKPbc **PKKPbc** **03 03 40.5 -2.0**
CLL Collm 102.25 39 eSP SP 03 00 47.0 +1.3
CLL eSS **SS** **03 06 24.0 +4.1**
PRU Pruhonice 102.72 41 eSP SP 03 00 45.5 -5.3
GOPC GO Pecny, Ondr 102.84 41 eSP SP 03 00 53.2 +1.1
ILAR Eielson Array 105.12 334 Pdiff **Pdif** **02 47 49.0 -0.3**
comp=Z,0.5nm,0.7s,baz=151,slow=3.9,SNR=5.5
ILAR pPdiff **pPdif** **02 48 14.3 -1.2**
comp=Z,0.5nm,0.9s,baz=141,slow=3.0,SNR=3.4
ILAR PKKPbc **PKKPbc** **03 03 28.9 -3.6**
comp=Z,0.9nm,0.9s,baz=281,slow=3.3,SNR=6.0
PSZ Piszkesteto 105.44 44 *e*PKP **PKiKP** **02 52 04.0 -0.4**
FINES FINESS Array B 111.72 31 PKKPbc PKKPbc 03 03 10.0 -1.3
comp=Z,2.5nm,0.9s,baz=64,slow=6.3,SNR=5.8
FINES PKKPab **PKKPab** **03 03 18.6 +1.5**
comp=Z,1.6nm,0.7s,baz=113,slow=4.4,SNR=5.3
KIEV Kiev 111.98 43 *e*PKIKP **PKiKP** **02 52 15.7 -0.8**
KIEV Kiev 111.98 43 *e*PKP **PKiKP** **02 52 15.7 -0.8**
AKASG Malin Array Be 112.00 43 Pdiff **Pdif** **02 48 21.7 +1.6**
comp=Z,0.2nm,0.3s,baz=300,slow=2.0,SNR=3.3
AKASG PKiKP **PKiKP** **02 52 15.9 -0.6**
comp=Z,1.4nm,0.6s,baz=268,slow=3.0,SNR=6.8
AKASG PP **PP** **02 52 59.9 -1.9**
comp=Z,0.7nm,0.5s,baz=258,slow=7.0,SNR=5.9
AKASG PKKPbc **PKKPbc** **03 03 09.3 -0.8**
comp=Z,1.3nm,0.6s,baz=68,slow=4.3,SNR=4.6
AKASG PKKPab **PKKPab** **03 03 16.0 -0.4**
comp=Z,0.4nm,0.5s,baz=64,slow=4.2,SNR=3.2
CSS Mathiatis 112.07 60 *e*PKP **PKiKP** **02 52 17.2 0.0**
ARCES ARCESS Array B 112.29 22 PKiKP **PKiKP** **02 52 17.1 +0.6**
comp=Z,0.5nm,0.4s,baz=28,slow=5.5,SNR=3.7
ARCES PKKPbc **PKKPbc** **03 03 07.7 -2.1**
comp=Z,2.6nm,0.8s,baz=94,slow=1.6,SNR=7.3
ARCES PKKPab **PKKPab** **03 03 15.9 +1.5**
comp=Z,5.4nm,0.8s,baz=91,slow=4.9,SNR=17
CAN Canberra 112.33 213 *e*PKIKP **PKiKP** **02 52 16.9 -1.0**
CAN Canberra 112.33 213 *e*PKP **PKiKP** **02 52 16.9 -1.0**
BRTR Keskin Array B 113.25 55 PKiKP **PKiKP** **02 52 19.4 -0.1**
comp=Z,2.0nm,0.8s,baz=191,slow=2.0,SNR=15
BRTR PP **PP** **02 53 08.3 -3.1**
comp=Z,2.1nm,1.0s,baz=233,slow=6.0,SNR=5.2
BRTR PKKPab **PKKPab** **03 03 12.5 +0.9**
comp=Z,1.0nm,0.8s,baz=100,slow=3.8,SNR=5.7
OBN Obninsk 116.81 38 *i* PKIKP **PKPdf** **02 52 25.7 +0.2**
OBN 02 53 32.0
OBN *e* 02 59 03.6
OBN PS **PS** **03 03 16.0 -3.8**
OBN *e*SS SS 03 09 26.7 -8.2
OBN *e*SSS SSS 03 13 56.2
OBN pmax pmax
comp=Z,23nm,1.3s
OBN MLR MLR
comp=Z,110nm,18.0s
LPSR Galich'ya Gora 118.17 41 *e*PKIKP **PKPdf** **02 52 27.8 -0.5**
LPSR pmax pmax
comp=Z,10.0nm,0.7s
KLMR Klimovskoe 118.22 32 *e*PKIKP **PKPdf** **02 52 27.6 -0.5**
KLMR pmax pmax
comp=Z,19nm,1.1s
VSR Storozhevoye 118.30 43 *e*PKIKP **PKPdf** **02 52 26.4 -2.2**
VSR pmax pmax
comp=Z,20nm,1.3s
STKA Stephens Creek 118.68 209 PKP **PKPdf** **02 52 30.1 +0.1**
comp=Z,4.0nm,0.7s,baz=146,slow=3.6,SNR=4.7
KIV Kislovodsk 120.45 51*c i*PKIKP **PKPdf** **02 52 33.2 +0.1**
KIV 02 53 03.0
KIV PS **PS** **03 03 58.0 +4.7**
KIV pmax pmax
comp=Z,13nm,1.0s
KIV Kislovodsk 120.45 51 *e*PKPdf **PKPdf** **02 52 32.8 -0.3**
KBZ Khabaz 120.59 52 PKP **PKPdf** **02 52 33.7 +0.5**
comp=Z,9.9nm,0.9s,baz=203,slow=3.1,SNR=20
KBZ PKKPbc **PKKPbc** **03 02 40.2 +0.5**
comp=Z,1.3nm,0.8s,baz=123,slow=3.0,SNR=5.4
GOF Gofitskoye 120.75 50⇑ *e*PKIKP **PKPdf** **02 52 32.2 -1.3**
GNI Garni 121.77 56*c i*PKIKP **PKPdf** **02 52 36.9 +1.0**
GNI pmax pmax
comp=Z,40nm,1.7s
GNI Garni 121.77 56 *e*PKPdf **PKPdf** **02 52 36.2 +0.4**
NAX Nakhchivan 122.29 57 PKIKP **PKPdf** **02 52 36.5 -0.3**
BILL Bilibino 123.42 338⇑ *i*PKIKP **PKPdf** **02 52 38.3 +0.4**
BILL 02 53 06.0
BILL 02 59 35.0
BILL pmax pmax
comp=Z,8.0nm,0.8s
SEKA Sheki 123.69 55 PKIKP **PKPdf** **02 52 39.2 -0.2**
FORT Forrest 124.69 198 *e*PKPdf **PKPdf** **02 52 40.9 -0.7**
LKRN Lenkeran, Azer 124.83 58 PKIKP **PKPdf** **02 52 41.3 -0.2**
CTAO Charters Tower 125.64 222 *e*PKIKP **PKPdf** **02 52 43.6 -0.1**
CTAO Charters Tower 125.64 222 *e*PKPdf **PKPdf** **02 52 43.6 -0.1**
SOKR Solikamsk 126.89 31 *e*PKIKP **PKPdf** **02 52 43.3 -1.4**
SOKR pmax pmax
comp=Z,23nm,1.3s
H11S2 WAKE ISLAND Hyl 128.10 276 T T 05 12 57.2
baz=89
H11S1 WAKE ISLAND Hyl 128.11 276 T T 05 13 08.0
baz=89
H11S3 WAKE ISLAND Hyl 128.12 276 T T 05 12 59.0
baz=89
H11N3 WAKE ISLAND Hyl 128.21 278 T T 05 13 10.1
baz=102
H11N2 WAKE ISLAND Hyl 128.22 278 T T 05 13 11.2
baz=102
H11N1 WAKE ISLAND Hyl 128.23 278 T T 05 13 11.6
baz=102
ARU Arti 128.83 35 *i* PKIKP **PKPdf** **02 52 48.9 +0.3**
ARU 02 54 56.2
ARU 02 59 50.3
ARU SS SS 03 11 58.7 -8.4
ARU Arti 128.83 35 *e*PKPdf **PKPdf** **02 52 48.6 0.0**
ASAR Alice Springs 129.16 207 PKP **PKPdf** **02 52 50.3 -0.2**
comp=Z,26nm,0.9s,baz=133,slow=1.9,SNR=72
ASAR pPKP **pPKPdf** **02 53 16.3 -1.3**
comp=Z,7.0nm,0.9s,baz=147,slow=1.8,SNR=4.7
AKTO Aktyubinsk 130.24 42 SKPbc **SKPbc** **02 56 07.1 +1.4**
comp=Z,4.5nm,0.9s,baz=313,slow=2.2,SNR=10
AKTO Aktyubinsk 130.24 42 PKIKP **PKPdf** **02 52 51.1 -0.4**
AKTO pmax pmax
comp=Z,15nm,1.0s
NRIK Noril'sk 130.94 11 PKP **PKPdf** **02 52 52.7 +0.4**
comp=Z,7.6nm,0.9s,baz=22,slow=1.4,SNR=7.6
NRIK SKPbc **SKPab** **02 56 09.7 +1.7**
comp=Z,2.6nm,0.6s,baz=320,slow=1.2,SNR=5.6
SEY Seymchan 130.98 336 PKP **PKPdf** **02 52 53.4 +0.9**
comp=Z,22nm,0.9s,baz=96,slow=3.0,SNR=20
SEY pPKP **pPKPdf** **02 53 19.6 -0.1**
comp=Z,15nm,0.9s,baz=52,slow=5.7,SNR=3.9
AB31 Akbulak array 131.74 43 *i* PKIKP **PKPdf** **02 52 54.2 -0.1**
AB31 pmax pmax
comp=Z,14nm,0.9s
ABKAR Akbulak array 131.74 43 *e*PKPdf **PKPdf** **02 52 54.4 +0.1**
ABKAR *e* 02 56 12.4
COEN Coen 132.17 224 *e*PKPdf **PKPdf** **02 52 56.6 +0.4**
GEYT Alibeck 132.18 59 PKP **PKPdf** **02 52 56.3 +0.6**
comp=Z,1.9nm,0.5s,baz=247,slow=3.0,SNR=5.4
GEYT PP **PP** **02 55 19.4 +0.3**
comp=Z,1.7nm,0.4s,baz=263,slow=7.3,SNR=4.1
GEYT SKPbc **SKPab** **02 56 14.4 0.0**
comp=Z,3.4nm,0.8s,baz=264,slow=4.3,SNR=3.1
WRA Warramunga Arr 132.23 210 PKhKP PKPpre 02 52 42.5
comp=Z,1.3nm,0.8s,baz=151,slow=3.3,SNR=8.6
WRA PKP **PKPdf** **02 52 56.2 -0.1**
comp=Z,25nm,0.9s,baz=155,slow=1.8,SNR=84
WRA pPKP pPKPdf 02 53 23.5 +0.1
comp=Z,4.4nm,0.6s,baz=158,slow=1.7,SNR=2.8
WRA SKPbc **SKPab** **02 56 15.3 +0.2**
comp=Z,3.3nm,1.0s,baz=145,slow=3.6,SNR=5.1
WRAB Tennant Creek 132.23 210 *e*PKIKP **PKPdf** **02 52 55.8 -0.5**
WRAB Tennant Creek 132.23 210 *e*PKPdf **PKPdf** **02 52 55.8 -0.5**
PMG Port Moresby 132.66 232 *e*PKIKP **PKPdf** **02 52 57.0 -0.2**
PMG Port Moresby 132.66 232 *e*PKPdf **PKPdf** **02 52 57.0 -0.2**
PETK Petropavlovsk- 133.37 323 PKhKP PKPpre 02 52 45.2
comp=Z,3.8nm,0.7s,baz=116,slow=3.4,SNR=4.7
PETK PKP **PKiKP** **02 52 58.0 -0.5**
comp=Z,9.9nm,0.9s,baz=96,slow=4.5,SNR=5.8
PETK PKKP **PKKPdf** **03 02 52.9 +4.4**
comp=Z,2.4nm,0.5s,baz=302,slow=6.8,SNR=4.7
MBWA Marble Bar 135.90 191 *e*PKPdf **PKPdf** **02 53 02.9 -0.2**
BRVK Borovoye 136.40 35 *e*PKIKP **PKPdf** **02 53 03.4 +0.4**
BRVK Borovoye 136.40 35 *e*PKPdf **PKPdf** **02 53 03.4 +0.4**
BVA0 Borovoye Array 136.47 35 PKIKP **PKPdf** **02 53 01.7 -1.4**
BVA0 pmax pmax
comp=Z,11nm,1.0s
BVAR Borovoye Array 136.47 35 PKP **PKPdf** **02 53 04.1 +1.0**
comp=Z,9.0nm,0.8s,baz=302,slow=2.7,SNR=7.8
KK31 Karatay Array 140.52 49 *i* PKIKP **PKPdf** **02 53 10.8 -0.1**
KK31 pmax pmax
comp=Z,2.0nm,0.6s
KKAR Karatay Array 140.52 49 *e*PKIKP **PKPdf** **02 53 11.6 +0.7**
KKAR Karatay Array 140.52 49 *e*PKPdf **PKPdf** **02 53 11.6 +0.7**
NVS Novosibirsk 141.44 26 *i* PKIKP **PKPdf** **02 53 13.1 +1.0**
NVS pmax pmax
comp=Z,18nm,0.7s
NVS pmax pmax
comp=N,2.0nm,0.4s
NVS pmax pmax
comp=E,5.0nm,0.8s
JAY Jayapura 142.02 233 PKP **PKPdf** **02 53 12.5 -2.0**
KURK Kurchatov 142.02 34 PKIKP **PKPdf** **02 53 14.5 +1.2**
KURK pmax pmax
comp=Z,6.0nm,0.7s
KURK Kurchatov 142.02 34 PKPpre PKPpre 02 53 09.6
KURK PKP **PKPdf** **02 53 14.5 +1.2**
KURK SKPbc **SKiKP** **02 56 43.8 +0.3**
KURBB Kurchatov Arra 142.03 34 PKhKP PKPpre 02 53 09.6
comp=Z,5.7nm,0.8s,baz=302,slow=2.4,SNR=6.1
KURBB PKP **PKPdf** **02 53 14.5 +1.2**
comp=Z,6.1nm,0.7s,baz=306,slow=2.6,SNR=12
KURBB SKPbc **SKiKP** **02 56 43.8 +0.3**
comp=Z,0.6nm,0.4s,baz=299,slow=3.9,SNR=5.3
MNAS Manas 142.11 49 PKIKP **PKPdf** **02 53 11.7 -2.3**
MNAS pmax pmax
comp=Z,12nm,1.0s
GENI Genyem 142.36 232 PKP **PKPdf** **02 53 12.8 -2.3**
GENI PKP **PKiKP** **02 53 15.6 -2.5**
ZALV Zalesovo Beam 142.72 26 PKhKP PKPpre 02 53 11.0
comp=Z,18nm,0.6s,baz=312,slow=4.0,SNR=20
ZALV PKP **PKPdf** **02 53 15.3 +0.8**
comp=Z,34nm,0.8s,baz=311,slow=4.7,SNR=20
ZALV SKPbc **SKiKP** **02 56 45.2 +0.4**
comp=Z,9.4nm,0.9s,baz=304,slow=3.4,SNR=6.2
AAK Ala-Archa 143.43 48 PKIKP PKPbc 02 53 13.8 0.0
AAK pmax pmax
comp=Z,13nm,0.9s
AAK Ala-Archa 143.43 48 *e*PKPdf **PKPdf** **02 53 15.0 -1.3**
FRU Bishkek 143.44 47 *e*PKIKP PKPbc 02 53 14.0 +0.3
FRU *e* 02 53 45.0
SMPI Sarmi 143.83 231 PKP PKPbc 02 53 16.0 +0.5
TKM2 Tokmak 2 144.07 47 PKIKP **PKPab** **02 53 14.9 -0.3**
TKM2 pmax pmax
comp=Z,24nm,1.5s
BOD Bodaibo 144.58 357 *e*PKIKP **PKPab** **02 53 14.9 -1.4**
BOD pmax pmax
comp=Z,83nm,1.1s
YSS Yuzh-Sakhalins 144.74 322 *e*PKIKP PKPbc 02 53 17.6 +0.3
YSS pmax pmax
comp=Z,70nm,1.1s
YSS Yuzh-Sakhalins 144.74 322 *e*PKPdf PKPbc 02 53 17.5 +0.2
BATI Baumata 145.36 202 PKP **PKPbc** **02 53 19.7 -0.6**
BATI PKP **PKPab** **02 53 21.0 +0.5**
SOEI Soe 145.56 203 PKP **PKPdf** **02 53 20.8 0.0**
SOEI PKP **PKPab** **02 53 21.5 +0.1**
SOEI Soe 145.56 203 *e*PKPbc **PKPab** **02 53 22.1 +0.7**
KSH Kashi 145.57 52 PKPbc **PKPbc** **02 53 20.4 0.0**
KSH pPKP pPKPbc 02 53 45.4 -1.9
KSH sPKP 02 53 57.4
KSH PP **PP** **02 56 39.7 -2.0**
KSH PKS **PKSdf** **02 56 53.7 -1.9**
KSH SKS **SKSdf** **03 00 17.0 -3.4**
KSH SKKS **SKKSac** **03 03 21.9 -2.8**
KSH SS **SS** **03 15 24.7 -2.3**
KSH AMB AMB
comp=Z,120nm,4.2s
KSH LR LR
comp=Z,120nm,5.2s
KSH LR LR
comp=Z,100nm,5.7s
KSH LR LR
comp=Z,220nm,15.2s
MAKZ Makanchi 146.11 37 PKIKP **PKPdf** **02 53 20.4 -0.2**
MAKZ pmax pmax
comp=Z,43nm,0.8s
MK31 Makanchi Array 146.30 37 *i* PKIKP **PKPdf** **02 53 20.7 -0.2**
MK31 pmax pmax
comp=Z,64nm,1.1s
PDGK Podgornoye 146.47 44 PKIKP **PKPdf** **02 53 21.5 0.0**
PDGK pmax pmax
comp=Z,58nm,1.1s
GUMO Guam 146.88 260 PKPbc **PKPbc** **02 53 24.5 -0.2**
comp=Z,352nm,0.8s,baz=188,slow=5.4,SNR=23
ERM Erimo 146.93 314 *e*PKP2 **PKPbc** **02 53 24.1 0.0**
ERM Erimo 146.93 314 *e*PKPbc **PKPbc** **02 53 24.1 0.0**
MMRI Maumere 147.31 200 PKP **PKPbc** **02 53 26.2 +0.2**
MMRI Maumere 147.31 200 *e*PKPbc **PKPbc** **02 53 25.8 -0.3**
FAKI Fak Fak 147.50 222 PKP **PKPdf** **02 53 25.1 +1.2**
FAKI Fak Fak 147.50 222 *e*PKPdf **PKPdf** **02 53 24.2 +0.2**
FAKI *e*PKPbc **PKPbc** **02 53 27.2 +0.6**
HABR Khabarovsk 147.81 330 *e*PKHKP PKPpre 02 53 21.9
HABR *e* 02 53 25.1
HABR *e* 02 53 28.0
HABR *e* 02 53 55.0
HABR *e* 02 56 57.0
HABR *e*PPP PPP 03 00 12.1
HABR *e* 03 00 21.0
HABR *e* 03 09 21.3
HABR *e*SS SS 03 15 52.2 +1.7
HABR *e*SSS SSS 03 21 27.5
HABR pmax pmax
comp=Z,33nm,2.2s
HABR pmax pmax
comp=Z,61nm,1.5s
HABR pmax pmax
comp=N,19nm,1.5s
HABR pmax pmax
comp=E,16nm,0.8s
PLAI Plampang 148.29 192 PKP **PKPbc** **02 53 28.9 +0.2**
TWSI Taliwang, Sumb 148.54 191 PKP **PKPdf** **02 53 25.0 -0.6**
KLR Kul'dur 148.69 334 PKPbc **PKPbc** **02 53 28.7 0.0**
comp=E,28nm,0.8s,baz=54,slow=2.9,SNR=52
IGBI Denpasar 148.72 187 PKP **PKPbc** **02 53 30.6 +0.9**
MSAI Masohi 149.10 216 PKP **PKPab** **02 53 36.3 +1.1**
JAGI Jajag, Banyuwa 149.17 186 PKP **PKPbc** **02 53 31.4 +0.5**
JAGI Jajag, Banyuwa 149.17 186 *e*PKPbc **PKPbc** **02 53 30.5 -0.5**
AAI Ambon 149.20 215 PKP **PKPbc** **02 53 31.4 +0.4**
GMJI Gumukmas 149.42 184 PKP **PKPbc** **02 53 32.8 +1.3**
PCJI Pacitan 149.58 180 PKP **PKPbc** **02 53 32.7 +0.8**
SWI Sorong 149.72 223 PKP **PKPbc** **02 53 32.4 +0.1**
MOY Mondy 149.74 13 *e*PKHKP PKPpre 02 53 28.4
MOY pmax pmax
comp=Z,80nm,2.3s
WOJI Wonogiri, Jawa 149.93 179 PKP **PKPbc** **02 53 33.4 +0.6**
BLJI Banyuglugur 149.94 185 PKP **PKPbc** **02 53 33.6 +0.8**
CISI Cisompet, Garu 150.03 173 PKP **PKPbc** **02 53 33.4 +0.3**
CISI Cisompet, Garu 150.03 173 *e*PKPbc **PKPbc** **02 53 33.0 -0.1**
NLAI Namlea 150.15 213 PKP **PKPbc** **02 53 33.5 +0.2**
CNJI Cibinong 150.19 172 PKP **PKPbc** **02 53 33.7 +0.3**
BSSI Bau Bau, Buton 150.20 199 PKP **PKPdf** **02 53 29.6 +1.3**
TLY Talaya 150.20 10 PKPbc **PKPbc** **02 53 33.3 +1.0**
comp=Z,14nm,0.7s,baz=7.4,slow=1.1,SNR=8.4
TLY Talaya 150.20 10 *e*PKHKP PKPpre 02 53 28.8
TLY pmax pmax
comp=Z,14nm,0.6s
TLY Talaya 150.20 10 *e*PKPbc **PKPbc** **02 53 31.8 -0.5**
TLY *e*PKPab **PKPab** **02 53 38.5 -0.1**
KPJI Karang Pucung 150.35 175 PKP **PKPbc** **02 53 34.3 +0.5**
NGJI Ngawi 150.40 180 PKP **PKPbc** **02 53 33.5 -0.4**
KMMI Kalianget 150.59 186 PKP **PKPbc** **02 53 35.8 +1.4**
SMRI Semarang 150.71 178 PKP **PKPbc** **02 53 35.7 +1.0**
SMRI Semarang 150.71 178 *e*PKPdf **PKPdf** **02 53 28.9 -0.2**
SMRI *e*PKPbc **PKiKP** **02 53 35.3 0.0**
SMRI *e*PKPab **PKPab** **02 53 42.3 +0.6**
LEM Lembang 150.72 173 PKP **PKPab** **02 53 39.6 -2.4**
LEM PKP **PKiKP** **02 53 41.1 +5.6**
DBJI Dramaga 150.88 171 PKP **PKPbc** **02 53 35.6 +0.5**
WMQ Urumqi 151.13 37 PKPbc **PKPdf** **02 53 28.8 -0.1**
WMQ LR LR
comp=Z,190nm,29.1s
WMQ LR LR
comp=Z,180nm,27.5s
ZAK Zakamensk 151.40 11 *e*PKIKP **PKPdf** **02 53 28.9 -0.3**
ZAK pmax pmax
comp=Z,16nm,1.0s
KAPI Kappang 151.49 198 *e*PKPbc **PKPbc** **02 53 36.8 +0.4**
KAPI *e*PKPab **PKPab** **02 53 44.1 -0.9**
KDI Kendari 151.52 204 PKP **PKPbc** **02 53 36.3 -0.2**
SANI Sanana 151.73 213 PKP **PKPbc** **02 53 37.0 0.0**
KLSI 152.32 166 PKP **PKPbc** **02 53 38.7 +0.3**
USRK Ussuriysk Ar. 152.34 327 PKP **PKPdf** **02 53 31.2 +0.7**
comp=Z,9.5nm,1.0s,baz=220,slow=0.8,SNR=11
USRK PKPbc **PKiKP** **02 53 38.0 +0.2**
comp=Z,32nm,0.8s,baz=342,slow=1.0,SNR=40
USRK PKPab **PKPab** **02 53 48.1 +0.3**
comp=Z,7.5nm,0.8s,baz=81,slow=2.8,SNR=4.6
USRK pPKPbc **pPKPbc** **02 54 05.3 +0.7**
comp=Z,12nm,0.8s,baz=254,slow=1.4,SNR=4.4
HIA Hailar 152.37 348 *e*PKIKP **PKPbc** **02 53 37.2 -0.2**
HIA Hailar 152.37 348 *e*PKPbc **PKPbc** **02 53 37.2 -0.2**
MDSI Maura Dua 152.39 165 PKP **PKPbc** **02 53 38.2 -0.3**
SPSI Sidrap Palu 152.48 199 PKP **PKPbc** **02 53 39.7 +1.0**
JHJ Hachijo jima 2 152.65 299 PKPbc **PKPbc** **02 53 38.5 -0.1**
comp=Z,112nm,0.7s,baz=212,slow=7.6,SNR=6.9
MJAR Matsushiro Arr 152.72 307 PKP **PKPdf** **02 53 31.3 -0.2**
comp=Z,2.0nm,0.7s,baz=13,slow=0.5,SNR=9.4
MJAR PKPbc **PKPbc** **02 53 38.5 -0.1**
comp=Z,20nm,0.8s,baz=84,slow=1.5,SNR=38
MJAR PKPab **PKPab** **02 53 50.1 +0.3**
comp=Z,8.9nm,0.8s,baz=53,slow=1.7,SNR=4.9
MJAR pPKPbc **pPKPbc** **02 54 06.0 +0.3**
comp=Z,12nm,1.1s,baz=37,slow=1.1,SNR=3.8
MAJO Matsushiro 152.73 307 *e*PKIKP **PKPdf** **02 53 31.6 +0.2**
MAJO *e* 02 53 49.6
MAJO Matsushiro 152.73 307 *e*PKPdf **PKPdf** **02 53 31.6 +0.2**
MAJO *e*PKPbc **PKPbc** **02 53 38.6 0.0**
MAJO *e*PKPab **PKPab** **02 53 49.6 -0.1**
MAT Matsushiro 152.73 307 PKP **PKPdf** **02 53 31.0 -0.5**
SONM Songino Array 154.34 8 PKP **PKPdf** **02 53 34.6 +1.0**
comp=Z,9.0nm,0.8s,baz=320,slow=0.8,SNR=40
SONM PKPbc **PKiKP** **02 53 42.2 +0.3**
comp=Z,6.2nm,0.7s,baz=302,slow=1.0,SNR=14
SONM PKPab **PKPab** **02 53 56.6 +0.3**
comp=Z,4.6nm,0.7s,baz=332,slow=3.2,SNR=6.8
ULN Ulaanbaatar 154.39 6 *e*PKIKP **PKPdf** **02 53 34.4 +0.7**
ULN Ulaanbaatar 154.39 6 *e*PKPdf **PKPdf** **02 53 34.4 +0.7**
ULN *e*PKPbc **PKiKP** **02 53 42.1 0.0**
ULN *e*PKPab **PKPab** **02 53 57.3 +0.8**
MNSI Mandailing Nat 155.71 151 PKP **PKPab** **02 54 03.7 +0.9**
BKNI Bangkinang 155.91 154 *e*PKPab **PKPab** **02 54 03.3 -0.4**
KSRS Korea Array 159.21 320 PKP **PKPdf** **02 53 40.4 +0.5**
comp=Z,15nm,1.0s,baz=60,slow=0.9,SNR=50
KSRS pPKP **pPKPdf** **02 54 08.2 +0.9**
comp=Z,7.6nm,1.0s,baz=84,slow=0.8,SNR=3.4
KSRS PKPab **sPKPdf** **02 54 18.2 +0.7**
comp=Z,8.9nm,0.9s,baz=45,slow=4.0,SNR=12
KSRS pPKPab **pPKPab** **02 54 44.8 +1.1**
comp=Z,4.5nm,0.9s,baz=59,slow=4.8,SNR=2.4
KSAR Wonju Array Be 159.25 320 PKIKP **PKPdf** **02 53 40.4 +0.4**
KSAR 02 54 18.2
KSAR Wonju Array Be 159.25 320 PKP **PKPdf** **02 53 40.4 +0.4**
KSAR pPKP **pPKPdf** **02 54 08.2 +0.9**
KSAR PKPab **sPKPdf** **02 54 18.2 +0.7**
KSAR pPKPab **pPKPab** **02 54 44.8 +1.0**
IPM Ipoh 159.62 150 *e*PKPdf **PKPdf** **02 53 41.1 -0.1**
IPM *e*PKPab **sPKPdf** **02 54 18.7 0.0**
KULM Kulim 160.14 147 *e*PKPdf **PKPdf** **02 53 40.6 -1.1**
KULM *e*PKPab **PKPab** **02 54 21.3 -0.7**
LSA Lhasa 160.58 64 *e*PKIKP **PKPdf** **02 53 42.6 +0.2**
LSA Lhasa 160.58 64 *e*PKPdf **PKPdf** **02 53 42.6 +0.2**
HHC Hu-ho-hao-te 161.62 359 *e*PKP **PKPdf** **02 53 41.4 -1.3**
BJI Beijing 161.93 348 PKP **PKPdf** **02 53 43.4 +0.6**
BJI LR LR
comp=Z,960nm,14.2s
BJI LR LR
comp=Z,390nm,12.7s
BJI LR LR
comp=Z,460nm,15.3s
SHL Shillong 162.06 76 *e*P **PKPdf** **02 53 44.0 +0.4**
KKM Kota Kinabalu 163.02 197 *e*PKPdf **PKPdf** **02 53 45.2 +0.3**
KKM *e*PKPab **PKPab** **02 54 35.0 +0.4**
LZH Lanzhou 164.94 24 *e*PKP **PKPdf** **02 53 47.6 +1.6**
LZH pPKP pPKPdf 02 54 12.8 -0.6
LZH sPKP 02 54 21.8
LZH PKS **PKSdf** **02 57 16.1 -2.9**
LZH PP **PP** **02 58 32.4 +3.8**
LZH SKS **SKSdf** **03 00 40.0 -1.6**
LZH SKKS **SKKSac** **03 05 07.3 -0.8**
LZH SS **SS** **03 18 57.6 +3.2**
LZH AMB AMB
comp=Z,190nm,5.6s
LZH LR LR
comp=Z,290nm,19.2s
LZH LR LR
comp=Z,150nm,16.2s
LZH LR LR
comp=Z,160nm,19.4s
TIA Tai'an 165.33 341 PKP **PKPdf** **02 53 46.4 +0.3**
CMAR Chiang Mai Arr 167.84 107 PKP **PKPdf** **02 53 48.3 -0.3**
comp=Z,5.7nm,0.9s,baz=271,slow=2.0,SNR=26
CMAR PKPab **PKPab** **02 54 55.6 -0.3**
comp=Z,3.4nm,0.7s,baz=249,slow=5.4,SNR=8.6
CMAR PP **PP** **02 58 47.1 +2.1**
comp=Z,1.4nm,0.3s,baz=254,slow=5.5,SNR=4.9
CHTO Chiang Mai 167.96 105 *e*PKIKP **PKPdf** **02 53 47.9 -0.7**
CHTO *e* 02 54 56.0
CHTO Chiang Mai 167.96 105 *e*PKPdf **PKPdf** **02 53 47.9 -0.7**
CHTO *e*PKPab **PKPab** **02 54 56.0 -0.5**
XAN Xi'an 168.25 9 PKP **PKPdf** **02 53 48.9 +0.4**
XAN pPKP pPKPdf 02 54 15.9 +0.1
NJ2 Nanjing 168.25 326 *e*PKP **PKPdf** **02 53 47.5 -0.9**
DLV T Lat 169.26 165 *e*PKPab **PKPab** **02 55 02.1 -0.1**
WHN Wuhan 171.44 342 PKP **PKPdf** **02 53 51.1 +0.8**
KMI Kunming 171.78 69 PKP **PKPdf** **02 53 50.4 -0.6**
ENH Enshi 172.02 11 *e*PKPdf **PKPdf** **02 53 50.4 -0.3**
SLVN Son La 173.12 98 *e*PKPdf **PKPdf** **02 53 51.8 +0.4**
GYA Guiyang 174.22 45 PKP **PKPdf** **02 53 50.4 -1.4**
GYA pPKP pPKPdf 02 54 17.8 -1.4
GYA PKPab **PKPab** **02 55 24.0 -0.1**
GYA PKS **PKSdf** **02 57 21.6 -2.6**
GYA AMB AMB
comp=Z,140nm,8.4s
QIZ Qiongzhong 176.39 159 PKP **PKPdf** **02 53 52.1 -0.3**
QIZ PP **PP** **02 59 26.8 +1.5**
QIZ SS SS 03 20 49.2 +2.5
QIZ LR LR
comp=Z,1μm,15.1s
QIZ LR LR
comp=Z,640nm,16.1s
QIZ LR LR
comp=Z,1μm,12.5s

ISCJB ***09*** *02:46:18.4±0.2, 17°.7S±0°.04×174°.57W±0°.03, h100km, mb4.9/156, Error ellipse: s-maj=6.2km s-min=3.7km az=151.2*
MOS ***09*** *02:46:21.8±1.3, 17°.13S×174°.58W, h125km, mb4.8/33, Error ellipse: s-maj=9.6km s-min=7.3km az=53.6*
IDC ***09*** *02:46:21.9±2.2, 17°.22S×174°.45W, h120km±19km, mb4.5/24, mb1 4.6/27, mb1mx4.5/41, mbtmp4.9/27, Error ellipse: s-maj=13.7km s-min=9.9km az=136.0*
BJI ***09*** *02:46:21.7, 17°.20S×174°.60W, h128km, mb5.0/30, mB5.3/17*
NEIC ***09*** *02:46:22.3±0.8, 17°.21S×174°.58W, h126km±6km, mb4.8/116, Error ellipse: s-maj=5.4km s-min=2.8km az=148.0*
GCMT ***09*** *02:46:22.3±0.3, 17°.24S×174°.24W, h182km±2km, MW5.1/92, Moment Tensor Solution. s37,c42; s92,c124; Duration: 0 Moment tensor: Scale 10^16 Nm; Mrr~3.52±.19; Mθθ0.29±.28; Mϕϕ3.24±.25; Mrθ-2.65±.19; Mϕθ-0.54±.30; Mθr~3.84±.17; Best double couple: Mo5.68900×10^16 NP1:ϕs226.00000°, δ73.00000°, λ-73.00000°. NP2: ϕs156.00000°, δ24.00000°, λ-134.00000°. Principal axes: T 5.0640, Plg26.0000°, Azm99.0000°; N 1.2550, Plg16.0000°, Azm197.0000°; P -6.3130, Plg59.0000°, Azm316.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
ISC 09 02:46:20.1±0.3, 17°20S±0°.06×174°51W±0°.05, h100km, n482, σ1ϑ73/441, mb4.9/156, 20C-36D, Tonga Islands

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

AFI	**Afiamalu**	**4.20**	**39**	P		**Pn**	02 47 25.6	**+3.6**		
	32nm,0.3s,baz=288,slow=2.2,SNR=17									
AFI				S		**Sn**	02 48 09.4	**-0.7**		
	144nm,0.3s,baz=197,slow=22,SNR=20									
AFI	**Afiamalu**	**4.20**	**39**	*e*Pn		**Pn**	02 47 23.9	**+1.9**		
AFI				*e*Sn		**Sn**	02 48 09.1	**-0.9**		
MSVF	**Nonsavu**	**7.12**	**265**	*e*P		Pn	02 48 11.6	+10		
MSVF				pmax	pmax					
	comp=Z,264nm,1.1s									
MSVF	**Nonsavu**	**7.12**	**265**	*e*Pn		Pn	02 48 11.6	+10		
	comp=Z,264nm,1.1s									
RAR	**Rarotonga**	**14.48**	**108**	P		**Pn**	02 49 41.5	**+1.3**		
	comp=Z,0.9nm,0.3s,baz=220,slow=4.7,SNR=6.6									
RAR				S		**Sn**	02 52 19.4	**-0.5**		
	comp=Z,1.0nm,0.3s,baz=221,slow=19,SNR=2.3									
DZM	**Mont Dzumac**	**18.58**	**252**	P		**P**	02 50 31.7	**+2.1**		
	comp=Z,0.3nm,0.3s,baz=78,slow=18,SNR=7.7									
DZM				S		**S**	02 54 00.7	**+4.3**		
	comp=Z,0.1nm,0.3s,baz=60,slow=18,SNR=1.9									
DZM	**Mont Dzumac**	**18.58**	**252**	*e*P		**P**	02 50 29.6	**+0.1**		
	comp=Z,168nm,1.4s									
DZM	**Mont Dzumac**	**18.58**	**252**	*e*P		**P**	02 50 29.9	**+0.4**		
	comp=Z,68nm,1.1s									
DZM				S		**S**	02 54 00.7	**+4.3**		
OUZ	**Omahuta**	**20.85**	**208**	*e*P		**P**	02 50 56.2	**+2.3**		
	comp=Z,36nm,1.1s									
URZ	**Urewera**	**22.23**	**198**	P		**P**	02 51 07.3	**-1.3**		
	comp=Z,9.8nm,0.5s,baz=350,slow=4.7,SNR=8.5									
URZ				S		**S**	02 55 02.3	**-4.5**		
	comp=Z,3.5nm,0.5s,baz=292,slow=19,SNR=3.9									
TBI	**Tubuai**	**24.26**	**109**	*e*LR		LR	02 57 04.2			
	comp=Z,412nm,37.0s									
TBI	**Tubuai**	**24.26**	**109**	*e*T		T	03 16 07.0			
	comp=Z,3.3nm,0.2s									
LTZ	**Lake Taylor**	**27.88**	**201**	*e*P		**P**	02 52 00.3	**-0.2**		
	comp=Z,112nm,1.7s									
OXZ	**Oxford**	**28.44**	**201**	*e*P		**P**	02 52 04.6	**-0.8**		
	comp=Z,82nm,1.5s									
RPZ	**Rata Peaks**	**29.13**	**202**	P		**P**	02 52 10.7	**-0.8**		
	comp=Z,5.0nm,0.6s,baz=12,slow=14,SNR=3.1									
ARMA	**Armidale**	**33.52**	**241**	*e*P		**P**	02 52 49.8	**-0.6**		
	comp=Z,37nm,1.0s									
CAN	**Canberra**	**37.11**	**234**	*e*P		P	02 53 19.9	-1.1		
CAN				pmax	pmax					
	comp=Z,19nm,0.9s									
CAN	**Canberra**	**37.11**	**234**	*e*P		P	02 53 19.9	-1.2		
	comp=Z,19nm,0.9s									
CTAO	**Charters Tower**	**37.23**	**259**	*e*P		P	02 53 21.1	-1.2		
CTAO				pmax	pmax					
	comp=Z,18nm,0.9s									
CTAO	**Charters Tower**	**37.23**	**259**	*e*P		P	02 53 21.1	-1.2		
	comp=Z,18nm,0.9s									
PMG	**Port Moresby**	**38.04**	**277**	*i* P		**P**	02 53 29.3	**+0.2**		
PMG				pmax	pmax					
	comp=Z,99nm,1.0s									
PMG	**Port Moresby**	**38.04**	**277**	*e*P		**P**	02 53 29.6	**+0.5**		
	comp=Z,24nm,1.0s									
H11S2	**WAKE ISLAND Hy**	**39.99**	**332**	T		T	03 34 57.1			
	baz=146,slow=75,SNR=6.1									
H11S3	**WAKE ISLAND Hy**	**40.00**	**332**	T		T	03 34 57.1			
	baz=146,slow=75,SNR=5.3									
H11S1	**WAKE ISLAND Hy**	**40.01**	**332**	T		T	03 34 51.7			
	baz=146,slow=75,SNR=5.6									
TOO	**Toolangi**	**40.52**	**232**	P		P	02 53 40.2	-9.3		
TOO				pmax	pmax					
	comp=Z,31nm,1.3s									
WAKE	**Wake Island**	**40.71**	**332**	*e*P		**P**	02 53 51.5	**+0.4**		
	comp=Z,120nm,0.8s									
COEN	**Coen**	**40.84**	**268**	*e*P		**P**	02 53 52.1	**-0.2**		
	comp=Z,10nm,0.8s									
KIP	**Kipapa**	**41.65**	**23**	*ce*P		**P**	02 53 58.8	**+0.1**		
KIP	**Kipapa**	**41.65**	**23**	*e*P		**P**	02 53 59.8	**+1.0**		
	comp=Z,48nm,0.9s									
STKA	**Stephens Creek**	**42.23**	**241**	P		**P**	02 54 03.1	**-0.5**		
	comp=Z,51nm,0.9s,baz=84,slow=8.7,SNR=34									
STKA	**Stephens Creek**	**42.23**	**241**	*e*P		**P**	02 54 03.0	**-0.5**		
STKA	**Stephens Creek**	**42.23**	**241**	*e*P		**P**	02 54 03.0	**-0.5**		
	comp=Z,18nm,1.0s									
JAY	**Jayapura**	**46.33**	**283**	P		**P**	02 54 36.4	**0.0**		
	comp=Z,1.5nm,0.9s,baz=276,slow=23,SNR=8.9									
BBOO	**Buckleboo**	**47.01**	**241**	*e*P		P	02 54 40.0	-1.5		
	comp=Z,41nm,0.9s									
WB2	**Warramunga Arr**	**48.41**	**258**	*e*P		P	02 54 50.9	-1.7		
	comp=Z,37nm,1.0s									
WRAB	**Tennant Creek**	**48.41**	**258**	*e*P		P	02 54 50.6	-1.9		
WRAB				pmax	pmax					
	comp=Z,39nm,1.3s									
WRAB	**Tennant Creek**	**48.41**	**258**	*e*P		P	02 54 50.6	-2.0		
	comp=Z,39nm,1.3s									
WRA	**Warramunga Arr**	**48.42**	**258**	P		P	02 54 51.0	-1.6		
	comp=Z,21nm,1.0s,baz=96,slow=6.9,SNR=37									
WRA				PcP		**PcP**	**02 56 16.8**	**-0.8**		
	comp=Z,2.9nm,0.7s,baz=80,slow=3.8,SNR=4.7									
AS01	**Alice Springs**	**48.52**	**253**	*e*P		P	02 54 51.1	-2.3		
AS31	**Alice Springs**	**48.56**	**253**	*e*P		P	02 54 52.3	-1.4		
	comp=Z,24nm,0.9s									
ASAR	**Alice Springs**	**48.56**	**253**	P		P	02 54 52.3	-1.4		
	comp=Z,72nm,0.9s,baz=84,slow=8.7,SNR=186									
ASAR				PcP		**PcP**	**02 56 17.1**	**-1.0**		
	comp=Z,5.7nm,0.8s,baz=106,slow=3.6,SNR=4.8									
ASAR				S		S	03 01 38.9	-9.2		
	comp=Z,1.3nm,0.8s,baz=87,slow=16,SNR=6.6									
FAKI	**Fak Fak**	**54.12**	**279**	*e*P		P	02 55 34.0	-1.2		
	comp=Z,24nm,1.0s									
SIJI	**Sorong**	**55.73**	**281**	P		**P**	**02 55 47.2**	**+0.3**		
	comp=Z,59nm,0.3s,baz=286,slow=6.9,SNR=2.8									
SWI	**Sorong**	**55.73**	**281**	P		**P**	**02 55 47.3**	**+0.4**		
SWI				pmax	pmax					
	comp=Z,166nm,1.0s									
SOEI	**Soe**	**59.80**	**269**	*e*P		**P**	**02 56 15.7**	**+0.2**		
	comp=Z,37nm,0.7s									
VNDA	**Vanda**	**61.49**	**186**	P		**P**	**02 56 26.8**	**+1.0**		
	comp=Z,8.0nm,0.9s,baz=6.9,slow=7.2,SNR=32									
VNDA	**Vanda**	**61.49**	**186**	*e*P		**P**	**02 56 26.9**	**+1.0**		
	comp=Z,14nm,1.0s									
MBWA	**Marble Bar**	**61.85**	**255**	*e*P		P	02 56 27.2	-1.9		
	comp=Z,126nm,1.0s									
JHJ	**Hachijo jima 2**	**66.40**	**319**	P		**P**	**02 56 58.4**	**-0.1**		
	comp=Z,35nm,0.5s,baz=335,slow=14,SNR=3.2									
MJAR	**Matsushiro Arr**	**69.64**	**321**	P		**P**	**02 57 18.4**	**-0.4**		
	comp=Z,7.6nm,1.0s,baz=158,slow=5.7,SNR=12									
MAJO	**Matsushiro**	**69.64**	**321**	*e*P		P	02 57 17.2	-1.6		
MAJO				pmax	pmax					
	comp=Z,18nm,1.0s									
MAJO	**Matsushiro**	**69.64**	**321**	*e*P		P	02 57 17.2	-1.6		
	comp=Z,18nm,1.0s									
MAT	**Matsushiro**	**69.64**	**321**	P		P	02 57 17.5	-1.3		
MAT				*e*S		**S**	**03 06 14.4**	**-5.0**		
MYLDM	**Lahad Datu**	**69.77**	**282**	*e*P		**P**	**02 57 19.8**	**-0.3**		
JAGI	**Jajag, Banyuwa**	**69.79**	**267**	*e*P		P	02 57 17.9	-2.3		
	comp=Z,86nm,1.0s									
JOW	**Kunigami**	**70.70**	**307**	P		**P**	**02 57 26.1**	**+0.6**		
	comp=Z,11nm,0.7s,baz=168,slow=8.6,SNR=3.0									
KKM	**Kota Kinabalu**	**72.20**	**282**	*e*P		**P**	**02 57 34.4**	**-0.5**		
	comp=Z,14nm,0.8s									
JNU	**Nakatsue**	**72.26**	**314**	P		**P**	**02 57 34.7**	**-0.2**		
	comp=Z,12nm,0.7s,baz=138,slow=3.6,SNR=14									
JNU	**Nakatsue**	**72.26**	**314**	*e*P		**P**	**02 57 34.6**	**-0.2**		
	comp=Z,17nm,0.8s									
QSPA	**South Pole Qui**	**72.86**	**180**	*e*P		**P**	**02 57 37.2**	**-0.8**		
	comp=Z,128nm,1.0s									
PEA0	**Petropavlovsk-**	**74.02**	**343**	*e*P		**P**	**02 57 43.9**	**-0.7**		
PETK	**Petropavlovsk-**	**74.02**	**343**	P		**P**	**02 57 44.1**	**-0.5**		
	comp=Z,20nm,0.9s,baz=121,slow=9.0,SNR=11									
KMRM	**Mail Ridge**	**74.12**	**38**	*e*P		**P**	**02 57 46.7**	**+1.0**		
	comp=Z,55nm,0.9s									
YSS	**Yuzh-Sakhalins**	**74.52**	**331**	ǁ*e*P		**P**	**02 57 48.0**	**+0.3**		
YSS				pmax	pmax					
	comp=Z,40nm,0.8s									
YSS	**Yuzh-Sakhalins**	**74.52**	**331**	*e*P		**P**	**02 57 47.3**	**-0.4**		
	comp=Z,35nm,0.9s									
NACB	**Ninganchiao**	**74.67**	**302**	*e*P		**P**	**02 57 48.6**	**-0.5**		
	comp=Z,65nm,1.4s									
ISA	**Isabella, Lake**	**74.67**	**44**	*e*P		**P**	**02 57 49.5**	**+0.5**		
ISA				pmax	pmax					
	comp=Z,29nm,1.4s									
ISA	**Isabella, Lake**	**74.67**	**44**	*e*P		**P**	**02 57 49.5**	**+0.5**		
	comp=Z,29nm,1.4s									
CMB	**Columbia Colle**	**74.81**	**42**	*e*P		**P**	**02 57 49.4**	**-0.2**		
CMB				pmax	pmax					
	comp=Z,11nm,1.1s									
CMB	**Columbia Colle**	**74.81**	**42**	*e*P		**P**	**02 57 49.4**	**-0.2**		
	comp=Z,11nm,1.1s									
AFDM	**Forest Hills D**	**74.99**	**40**	*e*P		**P**	**02 57 50.6**	**0.0**		
	comp=Z,9.3nm,0.9s									
ORV	**Oroville**	**75.03**	**40**	*e*P		**P**	**02 57 50.5**	**-0.3**		
ORV				pmax	pmax					
	comp=Z,8.0nm,0.9s									
ORV	**Oroville**	**75.03**	**40**	*e*P		**P**	**02 57 50.5**	**-0.3**		
	comp=Z,7.8nm,0.9s									
WDC	**Whiskeytown Da**	**75.04**	**38**	*e*P		**P**	**02 57 51.3**	**+0.5**		
WDC				pmax	pmax					
	comp=Z,11nm,0.9s									
WDC	**Whiskeytown Da**	**75.04**	**38**	*e*P		**P**	**02 57 51.3**	**+0.5**		
	comp=Z,11nm,0.9s									
TPUB	**Ta-pu**	**75.06**	**301**	*e*P		P	02 57 49.7	-1.7		
	comp=Z,27nm,1.0s									
YHNB	**Yeheng**	**75.07**	**302**	*e*P		**P**	**02 57 51.4**	**-0.1**		
	comp=Z,23nm,1.0s									
MIR	**Mirnyy**	**75.36**	**204**	*i* P		**P**	**02 57 52.0**	**-0.3**		
MIR				pmax	pmax					
	comp=Z,4.0nm,1.6s									
GSC	**Goldstone, Bar**	**75.60**	**46**	*e*P		**P**	**02 57 54.2**	**-0.1**		
GSC				pmax	pmax					
	comp=Z,11nm,1.0s									
GSC	**Goldstone, Bar**	**75.60**	**46**	*e*P		**P**	**02 57 54.2**	**-0.1**		
	comp=Z,11nm,1.0s									
WAKR	**Walker**	**75.69**	**42**	*e*P		**P**	**02 57 55.1**	**+0.2**		
	comp=Z,9.7nm,0.8s									
LHEM	**Herd Peak**	**75.89**	**38**	P		**P**	**02 57 56.2**	**+0.2**		
PNTR	**Pine Nut**	**75.93**	**41**	*e*P		**P**	**02 57 56.6**	**+0.4**		
	comp=Z,19nm,0.9s									
TVH3	**East Aurora ar**	**75.99**	**42**	*e*P		P	02 57 53.2	-3.5		
	comp=Z,12nm,1.3s									
TVH2	**Borealis Mine**	**76.05**	**42**	*e*P		**P**	**02 57 57.4**	**+0.4**		
	comp=Z,5.5nm,0.8s									
HUMO	**Hull Mountain**	**76.08**	**37**	*e*P		**P**	**02 57 56.4**	**-0.4**		
	comp=Z,15nm,1.1s									
CISI	**Cisompet, Garu**	**76.08**	**266**	*e*P		P	02 57 55.3	-2.2		
	comp=Z,77nm,0.8s									
YERR	**Yerington**	**76.09**	**41**	*e*P		**P**	**02 57 57.1**	**-0.1**		
	comp=Z,11nm,0.8s									
KSM	**Kuching**	**76.30**	**276**	*e*P		**P**	**02 57 58.5**	**-0.2**		
	comp=Z,90nm,1.2s									
PAHR	**Pah Rah Range**	**76.43**	**41**	*e*P		**P**	**02 57 59.0**	**0.0**		
	comp=Z,12nm,1.1s									
KSRS	**Korea Array**	**76.70**	**316**	P		**P**	**02 58 01.1**	**+0.8**		
	comp=Z,9.7nm,0.9s,baz=132,slow=6.5,SNR=24									
KSAR	**Wonju Array Be**	**76.72**	**316**	P		**P**	**02 58 01.2**	**+0.7**		
KSAR	**Wonju Array Be**	**76.72**	**316**	P		**P**	**02 58 01.1**	**+0.7**		
KS01	**Wonju Array Si**	**76.73**	**316**	*e*P		**P**	**02 58 01.1**	**+0.5**		
TPNV	**Topopah Spring**	**76.88**	**44**	*e*P		**P**	**02 58 01.6**	**0.0**		
TPNV	**Topopah Spring**	**76.88**	**44**	*e*P		**P**	**02 58 01.6**	**0.0**		
MOD	**Modoc Plateau**	**77.18**	**38**	*e*P		**P**	**02 58 03.0**	**-0.2**		
	comp=Z,25nm,1.3s									
K05A	**Summer Lake**	**77.34**	**37**	*e*P		**P**	**02 58 04.2**	**+0.1**		
	comp=Z,28nm,1.0s									
SHPR	**Sheep Range**	**77.37**	**45**	*e*P		**P**	**02 58 04.5**	**+0.1**		
	comp=Z,16nm,1.1s									
W13A	**Hualapai Mount**	**77.51**	**47**	*e*P		**P**	**02 58 05.7**	**+0.4**		
USRK	**Ussuriysk Ar.**	**78.19**	**324**	P		**P**	**02 58 09.0**	**+0.6**		
	comp=Z,4.6nm,0.9s,baz=89,slow=1.9,SNR=6.8									
BMN	**Battle Mountai**	**78.20**	**41**	*e*P		**P**	**02 58 08.5**	**-0.4**		
BMN				pmax	pmax					
	comp=Z,18nm,1.1s									
BMN	**Battle Mountai**	**78.20**	**41**	*e*P		**P**	**02 58 08.5**	**-0.4**		
	comp=Z,18nm,1.1s									
TUC	**Tucson**	**78.34**	**51**	*e*P		**P**	**02 58 10.0**	**+0.3**		
TUC				pmax	pmax					
	comp=Z,25nm,1.5s									
TUC	**Tucson**	**78.34**	**51**	*e*P		**P**	**02 58 10.0**	**+0.3**		
	comp=Z,25nm,1.5s									
WVOR	**Wild Horse Val**	**78.49**	**39**	*e*P		**P**	**02 58 10.0**	**-0.4**		
WVOR				pmax	pmax					
	comp=Z,15nm,1.1s									
WVOR	**Wild Horse Val**	**78.49**	**39**	*e*P		**P**	**02 58 10.0**	**-0.4**		
	comp=Z,15nm,1.1s									
LVP	**Lakeview Peak**	**78.59**	**34**	P		**P**	**02 58 10.5**	**-0.3**		
TDL	**Tradedollar La**	**78.87**	**34**	P		**P**	**02 58 12.3**	**-0.1**		
X16A	**Lo Mia Camp, P**	**78.89**	**49**	*e*P		**P**	**02 58 13.3**	**+0.4**		
GULW	**Guler Mountain**	**78.93**	**35**	P		**P**	**02 58 12.6**	**-0.1**		
LCMT	**Little Creek M**	**78.95**	**46**	*e*P		**P**	**02 58 13.4**	**+0.4**		
	comp=Z,18nm,1.4s									
319A	**Douglas**	**79.03**	**52**	*e*P		**P**	**02 58 13.9**	**+0.4**		
BRLK	**Bradley Lake**	**79.06**	**12**	*e*P		**P**	**02 58 12.4**	**-0.5**		
CCUT	**Cedar City**	**79.14**	**45**	*e*P		**P**	**02 58 13.9**	**-0.3**		
	comp=Z,13nm,1.2s									
KNB	**Kanab**	**79.24**	**46**	*e*P		**P**	**02 58 14.9**	**+0.2**		
KNB				pmax	pmax					
	comp=Z,44nm,1.9s									
KNB	**Kanab**	**79.24**	**46**	*e*P		**P**	**02 58 14.9**	**+0.2**		
	comp=Z,44nm,1.9s									
U15A	**North Rim**	**79.30**	**47**	*e*P		**P**	**02 58 15.6**	**+0.4**		
SZCU	**Shurtz Canyon**	**79.36**	**45**	*e*P		**P**	**02 58 15.9**	**+0.6**		
	comp=Z,20nm,1.3s									
RSO	**Redoubt South**	**79.36**	**11**	*e*P		**P**	**02 58 13.7**	**-1.1**		
WUAZ	**Wupatki**	**79.49**	**48**	*e*P		**P**	**02 58 16.3**	**+0.2**		
	comp=Z,17nm,1.3s									
D05A	**Emmclaw**	**79.52**	**33**	*e*P		**P**	**02 58 16.2**	**+0.4**		
PGC	**Sidney**	**79.72**	**32**	*e*P		**P**	**02 58 16.7**	**0.0**		
TRW	**Toppenish Ridg**	**79.73**	**35**	P		**P**	**02 58 16.8**	**-0.2**		
MDJ	**Mudanjiang**	**79.80**	**323**	P		**P**	**02 58 17.8**	**+0.5**		
MDJ				pmax	pmax					
	comp=Z,14nm,0.8s									
MDJ				pmax	pmax					
	comp=Z,110nm,4.9s									
SPU	**Mount Spurr**	**80.16**	**11**	*e*P		P	02 58 17.1	-1.8		
E07A	**Sunnyside**	**80.27**	**35**	*e*P		**P**	**02 58 19.9**	**+0.1**		
	comp=Z,15nm,0.9s									
BENWA	**Benson Ranch**	**80.33**	**35**	P		**P**	**02 58 19.2**	**-0.9**		
HAWA	**Hanford**	**80.35**	**35**	*e*P		**P**	**02 58 19.9**	**-0.4**		
	comp=Z,13nm,1.0s									
MSU	**Marysvale**	**80.44**	**45**	*e*P		**P**	**02 58 21.6**	**+0.4**		
MSU	**Marysvale**	**80.44**	**45**	*e*P		**P**	**02 58 21.6**	**+0.4**		
RC01	**Rabbit Creek A**	**80.51**	**12**	*e*P		P	02 58 19.2	-1.5		
	comp=Z,19nm,0.9s									
SUA	**Susitna One**	**80.66**	**11**	*e*P		**P**	**02 58 20.8**	**-0.9**		
	comp=Z,17nm,0.9s									
ETW	**Entiat**	**80.66**	**34**	P		**P**	**02 58 21.6**	**-0.5**		
121A	**Cookes Peak, D**	**80.69**	**52**	*e*P		**P**	**02 58 21.9**	**-0.7**		
	comp=Z,5.3nm,0.8s									
BMO	**Blue Mountains**	**80.69**	**37**	*e*P		**P**	**02 58 21.5**	**-0.7**		
BMO				pmax	pmax					
	comp=Z,7.0nm,0.9s									
BMO	**Blue Mountains**	**80.69**	**37**	*e*P		**P**	**02 58 21.5**	**-0.7**		
	comp=Z,6.7nm,0.9s									
MFID	**Camas Ranch**	**80.74**	**39**	*e*P		**P**	**02 58 22.3**	**-0.2**		
	comp=Z,15nm,1.3s									
FID	**Port Fidalgo**	**80.88**	**14**	*e*P		**P**	**02 58 21.8**	**-1.0**		
DUG	**Dugway, Tooele**	**80.89**	**43**	*e*P		**P**	**02 58 23.3**	**-0.2**		
DUG				pmax	pmax					
	comp=Z,7.0nm,1.2s									
DUG	**Dugway, Tooele**	**80.89**	**43**	*e*P		**P**	**02 58 23.3**	**-0.2**		
	comp=Z,6.9nm,1.2s									
WTV	**Waterville**	**80.92**	**34**	P		**P**	**02 58 22.5**	**-0.8**		
PMR	**Palmer**	**81.09**	**12**	*e*P		**P**	**02 58 22.6**	**-1.1**		
PMR				pmax	pmax					
	comp=Z,16nm,1.0s									
PMR	**Palmer**	**81.09**	**12**	*e*P		**P**	**02 58 22.6**	**-1.1**		
	comp=Z,16nm,1.0s									
D08A	**Wollman Farm,**	**81.09**	**35**	*e*P		**P**	**02 58 23.7**	**-0.5**		
	comp=Z,13nm,0.9s									
TT01	**Tatalina**	**81.15**	**8**	*e*P		**P**	**02 58 24.0**	**-0.1**		
TTA	**Tatalina**	**81.17**	**8**	*e*P		**P**	**02 58 24.1**	**-0.2**		
TTA				pmax	pmax					
	comp=Z,42nm,1.7s									
TTA	**Tatalina**	**81.17**	**8**	*e*P		**P**	**02 58 24.1**	**-0.2**		
	comp=Z,42nm,1.7s									
E09A	**Wood Farm, Sta**	**81.19**	**36**	*e*P		**P**	**02 58 24.2**	**-0.5**		
	comp=Z,7.8nm,0.9s									
DIV	**Divide**	**81.38**	**14**	*e*P		P	02 58 24.1	-1.4		
	comp=Z,51nm,0.8s									
F10A	**Beach Ranch, E**	**81.39**	**36**	*e*P		**P**	**02 58 24.9**	**-1.0**		
	comp=Z,14nm,0.8s									
SML	**Sawmill**	**81.44**	**12**	*e*P		**P**	**02 58 24.9**	**-0.8**		
SML	**Sawmill**	**81.44**	**12**	*e*P		**P**	**02 58 24.9**	**-0.8**		
KLR	**Kul'dur**	**81.45**	**328**	P		**P**	**02 58 26.3**	**+0.3**		
	comp=Z,1.3nm,0.6s,baz=93,slow=6.7,SNR=4.0									
TMUT	**Trail Mountain**	**81.49**	**45**	*e*P		**P**	**02 58 25.9**	**-0.9**		
	comp=Z,64nm,1.9s									
BMRM	**Bremner River**	**81.51**	**14**	*e*P		**P**	**02 58 25.3**	**-0.8**		
	comp=Z,39nm,0.9s									
B08A	**Colville Reser**	**81.65**	**34**	*e*P		P	02 58 25.9	-1.3		
	comp=Z,7.1nm,0.8s									
SCM	**Sheep Creek Mo**	**81.67**	**13**	*e*P		**P**	**02 58 26.2**	**-0.8**		
SCM	**Sheep Creek Mo**	**81.67**	**13**	*e*P		**P**	**02 58 26.2**	**-0.8**		
HLID	**Hailey**	**81.68**	**40**	*e*P		P	02 58 26.1	-1.5		
	comp=Z,12nm,1.3s									
SPUT	**South Promonto**	**81.71**	**42**	*e*P		**P**	**02 58 27.8**	**0.0**		
	comp=Z,15nm,1.3s									
HVU	**Hansel Valley**	**81.75**	**42**	*e*P		**P**	**02 58 27.6**	**-0.4**		
HVU				pmax	pmax					
	comp=Z,11nm,1.1s									
HVU	**Hansel Valley**	**81.75**	**42**	*e*P		**P**	**02 58 27.6**	**-0.4**		
	comp=Z,11nm,1.1s									
LLLB	**Lillooet**	**81.77**	**31**	*e*P		**P**	**02 58 27.3**	**-0.4**		
CN2	**Changchun**	**81.78**	**321**	*e*P		**P**	**02 58 28.0**	**+0.1**		
CN2				pmax	pmax					
	comp=Z,10.0nm,0.9s									
SRU	**San Rafael Swe**	**81.86**	**45**	*e*P		**P**	**02 58 28.4**	**-0.3**		
SRU				pmax	pmax					
	comp=Z,24nm,1.4s									
SRU	**San Rafael Swe**	**81.86**	**45**	*e*P		**P**	**02 58 28.4**	**-0.3**		
	comp=Z,24nm,1.4s									
JLU	**Jordanelle**	**81.99**	**43**	*e*P		**P**	**02 58 29.2**	**-0.2**		
	comp=Z,11nm,1.3s									
LAZ	**Ladron**	**82.02**	**50**	*e*P		**P**	**02 58 30.0**	**+0.4**		
BALM	**Baldy**	**82.11**	**15**	*e*P		**P**	**02 58 28.6**	**-0.7**		
BALM	**Baldy**	**82.11**	**15**	*e*P		**P**	**02 58 28.6**	**-0.7**		
MNTX	**Cornudas Mount**	**82.14**	**54**	*e*P		**P**	**02 58 30.2**	**+0.1**		
	comp=Z,11nm,1.1s									
CAST	**Castle Rocks**	**82.24**	**10**	*e*P		P	02 58 27.5	-2.4		
BNM	**Barren Site**	**82.28**	**51**	*e*P		**P**	**02 58 31.3**	**+0.3**		
PV05	**Paradox Valley**	**82.33**	**46**	*e*P		**P**	**02 58 31.9**	**+0.7**		
MVCO	**Mesa Verde**	**82.34**	**47**	*e*P		**P**	**02 58 31.4**	**+0.1**		
	comp=Z,7.0nm,1.1s									
LPM	**Los Pinos Moun**	**82.35**	**51**	*e*P		**P**	**02 58 31.4**	**+0.1**		
HWUT	**Hardware Ranch**	**82.43**	**42**	*e*P		**P**	**02 58 30.5**	**-1.1**		
	comp=Z,7.0nm,1.0s									
TX31	**Lajitas Ar. Si**	**82.49**	**56**	*e*P		**P**	**02 58 32.3**	**+0.3**		
TXAR	**Lajitas Array**	**82.49**	**56**	P		**P**	**02 58 32.2**	**+0.2**		
	comp=Z,3.8nm,0.9s,baz=216,slow=6.2,SNR=30									
PV09	**Paradox Valley**	**82.51**	**46**	*e*P		**P**	**02 58 32.5**	**+0.3**		
PV10	**Paradox Valley**	**82.52**	**46**	*e*P		**P**	**02 58 31.9**	**-0.2**		
KTH	**Kantishna Hill**	**82.56**	**10**	*e*P		P	02 58 30.0	-1.6		
	comp=Z,18nm,1.1s									
TRF	**Thorofare Moun**	**82.58**	**11**	*e*P		P	02 58 30.2	-1.5		
	comp=Z,17nm,0.8s									
HARP	**HAARP**	**82.65**	**13**	*e*P		**P**	**02 58 31.7**	**-0.4**		
PV01	**Paradox Valley**	**82.72**	**47**	*e*P		**P**	**02 58 33.0**	**-0.3**		
**

comp=Z,55nm,1.3s,comp=Z,2µm
RSSD Black Hills 88.49 43 *e*P P 02 59 00.2 -1.4
RSSD pmax pmax
comp=Z,3.0nm,0.8s
RSSD Black Hills 88.49 43 *e*P P 02 59 00.2 -1.4
comp=Z,3.2nm,0.8s
SLVN Son La 88.62 293 *e*P **P 02 59 02.6 +0.1**
comp=Z,6.0nm,0.7s
NAYO Nakonayok 88.75 285 P **P 02 59 05.6 +2.5**
XAN Xi'an 88.82 306 P **P 02 59 03.2 0.0**
XAN pP pP 02 59 35.6 +6.1
XAN pmax pmax
comp=Z,20nm,1.2s
XAN pmax pmax
comp=Z,110nm,6.5s
HHC Hu-ho-hao-te 89.47 313 *e*P **P 02 59 06.0 -0.1**
HHC pmax pmax
comp=Z,22nm,0.9s
HHC pmax pmax
comp=Z,100nm,6.3s
PBKT Sadao Pong 89.76 287 P **P 02 59 09.5 +1.7**
comp=Z,20nm,1.5s,comp=Z,1µm
PHET Kaeng Krachan 89.89 283 P **P 02 59 10.3 +1.8**
comp=Z,9.9nm,0.9s
INK Inuvik 90.26 14 P **P 02 59 08.2 -0.8**
comp=Z,4.9nm,0.9s,baz=195,slow=2.9,SNR=12
INK Inuvik 90.26 14 *e*P **P 02 59 08.2 -0.8**
INK pmax pmax
comp=Z,14nm,1.1s
INK Inuvik 90.26 14 *e*P **P 02 59 08.2 -0.8**
comp=Z,14nm,1.1s
YAK Yakutsk 90.34 337⇑ *e*P P 02 59 08.1 -1.4
YAK pmax pmax
comp=Z,10.0nm,0.6s
SYO Syowa Base 90.64 192⇓ *e*P P 02 59 07.6 -3.4
NANT Nan 90.69 289 P **P 02 59 13.0 +0.8**
comp=Z,6.8nm,1.0s
KMI Kunming 90.85 296 P **P 02 59 14.3 +1.2**
KMI pmax pmax
comp=Z,22nm,0.9s
SNAA Sanae 91.17 177 P **P 02 59 12.5 -1.0**
comp=Z,3.3nm,1.0s,baz=179,slow=9.7,SNR=3.3
SNAA Sanae 91.17 177 *e*P P 02 59 11.7 -1.9
comp=Z,371nm,1.2s
SUKH Sukhothai 91.25 288 P **P 02 59 15.8 +1.0**
comp=Z,7.0nm,1.0s
LAMP Lampang 91.57 289 P **P 02 59 17.5 +1.2**
comp=Z,12nm,0.8s
UMPA Umpang Tak 91.58 286 P **P 02 59 17.5 +1.1**
YKA Yellowknife Ar 92.16 24 P **P 02 59 17.1 -0.8**
comp=Z,1.4nm,0.9s,baz=243,slow=4.1,SNR=5.4
CMAR Chiang Mai Arr 92.17 289 P **P 02 59 19.1 0.0**
comp=Z,5.7nm,0.6s,baz=105,slow=2.7,SNR=18
CHTO Chiang Mai 92.28 289 *e*P **P 02 59 19.8 +0.3**
CHTO pmax pmax
comp=Z,14nm,0.9s
CHTO Chiang Mai 92.28 289 *e*P **P 02 59 19.8 +0.3**
comp=Z,14nm,0.9s
MIAR Mount Ida 92.38 55 *e*P **P 02 59 19.5 -0.2**
MIAR Mount Ida 92.38 55 *e*P **P 02 59 19.4 -0.2**
UALR University of 93.41 55 *e*P **P 02 59 23.8 -0.6**
LZH Lanzhou 93.43 307 *e*P **P 02 59 25.0 +0.3**
LZH pP pP 02 59 55.5 +4.4
LZH sP sP 03 00 08.9 +7.2
LZH *e*S S 03 10 19.2 -5.5
LZH pmax pmax
comp=Z,23nm,1.2s
LZH pmax pmax
comp=Z,90nm,4.2s
LZH LR LR
comp=Z,440nm,12.4s
LZH LR LR
comp=Z,380nm,12.6s
LZH LR LR
comp=Z,630nm,14.2s
WHAR Wooly Hollow 93.62 54 *e*P **P 02 59 25.4 0.0**
ULN Ulaanbaatar 95.06 319 *ce*P **P 02 59 31.9 0.0**
ULN pmax pmax
comp=Z,3.0nm,1.0s
ULN Ulaanbaatar 95.06 319 *e*P **P 02 59 31.1 -0.8**
comp=Z,3.0nm,0.8s
SONM Songino Array 95.47 318 P **P 02 59 33.4 -0.3**
comp=Z,0.6nm,0.4s,baz=145,slow=5.3,SNR=2.9
LVC Limon Verde 97.19 116 *e*P **P 02 59 42.9 +0.4**
comp=Z,6.7nm,1.0s
KSH Kashi 115.68 306 *e*PKP **PKPdf 03 04 56.3 +5.2**
AAK Ala-Archa 116.81 309 PKP **PKPdf 03 04 51.7 -1.5**
comp=Z,1.7nm,0.5s,baz=164,slow=5.1,SNR=4.8
BVAR Borovoye Array 118.63 321 PKP **PKPdf 03 04 54.4 -1.8**
comp=Z,3.2nm,0.5s,baz=134,slow=2.5,SNR=18
SOKR Solikamsk 123.85 331 *e*PKIKP **PKPdf 03 05 03.5 -2.4**
SOKR pmax pmax
comp=Z,11nm,0.6s
ARU Arti 124.29 327 PKP **PKPdf 03 05 05.7 -1.3**
comp=Z,3.7nm,0.5s,baz=158,slow=0.7,SNR=11
ARU Arti 124.29 327 *i* PKIKP **PKPdf 03 05 05.0 -1.9**
ARU 03 12 07.1
ARU SP SP 03 16 32.9 -7.9
ABKAR Akbulak array 125.88 319 *e*PKPdf **PKPdf 03 05 08.7 -1.5**
ARCES ARCESS Array B 126.22 351 PKP **PKPdf 03 05 08.7 -1.6**
comp=Z,4.1nm,0.8s,baz=45,slow=0.3,SNR=13
AKTO Aktyubinsk 126.71 321 PKP **PKPdf 03 05 10.5 -1.3**
comp=Z,0.7nm,0.3s,baz=83,slow=5.5,SNR=5.6
GEYT Alibeck 129.69 305 PKP **PKPdf 03 05 17.8 -0.2**
comp=Z,3.8nm,0.8s,baz=124,slow=0.5,SNR=5.0
KLMR Klimovskoe 130.09 339 *e*PKIKP **PKPdf 03 05 15.5 -2.4**
KLMR pmax pmax
comp=Z,17nm,1.3s
FINES FINESS Array B 133.44 347 PKP **PKPdf 03 05 23.8 -0.4**
comp=Z,3.4nm,0.7s,baz=66,slow=1.7,SNR=10
FINES FINESS Array B 133.44 347 *c i* PKIKP **PKPdf 03 05 23.7 -0.4**
FINES pmax pmax
comp=Z,4.0nm,0.7s
OBN Obninsk 135.31 335⇑ *i* PKIKP **PKPdf 03 05 26.7 -1.1**
OBN pmax pmax
comp=Z,13nm,1.2s
NOA NORSAR Array B 136.02 356 PKhKP PKPpre 03 05 19.9
comp=Z,0.5nm,0.7s,baz=40,slow=2.3,SNR=2.8
VSR Storozhevoye 136.78 329 *e*PKIKP **PKPdf 03 05 29.1 -1.6**
VSR pmax pmax
comp=Z,7.0nm,0.9s
KIV Kislovodsk 138.86 318 *e*PKIKP **PKPdf 03 05 33.2 -1.8**
KIV pmax pmax
comp=Z,4.0nm,0.7s
KIV MLR MLR
comp=Z,81nm,18.0s
GNI Garni 139.12 312 *e*PKIKP **PKPdf 03 05 34.8 -0.8**
GNI Garni 139.12 312 *e*PKPdf **PKPdf 03 05 34.8 -0.8**
SOC Sochi 140.91 320 *i* PKIKP **PKPdf 03 05 36.6 -1.9**
SOC *e* 03 06 24.9
EKA Eskdalemuir Ar 141.36 8 PKhKP PKPpre 03 05 32.5
comp=Z,0.9nm,0.7s,baz=321,slow=1.1,SNR=4.0
AKASG Malin Array Be 141.56 336 PKhKP PKPpre 03 05 35.8
comp=Z,0.5nm,0.4s,baz=38,slow=2.2,SNR=6.0
KIEV Kiev 141.57 336 *e*PKIKP **PKPdf 03 05 36.5 -3.0**
KIEV Kiev 141.57 336 *e*PKPdf **PKPdf 03 05 36.5 -3.0**
KMBO Kilima Mbogo 143.79 243 PKhKP PKPpre 03 05 42.1
comp=Z,6.9nm,0.6s,baz=85,slow=4.2,SNR=23
KMBO Kilima Mbogo 143.79 243 *e*PKPdf PKPab 03 05 42.0 0.0
SORM Soroca 143.92 334⇓ *i* P PKPab 03 05 40.8 -0.3
SORM Soroca 143.92 334 ⇓PKIKP PKPab 03 05 40.8 -0.3
LVV L'vov 144.18 339 *e*PKIKP **PKPab 03 05 42.2 +0.1**
KWP Kalwaria Pacla 144.78 341 *e*PKPdf **PKPab 03 05 43.5 -0.9**
KWP Kalwaria Pacla 144.78 341⇓ *e*PKIKP **PKPab 03 05 43.5 -0.9**
KSRV Kasrt alli 144.96 309 *e*P PKPbc 03 05 45.1 -0.4
KSRV Kasrt alli 144.96 309 *e*P PKPbc 03 05 45.1 -0.3
SNR=173
OJC Ojcow 145.10 344 *e*PKPdf **PKPbc 03 05 44.4 -1.0**
OJC Ojcow 145.10 344⇓ *e*PKIKP **PKPbc 03 05 44.4 -1.0**
LEOM Leova 145.24 332⇑ *i* P **PKPbc 03 05 45.1 -0.8**
LEOM Leova 145.24 332 ⇑PKIKP **PKPbc 03 05 45.1 -0.8**
KSP Ksiaz 145.34 348 *e*PKP **PKPdf 03 05 45.4 -0.7**
KSP Ksiaz 145.34 348 *e*PKIKP **PKPdf 03 05 45.4 -0.7**
STHS Stebnicka Huta 145.42 342 *e*PKP2 **PKPdf 03 05 46.2 -0.1**
STHS Stebnicka Huta 145.42 342 *e*PKP **PKPdf 03 05 46.2 -0.1**
CLL Collm 145.44 352⇓ *i* PKP2 **PKPdf 03 05 45.3 -1.0**
CLL pmax pmax
comp=Z,70nm,0.9s
CLL Collm 145.44 352⇓ *i* PKPbc **PKPdf 03 05 45.3 -1.0**
comp=Z,70nm,0.9s
CLL *es*PKPbc pPKPbc 03 06 29.0 +15
BURAR Bucovina Array 145.60 336⇑ *i* P **PKPdf 03 05 47.1 +0.3**
BURAR Bucovina Array 145.60 336 ⇑PKP2 **PKPdf 03 05 47.1 +0.3**
NIE Niedzica 145.69 343 *e*PKP **PKPdf 03 05 46.8 0.0**
NIE Niedzica 145.69 343 *e*PKP2 **PKPdf 03 05 46.8 0.0**

UPC Upice 145.71 348 *e*PKP **PKPdf 03 05 46.6 -0.2**
UPC *es*PKP 03 06 31.3
UPC Upice 145.71 348 *e*PKP2 **PKPdf 03 05 46.6 -0.2**
BRG Berggiesshubel 145.73 350 *i* PKP **PKPdf 03 05 46.4 -0.4**
comp=Z,35nm,1.0s
BRG *ep*PKP sPKPab 03 06 30.1 +5.0
comp=Z,19nm,1.4s
BRG Berggiesshubel 145.73 350 *i* PKP2 **PKPdf 03 05 46.4 -0.4**
BRG pmax pmax
comp=Z,35nm,1.0s
UZH Uzhgorod 145.78 340⇑ *i* PKP2 **PKPdf 03 05 46.3 -0.6**
DPC Dobruska-Polom 145.80 348 *e*PKP **PKPdf 03 05 47.1 +0.1**
DPC *es*PKP 03 06 31.5
DPC Dobruska-Polom 145.80 348 *e*PKP2 **PKPdf 03 05 47.1 +0.1**
CRVS Cervenica-Dubn 145.81 341 *e*PKP2 **PKPdf 03 05 46.3 -0.7**
CRVS Cervenica-Dubn 145.81 341 *e*PKP **PKPdf 03 05 46.3 -0.7**
OKC Ostrava-Krasne 145.87 345 *e*PKP **PKPdf 03 05 46.7 -0.4**
OKC *es*PKP 03 06 32.1
OKC Ostrava-Krasne 145.87 345 *e*PKP2 **PKPdf 03 05 46.7 -0.4**
TESR Tescani 145.91 334⇑ *i* P **PKPdf 03 05 47.3 0.0**
PVCC Panska Ves 145.96 350 *e*PKP **PKPdf 03 05 47.0 -0.2**
PVCC *es*PKP 03 06 32.0
PVCC Panska Ves 145.96 350 *e*PKP2 **PKPdf 03 05 47.0 -0.2**
KRLC Kraliky 145.96 347 *e*PKP **PKPdf 03 05 47.5 +0.2**
KRLC Kraliky 145.96 347 *e*PKP2 **PKPdf 03 05 47.5 +0.2**
MORC Moravsky Berou 146.07 346 *i* P **PKPdf 03 05 48.1 +0.6**
MORC Moravsky Berou 146.07 346 *e*PKP2 **PKPdf 03 05 46.7 -0.8**
MORC Moravsky Berou 146.07 346 *e*PKPbc **PKPdf 03 05 46.7 -0.8**
TRPA Tarpa 146.14 339⇓ *e*Pdiff **PKPdf 03 05 47.4 -0.1**
LANS Liptovska Anna 146.17 343 *e*PKP2 **PKPdf 03 05 48.7 +1.0**
LANS Liptovska Anna 146.17 343 *e*PKP **PKPdf 03 05 48.7 +1.0**
CFR Carcaliu 146.27 331⇓ *i* P **PKPdf 03 05 48.5 +0.6**
CFR Carcaliu 146.27 331 ⇓PKP2 **PKPdf 03 05 48.5 +0.6**
DRWC Darouich 146.35 311 *e*P **PKPdf 03 05 48.8 +0.4**
DRWC Darouich 146.35 311 *e*P **PKPdf 03 05 48.8 +0.4**
SNR=159
VRI Vrincioaia 146.38 333⇓ *i* P **PKPdf 03 05 48.6 +0.5**
VRI Vrincioaia 146.38 333 ⇓PKP2 **PKPdf 03 05 48.6 +0.5**
KECS Kecovo 146.48 342 *e*PKP2 **PKPdf 03 05 49.6 +1.5**
KECS Kecovo 146.48 342 *e*PKP **PKPdf 03 05 49.6 +1.5**
BEBN Eben Emael 146.48 360 PKPbc **PKPdf 03 05 48.6 +0.6**
PRU Pruhonice 146.48 349 *e*PKP **PKPdf 03 05 48.8 +0.7**
PRU *es*PKP 03 06 31.8
PRU Pruhonice 146.48 349 *e*PKP2 **PKPdf 03 05 48.8 +0.7**
GOPC GO Pecny, Ondr 146.51 349 *e*PKP **PKPdf 03 05 49.1 +0.9**
GOPC GO Pecny, Ondr 146.51 349 *e*PKP2 **PKPdf 03 05 49.1 +0.9**
NKC Novy Kostel 146.57 352 *e*PKP **PKPdf 03 05 49.2 +0.9**
NKC Novy Kostel 146.57 352 *e*PKP2 **PKPdf 03 05 49.2 +0.9**
MEM Membach 146.66 359 PKP **PKPdf 03 05 49.4 +1.0**
VRAC Vranov 146.73 347 PKPbc **PKPdf 03 05 49.6 +1.1**
comp=Z,17nm,0.9s,baz=24,slow=2.4,SNR=18
VRAC Vranov 146.73 347⇓ *i* P **PKPdf 03 05 49.9 +1.3**
HARR Harsova 146.73 330⇑ *i* P **PKPdf 03 05 50.0 +1.3**
HARR Harsova 146.73 330 ⇑PKP2 **PKPdf 03 05 50.0 +1.3**
SNF Seneffe 146.75 1 PKPbc **PKPdf 03 05 48.0 -0.5**
TLB Topalu 146.76 330⇓ *i* P **PKPdf 03 05 49.6 +0.9**
TLB Topalu 146.76 330 ⇓PKP2 **PKPdf 03 05 49.6 +0.9**
BRTR Keskin Array B 146.83 318 PKPbc **PKPdf 03 05 50.0 +0.8**
comp=Z,13nm,0.8s,baz=140,slow=3.2,SNR=59
BCLA Clavier 146.86 0 PKPbc **PKPdf 03 05 49.9 +1.2**
DOPR Dopca 146.87 344⇓ *i* P **PKPdf 03 05 50.8 +1.9**
ROOS tl_alroos 146.91 307 *e*P **PKPdf 03 05 52.9 +3.5**
ROOS tl_alroos 146.91 307 *e*P **PKPdf 03 05 52.9 +3.5**
SNR=157
VYHS Vyhne 146.94 344 *e*PKP2 **PKPdf 03 05 50.2 +1.3**
VYHS Vyhne 146.94 344 *e*PKP **PKPdf 03 05 50.2 +1.3**
CJR Cluj-Napoca 146.97 337⇓ *i* P **PKPdf 03 05 50.8 +1.7**
CJR Cluj-Napoca 146.97 337 ⇓PKP2 **PKPdf 03 05 50.8 +1.7**
TREC Trest 146.97 348 *e*PKP **PKPdf 03 05 50.1 +1.1**
TREC Trest 146.97 348 *e*PKP2 **PKPdf 03 05 50.1 +1.1**
MLR Muntele Rosu 147.02 333 PKPbc **PKPdf 03 05 50.9 +1.5**
comp=Z,4.7nm,1.0s,baz=12,slow=4.7,SNR=11
MLR Muntele Rosu 147.02 333⇓ *i* P **PKPdf 03 05 51.1 +1.8**
ISR Istrita 147.05 332⇓ *i* P **PKPdf 03 05 51.4 +2.1**
ISR Istrita 147.05 332 ⇓PKP2 **PKPdf 03 05 51.4 +2.1**
PSZ Piszkesteto 147.16 342⇓ *i* P **PKPdf 03 05 51.5 +2.1**
PSZ Piszkesteto 147.16 342 ⇓PKP2 **PKPdf 03 05 51.5 +2.1**
PSZ Piszkesteto 147.16 342⇓ *e*Pdiff **PKPdf 03 05 49.9 +0.5**
PSZ Piszkesteto 147.16 342 *e*PKPbc **PKPdf 03 05 50.5 +1.1**
DOU Dourbes 147.17 1 PKPbc **PKPdf 03 05 50.8 +1.6**
ARNB Al Arnab 147.20 310 *e*P **PKPdf 03 05 51.6 +1.7**
ARNB Al Arnab 147.20 310 *e*P **PKPdf 03 05 51.6 +1.7**
SNR=155
DRGR 147.23 338⇓ *i* P **PKPdf 03 05 50.9 +1.3**
DRGR 147.23 338 ⇓PKP2 **PKPdf 03 05 50.9 +1.3**
GRFO Grafenberg 147.26 353 *e*PKP2 **PKPdf 03 05 51.2 +1.8**
GRFO Grafenberg 147.26 353 *e*PKPbc **PKPdf 03 05 51.2 +1.8**
ANTO Ankara 147.28 319 *e*PKIKP **PKPdf 03 05 48.7 -1.2**
ANTO *e* 03 05 51.7
ANTO Ankara 147.28 319 *e*PKPdf **PKPdf 03 05 48.7 -1.2**
ANTO *e*PKPbc **PKPbc 03 05 51.7 -0.6**
SECR 147.32 333⇑ *i* P **PKPdf 03 05 51.6 +1.9**
VOIR 147.44 334⇓ *i* P **PKPdf 03 05 52.4 +2.4**
VOIR 147.44 334 ⇓PKP2 **PKPdf 03 05 52.4 +2.4**
KHC Kasperske Hory 147.48 350 *e*PKP **PKPdf 03 05 48.9 -1.0**
KHC *ex* x 03 05 51.8
KHC Kasperske Hory 147.48 350 *e*PKIKP **PKPdf 03 05 48.9 -1.0**
KHC *e* 03 05 51.8
KHC Kasperske Hory 147.48 350 *e*PKPdf **PKPdf 03 05 48.6 -1.3**
KHC *e*PKPbc **PKPbc 03 05 51.6 -0.9**
WLF Walferdange 147.61 359 PKPbc **PKPdf 03 05 52.5 +2.5**
WLF Walferdange 147.61 359 *e*PKP2 **PKPdf 03 05 51.8 +1.8**
WLF Walferdange 147.61 359 *e*PKPbc **PKPdf 03 05 51.8 +1.8**
ARR Arges 147.67 334⇑ *i* P **PKPdf 03 05 53.4 +3.1**
GERES GERESS Array B 147.73 350 PKPbc **PKPdf 03 05 52.3 +1.9**
comp=Z,7.3nm,0.8s,baz=29,slow=3.0,SNR=47
BUD Budapest 147.81 343⇓ *e*Pdiff **PKPdf 03 05 52.3 +1.9**
TOTH TOTAH 147.89 306 *e*P **PKPdf 03 05 54.2 +3.1**
TOTH TOTAH 147.89 306 *e*P **PKPdf 03 05 54.2 +3.1**
SNR=148
ASF Jabal al Asfar 147.95 304 PKPbc **PKPdf 03 05 53.9 +2.7**
comp=Z,8.0nm,1.0s,baz=159,slow=2.4,SNR=10
SIRR Siria 148.05 339⇓ *i* P **PKPdf 03 05 53.2 +2.3**
CONA Conrad Observa 148.19 347 *i* PKiKP **PKPdf 03 05 53.7 +2.6**
comp=Z,299nm,0.9s,SNR=13
STU Stuttgart 148.36 355 *e*PKP2 **PKPdf 03 05 53.3 +2.0**
STU Stuttgart 148.36 355 *e*PKPbc **PKPdf 03 05 53.3 +2.0**
TCHB Talchebab 148.50 305 *e*P **PKPdf 03 05 52.5 +0.5**
TCHB Talchebab 148.50 305 *e*P **PKPdf 03 05 52.5 +0.5**
SNR=143
MOA Molln 148.59 349 *i* PKPbc **PKPdf 03 05 54.6 +2.9**
comp=Z,16nm,1.1s,SNR=9.1
BZS Buzias 148.63 338⇑ *i* P **PKPdf 03 05 54.7 +2.9**
BZS Buzias 148.63 338 ⇑PKP2 **PKPdf 03 05 54.7 +2.9**
MMAI Mount Meron Ar 148.81 306 PKPbc **PKPdf 03 05 56.0 +3.5**
comp=Z,16nm,0.8s,baz=75,slow=4.4,SNR=23
BFO Black Forest 148.86 356 *e*PKP2 **PKPdf 03 05 54.8 +2.7**
BFO Black Forest 148.86 356 *e*PKPbc **PKPdf 03 05 54.8 +2.7**
ARSA Arzberg 148.91 347 *i* PKPbc **PKPdf 03 05 55.1 +2.8**
comp=Z,16nm,1.2s,SNR=9.9
ECH Echery 149.03 358 PKP **PKPdf 03 05 55.3 +2.9**
THEF They Montfort 149.05 359 PKP **PKPdf 03 05 56.0 +3.6**
BEHE Becsehely 149.34 345⇓ *e*Pdiff **PKPdf 03 05 56.2 +3.3**
RETA Reutte 149.48 353 *i* PKiKP **PKPdf 03 05 56.8 +3.5**
comp=Z,30nm,1.4s,SNR=14
CSS Mathiatis 149.52 311 *e*PKPdf **PKPdf 03 05 51.7 -1.9**
CSS *e*PKPbc **PKPbc 03 05 56.5 -1.7**
WATA Walderalm 149.53 352 *i* PKPbc **PKPdf 03 05 56.8 +3.4**
comp=Z,6.9nm,0.5s,SNR=6.1
SOKA Soboth 149.56 347 *i* PKPbc **PKPdf 03 05 56.5 +3.1**
comp=Z,32nm,1.6s,SNR=7.3
MOTA Moosalm 149.58 352 *i* PKPbc **PKPdf 03 05 56.9 +3.5**
comp=Z,14nm,0.9s,SNR=12
WTTA Wattenberg 149.59 352 *i* PKiKP **PKPdf 03 05 57.2 +3.7**
comp=Z,17nm,0.7s,SNR=8.3
DAVA Damuels 149.78 354 *i* PKiKP **PKPdf 03 05 57.7 +3.9**
comp=Z,30nm,0.9s,SNR=10
OBKA Obir 149.82 348 *i* PKPbc **PKPdf 03 05 56.9 +3.1**
comp=Z,6.8nm,0.7s,SNR=5.5
MYKA Terra Mystica 149.88 349 *i* PKPbc **PKPdf 03 05 56.9 +3.1**
comp=Z,16nm,0.9s,SNR=8.6
LOMF Lomont 149.91 358 PKP **PKPdf 03 05 58.1 +4.2**
ISP Isparta 149.92 318⇑ *i* P **PKPdf 03 05 57.5 +3.3**
ISP Isparta 149.92 318 *e*PKPbc **PKPdf 03 05 57.6 +3.3**
FETA Feichten 149.94 353 *i* PKiKP **PKPdf 03 05 58.2 +4.1**
comp=Z,26nm,0.9s,SNR=12
ABTA Abfaltersbach 149.96 350 *i* PKPbc **PKPdf 03 05 57.4 +3.4**
comp=Z,33nm,0.8s,SNR=13
GCIS Gornji Cirnik 150.19 346 *e*PKPdf **PKPdf 03 05 53.0 -1.3**
GCIS *e*PKPbc **PKPbc 03 05 58.2 -1.2**
GCIS *e*PKPab **PKiKP 03 06 04.2 +4.0**
GCIS *e* 03 06 42.7

LJU Ljubljana 150.27 347 *i* PKPdf **PKPdf 03 05 53.1 -1.3**
LJU *e*PKPbc **PKPbc 03 05 58.4 -1.3**
LJU *e* 03 06 42.8
DAVOX Davos/Dischmat 150.28 354 PKPbc **PKPdf 03 05 59.1 +4.4**
comp=Z,24nm,0.7s,baz=302,slow=1.4,SNR=39
CRNS Crni Vrh 150.29 348 *e*PKPdf **PKPdf 03 05 52.7 -1.8**
CRNS *i* PKPbc **PKPbc 03 05 58.1 -1.7**
EIL Elat 150.35 300 PKPbc **PKPdf 03 05 59.2 +4.1**
comp=Z,18nm,0.9s,baz=66,slow=1.1,SNR=18
VTS Vitosha 150.52 333⇓ *i* P **PKPdf 03 05 59.8 +4.7**
VTS Vitosha 150.52 333 ⇓PKIKP **PKPdf 03 05 59.8 +4.7**
TUE Stuetta 150.63 355 *e*PKPdf **PKPdf 03 05 54.0 -1.2**
TUE *e*PKPbc **PKPbc 03 05 59.5 -1.3**
TUE *e*PKPab **PKiKP 03 06 06.3 +4.9**
TRI Trieste 150.74 348 *e*PKIKP **PKPdf 03 05 58.9 +3.8**
TRI Trieste 150.74 348 *e*PKPdf **PKPdf 03 05 58.9 +3.8**
SKDS Skadanscina 150.85 348 *i* PKPbc **PKPdf 03 05 59.5 +4.1**
AGO Saint Agoulin 151.16 3 PKP **PKPdf 03 06 01.9 +6.1**
PLDF La Plantade 151.27 3 PKP **PKPdf 03 06 02.3 +6.2**
PYM Petit Puy Mans 151.45 4 PKP **PKPdf 03 06 02.4 +6.1**
LBL Lubilhac 151.98 3 PKP **PKPbc 03 06 04.4 +0.6**
BNI Bardonecchia 152.21 358 *e*PKIKP **PKPdf 03 06 03.7 +6.1**
BNI *e* 03 06 13.9
BNI Bardonecchia 152.21 358 *e*PKPbc **PKPdf 03 06 03.7 +6.1**
BNI *e*PKPab **PKPab 03 06 13.9 -0.4**
PDG Podgorica 152.24 339⇓ *i* P **PKPab 03 06 13.3 -1.0**
AQU L'Aquila 154.03 347 *e*PKIKP **PKPdf 03 06 06.6 +6.4**
AQU L'Aquila 154.03 347 *e*PKPbc **PKPdf 03 06 06.6 +6.4**
ESDC Sonseca Array 156.14 18 PKP **PKPdf 03 06 01.9 -1.3**
comp=Z,0.9nm,0.9s,baz=20,slow=2.7,SNR=6.3
ESDC PKPab **pPKPdf 03 06 30.5 -0.2**
comp=Z,2.4nm,0.8s,baz=332,slow=3.2,SNR=15
CEL Celeste 157.12 339 *e*PKPdf **PKPdf 03 06 02.9 -1.5**
KEST Kesra 161.22 350 PKPab **PKPab 03 06 52.7 -0.5**
comp=Z,3.8nm,1.0s,baz=314,slow=13,SNR=3.5
MDT Midelt 161.97 29 PKP **PKPdf 03 06 09.8 -0.5**
comp=Z,4.4nm,1.1s,baz=36,slow=2.0,SNR=7.2
MDT PKPab **sPKPdf 03 06 55.6 +7.3**
comp=Z,2.2nm,0.9s,baz=1.2,slow=5.3,SNR=5.7
TAM Tamanrasset 174.43 360 *e*PKIKP **PKPdf 03 06 18.0 -1.0**
TAM *e* 03 07 51.1
TAM Tamanrasset 174.43 360 *e*PKPdf **PKPdf 03 06 18.0 -1.0**
TAM *e*PKPab **PKPab 03 07 51.1 -0.7**
TORD Torodi Ar. Bea 174.56 137 PKP **PKPdf 03 06 16.8 -2.2**
comp=Z,2.7nm,0.9s,baz=210,slow=1.2,SNR=8.6
TORD PKPab **PKPab 03 07 52.8 +0.2**
comp=Z,0.8nm,1.0s,baz=224,slow=6.0,SNR=2.9

ISCJB ***09*** *02:51:10.2±0.3,59°.36S±0°.06×21°.0W±0°.1,h10km, mb4.8/33,MS4.5/18, Error ellipse: s-maj=10.0km s-min=6.7km az=138.5*
IDC ***09*** *02:51:10.6±0.4,59°.28S×21°.04W,h0km,mb4.6/15, mb1 4.7/16,mb1mx4.6/25,mbtmp4.6/16,ML5.3/1,MS4.4/16, Ms1 4.3/16,ms1mx4.3/18,Error ellipse: s-maj=14.8km s-min=11.3km az=159.0*
GCMT ***09*** *02:51:12.8±0.2,59°.45S×20°.84W,h12km,MW5.1/101, Moment Tensor Solution. s35,c42; s101,c141; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr=2.86±.14; Mθθ3.69±.14; Mφφ-0.83±.13; Mrθ-1.37±.38; Mrφ-4.38±.10; Mθφ-0.49±.40; Best double couple: Mo5.41900×10^16 NP1:φ84.00000°,δ69.00000°,λ-147.00000°. NP2: φ341.00000°,δ60.00000°,λ-25.00000°. Principal axes: T 6.4490, Plg6.0000°, Azm211.0000°; N -2.0620, Plg51.0000°, Azm114.0000°; P -4.3880, Plg38.0000°, Azm305.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
NEIC ***09*** *02:51:12.8±3.4,59°.33S×21°.00W,h15km±20km,mb5.1/23 Error ellipse: s-maj=8.4km s-min=5.7km az=211.0*
BJI ***09*** *02:51:13.3,59°.30S×21°.00W,h13km,mB5.5/8,Ms5.4/5, Ms7 5.1/7*

ISC 09 02:51:12.5±0.3,59°.28S±0°.07×21°.28W±0°.08,h10km,n108, σ1§54/113,mb5.0/33,MS4.4/18,1C-1D,East of South Sandwich Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNA1	**Neumayer--Stat**	**12.63**	**160**	P	**Pn**	**02 54 10.3**	**-1.6**
VNA3	**Neumayer Olymp**	**12.92**	**163**	P	**Pn**	**02 54 12.4**	**-3.5**
VNA2	**Neumayer--Watz** baz=317,slow=13	**13.02**	**159**	P	**Pn**	**02 54 13.7**	**-3.5**
SNAA	**Sanae**	**14.50**	**156**	P	**Pn**	**02 54 34.2**	**-3.3**
SNAA	**Sanae**	**14.50**	**156**	Pn	**Pn**	**02 54 34.7**	**-2.8**
SNAA	12nm,0.3s,baz=325,slow=14,SNR=178			Sn	**Sn**	**02 57 22.2**	**+4.1**
SNAA	**Sanae**	**14.50**	**156**	*e*Pn	**Pn**	**02 54 33.7**	**-3.8**
SNAA	0.3nm,0.3s,baz=0.0,slow=20,SNR=1.3			Sn	**Sn**	**02 57 22.2**	**+4.1**
PMSA	**Palmer Station** 13nm,0.7s,baz=93,slow=10.0,SNR=9.6	**20.47**	**236**	P	**P**	**02 55 51.3**	**+1.4**
PMSA				S	Sn	02 59 42.4	0.0
	0.7nm,0.4s,baz=267,slow=6.6,SNR=1.9			LR	LR	03 03 22.9	
PMSA	**Palmer Station** 72nm,1.3s	**20.47**	**236**	*e*P	Pn	02 55 52.0	-0.1
PMSA				S	Sn	02 59 42.4	0.0
USHA	**Ushuaia** 23nm,0.6s,baz=95,slow=10.0,SNR=8.3	**25.59**	**259**	P	**P**	**02 56 42.5**	**+1.2**
USHA				LR	LR	03 04 25.0	
SYO	**Syowa Base**	**27.06**	**136**‖	*e*P	**P**	**02 56 52.4**	**-2.2**
SYO	**Syowa Base**	**27.06**	**136**‖	*e*P	**P**	**02 56 53.9**	**-0.7**
QSPA	**South Pole Qui** 49nm,0.6s	**30.96**	**180**	*e*P	**P**	**02 57 29.1**	**-0.4**
TRQA	**Tornquist** 11nm,0.9s	**33.48**	**291**	*e*P	**P**	**02 57 51.6**	**-0.1**
MAW	**Mawson** 6.9nm,0.7s,baz=241,slow=8.6,SNR=16	**35.64**	**139**	P	**P**	**02 58 09.6**	**-0.4**
MAW	comp=Z,324nm,18.1s,baz=243,slow=35			LR	LR	03 11 41.6	
MAW	**Mawson** 3.3nm,1.0s	**35.64**	**139**	*e*P	**P**	**02 58 09.3**	**-0.6**
PLCA	**Paso Flores** 4.7nm,0.8s,baz=143,slow=7.4,SNR=11	**35.67**	**279**	P	**P**	**02 58 10.5**	**-0.1**
PLCA				LR	LR	03 12 46.9	
PLCA	**Paso Flores** 32nm,1.6s	**35.67**	**279**	*e*P	**P**	**02 58 10.2**	**-0.4**
SUR	**Sutherland** 1.0nm,1.2s,baz=194,slow=17,SNR=2.2	**38.77**	**65**	P	**P**	**02 58 35.7**	**-1.4**
SPB	**Sao Paulo** 32nm,0.8s	**40.16**	**321**	*e*P	**P**	**02 58 49.9**	**+1.3**
CPUP	**Villa Florida** 28nm,1.0s,baz=150,slow=7.8,SNR=23	**41.31**	**307**	P	**P**	**02 58 58.5**	**+0.4**
CPUP	comp=Z,254nm,19.6s,baz=151,slow=34			LR	LR	03 14 47.0	
CPUP	**Villa Florida**	**41.31**	**307**	*e*P	**P**	**02 58 59.1**	**+1.1**
ROC1	**El Roble** 16nm,0.7s	**41.94**	**286**	*e*P	**P**	**02 59 03.8**	**+0.2**
VNDA	**Vanda** 2.5nm,0.7s,baz=178,slow=6.4,SNR=14	**43.44**	**181**	P	**P**	**02 59 14.6**	**-0.2**
VNDA	**Vanda** 8.8nm,1.2s	**43.44**	**181**	*e*P	**P**	**02 59 14.7**	**-0.2**
BOSA	**Boshof** 2.9nm,0.7s,baz=222,slow=8.8,SNR=5.4	**44.00**	**67**	P	**P**	**02 59 18.6

LPAZ					LR	LR	03 22 29.2		
	comp=Z,94nm,21.1s,baz=148,slow=34								
LPAZ	**La Paz**	**54.80**	**301**		*e*P	**P**	**03 00 44.5**	**+1.3**	
	59nm,1.1s								
LSZ	**Lusaka**	**56.86**	**61**		*e*P	**P**	**03 00 56.4**	**-1.0**	
	14nm,0.8s								
SAML	**Samuel**	**59.33**	**310**		*e*P	**P**	**03 01 14.8**	**+0.3**	
	36nm,1.2s								
PTGA	**Pitinga**	**65.69**	**317**		P	**P**	**03 01 57.0**	**-0.1**	
	baz=168,slow=7.7								
PTGA	**Pitinga**	**65.69**	**317**		*e*P	**P**	**03 01 55.5**	**-1.5**	
	22nm,1.4s								
DBIC	**Dimbokro**	**67.04**	**18**		P	**P**	**03 02 05.4**	**-0.2**	
	3.9nm,0.9s,baz=188,slow=9.0,SNR=3.0								
DBIC					LR	LR	03 24 48.8		
	comp=Z,236nm,20.2s,baz=162,slow=30								
KMBO	**Kilima Mbogo**	**73.46**	**63**		P	**P**	**03 02 44.3**	**-1.0**	
	0.6nm,0.3s,baz=203,slow=7.7,SNR=2.9								
KMBO					LR	LR	03 31 32.3		
	comp=Z,442nm,21.1s,baz=234,slow=33								
OTAV	**Otavalo**	**74.05**	**299**		*e*P	**P**	**03 02 50.8**	**+1.8**	
	47nm,1.7s								
TOA0	**Torodi Ar. Sit**	**74.54**	**23**		*e*P	**P**	**03 02 50.7**	**-0.5**	
TORD	**Torodi Ar. Bea**	**74.54**	**23**		P	**P**	**03 02 50.4**	**-0.8**	
	6.5nm,0.7s,baz=201,slow=5.7,SNR=33								
TORD					LR	LR	03 28 00.8		
	comp=Z,260nm,22.0s,baz=190,slow=30								
PRAC	**Prado**	**75.59**	**304**		*e*P	**P**	**03 02 57.6**	**+0.2**	
	128nm,1.7s								
ROSC	**El Rosal**	**76.37**	**305**		P	**P**	**03 03 03.3**	**+1.1**	
	7.1nm,0.6s,baz=156,slow=20,SNR=5.7								
ROSC					LR	LR	03 38 54.1		
	comp=Z,105nm,18.9s,baz=191,slow=37								
RUSC	**La Rusia**	**76.80**	**307**		*e*P	**P**	**03 03 04.4**	**-0.4**	
	13nm,1.3s								
HELC	**Santa Helena**	**78.09**	**304**		*e*P	**P**	**03 03 10.8**	**-1.1**	
	16nm,0.7s								
RKT	**Rikitea**	**81.66**	**238**		*e*LR	LR	03 28 59.6		
	373nm,29.5s								
TAM	**Tamanrasset**	**84.70**	**25**		*e*P	**P**	**03 03 45.6**	**-0.8**	
	14nm,1.8s								
STKA	**Stephens Creek**	**88.08**	**165**		P	**P**	**03 04 02.3**	**-0.7**	
	4.0nm,0.8s,baz=263,slow=11,SNR=4.8								
STKA					LR	LR	03 43 17.6		
	comp=Z,257nm,18.1s,baz=197,slow=36								
PPT2	**Papeete2**	**92.62**	**229**		*e*LR	LR	03 34 03.3		
	198nm,24.2s								
PPT	**Papeete**	**92.64**	**229**		LR	LR	03 39 23.8		
	comp=Z,103nm,18.2s,baz=159,slow=31								
ASAR	**Alice Springs**	**94.86**	**157**		P	**P**	**03 04 33.2**	**-1.5**	
	0.7nm,0.6s,baz=192,slow=4.0,SNR=6.3								
ASAR					LR	LR	03 43 40.8		
	comp=Z,122nm,21.8s,baz=190,slow=33								
KEST	**Kesra**	**98.02**	**25**		LR	LR	03 43 55.8		
	comp=Z,184nm,20.3s,baz=172,slow=32								
WRA	**Warramunga Arr**	**98.57**	**157**		P	**P**	**03 04 49.5**	**-2.0**	
	0.6nm,0.7s,baz=201,slow=4.5,SNR=3.1								
WRA					LR	LR	03 46 07.6		
	comp=Z,139nm,21.1s,baz=215,slow=34								
DZM	**Mont Dzumac**	**98.70**	**187**		*e*P	**P**	**03 04 51.3**	**-0.8**	
	12nm,1.2s								
MORC	**Moravsky Berou**	**113.21**	**26**		*e*PKP	**PKiKP**	**03 09 48.8**	**-0.3**	
CBKS	**Cedar Bluff**	**117.09**	**301**		*e*PKPdf	**PKPdf**	**03 09 56.9**	**0.0**	
CMAR	**Chiang Mai Arr**	**121.02**	**107**		PKP	**PKPdf**	**03 10 06.3**	**+1.2**	
	0.9nm,0.3s,baz=212,slow=3.9,SNR=4.6								
DUG	**Dugway, Tooele**	**124.21**	**292**		*e*PKPdf	**PKPdf**	**03 10 10.4**	**-0.3**	
PDAR	**Pinedale Array**	**124.69**	**296**		PKP	**PKPdf**	**03 10 10.3**	**-1.4**	
	0.5nm,0.6s,baz=131,slow=4.1,SNR=5.4								
HWUT	**Hardware Ranch**	**124.72**	**294**		*e*PKPdf	**PKPdf**	**03 10 10.9**	**-0.8**	
LOHW	**Long Hollow**	**125.83**	**296**		*e*PKPdf	**PKPdf**	**03 10 13.0**	**-0.8**	
FINES	**FINESS Array B**	**125.84**	**26**		PKP	**PKPdf**	**03 10 11.5**	**-1.3**	
	1.4nm,0.7s,baz=174,slow=2.5,SNR=5.3								
TPAW	**Teton Pass**	**125.90**	**296**		*e*PKPdf	**PKPdf**	**03 10 13.8**	**-0.2**	
MOOW	**Moose Ponds**	**126.00**	**296**		*e*PKPdf	**PKPdf**	**03 10 13.2**	**-0.9**	
IMW	**Indian Meadow**	**126.21**	**296**		*e*PKPdf	**PKPdf**	**03 10 14.2**	**-0.4**	
KSH	**Kashi**	**126.44**	**73**		*e*PKP	**PKPdf**	**03 10 18.1**	**+3.1**	
KSH					PP	**PP**	**03 12 16.1**	**+4.8**	
KSH					PKS	**PKSdf**	**03 13 53.2**	**+1.6**	
KSH					SKS	**SKSdf**	**03 17 28.0**	**+1.5**	
KSH					AMB	AMB			
	comp=Z,75nm,4.6s								
KSH					LR	LR			
	comp=N,110nm,5.0s								
KSH					LR	LR			
	comp=E,66nm,5.5s								
KSH					LR	LR			
	comp=Z,120nm,6.5s								
ABKAR	**Akbulak array**	**126.65**	**54**		*e*PKPdf	**PKPdf**	**03 10 14.6**	**-0.3**	
HLID	**Hailey**	**127.57**	**294**		*e*PKPdf	**PKPdf**	**03 10 16.6**	**-0.4**	
KMI	**Kunming**	**128.52**	**106**		PKP	**PKPdf**	**03 10 20.3**	**+0.8**	
WVOR	**Wild Horse Val**	**128.72**	**290**		*e*PKPdf	**PKPdf**	**03 10 19.0**	**-0.3**	
GYA	**Guiyang**	**131.55**	**109**		*e*Pdif	**Pdif**	**03 07 19.0**	**+1.1**	
GYA					PKP	**PKiKP**	**03 10 26.4**	**+0.3**	
GYA					PP	**PP**	**03 12 49.2**	**+4.7**	
GYA					AMB	AMB			
	comp=Z,120nm,7.8s								
ARCES	**ARCESS Array B**	**132.82**	**20**		PKP	**PKPdf**	**03 10 25.5**	**-0.5**	
	1.6nm,0.7s,baz=208,slow=2.3,SNR=5.1								
WMQ	**Urumqi**	**135.47**	**77**		PKP	**PKPdf**	**03 10 32.7**	**+0.9**	
WMQ					LR	LR			
	comp=N,190nm,29.1s								
WMQ					LR	LR			
	comp=Z,180nm,26.3s								
KURBB	**Kurchatov Arra**	**135.83**	**64**		PKP	**PKPdf**	**03 10 32.1**	**0.0**	
	0.5nm,0.5s,baz=238,slow=3.2,SNR=3.8								
KURK	**Kurchatov**	**135.93**	**64**		PKP	**PKPdf**	**03 10 32.1**	**-0.2**	
LZH	**Lanzhou**	**137.95**	**98**		*e*PKP	**PKPdf**	**03 10 33.4**	**-3.4**	
LZH					sPKP		03 10 44.1		
LZH					SKKS		03 20 19.0		
LZH					SS	**SS**	**03 31 38.2**	**+2.6**	
LZH					AMB	AMB			
	comp=Z,150nm,4.7s								
LZH					LR	LR			
	comp=N,290nm,19.2s								
LZH					LR	LR			
	comp=E,150nm,16.2s								
LZH					LR	LR			
	comp=Z,1μm,19.4s								
XAN	**Xi'an**	**138.88**	**105**		PKP	**PKPdf**	**03 10 40.5**	**+2.1**	
YKA	**Yellowknife Ar**	**140.70**	**313**		PKhKP	PKPpre	03 10 33.8		
	0.3nm,0.6s,baz=125,slow=3.7,SNR=3.8								
YKA					PKP	**PKPdf**	**03 10 39.9**	**-0.8**	
	1.5nm,0.6s,baz=126,slow=2.4,SNR=11								
YKA					PP	**PP**	**03 13 41.0**	**-0.7**	
	1.2nm,0.9s,baz=119,slow=6.6,SNR=5.2								
NJ2	**Nanjing**	**141.98**	**118**		*e*PKP	**PKPdf**	**03 10 46.1**	**+2.1**	
DLBC	**Dease Lake**	**144.75**	**300**		PKP	**PKPab**	**03 10 47.2**	**+0.2**	
	7.5nm,0.8s,baz=126,slow=3.8,SNR=12								
DLBC	**Dease Lake**	**144.75**	**300**		*e*PKPdf	**PKPab**	**03 10 46.9**	**-0.2**	
HHC	**Hu-ho-hao-te**	**145.49**	**101**		*e*PKPbc	**PKPab**	**03 10 52.9**	**+2.5**	
SONM	**Songino Array**	**147.73**	**87**		PKPbc	**PKPbc**	**03 10 55.2**	**-1.3**	
	2.6nm,0.6s,baz=204,slow=3.2,SNR=8.1								
JNU	**Nakatsue**	**147.96**	**132**		PKPbc	**PKPbc**	**03 10 56.5**	**-0.9**	
	2.7nm,0.5s,baz=224,slow=11,SNR=3.2								
ULN	**Ulaanbaatar**	**148.09**	**88**		*e*PKPbc	**PKPbc**	**03 10 56.1**	**-1.3**	
TLY	**Talaya**	**148.71**	**79**		PKPbc	**PKPbc**	**03 10 58.5**	**-0.3**	
	3.3nm,0.7s,baz=243,slow=2.3,SNR=5.3								
NRIK	**Noril'sk**	**149.44**	**41**		PKPbc	**PKPbc**	**03 11 00.4**	**+0.4**	
	3.7nm,0.5s,baz=256,slow=2.9,SNR=3.5								
NRIK					PP	**PP**	**03 14 34.9**	**+1.2**	
	3.2nm,0.4s,baz=270,slow=4.3,SNR=3.9								
INK	**Inuvik**	**150.33**	**316**		PKPbc	**PKPbc**	**03 11 01.3**	**-0.9**	
	14nm,0.9s,baz=68,slow=3.4,SNR=38								
INK	**Inuvik**	**150.33**	**316**		*e*PKPbc	**PKPbc**	**03 11 01.0**	**-1.2**	
KSAR	**Wonju Array Be**	**150.50**	**124**		PKPbc	**PKPbc**	**03 11 02.2**	**-1.3**	
KSRS	**Korea Array**	**150.53**	**124**		PKPbc	**PKPbc**	**03 11 02.2**	**-1.4**	
	2.6nm,0.7s,baz=224,slow=2.0,SNR=5.6								
DAWY	**Dawson**	**151.29**	**306**		*e*PKPbc	**PKPbc**	**03 11 03.4**	**-1.3**	
DAWY					*e*PKPab	**PKPab**	**03 11 12.1**	**-0.8**	
EGAK	**Eagle**	**152.25**	**307**		*e*PKPbc	**PKPbc**	**03 11 05.8**	**-0.9**	
EGAK					*e*PKPab	**PKPab**	**03 11 16.2**	**-0.6**	
BMRM	**Bremner River**	**152.46**	**298**		*e*PKPbc	**PKPbc**	**03 11 07.3**	**-0.1**	
BMRM					*e*PKPab	**PKPab**	**03 11 17.7**	**-0.2**	
DOT	**Dot Lake**	**153.13**	**304**		*e*PKPbc	**PKPbc**	**03 11 08.5**	**-0.3**	
DOT					*e*PKPab	**PKPab**	**03 11 20.8**	**+0.2**	
MJAR	**Matsushiro Arr**	**153.63**	**141**		PKPbc	**PKPbc**	**03 11 10.8**	**0.0**	
	1.5nm,0.8s,baz=215,slow=4.6,SNR=4.3								
SML	**Sawmill**	**154.44**	**299**		*e*PKPdf	**PKPdf**	**03 11 02.5**	**-0.8**	
SML					*e*PKPbc	**PKPbc**	**03 11 11.1**	**-0.6**	
SML					*e*PKPab	**PKPab**	**03 11 25.6**	**-0.6**	
ILAR	**Eielson Array**	**154.61**	**306**		PKPbc	**PKPbc**	**03 11 10.9**	**-1.0**	
	2.0nm,0.9s,baz=135,slow=2.0,SNR=18								
COLA	**College**	**155.04**	**306**		*e*PKPab	**PKPab**	**03 11 28.3**	**-0.3**	
MCK	**McKinley**	**155.24**	**303**		*e*PKPdf	**PKPdf**	**03 11 03.8**	**-0.6**	
TRF	**Thorofare Moun**	**155.76**	**302**		*e*PKPab	**PKPab**	**03 11 31.5**	**-0.5**	
PPLA	**Purkeypile**	**156.47**	**300**		*e*PKPab	**PKPab**	**03 11 34.9**	**-0.1**	

CASC 09 02:54:20.2±2.0, 8°.55N×83°.10W, h3km±5km, MD3.7, 3D, Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ACR	**Cerro Adams**	**0.12**	**329**	⇓ *i* P	Pg	02 54 23.2	+0.5
ACR				*e*S	Sg	02 54 26.4	+2.0
BRU2	**Volcan**	**0.48**	**59**	⇓ *i* P	Pg	02 54 30.3	+0.9
BRU2				*e*S	Sb	02 54 39.1	+0.2
TBS2		**0.51**	**61**	*e*P	Pb	02 54 31.7	-0.1
TBS2				*e*S	Sb	02 54 40.5	+0.8
DRK0	**Durika**	**0.73**	**349**	⇓ *i* P	Pg	02 54 33.9	-0.3
DRK0				*e*S	Sb	02 54 47.4	+1.3
BUS	**Buena Vista**	**1.19**	**327**	*e*P	Pg	02 54 41.4	-1.8
BUS				*e*S	Sb	02 55 00.5	+0.7
QCR1	**Quepos**	**1.37**	**310**	*e*P	Pn	02 54 44.0	-2.2
QCR1				*e*S	Sg	02 55 03.8	-0.4
URSC	**Urasca**	**1.44**	**333**	*e*P	Pn	02 54 45.6	-1.8
LCR2	**La Lucha 2**	**1.48**	**323**	*e*P	Pn	02 54 45.6	-2.4
LCR2				*e*S	Sn	02 55 08.1	0.0
HDC	**Heredia**	**1.76**	**325**	*e*P	Pn	02 54 51.8	+0.1
HDC				*e*S	Sb	02 55 15.2	-0.5
CGA2	**Cerro Gallo 2**	**1.99**	**317**	*e*P	Pn	02 54 55.7	+0.8
CGA2				*e*S	Sb	02 55 22.4	+0.1
ARE1	**Arenal 1**	**2.48**	**320**	*e*P	Pn	02 55 02.8	+1.2
AZU	**Azuero**	**2.90**	**105**	*e*P	Pn	02 55 07.9	+0.6
AZU				*e*S	Sn	02 55 40.3	-2.4
CUI	**Cuipilapa**	**2.92**	**316**	*e*P	Pn	02 55 08.2	+0.6
CUI				*e*S	Sn	02 55 40.8	-2.5
COLC	**Colonia**	**2.95**	**316**	*e*P	Pn	02 55 08.1	0.0
GPS3	**Bodega del ICE**	**3.13**	**315**	*e*P	Pn	02 55 10.9	+0.4

NIED ***09*** *03:02:00, 38°.80N×144°.60E, h5km, Mw3.5 Best double couple: M₀2.14000×10^14 NP1:φs172.00000°, δ43.00000°, λ-116.00000°. NP2:φs26.00000°, δ52.00000°, λ-68.00000°.*

IDC ***09*** *03:02:33.2±1.9, 38°.70N×144°.99E, h0km, mb3.8/4, mb1 3.9/7, mb1mx3.5/52, mbtmp3.9/7, ML3.3/3, Error ellipse: s-maj=47.2km s-min=24.8km az=82.0*

ISCJB ***09*** *03:02:35.2±0.7, 38°.69N±0°.05×144°.63E±0°.06, h19km, mb4.1/8, Error ellipse: s-maj=7.5km s-min=5.7km az=147.6*

NEIC ***09*** *03:02:36.4±5.3, 38°.71N×144°.84E, h18km±32km, mb4.2/2, Error ellipse: s-maj=20.0km s-min=10.7km az=111.0*

JMA ***09*** *03:02:37.9±0.2, 38°.75N×144°.59E, h53km, M3.6*

ISC 09 03:02:36.4±1.1, 38.71N±0°.06×144.67E±0°.09, h19km, n26, σ2.5 17/37, mb4.0/8, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
OFUJ	**Ofunato**	**2.37**	**280**	P	**Pn**	**03 03 14.6**	**+0.4**
OFUJ				S	Sn	03 03 41.4	-1.3
MIYJ	**Miyakonagasawa**	**2.38**	**292**	P	**Pn**	**03 03 14.6**	**+0.3**
MIYJ				*e*S	**Sn**	**03 03 41.9**	**-1.0**
JTH	**Tanohata**	**2.50**	**300**	P	**Pn**	**03 03 16.1**	**+0.2**
JTH				S	**Sn**	**03 03 44.9**	**-1.0**
JMK	**Ichinoseki**	**2.70**	**276**	P	**Pn**	**03 03 19.5**	**+0.7**
JMK				S	**Sn**	**03 03 50.8**	**-0.1**
JOM	**Ohasama**	**2.73**	**287**	P	**Pn**	**03 03 19.9**	**+0.7**
JOM				S	**Sn**	**03 03 51.0**	**-0.7**
JANG	**Nango**	**2.95**	**305**	P	**Pn**	**03 03 21.8**	**-0.4**
JYK	**Kaneyama**	**3.37**	**275**	P	**Pn**	**03 03 28.7**	**+0.7**
ERM	**Erimo**	**3.50**	**341**	*e*Pn	**Pn**	**03 03 30.4**	**+0.7**
JFT	**Otama**	**3.62**	**252**	P	**Pn**	**03 03 32.3**	**+0.9**
JFT				S	**Sn**	**03 04 12.6**	**-0.9**
JCH	**Churui**	**4.03**	**346**	P	**Pn**	**03 03 36.6**	**-0.3**
NEM2	**Nemuro 2**	**4.72**	**10**	*e*S	**Sn**	**03 04 34.6**	**-6.1**
JTKR	**Abashiri--Toko**	**5.29**	**354**	P	**Pn**	**03 03 53.6**	**-0.7**
JTKR				*e*S	**Sn**	**03 04 50.9**	**-3.7**
JRY	**Ryogami san**	**5.32**	**241**	P	**Pn**	**03 03 54.5**	**-0.3**
JRY				*e*S	**Sn**	**03 04 51.4**	**-4.2**
MJAR	**Matsushiro Arr**	**5.56**	**249**	Pn	**Pn**	**03 03 59.9**	**+1.7**
	2.0nm,0.3s,baz=58,slow=11,SNR=18						
MJAR				Sn	**Sn**	**03 05 00.8**	**-0.8**
	0.6nm,0.3s,baz=74,slow=14,SNR=4.4						
MAJO	**Matsushiro**	**5.56**	**249**	*e*Pn	**Pn**	**03 04 00.3**	**+2.1**
	8.4nm,0.5s						
MAT	**Matsushiro**	**5.56**	**249**	P	**Pn**	**03 03 59.5**	**+1.4**
MAT				*e*S	**Sn**	**03 05 00.9**	**-0.7**
JHJ	**Hachijo jima 2**	**6.84**	**217**	Pn	**Pn**	**03 04 16.1**	**+0.5**
	4.2nm,0.3s,baz=73,slow=19,SNR=4.7						
JHJ				Sn	**Sn**	**03 05 25.6**	**-7.4**
	13nm,0.3s,baz=79,slow=23,SNR=6.1						
USRK	**Ussuriysk Ar.**	**10.98**	**304**	Pn	**Pn**	**03 05 15.3**	**+3.0**
	0.3nm,0.3s,baz=108,slow=16,SNR=6.2						
ZALV	**Zalesovo Beam**	**42.72**	**311**	P	**P**	**03 10 33.3**	**+1.3**
	0.4nm,0.3s,baz=83,slow=5.7,SNR=2.6						
KURK	**Kurchatov**	**46.95**	**307**	*e*P	**P**	**03 11 06.3**	**+0.6**
	11nm,0.6s						
KURBB	**Kurchatov Arra**	**47.02**	**307**	P	**P**	**03 11 07.8**	**+1.5**
	1.0nm,0.5s,baz=82,slow=8.0,SNR=7.7						
DIV	**Divide**	**47.38**	**38**	*e*P	**P**	**03 11 08.6**	**-0.4**
	4.9nm,0.6s						
BRVK	**Borovoye**	**51.41**	**312**	*e*P	**P**	**03 11 40.5**	**+0.7**
	5.5nm,0.5s						
ABKAR	**Akbulak array**	**58.83**	**310**	*e*P	**P**	**03 12 34.8**	**+1.4**
	0.4nm,0.6s						
WRA	**Warramunga Arr**	**59.14**	**191**	P	**P**	**03 12 36.0**	**+0.3**
	0.6nm,0.7s,baz=12,slow=6.9,SNR=3.9						
FINES	**FINESS Array B**	**68.51**	**333**	P	**P**	**03 13 37.4**	**+0.3**
	0.7nm,0.6s,baz=57,slow=7.0,SNR=3.9						

GEN ***09*** *03:05:55.4, 44°.70N×10°.31E, h2km, ML1.9*

ISCJB ***09*** *03:05:56.7±0.3, 44°.61N±0°.02×10°.28E±0°.04, h23km±3km, Error ellipse: s-maj=4.4km s-min=3.1km az=3.1*

CSEM ***09*** *03:05:56.2±0.1, 44°.63N×10°.23E, h20km, ML3.1/5, Error ellipse: s-maj=2.9km s-min=2.2km az=101.0*

ROM ***09*** *03:05:56.2±0.1, 44°.64N×10°.25E, h22km±2km, Ml2.2/9, Error ellipse: s-maj=1.7km s-min=1.1km az=101.0*

ISC 09 03:05:56.4±0.9, 44°.63N±0°.02×10°.29E±0°.02, h19km±2km, n54, σ1.9 07/93, Northern Italy

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PRMA	**PARMA**	**0.14**	**8**	Pg	**Pg**	**03 06 00.3**	**-0.4**
PRMA				Sg	**Sg**	**03 06 04.5**	**+1.0**
PRMA	**PARMA**	**0.14**	**8**	Pg	**Pg**	**03 06 00.3**	**-0.4**
PRMA				Sg	**Sg**	**03 06 04.5**	**+1.0**
GRAM	**Graiana**	**0.21**	**228**	P	**Pb**	**03 06 00.9**	**-0.3**
GRAM				S	**Sg**	**03 06 04.9**	**-0.4**
NOVE	**Novellara**	**0.35**	**61**	Pg	**Pg**	**03 06 04.1**	**+0.2**
NOVE	**Novellara**	**0.35**	**61**	Pg	**Pg**	**03 06 04.1**	**+0.2**
CODM	**Codolo**	**0.39**	**233**	P	**Pb**	**03 06 04.5**	**-0.4**
CODM				S	**Sb**	**03 06 10.2**	**-0.4**
SARO	**Sassorosso**	**0.45**	**169**	P	**Pg**	**03 06 05.1**	**-0.7**
SARO				S	**Sb**	**03 06 12.8**	**+0.5**
VLC	**Villacollemand**	**0.48**	**171**	Pg	**Pg**	**03 06 06.0**	**-0.2**
VLC				Sg	**Sb**	**03 06 13.9**	**+1.0**
	21nm,0.2s						
VLC	**Villacollemand**	**0.48**	**171**	Pg	**Pg**	**03 06 06.0**	**-0.2**
VLC				Sg	**Sb**	**03 06 13.9**	**+1.0**
	21nm,0.2s						
VLC	**Villacollemand**	**0.48**	**171**	*e*PKPbc	**Pg**	**03 06 05.5**	**-0.6**
ZCCA	**Zocca**	**0.57**	**119**	Pg	**Pn**	**03 06 09.1**	**-0.4**
	63nm,0.4s						
ZCCA	**Zocca**	**0.57**	**119**	Pg	**Pn**	**03 06 09.1**	**-0.4**
	63nm,0.4s						
SC2M	**Scurtabo**	**0.58**	**247**	Pg	**Pb**	**03 06 07.0**	**-1.0**
SC2M				Sg	**Sg**	**03 06 16.0**	**0.0**
SC2M	**Scurtabo**	**0.58**	**247**	Pg	**Pb**	**03 06 07.0**	**-1.0**
SC2M				S	**Sg**	**03 06 16.0**	**0.0**
BDI	**Bagni Di Lucca**	**0.61**	**158**	Pg	**Pb**	**03 06 08.3**	**-0.1**
BDI				Sg	**Sg**	**03 06 17.9**	**+1.1**
	69nm,0.4s						
BDI	**Bagni Di Lucca**	**0.61**	**158**	Pg	**Pb**	**03 06 08.3**	**-0.1**
BDI				Sg	**Sg**	**03 06 17.9**	**+1.1**
	69nm,0.4s						
BOB	**Bobbio (Coli)**	**0.61**	**283**	Pg	**Pg**	**03 06 08.4**	**-0.3**
	138nm,0.6s						
BOB	**Bobbio (Coli)**	**0.61**	**283**	Pg	**Pg**	**03 06 08.4**	**-0.3**
	138nm,0.6s						
MSSA	**Maissana**	**0.63**	**241**	Pg	**Pb**	**03 06 08.2**	**-0.6**
	26nm,0.3s						
MSSA	**Maissana**	**0.63**	**241**	Pg	**Pb**	**03 06 08.2**	**-0.6**
	26nm,0.3s						
POPM	**Popiglio**	**0.68**	**150**	P	**Pb**	**03 06 09.6**	**0.0**
POPM				S	**Sg**	**03 06 20.1**	**+1.2**
MAIM	**Mastiano**	**0.73**	**168**	Pg	**Pb**	**03 06 10.3**	**-0.2**
MAIM				Sg	**Sn**	**03 06 21.6**	**-0.7**
	45nm,0.6s						
MAIM	**Mastiano**	**0.73**	**168**	Pg	**Pb**	**03 06 10.3**	**-0.2**
MAIM				S	**Sg**	**03 06 20.5**	**-0.1**
MAIM				Sg	**Sn**	**03 06 21.6**	**-0.7**
	45nm,0.6s						
PTF	**Prato**	**0.88**	**140**	Pg	**Pb**	**03 06 13.3**	**+0.3**
PTF	**Prato**	**0.88**	**140**	Pg	**Pb**	**03 06 13.3**	**+0.3**
SALO	**Salr**	**1.00**	**10**	Pg	**Pn**	**03 06 15.4**	**-0.1**
	239nm,0.6s						
SALO	**Salr**	**1.00**	**10**	Pg	**Pn**	**03 06 15.4**	**-0.1**
	239nm,0.6s						
BALD	**Monte Baldo**	**1.12**	**20**	*e*Pg	**Pn**	**03 06 16.9**	**-0.4**
BALD				*e*Sg	**Sn**	**03 06 32.0**	**-0.2**
ROVR	**Rover¯¤ Verone**	**1.16**	**28**	Pg	**Pn**	**03 06 17.4**	**-0.3**
ROVR				Sg	**Sn**	**03 06 33.5**	**+0.4**
	316nm,0.4s						
ROVR	**Rover¯¤ Verone**	**1.16**	**28**	Pg	**Pn**	**03 06 17.4**	**-0.3**
ROVR				Sg	**Sn**	**03 06 33.5**	**+0.4**
	316nm,0.4s						
MAGA	**Magasa**	**1.17**	**12**	Pg	**Pn**	**03 06 17.5**	**-0.4**
MAGA				Sg	**Sn**	**03 06 33.3**	**-0.1**
	269nm,0.4s						
MAGA	**Magasa**	**1.17**	**12**	Pg	**Pn**	**03 06 17.5**	**-0.4**
MAGA				Sg	**Sn**	**03 06 33.3**	**-0.1**
	269nm,0.4s						
MARN	**Marana (Italy)**	**1.20**	**33**	*e*Pg	**Pn**	**03 06 17.6**	**-0.6**
MARN				*e*Sg	**Sn**	**03 06 34.7**	**+0.7**
TEOL	**Teolo**	**1.22**	**53**	Pg	**Pb**	**03 06 18.9**	**0.0**
TEOL				Sg	**Sn**	**03 06 35.6**	**+1.1**
TEOL	**Teolo**	**1.22**	**53**	*e*Pg	**Pn**	**03 06 18.2**	**-0.3**
TEOL				*e*Sg	**Sg**	**03 06 36.0**	**-0.2**
TEOL	**Teolo**	**1.22**	**53**	Pg	**Pb**	**03 06 18.9**	**0.0**
TEOL				Sg	**Sn**	**03 06 35.6**	**+1.1**
RNI	**Roncone**	**1.37**	**10**	*e*Pg	**Pn**	**03 06 20.2**	**-0.5**
RNI				*e*Sg	**Sb**	**03 06 39.3**	**+0.6**
DDS	**Dosso del Somm**	**1.40**	**27**	*e*Pg	**Pn**	**03 06 20.4**	**-0.7**
DDS				*e*Sg	**Sb**	**03 06 40.1**	**+0.4**
PANI	**Panarotta**	**1.60**	**27**	*e*Pg	**Pn**	**03 06 23.4**	**-0.5**
PANI				*e*Sg	**Sb**	**03 06 45.8**	**+0.4**
CGRP	**Cima Grappa**	**1.65**	**40**	*e*Pg	**Pn**	**03 06 24.4**	**-0.1**
CGRP				*e*Sg	**Sn**	**03 06 44.7**	**-0.4**
FETA	**Feichten**	**2.41**	**7**	Pg	**Pg**	**03 06 43.0**	**+0.2**
	2.9nm,0.5s						
FETA				Sn	**Sb**	**03 07 10.5**	**+1.8**
	2.0nm,0.4s						
ABTA	**Abfaltersbach**	**2.63**	**36**	Pn	**Pn**	**03 06 38.9**	**+1.0**
	0.1nm,0.1s						
ABTA				Sn	**Sn**	**03 07 10.9**	**+1.5**
	1.5nm,0.3s						
DAVA	**Damuels**	**2.67**	**354**	Pn	**Pn**	**03 06 41.0**	**+2.4**
	1.9nm,0.2s						
DAVA				Sn	**Sn**	**03 07 12.8**	**+2.3**
	5.4nm,0.2s						
MOTA	**Moosalm**	**2.77**	**12**	Pn	**Pn**	**03 06 42.2**	**+2.2**
	0.5nm,0.2s						

baz=302
EAST Anshuo 0.29 299⇑*i*P Pg 03 27 03.2 +0.3
baz=302
ECL Taimali 0.39 336⇓*i*P Pg 03 27 05.6 +0.8
baz=356
ECL *e*S Sg 03 27 09.8 0.0
baz=356
TSEB Hengchuen, Pin 0.40 211⇓*i*P Pn 03 27 08.6 -1.7
baz=206
TWK1 Hengchun 0.42 225⇓*i*P Pb 03 27 07.9 +0.3
baz=203
TWK1 *e*S Sb 03 27 14.9 +0.4
baz=203
HEN Hengchun 0.43 237⇓*i*P Pb 03 27 07.7 0.0
baz=216
LAY Lan-yu 0.45 117 ⇑P Pn 03 27 10.6 -0.5
baz=116
LAY *e*S Sb 03 27 19.2 +3.8
baz=116
SCZT Fangliau 0.48 286 *i*P Pg 03 27 06.7 0.0
baz=280
TTN Taitung 0.51 3⇓*i*P Pb 03 27 10.0 +0.8
baz=23
TTN *e*S Sn 03 27 19.5 -1.9
baz=23
TWG Pinlang 0.58 355 ⇓P Pg 03 27 09.5 +1.0
baz=14
TWG *e*S Sg 03 27 17.2 +1.2
baz=14
TWG Pinlang 0.58 355 *e*Pg Pg 03 27 09.3 +0.8
TWG *e*Sg Sg 03 27 17.4 +1.3
TWP Hsiaoliuchiu 0.71 279⇑*e*P Pn 03 27 13.6 -1.1
baz=282
SGLT Jiouru 0.76 310⇑*i*P Pb 03 27 12.8 -0.7
baz=323
KAU Kaohsiung 0.82 293⇑*i*P Pn 03 27 15.8 -0.4
baz=292
TWM1 Shoushan 0.87 312⇑*i*P Pb 03 27 15.4 0.0
baz=324
CHKT Chengkung 0.88 15⇓*e*P Pg 03 27 14.8 +0.4
baz=12
ELDTW Lidau 0.95 354 *e*P Pg 03 27 15.2 -0.4
baz=17
ELDTW *e*S Sg 03 27 27.3 -0.6
baz=17
SGST Jiashian 0.97 329 ⇑P Pb 03 27 16.8 -0.4
baz=339
SGST *e*S Sg 03 27 27.8 -0.9
baz=339
STYT Tauyuan 0.98 340⇑*i*P Pb 03 27 16.7 -0.5
baz=353
STYT *e*S Sg 03 27 28.9 +0.1
baz=353
CHN3 Shinhua 1.09 320⇑*i*P Pn 03 27 20.6 +0.7
baz=339
CHN3 *e*S Sn 03 27 36.9 +1.3
baz=339
CHN1 Nanshi 1.09 330⇑*i*P Pn 03 27 19.4 -0.4
baz=338
CHN1 S Sb 03 27 34.2 +0.4
baz=338
WTP Ta-pu 1.10 335⇑*i*P Pb 03 27 19.5 +0.1
baz=343
WTP *e*S Sb 03 27 34.7 +0.3
baz=343
TWF1 Yuli 1.12 8 *e*P Pg 03 27 17.1 -1.7
baz=19
TAI1 Yung-k'ang 1.15 314⇑*i*P Pn 03 27 20.2 -0.4
baz=320
TPUB Ta-pu 1.15 337 *e*Pn Pb 03 27 20.2 +0.1
TPUB *e*Sn Sn 03 27 36.2 -1.0
YULB Yu-li 1.16 8 *e*Pg Pg 03 27 17.6 -2.0
YULB *e*Sg Sg 03 27 32.5 -2.1
TWK Hsinying 1.18 330⇑*i*P Pn 03 27 21.1 0.0
baz=337
TWK *i*S Sn 03 27 37.3 -0.6
baz=337
CHN4 Tsaushan 1.21 336⇑*i*P Pn 03 27 21.6 +0.1
baz=343
CHN4 S Sn 03 27 38.2 -0.4
baz=343
YUS Yu-Shan 1.25 353 ⇓P Pg 03 27 21.0 -0.5
baz=14
YUS *e*S Sn 03 27 40.1 -0.3
baz=14
SCLT Jiali 1.26 317 *e*P Pn 03 27 22.0 -0.3
baz=323
SCLT *e*S Sn 03 27 39.1 -0.9
baz=323
ALS Alishan 1.30 347 ⇓P Pg 03 27 22.2 0.0
baz=8.0
ALS *e*S Sn 03 27 40.7 -0.5
baz=8.0
CHN8 Yiju 1.38 323 *e*P Pn 03 27 23.5 -0.4
baz=331
CHN8 *e*S Sn 03 27 42.7 -0.2
baz=331
CHY Chiayi 1.41 333 ⇑P Pb 03 27 24.4 -0.1
baz=339
CHY S Sn 03 27 43.4 0.0
baz=339
CHN5 Tsauling 1.41 343⇓*e*P Pb 03 27 24.6 0.0
baz=352
CHN2 Minshiung 1.42 335⇑*e*P Pg 03 27 24.8 +0.2
baz=342
CHN2 *e*S Sn 03 27 45.6 +1.9
baz=342
WDT Danda 1.51 0 *e*P Pn 03 27 24.6 -1.3
baz=20
WGK Gukeng 1.53 340 *e*P Pn 03 27 26.0 +0.1
baz=354
WGK *e*S Sb 03 27 46.2 -0.3
baz=354
SSLB Suanglung 1.55 354 *e*Pn Pn 03 27 25.4 -0.8
SSLB *e*Sn Sn 03 27 44.2 -2.8
ESL Shilin 1.59 10 *e*P Pn 03 27 27.0 +0.2
baz=35
WSF Szhu 1.62 329⇑*e*P Pn 03 27 26.8 -0.4
baz=341
WSF *e*S Sg 03 27 49.1 -0.4
baz=341
SMLT Sun Moon Lake 1.65 353 ⇓P Pb 03 27 28.9 +0.3
baz=11
SMLT *e*S Sg 03 27 52.1 +1.8
baz=11
TYC Yuchr 1.67 352⇓*i*P Pb 03 27 29.1 +0.1
baz=20
TYC *e*S Sg 03 27 52.5 +1.4
baz=20
WNT Mingjian 1.68 346 *e*P Pb 03 27 28.9 -0.3
baz=360
WNT *e*S Sg 03 27 51.8 +0.4
baz=360
WDGT Dungji 1.69 307⇑*i*P Pn 03 27 26.1 -2.0
baz=310
WDGT *e*S Sn 03 27 48.4 -2.1
baz=310
HWA Hwalien 1.78 14 *e*P Pb 03 27 31.4 +0.4
baz=25
WTCT Ta-ch'eng 1.79 335 *e*P Pn 03 27 28.8 -0.7
baz=347
TWD Chiawan 1.88 13 *e*P Pn 03 27 29.9 -0.9
baz=24
WHF Hehuan Shan 1.90 4 *e*P Pb 03 27 33.5 +0.3
baz=30
TCU Taichung 1.94 348 *e*P Pb 03 27 32.7 -1.0
baz=2.0
PNG Penghu 1.96 313 ⇑P Pn 03 27 30.0 -1.8
baz=319
PNG *e*S Sn 03 27 53.0 -4.0
baz=319
NACB Ninganchiao 1.97 13 *e*Pn Pn 03 27 31.5 -0.5
NACB *e*Sn Sn 03 27 54.5 -3.0
TWT Tachien 2.00 1 *e*P Pb 03 27 34.5 -0.4
baz=19
TWT *e*S Sg 03 28 02.2 +0.4
baz=19
TWQ1 Liyutan 2.12 351 *e*P Pb 03 27 35.5 -1.2
baz=5.0
NSY Sanyi 2.19 351 *e*P Pb 03 27 36.7 -1.2
baz=5.0
NSY *e*S Sb 03 28 05.9 +0.3
baz=5.0
NNS Nan Shan 2.20 6 *e*P Pb 03 27 37.3 -0.9
baz=35
ENA Nanau 2.25 15 *e*P Pn 03 27 35.9 0.0
baz=38
NSTT Nanjuang 2.38 357 *e*P Pn 03 27 38.7 +1.0
baz=12
ENTT Nioudou 2.42 10 *e*P Pn 03 27 39.0 +0.8
baz=33
YHNB Yeheng 2.43 5 *e*Pn Pn 03 27 38.2 -0.1
YHNB *e*Pg Pb 03 27 42.2 +0.2
YHNB *e*Sg Sb 03 28 11.8 -0.8
NSK Sanguang 2.43 5 *e*P Pn 03 27 38.3 -0.1
baz=17
TWC Suao 2.45 16 *e*P Pn 03 27 39.0 +0.4
baz=38
TWE Neicheng 2.52 11 *e*P Pn 03 27 40.5 +0.9
baz=35
HSN Hsinchu 2.55 357 *e*P Pb 03 27 43.6 -0.5
baz=12
ILA Ilan 2.58 13 *e*P Pb 03 27 43.4 -1.1
baz=34
EGS 2.70 16 *e*P Pn 03 27 43.2 +1.2
baz=39
NCU National Centr 2.72 1 *e*P Pb 03 27 45.6 -1.2
baz=16
TATO Taipei 2.74 7 *e*Pn Pn 03 27 42.9 +0.2
TATO *e*Pg Pb 03 27 48.2 +0.9
TATO *e*Sg Sb 03 28 22.9 +1.4
TWA Mucha 2.76 9 *e*P Pb 03 27 46.7 -0.9
baz=33
JYNG Yonagunijimaku 2.77 37 P Pn 03 27 42.9 0.0
JYNG S Sn 03 28 15.0 -2.0
TAP Taipei 2.81 7 *e*P Pb 03 27 46.9 -1.5
baz=35
TAP1 Taipei 2.81 7 *e*P Pb 03 27 48.1 -0.4
baz=35
YOJ Yonaguni jima 2.81 38⇑*e*P Pn 03 27 43.7 +0.1
baz=49
YOJ *e*S Sn 03 28 17.2 -0.9
baz=49
YOJ Yonaguni jima 2.81 38 P Pn 03 27 43.5 0.0
YOJ S Sn 03 28 17.0 -1.1
YOJ Yonaguni jima 2.81 38 *e*Pn Pn 03 27 43.5 0.0
YOJ *e*Pg Pb 03 27 49.8 +1.3
YOJ *e*Sn Sn 03 28 14.2 -3.9
TWS1 Kuangyinshan 2.86 5 *e*P Pb 03 27 48.1 -1.2
baz=33
TWB1 Santiao Chiao 2.87 16 *e*P Pn 03 27 43.9 -0.4
baz=27
NWF Wu-fen Shan 2.88 12 *e*P Pn 03 27 45.7 +1.1
baz=34
TWY Chenhua 3.05 8 *e*P Pb 03 27 50.7 -1.9
baz=8.0
HATJ Hateruma jima 3.06 53 P Pn 03 27 47.3 +0.3
HATJ S Sn 03 28 23.7 -0.6
IRIF Iriomote-Funau 3.18 49 P Pn 03 27 49.1 +0.5
IRIF S Sn 03 28 27.2 0.0
KNM Kinmen 3.29 312 *e*P Pn 03 27 49.7 -0.4
baz=318
JKRS Kuro-shima 3.32 53 P Pn 03 27 51.2 +0.7
JKRS *e*S Sn 03 28 30.4 -0.2
PCYT Pengchaiyu 3.48 14 *e*P Pn 03 27 53.3 +0.5
baz=26
JIJ Ishigaki jima 3.49 52 P Pn 03 27 52.8 -0.1
JIJ S Sn 03 28 34.1 -0.8
QZH Quanzhou 3.55 320 ⇓Pn Pn 03 27 52.0 -1.8
QZH Sn Sn 03 28 32.2 -4.2
QZH smax smax
comp=N,890nm,0.8s
QZH smax smax
comp=E,1μm,0.8s
QZH LR LR
comp=N,2μm,5.5s
QZH LR LR
comp=E,2μm,6.4s
QZH LR LR
comp=Z,4μm,11.0s
JISG Ishigakijimahi 3.75 51 P Pn 03 27 56.2 -0.2
JISG S Sn 03 28 40.4 -0.8
JTJ Tarama 4.06 53 P Pn 03 28 00.8 0.0
JTJ *e*S Sn 03 28 47.9 -1.2
JIRB Irabujima 4.52 55 P Pn 03 28 07.4 +0.3
JIRB S Sn 03 28 59.0 -1.4
JMJ Miyako jima 2 4.61 55 P Pn 03 28 08.9 +0.6
JMJ S Sn 03 29 02.7 +0.2
JIKM Ikemajima 4.63 54 P Pn 03 28 09.2 +0.6
JIKM S Sn 03 29 02.6 -0.5
JOGS Gusukube 4.66 57 P Pn 03 28 09.5 +0.4
JOGS S Sn 03 29 04.7 +0.8
JKE Kume jima 2 6.58 51 P Pn 03 28 34.5 -0.8
JOW Kunigami 7.96 54 Pn Pn 03 28 52.2 -2.1
4.3nm,0.3s,baz=153,slow=3.7,SNR=4.9
JOW Kunigami 7.96 54 *e*Pn Pn 03 28 52.4 -1.9
JOW *e*Sn Sn 03 30 20.8 -4.2
NJ2 Nanjing 9.98 349 *e*P Pn 03 29 21.2 -0.8
NJ2 S Sn 03 31 14.5 -0.2
NJ2 pmax pmax
comp=Z,20nm,0.8s
NJ2 LR LR
comp=N,2μm,14.1s
NJ2 LR LR
comp=E,3μm,12.5s
NJ2 LR LR
comp=Z,2μm,14.1s
WHN Wuhan 10.25 325 ⇓P Pn 03 29 24.5 -1.3
WHN S Sn 03 31 18.6 -2.9
WHN LR LR
comp=N,2μm,9.0s
WHN LR LR
comp=E,2μm,6.8s
WHN LR LR
comp=Z,2μm,13.1s
GYA Guiyang 13.83 291 P P 03 30 27.2 +3.7
GYA S S 03 33 17.2 +5.2
GYA LR LR
comp=N,830nm,13.2s
GYA LR LR
comp=E,830nm,11.5s
GYA LR LR
comp=Z,1μm,13.7s
TIA Tai'an 14.35 347 *e*P P 03 30 30.4 +1.3
TIA S Sn 03 32 59.4 -2.3
TIA pmax pmax
comp=Z,10.0nm,1.0s
TIA LR LR
comp=N,1μm,13.0s
TIA LR LR
comp=E,650nm,13.0s
TIA LR LR
comp=Z,1μm,14.0s
KSAR Wonju Array Be 16.24 20 Pn Pn 03 30 45.6 -1.2
KSRS Korea Array 16.26 20 Pn Pn 03 30 45.6 -1.5
comp=Z,0.3nm,0.3s,baz=202,slow=12,SNR=8.8
KSRS LR LR 03 37 04.4
comp=Z,48nm,19.0s,baz=206,slow=37
KS01 Wonju Array Si 16.27 20 *e*Pn Pn 03 30 44.8 -2.5
KKM Kota Kinabalu 16.79 197 *e*Pn P 03 30 55.1 -1.2
INU Inuyama 19.06 43 *e*P P 03 31 20.7 -0.5
comp=Z,15nm,0.9s
HHC Hu-ho-hao-te 20.23 339 *e*P Pn 03 31 36.4 +0.3
HHC S S 03 35 19.0 -3.1
HHC pmax pmax
comp=Z,10.0nm,1.0s
HHC pmax pmax
comp=Z,96nm,8.1s
HHC LR LR
comp=Z,810nm,13.5s
HHC LR LR
comp=Z,460nm,16.3s
HHC LR LR
comp=Z,630nm,15.0s
LZH Lanzhou 20.40 316 *e*P Pn 03 31 38.9 +0.8
LZH pP 03 31 42.1
LZH sP 03 31 44.1
LZH PP PnPn 03 31 53.0 0.0
LZH *e*S S 03 35 22.7 -2.9
LZH sS Sn 03 35 28.2 -0.4
LZH SS SnSn 03 35 55.0 +12
LZH pmax pmax
comp=Z,19nm,1.0s
LZH pmax pmax
comp=Z,170nm,4.9s
LZH LR LR
comp=Z,440nm,12.4s
LZH LR LR
comp=Z,380nm,12.6s
LZH LR LR
comp=Z,630nm,14.2s
MAJO Matsushiro 20.56 42 *e*P P 03 31 36.9 -0.8
comp=Z,8.5nm,0.7s
MJAR Matsushiro Arr 20.56 42 P Pn 03 31 39.0 -0.8
comp=Z,2.8nm,0.7s,baz=230,slow=9.8,SNR=13
CMAR Chiang Mai Arr 21.13 264 P P 03 31 45.4 +1.4
comp=Z,0.9nm,0.3s,baz=64,slow=8.0,SNR=3.4
CMAR LR LR 03 40 47.2
comp=Z,236nm,20.4s,baz=30,slow=39
USRK Ussuriysk Ar. 23.67 20 P P 03 32 11.0 +0.6
comp=Z,1.3nm,0.6s,baz=223,slow=12,SNR=3.6
KAPI Kappang 27.12 183 LR LR 03 44 49.7
comp=Z,86nm,19.9s,baz=4.3,slow=40
ULN Ulaanbaatar 27.95 340 *e*P P 03 32 48.8 -0.8
comp=Z,2.3nm,0.5s
SONM Songino Array 28.14 339 P P 03 32 50.9 -0.4
comp=Z,4.2nm,0.9s,baz=149,slow=8.9,SNR=14
SONM LR LR 03 45 16.1
comp=Z,485nm,18.0s,baz=148,slow=39
SONA1 Songino Array 28.15 339 *e*P P 03 32 51.2 -0.1
KLR Kul'dur 28.22 15 LR LR 03 44 38.4
comp=Z,125nm,20.9s,baz=204,slow=38
PSI Prapat 28.95 231 LR LR 03 43 51.4
comp=Z,322nm,20.6s,baz=352,slow=35
TLY Talaya 32.36 340 P P 03 33 28.2 -0.2
comp=Z,2.0nm,0.6s,baz=210,slow=8.9,SNR=3.5
WMQ Urumqi 34.98 316 P P 03 33 52.6 +1.2
WMQ pmax pmax
comp=Z,13nm,0.6s
WMQ pmax pmax
comp=Z,130nm,4.2s
WMQ LR LR
comp=Z,280nm,18.5s
WMQ LR LR
comp=Z,290nm,15.1s
WMQ LR LR
comp=Z,140nm,19.1s
MK01 Makanchi Array 39.69 318 *e*P P 03 34 31.5 +0.2
MK31 Makanchi Array 39.71 318 *e*P P 03 34 31.9 +0.5
MKAR Makanchi Array 39.71 318 *e*P P 03 34 31.9 +0.5
comp=Z,21nm,0.6s
PETK Petropavlovsk- 41.51 33 LR LR 03 53 28.1
comp=Z,119nm,19.0s,baz=266,slow=38
ZAA0 Zalesovo Array 41.85 328 *e*P P 03 34 49.2 +0.3
ZALV Zalesovo Beam 41.85 328 P P 03 34 49.3 +0.4
comp=Z,3.1nm,0.5s,baz=113,slow=8.1,SNR=9.0
H11N1 WAKE ISLAND Hy 42.69 85 T T 04 20 41.1
baz=282,slow=75,SNR=234
H11N2 WAKE ISLAND Hy 42.69 85 T T 04 20 41.5
baz=282,slow=75,SNR=320
H11N3 WAKE ISLAND Hy 42.70 85 T T 04 20 42.7
baz=282,slow=75,SNR=217
H11S3 WAKE ISLAND Hy 42.76 86 T T 04 20 46.6
baz=284,slow=74,SNR=778
H11S1 WAKE ISLAND Hy 42.77 86 T T 04 20 50.0
baz=284,slow=74,SNR=424
H11S2 WAKE ISLAND Hy 42.78 86 T T 04 20 50.0
baz=284,slow=74,SNR=366
KURK Kurchatov 43.55 321 P P 03 35 03.3 +0.4
KURBB Kurchatov Arra 43.57 321 P P 03 35 03.3 +0.3
comp=Z,3.7nm,0.2s,baz=120,slow=7.3,SNR=9.7
WRA Warramunga Ar 43.87 162 P P 03 35 03.5 -2.2
comp=Z,2.0nm,0.8s,baz=345,slow=8.6,SNR=8.8
ASAR Alice Springs 47.30 164 P P 03 35 31.4 -1.4
comp=Z,1.5nm,1.0s,baz=324,slow=7.8,SNR=6.2
BVAR Borovoye Array 49.15 322 P P 03 35 47.4 +0.5
comp=Z,1.8nm,0.7s,baz=125,slow=5.0,SNR=3.2
ABKAR Akbulak array 54.76 315 *e*P P 03 36 28.5 -0.2
comp=Z,22nm,1.0s
DZM Mont Dzumac 62.38 132 *e*P P 03 37 21.1 -1.1
comp=Z,5.7nm,1.0s
KBZ Khabaz 66.65 309 P P 03 37 51.0 +1.1
comp=Z,1.7nm,0.8s,baz=252,slow=3.2,SNR=2.3
ILAR Eielson Array 70.96 27 P P 03 38 17.1 +0.7
comp=Z,0.2nm,0.5s,baz=258,slow=4.5,SNR=4.3
ARCES ARCESS Array B 71.31 338 P P 03 38 18.4 0.0
comp=Z,1.6nm,0.8s,baz=60,slow=7.4,SNR=5.7
FINES FINESS Array B 73.09 330 P P 03 38 29.0 -0.2
comp=Z,1.3nm,0.7s,baz=76,slow=8.0,SNR=5.7
BRTR Keskin Array B 74.28 307 P P 03 38 36.4 -0.5
comp=Z,1.2nm,0.9s,baz=119,slow=7.4,SNR=3.9
INK Inuvik 75.04 22 *e*P P 03 38 39.5 -1.0
comp=Z,2.8nm,0.8s
NOA NORSAR Array B 79.91 332 P P 03 39 08.0 +0.1
comp=Z,0.7nm,0.6s,baz=61,slow=5.3,SNR=3.2
NOA LR LR 04 17 53.3
comp=Z,120nm,20.0s,baz=85,slow=38
GERES GERESS Array B 84.30 321 P P 03 39 31.7 +0.4
comp=Z,0.6nm,0.7s,baz=79,slow=2.9,SNR=4.9
YKA Yellowknife Ar 84.77 23 P P 03 39 33.6 +0.4
comp=Z,0.7nm,0.8s,baz=307,slow=4.9,SNR=5.5

IDC 09 03:27:12.8±6.3, 7.86S×155.59E, h0km, mb3.9/3, mb1 4.1/3, mb1mx3.6/30, mbtmp4.0/3, Error ellipse: s-maj=110.4km s-min=83.2km az=3.0, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.83**	**238**	P		P	P	03 32 28.4	+0.5
	1.9nm,1.0s,baz=63,slow=9.8,SNR=7.4								
ASAR	**Alice Springs**	**26.06**	**230**	P		P	P	03 32 48.0	-0.3
	1.8nm,0.9s,baz=56,slow=10,SNR=8.5								
STKA	**Stephens Creek**	**27.22**	**207**	P		P	P	03 32 58.4	-0.2
	4.6nm,0.9s,baz=34,slow=15,SNR=3.6								

TAP 09 03:27:44.1, 22.34N×120.95E, h14km, ML3.7, 2C, C, Taiwan

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
TAW	**Tawu**	**0.05**	**293**	*i*P		Pg	Pg	03 27 47.2	+0.4
	baz=293								
TAW				*i*S		Sg	Sg	03 27 49.2	+0.6
	baz=293								
EAST	**Anshuo**	**0.10**	**296**	⇑*i*P		Pb	Pb	03 27 48.0	0.0
	baz=297								
ECL	**Taimali**	**0.26**	**2**	*e*P		Pb	Pb	03 27 50.5	-0.2
	baz=3.0								
ECL				*e*S		Sb	Sb	03 27 54.5	-0.4
	baz=3.0								
SCZT	**Fangliau**	**0.30**	**276**	*e*P		Pb	Pb	03 27 51.4	0.0
	baz=276								
SCZT				*e*S		Sb	Sb	03 27 56.1	-0.2
	baz=276								
HEN	**Hengchun**	**0.38**	**210**	⇑P		Pb	Pb	03 27 52.5	-0.2
	baz=209								
HEN				*i*S		Sb	Sb	03 27 58.8	+0.3
	baz=209								
TWK1	**Hengchun**	**0.41**	**198**	*e*P		Pg	Pg	03 27 52.7	+0.3
	baz=197								
TSEB	**Hengchuen, Pin**	**0.44**	**186**	*e*P		Pb	Pb	03 27 53.5	-0.2
	baz=190								
TSEB				*e*S		Sb	Sb	03 28 01.6	+1.5
	baz=190								
TWG	**Pinlang**	**0.49**	**14**	*e*P		Pb	Pb	03 27 54.9	+0.3
	baz=14								

TAP 09 03:34:03.7, 22.32N×120.97E, h12km, ML3.6, 6C-4D, B, Taiwan

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
TAW	**Tawu**	**0.07**	**300**	⇑*i*P		Pg	Pg	03 34 06.9	+0.6
	baz=300								
TAW				*i*S		Sg	Sg	03 34 08.9	+0.6
	baz=300								
EAST	**Anshuo**	**0.13**	**300**	⇑*i*P		Pb	Pb	03 34 07.7	-0.4
	baz=300								
ECL	**Taimali**	**0.28**	**358**	P		Pg	Pg	03 34 10.0	+0.5
	baz=354								
ECL				*e*S		Sg	Sg	03 34 14.0	+0.7
	baz=354								
SCZT	**Fangliau**	**0.32**	**279**	⇑*i*P		Pb	Pb	03 34 11.0	-0.4
	baz=279								
SCZT				*i*S		Sb	Sb	03 34 15.8	-0.8
	baz=279								
HEN	**Hengchun**	**0.38**	**214**	⇓*i*P		Pb	Pb	03 34 12.1	-0.2
	baz=223								
HEN				S		Sb	Sb	03 34 18.3	+0.2
	baz=223								
TWK1	**Hengchun**	**0.40**	**202**	⇓*i*P		Pb	Pb	03 34 12.4	-0.4
	baz=198								
TWK1				S		Sb	Sb	03 34 20.0	+1.1
	baz=198								
TSEB	**Hengchuen, Pin**	**0.42**	**188**	*i*P		Pb	Pb	03 34 13.2	+0.1
	baz=191								
TSEB				S		Sb	Sb	03 34 20.2	+0.8

	baz=191								
TTN	**Taitung**	**0.46**	**21**	*e*P		Pb	03 34 13.8	0.0	
	baz=28								
TTN				*e*S		Sb	03 34 23.5	+2.9	
	baz=28								
TWG	**Pinlang**	**0.51**	**11**	⇓*i*P		Pg	03 34 13.8	+0.1	
	baz=16								
TWG				*e*S		Sg	03 34 20.8	+0.3	
	baz=16								
TWP	**Hsiaoliuchiu**	**0.56**	**273**	⇓*e*P		Pn	03 34 17.3	-0.1	
	baz=277								
SGLT	**Jiouru**	**0.60**	**313**	*e*P		Pb	03 34 16.9	+0.8	
	baz=320								
LAY	**Lan-yu**	**0.61**	**117**	*e*P		Pg	03 34 14.6	-1.0	
	baz=102								
KAU	**Kaohsiung**	**0.66**	**292**	*e*P		Pn	03 34 19.8	+1.0	
	baz=296								
KAU				*e*S		Sn	03 34 31.3	+2.3	
	baz=296								
TWM1	**Shoushan**	**0.71**	**315**	⇑P		Pn	03 34 19.6	+0.1	
	baz=321								
SGST	**Jiashian**	**0.84**	**335**	⇑*i*P		Pn	03 34 21.0	-0.3	
	baz=335								
CHKT	**Chengkung**	**0.86**	**25**	*e*P		Pg	03 34 19.0	-1.4	
	baz=16								
STYT	**Tauyuan**	**0.86**	**347**	*e*P		Pb	03 34 20.9	+0.2	
	baz=353								
ELDTW	**Lidau**	**0.87**	**3**	*e*P		Pg	03 34 20.2	-0.3	
	baz=20								
ELDTW				S		Sg	03 34 31.6	-0.3	
	baz=20								
CHN3	**Shinhua**	**0.94**	**324**	*e*P		Pn	03 34 24.7	+2.1	
	baz=335								
CHN3				*e*S		Sn	03 34 40.9	+4.9	
	baz=335								
CHN1	**Nanshi**	**0.95**	**335**	P		Pn	03 34 24.0	+1.1	
	baz=335								
CHN1				S		Sn	03 34 38.4	+2.0	
	baz=335								
WTP	**Ta-pu**	**0.98**	**341**	P		Pn	03 34 23.7	+0.4	
	baz=340								
WTP				*e*S		Sn	03 34 38.5	+1.5	
	baz=340								
TWK	**Hsinying**	**1.04**	**335**	P		Pn	03 34 25.5	+1.3	
	baz=347								
TWK				S		Sn	03 34 40.5	+1.9	
	baz=347								
TWF1	**Yuli**	**1.07**	**16**	*e*P		Pb	03 34 24.2	0.0	
	baz=22								
CHN4	**Tsaushan**	**1.08**	**342**	⇑*i*P		Pn	03 34 25.7	+1.1	
	baz=340								
CHN4				*e*S		Sn	03 34 43.2	+3.6	
	baz=340								
YUS	**Yu-Shan**	**1.16**	**359**	*e*P		Pn	03 34 26.4	+0.1	
	baz=14								
YUS				*e*S		Sn	03 34 43.2	+1.0	
	baz=14								
ALS	**Alishan**	**1.19**	**353**	*e*P		Pg	03 34 27.7	+0.9	
	baz=6.0								
CHY	**Chiayi**	**1.27**	**337**	*e*P		Pg	03 34 28.8	+0.5	
	baz=337								
CHY				*e*S		Sg	03 34 47.8	+3.0	
	baz=337								
CHN2	**Minshiung**	**1.29**	**340**	*e*P		Pg	03 34 29.1	+0.6	
	baz=339								
CHN2				*e*S		Sg	03 34 48.8	+3.5	
	baz=339								
CHN5	**Tsauling**	**1.30**	**348**	*e*P		Pg	03 34 29.5	+0.7	
	baz=348								
CHN5				S		Sg	03 34 49.0	+3.3	
	baz=348								
WDT	**Danda**	**1.44**	**6**	*e*P		Pb	03 34 30.9	+0.3	
	baz=19								
WDT				*e*S		Sg	03 34 52.0	+1.8	
	baz=19								
WDGT	**Dungji**	**1.53**	**308**	*e*P		Pn	03 34 29.9	-0.8	
	baz=310								
SMLT	**Sun Moon Lake**	**1.56**	**358**	*e*P		Pg	03 34 33.3	-0.4	
	baz=10.0								
SMLT				*e*S		Sg	03 34 55.6	+1.7	
	baz=10.0								
TYC	**Yuchr**	**1.58**	**356**	*e*P		Pb	03 34 33.3	+0.5	
	baz=9.0								
TYC				*e*S		Sg	03 34 55.9	+1.2	
	baz=9.0								
PNG	**Penghu**	**1.80**	**314**	*e*P		Pn	03 34 34.2	-0.3	
	baz=318								
WHF	**Hehuan Shan**	**1.84**	**9**	*e*P		Pb	03 34 36.7	-0.8	
	baz=29								
TWQ1	**Liyutan**	**2.03**	**355**	*e*P		Pn	03 34 38.6	+1.0	
	baz=1.0								
NSY	**Sanyi**	**2.10**	**355**	*e*P		Pg	03 34 42.9	-1.0	
	baz=1.0								
NNS	**Nan Shan**	**2.14**	**10**	*e*P		Pb	03 34 41.8	-0.8	
	baz=27								
NSTT	**Nanjuang**	**2.30**	**1**	*e*P		Pb	03 34 45.4	+0.3	
	baz=8.0								
NSK	**Sanguang**	**2.37**	**9**	*e*P		Pb	03 34 45.7	-0.7	
	baz=18								
YOJ	**Yonaguni jima**	**2.84**	**41**	*e*P		Pn	03 34 47.7	-1.1	
	baz=47								

NEIC ***09*** *03:43:02.2±0.0,58.°35N×133.°51W,h1km,ML2.5(AEIC), ML2.9(OTT),After OTT.*
PGC ***09*** *03:43:02.2±11.0,58.°35N×133.°51W,h1km,ML2.9/7,53km east of Juneau, Ak Southeastern Alaska*

ISC 09 03:42:57.3±1.0,58.°11N±0.°05×133.°64W±0.°03,h10km,n20, σ1°95/37,Southeastern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIS	**Juneau Island**	**0.43**	**293**	P	**Pb**	**03 43 08.1**	**+1.2**
JIS				S	**Sb**	**03 43 15.1**	**+1.7**
BESE	**Bessie Mountai**	**0.80**	**307**	P	**Pn**	**03 43 14.3**	**-0.3**
SKAG	**Skagway**	**1.61**	**328**	P	**Pb**	**03 43 27.6**	**+0.4**
SKAG				S	**Sg**	**03 43 48.6**	**-0.6**
WRAK	**Wrangell Islan**	**1.83**	**157**	P	**Pn**	**03 43 29.4**	**+0.6**
DLBC	**Dease Lake**	**1.94**	**79**	Pn	**Pg**	**03 43 33.2**	**-1.1**
DLBC				Sg	**Sg**	**03 43 59.8**	**+0.3**
DLBC	**Dease Lake**	**1.94**	**79**	P	**Pb**	**03 43 32.8**	**+0.1**
DLBC				S	**Sg**	**03 43 59.6**	**+0.1**
PLBC	**Pleasant Camp**	**1.96**	**315**	Pn	**Pb**	**03 43 33.5**	**+0.5**
PLBC				Sg	**Sg**	**03 43 59.9**	**-0.3**
WHY	**Whitehorse**	**2.64**	**347**	Pn	**Pn**	**03 43 42.2**	**+2.2**
WHY				Sn	**Sn**	**03 44 13.5**	**+1.5**
WHY				Sg	**Sb**	**03 44 17.6**	**+0.5**
WHY	**Whitehorse**	**2.64**	**347**	P	**Pb**	**03 43 42.7**	**-1.9**
WHY				S	**Sb**	**03 44 17.0**	**0.0**
YUK7	**Dusty Glacier**	**3.35**	**318**	Pg	**Pg**	**03 43 59.7**	**-1.7**
YUK7				Sg	**Sg**	**03 44 43.7**	**-1.0**
HYT	**Haines Junctio**	**3.36**	**326**	Pn	**Pn**	**03 43 51.2**	**+1.3**
HYT				Pg	**Pg**	**03 43 59.6**	**-2.0**
HYT				Sg	**Sb**	**03 44 40.5**	**+2.6**
HYT	**Haines Junctio**	**3.36**	**326**	P	**Pn**	**03 43 51.9**	**+1.9**
PNL	**Peninsula**	**3.37**	**300**	Pn	**Pb**	**03 43 54.7**	**-2.4**
PNL				Pg	**Pg**	**03 44 00.1**	**-1.7**
PNL				Sg	**Sg**	**03 44 45.3**	**-0.1**
PNL	**Peninsula**	**3.37**	**300**	P	**Pn**	**03 43 51.2**	**+1.2**
YUK5	**Granite Creek**	**3.71**	**327**	Pn	**Pn**	**03 43 57.5**	**+2.8**
YUK5				Pg	**Pb**	**03 44 05.3**	**+2.3**
YUK5				Sg	**Sb**	**03 44 51.2**	**+3.1**
YUK6	**Outpost Mounta**	**3.72**	**322**	Pg	**Pg**	**03 44 06.6**	**-1.9**
YUK6				Sg	**Sg**	**03 44 55.3**	**-1.4**
CTGM	**Chitina Glacie**	**4.85**	**309**	Sg	**Sg**	**03 45 30.9**	**-1.9**
YUK2	**White River**	**5.17**	**319**	Pg	**Pg**	**03 44 33.0**	**-3.1**
YUK2				Sg	**Sg**	**03 45 44.1**	**+1.1**
FNBB	**Fort Nelson**	**5.63**	**78**	Sg	**Sg**	**03 45 53.8**	**-4.1**
DAWY	**Dawson**	**6.59**	**337**	Pg		03 44 58.4	-4.9
DAWY				Sg	**Sg**	**03 46 24.1**	**-4.5**

GUC 09 03:46:21.7±0.4,23.°91S×67.°26W,h213km±22km,ML3.7, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB06	**IPOC Station P**	**2.44**	**299**	*e*P	Pn	03 47 07.5	+1.5
PB06				*e*S	S	03 47 42.5	+2.4
PB06				IAML		03 47 44.3	
	comp=E,133nm,0.3s						
PB09	**IPOC Station P**	**2.79**	**319**	*e*P	Pn	03 47 11.7	+1.8
PB09				*e*S	S	03 47 49.5	+2.4
PB09				IAML		03 47 51.9	
	comp=N,154nm,0.3s						
ANCH	**Antofagasta**	**2.89**	**274**	*e*P	Pn	03 47 13.7	+2.9
ANCH				*e*S	S	03 47 52.0	+3.2
PB14	**IPOC Station P**	**2.95**	**255**	*e*P	Pn	03 47 13.8	+2.0
PB14				*e*S	S	03 47 52.5	+1.9
PB14				IAML		03 47 54.2	
	comp=N,85nm,0.2s						
PB10	**IPOC Station P**	**3.04**	**277**	*e*P	Pn	03 47 14.5	+2.0
PB10				*e*S	S	03 47 54.4	+2.4
PB04	**IPOC Station P**	**3.09**	**300**	*e*P	Pn	03 47 15.3	+2.1
PB04				*e*S	S	03 47 54.7	+1.5
PB04				IAML		03 47 57.1	
	comp=N,84nm,0.1s						
PB07	**IPOC Station P**	**3.25**	**311**	*e*P	Pn	03 47 16.8	+1.6
PB07				*e*S	S	03 47 57.6	+0.8
PB01	**IPOC Station P**	**3.52**	**324**	*e*P	Pn	03 47 19.5	+1.2
PB01				*e*S	S	03 48 03.2	+0.9
PB08	**IPOC Station P**	**4.14**	**335**	*e*P	Pn	03 47 27.8	+1.6

WEL 09 03:47:29.8±0.5,36.°69S×177.°33E,h139km±7km,ML3.5/7, 2D,Error ellipse: s-maj=6.5km s-min=6.0km az=90.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HAZ	**Te Kaha**	**1.13**	**161**	PN	Pn	03 47 54.9	+0.2
HAZ				SN	Sn	03 48 13.8	+0.1
HAZ				AML	AML	03 48 14.5	
HAZ				AML	AML	03 48 15.1	
HAZ				AML	AML	03 48 15.2	
MXZ	**Matakaoa Point**	**1.18**	**138**	⇓PN	Pn	03 47 55.1	0.0
RUGZ	**Raukumara Rang**	**1.31**	**168**	PN	Pn	03 47 56.2	-0.4
PKGZ	**Pakihiroa**	**1.34**	**154**	PN	Pn	03 47 56.9	0.0
WMGZ	**Waiomatatini S**	**1.43**	**143**	PN	Pn	03 47 57.3	-0.4
WMGZ				SN	Sn	03 48 18.9	-0.2
WMGZ				AML	AML	03 48 20.8	
PUZ	**Puketiti**	**1.57**	**152**	PN	Pn	03 47 58.9	-0.4
TWGZ	**Tauwhareparae**	**1.58**	**161**	⇓PN	Pn	03 47 59.8	+0.3
TWGZ				SN	Sn	03 48 22.5	+0.4
TWGZ				AML	AML	03 48 25.4	
MWZ	**Matawai**	**1.65**	**174**	PN	Pn	03 48 00.5	+0.2
MWZ				SN	Sn	03 48 22.9	-0.7
MWZ				AML	AML	03 48 24.3	
TKGZ	**Te Karaka**	**1.80**	**167**	AML	AML	03 48 27.7	
TKGZ				AML	AML	03 48 27.8	
MUGZ	**Murupara**	**1.84**	**194**	PN	Pn	03 48 02.7	+0.3
CNGZ	**Carnagh Statio**	**1.93**	**159**	PN	Pn	03 48 03.1	-0.3
RTZ	**Ruatahuna**	**1.95**	**188**	PN	Pn	03 48 03.3	-0.4
RIGZ	**Rimuhau**	**2.05**	**170**	AML	AML	03 48 33.5	
RIGZ				AML	AML	03 48 33.8	
MRHZ	**Matea Rd**	**2.26**	**198**	PN	Pn	03 48 07.4	0.0
KNZ	**Kokohu**	**2.35**	**173**	PN	Pn	03 48 07.3	-1.1
NMHZ	**Naumai**	**2.44**	**190**	PN	Pn	03 48 09.8	+0.1
MHGZ	**Mahia Peninsul**	**2.51**	**170**	PN	Pn	03 48 09.4	-1.0
BKZ	**Black Stump Fm**	**2.56**	**195**	PN	Pn	03 48 10.3	-0.9
ARHZ	**Aropaoanui**	**2.59**	**186**	PN	Pn	03 48 10.9	-0.5
MCHZ	**McNeill Hill**	**2.80**	**190**	PN	Pn	03 48 13.4	-0.7
KWHZ	**Kaweka Forest**	**2.83**	**194**	PN	Pn	03 48 13.6	-0.9
KWHZ				AML	AML	03 48 59.9	
FWVZ	**Far West T-bar**	**2.92**	**208**	PN	Pn	03 48 16.0	+0.1
WHVZ	**Whangaehu Hut**	**2.93**	**207**	PN	Pn	03 48 16.3	+0.3
WNVZ	**Wahianoa**	**2.97**	**207**	PN	Pn	03 48 16.1	-0.4
BHHZ	**Black Hill Sta**	**2.97**	**199**	PN	Pn	03 48 15.4	-1.0
CKHZ	**Cape Kidnapper**	**2.98**	**184**	PN	Pn	03 48 14.9	-1.5
KRHZ	**Kereru**	**3.05**	**194**	PN	Pn	03 48 15.5	-1.8
KAHZ	**Kahuranaki**	**3.12**	**186**	PN	Pn	03 48 16.5	-1.8
PNHZ	**Pukenui**	**3.34**	**195**	PN	Pn	03 48 18.9	-2.3
PXZ	**Pawanui**	**3.36**	**186**	PN	Pn	03 48 18.9	-2.4
TSZ	**Takapari Road**	**3.54**	**197**	PN	Pn	03 48 21.2	-2.4
PRHZ	**Porangahau**	**3.62**	**188**	PN	Pn	03 48 21.8	-2.9
DVHZ	**Dannevirke**	**3.72**	**194**	PN	Pn	03 48 23.2	-2.9
ANWZ	**Angora Road**	**3.83**	**190**	PN	Pn	03 48 24.6	-2.8
POWZ	**Post Office Ro**	**3.90**	**198**	PN	Pn	03 48 26.0	-2.4
PRWZ	**Pori Road**	**4.01**	**195**	PN	Pn	03 48 27.4	-2.4
MRZ	**Mangatainoka R**	**4.20**	**198**	PN	Pn	03 48 29.0	-3.3
CPWZ	**Castlepoint**	**4.31**	**191**	PN	Pn	03 48 30.9	-2.9
HOWZ	**Holdsworth Sta**	**4.44**	**198**	PN	Pn	03 48 31.4	-4.1
OGWZ	**Otaki Gorge**	**4.46**	**202**	PN	Pn	03 48 32.1	-3.6
KIW	**Kapiti Island**	**4.58**	**204**	PN	Pn	03 48 33.5	-3.8
MTW	**Mount Morrison**	**4.69**	**197**	PN	Pn	03 48 34.4	-4.4
CAW	**Cannon Point**	**4.75**	**201**	PN	Pn	03 48 35.3	-4.3
TCW	**Tory Channel**	**5.11**	**207**	PN	Pn	03 48 40.0	-4.3
KHZ	**Kahutara**	**6.43**	**206**	PN	Pn	03 48 56.8	-5.2
OXZ	**Oxford**	**7.77**	**210**	PN	Pn	03 49 13.8	-6.3
MQZ	**McQueen's Vall**	**7.87**	**206**	PN	Pn	03 49 14.4	-6.9

ISK ***09*** *03:50:24.6,37.°79N×29.°22E,h6km,MD2.7*
ISCJB ***09*** *03:50:25.3±0.7,37.°81N±0.°03×29.°22E±0.°07,h8km±7km, Error ellipse: s-maj=9.1km s-min=4.5km az=170.6*
DDA ***09*** *03:50:25.2,37.°85N×29.°25E,h3km,Ml2.4*
CSEM ***09*** *03:50:25.1±0.2,37.°81N×29.°22E,h5km,MD2.7,Error ellipse: s-maj=4.6km s-min=3.3km az=91.0*

ISC 09 03:50:25.5±0.9,37.°82N±0.°02×29.°21E±0.°04,h13km±7km, n24,σ1°37/38,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DENT	**Denizli**	**0.15**	**243**	*e*PG	**Pg**	**03 50 28.3**	**-0.9**
DENT				*e*SG	**Sg**	**03 50 30.9**	**-0.9**
DENT	**Denizli**	**0.15**	**243**	*e*Pg	**Pg**	**03 50 28.3**	**-0.9**
DENT				*e*Sg	**Sg**	**03 50 30.9**	**-0.9**
DNZL	**Cakiroluk**	**0.18**	**223**	*i* P	**Pg**	**03 50 30.0**	**+0.2**
DNZL				*i* S	**Sg**	**03 50 34.0**	**+1.2**
DNZL	**Cakiroluk**	**0.18**	**223**	P	**Pg**	**03 50 30.0**	**+0.2**
DNZL				S	**Sg**	**03 50 34.0**	**+1.2**
KHL	**Karahalli**	**0.56**	**27**	*e*PG	**Pg**	**03 50 36.3**	**-0.2**
KHL	**Karahalli**	**0.56**	**27**	*e*Pg	**Pg**	**03 50 36.3**	**-0.2**
GOLH	**Golhisar**	**0.65**	**154**	*i* P	**Pg**	**03 50 37.5**	**-0.7**
GOLH				*i* S	**Sb**	**03 50 48.2**	**+0.4**
GOLH	**Golhisar**	**0.65**	**154**	P	**Pg**	**03 50 37.5**	**-0.7**
GOLH				S	**Sb**	**03 50 48.2**	**+0.4**
KULA	**Kula-Manisa**	**0.81**	**328**	*e*PG	**Pg**	**03 50 41.2**	**-0.1**
KULA				*e*SG	**Sb**	**03 50 53.2**	**+0.7**
KULA	**Kula-Manisa**	**0.81**	**328**	*e*Pg	**Pg**	**03 50 41.2**	**-0.1**
KULA				*e*Sg	**Sb**	**03 50 53.2**	**+0.7**
MANT	**Manisa**	**0.84**	**323**	*i* P	Pg	03 50 34.2	-7.6
MANT				*i* S	**Sg**	**03 50 46.4**	**-6.4**
AYDB	**Zeytinkoy-Aydi**	**1.05**	**277**	*e*PG	**Pg**	**03 50 45.5**	**-0.2**
AYDB				*e*SG	**Sb**	**03 51 00.4**	**+1.1**
AYDB	**Zeytinkoy-Aydi**	**1.05**	**277**	*e*Pg	**Pg**	**03 50 45.5**	**-0.2**
AYDB				*e*Sg	**Sb**	**03 51 00.4**	**+1.1**
DALY	**Dalyan (Mu¨la**	**1.10**	**204**	*e*PG	**Pg**	**03 50 45.5**	**-1.1**
DALY				*e*SG	**Sb**	**03 51 00.8**	**+0.3**
DALY	**Dalyan (Mu¨la**	**1.10**	**204**	*e*Pg	**Pg**	**03 50 45.5**	**-1.1**
DALY				*e*Sg	**Sb**	**03 51 00.8**	**+0.3**
FETY	**Fethiye**	**1.19**	**185**	*e*PN	**Pg**	**03 50 47.1**	**-1.3**
FETY	**Fethiye**	**1.19**	**185**	*e*Pn	**Pg**	**03 50 47.1**	**-1.3**
SIMA	**Simav-Kutahya**	**1.27**	**352**	*e*PN	**Pb**	**03 50 50.0**	**+0.7**
DEMI	**Demirci**	**1.28**	**343**	*i* P	**Pn**	**03 50 49.5**	**+0.3**
DEMI				*i* S	**Sb**	**03 51 06.9**	**+1.0**
DEMI	**Demirci**	**1.28**	**343**	P	**Pn**	**03 50 49.5**	**+0.3**
DEMI				S	**Sb**	**03 51 06.9**	**+1.0**
SHUT	**Suhut-Afyon**	**1.29**	**55**	*e*PN	**Pn**	**03 50 49.8**	**+0.4**
SHUT	**Suhut-Afyon**	**1.29**	**55**	*e*Pn	**Pn**	**03 50 49.8**	**+0.4**
TVSB	**Tavsanli**	**1.64**	**7**	*e*PN	**Pn**	**03 50 55.0**	**+0.8**
TVSB	**Tavsanli**	**1.64**	**7**	*e*Pn	**Pn**	**03 50 55.0**	**+0.8**

ISCJB ***09*** *04:01:33.4±0.5,15.°11S±0.°05×167.°20E±0.°09,h57km, mb4.5/21,MS3.5/5,Error ellipse: s-maj=11.9km s-min=7.6km az=178.9*
IDC ***09*** *04:01:37.5±3.8,15.°18S×167.°18E,h79km±36km,mb4.0/13, mb1 4.2/14,mb1mx3.9/26,mbtmp4.4/14,MS3.5/6, Ms1 3.5/6,ms1mx3.2/30,Error ellipse: s-maj=21.8km s-min=20.3km az=166.0*
NEIC ***09*** *04:01:38.0±1.9,15.°18S×167.°21E,h86km±17km,mb4.5/10, Error ellipse: s-maj=13.1km s-min=9.5km az=193.0*

ISC 09 04:01:35.2±0.6,15.°08S±0.°07×167.°2E±0.°1,h57km,n42, σ0°96/38,mb4.4/21,MS3.4/5,1D,Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**6.99**	**186**	P	**Pn**	**04 03 16.3**	**+1.2**
	33nm,0.3s,baz=7.3,slow=12,SNR=275						
DZM				S	**Sn**	**04 04 34.3**	**+1.1**
	14nm,0.3s,baz=288,slow=21,SNR=4.2						
DZM	**Mont Dzumac**	**6.99**	**186**	*e*Pn	**Pn**	**04 03 14.7**	**-0.4**
	57nm,0.3s						
DZM				*e*LR	LR	04 04 39.5	
	528nm,27.3s						
HNR	**Honiara**	**9.03**	**308**	LR	LR	04 06 55.8	
	comp=Z,243nm,21.8s,baz=158,slow=35						
MSVF	**Nonsavu**	**10.76**	**106**	*e*Pn	Pn	04 04 16.5	+10
	101nm,1.2s						
RAO	**Raoul Island**	**19.70**	**138**	P	**P**	**04 06 00.1**	**+0.2**
	baz=53,slow=20,SNR=2.5						
PMG	**Port Moresby**	**20.36**	**284**	P	**P**	**04 06 08.6**	**+1.3**
	6.3nm,0.4s,baz=67,slow=16,SNR=4.9						
PMG				LR	LR	04 13 24.3	
	comp=Z,102nm,18.2s,baz=104,slow=35						
CTA	**Charters Tower**	**20.56**	**253**	P	**P**	**04 06 10.1**	**+0.7**
	5.5nm,0.6s,baz=84,slow=11,SNR=7.5						
CTAO	**Charters Tower**	**20.56**	**253**	*e*P	Pn	04 06 11.4	-0.7
	65nm,1.0s						
COEN	**Coen**	**23.27**	**270**	*e*P	**P**	**04 06 37.9**	**-0.2**
	25nm,1.5s						
STKA	**Stephens Creek**	**28.70**	**230**	P	**P**	**04 07 26.6**	**-0.5**
	2.2nm,0.4s,baz=58,slow=9.6,SNR=14						
WRAB	**Tennant Creek**	**31.65**	**256**	*e*P	**P**	**04 07 52.2**	**-1.1**
	2.4nm,0.5s						
WRA	**Warramunga Arr**	**31.66**	**256**	P	**P**	**04 07 52.1**	**-1.3**
	2.3nm,0.6s,baz=84,slow=8.9,SNR=20						
WRA				S	**S**	**04 12 56.9**	**-2.1**
	0.5nm,0.7s,baz=102,slow=24,SNR=3.5						
WRA				LR	LR	04 21 20.4	
	comp=Z,74nm,19.0s,baz=260,slow=37						
ASAR	**Alice Springs**	**32.47**	**250**	P	**P**	**04 07 59.5**	**-1.0**
	2.8nm,0.5s,baz=79,slow=8.9,SNR=42						
ASAR				S	S	04 12 59.2	-12
	0.9nm,0.9s,baz=85,slow=23,SNR=3.3						
ASAR				LR	LR	04 19 52.2	
	comp=Z,98nm,19.9s,baz=122,slow=34						
BBOO	**Buckleboo**	**33.30**	**232**	*e*P	**P**	**04 08 07.4**	**-0.2**
	9.0nm,0.5s						
FORT	**Forrest**	**39.05**	**240**	*e*P	**P**	**04 08 56.3**	**-0.4**
PPT2	**Papeete2**	**41.51**	**100**	*e*LR	LR	04 20 39.3	
	151nm,27.5s						
PPT	**Papeete**	**41.51**	**100**	LR	LR	04 25 06.2	
	comp=Z,45nm,18.1s,baz=229,slow=34						
SOEI	**Soe**	**42.19**	**272**	*e*P	**P**	**04 09 23.8**	**+0.8**
	9.7nm,0.4s						
KAPI	**Kappang**	**47.67**	**277**	*e*P	**P**	**04 10 07.2**	**+0.8**
	5.3nm,0.6s						
MJAR	**Matsushiro Arr**	**58.18**	**333**	P	**P**	**04 11 22.3**	**-1.1**
	2.5nm,0.6s,baz=170,slow=8.4,SNR=6.9						
YHNB	**Yeheng**	**59.65**	**311**	*e*P	**P**	**04 11 34.5**	**+0.6**
	20nm,1.0s						
KSRS	**Korea Array**	**63.98**	**326**	P	**P**	**04 12 03.6**	**+0.9**
	0.8nm,0.5s,baz=125,slow=7.9,SNR=6.0						
KSAR	**Wonju Array Be**	**64.00**	**326**	P	**P**	**04 12 03.6**	**+0.8**
USRK	**Ussuriysk Ar.**	**67.16**	**333**	P	**P**	**04 12 24.4**	**+1.3**
	2.3nm,0.8s,baz=128,slow=5.8,SNR=8.0						
PETK	**Petropavlovsk-**	**68.40**	**354**	P	**P**	**04 12 32.0**	**+1.3**
	6.0nm,0.9s,baz=155,slow=7.5,SNR=3.4						
PETK	**Petropavlovsk-**	**68.40**	**354**	P	**P**	**04 12 32.0**	**+1.3**
CMAR	**Chiang Mai Arr**	**75.02**	**294**	P	**P**	**04 13 12.3**	**+1.1**
	2.2nm,0.8s,baz=127,slow=4.8,SNR=13						
CHTO	**Chiang Mai**	**75.15**	**294**	*e*P	**P**	**04 13 13.1**	**+1.1**
	3.0nm,0.4s						
MAW	**Mawson**	**81.53**	**202**	LR	LR	04 46 53.7	
	comp=Z,37nm,18.9s,baz=60,slow=33						
ULN	**Ulaanbaatar**	**82.37**	**324**	*e*P	**P**	**04 13 51.1**	**-0.1**
	2.8nm,0.6s						
SONM	**Songino Array**	**82.73**	**324**	P	**P**	**04 13 53.0**	**-0.1**
	1.9nm,1.0s,baz=150,slow=6.3,SNR=9.6						
MCK	**McKinley**	**85.52**	**18**	*e*P	**P**	**04 14 05.9**	**-0.8**
	3.6nm,0.9s						
ILAR	**Eielson Array**	**86.89**	**18**	P	**P**	**04 14 11.8**	**-1.6**
	1.5nm,0.8s,baz=234,slow=5.7,SNR=18						
SYO	**Syowa Base**	**88.34**	**197**	⇓*e*X	P	04 14 14.2	-6.2
PMSA	**Palmer Station**	**91.46**	**160**	*e*P	**P**	**04 14 34.5**	**-0.5**
	1.9nm,0.8s						
ZALV	**Zalesovo Beam**	**97.63**	**324**	P	**P**	**04 15 02.8**	**-0.6**
	0.8nm,0.3s,baz=134,slow=6.4,SNR=3.6						
ARCES	**ARCESS Array B**	**120.57**	**345**	PKP	**PKPdf**	**04 20 18.8**	**-1.1**
	1.0nm,0.6s,baz=104,slow=1.5,SNR=5.2						
AQU	**L'Aquila**	**144.68**	**325**	*e*PKPdf	**PKPdf**	**04 21 05.5**	**-0.3**
CUC	**Castrocucco**	**144.78**	**320**	*e*PKPdf	**PKPab**	**04 21 04.2**	**-0.9**
BNI	**Bardonecchia**	**145.88**	**335**	*e*PKPbc	**PKPab**	**04 21 09.2**	**+0.1**
KEST	**Kesra**	**151.43**	**320**	PKPbc	**PKPbc**	**04 21 23.4**	**+0.2**
	4.1nm,0.8s,baz=218,slow=0.8,SNR=3.9						
TORD	**Torodi Ar. Bea**	**165.79**	**264**	PKP	**PKPdf**	**04 21 33.9**	**-0.8**
	0.3nm,0.5s,baz=42,slow=1.3,SNR=4.9						
TORD				PKPab	**PKPab**	**04 22 34.0

DGRG	**David-gareji**	**1.76**	**81**	P	**Pg**	**04 29 19.8**	**-0.8**
DGRG				S	**Sg**	**04 29 44.4**	**+1.0**
DGRG	**David-gareji**	**1.76**	**81**	P	**Pg**	**04 29 19.8**	**-0.8**
DGRG				S	**Sg**	**04 29 44.4**	**+1.0**

*ISCJB **09** 04:30:31.6±0.6, 13°.50N±0°.06×90°.63W±0°.05, h82km±4km, mb4.2/26, Error ellipse: s-maj=10.8km s-min=5.1km az=36.4*
*IDC **09** 04:30:31.7±1.3, 13°.64N×90°.17W, h68km±6km, mb3.6/10, mb1 3.9/11, mb1mx3.7/35, mbtmp4.0/11, MS3.4/11, Ms1 3.4/11, ms1mx3.1/28, Error ellipse: s-maj=31.7km s-min=22.9km az=37.0*
*NEIC **09** 04:30:33.0±1.0, 13°.55N×90°.61W, h71km±9km, mb4.2/21, MD4.3(SNET), Error ellipse: s-maj=13.8km s-min=6.5km az=46.0*
NEIC Felt [II] at Antigua Guatemala. Also felt at Escuintla, Guatemala, San Jose Pinula, San Lucas Sacatepequez and San Marcos La Laguna. Felt at Tapachula, Mexico and [II] at Ahuachapan, El Salvador.
*CASC **09** 04:30:33.5±1.7, 13°.57N×90°.54W, h18km±7km, ML4.1, mb4.2(NEIC)*

ISC 09 04:30:32.4±0.8, 13°.56N±0°.07×90°.59W±0°.05, h71km±6km, n174, σ1§42/180, mb4.2/26, 2C-6D, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
IXG	**Ixpaco**	**0.62**	**12**	↑*i*	P		**Pn**	**04 30 45.2**	**-1.5**
CUS1	**Cusmapa**	**0.72**	**61**	↓*i*	P		**Pn**	**04 30 46.7**	**-0.9**
SONS	**Sonsonate**	**0.87**	**78**	*eP*			**Pn**	**04 30 48.8**	**-0.5**
SONS				*eS*			**Sn**	**04 31 00.4**	**-1.5**
SONS				AML			AML	04 31 04.0	
	comp=Z,5μm,0.1s								
MONT	**Ecomontaæa**	**0.96**	**72**	↑*i*	P		**Pn**	**04 30 50.8**	**+0.1**
RTR	**El Retiro**	**0.98**	**70**	↓*i*	P		**Pn**	**04 30 51.1**	**+0.3**
SBLS	**San Blas**	**0.98**	**74**	↓*i*	P		**Pn**	**04 30 50.9**	**0.0**
SNJE	**San Jose**	**1.01**	**72**	↓*i*	P		**Pn**	**04 30 51.3**	**+0.1**
RBDL	**Robledal**	**1.04**	**58**	↓*i*	P		**Pn**	**04 30 51.9**	**+0.3**
BOQS	**Boqueron**	**1.29**	**82**	↓*i*	P		**Pn**	**04 30 55.6**	**+0.8**
BOQS				*eS*			**Sn**	**04 31 11.6**	**0.0**
SNET	**Serv Nac Est T**	**1.33**	**84**	*i*	P		**Pn**	**04 30 55.9**	**+0.7**
SNET				*eS*			**Sn**	**04 31 13.2**	**+0.9**
SNET				AML			AML	04 31 21.0	
	comp=Z,4μm,0.2s								
OPAM	**San Salvador**	**1.36**	**83**	*i*	P		**Pn**	**04 30 56.9**	**+1.2**
OPAM				*eS*			**Sn**	**04 31 15.0**	**+1.9**
OPAM				AML			AML	04 31 15.8	
	comp=Z,6μm,0.2s								
UDBS	**Soyapango**	**1.40**	**83**	*eP*			**Pn**	**04 30 57.1**	**+1.0**
UDBS				*eS*			**Sn**	**04 31 16.2**	**+2.1**
UDBS				AML			AML	04 31 20.0	
	comp=Z,6μm,0.3s								
LFU	**La Fuente**	**1.45**	**82**	*eP*			**Pn**	**04 30 57.6**	**+0.9**
LFRS	**El Faro**	**1.49**	**87**	*i*	P		**Pn**	**04 30 58.2**	**+0.8**
LBRS	**Las Brisas**	**1.52**	**83**	*i*	P		**Pn**	**04 30 58.5**	**+0.9**
SNVI	**San Vicente**	**1.71**	**88**	*i*	P		**Pn**	**04 31 01.6**	**+1.3**
SNVI				*eS*			**Sn**	**04 31 24.9**	**+3.6**
MRL	**Marmol**	**1.73**	**30**	*i*	P		**Pn**	**04 31 01.3**	**+0.7**
PACA	**Pacayal**	**2.21**	**92**	*eP*			**Pn**	**04 31 09.8**	**+2.8**
CCIG	**Comitan**	**3.09**	**331**	Pn			**Pn**	**04 31 19.9**	**+0.9**
TGUH	**Tegucigalpa,Un**	**3.26**	**81**	Pn			**Pn**	**04 31 22.0**	**+0.8**
TGUH	**Tegucigalpa,Un**	**3.26**	**81**	*eP*			**Pn**	**04 31 21.9**	**+0.8**
CNGN	**Cerro Negro**	**3.94**	**105**	*eP*			**Pn**	**04 31 32.1**	**+1.6**
TGIG		**4.02**	**323**	P			**Pn**	**04 31 32.3**	**+0.6**
TGIG				S			**Sn**	**04 32 25.1**	**+7.5**
SCIG	**Sabancuy**	**5.41**	**354**	Pn			**Pn**	**04 31 50.2**	**-0.2**
CMIG	**Matias Romero**	**5.43**	**311**	P			**Pn**	**04 31 51.9**	**+1.1**
	comp=Z,12nm,0.3s,baz=102,slow=8.8,SNR=117								
CMIG				S			**Sn**	**04 32 51.3**	**-0.6**
	comp=Z,11nm,0.3s,baz=92,slow=18,SNR=3.9								
CMIG				LR			LR	04 33 36.6	
	comp=Z,66nm,20.0s,baz=102,slow=32								
JTS	**JuntasAbangare**	**6.41**	**120**	P			**Pn**	**04 32 04.2**	**+0.1**
	comp=Z,2.3nm,0.3s,baz=338,slow=16,SNR=12								
TEIG	**Tepich**	**6.99**	**18**	P			**Pn**	**04 32 12.9**	**+0.8**
	comp=Z,1.6nm,0.3s,baz=231,slow=24,SNR=27								
TEIG	**Tepich**	**6.99**	**18**	*eP*			**Pn**	**04 32 13.3**	**+1.2**
	comp=Z,14nm,0.4s								
TEIG				*eS*			**Sn**	**04 33 29.0**	**-1.1**
MTDJ	**Mount Denham**	**13.39**	**68**	*eP*			**Pn**	**04 33 41.6**	**+2.1**
	comp=Z,15nm,0.6s								
MTDJ				*eP*			**P**	**04 33 48.0**	**+1.4**
733A	**Divot King Ran**	**17.11**	**333**	P			**P**	**04 34 29.7**	**+1.9**
	baz=150								
446A	**Poplarville**	**17.18**	**4**	P			**P**	**04 34 31.2**	**+2.8**
	baz=184								
447A	**Lucedale**	**17.25**	**6**	P			**P**	**04 34 32.7**	**+3.6**
	baz=186								
537A	**Green Hill Far**	**17.27**	**343**	P			**P**	**04 34 30.4**	**+1.0**
	baz=161								
441A	**DeRidder**	**17.27**	**352**	P			**P**	**04 34 29.7**	**+0.3**
	baz=172								
535A	**Dale**	**17.61**	**340**	P			**P**	**04 34 34.3**	**+1.2**
	baz=157								
438A	**Sam Houston St**	**17.69**	**346**	P			**P**	**04 34 36.6**	**+2.6**
	baz=164								
342A	**Flagon Creek P**	**17.80**	**355**	P			**Pn**	**04 34 39.7**	**+4.3**
	baz=175								
344A	**Westbrook Farm**	**17.81**	**360**	P			**Pn**	**04 34 39.6**	**+4.1**
	baz=180								
341A	**Kurthwood**	**17.85**	**353**	P			**Pn**	**04 34 37.3**	**+1.4**
	baz=172								
347A	**Saraland**	**17.86**	**6**	P			**Pn**	**04 34 38.9**	**+2.8**
	baz=186								
OTAV	**Otavalo**	**17.89**	**137**	*eP*			**Pn**	**04 34 37.9**	**+0.8**
437A	**Phantom Ranch,**	**17.93**	**344**	P			**Pn**	**04 34 39.0**	**+2.1**
	baz=162								
534A	**Blanco**	**17.93**	**337**	P			**Pn**	**04 34 38.1**	**+1.0**
	baz=154								
340A	**Bronson**	**18.03**	**351**	P			**Pn**	**04 34 41.0**	**+2.8**
	baz=170								
436A	**Wall Ranch, Ga**	**18.06**	**343**	P			**Pn**	**04 34 41.1**	**+2.6**
	baz=160								
339A	**Huntington**	**18.06**	**349**	P			**Pn**	**04 34 40.0**	**+1.4**
	baz=168								
ROSC	**El Rosal**	**18.24**	**117**	LR			LR	04 42 56.8	
	comp=Z,48nm,18.1s,baz=296,slow=42								
242A	**Grayson**	**18.47**	**356**	P			**Pn**	**04 34 45.8**	**+2.3**
	baz=175								
247A	**Quitman**	**18.50**	**5**	P			**Pn**	**04 34 45.6**	**+1.8**
	baz=186								
434A	**Burnet**	**18.57**	**339**	P			**Pn**	**04 34 44.5**	**-0.2**
	baz=156								
336A	**Riesel**	**18.65**	**343**	P			**Pn**	**04 34 47.5**	**+1.9**
	baz=161								
335A	**Moody**	**18.72**	**341**	P			**Pn**	**04 34 46.2**	**-0.3**
	baz=159								
433A	**Art**	**18.82**	**337**	P			**Pn**	**04 34 47.6**	**-0.1**
	baz=154								
JCT	**Junction City**	**18.86**	**335**	*eP*			**P**	**04 34 46.5**	**-0.5**
	comp=Z,3.7nm,0.6s								
334A	**Lometa**	**19.03**	**340**	P			**P**	**04 34 49.6**	**+0.8**
	baz=157								
147A	**Livingston**	**19.14**	**6**	P			**Pn**	**04 34 52.6**	**+1.1**
	baz=187								
140A	**Cam and Jess,**	**19.19**	**352**	P			**Pn**	**04 34 52.2**	**+0.2**
	baz=171								
333A	**Richland Sprin**	**19.29**	**338**	P			**P**	**04 34 52.6**	**+0.9**
	baz=155								
WHTX	**Lake Whitney,**	**19.39**	**342**	P			**Pn**	**04 34 53.8**	**-0.7**
	baz=160								
WHTX	**Lake Whitney,**	**19.39**	**342**	*eP*			**P**	**04 34 53.2**	**+0.5**
	comp=Z,16nm,0.6s								
136A	**Ennis**	**19.59**	**345**	P			**P**	**04 34 55.5**	**+0.7**
	baz=163								
Z46A	**Louisville**	**19.60**	**4**	P			**Pn**	**04 34 57.8**	**+0.9**
	baz=185								
234A	**Clairette**	**19.62**	**341**	P			**P**	**04 34 56.0**	**+0.8**
	baz=158								
LRAL	**Lakeview Retre**	**19.66**	**9**	*eP*			**Pn**	**04 34 57.4**	**-0.2**
	comp=Z,6.9nm,0.6s								
Z47A	**Carrollton**	**19.68**	**6**	P			**Pn**	**04 34 58.1**	**+0.3**
	baz=187								
Z40A	**Long Farm, Mag**	**19.77**	**353**	P			**Pn**	**04 34 59.0**	**0.0**
	baz=172								
TXAR	**Lajitas Array**	**19.83**	**324**	P			**Pn**	**04 35 00.0**	**+0.2**
	comp=Z,3.1nm,0.7s,baz=152,slow=12,SNR=45								
TXAR				PcP			**PcP**	**04 39 13.5**	**+0.5**
	comp=Z,0.7nm,0.8s,baz=162,slow=2.3,SNR=5.6								
Z39A	**Irene McRaven,**	**19.86**	**351**	P			**Pn**	**04 34 59.4**	**-0.6**
	baz=170								
233A	**Rising Star**	**19.89**	**339**	P			**Pn**	**04 34 59.5**	**-0.9**
	baz=156								
Z48A	**Northport**	**19.92**	**7**	P			**Pn**	**04 35 00.4**	**-0.2**
	baz=189								
Y45A	**Yeager Farm, C**	**20.24**	**3**	P			Pn	04 35 04.7	+0.3
	baz=183								
Y46A	**Houston**	**20.29**	**4**	P			Pn	04 35 04.8	-0.2
	baz=185								
Z36A	**Blue Ridge**	**20.33**	**346**	P			**P**	**04 35 03.5**	**+0.7**
	baz=164								
Y47A	**UCPARC, Winfie**	**20.40**	**7**	P			Pn	04 35 05.6	-0.7
	baz=188								
Y40A	**Okolona**	**20.51**	**354**	P			**P**	**04 35 06.3**	**+1.5**
	baz=173								
Y39A	**Lockesburg**	**20.53**	**352**	P			**P**	**04 35 05.7**	**+0.6**
	baz=170								
Y38A	**Idabel**	**20.62**	**350**	P			**P**	**04 35 06.2**	**+0.2**
	baz=169								
ABTX	**Abilene, Hawle**	**20.70**	**338**	P			**P**	**04 35 07.5**	**+0.7**
	baz=154								
ABTX	**Abilene, Hawle**	**20.70**	**338**	*eP*			**P**	**04 35 07.6**	**+0.7**
	comp=Z,5.6nm,0.5s								
GOGA	**Godfrey**	**20.80**	**17**	*eP*			**P**	**04 35 09.0**	**+1.0**
	comp=Z,7.6nm,0.6s								
X45A	**UM Field Stati**	**20.80**	**3**	P			Pn	04 35 10.3	-0.7
	baz=183								
Z33A	**Whitaker Ranch**	**21.00**	**341**	P			**P**	**04 35 11.3**	**+1.1**
	baz=157								
MIAR	**Mount Ida**	**21.07**	**353**	*eP*			**P**	**04 35 10.4**	**-0.4**
	comp=Z,6.7nm,0.6s								
Y35A	**Marietta**	**21.08**	**345**	P			**P**	**04 35 12.0**	**+1.0**
	baz=162								
X38A	**Whitesboro**	**21.36**	**350**	P			**P**	**04 35 15.2**	**+1.2**
	baz=169								
LPIG	**La Paz**	**21.38**	**302**	LR			LR	04 44 37.6	
	comp=Z,51nm,21.3s,baz=48,slow=39								
X37A	**Clayton**	**21.38**	**349**	P			**P**	**04 35 15.4**	**+1.3**
	baz=167								
X36A	**Centrahoma**	**21.56**	**347**	P			**P**	**04 35 16.6**	**+0.5**
	baz=165								
W41B	**Gary Mavity, V**	**21.57**	**356**	P			**P**	**04 35 17.0**	**+0.8**
	baz=176								
W38A	**Poteau**	**21.71**	**351**	P			**P**	**04 35 18.0**	**+0.3**
	baz=170								
W39A	**Magazine**	**21.73**	**353**	P			**P**	**04 35 18.8**	**+0.9**
	baz=172								
W37B	**Quinton**	**21.92**	**349**	P			**P**	**04 35 20.1**	**+0.1**
	baz=167								
W36A	**Wetumka**	**22.08**	**348**	P			**P**	**04 35 21.2**	**-0.4**
	baz=165								
V42A	**Cord**	**22.16**	**358**	P			**P**	**04 35 21.8**	**-0.7**
	baz=178								
V41A	**Mountainview**	**22.17**	**357**	P			**P**	**04 35 22.0**	**-0.6**
	baz=176								
W35A	**Tecumseh**	**22.23**	**346**	P			**P**	**04 35 22.1**	**-1.2**
	baz=164								
V40A	**Witts Springs**	**22.24**	**355**	P			**P**	**04 35 22.9**	**-0.5**
	baz=174								
WMOK	**Wichita Mounta**	**22.35**	**342**	*eP*			**P**	**04 35 24.6**	**0.0**
	comp=Z,3.0nm,0.7s								
V39A	**Pettigrew**	**22.35**	**353**	P			**P**	**04 35 24.2**	**-0.4**
	baz=172								
V38A	**Canehill**	**22.47**	**352**	P			**P**	**04 35 24.9**	**-1.0**
	baz=170								
MNTX	**Cornudas Mount**	**22.59**	**325**	*eP*			**P**	**04 35 27.6**	**+0.4**
	comp=Z,6.9nm,0.7s								
V37A	**Hulbert**	**22.60**	**350**	P			**P**	**04 35 26.5**	**-0.7**
	baz=168								
V36A	**Jenks**	**22.65**	**349**	P			**P**	**04 35 26.1**	**-1.6**
	baz=166								
TUL1	**Leonard**	**22.74**	**349**	*eP*			**P**	**04 35 27.3**	**-1.4**
	comp=Z,9.4nm,0.6s								
U40A	**Yelville**	**22.79**	**355**	P			**P**	**04 35 28.8**	**-0.4**
	baz=174								
TKL	**Tuckaleechee C**	**22.84**	**14**	P			**P**	**04 35 28.7**	**-1.0**
	comp=Z,4.0nm,0.4s,baz=185,slow=11,SNR=17								
U39A	**Green Forest**	**22.87**	**354**	P			**P**	**04 35 28.9**	**-1.2**
	baz=173								
U37A	**Salina**	**23.11**	**351**	P			**P**	**04 35 31.4**	**-1.0**
	baz=169								
U35A	**Pawnee**	**23.37**	**347**	P			**P**	**04 35 33.8**	**-1.1**
	baz=165								
T41A	**Mountain View**	**23.41**	**358**	P			**P**	**04 35 36.7**	**+1.5**
	baz=177								
AMTX	**Amarillo**	**23.48**	**337**	*eP*			**P**	**04 35 36.2**	**+0.2**
	comp=Z,4.7nm,0.5s								
T39A	**Clever**	**23.50**	**354**	P			**P**	**04 35 36.1**	**+0.1**
	baz=173								
T40A	**Mansfield**	**23.55**	**356**	P			**P**	**04 35 36.7**	**+0.2**
	baz=175								
T38A	**Diamond**	**23.61**	**353**	P			**P**	**04 35 36.6**	**-0.4**
	baz=171								
TZTN	**Tazewell**	**23.74**	**14**	*eP*			**P**	**04 35 38.6**	**+0.3**
	comp=Z,5.4nm,0.6s								
T37A	**Cheneyville 18**	**23.78**	**351**	P			**P**	**04 35 38.3**	**-0.2**
	baz=170								
T35A	**Sooner Cattle**	**23.85**	**348**	P			**P**	**04 35 38.2**	**-1.1**
	baz=166								
T36A	**Boggs Farm, Ca**	**23.87**	**350**	P			**P**	**04 35 38.6**	**-0.8**
	baz=167								
S40A	**Leanon**	**24.00**	**356**	P			**P**	**04 35 40.6**	**+0.1**
	baz=176								
S44A	**Carbondale**	**24.06**	**3**	P			**P**	**04 35 41.0**	**-0.1**
	baz=183								
T34A	**McClaskey Farm**	**24.10**	**347**	P			**P**	**04 35 40.7**	**-0.7**
	baz=164								
S38A	**Stockton**	**24.15**	**354**	P			**P**	**04 35 41.6**	**-0.3**
	baz=172								
S39A	**Bolivar**	**24.15**	**355**	P			**P**	**04 35 41.7**	**-0.2**
	baz=174								
S36A	**Lake Cedric, C**	**24.47**	**350**	P			**P**	**04 35 44.5**	**-0.4**
	baz=168								
S35A	**Otter Creek Ra**	**24.56**	**349**	P			**P**	**04 35 45.1**	**-0.5**
	baz=167								
121A	**Cookes Peak, D**	**24.57**	**323**	*eP*			**P**	**04 35 48.6**	**+2.6**
	comp=Z,12nm,0.8s								
R38A	**Fenwick Farm,**	**24.70**	**354**	P			**P**	**04 35 47.3**	**+0.4**
	baz=172								
S34A	**Willow Spring**	**24.73**	**348**	P			**P**	**04 35 47.0**	**-0.2**
	baz=165								
WCI	**Wyandotte Cave**	**24.86**	**8**	*eP*			**P**	**04 35 48.5**	**+0.1**
	comp=Z,51nm,0.6s								
R34A	**Isabella, Hill**	**25.34**	**348**	P			**P**	**04 35 53.4**	**+0.7**
	baz=165								
ANMO	**Albuquerque**	**25.67**	**329**	P			**P**	**04 35 57.5**	**+1.5**
	comp=Z,1.4nm,0.7s,baz=170,slow=9.2,SNR=6.7								
TUC	**Tucson**	**26.26**	**319**	*eP*			**P**	**04 36 03.5**	**+2.3**
	comp=Z,5.4nm,0.8s								
NNA	**Nana**	**28.81**	**151**	*eP*			**P**	**04 36 23.6**	**-0.5**
	comp=Z,112nm,1.3s								
PFO	**Pinyon Flats O**	**30.84**	**315**	LR			LR	04 49 16.5	
	comp=Z,82nm,21.2s,baz=145,slow=36								
G39A	**Holcombe**	**31.62**	**359**	P			**P**	**04 36 47.3**	**-1.3**
	baz=179								
F38A	**Pierce - Schro**	**32.31**	**358**	P			**P**	**04 36 53.6**	**-1.0**
	baz=178								
E38A	**The Farm, Brul**	**32.95**	**359**	P			**P**	**04 36 59.0**	**-1.2**
	baz=178								
E35A	**Pequot Lakes**	**33.05**	**355**	P			**P**	**04 37 00.8**	**-0.3**
	baz=173								
PDAR	**Pinedale Array**	**33.40**	**334**	P			**P**	**04 37 04.8**	**+0.4**
	comp=Z,0.4nm,0.7s,baz=133,slow=6.3,SNR=4.6								
PDAR				PcP			**PcP**	**04 39 44.6**	**0.0**
	comp=Z,0.5nm,0.5s,baz=136,slow=5.7,SNR=6.0								
D37A	**Cotton**	**33.53**	**358**	P			**P**	**04 37 04.2**	**-1.1**
	baz=177								
D35A	**Remer**	**33.54**	**356**	P			**P**	**04 37 04.1**	**-1.3**
	baz=174								
D36A	**Goodland**	**33.58**	**357**	P			**P**	**04 37 04.5**	**-1.1**
	baz=176								
D33A	**AnnSam, Waubun**	**33.76**	**354**	P			**P**	**04 37 06.4**	**-0.9**
	baz=171								
C38A	**Sawbill Land.**	**34.06**	**359**	P			**P**	**04 37 07.8**	**-2.0**
	baz=179								
C36A	**Pine Crest Far**	**34.14**	**357**	P			**P**	**04 37 09.9**	**-0.7**
	baz=176								
C35A	**Jirik Farms, M**	**34.15**	**356**	P			**P**	**04 37 09.7**	**-1.0**
	baz=174								
REDW	**Red Top Meadow**	**34.43**	**333**	*eP*			**P**	**04 37 14.7**	**+1.3**
	comp=Z,5.4nm,0.6s								
SNOW	**Snow King Moun**	**34.47**	**334**	*eP*			**P**	**04 37 15.2**	**+1.4**
	comp=Z,8.6nm,0.6s								
LOHW	**Long Hollow**	**34.53**	**334**	*eP*			**P**	**04 37 15.5**	**+1.3**
	comp=Z,2.7nm,0.7s								
TPAW	**Teton Pass**	**34.58**	**334**	*eP*			**P**	**04 37 15.8**	**+1.1**
	comp=Z,1.8nm,0.6s								
MOOW	**Moose Ponds**	**34.70**	**334**	*eP*			**P**	**04 37 16.1**	**+0.4**
	comp=Z,1.7nm,0.6s								
B34A	**Aery, Baudette**	**34.98**	**355**	P			**P**	**04 37 16.7**	**-1.1**
	baz=173								
MDND	**Maddock**	**35.00**	**349**	P			**P**	**04 37 17.7**	**-0.3**
	baz=165								
B32A	**Ashes, Strandq**	**35.08**	**353**	P			**P**	**04 37 17.9**	**-0.7**
	baz=170								
SAML	**Samuel**	**35.22**	**128**	*eP*			**P**	**04 37 20.3**	**+0.1**
	comp=Z,8.7nm,1.1s								
B31A	**Greenbush Farm**	**35.25**	**352**	P			**P**	**04 37 19.3**	**-0.8**
	baz=168								
A33A	**Warroad**	**35.49**	**355**	P			**P**	**04 37 21.3**	**-0.9**
	baz=172								
A32A	**Rocking H Ranc**	**35.59**	**353**	P			**P**	**04 37 22.1**	**-0.9**
	baz=170								
BOZ	**Bozeman (W)**	**36.56**	**335**	*eP*			**P**	**04 37 31.3**	**-0.3**
	comp=Z,1.2nm,0.6s								
ULM	**Lac du Bonnet**	**36.84**	**354**	P			**P**	**04 37 32.1**	**-1.5**
	comp=Z,3.4nm,0.6s,baz=169,slow=9.8,SNR=14								
ULM				LR			LR	04 53 37.9	
	comp=Z,36nm,18.9s,baz=310,slow=38								
M02C	**Callahan**	**39.45**	**321**	P			**P**	**04 37 56.7**	**+0.8**
	baz=125								
J04D	**Umpqua Nationa**	**40.10**	**324**	P			**P**	**04 38 03.0**	**+1.7**
	baz=128								
SCHQ	**Schefferville**	**45.17**	**19**	P			**P**	**04 38 40.0**	**-2.0**
	comp=Z,3.9nm,0.5s,baz=226,slow=11,SNR=4.7								
SCHQ				pP			**pP**	**04 38 57.4**	**-2.3**
	comp=Z,3.8nm,0.5s,baz=213,slow=3.9,SNR=2.8								
SCHQ				LR			LR	04 58 00.1	
	comp=Z,123nm,18.1s,baz=314,slow=37								
YKA	**Yellowknife Ar**	**51.77**	**346**	P			**P**	**04 39 32.3**	**-0.2**
	comp=Z,0.5nm,0.3s,baz=148,slow=8.1,SNR=3.5								
YKA				pP			**pP**	**04 39 49.5**	**-1.0**
	comp=Z,1.1nm,0.9s,baz=139,slow=8.7,SNR=3.5								
YKA				PcP			**PcP**	**04 40 43.2**	**-1.6**
	comp=Z,0.6nm,0.6s,baz=151,slow=3.7,SNR=5.2								
ILAR	**Eielson Array**	**63.78**	**337**	P			**P**	**04 40 55.6**	**-1.1**
	comp=Z,0.7nm,0.8s,baz=169,slow=5.0,SNR=6.1								
ILAR				pP			**pP**	**04 41 15.3**	**0.0**
	comp=Z,0.5nm,0.8s,baz=139,slow=5.0,SNR=3.6								
ESDC	**Sonseca Array**	**78.91**	**52**	P			**P**	**04 42 25.1**	**-3.4**
	comp=Z,0.4nm,0.5s,baz=291,slow=5.4,SNR=4.6								
SPITS	**Spitsbergen Ar**	**80.24**	**12**	LR			LR	05 19 38.4	
	comp=Z,39nm,19.7s,baz=110,slow=37								
NOA	**NORSAR Array B**	**83.87**	**29**	LR			LR	05 19 39.5	
	comp=Z,14nm,19.8s,baz=95,slow=35								
ARCES	**ARCESS Array B**	**86.12**	**18**	LR			LR	05 22 46.1	
	comp=Z,14nm,20.1s,baz=334,slow=36								
TORD	**Torodi Ar. Bea**	**89.15**	**77**	P			**P**	**04 43 17.9**	**-3.0**
	comp=Z,0.9nm,0.9s,baz=251,slow=7.9,SNR=4.6								
TORD				LR			LR	05 22 00.8	
	comp=Z,35nm,19.1s,baz=165,slow=35								
NRIK	**Noril'sk**	**97.30**	**1**	LR			LR	05 29 29.3	
	comp=Z,35nm,21.4s,baz=94,slow=36								
KURBB	**Kurchatov Arra**	**115.38**	**8**	PKP			**PKPdf**	**04 49 04.8**	**-1.3**
	comp=Z,0.5nm,0.6s,baz=0.2,slow=1.8,SNR=5.1								
WRA	**Warramunga Arr**	**136.61**	**255**	PKP			**PKPdf**	**04 49 48.2**	**+0.8**
	comp=Z,0.7nm,0.6s,baz=88,slow=2.6,SNR=5.7								
CMAR	**Chiang Mai Arr**	**146.82**	**343**	PKPbc			**PKPbc**	**04 50 07.8**	**+0.4**
	comp=Z,6.5nm,0.6s,baz=343,slow=3.2,SNR=23								
CMAR				pPKPbc			**pPKPdf**	**04 50 25.7**	**-0.2**
	comp=Z,2.4nm,0.6s,baz=347,slow=4.4,SNR=2.8								

JMA 09 04:41:33.5±0.2, 38°.27N×144°.55E, h44km, M3.7, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
OFUJ	**Ofunato**	**2.40**	**291**	P			Pn	04 42 11.6	+1.4
MIYJ	**Miyakonagasawa**	**2.50**	**302**	P			Pn	04 42 12.9	+1.3
MIYJ				*eS*			Sn	04 42 41.7	+0.9
JIO	**Ouri**	**2.52**	**275**	P			Pn	04 42 13.3	+1.4
JIO				S			Sn	04 42 42.5	+1.0
JMK	**Ichinoseki**	**2.70**	**286**	P			Pn	04 42 16.1	+1.8
JMK				S			Sn	04 42 47.5	+1.8
JOM	**Ohasama**	**2.81**	**296**	P			Pn	04 42 17.7	+1.8
JOM				S			Sn	04 42 50.8	+2.2
JYK	**Kaneyama**	**3.35**	**282**	P			Pn	04 42 25.7	+2.4
JYK				S			Sn	04 43 04.5	+2.7
JFT	**Otama**	**3.42**	**259**	P			Pn	04 42 26.3	+2.0
JFT				S			Sn	04 43 05.5	+2.0
JCH	**Churui**	**4.43**	**349**	P			Pn	04 42 38.9	+0.7
JCH				*eS*			Sn	04 43 26.0	-2.5
JRY	**Ryogami san**	**5.04**	**245**	P			Pn	04 42 47.6	+1

100nm,0.4s
MSSA Maissana 0.61 241 Pg **Pb** **05 12 24.5 0.0**
MSSA Sg **Sn** **05 12 33.6 -0.9**
66nm,0.5s
MSSA Maissana 0.61 241 Pg **Pb** **05 12 24.5 0.0**
MSSA Sg **Sn** **05 12 33.6 -0.9**
66nm,0.5s
POPM Popiglio 0.67 148 P **Pn** **05 12 26.0 -0.3**
POPM S **Sn** **05 12 35.5 -0.5**
MAIM Mastiano 0.72 166 Pg **Pb** **05 12 26.4 +0.2**
60nm,0.5s
MAIM Mastiano 0.72 166 P **Pb** **05 12 26.5 +0.2**
MAIM S **Sn** **05 12 36.8 -0.3**
FNVD Fontana Vidola 0.76 125 Pg **Pn** **05 12 27.8 +0.2**
87nm,0.4s
FNVD Fontana Vidola 0.76 125 Pg **Pn** **05 12 27.8 +0.2**
87nm,0.4s
PTF Prato 0.88 138 Pg **Pb** **05 12 29.6 +0.6**
PTF Prato 0.88 138 Pg **Pb** **05 12 29.6 +0.6**
CRMI Carmignano 0.97 148 Pg **Pb** **05 12 31.3 +0.8**
59nm,0.7s
CRMI Carmignano 0.97 148 Pg **Pb** **05 12 31.3 +0.8**
59nm,0.7s
SALO Salr 1.02 11 Pg **Pb** **05 12 32.1 +0.7**
269nm,0.5s
SALO Salr 1.02 11 Pg **Pb** **05 12 32.1 +0.7**
269nm,0.5s
BALD Monte Baldo 1.14 20 *e*Pg **Pb** **05 12 33.3 -0.2**
BALD *e*Sg **Sb** **05 12 48.8 +0.8**
BALD Monte Baldo 1.14 20 *e*Pg **Pb** **05 12 33.3 -0.2**
BALD *e*Sg **Sb** **05 12 48.8 +0.8**
ROVR Rover¯¤ Verone 1.18 29 Pg **Pb** **05 12 33.9 -0.3**
ROVR Sg **Sb** **05 12 50.3 +1.1**
410nm,0.3s
ROVR Rover¯¤ Verone 1.18 29 Pg **Pb** **05 12 33.9 -0.3**
ROVR Sg **Sb** **05 12 50.3 +1.1**
410nm,0.3s
MAGA Magasa 1.19 13 Pg **Pb** **05 12 34.0 -0.4**
MAGA Sg **Sb** **05 12 50.4 +1.0**
334nm,0.5s
MAGA Magasa 1.19 13 Pg **Pb** **05 12 34.0 -0.4**
MAGA Sg **Sb** **05 12 50.4 +1.0**
334nm,0.5s
MARN Marana (Italy) 1.23 33 *e*Pg **Pn** **05 12 34.0 +0.1**
MARN *e*Sg **Sb** **05 12 51.2 +0.9**
MARN Marana (Italy) 1.23 33 *e*Pg **Pn** **05 12 34.0 +0.1**
MARN *e*Sg **Sb** **05 12 51.2 +0.9**
PCP Piancastagn 1.23 267 Pg **Pb** **05 12 35.5 +0.6**
34nm,0.3s
PCP Piancastagn 1.23 267 Pg **Pb** **05 12 35.5 +0.6**
34nm,0.3s
TEOL Teolo 1.25 53 Pg **Pn** **05 12 34.4 +0.2**
TEOL Sg **Sb** **05 12 52.9 +1.9**
207nm,0.3s
TEOL Teolo 1.25 53 *e*Pg **Pn** **05 12 34.4 +0.2**
TEOL *e*Sg **Sb** **05 12 51.6 +0.7**
TEOL Teolo 1.25 53 Pg **Pn** **05 12 34.4 +0.2**
TEOL Sg **Sb** **05 12 52.9 +1.9**
207nm,0.3s
ASQU Asqua 1.37 126 Pg **Pb** **05 12 38.4 +1.0**
23nm,0.6s
ASQU Asqua 1.37 126 Pg **Pb** **05 12 38.4 +1.0**
23nm,0.6s
RNI Roncone 1.39 11 *e*Pg **Pn** **05 12 36.9 +0.6**
RNI *e*Sg **Sb** **05 12 55.2 0.0**
RNI Roncone 1.39 11 *e*Pg **Pn** **05 12 36.9 +0.6**
RNI *e*Sg **Sb** **05 12 55.2 0.0**
DDS Dosso del Somm 1.43 27 *e*Pg **Pn** **05 12 37.0 +0.2**
DDS *e*Sg **Sb** **05 12 56.4 +0.2**
DDS Dosso del Somm 1.43 27 *e*Pg **Pn** **05 12 37.0 +0.2**
DDS *e*Sg **Sb** **05 12 56.4 +0.2**
MUGIO Muggio 1.56 327 Pg **Pb** **05 12 41.1 +0.4**
36nm,0.5s
MUGIO Muggio 1.56 327 Pg **Pb** **05 12 41.1 +0.4**
36nm,0.5s
PANI Panarotta 1.62 27 *e*Pg **Pn** **05 12 40.0 +0.4**
CGRP Cima Grappa 1.67 40 *e*Pg **Pn** **05 12 40.6 +0.4**
CGRP *e*Sg **Sn** **05 13 01.4 +0.5**
CGRP Cima Grappa 1.67 40 *e*Pg **Pn** **05 12 40.6 +0.4**
CGRP *e*Sg **Sn** **05 13 01.4 +0.5**
OZOL Ozolo 1.88 17 *e*Pn **Pn** **05 12 43.9 +0.9**
SBF Sospel 2.16 251 *e*Pn **Pn** **05 12 48.4 +1.6**
SBF Sospel 2.16 251 *e*P **Pb** **05 12 50.4 -0.5**
SBF Sospel 2.16 251 *e*Pn **Pn** **05 12 48.4 +1.6**
SBF Sospel 2.16 251 *e*P **Pb** **05 12 50.4 -0.5**
PGF Pioggiola 2.26 204 *e*P **Pb** **05 12 50.9 -1.6**
PGF *e*S **Sb** **05 13 19.8 -0.2**
PGF Pioggiola 2.26 204 *e*P **Pb** **05 12 50.9 -1.6**
PGF *e*S **Sb** **05 13 19.8 -0.2**
FETA Feichten 2.43 8 *i* Pn **Pb** **05 12 55.4 -0.1**
0.2nm,0.1s
FETA *i* Sn **Sn** **05 13 17.6 -2.0**
0.3nm,0.1s
FETA Feichten 2.43 8 Pn **Pb** **05 12 55.4 -0.1**
0.2nm,0.1s
FETA Sn **Sn** **05 13 17.6 -2.0**
0.3nm,0.1s
LPL La Plagne 2.66 291 *e*Pn **Pn** **05 12 55.8 +2.0**
LPL La Plagne 2.66 291 *e*P **Pb** **05 12 58.0 -1.4**
LPL *e*S **Sb** **05 13 31.4 -0.2**
4.5nm,0.4s
LPL *e*Sg Sn 05 13 34.4 +9.2
7.4nm,0.3s
LPL La Plagne 2.66 291 *e*Pn **Pn** **05 12 55.8 +2.0**
LPL La Plagne 2.66 291 *e*P **Pb** **05 12 58.0 -1.4**
LPL *e*S **Sb** **05 13 31.4 -0.2**
2.2nm,0.4s
LPL *e*Sg Sn 05 13 34.4 +9.2
3.7nm,0.3s
DAVA Damuels 2.69 355 *e*Pn **Pn** **05 12 56.9 +2.8**
3.8nm,0.2s
DAVA *e*Sn **Sn** **05 13 24.9 -1.0**
2.6nm,0.3s
DAVA Damuels 2.69 355 Pn **Pn** **05 12 56.9 +2.8**
3.8nm,0.2s
DAVA Sn **Sn** **05 13 24.9 -1.0**
2.6nm,0.3s
MOTA Moosalm 2.79 12 *i* Pn **Pn** **05 12 58.4 +2.8**
1.1nm,0.1s
MOTA *i* Sn **Sn** **05 13 27.8 -0.8**
0.6nm,0.1s
MOTA Moosalm 2.79 12 Pn **Pn** **05 12 58.4 +2.8**
1.1nm,0.1s
MOTA Sn **Sn** **05 13 27.8 -0.8**
0.6nm,0.1s
FRF La Foret Royal 2.81 249 *e*Pn **Pn** **05 12 56.0 +0.4**
FRF La Foret Royal 2.81 249 *e*P **Pn** **05 12 57.3 +1.7**
FRF *e*Sn **Sn** **05 13 28.6 0.0**
2.9nm,0.2s
FRF *e*S **Sb** **05 13 32.6 -3.1**
FRF *e*Sg **Sb** **05 13 39.8 +4.1**
FRF La Foret Royal 2.81 249 *e*Pn **Pn** **05 12 56.0 +0.4**
FRF La Foret Royal 2.81 249 *e*P **Pn** **05 12 57.3 +1.7**
FRF *e*Sn **Sn** **05 13 28.6 0.0**
1.5nm,0.2s
FRF *e*S **Sb** **05 13 32.6 -3.1**
FRF *e*Sg **Sb** **05 13 39.8 +4.1**
WTTA Wattenberg 2.82 19 *e*Pn **Pb** **05 12 59.2 -2.9**
0.9nm,0.1s
WTTA *e*Sn **Sn** **05 13 25.8 -3.4**
0.5nm,0.1s
WTTA Wattenberg 2.82 19 Pn **Pb** **05 12 59.2 -2.9**
0.9nm,0.1s
WTTA Sn **Sn** **05 13 25.8 -3.4**
0.5nm,0.1s
SKDS Skadanscina 2.82 69 *i* Pn **Pn** **05 12 55.4 -0.4**
SKDS *i* Sn **Sn** **05 13 27.6 -1.4**
comp=Z,5.0nm,0.1s
SKDS Skadanscina 2.82 69 Pn **Pn** **05 12 55.4 -0.4**
SKDS *i* Sn **Sn** **05 13 27.6 -1.4**
comp=Z,5.0nm,0.1s
WATA Walderalm 2.87 18 *i* Pn **Pn** **05 12 59.3 +2.6**
comp=Z,2.9nm,0.2s
WATA Walderalm 2.87 18 Pn **Pn** **05 12 59.3 +2.6**
comp=Z,2.9nm,0.2s
RETA Reutte 2.90 7 *e*Sn **Sn** **05 13 29.2 -1.7**
comp=Z,0.1nm,0.1s
RETA Reutte 2.90 7 Sn **Sn** **05 13 29.2 -1.7**
comp=Z,0.1nm,0.1s
LMR La Mourre 2.99 246 *e*Pn **Pn** **05 12 59.5 +1.3**
LMR *e*Sn **Sn** **05 13 34.0 +0.8**
comp=Z,3.0nm,0.3s
LMR *e*S **Sb** **05 13 36.2 -4.9**
LMR La Mourre 2.99 246 *e*Pn **Pn** **05 12 59.5 +1.3**
LMR *e*Sn **Sn** **05 13 34.0 +0.8**
comp=Z,1.5nm,0.3s
LMR *e*S **Sb** **05 13 36.2 -4.9**
ORIF Oris-en-Rattie 3.13 277 *e*P **Pb** **05 13 04.8 -2.6**
ORIF Oris-en-Rattie 3.13 277 *e*P **Pb** **05 13 04.8 -2.6**
NVLJ Novalja 3.30 89 *e*Pn **Pn** **05 13 03.2 +0.9**
NVLJ Sn **Sn** **05 13 40.7 0.0**
NVLJ Novalja 3.30 89 *e*Pn **Pn** **05 13 03.2 +0.9**
NVLJ Sn **Sn** **05 13 40.6 0.0**
SMRF Simiane la Rot 3.42 261 *e*Pn **Pn** **05 13 07.6 +3.5**
SMRF Simiane la Rot 3.42 261 *e*Pn **Pn** **05 13 07.6 +3.5**
OBKA Obir 3.56 56 *i* Sn **Sn** **05 13 45.1 -2.2**
comp=Z,1.1nm,0.3s
OBKA Obir 3.56 56 Sn **Sn** **05 13 45.1 -2.2**
comp=Z,1.1nm,0.3s
HINF Hinteralfeld 3.98 325 *e*Pn **Pn** **05 13 13.3 +1.5**
HINF *e*Sn **Sn** **05 13 58.3 +0.7**
comp=Z,2.9nm,0.2s
HINF Hinteralfeld 3.98 325 *e*Pn **Pn** **05 13 13.3 +1.5**
HINF *e*Sn **Sn** **05 13 58.3 +0.7**
comp=Z,1.5nm,0.2s
CDF Champ du Feu 4.32 333 *e*Pn **Pn** **05 13 17.0 +0.5**
CDF *e*Sn **Sn** **05 14 05.7 -0.4**
comp=Z,2.5nm,0.2s
CDF Champ du Feu 4.32 333 *e*Pn **Pn** **05 13 17.0 +0.5**
CDF *e*Sn **Sn** **05 14 05.7 -0.4**
comp=Z,1.2nm,0.2s
HAU Haudompre 4.34 323 *e*Pn **Pn** **05 13 18.1 +1.4**
HAU *e*Sn **Sn** **05 14 06.9 +0.4**
comp=Z,3.9nm,0.3s
HAU Haudompre 4.34 323 *e*Pn **Pn** **05 13 18.1 +1.4**
HAU *e*Sn **Sn** **05 14 06.9 +0.4**
comp=Z,2.0nm,0.3s

IDC 09 05:18:44.9±5.7, 8°08N×104°00W, h0km, mb3.7/4, mb1 4.1/4, mb1mx3.7/28, mbtmpg3.7/4, MS3.3/8, Ms1 3.3/8, ms1mx3.0/26, Error ellipse: s-maj=106.9km s-min=81.3km az=8.0, Northern East Pacific Rise

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
CMIG	**Matias Romero**	**12.62**	**44**	LR	LR		05 25 12.5	
	comp=Z,269nm,21.9s,baz=156,slow=31							
LPIG	**La Paz**	**17.04**	**340**	LR	LR		05 27 32.3	
	comp=Z,70nm,21.4s,baz=180,slow=31							
TXAR	**Lajitas Array**	**21.15**	**1**	P	P		05 23 31.5	-0.3
	0.9nm,0.8s,baz=179,slow=12,SNR=13							
TXAR				LR	LR		05 30 20.4	
	comp=Z,79nm,18.5s,baz=0.0,slow=33							
ATAH	**Atahualpa**	**29.67**	**120**	LR	LR		05 33 53.0	
	comp=Z,90nm,21.6s,baz=250,slow=31							
PDAR	**Pinedale Array**	**34.89**	**353**	P	P		05 25 38.8	+0.3
	1.0nm,0.8s,baz=159,slow=8.3,SNR=8.3							
ULM	**Lac du Bonnet**	**42.58**	**8**	LR	LR		05 44 22.9	
	comp=Z,50nm,18.4s,baz=306,slow=36							
RKT	**Rikitea**	**43.35**	**224**	*e*T	T		06 13 36.4	
	3.6nm,0.3s							
PPT	**Papeete**	**51.73**	**240**	LR	LR		05 44 26.7	
	comp=Z,19nm,20.7s,baz=166,slow=30							
PPT2	**Papeete2**	**51.74**	**240**	*e*LR	LR		05 43 00.0	
	80nm,25.8s							
YKA	**Yellowknife Ar**	**54.86**	**354**	LR	LR		05 50 45.4	
	comp=Z,9.6nm,18.3s,baz=180,slow=35							
SCHQ	**Schefferville**	**55.22**	**25**	P	P		05 28 19.6	-0.1
	2.0nm,0.4s,baz=234,slow=8.7,SNR=2.8							
SCHQ				LR	LR		05 53 39.7	
	comp=Z,44nm,19.5s,baz=320,slow=38							
ILAR	**Eielson Array**	**64.08**	**341**	P	P		05 29 20.4	-0.2
	0.5nm,0.8s,baz=147,slow=5.3,SNR=5.9							

*IDC **09** 05:21:52.7±0.7, 25°.56S×70°.08E, h0km, mb4.1/13, mb1 4.2/13, mb1mx4.0/40, mbtmp4.1/13, MS3.8/23, Ms1 3.8/23, ms1mx3.6/39, Error ellipse: s-maj=21.0km s-min=18.7km az=12.0*

*ISCJB **09** 05:21:54.0±0.4, 25°.55S±0°.08×70°.12E±0°.08, h21km, mb4.6/26, MS3.8/23, Error ellipse: s-maj=11.7km s-min=10.1km az=7.9*

*NEIC **09** 05:21:54.1±0.2, 25°.53S×70°.08E, h10km, mb4.8/11, Error ellipse: s-maj=8.2km s-min=6.9km az=186.0*

ISC 09 05:21:55.8±0.5, 25°.5S±0°.1×70°.1E±0°.1, h21km, n67, σ0s70/46, mb4.4/26, MS3.9/23, Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
H08S1	**Diego Carcia H**	**17.93**	**8**	T	T		05 44 30.3	
	baz=188,slow=76,SNR=43							
H08S2	**Diego Garcia H**	**17.93**	**8**	T	T		05 44 25.5	
	baz=188,slow=76,SNR=66							
H08S3	**Diego Garcia H**	**17.95**	**8**	T	T		05 44 29.0	
	baz=188,slow=76,SNR=53							
OPO	**Ambohidratompo**	**22.33**	**283**	P	**P**		**05 26 54.1**	**+1.5**
	5.4nm,1.1s,baz=100,slow=24,SNR=3.8							
OPO				LR	LR		05 33 05.9	
	comp=Z,303nm,20.7s,baz=101,slow=30							
COCO	**West Island**	**28.49**	**67**	*e*P	**P**		**05 27 49.5**	**-0.3**
	297nm,0.3s							
PALK	**Pallekele**	**34.20**	**19**	LR	LR		05 39 05.7	
	comp=Z,275nm,21.0s,baz=299,slow=30							
MATP	**Matopo**	**38.53**	**269**	LR	LR		05 43 16.3	
	comp=Z,160nm,18.7s,baz=96,slow=33							
H01W2	**Cape Leeuwin H**	**38.91**	**115**	T	T		06 10 58.9	
	baz=271,slow=75,SNR=5.9							
H01W3	**Cape Leeuwin H**	**38.91**	**115**	T	T		06 11 01.8	
	baz=271,slow=75,SNR=6.4							
H01W1	**Cape Leeuwin H**	**38.93**	**115**	T	T		06 10 52.9	
	baz=271,slow=75,SNR=6.1							
PSI	**Prapat**	**39.66**	**49**	*e*P	**P**		**05 29 26.9**	**+0.2**
	19nm,1.6s							
BOSA	**Boshof**	**39.88**	**255**	P	**P**		**05 29 28.4**	**-0.1**
	4.0nm,0.9s,baz=114,slow=14,SNR=3.4							
BOSA				LR	LR		05 42 50.9	
	comp=Z,281nm,20.3s,baz=76,slow=32							
KMBO	**Kilima Mbogo**	**39.90**	**302**	LR	LR		05 42 39.8	
	comp=Z,56nm,18.5s,baz=96,slow=31							
LBTB	**Lobatse**	**40.11**	**261**	LR	LR		05 43 40.0	
	comp=Z,228nm,18.2s,baz=86,slow=33							
LSZ	**Lusaka**	**40.45**	**276**	LR	LR		05 44 16.1	
	comp=Z,153nm,18.1s,baz=136,slow=33							
MAW	**Mawson**	**42.32**	**184**	LR	LR		05 43 54.8	
	comp=Z,98nm,19.8s,baz=59,slow=31							
TSUM	**Tsumeb**	**48.73**	**266**	LR	LR		05 48 15.9	
	comp=Z,84nm,21.6s,baz=152,slow=32							
CM01	**Chiang Mai Arr**	**51.93**	**36**	*e*P	**P**		**05 31 04.2**	**+0.9**
CM31	**Chiang Mai Arr**	**51.95**	**36**	*e*P	**P**		**05 31 04.5**	**+0.9**
CMAR	**Chiang Mai Arr**	**51.95**	**36**	P	**P**		**05 31 04.5**	**+0.9**
	1.3nm,0.3s,baz=230,slow=6.9,SNR=11							
CMAR				LR	LR		05 48 52.7	
	comp=Z,69nm,21.5s,baz=215,slow=31							
ASAR	**Alice Springs**	**57.53**	**103**	P	**P**		**05 31 44.9**	**+0.8**
	1.7nm,0.8s,baz=253,slow=6.4,SNR=15							
ASAR				LR	LR		05 53 57.4	
	comp=Z,131nm,19.6s,baz=236,slow=33							
AS31	**Alice Springs**	**57.53**	**103**	*e*P	**P**		**05 31 44.2**	**+0.1**
	1.0nm,0.9s							
AS01	**Alice Springs**	**57.57**	**103**	*e*P	**P**		**05 31 44.3**	**-0.1**
WRA	**Warramunga Arr**	**59.01**	**99**	P	**P**		**05 31 54.9**	**+0.4**
	1.3nm,0.8s,baz=254,slow=6.7,SNR=6.8							
WRA				LR	LR		05 54 55.4	
	comp=Z,156nm,19.5s,baz=300,slow=34							
WR1	**Warramunga Arr**	**59.01**	**99**	*e*P	**P**		**05 31 54.9**	**+0.4**
	20nm,1.5s							
SNAA	**Sanae**	**60.63**	**200**	P	**P**		**05 32 05.5**	**+0.6**
	1.6nm,1.1s,baz=91,slow=6.2,SNR=4.0							
SNAA	**Sanae**	**60.63**	**200**	*e*P	**P**		**05 32 05.5**	**+0.6**
	13nm,1.9s							
GEYT	**Alibeck**	**64.12**	**349**	LR	LR		05 55 42.1	
	comp=Z,56nm,21.3s,baz=170,slow=32							
QSPA	**South Pole Qui**	**64.69**	**180**	*e*P	**P**		**05 32 31.2**	**-0.3**
VNDA	**Vanda**	**65.64**	**166**	P	**P**		**05 32 37.3**	**-0.7**
	2.1nm,0.8s,baz=273,slow=7.8,SNR=10							
VNDA	**Vanda**	**65.64**	**166**	*e*P	**P**		**05 32 37.0**	**-0.9**
	3.8nm,1.0s							
MMAI	**Mount Meron Ar**	**66.95**	**329**	LR	LR		05 59 02.1	
	comp=Z,30nm,19.1s,baz=120,slow=33							
MK01	**Makanchi Array**	**72.80**	**9**	*e*P	**P**		**05 33 21.8**	**-0.8**
MK31	**Makanchi Array**	**72.83**	**9**	*e*P	**P**		**05 33 22.2**	**-0.5**
MKAR	**Makanchi Array**	**72.83**	**9**	*e*P	**P**		**05 33 22.2**	**-0.5**
	18nm,1.0s							
BR101	**Keskin Array S**	**73.30**	**331**	*e*P	**P**		**05 33 25.9**	**+0.1**
BRTR	**Keskin Array B**	**73.30**	**331**	P	**P**		**05 33 25.9**	**+0.1**
	1.8nm,0.8s,baz=159,slow=7.4,SNR=9.2							
BRTR				LR	LR		06 03 45.2	
	comp=Z,17nm,19.1s,baz=119,slow=34							
KBZ	**Khabaz**	**73.31**	**340**	LR	LR		06 03 33.2	
	comp=Z,26nm,18.4s,baz=96,slow=34							
KVAR	**Kislovodsk Arr**	**73.58**	**340**	LR	LR		06 03 31.8	
	comp=Z,26nm,18.9s,baz=90,slow=34							
BR231	**Keskin MP Arra**	**73.77**	**331**	*e*P	**P**		**05 33 26.7**	**-1.9**
ABKAR	**Akbulak array**	**75.00**	**353**	*e*P	**P**		**05 33 35.1**	**-0.2**
	22nm,0.8s							
KURK	**Kurchatov**	**76.28**	**6**	*e*P	**P**		**05 33 43.4**	**+0.7**
	6.6nm,1.0s							
LHI	**Lord Howe Isla**	**76.28**	**118**	*e*P	**P**		**05 33 44.4**	**+1.1**
	260nm,1.4s							
TOA0	**Torodi Ar. Sit**	**76.89**	**292**	*e*P	**P**		**05 33 46.5**	**-0.4**
TORD	**Torodi Ar. Bea**	**76.89**	**292**	P	**P**		**05 33 46.6**	**-0.3**
	1.7nm,0.9s,baz=117,slow=5.7,SNR=8.8							
TORD				LR	LR		06 07 14.8	
	comp=Z,51nm,18.7s,baz=260,slow=35							
TOA1	**Torodi Ar. Sit**	**76.89**	**292**	*e*P	**P**		**05 33 46.6**	**-0.3**
	18nm,1.5s							
DBIC	**Dimbokro**	**79.44**	**283**	LR	LR		06 05 53.5	
	comp=Z,63nm,21.0s,baz=104,slow=33							
SONA0	**Songino Array**	**79.99**	**24**	*e*P	**P**		**05 34 04.3**	**+0.8**
	10nm,1.3s							
SONM	**Songino Array**	**79.99**	**24**	P	**P**		**05 34 04.3**	**+0.8**
	2.0nm,0.9s,baz=213,slow=5.1,SNR=6.7							
SONA1	**Songino Array**	**80.00**	**24**	*e*P	**P**		**05 34 03.9**	**+0.3**
ZAA0	**Zalesovo Array**	**80.17**	**9**	*e*P	**P**		**05 34 03.7**	**-0.4**
ZALV	**Zalesovo Beam**	**80.17**	**9**	P	**P**		**05 34 03.7**	**-0.4**
	1.2nm,0.3s,baz=224,slow=4.1,SNR=4.4							
ZAA1	**Zalesovo Array**	**80.17**	**9**	*e*P	**P**		**05 34 03.7**	**-0.4**
KS15	**Wonju Array Si**	**82.88**	**43**	*e*P	**P**		**05 34 19.3**	**+0.4**
KSAR	**Wonju Array Be**	**82.88**	**43**	P	**P**		**05 34 19.3**	**+0.4**
KSRS	**Korea Array**	**82.91**	**43**	P	**P**		**05 34 19.3**	**+0.3**
	1.1nm,0.7s,baz=218,slow=6.3,SNR=5.0							
KSRS				LR	LR		06 10 57.7	
	comp=Z,66nm,19.3s,baz=212,slow=36							
PMSA	**Palmer Station**	**83.25**	**198**	LR	LR		06 07 15.7	
	comp=Z,47nm,20.3s,baz=118,slow=33							
KEST	**Kesra**	**83.70**	**314**	LR	LR		06 09 24.5	
	comp=Z,36nm,20.8s,baz=328,slow=34							
AKASG	**Malin Array Be**	**84.06**	**335**	P	**P**		**05 34 24.3**	**-0.3**
	0.3nm,0.3s,baz=137,slow=4.1,SNR=4.3							
AKBB	**Malin Array Si**	**84.06**	**335**	*e*P	**P**		**05 34 24.3**	**-0.3**
	9.8nm,1.5s							
PSZ	**Piszkesteto**	**85.89**	**329**	*e*P	**P**		**05 34 34.0**	**0.0**
	4.9nm,0.9s							
CBIJ	**Chichi jima**	**86.92**	**58**	*e*P	**P**		**05 34 37.7**	**-1.8**
	195nm,1.3s							
USHA	**Ushuaia**	**92.41**	**203**	LR	LR		06 11 28.0	
	comp=Z,233nm,19.1s,baz=18,slow=32							
ANWB	**Willy Bob**	**134.79**	**270**	*e*PKPdf	**PKPdf**		**05 41 14.1**	**+0.3**
HARP	**HAARP**	**136.29**	**23**	*e*PKPdf	**PKPdf**		**05 41 15.0**	**-0.3**
LMQ	**La Malbaie**	**141.92**	**316**	*e*PKPdf	**PKPdf**		**05 41 26.0**	**0.0**
FRNY	**Flat Rock**	**145.01**	**313**	*e*PKPbc	**PKPab**		**05 41 30.2**	**-0.6**

*IDC **09** 05:25:08.7±0.7, 25°.49S×69°.93E, h0km, mb4.2/11, mb1 4.3/11, mb1mx4.0/45, mbtmp4.2/11, Error ellipse: s-maj=25.2km s-min=21.0km az=65.0*

*ISCJB **09** 05:25:10.4±0.4, 25°.49S±0°.07×70°.00E±0°.10, h21km, mb4.6/22, Error ellipse: s-maj=12.8km s-min=10.4km az=162.9*

*NEIC **09** 05:25:10.6±0.3, 25°.47S×69°.96E, h10km, mb4.9/12, Error ellipse: s-maj=8.6km s-min=7.0km az=72.0*

ISC 09 05:25:12.4±0.5, 25°.5S±0°.1×70°.0E±0°.2, h21km, n46, σ0s64/40, mb4.5/22, Indian Ocean Triple Junction

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
H08S1	**Diego Carcia H**	**17.88**	**8**	T	T		05 47 36.1	
	baz=188,slow=76,SNR=24							
H08S2	**Diego Garcia H**	**17.88**	**8**	T	T		05 47 36.2	
	baz=188,slow=76,SNR=30							
H08S3	**Diego Garcia H**	**17.90**	**8**	T	T		05 47 37.4	
	baz=188,slow=76,SNR=30							
DGAR	**Diego Garcia**	**18.11**	**8**	*e*Pn	**P**		**05 29 24.1**	**+1.1**
	438nm,1.4s							
H01W2	**Cape Leeuwin H**	**39.07**	**115**	T	T		06 14 17.8	
	baz=270							
H01W3	**Cape Leeuwin H**	**39.07**	**115**	T	T		06 14 15.4	
	baz=270							
H01W1	**Cape Leeuwin H**	**39.08**	**115**	T	T		06 14 16.6	
	baz=270							
CM01	**Chiang Mai Arr**	**51.95**	**36**	*e*P	**P**		**05 34 20.4**	**+0.3**
CM31	**Chiang Mai Arr**	**51.98**	**36**	*e*P	**P**		**05 34 20.0**	**-0.2**
CMAR	**Chiang Mai Arr**	**51.98**	**36**	P	**P**		**05 34 20.0**	**-0.2**
	2.9nm,0.4s,baz=227,slow=7.3,SNR=9.0							
SLVN	**Son La**	**57.01**	**38**	*e*P	**P**		**05 34 55.1**	**-1.7**
	22nm,1.9s							
ASAR	**Alice Springs**	**57.68**	**103**	P	**P**		**05 35 01.6**	**-0.1**
	1.7nm,0.7s,baz=249,slow=6.4,SNR=16							
AS31	**Alice Springs**	**57.68**	**103**	*e*P	**P**		**05 35 01.6**	**-0.1**
	2.3nm,1.4s							
AS01	**Alice Springs**	**57.72**	**103**	*e*P	**P**		**05 35 01.9**	**-0.1**
MTN	**Manton Dam**	**58.70**	**90**	*e*P	**P**		**05 35 09.7**	**+0.8**
	31nm,1.4s							
WR1	**Warramunga Arr**	**59.16**	**99**	*e*P	**P**		**05 35 11.3**	**-0.7**
	23nm,1.5s							
WRA	**Warramunga Arr**	**59.16**	**99**	P	**P**		**05 35 11.3**	**-0.7**
	1.4nm,0.9s,baz=252,slow=7.4,SNR=4.9							
SNAA	**Sanae**	**60.64**	**200**	P	**P**		**05 35 21.3**	**-0.2**
	1.0nm,1.0s,baz=134,slow=12,SNR=3.0							
SNAA	**Sanae**	**60.64**	**200**	*e*P	**P**		**05 35 21.3**	**-0.2**
	15nm,2.0s							
QSPA	**South Pole Qui**	**64.67**	**180**	*e*P	**P**		**05 35 49.2**	**+0.6**
VNDA	**Vanda**	**65.74**	**166**	P	**P**		**05 35 54.6**	**-0.6**
	2.6nm,0.9s,baz=269,slow=7.7,SNR=10.0							
VNDA	**Vanda**	**65.74**	**166**	*e*P	**P**		**05 35 55.9**	**+0.7**
	18nm,2.0s							
MCQ	**Macquarie Isla**	**69.11**	**141**	*e*P	**P**		**05 36 17.3**	**+0.5**
	989nm,2.0s							
MK01	**Makanchi Array**	**72.76**	**9**	*e*P	**P**		**05 36 38.8**	**-0.1**
MK31	**Makanchi Array**	**72.78**	**9**	*e*P	**P**		**05 36 39.3**	**+0.3**
MKAR	**Makanchi Array**	**72.78**	**9**	*e*P	**P**		**05 36 39.3**	**+0.3**
	13nm,0.9s							
BR101	**Keskin Array S**	**73.17**	**331**	*e*P	**P**		**05 36 41.6**	**0.0**
BRTR	**Keskin Array B**	**73.17**	**331**	P	**P**		**05 36 41.6**	**0.0**
	2.2nm,0.9s,baz=147,slow=7.0,SNR=8.3							
BR231	**Keskin MP Arra**	**73.64**	**331**	*e*P	**P**		**05 36 43.3**	**-1.0**
ABKAR	**Akbulak array**	**74.92**	**353**	*e*P	**P**		**05 36 51.7**	**+0.2**
	16nm,0.8s							
TOA0	**Torodi Ar. Sit**	**76.73**	**292**	*e*P	**P**		**05 37 03.3**	**+0.7**
TORD	**Torodi Ar. Bea**	**76.73**	**292**	P	**P**		**05 37 02.1**	**-0.4**
	1.9nm,0.9s,baz=108,slow=6.2,SNR=8.2							
TOA1	**Torodi Ar. Sit**	**76.74**	**292**	*e*P	**P**		**05 37 02.1**	**-0.5**
	27nm,1.9s							
SONA0	**Songino Array**	**79.98**	**24**	*e*P	**P**		**05 37 20.5**	**+0.5**
	5.0nm,1.1s							
**SON

JRG	**Rokugo**	**2.28 266**	P	Pn	05 28 54.1	+1.2
JAH	**Hinai**	**2.33 285**	P	Pn	05 28 55.0	+1.4
JOU	**Okura**	**2.58 242**	P	Pn	05 28 58.6	+1.5
JOU			*e*S	Sn	05 29 28.2	+0.9
JYK	**Kaneyama**	**2.59 256**	P	Pn	05 28 59.3	+2.2
JYK			*e*S	Sn	05 29 28.8	+1.5
JOT	**Ohata**	**2.61 313**	*e*S	Sn	05 29 29.4	+1.4
JNBK	**Urakawa-nobuka**	**2.74 347**	P	Pn	05 29 01.6	+2.4
JNBK			*e*S	Sn	05 29 32.3	+1.2
JCH	**Churui**	**3.01 357**	P	Pn	05 29 03.9	+1.0
JCH			*e*S	Sn	05 29 38.1	+0.5
MAT	**Matsushiro**	**5.22 236**	P	Pn	05 29 36.3	+2.9
MAT			*e*S	Sn	05 30 33.1	+0.7

*GEN **09** 05:43:34.0,44.°72N×10.°31E,h2km,ML2.6*
*CSEM **09** 05:43:34.5±0.1,44.°67N×10.°30E,h10km,ML3.0/21,Error ellipse: s-maj=3.3km s-min=2.6km az=113.0*
*ISCJB **09** 05:43:35.4±0.2,44.°65N±0.°02×10.°25E±0.°03,h25km±2km, Error ellipse: s-maj=3.3km s-min=2.5km az=31.7*
*ROM **09** 05:43:35.1±0.1,44.°64N×10.°26E,h21km±2km,Ml2.8/20, Error ellipse: s-maj=1.5km s-min=1.2km az=94.0*
*LDG **09** 05:43:36.2±0.2,44.°61N×10.°39E,h20km,Md2.8/3,Ml3.2/8, Error ellipse: s-maj=5.1km s-min=4.4km az=68.0*

ISC 09 05:43:35.3±0.9,**44.°64N**±0.°02×**10.°27E**±0.°01,**h19**km±2km, **n117**,σ1**°09**/181,**Northern Italy**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PRMA	**PARMA**	**0.13**	**14**	Pg	**Pg**	**05 43 39.1**	**-0.3**
PRMA				Sg	**Sg**	**05 43 43.5**	**+1.4**
	2µm,0.3s						
PRMA	**PARMA**	**0.13**	**14**	Pg	**Pg**	**05 43 39.1**	**-0.3**
PRMA				Sg	**Sg**	**05 43 43.5**	**+1.4**
	2µm,0.3s						
GRAM	**Graiana**	**0.21**	**225**	P	**Pb**	**05 43 39.9**	**-0.1**
GRAM				S	**Sb**	**05 43 43.8**	**+0.8**
NOVE	**Novellara**	**0.36**	**63**	Pg	**Pg**	**05 43 42.9**	**+0.1**
	755nm,0.4s						
NOVE	**Novellara**	**0.36**	**63**	Pg	**Pg**	**05 43 42.9**	**+0.1**
	755nm,0.4s						
CODM	**Codolo**	**0.39**	**231**	P	**Pg**	**05 43 42.8**	**-0.6**
CODM				S	**Sb**	**05 43 49.7**	**+0.3**
SARO	**Sassorosso**	**0.46**	**168**	P	**Pg**	**05 43 44.2**	**-0.6**
SARO				S	**Sb**	**05 43 51.8**	**+0.3**
VLC	**Villacollemand**	**0.49**	**170**	Pg	**Pg**	**05 43 44.8**	**-0.4**
VLC				Sg	**Sb**	**05 43 52.8**	**+0.7**
VLC	**Villacollemand**	**0.49**	**170**	Pg	**Pg**	**05 43 44.8**	**-0.4**
VLC				Sg	**Sb**	**05 43 52.8**	**+0.7**
SC2M	**Scurtabo**	**0.57**	**246**	Pg	**Pb**	**05 43 45.7**	**-1.0**
SC2M				Sg	**Sb**	**05 43 55.0**	**+0.5**
	632nm,0.3s						
SC2M	**Scurtabo**	**0.57**	**246**	Pg	**Pb**	**05 43 45.7**	**-1.0**
SC2M				S	**Sb**	**05 43 54.7**	**+0.2**
SC2M				Sg	**Sb**	**05 43 55.0**	**+0.5**
	632nm,0.3s						
ZCCA	**Zocca**	**0.58**	**119**	Pg	**Pg**	**05 43 47.8**	**+0.9**
	222nm,0.5s						
ZCCA	**Zocca**	**0.58**	**119**	Pg	**Pg**	**05 43 47.8**	**+0.9**
	222nm,0.5s						
BOB	**Bobbio (Coli)**	**0.60**	**283**	Pg	**Pb**	**05 43 46.7**	**-0.4**
BOB				Sg	**Sg**	**05 43 56.4**	**+1.1**
	322nm,0.7s						
BOB	**Bobbio (Coli)**	**0.60**	**283**	Pg	**Pb**	**05 43 46.7**	**-0.4**
BOB				Sg	**Sg**	**05 43 56.4**	**+1.1**
	322nm,0.7s						
BDI	**Bagni Di Lucca**	**0.62**	**158**	Pg	**Pb**	**05 43 47.1**	**-0.4**
BDI				Sg	**Sg**	**05 43 56.8**	**+0.8**
	268nm,0.4s						
BDI	**Bagni Di Lucca**	**0.62**	**158**	Pg	**Pb**	**05 43 47.1**	**-0.4**
BDI				Sg	**Sg**	**05 43 56.8**	**+0.8**
	268nm,0.4s						
MSSA	**Maissana**	**0.63**	**239**	Pg	**Pb**	**05 43 47.0**	**-0.6**
MSSA				Sg	**Sb**	**05 43 56.1**	**+0.1**
	138nm,0.3s						
MSSA	**Maissana**	**0.63**	**239**	Pg	**Pb**	**05 43 47.0**	**-0.6**
MSSA				Sg	**Sb**	**05 43 56.1**	**+0.1**
	138nm,0.3s						
POPM	**Popiglio**	**0.69**	**149**	P	**Pb**	**05 43 48.5**	**-0.2**
POPM				S	**Sn**	**05 43 59.5**	**-0.8**
MAIM	**Mastiano**	**0.74**	**167**	Pg	**Pb**	**05 43 48.8**	**-0.8**
MAIM				Sg	**Sb**	**05 43 59.4**	**+0.1**
	157nm,0.5s						
MAIM	**Mastiano**	**0.74**	**167**	P	**Pb**	**05 43 48.9**	**-0.7**
MAIM				Sg	**Sb**	**05 43 59.4**	**+0.1**
	157nm,0.5s						
MAIM				S	**Sg**	**05 43 59.9**	**+0.2**
FNVD	**Fontana Vidola**	**0.77**	**127**	Pg	**Pb**	**05 43 50.3**	**+0.1**
	182nm,0.4s						
FNVD	**Fontana Vidola**	**0.77**	**127**	Pg	**Pb**	**05 43 50.3**	**+0.1**
	182nm,0.4s						
PTF	**Prato**	**0.89**	**139**	Pg	**Pb**	**05 43 52.0**	**-0.1**
PTF	**Prato**	**0.89**	**139**	Pg	**Pb**	**05 43 52.0**	**-0.1**
CRMI	**Carmignano**	**0.99**	**149**	Pg	**Pb**	**05 43 53.9**	**+0.1**
	134nm,0.6s						
CRMI	**Carmignano**	**0.99**	**149**	Pg	**Pb**	**05 43 53.9**	**+0.1**
	134nm,0.6s						
SALO	**Salr**	**1.00**	**10**	Pg	**Pb**	**05 43 54.3**	**+0.3**
	827nm,0.5s						
SALO	**Salr**	**1.00**	**10**	Pg	**Pb**	**05 43 54.3**	**+0.3**
	827nm,0.5s						
BALD	**Monte Baldo**	**1.11**	**20**	*e*Pg	**Pn**	**05 43 55.7**	**-0.4**
BALD				*e*Sg	**Sb**	**05 44 11.3**	**+0.9**
BALD	**Monte Baldo**	**1.11**	**20**	*e*Pg	**Pn**	**05 43 55.7**	**-0.4**
BALD				*e*Sg	**Sb**	**05 44 11.3**	**+0.9**
ROVR	**Rover¯¤ Verone**	**1.16**	**29**	Pg	**Pn**	**05 43 55.9**	**-0.7**
ROVR				Sg	**Sb**	**05 44 12.0**	**+0.5**
	1µm,0.4s						
ROVR	**Rover¯¤ Verone**	**1.16**	**29**	Pg	**Pn**	**05 43 55.9**	**-0.7**
ROVR				Sg	**Sb**	**05 44 12.0**	**+0.5**
	1µm,0.4s						
MAGA	**Magasa**	**1.17**	**12**	Pg	**Pn**	**05 43 56.1**	**-0.6**
MAGA				Sg	**Sn**	**05 44 12.6**	**+0.4**
	983nm,0.4s						
MAGA	**Magasa**	**1.17**	**12**	Pg	**Pn**	**05 43 56.1**	**-0.6**
MAGA				Sg	**Sn**	**05 44 12.6**	**+0.4**
	983nm,0.4s						
MARN	**Marana (Italy)**	**1.20**	**33**	*e*Pg	**Pn**	**05 43 56.4**	**-0.7**
MARN				*e*Sg	**Sb**	**05 44 13.3**	**+0.7**
MARN	**Marana (Italy)**	**1.20**	**33**	*e*Pg	**Pn**	**05 43 56.4**	**-0.7**
MARN				*e*Sg	**Sb**	**05 44 13.3**	**+0.7**
TEOL	**Teolo**	**1.23**	**54**	Pg	**Pn**	**05 43 57.9**	**+0.4**
TEOL				Sg	**Sn**	**05 44 14.0**	**+0.4**
	697nm,0.4s						
TEOL	**Teolo**	**1.23**	**54**	*e*Pg	**Pn**	**05 43 57.1**	**-0.4**
TEOL				*e*Sg	**Sn**	**05 44 14.5**	**+0.9**
TEOL	**Teolo**	**1.23**	**54**	Pg	**Pn**	**05 43 57.9**	**+0.4**
TEOL				Sg	**Sn**	**05 44 14.0**	**+0.4**
	697nm,0.4s						
PCP	**Piancastagn**	**1.23**	**266**	Pg	**Pn**	**05 43 57.9**	**+0.3**
	72nm,0.4s						
PCP	**Piancastagn**	**1.23**	**266**	Pg	**Pn**	**05 43 57.9**	**+0.3**
	72nm,0.4s						
RNI	**Roncone**	**1.36**	**10**	*e*Pg	**Pn**	**05 43 59.5**	**0.0**
RNI	**Roncone**	**1.36**	**10**	*e*Pg	**Pn**	**05 43 59.5**	**0.0**
ASQU	**Asqua**	**1.38**	**127**	Pg	**Pb**	**05 44 00.7**	**+0.2**
	71nm,0.8s						
ASQU	**Asqua**	**1.38**	**127**	Pg	**Pb**	**05 44 00.7**	**+0.2**
	71nm,0.8s						
DDS	**Dosso del Somm**	**1.40**	**27**	*e*Pg	**Pn**	**05 43 59.4**	**-0.6**
DDS				*e*Sg	**Sb**	**05 44 19.0**	**+0.4**
DDS	**Dosso del Somm**	**1.40**	**27**	*e*Pg	**Pn**	**05 43 59.4**	**-0.6**
DDS				*e*Sg	**Sb**	**05 44 19.0**	**+0.4**
SASS	**Sassa**´´´´	**1.41**	**167**	Pg	**Pn**	**05 44 00.3**	**+0.3**
	43nm,0.6s						
SASS	**Sassa**´´´´	**1.41**	**167**	Pg	**Pn**	**05 44 00.3**	**+0.3**
	43nm,0.6s						
MABI	**Malga Bissina**	**1.43**	**7**	Pg	**Pn**	**05 44 00.4**	**0.0**
	111nm,0.4s						
MABI	**Malga Bissina**	**1.43**	**7**	Pg	**Pn**	**05 44 00.4**	**0.0**
	111nm,0.4s						
FINB	**Finale Ligure**	**1.47**	**252**	Pg	**Pn**	**05 44 00.9**	**+0.2**
	151nm,0.4s						
FINB	**Finale Ligure**	**1.47**	**252**	Pg	**Pn**	**05 44 00.9**	**+0.2**
	151nm,0.4s						
TRIF	**Trifonti**	**1.59**	**163**	Pg	**Pn**	**05 44 03.4**	**+0.9**
	38nm,0.8s						
TRIF	**Trifonti**	**1.59**	**163**	Pg	**Pn**	**05 44 03.4**	**+0.9**
	38nm,0.8s						
PANI	**Panarotta**	**1.60**	**28**	*e*Pg	**Pn**	**05 44 02.2**	**-0.6**
CGRP	**Cima Grappa**	**1.65**	**41**	*e*Pg	**Pn**	**05 44 03.6**	**+0.2**
CGRP	**Cima Grappa**	**1.65**	**41**	*e*Pg	**Pn**	**05 44 03.6**	**+0.2**
OZOL	**Ozolo**	**1.85**	**17**	*e*Pn	**Pn**	**05 44 06.3**	**+0.2**

SBF	**Sospel**	**2.18**	**250**	*e*Pn	**Pn**	**05 44 11.1**	**+0.5**
SBF	**Sospel**	**2.18**	**250**	*e*P	**Pb**	**05 44 13.5**	**-0.6**
SBF				*e*Sn	**Sn**	**05 44 37.4**	**+0.3**
	27nm,0.3s						
SBF				*e*S	**Sb**	**05 44 41.5**	**+0.7**
	22nm,0.2s						
SBF				*e*Sg	Sg	05 44 43.6	-1.8
SBF	**Sospel**	**2.18**	**250**	*e*Pn	**Pn**	**05 44 11.1**	**+0.5**
SBF	**Sospel**	**2.18**	**250**	*e*P	**Pb**	**05 44 13.5**	**-0.6**
SBF				*e*Sn	**Sn**	**05 44 37.4**	**+0.3**
	14nm,0.3s						
SBF				*e*S	**Sb**	**05 44 41.5**	**+0.7**
	11nm,0.2s						
SBF				*e*Sg	Sg	05 44 43.6	-1.8
PGF	**Pioggiola**	**2.28**	**204**	*e*P	**Pb**	**05 44 14.9**	**-1.1**
PGF	**Pioggiola**	**2.28**	**204**	*e*P	**Pb**	**05 44 14.9**	**-1.1**
FETA	**Feichten**	**2.41**	**8**	*i* Pn	**Pn**	**05 44 15.7**	**+1.9**
	0.9nm,0.2s						
FETA				*i* Sn	**Sn**	**05 44 43.2**	**+0.4**
	4.0nm,0.3s						
FETA	**Feichten**	**2.41**	**8**	Pn	**Pn**	**05 44 15.7**	**+1.9**
	0.9nm,0.2s						
FETA				Sn	**Sn**	**05 44 43.2**	**+0.4**
	4.0nm,0.3s						
MBDF	**Montbardon**	**2.50**	**273**	*e*Pn	**Pb**	**05 44 18.8**	**-0.8**
MBDF	**Montbardon**	**2.50**	**273**	*e*Pn	**Pb**	**05 44 18.8**	**-0.8**
ABTA	**Abfaltersbach**	**2.63**	**36**	*i* Sn	**Sn**	**05 44 47.4**	**-0.9**
	1.8nm,0.2s						
ABTA	**Abfaltersbach**	**2.63**	**36**	Sn	**Sn**	**05 44 47.4**	**-0.9**
	1.8nm,0.2s						
LPG	**La Plagne**	**2.64**	**290**	*e*P	**Pb**	**05 44 21.5**	**-0.6**
LPG	**La Plagne**	**2.64**	**290**	*e*Pg	**Pg**	**05 44 25.7**	**-0.2**
LPG				*e*S	**Sb**	**05 44 53.2**	**-1.0**
	8.3nm,0.3s						
LPG				*e*Sg	**Sg**	**05 45 00.4**	**+0.3**
	37nm,0.5s						
LPG	**La Plagne**	**2.64**	**290**	*e*P	**Pb**	**05 44 21.5**	**-0.6**
LPG	**La Plagne**	**2.64**	**290**	*e*Pg	**Pg**	**05 44 25.7**	**-0.2**
LPG				*e*S	**Sb**	**05 44 53.2**	**-1.0**
	4.2nm,0.3s						
LPG				*e*Sg	**Sg**	**05 45 00.4**	**+0.3**
	18nm,0.5s						
LPL	**La Plagne**	**2.66**	**291**	*e*Pn	**Pn**	**05 44 20.2**	**+2.9**
LPL	**La Plagne**	**2.66**	**291**	*e*Pg	**Pg**	**05 44 25.2**	**-1.0**
LPL	**La Plagne**	**2.66**	**291**	*e*Pn	**Pn**	**05 44 20.2**	**+2.9**
LPL	**La Plagne**	**2.66**	**291**	*e*Pg	**Pg**	**05 44 25.2**	**-1.0**
DAVA	**Damuels**	**2.66**	**354**	*i* Pn	**Pn**	**05 44 16.7**	**-0.7**
	1.5nm,0.2s						
DAVA				*i* Sn	**Sn**	**05 44 50.8**	**+1.6**
	2.1nm,0.1s						
DAVA	**Damuels**	**2.66**	**354**	Pn	**Pn**	**05 44 16.7**	**-0.7**
	1.5nm,0.2s						
DAVA				Sn	**Sn**	**05 44 50.8**	**+1.6**
	2.1nm,0.1s						
MOTA	**Moosalm**	**2.77**	**12**	*i* Pn	**Pn**	**05 44 20.0**	**+1.2**
	2.9nm,0.2s						
MOTA				*i* Sn	**Sn**	**05 44 52.7**	**+0.9**
	3.7nm,0.3s						
MOTA	**Moosalm**	**2.77**	**12**	Pn	**Pn**	**05 44 20.0**	**+1.2**
	2.9nm,0.2s						
MOTA				Sn	**Sn**	**05 44 52.7**	**+0.9**
	3.7nm,0.3s						
WTTA	**Wattenberg**	**2.79**	**19**	*i* Pn	**Pn**	**05 44 20.6**	**+1.4**
	1.8nm,0.2s						
WTTA				*i* Sn	**Sn**	**05 44 48.4**	**-4.0**
	4.6nm,0.3s						
WTTA	**Wattenberg**	**2.79**	**19**	Pn	**Pn**	**05 44 20.6**	**+1.4**
	1.8nm,0.2s						
WTTA				Sn	**Sn**	**05 44 48.4**	**-4.0**
	4.6nm,0.3s						
FRF	**La Foret Royal**	**2.82**	**249**	*e*Pn	**Pn**	**05 44 19.8**	**+0.4**
FRF				*e*Sn	**Sn**	**05 44 53.6**	**+0.7**
	10.0nm,0.2s						
FRF	**La Foret Royal**	**2.82**	**249**	*e*Pn	**Pn**	**05 44 19.8**	**+0.4**
FRF				*e*Sn	**Sn**	**05 44 53.6**	**+0.7**
	5.0nm,0.2s						
WATA	**Walderalm**	**2.85**	**18**	*i* Sn	**Sn**	**05 44 52.5**	**-1.2**
	3.5nm,0.2s						
WATA	**Walderalm**	**2.85**	**18**	Sn	**Sn**	**05 44 52.5**	**-1.2**
	3.5nm,0.2s						
RETA	**Reutte**	**2.87**	**7**	*i* Pn	**Pn**	**05 44 20.6**	**+0.5**
	0.9nm,0.2s						
RETA				*i* Sn	**Sn**	**05 44 55.9**	**+1.7**
	5.3nm,0.3s						
RETA	**Reutte**	**2.87**	**7**	Pn	**Pn**	**05 44 20.6**	**+0.5**
	0.9nm,0.2s						
RETA				Sn	**Sn**	**05 44 55.9**	**+1.7**
	5.3nm,0.3s						
LMR	**La Mourre**	**3.01**	**246**	*e*Pn	**Pn**	**05 44 21.7**	**-0.3**
LMR				*e*Sn	**Sn**	**05 44 56.5**	**-1.0**
	6.1nm,0.2s						
LMR	**La Mourre**	**3.01**	**246**	*e*Pn	**Pn**	**05 44 21.7**	**-0.3**
LMR				*e*Sn	**Sn**	**05 44 56.5**	**-1.0**
	3.0nm,0.2s						
MYKA	**Terra Mystica**	**3.09**	**49**	*i* Sn	**Sn**	**05 45 00.2**	**+0.6**
	1.1nm,0.2s						
MYKA	**Terra Mystica**	**3.09**	**49**	Sn	**Sn**	**05 45 00.2**	**+0.6**
	1.1nm,0.2s						
ORIF	**Oris-en-Rattie**	**3.14**	**277**	*e*Pn	**Pn**	**05 44 26.0**	**+2.2**
ORIF				*e*S	**Sb**	**05 45 08.0**	**-0.4**
	23nm,0.5s						
ORIF	**Oris-en-Rattie**	**3.14**	**277**	*e*Pn	**Pn**	**05 44 26.0**	**+2.2**
NVLJ	**Novalja**	**3.29**	**90**	*e*Pn	**Pn**	**05 44 25.0**	**-0.8**
NVLJ				Sn	**Sn**	**05 45 01.9**	**-2.4**
NVLJ	**Novalja**	**3.29**	**90**	*e*Pn	**Pn**	**05 44 24.9**	**-0.8**
NVLJ				Sn	**Sn**	**05 45 01.9**	**-2.4**
SMRF	**Simiane la Rot**	**3.43**	**261**	*e*Pn	**Pn**	**05 44 30.0**	**+2.2**
SMRF	**Simiane la Rot**	**3.43**	**261**	*e*Pn	**Pn**	**05 44 30.0**	**+2.2**
HINF	**Hinteralfeld**	**3.96**	**325**	*e*Sn	**Sn**	**05 45 20.4**	**-0.7**
	7.0nm,0.3s						
HINF	**Hinteralfeld**	**3.96**	**325**	*e*Sn	**Sn**	**05 45 20.4**	**-0.7**
	3.5nm,0.3s						
VIVF	**Saint-Julien-l**	**3.99**	**275**	*e*Pn	**Pn**	**05 44 38.3**	**+2.8**
VIVF	**Saint-Julien-l**	**3.99**	**275**	*e*Pn	**Pn**	**05 44 38.3**	**+2.8**
MOA	**Molln**	**4.24**	**39**	*i* Pn	**Pn**	**05 44 37.8**	**-1.1**
	0.6nm,0.2s						
MOA				*i* Sn	**Sn**	**05 45 27.8**	**-0.1**
	1.0nm,0.1s						
MOA	**Molln**	**4.24**	**39**	Pn	**Pn**	**05 44 37.8**	**-1.1**
	0.6nm,0.2s						
MOA				Sn	**Sn**	**05 45 27.8**	**-0.1**
	1.0nm,0.1s						
CDF	**Champ du Feu**	**4.30**	**332**	*e*Pn	**Pn**	**05 44 39.5**	**-0.3**
CDF				*e*Sn	**Sn**	**05 45 27.9**	**-1.6**
	8.8nm,0.3s						
CDF	**Champ du Feu**	**4.30**	**332**	*e*Pn	**Pn**	**05 44 39.5**	**-0.3**
CDF				*e*Sn	**Sn**	**05 45 27.9**	**-1.6**
	4.4nm,0.3s						
HAU	**Haudompre**	**4.33**	**323**	*e*Sn	**Sn**	**05 45 29.0**	**-1.0**
	15nm,0.3s						
HAU	**Haudompre**	**4.33**	**323**	*e*Sn	**Sn**	**05 45 29.0**	**-1.0**
	7.3nm,0.3s						
KHC	**Kasperske Hory**	**5.03**	**26**	*e*PN	**Pn**	**05 44 48.5**	**-1.3**
KHC				*e*SN	**Sn**	**05 45 44.5**	**-3.0**
KHC				*ex*	x	05 46 15.5	
KHC	**Kasperske Hory**	**5.03**	**26**	Pn	**Pn**	**05 44 48.5**	**-1.3**
KHC				Sn	**Sn**	**05 45 44.5**	**-3.0**
LOR	**Lormes**	**5.18**	**303**	*e*Sn	**Sn**	**05 45 50.1**	**-1.1**
	6.2nm,0.4s						
LOR	**Lormes**	**5.18**	**303**	*e*Sn	**Sn**	**05 45 50.1**	**-1.1**
	3.1nm,0.4s						

*ISCJB **09** 05:49:34.7±0.9,21.°98N±0.°07×122.°02E±0.°04,h27km±7km, Error ellipse: s-maj=11.7km s-min=4.3km az=161.7*
*TAP **09** 05:49:35.4,21.°96N×121.°93E,h29km,ML3.1,C*
*JMA **09** 05:49:36.0±0.2,22.°06N×121.°92E,h84km,M3.1*

ISC 09 05:49:29.1±1.6,**21.°98N**±0.°06×**122.°20E**±0.°03,**h16**km±11km, **n23**,σ1**°16**/39,**1C**,**Taiwan region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LAY	**Lan-yu**	**0.61**	**276**	⇑*i*	**Pn**	**05 49 43.4**	**+0.2**
	baz=282						
LAY				S	**Sb**	**05 49 49.4**	**-0.4**
	baz=282						
TSEB	**Hengchuen, Pin**	**1.21**	**267**	*e*P	**Pg**	**05 49 54.0**	**+1.5**
	baz=266						
TSEB				*e*S	**Sn**	**05 50 07.5**	**0.0**
	baz=266						
TWK1	**Hengchun**	**1.30**	**269**	P	**Pg**	**05 49 54.4**	**+0.2**
	baz=282						
TWK1				*e*S	**Sb**	**05 50 08.7**	**-0.9**
	baz=282						
EAST	**Anshuo**	**1.32**	**288**	P	**Pg**	**05 49 54.2**	**-0.4**
	baz=293						
EAST				*e*S	**Sb**	**05 50 06.9**	**-3.3**
	baz=293						
TWG	**Pinlang**	**1.34**	**309**	*e*P	**Pg**	**05 49 56.4**	**+1.4**
	baz=325						
TWG				*e*S	**Sn**	**05 50 10.5**	**-0.3**
	baz=325						
HEN	**Hengchun**	**1.36**	**272**	*e*P	**Pg**	**05 49 55.7**	**+0.4**
	baz=272						
HEN				*e*S	**Sn**	**05 50 10.7**	**-0.5**
	baz=272						
CHKT	**Chengkung**	**1.36**	**326**	*e*P	**Pg**	**05 49 56.0**	**+0.7**
	baz=345						
CHKT				S	**Sb**	**05 50 11.7**	**+0.3**
	baz=345						
SCZT	**Fangliau**	**1.52**	**285**	*e*P	**Pb**	**05 49 57.1**	**+0.2**
	baz=297						
WTP	**Ta-pu**	**1.94**	**311**	*e*P	**Pb**	**05 50 04.9**	**+0.8**
	baz=323						
CHN1	**Nanshi**	**1.96**	**308**	*e*P	**Pb**	**05 50 05.1**	**+0.6**
	baz=313						
CHN1				*e*S	**Sb**	**05 50 29.9**	**+1.1**
	baz=313						
ALS	**Alishan**	**2.00**	**320**	*e*P	**Pg**	**05 50 07.2**	**-0.4**
	baz=332						
CHN4	**Tsaushan**	**2.02**	**313**	*e*P	**Pg**	**05 50 07.8**	**-0.1**
	baz=318						
CHN4				*e*S	**Sb**	**05 50 31.9**	**+1.4**
	baz=318						
WDT	**Danda**	**2.03**	**331**	*e*P	**Pb**	**05 50 06.3**	**+0.4**
	baz=338						
TWK	**Hsinying**	**2.04**	**309**	*e*P	**Pb**	**05 50 06.8**	**+0.9**
	baz=300						
CHN5	**Tsauling**	**2.14**	**319**	*e*P	**Pg**	**05 50 10.3**	**+0.1**
	baz=325						
CHN5				*e*S	**Sg**	**05 50 36.4**	**-1.7**
	baz=325						
SMLT	**Sun Moon Lake**	**2.25**	**328**	*e*P	**Pg**	**05 50 11.0**	**-1.3**
	baz=342						
TYC	**Yuchr**	**2.29**	**327**	*e*P	**Pb**	**05 50 10.7**	**+0.7**
	baz=339						
HATJ	**Hateruma jima**	**2.54**	**35**	P	**Pg**	**05 50 17.5**	**-0.5**
HATJ				*e*S	**Sb**	**05 50 47.9**	**+2.3**
YOJ	**Yonaguni jima**	**2.58**	**17**	P	**Pb**	**05 50 17.2**	**+2.0**
YOJ				*e*S	**Sb**	**05 50 47.3**	**+0.6**
JKRS	**Kuro-shima**	**2.80**	**36**	P	**Pg**	**05 50 21.3**	**-1.6**
JKRS				S	**Sb**	**05 50 54.1**	**+1.2**
JIJ	**Ishigaki jima**	**2.97**	**37**	P	**Pb**	**05 50 23.2**	**+1.4**
JIJ				S	**Sb**	**05 50 57.7**	**-0.2**
JISG	**Ishigakijimahi**	**3.24**	**36**	P	**Pb**	**05 50 26.7**	**+0.3**
JISG				S	**Sb**	**05 51 04.5**	**-1.2**
JTJ	**Tarama**	**3.51**	**40**	P	**Pb**	**05 50 31.1**	**+0.2**
JTJ				*e*S	**Sb**	**05 51 12.0**	**-1.4**

*JMA **09** 05:52:10.8±0.1,22.°24N×121.°17E,h6km,M3.8*
*TAP **09** 05:52:12.1,22.°32N×120.°98E,h11km,ML4.3,B*
*NEIC **09** 05:52:17.9±2.2,22.°73N×121.°24E,h10km,ML4.5(TAP), Error ellipse: s-maj=21.2km s-min=9.8km az=172.0*
NEIC Recorded [3 TAP] in Taitung.

ISC 09 05:52:11.0±1.1,**22.°27N**±0.°02×**121.°09E**±0.°02,**h6**km±9km, **n78**,σ0**°98**/116,**14C-7D**,**Taiwan region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TAW	**Tawu**	**0.20**	**298**	⇑*i*P	**Pg**	**05 52 15.3**	**+0.3**
	baz=299						
TAW				*i* S	**Sg**	**05 52 17.2**	**-0.4**
	baz=299						
EAST	**Anshuo**	**0.25**	**298**	⇑*i*P	**Pg**	**05 52 16.1**	**+0.1**
	baz=300						
ECL	**Taimali**	**0.35**	**340**	⇓*i*P	**Pb**	**05 52 18.5**	**-1.2**
	baz=357						
TSEB	**Hengchuen, Pin**	**0.40**	**205**	⇓*i*P	**Pn**	**05 52 21.7**	**-1.6**
	baz=194						
TSEB				*e*S	**Sb**	**05 52 29.5**	**+2.6**
	baz=194						
TWK1	**Hengchun**	**0.41**	**219**	⇓*i*P	**Pb**	**05 52 20.9**	**+0.2**
	baz=201						
TWK1				*e*S	**Sb**	**05 52 27.4**	**+0.2**
	baz=201						
HEN	**Hengchun**	**0.41**	**231**	⇓*i*P	**Pb**	**05 52 20.7**	**0.0**
	baz=213						
HEN				S	**Sb**	**05 52 27.0**	**-0.2**
	baz=213						
SCZT	**Fangliau**	**0.45**	**284**	⇑*i*P	**Pg**	**05 52 19.6**	**0.0**
	baz=279						
SCZT				S	**Sg**	**05 52 24.5**	**-1.0**
	baz=279						
LAY	**Lan-yu**	**0.49**	**118**	⇑P	**Pn**	**05 52 23.6**	**-0.9**
	baz=117						
LAY				*e*S	**Sb**	**05 52 31.4**	**+2.1**
	baz=117						
TTN	**Taitung**	**0.49**	**7**	⇓P	**Pb**	**05 52 22.9**	**+0.8**
	baz=25						
TTN				*e*S	**Sb**	**05 52 30.8**	**+1.3**
	baz=25						
TWG	**Pinlang**	**0.55**	**359**	⇓*i*P	**Pb**	**05 52 22.5**	**-0.6**
	baz=15						
TWG				*e*S	**Sb**	**05 52 29.9**	**-1

	baz=342								
CHN5	**Tsauling**	**1.38**	**344**	⇑	*e*P		**Pg**	**05 52 38.0**	**+0.6**
	baz=350								
CHN5					S		**Sn**	**05 52 57.0**	**+1.5**
	baz=350								
CHN2	**Minshiung**	**1.38**	**336**		*e*P		**Pg**	**05 52 37.3**	**-0.2**
	baz=345								
CHN2					*e*S		**Sn**	**05 52 57.2**	**+1.8**
	baz=345								
WDT	**Danda**	**1.48**	**2**		*e*P		**Pn**	**05 52 38.0**	**-0.5**
	baz=20								
WGK	**Gukeng**	**1.49**	**341**		*e*P		**Pb**	**05 52 38.9**	**-0.3**
	baz=354								
SSLB	**Suanglung**	**1.52**	**355**		*e*Pg		**Pn**	**05 52 38.6**	**-0.1**
SSLB					*e*Sn		**Sg**	**05 53 01.8**	**+1.9**
ESL	**Shilin**	**1.57**	**12**		*e*P		**Pb**	**05 52 40.4**	**-0.1**
	baz=34								
WSF	**Szhu**	**1.58**	**330**		*e*P		**Pn**	**05 52 39.3**	**-0.2**
	baz=339								
WSF					*e*S		**Sn**	**05 53 00.0**	**-0.3**
	baz=339								
SMLT	**Sun Moon Lake**	**1.62**	**354**		*e*P		**Pb**	**05 52 41.2**	**-0.2**
	baz=21								
TYC	**Yuchr**	**1.65**	**353**		P		**Pg**	**05 52 41.9**	**-0.6**
	baz=22								
TYC					*e*S		**Sg**	**05 53 05.8**	**+1.9**
	baz=22								
WDGT	**Dungji**	**1.65**	**307**		*e*P		**Pn**	**05 52 38.8**	**-1.7**
	baz=309								
WNT	**Mingjian**	**1.65**	**347**		*e*P		**Pb**	**05 52 41.4**	**-0.4**
	baz=1.0								
WNT					*e*S		**Sg**	**05 53 04.4**	**+0.4**
	baz=1.0								
TWD	**Chiawan**	**1.87**	**14**		*e*P		**Pn**	**05 52 44.0**	**+0.6**
	baz=24								
WHF	**Hehuan Shan**	**1.88**	**5**		*e*P		**Pb**	**05 52 45.8**	**-0.2**
	baz=30								
TCU	**Taichung**	**1.91**	**349**		*e*P		**Pn**	**05 52 44.5**	**+0.4**
	baz=2.0								
PNG	**Penghu**	**1.92**	**313**		*e*P		**Pn**	**05 52 42.1**	**-2.0**
	baz=318								
NACB	**Ninganchiao**	**1.96**	**14**		*e*Pn		**Pn**	**05 52 44.5**	**-0.2**
NACB					*e*Sg		**Sg**	**05 53 16.2**	**+2.3**
TWT	**Tachien**	**1.98**	**2**		*e*P		**Pb**	**05 52 47.1**	**-0.4**
	baz=19								
TWT					*e*S		**Sg**	**05 53 14.8**	**+0.1**
	baz=19								
TWQ1	**Liyutan**	**2.09**	**352**		*e*P		**Pb**	**05 52 48.6**	**-0.8**
	baz=5.0								
NSY	**Sanyi**	**2.16**	**352**		*e*P		**Pb**	**05 52 49.5**	**-1.1**
	baz=5.0								
NNS	**Nan Shan**	**2.18**	**7**		*e*P		**Pb**	**05 52 50.3**	**-0.6**
	baz=35								
ENA	**Nanau**	**2.23**	**15**		*e*P		**Pb**	**05 52 51.1**	**-0.7**
	baz=37								
NSTT	**Nanjuang**	**2.36**	**358**		*e*P		**Pb**	**05 52 52.9**	**-1.0**
	baz=12								
ENTT	**Nioudou**	**2.40**	**10**		*e*P		**Pb**	**05 52 54.0**	**-0.7**
	baz=33								
YHNB	**Yeheng**	**2.41**	**6**		*e*Pn		**Pn**	**05 52 51.9**	**+0.9**
YHNB					*e*Pg		**Pg**	**05 52 56.3**	**-0.9**
NSK	**Sanguang**	**2.41**	**6**		*e*P		**Pb**	**05 52 52.9**	**-1.9**
	baz=18								
TWC	**Suao**	**2.44**	**17**		*e*P		**Pn**	**05 52 51.6**	**+0.3**
	baz=37								
TWE	**Neicheng**	**2.50**	**12**		*e*P		**Pb**	**05 52 54.0**	**-2.3**
	baz=34								
EGS		**2.68**	**17**		*e*P		**Pb**	**05 52 57.6**	**-1.8**
	baz=37								
TATO	**Taipei**	**2.72**	**8**		*e*Pg		**Pb**	**05 53 01.1**	**+0.9**
TWA	**Mucha**	**2.74**	**9**		*e*P		**Pb**	**05 52 59.9**	**-0.5**
	baz=7.0								
JYNG	**Yonagunijimaku**	**2.77**	**38**		P		**Pn**	**05 52 56.3**	**+0.5**
JYNG					S		**Sn**	**05 53 28.4**	**-1.2**
TAP1	**Taipei**	**2.79**	**8**		*e*P		**Pb**	**05 53 00.5**	**-0.8**
	baz=34								
YOJ	**Yonaguni jima**	**2.81**	**39**		*e*P		**Pn**	**05 52 56.7**	**+0.3**
	baz=48								
YOJ	**Yonaguni jima**	**2.81**	**39**		P		**Pn**	**05 52 56.8**	**+0.3**
YOJ					*e*S		**Sn**	**05 53 30.1**	**-0.6**
YOJ	**Yonaguni jima**	**2.81**	**39**		*e*Pn		**Pn**	**05 52 56.5**	**0.0**
TWB1	**Santiao Chiao**	**2.85**	**17**		*e*P		**Pn**	**05 52 58.7**	**+1.7**
	baz=37								
NWF	**Wu-fen Shan**	**2.86**	**13**		*e*P		**Pn**	**05 52 59.3**	**+2.0**
	baz=33								
HATJ	**Hateruma jima**	**3.07**	**54**		P		**Pn**	**05 53 00.2**	**+0.1**
HATJ					S		**Sn**	**05 53 36.8**	**-0.3**
IRIF	**Iriomote-Funau**	**3.19**	**49**		P		**Pn**	**05 53 02.4**	**+0.8**
IRIF					S		**Sn**	**05 53 39.4**	**-0.5**
KNM	**Kinmen**	**3.25**	**312**		*e*P		**Pn**	**05 53 03.2**	**+0.8**
	baz=317								
JKRS	**Kuro-shima**	**3.33**	**53**		P		**Pn**	**05 53 04.0**	**+0.4**
JKRS					S		**Sn**	**05 53 43.2**	**-0.2**
JIJ	**Ishigaki jima**	**3.50**	**53**		P		**Pn**	**05 53 06.2**	**+0.2**
JIJ					*e*S		**Sn**	**05 53 46.0**	**-1.7**
JISG	**Ishigakijimahi**	**3.76**	**51**		P		**Pn**	**05 53 09.4**	**-0.1**
JISG					S		**Sn**	**05 53 53.6**	**-0.4**
JTJ	**Tarama**	**4.08**	**54**		P		**Pn**	**05 53 14.5**	**+0.6**
JTJ					S		**Sn**	**05 54 00.8**	**-1.1**
JIRB	**Irabujima**	**4.54**	**55**		P		**Pn**	**05 53 20.9**	**+0.7**

WEL 09 05:56:33.8±0.1, 38°92S×177°60E, h28km, ML3.6/48, 12C-6D, Error ellipse: s-maj=1.1km s-min=0.7km az=90.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KNZ	**Kokohu**	**0.12**	**151**	⇑P*	Pb	05 56 38.2	-0.7
KNZ				S*	Sb	05 56 42.7	+0.2
KNZ				AML	AML	05 56 44.3	
PRGZ	**Paritu Road**	**0.22**	**91**	⇑P*	Pb	05 56 39.8	-0.2
PRGZ				S*	Sb	05 56 45.5	+1.3
PRGZ				AML	AML	05 56 49.2	
RIGZ	**Rimuhau**	**0.25**	**30**	⇑P*	Pb	05 56 40.0	-0.4
RIGZ				S*	Sb	05 56 45.6	+0.8
RIGZ				AML	AML	05 56 46.1	
SNGZ	**Shannon Statio**	**0.25**	**304**	P*	Pb	05 56 39.6	-0.7
SNGZ				S*	Sb	05 56 45.1	+0.2
SNGZ				AML	AML	05 56 45.4	
WHHZ	**Waihua**	**0.33**	**241**	⇓P*	Pb	05 56 41.3	-0.1
WHHZ				AML	AML	05 56 49.5	
WHHZ				AML	AML	05 56 50.3	
MHGZ	**Mahia Peninsul**	**0.33**	**135**	⇑P*	Pb	05 56 41.7	+0.2
MHGZ				AML	AML	05 56 56.0	
MHGZ				AML	AML	05 56 56.1	
RAGZ	**Rawiri**	**0.45**	**341**	⇑P*	Pb	05 56 42.9	-0.5
RAGZ				AML	AML	05 56 50.9	
RAGZ				AML	AML	05 56 51.0	
TKGZ	**Te Karaka**	**0.52**	**22**	P*	Pb	05 56 44.2	-0.1
TKGZ				AML	AML	05 56 54.1	
TKGZ				AML	AML	05 56 54.5	
RTZ	**Ruatahuna**	**0.57**	**302**	⇑P*	Pb	05 56 44.7	-0.7
ARHZ	**Aropaoanui**	**0.58**	**234**	P*	Pb	05 56 45.6	+0.1
ARHZ				AML	AML	05 56 59.1	
ARHZ				AML	AML	05 57 01.5	
MWZ	**Matawai**	**0.59**	**354**	P*	Pb	05 56 44.7	-0.9
MWZ				AML	AML	05 56 54.9	
MWZ				AML	AML	05 56 55.0	
CNGZ	**Carnagh Statio**	**0.64**	**48**	⇓P*	Pb	05 56 46.2	-0.3
CNGZ				AML	AML	05 56 59.4	
CNGZ				AML	AML	05 57 06.6	
NMHZ	**Naumai**	**0.65**	**254**	⇑P*	Pb	05 56 46.5	0.0
NMHZ				AML	AML	05 56 58.1	
NMHZ				AML	AML	05 57 04.0	
URZ	**Urewera**	**0.76**	**330**	⇑PN	Pb	05 56 47.8	-0.6
URZ				AML	AML	05 56 48.1	
URZ				AML	AML	05 56 59.5	
MUGZ	**Murupara**	**0.79**	**304**	⇑PN	Pb	05 56 48.3	-0.6
TWGZ	**Tauwhareparae**	**0.80**	**22**	⇑PN	Pb	05 56 48.7	-0.5
TWGZ				AML	AML	05 57 03.0	
TWGZ				AML	AML	05 57 06.4	
CKHZ	**Cape Kidnapper**	**0.84**	**209**	⇓PN	Pn	05 56 49.0	-0.8
CKHZ				AML	AML	05 57 03.8	
CKHZ				AML	AML	05 57 04.1	
MCHZ	**McNeill Hill**	**0.88**	**233**	PN	Pn	05 56 50.0	-0.3
MCHZ				AML	AML	05 57 14.5	
MCHZ				AML	AML	05 57 36.9	
BKZ	**Black Stump Fm**	**0.90**	**254**	PN	Pn	05 56 49.8	-0.8
BKZ				AML	AML	05 57 03.7	
BKZ				AML	AML	05 57 04.7	
MRHZ	**Matea Rd**	**0.93**	**275**	PN	Pn	05 56 50.8	-0.2
MRHZ				AML	AML	05 57 04.7	
MRHZ				AML	AML	05 57 06.2	

RUGZ	**Raukumara Rang**	**0.95**	**4**		PN		Pn	05 56 50.3	-1.1
PUZ	**Puketiti**	**0.99**	**31**		PN		Pn	05 56 50.4	-1.4
PUZ					AML		AML	05 57 09.8	
PUZ					AML		AML	05 57 09.8	
RRRZ	**Republican Roa**	**1.03**	**304**		PN		Pn	05 56 51.7	-0.6
RRRZ					AML		AML	05 57 09.9	
RRRZ					AML		AML	05 57 10.8	
PRRZ	**Plateau Road**	**1.04**	**294**		PN		Pn	05 56 52.3	-0.1
PRRZ					AML		AML	05 57 12.7	
PRRZ					AML		AML	05 57 16.1	
KAHZ	**Kahuranaki**	**1.04**	**213**		PN		Pn	05 56 51.6	-0.9
KAHZ					AML		AML	05 57 17.9	
KAHZ					AML		AML	05 57 21.8	
KWHZ	**Kaweka Forest**	**1.05**	**241**	⇑	PN		Pn	05 56 52.0	-0.6
KWHZ					AML		AML	05 57 13.7	
KWHZ					AML		AML	05 57 16.4	
ALRZ	**Allen Road**	**1.05**	**290**		PN		Pn	05 56 52.3	-0.3
ALRZ					AML		AML	05 57 10.3	
ALRZ					AML		AML	05 57 11.4	
EDRZ	**Edgecumbe**	**1.06**	**320**	⇓	PN		Pn	05 56 52.3	-0.5
EDRZ					AML		AML	05 57 15.7	
EDRZ					AML		AML	05 57 17.5	
PKGZ	**Pakihiroa**	**1.10**	**20**	⇓	PN		Pn	05 56 52.4	-0.9
TARZ	**Mount Tarawera**	**1.10**	**308**	⇑	PN		Pn	05 56 53.1	-0.3
TARZ					AML		AML	05 57 16.5	
TARZ					AML		AML	05 57 20.4	
HRRZ	**Handcock Road**	**1.16**	**297**		PN		Pn	05 56 53.6	-0.6
HRRZ					AML		AML	05 57 21.0	
HRRZ					AML		AML	05 57 27.5	
HAZ	**Te Kaha**	**1.17**	**7**	⇓	PN		Pn	05 56 53.5	-0.8
HAZ					AML		AML	05 57 15.8	
HAZ					AML		AML	05 57 18.4	
WHRZ	**Whale Island**	**1.17**	**335**		PN		Pn	05 56 53.7	-0.6
MKRZ	**Makatiti**	**1.18**	**311**		PN		Pn	05 56 54.9	+0.4
MKRZ					AML		AML	05 56 59.2	
MKRZ					AML		AML	05 56 59.8	
KRHZ	**Kereru**	**1.20**	**233**		PN		Pn	05 56 53.8	-0.9
KRHZ					AML		AML	05 57 22.2	
KRHZ					AML		AML	05 57 25.4	
PXZ	**Pawanui**	**1.25**	**207**		AML		AML	05 57 28.6	
PXZ					AML		AML	05 57 28.6	
PXZ					AML		AML	05 57 33.6	
PXZ					AML		AML	05 57 33.6	
WMGZ	**Waiomatatini S**	**1.27**	**30**		PN		Pn	05 56 54.4	-1.2
WMGZ					AML		AML	05 57 12.7	
WMGZ					AML		AML	05 57 34.4	
BHHZ	**Black Hill Sta**	**1.32**	**244**		PN		Pn	05 56 55.8	-0.6
BHHZ					AML		AML	05 57 20.0	
BHHZ					AML		AML	05 57 22.7	
MXZ	**Matakaoa Point**	**1.47**	**22**		PN		Pn	05 56 57.3	-1.0
PNHZ	**Pukenui**	**1.47**	**227**		PN		Pn	05 56 57.1	-1.4
PNHZ					AML		AML	05 57 38.1	
PNHZ					AML		AML	05 57 47.9	
KATZ	**Kakaramea**	**1.49**	**267**	*e*	PN		Pn	05 56 58.4	-0.4
KATZ					AML		AML	05 57 37.3	
MOVZ	**Moawhango**	**1.52**	**251**	*e*	PN		Pn	05 56 59.3	+0.2
MOVZ					AML		AML	05 57 23.7	
MOVZ					AML		AML	05 57 40.1	
OTVZ	**Oturere**	**1.53**	**260**		PN		Pn	05 56 59.3	-0.1
OTVZ					AML		AML	05 57 33.3	
OTVZ					AML		AML	05 57 34.8	
KRVZ	**Karewarewa**	**1.54**	**263**		PN		Pn	05 56 59.1	-0.3
KRVZ					AML		AML	05 57 28.0	
KRVZ					AML		AML	05 57 28.4	
PRHZ	**Porangahau**	**1.54**	**209**		AML		AML	05 57 40.6	
PRHZ					AML		AML	05 57 42.8	
NGZ	**Ngauruhoe**	**1.58**	**260**	*e*	PN		Pn	05 56 59.6	-0.5
NGZ					AML		AML	05 57 24.4	
NGZ					AML		AML	05 57 26.1	
WTVZ	**West Tongariro**	**1.58**	**262**	*e*	PN		Pn	05 56 59.6	-0.4
WTVZ					AML		AML	05 57 30.8	
WTVZ					AML		AML	05 57 39.7	
TGRZ	**Tauranga**	**1.59**	**318**	*e*	PN		Pb	05 57 02.0	-0.5
TGRZ					AML		AML	05 57 07.8	
WHVZ	**Whangaehu Hut**	**1.61**	**256**		AML		AML	05 57 33.9	
WHVZ					AML		AML	05 57 35.1	
WNVZ	**Wahianoa**	**1.61**	**255**		PN		Pn	05 56 59.8	-0.6
FWVZ	**Far West T-bar**	**1.63**	**258**		PN		Pn	05 57 01.3	+0.5
FWVZ					AML		AML	05 57 36.2	
FWVZ					AML		AML	05 57 37.4	
TRVZ	**Turoa**	**1.64**	**256**		PN		Pn	05 57 01.4	+0.4
TRVZ					AML		AML	05 57 35.8	
TRVZ					AML		AML	05 57 36.0	
DVHZ	**Dannevirke**	**1.77**	**218**		AML		AML	05 57 28.7	
DVHZ					AML		AML	05 57 58.3	
BFZ	**Birch Farm**	**2.05**	**210**		PN		Pn	05 57 03.5	-2.8
MRZ	**Mangatainoka R**	**2.33**	**221**		PN		Pn	05 57 08.1	-2.2
MRZ					AML		AML	05 58 09.6	
MRZ					AML		AML	05 58 11.1	
HOWZ	**Holdsworth Sta**	**2.54**	**218**	*e*	PN		Pn	05 57 10.3	-2.9
OGWZ	**Otaki Gorge**	**2.66**	**224**		PN		Pn	05 57 12.0	-2.8
OGWZ					AML		AML	05 58 20.6	
KIW	**Kapiti Island**	**2.84**	**226**		PN		Pn	05 57 14.6	-2.6
DUWZ	**D'Urville Isla**	**3.40**	**235**	*e*	PN		Pn	05 57 22.4	-2.5
TCW	**Tory Channel**	**3.43**	**227**		PN		Pn	05 57 22.2	-3.1
NNZ	**Nelson**	**3.97**	**233**		PN		Pn	05 57 29.8	-2.9
QRZ	**Quartz Range**	**4.34**	**242**		PN		Pn	05 57 35.0	-2.9
THZ	**Tophouse**	**4.58**	**230**		PN		Pn	05 57 37.9	-3.3
CTZ	**Chatham Island**	**6.49**	**140**	*e*	PN		Pn	05 58 05.6	-1.6

*ISCJB **09** 05:57:49.8±0.5, 32°.17N±0°.02×115°.17W±0°.02, h10km±3km, Error ellipse: s-maj=4.0km s-min=3.1km az=2.0*
*ECX **09** 05:57:51.9±0.6, 32°.16N×115°.23W, h6km, MD2.6, ML2.8*
*MEX **09** 05:57:52.4±0.4, 32°.11N×115°.20W, h11km±6km, MD3.3*
*NEIC **09** 05:57:52.0±0.0, 32°.16N×115°.24W, h6km, ML2.8(ECX), ML2.9(PAS), After ECX.*

ISC 09 05:57:48.4±1.3, 32°.10N±0°.04×115°.20W±0°.02, h2km±11km, n46, σ1°21/67, 3C-3D, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ECBX	**El Chinero**	**0.64**	**168**	*e*P	**Pn**	**05 58 04.0**	**-0.4**
ECBX				*e*S	**Sn**	**05 58 14.0**	**-1.0**
EMSC	**East Mesa**	**0.67**	**16**	⇓*i*P	**Pb**	**05 58 03.0**	**+0.2**
EMSC	**East Mesa**	**0.67**	**16**	*e*Pg	**Pb**	**05 58 03.0**	**+0.2**
SGL	**Mount Signal**	**0.71**	**322**	⇑*i*P	**Pb**	**05 58 03.6**	**+0.2**
YMD	**Yuma Desert**	**0.72**	**50**	⇑*i*P	**Pb**	**05 58 04.0**	**+0.4**
ERPC	**Ernies Place**	**0.75**	**329**	*e*P	**Pb**	**05 58 04.6**	**+0.4**
ERPC	**Ernies Place**	**0.75**	**329**	*e*Pg	**Pb**	**05 58 04.7**	**+0.4**
COA	**Coachella**	**0.77**	**5**	⇓*i*P	**Pb**	**05 58 04.2**	**-0.3**
COA	**Coachella**	**0.77**	**5**	*e*Pg	**Pb**	**05 58 04.2**	**-0.3**
WESC	**Westside Schoo**	**0.80**	**326**	*e*P	**Pb**	**05 58 05.2**	**+0.3**
WESC	**Westside Schoo**	**0.80**	**326**	*e*Pg	**Pb**	**05 58 05.3**	**+0.3**
WESC				*e*Sg	**Sb**	**05 58 16.2**	**0.0**
YUH	**Yuha Desert**	**0.82**	**312**	⇑*i*P	**Pb**	**05 58 05.4**	**0.0**
YUH	**Yuha Desert**	**0.82**	**312**	*e*Pg	**Pb**	**05 58 05.4**	**0.0**
RMX	**La Rumorosa**	**0.90**	**305**	*e*P	**Pb**	**05 58 06.2**	**-0.5**
RMX				*e*S	**Sg**	**05 58 17.7**	**+0.5**
RMX				⇓*e*		05 58 18.6	
RMX				IAML		05 58 18.6	
	comp=E,365nm,0.1s						
IKP	**In-Ko-Pah, Jac**	**0.94**	**306**	*e*P	**Pb**	**05 58 07.4**	**-0.1**
IKP				*e*S	**Sb**	**05 58 19.6**	**-0.9**
GLA	**Glamis**	**1.00**	**18**	*e*Pg	**Pg**	**05 58 07.7**	**0.0**
GLA				*e*Sg	**Sg**	**05 58 20.0**	**-0.7**
CRR	**Carrizo Plain**	**1.02**	**321**	*e*Pg	**Pb**	**05 58 09.0**	**+0.3**
ZAX	**El Zacaton**	**1.08**	**238**	*e*P	**Pn**	**05 58 11.9**	**+1.3**
ZAX				*e*S	**Sn**	**05 58 26.4**	**+0.2**
CBKC	**Canebrake**	**1.20**	**312**	*e*Pg	**Pn**	**05 58 12.3**	**+0.2**
CBKC				*e*Sn	**Sn**	**05 58 28.1**	**-0.8**
ECNX	**Esteban Cantu**	**1.26**	**250**	*e*P	**Pn**	**05 58 14.0**	**+0.9**
ECNX				*e*S	**Sn**	**05 58 31.2**	**+0.5**
TJIG	**Tijuana**	**1.29**	**286**	*i* P	**Pn**	**05 58 14.1**	**+0.7**
TJIG				*e*S	**Sg**	**05 58 28.6**	**-1.2**
PBX	**Punta Banda**	**1.34**	**255**	*e*P	**Pb**	**05 58 14.5**	**+0.3**
PBX				*e*S	**Sn**	**05 58 32.6**	**+0.1**
BAR	**Barrett**	**1.37**	**296**	*e*P	**Pn**	**05 58 14.2**	**-0.4**
BAR	**Barrett**	**1.37**	**296**	*e*Pn	**Pn**	**05 58 14.2**	**-0.4**
BAR				*e*Sg	**Sg**	**05 58 32.0**	**-0.5**
113A	**Mohawk Valley,**	**1.39**	**61**	*e*Pn	**Pn**	**05 58 14.2**	**-0.5**
113A				*i* S	**Sg**	**05 58 30.8**	**-2.2**
113A	**Mohawk Valley,**	**1.39**	**61**	*e*P	**Pn**	**05 58 14.0**	**-0.8**
113A				*i* S	**Sg**	**05 58 30.8**	**-2.2**
BORC	**Borrego Spring**	**1.55**	**319**	*e*Sn	**Sg**	**05 58 37.8**	**-0.5**
EML	**El Monte Cty P**	**1.60**	**300**	*e*Pn	**Pn**	**05 58 17.7**	**+0.1**
DPP	**Dos Picos Cty**	**1.72**	**302**	*e*Pn	**Pg**	**05 58 21.4**	**0.0**
DPP				*e*Sn	**Sg**	**05 58 43.0**	**-0.7**

PFO	**Pinyon Flats O**	**1.84**	**325**		*e*Pn		**Pn**	**05 58 19.7**	**-1.5**
PFO					*e*Sn		**Sb**	**05 58 46.3**	**-0.2**
DNR	**Dunn Ranch,Anz**	**1.90**	**321**		*e*Sn		**Sg**	**05 58 49.7**	**+0.4**
214A	**Organ Pipe Nat**	**2.04**	**93**		*i* P		**Pn**	**05 58 23.3**	**-0.4**
214A					*e*S		**Sn**	**05 58 47.4**	**-2.3**
BACC	**Bachelor Mtn.**	**2.16**	**315**		*e*Pn		**Pg**	**05 58 29.9**	**0.0**
DGR	**Domenigoni Val**	**2.17**	**316**		*e*Sn		**Sg**	**05 58 57.0**	**-1.1**
HMTC	**Hemet**	**2.21**	**317**		*e*Pn		**Pg**	**05 58 30.7**	**0.0**
HMTC					*e*Sn		**Sg**	**05 58 58.3**	**-1.1**
Y14A	**Wickenburg**	**2.61**	**45**		*e*Pn		**Pn**	**05 58 33.0**	**+1.4**
Y14A					*e*Pg		**Pg**	**05 58 38.3**	**-0.1**
Y14A					*e*Sn		**Sg**	**05 59 12.6**	**+0.4**
LDFC	**Landfair**	**2.98**	**1**		*e*Pn		**Pn**	**05 58 49.0**	**+3.6**
MWC	**Mount Wilson**	**3.20**	**312**		*e*Pn		**Pg**	**05 58 49.4**	**-0.3**
MWC					*e*Sg		**Sg**	**05 59 28.2**	**-3.0**
TUC	**Tucson**	**3.75**	**86**		*e*P		**Pn**	**05 58 49.0**	**+1.7**
TUC					*i* S		**Sn**	**05 59 30.7**	**-1.5**
X16A	**Lo Mia Camp, P**	**3.91**	**53**		*e*Pn		**Pn**	**05 58 50.7**	**+1.1**
SHPR	**Sheep Range**	**4.40**	**0**		*e*Pn		**Pn**	**05 58 57.5**	**+1.2**
DAC	**Darwin (Calif)**	**4.62**	**335**		*e*Pn		**Pn**	**05 58 59.8**	**+0.4**
HSIG		**4.78**	**129**		*e*Pn		**Pn**	**05 59 05.7**	**+4.3**
U15A	**North Rim**	**4.95**	**28**		*e*Pn		**Pn**	**05 59 06.1**	**+2.1**
X18A	**Snowflake**	**5.02**	**60**		*e*Pn		**Pn**	**05 59 06.8**	**+1.9**
KNB	**Kanab**	**5.29**	**21**		*e*Pn		**Pn**	**05 59 10.1**	**+1.5**

*NEIC **09** 05:58:00.9±0.0, 22°.38N×120°.93E, h12km, ML4.1(TAP), After TAP.*
NEIC Recorded [3 TAP] in Taitung.
*TAP **09** 05:58:01.0, 22°.32N×120°.98E, h11km, ML3.9, B*

ISC 09 05:58:00.6±1.2, 22°29N±0°.03×121°05E±0°.03, h3km±10km, n61, σ1°00/88, 10C-4D, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TAW	**Tawu**	**0.15**	**296**	⇑*i*P	**Pg**	**05 58 04.2**	**+0.6**
	baz=297						
TAW				*i* S	**Sg**	**05 58 06.1**	**+0.4**
	baz=297						
EAST	**Anshuo**	**0.20**	**297**	⇑*i*P	**Pg**	**05 58 05.0**	**+0.4**
	baz=298						
ECL	**Taimali**	**0.32**	**344**	P	**Pg**	**05 58 07.2**	**+0.6**
	baz=357						
HEN	**Hengchun**	**0.40**	**225**	⇓*i*P	**Pb**	**05 58 09.7**	**-0.7**
	baz=213						
SCZT	**Fangliau**	**0.40**	**282**	⇑P	**Pg**	**05 58 08.4**	**+0.1**
	baz=279						
SCZT				S	**Sg**	**05 58 12.9**	**-0.6**
	baz=279						
TSEB	**Hengchuen, Pin**	**0.41**	**199**	P	**Pb**	**05 58 10.3**	**-0.2**
	baz=194						
TSEB				*e*S	**Sb**	**05 58 18.1**	**+1.0**
	baz=194						
TWK1	**Hengchun**	**0.41**	**213**	⇓*i*P	**Pb**	**05 58 09.9**	**-0.6**
	baz=200						
TWK1				*e*S	**Sb**	**05 58 17.0**	**-0.2**
	baz=200						
TTN	**Taitung**	**0.47**	**11**	⇓P	**Pb**	**05 58 11.6**	**0.0**
	baz=25						
TTN				*e*S	**Sb**	**05 58 19.6**	**+0.7**
	baz=25						
TWG	**Pinlang**	**0.53**	**3**	⇓*i*P	**Pg**	**05 58 11.2**	**+0.5**
	baz=2.0						
TWG				*i* S	**Sb**	**05 58 19.0**	**-1.5**
	baz=2.0						
TWG	**Pinlang**	**0.53**	**3**	*e*Pg	**Pg**	**05 58 11.0**	**+0.3**
TWG				*e*Sg	**Sb**	**05 58 19.2**	**-1.3**
LAY	**Lan-yu**	**0.53**	**118**	⇑P	**Pb**	**05 58 12.4**	**-0.2**
	baz=100						
TWP	**Hsiaoliuchiu**	**0.64**	**275**	*e*P	**Pb**	**05 58 14.8**	**+0.4**
	baz=279						
SGLT	**Jiouru**	**0.67**	**310**	*e*P	**Pg**	**05 58 13.3**	**-0.1**
	baz=323						
KAU	**Kaohsiung**	**0.74**	**292**	*e*P	**Pn**	**05 58 16.7**	**-1.2**
	baz=291						
TWM1	**Shoushan**	**0.78**	**313**	⇑*i*P	**Pb**	**05 58 17.0**	**+0.1**
	baz=324						
CHKT	**Chengkung**	**0.86**	**20**	*e*P	**Pg**	**05 58 16.6**	**-0.4**
	baz=15						
**ELD

	baz=2.0							
NACB	**Ninganchiao**	**1.94**	**15**	*e*Pn	**Pn**	**05 58 33.0**	**-1.4**
NACB				*e*Pg	**Pg**	**05 58 37.5**	**-0.3**
NACB				*e*Sg	**Sg**	**05 59 04.0**	**+1.0**
TWT	**Tachien**	**1.96**	**3**	*e*P	**Pn**	**05 58 35.3**	**+0.4**
	baz=19							
TWQ1	**Liyutan**	**2.06**	**353**	*e*P	**Pn**	**05 58 37.2**	**+1.0**
	baz=5.0							
TWQ1				*e*S	**Sb**	**05 59 04.6**	**-0.2**
	baz=5.0							
NSY	**Sanyi**	**2.13**	**353**	*e*P	**Pn**	**05 58 36.9**	**-0.2**
	baz=5.0							
NNS	**Nan Shan**	**2.16**	**8**	*e*P	**Pb**	**05 58 39.2**	**-1.3**
	baz=26							
NSTT	**Nanjuang**	**2.33**	**359**	*e*P	**Pn**	**05 58 41.2**	**+1.4**
	baz=12							
ENTT	**Nioudou**	**2.39**	**11**	*e*P	**Pn**	**05 58 42.2**	**+1.5**
	baz=33							
YHNB	**Yeheng**	**2.39**	**7**	*e*Pn	**Pn**	**05 58 41.0**	**+0.3**
YHNB				*e*Sg	**Sb**	**05 59 13.9**	**-0.3**
NSK	**Sanguang**	**2.39**	**7**	*e*P	**Pn**	**05 58 42.2**	**+1.4**
	baz=18							
TWC	**Suao**	**2.42**	**18**	*e*P	**Pn**	**05 58 41.5**	**+0.4**
	baz=37							
EGS		**2.67**	**18**	*e*P	**Pn**	**05 58 45.1**	**+0.6**
	baz=36							
TATO	**Taipei**	**2.70**	**9**	*e*Pn	**Pb**	**05 58 47.5**	**-2.1**
YOJ	**Yonaguni jima**	**2.82**	**39**	*e*P	**Pn**	**05 58 45.0**	**-1.4**
	baz=48							
YOJ	**Yonaguni jima**	**2.82**	**39**	*e*Pn	**Pn**	**05 58 45.1**	**-1.4**

*ISK **09** 05:59:25.8, 40˚.95N×42˚.47E, h9km, MD2.9, ML2.6*
*ISCJB **09** 05:59:26.9±0.4, 40˚.90N±0˚.02×42˚.51E±0˚.03, h7km±4km, Error ellipse: s-maj=4.2km s-min=3.4km az=23.3*
*DDA **09** 05:59:26.3, 40˚.89N×42˚.53E, h7km, Md2.9*
*TIF **09** 05:59:26.7, 40˚.95N×42˚.52E, h17km±2km*
*CSEM **09** 05:59:26.5±0.2, 40˚.88N×42˚.50E, h2km, MD2.9, Error ellipse: s-maj=5.6km s-min=4.0km az=15.0*
ISC 09 05:59:26.6±1.0, **40˚.93N**±0˚.02×**42˚.52E**±0˚.02, **h12**km±11km, **n40**, σ0**s52/64**, **Turkey**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
SENK	**Senkaya-Erzuru**	**0.39**	**199**		PG	**Pg**	**05 59 34.2**	**-0.3**
SENK					eSG	**Sg**	**05 59 40.0**	**+0.3**
DAGI	**Agillar**	**0.48**	**288**	*i*	P	**Pg**	**05 59 36.4**	**+0.4**
DAGI				*i*	S	**Sb**	**05 59 43.4**	**-0.8**
ARTV	**Artvin**	**0.51**	**300**	*i*	P	**Pb**	**05 59 37.2**	**-0.5**
ARTV				*i*	S	**Sb**	**05 59 45.1**	**-0.1**
ARTV	**Artvin**	**0.51**	**300**		P	**Pb**	**05 59 37.2**	**-0.5**
ARTV					S	**Sb**	**05 59 45.1**	**-0.1**
KARS	**Kars**	**0.53**	**125**	*e*	PG	**Pg**	**05 59 37.4**	**+0.5**
KARS				*e*	SG	**Sb**	**05 59 46.0**	**+0.4**
KARS	**Kars**	**0.53**	**125**	*e*	Pg	**Pg**	**05 59 37.4**	**+0.5**
DDEM	**Demirkent**	**0.58**	**266**	*i*	P	**Pg**	**05 59 38.2**	**+0.2**
DDEM				*i*	S	**Sg**	**05 59 46.4**	**+0.7**
DDEM	**Demirkent**	**0.58**	**266**		P	**Pg**	**05 59 38.2**	**+0.2**
DDEM					S	**Sg**	**05 59 46.4**	**+0.7**
EPOS	**Posof**	**0.59**	**16**	*i*	P	**Pb**	**05 59 38.5**	**-0.6**
EPOS				*i*	S	**Sb**	**05 59 48.0**	**+0.5**
EPOS	**Posof**	**0.59**	**16**		P	**Pb**	**05 59 38.5**	**-0.6**
EPOS					S	**Sb**	**05 59 48.0**	**+0.5**
DBOC	**Borcka**	**0.76**	**303**	*i*	P	**Pg**	**05 59 41.4**	**0.0**
DBOC				*i*	S	**Sb**	**05 59 51.9**	**-0.4**
DBOC	**Borcka**	**0.76**	**303**		P	**Pg**	**05 59 41.4**	**0.0**
DBOC					S	**Sb**	**05 59 51.9**	**-0.4**
DIGO	**Kars**	**0.83**	**128**	*i*	P	**Pg**	**05 59 42.5**	**-0.3**
DIGO				*i*	S	**Sg**	**05 59 53.4**	**-0.4**
DIGO	**Kars**	**0.83**	**128**		P	**Pg**	**05 59 42.5**	**-0.3**
DIGO					S	**Sg**	**05 59 53.3**	**-0.4**
EAK	**Akyaka**	**0.86**	**106**	*i*	P	**Pg**	**05 59 42.5**	**-0.9**
EAK				*i*	S	**Sg**	**05 59 54.7**	**+0.1**
EAK	**Akyaka**	**0.86**	**106**		P	**Pg**	**05 59 42.5**	**-0.9**
EAK					S	**Sg**	**05 59 54.7**	**+0.1**
AKH	**Akhalkalaki**	**0.88**	**57**	*e*	PG	**Pg**	**05 59 43.4**	**-0.3**
AKH	**Akhalkalaki**	**0.88**	**57**		P	**Pg**	**05 59 43.2**	**-0.4**
AKH					S	**Sg**	**05 59 54.9**	**-0.2**
AKH	**Akhalkalaki**	**0.88**	**57**		P	**Pg**	**05 59 43.2**	**-0.4**
AKH	**Akhalkalaki**	**0.88**	**57**	*e*	Pg	**Pg**	**05 59 43.4**	**-0.3**
AKH					S	**Sg**	**05 59 54.9**	**-0.2**
BGD	**Bogdanovka**	**0.88**	**68**		P	**Pg**	**05 59 43.3**	**-0.5**
BGD					S	**Sb**	**05 59 56.0**	**+0.1**
EZM	**Erzurum**	**1.35**	**221**	*e*	PN	**Pn**	**05 59 51.5**	**-0.1**
AGRB	**Hanur-Agry**	**1.40**	**165**	*e*	PN	**Pn**	**05 59 52.4**	**+0.1**
AGRB	**Hanur-Agry**	**1.40**	**165**	*e*	Pn	**Pn**	**05 59 52.4**	**+0.1**
ONI	**Oni**	**1.80**	**23**		P	**Pb**	**05 59 59.8**	**+0.2**
ONI					S	**Sg**	**06 00 25.2**	**+0.7**
ONI	**Oni**	**1.80**	**23**		P	**Pb**	**05 59 59.8**	**+0.2**
ONI					S	**Sg**	**06 00 25.2**	**+0.7**
CHVG	**Ch'k'valeri**	**1.81**	**350**	*e*	PN	**Pb**	**05 59 59.2**	**-0.6**
CHVG	**Ch'k'valeri**	**1.81**	**350**		P	**Pg**	**06 00 01.3**	**-0.1**
CHVG					S	**Sg**	**06 00 25.7**	**+0.7**
CHVG	**Ch'k'valeri**	**1.81**	**350**	*e*	Pn	**Pb**	**05 59 59.2**	**-0.6**
CHVG	**Ch'k'valeri**	**1.81**	**350**		P	**Pg**	**06 00 01.3**	**-0.1**
TBLG	**Delisi**	**1.85**	**64**	*e*	PN	**Pn**	**05 59 58.9**	**+0.6**
TBLG	**Delisi**	**1.85**	**64**		P	**Pb**	**06 00 00.5**	**0.0**
TBLG					S	**Sg**	**06 00 25.6**	**-0.6**
TBLG	**Delisi**	**1.85**	**64**	*e*	Pn	**Pn**	**05 59 58.9**	**+0.6**
TBLG	**Delisi**	**1.85**	**64**		P	**Pb**	**06 00 00.5**	**0.0**
TBLG					S	**Sg**	**06 00 24.7**	**-1.6**
CLDR	**Caldiran**	**2.09**	**149**	*e*	PN	**Pn**	**06 00 02.4**	**+0.7**
CLDR	**Caldiran**	**2.09**	**149**	*e*	Pn	**Pn**	**06 00 02.4**	**+0.7**
YEDI	**Yedisu-Bingol**	**2.12**	**226**	*e*	PN	**Pn**	**06 00 02.1**	**-0.1**
DGRG	**David-gareji**	**2.22**	**76**		P	**Pb**	**06 00 06.9**	**+0.2**
DGRG					S	**Sb**	**06 00 35.4**	**+1.2**
GUMT	**Gumushane**	**2.36**	**259**	*e*	PN	**Pn**	**06 00 05.3**	**0.0**
GUMT	**Gumushane**	**2.36**	**259**	*e*	Pn	**Pn**	**06 00 05.3**	**0.0**

*NIED **09** 06:02:00, 36˚.60N×141˚.80E, h29km, Mw3.7 Best double couple: M0 3.98000×10^14 NP1:φ=202.00000°, δ18.00000°, λ-85.00000°. NP2:φ=17.00000°, δ72.00000°, λ-91.00000°.*
*IDC **09** 06:02:14.4±1.7, 36˚.54N×142˚.02E, h0km, mb3.9/4, mb1 4.0/5, mb1mx3.7/25, mbtmp3.9/5, ML3.9/1, MS2.8/1, Ms1 2.8/1, ms1mx2.5/30, Error ellipse: s-maj=39.8km s-min=27.8km az=60.0*
*JMA **09** 06:02:19.9±0.1, 36˚.58N×141˚.76E, h43km±4km, M3.9*
ISC 09 06:02:17.4±3.4, **36˚.56N**±0˚.05×**141˚.87E**±0˚.07, **h15**km±22km, **n18**, σ1**s00/27**, **mb3.9/4**, **Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
ONAJ	**Iwakimizuishiy**	**1.02**	**302**		P	**Pb**	**06 02 36.8**	**+0.1**
ONAJ					S	**Sb**	**06 02 49.2**	**-0.7**
JHO	**Hitachi**	**1.05**	**273**		P	**Pb**	**06 02 36.9**	**-0.3**
JHO					S	**Sb**	**06 02 49.4**	**-1.4**
JFK	**Kawauchi**	**1.13**	**316**		P	**Pb**	**06 02 38.5**	**-0.2**
CHOJ	**Chosi**	**1.18**	**224**		P	**Pn**	**06 02 40.1**	**+0.7**
CHOJ					eS	**Sb**	**06 02 54.0**	**-0.7**
JFT	**Otama**	**1.56**	**308**		P	**Pn**	**06 02 45.6**	**+1.1**
JFT					eS	**Sn**	**06 03 04.7**	**+0.2**
JMM	**Marumori**	**1.56**	**327**		P	**Pn**	**06 02 44.7**	**+0.1**
JFY	**Yanaizu**	**1.93**	**297**		P	**Pn**	**06 02 50.5**	**+0.8**
JIO	**Ouri**	**1.94**	**348**		P	**Pn**	**06 02 49.9**	**+0.2**
JAG	**Ashikaga**	**1.95**	**267**		P	**Pn**	**06 02 50.4**	**+0.4**
JAG					eS	**Sn**	**06 03 12.8**	**-1.4**
JOU	**Okura**	**2.04**	**332**		P	**Pn**	**06 02 52.6**	**+1.4**
JOU					S	**Sn**	**06 03 17.2**	**+0.7**
BSO3	**Boso 3**	**2.07**	**213**		P	**Pn**	**06 02 52.5**	**+1.1**
JKT	**Katashina**	**2.12**	**276**		P	**Pn**	**06 02 53.3**	**+1.0**
JKT					eS	**Sn**	**06 03 17.6**	**-0.8**
MJAR	**Matsushiro Arr**	**2.95**	**271**		Pn	**Pn**	**06 03 05.1**	**+1.4**
	16nm,0.3s,baz=92,slow=9.1,SNR=100							
MJAR					Sn	**Sn**	**06 03 40.9**	**+2.1**
	9.9nm,0.3s,baz=101,slow=28,SNR=9.7							
MJAR					LR	LR	06 04 26.4	
	comp=Z,151nm,19.6s,baz=130,slow=43							
MAT	**Matsushiro**	**2.95**	**271**		P	**Pn**	**06 03 05.2**	**+1.5**
MAT					S	**Sn**	**06 03 39.9**	**+1.0**
SONM	**Songino Array**	**28.35**	**305**		P	**P**	**06 08 10.6**	**-0.3**
	1.5nm,0.7s,baz=100,slow=8.8,SNR=7.4							
ZALV	**Zalesovo Beam**	**42.50**	**313**		P	**P**	**06 10 11.8**	**-0.1**
	1.2nm,0.3s,baz=107,slow=7.7,SNR=2.5							
WRA	**Warramunga Arr**	**56.65**	**188**		P	**P**	**06 11 59.3**	**-0.7**
	0.5nm,0.6s,baz=6.5,slow=7.3,SNR=3.7							
NOA	**NORSAR Array B**	**74.76**	**338**		P	**P**	**06 13 56.8**	**+0.3**
	0.7nm,0.6s,baz=40,slow=5.7,SNR=4.1							

*JMA **09** 06:19:05.6±0.2, 22˚.24N×121˚.10E, h3km, M3.5*
*NEIC **09** 06:19:07.8±0.0, 22˚.35N×120˚.95E, h13km, ML4.2(TAP), After TAP.*
NEIC Recorded [3 TAP] in Taitung.
*TAP **09** 06:19:07.4, 22˚.31N×120˚.98E, h10km, ML3.9, B*
ISC 09 06:19:07.1±1.1, **22˚.31N**±0˚.02×**121˚.09E**±0˚.03, **h7**km±9km, **n66**, σ1**s18/97**, **10C-5D**, **Taiwan region**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
TAW	**Tawu**	**0.18**	**286**	⇑*i*	P	**Pg**	**06 19 10.6**	**-0.2**
	baz=300							
TAW				*i*	S	**Sg**	**06 19 12.5**	**-0.8**
	baz=300							
EAST	**Anshuo**	**0.23**	**289**	⇑*i*	P	**Pg**	**06 19 11.4**	**-0.3**
	baz=300							
ECL	**Taimali**	**0.31**	**337**	⇓*i*	P	**Pg**	**06 19 13.8**	**+0.5**
	baz=357							
SCZT	**Fangliau**	**0.44**	**279**	⇑*i*	P	**Pg**	**06 19 14.9**	**-0.7**
	baz=280							
SCZT				*i*	S	**Sg**	**06 19 19.4**	**-1.9**
	baz=280							
HEN	**Hengchun**	**0.44**	**227**	⇓*i*	P	**Pg**	**06 19 16.0**	**+0.4**
	baz=227							
HEN					S	**Sg**	**06 19 22.5**	**+1.1**
	baz=227							
TSEB	**Hengchuen, Pin**	**0.44**	**203**	⇓*i*	P	**Pb**	**06 19 17.0**	**-0.2**
	baz=195							
TSEB				*i*	S	**Sb**	**06 19 24.0**	**0.0**
	baz=195							
TWK1	**Hengchun**	**0.45**	**216**	⇓*i*	P	**Pg**	**06 19 16.2**	**+0.5**
	baz=201							
TWK1					S	**Sg**	**06 19 22.7**	**+1.1**
	baz=201							
TTN	**Taitung**	**0.45**	**7**	*e*	P	**Pb**	**06 19 17.8**	**+0.3**
	baz=24							
LAY	**Lan-yu**	**0.51**	**122**	⇑	P	**Pb**	**06 19 18.9**	**+0.4**
	baz=99							
TWG	**Pinlang**	**0.51**	**359**	⇓*i*	P	**Pb**	**06 19 17.8**	**-0.8**
	baz=15							
TWG					S	**Sb**	**06 19 24.9**	**-1.3**
	baz=15							
TWG	**Pinlang**	**0.51**	**359**	*e*	Pg	**Pg**	**06 19 17.3**	**+0.2**
TWG				*e*	Sg	**Sb**	**06 19 24.9**	**-1.3**
TWP	**Hsiaoliuchiu**	**0.67**	**273**	*e*	P	**Pb**	**06 19 21.5**	**+0.3**
	baz=279							
SGLT	**Jiouru**	**0.69**	**307**	*e*	P	**Pg**	**06 19 20.7**	**+0.3**
	baz=323							
KAU	**Kaohsiung**	**0.77**	**290**	*e*	P	**Pb**	**06 19 22.7**	**-0.1**
	baz=299							
KAU					eS	**Sb**	**06 19 34.6**	**+1.2**
	baz=299							
TWM1	**Shoushan**	**0.80**	**310**	⇑*i*	P	**Pb**	**06 19 23.5**	**+0.1**
	baz=324							
CHKT	**Chengkung**	**0.83**	**18**	*e*	P	**Pg**	**06 19 23.2**	**+0.1**
	baz=13							
ELDTW	**Lidau**	**0.88**	**356**	*e*	P	**Pb**	**06 19 24.2**	**-0.7**
	baz=17							
ELDTW					eS	**Sg**	**06 19 35.2**	**-0.3**
	baz=17							
SGST	**Jiashian**	**0.90**	**329**	⇑*i*	P	**Pb**	**06 19 24.8**	**-0.3**
	baz=342							
STYT	**Tauyuan**	**0.91**	**340**	*e*	P	**Pg**	**06 19 24.0**	**-0.5**
	baz=356							
CHN1	**Nanshi**	**1.01**	**330**		P	**Pn**	**06 19 27.8**	**-0.1**
	baz=339							
CHN1					S	**Sn**	**06 19 42.0**	**-0.5**
	baz=339							
CHN3	**Shinhua**	**1.01**	**319**	*e*	P	**Pn**	**06 19 28.2**	**+0.4**
	baz=339							
CHN3					eS	**Sn**	**06 19 44.7**	**+2.3**
	baz=339							
WTP	**Ta-pu**	**1.03**	**335**		P	**Pb**	**06 19 27.4**	**0.0**
	baz=358							
TWF1	**Yuli**	**1.06**	**11**	*e*	P	**Pg**	**06 19 27.2**	**-0.3**
	baz=20							
TPUB	**Ta-pu**	**1.07**	**337**	*e*	Pn	**Pb**	**06 19 28.2**	**0.0**
TPUB				*e*	Sn	**Sn**	**06 19 43.1**	**-0.8**
TAI1	**Yung-k'ang**	**1.08**	**313**	*e*	P	**Pb**	**06 19 28.4**	**+0.3**
	baz=319							
YULB	**Yu-li**	**1.10**	**10**	*e*	Pn	**Pg**	**06 19 28.1**	**-0.2**
YULB				*e*	Sn	**Sn**	**06 19 46.5**	**+2.0**
TWK	**Hsinying**	**1.10**	**330**	⇑	P	**Pn**	**06 19 29.0**	**-0.1**
	baz=337							
TWK					eS	**Sn**	**06 19 45.0**	**+0.3**
	baz=337							
CHN4	**Tsaushan**	**1.13**	**336**	⇑*i*	P	**Pn**	**06 19 29.7**	**+0.2**
	baz=343							
CHN4					S	**Sn**	**06 19 46.6**	**+1.2**
	baz=343							
YUS	**Yu-Shan**	**1.18**	**354**	*e*	P	**Pg**	**06 19 29.6**	**-0.3**
	baz=15							
SCLT	**Jiali**	**1.19**	**317**	*e*	P	**Pn**	**06 19 30.7**	**+0.4**
	baz=323							
ALS	**Alishan**	**1.23**	**348**	*e*	P	**Pn**	**06 19 31.0**	**0.0**
	baz=8.0							
CHN8	**Yiju**	**1.31**	**322**	*e*	P	**Pg**	**06 19 31.0**	**-1.3**
	baz=331							
CHY	**Chiayi**	**1.33**	**333**	*e*	P	**Pn**	**06 19 32.0**	**-0.2**
	baz=338							
CHY					eS	**Sn**	**06 19 50.6**	**+0.3**
	baz=338							
CHN5	**Tsauling**	**1.34**	**344**	⇑	P	**Pb**	**06 19 33.5**	**+0.9**
	baz=350							
CHN5					S	**Sn**	**06 19 52.3**	**+1.7**
	baz=350							
CHN2	**Minshiung**	**1.34**	**335**	*e*	P	**Pg**	**06 19 32.9**	**0.0**
	baz=340							
CHN2					eS	**Sn**	**06 19 53.2**	**+2.7**
	baz=340							
WDT	**Danda**	**1.44**	**2**	*e*	P	**Pn**	**06 19 33.5**	**-0.5**
	baz=20							
SSLB	**Suanglung**	**1.48**	**355**	*e*	Pn	**Pn**	**06 19 34.5**	**+0.2**
SSLB				*e*	Sn	**Sg**	**06 20 00.6**	**+5.9**
ESL	**Shilin**	**1.53**	**12**	*e*	P	**Pn**	**06 19 34.7**	**-0.3**
	baz=35							
SMLT	**Sun Moon Lake**	**1.58**	**354**	*e*	P	**Pg**	**06 19 37.1**	**-0.3**
	baz=11							
SMLT					eS	**Sg**	**06 20 00.1**	**+2.1**
	baz=11							
TYC	**Yuchr**	**1.60**	**353**	⇑*i*	P	**Pg**	**06 19 37.5**	**-0.4**
	baz=11							
TYC					eS	**Sg**	**06 19 60.0**	**+1.3**
	baz=11							
WNT	**Mingjian**	**1.61**	**347**	*e*	P	**Pb**	**06 19 37.0**	**-0.2**
	baz=1.0							
WDGT	**Dungji**	**1.62**	**306**	*e*	P	**Pn**	**06 19 34.6**	**-1.6**
	baz=309							
TWD	**Chiawan**	**1.83**	**15**	*e*	P	**Pn**	**06 19 39.9**	**+0.8**
	baz=24							
WHF	**Hehuan Shan**	**1.84**	**5**	*e*	P	**Pb**	**06 19 41.2**	**-0.2**
	baz=30							
TCU	**Taichung**	**1.87**	**348**	*e*	P	**Pb**	**06 19 41.7**	**0.0**
	baz=2.0							
PNG	**Penghu**	**1.89**	**312**	*e*	P	**Pn**	**06 19 36.2**	**-3.6**
	baz=318							
NACB	**Ninganchiao**	**1.92**	**14**	*e*	Pn	**Pn**	**06 19 40.1**	**-0.1**
NACB				*e*	Sn	**Sg**	**06 20 11.8**	**+3.0**
TWT	**Tachien**	**1.94**	**2**	*e*	P	**Pb**	**06 19 42.4**	**-0.6**
	baz=19							
TWQ1	**Liyutan**	**2.05**	**352**	*e*	P	**Pb**	**06 19 43.8**	**-1.0**
	baz=5.0							
NSY	**Sanyi**	**2.12**	**352**	*e*	P	**Pb**	**06 19 44.8**	**-1.1**
	baz=5.0							
NNS	**Nan Shan**	**2.14**	**7**	*e*	P	**Pb**	**06 19 45.9**	**-0.4**
	baz=27							
NSTT	**Nanjuang**	**2.31**	**358**	*e*	P	**Pb**	**06 19 48.5**	**-0.8**
	baz=12							
ENTT	**Nioudou**	**2.36**	**11**	*e*	P	**Pn**	**06 19 48.2**	**+1.7**
	baz=33							
YHNB	**Yeheng**	**2.37**	**6**	*e*	Pn	**Pn**	**06 19 47.1**	**+0.5**
YHNB				*e*	Pg	**Pg**	**06 19 51.8**	**-0.7**
YHNB				*e*	Sg	**Sg**	**06 20 22.4**	**-0.8**
NSK	**Sanguang**	**2.37**	**6**	*e*	P	**Pb**	**06 19 48.7**	**-1.5**
	baz=18							
TWC	**Suao**	**2.40**	**17**	*e*	P	**Pb**	**06 19 49.9**	**-0.8**
	baz=38							
EGS		**2.64**	**17**	*e*	P	**Pb**	**06 19 52.8**	**-2.0**
	baz=37							
TATO	**Taipei**	**2.68**	**8**	*e*	Pg	**Pg**	**06 19 58.3**	**-0.3**
JYNG	**Yonagunijimaku**	**2.73**	**38**		P	**Pn**	**06 19 51.3**	**-0.2**
JYNG					S	**Sn**	**06 20 23.8**	**-1.0**
YOJ	**Yonaguni jima**	**2.78**	**39**	*e*	P	**Pn**	**06 19 51.0**	**-1.1**
	baz=48							
YOJ	**Yonaguni jima**	**2.78**	**39**		P	**Pn**	**06 19 52.0**	**-0.1**
YOJ					eS	**Sn**	**06 20 25.4**	**-0.6**
HATJ	**Hateruma jima**	**3.05**	**55**		P	**Pn**	**06 19 55.3**	**-0.5**
HATJ					S	**Sn**	**06 20 32.1**	**-0.5**
IRIF	**Iriomote-Funau**	**3.16**	**50**		P	**Pn**	**06 19 57.6**	**+0.3**
IRIF					S	**Sn**	**06 20 36.3**	**+1.0**
JKRS	**Kuro-shima**	**3.31**	**54**		P	**Pn**	**06 19 59.1**	**-0.2**
JKRS					S	**Sn**	**06 20 38.3**	**-0.6**
JIJ	**Ishigaki jima**	**3.48**	**53**		P	**Pn**	**06 20 01.1**	**-0.6**
JIJ					S	**Sn**	**06 20 42.2**	**-1.0**
JISG	**Ishigakijimahi**	**3.73**	**52**		P	**Pn**	**06 20 04.5**	**-0.7**
JISG					S	**Sn**	**06 20 49.2**	**-0.3**

*NEIC **09** 06:22:53.9±0.0, 22˚.35N×120˚.99E, h10km, ML4.3(TAP), After TAP.*
NEIC Recorded [2 TAP] in Taitung and [1 TAP] in Pingtung.
*JMA **09** 06:22:53.3±0.1, 22˚.24N×121˚.16E, h5km, M3.7*
*TAP **09** 06:22:54.7, 22˚.32N×120˚.98E, h11km, ML4.0, B*
ISC 09 06:22:53.8±1.1, **22˚.25N**±0˚.03×**121˚.04E**±0˚.03, **h11**km±7km, **n71**, σ1**s15/105**, **9C-6D**, **Taiwan region**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
TAW	**Tawu**	**0.17**	**308**	⇑*i*	P	**Pg**	**06 22 57.9**	**+0.3**
	baz=294							
TAW					S	**Sg**	**06 22 59.7**	**-0.4**
	baz=294							
EAST	**Anshuo**	**0.22**	**306**	⇑*i*	P	**Pg**	**06 22 58.6**	**+0.2**
	baz=297							
ECL	**Taimali**	**0.35**	**347**	⇓	P	**Pb**	**06 23 01.0**	**-1.1**
	baz=357							
HEN	**Hengchun**	**0.37**	**229**	⇓*i*	P	**Pn**	**06 23 03.5**	**-1.7**
	baz=226							
HEN				*e*	S	**Sb**	**06 23 10.2**	**+1.9**
	baz=226							
TSEB	**Hengchuen, Pin**	**0.37**	**201**	⇓*i*	P	**Pn**	**06 23 04.5**	**-0.7**
	baz=194							
TSEB					S	**Sb**	**06 23 11.8**	**+3.6**
	baz=194							
TWK1	**Hengchun**	**0.38**	**216**	⇓*i*	P	**Pn**	**06 23 03.7**	**-1.5**
	baz=200							
TWK1					eS	**Sb**	**06 23 10.3**	**+1.9**
	baz=200							
SCZT	**Fangliau**	**0.41**	**287**	⇑*i*	P	**Pb**	**06 23 02.2**	**-0.8**
	baz=278							
SCZT					S	**Sb**	**06 23 06.7**	**-2.6**
	baz=278							
TTN	**Taitung**	**0.51**	**11**	⇓	P	**Pb**	**06 23 05.3**	**+0.5**
	baz=25							
TTN					eS	**Sb**	**06 23 13.4**	**+1.2**
	baz=25							
LAY	**Lan-yu**	**0.52**	**114**	*e*	P	**Pn**	**06 23 06.1**	**-1.0**
	baz=101							
TWG	**Pinlang**	**0.57**	**3**	⇓*i*	P	**Pg**	**06 23 04.8**	**0.0**
	baz=2.0							
TWG				*i*	S	**Sg**	**06 23 12.7**	**+0.3**
	baz=2.0							
TWG	**Pinlang**	**0.57**	**3**	*e*	Pg	**Pg**	**06 23 04.4**	**-0.4**
TWG				*e*	Sg	**Sg**	**06 23 12.6**	**+0.3**
TWP	**Hsiaoliuchiu**	**0.64**	**279**	*e*	P	**Pn**	**06 23 09.1**	**+0.3**
	baz=279							
SGLT	**Jiouru**	**0.69**	**313**	*e*	P	**Pn**	**06 23 07.8**	**-1.8**
	baz=323							
KAU	**Kaohsiung**	**0.75**	**295**	*e*	P	**Pn**	**06 23 11.1**	**+0.7**
	baz=291							
TWM1	**Shoushan**	**0.81**	**315**	⇑	P	**Pn**	**06 23 10.7**	**-0.5**
	baz=325							
CHKT	**Chengkung**	**0.90**	**19**	*e*	P	**Pg**	**06 23 09.6**	**-1.5**
	baz=14							
SGST	**Jiashian**	**0.93**	**333**	⇑*i*	P	**Pn**	**06 23 12.1**	**-0.8**
	baz=339							
SGST					S	**Sb**	**06 23 23.4**	**-0.9**
	baz=339							
ELDTW	**Lidau**	**0.93**	**359**	*e*	P	**Pg**	**06 23 11.5**	**-0.3**
	baz=17							
ELDTW					S	**Sg**	**06 23 22.4**	**-1.6**
	baz=17							
STYT	**Tauyuan**	**0.94**	**344**	*e*	P	**Pb**	**06 23 11.7**	**-0.6**
	baz=354							
CHN3	**Shinhua**	**1.03**	**323**	*e*	P	**Pn**	**06 23 15.5**	**+1.2**
	baz=338							
CHN3					eS	**Sn**	**06 23 31.4**	**+2.7**
	baz=338							
CHN1	**Nanshi**	**1.04**	**333**		P	**Pn**	**06 23 14.9**	**+0.5**
	baz=339							
CHN1					eS	**Sn**	**06 23 28.7**	**-0.3**
	baz=339							
WTP	**Ta-pu**	**1.07**	**338**	⇑*i*	P	**Pn**	**06 23 14.7**	**-0.1**
	baz=343							
WTP					eS	**Sn**	**06 23 29.8**	**+0.2**
	baz=343							
TAI1	**Yung-k'ang**	**1.09**	**316**	*e*	P	**Pn**	**06 23 15.0**	**+0.1**
	baz=319							
TPUB	**Ta-pu**	**1.11**	**340**	*e*	Pn	**Pn**	**06 23 15.2**	**-0.1**
TPUB				*e*	Sg	**Sn**	**06 23 31.1**	**+0.3**
TWF1	**Yuli**	**1.12**	**12**	*e*	P	**Pg**	**06 23 14.3**	**

NNS	**Nan Shan**	**2.20**	**8**	*e*P		**Pb**	**06 23 32.9**	**-0.8**
	baz=26							
NSTT	**Nanjuang**	**2.37**	**359**	*e*P		**Pb**	**06 23 34.4**	**-2.1**
	baz=11							
ENTT	**Nioudou**	**2.43**	**11**	*e*P		**Pb**	**06 23 36.4**	**-1.1**
	baz=32							
YHNB	**Yeheng**	**2.43**	**7**	*e*Pn		**Pn**	**06 23 34.6**	**+1.1**
YHNB				*e*Sn		**Sg**	**06 24 11.5**	**-0.3**
NSK	**Sanguang**	**2.43**	**7**	*e*P		**Pn**	**06 23 35.4**	**+1.9**
	baz=17							
TWC	**Suao**	**2.46**	**17**	*e*P		**Pn**	**06 23 34.3**	**+0.4**
	baz=37							
TWE	**Neicheng**	**2.52**	**13**	*e*P		**Pn**	**06 23 35.6**	**+0.8**
	baz=33							
EGS		**2.71**	**17**	*e*P		**Pn**	**06 23 38.9**	**+1.6**
	baz=36							
TATO	**Taipei**	**2.74**	**8**	*e*Pg		**Pb**	**06 23 43.6**	**+0.7**
JYNG	**Yonaguni jima**	**2.80**	**38**	P		**Pn**	**06 23 39.5**	**+0.9**
JYNG				*e*S		**Sn**	**06 24 11.6**	**-0.8**
YOJ	**Yonaguni jima**	**2.85**	**39⇑**	*e*P		**Pn**	**06 23 38.8**	**-0.4**
	baz=49							
YOJ				*e*S		**Sn**	**06 24 13.1**	**-0.5**
	baz=49							
YOJ	**Yonaguni jima**	**2.85**	**39**	P		**Pn**	**06 23 39.4**	**+0.2**
YOJ				*e*S		**Sn**	**06 24 13.1**	**-0.5**
YOJ	**Yonaguni jima**	**2.85**	**39**	*e*Pn		**Pn**	**06 23 38.6**	**-0.6**
HATJ	**Hateruma jima**	**3.11**	**54**	P		**Pn**	**06 23 42.4**	**-0.5**
HATJ				*e*S		**Sn**	**06 24 19.5**	**-0.6**
IRIF	**Iriomote-Funau**	**3.23**	**49**	P		**Pn**	**06 23 44.7**	**+0.3**
IRIF				*e*S		**Sn**	**06 24 23.0**	**+0.1**
JKRS	**Kuro-shima**	**3.37**	**54**	P		**Pn**	**06 23 47.0**	**+0.6**
JKRS				*e*S		**Sn**	**06 24 26.7**	**+0.3**
JIJ	**Ishigaki jima**	**3.54**	**53**	P		**Pn**	**06 23 48.1**	**-0.7**
JISG	**Ishigakijimahi**	**3.80**	**52**	P		**Pn**	**06 23 52.4**	**+0.1**
JTJ	**Tarama**	**4.12**	**54**	P		**Pn**	**06 23 57.3**	**+0.6**
JTJ				*e*S		**Sn**	**06 24 44.2**	**-0.7**

IDC 09 06:32:42.7±3.2, 24.72S×179.71E, h467km±34km, mb3.4/5, mb1 3.7/6, mb1mx3.3/21, mbtmp4.3/6, Error ellipse: s-maj=52.6km s-min=26.7km az=169.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**13.68**	**189**	P	P	06 35 38.1	-1.1
	0.8nm,0.3s,baz=14,slow=17,SNR=10						
STKA	**Stephens Creek**	**34.17**	**249**	P	P	06 38 48.1	+0.3
	2.2nm,0.6s,baz=94,slow=11,SNR=5.1						
ASAR	**Alice Springs**	**41.64**	**262**	P	P	06 39 48.9	-0.3
	2.0nm,0.4s,baz=96,slow=8.6,SNR=23						
WRA	**Warramunga Arr**	**42.09**	**267**	P	P	06 39 52.2	-0.6
	5.1nm,0.6s,baz=99,slow=7.2,SNR=48						
WRA				ScP	ScP	06 44 41.0	-1.6
	0.9nm,0.9s,baz=103,slow=3.3,SNR=3.3						
CMAR	**Chiang Mai Arr**	**89.56**	**290**	P	P	06 44 51.0	+1.1
	0.5nm,0.3s,baz=148,slow=5.3,SNR=4.0						
TXAR	**Lajitas Array**	**91.09**	**58**	P	P	06 44 56.6	-0.2
	0.6nm,0.8s,baz=234,slow=6.0,SNR=8.8						

*MOS **09** 07:04:17.9±0.9, 49.75N×155.85E, h67km, mb4.0/4, Error ellipse: s-maj=24.8km s-min=6.1km az=71.7*
*ISCJB **09** 07:04:18.3±0.6, 49.84N±0.06×155.86E±0.08, h63km, mb3.6/7, Error ellipse: s-maj=10.8km s-min=4.8km az=145.2*
*IDC **09** 07:04:21.0±1.3, 49.98N×155.72E, h72km±7km, mb3.4/7, mb1 3.7/8, mb1mx3.4/30, mbtmp3.7/8, MS2.2-1/1, Ms1 2.2/1, ms1mx2.1/31, Error ellipse: s-maj=78.0km s-min=16.0km az=122.0*
*KRSC **09** 07:04:22.5±2.0, 50.03N×156.69E, h46km±21km, ML4.2*
ISC 09 07:04:20.2±0.8, 49.89N±0.09×155.97E±0.07, h63km, n48, σ1s88/55, mb3.7/7, 1C, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**0.80**	**7⇑**	*i*PN	**Pn**	**07 04 35.9**	**+0.1**
SKR				*i* S	**Sn**	**07 04 46.8**	**-0.5**
SKR				pmax	pmax		
	comp=Z,366nm,0.7s						
SKR				smax	smax		
	comp=N,1μm,0.3s						
SKR				smax	smax		
	comp=E,1μm,0.6s						
SKR	**Severo-Kuril's**	**0.80**	**7**	*e*P	**Pn**	**07 04 35.8**	**0.0**
SKR				*e*S	**Sn**	**07 04 46.8**	**-0.5**
KDTR	**Khodutka, Kamc**	**2.34**	**34**	*e*P	**Pn**	**07 04 55.8**	**-0.5**
KDTR				*e*S	**Sn**	**07 05 21.2**	**-2.7**
RUS	**Russkaya**	**3.01**	**31**	PN	**Pn**	**07 05 05.2**	**-0.2**
RUS				S	**Sn**	**07 05 37.3**	**-2.9**
RUS	**Russkaya**	**3.01**	**31**	*e*P	**Pn**	**07 05 05.2**	**-0.2**
RUS				*e*S	**Sn**	**07 05 37.3**	**-2.9**
APC	**Apacha**	**3.13**	**13**	PN	**Pn**	**07 05 09.1**	**+2.1**
APC	**Apacha**	**3.13**	**13**	*e*P	**Pn**	**07 05 09.1**	**+2.1**
KRMR	**Karymshinskiy**	**3.24**	**24**	PN	**Pn**	**07 05 10.6**	**+2.0**
KRMR	**Karymshinskiy**	**3.24**	**24**	*e*P	**Pn**	**07 05 10.6**	**+2.0**
PETK	**Petropavlovsk-**	**3.40**	**18**	P	**Pn**	**07 05 11.6**	**+0.9**
	comp=E,2.6nm,0.3s,baz=175,slow=13,SNR=14						
PETK				LR	LR	07 06 53.6	
	comp=E,40nm,21.1s,baz=206,slow=45						
PET	**Petropavlovsk**	**3.56**	**27**	*e*PN	**Pn**	**07 05 13.3**	**+0.4**
PET				*e*S	**Sn**	**07 05 53.1**	**-0.5**
PET				pmax	pmax		
	comp=Z,310nm,0.8s						
PET				smax	smax		
	comp=E,80nm,0.7s						
DALK	**Dalny**	**3.59**	**28**	PN	**Pn**	**07 05 14.5**	**+1.1**
DALK				S	**Sn**	**07 05 54.3**	**-0.2**
DALK	**Dalny**	**3.59**	**28**	*e*P	**Pn**	**07 05 14.5**	**+1.1**
DALK				*e*S	**Sn**	**07 05 54.3**	**-0.2**
UGLR	**Uglovaya**	**3.77**	**27**	PN	**Pn**	**07 05 18.8**	**+2.9**
UGLR	**Uglovaya**	**3.77**	**27**	*e*P	**Pn**	**07 05 18.8**	**+2.9**
KOK	**Koryaka**	**3.79**	**25**	PN	**Pn**	**07 05 19.4**	**+3.2**
KOK	**Koryaka**	**3.79**	**25**	*e*P	**Pn**	**07 05 19.4**	**+3.2**
AVH	**Avacha**	**3.79**	**26**	PN	**Pn**	**07 05 19.2**	**+3.0**
AVH	**Avacha**	**3.79**	**26**	*e*P	**Pn**	**07 05 19.2**	**+3.0**
SDLR	**Sedlovina**	**3.85**	**27**	PN	**Pn**	**07 05 19.5**	**+2.5**
SDLR	**Sedlovina**	**3.85**	**27**	*e*P	**Pn**	**07 05 19.5**	**+2.5**
KRX	**Arik**	**3.85**	**25**	PN	**Pn**	**07 05 19.7**	**+2.6**
KRX	**Arik**	**3.85**	**25**	*e*P	**Pn**	**07 05 19.7**	**+2.6**
GNL	**Ganaly**	**4.00**	**17**	PN	**Pn**	**07 05 21.2**	**+2.1**
GNL	**Ganaly**	**4.00**	**17**	*e*P	**Pn**	**07 05 21.2**	**+2.1**
SPN	**Mys Shipunski**	**4.09**	**37**	PN	**Pn**	**07 05 20.3**	**+0.1**
SPN	**Mys Shipunski**	**4.09**	**37**	*e*P	**Pn**	**07 05 20.3**	**+0.1**
SPN				*e*S	**Sn**	**07 06 03.3**	**-3.4**
MKZ	**Mys Kozlova**	**5.86**	**35**	PN	**Pn**	**07 05 44.1**	**-0.2**
MKZ	**Mys Kozlova**	**5.86**	**35**	*e*P	**Pn**	**07 05 44.1**	**-0.2**
MKZ				*e*S	**Sn**	**07 06 47.1**	**-2.9**
UGL	**Uglegorsk**	**9.09**	**270**	*e*PN	**Pn**	**07 06 26.6**	**-2.0**
UGL				*e*S	**Sn**	**07 08 08.6**	**-0.7**
HABR	**Khabarovsk**	**13.76**	**272**	*e*P	**Pn**	**07 07 30.1**	**-2.0**
HABR				*e*S	**Sn**	**07 10 02.4**	**-0.6**
HABR				pmax	pmax		
	comp=Z,47nm,2.0s						
HABR				pmax	pmax		
	comp=N,13nm,1.1s						
HABR				pmax	pmax		
	comp=E,44nm,1.2s						
HABR				MLR	MLR		
	comp=Z,80nm,16.0s						
H11N2	**WAKE ISLAND Hy**	**31.33**	**160**	T	T	07 43 32.9	
	baz=347,slow=76,SNR=4.1						
H11N1	**WAKE ISLAND Hy**	**31.35**	**160**	T	T	07 43 34.9	
	baz=347,slow=76,SNR=6.0						
H11N3	**WAKE ISLAND Hy**	**31.35**	**160**	T	T	07 43 34.6	
	baz=347,slow=76,SNR=8.2						
H11S1	**WAKE ISLAND Hy**	**32.47**	**161**	T	T	07 44 58.2	
	baz=347,slow=76,SNR=66						
H11S3	**WAKE ISLAND Hy**	**32.48**	**161**	T	T	07 44 59.3	
	baz=347,slow=76,SNR=63						
H11S2	**WAKE ISLAND Hy**	**32.49**	**161**	T	T	07 44 59.6	
	baz=347,slow=76,SNR=47						
ILAR	**Eielson Array**	**32.91**	**41**	P	**P**	**07 10 47.5**	**-0.5**
	comp=Z,0.5nm,0.7s,baz=264,slow=6.6,SNR=6.5						
INK	**Inuvik**	**37.98**	**35**	P	**P**	**07 11 31.1**	**-0.3**
	comp=Z,0.3nm,0.4s,baz=267,slow=6.7,SNR=4.8						
YKA	**Yellowknife Ar**	**47.27**	**39**	P	**P**	**07 12 46.8**	**+0.2**
	comp=Z,0.7nm,0.8s,baz=304,slow=8.9,SNR=4.0						
PDAR	**Pinedale Array**	**61.39**	**57**	P	**P**	**07 14 30.6**	**+0.8**
	comp=Z,0.3nm,0.4s,baz=325,slow=2.3,SNR=4.3						
PDAR				pP	**pP**	**07 14 48.9**	**+2.4**
	comp=Z,1.2nm,0.8s,baz=337,slow=1.9,SNR=6.8						
WRA	**Warramunga Arr**	**72.12**	**201**	P	**P**	**07 15 37.4**	**-0.4**
	comp=Z,1.1nm,0.8s,baz=20,slow=6.5,SNR=5.5						
WRA	**Warramunga Arr**	**72.12**	**201**	*i* P	**P**	**07 15 36.7**	**-1.1**
WRA				pmax	pmax		
	comp=Z,1.0nm,0.8s						
CRVS	**Cervenica-Dubn**	**74.10**	**331**	*e*P	P	07 15 44.1	-5.2
CRVS	**Cervenica-Dubn**	**74.10**	**331**	*e*P	P	07 15 44.0	-5.3
TXAR	**Lajitas Array**	**74.33**	**63**	P	**P**	**07 15 51.5**	**+0.4**
	comp=Z,0.7nm,0.7s,baz=293,slow=3.9,SNR=11						
TXAR				pP	**pP**	**07 16 10.4**	**+2.2**
	comp=Z,0.8nm,0.8s,baz=300,slow=4.9,SNR=6.6						
ASAR	**Alice Springs**	**75.81**	**201**	P	**P**	**07 15 59.2**	**-0.1**
	comp=Z,0.4nm,0.5s,baz=15,slow=4.9,SNR=6.2						
ASAR				pP	**pP**	**07 16 18.7**	**+2.1**
	comp=Z,0.8nm,0.7s,baz=16,slow=5.6,SNR=4.7						
ASAR	**Alice Springs**	**75.81**	**201**	*e*P	**P**	**07 15 58.3**	**-1.0**

*ISCJB **09** 07:07:18.7±0.5, 37.30N±0.04×28.20E±0.03, h0km, Error ellipse: s-maj=5.5km s-min=3.2km az=19.1*
*ISK **09** 07:07:18.7, 37.26N×28.17E, h13km, MD2.5*
*DDA **09** 07:07:19.5, 37.25N×28.17E, h7km, Md2.7, Suspected Mining explosion.*
*CSEM **09** 07:07:19.1±0.2, 37.28N×28.20E, h8km, MD2.5, Error ellipse: s-maj=5.0km s-min=3.4km az=19.0*
ISC 09 07:07:17.9±0.8, 37.26N±0.03×28.14E±0.02, h0km, n33, σ0s92/45, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MLSB	**Milas**	**0.29**	**278**	*e*PG	**Pb**	**07 07 25.5**	**-0.5**
MLSB				*e*SG	**Sb**	**07 07 30.5**	**-0.9**
MLSB	**Milas**	**0.29**	**278**	*e*Pg	**Pb**	**07 07 25.5**	**-0.5**
MLSB				*e*Sg	**Sb**	**07 07 30.5**	**-0.9**
TURN	**Turunc**	**0.54**	**136**	*i* P	**Pg**	**07 07 27.9**	**-0.1**
TURN	**Turunc**	**0.54**	**136**	P	**Pg**	**07 07 28.0**	**-0.1**
BDRM	**Kayabasi**	**0.58**	**251**	*i* P	**Pn**	**07 07 32.8**	**-0.7**
BDRM				*i* S	**Sb**	**07 07 40.5**	**+0.7**
BDRM	**Kayabasi**	**0.58**	**251**	P	**Pn**	**07 07 32.8**	**-0.7**
BDRM				S	**Sb**	**07 07 40.5**	**+0.7**
DALY	**Dalyan (Mu¨la**	**0.60**	**136**	*e*PG	**Pb**	**07 07 30.6**	**-0.8**
DALY				*e*SG	**Sb**	**07 07 39.4**	**-0.9**
DALY	**Dalyan (Mu¨la**	**0.60**	**136**	*i* P	**Pb**	**07 07 30.5**	**-0.8**
DALY	**Dalyan (Mu¨la**	**0.60**	**136**	P	**Pb**	**07 07 30.5**	**-0.8**
DALY				*e*Sg	**Sb**	**07 07 39.4**	**-0.9**
BODT	**Bodrum**	**0.69**	**254**	*e*PG	**Pb**	**07 07 32.8**	**0.0**
BODT				*e*SG	**Sb**	**07 07 43.2**	**+0.4**
BODT	**Bodrum**	**0.69**	**254**	*e*Pg	**Pb**	**07 07 32.8**	**0.0**
BODT				*e*Sg	**Sb**	**07 07 43.2**	**+0.4**
DAT	**Datca**	**0.69**	**220**	*e*PG	**Pb**	**07 07 32.8**	**0.0**
DAT	**Datca**	**0.69**	**220**	*i* P	**Pb**	**07 07 32.9**	**0.0**
DAT	**Datca**	**0.69**	**220**	P	**Pb**	**07 07 32.9**	**0.0**
AYDB	**Zeytinkoy-Aydi**	**0.72**	**344**	*e*PG	**Pb**	**07 07 33.3**	**0.0**
AYDB	**Zeytinkoy-Aydi**	**0.72**	**344**	*e*Pg	**Pb**	**07 07 33.3**	**0.0**
GCAM	**G?zelcaml?**	**0.84**	**302**	*i* P	**Pn**	**07 07 37.0**	**0.0**
GCAM				*i* S	**Sb**	**07 07 48.3**	**+1.0**
GCAM	**G?zelcaml?**	**0.84**	**302**	P	**Pn**	**07 07 37.0**	**0.0**
GCAM				S	**Sb**	**07 07 48.3**	**+1.0**
DNZL	**Cakiroluk**	**0.84**	**59**	*i* P	**Pg**	**07 07 33.8**	**-0.3**
DNZL	**Cakiroluk**	**0.84**	**59**	P	**Pg**	**07 07 33.8**	**-0.3**
FETY	**Fethiye**	**0.98**	**129**	*e*PG	**Pb**	**07 07 37.5**	**-0.2**
FETY	**Fethiye**	**0.98**	**129**	*e*Pg	**Pb**	**07 07 37.5**	**-0.2**
FETY	**Fethiye**	**0.98**	**129**	P	**Pn**	**07 07 38.1**	**-0.8**
FETY				S	**Sn**	**07 07 53.3**	**-0.2**
NIS1	**Nisyros Isl.**	**1.01**	**230**	*e*PG	**Pn**	**07 07 38.9**	**-0.4**
NIS1	**Nisyros Isl.**	**1.01**	**230**	*e*Pg	**Pn**	**07 07 38.9**	**-0.4**
KULA	**Kula-Manisa**	**1.32**	**18**	*e*PN	**Pb**	**07 07 43.4**	**-0.3**
KULA	**Kula-Manisa**	**1.32**	**18**	*e*Pn	**Pb**	**07 07 43.4**	**-0.3**
ELL	**Elmali**	**1.51**	**109**	*e*PN	**Pn**	**07 07 46.0**	**-0.3**
ELL	**Elmali**	**1.51**	**109**	*e*Pn	**Pn**	**07 07 46.0**	**-0.3**
AKAS	**Kas**	**1.56**	**130**	*i* P	**Pg**	**07 07 48.6**	**+0.8**
AKAS				*i* S	**Sb**	**07 08 12.9**	**+4.8**
AKAS	**Kas**	**1.56**	**130**	P	**Pg**	**07 07 48.6**	**+0.8**
URLA	**Izmir**	**1.64**	**313**	*e*PN	**Pn**	**07 07 48.1**	**0.0**
URLA	**Izmir**	**1.64**	**313**	*e*Pn	**Pn**	**07 07 48.1**	**0.0**

*CSEM **09** 07:15:45.8±0.7, 26.58N×35.50E, h10km, ML2.6, Error ellipse: s-maj=28.1km s-min=10.7km az=93.0*
*GII **09** 07:15:47.5±0.2, 26.65N×35.11E, h10km, MD2.9/2*
*SGS **09** 07:15:51.8, 27.79N×36.97E, h0km*
*HLW **09** 07:15:54.2, 27.75N×36.76E, h10km±8km, Md2.9, Ml2.6*
ISC 09 07:15:49.7±1.7, 27.70N±0.04×36.80E±0.06, h7km±16km, n29, σ1s35/44, Western Arabian Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TBKS	**Tabuk**	**0.56**	**336**	S	**Sb**	**07 16 09.5**	**-0.6**
TBKS				P	**Pb**	**07 16 02.2**	**+0.3**
BIDS	**Bi'r al Bayda'**	**0.84**	**170**	S	**Sn**	**07 16 21.8**	**+1.2**
BIDS				P	**Pn**	**07 16 09.3**	**+1.3**
JLOS		**1.54**	**312**	S	**Sg**	**07 16 41.4**	**+2.1**
JLOS				P	**Pg**	**07 16 20.0**	**+0.7**
BDAS	**Al Bad'**	**1.67**	**296**	P	**Pg**	**07 16 22.5**	**+0.9**
HAQS	**Haql**	**2.13**	**310**	P	**Pb**	**07 16 28.7**	**+0.1**
NUB		**2.31**	**305**	P	**Pb**	**07 16 30.8**	**-0.8**
	baz=304						
HBST	**Basata**	**2.36**	**310**	AMP		07 17 00.0	
	comp=Z,40μm,0.2s,logA/T=5.2,baz=310						
SH2	**Sharm el Sheik**	**2.41**	**275**	P	**Pb**	**07 16 32.6**	**-0.8**
	baz=274						
SH2				S	**Sb**	**07 17 01.9**	**-1.4**
	baz=274						
UMJS	**Umm Lajj**	**2.50**	**169**	P	**Pb**	**07 16 33.6**	**-1.4**
EIL	**Elat**	**2.54**	**321**	Pn	**Pb**	**07 16 34.9**	**-0.7**
EIL				Sn	**Sg**	**07 17 11.5**	**+0.1**
EIL	**Elat**	**2.54**	**321**	Pn	**Pb**	**07 16 34.9**	**-0.7**
EIL				Sn	**Sg**	**07 17 11.5**	**+0.1**
MBRI	**Mt Berech**	**2.66**	**322**	Pn	**Pb**	**07 16 36.2**	**-1.5**
MBRI				Sn	**Sg**	**07 17 14.4**	**-0.8**
MBRI	**Mt Berech**	**2.66**	**322**	Pn	**Pb**	**07 16 36.2**	**-1.5**
MBRI				Sn	**Sg**	**07 17 14.4**	**-0.8**
HRFI	**Mount Harif**	**2.79**	**327**	Pn	**Pb**	**07 16 39.1**	**-0.8**
HRFI				Sn	**Sg**	**07 17 19.5**	**+0.1**
HRFI	**Mount Harif**	**2.79**	**327**	Pn	**Pb**	**07 16 39.1**	**-0.8**
HRFI				Sn	**Sg**	**07 17 19.5**	**+0.1**
HSFG		**2.79**	**247**	P	**Pb**	**07 16 38.5**	**-1.4**
	baz=246						
HSFG		**2.79**	**247**	P	**Pb**	**07 16 38.5**	**-1.4**
KRMI	**Paran Flat**	**3.01**	**323**	Pn	**Pb**	**07 16 41.5**	**-2.2**
KRMI	**Paran Flat**	**3.01**	**323**	Pn	**Pb**	**07 16 41.5**	**-2.2**
PRNI	**Paran**	**3.07**	**330**	Pn	**Pb**	**07 16 43.4**	**-1.3**
PRNI				Sn	**Sg**	**07 17 28.8**	**+0.4**
PRNI	**Paran**	**3.07**	**330**	Pn	**Pb**	**07 16 43.4**	**-1.3**
PRNI				Sn	**Sg**	**07 17 28.8**	**+0.4**
ZFRI	**Zfri**	**3.17**	**334**	Pn	**Pb**	**07 16 46.9**	**+0.5**
ZFRI				Sn	**Sg**	**07 17 32.7**	**+1.0**
ZFRI	**Zfri**	**3.17**	**334**	Pn	**Pb**	**07 16 46.9**	**+0.5**
ZFRI				Sn	**Sg**	**07 17 32.7**	**+1.0**
MZDA	**Masada**	**3.81**	**341**	Sn	**Sg**	**07 17 51.8**	**-0.1**
MZDA	**Masada**	**3.81**	**341**	Sn	**Sg**	**07 17 51.8**	**-0.1**
DSI	**Dead Sea**	**4.05**	**343**	Pn	**Pb**	**07 17 01.1**	**-0.2**
DSI				Sn	**Sg**	**07 17 58.9**	**-0.8**
DSI	**Dead Sea**	**4.05**	**343**	Pn	**Pb**	**07 17 01.1**	**-0.2**
DSI				Sn	**Sg**	**07 17 58.9**	**-0.8**
HMDT	**Nahal Hemdat**	**4.67**	**347**	Sn	**Sg**	**07 18 15.7**	**-3.9**
HMDT	**Nahal Hemdat**	**4.67**	**347**	Sn	**Sg**	**07 18 15.7**	**-3.9**

*NIED **09** 07:19:00, 39.80N×143.60E, h23km, Mw4.4 Best double couple: M0 4.25000×10^15 NP1: ϕs196.00000°, δ31.00000°, λ81.00000°. NP2: ϕs26.00000°, δ59.00000°, λ95.00000°.*
*ISCJB **09** 07:19:04.5±0.6, 39.77N±0.04×143.57E±0.06, h6km, mb3.9/15, MS3.8/12, Error ellipse: s-maj=7.2km s-min=4.3km az=39.4*
*JMA **09** 07:19:05.0±0.2, 39.80N×143.61E, h18km, M4.3*
*IDC **09** 07:19:12.2±2.3, 39.68N×143.32E, h49km±20km, mb3.7/15, mb1 3.8/19, mb1mx3.7/41, mbtmp3.9/19, ML3.1/4, MS3.7/18, Ms1 3.7/18, ms1mx3.5/33, Error ellipse: s-maj=19.4km s-min=16.2km az=102.0*
ISC 09 07:19:06.8±0.7, 39.79N±0.05×143.47E±0.06, h6km, n52, σ1s57/40, mb4.1/15, MS3.8/12, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTH	**Tanohata**	**1.24**	**278**	P	**Pg**	**07 19 29.0**	**-1.6**
JTH				*e*S	**Sb**	**07 19 47.2**	**+0.3**
MIYJ	**Miyakonagasawa**	**1.29**	**261**	P	**Pn**	**07 19 30.0**	**-1.3**
MIYJ				*e*S	**Sg**	**07 19 47.8**	**-0.3**
JANG	**Nango**	**1.61**	**292**	P	**Pn**	**07 19 34.2**	**-1.5**
JOM	**Ohasama**	**1.71**	**260**	P	**Pn**	**07 19 36.6**	**-0.4**
JMK	**Ichinoseki**	**1.93**	**245**	P	**Pn**	**07 19 39.1**	**-1.0**
JOT	**Ohata**	**2.44**	**312**	P	**Pn**	**07 19 46.7**	**-0.4**
JNBK	**Urakawa-nobuka**	**2.55**	**348**	P	**Pn**	**07 19 49.2**	**+0.6**
JYK	**Kaneyama**	**2.56**	**251**	P	**Pn**	**07 19 48.4**	**-0.4**
JKB	**Kayabe**	**2.80**	**319**	P	**Pn**	**07 19 53.3**	**+1.3**
JCH	**Churui**	**2.83**	**358**	P	**Pn**	**07 19 52.0**	**-0.5**
JCH				*e*S	**Sn**	**07 20 24.6**	**-2.2**
JFT	**Otama**	**3.33**	**228**	P	**Pn**	**07 19 58.8**	**-0.6**
JAK	**Akkeshi**	**3.34**	**16**	P	**Pn**	**07 19 58.5**	**-1.0**
JAK				*e*S	**Sn**	**07 20 37.3**	**-2.1**
JEW	**Eniwo**	**3.41**	**334**	*e*S	**Sn**	**07 20 40.5**	**-0.7**
ASAJ	**Asahikawa**	**4.38**	**352**	P	**Pn**	**07 20 16.5**	**+2.8**
	1μm,0.3s,baz=83,slow=0.0,SNR=2.7						
MJAR	**Matsushiro Arr**	**5.26**	**234**	P	**Pn**	**07 20 26.1**	**+0.3**
	1.4nm,0.3s,baz=41,slow=12,SNR=50						
MJAR				LR	LR	07 22 39.9	
	comp=Z,499nm,19.1s,baz=40,slow=41						
MAT	**Matsushiro**	**5.26**	**234**	P	**Pn**	**07 20 25.3**	**-0.6**
MAT				S	**Sn**	**07 21 30.4**	**+3.6**
JHJ	**Hachijo jima 2**	**7.28**	**205**	S	Sn	07 22 07.0	-10
	13nm,0.3s,baz=53,slow=20,SNR=3.9						
JHJ				LR	LR	07 23 48.3	
	comp=Z,205nm,21.1s,baz=118,slow=39						
USRK	**Ussuriysk Ar.**	**9.61**	**301**	P	**Pn**	**07 21 28.4**	**+2.8**
	0.3nm,0.3s,baz=102,slow=14,SNR=13						
USRK				LR	LR	07 25 09.7	
	comp=Z,474nm,18.8s,baz=115,slow=37						
KSRS	**Korea Array**	**12.38**	**264**	P	**Pn**	**07 22 05.2**	**+1.8**
	0.2nm,0.3s,baz=82,slow=13,SNR=8.5						
KSRS				LR	LR	07 26 31.2	
	comp=Z,397nm,18.4s,baz=90,slow=36						
KLR	**Kul'dur**	**12.60**	**322**	P	**Pn**	**07 22 10.6**	**+4.2**
	0.1nm,0.3s,baz=118,slow=15,SNR=2.5						
KLR				LR	LR	07 27 09.8	
	comp=Z,322nm,20.3s,baz=106,slow=38						
PETK	**Petropavlovsk-**	**16.50**	**31**	LR	LR	07 30 34.1	
	comp=Z,89nm,18.4s,baz=212,slow=41						
MA2	**Magadan**	**20.34**	**11**	LR	LR	07 32 25.0	
	comp=Z,77nm,18.7s,baz=146,slow=39						
SEY	**Seymchan**	**23.79**	**10**	P	**P**	**07 24 19.6**	**-0.3**
	5.7nm,1.0s,baz=196,slow=18,SNR=3.2						
SONM	**Songino Array**	**27.72**	**299**	P	**P**	**07 24 53.5**	**-2.4**
	3.2nm,1.0s,baz=90,slow=8.9,SNR=9.7						
SONM				LR	LR	07 36 35.0	
	comp=Z,329nm,19.4s,baz=107,slow=38						
H11N2	**WAKE ISLAND Hy**	**28.37**	**128**	T	T	07 55 04.0	
	baz=318,slow=75,SNR=49						
H11N1	**WAKE ISLAND Hy**	**28.38**	**128**	T	T	07 55 04.0	
	baz=318,slow=75,SNR=64						
H11N3	**WAKE ISLAND Hy**	**28.39**	**128**	T	T	07 55 04.0	
	baz=318,slow=75,SNR=59						
H11S1	**WAKE ISLAND Hy**	**29.19**	**130**	T	T	07 56 21.8	
	baz=321,slow=74,SNR=11						
H11S3	**WAKE ISLAND Hy**	**29.19**	**130**	T	T	07 56 21.8	
	baz=321,slow=74,SNR=8.6						
H11S2	**WAKE ISLAND Hy**	**29.21**	**130**	T	T	07 56 21.8	
	baz=321,SNR=13						
TLY	**Talaya**	**29.86**	**307**	LR	LR	07 37 34.8	
	comp=Z,91nm,19.5s,baz=118,slow=37						
ZALV	**Zelesovo Beam**	**41.31**	**310**	P	**P**	**07 26 52.4**	**-0.5**
	1.9nm,0.3s,baz=87,slow=7.4,SNR=4.4						
ZALV				LR	LR	07 44 48.7	
	comp=Z,91nm,19.7s,baz=70,slow=37						
NRIK	**Noril'sk**	**41.48**	**334**	LR	LR	07 45 45.0	
	comp=Z,137nm,18.2s,baz=116,slow=38						
KURBB	**Kurchatov Array**	**45.63**	**306**	P	**P**	**07 27 27.0**	**-0.8**
	1.7nm,0.6s,baz=82,slow=8.5,SNR=20						
ILAR	**Eielson Array**	**46.31**	**34**	P	**P**	**07 27 33.3**	**+0.3**
	0.4nm,0.8s,baz=268,slow=5.1,SNR=3.7						
BVAR	**Borovoye Array**	**49.95**	**311**	P	**P**	**07 28 00.3**	**-0.9

VLX	**Vlachokerasia**	**0.32**	**68**	P	Pg	07 44 50.5	+0.1
VLX				S	Sg	07 44 54.8	+0.2
VLX	**Vlachokerasia**	**0.32**	**68**	P	Pg	07 44 50.8	+0.3
VLX				S	Sg	07 44 54.3	-0.4
VLX				AML	AML	07 44 56.0	
	comp=N,871μm,0.6s						
VLX				AML	AML	07 44 56.8	
	comp=E,1489μm,0.6s						
TRIP	**Tripoli**	**0.35**	**37**	P	Pg	07 44 51.1	+0.2
TRIP				S	Sg	07 44 55.9	+0.4
TRIP				AML	AML	07 44 58.7	
	comp=N,253μm,0.3s						
TRIP				AML	AML	07 44 59.1	
	comp=E,257μm,0.3s						
AMT	**Artemida-Makis**	**0.37**	**320**	P	Pg	07 44 51.2	-0.1
AMT				S	Sg	07 44 56.4	+0.2
AMT	**Artemida-Makis**	**0.37**	**320**	P	Pg	07 44 51.6	+0.3
AMT				S	Sg	07 44 56.4	+0.2
AMT	**Artemida-Makis**	**0.37**	**320**	P	Pg	07 44 51.6	+0.3
AMT				S	Sg	07 44 57.6	+1.4
AMT				AML	AML	07 45 04.7	
	comp=E,1654μm,0.5s						
AMT				AML	AML	07 45 06.2	
	comp=N,1621μm,1.0s						
PYL	**PYLOS**	**0.41**	**211**	P	Pg	07 44 51.8	-0.4
PYL				S	Sg	07 44 58.2	+0.6
PYL	**PYLOS**	**0.41**	**211**	P	Pg	07 44 51.8	-0.4
PYL				S	Sg	07 44 58.2	+0.6
PYL	**PYLOS**	**0.41**	**211**	P	Pg	07 44 51.4	-0.8
PYL				S	Sb	07 44 59.5	-1.2
PYL				AML	AML	07 44 59.8	
	comp=N,844μm,0.3s						
PYL				AML	AML	07 45 00.7	
	comp=E,641μm,0.3s						
DRO	**Drossia**	**0.74**	**341**	P	Pg	07 44 58.3	-0.1
DRO	**Drossia**	**0.74**	**341**	P	Pg	07 44 58.4	0.0
DRO	**Drossia**	**0.74**	**341**	P	Pg	07 44 58.5	+0.1
KLV	**Kalavryta, Ach**	**0.80**	**8**	P	Pg	07 44 58.9	-0.6
KLV				S	Sb	07 45 11.1	-0.8
KLV	**Kalavryta, Ach**	**0.80**	**8**	P	Pg	07 44 58.9	-0.6
KLV				S	Sb	07 45 11.1	-0.8
KLV	**Kalavryta, Ach**	**0.80**	**8**	P	Pg	07 44 58.5	-1.1
KLV				AML	AML	07 45 14.1	
	comp=N,102μm,0.3s						
KLV				AML	AML	07 45 14.4	
	comp=E,136μm,0.2s						
RLS	**Riolos of Patr**	**0.91**	**332**	P	Pg	07 45 00.8	-0.9
RLS	**Riolos of Patr**	**0.91**	**332**	P	Pg	07 45 00.8	-0.9
VLI	**Veliai**	**0.92**	**125**	P	Pg	07 45 01.6	-0.2
VLI	**Veliai**	**0.92**	**125**	P	Pg	07 45 01.6	-0.2
VLI	**Veliai**	**0.92**	**125**	P	Pg	07 45 01.4	-0.3
LAKA	**Lakka**	**0.99**	**359**	P	Pg	07 45 01.7	-1.4
LAKA	**Lakka**	**0.99**	**359**	P	Pg	07 45 01.8	-1.4
DID	**Didima**	**1.01**	**75**	P	Pg	07 45 03.8	+0.2
DID	**Didima**	**1.01**	**75**	P	Pg	07 45 03.8	+0.2
LTK	**Loutraki**	**1.08**	**44**	P	Pg	07 45 04.0	-1.0
LTK	**Loutraki**	**1.08**	**44**	P	Pg	07 45 04.0	-1.0
KALE	**Kalithea**	**1.14**	**5**	P	Pg	07 45 04.3	-1.8
KALE	**Kalithea**	**1.14**	**5**	P	Pg	07 45 04.3	-1.8
KYTH	**Kithira**	**1.29**	**139**	P	Pb	07 45 10.2	+1.2
VILL	**Villia**	**1.38**	**48**	P	Pg	07 45 11.9	+1.3
VIL2	**Platees**	**1.39**	**46**	P	Pg	07 45 11.9	+1.2
PDO	**Prodromos**	**1.49**	**334**	P	Pn	07 45 11.2	-0.6
PDO	**Prodromos**	**1.49**	**334**	P	Pn	07 45 11.2	-0.6
ANKY	**Antikythira Is**	**1.73**	**143**	P	Pn	07 45 15.6	+0.6
ANKY	**Antikythira Is**	**1.73**	**143**	P	Pn	07 45 15.6	+0.6

*ISCJB **09** 07:46:20.4±0.7, 44°.35N±0°.05×34°.29E±0°.04, h25km±5km, Error ellipse: s-maj=9.2km s-min=4.5km az=4.5*
*SIGU **09** 07:46:20.5±0.3, 44°.39N×34°.34E, h20km±5km, mb3.0/6*
ISC 09 07:46:21.1±1.4, 44°.36N±0°.07×34°.35E±0°.04, h13km±7km, n29, σ1°82/35, 5C-7D, Crimea region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
YAL	**Yalta**	**0.18**	**312**	⇓*i*Pg	**Pg**	**07 46 25.2**	**-0.2**
YAL	baz=307			Pgm		07 46 25.6	
	comp=Z,691nm,baz=307						
YAL				*e*Sg	**Sg**	**07 46 28.7**	**+0.5**
	baz=307						
YAL				Sgm		07 46 29.3	
	comp=N,2μm,baz=307						
YAL				Sgm		07 46 29.3	
	comp=E,3μm,baz=307						
ALU	**Alushta**	**0.32**	**7**	*e*Pg	**Pg**	**07 46 27.2**	**-0.5**
ALU	baz=9.0			Pgm		07 46 28.0	
	comp=Z,381nm,baz=9.0						
ALU				*e*Sg	**Sg**	**07 46 32.1**	**-0.1**
	baz=9.0						
ALU				Sgm		07 46 33.0	
	comp=E,2μm,baz=9.0						
SEV	**Sevastopol'**	**0.52**	**291**	⇓*i*Pg	**Pg**	**07 46 30.5**	**-0.8**
SEV	baz=289			Pgm		07 46 31.7	
	comp=Z,27nm,baz=289						
SEV				*e*Sg	**Sg**	**07 46 38.2**	**0.0**
	baz=289						
SEV				Sgm		07 46 38.9	
	comp=N,828nm,baz=289						
SEV				Sgm		07 46 38.9	
	comp=E,300nm,baz=289						
SIM	**Simferopol'**	**0.61**	**344**	*e*Pg	**Pg**	**07 46 32.3**	**-0.7**
SIM	baz=345			Pgm		07 46 32.6	
	comp=Z,115nm,baz=345						
SIM				*e*Sg	**Sg**	**07 46 41.0**	**-0.1**
	baz=345						
SIM				Sgm		07 46 41.8	
	comp=E,414nmcomp=N,399nm,baz=345						
SUDU	**Sudak**	**0.70**	**41**	⇑*i*Pg	**Pg**	**07 46 34.2**	**-0.6**
SUDU	baz=43			Pgm		07 46 34.9	
	comp=Z,113nm,baz=43						
SUDU				*e*Sg	**Sb**	**07 46 44.3**	**-0.5**
	baz=43						
SUDU				Sgm		07 46 44.7	
	comp=N,63nm,baz=43						
SUDU				Sgm		07 46 44.7	
	comp=E,692nm,baz=43						
FEO	**Feodosiya**	**0.99**	**48**	*e*Pg	**Pn**	**07 46 41.4**	**+0.7**
FEO	baz=50			Pgm		07 46 42.1	
	comp=Z,28nm,baz=50						
FEO				*e*Sg	**Sn**	**07 46 55.2**	**+0.7**
	baz=50						
FEO				Sgm		07 46 57.3	
	comp=N,131nm,baz=50						
FEO				Sgm		07 46 57.3	
	comp=E,97nm,baz=50						
TLCR		**4.02**	**284**	⇓*i*P	**Pn**	**07 47 24.0**	**+1.7**
TLCR		**4.02**	**284**	S	**Sn**	**07 48 09.2**	**-0.1**
TIRR	**Tirgusor**	**4.25**	**273**	⇑*i*P	**Pn**	**07 47 25.8**	**+0.3**
TIRR	**Tirgusor**	**4.25**	**273**	S	**Sn**	**07 48 12.4**	**-2.5**
TIRR	**Tirgusor**	**4.25**	**273**	*e*P	**Pn**	**07 47 25.8**	**+0.3**
	baz=273						
CFR	**Carcaliu**	**4.50**	**283**	⇑*i*P	**Pn**	**07 47 30.8**	**+2.0**
CFR	**Carcaliu**	**4.50**	**283**	S	**Sn**	**07 48 19.3**	**-1.6**
CFR	**Carcaliu**	**4.50**	**283**	*e*P	**Pn**	**07 47 30.8**	**+2.0**
	baz=283						
TLB	**Topalu**	**4.52**	**275**	⇑*i*P	**Pn**	**07 47 29.9**	**+0.8**
TLB	**Topalu**	**4.52**	**275**	S	**Sn**	**07 48 21.0**	**-0.4**
MILM	**Milestii Mici**	**4.64**	**305**	S	**Sn**	**07 48 23.4**	**-1.2**
SORM	**Soroca**	**5.61**	**314**	⇓*i*P	**Pn**	**07 47 45.0**	**+0.8**
MLR	**Muntele Rosu**	**6.07**	**284**	⇓*i*P	**Pn**	**07 47 52.1**	**+1.5**
MLR	**Muntele Rosu**	**6.07**	**284**	S	**Sn**	**07 48 57.6**	**-2.3**
ARTV	**Artvin**	**6.42**	**117**	*i*P	**Pn**	**07 47 55.1**	**-0.4**
DAGI	**Agillar**	**6.47**	**118**	*i*P	**Pn**	**07 47 56.1**	**+0.1**
DDEM	**Demirkent**	**6.47**	**120**	*i*P	**Pn**	**07 47 55.6**	**-0.5**
DOPR	**Dopca**	**6.53**	**287**	⇓*i*P	**Pn**	**07 47 57.6**	**+0.8**
DOPR	**Dopca**	**6.53**	**287**	S	**Sn**	**07 49 18.8**	**+7.6**
VOIR		**6.69**	**282**	⇑*i*P	**Pn**	**07 48 00.5**	**+1.5**
VOIR		**6.69**	**282**	S	**Sn**	**07 49 13.2**	**-1.9**
BURAR	**Bucovina Array**	**7.14**	**300**	⇓*i*P	**Pn**	**07 48 05.9**	**+0.6**
BURAR	**Bucovina Array**	**7.14**	**300**	S	**Sn**	**07 49 24.5**	**-1.7**

*ISK **09** 08:04:33.6, 36°.91N×30°.22E, h5km, ML1.8*
*CSEM **09** 08:04:34.5±0.2, 36°.95N×30°.19E, h5km, ML1.8, Error ellipse: s-maj=8.8km s-min=3.6km az=150.0*
*DDA **09** 08:04:35.2, 36°.91N×30°.22E, h6km, Md2.6*

ISC 09 08:04:34.3±1.1, 36°.96N±0°.05×30°.17E±0°.03, h4km±11km, n17, σ1°57/27, Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KORT	**Korkueli**	**0.15**	**74**	*e*Pg	**Pg**	**08 04 37.0**	**-0.4**
KORT				*e*Sg	**Sg**	**08 04 39.6**	**+0.2**
KORT	**Korkueli**	**0.15**	**74**	*i*P	**Pg**	**08 04 37.2**	**-0.2**
KORT				*i*S	**Sg**	**08 04 41.1**	**+1.7**
KORT	**Korkueli**	**0.15**	**74**	*e*Pg	**Pg**	**08 04 37.0**	**-0.4**
KORT	**Korkueli**	**0.15**	**74**	P	**Pg**	**08 04 37.2**	**-0.2**
KORT				*e*Sg	**Sg**	**08 04 39.6**	**+0.2**
KORT				S	**Sg**	**08 04 41.1**	**+1.7**
ELL	**Elmali**	**0.30**	**225**	*e*PG	**Pb**	**08 04 40.6**	**-1.7**
ELL				*e*SG	**Sb**	**08 04 46.3**	**-1.3**
ELL	**Elmali**	**0.30**	**225**	*e*Pg	**Pb**	**08 04 40.6**	**-1.7**
ELL				*e*Sg	**Sb**	**08 04 46.3**	**-1.3**
GOLH	**Golhisar**	**0.56**	**300**	*i*P	**Pg**	**08 04 45.7**	**+0.6**
GOLH				*i*S	**Sn**	**08 04 58.0**	**-1.0**
GOLH	**Golhisar**	**0.56**	**300**	P	**Pg**	**08 04 45.7**	**+0.6**
GOLH				S	**Sn**	**08 04 58.0**	**-1.0**
SUTC	**Sutluce-Ispart**	**0.84**	**52**	*e*PG	**Pb**	**08 04 51.0**	**-0.6**
SUTC				*e*SG	**Sb**	**08 05 03.7**	**+0.4**
SUTC	**Sutluce-Ispart**	**0.84**	**52**	*e*Pg	**Pb**	**08 04 51.0**	**-0.6**
SUTC				*e*Sg	**Sb**	**08 05 03.7**	**+0.4**
AKAS	**Kas**	**0.85**	**212**	*e*PG	**Pb**	**08 04 50.8**	**-1.0**
AKAS	**Kas**	**0.85**	**212**	*i*S	**Sn**	**08 05 11.7**	**+5.4**
AKAS	**Kas**	**0.85**	**212**	*e*Pg	**Pb**	**08 04 50.8**	**-1.0**
FETY	**Fethiye**	**0.93**	**250**	*e*PG	**Pb**	**08 04 52.5**	**-0.5**
FETY	**Fethiye**	**0.93**	**250**	*e*Pg	**Pb**	**08 04 52.5**	**-0.5**
HDMB	**Hadim**	**1.86**	**89**	*e*PN	**Pb**	**08 05 07.2**	**-1.8**
HDMB	**Hadim**	**1.86**	**89**	*e*Pn	**Pb**	**08 05 07.2**	**-1.8**

NNC 09 08:26:05.5±2.9, 36°.84N×70°.89E, h0km, mb3.7, mpv3.4, 7C-3D, Error ellipse: s-maj=23.3km s-min=11.5km az=176.0, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DZET	**Dzherino**	**2.55**	**321**	⇑Pn	Pn	08 26 48.3	+0.1
DZET	5.9nm,0.5s			⇑Sn	Sn	08 27 21.4	+1.3
	28nm,0.5s						
MNAS	**Manas**	**5.77**	**12**	⇓Pn	Pn	08 27 33.0	+0.5
MNAS	1.5nm,0.8s			⇓Sn	Sn	08 28 41.3	+1.7
	12nm,0.8s						
KK31	**Karatay Array**	**6.26**	**357**	⇑Pn	Pn	08 27 38.2	-0.9
	0.7nm,0.3s,baz=179,slow=12,SNR=5.3						
KK31				⇑Sn	Sn	08 28 49.4	-2.0
	1.4nm,0.6s,baz=186,slow=30,SNR=4.5						
AAK	**Ala-Archa**	**6.42**	**25**	⇑Pn	Pn	08 27 40.9	-0.5
	2.0nm,0.5s						
AAK				⇓Sn	Sn	08 28 58.5	+3.0
	5.5nm,0.7s						
TKM2	**Tokmak 2**	**7.07**	**29**	⇑Pn	Pn	08 27 49.5	-0.8
	4.4nm,0.5s						
TKM2				⇑Sn	Sn	08 29 13.5	+2.0
	2.5nm,0.8s						

*ISCJB **09** 08:30:55.5±0.5, 37°.25N±0°.04×28°.19E±0°.03, h0km, Error ellipse: s-maj=5.4km s-min=3.3km az=1.4*
*CSEM **09** 08:30:55.7±0.3, 37°.25N×28°.18E, h5km, ML1.9, Error ellipse: s-maj=6.5km s-min=4.3km az=8.0*
*ISK **09** 08:30:55.0, 37°.28N×28°.17E, h6km, ML1.9*
*DDA **09** 08:30:56.0, 37°.22N×28°.19E, h7km, Md2.5, Suspected Mining explosion.*
ISC 09 08:30:54.9±0.8, 37°.25N±0°.03×28°.23E±0°.03, h0km, n24, σ0°53/39, Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MLSB	**Milas**	**0.37**	**277**	*e*PG	**Pg**	**08 31 01.6**	**-0.4**
MLSB				*e*SG	**Sg**	**08 31 06.4**	**-0.3**
MLSB	**Milas**	**0.37**	**277**	*e*Pg	**Pg**	**08 31 01.6**	**-0.4**
MLSB				*e*Sg	**Sg**	**08 31 06.4**	**-0.3**
TURN	**Turunc**	**0.48**	**142**	*i*P	**Pg**	**08 31 03.2**	**-0.9**
TURN				*i*S	**Sg**	**08 31 11.3**	**+1.0**
TURN	**Turunc**	**0.48**	**142**	P	**Pg**	**08 31 03.2**	**-0.9**
TURN				S	**Sg**	**08 31 11.3**	**+1.0**
DALY	**Dalyan (Mu¨la**	**0.55**	**142**	*e*PG	**Pb**	**08 31 06.7**	**-0.7**
DALY				*e*SG	**Sb**	**08 31 16.0**	**+0.2**
DALY	**Dalyan (Mu¨la**	**0.55**	**142**	*i*P	**Pb**	**08 31 07.0**	**-0.4**
DALY				*i*S	**Sn**	**08 31 19.1**	**-0.8**
DALY	**Dalyan (Mu¨la**	**0.55**	**142**	*e*Pg	**Pb**	**08 31 06.7**	**-0.7**
DALY	**Dalyan (Mu¨la**	**0.55**	**142**	P	**Pb**	**08 31 07.0**	**-0.4**
DALY				*e*Sg	**Sb**	**08 31 16.0**	**+0.2**
BDRM	**Kayabasi**	**0.66**	**254**	*i*P	**Pg**	**08 31 07.6**	**+0.1**
BDRM				*i*S	**Sg**	**08 31 16.8**	**+0.8**
BDRM	**Kayabasi**	**0.66**	**254**	P	**Pg**	**08 31 07.6**	**+0.1**
BDRM				S	**Sg**	**08 31 16.8**	**+0.8**
DAT	**Datca**	**0.74**	**225**	*e*PG	**Pg**	**08 31 09.4**	**+0.3**
DAT	**Datca**	**0.74**	**225**	*i*P	**Pg**	**08 31 09.8**	**+0.7**
DAT				*i*S	**Sb**	**08 31 21.3**	**-0.2**
DAT	**Datca**	**0.74**	**225**	*e*Pg	**Pg**	**08 31 09.4**	**+0.3**
DAT	**Datca**	**0.74**	**225**	P	**Pg**	**08 31 09.8**	**+0.7**
DAT				S	**Sb**	**08 31 21.3**	**-0.2**
AYDB	**Zeytinkoy-Aydi**	**0.75**	**339**	*e*PG	**Pg**	**08 31 09.1**	**-0.2**
AYDB	**Zeytinkoy-Aydi**	**0.75**	**339**	*e*Pg	**Pg**	**08 31 09.1**	**-0.2**
BODT	**Bodrum**	**0.76**	**256**	*e*PG	**Pg**	**08 31 09.2**	**-0.3**
BODT				*e*SG	**Sg**	**08 31 19.6**	**+0.2**
BODT	**Bodrum**	**0.76**	**256**	*e*Pg	**Pg**	**08 31 09.2**	**-0.3**
BODT				*e*Sg	**Sg**	**08 31 19.6**	**+0.2**
DNZL	**Cakiroluk**	**0.78**	**56**	*i*P	**Pn**	**08 31 13.4**	**0.0**
DNZL				*i*S	**Sb**	**08 31 23.6**	**+0.8**
DNZL	**Cakiroluk**	**0.78**	**56**	P	**Pn**	**08 31 13.4**	**0.0**
DNZL				S	**Sb**	**08 31 23.6**	**+0.8**
FETY	**Fethiye**	**0.92**	**132**	*e*PG	**Pb**	**08 31 14.0**	**+0.3**
FETY	**Fethiye**	**0.92**	**132**	*e*Pg	**Pb**	**08 31 14.0**	**+0.3**
AKAS	**Kas**	**1.50**	**132**	*e*PN	**Pb**	**08 31 23.9**	**+0.2**
AKAS	**Kas**	**1.50**	**132**	*e*Pn	**Pb**	**08 31 23.9**	**+0.2**

IDC 09 09:00:46.1±3.2, 27°.92S×176°.57W, h0km, mb3.8/2, mb1 4.1/2, mb1mx3.6/27, mbtmp3.8/2, Error ellipse: s-maj=88.2km s-min=42.5km az=127.0, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**1.78**	**221**	Pn	Pn	09 01 18.0	-0.2
	173nm,0.3s,baz=30,slow=23,SNR=1.6						
RAO				Sn	Sn	09 01 40.6	-0.9
	269nm,0.3s,baz=61,slow=24,SNR=2.1						
ASAR	**Alice Springs**	**44.55**	**264**	P	P	09 08 59.8	-0.2
	0.7nm,0.5s,baz=101,slow=7.0,SNR=5.8						
WRA	**Warramunga Arr**	**45.32**	**269**	P	P	09 09 06.1	-0.1
	1.1nm,0.7s,baz=109,slow=7.9,SNR=5.4						
FINES	**FINESS Array B**	**143.21**	**342**	PKP	PKPbc	09 20 18.8	+0.3
	1.0nm,0.6s,baz=68,slow=8.0,SNR=2.4						
AKASG	**Malin Array Be**	**150.01**	**326**	PKPbc	PKPbc	09 20 38.5	+0.3
	0.5nm,0.4s,baz=53,slow=3.1,SNR=2.3						

*ISCJB **09** 09:04:05.8±0.6, 64°.69N±0°.03×30°.74E±0°.10, h0km, Error ellipse: s-maj=6.5km s-min=3.6km az=21.2*
*HEL **09** 09:04:06.9±0.2, 64°.69N×30°.78E, h0km, ML2.0, Explosion*
*UPP **09** 09:04:06.2, 64°.57N×31°.01E, h0km, ML1.9, Suspected Mining explosion.*
*IDC **09** 09:04:07.7±2.8, 64°.64N×31°.33E, h0km, mb1 3.1/3, mb1mx2.9/41, mbtmp2.9/3, ML2.6/3, Error ellipse: s-maj=39.8km s-min=9.3km az=102.0*
*CSEM **09** 09:04:08.2±0.6, 64°.73N×30°.56E, h2km, ML2.0, Error ellipse: s-maj=14.6km s-min=6.3km az=114.0, Mining explosion.*
*KOLA **09** 09:04:08.1, 64°.70N×30°.66E, h0km*
*NAO **09** 09:04:09.9×1.3, 64°.80N×29°.89E, ML2.3*
*BER **09** 09:04:10.6±3.2, 64°.78N×29°.90E, h0km, ML2.3(NAO), Suspected explosion*
ISC 09 09:04:07.2±1.0, 64°.71N±0°.03×30°.69E±0°.05, h0km, n49, σ1°55/71, Finland-Karelia border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KU6	**Riekki**	**1.37**	**346**	*e*P	**Pg**	**09 04 31.8**	**-1.6**
KU6				*e*S	**Sg**	**09 04 50.9**	**-0.2**
KU6	**Riekki**	**1.37**	**346**	P	**Pg**	**09 04 31.7**	**-1.6**
KU6				S	**Sg**	**09 04 50.8**	**-0.2**
MSF	**Maaselka**	**1.39**	**331**	*e*P	**Pg**	**09 04 32.2**	**-1.7**
MSF				*e*S	**Sg**	**09 04 51.2**	**-0.8**
MSF	**Maaselka**	**1.39**	**331**	P	**Pg**	**09 04 32.2**	**-1.7**
MSF				S	**Sg**	**09 04 51.1**	**-0.8**
KJN	**Kajaani**	**1.44**	**246**	*e*P	**Pn**	**09 04 32.8**	**-1.6**
KJN				*e*S	**Sg**	**09 04 52.1**	**-1.1**
KJN	**Kajaani**	**1.44**	**246**	P	**Pn**	**09 04 32.8**	**-1.6**
KJN				S	**Sg**	**09 04 52.0**	**-1.1**
JOF	**Joensuu**	**1.82**	**171**	*e*P	**Pn**	**09 04 38.8**	**-0.9**
OUL	**Oulu**	**2.08**	**283**	*e*P	**Pn**	**09 04 43.1**	**-0.1**
OUL	**Oulu**	**2.08**	**283**	P	**Pn**	**09 04 43.1**	**-0.1**
OUFX	**Oulainen**	**2.61**	**265**	*e*P	**Pn**	**09 04 50.6**	**+0.1**
OUFX	**Oulainen**	**2.61**	**265**	P	**Pn**	**09 04 50.6**	**+0.1**
RNF	**Rovaniemi**	**2.72**	**317**	*e*P	**Pn**	**09 04 52.3**	**+0.3**
RNF	**Rovaniemi**	**2.72**	**317**	P	**Pn**	**09 04 52.3**	**+0.3**
SUF	**Sumiainen**	**2.84**	**227**	*e*SG	**Sb**	**09 05 33.9**	**+0.1**
SUF				MSG		09 05 36.9	
	comp=Z,3.8nm,0.1s						
TOF	**Tornio**	**3.00**	**300**	*e*SB	**Sb**	**09 05 38.3**	**-0.2**
APA0	**Apatity Array**	**3.06**	**17**	Pn	**Pn**	**09 04 58.2**	**+1.5**
	baz=197,slow=12						
APA0				Sn	**Sn**	**09 05 35.7**	**+1.7**
	baz=220,slow=18						
APA0				Lg	Lg	09 05 45.8	
	baz=201,slow=22						
APA0	**Apatity Array**	**3.06**	**17**	Pn	**Pn**	**09 04 58.2**	**+1.5**
	baz=197,slow=12						
APA0				Sn	**Sn**	**09 05 35.7**	**+1.7**
	baz=220,slow=18						
APA0				Lg	Lg	09 05 45.8	
	baz=201,slow=22						
APA0	**Apatity Array**	**3.06**	**17**	P	**Pn**	**09 04 57.2**	**+0.5**
APA0				S	**Sn**	**09 05 34.0**	**0.0**
APA0	**Apatity Array**	**3.06**	**17**	Pn	**Pn**	**09 04 58.2**	**+1.5**
	SNR=50						
APA0				Sn	**Sn**	**09 05 35.7**	**+1.7**
	SNR=50						
APA0				Lg	Lg	09 05 45.8	
	SNR=90						
APA	**Apatity**	**3.08**	**20**	P	**Pn**	**09 04 57.6**	**+0.6**
APA				S	**Sn**	**09 05 34.5**	**0.0**
KAF	**Kangasniemi**	**3.26**	**219**	*e*SB	**Sb**	**09 05 45.1**	**-1.1**
KAF				MSG		09 05 57.7	
	comp=Z,3.9nm,0.1s						
FIA0	**FINESS Array S**	**3.89**	**215**	Pn	**Pn**	**09 05 08.8**	**+0.8**
	baz=40,slow=14						
FIA0				Pg	**Pb**	**09 05 17.6**	**+1.1**
	baz=26,slow=16						
FIA0				Lg	Lg	09 06 06.6	
	baz=18,slow=37						
FIA0	**FINESS Array S**	**3.89**	**215**	Pn	**Pn**	**09 05 08.8**	**+0.8**
	baz=40,slow=14						
FIA0				Pg	**Pb**	**09 05 17.6**	**+1.1**
	baz=26,slow=16						
FIA0				Lg	Lg	09 06 06.6	
	baz=18,slow=37						
FIA0	**FINESS Array S**	**3.89**	**215**	Pn	**Pn**	**09 05 08.9**	**+0.8**
	SNR=50						
FIA0	**FINESS Array S**	**3.89**	**215**	Pg	**Pb**	**09 05 17.6**	**+1.1**
	SNR=90						
FIA0				Lg	Lg	09 06 06.6	
FINES	**FINESS Array B**	**3.89**	**215**	Pn	**Pn**	**09 05 09.5**	**+1.4**
	comp=Z,0.2nm,0.3s,baz=46,slow=16,SNR=4.3						
FINES				Pg	**Pb**	**09 05 18.2**	**+1.7**
	comp=Z,0.4nm,0.3s,baz=33,slow=15,SNR=9.2						
FINES				Sn	**Sn**	**09 05 54.1**	**-0.3**
	comp=Z,0.3nm,0.3s,baz=36,slow=24,SNR=4.1						
FINES				Lg	Lg	09 06 10.7	
	comp=Z,1.5nm,0.3s,baz=35,slow=26,SNR=12						
FINES				Rg	Rg	09 06 26.7	
	comp=Z,32nm,1.1s,baz=36,slow=33,SNR=9.7						
SJUU	**Sjulsmark**	**3.92**	**286**	P	**Pn**	**09 05 08.9**	**+0.3**
SJUU				S	**Sn**	**09 05 57.9**	**+2.7**
SJUU	**Sjulsmark**	**3.92**	**286**	P	**Pn**	**09 05 08.9**	**+0.3**
SJUU				S	**Sn**	**09 05 57.9**	**+2.7**
ERTU	**Ertsjaerv**	**3.98**	**302**	P	**Pn**	**09 05 10.0**	**+0.6**
ERTU				S	**Sn**	**09 06 01.0**	**+4.4**
ERTU	**Ertsjaerv**	**3.98**	**302**	P	**Pn**	**09 05 10.0**	**+0.6**
ERTU				S	**Sn**	**09 06 01.0**	**+4.4**
HARU	**Harads**	**4.31**	**294**	P	**Pn**	**09 05 14.2**	**+0.3**
HARU	**Harads**	**4.31**	**294**	P	**Pn**	**09 05 14.2**	**+0.3**
MASU	**Masugnsbyn**	**4.49**	**312**	P	**Pn**	**09 05 18.2**	**+1.9**
MASU	**Masugnsbyn**	**4.49**	**312**	P	**Pn**	**09 05 18.2**	**+1.9**
SVAU	**Svanoeiden**	**4.79**	**272**	P	**Pn**	**09 05 21.1**	**+0.6**
SVAU	**Svanoeiden**	**4.79**	**272**	P	**Pn**	**09 05 21.1**	**+0.6**
DUNU	**Dundret**	**4.80**	**305**	P	**Pn**	**09 05 22.1**	**+1.5**
DUNU	**Dundret**	**4.80**	**305**	P	**Pn**	**09 05 22.1**	**+1.5**
LANU	**Lannavaara**	**4.85**	**318**	P	**Pn**	**09 05 21.2**	**-0.1**
LANU	**Lannavaara**	**4.85**	**318**	P	**Pn**	**09 05 21.2**	**-0.1**
ARA0	**ARCESS Array S**	**5.25**	**340**	Pn	**Pn**	**09 05 26.1**	**-0.7**
	baz=152,slow=14						
ARA0				Sn	**Sn**	**09 06 23.2**	**-4.8**
	baz=154,slow=28						
ARA0				Lg	Lg	09 06 45.4	
	baz=152,slow=28						
ARA0	**ARCESS Array S**	**5.25**	**340**	Pn	**Pn**	**09 05 26.1**	**-0.7**
	baz=152,slow=14						
ARA0				Sn	**Sn**	**09 06 23.2**	**-4.8**
	baz=154,slow=28						
ARA0				Lg	Lg	09 06 45.4	
	baz=152,slow=28						
ARA0	**ARCESS Array S**	**5.25**	**340**	Pn	**Pn**	**09 05 26.1**	**-0.7**
	SNR=50						
ARA0				Lg	Lg	09 06 45.3	
ARCES

```
YLYR                                  eSg      Sg    09 22 37.1  -0.2
YLYR                                  Smax           09 22 37.5
     comp=N,1µm,0.5s
YLYR                                  eSb      Sn    09 22 40.6  -1.1
YLYR  Ulyunkhan          0.76 156⇑ iPG      Pg    09 22 26.9  -0.6
YLYR                                  e              09 22 36.9
YLYR                                  pmax     pmax
     comp=Z,275nm,0.7s
YLYR                                  smax     smax
     comp=N,2µm,1.8s
YOA   Uoyan              0.84  47 ePg      Pn    09 22 30.9  -0.3
YOA                                   Pmax           09 22 33.2
     comp=N,261nm,0.3s
YOA                                   eSg      Sn    09 22 43.8   0.0
YOA                                   Smax           09 22 45.5
     comp=N,4µm,0.5s
YOA   Uoyan              0.84  47 ePG      Pn    09 22 30.7  -0.5
YOA                                   i              09 22 44.1
YOA                                   pmax     pmax
     comp=Z,324nm,0.2s
YOA                                   smax     smax
     comp=N,5µm,0.4s
UKT   Uakit              1.71  91⇑ iPg     Pg    09 22 45.7   0.0
UKT                                   Pmax           09 22 46.8
     comp=N,651nm,0.9s
UKT                                   eSg      Sg    09 23 10.1  +2.2
UKT                                   e              09 23 12.1
UKT                                   max            09 23 12.7
     comp=N,1µm,0.5s
UKT   Uakit              1.71  91⇑ iPN     Pg    09 22 45.7   0.0
UKT                                   e              09 23 09.7
UKT                                   pmax     pmax
     comp=Z,650nm,1.0s
UKT                                   smax     smax
     comp=N,1µm,0.5s
SVKR  Severomuysk        1.75  70 ePg      Pg    09 22 46.7  +0.3
SVKR                                  e              09 22 50.7
SVKR                                  max            09 22 51.0
     comp=N,368nm,0.4s
SVKR                                  eSg      Sg    09 23 11.9  +2.9
SVKR                                  Smax           09 23 14.3
     comp=N,6µm,0.6s
SVKR  Severomuysk        1.75  70 ePN      Pg    09 22 47.1  +0.7
SVKR                                  e              09 23 12.0
SVKR                                  pmax     pmax
     comp=Z,296nm,0.3s
SVKR                                  smax     smax
     comp=N,6µm,0.7s
SYVR  Suvo               1.95 191 ePg      Pn    09 22 46.7  +0.3
SYVR                                  Pmax           09 22 51.5
     comp=N,172nm,1.1s
SYVR                                  eSg      Sb    09 23 12.4  -0.7
SYVR                                  Smax           09 23 15.3
     comp=N,2µm,1.0s
SYVR  Suvo               1.95 191 ePN      Pn    09 22 46.7  +0.3
SYVR                                  e              09 23 12.3
SYVR                                  pmax     pmax
     comp=Z,175nm,0.9s
SYVR                                  smax     smax
     comp=E,2µm,1.1s
MXMB  Maximikha          2.56 206 ePg      Pb    09 22 57.5  -1.5
MXMB                                  eSg      Sb    09 23 30.6   0.0
OGRR  Ongureny           2.61 224⇑ iPn     Pn    09 22 55.9  +0.4
OGRR                                  ePg      Pb    09 22 58.4  -1.6
OGRR                                  Pmax           09 23 00.5
     comp=E,66nm,0.4s
OGRR                                  eSg      Sb    09 23 31.0  -1.2
OGRR                                  Smax           09 23 35.1
     comp=E,485nm,0.8s
OGRR  Ongureny           2.61 224 ePN      Pn    09 22 55.5   0.0
OGRR                                  e              09 22 58.9
OGRR                                  e              09 23 29.7
OGRR                                  pmax     pmax
     comp=Z,66nm,0.5s
OGRR                                  smax     smax
     comp=E,483nm,1.0s
BOD   Bodaibo            2.93  38 ePn      Pn    09 23 02.2  +2.4
BOD                                   ePg      Pg    09 23 07.6  -1.4
BOD                                   Pmax           09 23 07.9
     comp=E,36nm,0.2s
BOD                                   eSn      Sb    09 23 39.5  -1.9
BOD                                   eSg      Sg    09 23 46.7  -0.2
BOD                                   Smax           09 23 48.3
     comp=E,333nm,0.5s
BOD   Bodaibo            2.93  38 ePN      Pn    09 23 01.3  +1.5
BOD                                   eS       Sg    09 23 46.1  -0.8
BOD                                   smax     smax
     comp=N,334nm,0.6s
NLYR  Nelyaty            3.00  70⇑ iPn     Pn    09 23 03.4  +2.6
NLYR                                  ePg      Pg    09 23 08.5  -1.8
NLYR                                  Pmax           09 23 15.9
     comp=N,97nm,0.8s
NLYR                                  eSn      Sn    09 23 36.1  -0.9
NLYR                                  e              09 23 42.9
NLYR                                  eSg      Sg    09 23 49.5  +0.3
NLYR                                  Smax           09 23 56.8
     comp=N,747nm,1.5s
NLYR  Nelyaty            3.00  70 ePN      Pn    09 23 03.3  +2.5
NLYR                                  e              09 23 09.8
NLYR                                  e              09 23 49.7
NLYR                                  pmax     pmax
     comp=Z,96nm,1.1s
NLYR                                  smax     smax
     comp=E,748nm,1.3s
KELR  Kotokel            3.18 209 ePg      Pb    09 23 08.3  -1.5
KELR                                  e              09 23 12.2
KELR                                  eSg      Sb    09 23 49.6  +0.9
ZRHB  Zarechye           3.65 216 ePg      Pb    09 23 16.7  -0.9
ZRHB                                  Pmax           09 23 23.7
     comp=E,136nm,0.7s
ZRHB                                  eSg      Sb    09 24 03.0  +1.0
ZRHB                                  Smax           09 24 30.6
     comp=E,972nm,0.8s
TRG   Tyrgan             3.77 224⇓ iPn     Pn    09 23 11.0  -0.5
TRG                                   ePg      Pb    09 23 18.5  -1.3
TRG                                   Pmax           09 23 23.9
     comp=E,58nm,1.0s
TRG                                   e              09 23 49.7
TRG                                   eSg      Sb    09 24 05.9  +0.3
TRG                                   Smax           09 24 11.5
     comp=E,288nm,1.1s
TRG   Tyrgan             3.77 224 ePN      Pn    09 23 10.9  -0.5
TRG                                   e              09 23 19.5
TRG                                   eS       Sn    09 23 53.7  -2.3
TRG                                   e              09 24 06.0
TRG                                   pmax     pmax
     comp=Z,59nm,1.0s
TRG                                   smax     smax
     comp=E,257nm,0.6s
TRTB  Turuntaevo         3.78 209⇓ iPn     Pn    09 23 11.6   0.0
TRTB                                  ePg      Pb    09 23 19.4  -0.6
TRTB                                  Pmax           09 23 26.1
     comp=E,36nm,1.3s
TRTB                                  eSn      Sn    09 23 52.5  -3.8
TRTB                                  eSg      Sb    09 24 07.4  +1.5
TRTB                                  e              09 24 11.5
TRTB                                  max            09 24 21.7
     comp=E,177nm,1.1s
CIT   Chita              3.95 153 ePg      Pb    09 23 23.0  +0.1
CIT                                   Pmax           09 23 29.7
     comp=E,71nm,0.1s
CIT                                   eSg      Sb    09 24 14.4  +3.5
CIT                                   Smax           09 24 19.3
     comp=E,430nm,1.1s
CIT   Chita              3.95 153 ePN      Pb    09 23 22.6  -0.3
CIT                                   e              09 24 13.1
CIT                                   pmax     pmax
     comp=Z,109nm,0.7s
CIT                                   smax     smax
     comp=E,428nm,1.0s
UUDB  Ulan-Yde           4.10 207 ePn      Pn    09 23 15.5  -0.5
UUDB                                  ePg      Pb    09 23 24.9  -0.5
UUDB                                  Pmax           09 23 27.6
     comp=E,79nm,0.9s
UUDB                                  eSg      Sb    09 24 18.1  +3.0
UUDB                                  Smax           09 24 26.6
     comp=E,419nm,1.5s
KAB   Kabansk            4.24 215 eSg      Sb    09 24 21.3  +2.3
KAB                                   Smax           09 24 40.8
     comp=E,785nm,0.8s
CRS   Chara              4.47  69 e        Pg    09 23 37.3  -1.2
CRS                                   max            09 23 39.9
     comp=E,123nm,0.9s
CRS                                   eSg      Sg    09 24 35.4  -1.0
CRS                                   Smax           09 24 40.2
     comp=E,596nm,1.7s
CRS                                   e              09 24 53.7
CRS   Chara              4.47  69 ePN      Pg    09 23 37.3  -1.2
CRS                                   e              09 24 34.7
CRS                                   pmax     pmax
     comp=Z,123nm,1.5s
CRS                                   smax     smax
     comp=E,594nm,1.7s
HRMR  Khuramsha          4.51 210 ePn      Pn    09 23 21.7  +0.1
HRMR                                  ePg      Pb    09 23 31.7  -0.6
HRMR                                  Pmax           09 23 35.2
     comp=E,41nm,0.5s
HRMR                                  eSg      Sb    09 24 28.2  +1.3
HRMR                                  Smax           09 24 35.5
     comp=E,584nm,0.8s
BGT   Bolshoye Golou     4.69 223 ePn      Pn    09 23 23.8  -0.2
BGT                                   e              09 23 32.1
BGT                                   ePg      Pb    09 23 34.1  -1.3
BGT                                   Pmax           09 23 40.8
     comp=E,31nm,1.0s
BGT                                   eSg      Sb    09 24 33.9  +1.9
BGT                                   Smax           09 24 40.3
     comp=E,249nm,0.7s
IRK   Irkutsk            5.02 231 e        Sn    09 24 25.0  -1.7
IRK                                   eSg      Sb    09 24 45.2  +3.8
IRK                                   Smax           09 24 52.5
     comp=E,565nm,1.0s
IRK   Irkutsk            5.02 231 ePN      Pn    09 23 27.6  -0.9
IRK                                   e              09 23 42.0
IRK                                   eS       Sn    09 24 25.4  -1.3
IRK                                   e              09 24 45.7
IRK                                   pmax     pmax
     comp=Z,204nm,0.1s
IRK                                   smax     smax
     comp=E,668nm,1.2s
LSTR  Listvyanka         5.05 225 ePn      Pn    09 23 28.5  -0.5
LSTR                                  e              09 23 37.5
LSTR                                  ePg      Pb    09 23 41.3  -0.3
LSTR                                  Pmax           09 23 50.3
     comp=E,11nm,0.6s
LSTR                                  e              09 24 26.2
LSTR                                  eSg      Sb    09 24 44.9  +2.4
LSTR                                  Smax           09 24 46.5
     comp=E,208nm,1.2s
IVK   Ivanovka           5.28 227 ePn      Pn    09 23 31.1  -1.0
IVK                                   ePg      Pb    09 23 44.9  -0.5
IVK                                   Pmax           09 23 51.0
     comp=E,19nm,0.7s
IVK                                   e              09 24 32.3
IVK                                   eSg      Sb    09 24 51.3  +2.5
IVK                                   Smax           09 24 54.1
     comp=E,191nm,1.8s
IVK                                   e              09 24 54.7
TUP   Tupik              5.49  98⇑ iPn     Pn    09 23 36.5  +1.5
TUP                                   max            09 23 37.5
     comp=E,51nm,0.5s
TUP                                   Pg       Pb    09 23 53.2  +4.1
TUP                                   eSn      Sn    09 24 38.3  -0.2
TUP                                   eSg      Sg    09 25 06.1  -3.1
TUP                                   Smax           09 25 11.8
     comp=E,335nm,1.2s
TUP   Tupik              5.49  98 ePN      Pn    09 23 36.6  +1.5
TUP                                   e              09 23 53.2
TUP                                   eS       Sn    09 24 39.8  +1.3
TUP                                   e              09 25 05.8
TUP                                   pmax     pmax
     comp=E,38nm,0.6s
TUP                                   smax     smax
     comp=E,338nm,1.0s
TLY   Talaya             5.69 230 Pn       Pn    09 23 37.4  -0.4
     comp=E,0.0nm,0.3s,baz=9.0,slow=22,SNR=3.3
TLY                                   Pg       Pb    09 23 52.3  -0.1
     comp=E,0.0nm,0.3s,baz=44,slow=8.2,SNR=6.6
TLY                                   Sn       Sn    09 24 41.8  -1.5
     comp=E,0.0nm,0.3s,baz=221,slow=17,SNR=8.6
TLY                                   Lg       Lg    09 25 05.6
     comp=E,0.1nm,0.3s,baz=261,slow=11,SNR=12
TLY   Talaya             5.69 230 ePn      Pn    09 23 35.5  -2.3
TLY                                   ePg      Pb    09 23 52.5  +0.1
TLY                                   Pmax           09 23 56.4
     comp=E,33nm,0.9s
TLY                                   e              09 24 41.7
TLY                                   eSg      Sb    09 25 04.7  +3.9
TLY                                   Smax           09 25 13.4
     comp=E,173nm,1.3s
KPC   Khapcheranga       5.97 169 ePn      Pn    09 23 41.0  -0.6
KPC                                   e              09 23 55.4
KPC                                   e              09 24 01.4
KPC                                   max            09 24 02.3
     comp=E,16nm,0.6s
KPC                                   eSn      Sn    09 24 46.0  -4.3
KPC                                   eSg      Sb    09 25 16.0  +7.1
KPC                                   e              09 25 22.8
KPC                                   max            09 25 23.8
     comp=E,240nm,1.1s
KPC   Khapcheranga       5.97 169 ePN      Pn    09 23 41.1  -0.6
KPC                                   e              09 23 59.1
KPC                                   eS       Sn    09 24 45.8  -4.5
KPC                                   e              09 25 16.1
KPC                                   pmax     pmax
     comp=E,17nm,0.6s
KPC                                   smax     smax
     comp=E,241nm,1.1s
ARS   Arshan             6.08 236 ePn      Pn    09 23 42.5  -0.7
ARS                                   ePg      Pb    09 24 00.6  +1.5
ARS                                   Pmax           09 24 07.3
     comp=E,34nm,0.8s
ARS                                   eSn      Sn    09 24 50.8  -2.2
ARS                                   eSg      Sb    09 25 16.8  +4.7
ARS                                   e              09 25 20.6
ARS                                   max            09 25 22.4
     comp=E,572nm,0.7s
ARS   Arshan             6.08 236 ePN      Pn    09 23 42.6  -0.7
ARS                                   eS       Sb    09 25 18.4  +6.3
ARS                                   smax     smax
     comp=E,570nm,0.7s
ZAK   Zakamensk          6.83 223 ePn      Pn    09 23 54.8  +1.4
ZAK                                   ePg      Pb    09 24 14.3  +2.5
ZAK                                   Pmax           09 24 17.5
     comp=E,7.0nm,0.5s
ZAK                                   eSg      Sb    09 25 41.5  +8.0
ZAK                                   Smax           09 25 50.8
     comp=E,106nm,1.0s
ZAK   Zakamensk          6.83 223 ePN      Pn    09 23 53.7  +0.3
ZAK                                   e              09 24 14.3
ZAK                                   e              09 25 37.6
ZAK                                   pmax     pmax
     comp=Z,7.0nm,0.4s
ZAK                                   smax     smax
     comp=E,112nm,1.2s
MOY   Mondy              6.93 240 ePn      Pn    09 23 54.9   0.0
MOY                                   e              09 24 03.7
MOY                                   max            09 24 04.6
     comp=E,43nm,0.7s
MOY                                   eSn      Sn    09 25 06.6  -7.4
MOY                                   eSg      Sb    09 25 42.3  +5.8
MOY                                   Smax           09 25 49.9
     comp=E,185nm,1.9s
MOY   Mondy              6.93 240 ePN      Pn    09 23 55.2  +0.3
MOY                                   e              09 24 16.6
MOY                                   e              09 25 41.2
MOY                                   pmax     pmax
     comp=Z,252nm,0.8s
MOY                                   smax     smax
     comp=N,20nm,0.1s
ORL   Orlik              7.05 249⇑ iPn     Pn    09 23 56.9  +0.4
ORL                                   max            09 23 58.1
     comp=N,51nm,1.3s
ORL                                   e              09 24 06.1
ORL                                   e              09 25 14.9
ORL                                   eSg      Sb    09 25 48.6  +8.7
ORL                                   Smax           09 25 55.1
     comp=N,227nm,1.2s
ORL   Orlik              7.05 249 ePN      Pn    09 23 57.0  +0.4
ORL                                   e              09 24 18.9
ORL                                   eS       Sn    09 25 13.5  -3.4
ORL                                   e              09 25 47.0
ORL                                   pmax     pmax
     comp=Z,55nm,1.0s
ORL                                   smax     smax
     comp=N,229nm,1.2s
IENR  Iengra             8.03  79 ePn      Pn    09 24 12.2  +2.3
IENR                                  ePg      Pb    09 24 38.7  +6.4
IENR                                  eSg      Sg    09 26 24.6  -5.9
IENR                                  e              09 26 30.4
TNDR  Tynda              8.05  87 e        Pg    09 24 52.3  +5.4
TNDR                                  e              09 25 53.9
TNDR                                  eSg      Sg    09 26 26.0  -5.0
SONM  Songino Array      8.17 200 Pn       Pn    09 24 12.5  +0.6
     comp=N,0.3nm,0.3s,baz=12,slow=12,SNR=4.1
SONM                                  Lg       Lg    09 26 27.6
     comp=N,1.2nm,0.3s,baz=13,slow=29,SNR=14
KLR   Kul'dur            14.34 107 Pn       Pn    09 25 38.4  +2.3
     comp=N,0.7nm,0.3s,baz=305,slow=14,SNR=16
KLR                                   Lg       Lg    09 29 46.8
     comp=N,0.2nm,0.3s,baz=211,slow=11,SNR=7.6
ZALV  Zalesovo Beam      14.96 274 Pn       Pn    09 25 44.1  -0.4
     comp=N,1.0nm,0.3s,baz=77,slow=9.0,SNR=9.5
ZALV                                  Lg       Lg    09 29 59.8
     comp=N,0.9nm,0.3s,baz=86,slow=26,SNR=3.3
USRK  Ussuriysk Ar.      17.78 121 Lg       Lg    09 31 35.1
     comp=N,0.1nm,0.3s,baz=332,slow=26,SNR=4.1
KURK  Kurchatov          19.69 269 P        P     09 26 42.9  +0.5
KURBB Kurchatov Arra     19.78 269 P        P     09 26 42.9  -0.5
     comp=N,0.2nm,0.3s,baz=67,slow=11,SNR=12
KSRS  Korea Array        21.57 140 LR       LR    09 36 15.1
     comp=N,27nm,19.2s,baz=232,slow=39
BVAR  Borovoye Array     23.39 281 P        P     09 27 22.5  +0.6
     comp=N,1.2nm,0.5s,baz=64,slow=13,SNR=7.3
FINES FINESS Array B     41.61 314 P        P     09 30 00.9  -0.1
     comp=N,1.5nm,0.5s,baz=64,slow=8.7,SNR=8.1
AKASG Malin Array Be     46.43 300 P        P     09 30 39.2  -0.6
     comp=N,0.4nm,0.3s,baz=48,slow=9.2,SNR=5.5
AKASG Malin Array Be     46.43 300 P        P     09 30 39.2  -0.6
AKASG                                 pmax     pmax
     comp=Z,1.0nm,0.4s
```

NNC 09 09:31:44.9±4.1, 37.90N×71.60E, h0km, mb3.6, mpv3.1, 2C-3D, Error ellipse: s-maj=34.9km s-min=13.6km az=152.0, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZET	**Dzherino**	**2.36**	**294**	⇑Pn	Pn	09 32 24.3	-0.7
	6.8nm,0.3s						
DZET				⇓Sn	Sn	09 32 56.2	+1.4
	6.9nm,0.3s						
MNAS	**Manas**	**4.64**	**8**	⇑Pn	Pn	09 32 56.9	+0.5
	1.6nm,0.3s						
MNAS				⇓Sn	Sn	09 33 52.2	+1.2
	5.6nm,0.6s						
KK31	**Karatay Array**	**5.27**	**351**	Pn	Pn	09 33 05.6	+0.7
	0.5nm,0.3s,baz=177,slow=13,SNR=7.2						
KK31				⇓Sn	Sn	09 34 06.6	+0.3
	3.5nm,0.4s,baz=173,slow=21,SNR=12						

*ISCJB **09** 09:32:11.6±0.5, 3.53S±0.06×135.27E±0.04, h22km, mb4.1/4, MS3.1/2, Error ellipse: s-maj=8.4km s-min=5.4km az=179.9*
*DJA **09** 09:32:13.3±0.4, 3°S±6'×13°5E±°, h10km, M4.5/6, mB4.9/2, mb5.0/3, MLv4.3/6, Mw(mB)4.2/2*
*NEIC **09** 09:32:15.0±0.7, 3.30S×135.37E, h35km, mb4.6/2, Error ellipse: s-maj=14.4km s-min=12.7km az=178.0*
NEIC Felt [II] at Nabire.
*IDC **09** 09:32:16.0±2.5, 3.14S×135.41E, h43km±25km, mb3.8/4, mb1 4.0/7, mb1mx3.6/46, mbtmp4.0/7, ML3.9/3, MS3.2/3, Ms1 3.2/3, ms1mx2.8/32, Error ellipse: s-maj=25.1km s-min=19.8km az=14.0*

ISC 09 09:32:12.8±0.7, 3.59S±0.06×135.28E±0.05, h22km, n22, σ2s84/29, mb4.0/4, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FAKI	**Fak Fak**	**3.09**	**282**	P	Pn	**09 33 01.7**	**+1.4**
FAKI	**Fak Fak**	**3.09**	**282**	ePn	Pn	**09 33 02.5**	**+2.1**
FAKI				eSn	Sn	**09 33 36.6**	**-0.1**
SMPI	**Sarmi**	**3.78**	**65**	P	Pn	**09 33 10.1**	**+0.3**
SIJI	**Sorong**	**4.83**	**304**	P	Pn	**09 33 25.2**	**+1.0**
	16nm,0.3s,baz=267,slow=22,SNR=1.6						
SIJI				S	Sn	**09 34 15.5**	**-4.1**
	8.3nm,0.3s,baz=91,slow=24,SNR=1.3						
GENI	**Genyem**	**4.98**	**79**	P	Pn	**09 33 27.9**	**+1.6**
GENI				S	Sn	**09 34 27.0**	**+3.7**
BNDI	**Bandanaira**	**5.44**	**260**	P	Pn	**09 33 35.0**	**+2.4**
	229nm,1.2s						
JAY	**Jayapura**	**5.53**	**79**	P	Pn	**09 33 34.5**	**+0.6**
	0.6nm,0.3s,baz=249,slow=20,SNR=5.1						
JAY				S	Sn	**09 34 32.7**	**-4.1**
	0.1nm,0.3s,baz=269,slow=23,SNR=1.0						
JAY	**Jayapura**	**5.53**	**79**	P	Pn	**09 33 34.9**	**+1.1**
	29nm,0.7s,340nm0.1nm						
JAY				S	Sn	**09 34 38.1**	**+1.3**
	29nm,0.7s,340nm0.1nm						
COEN	**Coen**	**12.92**	**143**	ePn	Pn	**09 35 17.0**	**+1.7**
	5.7nm,0.5s						
COEN				eSn	Sn	**09 37 37.7**	**-0.7**
WRAB	**Tennant Creek**	**16.27**	**183**	ePn	Pn	**09 36 00.4**	**+0.3**
	24nm,1.0s						
WRAB				eSn	Sn	**09 38 54.4**	**-5.7**
WRA	**Warramunga Arr**	**16.28**	**183**	P	Pn	**09 36 00.2**	**0.0**
	1.4nm,0.3s,baz=8.3,slow=13,SNR=44						
WRA				S	Sn	**09 38 54.1**	**-6.3**
	1.0nm,0.3s,baz=5.6,slow=23,SNR=6.2						
FITZ	**Fitzroy Crossi**	**17.24**	**213**	P	P	**09 36 15.9**	**+2.2**
	1.1nm,0.3s,baz=24,slow=7.8,SNR=6.4						
FITZ				LR	LR	09 44 36.2	
	comp=Z,65nm,19.6s,baz=318,slow=42						
CTA	**Charters Tower**	**19.58**	**148**	P	Pn	**09 36 45.1**	**+4.1**
	0.3nm,0.3s,baz=328,slow=9.5,SNR=2.1						
ASAR	**Alice Springs**	**20.00**	**184**	P	Pn	09 36 48.5	+2.6
	12nm,0.7s,baz=3.3,slow=12,SNR=31						
ASAR				S	S	**09 40 26.0**	**-2.2**
	0.8nm,0.5s,baz=5.6,slow=28,SNR=6.3						
ASAR				LR	LR	09 45 18.9	
	comp=Z,108nm,20.4s,baz=333,slow=38						
MBWA	**Marble Bar**	**23.10**	**220**	eP	P	**09 37 22.5**	**+5.2**
	51nm,1.0s						
JHJ	**Hachijo jima 2**	**36.76**	**6**	LR	LR	09 52 27.5	
	comp=Z,24nm,20.2s,baz=280,slow=33						
KURK	**Kurchatov**	**72.50**	**326**	P	P	**09 43 36.8**	**-0.9**
KURBB	**Kurchatov Arra**	**72.50**	**326**	P	P	**09 43 36.8**	**-1.0**
	0.3nm,0.2s,baz=127,slow=4.5,SNR=2.2						
BVAR	**Borovoye Array**	**78.09**	**326**	P	P	**09 44 08.0**	**-1.9**
	0.4nm,0.3s,baz=123,slow=5.3,SNR=2.6						
ILAR	**Eielson Array**	**88.06**	**25**	P	P	**09 44 58.6**	**-2.6**
	0.5nm,0.6s,baz=260,slow=4.4,SNR=5.2						
ATAH	**Atahualpa**	**144.75**	**108**	PKP	PKPdf	**09 51 50.3**	**+0.7**
	5.8nm,0.6s,baz=112,slow=3.2,SNR=4.2						
LPAZ	**La Paz**	**149.58**	**131**	PKPbc	PKPbc	**09 52 03.6**	**+1.3**
	1.6nm,0.6s,baz=288,slow=0.4,SNR=3.2						

*ISK **09** 09:49:53.2, 37.70N×38.54E, h8km, MD2.7*
*CSEM **09** 09:49:54.4±0.3, 37.65N×38.57E, h15km, MD2.7, Error ellipse: s-maj=10.4km s-min=7.0km az=178.0*
*DDA **09** 09:49:56.9, 37.22N×38.59E, h7km, Md2.6*

ISC 09 09:49:53.8±1.2, 37.70N±0.04×38.53E±0.03, h2km±11km, n19, σ1s73/28, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ATAB	**Bozova**	**0.30**	**219**	*i* P	**Pb**	**09 50 01.5**	**-0.4**
ATAB				*i* S	**Sb**	**09 50 09.4**	**+2.2**
ATAB	**Bozova**	**0.30**	**219**	P	**Pb**	**09 50 01.5**	**-0.4**
ATAB				S	**Sb**	**09 50 09.4**	**+2.2**
URFA	**Urfa**	**0.35**	**139**	ePG	**Pg**	**09 50 00.4**	**-0.1**
URFA				eSG	**Sg**	**09 50 05.6**	**+0.6**
URFA	**Urfa**	**0.35**	**139**	ePg	**Pg**	**09 50 00.4**	**-0.1**
URFA				eSg	**Sg**	**09 50 05.6**	**+0.6**
SURC	**SANLIURFA_SURC**	**0.82**	**175**	*i* P	Pg	09 50 04.0	-5.5
GAZ	**Gaziantep**	**1.18**	**244**	ePN	**Pn**	**09 50 16.2**	**-1.1**
GAZ				eSN	**Sg**	**09 50 33.0**	**+1.4**
GAZ	**Gaziantep**	**1.18**	**244**	ePn	**Pn**	**09 50 16.2**	**-1.1**
GAZ				eSn	**Sg**	**09 50 33.0**	**+1.4**
DIYA	**Diyarbakir**	**1.28**	**80**	*i* S	**Sn**	**09 50 41.0**	**+4.6**
KMRS	**Kahramanmaras**	**1.31**	**262**	ePN	**Pn**	**09 50 18.5**	**-0.6**
KMRS				eSN	**Sg**	**09 50 37.0**	**+1.1**
KMRS	**Kahramanmaras**	**1.31**	**262**	ePn	**Pn**	**09 50 18.5**	**-0.6**
KMRS				eSn	**Sg**	**09 50 37.0**	**+1.1**
PTK	**Pertek**	**1.37**	**29**	ePN	**Pg**	**09 50 19.4**	**-0.5**
PTK	**Pertek**	**1.37**	**29**	ePn	**Pg**	**09 50 19.4**	**-0.6**
KUZU	**Kuzuini**	**1.49**	**232**	*i* P	**Pn**	**09 50 18.4**	**-3.1**
KUZU				*i* S	**Sn**	**09 50 39.9**	**-1.7**
KUZU	**Kuzuini**	**1.49**	**232**	P	**Pn**	**09 50 18.4**	**-3.1**

KUZU				S	Sn	09 50 39.9	-1.7
MAZI	Mazidag	1.54	98	ePN	Pb	09 50 21.6	-1.5
MAZI	Mazidag	1.54	98	ePN	Pb	09 50 21.6	-1.5
SARI	SarD1z-Kayseri	1.81	294	ePN	Pn	09 50 25.4	-0.8
TAHT	Tahtakopru-Hat	2.30	236	ePN	Pn	09 50 32.8	+0.2
TAHT	Tahtakopru-Hat	2.30	236	ePn	Pn	09 50 32.8	+0.2

*NEIC **09** 10:11:22.5±0.0, 15°.04N×61°.05W, h150km, mb5.0/216, After TRN.*
NEIC Felt [II] at Fort-de-France and Le Lamentin. Also felt at Le Robert and Les Trois-Ilets. Felt at Castries, Saint Lucia.
*MOS **09** 10:11:22.8±0.8, 15°.00N×61°.32W, h156km, mb4.9/65, Error ellipse: s-maj=7.1km s-min=5.2km az=123.0*
*ISCJB **09** 10:11:22.5±0.1, 15°.00N±0°.02×61°.26W±0°.02, h155km±1km, mb4.8/268, Error ellipse: s-maj=3.0km s-min=2.5km az=151.5*
*TRN **09** 10:11:22.6, 15°.04N×61°.07W, h149km, MD4.3, M4.4(FDF)*
TRN Felt in Saint Lucia, MMI II,III.
*IDC **09** 10:11:23.1±0.3, 14°.98N×61°.32W, h145km±2km, mb4.4/24, mb1 4.6/29, mb1mx4.5/34, mbtmp4.9/29, MS3.3/8, Ms1 3.3/8, ms1mx2.9/44, Error ellipse: s-maj=8.3km s-min=5.9km az=88.0*
*BJI **09** 10:11:24.0, 15°.00N×61°.30W, h151km, mB5.2/4*

ISC 09 10:11:23.9±0.3, 14°.97N±0°.02×61°.32W±0°.04, h150km±2km, h150km:pP-P, n943, σ0s84/1006, mb4.9/268, 17C-5D, Windward Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCM	Pelee Case Pet	0.18	147	eP	Pn	10 11 43.8	-0.4
PCM	Pelee Case Pet	0.18	147	eP	Pn	10 11 44.2	0.0
SVN	Savane Anatole	0.19	132	eP	Pn	10 11 44.1	-0.1
CXM	Morne La Croix	0.21	138	↑iP	Pn	10 11 44.3	-0.1
CXM				*i*S	Sn	10 11 59.9	0.0
BAMF	Morne Balai	0.22	134	↑iP	Pn	10 11 44.3	0.0
GBMF	Grand Be	0.23	140	eP	Pn	10 11 44.2	-0.2
PML	Morne Lenard	0.23	146	eP	Pn	10 11 44.1	-0.2
FDF	Fort de France	0.28	146	↑iP	Pn	10 11 44.3	-0.2
FDF				eS	Sn	10 11 59.8	-0.3
FDF	Fort de France	0.28	146	eP	Pn	10 11 44.3	-0.2
FDF				*e*		10 12 00.4	
FDF	Fort de France	0.28	146	ePn	Pn	10 11 44.3	-0.2
FDF				eSn	Sn	10 12 00.3	+0.3
DLPL	La Plaine	0.37	10	↑iP	Pn	10 11 44.3	-0.4
DLPL				eS	Sn	10 11 59.9	-0.7
DLPL	La Plaine	0.37	10	P	Pn	10 11 44.3	-0.4
DLPL				eS	Sn	10 11 59.9	-0.7
ZAM	Aeronautique	0.48	145	↑iP	Pn	10 11 44.7	-0.5
TRMF	Trois Ilets	0.50	149	eP	Pn	10 11 45.0	-0.3
BIM	Bigot	0.51	152	eP	Pn	10 11 45.0	-0.3
BIM				eS	Sn	10 12 01.5	-0.2
LPMF	Morne Lapointe	0.52	139	eP	Pn	10 11 44.6	-0.7
BBL	Barber's Block	0.57	345	↑iP	Pn	10 11 45.7	0.0
BBL				eS	Sn	10 12 02.4	+0.1
BBL	Barber's Block	0.57	345	eSn	Sn	10 12 02.4	+0.1
MVM	Montagne Vaucl	0.58	136	↓iP	Pn	10 11 45.1	-0.6
DWS	Wesley	0.59	0	↑iP	Pn	10 11 45.3	-0.4
DWS				eS	Sn	10 12 01.7	-0.8
DWS	Wesley	0.59	0	ePn	Pn	10 11 45.3	-0.4
DWS				eSn	Sn	10 12 01.7	-0.8
H05S1	Guadeloupe/Mar	0.71	139	P	Pn	10 11 45.9	-0.6
H05S1				S	Sn	10 12 02.4	-1.2
TBG	Guadaloupe-3	0.93	340	eP	Pn	10 11 47.8	-0.3
TBG				eS	Sn	10 12 06.2	-0.4
MGG	Marie-Galante	0.94	360	↓iP	Pn	10 11 47.7	-0.5
SLW	Petit Monier	1.01	159	eP	Pn	10 11 48.2	-0.7
LKG	Breislack	1.12	343	↑iP	Pn	10 11 49.9	0.0
SFG	Saint Francois	1.28	5	eP	Pn	10 11 50.6	-0.7
MCLT	Moule a Chique	1.30	164	↑iP	Pn	10 11 50.9	-0.6
MCLT				eS	Sn	10 12 12.5	-0.1
MCLT	Moule a Chique	1.30	164	ePn	Pn	10 11 50.9	-0.6
MCLT				eSn	Sn	10 12 12.5	-0.1
DEG	La Desirade	1.36	10	↑iP	Pn	10 11 51.0	-1.1
H05N1	Guadeloupe/Mar	1.36	10	P	Pn	10 11 51.2	-0.9
H05N1				S	Sn	10 12 10.9	-2.7
GDHS	Morne Mazeau,	1.36	342	ePn	Pn	10 11 52.3	+0.2
GDHS				S	Sn	10 12 14.3	+0.5
SEG	Port Louis	1.44	353	↑iP	Pn	10 11 52.5	-0.2
SVB	Belmont	1.69	178	↑iP	Pn	10 11 55.6	0.0
SVB				eS	Sn	10 12 19.8	0.0
SVB	Belmont	1.69	178	ePn	Pn	10 11 55.6	0.0
SVB				eSn	Sn	10 12 19.8	0.0
MLYT	Lee's Yard	1.93	334	eP	Pn	10 11 58.5	+0.3
MLYT				eS	Sn	10 12 24.6	-0.2
BBGH	Gun Hill	2.49	137	*i* P	Pn	10 12 05.0	0.0
BBGH				eS	Sn	10 12 33.7	-2.8
BBGH	Gun Hill	2.49	137	ePn	Pn	10 12 04.9	0.0
BBGH				eSn	Sn	10 12 34.6	-2.5
BBSP	Saint Philip	2.59	136	eS	Sn	10 12 35.7	-2.9
ANWB	Willy Bob	2.72	351	eP	Pn	10 12 06.6	-1.2
ANWB				eS	Sn	10 12 39.2	-2.4
ANWB	Willy Bob	2.72	351	ePn	Pn	10 12 06.0	-1.7
ANWB				eSn	Sn	10 12 38.3	-3.3
GRGR	Grenville	2.84	187	ePn	Pn	10 12 09.6	+0.3
SEUS	St. Eustatius	2.98	328	ePn	Pn	10 12 11.3	+0.4
SABA	Saba	3.22	325	ePn	Pn	10 12 14.6	+0.5
SMRT	St. Maarten	3.50	331	ePn	Pn	10 12 17.1	-0.5
TOSP	Speyside	3.73	168	eP	Pn	10 12 20.2	-0.4
TOSP				eS	Sn	10 13 02.7	-2.0
TCE	Chacachacare	4.27	186	eS	Sn	10 13 18.0	+0.6
TCE	Chacachacare	4.27	186	eSn	Sn	10 13 18.0	+0.6
TRN	Trinidad (W)	4.30	181	eP	Pn	10 12 29.6	+1.5
TRN	Trinidad (W)	4.30	181	eS	Sn	10 13 18.1	0.0
TRN	Trinidad (W)	4.30	181	P	Pn	10 12 29.6	+1.5
TRN				eS	Sn	10 13 18.1	0.0
TRN	Trinidad (W)	4.30	181	P	Pn	10 12 29.6	+1.5
TRN				eS	Sn	10 13 18.1	0.0
CDVI	St. Croix	4.32	310	ePn	Pn	10 12 27.5	-0.7
TPP	Pointe-a-Pierr	4.63	182	eP	Pn	10 12 34.1	+1.6
TPP	Pointe-a-Pierr	4.63	182	eS	Sn	10 13 24.2	-1.6
TPP	Pointe-a-Pierr	4.63	182	eP	Pn	10 12 34.1	+1.6
TPP				*e*		10 13 24.2	
TPP	Pointe-a-Pierr	4.63	182	ePn	Pn	10 12 34.1	+1.6
TPP				eSn	Sn	10 13 24.2	-1.6
STVI	Saint Thomas	4.84	314	ePn	Pn	10 12 36.0	+0.8
HUMP	Col San Antoni	5.37	307	ePn	Pn	10 12 42.9	+0.7
CBYP	Canovanas	5.45	308	ePn	Pn	10 12 44.4	+1.0
SJG	San Juan 21nm,0.3s,baz=91,slow=8.5,SNR=25	5.59	305	P	Pn	10 12 46.1	+1.0
SJG				S	Sn	10 13 47.8	-0.8
SJG	6.1nm,0.3s,baz=222,slow=12,SNR=5.9			LR	LR	10 14 38.5	
PCRV	comp=Z,209nm,20.6s,baz=114,slow=35 Puerto La Cruz 25nm,0.3s,baz=355,slow=5.4,SNR=61	5.76	215	P	Pn	10 12 48.1	+0.5
PCRV				S	Sn	10 13 58.2	+5.2
CELP	8.6nm,0.3s,baz=190,slow=8.0,SNR=3.2 Cerrillos	5.92	302	ePn	Pn	10 12 50.0	+0.4
MPR	Mayaguez	6.45	301	ePn	Pn	10 12 57.6	+1.0
AGP	Aguadilla	6.55	302	ePn	Pn	10 12 58.9	+1.0
IDE	Isla Desecheo	6.81	301	ePn	Pn	10 13 02.4	+1.0
SDD	Santo Domingo	8.94	294	ePn	Pn	10 13 34.9	+5.1
SDDR	Presa de Saban	10.34	294	eP	Pn	10 13 49.4	+0.9
SDDR	Presa de Saban	10.34	294	eS	Sn	10 15 37.6	-5.4
SDDR	Presa de Saban	10.34	294	ePn	Pn	10 13 49.7	+1.2
SDV	Santo Domingo 2.3nm,0.3s,baz=4.8,slow=16,SNR=2.8	10.94	237	P	Pn	10 13 55.8	-0.8
LGNH	LØogne	11.37	290	ePn	Pn	10 14 02.4	+0.4
CODC	Agust`›n Codaz	12.86	248	eP	Pn	10 14 21.4	+0.1
PAMC	Pamplona, Colo	13.49	237	eP	P	10 14 35.2	+1.2
OCAC	Ocana	13.53	242	eP	P	10 14 30.3	-3.6
GIRC	Giron, Santand	14.04	237	eP	P	10 14 41.5	+1.7
GTBY	Guantanamo Bay	14.05	292	ePn	Pn	10 14 35.6	-0.9
BARC	Barichara	14.32	236	eP	P	10 14 44.4	+1.5
SJCC	San Jacinto, C	14.45	251	eP	P	10 14 42.9	-1.2
BRRC	Barranca, Sant	14.45	239	eP	P	10 14 43.6	-0.5
RUSC	La Rusia	14.67	233	eP	P	10 14 46.2	-0.8
RUSC	La Rusia	14.67	233	ePn	P	10 14 45.1	-1.4
ZARC	Zaragoza, Cauc	15.21	242	eP	P	10 14 50.2	-2.4
MOTC	Monteria, Cord	15.33	248	eP	P	10 14 52.1	-1.8
PTGA	Pitinga 7.5nm,0.3s,baz=360,slow=14,SNR=46	15.66	175	P	P	10 14 55.9	-1.6
PTGA				S	Sn	10 17 38.4	-13
MTDJ	13nm,0.3s,baz=42,slow=19,SNR=12 Mount Denham 61nm,0.8s	15.88	284	ePn	P	10 14 59.7	-0.3
CHIC	Chingaza	15.97	231	eP	P	10 15 02.0	+0.6
CTAB	Cerro Tablazo,	16.08	233	eP	P	10 15 03.8	+1.1
NORC	Norcasia	16.27	236	eP	P	10 15 04.6	+0.2
VILC	Villavicencio,	16.28	230	eP	P	10 15 05.7	+1.1
ROSC	El Rosal 8.5nm,0.3s,baz=96,slow=9.2,SNR=52	16.28	233	P	P	10 15 05.8	+1.1
ROSC	El Rosal 142nm,0.7s	16.28	233	ePn	P	10 15 05.9	+1.1
HELC	Santa Helena	16.46	239	eP	P	10 15 06.4	-0.4
HELC	Santa Helena 109nm,0.5s	16.46	239	eP	P	10 15 05.9	-0.8
HELC				eS	Sn	10 18 10.3	-0.5
GUYC	Guyana, Colomb	16.89	236	eP	Pn	10 15 12.3	+0.2
CAPC	Capurgana	16.91	250	eP	Pn	10 15 11.5	-0.3
TOLC	Tolima	17.22	235	eP	Pn	10 15 13.7	-2.1
PRAC	Prado	17.43	231	eP	Pn	10 15 17.1	-1.1
PRAC	Prado 470nm,0.9s	17.43	231	eP	Pn	10 15 17.6	-0.5
SOLC	Bahia Solano	18.04	243	eP	Pn	10 15 26.9	+1.7
MALC	Bahia Malaga	19.17	237	eP	Pn	10 15 36.5	-2.1
FLOC	Florencia	19.43	228	eP	Pn	10 15 38.7	-2.9
GRGC	Isla de Gorgon	20.43	236	eP	P	10 15 48.6	-1.1
CMBC	Cumbal	21.45	231	eP	P	10 15 59.6	-1.5
TUMC	Tumaco	21.59	234	eP	P	10 15 59.6	-2.4
TUMC	Tumaco 156nm,0.6s	21.59	234	eP	P	10 16 01.9	-0.1
OTAV	Otavalo 82nm,1.0s	22.39	231	eP	P	10 16 09.0	-1.6
URSC	Urasca	22.52	260	eP	P	10 16 13.2	+1.6
LCR2	La Lucha 2	22.75	259	eP	P	10 16 14.7	+0.9
DWPF	Disney Wildern 57nm,0.9s	22.78	308	eP	P	10 16 14.3	+0.6
HDC	Heredia 69nm,0.7s	22.79	260	eP	P	10 16 14.1	0.0
QCR1	Quepos	23.00	259	eP	P	10 16 17.3	+1.5
JTS	JuntasAbangare 11m15s,baz=127,slow=1.6,SNR=34	23.52	261	P	P	10 16 20.3	-0.3
CUI	Cuipilapa	23.64	262	eP	P	10 16 22.0	+0.2
MESS	Mesas	23.65	263	eP	P	10 16 22.6	+0.7
COLC	Colonia	23.68	262	eP	P	10 16 22.7	+0.6
GPS3	Bodega del ICE	23.81	263	eP	P	10 16 23.6	+0.3
SAML	Samuel 80nm,0.8s	23.84	185	eP	P	10 16 23.4	0.0
CRZ1	La Cruz	24.00	264	eP	P	10 16 25.6	+0.6
NHSC	New Hope 130nm,1.3s	24.88	320	eP	P	10 16 33.0	+0.3
CNNC	Cliffs of the 37nm,0.6s	25.08	327	eP	P	10 16 34.7	+0.1
TGUH	Tegucigalpa,Un 47nm,0.8s	25.14	271	eP	P	10 16 37.0	+1.7
TIGA	Tifton baz=123	26.14	313	P	P	10 16 44.7	+0.5
TEIG	Tepich 0.6nm,0.3s,baz=334,slow=24,SNR=4.0	26.21	285	P	P	10 16 44.3	-0.6
TEIG	Tepich 0.8nm,0.8s	26.21	285	eP	P	10 16 45.0	+0.1
URVA	University of	26.72	330	eP	P	10 16 49.8	+0.5
KMSC	Kings Mountain baz=133	26.96	322	P	P	10 16 51.5	0.0
JSRW	J. Sargeant Re	26.98	330	eP	P	10 16 51.7	+0.1
IP05	Hopewell Churc 18nm,0.7s	27.03	330	eP	P	10 16 52.2	+0.2
GOGA	Godfrey	27.20	316	eP	P	10 16 53.8	+0.2
GOGA	comp=Z,12nm,0.9s			pmax	pmax		
GOGA	Godfrey comp=Z,12nm,0.9s	27.20	316	eP	P	10 16 53.8	+0.2
IP01	Cuckoo comp=Z,18nm,0.8s	27.20	330	eP	P	10 16 53.8	+0.2
IP06	Yanceyville comp=Z,18nm,0.7s	27.22	330	eP	P	10 16 54.0	+0.2
IP07	Quail comp=Z,22nm,0.7s	27.23	330	eP	P	10 16 54.0	+0.2
CVRD	Centerville Ro comp=Z,13nm,0.6s	27.24	331	eP	P	10 16 54.0	+0.1
IP03	Louisa comp=Z,24nm,0.9s	27.30	330	eP	P	10 16 54.7	+0.2
IP04	Greensprings comp=Z,19nm,0.8s	27.40	330	eP	P	10 16 55.5	+0.2
ATAH	Atahualpa comp=Z,38nm,0.8s,baz=53,slow=5.4,SNR=17	27.73	219	P	P	10 16 58.8	-0.2
BLA	Blacksburg	27.91	326	eP	P	10 17 00.6	+0.6
BLA	comp=Z,17nm,0.6s			pmax	pmax		
BLA	Blacksburg comp=Z,17nm,0.6s	27.91	326	eP	P	10 17 00.6	+0.6
LUPA	Lehigh Univers comp=Z,40nm,0.9s	28.32	337	eP	P	10 17 04.7	+1.2
BRAL	Brewton comp=Z,93nm,0.9s	28.54	309	eP	P	10 17 06.7	+1.2
N59A	State Game Lan baz=149	28.75	337	P	P	10 17 07.9	+0.5
TKL	Tuckaleechee C comp=Z,2.4nm,0.3s,baz=131,slow=12,SNR=9.2	28.79	320	P	P	10 17 07.7	-0.1
TKL	Tuckaleechee C	28.79	320	eP	P	10 17 08.1	+0.3
TKL	comp=Z,26nm,0.6s			pmax	pmax		
TKL	Tuckaleechee C comp=Z,26nm,0.6s	28.79	320	eP	P	10 17 08.1	+0.3
CPCT	Cooper Cave comp=Z,12nm,0.7s	29.14	319	eP	P	10 17 11.1	+0.3
TZTN	Tazewell comp=Z,15nm,1.0s	29.23	321	eP	P	10 17 11.9	+0.2
348A	Jackson baz=118	29.30	309	P	P	10 17 13.2	+0.9
O56A	Blue Knob Stat baz=144	29.36	332	P	P	10 17 13.7	+0.9
SSPA	Standing Stone comp=Z,18nm,0.9s	29.37	334	eP	P	10 17 13.4	+0.7
LRAL	Lakeview Retre comp=Z,39nm,0.4s	29.43	312	eP	P	10 17 14.2	+0.8
248A	Dixon Mills baz=119	29.50	310	P	P	10 17 14.9	+0.8
447A	Lucedale baz=116	29.59	307	P	P	10 17 16.2	+1.3
CCIG	Comitan comp=Z,70nm,0.6s	29.70	277	eP	P	10 17 15.8	-0.4
347A	Saraland baz=117	29.78	308	P	P	10 17 17.4	+0.9
SWET	Sewanee comp=Z,11nm,0.6s	29.91	317	eP	P	10 17 18.1	+0.4
Z48A	Northport baz=121	30.01	312	P	P	10 17 19.0	+0.5
247A	Quitman baz=118	30.13	309	P	P	10 17 20.3	+0.7
446A	Poplarville baz=115	30.14	306	P	P	10 17 20.9	+1.2
147A	Livingston baz=119	30.17	310	P	P	10 17 20.6	+0.6
Z47A	Carrollton baz=120	30.29	312	P	P	10 17 21.6	+0.6
Y47A	UCPARC, Winfie baz=121	30.49	313	P	P	10 17 23.2	+0.4
246A	Jackson Lee, B baz=117	30.50	309	P	P	10 17 23.7	+0.8
N54A	Moraine State baz=142	30.57	332	P	P	10 17 24.1	+0.7
MDV	Middlebury	30.65	343	eP	P	10 17 24.9	+0.8
SIV	San Ignacio comp=Z,23nm,0.6s,baz=26,slow=8.2,SNR=56	30.77	180	P	P	10 17 25.8	+0.5
M54A	Oil Creek Stat baz=143	30.85	333	P	P	10 17 26.5	+0.6
345A	Thompson Farm, baz=115	30.88	307	P	P	10 17 27.1	+0.8
Z46A	Louisville baz=119	30.92	311	P	P	10 17 27.6	+1.0
LMN	Caledonia Moun comp=Z,15nm,0.6s	30.93	355	eP	P	10 17 26.8	+0.4
ALLY	Alegheny Colle comp=Z,52nm,0.7s	31.18	332	eP	P	10 17 29.4	+0.6
Y46A	Houston baz=120	31.20	312	P	P	10 17 29.3	+0.3
145A	Houston Renfro baz=117	31.37	309	P	P	10 17 31.4	+0.8
ACSO	Alum Creek Sta comp=Z,43nm,0.7s	31.48	327	eP	P	10 17 32.4	+1.0
344A	Westbrook Farm baz=114	31.48	307	P	P	10 17 32.8	+1.2
VBMS	Vicksburg comp=Z,42nm,0.6s	31.65	308	eP	P	10 17 34.0	+1.1
Y45A	Yeager Farm, C baz=119	31.69	311	P	P	10 17 34.1	+0.8
244A	Avery, Jackson baz=115	31.70	308	P	P	10 17 34.4	+1.0
WVT	Waverly	31.70	317	eP	P	10 17 33.3	-0.1
WVT				*e*		10 20 21.1	
WVT	comp=Z,36nm,0.7s			pmax	pmax		
WVT	Waverly	31.70	317	eP	P	10 17 33.3	-0.1
WVT				ePcP	PcP	10 20 21.1	-0.5
144A	Alexander Plac baz=116	31.76	309	P	P	10 17 34.8	+0.9
LPAZ	La Paz comp=Z,6.0nm,0.6s,baz=14,slow=7.7,SNR=25	31.78	192	P	P	10 17 33.6	-1.3
LPAZ				pP	pP	10 18 07.5	+0.7
LPAZ	comp=Z,5.7nm,0.8s,baz=25,slow=6.2,SNR=3.3			LR	LR	10 31 43.0	
LPAZ	comp=Z,31nm,19.5s,baz=334,slow=38 La Paz	31.78	192	eP	P	10 17 32.2	-2.7
LPAZ	La Paz	31.78	192	eP	P	10 17 31.1	-3.8
LPAZ				pP	pP	10 18 07.5	+0.7
X45A	UM Field Stati baz=120	31.86	313	P	P	10 17 35.2	+0.4
OXF	Oxford	31.91	313	eP	P	10 17 35.5	+0.2
OXF	Oxford comp=Z,291nm,1.3s	31.91	313	eP	P	10 17 35.5	+0.2
WCI	Wyandotte Cave	31.99	321	eP	P	10 17 36.7	+0.8
WCI	comp=Z,28nm,0.9s			pmax	pmax		
WCI	Wyandotte Cave comp=Z,28nm,0.9s	31.99	321	eP	P	10 17 36.7	+0.8
443A	Delano Plantat baz=112	32.03	305	P	P	10 17 37.8	+1.4
Z44A	Pea Ridge, Bel baz=117	32.06	310	P	P	10 17 37.0	+0.5
W45A	Hickory Valley baz=121	32.09	314	P	P	10 17 36.7	-0.1
343A	Vidalia baz=113	32.11	306	P	P	10 17 38.3	+1.3
EBZ	Ebenezer Churc	32.20	314	eP	P	10 17 38.2	+0.5
Y44A	Strider, Charl baz=118	32.22	311	P	P	10 17 38.3	+0.3
V45A	Humboldt baz=122	32.24	315	P	P	10 17 38.1	0.0
243A	Waterproof baz=114	32.24	307	P	P	10 17 39.4	+1.2
542A	Morse baz=110	32.42	303	P	P	10 17 41.3	+1.6
X44A	Crenshaw baz=119	32.43	312	P	P	10 17 39.8	0.0
U45A	Rockin P Farm, baz=124	32.44	316	P	P	10 17 40.2	+0.3
UTMT	University of comp=Z,114nm,0.6s	32.51	316	eP	P	10 17 41.0	+0.5
143A	Socs Landing, baz=115	32.53	308	P	P	10 17 41.5	+0.9
Z43A	Armstrong Fami baz=116	32.63	309	P	P	10 17 42.3	+0.7
USIN	University of comp=Z,34nm,0.7s	32.67	319	eP	P	10 17 42.5	+0.7
342A	Flagon Creek P baz=112	32.70	305	P	P	10 17 43.5	+1.3
Y43A	Makayla and Ka baz=118	32.72	311	P	P	10 17 43.0	+0.7
BLO	Bloomington	32.73	322	eP	P	10 17 43.3	+0.9
BLO	comp=Z,30nm,0.6s			pmax	pmax		
BLO	Bloomington comp=Z,30nm,0.6s	32.73	322	eP	P	10 17 43.3	+0.9
U44B	Burton Farm, H baz=123	32.83	316	P	P	10 17 43.3	+0.1
242A	Grayson baz=114	32.84	307	P	P	10 17 44.4	+1.0
142A	Monroe baz=115	32.88	308	P	P	10 17 44.3	+0.6
X43A	Marvell baz=118	32.97	312	P	P	10 17 44.8	+0.3
TRQ	Mont Tremblant	33.08	343	eP	P	10 17 45.5	+0.2
S45A	Carrier Mills baz=126	33.08	318	P	P	10 17 45.7	+0.3
W43A	Forest City baz=120	33.12	313	P	P	10 17 45.7	-0.1
441A	DeRidder baz=111	33.16	304	P	P	10 17 47.1	+1.0
Z42A	Norrel Spur, H baz=116	33.19	309	P	P	10 17 46.9	+0.5
PARMO	Parma comp=Z,80nm,0.8s	33.28	316	eP	P	10 17 47.5	+0.3
Y42A	Garnett, Star baz=116	33.32	310	P	P	10 17 48.3	+0.8
HBAR	Harrisburg comp=Z,134nm,0.5s	33.32	313	eP	P	10 17 48.2	+0.7
SADO	Sadowa comp=Z,26nm,0.9s	33.33	337	eP	P	10 17 47.1	-0.3
CCAR	Cane Creek comp=Z,128nm,0.8s	33.34	310	eP	P	10 17 48.7	+1.0
341A	Kurthwood baz=112	33.35	305	P	P	10 17 48.3	+0.5
AAM	Ann Arbor	33.35	329	eP	P	10 17 48.4	+0.7
AAM	comp=Z,52nm,0.6s			pmax	pmax		
AAM	Ann Arbor comp=Z,52nm,0.6s	33.35	329	eP	P	10 17 48.4	+0.7
V43A	Jonesboro baz=121	33.36	314	P	P	10 17 47.9	0.0
T44A	Benton baz=123	33.41	317	P	P	10 17 47.9	-0.3
OLIL	Olney comp=Z,67nm,0.8s	33.41	320	eP	P	10 17 48.5	+0.3
241A	Mo Tay, Goldon baz=113	33.42	306	P	P	10 17 49.1	+0.7
S44A	Carbondale baz=125	33.53	318	P	P	10 17 49.6	+0.4
X42A	Stuttgart baz=118	33.53	311	P	P	10 17 49.5	+0.2
U43A	Rector baz=122	33.57	315	P	P	10 17 49.4	-0.3
R44A	Waltonville baz=126	33.73	319	P	P	10 17 51.4	+0.3
440A	Kirbyville baz=110	33.77	303	P	P	10 17 52.0	+0.5
W42A	Bald Knob baz=119	33.80	312	P	P	10 17 51.7	+0.1
PBMO	Poplar Bluff comp=Z,50nm,0.6s	33.80	315	eP	P	10 17 51.8	+0.1
PBMO				ePcP	PcP	10 20 27.3	-0.1
Z41A	Richland Creek baz=115	33.83	308	P	P	10 17 52.3	+0.3
T43A	Greenville baz=122	33.87	316	P	P	10 17 52.0	-0.3
340A	Bronson baz=111	33.95	305	P	P	10 17 53.4	+0.3
V42A	Cord baz=120	33.97	313	P	P	10 17 53.5	+0.4
S43A	Fulton Ridge, baz=123	34.00	317	P	P	10 17 52.9	-0.4
Q44A	Meyer Farm, Va baz=126	34.08	320	P	P	10 17 54.3	+0.3
240A	Hunter Patters baz=112	34.09	306	P	P	10 17 54.3	+0.2
U42A	Revenden baz=120	34.13	314	P	P	10 17 54.6	+0.1
X41A	Kaden, Bauxite baz=117	34.15	310	P	P	10 17 54.8	0.0
UALR	University of comp=Z,38nm,1.4s	34.16	311	eP	P	10 17 54.9	+0.2
140A	Cam and Jess, baz=113	34.17	307	P	P	10 17 55.8	+0.9
P44A	Sand Creek, Wi baz=128	34.18	321	P	P	10 17 55.5	+0.7
WLAR	White Oak Lake comp=Z,77nm,1.0s	34.25	309	eP	P	10 17 56.5	+1.0
W41B	Gary Mavity, V baz=118	34.27	312	P	P	10 17 56.0	+0.2
Z40A	Long Farm, Mag baz=114	34.28	308	P	P	10 17 56.4	+0.6
R43A	Red Bud baz=124	34.30	318	P	P	10 17 55.6	-0.3
WHAR	Wooly Hollow comp=Z,47nm,1.0s	34.36	312	eP	P	10 17 56.5	+0.1
WHAR				ePcP	PcP	10 20 29.2	+0.2
T42A	Van Buren baz=122	34.39	315	P	P	10 17 56.0	-0.7
X40A	Basin Creek Fa baz=116	34.39	310	P	P	10 17 56.9	+0.1
X301	Greenbrier Sit comp=Z,52nm,0.5s	34.41	312	eP	P	10 17 56.9	-0.1
X301				ePcP	PcP	10 20 30.2	+1.0
439A	Center Grove, baz=109	34.44	303	P	P	10 17 57.9	+0.6
339A	Huntington baz=110	34.46	304	P	P	10 17 57.9	+0.6
V41A	Mountainview baz=119	34.50	313	P	P	10 17 57.6	-0.1
Y40A	Okolona baz=115	34.51	309	P	P	10 17 58.4	+0.6

Q43A	New Douglas baz=126	34.53 319	P		P	10 17 57.9	0.0
S42A	Caledonia baz=123	34.58 317	P		P	10 17 57.8	-0.6
U41A	Viola baz=120	34.61 314	P		P	10 17 58.7	+0.1
239A	Gary baz=111	34.63 305	P		P	10 17 59.6	+0.7
NATX	Nacogdoches comp=Z,38nm,0.6s	34.69 305	eP		P	10 18 00.3	+0.8
139A	Bunkhouse Ranc baz=112	34.82 306	P		P	10 18 01.1	+0.6
P43A	Skaggs, Pawnee baz=127	34.84 320	P		P	10 18 00.9	+0.3
T41A	Mountain View baz=121	34.85 315	P		P	10 18 00.5	-0.2
R42A	Luebbering baz=123	34.86 317	P		P	10 18 00.7	0.0
W40A	Ferguson Farm, baz=117	34.88 311	P		P	10 18 01.5	+0.6
Z39A	Irene McRaven, baz=113	34.88 307	P		P	10 18 01.8	+0.8
MIAR	Mount Ida	34.96 310	eP		P	10 18 01.5	-0.2
MIAR	comp=Z,28nm,1.0s		pmax		pmax		
MIAR	Mount Ida comp=Z,28nm,1.0s	34.96 310	eP		P	10 18 01.5	-0.2
V40A	Witts Springs baz=118	34.98 312	P		P	10 18 01.8	-0.1
438A	Sam Houston St baz=109	35.00 303	P		P	10 18 02.5	+0.4
Q42A	Golden Eagle baz=124	35.05 318	P		P	10 18 02.2	-0.1
338A	Crockett baz=110	35.07 304	P		P	10 18 03.5	+0.8
Y39A	Lockesburg baz=114	35.09 308	P		P	10 18 02.9	+0.1
O43A	Sugar Creek Fa baz=128	35.10 321	P		P	10 18 02.9	+0.1
S41A	Jillco Farms, baz=121	35.12 316	P		P	10 18 02.7	-0.4
238A	Jacksonville baz=111	35.15 305	P		P	10 18 03.8	+0.6
HDIL	Hopedale comp=Z,41nm,0.8s	35.26 322	eP		P	10 18 04.5	+0.3
R41A	Rosebud baz=123	35.26 317	P		P	10 18 03.8	-0.3
U40A	Yellville baz=119	35.27 313	P		P	10 18 04.1	-0.2
637A	Eagle Lake baz=106	35.32 300	P		P	10 18 05.5	+0.7
P42A	Winchester baz=126	35.32 320	P		P	10 18 04.6	0.0
X39A	Fountain Ranch baz=115	35.35 309	P		P	10 18 05.1	+0.1
W39A	Magazine baz=116	35.40 311	P		P	10 18 06.3	+0.9
T40A	Mansfield baz=120	35.42 314	P		P	10 18 05.4	-0.2
537A	Green Hill Far baz=107	35.49 301	P		P	10 18 06.6	+0.3
Z38A	Mt. Pleasant baz=112	35.50 307	P		P	10 18 06.6	+0.3
O42A	Bath baz=126	35.51 321	P		P	10 18 06.2	-0.1
Q41A	Truxton baz=124	35.52 318	P		P	10 18 06.0	-0.4
337A	Centerville baz=109	35.52 303	P		P	10 18 07.2	+0.7
Y38A	Idabel baz=114	35.57 308	P		P	10 18 07.0	+0.1
V39A	Pettigrew baz=117	35.59 312	P		P	10 18 07.5	+0.4
VLDQ	Val d'Or comp=Z,27nm,1.1s	35.64 341	eP		P	10 18 08.4	+1.2
S40A	Lebanon baz=120	35.64 315	P		P	10 18 07.1	-0.3
237A	Washetta, Mont baz=110	35.69 304	P		P	10 18 08.3	+0.3
U39A	Green Forest baz=118	35.73 313	P		P	10 18 08.2	-0.1
736A	Circle Diamond baz=105	35.80 299	P		P	10 18 09.7	+0.8
TLIG	Tlapa comp=Z,11nm,0.6s	35.82 279	eP		P	10 18 09.9	+0.6
P41A	Barry, Barry baz=125	35.82 319	P		P	10 18 08.5	-0.4
R40A	Maddies Statio baz=122	35.84 316	P		P	10 18 08.6	-0.5
N42A	Yates City baz=127	35.87 322	P		P	10 18 09.4	0.0
W38A	Poteau baz=115	35.89 310	P		P	10 18 10.1	+0.5
636A	Smothers Creek baz=106	35.94 300	P		P	10 18 10.6	+0.5
X38A	Whitesboro baz=114	35.95 309	P		P	10 18 10.4	+0.3
T39A	Clever baz=119	35.96 314	P		P	10 18 09.9	-0.3
O41A	Passleys Farm, baz=125	35.96 320	P		P	10 18 09.6	-0.5
Z37A	Pogue Cattle C baz=112	35.98 306	P		P	10 18 10.3	-0.1
HHAR	Hobbs comp=Z,37nm,0.7s	36.01 312	eP		P	10 18 10.9	+0.3
M42A	Sheffield baz=128	36.09 323	P		P	10 18 10.9	-0.3
436A	Wall Ranch, Ga baz=108	36.09 302	P		P	10 18 11.4	0.0
Q40A	Laux Farm, Aux baz=123	36.09 317	P		P	10 18 10.7	-0.6
035Z	Hargill baz=101	36.11 294	P		P	10 18 11.8	+0.2
536A	Bastrop baz=106	36.11 301	P		P	10 18 11.4	-0.2
V38A	Canehill baz=116	36.15 311	P		P	10 18 11.6	-0.3
035A	Encino baz=101	36.23 295	P		P	10 18 13.3	+0.7
S39A	Bolivar baz=120	36.25 315	P		P	10 18 12.2	-0.5
236A	Katherine and baz=109	36.27 304	P		P	10 18 12.8	0.0
Y37A	Hugo baz=113	36.27 308	P		P	10 18 12.7	-0.2
835A	Beeville baz=103	36.29 298	P		P	10 18 13.7	+0.6
N41A	Harden Midland baz=126	36.29 321	P		P	10 18 12.4	-0.5
336A	Riesel baz=108	36.32 303	P		P	10 18 12.9	-0.4
X37A	Clayton baz=114	36.32 309	P		P	10 18 13.2	-0.1
P40A	Paris baz=123	36.37 318	P		P	10 18 13.2	-0.4
R39A	Chumby, Stover baz=121	36.37 316	P		P	10 18 13.3	-0.4
SACV	Santiago Islan	36.40 85	eP		P	10 18 14.2	0.0
U38A	Gravette baz=117	36.40 312	P		P	10 18 13.4	-0.6
136A	Ennis baz=110	36.43 305	P		P	10 18 14.2	-0.1
M41A	Milan baz=127	36.50 322	P		P	10 18 14.1	-0.6
635A	Leesville baz=105	36.51 299	P		P	10 18 14.2	-0.7
535A	Dale baz=106	36.52 300	P		P	10 18 14.5	-0.5
O40A	La Belle baz=124	36.59 319	P		P	10 18 15.0	-0.5
W37B	Quinton baz=114	36.59 310	P		P	10 18 15.6	0.0
T38A	Diamond baz=118	36.61 313	P		P	10 18 15.2	-0.5
S38A	Stockton baz=119	36.62 314	P		P	10 18 15.3	-0.5
Z36A	Blue Ridge baz=111	36.63 306	P		P	10 18 15.4	-0.6
V37A	Hulbert baz=116	36.70 311	P		P	10 18 16.2	-0.3
Q39A	Willow Grove F baz=122	36.71 317	P		P	10 18 16.1	-0.4
435B	Jarrell baz=107	36.74 302	P		P	10 18 16.7	-0.2
034A	Hebbronville baz=101	36.76 295	P		P	10 18 17.1	0.0
335A	Moody baz=108	36.76 303	P		P	10 18 16.8	-0.3
P39B	Salisbury baz=122	36.80 318	P		P	10 18 16.8	-0.5
N40A	Mertquake, Sal baz=125	36.84 320	P		P	10 18 17.1	-0.5
834A	Tilden baz=103	36.87 297	P		P	10 18 18.1	0.0
R38A	Fenwick Farm, baz=120	36.90 315	P		P	10 18 17.4	-0.7
U37A	Salina baz=116	36.91 312	P		P	10 18 17.7	-0.5
WHTX	Lake Whitney, baz=108	37.01 304	P		P	10 18 19.0	-0.2
X36A	Centrahoma baz=113	37.06 308	P		P	10 18 19.1	-0.4
O39A	Kirksville baz=124	37.09 319	P		P	10 18 19.2	-0.5
LNIG	Linares comp=Z,19nm,0.8s	37.09 292	eP		P	10 18 19.0	-0.9
T37A	Cheneyville 18 baz=117	37.09 313	P		P	10 18 19.4	-0.4
Q38A	Cooks Store, C baz=121	37.09 316	P		P	10 18 19.6	-0.2
M40A	Post Highland baz=126	37.11 321	P		P	10 18 19.1	-0.7
K41A	Shullsburg baz=129	37.13 324	P		P	10 18 20.0	0.0
V36A	Jenks baz=115	37.24 310	P		P	10 18 21.1	0.0
534A	Blanco baz=105	37.27 300	P		P	10 18 20.5	-0.9
JFWS	Jewell Farm	37.29 324	eP		P	10 18 21.3	-0.1
JFWS	comp=Z,31nm,0.6s		pmax		pmax		
JFWS	Jewell Farm comp=Z,31nm,0.6s	37.29 324	eP		P	10 18 21.3	-0.1
Z35A	Perchaven, San baz=110	37.30 306	P		P	10 18 21.7	+0.1
434A	Burnet baz=106	37.31 301	P		P	10 18 20.7	-1.1
S37A	Fort Scott baz=118	37.33 314	P		P	10 18 21.2	-0.5
L40A	Anamosa baz=127	37.33 322	P		P	10 18 21.1	-0.6
Y35A	Marietta baz=111	37.33 307	P		P	10 18 21.9	0.0
P38A	Dawn baz=122	37.38 317	P		P	10 18 21.9	-0.3
933A	Laredo baz=102	37.39 296	P		P	10 18 22.0	-0.4
N39A	Derby Farms, D baz=124	37.41 320	P		P	10 18 21.8	-0.6
334A	Lometa baz=107	37.44 302	P		P	10 18 21.8	-1.0
J41A	Loganville baz=130	37.45 325	P		P	10 18 22.7	0.0
X35A	Drake baz=112	37.47 308	P		P	10 18 22.0	-1.0
M39A	Webster baz=125	37.55 321	P		P	10 18 23.0	-0.6
234A	Clairette baz=108	37.56 303	P		P	10 18 23.2	-0.7
R37A	Teagarden Farm baz=119	37.59 315	P		P	10 18 23.3	-0.7
O38A	Galt baz=122	37.61 318	P		P	10 18 23.9	-0.2
Q37A	Longview Farm, baz=120	37.61 316	P		P	10 18 23.6	-0.6
833A	Chaparral WMA, baz=102	37.64 297	P		P	10 18 23.6	-0.9
733A	Divot King Ran baz=103	37.64 298	P		P	10 18 23.5	-1.0
K40A	Colesburg baz=128	37.67 323	P		P	10 18 24.1	-0.4
W35A	Tecumseh baz=113	37.68 309	P		P	10 18 24.0	-0.8
633A	Saathoff Ranch baz=104	37.72 299	P		P	10 18 24.5	-0.7
T36A	Boggs Farm, Ca baz=116	37.75 312	P		P	10 18 25.0	-0.3
533A	Kerrville baz=105	37.75 300	P		P	10 18 24.7	-0.8
I41A	Arkdale baz=131	37.82 326	P		P	10 18 25.8	0.0
N38A	Joes South For baz=123	37.82 319	P		P	10 18 25.6	-0.3
L39A	Vinton baz=126	37.83 322	P		P	10 18 25.4	-0.5
Z34A	Collier Ranch, baz=110	37.83 306	P		P	10 18 25.9	-0.2
S36A	Lake Cedric, C baz=117	37.84 313	P		P	10 18 25.5	-0.6
J40A	Soldiers Grove baz=129	37.88 324	P		P	10 18 26.1	-0.2
V35A	Meyer Ranch, C baz=114	37.90 310	P		P	10 18 26.1	-0.5
P37A	Lathrop baz=121	37.90 317	P		P	10 18 26.4	-0.2
433A	Art baz=106	37.98 301	P		P	10 18 26.5	-0.8
333A	Richland Sprin baz=105	38.05 302	P		P	10 18 27.1	-0.9
R36A	Gordon, Harris baz=118	38.06 314	P		P	10 18 27.0	-1.0
U35A	Pawnee baz=114	38.07 311	P		P	10 18 27.7	-0.3
O37A	Wolven Farm, M baz=122	38.07 318	P		P	10 18 27.7	-0.3
H41A	Junction City baz=132	38.07 327	P		P	10 18 28.0	0.0
LVC	Limon Verde comp=Z,14nm,0.6s	38.08 191	eP		P	10 18 26.4	-2.2
K39A	Oelwein baz=127	38.11 323	P		P	10 18 27.5	-0.7
I40A	Norwalk baz=130	38.12 325	P		P	10 18 28.3	-0.1
832A	Faith Ranch, C baz=102	38.13 297	P		P	10 18 27.6	-1.0
T35A	Sooner Cattle baz=115	38.14 312	P		P	10 18 28.4	-0.3
M38A	Pleasantville baz=124	38.15 320	P		P	10 18 28.4	-0.2
233A	Rising Star baz=107	38.18 303	P		P	10 18 28.5	-0.6
G41A	Antigo baz=133	38.23 328	P		P	10 18 29.3	0.0
Q36A	Arnold C. Orve baz=119	38.34 315	P		P	10 18 29.3	-0.9
S35A	Otter Creek Ra baz=116	38.34 313	P		P	10 18 29.7	-0.6
J39A	Decorah baz=128	38.39 324	P		P	10 18 29.9	-0.7
L38A	Oak Wood Farm, baz=125	38.41 321	P		P	10 18 30.5	-0.3
N37A	Lee Faris, Mou baz=122	38.42 318	P		P	10 18 30.8	-0.1
SCIA	State Center comp=Z,56nm,0.9s	38.44 321	eP		P	10 18 31.1	+0.1
Z33A	Whitaker Ranch baz=109	38.47 305	P		P	10 18 30.9	-0.5
H40A	Chili baz=131	38.47 326	P		P	10 18 31.5	+0.2
P36A	Good Intent, A baz=120	38.49 316	P		P	10 18 30.7	-0.8
JCT	Junction City	38.49 300	eP		P	10 18 31.1	-0.6
JCT			e			10 20 42.1	
JCT			pmax		pmax		
JCT	comp=Z,59nm,0.9s Junction City comp=Z,59nm,0.9s	38.49 300	eP		P	10 18 31.1	-0.6
JCT			ePcP		PcP	10 20 42.1	+0.5
R35A	Emporia Munici baz=117	38.55 314	P		P	10 18 31.4	-0.6
F41A	Three Lakes baz=133	38.55 328	P		P	10 18 32.2	+0.3
O36A	Bolckow baz=121	38.59 317	P		P	10 18 31.7	-0.6
K38A	Parkersburg baz=126	38.60 322	P		P	10 18 31.9	-0.4
I39A	Houston baz=128	38.60 324	P		P	10 18 32.0	-0.4
T34A	McClaskey Farm baz=115	38.67 311	P		P	10 18 33.0	-0.1
M37A	Trindle Farm, baz=123	38.68 319	P		P	10 18 33.0	0.0
Q35A	Mercer Eighty, baz=118	38.68 315	P		P	10 18 32.1	-1.0
G40A	Rib Lake baz=132	38.80 327	P		P	10 18 34.2	+0.2
J38A	Wedel Dairy, R baz=127	38.82 323	P		P	10 18 33.5	-0.7
L37A	Phoenix Point, baz=124	38.89 321	P		P	10 18 34.3	-0.4
S34A	Willow Spring baz=116	38.91 312	P		P	10 18 34.7	-0.4
N36A	Muff Farm, Cla baz=121	38.94 318	P		P	10 18 35.1	-0.1
ABTX	Abilene, Hawle baz=107	38.96 304	P		P	10 18 35.0	-0.6
WMOK	Wichita Mounta	38.98 307	eP		P	10 18 34.8	-0.9
WMOK			pmax		pmax		
WMOK	comp=Z,43nm,0.4s Wichita Mounta comp=Z,44nm,0.4s	38.98 307	eP		P	10 18 34.8	-0.9
P35A	Duane Minner, baz=119	38.99 316	P		P	10 18 34.6	-1.1
H39A	Augusta baz=130	38.99 326	P		P	10 18 35.5	-0.1
M36A	Felix, Anita baz=122	39.18 319	P		P	10 18 37.1	-0.1
I38A	Scanlan Farm, baz=128	39.18 324	P		P	10 18 36.6	-0.6
K37A	Belmond baz=125	39.19 321	P		P	10 18 36.7	-0.5
KSU1	Kansas State U comp=Z,62nm,0.6s	39.19 315	eP		P	10 18 36.3	-1.0
F40A	Park Falls baz=132	39.20 328	P		P	10 18 37.4	+0.2
R34A	Isabella, Hill baz=116	39.27 313	P		P	10 18 37.5	-0.5
O35A	Humboldt baz=120	39.28 317	P		P	10 18 36.9	-1.1
G39A	Holcombe baz=130	39.33 326	P		P	10 18 38.6	+0.2
Q34A	Chapman baz=117	39.34 314	P		P	10 18 37.5	-1.1
N35A	Tabor baz=121	39.41 318	P		P	10 18 38.7	-0.4
L36A	Harm Buss Farm baz=123	39.44 320	P		P	10 18 39.4	0.0
J37A	Redenius Farm, baz=126	39.45 322	P		P	10 18 39.2	-0.2
H38A	Maiden Rock baz=128	39.54 325	P		P	10 18 39.7	-0.5
P34A	Walnut Farm, R baz=118	39.55 315	P		P	10 18 39.2	-1.1
K36A	Gilmore City baz=124	39.60 321	P		P	10 18 40.7	0.0
F39A	Loretta baz=131	39.61 327	P		P	10 18 40.9	+0.2
G38A	Ridgeland baz=129	39.62 326	P		P	10 18 40.8	0.0
ZAIG	Zacatecas comp=Z,17nm,0.6s	39.70 288	eP		P	10 18 43.0	+1.0
E39A	Mellen baz=132	39.73 328	P		P	10 18 42.3	+0.6
U32A	Winter Ranch, baz=112	39.75 310	P		P	10 18 42.0	-0.1
M35A	Neola baz=121	39.75 318	P		P	10 18 41.5	-0.4
O34A	Beatrice baz=119	39.76 316	P		P	10 18 40.9	-1.2
I37A	Lemond, Waseca baz=126	39.78 323	P		P	10 18 41.6	-0.5
H37A	Dierke Farm, C baz=128	39.84 324	P		P	10 18 42.2	-0.4
J36A	Seneca 1, Swea baz=125	39.93 322	P		P	10 18 42.9	-0.5
N34A	Lincoln baz=120	39.95 317	P		P	10 18 43.0	-0.7
L35A	Bielow Farm, R baz=122	40.00 319	P		P	10 18 43.7	-0.2
SCHQ	Schefferville comp=Z,9.6nm,0.5s,baz=181,slow=7.8,SNR=34	40.01 355	P		P	10 18 44.2	+0.4
SCHQ	Schefferville comp=Z,29nm,1.2s	40.01 355	eP		P	10 18 44.3	+0.4
K35A	Storm Lake baz=123	40.13 320	P		P	10 18 45.0	-0.1
I36A	Fitzsimmons Fa baz=126	40.13 323	P		P	10 18 44.1	-1.0
F38A	Pierce - Schro baz=130	40.14 327	P		P	10 18 45.3	+0.2
O33A	Hebron baz=118	40.31 315	P		P	10 18 45.9	-0.8
M34A	Aspy Farms, Fr baz=120	40.34 318	P		P	10 18 46.5	-0.3
F37A	Hinrichs Farm, baz=129	40.39 326	P		P	10 18 47.0	-0.1
E38A	The Farm, Brul baz=131	40.39 328	P		P	10 18 46.8	-0.3
H36A	Jessenland, He baz=126	40.41 324	P		P	10 18 46.7	-0.6
L34A	Svendsen Farm, baz=121	40.45 319	P		P	10 18 47.2	-0.5
J35A	Milford baz=124	40.47 321	P		P	10 18 47.5	-0.4
C39A	Grand Marais baz=134	40.50 330	P		P	10 18 47.8	-0.2
I35A	Creekview Farm baz=124	40.61 322	P		P	10 18 48.8	-0.2
K34A	Le Mars baz=122	40.65 320	P		P	10 18 49.1	-0.2
G36A	St. Michael baz=127	40.71 324	P		P	10 18 49.1	-0.6
M33A	Taylor Creek F baz=120	40.77 318	P		P	10 18 49.8	-0.6
E37A	Wrenshall baz=130	40.81 327	P		P	10 18 50.4	-0.2
J34A	George baz=123	40.88 321	P		P	10 18 51.0	-0.3
F36A	Milaca baz=128	40.97 325	P		P	10 18 51.1	-0.8
C38A	Sawbill Land. baz=132	40.99 329	P		P	10 18 51.6	-0.5
H35A	Sunnyside Ranc baz=125	41.01 323	P		P	10 18 51.3	-0.9
G35A	Watkins baz=126	41.12 324	P		P	10 18 52.2	-0.9
L33A	Hoskins baz=120	41.12 318	P		P	10 18 52.7	-0.6
D37A	Cotton baz=130	41.21 328	P		P	10 18 54.1	+0.2
E36A	McGregor baz=129	41.23 326	P		P	10 18 53.9	-0.2
CPUP	Villa Florida comp=Z,6.0nm,0.5s,baz=354,slow=7.2,SNR=19	41.24 175	P		P	10 18 53.0	-1.2
I34A	Hadley baz=124	41.24 322	P		P	10 18 53.6	-0.5
CBKS	Cedar Bluff	41.25 313	eP		P	10 18 53.9	-0.5
CBKS			pmax		pmax		
CBKS	comp=Z,65nm,0.8s Cedar Bluff comp=Z,65nm,0.8s	41.25 313	eP		P	10 18 53.9	-0.5
EYMN	Ely comp=Z,13nm,0.4s	41.26 329	eP		P	10 18 53.7	-0.6
AMTX	Amarillo comp=Z,24nm,0.6s	41.27 306	eP		P	10 18 53.9	-0.8
C37A	Embarrass baz=131	41.46 328	P		P	10 18 55.7	-0.2
LTX	Lajitas	41.51 297	eP		P	10 18 56.1	-0.6
LTX			e			10 20 52.1	
LTX	Lajitas	41.51 297	eP		P	10 18 56.0	-0.6
LTX			ePcP		PcP	10 20 52.1	+0.6
TXAR	Lajitas Array comp=Z,4.2nm,0.4s,baz=114,slow=7.3,SNR=152	41.51 297	P		P	10 18 56.0	-0.7
TXAR			PcP		PcP	10 20 52.1	+0.6
TXAR	comp=Z,2.5nm,0.5s,baz=124,slow=6.2,SNR=6.9		ScP		ScP	10 24 27.7	0.0
TX31	comp=Z,0.5nm,0.7s,baz=111,slow=5.9,SNR=3.6 Lajitas Ar. Si	41.52 297	eP		P	10 18 56.1	-0.6
L32A	Elgin baz=119	41.52 318	P		P	10 18 56.0	-0.5
J33A	Davis baz=122	41.52 320	P		P	10 18 56.0	-0.5
ECSD	EROS Data Cent comp=Z,40nm,0.9s	41.53 321	eP		P	10 18 56.2	-0.3
H34A	Spellman Lake, baz=124	41.54 322	P		P	10 18 55.8	-0.8
F35A	Swanville baz=127	41.55 325	P		P	10 18 55.7	-0.9
D36A	Goodland baz=130	41.60 327	P		P	10 18 56.9	-0.2
G34A	Benson baz=125	41.79 323	P		P	10 18 57.8	-0.8
C36A	Pine Crest Far baz=130	41.81 328	P		P	10 18 58.4	-0.3
I33A	Coleman	41.81 321	P		P	10 18 58.4	-0.4

baz=122
K32A **Verdigre** 41.82 319 P P 10 18 58.1 -0.8
baz=120
E35A **Pequot Lakes** 41.88 326 P P 10 18 58.5 -0.8
baz=128
F34A **Alexandria** 41.90 324 P P 10 18 58.7 -0.7
baz=126
D35A **Remer** 42.01 326 P P 10 18 59.6 -0.7
baz=128
J32A **Parkston** 42.10 320 P P 10 19 00.5 -0.7
baz=121
I32A **Karley and Nic** 42.20 321 P P 10 19 01.7 -0.3
baz=122
G33A **Ortonville** 42.23 323 P P 10 19 01.6 -0.5
baz=124
E34A **Wadena** 42.27 325 P P 10 19 01.8 -0.7
baz=126
K31A **O'Neill** 42.30 318 P P 10 19 02.5 -0.3
baz=119
C35A **Jirik Farms, M** 42.36 327 P P 10 19 02.8 -0.4
baz=129
H32A **Carlson Farm,** 42.44 321 P P 10 19 03.4 -0.5
baz=122
F33A **5 Mile Ranch,** 42.51 324 P P 10 19 04.0 -0.4
baz=125
J31A **Geddes** 42.62 319 P P 10 19 04.6 -0.8
baz=120
B35A **Bob, Littlefor** 42.66 328 P P 10 19 05.0 -0.5
baz=130
E33A **Westby DABS, E** 42.73 325 P P 10 19 05.1 -1.1
baz=126
C34A **RKJ Ranch, Bem** 42.82 327 P P 10 19 06.2 -0.7
baz=128
I31A **Royce, Wessing** 42.87 320 P P 10 19 06.7 -0.6
baz=120
G32A **Webster** 42.89 322 P P 10 19 06.7 -0.8
baz=123
HPIG 42.89 294 *e*P P 10 19 07.9 -0.2
comp=Z,32nm,0.9s
F32A **Veblen** 43.01 323 P P 10 19 07.6 -0.9
baz=124
D33A **AnnSam, Waubun** 43.02 325 P P 10 19 07.6 -0.9
baz=126
H31A **Wolsey** 43.06 321 P P 10 19 08.3 -0.6
baz=121
B34A **Aery, Baudette** 43.21 328 P P 10 19 09.3 -0.7
baz=129
G31A **Conde** 43.29 322 P P 10 19 09.9 -0.9
baz=122
SUSD **Miller** 43.34 320 P P 10 19 10.5 -0.6
baz=120
C33A **Trail** 43.35 326 P P 10 19 10.1 -1.0
baz=127
E32A **Braaten, Kindr** 43.38 324 P P 10 19 10.7 -0.7
baz=124
KSCO **Kaye Shedlock'** 43.41 312 P P 10 19 11.4 -0.5
baz=112
MNTX **Cornudas Mount** 43.43 300 *e*P P 10 19 11.9 -0.2
comp=Z,55nm,1.0s
B33A **Robert and Kas** 43.56 327 P P 10 19 12.1 -0.8
baz=128
F31A **Hecla** 43.66 323 P P 10 19 12.9 -0.8
baz=122
D32A **Dogwood Acres,** 43.66 325 P P 10 19 13.1 -0.6
baz=125
AGMN **Agassiz Nation** 43.73 327 P P 10 19 13.6 -0.5
baz=127
AGMN **Agassiz Nation** 43.73 327 *e*P P 10 19 13.5 -0.7
comp=Z,102nm,0.6s
OGNE **Ogallala** 43.74 314 *e*P P 10 19 14.3 -0.2
comp=Z,44nm,0.8s
C32A **Crookston** 43.80 326 P P 10 19 14.3 -0.5
baz=126
E31A **Nome** 43.83 324 P P 10 19 14.3 -0.7
baz=124
A33A **Warroad** 43.87 328 P P 10 19 14.9 -0.4
baz=128
D31A **Mcclaflin, Tow** 44.01 324 P P 10 19 15.7 -0.7
baz=124
B32A **Ashes, Strandq** 44.14 327 P P 10 19 16.8 -0.6
baz=126
A32A **Rocking H Ranc** 44.44 327 P P 10 19 19.2 -0.5
baz=127
C31A **Landman Farms,** 44.44 325 P P 10 19 19.2 -0.7
baz=125
B31A **Greenbush Farm** 44.76 326 P P 10 19 21.5 -0.9
baz=125
A31A **Linda, St. Vin** 44.81 327 P P 10 19 21.7 -1.0
baz=126
ULM **Lac du Bonnet** 44.94 329 P P 10 19 22.8 -1.0
comp=Z,42nm,0.4s,baz=132,slow=8.3,SNR=118
ULM PcP PcP 10 21 01.6 -0.9
comp=Z,3.7nm,0.5s,baz=73,slow=4.8,SNR=4.2
ULM **Lac du Bonnet** 44.94 329 *e*P P 10 19 22.8 -1.0
ULM pmax pmax
comp=Z,47nm,0.8s
ULM **Lac du Bonnet** 44.94 329 *e*P P 10 19 22.8 -1.0
comp=Z,47nm,0.8s
BNM **Barren Site** 45.00 304 *e*P P 10 19 25.2 +0.4
LPM **Los Pinos Moun** 45.04 304 *e*P P 10 19 25.3 +0.3
ANMO **Albuquerque** 45.06 305 LR LR 10 40 55.0
comp=Z,24nm,20.4s,baz=72,slow=39
ANMO **Albuquerque** 45.06 305 *c i*P P 10 19 25.2 0.0
ANMO pmax pmax
comp=Z,24nm,1.2s
ANMO **Albuquerque** 45.06 305 *e*P P 10 19 25.4 +0.2
comp=Z,18nm,1.0s
ANMO *e*PcP PcP 10 21 04.0 +0.5
SDCO **Great Sand Dun** 45.10 309 *e*P P 10 19 25.2 -0.4
comp=Z,23nm,1.0s
Y22D **IRIS PASSCAL I** 45.22 303 P P 10 19 27.1 +0.7
baz=103
Q24A **Divide** 45.23 310 P P 10 19 26.2 -0.4
baz=109
LAZ **Ladron** 45.47 304 *e*P P 10 19 28.6 +0.2
MDND **Maddock** 45.52 324 P P 10 19 27.8 -0.5
baz=123
ISCO **Idaho Springs** 45.85 311 *e*P P 10 19 31.4 0.0
ISCO pmax pmax
comp=Z,17nm,0.8s
ISCO **Idaho Springs** 45.85 311 *e*P P 10 19 31.4 0.0
comp=Z,17nm,0.8s
PHWY **Pilot Hill** 46.26 313 *e*P P 10 19 34.5 -0.2
comp=Z,24nm,0.8s
RSSD **Black Hills** 46.41 318 *e*P P 10 19 35.7 0.0
RSSD pmax pmax
comp=Z,10.0nm,0.8s
RSSD **Black Hills** 46.41 318 *e*P P 10 19 35.7 0.0
comp=Z,9.9nm,0.8s
SLBS **Sierra La Lagu** 46.52 289 *e*P P 10 19 37.5 +0.9
comp=Z,47nm,1.2s
SMCO **Snowmass** 46.64 310 *e*P P 10 19 37.4 -0.3
comp=Z,15nm,0.8s
SMCO *e*PcP PcP 10 21 10.2 +1.0
319A **Douglas** 46.65 299 *e*P P 10 19 38.4 +0.8
comp=Z,56nm,0.8s
MVCO **Mesa Verde** 47.23 307 *e*P P 10 19 42.2 0.0
comp=Z,6.1nm,0.8s
K22A **Casper** 47.50 315 P P 10 19 44.0 -0.1
baz=111
PV01 **Paradox Valley** 47.53 308 *e*P P 10 19 44.9 +0.4
PV01 *e*PcP PcP 10 21 13.2 +1.0
X18A **Snowflake** 47.77 303 *e*P P 10 19 47.0 +0.7
comp=Z,53nm,0.9s
PV04 **Paradox Valley** 47.86 309 *e*P P 10 19 47.0 +0.1
PV05 **Paradox Valley** 47.92 308 *e*P P 10 19 47.3 -0.2
PV10 **Paradox Valley** 47.95 308 *e*P P 10 19 47.9 +0.1
PV10 *e*PcP PcP 10 21 14.3 +0.5
TUC **Tucson** 48.06 300 *e*P P 10 19 49.0 +0.5
TUC pmax pmax
comp=Z,28nm,0.9s
TUC **Tucson** 48.06 300 *e*P P 10 19 49.0 +0.5
comp=Z,28nm,0.9s
DGMT **Dagmar** 48.48 323 *e*P P 10 19 51.8 +0.5
comp=Z,113nm,0.4s
SRIG **Santa Rosalia** 48.76 293 *e*P P 10 19 54.2 +0.4
LAO **LASA Array** 48.90 320 *e*P P 10 19 55.0 +0.4
comp=Z,41nm,1.0s
X16A **Lo Mia Camp, P** 48.95 303 *e*P P 10 19 56.2 +0.8
comp=Z,23nm,1.0s
WUAZ **Wupatki** 49.11 304 *e*P P 10 19 57.3 +0.8
comp=Z,49nm,0.8s
SRU **San Rafael Swe** 49.27 309 *e*P P 10 19 57.9 +0.2
SRU pmax pmax
comp=Z,55nm,1.4s
SRU **San Rafael Swe** 49.27 309 *e*P P 10 19 57.9 +0.2
comp=Z,55nm,1.4s

PD31 **Pinedale Array** 49.63 314 *e*P P 10 20 00.3 -0.2
PDAR **Pinedale Array** 49.63 314 P P 10 20 00.1 -0.3
comp=Z,18nm,0.6s,baz=112,slow=9.0,SNR=231
PDAR ScP ScP 10 25 00.8 -0.5
comp=Z,4.4nm,0.9s,baz=106,slow=5.5,SNR=16
BW06 **Boulder Array** 49.63 314 *e*P P 10 20 00.2 -0.3
comp=Z,43nm,1.0s
214A **Organ Pipe Nat** 49.71 299 P P 10 20 01.4 +0.5
baz=97
TMUT **Trail Mountain** 49.83 309 *e*P P 10 20 02.4 +0.3
comp=Z,48nm,0.7s
U15A **North Rim** 50.02 305 *e*P P 10 20 04.3 +0.8
comp=Z,53nm,1.6s
Y14A **Wickenburg** 50.15 302 *e*P P 10 20 05.0 +0.7
comp=Z,118nm,0.8s
HTU **Hoyt Peak** 50.20 311 *e*P P 10 20 05.4 +0.5
RLMT **Red Lodge** 50.24 317 *e*P P 10 20 04.9 -0.1
comp=Z,43nm,1.1s
PKCU **Pink Cliffs** 50.24 306 *e*P P 10 20 05.9 +0.7
comp=Z,33nm,1.6s
MTPU **Mount Pierson** 50.27 307 *e*P P 10 20 05.9 +0.4
comp=Z,40nm,1.4s
HLJ **Hailstone** 50.31 311 *e*P P 10 20 06.1 +0.5
MPU **Maple Canyon** 50.33 310 *e*P P 10 20 06.1 +0.4
comp=Z,17nm,0.9s
LEVU **Levan** 50.34 309 *e*P P 10 20 05.7 -0.1
JLU **Jordanelle** 50.35 311 *e*P P 10 20 06.3 +0.4
comp=Z,34nm,0.9s
MSU **Marysvale** 50.37 308 *e*P P 10 20 06.6 +0.5
MSU **Marysvale** 50.37 308 *e*P P 10 20 06.6 +0.5
KNB **Kanab** 50.55 306 *e*P P 10 20 07.9 +0.4
KNB pmax pmax
comp=Z,14nm,0.9s
KNB **Kanab** 50.55 306 *e*P P 10 20 07.8 +0.4
comp=Z,14nm,0.9s
BMUT **Black Mountain** 50.57 312 *e*P P 10 20 07.4 -0.1
GMU **Granite Mounta** 50.57 311 *e*P P 10 20 07.9 +0.4
MCU **Monte Cristo P** 50.62 312 *e*P P 10 20 07.7 -0.3
FFC **Flin Flon** 50.63 331 *e*P P 10 20 06.2 -1.2
FFC pmax pmax
comp=Z,16nm,0.9s
FFC **Flin Flon** 50.63 331 *e*P P 10 20 06.2 -1.2
comp=Z,16nm,0.9s
LOHW **Long Hollow** 50.63 315 *e*P P 10 20 07.8 -0.2
comp=Z,22nm,1.1s
NLU **North Lily Min** 50.64 310 *e*P P 10 20 08.1 0.0
comp=Z,16nm,1.0s
SNOW **Snow King Moun** 50.69 314 *e*P P 10 20 08.4 0.0
comp=Z,58nm,1.5s
HWUT **Hardware Ranch** 50.71 312 *e*P P 10 20 08.1 -0.4
comp=Z,32nm,1.0s
REDW **Red Top Meadow** 50.72 314 *e*P P 10 20 08.4 -0.3
comp=Z,22nm,1.0s
GCMT **Greycliff** 50.74 318 *e*P P 10 20 08.8 +0.1
MOOW **Moose Ponds** 50.77 315 *e*P P 10 20 08.4 -0.6
comp=Z,5.2nm,0.8s
TPAW **Teton Pass** 50.83 314 *e*P P 10 20 09.5 -0.1
comp=Z,24nm,0.9s
FLWY **Flagg Ranch** 50.85 315 *e*P P 10 20 09.7 +0.2
comp=Z,12nm,0.9s
SZCU **Shurtz Canyon** 50.88 306 *e*P P 10 20 09.9 0.0
comp=Z,19nm,1.1s
LCMT **Little Creek M** 50.88 306 *e*P P 10 20 09.8 0.0
comp=Z,4.3nm,0.9s
HDU **Hyde Park** 50.91 312 *e*P P 10 20 09.9 -0.2
IMW **Indian Meadow** 50.95 315 *e*P P 10 20 10.1 -0.4
comp=Z,8.4nm,0.5s
YPP **Pitchstone Pla** 50.98 315 *e*P P 10 20 10.9 +0.2
comp=Z,5.0nm,0.9s
BEI **Bear River Ran** 51.01 312 *e*P P 10 20 10.7 -0.1
YNR **Norris Junctio** 51.04 316 *e*P P 10 20 12.1 +1.0
comp=Z,9.0nm,0.9s
W13A **Hualapai Mount** 51.05 303 *e*P P 10 20 12.2 +0.9
comp=Z,19nm,0.8s
YFT **Old Faithful** 51.06 316 *e*P P 10 20 12.9 +1.8
comp=Z,12nm,1.0s
CCUT **Cedar City** 51.08 306 *e*P P 10 20 10.7 -0.8
comp=Z,11nm,0.9s
YHH **Holmes Hill** 51.18 316 *e*P P 10 20 12.4 +0.3
comp=Z,15nm,0.9s
YMR **Madison River** 51.22 316 *e*P P 10 20 13.2 +0.8
comp=Z,10nm,0.7s
MLI **Malad Range** 51.23 312 *e*P P 10 20 12.5 +0.1
DUG **Dugway, Tooele** 51.25 310 *e*P P 10 20 12.8 +0.2
DUG **Dugway, Tooele** 51.25 310 *e*P P 10 20 12.8 +0.2
MTUT **Morton Thiokol** 51.38 312 *e*P P 10 20 13.2 -0.2
YHB **Horse Butte** 51.40 316 *e*P P 10 20 14.4 +0.7
comp=Z,54nm,0.9s
GLA **Glamis** 51.53 300 P P 10 20 15.0 +0.3
baz=97
GLA **Glamis** 51.53 300 *e*P P 10 20 15.0 +0.3
GLA pmax pmax
comp=Z,9.0nm,0.7s
GLA **Glamis** 51.53 300 *e*P P 10 20 15.0 +0.3
comp=Z,9.2nm,0.7s
FSU **Fish Springs** 51.57 309 *e*P P 10 20 15.6 +0.7
QLMT **Earthquake Lak** 51.58 316 *e*P P 10 20 16.4 +1.4
BGU **Big Grassy Mou** 51.59 311 *e*P P 10 20 15.3 +0.2
comp=Z,59nm,0.7s
HVU **Hansel Valley** 51.63 312 *e*P P 10 20 15.1 -0.3
HVU pmax pmax
comp=Z,33nm,0.7s
HVU **Hansel Valley** 51.63 312 *e*P P 10 20 15.1 -0.3
comp=Z,32nm,0.7s
EGMT **Eagleton** 51.63 320 *e*P P 10 20 15.6 +0.4
comp=Z,57nm,0.9s
H10N3 **ASCENSION HYDR** 51.64 113 T T 11 15 45.3
baz=296,slow=75,SNR=47
H10N2 **ASCENSION HYDR** 51.65 113 T T 11 15 47.0
baz=296,slow=75,SNR=49
PSUT **Pine Spring** 51.66 307 *e*P P 10 20 17.0 +1.3
comp=Z,24nm,0.8s
H10N1 **ASCENSION HYDR** 51.66 113 T T 11 15 45.2
baz=296,slow=75,SNR=49
IRM **Iron Mountain** 51.94 302 P P 10 20 18.5 +0.9
baz=98
BOZ **Bozeman (W)** 51.97 317 *e*P P 10 20 17.9 +0.1
BOZ pmax pmax
comp=Z,24nm,1.1s
BOZ **Bozeman (W)** 51.97 317 *e*P P 10 20 17.9 +0.1
comp=Z,24nm,1.1s
H10S3 **ASCENSION HYDR** 51.99 114 T T 11 16 05.1
baz=297,slow=74,SNR=73
H10S1 **ASCENSION HYDR** 52.00 114 T T 11 16 06.3
baz=297,slow=74,SNR=71
H10S2 **ASCENSION HYDR** 52.01 114 T T 11 16 07.4
baz=297,slow=74,SNR=90
LDFC **Landfair** 52.04 303 *e*P P 10 20 19.6 +1.1
comp=Z,38nm,1.1s
BC3 **Big Chuckawall** 52.13 301 P P 10 20 19.5 +0.4
baz=97
LCCM **Lewis and Clar** 52.21 317 *e*P P 10 20 19.8 +0.2
SHPR **Sheep Range** 52.30 305 *e*P P 10 20 21.0 +0.6
comp=Z,6.3nm,0.9s
SWSC **Sam W. Stewart** 52.34 300 P P 10 20 20.8 +0.3
baz=96
GMRC **Granite Mounta** 52.45 302 P P 10 20 21.9 +0.4
baz=98
HRY **Holter Researc** 52.47 318 *e*P P 10 20 21.5 +0.1
DLMT **Dillon** 52.54 316 *e*P P 10 20 22.3 +0.3
comp=Z,42nm,1.5s
MCMT **McKenzie Canyo** 52.54 315 *e*P P 10 20 22.4 +0.2
LRM **Limekiln Ridge** 52.59 317 *e*P P 10 20 22.8 +0.3
BELC **Belle Mtn. Jos** 52.62 301 P P 10 20 23.2 +0.4
baz=97
TRQA **Tornquist** 52.75 181 *e*P P 10 20 22.7 -0.6
comp=Z,14nm,0.9s
TUQ **Turquoise Moun** 52.75 303 P P 10 20 24.2 +0.5
baz=98
MONP **Monument Peak,** 52.85 300 P P 10 20 25.2 +0.7
baz=96
TPFO **Pinon Flats** 52.95 301 P P 10 20 25.7 +0.5
baz=96
PFO **Pinyon Flats O** 52.96 301 P P 10 20 25.7 +0.4
baz=96
MTE **Manteigas** 52.99 50 *e*P P 10 20 25.4 +0.1
comp=Z,44nm,1.2s
HEC **Hector,Ludlow** 53.00 302 P P 10 20 26.2 +0.7
baz=97
BAR **Barrett** 53.04 300 *e*P P 10 20 26.3 +0.6
comp=Z,11nm,0.9s
SHOC **Shoshone, Teco** 53.10 304 P P 10 20 26.6 +0.5
baz=98
TPNV **Topopah Spring** 53.24 305 *e*P P 10 20 28.1 +0.8
TPNV pmax pmax
comp=Z,19nm,0.8s
TPNV **Topopah Spring** 53.24 305 *e*P P 10 20 28.1 +0.8

comp=Z,19nm,0.8s
HLID **Hailey** 53.26 314 *e*P P 10 20 27.4 0.0
comp=Z,17nm,0.9s
BBRC **Big Bear Solar** 53.41 302 P P 10 20 29.6 +0.9
baz=96
GSC **Goldstone, Bar** 53.45 303 P P 10 20 29.4 +0.6
baz=97
GSC **Goldstone, Bar** 53.45 303 *e*P P 10 20 29.2 +0.4
GSC pmax pmax
comp=Z,11nm,0.7s
GSC **Goldstone, Bar** 53.45 303 *e*P P 10 20 29.2 +0.4
comp=Z,11nm,0.7s
CHMT **Chamberlain Mo** 53.46 318 *e*P P 10 20 28.7 -0.1
RRX **Edison Barstow** 53.55 302 P P 10 20 30.4 +1.0
baz=97
MURC **Murrieta** 53.57 301 P P 10 20 30.1 +0.5
baz=96
FURC **Furnace Creek,** 53.65 304 P P 10 20 30.8 +0.7
baz=98
SLMT **Seeley Lake** 53.72 318 *e*P P 10 20 30.6 -0.1
MSO **Missoula** 53.88 318 *e*P P 10 20 31.7 0.0
comp=Z,24nm,1.8s
BFSC **Mount Baldy Ra** 54.02 302 P P 10 20 33.1 +0.1
baz=96
MPMC **Manual Prospec** 54.10 304 P P 10 20 34.0 +0.4
baz=97
GRAC **Grapevine Rang** 54.13 305 P P 10 20 34.4 +0.7
baz=98
SWMT **Swartz Lake** 54.13 318 *e*P P 10 20 33.4 -0.1
LRMC **Laurel Mtn Rad** 54.18 303 P P 10 20 34.3 +0.1
baz=97
DAC **Darwin (Calif)** 54.21 304 ⇑ *i*P P 10 20 34.8 +0.4
DAC pmax pmax
comp=Z,22nm,1.0s
DAC **Darwin (Calif)** 54.21 304 ⇑ *i*P P 10 20 34.8 +0.4
comp=Z,22nm,1.0s
MFID **Camas Ranch** 54.22 313 *e*P P 10 20 34.1 -0.2
comp=Z,50nm,1.9s
YBMT **Yellow Bay** 54.25 319 *e*P P 10 20 34.6 +0.1
MWC **Mount Wilson** 54.35 301 *e*P P 10 20 35.8 +0.4
MWC pmax pmax
comp=Z,10.0nm,0.6s
MWC **Mount Wilson** 54.35 301 *e*P P 10 20 35.8 +0.4
comp=Z,10nm,0.6s
EDW2 **Edwards Air Fo** 54.36 302 P P 10 20 35.9 +0.5
baz=96
JTMT **Jette** 54.39 318 *e*P P 10 20 35.4 -0.1
PASC **Pasadena Art C** 54.45 301 *e*P P 10 20 36.1 +0.2
comp=Z,18nm,0.8s
BLMT **Blacktail Moun** 54.52 319 *e*P P 10 20 36.4 -0.1
CIS **Catalina Islan** 54.56 300 P P 10 20 37.2 +0.3
baz=95
DECC **Green Verdugo** 54.58 301 P P 10 20 36.5 -0.4
baz=96
WALA **Waterton Lakes** 54.58 320 *e*P P 10 20 36.3 -0.5
comp=Z,62nm,1.8s
BMN **Battle Mountai** 54.59 309 *e*P P 10 20 37.3 +0.2
BMN pmax pmax
comp=Z,40nm,0.8s
BMN **Battle Mountai** 54.59 309 *e*P P 10 20 37.3 +0.2
comp=Z,40nm,0.8s
CWC **Cottonwood Cre** 54.62 304 P P 10 20 37.6 +0.2
baz=97
BSMT **Bassoo Peak** 54.74 318 *e*P P 10 20 38.0 -0.1
ISA **Isabella, Lake** 54.84 303 P P 10 20 39.6 +0.8
baz=96
ARVC **Arvin** 55.07 303 P P 10 20 41.2 +0.8
baz=96
PAB **San Pablo** 55.24 52 *e*P P 10 20 41.9 +0.3
PAB pmax pmax
comp=Z,22nm,1.7s
PAB **San Pablo** 55.24 52 *e*P P 10 20 41.9 +0.3
comp=Z,22nm,1.7s
VES **Vestal, Richgr** 55.36 303 P P 10 20 43.1 +0.6
baz=96
MLAC **Mammoth, Mammo** 55.38 306 P P 10 20 43.5 +0.6
baz=98
TVH2 **Borealis Mine** 55.42 306 *e*P P 10 20 43.6 +0.4
comp=Z,13nm,0.8s
TVH1 **TV Hill, Hawth** 55.44 307 *e*P P 10 20 44.0 +0.6
comp=Z,26nm,0.9s
TVH3 **East Aurora ar** 55.47 306 *e*P P 10 20 44.0 +0.5
comp=Z,16nm,0.7s
RCTC **Rector, Farmer** 55.54 304 P P 10 20 43.7 0.0
baz=96
ESDC **Sonseca Array** 55.55 52 P P 10 20 44.3 +0.5
comp=Z,4.3nm,0.6s,baz=261,slow=7.3,SNR=24
ESLA **Sonseca Array** 55.55 52 *e*P P 10 20 44.6 +0.8
comp=Z,8.5nm,0.8s
BMO **Blue Mountains** 55.60 314 *e*P P 10 20 43.2 -1.0
BMO pmax pmax
comp=Z,21nm,1.4s
BMO **Blue Mountains** 55.60 314 *e*P P 10 20 43.2 -1.0
comp=Z,21nm,1.4s
ES19 **SONSECA Array** 55.61 52 *e*P P 10 20 44.7 +0.4
EDM **Edmonton** 55.76 325 *e*P P 10 20 44.3 -0.8
EDM pmax pmax
comp=Z,130nm,1.0s
EDM **Edmonton** 55.76 325 *e*P P 10 20 44.3 -0.8
comp=Z,130nm,1.0s
TIC **Toumodi** 55.79 92 *e*P P 10 20 45.1 -0.7
F10A **Beach Ranch, E** 55.82 316 *e*P P 10 20 44.8 -0.9
comp=Z,8.9nm,1.1s
PKM **Mcpherson Peak** 55.85 302 P P 10 20 46.2 0.0
baz=95
LIC **Lamto** 55.88 93 *e*P P 10 20 45.8 -0.7
comp=Z,40nm,0.5s
YERR **Yerington** 55.89 307 *e*P P 10 20 46.2 -0.2
comp=Z,28nm,1.4s
DBIC **Dimbokro** 55.94 92 P P 10 20 46.2 -0.7
comp=Z,14nm,0.8s,baz=261,slow=6.3,SNR=17
DBIC LR LR 10 43 53.7
comp=Z,12nm,19.3s,baz=78,slow=35
WAKR **Walker** 55.97 306 *e*P P 10 20 47.4 +0.4
comp=Z,20nm,0.9s
WVOR **Wild Horse Val** 56.02 311 *e*P P 10 20 47.0 -0.2
WVOR pmax pmax
comp=Z,17nm,1.4s
WVOR **Wild Horse Val** 56.02 311 *e*P P 10 20 47.0 -0.2
comp=Z,17nm,1.4s
SMMC **Simmler** 56.04 303 P P 10 20 48.2 +0.8
baz=95
PLCA **Paso Flores** 56.08 188 P P 10 20 46.5 -0.9
comp=Z,11nm,0.7s,baz=25,slow=7.9,SNR=32
PLCA PcP PcP 10 21 43.8 +0.1
comp=Z,4.6nm,0.9s,baz=273,slow=5.4,SNR=2.8
PLCA **Paso Flores** 56.08 188 *e*P P 10 20 46.6 -0.8
PLCA pmax pmax
comp=Z,11nm,0.7s
PLCA **Paso Flores** 56.08 188 *e*P P 10 20 46.6 -0.8
comp=Z,11nm,0.7s
PAHR **Pah Rah Range** 56.10 308 *e*P P 10 20 47.8 -0.1
comp=Z,12nm,0.9s
KIC **Kosan Boka** 56.12 92 *e*P P 10 20 47.7 -0.5
comp=Z,23nm,0.7s
PNTR **Pine Nut** 56.18 307 *e*P P 10 20 49.3 +0.8
comp=Z,13nm,0.7s
NEW **Newport** 56.36 318 *e*P P 10 20 48.9 -0.6
NEW pmax pmax
comp=Z,41nm,1.0s
NEW **Newport** 56.36 318 *e*P P 10 20 48.9 -0.6
comp=Z,41nm,1.0s
CMB **Columbia Colle** 56.65 306 *e*P P 10 20 51.9 +0.3
CMB pmax pmax
comp=Z,6.0nm,0.9s
CMB **Columbia Colle** 56.65 306 *e*P P 10 20 51.9 +0.3
comp=Z,6.4nm,0.9s
MOD **Modoc Plateau** 57.14 310 *e*P P 10 20 54.4 -0.8
comp=Z,7.6nm,0.6s
AFDM **Forest Hills D** 57.22 307 *e*P P 10 20 55.9 +0.3
comp=Z,15nm,0.9s
D08A **Wollman Farm,** 57.22 317 *e*P P 10 20 55.0 -0.4
comp=Z,40nm,1.8s
HAWA **Hanford** 57.48 316 *e*P P 10 20 56.9 -0.4
comp=Z,7.8nm,0.8s
ORV **Oroville** 57.70 307 *e*P P 10 20 58.9 -0.1
ORV pmax pmax
comp=Z,28nm,0.7s
ORV **Oroville** 57.70 307 *e*P P 10 20 58.9 -0.1
comp=Z,28nm,0.7s
K05A **Summer Lake** 57.71 311 *e*P P 10 20 59.9 +0.7
comp=Z,52nm,0.8s
E07A **Sunnyside** 57.73 316 *e*P P 10 20 58.8 -0.2
comp=Z,7.5nm,0.7s
QUIF **Quistinic** 57.79 42 *e*P P 10 20 59.2 -0.2
QUIF pmax pmax
comp=Z,36nm,1.5s

B08A	**Colville Reser**	**57.81**	**318**	*e*P		**P**	**10 20 58.6**	**-1.0**
	comp=Z,15nm,1.4s									
ROSF	**Rostrenen**	**57.82**	**42**	*e*P		**P**	**10 20 59.5**	**-0.1**
ROSF					pmax	pmax		
	comp=Z,69nm,1.8s									
G06A	**Carlson Farm,**	**57.99**	**314**	*e*P		**P**	**10 21 01.3**	**+0.4**
	comp=Z,17nm,1.0s									
O03D	**Paynes Creek**	**58.03**	**308**	P		**P**	**10 21 00.4**	**-0.9**
	baz=97									
J05D	**Fort Rock, OR**	**58.05**	**312**	P		**P**	**10 21 01.5**	**-0.1**
	baz=100									
M04C	**Macdoel**	**58.26**	**310**	P		**P**	**10 21 02.8**	**-0.2**
	baz=98,SNR=20									
I05D	**Terrebonne, OR**	**58.31**	**313**	P		**P**	**10 21 03.6**	**+0.4**
	baz=100									
K04D	**Chiloquin, OR**	**58.32**	**311**	P		**P**	**10 21 03.5**	**+0.2**
	baz=99,SNR=9.6									
TBM	**Table Mountain**	**58.37**	**316**	P		**P**	**10 21 03.5**	**0.0**
G05D	**Wamic, OR**	**58.46**	**314**	P		**P**	**10 21 04.4**	**+0.2**
	baz=101									
VBEM	**Beaver Butte**	**58.62**	**314**	P		**P**	**10 21 06.0**	**+0.6**
WDC	**Whiskeytown Da**	**58.62**	**309**	*e*P		**P**	**10 21 03.3**	**-2.0**
WDC					pmax	pmax		
	comp=Z,14nm,1.0s									
WDC	**Whiskeytown Da**	**58.62**	**309**	*e*P		**P**	**10 21 03.3**	**-2.0**
	comp=Z,14nm,1.0s									
J04D	**Umpqua Nationa**	**58.68**	**312**	P		**P**	**10 21 05.2**	**-0.7**
	baz=99,SNR=7.3									
N02D	**Trinity Center**	**58.80**	**309**	P		**P**	**10 21 04.9**	**-1.7**
	baz=97,SNR=5.2									
TDH	**Tom, Dick, Har**	**58.80**	**314**	P		**P**	**10 21 06.7**	**0.0**
YBH	**Yreka Blue Hor**	**58.90**	**310**	*e*P		**P**	**10 21 05.8**	**-1.5**
YBH					pmax	pmax		
	comp=Z,10.0nm,0.6s									
YBH	**Yreka Blue Hor**	**58.90**	**310**	*e*P		**P**	**10 21 05.8**	**-1.5**
	comp=Z,9.9nm,0.6s									
M02C	**Callahan**	**58.96**	**309**	P		**P**	**10 21 06.4**	**-1.3**
	baz=97									
I04A	**Tendick Farm,**	**58.98**	**312**	P		**P**	**10 21 06.9**	**-0.9**
	baz=99									
LON	**Longmire**	**59.09**	**316**	*e*P		**P**	**10 21 07.9**	**-0.6**
LON					pmax	pmax		
	comp=Z,41nm,2.0s									
LON	**Longmire**	**59.09**	**316**	*e*P		**P**	**10 21 07.9**	**-0.6**
	comp=Z,41nm,2.0s									
SUMG	**Summit**	**59.13**	**8**	*i* P		**P**	**10 21 09.7**	**+0.9**
	comp=Z,12nm,1.1s									
SUMG	**Summit**	**59.13**	**8**	*e*P		**P**	**10 21 09.3**	**+0.6**
SUMG					pmax	pmax		
	comp=Z,28nm,1.4s									
SUMG	**Summit**	**59.13**	**8**	*e*P		**P**	**10 21 09.3**	**+0.6**
	comp=Z,28nm,1.4s									
RPW	**Rockport**	**59.25**	**318**	P		**P**	**10 21 08.1**	**-1.5**
KMRM	**Mail Ridge**	**59.47**	**308**	*e*P		**P**	**10 21 11.7**	**+0.4**
	comp=Z,81nm,0.7s									
KHMM	**Horse Mountain**	**59.55**	**309**	*e*P		**P**	**10 21 12.0**	**0.0**
	comp=Z,20nm,0.8s									
B05A	**Bryant**	**59.59**	**317**	P		**P**	**10 21 09.7**	**-2.1**
	baz=102									
L02D	**Cave Junction,**	**59.61**	**310**	P		**P**	**10 21 11.3**	**-0.9**
	baz=97									
I03D	**Drain, OR**	**59.64**	**312**	P		**P**	**10 21 11.4**	**-0.8**
	baz=98									
FLN	**La Foliniere**	**59.73**	**42**	*e*P		**P**	**10 21 12.6**	**-0.2**
FLN					pmax	pmax		
	comp=Z,14nm,0.6s									
F04D	**Rainier, OR**	**59.78**	**315**	P		**P**	**10 21 12.2**	**-1.0**
	baz=100									
G03D	**McMinnville, O**	**59.81**	**314**	P		**P**	**10 21 13.4**	**0.0**
	baz=99									
LFF	**La Frestale**	**59.84**	**47**	*e*P		**P**	**10 21 13.5**	**-0.1**
LFF					pmax	pmax		
	comp=Z,11nm,0.8s									
LLLB	**Lillooet**	**59.97**	**320**	*e*P		**P**	**10 21 14.3**	**-0.1**
	comp=Z,62nm,1.0s									
A04D	**Lummi Island**	**60.08**	**318**	P		**P**	**10 21 14.3**	**-0.8**
	baz=102									
E03A	**Lebam**	**60.24**	**315**	*e*P		**P**	**10 21 16.1**	**-0.2**
	comp=Z,23nm,0.6s									
YKA	**Yellowknife Ar**	**60.29**	**335**	P		**P**	**10 21 15.4**	**-0.9**
	comp=Z,15nm,0.5s,baz=106,slow=7.4,SNR=184									
YKA					pP	**pP**	**10 21 51.2**	**-0.5**
	comp=Z,2.0nm,0.6s,baz=106,slow=7.3,SNR=1.6									
YKB5	**Yellowknife Ar**	**60.29**	**335**	*e*P		**P**	**10 21 15.3**	**-1.1**
PGC	**Sidney**	**60.55**	**318**	*e*P		**P**	**10 21 17.5**	**-0.8**
	comp=Z,46nm,1.2s									
NLWA	**Neilton Lookou**	**60.59**	**316**	*e*P		**P**	**10 21 19.0**	**+0.3**
	comp=Z,24nm,0.6s									
CAF	**Calviac**	**60.77**	**47**	*e*P		**P**	**10 21 19.7**	**-0.3**
CAF					pmax	pmax		
	comp=Z,11nm,0.8s									
TOA1	**Torodi Ar. Sit**	**60.96**	**83**	*e*P		**P**	**10 21 21.0**	**-0.7**
TOA1				*e*pP		**pP**	**10 21 55.8**	**-1.4**
TOA0	**Torodi Ar. Sit**	**60.97**	**83**	*e*P		**P**	**10 21 21.1**	**-0.7**
TORD	**Torodi Ar. Bea**	**60.97**	**83**	P		**P**	**10 21 21.0**	**-0.7**
	comp=Z,10.0nm,0.4s,baz=288,slow=7.0,SNR=223									
TORD					pP	**pP**	**10 21 55.8**	**-1.4**
	comp=Z,1.7nm,0.7s,baz=283,slow=5.4,SNR=1.7									
TORD					LR	LR	10 45 49.5			
	comp=Z,38nm,19.1s,baz=285,slow=34									
AVF	**Avril sur Loir**	**61.92**	**45**	*e*P		**P**	**10 21 27.0**	**-0.6**
AVF					pmax	pmax		
	comp=Z,8.0nm,0.7s									
VIVF	**Saint-Julien-l**	**62.60**	**47**	*e*P		**P**	**10 21 32.6**	**+0.3**
VIVF					pmax	pmax		
	comp=Z,16nm,1.2s									
CHRN	**Cochrane**	**62.75**	**189**	*e*P		**P**	**10 21 33.3**	**+0.3**
	comp=Z,11nm,0.7s									
DOU	**Dourbes**	**63.23**	**41**	P		**P**	**10 21 36.1**	**-0.1**
TAM	**Tamanrasset**	**63.28**	**72**	*e*P		**P**	**10 21 38.5**	**+1.3**
TAM					pmax	pmax		
	comp=Z,15nm,0.8s									
TAM	**Tamanrasset**	**63.28**	**72**	*e*P		**P**	**10 21 38.5**	**+1.3**
	comp=Z,15nm,0.8s									
ORIF	**Oris-en-Rattie**	**63.46**	**47**	*e*P		**P**	**10 21 38.8**	**+0.8**
ORIF					pmax	pmax		
	comp=Z,12nm,1.2s									
CABF	**La Chapelle**	**63.77**	**45**	*e*P		**P**	**10 21 40.9**	**+0.9**
CABF					pmax	pmax		
	comp=Z,12nm,1.2s									
LPL	**La Plagne**	**64.11**	**46**	*e*P		**P**	**10 21 42.7**	**+0.3**
LPL					pmax	pmax		
	comp=Z,10.0nm,0.8s									
LPG	**La Plagne**	**64.13**	**46**	*e*P		**P**	**10 21 42.9**	**+0.3**
LPG					pmax	pmax		
	comp=Z,8.0nm,0.7s									
WLF	**Walferdange**	**64.17**	**42**	P		**P**	**10 21 42.6**	**+0.2**
	comp=Z,14nm,1.7s									
HINF	**Hinteralfeld**	**64.41**	**44**	*e*P		**P**	**10 21 42.9**	**-1.2**
HINF					pmax	pmax		
	comp=Z,23nm,1.5s									
CDF	**Champ du Feu**	**64.75**	**43**	*e*P		**P**	**10 21 45.4**	**-1.0**
CDF					pmax	pmax		
	comp=Z,24nm,1.4s									
KEST	**Kesra**	**65.82**	**57**	P		**P**	**10 21 54.2**	**+0.8**
	comp=Z,26nm,0.8s,baz=11,slow=0.7,SNR=23									
KEST	**Kesra**	**65.82**	**57**	*e*P		**P**	**10 21 54.2**	**+0.8**
	comp=Z,28nm,0.9s									
DLBC	**Dease Lake**	**66.24**	**328**	*e*P		**P**	**10 21 56.2**	**+0.5**
	comp=Z,46nm,1.4s									
DAVA	**Damuels**	**66.41**	**45**	*i* P		**P**	**10 21 57.4**	**+0.3**
	comp=Z,16nm,0.9s									
FUORN	**Ofenpass-Fuorn**	**66.64**	**45**	*e*P		**P**	**10 21 58.8**	**+0.1**
	comp=Z,14nm,1.2s									
FETA	**Feichten**	**66.98**	**45**	*i* P		**P**	**10 22 00.9**	**+0.1**
	comp=Z,11nm,0.6s									
RETA	**Reutte**	**67.02**	**45**	*i* P		**P**	**10 22 01.7**	**+0.8**
	comp=Z,3.8nm,0.8s									
MOTA	**Moosalm**	**67.25**	**45**	*i* P		**P**	**10 22 01.9**	**-0.5**
	comp=Z,3.1nm,0.4s									
WATA	**Walderalm**	**67.57**	**45**	*i* P		**P**	**10 22 02.8**	**-1.6**
	comp=Z,2.9nm,0.4s									
WTTA	**Wattenberg**	**67.61**	**45**	*i* P		**P**	**10 22 04.3**	**-0.4**
	comp=Z,2.4nm,0.5s									
ABTA	**Abfaltersbach**	**68.19**	**45**	*i* P		**P**	**10 22 07.9**	**-0.4**
	comp=Z,5.9nm,0.7s									
NKC	**Novy Kostel**	**68.26**	**42**	*e*P		**P**	**10 22 08.6**	**+0.1**
NKC	**Novy Kostel**	**68.26**	**42**	*e*P		**P**	**10 22 08.6**	**+0.1**
NBO02	**NORSAR Array S**	**68.39**	**30**	*e*P		**P**	**10 22 09.2**	**+0.1**
NB2	**NORSAR Subarra**	**68.56**	**30**	*e*P		**P**	**10 22 10.2**	**0.0**
NB2					pmax	pmax		
	comp=Z,2.0nm,0.7s									
NB2	**NORSAR Subarra**	**68.56**	**30**	P		**P**	**10 22 10.5**	**+0.3**
	comp=Z,3.8nm,0.7s,baz=262,slow=6.5									
NB200	**NORSAR Array S**	**68.56**	**30**	*e*P		**P**	**10 22 10.7**	**+0.5**
NB200				*e*pP		**pP**	**10 22 46.9**	**+0.4**
NOA	**NORSAR Array B**	**68.56**	**30**	P		**P**	**10 22 10.7**	**+0.5**
	comp=Z,3.9nm,0.8s,baz=262,slow=6.3,SNR=13									
NOA					pP	**pP**	**10 22 46.8**	**+0.4**
	comp=Z,1.7nm,0.9s,baz=262,slow=6.7,SNR=2.3									
NOA					LR	LR	10 49 12.9			
	comp=Z,12nm,18.9s,baz=10.0,slow=33									
CLL	**Collm**	**68.67**	**40**	*e*P		**P**	**10 22 11.0**	**0.0**
CLL					pmax	pmax		
	comp=Z,9.0nm,0.8s									
CLL	**Collm**	**68.67**	**40**	*e*P		**P**	**10 22 11.0**	**0.0**
	comp=Z,9.0nm,0.8s									
CLL				*e*PP		**PP**	**10 24 45.0**	**+0.7**
KBA	**Koelnbreinsper**	**68.77**	**45**	*i* P		**P**	**10 22 11.7**	**-0.2**
	comp=Z,13nm,1.1s									
KHC	**Kasperske Hory**	**68.96**	**43**	*e*P		**P**	**10 22 12.8**	**-0.1**
KHC	**Kasperske Hory**	**68.96**	**43**	*e*P		**P**	**10 22 12.8**	**-0.1**
MYKA	**Terra Mystica**	**68.97**	**45**	*i* P		**P**	**10 22 12.4**	**-0.7**
	comp=Z,5.9nm,0.6s									
GEC2	**GERESS Array S**	**69.03**	**43**	*e*P		**P**	**10 22 13.1**	**-0.3**
GEC2					pmax	pmax		
	comp=Z,6.0nm,1.2s									
GEC2	**GERESS Array S**	**69.03**	**43**	*e*P		**P**	**10 22 13.1**	**-0.3**
	comp=Z,6.0nm,1.2s									
GERES	**GERESS Array B**	**69.03**	**43**	P		**P**	**10 22 12.8**	**-0.6**
	comp=Z,1.8nm,0.5s,baz=257,slow=5.2,SNR=11									
GEA0	**GERESS Array S**	**69.04**	**43**	*e*P		**P**	**10 22 12.8**	**-0.7**
BRG	**Berggiesshubel**	**69.24**	**41**	*i* P		**P**	**10 22 14.4**	**-0.1**
	comp=Z,7.8nm,1.1s									
BRG	**Berggiesshubel**	**69.24**	**41**	*i* P		**P**	**10 22 14.4**	**-0.1**
BRG					pmax	pmax		
	comp=Z,8.0nm,1.1s									
MOA	**Molln**	**69.40**	**44**	*i* P		**P**	**10 22 15.0**	**-0.6**
	comp=Z,2.7nm,0.4s									
OBKA	**Obir**	**69.59**	**46**	*i* P		**P**	**10 22 16.6**	**-0.4**
	comp=Z,8.3nm,1.0s									
PRU	**Pruhonice**	**69.60**	**42**	*e*P		**P**	**10 22 16.4**	**-0.4**
PRU	**Pruhonice**	**69.60**	**42**	*e*P		**P**	**10 22 16.4**	**-0.4**
INK	**Inuvik**	**69.63**	**338**	*e*P		**P**	**10 22 15.6**	**-0.9**
INK					pmax	pmax		
	comp=Z,27nm,0.8s									
INK	**Inuvik**	**69.63**	**338**	*e*P		**P**	**10 22 15.6**	**-0.9**
	comp=Z,27nm,0.8s									
SOKA	**Soboth**	**69.93**	**45**	*i* P		**P**	**10 22 18.4**	**-0.6**
	comp=Z,2.9nm,0.7s									
ARSA	**Arzberg**	**70.25**	**45**	*i* P		**P**	**10 22 20.2**	**-0.7**
	comp=Z,7.5nm,0.9s									
HYT	**Haines Junctio**	**70.32**	**330**	*e*P		**P**	**10 22 21.7**	**+0.6**
	comp=Z,14nm,1.0s									
CONA	**Conrad Observa**	**70.47**	**44**	*i* P		**P**	**10 22 21.4**	**-0.9**
	comp=Z,2.6nm,0.6s									
UPC	**Upice**	**70.55**	**41**	*e*P		**P**	**10 22 22.5**	**-0.1**
UPC	**Upice**	**70.55**	**41**	*e*P		**P**	**10 22 22.5**	**-0.1**
DPC	**Dobruska-Polom**	**70.75**	**42**	*e*P		**P**	**10 22 23.8**	**0.0**
DPC	**Dobruska-Polom**	**70.75**	**42**	*e*P		**P**	**10 22 23.8**	**0.0**
DAWY	**Dawson**	**71.44**	**333**	*e*P		**P**	**10 22 27.9**	**+0.2**
	comp=Z,18nm,0.6s									
EGAK	**Eagle**	**72.24**	**334**	*e*P		**P**	**10 22 32.3**	**-0.2**
	comp=Z,20nm,0.7s									
VYHS	**Vyhne**	**72.44**	**43**	*e*P		**P**	**10 22 33.5**	**-0.5**
VYHS	**Vyhne**	**72.44**	**43**	*e*P		**P**	**10 22 33.5**	**-0.5**
BALM	**Baldy**	**72.69**	**330**	*e*P		**P**	**10 22 35.8**	**+0.5**
BALM					pmax	pmax		
	comp=Z,17nm,1.5s									
BALM	**Baldy**	**72.69**	**330**	*e*P		**P**	**10 22 35.8**	**+0.5**
	comp=Z,17nm,1.5s									
MENT	**Mentasta**	**73.34**	**332**	*e*P		**P**	**10 22 39.4**	**+0.4**
	comp=Z,24nm,0.6s									
DOT	**Dot Lake**	**73.49**	**333**	*e*P		**P**	**10 22 39.9**	**0.0**
	comp=Z,32nm,1.0s									
BMRM	**Bremner River**	**73.79**	**330**	*e*P		**P**	**10 22 41.9**	**+0.3**
	comp=Z,22nm,0.7s									
STHS	**Stebnicka Huta**	**73.97**	**42**	*e*P		**P**	**10 22 43.9**	**+1.0**
STHS	**Stebnicka Huta**	**73.97**	**42**	*e*P		**P**	**10 22 43.9**	**+1.0**
HARP	**HAARP**	**74.01**	**331**	*e*P		**P**	**10 22 43.4**	**+0.6**
	comp=Z,40nm,1.4s									
PAX	**Paxson**	**74.14**	**332**	*e*P		**P**	**10 22 43.6**	**-0.1**
PAX					pmax	pmax		
	comp=Z,17nm,1.2s									
PAX	**Paxson**	**74.14**	**332**	*e*P		**P**	**10 22 43.6**	**-0.1**
	comp=Z,17nm,1.2s									
IL1	**Eielson Array**	**74.70**	**334**	*e*P		**P**	**10 22 45.8**	**-1.0**
ILAR	**Eielson Array**	**74.70**	**334**	P		**P**	**10 22 46.0**	**-0.8**
	comp=Z,6.8nm,0.7s,baz=87,slow=4.7,SNR=110									
ILB	**Eielson Array**	**74.70**	**334**	*e*P		**P**	**10 22 45.9**	**-0.8**
FID	**Port Fidalgo**	**74.71**	**330**	*e*P		**P**	**10 22 47.4**	**+0.4**
	comp=Z,23nm,0.7s									
HDA	**Harding Lake**	**74.74**	**333**	*e*P		**P**	**10 22 46.4**	**-0.6**
	comp=Z,8.3nm,1.0s									
ARCES	**ARCESS Array B**	**74.98**	**21**	P		**P**	**10 22 48.5**	**+0.2**
	comp=Z,3.2nm,0.8s,baz=261,slow=4.8,SNR=11									
ARCES					pP	**pP**	**10 23 24.9**	**-0.2**
	comp=Z,4.1nm,0.9s,baz=282,slow=5.7,SNR=4.8									
SCM	**Sheep Creek Mo**	**75.06**	**331**	*e*P		**P**	**10 22 49.0**	**0.0**
SCM					pmax	pmax		
	comp=Z,22nm,0.9s									
SCM	**Sheep Creek Mo**	**75.06**	**331**	*e*P		**P**	**10 22 49.0**	**0.0**
	comp=Z,22nm,0.9s									
CCB	**Clear Creek Bu**	**75.10**	**334**	*e*P		**P**	**10 22 48.3**	**-0.8**
	comp=Z,20nm,1.4s									
COLA	**College**	**75.10**	**334**	*e*P		**P**	**10 22 48.8**	**-0.3**
COLA					pmax	pmax		
	comp=Z,41nm,1.5s									
COLA	**College**	**75.10**	**334**	*e*P		**P**	**10 22 48.8**	**-0.3**
	comp=Z,41nm,1.5s									
WRH	**Wood River Hil**	**75.23**	**333**	*e*P		**P**	**10 22 49.5**	**-0.3**
	comp=Z,12nm,1.0s									
MDM	**Murphy Dome**	**75.26**	**334**	*e*P		**P**	**10 22 49.4**	**-0.6**
	comp=Z,31nm,1.0s									
SML	**Sawmill**	**75.53**	**331**	*e*P		**P**	**10 22 52.0**	**+0.3**
SML					pmax	pmax		
	comp=Z,17nm,1.2s									
SML	**Sawmill**	**75.53**	**331**	*e*P		**P**	**10 22 52.0**	**+0.3**
	comp=Z,17nm,1.2s									
TOLK	**Toolik Lake Re**	**75.54**	**338**	P		**P**	**10 22 51.1**	**-0.6**
	baz=86									
RND	**Reindeer**	**75.64**	**332**	*e*P		**P**	**10 22 52.8**	**+0.5**
RND					pmax	pmax		
	comp=Z,17nm,0.9s									
RND	**Reindeer**	**75.64**	**332**	*e*P		**P**	**10 22 52.8**	**+0.5**
	comp=Z,17nm,0.9s									
MCK	**McKinley**	**75.66**	**333**	*e*P		**P**	**10 22 52.0**	**-0.3**
MCK					pmax	pmax		
	comp=Z,16nm,1.2s									
MCK	**McKinley**	**75.66**	**333**	*e*P		**P**	**10 22 52.0**	**-0.3**
	comp=Z,16nm,1.2s									
FIA0	**FINESS Array S**	**75.74**	**30**	*e*P		**P**	**10 22 52.7**	**-0.1**
FIA0	**FINESS Array S**	**75.74**	**30**	*e*P		**P**	**10 22 52.6**	**-0.1**
FINES	**FINESS Array B**	**75.74**	**30**	P		**P**	**10 22 52.6**	**-0.1**
	comp=Z,2.9nm,0.5s,baz=275,slow=4.3,SNR=28									
COLD	**Coldfoot**	**75.89**	**336**	*e*P		**P**	**10 22 53.5**	**-0.1**
	comp=Z,11nm,1.3s									
PMR	**Palmer**	**75.93**	**330**	*e*P		**P**	**10 22 53.7**	**-0.1**
PMR					pmax	pmax		
	comp=Z,14nm,1.2s									
PMR	**Palmer**	**75.93**	**330**	*e*P		**P**	**10 22 53.7**	**-0.1**
	comp=Z,14nm,1.2s									
TRF	**Thorofare Moun**	**76.28**	**332**	*e*P		**P**	**10 22 56.0**	**-0.1**
	comp=Z,33nm,0.6s									
VSU	**Vasula**	**76.37**	**33**	*de*P		**P**	**10 22 56.0**	**-0.4**
VSU					pmax	pmax		
	comp=Z,88nm,1.6s									
KTH	**Kantishna Hill**	**76.56**	**333**	*e*P		**P**	**10 22 57.4**	**-0.1**
	comp=Z,41nm,1.2s									
SUA	**Susitna One**	**76.71**	**330**	*e*P		**P**	**10 22 58.6**	**+0.1**
	comp=Z,40nm,1.8s									
BUR08	**Bucovina Ar. S**	**76.77**	**44**	*e*P		**P**	**10 22 60.0**	**+0.9**
CAST	**Castle Rocks**	**77.09**	**333**	*e*P		**P**	**10 22 59.7**	**-0.7**
	comp=Z,22nm,1.4s									
PPLA	**Purkeypile**	**77.20**	**332**	*e*P		**P**	**10 23 00.8**	**-0.4**
	comp=Z,32nm,1.4s									
SPU	**Mount Spurr**	**77.38**	**330**	*e*P		**P**	**10 23 01.9**	**-0.1**
RSO	**Redoubt South**	**77.82**	**330**	*e*P		**P**	**10 23 04.7**	**0.0**
KIEV	**Kiev**	**78.90**	**40**	*e*P		**P**	**10 23 09.9**	**-0.7**
KIEV					pmax	pmax		
	comp=Z,7.0nm,1.2s									
AKASG	**Malin Array Be**	**78.91**	**40**	P		**P**	**10 23 09.8**	**-0.9**
	comp=Z,0.5nm,0.3s,baz=266,slow=4.4,SNR=6.3									
AKBB	**Malin Array Si**	**78.91**	**40**	*e*P		**P**	**10 23 09.8**	**-0.9**
AKBB					pmax	pmax		
	comp=Z,6.0nm,1.1s									
AKBB	**Malin Array Si**	**78.91**	**40**	*e*P		**P**	**10 23 09.8**	**-0.9**
	comp=Z,6.3nm,1.1s									
SVW2	**Sparrevohn**	**79.08**	**330**	*e*P		**P**	**10 23 11.1**	**-0.3**
	comp=Z,16nm,1.1s									
PMSA	**Palmer Station**	**79.53**	**181**	*e*P		**P**	**10 23 14.6**	**+1.1**
	comp=Z,25nm,1.0s									
CHGN	**Chignik**	**81.57**	**326**	*e*P		**P**	**10 23 24.8**	**+0.1**
	comp=Z,23nm,0.7s									
KLMR	**Klimovskoe**	**82.25**	**29**	*e*P		**P**	**10 23 26.5**	**-1.7**
KLMR				*e**PP		**pP**	**10 24 05.9**	**+0.3**
KLMR					pmax	pmax		
	comp=Z,11nm,1.2s									
OBN	**Obninsk**	**82.30**	**35**	*e*P		**P**	**10 23 28.8**	**+0.2**
OBN				*PP		**pP**	**10 24 06.0**	**0.0**
OBN				*SP		**sP**	**10 24 24.0**	**+2.1**
OBN				*eS		**S**	**10 33 36.6**	**+4.9**
OBN					pmax	pmax		
	comp=Z,36nm,1.3s									
BR231	**Keskin MP Arra**	**83.64**	**51**	*e*P		**P**	**10 23 38.4**	**+2.4**
BR101	**Keskin Array S**	**84.32**	**51**	*e*P		**P**	**10 23 39.1**	**-0.4**
BRTR	**Keskin Array B**	**84.32**	**51**	P		**P**	**10 23 39.1**	**-0.4**
	comp=Z,2.9nm,0.8s,baz=265,slow=4.6,SNR=7.5									
VSR	**Storozhevoye**	**84.89**	**38**	*e*P		**P**	**10 23 41.8**	**-0.1**
SOC	**Sochi**	**87.59**	**46**	*e*P		**P**	**10 23 55.0**	**-0.3**
SOC				*e*PPP		PPP	10 29 16.7			
SOC				*eS		**SKSac**	**10 34 08.7**	**-0.6**
SOC				*e*SS		**sS**	**10 35 29.2**	**-0.7**
SOC				*eSS		**SS**	**10 40 11.5**	**-1.6**
SOC					pmax	pmax		
	comp=Z,34nm,0.9s									
KIV	**Kislovodsk**	**89.50**	**44**	*e*P		**P**	**10 24 05.5**	**+1.1**
KIV				*PP		**pP**	**10 24 42.0**	**-0.3**
KIV				*SP		**sP**	**10 25 00.0**	**+1.9**
KIV				*e*			10 34 40.3			
KIV					pmax	pmax		
	comp=Z,9.0nm,1.0s									
KBZ	**Khabaz**	**89.72**	**45**	P		**P**	**10 24 06.5**	**+1.2**
	comp=Z,2.9nm,0.8s,baz=60,slow=3.1,SNR=5.3									
ARU	**Arti**	**93.10**	**29**	LR		LR	11 03 02.8			
	comp=Z,32nm,19.8s,baz=138,slow=33									
AKTO	**Aktyubinsk**	**96.05**	**34**	LR		LR	11 04 24.2			
	comp=Z,19nm,19.9s,baz=214,slow=33									
KSH	**Kashi**	**112.75**	**35**	*e*PKP		**PKiKP**	**10 29 40.8**	**-2.5**
KSH				PP		**PP**	**10 30 35.3**	**+3.1**
WMQ	**Urumqi**	**115.00**	**24**	PKP		**PKPdf**	**10 29 47.0**	**-0.4**
WMQ				LR		LR				
	comp=Z,53nm,21.5s									
HHC	**Hu-ho-hao-te**	**124.07**	**7**	*e*PKP		**PKPdf**	**10 30 02.5**	**-2.5**
MJAR	**Matsushiro Ant**	**125.55**	**341**	PKP		**PKPdf**	**10 30 07.0**	**-0.8**
	comp=Z,2.4nm,0.5s,baz=83,slow=0.5,SNR=11									
KSRS	**Korea Array**	**127.14**	**351**	PKP		**PKPdf**	**10 30 10.2**	**-0.6**
	comp=Z,0.8nm,0.6s,baz=46,slow=3.4,SNR=5.1									
LZH	**Lanzhou**	**127.31**	**15**	*e*PKP		**PKPdf**	**10 30 14.8**	**+3.4**
LZH				sPKP			10 31 02.0			
LZH				PP		**PP**	**10 32 18.2**	**+6.8**
LZH				PKS		**PKSdf**	**10 33 49.0**	**+0.8**
LZH				SKS		**SKSdf**	**10 37 10.3**	**+0.7**
LZH				SKKS		**SKKSac**	**10 38 54.1**	**-1.7**
LZH				SS		**SS**	**10 49 11.4**	**+3.2**
LZH				AMB		AMB				
	comp=Z,96nm,4.8s									
LZH				LR		LR				
	comp=Z,160nm,12.3s									
LZH				LR		LR				
	comp=Z,160nm,15.2s									
LZH				LR		LR				
	comp=Z,1μm,18.4s									
NJ2	**Nanjing**	**133.25**	**360**	*e*PKP		**PKPdf**	**10 30 22.5**	**0.0**
GYA	**Guiyang**	**137.19**	**16**	*e*Pdif		**Pdif**	**10 27 34.8**	**-3.3**
GYA				PKP		**PKPdf**	**10 30 28.4**	**-1.8**
GYA				sPKP			10 31 24.2			
GYA				PP		**PP**	**10 33 17.8**	**+3.2**
GYA				AMB		AMB		

YUK7	**Dusty Glacier**	**3.25**	**315**	Pn	**Pn**	**10 36 50.6 +2.1**
YUK7				Pg	**Pb**	**10 36 55.4 +0.1**
YUK7				Sg	**Sg**	**10 37 39.0 -2.7**
PNL	**Peninsula**	**3.35**	**296**	Pn	**Pn**	**10 36 46.7 -2.9**
PNL				Pg	**Pb**	**10 36 56.6 -0.1**
PNL				Sn	**Sn**	**10 37 32.5 +3.1**
PNL				Sg	**Sb**	**10 37 39.7 +2.3**
PNL	**Peninsula**	**3.35**	**296**	P	**Pn**	**10 36 49.6 0.0**
YUK5	**Granite Creek**	**3.59**	**324**	Pn	**Pn**	**10 36 53.6 +0.5**
YUK5				Pg	**Pb**	**10 37 01.0 +0.2**
YUK5				Sg	**Sb**	**10 37 47.3 +2.8**
YUK6	**Outpost Mounta**	**3.62**	**319**	Pn	**Pn**	**10 36 54.9 +1.3**
YUK6				Pg	**Pb**	**10 37 02.2 +0.8**
YUK6				Sg	**Sg**	**10 37 52.0 -1.4**
CTGM	**Chitina Glacie**	**4.79**	**307**	Pg	**Pb**	**10 37 22.5 +1.2**
YUK3	**Moose Creek**	**4.92**	**318**	Pg	**Pb**	**10 37 24.9 +1.2**
YUK3				Sg	**Sg**	**10 38 31.9 -3.4**
YUK2	**White River**	**5.07**	**316**	Pg	**Pb**	**10 37 26.3 +0.3**
YUK2				Sg	**Sg**	**10 38 37.4 -2.5**
YUK1	**Sand Pete Hill**	**5.21**	**321**	Pg	**Pb**	**10 37 31.2 +2.8**
YUK1				Sg	**Sg**	**10 38 38.0 -6.4**
BALM	**Baldy**	**5.25**	**305**	Pg	**Pb**	**10 37 30.6 +1.4**
BVCY	**Beaver Creek**	**5.50**	**321**	Pg	**Pb**	**10 37 37.0 +3.6**
FNBB	**Fort Nelson**	**5.51**	**80**	Pg	**Pg**	**10 37 40.4 -2.2**
FNBB				Sg	**Sg**	**10 38 51.0 -2.9**
DAWY	**Dawson**	**6.43**	**336**	Pn	**Pn**	**10 37 31.8 -0.3**
DAWY				Pg	**Pb**	**10 37 53.9 +4.6**
DAWY				Sg	**Sg**	**10 39 16.8 -6.8**
DAWY	**Dawson** 5.1nm,0.9s	**6.43**	**336**	*e*Pn	**Pn**	**10 37 32.3 +0.3**
DAWY				*e*Sg	**Sg**	**10 39 20.4 -3.2**
EGAK	**Eagle** 4.3nm,0.7s	**7.44**	**334**	*e*Pn	**Pn**	**10 37 47.6 +1.8**
EGAK				*e*Sn	**Sn**	**10 39 10.8 +0.7**

*ISK **09** 10:46:23.7, 37°36′N×36°25′E, h5km, MD2.3*
*CSEM **09** 10:46:23.0±0.4, 37°57′N×36°33′E, h15km, MD2.8, Error ellipse: s-maj=11.7km s-min=7.7km az=49.0*
*DDA **09** 10:46:24.7, 37°41′N×36°40′E, h7km, Md2.8*
ISC 09 10:46:23.9±1.1, 37°37′N±0°.04×36°32′E±0°.03, h8km±10km, n17, σ1§03/26, Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ANDN	**Andirin**	**0.21**	**4**	*i* P	**Pg**	**10 46 27.8**	**-0.5**
ANDN				*i* S	**Sg**	**10 46 31.6**	**+0.4**
ANDN	**Andirin**	**0.21**	**4**	P	**Pg**	**10 46 27.8**	**-0.5**
KOZT	**Kozan**	**0.41**	**286**	*e*PG	**Pg**	**10 46 31.2**	**-0.8**
KOZT				*e*SG	**Sg**	**10 46 36.7**	**-0.7**
KOZT	**Kozan**	**0.41**	**286**	*e*Pg	**Pg**	**10 46 31.2**	**-0.8**
KOZT				*e*Sg	**Sg**	**10 46 36.7**	**-0.7**
GAZ	**Gaziantep**	**0.73**	**105**	*e*PG	**Pb**	**10 46 39.4**	**+0.4**
GAZ				*e*SG	**Sn**	**10 46 50.8**	**-1.4**
GAZ	**Gaziantep**	**0.73**	**105**	*e*Pg	**Pb**	**10 46 39.4**	**+0.4**
GAZ				*e*Sg	**Sn**	**10 46 50.8**	**-1.4**
KUZU	**Kuzuini**	**0.84**	**134**	*i* P	**Pg**	**10 46 40.6**	**+0.5**
KUZU				*i* S	**Sb**	**10 46 53.0**	**+0.6**
KUZU	**Kuzuini**	**0.84**	**134**	P	**Pg**	**10 46 40.6**	**+0.5**
KUZU				S	**Sb**	**10 46 53.0**	**+0.6**
GZT	**Gaziantep**	**0.99**	**90**	*i* P	**Pg**	**10 46 42.9**	**-0.1**
GZT				*i* S	**Sn**	**10 46 57.7**	**-0.9**
TAHT	**Tahtakopru-Hat**	**0.99**	**186**	*e*PG	**Pg**	**10 46 43.0**	**0.0**
TAHT	**Tahtakopru-Hat**	**0.99**	**186**	*e*Pg	**Pg**	**10 46 43.0**	**0.0**
SARI	**SarD1z-Kayseri**	**1.04**	**4**	*e*PG	**Pn**	**10 46 44.5**	**-0.6**
SURC	**SANLIURFA_SURC**	**1.89**	**104**	*i* P	**Pg**	**10 47 00.0**	**-0.2**
SURC				*i* S	**Sg**	**10 47 24.1**	**-0.6**
TOS	**Tosya**	**4.08**	**335**	*e*PG	**Pb**	**10 47 38.3**	**+2.2**
TOS	**Tosya**	**4.08**	**335**	*e*Pg	**Pb**	**10 47 38.3**	**+2.2**
DIKM	**Dikmen**	**4.36**	**349**	*e*PG	**Pb**	**10 47 42.1**	**+1.4**
DIKM	**Dikmen**	**4.36**	**349**	*e*Pg	**Pb**	**10 47 42.2**	**+1.4**

*ISK **09** 10:47:21.4, 40°64′N×34°97′E, h2km, ML2.3*
*ISCJB **09** 10:47:22.9±0.6, 40°58′N±0°.04×35°03′E±0°.06, h9km±6km, Error ellipse: s-maj=8.2km s-min=4.8km az=33.9*
*DDA **09** 10:47:22.9, 40°56′N×35°01′E, h7km, Md2.8*
*CSEM **09** 10:47:22.5±0.3, 40°60′N×34°97′E, h5km, MD2.8, Error ellipse: s-maj=13.8km s-min=5.1km az=126.0*
ISC 09 10:47:23.0±1.0, 40°57′N±0°.03×35°02′E±0°.04, h10km±10km, n17, σ0§76/26, Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CTAK	**Corum_Osmancik**	**0.19**	**294**	*i* P	**Pg**	**10 47 26.4**	**-0.8**
CTAK				*i* S	**Sg**	**10 47 30.9**	**+0.9**
COAL	**Corum-Alaca**	**0.32**	**185**	*i* P	**Pg**	**10 47 28.5**	**-0.8**
COAL				*i* S	**Sg**	**10 47 34.4**	**+0.8**
COAL	**Corum-Alaca**	**0.32**	**185**	P	**Pg**	**10 47 28.5**	**-0.8**
COAL				S	**Sg**	**10 47 34.4**	**+0.8**
CORM	**Corum**	**0.49**	**218**	*e*PG	**Pg**	**10 47 32.5**	**-0.1**
CORM				*e*SG	**Sb**	**10 47 40.9**	**-0.3**
CORM	**Corum**	**0.49**	**218**	*e*Pg	**Pg**	**10 47 32.5**	**-0.1**
CORM				*e*Sg	**Sb**	**10 47 40.9**	**-0.3**
HAVZ	**Havza**	**0.73**	**46**	*i* P	**Pg**	**10 47 37.1**	**0.0**
HAVZ				*i* S	**Sb**	**10 47 48.8**	**+0.8**
HAVZ	**Havza**	**0.73**	**46**	P	**Pg**	**10 47 37.1**	**0.0**
HAVZ				S	**Sb**	**10 47 48.8**	**+0.8**
KVT	**Kavak**	**0.93**	**56**	*e*PG	**Pg**	**10 47 40.1**	**-0.8**
KVT	**Kavak**	**0.93**	**56**	*e*Pg	**Pg**	**10 47 40.1**	**-0.8**
CDAG	**Cicekdag**	**1.07**	**208**	*i* P	**Pg**	**10 47 42.4**	**-1.1**
CDAG				*i* S	**Sb**	**10 47 58.5**	**+0.7**
CDAG	**Cicekdag**	**1.07**	**208**	P	**Pg**	**10 47 42.4**	**-1.1**
CDAG				S	**Sb**	**10 47 58.5**	**+0.7**
SNOP	**Sinop**	**1.45**	**5**	*e*PN	**Pn**	**10 47 48.6**	**-0.8**
SNOP	**Sinop**	**1.45**	**5**	*e*Pn	**Pn**	**10 47 48.6**	**-0.8**
SVSK	**Karacayir**	**1.65**	**113**	*e*PN	**Pb**	**10 47 53.2**	**-0.2**
SVSK	**Karacayir**	**1.65**	**113**	*e*Pn	**Pb**	**10 47 53.3**	**-0.2**
AFSR	**Afˇar-Bala (A**	**1.87**	**234**	*e*PN	**Pn**	**10 47 55.8**	**+0.6**
AFSR	**Afˇar-Bala (A**	**1.87**	**234**	*e*Pn	**Pn**	**10 47 55.8**	**+0.6**

*NIED **09** 10:49:00, 36°70′N×142°20′E, h20km, Mw3.8 Best double couple: M0 5.62000×10^14 NP1: φ§227.00000°, δ§16.00000°, λ§114.00000°. NP2: φ§22.00000°, δ§75.00000°, λ§83.00000°.*
*ISCJB **09** 10:49:11.4±1.1, 36°70′N±0°.09×142°33′E±0°.08, h15km, mb3.7/4, MS3.3/1, Error ellipse: s-maj=13.5km s-min=9.2km az=19.6*
*JMA **09** 10:49:12.0±0.3, 36°74′N×142°23′E, h9km, M4.0*
*IDC **09** 10:49:28.3±1.3, 34°84′N×136°95′E, h0km, mb3.7/4, mb1 3.7/5, mb1mx3.4/57, mbtmp3.7/5, ML3.0/1, MS3.4/1, Ms1 3.4/1, ms1mx2.5/38, Error ellipse: s-maj=33.0km s-min=24.2km az=54.0*
ISC 09 10:49:12.7±1.4, 36°68′N±0°.08×142°3E±0°.1, h15km, n15, σ1§43/18, mb3.8/4, Off east of Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ONAJ	**Iwakimizuishiy**	**1.24**	**290**	P	**Pn**	**10 49 34.3**	**-1.3**
ONAJ				*e*S	**Sb**	**10 49 51.1**	**-0.6**
JFK	**Kawauchi**	**1.30**	**302**	P	**Pn**	**10 49 35.4**	**-1.0**
JHO	**Hitachi**	**1.36**	**268**	P	**Pn**	**10 49 36.9**	**-0.2**
JHO				S	**Sn**	**10 49 54.8**	**-0.1**
JYT	**Yasato**	**1.72**	**255**	P	**Pn**	**10 49 42.0**	**-0.1**
JFT	**Otama**	**1.75**	**299**	P	**Pn**	**10 49 42.4**	**-0.1**
JSB	**Shiboa**	**1.90**	**279**	P	**Pn**	**10 49 45.4**	**+0.8**
JFY	**Yanaizu**	**2.17**	**290**	P	**Pn**	**10 49 48.8**	**+0.5**
MJAR	**Matsushiro Arr** 9.7nm,0.3s,baz=309,slow=32,SNR=44	**3.26**	**269**	Pn	**Pn**	**10 50 04.2**	**+0.9**
MAT	**Matsushiro**	**3.26**	**269**	P	**Pn**	**10 50 04.6**	**+1.3**
MAT				*e*S	**Sn**	**10 50 43.3**	**+1.5**
JHJ	**Hachijo jima 2** 5.0nm,0.3s,baz=326,slow=20,SNR=2.0	**4.09**	**210**	Pn	**Pn**	**10 50 14.6**	**-0.1**
JHJ				Sn	**Sn**	**10 50 59.2**	**-3.1**
SONM	**Songino Array** 1.1nm,0.6s,baz=106,slow=9.1,SNR=4.7	**28.54**	**304**	P	**P**	**10 55 05.7**	**-2.2**
TLY	**Talaya** comp=Z,61nm,18.3s,baz=178,slow=39	**31.07**	**311**	LR	LR	11 08 30.0	
ZALV	**Zalesovo Beam** 0.6nm,0.3s,baz=123,slow=5.3,SNR=1.8	**42.65**	**313**	P	**P**	**10 57 09.4**	**+1.0**
KURBB	**Kurchatov Arra** 0.7nm,0.5s,baz=83,slow=8.1,SNR=3.5	**46.75**	**308**	P	**P**	**10 57 40.8**	**-0.4**
WRA	**Warramunga Arr** 0.2nm,0.5s,baz=4.3,slow=7.1,SNR=2.1	**56.81**	**189**	P	**P**	**10 58 59.0**	**+2.5**

*DDA **09** 10:56:19.4, 40°48′N×37°12′E, h7km, Md3.0, Suspected Mining explosion.*

*ISCJB **09** 10:56:20.8±0.5, 40°52′N±0°.03×37°27′E±0°.04, h0km, Error ellipse: s-maj=4.3km s-min=3.7km az=37.6*
*ISK **09** 10:56:21.0, 40°48′N×37°27′E, h4km, MD2.8*
*CSEM **09** 10:56:21.1±0.2, 40°49′N×37°30′E, h1km, MD2.8, Error ellipse: s-maj=5.2km s-min=4.6km az=140.0, Suspected Mining explosion.*
ISC 09 10:56:20.3±0.8, 40°54′N±0°.03×37°26′E±0°.02, h0km, n35, σ0§77/51, Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RSDY	**Resadiye-TOKAT**	**0.15**	**160**	*e*PG	**Pg**	**10 56 23.4**	**+0.3**
RSDY				*e*SG	**Sg**	**10 56 25.4**	**+0.4**
RSDY	**Resadiye-TOKAT**	**0.15**	**160**	*e*Pg	**Pg**	**10 56 23.4**	**+0.3**
RSDY				*e*Sg	**Sg**	**10 56 25.4**	**+0.4**
TOKT	**Tokat**	**0.59**	**249**	*e*PG	**Pb**	**10 56 32.9**	**-0.6**
TOKT	**Tokat**	**0.59**	**249**	*e*Pg	**Pb**	**10 56 32.9**	**-0.6**
ORDU	**Ordu-Boztepe**	**0.64**	**45**	*i* P	**Pb**	**10 56 34.4**	**-0.1**
ORDU				*i* S	**Sb**	**10 56 45.0**	**+1.1**
ORDU	**Ordu-Boztepe**	**0.64**	**45**	P	**Pb**	**10 56 34.3**	**-0.1**
ORDU				S	**Sb**	**10 56 45.0**	**+1.1**
SVSK	**Karacayir**	**0.65**	**198**	*e*PG	**Pg**	**10 56 32.8**	**+0.1**
SVSK				*e*SG	**Sg**	**10 56 42.1**	**+1.0**
SVSK	**Karacayir**	**0.65**	**198**	*e*Pg	**Pg**	**10 56 32.8**	**+0.1**
SVSK				*e*Sg	**Sg**	**10 56 42.1**	**+1.0**
SUSE	**Susehri**	**0.79**	**114**	*i* P	**Pb**	**10 56 36.7**	**-0.3**
SUSE				*i* S	**Sb**	**10 56 48.8**	**+0.5**
SUSE	**Susehri**	**0.79**	**114**	P	**Pb**	**10 56 36.7**	**-0.3**
SUSE				S	**Sb**	**10 56 48.8**	**+0.5**
GRSN	**GIRESUNGRSN**	**0.86**	**63**	*i* P	**Pg**	**10 56 36.8**	**+0.1**
GRSN				*i* S	**Sg**	**10 56 47.4**	**-0.5**
GRSN	**GIRESUNGRSN**	**0.86**	**63**	P	**Pg**	**10 56 36.8**	**+0.1**
GRSN				S	**Sg**	**10 56 47.4**	**-0.5**
KVT	**Kavak**	**1.07**	**301**	*e*PN	**Pn**	**10 56 42.5**	**0.0**
KVT	**Kavak**	**1.07**	**301**	*e*Pn	**Pn**	**10 56 42.6**	**0.0**
ESPY	**Espiye-Giresun**	**1.18**	**71**	*e*PN	**Pn**	**10 56 44.2**	**+0.2**
ESPY	**Espiye-Giresun**	**1.18**	**71**	*e*Pn	**Pn**	**10 56 44.2**	**+0.2**
CUKAN	**kangal_SIVAS**	**1.23**	**173**	*i* P	**Pg**	**10 56 42.2**	**-1.6**
CUKAN				*i* S	**Sb**	**10 57 00.7**	**-0.2**
CUKAN	**kangal_SIVAS**	**1.23**	**173**	P	**Pg**	**10 56 42.2**	**-1.6**
CUKAN				S	**Sb**	**10 57 00.7**	**-0.2**
KELT	**Kelkit**	**1.57**	**104**	*i* P	**Pn**	**10 56 48.3**	**-1.3**
KELT				*i* S	**Sg**	**10 57 10.0**	**-0.8**
KELT	**Kelkit**	**1.57**	**104**	P	**Pn**	**10 56 48.3**	**-1.3**
KELT				S	**Sg**	**10 57 10.0**	**-0.8**
KEMA	**Kemaliye**	**1.58**	**143**	*i* P	**Pn**	**10 56 49.2**	**-0.4**
KEMA				*i* S	**Sg**	**10 57 13.2**	**+2.1**
KEMA	**Kemaliye**	**1.58**	**143**	P	**Pn**	**10 56 49.2**	**-0.4**
KEMA				S	**Sg**	**10 57 13.2**	**+2.1**
GUMT	**Gumushane**	**1.69**	**92**	*e*PN	**Pb**	**10 56 52.1**	**-0.3**
GUMT	**Gumushane**	**1.69**	**92**	*e*Pn	**Pb**	**10 56 52.1**	**-0.3**
DIKM	**Dikmen**	**1.88**	**307**	*e*PN	**Pb**	**10 56 55.5**	**+0.1**
DIKM	**Dikmen**	**1.88**	**307**	*e*Pn	**Pb**	**10 56 55.5**	**+0.1**
DARE	**Darende-Malaty**	**1.97**	**175**	*e*PN	**Pn**	**10 56 55.4**	**+0.4**
DARE	**Darende-Malaty**	**1.97**	**175**	*e*Pn	**Pn**	**10 56 55.4**	**+0.4**
CORM	**Corum**	**2.04**	**261**	*e*PN	**Pb**	**10 56 57.5**	**-0.8**
CORM	**Corum**	**2.04**	**261**	*e*Pn	**Pb**	**10 56 57.5**	**-0.8**
SNOP	**Sinop**	**2.14**	**314**	*e*PN	**Pb**	**10 56 59.5**	**-0.4**
SNOP	**Sinop**	**2.14**	**314**	*e*Pn	**Pb**	**10 56 59.5**	**-0.4**
SARI	**SarD1z-Kayseri**	**2.22**	**197**	*e*PN	**Pn**	**10 56 58.7**	**+0.1**
PTK	**Pertek**	**2.32**	**134**	*e*PN	**Pn**	**10 57 00.5**	**+0.6**
PTK	**Pertek**	**2.32**	**134**	*e*Pn	**Pn**	**10 57 00.5**	**+0.6**

*ISCJB **09** 11:35:01.5±0.5, 12°64′N±0°.04×89°06′W±0°.04, h57km±7km, mb3.9/8, MS3.0/3, Error ellipse: s-maj=9.6km s-min=3.2km az=43.4*
*CASC **09** 11:35:02.0±2.3, 12°66′N×89°07′W, h42km±155km, MD4.0, ML3.7, mb4.2(NEIC)*
*IDC **09** 11:35:03.8±2.5, 12°94′N×88°77′W, h54km±24km, mb3.5/5, mb1 3.9/7, mb1mx3.6/33, mbtmp3.9/7, ML4.0/2, MS3.1/5, Ms1 3.1/5, ms1mx2.7/28, Error ellipse: s-maj=42.9km s-min=14.5km az=49.0*
*NEIC **09** 11:35:04.2±1.4, 12°78′N×88°96′W, h60km±14km, mb4.2/3, MD4.3(SNET), Error ellipse: s-maj=28.7km s-min=11.3km az=53.0*
NEIC Felt [I] at San Salvador.
ISC 09 11:35:03.4±1.2, 12°75′N±0°.07×89°04′W±0°.06, h52km±12km, n53, σ1§38/67, mb4.1/8, MS2.9/3, 2C-1D, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LFRS	**El Faro**	**0.87**	**358**	*i* P	**Pn**	**11 35 18.6**	**-0.9**
SNVI	**San Vicente**	**0.88**	**13**	*e*P	**Pn**	**11 35 18.8**	**-0.8**
SNVI				*e*S	**Sn**	**11 35 34.2**	**+2.7**
SNET	**Serv Nac Est T**	**0.95**	**348**	*i* P	**Pn**	**11 35 20.1**	**-0.5**
SNET				*e*S	**Sn**	**11 35 33.6**	**+0.4**
SNET				AML	AML	11 35 36.2	
	comp=Z,6μm,0.2s						
OPAM	**San Salvador**	**0.97**	**350**	*e*P	**Pn**	**11 35 20.6**	**-0.3**
OPAM				*e*S	**Sn**	**11 35 34.3**	**+0.5**
LBRS	**Las Brisas**	**0.98**	**360**	*e*P	**Pn**	**11 35 20.8**	**-0.2**
LFU	**La Fuente**	**0.99**	**356**	*i* P	**Pn**	**11 35 20.8**	**-0.4**
PACA	**Pacayal**	**0.99**	**44**	*e*P	**Pn**	**11 35 20.8**	**-0.4**
PACA				*e*S	**Sn**	**11 35 35.2**	**+0.9**
VSM	**San Miguel**	**1.00**	**48**	*i* P	**Pn**	**11 35 20.9**	**-0.5**
BQOS	**Boqueron**	**1.01**	**346**	*i* P	**Pn**	**11 35 21.0**	**-0.6**
BQOS				*e*S	**Sn**	**11 35 36.0**	**+1.3**
SBLS	**San Blas**	**1.22**	**332**	*i* P	**Pn**	**11 35 23.7**	**-0.7**
SNJE	**San Jose**	**1.24**	**334**	*e*P	**Pn**	**11 35 24.3**	**-0.3**
MONT	**Ecomontaæa**	**1.25**	**332**	*i* P	**Pn**	**11 35 24.1**	**-0.7**
CNCH	**Conchagua**	**1.28**	**66**	*e*P	**Pn**	**11 35 25.1**	**+0.1**
CNCH				*e*S	**Sn**	**11 35 44.7**	**+3.4**
RTR	**El Retiro**	**1.28**	**333**	*i* P	**Pn**	**11 35 24.9**	**-0.3**
RBDL	**Robledal**	**1.49**	**335**	*i* P	**Pn**	**11 35 28.1**	**+0.1**
MTO3	**Montecristo**	**1.67**	**349**	*e*P	**Pn**	**11 35 30.7**	**+0.3**
MTO3				*e*S	**Sn**	**11 35 54.3**	**+3.5**
IXG	**Ixpaco**	**1.98**	**316**	*e*P	**Pn**	**11 35 33.4**	**-1.2**
TGUH	**Tegucigalpa,Un**	**2.15**	**53**	*e*P	**Pn**	**11 35 37.5**	**+0.7**
CNGN	**Cerro Negro**	**2.29**	**96**	*e*P	**Pn**	**11 35 37.4**	**-1.4**
CNGN				*e*S	**Sn**	**11 36 05.7**	**-0.2**
COPN	**Copaltepe**	**2.45**	**103**	*e*P	**Pn**	**11 35 39.2**	**-1.7**
COPN				*e*S	**Sn**	**11 36 09.6**	**-0.1**
ESTN	**Estel**	**2.62**	**82**	*e*P	**Pn**	**11 35 42.7**	**-0.7**
XAVN	**Gruta Xavier**	**2.71**	**102**	*e*P	**Pn**	**11 35 43.3**	**-1.2**
TISN	**Laguna Tiscapa**	**2.77**	**102**	*e*P	**Pn**	**11 35 42.1**	**-3.2**
MGAN	**Managua**	**2.79**	**102**	*e*P	**Pn**	**11 35 44.3**	**-1.2**
MGAN				*e*S	**Sn**	**11 36 16.6**	**-1.4**
MGAN				AML	AML	11 36 19.5	
	comp=N,139nm,0.3s						
CONN	**Concepcion**	**3.54**	**109**	*e*P	**Pn**	**11 35 53.9**	**-1.9**
CRZ1	**La Cruz**	**3.72**	**116**	*e*P	**Pn**	**11 35 57.0**	**-1.4**
CRZ1				*e*S	**Sn**	**11 36 39.3**	**-1.7**
ACON	**Acoyapa**	**3.85**	**101**	*e*P	**Pn**	**11 35 59.2**	**-0.9**
GPS3	**Bodega del ICE**	**4.11**	**119**	*e*P	**Pn**	**11 36 04.5**	**+0.8**
VCR	**Vista de Mar**	**4.24**	**128**	*e*P	**Pn**	**11 36 04.5**	**-1.0**
COLC	**Colonia**	**4.29**	**119**	*e*P	**Pn**	**11 36 06.3**	**+0.1**
COLC				*e*S	**Sn**	**11 36 52.4**	**-2.5**
CUI	**Cuipilapa**	**4.33**	**118**	*e*P	**Pn**	**11 36 06.5**	**-0.2**
CUI				*e*S	**Sn**	**11 36 55.1**	**-0.8**
JTS	**JuntasAbangare** comp=N,6.8nm,0.3s,baz=346,slow=15,SNR=13	**4.69**	**121**	P	**Pn**	**11 36 12.0**	**+0.3**
JTS				S	**Sn**	**11 37 03.1**	**-1.7**
	comp=N,10nm,0.3s,baz=327,slow=21,SNR=3.0						
JTS				LR	LR	11 38 16.1	
	comp=N,182nm,19.7s,baz=6.0,slow=42						
CGA2	**Cerro Gallo 2**	**5.24**	**121**	*e*P	**Pn**	**11 36 20.0**	**+0.7**
LCR2	**La Lucha 2**	**5.77**	**121**	*e*P	**Pn**	**11 36 26.9**	**+0.2**
QCR1	**Quepos**	**5.81**	**124**	*i* P	**Pn**	**11 36 27.9**	**+0.8**
URSC	**Urasca**	**5.92**	**119**	*e*P	**Pn**	**11 36 29.2**	**+0.6**
BUS	**Buena Vista**	**6.08**	**121**	*e*P	**Pn**	**11 36 34.1**	**+3.0**
CMIG	**Matias Romero** comp=N,2.4nm,0.3s,baz=124,slow=7.8,SNR=8.2	**7.11**	**308**	P	**Pn**	**11 36 45.6**	**+0.7**
CMIG				S	**Sn**	**11 38 01.0**	**-3.4**
	comp=N,0.7nm,0.3s,baz=37,slow=22,SNR=1.6						
CMIG				LR	LR	11 39 54.3	
	comp=N,152nm,21.3s,baz=122,slow=40						
ICCO	**Coco Island**	**7.42**	**165**	*e*P	**Pn**	**11 36 49.5**	**+0.3**
TXAR	**Lajitas Array** comp=N,0.7nm,0.5s,baz=139,slow=10.0,SNR=15	**21.38**	**323**	P	**P**	**11 39 48.1**	**+1.3**
TXAR				PcP	**PcP**	**11 43 50.3**	**+1.1**
	comp=N,0.4nm,0.9s,baz=164,slow=5.1,SNR=3.8						
MIAR	**Mount Ida** comp=N,3.5nm,0.6s	**22.09**	**350**	*e*P	**P**	**11 39 56.5**	**+2.4**
LPIG	**La Paz** comp=N,46nm,20.7s,baz=344,slow=39	**23.09**	**302**	LR	LR	11 49 58.8	
TKL	**Tuckaleechee C** comp=N,86nm,18.4s,baz=40,slow=37	**23.30**	**11**	LR	LR	11 49 17.7	
AMTX	**Amarillo**	**24.84**	**335**	*e*P	**P**	**11 40 20.8**	**-0.3**
NNA	**Nana** comp=N,23nm,19.5s,baz=268,slow=35	**27.39**	**153**	LR	LR	11 51 06.9	
PDAR	**Pinedale Array** comp=N,0.1nm,0.5s,baz=141,slow=10,SNR=1.9	**34.79**	**333**	P	**P**	**11 41 49.0**	**-0.3**
PDAR				PcP	**PcP**	**11 44 21.9**	**+0.1**
	comp=N,0.3nm,0.5s,baz=127,slow=3.9,SNR=3.8						
REDW	**Red Top Meadow** comp=N,2.8nm,0.5s	**35.84**	**332**	*e*P	**P**	**11 41 58.5**	**+0.1**
ULM	**Lac du Bonnet** comp=N,3.5nm,0.6s,baz=185,slow=8.6,SNR=4.3	**37.81**	**353**	P	**P**	**11 42 12.5**	**-2.2**
YKA	**Yellowknife Ar** comp=N,0.7nm,0.5s,baz=131,slow=8.5,SNR=7.8	**52.92**	**345**	P	**P**	**11 44 13.0**	**-1.1**
PLCA	**Paso Flores** comp=N,3.3nm,1.1s,baz=28,slow=5.7,SNR=2.3	**55.90**	**163**	P	**P**	**11 44 35.4**	**-0.7**
WRA	**Warramunga Arr** comp=N,0.6nm,0.8s,baz=86,slow=2.9,SNR=3.2	**137.86**	**254**	PKP	**PKPdf**	**11 54 23.0**	**0.0**
ASAR	**Alice Springs** comp=N,0.3nm,0.8s,baz=119,slow=1.2,SNR=2.1	**137.94**	**249**	PKP	**PKPdf**	**11 54 23.9**	**+0.7**
FITZ	**Fitzroy Crossi** baz=242,slow=1.4	**146.19**	**257**	PKPbc	**PKPab**	**11 54 39.7**	**0.0**

*DJA **09** 11:56:49.7±0.5, 3°S±4°×12°8E±°, h14km±4km, M4.6/9, mb4.9/6, mB5.0/4, MLv4.5/9, Mw(mB)4.3/4*
*ISCJB **09** 11:56:50.6±0.4, 2°92S±0°.04×128°01E±0°.03, h38km, mb4.0/6, MS3.3/2, Error ellipse: s-maj=6.0km s-min=4.0km az=7.5*
*IDC **09** 11:56:54.2±1.8, 3°06S×128°14E, h70km±19km, mb3.7/6, mb1 4.1/10, mb1mx3.7/38, mbtmp4.2/10, MS3.3/3, Ms1 3.3/3, ms1mx2.8/33, Error ellipse: s-maj=15.5km s-min=11.0km az=96.0*
ISC 09 11:56:51.3±0.7, 3°02S±0°.05×128°02E±0°.04, h38km, n24, σ2§34/29, mb3.9/6, Seram

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AAI	**Ambon**	**0.69**	**165**	P	**Pn**	**11 57 03.5**	**-1.1**
NLAI	**Namlea**	**0.94**	**256**	P	**Pn**	**11 57 06.8**	**-1.2**
NLAI				S	**Sn**	**11 57 22.1**	**+1.8**
MSAI	**Masohi**	**0.97**	**110**	P	**Pn**	**11 57 09.5**	**+1.1**
SANI	**Sanana**	**2.24**	**295**	P	**Pn**	**11 57 23.8**	**-2.1**
SANI				S	**Sn**	**11 57 50.0**	**-2.4**
BNDI	**Bandanaira**	**2.41**	**129**	P	**Pn**	**11 57 30.0**	**+1.9**
LBMI	**Labuha**	**2.42**	**348**	P	**Pn**	**11 57 27.9**	**-0.4**
SIJI	**Sorong** 16nm,0.3s,baz=90,slow=23,SNR=1.7	**3.88**	**57**	P	**Pn**	**11 57 49.9**	**+1.4**
SIJI				S	**Sn**	**11 58 34.5**	**+1.6**
	10nm,0.3s,baz=275,slow=23,SNR=1.2						
FAKI	**Fak Fak**	**4.23**	**89**	P	**Pn**	**11 57 53.6**	**+0.4**
FAKI				S	**Sn**	**11 58 44.2**	**+2.9**
KDI	**Kendari**	**5.47**	**260**	P	**Pn**	11 58 19.9	+10
MRSI	**Marisa** 54nm,0.6s,0.3nm	**7.00**	**300**	P	**Pn**	**11 58 33.7**	**+2.4**
MRSI				S	**Sn**	**11 59 48.6**	**-1.0**
	54nm,0.6s,0.3nm						
TTSI	**Tana Toraja** 23nm,0.8s	**8.19**	**270**	P	**Pn**	**11 58 49.7**	**+2.1**
SPSI	**Sidrap Palu** 22nm,0.7s,466nm	**8.29**	**263**	P	**Pn**	**11 58 51.6**	**+2.6**
PCI	**Palu** 177nm,1.0s,1μm	**8.44**	**284**	P	**Pn**	**11 58 55.7**	**+4.6**
KAPI	**Kappang** 2.6nm,0.3s,baz=107,slow=8.7,SNR=5.1	**8.48**	**256**	P	**Pn**	**11 58 55.2**	**+3.5**
KAPI				S	**Sn**	**12 00 32.1**	**+5.9**
	1.3nm,0.3s,baz=90,slow=18,SNR=1.7						
KAPI				LR	LR	12 02 44.6	
	comp=Z,149nm,18.2s,baz=182,

ECH	**Echery**	**1.13**	**170**	*e*Pg	**Pn**	**12**	**10**	**10.0**	**-0.2**
ECH				*e*Sg	**Sb**	**12**	**10**	**24.2**	**-0.6**
ECH	**Echery**	**1.13**	**170**	Pg	**Pn**	**12**	**10**	**10.0**	**-0.2**
ECH				Sg	**Sb**	**12**	**10**	**24.2**	**-0.6**
SWS	**Schriesheim-Wi**	**1.20**	**82**	Sg	**Sb**	**12**	**10**	**26.5**	**-0.2**
SWS	**Schriesheim-Wi**	**1.20**	**82**	Sg	**Sb**	**12**	**10**	**26.5**	**-0.2**
AHRW	**Bad Neuenahr-A**	**1.22**	**6**	*e*Pg	**Pn**	**12**	**10**	**11.1**	**-0.2**
AHRW				*e*Sg	**Sb**	**12**	**10**	**26.9**	**-0.3**
FACH	**Fachingen**	**1.25**	**35**	Pg	**Pg**	**12**	**10**	**11.0**	**-0.1**
FACH	**Fachingen**	**1.25**	**35**	Pg	**Pg**	**12**	**10**	**11.0**	**-0.1**
TNS	**Taunus Mts**	**1.35**	**48**	*e*Pg	**Pg**	**12**	**10**	**12.8**	**-0.2**
TNS				*e*Sg	**Sb**	**12**	**10**	**31.1**	**-0.1**
TNS	**Taunus Mts**	**1.35**	**48**	Pg	**Pg**	**12**	**10**	**12.8**	**-0.2**
TNS				Sg	**Sb**	**12**	**10**	**31.1**	**-0.1**
HAU	**Haudompre**	**1.37**	**195**	*e*Pg	**Pg**	**12**	**10**	**13.3**	**0.0**
HAU	**Haudompre**	**1.37**	**195**	*e*Pg	**Pg**	**12**	**10**	**13.3**	**0.0**
BFO	**Black Forest**	**1.39**	**136**	*e*Pg	**Pb**	**12**	**10**	**13.8**	**0.0**
BFO				*e*Sg	**Sg**	**12**	**10**	**31.6**	**-0.1**
BFO	**Black Forest**	**1.39**	**136**	Pg	**Pb**	**12**	**10**	**13.8**	**0.0**
BFO				Sg	**Sg**	**12**	**10**	**31.5**	**-0.1**
MEM	**Membach**	**1.40**	**337**	Sg	**Sg**	**12**	**10**	**31.2**	**-0.7**
MEM	**Membach**	**1.40**	**337**	Sg	**Sg**	**12**	**10**	**31.2**	**-0.7**
HINF	**Hinteralfeld**	**1.52**	**181**	*e*Pg	**Pg**	**12**	**10**	**16.7**	**+0.6**
HINF	12nm,0.2s			*e*Sg	**Sn**	**12**	**10**	**36.9**	**+1.0**
HINF	**Hinteralfeld**	**1.52**	**181**	*e*Pg	**Pg**	**12**	**10**	**16.7**	**+0.6**
HINF	5.8nm,0.2s			*e*Sg	**Sn**	**12**	**10**	**36.9**	**+1.0**
SSF	**Saint Saulge**	**3.20**	**226**	*e*Pn	**Pn**	**12**	**10**	**37.6**	**-1.0**
SSF	**Saint Saulge**	**3.20**	**226**	*e*Pn	**Pn**	**12**	**10**	**37.6**	**-1.0**
GEC2	**GERESS Array S**	**4.51**	**94**	*e*Pn	**Pn**	**12**	**10**	**56.6**	**-0.1**
GEC2	**GERESS Array S**	**4.51**	**94**	Pn	**Pn**	**12**	**10**	**56.6**	**-0.1**

*NNC **09** 12:15:33.7±5.0,44.54N×82.25E,h0km,mb2.7,mpv2.2,*
Error ellipse: s-maj=68.1km s-min=14.7km az=116.0
*SOME **09** 12:15:36.8,44.75N×82.13E,h5km*
ISC 09 12:15:35.9±3.0,**44.75N**±0.10×**82.2E**±0.1,**h3**km±17km,**n7,**
σ0.73/13,**4C-2D,Northern Xinjiang**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DJR	**Jarkent**	**1.78**	**257**	*e*P	**Pg**	**12 16 09.6**	**-0.4**
DJR	5.9nm,0.1s			*e*S	**Sg**	**12 16 33.4**	**+0.4**
	4.7nm,0.3s						
KTMS	**Ketmen**	**1.87**	**226**	*e*P	**Pn**	**12 16 08.9**	**0.0**
KTMS	3.6nm,0.1s			*e*S	**Sn**	**12 16 33.1**	**0.0**
	9.5nm,0.4s						
MK31	**Makanchi Array**	**2.04**	**2**	⇑Pn	**Pb**	**12 16 14.2**	**+0.5**
MK31	0.9nm,0.3s,baz=182,slow=15,SNR=21			⇓Sn	**Sg**	**12 16 41.5**	**0.0**
	1.3nm,0.3s,baz=185,slow=26,SNR=18						
MAKZ	**Makanchi**	**2.06**	**356**	⇑Pn	**Pn**	**12 16 11.2**	**-0.3**
MAKZ	0.5nm,0.3s			⇓Sn	**Sg**	**12 16 42.3**	**+0.2**
	2.6nm,0.4s						
PDGK	**Podgornoye**	**2.42**	**235**	⇑Pg	**Pn**	**12 16 15.1**	**-1.5**
PDGK	0.5nm,0.3s			⇑Lg	Lg	12 16 51.2	
	8.7nm,0.7s						
KPKS	**Kokpek**	**2.84**	**244**	*e*P	**Pb**	**12 16 28.3**	**+0.9**
KPKS	9.2nm,0.2s			*e*S	**Sb**	**12 17 03.6**	**+1.0**
	9.2nm,0.4s						
ARXS	**Arharly**	**3.18**	**262**	*e*P	**Pb**	**12 16 32.9**	**-0.2**
ARXS	1.1nm,0.2s			*e*S	**Sb**	**12 17 12.3**	**0.0**
	5.4nm,0.3s						

JMA 09 12:20:22.4,37.77N×141.74E,h51km±1km,**M3.5,Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIO	**Ouri**	**0.75**	**336**	P	Pn	12 20 37.0	+0.2
JIO				S	Sn	12 20 47.2	-0.1
JMM	**Marumori**	**0.76**	**278**	P	Pn	12 20 37.0	+0.1
JMM				S	Sn	12 20 47.4	-0.1
JFK	**Kawauchi**	**0.80**	**240**	P	Pn	12 20 37.5	0.0
JFK				S	Sn	12 20 48.4	-0.1
ONAJ	**Iwakimizuishiy**	**1.00**	**229**	P	Pn	12 20 40.2	0.0
ONAJ				S	Sn	12 20 53.0	-0.4
JOU	**Okura**	**1.04**	**305**	P	Pn	12 20 40.8	+0.1
JOU				S	Sn	12 20 54.7	+0.6
JFT	**Otama**	**1.14**	**258**	P	Pn	12 20 43.0	+0.9
JFT				S	Sn	12 20 57.7	+1.0
JMK	**Ichinoseki**	**1.25**	**341**	P	Pn	12 20 43.9	+0.4
JMK				S	Sn	12 20 59.4	+0.2
JYS	**Shirataka**	**1.40**	**289**	P	Pn	12 20 46.2	+0.7
JYK	**Kaneyama**	**1.58**	**317**	P	Pn	12 20 48.6	+0.6
JYK				S	Sn	12 21 07.9	+0.6
JFY	**Yanaizu**	**1.66**	**258**	P	Pn	12 20 49.7	+0.6
JFY				S	Sn	12 21 10.5	+0.9
JOM	**Ohasama**	**1.74**	**348**	P	Pn	12 20 50.9	+0.8
JOM				S	Sn	12 21 12.1	+1.0
JYA	**Atsumi**	**1.80**	**298**	P	Pn	12 20 51.8	+0.9
JYA				S	Sn	12 21 14.4	+1.8
JRG	**Rokugo**	**1.84**	**332**	P	Pn	12 20 52.7	+1.1
JRG				S	Sn	12 21 15.5	+1.8
MAT	**Matsushiro**	**3.08**	**248**	P	Pn	12 21 10.0	+1.5
MAT				*e*S	Sn	12 21 45.9	+1.8

*ISK **09** 12:22:48.1,39.99N×33.53E,h20km,MD2.6*
*CSEM **09** 12:22:48.9±0.2,40.00N×33.54E,h22km±3km,ML2.8,*
Error ellipse: s-maj=5.3km s-min=3.9km az=131.0
*DDA **09** 12:22:50.1,39.94N×33.58E,h7km,Ml2.8*
ISC 09 12:22:48.2±1.4,**39.98N**±0.02×**33.52E**±0.03,**h4**km±12km,
n32,σ0.97/51,**Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BBAL	**Bala**	**0.54**	**215**	*i* P	**Pb**	**12 22 59.8**	**-0.5**
BBAL				*i* S	**Sb**	**12 23 08.8**	**+0.4**
BBAL	**Bala**	**0.54**	**215**	P	**Pb**	**12 22 59.8**	**-0.5**
BBAL				S	**Sb**	**12 23 08.8**	**+0.4**
LOD	**Lodumlu**	**0.59**	**261**	*e*PG	**Pb**	**12 23 00.5**	**-0.7**
LOD				*e*SG	**Sb**	**12 23 09.4**	**-0.5**
LOD	**Lodumlu**	**0.59**	**261**	*e*Pg	**Pb**	**12 23 00.5**	**-0.7**
LOD				*e*Sg	**Sb**	**12 23 09.4**	**-0.5**
AFSR	**Af ar-Bala (A**	**0.64**	**213**	*e*PG	**Pb**	**12 23 01.3**	**-0.7**
AFSR				*e*SG	**Sb**	**12 23 11.2**	**-0.1**
AFSR	**Af ar-Bala (A**	**0.64**	**213**	*e*Pg	**Pb**	**12 23 01.3**	**-0.7**
AFSR				*e*Sg	**Sb**	**12 23 11.2**	**-0.1**
CDAG	**Cicekdag**	**0.74**	**118**	*i* P	**Pg**	**12 23 02.8**	**+0.2**
CDAG				*i* S	**Sb**	**12 23 13.9**	**-0.5**
CDAG	**Cicekdag**	**0.74**	**118**	P	**Pg**	**12 23 02.8**	**+0.2**
CDAG				S	**Sb**	**12 23 13.9**	**-0.5**
CORM	**Corum**	**0.87**	**77**	*e*PG	**Pb**	**12 23 05.4**	**-0.6**
CORM	**Corum**	**0.87**	**77**	*e*Pg	**Pb**	**12 23 05.4**	**-0.6**
KKUL	**Konya-Kulu**	**0.94**	**210**	*i* P	**Pb**	**12 23 07.4**	**+0.3**
KKUL				*i* S	**Sn**	**12 23 22.2**	**+0.1**
KKUL	**Konya-Kulu**	**0.94**	**210**	P	**Pb**	**12 23 07.4**	**+0.3**
KKUL				S	**Sn**	**12 23 22.2**	**+0.1**
CMDR	**Camlidere-ANKA**	**0.95**	**303**	*i* P	**Pn**	**12 23 08.6**	**+0.1**
CMDR				*i* S	**Sn**	**12 23 25.2**	**+2.7**
KULU	**Kulu**	**1.02**	**203**	*e*PG	**Pg**	**12 23 07.9**	**+0.1**
KULU				*e*SG	**Sb**	**12 23 22.7**	**+0.4**
KULU	**Kulu**	**1.02**	**203**	*e*Pg	**Pg**	**12 23 07.9**	**+0.1**
KULU				*e*Sg	**Sb**	**12 23 22.7**	**+0.4**
SERE	**Sereflikochisa**	**1.03**	**178**	*e*PG	**Pg**	**12 23 07.9**	**-0.2**
SERE				*e*SG	**Sb**	**12 23 22.7**	**0.0**
SERE	**Sereflikochisa**	**1.03**	**178**	*e*Pg	**Pg**	**12 23 07.9**	**-0.2**
SERE				*e*Sg	**Sb**	**12 23 22.7**	**0.0**
ILGA	**Ilgaz**	**1.08**	**8**	*i* P	**Pb**	**12 23 09.4**	**-0.2**
ILGA				*i* S	**Sn**	**12 23 28.5**	**+2.6**
ILGA	**Ilgaz**	**1.08**	**8**	P	**Pb**	**12 23 09.4**	**-0.2**
TOS	**Tosya**	**1.12**	**20**	*e*PN	**Pg**	**12 23 09.1**	**-0.6**
TOS	**Tosya**	**1.12**	**20**	*e*Pn	**Pg**	**12 23 09.1**	**-0.6**
CTAK	**Corum_Osmancik**	**1.18**	**55**	*i* P	**Pg**	**12 23 09.6**	**-1.2**
CTAK				*i* S	**Sn**	**12 23 29.3**	**+1.1**
AKSY	**AKSARAY - Alti**	**1.34**	**172**	*i* P	**Pg**	**12 23 13.9**	**-0.1**
AKSY				*i* S	**Sn**	**12 23 32.7**	**+0.6**
AVNS	**Nevsehir-Avano**	**1.56**	**138**	*i* P	**Pg**	**12 23 18.6**	**+0.5**
AVNS				*i* S	**Sg**	**12 23 40.9**	**+2.6**
KIZT	**Kizilcal**	**1.68**	**230**	*e*PN	**Pn**	**12 23 16.8**	**-1.7**
KIZT	**Kizilcal**	**1.68**	**230**	*e*Pn	**Pn**	**12 23 16.8**	**-1.7**
GULA	**Gulagac**	**1.73**	**161**	*e*PN	**Pn**	**12 23 17.8**	**-1.4**
GULA	**Gulagac**	**1.73**	**161**	*e*Pn	**Pn**	**12 23 17.8**	**-1.4**
SULT	**Sultanhani-AKS**	**1.78**	**180**	*e*PN	**Pn**	**12 23 18.7**	**-1.2**
SULT	**Sultanhani-AKS**	**1.78**	**180**	*e*Pn	**Pn**	**12 23 18.7**	**-1.2**
NIG	**Nigde**	**2.05**	**155**	*e*PN	**Pn**	**12 23 22.7**	**-1.1**
NIG	**Nigde**	**2.05**	**155**	*e*Pn	**Pn**	**12 23 22.7**	**-1.1**

*ISCJB **09** 12:27:50.9±0.5,41.36N×0.03×35.84E±0.03,h0km,Error*
ellipse: s-maj=4.6km s-min=3.4km az=31.9
*DDA **09** 12:27:50.3,41.37N×35.89E,h7km,Ml2.6,Suspected*
Mining explosion.
*ISK **09** 12:27:50.4,41.37N×35.88E,h10km,ML2.5*
*CSEM **09** 12:27:51.2±0.1,41.34N×35.83E,h10km,ML2.6,Error*
ellipse: s-maj=3.7km s-min=2.4km az=33.0
ISC 09 12:27:49.6±0.8,**41.33N**±0.03×**35.86E**±0.03,**h0**km,**n26,**
σ0.77/41,**Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SAMS	**Samsun-Alacam**	**0.25**	**83**	*i* P	**Pb**	**12 27 56.6**	**-0.5**
SAMS				*i* S	**Sb**	**12 28 01.9**	**-0.1**
SAMS	**Samsun-Alacam**	**0.25**	**83**	P	**Pb**	**12 27 56.6**	**-0.5**
SAMS				S	**Sb**	**12 28 01.9**	**-0.1**
HAVZ	**Havza**	**0.27**	**202**	*i* P	**Pb**	**12 27 56.8**	**-0.7**
HAVZ				*i* S	**Sb**	**12 28 01.9**	**-0.8**
HAVZ	**Havza**	**0.27**	**202**	P	**Pb**	**12 27 56.8**	**-0.7**
HAVZ				S	**Sb**	**12 28 01.9**	**-0.8**
KVT	**Kavak**	**0.29**	**150**	*e*PG	**Pb**	**12 27 57.2**	**-0.5**
KVT				*e*SG	**Sb**	**12 28 02.1**	**-1.0**
KVT	**Kavak**	**0.29**	**150**	*e*Pg	**Pb**	**12 27 57.2**	**-0.5**
KVT				*e*Sg	**Sb**	**12 28 02.1**	**-1.0**
DIKM	**Dikmen**	**0.55**	**306**	*e*PG	**Pb**	**12 28 01.4**	**-0.7**
DIKM				*e*SG	**Sb**	**12 28 09.5**	**-1.1**
DIKM	**Dikmen**	**0.55**	**306**	*e*Pg	**Pb**	**12 28 01.5**	**-0.7**
DIKM				*e*Sg	**Sb**	**12 28 09.5**	**-1.1**
BYBT	**Boyabat**	**0.83**	**280**	*e*PG	**Pb**	**12 28 07.0**	**0.0**
BYBT	**Boyabat**	**0.83**	**280**	*e*Pg	**Pb**	**12 28 07.0**	**0.0**
SNOP	**Sinop**	**0.84**	**325**	*e*PG	**Pb**	**12 28 06.7**	**-0.5**
SNOP				*e*SG	**Sb**	**12 28 18.6**	**-0.5**
SNOP	**Sinop**	**0.84**	**325**	*e*Pg	**Pb**	**12 28 06.7**	**-0.5**
SNOP				*e*Sg	**Sb**	**12 28 18.6**	**-0.5**
TOKT	**Tokat**	**1.14**	**152**	*e*PN	**Pn**	**12 28 13.2**	**+0.3**
TOKT	**Tokat**	**1.14**	**152**	*e*Pn	**Pn**	**12 28 13.2**	**+0.3**
COAL	**Corum-Alaca**	**1.26**	**212**	*i* P	**Pn**	**12 28 14.8**	**+0.2**
COAL				*i* S	**Sn**	**12 28 34.2**	**+1.9**
COAL	**Corum-Alaca**	**1.26**	**212**	P	**Pn**	**12 28 14.8**	**+0.2**
TOS	**Tosya**	**1.41**	**259**	*e*PN	**Pb**	**12 28 17.2**	**+0.3**
TOS	**Tosya**	**1.41**	**259**	*e*Pn	**Pb**	**12 28 17.3**	**+0.3**
CORM	**Corum**	**1.48**	**219**	*e*PN	**Pb**	**12 28 17.9**	**-0.2**
CORM	**Corum**	**1.48**	**219**	*e*Pn	**Pb**	**12 28 17.9**	**-0.2**
ORDU	**Ordu-Boztepe**	**1.55**	**102**	*i* P	**Pg**	**12 28 19.0**	**-0.3**
ORDU				*i* S	**Sg**	**12 28 41.2**	**+1.8**
ORDU	**Ordu-Boztepe**	**1.55**	**102**	P	**Pg**	**12 28 19.0**	**-0.3**
ORDU				S	**Sg**	**12 28 41.2**	**+1.8**
YOZ	**Yozgat**	**1.74**	**194**	*e*PN	**Pb**	**12 28 21.7**	**-0.8**
YOZ	**Yozgat**	**1.74**	**194**	*e*Pn	**Pb**	**12 28 21.7**	**-0.8**
GRSN	**GIRESUNGRSN**	**1.87**	**102**	*i* P	**Pn**	**12 28 23.1**	**+0.2**
GRSN				*i* S	**Sg**	**12 28 49.1**	**-0.5**
GRSN	**GIRESUNGRSN**	**1.87**	**102**	P	**Pn**	**12 28 23.1**	**+0.2**
GRSN				S	**Sg**	**12 28 49.1**	**-0.5**

*ISCJB **09** 12:38:45.6±0.3,43.53N×0.02×45.82E±0.02,h1km±2km,*
mb3.7/6,Error ellipse: s-maj=3.3km s-min=1.8km az=19.0
*IDC **09** 12:38:45.1±0.9,43.56N×45.50E,h0km,mb3.4/4,*
mb1 3.6/9,mb1mx3.4/37,mbtmp3.5/9,ML3.3/3,MS2.7/2,
Ms1 2.7/2,ms1mx2.3/35,Error ellipse: s-maj=16.0km
s-min=11.8km az=148.0
*AZER **09** 12:38:45.2±7.5,43.47N×45.54E,h20km,Error ellipse:*
s-maj=6.2km s-min=4.3km az=333.0
*CSEM **09** 12:38:46.0±0.2,43.54N×45.81E,h2km,mb4.4,Error*
ellipse: s-maj=4.5km s-min=2.6km az=18.0
*TIF **09** 12:38:46.7,43.54N×45.88E,h30km±1km*
*MOS **09** 12:38:46.8±0.9,43.51N×45.80E,h15km,mb4.4/3,Error*
ellipse: s-maj=5.3km s-min=4.7km az=38.1
MOS Felt (III) at Groznyy.
ISC 09 12:38:46.8±1.0,**43.48N**±0.02×**45.81E**±0.02,**h9**km±7km,
n141,σ1.932/230,**mb3.5**/6,**25C-22D,Eastern Caucasus**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GROC	**Groznyy**	**0.27**	**182**	*e*PG	**Pg**	**12 38 51.0**	**-1.2**
GROC	comp=Z,2μm,0.2s			pmax	pmax		
DLMR	**Dylym**	**0.72**	**124**	*e*PG	**Pg**	**12 39 00.5**	**-0.2**
DLMR				*e*S	**Sg**	**12 39 11.0**	**+0.8**
DLMR	**Dylym**	**0.72**	**124**	*e*Pg	**Pg**	**12 39 00.5**	**-0.2**
DLMR				*e*Sg	**Sg**	**12 39 11.0**	**+0.8**
KMGR	**Komgaron**	**0.81**	**239**	*e*PG	**Pg**	**12 39 02.0**	**-0.3**
KMGR				*e*S	**Sb**	**12 39 15.0**	**+1.1**
TRKR	**Terskaya**	**0.82**	**288**	⇑*i*PG	**Pb**	**12 39 03.2**	**+0.1**
TRKR				*e*S	**Sn**	**12 39 15.8**	**-0.9**
TRKR	**Terskaya**	**0.82**	**288**	*i* Pg	**Pb**	**12 39 03.2**	**+0.1**
TRKR				*e*Sg	**Sn**	**12 39 15.8**	**-0.9**
DBC	**Dubki**	**0.88**	**121**	*e*PG	**Pg**	**12 39 03.1**	**-0.5**
DBC				*e*S	**Sb**	**12 39 15.8**	**-0.2**
DBC	**Dubki**	**0.88**	**121**	*e*Pg	**Pg**	**12 39 03.1**	**-0.5**
DBC				*e*Sg	**Sb**	**12 39 15.8**	**-0.2**
BTKR	**Batakoyurt**	**0.93**	**264**	⇓*i*PG	**Pg**	**12 39 04.5**	**-0.1**
BTKR				*e*S	**Sn**	**12 39 18.9**	**-0.5**
BTKR	**Batakoyurt**	**0.93**	**264**	*i* Pg	**Pg**	**12 39 04.5**	**-0.1**
BTKR				*e*Sg	**Sn**	**12 39 18.9**	**-0.5**
VLKR	**Vladikavkaz**	**0.93**	**243**	⇑*i*PG	**Pb**	**12 39 05.2**	**+0.1**
VLKR				*i* S	**Sn**	**12 39 19.4**	**-0.1**
VLKR	**Vladikavkaz**	**0.93**	**243**	*i* Pg	**Pb**	**12 39 05.2**	**+0.1**
VLKR				*i* Sg	**Sn**	**12 39 19.4**	**-0.1**
KRNR	**Karanay**	**1.03**	**129**	*e*PG	**Pg**	**12 39 06.5**	**-0.1**
KRNR				*e*S	**Sg**	**12 39 20.0**	**0.0**
KRNR	comp=Z,267nm,0.3s			pmax	pmax		
KRNR	**Karanay**	**1.03**	**129**	*e*Pg	**Pg**	**12 39 06.5**	**-0.1**
KRNR	comp=Z,267nm,0.3s			*e*Sg	**Sg**	**12 39 20.0**	**0.0**
UNCR	**Uncukul**	**1.05**	**136**	*e*PG	**Pg**	**12 39 06.0**	**-0.9**
UNCR				*e*S	**Sg**	**12 39 21.0**	**+0.4**
UNCR	comp=Z,547nm,0.3s			pmax	pmax		
UNCR	**Uncukul**	**1.05**	**136**	*e*Pg	**Pg**	**12 39 06.0**	**-0.9**
	comp=Z,547nm,0.3s						
UNCR				*e*Sg	**Sg**	**12 39 21.0**	**+0.4**
PRTR	**Priterechnaya**	**1.14**	**284**	⇓*i*PG	**Pn**	**12 39 08.9**	**0.0**
PRTR				*i* S	**Sn**	**12 39 25.7**	**+1.1**
PRTR	**Priterechnaya**	**1.14**	**284**	*i* Pg	**Pn**	**12 39 08.9**	**0.0**
PRTR				*i* Sg	**Sn**	**12 39 25.7**	**+1.1**
XNZR	**Khunzakh**	**1.14**	**145**	*e*PG	**Pg**	**12 39 08.0**	**-0.7**
XNZR				*e*S	**Sg**	**12 39 23.8**	**+0.3**
XNZR	**Khunzakh**	**1.14**	**145**	*e*Pg	**Pg**	**12 39 08.0**	**-0.7**
XNZR				*e*Sg	**Sg**	**12 39 23.8**	**+0.3**
ARNR	**Ardon**	**1.15**	**256**	⇑*i*PG	**Pb**	**12 39 08.8**	**0.0**
ARNR				*e*S	**Sn**	**12 39 26.1**	**+1.2**
ARNR	**Ardon**	**1.15**	**256**	*i* Pg	**Pb**	**12 39 08.8**	**0.0**
ARNR				*e*Sg	**Sn**	**12 39 26.1**	**+1.2**
BUJR	**Buynaksk**	**1.15**	**124**	*e*PG	**Pn**	**12 39 09.5**	**+0.4**
BUJR				*i* S	**Sn**	**12 39 27.0**	**+2.1**
BUJR	**Buynaksk**	**1.15**	**124**	*e*Pg	**Pn**	**12 39 09.5**	**+0.4**
BUJR				*i* Sg	**Sn**	**12 39 27.0**	**+2.1**
ARKR	**Arakani**	**1.23**	**135**	*e*PG	**Pb**	**12 39 10.0**	**-0.2**
ARKR				*e*S	**Sn**	**12 39 28.5**	**+1.5**
ARKR	comp=Z,149nm,0.2s			pmax	pmax		
ARKR	**Arakani**	**1.23**	**135**	*e*Pg	**Pb**	**12 39 10.0**	**-0.2**
	comp=Z,149nm,0.2s						
ARKR				*e*Sg	**Sn**	**12 39 28.5**	**+1.5**
STDR	**Stavd-Durt**	**1.28**	**266**	⇑*i*PG	**Pg**	**12 39 11.0**	**-0.2**
STDR				*e*S	**Sn**	**12 39 29.9**	**+1.9**
STDR	**Stavd-Durt**	**1.28**	**266**	*i* Pg	**Pg**	**12 39 11.0**	**-0.2**
STDR				*e*Sg	**Sn**	**12 39 29.9**	**+1.9**
LACR	**Lac**	**1.28**	**240**	⇑*i*PG	**Pn**	**12 39 09.7**	**-1.2**
LACR				*i* S	**Sn**	**12 39 28.5**	**+0.2**
LACR	**Lac**	**1.28**	**240**	*i* Pg	**Pn**	**12 39 09.7**	**-1.2**
LACR				*i* Sg	**Sn**	**12 39 28.5**	**+0.2**
KORR	**Kora**	**1.33**	**254**	⇑*i*PG	**Pn**	**12 39 11.0**	**-0.5**
KORR				*e*S	**Sn**	**12 39 30.5**	**+1.2**
KORR	**Kora**	**1.33**	**254**	*i* Pg	**Pn**	**12 39 11.0**	**-0.5**
KORR				*e*Sg	**Sn**	**12 39 30.5**	**+1.2**
MAK	**Makhachkala**	**1.34**	**112**	*e*PG	**Pg**	**12 39 13.2**	**+0.7**
MAK				*e*		12 39 31.6	
MAK	comp=Z,14nm,0.4s			pmax	pmax		
MAK				smax	smax		
MAK	comp=E,159nm,0.6s			smax	smax		
MAK	comp=E,194nm,0.5s			smax	smax		
MAK	**Makhachkala**	**1.34**	**112**	*e*Pg	**Pg**	**12 39 13.2**	**+0.7**
MAK	comp=E,14nm,0.4s			*e*Sg	**Sg**	**12 39 31.6**	**+1.7**
GNBR	**Gunib**	**1.38**	**142**	*e*PG	**Pn**	**12 39 12.2**	**0.0**
GNBR				*e*S	**Sg**	**12 39 32.3**	**+1.2**
GNBR	**Gunib**	**1.38**	**142**	*e*Pg	**Pn**	**12 39 12.2**	**0.0**
GNBR				*e*Sg	**Sg**	**12 39 32.3**	**+1.2**
GUDG	**Gudauri**	**1.41**	**224**	P	**Pn**	**12 39 12.7**	**0.0**
GUDG				S	**Sb**	**12 39 30.0**	**-1.4**
LSNR	**Lesken**	**1.46**	**263**	*e*PG	**Pn**	**12 39 13.6**	**+0.3**
LSNR				*e*S	**Sg**	**12 39 35.2**	**+1.5**
LSNR	**Lesken**	**1.46**	**263**	*e*Pg	**Pn**	**12 39 13.6**	**+0.3**
LSNR				*e*Sg	**Sg**	**12 39 35.2**	**+1.5**
ZEI	**Tsey**	**1.56**	**244**	⇓*i*PG	**Pn**	**12 39 13.4**	**-1.4**
ZEI				*e*S	**Sn**	**12 39 35.2**	**0.0**
ZEI	**Tsey**	**1.56**	**244**	*i* Pg	**Pn**	**12 39 13.4**	**-1.4**
ZEI				*e*Sg	**Sn**	**12 39 35.2**	**0.0**
DUS	**Dusheti**	**1.61**	**211**	P	**Pb**	**12 39 16.3**	**-0.2**
DUS				S	**Sb**	**12 39 37.2**	**+0.2**
DUS	**Dusheti**	**1.61**	**211**	PN	**Pb**	**12 39 16.4**	**-0.2**
DUS	**Dusheti**	**1.61**	**211**	Pn	**Pb**	**12 39 16.4**	**-0.2**
NCK	**Nalchik**	**1.61**	**271**	⇓*e*PG	**Pn**	**12 39 15.1**	**-0.3**
NCK	**Nalchik**	**1.61**	**271**	*e*Pg	**Pn**	**12 39 15.1**	**-0.3**
KMKR	**Kumukh**	**1.65**	**144**	*e*PN	**Pb**	**12 39 17.0**	**-0.4**
KMKR				*e*S	**Sg**	**12 39 40.0**	**+0.3**
KMKR	**Kumukh**	**1.65**	**144**	*e*Pn	**Pb**	**12 39 17.0**	**-0.4**
KMKR				*e*Sg	**Sg**	**12 39 40.0**	**+0.3**
DIGR	**Digorskoe uzhe**	**1.73**	**251**	⇓*i*PN	**Pn**	**12 39 15.9**	**-1.2**
DIGR				*i* S	**Sn**	**12 39 40.0**	**+0.6**
DIGR	**Digorskoe uzhe**	**1.73**	**251**	*i* Pn	**Pn**	**12 39 15.9**	**-1.2**
DIGR				*i* Sg	**Sn**	**12 39 40.0**	**+0.6**
KBTC	**Kuba-Taba**	**1.77**	**282**	*e*PN	**Pb**	**12 39 19.2**	**-0.3**
KBTC				*e*S	**Sg**	**12 39 43.8**	**0.0**
SEAG	**Tbilisi Sea**	**1.86**	**204**	P	**Pb**	**12 39 20.1**	**-0.9**
SEAG				S	**Sb**	**12 39 45.1**	**+0.7**
URKR	**Urkarakh**	**1.88**	**134**	*e*PN	**Pb**	**12 39 20.5**	**-0.7**
URKR				*e*S	**Sg**	**12 39 47.0**	**0.0**
URKR	comp=Z,378nm,0.3s			pmax	pmax		
URKR	**Urkarakh**	**1.88**	**134**	*e*Pn	**Pb**	**12 39 20.5**	**-0.7**
	comp=Z,378nm,0.3s						
URKR				*e*Sg	**Sg**	**12 39 47.0**	**0.0**
TBLG	**Delisi**	**1.92**	**205**	P	**Pn**	**12 39 20.1**	**+0.5**
TBLG				S	**Sb**	**12 39 46.1**	**+0.3**
TBLG	**Delisi**	**1.92**	**205**	PN	**Pn**	**12 39 19.8**	**+0.3**
TBLG	**Delisi**	**1.92**	**205**	Pn	**Pn**	**12 39 19.8**	**+0.3**
TBLG				S	**Sn**	**12 39 45.0**	**+1.2**
ZKTA	**Zakatala**	**1.93**	**162**	⇑P	**Pn**	**12 39 21.2**	**+1.4**
ZKTA				⇑S	**Sb**	**12 39 46.8**	**+0.5**
ONI	**Oni**	**1.94**	**244**	P	**Pn**	**12 39 20.5**	**+0.6**
ONI				S	**Sb**	**12 39 46.9**	**+0.3**
ONI	**Oni**	**1.94**	**244**	PN	**Pn**	**12 39 20.0**	**+0.1**
ONI	**Oni**	**1.94**	**244**	Pn	**Pn**	**12 39 20.0**	**+0.1**
PYA1	**Pyatigorsk**	**2.05**	**288**	*e*PN	**Pn**	**12 39 22.0**	**+0.6**
KBZ	**Khabaz**	**2.13**	**278**	Pn	**Pn**	**12 39 21.1**	**-1.4**
KBZ	comp=Z,4.2nm,0.3s,baz=98,slow=3.0,SNR=18			Lg	Lg	12 39 47.5	
	comp=Z,9.5nm,0.3s

SOC				*e*		12 40 47.3	
SOC				pmax	pmax		
	comp=Z,20nm,0.6s						
SOC	**Sochi**	**4.43**	**273**	*e*Pn	**Pn**	**12 39 54.9**	**+0.8**
	comp=Z,20nm,0.6s						
SOC				*e*Sn	**Sn**	**12 40 47.3**	**+1.6**
LRK	**Lerik**	**5.19**	**158**	⇓P	**Pn**	**12 40 05.0**	**+0.2**
LRK	**Lerik**	**5.19**	**158**	P	**Pn**	**12 40 05.0**	**+0.2**
LKRN	**Lenkeran, Azer**	**5.26**	**154**	⇓S	**Sn**	**12 41 06.2**	**-0.1**
LKRN	**Lenkeran, Azer**	**5.26**	**154**	S	**Sn**	**12 41 06.2**	**-0.1**
ASTR	**Astara**	**5.40**	**154**	⇓P	**Pn**	**12 40 08.1**	**+0.6**
ASTR				⇓S	**Sn**	**12 41 10.7**	**+0.9**
ASTR	**Astara**	**5.40**	**154**	P	**Pn**	**12 40 08.1**	**+0.6**
ASTR				S	**Sn**	**12 41 10.7**	**+0.9**
COAL	**Corum-Alaca**	**8.69**	**252**	S	**Sn**	**12 42 32.7**	**+1.8**
COAL	**Corum-Alaca**	**8.69**	**252**	*i* S	**Sn**	**12 42 32.7**	**+1.8**
BRTR	**Keskin Array B**	**9.85**	**252**	Pn	**Pn**	**12 41 10.7**	**+2.1**
	baz=90,slow=12,SNR=2.0						
AKTK	**Aktyubinsk**	**10.86**	**46**	P	**Pn**	**12 41 21.2**	**-1.0**
AKTO	**Aktyubinsk**	**10.86**	**46**	Pn	**Pn**	**12 41 21.2**	**-1.0**
	comp=Z,0.3nm,0.3s,baz=225,slow=10,SNR=2.6						
AKTO				Sn	Sn	12 43 14.3	-9.4
	comp=Z,0.2nm,0.3s,baz=69,slow=21,SNR=1.7						
AKTO	**Aktyubinsk**	**10.86**	**46**	⇑Pn	**Pn**	**12 41 20.2**	**-2.0**
	comp=Z,2.2nm,0.7s						
AKTO				⇓Sn	Sn	12 43 14.2	-10
	comp=Z,8.4nm,0.7s						
AKTO	**Aktyubinsk**	**10.86**	**46**	Pn	**Pn**	**12 41 20.2**	**-2.0**
	comp=Z,2.2nm,0.7s						
AB31	**Akbulak array**	**11.34**	**54**	Pn	**Pn**	**12 41 27.3**	**-1.5**
	comp=Z,1.4nm,0.6s,baz=238,slow=11,SNR=25						
AB31				⇓Sn	**Sn**	**12 43 29.2**	**-6.4**
	comp=Z,5.5nm,0.5s,baz=240,slow=20,SNR=9.5						
AB31	**Akbulak array**	**11.34**	**54**	P	**Pn**	**12 41 27.3**	**-1.5**
AB31				pmax	pmax		
	comp=Z,1.0nm,0.6s						
AB31	**Akbulak array**	**11.34**	**54**	Pn	**Pn**	**12 41 27.3**	**-1.5**
	comp=Z,1.4nm,0.6s,SNR=25						
OBN	**Obninsk**	**13.10**	**336**	⇑*i* P	**Pn**	**12 41 53.6**	**+0.8**
OBN				pmax	pmax		
	comp=Z,17nm,0.4s						
OBN	**Obninsk**	**13.10**	**336**	*i* P	**Pn**	**12 41 53.6**	**+0.8**
	comp=Z,17nm,0.4s						
ARU	**Arti**	**15.31**	**28**	LR	LR	12 50 18.0	
	comp=Z,28nm,18.9s,baz=285,slow=45						
ARU	**Arti**	**15.31**	**28**	*d* iP	**Pn**	**12 42 23.2**	**+0.4**
ARU				S	**Sn**	**12 45 14.3**	**+2.0**
ARU				pmax	pmax		
	comp=Z,11nm,2.5s						
ARU	**Arti**	**15.31**	**28**	*i* P	**Pn**	**12 42 23.2**	**+0.4**
	comp=Z,11nm,2.5s						
ARU				S	**Sn**	**12 45 14.3**	**+2.0**
SVE	**Sverdlovsk**	**16.34**	**30**	*e*P	**Pn**	**12 42 32.1**	**-4.1**
KLMR	**Klimovskoe**	**17.81**	**350**	*e*P	**P**	**12 42 56.8**	**+1.5**
KLMR				pmax	pmax		
	comp=Z,9.0nm,1.0s						
KLMR	**Klimovskoe**	**17.81**	**350**	*e*P	**P**	**12 42 56.8**	**+1.5**
	comp=Z,9.0nm,1.0s						
KKAR	**Karatay Array**	**17.98**	**83**⇑	*e*P	**Pn**	**12 42 56.7**	**-0.1**
KKAR	**Karatay Array**	**17.98**	**83**	*e*P	**Pn**	**12 42 56.7**	**-0.1**
BVAR	**Borovoye Array**	**18.87**	**51**	P	**P**	**12 43 07.3**	**+0.3**
	comp=Z,0.2nm,0.3s,baz=251,slow=9.0,SNR=5.5						
BVAR				S	Sn	12 46 22.1	-17
	baz=248,slow=24,SNR=3.2						
FINES	**FINESS Array B**	**21.48**	**334**	P	**P**	**12 43 34.0**	**-1.3**
	comp=Z,1.4nm,0.7s,baz=148,slow=11,SNR=1.5						
KURBB	**Kurchatov Arra**	**23.27**	**61**	P	**P**	**12 43 56.0**	**+1.6**
	comp=Z,0.7nm,0.6s,baz=249,slow=5.2,SNR=5.2						
KURK	**Kurchatov**	**23.34**	**60**	P	**P**	**12 43 56.0**	**+1.0**
KURK				pmax	pmax		
	comp=Z,1.0nm,0.7s						
KURK	**Kurchatov**	**23.34**	**60**	P	**P**	**12 43 56.0**	**+1.0**
	comp=Z,1.0nm,0.7s						
HHC	**Hu-ho-hao-te**	**47.66**	**69**	*e*P	**P**	**12 47 25.0**	**+1.6**
HHC				pmax	pmax		
	comp=Z,29nm,1.4s						
HHC				pmax	pmax		
	comp=Z,66nm,5.0s						
TORD	**Torodi Ar. Bea**	**48.39**	**245**	P	**P**	**12 47 26.4**	**-2.7**
	comp=Z,0.4nm,0.8s,baz=37,slow=5.7,SNR=2.9						
YKA	**Yellowknife Ar**	**73.21**	**351**	P	**P**	**12 50 16.3**	**-1.2**
	comp=Z,0.5nm,0.9s,baz=11,slow=6.9,SNR=3.4						

*DDA **09** 12:41:32.1,42°.14N×34°.34°.45E,h20km,Ml2.6*
*ISK **09** 12:41:34.8,41°.77N×34°.40E,h18km,MD2.6*
*CSEM **09** 12:41:36.3±0.4,41°.80N×34°.46E,h2km,MD2.6,Error ellipse: s-maj=10.2km s-min=6.2km az=2.0*

ISC 09 12:41:36.2±1.0,**41°.89N**±0°.05×**34°.43E**±0°.03,**h14**km±9km, **n22**,σ1**§83**/32,**Turkey**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BZK	**Bozkurt**	**0.33**	**283**	*e*PG	**Pg**	**12 41 42.4**	**-0.5**
BZK				*e*SG	**Sg**	**12 41 48.6**	**+1.2**
BZK	**Bozkurt**	**0.33**	**283**	*e*Pg	**Pg**	**12 41 42.4**	**-0.5**
BZK				*e*Sg	**Sg**	**12 41 48.6**	**+1.2**
BYBT	**Boyabat**	**0.49**	**149**	*e*PG	**Pg**	**12 41 43.6**	**-2.2**
BYBT	**Boyabat**	**0.49**	**149**	*e*Pg	**Pg**	**12 41 43.7**	**-2.2**
KAST	**KASTAMONU**	**0.55**	**223**	*i* P	**Pg**	**12 41 46.8**	**-0.2**
KAST				*i* S	**Sn**	**12 41 57.8**	**-0.7**
KAST	**KASTAMONU**	**0.55**	**223**	P	**Pg**	**12 41 46.8**	**-0.2**
KAST				S	**Sn**	**12 41 57.8**	**-0.7**
SNOP	**Sinop**	**0.59**	**77**	*e*PG	**Pg**	**12 41 48.4**	**+0.5**
SNOP	**Sinop**	**0.59**	**77**	*e*Pg	**Pg**	**12 41 48.4**	**+0.5**
DIKM	**Dikmen**	**0.67**	**111**	*e*PG	**Pg**	**12 41 47.7**	**-1.4**
DIKM				*e*SG	**Sg**	**12 41 57.7**	**-0.3**
DIKM	**Dikmen**	**0.67**	**111**	*e*Pg	**Pg**	**12 41 47.7**	**-1.4**
DIKM				*e*Sg	**Sg**	**12 41 57.7**	**-0.3**
TOS	**Tosya**	**0.91**	**200**	*e*PG	**Pb**	**12 41 50.7**	**-3.0**
TOS	**Tosya**	**0.91**	**200**	*e*Pg	**Pb**	**12 41 50.7**	**-3.0**
ILGA	**Ilgaz**	**0.99**	**213**	*i* P	**Pb**	**12 41 55.1**	**-0.1**
ILGA				*i* S	**Sn**	**12 42 13.9**	**+4.1**
ILGA	**Ilgaz**	**0.99**	**213**	P	**Pb**	**12 41 55.1**	**-0.1**
HAVZ	**Havza**	**1.27**	**130**	*i* P	**Pn**	**12 41 58.7**	**-0.7**
HAVZ				*i* S	**Sg**	**12 42 19.5**	**+2.5**
HAVZ	**Havza**	**1.27**	**130**	P	**Pn**	**12 41 58.7**	**-0.7**
HAVZ				S	**Sg**	**12 42 19.5**	**+2.5**
CTAK	**Corum_Osmancik**	**1.27**	**167**	*i* P	**Pb**	**12 42 00.9**	**+0.9**
CTAK				*i* S	**Sg**	**12 42 21.8**	**+4.6**
SAFT	**Safranbolu**	**1.46**	**244**	*e*PN	**Pn**	**12 42 00.0**	**-2.1**
COAL	**Corum-Alaca**	**1.69**	**165**	*i* P	**Pn**	**12 42 06.0**	**+0.7**
COAL	**Corum-Alaca**	**1.69**	**165**	P	**Pn**	**12 42 06.0**	**+0.7**
BCAM	**Yenicaga**	**2.08**	**240**	*i* P	**Pb**	**12 42 13.4**	**-0.3**
BCAM	**Yenicaga**	**2.08**	**240**	P	**Pb**	**12 42 13.4**	**-0.3**

*GCMT **09** 12:56:00.0±0.4,14°.31S×65°.86E,h22km±1km,MW4.9/66, Moment Tensor Solution. s23,c24; s66,c84; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr-2.43±.22; Mθθ0.54±.14; Mϕϕ1.90±.14; Mrθ1.09±.24; Mrϕ-0.78±.09; Mθϕ1.14±.20; Best double couple: Mo2.74300×10¹⁶ NP1:ϕs181.00000°,δ58.00000°,λ-63.00000°. NP2: ϕs317.00000°,δ41.00000°,λ-126.00000°. Principal axes: T 2.3460, Plg9.0000°, Azm252.0000°; N 0.8010, Plg23.0000°, Azm345.0000°; P -3.1390, Plg66.0000°, Azm142.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

IDC 09 12:55:58.8±1.5,**14°.37S**×**66°.19E**,**h0**km,**mb3.9**/6, **mb1 4.1**/6,**mb1mx3.7**/46,**mbtmp3.9**/6,**MS3.9**/13, **Ms1 3.8**/13,**ms1mx3.6**/33 **Error ellipse: s-maj=59.3km s-min=28.4km az=38.0**,**Mid-Indian Ridge**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
H08S1	**Diego Carcia H**	**9.09**	**43**	T	T	13 07 35.9	
	baz=222,slow=76,SNR=1054						
H08S2	**Diego Garcia H**	**9.11**	**43**	T	T	13 07 35.6	
	baz=222,slow=76,SNR=835						
H08S3	**Diego Garcia H**	**9.11**	**43**	T	T	13 07 37.4	
	baz=222,slow=76,SNR=773						
H08N3	**Diego Garcia H**	**9.27**	**31**	T	T	13 08 06.8	
	baz=210,slow=76,SNR=3281						
H08N1	**Diego Garcia H**	**9.28**	**31**	T	T	13 08 12.2	
	baz=210,slow=76,SNR=3970						
H08N2	**Diego Garcia H**	**9.29**	**31**	T	T	13 08 11.9	
	baz=210,slow=76,SNR=4772						
OPO	**Ambohidratompo**	**18.69**	**255**	LR	LR	13 06 01.8	
	comp=Z,751nm,19.3s,baz=38,slow=32						
PALK	**Pallekele**	**25.88**	**35**	LR	LR	13 09 38.0	
	comp=Z,382nm,19.9s,baz=296,slow=32						
KMBO	**Kilima Mbogo**	**31.48**	**292**	LR	LR	13 12 14.5	
	comp=Z,130nm,21.2s,baz=90,slow=31						
BOSA	**Boshof**	**40.43**	**243**	LR	LR	13 18 19.4	
	comp=Z,170nm,18.2s,baz=44,slow=33						
H01W3	**Cape Leeuwin H**	**47.62**	**124**	T	T	13 55 32.6	
	baz=282,slow=75,SNR=36						
H01W2	**Cape Leeuwin H**	**47.62**	**124**	T	T	13 55 36.2	
	baz=282,slow=75,SNR=32						
H01W1	**Cape Leeuwin H**	**47.64**	**124**	T	T	13 55 33.8	
	baz=282,slow=75,SNR=35						
GEYT	**Alibeck**	**52.57**	**352**	LR	LR	13 25 29.1	
	comp=Z,46nm,18.8s,baz=150,slow=34						
MAW	**Mawson**	**53.24**	**182**	LR	LR	13 23 10.6	
	comp=Z,64nm,18.1s,baz=61,slow=31						
KAPI	**Kappang**	**53.50**	**86**	LR	LR	13 24 12.7	
	comp=Z,141nm,21.9s,baz=195,slow=32						
FITZ	**Fitzroy Crossi**	**57.00**	**102**	LR	LR	13 28 59.1	
	comp=Z,148nm,18.6s,baz=276,slow=35						
KBZ	**Khabaz**	**61.61**	**341**	LR	LR	13 33 28.9	
	comp=Z,30nm,18.5s,baz=82,slow=36						
ASAR	**Alice Springs**	**64.19**	**110**	P	P	13 06 35.8	-0.1
	0.5nm,0.8s,baz=275,slow=6.0,SNR=3.9						
ASAR				LR	LR	13 31 58.2	
	comp=Z,187nm,18.8s,baz=256,slow=34						
WRA	**Warramunga Arr**	**64.98**	**106**	P	P	13 06 41.4	+0.2
	2.0nm,1.0s,baz=271,slow=11,SNR=4.6						
ZALV	**Zalesovo Beam**	**69.88**	**12**	P	P	13 07 10.7	-0.6
	0.9nm,0.5s,baz=193,slow=6.1,SNR=4.8						
ZALV				LR	LR	13 36 24.1	
	comp=Z,54nm,19.2s,baz=250,slow=35						
SONM	**Songino Array**	**71.55**	**27**	P	P	13 07 22.9	+1.1
	0.8nm,0.4s,baz=212,slow=6.4,SNR=6.3						
SONM				LR	LR	13 38 24.9	
	comp=Z,75nm,19.5s,baz=213,slow=36						
KSRS	**Korea Array**	**77.53**	**46**	LR	LR	13 44 22.7	
	comp=Z,49nm,18.5s,baz=231,slow=38						
ESDC	**Sonseca Array**	**84.42**	**313**	P	P	13 08 33.0	-0.5
	0.1nm,0.3s,baz=105,slow=5.3,SNR=6.7						
MJAR	**Matsushiro Arr**	**84.57**	**50**	P	P	13 08 33.2	-1.0
	1.9nm,1.0s,baz=225,slow=5.0,SNR=6.2						
PDAR	**Pinedale Array**	**151.46**	**353**	PKPbc	PKPbc	13 15 55.4	0.0
	1.0nm,0.6s,baz=40,slow=2.8,SNR=10						
TXAR	**Lajitas Array**	**162.40**	**329**	PKPab	PKPab	13 16 50.9	+0.3
	0.5nm,0.9s,baz=129,slow=1.8,SNR=4.2						

*IDC **09** 12:56:26.9±4.0,6°.42S×147°.20E,h33km±32km,mb3.9/9, mb1 4.0/12,mb1mx3.9/38,mbtmp4.1/12,ML4.0/2,Error ellipse: s-maj=35.7km s-min=11.3km az=105.0*
*ISCJB **09** 12:56:27.3±0.7,6°.45S±0°.05×146°.9E±0°.2,h49km,mb4.1/9, Error ellipse: s-maj=21.4km s-min=7.1km az=179.0*
*NEIC **09** 12:56:30.2±1.7,6°.49S×146°.96E,h61km±18km,mb4.1/2, Error ellipse: s-maj=23.6km s-min=13.9km az=109.0*

ISC 09 12:56:28.8±0.8,**6°.42S**±0°.06×**147°.1E**±0°.2,**h49**km,**n20, σ1§20/23,mb4.2/9,Eastern New Guinea region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**2.97**	**179**	Pn	**Pn**	**12 57 13.4**	**-0.1**
	36nm,0.3s,baz=360,slow=7.4,SNR=63						
PMG				Sn	**Sn**	**12 57 46.5**	**-1.3**
	56nm,0.3s,baz=236,slow=23,SNR=12						
PMG	**Port Moresby**	**2.97**	**179**	*e*Pn	**Pn**	**12 57 13.3**	**-0.1**
PMG				*e*Sn	**Sn**	**12 57 48.1**	**+0.3**
COEN	**Coen**	**8.43**	**207**	*e*Pn	**Pn**	**12 58 27.3**	**-1.1**
	25nm,0.3s						
CTA	**Charters Tower**	**13.61**	**183**	Pn	**Pn**	**12 59 39.7**	**+0.4**
	0.6nm,0.3s,baz=356,slow=14,SNR=5.5						
CTAO	**Charters Tower**	**13.61**	**183**	*e*Pn	**Pn**	**12 59 40.9**	**+1.6**
WRAB	**Tennant Creek**	**18.27**	**221**	*e*P	**P**	**13 00 37.8**	**-0.8**
	11nm,0.9s						
WRA	**Warramunga Arr**	**18.28**	**221**	P	**P**	**13 00 36.9**	**-1.8**
	0.5nm,0.3s,baz=48,slow=11,SNR=17						
ASAR	**Alice Springs**	**21.33**	**215**	P	**P**	**13 01 11.2**	**-0.7**
	2.3nm,0.7s,baz=49,slow=9.3,SNR=22						
ASAR				S	**S**	**13 05 09.2**	**+2.9**
	1.8nm,0.8s,baz=28,slow=18,SNR=6.1						
FITZ	**Fitzroy Crossi**	**23.94**	**239**	P	**P**	**13 01 38.0**	**-0.5**
	6.2nm,0.9s,baz=51,slow=11,SNR=15						
FITZ	**Fitzroy Crossi**	**23.94**	**239**	*e*P	**P**	**13 01 36.5**	**-2.1**
	6.2nm,0.9s						
STKA	**Stephens Creek**	**25.84**	**191**	P	**P**	**13 01 55.7**	**0.0**
	1.4nm,0.4s,baz=27,slow=14,SNR=3.6						
JOW	**Kunigami**	**37.76**	**332**	P	**P**	**13 03 40.8**	**+0.6**
	9.8nm,0.5s,baz=137,slow=13,SNR=7.5						
KSRS	**Korea Array**	**47.18**	**339**	P	**P**	**13 04 57.1**	**+0.6**
	3.4nm,0.8s,baz=157,slow=9.1,SNR=16						
KSAR	**Wonju Array Be**	**47.18**	**339**	P	**P**	**13 04 57.1**	**+0.6**
USRK	**Ussuriysk Ar.**	**52.20**	**346**	P	**P**	**13 05 35.0**	**+0.4**
	1.2nm,0.5s,baz=169,slow=9.6,SNR=4.6						
SONM	**Songino Array**	**64.82**	**331**	P	**P**	**13 07 04.1**	**+1.4**
	0.3nm,0.4s,baz=175,slow=3.6,SNR=2.2						
ZALV	**Zalesovo Beam**	**79.42**	**328**	P	**P**	**13 08 28.7**	**-1.0**
	3.9nm,0.5s,baz=90,slow=5.8,SNR=3.7						
ILAR	**Eielson Array**	**85.83**	**23**	P	**P**	**13 09 01.6**	**-1.2**
	1.3nm,0.7s,baz=249,slow=5.1,SNR=14						
GERES	**GERESS Array B**	**122.31**	**325**	PKP	**PKPdf**	**13 15 18.5**	**-0.2**
	0.5nm,0.5s,baz=106,slow=2.9,SNR=4.9						
TORD	**Torodi Ar. Bea**	**145.29**	**284**	PKPbc	**PKPdf**	**13 16 02.2**	**0.0**
	8.3nm,0.8s,baz=66,slow=3.7,SNR=47						

*ISCJB **09** 13:06:41.7±0.5,39°.27N±0°.02×28°.07E±0°.03,h1km±5km, Error ellipse: s-maj=3.9km s-min=3.7km az=44.1*
*DDA **09** 13:06:42.0,39°.27N×28°.05E,h26km,Ml2.8*
*ISK **09** 13:06:41.6,39°.28N×28°.04E,h7km,MD2.6*
*CSEM **09** 13:06:42.1±0.2,39°.27N×28°.08E,h5km,MD2.6,Error ellipse: s-maj=3.6km s-min=3.3km az=97.0*

ISC 09 13:06:41.9±1.0,**39°.26N**±0°.02×**28°.05E**±0°.02,**h8**km±9km, **n43**,σ1**§21/63**,**Turkey**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BALB	**Balikesir**	**0.40**	**341**	*e*PG	**Pg**	**13 06 49.9**	**+0.1**
BALB				*e*SG	**Sg**	**13 06 55.9**	**+0.8**
BALB	**Balikesir**	**0.40**	**341**	*e*Pg	**Pg**	**13 06 49.9**	**+0.1**
BALB				*e*Sg	**Sg**	**13 06 55.9**	**+0.8**
AKS	**Akhisar**	**0.42**	**206**	*e*PG	**Pg**	**13 06 50.4**	**+0.2**
AKS				*e*SG	**Sg**	**13 06 57.2**	**+1.5**
AKS	**Akhisar**	**0.42**	**206**	*e*Pg	**Pg**	**13 06 50.4**	**+0.2**
AKS				*e*Sg	**Sg**	**13 06 57.2**	**+1.5**
DEMI	**Demirci**	**0.56**	**113**	*i* P	**Pg**	**13 06 52.9**	**+0.2**
DEMI				*i* S	**Sg**	**13 07 00.3**	**+0.3**
DEMI	**Demirci**	**0.56**	**113**	P	**Pg**	**13 06 52.9**	**+0.2**
DEMI				S	**Sg**	**13 07 00.3**	**+0.3**
SIMA	**Simav-Kutahya**	**0.74**	**103**	*e*PG	**Pg**	**13 06 56.5**	**+0.3**
SIMA				*e*SG	**Sg**	**13 07 05.5**	**-0.4**
MANT	**Manisa**	**0.86**	**153**	*i* P	Pg	13 06 51.8	-6.7
MANT				*i* S	**Sg**	**13 07 01.5**	**-8.3**
KULA	**Kula-Manisa**	**0.88**	**147**	*e*PG	**Pg**	**13 06 59.2**	**+0.3**
KULA	**Kula-Manisa**	**0.88**	**147**	*e*Pg	**Pg**	**13 06 59.2**	**+0.3**
ORLT	**Orhaneli**	**1.02**	**39**	*e*PG	**Pg**	**13 07 01.4**	**-0.1**
ORLT	**Orhaneli**	**1.02**	**39**	*e*Pg	**Pg**	**13 07 01.4**	**-0.1**
KCTX	**Karacabey (Bur**	**1.03**	**13**	*e*PG	**Pg**	**13 07 01.4**	**-0.4**
KCTX				*e*SG	**Sb**	**13 07 15.8**	**0.0**
KCTX	**Karacabey (Bur**	**1.03**	**13**	*e*Pg	**Pg**	**13 07 01.4**	**-0.4**
KCTX				*e*Sg	**Sb**	**13 07 15.8**	**0.0**
AYVA	**Ayvalik**	**1.06**	**273**	*i* P	**Pn**	**13 07 03.0**	**-0.1**
AYVA				*i* S	**Sn**	**13 07 18.2**	**+0.2**
AYVA	**Ayvalik**	**1.06**	**273**	P	**Pn**	**13 07 03.0**	**-0.1**
AYVA				S	**Sn**	**13 07 18.2**	**+0.2**
GEDZ	**Gediz**	**1.08**	**101**	*e*PN	**Pg**	**13 07 02.8**	**+0.2**
GEDZ	**Gediz**	**1.08**	**101**	*e*Pn	**Pg**	**13 07 02.8**	**+0.2**
EDC	**Edincik**	**1.10**	**352**	*e*PG	**Pg**	**13 07 02.6**	**-0.4**
EDC				*e*SG	**Sb**	**13 07 18.0**	**+0.4**
EDC	**Edincik**	**1.10**	**352**	*e*Pg	**Pg**	**13 07 02.6**	**-0.4**
EDC				*e*Sg	**Sb**	**13 07 18.0**	**+0.4**
TVSB	**Tavsanli**	**1.11**	**80**	*e*PN	**Pg**	**13 07 03.3**	**+0.1**
TVSB	**Tavsanli**	**1.11**	**80**	*e*Pn	**Pg**	**13 07 03.3**	**+0.1**
MDNY	**Mudanya-Bursa**	**1.28**	**30**	*e*PN	**Pn**	**13 07 05.8**	**-0.3**
MDNY	**Mudanya-Bursa**	**1.28**	**30**	*e*Pn	**Pn**	**13 07 05.8**	**-0.3**
ARMT	**Armutlu**	**1.45**	**25**	*e*PN	**Pn**	**13 07 07.7**	**-0.7**
ARMT	**Armutlu**	**1.45**	**25**	*e*Pn	**Pn**	**13 07 07.7**	**-0.7**
URLA	**Izmir**	**1.45**	**232**	*i* P	**Pn**	**13 07 08.8**	**+0.3**
URLA				*i* S	**Sg**	**13 07 28.5**	**-0.1**
URLA	**Izmir**	**1.45**	**232**	P	**Pn**	**13 07 08.8**	**+0.3**
URLA				S	**Sg**	**13 07 28.5**	**-0.1**
SBT5	**Esenkoy-Cinarc**	**1.51**	**25**	*e*PN	**Pb**	**13 07 09.8**	**-0.4**
SART	**Tekirdag**	**1.58**	**335**	*i* P	**Pb**	**13 07 31.5**	**-0.5**
SART				*i* S	**Sb**	**13 07 31.5**	**-0.1**
SART	**Tekirdag**	**1.58**	**335**	P	**Pb**	**13 07 10.9**	**-0.5**
SART				S	**Sb**	**13 07 31.5**	**-0.1**
BOZC	**Bozcaada**	**1.65**	**291**	*i* P	**Pn**	**13 07 10.7**	**-0.5**
BOZC				*i* S	**Sn**	**13 07 32.3**	**-0.4**
SBT2	**Guzelce-Avcila**	**1.66**	**12**	*e*PN	**Pn**	**13 07 11.6**	**+0.4**
ADVT	**Abdulvahap**	**1.75**	**47**	*e*PN	**Pn**	**13 07 12.8**	**+0.3**
ADVT	**Abdulvahap**	**1.75**	**47**	*e*Pn	**Pn**	**13 07 12.8**	**+0.3**
BORA	**Eskisehir**	**1.96**	**71**	*i* P	**Pb**	**13 07 17.9**	**+0.1**
BORA				*i* S	**Sb**	**13 07 43.5**	**+1.1**
BORA	**Eskisehir**	**1.96**	**71**	P	**Pb**	**13 07 17.9**	**+0.1**
BORA				S	**Sb**	**13 07 43.5**	**+1.1**
HRT	**Hereke**	**1.99**	**38**	*e*PN	**Pn**	**13 07 16.4**	**+0.4**
HRT	**Hereke**	**1.99**	**38**	*e*Pn	**Pn**	**13 07 16.4**	**+0.4**
ESKT	**Eskisehir**	**2.18**	**82**	*e*PN	**Pn**	**13 07 19.6**	**+1.0**
ESKT	**Eskisehir**	**2.18**	**82**	*e*Pn	**Pn**	**13 07 19.6**	**+1.0**
GULT	**Gulveren**	**2.23**	**57**	*e*PN	**Pn**	**13 07 20.4**	**+1.1**
GULT	**Gulveren**	**2.23**	**57**	*e*Pn	**Pn**	**13 07 20.4**	**+1.1**

*IDC **09** 13:25:02.7±0.5,12°.60S×44°.89E,h0km,mb4.4/21, mb1 4.5/25,mb1mx4.4/36,mbtmp4.4/25,ML4.6/4,MS4.0/8, Ms1 4.0/8,ms1mx3.6/37,Error ellipse: s-maj=16.5km s-min=12.6km az=105.0*
*BJI **09** 13:25:02.3,12°.74S×45°.03E,h7km,mb4.9/38,mB5.0/23, Ms4.8/18,Ms7 4.4/18*
*MOS **09** 13:25:02.6±0.9,12°.54S×44°.84E,h10km,mb5.0/33,Error ellipse: s-maj=12.2km s-min=6.6km az=84.6*
*ISCJB **09** 13:25:02.5±0.2,12°.58S±0°.04×44°.88E±0°.04,h10km, mb4.7/84,MS4.1/13,Error ellipse: s-maj=6.8km s-min=5.7km az=44.8*
*NEIC **09** 13:25:04.2±0.2,12°.62S×44°.90E,h10km,mb4.9/8,Error ellipse: s-maj=7.1km s-min=6.3km az=115.0*
NEIC Felt [III] at Mamoudzou, Mayotte. Also felt at Bandraboua, Chiconi and Koungou. Felt at Matsamuda, Comoros.
*GCMT **09** 13:25:04.2±0.4,12°.18S×44°.77E,h27km,MW5.0/58, Moment Tensor Solution. s33,c43; s58,c76; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr-3.75±.23; Mθθ1.18±.16; Mϕϕ2.58±.17; Mrθ0.52±.33; Mθϕ-1.00±.13; Mrϕ0.95±.27; Best double couple: Mo3.56400×10¹⁶ NP1:ϕs164.00000°,δ51.00000°,λ-76.00000°. NP2: ϕs323.00000°,δ41.00000°,λ-107.00000°. Principal axes: T 3.1540, Plg5.0000°, Azm244.0000°; N 0.8310, Plg11.0000°, Azm335.0000°; P -3.9750, Plg78.0000°, Azm129.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

ISC 09 13:25:04.2±0.4,**12°.67S**±0°.06×**44°.80E**±0°.06,**h10**km,**n147, σ1§23**/162,**mb4.9**/84,**MS4.1**/14,**10C-50,Northwest of Madagascar**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OPO	**Ambohidratompo**	**6.30**	**159**	Pn	**Pn**	**13 26 36.9**	**-0.5**
	12nm,0.3s,baz=330,slow=20,SNR=140						
OPO				Sn	Sn	13 27 41.4	-8.1
	42nm,0.3s,baz=240,slow=23,SNR=5.6						
OPO				LR	LR	13 29 11.2	
	comp=Z,1µm,19.6s,baz=347,slow=39						
KMBO	**Kilima Mbogo**	**13.69**	**326**	Pn	**Pn**	**13 28 18.4**	**-0.4**
	0.6nm,0.3s,baz=149,slow=13,SNR=10						
KMBO				Sn	Sn	13 30 40.4	-11
	1.0nm,0.3s,baz=187,slow=22,SNR=2.1						
KMBO				LR	LR	13 33 02.5	
	comp=Z,227nm,19.2s,baz=100,slow=35						
KMBO	**Kilima Mbogo**	**13.69**	**326**	*ce*P	**Pn**	**13 28 20.0**	**+1.2**
KMBO				pmax	pmax		
	comp=Z,3.0nm,0.5s						
LSZ	**Lusaka**	**16.33**	**259**	Pn	**Pn**	**13 28 53.7**	**-0.1**
	comp=Z,3.1nm,0.3s,baz=84,slow=11,SNR=23						
LSZ				Sn	Sn	13 31 48.2	-7.1
	comp=Z,1.

comp=Z,310nm,10.1s
KSH LR LR
comp=Z,230nm,9.1s
KSH LR LR
comp=Z,140nm,6.0s
CFR Carcaliu 59.52 346 P **P** **13 35 07.6 0.0**
CFR pmax pmax
comp=Z,15nm,1.0s
KK31 Karatay Array 60.29 21 P **P** **13 35 12.0 -1.0**
KK31 pmax pmax
comp=Z,17nm,1.1s
KKAR Karatay Array 60.29 21 *e*P **P** **13 35 12.9 -0.1**
KKAR pmax pmax
comp=Z,108nm,1.0s
KKAR Karatay Array 60.29 21 *e*P **P** **13 35 12.9 -0.1**
comp=Z,108nm,1.0s
MNAS Manas 60.50 23 P **P** **13 35 15.1 +0.5**
MNAS pmax pmax
comp=Z,10.0nm,1.2s
VRI Vrincioaia 60.50 346 P **P** **13 35 14.2 -0.2**
VRI pmax pmax
comp=Z,110nm,1.2s
VOIR 60.53 344 P **P** **13 35 13.8 -0.9**
VOIR pmax pmax
comp=Z,14nm,1.4s
FRU Bishkek 61.62 25 *e*P **P** **13 35 22.0 -0.1**
CM01 Chiang Mai Arr 61.70 61 *e*P **P** **13 35 21.5 -1.5**
CHTO Chiang Mai 61.86 61 *e*P **P** **13 35 24.5 +0.4**
CHTO pmax pmax
comp=Z,10.0nm,1.3s
CHTO Chiang Mai 61.86 61 *e*P **P** **13 35 24.5 +0.4**
comp=Z,9.6nm,1.3s
TKM2 Tokmak 2 62.10 25 P **P** **13 35 24.7 -0.8**
TKM2 pmax pmax
comp=Z,18nm,1.2s
BUR08 Bucovina Ar. S 62.54 345 *e*P **P** **13 35 29.2 +1.0**
AB31 Akbulak array 63.09 11 P **P** **13 35 31.2 -0.5**
AB31 pmax pmax
comp=Z,12nm,0.8s
ABKAR Akbulak array 63.09 11 *e*P **P** **13 35 31.5 -0.2**
comp=Z,98nm,0.8s
VSR Storozhevoye 63.81 356 *e*P **P** **13 35 35.8 -0.6**
VSR pmax pmax
comp=Z,9.0nm,0.6s
PDGK Podgornoye 64.11 27 P **P** **13 35 38.2 -0.6**
PDGK pmax pmax
comp=Z,5.0nm,1.2s
KIEV Kiev 64.55 349⇑ *i*P **P** **13 35 41.1 -0.2**
KIEV pmax pmax
comp=Z,7.0nm,2.0s
AKASG Malin Array Be 64.56 349 P **P** **13 35 41.0 -0.3**
comp=Z,1.2nm,0.6s,baz=164,slow=5.5,SNR=4.5
CRVS Cervenica-Dubn 64.69 343 *e*P **P** **13 35 42.5 +0.2**
CRVS Cervenica-Dubn 64.69 343 *e*P **P** **13 35 42.5 +0.2**
SOKA Soboth 64.83 338 *i*P **P** **13 35 44.6 +1.2**
comp=Z,4.9nm,1.1s
OBKA Obir 64.87 337 *i*P **P** **13 35 44.9 +1.2**
comp=Z,6.3nm,1.0s
VYHS Vyhne 65.11 341 *e*P **P** **13 35 43.3 -1.7**
VYHS pmax pmax
comp=Z,7.0nm,1.5s
VYHS Vyhne 65.11 341 *e*P **P** **13 35 43.3 -1.7**
ARSA Arzberg 65.14 338 *i*P **P** **13 35 46.3 +1.0**
comp=Z,2.6nm,0.7s
MYKA Terra Mystica 65.32 337 *i*P **P** **13 35 47.4 +0.9**
comp=Z,1.4nm,0.4s
CONA Conrad Observa 65.60 339 *i*P **P** **13 35 48.7 +0.3**
comp=Z,5.9nm,1.4s
ABTA Abfaltersbach 65.85 336 *i*P **P** **13 35 51.0 +1.0**
comp=Z,6.7nm,1.2s
MOA Molln 66.10 338 *i*P **P** **13 35 51.4 -0.1**
comp=Z,5.7nm,1.0s
VNA2 Neumayer--Watz 66.26 196 P **P** **13 35 53.7 +1.4**
baz=23,slow=2.7
MORC Moravsky Berou 66.64 341 *e*P **P** **13 35 55.0 +0.1**
MORC pmax pmax
comp=Z,102nm,1.6s
MORC Moravsky Berou 66.64 341 *e*P **P** **13 35 55.0 +0.1**
comp=Z,102nm,1.6s
FETA Feichten 66.79 335 *i*P **P** **13 35 56.3 +0.2**
comp=Z,9.9nm,1.3s
MOTA Moosalm 66.90 336 *i*P **P** **13 35 57.6 +0.9**
comp=Z,2.2nm,0.6s
VNA3 Neumayer Olymp 67.06 197 P **P** **13 35 58.7 +1.4**
GEA0 GERESS Array S 67.14 338 *e*P **P** **13 35 57.3 -0.8**
GERES GERESS Array B 67.14 338 P **P** **13 35 57.8 -0.4**
comp=Z,1.9nm,0.8s,baz=147,slow=5.7,SNR=14
RETA Reutte 67.15 336 *i*P **P** **13 35 58.5 +0.2**
comp=Z,10nm,1.4s
DAVA Damuels 67.35 335 *i*P **P** **13 35 59.3 -0.3**
comp=Z,2.6nm,0.5s
KMI Kunming 67.82 56 P **P** **13 36 04.4 +1.3**
KMI pmax pmax
comp=Z,11nm,1.2s
KMI LR LR
comp=Z,180nm,25.2s
OBN Obninsk 67.88 355⇓ *e*P **P** **13 36 02.3 -0.2**
OBN *PP **sP** **13 36 07.0 0.0**
OBN *i* 13 36 28.1
OBN S **S** **13 45 01.0 +0.1**
OBN pmax pmax
comp=Z,14nm,1.2s
OBN MLR MLR
comp=Z,69nm,19.0s
MAKZ Makanchi 67.93 27 *e*P **P** **13 36 01.9 -1.2**
MAKZ pmax pmax
comp=Z,15nm,0.8s
MAKZ Makanchi 67.93 27 *e*P **P** **13 36 01.9 -1.2**
comp=Z,15nm,0.8s
MK01 Makanchi Array 68.04 27 *e*P **P** **13 36 03.3 -0.6**
MK31 Makanchi Array 68.06 27 *i*P **P** **13 36 03.4 -0.5**
MK31 pmax pmax
comp=Z,10.0nm,0.7s
MK31 Makanchi Array 68.06 27 *e*P **P** **13 36 03.5 -0.5**
WMQ Urumqi 68.46 32 P **P** **13 36 07.8 +1.2**
WMQ pP sP 13 36 12.5 +1.4
WMQ sP pP 13 36 14.8 +4.9
WMQ pmax pmax
comp=Z,13nm,0.7s
WMQ pmax pmax
comp=Z,72nm,4.1s
WMQ LR LR
comp=Z,92nm,22.1s
WMQ LR LR
comp=Z,69nm,20.7s
WMQ LR LR
comp=Z,93nm,19.3s
ES19 SONSECA Array 69.00 322 *e*P **P** **13 36 11.0 +1.0**
BRVK Borovoye 69.02 16 P **P** **13 36 08.3 -1.5**
BRVK pmax pmax
comp=Z,13nm,1.4s
ESDC Sonseca Array 69.03 322 P **P** **13 36 08.9 -1.3**
comp=Z,0.2nm,0.3s,baz=135,slow=7.0,SNR=10.0
ESLA Sonseca Array 69.03 322 *e*P **P** **13 36 10.9 +0.7**
comp=Z,24nm,1.8s
CLL Collm 69.45 339 *i*P **P** **13 36 12.5 0.0**
CLL pmax pmax
comp=Z,11nm,1.4s
CLL Collm 69.45 339 *i*P **P** **13 36 12.5 0.0**
comp=Z,11nm,1.4s
KURK Kurchatov 69.68 22 P **P** **13 36 12.9 -1.0**
KURK pmax pmax
comp=Z,15nm,1.3s
ARU Arti 69.79 8 *d i*P **P** **13 36 14.1 -0.4**
ARU 13 36 37.1
ARU 13 38 47.0
ARU S **S** **13 45 24.5 +0.9**
ARU pmax pmax
comp=Z,18nm,1.0s
CD2 Chengdu 71.27 51 P **P** **13 36 24.1 0.0**
CD2 sP sP 13 36 31.3 +2.7
CD2 pmax pmax
comp=Z,10.0nm,0.8s
QIZ Qiongzhong 71.40 65 P **P** **13 36 25.0 -0.1**
QIZ S **S** **13 45 44.8 +1.0**
QIZ pmax pmax
comp=Z,21nm,1.6s
QIZ LR LR
comp=Z,200nm,16.2s
QIZ LR LR
comp=Z,200nm,17.9s
QIZ LR LR
comp=Z,270nm,18.0s
GYA Guiyang 71.58 56⇑ *i*P **P** **13 36 25.5 -0.7**
GYA PP **PP** **13 39 07.8 +2.5**
GYA S **S** **13 45 44.2 -1.7**
GYA SS **SS** **13 50 21.2 -0.3**
GYA pmax pmax
comp=Z,20nm,0.8s
GYA pmax pmax
comp=Z,120nm,6.0s
GYA LR LR
comp=Z,530nm,18.2s
GYA LR LR
comp=Z,480nm,18.5s
GYA LR LR
comp=Z,460nm,18.7s
VSU Vasula 72.41 350⇑ *e*P **P** **13 36 30.8 +0.6**
VSU pmax pmax
comp=Z,15nm,0.8s
SOKR Solikamsk 72.67 6 *e*P **P** **13 36 29.8 -1.9**
SOKR pmax pmax
comp=Z,24nm,1.0s
KLMR Klimovskoe 73.40 357 *e*P **P** **13 36 33.9 -2.2**
KLMR pmax pmax
comp=Z,28nm,1.4s
LZH Lanzhou 73.81 46 *e*P **P** **13 36 40.5 +1.2**
LZH pP sP 13 36 44.5 +0.7
LZH sP pP 13 36 46.4 +3.8
LZH PP **PP** **13 39 26.4 +2.2**
LZH *e*S **S** **13 46 10.2 -0.9**
LZH sS sS 13 46 19.5 +3.0
LZH SS **SS** **13 50 58.0 +2.6**
LZH pmax pmax
comp=Z,19nm,1.2s
LZH pmax pmax
comp=Z,91nm,4.3s
LZH LR LR
comp=Z,190nm,16.0s
LZH LR LR
comp=Z,160nm,14.4s
LZH LR LR
comp=Z,190nm,17.5s
ZAA0 Zalesovo Array 74.57 23 *e*P **P** **13 36 42.3 -0.8**
ZALV Zalesovo Beam 74.57 23 P **P** **13 36 42.3 -0.9**
comp=Z,9.7nm,0.6s,baz=226,slow=6.7,SNR=39
NVS Novosibirsk 74.67 22 *e*P **P** **13 36 43.6 -0.1**
NVS pmax pmax
comp=N,13nm,1.5s
NVS pmax pmax
comp=Z,25nm,1.5s
NVS pmax pmax
comp=E,5.0nm,0.7s
TTSI Tana Toraja 74.73 90 P **P** **13 36 42.8 -2.1**
FINES FINESS Array B 75.34 351 P **P** **13 36 47.2 -0.2**
comp=E,2.9nm,0.9s,baz=130,slow=7.7,SNR=6.4
FINES FINESS Array B 75.34 351 *i*P **P** **13 36 47.7 +0.3**
FINES pmax pmax
comp=Z,2.0nm,0.7s
JOF Joensuu 76.08 354 P **P** **13 36 52.0 +0.4**
JOF pmax pmax
comp=Z,11nm,1.2s
SUF Sumiainen 76.55 351 P **P** **13 36 52.3 -2.0**
SUF pmax pmax
comp=Z,18nm,1.3s
XAN Xi'an 76.57 50 P **P** **13 36 54.8 -0.3**
XAN pP sP 13 36 59.5 -0.1
XAN pmax pmax
comp=Z,17nm,1.0s
XAN pmax pmax
comp=Z,140nm,5.8s
FITZ Fitzroy Crossi 77.58 106 LR LR 14 04 54.7
comp=Z,105nm,20.4s,slow=31
NOA NORSAR Array B 78.15 344 P **P** **13 37 03.4 +0.1**
comp=Z,1.5nm,0.8s,baz=161,slow=7.2,SNR=5.6
MSF Maaselka 79.24 353 P **P** **13 37 07.5 -1.7**
MSF pmax pmax
comp=Z,9.0nm,1.2s
LVZ Lovozero 80.69 356 *de*P **P** **13 37 17.0 -0.1**
LVZ pmax pmax
comp=Z,26nm,1.7s
ZAK Zakamensk 80.84 34 *e*P **P** **13 37 18.2 -0.1**
ZAK pmax pmax
comp=Z,4.0nm,1.6s
SONM Songino Array 81.27 37 P **P** **13 37 21.0 +0.2**
comp=Z,5.6nm,1.0s,baz=233,slow=4.4,SNR=17
SONM Songino Array 81.27 37 P **P** **13 37 21.0 +0.2**
SONA1 Songino Array 81.28 37 *e*P **P** **13 37 21.1 +0.2**
HHC Hu-ho-hao-te 81.37 45 *e*P **P** **13 37 22.0 +0.6**
HHC pmax pmax
comp=Z,18nm,0.9s
HHC pmax pmax
comp=Z,130nm,9.0s
ULN Ulaanbaatar 81.67 37 *de*P **P** **13 37 23.3 +0.4**
ULN pmax pmax
comp=Z,6.0nm,1.0s
ULN Ulaanbaatar 81.67 37 *e*P **P** **13 37 23.2 +0.3**
comp=Z,4.4nm,0.8s
TLY Talaya 81.73 33⇓ *e*P **P** **13 37 21.4 -1.6**
TLY pmax pmax
comp=Z,6.0nm,0.8s
ARA0 ARCESS Array S 83.11 353 *e*P **P** **13 37 30.1 +0.4**
ARCES ARCESS Array B 83.11 353 P **P** **13 37 29.6 -0.2**
comp=Z,1.8nm,0.7s,baz=158,slow=3.9,SNR=7.7
VNDA Vanda 83.33 169 P **P** **13 37 32.7 +1.8**
comp=Z,2.2nm,1.0s,baz=252,slow=7.0,SNR=6.7
VNDA Vanda 83.33 169 *e*P **P** **13 37 32.8 +1.8**
comp=Z,8.8nm,1.3s
NJ2 Nanjing 83.54 55 *e*P **P** **13 37 32.0 -0.8**
NJ2 pmax pmax
comp=Z,15nm,1.0s
TIA Tai'an 83.60 51 *e*P **P** **13 37 33.1 +0.1**
TIA pmax pmax
comp=Z,10.0nm,1.0s
ASAR Alice Springs 84.20 113 P **P** **13 37 36.5 0.0**
comp=Z,9.0nm,1.0s,baz=264,slow=5.0,SNR=43
AS31 Alice Springs 84.20 113 *e*P **P** **13 37 36.6 0.0**
comp=Z,3.7nm,1.1s
AS01 Alice Springs 84.25 113 *e*P **P** **13 37 36.2 -0.6**
BJI Beijing 84.28 47 P **P** **13 37 36.8 +0.4**
BJI S **S** **13 48 03.0 +0.9**
BJI pmax pmax
comp=Z,10.0nm,0.8s
BJI LR LR
comp=Z,150nm,12.0s
BJI LR LR
comp=Z,140nm,13.9s
BJI LR LR
comp=Z,180nm,24.1s
WRA Warramunga Arr 85.34 109 P **P** **13 37 42.0 -0.2**
comp=Z,13nm,1.0s,baz=264,slow=3.6,SNR=49
WB2 Warramunga Arr 85.35 109 *e*P **P** **13 37 42.4 +0.1**
NRIK Noril'sk 87.10 14 P **P** **13 37 50.3 +0.5**
comp=Z,5.2nm,0.7s,baz=168,slow=2.7,SNR=4.8
KSAR Wonju Array Be 92.20 52 P **P** **13 38 13.4 -1.0**
KSAR Wonju Array Be 92.20 52 P **P** **13 38 13.4 -1.0**
KS01 Wonju Array Si 92.22 52 *e*P **P** **13 38 13.3 -1.2**
KSRS Korea Array 92.23 52 P **P** **13 38 13.4 -1.1**
comp=Z,1.8nm,0.8s,baz=248,slow=4.6,SNR=8.6
KLR Kul'dur 97.50 41⇑ *e*P **P** **13 38 37.4 -1.0**
ILAR Eielson Array 127.34 6 PKP **PKPdf** **13 44 07.9 -0.9**
comp=Z,0.9nm,0.8s,baz=308,slow=2.2,SNR=4.1
YKA Yellowknife Ar 128.11 348 PKP **PKPdf** **13 44 10.0 -0.3**
comp=Z,0.6nm,0.9s,baz=82,slow=27,SNR=4.0
YKA Yellowknife Ar 128.11 348 *c i*PKIKP **PKPdf** **13 44 12.1 +1.8**
PDAR Pinedale Array 142.69 328 PKP **PKPdf** **13 44 35.5 -2.8**
comp=Z,1.2nm,0.9s,baz=58,slow=3.7,SNR=5.8
ANMO Albuquerque 145.82 315 *c i*PKP2 **PKPab** **13 44 46.2 +1.4**
ANMO pmax pmax
comp=Z,8.0nm,2.5s
TXAR Lajitas Array 146.37 304 PKPbc **PKPdf** **13 44 45.9 +1.0**
comp=Z,3.0nm,0.7s,baz=102,slow=3.4,SNR=33

*DDA **09** 13:27:11.4,41.°39N×33.°68E,h7km,Ml2.8*
*CSEM **09** 13:27:11.8±0.1,41.°38N×33.°69E,h2km,ML2.8,Error ellipse: s-maj=3.3km s-min=2.7km az=140.0*
*ISK **09** 13:27:11.0,41.°37N×33.°68E,h3km,ML2.3*
ISC 09 13:27:12.0±1.1,41.°38N±0.°02×33.°69E±0.°02,h6km±9km, n32,σ0°66/51,Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KAST	**KASTAMONU**	**0.21**	**59**	*i* P	**Pg**	**13 27 15.3**	**-0.9**
KAST				*i* S	**Sg**	**13 27 20.0**	**+0.9**
KAST	**KASTAMONU**	**0.21**	**59**	P	**Pg**	**13 27 15.3**	**-0.9**
KAST				S	**Sg**	**13 27 20.0**	**+0.9**
ILGA	**Ilgaz**	**0.33**	**176**	*i* P	**Pg**	**13 27 18.1**	**-0.4**
ILGA				*i* S	**Sg**	**13 27 23.7**	**+0.8**
ILGA	**Ilgaz**	**0.33**	**176**	P	**Pg**	**13 27 18.1**	**-0.4**
ILGA				S	**Sg**	**13 27 23.7**	**+0.8**
TOS	**Tosya**	**0.43**	**144**	*e*PG	**Pg**	**13 27 20.1**	**-0.2**
TOS	**Tosya**	**0.43**	**144**	*e*Pg	**Pg**	**13 27 20.1**	**-0.2**
BZK	**Bozkurt**	**0.62**	**22**	*e*PG	**Pg**	**13 27 24.2**	**+0.1**
BZK				*e*SG	**Sb**	**13 27 33.7**	**-0.8**
BZK	**Bozkurt**	**0.62**	**22**	*e*Pg	**Pg**	**13 27 24.2**	**+0.1**
BZK				*e*Sg	**Sb**	**13 27 33.7**	**-0.8**
SAFT	**Safranbolu**	**0.77**	**260**	*e*PG	**Pg**	**13 27 26.3**	**-0.5**
SAFT				*e*SG	**Sb**	**13 27 37.5**	**-1.0**
SAFT	**Safranbolu**	**0.77**	**260**	*e*Pg	**Pg**	**13 27 26.3**	**-0.5**
SAFT				*e*Sg	**Sb**	**13 27 37.5**	**-1.0**
CANT	**Cankiri**	**0.78**	**184**	*e*PG	**Pg**	**13 27 26.6**	**-0.3**
CANT				*e*SG	**Sb**	**13 27 37.8**	**-1.0**
BYBT	**Boyabat**	**0.82**	**83**	*e*PG	**Pg**	**13 27 27.1**	**-0.6**
BYBT	**Boyabat**	**0.82**	**83**	*e*Pg	**Pg**	**13 27 27.1**	**-0.6**
CTAK	**Corum_Osmancik**	**1.11**	**131**	*i* P	**Pg**	**13 27 32.3**	**-1.1**
CTAK				*i* S	**Sb**	**13 27 49.0**	**+0.4**
DIKM	**Dikmen**	**1.21**	**77**	*e*PN	**Pb**	**13 27 35.1**	**-0.3**
DIKM	**Dikmen**	**1.21**	**77**	*e*Pn	**Pb**	**13 27 35.1**	**-0.3**
SNOP	**Sinop**	**1.30**	**60**	*e*PN	**Pb**	**13 27 36.9**	**-0.1**
SNOP	**Sinop**	**1.30**	**60**	*e*Pn	**Pb**	**13 27 36.9**	**-0.1**
BCAM	**Yenicaga**	**1.35**	**246**	*i* P	**Pg**	**13 27 37.0**	**-0.9**
BCAM				*i* S	**Sn**	**13 27 56.4**	**+0.5**
BCAM	**Yenicaga**	**1.35**	**246**	P	**Pg**	**13 27 37.0**	**-0.9**
BCAM				S	**Sn**	**13 27 56.4**	**+0.5**
CORM	**Corum**	**1.40**	**149**	*e*PN	**Pg**	**13 27 38.1**	**-0.8**
CORM				*e*SN	**Sn**	**13 27 57.8**	**+0.7**
CORM	**Corum**	**1.40**	**149**	*e*Pn	**Pg**	**13 27 38.1**	**-0.8**
CORM				*e*Sn	**Sn**	**13 27 57.8**	**+0.7**
COAL	**Corum-Alaca**	**1.50**	**138**	*i* P	**Pn**	**13 27 39.3**	**-0.3**
COAL				*i* S	**Sg**	**13 28 00.8**	**+0.7**
COAL	**Corum-Alaca**	**1.50**	**138**	P	**Pn**	**13 27 39.3**	**-0.3**
COAL				S	**Sg**	**13 28 00.8**	**+0.7**
HAVZ	**Havza**	**1.56**	**101**	*i* P	**Pg**	**13 27 41.4**	**-0.6**
HAVZ				*i* S	Sg	13 28 10.8	+8.5
HAVZ	**Havza**	**1.56**	**101**	P	**Pg**	**13 27 41.4**	**-0.6**
CDAG	**Cicekdag**	**1.83**	**163**	*i* P	**Pn**	**13 27 44.2**	**0.0**
CDAG				*i* S	**Sb**	**13 28 08.8**	**-0.4**
CDAG	**Cicekdag**	**1.83**	**163**	P	**Pn**	**13 27 44.2**	**0.0**
CDAG				S	**Sb**	**13 28 08.8**	**-0.4**
YOZ	**Yozgat**	**2.14**	**144**	*e*PN	**Pn**	**13 27 48.9**	**+0.4**
YOZ	**Yozgat**	**2.14**	**144**	*e*Pn	**Pn**	**13 27 48.9**	**+0.4**
SAHE	**Sakarya_HENDEK**	**2.21**	**257**	*i* P	**Pn**	**13 27 49.6**	**+0.3**
SAHE				*i* S	**Sg**	**13 28 24.1**	**+1.2**
SAHE	**Sakarya_HENDEK**	**2.21**	**257**	P	**Pn**	**13 27 49.6**	**+0.3**

*IDC **09** 13:29:45.2±0.8,25.°38S×70.°07E,h0km,mb4.0/9, mb1 4.1/9,mb1mx3.8/38,mbtmp4.0/9,MS4.1/16, Ms1 4.0/16,ms1mx3.8/33,Error ellipse: s-maj=29.4km s-min=22.2km az=68.0*
*ISCJB **09** 13:29:46.4±0.6,25.°4S±0.°1×70.°1E±0.°2,h21km,mb3.9/10, MS4.1/16,Error ellipse: s-maj=21.6km s-min=15.3km az=167.7*
*NEIC **09** 13:29:46.5±0.5,25.°42S×70.°08E,h10km,Error ellipse: s-maj=17.0km s-min=11.9km az=75.0*
*GCMT **09** 13:29:46.5±0.3,25.°24S×69.°87E,h17km±1km,MW5.0/85, Moment Tensor Solution. s24,c28; s85,c113; Duration: 0 Moment tensor: Scale 10^16^Nm; Mrr=2.78±.18; Mθθ0.34±.10; Mϕϕ2.44±.12; Mrθ0.39±.30; Mrϕ-0.84±.07; Mθϕ2.39±.31; Best double couple: M◎3.66100×10^16^ NP1:ϕs178.00000°,δ66.00000°,λ-76.00000°. NP2: ϕs326.00000°,δ28.00000°,λ-119.00000°. Principal axes: T 3.5030, Plg20.0000°, Azm258.0000°; N 0.3120, Plg13.0000°, Azm352.0000°; P -3.8200, Plg66.0000°, Azm114.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
ISC 09 13:29:48.3±0.7,25.°4S±0.°1×70.°1E±0.°2,h21km,n31, σ0°70/14,mb4.0/10,MS4.1/16,Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
H08S1	**Diego Carcia H**	**17.82**	**8**	T	T	13 52 21.4	
	baz=188,slow=76,SNR=53						
H08S2	**Diego Garcia H**	**17.83**	**8**	T	T	13 52 24.5	
	baz=188,slow=76,SNR=96						
H08S3	**Diego Garcia H**	**17.84**	**8**	T	T	13 52 15.1	
	baz=188,slow=76,SNR=49						
OPO	**Ambohidratompo**	**22.29**	**283**	LR	LR	13 40 58.7	
	comp=Z,718nm,21.4s,baz=103,slow=30						
H01W2	**Cape Leeuwin H**	**38.97**	**115**	T	T	14 18 40.8	
	baz=271,slow=74,SNR=10						
H01W3	**Cape Leeuwin H**	**38.97**	**115**	T	T	14 18 40.8	
	baz=103,slow=74,SNR=11						
H01W1	**Cape Leeuwin H**	**38.98**	**115**	T	T	14 18 34.2	
	SNR=11						
KMBO	**Kilima Mbogo**	**39.83**	**302**	LR	LR	13 49 50.2	
	comp=Z,94nm,20.2s,baz=95,slow=30						
BOSA	**Boshof**	**39.90**	**255**	LR	LR	13 50 53.6	
	comp=Z,669nm,19.5s,baz=86,slow=32						
MAW	**Mawson**	**42.43**	**184**	P	**P**	**13 37 41.3**	**+0.2**
	2.0nm,0.8s,baz=8.5,slow=10,SNR=4.5						
MAW				LR	LR	13 51 07.8	
	comp=Z,183nm,21.7s,baz=54,slow=30						
ASAR	**Alice Springs**	**57.56**	**103**	P	**P**	**13 39 37.5**	**+0.8**
	0.9nm,0.6s,baz=249,slow=6.4,SNR=8.2						
WRA	**Warramunga Arr**	**59.04**	**99**	P	**P**	**13 39 47.8**	**+0.7**
	1.2nm,1.0s,baz=260,slow=6.5,SNR=4.5						
WRA				LR	LR	14 02 57.8	
	comp=Z,266nm,18.9s,baz=265,slow=34						
WRAB	**Tennant Creek**	**59.05**	**99**	*e*P	**P**	**13 39 46.5**	**-0.8**
	0.9nm,0.7s						
SNAA	**Sanae**	**60.73**	**200**	LR	LR	13 58 58.3	
	comp=Z,96nm,21.6s,baz=8.0,slow=29						
STKA	**Stephens Creek**	**62.06**	**114**	LR	LR	14 03 00.6	
	comp=Z,177nm,21.8s,baz=221,slow=32						
GEYT	**Alibeck**	**64.01**	**349**	LR	LR	14 05 03.6	
	comp=Z,71nm,20.2s,baz=195,slow=33						
QSPA	**South Pole Qui**	**64.71**	**180**	*e*P	**P**	**13 40 23.6**	**-1.1**
VNDA	**Vanda**	**65.75**	**166**	P	**P**	**13 40 31.8**	**+0.7**
	3.0nm,1.0s,baz=256,slow=7.7,SNR=8.8						
BRTR	**Keskin Array B**	**73.19**	**331**	P	**P**	**13 41 18.1**	**+0.5**
	1.0nm,0.8s,baz=149,slow=5.8,SNR=5.1						
BRTR				LR	LR	14 10 28.4	
	comp=Z,43nm,21.3s,baz=121,slow=33						
PMG	**Port Moresby**	**74.39**	**93**	LR	LR	14 12 53.5	
	comp=Z,146nm,19.0s,baz=262,slow=35						
ABKAR	**Akbulak array**	**74.89**	**353**	*e*P	**P**	**13 41 27.0**	**-0.2**
KURK	**Kurchatov**	**76.18**	**6**	*e*P	**P**	**13 41 34.1**	**-0.4**
TORD	**Torodi Ar. Bea**	**76.83**	**292**	P	**P**	**13 41 39.0**	**0.0**
	1.6nm,1.1s,baz=104,slow=6.3,SNR=4.7						
TORD				LR	LR	14 13 47.8	
	comp=Z,97nm,20.9s,baz=50,slow=34						
DBIC	**Dimbokro**	**79.40**	**283**	LR	LR	14 13 35.8	
	comp=Z,163nm,21.1s,baz=102,slow=33						
SONM	**Songino Array**	**79.89**	**24**	P	**P**	**13 41 55.7**	**+0.4**
	0.9nm,0.8s,baz=216,slow=4.8,SNR=5.2						
SONM				LR	LR	14 17 07.3	
	comp=Z,70nm,20.2s,baz=202,slow=36						
ZALV	**Zalesovo Beam**	**80.06**	**9**	P	**P**	**13 41 56.5**	**+0.5**
	1.3nm,0.6s,baz=197,slow=4.6,SNR=4.9						
KSAR	**Wonju Array Be**	**82.81**	**43**	P	**P**	**13 42 10.2**	**-0.7**
KSRS	**Korea Array**	**82.84**	**43**	P	**P**	**13 42 10.2**	**-0.9**
	0.3nm,0.4s,baz=233,slow=5.9,SNR=3.1						
KEST	**Kesra**	**83.61**	**314**	LR	LR	14 19 49.5	
	comp=Z,96nm,18.2s,baz=220,slow=36						
HNR	**Honiara**	**85.88**	**98**	LR	LR	14 19 05.2	
	comp=Z,110nm,18.7s,baz=235,slow=34						
NRIK	**Noril'sk**	**95.34**	**6**	LR	LR	14 26 21.3	
	comp=Z,85nm,19.3s,baz=142,slow=36						

*DDA **09** 13:36:16.7,39.°02N×29.°53E,h7km,Ml2.6*
*ISK **09** 13:36:19.7,38.°98N×29.°80E,h18km,MD2.2*
*CSEM **09** 13:36:20.4±0.1,38.°98N×29.°82E,h15km,MD2.2,Error ellipse: s-maj=3.2km s-min=2.7km az=169.0*
ISC 09 13:36:19.8±1.2,38.°98N±0.°03×29.°78E±0.°03,h15km±10km, n18,σ1°9/35,Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TVSB	**Tavsanli**	**0.53**	**332**	*e*PG	**Pb**	**13 36 31.0**	**+0.1**
TVSB				*e*SG	**Sb**	**13 36 38.8**	**+0.4**
TVSB	**Tavsanli**	**0.53**	**332**	*e*Pg	**Pb**	**13 36 31.0**	**+0.1**
TVSB				*e*Sg	**Sb**	**13 36 38.8**	**+0.4**
KHL	**Karahalli**	**0.69**	**197**	*e*PG	**Pb**	**13 36 33.6**	**0.0**
KHL				*e*SG	**Sb**	**13 36 43.7**	**+0.8**
KHL	**Karahalli**	**0.69**	**197**	*e*Pg	**Pb**	**13 36 33.6**	**0.0**
KHL				*e*Sg	**Sb**	**13 36 43.7**	**+0.8**
SHUT	**Suhut-Afyon**	**0.74**	**125**	*e*PG	**Pb**	**13 36 34.2**	**-0.2**
SHUT				*e*SG	**Sb**	**13 36 44.9**	**+0.5**
SHUT	**Suhut-Afyon**	**0.74**	**125**	*e*Pg	**Pb**	**13 36 34.2**	**-0.2**

SHUT					*e*Sg		**Sb**	**13 36 44.9**	**+0.5**
DEMI	**Demirci**	**0.83**	**274**		*i* P		**Pn**	**13 36 37.8**	**+0.7**
DEMI					*i* S		**Sn**	**13 36 49.6**	**+0.5**
DEMI	**Demirci**	**0.83**	**274**		P		**Pn**	**13 36 37.8**	**+0.7**
DEMI					S		**Sn**	**13 36 49.6**	**+0.5**
BOLV	**Bolvadin**	**0.95**	**106**		*i* P		**Pn**	**13 36 38.6**	**-0.1**
BOLV					*i* S		**Sg**	**13 36 50.8**	**+0.1**
BOLV	**Bolvadin**	**0.95**	**106**		P		**Pn**	**13 36 38.6**	**-0.1**
BOLV					S		**Sg**	**13 36 50.8**	**+0.1**
ESKT	**Eskisehir**	**0.99**	**57**		*i* P		**Pg**	**13 36 38.6**	**-0.3**
ESKT					*i* S		**Sn**	**13 36 52.4**	**-0.7**
SEYT	**Eskypehyr**	**0.99**	**57**		P		**Pg**	**13 36 38.6**	**-0.3**
SEYT					S		**Sn**	**13 36 52.4**	**-0.7**
KULA	**Kula-Manisa**	**0.99**	**242**		*e*PG		**Pn**	**13 36 39.4**	**+0.1**
KULA					*e*SG		**Sn**	**13 36 53.8**	**+0.7**
KULA	**Kula-Manisa**	**0.99**	**242**		*e*Pg		**Pn**	**13 36 39.4**	**+0.1**
KULA					*e*Sg		**Sn**	**13 36 53.8**	**+0.7**
BORA	**Eskisehir**	**1.04**	**30**		*i* P		**Pn**	**13 36 40.0**	**+0.1**
BORA					*i* S		**Sb**	**13 36 52.8**	**-0.2**
BORA	**Eskisehir**	**1.04**	**30**		P		**Pn**	**13 36 40.0**	**+0.1**
BORA					S		**Sb**	**13 36 52.8**	**-0.2**
MANT	**Manisa**	**1.07**	**243**		*i* P		Pb	13 36 34.4	-5.8
MANT					*i* S		**Sb**	**13 36 48.4**	**-5.7**
BAGO	**Egridir - ISPA**	**1.27**	**141**		*i* P		**Pg**	**13 36 43.7**	**-0.6**
BAGO					*i* S		**Sg**	**13 37 02.5**	**+1.7**

WEL 09 13:37:02.1±0.1, **43.58S**×**172.67E**, **h5**km, **ML3.5**/10, **4C-1D, Error ellipse: s-maj=0.8km s-min=0.5km az=90.0, South Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CRLZ	**Canterbury Las**	**0.03**	**286**	PG	Pg	13 37 03.1	-0.2
CRLZ				SG	Sg	13 37 03.8	-0.2
CRLZ				AML	AML	13 37 04.1	
CRLZ				AML	AML	13 37 04.2	
CRLZ				AML	AML	13 37 04.2	
MQZ	**McQueen's Vall**	**0.12**	**185**	PG	Pg	13 37 05.0	+0.3
MQZ				SG	Sg	13 37 07.1	+0.7
MQZ				SG		13 37 07.2	
OXZ	**Oxford**	**0.53**	**299**	PG	Pg	13 37 12.3	0.0
OXZ				AML	AML	13 37 20.5	
OXZ				AML	AML	13 37 22.3	
LTZ	**Lake Taylor**	**0.85**	**340**	⇓P*	Pg	13 37 18.9	+0.4
LTZ				S*	Sb	13 37 30.8	-0.3
RPZ	**Rata Peaks**	**1.18**	**263**	P*	Pg	13 37 23.8	-0.9
RPZ				AML	AML	13 37 42.5	
RPZ				AML	AML	13 37 43.5	
INZ	**Inchbonnie**	**1.24**	**313**	⇑P*	Pg	13 37 25.3	-0.6
KHZ	**Kahutara**	**1.33**	**29**	⇑P*	Pn	13 37 25.6	-1.7
WVZ	**Waitaha Valley**	**1.50**	**289**	*e*PN	Pn	13 37 29.2	-0.4
WVZ				AML	AML	13 37 52.4	
WVZ				AML	AML	13 37 52.7	
THZ	**Tophouse**	**1.83**	**6**	⇑PN	Pn	13 37 32.7	-1.6
THZ				AML	AML	13 38 00.0	
THZ				AML	AML	13 38 08.5	
DSZ	**Denniston Nort**	**1.94**	**341**	PN	Pn	13 37 34.8	-1.1
LBZ	**Lake Benmore**	**1.96**	**245**	*e*PN	Pn	13 37 35.2	-0.8
ODZ	**Otahua Downs**	**2.06**	**224**	⇑PN	Pn	13 37 36.0	-1.3
ODZ				AML	AML	13 38 09.9	
ODZ				AML	AML	13 38 15.2	
FOZ	**Fox Glacier**	**2.07**	**270**	PN	Pn	13 37 37.9	+0.4
EAZ	**Earnscleugh**	**2.92**	**234**	AML	AML	13 38 36.8	
EAZ				AML	AML	13 38 40.7	
TUZ	**Tuapeka**	**3.21**	**221**	AML	AML	13 38 49.0	

*IDC **09** 13:40:38.8±0.8, 51.49N×175.49E, h0km, mb3.8/16, mb1 4.0/17, mb1mx3.9/30, mbtmp3.8/17, ML2.8/1, Error ellipse: s-maj=23.3km s-min=15.1km az=167.0*
*ISCJB **09** 13:40:41.0±0.5, 51.66N±0.08×175.44E±0.06, h21km, mb4.0/23, Error ellipse: s-maj=11.4km s-min=5.6km az=4.8*
*NEIC **09** 13:40:45.7±1.0, 51.68N×175.45E, h44km±8km, mb4.3/6, Error ellipse: s-maj=15.8km s-min=6.0km az=178.0*
ISC 09 13:40:43.1±0.7, **51.7N**±0.1×**175.34E**±0.06, **h21**km, **n49, σ1s61/44, mb4.0/23, Rat Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SMY	**Shemya**	**1.29**	**324**	*e*Pn	**Pb**	**13 41 06.8**	**+0.2**
SMY				*e*Sn	**Sn**	**13 41 21.2**	**-1.3**
ATKA	**Atka Island**	**6.49**	**81**	*e*Pn	**Pn**	**13 42 18.9**	**+1.6**
SPIA	**Saint Paul Isl**	**10.03**	**51**	*e*Pn	**Pn**	**13 43 07.5**	**+1.8**
PEA0B	**Petropavlovsk-**	**10.88**	**284**	*e*Pn	**Pn**	**13 43 22.1**	**+4.7**
PETK	**Petropavlovsk-** 0.4nm,0.3s,baz=94,slow=18,SNR=19	**10.88**	**284**	Pn	**Pn**	**13 43 19.2**	**+1.8**
PETK					Sn	**Sn**	**13 45 12.7**	**-5.6**
	0.4nm,0.3s,baz=113,slow=32,SNR=3.9							
UNV	**Unalaska Valle**	**11.21**	**72**	*e*Pn	**Pn**	**13 43 20.6**	**-1.2**
SDPT	**Sand Point**	**14.82**	**66**	*e*Pn	**Pn**	**13 44 09.9**	**-1.2**
SPU	**Mount Spurr**	**20.17**	**49**	*e*P	**P**	**13 45 13.6**	**-2.2**
CNPM	**China Poot** 17nm,0.9s	**20.26**	**54**	*e*P	Pn	13 45 16.2	-2.6
BRLK	**Bradley Lake** 17nm,1.0s	**20.47**	**54**	*e*P	**P**	**13 45 18.1**	**-1.0**
SML	**Sawmill** 1.7nm,0.9s	**22.04**	**49**	*e*P	**P**	**13 45 35.0**	**-1.1**
SCM	**Sheep Creek Mo** 13nm,1.1s	**22.52**	**49**	*e*P	**P**	**13 45 40.6**	**-0.6**
ILAR	**Eielson Array** 0.4nm,0.5s,baz=249,slow=8.0,SNR=8.5	**23.37**	**41**	P	**P**	**13 45 49.2**	**-0.6**
DAWY	**Dawson** 4.0nm,0.9s	**26.42**	**45**	*e*P	**P**	**13 46 18.9**	**+1.0**
YAK	**Yakutsk** 11nm,0.4s,baz=222,slow=1.6,SNR=8.7	**26.45**	**311**	*e*P	**P**	**13 46 18.7**	**+0.6**
YAK	**Yakutsk** 22nm,0.7s	**26.45**	**311**	*e*P	**P**	**13 46 18.4**	**+0.3**
KLR	**Kul'dur** 2.1nm,0.7s,baz=72,slow=6.8,SNR=4.6	**27.56**	**282**	P	**P**	**13 46 28.5**	**+0.3**
INK	**Inuvik** 0.9nm,0.5s,baz=240,slow=9.6,SNR=5.6	**29.34**	**36**	P	**P**	**13 46 44.8**	**+1.0**
H11N2	**WAKE ISLAND Hy** baz=10,slow=76,SNR=64	**32.57**	**195**	T	T	14 21 44.4	
H11N3	**WAKE ISLAND Hy** baz=10,slow=76,SNR=85	**32.58**	**195**	T	T	14 21 53.3	
H11N1	**WAKE ISLAND Hy** baz=10,slow=76,SNR=90	**32.59**	**195**	T	T	14 21 45.8	
H11S1	**WAKE ISLAND Hy** baz=9.8,slow=76,SNR=27	**33.80**	**195**	T	T	14 23 17.3	
H11S3	**WAKE ISLAND Hy** baz=9.8,slow=76,SNR=64	**33.82**	**195**	T	T	14 23 15.5	
H11S2	**WAKE ISLAND Hy** baz=9.8,slow=76,SNR=12	**33.82**	**195**	T	T	14 23 18.6	
YKA	**Yellowknife Ar** 0.5nm,0.6s,baz=285,slow=7.3,SNR=4.3	**37.65**	**46**	P	**P**	**13 47 55.9**	**-0.2**
SONM	**Songino Array** 1.2nm,0.6s,baz=61,slow=8.3,SNR=8.0	**43.20**	**293**	P	**P**	**13 48 43.4**	**+1.0**
HHC	**Hu-ho-hao-te**	**44.06**	**282**	*e*P	**P**	**13 48 50.2**	**+0.9**
HHC	comp=Z,17nm,1.1s			pmax	pmax		
HHC	comp=Z,91nm,8.6s			pmax	pmax		
SLMT	**Seeley Lake**	**44.78**	**66**	*e*P	**P**	**13 48 54.3**	**-0.9**
TPNV	**Topopah Spring** comp=Z,6.3nm,1.4s	**49.31**	**79**	*e*P	**P**	**13 49 30.1**	**-0.4**
EDW2	**Edwards Air Fo**	**49.59**	**82**	*e*P	**P**	**13 49 34.6**	**+2.0**
PDAR	**Pinedale Array** comp=Z,0.1nm,0.3s,baz=296,slow=4.5,SNR=2.9	**49.66**	**69**	P	**P**	**13 49 31.5**	**-1.7**
GSC	**Goldstone, Bar**	**50.05**	**81**	*e*P	**P**	**13 49 36.5**	**+0.5**
ULM	**Lac du Bonnet** comp=Z,1.1nm,0.5s,baz=312,slow=12,SNR=3.3	**52.52**	**54**	P	**P**	**13 49 53.9**	**-0.4**
WMQ	**Urumqi**	**56.05**	**299**	P	**P**	**13 50 21.5**	**+1.3**
MK31	**Makanchi Array**	**56.92**	**305**	*e*P	**P**	**13 50 25.8**	**-0.5**
MKAR	**Makanchi Array** comp=Z,18nm,0.4s	**56.92**	**305**	*e*P	**P**	**13 50 24.7**	**-1.5**
MK01	**Makanchi Array**	**56.93**	**305**	*e*P	**P**	**13 50 25.4**	**-0.9**
ARCES	**ARCESS Array B** comp=Z,0.4nm,0.3s,baz=33,slow=8.2,SNR=9.3	**57.09**	**348**	P	**P**	**13 50 27.4**	**+0.2**
TX31	**Lajitas Ar. Si**	**62.19**	**77**	*e*P	**P**	**13 51 02.5**	**-0.5**
TXAR	**Lajitas Array** comp=Z,1.4nm,0.7s,baz=296,slow=4.5,SNR=14	**62.19**	**77**	P	**P**	**13 51 02.1**	**-0.8**
FINES	**FINESS Array B** comp=Z,1.7nm,0.8s,baz=90,slow=3.8,SNR=4.3	**64.58**	**344**	P	**P**	**13 51 17.8**	**-0.3**
KSH	**Kashi**	**65.32**	**303**	*e*P	**P**	**13 51 26.1**	**+2.6**
KSH	comp=Z,63nm,5.9s			pmax	pmax		
NB2	**NORSAR Subarra** comp=Z,0.8nm,0.6s,baz=11,slow=6.5	**66.91**	**352**	P	**P**	**13 51 33.5**	**+0.3**
NOA	**NORSAR Array B** comp=Z,0.5nm,0.6s,baz=356,slow=5.1,SNR=4.3	**66.91**	**352**	P	**P**	**13 51 33.8**	**+0.5**
AKASG	**Malin Array Be**	**74.02**	**338**	P	**P**	**13 52 17.4**	**+0.7**
	comp=Z,2.2nm,0.5s,baz=24,slow=6.3,SNR=4.9						
GERES	**GERESS Array B** comp=Z,0.5nm,0.7s,baz=3.1,slow=7.2,SNR=2.8	**78.63**	**348**	P	**P**	**13 52 42.7**	**-0.3**
WRA	**Warramunga Arr** comp=Z,0.4nm,0.7s,baz=28,slow=6.0,SNR=3.0	**79.83**	**219**	P	**P**	**13 52 48.2**	**-1.5**
BRTR	**Keskin Array B** comp=Z,0.8nm,0.6s,baz=34,slow=4.3,SNR=4.0	**83.03**	**331**	P	**P**	**13 53 07.0**	**+0.3**
ASAR	**Alice Springs** comp=Z,0.2nm,0.7s,baz=23,slow=5.6,SNR=4.0	**83.37**	**218**	P	**P**	**13 53 06.9**	**-1.5**

MEX 09 13:46:04.3±0.6, **16.89N**×**99.99W**, **h31**km±4km, **MD3.5, Near coast of Guerrero**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ACP2	**Acapulco**	**0.10**	**98**	*e*P	Pb	13 46 08.2	-1.5
ACP2				*e*S	Sb	13 46 11.8	-1.6
ACX	**Acapulco**	**0.13**	**98**	*i* P	Pn	13 46 12.8	+2.6
ACX				*i* S	Sb	13 46 16.5	+2.7
CAIG	**El Cayaco**	**0.31**	**301**	*e*P	Pb	13 46 10.4	-1.6
CAIG				*i* S	Sb	13 46 15.6	-1.6
MEIG	**Mezcala**	**1.09**	**19**	*e*P	Pn	13 46 20.4	-3.1
MEIG				*i* S	Sn	13 46 34.4	-3.3
ARIG	**Puente Sto Nin**	**1.43**	**346**	*e*P	Pn	13 46 26.3	-1.8
ARIG				*i* S	Sn	13 46 43.3	-2.6
TLIG	**Tlapa**	**1.52**	**64**	*i* P	Pn	13 46 27.6	-1.9
TLIG				*e*S	Sn	13 46 45.4	-2.8
PLIG	**Platanillo**	**1.57**	**17**	*e*P	Pn	13 46 28.5	-1.7
PLIG				*i* S	Sn	13 46 46.7	-2.7
ZIIG	**Zihuatanejo**	**1.58**	**297**	*i* P	Pn	13 46 29.2	-1.0
ZIIG				*i* S	Sn	13 46 46.5	-3.2
PNIG	**Pinotepa**	**1.85**	**105**	*i* P	Pn	13 46 32.3	-1.7
PNIG				*i* S	Sn	13 46 54.1	-2.2

*SJA **09** 14:03:54.3±0.8, 24.19S×66.46W, h262km±39km, ML3.0*
*ISCJB **09** 14:03:56.4±0.8, 24.14S±0.05×66.91W±0.09, h181km, Error ellipse: s-maj=13.1km s-min=4.9km az=151.5*
*GUC **09** 14:03:58.4±0.3, 23.84S×67.33W, h237km±10km, ML4.1*
ISC 09 14:03:55.0±1.3, **24.16S**±0.07×**66.8W**±0.1, **h181**km, **n15, σ2s04/25, 5C-2D, Salta Province**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AHML	**Horco Molle**	**2.93**	**153**	*e*P	**Pn**	**14 04 45.6**	**+2.7**
AHML				IAML		14 04 46.7	
	comp=Z,28nm,0.4s						
PB06	**IPOC Station P**	**2.93**	**299**	⇓*i* P	**Pn**	**14 04 45.1**	**+2.1**
PB06				*i* S	**Sn**	**14 05 20.5**	**+0.1**
PB06				IAML		14 05 21.9	
	comp=N,320nm,0.5s						
PB09	**IPOC Station P**	**3.26**	**316**	⇑*i* P	**Pn**	**14 04 49.9**	**+2.8**
PB09				*i* S	**Sn**	**14 05 28.6**	**+0.9**
ANCH	**Antofagasta**	**3.34**	**277**	⇑*i* P	**Pn**	**14 04 50.0**	**+2.2**
ANCH				*i* S	**Sn**	**14 05 29.2**	**+0.1**
PB04	**IPOC Station P**	**3.58**	**300**	⇑*i* P	**Pn**	**14 04 52.7**	**+1.6**
PB04				*i* S	**Sn**	**14 05 33.4**	**-1.3**
PB04				IAML		14 05 36.8	
	comp=N,200nm,0.5s						
PB07	**IPOC Station P**	**3.74**	**310**	⇑*i* P	**Pn**	**14 04 54.3**	**+1.3**
PB07				*i* S	**Sn**	**14 05 36.7**	**-1.6**
PB01	**IPOC Station P**	**3.98**	**321**	⇑*i* P	**Pn**	**14 04 57.2**	**+1.3**
PB01				IAML		14 05 45.8	
	comp=N,86nm,0.3s						
PB02	**IPOC Station P**	**4.02**	**314**	*e*P	**Pn**	**14 04 57.8**	**+1.3**
PB02				*i* S	**Sn**	**14 05 42.7**	**-2.0**
PB02				IAML		14 05 47.4	
	comp=E,198nm,0.3s						
PATCX	**Punta Patache**	**4.55**	**316**	*e*P	**Pn**	**14 05 04.3**	**+1.0**
PATCX				*i* S	**Sn**	**14 05 54.6**	**-2.1**
PB08	**IPOC Station P**	**4.56**	**331**	⇓*i* P	**Pn**	**14 05 05.7**	**+2.0**
PB08				*e*S	**Sn**	**14 05 57.7**	**+0.3**
VCA	**Vinchina**	**4.73**	**195**	*e*P	**Pn**	**14 05 09.2**	**+3.6**
VCA				IAML		14 05 10.8	
	comp=Z,6.8nm,0.4s						
PB11	**IPOC Station P**	**5.12**	**328**	*e*P	**Pn**	**14 05 10.7**	**0.0**
PB11				*e*S	**Sn**	**14 06 07.3**	**-2.9**
AGUA	**GUANDACOL**	**5.51**	**196**	*e*P	**Pn**	**14 05 17.5**	**+1.7**
APLL	**PUNTA DE LOS L**	**6.21**	**178**	*e*P	**Pn**	**14 05 26.0**	**+1.1**
ACHE	**Chepes**	**6.97**	**179**	*e*P	**Pn**	**14 05 35.3**	**+0.3**
ACHE				*e*S	**Sn**	**14 06 50.1**	**-3.7**

*CSEM **09** 14:05:46.0, 43.38N×45.81E, h15km, mb4.0*
*MOS **09** 14:05:46.0±1.1, 43.38N×45.81E, h15km, mb4.0/1, Error ellipse: s-maj=9.1km s-min=6.9km az=20.5*
ISC 09 14:05:45.9±1.2, **43.39N**±0.05×**45.81E**±0.02, **h12**km±8km, **n40, σ0s76/78, 1C-2D, Eastern Caucasus**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GROC	**Groznyy**	**0.19**	**183**	*e*PG	**Pg**	**14 05 49.8**	**-0.3**
GROC				*e*		14 05 55.2	
GROC	comp=Z,79nm,0.2s			pmax	pmax		
GROC	comp=N,297nm,0.4s			smax	smax		
GROC	comp=N,327nm,0.5s			smax	smax		
GROC	comp=E,154nm,0.3s			smax	smax		
KMGR	**Komgaron**	**0.77**	**244**	*e*PG	**Pn**	**14 06 02.8**	**+0.3**
KMGR				*e*S	**Sn**	**14 06 14.2**	**+0.2**
DBC	**Dubki**	**0.83**	**116**	⇓*i* PG	**Pg**	**14 06 01.1**	**-0.9**
DBC				*i* S	**Sb**	**14 06 13.7**	**+0.2**
DBC	comp=Z,16nm,0.1s			pmax	pmax		
DBC	**Dubki** comp=Z,16nm,0.1s	**0.83**	**116**	*i* Pg	**Pg**	**14 06 01.1**	**-0.9**
DBC				*i* Sg	**Sb**	**14 06 13.7**	**+0.2**
VLKR	**Vladikavkaz**	**0.90**	**248**	*e*PG	**Pb**	**14 06 03.6**	**+0.2**
VLKR				*e*S	**Sn**	**14 06 17.0**	**-0.2**
VLKR	**Vladikavkaz**	**0.90**	**248**	*e*Pg	**Pb**	**14 06 03.6**	**+0.2**
VLKR				*e*Sg	**Sn**	**14 06 17.0**	**-0.2**
BTKR	**Batakoyurt**	**0.92**	**269**	*e*PG	**Pg**	**14 06 03.7**	**0.0**
BTKR				*e*S	**Sb**	**14 06 16.6**	**+0.5**
BTKR	**Batakoyurt**	**0.92**	**269**	*e*Pg	**Pg**	**14 06 03.7**	**0.0**
BTKR				*e*Sg	**Sb**	**14 06 16.6**	**+0.5**
KRNR	**Karanay**	**0.98**	**125**	*e*PG	**Pg**	**14 06 05.0**	**+0.2**
KRNR				*e*S	**Sb**	**14 06 18.2**	**+0.4**
KRNR	**Karanay**	**0.98**	**125**	*e*Pg	**Pg**	**14 06 05.0**	**+0.2**
KRNR				*e*Sg	**Sb**	**14 06 18.2**	**+0.4**
UNCR	**Uncukul**	**0.99**	**133**	*e*PG	**Pb**	**14 06 03.0**	**-2.0**
UNCR				*e*S	**Sb**	**14 06 18.0**	**0.0**
UNCR	comp=Z,36nm,0.2s			pmax	pmax		
UNCR	**Uncukul** comp=Z,36nm,0.2s	**0.99**	**133**	*e*Pg	**Pb**	**14 06 03.0**	**-2.0**
UNCR				*e*Sg	**Sb**	**14 06 18.0**	**0.0**
XNZR	**Khunzakh**	**1.08**	**142**	*e*PG	**Pb**	**14 06 05.9**	**-0.6**
XNZR				*e*S	**Sn**	**14 06 21.7**	**-0.1**
XNZR	**Khunzakh**	**1.08**	**142**	*e*Pg	**Pb**	**14 06 05.9**	**-0.6**
XNZR				*e*Sg	**Sn**	**14 06 21.7**	**-0.1**
ARNR	**Ardon**	**1.13**	**260**	*e*PG	**Pb**	**14 06 07.4**	**0.0**
ARNR				*e*S	**Sn**	**14 06 23.7**	**+0.7**
ARNR	**Ardon**	**1.13**	**260**	*e*Pg	**Pb**	**14 06 07.4**	**0.0**
ARNR				*e*Sg	**Sn**	**14 06 23.7**	**+0.7**
PRTR	**Priterechnaya**	**1.17**	**288**	*e*PG	**Pn**	**14 06 08.0**	**0.0**
PRTR				*e*S	**Sn**	**14 06 24.2**	**+0.4**
PRTR	**Priterechnaya**	**1.17**	**288**	*e*Pg	**Pn**	**14 06 08.0**	**0.0**
PRTR				*e*Sg	**Sn**	**14 06 24.2**	**+0.4**
LACR	**Lac**	**1.24**	**243**	⇓*i* PG	**Pn**	**14 06 08.0**	**-1.2**
LACR				*e*S	**Sg**	**14 06 26.3**	**+0.3**
LACR	**Lac**	**1.24**	**243**	*i* Pg	**Pn**	**14 06 08.0**	**-1.2**
LACR				*e*Sg	**Sg**	**14 06 26.3**	**+0.3**
KORR	**Kora**	**1.31**	**257**	*e*PG	**Pn**	**14 06 09.4**	**-0.6**
KORR				*e*S	**Sg**	**14 06 28.2**	**+0.1**
KORR	**Kora**	**1.31**	**257**	*e*Pg	**Pn**	**14 06 09.4**	**-0.6**
KORR				*e*Sg	**Sg**	**14 06 28.2**	**+0.1**
GNBR	**Gunib**	**1.31**	**139**	*e*PG	**Pg**	**14 06 10.8**	**-0.3**
GNBR				*e*S	**Sg**	**14 06 30.1**	**+1.9**
GNBR	comp=Z,31nm,0.4s			pmax	pmax		
GNBR	**Gunib** comp=Z,31nm,0.4s	**1.31**	**139**	*e*Pg	**Pg**	**14 06 10.8**	**-0.3**
GNBR				*e*Sg	**Sg**	**14 06 30.1**	**+1.9**
ZEI	**Tsey**	**1.52**	**247**	*e*PG	**Pn**	**14 06 12.7**	**-0.4**
ZEI				*e*S	**Sb**	**14 06 33.7**	**+0.2**
KMKR	**Kumukh**	**1.58**	**143**	*e*PG	**Pb**	**14 06 15.0**	**-0.1**
KMKR				*e*S	**Sg**	**14 06 37.0**	**+0.3**
	comp=Z,28nm,0.3s						
KMKR	**Kumukh** comp=Z,28nm,0.3s	**1.58**	**143**	*e*Pg	**Pb**	**14 06 15.0**	**-0.1**
KMKR				*e*Sg	**Sg**	**14 06 37.0**	**+0.3**
DIGR	**Digorskoe uzhe**	**1.71**	**254**	*e*PN	**Pn**	**14 06 15.0**	**-0.6**
DIGR				*e*S	**Sb**	**14 06 38.0**	**-0.7**
DIGR	**Digorskoe uzhe**	**1.71**	**254**	*e*Pn	**Pn**	**14 06 15.0**	**-0.6**
DIGR				*e*Sg	**Sb**	**14 06 38.0**	**-0.7**
KBTC	**Kuba-Taba**	**1.79**	**284**	*e*PN	**Pn**	**14 06 17.6**	**+0.9**
KBTC				*e*S	**Sb**	**14 06 42.3**	**+1.2**
ONI	**Oni**	**1.91**	**246**	P	**Pb**	**14 06 19.5**	**-1.1**
ONI				S	**Sb**	**14 06 45.1**	**+0.7**
ONI	**Oni**	**1.91**	**246**	PN	**Pb**	**14 06 19.5**	**-1.1**
BEYR	**Belyy Ugol+**	**2.26**	**287**	*e*PN	**Pn**	**14 06 23.5**	**+0.5**
BEYR				*e*S	**Sb**	**14 06 53.6**	**-0.8**
BEYR	**Belyy Ugol+**	**2.26**	**287**	*e*Pn	**Pn**	**14 06 23.5**	**+0.5**
BEYR				*e*Sn	**Sb**	**14 06 53.6**	**-0.8**
NEY	**Neytrino**	**2.26**	**267**	⇑*e*PN	**Pn**	**14 06 24.0**	**+0.8**
NEY				*e*S	**Sb**	**14 06 54.3**	**-0.3**
NEY	**Neytrino**	**2.26**	**267**	*e*Pn	**Pn**	**14 06 24.0**	**+0.8**
NEY				*e*Sn	**Sb**	**14 06 54.3**	**-0.3**
KIV	**Kislovodsk**	**2.33**	**285**	*e*PN	**Pn**	**14 06 24.7**	**+0.6**
KIV				*e*S	**Sb**	**14 06 55.6**	**-1.1**
KIV	**Kislovodsk**	**2.33**	**285**	*e*Pn	**Pn**	**14 06 24.7**	**+0.6**
KIV				*e*Sn	**Sb**	**14 06 55.6**	**-1.1**
AKT	**Akhty**	**2.38**	**143**	*e*PN	**Pb**	**14 06 28.1**	**-0.6**
AKT				*e*S	**Sb**	**14 06 59.7**	**+1.6**
AKT	comp=Z,7.0nm,0.5s			pmax	pmax		
AKT	**Akhty** comp=Z,7.0nm,0.5s	**2.38**	**143**	*e*Pn	**Pb**	**14 06 28.1**	**-0.6**
AKT				*e*Sn	**Sb**	**14 06 59.7**	**+1.6**

*MOS **09** 14:07:09.0±1.3, 43.41N×45.74E, h9km, mb4.0/1, Error ellipse: s-maj=8.7km s-min=6.7km az=18.1*
*CSEM **09** 14:07:09.0, 43.41N×45.74E, h9km, mb4.0*
ISC 09 14:07:09.0±1.3, **43.38N**±0.05×**45.73E**±0.02, **h4**km±10km, **n42, σ0s94/79, Eastern Caucasus**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GROC	**Groznyy**	**0.18**	**166**	*e*PG	**Pg**	**14 07 13.2**	**+0.6**
GROC				*e*		14 07 18.8	
GROC	comp=Z,77nm,0.2s			pmax	pmax		
GROC	comp=N,109nm,0.6s			smax	smax		
GROC	comp=N,101nm,0.5s			smax	smax		
GROC	comp=E,90nm,0.6s			smax	smax		
KMGR	**Komgaron**	**0.71**	**243**	*e*PG	**Pb**	**14 07 23.5**	**-0.5**
KMGR				*e*S	**Sb**	**14 07 34.8**	**+0.6**
VLKR	**Vladikavkaz**	**0.84**	**247**	*e*PG	**Pb**	**14 07 26.2**	**0.0**
VLKR				*e*S	**Sn**	**14 07 39.5**	**-1.1**
VLKR	**Vladikavkaz**	**0.84**	**247**	*e*Pg	**Pb**	**14 07 26.2**	**0.0**
VLKR				*e*Sg	**Sn**	**14 07 39.5**	**-1.1**
KRNR	**Karanay**	**1.02**	**122**	*e*PG	**Pb**	**14 07 29.0**	**-0.3**
KRNR				*e*S	**Sb**	**14 07 42.5**	**-0.7**
KRNR	**Karanay**	**1.02**	**122**	*e*Pg	**Pb**	**14 07 29.0**	**-0.3**
KRNR				*e*Sg	**Sb**	**14 07 42.5**	**-0.7**
UNCR	**Uncukul**	**1.02**	**130**	*e*PG	**Pg**	**14 07 27.0**	**-1.6**
UNCR				*e*S	**Sg**	**14 07 42.0**	**+0.1**
UNCR	comp=Z,21nm,0.2s			pmax	pmax		
UNCR	**Uncukul** comp=Z,21nm,0.2s	**1.02**	**130**	*e*Pg	**Pg**	**14 07 27.0**	**-1.6**
UNCR				*e*Sg	**Sg**	**14 07 42.0**	**+0.1**
ARNR	**Ardon**	**1.08**	**260**	*e*PG	**Pn**	**14 07 31.2**	**+0.3**
ARNR				*e*S	**Sn**	**14 07 48.7**	**+2.3**
ARNR	**Ardon**	**1.08**	**260**	*e*Pg	**Pn**	**14 07 31.2**	**+0.3**
ARNR				*e*Sg	**Sn**	**14 07 48.7**	**+2.3**
XNZR	**Khunzakh**	**1.10**	**139**	*e*PG	**Pg**	**14 07 29.6**	**-0.5**
XNZR				*e*S	**Sb**	**14 07 45.3**	**-0.2**
XNZR	**Khunzakh**	**1.10**	**139**	*e*Pg	**Pg**	**14 07 29.6**	**-0.5**
XNZR				*e*Sg	**Sb**	**14 07 45.3**	**-0.2**
PRTR	**Priterechnaya**	**1.12**	**290**	*e*PG	**Pn**	**14 07 30.9**	**-0.6**
PRTR				*e*S	**Sn**	**14 07 48.3**	**+1.0**
PRTR	**Priterechnaya**	**1.12**	**290**	*e*Pg	**Pn**	**14 07 30.9**	**-0.6**
PRTR				*e*Sg	**Sn**	**14 07 48.3**	**+1.0**
LACR	**Lac**	**1.19**	**243**	*e*PG	**Pb**	**14 07 31.6**	**-0.6**
LACR				*e*S	**Sn**	**14 07 49.1**	**-0.2**
LACR	**Lac**	**1.19**	**243**	*e*Pg	**Pb**	**14 07 31.6**	**-0.6**
LACR				*e*Sg	**Sn**	**14 07 49.1**	**-0.2**
STDR	**Stavd-Durt**	**1.22**	**270**	*e*PG	**Pg**	**14 07 33.0**	**+0.6**
STDR				*e*S	**Sn**	**14 07 52.0**	**+2.2**
STDR	**Stavd-Durt**	**1.22**	**270**	*e*Pg	**Pg**	**14 07 33.0**	**+

Error ellipse: s-maj=1.4km s-min=1.2km az=88.0
*ISCJB **09** 14:24:03.4±0.2, 44°.63N±0'.01×10°.22E±0'.02, h25km±2km,*
Error ellipse: s-maj=2.6km s-min=2.2km az=43.4
*PRU **09** 14:24:04.7, 44°.53N×10°.54E, h34km*
*LDG **09** 14:24:04.2±0.2, 44°.60N×10°.54E, h20km, Md2.9/3,*
Ml3.3/15, Error ellipse: s-maj=4.6km s-min=4.0km az=82.0

ISC 09 14:24:03.3±0.9, 44°.62N±0'.01×10°.26E±0'.01, h18km±3km,
n168, σ1°60/269, 2C, Northern Italy

Code	Station Name	Δ°	AZ°	Phase	ID	Time h m s	Res ISC
PRMA	**PARMA**	**0.15**	**16**	Pg	**Pb**	**14 24 07.2**	**+0.2**
PRMA				Sg	**Sg**	**14 24 11.7**	**+1.2**
	18μm,0.9s						
PRMA	**PARMA**	**0.15**	**16**	Pg	**Pb**	**14 24 07.2**	**+0.2**
GRAM	**Graiana**	**0.18**	**228**	P	**Pb**	**14 24 07.3**	**-0.5**
GRAM				S	**Sg**	**14 24 12.0**	**+0.8**
CODM	**Codolo**	**0.37**	**232**	P	**Pg**	**14 24 10.7**	**-0.2**
CODM				S	**Sb**	**14 24 17.2**	**+0.5**
NOVE	**Novellara**	**0.38**	**61**	Pg	**Pg**	**14 24 11.0**	**-0.1**
NOVE				Sg	**Sb**	**14 24 18.2**	**+1.2**
	4μm,0.7s						
NOVE	**Novellara**	**0.38**	**61**	Pg	**Pg**	**14 24 11.0**	**-0.1**
SARO	**Sassorosso**	**0.44**	**166**	P	**Pb**	**14 24 12.1**	**-0.2**
SARO				S	**Sb**	**14 24 19.0**	**+0.1**
VLC	**Villacollemand**	**0.47**	**168**	Pg	**Pg**	**14 24 12.7**	**0.0**
VLC				Sg	**Sb**	**14 24 20.3**	**+0.8**
	5μm,1.0s						
VLC	**Villacollemand**	**0.47**	**168**	Pg	**Pg**	**14 24 12.7**	**0.0**
VLC				Sg	**Sb**	**14 24 20.3**	**+0.8**
	5μm,1.0s						
SC2M	**Scurtabo**	**0.56**	**248**	Pg	**Pg**	**14 24 13.7**	**-0.7**
SC2M				Sg	**Sb**	**14 24 22.9**	**+0.8**
	3μm,0.4s						
SC2M	**Scurtabo**	**0.56**	**248**	P	**Pg**	**14 24 13.7**	**-0.7**
SC2M				Sg	**Sb**	**14 24 22.9**	**+0.8**
	3μm,0.4s						
SC2M				S	**Sg**	**14 24 23.5**	**+1.6**
ZCCA	**Zocca**	**0.58**	**117**	Pg	**Pb**	**14 24 15.8**	**+0.9**
	470nm,0.5s						
ZCCA	**Zocca**	**0.58**	**117**	Pg	**Pb**	**14 24 15.8**	**+0.9**
	470nm,0.5s						
BOB	**Bobbio (Coli)**	**0.59**	**285**	Pg	**Pg**	**14 24 14.6**	**-0.5**
BOB				Sg	**Sg**	**14 24 22.8**	**-0.3**
	1μm,0.6s						
BOB	**Bobbio (Coli)**	**0.59**	**285**	Pg	**Pg**	**14 24 14.6**	**-0.5**
BOB				Sg	**Sg**	**14 24 22.8**	**-0.3**
	1μm,0.6s						
BDI	**Bagni Di Lucca**	**0.60**	**156**	Pg	**Pg**	**14 24 15.1**	**-0.2**
BDI				Sg	**Sb**	**14 24 24.0**	**+0.5**
	2μm,0.6s						
BDI	**Bagni Di Lucca**	**0.60**	**156**	Pg	**Pg**	**14 24 15.1**	**-0.2**
BDI				Sg	**Sb**	**14 24 24.0**	**+0.5**
	2μm,0.6s						
MSSA	**Maissana**	**0.61**	**241**	Pg	**Pg**	**14 24 14.5**	**-0.8**
MSSA				Sg	**Sb**	**14 24 23.6**	**+0.1**
	633nm,0.4s						
MSSA	**Maissana**	**0.61**	**241**	Pg	**Pg**	**14 24 14.5**	**-0.8**
MSSA				Sg	**Sb**	**14 24 23.6**	**+0.1**
	633nm,0.4s						
RAVA	**Ravarino**	**0.63**	**77**	Pg	**Pn**	**14 24 17.6**	**+0.3**
RAVA	**Ravarino**	**0.63**	**77**	Pg	**Pn**	**14 24 17.6**	**+0.3**
SBPO	**S.Benedetto Po**	**0.64**	**47**	Pg	**Pg**	**14 24 16.9**	**+0.9**
	3μm,1.3s						
SBPO	**S.Benedetto Po**	**0.64**	**47**	Pg	**Pg**	**14 24 16.9**	**+0.9**
	3μm,1.3s						
POPM	**Popiglio**	**0.67**	**147**	P	**Pb**	**14 24 16.6**	**+0.1**
POPM				S	**Sn**	**14 24 27.3**	**-0.7**
MAIM	**Mastiano**	**0.72**	**166**	Pg	**Pb**	**14 24 16.7**	**-0.6**
MAIM				Sg	**Sg**	**14 24 28.0**	**+1.0**
	463nm,0.5s						
MAIM	**Mastiano**	**0.72**	**166**	P	**Pb**	**14 24 16.7**	**-0.6**
MAIM				S	**Sg**	**14 24 27.5**	**+0.5**
MAIM				Sg	**Sg**	**14 24 28.0**	**+1.0**
	463nm,0.5s						
FNVD	**Fontana Vidola**	**0.77**	**125**	Pg	**Pb**	**14 24 18.4**	**+0.3**
	894nm,0.9s						
FNVD	**Fontana Vidola**	**0.77**	**125**	Pg	**Pb**	**14 24 18.4**	**+0.3**
	894nm,0.9s						
PTF	**Prato**	**0.88**	**138**	Pg	**Pb**	**14 24 20.1**	**+0.1**
PTF	**Prato**	**0.88**	**138**	Pg	**Pb**	**14 24 20.1**	**+0.1**
SEI	**Scarperia**	**0.97**	**125**	Pg	**Pn**	**14 24 22.2**	**+0.2**
SEI	**Scarperia**	**0.97**	**125**	Pg	**Pn**	**14 24 22.2**	**+0.2**
CRMI	**Carmignano**	**0.97**	**148**	Pg	**Pb**	**14 24 21.8**	**+0.2**
	524nm,0.9s						
CRMI	**Carmignano**	**0.97**	**148**	Pg	**Pb**	**14 24 21.8**	**+0.2**
	524nm,0.9s						
SALO	**Salr**	**1.02**	**11**	Pg	**Pb**	**14 24 22.3**	**-0.1**
	2μm,0.7s						
SALO	**Salr**	**1.02**	**11**	Pg	**Pb**	**14 24 22.3**	**-0.1**
	2μm,0.7s						
ROVR	**Rover¯¤ Verone**	**1.18**	**29**	Pg	**Pn**	**14 24 24.1**	**-0.9**
ROVR				Sg	**Sb**	**14 24 40.5**	**+0.2**
	2μm,0.6s						
ROVR	**Rover¯¤ Verone**	**1.18**	**29**	Pg	**Pn**	**14 24 24.1**	**-0.9**
ROVR				Sg	**Sb**	**14 24 40.5**	**+0.2**
	2μm,0.6s						
MAGA	**Magasa**	**1.19**	**13**	Pg	**Pn**	**14 24 24.2**	**-0.9**
MAGA				Sg	**Sn**	**14 24 41.0**	**+0.1**
	2μm,0.5s						
MAGA	**Magasa**	**1.19**	**13**	Pg	**Pn**	**14 24 24.2**	**-0.9**
MAGA				Sg	**Sn**	**14 24 41.0**	**+0.1**
	2μm,0.5s						
GROG	**Isola di Gorgo**	**1.22**	**193**	Pg	**Pn**	**14 24 25.1**	**-0.2**
	413nm,0.8s						
GROG	**Isola di Gorgo**	**1.22**	**193**	Pg	**Pn**	**14 24 25.1**	**-0.2**
	413nm,0.8s						
PCP	**Piancastagn**	**1.22**	**267**	Pg	**Pb**	**14 24 25.8**	**-0.1**
	443nm,0.6s						
PCP	**Piancastagn**	**1.22**	**267**	Pg	**Pb**	**14 24 25.8**	**-0.1**
	443nm,0.6s						
TEOL	**Teolo**	**1.25**	**53**	Pg	**Pn**	**14 24 24.9**	**-0.9**
TEOL				Sg	**Sn**	**14 24 42.7**	**+0.5**
	3μm,0.9s						
TEOL	**Teolo**	**1.25**	**53**	Pg	**Pn**	**14 24 24.9**	**-0.9**
TEOL				Sg	**Sn**	**14 24 42.7**	**+0.5**
	3μm,0.9s						
SFI	**Santa Sofia**	**1.35**	**121**	Pg	**Pg**	**14 24 29.4**	**+0.2**
	316nm,0.9s						
SFI	**Santa Sofia**	**1.35**	**121**	Pg	**Pg**	**14 24 29.4**	**+0.2**
	316nm,0.9s						
SASS	**Sassa´´´´**	**1.39**	**167**	Pg	**Pn**	**14 24 28.3**	**+0.5**
SASS				Sg	**Sb**	**14 24 46.6**	**+0.4**
	266nm,0.9s						
SASS	**Sassa´´´´**	**1.39**	**167**	Pg	**Pn**	**14 24 28.3**	**+0.5**
SASS				Sg	**Sb**	**14 24 46.6**	**+0.4**
	266nm,0.9s						
QLNO	**Quiliano**	**1.40**	**259**	Pg	**Pn**	**14 24 28.2**	**+0.3**
QLNO				Sg	**Sn**	**14 24 45.3**	**-0.6**
	188nm,0.6s						
QLNO	**Quiliano**	**1.40**	**259**	Pg	**Pn**	**14 24 28.2**	**+0.3**
QLNO				Sg	**Sn**	**14 24 45.3**	**-0.6**
	188nm,0.6s						
MABI	**Malga Bissina**	**1.45**	**7**	Pg	**Pn**	**14 24 28.1**	**-0.7**
	234nm,0.8s						
TRIF	**Trifonti**	**1.57**	**162**	Pg	**Pn**	**14 24 31.0**	**+0.7**
	159nm,0.8s						
TRIF	**Trifonti**	**1.57**	**162**	Pg	**Pn**	**14 24 31.0**	**+0.7**
	159nm,0.8s						
CRE	**Caprese Michel**	**1.57**	**129**	Pg	**Pb**	**14 24 31.9**	**0.0**
	169nm,0.8s						
CRE	**Caprese Michel**	**1.57**	**129**	Pg	**Pb**	**14 24 31.9**	**0.0**
	169nm,0.8s						
RORO	**Rocca Rossa**	**1.65**	**253**	Pg	**Pn**	**14 24 31.4**	**+0.1**
	95nm,0.5s						
CGRP	**Cima Grappa**	**1.67**	**40**	Pg	**Pn**	**14 24 30.6**	**-1.2**
	426nm,0.8s						
BERNI	**Berninapass**	**1.81**	**355**	Pg	**Pn**	**14 24 33.7**	**0.0**
	158nm,0.7s						
IMI	**Imperia**	**1.84**	**248**	Pg	**Pn**	**14 24 33.8**	**-0.2**
	135nm,0.5s						
CASP	**Castiglione de**	**1.88**	**166**	Pg	**Pn**	**14 24 34.7**	**+0.3**
	161nm,0.8s						
FUORN	**Ofenpass-Fuorn**	**2.01**	**0**	Pg	**Pn**	**14 24 37.8**	**+1.3**
	173nm,1.1s						
MOSI	**Grossmontoni**	**2.01**	**6**	Pg	**Pn**	**14 24 37.1**	**+0.6**
	564nm,0.8s						
SBF	**Sospel**	**2.16**	**251**	*e*Pn	**Pn**	**14 24 39.1**	**+0.7**
	SNR=1.0						
SBF				*e*Sn	**Sb**	**14 25 08.0**	**-0.3**
SBF	**Sospel**	**2.16**	**251**	*e*Pn	**Pn**	**14 24 39.1**	**+0.7**
	SNR=1.0						
SBF				*e*Sn	**Sb**	**14 25 08.0**	**-0.3**
PGF	**Pioggiola**	**2.26**	**204**	*e*Pn	**Pn**	**14 24 40.3**	**+0.5**
	SNR=1.0						
PGF				*e*Sn	**Sn**	**14 25 06.6**	**-0.6**
	23nm,0.4s,SNR=1.0						
PGF	**Pioggiola**	**2.26**	**204**	*e*Pn	**Pn**	**14 24 40.3**	**+0.5**
	SNR=1.0						
PGF				*e*Sn	**Sn**	**14 25 06.6**	**-0.6**
	12nm,0.4s,SNR=1.0						
FETA	**Feichten**	**2.43**	**8**	*e*Pn	**Pn**	**14 24 42.7**	**+0.5**
	4.8nm,0.4s,SNR=9.9						
FETA				Sn	**Sn**	**14 25 12.9**	**+1.4**
	36nm,0.8s						
FETA	**Feichten**	**2.43**	**8**	Pn	**Pn**	**14 24 42.7**	**+0.5**
	4.8nm,0.4s,SNR=9.9						
FETA				Sn	**Sn**	**14 25 12.9**	**+1.4**
	36nm,0.8s						
MBDF	**Montbardon**	**2.49**	**274**	*e*Pn	**Pb**	**14 24 45.3**	**-2.2**
	SNR=1.0						
MBDF	**Montbardon**	**2.49**	**274**	*e*Pn	**Pb**	**14 24 45.3**	**-2.2**
	SNR=1.0						
LPG	**La Plagne**	**2.63**	**291**	*e*Pn	**Pn**	**14 24 46.2**	**+1.1**
	SNR=1.0						
LPG	**La Plagne**	**2.63**	**291**	*e*Pn	**Pn**	**14 24 46.2**	**+1.1**
	SNR=1.0						
LPL	**La Plagne**	**2.65**	**291**	*e*Pn	**Pn**	**14 24 47.4**	**+2.1**
	SNR=1.0						
LPL	**La Plagne**	**2.65**	**291**	*e*Pn	**Pn**	**14 24 47.4**	**+2.1**
	SNR=1.0						
ABTA	**Abfaltersbach**	**2.66**	**36**	*e*Pn	**Pn**	**14 24 45.5**	**+0.3**
	5.2nm,0.2s,SNR=11						
ABTA				*e*Sg	**Sg**	**14 25 29.3**	**+0.7**
	32nm,0.6s						
ABTA	**Abfaltersbach**	**2.66**	**36**	Pn	**Pn**	**14 24 45.5**	**+0.3**
	5.2nm,0.2s,SNR=11						
ABTA				Sg	**Sg**	**14 25 29.3**	**+0.7**
	32nm,0.6s						
DAVA	**Damuels**	**2.69**	**355**	*e*Pn	**Pn**	**14 24 47.0**	**+1.4**
	46nm,0.4s,SNR=20						
DAVA				*e*Sn	**Sn**	**14 25 20.3**	**+2.4**
	29nm,0.2s						
DAVA	**Damuels**	**2.69**	**355**	*e*Pn	**Pn**	**14 24 47.1**	**+1.4**
DAVA				*e*Sn	**Sn**	**14 25 20.5**	**+2.6**
DAVA	**Damuels**	**2.69**	**355**	Pn	**Pn**	**14 24 47.1**	**+1.4**
DAVA				Sn	**Sn**	**14 25 20.3**	**+2.4**
	29nm,0.2s						
OBER	**Oberstdorf**	**2.79**	**1**	*e*Pn	**Pn**	**14 24 48.6**	**+1.5**
OBER				*e*Sn	**Sn**	**14 25 22.4**	**+2.0**
OBER	**Oberstdorf**	**2.79**	**1**	Pn	**Pn**	**14 24 48.6**	**+1.5**
OBER				Sn	**Sn**	**14 25 22.4**	**+2.0**
MOTA	**Moosalm**	**2.79**	**12**	*e*Pn	**Pn**	**14 24 48.6**	**+1.4**
	16nm,0.3s,SNR=19						
MOTA	**Moosalm**	**2.79**	**12**	Pn	**Pn**	**14 24 48.6**	**+1.4**
	16nm,0.3s,SNR=19						
FRF	**La Foret Royal**	**2.81**	**249**	*e*Pn	**Pn**	**14 24 47.5**	**+0.3**
	SNR=1.0						
FRF				*e*Sn	**Sn**	**14 25 21.5**	**+0.9**
	71nm,0.4s,SNR=1.0						
FRF	**La Foret Royal**	**2.81**	**249**	*e*Pn	**Pn**	**14 24 47.5**	**+0.3**
	SNR=1.0						
FRF				*e*Sn	**Sn**	**14 25 21.5**	**+0.9**
	36nm,0.4s,SNR=1.0						
WTTA	**Wattenberg**	**2.82**	**20**	*e*Pn	**Pn**	**14 24 48.7**	**+1.1**
	9.0nm,0.2s,SNR=14						
WTTA				*e*Sn	**Sn**	**14 25 24.1**	**+2.9**
	94nm,0.8s						
WTTA	**Wattenberg**	**2.82**	**20**	*e*PN	**Pn**	**14 24 48.4**	**+0.8**
WTTA	**Wattenberg**	**2.82**	**20**	*e*Pn	**Pn**	**14 24 48.7**	**+1.1**
WTTA				*e*Sn	**Sb**	**14 25 24.7**	**-2.8**
WTTA	**Wattenberg**	**2.82**	**20**	Pn	**Pn**	**14 24 48.7**	**+1.1**
WTTA				Sn	**Sn**	**14 25 24.1**	**+2.9**
	94nm,0.8s						
SKDS	**Skadanscina**	**2.82**	**69**	*i*Pn	**Pn**	**14 24 45.9**	**-1.5**
SKDS				*i* Sn	**Sn**	**14 25 18.0**	**-3.0**
	comp=Z,18nm,0.1s						
SKDS	**Skadanscina**	**2.82**	**69**	*i*Pn	**Pn**	**14 24 45.9**	**-1.5**
SKDS				*i* Sn	**Sn**	**14 25 18.0**	**-3.0**
	comp=Z,18nm,0.1s						
WATA	**Walderalm**	**2.87**	**18**	*e*Pn	**Pn**	**14 24 49.9**	**+1.6**
	comp=Z,8.3nm,0.2s,SNR=10						
WATA	**Walderalm**	**2.87**	**18**	Pn	**Pn**	**14 24 49.9**	**+1.6**
	comp=Z,8.3nm,0.2s,SNR=10						
RETA	**Reutte**	**2.90**	**7**	*e*Pn	**Pn**	**14 24 49.5**	**+1.0**
	comp=Z,3.6nm,0.2s,SNR=7.9						
RETA				*e*Sn	**Sn**	**14 25 24.8**	**+1.9**
	comp=Z,16nm,0.4s						
RETA	**Reutte**	**2.90**	**7**	Pn	**Pn**	**14 24 49.5**	**+1.0**
	comp=Z,3.6nm,0.2s,SNR=7.9						
RETA				Sn	**Sn**	**14 25 24.8**	**+1.9**
	comp=Z,16nm,0.4s						
LMR	**La Mourre**	**2.99**	**246**	*e*Pn	**Pn**	**14 24 49.9**	**+0.1**
	SNR=1.0						
LMR				*e*Sn	**Sn**	**14 25 24.7**	**-0.4**
LMR	**La Mourre**	**2.99**	**246**	*e*Pn	**Pn**	**14 24 49.9**	**+0.1**
	SNR=1.0						
LMR				*e*Sn	**Sn**	**14 25 24.7**	**-0.4**
MYKA	**Terra Mystica**	**3.12**	**49**	*i* Pn	**Pn**	**14 24 52.3**	**+0.7**
	comp=Z,2.8nm,0.2s						
MYKA	**Terra Mystica**	**3.12**	**49**	Pn	**Pn**	**14 24 52.3**	**+0.7**
	comp=Z,2.8nm,0.2s						
ORIF	**Oris-en-Rattie**	**3.13**	**277**	*e*Pn	**Pn**	**14 24 53.4**	**+1.6**
	SNR=1.0						
ORIF	**Oris-en-Rattie**	**3.13**	**277**	*e*P	**Pb**	**14 24 55.6**	**-2.8**
ORIF				*e*Sn	**Sb**	**14 25 32.7**	**-3.6**
	comp=Z,58nm,0.5s,SNR=1.0						
ORIF	**Oris-en-Rattie**	**3.13**	**277**	*e*Pn	**Pn**	**14 24 53.4**	**+1.6**
	SNR=1.0						
ORIF	**Oris-en-Rattie**	**3.13**	**277**	*e*P	**Pb**	**14 24 55.6**	**-2.8**
ORIF				*e*Sn	**Sb**	**14 25 32.7**	**-3.6**
	comp=Z,29nm,0.5s,SNR=1.0						
KBA	**Koelnbreinsper**	**3.28**	**40**	*e*Pn	**Pn**	**14 24 54.8**	**+0.9**
	comp=Z,2.4nm,0.3s						
KBA	**Koelnbreinsper**	**3.28**	**40**	*e*Pn	**Pn**	**14 24 54.8**	**+0.9**
KBA				*e*Sg	**Sg**	**14 25 49.1**	**+0.6**
KBA	**Koelnbreinsper**	**3.28**	**40**	Pn	**Pn**	**14 24 54.8**	**+0.9**
KBA				Sg	**Sg**	**14 25 49.1**	**+0.6**
NVLJ	**Novalja**	**3.30**	**89**	*e*Pn	**Pn**	**14 24 53.4**	**-0.5**
NVLJ				Sn	**Sn**	**14 25 30.4**	**-2.3**
SMRF	**Simiane la Rot**	**3.42**	**261**	*e*Pn	**Pn**	**14 24 57.9**	**+2.2**
	SNR=1.0						
SMRF	**Simiane la Rot**	**3.42**	**261**	*e*Pn	**Pn**	**14 24 57.9**	**+2.2**
	SNR=1.0						
CABF	**La Chapelle**	**3.54**	**306**	*e*Pn	**Pn**	**14 24 58.5**	**+1.1**
	SNR=1.0						
CABF				*e*Sn	**Sn**	**14 25 39.6**	**+0.8**
	comp=Z,18nm,0.5s,SNR=1.0						
CABF	**La Chapelle**	**3.54**	**306**	*e*Pn	**Pn**	**14 24 58.5**	**+1.1**
	SNR=1.0						
CABF				*e*Sn	**Sn**	**14 25 39.6**	**+0.8**
	comp=Z,9.1nm,0.5s,SNR=1.0						
RJOB	**Jochberg**	**3.59**	**29**	*e*Pn	**Pn**	**14 24 59.2**	**+1.2**
RJOB				*e*Sg	**Sg**	**14 25 59.9**	**+1.5**
RJOB	**Jochberg**	**3.59**	**29**	Pn	**Pn**	**14 24 59.2**	**+1.2**
RJOB				Sg	**Sg**	**14 25 59.9**	**+1.5**
FELD	**Feldberg im Sc**	**3.62**	**335**	Pn	**Pn**	**14 24 59.4**	**+0.9**
LOMF	**Lomont**	**3.63**	**320**	Pn	**Pn**	**14 25 00.8**	**+2.1**
LOMF				Sg	**Sg**	**14 26 07.4**	**+7.5**
LOMF	**Lomont**	**3.63**	**320**	Pn	**Pn**	**14 25 00.8**	**+2.1**
MOF	**Molkenrain**	**3.90**	**327**	Pn	**Pn**	**14 25 03.5**	**+1.2**
MOF				Sg	**Sg**	**14 26 15.5**	**+7.2**
MOF	**Molkenrain**	**3.90**	**327**	Pn	**Pn**	**14 25 03.5**	**+1.2**
UDBI	**Udbina**	**3.94**	**89**	*e*Pn	**Pn**	**14 25 02.5**	**-0.3**
UDBI				Sn	**Sn**	**14 25 46.1**	**-2.6**
UDBI	**Udbina**	**3.94**	**89**	*e*Pn	**Pn**	**14 25 02.5**	**-0.3**
UDBI				Sn	**Sn**	**14 25 46.0**	**-2.6**
BFO	**Black Forest**	**3.95**	**341**	*e*Pn	**Pn**	**14 25 02.3**	**-0.6**
BFO				*e*Sn	**Sn**	**14 25 45.4**	**-3.3**
BFO				*e*Sg	**Sg**	**14 26 07.6**	**-2.4**
BFO	**Black Forest**	**3.95**	**341**	Pn	**Pn**	**14 25 02.3**	**-0.6**
BFO				Sn	**Sn**	**14 25 45.4**	**-3.3**
BFO				Sg	**Sg**	**14 26 07.6**	**-2.4**
HINF	**Hinteralfeld**	**3.98**	**325**	*e*Sn	**Sn**	**14 25 48.6**	**-1.0**
	comp=Z,23nm,0.5s,SNR=1.0						
HINF	**Hinteralfeld**	**3.98**	**325**	*e*Sn	**Sn**	**14 25 48.6**	**-1.0**
	comp=Z,12nm,0.5s,SNR=1.0						
VIVF	**Saint-Julien-l**	**3.98**	**275**	*e*Pn	**Pn**	**14 25 04.7**	**+1.2**
	SNR=1.0						
VIVF				*e*Sn	**Sn**	**14 25 50.3**	**+0.6**
	comp=Z,14nm,0.4s,SNR=1.0						
VIVF	**Saint-Julien-l**	**3.98**	**275**	*e*Pn	**Pn**	**14 25 04.7**	**+1.2**
	SNR=1.0						
VIVF				*e*Sn	**Sn**	**14 25 50.3**	**+0.6**
	comp=Z,6.8nm,0.4s,SNR=1.0						
ECH	**Echery**	**4.19**	**330**	Pn	**Pn**	**14 25 07.2**	**+0.9**
ECH				Sg	**Sg**	**14 26 24.6**	**+6.9**
ECH	**Echery**	**4.19**	**330**	Pn	**Pn**	**14 25 07.2**	**+0.9**
MOA	**Molln**	**4.27**	**39**	*i* Pn	**Pn**	**14 25 07.3**	**0.0**
	comp=Z,2.8nm,0.2s						
MOA				*i* Sn	**Sn**	**14 25 57.0**	**+0.3**
	comp=Z,8.1nm,0.3s						
MOA	**Molln**	**4.27**	**39**	*e*Pn	**Pn**	**14 25 07.9**	**+0.6**
MOA				*e*Sn	**Sn**	**14 25 56.8**	**+0.2**
MOA	**Molln**	**4.27**	**39**	Pn	**Pn**	**14 25 07.9**	**+0.6**
MOA				Sn	**Sn**	**14 25 57.0**	**+0.3**
	comp=Z,8.1nm,0.3s						
CDF	**Champ du Feu**	**4.32**	**333**	*e*Pn	**Pn**	**14 25 07.4**	**-0.7**
	SNR=1.0						
CDF				*e*Sn	**Sn**	**14 25 57.1**	**-0.9**
	comp=Z,11nm,0.3s,SNR=1.0						
CDF	**Champ du Feu**	**4.32**	**333**	*e*Pn	**Pn**	**14 25 07.4**	**-0.7**
	SNR=1.0						
CDF				*e*Sn	**Sn**	**14 25 57.1**	**-0.9**
	comp=Z,5.5nm,0.3s,SNR=1.0						
HAU	**Haudompre**	**4.34**	**323**	*e*Pn	**Pn**	**14 25 07.8**	**-0.5**
	SNR=1.0						
HAU				*e*Sn	**Sn**	**14 25 57.4**	**-1.0**
	comp=Z,20nm,0.3s,SNR=1.0						
HAU	**Haudompre**	**4.34**	**323**	*e*Pn	**Pn**	**14 25 07.8**	**-0.5**
	SNR=1.0						
HAU				*e*Sn	**Sn**	**14 25 57.4**	**-1.0**
	comp=Z,9.8nm,0.3s,SNR=1.0						
LASF	**Ste Croix**	**4.62**	**266**	*e*Pn	**Pn**	**14 25 13.5**	**+1.3**
	SNR=1.0						
LASF				*e*Sn	**Sn**	**14 26 06.6**	**+1.2**
	comp=Z,6.4nm,0.6s						
LASF	**Ste Croix**	**4.62**	**266**	*e*Pn	**Pn**	**14 25 13.5**	**+1.3**
	SNR=1.0						
LASF				*e*Sn	**Sn**	**14 26 06.6**	**+1.2**
	comp=Z,3.2nm,0.6s						
LANF	**Langenberg**	**4.68**	**340**	Pn	**Pn**	**14 25 13.6**	**+0.6**
LANF				Sg	**Sg**	**14 26 39.6**	**+6.2**
LANF	**Langenberg**	**4.68**	**340**	Pn	**Pn**	**14 25 13.6**	**+0.6**
GEC2	**GERESS Array S**	**4.85**	**28**	*e*Pn	**Pn**	**14 25 14.3**	**-1.1**
GEC2				*e*Sn	**Sn**	**14 26 08.6**	**-2.5**
GEC2	**GERESS Array S**	**4.85**	**28**	Pn	**Pn**	**14 25 14.3**	**-1.1**
GEC2				Sn	**Sn**	**14 26 08.6**	**-2.5**
WET	**Wettzell**	**4.88**	**21**	*e*Pn	**Pn**	**14 25 14.6**	**-1.0**
WET				*e*Sn	**Sn**	**14 26 09.0**	**-2.6**
WET				*e*Sg	**Sg**	**14 26 39.6**	**0.0**
WET	**Wettzell**	**4.88**	**21**	Pn	**Pn**	**14 25 14.6**	**-1.0**
WET				Sn	**Sn**	**14 26 09.0**	**-2.6**
WET				Sg	**Sg**	**14 26 39.6**	**0.0**
SMF	**Signal de Mont**	**4.94**	**297**	*e*Sn	**Sn**	**14 26 13.3**	**+0.2**
	comp=Z,19nm,0.5s,SNR=1.0						
SMF	**Signal de Mont**	**4.94**	**297**	*e*Sn	**Sn**	**14 26 13.3**	**+0.2**
	comp=Z,9.6nm,0.5s,SNR=1.0						
KHC	**Kasperske Hory**	**5.06**	**26**	*e*PN	**Pn**	**14 25 17.0**	**-1.2**
KHC				*e*SN	**Sn**	**14 26 12.4**	**-3.8**
KHC				*ex*	x	14 26 40.5	
KHC	**Kasperske Hory**	**5.06**	**26**	Pn	**Pn**	**14 25 17.0**	**-1.2**
CONA	**Conrad Observa**	**5.11**	**48**	*i* Pn	**Pn**	**14 25 18.4**	**-0.5**
	comp=Z,0.6nm,0.2s						
CONA	**Conrad Observa**	**5.11**	**48**	Pn	**Pn**	**14 25 18.4**	**-0.5**
	comp=Z,0.6nm,0.2s						
LOR	**Lormes**	**5.19**	**303**	*e*Pn	**Pn**	**14 25 20.5**	**+0.5**
	SNR=1.0						
LOR				*e*Sn	**Sn**	**14 26 19.5**	**+0.1**
	comp=Z,16nm,0.4s,SNR=1.0						
LOR	**Lormes**	**5.19**	**303**	*e*Pn	**Pn**	**14 25 20.5**	**+0.5**
	SNR=1.0						
LOR				*e*Sn	**Sn**	**14 26 19.5**	**+0.1**
	comp=Z,8.2nm,0.4s,SNR=1.0						
AVF	**Avril sur Loir**	**5.30**	**297**	*e*Pn	**Pn**	**14 25 22.2**	**+0.7**
	SNR=1.0						
AVF	**Avril sur Loir**	**5.30**	**297**	*e*Pn	**Pn**	**14 25 22.2**	**+0.7**
	SNR=1.0						
SSF	**Saint Saulge**	**5.31**	**300**	*e*Pn	**Pn**	**14 25 22.0**	**+0.3**
	SNR=1.0						
SSF				*e*Sn	**Sn**	**14 26 22.2**	**-0.2**
	comp=Z,9.2nm,0.4s,SNR=1.0						
SSF	**Saint Saulge**	**5.31**	**300**	*e*Pn	**Pn**	**14 25 22.0**	**+0.3**
	SNR=1.0						
SSF				*e*Sn	**Sn**	**14 26 22.2**	**-0.2**
	comp=Z,4.6nm,0.4s,SNR=1.0						
ROTZ	**Rotzenmuhle**	**5.32**	**14**	*e*Pn	**Pn**	**14 25 19.7**	**-2.

Broadband fault plane solution: P waves. NP1: ϕ_s193.00000°, δ55.00000°, λ-75.00000°. NP2: ϕ_s349.00000°, δ38.00000°, λ-110.00000°. Principal axes: T Plg9.0000°, Azm273.0000°; N Plg12.0000°, Azm5.0000°; P Plg75.0000°, Azm147.0000°;
JMA Felt II J1.
*NEIC **09** 14:29:56.2±0.5, 36°.84N×140°.46E, h35km, mb4.1/1 Error ellipse: s-maj=11.3km s-min=9.6km az=123.0*
NEIC Recorded [2 JMA] in Fukushima.

ISC 09 14:29:52.6±1.0, 36°.83N±0°.03×140°.62E±0°.04, h10km±6km, n32, σ1°34/37, mb4.0/14, 5C-1D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
JHO	**Hitachi**	**0.23**	**190**	⇓P		**Pg**	**14 29 56.9**	**-0.3**
JHO				S		**Sg**	**14 30 00.1**	**-0.2**
ONAJ	**Iwakimizuishiy**	**0.30**	**28**	⇑P		**Pg**	**14 29 58.4**	**-0.3**
ONAJ				S		**Sg**	**14 30 03.1**	**+0.3**
JFK	**Kawauchi**	**0.57**	**21**	⇑P		**Pg**	**14 30 03.1**	**-0.6**
JFK				S		**Sg**	**14 30 10.9**	**-0.3**
JSB	**Shiboa**	**0.57**	**284**	⇑P		**Pg**	**14 30 03.4**	**-0.3**
JSB				S		**Sg**	**14 30 11.4**	**+0.1**
JYT	**Yasato**	**0.69**	**210**	⇑P		**Pg**	**14 30 05.2**	**-0.8**
JYT				S		**Sg**	**14 30 14.6**	**-0.4**
JFT	**Otama**	**0.72**	**342**	⇑P		**Pg**	**14 30 05.7**	**-0.8**
JFT				S		**Sg**	**14 30 15.2**	**-0.7**
MJAR	**Matsushiro Arr**	**1.96**	**262**	Pn		**Pn**	**14 30 25.6**	**-0.2**
	55nm,0.3s,baz=86,slow=15,SNR=336							
MJAR				Sn		**Sn**	**14 30 51.1**	**+0.6**
	87nm,0.3s,baz=82,slow=27,SNR=24							
MJAR				LR		LR	14 31 27.1	
	comp=Z,296nm,20.9s,baz=95,slow=52							
MAJO	**Matsushiro**	**1.96**	**262**	*e*Pn		**Pn**	**14 30 25.9**	**0.0**
MAT	**Matsushiro**	**1.96**	**262**	P		**Pn**	**14 30 25.9**	**0.0**
MAT				S		**Sb**	**14 30 52.2**	**-0.6**
JHJ	**Hachijo jima 2**	**3.77**	**191**	Pn		**Pn**	**14 30 51.5**	**+0.8**
	15nm,0.3s,baz=91,slow=21,SNR=12							
JHJ				Sn		**Sn**	**14 31 36.5**	**+1.3**
	11nm,0.3s,baz=229,slow=19,SNR=3.2							
JHJ2	**Mitsune**	**3.77**	**190**	*e*Pn		**Pn**	**14 30 51.6**	**+0.9**
USRK	**Ussuriysk Ar.**	**9.86**	**321**	Pn		**Pn**	**14 32 17.8**	**+3.5**
	0.2nm,0.3s,baz=119,slow=12,SNR=9.6							
KSRS	**Korea Array**	**10.15**	**277**	Pn		**Pn**	**14 32 22.3**	**+3.9**
	0.1nm,0.3s,baz=100,slow=13,SNR=10							
KSRS				LR		LR	14 35 56.8	
	comp=Z,88nm,21.2s,baz=134,slow=36							
KSAR	**Wonju Array Be**	**10.19**	**277**	Pn		**Pn**	**14 32 22.3**	**+3.5**
SONM	**Songino Array**	**27.37**	**304**	P		**P**	**14 35 36.8**	**-1.2**
	1.7nm,0.9s,baz=102,slow=8.7,SNR=7.3							
H11N2	**WAKE ISLAND Hy**	**28.60**	**119**	T		T	15 05 35.0	
	baz=313,slow=75,SNR=48							
H11N1	**WAKE ISLAND Hy**	**28.61**	**119**	T		T	15 05 35.1	
	baz=313,slow=75,SNR=84							
H11N3	**WAKE ISLAND Hy**	**28.62**	**119**	T		T	15 05 37.2	
	baz=313,slow=75,SNR=73							
ZALV	**Zalesovo Beam**	**41.58**	**313**	P		**P**	**14 37 40.0**	**-0.2**
	1.4nm,0.5s,baz=90,slow=5.9,SNR=5.3							
SML	**Sawmill**	**49.53**	**36**	P		P	14 38 36.9	-6.3
	1.6nm,0.3s							
ILAR	**Eielson Array**	**50.00**	**32**	P		**P**	**14 38 47.0**	**+0.4**
	0.7nm,0.8s,baz=258,slow=6.5,SNR=9.3							
WRA	**Warramunga Arr**	**56.78**	**187**	P		**P**	**14 39 36.2**	**-0.7**
	2.0nm,0.6s,baz=4.5,slow=7.5,SNR=23							
ABKAR	**Akbulak array**	**57.58**	**310**	*e*P		**P**	**14 39 39.6**	**-2.7**
	1.3nm,0.6s							
ASAR	**Alice Springs**	**60.51**	**187**	P		**P**	**14 40 02.0**	**-0.8**
	0.9nm,0.8s,baz=6.5,slow=7.8,SNR=10							
ARCES	**ARCESS Array B**	**63.96**	**339**	P		**P**	**14 40 25.5**	**0.0**
	1.2nm,0.8s,baz=46,slow=7.8,SNR=4.4							
YKA	**Yellowknife Ar**	**64.30**	**30**	P		**P**	**14 40 27.5**	**-0.3**
	0.5nm,0.7s,baz=306,slow=6.7,SNR=4.0							
FINES	**FINESS Array B**	**68.69**	**332**	P		**P**	**14 40 55.8**	**-0.1**
	3.4nm,1.0s,baz=32,slow=8.2,SNR=4.2							
AKASG	**Malin Array Be**	**74.06**	**322**	P		**P**	**14 41 27.7**	**-0.8**
	0.6nm,0.4s,baz=39,slow=5.7,SNR=5.1							
NOA	**NORSAR Array B**	**74.12**	**337**	P		**P**	**14 41 27.9**	**-0.9**
	1.1nm,0.9s,baz=44,slow=5.6,SNR=3.4							
PDAR	**Pinedale Array**	**78.26**	**45**	P		**P**	**14 41 52.9**	**+0.1**
	0.7nm,0.8s,baz=282,slow=2.9,SNR=5.7							
TXAR	**Lajitas Array**	**90.75**	**52**	P		**P**	**14 42 57.2**	**+1.1**
	1.2nm,0.8s,baz=299,slow=3.2,SNR=14							
LPAZ	**La Paz**	**147.34**	**59**	PKPbc		**PKPab**	**14 49 39.6**	**+0.1**
	0.8nm,0.6s,baz=32,slow=11,SNR=4.2							

*NIED **09** 14:40:00, 39°.10N×142°.10E, h53km, Mw3.9 Best double couple: $M_0$7.95000×10^{14} NP1:ϕ_s150.00000°, δ17.00000°, λ-33.00000°. NP2:ϕ_s272.00000°, δ81.00000°, λ-104.00000°.*
*ISCJB **09** 14:40:22.7±0.9, 39°.05N±0°.04×142°.2E±0°.1, h51km±8km, mb3.8/4, MS2.6/7,1, Error ellipse: s-maj=13.4km s-min=6.1km az=11.0*
*JMA **09** 14:40:24.3, 39°.11N×142°.11E, h46km±1km, M3.9*
JMA Felt II J1.
*IDC **09** 14:40:25.9±3.4, 38°.97N×142°.05E, h62km±31km, mb3.5/4, mb1 3.8/7, mb1mx3.5/33, mbtmp3.9/7, ML3.4/3, MS2.9/3, Ms1 2.9/3, ms1mx2.6/43, Error ellipse: s-maj=40.1km s-min=16.5km az=88.0*

ISC 09 14:40:23.2±1.4, 39°.05N±0°.04×142°.2E±0°.1, h38km±3km, n27, σ0°.95/26, mb3.8/4, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
OFUJ	**Ofunato**	**0.45**	**274**	P		**Pn**	**14 40 33.7**	**+0.7**
OFUJ				S		**Sn**	**14 40 40.1**	**0.0**
MIYJ	**Miyakonagasawa**	**0.62**	**328**	P		**Pn**	**14 40 35.5**	**-0.1**
MIYJ				*e*S		**Sn**	**14 40 43.2**	**-1.2**
JMK	**Ichinoseki**	**0.80**	**263**	P		**Pn**	**14 40 38.1**	**+0.1**
JMK				S		**Sn**	**14 40 47.7**	**-1.0**
JOM	**Ohasama**	**0.85**	**300**	P		**Pn**	**14 40 38.5**	**-0.2**
JOM				S		**Sn**	**14 40 48.5**	**-1.5**
JIO	**Ouri**	**0.92**	**230**	P		**Pn**	**14 40 40.1**	**+0.6**
JIO				S		**Sn**	**14 40 51.1**	**-0.4**
JTH	**Tanohata**	**0.94**	**342**	P		**Pn**	**14 40 39.7**	**-0.1**
JTH				*e*S		**Sn**	**14 40 51.4**	**-0.6**
JRG	**Rokugo**	**1.30**	**286**	P		**Pn**	**14 40 44.7**	**-0.1**
JRG				S		**Sn**	**14 41 00.5**	**-0.4**
JOU	**Okura**	**1.41**	**242**	P		**Pn**	**14 40 46.7**	**+0.3**
JANG	**Nango**	**1.44**	**337**	P		**Pn**	**14 40 46.6**	**-0.1**
JANG				S		**Sn**	**14 41 04.9**	**+0.6**
JYK	**Kaneyama**	**1.48**	**266**	P		**Pn**	**14 40 47.5**	**+0.3**
MJAR	**Matsushiro Arr**	**4.06**	**233**	P		**Pn**	**14 41 24.7**	**+1.9**
	6.1nm,0.3s,baz=42,slow=12,SNR=62							
JHJ	**Hachijo jima 2**	**6.24**	**199**	P		**Pn**	**14 41 53.0**	**+0.3**
	11nm,0.3s,baz=329,slow=22,SNR=18							
JHJ				S		**Sn**	**14 43 01.7**	**-1.1**
	15nm,0.3s,baz=240,slow=20,SNR=3.6							
USRK	**Ussuriysk Ar.**	**9.24**	**307**	P		**Pn**	**14 42 36.1**	**+2.3**
	0.5nm,0.3s,baz=116,slow=15,SNR=5.3							
KSRS	**Korea Array**	**11.38**	**266**	P		Pn	14 43 09.0	+5.9
	0.1nm,0.3s,baz=80,slow=14,SNR=3.5							
KLR	**Kul'dur**	**12.65**	**327**	LR		LR	14 48 10.7	
	comp=Z,61nm,18.1s,baz=200,slow=37							
PETK	**Petropavlovsk-**	**17.63**	**32**	LR		LR	14 52 05.9	
	comp=Z,37nm,18.7s,baz=207,slow=39							
MA2	**Magadan**	**21.25**	**12**	LR		LR	14 53 49.6	
	comp=Z,26nm,20.2s,baz=172,slow=38							
H11N2	**WAKE ISLAND Hy**	**28.69**	**125**	T		T	15 16 42.4	
	baz=318,slow=76,SNR=392							
H11N1	**WAKE ISLAND Hy**	**28.70**	**125**	T		T	15 16 43.8	
	baz=318,slow=76,SNR=536							
H11N3	**WAKE ISLAND Hy**	**28.71**	**125**	T		T	15 16 44.5	
	baz=318,slow=76,SNR=349							
H11S1	**WAKE ISLAND Hy**	**29.48**	**127**	T		T	15 17 40.2	
	baz=319,slow=76,SNR=288							
H11S3	**WAKE ISLAND Hy**	**29.48**	**127**	T		T	15 17 40.3	
	baz=319,slow=76,SNR=370							
H11S2	**WAKE ISLAND Hy**	**29.49**	**127**	T		T	15 17 41.5	
	baz=319,slow=76,SNR=424							
ZALV	**Zalesovo Beam**	**41.07**	**311**	P		**P**	**14 48 01.7**	**-1.1**
	0.6nm,0.5s,baz=77,slow=6.5,SNR=2.9							
ILAR	**Eielson Array**	**47.45**	**33**	P		**P**	**14 48 54.8**	**+1.1**
	0.5nm,0.7s,baz=269,slow=6.5,SNR=6.3							
WRA	**Warramunga Arr**	**59.15**	**189**	P		**P**	**14 50 19.6**	**-0.4**
	1.5nm,0.5s,baz=6.3,slow=7.0,SNR=28							
ASAR	**Alice Springs**	**62.87**	**189**	P		**P**	**14 50 45.2**	**-0.1**
	0.7nm,0.7s,baz=15,slow=5.3,SNR=8.2							

DJA 09 14:56:59.5±0.6, 9°S±6°×12°4E±°, h91km±7km, M3.8/5,
mb4.0/2, MLv3.8/5, Timor region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
SOEI	**Soe**	**0.73**	**158**	P		Pn	14 57 17.3	+0.7
SOEI				S		Sn	14 57 31.5	+2.2
BATI	**Baumata**	**1.17**	**196**	P		Pn	14 57 21.7	+0.3
BATI				S		Sn	14 57 38.5	+0.7
MMRI	**Maumere**	**1.79**	**284**	P		Pn	14 57 28.7	-0.2
MMRI				S		Sn	14 57 49.8	-1.6
PLAI	**Plampang**	**6.14**	**272**	P		Pn	14 58 27.7	0.0
	30nm,0.7s							

*ISCJB **09** 15:04:03.5±1.0, 39°.92N±0°.04×33°.12E±0°.07, h8km±7km, Error ellipse: s-maj=9.1km s-min=6.2km az=13.2*
*ISK **09** 15:04:03.7, 39°.90N×33°.13E, h14km, MD2.6*
*CSEM **09** 15:04:03.7±0.2, 39°.91N×33°.10E, h10km, MD2.6, Error ellipse: s-maj=4.4km s-min=3.3km az=99.0*
*DDA **09** 15:04:04.2, 39°.88N×33°.18E, h7km, Md2.6*

ISC 09 15:04:03.8±1.4, 39°.89N±0°.03×33°.14E±0°.04, h7km±11km, n26, σ0°.66/37, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
BBAL	**Bala**	**0.34**	**181**	*i* P		**Pg**	**15 04 10.5**	**-0.1**
BBAL				*i* S		**Sb**	**15 04 16.8**	**-1.2**
BBAL	**Bala**	**0.34**	**181**	P		**Pg**	**15 04 10.5**	**-0.1**
BBAL				S		**Sb**	**15 04 16.8**	**-1.2**
KKUL	**Konya-Kulu**	**0.73**	**193**	*i* P		**Pg**	**15 04 17.6**	**-0.3**
KKUL				*i* S		**Sb**	**15 04 29.9**	**+0.7**
KKUL	**Konya-Kulu**	**0.73**	**193**	P		**Pg**	**15 04 17.6**	**-0.3**
KKUL				S		**Sb**	**15 04 29.9**	**+0.7**
KULU	**Kulu**	**0.85**	**187**	*e*PG		**Pb**	**15 04 20.9**	**0.0**
KULU				*e*SG		**Sb**	**15 04 33.4**	**+0.9**
KULU	**Kulu**	**0.85**	**187**	*e*Pg		**Pb**	**15 04 20.9**	**0.0**
KULU				*e*Sg		**Sb**	**15 04 33.4**	**+0.9**
CDAG	**Cicekdag**	**0.99**	**105**	*i* P		**Pg**	**15 04 22.9**	**+0.1**
CDAG	**Cicekdag**	**0.99**	**105**	P		**Pg**	**15 04 22.9**	**+0.1**
SERE	**Sereflikochisa**	**0.99**	**160**	*e*PG		**Pb**	**15 04 23.6**	**+0.2**
SERE				*e*SG		**Sn**	**15 04 37.9**	**-0.7**
SERE	**Sereflikochisa**	**0.99**	**160**	*e*Pg		**Pb**	**15 04 23.6**	**+0.2**
SERE				*e*Sg		**Sn**	**15 04 37.9**	**-0.7**
BCAM	**Yenicaga**	**1.24**	**319**	*i* P		**Pn**	**15 04 26.5**	**-1.1**
BCAM				*i* S		**Sn**	**15 04 46.6**	**+2.0**
BCAM	**Yenicaga**	**1.24**	**319**	P		**Pn**	**15 04 26.5**	**-1.1**
CHBY	**Cihanbeyli**	**1.31**	**188**	*e*PN		**Pn**	**15 04 28.5**	**-0.2**
CHBY				*e*SN		**Sg**	**15 04 46.5**	**+0.4**
CHBY	**Cihanbeyli**	**1.31**	**188**	*e*Pn		**Pn**	**15 04 28.5**	**-0.2**
CHBY				*e*Sn		**Sg**	**15 04 46.5**	**+0.4**
TOS	**Tosya**	**1.33**	**30**	*e*PN		**Pn**	**15 04 28.5**	**-0.4**
TOS	**Tosya**	**1.33**	**30**	*e*Pn		**Pn**	**15 04 28.5**	**-0.4**
KIZT	**Kizilcal**	**1.40**	**224**	*e*PN		**Pn**	**15 04 29.3**	**-0.5**
KIZT	**Kizilcal**	**1.40**	**224**	*e*Pn		**Pn**	**15 04 29.3**	**-0.5**
COAL	**Corum-Alaca**	**1.47**	**75**	*i* P		**Pb**	**15 04 31.4**	**-0.1**
COAL	**Corum-Alaca**	**1.47**	**75**	P		**Pb**	**15 04 31.4**	**-0.1**
YOZ	**Yozgat**	**1.70**	**98**	*e*PN		**Pn**	**15 04 33.9**	**-0.1**
YOZ	**Yozgat**	**1.70**	**98**	*e*Pn		**Pn**	**15 04 33.9**	**-0.1**
GULA	**Gulagac**	**1.76**	**151**	*e*PN		**Pn**	**15 04 34.7**	**-0.1**
GULA	**Gulagac**	**1.76**	**151**	*e*Pn		**Pn**	**15 04 34.7**	**-0.1**
ESKT	**Eskisehir**	**1.80**	**259**	*e*PN		**Pn**	**15 04 35.2**	**-0.1**
ESKT	**Eskisehir**	**1.80**	**259**	*e*Pn		**Pn**	**15 04 35.2**	**-0.1**

*IDC **09** 15:04:36.4±1.8, 29°.62S×175°.91W, h0km, mb3.8/3, mb1 3.9/4, mb1mx3.6/35, mbtmp3.8/4, ML3.3/1, Error ellipse: s-maj=38.9km s-min=29.2km az=161.0*
*ISCJB **09** 15:04:37.8±2.0, 29°.76S±0°.09×175°.8W±0°.2, h28km, mb3.8/3, Error ellipse: s-maj=21.1km s-min=12.2km az=162.6*

ISC 09 15:04:40.1±1.6, 29°.6S±0°.1×175°.9W±0°.1, h28km, n7, σ0°.35/9, mb3.8/3, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
RAO	**Raoul Island**	**1.84**	**282**	Pn		**Pn**	**15 05 09.7**	**-0.1**
	182nm,0.3s,baz=288,slow=20,SNR=3.6							
RAO				Sn		**Sn**	**15 05 32.3**	**+0.2**
	557nm,0.3s,baz=124,slow=23,SNR=7.6							
URZ	**Urewera**	**10.39**	**212**	Pn		**Pn**	**15 07 06.8**	**-0.3**
	0.2nm,0.3s,baz=345,slow=12,SNR=4.6							
URZ				Sn		**Sn**	**15 09 03.0**	**+0.4**
	1.5nm,0.3s,baz=136,slow=18,SNR=7.4							
CTA	**Charters Tower**	**35.54**	**277**	P		**P**	**15 11 34.8**	**-0.1**
	0.8nm,0.3s,baz=113,slow=10,SNR=2.8							
ASAR	**Alice Springs**	**45.02**	**265**	P		**P**	**15 12 53.5**	**+0.1**
	0.5nm,0.5s,baz=102,slow=7.1,SNR=17							
WRA	**Warramunga Arr**	**45.94**	**270**	P		**P**	**15 13 00.6**	**-0.1**
	0.7nm,0.5s,baz=110,slow=7.8,SNR=7.1							
FINES	**FINESS Array B**	**145.04**	**342**	PKPbc		**PKPab**	**15 24 13.2**	**-0.2**
	1.6nm,0.7s,baz=48,slow=2.1,SNR=6.7							
NOA	**NORSAR Array B**	**148.25**	**353**	PKPbc		**PKPbc**	**15 24 23.5**	**+0.6**
	0.7nm,0.8s,baz=13,slow=4.4,SNR=3.6							

*IDC **09** 15:13:04.8±1.4, 29°.72S×175°.98W, h0km, mb3.9/4, mb1 4.0/5, mb1mx3.7/35, mbtmp3.9/5, ML3.1/1, Error ellipse: s-maj=37.0km s-min=26.0km az=162.0*
*ISCJB **09** 15:13:06.0±1.8, 29°.77S±0°.09×175°.9W±0°.2, h28km, mb3.9/4, Error ellipse: s-maj=20.2km s-min=12.0km az=162.6*

ISC 09 15:13:08.6±1.4, 29°.7S±0°.1×175°.9W±0°.1, h28km, n10, σ1°.06/12, mb4.0/4, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
RAO	**Raoul Island**	**1.78**	**284**	Pn		**Pn**	**15 13 37.5**	**0.0**
	228nm,0.3s,baz=117,slow=14,SNR=5.9							
RAO				Sn		**Sn**	**15 13 59.0**	**-0.3**
	918nm,0.3s,baz=297,slow=22,SNR=16							
URZ	**Urewera**	**10.31**	**212**	Pn		**Pn**	**15 15 32.9**	**-1.8**
	0.2nm,0.3s,baz=278,slow=4.1,SNR=5.2							
URZ				Sn		**Sn**	**15 17 31.0**	**+1.7**
	1.5nm,0.3s,baz=146,slow=17,SNR=10							
CTA	**Charters Tower**	**35.47**	**277**	P		**P**	**15 20 03.6**	**+0.7**
	1.5nm,0.6s,baz=114,slow=10.0,SNR=2.9							
STKA	**Stephens Creek**	**36.39**	**256**	P		**P**	**15 20 11.7**	**+1.1**
	2.1nm,0.8s,baz=103,slow=14,SNR=3.4							
ASAR	**Alice Springs**	**44.94**	**265**	P		**P**	**15 21 20.8**	**-0.6**
	0.8nm,0.7s,baz=104,slow=7.9,SNR=16							
WRA	**Warramunga Arr**	**45.87**	**270**	P		**P**	**15 21 27.5**	**-1.3**
	0.6nm,0.4s,baz=107,slow=7.4,SNR=31							
FINES	**FINESS Array B**	**145.06**	**342**	PKPbc		**PKPbc**	**15 32 42.0**	**-0.1**
	1.5nm,0.5s,baz=46,slow=4.0,SNR=11							
NB2	**NORSAR Subarra**	**148.28**	**353**	PKP		**PKPbc**	**15 32 51.8**	**+0.3**
	comp=Z,1.0nm,0.6s,baz=8.7,slow=2.9							
NOA	**NORSAR Array B**	**149.28**	**353**	PKPbc		**PKPbc**	**15 32 51.8**	**+0.3**
	comp=Z,2.1nm,0.9s,baz=13,slow=4.4,SNR=5.2							
AKASG	**Malin Array Be**	**151.78**	**325**	PKPbc		**PKPbc**	**15 33 00.8**	**+0.6**
	comp=Z,0.6nm,0.4s,baz=46,slow=2.5,SNR=4.9							

*ISK **09** 15:24:08.6, 37°.00N×37°.58E, h5km, MD2.5*
*CSEM **09** 15:24:09.7±0.6, 37°.10N×37°.64E, h5km, MD2.5, Error ellipse: s-maj=15.4km s-min=10.5km az=170.0*
*ISCJB **09** 15:24:10.4±1.0, 37°.07N±0°.05×37°.63E±0°.05, h9km±6km, Error ellipse: s-maj=9.0km s-min=6.4km az=154.1*
*DDA **09** 15:24:11.0, 37°.13N×37°.60E, h7km, Md2.8*

ISC 09 15:24:10.2±1.5, 37°.10N±0°.04×37°.58E±0°.04, h7km±12km, n13, σ0°.63/24, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
GZT	**Gaziantep**	**0.26**	**357**	*i* P		**Pg**	**15 24 15.7**	**+0.4**
GAZ	**Gaziantep**	**0.31**	**285**	*e*PG		**Pg**	**15 24 16.1**	**-0.1**
GAZ				*e*SG		**Sb**	**15 24 22.5**	**-0.8**
GAZ	**Gaziantep**	**0.31**	**285**	*e*Pg		**Pg**	**15 24 16.1**	**-0.1**
GAZ				*e*Sg		**Sb**	**15 24 22.5**	**-0.8**
KUZU	**Kuzuini**	**0.52**	**232**	*i* P		**Pb**	**15 24 22.3**	**+0.7**
KUZU				*i* S		**Sb**	**15 24 29.9**	**+0.5**
KUZU	**Kuzuini**	**0.52**	**232**	P		**Pb**	**15 24 22.3**	**+0.7**
KUZU				S		**Sb**	**15 24 29.9**	**+0.5**
KMRS	**Kahramanmaras**	**0.68**	**307**	*e*PG		**Pb**	**15 24 24.1**	**-0.3**
KMRS				*e*SG		**Sb**	**15 24 35.3**	**+1.2**
KMRS	**Kahramanmaras**	**0.68**	**307**	*e*Pg		**Pb**	**15 24 24.1**	**-0.3**
KMRS				*e*Sg		**Sb**	**15 24 35.3**	**+1.2**
URFA	**Urfa**	**1.05**	**70**	*e*PN		**Pb**	**15 24 30.5**	**-0.2**
URFA				*e*SN		**Sn**	**15 24 46.5**	**+0.3**
URFA	**Urfa**	**1.05**	**70**	*e*Pn		**Pb**	**15 24 30.5**	**-0.2**
URFA				*e*Sn		**Sn**	**15 24 46.6**	**+0.3**
ANDN	**Andirin**	**1.10**	**297**	*i* P		**Pn**	**15 24 32.0**	**-0.1**
ANDN				*i* S		**Sn**	**15 24 47.8**	**+0.2**
ANDN	**Andirin**	**1.10**	**297**	P		**Pn**	**15 24 32.0**	**-0.1**
TAHT	**Tahtakopru-Hat**	**1.33**	**238**	*e*PN		**Pn**	**15 24 34.4**	**-0.8**
TAHT				*e*SN		**Sb**	**15 24 52.6**	**-0.1**
TAHT	**Tahtakopru-Hat**	**1.33**	**238**	*e*Pn		**Pn**	**15 24 34.4**	**-0.8**
TAHT				*e*Sn		**Sb**	**15 24 52.6**	**-0.1**

SIGU 09 15:37:02.7±0.3, 44°.36N×34°.35E, h12km±4km, mb1.9/5, 1D, Crimea region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
YAL	**Yalta**	**0.19**	**312**	⇓*i*Pg		Pg	15 37 06.7	-0.2
	baz=314							
YAL				Pgm			15 37 06.8	
	comp=Z,163nm,baz=314							
YAL				*e*Sg		Sg	15 37 10.1	+0.3
	baz=314							
YAL				Sgm			15 37 10.2	
	comp=N,463nm,baz=314							
YAL				Sgm			15 37 10.3	
	comp=E,89nm,baz=314							
ALU	**Alushta**	**0.32**	**7**	*e*Pg		Pg	15 37 09.3	0.0
	baz=8.0							
ALU				Pgm			15 37 09.7	
	comp=Z,36nm,baz=8.0							
ALU				*e*Sg		Sg	15 37 14.0	+0.3
	baz=8.0							
ALU				Sgm			15 37 14.4	
	comp=N,119nm,baz=8.0							
ALU				Sgm			15 37 14.4	
	comp=E,108nm,baz=8.0							
SEV	**Sevastopol'**	**0.52**	**291**	*e*Pg		Pg	15 37 12.5	-0.4
	baz=293							
SEV				Pgm			15 37 12.7	
	comp=Z,5.0nm,baz=293							
SEV				*e*Sg		Sg	15 37 20.2	+0.3
	baz=293							
SEV				Sgm			15 37 20.3	
	comp=N,31nm,baz=293							
SEV				Sgm			15 37 20.3	
	comp=E,19nm,baz=293							
SIM	**Simferopol'**	**0.61**	**344**	*e*Sg		Sg	15 37 22.5	-0.2
	baz=346							
SIM				Sgm			15 37 23.0	
	comp=E,35nmcomp=N,37nm,baz=346							
SUDU	**Sudak**	**0.70**	**41**	*e*Pg		Pg	15 37 15.8	-0.6
	baz=42							
SUDU				*e*Sg		Sg	15 37 26.0	+0.4
	baz=42							
SUDU				Sgm			15 37 26.6	
	comp=N,4.0nm,baz=42							
SUDU				Sgm			15 37 26.6	
	comp=E,18nm,baz=42							

*ISCJB **09** 15:41:46.7±0.6, 2°.23N±0°.06×123°.66E±0°.10, h350km, mb3.4/5, Error ellipse: s-maj=13.6km s-min=7.1km az=163.0*
*DJA **09** 15:41:49.7±0.9, 2°N±11°×12°3E±°, h359km±5km, M4.2/7, mB4.3/1, mb4.1/4, MLv4.2/7, Mw(mB)3.5/1*
*IDC **09** 15:41:49.4±2.5, 1°.96N×123°.13E, h384km±28km, mb3.2/6, mb1 3.4/7, mb1mx3.0/44, mbtmp4.1/7, Error ellipse: s-maj=56.6km s-min=12.7km az=69.0*

ISC 09 15:41:48.0±0.9, 2°.1N±0°.1×123°.5E±0°.1, h350km, n27, σ1°84/30, mb3.6/5, Celebes Sea

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
GTOI	**Gorontalo**	**1.53**	**200**	P		**Pn**	**15 42 38.8**	**+2.4**
GTOI				S		**S**	**15 43 16.8**	**+1.7**
KMSI	**Cibinong**	**1.56**	**163**	P		**Pn**	**15 42 39.8**	**+3.2**
KMSI				S		**S**	**15 43 19.4**	**+3.9**
MRSI	**Marisa**	**2.25**	**225**	P		**Pn**	**15 42 43.9**	**+2.7**
MRSI				S		**S**	**15 43 26.0**	**+2.2**
PCI	**Palu**	**4.74**	**231**	P		**Pn**	**15 43 05.3**	**+0.4**
SANI	**Sanana**	**4.78**	**149**	P		**Pn**	**15 43 05.8**	**+0.5**
TTSI	**Tana Toraja**	**6.30**	**216**	P		**Pn**	**15 43 23.6**	**+1.2**
SPSI	**Sidrap Palu**	**7.08**	**212**	P		**Pn**	**15 43 32.5**	**+1.0**
	59nm,0.6s,556nm							
MSAI	**Masohi**	**7.62**	**135**	P		**Pn**	**15 43 40.4**	**+2.6**
KAPI	**Kappang**	**8.00**	**208**	P		**Pn**	**15 43 42.2**	**0.0**
	2.3nm,0.3s,baz=85,slow=22,SNR=6.7							
**BSS

BIA				S		**Sb**	**15 49 51.4**	**-1.0**
BIA	**Bitola**	**0.52**	**22**	*i*Pg		**Pg**	**15 49 43.1**	**+0.3**
BIA				*i* Sg		**Sb**	**15 49 51.3**	**-1.0**
BIA				*e*Lg	Lg		15 49 52.4	
	comp=E,174nm,0.4s							
BIA				*e*Lg	Lg		15 49 52.5	
	comp=N,248nm,0.4s							
BIA	**Bitola**	**0.52**	**22**	P		**Pg**	**15 49 42.8**	**0.0**
BIA				*i* Sg		**Sb**	**15 49 51.3**	**-1.1**
BIA				*e*Lg	Lg		15 49 52.3	
	comp=N,174nm,0.4s							
KZN	**Kozani**	**0.59**	**113**	P		**Pg**	**15 49 44.4**	**+0.4**
KZN				S		**Sb**	**15 49 54.2**	**-0.1**
KZN	**Kozani**	**0.59**	**113**	P		**Pg**	**15 49 44.4**	**+0.4**
KZN				S		**Sb**	**15 49 54.2**	**-0.1**
KZN	**Kozani**	**0.59**	**113**	P		**Pg**	**15 49 44.4**	**+0.4**
KZN				S		**Sb**	**15 49 54.4**	**+0.1**
KZN				AML	AML		15 49 56.1	
	comp=N,1592μm,0.2s							
KZN				AML	AML		15 49 56.2	
	comp=E,2408μm,0.2s							
OHR	**Ohrid**	**0.61**	**341**	⇓*i*Pg		**Pg**	**15 49 43.9**	**-0.6**
OHR				*i* Sg		**Sg**	**15 49 53.4**	**+1.0**
OHR				*e*Lg	Lg		15 49 54.1	
	comp=E,505nm,0.4s							
OHR				*e*Lg	Lg		15 49 54.2	
	comp=N,219nm,0.3s							
OHR	**Ohrid**	**0.61**	**341**	⇓*i*Pg		**Pg**	**15 49 43.9**	**-0.6**
OHR				*i* Sg		**Sg**	**15 49 53.4**	**+1.0**
OHR				*e*Lg	Lg		15 49 54.1	
	comp=N,219nm,0.3s							
KPRO	**Kipourio**	**0.63**	**158**	P		**Pg**	**15 49 44.6**	**-0.2**
KPRO				S		**Sb**	**15 49 55.2**	**-0.2**
KPRO	**Kipourio**	**0.63**	**158**	P		**Pg**	**15 49 44.1**	**-0.7**
KPRO				S		**Sb**	**15 49 56.8**	**+1.4**
KPRO				AML	AML		15 50 04.0	
	comp=E,1216μm,0.5s							
KPRO				AML	AML		15 50 06.8	
	comp=N,974μm,0.4s							
KTI	**Kastanea**	**0.82**	**100**	P		**Pg**	**15 49 48.7**	**+0.3**
KTI	**Kastanea**	**0.82**	**100**	P		**Pg**	**15 49 48.7**	**+0.3**
JAN	**Janina**	**0.90**	**191**	P		**Pg**	**15 49 49.4**	**-0.5**
JAN	**Janina**	**0.90**	**191**	P		**Pg**	**15 49 49.4**	**-0.5**
JAN	**Janina**	**0.90**	**191**	P		**Pg**	**15 49 49.2**	**-0.8**
JAN				AML	AML		15 50 09.8	
	comp=N,377μm,0.5s							
JAN				AML	AML		15 50 14.5	
	comp=E,584μm,0.4s							
SGD	**Sagiada**	**1.12**	**215**	P		**Pg**	**15 49 53.3**	**-1.0**
SGD				S		**Sg**	**15 50 09.2**	**+0.4**
SGD	**Sagiada**	**1.12**	**215**	P		**Pg**	**15 49 53.3**	**-1.0**
SGD				S		**Sg**	**15 50 09.2**	**+0.4**
SGD	**Sagiada**	**1.12**	**215**	P		**Pg**	**15 49 53.2**	**-1.0**
SGD				S		**Sb**	**15 50 09.6**	**0.0**
IGT	**Igoumenitsa**	**1.15**	**209**	P		**Pb**	**15 49 55.2**	**0.0**
IGT				S		**Sb**	**15 50 10.4**	**0.0**
IGT	**Igoumenitsa**	**1.15**	**209**	P		**Pg**	**15 49 54.8**	**0.0**
IGT				S		**Sb**	**15 50 10.4**	**0.0**
IGT	**Igoumenitsa**	**1.15**	**209**	P		**Pg**	**15 49 54.9**	**0.0**
IGT				S		**Sn**	**15 50 11.1**	**-0.6**
IGT				AML	AML		15 50 16.3	
	comp=N,437μm,0.5s							
IGT				AML	AML		15 50 16.4	
	comp=E,407μm,0.5s							
LIT	**Litokhoron**	**1.17**	**111**	P		**Pg**	**15 49 54.8**	**-0.5**
LIT				S		**Sn**	**15 50 13.9**	**+1.6**
LIT	**Litokhoron**	**1.17**	**111**	P		**Pg**	**15 49 54.8**	**-0.5**
LIT				S		**Sn**	**15 50 13.9**	**+1.6**
LIT				AML	AML		15 50 19.4	
	comp=E,467μm,0.3s							
LIT				AML	AML		15 50 20.5	
	comp=N,297μm,0.3s							
THL	**Klokotos Trika**	**1.22**	**143**	P		**Pg**	**15 49 54.7**	**-1.4**
THL				S		**Sn**	**15 50 14.3**	**+1.0**
THL	**Klokotos Trika**	**1.22**	**143**	P		**Pg**	**15 49 55.5**	**-0.6**
THL				S		**Sn**	**15 50 14.3**	**+1.0**
THL	**Klokotos Trika**	**1.22**	**143**	P		**Pg**	**15 49 55.5**	**-0.6**
THL				S		**Sn**	**15 50 14.8**	**+1.5**
THL				AML	AML		15 50 16.4	
	comp=E,242μm,0.6s							
THL				AML	AML		15 50 17.6	
	comp=N,272μm,0.6s							
TIR	**Tirane**	**1.22**	**312**	*i* PG		**Pg**	**15 49 55.9**	**-0.2**
TIR				*i* SG		Sn	15 50 55.3	+42
TIR	**Tirane**	**1.22**	**312**	*i* Pg		**Pg**	**15 49 55.9**	**-0.2**
KEK	**Kerkira**	**1.27**	**230**	P		**Pn**	**15 49 58.0**	**+0.7**
KEK				S		**Sb**	**15 50 14.1**	**+0.2**
KEK	**Kerkira**	**1.27**	**230**	P		**Pn**	**15 49 58.0**	**+0.7**
KEK				S		**Sb**	**15 50 14.1**	**+0.2**
KEK				AML	AML		15 50 20.8	
	comp=E,275μm,0.7s							
KEK				AML	AML		15 50 21.2	
	comp=N,302μm,0.8s							
VAY	**Valandovo**	**1.38**	**55**	P		**Pn**	**15 49 58.2**	**-0.6**
VAY				S		**Sn**	**15 50 18.9**	**+1.4**
VAY	**Valandovo**	**1.38**	**55**	⇑*i*Pg		**Pn**	**15 49 58.2**	**-0.6**
VAY				*i* Sg		**Sn**	**15 50 18.6**	**+1.1**
VAY				*e*Lg	Lg		15 50 23.7	
	comp=E,45nm,0.7s							
VAY				*e*Lg	Lg		15 50 23.7	
	comp=N,64nm,0.7s							
VAY	**Valandovo**	**1.38**	**55**	P		**Pn**	**15 49 58.2**	**-0.6**
VAY				*i* Sg		**Sn**	**15 50 18.6**	**+1.1**
VAY				*e*Lg	Lg		15 50 23.6	
	comp=N,45nm,0.7s							
DSL	**Palaion Diasel**	**1.40**	**179**	P		**Pn**	**15 49 58.5**	**-0.6**
DSL				S		**Sn**	**15 50 19.9**	**+1.9**
DSL	**Palaion Diasel**	**1.40**	**179**	P		**Pn**	**15 49 58.5**	**-0.6**
DSL				S		**Sn**	**15 50 19.9**	**+1.9**
THE	**Thessaloniki**	**1.45**	**86**	P		**Pn**	**15 49 59.9**	**+0.2**
THE	**Thessaloniki**	**1.45**	**86**	P		**Pn**	**15 49 59.9**	**+0.2**
SKO	**Skopje**	**1.46**	**11**	⇑*i*Pg		**Pn**	**15 49 59.6**	**-0.3**
SKO				*i* Sg		**Sg**	**15 50 20.6**	**+0.8**
SKO				*e*Lg	Lg		15 50 21.9	
	comp=N,11nm,0.4s							
SKO				*e*Lg	Lg		15 50 22.2	
	comp=E,5.6nm,0.7s							
SKO	**Skopje**	**1.46**	**11**	⇑*i*Pg		**Pn**	**15 49 59.6**	**-0.3**
SKO				*i* Sg		**Sg**	**15 50 20.5**	**+0.8**
SKO				*e*Lg	Lg		15 50 21.9	
	comp=E,11nm,0.4s							
KNT	**Kendrikon**	**1.52**	**65**	P		**Pn**	**15 50 00.6**	**-0.1**
KNT				S		**Sg**	**15 50 22.5**	**+0.7**
KNT	**Kendrikon**	**1.52**	**65**	P		**Pn**	**15 50 00.6**	**-0.1**
KNT				S		**Sg**	**15 50 22.5**	**+0.7**
KNT	**Kendrikon**	**1.52**	**65**	P		**Pn**	**15 50 00.2**	**-0.5**
KNT				AML	AML		15 50 28.2	
	comp=N,80μm,0.4s							
KNT				AML	AML		15 50 28.7	
	comp=E,60μm,0.3s							
HORT	**Hortiatis**	**1.55**	**87**	P		**Pn**	**15 49 59.9**	**-1.3**
HORT	**Hortiatis**	**1.55**	**87**	P		**Pn**	**15 49 59.9**	**-1.3**
HORT				AML	AML		15 50 31.2	
	comp=E,151μm,0.8s							
HORT				AML	AML		15 50 33.6	
	comp=N,145μm,0.5s							
EVR	**Evrytania**	**1.72**	**160**	P		**Pb**	**15 50 04.8**	**-0.1**
EVR				S		**Sb**	**15 50 26.8**	**-0.1**
EVR	**Evrytania**	**1.72**	**160**	P		**Pb**	**15 50 04.8**	**-0.1**
EVR				S		**Sb**	**15 50 26.8**	**-0.1**
EVR	**Evrytania**	**1.72**	**160**	P		**Pg**	**15 50 05.4**	**-0.3**
EVR				S		**Sg**	**15 50 30.3**	**+2.3**
EVR				AML	AML		15 50 36.5	
	comp=N,232μm,0.5s							
EVR				AML	AML		15 50 40.2	
	comp=E,214μm,0.6s							
SOH	**Sokhos**	**1.76**	**80**	P		**Pn**	**15 50 02.2**	**-1.8**
SOH	**Sokhos**	**1.76**	**80**	P		**Pn**	**15 50 02.3**	**-1.8**
SOH				AML	AML		15 50 36.0	
	comp=E,185μm,0.6s							
SOH				AML	AML		15 50 38.3	
	comp=N,199μm,0.7s							
LKD2	**Lefkada island**	**1.77**	**190**	P		**Pg**	**15 50 06.7**	**-0.1**
LKD2				S		**Sb**	**15 50 29.1**	**+0.7**
LKD2	**Lefkada island**	**1.77**	**190**	P		**Pg**	**15 50 06.7**	**-0.1**
LKD2				S		**Sb**	**15 50 29.1**	**+0.7**
LKD2				AML	AML		15 50 40.7	
	comp=N,216μm,0.5s							
LKD2				AML	AML		15 50 43.6	
	comp=E,178μm,0.4s							
AGG	**Agios Georgios**	**1.80**	**147**	P		**Pn**	**15 50 04.4**	**-0.1**
AGG				S		**Sg**	**15 50 30.5**	**-0.1**
AGG	**Agios Georgios**	**1.80**	**147**	P		**Pn**	**15 50 04.5**	**-0.1**
AGG				S		**Sg**	**15 50 30.5**	**-0.1**
AGG	**Agios Georgios**	**1.80**	**147**	P		**Pn**	**15 50 04.5**	**-0.1**
AGG				S		**Sg**	**15 50 30.8**	**+0.2**
AGG				AML	AML		15 50 36.4	
	comp=E,587μm,0.5s							
AGG				AML	AML		15 50 38.2	
	comp=N,392μm,0.5s							
PLG	**Polygyros**	**1.82**	**94**	P		**Pn**	**15 50 03.3**	**-1.6**
PLG				S		**Sg**	**15 50 31.0**	**-0.4**
PLG	**Polygyros**	**1.82**	**94**	P		**Pn**	**15 50 03.3**	**-1.6**
PLG				S		**Sg**	**15 50 31.1**	**-0.4**
PLG				AML	AML		15 50 33.6	
	comp=N,100μm,0.5s							
PLG				AML	AML		15 50 39.2	
	comp=E,74μm,0.5s							
PDO	**Prodromos**	**1.94**	**177**	P		**Pg**	**15 50 09.4**	**-0.5**
PDO	**Prodromos**	**1.94**	**177**	P		**Pg**	**15 50 09.4**	**-0.5**
PVO	**Paravola**	**1.95**	**169**	P		**Pb**	**15 50 09.2**	**+0.4**
PVO	**Paravola**	**1.95**	**169**	P		**Pb**	**15 50 09.2**	**+0.4**
PVO				AML	AML		15 50 45.4	
	comp=N,94μm,0.7s							
PVO				AML	AML		15 50 45.7	
	comp=E,157μm,0.5s							
XOR	**Xorichti**	**2.01**	**125**	P		**Pn**	**15 50 07.4**	**0.0**
XOR				S		**Sn**	**15 50 33.5**	**+0.5**
XOR	**Xorichti**	**2.01**	**125**	P		**Pn**	**15 50 07.4**	**0.0**
XOR				S		**Sn**	**15 50 33.5**	**+0.5**
XOR	**Xorichti**	**2.01**	**125**	P		**Pn**	**15 50 06.0**	**-1.4**
XOR				AML	AML		15 50 47.6	
	comp=N,209μm,0.7s							
XOR				AML	AML		15 50 48.2	
	comp=E,75μm,0.6s							
PAIG	**Paliouri**	**2.09**	**106**	P		**Pn**	**15 50 07.1**	**-1.5**
PAIG	**Paliouri**	**2.09**	**106**	P		**Pn**	**15 50 07.1**	**-1.5**
PAIG				AML	AML		15 50 50.2	
	comp=E,52μm,0.7s							
PAIG				AML	AML		15 50 50.6	
	comp=N,53μm,0.6s							
BARS	**Barje**	**2.34**	**14**	*e*Pn		**Pn**	**15 50 12.1**	**+0.1**
VLS	**Valsamata**	**2.39**	**189**	P		**Pn**	**15 50 12.3**	**-0.3**
VLS	**Valsamata**	**2.39**	**189**	P		**Pn**	**15 50 12.3**	**-0.3**
VLS				AML	AML		15 50 54.6	
	comp=E,100μm,0.5s							
VLS				AML	AML		15 50 56.4	
	comp=N,91μm,0.5s							
KLV	**Kalavryta, Ach**	**2.63**	**161**	P		**Pb**	**15 50 18.4**	**-2.0**
KLV	**Kalavryta, Ach**	**2.63**	**161**	P		**Pb**	**15 50 18.4**	**-2.0**
KLV				AML	AML		15 51 04.8	
	comp=E,31μm,0.8s							
KLV				AML	AML		15 51 04.8	
	comp=N,42μm,1.4s							
ZAGS	**Zajecar**	**3.39**	**14**	*e*Pn		**Pn**	**15 50 26.0**	**-0.3**
DIVS	**Divibare**	**3.65**	**348**	*e*Pn		**Pn**	**15 50 29.3**	**-0.7**
UDBI	**Udbina**	**5.59**	**317**	*e*Pn		**Pn**	**15 50 57.3**	**+0.6**
UDBI				Sn		**Sn**	**15 52 00.1**	**-1.2**
UDBI	**Udbina**	**5.59**	**317**	*e*Pn		**Pn**	**15 50 57.2**	**+0.6**
UDBI				Sn		**Sn**	**15 52 00.0**	**-1.2**

*ISCJB **09** 15:51:00.1±0.9, 42°.16N±0°.06×142°.56E±0°.08, h21$^{km}_{\pm 7km}$, mb3.7/6, MS3.4/1, Error ellipse: s-maj=11.6km s-min=9.2km az=34.0*
*NIED **09** 15:51:00, 42°.30N×142°.60E, h5^{km}, Mw3.9 Best double couple: M$_o$7.33000×10^{14} NP1:ϕ_s313.00000°, δ32.00000°, λ100.00000°. NP2:ϕ_s121.00000°, δ58.00000°, λ84.00000°.*
*JMA **09** 15:51:01.3±0.1, 42°.26N×142°.59E, h8$^{km}_{\pm 2km}$, M3.7*
JMA Felt III J1.
*IDC **09** 15:51:07.0±4.7, 42°.12N×142°.44E, h68$^{km}_{\pm 45km}$, mb3.3/6, mb1 3.5/7, mb1mx3.2/57, mbtmp3.6/7, ML2.9/1, MS3.0/3, Ms1 3.0/3, ms1mx2.7/25, Error ellipse: s-maj=29.0km s-min=24.4km az=82.0*

ISC 09 15:51:01.0±1.1, 42°.23N±0°.06×142°.56E±0°.07, h14$^{km}_{\pm 8km}$, n15, σ1^{s}10/15, mb3.7/6, 1C-2D, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
JNBK	**Urakawa-nobuka**	**0.15**	**72**	⇓P		**Pg**	**15 51 04.0**	**-0.8**
JNBK				*e*S		**Sg**	**15 51 07.6**	**+0.2**
JEM	**Erimo**	**0.49**	**116**	⇑P		**Pg**	**15 51 10.5**	**-0.3**
JBT2	**Biratori 2**	**0.56**	**345**	P		**Pg**	**15 51 11.5**	**-0.6**
JBT2				*e*S		**Sb**	**15 51 22.0**	**+1.4**
JCH	**Churui**	**0.71**	**57**	⇓P		**Pg**	**15 51 14.0**	**-0.8**
JCH				*e*S		**Sg**	**15 51 25.4**	**+1.3**
JEW	**Eniwo**	**1.02**	**307**	P		**Pb**	**15 51 20.4**	**0.0**
MJAR	**Matsushiro Arr**	**6.61**	**212**	P		**Pn**	**15 52 39.7**	**+2.0**
	0.3nm,0.3s,baz=24,slow=14,SNR=4.1							
JHJ	**Hachijo jima 2**	**9.36**	**194**	LR		LR	15 57 01.4	
	comp=Z,54nm,19.3s,baz=244,slow=38							
KSRS	**Korea Array**	**12.22**	**252**	LR		LR	15 58 01.7	
	comp=Z,55nm,18.8s,baz=198,slow=34							
KURBB	**Kurchatov Arra**	**43.66**	**304**	P		**P**	**15 59 04.5**	**-0.5**
	0.8nm,0.7s,baz=76,slow=8.8							
ILAR	**Eielson Array**	**44.68**	**35**	P		**P**	**15 59 13.4**	**+0.4**
	1.1nm,0.9s,baz=278,slow=7.8,SNR=9.5							
BVAR	**Borovoye Array**	**47.85**	**309**	P		**P**	**15 59 37.9**	**-0.2**
	0.7nm,0.5s,baz=66,slow=8.1							
AKTO	**Aktyubinsk**	**55.94**	**310**	LR		LR	16 25 46.4	
	comp=Z,30nm,18.0s,baz=180,slow=37							
WRA	**Warramunga Arr**	**62.33**	**189**	P		**P**	**16 01 21.1**	**-1.7**
	0.3nm,0.8s,baz=6.7,slow=6.8,SNR=2.5							
FINES	**FINESS Array B**	**64.65**	**332**	P		**P**	**16 01 37.0**	**-0.8**
	0.7nm,0.7s,baz=60,slow=8.2,SNR=3.6							
TXAR	**Lajitas Array**	**86.27**	**53**	P		**P**	**16 03 42.7**	**+0.2**
	0.3nm,0.8s,baz=298,slow=4.0,SNR=2.7							

*ISCJB **09** 15:55:43.0±0.4, 49°.86N±0°.03×18°.47E±0°.03, h0^{km}, Error ellipse: s-maj=4.8km s-min=2.3km az=13.9*
*VIE **09** 15:55:44.7±0.7, 49°.70N×18°.52E, h0^{km}, mb2.0/3, ML2.5/4, Error ellipse: s-maj=6.1km s-min=3.0km az=38.0, Suspected Mining induced.*
*IPEC **09** 15:55:44.0±0.2, 49°.84N×18°.59E, h0$^{km}_{\pm 3km}$, ML2.0/3, Error ellipse: s-maj=2.2km s-min=1.1km az=161.0*
*CSEM **09** 15:55:44.0±0.2, 49°.85N×18°.49E, h1^{km}, ML2.6/8, Error ellipse: s-maj=5.3km s-min=2.5km az=10.0*
*PRU **09** 15:55:46.2, 49°.88N×18°.44E, h0^{km}*

ISC 09 15:55:43.9±0.8, 49°.84N±0°.04×18°.49E±0°.02, h0^{km}, n31, σ1^{s}08/55, Czech and Slovak Republics

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
OKC	**Ostrava-Krasne**	**0.22**	**270**	*e*PG		**Pg**	**15 55 50.2**	**+2.0**
OKC				*e*SG		**Sg**	**15 55 53.0**	**+1.9**
	comp=Z,83nm,0.5s							
OKC	**Ostrava-Krasne**	**0.22**	**270**	Pg		**Pg**	**15 55 50.2**	**+2.0**
OKC				Sg		**Sg**	**15 55 53.0**	**+1.9**
	83nm,0.5s							
MORC	**Moravsky Berou**	**0.62**	**265**	*e*Pg		**Pb**	**15 55 57.0**	**-0.7**
MORC				*e*Sg		**Sb**	**15 56 05.3**	**-1.6**
	25nm,0.2s							
OJC	**Ojcow**	**0.92**	**65**	*e*Pg		**Pg**	**15 56 01.4**	**-0.2**
OJC				*e*Sg		**Sg**	**15 56 13.9**	**+0.3**
OJC	**Ojcow**	**0.92**	**65**	*e*Pg		**Pg**	**15 56 01.4**	**-0.2**
OJC				*e*Sg		**Sg**	**15 56 13.9**	**+0.3**
LANS	**Liptovska Anna**	**0.94**	**137**	*e*Pg		**Pb**	**15 56 02.4**	**-0.7**
LANS				*e*Sg		**Sb**	**15 56 15.8**	**-0.3**
LANS	**Liptovska Anna**	**0.94**	**137**	*e*PG		**Pb**	**15 56 02.3**	**-0.8**
LANS				*e*SG		**Sb**	**15 56 15.8**	**-0.3**
KRLC	**Kraliky**	**1.13**	**283**	*e*PG		**Pg**	**15 56 05.3**	**-0.3**
KRLC				*e*SG		**Sb**	**15 56 21.4**	**-0.2**
KRLC	**Kraliky**	**1.13**	**283**	Pg		**Pg**	**15 56 05.3**	**-0.3**
KRLC				Sg		**Sb**	**15 56 21.4**	**-0.2**
NIE	**Niedzica**	**1.25**	**109**	*e*Pg		**Pb**	**15 56 08.0**	**-0.4**
NIE				*e*Sg		**Sn**	**15 56 26.0**	**-0.2**
NIE	**Niedzica**	**1.25**	**109**	*e*Pg		**Pb**	**15 56 08.0**	**-0.4**
NIE				*e*Sg		**Sn**	**15 56 26.0**	**-0.2**
VRAC	**Vranov**	**1.35**	**247**	*e*Pg		**Pb**	**15 56 09.9**	**-0.1**
VRAC				*e*Sg		**Sn**	**15 56 27.9**	**-0.7**
	19nm,0.3s							
VYHS	**Vyhne**	**1.36**	**170**	*e*Pg		**Pb**	**15 56 10.1**	**-0.2**
VYHS				*e*Sg		**Sn**	**15 56 28.9**	**-0.1**
VYHS	**Vyhne**	**1.36**	**170**	*e*PG		**Pb**	**15 56 10.1**	**-0.2**
VYHS				*e*SG		**Sn**	**15 56 28.9**	**-0.1**
VYHS				*e*LG	Lg		15 56 32.6	
DPC	**Dobruska-Polom**	**1.49**	**291**	*e*PG		**Pn**	**15 56 12.0**	**0.0**
DPC				*e*SG		**Sn**	**15 56 32.2**	**0.0**
	comp=Z,15nm,0.2s							
DPC	**Dobruska-Polom**	**1.49**	**291**	Pg		**Pn**	**15 56 12.0**	**0.0**
DPC				Sg		**Sn**	**15 56 32.2**	**0.0**
	15nm,0.2s							
KRUC	**Moravsky**	**1.57**	**241**	*e*Pg		**Pb**	**15 56 13.5**	**-0.4**
UPC	**Upice**	**1.73**	**294**	*e*PG		**Pb**	**15 56 16.3**	**-0.3**
UPC				*e*SG		**Sg**	**15 56 40.5**	**+1.0**
UPC	**Upice**	**1.73**	**294**	Pg		**Pb**	**15 56 16.3**	**-0.3**
UPC				Sg		**Sg**	**15 56 40.5**	**+1.0**
STHS	**Stebnicka Huta**	**1.84**	**102**	*e*Pg		**Pg**	**15 56 19.6**	**+0.5**
STHS				*e*Sg		**Sg**	**15 56 46.0**	**+3.1**
STHS	**Stebnicka Huta**	**1.84**	**102**	*e*PG		**Pg**	**15 56 19.6**	**+0.5**
STHS				*e*SG		**Sg**	**15 56 46.0**	**+3.1**
STHS				*e*LG	Lg		15 56 48.1	
KECS	**Kecovo**	**1.89**	**135**	*e*Pn		**Pn**	**15 56 17.1**	**-0.3**
KECS				*e*Sn		**Sn**	**15 56 40.4**	**-1.4**
KECS	**Kecovo**	**1.89**	**135**	*e*PN		**Pn**	**15 56 17.1**	**-0.3**
KECS				*e*SN		**Sn**	**15 56 40.4**	**-1.4**
KECS				*e*LG	Lg		15 56 46.9	
GOPC	**GO Pecny, Ondr**	**2.40**	**273**	*e*SG		**Sg**	**15 56 59.5**	**-1.5**
	comp=Z,4.4nm,0.2s							
GOPC	**GO Pecny, Ondr**	**2.40**	**273**	Sg		**Sg**	**15 56 59.5**	**-1.5**
	4.4nm,0.2s							
PRU	**Pruhonice**	**2.56**	**275**	*e*SG		**Sg**	**15 57 05.2**	**-0.9**
	comp=Z,3.4nm,0.2s							
PRU	**Pruhonice**	**2.56**	**275**	Sg		**Sg**	**15 57 05.2**	**-0.9**
	3.4nm,0.2s							
CONA	**Conrad Observa**	**2.58**	**223**	Pn		**Pn**	**15 56 26.8**	**-0.3**
	0.2nm,0.1s							
CONA				Sn		**Sn**	**15 56 58.7**	**-0.5**
	1.1nm,0.2s							
KHC	**Kasperske Hory**	**3.28**	**259**	*e*SG		**Sb**	**15 57 26.0**	**+2.5**
MOA	**Molln**	**3.43**	**236**	Pn		**Pn**	**15 56 38.6**	**0.0**
	0.4nm,0.2s							
MOA				Sg		**Sg**	**15 57 32.8**	**-1.2**
	2.5nm,0.3s							
CLL	**Collm**	**3.80**	**295**	*e*Sg		**Sg**	**15 57 46.0**	**+0.2**

*ISCJB **09** 15:57:06.2±0.5, 40°.53N±0°.02×20°.98E±0°.04, h6$^{km}_{\pm 5km}$, Error ellipse: s-maj=5.6km s-min=3.4km az=174.7*
*CSEM **09** 15:57:06.4±0.2, 40°.53N×20°.98E, h2^{km}, ML2.3, Error ellipse: s-maj=5.7km s-min=4.0km az=97.0*
*THE **09** 15:57:06.5, 40°.53N×21°.02E, h10$^{km}_{\pm 3km}$, ML2.7/4, Error ellipse: s-maj=3.8km s-min=0.7km az=244.0*
*ATH **09** 15:57:06.2, 40°.51N×20°.98E, h16$^{km}_{\pm 2km}$, ML2.3/8, Error ellipse: s-maj=3.0km s-min=1.1km az=137.0*
*SKO **09** 15:57:06.1, 40°.49N×21°.00E, h2^{km}*

ISC 09 15:57:06.2±0.9, 40°.52N±0°.02×21°.00E±0°.03, h9$^{km}_{\pm 6km}$, n38, σ0^{s}72/63, 4C, Greece-Albania border region

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
NEST	**Nestorio**	**0.11**	**159**	P		**Pg**	**15 57 09.0**	**+0.1**
NEST				S		**Sg**	**15 57 11.5**	**+0.8**
NEST	**Nestorio**	**0.11**	**159**	P		**Pg**	**15 57 09.0**	**+0.1**
NEST				S		**Sg**	**15 57 10.8**	**0.0**
NEST	**Nestorio**	**0.11**	**159**	P		**Pg**	**15 57 08.1**	**-0.7**
NEST				S		**Sg**	**15 57 10.8**	**0.0**
NEST				AML	AML		15 57 11.6	
	comp=N,10843μm,0.1s							
NEST				AML	AML		15 57 11.8	
	comp=E,19173μm,0.2s							
PENT	**Pentalofos**	**0.34**	**161**	P		**Pg**	**15 57 13.0**	**+0.1**
PENT				S		**Sb**	**15 57 19.6**	**-0.5**
PENT	**Pentalofos**	**0.34**	**161**	P		**Pg**	**15 57 13.0**	**+0.1**
PENT				S		**Sb**	**15 57 19.6**	**-0.5**
PENT	**Pentalofos**	**0.34**	**161**	P		**Pg**	**15 57 13.0**	**+0.1**
PENT				S		**Sb**	**15 57 19.6**	**-0.5**
PENT				AML	AML		15 57 21.1	
	comp=E,2093μm,0.4s							
PENT				AML	AML		15 57 23.3	
	comp=N,2218μm,0.2s							
FNA	**Florina**	**0.39**	**47**	P		**Pg**	**15 57 13.5**	**-0.5**
FNA				S		**Sg**	**15 57 19.4**	**+0.2**
FNA	**Florina**	**0.39**	**47**	P		**Pg**	**15 57 13.5**	**-0.5**
FNA				S		**Sg**	**15 57 19.4**	**+0.2**
FNA	**Florina**	**0.39**	**47**	P		**Pb**	**15 57 15.1**	**-0.3**
FNA				S		**Sg**	**15 57 19.7**	**+0.6**
FNA				AML	AML		15 57 20.9	
	comp=E,1946μm,0.3s							
FNA				AML	AML		15 57 23.2	
	comp=N,1777μm,0.3s							
BIA	**Bitola**	**0.56**	**26**	P		**Pg**	**15 57 16.8**	**-0.3**
BIA				S		**Sg**	**15 57 25.2**	**+0.7**
BIA	**Bitola**	**0.56**	**26**	⇑*i*Pg		**Pg**	**15 57 17.0**	**-0.1**
BIA				*i* Sg		**Sg**	**15 57 24.7**	**+0.2**
BIA	**Bitola**	**0.56**	**26**	P		**Pg**	**15 57 16.8**	**-0.3**
BIA	**Bitola**	**0.56**	**26**	⇑*i*Pg		**Pg**	**15 57 17.0**	**-0.1**
BIA				*i* Sg		**Sg**	**15 57 24.7**	**+0.2**
BIA				S		**Sg**	**15 57 25.2**	**+0.7**
OHR	**Ohrid**	**0.61**	**346**	⇑*i*Pg		**Pg**	**15 57 17.4**	**-0.7**
OHR				*i* Sg		**Sg**	**15 57 26.

GROC				smax	smax		
	comp=N,541nm,0.6s						
KMGR	**Komgaron**	**0.73**	**241**	*i* PG	**Pb**	15 57 22.4	**-0.5**
KMGR				*e*S	**Sb**	15 57 33.1	**-0.1**
TRKR	**Terskaya**	**0.80**	**293**	*e*PG	**Pn**	15 57 24.1	**-1.4**
TRKR				*e*S	**Sn**	15 57 36.1	**-1.6**
TRKR	**Terskaya**	**0.80**	**293**	*e*Pg	**Pn**	15 57 24.1	**-1.4**
TRKR				*e*Sg	**Sn**	15 57 36.1	**-1.6**
VLKR	**Vladikavkaz**	**0.86**	**245**	*e*PG	**Pn**	15 57 24.9	**-1.5**
VLKR				*e*S	**Sb**	15 57 36.2	**-0.7**
VLKR	**Vladikavkaz**	**0.86**	**245**	*e*Pg	**Pn**	15 57 24.9	**-1.5**
VLKR				*e*Sg	**Sb**	15 57 36.2	**-0.7**
BTKR	**Batakoyurt**	**0.88**	**268**	*e*PG	**Pb**	15 57 24.8	**-0.5**
BTKR				*e*S	**Sn**	15 57 39.1	**-0.6**
BTKR	**Batakoyurt**	**0.88**	**268**	*e*Pg	**Pb**	15 57 24.8	**-0.5**
BTKR				*e*Sg	**Sn**	15 57 39.1	**-0.6**
DBC	**Dubki**	**0.89**	**116**	⇓*i* PG	**Pg**	15 57 23.7	**-0.9**
DBC				*i* S	**Sg**	15 57 36.4	**+0.3**
DBC				pmax	pmax		
	comp=Z,18nm,0.3s						
DBC	**Dubki**	**0.89**	**116**	*i* Pg	**Pg**	15 57 23.7	**-0.9**
	comp=Z,18nm,0.3s						
DBC				*i* Sg	**Sg**	15 57 36.4	**+0.3**
KRNR	**Karanay**	**1.03**	**124**	*e*PG	**Pg**	15 57 27.2	**-0.2**
KRNR				*e*S	**Sn**	15 57 43.0	**-0.7**
KRNR				pmax	pmax		
	comp=Z,26nm,0.2s						
KRNR	**Karanay**	**1.03**	**124**	*e*Pg	**Pg**	15 57 27.2	**-0.2**
	comp=Z,26nm,0.2s						
KRNR				*e*Sg	**Sn**	15 57 43.0	**-0.7**
UNCR	**Uncukul**	**1.04**	**132**	*e*PG	**Pb**	15 57 26.5	**-1.6**
UNCR				*e*S	**Sg**	15 57 40.0	**-1.0**
UNCR				pmax	pmax		
	comp=Z,36nm,0.2s						
UNCR	**Uncukul**	**1.04**	**132**	*e*Pg	**Pb**	15 57 26.5	**-1.6**
	comp=Z,36nm,0.2s						
UNCR				*e*Sg	**Sg**	15 57 40.0	**-1.0**
ARNR	**Ardon**	**1.09**	**258**	*e*PG	**Pn**	15 57 29.1	**-0.4**
ARNR				*e*S	**Sn**	15 57 45.5	**+0.5**
ARNR	**Ardon**	**1.09**	**258**	*e*Pg	**Pn**	15 57 29.1	**-0.4**
ARNR				*e*Sg	**Sn**	15 57 45.5	**+0.5**
PRTR	**Priterechnaya**	**1.12**	**288**	*e*PG	**Pn**	15 57 29.5	**-0.3**
PRTR				*e*S	**Sn**	15 57 45.1	**-0.4**
PRTR	**Priterechnaya**	**1.12**	**288**	*e*Pg	**Pn**	15 57 29.5	**-0.3**
PRTR				*e*Sg	**Sn**	15 57 45.1	**-0.4**
BUJR	**Buynaksk**	**1.16**	**120**	*e*PG	**Pg**	15 57 30.0	**+0.2**
BUJR				*i* S	**Sn**	15 57 50.0	**+3.4**
BUJR	**Buynaksk**	**1.16**	**120**	*e*Pg	**Pg**	15 57 30.0	**+0.2**
BUJR				*i* Sg	**Sn**	15 57 50.0	**+3.4**
LACR	**Lac**	**1.21**	**242**	*e*PG	**Pn**	15 57 29.8	**-1.5**
LACR				*e*S	**Sn**	15 57 46.8	**-1.3**
LACR	**Lac**	**1.21**	**242**	*e*Pg	**Pn**	15 57 29.8	**-1.5**
LACR				*e*Sg	**Sn**	15 57 46.8	**-1.3**
ARKR	**Arakani**	**1.22**	**131**	PG	**Pn**	15 57 30.0	**-1.4**
ARKR				*e*S	**Sn**	15 57 48.0	**-0.3**
ARKR	**Arakani**	**1.22**	**131**	Pg	**Pn**	15 57 30.0	**-1.4**
ARKR				*e*Sg	**Sn**	15 57 48.0	**-0.3**
STDR	**Stavd-Durt**	**1.23**	**269**	*e*PG	**Pg**	15 57 31.5	**+0.4**
STDR				*e*S	**Sn**	15 57 47.9	**-0.4**
STDR	**Stavd-Durt**	**1.23**	**269**	*e*Pg	**Pg**	15 57 31.5	**+0.4**
STDR				*e*Sg	**Sn**	15 57 47.9	**-0.4**
KORR	**Kora**	**1.27**	**256**	*e*PG	**Pn**	15 57 30.5	**-1.5**
KORR				*e*S	**Sg**	15 57 49.7	**+1.3**
KORR	**Kora**	**1.27**	**256**	*e*Pg	**Pn**	15 57 30.5	**-1.5**
KORR				*e*Sg	**Sg**	15 57 49.7	**+1.3**
GUDG	**Gudauri**	**1.33**	**225**	P	**Pn**	15 57 31.8	**-1.1**
GUDG				S	**Sg**	15 57 50.6	**+0.3**
GNBR	**Gunib**	**1.36**	**138**	⇓*i* PG	**Pb**	15 57 33.1	**-0.5**
GNBR				*e*S	**Sg**	15 57 52.5	**+1.2**
GNBR				pmax	pmax		
	comp=Z,31nm,0.4s						
GNBR	**Gunib**	**1.36**	**138**	*i* Pg	**Pb**	15 57 33.1	**-0.5**
	comp=Z,31nm,0.4s						
GNBR				*e*Sg	**Sg**	15 57 52.5	**+1.2**
MAK	**Makhachkala**	**1.36**	**109**	*e*PG	**Pg**	15 57 35.6	**+1.8**
MAK				*e*S	**Sg**	15 57 53.5	**+2.1**
MAK	**Makhachkala**	**1.36**	**109**	*e*Pg	**Pg**	15 57 35.6	**+1.8**
MAK				*e*Sg	**Sg**	15 57 53.5	**+2.1**
LSNR	**Lesken**	**1.41**	**265**	*e*PG	**Pb**	15 57 33.5	**-0.8**
LSNR				*e*S	**Sg**	15 57 54.1	**+1.3**
LSNR	**Lesken**	**1.41**	**265**	*e*Pg	**Pb**	15 57 33.5	**-0.8**
LSNR				*e*Sg	**Sg**	15 57 54.1	**+1.3**
ZEI	**Tsey**	**1.49**	**246**	⇓*i* PG	**Pn**	15 57 34.2	**-1.0**
ZEI				*i* S	**Sb**	15 57 54.5	**-0.6**
ZEI	**Tsey**	**1.49**	**246**	*i* Pg	**Pn**	15 57 34.2	**-1.0**
ZEI				*i* Sg	**Sb**	15 57 54.5	**-0.6**
DUS	**Dusheti**	**1.53**	**211**	P	**Pg**	15 57 37.4	**+0.5**
DUS				S	**Sg**	15 57 59.2	**+2.5**
DUS	**Dusheti**	**1.53**	**211**	PG	**Pg**	15 57 37.4	**+0.5**
DUS				S	**Sg**	15 57 59.2	**+2.5**
DUS	**Dusheti**	**1.53**	**211**	Pg	**Pg**	15 57 37.4	**+0.5**
DUS				Sg	**Sg**	15 57 59.2	**+2.5**
NCK	**Nalchik**	**1.57**	**274**	⇑*e*PG	**Pb**	15 57 36.0	**-1.1**
NCK	**Nalchik**	**1.57**	**274**	*e*Pg	**Pb**	15 57 36.0	**-1.1**
KMKR	**Kumukh**	**1.62**	**142**	*e*PG	**Pn**	15 57 37.0	**0.0**
KMKR				*e*S	**Sb**	15 57 59.2	**+0.2**
KMKR				pmax	pmax		
	comp=Z,33nm,0.3s						
KMKR	**Kumukh**	**1.62**	**142**	*e*Pg	**Pn**	15 57 37.0	**0.0**
	comp=Z,33nm,0.3s						
KMKR				*e*Sg	**Sb**	15 57 59.2	**+0.2**
DIGR	**Digorskoe uzhe**	**1.67**	**253**	⇓*i* PG	**Pn**	15 57 37.1	**-0.5**
DIGR				*i* S	**Sb**	15 57 59.7	**-0.5**
DIGR	**Digorskoe uzhe**	**1.67**	**253**	*i* Pg	**Pn**	15 57 37.1	**-0.5**
DIGR				*i* Sg	**Sb**	15 57 59.7	**-0.5**
KBTC	**Kuba-Taba**	**1.74**	**284**	*e*PN	**Pb**	15 57 39.5	**-0.6**
KBTC				*e*S	**Sg**	15 58 03.2	**-0.4**
ONI	**Oni**	**1.87**	**245**	P	**Pb**	15 57 40.6	**-1.7**
ONI				S	**Sg**	15 58 07.3	**-0.4**
ONI	**Oni**	**1.87**	**245**	PN	**Pb**	15 57 40.6	**-1.7**
ONI				S	**Sg**	15 58 07.3	**-0.4**
ONI	**Oni**	**1.87**	**245**	Pn	**Pb**	15 57 40.6	**-1.7**
ONI				Sg	**Sg**	15 58 07.3	**-0.4**
PYA1	**Pyatigorsk**	**2.03**	**290**	*e*PN	**Pb**	15 57 43.2	**-1.7**
BEYR	**Belyy Ugol+**	**2.21**	**287**	*e*PN	**Pb**	15 57 45.9	**-2.1**
BEYR				*e*S	**Sb**	15 58 15.2	**-0.4**
BEYR	**Belyy Ugol+**	**2.21**	**287**	*e*Pn	**Pb**	15 57 45.9	**-2.1**
BEYR				*e*Sn	**Sb**	15 58 15.2	**-0.4**
NEY	**Neytrino**	**2.21**	**267**	*e*PN	**Pn**	15 57 45.0	**-0.1**
NEY				*e*S	**Sb**	15 58 14.5	**-1.4**
NEY	**Neytrino**	**2.21**	**267**	*e*Pn	**Pn**	15 57 45.0	**-0.1**
NEY				*e*Sn	**Sb**	15 58 14.5	**-1.4**
SHA1	**Shidzhatmaz**	**2.27**	**279**	*e*PN	**Pb**	15 57 47.3	**-1.8**
SHA1				*e*S	**Sb**	15 58 17.8	**+0.3**
KIV	**Kislovodsk**	**2.28**	**285**	⇑*e*PN	**Pb**	15 57 48.5	**-0.8**
KIV				*e*		15 57 51.9	
KIV				*e*		15 57 54.6	
KIV				*e*		15 58 19.8	
KIV				*e*		15 58 24.6	
KIV				pmax	pmax		
	comp=Z,7.0nm,0.6s						
KIV	**Kislovodsk**	**2.28**	**285**	*e*Pn	**Pb**	15 57 48.5	**-0.8**
	comp=Z,7.0nm,0.6s						
KIV	**Kislovodsk**	**2.28**	**285**	*e*Pg	**Pg**	15 57 54.6	**+3.2**
KIV				*e*Sn	**Sg**	15 58 19.8	**-1.2**
KIV				*e*Sn	**Sb**	15 58 24.6	**+6.7**
AKT	**Akhty**	**2.43**	**142**	*e*PN	**Pb**	15 57 49.8	**-2.0**
AKT				*e*S	**Sb**	15 58 21.0	**-1.0**
AKT	**Akhty**	**2.43**	**142**	*e*Pn	**Pb**	15 57 49.8	**-2.0**
AKT				*e*Sn	**Sb**	15 58 21.0	**-1.0**
GOF	**Gofitskoye**	**2.54**	**311**	⇑*e*PN	**Pb**	15 57 52.8	**-0.9**
GOF				*e*S	**Sg**	15 58 27.9	**-1.4**
GOF				pmax	pmax		
	comp=Z,25nm,0.4s						
GOF				smax	smax		
	comp=E,86nm,0.5s						
GOF				smax	smax		
	comp=N,105nm,0.6s						
GOF	**Gofitskoye**	**2.54**	**311**	*e*Pn	**Pb**	15 57 52.8	**-0.9**
	comp=N,25nm,0.4s						
GOF				*e*Sn	**Sg**	15 58 27.9	**-1.4**
	comp=N,105nm,0.6s						
GNI	**Garni**	**3.35**	**193**	⇓*e*PN	**Pn**	15 57 58.9	**-1.8**
GNI	**Garni**	**3.35**	**193**	*e*Pn	**Pn**	15 57 58.9	**-1.8**
SOC	**Sochi**	**4.39**	**274**	*e*PN	Pb	15 58 19.5	-5.6
SOC				*e*		15 58 27.1	
SOC				*e*		15 59 08.5	
SOC				pmax	pmax		
	comp=Z,233nm,0.8s						
SOC	**Sochi**	**4.39**	**274**	*e*Pn	Pb	15 58 19.5	-5.6
	comp=Z,233nm,0.8s						
SOC				*e*Sn	**Sn**	15 59 08.5	**+2.2**
ARU	**Arti**	**15.39**	**28**	⇓*e*P	**Pn**	16 00 44.3	**-0.9**
ARU				pmax	pmax		
	comp=Z,3.0nm,1.1s						
ARU	**Arti**	**15.39**	**28**	*e*P	**Pn**	16 00 44.3	**-0.9**
	comp=Z,3.0nm,1.1s						

IDC 09 15:57:13.0±3.5, 2.92S×151.20E, h0km, mb3.1/2, mb1 3.6/3, mb1mx3.3/32, mbtmp3.4/3, ML2.0/1, Error ellipse: s-maj=149.4km s-min=40.2km az=115.0, New Ireland region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**7.60**	**212**	Pn	Pn	15 59 05.6	+0.5
	1.4nm,0.3s,baz=313,slow=2.0,SNR=6.5						
WRA	**Warramunga Arr**	**23.61**	**223**	P	P	16 02 25.9	0.0
	0.3nm,0.4s,baz=52,slow=10,SNR=5.4						
ASAR	**Alice Springs**	**26.56**	**218**	P	P	16 02 53.8	+0.9
	0.2nm,0.5s,baz=52,slow=8.8,SNR=6.2						
TORD	**Torodi Ar. Bea**	**148.19**	**290**	PKPbc	PKPdf	16 17 00.4	+1.6
	0.5nm,0.5s,baz=87,slow=3.0,SNR=5.5						

*ISCJB **09** 15:57:25.9±0.5, 36.86N±0.03×21.11E±0.04, h49km±6km, mb3.5/5, MS3.7/1, Error ellipse: s-maj=5.9km s-min=4.4km az=26.0*
*CSEM **09** 15:57:25.8±0.3, 36.97N×21.09E, h10km, ML3.7, Error ellipse: s-maj=6.4km s-min=4.1km az=30.0*
*IDC **09** 15:57:26.9±3.9, 37.09N×21.23E, h34km±35km, mb3.4/5, mb1 3.4/10, mb1mx3.3/40, mbtmp3.4/10, ML3.9/2, MS2.9/4, Ms1 2.9/4, ms1mx2.5/37, Error ellipse: s-maj=20.6km s-min=19.5km az=150.0*
*ATH **09** 15:57:26.1, 36.97N×21.17E, h31km±1km, ML3.7/5, Error ellipse: s-maj=2.4km s-min=1.1km az=57.0*
*THE **09** 15:57:27.4, 36.99N×21.16E, h15km±1km, ML3.6/15, Error ellipse: s-maj=1.7km s-min=1.0km az=189.0*

ISC 09 15:57:27.3±1.2, 36.92N±0.04×21.18E±0.03, h39km±3km, n116, σ1°70/155, mb3.6/5, Southern Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PYL	**PYLOS**	**0.45**	**93**	P	**Pn**	15 57 36.6	**-0.7**
PYL				S	**Sn**	15 57 44.7	**+0.3**
PYL	**PYLOS**	**0.45**	**93**	P	**Pn**	15 57 36.6	**-0.7**
PYL				S	**Sn**	15 57 43.2	**-1.2**
PYL	**PYLOS**	**0.45**	**93**	P	**Pn**	15 57 37.0	**-0.3**
PYL				S	**Sn**	15 57 43.2	**-1.2**
PYL				AML	AML	15 57 45.6	
	comp=E,7548μm,0.7s						
PYL				AML	AML	15 57 46.6	
	comp=N,12774μm,0.5s						
ITM	**Ithomi**	**0.65**	**66**	P	**Pn**	15 57 39.2	**-1.0**
ITM				S	**Sn**	15 57 49.1	**-0.1**
ITM	**Ithomi**	**0.65**	**66**	P	**Pn**	15 57 39.2	**-1.0**
ITM				S	**Sn**	15 57 49.1	**-0.1**
ITM	**Ithomi**	**0.65**	**66**	P	**Pn**	15 57 39.0	**-1.1**
ITM				S	**Sn**	15 57 49.1	**-0.1**
ITM				AML	AML	15 57 50.3	
	comp=E,16176μm,0.6s						
ITM				AML	AML	15 57 50.5	
	comp=N,9794μm,0.5s						
AMT	**Artemida-Makis**	**0.74**	**35**	P	**Pn**	15 57 40.1	**-1.2**
AMT				S	**Sn**	15 57 52.0	**+0.6**
AMT	**Artemida-Makis**	**0.74**	**35**	P	**Pn**	15 57 40.1	**-1.2**
AMT				S	**Sn**	15 57 51.3	**-0.1**
AMT	**Artemida-Makis**	**0.74**	**35**	P	**Pn**	15 57 40.1	**-1.2**
AMT				S	**Sn**	15 57 51.3	**-0.1**
AMT				AML	AML	15 57 56.4	
	comp=N,17713μm,0.4s						
AMT				AML	AML	15 57 56.6	
	comp=E,22594μm,0.6s						
VTN	**Vitineika**	**0.99**	**0**	P	**Pn**	15 57 45.2	**+0.5**
VTN	**Vitineika**	**0.99**	**0**	P	**Pn**	15 57 45.2	**+0.5**
VLX	**Vlachokerasia**	**1.06**	**65**	P	**Pn**	15 57 45.6	**-0.1**
VLX				S	**Sn**	15 58 01.4	**+2.1**
VLX	**Vlachokerasia**	**1.06**	**65**	P	**Pn**	15 57 46.3	**+0.6**
VLX				S	**Sn**	15 58 01.4	**+2.1**
VLX	**Vlachokerasia**	**1.06**	**65**	P	**Pn**	15 57 46.3	**+0.6**
VLX				S	**Sn**	15 58 01.1	**+1.8**
VLX				AML	AML	15 58 04.5	
	comp=N,8760μm,0.6s						
VLX				AML	AML	15 58 04.6	
	comp=E,11908μm,0.6s						
TRIP	**Tripoli**	**1.06**	**55**	P	**Pn**	15 57 45.6	**-0.1**
DRO	**Drossia**	**1.11**	**22**	P	**Pn**	15 57 46.1	**-0.3**
DRO				S	**Sn**	15 58 02.4	**+1.9**
DRO	**Drossia**	**1.11**	**22**	P	**Pn**	15 57 46.1	**-0.3**
DRO				S	**Sn**	15 58 00.9	**+0.4**
DRO	**Drossia**	**1.11**	**22**	P	**Pn**	15 57 45.6	**-0.8**
DRO				S	**Sn**	15 58 00.9	**+0.4**
DRO				AML	AML	15 58 11.5	
	comp=E,9018μm,0.5s						
DRO				AML	AML	15 58 13.3	
	comp=N,8126μm,0.5s						
RLS	**Riolos of Patr**	**1.16**	**11**	P	**Pn**	15 57 47.0	**0.0**
RLS				S	**Sn**	15 58 02.8	**+1.2**
RLS	**Riolos of Patr**	**1.16**	**11**	P	**Pn**	15 57 46.9	**0.0**
RLS				S	**Sn**	15 58 02.8	**+1.2**
RLS	**Riolos of Patr**	**1.16**	**11**	P	**Pn**	15 57 47.0	**0.0**
RLS	**Riolos of Patr**	**1.16**	**11**	P	**Pn**	15 57 46.9	**-0.1**
KFL	**Anninata**	**1.23**	**345**	P	**Pn**	15 57 48.1	**+0.1**
KFL				S	**Sn**	15 58 03.9	**+0.6**
KFL	**Anninata**	**1.23**	**345**	P	**Pn**	15 57 47.1	**-0.9**
KFL				S	**Sn**	15 58 03.9	**+0.6**
KFL	**Anninata**	**1.23**	**345**	P	**Pn**	15 57 48.1	**+0.1**
KFL	**Anninata**	**1.23**	**345**	P	**Pn**	15 57 47.1	**-0.9**
AXS	**Araxos**	**1.28**	**7**	P	**Pn**	15 57 49.5	**+0.8**
AXS				S	**Sn**	15 58 06.1	**+1.5**
AXS	**Araxos**	**1.28**	**7**	P	**Pn**	15 57 49.5	**+0.8**
AXS				S	**Sn**	15 58 06.1	**+1.5**
AXS	**Araxos**	**1.28**	**7**	P	**Pn**	15 57 48.1	**-0.6**
VLS	**Valsamata**	**1.34**	**340**	P	**Pn**	15 57 50.5	**+1.0**
VLS				S	**Sn**	15 58 06.8	**+0.7**
VLS	**Valsamata**	**1.34**	**340**	P	**Pn**	15 57 49.7	**+0.2**
VLS				S	**Sn**	15 58 06.8	**+0.7**
VLS	**Valsamata**	**1.34**	**340**	P	**Pn**	15 57 49.7	**+0.2**
KLV	**Kalavryta, Ach**	**1.36**	**34**	P	**Pn**	15 57 50.3	**+0.4**
KLV				S	**Sn**	15 58 08.8	**+2.1**
KLV	**Kalavryta, Ach**	**1.36**	**34**	P	**Pn**	15 57 49.5	**-0.4**
KLV				S	**Sn**	15 58 08.8	**+2.1**
KLV	**Kalavryta, Ach**	**1.36**	**34**	P	**Pn**	15 57 50.3	**+0.4**
KLV	**Kalavryta, Ach**	**1.36**	**34**	P	**Pn**	15 57 49.5	**-0.4**
KLV				S	**Sn**	15 58 09.5	**+2.8**
VLI	**Veliai**	**1.43**	**98**	P	**Pn**	15 57 52.7	**+2.0**
VLI	**Veliai**	**1.43**	**98**	P	**Pn**	15 57 53.0	**+2.3**
VLI	**Veliai**	**1.43**	**98**	P	**Pn**	15 57 53.0	**+2.3**
UPR	**University Cam**	**1.44**	**19**	P	**Pn**	15 57 52.8	**+1.9**
UPR	**University Cam**	**1.44**	**19**	P	**Pn**	15 57 52.8	**+1.9**
LAKA	**Lakka**	**1.46**	**26**	P	**Pn**	15 57 52.2	**+1.0**
LAKA				S	**Sn**	15 58 10.9	**+1.8**
LAKA	**Lakka**	**1.46**	**26**	P	**Pn**	15 57 52.2	**+1.0**
LAKA				S	**Sn**	15 58 11.5	**+2.4**
LAKA	**Lakka**	**1.46**	**26**	P	**Pn**	15 57 51.8	**+0.6**
LAKA				S	**Sn**	15 58 11.5	**+2.4**
THAL	**Thalero**	**1.62**	**46**	P	**Pn**	15 57 54.6	**+1.2**
THAL	**Thalero**	**1.62**	**46**	P	**Pn**	15 57 54.9	**+1.5**
THAL	**Thalero**	**1.62**	**46**	P	**Pn**	15 57 54.6	**+1.2**
THAL	**Thalero**	**1.62**	**46**	P	**Pn**	15 57 54.9	**+1.5**
KYTH	**Kithira**	**1.64**	**113**	P	**Pn**	15 57 56.0	**+2.3**
KYTH				S	**Sn**	15 58 18.6	**+5.1**
KYTH	**Kithira**	**1.64**	**113**	P	**Pn**	15 57 56.8	**+3.2**
SERG	**Sergoula**	**1.64**	**25**	P	**Pn**	15 57 55.2	**+1.5**
SERG	**Sergoula**	**1.64**	**25**	P	**Pn**	15 57 55.2	**+1.5**
KALE	**Kalithea**	**1.65**	**27**	P	**Pn**	15 57 55.4	**+1.5**
KALE				S	**Sn**	15 58 14.6	**+0.7**
KALE	**Kalithea**	**1.65**	**27**	P	**Pn**	15 57 55.4	**+1.5**
KALE	**Kalithea**	**1.65**	**27**	S	**Sn**	15 58 14.6	**+0.7**
KALE	**Kalithea**	**1.65**	**27**	P	**Pn**	15 57 56.4	**+2.5**
PDO	**Prodromos**	**1.67**	**0**	P	**Pn**	15 57 55.2	**+1.1**
PDO	**Prodromos**	**1.67**	**0**	P	**Pn**	15 57 55.2	**+1.1**
PDO	**Prodromos**	**1.67**	**0**	P	**Pn**	15 57 56.9	**+2.8**
PVO	**Paravola**	**1.71**	**9**	P	**Pn**	15 57 56.4	**+1.7**
PVO	**Paravola**	**1.71**	**9**	P	**Pn**	15 57 56.4	**+1.7**
PVO	**Paravola**	**1.71**	**9**	P	**Pn**	15 57 56.8	**+2.2**
LOUT	**Loutraki**	**1.78**	**53**	P	**Pn**	15 57 56.7	**+1.1**
LOUT	**Loutraki**	**1.78**	**53**	P	**Pn**	15 57 56.7	**+1.1**
LTK	**Loutraki**	**1.80**	**52**	P	**Pn**	15 57 56.2	**+0.4**
LTK				S	**Sn**	15 58 19.1	**+1.7**
LTK	**Loutraki**	**1.80**	**52**	P	**Pn**	15 57 55.1	**-0.7**
LTK				S	**Sn**	15 58 19.1	**+1.7**
LTK	**Loutraki**	**1.80**	**52**	P	**Pn**	15 57 56.2	**+0.4**
LTK	**Loutraki**	**1.80**	**52**	P	**Pn**	15 57 55.1	**-0.7**
DSF	**Desfina**	**1.83**	**35**	P	**Pn**	15 57 57.5	**+1.2**
DSF				S	**Sn**	15 58 20.7	**+2.4**
DSF	**Desfina**	**1.83**	**35**	P	**Pn**	15 57 57.5	**+1.2**
DSF				S	**Sn**	15 58 20.7	**+2.4**
DSF	**Desfina**	**1.83**	**35**	P	**Pn**	15 57 58.0	**+1.7**
ANKY	**Antikythira Is**	**2.01**	**121**	P	**Pn**	15 58 02.2	**+3.5**
ANKY	**Antikythira Is**	**2.01**	**121**	P	**Pn**	15 58 02.2	**+3.5**
EVR	**Evrytania**	**2.05**	**14**	P	**Pn**	15 58 03.0	**+3.6**
VIL2	**Platees**	**2.10**	**52**	P	**Pn**	15 57 58.2	**-1.8**
VILL	**Villia**	**2.10**	**53**	P	**Pn**	15 58 00.1	**+0.1**
VILL				S	**Sn**	15 58 28.1	**+3.2**
VILL	**Villia**	**2.10**	**53**	P	**Pn**	15 58 00.1	**+0.1**
VILL				S	**Sn**	15 58 28.1	**+3.2**
LKR	**Lokris**	**2.25**	**39**	P	**Pn**	15 58 02.4	**+0.4**
LKR				S	**Sn**	15 58 31.1	**+2.6**
LKR	**Lokris**	**2.25**	**39**	P	**Pn**	15 58 02.4	**+0.4**
LKR				S	**Sn**	15 58 31.1	**+2.6**
LKR	**Lokris**	**2.25**	**39**	P	**Pn**	15 58 01.9	**-0.1**
VLY	**Voula,Athens**	**2.28**	**65**	P	**Pn**	15 58 02.3	**-0.1**
VLY	**Voula,Athens**	**2.28**	**65**	P	**Pn**	15 58 02.3	**-0.1**
VLY	**Voula,Athens**	**2.28**	**65**	P	**Pn**	15 58 00.5	**-1.9**
AGG	**Agios Georgios**	**2.29**	**23**	P	**Pn**	15 58 05.0	**+2.4**
AGG	**Agios Georgios**	**2.29**	**23**	P	**Pn**	15 58 05.0	**+2.4**
ATHU	**Athens Univers**	**2.32**	**63**	P	**Pn**	15 58 00.1	**-2.9**
PTL	**Penteli**	**2.41**	**61**	P	**Pn**	15 58 02.8	**-1.5**
MHLO	**Agia Marina, M**	**2.60**	**94**	P	**Pn**	15 58 05.9	**-0.9**
EREA	**Eretria**	**2.65**	**55**	P	**Pn**	15 58 06.3	**-1.2**
SERI	**Serifos**	**2.66**	**84**	P	**Pn**	15 58 05.2	**-2.5**
THL	**Klokotos Trika**	**2.72**	**14**	P	**Pn**	15 58 09.3	**+0.8**
THL	**Klokotos Trika**	**2.72**	**14**	P	**Pn**	15 58 09.3	**+0.8**
SKIA	**Skiathos**	**2.88**	**38**	P	**Pn**	15 58 10.0	**-0.7**
SKIA	**Skiathos**	**2.88**	**38**	P	**Pn**	15 58 10.0	**-0.7**
AOS	**Alonnisos**	**3.10**	**43**	P	**Pn**	15 58 11.4	**-2.3**
PENT	**Pentalofos**	**3.27**	**359**	P	**Pn**	15 58 18.5	**+2.4**
PENT	**Pentalofos**	**3.27**	**359**	P	**Pn**	15 58 18.5	**+2.4**
IDI	**Anoyia**	**3.42**	**117**	Pn	**Pn**	15 58 19.0	**+0.8**
	comp=N,0.2nm,0.3s,baz=298,slow=18,SNR=2.0						
IDI				Sn	**Sn**	15 58 59.2	**+1.7**
	comp=N,7.2nm,0.3s,baz=290,slow=14,SNR=12						
IDI				LR	LR	16 00 04.6	
	comp=N,39nm,19.7s,baz=316,slow=46						
TAR1	**Taranto**	**4.71**	**321**	*e*Pn	**Pn**	15 58 36.7	**+0.8**
SG1	**Sgolgore (BA)**	**5.26**	**319**	*e*Pn	**Pn**	15 58 42.8	**-0.6**
BAI	**Bari**	**5.36**	**323**	*e*Pn	**Pn**	15 58 43.9	**-0.7**
VAE	**Valguarnera**	**5.43**	**278**	Pn	**Pn**	15 58 46.8	**+1.0**
	comp=N,1.0nm,0.3s,baz=210,slow=3.7,SNR=3.6						
VAE				Sn	**Sn**	15 59 48.4	**+1.3**
	comp=N,9.7nm,0.3s,baz=353,slow=11,SNR=5.2						
CDT	**Castel del Mon**	**5.64**	**319**	*e*Pn	**Pn**	15 58 47.7	**-1.0**
MS1	**Monte Sant'Ang**	**6.27**	**321**	*e*Pn	**Pn**	15 58 56.6	**-0.7**
UDBI	**Udbina**	**8.64**	**333**	*e*Pn	**Pn**	15 59 28.7	**-1.0**
UDBI				Sn	**Sn**	16 00 57.4	**-8.4**
MLR	**Muntele Rosu**	**9.28**	**21**	Pn	**Pn**	15 59 37.0	**-1.7**
	comp=N,0.1nm,0.3s,baz=135,slow=19,SNR=2.0						
GERES	**GERESS Array B**	**13.11**	**338**	Pn	**Pn**	**16 00 29.8**	**-1.1**
	baz=168,slow=14,SN

STHS	**Stebnicka Huta**	**1.78**	**118**	*e*PG	**Pg**	**16 08 41.3**	**-0.2**
STHS				*e*LG	Lg	16 09 20.5	
VYHS	**Vyhne**	**1.78**	**180**	*e*Pn	**Pn**	**16 08 40.0**	**+0.5**
VYHS				*e*Sn	**Sn**	**16 09 03.3**	**+0.4**
VYHS	**Vyhne**	**1.78**	**180**	*e*PN	**Pn**	**16 08 40.0**	**+0.5**
VYHS				*e*SN	**Sn**	**16 09 03.3**	**+0.4**
VYHS				*e*LG	Lg	16 09 10.7	
CRVS	**Cervenica-Dubn**	**2.19**	**128**	*e*Pg	**Pg**	**16 08 49.0**	**-0.4**
CRVS	**Cervenica-Dubn**	**2.19**	**128**	*e*PG	**Pg**	**16 08 49.0**	**-0.4**
PRU	**Pruhonice**	**2.78**	**266**	*e*PG	**Pb**	**16 08 58.8**	**+0.8**
PRU				*e*SG	**Sg**	**16 09 35.8**	**-0.9**
	comp=Z,3.7nm,0.3s						
PRU	**Pruhonice**	**2.78**	**266**	Pg	**Pb**	**16 08 58.8**	**+0.8**
PRU				Sg	**Sg**	**16 09 35.8**	**-0.9**
	3.7nm,0.3s						
KHC	**Kasperske Hory**	**3.60**	**253**	*e*PN	**Pn**	**16 09 05.0**	**+0.5**
KHC				*e*SG	**Sg**	**16 10 02.7**	**-0.4**
	comp=Z,4.9nm,0.4s						
KHC	**Kasperske Hory**	**3.60**	**253**	Pn	**Pn**	**16 09 05.0**	**+0.5**
KHC				Sg	**Sg**	**16 10 02.7**	**-0.4**
	4.9nm,0.4s						

*ISCJB **09** 16:12:22.9±1.3, 11°.3S±0°.1×163°.6E±0°.1, h33km, mb3.8/3, Error ellipse: s-maj=21.7km s-min=7.9km az=141.8*
*IDC **09** 16:12:26.1±2.9, 11°.30S×163°.58E, h46km±25km, mb3.6/3, mb1 4.0/6, mb1mx3.5/29, mbtmp4.1/6, ML3.9/3, MS3.1/1, Ms1 3.1/1, ms1mx2.6/17, Error ellipse: s-maj=31.7km s-min=17.3km az=53.0*

ISC 09 16:12:24.9±1.4, 11°.3S±0°.1×163°.6E±0°.1, h35km, n7, σ1s00/10, mb3.7/3, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**4.05**	**296**	P	**Pn**	**16 13 24.4**	**0.0**
	29nm,0.3s,baz=137,slow=7.9,SNR=8.3						
HNR				S	**Sn**	**16 14 12.0**	**+1.3**
	33nm,0.3s,baz=169,slow=21,SNR=5.7						
HNR	**Honiara**	**4.05**	**296**	*e*P	**Pn**	**16 13 23.0**	**-1.5**
HNR				*e*S	**Sn**	**16 14 12.0**	**+1.3**
DZM	**Mont Dzumac**	**11.09**	**166**	P	**Pn**	**16 15 01.9**	**+0.6**
	0.7nm,0.3s,baz=29,slow=9.3,SNR=40						
DZM				S	**Sn**	**16 17 04.2**	**+0.1**
	0.3nm,0.3s,baz=126,slow=19,SNR=3.3						
DZM				LR	LR	16 18 58.1	
	comp=Z,80nm,18.3s,baz=42,slow=36						
CTA	**Charters Tower**	**18.88**	**240**	P	**Pn**	**16 16 43.3**	**0.0**
	0.1nm,0.3s,baz=73,slow=11,SNR=4.3						
WRA	**Warramunga Arr**	**29.47**	**249**	P	**P**	**16 18 25.0**	**-0.9**
	1.7nm,0.7s,baz=80,slow=9.2,SNR=22						
ASAR	**Alice Springs**	**30.85**	**242**	P	**P**	**16 18 37.5**	**-0.6**
	0.9nm,0.7s,baz=63,slow=10,SNR=16						
ILAR	**Eielson Array**	**84.37**	**19**	P	**P**	**16 24 53.5**	**+0.2**
	0.5nm,1.0s,baz=244,slow=5.7,SNR=4.1						

WEL 09 16:28:07.6±0.9, 35°.68S×177°.95E, h179km±20km, ML3.6/5, 1D, Error ellipse: s-maj=19.8km s-min=12.7km az=90.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MXZ	**Matakaoa Point**	**1.90**	**171**	PN	Pn	16 28 43.0	-0.4
MXZ				SN	Sn	16 29 10.6	-0.9
HAZ	**Te Kaha**	**2.07**	**184**	PN	Pn	16 28 45.4	+0.1
WMGZ	**Waiomatatini S**	**2.16**	**170**	PN	Pn	16 28 46.4	+0.1
WMGZ				SN	Sn	16 29 15.5	-1.1
WMGZ				AML	AML	16 29 18.9	
PKGZ	**Pakihiroa**	**2.20**	**177**	PN	Pn	16 28 47.4	+0.6
RUGZ	**Raukumara Rang**	**2.29**	**185**	PN	Pn	16 28 47.9	0.0
TWGZ	**Tauwhareparae**	**2.49**	**179**	PN	Pn	16 28 50.6	+0.5
TWGZ				SN	Sn	16 29 22.4	-0.9
TWGZ				AML	AML	16 29 24.8	
URZ	**Urewera**	**2.66**	**194**	PN	Pn	16 28 52.4	+0.4
MWZ	**Matawai**	**2.67**	**187**	PN	Pn	16 28 52.4	+0.2
TKGZ	**Te Karaka**	**2.75**	**182**	PN	Pn	16 28 52.8	-0.3
TKGZ				AML	AML	16 29 29.2	
TKGZ				AML	AML	16 29 29.4	
CNGZ	**Carnagh Statio**	**2.80**	**176**	PN	Pn	16 28 53.6	-0.1
RAGZ	**Rawiri**	**2.84**	**188**	⇓PN	Pn	16 28 54.9	+0.6
RAGZ				AML	AML	16 29 33.3	
RIGZ	**Rimuhau**	**3.02**	**183**	PN	Pn	16 28 55.8	-0.6
RIGZ				AML	AML	16 29 35.2	
RIGZ				AML	AML	16 29 35.3	
RTZ	**Ruatahuna**	**3.03**	**195**	PN	Pn	16 28 56.4	-0.1
ARHZ	**Aropaoanui**	**3.65**	**192**	PN	Pn	16 29 03.6	-0.6
BKZ	**Black Stump Fm**	**3.66**	**198**	PN	Pn	16 29 05.0	+0.6

*ISCJB **09** 16:32:10.3±0.3, 21°.17S±0°.03×68°.69W±0°.04, h126km±2km, mb4.5/26, Error ellipse: s-maj=6.5km s-min=4.3km az=178.3*
*NEIC **09** 16:32:10.0±0.0, 21°.16S×68°.83W, h125km, mb4.4/15, After GUC.*
*GUC **09** 16:32:10.8±0.8, 21°.16S×68°.83W, h125km±5km, ML4.8*
*IDC **09** 16:32:11.0±0.7, 21°.13S×68°.51W, h114km±7km, mb4.2/10, mb1 4.3/14, mb1mx4.1/24, mbtmp4.6/14, MS3.1/1, Ms1 3.1/1, ms1mx2.6/20, Error ellipse: s-maj=17.2km s-min=8.9km az=102.0*
*SCB **09** 16:32:11.0±0.5, 20°.94S×68°.44W, h115km, Ml3.8/1, Error ellipse: s-maj=13.4km s-min=3.8km az=50.0*

ISC 09 16:32:10.7±0.6, 21°.14S±0°.04×68°.65W±0°.05, h116km±6km, n77, σ1s39/91, mb4.5/26, 9C-7D, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PB01	**IPOC Station P**	**0.79**	**277**	⇓*i*P	**Pn**	**16 32 30.6**	**+0.1**
PB01				*i* S	**Sn**	**16 32 45.5**	**0.0**
PB01	**IPOC Station P**	**0.79**	**277**	*e*Pn	**Pn**	**16 32 30.7**	**+0.1**
PB09	**IPOC Station P**	**0.86**	**220**	⇓*i*P	**Pn**	**16 32 32.0**	**+0.8**
PB09				*i* S	**Sn**	**16 32 47.4**	**+0.7**
PB09				IAML		16 32 47.7	
	comp=N,33μm,0.5s						
PB08	**IPOC Station P**	**1.10**	**334**	⇓*i*P	**Pn**	**16 32 35.1**	**+1.2**
PB08				*i* S	**Sn**	**16 32 53.0**	**+1.7**
PB07	**IPOC Station P**	**1.29**	**243**	⇓*i*P	**Pn**	**16 32 36.0**	**+0.3**
PB07				*e*S	**Sn**	**16 32 54.1**	**-0.6**
HMBC	**Humberstone**	**1.44**	**306**	⇓*i*P	**Pn**	**16 32 37.4**	**+0.1**
HMBC				*i* S	**Sn**	**16 32 57.5**	**-0.1**
HMBC				IAML		16 32 58.1	
	comp=N,17μm,0.9s						
PATCX	**Punta Patache**	**1.44**	**282**	⇓*i*P	**Pn**	**16 32 37.4**	**+0.2**
PATCX				*i* S	**Sn**	**16 32 57.7**	**+0.3**
PATCX				IAML		16 32 58.4	
	comp=E,18μm,0.7s						
LVC	**Limon Verde**	**1.49**	**189**	P	**Pn**	**16 32 38.5**	**+0.4**
	comp=E,7μm,0.3s,baz=10,slow=7.9,SNR=37						
LVC				S	**Sn**	**16 32 59.6**	**+0.7**
	comp=E,14μm,0.3s,baz=114,slow=19,SNR=86						
PB11	**IPOC Station P**	**1.66**	**325**	*e*P	**Pn**	**16 32 40.4**	**+0.4**
PB11				*i* S	**Sn**	**16 33 03.0**	**+0.7**
PB11	**IPOC Station P**	**1.66**	**325**	*e*Pn	**Pn**	**16 32 40.2**	**+0.2**
PB06	**IPOC Station P**	**1.78**	**209**	⇓*i*P	**Pn**	**16 32 41.5**	**+0.1**
PB06				*i* S	**Sn**	**16 33 04.6**	**-0.3**
PB06				IAML		16 33 05.0	
	comp=E,13μm,0.4s						
PSGC	**Pisagua**	**2.06**	**318**	⇑*i*P	**Pn**	**16 32 44.8**	**-0.1**
MNMC	**Minye Minye**	**2.18**	**336**	⇑*i*P	**Pn**	**16 32 47.5**	**+0.9**
MNMC				*e*S	**Sn**	**16 33 15.3**	**+1.3**
MNMC				IAML		16 33 18.5	
	comp=E,6μm,0.5s						
MOCB	**Mochara**	**2.81**	**93**	*e*Pn	**Pn**	**16 32 57.4**	**+2.6**
MOCB				*e*Sn	**Sn**	**16 33 31.2**	**+2.5**
PB10	**IPOC Station P**	**2.95**	**216**	*e*Pn	**Pn**	**16 32 55.2**	**-1.1**
BBOJ	**La Paz, Jacaqu**	**4.16**	**6**	⇑*i*Pn	**Pn**	**16 33 15.7**	**+2.8**
BBOE	**La Paz, Chanca**	**4.35**	**8**	⇑*i*Pn	**Pn**	**16 33 18.2**	**+2.8**
BBOD	**La Paz, Gloria**	**4.47**	**1**	⇑*i*Pn	**Pn**	**16 33 19.7**	**+2.6**
LPAZ	**La Paz**	**4.85**	**6**	P	**Pn**	**16 33 24.0**	**+1.9**
	comp=E,20nm,0.3s,baz=189,slow=6.9,SNR=341						
LPAZ				S	**Sn**	**16 34 17.9**	**+0.4**
	comp=E,0.8nm,0.3s,baz=185,slow=12,SNR=4.7						
LPAZ	**La Paz**	**4.85**	**6**	⇑*i*Pn	**Pn**	**16 33 24.2**	**+2.0**
LPAZ				*e*Sn	**Sn**	**16 34 18.0**	**+0.4**
BBOB	**La Paz, Bander**	**4.99**	**6**	⇑*i*Pn	**Pn**	**16 33 25.8**	**+1.8**
BBOB				⇑*i*Sn	**Sn**	**16 34 20.7**	**-0.2**
	comp=E,56nm,0.6s						
LCO	**Las Campanas**	**8.06**	**193**	*e*Pn	Pn	16 34 00.2	-5.0
SIV	**San Ignacio**	**8.82**	**56**	P	**Pn**	**16 34 13.3**	**-2.0**
SIV	comp=E,10nm,0.3s,baz=258,slow=12,SNR=92			S	**Sn**	**16 35 48.0**	**-5.1**
	comp=E,0.2nm,0.3s,baz=291,slow=18,SNR=6.5						
SIV	**San Ignacio**	**8.82**	**56**	⇑*i*P	**Pn**	**16 34 13.1**	**-2.3**
CPUP	**Villa Florida**	**11.58**	**119**	P	**Pn**	**16 34 50.9**	**-1.6**
	comp=E,0.3nm,0.3s,baz=288,slow=11,SNR=4.8						
ROC1	**El Roble**	**11.98**	**190**	*e*Pn	**Pn**	**16 34 56.7**	**-1.2**
SAML	**Samuel**	**13.21**	**24**	*e*Pn	**Pn**	**16 35 13.5**	**-0.5**
TRQA	**Tornquist**	**17.82**	**163**	*e*P	**P**	**16 36 10.7**	**+0.3**
	comp=E,116nm,1.6s						
PLCA	**Paso Flores**	**19.60**	**184**	P	**P**	**16 36 30.4**	**+0.5**
	comp=E,0.8nm,0.3s,baz=16,slow=12,SNR=21						
PLCA	**Paso Flores**	**19.60**	**184**	*e*P	**P**	**16 36 30.4**	**+0.5**
	comp=E,18nm,0.8s						
PTGA	**Pitinga**	**21.98**	**24**	P	**P**	**16 36 53.8**	**-1.7**
	comp=E,10.0nm,0.4s,baz=206,slow=16,SNR=32						
PTGA	**Pitinga**	**21.98**	**24**	*e*P	**P**	**16 36 53.9**	**-1.5**
	comp=E,22nm,1.3s						
ROSC	**El Rosal**	**26.41**	**347**	LR	LR	16 51 00.5	
	comp=E,42nm,18.6s,baz=86,slow=43						
RUSC	**La Rusia**	**27.21**	**350**	*e*P	**P**	**16 37 45.0**	**+0.7**
RUSC	**La Rusia**	**27.21**	**350**	*e*P	**P**	**16 37 44.9**	**+0.6**
	comp=E,38nm,1.8s						
BARC	**Barichara**	**27.91**	**350**	*e*P	**P**	**16 37 50.1**	**-0.2**
PAMC	**Pamplona, Colo**	**28.58**	**352**	*e*P	**P**	**16 37 55.2**	**-1.2**
ZARC	**Zaragoza, Cauc**	**29.10**	**347**	*e*P	**P**	**16 37 58.1**	**-2.5**
SDV	**Santo Domingo**	**29.90**	**356**	P	**P**	**16 38 08.2**	**+0.3**
	comp=E,10nm,0.4s,baz=310,slow=18,SNR=3.1						
RCBR	**Riachuelo**	**35.18**	**69**	P	**P**	**16 38 53.1**	**-0.7**
	comp=E,12nm,0.8s,baz=235,slow=11,SNR=6.1						
SWET	**Sewanee**	**58.39**	**343**	*e*P	**P**	**16 41 53.5**	**-0.6**
	comp=E,3.3nm,0.7s						
MIAR	**Mount Ida**	**60.23**	**336**	*e*P	**P**	**16 42 06.8**	**+0.1**
	comp=E,32nm,1.8s						
X301	**Greenbrier Sit**	**60.43**	**338**	*e*P	**P**	**16 42 07.7**	**-0.2**
	comp=E,166nm,1.0s						
WHAR	**Wooly Hollow**	**60.43**	**338**	*e*P	**P**	**16 42 06.0**	**-2.0**
	comp=E,171nm,0.8s						
TXAR	**Lajitas Array**	**60.47**	**325**	P	**P**	**16 42 09.3**	**+0.8**
	comp=E,0.2nm,0.5s,baz=160,slow=10,SNR=5.3						
LIC	**Lanco**	**68.05**	**74**	*e*P	**P**	**16 42 57.8**	**-0.4**
	comp=E,48nm,1.2s						
SDCO	**Great Sand Dun**	**68.06**	**329**	*e*P	**P**	**16 42 60.0**	**+1.9**
	comp=E,7.4nm,1.3s						
TIC	**Toumodi**	**68.24**	**73**	*e*P	**P**	**16 42 59.1**	**-0.3**
KIC	**Kosan Boka**	**68.37**	**74**	*e*P	**P**	**16 43 00.0**	**-0.2**
	comp=E,43nm,0.7s						
DBIC	**Dimbokro**	**68.40**	**73**	P	**P**	**16 43 00.3**	**0.0**
	comp=E,21nm,0.8s,baz=216,slow=6.3,SNR=20						
DBIC	**Dimbokro**	**68.40**	**73**	*e*P	**P**	**16 43 00.3**	**0.0**
	comp=E,24nm,0.8s						
WUAZ	**Wupatki**	**69.38**	**324**	*e*P	**P**	**16 43 08.2**	**+2.0**
	comp=E,7.1nm,1.1s						
U15A	**North Rim**	**70.56**	**324**	*e*P	**P**	**16 43 14.6**	**+1.1**
	comp=E,3.8nm,1.0s						
CCUT	**Cedar City**	**71.96**	**324**	*e*P	**P**	**16 43 23.5**	**+1.6**
	comp=E,6.3nm,0.9s						
MSU	**Marysvale**	**72.02**	**325**	*e*P	**P**	**16 43 24.1**	**+1.8**
PDAR	**Pinedale Array**	**73.92**	**330**	P	**P**	**16 43 34.1**	**+0.7**
	comp=E,3.9nm,0.6s,baz=177,slow=5.8,SNR=4.4						
HWUT	**Hardware Ranch**	**74.00**	**328**	*e*P	**P**	**16 43 35.0**	**+1.2**
	comp=E,3.2nm,0.8s						
ULM	**Lac du Bonnet**	**75.05**	**342**	P	**P**	**16 43 39.6**	**+0.3**
	comp=E,2.1nm,0.5s,baz=140,slow=7.1,SNR=6.2						
YHH	**Holmes Hill**	**76.07**	**330**	*e*P	**P**	**16 43 48.9**	**+3.2**
	comp=E,6.8nm,1.0s						
PAHR	**Pah Rah Range**	**76.84**	**322**	*e*P	**P**	**16 43 52.0**	**+2.0**
	comp=E,8.6nm,0.9s						
HLID	**Hailey**	**76.86**	**328**	*e*P	**P**	**16 43 51.4**	**+1.2**
	comp=E,4.1nm,0.8s						
TOA0	**Torodi Ar. Sit**	**77.00**	**70**	*e*P	**P**	**16 43 50.9**	**-0.4**
TORD	**Torodi Ar. Bea**	**77.00**	**70**	P	**P**	**16 43 51.0**	**-0.3**
	comp=E,7.4nm,0.5s,baz=252,slow=5.3,SNR=100						
MAW	**Mawson**	**84.61**	**163**	P	**P**	**16 44 30.8**	**+0.1**
	comp=E,0.9nm,0.4s,baz=219,slow=6.5,SNR=4.2						
ESDC	**Sonseca Array**	**85.40**	**44**	P	**P**	**16 44 36.1**	**+0.9**
	comp=E,1.2nm,0.7s,baz=256,slow=5.5,SNR=7.2						
ES19	**SONSECA Array**	**85.46**	**44**	*e*P	**P**	**16 44 35.6**	**+0.1**
YKA	**Yellowknife Ar**	**90.93**	**341**	P	**P**	**16 45 01.8**	**+1.0**
	comp=E,2.1nm,0.6s,baz=132,slow=4.6,SNR=8.5						
H11S2	**WAKE ISLAND Hyl**	**28.07**	**277**	T	T	19 11 13.9	
	baz=103						
H11S1	**WAKE ISLAND Hyl**	**28.08**	**277**	T	T	19 11 14.3	
	baz=103						
H11S3	**WAKE ISLAND Hyl**	**28.09**	**277**	T	T	19 11 14.7	
	baz=103						
ASAR	**Alice Springs**	**130.35**	**207**	PKP	**PKPdf**	**16 51 08.3**	**+0.1**
	comp=E,0.3nm,0.5s,baz=134,slow=1.8,SNR=12						
WRA	**Warramunga Arr**	**133.39**	**210**	PKP	**PKPdf**	**16 51 13.9**	**-0.1**
	comp=E,0.7nm,0.6s,baz=159,slow=1.6,SNR=8.7						
ZALV	**Zalesovo Beam**	**141.52**	**25**	PKP	**PKPdf**	**16 51 26.0**	**-1.9**
	comp=E,3.1nm,0.5s,baz=281,slow=2.2,SNR=11						
KSH	**Kashi**	**144.68**	**51**	PKP	**PKPdf**	**16 51 34.1**	**0.0**
KSH				pPKP	pPKPdf	16 52 00.1	-5.5
KSH				PP	**PP**	**16 54 54.1**	**+2.0**
KSH				PKS	**PKSdf**	**16 55 07.6**	**-2.1**
KSH				SKS	**SKSdf**	**16 58 31.9**	**-1.0**
USRK	**Ussuriysk Ar.**	**151.33**	**328**	PKPbc	**PKPbc**	**16 51 51.7**	**+1.0**
	comp=E,3.2nm,0.8s,baz=58,slow=2.9,SNR=6.7						
MJAR	**Matsushiro Arr**	**152.03**	**309**	PKPbc	**PKPbc**	**16 51 52.3**	**-0.3**
	comp=E,1.6nm,0.8s,baz=104,slow=1.6,SNR=6.7						
SONM	**Songino Array**	**153.06**	**7**	PKP	**PKPdf**	**16 51 48.8**	**+1.5**
	comp=E,0.7nm,0.8s,baz=323,slow=0.9,SNR=3.9						
SONM				PKPbc	**PKiKP**	**16 51 55.7**	**+0.8**
	comp=E,1.5nm,0.7s,baz=334,slow=2.5,SNR=7.1						

*ISK **09** 17:03:43.3, 40°.70N×32°.64E, h8km, MD3.0*
*DDA **09** 17:03:43.8, 40°.70N×32°.69E, h7km, Md3.0*
*ISCJB **09** 17:03:44.0±0.5, 40°.70N±0°.03×32°.65E±0°.03, h6km±5km, Error ellipse: s-maj=4.4km s-min=4.3km az=17.5*
*CSEM **09** 17:03:44.1±0.2, 40°.71N×32°.64E, h10km, MD3.0, Error ellipse: s-maj=4.0km s-min=3.5km az=28.0*

ISC 09 17:03:44.3±1.0, 40°.72N±0°.02×32°.65E±0°.02, h12km±8km, n41, σ0s71/55, Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CMDR	**Camlidere-ANKA**	**0.26**	**211**	*i* P	**Pg**	**17 03 49.0**	**-0.7**
CMDR				*i* S	**Sg**	**17 03 53.4**	**-0.1**
BCAM	**Yenicaga**	**0.46**	**283**	*i* P	**Pg**	**17 03 53.4**	**+0.1**
BCAM				*i* S	**Sb**	**17 04 00.4**	**-0.7**
BCAM	**Yenicaga**	**0.46**	**283**	P	**Pg**	**17 03 53.4**	**+0.1**
BCAM				S	**Sb**	**17 04 00.4**	**-0.7**
SAFT	**Safranbolu**	**0.52**	**3**	*e*PG	**Pg**	**17 03 54.4**	**-0.2**
SAFT				*e*SG	**Sg**	**17 04 02.3**	**+0.8**
SAFT	**Safranbolu**	**0.52**	**3**	*e*Pg	**Pg**	**17 03 54.4**	**-0.2**
SAFT				*e*Sg	**Sg**	**17 04 02.3**	**+0.8**
CANT	**Cankiri**	**0.74**	**98**	*e*PG	**Pg**	**17 03 58.3**	**-0.4**
CANT				*e*SG	**Sb**	**17 04 09.2**	**-0.2**
LOD	**Lodumlu**	**0.83**	**174**	*e*PG	**Pg**	**17 03 59.5**	**-0.8**
LOD	**Lodumlu**	**0.83**	**174**	*e*Pg	**Pg**	**17 03 59.5**	**-0.8**
ILGA	**Ilgaz**	**0.87**	**67**	*i* P	**Pg**	**17 04 00.6**	**-0.6**
ILGA				*i* S	**Sn**	**17 04 15.2**	**-0.2**
ILGA	**Ilgaz**	**0.87**	**67**	P	**Pg**	**17 04 00.6**	**-0.6**
ILGA				S	**Sn**	**17 04 15.2**	**-0.2**
BTIN	**Bart¯–n**	**0.97**	**342**	*i* P	**Pg**	**17 04 01.9**	**-1.0**
BTIN				*i* S	**Sn**	**17 04 17.8**	**+0.4**
BTIN	**Bart¯–n**	**0.97**	**342**	P	**Pg**	**17 04 01.9**	**-1.0**
BTIN				S	**Sn**	**17 04 17.8**	**+0.4**
TOS	**Tosya**	**1.09**	**72**	*e*PN	**Pb**	**17 04 04.3**	**-0.8**
TOS	**Tosya**	**1.09**	**72**	*e*Pn	**Pb**	**17 04 04.3**	**-0.8**
MDUB	**Mudurnu**	**1.13**	**258**	*e*PN	**Pb**	**17 04 05.2**	**-0.6**
MDUB	**Mudurnu**	**1.13**	**258**	*e*Pn	**Pb**	**17 04 05.3**	**-0.6**
BBAL	**Bala**	**1.23**	**163**	*i* P	**Pn**	**17 04 07.2**	**-0.2**
BBAL	**Bala**	**1.23**	**163**	P	**Pn**	**17 04 07.2**	**-0.2**
AFSR	**Af¯ar-Bala (A**	**1.31**	**166**	*e*PN	**Pn**	**17 04 08.5**	**0.0**
AFSR	**Af¯ar-Bala (A**	**1.31**	**166**	*e*Pn	**Pn**	**17 04 08.5**	**0.0**
SAHE	**Sakarya_HENDEK**	**1.37**	**276**	P	**Pn**	**17 04 09.4**	**+0.1**
SAHE				*i* S	**Sg**	**17 04 31.4**	**+2.9**
SAHE	**Sakarya_HENDEK**	**1.37**	**276**	P	**Pn**	**17 04 09.4**	**+0.1**
SVRH	**Sivrihisar-ESK**	**1.54**	**215**	*e*PN	**Pn**	**17 04 11.2**	**-0.4**
SVRH	**Sivrihisar-ESK**	**1.54**	**215**	*e*Pn	**Pn**	**17 04 11.2**	**-0.4**
KKUL	**Konya-Kulu**	**1.56**	**172**	*i* P	**Pb**	**17 04 13.2**	**+0.1**
KKUL				*i* S	**Sg**	**17 04 36.3**	**+1.9**
KKUL	**Konya-Kulu**	**1.56**	**172**	P	**Pb**	**17 04 13.2**	**+0.1**
CORM	**Corum**	**1.60**	**109**	*e*PN	**Pn**	**17 04 13.1**	**+0.5**
CORM	**Corum**	**1.60**	**109**	*e*Pn	**Pn**	**17 04 13.1**	**+0.5**
CTAK	**Corum_Osmancik**	**1.63**	**92**	*i* P	**Pb**	**17 04 14.4**	**0.0**
GULT	**Gulveren**	**1.65**	**261**	*e*PN	**Pn**	**17 04 13.1**	**-0.1**
GULT	**Gulveren**	**1.65**	**261**	*e*Pn	**Pn**	**17 04 13.1**	**-0.1**
KULU	**Kulu**	**1.69**	**171**	*e*PN	**Pn**	**17 04 13.9**	**+0.1**
KULU	**Kulu**	**1.69**	**171**	*e*Pn	**Pn**	**17 04 13.9**	**+0.1**
CDAG	**Cicekdag**	**1.71**	**129**	*i* P	**Pb**	**17 04 14.9**	**-0.8**
CDAG				*i* S	**Sb**	**17 04 37.6**	**+0.4**
CDAG	**Cicekdag**	**1.71**	**129**	P	**Pb**	**17 04 14.9**	**-0.8**
CDAG				S	**Sb**	**17 04 37.6**	**+0.4**
ESKT	**Eskisehir**	**1.83**	**230**	*e*PN	**Pn**	**17 04 15.5**	**-0.1**
ESKT	**Eskisehir**	**1.83**	**230**	*e*Pn	**Pn**	**17 04 15.5**	**-0.1**
YOZ	**Yozgat**	**2.31**	**117**	*e*PN	**Pn**	**17 04 22.7**	**+0.4**
YOZ	**Yozgat**	**2.31**	**117**	*e*Pn	**Pn**	**17 04 22.7**	**+0.4**
GULA	**Gulagac**	**2.67**	**152**	*e*PN	**Pn**	**17 04 27.7**	**+0.5**
GULA	**Gulagac**	**2.67**	**152**	*e*Pn	**Pn**	**17 04 27.7**	**+0.5**

*ISCJB **09** 17:06:49.8±0.6, 43°.41N±0°.04×45°.80E±0°.03, h1km±4km, Error ellipse: s-maj=7.0km s-min=2.7km az=21.6*
*CSEM **09** 17:06:50.1, 43°.37N×45°.76E, h12km, mb3.9*
*MOS **09** 17:06:50.7±0.8, 43°.37N×45°.76E, h12km, mb3.9/1, Error ellipse: s-maj=8.3km s-min=6.2km az=21.7*

ISC 09 17:06:50.3±1.1, 43°.41N±0°.04×45°.78E±0°.02, h11km±9km, n48, σ0s82/89, 3C-7D, Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GROC	**Groznyy**	**0.21**	**176**	⇓*i*PG	**Pg**	**17 06 54.5**	**-0.3**
KMGR	**Komgaron**	**0.75**	**242**	*e*PG	**Pb**	**17 07 05.1**	**-0.4**
KMGR				*e*S	**Sb**	**17 07 15.9**	**+0.1**
TRKR	**Terskaya**	**0.82**	**293**	⇓*i*PG	**Pn**	**17 07 07.7**	**-0.1**
TRKR				*e*S	**Sn**	**17 07 19.6**	**-0.3**
TRKR	**Terskaya**	**0.82**	**293**	*i* Pg	**Pn**	**17 07 07.7**	**-0.1**
TRKR				*e*Sg	**Sn**	**17 07 19.6**	**-0.3**
DBC	**Dubki**	**0.86**	**117**	⇑*i*PG	**Pg**	**17 07 07.1**	**+0.1**
DBC				*i* S	**Sb**	**17 07 19.0**	**+0.1**
DBC				pmax	pmax		
	comp=Z,5.0nm,0.2s						
DBC	**Dubki**	**0.86**	**117**	*i* Pg	**Pg**	**17 07 07.1**	**+0.1**
	comp=Z,5.0nm,0.2s						
DBC				*i* Sg	**Sb**	**17 07 19.0**	**+0.1**
VLKR	**Vladikavkaz**	**0.88**	**246**	*e*PG	**Pn**	**17 07 08.7**	**0.0**
VLKR				*e*S	**Sn**	**17 07 21.6**	**+0.1**
VLKR	**Vladikavkaz**	**0.88**	**246**	*e*Pg	**Pn**	**17 07 08.7**	**0.0**
VLKR				*e*Sg	**Sn**	**17 07 21.6**	**+0.1**
KRNR	**Karanay**	**1.01**	**125**	PG	**Pg**	**17 07 09.0**	**-0.8**
KRNR				*e*S	**Sn**	**17 07 24.5**	**-0.3**
KRNR	**Karanay**	**1.01**	**125**	Pg	**Pg**	**17 07 09.0**	**-0.8**
KRNR				*e*Sg	**Sn**	**17 07 24.5**	**-0.3**
UNCR	**Uncukul**	**1.02**	**133**	*e*PG	**Pb**	**17 07 09.0**	**-1.0**
UNCR				*e*S	**Sb**	**17 07 23.5**	**+0.1**
UNCR				pmax	pmax		
	comp=Z,21nm,0.2s						
UNCR	**Uncukul**	**1.02**	**133**	*e*Pg	**Pb**	**17 07 09.0**	**-1.0**
	comp=Z,21nm,0.2s						
UNCR				*e*Sg	**Sb**	**17 07 23.5**	**+0.1**
XNZR	**Khunzakh**	**1.10**	**142**	*e*PG	**Pn**	**17 07 11.9**	**+0.1**
XNZR				*e*S	**Sn**	**17 07 27.0**	**-0.1**
XNZR	**Khunzakh**	**1.10**	**142**	*e*Pg	**Pn**	**17 07 11.9**	**+0.1**
XNZR				*e*Sg	**Sn**	**17 07 27.0**	**-0.1**
ARNR	**Ardon**	**1.11**

	comp=Z,115nm,0.5s							
APLL	**PUNTA DE LOS L**	**4.80**	**109**	*e*P	**Pn**	**17 25 17.9**	**+0.7**
AAGR	**Agrelo**	**4.88**	**150**	*e*P	**Pn**	**17 25 22.2**	**+3.9**
ACHE	**Chepes**	**4.97**	**118**	*e*P	**Pn**	**17 25 20.4**	**+0.8**
ACAN	**Cantantal**	**5.19**	**132**	*e*P	**Pn**	**17 25 23.7**	**+1.1**
CYA	**Choya**	**5.26**	**86**	*e*P	**Pn**	**17 25 23.7**	**+0.1**
CYA				IAML		17 25 51.1	
	comp=Z,33nm,0.5s							

*ISK **09** 17:34:28.6,38˚.20N×38˚.62E,h5km,MD2.9*
*DDA **09** 17:34:29.8,38˚.23N×38˚.64E,h7km,Md2.9*
*CSEM **09** 17:34:30.4±0.3,38˚.21N×38˚.60E,h2km,MD2.9,Error ellipse: s-maj=8.3km s-min=6.7km az=120.0*

ISC 09 17:34:29.7±1.2,38˚.21N±0˚.03×38˚.62E±0˚.03,h2km±11km, n29,σ0°60/41,Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SVRC	**Sivrice-ELAZID**	**0.57**	**73**	*e*PG	**Pg**	**17 34 40.7**	**+0.1**
SVRC	**Sivrice-ELAZID**	**0.57**	**73**	*e*Pg	**Pg**	**17 34 40.7**	**+0.1**
ATAB	**Bozova**	**0.79**	**199**	*i* P	**Pg**	**17 34 44.7**	**0.0**
ATAB	**Bozova**	**0.79**	**199**	P	**Pg**	**17 34 44.7**	**0.0**
URFA	**Urfa**	**0.79**	**168**	*e*PG	**Pg**	**17 34 44.5**	**-0.3**
URFA	**Urfa**	**0.79**	**168**	*e*Pg	**Pg**	**17 34 44.5**	**-0.3**
PTK	**Pertek**	**0.91**	**42**	*e*PG	**Pg**	**17 34 47.5**	**+0.4**
PTK				*e*SG	**Sb**	**17 35 01.2**	**+0.2**
PTK	**Pertek**	**0.91**	**42**	*e*Pg	**Pg**	**17 34 47.5**	**+0.4**
PTK				*e*Sg	**Sb**	**17 35 01.2**	**+0.2**
DARE	**Darende-Malaty**	**0.96**	**292**	*e*PG	**Pg**	**17 34 48.2**	**+0.1**
KEMA	**Kemaliye**	**1.06**	**355**	*i* P	**Pg**	**17 34 49.1**	**-0.9**
KEMA				*i* S	**Sn**	**17 35 06.6**	**-0.5**
KEMA	**Kemaliye**	**1.06**	**355**	P	**Pg**	**17 34 49.1**	**-0.9**
KEMA				S	**Sn**	**17 35 06.6**	**-0.5**
TNCL	**Tunceli-Merkez**	**1.16**	**39**	*i* P	**Pn**	**17 34 53.6**	**+0.6**
TNCL				*i* S	**Sn**	**17 35 10.1**	**+0.7**
TNCL	**Tunceli-Merkez**	**1.16**	**39**	P	**Pn**	**17 34 53.6**	**+0.6**
TNCL				S	**Sn**	**17 35 10.1**	**+0.7**
GZT	**Gaziantep**	**1.20**	**225**	*i* P	**Pn**	**17 34 53.4**	**-0.2**
GZT				*i* S	**Sn**	**17 35 10.1**	**-0.4**
SURC	**SANLIURFA_SURC**	**1.33**	**180**	*i* P	**Pg**	**17 34 55.8**	**+0.6**
SURC				*i* S	**Sn**	**17 35 13.4**	**-0.3**
CUKAN	**kangal_SIVAS**	**1.42**	**321**	*i* P	**Pg**	**17 34 57.3**	**+0.3**
CUKAN	**kangal_SIVAS**	**1.42**	**321**	P	**Pg**	**17 34 57.3**	**+0.3**
GAZ	**Gaziantep**	**1.52**	**227**	*e*PN	**Pn**	**17 34 58.0**	**0.0**
GAZ	**Gaziantep**	**1.52**	**227**	*e*Pn	**Pn**	**17 34 58.0**	**0.0**
KMRS	**Kahramanmaras**	**1.53**	**243**	*e*PN	**Pn**	**17 34 58.0**	**-0.1**
KMRS	**Kahramanmaras**	**1.53**	**243**	*e*Pn	**Pn**	**17 34 58.0**	**-0.1**
MAZI	**Mazidag**	**1.63**	**117**	*e*PN	**Pb**	**17 35 00.1**	**-0.5**
MAZI	**Mazidag**	**1.63**	**117**	*e*Pn	**Pb**	**17 35 00.1**	**-0.5**
SARI	**SarD1z-Kayseri**	**1.74**	**277**	*e*Pn	**Pn**	**17 35 01.4**	**+0.3**
KUZU	**Kuzuini**	**1.89**	**221**	*i* P	**Pg**	**17 35 05.7**	**-0.2**
KUZU				*i* S	**Sg**	**17 35 31.9**	**+1.5**
KUZU	**Kuzuini**	**1.89**	**221**	P	**Pg**	**17 35 05.7**	**-0.2**
MARD	**Mardin**	**1.93**	**117**	*i* P	**Pb**	**17 35 06.0**	**+0.3**
MARD				*i* S	**Sg**	**17 35 33.2**	**+1.4**
BTMN	**Batman**	**2.12**	**98**	*i* P	**Pb**	**17 35 08.2**	**-0.7**
BTMN				*i* S	**Sg**	**17 35 36.6**	**-1.2**
BTMN	**Batman**	**2.12**	**98**	P	**Pb**	**17 35 08.2**	**-0.7**
BTMN				S	**Sg**	**17 35 36.6**	**-1.2**

*IDC **09** 17:39:02.4±0.7,38˚.38N×97˚.77E,h0km,mb3.8/10, mb1 4.0/15,mb1mx3.8/50,mbtmp3.9/15,ML3.4/5,MS3.3/5, Ms1 3.3/5,ms1mx2.9/35,Error ellipse: s-maj=21.0km s-min=15.5km az=49.0*
*ISCJB **09** 17:39:03.1±0.4,38˚.49N±0˚.06×97˚.85E±0˚.07,h10km, mb3.7/10,MS3.3/4,Error ellipse: s-maj=8.1km s-min=7.4km az=16.8*
*BJI **09** 17:39:03.7,38˚.39N×97˚.88E,h10km,mb3.9/4,ML3.9/10, Ms3.6/5,Ms7 3.6/2*

ISC 09 17:39:04.1±0.5,38˚.37N±0˚.07×97˚.84E±0˚.06,h10km,n28, σ1°88/28,mb3.9/10,MS3.2/4,Qinghai

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LZH	**Lanzhou**	**5.30**	**114**	*e*Pn	**Pn**	**17 40 25.7**	**+2.1**
LZH				Pg	**Pb**	**17 40 37.2**	**+0.2**
LZH				Sn	**Sn**	**17 41 28.7**	**+3.9**
LZH				Sg	**Sg**	**17 41 47.6**	**-6.8**
LZH				smax	smax		
	comp=N,220nm,1.1s						
LZH				smax	smax		
	comp=E,150nm,0.9s						
LZH				LR	LR		
	comp=E,430nm,4.6s						
LZH				LR	LR		
	comp=Z,430nm,5.5s						
SONM	**Songino Array**	**11.33**	**31**	Pn	**Pn**	**17 41 47.2**	**+1.1**
	0.5nm,0.3s,baz=212,slow=17,SNR=13						
SONM				Lg	Lg	17 44 51.5	
	0.3nm,0.3s,baz=223,slow=26,SNR=5.0						
KMI	**Kunming**	**13.85**	**161**	P	**P**	**17 42 30.0**	**+0.9**
KMI				pmax	pmax		
	comp=Z,6.0nm,1.0s						
TLY	**Talaya**	**13.92**	**15**	Pn	**Pn**	**17 42 22.4**	**+1.1**
	comp=Z,0.0nm,0.3s,baz=200,slow=12,SNR=2.8						
TLY				Lg	Lg	17 46 18.2	
	comp=Z,0.0nm,0.3s,baz=264,slow=6.4,SNR=3.1						
GUN	**Gumba**	**14.45**	**227**	*e*P	**P**	**17 42 38.4**	**+2.4**
	comp=Z,26nm,0.5s						
RAMN	**Ramite**	**14.80**	**223**	*e*P	**Pn**	**17 42 33.6**	**-0.1**
	comp=Z,46nm,0.6s						
KKN	**Kakani**	**14.89**	**229**	*e*P	**P**	**17 42 41.4**	**+0.7**
	comp=Z,16nm,0.7s						
PKI	**Pulchoki**	**14.98**	**228**	*e*P	**P**	**17 42 40.8**	**-1.0**
	comp=Z,11nm,0.6s						
PKIN	**Phulchoki**	**14.98**	**228**	*e*P	**P**	**17 42 40.4**	**-1.4**
	comp=Z,8.9nm,0.6s						
PKIN	**Phulchoki**	**14.98**	**228**	*e*P	**P**	**17 42 40.9**	**-0.9**
	comp=Z,7.5nm,0.6s						
KOLN	**Koldanda**	**15.93**	**233**	*e*P	**P**	**17 42 51.7**	**-0.5**
	comp=Z,8.8nm,0.8s						
PYUN	**Piuthan**	**16.08**	**235**	*e*P	**P**	**17 42 53.9**	**-0.1**
	comp=Z,31nm,0.9s						
ZALV	**Zalesovo Beam**	**17.95**	**334**	P	**P**	**17 43 14.4**	**+0.2**
	comp=Z,0.2nm,0.3s,baz=141,slow=11,SNR=5.6						
ZALV				LR	LR	17 50 10.9	
	comp=Z,63nm,18.1s,baz=70,slow=37						
KURBB	**Kurchatov Arra**	**18.37**	**318**	P	**Pn**	**17 43 16.9**	**-1.8**
	comp=Z,0.0nm,0.3s,baz=125,slow=12,SNR=5.7						
CMAR	**Chiang Mai Arr**	**19.87**	**177**	P	**Pn**	**17 43 37.1**	**+0.1**
	comp=Z,0.2nm,0.3s,baz=351,slow=9.7,SNR=20						
KSRS	**Korea Array**	**23.70**	**83**	P	**P**	**17 44 16.7**	**+0.6**
	comp=Z,3.0nm,0.8s,baz=279,slow=9.0,SNR=18						
KSRS				LR	LR	17 54 55.8	
	comp=Z,27nm,18.2s,baz=70,slow=40						
BVAR	**Borovoye Array**	**23.94**	**317**	P	**P**	**17 44 17.5**	**-0.7**
	comp=Z,0.3nm,0.4s,baz=74,slow=11,SNR=2.7						
MJAR	**Matsushiro Ar**	**31.92**	**81**	LR	LR	17 59 40.7	
	comp=Z,36nm,20.3s,baz=275,slow=39						
AKASG	**Malin Array Be**	**48.75**	**308**	LR	LR	18 09 25.4	
	comp=Z,36nm,19.5s,baz=290,slow=37						
BRTR	**Keskin Array B**	**48.90**	**293**	P	**P**	**17 47 49.0**	**-1.4**
	comp=Z,0.4nm,0.6s,baz=36,slow=46,SNR=2.5						
ILAR	**Eielson Array**	**65.50**	**25**	P	**P**	**17 49 46.0**	**-1.2**
	comp=Z,0.6nm,0.8s,baz=287,slow=5.0,SNR=6.1						
WRA	**Warramunga Arr**	**67.37**	**143**	P	**P**	**17 49 59.3**	**-0.3**
	comp=Z,1.4nm,0.8s,baz=340,slow=6.5,SNR=6.4						
KMBO	**Kilima Mbogo**	**68.05**	**250**	P	**P**	**17 50 03.9**	**-0.5**
	comp=Z,0.7nm,0.3s,baz=35,slow=19,SNR=2.3						
ASAR	**Alice Springs**	**70.38**	**145**	P	**P**	**17 50 18.4**	**+0.1**
	comp=Z,0.8nm,0.6s,baz=330,slow=6.5,SNR=11						
ESDC	**Sonseca Array**	**74.40**	**308**	P	**P**	**17 50 43.1**	**+0.8**
	comp=Z,0.1nm,0.3s,baz=49,slow=6.8,SNR=4.0						
FRB	**Frobisher Bay**	**77.65**	**354**	LR	LR	18 25 34.2	
	comp=Z,82nm,21.6s,baz=129,slow=36						
STKA	**Stephens Creek**	**80.90**	**143**	P	**P**	**17 51 18.4**	**0.0**
	comp=Z,1.9nm,0.8s,baz=320,slow=7.9,SNR=2.5						
TORD	**Torodi Ar. Bea**	**86.69**	**284**	P	**P**	**17 51 48.4**	**-0.2**
	comp=Z,0.2nm,0.4s,baz=57,slow=5.3,SNR=2.0						

IDC 09 17:41:48.0±2.8,0˚.97N×125˚.70E,h190km±28km,mb3.2/4, mb1 3.3/6,mb1mx3.0/39,mbtmp3.7/6,MS2.5/1,Ms1 2.5/1, ms1mx2.3/14,Error ellipse: s-maj=30.8km s-min=18.8km az=63.0,Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SIJI	**Sorong**	**5.86**	**108**	P	Pn	17 43 14.8	+1.4
	17nm,0.3s,baz=180,slow=20,SNR=1.7						
SIJI				S	Sn	17 44 25.2	+4.5
	16nm,0.3s,baz=180,slow=20,SNR=1.4						
KAPI	**Kappang**	**8.40**	**225**	P	Pn	17 43 47.1	+0.5
	0.5nm,0.3s,baz=56,slow=11,SNR=1.4						
FITZ	**Fitzroy Crossi**	**18.95**	**180**	P	P	17 45 54.6	-0.4
	0.2nm,0.3s,baz=359,slow=12,SNR=6.1						
FITZ				S	Sn	17 49 28.3	-4.1
	0.1nm,0.3s,baz=217,slow=20,SNR=1.6						
WRA	**Warramunga Arr**	**22.45**	**158**	P	P	17 46 29.8	-1.6
	2.0nm,0.4s,baz=340,slow=11,SNR=17						
GUMO	**Guam**	**22.75**	**56**	LR	LR	17 54 15.3	
	comp=Z,13nm,21.2s,baz=148,slow=33						
ASAR	**Alice Springs**	**25.76**	**162**	P	P	17 47 02.2	+0.8
	0.9nm,0.3s,baz=348,slow=13,SNR=12						
STKA	**Stephens Creek**	**35.98**	**157**	P	P	17 48 31.3	+0.5
	1.0nm,0.6s,baz=314,slow=10.0,SNR=3.6						
KURBB	**Kurchatov Arra**	**63.51**	**329**	P	P	17 51 57.7	-0.3
	0.2nm,0.4s,baz=131,slow=6.9,SNR=6.7						

IDC 09 17:42:05.7±22.0,8˚.22S×128˚.45E,h484km±97km,mb3.0/1, mb1 3.2/4,mb1mx2.7/35,mbtmp4.0/4,Error ellipse: s-maj=292.7km s-min=79.6km az=169.0,Timor Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**10.20**	**195**	P	P	17 44 24.8	-0.2
	0.0nm,0.3s,baz=5.2,slow=11,SNR=1.3						
WRA	**Warramunga Arr**	**12.97**	**155**	P	P	17 44 54.3	-0.4
	0.6nm,0.3s,baz=333,slow=11,SNR=33						
ASAR	**Alice Springs**	**16.23**	**162**	P	P	17 45 29.6	+0.5
	0.9nm,0.3s,baz=342,slow=12,SNR=110						
STKA	**Stephens Creek**	**26.53**	**154**	P	P	17 47 03.6	0.0
	1.5nm,0.8s,baz=331,slow=10,SNR=1.9						

*ISK **09** 18:11:52.6,39˚.44N×27˚.93E,h5km,MD2.7*
*ISCJB **09** 18:11:53.5±0.5,39˚.43N±0˚.03×27˚.96E±0˚.04,h4km±5km, Error ellipse: s-maj=5.0km s-min=4.2km az=162.9*
*CSEM **09** 18:11:53.7±0.1,39˚.44N×27˚.96E,h5km,MD2.7,Error ellipse: s-maj=3.7km s-min=3.0km az=76.0*
*DDA **09** 18:11:53.8,39˚.44N×27˚.98E,h7km,Md2.9*

ISC 09 18:11:53.4±1.0,39˚.42N±0˚.02×27˚.94E±0˚.03,h7km±9km, n39,σ1°21/52,Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BALB	**Balikesir**	**0.23**	**348**	*e*PG	**Pg**	**18 11 58.0**	**0.0**
BALB				*e*SG	**Sg**	**18 12 01.9**	**+0.9**
BALB	**Balikesir**	**0.23**	**348**	*e*Pg	**Pg**	**18 11 58.0**	**0.0**
BALB				*e*Sg	**Sg**	**18 12 01.9**	**+0.9**
BALY	**Balya**	**0.41**	**322**	*i* P	**Pb**	**18 12 02.5**	**-0.5**
BALY				*i* S	**Sb**	**18 12 08.4**	**-1.0**
BALY	**Balya**	**0.41**	**322**	P	**Pb**	**18 12 02.5**	**-0.5**
BALY				S	**Sb**	**18 12 08.4**	**-1.0**
AKS	**Akhisar**	**0.55**	**190**	*e*PG	**Pg**	**18 12 04.6**	**+0.6**
AKS				*e*SG	**Sb**	**18 12 13.4**	**0.0**
AKS	**Akhisar**	**0.55**	**190**	*e*Pg	**Pg**	**18 12 04.6**	**+0.6**
AKS				*e*Sg	**Sb**	**18 12 13.4**	**0.0**
DEMI	**Demirci**	**0.71**	**122**	*i* P	**Pg**	**18 12 07.3**	**+0.2**
DEMI				*i* S	**Sg**	**18 12 17.0**	**+0.7**
DEMI	**Demirci**	**0.71**	**122**	P	**Pg**	**18 12 07.3**	**+0.2**
DEMI				S	**Sg**	**18 12 17.0**	**+0.7**
DKL	**Dikili**	**0.88**	**247**	*e*PG	**Pg**	**18 12 10.2**	**0.0**
DKL				*e*SG	**Sb**	**18 12 23.5**	**+0.7**
DKL	**Dikili**	**0.88**	**247**	*e*Pg	**Pg**	**18 12 10.2**	**0.0**
DKL				*e*Sg	**Sb**	**18 12 23.5**	**+0.7**
KCTX	**Karacabey (Bur**	**0.91**	**21**	*e*PG	**Pg**	**18 12 10.1**	**-0.7**
KCTX	**Karacabey (Bur**	**0.91**	**21**	*e*Pg	**Pg**	**18 12 10.1**	**-0.7**
EDC	**Edincik**	**0.93**	**356**	*e*PG	**Pg**	**18 12 11.0**	**-0.3**
EDC	**Edincik**	**0.93**	**356**	*e*Pg	**Pg**	**18 12 11.0**	**-0.3**
MANT	**Manisa**	**1.04**	**152**	*i* P	Pg	18 12 06.9	-6.5
MANT				*i* S	**Sg**	**18 12 20.0**	**-7.0**
KRBG	**Karabiga-Canak**	**1.09**	**333**	*e*PG	**Pg**	**18 12 13.7**	**-0.7**
KRBG	**Karabiga-Canak**	**1.09**	**333**	*e*Pg	**Pg**	**18 12 13.7**	**-0.7**
TVSB	**Tavsanli**	**1.18**	**88**	*e*PN	**Pb**	**18 12 16.2**	**0.0**
TVSB	**Tavsanli**	**1.18**	**88**	*e*Pn	**Pb**	**18 12 16.2**	**0.0**
MRMT	**Marmara Adasi**	**1.21**	**347**	*e*PN	**Pg**	**18 12 16.3**	**-0.4**
MRMT				*e*SN	**Sn**	**18 12 34.0**	**+0.4**
MRMT	**Marmara Adasi**	**1.21**	**347**	*e*Pn	**Pg**	**18 12 16.3**	**-0.4**
MRMT				*e*Sn	**Sn**	**18 12 34.0**	**+0.4**
IGD	**Bursa**	**1.29**	**49**	*i* P	**Pg**	**18 12 17.6**	**-0.5**
IGD				*i* S	**Sn**	**18 12 35.2**	**-0.1**
ARMT	**Armutlu**	**1.35**	**31**	*e*PN	**Pb**	**18 12 19.0**	**0.0**
ARMT	**Armutlu**	**1.35**	**31**	*e*Pn	**Pb**	**18 12 19.0**	**0.0**
SBT5	**Esenkoy-Cinarc**	**1.41**	**30**	*e*PN	**Pn**	**18 12 19.8**	**+0.3**
AYDB	**Zeytinkoy-Aydi**	**1.47**	**182**	*e*PN	**Pn**	**18 12 21.4**	**+0.9**
AYDB	**Zeytinkoy-Aydi**	**1.47**	**182**	*e*Pn	**Pn**	**18 12 21.4**	**+0.9**
BOZC	**Bozcaada**	**1.52**	**287**	*e*PN	**Pn**	**18 12 21.4**	**+0.4**
BOZC	**Bozcaada**	**1.52**	**287**	*e*Pn	**Pn**	**18 12 21.4**	**+0.4**
SIGR	**SIGRI**	**1.63**	**263**	*e*PN	**Pn**	**18 12 23.4**	**+0.9**
SIGR	**SIGRI**	**1.63**	**263**	*e*Pn	**Pn**	**18 12 23.4**	**+0.9**
ERIK	**Erikli-Kesan**	**1.66**	**319**	*e*PN	**Pn**	**18 12 23.5**	**+0.5**
ERIK	**Erikli-Kesan**	**1.66**	**319**	*e*Pn	**Pn**	**18 12 23.5**	**+0.5**
CTKS	**Kestanelik-??a**	**1.87**	**13**	*e*PN	**Pn**	**18 12 26.9**	**+1.1**
CTKS	**Kestanelik-??a**	**1.87**	**13**	*e*Pn	**Pn**	**18 12 26.9**	**+1.1**
ALN	**Alexandroupoli**	**2.07**	**316**	*e*PN	**Pn**	**18 12 29.5**	**+0.9**
ALN	**Alexandroupoli**	**2.07**	**316**	*e*Pn	**Pn**	**18 12 29.5**	**+0.9**
GULT	**Gulveren**	**2.22**	**62**	*e*PN	**Pn**	**18 12 32.0**	**+1.2**
GULT	**Gulveren**	**2.22**	**62**	*e*Pn	**Pn**	**18 12 32.0**	**+1.2**

*BJI **09** 18:33:13.7,3˚.96S×67˚.87E,h10km,mb4.7/28,mB4.9/19, Ms4.5/9,Ms7 4.3/9*
*ISCJB **09** 18:33:17.9±0.3,3˚.59S±0˚.06×68˚.24E±0˚.05,h12km, mb4.4/43,MS4.0/24,Error ellipse: s-maj=8.4km s-min=6.9km az=27.2*
*IDC **09** 18:33:17.9±0.6,3˚.58S×68˚.26E,h0km,mb4.3/21, mb1 4.4/21,mb1mx4.2/40,mbtmp4.3/21,MS4.0/23, Ms1 4.0/23,ms1mx3.9/31,Error ellipse: s-maj=17.4km s-min=13.7km az=167.0*
*NEIC **09** 18:33:19.3±0.4,3˚.54S×68˚.30E,h10km,mb4.9/9,Error ellipse: s-maj=13.2km s-min=8.5km az=158.0*
*GCMT **09** 18:33:19.3±0.4,3˚.54S×68˚.31E,h12km,MW4.9/74, Moment Tensor Solution. s30,c36; s74,c124; Duration: 0 Moment tensor: Scale 10^16^Nm; Mrr=2.30±.07; Mθθ=1.89±.07; Mφφ=0.41±.07; Mrθ=1.13±.23; Mrφ=-1.11±.06; Mθφ=0.19±.29; Best double couple: M◎=2.65500×10^16^ NP1:ϕs=290.00000°,δ58.00000°,λ=-99.00000°. NP2: ϕs=127.00000°,δ33.00000°,λ=-76.00000°. Principal axes: T 2.7220, Plg12.0000°, Azm27.0000°; N -0.1320, Plg8.0000°, Azm295.0000°; P -2.5880, Plg75.0000°, Azm173.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

ISC 09 18:33:19.8±0.5,3˚.48S±0˚.09×68˚.27E±0˚.08,h12km,n84, σ1°28/72,mb4.5/43,MS4.0/24,Chagos Archipelago region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
H08N2	**Diego Garcia H**	**3.92**	**136**	T	T	18 38 47.1	
	baz=323						
H08N3	**Diego Garcia H**	**3.93**	**137**	T	T	18 38 45.5	
	baz=323						
H08N1	**Diego Garcia H**	**3.94**	**136**	T	T	18 38 48.7	
	baz=323						
H08S3	**Diego Garcia H**	**5.88**	**135**	Pn	**Pn**	**18 34 45.4**	**-1.1**
	baz=336,slow=19,SNR=7.2						
H08S3				T	T	18 40 55.8	
	baz=349,slow=78,SNR=21						
H08S1	**Diego Garcia H**	**5.88**	**135**	Pn	**Pn**	**18 34 47.0**	**+0.4**
	baz=336,slow=19,SNR=6.7						
H08S1				T	T	18 40 56.0	
	baz=349,slow=78,SNR=28						
H08S2	**Diego Garcia H**	**5.90**	**135**	Pn	**Pn**	**18 34 46.1**	**-0.7**
	baz=336,slow=19,SNR=10.0						
H08S2				T	T	18 41 05.4	
	baz=349,slow=78,SNR=22						
PALK	**Pallekele**	**16.37**	**49**	LR	LR	18 42 02.0	
	comp=Z,1μm,20.4s,baz=296,slow=32						
OPO	**Ambohidratompo**	**25.51**	**232**	LR	LR	18 46 56.8	
	comp=Z,789nm,18.3s,baz=12,slow=32						
WSAR	**Wadi Sarin**	**28.17**	**341**	LR	LR	18 48 29.3	
	comp=Z,393nm,18.5s,baz=169,slow=32						
ATD	**Arta Tunnel**	**29.36**	**301**	LR	LR	18 48 37.3	
	comp=Z,46nm,20.3s,baz=128,slow=31						
KMBO	**Kilima Mbogo**	**31.08**	**274**	P	**P**	**18 39 37.7**	**-0.8**
	0.9nm,0.3s,baz=68,slow=16,SNR=2.0						
KMBO				LR	LR	18 49 33.4	
	comp=Z,166nm,21.3s,baz=94,slow=31						
DMN	**Daman**	**34.91**	**27**	*e*P	**P**	**18 40 13.3**	**+1.5**
	35nm,1.0s						
PKI	**Pulchoki**	**35.01**	**27**	*e*P	**P**	**18 40 13.7**	**+0.9**
PKIN	**Phulchoki**	**35.01**	**27**	*e*P	**P**	**18 40 14.4**	**+1.7**
GKN	**Gorkha**	**35.04**	**26**	*e*P	**P**	**18 40 14.2**	**+1.4**
	54nm,1.1s						
KKN	**Kakani**	**35.14**	**27**	*e*P	**P**	**18 40 15.1**	**+1.3**
	41nm,1.0s						
ODAN	**Odare**	**35.37**	**30**	*e*P	**P**	**18 40 17.7**	**+2.0**
	28nm,0.8s						
JIRN	**Jiri**	**35.45**	**28**	*e*P	**P**	**18 40 17.2**	**+0.6**
GUN	**Gumba**	**35.52**	**27**	*e*P	**P**	**18 40 18.2**	**+1.1**
	73nm,1.0s						
TAPN	**Taplejung**	**35.93**	**30**	*e*P	**P**	**18 40 22.5**	**+1.9**
	57nm,1.1s						
SHL	**Shillong**	**36.85**	**37**	*e*P	**P**	**18 40 31.0**	**+2.6**
CMAR	**Chiang Mai Arr**	**37.25**	**53**	P	**P**	**18 40 32.8**	**+1.0**
	3.1nm,0.9s,baz=243,slow=10,SNR=17						
CMAR				LR	LR	18 53 39.1	
	comp=Z,174nm,20.6s,baz=227,slow=33						
CHTO	**Chiang Mai**	**37.45**	**53**	*e*P	**P**	**18 40 33.2**	**-0.1**
	26nm,1.4s						
LSA	**Lhasa**	**39.60**	**32**	P	**P**	**18 40 54.4**	**+2.5**
LSA				pmax	pmax		
	comp=Z,11nm,1.3s						
LSA	**Lhasa**	**39.60**	**32**	*e*P	**P**	**18 40 52.6**	**+0.7**
	25nm,1.1s						
LSZ	**Lusaka**	**41.16**	**251**	P	**P**	**18 41 04.1**	**-0.5**
	7.5nm,0.9s,baz=69,slow=6.6,SNR=13						
LSZ	**Lusaka**	**41.16**	**251**	P	**P**	**18 41 04.1**	**-0.5**
	6.8nm,1.5s						
MATP	**Matopo**	**42.23**	**243**	P	**P**	**18 41 12.5**	**-0.8**
	2.8nm,0.7s,baz=77,slow=6.9,SNR=7.7						
GEYT	**Alibeck**	**42.26**	**348**	P	**P**	**18 41 14.1**	**+1.0**
	3.5nm,0.8s,baz=141,slow=7.6,SNR=5.7						
GEYT				LR	LR	18 57 35.6	
	comp=Z,351nm,21.8s,baz=160,slow=34						
SLVN	**Son La**	**42.73**	**53**	*e*P	**P**	**18 41 15.6**	**-1.7**
	20nm,1.4s						
KSH	**Kashi**	**43.37**	**9**	P	**P**	**18 41 19.9**	**-2.3**
KSH				PP	**PP**	**18 43 01.1**	**-2.1**
KSH				sS	S	18 47 56.0	+6.0
KSH				pmax	pmax		
	comp=Z,11nm,1.1s						
KSH				pmax	pmax		
	comp=Z,95nm,5.3s						
KSH				LR	LR		
	comp=N,310nm,14.9s						
KSH				LR	LR		
	comp=E,200nm,11.8s						
KSH				LR	LR		
	comp=Z,470nm,17.3s						
AAK	**Ala-Archa**	**46.24**	**6**	P	**P**	**18 41 46.2**	**+1.0**
	1.7nm,0.4s,baz=188,slow=9.2,SNR=8.3						
BOSA	**Boshof**	**47.90**	**234**	P	**P**	**18 41 58.0**	**-0.3**
	3.1nm,0.8s,baz=46,slow=8.4,SNR=4.8						
BOSA				LR	LR	19 00 15.4	
	comp=Z,287nm,18.0s,baz=50,slow=34						
ENH	**Enshi**	**51.73**	**47**	*e*P	**P**	**18 42 26.2**	**-1.1**
	11nm,0.9s						
KBZ	**Khabaz**	**52.24**	**337**	P	**P**	**18 42 32.5**	**+1.7**
	8.4nm,0.8s,baz=156,slow=6.8,SNR=16						
KBZ				LR	LR	19 04 03.6	
	comp=Z,60nm,20.4s,baz=142,slow=35						
ABKAR	**Akbulak array**	**53.02**	**353**	*e*P	**P**	**18 42 32.2**	**-4.2**
	2.9nm,0.8s						
XAN	**Xi'an**	**53.47**	**42**	P	**P**	**18 42 40.5**	**+0.4**
XAN				pmax	pmax		
	comp=Z,21nm,0.9s						
XAN				pmax	pmax		
	comp=Z,120nm,5.2s						
XAN				LR	LR		
	comp=N,86nm,18.9s						
XAN				LR	LR		
	comp=E,190nm,18.9s						
XAN				LR	LR		
	comp=Z,180nm,20.7s						
BRTR	**Keskin Array B**	**53.48**	**327**	P	**P**	**18 42 41.1**	**+0.8**
	2.3nm,0.9s,baz=153,slow=11,SNR=9.1						
BRTR				LR	LR	19 05 42.5	
	comp=Z,88nm,18.5s,baz=116,slow=36						
KURK	**Kurchatov**	**54.71**	**8**	*e*P	P	18 42 44.1	-4.7
ZALV	**Zalesovo Beam**	**58.87**	**11**	P	**P**	**18 43 17.6**	**-0.7**
	5.5nm,0.6s,baz=206,slow=8.0,SNR=30						
ZALV				LR	LR	19 08 05.7	
	comp=Z,134nm,21

MJAR				LR	LR	19 21 03.4		
	comp=Z,72nm,18.2s,baz=270,slow=38							
NOA	**NORSAR Array B**	**77.79**	**335**	P	**P**	**18 45 17.1**	**+0.4**	
	comp=Z,1.8nm,0.9s,baz=115,slow=6.0,SNR=3.9							
ARCES	**ARCESS Array B**	**78.39**	**346**	LR	LR	19 20 33.2		
	comp=Z,92nm,22.0s,baz=148,slow=36							
ESDC	**Sonseca Array**	**78.65**	**311**	P	**P**	**18 45 23.0**	**+1.0**	
	comp=Z,2.9nm,0.7s,baz=87,slow=4.9,SNR=22							
PDAR	**Pinedale Array**	**140.83**	**357**	PKP	**PKPdf**	**18 52 49.7**	**-0.7**	
	comp=Z,0.6nm,0.6s,baz=118,slow=2.5,SNR=5.8							
MIAR	**Mount Ida**	**144.78**	**334**	*e*PKPdf	**PKPdf**	**18 52 57.5**	**+0.2**	
TXAR	**Lajitas Array**	**153.17**	**344**	PKPbc	**PKPbc**	**18 53 18.5**	**+0.1**	
	comp=Z,1.3nm,0.8s,baz=105,slow=2.0,SNR=12							

*IDC **09** 19:02:21.2±3.3, 27.36N×126.60E, h0km, mb3.3/2, mb1 3.6/3, mb1mx3.3/26, mbtmp3.4/3, ML3.4/1, Error ellipse: s-maj=298.9km s-min=33.9km az=90.0*
*ISCJB **09** 19:02:39.0±0.7, 28.27N±0.08×127.27E±0.09, h231km±7km, mb2.8/2, Error ellipse: s-maj=17.2km s-min=6.3km az=138.4*
*JMA **09** 19:02:42.3±0.2, 28.42N×127.22E, h194km, M3.5*

ISC 09 19:02:39.0±1.2, **28.4N**±0.1×**127.7E**±0.09, **h226**km±11km, **n20,** σ1°**29**/29, **Northwest of Ryukyu Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JIH	**Iheya**	**1.50**	**152**	P	**Pn**	**19 03 16.1**	**+1.1**
JOKE	**Okinoerabujima**	**1.59**	**129**	P	**Pn**	**19 03 16.3**	**+0.5**
JOKE				S	**S**	**19 03 43.5**	**-0.9**
JTK	**Tokunoshima**	**1.67**	**110**	P	**Pn**	**19 03 17.2**	**+0.7**
JTK				S	**S**	**19 03 43.8**	**-1.8**
JAGN	**Aguni-jima**	**1.77**	**178**	P	**Pn**	**19 03 18.8**	**+1.4**
JAGN				*e*S	**S**	**19 03 47.3**	**+0.1**
JAMN	**Amaminishikomi**	**1.77**	**93**	P	**Pn**	**19 03 17.4**	**+0.1**
JAMN				S	**S**	**19 03 45.2**	**-1.9**
JOW	**Kunigami**	**1.81**	**147**	P	**Pn**	**19 03 19.0**	**+1.2**
JOW				*e*S	**S**	**19 03 46.5**	**-1.4**
JTAJ	**Takarajima**	**1.95**	**66**	P	**Pn**	**19 03 19.5**	**+0.6**
JNTH	**Nagotoyohara**	**1.99**	**157**	P	**Pn**	**19 03 20.8**	**+1.4**
JKE	**Kume jima 2**	**2.06**	**190**	P	**Pn**	**19 03 21.5**	**+1.4**
JAM	**Amami Oshima**	**2.14**	**88**	P	**Pn**	**19 03 21.2**	**+0.4**
JAM				*e*S	**S**	**19 03 51.2**	**-2.3**
JJT2	**Tamagusuku 2**	**2.27**	**167**	P	**Pn**	**19 03 24.3**	**+2.1**
JZK	**Kikaishima**	**2.47**	**90**	P	**Pn**	**19 03 25.6**	**+1.4**
JZK				*e*S	**S**	**19 03 58.5**	**-0.9**
JIRB	**Irabujima**	**3.95**	**207**	*e*S	**S**	**19 04 29.8**	**-0.3**
JISG	**Ishigakijimahi**	**4.55**	**215**	P	**Pn**	**19 03 48.6**	**+0.1**
JISG				*e*S	**S**	**19 04 42.5**	**-0.9**
JIJ	**Ishigaki jima**	**4.82**	**215**	P	**Pn**	**19 03 51.4**	**-0.5**
JIJ				*e*S	**S**	**19 04 47.1**	**-2.4**
JKRS	**Kuro-shima**	**4.99**	**215**	P	**Pn**	**19 03 54.3**	**+0.3**
IRIF	**Iriomote-Funau**	**5.06**	**218**	P	**Pn**	**19 03 54.7**	**-0.2**
KSRS	**Korea Array**	**9.09**	**4**	Pn	**Pn**	**19 04 47.6**	**+1.6**
	0.3nm,0.3s,baz=182,slow=13,SNR=11							
WRA	**Warramunga Arr**	**48.52**	**171**	P	**P**	**19 10 59.1**	**-0.3**
	0.4nm,0.5s,baz=351,slow=8.4,SNR=5.1							
ASAR	**Alice Springs**	**52.13**	**172**	P	**P**	**19 11 26.4**	**0.0**
	0.2nm,0.7s,baz=359,slow=6.8,SNR=7.3							

*MOS **09** 19:16:50.7±2.0, 51.73N×101.66E, h1km, mb4.3/1, Error ellipse: s-maj=28.3km s-min=21.3km az=8.0*
*BYKL **09** 19:16:50.3±0.4, 51.77N×101.65E*

ISC 09 19:16:50.1±0.8, **51.74N**±0.04×**101.67E**±0.03, **h10**km, **n36,** σ2°**82**/70, **5C-2D, Tuva-Buryatia-Mongolia border region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MOY	**Mondy**	**0.43**	**261**	⇑*i*Pg	**Pg**	**19 16 57.9**	**-0.7**
	103nm,0.3s						
MOY				⇓*i*Pg	**Pg**	**19 16 57.9**	**-0.7**
	574nm,0.3s						
MOY				⇑*i*Pg	**Pg**	**19 16 57.9**	**-0.7**
	788nm,0.3s						
MOY				⇓*i*		19 16 58.8	
MOY				*e*Sg	**Sg**	**19 17 03.6**	**-0.6**
MOY				max			
	254nm,0.1s						
MOY				Smax			
	4μm,0.4s						
MOY	**Mondy**	**0.43**	**261**	*e*PG	**Pg**	**19 16 57.8**	**-0.8**
MOY				*e*		19 17 03.6	
MOY				pmax	pmax		
	comp=Z,493nm,0.1s						
MOY				smax	smax		
	comp=N,4μm,0.4s						
ARS	**Arshan**	**0.50**	**68**	*e*Pg	**Pg**	**19 17 00.0**	**+0.1**
ARS				*e*Pb	**Pn**	**19 17 03.7**	**+0.2**
ARS				*e*Sg	**Sb**	**19 17 07.7**	**-0.8**
ARS				max			
	comp=N,65nm,0.2s						
ARS				Smax			
	comp=N,816nm,0.3s						
TLY	**Talaya**	**1.23**	**92**	*e*Pg	**Pb**	**19 17 12.2**	**-1.2**
TLY				*e*		19 17 16.9	
TLY				*e*Sg	**Sg**	**19 17 29.2**	**-0.5**
TLY				Pmax			
	comp=N,23nm,0.3s						
TLY				Smax			
	comp=N,333nm,0.2s						
TLY	**Talaya**	**1.23**	**92**	*e*PG	**Pb**	**19 17 12.3**	**-1.2**
TLY				*e*		19 17 29.6	
TLY				pmax	pmax		
	comp=Z,24nm,0.1s						
TLY				smax	smax		
	comp=E,334nm,0.2s						
ORL	**Orlik**	**1.40**	**306**	⇑*i*Pg	**Pn**	**19 17 15.2**	**-0.6**
ORL				*e*Sg	**Sn**	**19 17 34.5**	**0.0**
ORL				*e*		19 17 38.6	
ORL				Pmax			
	comp=E,90nm,0.5s						
ORL				max			
	comp=E,521nm,0.4s						
ORL	**Orlik**	**1.40**	**306**	*e*PG	**Pn**	**19 17 15.3**	**-0.6**
ORL				*e*		19 17 34.5	
ORL				pmax	pmax		
	comp=Z,100nm,0.3s						
ORL				smax	smax		
	comp=E,523nm,0.5s						
IRK	**Irkutsk**	**1.69**	**71**	*e*Pg	**Pb**	**19 17 20.6**	**-0.6**
IRK				*e*Sg	**Sb**	**19 17 43.2**	**+0.7**
IRK				Pmax			
	comp=E,101nm,0.5s						
IRK				Smax			
	comp=E,584nm,0.4s						
IRK	**Irkutsk**	**1.69**	**71**	*e*PG	**Pb**	**19 17 21.3**	**+0.1**
IRK				*e*		19 17 43.3	
IRK				pmax	pmax		
	comp=Z,100nm,0.4s						
IRK				smax	smax		
	comp=E,591nm,0.5s						
ZAK	**Zakamensk**	**1.69**	**143**	⇑*i*Pg	**Pb**	**19 17 20.7**	**-0.8**
ZAK				*e*Sg	**Sg**	**19 17 44.7**	**+0.1**
ZAK				Pmax			
	comp=E,82nm,0.2s						
ZAK				Smax			
	comp=E,190nm,0.3s						
IVK	**Ivanovka**	**1.71**	**87**	*e*Pg	**Pb**	**19 17 21.1**	**-0.5**
IVK				*e*Sg	**Sg**	**19 17 43.8**	**-1.1**
IVK				*e*		19 17 47.7	
IVK				Pmax			
	comp=E,23nm,0.1s						
IVK				max			
	comp=E,111nm,0.4s						
LSTR	**Listvyanka**	**1.97**	**85**	*e*Pg	**Pb**	**19 17 25.8**	**-0.2**
LSTR				*e*		19 17 32.0	
LSTR				*e*Sg	**Sg**	**19 17 51.6**	**-1.7**
LSTR				Pmax			
	comp=E,21nm,0.4s						
LSTR				Smax			
	comp=E,93nm,0.6s						
BGT	**Bolshoye Golou**	**2.33**	**81**	*e*Pn	**Pn**	**19 17 29.2**	**+0.6**
BGT				*e*Pg	**Pb**	**19 17 31.7**	**-0.6**
BGT				*e*		19 17 53.0	
BGT				*e*Sg	**Sb**	**19 18 02.7**	**+1.5**
BGT				Pmax			
	comp=E,52nm,0.4s						
BGT				Smax			
	comp=E,234nm,0.6s						
STDB	**Stepnoy Dvoret**	**2.94**	**80**	*e*Pg	**Pb**	**19 17 43.8**	**+1.2**
STDB				*e*		19 17 48.2	
STDB				*e*Sg	**Sg**	**19 18 22.4**	**-2.0**
TRG	**Tyrgan**	**3.05**	**69**	*e*Pn	**Pn**	**19 17 40.3**	**+1.8**
TRG				*e*		19 17 42.6	
TRG				*e*Pg	**Pb**	**19 17 44.3**	**-0.2**
TRG				*e*Sg	**Sb**	**19 18 23.7**	**+1.9**
TRG				Pmax			
	comp=E,14nm,0.4s						
TRG				Smax			
	comp=E,71nm,0.3s						
KAB	**Kabansk**	**3.10**	**82**	*e*Pg	**Pb**	**19 17 45.8**	**+0.4**
KAB				*e*Sg	**Sg**	**19 18 27.3**	**-2.4**
KAB				Pmax			
	comp=E,31nm,0.4s						
KAB				Smax			
	comp=E,168nm,0.8s						
HRMR	**Khuramsha**	**3.29**	**90**	*e*Pn	**Pn**	**19 17 42.0**	**+0.3**
HRMR				*e*Pg	**Pb**	**19 17 49.5**	**+0.9**
HRMR				*e*		19 17 56.4	
HRMR				*e*		19 18 22.8	
HRMR				*e*Sg	**Sg**	**19 18 32.6**	**-3.1**
HRMR				max			
	comp=E,30nm,0.4s						
HRMR				Smax			
	comp=E,175nm,0.6s						
ZRHB	**Zarechye**	**3.47**	**74**	*e*Pg	**Pb**	**19 17 52.4**	**+0.7**
ZRHB				*e*Sg	**Sb**	**19 18 37.3**	**+3.4**
ZRHB				*e*		19 18 42.7	
ZRHB				Pmax			
	comp=E,18nm,0.4s						
ZRHB				max			
	comp=E,190nm,1.0s						
TRTB	**Turuntaevo**	**3.72**	**80**	*e*Pn	**Pn**	**19 17 49.6**	**+2.0**
TRTB				*e*		19 17 52.9	
TRTB				*e*Pg	**Pb**	**19 17 56.1**	**+0.2**
TRTB				*e*PgPg	**PbPb**	**19 17 58.2**	**-0.8**
TRTB				*e*		19 18 36.8	
TRTB				*e*Sg	**Sb**	**19 18 44.7**	**+3.8**
TRTB				max			
	comp=E,10.0nm,0.5s						
TRTB				Smax			
	comp=E,55nm,0.9s						
UUDB	**Ulan-Yde**	**3.72**	**86**	*e*Pg	**Pb**	**19 17 56.5**	**+0.6**
UUDB				*e*Sg	**Sb**	**19 18 44.5**	**+3.4**
UUDB				Pmax			
	comp=E,9.0nm,0.5s						
UUDB				Smax			
	comp=E,58nm,1.4s						
KELR	**Kotokel**	**4.07**	**73**	*e*	Pn	19 17 41.0	-11
KELR				*e*		19 18 03.6	
KELR				*e*Sg	**Sb**	**19 18 55.2**	**+4.1**
OGRR	**Ongureny**	**4.08**	**60**	*e*	**Pn**	**19 17 55.3**	**+2.8**
OGRR				*e*Pg	**Pb**	**19 18 02.6**	**+0.6**
OGRR				*e*		19 18 05.6	
OGRR				*e*		19 18 41.3	
OGRR				*e*Sg	**Sb**	**19 18 55.0**	**+3.7**
OGRR				max			
	comp=E,9.0nm,0.3s						
OGRR				Smax			
	comp=E,50nm,0.6s						
OGRR	**Ongureny**	**4.08**	**60**	*e*PN	**Pn**	**19 17 54.7**	**+2.2**
OGRR				*e*		19 18 06.4	
OGRR				*e*S	**Sn**	**19 18 40.5**	**+0.2**
OGRR				*e*		19 18 55.1	
OGRR				pmax	pmax		
	comp=Z,14nm,0.4s						
OGRR				smax	smax		
	comp=E,56nm,1.2s						
MXMB	**Maximikha**	**4.58**	**68**	*e*Pg	**Pb**	**19 18 13.7**	**+3.1**
MXMB				*e*		19 18 17.6	
MXMB				*e*Sg	**Sg**	**19 19 12.5**	**-4.7**
ULN	**Ulaanbaatar**	**5.21**	**136**	*e*Pg	**Pb**	**19 18 23.7**	**+2.3**
ULN				*e*		19 19 21.1	
ULN				*e*Sg	**Sg**	**19 19 32.5**	**-4.9**
ULN	**Ulaanbaatar**	**5.21**	**136**	*e*PN	**Pb**	**19 18 22.6**	**+1.2**
SYVR	**Suvo**	**5.42**	**66**	*e*Pn	**Pn**	**19 18 09.6**	**-1.3**
SYVR				*e*		19 18 15.6	
SYVR				*e*Pg	**Pb**	**19 18 27.2**	**+2.4**
SYVR				*e*Sg	**Sb**	**19 19 36.5**	**+6.7**
SYVR				Smax			
	comp=E,13nm,1.0s						
NIZ	**Nizh Angarsk**	**6.17**	**46**	*e*	**Pn**	**19 18 17.4**	**-3.9**
NIZ				*e*		19 18 38.5	
NIZ				*e*Sn	**Sn**	**19 19 30.0**	**-1.9**
NIZ				*e*Sg	**Sb**	**19 20 00.0**	**+8.5**
NIZ				Smax			
	comp=E,27nm,0.7s						
YLYR	**Ulyunkhan**	**6.50**	**57**	*e*Pn	**Pn**	**19 18 29.3**	**+3.5**
YLYR				*e*Pg	**Pb**	**19 18 46.6**	**+3.4**
YLYR				*e*		19 19 43.1	
YLYR				*e*Sg	**Sg**	**19 20 10.9**	**-7.6**
YLYR				Smax			
	comp=E,11nm,1.6s						
KMO	**Kumora**	**7.00**	**50**	*e*Pn	**Pn**	**19 18 35.9**	**+3.2**
KMO				*e*		19 19 55.4	
KMO				*e*Sg	Sg	19 20 26.2	-8.6
KMO				Smax			
	comp=E,29nm,1.2s						
KPC	**Khapcheranga**	**7.10**	**102**	*e*Pn	**Pn**	**19 18 36.1**	**+2.1**
KPC				*e*Pg	Pb	19 18 58.8	+5.4
KPC				*e*Sn	**Sn**	**19 19 50.9**	**-3.8**
KPC				*e*Sg	**Sg**	**19 20 31.8**	**-6.0**
KPC				Pmax			
	comp=E,1.0nm,0.7s						
KPC				Smax			
	comp=E,19nm,1.4s						
YOA	**Uoyan**	**7.39**	**49**	*e*Sg	**Sg**	**19 20 39.9**	**-7.1**
YOA				Smax			
	comp=E,110nm,0.5s						
UKT	**Uakit**	**8.04**	**57**	*e*Pn	**Pb**	**19 19 09.4**	**-0.1**
UKT				*e*Pg	Pg	19 19 15.3	-8.6
UKT				*e*Sg	Sg	19 20 58.2	-10
NLYR	**Nelyaty**	**9.51**	**54**	*e*Sg	Sn	19 21 46.0	+52
NLYR				Smax			
	comp=E,12nm,1.7s						
TUP	**Tupik**	**11.32**	**69**	*e*Sg		19 22 41.8	
AKASG	**Malin Array Be**	**43.64**	**299**	*i* P	P	19 25 00.9	+6.4
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.6s						

*NNC **09** 19:25:47.3±5.5, 40.74N×71.59E, h0km, mb2.9, mpv2.6, Error ellipse: s-maj=40.5km s-min=26.5km az=174.0*
*KRNET **09** 19:25:47.8±0.1, 40.67N×71.58E, h25km, mb2.5*
*SOME **09** 19:25:48.7, 40.70N×71.62E, h10km*

ISC 09 19:25:47.6±1.3, **40.71N**±0.04×**71.60E**±0.03, **h3**km±12km, **n16,** σ0°**98**/29, **14C-8D, Tajikistan**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BTK	**Batken**	**0.88**	**223**	⇑*e*P	**Pg**	**19 26 04.5**	**0.0**
	baz=224						
BTK				⇑*i*S	**Sg**	**19 26 16.2**	**+0.2**
	baz=224						
ARK	**Arkit**	**1.12**	**14**	⇑*e*P	**Pn**	**19 26 09.9**	**-0.4**
	baz=15						
ARK				⇑*e*S	**Sn**	**19 26 26.3**	**0.0**
	baz=15						
ARSB	**Arslanbob**	**1.21**	**59**	⇓*e*P	**Pg**	**19 26 11.5**	**+0.7**
	baz=58						
ARSB				⇓*i*S	**Sn**	**19 26 29.3**	**+0.7**
	baz=58						
TOKL	**Toktogul**	**1.56**	**38**	⇓*i*P	**Pg**	**19 26 17.9**	**+0.5**
	baz=37						
TOKL				⇓*i*S	**Sg**	**19 26 40.1**	**+2.5**
	baz=37						
IUG	**Iuzhnay**	**1.86**	**321**	*e*P	**Pb**	**19 26 22.4**	**+0.2**
	12nm,0.2s						
IUG				*e*S	**Sg**	**19 26 47.3**	**+0.1**
	114nm,0.4s						
MNAS	**Manas**	**1.90**	**21**	⇑*i*P	**Pb**	**19 26 23.1**	**+0.1**
	baz=21						
MNAS				⇑*i*S	**Sb**	**19 26 47.1**	**0.0**
	baz=21						
MNAS	**Manas**	**1.90**	**21**	⇑Pn	**Pn**	**19 26 21.0**	**0.0**
	1.0nm,0.4s						
MNAS				⇑Sn	**Sb**	**19 26 47.2**	**0.0**
	45nm,0.5s						
AML	**Almayashu**	**2.12**	**47**	⇑*i*P	**Pb**	**19 26 26.3**	**-0.6**
	baz=47						
AML				⇑*i*S	**Sb**	**19 26 52.1**	**-1.6**
	baz=47						
CHM	**Chimkent**	**2.20**	**318**	*e*P	**Pg**	**19 26 29.5**	**-0.2**
	22nm,0.2s						
CHM				*e*S	**Sg**	**19 26 58.1**	**0.0**
	222nm,0.4s						
MRKS	**Merke**	**2.37**	**30**	*e*P	**Pg**	**19 26 32.8**	**-0.2**
	5.3nm,0.4s						
MRKS				*e*S	**Sg**	**19 27 03.7**	**+0.1**
	21nm,0.5s						
KK31	**Karatay Array**	**2.52**	**342**	⇓Pg	**Pn**	**19 26 29.8**	**+0.3**
	0.6nm,0.3s,baz=151,slow=16,SNR=7.4						
KK31				⇑Lg	Lg	19 27 07.1	
	2.7nm,0.4s,baz=159,slow=28,SNR=8.5						
EKS2	**Erkin-Say**	**2.54**	**39**	⇑*i*P	**Pb**	**19 26 32.0**	**-1.9**
	baz=39						
EKS2				⇑*i*S	**Sn**	**19 27 02.3**	**+1.0**
	baz=39						
AAK	**Ala-Archa**	**2.90**	**47**	⇓Pg	**Pb**	**19 26 41.3**	**+1.3**
	1.8nm,0.4s						
AAK				⇓Lg	Lg	19 27 15.8	
	1.9nm,0.6s						
TKM2	**Tokmak 2**	**3.71**	**52**	⇑Pg	**Pb**	**19 26 54.4**	**+0.5**
	1.4nm,0.5s						
TKM2				⇓Lg	Lg	19 27 42.9	
	1.0nm,0.3s						
KST	**Kastek**	**4.00**	**53**	*e*P	**Pg**	**19 27 04.0**	**-0.4**
	1.8nm,0.3s						
KST				*e*S	**Sg**	**19 27 57.2**	**+1.0**
	3.7nm,0.6s						
DGS	**Degeres**	**4.01**	**50**	*e*P	**Pg**	**19 27 02.8**	**-1.6**
	1.6nm,0.6s						
DGS				*e*S	**Sg**	**19 27 54.5**	**-1.8**
	5.3nm,0.7s						

*ISCJB **09** 19:25:59.7±0.3, 49.63S±0.04×164.13E±0.05, h15km, mb5.0/29, MS5.7/21, Error ellipse: s-maj=6.0km s-min=3.5km az=147.1*
*NEIC **09** 19:26:01.0±0.3, 49.59S×164.01E, h10km, mb5.3/11, MW5.9, MW5.9, Error ellipse: s-maj=9.6km s-min=5.6km az=144.0, Moment Tensor Solution. s12 Moment tensor: Scale 10^{17}Nm; Mrr=0.79; Mθθ9.88; Mφφ-9.09; Mrθ1.40; Mθφ0.07; Mφr-1.21; Best double couple: Mw9.70000×10^{17} NP1:φs45.00000°, δ79.00000°, λ-179.00000°. NP2: φs315.00000°, δ89.00000°, λ-11.00000°. Principal axes: T 10.1000, Plg7.0000°, Azm0.0000°; N -0.8000, Plg79.0000°, Azm131.0000°; P -9.3000, Plg8.0000°, Azm269.0000°;*
*GCMT **09** 19:26:01.1±0.1, 49.93S×163.20E, h19km, MW6.0/125, Moment Tensor Solution. s87,c169; s125,c347; Duration: 2s3 Moment tensor: Scale 10^{18}Nm; Mrr-0.08±.01; Mθθ1.05±.01; Mφφ-0.97±.01; Mrθ0.01±.03; Mθφ-0.11±.01; Mφr-0.11±.03; Best double couple: Mw1.02300×10^{18} NP1:φs318.00000°, δ86.00000°, λ-5.00000°. NP2:φs48.00000°, δ85.00000°, λ-176.00000°. Principal axes: T 1.0560, Plg1.0000°, Azm3.0000°; N -0.0670, Plg83.0000°, Azm100.0000°; P -0.9890, Plg7.0000°, Azm273.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*
*IDC **09** 19:26:02.3±0.8, 49.83S×163.02E, h0km, mb4.8/12, mb1 4.9/12, mb1mx4.7/21, mbtmp4.8/12, MS5.6/14, Ms1 5.6/14, ms1mx5.4/23 Error ellipse: s-maj=32.6km s-min=17.4km az=70.0*
*NEIC **09** 19:26:03.0±0.0, 49.77S×163.56E, h9km, Moment Tensor Solution. s8 Moment tensor: Scale 10^{17}Nm; Mrr-0.59; Mθθ9.32; Mφφ-8.72; Mrθ-0.17; Mθφ-1.36; Mφr-0.37; Best double couple: Mw9.10000×10^{17} NP1:φs49.00000°, δ89.00000°, λ-177.00000°. NP2:φs319.00000°, δ88.00000°, λ-1.00000°. Principal axes: T 9.4200, Plg0.0000°, Azm184.0000°; N -0.5800, Plg87.0000°, Azm77.0000°; P -8.8500, Plg2.0000°, Azm274.0000°;*
*MOS **09** 19:26:04.1±2.3, 49.96S×162.46E, h10km, mb4.9/18, MS5.5/9 Error ellipse: s-maj=19.5km s-min=8.8km az=103.7*

ISC 09 19:26:02.2±0.3, **49.59S**±0.05×**164.23E**±0.05, **h15**km, **n335,** σ2°**59**/312, **mb5.0**/29, **MS5.7**/21, **22C-15D, Auckland Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
APZ	**The Paps**	**3.73**	**44**	PN	**Pn**	**19 26 59.2**	**0.0**
APZ				SN	**Sb**	**19 27 51.2**	**-1.6**
PYZ	**Puysegur Point**	**3.80**	**27**	*e*Pn	**Pn**	**19 26 59.5**	**-0.7**
PYZ	**Puysegur Point**	**3.80**	**27**	PN	**Pn**	**19 26 59.3**	**-0.8**
PYZ				SN	**Sb**	**19 27 52.2**	**-2.6**
WHZ	**Wether Hill Ro**	**4.47**	**36**	*e*Pn	**Pn**	**19 27 09.4**	**+0.1**
WHZ	**Wether Hill Ro**	**4.47**	**36**	PN	**Pn**	**19 27 09.4**	**+0.1**
SYZ	**Scrubby Hill**	**4.49**	**49**	PN	**Pn**	**19 27 10.1**	**+0.5**
DCZ	**Deep Cove**	**4.58**	**27**	*e*Pn	**Pn**	**19 27 09.9**	**-0.9**
DCZ	**Deep Cove**	**4.58**	**27**	PN	**Pn**	**19 27 10.0**	**-0.8**
MLZ	**Mavora Lakes**	**4.98**	**33**	*e*Pn	**Pn**	**19 27 17.1**	**+0.7**
MLZ	**Mavora Lakes**	**4.98**	**33**	PN	**Pn**	**19 27 16.9**	**+0.5**
MLZ				SN	**Sb**	**19 28 22.6**	**-6.1**
TUZ	**Tuapeka**	**5.15**	**47**	PN	**Pn**	**19 27 19.0**	**+0.4**
MSZ	**Milford Sound**	**5.53**	**29**	PN	**Pn**	**19 27 25.3**	**+1.5**
EAZ	**Earnscleugh**	**5.56**	**40**	PN	**Pn**	**19 27 23.6**	**-0.7**
HHSZ	**Highcliff Hill**	**5.67**	**52**	PN	**Pn**	**19 27 26.3**	**+0.4**
WKZ	**Wanaka**	**5.78**	**36**	*e*Pn	**Pn**	**19 27 28.2**	**+1.0**
WKZ	**Wanaka**	**5.78**	**36**	PN	**Pn**	**19 27 28.3**	**+1.0**
MCQ	**Macquarie Isla**	**5.89**	**211**	*e*P	Pn	19 27 20.4	-8.4
MCQ				*e*		19 28 20.8	
MCQ	**Macquarie Isla**	**5.89**	**211**	*e*Pn	Pn	19 27 20.4	-8.4
MCQ				*e*Sn	Sn	19 28 20.8	-15
ODZ	**Otahua Downs**	**6.30**	**46**	*e*Pn	**Pn**	**19 27 33.8**	**-0.6**
ODZ	**Otahua Downs**	**6.30**	**46**	PN	**Pn**	**19 27 33.7**	**-0.8**
JCZ	**Jackson Bay**	**6.34**	**31**	PN	**Pn**	**19 27 36.7**	**+1.5**
LBZ	**Lake Benmore**	**6.61**	**40**	*e*Pn	**Pn**	**19 27 37.0**	**-1.7**
LBZ	**Lake Benmore**	**6.61**	**40**	PN	**Pn**	**19 27 36.5**	**-2.2**
FOZ	**Fox Glacier**	**7.18**	**34**	*e*Pn	**Pn**	**19 27 47.8**	**+1.3**
FOZ	**Fox Glacier**	**7.18**	**34**	*e*PN	**Pn**	**19 27 47.6**	**+1.1**
RPZ	**Rata Peaks**	**7.52**	**41**	Pn	**Pn**	**19 27 52.2**	**+1.0**
	7.3nm,0.3s,baz=249,slow=2.0,SNR=12						
RPZ				Sn	**Sn**	**19 29 23.3**	**+7.1**
	13nm,0.3s,baz=37,slow=20,SNR=4.0						
RPZ				LR	LR	19 31 23.5	
	comp=Z,66μm,19.6s,baz=208,slow=39						
RPZ	**Rata Peaks**	**7.52**	**41**	*e*Pn	**Pn**	**19 27 51.9**	**+0.6**
RPZ				Sn	**Sn**	**19 29 23.3**	**+7.1**
RPZ	**Rata Peaks**	**7.52**	**41**	PN	**Pn**	**19 27 55.0**	**+3.8**
MQZ	**McQueen's Vall**	**8.26**	**48**	*e*Pn	**Pn**	**19 28 01.7**	**+0.4**
MQZ	**McQueen's Vall**	**8.26**	**48**	PN	**Pn**	**19 28 02.8**	**+1.5**
OXZ	**Oxford**	**8.26**	**44**	*e*Pn	**Pn**	**19 28 02.8**	**+1.3**
CRLZ	**Canterbury Las**	**8.34**	**47**	*e*Pn	**Pn**	**19 28 03.4**	**+1.0**
INZ	**Inchbonnie**	**8.50**	**39**	PN	**Pn**	**19 28 06.0**	**+1.4**
LTZ	**Lake Taylor**	**8.80**	**42**	PN	**Pn**	**19 28 09.0**	**+0.2**
DSZ	**Denniston Nort**	**9.47**	**37**	PN	**Pn**	**19 28 20.7**	**+2.8**
KHZ	**Kahutara**	**9.66**	**46**	*e*Pn	**Pn**	**19 28 22.8**	**+2.3**
KHZ	**Kahutara**	**9.66**	**46**	PN	**Pn**	**19 28 25.2**	**+4.6**
THZ	**Tophouse**	**9.90**	**41**	*e*Pn	**Pn**	**19 28 24.8**	**+0.9**
THZ	**Tophouse**	**9.90**	**41**	PN	**Pn**	**19 28 24.5**	**+0.6**
QRZ	**Quartz Range**	**10.53**	**37**	PN	**Pn**	**19 28 31.3**	**-1.3**
NNZ	**Nelson**	**10.55**	**41**	*e*PN	Pn	19 28 38.4	+5.6
SNZO	**South Karori**	**11

CMSA Cobar Meteorol 22.78 315 P P 19 31 03.0 -1.0
baz=23,SNR=4.8
RAO Raoul Island 24.44 40 LR LR 19 42 17.1
comp=Z,10μm,19.5s,baz=204,slow=39
STKA Stephens Creek 24.49 308 P P 19 31 20.5 -0.2
14nm,1.0s,baz=133,slow=6.9,SNR=7.4
STKA LR LR 19 39 19.4
comp=Z,10μm,18.4s,baz=147,slow=33
STKA Stephens Creek 24.49 308 P P 19 31 20.8 +0.1
baz=24,SNR=4.6
STKA Stephens Creek 24.49 308 eP P 19 31 20.4 -0.3
HTT Hallett 24.73 301 P P 19 31 23.1 +0.3
baz=25,SNR=5.5
RMQ Roma 25.99 327 P P 19 31 33.4 -0.9
baz=26,SNR=8.4
EIDS Eidsvold 26.26 332 eP P 19 31 36.2 -0.4
BBOO Buckleboo 26.80 298 eP P 19 31 40.6 -1.0
58nm,1.2s
DZM Mont Dzumac 27.52 4 P P 19 31 47.8 -0.4
7.4nm,0.9s,baz=104,slow=9.2,SNR=3.6
DZM LR LR 19 41 27.7
comp=Z,8μm,18.9s,baz=168,slow=33
DZM Mont Dzumac 27.52 4 eS S 19 36 34.9 +6.2
5μm,28.3s
DZM eLR LR 19 39 03.6
14μm,22.6s
DZM Mont Dzumac 27.52 4 eP P 19 31 47.2 -1.0
QLP Quilpie 27.68 319 P P 19 31 50.2 +0.8
baz=28,SNR=4.4
VNDA Vanda 28.05 181 P P 19 31 51.8 -0.6
23nm,1.2s,baz=351,slow=9.3,SNR=27
VNDA LR LR 19 40 28.7
comp=Z,8μm,20.9s,baz=17,slow=31
VNDA Vanda 28.05 181 eP P 19 31 52.1 -0.2
SBA Scott Base 28.39 179 eP P 19 31 54.8 -0.5
SBA Scott Base 28.39 179 eP P 19 31 54.8 -0.5
CTA Charters Tower 32.75 328 P P 19 32 38.1 +3.7
6.7nm,0.8s,baz=172,slow=11,SNR=3.8
CTA LR LR 19 43 51.9
comp=Z,9μm,20.4s,baz=154,slow=33
CTAO Charters Tower 32.75 328 eP P 19 32 33.2 -1.2
CTAO Charters Tower 32.75 328 eP P 19 32 33.2 -1.2
FORT Forrest 32.99 291 eP P 19 32 32.7 -3.7
MSVF Nonsavu 33.68 24 eP P 19 32 40.0 -2.6
MSVF Nonsavu 33.68 24 eP P 19 32 40.0 -2.6
QIS Mount Isa 34.98 317 P P 19 32 54.8 +1.0
baz=35,SNR=6.3
AS01 Alice Springs 35.08 306 eP P 19 32 52.4 -2.3
ASAR Alice Springs 35.11 306 P P 19 32 52.3 -2.6
20nm,0.9s,baz=144,slow=8.4,SNR=61
ASAR LR LR 19 46 35.9
comp=Z,14μm,18.5s,baz=155,slow=36
AS31 Alice Springs 35.11 306 eP P 19 32 52.4 -2.5
MTSU Mount Surprise 35.24 326 P P 19 32 55.3 -0.7
baz=35,SNR=11
WRKA Warakurna 37.10 298 P P 19 33 11.0 -0.9
baz=37,SNR=14
WB2 Warramunga Arr 37.98 310 eP P 19 33 18.5 -0.9
WRA Warramunga Arr 37.98 310 P P 19 33 17.6 -1.8
25nm,1.0s,baz=144,slow=7.9,SNR=31
WRA LR LR 19 49 12.3
comp=Z,11μm,18.1s,baz=160,slow=37
WRAB Tennant Creek 37.98 310 eP P 19 33 18.6 -0.8
WRAB Tennant Creek 37.98 310 eP P 19 33 18.6 -0.8
71nm,1.2s
NWAO Narrogin (SRO) 38.37 278 P P 19 33 17.9 -4.6
18nm,0.9s,baz=16,slow=6.3,SNR=6.5
NWAO LR LR 19 45 40.3
comp=Z,11μm,19.5s,baz=352,slow=31
NWAO Narrogin (SRO) 38.37 278 P P 19 33 20.6 -1.9
baz=38,SNR=5.5
NWAO P P 19 33 20.6 -1.9
baz=38,SNR=5.5
NWAO Narrogin (SRO) 38.37 278 P P 19 33 18.0 -4.6
NWAO pmax pmax
comp=Z,18nm,0.9s
NWAO MLR MLR
comp=Z,11μm,19.5s
NWAO Narrogin (SRO) 38.37 278 eP P 19 33 20.4 -2.2
comp=Z,128nm,1.1s
MIR Mirnyy 38.77 217 ⇓iP P 19 33 25.0 -0.5
MIR pmax pmax
comp=Z,10.0nm,1.8s
MIR MLR MLR
comp=Z,12μm,12.0s
KLBR Kellerberrin 38.90 280 P P 19 33 25.1 -1.9
baz=39,SNR=6.8
H01W1 Cape Leeuwin H 39.13 273 T T 20 14 25.8
baz=128,slow=76,SNR=2090
H01W2 Cape Leeuwin H 39.14 273 T T 20 14 26.5
baz=128,slow=76,SNR=3313
H01W3 Cape Leeuwin H 39.15 273 T T 20 14 27.1
baz=128,slow=76,SNR=2367
COEN Coen 39.50 327 eP P 19 33 32.5 +0.4
HNR Honiara 40.19 353 LR LR 19 47 08.7
comp=Z,4μm,21.6s,baz=180,slow=31
HNR Honiara 40.19 353 eP P 19 33 36.3 -1.5
HNR Honiara 40.19 353 eP P 19 33 36.3 -1.5
BLDU Ballidu 40.22 280 P P 19 33 36.6 -1.4
baz=40,SNR=5.1
QSPA South Pole Qui 40.53 180 eP P 19 33 38.8 -1.6
MORW Morawa 41.69 281 P P 19 33 48.9 -1.3
baz=42,SNR=5.6
MEEK Meekatharra 41.76 286 P P 19 33 49.8 -0.9
baz=42,SNR=4.5
PMG Port Moresby 42.52 335 P P 19 33 59.3 +2.4
comp=Z,11nm,0.8s,baz=308,slow=22,SNR=3.9
PMG LR LR 19 48 24.1
comp=Z,8μm,21.5s,baz=164,slow=32
PMG Port Moresby 42.52 335 eP P 19 33 55.8 -1.1
comp=Z,26nm,1.0s
FITZ Fitzroy Crossi 44.09 301 P P 19 34 06.8 -2.8
comp=Z,8.9nm,0.8s,baz=171,slow=9.5,SNR=10
FITZ Fitzroy Crossi 44.09 301 P P 19 34 10.0 +0.4
baz=44,SNR=7.1
FITZ Fitzroy Crossi 44.09 301 eP P 19 34 06.7 -2.9
comp=Z,64nm,1.4s
KNRA Kununurra 44.40 307 P P 19 34 10.6 -1.6
baz=44,SNR=4.0
TBI Tubuai 44.57 71 eS S 19 40 45.0 -3.6
comp=Z,3μm,30.5s
TBI eLQ LQ 19 44 35.6
comp=Z,16μm,35.2s
TBI eLR LR 19 46 28.4
comp=Z,6μm,30.8s
MBWA Marble Bar 45.11 293 eP P 19 34 14.1 -3.8
comp=Z,108nm,1.0s
MTN Manton Dam 45.62 312 P P 19 34 21.1 -0.7
baz=46,SNR=3.9
MTN Manton Dam 45.62 312 eP P 19 34 19.9 -1.9
PPT2 Papeete2 48.87 66 eS S 19 41 47.7 -2.7
comp=Z,3μm,28.2s
PPT2 eLQ LQ 19 46 14.7
comp=Z,7μm,25.0s
PPT2 eLR LR 19 48 33.8
comp=Z,5μm,25.0s
MAW Mawson 49.29 210 P P 19 34 48.1 -1.7
comp=Z,17nm,1.1s,baz=128,slow=8.2,SNR=13
MAW LR LR 19 52 55.3
comp=Z,3μm,18.6s,baz=108,slow=33
MAW Mawson 49.29 210 P P 19 34 48.9 -0.9
baz=49,SNR=12
MAW Mawson 49.29 210 eP P 19 34 46.9 -2.9
SOEI Soe 51.72 306 eP P 19 35 05.3 -3.7
comp=Z,120nm,1.3s
RKT Rikitea 53.93 84 eS S 19 42 55.0 -5.0
comp=Z,3μm,31.8s
RKT eLR LR 19 50 46.9
comp=Z,9μm,31.8s
SYO Syowa Base 54.90 201 ⇓eP P 19 35 28.4 -3.1
SYO Syowa Base 54.90 201 ⇓epP P 19 35 32.2 +0.7
NVL N'lazarevskaya 58.31 190 eP P 19 35 55.9 +0.2
NVL eS S 19 44 02.2 +5.2
SNAA Sanae 58.69 185 P P 19 35 57.6 -0.8
SNAA Sanae 58.69 185 eP P 19 35 57.0 -1.5
SNAA Sanae 58.69 185 eP P 19 35 57.0 -1.5
VNA3 Neumayer Olymp 59.39 182 P P 19 36 02.5 -0.8
VNA2 Neumayer--Watz 59.64 183 P P 19 36 04.3 -0.7
baz=158,slow=5.9
VNA1 Neumayer--Stat 59.95 183 P P 19 36 06.6 -0.4
TAOE Nuku Hiva Isla 61.36 68 eS S 19 44 32.0 -5.8
comp=Z,1μm,31.0s
TAOE eLQ LQ 19 51 50.8
comp=Z,9μm,28.9s
TAOE eLR LR 19 54 19.3
comp=Z,4μm,25.9s
MYLDM Lahad Datu 67.40 309 eP P 19 36 55.1 -1.8

KSM Kuching 68.67 300 eP P 19 37 03.0 -2.0
PSI Prapat 76.43 291 eP P 19 37 49.4 -1.9
PSI Prapat 76.43 291 eP P 19 37 49.4 -1.9
KULM Kulim 77.36 294 eP P 19 37 53.6 -2.8
comp=Z,15nm,1.0s
PLCA Paso Flores 77.97 141 P P 19 38 07.1 +7.5
comp=Z,12nm,1.1s,baz=248,slow=5.2,SNR=5.1
PLCA Paso Flores 77.97 141 eP P 19 38 05.1 +5.5
DLV T Lat 78.33 304 eP P 19 37 57.5 -4.5
SSLB Guanglung 82.56 321 eP P 19 38 22.5 -1.8
QIZ Qiongzhong 83.55 309 P P 19 38 31.1 +1.6
QIZ Qiongzhong 83.55 309 S S 19 48 51.5 +0.7
QIZ Qiongzhong 83.55 309 sS sS 19 49 07.4 +8.4
QIZ Qiongzhong 83.55 309 SS SS 19 54 23.1 +5.5
QIZ LR LR
comp=N,9μm,20.3s
QIZ LR LR
comp=E,4μm,24.1s
QIZ LR LR
comp=Z,6μm,22.3s
QZH Quanzhou 84.57 319 ⇑P P 19 38 34.0 -0.5
QZH Quanzhou 84.57 319 S S 19 48 58.3 -2.5
QZH LR LR
comp=Z,8μm,28.0s
H08S2 Diego Garcia H 85.37 264 T T 21 12 00.2
baz=140,slow=76,SNR=1383
H08S1 Diego Garcia H 85.38 264 T T 21 12 01.3
baz=140,slow=76,SNR=1696
H08S3 Diego Garcia H 85.39 264 T T 21 12 01.7
baz=140,slow=76,SNR=1167
H08N1 Diego Garcia H 87.31 263 T T 21 14 47.3
baz=144,slow=75,SNR=64
H08N3 Diego Garcia H 87.32 263 T T 21 14 49.2
baz=144,slow=75,SNR=368
H08N2 Diego Garcia H 87.33 263 T T 21 14 55.9
baz=144,slow=75,SNR=180
INU Inuyama 87.95 338 eP P 19 38 52.3 +1.4
MJAR Matsushiro Arr 88.81 339 P P 19 38 56.8 +1.8
comp=Z,3.3nm,1.2s,baz=164,slow=6.2,SNR=5.2
MAJO Matsushiro 88.81 339 eP P 19 38 56.3 +1.3
MAJO Matsushiro 88.81 339 eP P 19 38 56.3 +1.3
MJB9 Matsu-Tunnel 88.81 339 eP P 19 38 56.3 +1.3
CM01 Chiang Mai Arr 88.86 300 eP P 19 38 55.5 -0.2
CM31 Chiang Mai Arr 88.89 300 eP P 19 38 56.5 +0.6
CMAR Chiang Mai Arr 88.89 300 P P 19 38 55.6 -0.2
comp=Z,5.0nm,1.0s,baz=166,slow=3.5,SNR=10
CMAR Chiang Mai Arr 88.89 300 P P 19 38 55.6 -0.2
CMAR pmax pmax
comp=Z,2.0nm,0.9s
CHTO Chiang Mai 89.18 301 eP P 19 38 56.6 -0.6
CHTO pmax pmax
comp=Z,40nm,1.5s
CHTO Chiang Mai 89.18 301 eP P 19 38 56.6 -0.6
comp=Z,40nm,1.5s
GYA Guiyang 91.35 311 P P 19 39 08.0 +0.7
GYA PP PP 19 42 48.4 +3.2
GYA Guiyang 91.35 311 SKS SKSac 19 49 38.7 -0.3
GYA Guiyang 91.35 311 S S 19 50 05.2 -0.5
GYA Guiyang 91.35 311 SS SS 19 56 15.8 +3.9
GYA pmax pmax
comp=Z,50nm,1.0s
GYA pmax pmax
comp=Z,190nm,7.0s
GYA LR LR
comp=N,3μm,20.2s
GYA LR LR
comp=E,2μm,20.5s
GYA LR LR
comp=Z,2μm,20.7s
KMI Kunming 92.24 307 P P 19 39 17.2 +5.7
KMI pP sP 19 39 25.7 +7.4
KMI sP pP 19 39 29.6 +13
KMI Kunming 92.24 307 SKS SKSac 19 49 54.3 +10
KMI Kunming 92.24 307 S S 19 50 15.0 +1.1
KMI Kunming 92.24 307 SS SS 19 56 27.2 +2.4
KMI pmax pmax
comp=Z,5.0nm,1.5s
KMI pmax pmax
comp=Z,140nm,7.0s
KMI LR LR
comp=N,3μm,18.9s
KMI LR LR
comp=E,2μm,21.7s
KMI LR LR
comp=Z,2μm,31.9s
KSRS Korea Array 92.43 332 P P 19 39 13.8 +2.0
comp=Z,1.2nm,0.9s,baz=151,slow=5.3,SNR=3.7
KSAR Wonju Array Be 92.44 332 P P 19 39 13.8 +2.0
KSAR Wonju Array Be 92.44 332 P P 19 39 13.8 +2.0
KS01 Wonju Array Si 92.46 332 eP P 19 39 13.6 +1.6
BOSA Boshof 94.01 215 P P 19 39 18.6 -1.2
comp=Z,7.1nm,0.8s,baz=56,slow=1.1,SNR=5.3
CD2 Chengdu 96.46 311 eP P 19 39 31.3 +0.8
CD2 Chengdu 96.46 311 S S 19 50 46.5 -3.8
CD2 pmax pmax
comp=Z,10.0nm,1.2s
XAN Xi'an 96.63 317 P P 19 39 33.5 +2.3
XAN pP sP 19 39 44.1 +6.1
XAN PP PP 19 43 28.2 +1.9
XAN Xi'an 96.63 317 S S 19 50 54.1 +2.5
XAN Xi'an 96.63 317 SS SS 19 57 30.2 +3.2
XAN pmax pmax
comp=Z,8.0nm,1.1s
XAN pmax pmax
comp=Z,180nm,6.2s
XAN LR LR
comp=N,3μm,26.4s
XAN LR LR
comp=E,3μm,29.5s
XAN LR LR
comp=Z,5μm,23.4s
USRK Ussuriysk Ar. 97.56 337 LR LR 20 18 55.2
comp=Z,9μm,22.0s,baz=33,slow=32
MDJ Mudanjiang 98.58 336 P P 19 39 38.9 -0.7
MDJ Mudanjiang 98.58 336 S S 19 51 10.2 +2.6
MDJ pmax pmax
comp=Z,5.0nm,0.6s
MDJ pmax pmax
comp=Z,63nm,4.8s
BJI Beijing 98.78 325 P Pdif 19 39 42.6 +1.9
BJI PP PP 19 43 42.9 +0.3
BJI Beijing 98.78 325 S S 19 51 12.4 +2.9
BJI Beijing 98.78 325 SS SS 19 57 53.7 -3.2
BJI pmax pmax
comp=Z,5.0nm,0.5s
BJI LR LR
comp=N,4μm,27.6s
BJI LR LR
comp=E,4μm,26.6s
BJI LR LR
comp=Z,4μm,29.6s
HYB Hyderabad 100.31 285 iP Pdif 19 39 40.0 -8.1
LZH Lanzhou 100.65 314 eP Pdif 19 39 50.1 +0.8
LZH pP pPdif 19 39 53.2 -1.2
LZH sP pP 19 39 54.9 +0.5
LZH Lanzhou 100.65 314 sS sS 19 51 28.2 -6.0
LZH Lanzhou 100.65 314 SS SS 19 58 25.1 +1.5
LZH pmax pmax
comp=Z,13nm,1.0s
LZH pmax pmax
comp=Z,54nm,4.2s
LZH LR LR
comp=N,27μm,15.6s
LZH LR LR
comp=E,19μm,17.5s
LZH LR LR
comp=Z,35μm,18.2s
HHC Hu-ho-hao-te 101.27 322 eP Pdif 19 39 53.5 +1.6
HHC pmax pmax
comp=Z,16nm,1.2s
HHC pmax pmax
comp=Z,150nm,8.6s
KSH Kashi 117.77 299 ePKP PKPdf 19 44 46.6 -0.8
KSH PP PP 19 46 05.1 +3.6
KSH PKS PKSdf 19 48 24.3 +0.2
KSH SKS SKSdf 19 52 00.2 +1.5
KSH Kashi 117.77 299 SS SS 20 02 15.9 +2.0
KSH AMB AMB
comp=Z,95nm,6.0s
KSH LR LR
comp=N,4μm,14.5s
KSH LR LR
comp=E,3μm,12.1s
KSH LR LR
comp=Z,4μm,15.8s

ILAR Eielson Array 120.17 22 PKP PKPdf 19 44 54.2 +3.2
comp=Z,1.0nm,0.9s,baz=271,slow=3.3,SNR=5.2
ZALV Zalesovo Beam 122.80 316 PKP PKPdf 19 44 56.7 +0.3
comp=Z,0.2nm,0.3s,baz=250,slow=7.5,SNR=2.8
DBIC Dimbokro 136.25 196 PKP PKPdf 19 45 24.9 +1.6
comp=Z,3.1nm,1.0s,baz=124,slow=3.6,SNR=2.1
ARU Arti 136.80 309 PKIKP PKPdf 19 45 31.0 +8.2
AKH Akhalkalaki 138.63 282 ⇑iP PKPdf 19 45 34.3 +7.3
KIV Kislovodsk 140.45 285 ⇑ePKIKP PKPdf 19 45 33.2 +3.1
KIV i 19 45 36.7
KIV pmax pmax
comp=Z,8.0nm,1.3s
TOA0 Torodi Ar. Sit 140.92 208 ePKPpre PKPpre 19 45 24.1
TORD Torodi Ar. Bea 140.92 208 PKhKP PKPpre 19 45 25.5
comp=Z,2.0nm,0.9s,baz=188,slow=3.0,SNR=3.5
TORD PKP PKPdf 19 45 30.6 -1.1
comp=Z,3.7nm,0.8s,baz=171,slow=2.1,SNR=12
BR131 Keskin Array S 144.09 273 ePKPdf PKPab 19 45 34.3 -0.1
BRTR Keskin Array B 144.09 273 PKhKP PKPpre 19 45 33.6
comp=Z,1.5nm,0.9s,baz=116,slow=2.9,SNR=5.9
BRTR PKP PKPdf 19 45 38.6 +1.8
comp=Z,4.6nm,1.0s,baz=134,slow=3.6,SNR=11
PKME Peaks-Kenny Pk 144.17 76 ePKPdf PKPdf 19 45 36.0 -0.5
LMQ La Malbaie 144.50 72 ePKPdf PKPdf 19 45 37.0 -0.1
BR231 Keskin MP Arra 144.71 273 ePKPdf PKPab 19 45 34.7 -2.0
BR231 ePKPdf PKPdf 19 45 37.4 -0.4
ANTO Ankara 144.71 273 ePKIKP PKPbc 19 45 37.0 +0.3
ANTO Ankara 144.71 273 ePKPdf PKPbc 19 45 37.0 +0.3
AKAS Kas 144.73 265 ePKPdf PKPab 19 45 36.3 -0.6
ISP Isparta 145.06 268 P PKPdf 19 45 42.0 +3.5
EMMW East Machias 145.09 78 ePKPbc PKPdf 19 45 39.5 +1.4
BOLV Bolvadin 145.28 270 ePKPbc PKPbc 19 45 38.2 -0.4
PQI Presque Isle 145.58 74 ePKPdf PKPab 19 45 41.2 +1.7
GGN Saint George 145.66 78 ePKPdf PKPdf 19 45 38.2 -0.9
KARP Karpathos 145.90 262 ePKPdf PKPdf 19 45 39.8 -0.1
LPSR Galich'ya Gora 146.21 296 ePKIKP PKPab 19 45 48.4 +6.8
LPSR pmax pmax
comp=Z,30nm,1.0s
KULA Kula-Manisa 146.66 268 P PKPdf 19 45 41.9 +0.7
BODT Bodrum 146.71 264 P PKPab 19 45 47.8 +3.7
MANT Manisa 146.71 268 ePKPdf PKPdf 19 45 38.3 -3.1
NPS Neapolis 146.72 260 P PKPdf 19 45 37.7 -3.6
LAST Lasithi 146.74 260 P PKPbc 19 45 43.3 +0.2
IDI Anoyia 147.19 260 P PKPpre 19 45 32.5
SMG Samos 147.39 265 P PKPab 19 45 51.4 +4.6
SANT Santorini 147.49 262 ePKPdf PKPdf 19 45 42.1 -0.4
VAM Vamos 147.71 259 P PKPab 19 45 54.2 +6.1
MOS Moscow 147.74 302 ePKP2 PKPab 19 45 58.6 +11
MOS pmax pmax
comp=Z,60nm,1.2s
ISK Istanbul-Kandi 147.76 272 P PKPab 19 45 57.0 +8.9
APE Apeiranthos 147.86 263 ⇑iP PKPbc 19 45 45.9 -0.2
APE Apeiranthos 147.86 263 ⇑PKP2 PKPbc 19 45 45.9 -0.2
IMMV Iera Moni Meta 147.88 259 P PKPab 19 45 52.4 +3.6
OBN Obninsk 148.20 300 ⇑ePKP2 PKPbc 19 45 47.6 +1.3
OBN pmax pmax
comp=Z,15nm,1.2s
CHOS Chios island 148.28 265 P PKPab 19 45 52.9 +2.5
MHLO Agia Marina, M 148.36 261 P PKPab 19 45 53.5 +2.8
PRK Paraskevi 148.62 267 P PKPab 19 45 51.2 -0.4
SIGR SIGRI 148.87 267 P PKPbc 19 45 48.6 0.0
KARY Karystos 149.13 263 P PKPab 19 45 56.9 +3.2
GADA Gvkgeada 149.37 268 P PKPab 19 45 54.0 -0.6
VLY Voula,Athens 149.44 269 P PKPab 19 45 56.1 +1.1
ENEZ Enez 149.49 269 P PKPbc 19 45 52.0 +0.1
DID Didima 149.60 262 P PKPab 19 45 56.4 +0.7
ALN Alexandroupoli 149.64 269 P PKPab 19 45 53.6 -2.1
EDRB Edirne 149.66 272 P PKPbc 19 45 49.8 -0.7
LIA Limnos Island 149.68 267 P PKPbc 19 45 56.0 +0.1
SMTH Samothraki Isl 149.75 268 P PKPbc 19 45 53.5 +2.7
APA Apatity 149.82 325 ⇑iPKHKP PKPpre 19 45 48.9
APA i 19 45 57.1
APA i 19 49 32.0
APA pmax pmax
comp=Z,11nm,0.8s
VLX Vlachokerasia 150.07 260 P PKPab 19 45 55.5 -2.2
LTK Loutraki 150.07 262 P PKPbc 19 45 54.5 +2.8
TLB Topalu 150.08 277 ⇑iP PKPab 19 45 54.7 -2.7
TLB Topalu 150.08 277 ⇑PKP2 PKPab 19 45 54.7 -2.7
RDO Rodhopi 150.10 270 P PKPbc 19 45 51.6 0.0
AOS Alomisos 150.13 265 P PKPab 19 45 49.9 -1.8
CFR Carcaliu 150.27 278 ⇑iP PKPbc 19 45 51.5 -0.3
CFR Carcaliu 150.27 278 ⇑PKIKP PKPbc 19 45 51.5 -0.3
KIS Kishinev 150.55 282 eP PKPab 19 46 03.0 +3.7
KIS Kishinev 150.55 282 ePKP2 PKPab 19 46 03.0 +3.7
KLV Kalavryta, Ach 150.61 261 P PKPab 19 45 58.6 -1.3
NEO Neokhori 150.63 264 P PKPbc 19 45 52.6 -0.4
PAIG Paliouri 150.67 266 P PKPab 19 45 59.1 -0.9
XOR Xorichti 150.68 265 P PKPdf 19 45 49.9 +2.3
KAVA Kavala 150.69 268 P PKPab 19 45 58.6 -1.4
LAKA Lakka 150.83 262 P PKPab 19 46 01.1 +0.3
SERG Sergoula 150.88 262 P PKPab 19 45 59.5 -1.5
RZN Rozhen 150.90 270 eP PKPab 19 45 58.0 -3.2
AGG Agios Georgios 151.05 263 P PKPbc 19 45 55.0 +1.0
SORM Soroca 151.25 284 ⇑iP PKPbc 19 45 54.8 +0.8
SORM Soroca 151.25 284 ⇑PKIKP PKPbc 19 45 54.8 +0.8
ISR Istrita 151.27 277 ⇑iP PKPbc 19 46 01.8 -0.7
ISR Istrita 151.27 277 ⇑PKIKP PKPbc 19 46 01.8 -0.7
NVR Nevrokopi 151.29 269 P PKPbc 19 45 54.2 -0.3
EVR Evrytania 151.33 263 P PKPbc 19 45 58.2 +3.5
SRS Serrai 151.35 268 P PKPbc 19 45 54.9 +0.3
VRI Vrincioaia 151.46 279 ⇓iP PKPab 19 46 03.8 +0.7
VRI Vrincioaia 151.46 279 ⇓PKIKP PKPab 19 46 03.8 +0.7
AKASG Malin Array Be 151.48 290 PKIKP PKPdf 19 45 50.7 +2.3
comp=Z,4.4nm,0.9s,baz=75,slow=2.3,SNR=5.7
AKASG PKPbc sPKPdf 19 45 55.2 0.0
comp=Z,3.2nm,0.8s,baz=83,slow=2.4,SNR=11
AKASG PKPab sPKPbc 19 46 00.9 -0.5
comp=Z,14nm,1.0s,baz=77,slow=2.3,SNR=16
AKASG Malin Array Be 151.48 290 PKIKP PKPdf 19 45 50.7 +2.3
AKASG 19 45 55.2
AKASG 19 46 00.9
AKASG pmax pmax
comp=Z,3.0nm,0.8s
AKASG pmax pmax
comp=Z,3.0nm,0.8s
AKASG pmax pmax
comp=Z,14nm,1.0s
MMB Musomiste 151.50 269 eP PKPab 19 46 00.0 -3.5
PLOR Plostina 151.50 279 ⇓iP PKPab 19 46 01.8 -1.6
PLOR Plostina 151.50 279 ⇓PKIKP PKPab 19 46 01.8 -1.6
THL Thlokotos Trika 151.55 264 P PKPbc 19 45 54.2 -0.9
TESR Tescani 151.75 280 ⇑iP PKPbc 19 45 55.7 +0.4
MLR Muntele Rosu 151.81 278 ⇓iP PKPbc 19 45 56.3 +0.6
MLR Muntele Rosu 151.81 278 ⇓PKIKP PKPbc 19 45 56.3 +0.6
KNT Kendrikon 151.82 267 P PKPbc 19 45 55.1 -0.6
DSL Palaion Diasel 151.91 262 P PKPbc 19 45 56.5 +0.5
ARCES ARCESS Array B 151.98 330 PKP PKPbc 19 45 52.6 -2.6
comp=Z,1.6nm,0.9s,baz=19,slow=9.6,SNR=4.1
ARCES PKPbc sPKPdf 19 45 57.0 +1.6
comp=Z,4.7nm,0.8s,baz=113,slow=1.8,SNR=8.7
LKD2 Lefkada island 152.00 261 P PKPbc 19 45 59.9 +3.7
KZN Kozani 152.11 265 P PKPab 19 46 02.0 -4.1
VAY Valandovo 152.12 267 iPKP PKPbc 19 45 57.0 +0.7
KPRO Kipourio 152.19 264 P PKPbc 19 45 54.9 -1.7
VTS Vitosha 152.32 270 ⇑iP PKPbc 19 45 57.0 +0.1
VTS Vitosha 152.32 270 ⇑PKIKP PKPbc 19 45 57.0 +0.1
VTS Vitosha 152.32 270 eP PKPbc 19 46 01.7 +4.8
MPEP Malo Peshtene 152.33 272 eP PKPbc 19 46 00.0 +3.3
PRAR RASCA 152.33 282 ⇑iP PKPab 19 46 04.1 -2.7
DOPR Dopca 152.35 278 ⇑iP PKPbc 19 45 55.4 -1.3
VOIR 152.37 277 ⇑iP PKPbc 19 45 57.5 +0.7
VOIR 152.37 277 ⇑PKIKP PKPbc 19 45 57.5 +0.7
ARR Arges 152.61 277 ⇓iP PKPbc 19 45 57.7 +0.3
BIA Bitola 152.77 266 iPKP PKPbc 19 45 59.0 +1.1
BURAR Bucovina Array 153.06 282 ⇓iP PKPbc 19 46 03.6 +5.3
BURAR Bucovina Array 153.06 282 ⇓PKIKP PKPbc 19 46 03.6 +5.3
OHR Ohrid 153.16 266 iPKP PKPbc 19 45 58.6 -0.1
SKO Skopje 153.18 268 iPKP PKPbc 19 46 02.7 +4.1
LOT Lotru 153.20 276 ⇓iP PKPab 19 46 07.3 -3.3
NACGM Naroch 153.73 298 e PKPbc 19 46 16.0 +3.6
FINES FINESS Array B 154.00 313 PKPbc PKPbc 19 46 01.1 +1.3
comp=Z,3.7nm,0.9s,baz=151,slow=4.4,SNR=6.3
LVV L'vov 154.47 286 ePKIKP PKPab 19 46 09.6 -6.1
BZS Buzias 154.66 275 ⇓iP PKPbc 19 46 05.6 +3.9
BZS Buzias 154.66 275 ⇓PKIKP PKPbc 19 46 05.6 +3.9
SFJD Kangerlussuaq 155.24 32 PKP PKPdf 19 45 54.8 +1.5
comp=Z,9.2nm,0.8s,baz=292,slow=19,SNR=2.6
CRVS Cervenica-Dubn 155.84 283 ePKIKP PKPdf 19 46 01.7 +7.0
CRVS Cervenica-Dubn 155.84 283 ePKP PKPdf 19 46 01.7 +7.0
STHS Stebnicka Huta 156.12 284 ePKP2 PKPab 19 46 31.4 +8.6
STHS Stebnicka Huta 156.12 284 ePKP PKPab 19 46 31.4 +8.6

KECS	**Kecovo**	**156.35 281**	*e*PKP2	**PKPab**	**19 46 31.2**	**+7.4**	
KECS	**Kecovo**	**156.35 281**	*e*PKP	**PKPab**	**19 46 31.2**	**+7.4**	
KEST	**Kesra**	**157.05 242**	PKPab	**PKPab**	**19 46 28.1**	**+0.8**	
	comp=Z,8.5nm,1.0s,baz=327,slow=1.8,SNR=6.1						
VYHS	**Vyhne**	**157.40 281**	*e*PKIKP	**PKPdf**	**19 46 03.8**	**+7.1**	
VYHS	**Vyhne**	**157.40 281**	*e*PKP	**PKPdf**	**19 46 03.8**	**+7.1**	
VYHS			*e*		19 46 30.8		
DPC	**Dobruska-Polom**	**159.43 284**	*e*PKPDF	**PKPdf**	**19 46 04.3**	**+5.2**	
DPC			*ex*	x	19 46 47.5		
DPC	**Dobruska-Polom**	**159.43 284**	*e*PKIKP	**PKPdf**	**19 46 04.3**	**+5.2**	
UPC	**Upice**	**159.65 285**	*e*PKP2	PKPab	19 46 50.8	+13	
GERES	**GERESS Array B**	**160.78 279**	PKP	**PKPdf**	**19 46 03.1**	**+2.3**	
	comp=Z,0.4nm,0.8s,baz=209,slow=1.8,SNR=8.3						
GERES			PKPab	PKPab	**19 46 43.0**	**-0.2**	
	comp=Z,2.2nm,0.8s,baz=106,slow=4.7,SNR=4.8						
KHC	**Kasperske Hory**	**160.93 280**	*e*PKPDF	PKPdf	19 46 10.0	+9.1	
KHC			*e*PKPAB	pPKPab	19 46 48.8	0.0	
KHC	**Kasperske Hory**	**160.93 280**	*e*PKIKP	PKPdf	19 46 10.0	+9.1	
NOA	**NORSAR Array B**	**161.00 317**	PKPab	**PKPab**	**19 46 45.3**	**+1.6**	
	comp=Z,1.8nm,0.9s,baz=68,slow=4.6,SNR=3.7						
BRG	**Berggiesshubel**	**161.00 285**	*e*PKP2	PKPab	19 46 52.8	+8.8	
BRG			pmax	pmax			
	comp=Z,6.0nm,1.0s						
CLL	**Collm**	**161.65 286**	*e*PKIKP	**PKPdf**	**19 46 02.0**	**+0.5**	
CLL	**Collm**	**161.65 286**	*e*PKPdf	**PKPdf**	**19 46 02.0**	**+0.5**	
CLL			*e*		19 47 02.0		
	comp=Z,15nm,1.4s						
ESDC	**Sonseca Array**	**167.02 225**	PKP	**PKPdf**	**19 46 08.2**	**+1.5**	
	comp=Z,0.1nm,0.3s,baz=304,slow=32,SNR=5.2						
ESDC			PKPab	**PKPab**	**19 47 10.3**	**-0.3**	
	comp=Z,1.1nm,0.8s,baz=162,slow=5.2,SNR=4.6						

BJI ***09*** *19:41:28.6, 49.50N× 127.00W, h10km, mb5.7/59, mB6.3/52, Ms6.6/82, Ms7 6.6/75*

ISCJB ***09*** *19:41:29.5±0.4, 49.511N±0.009× 126.193W±0.02, h1km±2km, mb6.0/406, MS6.4/489, Error ellipse: s-maj=2.0km s-min=1.2km az=143.6*

IDC ***09*** *19:41:30.4±0.4, 49.36N× 127.07W, h0km, mb5.3/31, mb1 5.4/38, mb1mx5.4/39, mbtmp5.3/38, ML4.9/7, MS6.2/42, Ms1 6.2/42, ms1mx6.1/50, Error ellipse: s-maj=10.8km s-min=6.5km az=57.0*

PGC ***09*** *19:41:31.0±0.1, 49.35N× 127.22W, h36km±1km, ML6.0/40, Mw6.3*

PGC 88km Wsw of Gold R., Bc Vancouver Island, Canada Region Felt across southwest Bc, including Vancouver Island, Greater Vancouver, and as far away as Kelowna.

MOS ***09*** *19:41:32.3±0.9, 49.45N× 127.02W, h23km, mb6.2/105, MS6.4/112, Error ellipse: s-maj=7.0km s-min=3.2km az=112.3*

NEIC ***09*** *19:41:34.1±0.1, 49.54N× 126.89W, h22km, mb6.3/297, ME7.2, MS6.4/298, MW6.3, MW6.4, MW6.3(OTT), Error ellipse: s-maj=2.4km s-min=1.2km az=49.0, Moment Tensor Solution. s60 Moment tensor: Scale 1018Nm; Mrr=0.07; Mθθ=0.77; Mϕϕ0.83; Mrθ 0.15; Mθϕ3.48; Mϕr-1.25; Best double couple: Mo3.80000×1018 NP1:ϕs354.00000°, δ89.00000°, λ-161.00000°. NP2:ϕs263.00000°, δ71.00000°, λ-1.00000°. Principal axes: T 3.8100, Plg13.0000°, Azm127.0000°; N -0.0500, Plg71.0000°, Azm355.0000°; P -3.7600, Plg14.0000°, Azm220.0000°; Broadband fault plane solution: P waves. NP1: ϕs259.00000°, δ75.00000°, λ-5.00000°. NP2:ϕs350.00000°, δ85.00000°, λ-165.00000°. Principal axes: T Plg7.0000°, Azm123.0000°; N Plg0.0000°, Azm0.0000°; P Plg14.0000°, Azm215.0000°; Depth from synthetics of broadband displacement seismograms. Energy computed from BB mechanism.*

NEIC Felt [IV] at Campbell River, Gold River, Port Hardy and Port MacNeil; [III] at Courtenay, Cumberland, Parksville, Port Alberni, Powell River, Squamish and Ucluelet. Felt [III] at Belleview, Bothell, Everson, Ferndale and Richland, Washington. Felt throughout the Vancouver, British Columbia-Seattle, Washington area. Felt across southwestern British Columbia, including Vancouver Island, greater Vancouver and as far away as Kelowna and Vernon. Felt in much of western Washington and in parts of northern Oregon.

GCMT ***09*** *19:41:34.2±0.1, 49.27N× 127.17W, h25km, MW6.5/144, Moment Tensor Solution. s136,c322; s144,c595; Duration: 41 Moment tensor: Scale 1018Nm; Mrr=0.61±.03; Mθθ-1.61±.03; Mϕϕ2.22±.03; Mrθ0.20±.07; Mθϕ5.14±.02; Mϕr-2.78±.08; Best double couple: Mo6.14900×1018 NP1:ϕs351.00000°, δ88.00000°, λ-153.00000°. NP2:ϕs260.00000°, δ63.00000°, λ-2.00000°. Principal axes: T 6.4800, Plg18.0000°, Azm122.0000°; N -0.6670, Plg63.0000°, Azm354.0000°; P -5.8180, Plg20.0000°, Azm219.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*

NEIC ***09*** *19:41:35.0±0.0, 49.67N× 126.82W, h19km, Moment Tensor Solution. s79 Moment tensor: Scale 1018Nm; Mrr-1.68; Mθθ-1.28; Mϕϕ2.95; Mrθ1.05; Mθϕ3.89; Mϕr-1.81; Best double couple: Mo5.10000×1018 NP1:ϕs351.00000°, δ75.00000°, λ-150.00000°. NP2:ϕs252.00000°, δ61.00000°, λ-17.00000°. Principal axes: T 5.4200, Plg8.0000°, Azm118.0000°; N -0.7000, Plg56.0000°, Azm15.0000°; P -4.7200, Plg31.0000°, Azm214.0000°;*

ISC 09 19:41:33.1±0.2, 49°39N±0.02× 127°07W±0.02, h15km±1km, h15km:pP-P, n2309, o1977/2441, mb6.1/415, MS6.4/501, 81C-44D, Vancouver Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ETB	**Estevan Point**	**0.34**	**92**	P	**Pg**	**19 41 40.6**	**+0.4**
ETB				S	**Sg**	**19 41 46.6**	**+1.5**
EDB	**Eliza Dome**	**0.49**	**356**	P	**Pg**	**19 41 41.3**	**-1.6**
EDB				S	**Sg**	**19 41 47.8**	**-1.6**
NC89	**ODP889**	**0.73**	**169**	P	**Pg**	**19 41 45.1**	**-2.3**
GDR	**Gold River**	**0.78**	**59**	P	**Pg**	**19 41 46.7**	**-1.6**
GDR				S	**Sg**	**19 41 57.7**	**-0.8**
TOFB	**Tofino**	**0.79**	**107**	P	**Pg**	**19 41 46.7**	**-1.8**
WOSB	**Woss**	**0.84**	**22**	P	**Pg**	**19 41 47.1**	**-2.3**
WOSB				S	**Sg**	**19 41 58.9**	**-1.5**
BPBC	**Brooks Peninsu**	**0.90**	**330**	P	**Pg**	**19 41 46.9**	**-3.6**
BTB	**Buttle Lake**	**1.01**	**85**	P	**Pg**	**19 41 50.5**	**-2.2**
MAYB	**Maynard**	**1.02**	**356**	P	**Pg**	**19 41 49.9**	**-2.9**
SPLB	**Strathcona Par**	**1.05**	**61**	P	**Pg**	**19 41 51.2**	**-2.1**
SPLB				S	**Sg**	**19 42 05.1**	**-2.0**
B012	**Ucluelet**	**1.10**	**114**	P	**Pb**	**19 41 51.1**	**-2.8**
OZB	**Mount Ozzard**	**1.12**	**112**	P	**Pb**	**19 41 51.4**	**-2.7**
TLCB	**Telegraph Cove**	**1.17**	**7**	P	**Pb**	**19 41 52.5**	**-2.5**
TLCB				S	**Sb**	**19 42 07.0**	**-2.9**
MWAB	**Mount Washingt**	**1.20**	**72**	P	**Pn**	**19 41 53.5**	**-2.0**
MWAB				S	**Sb**	**19 42 09.8**	**-1.1**
NCRB	**Newcastle Ridg**	**1.21**	**32**	P	**Pn**	**19 41 53.3**	**-2.3**
NCRB				S	**Sb**	**19 42 09.4**	**-1.7**
CBB	**Campbell River**	**1.28**	**59**	P	**Pn**	**19 41 54.4**	**-2.0**
CBB				S	**Sb**	**19 42 11.8**	**-1.3**
PHC	**Port Hardy**	**1.34**	**350**	P	**Pn**	**19 41 54.1**	**-3.1**
PHC				S	**Sb**	**19 42 09.7**	**-5.1**
BMSB	**Bamfield Mari**	**1.38**	**113**	P	**Pn**	**19 41 55.5**	**-2.3**
B928	**Bamfield**	**1.39**	**113**	P	**Pn**	**19 41 55.4**	**-2.4**
B928	**Bamfield**	**1.39**	**113**	*e*Pn	**Pn**	**19 41 54.8**	**-3.0**
HOLB	**Holberg**	**1.43**	**332**	P	Pn	19 41 54.6	-3.9
ALB	**Alberni**	**1.47**	**94**	P	**Pn**	**19 41 56.9**	**-2.0**
ALB				S	**Sn**	**19 42 17.1**	**-0.7**
B927	**Port Alberni**	**1.48**	**96**	P	**Pn**	**19 41 57.3**	**-1.9**
B927				S	**Sn**	**19 42 19.7**	**+1.4**
MGB	**Mount Grey**	**1.60**	**103**	P	**Pn**	**19 41 58.3**	**-2.7**
NC27	**ODP1027**	**1.69**	**196**	P	Pn	19 41 57.1	-4.6
TXB	**Texada**	**1.74**	**79**	P	**Pn**	**19 42 01.3**	**-1.5**
TXB				S	**Sn**	**19 42 24.7**	**+0.1**
YOUB	**Youbou, Lake C**	**1.90**	**104**	P	**Pn**	**19 42 03.0**	**-2.0**
PFB	**Port Renfrew**	**1.91**	**114**	P	**Pn**	**19 42 02.8**	**-2.3**
OCP	**Olym-Cheeka Pk**	**1.95**	**123**	P	**Pn**	**19 42 03.1**	**-2.5**
OCP	**Olym-Cheeka Pk**	**1.95**	**123**	*e*Pn	**Pn**	**19 42 03.1**	**-2.5**
B926	**Mesachie Lake**	**2.01**	**105**	P	**Pn**	**19 42 04.5**	**-1.9**
NLLB	**Nanaimo Lost L**	**2.02**	**93**	P	**Pn**	**19 42 05.4**	**-1.2**
SHB	**Sechelt**	**2.09**	**83**	P	**Pn**	**19 42 06.5**	**-1.1**
C03A	**Quillayute Air**	**2.20**	**130**	*e*Pn	**Pn**	**19 42 06.9**	**-2.1**
BPCB	**Bare Point**	**2.25**	**101**	P	**Pn**	**19 42 08.4**	**-1.4**
BPCB				S	**Sg**	**19 42 48.7**	**+3.2**
LZB	**Mount Lazard**	**2.27**	**109**	P	**Pn**	**19 42 08.2**	**-1.9**
OFR	**Olym-F Res Ctr**	**2.29**	**128**	P	**Pn**	**19 42 08.4**	**-2.0**
OFR	**Olym-F Res Ctr**	**2.29**	**128**	*e*Pn	**Pn**	**19 42 08.3**	**-2.0**
GOBB	**Galiano Island**	**2.37**	**99**	P	**Pn**	**19 42 10.6**	**-0.9**
GOBB				S	**Sg**	**19 42 49.7**	**+0.3**
OBC	**Olympics--Boni**	**2.40**	**123**	P	**Pn**	**19 42 10.1**	**-1.8**
BIB	**Bowen Island**	**2.46**	**88**	P	**Pn**	**19 42 10.6**	**-2.0**
B009	**North Saanich**	**2.49**	**106**	P	**Pn**	**19 42 12.0**	**-1.0**
B009				S	**Sg**	**19 42 53.9**	**+0.8**
B010	**North Saanich**	**2.49**	**106**	P	**Pn**	**19 42 11.3**	**-1.7**
B010				S	**Sg**	**19 42 52.8**	**-0.3**
PGC	**Sidney**	**2.49**	**106**	P	**Pn**	**19 42 11.2**	**-1.9**
PGC	**Sidney**	**2.49**	**106**	*e*Pn	**Pn**	**19 42 10.0**	**-3.0**
B011	**North Saanich**	**2.49**	**106**	P	**Pn**	**19 42 11.6**	**-1.5**
WPB	**Watts Point**	**2.53**	**82**	P	**Pn**	**19 42 12.3**	**-1.2**
SNB	**Saturna Island**	**2.63**	**102**	P	**Pn**	**19 42 13.9**	**-1.1**
VGZ	**Gonzales**	**2.65**	**110**	P	**Pn**	**19 42 13.6**	**-1.7**
OSD	**Olympics--Snow**	**2.73**	**124**	P	**Pn**	**19 42 14.7**	**-1.9**
WSLR	**Whistler**	**2.79**	**73**	P	**Pn**	**19 42 16.6**	**-0.6**
WSLR				S	**Sb**	**19 43 00.2**	**+3.7**
MCW	**Mount Constitu**	**2.87**	**103**	P	**Pn**	**19 42 17.0**	**-1.4**
BBB	**Bella Bella**	**2.88**	**347**	Pn	**Pn**	**19 42 16.0**	**-2.3**
	83nm,0.3s,baz=178,slow=3.4,SNR=365						
BBB				Pg	**Pb**	**19 42 22.1**	**-2.0**
	1μm,0.3s,baz=187,slow=13,SNR=134						
BBB				Sn	**Sn**	**19 42 48.2**	**-4.4**
	1μm,0.3s,baz=36,slow=20,SNR=10						
BBB				Lg	Lg	19 42 55.4	
	3μm,0.3s,baz=73,slow=8.3,SNR=17						
BBB				LR	LR	19 43 11.5	
	comp=Z,118μm,20.2s,baz=172,slow=35						
BBB	**Bella Bella**	**2.88**	**347**	P	**Pn**	**19 42 15.4**	**-2.9**
BBB				S	**Sn**	**19 42 54.9**	**+2.3**
BBB	**Bella Bella**	**2.88**	**347**	*e*Pn	Pn	19 42 14.7	-3.6
BBB				Sn	**Sn**	**19 42 48.2**	**-4.4**
NLWA	**Neilton Lookou**	**2.92**	**132**	*e*Pn	**Pn**	**19 42 15.8**	**-3.2**
A04D	**Lummi Island**	**2.94**	**101**	P	**Pn**	**19 42 17.6**	**-1.7**
	baz=284,SNR=107						
BCBC	**Bella Coola**	**2.99**	**4**	P	**Pn**	**19 42 19.1**	**-0.8**
SVOH	**Skagit Valley**	**3.13**	**109**	P	**Pn**	**19 42 21.1**	**-0.7**
WISH	**Wishkah**	**3.16**	**135**	P	**Pn**	**19 42 20.8**	**-1.5**
HDW	**Hoodsport**	**3.18**	**122**	P	**Pn**	**19 42 21.3**	**-1.3**
C04A	**Brinnon**	**3.19**	**120**	*e*Pn	**Pn**	**19 42 20.6**	**-2.1**
SMW	**South Mountain**	**3.23**	**128**	P	**Pn**	**19 42 21.9**	**-1.4**
GNW	**Green Mountain**	**3.36**	**121**	*e*Pn	**Pn**	**19 42 23.0**	**-2.0**
CMW	**Cultus Mountai**	**3.40**	**105**	P	**Pn**	**19 42 25.1**	**-0.6**
MBW	**Mount Baker**	**3.45**	**98**	P	**Pn**	**19 42 25.5**	**-0.8**
B05A	**Bryant**	**3.47**	**107**	P	**Pn**	**19 42 24.7**	**-1.8**
	baz=290,SNR=478						
LLLB	**Lillooet**	**3.56**	**68**	P	**Pn**	**19 42 27.1**	**-0.7**
LLLB				Sg	**Sb**	**19 43 24.3**	**+5.5**
LLLB	**Lillooet**	**3.56**	**68**	*e*Pn	**Pn**	**19 42 25.9**	**-1.9**
CPW	**Capitol Peak**	**3.57**	**131**	P	**Pn**	**19 42 26.9**	**-1.0**
JCW	**Jim Creek**	**3.60**	**107**	P	**Pn**	**19 42 27.2**	**-1.1**
JCW	**Jim Creek**	**3.60**	**107**	*e*Pn	**Pn**	**19 42 26.6**	**-1.7**
HOPB	**Hope**	**3.69**	**88**	P	**Pn**	**19 42 28.5**	**-1.0**
E03A	**Lebam**	**3.69**	**139**	P	**Pn**	**19 42 27.9**	**-1.6**
E03A	**Lebam**	**3.69**	**139**	*e*Pn	**Pn**	**19 42 27.0**	**-2.6**
SP2	**Seward Park 2**	**3.69**	**118**	*e*Pn	**Pn**	**19 42 29.1**	**-0.5**
B06A	**Marblemount**	**3.78**	**101**	P	**Pn**	**19 42 30.2**	**-0.5**
B06A	**Marblemount**	**3.78**	**101**	*e*Pn	**Pn**	**19 42 29.3**	**-1.5**
RPW	**Rockport**	**3.78**	**102**	P	**Pn**	**19 42 29.8**	**-1.1**
RPW	**Rockport**	**3.78**	**102**	*e*Pn	**Pn**	**19 42 29.3**	**-1.5**
ELW	**Echo Lake**	**3.94**	**117**	P	**Pn**	**19 42 32.6**	**-0.5**
UBRB	**Upper Baezaeko**	**3.98**	**27**	P	**Pn**	**19 42 32.6**	**-1.0**
UBRB				Sg	**Sb**	**19 43 33.8**	**+2.9**
B941	**Kapowsin**	**4.04**	**125**	*e*Pn	**Pn**	**19 42 34.9**	**+0.7**
D05A	**Enumclaw**	**4.04**	**121**	P	**Pn**	**19 42 33.9**	**-0.5**
D05A	**Enumclaw**	**4.04**	**121**	*e*Pn	**Pn**	**19 42 32.9**	**-1.4**
CDMR	**Cedar Moraine**	**4.05**	**117**	*e*Pn	**Pn**	**19 42 37.5**	**+3.1**
GPW	**Glacier Peak**	**4.12**	**106**	P	**Pn**	**19 42 34.9**	**-0.8**
F04D	**Rainier, OR**	**4.29**	**139**	P	**Pn**	**19 42 36.1**	**-1.7**
	baz=321,SNR=41						
OBSR	**Observation Ro**	**4.31**	**123**	*e*Pn	**Pn**	**19 42 36.7**	**-1.6**
C06D	**Leavenworth**	**4.34**	**107**	P	**Pn**	**19 42 37.1**	**-1.5**
	baz=291,SNR=72						
BNB	**Barry Inlet**	**4.35**	**319**	P	Pn	19 42 34.9	-3.8
BNB				S	**Sn**	**19 43 21.9**	**-7.2**
FMW	**Mount Fremont**	**4.37**	**122**	P	**Pn**	**19 42 38.5**	**-0.5**
LON	**Longmire**	**4.40**	**125**	P	**Pn**	**19 42 36.8**	**-2.6**
LON	**Longmire**	**4.40**	**125**	*e*P	**Pn**	**19 42 37.2**	**-2.2**
LON	**Longmire**	**4.40**	**125**	*e*Pn	**Pn**	**19 42 37.2**	**-2.2**
TDL	**Tradedollar La**	**4.46**	**131**	*e*Pn	**Pn**	**19 42 39.0**	**-1.3**
B201	**Coldwater, Mou**	**4.47**	**132**	*e*Pn	**Pn**	**19 42 40.6**	**+0.3**
FL2	**Flat Top 2**	**4.50**	**133**	*e*Pn	**Pn**	**19 42 39.6**	**-1.3**
SHW	**Mount Saint He**	**4.56**	**133**	*e*P	**Pn**	**19 42 42.3**	**+0.6**
SHW	**Mount Saint He**	**4.56**	**133**	*e*Pn	**Pn**	**19 42 42.3**	**+0.6**
LVP	**Lakeview Peak**	**4.57**	**135**	*e*Pn	**Pn**	**19 42 40.7**	**-1.1**
F04A	**Amboy**	**4.67**	**136**	*e*Pn	**Pn**	**19 42 41.6**	**-1.4**
LTY	**Liberty**	**4.77**	**114**	P	**Pn**	**19 42 44.6**	**+0.1**
LTY	**Liberty**	**4.77**	**114**	*e*Pn	**Pn**	**19 42 43.5**	**-1.0**
MOBC	**Moresby Island**	**4.86**	**323**	P	Pn	19 42 41.8	-3.9
MOBC				S	**Sn**	**19 43 34.9**	**-6.7**
PNT	**Penticton**	**4.87**	**88**	P	**Pn**	**19 42 44.7**	**-1.1**
PNT	**Penticton**	**4.87**	**88**	*e*P	**Pn**	**19 42 44.2**	**-1.6**
PNT	**Penticton**	**4.87**	**88**	*e*Pn	**Pn**	**19 42 44.2**	**-1.6**
ASR	**Mount Adams--S**	**4.91**	**129**	*e*Pn	**Pn**	**19 42 45.8**	**-0.6**
G03D	**McMinnville, O**	**4.91**	**147**	P	**Pn**	**19 42 45.0**	**-1.3**
	baz=328,SNR=437						
DIB	**Dawson Inlet,**	**5.11**	**320**	P	Pn	19 42 44.8	-4.2
DIB	**Dawson Inlet,**	**5.11**	**320**	*e*Pn	Pn	19 42 44.6	-4.4
H02S1	**DAWSON INLET T**	**5.17**	**320**	Pn	**Pn**	**19 42 45.6**	**-3.4**
H02S1				Sn	**Sn**	**19 43 40.7**	**-6.9**
H02N1	**VAN INLET T-PH**	**5.17**	**320**	Pn	**Pn**	**19 42 46.3**	**-3.7**
H02N1				Sn	**Sn**	**19 43 42.4**	**-7.0**
VIB	**Van Inlet**	**5.17**	**320**	P	Pn	19 42 45.7	-4.3
VIB				S	**Sn**	**19 43 42.5**	**-6.9**
B08A	**Colville Reser**	**5.21**	**98**	P	**Pn**	**19 42 49.5**	**-0.9**
B08A				Sg	**Sg**	**19 44 17.0**	**-3.1**
B08A	**Colville Reser**	**5.21**	**98**	*e*Pn	**Pn**	**19 42 48.4**	**-2.0**
G04A	**Mulino**	**5.22**	**142**	*e*Pn	**Pn**	**19 42 50.2**	**-0.4**
COR	**Corvallis**	**5.45**	**150**	*e*P	**Pn**	**19 42 52.9**	**-0.8**
COR	**Corvallis**	**5.45**	**150**	*e*Pn	**Pn**	**19 42 52.8**	**-0.9**
E07A	**Sunnyside**	**5.61**	**118**	*e*Pn	**Pn**	**19 42 54.1**	**-1.8**
BLBC	**Blue River**	**5.63**	**59**	P	**Pn**	**19 42 56.0**	**-0.4**
BLBC				Sg	**Sg**	**19 44 29.3**	**-4.6**
G05D	**Wamic, OR**	**5.70**	**135**	P	**Pn**	**19 42 56.9**	**-0.2**
	baz=318,SNR=52						
VGB	**Gordon Butte**	**5.76**	**130**	*e*P	**Pn**	**19 42 59.5**	**+1.5**
VGB	**Gordon Butte**	**5.76**	**130**	*e*Pn	**Pn**	**19 42 59.5**	**+1.5**
NDB	**Naden**	**5.85**	**324**	P	**Pn**	**19 42 55.8**	**-3.5**
NDB				S	**Sn**	**19 43 58.9**	**-7.1**
DOWB	**Downie Slide**	**5.86**	**65**	P	**Pn**	**19 42 58.3**	**-1.1**
DOWB				Sg	**Sg**	**19 44 36.6**	**-4.5**
HAWA	**Hanford**	**5.88**	**118**	*e*Pn	**Pn**	**19 42 57.9**	**-1.8**
D08A	**Wollman Farm,**	**5.92**	**110**	*e*Pn	**Pn**	**19 42 57.9**	**-2.3**
TCBU	**Trout Butte**	**5.97**	**148**	*e*Pn	Pn	19 43 07.2	+6.2
G06A	**Carlson Farm,**	**6.03**	**131**	*e*Pn	**Pn**	**19 43 01.0**	**-0.7**
MNB	**Mounoet Dainar**	**6.18**	**60**	P	**Pn**	**19 43 03.7**	**-0.3**
MNB				Sg	**Sg**	**19 44 49.1**	**-2.3**
I03D	**Drain, OR**	**6.24**	**154**	P	**Pn**	**19 43 04.1**	**-0.5**
	baz=336,SNR=131						
PRLK	**Prince Lake**	**6.25**	**144**	*e*Pn	**Pn**	**19 43 05.0**	**+0.2**
IRQ	**Indian Ridge**	**6.32**	**147**	*e*Pn	**Pn**	**19 43 07.3**	**+1.5**
I05D	**Terrebonne, OR**	**6.40**	**140**	P	**Pn**	**19 43 06.3**	**-0.5**
	baz=323,SNR=80						
WIFE	**Three Sisters-**	**6.43**	**144**	*e*Pn	**Pn**	**19 43 07.7**	**+0.2**
I04A	**Tendick Farm,**	**6.45**	**148**	P	**Pn**	**19 43 07.3**	**-0.2**
	baz=331						
E09A	**Wood Farm, Sta**	**6.64**	**112**	*e*Pn	**Pn**	**19 43 07.8**	**-2.3**
I56US	**NEWPORT INFRAS**	**6.66**	**96**	Pn	Pn	19 43 03.7	-6.7
	baz=294,slow=26,SNR=4.9						
I56US				*i*		20 09 10.0	
	baz=296,slow=304,SNR=0.1						
NEW	**Newport**	**6.66**	**96**	Pn	**Pn**	**19 43 09.5**	**-0.9**
	36nm,0.3s,baz=294,slow=12,SNR=166						
NEW				Sn	Sn	19 44 36.2	+10
	30nm,0.3s,baz=222,slow=15,SNR=3.2						
NEW				Lg	Lg	19 45 02.3	
	32nm,0.3s,baz=275,slow=14,SNR=6.0						
NEW				LR	LR	19 45 36.8	
	comp=Z,156μm,21.0s,baz=280,slow=37						
NEW	**Newport**	**6.66**	**96**	P	**Pn**	**19 43 08.8**	**-1.6**
	baz=283						
NEW	**Newport**	**6.66**	**96**	*e*Pn	**Pn**	**19 43 08.6**	**-1.8**
NEW				Sn	Sn	19 44 36.2	+10
KEBM	**Edson Butte**	**6.79**	**163**	*e*Pn	**Pn**	**19 43 12.2**	**+0.1**
DBO	**Dodson Butte**	**6.81**	**156**	*e*Pn	**Pn**	**19 43 12.9**	**+0.5**
J04D	**Umpqua Nationa**	**7.04**	**149**	P	**Pn**	**19 43 15.6**	**-0.1**
	baz=332,SNR=84						
CRAG	**Craig**	**7.12**	**331**	*e*Pn	**Pn**	**19 43 14.1**	**-2.5**
J05D	**Fort Rock, OR**	**7.32**	**144**	P	**Pn**	**19 43 19.1**	**-0.4**
	baz=328,SNR=213						
HUMO	**Hull Mountain**	**7.36**	**156**	*e*Pn	**Pn**	**19 43 21.1**	**+1.1**
KBO	**Bosley Butte**	**7.45**	**164**	*e*Pn	**Pn**	**19 43 22.7**	**+1.5**
F10A	**Beach Ranch, E**	**7.47**	**114**	*e*Pn	**Pn**	**19 43 19.3**	**-2.2**
WAPA	**Wapiti River**	**7.52**	**37**	Sg		19 45 27.3	
L02D	**Cave Junction,**	**7.62**	**160**	P	**Pn**	**19 43 23.6**	**0.0**
	baz=342,SNR=85						
K04D	**Chiloquin, OR**	**7.71**	**149**	P	**Pn**	**19 43 24.3**	**-0.6**
	baz=332,SNR=55						
WRAK	**Wrangell Islan**	**7.73**	**338**	*e*Pn	**Pn**	**19 43 23.5**	**-1.4**
K05A	**Summer Lake**	**7.92**	**145**	*e*Pn	**Pn**	**19 43 25.5**	**+0.6**
BMO	**Blue Mountains**	**8.05**	**121**	*e*P	**Pn**	**19 43 28.1**	**-1.5**
BMO	**Blue Mountains**	**8.05**	**121**	*e*Pn	**Pn**	**19 43 28.1**	**-1.5**
KRMB	**Red Mountain**	**8.17**	**163**	*e*Pn	**Pn**	**19 43 32.5**	**+1.3**
BHMT	**Big Hole Peak**	**8.19**	**98**	P	**Pn**	**19 43 29.4**	**-2.1**
YBH	**Yreka Blue Hor**	**8.24**	**157**	*e*P	**Pn**	**19 43 33.9**	**+1.8**
YBH	**Yreka Blue Hor**	**8.24**	**157**	*e*Pn	**Pn**	**19 43 33.9**	**+1.8**
BSMT	**Bassoo Peak**	**8.28**	**96**	P	**Pn**	**19 43 31.4**	**-1.4**
BSMT	**Bassoo Peak**	**8.28**	**96**	*e*Pn	**Pn**	**19 43 30.9**	**-1.9**
PRDA	**Priddis**	**8.34**	**75**	P	**Pn**	**19 43 34.7**	**+1.2**
M04C	**Macdoel**	**8.44**	**152**	P	**Pn**	**19 43 35.8**	**+0.9**
	baz=335,SNR=102						
BLMT	**Blacktail Moun**	**8.52**	**95**	*e*Pn	**Pn**	**19 43 34.1**	**-1.9**
M02C	**Callahan**	**8.53**	**158**	P	**Pn**	**19 43 37.2**	**+1.1**
	baz=340,SNR=409						
WALA	**Waterton Lakes**	**8.62**	**87**	P	**Pn**	**19 43 37.3**	**-0.1**
WALA				Sg		19 46 02.4	
WALA	**Waterton Lakes**	**8.62**	**87**	*e*Pn	**Pn**	**19 43 36.4**	**-0.9**
JTMT	**Jette**	**8.64**	**96**	P	**Pn**	**19 43 36.6**	**-1.0**
JTMT	**Jette**	**8.64**	**96**	*e*Pn	**Pn**	**19 43 35.6**	**-2.0**
FBMT	**Ferry Basin**	**8.64**	**98**	P	**Pn**	**19 43 36.5**	**-1.2**
FBMT				Sg		19 46 02.5	
YBMT	**Yellow Bay**	**8.78**	**95**	P	**Pn**	**19 43 38.8**	**-0.8**
YBMT	**Yellow Bay**	**8.78**	**95**	*e*Pn	**Pn**	**19 43 37.3**	**-2.2**
KHMM	**Horse Mountain**	**8.83**	**163**	*e*Pn	**Pn**	**19 43 42.9**	**+2.6**
JCC	**Jacoby Creek,**	**8.84**	**165**	*e*Pn	**Pn**	**19 43 41.6**	**+1.5**
MOD	**Modoc Plateau**	**8.86**	**145**	*e*Pn	**Pn**	**19 43 41.2**	**+0.6**
SWMT	**Swartz Lake**	**8.89**	**97**	P	**Pn**	**19 43 39.1**	**-1.9**
SWMT				Sg		19 46 12.7	
SWMT	**Swartz Lake**	**8.89**	**97**	*e*Pn	**Pn**	**19 43 38.5**	**-2.5**
N02D	**Trinity Center**	**8.96**	**158**	P	**Pn**	**19 43 43.3**	**+1.4**
	baz=341,SNR=742						
WVOR	**Wild Horse Val**	**9.10**	**137**	*e*P	**Pn**	**19 43 43.6**	**-0.3**
WVOR	**Wild Horse Val**	**9.10**	**137**	*e*Pn	**Pn**	**19 43 43.6**	**-0.3**
MSO	**Missoula**	**9.15**	**101**	P	**Pn**	**19 43 42.1**	**-2.4**
	baz=291						
MSO	**Missoula**	**9.15**	**101**	*e*Pn	**Pn**	**19 43 41.5**	**-3.1**
DLBC	**Dease Lake**	**9.23**	**350**	Pn	**Pn**	**19 43 47.7**	**+2.1**
	4.8nm,0.

MLI Malad Range 12.76 120 ePn Pn 19 44 36.2 +2.1
RLMT Red Lodge 12.82 103 P Pn 19 44 33.5 -1.4
baz=296
RLMT Red Lodge 12.82 103 ePn Pn 19 44 33.0 -1.8
BEI Bear River Ran 12.90 119 ePn Pn 19 44 38.7 +2.8
HYT Haines Junctio 12.90 337 P Pn 19 44 37.1 +1.3
HYT Sg 19 48 22.1
HYT Haines Junctio 12.90 337 ePn Pn 19 44 36.1 +0.3
LTU Little Mountai 12.98 121 ePn Pn 19 44 38.2 +1.2
BGU Big Grassy Mou 13.01 125 ePn Pn 19 44 39.0 +1.5
CSR Chase Ranch 13.05 160 ePn Pn 19 44 40.0 +2.2
SPUT South Promonto 13.06 120 ePn Pn 19 44 39.8 +1.6
HDU Hyde Park 13.11 120 ePn Pn 19 44 41.0 +2.2
WVUT Wellsville 13.13 121 ePn Pn 19 44 40.7 +1.6
HONU Honeyville 13.15 121 ePn Pn 19 44 39.8 +0.5
MLAC Mammoth, Mammo 13.17 150 P Pn 19 44 43.3 +3.5
baz=335
YUK6 Outpost Mounta 13.23 335 Sg 19 48 36.5
GZU Grizzly Peak 13.24 121 ePn Pn 19 44 41.9 +1.2
YUK5 Granite Creek 13.25 337 P Pn 19 44 41.9 +1.2
YUK5 Sg S 19 48 27.1 +55
SAO San Andreas Ge 13.26 160 eP Pn 19 44 42.8 +2.0
SAO San Andreas Ge 13.26 160 ePn Pn 19 44 42.7 +1.9
BVYM Vineyard 13.29 160 ePn Pn 19 44 43.2 +2.1
SNUT Stansbury Nort 13.32 124 ePn Pn 19 44 41.8 +0.1
HWUT Hardware Ranch 13.35 120 ePn Pn 19 44 43.4 +1.3
EMT Emmet 13.44 159 ePn Pn 19 44 45.1 +1.9
MCU Monte Cristo P 13.48 120 ePn Pn 19 44 45.9 +1.9
FPU Francis Peak 13.59 122 ePn Pn 19 44 46.4 +0.9
SBT San Benito 13.59 159 ePn Pn 19 44 48.0 +2.7
DUG Dugway, Tooele 13.65 127 P Pn 19 44 48.0 +1.8
baz=317
DUG Dugway, Tooele 13.65 127 eP Pn 19 44 45.8 -0.4
DUG Dugway, Tooele 13.65 127 ePn Pn 19 44 45.8 -0.4
NOQ North Oquirrh 13.69 124 ePn Pn 19 44 47.1 +0.4
FSU Fish Springs 13.71 130 ePn Pn 19 44 46.3 -0.7
RBU Red Butte Cany 13.77 123 ePn Pn 19 44 48.6 +0.8
R11A Troy Canyon, C 13.78 139 P Pn 19 44 49.7 +1.7
baz=327
R11A Troy Canyon, C 13.78 139 ePn Pn 19 44 48.7 +0.8
BW06 Boulder Array 13.82 112 P Pn 19 44 49.4 +0.8
baz=304
BW06 Boulder Array 13.82 112 ePn Pn 19 44 49.1 +0.5
PD31 Pinedale Array 13.82 112 ePn Pn 19 44 49.0 +0.4
PDAR Pinedale Array 13.82 112 Pn Pn 19 44 49.9 +1.3
2.0nm,0.3s,baz=304,slow=11,SNR=352
PDAR Lg Lg 19 48 47.1
baz=314,slow=15,SNR=4.2
PDAR LR LR 19 50 25.1
comp=Z,209µm,19.8s,baz=314,slow=39
PDAR P3KPbc 20 20 51.1
0.1nm,0.3s,baz=121,slow=3.5,SNR=5.4
TIN Tinemaha, Big 13.89 149 P Pn 19 44 52.7 +3.2
baz=335
N16A Rees Ranch, Co 13.90 122 ePn Pn 19 44 51.0 +1.3
PMPB Monarch Peak 13.94 159 ePn Pn 19 44 51.7 +1.6
GMU Granite Mounta 13.94 123 ePn Pn 19 44 50.8 +0.6
RCJ Ross Creek 14.06 122 ePn Pn 19 44 52.9 +1.0
JLU Jordanelle 14.09 123 ePn Pn 19 44 53.5 +1.2
KLJ Keetly 14.10 122 ePn Pn 19 44 53.4 +1.0
HLJ Hailstone 14.12 123 ePn Pn 19 44 53.6 +1.0
CTGM Chitina Glacie 14.13 331 P Pn 19 44 55.1 +2.5
HTU Hoyt Peak 14.17 122 ePn Pn 19 44 54.6 +1.2
LAO LASA Array 14.20 93 P Pn 19 44 51.8 -1.7
baz=288
LAO LASA Array 14.20 93 ePn Pn 19 44 51.5 -2.1
NLU North Lily Min 14.21 126 ePn Pn 19 44 54.8 +0.9
GRAC Grapevine Rang 14.25 147 P Pn 19 44 57.0 +2.7
baz=333
WMUT West Mountain 14.26 125 ePn Pn 19 44 54.7 +0.2
RCTC Rector, Farmer 14.27 154 P Pn 19 44 56.0 +1.5
baz=338
MPU Maple Canyon 14.40 125 ePn Pn 19 44 57.4 +0.8
PSUT Pine Spring 14.41 134 ePn Pn 19 44 56.9 +0.3
YUK3 Moose Creek 14.50 334 P Pn 19 44 58.4 +0.7
CWC Cottonwood Cre 14.50 150 P Pn 19 45 00.8 +2.9
baz=336
BALM Baldy 14.52 329 P Pn 19 44 58.1 +0.2
BALM Baldy 14.52 329 eP Pn 19 44 57.7 -0.2
BALM Baldy 14.52 329 ePn Pn 19 44 56.4 -1.5
PAGB Antelope Grade 14.53 157 ePn Pn 19 44 60.0 +1.8
BLDC Black Mountain 14.56 160 ePn Pn 19 45 00.4 +1.8
FLU Fool Peak 14.59 128 ePn Pn 19 44 58.9 -0.2
CRQM Cirque 14.59 327 ePn Pn 19 44 57.3 -1.7
YUK2 White River 14.62 333 P Pn 19 45 00.6 +1.3
IMU Iron Mountain 14.66 132 ePn Pn 19 44 59.8 -0.3
LEVU Levan 14.68 127 ePn Pn 19 45 00.3 +0.1
TPNV Topopah Spring 14.71 144 P Pn 19 45 02.5 +1.9
baz=331
TPNV Topopah Spring 14.71 144 eP Pn 19 45 02.2 +1.6
TPNV Topopah Spring 14.71 144 ePn Pn 19 45 02.2 +1.6
YKR1 Yellowknife Ar 14.74 23 P Pn 19 44 57.8 -3.1
YKR1 Sg 19 49 18.3
VES Vestal, Richgr 14.75 154 P Pn 19 45 02.6 +1.6
baz=339
YKB1 Yellowknife Ar 14.76 23 P Pn 19 44 57.2 -3.7
YKR2 Yellowknife Ar 14.76 23 P Pn 19 44 57.6 -3.4
YKR3 Yellowknife Ar 14.77 23 P Pn 19 44 57.5 -3.7
YKR3 Sg 19 49 19.2
YKB2 Yellowknife Ar 14.77 23 P Pn 19 44 57.0 -4.2
YKR4 Yellowknife Ar 14.78 23 P Pn 19 44 58.4 -2.9
YKB3 Yellowknife Ar 14.79 23 P Pn 19 44 57.8 -3.8
YKR5 Yellowknife Ar 14.79 23 P Pn 19 44 58.3 -3.2
YKR6 Yellowknife Ar 14.81 23 P Pn 19 44 58.5 -3.2
YKB4 Yellowknife Ar 14.81 23 P Pn 19 44 58.2 -3.6
DAC Darwin (Calif) 14.81 149 eP Pn 19 45 04.3 +2.2
DAC Darwin (Calif) 14.81 149 ePn Pn 19 45 04.3 +2.2
YKR7 Yellowknife Ar 14.82 23 P Pn 19 44 58.8 -3.2
YUK1 Sand Pete Hill 14.82 335 P Pn 19 45 03.3 +1.2
YKA Yellowknife Ar 14.83 23 Pn Pn 19 44 58.5 -3.5
2.5nm,0.3s,baz=220,slow=14,SNR=30
YKA Sn Sn 19 47 39.8 -6.0
0.5nm,0.3s,baz=206,slow=17,SNR=3.1
YKA Lg Lg 19 49 12.3
1.0nm,0.3s,baz=214,slow=23,SNR=3.2
YKA LR LR 19 51 16.5
comp=Z,10µm,20.3s,baz=180,slow=39
YKB5 Yellowknife Ar 14.83 23 ePn Pn 19 44 55.5 -6.5
YKR8 Yellowknife Ar 14.83 23 P Pn 19 44 58.7 -3.3
YKR9 Yellowknife Ar 14.84 23 P Pn 19 44 59.0 -3.2
YKB6 Yellowknife Ar 14.85 23 P Pn 19 44 58.9 -3.4
YKB7 Yellowknife Ar 14.87 23 P Pn 19 44 58.9 -3.6
YKW3 Yellowknife Ar 14.88 23 P Pn 19 44 59.0 -3.8
YKW3 Sg 19 49 19.7
YKW3 Yellowknife Ar 14.88 23 ePn Pn 19 44 56.7 -6.0
YKB8 Yellowknife Ar 14.89 23 P Pn 19 44 59.1 -3.7
YKB8 Sg 19 49 19.2
FURC Furnace Creek, 14.90 146 P Pn 19 45 06.0 +2.9
baz=333
ELU Electric Lake 14.90 125 ePn Pn 19 45 04.0 +0.5
YKB9 Yellowknife Ar 14.91 23 P Pn 19 44 59.2 -3.8
YKB0 Yellowknife Ar 14.93 23 P Pn 19 44 59.5 -3.8
WCU Willow Creek 14.94 129 ePn Pn 19 45 03.7 -0.2
SNO Snow College 14.96 126 ePn Pn 19 45 04.4 +0.1
SMMC Simmler 14.99 157 P Pn 19 45 06.7 +2.3
baz=342
MID Middleton Isla 15.01 319 eP Pn 19 45 04.1 -0.2
MID Middleton Isla 15.01 319 ePn Pn 19 45 02.6 -1.8
SGU Sterling 15.01 127 ePn Pn 19 45 04.9 +0.1
TCRU Three Creeks R 15.03 130 ePn Pn 19 45 05.4 +0.3
6µm,1.8s
MPMC Manual Prospec 15.05 149 P Pn 19 45 08.0 +2.7
baz=335
DGMT Dagmar 15.05 85 P Pn 19 45 02.4 -2.7
baz=282
DGMT Dagmar 15.05 85 ePn Pn 19 45 01.7 -3.4
ISA Isabella, Lake 15.09 152 P Pn 19 45 08.1 +2.3
baz=338
ISA Isabella, Lake 15.09 152 eP Pn 19 45 07.7 +1.9
ISA pmax pmax
comp=Z,2µm,1.3s
ISA Isabella, Lake 15.09 152 ePn Pn 19 45 07.7 +1.9
comp=Z,2µm,1.3s
ARGU Argyle Ridge 15.13 123 ePn Pn 19 45 07.8 +1.3
TMUT Trail Mountain 15.15 126 ePn Pn 19 45 06.9 +0.2
comp=Z,4µm,1.7s
DWU Dry Willow Pea 15.15 133 ePn Pn 19 45 06.9 +0.1
ARUT Antelope Range 15.20 135 eP Pn 19 45 07.8 +0.5
ARUT Antelope Range 15.20 135 ePn Pn 19 45 07.8 +0.5
DCM Dugout Coal Mi 15.20 123 ePn Pn 19 45 08.6 +1.2
CLC China Lake 15.23 149 eP Pn 19 45 10.3 +2.7
CLC China Lake 15.23 149 ePn Pn 19 45 10.3 +2.7

MSU Marysvale 15.24 130 eP Pn 19 45 08.4 +0.6
MSU Marysvale 15.24 130 ePn Pn 19 45 07.9 +0.1
BMRM Bremner River 15.26 326 ePn Pn 19 45 06.1 -1.7
comp=Z,3µm,1.7s
OWUT Old Woman Plat 15.42 128 ePn Pn 19 45 10.7 +0.4
EYAK Cordova Ski Ar 15.42 323 ePn Pn 19 45 08.5 -1.4
comp=Z,5µm,1.8s
CCUT Cedar City 15.43 135 ePn Pn 19 45 09.5 -0.8
comp=Z,3µm,2.0s
P18A Preston Nutter 15.43 123 ePn Pn 19 45 11.2 +0.7
comp=Z,4µm,1.3s
PKM Mcpherson Peak 15.44 157 P Pn 19 45 12.6 +2.1
baz=342
ARVC Arvin 15.48 154 P Pn 19 45 12.5 +1.7
baz=339
ICU Indian Springs 15.50 137 ePn Pn 19 45 12.8 +1.5
LRMC Laurel Mtn Rad 15.51 150 P Pn 19 45 13.9 +2.5
baz=336
SZCU Shurtz Canyon 15.52 134 ePn Pn 19 45 11.4 -0.1
comp=Z,2µm,1.5s
SHPR Sheep Range 15.52 142 ePn Pn 19 45 12.5 +1.0
comp=Z,2µm,1.7s
MTPU Mount Pierson 15.60 131 ePn Pn 19 45 13.4 +0.7
comp=Z,4µm,1.6s
SHOC Shoshone, Teco 15.62 146 P Pn 19 45 14.6 +2.0
baz=333
SRU San Rafael Swe 15.65 125 eP Pn 19 45 13.7 +0.5
SRU pmax pmax
comp=Z,5µm,1.4s
SRU San Rafael Swe 15.65 125 ePn Pn 19 45 13.7 +0.5
comp=Z,5µm,1.4s
K22A Casper 15.75 108 P Pn 19 45 12.5 -2.0
baz=302
K22A Casper 15.75 108 ePn Pn 19 45 12.1 -2.4
comp=Z,2µm,1.5s
DIV Divide 15.80 325 P Pn 19 45 14.8 0.0
DIV Divide 15.80 325 ePn Pn 19 45 13.4 -1.4
comp=Z,3µm,1.6s
FID Port Fidalgo 15.83 323 ePn Pn 19 45 14.2 -1.0
comp=Z,4µm,1.9s
SBC Santa Barbara 15.89 157 P Pn 19 45 18.3 +2.2
baz=342
LCMT Little Creek M 15.92 136 ePn Pn 19 45 16.8 +0.2
comp=Z,3µm,1.4s
MMU Miners Mountai 15.93 129 ePn Pn 19 45 17.7 +0.9
EDW2 Edwards Air Fo 15.96 152 P Pn 19 45 18.9 +1.8
baz=338
GSC Goldstone, Bar 15.97 148 P Pn 19 45 19.8 +2.7
baz=335
GSC Goldstone, Bar 15.97 148 eP Pn 19 45 19.5 +2.3
GSC pmax pmax
comp=Z,3µm,1.4s
GSC Goldstone, Bar 15.97 148 ePn Pn 19 45 19.4 +2.3
comp=Z,3µm,1.4s
OSI Osito Audit: C 15.99 154 P Pn 19 45 19.3 +1.8
baz=340
OSI Osito Audit: C 15.99 154 ePn Pn 19 45 19.0 +1.5
comp=Z,2µm,1.6s
PKCU Pink Cliffs 16.01 133 ePn Pn 19 45 18.9 +1.0
comp=Z,7µm,1.8s
BLKC Black Mountain 16.02 149 ePn Pn 19 45 20.6 +2.8
KNB Kanab 16.11 135 eP Pn 19 45 19.3 +0.2
KNB pmax pmax
comp=Z,3µm,1.8s
KNB Kanab 16.11 135 ePn Pn 19 45 19.3 +0.2
comp=Z,3µm,1.8s
DAWY Dawson 16.14 340 P Pn 19 45 20.1 +0.9
DAWY Dawson 16.14 340 ePn Pn 19 45 19.3 +0.1
comp=Z,2µm,1.1s
TUQ Turquoise Moun 16.16 145 P Pn 19 45 21.6 +1.9
baz=333
TUQ Turquoise Moun 16.16 145 ePn Pn 19 45 21.6 +1.9
EKU East Kanab 16.22 134 ePn Pn 19 45 22.0 +1.6
O20A White River Ci 16.22 118 P Pn 19 45 20.5 0.0
baz=311
O20A White River Ci 16.22 118 ePn Pn 19 45 20.1 -0.4
comp=Z,15µm,1.9s
FFC Flin Flon 16.28 61 eP Pn 19 45 14.6 -6.4
FFC pmax pmax
comp=Z,1µm,1.1s
FFC Flin Flon 16.28 61 ePn Pn 19 45 14.6 -6.4
comp=Z,1µm,1.1s
RRX Edison Barstow 16.29 149 P P 19 45 24.0 -0.2
baz=336
BSC Santa Cruz Isl 16.34 158 P Pn 19 45 23.1 +1.3
baz=342
MENT Mentasta 16.36 332 ePn Pn 19 45 21.4 -0.7
comp=Z,1µm,1.4s
BLG Laguna Peak, P 16.38 156 P Pn 19 45 23.6 +1.3
baz=341
HARP HAARP 16.44 329 P Pn 19 45 23.8 +0.9
HARP HAARP 16.44 329 ePn Pn 19 45 22.9 0.0
comp=Z,3µm,1.5s
DECC Green Verdugo 16.45 154 P Pn 19 45 24.3 +1.1
baz=339
MWC Mount Wilson 16.55 153 eP Pn 19 45 25.9 +1.1
MWC pmax pmax
comp=Z,2µm,1.4s
MWC Mount Wilson 16.55 153 ePn Pn 19 45 25.9 +1.1
comp=Z,2µm,1.4s
HEC Hector,Ludlow 16.56 147 P Pn 19 45 26.9 +2.2
baz=334
HEC Hector,Ludlow 16.56 147 ePn Pn 19 45 27.0 +2.2
PASC Pasadena Art C 16.57 153 ePn Pn 19 45 25.9 +1.2
comp=Z,2µm,1.6s
RSSD Black Hills 16.61 100 P Pn 19 45 21.6 -3.9
baz=296
RSSD Black Hills 16.61 100 eP Pn 19 45 22.1 -3.4
RSSD pmax pmax
comp=Z,360nm,1.0s
RSSD Black Hills 16.61 100 ePn Pn 19 45 21.3 -4.2
comp=Z,360nm,1.0s
BFSC Mount Baldy Ra 16.66 152 P Pn 19 45 27.8 +1.8
baz=338
LDFC Landfair 16.79 144 ePn Pn 19 45 27.9 +0.3
comp=Z,4µm,1.4s
SCM Sheep Creek Mo 16.82 325 eP Pn 19 45 27.8 -0.1
SCM pmax pmax
comp=Z,4µm,1.5s
SCM Sheep Creek Mo 16.82 325 ePn Pn 19 45 27.7 -0.2
comp=Z,4µm,1.5s
U15A North Rim 16.84 135 ePn Pn 19 45 29.3 +0.8
comp=Z,3µm,1.5s
GMRC Granite Mounta 16.84 146 P Pn 19 45 30.0 +1.7
baz=333
PV09 Paradox Valley 16.84 124 ePn Pn 19 45 28.2 -0.3
BBRC Big Bear Solar 16.87 150 P Pn 19 45 30.6 +1.7
baz=338
PAX Paxson 16.94 330 P Pn 19 45 29.9 +0.6
PAX Paxson 16.94 330 eP Pn 19 45 29.2 -0.1
PAX pmax pmax
comp=Z,3µm,1.9s
PAX Paxson 16.94 330 ePn Pn 19 45 29.2 -0.1
comp=Z,3µm,1.9s
FMP Fort Macarthur 16.96 154 P Pn 19 45 31.1 +1.4
baz=340
PV10 Paradox Valley 16.98 124 ePn Pn 19 45 30.8 +0.6
DOT Dot Lake 17.00 334 P Pn 19 45 31.0 +0.9
DOT Dot Lake 17.00 334 ePn Pn 19 45 29.9 -0.2
comp=Z,12µm,2.0s
PV04 Paradox Valley 17.04 123 ePn Pn 19 45 30.8 -0.1
SNCC San Nicolas Is 17.08 158 P Pn 19 45 32.4 +1.2
baz=343
SNCC San Nicolas Is 17.08 158 ePn Pn 19 45 32.2 +1.1
comp=Z,4µm,1.5s
N23A Red Feather La 17.11 112 P Pn 19 45 30.6 -1.3
baz=307
N23A Red Feather La 17.11 112 ePn Pn 19 45 30.1 -1.8
comp=Z,2µm,1.5s
EGAK Eagle 17.15 339 ePn Pn 19 45 31.9 -0.1
comp=Z,4µm,1.6s
PHWY Pilot Hill 17.16 110 ePn Pn 19 45 30.2 -2.3
comp=Z,833nm,1.1s
PV05 Paradox Valley 17.17 124 ePn Pn 19 45 32.5 0.0
BRLK Bradley Lake 17.18 316 ePn Pn 19 45 31.5 -0.8
comp=Z,6µm,1.8s
SML Sawmill 17.19 324 eP Pn 19 45 32.2 -0.2
SML pmax pmax
comp=Z,3µm,1.8s
SML Sawmill 17.19 324 ePn Pn 19 45 32.0 -0.4
comp=Z,3µm,1.8s
CIS Catalina Islan 17.22 155 P Pn 19 45 34.0 +1.0
baz=340
CNPM China Poot 17.23 315 ePn Pn 19 45 31.8 -1.2
comp=Z,5µm,1.8s
KDAK Kodiak Island 17.23 309 eP Pn 19 45 32.3 -0.7
KDAK Kodiak Island 17.23 309 ePn Pn 19 45 32.3 -0.7

NEE2 Needles Airpor 17.25 143 P Pn 19 45 34.5 +1.2
baz=331
W13A Hualapai Mount 17.26 141 ePn Pn 19 45 34.0 +0.3
comp=Z,4µm,2.0s
DEVC Devers 17.29 149 eSn Sn 19 48 45.9 +0.1
TPC Twentynine Pal 17.31 148 ePn P 19 45 36.1 +0.5
RC01 Rabbit Creek A 17.33 321 ePn Pn 19 45 33.3 -0.9
comp=Z,2µm,1.6s
HMTC Hemet 17.36 151 ePn P 19 45 36.6 +0.6
PMR Palmer 17.37 323 eP Pn 19 45 34.6 0.0
PMR pmax pmax
comp=Z,6µm,2.0s
PMR Palmer 17.37 323 ePn Pn 19 45 34.1 -0.5
comp=Z,6µm,2.0s
MURC Murrieta 17.40 151 P P 19 45 36.9 +0.5
baz=338
DGR Domenigoni Val 17.41 151 ePn P 19 45 37.3 +0.7
PV01 Paradox Valley 17.41 123 ePn Pn 19 45 35.0 -0.6
BELC Belle Mtn. Jos 17.42 148 P P 19 45 37.6 +0.7
baz=335
BELC Belle Mtn. Jos 17.42 148 ePn P 19 45 37.7 +0.8
OHAK Old Harbor 17.44 307 ePn Pn 19 45 34.7 -0.8
comp=Z,4µm,1.6s
HOM Homer 17.47 315 ePn Pn 19 45 36.1 +0.2
comp=Z,7µm,1.6s
SCI San Clemente I 17.58 156 P P 19 45 39.3 +0.8
baz=341
SMCO Snowmass 17.59 118 ePn Pn 19 45 37.0 -0.9
comp=Z,7µm,1.9s
IRM Iron Mountain 17.59 145 P P 19 45 39.4 +0.8
baz=333
PFO Pinyon Flats O 17.62 150 P P 19 45 39.7 +0.7
comp=Z,2.0nm,0.3s,baz=342,slow=11,SNR=99
PFO S Sn 19 48 53.1 -0.9
comp=Z,0.3nm,0.3s,baz=333,slow=11,SNR=3.7
PFO LR LR 19 53 16.8
comp=Z,125µm,18.2s,baz=334,slow=40
PFO Pinyon Flats O 17.62 150 eP P 19 45 40.1 +1.0
baz=336
TPFO Pinon Flats 17.63 150 P P 19 45 39.9 +0.8
baz=336
DHY Denali Highway 17.64 329 ePn Pn 19 45 38.1 -0.1
comp=Z,1µm,1.4s
FRD Ford Ranch, An 17.68 150 ePn P 19 45 40.8 +1.1
CLVN Colville Lake 17.71 1 P Pn 19 45 38.4 -0.4
CTW Cottonwood Mou 17.76 148 ePn Pn 19 45 40.6 +0.9
HAY Hayfield 17.80 147 eP Pn 19 45 40.6 +0.4
HAY Hayfield 17.80 147 ePn Pn 19 45 40.6 +0.4
PDMCI Parker Dam,Lak 17.84 143 P Pn 19 45 42.0 +1.3
baz=331
BC3 Big Chuckawall 17.93 147 P P 19 45 43.8 +1.4
baz=334
SUA Susitna One 17.95 321 ePn Pn 19 45 41.4 -0.5
comp=Z,1µm,1.6s
ISCO Idaho Springs 17.98 114 P Pn 19 45 42.3 -0.4
baz=309
ISCO Idaho Springs 17.98 114 eP Pn 19 45 42.1 -0.6
ISCO pmax pmax
comp=Z,4µm,1.8s
ISCO Idaho Springs 17.98 114 ePn Pn 19 45 41.9 -0.8
comp=Z,4µm,1.8s
WUAZ Wupatki 18.01 134 P Pn 19 45 43.8 +0.9
baz=325
WUAZ Wupatki 18.01 134 ePn Pn 19 45 43.4 +0.5
comp=Z,2µm,1.5s
109C Camp Elliot, M 18.08 152 P P 19 45 45.7 +1.7
baz=338
DHRN Dharma Camp 18.11 10 P Pn 19 45 41.9 -1.8
MVCO Mesa Verde 18.13 125 P Pn 19 45 44.6 +0.2
baz=318
MVCO Mesa Verde 18.13 125 ePn Pn 19 45 44.4 -0.1
comp=Z,5µm,1.4s
Y12C Blythe 18.18 145 P P 19 45 46.7 +1.6
baz=333
Y12C Blythe 18.18 145 ePn P 19 45 46.3 +1.2
comp=Z,1µm,1.4s
MDND Maddock 18.19 84 P Pn 19 45 42.6 -2.3
baz=285
MDND Maddock 18.19 84 ePn Pn 19 45 42.0 -2.9
comp=Z,5µm,1.7s
MONP Monument Peak, 18.29 150 P P 19 45 48.8 +2.2
baz=337
RSO Redoubt South 18.32 317 eP Pn 19 45 46.4 -0.2
SPU Mount Spurr 18.35 319 eP Pn 19 45 46.5 -0.3
RND Reindeer 18.37 328 eP Pn 19 45 47.6 +0.6
RND pmax pmax
comp=Z,2µm,1.5s
RND Reindeer 18.37 328 eP Pn 19 45 47.6 +0.6
comp=Z,2µm,1.5s
BAR Barrett 18.41 151 eP Pn 19 45 49.6 +1.9
comp=Z,2µm,1.4s
HDA Harding Lake 18.43 332 eP P 19 45 47.8 +0.2
comp=Z,1µm,1.5s
SWSC Sam W. Stewart 18.45 149 P Pn 19 45 49.8 +1.6
baz=336
MCK McKinley 18.61 329 eP P 19 45 50.1 +0.5
MCK pmax pmax
comp=Z,2µm,1.4s
MCK McKinley 18.61 329 eP P 19 45 50.1 +0.5
comp=Z,2µm,1.4s
IKP In-Ko-Pah, Jac 18.62 150 P Pn 19 45 52.3 +2.0
baz=337
Y14A Wickenburg 18.62 141 eP Pn 19 45 51.4 +1.1
comp=Z,7µm,1.6s
S22A 4UR Ranch, Cre 18.65 121 P P 19 45 51.0 +0.4
baz=315
S22A 4UR Ranch, Cre 18.65 121 eP P 19 45 50.1 -0.4
comp=Z,3µm,1.4s
IL1 Eielson Array 18.67 333 eP P 19 45 49.1 -1.2
ILAR Eielson Array 18.67 333 P P 19 45 50.4 +0.2
comp=Z,2.2nm,0.3s,baz=146,slow=8.4,SNR=358
ILAR Lg Lg 19 51 21.9
baz=126,slow=25,SNR=4.7
ILAR LR LR 19 53 13.0
comp=Z,133µm,18.3s,baz=144,slow=38
ILB Eielson Array 18.67 333 eP P 19 45 50.4 +0.2
YUH Yuha Desert 18.68 149 eP Pn 19 45 52.6 +1.7
GLA Glamis 18.70 146 P Pn 19 45 52.7 +1.5
baz=334
GLA Glamis 18.70 146 eP Pn 19 45 52.5 +1.3
GLA pmax pmax
comp=Z,2µm,1.8s
GLA Glamis 18.70 146 eP Pn 19 45 52.5 +1.3
comp=Z,2µm,1.8s
Q24A Divide 18.79 115 P P 19 45 53.0 +0.8
baz=311
Q24A Divide 18.79 115 eP P 19 45 52.5 +0.4
comp=Z,2µm,1.6s
WRH Wood River Hil 18.82 331 eP P 19 45 52.2 +0.3
comp=Z,2µm,1.3s
CCB Clear Creek Bu 18.86 332 eP P 19 45 52.0 -0.3
comp=Z,3µm,1.8s
X16A Lo Mia Camp, P 18.89 137 eP Pn 19 45 55.0 +1.3
comp=Z,2µm,1.7s
TRF Thorofare Moun 18.90 327 eP P 19 45 53.7 +0.7
comp=Z,6µm,1.6s
COLA College 19.03 332 eP P 19 45 55.4 +1.3
COLA pmax pmax
comp=Z,5µm,2.0s
COLA College 19.03 332 eP P 19 45 54.3 +0.2
comp=Z,5µm,2.0s
W18A Petrified Fore 19.11 132 P P 19 45 57.0 +1.5
baz=323
W18A Petrified Fore 19.11 132 eP P 19 45 56.7 +1.2
comp=Z,3µm,1.4s
KTH Kantishna Hill 19.19 327 eP P 19 45 56.4 +0.3
comp=Z,5µm,1.7s
MDM Murphy Dome 19.21 332 eP P 19 45 56.1 -0.1
comp=Z,5µm,1.9s
INK Inuvik 19.25 353 P P 19 45 56.9 +0.4
comp=Z,1.2nm,0.3s,baz=166,slow=12,SNR=39
INK Lg Lg 19 51 42.9
comp=Z,0.4nm,0.3s,baz=82,slow=28,SNR=9.2
INK LR LR 19 52 43.1
comp=Z,168µm,19.0s,baz=171,slow=35
INK Inuvik 19.25 353 P P 19 45 56.7 +0.2
INK Sg 19 51 35.2
INK Inuvik 19.25 353 eP P 19 45 56.6 +0.1
comp=Z,684nm,1.3s
INK Lg Lg 19 51 42.9
PPLA Purkeypile 19.29 324 eP P 19 45 57.5 +0.3
comp=Z,4µm,1.8s
B31A Greenbush Farm 19.31 82 P P 19 45 54.5 -2.9
baz=284
113A Mohawk Valley, 19.35 144 eP P 19 45 59.2 +1.3
comp=Z,818nm,1.5s
SDCO Great Sand Dun 19.41 119 P P 19 46 00.2 +1.4

baz=314
SDCO Great Sand Dun 19.41 119 *e*P P 19 45 59.9 +1.1
comp=Z,3µm,1.8s
C31A Landman Farms, 19.42 84 P P 19 45 55.5 -3.1
baz=286
KUKN Kugluktuk,NWT 19.44 14 P P 19 45 58.4 -0.3
X18A Snowflake 19.49 133 *e*P P 19 46 01.4 +1.8
comp=Z,1µm,1.2s
A31A Linda, St. Vin 19.49 80 P P 19 45 56.6 -2.8
baz=283
OGNE Ogallala 19.50 106 P P 19 45 59.3 -0.2
baz=304
OGNE Ogallala 19.50 106 *e*P P 19 45 59.2 -0.4
comp=Z,12µm,1.8s
CAST Castle Rocks 19.54 325 *e*P P 19 45 59.7 -0.1
comp=Z,2µm,1.6s
FYU Fort Yukon 19.59 338 *e*P P 19 46 01.1 +0.9
comp=Z,10µm,1.8s
D31A Mcclaflin, Tow 19.64 86 P P 19 45 57.8 -3.1
baz=288
F31A Hecla 19.68 89 P P 19 45 58.8 -2.7
baz=291
E31A Nome 19.68 87 P P 19 45 58.5 -3.0
baz=289
SUSD Miller 19.77 94 P P 19 45 59.9 -2.6
baz=294
SVW2 Sparrevohn 19.85 317 *e*P P 19 46 03.4 +0.2
comp=Z,6µm,1.6s
A32A Rocking H Ranc 19.94 80 P P 19 46 01.1 -3.2
baz=283
G31A Conde 19.95 91 P P 19 46 01.8 -2.5
baz=292
I10CA LAC DU BONNET 19.99 76 Lg Lg 19 52 03.2
baz=289,slow=26,SNR=3.6
CHGN Chignik 20.03 302 *e*P P 19 46 05.7 +0.6
comp=Z,7µm,1.7s
CHGN LR LR
comp=Z,90µm,19.0s
B32A Ashes, Strandq 20.04 81 P P 19 46 02.4 -2.9
baz=284
H31A Wolsey 20.07 93 P P 19 46 03.2 -2.4
baz=294
D32A Dogwood Acres, 20.07 85 P P 19 46 02.6 -3.0
baz=288
ULM Lac du Bonnet 20.07 76 P P 19 46 03.6 -2.1
comp=Z,454nm,0.9s,baz=283,slow=11,SNR=87
ULM S S 19 49 46.3 -4.3
comp=Z,86nm,1.1s,baz=150,slow=20,SNR=3.4
ULM Lg Lg 19 51 55.2
comp=Z,315nm,1.3s,baz=19,slow=14,SNR=8.4
ULM LR LR 19 53 01.4
comp=Z,76µm,20.8s,baz=277,slow=34
ULM Lac du Bonnet 20.07 76 P P 19 46 02.9 -2.8
ULM Sg 19 51 59.6
ULM Lac du Bonnet 20.07 76 *e*P P 19 46 02.1 -3.5
comp=Z,1µm,1.0s
ULM S S 19 49 46.3 -4.3
ULM Lg Lg 19 51 55.2
C32A Crookston 20.19 83 P P 19 46 03.9 -3.1
baz=286
E32A Braaten, Kindr 20.21 86 P P 19 46 03.3 -3.9
baz=289
I31A Royce, Wessing 20.22 95 P P 19 46 05.4 -1.9
baz=295
KSCO Kaye Shedlock' 20.27 112 P P 19 46 09.0 +0.9
baz=309
KSCO Kaye Shedlock' 20.27 112 *e*P P 19 46 08.6 +0.4
comp=Z,17µm,1.8s
KSCO LR LR
comp=Z,149µm,19.0s
G32A Webster 20.40 90 P P 19 46 06.6 -2.7
baz=292
J31A Geddes 20.41 97 P P 19 46 07.7 -1.7
baz=297
F32A Veblen 20.41 88 P P 19 46 06.4 -3.1
baz=291
214A Organ Pipe Nat 20.44 143 P P 19 46 11.3 +1.6
baz=332
214A Organ Pipe Nat 20.44 143 *e*P P 19 46 11.4 +1.6
comp=Z,5µm,1.4s
T25A Trinidad 20.45 118 P P 19 46 11.8 +1.7
baz=314
T25A Trinidad 20.45 118 *e*P P 19 46 11.2 +1.1
comp=Z,5µm,1.4s
T25A LR LR
comp=Z,258µm,19.0s
AGMN Agassiz Nation 20.50 81 P P 19 46 07.4 -2.9
baz=285
AGMN Agassiz Nation 20.50 81 *e*P P 19 46 06.9 -3.4
comp=Z,639nm,0.9s
AGMN LR LR
comp=Z,107µm,18.0s
A33A Warroad 20.64 79 P P 19 46 08.5 -3.4
baz=283
B33A Robert and Kas 20.68 81 P P 19 46 09.1 -3.2
baz=285
C33A Trail 20.70 83 P P 19 46 09.0 -3.5
baz=286
K31A O'Neill 20.72 98 P P 19 46 10.9 -1.8
baz=299
H32A Carlson Farm, 20.73 92 P P 19 46 10.4 -2.5
baz=294
TT01 Tatalina 20.81 321 *e*P P 19 46 13.3 -0.3
TTA Tatalina 20.82 321 *e*P P 19 46 13.5 -0.3
TTA pmax pmax
comp=Z,2µm,1.5s
TTA Tatalina 20.82 321 *e*P P 19 46 13.4 -0.3
comp=Z,2µm,1.5s
TTA LR LR
comp=Z,122µm,19.0s
D33A AnnSam, Waubun 20.83 84 P P 19 46 10.9 -3.1
baz=288
I32A Karley and Nic 20.92 94 P P 19 46 12.4 -2.5
baz=295
ANMO Albuquerque 20.92 126 P P 19 46 14.3 -0.8
comp=Z,289nm,1.1s,baz=322,slow=11,SNR=299
ANMO LR LR 19 54 18.0
comp=Z,73µm,21.2s,baz=317,slow=37
ANMO Albuquerque 20.92 126 P P 19 46 16.4 +1.3
baz=320
ANMO Albuquerque 20.92 126 *c i*P P 19 46 16.0 +0.9
ANMO pmax pmax
comp=Z,853nm,1.2s
ANMO MLR MLR
comp=Z,69µm,15.0s
ANMO Albuquerque 20.92 126 *e*P P 19 46 16.1 +0.9
comp=Z,906nm,1.2s
E33A Westby DABS, E 20.93 86 P P 19 46 11.7 -3.3
baz=289
J32A Parkston 20.95 96 P P 19 46 13.0 -2.3
baz=297
TUC Tucson 20.96 138 P P 19 46 17.3 +1.7
baz=329
TUC Tucson 20.96 138 *e*P P 19 46 16.8 +1.2
TUC pmax pmax
comp=Z,2µm,1.6s
TUC MLR MLR
comp=Z,63µm,21.0s
TUC Tucson 20.96 138 *e*P P 19 46 16.8 +1.2
comp=Z,2µm,1.6s
TUC LR LR
comp=Z,63µm,21.0s
F33A 5 Mile Ranch, 20.97 88 P P 19 46 12.0 -3.5
baz=291
LAZ Ladron 20.98 128 *e*P P 19 46 16.9 +1.0
SDPT Sand Point 21.11 299 *e*P P 19 46 17.1 +0.3
comp=Z,6µm,1.8s
G33A Ortonville 21.11 90 P P 19 46 13.8 -3.2
baz=292
H33A Prehn Over Nor 21.11 91 P P 19 46 14.6 -2.4
baz=294
K32A Verdigre 21.20 97 P P 19 46 16.1 -2.0
baz=298
B34A Aery, Baudette 21.23 80 P P 19 46 14.2 -4.0
baz=285
LENM Lemitar 21.25 128 *e*P P 19 46 19.3 +0.5
D34A Park Rapids 21.27 84 P P 19 46 15.2 -3.5
baz=288
C34A RKJ Ranch, Bem 21.29 82 P P 19 46 15.2 -3.6
baz=287
FCC Fort Churchill 21.30 51 *e*P P 19 46 17.8 -1.0
FCC pmax pmax
comp=Z,1µm,1.0s
FCC Fort Churchill 21.30 51 *e*P P 19 46 17.2 -1.6
comp=Z,1µm,1.0s
FCC LR LR
comp=Z,88µm,20.0s
LPM Los Pinos Moun 21.32 127 *e*P P 19 46 20.6 +1.2
I33A Coleman 21.34 93 P P 19 46 16.9 -2.6
baz=295
Y22D IRIS PASSCAL I 21.35 128 P P 19 46 21.9 +2.2
baz=322
Y22D IRIS PASSCAL I 21.35 128 *e*P P 19 46 21.2 +1.4
comp=Z,6µm,1.5s
Y22D LR LR
comp=Z,142µm,18.0s
COLD Coldfoot 21.38 335 P P 19 46 21.1 +1.4
COLD Coldfoot 21.38 335 *e*P P 19 46 20.5 +0.9
comp=Z,2µm,1.6s
COLD LR LR
comp=Z,159µm,19.0s
BNM Barren Site 21.44 128 *e*P P 19 46 22.1 +1.2
E34A Wadena 21.47 85 P P 19 46 17.5 -3.3
baz=289
L32A Elgin 21.50 99 P P 19 46 20.4 -0.8
baz=300
EPLO Experimental L 21.55 76 P P 19 46 18.2 -3.4
J33A Davis 21.55 95 P P 19 46 19.6 -2.1
baz=297
ECSD EROS Data Cent 21.60 94 P P 19 46 19.9 -2.3
baz=296
ECSD EROS Data Cent 21.60 94 *e*P P 19 46 19.6 -2.6
comp=Z,1µm,1.1s
ECSD LR LR
comp=Z,333µm,18.0s
G34A Benson 21.62 89 P P 19 46 20.1 -2.3
baz=292
F34A Alexandria 21.66 87 P P 19 46 19.9 -3.0
baz=291
BGNE Belgrade 21.71 101 P P 19 46 22.6 -0.9
baz=301
BGNE Belgrade 21.71 101 *e*P P 19 46 22.2 -1.3
comp=Z,7µm,1.5s
BGNE LR LR
comp=Z,120µm,18.0s
H34A Spellman Lake, 21.75 91 P P 19 46 21.2 -2.6
baz=294
B35A Bob, Littlefor 21.86 80 P P 19 46 21.1 -3.8
baz=285
K33A Hardington 21.86 97 P P 19 46 23.2 -1.9
baz=298
C35A Jirik Farms, M 21.88 82 P P 19 46 21.7 -3.5
baz=287
ARVN Arviat, NU 21.89 45 P P 19 46 23.8 -1.3
L33A Hoskins 21.90 98 P P 19 46 23.9 -1.6
baz=299
E35A Pequot Lakes 21.95 85 P P 19 46 22.6 -3.4
baz=289
I34A Hadley 21.96 92 P P 19 46 23.5 -2.6
baz=295
D35A Remer 22.01 83 P P 19 46 23.5 -3.1
baz=288
F35A Swanville 22.09 87 P P 19 46 24.8 -2.7
baz=291
121A Cookes Peak, D 22.16 132 P P 19 46 29.9 +1.4
baz=325
121A Cookes Peak, D 22.16 132 *e*P P 19 46 29.7 +1.2
comp=Z,15nm,0.8s
CBKS Cedar Bluff 22.17 108 P P 19 46 28.7 +0.2
baz=307
CBKS Cedar Bluff 22.17 108 *e*P P 19 46 28.3 -0.1
CBKS pmax pmax
comp=Z,7µm,1.5s
CBKS MLR MLR
comp=Z,76µm,19.0s
CBKS Cedar Bluff 22.17 108 *e*P P 19 46 28.3 -0.1
comp=Z,7µm,1.5s
CBKS LR LR
comp=Z,76µm,19.0s
J34A George 22.22 94 P P 19 46 26.2 -2.7
baz=297
M33A Taylor Creek F 22.24 99 P P 19 46 27.9 -1.3
baz=301
TOLK Toolik Lake Re 22.26 338 P P 19 46 30.6 +1.5
baz=139
YBKN Baker Lake, Hu 22.30 36 P P 19 46 28.4 -1.1
H35A Sunnyside Ranc 22.36 90 P P 19 46 27.7 -2.7
baz=294
G35A Watkins 22.38 88 P P 19 46 27.8 -2.8
baz=292
K34A Le Mars 22.41 96 P P 19 46 28.5 -2.4
baz=298
319A Douglas 22.42 137 *e*P P 19 46 32.3 +1.0
comp=Z,3µm,1.4s
319A LR LR
comp=Z,108µm,20.0s
SOLO Sioux Lookout 22.52 75 P P 19 46 28.7 -3.3
N33A J Bar K, Exete 22.52 101 P P 19 46 31.1 -1.0
baz=302
D36A Goodland 22.56 83 P P 19 46 29.1 -3.4
baz=288
L34A Svendsen Farm, 22.58 98 P P 19 46 30.6 -2.1
baz=300
C36A Pine Crest Far 22.60 81 P P 19 46 29.5 -3.3
baz=287
I35A Creekview Farm 22.61 92 P P 19 46 30.1 -2.9
baz=295
M34A Aspy Farms, Fr 22.68 99 P P 19 46 32.1 -1.7
baz=301
J35A Milford 22.68 93 P P 19 46 31.4 -2.4
baz=296
E36A McGregor 22.71 84 P P 19 46 31.6 -2.5
baz=290
F36A Milaca 22.77 86 P P 19 46 32.0 -2.7
baz=291
O33A Hebron 22.79 103 P P 19 46 33.9 -1.2
baz=304
G36A St. Michael 22.85 88 P P 19 46 33.2 -2.4
baz=292
K35A Storm Lake 22.95 95 P P 19 46 34.8 -1.9
baz=298
H36A Jessenland, He 23.00 89 P P 19 46 34.9 -2.2
baz=294
C37A Embarrass 23.03 81 P P 19 46 34.2 -3.2
baz=287
L35A Bielow Farm, R 23.04 96 P P 19 46 35.6 -2.0
baz=299
D37A Cotton 23.04 82 P P 19 46 34.4 -3.1
baz=288
N34A Lincoln 23.07 100 P P 19 46 36.8 -1.1
baz=302
ATKO Atikokan Iron 23.10 78 P P 19 46 34.6 -3.5
I36A Fitzsimmons Fa 23.17 91 P P 19 46 36.2 -2.7
baz=295
E37A Wrenshall 23.25 84 P P 19 46 36.8 -2.9
baz=290
J36A Seneca 1, Swea 23.26 93 P P 19 46 37.2 -2.6
baz=296
M35A Neola 23.27 98 P P 19 46 38.6 -1.3
baz=300
O34A Beatrice 23.30 102 P P 19 46 39.8 -0.5
baz=303
PKLO Pickle Lake 23.32 71 P P 19 46 37.3 -3.1
MCMN McManaman Lake 23.39 40 P P 19 46 39.5 -1.4
F37A Hinrichs Farm, 23.40 86 P P 19 46 38.5 -2.8
baz=292
EYMN Ely 23.41 80 P P 19 46 38.3 -2.9
baz=287
EYMN Ely 23.41 80 *e*P P 19 46 37.7 -3.5
comp=Z,2µm,1.0s
EYMN LR LR
comp=Z,109µm,20.0s
SPMN Marine on St. 23.48 87 P P 19 46 40.0 -1.9
baz=293
SPMN Marine on St. 23.48 87 *e*P P 19 46 39.1 -2.8
comp=Z,3µm,1.2s
SPMN LR LR
comp=Z,111µm,20.0s
K36A Gilmore City 23.50 94 P P 19 46 40.4 -1.9
baz=298
P34A Walnut Farm, R 23.57 103 P P 19 46 43.0 0.0
baz=305
I37A Lemond, Waseca 23.57 90 P P 19 46 40.5 -2.4
baz=295
AMTX Amarillo 23.61 118 P P 19 46 44.0 +0.6
baz=316
AMTX Amarillo 23.61 118 *e*P P 19 46 43.4 0.0
comp=Z,2µm,1.1s
AMTX LR LR
comp=Z,289µm,18.0s
N35A Tabor 23.61 99 P P 19 46 43.0 -0.3
baz=302
C38A Sawbill Land. 23.62 80 P P 19 46 40.7 -2.7
baz=288
L36A Harm Buss Farm 23.62 96 P P 19 46 41.8 -1.6
baz=299
H37A Dierke Farm, C 23.66 89 P P 19 46 42.4 -1.3
baz=294
MSTX Muleshoe 23.66 122 P P 19 46 44.3 +0.4
baz=318
MSTX Muleshoe 23.66 122 *e*P P 19 46 43.7 -0.2
comp=Z,6µm,2.0s
MSTX LR LR
comp=Z,187µm,19.0s
O35A Humboldt 23.76 101 P P 19 46 43.9 -0.8
baz=303
CPRX Cap Rock 23.76 125 *e*P P 19 46 45.7 +0.7
HSIG 23.77 143 *e*P P 19 46 45.5 +0.6
comp=Z,1µm,1.5s
HSIG LR LR
comp=Z,86µm,18.0s
J37A Redenius Farm, 23.78 92 P P 19 46 43.0 -1.9
baz=296
E38A The Farm, Brul 23.79 83 P P 19 46 42.5 -2.5
baz=290
F38A Pierce - Schro 23.81 85 P P 19 46 44.4 -0.7
baz=291
SEDN First Sedna Si 23.84 41 P P 19 46 44.0 -1.2
M36A Felix, Anita 23.85 97 P P 19 46 44.4 -1.2
baz=300
Q34A Chapman 23.86 105 P P 19 46 46.1 +0.4
baz=306
KSU1 Kansas State U 23.97 104 P P 19 46 46.8 +0.1
baz=305
KSU1 Kansas State U 23.97 104 *e*P P 19 46 46.5 -0.3
comp=Z,5µm,1.4s
KSU1 LR LR
comp=Z,91µm,19.0s
K37A Belmond 23.97 93 P P 19 46 45.4 -1.3
baz=298
MNTX Cornudas Mount 24.02 129 P P 19 46 48.2 +0.9
baz=324
MNTX Cornudas Mount 24.02 129 *e*P P 19 46 47.8 +0.5
comp=Z,4µm,1.8s
MNTX LR LR
comp=Z,153µm,18.0s
H38A Maiden Rock 24.03 88 P P 19 46 45.8 -1.5
baz=294
R34A Isabella, Hill 24.04 106 P P 19 46 47.4 0.0
baz=307
N36A Muff Farm, Cla 24.08 99 P P 19 46 47.0 -0.7
baz=302
P35A Duane Minner, 24.10 102 P P 19 46 47.8 -0.1
baz=304
G38A Ridgeland 24.12 87 P P 19 46 46.3 -1.8
baz=293
GDL2 Guadalupe Moun 24.14 127 *e*P P 19 46 45.2 -3.3
U32A Winter Ranch, 24.17 112 P P 19 46 48.9 +0.3
baz=311
L37A Phoenix Point, 24.20 95 P P 19 46 48.2 -0.7
baz=299
AKUT Akutan 24.20 296 *e*P P 19 46 49.0 +0.2
comp=Z,937nm,1.4s
AKUT LR LR
comp=Z,60µm,21.0s
I38A Scanlan Farm, 24.26 89 P P 19 46 47.8 -1.6
baz=295
C39A Grand Marais 24.32 80 P P 19 46 47.1 -2.8
baz=288
BULN Bullion Camp, 24.33 33 P P 19 46 48.6 -1.2
CLNB Carlsbad 24.35 126 *e*P P 19 46 51.8 +1.4
M37A Trindle Farm, 24.36 97 P P 19 46 50.3 -0.1
baz=300
O36A Bolckow 24.44 100 P P 19 46 50.9 -0.2
baz=303
F39A Loretta 24.45 84 P P 19 46 49.3 -1.8
baz=291
Q35A Mercer Eighty, 24.47 104 P P 19 46 51.1 -0.3
baz=306
J38A Wedel Dairy, R 24.48 91 P P 19 46 50.1 -1.3
baz=296
S34A Willow Spring 24.49 107 P P 19 46 51.5 0.0
baz=308
E39A Mellen 24.52 83 P P 19 46 49.4 -2.4
baz=290
G39A Holcombe 24.52 86 P P 19 46 50.1 -1.6
baz=293
TBO Thunder Bay 24.54 77 P P 19 46 51.5 -0.4
P36A Good Intent, A 24.57 101 P P 19 46 52.1 -0.2
baz=304
NUNN Nunuq Camp, NU 24.59 37 P P 19 46 51.2 -0.9
N37A Lee Faris, Mou 24.59 98 P P 19 46 52.1 -0.4
baz=302
K38A Parkersburg 24.59 93 P P 19 46 52.3 -0.2
baz=298
UNV Unalaska Valle 24.66 296 *e*P P 19 46 52.8 -0.1
comp=Z,325nm,1.1s
UNV LR LR
comp=Z,38µm,21.0s
SCIA State Center 24.66 95 *e*P P 19 46 52.6 -0.5
comp=Z,4µm,1.4s
SCIA LR LR
comp=Z,186µm,19.0s
H39A Augusta 24.68 87 P P 19 46 52.7 -0.6
baz=294
R35A Emporia Munici 24.68 105 P P 19 46 53.4 +0.1
baz=307
L38A Oak Wood Farm, 24.71 94 P P 19 46 53.4 -0.1
baz=299
Q36A Arnold C. Orve 24.78 103 P P 19 46 54.2 0.0
baz=305
STLN Stellar Camp, 24.82 31 P P 19 46 53.5 -0.7
SRIG Santa Rosalia 24.82 147 *e*P P 19 46 55.7 +1.1
comp=Z,1µm,1.3s
SRIG LR LR
comp=Z,54µm,21.0s
T34A McClaskey Farm 24.86 109 P P 19 46 55.1 +0.2
baz=309
I39A Houston 24.87 89 P P 19 46 54.6 -0.4
baz=295
M38A Pleasantville 24.91 96 P P 19 46 55.8 +0.5
baz=300
O37A Wolven Farm, M 24.95 99 P P 19 46 55.6 -0.1
baz=303
F40A Park Falls 24.96 84 P P 19 46 53.8 -2.0
baz=292
J39A Decorah 24.98 90 P P 19 46 55.4 -0.4
baz=296
S35A Otter Creek Ra 25.00 106 P P 19 46 56.5 +0.4
baz=308
R36A Gordon, Harris 25.12 104 P P 19 46 57.8 +0.6
baz=306
P37A Lathrop 25.14 100 P P 19 46 57.5 +0.1
baz=304
K39A Oelwein 25.14 92 P P 19 46 57.0 -0.4
baz=298
G40A Rib Lake 25.16 85 P P 19 46 56.4 -1.1
baz=293
N38A Joes South For 25.21 97 P P 19 46 58.4 +0.4
baz=301
H40A Chili 25.29 87 P P 19 46 58.5 -0.2
baz=294
L39A Vinton 25.35 93 P P 19 46 59.1 -0.1
baz=299
T35A Sooner Cattle 25.35 108 P P 19 46 59.5 +0.2
baz=309
WMOK Wichita Mounta 25.41 115 P P 19 47 00.4 +0.6
baz=314
WMOK Wichita Mounta 25.41 115 *e*P P 19 46 59.9 0.0
WMOK pmax pmax
comp=Z,4µm,2.0s
WMOK MLR MLR
comp=Z,165µm,18.0s
WMOK Wichita Mounta 25.41 115 *e*P P 19 46 59.9 0.0
comp=Z,4µm,2.0s
WMOK LR LR
comp=Z,165µm,18.0s
O38A Galt 25.41 99 P P 19 46 59.9 +0.1
baz=303
S36A Lake Cedric, C 25.43 105 P P 19 47 00.1 +0.1
baz=307
I40A Norwalk 25.45 89 P P 19 47 00.3 +0.1
baz=295
Q37A Longview Farm, 25.47 102 P P 19 47 00.8 +0.4
baz=305
WAGN Wager Bay 25.47 36 P P 19 47 00.1 0.0
M39A Webster 25.55 95 P P 19 47 01.1 +0.1
baz=300
R37A Teagarden Farm 25.56 103 P P 19 47 01.6 +0.4
baz=306
U35A Pawnee 25.56 109 P P 19 47 01.5 +0.3
baz=310
J40A Soldiers Grove 25.58 90 P P 19 47 01.3 -0.1
baz=296

K40A **Colesburg** 25.64 91 P P 19 47 02.0 +0.1
baz=298
N39A **Derby Farms, D** 25.64 96 P P 19 47 02.0 +0.1
baz=301
P38A **Dawn** 25.64 100 P P 19 47 01.9 0.0
baz=303
T36A **Boggs Farm, Ca** 25.65 107 P P 19 47 01.8 -0.3
baz=309
F41A **Three Lakes** 25.69 84 P P 19 47 01.3 -1.1
baz=292
H41A **Junction City** 25.77 86 P P 19 47 02.9 -0.2
baz=294
GTO **Geraldton** 25.80 74 P P 19 47 02.1 -1.1
SMLN **Simpson Lake,** 25.80 29 P P 19 47 02.2 -0.9
G41A **Antigo** 25.84 85 P P 19 47 03.7 0.0
baz=293
I41A **Arkdale** 25.86 88 P P 19 47 04.0 +0.1
baz=295
L40A **Anamosa** 25.88 93 P P 19 47 04.2 +0.1
baz=299
S37A **Fort Scott** 25.89 104 P P 19 47 04.7 +0.5
baz=307
V35A **Meyer Ranch, C** 25.89 110 P P 19 47 04.5 +0.3
baz=311
O39A **Kirksville** 25.94 97 P P 19 47 04.5 -0.1
baz=302
Q38A **Cooks Store, C** 25.96 101 P P 19 47 04.9 +0.1
baz=305
M40A **Post Highland** 26.02 94 P P 19 47 05.5 +0.2
baz=300
J41A **Loganville** 26.07 89 P P 19 47 05.7 -0.1
baz=296
JFWS **Jewell Farm** 26.12 90 eP P 19 47 06.1 -0.2
JFWS pmax pmax
comp=Z,3µm,1.2s
JFWS MLR MLR
comp=Z,147µm,20.0s
JFWS **Jewell Farm** 26.12 90 eP P 19 47 06.1 -0.2
comp=Z,3µm,1.2s
JFWS LR LR
comp=Z,147µm,20.0s
U36A **Oologah** 26.17 108 P P 19 47 06.8 +0.1
baz=310
NIKH **Nikolski High** 26.17 294 eP P 19 47 07.7 +1.1
comp=Z,592nm,1.4s
NIKH LR LR
comp=Z,25µm,19.0s
KUGN **Kugaaruk Camp,** 26.17 31 P P 19 47 05.3 -1.1
P39B **Salisbury** 26.22 99 P P 19 47 07.2 +0.1
baz=304
T37A **Cheneyville 18** 26.22 106 P P 19 47 07.3 +0.1
baz=308
R38A **Fenwick Farm,** 26.22 103 P P 19 47 07.1 -0.1
baz=306
K41A **Shullsburg** 26.22 91 P P 19 47 07.3 +0.1
baz=298
N40A **Mertquake, Sal** 26.23 95 P P 19 47 07.5 +0.2
baz=301
W35A **Tecumseh** 26.27 111 P P 19 47 07.7 0.0
baz=312
Q39A **Willow Grove F** 26.32 100 P P 19 47 07.9 -0.2
baz=304
L41A **Preston** 26.35 92 P P 19 47 08.2 -0.2
baz=299
ABTX **Abilene, Hawle** 26.41 119 P P 19 47 08.7 -0.3
baz=317
ABTX **Abilene, Hawle** 26.41 119 eP P 19 47 08.6 -0.4
comp=Z,1µm,1.5s
ABTX LR LR
comp=Z,333µm,18.0s
V36A **Jenks** 26.43 109 P P 19 47 09.1 0.0
baz=311
TUL1 **Leonard** 26.44 109 P P 19 47 09.3 +0.1
baz=310
TUL1 **Leonard** 26.44 109 eP P 19 47 08.6 -0.6
comp=Z,749nm,1.1s
TUL1 LR LR
comp=Z,68µm,19.0s
Z33A **Whitaker Ranch** 26.44 117 P P 19 47 08.7 -0.5
baz=316
O40A **La Belle** 26.44 97 P P 19 47 09.3 +0.1
baz=302
U37A **Salina** 26.54 107 P P 19 47 10.3 +0.2
baz=309
PNPO **Pukaskwa Natio** 26.55 76 P P 19 47 09.2 -0.9
S38A **Stockton** 26.55 104 P P 19 47 10.2 +0.1
baz=307
SPIA **Saint Paul Isl** 26.57 304 eP P 19 47 10.7 +0.5
comp=Z,775nm,1.1s
SPIA LR LR
comp=Z,52µm,19.0s
P40A **Paris** 26.65 98 P P 19 47 11.0 -0.1
baz=303
M41A **Milan** 26.66 94 P P 19 47 10.9 -0.2
baz=300
T38A **Diamond** 26.67 105 P P 19 47 11.6 +0.4
baz=308
W36A **Wetumka** 26.68 111 P P 19 47 11.7 +0.3
baz=312
R39A **Chumby, Stover** 26.70 102 P P 19 47 11.0 -0.5
baz=306
X35A **Drake** 26.72 113 P P 19 47 11.8 0.0
baz=313
TX31 **Lajitas Ar. Si** 26.80 130 eP P 19 47 13.2 +0.6
N41A **Harden Midland** 26.80 95 P P 19 47 12.4 0.0
baz=301
TXAR **Lajitas Array** 26.80 130 P P 19 47 13.3 +0.7
comp=Z,247nm,1.0s,baz=330,slow=7.2,SNR=300
TXAR LR LR 19 58 46.1
comp=Z,131µm,18.9s,baz=0.0,slow=39
TXAR P3KPbc 20 19 54.2
comp=Z,1.2nm,0.8s,baz=138,slow=7.3,SNR=3.5
V37A **Hulbert** 26.86 108 P P 19 47 13.0 0.0
baz=310
Z34A **Collier Ranch,** 26.88 116 P P 19 47 12.6 -0.5
baz=315
S39A **Bolivar** 26.88 103 P P 19 47 12.9 -0.3
baz=307
Q40A **Laux Farm, Aux** 26.93 99 P P 19 47 13.2 -0.4
baz=304
U38A **Gravette** 26.98 106 P P 19 47 14.3 +0.3
baz=309
X36A **Centrahoma** 26.98 112 P P 19 47 14.3 +0.2
baz=313
Y35A **Marietta** 27.02 114 P P 19 47 14.9 +0.4
baz=314
O41A **Passleys Farm,** 27.09 96 P P 19 47 15.1 +0.1
baz=302
VIMO **Victor Mine** 27.11 66 P P 19 47 13.8 -1.2
M42A **Sheffield** 27.14 93 P P 19 47 15.1 -0.3
baz=300
W37B **Quinton** 27.16 110 P P 19 47 16.3 +0.5
baz=311
R40A **Maddies Statio** 27.21 101 P P 19 47 15.4 -0.6
baz=305
P41A **Barry, Barry** 27.21 97 P P 19 47 16.1 0.0
baz=303
T39A **Clever** 27.25 104 P P 19 47 16.6 +0.1
baz=308
N42A **Yates City** 27.27 94 P P 19 47 16.6 0.0
baz=301
233A **Rising Star** 27.28 119 P P 19 47 16.6 -0.3
baz=318
Z35A **Perchaven, San** 27.30 115 P P 19 47 16.9 0.0
baz=315
V38A **Canehill** 27.33 107 P P 19 47 17.1 -0.1
baz=310
HHAR **Hobbs** 27.36 106 eP P 19 47 17.3 -0.2
comp=Z,1µm,1.1s
HHAR LR LR
comp=Z,66µm,19.0s
S40A **Lebanon** 27.46 102 P P 19 47 17.8 -0.6
baz=306
Y36A **Durant** 27.48 113 P P 19 47 19.1 +0.5
baz=314
Q41A **Truxton** 27.50 99 P P 19 47 18.6 -0.1
baz=304
X37A **Clayton** 27.57 111 P P 19 47 20.0 +0.7
baz=312
O42A **Bath** 27.57 95 P P 19 47 19.2 -0.1
baz=302
U39A **Green Forest** 27.58 105 P P 19 47 19.3 -0.1
baz=309
T40A **Mansfield** 27.72 103 P P 19 47 20.5 -0.2
baz=307
P42A **Winchester** 27.72 97 P P 19 47 20.4 -0.3
baz=303
234A **Clairette** 27.73 118 P P 19 47 20.4 -0.4
baz=317
W38A **Poteau** 27.77 109 P P 19 47 21.9 +0.8
baz=311
R41A **Rosebud** 27.77 100 P P 19 47 20.5 -0.7
baz=305
GAMB **Gambell** 27.78 318 eP P 19 47 21.9 +1.0
GAMB LR LR
comp=Z,88µm,20.0s
V39A **Pettigrew** 27.82 106 P P 19 47 21.8 +0.1
baz=310
Z36A **Blue Ridge** 27.82 114 P P 19 47 21.9 +0.2
baz=314
Y37A **Hugo** 27.83 112 P P 19 47 22.5 +0.9
baz=313
HPIG 27.85 136 eP P 19 47 23.1 +0.9
comp=Z,541nm,1.5s
HPIG LR LR
comp=Z,147µm,18.0s
X38A **Whitesboro** 27.85 110 P P 19 47 22.6 +0.8
baz=312
HDIL **Hopedale** 27.89 94 P P 19 47 22.1 -0.1
baz=301
HDIL **Hopedale** 27.89 94 eP P 19 47 22.0 -0.1
comp=Z,1µm,0.9s
HDIL LR LR
comp=Z,146µm,19.0s
JCT **Junction City** 27.93 122 P P 19 47 22.3 -0.4
baz=320
JCT **Junction City** 27.93 122 eP P 19 47 22.3 -0.4
JCT pmax pmax
comp=Z,540nm,1.1s
JCT **Junction City** 27.93 122 eP P 19 47 22.2 -0.4
comp=Z,542nm,1.1s
JCT LR LR
comp=Z,132µm,18.0s
S41A **Jilco Farms,** 27.95 102 P P 19 47 21.9 -0.9
baz=306
Q42A **Golden Eagle** 27.97 98 P P 19 47 23.0 +0.1
baz=304
U40A **Yellville** 27.99 105 P P 19 47 23.0 -0.2
baz=308
O43A **Sugar Creek Fa** 28.02 95 P P 19 47 23.3 -0.1
baz=302
433A **Art** 28.12 121 P P 19 47 23.4 -0.9
baz=319
WHTX **Lake Whitney,** 28.14 117 P P 19 47 24.0 -0.4
baz=317
WHTX **Lake Whitney,** 28.14 117 eP P 19 47 24.0 -0.4
comp=Z,662nm,1.3s
WHTX LR LR
comp=Z,204µm,20.0s
W39A **Magazine** 28.15 108 P P 19 47 24.9 +0.3
baz=310
R42A **Luebbering** 28.16 99 P P 19 47 24.0 -0.6
baz=305
334A **Lometa** 28.17 119 P P 19 47 24.1 -0.6
baz=318
P43A **Skaggs, Pawnee** 28.23 96 P P 19 47 25.3 +0.1
baz=303
T41A **Mountain View** 28.27 102 P P 19 47 24.7 -0.9
baz=307
SLM **Saint Louis** 28.32 98 eP P 19 47 25.7 -0.3
SLM pmax pmax
comp=Z,2µm,1.4s
SLM MLR MLR
comp=Z,130µm,19.0s
SLM **Saint Louis** 28.32 98 eP P 19 47 25.7 -0.3
comp=Z,2µm,1.4s
SLM LR LR
comp=Z,130µm,19.0s
136A **Ennis** 28.33 115 P P 19 47 26.0 -0.1
baz=316
V40A **Witts Springs** 28.36 106 P P 19 47 26.3 -0.2
baz=309
Z37A **Pogue Cattle C** 28.36 113 P P 19 47 26.4 -0.1
baz=314
X39A **Fountain Ranch** 28.39 109 P P 19 47 27.1 +0.4
baz=312
Y38A **Idabel** 28.40 111 P P 19 47 27.1 +0.3
baz=313
S42A **Caledonia** 28.46 100 P P 19 47 26.2 -1.1
baz=306
LPIG **La Paz** 28.46 146 P P 19 47 28.2 +0.9
comp=Z,21nm,0.3s,baz=150,slow=7.5,SNR=20
LPIG LR LR 19 58 48.6
comp=Z,58µm,18.1s,baz=334,slow=36
Q43A **New Douglas** 28.50 97 P P 19 47 27.7 +0.1
baz=304
434A **Burnet** 28.54 120 P P 19 47 27.4 -0.6
baz=319
U41A **Viola** 28.59 104 P P 19 47 28.2 -0.3
baz=308
W40A **Ferguson Farm,** 28.59 107 P P 19 47 28.9 +0.4
baz=310
KAPO **Kapuskasing** 28.67 73 P P 19 47 28.9 -0.1
236A **Katherine and** 28.67 116 P P 19 47 29.2 0.0
baz=316
533A **Kerrville** 28.67 122 P P 19 47 28.8 -0.4
baz=320
335A **Moody** 28.67 118 P P 19 47 29.1 -0.1
baz=318
MIAR **Mount Ida** 28.70 108 P P 19 47 30.2 +0.7
baz=311
MIAR **Mount Ida** 28.70 108 eP P 19 47 29.6 +0.1
MIAR pmax pmax
comp=Z,1µm,1.4s
MIAR MLR MLR
comp=Z,62µm,19.0s
MIAR **Mount Ida** 28.70 108 eP P 19 47 29.6 +0.1
comp=Z,1µm,1.4s
MIAR LR LR
comp=Z,62µm,19.0s
T42A **Van Buren** 28.70 102 P P 19 47 28.2 -1.2
baz=307
137A **Heron Place, G** 28.70 114 P P 19 47 29.8 +0.3
baz=315
Z38A **Mt. Pleasant** 28.71 112 P P 19 47 30.0 +0.5
baz=314
R43A **Red Bud** 28.72 99 P P 19 47 29.0 -0.6
baz=305
RES **Resolute Bay** 28.75 17 P P 19 47 29.4 -0.1
comp=Z,67nm,0.9s,baz=230,slow=8.7,SNR=18
RES Lg Lg 19 56 25.4
comp=Z,59nm,1.2s,baz=64,slow=7.6,SNR=9.8
RES LR LR 19 59 16.9
comp=Z,116µm,18.4s,baz=232,slow=37
RES **Resolute Bay** 28.75 17 P P 19 47 28.7 -0.8
RES **Resolute Bay** 28.75 17 eP P 19 47 29.5 +0.1
RES pmax pmax
comp=Z,530nm,1.5s
RES **Resolute Bay** 28.75 17 eP P 19 47 27.7 -1.8
comp=Z,527nm,1.5s
RES Lg Lg 19 56 25.4
Y39A **Lockesburg** 28.79 110 P P 19 47 30.9 +0.7
baz=312
V41A **Mountainview** 28.79 105 P P 19 47 30.1 -0.2
baz=309
P44A **Sand Creek, Wi** 28.91 95 P P 19 47 31.2 -0.1
baz=303
336A **Riesel** 28.93 117 P P 19 47 31.0 -0.5
baz=317
435B **Jarrell** 28.95 119 P P 19 47 31.7 0.0
baz=318
Q44A **Meyer Farm, Va** 28.96 97 P P 19 47 31.4 -0.3
baz=304
SLBS **Sierra La Lagu** 28.97 146 eP P 19 47 33.1 +1.1
comp=Z,139nm,1.1s
SLBS LR LR
comp=Z,53µm,19.0s
X301 **Greenbrier Sit** 28.98 106 eP P 19 47 31.6 -0.3
comp=Z,634nm,1.3s
X301 LR LR
comp=Z,68µm,18.0s
534A **Blanco** 29.02 121 P P 19 47 31.6 -0.7
baz=320
U42A **Revenden** 29.02 103 P P 19 47 31.5 -0.8
baz=308
WHAR **Wooly Hollow** 29.02 106 eP P 19 47 31.7 -0.6
comp=Z,1µm,1.8s
WHAR LR LR
comp=Z,74µm,18.0s
S43A **Fulton Ridge,** 29.03 100 P P 19 47 31.6 -0.8
baz=306
138A **Matatall Enter** 29.06 113 P P 19 47 33.3 +0.7
baz=315
633A **Saathoff Ranch** 29.06 123 P P 19 47 32.3 -0.5
baz=321
237A **Washetta, Mont** 29.09 115 P P 19 47 33.3 +0.3
baz=316
W41B **Gary Mavity, V** 29.12 106 P P 19 47 33.3 +0.2
baz=310
T43A **Greenville** 29.19 101 P P 19 47 32.6 -1.1
baz=307
X40A **Basin Creek Fa** 29.20 108 P P 19 47 33.9 0.0
baz=311
Z39A **Irene McRaven,** 29.20 111 P P 19 47 34.5 +0.6
baz=313
Y40A **Okolona** 29.24 109 P P 19 47 34.5 +0.3
baz=312
V42A **Cord** 29.26 104 P P 19 47 33.8 -0.6
baz=309
PBMO **Poplar Bluff** 29.28 102 eP P 19 47 33.1 -1.4
comp=Z,611nm,1.5s
PBMO LR LR
comp=Z,83µm,19.0s
R44A **Waltonville** 29.29 98 P P 19 47 33.9 -0.7
baz=305
UALR **University of** 29.32 107 eP P 19 47 35.0 +0.1
comp=Z,1µm,1.9s
UALR LR LR
comp=Z,72µm,18.0s
X41A **Kaden, Bauxite** 29.39 107 P P 19 47 35.8 +0.2
baz=311
436A **Wall Ranch, Ga** 29.41 118 P P 19 47 35.5 -0.3
baz=318
SFIN **Lafayette** 29.42 93 P P 19 47 36.0 +0.2
baz=301
SFIN **Lafayette** 29.42 93 eP P 19 47 35.6 -0.1
comp=Z,1µm,1.8s
SFIN LR LR
comp=Z,186µm,18.0s
139A **Bunkhouse Ranc** 29.46 112 P P 19 47 36.9 +0.7
baz=314
S44A **Carbondale** 29.49 99 P P 19 47 36.0 -0.5
baz=306
238A **Jacksonville** 29.50 114 P P 19 47 37.5 +1.0
baz=315
ATKA **Atka Island** 29.51 294 eP P 19 47 36.2 -0.3
comp=Z,182nm,0.9s
ATKA LR LR
comp=Z,28µm,20.0s
W42A **Bald Knob** 29.52 105 P P 19 47 36.4 -0.2
baz=310
535A **Dale** 29.52 120 P P 19 47 36.6 -0.2
baz=319
U43A **Rector** 29.54 102 P P 19 47 35.8 -1.1
baz=308
337A **Centerville** 29.54 116 P P 19 47 37.6 +0.7
baz=317
832A **Faith Ranch, C** 29.55 125 P P 19 47 37.2 +0.1
baz=323
WLAR **White Oak Lake** 29.56 109 eP P 19 47 37.5 +0.4
comp=Z,1µm,1.2s
WLAR LR LR
comp=Z,42µm,20.0s
733A **Divot King Ran** 29.58 124 P P 19 47 37.2 0.0
baz=322
634A **China Grove, S** 29.58 122 P P 19 47 36.9 -0.4
baz=320
INUQ **Inukjuak** 29.59 53 P P 19 47 37.1 0.0
T44A **Benton** 29.63 100 P P 19 47 36.7 -1.0
baz=306
OLIL **Olney** 29.65 96 eP P 19 47 37.3 -0.5
comp=Z,1µm,1.2s
OLIL LR LR
comp=Z,176µm,21.0s
Z40A **Long Farm, Mag** 29.67 110 P P 19 47 39.1 +1.1
baz=313
Y41A **Eaglette Beard** 29.74 108 P P 19 47 39.3 +0.6
baz=312
437A **Phantom Ranch,** 29.75 117 P P 19 47 39.6 +0.8
baz=317
536A **Bastrop** 29.77 119 P P 19 47 39.4 +0.4
baz=319
PARMO **Parma** 29.78 101 eP P 19 47 38.0 -1.1
V43A **Jonesboro** 29.81 103 P P 19 47 38.5 -0.8
baz=308
833A **Chaparral WMA,** 29.83 125 P P 19 47 39.9 +0.4
baz=322
338A **Crockett** 29.85 115 P P 19 47 40.2 +0.5
baz=316
734A **La Parita Cree** 29.88 123 P P 19 47 40.2 +0.3
baz=321
239A **Gary** 29.88 113 P P 19 47 40.5 +0.6
baz=315
HBAR **Harrisburg** 29.88 104 eP P 19 47 39.1 -0.8
635A **Leesville** 29.90 121 P P 19 47 40.4 +0.4
baz=320
X42A **Stuttgart** 29.91 106 P P 19 47 40.7 +0.6
baz=311
U44A **Portageville** 29.92 101 P P 19 47 39.1 -1.1
baz=307
S45A **Carrier Mills** 29.94 98 P P 19 47 39.9 -0.5
baz=305
NATX **Nacogdoches** 29.95 114 P P 19 47 41.1 +0.6
baz=315
NATX **Nacogdoches** 29.95 114 eP P 19 47 41.1 +0.6
comp=Z,949nm,2.0s
NATX LR LR
comp=Z,91µm,20.0s
PVMO **Portageville** 29.97 101 eP P 19 47 39.8 -0.8
comp=Z,1µm,1.4s
PVMO LR LR
comp=Z,118µm,18.0s
140A **Cam and Jess,** 29.99 111 P P 19 47 42.2 +1.4
baz=314
Z41A **Richland Creek** 30.04 110 P P 19 47 42.1 +0.8
baz=313
W43A **Forest City** 30.15 105 P P 19 47 42.3 0.0
baz=310
438A **Sam Houston St** 30.20 116 P P 19 47 43.6 +0.9
baz=317
MALO **McAlpine Lake** 30.20 70 P P 19 47 41.4 -1.2
V44A **Blytheville** 30.20 103 P P 19 47 42.0 -0.7
baz=308
537A **Green Hill Far** 30.20 118 P P 19 47 44.0 +1.3
baz=318
636A **Smothers Creek** 30.23 120 P P 19 47 44.6 +1.6
baz=320
U44B **Burton Farm, H** 30.23 101 P P 19 47 42.5 -0.5
baz=308
CCAR **Cane Creek** 30.24 107 eP P 19 47 44.0 +0.9
comp=Z,2µm,1.4s
CCAR LR LR
comp=Z,74µm,18.0s
Y42A **Garnett, Star** 30.28 108 P P 19 47 44.5 +1.1
baz=312
735A **Kenedy** 30.29 122 P P 19 47 44.7 +1.1
baz=321
240A **Hunter Patters** 30.29 112 P P 19 47 44.2 +0.7
baz=315
339A **Huntington** 30.32 114 P P 19 47 44.5 +0.7
baz=316
GLAT **Glass** 30.32 101 eP P 19 47 43.2 -0.5
SUNO **Sudbury Onapin** 30.35 77 P P 19 47 43.8 -0.2
USIN **University of** 30.36 97 eP P 19 47 43.5 -0.7
comp=Z,1µm,1.1s
USIN LR LR
comp=Z,157µm,21.0s
X43A **Marvell** 30.40 106 P P 19 47 45.0 +0.5
baz=310
141A **Papa Simpson,** 30.42 111 P P 19 47 45.9 +1.2
baz=314
BLO **Bloomington** 30.43 94 eP P 19 47 44.8 0.0
BLO pmax pmax
comp=Z,1µm,1.9s
BLO **Bloomington** 30.43 94 eP P 19 47 44.2 -0.5
comp=Z,1µm,1.9s
BLO LR LR
comp=Z,187µm,20.0s
834A **Tilden** 30.45 124 P P 19 47 45.9 +1.0
baz=322
933A **Laredo** 30.46 125 P P 19 47 46.2 +1.1
baz=323
UTMT **University of** 30.55 101 eP P 19 47 45.3 -0.4
comp=Z,587nm,0.9s
Z42A **Norrel Spur, H** 30.56 109 P P 19 47 46.6 +0.8
baz=312
538A **Harpers Horsep** 30.57 117 P P 19 47 47.6 +1.6
baz=318
439A **Center Grove,** 30.58 115 P P 19 47 47.0 +0.9
baz=317
U45A **Rockin P Farm,** 30.61 101 P P 19 47 45.9 -0.4
baz=307
MET **Memphis--Engin** 30.62 104 eP P 19 47 46.3 -0.1
comp=Z,1µm,1.1s

MET LR LR
comp=Z,95µm,20.0s
736A Circle Diamond 30.62 121 P P 19 47 48.2 +1.7
baz=320
340A Bronson 30.66 113 P P 19 47 47.1 +0.3
baz=316
637A Eagle Lake 30.67 119 P P 19 47 48.7 +1.8
baz=319
W44A Shelby Farms P 30.68 104 P P 19 47 46.5 -0.4
baz=309
KILO Kirkland Lake 30.71 73 P P 19 47 47.4 +0.3
835A Beeville 30.71 123 P P 19 47 49.1 +1.8
baz=321
Y43A Makayla and Ka 30.77 107 P P 19 47 48.9 +1.2
baz=311
TOBO Tobermory, Bru 30.80 80 P P 19 47 48.0 +0.1
241A Mo Tay, Goldon 30.82 111 P P 19 47 49.2 +1.0
baz=314
V45A Humboldt 30.85 102 P P 19 47 48.0 -0.5
baz=308
934A Benavides 30.88 124 P P 19 47 50.5 +1.7
baz=322
X44A Crenshaw 30.88 105 P P 19 47 49.0 +0.2
baz=310
Z43A Armstrong Fami 31.04 108 P P 19 47 50.7 +0.6
baz=312
142A Monroe 31.05 110 P P 19 47 50.8 +0.6
baz=313
W45A Hickory Valley 31.07 103 P P 19 47 50.3 -0.1
baz=309
440A Kirbyville 31.09 114 P P 19 47 51.4 +0.7
baz=316
539A Cross D Ranch, 31.11 116 P P 19 47 52.4 +1.7
baz=317
WCI Wyandotte Cave 31.11 95 eP P 19 47 49.9 -0.9
WCI pmax pmax
comp=Z,341nm,1.1s
WCI MLR MLR
comp=Z,147µm,21.0s
WCI Wyandotte Cave 31.11 95 eP P 19 47 49.9 -0.9
comp=Z,342nm,1.1s
WCI LR LR
comp=Z,147µm,21.0s
737A Port Lavaca 31.12 120 P P 19 47 52.7 +1.8
baz=320
341A Kurthwood 31.15 113 P P 19 47 51.4 +0.3
baz=315
Y44A Strider, Charl 31.18 106 P P 19 47 51.9 +0.5
baz=311
638A Rosharon 31.20 118 P P 19 47 53.3 +1.8
baz=319
034A Hebbronville 31.21 125 P P 19 47 53.7 +2.0
baz=323
BASO Ashfield 31.22 82 P P 19 47 52.3 +0.7
242A Grayson 31.26 111 P P 19 47 53.0 +1.0
baz=314
BMRO Merlville Lake 31.26 81 P P 19 47 52.1 +0.2
KVTX Kingsville 31.26 123 eP P 19 47 53.9 +1.8
comp=Z,673nm,1.3s
BRCO Bruce Peninsul 31.26 82 P P 19 47 52.7 +0.6
143A Socs Landing, 31.28 109 P P 19 47 53.3 +1.0
baz=313
OXF Oxford 31.34 104 eP P 19 47 53.0 +0.2
OXF Oxford 31.34 104 eP P 19 47 52.8 0.0
comp=Z,3µm,1.0s
OXF LR LR
comp=Z,86µm,18.0s
WVT Waverly 31.34 100 eP P 19 47 52.3 -0.5
WVT pmax pmax
comp=Z,750nm,1.3s
WVT Waverly 31.34 100 eP P 19 47 52.2 -0.6
comp=Z,746nm,1.3s
WVT LR LR
comp=Z,110µm,22.0s
X45A UM Field Stati 31.40 104 P P 19 47 53.3 0.0
baz=310
540A Vidor 31.47 115 P P 19 47 55.1 +1.1
baz=317
Z44A Pea Ridge, Bel 31.50 107 P P 19 47 55.1 +0.9
baz=312
738A Farr-Stevens R 31.52 119 P P 19 47 56.4 +2.0
baz=319
BWLO Walkerton 31.52 82 P P 19 47 54.7 +0.5
441A DeRidder 31.55 113 P P 19 47 55.5 +0.8
baz=316
035A Encino 31.63 124 P P 19 47 57.0 +1.6
baz=323
342A Flagon Creek P 31.63 112 P P 19 47 56.3 +1.0
baz=315
PLIO Pelee Island, 31.65 87 P P 19 47 52.5 -2.9
Y45A Yeager Farm, C 31.67 105 P P 19 47 55.7 0.0
baz=311
936A North Padre Is 31.68 123 P P 19 47 57.1 +1.3
baz=322
BELQ Belleterre 31.75 75 P P 19 47 55.5 -0.9
243A Waterproof 31.79 110 P P 19 47 57.7 +0.9
baz=314
EEO Eldee 31.80 76 P P 19 47 55.4 -1.4
Z45A Winona 31.90 106 P P 19 47 58.2 +0.5
baz=311
144A Alexander Plac 31.93 108 P P 19 47 59.0 +1.0
baz=312
035Z Hargill 32.02 125 P P 19 48 00.4 +1.5
baz=323
442A Mamou 32.03 113 P P 19 48 00.3 +1.4
baz=316
541A Lake Charles 32.05 114 P P 19 47 59.9 +0.9
baz=317
BUKO Buck Lake 32.07 79 P P 19 47 58.6 -0.5
Y46A Houston 32.09 104 P P 19 47 59.5 +0.1
baz=310
343A Vidalia 32.12 111 P P 19 48 01.2 +1.5
baz=315
VBMS Vicksburg 32.16 108 P P 19 48 00.6 +0.6
baz=313
VBMS Vicksburg 32.16 108 eP P 19 48 00.6 +0.6
comp=Z,872nm,1.1s
VBMS LR LR
comp=Z,77µm,18.0s
244A Avery, Jackson 32.17 109 P P 19 48 01.2 +1.1
baz=313
ACSO Alum Creek Sta 32.18 90 eP P 19 47 59.7 -0.5
comp=Z,959nm,1.0s
ACSO LR LR
comp=Z,148µm,22.0s
145A Houston Renfro 32.26 107 P P 19 48 01.7 +0.8
baz=312
VLDQ Val d'Or 32.26 73 P P 19 47 58.5 -2.3
VLDQ Val d'Or 32.26 73 eP P 19 47 57.7 -3.1
comp=Z,148nm,1.0s
VLDQ LR LR
comp=Z,244µm,18.0s
542A Morse 32.38 114 P P 19 48 03.4 +1.4
baz=316
443A Delano Plantat 32.39 112 P P 19 48 03.2 +1.1
baz=315
ACTO Acton 32.44 82 P P 19 48 03.0 +0.6
Z46A Louisville 32.49 105 P P 19 48 03.4 +0.5
baz=311
SADO Sadowa 32.52 80 P P 19 48 02.1 -1.0
comp=Z,538nm,1.0s,baz=306,slow=9.7,SNR=130
SADO LR LR 20 01 45.2
comp=Z,205µm,18.9s,baz=318,slow=37
SADO Sadowa 32.52 80 eP P 19 48 01.6 -1.4
comp=Z,946nm,1.1s
344A Westbrook Farm 32.55 110 P P 19 48 04.8 +1.4
baz=314
LNIG Linares 32.56 129 eP P 19 48 03.4 -0.2
comp=Z,233nm,1.0s
LNIG LR LR
comp=Z,62µm,20.0s
245A Little AP, Sta 32.67 108 P P 19 48 05.2 +0.7
baz=313
Y47A UCPARC, Winfie 32.72 103 P P 19 48 04.5 -0.4
baz=310
ALGO Algonquin Park 32.72 77 P P 19 48 04.2 -0.6
146A Union 32.78 106 P P 19 48 06.0 +0.5
baz=312
TYNO Tyneside 32.80 83 P P 19 48 06.2 +0.7
543A St. Martinvill 32.83 113 P P 19 48 07.8 +1.9
baz=316
ZAIG Zacatecas 32.85 135 eP P 19 48 07.8 +1.3
comp=Z,1µm,1.5s
ZAIG LR LR
comp=Z,169µm,18.0s
Z47A Carrollton 33.03 105 P P 19 48 07.2 -0.4
baz=311

444A Pine Grove 33.05 111 P P 19 48 09.3 +1.4
baz=315
345A Thompson Farm, 33.08 109 P P 19 48 09.2 +1.1
baz=314
CRLO Chalk River 33.11 76 P P 19 48 07.1 -1.1
SWET Sewanee 33.12 100 eP P 19 48 07.5 -0.9
comp=Z,114nm,1.3s
SWET LR LR
comp=Z,31µm,20.0s
246A Jackson Lee, B 33.16 107 P P 19 48 09.5 +0.7
baz=313
DRWO Darlington Wes 33.18 81 P P 19 48 09.1 +0.2
H06E1 SOCORRO T-PHAS 33.18 151 P P 19 48 10.5 +1.4
ERPA Erie 33.19 84 eP P 19 48 08.1 -0.8
comp=Z,374nm,1.1s
ERPA LR LR
comp=Z,167µm,20.0s
BANO Bancroft 33.19 78 P P 19 48 08.8 -0.2
H06S1 SOCORRO T 33.22 151 P P 19 48 06.6 -2.7
544A White Castle 33.23 112 P P 19 48 11.2 +1.9
baz=316
Z48A Northport 33.24 104 P P 19 48 08.8 -0.7
baz=311
147A Livingston 33.25 105 P P 19 48 09.2 -0.4
baz=312
445A Amite 33.29 110 P P 19 48 11.4 +1.4
baz=315
ALLY Alegheny Colle 33.32 85 eP P 19 48 09.4 -0.6
comp=Z,1µm,1.5s
ALLY LR LR
comp=Z,201µm,19.0s
WLVO Wesleyville 33.37 81 P P 19 48 10.4 -0.1
346A Big Creek Wild 33.38 108 P P 19 48 11.4 +0.7
baz=314
247A Quitman 33.45 107 P P 19 48 12.2 +0.9
baz=312
CHGQ Chibougamau 33.53 69 P P 19 48 10.8 -1.1
BUF Buffalo 33.54 82 eP P 19 48 11.6 -0.4
DELO Deloro Mine 33.61 79 P P 19 48 11.9 -0.7
MEDO Medina 33.68 82 P P 19 48 13.1 -0.2
545A Edgard 33.69 111 P P 19 48 15.3 +2.0
baz=315
M54A Oil Creek Stat 33.70 85 P P 19 48 12.8 -0.7
baz=300
PLVO Plevna 33.73 78 P P 19 48 13.1 -0.5
PLVO Plevna 33.73 78 eP P 19 48 12.9 -0.7
comp=Z,660nm,1.2s
PLVO LR LR
comp=Z,111µm,22.0s
EUNU Eureka 33.73 12 P P 19 48 13.8 +0.4
N54A Moraine State 33.76 86 P P 19 48 13.4 -0.6
baz=301
LRAL Lakeview Retre 33.82 104 eP P 19 48 13.8 -0.8
comp=Z,452nm,1.3s
LRAL LR LR
comp=Z,79µm,18.0s
446A Poplarville 33.85 109 P P 19 48 15.8 +1.0
baz=314
TZTN Tazewell 33.86 96 eP P 19 48 14.3 -0.6
comp=Z,752nm,1.3s
TZTN LR LR
comp=Z,137µm,21.0s
CPCT Cooper Cave 33.88 98 eP P 19 48 14.1 -1.0
comp=Z,106nm,1.3s
CPCT LR LR
comp=Z,115µm,22.0s
FRB Frobisher Bay 33.93 43 P P 19 48 15.4 +0.3
comp=Z,40nm,1.0s,baz=289,slow=6.6,SNR=5.0
347A Saraland 33.94 107 P P 19 48 16.6 +1.0
baz=313
248A Dixon Mills 33.97 106 P P 19 48 16.2 +0.3
baz=312
546A Slidell 34.02 110 P P 19 48 17.3 +1.0
baz=315
645A Chauvin 34.04 112 P P 19 48 17.7 +1.2
baz=316
MMNY Mt. Morris Dam 34.24 82 eP P 19 48 17.1 -1.0
TKL Tuckaleechee C 34.24 97 P P 19 48 17.6 -0.6
comp=Z,79nm,0.9s,baz=313,slow=8.2,SNR=41
TKL Tuckaleechee C 34.24 97 eP P 19 48 17.3 -0.9
TKL pmax pmax
comp=Z,770nm,1.6s
TKL MLR MLR
comp=Z,232µm,20.0s
TKL Tuckaleechee C 34.24 97 eP P 19 48 17.3 -0.9
comp=Z,770nm,1.6s
TKL LR LR
comp=Z,232µm,20.0s
PECO Prince Edward 34.27 80 P P 19 48 18.2 -0.2
447A Lucedale 34.29 108 P P 19 48 19.5 +1.0
baz=314
348A Jackson 34.33 107 P P 19 48 19.6 +0.6
baz=313
646A Port Sulphur 34.42 111 P P 19 48 21.9 +2.2
baz=316
GAC Glen Almond 34.46 76 P P 19 48 21.2 +1.3
MCWV Mont Chateau 34.53 88 eP P 19 48 19.9 -0.7
comp=Z,438nm,1.4s
MCWV LR LR
comp=Z,64µm,18.0s
448A Bay Minette 34.69 107 P P 19 48 23.1 +1.0
baz=314
TRQ Mont Tremblant 34.82 75 eP P 19 48 22.6 -0.6
ALFO Alfred 34.87 76 P P 19 48 22.8 -0.6
BRAL Brewton 35.03 106 eP P 19 48 25.6 +0.5
comp=Z,878nm,1.4s
BRAL LR LR
comp=Z,108µm,19.0s
O56A Blue Knob Stat 35.05 86 P P 19 48 24.3 -0.8
baz=302
DMCQ Dolbeau-Mistas 35.28 69 P P 19 48 26.1 -0.8
SSPA Standing Stone 35.30 85 eP P 19 48 25.9 -1.4
comp=Z,744nm,1.7s
SSPA LR LR
comp=Z,159µm,19.0s
LONY Lake Ozonia 35.50 77 eP P 19 48 27.8 -1.2
comp=Z,754nm,1.3s
LONY LR LR
comp=Z,84µm,20.0s
BLA Blacksburg 35.51 92 eP P 19 48 28.7 -0.5
BLA pmax pmax
comp=Z,544nm,1.1s
BLA MLR MLR
comp=Z,185µm,18.0s
BLA Blacksburg 35.51 92 eP P 19 48 28.7 -0.5
comp=Z,544nm,1.1s
BLA LR LR
comp=Z,185µm,18.0s
BINY Binghamton 35.74 82 eP P 19 48 29.8 -1.3
comp=Z,685nm,1.3s
BINY LR LR
comp=Z,250µm,18.0s
VWCC Virginia Weste 35.78 92 eP P 19 48 30.9 -0.5
GOGA Godfrey 35.84 100 eP P 19 48 31.5 -0.4
GOGA pmax pmax
comp=Z,710nm,1.1s
GOGA Godfrey 35.84 100 eP P 19 48 31.2 -0.7
comp=Z,705nm,1.1s
GOGA LR LR
comp=Z,78µm,20.0s
NCB Newcomb 36.03 78 eP P 19 48 32.6 -0.9
comp=Z,4.7nm,1.4s
NCB LR LR
comp=Z,2µm,19.0s
FRNY Flat Rock 36.04 76 eP P 19 48 31.8 -1.8
comp=Z,664nm,1.2s
FRNY LR LR
comp=Z,129µm,18.0s
KMSC Kings Mountain 36.14 96 P P 19 48 34.2 -0.3
baz=308
KMSC Kings Mountain 36.14 96 eP P 19 48 33.7 -0.8
comp=Z,883nm,1.4s
KMSC LR LR
comp=Z,238µm,18.0s
MOIG Morella 36.16 136 eP P 19 48 36.4 +1.4
comp=Z,661nm,1.5s
MOIG LR LR
comp=Z,87µm,20.0s
KSPA Keystone Colle 36.20 83 eP P 19 48 33.4 -1.6
comp=Z,1µm,1.9s
KSPA LR LR
comp=Z,160µm,18.0s
SMY Shemya 36.24 298 eP P 19 48 34.8 -0.4
SMY pmax pmax
comp=Z,2µm,1.7s
SMY Shemya 36.24 298 eP P 19 48 33.9 -1.3
comp=Z,2µm,1.7s

SMY LR LR
comp=Z,20µm,20.0s
SCHQ Schefferville 36.38 58 P P 19 48 36.4 +0.1
comp=Z,187nm,1.0s,baz=295,slow=8.1,SNR=31
SCHQ LR LR 20 03 07.3
comp=Z,61µm,18.1s,baz=290,slow=36
SCHQ Schefferville 36.38 58 P P 19 48 36.5 +0.1
SCHQ Schefferville 36.38 58 eP P 19 48 35.3 -1.1
comp=Z,841nm,1.5s
N59A State Game Lan 36.53 83 P P 19 48 36.8 -1.1
baz=301
SDMD Soldier's Deli 36.63 86 eP P 19 48 37.4 -1.2
comp=Z,93nm,1.3s
SDMD LR LR
comp=Z,31µm,18.0s
MVL Millersville 36.63 85 eP P 19 48 37.4 -1.2
comp=Z,287nm,1.2s
MVL LR LR
comp=Z,199µm,19.0s
ACCN Adirondack Com 36.66 79 eP P 19 48 37.5 -1.5
comp=Z,455nm,1.3s
ACCN LR LR
comp=Z,109µm,18.0s
MDV Middlebury 36.68 77 eP P 19 48 37.9 -1.2
JSC Jenkinsville 36.72 97 eP P 19 48 39.2 -0.2
JSC pmax pmax
comp=Z,870nm,1.1s
JSC Jenkinsville 36.72 97 eP P 19 48 39.0 -0.5
comp=Z,873nm,1.2s
JSC LR LR
comp=Z,190µm,22.0s
HLK Haleakala 36.81 230 eP P 19 48 41.0 +0.4
comp=Z,338nm,1.2s
HLK LR LR
comp=Z,24µm,20.0s
A54 Misere 36.89 71 P P 19 48 40.2 -0.6
JSRW J. Sargeant Re 36.90 89 eP P 19 48 40.5 -0.5
LMQ La Malbaie 36.91 71 P P 19 48 39.8 -1.2
LMQ La Malbaie 36.91 71 eP P 19 48 40.0 -1.0
OPA Opana 36.93 233 eP P 19 48 42.1 +0.7
OPA pmax pmax
comp=Z,1µm,2.0s
OPA MLR MLR
comp=Z,23µm,21.0s
OPA Opana 36.93 233 eP P 19 48 42.1 +0.7
comp=Z,1µm,2.0s
OPA LR LR
comp=Z,23µm,21.0s
CBN Corbin Frederi 36.94 88 eP P 19 48 41.1 -0.2
comp=Z,490nm,1.0s
CBN LR LR
comp=Z,109µm,19.0s
LUPA Lehigh Univers 36.95 84 eP P 19 48 40.2 -1.2
comp=Z,1µm,1.8s
LUPA LR LR
comp=Z,241µm,19.0s
TRY Troy 36.98 80 eP P 19 48 41.1 -0.5
comp=Z,2µm,1.4s
TRY LR LR
comp=Z,324µm,18.0s
BILL Bilibino 36.99 325 c iP P 19 48 41.4 0.0
BILL i *PP sP 19 48 48.0 -0.1
BILL i *SP pP 19 48 52.5 +6.4
BILL i 19 50 10.0
BILL e 19 50 24.8
BILL i 19 50 59.6
BILL i S S 19 54 30.5 +4.7
BILL i 19 54 42.5
BILL eSS SnSn 19 56 53.5 -5.2
BILL eSSS SSS 19 57 28.1
BILL pmax pmax
comp=Z,253nm,1.6s
BILL MLR MLR
comp=Z,46µm,15.0s
TIGA Tifton 37.04 102 P P 19 48 41.4 -0.8
baz=312
TIGA Tifton 37.04 102 eP P 19 48 41.4 -0.8
comp=Z,587nm,1.3s
TIGA LR LR
comp=Z,71µm,18.0s
A16 Riviere Ouelle 37.14 71 P P 19 48 42.7 -0.2
KIP Kipapa 37.15 233 ⇑ iP P 19 48 44.5 +1.3
KIP pmax pmax
comp=Z,3µm,1.7s
KIP MLR MLR
comp=Z,70µm,16.0s
KIP Kipapa 37.15 233 eP P 19 48 44.1 +0.8
comp=Z,210nm,1.1s
KIP LR LR
comp=Z,25µm,19.0s
HPAH Hawaii Prepara 37.16 228 eP P 19 48 43.8 +0.4
comp=Z,322nm,1.1s
HPAH LR LR
comp=Z,29µm,22.0s
URVA University of 37.19 89 eP P 19 48 43.4 -0.1
ODNJ Ogdensburg 37.20 82 eP P 19 48 42.4 -1.1
comp=Z,694nm,1.5s
ODNJ LR LR
comp=Z,108µm,18.0s
PSUB Penn St. - Bra 37.26 85 eP P 19 48 42.5 -1.5
comp=Z,322nm,1.4s
PSUB LR LR
comp=Z,300µm,18.0s
POHA Pohakuloa 37.31 228 eP P 19 48 45.2 +0.3
comp=Z,418nm,1.5s
POHA LR LR
comp=Z,25µm,20.0s
LBNH Lisbon 37.37 76 eP P 19 48 44.2 -0.7
LBNH pmax pmax
comp=Z,622nm,1.3s
LBNH MLR MLR
comp=Z,110µm,19.0s
LBNH Lisbon 37.37 76 eP P 19 48 44.2 -0.7
comp=Z,622nm,1.3s
LBNH LR LR
comp=Z,110µm,19.0s
HNH Hanover 37.39 77 eP P 19 48 44.6 -0.4
comp=Z,541nm,1.3s
HNH LR LR
comp=Z,194µm,18.0s
UNM Universidad Na 37.40 133 eP P 19 48 46.3 +0.6
UNM pmax pmax
comp=Z,1µm,1.9s
UNM MLR MLR
comp=Z,134µm,18.0s
UNM Universidad Na 37.40 133 eP P 19 48 46.2 +0.6
comp=Z,1µm,1.9s
UNM LR LR
comp=Z,134µm,18.0s
BRNJ Basking Ridge 37.43 83 eP P 19 48 44.1 -1.4
comp=Z,871nm,1.5s
BRNJ LR LR
comp=Z,201µm,18.0s
UWE Uwekahuna 37.48 227 eP P 19 48 45.9 -0.3
comp=Z,756nm,1.7s
UWE LR LR
comp=Z,29µm,19.0s
MLOA Mauna Loa Obse 37.52 228 eP P 19 48 47.3 +0.4
comp=Z,1µm,1.4s
MLOA LR LR
comp=Z,30µm,20.0s
KEKH Kekaha 37.59 235 eP P 19 48 47.3 +0.4
comp=Z,418nm,1.1s
KEKH LR LR
comp=Z,28µm,20.0s
PAL Palisades 37.69 82 eP P 19 48 47.2 -0.4
PAL pmax pmax
comp=Z,560nm,1.3s
PAL Palisades 37.69 82 eP P 19 48 46.4 -1.3
comp=Z,558nm,1.4s
PAL LR LR
comp=Z,151µm,20.0s
CPNY Central Park 37.77 82 eP P 19 48 46.6 -1.7
comp=Z,1µm,1.5s
CPNY LR LR
comp=Z,134µm,20.0s
KULLO Kullorsuaq 37.85 24 ⇓ iP P 19 48 48.0 -0.6
KULLO i 19 49 04.1
KULLO Kullorsuaq 37.85 24 ⇓ iP P 19 48 48.0 -0.6
FFD Franklin Falls 37.91 77 eP P 19 48 49.3 -0.1
comp=Z,864nm,1.2s
FFD LR LR
comp=Z,236µm,18.0s
ICQ Pointe Anglais 37.96 66 P P 19 48 48.1 -1.7
QUA2 Belchertown 38.05 79 eP P 19 48 49.5 -1.2
comp=Z,862nm,1.2s
QUA2 LR LR

comp=Z,157µm,22.0s
NHSC New Hope 38.16 97 *e*P P 19 48 50.9 -0.7
comp=Z,1µm,1.2s
NHSC LR LR
comp=Z,211µm,22.0s
YLE Yale 38.16 81 *e*P P 19 48 50.6 -1.0
comp=Z,1µm,1.4s
YLE LR LR
comp=Z,152µm,22.0s
RGRS Roger Stewart 38.27 98 *e*P P 19 48 52.0 -0.6
comp=Z,2µm,0.9s
CSU Charleston Sou 38.30 97 *e*P P 19 48 52.2 -0.7
CNNC Cliffs of the 38.33 93 *e*P P 19 48 52.8 -0.3
comp=Z,480nm,1.0s
CNNC LR LR
comp=Z,153µm,18.0s
LVIG Laguna Verde 38.41 129 *e*P P 19 48 53.5 -0.4
comp=Z,137nm,1.1s
LVIG LR LR
comp=Z,44µm,18.0s
HRV Adam Dziewonsk 38.44 79 *e*P P 19 48 53.1 -0.9
HRV pmax pmax
comp=Z,619nm,1.3s
HRV MLR MLR
comp=Z,94µm,18.0s
HRV Adam Dziewonsk 38.44 79 *e*P P 19 48 53.1 -0.9
comp=Z,619nm,1.3s
HRV LR LR
comp=Z,94µm,18.0s
PKME Peaks-Kenny Pk 38.55 73 *e*P P 19 48 54.1 -0.7
comp=Z,343nm,1.2s
PKME LR LR
comp=Z,112µm,18.0s
WVL Waterville 38.65 75 *e*P P 19 48 54.8 -0.9
comp=Z,1µm,1.3s
WVL LR LR
comp=Z,242µm,18.0s
WES Weston 38.65 79 *e*P P 19 48 55.0 -0.8
WES pmax pmax
comp=Z,621nm,1.1s
WES MLR MLR
comp=Z,165µm,18.0s
WES Weston 38.65 79 *e*P P 19 48 55.0 -0.8
comp=Z,621nm,1.1s
WES LR LR
comp=Z,165µm,18.0s
PQI Presque Isle 38.71 71 *e*P P 19 48 54.6 -1.5
comp=Z,393nm,1.1s
PQI LR LR
comp=Z,179µm,19.0s
BRYW Bryant College 38.75 79 *e*P P 19 48 55.9 -0.7
comp=Z,1µm,1.3s
BRYW LR LR
comp=Z,263µm,18.0s
BCX Boston College 38.78 79 *e*P P 19 48 56.6 -0.2
comp=Z,2µm,1.3s
BCX LR LR
comp=Z,250µm,18.0s
TLIG Tlapa 39.21 134 *e*P P 19 49 01.2 +0.4
comp=Z,349nm,1.3s
TLIG LR LR
comp=Z,146µm,21.0s
BATG Bathurst New B 39.64 69 P P 19 49 03.6 -0.4
EMMW East Machias 39.96 73 *e*P P 19 49 06.0 -0.6
comp=Z,523nm,1.1s
EMMW LR LR
comp=Z,62µm,19.0s
GGN Saint George 40.15 72 P P 19 49 08.2 0.0
GGN Saint George 40.15 72 *e*P P 19 49 07.5 -0.7
comp=Z,505nm,1.1s
GGN LR LR
comp=Z,62µm,20.0s
DWPF Disney Wildern 40.67 104 *e*P P 19 49 11.9 -0.8
comp=Z,638nm,1.4s
DWPF LR LR
comp=Z,64µm,21.0s
TUIG Tuzandepetl 40.85 128 *e*P P 19 49 15.0 +0.8
comp=Z,794nm,1.5s
TUIG LR LR
comp=Z,38µm,20.0s
SFJD Kangerlussuaq 40.86 36 P P 19 49 14.2 +0.4
comp=Z,43nm,0.8s,baz=302,slow=10,SNR=7.4
SFJD Kangerlussuaq 40.86 36 *i*P P 19 49 15.3 +1.5
SFJD Kangerlussuaq 40.86 36 *i*P P 19 49 15.3 +1.5
SFJD Kangerlussuaq 40.86 36 *e*P P 19 49 13.7 -0.1
comp=Z,384nm,1.4s
SFJD LR LR
comp=Z,61µm,18.0s
LMN Caledonia Moun 41.06 70 P P 19 49 14.7 -1.0
LMN Caledonia Moun 41.06 70 *e*P P 19 49 15.4 -0.4
comp=Z,472nm,1.1s
LMN LR LR
comp=Z,75µm,20.0s
CMIG Matias Romero 41.41 130 P P 19 49 18.7 -0.1
comp=Z,36nm,0.7s,baz=320,slow=7.3,SNR=35
SCIG Sabancuy 41.79 124 *e*P P 19 49 20.7 -1.2
comp=Z,735nm,1.3s
SCIG LR LR
comp=Z,26µm,19.0s
TEIG Tepich 42.40 119 P P 19 49 27.1 +0.2
comp=Z,5.0nm,1.0s,baz=312,slow=24,SNR=16
TEIG Tepich 42.40 119 *e*P P 19 49 26.3 -0.6
comp=Z,15nm,1.0s
TEIG LR LR
comp=Z,26µm,22.0s
CHEG Cheticamp, Nov 43.12 67 P P 19 49 31.7 -0.8
CCIG Comitan 43.49 127 *e*P P 19 49 36.7 +0.7
comp=Z,233nm,1.1s
CCIG LR LR
comp=Z,45µm,20.0s
MIDW Midway 43.59 260 *e*P P 19 49 35.9 -0.6
comp=Z,360nm,1.6s
MIDW LR LR
comp=Z,22µm,22.0s
SEY Seymchan 43.76 319 LR LR 20 09 09.6
comp=Z,42µm,18.4s,baz=70,slow=38
SEY Seymchan 43.76 319*c i*P P 19 49 37.7 +0.2
DRLN Deer Lake 43.83 62 P P 19 49 38.1 -0.1
DRLN Deer Lake 43.83 62 *e*P P 19 49 37.6 -0.6
comp=Z,1µm,1.8s
DRLN LR LR
comp=Z,166µm,18.0s
PET Petropavlovsk 44.75 304 *e*P P 19 49 45.2 -0.3
PET *e* 19 51 31.5
PET *e*S S 19 56 20.1 -1.4
PET pmax pmax
comp=Z,5µm,12.5s
PET pmax pmax
comp=Z,569nm,1.2s
PET pmax pmax
comp=Z,6µm,13.7s
PET Petropavlovsk 44.75 304 *e*P P 19 49 45.0 -0.5
comp=Z,724nm,1.2s
PET LR LR
comp=Z,19µm,21.0s
NRS Narsarsuaq 44.92 43 *i*P P 19 49 47.4 +0.7
NRS Narsarsuaq 44.92 43 *i*P P 19 49 47.4 +0.7
PEA0 Petropavlovsk- 45.23 305 *e*P P 19 49 48.9 -0.4
PEA0B Petropavlovsk- 45.23 305 *e*P P 19 49 48.4 -0.9
comp=Z,1µm,1.4s
PEA0B LR LR
comp=Z,21µm,22.0s
PETK Petropavlovsk- 45.23 305 P P 19 49 49.4 +0.1
comp=Z,86nm,0.8s,baz=76,slow=13,SNR=80
PETK PP PP 19 51 34.7 -0.1
comp=Z,23nm,0.9s,baz=79,slow=7.5,SNR=3.4
PETK LR LR 20 09 19.3
comp=Z,12µm,18.4s,baz=65,slow=37
MA2 Magadan 45.82 315 LR LR 20 07 53.4
comp=Z,37µm,21.8s,baz=64,slow=34
MA2 Magadan 45.82 315*ce*P P 19 49 54.3 +0.4
SKR Severo-Kuril's 47.25 302*c i*P P 19 50 02.6 -2.6
SKR *e* 19 51 53.6
SKR *i*S S 19 56 57.0 -0.4
SKR pmax pmax
comp=Z,3µm,9.0s
SKR pmax pmax
comp=Z,4µm,7.7s
SKR pmax pmax
comp=Z,439nm,1.2s
SKR pmax pmax
comp=Z,6µm,10.4s
SKR MLR MLR
comp=Z,7µm,16.0s
JOHN Johnston Islan 47.27 242 *e*P P 19 50 05.7 0.0
comp=Z,550nm,1.3s
JOHN LR LR

comp=Z,26µm,20.0s
TGUH Tegucigalpa,Un 47.94 123 *e*P P 19 50 11.8 +0.9
comp=Z,546nm,1.3s
TGUH LR LR
comp=Z,61µm,19.0s
TIXI Tiksi 48.11 336*c i*P P 19 50 11.1 -0.5
TIXI pmax pmax
comp=Z,92nm,2.5s
TIXI MLR MLR
comp=Z,65µm,18.0s
TIXI Tiksi 48.11 336 *e*P P 19 50 10.4 -1.2
comp=Z,404nm,1.7s
TIXI LR LR
comp=Z,70µm,19.0s
BBSR BB Station 48.72 86 *e*P P 19 50 15.6 -1.2
comp=Z,279nm,0.8s
BBSR LR LR
comp=Z,78µm,19.0s
KBS Kingsbay 49.66 10 *e*P P 19 50 24.3 +0.9
KBS IVmB_BB 19 50 41.4
comp=Z,3µm,3.0s
KBS *e*PP PP 19 52 18.7 +1.3
KBS IVMs_BB IVMs_BB 20 11 56.6
comp=Z,19µm,18.9s
KBS Kingsbay 49.66 10 *e*P P 19 50 24.3 +0.9
KBS Kingsbay 49.66 10 PFAKE 19 50 30.0 +6.6
KBS LR LR
comp=Z,53µm,19.0s
MTDJ Mount Denham 50.33 110 *e*P P 19 50 29.3 0.0
comp=Z,859nm,1.2s
MTDJ LR LR
comp=Z,32µm,19.0s
BBJ Bamboo Saint A 50.37 110⇑*i*P P 19 50 30.1 +0.5
GTBY Guantanamo Bay 50.55 106 *e*P P 19 50 30.6 -0.3
comp=Z,739nm,1.5s
GTBY LR LR
comp=Z,70µm,20.0s
BNJ Bonny Gate 50.61 109⇓*i*P P 19 50 32.3 +0.9
SPB5 Spitsbergen Ar 50.76 9 *e*P P 19 50 31.5 -0.3
SPB4 Spitsbergen Ar 50.76 9 *e*P P 19 50 31.5 -0.3
SPA1 Spitsbergen Ar 50.77 9 *e*P P 19 50 31.5 -0.3
SPA3 Spitsbergen Ar 50.77 9 *e*P P 19 50 31.4 -0.5
SPA0 Spitsbergen Ar 50.77 9⇑*i*P P 19 50 31.5 -0.4
SPA0 IVmB_BB 19 50 49.9
comp=Z,3µm,1.9s
SPA0 *e*S S 19 57 46.5 +0.1
SPA0 IVMs_BB IVMs_BB 20 10 08.0
comp=Z,15µm,19.3s
SPA0 Spitsbergen Ar 50.77 9 *e*P P 19 50 31.3 -0.5
SPB1 Spitsbergen Ar 50.77 9 *e*P P 19 50 31.4 -0.4
SPA2 Spitsbergen Ar 50.77 9 *e*P P 19 50 31.4 -0.4
SPB3 Spitsbergen Ar 50.77 9 *e*P P 19 50 31.3 -0.5
SPB2 Spitsbergen Ar 50.77 9 *e*P P 19 50 31.3 -0.5
STH Stony Hill 50.88 109 *i*P P 19 50 34.0 +0.5
HSPB Hornsund (broa 51.70 10 *e*P P 19 50 39.3 +0.5
HSPB IVmB_BB 19 50 54.2
comp=Z,2µm,4.2s
HSPB IVMs_BB IVMs_BB 20 09 48.1
comp=Z,18µm,22.6s
HSPB Hornsund (broa 51.70 10 *e*P P 19 50 40.0 +1.2
HSPB *e**PP sP 19 50 46.0 +0.5
HSPB *e*S S 19 57 55.4 -3.7
HSPB *e**SS sS 19 58 08.3 +1.2
HSPB MLR MLR
comp=Z,65µm,23.4s
GRTK Grand Turk 51.92 101 *e*P P 19 50 40.6 -0.6
comp=Z,606nm,1.4s
GRTK LR LR
comp=Z,52µm,18.0s
JMIC Jan Mayen 52.21 21 *e*P P 19 50 42.6 -0.1
JMIC IVMs_BB IVMs_BB 20 15 34.1
comp=Z,12µm,12.5s
JTS JuntasAbangare 52.31 123 P P 19 50 41.9 -2.2
comp=Z,22nm,0.8s,baz=336,slow=4.2,SNR=11
JTS JuntasAbangare 52.31 123 P P 19 50 41.9 -2.2
JTS LR LR
comp=Z,33µm,20.0s
BORG Borgarnes 52.57 31 *e*P P 19 50 46.0 +0.6
BORG pmax pmax
comp=Z,577nm,1.5s
BORG MLR MLR
comp=Z,41µm,21.0s
BORG Borgarnes 52.57 31 *e*P P 19 50 46.0 +0.6
comp=Z,577nm,1.5s
BORG LR LR
comp=Z,41µm,21.0s
HDC Heredia 53.01 123 *e*P P 19 50 48.9 -0.5
comp=Z,109nm,1.0s
HDC LR LR
comp=Z,22µm,20.0s
HOPEN Hopen 53.11 8⇑*i*P P 19 50 49.0 -0.2
HOPEN IVmB_BB 19 51 01.6
comp=Z,3µm,1.9s
HOPEN *e*S S 19 58 18.6 +0.1
HOPEN IVMs_BB IVMs_BB 20 15 35.4
comp=Z,22µm,15.3s
LGNH LØogne 53.18 105 *e*P P 19 50 50.9 +0.4
YAK Yakutsk 53.35 325*c i*P P 19 50 50.4 -0.8
YAK *e**PP sP 19 50 58.8 +0.8
YAK *e* 19 51 57.5
YAK *e* 19 52 47.7
YAK *e*S S 19 58 19.4 -2.6
YAK *e**SS sS 19 58 37.5 +7.5
YAK *e* 20 00 37.5
YAK *e*SS SS 20 02 04.9 +3.7
YAK pmax pmax
comp=Z,111nm,1.5s
YAK pmax pmax
comp=N,78nm,1.4s
YAK pmax pmax
comp=E,61nm,1.3s
YAK pmax pmax
comp=Z,658nm,4.6s
YAK smax smax
comp=N,1µm,4.1s
YAK smax smax
comp=E,3µm,6.3s
YAK MLR MLR
comp=N,27µm,19.0s
YAK MLR MLR
comp=Z,40µm,18.0s
YAK MLR MLR
comp=E,27µm,18.0s
YAK Yakutsk 53.35 325 *e*P P 19 50 51.1 -0.1
comp=E,204nm,0.9s
YAK LR LR
comp=Z,39µm,18.0s
SDDR Presa de Saban 53.66 104 *e*P P 19 50 53.6 -0.6
comp=Z,296nm,0.9s
SDDR LR LR
comp=Z,34µm,20.0s
XMAS Kiritimati 53.83 219 *e*P P 19 50 55.3 +0.1
comp=Z,491nm,1.4s
XMAS LR LR
comp=Z,24µm,19.0s
NKL Nikolayevsk 53.93 312 *e*P P 19 50 55.0 -0.6
NKL *e* 19 52 52.0
NKL pmax pmax
comp=N,500nm,2.0s
NKL pmax pmax
comp=E,400nm,2.0s
NKL pmax pmax
comp=Z,2µm,2.0s
NKL pmax pmax
comp=N,3µm,13.0s
NKL pmax pmax
comp=E,2µm,13.0s
NKL pmax pmax
comp=Z,4µm,14.0s
BJO Bjornoya 54.33 11 *e*P P 19 50 58.2 -0.1
BJO IVmB_BB 19 51 15.1
comp=Z,3µm,3.2s
BJO *e*S S 19 58 36.2 +1.2
BJO IVMs_BB IVMs_BB 20 13 09.9
comp=Z,19µm,17.5s
KUR Kuril'sk 54.88 301 *e*P P 19 51 03.4 +0.8
KUR *e*S S 19 58 42.1 -1.0
KUR *e*SS SS 20 02 29.5 +3.6
KUR pmax pmax
comp=Z,3µm,9.5s
KUR MLR MLR
comp=Z,10µm,16.0s
SDD Santo Domingo 54.92 103 *e*P P 19 51 02.7 -0.5
comp=Z,899nm,1.3s
IDE Isla Desecheo 56.54 101 *e*P P 19 51 14.6 -0.3
YSS Yuzh-Sakhalins 56.63 305*ce*P P 19 51 13.5 -1.6

YSS *e**PP sP 19 51 21.4 -0.5
YSS *e*SP 19 51 27.0
YSS *e* 19 52 06.8
YSS *e* 19 53 26.5
YSS *e* 19 54 40.0
YSS *e*S S 19 59 06.3 -0.1
YSS *e**SS sS 19 59 22.0 +7.5
YSS *e* 20 01 01.6
YSS pmax pmax
comp=Z,900nm,11.6s
YSS pmax pmax
comp=Z,70nm,0.8s
YSS MLR MLR
comp=Z,22µm,16.0s
YSS MLR MLR
comp=N,9µm,17.0s
YSS MLR MLR
comp=E,24µm,17.0s
YSS Yuzh-Sakhalins 56.63 305 *e*P P 19 51 14.6 -0.6
comp=E,333nm,1.2s
YSS LR LR
comp=Z,9µm,18.0s
AGP Aguadilla 56.73 101 *e*P P 19 51 14.8 -1.5
comp=Z,483nm,1.2s
AGP LR LR
comp=Z,42µm,19.0s
YUK Yuzh-Kuril'sk 56.74 301 *e*P P 19 51 14.7 -1.3
MPR Mayaguez 56.88 101 *e*P P 19 51 16.5 -0.7
comp=Z,358nm,1.1s
MPR LR LR
comp=Z,28µm,18.0s
CELP Cerrillos 57.34 100 *e*P P 19 51 20.4 -0.1
SJG San Juan 57.59 100 *e*P P 19 51 21.5 -0.8
SJG pmax pmax
comp=Z,226nm,1.0s
SJG MLR MLR
comp=Z,43µm,19.0s
SJG San Juan 57.59 100 *e*P P 19 51 20.7 -1.6
SJG San Juan 57.59 100 *e*P P 19 51 21.5 -0.8
comp=Z,226nm,1.0s
SJG LR LR
comp=Z,43µm,19.0s
CBYP Canovanas 57.66 100 *e*P P 19 51 21.6 -1.3
comp=Z,348nm,1.3s
CBYP LR LR
comp=Z,47µm,19.0s
HUMP Col San Antoni 57.76 100 *e*P P 19 51 22.2 -1.3
comp=Z,286nm,1.0s
HUMP LR LR
comp=Z,42µm,19.0s
CAPC Capurgana 57.95 117 *e*P P 19 51 24.1 -0.8
STVI Saint Thomas 58.18 99 *e*P P 19 51 25.3 -1.2
comp=Z,793nm,2.0s
STVI LR LR
comp=Z,42µm,18.0s
SJCC San Jacinto, C 58.22 114 *e*P P 19 51 26.3 -0.5
HAMF Hammerfest 58.43 11⇓*i*P P 19 51 26.2 -1.2
HAMF IVmB_BB 19 51 41.3
comp=Z,3µm,4.4s
HAMF *e*S S 19 59 28.8 -0.7
HAMF IVMs_BB IVMs_BB 20 12 58.7
comp=Z,12µm,22.1s
ASAJ Asahikawa 58.51 302 *e*P P 19 51 28.5 +0.1
comp=Z,462nm,1.6s
CLNS Chul'man 58.59 322 *e*P P 19 51 28.1 -0.8
CLNS *e**PP sP 19 51 40.7 +5.0
CLNS *e* 19 55 06.8
CLNS *e*S S 19 59 26.2 -5.8
CLNS pmax pmax
comp=Z,125nm,1.0s
CLNS pmax pmax
comp=E,86nm,1.1s
CLNS pmax pmax
comp=N,77nm,1.1s
TRO Tromso 58.71 13 *e*P P 19 51 29.7 +0.3
TRO IVmB_BB 19 51 51.1
comp=Z,4µm,3.4s
TRO *e*S S 19 59 33.2 +0.2
TRO IVMs_BB IVMs_BB 20 15 59.7
comp=Z,11µm,21.2s
URIC Uribia, Colomb 58.73 110 *e*P P 19 51 29.7 -0.6
CDVI St. Croix 58.74 99 *e*P P 19 51 28.8 -1.6
comp=Z,186nm,0.8s
MOTC Monteria, Cord 58.82 115 *e*P P 19 51 30.3 -0.6
NRIK Noril'sk 58.88 346 P P 19 51 30.2 -0.4
comp=Z,28nm,1.0s,baz=44,slow=4.9,SNR=20
NRIK LR LR 20 19 31.5
comp=Z,36µm,19.3s,baz=43,slow=39
NRIK PKP2bc 20 21 13.9
comp=Z,5.7nm,0.6s,baz=144,slow=2.6,SNR=3.5
PAYG Puerto Ayora 59.04 136 *e*P P 19 51 32.5 +0.1
comp=Z,261nm,1.1s
PAYG LR LR
comp=Z,25µm,20.0s
TAOE Nuku Hiva Isla 59.12 195 *e*P P 19 51 33.9 +0.9
comp=Z,678nm,1.5s
TAOE *e*S S 19 59 41.3 +1.6
comp=Z,25µm,28.0s
TAOE *e*LQ LQ 20 06 25.2
comp=Z,45µm,29.8s
TAOE *e*LR LR 20 08 58.9
comp=Z,17µm,29.7s,baz=23
TAOE Nuku Hiva Isla 59.12 195 *e*T T 20 55 20.9
comp=Z,484nm,0.2s
LOF Lofoten 59.16 16⇑*i*P P 19 51 32.5 -0.1
LOF IVmB_BB 19 51 49.4
comp=Z,3µm,2.9s
LOF *e*PP PP 19 53 44.1 +1.4
LOF *e*S S 19 59 40.9 +2.0
LOF IVMs_BB IVMs_BB 20 16 30.1
comp=Z,12µm,18.3s
CODC Agust´›n Codaz 59.23 113 *e*P P 19 51 33.1 -0.6
MAPC Malpelo 59.35 124 *e*P P 19 51 34.3 -0.3
ERM Erimo 59.56 300 *e*P P 19 51 35.9 +0.2
ERM pmax pmax
comp=Z,337nm,1.5s
ERM MLR MLR
comp=Z,16µm,19.0s
ERM Erimo 59.56 300 *e*P P 19 51 35.9 +0.2
comp=Z,337nm,1.5s
ERM LR LR
comp=Z,16µm,19.0s
SMRT St. Maarten 59.62 98 *e*P P 19 51 34.9 -1.6
comp=Z,254nm,1.0s
SMRT LR LR
comp=Z,45µm,21.0s
STEI Steigen 59.64 16 *e*P P 19 51 35.6 -0.3
STEI IVmB_BB 19 51 50.5
comp=Z,3µm,5.3s
HABR Khabarovsk 59.64 310*de*P P 19 51 34.3 -1.9
HABR *e**PP pP 19 51 40.7 -0.4
HABR *e**SP sP 19 51 43.3 +0.3
HABR *e* 19 52 21.3
HABR *e* 19 53 46.0
HABR *e*S S 19 59 43.8 -1.9
HABR *e**SS sS 19 59 54.7 +0.9
HABR *e* 20 01 23.4
HABR *e*SS SS 20 03 41.0 +0.4
HABR pmax pmax
comp=Z,181nm,1.1s
HABR pmax pmax
comp=Z,2µm,3.2s
HABR MLR MLR
comp=Z,23µm,20.0s
KEV Kevo 59.66 10 *e*P P 19 51 34.8 -1.2
KEV MLR MLR
comp=Z,25µm,20.0s
KEV Kevo 59.66 10 *e*P P 19 51 34.8 -1.2
KEV LR LR
comp=Z,25µm,20.0s
ARA0 ARCESS Array S 59.69 11 *e*P P 19 51 34.3 -1.9
ARCES ARCESS Array B 59.69 11 P P 19 51 35.2 -1.0
comp=Z,9.1nm,1.0s,baz=8.9,slow=8.6,SNR=19
ARCES LR LR 20 17 52.0
comp=Z,26µm,18.8s,baz=344,slow=36
ARCES PKP2bc 20 21 13.7
comp=Z,11nm,1.2s,baz=134,slow=3.5,SNR=7.8
ARE0 ARCESS Array S 59.69 11 *e*P P 19 51 35.7 -0.6
ARE0 IVmB_BB 19 51 52.6
comp=Z,2µm,2.9s
ARE0 *e*S S 19 59 46.0 +0.2
ARE0 IVMs_BB IVMs_BB 20 14 00.2
comp=Z,11µm,24.9s
ARE0 ARCESS Array S 59.69 11 *e*P P 19 51 34.4 -1.9
comp=Z,131nm,1.4s
ARE0 LR LR

comp=Z,29µm,19.0s
H11N2 WAKE ISLAND Hy 59.73 265 T T 20 56 30.9
baz=43,slow=76,SNR=6347
H11N3 WAKE ISLAND Hy 59.73 265 T T 20 56 31.0
baz=43,slow=76
H11N1 WAKE ISLAND Hy 59.75 265 T T 20 56 32.1
baz=43,slow=76
SABA Saba 59.82 98 *e*P **P 19 51 36.7 -1.2**
comp=Z,170nm,0.8s
SABA LR LR
comp=Z,51µm,21.0s
KTK1 Kautokeino 59.89 12⇑ *i*P **P 19 51 37.1 -0.6**
KTK1 IVmB_BB 19 51 45.7
comp=Z,3µm,1.5s
KTK1 IVMs_BB IVMs_BB 20 13 54.0
comp=Z,12µm,26.4s
SEUS St. Eustatius 60.09 98 *e*P **P 19 51 37.9 -1.8**
comp=Z,413nm,1.1s
SEUS LR LR
comp=Z,54µm,20.0s
WAKE Wake Island 60.21 265 PFAKE 19 51 50.0 +10
WAKE LR LR
comp=Z,14µm,18.0s
ZARC Zaragoza, Cauc 60.32 116 *e*P **P 19 51 39.4 -1.9**
KONS Konsvik 60.52 17⇑ *i*P **P 19 51 41.9 0.0**
KONS IVmB_BB 19 51 57.0
comp=Z,3µm,4.9s
STOK Stokkvaagen 60.64 17⇑ *i*P **P 19 51 42.9 +0.1**
STOK IVmB_BB 19 51 57.9
comp=Z,4µm,4.5s
STOK IVMs_BB IVMs_BB 20 14 57.8
comp=Z,12µm,23.2s
ANWB Willy Bob 60.73 97 PFAKE 19 52 00.0 +16
ANWB LR LR
comp=Z,49µm,19.0s
H11S1 WAKE ISLAND Hy 60.74 265 T T 20 57 40.6
baz=42,slow=76,SNR=895
H11S2 WAKE ISLAND Hy 60.75 265 T T 20 57 41.2
baz=42,slow=76,SNR=842
KLR Kul'dur 60.76 313 *e*P **P 19 51 43.3 -0.5**
H11S3 WAKE ISLAND Hy 60.76 265 T T 20 57 42.0
baz=42,slow=76,SNR=988
HELC Santa Helena 60.97 117 *e*P **P 19 51 46.2 0.0**
HELC Santa Helena 60.97 117 *e*P **P 19 51 45.9 -0.3**
comp=Z,364nm,1.1s
HELC LR LR
comp=Z,28µm,20.0s
MOR8 Moi Rana 61.06 17 *e*P **P 19 51 45.3 -0.4**
MOR8 IVmB_BB 19 52 02.5
comp=Z,3µm,2.5s
MOR8 *e*S **S 20 00 03.3 -0.1**
MOR8 IVMs_BB IVMs_BB 20 17 36.0
comp=Z,10µm,21.1s
BRRC Barranca, Sant 61.31 115 *e*P **P 19 51 46.8 -1.3**
GIRC Giron, Santand 61.64 114 *e*P **P 19 51 50.1 -0.3**
PAMC Pamplona, Colo 61.73 114 *e*P **P 19 51 50.1 -1.3**
SDV Santo Domingo 61.76 111 *e*P **P 19 51 50.7 -0.5**
comp=Z,174nm,1.3s
SDV LR LR
comp=Z,24µm,19.0s
GDHS Morne Mazeau, 61.77 98 *e*P **P 19 51 49.9 -1.3**
comp=Z,451nm,1.0s
GDHS LR LR
comp=Z,41µm,20.0s
GUYC Guyana, Colomb 61.84 118 *e*P **P 19 51 52.4 +0.3**
NORC Norcasia 61.86 117 *e*P **P 19 51 51.3 -0.5**
BOD Bodaibo 61.95 328 *e*P **P 19 51 50.0 -1.8**
BOD pmax pmax
comp=Z,227nm,1.6s
HMG Houelmont 62.02 98 *e*P **P 19 51 51.6 -1.3**
BARC Barichara 62.03 115 *e*P **P 19 51 53.0 -0.2**
GRGC Isla de Gorgon 62.07 122 *e*P **P 19 51 52.4 -0.7**
YEL1 Yell 62.07 27 *e*P **P 19 51 52.5 0.0**
LVZ Lovozero 62.23 8*d i*P **P 19 51 52.5 -1.1**
LVZ pmax pmax
comp=Z,159nm,1.7s
LVZ MLR MLR
comp=Z,27µm,18.0s
LVZ Lovozero 62.23 8 *e*P **P 19 51 52.2 -1.4**
comp=Z,261nm,1.2s
LVZ LR LR
comp=Z,27µm,18.0s
RRH Rhenigidale 62.37 31 *e*P **P 19 51 53.9 -0.6**
LRW Lerwick 62.38 27 *e*P **P 19 51 53.2 -1.4**
LRW AMS AMS 20 18 37.5
comp=Z,30µm,18.1s
TOLC Tolima 62.39 118 *e*P **P 19 51 55.8 +0.1**
APA Apatity 62.44 8⇓ *i*P **P 19 51 53.4 -1.5**
APA *i* 19 54 14.0
APA *i* S S 20 00 13.0 -7.8
APA *i* PS **PnS 20 00 30.0 -6.1**
APA *i* SS **SS 20 04 26.0 +2.4**
APA pmax pmax
comp=Z,14nm,1.0s
SAN1 Sandwick 62.45 27 *e*P **P 19 51 54.9 -0.2**
RUSC La Rusia 62.65 115 *e*P **P 19 51 56.4 -1.2**
RUSC La Rusia 62.65 115 *e*P **P 19 51 56.3 -1.2**
comp=Z,412nm,1.5s
RUSC LR LR
comp=Z,9µm,18.0s
CTAB Cerro Tablazo, 62.70 117 *e*P **P 19 51 58.1 +0.2**
MOL Molde 62.72 22 *e*P **P 19 51 57.3 +0.5**
MOL IVmB_BB 19 52 12.0
comp=Z,2µm,4.6s
MOL *e*S **S 20 00 27.4 +3.0**
MOL IVMs_BB IVMs_BB 20 17 45.5
comp=Z,11µm,24.2s
TUMC Tumaco 62.74 123 *e*P **P 19 51 56.4 -1.2**
TBLU Trondheim 62.76 20 *e*P **P 19 51 57.0 -0.1**
TBLU IVmB_BB 19 52 11.7
comp=Z,3µm,3.7s
TBLU *e*S **S 20 00 24.5 -0.5**
TBLU IVMs_BB IVMs_BB 20 17 14.9
comp=Z,12µm,20.4s
ROSC El Rosal 62.77 117 P **P 19 51 59.3 +1.0**
comp=Z,67nm,1.1s,baz=335,slow=8.1,SNR=53
ROSC LR LR 20 24 01.6
comp=Z,9µm,18.4s,baz=336,slow=41
ROSC El Rosal 62.77 117 *e*P **P 19 51 58.1 -0.2**
ROSC El Rosal 62.77 117 *e*P **P 19 51 58.9 +0.7**
comp=Z,264nm,1.3s
FOO Floro 62.91 23 *e*P **P 19 51 59.0 +0.9**
FOO IVmB_BB 19 52 13.3
comp=Z,3µm,4.0s
FOO *e*S **S 20 00 30.9 +4.0**
FOO IVMs_BB IVMs_BB 20 19 57.9
comp=Z,8µm,14.8s
AKN Aaknes 62.92 22 *e*P **P 19 51 58.5 +0.3**
AKN *ep*P **sP 19 52 06.4 +1.4**
AKN IVmB_BB 19 52 18.4
comp=Z,2µm,2.8s
AKN *e*S **S 20 00 24.7 -2.4**
AKN IVMs_BB IVMs_BB 20 22 04.4
comp=Z,10µm,17.1s
KAC Achnashellach 63.16 31 *e*P **P 19 51 58.9 -1.0**
KPL Plockton 63.17 31 *e*P **P 19 51 59.5 -0.3**
KPL AMS AMS 20 21 13.8
comp=Z,24µm,14.0s
CXM Morne La Croix 63.23 99 *e*P **P 19 51 59.5 -1.5**
CHIC Chingaza 63.28 116 *e*P **P 19 52 00.4 -1.3**
SUE Sulen 63.29 24 *e*P **P 19 52 04.5 +3.9**
SUE IVmB_BB 19 52 15.8
comp=Z,1µm,4.2s
SUE *e*S **S 20 00 32.9 +1.2**
SUE IVMs_BB IVMs_BB 20 20 09.6
comp=Z,5µm,18.0s
FDF Fort de France 63.30 99 *e*P **P 19 52 00.3 -1.1**
FDF Fort de France 63.30 99 *e*P **P 19 52 00.0 -1.4**
FDF pmax pmax
comp=Z,949nm,1.6s
FDF MLR MLR
comp=Z,47µm,20.0s
FDF Fort de France 63.30 99 *e*P **P 19 51 60.0 -1.4**
comp=Z,948nm,1.6s
FDF LR LR
comp=Z,47µm,20.0s
PRAC Prado 63.35 118 *e*P **P 19 52 00.9 -0.8**
PRAC Prado 63.35 118 *e*P **P 19 52 00.8 -0.9**
comp=Z,335nm,1.3s
PRAC LR LR
comp=Z,10µm,19.0s
BIM Bigot 63.51 99 *e*P **P 19 52 01.6 -1.1**
MDO Dochfour 63.52 31 *e*P **P 19 52 01.6 -0.7**
DOMB Dombas 63.54 21 *e*P **P 19 52 01.8 -0.6**
DOMB *ep*P **sP 19 52 10.3 +1.1**
DOMB IVmB_BB 19 52 17.5
comp=Z,2µm,3.8s
DOMB *e*PP **PP 19 54 22.6 +1.1**
DOMB *e*S **S 20 00 37.2 +2.4**
DOMB IVMs_BB IVMs_BB 20 23 10.7
comp=Z,10µm,16.7s
HYA Hoyanger 63.57 23⇑ *i*P **P 19 52 02.5 0.0**
HYA IVmB_BB 19 52 17.8
comp=Z,3µm,4.1s
MCD Coleburn Disti 63.77 30 *e*P **P 19 52 03.2 -0.7**
BETC Betania 63.87 119 *e*P **P 19 52 05.5 +0.3**
ASK Askoy 63.89 24 *e*P **P 19 52 04.5 -0.1**
ASK IVmB_BB 19 52 20.1
comp=Z,3µm,4.3s
CMBC Cumbal 63.97 123 *e*P **P 19 52 06.6 +0.3**
BER Bergen 64.01 24 *e*P **P 19 52 05.4 0.0**
BER IVmB_BB 19 52 20.8
comp=Z,2µm,3.7s
BER *e*S **S 20 00 42.8 +2.1**
BER IVMs_BB IVMs_BB 20 20 21.4
comp=Z,11µm,16.3s
USRK Ussuriysk Ar. 64.11 308 P **P 19 52 05.8 -0.5**
comp=Z,46nm,0.8s,baz=41,slow=5.5,SNR=92
MCLT Moule a Chique 64.19 99 *e*P **P 19 52 05.8 -1.5**
OTAV Otavalo 64.21 124 *e*P **P 19 52 08.8 +1.0**
comp=Z,774nm,1.4s
OTAV LR LR
comp=Z,14µm,22.0s
SVB Belmont 64.32 100 *e*P **P 19 52 06.4 -1.7**
comp=Z,141nm,0.9s
SVB LR LR
comp=Z,40µm,19.0s
EAB Aberfoyle 64.52 31 *e*P **P 19 52 09.0 +0.2**
DRUM Mains of Drumt 64.56 30 *e*P **P 19 52 08.1 -1.0**
DRUM AMS AMS 20 21 08.7
comp=Z,29µm,15.5s
NC204 NORSAR Array S 64.61 21 *e*P **P 19 52 09.3 -0.1**
EDU Dundee 64.68 31 *e*P **P 19 52 09.3 -0.6**
ODD1 Odda 64.76 24 *e*P **P 19 52 11.2 +0.8**
ODD1 IVmB_BB 19 52 26.9
comp=Z,3µm,4.2s
PGBU Glenifferbraes 64.77 32 *e*P **P 19 52 09.7 -0.7**
PGBU AMS AMS 20 19 05.2
comp=Z,22µm,18.0s
NC303 NORSAR Array S 64.79 21 *e*P **P 19 52 09.6 -0.9**
NBO00 NORSAR Array S 64.82 21 *e*P **P 19 52 10.3 -0.5**
NBO02 NORSAR Array S 64.83 21 *e*P **P 19 52 09.8 -1.0**
GRGR Grenville 64.91 101 *e*P **P 19 52 10.3 -1.7**
GRGR Grenville 64.91 101 *e*P **P 19 52 10.1 -1.8**
comp=Z,241nm,1.0s
GRGR LR LR
comp=Z,31µm,20.0s
NB2 NORSAR Subarra 64.92 21 P **P 19 52 10.8 -0.6**
baz=331,slow=6.9
NB2 NORSAR Subarra 64.92 21 P **P 19 52 11.1 -0.3**
NB2 NORSAR Subarra 64.92 21 P **P 19 52 10.8 -0.6**
comp=Z,215nm,1.4s,baz=331,slow=6.9
NOA NORSAR Array B 64.92 21 P **P 19 52 10.9 -0.6**
comp=Z,17nm,1.0s,baz=330,slow=6.6,SNR=21
NOA LR LR 20 18 50.7
comp=Z,16µm,20.4s,baz=335,slow=34
NOA PKP2bc 20 20 58.1
comp=Z,4.8nm,1.0s,baz=138,slow=3.3,SNR=4.3
VLA Vladivostok 64.92 307⇓ *e*P **P 19 52 11.1 -0.5**
VLA pmax pmax
comp=Z,66nm,1.0s
VLA MLR MLR
comp=Z,22µm,20.0s
NB201 NORSAR Array S 64.93 21 *e*P **P 19 52 10.7 -0.8**
NC405 NORSAR Array S 64.97 21 *e*P **P 19 52 11.5 -0.2**
NAO01 NORSAR Array S 65.01 21 *e*P **P 19 52 11.7 -0.3**
MDJ Mudanjiang 65.03 310 P **P 19 52 11.6 -0.7**
MDJ pP pP 19 52 17.4 +0.1
MDJ sP sP 19 52 20.5 +1.3
MDJ PP **PP 19 54 38.3 +3.4**
MDJ S **S 20 00 52.6 -1.1**
MDJ pmax pmax
comp=Z,1µm,8.6s
MDJ LR LR
comp=Z,13µm,20.1s
MDJ LR LR
comp=Z,17µm,18.1s
MDJ Mudanjiang 65.03 310 *e*P **P 19 52 11.2 -1.1**
comp=Z,76nm,1.2s
MDJ LR LR
comp=Z,20µm,18.0s
EDI Edinburgh 65.12 31 *e*P **P 19 52 12.0 -0.7**
EDI AMS AMS 20 22 19.1
comp=Z,29µm,16.7s
BLS5 Blasjo 65.13 24 *e*P **P 19 52 12.9 +0.1**
BLS5 IVmB_BB 19 52 28.4
comp=Z,2µm,4.1s
BLS5 *e*S **S 20 00 56.3 +1.7**
BLS5 *e*SS **SS 20 05 07.2 +1.4**
BLS5 IVMs_BB IVMs_BB 20 21 24.3
comp=Z,12µm,15.6s
NC602 NORSAR Array S 65.26 21 *e*P **P 19 52 13.6 0.0**
NC602 IVmB_BB 19 52 29.0
comp=Z,3µm,3.6s
NC602 *e*S **S 20 00 58.4 +2.3**
NC602 IVMs_BB IVMs_BB 20 17 12.6
comp=Z,10µm,22.4s
NC602 NORSAR Array S 65.26 21 *e*P **P 19 52 12.2 -1.4**
ESY Stoneypath 65.32 31 *e*P **P 19 52 13.5 -0.6**
STAV Stavanger 65.34 25 *e*P **P 19 52 14.6 +0.5**
STAV IVmB_BB 19 52 29.0
comp=Z,2µm,4.1s
STAV *ep*PP **PP 19 54 38.3 +1.0**
STAV *e*S **S 20 00 58.6 +1.6**
STAV IVMs_BB IVMs_BB 20 16 48.0
comp=Z,7µm,26.4s
VAF Ylistaro 65.38 15 P **P 19 52 14.1 -0.2**
GAL1 Galloway 65.45 32 AMS AMS 20 24 35.0
comp=Z,10µm,18.2s
BBGH Gun Hill 65.51 98 PFAKE 19 52 30.0 +14
BBGH LR LR
comp=Z,59µm,22.0s
ESK Eskdalemuir 65.61 31 *e*P **P 19 52 14.4 -1.5**
ESK AMS AMS 20 19 03.9
comp=Z,27µm,19.9s
ESK Eskdalemuir 65.61 31 *e*P **P 19 52 14.4 -1.5**
ESK pmax pmax
comp=Z,225nm,1.9s
ESK MLR MLR
comp=Z,32µm,19.0s
ESK Eskdalemuir 65.61 31 *e*P **P 19 52 14.4 -1.5**
comp=Z,224nm,1.9s
ESK LR LR
comp=Z,32µm,19.0s
VAL Valentia 65.67 37⇓ *i*P P 19 52 23.2 +6.9
VAL *e*S **S 20 01 05.6 +4.3**
MSHR Mys Shultsa 65.68 307 *de*P **P 19 52 16.4 -0.2**
ECK Cauldkaine Hil 65.74 31 *e*P **P 19 52 16.7 -0.1**
KONO Kongsberg 65.75 22 *e*P **P 19 52 17.0 +0.2**
KONO IVmB_BB 19 52 32.4
comp=Z,3µm,3.8s
KONO *e*S **S 20 01 04.0 +2.0**
KONO *e*SS **SS 20 05 18.5 +3.2**
KONO IVMs_BB IVMs_BB 20 21 46.6
comp=Z,8µm,20.3s
KONO Kongsberg 65.75 22⇑ *i*P **P 19 52 17.0 +0.2**
KONO pmax pmax
comp=Z,329nm,1.4s
KONO MLR MLR
comp=Z,135µm,19.0s
KONO Kongsberg 65.75 22 *e*P **P 19 52 16.9 +0.1**
comp=Z,348nm,2.0s
KONO LR LR
comp=Z,25µm,19.0s
OSL Oslo 65.77 22 *e*P **P 19 52 17.1 +0.2**
OSL IVmB_BB 19 52 25.6
comp=Z,2µm,3.2s
BHH Howats Hill 65.78 32 *e*P **P 19 52 16.1 -0.9**
MJAR Matsushiro Arr 66.08 299 P **P 19 52 18.7 -0.6**
comp=Z,8.8nm,0.6s,baz=46,slow=5.5,SNR=48
MJAR LR LR 20 19 51.8
comp=Z,3µm,21.0s,baz=45,slow=35
MJAR PKP2bc 20 20 59.2
comp=Z,2.0nm,1.1s,baz=194,slow=1.3,SNR=4.9
MJAR P4KPbc 20 29 21.2
comp=Z,0.4nm,0.5s,baz=80,slow=26,SNR=4.5
MJB9 Matsu-Tunnel 66.08 299 *e*P **P 19 52 18.4 -1.0**
comp=Z,31nm,1.1s
MJB9 LR LR
comp=Z,2µm,22.0s
MAJO Matsushiro 66.08 299 *e*P **P 19 52 18.2 -1.1**
MAJO pmax pmax
comp=Z,207nm,0.8s
MAJO MLR MLR
comp=Z,40µm,21.0s
MAJO Matsushiro 66.08 299 *e*P **P 19 52 18.4 -1.0**
comp=Z,115nm,1.1s
MAJO LR LR
comp=Z,9µm,22.0s
MAT Matsushiro 66.08 299 P **P 19 52 18.3 -1.0**
MAT S **S 20 01 08.2 +1.3**
DSB Dublin 66.13 34 PFAKE 19 52 30.0 +11
DSB LR LR
comp=Z,23µm,19.0s
TMCR Tamitsa 66.19 7 *e*P **P 19 52 18.8 -0.7**
TMCR pmax pmax
comp=Z,170nm,0.9s
TRN Trinidad (W) 66.19 102 *e*P **P 19 52 17.9 -2.3**
HIA Hailar 66.21 319 *e*P **P 19 52 18.6 -1.4**
HIA pmax pmax
comp=Z,165nm,1.1s
HIA MLR MLR
comp=Z,36µm,18.0s
HIA Hailar 66.21 319 *e*P **P 19 52 18.6 -1.4**
comp=Z,165nm,1.1s
HIA LR LR
comp=Z,36µm,18.0s
KESW Keswick, Cumbr 66.23 32 AMS AMS 20 19 58.5
comp=Z,21µm,18.1s
SUF Sumiainen 66.23 13 P **P 19 52 19.7 -0.1**
SUF pmax pmax
comp=Z,131nm,1.7s
SNART Snartemo 66.27 24 *e*P **P 19 52 20.4 +0.3**
SNART IVmB_BB 19 52 35.6
comp=Z,2µm,3.9s
SNART IVMs_BB IVMs_BB 20 20 23.0
comp=Z,5µm,19.6s
TPP Pointe-a-Pierr 66.41 102 *e* **P 19 52 22.3 +0.7**
CIT Chita 66.61 324 *e*P **P 19 52 22.4 -0.1**
CIT *e* 19 52 48.2
CIT *e* 19 54 44.3
CIT pmax pmax
comp=Z,377nm,3.3s
HOMB Homborsund 66.67 24 *e*P P 19 52 30.1 +7.4
HOMB IVmB_BB 19 52 40.2
comp=Z,3µm,2.9s
HOMB IVMs_BB IVMs_BB 20 22 10.4
comp=Z,14µm,17.8s
WPS Cemaes, Angles 66.69 33 *e*P **P 19 52 22.5 -0.4**
PGRA Graciosa 66.77 57 *e*P **P 19 52 23.3 -0.4**
comp=Z,327nm,1.3s
PGRA Graciosa 66.77 57 *e*LR LR 20 12 38.5
WLF1 Llynfaes 66.82 33 AMS AMS 20 20 28.4
comp=Z,45µm,17.7s
ROSA Rosais 66.85 57 *e*P **P 19 52 23.6 -0.6**
comp=Z,273nm,1.0s
ROSA Rosais 66.85 57 *e*LR LR 20 13 01.3
comp=Z,1µm,23.8s
ROSA Rosais 66.85 57 *e*P **P 19 52 22.6 -1.6**
comp=Z,337nm,1.1s
ROSA LR LR
comp=Z,38µm,22.0s
VAH Vaihoa 66.87 202 *e*P **P 19 52 24.9 +0.6**
comp=Z,450nm,1.2s
VAH Vaihoa 66.87 202 *e*T T 21 05 12.9
comp=Z,67nm,0.3s
KWAJ Kwajalein Atol 67.37 257 *e*P **P 19 52 27.4 -0.4**
KWAJ pmax pmax
comp=Z,680nm,1.5s
KWAJ MLR MLR
comp=Z,16µm,19.0s
KWAJ Kwajalein Atol 67.37 257 *e*P **P 19 52 27.4 -0.4**
comp=Z,680nm,1.5s
KWAJ LR LR
comp=Z,16µm,19.0s
FIA1 FINESS Array S 67.43 14 *e*P **P 19 52 26.6 -0.8**
FINES FINESS Array B 67.43 14 P **P 19 52 27.0 -0.5**
comp=Z,40nm,1.0s,baz=356,slow=5.7,SNR=50
FINES LR LR 20 20 42.7
comp=Z,26µm,20.9s,baz=348,slow=35
FINES PKPPKP P'P'df 20 20 50.5 -9.0
comp=Z,1.3nm,0.7s,baz=189,slow=7.0,SNR=5.1
FINES PKP2bc 20 20 53.7
comp=Z,5.4nm,1.0s,baz=155,slow=6.9,SNR=7.6
LLW Llanuwchllyn 67.44 33 *e*P **P 19 52 27.1 -0.6**
JHJ2 Mitsune 67.56 295 *e*P **P 19 52 28.3 -0.4**
comp=Z,757nm,2.0s
FOEL Foel Wylfa 67.57 33 *e*P **P 19 52 28.0 -0.5**
FOEL AMS AMS 20 25 24.8
comp=Z,19µm,16.6s
INU Inuyama 67.61 298 *e*P **P 19 52 27.9 -1.1**
comp=Z,198nm,1.9s
CN2 Changchun 67.67 312 *e*P **P 19 52 28.2 -1.1**
CN2 *es*P sP 19 52 38.8 +2.7
CN2 PP **PP 19 54 58.7 +0.7**
CN2 *e*S S 20 01 18.4 -7.4
CN2 SS **SS 20 05 43.3 -2.6**
CN2 pmax pmax
comp=Z,60nm,0.9s
CN2 LR LR
comp=Z,11µm,20.0s
CN2 LR LR
comp=Z,14µm,19.0s
LPW Lampeter 67.89 34 AMS AMS 20 21 12.8
comp=Z,31µm,18.1s
HLM1 Long Mynd 67.98 33 *e*P **P 19 52 30.3 -0.9**
HLM1 AMS AMS 20 24 47.5
comp=Z,19µm,16.0s
LMK Market Rasen 68.10 31 AMS AMS 20 20 47.4
comp=Z,22µm,20.7s
CWF Charnwood Fore 68.36 32 *e*P **P 19 52 33.0 -0.5**
CWF AMS AMS 20 22 50.1
comp=Z,23µm,17.8s
CWF Charnwood Fore 68.36 32 *e*P **P 19 52 33.1 -0.3**
comp=Z,116nm,1.0s
CWF LR LR
comp=Z,30µm,19.0s
MCH1 Michaelchurch 68.37 33 *e*P **P 19 52 32.5 -1.0**
MCH1 AMS AMS 20 26 01.9
comp=Z,20µm,16.2s
MUD Monsted U'grnd 68.43 24 *i* P **P 19 52 33.9 +0.1**
MUD Monsted U'grnd 68.43 24 *e*P **P 19 52 33.9 +0.1**
MONM Monmouth 68.56 33 *e*P **P 19 52 33.8 -0.9**
MONM AMS AMS 20 26 07.1
comp=Z,20µm,16.4s
HGH Gray Hill 68.73 34 *e*P **P 19 52 36.2 +0.4**
OLDB Oldbury-Upon-S 68.80 33 AMS AMS 20 24 59.4
comp=Z,23µm,14.7s
SSW Stow on the Wo 68.80 33 *e*P **P 19 52 36.3 +0.1**
STRD Stroud 68.85 33 *e*P **P 19 52 36.4 -0.1**
STRD AMS AMS 20 29 32.1
comp=Z,14µm,16.4s
PSET Sete Cidades 68.87 56 *e*P **P 19 52 38.5 +1.6**
comp=Z,650nm,1.8s
PSET Sete Cidades 68.87 56 *e*LR LR 20 14 30.0
comp=Z,4µm,27.9s
CCA1 Carnmenellis 69.01 36 AMS AMS 20 20 26.0
comp=Z,27µm,17.8s
CMLA Cha da Macela 69.02 56 PFAKE 19 52 50.0 +12
CMLA LR LR
comp=Z,36µm,18.0s
WACR West Acre 69.03 31 *e*P **P 19 52 36.8 -0.8**
WACR AMS AMS 20 21 36.5
comp=Z,21µm,19.9s
BATH Bath 69.06 33 *e*P **P 19 52 38.3 +0.4**
BATH AMS AMS 20 25 07.3
comp=Z,22µm,14.6s
DYA Yadsworthy 69.30 35 *e*P **P 19 52 38.8 -0.5**
comp=Z,208nm,1.4s
DYA LR LR
comp=Z,21µm,21.0s
TIAR Tiarei 69.52 203 *e*P **P 19 52 41.4 +0.4**
comp=Z,74nm,1.1s
TIAR Tiarei 69.52 203 *e*T T 21 08 32.0
comp=Z,58nm,0.3s
WOL Wolverton 69.56 33 *e*P **P 19 52 41.2 +0.2**
WOL AMS AMS 20 22 39.5
comp=Z,19µm,16.8s
KLMR Klimovskoe 69.58 7 *e*P **P 19 52 40.2 -0.7**
KLMR *e* 19 55 12.6
KLMR *e*S **S 20 01 49.4 +1.5**
KLMR *e*SS **SS 20 06 18.7 +4.3**
KLMR pmax pmax
comp=Z,614nm,1.3s
KLMR MLR MLR
comp=Z,13µm,18.0s

PPT Papeete 69.59 203 P **P** **19 52 40.4 -1.0**
comp=Z,94nm,0.8s,baz=64,slow=20,SNR=5.5
PPT LR LR 20 18 17.7
comp=Z,7µm,18.1s,baz=19,slow=32
PPT Papeete 69.59 203 *eP* **P** **19 52 40.1 -1.3**
PPT2 Papeete2 69.61 203 *eP* **P** **19 52 42.3 +0.7**
comp=Z,261nm,1.5s
PPT2 *eS* **S** **20 01 49.4 +0.2**
comp=Z,35µm,27.8s
PPT2 *eSS* **SS** **20 06 09.3 -8.5**
comp=Z,10µm,31.2s
PPT2 *eLQ* LQ 20 10 23.2
comp=Z,22µm,29.2s
PPT2 *eLR* LR 20 13 43.9
comp=Z,46µm,28.8s,baz=12
PPT2 Papeete2 69.61 203 *eT* T 21 08 38.8
comp=Z,63nm,0.3s
PUL Pulkovo 69.66 12⇑ *iP* **P** **19 52 42.2 +0.9**
PUL pmax pmax
comp=Z,271nm,1.2s
PAE Paea 69.68 203 *eP* **P** **19 52 42.5 +0.6**
comp=Z,107nm,1.3s
PAE Paea 69.68 203 *eT* T 21 08 38.2
comp=Z,12nm,0.2s
TVO Taravao 69.71 203 *eP* **P** **19 52 42.5 +0.3**
comp=Z,45nm,1.0s
TVO Taravao 69.71 203 *eT* T 21 08 45.4
comp=Z,70nm,0.3s
IRK Irkutsk 69.76 329 *eP* **P** **19 52 40.8 -1.4**
IRK *eS* **S** **20 01 45.6 -4.8**
IRK pmax pmax
comp=Z,1µm,3.1s
PSMN Pico do Norte, 69.83 57 *eP* **P** **19 52 43.2 +0.4**
comp=Z,142nm,1.0s
PSMN Pico do Norte, 69.83 57 *eLR* LR 20 14 55.4
comp=Z,3µm,18.4s
TARA Tarawa 69.86 247 *eP* **P** **19 52 42.0 -1.2**
comp=Z,741nm,1.7s
TARA LR LR
comp=Z,12µm,20.0s
COP Copenhagen 69.97 23 *i P* **P** **19 52 43.8 +0.5**
COP Copenhagen 69.97 23 *eP* **P** **19 52 43.8 +0.5**
SNY Shenyang 70.06 311⇑ P **P** **19 52 43.8 -0.3**
SNY S **S** **20 01 54.7 +0.6**
SNY pmax pmax
comp=Z,62nm,1.1s
SNY LR LR
comp=Z,20µm,16.9s
LLD Lille Linde 70.23 23 *i P* **P** **19 52 45.5 +0.6**
comp=Z,202nm,1.2s
LLD Lille Linde 70.23 23 *eP* **P** **19 52 45.5 +0.6**
LLD pmax pmax
comp=Z,200nm,1.2s
VSU Vasula 70.38 14 *deP* **P** **19 52 44.8 -1.0**
VSU pmax pmax
comp=Z,205nm,1.3s
VSU MLR MLR
comp=Z,67µm,18.0s
CBIJ Chichi jima 70.41 289 PFAKE 19 53 00.0 +13
CBIJ LR LR
comp=Z,8µm,22.0s
TLY Talaya 70.44 329 PKP2ab **P'P'ab** **20 20 48.4 -3.1**
comp=Z,0.8nm,0.3s,baz=198,slow=7.6,SNR=2.3
TLY LR LR 20 25 16.2
comp=Z,35µm,20.6s,baz=24,slow=37
TLY Talaya 70.44 329 *c iP* **P** **19 52 45.8 -0.6**
TLY *e* 19 55 28.0
TLY *ePPP* PPP 19 57 06.4
TLY *eS* **S** **20 02 01.3 +2.9**
TLY *eSS* **SS** **20 06 24.5 -3.7**
TLY pmax pmax
comp=Z,461nm,2.3s
TLY MLR MLR
comp=Z,23µm,15.0s
TLY Talaya 70.44 329 *eP* **P** **19 52 46.4 0.0**
comp=Z,279nm,1.3s
TLY P'P'ab **P'P'ab** **20 20 48.4 -3.1**
TLY Talaya 70.44 329 P **P** **19 52 47.5 +1.1**
SNR=94
TLY P **P** **19 52 47.5 +1.1**
SNR=94
HMNX Herstmonceux 70.48 32 AMS AMS 20 24 05.3
comp=Z,25µm,17.9s
ELSH Elham, Standar 70.52 32 AMS AMS 20 22 14.3
comp=Z,28µm,19.8s
JQE Queens East 71.01 35 *eP* **P** **19 52 49.1 -0.7**
BSD Bornholm Skovb 71.11 22⇑ *iP* **P** **19 52 50.4 +0.1**
comp=Z,54nm,1.1s
BSD *i* 19 52 58.4
BSD Bornholm Skovb 71.11 22⇑ *iP* **P** **19 52 50.4 +0.1**
BSD *i* 19 52 58.4
BSD pmax pmax
comp=Z,54nm,1.1s
KS01 Wonju Array Si 71.11 306 *eP* **P** **19 52 49.3 -1.4**
KSRS Korea Array 71.11 306 P **P** **19 52 50.7 +0.1**
comp=Z,15nm,1.0s,baz=52,slow=6.1,SNR=35
KSRS PP **PP** **19 55 26.5 -1.3**
comp=Z,8.3nm,1.2s,baz=39,slow=4.3,SNR=3.2
KS15 Wonju Array Si 71.14 306 *eP* **P** **19 52 50.2 -0.6**
KSAR Wonju Array Be 71.14 306 P **P** **19 52 50.7 -0.1**
KSAR 19 55 26.5
KSAR Wonju Array Be 71.14 306 P **P** **19 52 50.7 -0.1**
KSAR PP **PP** **19 55 26.5 -1.6**
RGN Rugen 71.22 23 *eP* **P** **19 52 50.7 -0.3**
comp=Z,366nm,1.4s
RGN LR LR
comp=Z,29µm,20.0s
ROSF Rostrenen 71.26 36 *eP* **P** **19 52 50.9 -0.5**
ROSF pmax pmax
comp=Z,69nm,1.1s
MOY Mondy 71.32 331 *eP* **P** **19 52 52.7 +0.8**
MOY pmax pmax
comp=Z,981nm,2.9s
SOKR Solikamsk 71.33 358 *c iP* **P** **19 52 49.3 -2.2**
SOKR S **S** **20 02 07.6 -0.6**
SOKR SS **SS** **20 06 48.6 +7.4**
SOKR pmax pmax
comp=Z,126nm,2.0s
SOKR MLR MLR
comp=Z,17µm,19.0s
QUIF Quistinic 71.64 36 *eP* **P** **19 52 53.3 -0.4**
QUIF pmax pmax
comp=Z,41nm,1.2s
WTSB Winterswijk 71.67 28 *eP* **P** **19 52 53.2 -0.6**
comp=Z,78nm,1.2s
WTSB *epP* **sP** **19 53 03.0 +2.5**
ZAK Zakamensk 71.67 329 *eP* **P** **19 52 53.7 -0.2**
ZAK pmax pmax
comp=Z,58nm,2.0s
INCN Inchon 71.77 307 *eP* **P** **19 52 53.4 -1.3**
comp=Z,125nm,1.2s
INCN LR LR
comp=Z,15µm,21.0s
GRR Gorron 72.12 34 *eP* **P** **19 52 56.6 0.0**
GRR pmax pmax
comp=Z,128nm,1.3s
SNF Seneffe 72.12 30 P **P** **19 52 56.3 -0.2**
BEBN Eben Emael 72.33 29 P **P** **19 52 58.0 +0.3**
comp=Z,56nm,2.1s
ULN Ulaanbaatar 72.44 325 *ceP* **P** **19 52 58.3 -0.4**
ULN pmax pmax
comp=Z,27nm,1.3s
ULN Ulaanbaatar 72.44 325 *eP* **P** **19 52 57.8 -0.9**
comp=Z,168nm,1.3s
ULN LR LR
comp=Z,33µm,21.0s
ULN Ulaanbaatar 72.44 325 P **P** **19 52 59.1 +0.4**
SNR=69
ULN P **P** **19 52 59.1 +0.4**
SNR=69
HGN Heimansgroeve 72.44 29 *eP* **P** **19 52 57.9 -0.5**
comp=Z,101nm,1.2s
HGN *epP* **sP** **19 53 07.9 +2.6**
HGN *eS* **S** **20 02 25.3 +4.0**
HGN *eSS* SS 20 07 16.9 +18
HGN *eSSS* SSS 20 10 36.5
BAIF Baives 72.48 31 *eP* **P** **19 52 58.7 0.0**
BAIF pmax pmax
comp=Z,75nm,1.3s
RKT Rikitea 72.52 188 *eP* **P** **19 52 59.4 +0.4**
comp=Z,301nm,1.4s
RKT *eS* **S** **20 02 24.4 +1.7**
comp=Z,13µm,30.2s
RKT *eSS* **SS** **20 07 04.0 +1.7**
comp=Z,3µm,34.8s
RKT *eLQ* LQ 20 12 04.3
comp=Z,19µm,33.5s
RKT *eLR* LR 20 15 12.7
comp=Z,19µm,30.2s,baz=2.1
RKT Rikitea 72.52 188 *eT* T 21 12 15.5
comp=Z,80nm,0.3s
BCLA Clavier 72.53 30 P **P** **19 52 58.8 -0.2**
comp=Z,135nm,2.0s
DOU Dourbes 72.58 30 P **P** **19 52 59.3 +0.1**
comp=Z,98nm,2.4s
MEM Membach 72.60 29 P **P** **19 52 59.1 -0.2**
comp=Z,138nm,2.1s
GIVF Givet 72.65 30 *eP* **P** **19 52 59.6 -0.1**
GIVF pmax pmax
comp=Z,89nm,1.3s
SONA1 Songino Array 72.69 325 *eP* **P** **19 52 59.8 -0.4**
SONM Songino Array 72.71 325 P **P** **19 52 59.9 -0.3**
comp=Z,14nm,0.9s,baz=60,slow=2.9,SNR=73
SONM PKPPKP P'P'df 20 20 40.9 -8.8
comp=Z,0.6nm,1.0s,baz=197,slow=3.0,SNR=2.1
SONM LR LR 20 27 55.7
comp=Z,39µm,18.3s,baz=18,slow=38
SONM P4KPbc 20 29 47.7
comp=Z,1.3nm,1.1s,baz=72,slow=0.5,SNR=4.6
JNU Nakatsue 72.71 301 *eP* **P** **19 52 59.8 -0.6**
IZAR Zarasai 72.89 15 *eP* **P** **19 53 01.3 +0.4**
IZAR IAmb IAmb 19 53 14.6
comp=Z,72nm,1.1s
ISAL Salakas 73.03 16 *eP* **P** **19 53 02.2 +0.3**
ISAL IAmb IAmb 19 53 15.4
comp=Z,49nm,1.0s
NVS Novosibirsk 73.07 342⇑ *iP* **P** **19 53 01.1 -1.0**
NVS *eS* **S** **20 02 24.6 -3.9**
NVS pmax pmax
comp=N,158nm,1.9s
NVS pmax pmax
comp=E,180nm,1.9s
NVS pmax pmax
comp=Z,465nm,1.9s
NVS pmax pmax
comp=N,21nm,1.7s
NVS pmax pmax
comp=E,23nm,1.7s
NVS pmax pmax
comp=Z,86nm,1.7s
NVS smax smax
comp=N,52nm,2.2s
NVS smax smax
comp=E,30nm,2.2s
DL2 Dalian 73.25 311 P **P** **19 53 03.6 +0.2**
DL2 S **S** **20 02 28.0 -3.0**
DL2 SS **SS** **20 07 07.9 -3.8**
DL2 pmax pmax
comp=E,170nm,1.0s
DL2 pmax pmax
comp=E,3µm,6.0s
DL2 LR LR
comp=E,14µm,18.6s
DL2 LR LR
comp=E,20µm,22.0s
IIGN Ignalina 73.26 16 IAmb IAmb 19 53 16.2
comp=Z,80nm,1.1s
GKP Gorka Klasztor 73.35 21 *eP* **P** **19 53 04.0 +0.2**
GKP *epP* **sP** **19 53 12.2 +1.6**
GKP *ePcP* **PcP** **19 53 19.4 -0.6**
GKP *eS* **SKiKP** **20 02 35.5 +1.6**
GKP LMZ LR 20 20 29.5
comp=Z,26µm,28.6s
GKP Gorka Klasztor 73.35 21 *eP* **P** **19 53 04.0 +0.2**
GKP *e**PP **sP** **19 53 12.2 +1.6**
GKP *e* 19 53 19.4
GKP *eS* **SKiKP** **20 02 35.5 +1.6**
GKP MLR MLR
comp=Z,26µm,28.6s
WLF Walferdange 73.46 30 P **P** **19 53 04.3 -0.2**
comp=Z,89nm,2.3s
WLF Walferdange 73.46 30 *eP* **P** **19 53 04.6 +0.1**
WLF pmax pmax
comp=Z,179nm,1.6s
WLF MLR MLR
comp=Z,25µm,19.0s
WLF Walferdange 73.46 30 *eP* **P** **19 53 04.6 +0.1**
comp=Z,179nm,1.6s
WLF LR LR
comp=Z,25µm,19.0s
ZAA0 Zalesovo Array 73.58 341 *eP* **P** **19 53 04.0 -1.2**
ZALV Zalesovo Beam 73.58 341 P **P** **19 53 04.2 -0.9**
comp=Z,19nm,1.0s,baz=18,slow=5.3,SNR=50
ZALV LR LR 20 29 34.5
comp=Z,32µm,19.9s,baz=6.5,slow=39
NACGM Naroch 73.79 15 *eP* **P** **19 53 06.0 -0.3**
NACGM *eP* **pP** **19 53 08.0 -3.3**
NACGM PM 19 53 14.0
comp=Z,0.3nm,0.8s
NACGM *ePcP* **PcP** **19 53 18.0 -3.9**
NACGM *ePP* PP 19 56 06.0 +16
NACGM *ePPP* PPP 19 57 40.0
NACGM *eS* **S** **20 02 38.0 +1.5**
NACGM *ePS* **PnS** **20 03 14.0 +4.7**
NACGM *eSS* **SS** **20 07 27.0 +8.0**
NACGM *eSSS* SSS 20 10 44.0
NACGM *eLQ* LQ 20 16 43.0
NACGM *eLR* LR 20 19 42.0
NACGM LRM MLR 20 22 49.0
comp=Z,40nm,23.0s
NACGM LRM MLR 20 22 55.0
comp=N,14nm,23.0s
NACGM LRM MLR 20 23 06.0
comp=E,26nm,22.0s
SVE Sverdlovsk 73.96 356 *deP* **P** **19 53 07.1 -0.2**
SVE *eS* **SKiKP** **20 02 36.5 +1.7**
SVE pmax pmax
comp=Z,291nm,1.4s
SVE MLR MLR
comp=Z,19µm,22.0s
SUW Suwalki 73.96 18 *eP* **P** **19 53 06.9 -0.4**
SUW *eS* **S** **20 02 41.7 +3.2**
SUW LMZ LR 20 20 22.1
comp=Z,22µm,27.6s
SUW Suwalki 73.96 18 *eP* **P** **19 53 06.9 -0.4**
SUW *eS* **S** **20 02 41.7 +3.2**
SUW MLR MLR
comp=Z,22µm,27.6s
CLL Collm 74.05 25 *i P* **P** **19 53 08.0 +0.1**
CLL *i* 19 53 23.7
CLL pmax pmax
comp=Z,68nm,1.4s
CLL pmax pmax
comp=Z,327nm,2.1s
CLL Collm 74.05 25 *i P* **P** **19 53 08.0 +0.1**
comp=Z,68nm,1.4s
CLL *i sP* **sP** **19 53 15.9 +1.1**
comp=Z,327nm,2.1s
CLL *ePmax* 19 53 20.0
CLL *i PcP* **PcP** **19 53 23.7 +0.6**
comp=Z,220nm,1.5s
CLL *i* 19 53 39.0
CLL *e* 19 54 21.0
CLL *ePP* **PP** **19 56 00.0 +7.5**
CLL *ePPP* PPP 19 57 36.0
CLL *eS* **S** **20 02 41.0 +1.3**
CLL *esS* sS 20 02 54.0 +6.0
CLL *ePS* **PnS** **20 03 18.0 +5.1**
CLL *eSS* **SS** **20 07 24.0 +0.8**
CLL *e* 20 08 06.0
CLL *eSSS* SSS 20 10 42.0
CLL *e* 20 11 24.0
CLL *e* 20 11 54.0
CLL *ePKPPKPdf* **P'P'df** **20 20 45.0 -2.5**
CLL Lmax 20 28 00.0
CLL Lm MLR 20 28 00.0
comp=N,19µm,21.2s
CLL Lm MLR 20 28 00.0
comp=E,11µm,18.9s
CLL Lm MLR 20 28 00.0
comp=Z,26µm,19.3s
CLL Collm 74.05 25 *eP* **P** **19 53 07.3 -0.6**
comp=Z,113nm,1.1s
CLL LR LR
comp=Z,26µm,19.0s
PTCN Pitcairn Islan 74.17 183 PFAKE 19 53 20.0 +11
PTCN LR LR
comp=Z,14µm,20.0s
MOX Moxa 74.26 26 P **P** **19 53 09.0 -0.2**
AFI Afiamalu 74.33 225 LR LR 20 20 49.5
comp=Z,6µm,18.5s,baz=27,slow=32
AFI Afiamalu 74.33 225 *eP* **P** **19 53 09.1 -0.9**
AFI pmax pmax
comp=Z,373nm,1.8s
AFI Afiamalu 74.33 225 *eP* **P** **19 53 09.1 -0.9**
comp=Z,373nm,1.8s
MICGM Minsk 74.36 15⇑ *eP* **P** **19 53 09.0 -0.6**
MICGM ⇑ *eP* **P** **19 53 09.0 -0.6**
MICGM PM 19 53 10.0
comp=Z,0.3nm,2.0s
MICGM *ePcP* **sP** **19 53 16.0 -0.5**
MICGM *ePP* PP 19 56 06.0 +11
MICGM *ePPP* PPP 19 57 48.0
MICGM *eS* **S** **20 02 44.0 +1.0**
MICGM *ePS* **PnS** **20 03 18.0 +1.3**
MICGM *eSS* SS 20 07 40.0 +12
MICGM *eSSS* SSS 20 11 00.0
MICGM *eLQ* LQ 20 16 02.0
MICGM LQM 20 18 20.0
comp=E,55nm,24.0s
MICGM LQM 20 18 26.0
comp=E,23nm,26.0s
MICGM *eLR* LR 20 20 10.0
MICGM LRM MLR 20 26 20.0
comp=Z,29nm,19.0s
MICGM LRM MLR 20 26 24.0
comp=Z,48nm,20.0s
MICGM LRM MLR 20 26 28.0
comp=E,11nm,18.0s
MNK Minsk 74.36 15 *ceP* **P** **19 53 09.0 -0.6**
MNK *e* 19 53 16.0
MNK *ePPP* PPP 19 57 48.0
MNK *eS* **S** **20 02 44.0 +1.0**
MNK *ePS* **PnS** **20 03 18.0 +1.3**
MNK pmax pmax
comp=Z,270nm,2.0s
MNK MLR MLR
comp=Z,29µm,19.0s
MNK MLR MLR
comp=Z,48µm,20.0s
MNK MLR MLR
comp=E,11µm,18.0s
PGAV Gavieira, Arco 74.36 43 *eP* **P** **19 53 08.8 -1.2**
comp=E,116nm,1.8s
PGAV *eS* **S** **20 02 43.7 0.0**
PGAV Gavieira, Arco 74.36 43 *eLR* LR 20 16 24.1
comp=E,18µm,20.0s
ARU Arti 74.45 357 *d iP* **P** **19 53 09.3 -0.8**
ARU 19 55 54.6
ARU *eS* **S** **20 02 42.8 -1.1**
ARU SS **SS** **20 07 32.3 +3.4**
ARU SSS SSS 20 10 47.3
ARU pmax pmax
comp=Z,66nm,1.2s
ARU pmax pmax
comp=Z,302nm,3.3s
ARU MLR MLR
comp=Z,25µm,22.0s
ARU Arti 74.45 357 *eP* **P** **19 53 09.3 -0.8**
comp=Z,158nm,0.8s
ARU LR LR
comp=Z,23µm,21.0s
MOS Moscow 74.46 9 *eP* **P** **19 53 09.9 -0.3**
MOS *e* 19 55 55.9
MOS *i S* **S** **20 02 46.0 +1.9**
MOS *e* 20 03 20.3
MOS *e* 20 03 33.0
MOS *eSS* **SS** **20 07 36.5 +7.3**
MOS pmax pmax
comp=Z,2µm,3.0s
MOS pmax pmax
comp=Z,432nm,1.7s
MOS pmax pmax
comp=N,245nm,1.5s
MOS pmax pmax
comp=N,1µm,3.0s
MOS smax smax
comp=E,4µm,5.0s
MOS smax smax
comp=N,2µm,3.4s
MOS MLR MLR
comp=N,13µm,16.0s
MOS MLR MLR
comp=Z,15µm,16.0s
THEF They Montfort 74.66 30⇑ *eP* **P** **19 53 11.6 +0.1**
PCAB Cabril 74.67 43 *eP* **P** **19 53 12.7 +0.9**
comp=Z,174nm,1.6s
BRG Berggiesshubel 74.70 24⇑ *iP* **P** **19 53 12.0 +0.3**
comp=Z,80nm,1.4s
BRG *e* 19 53 17.9
comp=Z,146nm,1.3s
BRG *e* 19 53 42.4
comp=Z,131nm,1.3s
BRG *e* 19 53 55.7
comp=Z,138nm,1.6s
BRG *e* 19 54 24.4
comp=Z,118nm,1.5s
BRG PP **PP** **19 56 01.0 +3.0**
BRG S S 20 02 57.0 +10
BRG SS **SS** **20 07 39.0 +5.9**
BRG *ePKPPKP* **P'P'df** **20 20 48.7 +2.3**
comp=Z,4.3nm,1.1s
BRG Berggiesshubel 74.70 24⇑ *iP* **P** **19 53 12.0 +0.3**
BRG *e* 19 53 17.9
BRG 19 56 01.0
BRG SS SS 20 07 39.0 +5.9
BRG pmax pmax
comp=Z,80nm,1.4s
BRG pmax pmax
comp=Z,146nm,1.3s
BRG MLR MLR
comp=N,23µm,22.0s
BRG MLR MLR
comp=E,14µm,20.1s
BRG MLR MLR
comp=Z,25µm,21.8s
PATS Pohnpei 74.84 263 *eP* **P** **19 53 13.2 +0.2**
comp=Z,635nm,2.0s
PATS LR LR
comp=Z,9µm,20.0s
NKC Novy Kostel 74.86 26 *eP* **P** **19 53 12.5 -0.2**
NKC *epP* **sP** **19 53 18.5 -1.1**
NKC *eS* **S** **20 02 52.9 +4.0**
NKC AMS AMS 20 30 50.0
comp=Z,25µm,17.7s
NKC Novy Kostel 74.86 26 *eP* **P** **19 53 12.5 -0.2**
NKC *e* 19 53 18.5
NKC *eS* **S** **20 02 52.9 +4.0**
NKC MLR MLR
comp=Z,25µm,17.7s
OBN Obninsk 74.97 10 *d iP* **P** **19 53 12.3 -0.9**
OBN *i* *PP **sP** **19 53 19.1 -0.9**
OBN *i* *SP **pP** **19 53 20.6 +2.4**
OBN *i* 19 53 24.6
OBN *i S* **S** **20 02 50.4 +0.7**
OBN *e* 20 03 28.1
OBN *i SS* **SS** **20 07 43.4 +6.6**
OBN pmax pmax
comp=Z,176nm,1.3s
OBN MLR MLR
comp=Z,24µm,18.0s
OBN Obninsk 74.97 10 *eP* **P** **19 53 12.2 -0.9**
comp=Z,242nm,1.0s
OBN LR LR
comp=Z,24µm,18.0s
BJI Beijing 74.98 315 P **P** **19 53 13.1 -0.4**
BJI *pP* **sP** **19 53 19.1 -1.3**
BJI *sP* **pP** **19 53 21.1 +2.6**
BJI *S* **SKiKP** **20 02 40.4 +3.6**
BJI *sS* **pS** **20 02 56.1 -0.6**
BJI SS **SS** **20 07 37.4 -0.5**
BJI pmax pmax
comp=Z,3µm,10.6s
BJI LR LR
comp=Z,14µm,17.1s
BJI LR LR
comp=Z,22µm,20.5s
AVF Avril sur Loir 75.00 33 *eP* **P** **19 53 12.1 -1.4**
BJT Baijiatuau 75.00 315 *eP* **P** **19 53 13.0 -0.6**
BJT pmax pmax
comp=Z,136nm,1.3s
BJT MLR MLR
comp=Z,32µm,19.0s
BJT Baijiatuau 75.00 315 *eP* **P** **19 53 13.0 -0.6**
comp=Z,136nm,1.3s
BJT LR LR

comp=Z,32µm,19.0s
GRFO Grafenberg 75.00 27 *e*P **P 19 53 13.5 0.0**
GRFO pmax pmax
comp=Z,158nm,1.3s
GRFO MLR MLR
comp=Z,23µm,20.0s
GRFO Grafenberg 75.00 27 *e*P **P 19 53 13.5 0.0**
comp=Z,158nm,1.3s
GRFO LR LR
comp=Z,23µm,20.0s
POLO Lamas de Olo 75.05 43 *e*P **P 19 53 13.7 -0.3**
comp=Z,115nm,1.6s
POLO Lamas de Olo 75.05 43 *e*PP PP 19 56 03.6 +2.2
POLO *e*S **S 20 02 48.6 -2.8**
ECH Echery 75.05 30⇑ *e*P **P 19 53 13.7 -0.1**
TBI Tubuai 75.11 201 *e*S **S 20 02 53.2 +1.4**
comp=Z,16µm,33.0s
TBI Tubuai 75.11 201 *e*LQ LQ 20 13 08.0
comp=Z,9µm,32.0s
TBI *e*LR LR 20 16 17.4
comp=Z,30µm,31.8s,baz=13
TBI Tubuai 75.11 201 *e*T T 21 15 30.4
comp=Z,209nm,0.2s
PBRG Braganca 75.16 42 *e*P **P 19 53 14.4 -0.2**
comp=Z,157nm,1.6s
PBRG *e*S **S 20 02 53.3 +0.8**
PVCC Panska Ves 75.18 24⇑ *e*P **P 19 53 14.5 0.0**
PVCC *e*PP **PP 19 56 04.0 +1.9**
PVCC *e*S **S 20 02 57.2 +4.9**
PVCC *e*SS **SS 20 07 45.8 +5.4**
PVCC AMS AMS 20 28 00.0
comp=Z,18µm,18.0s
PVCC Panska Ves 75.18 24 *e*P **P 19 53 14.5 0.0**
PVCC *e* 19 56 04.0
PVCC *e*S **S 20 02 57.2 +4.9**
PVCC *e*SS **SS 20 07 45.8 +5.4**
PVCC MLR MLR
comp=Z,18µm,18.0s
STU Stuttgart 75.21 28 PFAKE 19 53 30.0 +15
STU LR LR
comp=Z,28µm,20.0s
HINF Hinteralfeld 75.30 30 *e*P **P 19 53 15.0 -0.3**
HINF pmax pmax
comp=Z,41nm,1.3s
BFO Black Forest 75.33 29 *e*P **P 19 53 15.4 0.0**
BFO pmax pmax
comp=Z,242nm,1.5s
BFO MLR MLR
comp=Z,32µm,19.0s
BFO Black Forest 75.33 29 *e*P **P 19 53 15.4 0.0**
comp=Z,242nm,1.5s
BFO LR LR
comp=Z,32µm,19.0s
KSP Ksiaz 75.35 23 *e*P **P 19 53 16.2 +0.8**
KSP *e*pP **sP 19 53 24.1 +1.7**
KSP *e*S **S 20 02 58.5 +4.3**
KSP LMZ LR 20 21 01.6
comp=Z,16µm,29.6s
KSP Ksiaz 75.35 23 *e*P **P 19 53 16.2 +0.8**
KSP *e**PP **sP 19 53 24.1 +1.7**
KSP *e*S **S 20 02 58.4 +4.3**
KSP MLR MLR
comp=Z,16µm,29.6s
NNA Nana 75.35 129 PFAKE 19 53 30.0 +14
NNA LR LR
comp=Z,18µm,18.0s
MOF Molkenrain 75.36 30⇑ *e*P **P 19 53 15.6 -0.1**
BEL Belsk 75.50 20 *e*P **P 19 53 16.8 +0.5**
BEL *e*PcP **sP 19 53 24.7 +1.5**
BEL *e*S **S 20 03 00.5 +4.7**
BEL LMZ LR 20 27 14.8
comp=Z,30µm,20.2s
BEL Belsk 75.50 20 *e*P **P 19 53 16.8 +0.5**
BEL *e* 19 53 24.7
BEL *e*S **S 20 03 00.5 +4.7**
BEL MLR MLR
comp=Z,30µm,20.2s
PVIS Viseu 75.53 43 *e*P **P 19 53 16.3 -0.5**
comp=Z,135nm,1.7s
AGO Saint Agoulin 75.55 33⇑ *e*P **P 19 53 18.2 +1.5**
MVO Moncorvo 75.56 42 *e*P **P 19 53 16.8 -0.1**
comp=Z,155nm,1.6s
MVO Moncorvo 75.56 42 *e*PP PP 19 56 10.1 +4.5
MVO *e*S **S 20 02 57.0 0.0**
MVO *e*SS **SS 20 07 43.7 -3.1**
MVO *e*LR LR 20 16 36.1
comp=Z,18µm,20.0s
PRA Prague 75.56 24 *e*P **P 19 53 17.0 +0.3**
PRA *e*pP **sP 19 53 25.0 +1.4**
PRA *e*S **S 20 03 01.1 +4.6**
PRA *e*SS **SS 20 07 52.7 +6.6**
PRA AMS AMS 20 27 40.0
comp=Z,29µm,19.0s
PRA Prague 75.56 24 *e*P **P 19 53 17.0 +0.3**
PRA *e* 19 53 25.0
PRA *e*S **S 20 03 01.1 +4.6**
PRA *e*SS **SS 20 07 52.7 +6.6**
PRA MLR MLR
comp=Z,29µm,19.0s
UPC Upice 75.58 23⇑ *e*P **P 19 53 16.6 -0.2**
UPC *e*pP **sP 19 53 22.7 -1.0**
UPC *e*PP **PP 19 56 06.6 +1.1**
UPC *e*S **S 20 03 01.5 +4.7**
UPC AMS AMS 20 28 30.0
comp=Z,24µm,17.0s
UPC Upice 75.58 23 *e*P **P 19 53 16.6 -0.2**
UPC *e* 19 53 22.7
UPC *e* 19 56 06.6
UPC *e*S **S 20 03 01.5 +4.7**
UPC MLR MLR
comp=Z,24µm,17.0s
PRU Pruhonice 75.67 24⇑ *i*P **P 19 53 17.6 +0.3**
PRU *e*pP **sP 19 53 25.4 +1.2**
PRU *e*S **S 20 03 02.3 +4.6**
PRU *e*SS **SS 20 07 56.9 +9.2**
PRU *e*PKPPKP **P'P'df 20 20 38.8 -5.8**
PRU AMS AMS 20 28 00.0
comp=Z,29µm,18.7s
PRU Pruhonice 75.67 24⇑ *i*P **P 19 53 17.6 +0.3**
PRU *e* 19 53 25.4
PRU *e*S **S 20 03 02.3 +4.6**
PRU MLR MLR
comp=Z,29µm,18.7s
LOMF Lomont 75.70 30⇑ *e*P **P 19 53 18.0 +0.4**
PYM Petit Puy Mans 75.76 34 *e*P **P 19 53 18.7 +0.7**
PLDF La Plantade 75.80 33⇑ *e*P **P 19 53 19.0 +0.8**
PCAS Casmilo, Conde 75.80 44 *e*P **P 19 53 18.3 +0.1**
comp=Z,317nm,1.4s
PCAS *e*S **S 20 02 57.9 -1.6**
GOPC GO Pecny, Ondr 75.80 24 *e*P **P 19 53 18.6 +0.5**
GOPC *e*pP **sP 19 53 26.5 +1.5**
GOPC *e*S **S 20 03 04.8 +5.5**
GOPC AMS AMS 20 28 00.0
comp=Z,25µm,17.8s
GOPC GO Pecny, Ondr 75.80 24 *e*P **P 19 53 18.6 +0.5**
GOPC *e* 19 53 26.5
GOPC *e*S **S 20 03 04.8 +5.5**
GOPC MLR MLR
comp=Z,25µm,17.8s
DPC Dobruska-Polom 75.81 23 *e*P **P 19 53 18.2 +0.1**
DPC *e*pP **sP 19 53 24.3 -0.7**
DPC *e*PP **PP 19 56 11.6 +4.2**
DPC *e*S **S 20 03 04.2 +4.8**
DPC *ex* x 20 08 02.6
DPC AMS AMS 20 28 50.0
comp=Z,22µm,17.5s
DPC Dobruska-Polom 75.81 23 *e*P **P 19 53 18.2 +0.1**
DPC *e* 19 53 24.3
DPC *e* 19 56 11.6
DPC *e*S **S 20 03 04.2 +4.8**
DPC MLR MLR
comp=Z,22µm,17.5s
PTGA Pitinga 75.84 108 *e*P **P 19 53 17.5 -1.2**
comp=Z,814nm,1.8s
PTGA LR LR
comp=Z,22µm,18.0s
MTE Manteigas 75.95 43 *e*P **P 19 53 18.8 -0.4**
comp=Z,192nm,1.6s
MTE *e*S **S 20 03 00.4 -0.9**
MTE Manteigas 75.95 43 *e*LR LR 20 17 49.8
comp=Z,22µm,22.0s
MTE Manteigas 75.95 43 *e*P **P 19 53 17.4 -1.8**
comp=Z,339nm,1.9s
MTE LR LR
comp=Z,25µm,21.0s
WET Wettzell 75.97 26 *e*P **P 19 53 19.3 +0.2**
RAR Rarotonga 76.07 211 *e*P **P 19 53 21.6 +1.8**
RAR pmax pmax
comp=Z,806nm,2.0s
RAR MLR MLR
comp=Z,13µm,21.0s
RAR Rarotonga 76.07 211 *e*P **P 19 53 21.6 +1.8**
comp=Z,806nm,2.0s
RAR LR LR
comp=Z,13µm,21.0s
CAF Calviac 76.12 35 *e*P **P 19 53 19.9 -0.1**
CAF pmax pmax
comp=Z,37nm,1.1s
KRLC Kraliky 76.17 23 *e*P **P 19 53 20.5 +0.2**
KRLC Kraliky 76.17 23 *e*P **P 19 53 20.5 +0.2**
KHC Kasperske Hory 76.18 25 *e*P **P 19 53 20.5 +0.2**
KHC *e*pP **sP 19 53 28.7 +1.5**
KHC *ex* x 19 53 51.5
KHC *e*PP **PP 19 56 17.6 +7.0**
KHC *e*S **S 20 03 08.1 +4.6**
KHC *e*SS **SS 20 08 04.5 +8.9**
KHC *e*PKPPKP **P'P'df 20 20 39.9 -3.8**
KHC AMS AMS 20 32 00.0
comp=Z,19µm,17.0s
KHC Kasperske Hory 76.18 25 *e*P **P 19 53 20.5 +0.2**
KHC *e* 19 53 28.7
KHC *e* 19 56 17.6
KHC *e*S **S 20 03 08.1 +4.6**
KHC *e*SS **SS 20 08 04.5 +8.9**
KHC MLR MLR
comp=Z,19µm,17.0s
KHC Kasperske Hory 76.18 25 *e*P **P 19 53 19.6 -0.6**
comp=Z,69nm,1.5s
KHC LR LR
comp=Z,8µm,18.0s
COLF Collangettes 76.21 33⇑ *e*P **P 19 53 20.7 +0.1**
OSSF Osses 76.25 38 *e*P **P 19 53 20.5 -0.3**
LBL Lubilhac 76.30 34⇑ *e*P **P 19 53 22.5 +1.4**
PMAFR Mafra 76.32 45 *e*P **P 19 53 20.8 -0.4**
comp=Z,304nm,1.8s
PMAFR *e*S **S 20 03 04.4 -0.9**
PMAFR *e*SS **SS 20 07 58.8 +0.5**
HHC Hu-ho-hao-te 76.40 318 *e*P **P 19 53 21.3 -0.5**
HHC S **S 20 03 05.6 -0.7**
HHC Hu-ho-hao-te 76.40 318 *e*P **P 19 53 21.9 +0.1**
HHC pP sP 19 53 27.9 -0.8
HHC S **S 20 03 05.6 -0.7**
HHC SS **SS 20 07 56.4 -3.2**
HHC pmax pmax
comp=Z,43nm,1.5s
HHC pmax pmax
comp=Z,2µm,6.3s
HHC LR LR
comp=Z,21µm,17.6s
HHC LR LR
comp=Z,38µm,17.8s
ORDF Ordiarp 76.42 37 *e*P **P 19 53 23.1 +1.4**
PCBR Castelo Branco 76.43 44 *e*P **P 19 53 22.0 +0.2**
comp=Z,112nm,1.4s
GEC2 GERESS Array S 76.47 25 *e*P **P 19 53 21.2 -0.8**
GEC2 pmax pmax
comp=Z,56nm,1.0s
GEC2 MLR MLR
comp=Z,18µm,19.0s
GEC2 GERESS Array S 76.47 25 *e*P **P 19 53 21.2 -0.8**
comp=Z,56nm,1.0s
GEC2 LR LR
comp=Z,18µm,19.0s
GERES GERESS Array B 76.47 25 P **P 19 53 22.0 0.0**
comp=Z,14nm,0.9s,baz=343,slow=4.2,SNR=56
GERES PKKP PKKPbc 20 12 40.5 +8.4
comp=Z,0.4nm,0.6s,baz=132,slow=1.5,SNR=4.8
GERES PKPPKP **P'P'df 20 20 37.8 -5.4**
comp=Z,0.8nm,0.8s,baz=151,slow=2.2,SNR=6.0
GERES LR LR 20 28 22.1
comp=Z,9µm,19.9s,baz=337,slow=37
GEA0 GERESS Array S 76.48 25 *e*P **P 19 53 21.1 -1.0**
RAC Raciborz 76.52 22 *e*P **P 19 53 22.9 +0.8**
RAC *e*S **S 20 03 08.2 +1.1**
RAC MLR MLR
comp=Z,23µm,18.0s
PMST Lisbon--Monsan 76.54 45 *e*P **P 19 53 22.6 +0.1**
comp=Z,279nm,1.6s
OG01 Vacheresse 76.55 31 *e*P **P 19 53 22.8 +0.3**
LARF Larrau 76.55 38 *e*P **P 19 53 23.5 +1.0**
TREC Trest 76.55 24⇑ *e*P **P 19 53 23.0 +0.6**
TREC *e*SS SS 20 08 07.7 +6.5
TREC AMS AMS 20 28 30.0
comp=Z,26µm,17.6s
TREC Trest 76.55 24 *e*P **P 19 53 23.0 +0.6**
TREC *e*SS SS 20 08 07.7 +6.5
TREC MLR MLR
comp=Z,26µm,17.6s
LIS Lisbon 76.57 45 *e*P **P 19 53 22.2 -0.4**
LIS *e*S **S 20 03 06.7 -1.3**
LIS AMS AMS 20 26 41.5
comp=N,28µm,17.8s
LIS Lisbon 76.57 45 *e*P **P 19 53 22.2 -0.4**
LIS *e*S **S 20 03 06.7 -1.3**
MORC Moravsky Berou 76.64 23⇑ *i*P **P 19 53 23.2 +0.3**
MORC Moravsky Berou 76.64 23 *e*P **P 19 53 22.0 -0.9**
MORC pmax pmax
comp=Z,545nm,1.6s
MORC Moravsky Berou 76.64 23 *e*P **P 19 53 22.0 -0.9**
comp=Z,545nm,1.6s
SSB Saint Sauveur 76.72 33⇑ *e*P **P 19 53 23.8 +0.4**
SSB Saint Sauveur 76.72 33 *e*P **P 19 53 21.8 -1.7**
SSB pmax pmax
comp=Z,103nm,1.6s
SSB MLR MLR
comp=Z,28µm,18.0s
SSB Saint Sauveur 76.72 33 *e*P **P 19 53 21.8 -1.7**
comp=Z,103nm,1.6s
SSB LR LR
comp=Z,28µm,18.0s
SENIN Lac Senin/Sane 76.72 31 *e*P **P 19 53 22.5 -1.1**
comp=Z,86nm,1.4s
SENIN LR LR
comp=Z,28µm,20.0s
DAVA Damuels 76.74 29 *i* pP **P 19 53 24.5 +0.9**
comp=Z,50nm,0.9s,SNR=10
OKC Ostrava-Krasne 76.74 22 *e*P **P 19 53 23.2 -0.2**
OKC *e*pP **sP 19 53 29.1 -1.2**
OKC *e*S **S 20 03 12.9 +3.4**
OKC *e*SS **SS 20 08 11.7 +7.8**
OKC AMS AMS 20 31 10.0
comp=Z,15µm,17.8s
OKC Ostrava-Krasne 76.74 22 *e*P **P 19 53 23.2 -0.2**
OKC *e* 19 53 29.1
OKC *e*S **S 20 03 12.9 +3.4**
OKC *e*SS **SS 20 08 11.7 +7.8**
OKC MLR MLR
comp=Z,15µm,17.8s
REYF Montagne du Re 76.76 37 *e*P **P 19 53 23.4 -0.3**
OJC Ojcow 76.78 21 *e*P **P 19 53 23.5 -0.2**
OJC *e*pP **sP 19 53 31.9 +1.4**
OJC *e*S **S 20 03 12.7 +2.7**
OJC LMZ LR 20 26 05.2
comp=Z,24µm,20.9s
OJC Ojcow 76.78 21 *e*P **P 19 53 22.6 -1.1**
OJC pmax pmax
comp=Z,128nm,1.3s
OJC Ojcow 76.78 21 *e*P **P 19 53 22.6 -1.1**
comp=Z,128nm,1.3s
PMRV Marv?2o 76.80 44 *e*P **P 19 53 23.4 -0.6**
comp=Z,151nm,1.5s
PMRV *e*S **S 20 03 08.3 -2.3**
PMRV *e*SS **SS 20 08 06.6 +1.0**
PMRV *e*LR LR 20 17 38.7
comp=Z,17µm,18.0s
RETA Reutte 76.83 28 *i* P **P 19 53 24.7 +0.6**
comp=Z,93nm,1.8s,SNR=8.8
VRAC Vranov 76.83 23⇑ *i*P **P 19 53 24.4 +0.5**
BRVK Borovoye 76.88 349 *e*P **P 19 53 23.5 -0.6**
BRVK pmax pmax
comp=Z,132nm,0.8s
BRVK MLR MLR
comp=Z,45µm,20.0s
BRVK Borovoye 76.88 349 *e*P **P 19 53 23.4 -0.6**
comp=Z,132nm,0.8s
BRVK LR LR
comp=Z,45µm,20.0s
BVAR Borovoye Array 76.89 349 PKPPKP **P'P'df 20 20 36.9 -5.8**
comp=Z,4.2nm,1.1s,baz=178,slow=4.3,SNR=9.2
BVAR LR LR 20 31 48.3
comp=Z,30µm,19.4s,baz=14,slow=39
MOTA Moosalm 77.06 28 *i* P **P 19 53 25.6 +0.1**
comp=Z,24nm,0.8s,SNR=13
VIEF Viey 77.08 37 *e*P **P 19 53 26.2 +0.7**
RSL Roselend 77.09 31⇑ *e*P **P 19 53 28.0 +2.4**
VIVF Saint-Julien-l 77.13 33 *e*P **P 19 53 25.7 0.0**
VIVF pmax pmax
comp=Z,16nm,1.0s
PESTR Estremoz 77.17 44 *e*P **P 19 53 25.5 -0.5**
comp=Z,170nm,1.6s
PESTR *e*S **S 20 03 13.1 -1.5**
GRN Grenoble 77.17 32 *e*P **P 19 53 26.3 +0.3**
PMOZ Porto Moniz, M 77.21 54 *e*P **P 19 53 27.2 +0.7**
PMOZ *e*S **S 20 03 17.8 +2.4**
PMOZ Porto Moniz, M 77.21 54 *e*LR LR 20 18 17.9
comp=Z,22µm,20.0s
WATA Walderalm 77.21 27 *i* P **P 19 53 26.5 +0.2**
comp=Z,81nm,1.2s,SNR=15
FETA Feichten 77.24 28 *i* pP **P 19 53 27.4 +1.0**
comp=Z,82nm,1.2s,SNR=21
EVO Evora 77.25 45 *e*P **P 19 53 26.1 -0.3**
comp=Z,212nm,1.6s
BTO Baotou 77.27 319 *e*P **P 19 53 25.3 -1.4**
LPL La Plagne 77.27 31 *e*P **P 19 53 27.2 +0.4**
LPL pmax pmax
comp=Z,20nm,0.8s
TUE Stuetta 77.29 29 PFAKE 19 53 40.0 +13
TUE LR LR
comp=Z,43µm,22.0s
LPG La Plagne 77.30 31 *e*P **P 19 53 27.5 +0.5**
LPG pmax pmax
comp=Z,34nm,1.1s
WTTA Wattenberg 77.30 27 *i* P **P 19 53 27.5 +0.7**
comp=Z,124nm,1.5s,SNR=14
GDM Grand'Maison 77.33 32 *e*P **P 19 53 27.1 +0.1**
PNCL Nicolau / Gran 77.35 45 *e*P **P 19 53 26.5 -0.5**
comp=Z,229nm,1.6s
PNCL Nicolau / Gran 77.35 45 *e*PP PP 19 56 26.2 +5.5
PNCL *e*S **S 20 03 16.5 0.0**
FUORN Ofenpass-Fuorn 77.45 29 *e*P **P 19 53 28.6 +0.8**
comp=Z,262nm,1.5s
FUORN LR LR
comp=Z,32µm,19.0s
MOA Molln 77.53 26 *i* P **P 19 53 28.1 +0.2**
comp=Z,38nm,1.3s,SNR=5.5
TIA Tai'an 77.58 312 ⇓P **P 19 53 33.1 +4.8**
TIA PP PP 19 56 30.8 +8.1
TIA S **S 20 03 20.2 +1.1**
TIA Tai'an 77.58 312 sS sS 20 04 18.1 +51
TIA Tai'an 77.58 312 SS SS 20 08 28.3 +11
TIA Tai'an 77.58 312 ⇓P **P 19 53 28.2 -0.1**
TIA pmax pmax
comp=Z,50nm,1.1s
NIE Niedzica 77.65 21 *e*P **P 19 53 29.3 +0.8**
NIE *e*pP **PcP 19 53 37.4 -1.3**
NIE *e*S **S 20 03 23.5 +4.0**
NIE LMZ LR 20 23 18.3
comp=Z,14µm,26.9s
NIE Niedzica 77.65 21 *e*P **P 19 53 29.3 +0.8**
NIE *e**PP **PcP 19 53 37.4 -1.3**
NIE *e*S **S 20 03 23.5 +4.0**
NIE MLR MLR
comp=Z,14µm,26.9s
BNI Bardonecchia 77.66 32 *e*P **P 19 53 28.8 0.0**
BNI pmax pmax
comp=Z,226nm,1.8s
BNI MLR MLR
comp=Z,31µm,19.0s
BNI Bardonecchia 77.66 32 *e*P **P 19 53 28.8 0.0**
comp=Z,226nm,1.8s
BNI LR LR
comp=Z,31µm,19.0s
LPSR Galich'ya Gora 77.69 9 *e*P **P 19 53 27.9 -0.8**
LPSR *e**SP **sP 19 53 34.8 -0.8**
LPSR *e*S S 20 03 30.3 +11
LPSR pmax pmax
comp=Z,80nm,1.0s
LPSR smax smax
comp=N,170nm,3.7s
LANS Liptovska Anna 77.70 22 *e*P **P 19 53 29.6 +0.7**
LANS *e* 19 53 37.3
LANS Liptovska Anna 77.70 22 *e*P **P 19 53 29.6 +0.7**
LANS *e* 19 53 37.3
MESJ Messejana 77.71 45 *e*P **P 19 53 28.7 -0.4**
MESJ *e*S **S 20 03 19.2 -1.3**
MESJ AMS AMS 20 27 59.9
comp=Z,21µm,17.6s
MESJ Messejana 77.71 45 *e*P **P 19 53 28.8 -0.2**
comp=Z,112nm,1.7s
MESJ Messejana 77.71 45 *e*PP PP 19 56 27.0 +3.3
MESJ Messejana 77.71 45 *e*P **P 19 53 28.6 -0.4**
MESJ *e*S **S 20 03 19.1 -1.3**
PTEO Sao Teotonio 77.71 46 *e*P **P 19 53 28.9 -0.2**
comp=Z,186nm,1.7s
PTEO Sao Teotonio 77.71 46 *e*PP PP 19 56 28.3 +4.5
PBEJ Beja 77.72 45 *e*P **P 19 53 28.1 -1.0**
comp=Z,150nm,1.8s
SMOL Smolenice 77.78 23 *e*P **P 19 53 30.8 +1.5**
SMOL *e* 19 53 36.1
SMOL Smolenice 77.78 23 *e*P **P 19 53 30.8 +1.5**
SMOL *e* 19 53 36.1
RPN Rapa Nui 77.80 164 LR LR 20 20 42.3
comp=Z,5µm,20.2s,baz=349,slow=30
SEM Semipalatinsk 77.86 343 *i* P **P 19 53 28.1 -1.8**
comp=Z,159nm,1.2s
SEM *i* S **S 20 03 20.5 -1.7**
SEM *i* SS **SS 20 08 22.0 +0.7**
SEM LRM MLR 20 31 21.9
comp=Z,8µm,20.1s
STHS Stebnicka Huta 77.87 21 *e*P **P 19 53 30.2 +0.4**
STHS *e* 19 53 35.8
STHS pmax pmax
comp=Z,47nm,1.1s
STHS Stebnicka Huta 77.87 21 *e*P **P 19 53 30.2 +0.4**
STHS *e* 19 53 35.8
KURK Kurchatov 77.88 344 *i* P **P 19 53 27.9 -1.8**
KURK pmax pmax
comp=Z,320nm,1.9s
KURK Kurchatov 77.88 344 *e*P **P 19 53 27.9 -1.8**
comp=Z,577nm,1.9s
KURK LR LR
comp=Z,39µm,20.0s
CONA Conrad Observa 77.90 24 *i* P **P 19 53 30.4 +0.3**
comp=Z,57nm,1.1s,SNR=18
MORF Marmelete 77.94 46 *e*P **P 19 53 30.2 -0.2**
MORF *e*S **S 20 03 21.8 -1.3**
MORF AMS AMS 20 26 18.8
comp=Z,23µm,21.8s
MORF Marmelete 77.94 46 *e*P **P 19 53 29.9 -0.5**
comp=Z,304nm,1.5s
MORF *e*S **S 20 03 21.8 -1.3**
MORF Marmelete 77.94 46 *e*P **P 19 53 30.2 -0.2**
MORF *e*S **S 20 03 21.8 -1.3**
PCVE Castro Verde 77.96 45 *e*P **P 19 53 30.2 -0.3**
comp=Z,131nm,1.5s
PCVE *e*S **S 20 03 23.6 +0.4**
KBA Koelnbreinsper 77.97 26 *i* P **P 19 53 31.1 +0.5**
comp=Z,125nm,1.8s,SNR=23
KBA Koelnbreinsper 77.97 26 P **P 19 53 30.9 +0.3**
PBAR Barrancos 77.98 44 *e*P **P 19 53 30.9 +0.3**
comp=Z,248nm,1.4s
PBAR Barrancos 77.98 44 *e*PP PP 19 56 33.2 +7.2
PBAR *e*S **S 20 03 25.6 +2.2**
KWP Kalwaria Pacla 78.00 20 *e*P **P 19 53 31.0 +0.6**
KWP *e*PcP **sP 19 53 38.9 +1.5**
KWP *e*S **S 20 03 26.8 +3.6**
KWP LMZ LR 20 25 26.0
comp=Z,27µm,24.7s
KWP Kalwaria Pacla 78.00 20 *e*P **P 19 53 31.0 +0.6**
KWP *e* 19 53 38.8
KWP *e*S **S 20 03 26.8 +3.6**
KWP MLR MLR
comp=Z,27µm,24.7s
PFVI Vila Bisbo 78.00 46 *e*P **P 19 53 30.6 -0.1**
comp=Z,443nm,1.6s
PFVI Vila Bisbo 78.00 46 *e*PP PP 19 56 31.4 +5.2
PFVI *e*S **S 20 03 24.1 +0.5**
PFVI Vila Bisbo 78.00 46 *e*P **P 19 53 30.4 -0.2**
comp=Z,419nm,1.5s
PFVI LR LR
comp=Z,28µm,20.0s
LRDF Laroque-de-Fa 78.00 35 *e*P **P 19 53 30.2 -0.4**
ABTA Abfaltersbach 78.02 27 *i* P **P 19 53 31.1 +0.3**

comp=Z,88nm,1.6s,SNR=12
PAB San Pablo 78.06 42 *e*P **P** **19 53 30.4 -0.7**
PAB pmax pmax
comp=Z,69nm,1.2s
PAB MLR MLR
comp=Z,21µm,19.0s
PAB San Pablo 78.06 42 *e*P **P** **19 53 30.4 -0.7**
comp=Z,69nm,1.2s
PAB LR LR
comp=Z,21µm,19.0s
LVV L'vov 78.10 19 *e*P **P** **19 53 32.1 +1.1**
LVV *e* 19 56 30.1
LVV *e*S **S** **20 03 25.5 +1.2**
LVV *e*PS **SKSac** **20 03 46.6 +2.2**
LVV *e*SS **SS** **20 08 28.6 +4.2**
ESDC Sonseca Array 78.12 41 P **P** **19 53 31.5 +0.1**
comp=Z,13nm,0.9s,baz=322,slow=5.2,SNR=54
ESDC PKKP **PKKPbc** **20 12 30.2 +1.9**
comp=Z,0.2nm,0.3s,baz=118,slow=1.8,SNR=7.6
ESDC PKPPKP **P'P'df** **20 20 36.0 -3.5**
comp=Z,0.1nm,0.3s,baz=139,slow=1.8,SNR=3.8
ESLA Sonseca Array 78.12 41 *e*P **P** **19 53 31.1 -0.3**
comp=Z,86nm,1.1s
ESLA LR LR
comp=Z,22µm,20.0s
ES19 SONSECA Array 78.12 41 *e*P **P** **19 53 30.3 -1.1**
VYHS Vyhne 78.15 22 *e*P **P** **19 53 31.5 +0.1**
VYHS *e* 19 53 36.8
VYHS *e*S **S** **20 03 26.7 +1.7**
VYHS Vyhne 78.15 22 *e*P **P** **19 53 31.5 +0.1**
VYHS *e* 19 53 36.8
VYHS *e*S **S** **20 03 26.7 +1.7**
VYHS *e*L L 20 22 46.1
AKASG Malin Array Be 78.24 15 P **P** **19 53 30.6 -1.1**
comp=Z,15nm,0.9s,baz=348,slow=5.2,SNR=51
AKASG PKPPKP P'P'df 20 20 30.4 -10
comp=Z,0.4nm,0.3s,baz=134,slow=1.6,SNR=5.9
AKASG LR LR 20 26 14.7
comp=Z,20µm,21.7s,baz=5.0,slow=34
AKBB Malin Array Si 78.24 15 *e*P **P** **19 53 30.5 -1.3**
AKBB pmax pmax
comp=Z,439nm,1.8s
AKBB MLR MLR
comp=Z,22µm,22.0s
AKBB Malin Array Si 78.24 15 *e*P **P** **19 53 30.5 -1.3**
comp=Z,438nm,1.8s
AKBB LR LR
comp=Z,22µm,22.0s
KIEV Kiev 78.25 15*d i*P **P** **19 53 30.7 -1.1**
KIEV pmax pmax
comp=Z,59nm,1.4s
KIEV MLR MLR
comp=Z,15µm,17.0s
KIEV Kiev 78.25 15 *e*P **P** **19 53 30.5 -1.3**
comp=Z,472nm,1.9s
KIEV LR LR
comp=Z,18µm,20.0s
AK11 Malin Array Si 78.26 15 *e*P **P** **19 53 29.7 -2.1**
VALF Valcebollere 78.26 36 *e*P **P** **19 53 32.2 -0.1**
PVAQ Vaqueiros 78.30 45 *e*P **P** **19 53 32.6 +0.3**
comp=Z,195nm,1.7s
PVAQ Vaqueiros 78.30 45 *e*PP PP 19 56 34.2 +5.5
PVAQ *e*S **S** **20 03 27.0 +0.2**
PVAQ Vaqueiros 78.30 45 *e*LR LR 20 18 20.3
comp=Z,19µm,18.0s
PBDV Barranco-do-Ve 78.33 45 *e*P **P** **19 53 32.6 +0.1**
comp=Z,168nm,1.5s
PBDV *e*S **S** **20 03 27.5 +0.3**
FILF Fillols 78.33 36 *e*P **P** **19 53 32.2 -0.3**
CRVS Cervenica-Dubn 78.40 21 *e*P **P** **19 53 33.0 +0.3**
CRVS *e* 19 53 41.5
CRVS *e*S **S** **20 03 27.7 +0.1**
CRVS Cervenica-Dubn 78.40 21 *e*P **P** **19 53 33.0 +0.3**
CRVS *e* 19 53 41.5
CRVS *e*S **S** **20 03 27.7 +0.1**
ARSA Arzberg 78.43 25 *i*P **P** **19 53 33.6 +0.6**
comp=Z,101nm,1.7s,SNR=15
MYKA Terra Mystica 78.46 26 *i*P **P** **19 53 32.9 -0.2**
comp=Z,19nm,0.8s,SNR=7.6
SJAF Saint Jean de 78.52 35 *e*P **P** **19 53 33.1 -0.4**
KECS Kecovo 78.57 21 *e*P **P** **19 53 34.1 +0.5**
KECS *e* 19 53 40.0
KECS pmax pmax
comp=Z,29nm,0.9s
KECS Kecovo 78.57 21 *e*P **P** **19 53 34.1 +0.5**
KECS *e* 19 53 40.0
GUMO Guam 78.57 277 LR LR 20 24 19.6
comp=Z,2µm,19.6s,baz=44,slow=33
TIY Taiyuan 78.58 316 *e*P **P** **19 53 37.3 +3.3**
TIY PcP **sP** **19 53 41.7 +0.8**
TIY PP **PP** **19 56 36.1 +5.0**
TIY pmax pmax
comp=Z,110nm,1.0s
TIY pmax pmax
comp=Z,2µm,9.8s
TIY LR LR
comp=Z,14µm,13.3s
TIY LR LR
comp=Z,19µm,21.5s
VORR Voronezh 78.64 9 *e*P **P** **19 53 32.0 -1.9**
VORR pmax pmax
comp=Z,250nm,1.4s
SOKA Soboth 78.82 26 *i*P **P** **19 53 34.7 -0.4**
comp=Z,52nm,0.8s,SNR=31
OBKA Obir 78.83 26 *i*P **P** **19 53 34.7 -0.5**
comp=Z,64nm,0.8s,SNR=27
CADS Cadrg 78.85 27 *i*P **P** **19 53 34.6 -0.7**
PERS Pernice 78.88 26 *i*P **P** **19 53 35.5 0.0**
JOW Kunigami 78.93 298 *e*P **P** **19 53 35.7 -0.2**
comp=Z,101nm,1.0s
PSZ Piszkesteto 78.95 22⇑*i*P **P** **19 53 36.6 +0.8**
PSZ Piszkesteto 78.95 22 *e*P **P** **19 53 35.6 -0.3**
PSZ pmax pmax
comp=Z,126nm,1.2s
PSZ MLR MLR
comp=Z,18µm,20.0s
PSZ Piszkesteto 78.95 22⇑*ex* **P** **19 53 36.6 +0.8**
PSZ *ex* x 19 53 44.2
PSZ Piszkesteto 78.95 22 *e*P **P** **19 53 35.6 -0.3**
comp=Z,126nm,1.2s
PSZ LR LR
comp=Z,18µm,20.0s
VSR Storozhevoye 79.08 9 *e*P **P** **19 53 35.5 -0.9**
VSR *e* 19 53 42.2
VSR *e*S S 20 03 27.7 -7.0
VSR *e*SS **SS** **20 08 39.8 +0.7**
VSR pmax pmax
comp=Z,80nm,1.3s
VSR smax smax
comp=E,2µm,5.2s
BUD Budapest 79.14 23⇑*ex* **P** **19 53 37.5 +0.7**
BUD *ex* x 19 53 44.7
GROS Grobnik 79.15 25 *e*P **P** **19 53 36.7 -0.3**
LJU Ljubljana 79.25 26 *e*P **P** **19 53 37.1 -0.3**
LJU *e*PP **PP** **19 56 42.4 +6.1**
LJU *e*S **S** **20 03 34.5 -2.3**
TRI Trieste 79.33 27 *e*P **P** **19 53 36.3 -1.5**
TRI pmax pmax
comp=Z,39nm,0.9s
TRI MLR MLR
comp=Z,21µm,21.0s
TRI Trieste 79.33 27 *e*P **P** **19 53 36.3 -1.5**
comp=Z,39nm,0.9s
TRI LR LR
comp=Z,21µm,21.0s
KOGS Kog 79.37 25 *e*P **P** **19 53 38.1 +0.1**
KOGS *e* 19 53 45.0
KOGS *e*PP **PP** **19 56 42.0 +4.7**
KOGS *i*S **S** **20 03 39.3 +1.4**
KOGS *e*SS **SS** **20 08 49.5 +6.0**
TRPA Tarpa 79.37 20⇑*ex* **P** **19 53 38.2 +0.2**
TRPA *e* 19 53 45.5
BEHE Becsehely 79.49 25⇑*ex* **P** **19 53 38.8 +0.1**
BEHE *e*P **PcP** **19 53 47.4 +0.7**
SSE Sheshan 79.55 306 P **P** **19 53 39.2 -0.1**
SSE pP **sP** **19 53 45.2 -1.0**
SSE sP **PcP** **19 53 49.1 +1.9**
SSE S **S** **20 03 38.9 -1.4**
SSE ScS **SKKSac** **20 04 00.6 +3.7**
SSE SS **SS** **20 08 51.8 +4.5**
SSE pmax pmax
comp=Z,33nm,0.8s
SSE LR LR
comp=Z,11µm,17.7s
SSE LR LR
comp=Z,13µm,14.3s
BRZS Berezniki 79.57 347 *i*P **P** **19 53 37.8 -1.3**
BRZS *i*S **S** **20 03 39.0 -1.0**
BRZS LR LR 20 30 02.9
ZSN Zaisan 79.66 339 *i*P **P** **19 53 38.8 -0.8**
comp=Z,131nm,1.1s
ZSN *i*S **S** **20 03 40.1 -0.9**
ZSN LR LR 20 30 02.8
comp=Z,3µm,16.8s
VLC Villacollemand 79.69 30 *e*P **P** **19 53 39.6 -0.3**
comp=Z,137nm,1.3s
VLC LR LR
comp=Z,32µm,20.0s
NJ2 Nanjing 80.02 308 *e*P P 19 53 46.9 +5.1
NJ2 pP **PcP** **19 53 51.8 +2.6**
NJ2 PP **PP** **19 56 48.8 +5.7**
NJ2 S **S** **20 03 45.8 +0.6**
NJ2 Nanjing 80.02 308 SKS **SKSac** **20 03 58.9 +0.4**
NJ2 Nanjing 80.02 308 *e*P **P** **19 53 41.1 -0.7**
NJ2 pmax pmax
comp=Z,32nm,0.7s
BMR Baia Mare 80.02 20⇓*i*P **P** **19 53 42.8 +1.3**
SAML Samuel 80.37 116 *e*P **P** **19 53 41.2 -2.6**
comp=Z,99nm,1.1s
SAML LR LR
comp=Z,9µm,21.0s
BUR08 Bucovina Ar. S 80.41 19 *e*P **P** **19 53 43.0 -0.8**
BURAR Bucovina Array 80.44 19⇑*i*P **P** **19 53 44.3 +0.3**
AKTO Aktyubinsk 80.46 357 PKPPKP P'P'df 20 20 26.0 -10
comp=Z,1.2nm,0.8s,baz=302,slow=7.9,SNR=5.1
AKTO Aktyubinsk 80.46 357 *i*P **P** **19 53 42.9 -1.0**
AKTO pmax pmax
comp=Z,169nm,0.8s
SORM Soroca 80.56 16⇑*i*P **P** **19 53 44.0 -0.4**
DRGR 80.67 21⇑*i*P **P** **19 53 45.3 +0.1**
ARCR ARCALIA 80.76 19⇑*i*P **P** **19 53 46.2 +0.6**
MK31 Makanchi Array 80.87 340 *i*P **P** **19 53 45.3 -0.9**
MK31 pmax pmax
comp=Z,285nm,1.5s
MK31 Makanchi Array 80.87 340 *e*P **P** **19 53 45.0 -1.2**
MKAR Makanchi Array 80.87 340 *e*P **P** **19 53 45.0 -1.2**
MKAR pmax pmax
comp=Z,1µm,1.6s
MKAR MLR MLR
comp=Z,6µm,18.0s
MKAR Makanchi Array 80.87 340 *e*P **P** **19 53 45.0 -1.2**
comp=Z,1µm,1.6s
MKAR LR LR
comp=Z,6µm,18.0s
MK01 Makanchi Array 80.89 340 *e*P **P** **19 53 44.9 -1.4**
PRAR RASCA 80.89 18⇓*i*P **P** **19 53 47.5 +1.2**
SIRR Siria 80.92 21⇑*i*P **P** **19 53 46.2 -0.3**
MAKZ Makanchi 80.92 340 *e*P **P** **19 53 45.7 -0.8**
MAKZ pmax pmax
comp=Z,236nm,1.0s
MAKZ MLR MLR
comp=Z,21µm,20.0s
MAKZ Makanchi 80.92 340 *e*P **P** **19 53 45.7 -0.8**
comp=Z,236nm,1.0s
MAKZ LR LR
comp=Z,21µm,20.0s
CJR Cluj-Napoca 80.95 20⇑*i*P **P** **19 53 47.4 +0.8**
IAS Iasi 81.32 17⇑*i*P **P** **19 53 49.1 +0.6**
RTC Rabat Centre 81.49 47 PFAKE 19 54 00.0 +10
RTC LR LR
comp=Z,55µm,20.0s
BZS Buzias 81.52 22⇑*i*P **P** **19 53 49.7 +0.1**
AB31 Akbulak array 81.55 355 *i*P **P** **19 53 48.9 -0.8**
AB31 pmax pmax
comp=Z,115nm,0.7s
ABKAR Akbulak array 81.55 355 *e*P **P** **19 53 48.6 -1.1**
comp=Z,1µm,0.8s
ABKAR LR LR
comp=Z,5µm,20.0s
BANR Banloc 81.62 22⇓*i*P **P** **19 53 51.3 +1.2**
KIS Kishinev 81.74 16⇓*i*P **P** **19 53 50.0 -0.7**
comp=Z,1µm,3.0s
KIS Kishinev 81.74 16 *e*PP PP 19 56 52.0 -4.8
KIS Kishinev 81.74 16 *e*PPP PPP 19 59 32.0
KIS *e*SKS **S** **20 04 04.0 +1.3**
KIS *i*S **SKSac** **20 04 11.0 +1.1**
comp=Z,3µm,10.0s
KIS Kishinev 81.74 16x *i*P **P** **19 53 50.0 -0.7**
KIS *e* 19 56 52.0
KIS *e* 20 04 04.0
KIS *i*PS **PnS** **20 04 48.0 -2.6**
KIS pmax pmax
comp=Z,1µm,3.0s
KIS pmax pmax
comp=Z,2µm,10.0s
KIS pmax pmax
comp=Z,1µm,10.0s
KIS smax smax
comp=N,3µm,10.0s
KIS smax smax
comp=E,6µm,13.0s
KIS MLR MLR
comp=N,17µm,20.0s
KIS MLR MLR
comp=E,5µm,20.0s
KIS MLR MLR
comp=Z,22µm,20.0s
KIS MLR MLR
comp=Z,21µm,20.0s
TESR Tescani 81.79 18⇑*i*P **P** **19 53 51.0 0.0**
DOPR Dopca 82.05 19⇓*i*P **P** **19 53 53.0 +0.6**
LEOM Leova 82.14 17⇓*i*P **P** **19 53 53.8 +1.0**
LOT Lotru 82.19 20⇓*i*P **P** **19 53 53.0 -0.3**
AQU L'Aquila 82.27 28 *e*P **P** **19 53 53.6 -0.1**
AQU pmax pmax
comp=Z,94nm,1.0s
AQU MLR MLR
comp=Z,19µm,19.0s
AQU L'Aquila 82.27 28 *e*P **P** **19 53 53.6 -0.1**
comp=Z,94nm,1.0s
AQU LR LR
comp=Z,19µm,19.0s
WMQ Urumqi 82.31 335 P **P** **19 53 54.5 +0.6**
WMQ PP **PP** **19 57 03.7 +2.0**
WMQ S **S** **20 04 08.4 -0.5**
WMQ sS SKKSac 20 04 22.0 +4.5
WMQ SS **SS** **20 09 32.2 +4.4**
WMQ pmax pmax
comp=Z,310nm,1.1s
WMQ pmax pmax
comp=Z,2µm,3.7s
WMQ LR LR
comp=Z,20µm,17.1s
WMQ LR LR
comp=Z,26µm,19.5s
PLOR Plostina 82.42 18⇑*i*P **P** **19 53 55.5 +1.1**
VRI Vrincioaia 82.42 18⇑*i*P **P** **19 53 54.6 +0.2**
ARR Arges 82.45 20⇓*i*P **P** **19 53 55.3 +0.7**
VOIR 82.48 19⇓*i*P **P** **19 53 55.0 +0.2**
DIVS Divibare 82.54 23 P **P** **19 53 55.2 +0.1**
MSVF Nonsavu 82.58 232 *e*P **P** **19 53 55.6 +0.1**
MSVF pmax pmax
comp=Z,212nm,1.3s
MSVF MLR MLR
comp=Z,16µm,20.0s
MSVF Nonsavu 82.58 232 *e*P **P** **19 53 55.6 +0.1**
comp=Z,212nm,1.3s
MSVF LR LR
comp=Z,16µm,20.0s
ODBI Odobesti 82.59 18⇓*i*P **P** **19 53 55.8 +0.6**
MLR Muntele Rosu 82.62 19 *e*P **P** **19 53 55.2 -0.4**
MLR pmax pmax
comp=Z,269nm,2.0s
MLR MLR
comp=Z,38µm,21.0s
MLR Muntele Rosu 82.62 19 *e*P **P** **19 53 55.2 -0.4**
comp=Z,269nm,2.0s
MLR LR LR
comp=Z,38µm,21.0s
UPM Unac-Piva 83.09 24 *e*P **P** **19 53 57.0 -1.1**
PLE Pljevlja 83.10 24⇑*i*P **P** **19 53 57.2 -0.9**
XAN Xi'an 83.21 316 P **P** **19 53 57.6 -1.1**
XAN pP PcP 19 54 05.5 +2.2
XAN S **S** **20 04 16.6 -1.7**
XAN SS **SS** **20 09 39.7 -1.9**
XAN pmax pmax
comp=Z,250nm,1.2s
XAN pmax pmax
comp=Z,2µm,6.5s
XAN LR LR
comp=Z,11µm,19.2s
XAN LR LR
comp=Z,31µm,19.2s
BRY Bratogost 83.27 25⇑*i*P **P** **19 53 58.3 -0.7**
EBNR Beni Rached 83.30 39 P P 19 54 08.0 +8.9
ECHA Ech Chlef 83.35 40 P P 19 54 13.0 +14
CFR Carcaliu 83.36 17⇑*i*P **P** **19 53 59.2 0.0**
ODJA Bouhanifia 83.40 41 P P **19 54 03.0 +3.3**
EANR 'Ain N'Sour 83.41 40 P P 19 54 09.2 +9.5
NKY Niksic 83.47 24⇓*i*P **P** **19 53 59.5 -0.5**
TLCR 83.49 17⇓*i*P **P** **19 54 00.1 +0.3**
NKME Niksic 83.50 24 *e*P **P** **19 53 59.3 -0.8**
VSL Villasalto 83.50 32 *e*P **P** **19 54 00.6 +0.5**
comp=Z,133nm,1.4s
VSL LR LR
comp=Z,14µm,20.0s
WHN Wuhan 83.51 310⇓*i*P **P** **19 53 59.8 -0.4**
WHN pP **sP** **19 54 06.0 -1.2**
WHN PP **PP** **19 57 14.7 +2.8**
WHN S **S** **20 04 18.7 -2.6**
WHN pmax pmax
comp=Z,68nm,0.9s
WHN LR LR
comp=Z,12µm,15.3s
WHN LR LR
comp=Z,60µm,31.2s
LPAZ La Paz 83.52 124 P **P** **19 53 59.7 -1.4**
comp=Z,14nm,0.5s,baz=343,slow=4.5,SNR=23
LPAZ PKKP PKKPbc 20 12 26.5 +8.6
comp=Z,6.9nm,1.1s,baz=31,slow=1.9,SNR=8.5
LPAZ LR LR 20 34 49.6
comp=Z,14µm,18.0s,baz=330,slow=38
LPAZ La Paz 83.52 124 *e*P **P** **19 53 59.3 -1.7**
comp=Z,125nm,1.1s
LPAZ PKKP PKKPbc 20 12 26.5 +8.6
IVA Berane 83.66 24 *e*P **P** **19 54 00.5 -0.4**
LZH Lanzhou 83.67 321 *e*P **P** **19 54 01.1 -0.1**
LZH pP PcP 19 54 06.7 +1.3
LZH sP sP 19 54 09.6 +1.4
LZH PP **PP** **19 57 18.2 +4.9**
LZH *e*S **S** **20 04 20.4 -2.8**
LZH sS sS 20 04 33.5 +1.9
LZH pmax pmax
comp=Z,190nm,1.0s
LZH pmax pmax
comp=Z,1µm,5.9s
LZH LR LR
comp=Z,19µm,17.5s
LZH LR LR
comp=Z,35µm,18.2s
HCY Herceg Novi 83.68 25⇑*i*P **P** **19 53 59.7 -1.2**
CEME Cevo 83.70 25⇑*i*P **P** **19 54 00.2 -0.9**
YOJ Yonaguni jima 83.75 300 PFAKE 19 54 10.0 +8.4
YOJ LR LR
comp=Z,8µm,20.0s
HARR Harsova 83.79 18⇓*i*P **P** **19 54 02.8 +1.4**
PDG Podgorica 83.90 24 P P **19 54 01.6 -0.4**
PDG Podgorica 83.90 24⇑*i*P **P** **19 54 02.9 +0.9**
TTG Podgorica 83.90 24⇑*i*P **P** **19 54 01.6 -0.4**
TLB Topalu 83.91 18⇓*i*P **P** **19 54 02.3 +0.3**
BUM Brajici-Budva 83.92 25⇑*i*P **P** **19 54 01.5 -0.8**
PVY Plav 83.93 24 *e*P **P** **19 54 01.7 -0.7**
EMHD Djebel Mahouad 83.96 39 P P **19 54 06.8 +4.2**
DRME Dracevica, Mon 84.11 25⇑*i*P **P** **19 54 02.8 -0.3**
TIRR Tirgusor 84.11 17⇑*i*P **P** **19 54 02.8 -0.3**
TIRR Tirgusor 84.11 17 PFAKE 19 54 10.0 +6.9
TIRR LR LR
comp=Z,15µm,21.0s
MPEP Malo Peshtene 84.16 21 *e*P **P** **19 54 03.0 -0.4**
TATO Taipei 84.20 302 PFAKE 19 54 20.0 +16
TATO LR LR
comp=Z,9µm,18.0s
ZIMR 84.24 20⇑*i*P **P** **19 54 05.3 +1.6**
ULC Ulcinj 84.33 25⇑*i*P **P** **19 54 02.8 -1.5**
YHNB Yeheng 84.51 302 *e*P **P** **19 54 05.0 -0.5**
comp=Z,184nm,1.5s
YHNB LR LR
comp=Z,9µm,19.0s
SIM Simferopol' 84.62 13*de*P P 19 54 13.4 +7.7
SIM *e* 19 57 18.0
SIM pmax pmax
comp=Z,52nm,1.3s
SZH Strazhica 84.74 19 *e*P **P** **19 54 06.0 -0.3**
VTS Vitosha 84.76 22 P P **19 54 06.1 -0.5**
VTS Vitosha 84.76 22⇓*i*P **P** **19 54 06.6 0.0**
VTS Vitosha 84.76 22 *e*P **P** **19 54 05.8 -0.8**
VTS pmax pmax
comp=Z,61nm,0.8s
VTS MLR MLR
comp=Z,22µm,20.0s
VTS Vitosha 84.76 22 *e*P **P** **19 54 05.0 -1.6**
VTS Vitosha 84.76 22 *e*P **P** **19 54 05.8 -0.8**
comp=Z,61nm,0.8s
VTS LR LR
comp=Z,22µm,20.0s
NACB Ninganchiao 84.78 301 *e*P **P** **19 54 05.8 -1.0**
comp=Z,197nm,1.1s
NACB LR LR
comp=Z,8µm,22.0s
PDGK Podgornoye 84.78 341 *i*P **P** **19 54 05.7 -1.0**
PDGK pmax pmax
comp=Z,274nm,1.6s
KPKS Kokpek 84.81 341 *i*P **P** **19 54 05.3 -1.5**
comp=Z,115nm,0.9s
KPKS *i*PP **PP** **19 57 21.5 -0.7**
KPKS *i*S **S** **20 04 28.1 -6.1**
KPKS LR LR 20 32 46.0
comp=Z,16µm,19.0s
KUU Kurty 84.87 343 *i*P **P** **19 54 05.1 -1.9**
comp=Z,46nm,0.8s
KUU *i*S S 20 04 27.2 -7.4
KUU *i*SS **SS** **20 10 06.3 +1.0**
KUU LR LR 20 33 01.9
comp=Z,17µm,19.6s
SKO Skopje 84.90 23 P P **19 54 06.8 -0.4**
SKO Skopje 84.90 23⇓*i*Pdi P **19 54 07.3 +0.1**
SET Setif 84.94 37 P P 19 54 17.0 +9.5
SHLS Shalkode 84.95 341 *i*P **P** **19 54 05.9 -1.6**
comp=Z,356nm,0.9s
SHLS *i*PP **PP** **19 57 21.1 -2.2**
SHLS *i*S S 20 04 27.2 -8.4
SHLS LR LR 20 33 48.9
comp=Z,6µm,18.9s
PGB Panagyurishte 85.02 21 *e*P **P** **19 54 07.5 -0.3**
UZB Uzynbulak 85.05 341 *i*P **P** **19 54 06.7 -1.4**
comp=Z,69nm,0.5s
UZB *i*PP **PP** **19 57 22.9 -1.3**
UZB *e*S S 20 04 29.1 -7.7
UZB LR LR 20 33 16.2
comp=Z,6µm,17.2s
TIR Tirane 85.07 24 PFAKE 19 54 20.0 +12
TIR LR LR
comp=Z,24µm,22.0s
PRD Provadia 85.11 18 *e*P **P** **19 54 07.0 -1.1**
ZHN Zhinishke 85.15 342 *i*P **P** **19 54 07.0 -1.5**
comp=Z,59nm,0.9s
ZHN *i*PP **PP** **19 57 23.7 -1.3**
ZHN *e*S S 20 04 29.7 -7.9
ZHN LR LR 20 33 00.9
comp=Z,11µm,19.4s
CUC Castrocucco 85.16 28 *e*P **P** **19 54 07.2 -1.4**
comp=Z,38nm,1.2s
CUC LR LR
comp=Z,14µm,18.0s
ANN Anapa 85.22 11 *e*P **P** **19 54 07.6 -1.1**
ANN *e**PP **sP** **19 54 14.9 -0.7**
ANN *i**PP **pP** **19 54 15.6 +1.8**
ANN *e* 19 57 30.5
ANN *e*S S 20 04 29.5 -8.4
ANN pmax pmax
comp=Z,407nm,2.1s
ANN MLR MLR
comp=N,12µm,18.0s
ANN MLR MLR
comp=E,9µm,18.0s
ANN MLR MLR
comp=Z,18µm,18.0s
KKB Krupnik 85.41 22 *e*P **P** **19 54 10.0 +0.3**
AAA Alma-Ata 85.42 343 *e*P **P** **19 54 08.7 -1.1**
AAA *e*S **S** **20 04 34.5 -5.7**
AAA pmax pmax
comp=Z,3µm,3.9s
AAA smax smax

AAA MLR MLR
comp=E,11µm,10.3s
SSLB Suanglung 85.44 302 *e*P **P 19 54 09.0 -1.2**
comp=Z,87nm,1.1s
SSLB LR LR
comp=Z,9µm,19.0s
GOF Gofitskoye 85.54 7⇑*i*P **P 19 54 10.5 +0.2**
GOF *e*S **S 20 04 43.9 +2.8**
GOF pmax pmax
comp=Z,577nm,1.6s
GOF smax smax
comp=N,168nm,2.0s
OHR Ohrid 85.54 24⇓*i*Pdi **P 19 54 10.3 -0.1**
YULB Yu-li 85.56 301 *e*P **P 19 54 08.2 -2.5**
comp=N,43nm,1.0s
YULB LR LR
comp=Z,6µm,20.0s
PB11 IPOC Station P 85.58 127 *e*P **P 19 54 09.4 -1.4**
comp=Z,228nm,0.9s
PB11 LR LR
comp=Z,13µm,18.0s
JMB Yambol 85.64 19 *e*P **P 19 54 11.0 +0.2**
BIA Bitola 85.77 23⇓*e*Pdi **P 19 54 11.6 0.0**
VAY Valandovo 85.80 22 P **P 19 54 11.9 +0.3**
VAY Valandovo 85.80 22⇓*i*Pdi 19 54 11.6
QZH Quanzhou 85.82 304⇑*i*P **P 19 54 13.7 +1.7**
QZH PP **PP 19 57 30.7 -0.1**
QZH SKS S 20 04 35.8 -8.6
QZH S **SKSac 20 04 42.1 +5.0**
QZH SS **SS 20 10 20.8 +0.3**
QZH LR LR
comp=Z,12µm,17.7s
QZH LR LR
comp=Z,28µm,18.2s
MMB Musomiste 85.83 22 *e*P **P 19 54 11.5 -0.3**
TKM2 Tokmak 2 85.95 344 *i* P **P 19 54 12.2 -0.4**
TKM2 pmax pmax
comp=Z,168nm,1.0s
FNA Florina 86.00 23 P **P 19 54 11.9 -0.8**
TPUB Ta-pu 86.00 301 *e*P **P 19 54 11.2 -1.7**
comp=Z,210nm,1.2s
TPUB LR LR
comp=Z,6µm,20.0s
KNT Kendrikon 86.03 22 P **P 19 54 12.7 -0.1**
NVR Nevrokopi 86.09 22 P **P 19 54 13.0 -0.1**
ENH Enshi 86.09 314 *e*P **P 19 54 11.0 -2.3**
comp=Z,160nm,1.0s
ENH LR LR
comp=Z,16µm,22.0s
TWG Pinlang 86.14 301 *e*P **P 19 54 12.6 -1.0**
comp=Z,165nm,1.0s
TWG LR LR
comp=Z,30µm,18.0s
FRU Bishkek 86.21 344 *e*P **P 19 54 14.0 +0.3**
FRU *i* 19 54 20.0
FRU *e* 20 04 38.0
FRU *e* 20 10 22.0
FRU pmax pmax
comp=Z,700nm,2.0s
SRS Serrai 86.24 22 P **P 19 54 13.4 -0.5**
HNR Honiara 86.25 251 LR LR 20 26 38.7
comp=Z,6µm,20.4s,baz=35,slow=31
NEST Nestorio 86.26 24 P **P 19 54 13.7 -0.4**
EDRB Edirne 86.27 19 P **P 19 54 13.8 -0.1**
AAK Ala-Archa 86.42 344 *i* P **P 19 54 16.6 +1.7**
AAK pmax pmax
comp=Z,216nm,1.8s
AAK Ala-Archa 86.42 344 *e*P **P 19 54 14.2 -0.7**
comp=Z,77nm,0.9s
AAK LR LR
comp=Z,28µm,19.0s
SOH Sokhos 86.47 22 P **P 19 54 14.6 -0.4**
PENT Pentalofos 86.49 24 P **P 19 54 15.9 +0.7**
CLTB Caltabellotta 86.54 31 *e*P **P 19 54 13.7 -1.8**
comp=Z,78nm,1.2s
THE Thessaloniki 86.55 22 P **P 19 54 15.2 -0.1**
KZN Kozani 86.55 23 P **P 19 54 13.5 -2.0**
KAVA Kavala 86.58 21 P **P 19 54 15.3 -0.2**
KIV Kislovodsk 86.61 7 *e*P **P 19 54 15.5 -0.2**
KIV pmax pmax
comp=Z,133nm,0.9s
KIV MLR MLR
comp=Z,18µm,21.0s
KIV Kislovodsk 86.61 7 *e*P **P 19 54 15.5 -0.2**
comp=Z,133nm,0.9s
KIV LR LR
comp=Z,18µm,21.0s
KIV Kislovodsk 86.61 7 P **P 19 54 16.0 +0.3**
SNR=44
KIV P **P 19 54 16.0 +0.3**
SNR=44
KK31 Karatay Array 86.61 347 *i* P **P 19 54 19.9 +4.3**
KK31 pmax pmax
comp=Z,62nm,1.1s
KKAR Karatay Array 86.61 347 *e*P **P 19 54 15.0 -0.6**
KKAR pmax pmax
comp=Z,196nm,0.8s
KKAR MLR MLR
comp=Z,8µm,18.0s
KKAR Karatay Array 86.61 347 *e*P **P 19 54 15.0 -0.6**
comp=Z,196nm,0.8s
KKAR LR LR
comp=Z,8µm,18.0s
HORT Hortiatis 86.61 22 P **P 19 54 17.9 +2.1**
RDO Rodhopi 86.67 20 P **P 19 54 15.9 0.0**
SOC Sochi 86.69 10 *e*P **P 19 54 15.6 -0.4**
SOC *e**PP **sP 19 54 22.2 -0.7**
SOC *e* 19 57 34.7
SOC *e*S **SKSac 20 04 40.3 -1.7**
SOC *e*SS **SS 20 10 38.4 +6.5**
SOC *e*SSS SSS 20 13 59.5
SOC pmax pmax
comp=Z,77nm,1.1s
SOC MLR MLR
comp=Z,13µm,15.0s
PB01 IPOC Station P 86.73 128 *e*P **P 19 54 14.9 -1.5**
comp=Z,536nm,1.9s
PB01 LR LR
comp=Z,12µm,21.0s
KPRO Kipourio 86.78 24 P P 19 54 11.1 -5.5
CEL Celeste 86.78 28 PFAKE 19 54 30.0 +13
CEL LR LR
comp=Z,12µm,18.0s
SGD Sagiada 86.79 25 P **P 19 54 15.7 -0.8**
KEST Kesra 86.84 34 P **P 19 54 17.0 0.0**
comp=Z,21nm,0.9s,baz=287,slow=4.3,SNR=20
KEST PP **PP 19 57 41.1 +2.2**
comp=Z,7.4nm,1.0s,baz=315,slow=1.4,SNR=2.7
KEST Kesra 86.84 34 *e*P **P 19 54 16.8 -0.2**
comp=Z,63nm,1.1s
KEST PP **PP 19 57 41.1 +2.2**
KEST LR LR
comp=Z,13µm,21.0s
KBZ Khabaz 86.85 7 P **P 19 54 16.8 +0.1**
comp=Z,20nm,0.8s,baz=322,slow=4.1,SNR=23
KBZ LR LR 20 35 17.7
comp=Z,13µm,19.8s,baz=353,slow=37
IGT Igoumenitsa 86.89 25 P P 19 54 13.6 -3.5
MNAS Manas 86.91 346 *i* P **P 19 54 20.3 +3.0**
MNAS pmax pmax
comp=Z,399nm,2.2s
JAN Janina 86.92 24 P **P 19 54 19.6 +2.4**
ALN Alexandroupoli 87.03 20 P **P 19 54 17.4 -0.2**
OUR Ouranopolis 87.08 22 P **P 19 54 16.0 -1.9**
NCK Nalchik 87.14 7⇑*i*P **P 19 54 18.5 +0.3**
NCK pmax pmax
comp=Z,31nm,1.0s
NCK MLR MLR
comp=Z,16µm,19.0s
RABL Rabaul 87.16 260 PFAKE 19 54 30.0 +11
RABL LR LR
comp=Z,8µm,18.0s
ENEZ Enez 87.20 20 P **P 19 54 18.1 -0.4**
SACV Santiago Islan 87.29 70 PFAKE 19 54 30.0 +11
SACV LR LR
comp=Z,10µm,21.0s
THL Klokotos Trika 87.31 23 P **P 19 54 18.9 -0.2**
SMTH Samothraki Isl 87.31 21 P **P 19 54 18.2 -0.9**
PAIG Paliouri 87.39 22 P **P 19 54 16.5 -2.9**
PB04 IPOC Station P 87.46 129 PFAKE 19 54 30.0 +10
PB04 LR LR
comp=Z,10µm,22.0s
DSL Palaion Diasel 87.47 24 P **P 19 54 22.1 +2.2**
ISK Istanbul-Kandi 87.50 18 P **P 19 54 19.6 -0.4**

GROC Groznyy 87.58 5 *e*P **P 19 54 20.8 +0.5**
IUG Iuzhnay 87.61 347 *i* P **P 19 54 18.1 -2.6**
comp=Z,137nm,1.2s
IUG *e*S **SKSac 20 04 45.5 -2.5**
IUG LR LR 20 34 36.0
comp=Z,6µm,18.1s
GADA Gvkgeada 87.67 20 P **P 19 54 19.9 -0.9**
LKD2 Lefkada island 87.68 25 P **P 19 54 23.6 +2.7**
LIA Limnos Island 87.78 21 P **P 19 54 20.7 -0.6**
CHVG Ch'k'valeri 87.78 8 P P 19 54 28.1 +6.8
XOR Xorichti 87.80 23 P **P 19 54 20.2 -1.3**
ZEI Tsey 87.86 7 *e*P **P 19 54 20.1 -1.8**
ZEI pmax pmax
comp=Z,141nm,1.2s
NEO Neokhori 87.86 23 P P 19 54 27.1 +5.3
EVR Evrytania 87.87 24 P **P 19 54 21.2 -0.7**
AGG Agios Georgios 87.90 23 P **P 19 54 19.0 -3.0**
AGG Agios Georgios 87.90 23 *e*P **P 19 54 21.5 -0.5**
AGG pmax pmax
comp=Z,255nm,1.7s
AGG MLR MLR
comp=Z,35µm,21.0s
AGG Agios Georgios 87.90 23 *e*P **P 19 54 21.5 -0.5**
comp=Z,255nm,1.7s
AGG LR LR
comp=Z,35µm,21.0s
MAK Makhachkala 87.91 4 *e*P **P 19 54 23.2 +1.4**
MAK *e* 19 57 43.9
MAK *e*PPP PPP 19 59 41.4
MAK *e* 20 04 40.6
MAK *e*S **SKSac 20 04 50.4 +1.0**
MAK MLR MLR
comp=Z,146µm,18.0s
ONI Oni 88.03 7 P **P 19 54 23.1 +0.6**
ONI Oni 88.03 7 P **P 19 54 23.1 +0.8**
SKIA Skiathos 88.06 22 P **P 19 54 21.1 -1.6**
PVO Paravola 88.07 24 P **P 19 54 23.3 +0.6**
EZN Ezine 88.11 20 P **P 19 54 21.9 -1.0**
AOS Alonnisos 88.16 22 P **P 19 54 21.6 -1.5**
CD2 Chengdu 88.16 318 P **P 19 54 23.2 -0.2**
CD2 pP sP 19 54 29.1 -1.2
CD2 sP pP 19 54 34.8 +6.3
CD2 PP **PP 19 57 47.6 -1.9**
CD2 SKS **SKSac 20 04 49.0 -2.5**
CD2 S **SKKSac 20 05 05.6 +3.8**
CD2 pmax pmax
comp=Z,80nm,2.1s
CD2 pmax pmax
comp=Z,2µm,7.1s
CD2 LR LR
comp=Z,25µm,19.0s
CD2 LR LR
comp=Z,26µm,16.6s
GUDG Gudauri 88.23 6 P **P 19 54 24.4 +0.7**
VLS Valsamata 88.23 25 P **P 19 54 23.8 +0.3**
PB10 IPOC Station P 88.24 130 PFAKE 19 54 30.0 +6.5
PB10 LR LR
comp=Z,11µm,22.0s
SMIA Simia 88.26 23 P **P 19 54 21.1 -2.6**
LVC Limon Verde 88.33 128 *e*P **P 19 54 23.1 -1.3**
comp=Z,225nm,1.8s
LVC LR LR
comp=Z,12µm,21.0s
ILGA Ilgaz 88.36 14 PFAKE 19 54 30.0 +5.6
ILGA LR LR
comp=Z,20µm,22.0s
SERG Sergoula 88.41 24 P **P 19 54 23.6 -0.8**
LKR Lokris 88.43 23 P **P 19 54 22.8 -1.6**
DSF Desfina 88.53 23 P P 19 54 21.6 -3.4
LAKA Lakka 88.55 24 P **P 19 54 23.6 -1.4**
WDD Wied Dalam 88.56 30 PFAKE 19 54 40.0 +15
WDD LR LR
comp=Z,13µm,22.0s
RLS Riolos of Patr 88.58 24 P **P 19 54 27.9 +2.8**
SIGR SIGRI 88.59 21 P **P 19 54 23.9 -1.3**
MANU Manus Island 88.64 265 *e*P **P 19 54 25.4 -0.3**
comp=Z,189nm,1.6s
MANU LR LR
comp=Z,11µm,22.0s
PRK Paraskevi 88.65 20 P P 19 54 20.6 -4.8
DRO Drossia 88.75 24 P **P 19 54 29.2 +3.2**
KLV Kalavryta, Ach 88.78 24 P **P 19 54 23.3 -2.9**
EREA Eretria 88.88 22 P **P 19 54 28.2 +1.6**
THAL Thalero 88.92 23 P P 19 54 32.0 +5.3
VILL Villia 88.97 23 P **P 19 54 27.8 +0.8**
TBLG Delisi 88.98 6 P **P 19 54 27.5 +0.5**
TBLG Delisi 88.98 6 P **P 19 54 27.5 +0.5**
LTK Loutraki 89.01 23 P **P 19 54 26.9 -0.3**
LOUT Loutraki 89.05 23 P P 19 54 36.0 +8.6
KSH Kashi 89.16 342⇑*i*P **P 19 54 30.1 +2.0**
KSH pP sP 19 54 38.2 +3.2
KSH sP pP 19 54 40.7 +7.5
KSH PP **PP 19 58 03.1 +5.8**
KSH SKS **SKSac 20 04 54.6 -2.8**
KSH S **SKKSac 20 05 14.5 +5.2**
KSH sS sS 20 05 28.3 +3.4
KSH SS **SS 20 11 11.4 +3.0**
KSH pmax pmax
comp=Z,88nm,1.1s
KSH pmax pmax
comp=Z,290nm,5.8s
KSH LR LR
comp=Z,5µm,12.5s
KSH LR LR
comp=Z,18µm,24.8s
AKH Akhalkalaki 89.20 7 P **P 19 54 29.6 +1.3**
AKH Akhalkalaki 89.20 7⇓*i*P **P 19 54 30.3 +2.0**
AKH Akhalkalaki 89.20 7 P **P 19 54 29.6 +1.3**
PTL Penteli 89.21 23 P **P 19 54 26.7 -1.5**
ATH Athens Observa 89.25 23 P **P 19 54 29.2 +0.9**
ATHU Athens Univers 89.27 23 P **P 19 54 27.5 -0.9**
ARTV Artvin 89.29 8 PFAKE 19 54 40.0 +11
ARTV LR LR
comp=Z,8µm,20.0s
DGRG David-gareji 89.30 6 P **P 19 54 29.7 +1.2**
DGRG David-gareji 89.30 6 P **P 19 54 29.7 +1.2**
BGD Bogdanovka 89.35 7 P **P 19 54 30.0 +1.0**
ANTO Ankara 89.36 15 *e*P **P 19 54 29.1 +0.2**
ANTO pmax pmax
comp=Z,294nm,1.6s
ANTO MLR MLR
comp=Z,15µm,20.0s
ANTO Ankara 89.36 15 *e*P **P 19 54 29.1 +0.2**
comp=Z,294nm,1.6s
ANTO LR LR
comp=Z,15µm,20.0s
ANTO Ankara 89.36 15 P **P 19 54 29.9 +1.0**
SNR=49
ANTO P **P 19 54 29.9 +1.0**
SNR=49
KARY Karystos 89.37 22 P **P 19 54 28.5 -0.4**
BR231 Keskin MP Arra 89.38 15 *e*P **P 19 54 28.8 -0.3**
VLY Voula,Athens 89.38 23 P **P 19 54 30.2 +1.3**
CHOS Chios island 89.42 21 P P 19 54 34.6 +5.4
VLX Vlachokerasia 89.47 24 P **P 19 54 30.7 +1.2**
TOKA Tokat 89.50 13 PFAKE 19 54 40.0 +11
TOKA LR LR
comp=Z,12µm,21.0s
ITM Ithomi 89.53 24 P **P 19 54 33.5 +3.8**
DID Didima 89.57 23 P P 19 54 21.0 -8.8
BR131 Keskin Array S 89.64 15 *e*P **P 19 54 30.0 -0.3**
BRTR Keskin Array B 89.64 15 P **P 19 54 29.9 -0.3**
comp=Z,4.3nm,0.9s,baz=336,slow=2.1,SNR=16
BRTR PP **PP 19 58 00.0 -1.1**
comp=Z,6.0nm,1.1s,baz=320,slow=6.4,SNR=3.1
BRTR PKKPbc **PKKPbc 20 12 00.8 -1.2**
comp=Z,2.4nm,0.7s,baz=165,slow=5.2,SNR=12
BRTR PKPPKP P'P'df 20 20 11.2 -7.7
comp=Z,1.2nm,0.8s,baz=151,slow=5.0,SNR=4.3
BRTR LR LR 20 35 15.0
comp=Z,10µm,21.9s,baz=344,slow=36
KULA Kula-Manisa 89.88 19 P **P 19 54 30.9 -0.4**
MANT Manisa 89.88 19 *e*P **P 19 54 30.4 -1.2**
MANT LR LR
comp=Z,24µm,19.0s
GZH Guangzhou 90.11 307 P **P 19 54 36.8 +4.2**
GZH PP **PP 19 58 04.7 -0.6**
GZH Guangzhou 90.11 307 S S 20 05 13.5 -12
VLI Veliai 90.23 24 P P 19 54 23.2 -10
SMG Samos 90.25 20 P **P 19 54 34.3 +1.3**
KOPT Kop Dagi 90.30 10 PFAKE 19 54 40.0 +6.5
KOPT LR LR
comp=Z,12µm,20.0s

RAO Raoul Island 90.43 223 LR LR 20 30 22.8
comp=Z,4µm,19.1s,baz=12,slow=32
GNI Garni 90.55 6*d**e*P **P 19 54 35.2 +0.6**
GNI pmax pmax
comp=Z,170nm,1.8s
GNI MLR MLR
comp=Z,34µm,21.0s
GNI Garni 90.55 6 *e*P **P 19 54 35.0 +0.5**
comp=Z,376nm,1.7s
GNI LR LR
comp=Z,12µm,21.0s
GNI Garni 90.55 6 P **P 19 54 36.1 +1.6**
SNR=39
GNI P **P 19 54 36.1 +1.6**
SNR=39
APE Apeiranthos 90.55 22 P P 19 54 30.9 -3.6
APE Apeiranthos 90.55 22*d**e*P **P 19 54 33.5 -1.0**
APE pmax pmax
comp=Z,12nm,1.1s
GYA Guiyang 90.64 314⇑*i*P **P 19 54 34.7 -0.4**
GYA pP sP 19 54 43.0 +0.9
GYA PP **PP 19 58 12.4 +2.9**
GYA SKS **SKSac 20 05 03.6 -2.7**
GYA S **SKKSac 20 05 20.5 -0.1**
GYA SS **SS 20 11 30.0 -0.7**
GYA pmax pmax
comp=Z,120nm,1.0s
GYA pmax pmax
comp=Z,1µm,8.7s
GYA LR LR
comp=Z,7µm,24.5s
GYA LR LR
comp=Z,12µm,27.3s
MHLO Agia Marina, M 90.64 23 P **P 19 54 39.2 +4.4**
SZP Santa 90.66 298 PFAKE 19 54 50.0 +15
SZP LR LR
comp=Z,6µm,20.0s
MCO Taipa Grande 90.79 306 P P 19 54 46.0 +10
ISP Isparta 90.92 18 P **P 19 54 35.6 -0.7**
ISP Isparta 90.92 18 PFAKE 19 54 50.0 +14
ISP LR LR
comp=Z,15µm,20.0s
BODT Bodrum 90.98 20 P **P 19 54 35.4 -1.0**
SANT Santorini 91.20 22 *e*P **P 19 54 34.9 -2.6**
comp=Z,100nm,1.2s
SANT LR LR
comp=Z,13µm,20.0s
IMMV Iera Moni Meta 91.69 23 P **P 19 54 41.6 +1.9**
FETY Fethiye 91.78 19 P **P 19 54 41.7 +1.6**
VAM Vamos 91.80 23 P **P 19 54 44.2 +4.0**
ARG Arkhangelos 91.97 20 P **P 19 54 39.0 -2.0**
IDI Anoyia 92.09 23 P P 19 54 47.2 +5.5
IDI Anoyia 92.09 23 *e*P **P 19 54 40.7 -1.0**
comp=Z,32nm,1.1s
IDI LR LR
comp=Z,12µm,21.0s
NPS Neapolis 92.29 22 P **P 19 54 47.2 +4.7**
SIVA Sivas 92.33 23 P **P 19 54 42.0 -0.6**
KSL Kastellorizon 92.35 19 P **P 19 54 41.4 -1.3**
DZM Mont Dzumac 92.35 238 *e*P **P 19 54 41.7 -1.2**
comp=Z,193nm,1.4s
DZM Mont Dzumac 92.35 238 *e*PP PP 19 58 20.3 -3.7
comp=Z,1µm,26.6s
DZM *e*SKSac **SKSac 20 05 13.9 -1.7**
comp=Z,3µm,26.2s
DZM *e*SP **SP 20 06 55.0 -1.4**
comp=Z,6µm,25.2s
DZM *e*SS **SS 20 11 53.6 -3.5**
comp=Z,6µm,28.6s
DZM *e*LQ LQ 20 19 53.1
comp=Z,21µm,30.4s
DZM *e*LR LR 20 24 16.5
comp=Z,18µm,22.4s,baz=55
DZM Mont Dzumac 92.35 238 *e*P **P 19 54 41.4 -1.5**
comp=Z,74nm,1.1s
DZM LR LR
comp=Z,11µm,20.0s
LAST Lasithi 92.36 22 P **P 19 54 41.6 -1.3**
KARP Karpathos 92.39 21 PFAKE 19 54 50.0 +7.0
KARP LR LR
comp=Z,6µm,18.0s
LCO Las Campanas 92.76 133 PFAKE 19 55 00.0 +15
LCO LR LR
comp=Z,16µm,22.0s
GEYT Alibeck 92.94 356 P **P 19 54 45.5 0.0**
comp=Z,12nm,0.9s,baz=17,slow=1.5,SNR=22
GEYT LR LR 20 39 11.7
comp=Z,19µm,20.9s,baz=10.0,slow=37
MARD Mardin 93.00 10 *e*P **P 19 54 45.9 0.0**
comp=Z,152nm,1.1s
KMI Kunming 93.59 316 P P 19 54 54.7 +5.7
KMI pP sP 19 55 04.5 +8.6
KMI sP pP 19 55 11.2 +17
KMI PP **PP 19 58 34.3 +1.4**
KMI Kunming 93.59 316 SKS **SKSac 20 05 22.9 -0.3**
KMI Kunming 93.59 316 S **S 20 05 56.9 -0.4**
KMI Kunming 93.59 316 SS SS 20 12 02.5 -11
ARNB Al Arnab 93.80 14 *e*P P 19 54 56.0 +6.5
LSA Lhasa 94.22 327 P **P 19 54 52.3 +0.2**
LSA pP **sP 19 54 59.3 +0.3**
LSA sP **pP 19 55 02.8 +5.6**
LSA SS SS 20 12 25.5 +3.2
LSA pmax pmax
comp=Z,6.0nm,0.8s
LSA LR LR
comp=Z,6µm,19.9s
LSA LR LR
comp=Z,6µm,18.1s
LSA LR LR
comp=Z,16µm,23.6s
LSA Lhasa 94.22 327 *e*P **P 19 54 52.6 +0.5**
LSA pmax pmax
comp=Z,186nm,1.5s
LSA MLR MLR
comp=Z,19µm,22.0s
LSA Lhasa 94.22 327 *e*P **P 19 54 52.6 +0.5**
comp=Z,186nm,1.5s
LSA LR LR
comp=Z,19µm,22.0s
KSRV Kasrt alli 94.22 11 *e*P P 19 54 59.4 +8.0
CSS Mathiatis 94.23 16 P **P 19 54 52.4 +0.9**
CSS Mathiatis 94.23 16 *e*P **P 19 54 50.9 -0.6**
comp=Z,79nm,1.8s
CSS LR LR
comp=Z,2µm,22.0s
PMG Port Moresby 94.33 261 PFAKE 19 55 00.0 +8.0
PMG LR LR
comp=Z,10µm,21.0s
BDFB Brasilia 94.78 108 LR LR 20 41 27.4
comp=Z,16µm,21.3s,baz=168,slow=38
RCBR Riachuelo 95.14 93 PFAKE 19 55 10.0 +14
RCBR LR LR
comp=Z,30µm,19.0s
KBL Kabul 95.22 347 *e*P **P 19 54 55.7 -0.5**
KBL pmax pmax
comp=Z,53nm,0.8s
KBL MLR MLR
comp=Z,14µm,19.0s
KBL Kabul 95.22 347 *e*P **P 19 54 55.7 -0.5**
comp=Z,53nm,0.8s
KBL LR LR
comp=Z,14µm,19.0s
QIZ Qiongzhong 95.29 307 P **P 19 54 59.0 +2.5**
QIZ sP **sP 19 55 05.7 +2.2**
QIZ PP **PP 19 58 49.1 +3.0**
QIZ S **S 20 06 11.2 -0.6**
QIZ LR LR
comp=Z,5µm,14.2s
QIZ LR LR
comp=Z,16µm,19.4s
QIZ LR LR
comp=Z,13µm,18.0s
QIZ Qiongzhong 95.29 307 PFAKE 19 55 10.0 +13
QIZ LR LR
comp=Z,13µm,18.0s
ROOS tl_alroos 95.65 13 *e*P P 19 55 05.4 +7.3
MARH Ras Al Marh 95.67 14 *e*P P 19 55 06.1 +7.7
DAV Davao City (W) 95.79 288 PFAKE 19 55 10.0 +11
DAV LR LR
comp=Z,13µm,21.0s
THN Thein Dam 96.05 341 *e*P **P 19 55 00.6 +0.8**
BRBR Barbar 96.19 14 *e*P P 19 55 07.3 +6.6
SLVN Son La 96.31 313 PFAKE 19 55 10.0 +8.8
SLVN LR LR
comp=Z,16µm,19.0s

TOTH TOTAH 96.32 14 *eP* P 19 55 08.8 +7.8
TAM Tamanrasset 96.69 43 PFAKE 19 55 10.0 +7.0
TAM LR LR
comp=Z,15µm,21.0s
SMLA Simla 96.98 339 *eP* **P 19 55 03.6 -0.4**
SMLA IAmb IAmb 19 55 12.5
comp=Z,61nm,0.7s
SALA Sala 97.00 14 *eP* Pdif 19 55 12.1 +7.7
GO05 HualaæØ 97.22 137 PFAKE 19 55 20.0 +15
GO05 LR LR
comp=Z,10µm,21.0s
CPUP Villa Florida 97.52 122 P **P 19 55 04.5 -1.7**
comp=Z,7.9nm,1.2s,baz=312,slow=6.2,SNR=3.9
CPUP LR LR 20 44 20.8
comp=Z,8µm,18.0s,baz=344,slow=39
CPUP Villa Florida 97.52 122 *eP* **P 19 55 05.2 -1.0**
DDI Dehra Dun 97.55 338 *eP* **P 19 55 06.4 -0.3**
DDI IAmb IAmb 19 55 12.6
comp=Z,223nm,1.7s
DDI IAMs_20 IAMs_20 21 02 00.1
comp=Z,4µm,13.8s
TAPN Taplejung 97.56 329 *eP* **P 19 55 06.2 -0.9**
comp=Z,241nm,1.6s
GUN Gumba 97.63 331 *eP* **P 19 55 06.4 -1.1**
comp=Z,325nm,1.4s
SHL Shillong 97.71 325 *eP* **P 19 55 08.2 +0.6**
SHL IAmb IAmb 19 55 15.9
comp=Z,208nm,2.2s
SHL *eS* **SKSac 20 05 44.0 -0.9**
JIRN Jiri 97.77 331 *eP* **P 19 55 06.9 -1.2**
comp=Z,2µm,1.3s
KKN Kakani 97.93 331 *eP* **P 19 55 08.2 -0.5**
comp=Z,464nm,1.9s
GKN Gorkha 97.93 332 *eP* **P 19 55 08.2 -0.4**
PKI Pulchoki 98.10 331 *eP* **P 19 55 08.6 -1.0**
comp=Z,151nm,1.4s
ODAN Odare 98.11 329 *eP* **P 19 55 08.9 -0.6**
DMN Daman 98.16 331 *eP* **P 19 55 09.5 -0.2**
PYUN Piuthan 98.34 333 *eP* **P 19 55 09.8 -0.7**
comp=Z,209nm,1.1s
KOLN Kolđanda 98.47 333 *eP* **P 19 55 10.6 -0.4**
comp=Z,62nm,1.0s
MXZ Matakaoa Point 99.14 221 PFAKE 19 55 30.0 +17
MXZ LR LR
comp=Z,9µm,21.0s
OUZ Omahuta 99.31 226 PFAKE 19 55 30.0 +16
OUZ LR LR
comp=Z,11µm,22.0s
URZ Urewera 100.24 221 PFAKE 19 55 30.0 +12
URZ LR LR
comp=Z,7µm,20.0s
COEN Coen 100.30 261 PFAKE 19 55 30.0 +11
COEN LR LR
comp=Z,8µm,21.0s
CHTO Chiang Mai 100.79 316 PFAKE 19 55 30.0 +8.7
CHTO LR LR
comp=Z,10µm,19.0s
CHTO Chiang Mai 100.79 316 P **Pdif 19 55 27.7 +6.4**
SNR=8.0
CHTO P **Pdif 19 55 27.7 +6.4**
SNR=8.0
CMAR Chiang Mai Arr 101.10 316 P **Pdif 19 55 23.6 +0.9**
comp=Z,1.7nm,0.7s,baz=12,slow=5.0,SNR=12
CMAR PP **PP 19 59 32.0 +1.5**
comp=Z,0.6nm,0.5s,baz=23,slow=4.9,SNR=3.5
SPB Sao Paulo 101.15 113 PFAKE 19 55 30.0 +7.5
SPB LR LR
comp=Z,16µm,20.0s
BKZ Black Stump Fm 101.27 221 PFAKE 19 55 40.0 +17
BKZ LR LR
comp=Z,6µm,21.0s
HIZ Hauiti 101.44 223 PFAKE 19 55 40.0 +17
HIZ LR LR
comp=Z,5µm,20.0s
BOK Bokaro 101.45 329 *eP* **Pdif 19 55 24.1 -0.1**
BOK IAmb IAmb 19 55 33.1
comp=Z,319nm,3.0s
DLV T Lat 101.89 304 PFAKE 19 55 40.0 +14
DLV LR LR
comp=Z,12µm,19.0s
KKM Kota Kinabalu 102.30 295 PFAKE 19 55 40.0 +12
KKM LR LR
comp=Z,7µm,22.0s
PLCA Paso Flores 102.60 140 PP PP 19 59 41.2 -1.4
comp=Z,5.3nm,1.0s,baz=354,slow=6.5,SNR=3.0
BFZ Birch Farm 102.63 221 PFAKE 19 55 40.0 +11
BFZ LR LR
comp=Z,6µm,19.0s
CTAO Charters Tower 102.88 254 PFAKE 19 55 40.0 +10
CTAO LR LR
comp=Z,6µm,20.0s
TOC7 Torodi Ar. Sit 103.12 51 PFAKE 19 55 40.0 +8.3
TOC7 LR LR
comp=Z,24µm,18.0s
TOC1 Torodi Ar. Sit 103.13 51 PFAKE 19 55 40.0 +8.3
TOC1 LR LR
comp=Z,26µm,21.0s
TOB5 Torodi Ar. Sit 103.13 51 PFAKE 19 55 40.0 +8.3
TOB5 LR LR
comp=Z,23µm,21.0s
TOA1 Torodi Ar. Sit 103.14 51 PFAKE 19 55 40.0 +8.2
TOA1 LR LR
comp=Z,26µm,18.0s
TOA0 Torodi Ar. Sit 103.14 51 PFAKE 19 55 40.0 +8.2
TOA0 LR LR
comp=Z,23µm,21.0s
TORD Torodi Ar. Bea 103.14 51 Pdiff **Pdif 19 55 31.2 -0.6**
comp=Z,0.5nm,0.9s,baz=316,slow=4.0,SNR=2.8
TORD PP **PP 19 59 40.5 -5.5**
comp=Z,4.2nm,1.0s,baz=319,slow=7.1,SNR=5.2
TORD PKKPbc **PKKPbc 20 11 25.9 +0.7**
comp=Z,2.6nm,0.7s,baz=119,slow=2.5,SNR=11
TOB2 Torodi Ar. Sit 103.15 51 PFAKE 19 55 40.0 +8.2
TOB2 LR LR
comp=Z,23µm,22.0s
TOB4 Torodi Ar. Sit 103.15 51 PFAKE 19 55 40.0 +8.2
TOB4 LR LR
comp=Z,22µm,22.0s
TOA2 Torodi Ar. Sit 103.15 51 PFAKE 19 55 40.0 +8.2
TOA2 LR LR
comp=Z,100nm,19.0s
TOA3 Torodi Ar. Sit 103.15 51 PFAKE 19 55 40.0 +8.2
TOA3 LR LR
comp=Z,100nm,19.0s
TOC2 Torodi Ar. Sit 103.15 51 PFAKE 19 55 40.0 +8.2
TOC2 LR LR
comp=Z,24µm,22.0s
TOC5 Torodi Ar. Sit 103.15 51 PFAKE 19 55 40.0 +8.2
TOC5 LR LR
comp=Z,24µm,21.0s
TOB3 Torodi Ar. Sit 103.16 51 PFAKE 19 55 40.0 +8.2
TOB3 LR LR
comp=Z,22µm,21.0s
TOC3 Torodi Ar. Sit 103.17 51 PFAKE 19 55 40.0 +8.1
TOC3 LR LR
comp=Z,23µm,21.0s
TOC4 Torodi Ar. Sit 103.17 51 PFAKE 19 55 40.0 +8.1
TOC4 LR LR
comp=Z,27µm,18.0s
SNZO South Karori 103.81 221 PFAKE 19 55 50.0 +16
SNZO LR LR
comp=Z,6µm,19.0s
EIDS Eidsvold 103.81 247 PFAKE 19 55 50.0 +16
EIDS LR LR
comp=Z,7µm,21.0s
LHI Lord Howe Isla 103.82 238 PFAKE 19 55 50.0 +16
LHI LR LR
comp=Z,11µm,20.0s
JBP Jabalpur 103.86 334 *eP* **Pdif 19 55 35.9 +1.1**
JBP *ex* x 20 06 08.1
TRQA Tornquist 104.32 132 PFAKE 19 55 50.0 +14
TRQA LR LR
comp=Z,17µm,20.0s
BHPL Bhopal 104.47 337 *eP* **Pdif 19 55 37.8 +0.1**
BHPL IAmb IAmb 19 55 56.8
comp=Z,16nm,1.2s
BHPL IAMs_20 IAMs_20 20 49 26.9
comp=Z,15µm,22.9s
THZ Tophouse 104.96 222 PFAKE 20 00 10.0
THZ LR LR
comp=Z,4µm,20.0s
DBIC Dimbokro 104.99 60 PKKPbc PKKPbc 20 11 19.2 -0.4
comp=Z,2.8nm,0.6s,baz=129,slow=6.5,SNR=4.7
KHZ Kahutara 105.21 221 PFAKE 20 00 10.0
KHZ LR LR
comp=Z,5µm,20.0s
UOSS Minazif 105.95 357 PFAKE 20 00 10.0
UOSS LR LR
comp=Z,10µm,21.0s
NGP Nagpur 106.03 335 *eP* **Pdif 19 55 42.5 -2.1**
NGP IAmb IAmb 19 56 00.1
comp=Z,162nm,2.9s
LTZ Lake Taylor 106.06 222 PFAKE 20 00 10.0
LTZ LR LR
comp=Z,7µm,21.0s
BHJ Bhuj 106.17 344 *eP* **Pdif 19 55 43.2 -1.9**
BHJ IAmb IAmb 19 55 46.4
comp=Z,162nm,1.6s
BHJ IAMs_20 IAMs_20 20 52 45.4
comp=Z,17µm,19.2s
OXZ Oxford 106.60 222 PFAKE 20 00 10.0
OXZ LR LR
comp=Z,5µm,18.0s
MQZ McQueen's Vall 106.64 221 PFAKE 20 00 10.0
MQZ LR LR
comp=Z,4µm,20.0s
ARMA Armidale 107.22 243 PFAKE 20 00 10.0
ARMA LR LR
comp=Z,9µm,21.0s
RPZ Rata Peaks 107.34 222 PFAKE 20 00 10.0
RPZ LR LR
comp=Z,7µm,20.0s
SBUM Sibu 107.54 296 PFAKE 20 00 10.0
SBUM LR LR
comp=Z,5µm,21.0s
FOZ Fox Glacier 107.74 223 PFAKE 20 00 10.0
FOZ LR LR
comp=Z,6µm,20.0s
VIS Vishakhapatnam 107.95 330 *eP* **Pdif 19 55 53.2 +0.1**
RPR Rampur 108.14 334 *e*Pdif **Pdif 19 55 54.6 +0.7**
RPR *e*PP **PP 20 00 24.0 +1.6**
RPR *e*SKSac **SKSac 20 06 32.4 -1.1**
RPR IVMs_BB IVMs_BB 20 49 47.7
comp=Z,6µm,17.4s
LBZ Lake Benmore 108.25 222 PFAKE 20 00 10.0
LBZ LR LR
comp=Z,8µm,21.0s
SRSP Sriramsagar 108.34 335 *e*Pdif **Pdif 19 55 52.8 -2.0**
SRSP *e*PP **PP 20 00 26.0 +2.0**
SRSP *e*SKSac **SKSac 20 06 30.3 -4.1**
SRSP IVMs_BB IVMs_BB 20 48 24.5
comp=Z,6µm,23.7s
DGPR DIGLIPUR 108.43 319 *eP* **Pdif 19 55 54.5 -0.7**
DGPR IAmb IAmb 19 56 07.4
comp=Z,2µm,4.0s
ODZ Otahua Downs 108.57 221 PFAKE 20 00 10.0
ODZ LR LR
comp=Z,5µm,18.0s
PVM Polavaram 108.95 331 *e*Pdif **Pdif 19 55 59.0 +1.5**
PVM *e*PP **PP 20 00 30.8 +2.4**
PVM *e*SKSac **SKSac 20 06 41.1 +4.2**
PVM IVMs_BB IVMs_BB 20 49 10.7
comp=Z,5µm,19.4s
WKZ Wanaka 109.11 223 PFAKE 20 00 10.0
WKZ LR LR
comp=Z,7µm,21.0s
KSM Kuching 109.44 297 PFAKE 20 00 10.0
KSM LR LR
comp=Z,3µm,18.0s
KLRI Killari 109.63 336 *e*Pdif **Pdif 19 56 00.2 -0.4**
KLRI *e*PP **PP 20 00 35.1 +1.7**
KLRI *e*SKSac **SKSac 20 06 38.5 -1.5**
KLRI IVMs_BB IVMs_BB 20 51 32.9
comp=Z,6µm,16.2s
HYBB Hyderabad (bro 109.71 334 *e*Pdif **Pdif 19 55 58.4 -2.6**
HYBB *e*PP **PP 20 00 35.0 +1.0**
HYBB *e*SKSac **SKSac 20 06 39.0 -1.3**
HYBB IVMs_BB IVMs_BB 20 50 30.4
comp=Z,5µm,20.8s
HYB Hyderabad 109.71 334 *eP* **Pdif 19 55 59.2 -1.8**
BOM Bombay 109.76 340 *eP* **Pdif 19 55 59.6 -1.6**
POO Poona 109.88 339 *eP* **Pdif 19 55 59.4 -2.3**
MLZ Mavora Lakes 109.93 223 PFAKE 20 00 10.0
MLZ LR LR
comp=Z,6µm,18.0s
MMRI Maumere 109.95 280 PFAKE 20 00 20.0
MMRI LR LR
comp=Z,4µm,22.0s
WB0 Warramunga Arr 110.24 263 PFAKE 20 00 20.0
WB0 LR LR
comp=Z,10µm,22.0s
WB9 Warramunga Arr 110.26 263 PFAKE 20 00 20.0
WB9 LR LR
comp=Z,19µm,22.0s
WB8 Warramunga Arr 110.28 263 PFAKE 20 00 20.0
WB8 LR LR
comp=Z,9µm,22.0s
WR0 Warramunga Arr 110.28 263 PFAKE 20 00 20.0
WR0 LR LR
comp=Z,6µm,22.0s
WR9 Warramunga Arr 110.30 263 PFAKE 20 00 20.0
WR9 LR LR
comp=Z,6µm,21.0s
WR8 Warramunga Arr 110.30 263 PFAKE 20 00 20.0
WR8 LR LR
comp=Z,6µm,22.0s
NJS Nagarjunasagar 110.31 333 *e*Pdif **Pdif 19 56 03.6 0.0**
NJS *e*PP **PP 20 00 38.3 0.0**
NJS *e*SKSac **SKSac 20 06 44.0 +1.3**
NJS IVMs_BB IVMs_BB 20 50 43.8
comp=Z,5µm,19.9s
WB6 Warramunga Arr 110.32 263 PFAKE 20 00 20.0
WB6 LR LR
comp=Z,7µm,22.0s
WR7 Warramunga Arr 110.32 263 PFAKE 20 00 20.0
WR7 LR LR
comp=Z,7µm,21.0s
WR6 Warramunga Arr 110.33 263 PFAKE 20 00 20.0
WR6 LR LR
comp=Z,8µm,22.0s
WR5 Warramunga Arr 110.35 263 PFAKE 20 00 20.0
WR5 LR LR
comp=Z,8µm,22.0s
WB4 Warramunga Arr 110.36 263 PFAKE 20 00 20.0
WB4 LR LR
comp=Z,9µm,22.0s
WR4 Warramunga Arr 110.36 263 PFAKE 20 00 20.0
WR4 LR LR
comp=Z,8µm,22.0s
WC2 Warramunga Arr 110.37 263 PFAKE 20 00 20.0
WC2 LR LR
comp=Z,10µm,22.0s
WR3 Warramunga Arr 110.37 263 PFAKE 20 00 20.0
WR3 LR LR
comp=Z,8µm,22.0s
WB3 Warramunga Arr 110.37 263 PFAKE 20 00 20.0
WB3 LR LR
comp=Z,9µm,22.0s
WRAB Tennant Creek 110.38 263 *e*PKIKP **PKiKP 20 00 05.9 +1.3**
WRAB MLR MLR
comp=Z,8µm,22.0s
WRAB Tennant Creek 110.38 263 *e*PKPdf **PKiKP 20 00 05.8 +1.3**
WRAB LR LR
comp=Z,8µm,22.0s
WC1 Warramunga Arr 110.39 263 PFAKE 20 00 20.0
WC1 LR LR
comp=Z,7µm,22.0s
WR2 Warramunga Arr 110.39 263 PFAKE 20 00 20.0
WR2 LR LR
comp=Z,7µm,22.0s
WC3 Warramunga Arr 110.39 263 PFAKE 20 00 20.0
WC3 LR LR
comp=Z,6µm,21.0s
WB2 Warramunga Arr 110.39 263 PFAKE 20 00 20.0
WB2 LR LR
comp=Z,8µm,22.0s
WR1 Warramunga Arr 110.40 263 PFAKE 20 00 20.0
WR1 LR LR
comp=Z,9µm,22.0s
WRA Warramunga Arr 110.40 263 Pdiff **Pdif 19 56 04.9 +1.1**
comp=Z,1.5nm,0.8s,baz=44,slow=4.8,SNR=8.6
WRA PKIKP **PKiKP 20 00 04.3 -0.3**
comp=Z,2.9nm,1.0s,baz=17,slow=1.8,SNR=7.9
WRA PP PP 20 00 33.1 -7.0
comp=Z,5.9nm,1.2s,baz=39,slow=6.1,SNR=6.8
WRA SKP 20 03 43.0
comp=Z,0.8nm,0.9s,baz=85,slow=1.8,SNR=2.5
WRA PKKPab **PKKPab 20 11 15.2 +0.8**
comp=Z,2.2nm,1.0s,baz=215,slow=3.0,SNR=4.3
WC4 Warramunga Arr 110.41 263 PFAKE 20 00 20.0
WC4 LR LR
comp=Z,8µm,22.0s
WHZ Wether Hill Ro 110.41 222 PFAKE 20 00 20.0
WHZ LR LR
comp=Z,5µm,22.0s
GO09 Cerro Castillo 110.61 147 PFAKE 20 00 20.0
GO09 LR LR
comp=Z,6µm,19.0s
ASCN Ascension 110.71 78 PFAKE 20 00 20.0
ASCN LR LR
comp=Z,14µm,20.0s
ADKI Addanki 110.78 332 *e*Pdif **Pdif 19 56 07.3 +1.6**
ADKI *e*PP **PP 20 00 42.7 +1.0**
ADKI *e*SKSac **SKSac 20 06 39.8 -4.9**
ADKI IVMs_BB IVMs_BB 20 50 07.7
comp=Z,5µm,21.0s
SRLM Srisailam 110.86 333 *e*Pdif **Pdif 19 56 07.2 +1.0**
SRLM *e*PP **PP 20 00 41.2 -1.1**
SRLM *e*SKSac **SKSac 20 06 48.1 +3.0**
SRLM IVMs_BB IVMs_BB 20 51 08.1
comp=Z,5µm,18.7s
RCLA Racherla 111.45 333 *e*Pdif **Pdif 19 56 08.9 +0.2**
RCLA *e*PP **PP 20 00 48.8 +2.3**
RCLA *e*SKSac **SKSac 20 06 41.8 -5.6**
RCLA IVMs_BB IVMs_BB 20 51 25.6
comp=Z,7µm,20.4s
KULM Kulim 111.62 308 PFAKE 20 00 20.0
KULM LR LR
comp=Z,10µm,18.0s
IPM Ipoh 112.11 307 PFAKE 20 00 20.0
IPM LR LR
comp=Z,11µm,20.0s
URV Uravakonda 112.43 334 *e*Pdif **Pdif 19 56 14.4 +1.3**
URV *e*PP **PP 20 00 55.1 +1.6**
URV *e*SKSac **SKSac 20 06 51.2 -0.2**
URV IVMs_BB IVMs_BB 20 53 23.1
comp=Z,5µm,20.2s
GO10 Punta Arenas 112.60 147 PFAKE 20 00 20.0
GO10 LR LR
comp=Z,7µm,22.0s
SKHT Srikalahasti 112.84 332 *e*Pdif **Pdif 19 56 15.9 +1.0**
SKHT *e*PP **PP 20 00 59.2 +2.7**
SKHT *e*SKSac **SKSac 20 06 51.6 -1.4**
SKHT IVMs_BB IVMs_BB 20 51 56.5
comp=Z,6µm,20.7s
MYKOM Kota Tinggi 112.85 303 PFAKE 20 00 20.0
MYKOM LR LR
comp=Z,8µm,19.0s
ASAR Alice Springs 113.34 260 Pdiff **Pdif 19 56 17.7 +0.8**
comp=Z,0.5nm,0.8s,baz=47,slow=4.8,SNR=4.6
ASAR PKiKP **PKiKP 20 00 09.7 -0.5**
comp=Z,2.9nm,0.8s,baz=61,slow=2.8,SNR=10
ASAR SKP 20 03 45.8
comp=Z,1.2nm,1.1s,baz=47,slow=2.2,SNR=2.7
ASAR PKKPbc **PKKPbc 20 10 56.5 +3.0**
comp=Z,1.2nm,0.8s,baz=214,slow=2.8,SNR=4.0
LHMI Lhok Sumawe 113.55 311 PFAKE 20 00 20.0
LHMI LR LR
comp=Z,9µm,20.0s
STKA Stephens Creek 114.26 249 PKiKP PKPdf 20 00 11.3 -0.3
comp=Z,5.9nm,0.9s,baz=36,slow=5.9,SNR=5.2
STKA PKKPab **PKKPab 20 10 56.4 0.0**
comp=Z,2.7nm,0.7s,baz=258,slow=3.8,SNR=4.9
STKA Stephens Creek 114.26 249 PKiKP PKPdf 20 00 11.3 -0.3
STKA PKKPab **PKKPab 20 10 56.4 0.0**
STKA LR LR
comp=Z,1µm,20.0s
PSI Prapat 114.63 308 PFAKE 20 00 20.0 +6.9
PSI LR LR
comp=Z,10µm,19.0s
FITZ Fitzroy Crossi 114.74 271 PFAKE 20 00 20.0 +7.1
FITZ LR LR
comp=Z,4µm,21.0s
JAGI Jajag, Banyuwa 114.96 287 PFAKE 20 00 30.0 +16
JAGI LR LR
comp=Z,6µm,22.0s
BKNI Bangkinang 115.60 304 PFAKE 20 00 30.0 +15
BKNI LR LR
comp=Z,10µm,20.0s
DAMY Dhamar 115.88 9 PFAKE 20 00 30.0 +14
DAMY LR LR
comp=Z,6µm,22.0s
EFI East Falkland 116.52 139 PFAKE 20 00 30.0 +15
EFI LR LR
comp=Z,12µm,18.0s
GSI Gunungsitoli 116.60 308 PFAKE 20 00 30.0 +13
GSI LR LR
comp=Z,1µm,22.0s
CISI Cisompet, Garu 118.14 293 PFAKE 20 00 30.0 +10
CISI LR LR
comp=Z,4µm,21.0s
BBOO Buckleboo 118.30 252 PFAKE 20 00 30.0 +11
BBOO LR LR
comp=Z,9µm,22.0s
MNAI Manna 118.41 300 PFAKE 20 00 30.0 +10
MNAI LR LR
comp=Z,6µm,20.0s
PALK Pallekele 118.58 328 *e*PKIKP **PKPdf 20 00 20.3 -0.3**
PALK MLR MLR
comp=Z,8µm,21.0s
PALK Pallekele 118.58 328 *e*PKPdf **PKPdf 20 00 20.2 -0.3**
PALK LR LR
comp=Z,8µm,21.0s
FURI Furi 120.63 16 PFAKE 20 00 40.0 +15
FURI LR LR
comp=Z,8µm,20.0s
FORT Forrest 121.99 259 *e*PKPdf **PKPdf 20 00 25.5 -1.0**
FORT LR LR
comp=Z,79µm,20.0s
SHEL Horse Pasture 122.25 76 PFAKE 20 00 40.0 +13
SHEL LR LR
comp=Z,14µm,19.0s
PMSA Palmer Station 123.84 153 PKP **PKPdf 20 00 30.6 +1.7**
comp=Z,12nm,1.0s,baz=94,slow=13
PMSA Palmer Station 123.84 153 PKP **PKPdf 20 00 30.6 +1.7**
PMSA LR LR
comp=Z,4µm,18.0s
HOPE Hope Point 128.10 132 PFAKE 20 00 50.0 +13
HOPE LR LR
comp=Z,14µm,20.0s
KMBO Kilima Mbogo 130.07 21 PKP **PKPdf 20 00 44.1 +1.2**
comp=Z,17nm,1.0s,baz=23,slow=3.0,SNR=7.0
KMBO PP **PP 20 02 53.2 -1.0**
comp=Z,0.6nm,0.3s,baz=329,slow=0.4,SNR=3.5
KMBO SKPbc **SKPbc 20 04 07.3 +2.4**
comp=Z,0.7nm,0.3s,baz=330,slow=5.0,SNR=3.3
KMBO SKP 20 04 19.3
comp=Z,0.7nm,0.2s,baz=0.8,slow=3.8,SNR=3.5
KMBO Kilima Mbogo 130.07 21 *e*PKIKP **PKPdf 20 00 43.8 +0.9**
KMBO 20 02 53.2
KMBO MLR MLR
comp=Z,8µm,20.0s
KMBO Kilima Mbogo 130.07 21 *e*PKPdf **PKPdf 20 00 43.8 +0.9**
KMBO PKP **PKPdf 20 00 44.1 +1.2**
KMBO PP **PP 20 02 53.2 -1.0**
KMBO SKPbc **SKPbc 20 04 07.3 +2.4**
KMBO SKP 20 04 19.3
KMBO LR LR
comp=Z,8µm,20.0s
NWAO Narrogin (SRO) 130.38 264 *e*PKIKP **PKPdf 20 00 41.9 -0.6**
NWAO MLR MLR
comp=Z,5µm,18.0s
NWAO Narrogin (SRO) 130.38 264 *e*PKPdf **PKPdf 20 00 41.9 -0.6**
NWAO LR LR
comp=Z,5µm,18.0s
TRIS Tristan da Cun 132.31 101 PFAKE 20 01 00.0 +14
TRIS LR LR
comp=Z,7µm,19.0s
SBA Scott Base 133.15 195 PFAKE 20 01 00.0 +14
SBA LR LR
comp=Z,5µm,19.0s
VNDA Vanda 133.85 197 PKP **PKPdf 20 00 46.9 -0.9**
comp=Z,3.0nm,0.9s,baz=345,slow=2.8,SNR=9.9
VNDA SKPbc **SKPbc 20 04 16.7 +0.9**
comp=Z,0.7nm,0.7s,baz=269,slow=8.9,SNR=4.9
VNDA SKP 20 04 23.4
comp=Z,3.3nm,1.2s,baz=335,slow=1.0,SNR=3.6
VNDA Vanda 133.85 197 *e*PKPdf **PKPdf 20 00 48.9 +1.2**
VNDA SKPbc **SKPbc 20 04 16.7 +0.9**
VNDA SKP 20 04 23.4
DGAR Diego Garcia 135.06 332 PFAKE 20 01 00.0 +8.1
DGAR LR LR
comp=Z,9µm,21.0s
MSEY Mahe Island 135.39 356 PFAKE 20 01 00.0 +7.4
MSEY LR LR
comp=Z,7µm,21.0s

QSPA	**South Pole Qui**	**139.20**	**180**	*e*PKPpre	PKPpre	20 00 50.5		
QSPA				*e*PKPdf	**PKPdf**	**20 00 57.8**	**-0.2**	
QSPA				LR	LR			
	comp=Z,7μm,20.0s							
LSZ	**Lusaka**	**140.44**	**39**	*e*PKPpre	PKPpre	20 00 55.7		
LSZ				LR	LR			
	comp=Z,15μm,20.0s							
VNA3	**Neumayer Olymp**	**144.44**	**150**	PKP	**PKPab**	**20 01 04.7**	**-0.8**	
VNA1	**Neumayer--Stat**	**144.95**	**149**	PKP	**PKPab**	**20 01 06.9**	**-0.4**	
VNA2	**Neumayer--Watz**	**145.21**	**150**	PKP	**PKPbc**	**20 01 07.2**	**-1.0**	
	baz=304,slow=4.9							
SNAA	**Sanae**	**146.55**	**152**	PKP	**PKPdf**	**20 01 11.5**	**+0.6**	
SNAA	**Sanae**	**146.55**	**152**	PKPbc	**PKPdf**	**20 01 10.7**	**-0.2**	
	comp=Z,24nm,0.8s,baz=283,slow=3.5,SNR=44							
SNAA				SKP		20 04 44.7		
	comp=Z,13nm,1.1s,baz=143,slow=20,SNR=2.9							
SNAA	**Sanae**	**146.55**	**152**	*e*PKIKP	**PKPdf**	**20 01 09.5**	**-1.3**	
SNAA						20 04 44.7		
SNAA				MLR	MLR			
	comp=Z,7μm,18.0s							
SNAA	**Sanae**	**146.55**	**152**	*e*PKPdf	**PKPdf**	**20 01 09.5**	**-1.3**	
SNAA				SKP		20 04 44.7		
SNAA				LR	LR			
	comp=Z,7μm,18.0s							
LBTB	**Lobatse**	**147.67**	**51**	*e*PKP2	**PKPdf**	**20 01 15.7**	**+1.5**	
LBTB	**Lobatse**	**147.67**	**51**	*e*PKPdf	**PKPdf**	**20 01 15.7**	**+1.5**	
ABPO	**Ambohimpanom**	**149.35**	**11**	*e*PKIKP	**PKPdf**	**20 01 18.3**	**+1.1**	
ABPO				MLR	MLR			
	comp=Z,12μm,19.0s							
ABPO	**Ambohimpanom**	**149.35**	**11**	*e*PKPdf	**PKPdf**	**20 01 18.3**	**+1.1**	
ABPO				LR	LR			
	comp=Z,12μm,19.0s							
BOSA	**Boshof**	**150.39**	**56**	PKPbc	**PKPdf**	**20 01 22.3**	**+3.8**	
	comp=Z,26nm,0.9s,baz=309,slow=3.3,SNR=18							
BOSA	**Boshof**	**150.39**	**56**	*e*PKIKP	**PKPdf**	**20 01 19.7**	**+1.2**	
BOSA				*e*		20 01 23.6		
BOSA	**Boshof**	**150.39**	**56**	*e*PKPdf	**PKPdf**	**20 01 19.7**	**+1.2**	
BOSA				*e*PKPbc	**pPKPdf**	**20 01 23.6**	**-0.2**	
SUR	**Sutherland**	**150.66**	**67**	*e*PKPbc	**PKPbc**	**20 01 25.4**	**+1.0**	
SUR				LR	LR			
	comp=Z,15μm,20.0s							
NVL	**N'lazarevskaya**	**151.33**	**153**	*e*PKIKP	**PKPdf**	**20 01 20.3**	**+1.9**	
NVL				*i*		20 01 27.6		
NVL				*e*		20 05 07.8		
NVL				*e*SS	SS	20 24 29.4	+2.6	
RER	**Riviere de l'E**	**151.74**	**354**	*e*PKPbc	**PKPbc**	**20 01 26.4**	**-0.6**	
MIR	**Mirnyy**	**153.35**	**215**	*i* PKIKP	**PKPdf**	**20 01 26.0**	**+4.5**	
MIR				pmax	pmax			
	comp=Z,12nm,2.2s							
SYO	**Syowa Base**	**159.26**	**166**	||*e*X	**PKPdf**	**20 01 25.0**	**-4.2**	
MAW	**Mawson**	**161.06**	**192**	PKP	**PKPdf**	**20 01 30.2**	**-1.0**	
	comp=Z,4.4nm,0.9s,baz=116,slow=1.4,SNR=6.9							
MAW				PKPab	**PKPab**	**20 02 13.0**	**-1.5**	
	comp=Z,22nm,0.9s,baz=148,slow=10,SNR=12							
MAW	**Mawson**	**161.06**	**192**	*e*PKPdf	**PKPdf**	**20 01 28.4**	**-2.8**	
MAW				PKPab	**PKPab**	**20 02 13.0**	**-1.5**	

SKO 09 19:43:12.0, 40°46N×21°00E, *h*0km, 1C-1D, Greece-Albania border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BIA	**Bitola**	**0.61**	**24**	⇑*i* Pg	Pg	19 43 22.9	-0.8
BIA				*i* Sg	Sg	19 43 31.1	-0.5
OHR	**Ohrid**	**0.67**	**347**	⇓*i* Pg	Pg	19 43 23.9	-0.9
OHR				*i* Sg	Sg	19 43 33.4	0.0

BUC 09 19:43:13.0±1.0, 45°46N×26°22E, h153km±7km, MD2.9/2, 2C-12D, Error ellipse: s-maj=7.0km s-min=6.6km az=331.0, Romania

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MLR	**Muntele Rosu**	**0.20**	**279**	⇓*i* P	Pn	19 43 33.5	-0.3
MLR	**Muntele Rosu**	**0.20**	**279**	⇓*i* P	Pn	19 43 33.5	-0.3
MLR				*i* S	Sn	19 43 48.5	-1.1
PLOR	**Plostina**	**0.49**	**38**	⇓*i* P	Pn	19 43 34.7	0.0
PLOR	**Plostina**	**0.49**	**38**	⇓*i* P	Pn	19 43 34.7	0.0
PLOR				*i* S	Sn	19 43 50.5	-0.8
VRI	**Vrincioaia**	**0.54**	**41**	⇓*i* P	Pn	19 43 34.9	0.0
VRI	**Vrincioaia**	**0.54**	**41**	⇓*i* P	Pn	19 43 34.9	0.0
VRI				*i* S	Sn	19 43 50.9	-0.7
SULR		**0.78**	**178**	S	Sn	19 43 54.0	-0.1
SULR		**0.78**	**178**	*i* S	Sn	19 43 54.0	-0.1
VOIR		**0.82**	**269**	⇓*i* P	Pn	19 43 36.7	0.0
VOIR		**0.82**	**269**	⇓*i* P	Pn	19 43 36.7	0.0
VOIR				*i* S	Sn	19 43 54.0	-0.9
TESR	**Tescani**	**1.09**	**16**	S	Sn	19 43 57.1	-1.6
TESR	**Tescani**	**1.09**	**16**	*i* S	Sn	19 43 57.1	-1.6
CFR	**Carcaliu**	**1.38**	**101**	⇓*i* P	Pn	19 43 41.4	-0.1
CFR	**Carcaliu**	**1.38**	**101**	⇓*i* P	Pn	19 43 41.4	-0.1
CFR				*i* S	Sn	19 44 00.9	-2.4
TLB	**Topalu**	**1.56**	**123**	⇑*i* P	Pn	19 43 43.3	-0.1
TLB				*i* S	Sn	19 44 04.7	-2.0
TLB	**Topalu**	**1.56**	**123**	⇑*i* P	Pn	19 43 43.3	-0.1
TLB				*i* S	Sn	19 44 04.7	-2.0
TIRR	**Tirgusor**	**1.85**	**122**	⇓*i* P	Pn	19 43 46.8	+0.2
TIRR				S	Sn	19 44 10.8	-1.5
TIRR	**Tirgusor**	**1.85**	**122**	⇓*i* P	Pn	19 43 46.8	+0.2
TIRR				*i* S	Sn	19 44 10.8	-1.5
MILM	**Milestii Mici**	**2.32**	**50**	S	Sn	19 44 19.6	-2.4
MILM	**Milestii Mici**	**2.32**	**50**	*i* S	Sn	19 44 19.6	-2.4

*IDC **09** 19:44:43.9±1.4, 49°62N×126°82W, h0km, mb4.5/5, mb1 4.8/9, mb1mx4.4/38, mbtmp4.6/9, ML3.9/3, Error ellipse: s-maj=41.5km s-min=9.4km az=60.0*
*PGC **09** 19:44:43.6±0.0, 49°36N×127°21W, h35km±1km, ML4.5/15, 88km Wsw of Gold R., Bc Vancouver Island, Canada Region*

ISC 09 19:44:41.9±1.7, 49°39N±0'05×127°21W±0'05, h2km±10km, n55, σ1§73/61, mb4.4/5, Vancouver Island region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ETB	**Estevan Point**	**0.44**	**92**	P	**Pb**	**19 44 52.9**	**+0.6**
ETB				S	**Sb**	**19 44 59.5**	**+0.3**
EDB	**Eliza Dome**	**0.49**	**7**	P	**Pb**	**19 44 53.9**	**+0.8**
EDB				S	**Sb**	**19 45 00.9**	**+0.2**
BPBC	**Brooks Peninsu**	**0.85**	**335**	P	**Pb**	**19 44 59.4**	**+0.1**
GDR	**Gold River**	**0.86**	**62**	S	**Sg**	**19 45 09.8**	**+0.4**
WOSB	**Woss**	**0.87**	**28**	P	**Pb**	**19 44 59.8**	**0.0**
WOSB				S	**Sb**	**19 45 11.8**	**-0.2**
TOFB	**Tofino**	**0.88**	**105**	P	**Pb**	**19 44 58.7**	**-1.1**
MAYB	**Maynard**	**1.01**	**1**	P	**Pb**	**19 45 02.1**	**-0.1**
BTB	**Buttle Lake**	**1.10**	**85**	P	**Pg**	**19 45 02.5**	**-0.4**
SPLB	**Strathcona Par**	**1.13**	**63**	P	**Pb**	**19 45 03.6**	**-0.4**
TLCB	**Telegraph Cove**	**1.18**	**12**	P	**Pb**	**19 45 04.9**	**-0.1**
B012	**Ucluelet**	**1.19**	**112**	P	**Pg**	**19 45 03.1**	**-1.5**
B012				S	**Sg**	**19 45 18.8**	**-1.2**
OZB	**Mount Ozzard**	**1.20**	**110**	P	**Pg**	**19 45 03.5**	**-1.4**
NCRB	**Newcastle Ridg**	**1.26**	**36**	P	**Pg**	**19 45 05.7**	**-0.2**
MWAB	**Mount Washingt**	**1.29**	**73**	P	**Pg**	**19 45 05.7**	**-0.8**
PHC	**Port Hardy**	**1.33**	**354**	P	**Pg**	**19 45 06.7**	**-0.6**
CBB	**Campbell River**	**1.36**	**61**	P	**Pn**	**19 45 06.8**	**-1.0**
HOLB	**Holberg**	**1.39**	**335**	P	**Pn**	**19 45 07.2**	**-1.0**
BMSB	**Bamfield Mari**	**1.47**	**111**	P	**Pn**	**19 45 07.2**	**-2.1**
B928	**Bamfield**	**1.47**	**111**	P	**Pn**	**19 45 06.9**	**-2.3**
ALB	**Alberni**	**1.56**	**93**	P	**Pn**	**19 45 08.7**	**-1.8**
B927	**Port Alberni**	**1.58**	**95**	P	**Pn**	**19 45 08.9**	**-1.8**
MGB	**Mount Grey**	**1.69**	**102**	P	**Pn**	**19 45 10.6**	**-1.9**
TXB	**Texada**	**1.83**	**79**	P	**Pn**	**19 45 13.1**	**-1.2**
PFB	**Port Renfrew**	**2.00**	**113**	P	**Pn**	**19 45 15.2**	**-1.4**
B926	**Mesachie Lake**	**2.10**	**105**	P	**Pn**	**19 45 17.8**	**-0.1**
NLLB	**Nanaimo Lost L**	**2.11**	**93**	P	**Pn**	**19 45 17.2**	**-1.0**
SHB	**Sechelt**	**2.18**	**83**	P	**Pn**	**19 45 18.2**	**-1.0**
BPCB	**Bare Point**	**2.34**	**100**	P	**Pn**	**19 45 20.4**	**-1.0**
LZB	**Mount Lazard**	**2.36**	**108**	P	**Pn**	**19 45 20.9**	**-0.7**
GOBB	**Galiano Island**	**2.46**	**99**	P	**Pn**	**19 45 22.5**	**-0.4**
BIB	**Bowen Island**	**2.55**	**88**	P	**Pn**	**19 45 22.6**	**-1.5**
B009	**North Saanich**	**2.58**	**105**	P	**Pn**	**19 45 23.7**	**-0.9**
B010	**North Saanich**	**2.58**	**105**	P	**Pn**	**19 45 23.6**	**-1.0**
PGC	**Sidney**	**2.58**	**105**	P	**Pn**	**19 45 23.3**	**-1.3**
B011	**North Saanich**	**2.58**	**105**	P	**Pn**	**19 45 23.6**	**-1.0**
WPB	**Watts Point**	**2.62**	**83**	P	**Pn**	**19 45 24.5**	**-0.6**
SNB	**Saturna Island**	**2.72**	**102**	P	**Pn**	**19 45 25.7**	**-0.8**
VGZ	**Gonzales**	**2.74**	**109**	P	**Pn**	**19 45 26.1**	**-0.7**
BBB	**Bella Bella**	**2.86**	**349**	Pn	**Pn**	**19 45 28.1**	**-0.2**
	baz=87,slow=17,SNR=0.7						
BBB				Pg	**Pb**	**19 45 34.3**	**+0.8**
	81nm,0.3s,baz=205,slow=10.0,SNR=4.2						
BBB				Sn	**Sn**	**19 46 00.4**	**-2.8**
	64nm,0.3s,baz=114,slow=20,SNR=1.2						
BBB				Lg	Lg	19 46 06.9	
	84nm,0.3s,baz=142,slow=20,SNR=2.4						
BBB	**Bella Bella**	**2.86**	**349**	P	**Pn**	**19 45 28.5**	**+0.2**
WSLR	**Whistler**	**2.87**	**74**	P	**Pn**	**19 45 28.9**	**+0.2**
G03D	**McMinnville, O**	**4.97**	**146**	P	**Pn**	**19 45 58.3**	**+1.0**
	baz=329						
H02S1	**DAWSON INLET T**	**5.05**	**321**	Pn	**Pn**	**19 45 58.1**	**-0.4**
H02S1				Sn	**Sn**	**19 46 52.4**	**-4.9**
H02N1	**VAN INLET T-PH**	**5.11**	**321**	Pn	**Pn**	**19 45 58.7**	**-0.7**
H02N1				Sn	**Sn**	**19 46 54.2**	**-4.8**
M04C	**Macdoel**	**8.49**	**152**	P	Pn	19 46 50.1	+4.3
	baz=336						
M02C	**Callahan**	**8.56**	**157**	P	Pn	19 46 52.9	+6.1
	baz=340						
N02D	**Trinity Center**	**8.99**	**158**	P	Pn	19 46 58.6	+5.9
	baz=341						
PDAR	**Pinedale Array**	**13.91**	**112**	Pn	**Pn**	**19 48 02.1**	**+2.0**
	0.1nm,0.3s,baz=313,slow=13,SNR=3.1						
ILAR	**Eielson Array**	**18.62**	**333**	P	**Pn**	**19 49 02.7**	**+2.2**
	0.2nm,0.3s,baz=140,slow=10,SNR=2.3						
ILAR				S	**Sn**	**19 52 22.4**	**-6.6**
	0.3nm,0.3s,baz=102,slow=28,SNR=4.5						
ULM	**Lac du Bonnet**	**20.16**	**76**	P	**P**	**19 49 16.2**	**-1.0**
	2.1nm,0.3s,baz=265,slow=12,SNR=1.2						
TXAR	**Lajitas Array**	**26.87**	**130**	P	**P**	**19 50 26.4**	**+2.5**
	26nm,0.9s,baz=341,slow=8.0,SNR=3.7						
CMIG	**Matias Romero**	**41.48**	**129**	P	**P**	**19 52 31.5**	**+1.3**
	8.3nm,1.0s,baz=324,slow=14,SNR=1.8						
NOA	**NORSAR Array B**	**64.95**	**21**	P	**P**	**19 55 24.0**	**+1.5**
	1.5nm,0.8s,baz=335,slow=8.4,SNR=3.6						
SONM	**Songino Array**	**72.65**	**325**	P	**P**	**19 56 11.2**	**+0.4**
	3.7nm,1.0s,baz=50,slow=4.8,SNR=2.3						
ZALV	**Zalesovo Beam**	**73.55**	**341**	P	**P**	**19 56 17.6**	**+1.8**
	2.5nm,0.8s,baz=14,slow=6.5,SNR=2.6						

*IDC **09** 20:07:32.6±1.0, 1°86S×133°38E, h0km, mb3.8/7, mb1 4.1/10, mb1mx3.8/40, mbtmp3.9/10, ML3.9/3, Error ellipse: s-maj=37.5km s-min=17.6km az=68.0*
*ISCJB **09** 20:07:34.7±0.7, 1°89S±0'07×133°48E±0'06, h26km, mb3.8/7, Error ellipse: s-maj=10.4km s-min=8.4km az=162.0*
*DJA **09** 20:07:35.8±1.7, 2°S±6'×13°4E±', h15km±19km, M4.4/6, mB5.5/1, mb4.5/5, MLv4.4/6, Mw(mB)5.0/1*

ISC 09 20:07:36.4±0.9, 1°98S±0'07×133°48E±0'08, h26km, n15, σ2§49/20, mb3.9/7, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FAKI	**Fak Fak**	**1.54**	**233**	P	**Pn**	**20 08 01.3**	**-1.0**
FAKI				S	**Sn**	**20 08 22.7**	**+1.2**
SIJI	**Sorong**	**2.47**	**296**	Pn	**Pn**	**20 08 12.7**	**-2.4**
	26nm,0.3s,baz=270,slow=20,SNR=2.8						
SIJI				Sn	**Sb**	**20 08 48.3**	**-1.9**
	32nm,0.3s,baz=270,slow=20,SNR=5.4						
MSAI	**Masohi**	**4.74**	**253**	P	**Pn**	**20 08 47.4**	**+1.1**
MSAI				S	**Sn**	**20 09 42.3**	**+1.8**
AAI	**Ambon**	**5.54**	**252**	P	**Pn**	**20 08 57.8**	**+0.5**
NLAI	**Namlea**	**6.49**	**259**	P	**Pn**	**20 09 10.2**	**-0.2**
GTOI	**Gorontalo**	**10.78**	**284**	P	**Pn**	**20 10 13.6**	**+4.3**
FITZ	**Fitzroy Crossi**	**17.77**	**205**	P	**Pn**	**20 11 40.6**	**-1.6**
	0.4nm,0.3s,baz=40,slow=15,SNR=19						
FITZ				S	Sn	20 14 44.4	-15
	0.1nm,0.3s,baz=240,slow=20,SNR=3.1						
WRA	**Warramunga Arr**	**17.87**	**177**	P	**Pn**	**20 11 43.4**	**0.0**
	0.3nm,0.3s,baz=356,slow=12,SNR=13						
WRA				S	**Sn**	**20 14 54.7**	**-7.4**
	0.1nm,0.3s,baz=0.2,slow=23,SNR=4.3						
ASAR	**Alice Springs**	**21.56**	**179**	P	**P**	**20 12 26.7**	**+2.5**
	10.0nm,1.1s,baz=360,slow=12,SNR=25						
ASAR				S	**S**	**20 16 23.3**	**+1.3**
	0.7nm,1.0s,baz=350,slow=22,SNR=3.3						
CTA	**Charters Tower**	**21.91**	**146**	P	**P**	**20 12 29.8**	**+1.9**
	3.4nm,0.8s,baz=338,slow=11,SNR=2.0						
CMAR	**Chiang Mai Arr**	**39.59**	**302**	P	**P**	**20 15 05.6**	**-0.4**
	0.3nm,0.3s,baz=138,slow=7.2,SNR=4.2						
ZALV	**Zalesovo Beam**	**68.74**	**332**	P	**P**	**20 18 37.2**	**-0.7**
	0.3nm,0.5s,baz=99,slow=6.4,SNR=3.5						
BVAR	**Borovoye Array**	**75.77**	**326**	P	**P**	**20 19 19.1**	**-0.8**
	1.0nm,0.7s,baz=123,slow=5.5,SNR=8.8						
VNDA	**Vanda**	**77.01**	**174**	P	**P**	**20 19 27.4**	**+0.9**
	1.0nm,0.8s,baz=314,slow=4.9,SNR=6.0						
ILAR	**Eielson Array**	**87.36**	**25**	P	**P**	**20 20 21.0**	**0.0**
	0.5nm,0.7s,baz=270,slow=5.4,SNR=5.3						

*IDC **09** 20:10:47.7±3.1, 22°86S×174°58W, h0km, mb4.3/5, mb1 4.4/5, mb1mx3.9/35, mbtmp4.3/5, MS5.4/1, Ms1 5.4/1, ms1mx4.1/30, Error ellipse: s-maj=142.8km s-min=49.1km az=155.0*
*NEIC **09** 20:10:51.0±2.0, 23°37S×174°34W, h35km, mb4.0/2, Error ellipse: s-maj=40.0km s-min=30.0km az=76.0*

ISC 09 20:10:51.8±2.3, 23°55S±0'3×174°4W±0'3, h35km, n11, σ1§18/12, mb4.1/7, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SNZO	**South Karori**	**20.01**	**205**	P	**P**	**20 15 21.5**	**+0.2**
	34nm,0.6s						
EIDS	**Eidsvold**	**31.42**	**259**	*e*P	**P**	**20 17 07.5**	**-2.3**
	1.8nm,0.7s						
CTA	**Charters Tower**	**36.60**	**268**	P	**P**	**20 17 55.6**	**+0.8**
	6.5nm,0.3s,baz=95,slow=11,SNR=28						
CTAO	**Charters Tower**	**36.60**	**268**	*e*P	**P**	**20 17 54.4**	**-0.4**
STKA	**Stephens Creek**	**39.63**	**248**	P	**P**	**20 18 21.2**	**+1.0**
	2.1nm,0.8s,baz=97,slow=7.1,SNR=5.7						
ASAR	**Alice Springs**	**47.15**	**259**	P	**P**	**20 19 21.0**	**0.0**
	0.9nm,0.5s,baz=94,slow=7.0,SNR=26						
WRAB	**Tennant Creek**	**47.53**	**264**	*e*P	**P**	**20 19 23.5**	**-0.5**
	1.2nm,0.6s						
WRA	**Warramunga Arr**	**47.54**	**264**	P	**P**	**20 19 23.9**	**-0.2**
	1.8nm,0.3s,baz=97,slow=8.4,SNR=35						
WRA				LR	LR	20 37 34.9	
	comp=Z,4μm,21.8s,baz=45,slow=34						
FITZ	**Fitzroy Crossi**	**55.96**	**263**	P	**P**	**20 20 28.5**	**+1.5**
	1.0nm,0.3s,baz=108,slow=6.5,SNR=16						
FITZ	**Fitzroy Crossi**	**55.96**	**263**	P	**P**	**20 20 28.0**	**+1.1**
BRTR	**Keskin Array B**	**151.27**	**311**	PKP	**PKPdf**	**20 30 34.8**	**-1.1**
	0.8nm,1.0s,baz=46,slow=6.2,SNR=3.6						
BRTR				PKPbc	**PKiKP**	**20 30 43.0**	**+0.5**
	1.2nm,1.2s,baz=63,slow=7.3,SNR=1.7						

WEL 09 20:12:30.9±0.3, 37°05S×176°55E, h194km±3km, ML3.5/6, 1C-4D, Error ellipse: s-maj=4.1km s-min=3.8km az=90.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
HAZ	**Te Kaha**	**1.21**	**126**	PN	Pn	20 13 01.8	+0.3
HAZ				SN	Sn	20 13 25.6	+0.2
HAZ				AML	AML	20 13 27.0	
RUGZ	**Raukumara Rang**	**1.28**	**136**	||PN	Pn	20 13 01.9	-0.4
URZ	**Urewera**	**1.28**	**160**	PN	Pn	20 13 02.4	+0.2
URZ				SN	Sn	20 13 26.5	-0.2
MUGZ	**Murupara**	**1.43**	**173**	PN	Pn	20 13 04.1	+0.6
MXZ	**Matakaoa Point**	**1.49**	**111**	||PN	Pn	20 13 04.2	+0.2
MXZ				SN	Sn	20 13 30.1	+0.5
MWZ	**Matawai**	**1.50**	**149**	PN	Pn	20 13 04.0	-0.1
RAGZ	**Rawiri**	**1.59**	**155**	PN	Pn	20 13 05.3	+0.3
RAGZ				AML	AML	20 13 34.2	
RAGZ				AML	AML	20 13 37.5	
TWGZ	**Tauwhareparae**	**1.60**	**135**	PN	Pn	20 13 05.6	+0.6
TWGZ				AML	AML	20 13 35.3	
TWGZ				AML	AML	20 13 35.4	
RTZ	**Ruatahuna**	**1.60**	**168**	PN	Pn	20 13 05.2	+0.1
RTZ				SN	Sn	20 13 31.5	-0.3
WMGZ	**Waiomatatini S**	**1.67**	**118**	PN	Pn	20 13 05.8	+0.2
WMGZ				AML	AML	20 13 34.3	
WMGZ				AML	AML	20 13 35.1	
PUZ	**Puketiti**	**1.69**	**127**	⇑PN	Pn	20 13 05.6	-0.3
PUZ				SN	Sn	20 13 31.6	-1.6
MRHZ	**Matea Rd**	**1.78**	**183**	PN	Pn	20 13 06.9	0.0
RIGZ	**Rimuhau**	**1.91**	**150**	PN	Pn	20 13 08.2	+0.2
RIGZ				AML	AML	20 13 39.8	
RIGZ				AML	AML	20 13 44.7	
CNGZ	**Carnagh Statio**	**1.94**	**138**	PN	Pn	20 13 08.5	+0.2
NMHZ	**Naumai**	**2.05**	**174**	||PN	Pn	20 13 10.1	+0.5
WHHZ	**Waihua**	**2.09**	**165**	PN	Pn	20 13 09.3	-0.6
BKZ	**Black Stump Fm**	**2.11**	**181**	PN	Pn	20 13 09.7	-0.5
KNZ	**Kokohu**	**2.16**	**156**	PN	Pn	20 13 09.8	-0.8
KNZ				SN	Sn	20 13 39.6	-2.0
ARHZ	**Aropaoanui**	**2.23**	**171**	||PN	Pn	20 13 11.4	-0.1
ARHZ				SN	Sn	20 13 41.8	-1.4
MHGZ	**Mahia Peninsul**	**2.35**	**153**	PN	Pn	20 13 12.3	-0.5
KWHZ	**Kaweka Forest**	**2.37**	**182**	PN	Pn	20 13 12.7	-0.4
MCHZ	**McNeill Hill**	**2.39**	**177**	PN	Pn	20 13 13.1	-0.1
WNVZ	**Wahianoa**	**2.39**	**198**	PN	Pn	20 13 13.6	+0.2
BHHZ	**Black Hill Sta**	**2.46**	**189**	PN	Pn	20 13 13.6	-0.5
KRHZ	**Kereru**	**2.59**	**183**	PN	Pn	20 13 14.8	-0.7
CKHZ	**Cape Kidnapper**	**2.63**	**171**	PN	Pn	20 13 15.4	-0.5
KAHZ	**Kahuranaki**	**2.75**	**175**	PN	Pn	20 13 16.3	-1.0
PNHZ	**Pukenui**	**2.87**	**185**	PN	Pn	20 13 17.4	-1.3
PXZ	**Pawanui**	**2.98**	**175**	PN	Pn	20 13 18.4	-1.6
BFZ	**Birch Farm**	**3.63**	**184**	*e*PN	Pn	20 13 26.6	-1.3
BFZ				SN	Sn	20 14 08.5	-4.1
MRZ	**Mangatainoka R**	**3.68**	**192**	PN	Pn	20 13 26.2	-2.3
OGWZ	**Otaki Gorge**	**3.91**	**196**	PN	Pn	20 13 28.8	-2.5
OGWZ				AML	AML	20 14 16.6	
HOWZ	**Holdsworth Sta**	**3.92**	**192**	PN	Pn	20 13 28.8	-2.7
KIW	**Kapiti Island**	**4.01**	**198**	PN	Pn	20 13 30.0	-2.6
CAW	**Cannon Point**	**4.21**	**195**	PN	Pn	20 13 32.2	-2.8
DUWZ	**D'Urville Isla**	**4.27**	**208**	PN	Pn	20 13 33.7	-2.2
DUWZ				SN	Sn	20 14 25.0	-2.0
TCW	**Tory Channel**	**4.51**	**202**	PN	Pn	20 13 36.5	-2.4
NNZ	**Nelson**	**4.84**	**210**	PN	Pn	20 13 39.9	-3.1
NNZ				SN	Sn	20 14 36.1	-3.7
QRZ	**Quartz Range**	**4.90**	**219**	*e*PN	Pn	20 13 41.6	-2.3
THZ	**Tophouse**	**5.49**	**210**	PN	Pn	20 13 49.5	-1.9
KHZ	**Kahutara**	**5.84**	**203**	PN	Pn	20 13 52.5	-3.4
MQZ	**McQueen's Vall**	**7.28**	**203**	SN	Sn	20 15 26.6	-10

JMA 09 20:32:16.1±0.1, 37°37N×144°25E, h16km, M3.6, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JIO	**Ouri**	**2.54**	**296**	P	Pn	20 32 57.8	+1.2
JIO				*e*S	Sn	20 33 28.8	+1.7
JFK	**Kawauchi**	**2.69**	**271**	P	Pn	20 33 00.0	+1.3
JFK				S	Sn	20 33 32.3	+1.3
ONAJ	**Iwakimizuishiy**	**2.77**	**265**	P	Pn	20 33 01.0	+1.2
ONAJ				*e*S	Sn	20 33 34.2	+1.2
JMM	**Marumori**	**2.79**	**281**	*e*S	Sn	20 33 34.9	+1.5
JFT	**Otama**	**3.12**	**274**	P	Pn	20 33 06.2	+1.6
JFT				*e*S	Sn	20 33 43.1	+1.6
JOM	**Ohasama**	**3.13**	**313**	P	Pn	20 33 06.7	+1.9
JOM				*e*S	Sn	20 33 43.4	+1.6

*ISCJB **09** 20:36:19.9±0.9, 24°63N±0'10×141°7E±0'3, h148km, mb3.8/5, Error ellipse: s-maj=39.3km s-min=12.9km az=171.6*
*IDC **09** 20:36:24.0±5.7, 24°71N×141°53E, h170km±60km, mb3.2/4, mb1 3.4/6, mb1mx3.1/43, mbtmp3.9/6, Error ellipse: s-maj=63.4km s-min=19.2km az=97.0*

ISC 09 20:36:21.8±1.0, 24°73N±0'09×141°6E±0'3, h148km, n7, σ1§85/8, mb3.9/4, Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JHJ	**Hachijo jima 2**	**8.51**	**350**	P	**Pn**	**20 38 24.1**	**+2.1**
	2.2nm,0.3s,baz=108,slow=19,SNR=2.7						
JHJ				S	**Sn**	**20 39 53.3**	**-3.2**
	3.0nm,0.3s,baz=252,slow=19,SNR=1.2						
KSRS	**Korea Array**	**17.24**	**321**	P	**Pn**	**20 40 14.5**	**+0.9**
	0.3nm,0.3s,baz=144,slow=12,SNR=3.2						
USRK	**Ussuriysk Ar.**	**20.95**	**340**	P	**P**	**20 40 52.7**	**-0.2**
	0.9nm,0.6s,baz=115,slow=13,SNR=4.1						
WRA	**Warramun

*ISCJB **09** 21:17:29.7±0.5,50°.24N±0°.04×19°.19E±0°.03,h0km,Error ellipse: s-maj=5.5km s-min=2.3km az=19.3*
*CSEM **09** 21:17:31.3±0.3,50°.19N×19°.24E,h2km,ML3.0/6,Error ellipse: s-maj=7.6km s-min=3.6km az=13.0*
*PRU **09** 21:17:31.7,50°.24N×19°.23E,h0km*
*WAR **09** 21:17:32.1,50°.18N×19°.36E,h1km,Mw2.4*

ISC 09 21:17:31.0±0.8,50°.20N±0°.03×19°.26E±0°.02,h0km,n35, σ0§87/59,Poland

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OJC	**Ojcow**	**0.35**	**87**	*e*Pg	**Pg**	**21 17 37.5**	**-0.1**
OJC				*e*Sg	**Sg**	**21 17 41.9**	**-0.2**
OJC	**Ojcow**	**0.35**	**87**	*e*Pg	**Pg**	**21 17 37.5**	**-0.1**
OJC				*e*Sg	**Sg**	**21 17 41.9**	**-0.2**
OJC	**Ojcow**	**0.35**	**87**	*e*Pg	**Pg**	**21 17 37.5**	**-0.1**
OJC				*e*Sg	**Sg**	**21 17 41.9**	**-0.2**
OKC	**Ostrava-Krasne**	**0.81**	**244**	*e*PG	**Pb**	**21 17 47.8**	**0.0**
OKC				*e*SG	**Sg**	**21 17 57.4**	**+0.6**
	comp=Z,24nm,0.3s						
OKC	**Ostrava-Krasne**	**0.81**	**244**	Pg	**Pb**	**21 17 47.8**	**0.0**
OKC				Sg	**Sg**	**21 17 57.4**	**+0.6**
	24nm,0.3s						
NIE	**Niedzica**	**1.03**	**139**	*e*Pg	**Pb**	**21 17 51.8**	**0.0**
NIE				*e*Sg	**Sb**	**21 18 06.1**	**+0.2**
NIE	**Niedzica**	**1.03**	**139**	*e*Pg	**Pb**	**21 17 51.8**	**0.0**
NIE				*e*Sg	**Sb**	**21 18 06.1**	**+0.2**
NIE	**Niedzica**	**1.03**	**139**	*e*Pg	**Pb**	**21 17 51.8**	**0.0**
NIE				*e*Sg	**Sb**	**21 18 06.1**	**+0.2**
LANS	**Liptovska Anna**	**1.06**	**173**	*e*Pg	**Pg**	**21 17 51.6**	**+0.3**
LANS				*e*Sg	**Sg**	**21 18 05.6**	**+0.6**
LANS	**Liptovska Anna**	**1.06**	**173**	*e*PG	**Pg**	**21 17 51.6**	**+0.3**
LANS				*e*SG	**Sg**	**21 18 05.6**	**+0.6**
MORC	**Moravsky Berou**	**1.19**	**250**	*e*Sg	**Sb**	**21 18 10.6**	**+0.3**
STHS	**Stebnicka Huta**	**1.51**	**121**	*e*Pg	**Pg**	**21 18 00.0**	**+0.2**
STHS				*e*Sn	**Sn**	**21 18 20.5**	**+0.9**
STHS	**Stebnicka Huta**	**1.51**	**121**	*e*PG	**Pg**	**21 18 00.0**	**+0.2**
STHS				*e*SN	**Sn**	**21 18 20.5**	**+0.9**
STHS				*e*LG	Lg	21 18 22.3	
KRLC	**Kraliky**	**1.60**	**266**	*e*PG	**Pn**	**21 18 00.0**	**-0.6**
KRLC				*e*SG	**Sn**	**21 18 21.1**	**-0.9**
VYHS	**Vyhne**	**1.73**	**189**	*e*Pg	**Pn**	**21 18 01.9**	**-0.4**
VYHS				*e*Sn	**Sn**	**21 18 24.2**	**-0.9**
VYHS	**Vyhne**	**1.73**	**189**	*e*PG	**Pn**	**21 18 01.9**	**-0.4**
VYHS				*e*SN	**Sn**	**21 18 24.2**	**-0.9**
VYHS				*e*LG	Lg	21 18 27.2	
DPC	**Dobruska-Polom**	**1.89**	**276**	*e*PG	**Pn**	**21 18 04.9**	**+0.3**
DPC				*e*SG	**Sb**	**21 18 30.5**	**-0.1**
	comp=Z,29nm,0.5s						
KECS	**Kecovo**	**1.90**	**155**	*e*Sn	**Sb**	**21 18 30.6**	**-0.1**
KECS	**Kecovo**	**1.90**	**155**	*e*SN	**Sb**	**21 18 30.6**	**-0.1**
KECS				*e*LG	Lg	21 18 35.5	
CRVS	**Cervenica-Dubn**	**1.94**	**131**	*e*Sn	**Sg**	**21 18 33.0**	**-0.1**
CRVS	**Cervenica-Dubn**	**1.94**	**131**	*e*SN	**Sg**	**21 18 33.0**	**-0.1**
VRAC	**Vranov**	**1.95**	**244**	*e*Pn	**Pn**	**21 18 05.5**	**+0.2**
VRAC				*e*Sg	**Sb**	**21 18 32.6**	**+0.5**
KSP	**Ksiaz**	**2.00**	**290**	*e*Pg	**Pg**	**21 18 09.7**	**+0.4**
KSP				*e*Sg	**Sg**	**21 18 36.3**	**+1.1**
KSP	**Ksiaz**	**2.00**	**290**	*e*Pg	**Pg**	**21 18 09.7**	**+0.4**
KSP				*e*Sg	**Sg**	**21 18 36.3**	**+1.1**
KSP	**Ksiaz**	**2.00**	**290**	*e*Pg	**Pg**	**21 18 09.7**	**+0.4**
KSP				*e*Sg	**Sg**	**21 18 36.3**	**+1.1**
UPC	**Upice**	**2.10**	**280**	*e*SG	**Sg**	**21 18 38.7**	**+0.2**
	comp=Z,13nm,0.6s						
UPC	**Upice**	**2.10**	**280**	Sg	**Sg**	**21 18 38.7**	**+0.2**
	13nm,0.6s						
PVCC	**Panska Ves**	**3.02**	**278**	*e*SG	**Sg**	**21 19 07.3**	**-0.7**
	comp=Z,13nm,0.4s						
PVCC	**Panska Ves**	**3.02**	**278**	Sg	**Sg**	**21 19 07.3**	**-0.7**
	13nm,0.4s						
PRU	**Pruhonice**	**3.05**	**268**	*e*SG	**Sg**	**21 19 06.7**	**-2.1**
	comp=Z,8.2nm,0.4s						
PRU	**Pruhonice**	**3.05**	**268**	Sg	**Sg**	**21 19 06.7**	**-2.1**
	8.2nm,0.4s						
BRG	**Berggiesshubel**	**3.46**	**283**	PG	**Pg**	**21 18 39.9**	**+2.6**
BRG				SG	**Sg**	**21 19 21.8**	**-0.2**
	6.2nm,0.5s						
KHC	**Kasperske Hory**	**3.84**	**256**	*e*PN	**Pn**	**21 18 32.0**	**+0.6**
KHC				*e*SG	**Sg**	**21 19 32.7**	**-1.7**
	comp=Z,5.0nm,0.3s						
KHC	**Kasperske Hory**	**3.84**	**256**	Pn	**Pn**	**21 18 32.0**	**+0.6**
KHC				Sg	**Sg**	**21 19 32.7**	**-1.7**
	5.0nm,0.3s						
CLL	**Collm**	**4.12**	**288**	*e*	**Sb**	**21 19 32.0**	**-2.8**
CLL				*e*Sg	**Sg**	**21 19 43.0**	**-0.4**
	comp=Z,4.0nm,0.5s						

*ISK **09** 21:25:08.6,35°.35N×28°.16E,h9km,MD3.2*
*ATH **09** 21:25:09.6,35°.40N×28°.16E,h14km±2km,ML2.4/5,Error ellipse: s-maj=3.1km s-min=1.1km az=352.0*
*THE **09** 21:25:12.8,35°.54N×28°.04E,h0km± 1km,Error ellipse: s-maj=4.1km s-min=1.5km az=144.0*
*DDA **09** 21:25:23.2,36°.26N×28°.22E,h7km,Md3.1*
*CSEM **09** 21:25:23.2,36°.26N×28°.22E,h7km,MD3.1*

ISC 09 21:25:11.6±1.3,35°.44N±0°.04×28°.11E±0°.03,h5km±10km, n74,σ1§48/109,Eastern Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ARG	**Arkhangelos**	**0.77**	**1**	P	**Pg**	**21 25 25.8**	**-0.6**
ARG				S	**Sb**	**21 25 37.3**	**-1.0**
ARG	**Arkhangelos**	**0.77**	**1**	P	**Pg**	**21 25 25.8**	**-0.6**
ARG				S	**Sg**	**21 25 37.1**	**+0.6**
ARG	**Arkhangelos**	**0.77**	**1**	P	**Pg**	**21 25 25.3**	**-1.1**
ARG				S	**Sg**	**21 25 37.0**	**+0.6**
ARG				AML	AML	21 25 43.7	
	comp=E,296μm,0.3s						
ARG				AML	AML	21 25 47.5	
	comp=N,482μm,0.6s						
KARP	**Karpathos**	**0.78**	**278**	*e*PG	**Pg**	**21 25 25.1**	**-1.4**
KARP				*e*SG	**Sg**	**21 25 37.2**	**+0.7**
KARP	**Karpathos**	**0.78**	**278**	P	**Pg**	**21 25 25.1**	**-1.4**
KARP				S	**Sb**	**21 25 39.3**	**+0.9**
KARP	**Karpathos**	**0.78**	**278**	P	**Pg**	**21 25 25.1**	**-1.4**
KARP				*e*Sg	**Sg**	**21 25 37.3**	**+0.7**
KARP	**Karpathos**	**0.78**	**278**	P	**Pg**	**21 25 24.7**	**-1.8**
KARP				S	**Sg**	**21 25 37.5**	**+0.8**
KARP				AML	AML	21 25 44.7	
	comp=E,699μm,0.4s						
KARP				AML	AML	21 25 48.3	
	comp=N,729μm,0.4s						
DAT	**Datca**	**1.35**	**342**	*e*PN	**Pn**	**21 25 35.6**	**-1.6**
DAT				*e*SN	**Sn**	**21 25 55.6**	**0.0**
DAT	**Datca**	**1.35**	**342**	*i* P	**Pn**	**21 25 36.8**	**-0.4**
DAT				*i* S	**Sn**	**21 25 57.7**	**+2.1**
DAT	**Datca**	**1.35**	**342**	P	**Pn**	**21 25 36.8**	**-0.4**
DAT				S	**Sn**	**21 25 57.7**	**+2.1**
DAT	**Datca**	**1.35**	**342**	*e*Pn	**Pn**	**21 25 35.6**	**-1.6**
DAT				*e*Sn	**Sn**	**21 25 55.6**	**0.0**
NIS1	**Nisyros Isl.**	**1.38**	**327**	*e*PN	**Pn**	**21 25 36.3**	**-1.2**
NIS1	**Nisyros Isl.**	**1.38**	**327**	P	**Pn**	**21 25 36.5**	**-1.0**
NIS1				S	**Sb**	**21 25 55.4**	**-0.4**
NIS1	**Nisyros Isl.**	**1.38**	**327**	P	**Pn**	**21 25 36.5**	**-1.0**
NIS1				S	**Sb**	**21 25 55.4**	**-0.4**
NIS1	**Nisyros Isl.**	**1.38**	**327**	P	**Pn**	**21 25 34.9**	**-2.5**
NIS1				S	**Sn**	**21 25 56.7**	**+0.6**
NIS1				AML	AML	21 26 05.5	
	comp=E,948μm,0.6s						
NIS1				AML	AML	21 26 10.6	
	comp=N,1046μm,0.5s						
KSL	**Kastellorizon**	**1.39**	**59**	P	**Pg**	**21 25 38.7**	**+0.4**
KSL	**Kastellorizon**	**1.39**	**59**	P	**Pn**	**21 25 36.1**	**-1.5**
FETY	**Fethiye**	**1.43**	**33**	*e*PN	**Pn**	**21 25 36.1**	**-2.1**
FETY				*e*SN	**Sb**	**21 25 56.4**	**-0.8**
FETY	**Fethiye**	**1.43**	**33**	P	**Pn**	**21 25 37.4**	**-0.8**
FETY				S	**Sn**	**21 25 58.1**	**+0.7**
FETY	**Fethiye**	**1.43**	**33**	P	**Pn**	**21 25 37.6**	**-0.6**
FETY	**Fethiye**	**1.43**	**33**	*e*Pn	**Pn**	**21 25 36.1**	**-2.1**
FETY	**Fethiye**	**1.43**	**33**	P	**Pn**	**21 25 37.4**	**-0.8**
FETY				*e*Sn	**Sb**	**21 25 56.4**	**-0.8**
FETY				S	**Sn**	**21 25 58.1**	**+0.7**
DALY	**Dalyan (Mu¨la**	**1.44**	**18**	*e*PN	**Pn**	**21 25 36.7**	**-1.6**
DALY				*e*SN	**Sb**	**21 25 57.3**	**-0.2**
DALY	**Dalyan (Mu¨la**	**1.44**	**18**	*i* P	**Pn**	**21 25 37.5**	**-0.8**
DALY				*i* S	**Sg**	**21 26 04.7**	**+6.7**
DALY	**Dalyan (Mu¨la**	**1.44**	**18**	P	**Pn**	**21 25 37.5**	**-0.8**
DALY				S	**Sg**	**21 26 04.7**	**+6.7**
DALY	**Dalyan (Mu¨la**	**1.44**	**18**	*e*Pn	**Pn**	**21 25 36.7**	**-1.6**
DALY				*e*Sn	**Sb**	**21 25 57.3**	**-0.2**
TURN	**Turunc**	**1.48**	**16**	*i* P	**Pn**	**21 25 35.3**	**-3.6**
TURN				*i* S	**Sg**	**21 25 59.5**	**+0.2**
TURN	**Turunc**	**1.48**	**16**	P	**Pn**	**21 25 35.3**	**-3.6**
TURN				S	**Sg**	**21 25 59.5**	**+0.2**
ZKR	**Zakros**	**1.58**	**259**	P	**Pn**	**21 25 39.5**	**-0.7**
ZKR				S	**Sg**	**21 26 02.6**	**+0.3**
ZKR	**Zakros**	**1.58**	**259**	P	**Pn**	**21 25 39.4**	**-0.7**
ZKR				S	**Sg**	**21 26 02.4**	**+0.1**
ZKR				AML	AML	21 26 12.6	
	comp=N,122μm,0.6s						
ZKR				AML	AML	21 26 15.0	
	comp=E,232μm,0.6s						
BDRM	**Kayabasi**	**1.71**	**342**	*i* P	**Pn**	**21 25 41.0**	**-1.0**
BDRM				*i* S	**Sg**	**21 26 06.7**	**+0.2**
BODT	**Bodrum**	**1.74**	**339**	*e*PN	**Pn**	**21 25 41.3**	**-1.1**
BODT				*e*SN	**Sn**	**21 26 05.0**	**0.0**
BODT	**Bodrum**	**1.74**	**339**	P	**Pn**	**21 25 41.6**	**-0.8**
BODT	**Bodrum**	**1.74**	**339**	*e*Pn	**Pn**	**21 25 41.3**	**-1.1**
BODT	**Bodrum**	**1.74**	**339**	P	**Pn**	**21 25 41.6**	**-0.8**
BODT				*e*Sn	**Sn**	**21 26 05.0**	**0.0**
MLSB	**Milas**	**1.87**	**352**	*e*PN	**Pn**	**21 25 42.6**	**-1.6**
MLSB	**Milas**	**1.87**	**352**	*e*Pn	**Pn**	**21 25 42.6**	**-1.6**
ELL	**Elmali**	**1.96**	**48**	*e*PN	**Pn**	**21 25 43.4**	**-2.1**
ELL	**Elmali**	**1.96**	**48**	*e*Pn	**Pn**	**21 25 43.4**	**-2.1**
NPS	**Neapolis**	**2.04**	**266**	P	**Pn**	**21 25 47.0**	**+0.4**
NPS				S	**Sn**	**21 26 12.8**	**+0.3**
NPS	**Neapolis**	**2.04**	**266**	P	**Pn**	**21 25 47.0**	**+0.4**
NPS				S	**Sn**	**21 26 12.8**	**+0.3**
NPS	**Neapolis**	**2.04**	**266**	P	**Pn**	**21 25 47.4**	**+0.8**
GOLH	**Golhisar**	**2.14**	**33**	*i* P	**Pn**	**21 25 48.6**	**+0.6**
GOLH	**Golhisar**	**2.14**	**33**	P	**Pn**	**21 25 48.6**	**+0.6**
LAST	**Lasithi**	**2.17**	**263**	P	**Pn**	**21 25 48.6**	**+0.3**
LAST				S	**Sn**	**21 26 15.7**	**+0.1**
LAST	**Lasithi**	**2.17**	**263**	P	**Pn**	**21 25 48.6**	**+0.3**
LAST				S	**Sn**	**21 26 15.7**	**+0.1**
LAST	**Lasithi**	**2.17**	**263**	P	**Pn**	**21 25 48.2**	**-0.1**
SANT	**Santorini**	**2.34**	**294**	P	**Pn**	**21 25 51.2**	**+0.5**
SANT	**Santorini**	**2.34**	**294**	P	**Pn**	**21 25 51.1**	**+0.5**
SAP1	**Santorini-Akro**	**2.38**	**293**	P	**Pn**	**21 25 51.0**	**-0.2**
KORT	**Korkueli**	**2.39**	**49**	*e*PN	**Pn**	**21 25 49.6**	**-1.9**
KORT	**Korkueli**	**2.39**	**49**	*e*Pn	**Pn**	**21 25 49.6**	**-1.9**
SMG	**Samos**	**2.48**	**336**	P	**Pn**	**21 25 51.0**	**-1.7**
SMG	**Samos**	**2.48**	**336**	P	**Pn**	**21 25 50.9**	**-1.7**
AYDB	**Zeytinkoy-Aydi**	**2.51**	**356**	*e*PN	**Pn**	**21 25 51.8**	**-1.3**
AYDB	**Zeytinkoy-Aydi**	**2.51**	**356**	*e*Pn	**Pn**	**21 25 51.8**	**-1.3**
IDI	**Anoyia**	**2.63**	**268**	P	**Pn**	**21 25 55.3**	**+0.6**
IDI				S	**Sn**	**21 26 28.7**	**+1.7**
IDI	**Anoyia**	**2.63**	**268**	P	**Pn**	**21 25 55.3**	**+0.6**
IDI				S	**Sn**	**21 26 28.5**	**+1.5**
IDI				AML	AML	21 26 43.5	
	comp=N,40μm,1.0s						
IDI				AML	AML	21 26 44.5	
	comp=E,43μm,0.5s						
APE	**Apeiranthos**	**2.64**	**309**	*e*PN	**Pn**	**21 25 54.0**	**-0.8**
APE	**Apeiranthos**	**2.64**	**309**	P	**Pn**	**21 25 54.2**	**-0.6**
APE	**Apeiranthos**	**2.64**	**309**	P	**Pn**	**21 25 54.1**	**-0.8**
SIVA	**Sivas**	**2.73**	**262**	P	**Pn**	**21 25 56.1**	**+0.1**
SIVA	**Sivas**	**2.73**	**262**	P	**Pn**	**21 25 56.1**	**+0.1**
URLA	**Izmir**	**3.15**	**338**	*e*PN	**Pn**	**21 26 01.2**	**-0.7**
URLA	**Izmir**	**3.15**	**338**	*e*Pn	**Pn**	**21 26 01.2**	**-0.7**
VAM	**Vamos**	**3.19**	**271**	P	**Pn**	**21 26 02.6**	**+0.2**
VAM	**Vamos**	**3.19**	**271**	P	**Pn**	**21 26 02.5**	**+0.2**
IMMV	**Iera Moni Meta**	**3.37**	**272**	P	**Pn**	**21 26 05.8**	**+1.0**
IMMV	**Iera Moni Meta**	**3.37**	**272**	P	**Pn**	**21 26 05.7**	**+1.0**
HDMB	**Hadim**	**3.85**	**66**	*e*PN	**Pn**	**21 26 10.7**	**-1.0**
HDMB	**Hadim**	**3.85**	**66**	*e*Pn	**Pn**	**21 26 10.7**	**-1.0**
TEKE	**Tekeli-Mersin**	**4.13**	**79**	*e*PN	**Pn**	**21 26 13.3**	**-1.9**
VLI	**Veliai**	**4.38**	**288**	P	**Pn**	**21 26 18.7**	**0.0**
VLI	**Veliai**	**4.38**	**288**	P	**Pn**	**21 26 18.6**	**0.0**

*IDC **09** 21:29:13.8±0.7,8°.56N×83°.14W,h0km, mb4.5/19, mb1 4.7/22,mb1mx4.6/36,mbtmp4.6/22,ML4.6/3,MS4.6/2, Ms1 4.6/2,ms1mx3.6/40,Error ellipse: s-maj=25.0km s-min=13.9km az=44.0*
*ISCJB **09** 21:29:14.7±0.2,8°.67N±0°.03×83°.02W±0°.02,h10km, mb4.6/113,Error ellipse: s-maj=5.4km s-min=2.5km az=30.6*
*CASC **09** 21:29:15.1±2.5,8°.42N×83°.14W,h6km±10km,MD4.1, ML3.7,mb4.7(NEIC)*
*NEIC **09** 21:29:20.8±0.7,8°.56N×83°.07W,h41km±6km,mb4.7/98, Error ellipse: s-maj=7.5km s-min=4.4km az=219.0*
NEIC Felt [III] at Golfito. Also felt at San Vito. Felt at Potrerillos Arriba, Panama.

ISC 09 21:29:16.6±1.0,8°.54N±0°.04×83°.18W±0°.03,h14km±6km, n466,σ1§41/480,mb4.7/113,4C-10D,Costa Rica

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ACR	**Cerro Adams**	**0.11**	**6**	ǁ *i* P	**Pg**	**21 29 19.2**	**-0.7**
PSVT	**Puntarenas**	**0.35**	**37**	ǁ *e*P	**Pg**	**21 29 22.9**	**-0.9**
PSVT				*e*S	**Sb**	**21 29 30.2**	**0.0**
BRU2	**Volcan**	**0.54**	**62**	ǁ *i*P	**Pg**	**21 29 26.5**	**-0.9**
BRU2				*e*S	**Sg**	**21 29 35.0**	**+0.3**
TBS2		**0.57**	**64**	↑ǁ *i*P	**Pg**	**21 29 27.9**	**-0.1**
TBS2				*e*S	**Sb**	**21 29 37.0**	**+0.3**
DRK0	**Durika**	**0.72**	**355**	ǁ *i*P	**Pg**	**21 29 30.0**	**-0.8**
BUS	**Buena Vista**	**1.16**	**330**	ǁ *i*P	**Pb**	**21 29 37.2**	**-1.6**
BUS				*e*S	**Sn**	**21 29 57.0**	**+2.2**
QCR1	**Quepos**	**1.31**	**312**	*e*P	**Pn**	**21 29 38.4**	**-2.2**
URSC	**Urasca**	**1.42**	**335**	ǁ *e*P	**Pn**	**21 29 40.8**	**-1.4**
URSC				*e*S	**Sb**	**21 30 01.0**	**+0.1**
LCR2	**La Lucha 2**	**1.44**	**326**	ǁ *e*P	**Pn**	**21 29 41.3**	**-1.3**
LCR2				*e*S	**Sg**	**21 30 04.5**	**+1.2**
SJS	**Escuela Geolog**	**1.64**	**328**	*e*P	**Pn**	**21 29 45.2**	**0.0**
SJS				*e*S	**Sg**	**21 30 09.9**	**+0.5**
HDC	**Heredia**	**1.72**	**328**	*e*Pn	**Pn**	**21 29 46.0**	**-0.3**
HDC				*e*Sn	**Sg**	**21 30 11.5**	**-0.6**
CGA2	**Cerro Gallo 2**	**1.94**	**319**	ǁ *e*P	**Pn**	**21 29 49.8**	**+0.4**
CGA2				*e*S	**Sb**	**21 30 17.0**	**+0.9**
ARE1	**Arenal 1**	**2.44**	**322**	ǁ *e*P	**Pn**	**21 29 57.7**	**+1.5**
JTS	**JuntasAbangare**	**2.47**	**315**	Pn	**Pn**	**21 29 56.3**	**-0.3**
	146nm,0.3s,baz=310,slow=19,SNR=142						
JTS				Sn	**Sg**	**21 30 36.2**	**+0.2**
	195nm,0.3s,baz=26,slow=19,SNR=7.9						
CUI	**Cuipilapa**	**2.87**	**317**	ǁ *e*P	**Pn**	**21 30 04.1**	**+2.0**
VCR	**Vista de Mar**	**2.89**	**303**	ǁ *e*P	**Pn**	**21 30 03.0**	**+0.6**
COLC	**Colonia**	**2.91**	**317**	ǁ *e*P	**Pb**	**21 30 05.5**	**-2.9**
MESS	**Mesas**	**2.95**	**318**	*e*P	**Pb**	**21 30 06.3**	**-2.8**
GPS3	**Bodega del ICE**	**3.08**	**316**	ǁ *i*P	**Pn**	**21 30 07.7**	**+2.7**
CRZ1	**La Cruz**	**3.49**	**316**	*e*P	**Pn**	**21 30 13.0**	**+2.4**
UPA	**Univ. de Panam**	**3.63**	**83**	*e*P	**Pn**	**21 30 09.9**	**-2.6**
ESPN	**Las Esperanzas**	**3.79**	**343**	*e*P	**Pn**	**21 30 14.3**	**-0.4**
ACON	**Acoyapa**	**3.93**	**330**	*e*P	**Pn**	**21 30 17.8**	**+1.1**
ACON				AML	AML	21 31 12.7	
	comp=N,237nm,0.7s						
BOAB	**BOACO BROADBAN**	**3.59**	**328**	*e*P	**Pn**	**21 30 27.2**	**+1.5**
MGAN	**Managua**	**4.69**	**320**	*e*P	**Pn**	**21 30 27.8**	**+0.8**
ICCO	**Coco Island**	**4.87**	**233**	*e*S	**Sn**	**21 31 23.1**	**-2.6**
COPN	**Copaltepe**	**4.93**	**317**	*e*P	**Pn**	**21 30 32.4**	**+1.9**
MOMN	**Momotombo**	**5.07**	**320**	*e*P	**Pn**	**21 30 33.3**	**+0.9**
CNGN	**Cerro Negro**	**5.24**	**319**	*e*P	**Pn**	**21 30 36.2**	**+1.5**
ESTN	**Estel**	**5.51**	**326**	*e*P	**Pn**	**21 30 40.9**	**+2.5**
CAPC	**Capurgana**	**5.76**	**89**	*e*P	**Pn**	**21 30 39.6**	**-2.2**
SOLC	**Bahia Solano**	**6.17**	**112**	*e*P	**Pn**	**21 30 46.4**	**-1.0**
TGUH	**Tegucigalpa,Un**	**6.79**	**324**	*e*Pn	**Pn**	**21 30 60.0**	**+4.0**
MOTC	**Monteria, Cord**	**7.43**	**88**	*e*P	**Pn**	**21 31 04.4**	**-0.4**
LFRS	**El Faro**	**7.67**	**312**	*e*P	**Pn**	**21 31 09.7**	**+1.6**
HELC	**Santa Helena**	**7.94**	**107**	*e*P	**Pn**	**21 31 11.5**	**-0.6**
HELC	**Santa Helena**	**7.94**	**107**	*e*Pn	**Pn**	**21 31 10.9**	**-1.2**
SJCC	**San Jacinto, C**	**8.01**	**80**	*e*P	**Pn**	**21 31 13.5**	**+0.7**
SBLS	**San Blas**	**8.23**	**310**	*e*P	**Pn**	**21 31 17.7**	**+1.8**
MONT	**Ecomontaæa**	**8.26**	**310**	*e*P	**Pn**	**21 31 18.4**	**+2.1**
ZARC	**Zaragoza, Cauc**	**8.31**	**97**	*e*P	**Pn**	**21 31 16.8**	**0.0**
GUYC	**Guyana, Colomb**	**8.41**	**113**	*e*P	**Pn**	**21 31 19.1**	**+0.5**
RBDL	**Robledal**	**8.45**	**312**	*e*P	**Pn**	**21 31 20.9**	**+2.0**
NORC	**Norcasia**	**8.76**	**109**	*e*P	**Pn**	**21 31 21.3**	**-1.8**
OTAV	**Otavalo**	**9.50**	**150**	*e*Pn	**Pn**	**21 31 34.1**	**+0.5**
PRAC	**Prado**	**9.54**	**120**	*e*P	**Pn**	**21 31 34.0**	**+0.3**
PRAC	**Prado**	**9.54**	**120**	*e*Pn	**Pn**	**21 31 36.2**	**+2.4**
PRAC				*e*Sn	**Sn**	**21 33 26.7**	**+5.9**
CODC	**Agust´›n Codaz**	**9.71**	**81**	*e*P	**Pn**	**21 31 34.4**	**-1.6**
BARC	**Barichara**	**10.10**	**100**	*e*P	**Pn**	**21 31 43.8**	**+2.2**
CHIC	**Chingaza**	**10.16**	**112**	*e*P	**Pn**	**21 31 46.6**	**+4.1**
RUSC	**La Rusia**	**10.36**	**104**	*e*P	**Pn**	**21 31 47.7**	**+2.3**
RUSC	**La Rusia**	**10.36**	**104**	*e*Pn	**Pn**	**21 31 46.9**	**+1.5**
VILC	**Villavicencio,**	**10.40**	**114**	*e*P	**Pn**	**21 31 48.5**	**+2.8**
PAMC	**Pamplona, Colo**	**10.45**	**96**	*e*P	**Pn**	**21 31 49.2**	**+2.5**
MTDJ	**Mount Denham**	**11.08**	**29**	*e*Pn	**Pn**	**21 31 55.0**	**0.0**
URIC	**Uribia, Colomb**	**11.45**	**73**	*e*P	**Pn**	**21 31 58.8**	**-1.2**
CCIG	**Comitan**	**11.65**	**312**	*e*Pn	**Pn**	**21 32 09.5**	**+6.7**
CMIG	**Matias Romero**	**14.22**	**308**	Pn	**Pn**	**21 32 39.4**	**+1.6**
	comp=N,2.6nm,0.3s,baz=112,slow=9.2,SNR=20						
SDDR	**Presa de Saban**	**15.52**	**47**	*e*P	**Pn**	**21 32 56.8**	**+1.6**
	comp=N,60nm,1.1s						
SDDR				*e*Sn	**Sn**	**21 35 45.7**	**-1.5**
ATAH	**Atahualpa**	**16.29**	**163**	Pn	**P**	**21 33 09.1**	**+0.5**
	comp=N,0.5nm,0.3s,baz=29,slow=8.4,SNR=3.8						
TLIG	**Tiapa**	**17.45**	**302**	*e*Pn	**P**	**21 33 26.4**	**+5.2**
	comp=N,51nm,1.4s						
PCRV	**Puerto La Cruz**	**18.37**	**83**	P	**P**	**21 33 31.3**	**+0.1**
	comp=N,1.1nm,0.3s,baz=9.5,slow=6.0,SNR=4.3						
AGP	**Aguadilla**	**18.41**	**56**	*e*P	**Pn**	**21 33 32.2**	**+0.5**
	comp=N,223nm,1.1s						
CELP	**Cerrillos**	**18.71**	**58**	*e*P	**Pn**	**21 33 36.7**	**+1.4**
SJG	**San Juan**	**19.09**	**58**	P	**P**	**21 33 39.3**	**+0.2**
	comp=N,2.3nm,0.3s,baz=233,slow=8.2,SNR=9.1						
SJG	**San Juan**	**19.09**	**58**	*e*P	**P**	**21 33 37.3**	**-1.8**
	comp=N,276nm,2.0s						
HUMP	**Col San Antoni**	**19.36**	**59**	*e*P	**Pn**	**21 33 43.7**	**+0.5**
	comp=N,35nm,0.9s						
CBYP	**Canovanas**	**19.41**	**58**	*e*P	**Pn**	**21 33 44.3**	**+0.5**
	comp=N,215nm,1.7s						
DWPF	**Disney Wildern**	**19.54**	**5**	*e*P	**Pn**	**21 33 46.5**	**+1.3**
	comp=N,212nm,1.1s						
STVI	**Saint Thomas**	**20.21**	**59**	*e*P	Pn	21 33 52.6	-0.7
	comp=N,73nm,1.2s						
NNA	**Nana**	**21.34**	**163**	P	**P**	**21 34 04.1**	**+0.4**
	comp=N,17nm,0.8s,baz=333,slow=11,SNR=4.4						
035A	**Encino**	**23.12**	**324**	P	**P**	**21 34 22.1**	**-0.4**
	baz=139						
ZAIG	**Zacatecas**	**23.38**	**309**	*e*P	**P**	**21 34 29.3**	**+3.9**
	comp=N,16nm,1.0s						
034A	**Hebbronville**	**23.56**	**323**	P	**P**	**21 34 26.8**	**-0.1**
	baz=138,SNR=6.6						
248A	**Dixon Mills**	**23.82**	**350**	P	**P**	**21 34 29.8**	**+0.5**
	baz=168						
344A	**Westbrook Farm**	**23.86**	**344**	P	**P**	**21 34 31.2**	**+1.5**
	baz=161,SNR=8.0						
247A	**Quitman**	**23.93**	**349**	P	**P**	**21 34 31.2**	**+0.8**
	baz=166						
441A	**DeRidder**	**23.99**	**338**	P	**P**	**21 34 32.5**	**+1.6**
	baz=155						
736A	**Circle Diamond**	**24.15**	**329**	P	**P**	**21 34 33.5**	**+1.0**
	baz=144						
637A	**Eagle Lake**	**24.18**	**331**	P	**P**	**21 34 33.6**	**+0.9**
	baz=146						
245A	**Little A

baz=163,SNR=16
BLA Blacksburg 28.65 5 eP P 21 35 12.5 -0.6
comp=N,15nm,0.8s
W37B Quinton 28.76 339 P P 21 35 13.4 -0.6
baz=154
U41A Viola 28.80 345 P P 21 35 13.2 -1.2
baz=162,SNR=8.8
V39A Pettigrew 28.80 342 P P 21 35 13.4 -1.0
baz=158
U40A Yellville 29.06 344 P P 21 35 16.0 -0.6
baz=160,SNR=16
V38A Canehill 29.06 341 P P 21 35 16.0 -0.7
baz=156
T42A Van Buren 29.26 347 P P 21 35 17.5 -0.9
baz=164,SNR=11
U39A Green Forest 29.26 343 P P 21 35 17.7 -0.8
baz=158
HHAR Hobbs 29.30 342 eP P 21 35 19.3 +0.5
comp=N,7.4nm,0.9s
JSRW J. Sargeant Re 29.42 9 eP P 21 35 19.2 -0.6
T41A Mountain View 29.43 346 P P 21 35 19.2 -0.7
baz=162,SNR=16
V36A Jenks 29.52 339 P P 21 35 19.9 -0.8
baz=154
U38A Gravette 29.59 341 P P 21 35 20.4 -1.0
baz=157
WCI Wyandotte Cave 29.69 355 eP P 21 35 22.9 +0.7
comp=N,26nm,0.9s
SLBS Sierra La Lagu 29.71 304 eP P 21 35 28.4 +5.7
comp=N,17nm,1.1s
T40A Mansfield 29.71 345 P P 21 35 21.8 -0.7
baz=161,SNR=15
WMOK Wichita Mounta 29.75 333 P P 21 35 22.0 -0.8
baz=147
U37A Salina 29.79 340 P P 21 35 22.3 -0.8
baz=156
T39A Clever 29.83 343 P P 21 35 22.3 -1.1
baz=159
V35A Meyer Ranch, C 29.83 337 P P 21 35 22.5 -1.0
baz=152
S42A Caledonia 29.90 348 P P 21 35 23.0 -1.1
baz=164
S41A Jillco Farms, 29.94 346 P P 21 35 23.4 -1.1
baz=163
S40A Lebanon 30.13 345 P P 21 35 25.3 -0.9
baz=161,SNR=21
R43A Red Bud 30.22 349 P P 21 35 26.2 -0.7
baz=166
T37A Cheneyville 18 30.38 341 P P 21 35 27.4 -1.0
baz=156,SNR=10
OLIL Olney 30.39 352 eP P 21 35 29.7 +1.4
comp=N,28nm,0.8s
R42A Luebbering 30.39 348 P P 21 35 27.8 -0.7
baz=165
S39A Bolivar 30.44 344 P P 21 35 27.8 -1.0
baz=160,SNR=20
R41A Rosebud 30.54 347 P P 21 35 28.9 -0.8
baz=164,SNR=10
S38A Stockton 30.54 343 P P 21 35 29.2 -0.6
baz=158
T36A Boggs Farm, Ca 30.64 340 P P 21 35 30.2 -0.4
baz=154
BLO Bloomington 30.65 355 eP P 21 35 32.2 +1.5
comp=N,17nm,0.6s
R40A Maddies Statio 30.73 346 P P 21 35 30.7 -0.8
baz=162
S37A Fort Scott 30.94 342 P P 21 35 32.3 -1.0
baz=157,SNR=12
MNTX Cornudas Mount 30.94 321 P P 21 35 32.8 -0.6
baz=133,SNR=5.4
MNTX Cornudas Mount 30.94 321 eP P 21 35 35.1 +1.7
comp=N,5.9nm,1.2s
R39A Chumby, Stover 30.95 345 P P 21 35 32.2 -1.1
baz=160,SNR=16
Q42A Golden Eagle 30.95 349 P P 21 35 32.0 -1.3
baz=166
R38A Fenwick Farm, 31.06 343 P P 21 35 33.7 -0.6
baz=159,SNR=5.3
T34A McClaskey Farm 31.07 338 P P 21 35 33.7 -0.8
baz=152
Q41A Truxton 31.13 348 P P 21 35 34.4 -0.6
baz=164
S36A Lake Cedric, C 31.15 341 P P 21 35 34.2 -1.0
baz=156,SNR=5.7
P44A Sand Creek, Wi 31.18 352 P P 21 35 34.2 -1.1
baz=169
S35A Otter Creek Ra 31.35 340 P P 21 35 36.4 -0.6
baz=154
Q40A Laux Farm, Aux 31.36 347 P P 21 35 36.1 -0.8
baz=163,SNR=6.4
R37A Teagarden Farm 31.45 342 P P 21 35 36.7 -1.1
baz=157
P43A Skaggs, Pawnee 31.48 351 P P 21 35 37.4 -0.6
baz=168
ACSO Alum Creek Sta 31.56 0 eP P 21 35 39.4 +0.7
comp=N,24nm,1.0s
P42A Winchester 31.57 349 P P 21 35 38.2 -0.6
baz=166
Q39A Willow Grove F 31.62 345 P P 21 35 38.9 -0.4
baz=161
R36A Gordon, Harris 31.67 341 P P 21 35 39.0 -0.7
baz=156
Q38A Cooks Store, C 31.71 344 P P 21 35 38.8 -1.2
baz=160,SNR=9.8
Q37A Longview Farm, 31.86 343 P P 21 35 40.2 -1.1
baz=158
P40A Paris 31.86 347 P P 21 35 40.1 -1.3
baz=163,SNR=6.0
SFIN Lafayette 31.90 354 eP P 21 35 40.8 -0.9
comp=N,14nm,0.7s
P39B Salisbury 31.99 346 P P 21 35 41.6 -0.9
baz=162,SNR=7.7
O41A Passleys Farm, 32.19 349 P P 21 35 43.0 -1.2
baz=165
R34A Isabella, Hill 32.23 339 P P 21 35 44.2 -0.5
baz=153
Q36A Arnold C. Orve 32.24 342 P P 21 35 44.3 -0.4
baz=157
P38A Dawn 32.31 345 P P 21 35 44.7 -0.6
baz=160,SNR=14
Q35A Mercer Eighty, 32.32 341 P P 21 35 45.0 -0.5
baz=156
HDIL Hopedale 32.34 351 P P 21 35 44.9 -0.6
baz=168
HDIL Hopedale 32.34 351 eP P 21 35 47.0 +1.5
comp=N,14nm,0.6s
O40A La Belle 32.39 348 P P 21 35 44.9 -1.1
baz=164
P37A Lathrop 32.49 344 P P 21 35 46.0 -0.9
baz=159,SNR=13
O39A Kirksville 32.67 347 P P 21 35 47.6 -0.8
baz=162
Q34A Chapman 32.68 340 P P 21 35 47.7 -0.9
baz=154
N42A Yates City 32.73 350 P P 21 35 47.7 -1.2
baz=167,SNR=5.4
KSU1 Kansas State U 32.73 340 eP P 21 35 49.4 +0.4
comp=N,18nm,0.8s
N41A Harden Midland 32.75 349 P P 21 35 48.3 -0.9
baz=166
O38A Galt 32.76 345 P P 21 35 48.7 -0.5
baz=161
P36A Good Intent, A 32.77 343 P P 21 35 48.3 -1.0
baz=157,SNR=8.9
P35A Duane Minner, 32.93 342 P P 21 35 50.4 -0.4
baz=156,SNR=7.7
O37A Wolven Farm, M 32.98 344 P P 21 35 49.8 -1.4
baz=160,SNR=6.6
O36A Bolckow 33.17 343 P P 21 35 51.1 -1.8
baz=158,SNR=5.7
P34A Walnut Farm, R 33.21 341 P P 21 35 51.6 -1.6
baz=155,SNR=7.6
N39A Derby Farms, D 33.25 347 P P 21 35 52.2 -1.3
baz=163,SNR=5.5
N38A Joes South For 33.34 346 P P 21 35 53.0 -1.3
baz=162,SNR=9.1
N37A Lee Faris, Mou 33.55 345 P P 21 35 55.2 -0.9
baz=160,SNR=6.2
O34A Beatrice 33.74 341 P P 21 35 57.0 -0.8
baz=155,SNR=18
M39A Webster 33.76 348 P P 21 35 56.6 -1.4
baz=164
ANMO Albuquerque 33.85 324 eP P 21 36 02.0 +2.9
comp=N,2.6nm,0.9s
M38A Pleasantville 33.92 346 P P 21 35 57.7 -1.7
baz=162
O33A Hebron 33.93 340 P P 21 35 58.3 -1.3
baz=154

LVC Limon Verde 33.97 156 eP P 21 36 00.9 +0.5
comp=N,5.6nm,1.0s
L41A Preston 34.02 350 P P 21 35 59.0 -1.2
baz=167
N35A Tabor 34.04 343 P P 21 35 59.4 -1.0
baz=157
M37A Trindle Farm, 34.12 345 P P 21 36 00.4 -0.7
baz=160
L40A Anamosa 34.13 349 P P 21 35 59.8 -1.4
baz=166,SNR=6.0
N34A Lincoln 34.27 342 P P 21 36 01.9 -0.5
baz=156
L39A Vinton 34.34 348 P P 21 36 01.8 -1.2
baz=164
M36A Felix, Anita 34.36 344 P P 21 36 02.0 -1.2
baz=159
MMNY Mt. Morris Dam 34.37 7 eP P 21 36 03.7 +0.4
SCIA State Center 34.39 347 eP P 21 36 02.5 -1.0
comp=N,14nm,0.6s
K41A Shullsburg 34.51 351 P P 21 36 03.0 -1.4
baz=167
L38A Oak Wood Farm, 34.56 347 P P 21 36 03.4 -1.5
baz=162,SNR=9.8
M35A Neola 34.62 343 P P 21 36 04.5 -0.9
baz=158
L37A Phoenix Point, 34.73 346 P P 21 36 05.0 -1.3
baz=161
K40A Galesburg 34.74 350 P P 21 36 04.8 -1.7
baz=166,SNR=5.2
JFWS Jewell Farm 34.80 351 eP P 21 36 07.6 +0.6
comp=N,16nm,0.7s
TUC Tucson 34.85 317 eP P 21 36 11.5 +3.9
comp=N,7.9nm,1.0s
M34A Aspy Farms, Fr 34.91 342 P P 21 36 06.6 -1.3
baz=156
L36A Harm Buss Farm 34.93 345 P P 21 36 07.0 -1.1
baz=160,SNR=10.0
M33A Taylor Creek F 35.16 342 P P 21 36 08.9 -1.2
baz=155
L35A Bielow Farm, R 35.17 344 P P 21 36 09.1 -1.1
baz=158,SNR=7.6
J41A Loganville 35.20 351 P P 21 36 09.1 -1.3
baz=168
L34A Svendsen Farm, 35.27 343 P P 21 36 09.9 -1.2
baz=157
K37A Belmond 35.31 347 P P 21 36 10.5 -0.9
baz=162
BGNE Belgrade 35.32 340 P P 21 36 10.7 -0.8
baz=154
J40A Soldiers Grove 35.34 350 P P 21 36 10.1 -1.6
baz=167,SNR=6.9
K36A Gilmore City 35.38 346 P P 21 36 11.0 -1.0
baz=160
SDCO Great Sand Dun 35.39 329 eP P 21 36 14.4 +2.0
comp=N,3.6nm,0.9s
K35A Storm Lake 35.66 345 P P 21 36 13.4 -1.0
baz=159
X18A Snowflake 35.68 320 eP P 21 36 17.4 +2.6
comp=N,6.7nm,0.9s
J37A Redenius Farm, 35.81 347 P P 21 36 14.6 -1.0
baz=162
I40A Norwalk 35.81 351 P P 21 36 14.6 -1.1
baz=167
K34A Le Mars 35.86 344 P P 21 36 14.6 -1.5
baz=158
I41A Arkdale 35.86 352 P P 21 36 14.5 -1.6
baz=168
I39A Houston 35.92 350 P P 21 36 14.8 -1.8
baz=166
J36A Seneca 1, Swea 36.01 346 P P 21 36 15.5 -1.9
baz=161,SNR=9.1
I38A Scanlan Farm, 36.25 349 P P 21 36 18.5 -0.9
baz=164
K32A Verdigre 36.39 341 P P 21 36 19.2 -1.5
baz=155,SNR=7.4
H40A Chili 36.49 351 P P 21 36 19.7 -1.7
baz=168
X16A Lo Mia Camp, P 36.56 319 eP P 21 36 24.5 +2.0
comp=N,6.1nm,0.8s
K31A O'Neill 36.61 341 P P 21 36 22.4 -0.1
baz=153,SNR=5.2
MVCO Mesa Verde 36.62 325 P P 21 36 21.9 -1.0
baz=135
I35A Creekview Farm 36.66 346 P P 21 36 21.9 -1.0
baz=160
H39A Augusta 36.68 350 P P 21 36 21.5 -1.6
baz=166
J33A Davis 36.69 343 P P 21 36 21.7 -1.5
baz=157
PLVO Plevna 36.74 7 eP P 21 36 23.7 +0.1
comp=N,15nm,1.0s
H38A Maiden Rock 36.85 349 P P 21 36 22.9 -1.7
baz=165
ECSD EROS Data Cent 36.97 344 P P 21 36 23.8 -1.7
baz=157,SNR=13
ECSD EROS Data Cent 36.97 344 eP P 21 36 24.1 -1.5
comp=N,16nm,1.0s
G40A Rib Lake 37.09 352 P P 21 36 24.6 -2.0
baz=168
113A Mohawk Valley, 37.17 315 eP P 21 36 29.6 +2.1
comp=N,19nm,1.3s
WUAZ Wupatki 37.21 320 eP P 21 36 29.2 +1.3
comp=N,5.7nm,0.9s
G38A Ridgeland 37.26 350 P P 21 36 26.6 -1.3
baz=166,SNR=10
G39A Holcombe 37.26 351 P P 21 36 26.2 -1.7
baz=167,SNR=7.2
Y14A Wickenburg 37.31 317 eP P 21 36 30.9 +2.2
comp=N,30nm,0.8s
F41A Three Lakes 37.41 353 P P 21 36 28.1 -1.2
baz=170
H35A Sunnyside Ranc 37.41 346 P P 21 36 27.4 -1.9
baz=161,SNR=8.6
SPMN Marine on St. 37.48 349 P P 21 36 27.8 -2.1
baz=164
SPMN Marine on St. 37.48 349 eP P 21 36 28.4 -1.5
comp=N,15nm,0.6s
H34A Spellman Lake, 37.62 345 P P 21 36 29.3 -1.8
baz=159
F40A Park Falls 37.72 352 P P 21 36 30.1 -1.8
baz=168,SNR=7.0
H33A Prehn Over Nor 37.88 344 P P 21 36 31.9 -1.4
baz=158,SNR=11
H32A Carlson Farm, 37.91 343 P P 21 36 32.2 -1.4
baz=156,SNR=8.2
F38A Pierce - Schro 38.03 350 P P 21 36 33.0 -1.5
baz=166,SNR=7.5
GLA Glamis 38.07 314 eP P 21 36 37.5 +2.3
comp=N,23nm,0.8s
F36A Milaca 38.24 348 P P 21 36 34.4 -1.8
baz=163,SNR=11
PDMCI Parker Dam,Lak 38.29 317 P P 21 36 38.1 +1.2
baz=125,SNR=9.6
U15A North Rim 38.36 321 eP P 21 36 40.8 +3.0
comp=N,6.1nm,1.1s
F34A Alexandria 38.55 346 P P 21 36 37.0 -1.9
baz=160
W13A Hualapai Mount 38.58 318 eP P 21 36 42.1 +2.6
comp=N,6.8nm,0.9s
G32A Webster 38.62 344 P P 21 36 38.1 -1.4
baz=157
E36A McGregor 38.81 349 P P 21 36 39.4 -1.7
baz=164
BC3 Big Chuckawall 38.84 315 P P 21 36 42.1 +0.4
baz=123
F33A 5 Mile Ranch, 38.84 345 P P 21 36 39.1 -2.3
baz=159,SNR=6.5
KNB Kanab 39.06 321 eP P 21 36 46.6 +3.1
comp=N,5.8nm,1.2s
SRU San Rafael Swe 39.09 325 eP P 21 36 45.1 +1.4
comp=N,4.9nm,0.7s
D37A Cotton 39.28 350 P P 21 36 43.5 -1.5
baz=165,SNR=8.2
LDFC Landfair 39.39 317 eP P 21 36 49.2 +2.9
comp=N,20nm,1.1s
BELC Belle Mtn. Jos 39.41 315 P P 21 36 46.7 +0.2
baz=122,SNR=7.4
D36A Goodland 39.43 349 P P 21 36 44.4 -1.9
baz=164,SNR=5.1
TPFO Pinon Flats 39.52 314 P P 21 36 48.3 +0.9
baz=121
PFO Pinyon Flats O 39.53 314 P P 21 36 48.1 +0.6
baz=121
PFO Pinyon Flats O 39.53 314 eP P 21 36 48.9 +1.5
comp=N,8.8nm,0.8s
C39A Grand Marais 39.58 353 P P 21 36 45.6 -1.9
baz=169
C38A Sawbill Land. 39.64 351 P P 21 36 45.9 -2.2

baz=167
K22A Casper 39.69 333 eP P 21 36 48.4 -0.2
comp=N,6.6nm,0.8s
CCUT Cedar City 39.73 321 eP P 21 36 52.2 +3.0
comp=N,3.0nm,1.1s
D34A Park Rapids 39.75 347 P P 21 36 46.3 -2.7
baz=161
C37A Embarrass 39.79 350 P P 21 36 47.6 -1.6
baz=166
EYMN Ely 39.90 351 P P 21 36 48.0 -2.2
baz=167
E31A Nome 39.92 344 P P 21 36 48.7 -1.7
baz=157,SNR=5.6
C36A Pine Crest Far 39.93 350 P P 21 36 48.3 -2.1
baz=165
TUQ Turquoise Moun 40.14 317 P P 21 36 51.6 -0.9
baz=124,SNR=8.2
D31A Mcclaflin, Tow 40.33 345 P P 21 36 52.3 -1.4
baz=157
GSC Goldstone, Bar 40.67 316 P P 21 36 57.2 +0.4
baz=123,SNR=7.8
GSC Goldstone, Bar 40.67 316 eP P 21 36 59.0 +2.2
comp=N,12nm,1.0s
B35A Bob, Littlefor 40.67 349 P P 21 36 55.4 -1.1
baz=164
B34A Aery, Baudette 40.97 348 P P 21 36 57.4 -1.6
baz=162,SNR=9.2
DUG Dugway, Tooele 41.12 325 P P 21 36 59.6 -0.9
baz=132
BW06 Boulder Array 41.21 330 eP P 21 37 00.6 -0.8
PD31 Pinedale Array 41.21 330 eP P 21 37 01.2 -0.2
PDAR Pinedale Array 41.21 330 P P 21 37 00.3 -1.0
comp=N,1.3nm,0.8s,baz=120,slow=8.8,SNR=9.1
TPNV Topopah Spring 41.21 318 eP P 21 37 04.4 +3.0
comp=N,11nm,1.5s
EDW2 Edwards Air Fo 41.27 315 P P 21 37 02.2 +0.4
baz=121
B32A Ashes, Strandq 41.29 347 P P 21 37 00.4 -1.2
baz=160
FURC Furnace Creek, 41.35 317 P P 21 37 03.3 +1.0
baz=124,SNR=8.6
LRMC Laurel Mtn Rad 41.37 316 P P 21 37 02.7 +0.1
baz=122,SNR=7.3
HWUT Hardware Ranch 41.40 327 eP P 21 37 03.6 +0.7
comp=N,9.9nm,1.2s
HWUT ePcP PcP 21 39 01.6 +0.6
MPMC Manual Prospec 41.54 316 P P 21 37 04.2 0.0
baz=123,SNR=11
R11A Troy Canyon, C 41.61 321 P P 21 37 05.6 +1.0
baz=127,SNR=6.1
BGU Big Grassy Mou 41.73 325 eP P 21 37 07.1 +1.5
comp=N,9.0nm,1.5s
CWC Cottonwood Cre 42.15 317 P P 21 37 09.1 0.0
baz=122
REDW Red Top Meadow 42.29 330 eP P 21 37 10.3 +0.1
comp=N,7.4nm,1.0s
TPAW Teton Pass 42.43 330 eP P 21 37 13.5 +2.1
comp=N,5.2nm,1.0s
MOOW Moose Ponds 42.52 330 eP P 21 37 12.9 +0.8
comp=N,3.1nm,0.9s
VES Vestal, Richgr 42.53 315 P P 21 37 12.9 +1.0
baz=121
PKM Mcpherson Peak 42.57 314 P P 21 37 13.7 +1.2
baz=119,SNR=5.7
IMW Indian Meadow 42.72 330 eP P 21 37 15.1 +1.3
comp=N,5.2nm,0.8s
FLWY Flagg Ranch 42.74 331 eP P 21 37 15.3 +1.5
comp=N,5.2nm,0.8s
LAO LASA Array 42.81 337 P P 21 37 14.2 0.0
baz=145
LAO LASA Array 42.81 337 eP P 21 37 12.7 -1.5
comp=N,13nm,0.8s
RLMT Red Lodge 42.85 333 P P 21 37 14.3 -0.4
baz=140
RLMT Red Lodge 42.85 333 eP P 21 37 15.7 +0.9
comp=N,7.5nm,0.8s
ULM Lac du Bonnet 42.90 348 P P 21 37 12.7 -2.1
comp=N,13nm,0.7s,baz=156,slow=8.4,SNR=24
ULM Lac du Bonnet 42.90 348 eP P 21 37 12.8 -1.9
comp=N,16nm,0.8s
SMMC Simmler 42.91 314 P P 21 37 16.6 +1.5
baz=119,SNR=7.4
PAGB Antelope Grade 43.29 314 eP P 21 37 19.4 +1.2
comp=N,34nm,1.0s
YHH Holmes Hill 43.34 331 eP P 21 37 22.3 +3.5
comp=N,2.9nm,0.8s
YHB Horse Butte 43.48 331 eP P 21 37 22.6 +2.8
comp=N,18nm,1.6s
GCMT Greycliff 43.55 333 eP P 21 37 21.6 +1.4
TVH1 TV Hill, Hawth 43.71 319 eP P 21 37 26.1 +4.2
comp=N,4.7nm,0.8s
BMN Battle Mountai 43.87 322 eP P 21 37 25.9 +3.0
comp=N,16nm,1.0s
WAKR Walker 44.17 318 eP P 21 37 27.6 +2.2
comp=N,12nm,1.0s
HLID Hailey 44.27 327 P P 21 37 26.5 +0.3
baz=133,SNR=5.1
HLID Hailey 44.27 327 eP P 21 37 26.3 +0.1
comp=N,4.3nm,0.8s
BOZ Bozeman (W) 44.31 331 P P 21 37 26.2 -0.2
baz=138,SNR=5.3
BOZ Bozeman (W) 44.31 331 eP P 21 37 27.9 +1.6
comp=N,7.3nm,1.2s
YERR Yerington 44.31 319 eP P 21 37 28.8 +2.3
comp=N,5.6nm,0.7s
MCMT McKenzie Canyo 44.34 330 eP P 21 37 28.9 +2.2
LRM Limekiln Ridge 44.86 331 eP P 21 37 32.4 +1.5
MFID Camas Ranch 44.94 326 eP P 21 37 32.4 +1.0
comp=N,4.0nm,0.8s
HRY Holter Researc 45.23 332 eP P 21 37 31.8 -1.8
WVOR Wild Horse Val 45.92 323 eP P 21 37 39.1 -0.2
comp=N,9.1nm,0.8s
ORV Oroville 46.09 318 eP P 21 37 42.7 +2.3
comp=N,16nm,1.2s
MSO Missoula 46.30 331 P P 21 37 41.2 -1.0
baz=136
BMO Blue Mountains 46.68 327 eP P 21 37 45.8 +0.7
comp=N,4.6nm,0.9s
BSMT Bassoo Peak 47.44 331 eP P 21 37 51.9 +0.8
M04C Macdoel 47.50 321 P P 21 37 50.7 -1.0
baz=123
E09A Wood Farm, Sta 48.20 328 eP P 21 37 58.3 +1.4
comp=N,5.7nm,0.8s
FFC Flin Flon 48.45 346 eP P 21 37 57.8 -0.7
comp=N,8.8nm,0.8s
B08A Colville Reser 50.02 329 eP P 21 38 11.6 +0.8
comp=N,3.2nm,0.8s
LTY Liberty 50.02 327 eP P 21 38 12.1 +1.2
comp=N,8.4nm,1.1s
LON Longmire 50.33 326 eP P 21 38 13.8 +0.6
comp=N,3.9nm,0.8s
PLCA Paso Flores 50.39 168 P P 21 38 12.2 -1.5
comp=N,2.7nm,0.9s,baz=353,slow=9.3,SNR=2.7
FCC Fort Churchill 50.80 353 eP P 21 38 16.6 +0.2
comp=N,7.5nm,0.6s
EDM Edmonton 50.80 337 eP P 21 38 15.6 -0.9
comp=N,28nm,0.8s
LLLB Lillooet 52.73 330 eP P 21 38 32.6 +1.6
comp=N,22nm,1.6s
FRB Frobisher Bay 56.10 8 LR LR 22 02 04.0
comp=N,318nm,19.1s,baz=56,slow=35
YKA Yellowknife Ar 58.50 344 P P 21 39 10.5 -1.7
comp=N,5.4nm,0.8s,baz=143,slow=7.0,SNR=9.7
DLBC Dease Lake 61.23 334 P P 21 39 31.7 +0.5
comp=N,3.3nm,0.5s,baz=148,slow=9.5,SNR=3.4
RES Resolute Bay 66.45 357 P P 21 40 05.0 -0.1
comp=N,15nm,0.8s,baz=174,slow=9.6,SNR=5.5
RES Resolute Bay 66.45 357 eP P 21 40 04.8 -0.4
comp=N,18nm,0.8s
DAWY Dawson 68.01 337 eP P 21 40 15.2 -0.1
INK Inuvik 68.18 342 P P 21 40 15.6 -0.7
comp=N,9.8nm,1.0s,baz=114,slow=3.2,SNR=7.9
INK Inuvik 68.18 342 eP P 21 40 16.6 +0.3
BMRM Bremner River 68.93 333 eP P 21 40 22.1 +1.0
EGAK Eagle 69.02 337 eP P 21 40 21.7 +0.1
DOT Dot Lake 69.71 335 eP P 21 40 26.3 +0.4
SCM Sheep Creek Mo 70.46 333 eP P 21 40 31.0 +0.4
DHY Denali Highway 70.89 334 eP P 21 40 35.9 +2.6
SML Sawmill 70.90 333 eP P 21 40 34.3 +1.0
HDA Harding Lake 71.17 336 eP P 21 40 33.4 -1.4
IL1 Eielson Array 71.27 336 eP P 21 40 34.9 -0.5
ILAR Eielson Array 71.27 336 P P 21 40 35.1 -0.3
comp=N,9.6nm,0.8s,baz=114,slow=4.6,SNR=49
ILB Eielson Array 71.27 336 eP P 21 40 35.5 0.0
RC01 Rabbit Creek A 71.33 332 eP P 21 40 38.1 +2.3
BRLK Bradley Lake 71.51 330 eP P 21 40 39.3 +2.4
CCB Clear Creek Bu 71.60 336 eP P 21 40 37.7 +0.4

RND	Reindeer	71.63	334	*e*P		P		21 40 38.5	+0.8
WRH	Wood River Hil	71.66	336	*e*P		P		21 40 36.9	-0.8
COLA	College	71.69	336	*e*P		P		21 40 38.0	+0.1
	comp=N,6.9nm,0.8s								
MCK	McKinley	71.77	335	*e*P		P		21 40 38.8	+0.3
MDM	Murphy Dome	71.88	336	*e*P		P		21 40 39.1	+0.1
SUA	Susitna One	71.90	332	*e*P		P		21 40 39.8	+0.4
OHAK	Old Harbor	72.13	327	*e*P		P		21 40 41.4	+0.8
TRF	Thorofare Moun	72.26	334	*e*P		P		21 40 41.8	+0.2
SPU	Mount Spurr	72.44	332	*e*P		P		21 40 44.1	+1.6
PTEO	Sao Teotonio	72.53	53	*e*P		P		21 40 43.6	+0.1
KTH	Kantishna Hill	72.56	334	*e*P		P		21 40 45.4	+2.1
RSO	Redoubt South	72.59	331	*e*P		P		21 40 43.9	+0.2
PCAS	Casmilo, Conde	72.83	51	*e*P		P		21 40 44.8	-0.5
	comp=N,37nm,1.7s								
CAST	Castle Rocks	73.03	334	*e*P		P		21 40 46.6	+0.6
PCVE	Castro Verde	73.08	53	*e*P		P		21 40 46.8	+0.1
PVIS	Viseu	73.33	50	*e*P		P		21 40 46.8	-1.5
COLD	Coldfoot	73.37	338	*e*P		P		21 40 48.1	+0.2
POLO	Lamas de Olo	73.44	49	*e*P		P		21 40 48.4	-0.6
PESTR	Estremoz	73.48	52	*e*P		P		21 40 48.1	-1.0
	comp=N,20nm,1.2s								
PCBR	Castelo Branco	73.61	51	*e*P		P		21 40 49.1	-0.7
PMRV	Marv??o	73.66	51	*e*P		P		21 40 49.3	-0.9
PBAR	Barrancos	73.89	53	*e*P		P		21 40 50.8	-0.7
	comp=N,28nm,1.7s								
SVW2	Sparrevohn	74.08	331	*e*P		P		21 40 51.7	-0.5
PMSA	Palmer Station	74.51	172	*e*P		P		21 40 54.9	+0.5
TT01	Tatalina	74.65	333	*e*P		P		21 40 55.0	-0.4
TTA	Tatalina	74.65	333	*e*P		P		21 40 56.4	+0.9
CHGN	Chignik	74.75	326	*e*P		P		21 40 56.3	+0.2
SDPT	Sand Point	75.80	325	*e*P		P		21 41 03.1	+0.9
ESDC	Sonseca Array	76.31	51	P		P		21 41 05.1	-0.5
	comp=N,14nm,1.1s,baz=277,slow=5.5,SNR=32								
ESLA	Sonseca Array	76.31	51	*e*P		P		21 41 05.4	-0.2
ES19	SONSECA Array	76.36	51	*e*P		P		21 41 04.9	-1.0
TIC	Toumodi	77.38	85	*e*P		P		21 41 11.1	-0.9
LIC	Lamto	77.42	86	*e*P		P		21 41 11.3	-0.9
	comp=N,69nm,1.1s								
DBIC	Dimbokro	77.53	85	P		P		21 41 12.2	-0.6
	comp=N,8.6nm,0.8s,baz=208,slow=4.9,SNR=7.9								
KIC	Kosan Boka	77.69	85	*e*P		P		21 41 12.9	-0.8
	comp=N,40nm,1.2s								
TORD	Torodi Ar. Bea	83.14	78	P		P		21 41 41.8	-1.2
	comp=N,2.1nm,0.8s,baz=261,slow=3.8,SNR=16								
NB2	NORSAR Subarra	84.72	29	P		P		21 41 49.5	-0.7
	comp=Z,14nm,1.4s,baz=278,slow=5.1								
NOA	NORSAR Array B	84.72	29	P		P		21 41 49.0	-1.2
	comp=Z,5.3nm,1.0s,baz=280,slow=5.0,SNR=11								
TAM	Tamanrasset	85.56	68	*e*P		P		21 41 55.7	+0.4
GRFO	Grafenberg	86.39	40	*e*P		P		21 41 58.5	-0.3
	comp=Z,6.8nm,0.9s								
NKC	Novy Kostel	87.09	40	*e*P		P		21 42 01.4	-0.8
CLL	Collm	87.25	39	*e*P		P		21 42 02.0	-0.9
	comp=Z,9.0nm,1.0s								
BRG	Berggiesshubel	87.91	39	*e*P		P		21 42 06.0	-0.1
	comp=Z,6.3nm,1.1s								
KHC	Kasperske Hory	88.00	41	*e*P		P		21 42 05.5	-1.1
KHC				*ex*		x		21 42 11.9	
KHC	Kasperske Hory	88.00	41	*e*P		P		21 42 05.7	-1.0
GERES	GERESS Array B	88.14	41	P		P		21 42 06.1	-1.3
	comp=Z,3.1nm,1.0s,baz=260,slow=3.8,SNR=18								
PVCC	Panska Ves	88.37	39	*e*P		P		21 42 07.6	-0.6
PRU	Pruhonice	88.46	40	*e*P		P		21 42 08.2	-0.5
ARCES	ARCESS Array B	88.47	19	P		P		21 42 06.9	-1.5
	comp=Z,1.3nm,0.5s,baz=289,slow=3.7,SNR=16								
AQU	L'Aquila	89.14	47	P		P		21 42 11.7	-0.4
	comp=Z,3.9nm,1.2s								
UPC	Upice	89.27	39	*e*P		P		21 42 12.0	-0.5
DPC	Dobruska-Polom	89.50	39	*e*P		P		21 42 12.8	-0.9
DPC				*ex*		x		21 42 18.2	
VRAC	Vranov	89.90	40	LR		LR		22 18 38.4	
	comp=Z,439nm,20.3s,baz=212,slow=33								
MORC	Moravsky Berou	90.40	40	*e*P		P		21 42 17.2	-0.7
	comp=Z,16nm,1.1s								
VYHS	Vyhne	91.53	41	*e*P		P		21 42 22.7	-0.4
FINES	FINESS Array B	91.57	27	P		P		21 42 21.3	-1.6
	comp=Z,3.8nm,0.9s,baz=230,slow=4.7,SNR=7.5								
LANS	Liptovska Anna	91.77	40	*e*P		P		21 42 24.2	0.0
PSZ	Piszkesteto	92.37	41	*e*P		P		21 42 27.1	0.0
	comp=Z,5.6nm,1.0s								
SONM	Songino Array	123.23	352	PKP		PKPdf		21 48 11.4	-2.1
	comp=Z,0.4nm,0.6s,baz=342,slow=3.3,SNR=3.8								
KSRS	Korea Array	125.78	330	PKP		PKPdf		21 48 17.5	-1.0
	comp=Z,2.5nm,0.8s,baz=20,slow=1.0,SNR=10.0								
KSAR	Wonju Array Be	125.80	330	PKP		PKPdf		21 48 17.5	-1.1
KSH	Kashi	128.42	21	*e*PKP		PKPdf		21 48 23.5	-0.2
KSH				sPKP				21 48 38.4	
KSH				PP		PP		21 50 31.3	+4.1
KSH				PKS		PKSdf		21 51 57.6	-2.8
KSH				SKS		SKSdf		21 55 30.7	-4.8
ASAR	Alice Springs	141.48	243	PKhKP		PKPpre		21 48 41.5	
	comp=Z,0.5nm,0.8s,baz=111,slow=3.8,SNR=3.3								
ASAR				PKP		PKPdf		21 48 48.9	+0.6
	comp=Z,1.2nm,0.7s,baz=122,slow=3.4,SNR=9.5								
WRA	Warramunga Arr	142.00	249	PKhKP		PKPpre		21 48 43.2	
	comp=Z,1.1nm,0.9s,baz=97,slow=2.9,SNR=5.0								
CMAR	Chiang Mai Arr	153.09	356	PKP		PKPdf		21 49 06.5	-1.1
CMAR				PKPbc		PKiKP		21 49 15.0	-0.1
	comp=Z,1.8nm,0.8s,baz=334,slow=2.7,SNR=6.7								
CMAR				PKPab		PKPab		21 49 25.4	-0.8
	comp=Z,2.8nm,0.7s,baz=339,slow=4.9,SNR=8.5								

*ISCJB **09** 21:50:02.8±0.5,24˚.76N±0˚.03×122˚.10E±0˚.02, h103km±3km, Error ellipse: s-maj=4.4km s-min=2.6km az=159.6*
*JMA **09** 21:50:02.6±0.2,24˚.73N×122˚.04E,h104km±2km, M3.0*
*TAP **09** 21:50:03.4,24˚.76N×122˚.05E,h102km, ML3.8, C*
ISC 09 21:50:02.9±1.4,24˚.77N±0˚.04×122˚.09E±0˚.03,h105km±7km, n65,σ0ᵗ974/123,1C-15D,Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
EGS		**0.16**	**300**	P			**Pn**	**21 50 17.7**	**+0.2**
	baz=309								
EGS				*e*S			**Sn**	**21 50 28.5**	**0.0**
	baz=309								
TWB1	**Santiao Chiao**	**0.26**	**340**	⇓*i*P			**Pn**	**21 50 18.1**	**+0.3**
	baz=343								
TWB1				*i* S			**Sn**	**21 50 28.6**	**-0.5**
	baz=343								
TWC	**Suao**	**0.27**	**234**	⇓*i*P			**Pn**	**21 50 18.1**	**+0.2**
	baz=230								
TWC				S			**Sn**	**21 50 28.6**	**-0.4**
	baz=230								
ILA	**Ilan**	**0.31**	**270**	P			**Pn**	**21 50 18.5**	**+0.5**
	baz=276								
ILA				S			**Sn**	**21 50 29.3**	**0.0**
	baz=276								
TWE	**Neicheng**	**0.38**	**264**	⇓P			**Pn**	**21 50 18.9**	**+0.5**
	baz=264								
TWE				S			**Sn**	**21 50 30.0**	**-0.1**
	baz=264								
NWF	**Wu-fen Shan**	**0.41**	**318**	⇓*i*P			**Pn**	**21 50 18.9**	**+0.1**
	baz=315								
NWF				S			**Sn**	**21 50 29.6**	**-0.9**
	baz=315								
ENA	**Nanau**	**0.46**	**223**	⇓*i*P			**Pn**	**21 50 19.5**	**+0.6**
	baz=213								
ENA				*e*S			**Sn**	**21 50 31.4**	**+0.6**
	baz=213								
ENTT	**Nioudou**	**0.49**	**255**	⇓*i*P			**Pn**	**21 50 19.9**	**+0.8**
	baz=262								
ENTT				*e*S			**Sn**	**21 50 31.0**	**-0.3**
	baz=262								
TWA	**Mucha**	**0.51**	**295**	P			**Pn**	**21 50 18.9**	**-0.3**
	baz=303								
TWA				S			**Sn**	**21 50 30.4**	**-1.0**
	baz=303								
TAP1	**Taipei**	**0.58**	**298**	P			**Pn**	**21 50 19.9**	**+0.1**
	baz=304								
TAP1				*i* S			**Sn**	**21 50 31.4**	**-0.9**
	baz=304								
TAP	**Taipei**	**0.59**	**298**	*e*P			**Pn**	**21 50 19.6**	**-0.2**
	baz=306								
NSK	**Sanguang**	**0.67**	**263**	⇓*i*P			**Pn**	**21 50 20.7**	**+0.2**
	baz=263								
NSK				*i* S			**Sn**	**21 50 33.3**	**-0.5**
	baz=263								
TWY	**Chenhua**	**0.67**	**319**	P			**Pn**	**21 50 20.6**	**0.0**
	baz=321								
TWY				*e*S			**Sn**	**21 50 33.0**	**-0.7**
	baz=321								
TWS1	**Kuangyinshan**	**0.69**	**299**	P			**Pn**	**21 50 20.9**	**+0.3**
	baz=305								
TWS1				S			**Sn**	**21 50 33.6**	**-0.4**
	baz=305								
NNS	**Nan Shan**	**0.73**	**244**	⇓P			**Pn**	**21 50 21.8**	**+0.6**
	baz=235								
NNS				*e*S			**Sn**	**21 50 34.8**	**0.0**
	baz=235								
TWD	**Chiawan**	**0.81**	**213**	⇓*i*P			**Pn**	**21 50 21.8**	**0.0**
	baz=222								
TWD				S			**Sn**	**21 50 35.5**	**-0.5**
	baz=222								
JYNG	**Yonagunijimaku**	**0.84**	**112**	P			**Pn**	**21 50 22.3**	**+0.3**
JYNG				S			**Sn**	**21 50 36.7**	**+0.3**
NCU	**National Centr**	**0.84**	**284**	⇓*i*P			**Pn**	**21 50 22.6**	**+0.6**
	baz=277								
NCU				S			**Sn**	**21 50 36.9**	**+0.4**
	baz=277								
PCYT	**Pengchaiyu**	**0.86**	**359**	⇑*i*P			**Pn**	**21 50 22.8**	**+0.6**
	baz=5.0								
PCYT				*e*S			**Sn**	**21 50 36.0**	**-0.8**
	baz=5.0								
YOJ	**Yonaguni jima**	**0.89**	**110**	P			**Pn**	**21 50 22.8**	**+0.2**
YOJ				S			**Sn**	**21 50 37.4**	**+0.1**
HWA	**Hwalien**	**0.90**	**209**	⇓*i*P			**Pn**	**21 50 23.0**	**+0.3**
	baz=199								
HWA				*e*S			**Sn**	**21 50 37.7**	**+0.2**
	baz=199								
WHF	**Hehuan Shan**	**0.97**	**231**	⇓*i*P			**Pn**	**21 50 24.3**	**+0.5**
	baz=230								
WHF				S			**Sn**	**21 50 39.8**	**+0.3**
	baz=230								
TWT	**Tachien**	**0.97**	**239**	⇓*i*P			**Pn**	**21 50 24.7**	**+1.1**
	baz=233								
TWT				*e*S			**Sn**	**21 50 40.1**	**+0.9**
	baz=233								
NSTT	**Nanjuang**	**1.00**	**263**	*i* P			**Pn**	**21 50 23.9**	**+0.3**
	baz=263								
NSTT				*e*S			**Sn**	**21 50 38.8**	**-0.4**
	baz=263								
HSN	**Hsinchu**	**1.02**	**272**	*i* P			**Pn**	**21 50 24.0**	**+0.2**
	baz=267								
HSN				S			**Sn**	**21 50 38.8**	**-0.8**
	baz=267								
ESL	**Shilin**	**1.12**	**212**	⇓*i*P			**Pn**	**21 50 24.3**	**-0.7**
	baz=216								
ESL				*e*S			**Sn**	**21 50 40.0**	**-1.7**
	baz=216								
TEGC	**Jichi Village**	**1.16**	**206**	*e*P			**Pn**	**21 50 25.5**	**+0.1**
	baz=205								
NSY	**Sanyi**	**1.26**	**254**	P			**Pn**	**21 50 27.3**	**+0.8**
	baz=254								
NSY				*e*S			**Sn**	**21 50 44.9**	**+0.5**
	baz=254								
TWQ1	**Liyutan**	**1.27**	**251**	⇓*i*P			**Pn**	**21 50 27.1**	**+0.5**
	baz=251								
TWQ1				*e*S			**Sn**	**21 50 44.4**	**-0.2**
	baz=251								
SMLT	**Sun Moon Lake**	**1.39**	**231**	P			**Pn**	**21 50 29.0**	**+0.8**
	baz=238								
SMLT				*e*S			**Sn**	**21 50 48.3**	**+0.8**
	baz=238								
TYC	**Yuchr**	**1.41**	**233**	*i* P			**Pn**	**21 50 29.3**	**+0.9**
	baz=240								
TYC				S			**Sn**	**21 50 48.5**	**+0.9**
	baz=240								
TCU	**Taichung**	**1.43**	**245**	P			**Pn**	**21 50 29.1**	**+0.6**
	baz=252								
TCU				*e*S			**Sn**	**21 50 47.0**	**-0.9**
	baz=252								
EHY	**Hungye**	**1.44**	**209**	*e*P			**Pn**	**21 50 27.9**	**-0.8**
	baz=204								
WNT	**Mingjian**	**1.56**	**236**	P			**Pn**	**21 50 31.0**	**+0.9**
	baz=244								
WNT				S			**Sn**	**21 50 51.6**	**+0.9**
	baz=244								
IRIF	**Iriomote-Funau**	**1.56**	**106**	P			**Pn**	**21 50 30.0**	**-0.1**
IRIF				*e*S			**Sn**	**21 50 50.4**	**-0.3**
TWF1	**Yuli**	**1.58**	**207**	*e*P			**Pn**	**21 50 29.6**	**-0.8**
	baz=207								
TWF1				*e*S			**Sn**	**21 50 50.0**	**-1.4**
	baz=207								
YUS	**Yu-Shan**	**1.64**	**219**	P			**Pn**	**21 50 32.7**	**+1.1**
	baz=212								
YUS				*e*S			**Sn**	**21 50 54.1**	**+0.7**
	baz=212								
ALS	**Alishan**	**1.71**	**223**	*e*P			**Pn**	**21 50 33.5**	**+1.2**
	baz=232								
ALS				*e*S			**Sn**	**21 50 55.6**	**+0.9**
	baz=232								
HATJ	**Hateruma jima**	**1.72**	**114**	P			**Pn**	**21 50 32.6**	**+0.5**
HATJ				*e*S			**Sn**	**21 50 54.4**	**+0.1**
CHN5	**Tsauling**	**1.73**	**228**	P			**Pn**	**21 50 33.1**	**+0.7**
	baz=228								
CHN5				*e*S			**Sn**	**21 50 55.4**	**+0.5**
	baz=228								
WGK	**Gukeng**	**1.76**	**233**	P			**Pn**	**21 50 33.6**	**+1.0**
	baz=232								
WGK				S			**Sn**	**21 50 55.8**	**+0.6**
	baz=232								
CHKT	**Chengkung**	**1.79**	**202**	*e*P			**Pn**	**21 50 32.7**	**-0.2**
	baz=202								
CHKT				*e*S			**Sn**	**21 50 54.3**	**-1.4**
	baz=202								
JKRS	**Kuro-shima**	**1.83**	**106**	P			**Pn**	**21 50 34.0**	**+0.5**
JKRS				*e*S			**Sn**	**21 50 57.0**	**+0.2**
ELDTW	**Lidau**	**1.85**	**212**	*e*P			**Pn**	**21 50 33.8**	**-0.1**
	baz=206								
ELDTW				*e*S			**Sn**	**21 50 56.6**	**-0.8**
	baz=206								
WTCT	**Ta-ch'eng**	**1.88**	**242**	*e*P			**Pn**	**21 50 33.9**	**-0.1**
	baz=242								
WTCT				*e*S			**Sn**	**21 50 57.7**	**-0.1**
	baz=242								
JIJ	**Ishigaki jima**	**1.91**	**102**	P			**Pn**	**21 50 34.5**	**-0.1**
JIJ				*e*S			**Sn**	**21 50 57.7**	**-1.0**
CHN2	**Minshiung**	**1.92**	**231**	*e*P			**Pn**	**21 50 35.1**	**+0.5**
	baz=230								
CHN2				*e*S			**Sn**	**21 50 59.3**	**+0.5**
	baz=230								
CHN4	**Tsaushan**	**1.96**	**224**	P			**Pn**	**21 50 35.8**	**+0.6**
	baz=224								
CHN4				*e*S			**Sn**	**21 51 00.7**	**+0.9**
	baz=224								
CHY	**Chiayi**	**1.97**	**231**	*e*P			**Pn**	**21 50 34.8**	**-0.6**
	baz=230								
CHY				*e*S			**Sn**	**21 51 00.1**	**0.0**
	baz=230								
STYT	**Tauyuan**	**2.00**	**218**	P			**Pn**	**21 50 36.7**	**+0.9**
	baz=210								
STYT				*e*S			**Sn**	**21 51 01.8**	**+0.9**
	baz=210								
WTP	**Ta-pu**	**2.02**	**222**	P			**Pn**	**21 50 36.5**	**+0.5**
	baz=230								
WTP				*e*S			**Sn**	**21 51 02.0**	**+0.6**
	baz=230								
JISG	**Ishigakijimahi**	**2.03**	**95**	P			**Pn**	**21 50 36.4**	**+0.4**
JISG				*e*S			**Sn**	**21 51 00.7**	**-0.7**
WSF	**Szhu**	**2.04**	**237**	*e*P			**Pn**	**21 50 36.0**	**-0.1**
	baz=236								
WSF				*e*S			**Sn**	**21 51 01.5**	**0.0**
	baz=236								
TWK	**Hsinying**	**2.09**	**225**	*e*P			**Pn**	**21 50 37.2**	**+0.3**
	baz=224								
TWK				*e*S			**Sn**	**21 51 03.6**	**+0.8**
	baz=224								
CHN1	**Nanshi**	**2.12**	**223**	*e*P			**Pn**	**21 50 37.9**	**+0.6**
	baz=230								
CHN1				*e*S			**Sn**	**21 51 03.6**	**+0.1**
	baz=230								
TWG	**Pinlang**	**2.15**	**206**	*e*P			**Pn**	**21 50 37.1**	**-0.5**
	baz=201								
TWG				*e*S			**Sn**	**21 51 02.2**	**-1.9**
	baz=201								
SGST	**Jiashian**	**2.17**	**220**	*e*P			**Pn**	**21 50 38.4**	**+0.5**
	baz=228								
SGST				*e*S			**Sn**	**21 51 05.4**	**+0.8**
	baz=228								
CHN3	**Shinhua**	**2.30**	**223**	*e*P			**Pn**	**21 50 40.6**	**+1.0**
	baz=224								
CHN3				*e*S			**Sn**	**21 51 09.4**	**+1.7**
	baz=224								
JTJ	**Tarama**	**2.38**	**92**	P			**Pn**	**21 50 41.1**	**+0.5**
JTJ				*e*S			**Sn**	**21 51 09.8**	**+0.3**
ECL	**Taimali**	**2.40**	**206**	*e*P			**Pn**	**21 50 39.9**	**-0.9**
	baz=203								
PNG	**Penghu**	**2.60**	**243**	*e*P			**Pn**	**21 50 42.7**	**-0.8**
	baz=242								
PNG				*e*S			**Sn**	**21 51 12.2**	**-2.4**
	baz=242								
EAST	**Anshuo**	**2.63**	**206**	*e*P			**Pn**	**21 50 45.2**	**+1.3**
	baz=208								
EAST				*e*S			**Sn**	**21 51 13.9**	**-1.5**
	baz=208								
WDGT	**Dungji**	**2.68**	**236**	*e*P			**Pn**	**21 50 43.6**	**-0.9**
	baz=229								
LAY	**Lan-yu**	**2.76**	**190**	*e*P			**Pn**	**21 50 44.5**	**-1.1**
	baz=192								
JIRB	**Irabujima**	**2.81**	**88**	*e*S			**Sn**	**21 51 20.6**	**+1.1**

MEX 09 22:05:13.7±0.3,14˚.05N×92˚.32W,h15km,MD3.6,Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CCIG	**Comitan**	**2.23**	**5**	*i* P			Pn	22 05 47.6	-2.7
CCIG				*i* S			Sn	22 06 13.3	-4.4
TGIG		**2.83**	**344**	*i* P			Pn	22 05 55.6	-2.8
TGIG				*i* S			Sn	22 06 28.8	-3.4

*IDC **09** 22:15:37.4±0.8,3˚.39S×68˚.24E,h0km,mb4.2/19, mb1 4.3/19,mb1mx4.0/58,mbtmp4.2/19,MS4.2/6, Ms1 4.2/6,ms1mx3.8/34,Error ellipse: s-maj=23.6km s-min=15.7km az=145.0*
*ISCJB **09** 22:15:38.1±0.6,3˚.4S±0˚.1×68˚.19E±0˚.08,h15km,mb4.3/26, MS4.2/5,Error ellipse: s-maj=16.2km s-min=9.3km az=153.7*
*NEIC **09** 22:15:39.0±0.4,3˚.41S×68˚.20E,h10km,mb4.7/7,Error ellipse: s-maj=12.4km s-min=8.2km az=150.0*
ISC 09 22:15:39.7±0.8,3˚.4S±0˚.2×68˚.2E±0˚.1,h15km,n57, σ1ᵗ07/48,mb4.3/26,MS4.2/5,1C-2D,Chagos Archipelago region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
H08N2	**Diego Garcia H**	**3.98**	**136**	T		T	T	22 20 59.5	
	baz=317,slow=75,SNR=1127								
H08N3	**Diego Garcia H**	**3.99**	**137**	T		T	T	22 21 06.3	
	baz=317,slow=75,SNR=1065								
H08N1	**Diego Carcia H**	**4.00**	**136**	T		T	T	22 21 06.0	
	baz=317,slow=75,SNR=1314								
H08S3	**Diego Garcia H**	**5.93**	**135**	T		T	T	22 23 09.7	
	baz=302,slow=79,SNR=13								
H08S1	**Diego Carcia H**	**5.94**	**135**	T		T	T	22 23 13.5	
	baz=302,slow=79,SNR=21								
H08S2	**Diego Garcia H**	**5.95**	**135**	T		T	T	22 23 20.4	
	baz=302,slow=79,SNR=16								
PALK	**Pallekele**	**16.37**	**49**	LR		LR	LR	22 24 11.9	
	comp=Z,897nm,20.8s,baz=116,slow=32								
OPO	**Ambohidratompo**	**25.51**	**232**	LR		LR	LR	22 28 46.7	
	comp=Z,807nm,19.5s,baz=78,slow=31								
WSAR	**Wadi Sarin**	**28.12**	**341**	LR		LR	LR	22 30 29.2	
	comp=Z,445nm,18.2s,baz=182,slow=32								
DMN	**Daman**	**34.89**	**27**	*e*P			**P**	**22 22 31.8**	**+0.7**
	56nm,1.4s								
PKIN	**Phulchoki**	**34.99**	**27**	*e*P			**P**	**22 22 33.8**	**+1.8**
PKI	**Pulchoki**	**34.99**	**27**	*e*P			**P**	**22 22 34.0**	**+2.0**
GKN	**Gorkha**	**35.02**	**26**	*e*P			**P**	**22 22 32.8**	**+0.7**
	36nm,1.1s								
KKN	**Kakani**	**35.12**	**27**	*e*P			**P**	**22 22 33.6**	**+0.6**
ODAN	**Odare**	**35.35**	**30**	*e*P			**P**	**22 22 35.3**	**+0.3**
	15nm,0.7s								
JIRN	**Jiri**	**35.43**	**28**	*e*P			**P**	**22 22 35.2**	**-0.7**
GUN	**Gumba**	**35.50**	**28**	*e*P			**P**	**22 22 35.6**	**-0.8**
TAPN	**Taplejung**	**35.91**	**30**	*e*P			**P**	**22 22 35.9**	**-4.0**
CMAR	**Chiang Mai Arr**	**37.26**	**53**	P			**P**	**22 22 52.3**	**+1.1**
	2.8nm,0.9s,baz=245,slow=9.9,SNR=12								
CMAR				LR			LR	22 37 18.8	
	comp=Z,97nm,18.4s,baz=225,slow=35								
CHTO	**Chiang Mai**	**37.45**	**53**	*e*P			**P**	**22 22 53.9**	**+1.1**
	6.4nm,0.9s								
LSZ	**Lusaka**	**41.15**	**251**	P			**P**	**22 23 24.6**	**+0.7**
	6.7nm,0.8s,baz=63,slow=6.9,SNR=21								
LSZ	**Lusaka**	**41.15**	**251**	*e*P			**P**	**22 23 24.3**	**+0.4**
	9.7nm,0.9s								
MATP	**Matopo**	**42.22**	**243**	P			**P**	**22 23 32.9**	**+0.2**
	5.0nm,1.0s,baz=72,slow=8.3,SNR=7.3								
AAK	**Ala-Archa**	**46.21**	**6**	*e*P			**P**	**22 24 05.2**	**+0.9**
	34nm,1.8s								
BOSA	**Boshof**	**47.90**	**234**	P			**P**	**22 24 17.4**	**-0.3**
	6.2nm,0.9s,baz=66,slow=8.4,SNR=6.8								
BOSA				LR			LR	22 41 51.3	
	comp=Z,442nm,18.3s,baz=90,slow=33								
GNI	**Garni**	**48.44**	**336**	P			**P**	**22 24 21.8**	**+0.1**
	4.8nm,0.8s,baz=297,slow=4.0,SNR=4.3								
ENH	**Enshi**	**51.73**	**47**	*e*P			**P**	**22 24 47.0**	**+0.3**
	23nm,1.3s								
KBZ	**Khabaz**	**52.19**	**337**	P			**P**	**22 24 50.1**	**+0.3**
	4.7nm,0.8s,baz=150,slow=9.6,SNR=11								
ABKAR	**Akbulak array**	**52.97**	**353**	*e*P			**P**	**22 24 54.7**	**-0.8**
	2.7nm,0.9s								
BRTR	**Keskin Array B**	**53.43**	**327**	P			**P**	**22 24 59.8**	**+0.5**
	1.0nm,0.9s,baz=147,slow=7.0,SNR=4.8								
AKTO	**Aktyubinsk**	**54.38**	**352**	P			**P**	**22 25 05.2**	**-0.6**
	1.3nm,0.6s,baz=169,slow=8.0,SNR=7.8

PMG	**Port Moresby**	**35.08**	**283**	P		**P**	22 24 29.9	**0.0**
	12nm,0.6s,baz=128,slow=7.1,SNR=5.7							
STKA	**Stephens Creek**	**37.41**	**244**	P		**P**	22 24 49.0	**+0.2**
	0.8nm,0.4s,baz=91,slow=11,SNR=6.2							
JAY	**Jayapura**	**43.81**	**289**	P		**P**	22 25 40.4	**+0.5**
	1.1nm,0.5s,baz=98,slow=23,SNR=11							
ASAR	**Alice Springs**	**44.16**	**257**	P		**P**	22 25 41.8	**-0.6**
	4.4nm,0.7s,baz=99,slow=7.6,SNR=51							
ASAR				S		**S**	22 31 31.8	**-2.1**
	1.9nm,0.7s,baz=91,slow=16,SNR=11							
WRA	**Warramunga Arr**	**44.26**	**262**	P		**P**	22 25 42.2	**-0.9**
	3.3nm,0.6s,baz=97,slow=7.9,SNR=48							
WRA				S		**S**	22 31 32.3	**-3.0**
	1.2nm,0.8s,baz=98,slow=13,SNR=3.7							
FITZ	**Fitzroy Crossi**	**52.68**	**263**	P		**P**	22 26 45.3	**-0.2**
	2.0nm,0.5s,baz=90,slow=5.9,SNR=11							
MJAR	**Matsushiro Arr**	**70.20**	**324**	P		**P**	22 28 39.5	**+0.3**
	1.9nm,0.6s,baz=158,slow=5.9,SNR=6.7							
KSRS	**Korea Array**	**76.84**	**319**	P		**P**	22 29 18.4	**+1.6**
	1.3nm,0.7s,baz=126,slow=6.2,SNR=5.1							
TXAR	**Lajitas Array**	**87.44**	**57**	P		**P**	22 30 13.2	**+2.6**
	0.8nm,0.9s,baz=208,slow=5.1,SNR=6.7							
ILAR	**Eielson Array**	**88.60**	**13**	P		**P**	22 30 15.3	**+0.2**
	0.8nm,0.5s,baz=222,slow=5.7,SNR=9.8							
PDAR	**Pinedale Array**	**89.34**	**43**	P		**P**	22 30 20.9	**+1.6**
	0.8nm,0.6s,baz=220,slow=4.4,SNR=9.1							
CMAR	**Chiang Mai Arr**	**89.89**	**290**	P		**P**	22 30 24.1	**+1.9**
	2.7nm,0.8s,baz=118,slow=2.6,SNR=13							
KURBB	**Kurchatov Arra**	**113.99**	**317**	PKP		**PKiKP**	22 35 56.6	**-0.6**
	0.6nm,0.6s,baz=111,slow=1.9,SNR=9.4							
BVAR	**Borovoye Array**	**119.05**	**320**	PKP		**PKPdf**	22 36 06.6	**-0.3**
	2.0nm,0.4s,baz=119,slow=2.1,SNR=21							
SPITS	**Spitsbergen Ar**	**122.07**	**356**	PKP		**PKPdf**	22 36 11.9	**-0.2**
	8.4nm,0.9s,baz=1.9,slow=4.3,SNR=4.3							
ARU	**Arti**	**125.20**	**325**	PKP		**PKPdf**	22 36 19.0	**+0.4**
	2.8nm,0.4s,baz=53,slow=2.0,SNR=4.9							
AKTO	**Aktyubinsk**	**127.02**	**318**	PKP		**PKPdf**	22 36 23.3	**+1.0**
	0.4nm,0.2s,baz=79,slow=4.0,SNR=6.3							
ARCES	**ARCESS Array B**	**129.08**	**349**	PKP		**PKPdf**	22 36 25.6	**-0.1**
	0.8nm,0.4s,baz=45,slow=0.4,SNR=11							
FINES	**FINESS Array B**	**135.90**	**343**	PKP		**PKPdf**	22 36 41.1	**+2.5**
	1.1nm,0.7s,baz=138,slow=2.8,SNR=7.2							
AKASG	**Malin Array Be**	**143.05**	**331**	PKhKP		PKPpre	22 36 49.6	
	5.9nm,0.4s,baz=43,slow=4.4,SNR=36							
SORM	**Soroca**		**145.23**	**328**	⇑*i*P	**PKPbc**	22 36 57.3	**+0.4**
EKA	**Eskdalemuir Ar**	**145.25**	**5**	PKPbc		**PKPbc**	22 36 57.0	**+0.2**
	1.7nm,0.7s,baz=328,slow=2.5,SNR=5.6							
ASF	**Jabal al Asfar**	**146.60**	**297**	PKPbc		**PKPbc**	22 37 02.1	**+0.7**
	2.6nm,0.9s,baz=102,slow=6.3,SNR=7.6							
BRTR	**Keskin Array B**	**146.75**	**312**	PKPbc		**PKPbc**	22 37 01.7	**0.0**
	2.2nm,0.6s,baz=136,slow=4.7,SNR=16							
BURAR	**Bucovina Array**		**147.10**	**330**	⇑*i*P	**PKPbc**	22 37 03.7	**+1.4**
VRI	**Vrincioaia**		**147.58**	**326**	⇑*i*P	**PKPbc**	22 37 03.8	**+0.4**
MMAI	**Mount Meron Ar**	**147.65**	**299**	PKPbc		**PKPbc**	22 37 05.2	**+1.1**
	3.0nm,0.4s,baz=76,slow=7.0,SNR=37							
DOPR	**Dopca**		**148.19**	**328**	⇑*i*P	**PKPbc**	22 37 06.3	**+1.3**
CLL	**Collm**		**148.21**	**346**	⇓*i*PKPbc	**PKPbc**	22 37 05.5	**+0.7**
	comp=Z,7.0nm,0.8s							
CLL					⇑*i*PKPab	**PKPab**	22 37 10.6	**+0.5**
	comp=Z,5.0nm,0.7s							
MLR	**Muntele Rosu**		**148.24**	**327**	⇑*i*P	**PKPbc**	22 37 06.4	**+1.1**
DPC	**Dobruska-Polom**		**148.24**	**342**	*e*PKP	**PKPbc**	22 37 06.1	**+1.1**
DPC					*ex*	x	22 37 11.7	
PVCC	**Panska Ves**		**148.56**	**344**	*e*PKP	**PKPbc**	22 37 06.6	**+0.9**
EIL	**Elat**		**148.68**	**293**	PKPbc	**PKPbc**	22 37 07.0	**+0.3**
	comp=Z,3.0nm,0.6s,baz=299,slow=2.0,SNR=5.3							
VOIR			**148.73**	**327**	⇑*i*P	**PKPbc**	22 37 07.7	**+1.3**
ARR	**Arges**		**148.99**	**328**	⇑*i*P	**PKPbc**	22 37 08.9	**+1.9**
PRU	**Pruhonice**		**149.06**	**344**	*e*PKP	**PKPbc**	22 37 07.7	**+0.8**
GOPC	**GO Pecny, Ondr**		**149.06**	**343**	*e*PKP	**PKPbc**	22 37 07.9	**+0.9**
VRAC	**Vranov**		**149.09**	**341**	⇑*i*P	**PKPab**	22 37 15.3	**+1.5**
LOT	**Lotru**		**149.36**	**329**	⇑*i*P	**PKPbc**	22 37 08.3	**+0.3**
SIRR	**Siria**		**149.72**	**332**	⇑*i*P	**PKPbc**	22 37 09.6	**+0.9**
KHC	**Kasperske Hory**		**150.10**	**344**	*e*PKP	**PKPbc**	22 37 10.4	**+0.9**
KHC					*ex*	x	22 37 19.3	
BZS	**Buzias**		**150.24**	**331**	⇑*i*P	**PKPbc**	22 37 10.2	**+0.3**
GERES	**GERESS Array B**	**150.33**	**344**	PKPbc		**PKPbc**	22 37 10.7	**+0.6**
	comp=Z,1.9nm,0.7s,baz=29,slow=3.0,SNR=22							
CONA	**Conrad Observa**	**150.53**	**340**	*i* PKPbc		**PKPbc**	22 37 11.4	**+0.8**
	comp=Z,2.4nm,0.6s							
MDVR	**Moldovita**		**150.83**	**330**	⇓*i*P	**PKPbc**	22 37 11.7	**+0.4**
MOA	**Molln**		**151.08**	**342**	*i* PKPbc	**PKPbc**	22 37 12.3	**+0.5**
	comp=Z,1.1nm,0.5s							
VTS	**Vitosha**		**151.66**	**325**	⇑*i*P	**PKPbc**	22 37 14.0	**+0.6**
SOKA	**Soboth**		**151.91**	**340**	*i* PKPbc	**PKPbc**	22 37 13.8	**+0.1**
	comp=Z,2.8nm,1.1s							
OBKA	**Obir**		**152.21**	**341**	*i* PKPbc	**PKPbc**	22 37 14.2	**-0.2**
	comp=Z,2.7nm,1.1s							
WATA	**Walderalm**		**152.26**	**345**	*i* PKPbc	**PKPbc**	22 37 14.3	**-0.3**
	comp=Z,2.2nm,0.6s							
WTTA	**Wattenberg**		**152.31**	**345**	*i* PKPbc	**PKPbc**	22 37 15.3	**+0.6**
	comp=Z,6.6nm,1.0s							
MOTA	**Moosalm**		**152.36**	**346**	*i* PKPbc	**PKPbc**	22 37 14.9	**+0.1**
	comp=Z,1.5nm,0.8s							
MYKA	**Terra Mystica**		**152.37**	**342**	*i* PKPbc	**PKPbc**	22 37 14.6	**-0.1**
	comp=Z,1.2nm,0.4s							
ABTA	**Abfaltersbach**		**152.57**	**344**	*i* PKPbc	**PKPbc**	22 37 15.2	**0.0**
	comp=Z,3.1nm,0.6s							
FETA	**Feichten**		**152.75**	**346**	*i* PKPbc	**PKPbc**	22 37 16.4	**+0.7**
	comp=Z,1.8nm,0.8s							
TORD	**Torodi Ar. Bea**		**172.47**	**180**	PKP	**PKPdf**	22 37 26.1	**-1.4**
	comp=Z,0.6nm,0.9s,baz=168,slow=1.3,SNR=3.7							

CSEM 09 22:22:35.6, 29°55N×15°22W, h51km, mb3.8/1, Canary Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
EBAJ	**Bajamar**	**1.41**	**225**	P		Pn	22 22 56.9	-2.0
	2.9nm,0.1s,SNR=8.5							
EBAJ				S		Sn	22 23 14.1	-2.2
	4.8nm,0.1s,SNR=7.9							
CFUE	**Fuerteventura**	**1.44**	**128**	S		Sn	22 23 14.0	-3.1
	1.9nm,0.1s,SNR=7.9							
EOSO	**Osorio**	**1.50**	**191**	P		Pn	22 22 58.9	-1.3
	0.8nm,0.1s,SNR=18							
EOSO				S		Sn	22 23 16.4	-2.3
	1.1nm,0.1s,SNR=7.9							
CFTV	**Fuerteventura**	**1.51**	**138**	S		Sn	22 23 15.4	-3.4
	SNR=7.9							
EGOM	**La Gomera**	**2.23**	**232**	S		Sn	22 23 31.6	-4.8
	0.8nm,0.1s,SNR=7.9							

*LDG **09** 22:23:43.9±0.2, 37°.81N×14°.92E, h10km, Ml3.1/2, Error ellipse: s-maj=4.6km s-min=4.0km az=67.0*
*ROM **09** 22:23:45.5±0.1, 37°.81N×14°.87E, h28km±1km, Ml3.9/22, Error ellipse: s-maj=1.4km s-min=0.8km az=88.0*
*PDG **09** 22:23:45.4±0.5, 37°.79N×14°.88E, h29km, ML3.9/12, Error ellipse: s-maj=0.8km s-min=1.4km az=0.0*
*CSEM **09** 22:23:46.0±0.1, 37°.80N×14°.92E, h20km, ML3.9, Error ellipse: s-maj=3.0km s-min=2.1km az=113.0*

ISC 09 22:23:45.9±0.8, 37°.83N±0°.02×14°.89E±0°.02, h28km±5km, n157, σ1°74/217, 12C-15D, Sicily

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
ESLN	**Serra La Nave**	**0.15**	**152**	Pg		**Pb**	**22 23 51.0**	**-0.6**
ESLN				Sg		**Sb**	**22 23 56.1**	**+0.6**
ESLN	**Serra La Nave**	**0.15**	**152**	Pg		**Pb**	**22 23 51.0**	**-0.6**
ESLN				Sg		**Sb**	**22 23 56.1**	**+0.6**
MUCR	**Ucria**	**0.22**	**357**	Pg		**Pb**	**22 23 51.4**	**-0.8**
MUCR				Sg		**Sb**	**22 23 56.3**	**-0.2**
ECNV	**Catenanuova**	**0.27**	**211**	Pg		**Pb**	**22 23 52.7**	**-0.1**
	19µm,1.2s							
ECNV	**Catenanuova**	**0.27**	**211**	Pg		**Pb**	**22 23 52.7**	**-0.1**
	19µm,1.2s							
GALF	**Gagliano Caste**	**0.28**	**246**	Pg		**Pb**	**22 23 52.4**	**-0.5**
GALF	**Gagliano Caste**	**0.28**	**246**	Pg		**Pb**	**22 23 52.4**	**-0.5**
NOV	**Novara**	**0.28**	**44**	Pg		**Pb**	**22 23 52.8**	**-0.2**
NOV				Sg		**Sb**	**22 23 58.1**	**+0.3**
NOV	**Novara**	**0.28**	**44**	Pg		**Pb**	**22 23 52.8**	**-0.2**
NOV				Sg		**Sb**	**22 23 58.1**	**+0.3**
MMME	**Mongiuffi-Meli**	**0.31**	**69**	Pg		**Pn**	**22 23 53.5**	**-1.1**
	50µm,0.4s							
MMME	**Mongiuffi-Meli**	**0.31**	**69**	Pg		**Pn**	**22 23 53.5**	**-1.1**
	50µm,0.4s							
MSFR	**San Fratello**	**0.31**	**312**	Pg		**Pb**	**22 23 52.7**	**-0.7**
MSFR				Sg		**Sb**	**22 23 58.5**	**0.0**
MSFR	**San Fratello**	**0.31**	**312**	Pg		**Pb**	**22 23 52.7**	**-0.7**
MSFR				Sg		**Sb**	**22 23 58.5**	**0.0**
CAGR	**Agira**	**0.37**	**236**	Pg		**Pb**	**22 23 54.0**	**-0.2**
	12µm,1.0s							
CAGR	**Agira**	**0.37**	**236**	Pg		**Pb**	**22 23 54.0**	**-0.2**
	12µm,1.0s							
MCSR	**Castroreale**	**0.37**	**50**	Pg		**Pb**	**22 23 53.8**	**-0.5**
MCSR				Sg		**Sn**	**22 24 00.7**	**-1.2**
MCSR	**Castroreale**	**0.37**	**50**	Pg		**Pb**	**22 23 53.8**	**-0.5**
MCSR				Sg		**Sn**	**22 24 00.7**	**-1.2**
HLNI	**Lentini**	**0.48**	**181**	Pg		**Pb**	**22 23 55.2**	**-0.6**
HLNI				Sg		**Sb**	**22 24 02.6**	**0.0**
HLNI	**Lentini**	**0.48**	**181**	Pg		**Pb**	**22 23 55.2**	**-0.6**
HLNI				Sg		**Sb**	**22 24 02.6**	**0.0**
MPNC	**Port Mandanici**	**0.49**	**49**	Pg		**Pn**	**22 23 56.1**	**-0.9**
MPNC				Sg		**Sn**	**22 24 04.3**	**-0.3**
MPNC	**Port Mandanici**	**0.49**	**49**	Pg		**Pn**	**22 23 56.1**	**-0.9**
MPNC				Sg		**Sn**	**22 24 04.3**	**-0.3**
MILZ	**Milazzo**	**0.52**	**31**	Pg		**Pb**	**22 23 56.4**	**-0.2**
MILZ				Sg		**Sn**	**22 24 05.0**	**-0.4**
MILZ	**Milazzo**	**0.52**	**31**	Pg		**Pb**	**22 23 56.4**	**-0.2**
MILZ				Sg		**Sn**	**22 24 05.0**	**-0.4**
HCRL	**Carlentini**	**0.55**	**168**	Pg		**Pb**	**22 23 56.1**	**-1.0**
HCRL				Sg		**Sn**	**22 24 04.8**	**-1.4**
HCRL	**Carlentini**	**0.55**	**168**	Pg		**Pb**	**22 23 56.1**	**-1.0**
HCRL				Sg		**Sn**	**22 24 04.8**	**-1.4**
VPL	**Vulcano Piano**	**0.56**	**8**	Pg		**Pb**	**22 23 56.8**	**-0.4**
VPL				Sg		**Sn**	**22 24 05.9**	**-0.4**
VPL	**Vulcano Piano**	**0.56**	**8**	Pg		**Pb**	**22 23 56.8**	**-0.4**
VPL				Sg		**Sn**	**22 24 05.9**	**-0.4**
HAGA	**Augusta**	**0.58**	**158**	Pg		**Pb**	**22 23 56.8**	**-0.7**
HAGA				Sg		**Sn**	**22 24 05.7**	**-1.1**
	4µm,0.7s							
HAGA	**Augusta**	**0.58**	**158**	Pg		**Pb**	**22 23 56.8**	**-0.7**
HAGA				Sg		**Sn**	**22 24 05.7**	**-1.1**
	4µm,0.7s							
LLI	**Lipari**	**0.62**	**5**	Pg		**Pb**	**22 23 58.0**	**-0.2**
	16µm,0.6s							
LLI	**Lipari**	**0.62**	**5**	Pg		**Pb**	**22 23 58.0**	**-0.2**
	16µm,0.6s							
AGST	**Augusta-Monte**	**0.63**	**154**	Pg		**Pb**	**22 23 57.4**	**-0.9**
AGST				Sg		**Sn**	**22 24 07.0**	**-1.0**
	4µm,0.9s							
AGST	**Augusta-Monte**	**0.63**	**154**	Pg		**Pb**	**22 23 57.4**	**-0.9**
AGST				Sg		**Sn**	**22 24 07.0**	**-1.0**
	4µm,0.9s							
MSRU	**Castanea**	**0.66**	**48**	Pg		**Pn**	**22 23 58.9**	**-0.4**
	9µm,0.4s							
MSRU	**Castanea**	**0.66**	**48**	Pg		**Pn**	**22 23 58.9**	**-0.4**
	9µm,0.4s							
HVZN	**Vizzini**	**0.66**	**192**	Pg		**Pb**	**22 23 57.9**	**-1.0**
	5µm,0.6s							
HVZN	**Vizzini**	**0.66**	**192**	Pg		**Pb**	**22 23 57.9**	**-1.0**
	5µm,0.6s							
RESU	**Resuttano**	**0.68**	**255**	Pg		**Pn**	**22 23 59.6**	**-0.1**
	2µm,0.6s							
RESU	**Resuttano**	**0.68**	**255**	Pg		**Pn**	**22 23 59.6**	**-0.1**
	2µm,0.6s							
SSY	**Sortino**	**0.69**	**168**	Pg		**Pb**	**22 23 58.3**	**-1.0**
SSY				Sg		**Sn**	**22 24 09.2**	**-0.3**
	7µm,0.9s							
SSY	**Sortino**	**0.69**	**168**	Pg		**Pb**	**22 23 58.3**	**-1.0**
SSY				Sg		**Sn**	**22 24 09.2**	**-0.3**
	7µm,0.9s							
IFIL	**Filicudi I Eol**	**0.78**	**341**	Pg		**Pb**	**22 24 00.2**	**-0.7**
IFIL				Sg		**Sn**	**22 24 11.9**	**+0.2**
IFIL	**Filicudi I Eol**	**0.78**	**341**	Pg		**Pb**	**22 24 00.2**	**-0.7**
IFIL				Sg		**Sn**	**22 24 11.9**	**+0.2**
IACL	**Alicudi**	**0.82**	**330**	Pg		**Pn**	**22 24 00.7**	**-0.9**
IACL				Sg		**Sn**	**22 24 13.6**	**+0.8**
	6µm,0.5s							
IACL	**Alicudi**	**0.82**	**330**	Pg		**Pn**	**22 24 00.7**	**-0.9**
IACL				Sg		**Sn**	**22 24 13.6**	**+0.8**
	6µm,0.5s							
MSCL	**Scilla**	**0.82**	**60**	Pg		**Pn**	**22 24 01.7**	**+0.1**
	7µm,0.6s							
MSCL	**Scilla**	**0.82**	**60**	Pg		**Pn**	**22 24 01.7**	**+0.1**
	7µm,0.6s							
HMDC	**Modica**	**0.87**	**185**	Pg		**Pn**	**22 24 01.2**	**-1.1**
HMDC				Sg		**Sn**	**22 24 14.0**	**0.0**
	6µm,1.1s							
HMDC	**Modica**	**0.87**	**185**	Pg		**Pn**	**22 24 01.2**	**-1.1**
HMDC				Sg		**Sn**	**22 24 14.0**	**0.0**
	6µm,1.1s							
HAVL	**Avola**	**0.89**	**168**	Pg		**Pn**	**22 24 01.5**	**-1.0**
	2µm,0.7s							
HAVL	**Avola**	**0.89**	**168**	Pg		**Pn**	**22 24 01.5**	**-1.0**
	2µm,0.7s							
MPAZ	**Palizzi**	**0.90**	**82**	Pg		**Pb**	**22 24 03.0**	**+0.2**
	2µm,0.6s							
MPAZ	**Palizzi**	**0.90**	**82**	Pg		**Pb**	**22 24 03.0**	**+0.2**
	2µm,0.6s							
ALJA	**Alia**	**0.90**	**265**	Pg		**Pb**	**22 24 03.4**	**+0.5**
	6µm,1.2s							
ALJA	**Alia**	**0.90**	**265**	Pg		**Pb**	**22 24 03.4**	**+0.5**
	6µm,1.2s							
CEL	**Celeste**	**0.91**	**61**	Pg		**Pb**	**22 24 03.0**	**0.0**
	2µm,0.4s							
CEL	**Celeste**	**0.91**	**61**	Pg		**Pb**	**22 24 03.0**	**0.0**
	2µm,0.4s							
SOI	**Samo**	**0.96**	**75**	Pg		**Pb**	**22 24 03.9**	**+0.1**
	2µm,0.6s							
SOI	**Samo**	**0.96**	**75**	Pg		**Pb**	**22 24 03.9**	**+0.1**
	2µm,0.6s							
JOPP	**Joppolo**	**1.11**	**45**	Pg		**Pn**	**22 24 05.4**	**-0.1**
	2µm,0.4s							
JOPP	**Joppolo**	**1.11**	**45**	Pg		**Pn**	**22 24 05.4**	**-0.1**
	2µm,0.4s							
FAVR	**Favara**	**1.12**	**240**	Pg		**Pb**	**22 24 06.8**	**+0.2**
	3µm,1.3s							
FAVR	**Favara**	**1.12**	**240**	Pg		**Pb**	**22 24 06.8**	**+0.2**
	3µm,1.3s							
CORL	**Corleone**	**1.25**	**274**	Pg		**Pn**	**22 24 08.1**	**+0.5**
	2µm,1.5s							
CORL	**Corleone**	**1.25**	**274**	Pg		**Pn**	**22 24 08.1**	**+0.5**
	2µm,1.5s							
PLAC	**Placanica**	**1.37**	**63**	Pg		**Pb**	**22 24 10.8**	**-0.1**
	2µm,0.6s							
PLAC	**Placanica**	**1.37**	**63**	Pg		**Pb**	**22 24 10.8**	**-0.1**
	2µm,0.6s							
TAR1	**Taranto**	**3.28**	**34**	*e*Pn		**Pn**	**22 24 36.3**	**+1.0**
TAR1				Sn		**Sn**	**22 25 15.4**	**+2.0**
SG1	**Sgolgore (BA)**	**3.32**	**24**	*e*Pn		**Pn**	**22 24 37.0**	**+1.1**
SG1				Sn		**Sn**	**22 25 16.1**	**+1.7**
CDT	**Castel del Mon**	**3.42**	**18**	*e*Pn		**Pn**	**22 24 38.7**	**+1.3**
BAI	**Bari**	**3.62**	**25**	*e*Pn		**Pn**	**22 24 40.9**	**+0.9**
MS1	**Monte Sant'Ang**	**3.96**	**12**	*e*Pn		**Pn**	**22 24 46.4**	**+1.6**
TIR	**Tirane**	**5.21**	**46**	⇑*i*P		Pn	22 25 06.5	+4.6
TIR	**Tirane**	**5.21**	**46**	⇑*i*P		Pn	22 25 06.5	+4.6
TIR				S		**Sn**	**22 26 01.2**	**+0.1**
ULC	**Ulcinj**	**5.32**	**38**	⇓*i*Pn		**Pn**	**22 25 04.3**	**+0.9**
ULC				*e*Sn		**Sn**	**22 26 03.8**	**0.0**
ULC	**Ulcinj**	**5.32**	**38**	⇓*i*Pn		**Pn**	**22 25 04.3**	**+0.9**
ULC				*e*Sn		**Sn**	**22 26 03.8**	**0.0**
HCY	**Herceg Novi**	**5.38**	**30**	⇓*i*Pn		**Pn**	**22 25 04.1**	**-0.1**
HCY				*e*Sn		**Sn**	**22 26 05.0**	**-0.2**
HCY	**Herceg Novi**	**5.38**	**30**	⇓*i*Pn		**Pn**	**22 25 04.1**	**-0.1**
HCY				*e*Sn		**Sn**	**22 26 05.0**	**-0.2**
BUM	**Brajici-Budva**	**5.42**	**33**	*e*Pn		**Pn**	**22 25 05.4**	**+0.5**
BUM				*e*Sn		**Sn**	**22 26 07.0**	**+0.6**
BUM	**Brajici-Budva**	**5.42**	**33**	*e*Pn		**Pn**	**22 25 05.4**	**+0.5**
BUM				*e*Sn		**Sn**	**22 26 07.0**	**+0.6**
DRME	**Dracevica, Mon**	**5.46**	**36**	⇓*i*Pn		**Pn**	**22 25 05.9**	**+0.5**
DRME				*e*Sn		**Sn**	**22 26 07.4**	**+0.1**
DRME	**Dracevica, Mon**	**5.46**	**36**	⇓*i*Pn		**Pn**	**22 25 05.9**	**+0.5**
DRME				*e*Sn		**Sn**	**22 26 07.4**	**+0.1**
TREB	**Trebinje**	**5.56**	**27**	*e*Pn		**Pn**	**22 25 07.3**	**+0.6**
CEME	**Cevo**	**5.63**	**32**	*e*Pn		**Pn**	**22 25 07.6**	**-0.2**
CEME				*e*Sn		**Sn**	**22 26 11.0**	**-0.6**
CEME	**Cevo**	**5.63**	**32**	*e*Pn		**Pn**	**22 25 07.6**	**-0.2**
CEME				*e*Sn		**Sn**	**22 26 11.0**	**-0.6**
PDG	**Podgorica**	**5.69**	**35**	⇑*i*P		Pn	22 25 09.0	+0.6
PDG	**Podgorica**	**5.69**	**35**	S		Sn	22 26 10.0	-2.8
PDG	**Podgorica**	**5.69**	**35**	⇑*i*P		**Pn**	**22 25 09.0**	**+0.6**
PDG				*e*Sn		**Sn**	**22 26 12.4**	**-0.4**
TTG	**Podgorica**	**5.69**	**35**	⇑*i*Pn		**Pn**	**22 25 09.0**	**+0.6**
TTG				*e*Sn		**Sn**	**22 26 12.4**	**-0.4**
BRY	**Bratogost**	**5.79**	**28**	⇓*i*Pn		**Pn**	**22 25 10.5**	**+0.6**
BRY				*e*Sn		**Sn**	**22 26 16.1**	**+0.7**
BRY	**Bratogost**	**5.79**	**28**	⇓*i*Pn		**Pn**	**22 25 10.5**	**+0.6**
BRY				*e*Sn		**Sn**	**22 26 16.1**	**+0.7**
NKME	**Niksic**	**5.83**	**31**	*e*Pn		**Pn**	**22 25 11.4**	**+0.9**
NKME				*e*Sn		**Sn**	**22 26 16.8**	**+0.4**
NKME	**Niksic**	**5.83**	**31**	*e*Pn		**Pn**	**22 25 11.4**	**+0.9**
NKME				*e*Sn		**Sn**	**22 26 16.8**	**+0.4**
NKY	**Niksic**	**5.89**	**31**	⇓*i*Pn		**Pn**	**22 25 12.8**	**+1.5**
NKY				*e*Sn		**Sn**	**22 26 18.4**	**+0.6**
NKY	**Niksic**	**5.89**	**31**	⇓*i*Pn		**Pn**	**22 25 12.8**	**+1.5**
NKY				*e*Sn		**Sn**	**22 26 18.4**	**+0.6**
PVY	**Plav**	**6.14**	**38**	⇓*i*Pn		**Pn**	**22 25 16.0**	**+1.2**
PVY				*e*Sn		**Sn**	**22 26 25.0**	**+0.8**
PVY	**Plav**	**6.14**	**38**	⇓*i*Pn		**Pn**	**22 25 16.0**	**+1.2**
PVY				*e*Sn		**Sn**	**22 26 25.0**	**+0.8**
UPM	**Unac-Piva**	**6.18**	**28**	*e*Pn		**Pn**	**22 25 16.6**	**+1.2**
UPM				*e*Sn		**Sn**	**22 26 25.8**	**+0.6**
UPM	**Unac-Piva**	**6.18**	**28**	*e*Pn		**Pn**	**22 25 16.6**	**+1.2**
UPM				*e*Sn		**Sn**	**22 26 25.8**	**+0.6**
BEY	**Berane**	**6.33**	**36**	⇑*i*Pn		**Pn**	**22 25 18.8**	**+1.5**
BEY				*e*Sn		**Sn**	**22 26 28.6**	**0.0**
IVA	**Berane**	**6.33**	**36**	⇑*i*Pn		**Pn**	**22 25 18.8**	**+1.5**
IVA				*e*Sn		**Sn**	**22 26 28.6**	**0.0**
PLE	**Pljevlja**	**6.48**	**31**	⇑*i*Pn		**Pn**	**22 25 21.0**	**+1.6**
PLE				*e*Sn		**Sn**	**22 26 33.0**	**+0.6**
PLE	**Pljevlja**	**6.48**	**31**	⇑*i*Pn		**Pn**	**22 25 21.0**	**+1.6**
PLE				*e*Sn		**Sn**	**22 26 33.0**	**+0.6**
PGF	**Pioggiola**	**6.52**	**318**	*e*P		**Pn**	**22 25 23.1**	**+3.1**
PGF				*e*Sn		**Sn**	**22 26 25.9**	**-7.6**
	3.3nm,0.5s							
PGF	**Pioggiola**	**6.52**	**318**	*e*P		**Pn**	**22 25 23.1**	**+3.1**
SJES	**Sjenica**	**6.67**	**34**	*e*Pn		**Pn**	**22 25 24.5**	**+2.5**
UDBI	**Udbina**	**6.73**	**5**	*e*Pn		**Pn**	**22 25 26.7**	**+3.9**
UDBI						Sn	**22 26 41.4**	**+2.9**
NVLJ	**Novalja**	**6.73**	**360**	*i* Pn		**Pn**	**22 25 25.5**	**+2.8**
NVLJ						Sn	**22 26 43.3**	**+4.9**
NVLJ	**Novalja**	**6.73**	**360**	*i* Pn		**Pn**	**22 25 25.5**	**+2.8**
BBLS	**Lazići**	**6.94**	**28**	*e*Pn		**Pn**	**22 25 26.8**	**+1.1**
IVAS	**Ivanjica**	**7.00**	**33**	*e*Pn		**Pn**	**22 25 28.0**	**+1.5**
BLY	**Banja Luka**	**7.13**	**13**	*e*Pn		**Pn**	**22 25 30.5**	**+2.3**
DIVS	**Divibare**	**7.36**	**30**	*e*Pn		**Pn**	**22 25 32.1**	**+0.6**
GRUS	**Gruza**	**7.50**	**34**	*e*Pn		**Pn**	**22 25 34.4**	**+1.2**
TEKS	**Tekeris**	**7.57**	**26**	*e*Pn		**

PATS	**Pohnpei**	**15.07**	**110**	*e*Pn		**Pn**	**22 37 04.6**	**-0.7**
	248nm,1.6s								
PATS				*e*Sn		**Sn**	**22 39 43.9**	**-8.0**
FAKI	**Fak Fak**	**19.11**	**219**	*e*P		**P**	**22 37 52.7**	**-2.6**
	36nm,1.2s								
JOW	**Kunigami**	**20.72**	**317**	P		Pn	22 38 14.2	-0.9	
	24nm,1.1s,baz=138,slow=15,SNR=3.7								
JOW	**Kunigami**	**20.72**	**317**	*e*P		**P**	**22 38 09.9**	**-2.8**	
	56nm,1.4s								
PMG	**Port Moresby**	**21.76**	**172**	*e*P		**P**	**22 38 24.0**	**0.0**	
PMG				pmax	pmax				
	comp=Z,20nm,0.9s								
PMG	**Port Moresby**	**21.76**	**172**	*e*P		**P**	**22 38 24.0**	**0.0**	
	comp=Z,20nm,0.9s								
TGY	**Tagaytay City**	**22.57**	**277**	LR		LR	22 47 53.3		
	comp=Z,158nm,19.0s,baz=6.5,slow=38								
H11S3	**WAKE ISLAND Hy**	**22.68**	**71**	T		T	23 02 20.0		
	baz=258,slow=75,SNR=34								
H11S1	**WAKE ISLAND Hy**	**22.69**	**71**	T		T	23 02 12.3		
	baz=258,slow=75,SNR=34								
H11S2	**WAKE ISLAND Hy**	**22.69**	**71**	T		T	23 02 23.6		
	baz=258,slow=75,SNR=42								
H11N1	**WAKE ISLAND Hy**	**23.15**	**68**	T		T	23 02 47.1		
	baz=255,slow=75,SNR=65								
H11N2	**WAKE ISLAND Hy**	**23.16**	**68**	T		T	23 02 36.8		
	baz=255,slow=75,SNR=54								
H11N3	**WAKE ISLAND Hy**	**23.17**	**68**	T		T	23 02 39.3		
	baz=255,slow=75,SNR=60								
JNU	**Nakatsue**	**24.00**	**332**	P		**P**	**22 38 47.1**	**+0.1**	
	comp=Z,4.5nm,0.6s,baz=94,slow=6.0,SNR=6.1								
JNU	**Nakatsue**	**24.00**	**332**	*e*P		**P**	**22 38 43.7**	**-3.3**	
	comp=Z,5.1nm,0.8s								
SSLB	**Suanglung**	**24.72**	**301**	*e*P		**P**	**22 38 49.1**	**-4.7**	
	comp=Z,19nm,1.1s								
MJAR	**Matsushiro Arr**	**24.73**	**349**	P		**P**	**22 38 52.3**	**-1.4**	
	comp=Z,1.3nm,0.5s,baz=167,slow=9.5,SNR=7.7								
MAJO	**Matsushiro**	**24.73**	**349**	*e*P		**P**	**22 38 51.9**	**-1.7**	
MAJO				pmax	pmax				
	comp=Z,7.0nm,0.7s								
MAJO	**Matsushiro**	**24.73**	**349**	*e*P		**P**	**22 38 51.9**	**-1.7**	
	comp=Z,7.1nm,0.7s								
COEN	**Coen**	**26.08**	**182**	*e*P		**P**	**22 39 06.5**	**+0.5**	
	comp=Z,67nm,2.0s								
HNR	**Honiara**	**26.73**	**143**	*e*P		**P**	**22 39 11.4**	**-0.5**	
HNR				pmax	pmax				
	comp=Z,165nm,0.9s								
HNR	**Honiara**	**26.73**	**143**	*e*P		**P**	**22 39 11.4**	**-0.5**	
	comp=Z,165nm,0.9s								
KKM	**Kota Kinabalu**	**28.15**	**260**	*e*P		**P**	**22 39 22.4**	**-2.5**	
	comp=Z,26nm,1.1s								
KSRS	**Korea Array**	**28.94**	**333**	P		**P**	**22 39 32.1**	**+0.7**	
	comp=Z,2.4nm,1.0s,baz=139,slow=9.3,SNR=4.8								
KSRS				PcP		**PcP**	**22 42 40.9**	**+0.6**	
	comp=Z,0.5nm,0.3s,baz=213,slow=3.1,SNR=4.9								
KSAR	**Wonju Array Be**	**28.94**	**333**	P		**P**	**22 39 32.2**	**+0.7**	
KSAR							22 42 40.9		
KSAR	**Wonju Array Be**	**28.94**	**333**	P		**P**	**22 39 32.1**	**+0.7**	
KSAR				PcP		**PcP**	**22 42 40.9**	**+0.5**	
SOEI	**Soe**	**29.41**	**223**	*e*P		P	22 39 42.3	+6.3	
	comp=Z,10nm,0.6s								
WRAB	**Tennant Creek**	**33.40**	**197**	*e*P		**P**	**22 40 13.2**	**+2.3**	
WRAB				pmax	pmax				
	comp=Z,5.0nm,0.5s								
WRAB	**Tennant Creek**	**33.40**	**197**	*e*P		**P**	**22 40 13.2**	**+2.3**	
	comp=Z,5.4nm,0.5s								
WB2	**Warramunga Arr**	**33.41**	**197**	*e*P		**P**	**22 40 13.3**	**+2.3**	
	comp=Z,8.2nm,0.8s								
WRA	**Warramunga Arr**	**33.41**	**197**	P		**P**	**22 40 13.3**	**+2.2**	
	comp=Z,4.9nm,0.6s,baz=21,slow=9.9,SNR=72								
WRA				PcP		**PcP**	**22 42 54.8**	**+2.3**	
	comp=Z,1.6nm,0.9s,baz=4.2,slow=3.0,SNR=4.6								
WRA				LR		LR	22 54 24.5		
	comp=Z,157nm,19.2s,baz=110,slow=37								
CN2	**Changchun**	**35.27**	**336**	*e*P		**P**	**22 40 28.1**	**+1.2**	
CN2				pmax	pmax				
	comp=Z,10.0nm,0.4s								
ENH	**Enshi**	**36.65**	**305**	*e*P		**P**	**22 40 35.2**	**-3.7**	
	comp=Z,16nm,1.4s								
BJI	**Beijing**	**36.99**	**323**	P		**P**	**22 40 40.8**	**-0.9**	
BJI				sP		**sP**	**22 40 50.5**	**+1.6**	
BJI				S		**S**	**22 46 26.8**	**+0.3**	
BJI				pmax	pmax				
	comp=Z,8.0nm,0.8s								
BJI				LR		LR			
	comp=Z,240nm,17.3s								
BJI				LR		LR			
	comp=Z,340nm,14.9s								
BJI				LR		LR			
	comp=Z,240nm,20.7s								
AS01	**Alice Springs**	**37.06**	**195**	*e*P		**P**	**22 40 44.7**	**+2.2**	
ASAR	**Alice Springs**	**37.07**	**196**	P		**P**	**22 40 44.9**	**+2.3**	
	comp=Z,2.1nm,0.6s,baz=18,slow=11,SNR=37								
ASAR				PcP		**PcP**	**22 43 06.0**	**+2.8**	
	comp=Z,2.2nm,0.9s,baz=13,slow=3.8,SNR=9.0								
ASAR				LR		LR	22 56 19.5		
	comp=Z,230nm,20.0s,baz=34,slow=37								
GYA	**Guiyang**	**37.83**	**297**	P		**P**	**22 40 49.8**	**+0.6**	
GYA				pmax	pmax				
	comp=Z,10.0nm,1.0s								
XAN	**Xi'an**	**38.60**	**310**	P		**P**	**22 40 54.6**	**-0.9**	
XAN				pP	sP		22 41 02.2	-0.5	
XAN				pmax	pmax				
	comp=Z,5.0nm,1.1s								
XAN				pmax	pmax				
	comp=Z,310nm,6.6s								
HHC	**Hu-ho-hao-te**	**40.26**	**321**	*e*P		**P**	**22 41 09.4**	**+0.1**	
HHC				pmax	pmax				
	comp=Z,10.0nm,0.9s								
HHC				pmax	pmax				
	comp=Z,290nm,8.6s								
KMI	**Kunming**	**40.99**	**294**	P		**P**	**22 41 16.6**	**+0.8**	
KMI				pP	sP		22 41 24.7	+1.7	
KMI				pmax	pmax				
	comp=Z,4.0nm,1.1s								
CD2	**Chengdu**	**41.51**	**303**	P		**P**	**22 41 19.0**	**-0.7**	
CD2				sP	sP		22 41 28.2	+1.2	
CD2				pmax	pmax				
	comp=Z,20nm,0.8s								
LZH	**Lanzhou**	**43.23**	**310**	*e*P		**P**	**22 41 32.3**	**-1.5**	
LZH				pP	pP		22 41 36.2	-2.8	
LZH				sP	sP		22 41 38.3	-2.8	
LZH				pmax	pmax				
	comp=Z,12nm,1.0s								
LZH				pmax	pmax				
	comp=Z,56nm,4.5s								
LZH				LR	LR				
	comp=Z,150nm,12.5s								
LZH				LR	LR				
	comp=Z,230nm,15.3s								
LZH				LR	LR				
	comp=Z,180nm,16.3s								
CMAR	**Chiang Mai Arr**	**43.84**	**284**	P		**P**	**22 41 38.7**	**0.0**	
	comp=Z,1.4nm,0.4s,baz=86,slow=5.6,SNR=9.2								
CMAR				PcP		**PcP**	**22 43 26.6**	**+1.4**	
	comp=Z,1.5nm,0.7s,baz=84,slow=2.5,SNR=5.2								
CMAR				LR		LR	22 59 12.2		
	comp=Z,115nm,19.9s,baz=345,slow=35								
STKA	**Stephens Creek**	**43.96**	**183**	P		**P**	**22 41 41.6**	**+2.2**	
	comp=Z,1.6nm,0.8s,baz=18,slow=6.4,SNR=2.8								
STKA	**Stephens Creek**	**43.96**	**183**	*e*P		**P**	**22 41 40.1**	**+0.7**	
STKA				pmax	pmax				
	comp=Z,9.0nm,1.9s								
STKA	**Stephens Creek**	**43.96**	**183**	*e*P		**P**	**22 41 40.1**	**+0.7**	
	comp=Z,9.0nm,1.9s								
BKNI	**Bangkinang**	**44.28**	**258**	*e*P		**P**	**22 41 40.8**	**-1.5**	
	comp=Z,40nm,0.5s								
XMIS	**Christmas Isla**	**44.33**	**241**	*e*P		**P**	**22 41 41.1**	**-1.6**	
	comp=Z,307nm,1.5s								
BBOO	**Buckleboo**	**45.48**	**189**	*e*P		**P**	**22 41 51.7**	**+0.3**	
	comp=Z,73nm,1.5s								
FORT	**Forrest**	**45.48**	**199**	*e*P		**P**	**22 41 51.8**	**+0.3**	
	comp=Z,173nm,0.8s								
SONM	**Songino Array**	**47.35**	**326**	P		**P**	**22 42 05.8**	**-0.5**	
	comp=Z,0.9nm,0.6s,baz=142,slow=6.3,SNR=5.3								
SONM				PcP		**PcP**	**22 43 37.2**	**+0.2**	
	comp=Z,1.6nm,0.6s,baz=150,slow=3.2,SNR=7.6								
SONA1	**Songino Array**	**47.35**	**326**	*e*P		**P**	**22 42 04.8**	**-1.5**	
CAN	**Canberra**	**47.57**	**175**	*e*P		**P**	**22 42 05.4**	**-2.5**	
CAN				pmax	pmax				
	comp=Z,137nm,1.9s								
CAN	**Canberra**	**47.57**	**175**	*e*P		**P**	**22 42 05.4**	**-2.5**	
	comp=Z,137nm,1.9s								
LSA	**Lhasa**	**51.89**	**298**	*e*P		**P**	**22 42 41.0**	**-0.6**	
LSA				pmax	pmax				
	comp=Z,3.0nm,0.4s								
LSA	**Lhasa**	**51.89**	**298**	*e*P		**P**	**22 42 41.0**	**-0.6**	
	comp=Z,3.0nm,0.4s								

ATKA	**Atka Island**	**52.03**	**31**	*e*P		**P**	**22 42 38.1**	**-3.6**	
	comp=Z,51nm,1.1s								
JIRN	**Jiri**	**56.03**	**295**	*e*P		**P**	**22 43 10.8**	**-0.9**	
	comp=Z,136nm,0.8s								
GUN	**Gumba**	**56.32**	**295**	*e*P		**P**	**22 43 12.5**	**-1.3**	
PKI	**Pulchoki**	**56.71**	**295**	*e*P		**P**	**22 43 15.6**	**-1.0**	
KKN	**Kakani**	**56.84**	**295**	*e*P		**P**	**22 43 16.3**	**-1.1**	
DMN	**Daman**	**56.98**	**295**	*e*P		**P**	**22 43 17.5**	**-0.9**	
	comp=Z,19nm,1.0s								
GKN	**Gorkha**	**57.42**	**295**	*e*P		**P**	**22 43 20.2**	**-1.2**	
	comp=Z,32nm,1.0s								
WMQ	**Urumqi**	**57.47**	**314**	P		**P**	**22 43 21.7**	**+0.3**	
WMQ				pP		sP	22 43 29.1	+0.4	
WMQ				sP		pP	22 43 32.1	+5.4	
WMQ				pmax	pmax				
	comp=Z,9.0nm,0.7s								
WMQ				pmax	pmax				
	comp=Z,110nm,5.3s								
WMQ				LR	LR				
	comp=Z,220nm,17.5s								
WMQ				LR	LR				
	comp=Z,200nm,14.3s								
WMQ				LR	LR				
	comp=Z,100nm,18.9s								
KOLN	**Koldanda**	**58.33**	**295**	*e*P		**P**	**22 43 26.7**	**-1.1**	
	comp=Z,12nm,0.8s								
PYUN	**Piuthan**	**58.88**	**295**	*e*P		**P**	**22 43 30.5**	**-1.2**	
	comp=Z,45nm,1.0s								
MK01	**Makanchi Array**	**61.87**	**317**	*e*P		**P**	**22 43 51.1**	**-0.5**	
MK31	**Makanchi Array**	**61.88**	**317**	*e*P		**P**	**22 43 51.8**	**+0.1**	
MK31	**Makanchi Array**	**61.88**	**317**	*e*P		**P**	**22 43 51.8**	**+0.1**	
MKAR	**Makanchi Array**	**61.88**	**317**	*e*P		**P**	**22 43 55.2**	**+3.5**	
MKAR				pmax	pmax				
	comp=Z,10.0nm,0.8s								
MKAR	**Makanchi Array**	**61.88**	**317**	*e*P		**P**	**22 43 55.1**	**+3.5**	
	comp=Z,9.9nm,0.8s								
MAKZ	**Makanchi**	**62.10**	**317**	*e*P		**P**	**22 43 53.0**	**-0.1**	
MAKZ				pmax	pmax				
	comp=Z,4.0nm,0.8s								
MAKZ	**Makanchi**	**62.10**	**317**	*e*P		**P**	**22 43 53.0**	**-0.1**	
	comp=Z,4.2nm,0.8s								
ZAA0	**Zalesovo Array**	**62.23**	**325**	*e*P		**P**	**22 43 52.6**	**-1.2**	
ZAA0				*e*PcP		**PcP**	**22 44 32.9**	**-0.8**	
ZALV	**Zalesovo Beam**	**62.23**	**325**	P		**P**	**22 43 53.3**	**-0.5**	
	comp=Z,1.7nm,0.6s,baz=107,slow=6.8,SNR=7.9								
ZALV				PcP		**PcP**	**22 44 32.8**	**-0.9**	
	comp=Z,2.7nm,0.6s,baz=130,slow=3.8,SNR=7.7								
PALK	**Pallekele**	**62.51**	**272**	LR		LR	23 10 20.0		
	comp=Z,143nm,18.9s,baz=116,slow=35								
KURK	**Kurchatov**	**65.07**	**320**	*e*P		**P**	**22 44 11.9**	**-0.7**	
KURK				pmax	pmax				
	comp=Z,42nm,0.8s								
KURK	**Kurchatov**	**65.07**	**320**	*e*P		**P**	**22 44 11.9**	**-0.7**	
	comp=Z,42nm,0.8s								
KURBB	**Kurchatov Arra**	**65.11**	**320**	P		**P**	**22 44 12.2**	**-0.7**	
	comp=Z,4.4nm,0.7s,baz=103,slow=6.8,SNR=39								
KSH	**Kashi**	**65.41**	**308**	*e*P		**P**	**22 44 17.3**	**+2.1**	
KSH				pP		sP	22 44 25.6	+3.0	
KSH				PcP		**PcP**	**22 44 48.6**	**+1.4**	
KSH				PP		**PP**	**22 46 44.5**	**+5.4**	
KSH				S		**S**	**22 52 58.7**	**-0.5**	
KSH				sS		sS	22 53 11.6	+3.5	
KSH				SS		**SS**	**22 57 14.7**	**+2.2**	
KSH				pmax	pmax				
	comp=Z,3.0nm,0.8s								
KSH				pmax	pmax				
	comp=Z,35nm,4.6s								
KSH				LR	LR				
	comp=Z,72nm,4.1s								
KSH				LR	LR				
	comp=Z,130nm,5.4s								
KSH				LR	LR				
	comp=Z,170nm,14.7s								
CAST	**Castle Rocks**	**67.52**	**26**	*e*P		**P**	**22 44 30.0**	**+1.8**	
	comp=Z,8.8nm,0.6s								
COLD	**Coldfoot**	**69.46**	**22**	*e*P		**P**	**22 44 41.7**	**+1.5**	
	comp=Z,3.1nm,0.7s								
KKAR	**Karatay Array**	**69.71**	**312**	*e*P		**P**	**22 44 42.3**	**+0.1**	
KKAR				pmax	pmax				
	comp=Z,18nm,0.8s								
KKAR	**Karatay Array**	**69.71**	**312**	*e*P		**P**	**22 44 42.3**	**+0.1**	
	comp=Z,18nm,0.8s								
IL1	**Eielson Array**	**70.09**	**25**	*e*P		**P**	**22 44 41.0**	**-3.1**	
ILAR	**Eielson Array**	**70.09**	**25**	P		**P**	**22 44 43.4**	**-0.7**	
	comp=Z,2.3nm,0.5s,baz=250,slow=5.7,SNR=31								
ILB	**Eielson Array**	**70.09**	**25**	*e*P		**P**	**22 44 43.4**	**-0.7**	
TOLK	**Toolik Lake Re**	**70.12**	**21**	P		**P**	**22 44 45.1**	**+0.8**	
	baz=253								
BVAR	**Borovoye Array**	**70.46**	**322**	P		**P**	**22 44 45.9**	**-0.7**	
	comp=Z,6.1nm,0.5s,baz=105,slow=8.1,SNR=67								
BRVK	**Borovoye**	**70.53**	**322**	*e*P		**P**	**22 44 46.5**	**-0.5**	
BRVK				pmax	pmax				
	comp=Z,15nm,0.6s								
BRVK	**Borovoye**	**70.53**	**322**	*e*P		**P**	**22 44 46.5**	**-0.5**	
	comp=Z,15nm,0.6s								
KBL	**Kabul**	**70.85**	**302**	*e*P		**P**	**22 44 49.3**	**-0.3**	
KBL				pmax	pmax				
	comp=Z,5.0nm,0.9s								
KBL	**Kabul**	**70.85**	**302**	*e*P		**P**	**22 44 49.3**	**-0.3**	
	comp=Z,5.0nm,0.9s								
DOT	**Dot Lake**	**71.06**	**27**	*e*P		**P**	**22 44 50.2**	**+0.1**	
	comp=Z,8.2nm,0.8s								
INK	**Inuvik**	**75.88**	**22**	P		**P**	**22 45 18.3**	**0.0**	
	comp=Z,3.2nm,0.8s,baz=250,slow=8.3,SNR=5.6								
INK	**Inuvik**	**75.88**	**22**	*e*P		**P**	**22 45 18.3**	**0.0**	
INK				pmax	pmax				
	comp=Z,5.0nm,0.8s								
INK	**Inuvik**	**75.88**	**22**	*e*P		**P**	**22 45 18.3**	**0.0**	
	comp=Z,4.6nm,0.8s								
ABKAR	**Akbulak array**	**76.98**	**318**	*e*P		**P**	**22 45 23.9**	**-1.0**	
	comp=Z,25nm,0.6s								
ARU	**Arti**	**77.39**	**325**	P		**P**	**22 45 26.7**	**-0.3**	
	comp=Z,3.7nm,0.6s,baz=92,slow=4.6,SNR=11								
ARU	**Arti**	**77.39**	**325**	P		**P**	**22 45 26.1**	**-0.9**	
ARU	**Arti**	**77.39**	**325**	*e*P		**P**	**22 45 26.8**	**-0.3**	
	comp=Z,6.0nm,0.8s								
GEYT	**Alibeck**	**79.39**	**307**	P		**P**	**22 45 39.0**	**+0.4**	
	comp=Z,4.3nm,0.7s,baz=92,slow=4.9,SNR=12								
NLWA	**Neilton Lookou**	**82.48**	**43**	*e*P		**P**	**22 45 57.9**	**+3.0**	
	comp=Z,25nm,1.2s								
LLLB	**Lillooet**	**83.19**	**40**	*e*P		**P**	**22 46 01.0**	**+2.5**	
	comp=Z,9.8nm,0.5s								
B05A	**Bryant**	**83.50**	**42**	P		**P**	**22 46 01.8**	**+1.7**	
	baz=281								
I03D	**Drain, OR**	**83.50**	**47**	P		**P**	**22 46 02.4**	**+2.2**	
	baz=281								
L02D	**Cave Junction,**	**83.60**	**48**	P		**P**	**22 46 03.0**	**+2.2**	
	baz=281								
TDL	**Tradedollar La**	**83.79**	**44**	P		**P**	**22 46 04.2**	**+2.4**	
HUMO	**Hull Mountain**	**83.99**	**48**	*e*P		**P**	**22 46 05.0**	**+2.3**	
	comp=Z,28nm,0.8s								
M02C	**Callahan**	**84.30**	**49**	P		**P**	**22 46 05.9**	**+1.5**	
	baz=282								
YKA	**Yellowknife Ar**	**84.39**	**27**	P		**P**	**22 46 05.0**	**+0.7**	
	comp=Z,1.7nm,0.4s,baz=284,slow=5.1,SNR=9.3								
J04D	**Umpqua Nationa**	**84.47**	**47**	P		**P**	**22 46 07.2**	**+1.7**	
	baz=282								
N02D	**Trinity Center**	**84.49**	**49**	P		**P**	**22 46 06.8**	**+1.4**	
	baz=282								
NAC	**Naches**	**84.65**	**43**	P		**P**	**22 46 08.2**	**+2.2**	
K04D	**Chiloquin, OR**	**84.85**	**48**	P		**P**	**22 46 08.7**	**+1.4**	
	baz=282								
M04C	**Macdoel**	**84.97**	**48**	P		**P**	**22 46 09.5**	**+1.7**	
	baz=282								
J05D	**Fort Rock, OR**	**85.09**	**47**	P		**P**	**22 46 09.9**	**+1.5**	
	baz=282								
ORV	**Oroville**	**85.68**	**51**	*e*P		**P**	**22 46 13.4**	**+2.1**	
ORV				pmax	pmax				
	comp=Z,7.0nm,1.2s								
ORV	**Oroville**	**85.68**	**51**	*e*P		**P**	**22 46 13.4**	**+2.1**	
	comp=Z,7.1nm,1.2s								
RES	**Resolute Bay**	**86.01**	**13**	*e*P		**P**	**22 46 12.7**	**+0.5**	
RES				pmax	pmax				
	comp=Z,10.0nm,0.7s								
RES	**Resolute Bay**	**86.01**	**13**	*e*P		**P**	**22 46 12.7**	**+0.5**	
	comp=Z,9.7nm,0.7s								
NEW	**Newport**	**86.74**	**41**	P		**P**	**22 46 18.3**	**+1.9**	
	comp=Z,17nm,0.7s,baz=272,slow=4.0,SNR=36								
NEW	**Newport**	**86.74**	**41**	P		**P**	**22 46 17.9**	**+1.5**	
	baz=285,SNR=18								
NEW	**Newport**	**86.74**	**41**	*e*P		**P**	**22 46 17.9**	**+1.5**	
NEW				pmax	pmax				
	comp=Z,22nm,0.7s								
NEW	**Newport**	**86.74**	**41**	*e*P		**P**	**22 46 17.9**	**+1.5**	
	comp=Z,22nm,0.7s								
CMB	**Columbia Colle**	**86.86**	**52**	*e*P		**P**	**22 46 19.3**	**+2.0**	

CMB				pmax	pmax				
	comp=Z,35nm,0.8s								
CMB	**Columbia Colle**	**86.86**	**52**	*e*P		**P**	**22 46 19.3**	**+2.0**	
	comp=Z,35nm,0.8s								
WVOR	**Wild Horse Val**	**87.14**	**47**	*e*P		**P**	**22 46 20.4**	**+1.8**	
WVOR				pmax	pmax				
	comp=Z,8.0nm,0.9s								
WVOR	**Wild Horse Val**	**87.14**	**47**	*e*P		**P**	**22 46 20.4**	**+1.8**	
	comp=Z,8.5nm,0.9s								
BMO	**Blue Mountains**	**87.48**	**45**	*e*P		**P**	**22 46 21.5**	**+1.3**	
BMO				pmax	pmax				
	comp=Z,11nm,0.8s								
BMO	**Blue Mountains**	**87.48**	**45**	*e*P		**P**	**22 46 21.5**	**+1.3**	
	comp=Z,11nm,0.8s								
EDM	**Edmonton**	**87.68**	**36**	*e*P		**P**	**22 46 21.7**	**+0.9**	
EDM				pmax	pmax				
	comp=Z,18nm,1.0s								
EDM	**Edmonton**	**87.68**	**36**	*e*P		**P**	**22 46 21.7**	**+0.9**	
	comp=Z,18nm,1.0s								
PKM	**Mcpherson Peak**	**88.03**	**55**	P		**P**	**22 46 25.5**	**+2.4**	
	baz=284								
ARCES	**ARCESS Array B**	**88.08**	**342**	P		**P**	**22 46 21.7**	**-0.7**	
	comp=Z,0.7nm,0.6s,baz=67,slow=6.9,SNR=7.0								
BSMT	**Bassoo Peak**	**88.36**	**41**	P		**P**	**22 46 26.9**	**+2.5**	
VES	**Vestal, Richgr**	**88.39**	**54**	P		**P**	**22 46 26.6**	**+2.1**	
	baz=284								
MFID	**Camas Ranch**	**88.89**	**46**	*e*P		**P**	**22 46 28.7**	**+1.8**	
	comp=Z,15nm,0.8s								
CWC	**Cottonwood Cre**	**89.03**	**53**	P		**P**	**22 46 30.1**	**+2.4**	
	baz=285								
GNI	**Garni**	**89.17**	**311**	*e*P		**P**	**22 46 27.5**	**-0.8**	
GNI				pmax	pmax				
	comp=Z,44nm,1.1s								
GNI	**Garni**	**89.17**	**311**	*e*P		**P**	**22 46 27.5**	**-0.8**	
	comp=Z,44nm,1.1s								
GRAC	**Grapevine Rang**	**89.44**	**52**	P		**P**	**22 46 32.0**	**+2.5**	
	baz=285								
EDW2	**Edwards Air Fo**	**89.49**	**55**	P		**P**	**22 46 32.3**	**+2.5**	
	baz=285								
SCI	**San Clemente I**	**89.51**	**56**	P		**P**	**22 46 32.8**	**+2.9**	
	baz=285								
LRMC	**Laurel Mtn Rad**	**89.58**	**54**	P		**P**	**22 46 32.8**	**+2.5**	
	baz=285,SNR=6.1								
MPMC	**Manual Prospec**	**89.59**	**53**	P		**P**	**22 46 32.8**	**+2.4**	
	baz=285,SNR=9.6								
OBN	**Obninsk**	**89.76**	**327**	*e*P		**P**	**22 46 29.2**	**-1.3**	
OBN				*SP		**pP**	**22 46 35.0**	**-1.1**	
OBN				pmax	pmax				
	comp=Z,7.0nm,0.9s								
HLID	**Hailey**	**89.83**	**45**	P		**P**	**22 46 33.1**	**+1.7**	
	baz=287,SNR=9.1								
HLID	**Hailey**	**89.83**	**45**	*e*P		**P**	**22 46 33.4**	**+1.9**	
	comp=Z,5.9nm,0.8s								
BFSC	**Mount Baldy Ra**	**89.92**	**55**	P		**P**	**22 46 33.6**	**+1.7**	
	baz=285								
FURC	**Furnace Creek,**	**89.97**	**53**	P		**P**	**22 46 34.5**	**+2.6**	
	baz=286,SNR=7.1								
RRX	**Edison Barstow**	**90.28**	**54**	P		**P**	**22 46 34.5**	**+1.0**	
	baz=285								
TPNV	**Topopah Spring**	**90.32**	**52**	P		**P**	**22 46 36.0**	**+2.2**	
	baz=286,SNR=11								
GSC	**Goldstone, Bar**	**90.32**	**54**	P		**P**	**22 46 36.3**	**+2.5**	
	baz=286,SNR=7.0								
R11A	**Troy Canyon, C**	**90.45**	**51**	P		**P**	**22 46 37.4**	**+3.0**	
	baz=286,SNR=6.7								
SHOC	**Shoshone, Teco**	**90.58**	**53**	P		**P**	**22 46 37.0**	**+2.1**	
	baz=286								
HEC	**Hector,Ludlow**	**90.82**	**54**	P		**P**	**22 46 38.2**	**+2.2**	
	baz=286,SNR=7.4								
TUQ	**Turquoise Moun**	**90.98**	**54**	P		**P**	**22 46 39.3**	**+2.4**	
	baz=286,SNR=5.4								
PFO	**Pinyon Flats O**	**91.04**	**55**	P		**P**	**22 46 39.3**	**+2.2**	
	baz=286								
TPFO	**Pinon Flats**	**91.05**	**55**	P		**P**	**22 46 39.0**	**+1.8**	
	baz=286								
BOZ	**Bozeman (W)**	**91.11**	**43**	P		**P**	**22 46 39.0**	**+1.7**	
	baz=289								
MONP	**Monument Peak,**	**91.26**	**56**	P		**P**	**22 46 40.3**	**+2.0**	
	baz=286								
BELC	**Belle Mtn. Jos**	**91.31**	**55**	P		**P**	**22 46 40.4**	**+2.0**	
	baz=286,SNR=5.3								
GMRC	**Granite Mounta**	**91.36**	**54**	P		**P**	**22 46 41.2**	**+2.5**	
	baz=286,SNR=7.4

*FUNV **09** 23:02:47.2,6.78N×73.17W,h167km,MW2.5*
*RSNC **09** 23:02:48.7±0.9,6.76N×73.10W,h147km±7km,ML2.8*

ISC 09 23:02:46.1±1.7,**6°80N**±0.07×**73°08W**±0.06,**h163**km±10km,
n15,σ1§06/24,1C,Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BARC	**Barichara**	**0.23**	**205**	*eP*	**Pn**	**23 03 08.4**	**+0.1**
BARC				*eS*	**Sn**	**23 03 23.6**	**-1.7**
BARC				*i*		23 03 25.1	
	comp=Z,156nm,0.3s						
PAMC	**Pamplona, Colo**	**0.66**	**35**	*eP*	**Pn**	**23 03 11.2**	**+0.9**
PAMC				*eS*	**Sn**	**23 03 28.5**	**-0.4**
BRRC	**Barranca, Sant**	**0.69**	**296**	*eP*	**Pn**	**23 03 10.3**	**+0.4**
BRRC				*eS*	**Sn**	**23 03 27.8**	**-0.4**
BRRC				*i*		23 03 29.9	
	comp=Z,165nm,0.2s						
RUSC	**La Rusia**	**0.90**	**180**	*eP*	**Pn**	**23 03 12.2**	**+0.2**
RUSC				*i*		23 03 32.3	
	comp=Z,46nm,0.4s						
CAPV	**Capacho**	**1.30**	**36**⇑	*iP*	**Pn**	**23 03 16.3**	**+1.3**
CAPV				*eS*	**Sn**	**23 03 37.8**	**+0.5**
OCAC	**Ocana**	**1.45**	**351**	*eP*	**Pn**	**23 03 17.1**	**+0.8**
OCAC				*eS*	**Sn**	**23 03 39.7**	**+0.1**
OCAC				*i*		23 03 43.8	
	comp=Z,97nm,0.4s						
NORC	**Norcasia**	**2.16**	**235**	*eP*	**Pn**	**23 03 24.9**	**+0.9**
NORC				*eS*	**Sn**	**23 03 51.6**	**-1.5**
HELC	**Santa Helena**	**2.50**	**256**	*eP*	**Pn**	**23 03 30.0**	**+1.7**
VIGV	**El Vigia**	**2.65**	**40**	*eP*	**Pn**	**23 03 30.7**	**+1.0**
VIGV				*eS*	**Sn**	**23 04 03.2**	**-0.3**
SOCV	**Socops**	**2.66**	**56**	*eP*	**Pn**	**23 03 31.1**	**+1.3**
SOCV				*eS*	**Sn**	**23 04 03.0**	**-0.7**
VIRV	**Villa del Rosa**	**3.74**	**10**	*eP*	**Pn**	**23 03 43.3**	**0.0**
VIRV				*eS*	**Sn**	**23 04 25.6**	**-2.4**
CURV	**Curarigua**	**4.44**	**44**	*eP*	**Pn**	**23 03 53.3**	**+0.8**
BAUV	**El Baul**	**5.43**	**67**	*eP*	**Pn**	**23 04 05.9**	**+0.4**
MAPV	**Macapo**	**5.48**	**56**	*eP*	**Pn**	**23 04 06.5**	**+0.3**
MONV	**Montecano**	**5.97**	**31**	*eP*	**Pn**	**23 04 12.4**	**-0.2**

JMA 09 23:02:57.0±0.2,**37°86N**×**142°10E,h35**km±3km,**M3.8,Off east coast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JIO	**Ouri**	**0.84**	**315**	P	Pn	23 03 12.7	+0.4
JIO				S	Sn	23 03 23.3	-0.1
JMM	**Marumori**	**1.03**	**271**	P	Pn	23 03 15.5	+0.5
JMM				S	Sn	23 03 28.4	+0.2
JFK	**Kawauchi**	**1.09**	**244**	P	Pn	23 03 16.0	+0.2
JFK				S	Sn	23 03 29.5	-0.2
JOU	**Okura**	**1.24**	**294**	P	Pn	23 03 19.0	+1.1
JOU				S	Sn	23 03 34.7	+1.3
JMK	**Ichinoseki**	**1.29**	**328**	P	Pn	23 03 19.4	+0.9
JMK				S	Sn	23 03 35.1	+0.5
JFT	**Otama**	**1.44**	**257**	P	Pn	23 03 22.2	+1.6
JFT				S	Sn	23 03 40.3	+2.0
JYS	**Shirataka**	**1.65**	**283**	P	Pn	23 03 24.9	+1.5
JYS				S	Sn	23 03 46.3	+2.9
JYK	**Kaneyama**	**1.73**	**308**	P	Pn	23 03 25.9	+1.3
JOM	**Ohasama**	**1.73**	**339**	P	Pn	23 03 26.0	+1.4
JOM				S	Sn	23 03 46.5	+1.1
JRG	**Rokugo**	**1.92**	**324**	P	Pn	23 03 29.0	+1.9
JRG				S	Sn	23 03 52.4	+2.4
JFY	**Yanaizu**	**1.96**	**257**	P	Pn	23 03 30.1	+2.4
MAT	**Matsushiro**	**3.38**	**248**	P	Pn	23 03 51.3	+4.1
MAT				*eS*	Sn	23 04 32.9	+6.9

*ISCJB **09** 23:09:33.3±1.1,32.56S±0.06×70.25W±0.06,h116km±9km,
Error ellipse: s-maj=11.3km s-min=5.7km az=144.5*
*GUC **09** 23:09:33.9±0.3,32.46S×70.25W,h100km±5km,ML2.8*
*SJA **09** 23:09:33.0±1.1,32.55S×70.27W,h20km±8km,ML2.3,
MW2.6*

ISC 09 23:09:32.8±2.2,**32°58S**±0.07×**70°27W**±0.06,
h121km±17km,**n17,σ0§83/29,3C-3D,Chile-Argentina border region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PEL	**Peldehue**	**0.66**	**212**	*eP*	**Pn**	**23 09 52.0**	**-0.1**
PEL				*i* S	**Sn**	**23 10 05.6**	**-1.0**
PEL				IAML		23 10 05.9	
	comp=E,225nm,0.3s						
ROCH	**El Roble**	**0.73**	**238**⇑	*iP*	**Pn**	**23 09 52.9**	**+0.1**
ROCH				*i* S	**Sn**	**23 10 07.1**	**-0.8**
ROCH				IAML		23 10 07.8	
	comp=E,703nm,0.3s						
ROC1	**El Roble**	**0.74**	**238**	*eP*	**Pn**	**23 09 52.9**	**0.0**
ROC1				*eS*	**Sn**	**23 10 07.2**	**-0.8**
FCH	**Farellones**	**0.75**	**181**⇑	*iP*	**Pn**	**23 09 53.4**	**+0.4**
FCH				*i* S	**Sn**	**23 10 08.3**	**0.0**
FCH				IAML		23 10 08.7	
	comp=N,246nm,0.4s						
AUSP	**Uspallata**	**0.83**	**65**	*eP*	**Pn**	**23 09 53.9**	**+0.2**
CLCH	**Cerro Calan**	**0.84**	**195**⇓	*iP*	**Pn**	**23 09 54.0**	**+0.4**
CLCH				*i* S	**Sn**	**23 10 09.1**	**-0.2**
CLCH				IAML		23 10 09.8	
	comp=N,291nm,0.5s						
ANTU	**Antumapu**	**1.03**	**197**⇑	*iP*	**Pn**	**23 09 56.0**	**+0.7**
ANTU				*i* S	**Sn**	**23 10 12.8**	**+0.5**
RTLS	**Leoncito**	**1.14**	**47**	*eP*	**Pn**	**23 09 57.2**	**+0.6**
RTLS				*eS*	**Sn**	**23 10 14.3**	**-0.3**
ARCO	**CERRO ARCO**	**1.16**	**103**⇓	*eP*	**Pn**	**23 09 57.6**	**+0.8**
ARCO				*eS*	**Sn**	**23 10 14.8**	**0.0**
ARCO				IAML		23 10 16.5	
	comp=Z,56nm,0.3s						
ASAL	**Salagasta**	**1.21**	**91**	*eP*	**Pn**	**23 09 58.0**	**+0.8**
ASAL				*eS*	**Sn**	**23 10 16.4**	**+0.7**
AAGR	**Agrelo**	**1.32**	**113**	*eP*	**Pn**	**23 09 59.0**	**+0.7**
RTCV	**Cerro Valdivia**	**1.63**	**64**	*eP*	**Pn**	**23 10 02.0**	**0.0**
RTCV				*eS*	**Sn**	**23 10 23.6**	**-0.4**
AMOG	**MOGNA**	**2.23**	**43**⇓	*eP*	**Pn**	**23 10 10.2**	**+0.8**
AMOG				*eS*	**Sn**	**23 10 37.0**	**-0.2**
ACAN	**Cantantal**	**2.63**	**84**	*eP*	**Pn**	**23 10 14.7**	**+0.3**
ACAN				*eS*	**Sn**	**23 10 44.1**	**-2.1**
AVFE	**Valle Fertil**	**3.07**	**52**	IAML		23 10 56.5	
	comp=Z,4.9nm,0.3s						
ACHE	**Chepes**	**3.38**	**66**	*eP*	**Pn**	**23 10 24.3**	**0.0**
ACHE				*eS*	**Sn**	**23 11 02.1**	**-2.0**
AGUA	**GUANDACOL**	**3.44**	**27**	*eP*	**Pn**	**23 10 26.5**	**+1.4**

WEL 09 23:25:59.7±0.7,**37°39S**×**176°31E,h260**km±6km,**ML3.5/9,
1C,Error ellipse: s-maj=8.2km s-min=6.3km az=90.0,
North Island**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
HAZ	**Te Kaha**	**1.23**	**108**	PN	Pn	23 26 37.2	+0.2
RUGZ	**Raukumara Rang**	**1.23**	**118**	PN	Pn	23 26 36.9	-0.4
RUGZ				SN	S	23 27 05.6	-1.3
RTZ	**Ruatahuna**	**1.33**	**157**	PN	Pn	23 26 38.3	+0.4
RTZ				SN	S	23 27 08.8	+0.7
WMGZ	**Waiomatatini S**	**1.73**	**105**	PN	Pn	23 26 41.2	+0.5
BKZ	**Black Stump Fm**	**1.77**	**175**⇑	PN	Pn	23 26 41.2	+0.1
ARHZ	**Aropaoanui**	**1.94**	**164**	PN	Pn	23 26 42.8	+0.3
KNZ	**Kokohu**	**1.95**	**147**	PN	Pn	23 26 42.4	-0.1
WNVZ	**Wahianoa**	**2.01**	**196**	PN	Pn	23 26 43.5	+0.2
KWHZ	**Kaweka Forest**	**2.03**	**177**	PN	Pn	23 26 43.4	+0.2
BHHZ	**Black Hill Sta**	**2.10**	**185**	PN	Pn	23 26 43.8	-0.1
KAHZ	**Kahuranaki**	**2.44**	**170**	PN	Pn	23 26 47.1	+0.1
KIW	**Kapiti Island**	**3.63**	**197**	PN	Pn	23 26 57.8	-1.9
DUWZ	**D'Urville Isla**	**3.88**	**208**	PN	Pn	23 27 00.6	-1.9
TCW	**Tory Channel**	**4.12**	**202**	PN	Pn	23 27 03.3	-2.0
NNZ	**Nelson**	**4.44**	**210**	PN	Pn	23 27 06.6	-2.4
QRZ	**Quartz Range**	**4.51**	**219**	PN	Pn	23 27 07.2	-2.7
THZ	**Tophouse**	**5.09**	**210**	PN	Pn	23 27 14.3	-2.6

*CSEM **09** 23:28:17.6±0.3,50.30N×18.82E,h2km,Error ellipse:
s-maj=6.2km s-min=2.7km az=12.0*

PRU 09 23:28:18.6,50.34N×18.77E,h0km,**Poland**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
OKC	**Ostrava-Krasne**	**0.64**	**219**	*ePG*	Pg	23 28 30.6	-0.3
OKC				*eSG*	Sg	23 28 39.6	+0.4
	comp=Z,8.0nm,0.3s						
OKC	**Ostrava-Krasne**	**0.64**	**219**	Pg	Pg	23 28 30.6	-0.3
OKC				Sg	Sg	23 28 39.6	+0.4
	8.0nm,0.3s						
OJC	**Ojcow**	**0.67**	**100**	*ePg*	Pg	23 28 29.9	-1.5
OJC				*eSg*	Sg	23 28 38.4	-1.7
OJC	**Ojcow**	**0.67**	**100**	*ePg*	Pg	23 28 29.9	-1.5
OJC				*eSg*	Sg	23 28 38.4	-1.7
MORC	**Moravsky Berou**	**0.97**	**235**	*ePg*	Pg	23 28 37.0	-0.2
MORC				*eSg*	Sg	23 28 49.5	-0.3
LANS	**Liptovska Anna**	**1.27**	**159**	*ePg*	Pg	23 28 41.2	-1.8
LANS				*eSg*	Sg	23 28 57.2	-2.3
LANS	**Liptovska Anna**	**1.27**	**159**	*ePG*	Pg	23 28 41.2	-1.8
LANS				*eSG*	Sg	23 28 57.2	-2.3
KRLC	**Kraliky**	**1.30**	**259**	*ePG*	Pg	23 28 42.9	-0.7
KRLC				*eSG*	Sg	23 28 59.8	-0.7
KRLC	**Kraliky**	**1.30**	**259**	Pg	Pg	23 28 42.9	-0.7
KRLC				Sg	Sg	23 28 59.8	-0.7
NIE	**Niedzica**	**1.35**	**132**	*ePg*	Pg	23 28 42.7	-1.8
NIE				*eSg*	Sg	23 29 00.1	-1.9
NIE	**Niedzica**	**1.35**	**132**	*ePg*	Pg	23 28 42.7	-1.8
NIE				*eSg*	Sg	23 29 00.1	-1.9
DPC	**Dobruska-Polom**	**1.57**	**271**	*ePG*	Pn	23 28 47.4	-0.3
DPC				*eSG*	Sn	23 29 07.8	-1.0
	comp=Z,3.6nm,0.3s						
DPC	**Dobruska-Polom**	**1.57**	**271**	Pg	Pn	23 28 47.4	-0.3
DPC				Sg	Sn	23 29 07.8	-1.0
	3.6nm,0.3s						
KSP	**Ksiaz**	**1.66**	**289**	*ePg*	Pg	23 28 51.4	+1.1
KSP				*eSg*	Sg	23 29 13.8	+2.0
KSP	**Ksiaz**	**1.66**	**289**	*ePg*	Pg	23 28 51.4	+1.1
KSP				*eSg*	Sg	23 29 13.8	+2.0
VRAC	**Vranov**	**1.75**	**235**	*ePn*	Pn	23 28 49.7	-0.5
VRAC				*eSg*	Sn	23 29 13.3	+0.2
UPC	**Upice**	**1.77**	**276**	*eSG*	Sg	23 29 15.6	+0.1
UPC	**Upice**	**1.77**	**276**	Sg	Sg	23 29 15.6	+0.1
STHS	**Stebnicka Huta**	**1.85**	**119**	*ePg*	Pn	23 28 51.7	+0.1
STHS				*eSn*	Sb	23 29 16.6	-0.3
STHS	**Stebnicka Huta**	**1.85**	**119**	*ePG*	Pn	23 28 51.7	+0.1
STHS				*eSN*	Sb	23 29 16.6	-0.3
STHS				*eLG*	Lg	23 29 25.3	
VYHS	**Vyhne**	**1.85**	**179**	*ePn*	Pn	23 28 49.2	-2.4
VYHS				*eSn*	Sn	23 29 13.2	-2.4
VYHS	**Vyhne**	**1.85**	**179**	*ePN*	Pn	23 28 49.2	-2.4
VYHS				*eSN*	Sn	23 29 13.2	-2.4
VYHS				*eLG*	Lg	23 29 16.1	
PRU	**Pruhonice**	**2.74**	**264**	*eSG*	Sb	23 29 44.1	+1.5
PRU	**Pruhonice**	**2.74**	**264**	Sg	Sb	23 29 44.1	+1.5
KHC	**Kasperske Hory**	**3.58**	**252**	*ePG*	Pg	23 29 26.0	-1.1
KHC				*eSG*	Sg	23 30 12.2	-1.3
	comp=Z,2.2nm,0.7s						
KHC	**Kasperske Hory**	**3.58**	**252**	Pg	Pg	23 29 26.0	-1.1
KHC				Sg	Sg	23 30 12.2	-1.3
	2.2nm,0.7s						

*CSEM **09** 23:42:23.9±0.3,38.26N×26.54E,h5km,MD2.8,Error
ellipse: s-maj=9.7km s-min=6.6km az=52.0*
*ISK **09** 23:42:23.3,38.24N×26.52E,h4km,MD2.8*
*ISCJB **09** 23:42:24.4±0.5,38.28N±0.05×26.52E±0.06,h14km±6km,
Error ellipse: s-maj=8.6km s-min=7.7km az=171.9*
*DDA **09** 23:42:25.0,38.24N×26.59E,h7km,Ml2.9*

ISC 09 23:42:24.0±1.0,**38°26N**±0.03×**26°54E**±0.04,**h16**km±7km,
n22,σ0§33/26,Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ZEY	**˜zmir**	**0.03**	**237**	*i* P	**Pg**	**23 42 27.0**	**+0.2**
ZEY				*i* S	**Sg**	**23 42 28.9**	**+0.1**
URLA	**Izmir**	**0.11**	**23**	*i* P	**Pb**	**23 42 27.7**	**-0.1**
URLA				*i* S	**Sb**	**23 42 30.4**	**+0.1**
URLA	**Izmir**	**0.11**	**23**	P	**Pb**	**23 42 27.7**	**-0.1**
URLA				S	**Sb**	**23 42 30.4**	**+0.1**
CESE	**˜e˜me**	**0.20**	**291**	*ePG*	**Pg**	**23 42 27.6**	**-1.1**
KRBN	**Karaburun**	**0.34**	**2**	*ePG*	**Pg**	**23 42 31.1**	**+0.1**
KRBN				*eSG*	**Sb**	**23 42 36.6**	**-0.2**
DGB	**˜zmir**	**0.34**	**127**	*iP*	**Pb**	**23 42 31.5**	**-0.2**
CHOS	**Chios island**	**0.40**	**289**	*ePG*	**Pg**	**23 42 32.2**	**0.0**
CHOS	**Chios island**	**0.40**	**289**	*ePg*	**Pg**	**23 42 32.2**	**0.0**
GCAM	**G?zelcami?**	**0.78**	**135**	*eP*	**Pb**	**23 42 39.2**	**0.0**
GCAM	**G?zelcami?**	**0.78**	**135**	P	**Pb**	**23 42 39.2**	**0.0**
DKL	**Dikili**	**0.86**	**19**	*ePG*	**Pg**	**23 42 40.6**	**-0.1**
DKL	**Dikili**	**0.86**	**19**	*ePg*	**Pg**	**23 42 40.6**	**-0.1**
SIGR	**SIGRI**	**1.09**	**331**	*ePN*	**Pb**	**23 42 44.8**	**+0.3**
SIGR	**SIGRI**	**1.09**	**331**	*ePn*	**Pb**	**23 42 44.8**	**+0.3**
AYDB	**Zeytinkoy-Aydi**	**1.11**	**106**	*ePN*	**Pg**	**23 42 45.3**	**-0.1**
AYDB	**Zeytinkoy-Aydi**	**1.11**	**106**	*ePn*	**Pg**	**23 42 45.3**	**-0.1**
BODT	**Bodrum**	**1.34**	**153**	*ePN*	**Pb**	**23 42 49.2**	**+0.5**
BODT	**Bodrum**	**1.34**	**153**	*ePn*	**Pb**	**23 42 49.2**	**+0.5**
MLSB	**Milas**	**1.37**	**134**	*ePN*	**Pg**	**23 42 50.0**	**-0.3**
MLSB	**Milas**	**1.37**	**134**	*ePn*	**Pg**	**23 42 50.1**	**-0.3**
APE	**Apeiranthos**	**1.43**	**214**	*ePN*	**Pb**	**23 42 50.4**	**+0.1**
APE	**Apeiranthos**	**1.43**	**214**	*ePn*	**Pb**	**23 42 50.4**	**+0.1**

*IDC **09** 23:47:45.7±0.7,22.61S×175.25W,h0km,mb4.2/11,
mb1 4.5/11,mb1mx4.2/28,mbtmp4.2/11,ML5.4/1,Error
ellipse: s-maj=25.5km s-min=19.6km az=134.0*
*ISCJB **09** 23:47:49.1±0.5,22.75S±0.08×175.26W±0.10,h33km,
mb4.7/22,Error ellipse: s-maj=13.0km s-min=10.8km
az=164.6*
*NEIC **09** 23:47:49.4±3.4,22.73S×175.18W,h25km±22km,mb4.8/9,
Error ellipse: s-maj=12.4km s-min=9.1km az=78.0*

ISC 09 23:47:50.4±0.6,**22.76S**±0.08×**175.2W**±0.1,**h33**km,**n38,
σ1§15/40,mb4.5/22,1D,Tonga Islands region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**6.92**	**200**	Pn	**Pn**	**23 49 28.6**	**-0.8**
	72nm,0.3s,baz=357,slow=16,SNR=2.6						
RAO				Sn	**Sn**	**23 50 45.4**	**-1.6**
	60nm,0.3s,baz=135,slow=22,SNR=2.7						
MSVF	**Nonsavu**	**8.08**	**307**	*ePn*	**Pn**	**23 49 46.2**	**+0.6**
	23nm,0.6s						
AFI	**Afiamalu**	**9.38**	**21**	Pn	Pn	23 49 56.9	-6.5
	4.3nm,0.3s,baz=65,slow=23,SNR=4.4						
AFI				Sn	Sn	23 51 33.3	-14
	4.3nm,0.3s,baz=36,slow=19,SNR=3.0						
CTA	**Charters Tower**	**35.93**	**267**	P	**P**	**23 54 48.7**	**+0.7**
	2.3nm,0.4s,baz=94,slow=5.0,SNR=4.3						
PMG	**Port Moresby**	**38.41**	**284**	*eP*	**P**	**23 55 09.2**	**+0.1**
	7.5nm,0.8s						
STKA	**Stephens Creek**	**39.25**	**247**	P	**P**	**23 55 15.6**	**-0.3**
	2.8nm,0.8s,baz=81,slow=11,SNR=5.6						
ASAR	**Alice Springs**	**46.59**	**258**	P	**P**	**23 56 14.8**	**-0.8**
	6.0nm,0.8s,baz=100,slow=7.2,SNR=37						
WRAB	**Tennant Creek**	**46.91**	**264**	*eP*	**P**	**23 56 17.6**	**-0.4**
	2.5nm,0.8s						
WRA	**Warramunga Arr**	**46.92**	**264**	P	**P**	**23 56 16.9**	**-1.3**
	3.0nm,0.8s,baz=91,slow=8.4,SNR=16						
MIDW	**Midway**	**50.72**	**358**	*eP*	**P**	**23 56 46.4**	**-0.6**
	58nm,1.2s						
VNDA	**Vanda**	**55.92**	**186**	P	**P**	**23 57 26.5**	**+1.9**
	1.7nm,0.9s,baz=360,slow=6.6,SNR=8.1						
QSPA	**South Pole Qui**	**67.32**	**180**	*eP*	**P**	**23 58 42.7**	**+0.8**
	32nm,1.1s						
KKM	**Kota Kinabalu**	**72.86**	**284**	*eP*	**P**	**23 59 17.0**	**+0.4**
	27nm,1.1s						
MJAR	**Matsushiro Arr**	**73.58**	**322**	P	**P**	**23 59 19.5**	**-0.8**
	0.8nm,0.5s,baz=166,slow=6.9,SNR=3.0						
TATO	**Taipei**	**77.61**	**304**	*eP*	**P**	**23 59 43.8**	**+0.2**
	16nm,0.7s						
MAW	**Mawson**	**80.32**	**199**	P	**P**	**23 59 59.0**	**+1.3**
	4.5nm,0.9s,baz=135,slow=10.0,SNR=6.9						
COCO	**West Island**	**83.54**	**260**	*eP*	**P**	**00 00 16.1**	**+0.4**
	228nm,0.6s						
SYO	**Syowa Base**	**85.09**	**192**⇓	*eP*	**P**	**00 00 21.2**	**-1.3**
SNAA	**Sanae**	**85.67**	**178**	P	**P**	**00 00 25.2**	**-0.3**
SNAA	**Sanae**	**85.67**	**178**	*eP*	**P**	**00 00 25.1**	**-0.5**
	431nm,0.9s						
VNA3	**Neumayer Olymp**	**85.71**	**175**	P	**P**	**00 00 25.3**	**-0.3**
TXAR	**Lajitas Array**	**86.10**	**56**	P	**P**	**00 00 28.2**	**-0.1**
	1.9nm,1.0s,baz=202,slow=6.2,SNR=12						
VNA2	**Neumayer--Watz**	**86.18**	**176**	P	**P**	**00 00 28.3**	**+0.3**
	baz=184,slow=3.1						
VNA1	**Neumayer--Stat**	**86.39**	**176**	P	**P**	**00 00 29.4**	**+0.5**
ANMO	**Albuquerque**	**86.80**	**50**	P	**P**	**00 00 31.8**	**0.0**
	1.1nm,1.0s						
PDAR	**Pinedale Array**	**88.84**	**42**	P	**P**	**00 00 40.7**	**-0.7**
	0.2nm,0.3s,baz=230,slow=6.8,SNR=3.5						
ENH	**Enshi**	**89.47**	**303**	P	**P**	**00 00 44.5**	**+0.1**
	2.6nm,0.6s						
ILAR	**Eielson Array**	**89.96**	**12**	P	**P**	**00 00 46.0**	**+0.2**
	1.2nm,1.0s,baz=214,slow=5.7,SNR=7.6						
CMAR	**Chiang Mai Arr**	**93.32**	**288**	P	**P**	**00 01 04.5**	**+2.0**
	0.7nm,0.3s,baz=134,slow=3.9,SNR=8.3						
CHTO	**Chiang Mai**	**93.46**	**289**	*eP*	**P**	**00 01 03.5**	**+0.4**
	1.6nm,0.8s						
AKASG	**Malin Array Be**	**146.24**	**332**	PKPbc	**PKPbc**	**00 07 26.9**	**-0.4**
	4.4nm,0.8s,baz=39,slow=3.9,SNR=10						
KIEV	**Kiev**	**146.25**	**332**	*ePKPbc*	**PKPdf**	**00 07 26.8**	**+0.7**
BRTR	**Keskin Array B**	**150.29**	**311**	PKPbc	**PKPbc**	**00 07 38.6**	**+0.1**
	2.5nm,0.8s,baz=101,slow=1.5,SNR=14						
CLL	**Collm**	**150.80**	**349**	*i* PKPbc	**PKPbc**	**00 07 39.4**	**+0.2**
	comp=Z,8.0nm,0.9s						
CLL				*i* PKPab	**PKPab**	**00 07 45.7**	**-0.6**
CLL				*ep*PKPab	**pPKPab**	**00 07 52.0**	**-4.9**
BRG	**Berggiesshubel**	**151.05**	**348**	*eP*	**PKPbc**	**00 07 40.1**	**+0.3**
	comp=Z,4.6nm,0.9s						
GERES	**GERESS Array B**	**153.03**	**347**	PKPbc	**PKPbc**	**00 07 44.7**	**+0.3**
	comp=Z,0.7nm,0.9s,baz=28,slow=4.4,SNR=5.0						
SANT	**Santorini**	**157.56**	**312**	*ePKPdf*	**PKPdf**	**00 07 42.6**	**-1.0**
TORD	**Torodi Ar. Bea**	**169.99**	**162**	PKPab	**PKPab**	**00 09 11.7**	**+1.4**
	comp=Z,1.2nm,0.7s,baz=192,slow=4.4,SNR=10						

*NEIC **09** 23:53:19.0±0.9,29.16S×175.80W,h10km,mb4.1/2,Error
ellipse: s-maj=21.7km s-min=14.4km az=145.0*
*IDC **09** 23:53:23.6±1.6,28.79S×176.56W,h0km,mb4.1/3,
mb1 4.2/3,mb1mx3.9/20,mbtmp4.1/3,MS3.9/5,Ms1 3.9/5,
ms1mx3.3/30,Error ellipse: s-maj=62.0km s-min=25.5km
az=158.0*

ISC 09 23:53:26.0±1.2,**29°4S**±0.1×**176°4W**±0.1,**h21**km,**n17,
σ1§88/13,mb4.2/6,MS4.1/4,Kermadec Islands region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**1.32**	**276**	Pn	**Pn**	**23 53 49.6**	**+0.5**
	174nm,0.3s,baz=85,slow=8.4,SNR=12						
RAO				Sn	**Sb**	**23 54 07.7**	**+1.3**
	492nm,0.3s,baz=68,slow=18,SNR=8.0						
RAO	**Raoul Island**	**1.32**	**276**	*ePn*	**Pb**	**23 53 50.5**	**+0.5**
URZ	**Urewera**	**10.33**	**210**	Pn	**Pn**	**23 55 53.4**	**+0.4**
	0.3nm,0.3s,baz=303,slow=7.4,SNR=3.4						
URZ				Sn	**Sn**	**23 57 45.5**	**-2.6**
	1.7nm,0.3s,baz=155,slow=23,SNR=7.6						
RPZ	**Rata Peaks**	**17.44**	**212**	LR	LR	00 05 04.2	
	comp=Z,186nm,19.4s,baz=212,slow=39						
HNR	**Honiara**	**29.74**	**307**	*eP*	**P**	**23 59 27.9**	**-3.2**
	55nm,0.6s						
STKA	**Stephens Creek**	**36.05**	**255**	P	**P**	**00 00 27.5**	**+1.5**
	2.7nm,0.8s,baz=59,slow=7.4,SNR=2.9						
ASAR	**Alice Springs**	**44.54**	**265**	P	**P**	**00 01 35.8**	**-0.8**
	1.9nm,0.8s,baz=102,slow=6.6,SNR=15						
ASAR				LR	LR	00 18 20.0	
	comp=Z,83nm,19.0s,baz=156,slow=34						
WRA	**Warramunga Arr**	**45.45**	**270**	P	**P**	**00 01 42.5**	**-1.3**
	1.6nm,0.7s,baz=110,slow=7.4,SNR=5.9						
LPIG	**La Paz**	**82.85**	**57**	LR	LR	00 33 01.3	
	comp=Z,131nm,21.0s,baz=305,slow=29						
ANMO	**Albuquerque**	**91.89**	**51**	P	P	00 06 25.3	-7.7
	0.4nm,0.5s						
HWUT	**Hardware Ranch**	**92.59**	**43**	P	P	00 06 28.2	-7.8
	0.5nm,0.4s						
PDAR	**Pinedale Array**	**94.48**	**43**	LR	LR	00 43 35.8	
	comp=Z,60nm,18.8s,baz=128,slow=32						
CPUP	**Villa Florida**	**99.51**	**127**	LR	LR	00 44 52.9	
	comp=Z,59nm,21.8s,baz=5.0,slow=31						
FINES	**FINESS Array B**	**144.66**	**341**	PKP	**PKPab**	**00 12 59.1**	**+0.1**
	2.2nm,0.9s,baz=277,slow=1.5,SNR=5.2						
AKASG	**Malin Array Be**	**151.31**	**325**	PKPbc	**PKPbc**	**00 13 17.3**	**-0.3**
	0.9nm,0.4s,baz=61,slow=2.1,SNR=4.3						
BRTR	**Keskin Array B**	**153.30**	**301**	PKPab	**PKPab**	**00 13 35.5**	**+0.7**
	0.6nm,0.8s,baz=104,slow=6.1,SNR=4.2						
TORD	**Torodi Ar. Bea**	**163.73**	**173**	PKPab	**PKPab**	**00 14 23.2**	**+3.3**
	0.9nm,1.0s,baz=194,slow=3.7,SNR=3.3						

SJA 10 00:13:19.2±1.1,**31°46S**×**67°63W,h23**km±3km,**ML2.3,
MW3.5,5D,San Juan Province**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RTLL	**

QCR1 **Quepos** 4.39 129 *e*P Pn 00 16 29.5 -2.4
URSC **Urasca** 4.46 122 *e*P Pn 00 16 31.4 -1.7
DRK0 **Durika** 5.21 124 *e*P Pn 00 16 41.5 -1.8
CCIG **Comitan** 5.95 313 *e*Pn Pn 00 16 55.0 +1.6
TBS2 5.95 125 *e*P Pn 00 16 51.8 -1.7
ICCO **Coco Island** 6.68 175 *e*P Pn 00 16 56.8 -6.4
CMIG **Matias Romero** 8.53 305 P Pn 00 17 29.1 +0.5
comp=Z,0.8nm,0.3s,baz=121,slow=14,SNR=4.1
CMIG S Sn 00 19 05.4 +2.1
comp=Z,1.1nm,0.3s,baz=288,slow=20,SNR=3.0
CMIG LR LR 00 21 09.5
comp=Z,887nm,21.9s,baz=128,slow=40
ROSC **El Rosal** 15.05 118 LR LR 00 24 04.2
comp=Z,200nm,21.9s,baz=2.0,slow=34
646A **Port Sulphur** 17.38 354 P P 00 19 27.5 +1.6
baz=172
035A **Encino** 17.63 328 P P 00 19 31.5 +2.8
baz=145
034A **Hebbronville** 18.04 326 P Pn 00 19 35.3 +1.6
baz=144,SNR=16
934A **Benavides** 18.39 328 P Pn 00 19 39.3 +1.5
baz=145
447A **Lucedale** 18.49 357 P Pn 00 19 41.4 +2.3
baz=176
835A **Beeville** 18.60 331 P Pn 00 19 42.5 +2.1
baz=148
444A **Pine Grove** 18.61 352 P Pn 00 19 43.0 +2.5
baz=170
933A **Laredo** 18.80 326 P P 00 19 42.4 +0.9
baz=143,SNR=16
736A **Circle Diamond** 18.82 333 P Pn 00 19 44.7 +1.7
baz=151
834A **Tilden** 18.83 329 P Pn 00 19 44.1 +0.9
baz=146
637A **Eagle Lake** 18.94 336 P Pn 00 19 46.3 +1.9
baz=153
348A **Jackson** 19.08 359 P Pn 00 19 47.2 +1.1
baz=178
347A **Saraland** 19.09 358 P Pn 00 19 47.4 +1.2
baz=176
345A **Thompson Farm,** 19.11 354 P Pn 00 19 48.2 +1.8
baz=172
441A **DeRidder** 19.13 345 P Pn 00 19 48.9 +2.3
baz=163
346A **Big Creek Wild** 19.13 355 P Pn 00 19 48.3 +1.6
baz=173
636A **Smothers Creek** 19.27 334 P Pn 00 19 48.7 +0.2
baz=151
440A **Kirbyville** 19.33 343 P Pn 00 19 49.9 +0.9
baz=161
344A **Westbrook Farm** 19.34 352 P Pn 00 19 50.8 +1.7
baz=170,SNR=9.6
734A **La Parita Cree** 19.42 330 P Pn 00 19 50.1 -0.1
baz=147
833A **Chaparral WMA,** 19.42 327 P P 00 19 49.1 +0.7
baz=144,SNR=44
TIGA **Tifton** 19.46 10 P Pn 00 19 51.9 +1.3
baz=190,SNR=6.0
TIGA **Tifton** 19.46 10 *e*P Pn 00 19 52.1 +1.5
comp=Z,64nm,1.1s
537A **Green Hill Far** 19.50 337 P Pn 00 19 51.1 0.0
baz=154
635A **Leesville** 19.51 333 P Pn 00 19 51.0 -0.2
baz=149
439A **Center Grove,** 19.61 341 P Pn 00 19 53.0 +0.6
baz=159,SNR=12
341A **Kurthwood** 19.68 346 P Pn 00 19 53.8 +0.6
baz=163,SNR=12
733A **Divot King Ran** 19.69 328 P P 00 19 51.9 +0.7
baz=145,SNR=19
832A **Faith Ranch, C** 19.70 326 P P 00 19 51.9 +0.4
baz=143,SNR=49
247A **Quitman** 19.74 357 P Pn 00 19 54.0 +0.2
baz=176
248A **Dixon Mills** 19.76 360 P Pn 00 19 54.7 +0.6
baz=178
536A **Bastrop** 19.80 335 P Pn 00 19 54.8 +0.2
baz=152
438A **Sam Houston St** 19.80 340 P Pn 00 19 54.9 +0.3
baz=157,SNR=6.6
245A **Little AP, Sta** 19.81 354 P Pn 00 19 55.1 +0.4
baz=172
243A **Waterproof** 19.87 350 P Pn 00 19 56.1 +0.8
baz=168
244A **Avery, Jackson** 19.91 352 P Pn 00 19 56.3 +0.4
baz=170,SNR=6.1
340A **Bronson** 19.94 344 P Pn 00 19 56.7 +0.4
baz=161,SNR=9.9
535A **Dale** 19.97 334 P Pn 00 19 57.5 +0.9
baz=151
339A **Huntington** 20.05 342 P Pn 00 19 57.3 -0.3
baz=160
242A **Grayson** 20.16 349 P Pn 00 19 59.5 +0.6
baz=166,SNR=7.7
633A **Saathoff Ranch** 20.23 330 P P 00 19 57.1 0.0
baz=146,SNR=19
241A **Mo Tay, Goldon** 20.29 347 P Pn 00 20 00.7 +0.4
baz=164
338A **Crockett** 20.31 341 P Pn 00 20 00.1 -0.4
baz=158,SNR=6.9
146A **Union** 20.34 356 P Pn 00 20 01.0 +0.1
baz=175
147A **Livingston** 20.35 358 P Pn 00 20 00.5 -0.5
baz=177
534A **Blanco** 20.37 332 P P 00 19 58.7 -0.1
baz=149,SNR=8.6
337A **Centerville** 20.46 339 P Pn 00 20 03.2 +0.8
baz=156
NATX **Nacogdoches** 20.48 343 P Pn 00 20 01.9 -0.7
baz=160
NATX **Nacogdoches** 20.48 343 *e*P Pn 00 20 02.2 -0.5
comp=Z,18nm,0.7s
240A **Hunter Patters** 20.50 345 P Pn 00 20 02.7 -0.1
baz=162
435B **Jarrell** 20.63 335 P P 00 20 03.1 +1.7
baz=152
533A **Kerrville** 20.67 331 P P 00 20 02.2 +0.3
baz=147,SNR=11
239A **Gary** 20.67 343 P Pn 00 20 04.0 -0.8
baz=160
LRAL **Lakeview Retre** 20.70 1 *e*P Pn 00 20 05.6 +0.4
comp=Z,17nm,0.9s
141A **Papa Simpson,** 20.84 347 P Pn 00 20 05.7 -1.2
baz=165
238A **Jacksonville** 20.85 342 P P 00 20 05.6 +1.8
baz=159
Z47A **Carrollton** 20.86 359 P Pn 00 20 06.2 -0.8
baz=178
336A **Riesel** 20.87 337 P P 00 20 05.8 +1.7
baz=154
Z46A **Louisville** 20.89 357 P Pn 00 20 06.6 -0.8
baz=175
434A **Burnet** 20.95 334 P P 00 20 05.2 +0.3
baz=150
335A **Moody** 21.00 336 P P 00 20 09.1 +3.7
baz=153
140A **Cam and Jess,** 21.03 346 P P 00 20 08.7 +3.0
baz=163
Z48A **Northport** 21.04 0 P P 00 20 07.5 +1.7
baz=179,SNR=5.4
237A **Washetta, Mont** 21.06 340 P P 00 20 09.1 +3.0
baz=157
433A **Art** 21.27 332 P P 00 20 08.5 +0.2
baz=148,SNR=12
139A **Bunkhouse Ranc** 21.27 344 P P 00 20 10.7 +2.4
baz=161
Z42A **Norrel Spur, H** 21.31 350 P P 00 20 10.6 +1.9
baz=168
236A **Katherine and** 21.31 339 P P 00 20 11.0 +2.2
baz=155,SNR=5.4
ATAH **Atahualpa** 21.32 154 P P 00 20 09.4 0.0
comp=Z,1.6nm,0.5s,baz=355,slow=11,SNR=2.8
ATAH LR LR 00 27 00.6
comp=Z,314nm,22.0s,baz=340,slow=32
JCT **Junction City** 21.38 330 P P 00 20 10.3 +0.7
baz=146,SNR=12
JCT **Junction City** 21.38 330 *e*P P 00 20 10.2 +0.7
comp=Z,23nm,0.8s
334A **Lometa** 21.38 334 P P 00 20 11.6 +2.0
baz=151,SNR=6.5
GOGA **Godfrey** 21.41 10 *e*P P 00 20 12.2 +2.5
comp=Z,31nm,0.8s
138A **Matatall Enter** 21.45 343 P P 00 20 12.0 +1.8
baz=160
Z41A **Richland Creek** 21.45 348 P P 00 20 11.9 +1.6
baz=166
SJG **San Juan** 21.51 72 LR LR 00 29 37.3
comp=Z,266nm,18.4s,baz=246,slow=40

Y47A **UCPARC, Winfie** 21.56 359 P P 00 20 13.4 +2.0
baz=178
Y46A **Houston** 21.57 357 P P 00 20 13.2 +1.8
baz=176,SNR=7.6
Z40A **Long Farm, Mag** 21.58 347 P P 00 20 14.7 +3.1
baz=164
137A **Heron Place, G** 21.60 341 P P 00 20 14.7 +2.9
baz=158
Y45A **Yeager Farm, C** 21.60 356 P P 00 20 14.4 +2.6
baz=174
WHTX **Lake Whitney,** 21.64 337 P P 00 20 14.8 +2.5
baz=153
WHTX **Lake Whitney,** 21.64 337 *e*P P 00 20 15.2 +2.9
comp=Z,80nm,1.8s
333A **Richland Sprin** 21.70 333 P P 00 20 14.8 +1.8
baz=149,SNR=13
136A **Ennis** 21.74 339 P P 00 20 16.0 +2.7
baz=156,SNR=11
Y42A **Garnett, Star** 21.83 351 P P 00 20 16.7 +2.4
baz=168
234A **Clairette** 21.93 335 P P 00 20 17.2 +1.9
baz=152
WLAR **White Oak Lake** 21.93 348 *e*P P 00 20 17.7 +2.3
comp=Z,24nm,0.7s
Z38A **Mt. Pleasant** 21.97 343 P P 00 20 18.1 +2.3
baz=160
Y41A **Eagette Beard** 22.02 349 P P 00 20 18.1 +1.8
baz=166
Z37A **Pogue Cattle C** 22.11 342 P P 00 20 19.2 +1.9
baz=159
X45A **UM Field Stati** 22.14 356 P P 00 20 19.0 +1.4
baz=174
233A **Rising Star** 22.26 334 P P 00 20 18.9 0.0
baz=150,SNR=9.6
Y40A **Okolona** 22.28 347 P P 00 20 20.2 +1.1
baz=165
HPIG 22.39 313 *e*P P 00 20 21.8 +1.2
comp=Z,15nm,1.2s
Y39A **Lockesburg** 22.39 346 P P 00 20 22.2 +1.9
baz=163,SNR=15
Z36A **Blue Ridge** 22.43 340 P P 00 20 23.2 +2.4
baz=157
X42A **Stuttgart** 22.51 351 P P 00 20 23.7 +2.1
baz=169
Y38A **Idabel** 22.54 344 P P 00 20 23.9 +1.9
baz=161
TXAR **Lajitas Array** 22.64 321 P P 00 20 23.5 +0.3
comp=Z,38nm,0.9s,baz=134,slow=10,SNR=264
TXAR PcP PcP 00 24 13.4 -0.3
comp=Z,0.8nm,0.9s,baz=142,slow=4.6,SNR=3.3
TX31 **Lajitas Ar. Si** 22.64 321 *e*P P 00 20 23.3 +0.2
X40A **Basin Creek Fa** 22.65 349 P P 00 20 24.7 +1.6
baz=166
JSC **Jenkinsville** 22.69 14 *e*P P 00 20 25.8 +2.4
comp=Z,12nm,0.9s
Z35A **Perchaven, San** 22.77 339 P P 00 20 25.7 +1.4
baz=155,SNR=6.9
Y37A **Hugo** 22.84 343 P P 00 20 26.8 +1.7
baz=159
UALR **University of** 22.84 350 *e*P P 00 20 26.3 +1.3
comp=Z,14nm,0.9s
MIAR **Mount Ida** 22.86 347 P P 00 20 26.1 +0.8
baz=164,SNR=21
MIAR **Mount Ida** 22.86 347 *e*P P 00 20 25.7 +0.5
comp=Z,21nm,0.7s
W45A **Hickory Valley** 22.86 357 P P 00 20 26.2 +1.0
baz=175
W43A **Forest City** 22.92 353 P P 00 20 27.4 +1.6
baz=171
SWET **Sewanee** 22.92 4 *e*P P 00 20 26.9 +1.0
comp=Z,13nm,1.9s
X39A **Fountain Ranch** 22.95 346 P P 00 20 27.2 +1.1
baz=193
Y36A **Durant** 22.97 341 P P 00 20 27.8 +1.5
baz=158
Z34A **Collier Ranch,** 23.05 338 P P 00 20 28.3 +1.2
baz=154
ABTX **Abilene, Hawle** 23.10 333 P P 00 20 28.8 +1.1
baz=149,SNR=14
ABTX **Abilene, Hawle** 23.10 333 *e*P P 00 20 27.3 -0.4
comp=Z,45nm,1.1s
W41B **Gary Mavity, V** 23.21 350 P P 00 20 29.7 +0.9
baz=168
Y35A **Marietta** 23.22 340 P P 00 20 30.6 +1.9
baz=156,SNR=39
X38A **Whitesboro** 23.27 345 P P 00 20 30.5 +1.2
baz=162,SNR=22
CPCT **Cooper Cave** 23.27 6 *e*P P 00 20 30.4 +1.1
comp=Z,7.7nm,0.8s
Z33A **Whitaker Ranch** 23.30 336 P P 00 20 31.2 +1.6
baz=152,SNR=6.9
X301 **Greenbrier Sit** 23.30 350 *e*P P 00 20 30.7 +1.1
comp=Z,26nm,1.6s
WHAR **Wooly Hollow** 23.34 350 *e*P P 00 20 30.6 +0.7
comp=Z,7.2nm,0.8s
X37A **Clayton** 23.34 344 P P 00 20 31.7 +1.8
baz=160,SNR=12
W40A **Ferguson Farm,** 23.38 349 P P 00 20 31.3 +1.0
baz=166,SNR=8.8
KMSC **Kings Mountain** 23.50 13 P P 00 20 31.2 -0.2
baz=194
KMSC **Kings Mountain** 23.50 13 *e*P P 00 20 30.2 -1.2
comp=Z,6.1nm,0.7s
W39A **Magazine** 23.53 347 P P 00 20 32.7 +1.1
baz=164,SNR=9.1
TKL **Tuckaleechee C** 23.57 8 P P 00 20 33.0 +1.0
comp=Z,26nm,0.9s,baz=182,slow=12,SNR=24
TKL **Tuckaleechee C** 23.57 8 *e*P P 00 20 33.6 +1.6
comp=Z,24nm,0.9s
W38A **Poteau** 23.58 346 P P 00 20 33.5 +1.4
baz=163,SNR=11
X36A **Centrahoma** 23.61 342 P P 00 20 33.4 +1.0
baz=158,SNR=10
X35A **Drake** 23.65 340 P P 00 20 33.4 +0.7
baz=157,SNR=27
V42A **Cord** 23.71 352 P P 00 20 33.1 -0.1
baz=170
V41A **Mountainview** 23.80 351 P P 00 20 34.1 0.0
baz=168,SNR=7.1
W37B **Quinton** 23.87 344 P P 00 20 35.3 +0.6
baz=161,SNR=14
V40A **Witts Springs** 23.93 350 P P 00 20 36.0 +0.8
baz=167,SNR=11
U45A **Rockin P Farm,** 24.02 358 P P 00 20 37.3 +1.3
baz=176
U44B **Burton Farm, H** 24.04 357 P P 00 20 36.9 +0.7
baz=175
W36A **Wetumka** 24.10 342 P P 00 20 37.9 +1.2
baz=159
V39A **Pettigrew** 24.12 348 P P 00 20 37.9 +0.9
baz=165,SNR=13
U42A **Revenden** 24.23 353 P P 00 20 38.2 +0.3
baz=171
V38A **Canehill** 24.31 346 P P 00 20 39.0 +0.3
baz=163,SNR=8.9
W35A **Tecumseh** 24.31 341 P P 00 20 39.2 +0.5
baz=157
U41A **Viola** 24.31 352 P P 00 20 39.0 +0.3
baz=169
U40A **Yellville** 24.47 350 P P 00 20 40.7 +0.5
baz=167,SNR=8.2
TZTN **Tazewell** 24.47 8 *e*P P 00 20 41.0 +0.9
comp=Z,21nm,0.9s
V37A **Hulbert** 24.50 345 P P 00 20 40.8 +0.4
baz=162,SNR=18
WMOK **Wichita Mounta** 24.59 337 P P 00 20 41.7 +0.5
baz=153,SNR=27
WMOK **Wichita Mounta** 24.59 337 *e*P P 00 20 40.9 -0.4
comp=Z,18nm,0.9s
HHAR **Hobbs** 24.61 348 *e*P P 00 20 41.9 +0.5
comp=Z,9.1nm,0.8s
U39A **Green Forest** 24.61 349 P P 00 20 42.0 +0.5
baz=166,SNR=12
V36A **Jenks** 24.62 344 P P 00 20 42.1 +0.6
baz=160
TUL1 **Leonard** 24.70 344 P P 00 20 42.9 +0.7
baz=160,SNR=13
TUL1 **Leonard** 24.70 344 *e*P P 00 20 42.9 +0.7
comp=Z,48nm,1.0s
T44A **Benton** 24.80 356 P P 00 20 43.5 +0.4
baz=174
T43A **Greenville** 24.85 355 P P 00 20 44.4 +0.9
baz=173
U38A **Gravette** 24.86 347 P P 00 20 43.9 +0.2
baz=164,SNR=8.2
V35A **Meyer Ranch, C** 24.86 342 P P 00 20 43.7 0.0
baz=158,SNR=6.2
T42A **Van Buren** 24.88 353 P P 00 20 44.1 +0.3
baz=171
T41A **Mountain View** 24.98 352 P P 00 20 45.1 +0.4
baz=170,SNR=7.7
U37A **Salina** 24.99 346 P P 00 20 45.8 +0.9
baz=162,SNR=9.6
U36A **Oologah** 25.14 344 P P 00 20 47.2 +1.1
baz=161,SNR=6.0
T40A **Mansfield** 25.19 351 P P 00 20 47.3 +0.6
baz=168
T39A **Clever** 25.21 349 P P 00 20 48.0 +1.1
baz=166
MNTX **Cornudas Mount** 25.36 323 P P 00 20 49.4 +1.1
baz=137,SNR=12
MNTX **Cornudas Mount** 25.36 323 *e*P P 00 20 49.4 +1.1
comp=Z,7.9nm,0.9s
S44A **Carbondale** 25.39 357 P P 00 20 48.5 +0.1
baz=175
U35A **Pawnee** 25.39 343 P P 00 20 48.9 +0.4
baz=159,SNR=12
T38A **Diamond** 25.41 347 P P 00 20 49.0 +0.3
baz=164,SNR=6.3
S41A **Jillco Farms,** 25.51 352 P P 00 20 49.6 0.0
baz=170,SNR=7.0
S42A **Caledonia** 25.58 354 P P 00 20 50.1 -0.1
baz=172
S40A **Lebanon** 25.63 351 P P 00 20 50.8 +0.2
baz=168
T37A **Cheneyville 18** 25.63 346 P P 00 20 51.0 +0.4
baz=163,SNR=9.3
MSTX **Muleshoe** 25.67 330 P P 00 20 51.6 +0.4
baz=144,SNR=39
MSTX **Muleshoe** 25.67 330 *e*P P 00 20 51.6 +0.4
comp=Z,79nm,0.9s
T36A **Boggs Farm, Ca** 25.80 345 P P 00 20 52.8 +0.5
baz=161,SNR=12
T35A **Sooner Cattle** 25.84 343 P P 00 20 53.2 +0.6
baz=160,SNR=8.2
S39A **Bolivar** 25.85 350 P P 00 20 53.0 +0.3
baz=167,SNR=13
S38A **Stockton** 25.90 348 P P 00 20 53.6 +0.5
baz=165
WCI **Wyandotte Cave** 25.91 2 *e*P P 00 20 52.6 -0.5
comp=Z,12nm,0.9s
AMTX **Amarillo** 25.91 333 P P 00 20 53.7 +0.4
baz=147
AMTX **Amarillo** 25.91 333 *e*P P 00 20 54.0 +0.7
comp=Z,21nm,0.9s
R44A **Waltonville** 25.93 357 P P 00 20 53.5 +0.2
baz=176
R43A **Red Bud** 26.01 356 P P 00 20 54.5 +0.4
baz=174
R42A **Luebbering** 26.09 354 P P 00 20 55.4 +0.6
baz=172
T34A **McClaskey Farm** 26.13 342 P P 00 20 55.7 +0.5
baz=158
U32A **Winter Ranch,** 26.13 339 P P 00 20 55.9 +0.6
baz=154,SNR=9.0
R41A **Rosebud** 26.16 353 P P 00 20 55.5 +0.1
baz=171,SNR=5.8
S37A **Fort Scott** 26.22 347 P P 00 20 56.3 +0.3
baz=164,SNR=7.5
R40A **Maddies Statio** 26.27 352 P P 00 20 56.4 -0.1
baz=169,SNR=5.5
R39A **Chumby, Stover** 26.41 350 P P 00 20 57.8 0.0
baz=168,SNR=6.4
R38A **Fenwick Farm,** 26.44 349 P P 00 20 58.1 +0.1
baz=166,SNR=6.1
S35A **Otter Creek Ra** 26.51 344 P P 00 20 58.9 +0.3
baz=160
Q44A **Meyer Farm, Va** 26.58 358 P P 00 20 58.9 -0.3
baz=176
Q43A **New Douglas** 26.66 356 P P 00 20 59.9 0.0
baz=175
S34A **Willow Spring** 26.74 343 P P 00 21 01.8 +1.1
baz=159
R37A **Teagarden Farm** 26.75 347 P P 00 21 00.9 +0.2
baz=164
Q41A **Truxton** 26.80 354 P P 00 21 02.1 +1.0
baz=171
R36A **Gordon, Harris** 26.91 346 P P 00 21 02.1 -0.1
baz=162,SNR=5.3
Q40A **Laux Farm, Aux** 26.94 352 P P 00 21 02.3 -0.1
baz=170
R35A **Emporia Munici** 27.08 345 P P 00 21 03.9 +0.2
baz=161
Q39A **Willow Grove F** 27.12 351 P P 00 21 04.0 0.0
baz=168
P44A **Sand Creek, Wi** 27.13 358 P P 00 21 04.5 +0.4
baz=177
Q38A **Cooks Store, C** 27.14 350 P P 00 21 04.6 +0.3
baz=166
Q37A **Longview Farm,** 27.21 348 P P 00 21 05.3 +0.3
baz=165
P42A **Winchester** 27.34 355 P P 00 21 07.5 +1.5
baz=173
P43A **Skaggs, Pawnee** 27.34 357 P P 00 21 06.7 +0.7
baz=175
121A **Cookes Peak, D** 27.40 321 P P 00 21 08.5 +1.6
baz=134,SNR=6.3
121A **Cookes Peak, D** 27.40 321 *e*P P 00 21 06.5 -0.3
comp=Z,17nm,1.0s
Q36A **Arnold C. Orve** 27.51 347 P P 00 21 07.6 0.0
baz=163
P39B **Salisbury** 27.52 351 P P 00 21 07.5 -0.1
baz=168
Q35A **Mercer Eighty,** 27.55 346 P P 00 21 07.9 0.0
baz=162
P38A **Dawn** 27.77 350 P P 00 21 10.2 +0.3
baz=167
Q34A **Chapman** 27.84 344 P P 00 21 10.5 +0.1
baz=160
BNM **Barren Site** 27.85 325 *e*P P 00 21 12.7 +1.7
P37A **Lathrop** 27.88 349 P P 00 21 11.1 +0.2
baz=165
O41A **Passleys Farm,** 27.91 355 P P 00 21 10.6 -0.5
baz=172
KSU1 **Kansas State U** 27.92 345 P P 00 21 11.3 +0.1
baz=161
KSU1 **Kansas State U** 27.92 345 *e*P P 00 21 11.3 +0.1
comp=Z,16nm,0.9s
SFIN **Lafayette** 28.03 1 P P 00 21 11.9 -0.3
baz=180
P36A **Good Intent, A** 28.09 347 P P 00 21 13.3 +0.6
baz=164
P35A **Duane Minner,** 28.18 346 P P 00 21 14.1 +0.6
baz=162
LAZ **Ladron** 28.32 324 *e*P P 00 21 15.3 +0.2
ANMO **Albuquerque** 28.34 326 P P 00 21 15.7 +0.4
comp=Z,2.6nm,1.0s,baz=148,slow=9.5,SNR=4.0
ANMO **Albuquerque** 28.34 326 P P 00 21 16.5 +1.3
baz=139
ANMO **Albuquerque** 28.34 326 *e*P P 00 21 17.1 +1.9
comp=Z,6.3nm,1.3s
P34A **Walnut Farm, R** 28.39 345 P P 00 21 16.0 +0.5
baz=160,SNR=6.7
O36A **Bolckow** 28.53 348 P P 00 21 17.0 +0.3
baz=164
CBKS **Cedar Bluff** 28.58 340 P P 00 21 17.8 +0.7
baz=155
O34A **Beatrice** 28.96 346 P P 00 21 20.6 +0.1
baz=161,SNR=9.7
N37A **Lee Faris, Mou** 28.99 350 P P 00 21 21.3 +0.6
baz=166
T25A **Trinidad** 29.02 332 P P 00 21 21.5 +0.3
baz=145
T25A **Trinidad** 29.02 332 *e*P P 00 21 23.0 +1.8
comp=Z,17nm,1.6s
O33A **Hebron** 29.09 344 P P 00 21 22.0 +0.4
baz=159,SNR=7.1
TUC **Tucson** 29.19 317 P P 00 21 22.5 -0.2
baz=129
TUC **Tucson** 29.19 317 *e*P P 00 21 28.3 +5.7
comp=Z,6.3nm,1.0s
N35A **Tabor** 29.37 348 P P 00 21 24.6 +0.5
baz=164
N54A **Moraine State** 29.38 12 P P 00 21 23.9 -0.3
baz=194
M39A **Webster** 29.40 353 P P 00 21 24.2 -0.1
baz=170
M38A **Pleasantville** 29.47 351 P P 00 21 24.2 -0.7
baz=168
N34A **Lincoln** 29.54 346 P P 00 21 25.8 +0.2
baz=162
M36A **Felix, Anita** 29.77 349 P P 00 21 28.1 +0.5
baz=165,SNR=5.8
L41A **Preston** 29.83 356 P P 00 21 29.0 +0.9
baz=174
L40A **Anamosa** 29.88 355 P P 00 21 28.6 +0.1

baz=172
M35A Neola 29.96 348 P P 00 21 29.3 0.0
baz=164
M54A Oil Creek Stat 29.97 12 P P 00 21 28.5 -0.9
baz=194
L39A Vinton 30.02 353 P P 00 21 30.6 +0.8
baz=171
SDCO Great Sand Dun 30.02 331 P P 00 21 31.4 +1.2
baz=144,SNR=14
SDCO Great Sand Dun 30.02 331 eP P 00 21 31.8 +1.6
comp=Z,6.8nm,0.9s
N59A State Game Lan 30.40 18 P P 00 21 32.2 -1.0
baz=202
BGNE Belgrade 30.49 344 P P 00 21 34.1 +0.1
baz=159
K40A Colesburg 30.50 355 P P 00 21 33.8 -0.3
baz=172
L35A Bielow Farm, R 30.55 348 P P 00 21 34.2 -0.3
baz=164,SNR=5.0
K39A Oelwein 30.58 354 P P 00 21 34.2 -0.5
baz=171
L34A Svendsen Farm, 30.59 347 P P 00 21 34.1 -0.7
baz=163
S22A 4UR Ranch, Cre 30.67 329 P P 00 21 37.4 +1.4
baz=141,SNR=6.1
S22A 4UR Ranch, Cre 30.67 329 eP P 00 21 37.8 +1.9
comp=Z,5.0nm,1.0s
K37A Belmond 30.86 351 P P 00 21 37.3 0.0
baz=168,SNR=13
K36A Gilmore City 30.86 350 P P 00 21 37.4 +0.1
baz=166
X16A Lo Mia Camp, P 30.93 319 eP P 00 21 44.1 +5.9
comp=Z,2.3nm,0.8s
L33A Hoskins 30.98 346 P P 00 21 38.7 +0.3
baz=161
L32A Elgin 31.01 345 P P 00 21 39.2 +0.6
baz=160
J41A Loganville 31.08 357 P P 00 21 38.7 -0.5
baz=175
K35A Storm Lake 31.08 349 P P 00 21 39.0 -0.2
baz=165,SNR=5.1
MVCO Mesa Verde 31.13 327 eP P 00 21 41.9 +1.9
comp=Z,4.1nm,0.8s
K34A Le Mars 31.22 348 P P 00 21 40.4 0.0
baz=164
OGNE Ogallala 31.27 339 P P 00 21 41.7 +0.7
baz=152
OGNE Ogallala 31.27 339 eP P 00 21 42.6 +1.6
comp=Z,20nm,0.9s
K33A Hardington 31.33 347 P P 00 21 41.4 0.0
baz=162
J37A Redenius Farm, 31.38 352 P P 00 21 41.8 0.0
baz=168,SNR=8.6
J36A Seneca 1, Swea 31.52 351 P P 00 21 42.9 -0.1
baz=167,SNR=9.4
WUAZ Wupatki 31.60 321 P P 00 21 44.4 +0.3
baz=132
K32A Verdigre 31.62 345 P P 00 21 44.0 +0.1
baz=160
I40A Norwalk 31.64 356 P P 00 21 44.4 +0.3
baz=174
I39A Houston 31.68 355 P P 00 21 43.9 -0.5
baz=172
ISCO Idaho Springs 31.73 333 P P 00 21 45.7 +0.4
baz=145
ISCO Idaho Springs 31.73 333 eP P 00 21 47.0 +1.7
comp=Z,4.9nm,1.2s
K31A O'Neill 31.78 344 P P 00 21 46.4 +1.0
baz=159
SMCO Snowmass 31.86 331 eP P 00 21 47.9 +1.4
comp=Z,7.9nm,1.0s
I38A Scanlan Farm, 31.95 354 P P 00 21 47.2 +0.4
baz=171
PV05 Paradox Valley 32.09 327 eP P 00 21 50.3 +1.9
PV04 Paradox Valley 32.22 328 eP P 00 21 51.0 +1.5
ECSD EROS Data Cent 32.33 348 P P 00 21 49.7 -0.5
baz=163,SNR=20
ECSD EROS Data Cent 32.33 348 eP P 00 21 49.4 -0.8
comp=Z,18nm,0.9s
H40A Chili 32.35 356 P P 00 21 49.6 -0.8
baz=174
J31A Geddes 32.40 345 P P 00 21 51.1 +0.3
baz=159,SNR=6.1
H36A Jessenland, He 32.68 352 P P 00 21 53.3 +0.2
baz=168,SNR=8.1
N23A Red Feather La 32.77 334 P P 00 21 55.4 +1.1
baz=146
H35A Sunnyside Ranc 32.93 351 P P 00 21 55.3 -0.1
baz=166,SNR=12
G40A Rib Lake 32.99 357 P P 00 21 55.6 -0.3
baz=175
G38A Ridgeland 33.01 354 P P 00 21 55.4 -0.7
baz=172
G39A Holcombe 33.07 355 P P 00 21 56.3 -0.3
baz=173
IKP In-Ko-Pah, Jac 33.09 312 P P 00 21 57.2 +0.2
baz=122
SPMN Marine on St. 33.17 353 P P 00 21 57.0 -0.4
baz=170
SPMN Marine on St. 33.17 353 eP P 00 21 56.4 -1.1
comp=Z,14nm,0.8s
O20A White River Ci 33.21 330 P P 00 21 59.2 +1.1
baz=142,SNR=8.6
O20A White River Ci 33.21 330 eP P 00 22 00.5 +2.4
comp=Z,14nm,0.9s
H32A Carlson Farm, 33.24 347 P P 00 21 57.7 -0.4
baz=162,SNR=11
H33A Prehn Over Nor 33.26 348 P P 00 21 57.7 -0.6
baz=163
F41A Three Lakes 33.41 358 P P 00 21 59.0 -0.6
baz=177
H31A Wolsey 33.45 346 P P 00 21 59.6 -0.3
baz=160
SUSD Miller 33.53 345 P P 00 22 00.5 -0.2
baz=159,SNR=6.6
F40A Park Falls 33.63 357 P P 00 22 00.9 -0.6
baz=175,SNR=5.0
F39A Loretta 33.68 356 P P 00 22 01.2 -0.7
baz=174
G33A Ortonville 33.70 349 P P 00 22 01.7 -0.3
baz=164
F36A Milaca 33.88 353 P P 00 22 03.0 -0.6
baz=169
G32A Webster 33.97 347 P P 00 22 04.4 0.0
baz=162,SNR=12
F34A Alexandria 34.07 350 P P 00 22 04.9 -0.3
baz=166
E39A Mellen 34.11 356 P P 00 22 05.3 -0.4
baz=174
E40A Wakefield 34.15 357 P P 00 22 05.4 -0.5
baz=175
F33A 5 Mile Ranch, 34.29 349 P P 00 22 06.5 -0.7
baz=164,SNR=20
K22A Casper 34.46 335 P P 00 22 09.9 +1.0
baz=146
K22A Casper 34.46 335 eP P 00 22 10.2 +1.3
comp=Z,14nm,1.3s
E36A McGregor 34.50 353 P P 00 22 08.6 -0.3
baz=170
RSSD Black Hills 34.77 339 P P 00 22 11.8 +0.3
baz=151
RSSD Black Hills 34.77 339 eP P 00 22 13.5 +1.9
comp=Z,3.4nm,0.8s
MPU Maple Canyon 34.85 327 eP P 00 22 14.4 +2.0
comp=Z,5.9nm,1.0s
D36A Goodland 35.13 353 P P 00 22 13.9 -0.6
baz=170
D35A Remer 35.15 352 P P 00 22 14.0 -0.5
baz=168
D34A Park Rapids 35.31 351 P P 00 22 15.7 -0.3
baz=167
D33A AnnSam, Waubun 35.47 350 P P 00 22 16.5 -0.9
baz=166
C39A Grand Marais 35.53 357 P P 00 22 17.0 -0.8
baz=175
TPNV Topopah Spring 35.57 319 P P 00 22 19.0 +0.5
baz=127
C37A Embarrass 35.58 355 P P 00 22 17.7 -0.6
baz=172
EDW2 Edwards Air Fo 35.59 314 P P 00 22 16.6 -2.0
baz=123
DUG Dugway, Tooele 35.62 326 P P 00 22 19.4 +0.5
baz=135
DUG Dugway, Tooele 35.62 326 eP P 00 22 21.1 +2.2
comp=Z,3.6nm,0.9s
C36A Pine Crest Far 35.67 354 P P 00 22 19.0 0.0
baz=171
D31A Mcclaflin, Tow 35.73 348 P P 00 22 19.4 -0.1
baz=163
EYMN Ely 35.74 356 P P 00 22 17.8 -1.9
baz=173
C35A Jirik Farms, M 35.75 353 P P 00 22 19.0 -0.7
baz=169,SNR=8.8
BW06 Boulder Array 35.88 332 P P 00 22 21.2 0.0
baz=142,SNR=5.7
BW06 Boulder Array 35.88 332 eP P 00 22 20.4 -0.8
comp=Z,4.6nm,0.9s
PD31 Pinedale Array 35.88 332 eP P 00 22 21.8 +0.5
PDAR Pinedale Array 35.88 332 P P 00 22 21.4 +0.2
comp=Z,3.5nm,0.8s,baz=122,slow=9.1,SNR=23
PDAR PcP PcP 00 24 48.2 +1.1
comp=Z,0.4nm,0.7s,baz=142,slow=4.6,SNR=3.2
HWUT Hardware Ranch 35.97 329 eP P 00 22 23.1 +1.2
comp=Z,11nm,0.8s
R11A Troy Canyon, C 36.00 321 P P 00 22 22.6 +0.3
baz=130
BMUT Black Mountain 36.07 329 eP P 00 22 23.5 +0.7
BGU Big Grassy Mou 36.25 327 eP P 00 22 25.6 +1.4
comp=Z,5.0nm,1.1s
B35A Bob, Littlefor 36.37 353 P P 00 22 24.3 -0.6
baz=169
C31A Landman Farms, 36.44 348 P P 00 22 25.3 -0.3
baz=163
CWC Cottonwood Cre 36.49 317 P P 00 22 25.3 -1.1
baz=124
AGMN Agassiz Nation 36.60 351 P P 00 22 26.7 -0.3
baz=166,SNR=11
AGMN Agassiz Nation 36.60 351 eP P 00 22 26.6 -0.3
comp=Z,17nm,0.8s
B34A Aery, Baudette 36.61 352 P P 00 22 26.6 -0.4
baz=168,SNR=9.1
HVU Hansel Valley 36.72 328 eP P 00 22 30.6 +2.4
comp=Z,4.6nm,0.8s
B32A Ashes, Strandq 36.80 350 P P 00 22 28.6 0.0
baz=165,SNR=19
MDND Maddock 36.89 347 P P 00 22 29.7 +0.3
baz=160,SNR=7.8
MDND Maddock 36.89 347 eP P 00 22 29.9 +0.4
comp=Z,76nm,1.0s
REDW Red Top Meadow 36.94 331 eP P 00 22 31.5 +1.3
comp=Z,26nm,0.8s
SNOW Snow King Moun 36.98 332 eP P 00 22 32.0 +1.5
comp=Z,31nm,0.8s
LOHW Long Hollow 37.02 332 eP P 00 22 32.0 +1.2
comp=Z,10nm,1.0s
TPAW Teton Pass 37.09 331 eP P 00 22 32.7 +1.2
comp=Z,18nm,0.8s
A33A Warroad 37.15 351 P P 00 22 31.5 -0.1
baz=167,SNR=5.8
MOOW Moose Ponds 37.19 332 eP P 00 22 33.3 +1.0
comp=Z,7.8nm,0.8s
IMW Indian Meadow 37.40 332 eP P 00 22 35.1 +1.0
comp=Z,5.5nm,0.6s
FLWY Flagg Ranch 37.43 332 eP P 00 22 35.7 +1.4
comp=Z,12nm,0.8s
H17A Grant Village 37.62 333 P P 00 22 37.0 +1.0
baz=142
H17A Grant Village 37.62 333 eP P 00 22 37.3 +1.4
comp=Z,4.2nm,0.4s
YPP Pitchstone Pla 37.62 332 eP P 00 22 37.8 +1.7
comp=Z,4.8nm,0.8s
RLMT Red Lodge 37.63 335 P P 00 22 36.8 +0.9
baz=144,SNR=6.3
RLMT Red Lodge 37.63 335 eP P 00 22 36.8 +0.9
comp=Z,8.8nm,0.9s
LAO LASA Array 37.76 339 P P 00 22 37.8 +0.9
baz=149
YHH Holmes Hill 38.05 333 eP P 00 22 41.3 +1.7
comp=Z,7.9nm,0.9s
GCMT Greycliff 38.33 335 eP P 00 22 43.0 +1.2
QLMT Earthquake Lak 38.34 332 eP P 00 22 44.1 +2.1
SIV San Ignacio 38.42 136 P P 00 22 42.1 -0.7
comp=Z,9.8nm,1.1s,baz=328,slow=8.5,SNR=7.4
ULM Lac du Bonnet 38.50 351 P P 00 22 41.8 -1.2
comp=Z,16nm,0.9s,baz=175,slow=8.2,SNR=18
ULM LR LR 00 40 30.5
comp=Z,106nm,18.6s,baz=140,slow=39
ULM Lac du Bonnet 38.50 351 eP P 00 22 42.1 -0.9
comp=Z,23nm,1.1s
DGMT Dagmar 38.67 342 P P 00 22 45.3 +0.8
baz=153
DGMT Dagmar 38.67 342 eP P 00 22 45.2 +0.8
comp=Z,30nm,0.8s
HLID Hailey 38.84 328 P P 00 22 46.6 +0.5
baz=136
HLID Hailey 38.84 328 eP P 00 22 47.3 +1.2
comp=Z,6.5nm,1.3s
MCMT McKenzie Canyo 38.99 331 eP P 00 22 49.6 +2.1
BOZ Bozeman (W) 39.02 333 P P 00 22 48.7 +1.2
baz=141,SNR=12
BOZ Bozeman (W) 39.02 333 eP P 00 22 49.0 +1.4
comp=Z,7.3nm,0.8s
DLMT Dillon 39.28 332 eP P 00 22 51.5 +1.8
comp=Z,10nm,0.9s
MFID Camas Ranch 39.47 327 eP P 00 22 51.4 +0.1
comp=Z,3.6nm,0.9s
LRM Limekiln Ridge 39.56 333 eP P 00 22 53.7 +1.5
EGMT Eagleton 40.18 337 P P 00 22 58.1 +0.9
baz=145
WVOR Wild Horse Val 40.38 324 eP P 00 23 00.5 +1.6
comp=Z,3.2nm,0.8s
MSO Missoula 41.00 332 P P 00 23 04.6 +0.7
baz=139,SNR=7.4
MSO Missoula 41.00 332 eP P 00 23 04.7 +0.7
comp=Z,9.6nm,1.1s
HAWA Hanford 43.42 328 eP P 00 23 24.2 +0.7
comp=Z,4.1nm,0.7s
NEW Newport 43.52 331 P P 00 23 24.5 +0.2
baz=136
NEW Newport 43.52 331 eP P 00 23 24.3 +0.1
comp=Z,3.0nm,0.8s
D08A Wollman Farm, 43.55 329 eP P 00 23 25.6 +1.1
comp=Z,7.2nm,0.8s
E07A Sunnyside 43.70 328 eP P 00 23 27.0 +1.3
comp=Z,8.7nm,0.8s
B08A Colville Reser 44.64 330 eP P 00 23 33.1 -0.2
comp=Z,5.7nm,1.0s
SCHQ Schefferville 45.52 17 P P 00 23 39.1 -1.0
comp=Z,4.8nm,0.6s,baz=238,slow=9.5,SNR=3.7
FCC Fort Churchill 46.69 355 eP P 00 23 48.0 -1.1
comp=Z,14nm,0.8s
LLLB Lillooet 47.38 331 eP P 00 23 55.6 +0.8
comp=Z,7.8nm,0.9s
YKA Yellowknife Ar 53.77 345 P P 00 24 41.6 -1.0
comp=Z,1.9nm,0.8s,baz=144,slow=6.8,SNR=4.0
YKA LR LR 00 49 13.3
comp=Z,11nm,18.5s,baz=180,slow=38
DLBC Deer Lake 56.03 335 eP P 00 25 00.5 +1.3
comp=Z,6.2nm,0.8s
INK Inuvik 63.36 343 eP P 00 25 48.8 -0.3
comp=Z,3.6nm,0.9s
DIV Divide 64.25 333 eP P 00 25 53.9 -1.4
comp=Z,3.1nm,0.6s
IL1 Eielson Array 66.15 336 eP P 00 26 06.4 -1.0
ILAR Eielson Array 66.15 336 P P 00 26 06.8 -0.6
comp=Z,2.0nm,1.0s,baz=104,slow=4.8,SNR=12
ILAR LR LR 01 01 34.6
comp=Z,90nm,18.8s,baz=82,slow=42
RND Reindeer 66.44 335 eP P 00 26 09.9 +0.6
comp=Z,11nm,1.1s
COLA College 66.57 336 eP P 00 26 08.0 -2.0
comp=Z,3.0nm,0.3s
MCK McKinley 66.58 335 P P 00 26 08.7 -1.5
comp=Z,1.5nm,0.4s
PPT Papeete 67.97 245 LR LR 00 47 34.0
comp=Z,123nm,21.6s,baz=20,slow=28
PPT2 Papeet2 67.98 245 eLR LR 00 46 45.5
comp=Z,115nm,24.0s
COLD Coldfoot 68.33 338 eP P 00 26 22.2 +1.1
comp=Z,3.4nm,0.9s
TOLK Toolik Lake Re 68.63 340 P P 00 26 20.1 -3.0
baz=112
ESDC Sonseca Array 77.44 52 P P 00 27 15.9 +0.3
comp=Z,0.6nm,0.7s,baz=286,slow=6.4,SNR=4.2
ESDC LR LR 00 55 37.2
comp=Z,43nm,21.1s,baz=305,slow=31
RAR Rarotonga 78.25 245 LR LR 00 55 40.1
comp=Z,75nm,18.4s,baz=44,slow=31
WLF Walferdange 83.19 41 P P 00 27 40.4 -5.9
comp=Z,2.3nm,0.6s
BNI Bardonecchia 84.44 45 P P 00 27 45.6 -7.4
comp=Z,0.3nm,0.6s
GRFO Grafenberg 86.40 40 eP P 00 27 56.3 -6.1
comp=Z,1.4nm,0.6s
AFI Afiamalu 87.36 255 LR LR 00 58 56.7
comp=Z,50nm,18.8s,baz=48,slow=30
GERES GERESS Array B 88.19 40 LR LR 01 04 04.4
comp=Z,56nm,19.2s,baz=276,slow=33
MORC Moravsky Berou 90.30 39 eP P 00 28 14.6 -6.4
comp=Z,3.8nm,0.6s
PETK Petropavlovsk- 94.48 327 LR LR 01 14 21.5
comp=Z,33nm,18.2s,baz=65,slow=37
KIEV Kiev 96.77 35 P P 00 28 41.1 -9.5
comp=Z,1.0nm,0.4s
YAK Yakutsk 100.42 343 ePdif Pdif 00 29 03.5 -3.2
MAJO Matsushiro 115.07 320 ePKPdf PKPdf 00 33 54.7 -6.5
SONM Songino Array 118.91 349 PKP PKPdf 00 34 09.4 +0.9
comp=Z,1.1nm,1.1s,baz=343,slow=3.0,SNR=3.0
KSRS Korea Array 120.36 328 PKP PKPdf 00 34 12.0 +0.7
comp=Z,1.3nm,0.6s,baz=360,slow=0.6,SNR=5.3
ENH Enshi 134.64 339 ePKPdf PKPpre 00 34 32.1
ASAR Alice Springs 139.05 248 PKP PKPdf 00 34 46.7 -0.5
comp=Z,0.4nm,0.7s,baz=131,slow=2.6,SNR=4.6
WRA Warramunga Arr 139.06 254 PKP PKPdf 00 34 47.2 0.0
comp=Z,0.9nm,0.8s,baz=97,slow=2.6,SNR=3.5
FORT Forrest 142.26 235 ePKPdf PKPpre 00 34 43.0
CMAR Chiang Mai Arr 148.82 348 PKPbc PKPdf 00 35 06.3 +2.0
comp=Z,4.7nm,0.8s,baz=339,slow=3.2,SNR=14

DJA 10 00:37:38.8±0.8, 0°N±12°×12°4E±°, h68km±14km, M4.3/6, mb4.7/4, mB5.0/3, MLv4.2/6, Mw(mB)4.3/3, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KMSI	Cibinong	0.57	314	P	Pn	00 37 53.5	+1.4
KMSI				S	Sn	00 38 04.8	+2.9
GTOI	Gorontalo	1.45	288	P	Pn	00 38 06.1	+3.0
MRSI	Marisa	2.47	277	P	Pn	00 38 15.4	-1.3
SANI	Sanana	2.73	144	P	Pn	00 38 17.1	-3.2
NLAI	Namlea	4.34	141	P	Pn	00 38 40.6	-1.8
NLAI				S	Sn	00 39 26.6	-5.2
TTSI	Tana Toraja	5.58	235	P	Pn	00 38 59.8	+0.5
	58nm,0.5s,1μm0.2nm						
MSAI	Masohi	5.73	128	P	Pn	00 39 02.8	+1.4
	34nm,0.9s,638nm0.1nm						
SPSI	Sidrap Palu	6.19	228	P	Pn	00 39 08.2	+0.6

*CASC **10** 00:41:55.9±2.0, 12°.05N×87°.76W, h24km±21km, MD4.0, ML3.9, mb4.6(NEIC)*
*ISCJB **10** 00:41:56.7±0.4, 12°.06N±0°.04×87°.71W±0°.03, h58km±3km, mb4.3/53, MS3.0/3, Error ellipse: s-maj=7.9km s-min=3.3km az=40.1*
*IDC **10** 00:41:59.2±2.0, 12°.34N×87°.45W, h57km±22km, mb3.8/8, mb1 4.1/10, mb1mx3.8/38, mbtmp4.1/10, ML3.9/2, MS3.2/4, Ms1 3.2/4, ms1mx2.9/31, Error ellipse: s-maj=38.8km s-min=13.8km az=43.0*
*NEIC **10** 00:41:59.0±0.9, 12°.05N×87°.61W, h64km±7km, mb4.4/49, Error ellipse: s-maj=11.7km s-min=7.2km az=223.0*
ISC 10 00:41:58.0±1.0, 12°.06N±0°.06×87°.71W±0°.05, h54km±10km, n221, σ1°11°/225, mb4.4/53, MS3.1/3, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CNGN	Cerro Negro	1.08	66	eP	Pn	00 42 15.6	-1.4
CNGN				eS	Sn	00 42 33.3	+2.3
COPN	Copaltepe	1.10	84	eP	Pn	00 42 15.5	-1.7
COPN				eS	Sn	00 42 32.6	+1.2
MOMN	Momotombo	1.19	73	eP	Pn	00 42 16.9	-1.6
MOMN				eS	Sn	00 42 35.3	+1.5
CNCH	Conchagua	1.22	354	eP	Pn	00 42 17.5	-1.4
XAVN	Gruta Xavier	1.35	86	eP	Pn	00 42 19.1	-1.5
TISN	Laguna Tiscapa	1.41	86	eP	Pn	00 42 19.1	-2.3
MGAN	Managua	1.43	86	eP	Pn	00 42 20.4	-1.3
MGAN				eS	Sn	00 42 39.3	-0.1
VSM	San Miguel	1.47	338	eP	Pn	00 42 20.6	-1.8
LCY	Lacayo	1.47	337	eP	Pn	00 42 20.5	-1.8
LCY				eS	Sn	00 42 40.8	+0.2
PACA	Pacayal	1.53	337	eP	Pn	00 42 21.6	-1.4
PACA				eS	Sn	00 42 41.2	-0.7
ESTN	Estel	1.67	51	eP	Pn	00 42 24.2	-0.8
ESTN				eS	Sn	00 42 47.5	+2.1
CAHU	Cacacuatique	1.77	344	eP	Pn	00 42 25.7	-0.8
SNVI	San Vicente	1.90	325	eP	Pn	00 42 26.7	-1.5
TGUH	Tegucigalpa,Un	2.03	12	ePn	Pn	00 42 29.4	-0.4
LFRS	El Faro	2.04	320	eP	Pn	00 42 28.1	-2.0
CONN	Concepcion	2.10	103	eP	Pn	00 42 28.6	-2.2
CONN				eS	Sn	00 42 55.3	-0.4
LBRS	Las Brisas	2.12	322	eP	Pn	00 42 29.6	-1.5
LFU	La Fuente	2.17	321	eP	Pn	00 42 30.3	-1.5
SNET	Serv Nac Est T	2.20	318	AML	AML	00 43 01.7	
	comp=Z,1μm,0.3s						
CRZ1	La Cruz	2.25	116	eP	Pn	00 42 32.8	-0.1
MONT	Ecomontaæa	2.60	314	eP	Pn	00 42 37.3	-0.6
GPS3	Bodega del ICE	2.64	119	eP	Pn	00 42 38.5	+0.3
MESS	Mesas	2.79	118	eP	Pn	00 42 40.4	0.0
VCR	Vista de Mar	2.80	133	eP	Pn	00 42 46.3	+5.8
COLC	Colonia	2.82	119	eP	Pn	00 42 40.5	-0.2
MTO3	Montecristo	2.83	326	eP	Pn	00 42 39.8	-1.2
CUI	Cuipilapa	2.86	119	eP	Pn	00 42 40.0	-1.1
JTS	JuntasAbangare	3.22	123	P	Pn	00 42 47.8	+1.6
	comp=Z,17nm,0.3s,baz=321,slow=17,SNR=25						
JTS				S	Sn	00 43 24.0	+0.6
	comp=Z,19nm,0.3s,baz=336,slow=20,SNR=4.4						
ARE1	Arenal 1	3.33	118	eP	Pn	00 42 47.9	+0.2
CGA2	Cerro Gallo 2	3.77	122	eP	Pn	00 42 54.0	+0.1
LCR2	La Lucha 2	4.30	122	eP	Pn	00 43 01.6	+0.4
QCR1	Quepos	4.35	127	eP	Pn	00 43 01.1	-0.5
URSC	Urasca	4.45	119	eP	Pn	00 43 04.9	+1.8
BUS	Buena Vista	4.61	122	eP	Pn	00 43 06.8	+1.2
DRK0	Durika	5.19	122	eP	Pn	00 43 13.5	+0.2
TBS2		5.93	123	eP	Pn	00 43 23.6	+0.1
CCIG	Comitan	6.01	315	ePn	Pn	00 43 27.8	+3.3
CMIG	Matias Romero	8.56	307	P	Pn	00 44 00.6	+1.3
	comp=Z,1.0nm,0.3s,baz=126,slow=13,SNR=7.3						
CMIG				LR	LR	00 47 50.6	
	comp=Z,236nm,20.2s,baz=119,slow=41						
TLIG	Tlapa	11.84	299	ePn	Pn	00 44 45.5	+1.2
034A	Hebbronville	18.14	327	P	Pn	00 46 07.4	+1.3
	baz=143,SNR=6.6						
933A	Laredo	18.89	327	P	P	00 46 14.4	+0.2
	baz=143,SNR=5.3						
834A	Tilden	18.93	329	P	Pn	00 46 16.4	+0.7
	baz=145,SNR=5.7						
344A	Westbrook Farm	19.50	352	P	Pn	00 46 22.8	+0.4
	baz=171,SNR=5.5						
833A	Chaparral WMA,	19.52	328	P	P	00 46 21.8	+0.7
	baz=144,SNR=7.4						
TIGA	Tifton	19.66	11	P	Pn	00 46 24.0	-0.3
	baz=192						
TIGA	Tifton	19.66	11	eP	Pn	00 46 24.2	-0.1
	comp=Z,43nm,1.4s						
439A	Center Grove,	19.76	342	P	Pn	00 46 24.9	-0.6
	baz=159,SNR=5.7						
733A	Divot King Ran	19.79	329	P	P	00 46 24.0	0.0
	baz=144,SNR=11						
832A	Faith Ranch, C	19.80	326	P	P	00 46 24.3	+0.2
	baz=142,SNR=23						
341A	Kurthwood	19.84	346	P	P	00 46 25.0	+0.6
	baz=164						
245A	Little AP, Sta	19.98	355	P	Pn	00 46 27.6	-0.5
	baz=174						
244A	Avery, Jackson	20.08	353	P	P	00 46 27.9	+0.9
	baz=171						
340A	Bronson	20.09	344	P	P	00 46 27.5	+0.3
	baz=162,SNR=6.9						
633A	Saathoff Ranch	20.34	330	P	P	00 46 29.8	-0.2
	baz=146,SNR=7.2						
241A	Mo Tay, Goldon	20.44	347	P	Pn	00 46 32.4	-1.2
	baz=165						
338A	Crockett	20.45	341	P	P	00 46 32.3	+1.2
	baz=158						
534A	Blanco	20.49	332	P	P	00 46 30.8	-0.7
	baz=148						
533A	Kerrville	20.78	331	P	P	00 46 34.6	-0.2
	baz=147,SNR=9.6						
LRAL	Lakeview Retre	20.89	2	eP	Pn	00 46 38.0	-0.9
	comp=Z,8.2nm,0.9s						
434A	Burnet	21.07	334	P	P	00 46 38.7	+0.8
	baz=150						
Z48A	Northport	21.22	0	P	P	00 46 40.1	+0.7
	baz=180						
433A	Art	21.38	332	P	P	00 46 40.7	-0.5
	baz=148						
JCT	Junction City	21.49	330	P	P	00 46 41.9	-0.5
	baz=146						

JCT	Junction City	21.49	330	*e*P		P	00 46 43.4	+1.1
	comp=Z,8.5nm,0.7s							
GOGA	Godfrey	21.61	10	*e*P		P	00 46 43.4	-0.1
	comp=Z,9.9nm,0.6s							
Y46A	Houston	21.75	357	P		P	00 46 45.0	0.0
	baz=177							
333A	Richland Sprin	21.82	333	P		P	00 46 45.5	-0.4
	baz=149,SNR=6.2							
136A	Ennis	21.88	340	P		P	00 46 47.2	+0.8
	baz=156							
233A	Rising Star	22.38	334	P		P	00 46 51.2	-0.7
	baz=150							
Y39A	Lockesburg	22.55	346	P		P	00 46 53.5	-0.1
	baz=163,SNR=6.0							
TXAR	Lajitas Array	22.72	322	P		P	00 46 56.0	+0.4
	comp=Z,12nm,0.8s,baz=137,slow=11,SNR=98							
TXAR				PcP		PcP	00 50 47.1	+0.8
	comp=Z,0.2nm,0.7s,baz=125,slow=2.7,SNR=3.2							
TX31	Lajitas Ar. Si	22.72	322	*e*P		P	00 46 56.1	+0.5
X40A	Basin Creek Fa	22.81	349	P		P	00 46 56.7	+0.3
	baz=167							
JSC	Jenkinsville	22.89	14	*e*P		P	00 46 58.3	+1.1
	comp=Z,9.1nm,1.1s							
Z35A	Perchaven, San	22.91	339	P		P	00 46 57.4	0.0
	baz=155							
UALR	University of	23.00	350	*e*P		P	00 46 58.8	+0.5
	comp=Z,12nm,1.0s							
MIAR	Mount Ida	23.02	348	P		P	00 46 58.0	-0.5
	baz=165,SNR=14							
MIAR	Mount Ida	23.02	348	*e*P		P	00 46 58.1	-0.4
	comp=Z,14nm,0.8s							
X39A	Fountain Ranch	23.10	346	P		P	00 46 58.6	-0.7
	baz=164							
Y36A	Durant	23.11	342	P		P	00 46 59.6	+0.2
	baz=158							
Z34A	Collier Ranch,	23.18	338	P		P	00 46 59.6	-0.6
	baz=154							
ABTX	Abilene, Hawle	23.22	334	P		P	00 47 00.2	-0.3
	baz=149,SNR=6.2							
ABTX	Abilene, Hawle	23.22	334	*e*P		P	00 47 00.8	+0.2
	comp=Z,11nm,1.0s							
Y35A	Marietta	23.36	340	P		P	00 47 02.3	+0.5
	baz=156,SNR=15							
X38A	Whitesboro	23.42	345	P		P	00 47 03.0	+0.5
	baz=162,SNR=7.5							
Z33A	Whitaker Ranch	23.43	336	P		P	00 47 02.3	-0.3
	baz=152							
CPCT	Cooper Cave	23.47	7	*e*P		P	00 47 04.0	+1.2
	comp=Z,3.8nm,0.8s							
X37A	Clayton	23.49	344	P		P	00 47 03.7	+0.6
	baz=161							
W40A	Ferguson Farm,	23.54	349	P		P	00 47 03.9	+0.4
	baz=167							
W39A	Magazine	23.69	348	P		P	00 47 04.7	-0.2
	baz=165							
W38A	Poteau	23.73	346	P		P	00 47 05.1	-0.1
	baz=163,SNR=6.8							
X36A	Centrahoma	23.75	342	P		P	00 47 06.0	+0.5
	baz=158							
TKL	Tuckaleechee C	23.77	8	P		P	00 47 04.8	-0.8
	comp=Z,5.7nm,0.6s,baz=176,slow=8.9,SNR=10							
TKL	Tuckaleechee C	23.77	8	*e*P		P	00 47 05.8	+0.2
	comp=Z,9.7nm,0.8s							
X35A	Drake	23.79	341	P		P	00 47 06.0	+0.2
	baz=157,SNR=9.7							
V41A	Mountainview	23.96	351	P		P	00 47 06.8	-0.6
	baz=169							
W37B	Quinton	24.02	344	P		P	00 47 07.8	-0.1
	baz=161							
V40A	Witts Springs	24.09	350	P		P	00 47 08.3	-0.3
	baz=168							
V39A	Pettigrew	24.28	348	P		P	00 47 10.1	-0.3
	baz=166							
U42A	Revenden	24.40	353	P		P	00 47 09.4	-2.0
	baz=171							
W35A	Tecumseh	24.45	342	P		P	00 47 12.0	+0.1
	baz=158							
V38A	Canehill	24.46	347	P		P	00 47 11.5	-0.4
	baz=164							
U41A	Viola	24.48	352	P		P	00 47 11.4	-0.7
	baz=170							
LPIG	La Paz	24.55	302	LR		LR	00 57 38.8	
	comp=Z,58nm,20.2s,baz=30,slow=38							
U40A	Yellville	24.64	350	P		P	00 47 13.1	-0.4
	baz=168							
V37A	Hulbert	24.66	345	P		P	00 47 13.1	-0.6
	baz=162							
TZTN	Tazewell	24.67	8	*e*P		P	00 47 15.8	+2.0
	comp=Z,8.5nm,0.8s							
WMOK	Wichita Mounta	24.72	338	P		P	00 47 13.8	-0.5
	baz=153,SNR=8.6							
WMOK	Wichita Mounta	24.72	338	*e*P		P	00 47 13.9	-0.5
	comp=Z,6.0nm,0.9s							
HHAR	Hobbs	24.77	348	*e*P		P	00 47 14.1	-0.7
	comp=Z,4.4nm,0.6s							
V36A	Jenks	24.77	344	P		P	00 47 14.8	0.0
	baz=160							
U39A	Green Forest	24.77	349	P		P	00 47 14.2	-0.6
	baz=166							
TUL1	Leonard	24.85	344	P		P	00 47 14.9	-0.6
	baz=161							
TUL1	Leonard	24.85	344	*e*P		P	00 47 16.2	+0.7
	comp=Z,21nm,1.1s							
V35A	Meyer Ranch, C	25.00	342	P		P	00 47 16.1	-0.8
	baz=158							
U38A	Gravette	25.01	347	P		P	00 47 16.1	-0.8
	baz=164							
T42A	Van Buren	25.05	354	P		P	00 47 15.7	-1.6
	baz=172							
T41A	Mountain View	25.14	352	P		P	00 47 17.2	-1.0
	baz=170							
U37A	Salina	25.15	346	P		P	00 47 17.9	-0.3
	baz=163							
U36A	Oologah	25.29	345	P		P	00 47 19.4	-0.1
	baz=161							
T40A	Mansfield	25.36	351	P		P	00 47 19.6	-0.5
	baz=169							
T39A	Clever	25.38	349	P		P	00 47 20.2	-0.1
	baz=167							
MNTX	Cornudas Mount	25.44	323	P		P	00 47 22.4	+1.5
	baz=136							
MNTX	Cornudas Mount	25.44	323	*e*P		P	00 47 22.5	+1.5
U35A	Pawnee	25.54	343	P		P	00 47 21.6	-0.2
	baz=159							
S44A	Carbondale	25.57	357	P		P	00 47 22.0	0.0
	baz=176							
T38A	Diamond	25.57	348	P		P	00 47 21.2	-0.8
	baz=165							
S41A	Jillco Farms,	25.68	353	P		P	00 47 21.8	-1.2
	baz=171							
MSTX	Muleshoe	25.78	330	P		P	00 47 24.2	+0.1
	baz=144,SNR=9.1							
MSTX	Muleshoe	25.78	330	*e*P		P	00 47 23.9	-0.2
	comp=Z,17nm,0.8s							
T37A	Cheneyville 18	25.79	347	P		P	00 47 23.3	-0.7
	baz=164							
S40A	Lebanon	25.79	351	P		P	00 47 23.2	-0.8
	baz=169							
T35A	Sooner Cattle	25.99	344	P		P	00 47 26.4	+0.6
	baz=160							
S39A	Bolivar	26.02	350	P		P	00 47 25.4	-0.6
	baz=167,SNR=8.0							
AMTX	Amarillo	26.03	333	*e*P		P	00 47 27.6	+1.3
	comp=Z,8.3nm,0.7s							
NNA	Nana	26.21	155	LR		LR	00 56 22.1	
	comp=Z,36nm,21.0s,baz=336,slow=33							
R41A	Rosebud	26.34	353	P		P	00 47 27.8	-1.1
	baz=172							
S37A	Fort Scott	26.38	347	P		P	00 47 28.4	-0.9
	baz=164							
R40A	Maddies Statio	26.44	352	P		P	00 47 28.7	-1.1
	baz=170							
R39A	Chumby, Stover	26.58	351	P		P	00 47 30.1	-1.1
	baz=168							
R38A	Fenwick Farm,	26.60	349	P		P	00 47 30.8	-0.5
	baz=166							
S35A	Otter Creek Ra	26.66	345	P		P	00 47 31.2	-0.6
	baz=161							
Q39A	Willow Grove F	27.28	351	P		P	00 47 36.3	-1.1
	baz=168							
Q38A	Cooks Store, C	27.30	350	P		P	00 47 37.6	0.0
	baz=167							
121A	Cookes Peak, D	27.48	321	*e*P		P	00 47 40.1	+0.6
	comp=Z,5.1nm,0.8s							
ANMO	Albuquerque	28.44	326	P		P	00 47 48.6	+0.5
	comp=Z,0.6nm,0.4s,baz=172,slow=9.4,SNR=3.8							
P34A	Walnut Farm, R	28.55	345	P		P	00 47 47.9	-0.8
	baz=161							
O34A	Beatrice	29.12	346	P		P	00 47 53.2	-0.6
	baz=162							
O33A	Hebron	29.24	344	P		P	00 47 53.9	-1.0
	baz=160							
M35A	Neola	30.12	348	P		P	00 48 01.7	-0.9
	baz=164							
SDCO	Great Sand Dun	30.13	331	P		P	00 48 03.4	+0.3
	baz=143							
SDCO	Great Sand Dun	30.13	331	*e*P		P	00 48 04.7	+1.5
	comp=Z,2.3nm,0.9s							
SDCO				*e*S		S	00 53 03.0	+4.5
PTGA	Pitinga	30.34	113	LR		LR	01 01 42.4	
	comp=Z,52nm,20.0s,baz=292,slow=39							
S22A	4UR Ranch, Cre	30.77	330	P		P	00 48 10.0	+1.2
	baz=141							
K37A	Belmond	31.03	352	P		P	00 48 09.3	-1.3
	baz=169,SNR=8.0							
J37A	Redenius Farm,	31.55	352	P		P	00 48 14.6	-0.6
	baz=169							
J36A	Seneca 1, Swea	31.68	351	P		P	00 48 15.2	-1.2
	baz=167							
SMCO	Snowmass	31.97	331	*e*P		P	00 48 20.7	+1.3
	comp=Z,2.0nm,0.7s							
SAML	Samuel	32.09	129	*e*P		P	00 48 19.3	-1.0
	comp=Z,4.1nm,0.9s							
PV04	Paradox Valley	32.32	328	*e*P		P	00 48 23.7	+1.3
ECSD	EROS Data Cent	32.49	348	P		P	00 48 21.7	-1.8
	baz=164							
ECSD	EROS Data Cent	32.49	348	*e*P		P	00 48 20.6	-2.8
	comp=Z,6.9nm,0.8s							
H40A	Chili	32.53	356	P		P	00 48 22.4	-1.5
	baz=175							
H35A	Sunnyside Ranc	33.10	351	P		P	00 48 27.3	-1.5
	baz=167,SNR=5.5							
G39A	Holcombe	33.25	356	P		P	00 48 28.8	-1.3
	baz=174							
O20A	White River Ci	33.32	331	P		P	00 48 31.7	+0.7
	baz=141							
O20A	White River Ci	33.32	331	*e*P		P	00 48 31.6	+0.5
	comp=Z,4.5nm,0.7s							
H32A	Carlson Farm,	33.40	347	P		P	00 48 30.3	-1.2
	baz=162,SNR=5.6							
SADO	Sadowa	33.42	11	P		P	00 48 29.9	-1.6
	comp=Z,7.5nm,0.9s,baz=211,slow=9.9,SNR=6.2							
G33A	Ortonville	33.86	349	P		P	00 48 33.7	-1.7
	baz=164							
G32A	Webster	34.13	348	P		P	00 48 36.6	-1.1
	baz=163							
F33A	5 Mile Ranch,	34.45	349	P		P	00 48 38.9	-1.6
	baz=165,SNR=6.5							
MPU	Maple Canyon	34.95	327	*e*P		P	00 48 46.0	+0.8
	comp=Z,4.7nm,0.9s							
D31A	Mcclaflin, Tow	35.89	348	P		P	00 48 51.4	-1.5
	baz=163							
C35A	Jirik Farms, M	35.92	353	P		P	00 48 51.3	-1.9
	baz=169							
BW06	Boulder Array	36.00	332	P		P	00 48 54.5	+0.3
	baz=142							
BW06	Boulder Array	36.00	332	*e*P		P	00 48 53.5	-0.6
	comp=Z,2.9nm,1.0s							
PD31	Pinedale Array	36.00	332	*e*P		P	00 48 54.5	+0.3
PDAR	Pinedale Array	36.00	332	P		P	00 48 54.0	-0.1
	comp=Z,1.4nm,0.6s,baz=122,slow=9.5,SNR=17							
HWUT	Hardware Ranch	36.08	329	*e*P		P	00 48 55.8	+1.0
	comp=Z,8.3nm,0.8s							
SPUT	South Promonto	36.31	328	*e*P		P	00 48 57.5	+0.7
	comp=Z,4.9nm,1.0s							
BGU	Big Grassy Mou	36.34	327	*e*P		P	00 48 57.9	+0.8
AGMN	Agassiz Nation	36.76	351	P		P	00 48 59.1	-1.2
	baz=166							
AGMN	Agassiz Nation	36.76	351	*e*P		P	00 48 58.3	-2.0
	comp=Z,18nm,1.3s							
B34A	Aery, Baudette	36.77	352	P		P	00 48 58.8	-1.6
	baz=168							
HVU	Hansel Valley	36.82	328	*e*P		P	00 49 01.9	+0.8
	comp=Z,3.8nm,0.8s							
B32A	Ashes, Strandq	36.97	350	P		P	00 49 01.0	-1.1
	baz=165,SNR=5.2							
REDW	Red Top Meadow	37.06	332	*e*P		P	00 49 03.8	+0.6
	comp=Z,15nm,0.6s							
SNOW	Snow King Moun	37.09	332	*e*P		P	00 49 04.7	+1.2
	comp=Z,16nm,0.6s							
LOHW	Long Hollow	37.14	332	*e*P		P	00 49 04.3	+0.5
	comp=Z,3.3nm,0.7s							
TPAW	Teton Pass	37.20	332	*e*P		P	00 49 05.8	+1.3
	comp=Z,7.1nm,0.7s							
MOOW	Moose Ponds	37.31	332	*e*P		P	00 49 05.5	+0.2
	comp=Z,6.7nm,0.8s							
A33A	Warroad	37.32	352	P		P	00 49 03.2	-1.8
	baz=167,SNR=5.7							
IMW	Indian Meadow	37.51	332	*e*P		P	00 49 07.0	-0.1
	comp=Z,3.4nm,0.5s							
FLWY	Flagg Ranch	37.55	332	*e*P		P	00 49 08.4	+1.1
	comp=Z,5.5nm,0.6s							
RLMT	Red Lodge	37.75	335	P		P	00 49 09.0	0.0
	baz=144							
YHH	Holmes Hill	38.16	333	*e*P		P	00 49 12.6	0.0
	comp=Z,2.6nm,0.9s							
ULM	Lac du Bonnet	38.67	352	P		P	00 49 14.1	-2.3
	comp=Z,4.1nm,0.6s,baz=170,slow=10,SNR=10							
ULM	Lac du Bonnet	38.67	352	*e*P		P	00 49 14.2	-2.2
	comp=Z,8.9nm,1.1s							
DGMT	Dagmar	38.82	342	*e*P		P	00 49 18.1	+0.4
	comp=Z,15nm,0.6s							
HLID	Hailey	38.94	329	P		P	00 49 20.2	+1.2
	baz=136							
HLID	Hailey	38.94	329	*e*P		P	00 49 20.8	+1.8
	comp=Z,2.0nm,0.8s							
LVC	Limon Verde	39.07	152	*e*P		P	00 49 17.2	-3.3
	comp=Z,4.2nm,0.9s							
MCMT	McKenzie Canyo	39.11	331	*e*P		P	00 49 21.9	+1.4
BOZ	Bozeman (W)	39.14	333	P		P	00 49 21.7	+1.1
	baz=141,SNR=10							
BOZ	Bozeman (W)	39.14	333	*e*P		P	00 49 21.2	+0.7
	comp=Z,4.8nm,0.7s							
DLMT	Dillon	39.39	332	*e*P		P	00 49 23.3	+0.6
	comp=Z,3.7nm,0.8s							
WVOR	Wild Horse Val	40.47	324	*e*P		P	00 49 33.1	+1.4
	comp=Z,3.7nm,0.8s							
MSO	Missoula	41.12	333	P		P	00 49 37.0	+0.2
	baz=139							
MSO	Missoula	41.12	333	*e*P		P	00 49 37.4	+0.5
	comp=Z,31nm,2.0s							
BMO	Blue Mountains	41.33	328	*e*P		P	00 49 40.0	+1.3
	comp=Z,1.8nm,0.8s							
NEW	Newport	43.63	332	*e*P		P	00 49 57.5	+0.3
	comp=Z,3.0nm,0.8s							
E07A	Sunnyside	43.80	328	*e*P		P	00 49 59.6	+1.1
	comp=Z,7.4nm,0.8s							
B08A	Colville Reser	44.75	330	*e*P		P	00 50 06.5	+0.3
	comp=Z,2.6nm,0.8s							
NIHS	Ingelmoor High	45.80	328	*e*P		P	00 50 15.8	+1.4
LLLB	Lillooet	47.50	331	*e*P		P	00 50 28.2	+0.5
	comp=Z,7.8nm,0.6s							
ILAR	Eielson Array	66.28	336	P		P	00 52 39.4	-1.0
	comp=Z,0.5nm,0.8s,baz=101,slow=5.1,SNR=6.6							
ESDC	Sonseca Array	77.63	52	P		P	00 53 47.2	-1.8
	comp=Z,0.2nm,0.5s,baz=281,slow=4.9,SNR=3.2							
ENH	Enshi	134.78	339	*e*PKPdf		PKPdf	01 01 11.8	+0.3
WRA	Warramunga Arr	138.92	253	PKP		PKPdf	01 01 21.1	+1.8
	comp=Z,0.7nm,0.8s,baz=91,slow=0.8,SNR=3.1							
CMAR	Chiang Mai Arr	148.98	348	PKPbc		PKPbc	01 01 40.9	-0.1
	comp=Z,2.0nm,0.5s,baz=336,slow=3.2,SNR=12							

NIED **10** *01:23:00,39.60N×143.70E,h23km,Mw3.6 Best double couple: M₀2.70000×10¹⁴ NP1:φs169.00000°,δ34.00000°, λ45.00000°. NP2:φs39.00000°,δ67.00000°,λ116.00000°.*

JMA 10 01:23:33.8±0.2,39.62N×143.73E,h19km,M3.5,Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTH	Tanohata	1.47	283	P	Pn	01 23 59.4	+0.1
JTH				*e*S	Sn	01 24 18.2	+0.1
MIYJ	Miyakonagasawa	1.48	269	P	Pn	01 23 59.7	+0.3
OFUJ	Ofunato	1.69	252	P	Pn	01 24 02.8	+0.6
JANG	Nango	1.86	295	P	Pn	01 24 04.9	+0.2
JOM	Ohasama	1.89	266	P	Pn	01 24 06.1	+1.0
JMK	Ichinoseki	2.06	252	P	Pn	01 24 08.5	+1.1
JMK				*e*S	Sn	01 24 33.9	+1.4
JIO	Ouri	2.19	239	P	Pn	01 24 09.7	+0.6
JIO				*e*S	Sn	01 24 36.8	+1.1
JYK	Kaneyama	2.71	256	P	Pn	01 24 17.7	+1.4
JYK				S	Sn	01 24 49.8	+1.2
JNBK	Urakawa-nobuka	2.76	345	P	Pn	01 24 19.7	+2.7
JNBK				*e*S	Sn	01 24 52.0	+2.2
JCH	Churui	3.00	355	S	Sn	01 24 56.8	+1.0
JFT	Otama	3.39	233	P	Pn	01 24 27.2	+1.5
JFT				*e*S	Sn	01 25 06.3	+1.0

ISCJB **10** *01:26:26.8±0.4,50.09N±0.03×18.39E±0.03,h0km,Error ellipse: s-maj=4.2km s-min=2.3km az=16.2*
CSEM **10** *01:26:27.8±0.3,50.07N×18.42E,h2km,ML2.6/10,Error ellipse: s-maj=6.3km s-min=3.4km az=9.0*
IPEC **10** *01:26:28.2±0.2,50.05N×18.50E,h3km,2km,ML1.9/3, Error ellipse: s-maj=2.1km s-min=1.1km az=160.0*
WAR **10** *01:26:28.4,50.04N×18.46E,h1km,Mw2.4*
PRU **10** *01:26:30.6,50.04N×18.33E,h0km*
VIE **10** *01:26:30.7±1.7,49.82N×18.36E,h0km,mb1.8/2,ML2.4/4, Error ellipse: s-maj=13.4km s-min=9.0km az=26.0, Suspected Mining induced.*

ISC 10 01:26:28.1±0.7,50.08N±0.03×18.44E±0.02,h0km,n37,σ0s93/69,4C,Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAC	Raciborz	0.15	272	*e*Sg	Sg	01 26 36.1	+3.0
OKC	Ostrava-Krasne	0.30	218	⇑*e*PG	Pg	01 26 34.6	+0.7
OKC				*e*SG	Sg	01 26 38.8	+1.0
	comp=Z,76nm,0.5s						
OKC	Ostrava-Krasne	0.30	218	Pg	Pg	01 26 34.6	+0.7
OKC				Sg	Sg	01 26 38.8	+1.0
	76nm,0.5s						
MORC	Moravsky Berou	0.65	243	*e*Pg	Pg	01 26 40.8	+0.2
	baz=66						
MORC				*e*Sg	Sg	01 26 49.3	+0.3
	22nm,0.3s,baz=66						
OJC	Ojcow	0.89	80	*e*Pg	Pg	01 26 45.1	0.0
OJC				*e*Sg	Sb	01 26 58.4	-0.5
OJC	Ojcow	0.89	80	*e*Pg	Pg	01 26 45.1	0.0
OJC				*e*Sg	Sb	01 26 58.4	-0.5
OJC	Ojcow	0.89	80	*e*Pg	Pg	01 26 45.1	0.0
OJC				*e*Sg	Sb	01 26 58.4	-0.5
KRLC	Kraliky	1.06	271	*e*PG	Pg	01 26 48.1	-0.4
KRLC				*e*SG	Sg	01 27 02.3	0.0
KRLC	Kraliky	1.06	271	Pg	Pg	01 26 48.1	-0.4
KRLC				Sg	Sg	01 27 02.3	0.0
LANS	Liptovska Anna	1.15	144	*e*PG	Pg	01 26 50.0	-0.1
LANS				*e*SG	Sb	01 27 06.3	+0.1
NIE	Niedzica	1.38	118	*e*Pg	Pn	01 26 54.6	0.0
NIE				*e*Sg	Sn	01 27 14.1	+0.5
NIE	Niedzica	1.38	118	*e*Pg	Pn	01 26 54.6	0.0
NIE				*e*Sg	Sn	01 27 14.1	+0.5
NIE	Niedzica	1.38	118	*e*Pg	Pn	01 26 54.6	0.0
NIE				*e*Sg	Sn	01 27 14.1	+0.5
DPC	Dobruska-Polom	1.38	282	*e*PG	Pg	01 26 54.5	-0.1
DPC				*e*SG	Sb	01 27 13.3	+0.2
	comp=Z,20nm,0.4s						
DPC	Dobruska-Polom	1.38	282	Pg	Pg	01 26 54.5	-0.1
DPC				Sg	Sb	01 27 13.3	+0.2
	20nm,0.4s						
VRAC	Vranov	1.42	238	*e*Pg	Pn	01 26 54.7	-0.5
	baz=58						
VRAC				*e*Sg	Sg	01 27 13.4	-0.4
	12nm,0.4s,baz=58						
KSP	Ksiaz	1.57	300	*e*Pg	Pn	01 26 57.1	-0.2
KSP				*e*Sg	Sg	01 27 18.6	+0.1
KSP	Ksiaz	1.57	300	*e*Pg	Pn	01 26 57.1	-0.2
KSP				*e*Sg	Sg	01 27 18.6	+0.1
KSP	Ksiaz	1.57	300	*e*Pg	Pn	01 26 57.1	-0.2
KSP				*e*Sg	Sg	01 27 18.6	+0.1
VYHS	Vyhne	1.61	170	*e*Pg	Pn	01 26 57.4	-0.4
VYHS				*e*Sn	Sn	01 27 18.3	-0.9
VYHS	Vyhne	1.61	170	*e*PG	Pn	01 26 57.4	-0.4
VYHS				*e*SN	Sn	01 27 18.3	-0.9
VYHS				*e*LG	Lg	01 27 24.1	
UPC	Upice	1.61	286	⇑*e*PG	Pb	01 26 58.6	-0.2
UPC				*e*SG	Sg	01 27 20.1	+0.2
	comp=Z,9.2nm,0.4s						
UPC	Upice	1.61	286	Pg	Pb	01 26 58.6	-0.2
UPC				Sg	Sg	01 27 20.1	+0.2
	9.2nm,0.4s						
KRUC	Moravsky	1.67	233	*e*Pn	Pn	01 26 58.4	-0.2
	baz=53						
KRUC				*e*Sg	Sb	01 27 21.1	-0.2
	16nm,0.3s,baz=53						
STHS	Stebnicka Huta	1.94	109	*e*Pg	Pg	01 27 05.2	0.0
STHS				*e*Sn	Sg	01 27 31.0	+0.6
STHS	Stebnicka Huta	1.94	109	*e*PG	Pg	01 27 05.2	0.0
STHS				*e*SN	Sg	01 27 31.0	+0.6
STHS				*e*LG	Lg	01 27 37.7	
CRVS	Cervenica-Dubn	2.30	120	*e*Pg	Pb	01 27 10.4	0.0
CRVS	Cervenica-Dubn	2.30	120	*e*PG	Pb	01 27 10.4	0.0
PRU	Pruhonice	2.51	269	⇑*e*PG	Pb	01 27 13.0	-1.1
PRU				*e*SG	Sb	01 27 46.8	+1.3
	comp=Z,6.4nm,0.4s						
PVCC	Panska Ves	2.52	282	⇑*e*PG	Pg	01 27 15.3	-1.1
PVCC	Panska Ves	2.52	282	Pg	Pg	01 27 15.3	-1.1
CONA	Conrad Observa	2.74	219	Pg	Pg	01 27 20.1	-0.5
	0.7nm,0.2s						
CONA				Sn	Sn	01 27 44.4	-2.8
	1.4nm,0.3s						
BRG	Berggiesshubel	2.98	287	PG	Pg	01 27 24.1	-1.1
BRG				SG	Sg	01 28 02.6	-1.2
	4.0nm,0.5s						
KHC	Kasperske Hory	3.30	255	*e*PN	Pn	01 27 23.0	+2.0
KHC				*e*PG	Pb	01 27 28.6	+1.1
KHC				*e*SG	Sg	01 28 13.5	-0.5
	comp=Z,5.8nm,0.3s						
KHC	Kasperske Hory	3.30	255	Pn	Pn	01 27 23.0	+2.0
MOA	Molln	3.54	233	Pn	Pn	01 27 26.2	+1.9
	0.4nm,0.2s						
MOA				Sg	Sg	01 28 19.1	-2.6
	1.3nm,0.2s						
CLL	Collm	3.67	292	*e*Pg	Pg	01 27 39.0	+0.6
CLL				*e*Sg	Sg	01 28 28.0	+2.1
	comp=Z,5.0nm,0.6s						

NIED **10** *02:07:00,34.10N×140.80E,h50km,Mw4.0 Best double couple: M₀1.26000×10¹⁵ NP1:φs317.00000°,δ33.00000°, λ18.00000°. NP2:φs211.00000°,δ80.00000°,λ122.00000°.*
IDC **10** *02:07:48.1±1.0,34.13N×140.95E,h0km,mb4.1/9, mb1 4.2/9,mb1mx3.9/52,mbtmp4.1/9,MS2.8/3,Ms1 2.8/3, ms1mx2.6/43,Error ellipse: s-maj=30.8km s-min=17.2km az=92.0*
*M

MJAR	**Matsushiro Arr**	**3.23**	**320**	Pn		**Pn**	**02 08 43.8**	**+1.3**
	29nm,0.3s,baz=275,slow=29,SNR=120							
MJAR				Sn		**Sn**	**02 09 20.7**	**+1.0**
	22nm,0.3s,baz=119,slow=13,SNR=8.6							
MJAR				LR		LR	02 10 15.3	
	comp=Z,174nm,21.3s,baz=135,slow=45							
MAJO	**Matsushiro**	**3.24**	**320**	*e*P		**Pn**	**02 08 44.0**	**+1.6**
MAJO				*e*			02 09 19.8	
MAJO	**Matsushiro**	**3.24**	**320**	*e*Pn		**Pn**	**02 08 44.0**	**+1.6**
MAJO				*e*Sn		**Sn**	**02 09 19.8**	**+0.1**
MAT	**Matsushiro**	**3.24**	**320**	P		**Pn**	**02 08 44.0**	**+1.6**
MAT				S		**Sn**	**02 09 19.7**	**-0.1**
CBIJ	**Chichi jima**	**7.08**	**170**	*e*Pn		**Pn**	**02 09 34.4**	**-0.9**
ERM	**Erimo**	**8.12**	**12**	*i* P		**Pn**	**02 09 48.9**	**-0.5**
ERM	**Erimo**	**8.12**	**12**	*e*Pn		**Pn**	**02 09 49.1**	**-0.3**
JNU	**Nakatsue**	**8.34**	**266**	*e*Pn		**Pn**	**02 09 54.7**	**+2.1**
KSRS	**Korea Array**	**10.99**	**291**	Pn		**Pn**	**02 10 31.1**	**+2.3**
	0.4nm,0.3s,baz=109,slow=14,SNR=10							
KSRS				LR		LR	02 14 50.7	
	comp=Z,65nm,18.1s,baz=160,slow=38							
KSAR	**Wonju Array Be**	**11.02**	**291**	P		**Pn**	**02 10 31.1**	**+2.0**
KSAR	**Wonju Array Be**	**11.02**	**291**	Pn		**Pn**	**02 10 31.1**	**+2.0**
KLR	**Kul'dur**	**16.54**	**339**	Pn		**Pn**	**02 11 39.0**	**-4.1**
	0.4nm,0.3s,baz=164,slow=12,SNR=7.0							
KLR	**Kul'dur**	**16.54**	**339**	*i* P		**Pn**	**02 11 41.5**	**-1.6**
H11N2	**WAKE ISLAND Hy**	**27.21**	**115**	T		T	02 42 41.9	
	baz=306,slow=75,SNR=47							
H11N1	**WAKE ISLAND Hy**	**27.22**	**115**	T		T	02 42 41.9	
	baz=306,slow=75,SNR=43							
H11N3	**WAKE ISLAND Hy**	**27.23**	**115**	T		T	02 42 43.2	
	baz=306,slow=75,SNR=51							
H11S3	**WAKE ISLAND Hy**	**27.81**	**117**	T		T	02 43 17.9	
	baz=310,slow=74,SNR=7.3							
H11S1	**WAKE ISLAND Hy**	**27.81**	**117**	T		T	02 43 20.4	
	baz=310,slow=74,SNR=2.0							
H11S2	**WAKE ISLAND Hy**	**27.83**	**117**	T		T	02 43 42.6	
	baz=310,slow=74							
ULN	**Ulaanbaatar**	**28.70**	**309**	*ce*P		**P**	**02 13 47.7**	**+0.2**
ULN				pmax		pmax		
	comp=Z,5.0nm,0.8s							
ULN	**Ulaanbaatar**	**28.70**	**309**	*e*P		**P**	**02 13 47.8**	**+0.2**
	comp=Z,7.5nm,0.9s							
SONM	**Songino Array**	**29.12**	**309**	P		**P**	**02 13 51.4**	**+0.1**
	comp=Z,4.4nm,0.8s,baz=110,slow=9.2,SNR=19							
SONM	**Songino Array**	**29.12**	**309**	*e*P		**P**	**02 13 51.9**	**+0.7**
SONM				pmax		pmax		
	comp=Z,4.0nm,0.7s							
ZAK	**Zakamensk**	**31.79**	**312**	*e*P		**P**	**02 14 13.4**	**-1.3**
ZAK				pmax		pmax		
	comp=Z,3.0nm,1.5s							
BILL	**Bilibino**	**36.98**	**16**	*e*P		P	02 15 11.2	+12
BILL				*e*			02 16 40.1	
BILL				pmax		pmax		
	comp=Z,5.0nm,1.1s							
ZALV	**Zalesovo Beam**	**43.58**	**315**	P		**P**	**02 15 53.7**	**-0.3**
	comp=Z,2.2nm,0.4s,baz=101,slow=7.7,SNR=7.2							
KURK	**Kurchatov**	**47.40**	**310**	*ce*P		**P**	**02 16 23.4**	**-0.9**
KURK				pmax		pmax		
	comp=Z,24nm,0.8s							
KURK	**Kurchatov**	**47.40**	**310**	*e*P		**P**	**02 16 23.2**	**-1.1**
	comp=Z,36nm,0.5s							
AAK	**Ala-Archa**	**51.49**	**300**	*e*P		**P**	**02 16 55.6**	**-0.3**
AAK				pmax		pmax		
	comp=Z,2.0nm,0.4s							
AAK	**Ala-Archa**	**51.49**	**300**	*e*P		**P**	**02 16 55.5**	**-0.3**
	comp=Z,1.7nm,0.4s							
ILAR	**Eielson Array**	**52.24**	**31**	P		**P**	**02 17 01.6**	**+0.7**
	comp=Z,0.3nm,0.8s,baz=272,slow=8.7,SNR=3.0							
BRVK	**Borovoye**	**52.27**	**314**	*e*P		**P**	**02 17 02.7**	**+1.4**
BRVK				pmax		pmax		
	comp=Z,3.0nm,0.8s							
WRAB	**Tennant Creek**	**54.08**	**188**	*e*P		**P**	**02 17 14.0**	**-0.9**
WRAB				pmax		pmax		
	comp=Z,3.0nm,0.6s							
WRAB	**Tennant Creek**	**54.08**	**188**	*e*P		**P**	**02 17 14.0**	**-0.9**
	comp=Z,3.4nm,0.6s							
WRA	**Warramunga Arr**	**54.09**	**188**	P		**P**	**02 17 14.3**	**-0.7**
	comp=Z,3.5nm,0.4s,baz=4.6,slow=7.6,SNR=26							
KKAR	**Karatay Array**	**54.21**	**302**	*e*P		**P**	**02 17 15.4**	**-0.4**
KKAR				pmax		pmax		
	comp=Z,1.0nm,0.5s							
KKAR	**Karatay Array**	**54.21**	**302**	*e*P		**P**	**02 17 15.4**	**-0.4**
	comp=Z,1.1nm,0.5s							
ASAR	**Alice Springs**	**57.82**	**187**	P		**P**	**02 17 41.1**	**-0.5**
	comp=Z,0.7nm,0.4s,baz=6.2,slow=7.1,SNR=13							
ASAR	**Alice Springs**	**57.82**	**187**	*e*P		**P**	**02 17 41.5**	**-0.1**
ASAR				pmax		pmax		
	comp=Z,1.0nm,0.4s							
ARU	**Arti**	**58.25**	**320**	*c i*P		**P**	**02 17 43.8**	**-0.5**
ARU							02 18 31.3	
ARU							02 19 49.0	
ARU				S		**S**	**02 25 46.3**	**+3.0**
ARU				SS		**SS**	**02 29 34.7**	**-0.2**
ARU				pmax		pmax		
	comp=Z,11nm,1.7s							
ARU	**Arti**	**58.25**	**320**	*e*P		**P**	**02 17 43.5**	**-0.8**
	comp=Z,2.2nm,0.5s							
MBWA	**Marble Bar**	**58.51**	**203**	*e*P		**P**	**02 17 46.0**	**-0.4**
	comp=Z,29nm,0.9s							
ABKAR	**Akbulak array**	**59.48**	**311**	*e*P		**P**	**02 17 52.3**	**-0.7**
	comp=Z,1.6nm,0.5s							
GEYT	**Alibeck**	**64.85**	**300**	P		**P**	**02 18 29.4**	**+0.2**
	comp=Z,0.8nm,0.4s,baz=76,slow=6.3,SNR=4.4							
YKA	**Yellowknife Ar**	**66.59**	**29**	LR		LR	02 50 56.9	
	comp=Z,5.2nm,19.0s,baz=0.0,slow=39							
OBN	**Obninsk**	**70.16**	**324**	*e*P		**P**	**02 19 05.3**	**+3.0**
OBN				*e*			02 19 30.9	
OBN				pmax		pmax		
	comp=Z,2.0nm,0.9s							
FINES	**FINESS Array B**	**71.18**	**333**	P		**P**	**02 19 07.9**	**-0.6**
	comp=Z,1.1nm,0.7s,baz=64,slow=6.3,SNR=11							
FINES	**FINESS Array B**	**71.18**	**333**	*e*P		P	02 19 13.7	+5.3
FINES				pmax		pmax		
	comp=Z,1.0nm,0.7s							
KIV	**Kislovodsk**	**72.46**	**311**	*ce*P		**P**	**02 19 15.2**	**-1.4**
KIV				pmax		pmax		
	comp=Z,7.0nm,1.2s							
SUMG	**Summit**	**73.61**	**360**	*e*P		**P**	**02 19 22.9**	**-0.4**
SUMG				pmax		pmax		
	comp=Z,2.0nm,0.7s							
SUMG	**Summit**	**73.61**	**360**	*e*P		**P**	**02 19 22.9**	**-0.4**
	comp=Z,2.2nm,0.7s							
NB2	**NORSAR Subarra**	**76.70**	**337**	P		**P**	**02 19 40.3**	**-0.5**
	comp=Z,2.2nm,1.0s,baz=42,slow=5.3							
NOA	**NORSAR Array B**	**76.70**	**337**	P		**P**	**02 19 40.2**	**-0.5**
	comp=Z,0.9nm,0.8s,baz=42,slow=5.8,SNR=4.2							
NOA	**NORSAR Array B**	**76.70**	**337**	*e*P		**P**	**02 19 40.5**	**-0.3**
NOA				pmax		pmax		
	comp=Z,1.0nm,0.7s							
BRTR	**Keskin Array B**	**80.43**	**312**	P		**P**	**02 20 02.5**	**+0.6**
	comp=Z,0.7nm,0.8s,baz=35,slow=5.3,SNR=4.5							
BRTR	**Keskin Array B**	**80.43**	**312**	*e*P		**P**	**02 20 02.8**	**+0.9**
BRTR				pmax		pmax		
	comp=Z,1.0nm,0.8s							

ISCJB ***10*** *02:13:08.3±1.0,38°.43N±0°.10×28°.3E±0°.1,h9km, Error ellipse: s-maj=18.3km s-min=5.4km az=137.5*
CSEM ***10*** *02:13:08.4±0.1,38°.47N×28°.29E,h2km, MD2.4, Error ellipse: s-maj=5.0km s-min=2.0km az=132.0*
DDA ***10*** *02:13:08.4, 38°.48N×28°.27E, h7km, Md2.7*
ISK ***10*** *02:13:08.4, 38°.36N×28°.40E, h6km, MD2.4*

ISC 10 02:13:08.1±1.4,38°.45N±0°.07×28°.35E±0°.06,h9km,n9,
σ1⁰89/13,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MANT	**Manisa**	**0.17**	**77**	*i* P	Pg	02 13 05.7	-6.2
MANT				*i* S	**Sg**	**02 13 09.0**	**-5.5**
KULA	**Kula-Manisa**	**0.26**	**76**	*e*PG	**Pg**	**02 13 14.3**	**+1.0**
KULA				*e*SG	**Sg**	**02 13 17.6**	**+0.8**
KULA	**Kula-Manisa**	**0.26**	**76**	*e*Pg	**Pg**	**02 13 14.3**	**+1.0**
KULA				*e*Sg	**Sg**	**02 13 17.6**	**+0.8**
AYDB	**Zeytinkoy-Aydi**	**0.62**	**215**	*e*PG	**Pg**	**02 13 20.3**	**+0.2**
AYDB				*e*SG	**Sg**	**02 13 28.2**	**0.0**
AYDB	**Zeytinkoy-Aydi**	**0.62**	**215**	*e*Pg	**Pg**	**02 13 20.3**	**+0.2**
AYDB				*e*Sg	**Sg**	**02 13 28.2**	**0.0**
DEMI	**Demirci**	**0.66**	**26**	*i* P	**Pg**	**02 13 21.1**	**+0.2**
DEMI	**Demirci**	**0.66**	**26**	P	**Pg**	**02 13 21.1**	**+0.2**
TVSB	**Tavsanli**	**1.32**	**41**	*e*PN	**Pg**	**02 13 34.5**	**+1.0**
TVSB	**Tavsanli**	**1.32**	**41**	*e*Pn	**Pg**	**02 13 34.5**	**+1.0**

ISCJB ***10*** *02:17:20.1±0.6,15°.9S±0°.1×173°.9W±0°.1,h115km,*
mb4.1/11, Error ellipse: s-maj=25.3km s-min=8.3km az=141.3
IDC ***10*** *02:17:20.6±2.6,15°.95S×173°.96W,h101km±25km, mb3.8/7, mb1 4.1/8,mb1mx3.8/36,mbtmp4.2/8, Error ellipse: s-maj=31.3km s-min=16.0km az=141.0*
NEIC ***10*** *02:17:21.0±0.9,15°.94S×173°.92W,h107km±9km,mb4.4/5, Error ellipse: s-maj=14.5km s-min=7.0km az=147.0*

ISC 10 02:17:21.7±0.7,15°.9S±0°.2×173°.8W±0°.1,h115km,n18,
σ0⁰93/18,mb4.2/11,Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**2.80**	**46**	P	**Pn**	**02 18 05.5**	**+0.2**
	130nm,0.3s,baz=232,slow=12,SNR=60						
AFI				S	**Sn**	**02 18 36.9**	**-2.1**
	418nm,0.3s,baz=136,slow=22,SNR=18						
MSVF	**Nonsavu**	**7.98**	**256**	*e*Pn	Pn	02 19 22.0	+7.0
	67nm,1.1s						
DZM	**Mont Dzumac**	**19.62**	**249**	P	**Pn**	**02 21 45.3**	**+1.5**
	0.6nm,0.3s,baz=83,slow=16,SNR=7.1						
DZM	**Mont Dzumac**	**19.62**	**249**	*e*P	**P**	**02 21 40.7**	**-0.7**
	18nm,1.0s						
URZ	**Urewera**	**23.67**	**198**	P	**P**	**02 22 22.2**	**-0.5**
	2.8nm,0.8s,baz=76,slow=8.3,SNR=13						
PMG	**Port Moresby**	**38.55**	**275**	*e*P	**P**	**02 24 33.4**	**-0.1**
	1.5nm,0.4s						
STKA	**Stephens Creek**	**43.42**	**240**	P	**P**	**02 25 12.6**	**-0.7**
	0.9nm,0.4s,baz=76,slow=10,SNR=3.5						
WRAB	**Tennant Creek**	**49.31**	**257**	*e*P	**P**	**02 25 58.8**	**-0.6**
	1.8nm,0.5s						
WRA	**Warramunga Arr**	**49.32**	**257**	P	**P**	**02 25 58.5**	**-1.1**
	0.8nm,0.3s,baz=92,slow=7.2,SNR=17						
ASAR	**Alice Springs**	**49.55**	**252**	P	**P**	**02 26 00.5**	**-0.8**
	4.6nm,0.5s,baz=88,slow=8.0,SNR=57						
VNDA	**Vanda**	**62.85**	**186**	P	**P**	**02 27 34.8**	**-0.1**
	0.8nm,0.7s,baz=9.6,slow=6.6,SNR=5.3						
TXAR	**Lajitas Array**	**81.24**	**56**	P	**P**	**02 29 26.5**	**+1.1**
	0.8nm,0.7s,baz=225,slow=4.8,SNR=7.2						
PDAR	**Pinedale Array**	**82.91**	**42**	P	**P**	**02 29 34.9**	**+0.9**
	2.6nm,0.8s,baz=219,slow=3.1,SNR=22						
COLA	**College**	**82.92**	**11**	*e*P	**P**	**02 29 33.6**	**+0.4**
	2.3nm,0.3s						
ABTX	**Abilene, Hawle**	**85.69**	**55**	*e*P	**P**	**02 29 48.3**	**+0.3**
	2.6nm,0.5s						
FINES	**FINESS Array B**	**132.32**	**347**	PKP	**PKPdf**	**02 36 22.7**	**+0.8**
	1.7nm,0.9s,baz=283,slow=2.4,SNR=3.9						
GERES	**GERESS Array B**	**146.55**	**351**	PKPbc	**PKPbc**	**02 36 50.3**	**+0.5**
	0.6nm,0.9s,baz=11,slow=2.7,SNR=3.6						
TORD	**Torodi Ar. Bea**	**174.90**	**122**	PKPab	**PKPab**	**02 38 54.0**	**-0.1**
	1.1nm,1.0s,baz=234,slow=3.9,SNR=3.6						

IDC ***10*** *02:19:10.7±0.6,48°.29S×31°.74E,h0km,mb4.3/13, mb1 4.4/13,mb1mx4.1/43,mbtmp4.3/13,ML3.0/1,MS3.9/13, Ms1 3.9/13,ms1mx3.7/30, Error ellipse: s-maj=26.7km s-min=14.5km az=70.0*
ISCJB ***10*** *02:19:12.1±0.4,48°.30S±0°.06×31°.7E±0°.2,h18km, mb4.4/20,MS4.0/12, Error ellipse: s-maj=17.1km s-min=8.1km az=169.8*
NEIC ***10*** *02:19:12.3±0.3,48°.30S×31°.71E,h10km,mb4.7/8, Error ellipse: s-maj=12.4km s-min=6.3km az=79.0*
GCMT ***10*** *02:19:12.3±0.4,48°.34S×31°.42E,h27km±2km, MW5.0/69, Moment Tensor Solution. s16,c20; s69,c89; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr-1.00±.28; Mθθ2.54±.21; Mϕϕ-1.54±.18; Mrθ1.48±.34; Mϕθ2.01±.12; Mϕr-2.37±.40; Best double couple: Mo3.98200×10¹⁶ NP1:ϕ288.00000°,δ71.00000°,λ-35.00000°. NP2: ϕ31.00000°,δ57.00000°,λ-157.00000°. Principal axes: T 3.4350, Plg9.0000°, Azm342.0000°; N 1.0950, Plg51.0000°, Azm82.0000°; P -4.5300, Plg38.0000°, Azm245.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

ISC 10 02:19:13.7±0.6,48°.30S±0°.09×31°.7E±0°.2,h18km,n53,
σ0⁰63/51,mb4.4/20,MS3.9/12,2D,South of Africa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SUR	**Sutherland**	**17.90**	**329**	P	**P**	**02 23 21.9**	**-0.5**
	0.1nm,0.3s,baz=142,slow=12,SNR=13						
SUR				S	Sn	02 26 29.2	-12
	0.0nm,0.3s,baz=66,slow=20,SNR=3.5						
SUR				LR	LR	02 28 54.5	
	comp=Z,66nm,19.1s,baz=162,slow=33						
BOSA	**Boshof**	**20.27**	**344**	P	Pn	02 23 48.9	-1.4
	9.2nm,1.1s,baz=168,slow=13,SNR=5.7						
BOSA				LR	LR	02 30 08.4	
	comp=Z,409nm,21.4s,baz=186,slow=32						
SYO	**Syowa Base**	**21.14**	**172**	*e*P	**P**	**02 23 55.6**	**-1.6**
SYO	**Syowa Base**	**21.14**	**172**	*e*Pn	**P**	**02 23 58.2**	**+1.0**
LBTB	**Lobatse**	**23.73**	**346**	P	**P**	**02 24 24.7**	**-0.1**
	5.2nm,0.8s,baz=184,slow=8.7,SNR=7.0						
LBTB				LR	LR	02 32 22.6	
	comp=Z,300nm,19.0s,baz=251,slow=33						
MAW	**Mawson**	**24.98**	**152**	P	**P**	**02 24 36.4**	**+0.7**
	37nm,1.0s,baz=303,slow=9.1,SNR=54						
MAW				LR	LR	02 32 04.9	
	comp=Z,264nm,21.5s,baz=252,slow=31						
MATP	**Matopo**	**27.93**	**354**	P	**P**	**02 25 02.9**	**0.0**
	2.6nm,0.9s,baz=185,slow=9.9,SNR=4.8						
MATP				LR	LR	02 34 27.1	
	comp=Z,458nm,21.6s,baz=174,slow=33						
SNAA	**Sanae**	**28.33**	**202**	P	**P**	**02 25 04.8**	**-1.2**
SNAA	**Sanae**	**28.33**	**202**	P	**P**	**02 25 06.9**	**+0.9**
	4.7nm,1.0s,baz=58,slow=6.8,SNR=8.9						
SNAA				LR	LR	02 33 47.1	
	comp=Z,214nm,21.3s,baz=8.0,slow=31						
VNA1	**Neumayer--Stat**	**29.25**	**206**	P	**P**	**02 25 15.6**	**+1.6**
LSZ	**Lusaka**	**33.06**	**354**	*e*P	**P**	**02 25 48.6**	**+0.4**
	19nm,1.6s						
QSPA	**South Pole Qui**	**41.92**	**180**	*e*P	**P**	**02 27 02.4**	**-0.4**
VNDA	**Vanda**	**50.74**	**168**	P	**P**	**02 28 11.8**	**+0.1**
	3.0nm,0.7s,baz=237,slow=5.9,SNR=23						
VNDA				LR	LR	02 49 02.4	
	comp=Z,345nm,19.2s,baz=212,slow=35						
SBA	**Scott Base**	**51.14**	**169**	*e*P	**P**	**02 28 15.9**	**+1.1**
	14nm,1.1s						
H10S2	**ASCENSION HYDR**	**55.20**	**300**	T	T	03 28 57.7	
	baz=144,slow=75,SNR=8.7						
H10S3	**ASCENSION HYDR**	**55.21**	**300**	T	T	03 28 27.7	
	baz=144,slow=75,SNR=6.6						
H10S1	**ASCENSION HYDR**	**55.21**	**300**	T	T	03 28 31.6	
	baz=144,slow=75,SNR=15						
DBIC	**Dimbokro**	**63.45**	**319**	P	**P**	**02 29 42.4**	**0.0**
	6.4nm,0.9s,baz=162,slow=5.3,SNR=5.5						
DBIC				LR	LR	02 52 05.9	
	comp=Z,57nm,19.8s,baz=183,slow=31						
TRQA	**Tornquist**	**64.95**	**240**	*e*P	**P**	**02 29 51.7**	**-0.4**
	1.7nm,0.5s						
TORD	**Torodi Ar. Bea**	**66.72**	**328**	P	**P**	**02 30 04.0**	**+0.4**
	1.2nm,0.5s,baz=166,slow=6.6,SNR=7.1						
TORD				LR	LR	02 55 20.4	
	comp=Z,62nm,21.2s,baz=75,slow=32						
CPUP	**Villa Florida**	**70.19**	**252**	P	**P**	**02 30 24.8**	**-0.5**
	5.4nm,0.9s,baz=119,slow=7.1,SNR=7.7						
LCO	**Las Campanas**	**76.48**	**242**	*e*P	**P**	**02 31 02.7**	**0.0**
	7.3nm,0.8s						
STKA	**Stephens Creek**	**78.60**	**125**	LR	LR	02 59 48.4	
	comp=Z,96nm,18.8s,baz=208,slow=31						
LVC	**Limon Verde**	**80.14**	**247**	*e*P	**P**	**02 31 23.0**	**-0.2**
	16nm,1.2s						
ASAR	**Alice Springs**	**80.36**	**115**	P	**P**	**02 31 23.4**	**-0.6**
	1.9nm,0.8s,baz=217,slow=5.3,SNR=10						
CSS	**Mathiatis**	**82.91**	**1**	*e*P	**P**	**02 31 36.2**	**-0.6**
	2.3nm,0.9s						
WRA	**Warramunga Arr**	**83.42**	**112**	P	**P**	**02 31 39.0**	**-1.0**
	2.4nm,1.1s,baz=213,slow=4.0,SNR=3.8						
LPAZ	**La Paz**	**84.36**	**252**	P	**P**	**02 31 46.0**	**+0.4**
	1.0nm,0.7s,baz=142,slow=4.0,SNR=5.3						
KEST	**Kesra**	**86.00**	**342**	LR	LR	03 11 16.1	
	comp=Z,86nm,20.1s,baz=257,slow=36						
SAML	**Samuel**	**86.61**	**260**	*e*P	**P**	**02 31 55.8**	**-0.3**
	1.2nm,0.5s						
BRTR	**Keskin Array B**	**87.66**	**2**	P	**P**	**02 32 00.9**	**+0.3**
	0.6nm,0.8s,baz=155,slow=3.8,SNR=4.0						
CUC	**Castrocucco**	**89.03**	**348**	*e*P	**P**	**02 32 07.8**	**+0.8**
	5.0nm,1.2s						
DAVOX	**Davos/Dischmat**	**96.59**	**345**	LR	LR	03 18 12.6	
	comp=Z,86nm,19.6s,baz=184,slow=37						
GERES	**GERESS Array B**	**98.01**	**348**	LR	LR	03 21 27.0	
	comp=Z,71nm,18.6s,baz=140,slow=38						
TXAR	**Lajitas Array**	**141.04**	**257**	PKhKP	**PKPpre**	02 38 35.8	
	0.4nm,0.7s,baz=151,slow=5.7,SNR=4.0						
MSTX	**Muleshoe**	**143.38**	**264**	*e*PKPdf	PKPbc	02 38 44.0	+0.1
ECSD	**EROS Data Cent**	**144.36**	**282**	*e*PKPdf	PKPbc	02 38 46.3	-0.1
AGMN	**Agassiz Nation**	**145.67**	**290**	*e*PKPbc	**PKPab**	**02 38 50.6**	**-0.2**
121A	**Cookes Peak, D**	**145.80**	**258**	*e*PKPbc	**PKPab**	**02 38 52.7**	**+0.7**
ULM	**Lac du Bonnet**	**146.31**	**293**	PKPbc	**PKPab**	**02 38 51.9**	**-0.4**
	5.5nm,1.0s,baz=71,slow=2.9,SNR=5.6						
SDCO	**Great Sand Dun**	**147.35**	**267**	*e*PKPbc	**PKPbc**	**02 38 56.3**	**+0.2**
TUC	**Tucson**	**147.60**	**254**	*e*PKPbc	**PKPbc**	**02 38 57.2**	**+0.6**
MVCO	**Mesa Verde**	**149.06**	**264**	*e*PKPbc	**PKPbc**	**02 39 00.8**	**+0.2**
MVCO				*e*PKPab	**PKPab**	**02 39 05.5**	**+0.7**
SMCO	**Snowmass**	**149.09**	**268**	*e*PKPbc	**PKPbc**	**02 39 01.4**	**+0.6**
SMCO				*e*PKPab	**PKPab**	**02 39 05.8**	**+0.7**
RSSD	**Black Hills**	**149.39**	**279**	*e*PKPbc	**PKPbc**	**02 39 01.3**	**+0.2**
RSSD				*e*PKPab	**PKPab**	**02 39 05.9**	**0.0**
PV01	**Paradox Valley**	**149.61**	**265**	*e*PKPbc	**PKPbc**	**02 39 02.1**	**+0.2**
PV01				*e*PKPab	**PKPab**	**02 39 07.6**	**+0.5**
PV04	**Paradox Valley**	**149.97**	**266**	*e*PKPbc	**PKPbc**	**02 39 03.2**	**+0.5**
WUAZ	**Wupatki**	**149.98**	**259**	*e*PKPbc	**PKPbc**	**02 39 03.1**	**+0.4**
WUAZ				*e*PKPab	**PKPab**	**02 39 08.8**	**+0.2**
O20A	**White River Ci**	**150.41**	**269**	*e*PKPbc	**PKPbc**	**02 39 03.5**	**-0.2**
O20A				*e*PKPab	**PKPab**	**02 39 09.5**	**-0.8**
K22A	**Casper**	**150.43**	**275**	*e*PKPbc	**PKPbc**	**02 39 03.1**	**-0.5**
K22A				*e*PKPab	**PKPab**	**02 39 09.5**	**-0.7**
PDAR	**Pinedale Array**	**152.50**	**273**	PKPbc	**PKPbc**	**02 39 07.8**	**-0.7**
	1.6nm,0.8s,baz=119,slow=3.2,SNR=13						
PDAR				PKPab	**PKPab**	**02 39 18.6**	**-0.3**
	0.9nm,0.7s,baz=107,slow=5.1,SNR=5.3						
HWUT	**Hardware Ranch**	**153.33**	**269**	*e*PKPbc	**PKPbc**	**02 39 10.0**	**-0.2**
HWUT				*e*PKPab	**PKPab**	**02 39 22.0**	**-0.5**
TPAW	**Teton Pass**	**153.73**	**274**	*e*PKPbc	**PKPbc**	**02 39 11.4**	**+0.2**

GII ***10*** *02:22:13.7±0.0,36°.87N×26°.58E, h9km, mb4.5/6, MD4.4/6*
DDA ***10*** *02:22:13.2,36°.82N×26°.51E, h22km, Ml4.3*
IDC ***10*** *02:22:14.4±0.6,36°.86N×26°.53E, h0km, mb4.1/18, mb1 4.1/31,mb1mx4.0/52, mbtmp4.0/31, ML3.5/12, MS3.6/18, Ms1 3.6/18, ms1mx3.4/50, Error ellipse: s-maj=12.9km s-min=10.5km az=144.0*
ISCJB ***10*** *02:22:15.2±0.4,36°.85N±0°.01×26°.54E±0°.01, h8km±2km, mb4.4/41, MS3.7/8, Error ellipse: s-maj=2.1km s-min=1.6km az=174.9*
ISK ***10*** *02:22:15.4, 36°.84N×26°.53E, h10km, ML4.4*
CSEM ***10*** *02:22:15.6±0.1, 36°.83N×26°.53E, h2km, mb4.6/18, Error ellipse: s-maj=2.6km s-min=1.9km az=9.0*
THE ***10*** *02:22:15.1, 36°.87N×26°.60E, h1km, ML4.5/11, Error ellipse: s-maj=0.8km s-min=0.4km az=349.0*
NEIC ***10*** *02:22:15.1±0.0, 36°.87N×26°.60E, h1km, mb4.3/13, ML4.5(THE), After THE.*
NEIC Felt at Kalymnos, Kefalos and Kos.
ATH ***10*** *02:22:15.2, 36°.86N×26°.61E, h29km±1km, ML4.4/10, Error ellipse: s-maj=1.2km s-min=0.6km az=46.0*
MOS ***10*** *02:22:16.5±1.3, 36°.88N×26°.55E, h20km, mb4.7/13, Error ellipse: s-maj=5.9km s-min=3.9km az=93.7*
NIC ***10*** *02:22:18.1±0.2, 36°.76N×26°.66E, h56km, mb4.9, ML4.5*

ISC 10 02:22:15.8±1.0,36°.84N±0°.02×26°.57E±0°.01,h5km±6km,
n784,σ1⁰54/862,mb4.4/41,MS3.7/8,29C-29D,
Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NISR	**Nisiros**	**0.50**	**117**	P	**Pg**	**02 22 25.2**	**-0.3**
NISR				S	**Sg**	**02 22 32.9**	**+0.8**
NISR	**Nisiros**	**0.50**	**117**	P	**Pg**	**02 22 25.7**	**+0.2**
NISR				S	**Sg**	**02 22 32.9**	**+0.8**
NISR	**Nisiros**	**0.50**	**117**	P	**Pg**	**02 22 25.7**	**+0.2**
NISR				S	**Sg**	**02 22 32.4**	**+0.3**
NISR				AML	AML	02 22 51.9	
NISR				AML	AML	02 22 52.2	
NISR	**Nisiros**	**0.50**	**117**	P	**Pg**	**02 22 25.2**	**-0.3**
NISR				S	**Sg**	**02 22 32.9**	**+0.8**
NIS1	**Nisyros Isl.**	**0.54**	**116**	*e*PG	**Pb**	**02 22 27.0**	**-0.8**
NIS1				*e*SG	**Sb**	**02 22 35.4**	**-0.5**
NIS1	**Nisyros Isl.**	**0.54**	**116**	P	**Pg**	**02 22 26.3**	**0.0**
NIS1				S	**Sg**	**02 22 34.1**	**+0.7**
**NIS1

THR6	Thira Island,	1.06 243	P	Pg	02 22 35.8	-0.4
THR6	Thira Island,	1.06 243	P	Pg	02 22 35.8	-0.4
THR6	Thira Island,	1.06 243	P	Pg	02 22 35.8	-0.4
MLSB	Milas	1.07 64	ePN	Pb	02 22 36.8	+0.1
MLSB	Milas	1.07 64	ePn	Pb	02 22 36.8	+0.1
THR5	Thira Island,	1.07 247	P	Pg	02 22 35.9	-0.4
THR5	Thira Island,	1.07 247	P	Pg	02 22 35.9	-0.4
KUSD	Kusadasi-Aydin	1.17 29	ePN	Pb	02 22 38.5	0.0
KUSD	Kusadasi-Aydin	1.17 29	ePn	Pb	02 22 38.5	0.0
DGB	˜zmir	1.23 12⇑	iP	Pg	02 22 37.1	-2.4
DGB			iS	Sn	02 22 56.2	-0.5
GMLD	Gumuldur	1.26 12	ePN	Pg	02 22 39.7	-0.4
GMLD	Gumuldur	1.26 12	ePn	Pg	02 22 39.7	-0.4
MRSB	Marmaris-Mugla	1.31 95	ePN	Pb	02 22 40.9	0.0
MRSB	Marmaris-Mugla	1.31 95	ePn	Pb	02 22 40.9	0.0
KARP	Karpathos	1.38 160	ePN	Pn	02 22 41.5	-0.2
KARP	Karpathos	1.38 160	P	Pn	02 22 40.0	-1.7
KARP			S	Sn	02 23 00.4	+0.1
KARP	Karpathos	1.38 160	P	Pn	02 22 40.0	-1.7
KARP	Karpathos	1.38 160	ePn	Pn	02 22 41.5	-0.2
KARP			S	Sn	02 23 00.4	+0.1
KARP	Karpathos	1.38 160	P	Pn	02 22 40.0	-1.7
KARP			S	Sn	02 23 00.7	+0.4
KARP			AML	AML	02 23 02.5	
	comp=E,36429µm,0.7s					
KARP			AML	AML	02 23 02.6	
	comp=N,30390µm,0.9s					
KARP	Karpathos	1.38 160	ePn	Pn	02 22 39.8	-1.9
ZEY	˜zmir	1.40 358⇑	iP	Pn	02 22 39.2	-2.7
ZEY			iS	Sn	02 23 01.9	+1.3
ARG	Arkhangelos	1.40 116	P	Pn	02 22 40.3	-1.7
ARG			S	Sg	02 23 00.6	-0.2
ARG	Arkhangelos	1.40 116	P	Pn	02 22 40.3	-1.7
ARG	Arkhangelos	1.40 116	P	Pn	02 22 40.3	-1.7
ARG			S	Sg	02 23 00.6	-0.2
ARG	Arkhangelos	1.40 116	P	Pn	02 22 40.1	-1.8
ARG			S	Sb	02 23 00.1	-0.4
ARG			AML	AML	02 23 20.5	
	comp=N,17091µm,1.4s					
ARG			AML	AML	02 23 20.7	
	comp=E,13090µm,1.2s					
ARG	Arkhangelos	1.40 116	P	Pn	02 22 40.3	-1.7
CESE	˜e˜me	1.50 352	ePN	Pn	02 22 42.9	-0.5
CESE	˜e˜me	1.50 352	ePn	Pn	02 22 42.9	-0.5
URLA	Izmir	1.52 1	ePN	Pn	02 22 43.7	+0.1
URLA	Izmir	1.52 1⇑	iP	Pn	02 22 41.1	-2.4
URLA			iS	Sn	02 23 01.9	-1.8
URLA	Izmir	1.52 1	P	Pn	02 22 41.2	-2.4
URLA	Izmir	1.52 1	ePn	Pn	02 22 43.7	+0.1
URLA			S	Sn	02 23 02.0	-1.8
AYDB	Zeytinkoy-Aydi	1.52 43	ePN	Pn	02 22 43.7	-0.1
AYDB	Zeytinkoy-Aydi	1.52 43	ePn	Pn	02 22 43.7	-0.1
CHOS	Chios island	1.60 345	ePN	Pn	02 22 44.2	-0.5
CHOS	Chios island	1.60 345	P	Pn	02 22 42.4	-2.4
CHOS			S	Sn	02 23 04.5	-1.3
CHOS	Chios island	1.60 345	P	Pn	02 22 42.4	-2.4
CHOS	Chios island	1.60 345	ePn	Pn	02 22 44.2	-0.5
CHOS			S	Sn	02 23 04.5	-1.3
CHOS	Chios island	1.60 345	P	Pn	02 22 42.4	-2.4
TURN	Turunc	1.63 88⇑	iP	Pn	02 22 39.2	-5.9
TURN			iS	Sn	02 22 59.5	-6.9
DALY	Dalyan (Mu˜la	1.67 90	ePN	Pb	02 22 46.5	-0.5
DALY	Dalyan (Mu˜la	1.67 90⇓	iP	Pn	02 22 44.8	-0.9
DALY			iS	Sg	02 23 09.8	+0.3
DALY	Dalyan (Mu˜la	1.67 90	P	Pn	02 22 44.8	-0.9
DALY	Dalyan (Mu˜la	1.67 90	ePn	Pb	02 22 46.5	-0.5
DALY			S	Sg	02 23 09.8	+0.3
SERI	Serifos	1.70 281	P	Pn	02 22 43.6	-2.5
SERI	Serifos	1.70 281	P	Pn	02 22 43.6	-2.5
ZKR	Zakros	1.75 190	P	Pn	02 22 45.7	-1.0
ZKR			S	Sn	02 23 08.9	-0.4
ZKR	Zakros	1.75 190	P	Pn	02 22 45.7	-1.0
ZKR			S	Sn	02 23 08.9	-0.4
ZKR			AML	AML	02 23 36.5	
	comp=E,25318µm,0.8s					
ZKR			AML	AML	02 23 40.0	
	comp=N,8768µm,0.9s					
MHLO	Agia Marina, M	1.75 266	P	Pn	02 22 45.6	-1.1
MHLO			S	Sn	02 23 09.3	-0.1
MHLO	Agia Marina, M	1.75 266	P	Pn	02 22 45.6	-1.1
MHLO			S	Sn	02 23 09.3	-0.1
MHLO	Agia Marina, M	1.75 266	P	Pb	02 22 48.8	+0.4
KRBN	Karaburun	1.75 360	ePN	Pn	02 22 46.5	-0.3
KRBN	Karaburun	1.75 360	ePn	Pn	02 22 46.5	-0.3
NPS	Neapolis	1.76 207	P	Pn	02 22 45.5	-1.4
NPS			S	Sn	02 23 09.9	+0.3
NPS	Neapolis	1.76 207	P	Pn	02 22 45.5	-1.4
NPS	Neapolis	1.76 207	P	Pn	02 22 45.5	-1.4
NPS			S	Sn	02 23 08.7	-0.9
NPS	Neapolis	1.76 207	P	Pn	02 22 45.2	-1.7
NPS			S	Sn	02 23 08.7	-0.9
NPS			AML	AML	02 23 32.8	
	comp=N,23938µm,0.8s					
NPS			AML	AML	02 23 32.8	
	comp=E,28502µm,0.8s					
NPS	Neapolis	1.76 207	P	Pn	02 22 45.5	-1.4
FOCM	Fo˜§a	1.87 4	ePN	Pn	02 22 48.5	+0.1
FOCM	Fo˜§a	1.87 4	ePn	Pn	02 22 48.5	+0.1
LAST	Lasithi	1.90 208	P	Pn	02 22 47.8	-1.1
LAST			S	Sn	02 23 13.9	+0.8
LAST	Lasithi	1.90 208	P	Pn	02 22 47.8	-1.1
LAST			S	Sn	02 23 13.9	+0.8
LAST	Lasithi	1.90 208	P	Pn	02 22 46.5	-2.4
LAST			S	Sn	02 23 11.3	-1.8
LAST			AML	AML	02 23 41.6	
	comp=N,9008µm,0.7s					
LAST			AML	AML	02 23 42.2	
	comp=E,10084µm,0.6s					
LAST	Lasithi	1.90 208	P	Pn	02 22 47.8	-1.1
LAST			S	Sn	02 23 13.9	+0.8
FETY	Fethiye	2.03 95	ePN	Pn	02 22 51.4	+0.7
FETY	Fethiye	2.03 95	P	Pn	02 22 50.1	-0.6
FETY	Fethiye	2.03 95	ePn	Pn	02 22 51.4	+0.7
FETY	Fethiye	2.03 95	P	Pb	02 22 52.0	-1.2
FETY			S	Sb	02 23 19.4	+0.7
FETY	Fethiye	2.03 95	P	Pn	02 22 50.1	-0.6
FETI	Fethiye-Mugla	2.03 94	ePN	Pn	02 22 50.1	-0.5
FETI	Fethiye-Mugla	2.03 94	ePn	Pn	02 22 50.2	-0.5
IDI	Anoyia	2.06 222	Pn	Pn	02 22 50.0	-1.2
	comp=E,20nm,0.3s,baz=42,slow=14,SNR=522					
IDI			Sn	Sn	02 23 16.5	-0.8
	comp=E,99nm,0.3s,baz=45,slow=17,SNR=9.3					
IDI	Anoyia	2.06 222	P	Pn	02 22 49.8	-1.3
IDI	Anoyia	2.06 222	ePn	Pn	02 22 50.0	-1.2
IDI	Anoyia	2.06 222	ePg	Pg	02 22 55.3	0.0
IDI			S	Sn	02 23 14.4	-2.9
IDI	Anoyia	2.06 222	P	Pn	02 22 49.2	-2.0
IDI			S	Sn	02 23 14.3	-2.9
IDI			AML	AML	02 23 47.5	
	comp=N,5076µm,0.8s					
IDI			AML	AML	02 23 47.9	
	comp=E,4869µm,0.5s					
IDI	Anoyia	2.06 222	ePn	Pn	02 22 50.0	-1.2
IDI			ePg	Pg	02 22 55.3	0.0
IDI			eSn	Sn	02 23 15.6	-1.7
IDI			eSg	Sb	02 23 20.0	+0.3
KARY	Karystos	2.07 306	P	Pn	02 22 50.4	-0.8
KARY	Karystos	2.07 306	P	Pn	02 22 50.4	-0.8
CAND	Candarli	2.12 5	ePN	Pn	02 22 52.2	+0.3
DNZL	Cakiroluk	2.15 66	iP	Pn	02 22 51.9	-0.6
DNZL			iS	Sg	02 23 28.9	+4.0
DNZL	Cakiroluk	2.15 66	P	Pn	02 22 51.9	-0.6
DENT	Denizli	2.17 64	ePN	Pn	02 22 53.4	+0.8
DENT	Denizli	2.17 64	ePn	Pn	02 22 53.4	+0.8
DKL	Dikili	2.24 7	ePN	Pn	02 22 53.8	+0.3
DKL	Dikili	2.24 7	ePn	Pn	02 22 53.8	+0.3
AKS	Akhisar	2.26 25	ePN	Pn	02 22 54.2	+0.4
AKS	Akhisar	2.26 25	ePn	Pn	02 22 54.2	+0.4
MANT	Manisa	2.28 43	iP	Pn	02 22 47.1	-7.2
MANT	Manisa	2.28 43	ePN	Pn	02 22 51.5	-2.8
MANT	Manisa	2.28 43	ePn	Pn	02 22 51.5	-2.8
SIVA	Sivas	2.31 219	P	Pn	02 22 53.5	-1.0
SIVA	Sivas	2.31 219	P	Pn	02 22 53.7	-0.8
SIVA	Sivas	2.31 219	P	Pn	02 22 53.6	-0.8
SIVA	Sivas	2.31 219	P	Pn	02 22 53.5	-1.0
KULA	Kula-Manisa	2.35 44	ePN	Pn	02 22 55.4	+0.2
KULA	Kula-Manisa	2.35 44	P	Pn	02 22 52.8	-2.4
KULA	Kula-Manisa	2.35 44	P	Pn	02 22 52.8	-2.4
KULA	Kula-Manisa	2.35 44	ePn	Pn	02 22 55.4	+0.2
KULA	Kula-Manisa	2.35 44	P	Pn	02 22 52.8	-2.4
VAM	Vamos	2.39 234	P	Pn	02 22 55.2	-0.4
VAM	Vamos	2.39 234	P	Pn	02 22 55.2	-0.4
VAM	Vamos	2.39 234	P	Pn	02 22 55.2	-0.4
VAM	Vamos	2.39 234	P	Pn	02 22 54.7	-1.0
VAM	Vamos	2.39 234	P	Pn	02 22 55.2	-0.4
PRK	Paraskevi	2.41 354	P	Pn	02 22 53.9	-2.0
PRK	Paraskevi	2.41 354	P	Pn	02 22 53.9	-2.0
PRK	Paraskevi	2.41 354	P	Pn	02 22 53.9	-2.0
PRK	Paraskevi	2.41 354	P	Pn	02 22 53.3	-2.6
PRK	Paraskevi	2.41 354	P	Pn	02 22 53.9	-2.0
GOLH	Golhisar	2.43 80	iP	Pn	02 22 57.6	+1.4
GOLH	Golhisar	2.43 80	P	Pn	02 22 57.6	+1.4
VLY	Voula,Athens	2.43 295	P	Pn	02 22 55.5	-0.7
VLY	Voula,Athens	2.43 295	P	Pn	02 22 56.0	-0.2
VLY	Voula,Athens	2.43 295	P	Pn	02 22 56.0	-0.2
VLY	Voula,Athens	2.43 295	P	Pn	02 22 55.5	-0.7
SIGR	SIGRI	2.43 347	ePN	Pn	02 22 55.8	-0.4
SIGR	SIGRI	2.43 347	P	Pn	02 22 54.3	-1.9
SIGR	SIGRI	2.43 347	P	Pn	02 22 54.3	-1.9
SIGR	SIGRI	2.43 347	ePn	Pn	02 22 55.8	-0.4
SIGR	SIGRI	2.43 347	P	Pn	02 22 53.7	-2.4
SIGR	SIGRI	2.43 347	P	Pn	02 22 54.3	-1.9
AYVA	Ayvalik	2.46 2	iP	Pb	02 23 01.0	+0.4
AYVA	Ayvalik	2.46 2	P	Pb	02 23 01.0	+0.4
PTL	Penteli	2.47 300	P	Pn	02 22 55.8	-0.9
PTL	Penteli	2.47 300	P	Pn	02 22 56.4	-0.3
PTL	Penteli	2.47 300	P	Pn	02 22 56.4	-0.3
PTL	Penteli	2.47 300	P	Pn	02 22 55.8	-0.9
ATHU	Athens Univers	2.49 298	P	Pn	02 22 55.9	-1.0
ATHU	Athens Univers	2.49 298	P	Pn	02 22 55.4	-1.5
ATHU	Athens Univers	2.49 298	P	Pn	02 22 55.4	-1.5
ATHU	Athens Univers	2.49 298	P	Pn	02 22 55.9	-1.0
IMMV	Iera Moni Meta	2.51 237	P	Pn	02 22 56.2	-1.0
IMMV	Iera Moni Meta	2.51 237	P	Pn	02 22 56.2	-1.0
IMMV	Iera Moni Meta	2.51 237	P	Pn	02 22 55.9	-1.3
AKAS	Kas	2.52 103	iP	Pb	02 23 00.1	-1.5
AKAS	Kas	2.52 103	P	Pb	02 23 00.1	-1.5
AKAS	Kas	2.52 103	ePn	Pb	02 23 00.2	-1.4
KSL	Kastellorizon	2.52 105	P	Pn	02 22 56.1	-1.3
KSL	Kastellorizon	2.52 105	P	Pn	02 22 58.3	+0.9
KSL	Kastellorizon	2.52 105	P	Pn	02 22 58.3	+0.9
KSL	Kastellorizon	2.52 105	P	Pn	02 22 56.1	-1.3
ATH	Athens Observa	2.54 297	P	Pn	02 22 58.1	+0.5
ATH	Athens Observa	2.54 297	P	Pn	02 22 58.1	+0.5
EREA	Eretria	2.62 308	P	Pn	02 22 58.0	-0.8
EREA	Eretria	2.62 308	P	Pn	02 22 58.7	-0.1
EREA	Eretria	2.62 308	P	Pn	02 22 58.7	-0.1
GPNR	Gulpinar-Canak	2.63 353	ePN	Pn	02 22 59.4	+0.5
GPNR	Gulpinar-Canak	2.63 353	ePn	Pn	02 22 59.4	+0.5
ELL	Elmali	2.68 91	ePN	Pn	02 23 00.7	+0.9
ELL	Elmali	2.68 91	ePn	Pn	02 23 00.6	+0.9
DID	Didima	2.74 285	P	Pn	02 22 59.9	-0.6
DID	Didima	2.74 285	P	Pn	02 22 59.9	-0.6
DID	Didima	2.74 285	P	Pn	02 22 59.5	-1.0
DID	Didima	2.74 285	P	Pn	02 22 59.9	-0.6
DEMI	Demirci	2.78 37	iP	Pn	02 22 59.9	-1.1
DEMI	Demirci	2.78 37	P	Pn	02 22 59.9	-1.1
ANKY	Antikythira Is	2.81 251	P	Pn	02 23 00.4	-1.0
ANKY	Antikythira Is	2.81 251	P	Pn	02 23 00.4	-1.0
ANKY	Antikythira Is	2.81 251	P	Pn	02 22 58.2	-3.2
ANKY	Antikythira Is	2.81 251	P	Pn	02 23 00.4	-1.0
GVD	Gavdhos	2.84 226	P	Pn	02 23 03.6	+1.9
GVD	Gavdhos	2.84 226	P	Pn	02 23 03.6	+1.9
KYTH	Kithira	2.89 260	P	Pn	02 23 02.6	0.0
KYTH	Kithira	2.89 260	P	Pn	02 23 02.6	0.0
VILL	Villia	2.91 298	P	Pn	02 23 02.1	-0.7
VILL	Villia	2.91 298	P	Pn	02 23 03.1	+0.3
VLI	Veliai	2.92 269	P	Pn	02 23 01.6	-1.3
VLI	Veliai	2.92 269	P	Pn	02 23 02.2	-0.7
VLI	Veliai	2.92 269	P	Pn	02 23 02.2	-0.7
VLI	Veliai	2.92 269	P	Pn	02 23 01.6	-1.3
SIMA	Simav-Kutahya	2.94 40	ePN	Pn	02 23 03.5	+0.2
SIMA	Simav-Kutahya	2.94 40	ePn	Pn	02 23 03.5	+0.2
VIL2	Platees	2.96 299	P	Pn	02 23 03.1	-0.4
BALB	Balikesir	2.98 20	ePN	Pn	02 23 04.7	+1.0
BALB	Balikesir	2.98 20	ePn	Pn	02 23 04.7	+1.0
EZN	Ezine	2.99 356	ePN	Pn	02 23 04.7	+0.9
EZN	Ezine	2.99 356	P	Pn	02 23 01.4	-2.4
EZN	Ezine	2.99 356	P	Pn	02 23 01.4	-2.4
EZN	Ezine	2.99 356	P	Pn	02 23 01.4	-2.4
EZN	Ezine	2.99 356	ePn	Pn	02 23 04.7	+0.9
EZN	Ezine	2.99 356	P	Pn	02 23 01.4	-2.4
BALY	Balya	3.01 16	iP	Pn	02 23 03.4	-0.8
BALY	Balya	3.01 16	P	Pn	02 23 03.4	-0.8
BOZC	Bozcaada	3.02 352	ePN	Pn	02 23 04.7	+0.4
KORT	Korkueli	3.03 86	ePN	Pn	02 23 05.5	+0.9
KORT	Korkueli	3.03 86	iP	Pn	02 23 06.5	+2.0
KORT	Korkueli	3.03 86	ePn	Pn	02 23 05.5	+0.9
KORT	Korkueli	3.03 86	P	Pn	02 23 06.5	+2.0
LTK	Loutraki	3.10 293	P	Pn	02 23 05.0	-0.4
LTK	Loutraki	3.10 293	P	Pn	02 23 05.2	-0.2
LTK	Loutraki	3.10 293	P	Pn	02 23 05.2	-0.2
LTK	Loutraki	3.10 293	P	Pn	02 23 05.0	-0.4
GEDZ	Gediz	3.14 45	ePN	Pn	02 23 07.1	+1.1
GEDZ	Gediz	3.14 45	ePn	Pn	02 23 07.1	+1.1
AOS	Alonnisos	3.15 318	ePN	Pn	02 23 06.0	0.0
AOS	Alonnisos	3.15 318	P	Pn	02 23 05.1	-0.9
AOS	Alonnisos	3.15 318	P	Pn	02 23 05.2	-0.8
AOS	Alonnisos	3.15 318	ePn	Pn	02 23 06.1	0.0
AOS	Alonnisos	3.15 318	P	Pn	02 23 05.2	-0.8
AOS	Alonnisos	3.15 318	P	Pn	02 23 05.1	-0.9
LIA	Limnos Island	3.24 341	P	Pn	02 23 05.7	-1.6
LIA	Limnos Island	3.24 341	P	Pn	02 23 05.7	-1.6
LIA	Limnos Island	3.24 341	P	Pn	02 23 05.2	-2.1
LIA	Limnos Island	3.24 341	P	Pn	02 23 05.7	-1.6
PROD	Prodromos	3.24 297	P	Pn	02 23 06.9	-0.4
PROD	Prodromos	3.24 297	P	Pn	02 23 06.9	-0.4
BCK	Bucak	3.27 78	ePN	Pn	02 23 09.1	+1.4
BCK	Bucak	3.27 78	ePn	Pn	02 23 09.1	+1.4
ANTB	Antalya	3.27 88	ePN	Pn	02 23 08.7	+1.0
ANTB	Antalya	3.27 88	ePn	Pn	02 23 08.7	+1.0
ISP	Isparta	3.30 72	ePN	Pn	02 23 09.3	+1.1
ISP	Isparta	3.30 72⇑	iP	Pn	02 23 08.1	-0.1
ISP	Isparta	3.30 72	Pn	Pn	02 23 04.3	-3.9
ISP	Isparta	3.30 72	eP	Pn	02 23 07.9	-0.3
ISP	Isparta	3.30 72	eP	Pn	02 23 07.9	-0.3
ISP	Isparta	3.30 72	ePn	Pn	02 23 09.3	+1.1
ISP	Isparta	3.30 72	ePg	Pg	02 23 19.1	+0.1
ISP	Isparta	3.30 72	ePn	Pn	02 23 07.8	-0.3
ISP			ePg	Pg	02 23 19.1	+0.1
ISP			eSg	Sg	02 24 01.5	-0.3
THAL	Thalero	3.33 292	P	Pn	02 23 09.2	+0.7
THAL	Thalero	3.33 292	P	Pn	02 23 09.2	+0.7
SMIA	Simia	3.35 308	P	Pn	02 23 07.6	-1.2
SMIA	Simia	3.35 308	P	Pn	02 23 07.6	-1.2
LKR	Lokris	3.36 304	P	Pn	02 23 08.4	-0.5
LKR	Lokris	3.36 304	P	Pn	02 23 08.7	-0.2
LKR	Lokris	3.36 304	P	Pn	02 23 08.7	-0.2
LKR	Lokris	3.36 304	P	Pn	02 23 08.4	-0.5
SKIA	Skiathos	3.38 314	P	Pn	02 23 08.4	-0.8
SKIA	Skiathos	3.38 314	P	Pn	02 23 08.7	-0.5
SKIA	Skiathos	3.38 314	P	Pn	02 23 08.7	-0.5
GADA	Gvkgeada	3.39 351	ePN	Pn	02 23 09.5	+0.2
GADA	Gvkgeada	3.39 351	ePn	Pn	02 23 09.5	+0.2
VLX	Vlachokerasia	3.39 280	P	Pn	02 23 10.5	+1.0
VLX	Vlachokerasia	3.39 280	P	Pn	02 23 10.5	+1.0
TVSB	Tavsanli	3.46 40	ePN	Pn	02 23 11.9	+1.5
TVSB	Tavsanli	3.46 40	ePn	Pn	02 23 11.9	+1.5
LPK	Lapseki	3.53 2	ePN	Pn	02 23 12.8	+1.5
LPK	Lapseki	3.53 2	ePn	Pn	02 23 12.8	+1.5
BAGO	Egridir - ISPA	3.55 70	iP	Pn	02 23 11.5	-0.1
DSF	Desfina	3.57 297	P	Pn	02 23 12.1	+0.2
DSF	Desfina	3.57 297	P	Pn	02 23 12.1	+0.2
SHUT	Suhut-Afyon	3.59 60	ePN	Pn	02 23 13.6	+1.4
SHUT	Suhut-Afyon	3.59 60	ePn	Pn	02 23 13.6	+1.4
KRBG	Karabiga-Canak	3.59 9	ePN	Pn	02 23 13.2	+1.1
SUTC	Sutluce-Ispart	3.59 79	ePN	Pn	02 23 13.6	+1.3
SUTC	Sutluce-Ispart	3.59 79	ePn	Pn	02 23 13.6	+1.3
EDC	Edincik	3.64 16	ePN	Pn	02 23 14.0	+1.2
EDC	Edincik	3.64 16	ePn	Pn	02 23 14.0	+1.2
XOR	Xorichti	3.67 314	P	Pn	02 23 12.4	-0.8
XOR	Xorichti	3.67 314	P	Pn	02 23 12.4	-0.8
KCTX	Karacabey (Bur	3.69 22	ePN	Pn	02 23 14.0	+0.4
KCTX	Karacabey (Bur	3.69 22	ePn	Pn	02 23 14.0	+0.4
SMTH	Samothraki Isl	3.71 348	P	Pn	02 23 11.2	-2.6
KLV	Kalavryta, Ach	3.72 290	P	Pn	02 23 14.3	+0.4
KLV	Kalavryta, Ach	3.72 290	P	Pn	02 23 14.3	+0.4
ITM	Ithomi	3.73 277	P	Pn	02 23 16.2	+2.1
ITM	Ithomi	3.73 277	P	Pn	02 23 16.2	+2.1
ERIK	Erikli-Kesan	3.82 359	ePN	Pn	02 23 16.0	+0.7
ERIK	Erikli-Kesan	3.82 359	ePn	Pn	02 23 16.0	+0.7
PAIG	Paliouri	3.83 324	P	Pn	02 23 13.9	-1.4
PAIG	Paliouri	3.83 324	P	Pn	02 23 13.9	-1.4
MRMT	Marmara Adasi	3.84 12	ePN	Pn	02 23 16.4	+0.8
KALE	Kalithea	3.84 295	P	Pn	02 23 16.8	+1.2
KALE	Kalithea	3.84 295	P	Pn	02 23 16.8	+1.2
PYL	PYLOS	3.87 272	P	Pn	02 23 19.4	+3.4
TRIZ	Trizonia	3.88 294	P	Pn	02 23 17.4	+1.3
TRIZ	Trizonia	3.88 294	P	Pn	02 23 17.4	+1.3
ENEZ	Enez	3.90 355	ePN	Pn	02 23 17.6	+1.2
ENEZ	Enez	3.90 355	P	Pn	02 23 14.8	-1.6
ENEZ	Enez	3.90 355	P	Pn	02 23 14.8	-1.6
ENEZ	Enez	3.90 355	ePn	Pn	02 23 17.6	+1.2
LAKA	Lakka	3.91 292	P	Pn	02 23 17.2	+0.7
LAKA	Lakka	3.91 292	P	Pn	02 23 17.2	+0.7
SERG	Sergoula	3.91 295	P	Pn	02 23 17.8	+1.3
SERG	Sergoula	3.91 295	P	Pn	02 23 17.8	+1.3
AMT	Artemida-Makis	3.94 282	P	Pn	02 23 19.8	+2.8
BOLV	Bolvadin	3.94 60	iP	Pn	02 23 18.2	+1.1
BOLV	Bolvadin	3.94 60	P	Pn	02 23 18.2	+1.1
BOLV	Bolvadin	3.94 60	ePN	Pn	02 23 18.8	+1.7
BOLV	Bolvadin	3.94 60	ePn	Pn	02 23 18.8	+1.7
MDNY	Mudanya-Bursa	3.96 27	ePN	Pn	02 23 18.8	+1.6
MDNY	Mudanya-Bursa	3.96 27	ePn	Pn	02 23 18.8	+1.6
AGG	Agios Georgios	4.00 304	ePN	Pn	02 23 17.8	+0.1
AGG	Agios Georgios	4.00 304	eP	Pn	02 23 19.0	+1.3
AGG	Agios Georgios	4.00 304	ePn	Pn	02 23 17.8	+0.1
AGG	Agios Georgios	4.00 304	P	Pn	02 23 18.9	+1.3
AGG	Agios Georgios	4.00 304	P	Pn	02 23 18.9	+1.2
AGG	Agios Georgios	4.00 304	ePn	Pn	02 23 19.0	+1.2
DRO	Drossia	4.03 287	P	Pn	02 23 19.8	+1.7
DRO	Drossia	4.03 287	P	Pn	02 23 19.8	+1.7
OUR	Ouranopolis	4.03 331	ePN	Pn	02 23 19.0	+0.9
OUR	Ouranopolis	4.03 331	ePn	Pn	02 23 19.0	+0.9
ALN	Alexandroupoli	4.07 354	ePN	Pn	02 23 19.5	+0.8
ALN	Alexandroupoli	4.07 354	P	Pn	02 23 17.1	-1.6
ALN	Alexandroupoli	4.07 354	P	Pn	02 23 17.1	-1.6
ALN	Alexandroupoli	4.07 354	P	Pn	02 23 17.1	-1.6
ALN	Alexandroupoli	4.07 354	ePn	Pn	02 23 19.5	+0.8
ALN	Alexandroupoli	4.07 354	P	Pn	02 23 16.2	-2.4
ALN	Alexandroupoli	4.07 354	P	Pn	02 23 17.1	-1.6
ARMT	Armutlu	4.13 25	ePN	Pn	02 23 21.2	+1.7
ARMT	Armutlu	4.13 25	ePn	Pn	02 23 21.2	+1.7
GEMT	Gemlik	4.13 29	ePN	Pn	02 23 21.2	+1.7
GEMT	Gemlik	4.13 29	ePn	Pn	02 23 21.2	+1.7
SBT3	Marmara-Eregli	4.18 15	ePN	Pn	02 23 21.2	+1.1
SBT3	Marmara-Eregli	4.18 15	ePn	Pn	02 23 21.2	+1.1
SBT5	Esenkoy-Cinarc	4.19 25	ePN	Pn	02 23 22.4	+2.1
SBT5	Esenkoy-Cinarc	4.19 25	ePn	Pn	02 23 22.4	+2.1
EVR	Evrytania	4.30 300	P	Pn	02 23 24.5	+2.5
ESKT	Eskisehir	4.30 50	iP	Pn	02 23 23.0	+1.0
SEYT	Eskypehyr	4.30 50	P	Pn	02 23 23.0	+1.0
SBT2	Guzelce-Avcila	4.31 20	ePN	Pn	02 23 23.6	+1.8
ADVT	Abdulvahap	4.36 34	ePN	Pn	02 23 24.4	+1.8
ADVT	Abdulvahap	4.36 34	ePn	Pn	02 23 24.5	+1.8
RDO	Rodhopi	4.37 350	P	Pn	02 23 21.2	-1.6
RDO	Rodhopi	4.37 350	P	Pn	02 23 21.2	-1.6
RDO	Rodhopi	4.37 350	P	Pn	02 23 21.1	-1.7
RDO	Rodhopi	4.37 350	P	Pn	02 23 21.2	-1.6
PVO	Paravola	4.37 295	P	Pn	02 23 26.1	+3.2
CRLT	Corlu	4.38 12	ePN	Pn	02 23 24.4	+1.6
CRLT	Corlu	4.38 12	ePn	Pn	02 23 24.5	+1.6
KAVA	Kavala	4.45 340	P	Pn	02 23 21.8	-2.1
KAVA	Kavala	4.45 340	P	Pn	02 23 21.8	-2.1
HVHR	Bakirkoy-Istan	4.49 23	ePN	Pn	02 23 26.5	+2.1
THL	Klokotos Trika	4.50 309	P	Pn	02 23 24.9	+0.3
THL	Klokotos Trika	4.50 309	P	Pn	02 23 24.9	+0.3
SLVT	Silivri	4.56 16	ePN	Pn	02 23 26.9	+1.4
SLVT	Silivri	4.56 16	ePn	Pn	02 23 26.9	+1.4
PDO	Prodromos	4.62 294	P	Pn	02 23 29.5	+3.3
HORT	Hortiatis	4.63 325	ePN	Pn	02 23 26.8	+0.4
HORT	Hortiatis	4.63 325	ePn	Pn	02 23 26.8	+0.4
CTKS	Kestanelik-??a	4.64 18	ePN	Pn	02 23 28.5	+2.0
CTKS	Kestanelik-??a	4.64 18	ePn	Pn	02 23 28.5	+2.0
KAVV	Kandilli-Istan	4.64 24	ePN	Pn	02 23 28.1	+1.6
ISK	Istanbul-Kandi	4.64 24	ePN	Pn	02 23 28.1	+1.5
HRT	Hereke	4.65 30	ePN	Pn	02 23 28.1	+1.4
HRT	Hereke	4.65 30	ePn	Pn	02 23 28.1	+1.4
KIZT	Kizilcal	4.67 63	ePN	Pn	02 23 28.5	+1.5
KIZT	Kizilcal	4.67 63	ePn	Pn	02 23 28.5	+1.5
SVRH	Sivrihisar-ESK	4.69 55	ePN	Pn	02 23 28.5	+1.2
SVRH	Sivrihisar-ESK	4.69 55	ePn	Pn	02 23 28.5	+1.2
SOH	Sokhos	4.70 329	P	Pn	02 23 29.3	+1.9
SOH	Sokhos	4.70 329	P	Pn	02 23 29.3	+1.9
KDHN	Kadinhani	4.71 67	iP	Pn	02 23 28.1	+0.5
KDHN	Kadinhani	4.71 67	P	Pn	02 23 28.0	+0.5
KMER	Konya-Meram	4.71 77	iP	Pn	02 23 30.3	+2.6
KMER	Konya-Meram	4.71 77	P	Pn	02 23 30.3	+2.6
THE	Thessaloniki	4.72 324	P	Pn	02 23 30.1	+2.5
THE	Thessaloniki	4.72 324	P	Pn	02 23 30.1	+2.5
GULT	Gulveren	4.73 40	ePN	Pn	02 23 30.1	+2.2
GULT	Gulveren	4.73 40	ePn	Pn	02 23 30.1	+2.2
KONT	Konya--Tatoy	4.74 75	ePN	Pn	02 23 28.9	+1.0
KONT	Konya--Tatoy	4.74 75	iP	Pn	02 23 29.4	+1.5
KONT	Konya--Tatoy	4.74 75	ePn	Pn	02 23 28.9	+1.0
HDMB	Hadim	4.74 87	ePN	Pn	02 23 29.3	+1.2
HDMB	Hadim	4.74 87	ePn	Pn	02 23 29.3	+1.2
KLYT	Kilyos	4.81 23	ePN	Pn	02 23 30.5	+1.7
KLYT	Kilyos	4.81 23	ePn	Pn	02 23 30.5	+1.7
CTYL	Yalikoy Yolu	4.82 16	ePN	Pn	02 23 30.9	+2.0
CTYL	Yalikoy Yolu	4.82 16	ePn	Pn	02 23 30.9	+2.0
SPNC	Sapanca-Adapaz	4.82 36	ePN	Pn	02 23 30.5	+1.5
SPNC	Sapanca-Adapaz	4.82 36	ePn	Pn	02 23 30.5	+1.5
PHSR	Pinarhisar	4.84 9	ePN	Pn	02 23 30.5	+1.2
PHSR	Pinarhisar	4.84 9	ePn	Pn	02 23 30.5	+1.2
SRS	Serrai	4.86 332	P	Pn	02 23 28.8	-0.7
SRS	Serrai	4.86 332	P	Pn	02 23 28.8	-0.7
DSL	Palaion Diasel	4.89 300	P	Pn	02 23 34.3	+4.3
SILT	Sile	4.93 28	ePN	Pn	02 23 31.7	+1.3
NVR	Nevrokopi	4.97 336	P	Pn	02 23 28.6	-2.5
EDRB	Edirne	5.00 1	ePN	Pn	02 23 32.9	+1.5
EDRB	Edirne	5.00 1	ePn	Pn	02 23 32.9	+1.5
AKMC	Akamas	5.01 109	P	Pn	02 23 30.8	-0.9
AKMC	Akamas	5.01 109	P	Pn	02 23 30.8	-0.9
	baz=292					
LKD2	Lefkada island	5.07 294	P	Pn	02 23 35.2	+2.8
PPCY	Paphos	5.08 111	P	Pn	02 23 31.7	-0.8
PPCY	Paphos	5.08 111	P	Pn	02 23 31.7	-0.8
	baz=293					
ERMK	Ermenek	5.10 90	iP	Pn	02 23 35.8	+2.8
ERMK	Ermenek	5.10 90	P	Pn	02 23 35.8	+2.8
MDUB	Mudurnu	5.12 44	ePN	Pn	02 23 35.4	+2.1
MDUB	Mudurnu	5.12 44	ePn	Pn	02 23 35.4	+2.1
ALFC	Alefka	5.17 107	P	Pn	02 23 32.8	-1.0
ALFC			S	Sn	02 24 31.4	-2.4
ALFC	Alefka	5.17 107	P	Pn	02 23 32.8	-1.0
	baz=290					
ALFC			S	Sn	02 24 31.4	-2.4
KNT	Kendrikon	5.18 328	ePN	Pn	02 23 35.1	+1.2
KNT	Kendrikon	5.18 328	ePn	Pn	02 23 35.1	+1.2
CHBY	Cihanbeyli	5.30 69	ePN	Pn	02 23 37.8	+2.0
CHBY	Cihanbeyli	5.30 69	ePn	Pn	02 23 37.8	+2.0
TEKE	Tekeli-Mersin	5.32 96	ePN	Pn	02 23 37.0	+1.1
TEKE	Tekeli-Mersin	5.32 96	ePn	Pn	02 23 37.0	+1.1
BERE	Bereket-Mersin	5.38 93	ePN	Pn	02 23 38.2	+1.4
BERE	Bereket-Mersin	5.38 93	ePn	Pn	02 23 38.2	+1.4
LEF	Lefka	5.41 107	ePN	Pn	02 23 38.6	+1.6
LEF	Lefka	5.41 107	ePn	Pn	02 23 38.6	+1.6
PENT	Pentalofos	5.42 310	P	Pn	02 23 39.0	+1.7
PENT	Pentalofos	5.42 310	P	Pn	02 23 39.0	+1.7
SZAC	Souni	5.54 110	P	Pn	02 23 37.5	-1.4
SZAC	Souni	5.54 110	P	Pn	02 23 37.5	-1.4
	baz=293					
KULU	Kulu	5.54 65	ePN	Pn	02 23 41.0	+2.0
KULU	Kulu	5.54 65	ePn	Pn	02 23 41.0	+2.0
TEVE	Tevekalti-Mers	5.54 92	ePN	Pn	02 23 40.6	+1.6
TEVE	Tevekalti-Mers	5.54 92	ePn	Pn	02 23 40.6	+1.6
NEST	Nestorio	5.60 311	P	Pn	02 23 42.5	+2.7
FNA	Florina	5.65 316	ePN	Pn	02 23 41.4	+0.9
FNA	Florina	5.65 316	P	Pn	02 23 44.0	+3.5
FNA	Florina	5.65 316	ePn	Pn	02 23 41.4	+0.9
AKKU	Akkuyu-Mersin	5.67 95	ePN	Pn	02 23 43.0	+2.4
AKKU	Akkuyu-Mersin	5.67 95	ePn	Pn	02 23 43.0	+2.4
SULT	Sultanhani-AKS	5.69 74	ePN	Pn	02 23 43.0	+2.0
SULT	Sultanhani-AKS	5.69 74	ePn	Pn	02 23 43.0	+2.0
SGD	Sagiada	5.70 301	P	Pn	02 23 45.4	+4.3
BR231	Keskin MP Arra	5.72 57	ePn	Pb	02 23 48.9	+7.2
LOD	Lodumlu	5.74 56	ePN	Pn	02 23 44.2	+2.5
LOD	Lodumlu	5.74 56	ePn	Pn	02 23 44.2	+2.5
AFSR	Af˜ar-Bala (A	5.75 61	ePN	Pn	02 23 43.8	+2.0

AFSR **Af˙ar-Bala (A** 5.75 61 *e*Pn **Pn** 02 23 43.8 +2.0
ANTO **Ankara** 5.75 56 *e*P **Pn** 02 23 42.5 +0.7
ANTO **Ankara** 5.75 56 *e*P **Pn** 02 23 42.5 +0.7
ANTO **Ankara** 5.75 56 *e*Pn **Pn** 02 23 42.5 +0.7
KEBE **Keben-Mersin** 5.76 92 *e*PN **Pn** 02 23 44.2 +2.3
KEBE **Keben-Mersin** 5.76 92 *e*Pn **Pn** 02 23 44.2 +2.3
IKL **Isikli** 5.76 94 *e*PN **Pn** 02 23 44.6 +2.7
IKL **Isikli** 5.76 94 *e*Pn **Pn** 02 23 44.6 +2.7
CSS **Mathiatis** 5.80 107 Pn **Pn** 02 23 39.5 -3.0
CSS **Mathiatis** 5.80 107 *e*Pn **Pn** 02 23 43.7 +1.2
CSS **Mathiatis** 5.80 107 *e*Pn **Pn** 02 23 43.7 +1.2
LFK **Lefkose** 5.85 103 *e*PN **Pn** 02 23 45.4 +2.2
LFK **Lefkose** 5.85 103 *e*Pn **Pn** 02 23 45.4 +2.2
KIZK **Mersin** 6.10 91 *e*PN **Pn** 02 23 48.3 +1.7
BR131 **Keskin Array S** 6.26 60 *e*Pn **Pn** 02 23 49.7 +0.8
BR131 **Keskin Array S** 6.26 60 *e*Pn **Pn** 02 23 49.7 +0.8
BRTR **Keskin Array B** 6.26 60 Pn **Pn** 02 23 49.5 +0.5
comp=E,2.6nm,0.3s,baz=242,slow=13,SNR=113
BRTR **Keskin Array B** 6.26 60 *i* P **Pn** 02 23 49.4 +0.5
BRTR pmax pmax
comp=Z,17nm,0.6s
VTS **Vitosha** 6.30 337 ⇓ *i*P **Pn** 02 23 50.0 +0.5
VTS **Vitosha** 6.30 337 *e*P **Pn** 02 23 49.8 +0.3
VTS **Vitosha** 6.30 337 *e*P **Pn** 02 23 49.8 +0.3
VTS **Vitosha** 6.30 337 *e*Pn **Pn** 02 23 49.8 +0.3
MERS **Mersin** 6.38 87 *e*PN **Pn** 02 23 53.1 +2.7
MERS **Mersin** 6.38 87 *e*Pn **Pn** 02 23 53.1 +2.7
TIR **Tirane** 6.89 313 ⇑ *i*P **Pn** 02 23 58.8 +0.9
TIR **Tirane** 6.89 313 *e*P **Pn** 02 23 59.8 +2.4
TIR **Tirane** 6.89 313 *e*P **Pn** 02 23 59.8 +2.4
TIR **Tirane** 6.89 313 *e*Pn **Pn** 02 23 59.8 +2.4
KRTS **Karatas** 7.08 90 *e*PN **Pn** 02 24 02.0 +2.0
KRTS **Karatas** 7.08 90 *e*Pn **Pn** 02 24 02.0 +2.0
CORM **Corum** 7.14 60 *e*PN **Pn** 02 24 03.6 +2.6
CORM **Corum** 7.14 60 *e*Pn **Pn** 02 24 03.6 +2.6
KOZT **Kozan** 7.42 82 *e*PN **Pn** 02 24 06.4 +1.7
KOZT **Kozan** 7.42 82 *e*Pn **Pn** 02 24 06.4 +1.7
YOZ **Yozgat** 7.43 65 *e*PN **Pn** 02 24 06.4 +1.4
YOZ **Yozgat** 7.43 65 *e*Pn **Pn** 02 24 06.4 +1.4
ZAGS **Zajecar** 7.71 336 *e*Pn **Pn** 02 24 08.1 -0.5
YAYL **Yayladag** 7.73 93 *e*PN **Pn** 02 24 11.7 +2.6
YAYL **Yayladag** 7.73 93 *e*Pn **Pn** 02 24 11.7 +2.6
TIRR **Tirgusor** 7.74 10 ⇓ *i*P **Pn** 02 24 08.2 -0.8
TIRR **Tirgusor** 7.74 10 *e*P **Pn** 02 24 07.2 -1.8
TIRR **Tirgusor** 7.74 10 *e*P **Pn** 02 24 07.2 -1.8
TIRR **Tirgusor** 7.74 10 *e*Pn **Pn** 02 24 07.2 -1.8
BOVS **Bovan** 7.74 333 *e*Pn **Pn** 02 24 09.3 +0.3
TAHT **Tahtakopru-Hat** 7.75 91 *e*PN **Pn** 02 24 11.7 +2.5
TAHT **Tahtakopru-Hat** 7.75 91 *e*Pn **Pn** 02 24 11.7 +2.5
TLB **Topalu** 7.82 8 ⇑ *i*P **Pn** 02 24 09.4 -0.7
TLB **Topalu** 7.82 8 ⇑ *i*P **Pn** 02 24 09.4 -0.7
BOLS **Boljevac** 7.82 335 *e*Pn **Pn** 02 24 08.3 -1.8
HARR **Harsova** 7.91 7 ⇓ *i*P **Pn** 02 24 10.4 -1.0
HARR **Harsova** 7.91 7 ⇓ *i*P **Pn** 02 24 10.4 -1.0
PDG **Podgorica** 7.94 317 ⇓ *i*P **Pn** 02 24 12.3 +0.6
PDG **Podgorica** 7.94 317 ⇓ *i*P **Pn** 02 24 12.3 +0.6
HNTI **Hanîta** 8.00 115 Pn **Pn** 02 24 10.3 -2.3
BLGI **Bet Lehem HaGe** 8.19 118 Pn **Pn** 02 24 12.5 -2.8
MMA0B **Mount Meron ar** 8.20 115 Pn **Pn** 02 24 13.7 -1.7
MMA0B **Mount Meron ar** 8.20 115 Pn **Pn** 02 24 13.7 -1.7
MMAI **Mount Meron Ar** 8.20 115 Pn **Pn** 02 24 13.7 -1.8
comp=Z,2.4nm,0.3s,baz=307,slow=12,SNR=24
MMAI Sn **Sn** 02 25 42.8 -5.6
comp=Z,3.4nm,0.3s,baz=316,slow=18,SNR=3.5
MMAI LR LR 02 28 12.5
comp=Z,130nm,18.9s,baz=310,slow=44
FASA **Fasano** 8.21 302 *e*P **Pn** 02 24 16.9 +1.3
KMRS **Kahramanmaras** 8.27 82 *e*PN **Pn** 02 24 18.1 +1.7
KMRS **Kahramanmaras** 8.27 82 *e*Pn **Pn** 02 24 18.1 +1.7
KSDI **Kefar Szold** 8.30 113 Pn **Pn** 02 24 14.7 -2.0
KSDI **Kefar Szold** 8.30 113 Pn **Pn** 02 24 14.7 -2.0
IVAS **Ivanjica** 8.33 326 *e*Pn **Pn** 02 24 17.9 +0.7
SLTI **Sal'it** 8.36 121 Pn **Pn** 02 24 14.3 -3.3
SLTI Sn **Sn** 02 25 50.5 -1.9
CFR **Carcaliu** 8.41 8 ⇑ *i*P **Pn** 02 24 16.3 -2.0
KUBS **Kucevo** 8.43 335 *e*Pn **Pn** 02 24 17.7 -0.8
KSHT **Keshet** 8.51 114 Pn **Pn** 02 24 16.4 -3.3
MMLI **Mount Malkishu** 8.51 118 Pn **Pn** 02 24 16.0 -3.7
MMLI Sn **Sn** 02 25 54.2 -2.0
CEL **Celeste** 8.60 283 *e*Pn **Pn** 02 24 16.8 -4.1
comp=Z,9.7nm,0.6s
CEL *e*Sn **Sn** 02 25 54.7 -3.6
ARR **Arges** 8.64 351 ⇓ *i*P **Pn** 02 24 22.0 +0.5
ARR **Arges** 8.64 351 ⇓ *i*P **Pn** 02 24 22.0 +0.5
MLR **Muntele Rosu** 8.65 357 Pn **Pn** 02 24 21.2 -0.5
comp=Z,0.1nm,0.3s,baz=179,slow=11,SNR=5.7
MLR LR LR 02 28 02.3
comp=Z,121nm,21.3s,baz=181,slow=40
MLR **Muntele Rosu** 8.65 357 ⇓ *i*P **Pn** 02 24 21.3 -0.4
MLR **Muntele Rosu** 8.65 357 *e*Pn **Pn** 02 24 20.9 -0.8
MLR **Muntele Rosu** 8.65 357 *e*Pn **Pn** 02 24 20.9 -0.8
VOIR 8.66 353 ⇓ *i*P **Pn** 02 24 21.3 -0.5
VOIR 8.66 353 ⇓ *i*P **Pn** 02 24 21.3 -0.5
HMDT **Nahal Hemdat** 8.69 119 Pn **Pn** 02 24 19.3 -2.8
HMDT Sn **Sn** 02 25 58.3 -2.2
AMAZ **Amatzia** 8.71 125 Pn **Pn** 02 24 20.5 -1.9
AMAZ **Amatzia** 8.71 125 Pn **Pn** 02 24 20.5 -1.9
MDVR **Moldovita** 8.74 337 ⇑ *i*P **Pn** 02 24 21.9 -1.0
MDVR **Moldovita** 8.74 337 ⇑ *i*P **Pn** 02 24 21.9 -1.0
KZIT **Kziot** 8.79 130 Pn **Pn** 02 24 21.6 -2.0
KZIT **Kziot** 8.79 130 Pn **Pn** 02 24 21.6 -2.0
DIVS **Divibare** 8.81 327 *e*Pn **Pn** 02 24 25.6 +1.8
BBLS **Lazići** 8.89 324 *e*Pn **Pn** 02 24 27.2 +2.2
DSI **Dead Sea** 8.99 123 Pn **Pn** 02 24 23.9 -2.4
DSI Sn **Sn** 02 26 05.6 -2.3
PLOR **Plostina** 9.00 0 ⇓ *i*P **Pn** 02 24 24.9 -1.5
PLOR **Plostina** 9.00 0 ⇓ *i*P **Pn** 02 24 24.9 -1.5
CUC **Castrocucco** 9.01 294 *e*Pn **Pn** 02 24 27.1 +0.6
CUC **Castrocucco** 9.01 294 *e*Pn **Pn** 02 24 27.1 +0.6
VRI **Vrincioaia** 9.02 1 ⇓ *i*P **Pn** 02 24 25.5 -1.1
VRI **Vrincioaia** 9.02 1 ⇓ *i*P **Pn** 02 24 25.5 -1.1
CDT **Castel del Mon** 9.07 301 *e*P **Pn** 02 24 27.1 -0.2
MZDA **Masada** 9.14 125 Pn **Pn** 02 24 25.4 -2.9
DOPR **Dopca** 9.16 355 ⇑ *i*P **Pn** 02 24 28.5 -0.1
DOPR **Dopca** 9.16 355 ⇑ *i*P **Pn** 02 24 28.5 -0.1
ZFRI **Zfri** 9.52 129 Pn **Pn** 02 24 30.2 -3.3
BZS **Buzias** 9.53 339 ⇑ *i*P **Pn** 02 24 33.6 +0.1
BZS **Buzias** 9.53 339 ⇑ *i*P **Pn** 02 24 33.6 +0.1
PRNI **Paran** 9.55 130 Pn **Pn** 02 24 31.3 -2.7
TESR **Tescani** 9.66 0 ⇓ *i*P **Pn** 02 24 34.3 -1.1
TESR **Tescani** 9.66 0 ⇓ *i*P **Pn** 02 24 34.3 -1.1
ASF **Jabal al Asfar** 9.71 116 Pn **Pn** 02 24 36.9 +0.7
comp=Z,0.2nm,0.3s,baz=249,slow=5.6,SNR=2.7
ASF Sn **Sn** 02 26 20.9 -4.8
baz=324,slow=19,SNR=2.1
VAE **Valguarnera** 9.73 277 Pn **Pn** 02 24 37.4 +1.0
comp=Z,0.3nm,0.3s,baz=67,slow=16,SNR=3.6
VAE Sn **Sn** 02 26 19.8 -6.3
comp=Z,0.3nm,0.3s,baz=16,slow=20,SNR=2.2
HRFI **Mount Harif** 9.80 131 Pn **Pn** 02 24 34.7 -2.7
MBRI **Mt Berech** 9.90 133 Pn **Pn** 02 24 36.8 -2.0
MBRI **Mt Berech** 9.90 133 Pn **Pn** 02 24 36.8 -2.0
EIL **Elat** 10.02 133 Pn **Pn** 02 24 38.0 -2.2
comp=Z,0.9nm,0.3s,baz=342,slow=13,SNR=21
EIL Sn **Sn** 02 26 26.6 -6.5
comp=Z,1.7nm,0.3s,baz=41,slow=20,SNR=5.0
EIL LR LR 02 30 57.6
comp=Z,240nm,19.9s,baz=295,slow=52
EIL **Elat** 10.02 133 Pn **Pn** 02 24 38.1 -2.2
SIRR **Siria** 10.11 340 ⇑ *i*P **Pn** 02 24 40.7 -0.9
SIRR **Siria** 10.11 340 ⇑ *i*P **Pn** 02 24 40.7 -0.9
CJR **Cluj-Napoca** 10.11 348 ⇓ *i*P **Pn** 02 24 42.1 +0.5
CJR **Cluj-Napoca** 10.11 348 ⇓ *i*P **Pn** 02 24 42.1 +0.5
DRGR 10.35 345 ⇓ *i*P **Pn** 02 24 44.7 -0.2
DRGR 10.35 345 ⇓ *i*P **Pn** 02 24 44.7 -0.2
CLTB **Caltabellotta** 10.68 278 *e*Pn **Pn** 02 24 44.0 -5.4
BURAR **Bucovina Array** 10.81 355 ⇑ *i*P **Pn** 02 24 52.1 +0.8
BURAR **Bucovina Array** 10.81 355 ⇑ *i*P **Pn** 02 24 52.1 +0.8
SOC **Sochi** 12.09 52 *e*P **Pn** 02 25 12.6 +4.0
SOC *e* 02 27 29.6
SOC MLR MLR
comp=Z,522nm,16.0s
PSZ **Piszkesteto** 12.11 338 *e*P **Pn** 02 25 08.5 -0.5
PSZ **Piszkesteto** 12.11 338 *e*P **Pn** 02 25 08.5 -0.5
PSZ **Piszkesteto** 12.11 338 *e*Pn **Pn** 02 25 08.5 -0.5
UZH **Uzhgorod** 12.19 346 *e*P **Pn** 02 25 09.2 -0.8
UZH *e*S **Sn** 02 27 23.0 -3.2
UZH MLR MLR
comp=N,450nm,9.0s
UZH MLR MLR
comp=E,500nm,9.0s
UZH MLR MLR
comp=Z,400nm,9.0s
UZH Uzhgorod 12.19 346 *e*P **Pn** 02 25 09.2 -0.8
KECS Kecovo 12.46 341 *e*P **Pn** 02 25 10.3 -3.4
KECS Kecovo 12.46 341 *e*PN **Pn** 02 25 10.3 -3.4
CRVS Cervenica-Dubn 12.62 344 *e*P **Pn** 02 25 17.0 +1.1
CRVS Cervenica-Dubn 12.62 344 *e*P **Pn** 02 25 17.0 +1.1
CRVS Cervenica-Dubn 12.62 344 *e*PN **Pn** 02 25 17.0 +1.1
VYHS Vyhne 12.95 336 *e*P **Pn** 02 25 20.1 -0.3
VYHS Vyhne 12.95 336 *e*P **Pn** 02 25 20.1 -0.3
VYHS Vyhne 12.95 336 *e*PN **Pn** 02 25 20.1 -0.3
SOKA Soboth 13.05 322 *e*P **Pn** 02 25 22.3 +0.4
comp=Z,6.0nm,1.3s
SOKA Soboth 13.05 322 P **Pn** 02 25 22.3 +0.4
comp=Z,6.0nm,1.3s
LVV L'vov 13.10 353 *e*P **P** 02 25 34.6 +1.8
LVV MLR MLR
comp=N,330nm,10.0s
LVV MLR MLR
comp=E,110nm,10.0s
LVV MLR MLR
comp=Z,280nm,10.0s
STHS Stebnicka Huta 13.15 345 *e*P **Pn** 02 25 25.9 +2.7
STHS Stebnicka Huta 13.15 345 *e*P **Pn** 02 25 25.9 +2.7
STHS Stebnicka Huta 13.15 345 *e*PN **Pn** 02 25 25.8 +2.6
ARSA Arzberg 13.23 325 *e*P **Pn** 02 25 25.3 +1.0
comp=Z,7.4nm,1.1s
ARSA Arzberg 13.23 325 P **Pn** 02 25 25.3 +1.0
comp=Z,7.4nm,1.1s
NEY Neytrino 13.92 58 ⇓ *e*P **Pn** 02 25 36.3 +2.5
NEY pmax pmax
comp=Z,3.0nm,1.5s
NEY Neytrino 13.92 58 *e*P **Pn** 02 25 36.3 +2.5
comp=Z,3.0nm,1.5s
KEST Kesra 13.94 271 Pn **Pn** 02 25 33.3 -0.8
comp=Z,0.0nm,0.3s,baz=20,slow=14,SNR=3.9
KEST LR LR 02 31 31.7
comp=Z,138nm,18.8s,baz=166,slow=40
KEST Kesra 13.94 271 *e*Pn **Pn** 02 25 34.8 +0.7
KEST Kesra 13.94 271 *e*Pn **Pn** 02 25 34.8 +0.7
KIEV Kiev 13.98 7 ⇓ *e*P **Pn** 02 25 37.8 +3.4
KIEV pmax pmax
comp=Z,5.0nm,1.3s
AKASG Malin Array Be 13.99 7 Pn **Pn** 02 25 32.7 -1.8
comp=Z,0.6nm,0.3s,baz=198,slow=10,SNR=4.7
AKASG LR LR 02 31 13.7
comp=Z,440nm,19.6s,baz=205,slow=39
KBA Koelnbreinsper 14.17 320 *es*P **P** 02 25 46.9 +2.0
comp=Z,21nm,1.8s
KIV Kislovodsk 14.18 55 *e*P **Pn** 02 25 34.3 -2.9
KIV pmax pmax
comp=Z,7.0nm,1.0s
KIV MLR MLR
comp=Z,223nm,17.0s
KVAR Kislovodsk Arr 14.18 55 LR LR 02 32 40.8
comp=Z,162nm,20.8s,baz=192,slow=44
KBZ Khabaz 14.22 56 Pn **Pn** 02 25 41.0 +3.2
comp=Z,0.1nm,0.3s,baz=244,slow=16,SNR=2.7
KBZ LR LR 02 32 54.9
comp=Z,276nm,19.5s,baz=254,slow=45
MOA Molln 14.25 324 *e*P **Pn** 02 25 39.0 +0.8
comp=Z,9.0nm,1.4s
OKC Ostrava-Krasne 14.35 338 AMS AMS 02 32 20.0
comp=Z,500nm,8.4s
ABTA Abfaltersbach 14.40 318 *e*P **P** 02 25 49.7 +2.3
comp=Z,8.6nm,1.7s
ABTA Abfaltersbach 14.40 318 P **P** 02 25 49.7 +2.3
comp=Z,8.6nm,1.7s
VRAC Vranov 14.42 333 Pn **P** 02 25 44.4 -3.1
comp=Z,0.1nm,0.3s,baz=144,slow=14,SNR=2.4
VRAC LR LR 02 32 15.6
comp=Z,403nm,18.9s,baz=181,slow=42
VRAC Vranov 14.42 333 *e*P **P** 02 25 49.3 +1.8
MORC Moravsky Berou 14.49 336 ⇑ *i*P **Pn** 02 25 41.3 -0.1
MORC Moravsky Berou 14.49 336 *e*P **Pn** 02 25 42.7 +1.3
MORC Moravsky Berou 14.49 336 *e*Pn **Pn** 02 25 42.7 +1.3
MORC Moravsky Berou 14.49 336 *e*Pn **Pn** 02 25 42.7 +1.3
ZEI Tsey 14.57 61 *e*P **Pn** 02 25 45.1 +2.3
ZEI pmax pmax
comp=Z,31nm,1.0s
NCK Nalchik 14.60 58 ⇑ *e*P **Pn** 02 25 45.1 +2.1
NCK pmax pmax
comp=Z,19nm,1.2s
GNI Garni 14.61 71 Pn **Pn** 02 25 46.0 +2.7
comp=Z,0.3nm,0.3s,baz=258,slow=20,SNR=2.5
GNI LR LR 02 32 30.3
comp=Z,368nm,18.1s,baz=268,slow=42
GNI Garni 14.61 71 ⇑ *e*P **Pn** 02 25 44.5 +1.3
GNI pmax pmax
comp=Z,10.0nm,0.8s
KRLC Kraliky 15.00 335 *e*P **P** 02 25 55.2 +1.3
KRLC Kraliky 15.00 335 *e*P **P** 02 25 55.2 +1.3
KRLC Kraliky 15.00 335 *e*P **P** 02 25 55.2 +1.3
WTTA Wattenberg 15.19 318 *e*P **P** 02 25 59.2 +3.0
comp=Z,6nm,1.3s
GEA0 GERESS Array S 15.23 326 *e*Pn **Pn** 02 25 50.8 -0.7
GEA0 GERESS Array S 15.23 326 *e*Pn **Pn** 02 25 50.8 -0.7
GEC2 GERESS Array S 15.24 326 *e*P **Pn** 02 25 51.2 -0.4
GEC2 pmax pmax
comp=Z,12nm,1.2s
GEC2 GERESS Array S 15.24 326 *e*Pn **Pn** 02 25 51.2 -0.4
comp=Z,12nm,1.2s
GEC2 GERESS Array S 15.24 326 *e*Pn **Pn** 02 25 51.2 -0.4
comp=Z,12nm,1.2s
GERES GERESS Array B 15.24 326 Pn **Pn** 02 25 51.1 -0.4
comp=Z,0.1nm,0.3s,baz=147,slow=13,SNR=5.3
GERES LR LR 02 31 48.5
comp=Z,167nm,19.0s,baz=144,slow=38
DPC Dobruska-Polom 15.39 335 *e*P **P** 02 26 00.4 +2.1
DPC *ex* x 02 26 19.0
DPC AMS AMS 02 33 30.0
comp=Z,500nm,7.7s
DPC Dobruska-Polom 15.39 335 *e*P **P** 02 26 00.4 +2.1
DPC MLR MLR
comp=Z,500nm,7.7s
DPC Dobruska-Polom 15.39 335 *e*P **P** 02 26 00.4 +2.1
comp=Z,500nm,7.7s
KHC Kasperske Hory 15.50 326 *e*P **Pn** 02 25 55.0 0.0
KHC *ex* x 02 26 10.8
KHC *ex* x 02 26 31.0
KHC AMS AMS 02 32 50.0
comp=Z,400nm,10.9s
KHC Kasperske Hory 15.50 326 *e*P **Pn** 02 25 55.7 +0.7
KHC pmax pmax
comp=Z,2.0nm,0.9s
KHC Kasperske Hory 15.50 326 *e*Pn **Pn** 02 25 55.7 +0.7
comp=Z,2.2nm,0.9s
KHC Kasperske Hory 15.50 326 *e*Pn **Pn** 02 25 55.7 +0.7
comp=Z,2.2nm,0.9s
MOTA Moosalm 15.53 317 *e*P **Pn** 02 25 56.2 +0.7
comp=Z,11nm,1.5s
FETA Feichten 15.54 316 *e*P **P** 02 25 59.2 -0.9
comp=Z,8.0nm,0.9s
FETA Feichten 15.54 316 P **P** 02 25 59.2 -0.9
comp=Z,8.0nm,0.9s
FUORN Ofenpass-Fuorn 15.58 314 *e*Pn **Pn** 02 25 56.8 +0.5
comp=Z,28nm,1.4s
FUORN Ofpass-Fuorn 15.58 314 *e*Pn **Pn** 02 25 56.8 +0.5
comp=Z,28nm,1.4s
UPC Upice 15.63 334 *e*P **P** 02 26 03.0 +2.1
UPC pmax pmax
comp=Z,500nm,8.6s
UPC Upice 15.63 334 *e*P **P** 02 26 03.0 +2.1
UPC MLR MLR
comp=Z,500nm,8.6s
UPC Upice 15.63 334 *e*P **P** 02 26 03.0 +2.1
comp=Z,500nm,8.6s
PRU Pruhonice 15.75 330 *e*P **P** 02 26 03.1 +0.8
PRU AMS AMS 02 33 10.0
comp=Z,300nm,11.3s
PRU Pruhonice 15.75 330 *e*P **P** 02 26 03.1 +0.8
PRU MLR MLR
comp=Z,300nm,11.3s
PRU Pruhonice 15.75 330 *e*P **P** 02 26 03.1 +0.8
comp=Z,300nm,11.3s
RETA Reutte 15.80 317 *e*P **P** 02 26 05.7 +2.8
comp=Z,8.9nm,1.4s
DAVOX Davos/Dischmat 15.89 314 Pn **P** 02 26 02.3 -1.8
comp=Z,0.1nm,0.3s,baz=145,slow=16,SNR=2.5
DAVOX LR LR 02 33 11.6
comp=Z,395nm,21.0s,baz=122,slow=41
DAVA Damuels 16.17 315 *es*P **P** 02 26 07.3 +0.2
comp=Z,5.8nm,1.2s
DAVA Damuels 16.17 315 P **P** 02 26 07.3 +0.2
comp=Z,5.8nm,1.2s
BRG Berggiesshubel 16.69 331 *e*P P 02 26 24.4 +12
comp=Z,2.7nm,1.0s
BRG *e* 02 26 39.6
comp=Z,9.4nm,1.3s
BRG S **S** 02 29 32.0 +4.8
comp=N,263nm,11.5s
comp=E,399nm,22.0s
comp=Z,430nm,10.0s
BRG Berggiesshubel 16.69 331 *e*P P 02 26 24.4 +12
BRG pmax pmax
comp=Z,3.0nm,1.0s
BRG MLR MLR
comp=N,263nm,11.5s
BRG MLR MLR
comp=E,399nm,22.0s
BRG MLR MLR
comp=Z,430nm,10.0s
GRFO Grafenberg 16.98 324 *e*P **Pn** 02 26 14.3 +0.3
GRFO Grafenberg 16.98 324 *e*P **Pn** 02 26 14.3 +0.3
GRFO Grafenberg 16.98 324 *e*Pn **Pn** 02 26 14.3 +0.3
BNI Bardonecchia 17.09 305 *e*P **Pn** 02 26 15.0 -0.5
BNI pmax pmax
comp=Z,9.0nm,1.0s
BNI Bardonecchia 17.09 305 *e*P **Pn** 02 26 15.0 -0.5
comp=Z,9.0nm,1.0s
BNI Bardonecchia 17.09 305 *e*Pn **Pn** 02 26 15.0 -0.5
comp=Z,9.3nm,1.0s
SENIN Lac Senin/Sane 17.23 310 *e*Pn **P** 02 26 20.2 +1.2
comp=Z,16nm,1.0s
CLL Collm 17.40 330 *e*P **Pn** 02 26 19.0 -0.1
CLL MLR MLR
comp=Z,200nm,20.8s
CLL Collm 17.40 330 *e*P **Pn** 02 26 19.0 -0.1
comp=Z,200nm,20.8s
CLL Collm 17.40 330 *e*P **Pn** 02 26 19.0 -0.1
CLL *e*PP **PnPn** 02 26 29.0 -0.2
CLL *e* 02 26 50.0
CLL *e*(S) **S** 02 29 39.0 -2.6
CLL Lm MLR 02 33 00.0
comp=N,300nm,18.1s
CLL Lm MLR 02 33 00.0
comp=E,300nm,20.3s
CLL Lm MLR 02 33 00.0
comp=Z,200nm,20.8s
OBN Obninsk 19.52 17 P **P** 02 26 42.9 -0.7
comp=Z,1.7nm,0.3s,baz=164,slow=11,SNR=3.5
OBN LR LR 02 35 31.2
comp=Z,138nm,19.2s,baz=202,slow=41
OBN Obninsk 19.52 17 ⇓ *e*P **Pn** 02 26 44.3 -0.6
OBN pmax pmax
comp=Z,14nm,1.2s
OBN MLR MLR
comp=Z,184nm,16.0s
OBN Obninsk 19.52 17 *e*P **Pn** 02 26 44.3 -0.6
comp=Z,184nm,16.0s
WLF Walferdange 19.55 317 P **Pn** 02 26 47.9 +2.4
WLF Walferdange 19.55 317 *e*P **Pn** 02 26 45.3 -0.2
WLF pmax pmax
comp=Z,20nm,1.3s
WLF Walferdange 19.55 317 *e*P **Pn** 02 26 45.3 -0.2
comp=Z,20nm,1.3s
WLF Walferdange 19.55 317 *e*P **Pn** 02 26 45.3 -0.2
comp=Z,20nm,1.3s
MEM Membach 20.16 320 P Pn 02 26 53.1 +0.5
MEM Membach 20.16 320 P Pn 02 26 53.1 +0.4
BCLA Clavier 20.43 318 P Pn 02 26 56.6 +0.8
comp=Z,15nm,1.8s
VSU Vasula 21.63 0 ⇑ *e*P **P** 02 27 06.1 -0.5
VSU pmax pmax
comp=Z,73nm,1.2s
VSU Vasula 21.63 0 *e*P **P** 02 27 06.1 -0.5
comp=Z,73nm,1.2s
TAM Tamanrasset 22.94 238 *e*P **P** 02 27 21.8 +0.7
TAM pmax pmax
comp=Z,9.0nm,1.1s
TAM Tamanrasset 22.94 238 *e*P **P** 02 27 21.8 +0.7
comp=Z,9.1nm,1.1s
TAM Tamanrasset 22.94 238 *e*P **P** 02 27 21.8 +0.7
comp=Z,9.1nm,1.1s
ES19 SONSECA Array 24.04 286 *e*P **P** 02 27 30.9 -0.8
ES19 SONSECA Array 24.04 286 *e*P **P** 02 27 30.9 -0.8
ESDC Sonseca Array 24.09 286 P **P** 02 27 31.0 -1.2
comp=Z,4.6nm,0.8s,baz=80,slow=9.9,SNR=17
FINES FINESS Array B 24.63 359 P **P** 02 27 36.0 -0.8
comp=Z,4.5nm,1.0s,baz=148,slow=8.2,SNR=5.1
FINES LR LR 02 37 20.4
comp=Z,133nm,19.6s,baz=181,slow=37
FINES FINESS Array B 24.63 359 *i* P **P** 02 27 35.7 -1.1
FINES pmax pmax
comp=Z,5.0nm,1.0s
GEYT Alibeck 25.03 78 P **P** 02 27 41.1 +0.3
comp=Z,3.1nm,0.9s,baz=270,slow=13,SNR=3.5
KLMR Klimovskoe 25.40 15 *e*P **P** 02 27 42.8 -1.0
KLMR Klimovskoe 25.40 15 *e*P **P** 02 27 42.8 -1.0
MDT Midelt 25.85 270 P **P** 02 27 48.1 -0.3
comp=Z,3.8nm,1.0s,baz=90,slow=10,SNR=6.9
MDT LR LR 02 39 13.8
comp=Z,77nm,19.1s,baz=108,slow=40
NAO01 NORSAR Array S 26.00 342 *e*P **P** 02 27 50.0 +0.6
NAO01 NORSAR Array S 26.00 342 *e*P **P** 02 27 50.0 +0.6
NB2 NORSAR Subarra 26.10 343 P **P** 02 27 48.7 -1.5
comp=Z,13nm,1.4s,SNR=8.4
NB2 NORSAR Subarra 26.10 343 P **P** 02 27 48.7 -1.5
comp=Z,13nm,1.4s,baz=150,slow=10
NOA NORSAR Array B 26.10 343 P **P** 02 27 49.2 -1.0
comp=Z,3.6nm,1.1s,baz=148,slow=9.3,SNR=4.5
AKTK Aktyubinsk 26.28 49 P **P** 02 27 51.9 0.0
AKTO Aktyubinsk 26.28 49 P **P** 02 27 51.9 -0.1
comp=Z,2.6nm,0.7s,baz=257,slow=11,SNR=9.2
AKTO LR LR 02 41 56.8
comp=Z,114nm,19.2s,baz=246,slow=45
MVO Moncorvo 26.37 290 *e*P **P** 02 27 53.8 +0.9
MVO Moncorvo 26.37 290 *e*P **P** 02 27 53.8 +0.9
PMRV Marv??o 26.75 286 *e*P **P** 02 27 56.1 -0.2
comp=Z,13nm,1.5s
PMRV Marv??o 26.75 286 *e*P **P** 02 27 56.1 -0.2
comp=Z,13nm,1.5s
ABKAR Akbulak array 27.13 52 *e*P **P** 02 28 02.0 +2.4
comp=Z,24nm,0.9s
ABKAR Akbulak array 27.13 52 *e*P **P** 02 28 02.0 +2.4
comp=Z,24nm,0.9s
PVAQ Vaqueiros 27.26 282 *e*P **P** 02 28 00.5 -0.4
comp=Z,38nm,1.7s
PVAQ Vaqueiros 27.26 282 *e*P **P** 02 28 00.5 -0.4
comp=Z,38nm,1.7s
EKA Eskdalemuir Ar 27.38 322 P **P** 02 28 01.0 -0.8
comp=Z,0.4nm,0.5s,baz=120,slow=9.1,SNR=3.2
EKA Eskdalemuir Ar 27.38 322 P **P** 02 28 01.0 -0.8
EKA Eskdalemuir Ar 27.38 322 P **P** 02 28 01.0 -0.8
MESJ Messejana 27.59 283 *e*P **P** 02 28 03.0 -0.8
MESJ AMb AMB 02 28 07.0
comp=Z,29nm,1.3s
MESJ Messejana 27.59 283 *e*P **P** 02 28 04.5 +0.7
MESJ Messejana 27.59 283 *e*P **P** 02 28 03.0 -0.8
MESJ Messejana 27.59 283 *e*P **P** 02 28 03.0 -0.8
PNCL Nicolau / Gran 27.79 283 *e*P **P** 02 28 07.8 +2.2
comp=Z,15nm,1.9s
PNCL Nicolau / Gran 27.79 283 *e*P **P** 02 28 07.8 +2.2
comp=Z,15nm,1.9s
ARU Arti 29.03 37 P **P** 02 28 16.5 +0.1
comp=Z,2.1nm,0.4s,baz=234,slow=8.7,SNR=4.8
ARU LR LR 02 41 33.9
comp=Z,138nm,18.9s,baz=216,slow=40
ARU Arti 29.03 37 *c i*P **P** 02 28 18.6 +2.2
ARU 02 29 06.8
ARU 02 31 30.8
ARU S **S** 02 33 14.0 +6.0
ARU SS **SnSn** 02 34 37.2 +6.5
ARU pmax pmax
comp=Z,17nm,2.5s
ARU Arti 29.03 37 *e*P **P** 02 28 15.9 -0.6
comp=Z,2.7nm,0.6s
ARU Arti 29.03 37 *e*P **P** 02 28 15.9 -0.6
comp=Z,2.7nm,0.6s
SOKR Solikamsk 29.93 31 *e*P **P** 02 28 25.0 +0.6
SOKR pmax pmax
comp=Z,10.0nm,0.9s
SVE Sverdlovsk 30.23 38 *e*P **P** 02 28 29.0 +1.9
SVE pmax pmax
comp=Z,15nm,1.2s
SVE MLR MLR
comp=Z,194nm,16.0s
SVE Sverdlovsk 30.23 38 *e*P **P** 02 28 29.0 +1.9
comp=Z,194nm,16.0s
TOA0 Torodi Ar. Sit 32.45 230 *e*P **P** 02 28 46.0 -1.0
TOA0 Torodi Ar. Sit 32.45 230 *e*P **P** 02 28 46.0 -1.0
TORD Torodi Ar. Bea 32.45 230 P **P** 02 28 45.9 -1.1

comp=Z,1.5nm,0.6s,baz=34,slow=9.0,SNR=33
ARCES ARCESS Array B 32.76 359 P **P** 02 28 48.1 -1.1
comp=Z,1.3nm,0.9s,baz=178,slow=9.0,SNR=5.9
KKAR Karatay Array 33.95 66 *e*P **P** 02 29 00.5 +0.5
KKAR pmax pmax
comp=Z,5.0nm,0.9s
KKAR Karatay Array 33.95 66 *e*P **P** 02 29 00.5 +0.5
comp=Z,5.0nm,0.9s
KKAR Karatay Array 33.95 66 *e*P **P** 02 29 00.5 +0.5
comp=Z,4.7nm,0.9s
BRVK Borovoye 34.31 48⇑*e*P **P** 02 29 06.0 +3.1
BRVK pmax pmax
comp=Z,12nm,1.6s
BRVK Borovoye 34.31 48 *e*P **P** 02 29 06.0 +3.1
comp=Z,12nm,1.6s
FRU Bishkek 36.97 65 *e*P **P** 02 29 28.0 +2.0
FRU pmax pmax
comp=Z,20nm,1.4s
FRU Bishkek 36.97 65 *e*P **P** 02 29 28.0 +2.0
comp=Z,20nm,1.4s
KMBO Kilima Mbogo 39.06 163 *i* P **P** 02 29 42.7 -1.3
KMBO pmax pmax
comp=Z,1.0nm,0.2s
KMBO Kilima Mbogo 39.06 163 *i* P **P** 02 29 42.7 -1.3
comp=Z,1.0nm,0.2s
KURBB Kurchatov Arra 39.19 53 P **P** 02 29 44.1 -0.3
comp=Z,3.4nm,0.7s,baz=278,slow=8.7,SNR=22
KURK Kurchatov 39.24 52⇓*e*P **P** 02 29 45.5 +0.6
KURK pmax pmax
comp=Z,26nm,1.2s
KURK Kurchatov 39.24 52 *e*P **P** 02 29 45.5 +0.6
comp=Z,26nm,1.2s
KURK Kurchatov 39.24 52 *e*P **P** 02 29 45.1 +0.2
comp=Z,9.2nm,1.1s
TIC Toumodi 41.63 232 *e*P **P** 02 30 05.5 +0.4
KIC Kosan Boka 41.67 231 *e*P **P** 02 30 04.0 -1.5
comp=Z,28nm,0.9s
MAKZ Makanchi 41.69 58 *e*P **P** 02 30 06.1 +0.8
MAKZ pmax pmax
comp=Z,5.0nm,0.8s
MAKZ Makanchi 41.69 58 *e*P **P** 02 30 06.1 +0.8
comp=Z,5.3nm,0.8s
MAKZ Makanchi 41.69 58 *e*P **P** 02 30 06.1 +0.8
comp=Z,5.3nm,0.8s
MK31 Makanchi Array 41.91 58 *e*P **P** 02 30 07.1 0.0
MK31 Makanchi Array 41.91 58 *e*P **P** 02 30 07.1 0.0
MK31 Makanchi Array 41.91 58 *e*P **P** 02 30 07.0 0.0
MKAR Makanchi Array 41.91 58 *e*P **P** 02 30 07.1 0.0
MKAR pmax pmax
comp=Z,77nm,0.7s
MKAR Makanchi Array 41.91 58 *e*P **P** 02 30 07.1 0.0
comp=Z,77nm,0.7s
MKAR Makanchi Array 41.91 58 *e*P **P** 02 30 07.0 0.0
comp=Z,77nm,0.7s
MK01 Makanchi Array 41.92 58 *e*P **P** 02 30 07.2 0.0
MK01 Makanchi Array 41.92 58 *e*P **P** 02 30 07.2 0.0
LIC Lamto 41.96 231 *e*P **P** 02 30 06.4 -1.4
comp=Z,56nm,0.9s
NVS Novosibirsk 42.10 46 *e*P **P** 02 30 07.6 -0.9
NVS pmax pmax
comp=N,7.0nm,0.9s
NVS pmax pmax
comp=E,8.0nm,0.9s
NVS pmax pmax
comp=Z,13nm,0.9s
NVS Novosibirsk 42.10 46 *e*P **P** 02 30 07.6 -0.9
ZAA0 Zalesovo Array 43.02 47 *e*P **P** 02 30 17.1 +1.1
ZAA0 Zalesovo Array 43.02 47 *e*P **P** 02 30 17.1 +1.1
ZALV Zalesovo Beam 43.02 47 P **P** 02 30 15.6 -0.4
comp=Z,4.3nm,0.8s,baz=269,slow=9.0,SNR=11
WMQ Urumqi 46.18 61 P **P** 02 30 42.6 +1.1
WMQ pP sP 02 30 47.1 +3.2
WMQ sP pP 02 30 49.6 +6.4
WMQ pmax pmax
comp=Z,17nm,1.1s
WMQ pmax pmax
comp=Z,69nm,3.7s
WMQ LR LR
comp=N,250nm,17.7s
WMQ LR LR
comp=E,250nm,20.9s
WMQ LR LR
comp=Z,130nm,18.7s
MATP Matopo 56.99 178 P **P** 02 32 02.2 -0.2
comp=Z,3.5nm,0.9s,baz=30,slow=6.4,SNR=6.6
SONM Songino Array 57.54 52 P **P** 02 32 06.5 +0.2
comp=Z,2.9nm,0.7s,baz=288,slow=7.9,SNR=13
ULN Ulaanbaatar 57.95 52⇓*i*P **P** 02 32 11.2 +2.0
ULN pmax pmax
comp=Z,6.0nm,1.0s
ULN Ulaanbaatar 57.95 52 *e*P **P** 02 32 10.7 +1.5
comp=Z,5.6nm,0.8s
ULN Ulaanbaatar 57.95 52 *e*P **P** 02 32 10.7 +1.5
comp=Z,5.6nm,0.8s
BOD Bodaibo 58.43 39 *e*P **P** 02 32 11.9 -0.2
BOD Bodaibo 58.43 39 *e*P **P** 02 32 11.9 -0.2
HHC Hu-ho-hao-te 63.76 57 *e*P **P** 02 32 50.0 +1.2
HHC pmax pmax
comp=Z,19nm,1.4s
HHC pmax pmax
comp=Z,90nm,4.8s
XAN Xi'an 65.08 65 P **P** 02 32 59.9 +2.4
XAN pmax pmax
comp=Z,7.0nm,1.0s
BOSA Boshof 65.12 181 P **P** 02 32 57.2 -0.4
comp=Z,3.0nm,1.0s,baz=11,slow=5.2,SNR=4.0
BOSA LR LR 03 04 20.7
comp=Z,53nm,18.2s,baz=354,slow=39
CMAR Chiang Mai Arr 65.26 85 P **P** 02 32 59.1 +0.3
comp=Z,1.2nm,0.6s,baz=300,slow=7.7,SNR=6.4
CMAR Chiang Mai Arr 65.26 85 *i* P **P** 02 32 59.4 +0.6
CMAR pmax pmax
comp=Z,1.0nm,0.4s
KLR Kul'dur 71.75 42⇑*e*P **P** 02 33 39.2 +0.3
KLR Kul'dur 71.75 42 *e*P **P** 02 33 39.2 +0.3
USRK Ussuriysk Ar. 74.85 46 P **P** 02 33 56.4 -0.9
comp=Z,3.2nm,0.7s,baz=298,slow=4.1,SNR=5.4
KSRS Korea Array 76.36 53 LR LR 03 14 07.7
comp=Z,70nm,18.3s,baz=305,slow=41
MJAR Matsushiro Arr 83.36 49 P **P** 02 34 43.1 -0.8
comp=Z,1.1nm,0.7s,baz=322,slow=7.7,SNR=2.7
ASAR Alice Springs 117.22 100 PKP **PKPdf** 02 41 02.4 0.0
comp=Z,0.3nm,0.8s,baz=352,slow=2.8,SNR=3.9

CSEM ***10*** *02:22:23.3,47.˚50N×7.˚67E,h12km,ML0.7/5*
ZUR 10 02:22:23.3,47.˚50N×7.˚67E,h12km±1km,ML0.7/5,8C-3D, Switzerland

Code	Station Name	Δ°	AZ°	Phase	ID	Time h m s	Res ISC
				Op	ISC		
SFRA	**Frenkendorf**	**0.03**	**89**	*i* Sg	Sg	02 22 25.7	-1.4
SFRA	**Frenkendorf**	**0.03**	**89**	*i* Sg	Sg	02 22 25.7	-1.4
SRER	**Reinach, Raine**	**0.05**	**281**⇓	*i*Pg	Pg	02 22 25.9	+0.3
SRER	**Reinach, Raine**	**0.05**	**281**⇓	*i*Pg	Pg	02 22 25.9	+0.3
SKAF	**Kaiseraugst-Fr**	**0.05**	**46**⇑	*i*Pg	Pg	02 22 27.2	+1.5
SKAF	**Kaiseraugst-Fr**	**0.05**	**46**⇑	*i*Pg	Pg	02 22 27.2	+1.5
BALST	**Balsthal**	**0.17**	**173**⇓	*i*Pg	Pg	02 22 27.5	+0.3
BALST	22nm,0.2s			*e*Sg	Sg	02 22 30.2	+0.3
SULZ	**Cheisacher**	**0.30**	**85**⇑	*i*Pg	Pg	02 22 29.8	+0.3
	14nm,0.8s						
SULZ	**Cheisacher**	**0.30**	**85**⇑	*i*Pg	Pg	02 22 29.8	+0.3
	14nm,0.8s						
BOURR	**Bourrignon**	**0.32**	**250**	*e*Pg	Pg	02 22 30.1	+0.4
	18nm,0.5s						
BOURR				*e*Sg	Sg	02 22 34.6	+0.6
	18nm,0.5s						
BOURR	**Bourrignon**	**0.32**	**250**	*e*Pg	Pg	02 22 30.1	+0.4
	18nm,0.5s						
BOURR				*e*Sg	Sg	02 22 34.6	+0.6
	18nm,0.5s						
ACHB	**Acheberg**	**0.41**	**78**⇑	*i*Pg	Pg	02 22 31.6	+0.2
	4.7nm,0.5s						
ACHB	**Acheberg**	**0.41**	**78**⇑	*i*Pg	Pg	02 22 31.6	+0.2
	4.7nm,0.5s						
KIZ	**Kirchzarten**	**0.48**	**21**⇑	*i*Pg	Pg	02 22 32.8	0.0
KIZ	**Kirchzarten**	**0.48**	**21**⇑	*i*Pg	Pg	02 22 32.8	0.0
SLE	**Schleitheim**	**0.62**	**65**	*e*Pg	Pg	02 22 35.3	0.0
	13nm,0.4s						
SLE	**Schleitheim**	**0.62**	**65**	*e*Pg	Pg	02 22 35.3	0.0
	13nm,0.4s						

IDC ***10*** *02:23:07.2±0.6,55.˚40N×164.˚68E,h0km,mb4.2/28,*

mb1 4.4/29,mb1mx4.3/50,mbtmp4.2/29,ML4.1/1,MS3.7/8, Ms1 3.7/8,ms1mx3.3/38,Error ellipse: s-maj=18.2km s-min=11.0km az=153.0
KRSC ***10*** *02:23:08.1±1.6,55.˚27N×164.˚83E,h73km±19km,ML5.1, FELT [IV] at Nikolskoe.*
ISCJB ***10*** *02:23:10.5±0.3,55.˚26N±0.˚03×164.˚74E±0.˚03,h39km±3km, mb4.5/112,MS3.9/13,Error ellipse: s-maj=4.3km s-min=2.5km az=165.5*
MOS ***10*** *02:23:10.5±0.7,55.˚32N×164.˚76E,h37km,mb4.8/32,Error ellipse: s-maj=6.1km s-min=4.9km az=61.8*
NEIC ***10*** *02:23:12.6±0.6,55.˚38N×164.˚67E,h36km±5km,mb4.6/79, Error ellipse: s-maj=6.2km s-min=2.5km az=169.0*
ISC 10 02:23:12.7±0.5,55.˚26N±0.˚03×164.˚81E±0.˚03,h35km±1km, n359,σ1°48/406,mb4.6/112,MS3.9/13,2C-7D, Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time h m s	Res ISC
				Op	ISC		
BKI	**Bering**	**0.67**	**95**	PN	**Pn**	**02 23 23.6**	**-2.0**
BKI				S	**Sn**	**02 23 33.5**	**-1.3**
BKI	**Bering**	**0.67**	**95**	*e*P	**Pn**	**02 23 23.6**	**-2.0**
BKI				*e*S	**Sn**	**02 23 33.5**	**-1.3**
KBG	**Krutoberegovo**	**1.55**	**311**	PN	Pn	02 23 33.5	-4.2
KBG				S	**Sn**	**02 23 52.0**	**-4.6**
KBG	**Krutoberegovo**	**1.55**	**311**	*e*P	Pn	02 23 33.5	-4.2
KBG				S	**Sn**	**02 23 52.0**	**-4.6**
MKZ	**Mys Kozlova**	**1.92**	**250**	PN	**Pn**	**02 23 40.9**	**-1.8**
MKZ				S	**Sn**	**02 24 02.1**	**-3.4**
MKZ	**Mys Kozlova**	**1.92**	**250**	*e*P	**Pn**	**02 23 40.9**	**-1.8**
MKZ				*e*S	**Sn**	**02 24 02.1**	**-3.4**
SMKR	**Semkarok**	**2.30**	**306**	PN	**Pn**	**02 23 46.3**	**-1.8**
SMKR				S	**Sn**	**02 24 13.7**	**-1.5**
SMKR	**Semkarok**	**2.30**	**306**	*e*P	**Pn**	**02 23 46.3**	**-1.8**
SMKR				*e*S	**Sn**	**02 24 13.7**	**-1.5**
ZLN	**Zelenaya**	**2.39**	**290**	PN	**Pn**	**02 23 48.2**	**-1.2**
ZLN	**Zelenaya**	**2.39**	**290**	*e*P	**Pn**	**02 23 48.2**	**-1.2**
BDR	**Baidarnaya**	**2.41**	**304**	PN	**Pn**	**02 23 48.9**	**-0.8**
BDR	**Baidarnaya**	**2.41**	**304**	*e*P	**Pn**	**02 23 48.9**	**-0.8**
CIRR	**Tsirk**	**2.45**	**292**	PN	**Pn**	**02 23 48.9**	**-1.4**
CIRR	**Tsirk**	**2.45**	**292**	*e*P	**Pn**	**02 23 48.9**	**-1.4**
LGNR	**Loginova**	**2.48**	**291**	PN	**Pn**	**02 23 49.7**	**-1.0**
LGNR	**Loginova**	**2.48**	**291**	*e*P	**Pn**	**02 23 49.7**	**-1.0**
SRKR	**Sorokina**	**2.48**	**306**	PN	**Pn**	**02 23 49.1**	**-1.4**
SRKR	**Sorokina**	**2.48**	**306**	*e*P	**Pn**	**02 23 49.1**	**-1.4**
TUMD	**Tumrok D**	**2.53**	**270**	*e*P	**Pn**	**02 23 50.5**	**-0.7**
TUMD				*e*S	**Sn**	**02 24 19.1**	**-1.6**
BZMR	**Bezymyannaya**	**2.54**	**287**	PN	**Pn**	**02 23 50.4**	**-1.1**
BZMR				S	**Sn**	**02 24 21.5**	**+0.2**
BZMR	**Bezymyannaya**	**2.54**	**287**	*e*P	**Pn**	**02 23 50.4**	**-1.1**
BZMR				*e*S	**Sn**	**02 24 21.5**	**+0.2**
KLY	**Klyuchi**	**2.57**	**296**	PN	**Pn**	**02 23 48.9**	**-2.9**
KLY				S	**Sn**	**02 24 18.5**	**-3.3**
KLY	**Klyuchi**	**2.57**	**296**	*e*P	**Pn**	**02 23 48.9**	**-2.9**
KLY				*e*S	**Sn**	**02 24 18.4**	**-3.3**
KLY				*e*S	**Sn**	**02 24 18.5**	**-3.3**
KRSR	**Krestovskiy**	**2.58**	**293**	PN	**Pn**	**02 23 50.3**	**-1.7**
KRSR				S	**Sn**	**02 24 20.6**	**-1.6**
KRSR	**Krestovskiy**	**2.58**	**293**	*e*P	**Pn**	**02 23 50.3**	**-1.7**
KRSR				*e*S	**Sn**	**02 24 20.6**	**-1.6**
KZV	**Kizimen**	**2.59**	**269**	PN	**Pn**	**02 23 50.3**	**-1.9**
KZV				S	**Sn**	**02 24 19.7**	**-2.9**
KZV	**Kizimen**	**2.59**	**269**	*e*P	**Pn**	**02 23 50.3**	**-1.9**
KZV				*e*S	**Sn**	**02 24 19.7**	**-2.9**
KIRR	**Kirishev**	**2.63**	**287**	PN	**Pn**	**02 23 51.9**	**-0.8**
KIRR				S	**Sn**	**02 24 22.4**	**-1.0**
KIRR	**Kirishev**	**2.63**	**287**	*e*P	**Pn**	**02 23 51.9**	**-0.8**
KIRR				*e*S	**Sn**	**02 24 22.4**	**-1.0**
KMNR	**Kamenistaya**	**2.65**	**283**	PN	**Pn**	**02 23 52.5**	**-0.4**
KMNR				S	**Sn**	**02 24 24.8**	**+1.0**
KMNR	**Kamenistaya**	**2.65**	**283**	*e*P	**Pn**	**02 23 52.5**	**-0.4**
KMNR				*e*S	**Sn**	**02 24 24.8**	**+1.0**
TUMR	**Tumrok**	**2.67**	**272**	PN	**Pn**	**02 23 52.8**	**-0.4**
TUMR				S	**Sn**	**02 24 23.6**	**-0.8**
TUMR	**Tumrok**	**2.67**	**272**	*e*P	**Pn**	**02 23 52.8**	**-0.4**
TUMR				*e*S	**Sn**	**02 24 23.6**	**-0.8**
KPT	**Kopyto**	**2.70**	**287**	PN	**Pn**	**02 23 52.9**	**-0.7**
KPT				S	**Sn**	**02 24 24.6**	**-0.4**
KPT	**Kopyto**	**2.70**	**287**	*e*P	**Pn**	**02 23 52.9**	**-0.7**
KPT				*e*S	**Sn**	**02 24 24.6**	**-0.4**
KII	**Karymskiy**	**3.35**	**251**	PN	**Pn**	**02 24 01.9**	**-0.6**
KII				S	**Sn**	**02 24 40.8**	**-0.3**
KII	**Karymskiy**	**3.35**	**251**	*e*P	**Pn**	**02 24 01.9**	**-0.6**
KII				*e*S	**Sn**	**02 24 40.8**	**-0.3**
ESO	**Esso**	**3.53**	**283**	PN	**Pn**	**02 24 04.4**	**-0.6**
ESO				S	**Sn**	**02 24 44.1**	**-1.3**
ESO	**Esso**	**3.53**	**283**	*e*P	**Pn**	**02 24 04.4**	**-0.6**
ESO				*e*S	**Sn**	**02 24 44.1**	**-1.3**
SPN	**Mys Shipunski**	**3.55**	**234**	PN	**Pn**	**02 24 03.2**	**-2.0**
SPN	**Mys Shipunski**	**3.55**	**234**	*e*P	**Pn**	**02 24 03.2**	**-2.0**
SPN				*e*S	**Sn**	**02 24 41.5**	**-4.4**
NLC	**Nalytchevo**	**3.83**	**239**	PN	**Pn**	**02 24 07.6**	**-1.5**
NLC	**Nalytchevo**	**3.83**	**239**	*e*P	**Pn**	**02 24 07.6**	**-1.5**
NLC				*e*S	**Sn**	**02 24 49.7**	**-3.1**
SDLR	**Sedlovina**	**4.00**	**243**	PN	**Pn**	**02 24 11.1**	**-0.4**
SDLR	**Sedlovina**	**4.00**	**243**	*e*P	**Pn**	**02 24 11.1**	**-0.4**
SDLR				*e*S	**Sn**	**02 24 54.6**	**-2.6**
UGLR	**Uglovaya**	**4.07**	**242**	PN	**Pn**	**02 24 12.3**	**-0.2**
UGLR	**Uglovaya**	**4.07**	**242**	*e*P	**Pn**	**02 24 12.3**	**-0.2**
UGLR				*e*S	**Sn**	**02 24 56.4**	**-2.5**
KRX	**Arik**	**4.08**	**245**	PN	**Pn**	**02 24 12.5**	**-0.1**
KRX	**Arik**	**4.08**	**245**	*e*P	**Pn**	**02 24 12.5**	**-0.1**
KRX				*e*S	**Sn**	**02 24 56.8**	**-2.4**
AVH	**Avacha**	**4.08**	**243**	PN	**Pn**	**02 24 12.8**	**+0.2**
AVH				S	**Sn**	**02 24 58.9**	**-0.3**
AVH	**Avacha**	**4.08**	**243**	*e*P	**Pn**	**02 24 12.8**	**+0.2**
AVH				*e*S	**Sn**	**02 24 58.9**	**-0.3**
OSSR	**Ossora**	**4.11**	**347**	PN	**Pn**	**02 24 11.7**	**-1.1**
OSSR	**Ossora**	**4.11**	**347**	*e*P	**Pn**	**02 24 11.7**	**-1.1**
OSSR				*e*S	**Sn**	**02 24 55.4**	**-4.2**
KOK	**Koryaka**	**4.12**	**244**	PN	**Pn**	**02 24 13.1**	**-0.1**
KOK	**Koryaka**	**4.12**	**244**	*e*P	**Pn**	**02 24 13.1**	**-0.1**
DALK	**Dalny**	**4.21**	**240**	PN	**Pn**	**02 24 13.6**	**-0.6**
PET	**Petropavlovsk**	**4.26**	**241**⇓	*i*PN	**Pn**	**02 24 14.0**	**-0.9**
PET	comp=Z,274nm,0.4s			pmax	pmax		
PET	comp=Z,369nm,18.7s			MLR	MLR		
PET	**Petropavlovsk**	**4.26**	**241**	*e*P	**Pn**	**02 24 14.5**	**-0.4**
PET				*e*S	**Sn**	**02 25 00.0**	**-3.3**
PET	**Petropavlovsk**	**4.26**	**241**	*e*Pn	**Pn**	**02 24 14.0**	**-0.9**
PET				*e*Sn	**Sn**	**02 25 00.7**	**-2.6**
GNL	**Ganaly**	**4.30**	**251**	PN	**Pn**	**02 24 15.7**	**0.0**
GNL	**Ganaly**	**4.30**	**251**	*e*P	**Pn**	**02 24 15.7**	**0.0**
KRMR	**Karymshinskiy**	**4.63**	**241**	PN	**Pn**	**02 24 19.9**	**-0.1**
KRMR	**Karymshinskiy**	**4.63**	**241**	*e*P	**Pn**	**02 24 19.9**	**-0.1**
KRMR				*e*S	**Sn**	**02 25 12.0**	**-0.5**
RUS	**Russkaya**	**4.68**	**235**	PN	**Pn**	**02 24 19.7**	**-1.1**
RUS	**Russkaya**	**4.68**	**235**	*e*P	**Pn**	**02 24 19.7**	**-1.1**
RUS				*e*S	**Sn**	**02 25 09.5**	**-4.3**
PEA0	**Petropavlovsk-**	**4.70**	**246**	*e*Pn	**Pn**	**02 24 20.4**	**-0.6**
PEA0B	**Petropavlovsk-**	**4.70**	**246**	*e*Pn	**Pn**	**02 24 21.0**	**0.0**
PETK	**Petropavlovsk-**	**4.70**	**246**	Pn	**Pn**	**02 24 20.6**	**-0.4**
PETK	comp=Z,46nm,0.3s,baz=74,slow=15,SNR=494			Sn	**Sn**	**02 25 13.7**	**-0.6**
PETK	comp=Z,13nm,0.3s,baz=93,slow=29,SNR=6.8			LR	LR	02 26 28.0	
	comp=Z,514nm,20.3s,baz=66,slow=43						
MTVR	**Mutnovka**	**4.81**	**237**	*e*P	**Pn**	**02 24 22.3**	**-0.3**
MTVR				*e*S	**Sn**	**02 25 14.5**	**-2.6**
GRL	**Gorelyy**	**4.82**	**238**	PN	**Pn**	**02 24 22.1**	**-0.7**
GRL	**Gorelyy**	**4.82**	**238**	*e*P	**Pn**	**02 24 22.1**	**-0.7**
ASAK	**Asacha**	**5.01**	**238**	*e*P	**Pn**	**02 24 25.5**	**+0.2**
ASAK				*e*S	**Sn**	**02 25 20.3**	**-1.6**
APC	**Apacha**	**5.08**	**246**	PN	**Pn**	**02 24 26.5**	**+0.4**
APC	**Apacha**	**5.08**	**246**	*e*P	**Pn**	**02 24 26.5**	**+0.4**
APC				*e*S	**Sn**	**02 25 22.6**	**-0.9**
TILK	**Tilichiki**	**5.25**	**7**	PN	**Pn**	**02 24 25.1**	**-3.3**
TILK	**Tilichiki**	**5.25**	**7**	*e*P	**Pn**	**02 24 25.1**	**-3.3**
TILK				S	**Sn**	**02 25 22.7**	**-4.9**
KDTR	**Khodutka, Kamc**	**5.30**	**232**	*e*P	**Pn**	**02 24 27.9**	**-1.3**
KDTR				*e*S	**Sn**	**02 25 23.6**	**-5.4**
SKR	**Severo-Kuril's**	**6.97**	**232**	*e*PN	**Pn**	**02 24 51.1**	**-1.0**
SKR	comp=Z,300nm,0.9s			pmax	pmax		
SKR	comp=Z,381nm,0.5s			MLR	MLR		
SKR	comp=Z,300nm,16.0s						
SKR	**Severo-Kuril's**	**6.97**	**232**	*e*P	**Pn**	**02 24 50.5**	**-1.6**
KMSK	**Kamenskaya**	**7.26**	**5**	PN	**Pn**	**02 24 56.0**	**-0.1**
KMSK	**Kamenskaya**	**7.26**	**5**	*e*P	**Pn**	**02 24 56.0**	**-0.1**
ATKA	**Atka Island**	**12.79**	**95**	*e*Pn	**Pn**	**02 26 12.8**	**+1.0**
BILL	**Bilibino**	**12.84**	**2**	*e*PN	**Pn**	**02 26 11.8**	**-0.6**
BILL				pmax	pmax		
	comp=Z,4.0nm,0.9s						
YSS	**Yuzh-Sakhalins**	**16.10**	**248**	*e*P	**Pn**	**02 26 53.3**	**-2.8**
YSS				*e*S	**Sn**	**02 29 47.1**	**-6.2**
YSS				MLR	MLR		
	comp=Z,300nm,14.0s						
UNV	**Unalaska Valle**	**16.65**	**83**	*e*Pn	**P**	**02 27 04.3**	**-0.8**
	comp=Z,32nm,1.0s						
YAK	**Yakutsk**	**19.29**	**305**	*e*P	**P**	**02 27 33.8**	**-0.3**
YAK				pmax	pmax		
	comp=Z,20nm,1.1s						
YAK				pmax	pmax		
	comp=N,8.0nm,1.3s						
YAK				pmax	pmax		
	comp=E,8.0nm,1.2s						
YAK				MLR	MLR		
	comp=Z,209nm,17.0s						
YAK	**Yakutsk**	**19.29**	**305**	*e*P	**P**	**02 27 32.8**	**-1.4**
	comp=Z,28nm,0.6s						
ERM	**Erimo**	**19.40**	**236**	*e*P	**P**	**02 27 33.1**	**-2.3**
ERM				pmax	pmax		
	comp=Z,63nm,1.2s						
ERM	**Erimo**	**19.40**	**236**	*e*P	**P**	**02 27 33.1**	**-2.3**
	comp=Z,63nm,1.2s						
CHGN	**Chignik**	**20.55**	**72**	*e*P	**P**	**02 27 48.3**	**+0.4**
	comp=Z,78nm,1.2s						
KLR	**Kul'dur**	**20.98**	**267**	P	**P**	**02 27 51.6**	**-1.0**
	comp=Z,1.4nm,0.6s,baz=80,slow=9.0,SNR=4.1						
KDAK	**Kodiak Island**	**23.35**	**66**	*e*P	**P**	**02 28 16.2**	**-1.3**
KDAK				pmax	pmax		
	comp=Z,14nm,0.5s						
KDAK	**Kodiak Island**	**23.35**	**66**	*e*P	**P**	**02 28 16.1**	**-1.3**
	comp=Z,14nm,0.5s						
USRK	**Ussuriysk Ar.**	**23.70**	**256**	LR	LR	02 38 22.9	
	comp=Z,170nm,18.9s,baz=56,slow=39						
CNPM	**China Peot**	**23.72**	**62**	*e*P	**P**	**02 28 20.4**	**-0.7**
	comp=Z,17nm,0.8s						
TRF	**Thorofare Moun**	**23.84**	**52**	*e*P	**P**	**02 28 21.3**	**-0.9**
	comp=Z,26nm,0.9s						
COLD	**Coldfoot**	**24.09**	**42**	*e*P	**P**	**02 28 24.4**	**0.0**
	comp=Z,12nm,0.9s						
MCK	**McKinley**	**24.43**	**51**	*e*P	**P**	**02 28 27.0**	**-0.6**
MCK				pmax	pmax		
	comp=Z,6.0nm,0.6s						
MCK	**McKinley**	**24.43**	**51**	*e*P	**P**	**02 28 27.0**	**-0.6**
	comp=Z,5.8nm,0.6s						
TOLK	**Toolik Lake Re**	**24.54**	**39**	P	**P**	**02 28 28.0**	**-0.6**
	baz=260						
WRH	**Wood River Hil**	**24.79**	**49**	*e*P	**P**	**02 28 32.0**	**+1.2**
	comp=Z,24nm,1.2s						
SML	**Sawmill**	**24.84**	**56**	*e*P	**P**	**02 28 29.9**	**-1.4**
SML				pmax	pmax		
	comp=Z,28nm,0.6s						
SML	**Sawmill**	**24.84**	**56**	*e*P	**P**	**02 28 29.9**	**-1.4**
	comp=Z,28nm,0.6s						
CCB	**Clear Creek Bu**	**24.91**	**49**	*e*P	**P**	**02 28 33.5**	**+1.6**
	comp=Z,16nm,0.9s						
IL1	**Eielson Array**	**25.31**	**48**	*e*P	**P**	**02 28 35.3**	**-0.1**
ILAR	**Eielson Array**	**25.31**	**48**	P	**P**	**02 28 35.0**	**-0.5**
	comp=Z,2.3nm,0.8s,baz=249,slow=8.8,SNR=13						
ILAR	**Eielson Array**	**25.31**	**48**	P	**P**	**02 28 35.0**	**-0.5**
ILB	**Eielson Array**	**25.31**	**48**	*e*P	**P**	**02 28 36.0**	**+0.6**
SCM	**Sheep Creek Mo**	**25.31**	**55**	*e*P	**P**	**02 28 34.9**	**-0.7**
SCM				pmax	pmax		
	comp=Z,26nm,0.6s						
SCM	**Sheep Creek Mo**	**25.31**	**55**	*e*P	**P**	**02 28 34.9**	**-0.7**
	comp=Z,26nm,0.6s						
MAJO	**Matsushiro**	**26.07**	**235**	*d*P	**P**	**02 28 42.8**	**+0.1**
MAJO				pmax	pmax		
	comp=Z,106nm,1.0s						
MAJO	**Matsushiro**	**26.07**	**235**	*e*P	**P**	**02 28 43.4**	**+0.7**
	comp=Z,20nm,0.8s						
MAT	**Matsushiro**	**26.07**	**235**	P	**P**	**02 28 42.9**	**+0.2**
MAT				*e*S	**S**	**02 33 05.2**	**-6.1**
MJAR	**Matsushiro Arr**	**26.07**	**235**	P	**P**	**02 28 42.9**	**+0.3**
	comp=Z,7.6nm,1.0s,baz=25,slow=8.5,SNR=13						
MJAR				LR	LR	02 39 21.3	
	comp=Z,107nm,21.4s,baz=60,slow=37						
BMRM	**Bremner River**	**26.74**	**57**	*e*P	**P**	**02 28 47.1**	**-1.4**
	comp=Z,16nm,1.0s						
INK	**Inuvik**	**30.44**	**40**	P	**P**	**02 29 20.2**	**-1.1**
	comp=Z,2.1nm,0.5s,baz=270,slow=11,SNR=9.6						
INK	**Inuvik**	**30.44**	**40**	*e*P	**P**	**02 29 20.4**	**-0.8**
	comp=Z,4.2nm,0.7s						
KS01	**Wonju Array Si**	**30.59**	**250**	*e*P	**P**	**02 29 23.0**	**+0.2**
KSRS	**Korea Array**	**30.59**	**250**	P	**P**	**02 29 22.9**	**+0.1**
	comp=Z,4.4nm,0.9s,baz=38,slow=8.8,SNR=7.4						
KSRS				LR	LR	02 41 40.2	
	comp=Z,87nm,19.6s,baz=319,slow=36						
KSRS	**Korea Array**	**30.59**	**250**	P	**P**	**02 29 23.0**	**+0.1**
KSRS				pmax	pmax		
	comp=Z,4.0nm,0.9s						
KSRS				MLR	MLR		
	comp=Z,87nm,19.6s						
KSAR	**Wonju Array Be**	**30.62**	**250**	P	**P**	**02 29 23.0**	**-0.2**
KSAR	**Wonju Array Be**	**30.62**	**250**	P	**P**	**02 29 22.9**	**-0.2**
DLBC	**Lease Lake**	**34.53**	**57**	P	**P**	**02 29 58.2**	**+0.9**
	comp=Z,5.2nm,0.6s,baz=305,slow=8.1,SNR=8.8						
BJI	**Beijing**	**35.33**	**265**	P	**P**	**02 30 03.7**	**-0.5**
BJI				S	**S**	**02 35 35.5**	**-0.4**
BJI				pmax	pmax		
	comp=Z,4.0nm,0.7s						
BJI				LR	LR		
	comp=N,290nm,16.6s						
BJI				LR	LR		
	comp=E,230nm,16.6s						
BJI				LR	LR		
	comp=Z,100nm,19.4s						
H11N2	**WAKE ISLAND Hy**	**35.51**	**177**	T	T	03 08 08.1	
	baz=358,slow=76,SNR=1541						
H11N3	**WA

LZH eS S 02 38 00.3 -1.8
LZH sS sS 02 38 15.7 -3.5
LZH SS ScS 02 41 17.2 -2.2
LZH pmax pmax
comp=Z,23nm,1.0s
LZH pmax pmax
comp=Z,72nm,4.8s
LZH LR LR
comp=N,1µm,12.3s
LZH LR LR
comp=E,1µm,11.4s
LZH LR LR
comp=Z,1µm,14.2s
B08A Colville Reser 45.23 66 eP P 02 31 25.9 -0.3
comp=Z,6.9nm,0.8s
EDM Edmonton 45.25 57 eP P 02 31 25.8 -0.4
EDM pmax pmax
comp=Z,11nm,0.5s
EDM Edmonton 45.25 57 eP P 02 31 25.8 -0.4
comp=Z,11nm,0.5s
SPITS Spitsbergen Ar 45.43 351 P P 02 31 26.1 -1.2
comp=Z,2.5nm,0.6s,baz=23,slow=7.8,SNR=3.0
ENH Enshi 46.13 261 eP P 02 31 32.5 -0.9
comp=Z,11nm,0.7s
NEW Newport 46.44 64 P P 02 31 34.6 -1.0
baz=310
J04D Umpqua Nationa 47.04 73 P P 02 31 40.0 -0.6
baz=312
J05D Fort Rock, OR 47.49 72 P P 02 31 44.2 +0.2
baz=312
WALA Waterton Lakes 47.57 62 eP P 02 31 44.2 -0.4
comp=Z,11nm,0.8s
F10A Beach Ranch, E 47.86 67 eP P 02 31 46.6 -0.2
comp=Z,4.7nm,0.9s
BSMT Bassoo Peak 47.90 64 eP P 02 31 47.5 +0.2
M04C Macdoel 48.17 74 P P 02 31 49.2 -0.1
baz=313
JTMT Jette 48.23 63 eP P 02 31 49.9 +0.2
N02D Trinity Center 48.24 75 P P 02 31 48.8 -1.0
baz=313
YBMT Yellow Bay 48.29 63 eP P 02 31 50.1 0.0
SWMT Swartz Lake 48.53 63 eP P 02 31 51.9 -0.1
BMO Blue Mountains 48.56 68 eP P 02 31 51.9 -0.4
BMO pmax pmax
comp=Z,3.0nm,0.8s
BMO Blue Mountains 48.56 68 eP P 02 31 51.9 -0.4
comp=Z,3.4nm,0.8s
WMQ Urumqi 48.84 290 P P 02 31 54.9 +0.5
WMQ pP pP 02 32 05.2 +0.4
WMQ sP sP 02 32 09.3 +0.3
WMQ pmax pmax
comp=Z,15nm,0.9s
WMQ pmax pmax
comp=Z,80nm,4.9s
WMQ LR LR
comp=N,260nm,17.3s
WMQ LR LR
comp=E,250nm,22.9s
WMQ LR LR
comp=Z,130nm,17.7s
CD2 Chengdu 48.91 266 P P 02 31 54.8 -0.2
CD2 sP sP 02 32 10.8 +1.2
CD2 pmax pmax
comp=Z,20nm,0.7s
KURK Kurchatov 48.92 303 eP P 02 31 53.4 -1.4
KURK pmax pmax
comp=Z,7.0nm,0.8s
KURK Kurchatov 48.92 303 eP P 02 31 53.4 -1.4
comp=Z,6.9nm,0.8s
MOD Modoc Plateau 48.93 73 eP P 02 31 55.3 +0.1
comp=Z,6.9nm,0.8s
SLMT Seeley Lake 48.97 63 eP P 02 31 55.2 -0.2
MSO Missoula 49.01 64 P P 02 31 54.8 -0.9
baz=312
MSO Missoula 49.01 64 eP P 02 31 55.4 -0.3
comp=Z,26nm,1.9s
KURBB Kurchatov Arra 49.02 303 P P 02 31 54.2 -1.4
comp=Z,4.7nm,0.5s,baz=56,slow=7.9,SNR=21
WVOR Wild Horse Val 49.47 71 eP P 02 31 59.5 +0.2
WVOR pmax pmax
comp=Z,5.0nm,1.0s
WVOR Wild Horse Val 49.47 71 eP P 02 31 59.5 +0.2
comp=Z,4.9nm,1.0s
MAKZ Makanchi 49.84 297 eP P 02 32 00.3 -1.6
MAKZ pmax pmax
comp=Z,4.0nm,0.8s
MAKZ Makanchi 49.84 297 eP P 02 32 00.3 -1.6
comp=Z,4.1nm,0.8s
ORV Oroville 49.88 76 eP P 02 32 02.0 -0.3
ORV pmax pmax
comp=Z,5.0nm,1.1s
ORV Oroville 49.88 76 eP P 02 32 02.0 -0.3
comp=Z,4.9nm,1.1s
FCC Fort Churchill 50.03 42 eP P 02 32 02.5 -0.6
FCC pmax pmax
comp=Z,26nm,1.2s
FCC Fort Churchill 50.03 42 eP P 02 32 02.5 -0.6
comp=Z,26nm,1.2s
HRY Holter Researc 50.17 63 eP P 02 32 03.4 -1.2
EGMT Eagleton 50.33 60 P P 02 32 04.7 -1.0
baz=312
GYA Guiyang 50.64 260 eP P 02 32 09.0 +0.7
GYA pmax pmax
comp=Z,10.0nm,1.0s
MCMT McKenzie Canyo 50.92 65 eP P 02 32 09.8 -0.6
PAHR Pah Rah Range 50.95 74 eP P 02 32 10.8 +0.3
comp=Z,5.2nm,0.8s
HLID Hailey 50.97 67 P P 02 32 09.8 -0.8
baz=314,SNR=6.2
HLID Hailey 50.97 67 eP P 02 32 10.6 -0.1
comp=Z,2.0nm,0.8s
BOZ Bozeman (W) 51.03 64 P P 02 32 10.5 -0.5
baz=313
BOZ Bozeman (W) 51.03 64 eP P 02 32 11.0 -0.1
BOZ pmax pmax
comp=Z,2.0nm,0.8s
BOZ Bozeman (W) 51.03 64 eP P 02 32 11.0 -0.1
comp=Z,1.9nm,0.8s
BRVK Borovoye 51.21 309 *d i* P P 02 32 10.9 -1.2
BRVK pmax pmax
comp=Z,15nm,1.7s
BRVK Borovoye 51.21 309 eP P 02 32 11.2 -0.9
comp=Z,5.0nm,0.7s
PNTR Pine Nut 51.26 75 eP P 02 32 13.7 +0.7
comp=Z,12nm,0.7s
YERR Yerington 51.53 75 eP P 02 32 15.5 +0.6
comp=Z,6.0nm,0.9s
WAKR Walker 51.76 76 eP P 02 32 17.6 +0.9
comp=Z,7.1nm,0.8s
YHH Holmes Hill 51.98 64 eP P 02 32 18.5 +0.1
comp=Z,3.1nm,1.0s
ARCES ARCESS Array B 52.05 343 P P 02 32 16.2 -2.0
comp=Z,2.0nm,0.7s,baz=28,slow=9.6,SNR=5.0
TVH1 TV Hill, Hawth 52.17 75 eP P 02 32 20.6 +0.7
comp=Z,7.7nm,1.1s
TVH3 East Aurora ar 52.21 75 eP P 02 32 20.8 +0.8
comp=Z,3.3nm,0.9s
FLWY Flagg Ranch 52.55 65 eP P 02 32 23.3 +0.8
comp=Z,5.2nm,0.7s
IMW Indian Meadow 52.55 65 eP P 02 32 21.8 -0.8
comp=Z,4.6nm,0.8s
RLMT Red Lodge 52.56 63 P P 02 32 22.5 -0.1
baz=314,SNR=6.7
RLMT Red Lodge 52.56 63 eP P 02 32 21.7 -0.9
comp=Z,8.1nm,0.8s
MOOW Moose Ponds 52.76 65 eP P 02 32 24.5 +0.4
comp=Z,8.8nm,1.6s
TPAW Teton Pass 52.83 65 eP P 02 32 25.0 +0.4
comp=Z,3.3nm,0.9s
LOHW Long Hollow 52.93 65 eP P 02 32 25.8 +0.5
comp=Z,3.0nm,0.8s
HVU Hansel Valley 53.07 68 eP P 02 32 26.8 +0.5
HVU pmax pmax
comp=Z,4.0nm,0.8s
HVU Hansel Valley 53.07 68 eP P 02 32 26.8 +0.5
comp=Z,4.2nm,0.8s
ARU Arti 53.64 319 P P 02 32 28.8 -1.3
comp=Z,4.9nm,0.6s,baz=90,slow=7.1,SNR=6.6
ARU Arti 53.64 319 *d i* P P 02 32 28.7 -1.3
ARU 02 33 32.5
ARU S S 02 40 02.2 +1.3
ARU SS SS 02 43 37.9 -3.0
ARU pmax pmax
comp=Z,9.0nm,1.2s
ARU Arti 53.64 319 eP P 02 32 29.1 -1.0
comp=Z,5.5nm,0.5s
HWUT Hardware Ranch 53.84 67 eP P 02 32 32.6 +0.6
comp=Z,5.0nm,0.9s
KMI Kunming 53.90 262 P P 02 32 34.7 +2.1
KMI sP sP 02 32 46.6 -0.7
KMI pmax pmax
comp=Z,27nm,0.5s
KMI LR LR
comp=N,210nm,19.0s
KMI LR LR
comp=E,230nm,19.7s
KMI LR LR
comp=Z,190nm,13.1s
GRAC Grapevine Rang 53.99 75 P P 02 32 33.1 +0.2
baz=316
CWC Cottonwood Cre 53.99 76 P P 02 32 33.4 +0.2
baz=317
R11A Troy Canyon, C 53.99 73 P P 02 32 32.9 -0.2
baz=316,SNR=6.5
R11A Troy Canyon, C 53.99 73 eP P 02 32 33.4 +0.3
comp=Z,6.1nm,1.3s
BW06 Boulder Array 54.06 65 P P 02 32 33.4 -0.2
baz=315
BW06 Boulder Array 54.06 65 eP P 02 32 33.8 +0.1
comp=Z,3.3nm,0.9s
PD31 Pinedale Array 54.06 65 eP P 02 32 33.7 +0.1
PDAR Pinedale Array 54.06 65 P P 02 32 33.5 -0.1
comp=Z,1.9nm,0.8s,baz=324,slow=3.0,SNR=18
DUG Dugway, Tooele 54.17 69 P P 02 32 34.3 -0.1
baz=316,SNR=6.4
DUG Dugway, Tooele 54.17 69 eP P 02 32 34.9 +0.5
DUG pmax pmax
comp=Z,5.0nm,0.9s
DUG Dugway, Tooele 54.17 69 eP P 02 32 34.9 +0.5
comp=Z,4.6nm,0.9s
MPMC Manual Prospec 54.60 76 P P 02 32 37.6 0.0
baz=317,SNR=5.6
TPNV Topopah Spring 54.64 75 P P 02 32 37.7 -0.1
baz=317,SNR=10.0
TPNV Topopah Spring 54.64 75 eP P 02 32 38.3 +0.5
TPNV pmax pmax
comp=Z,15nm,1.2s
TPNV Topopah Spring 54.64 75 eP P 02 32 38.3 +0.5
comp=Z,15nm,1.2s
FURC Furnace Creek, 54.65 75 P P 02 32 37.8 +0.1
baz=317,SNR=10
NLU North Lily Min 54.74 69 eP P 02 32 39.2 +0.6
comp=Z,4.3nm,0.9s
MPU Maple Canyon 54.94 69 eP P 02 32 40.7 +0.7
comp=Z,5.4nm,0.8s
EDW2 Edwards Air Fo 55.17 78 P P 02 32 41.3 -0.3
baz=317
ULM Lac du Bonnet 55.30 50 P P 02 32 41.6 -0.6
comp=Z,0.9nm,0.3s,baz=314,slow=8.7,SNR=4.0
GSC Goldstone, Bar 55.53 76 P P 02 32 44.1 -0.1
baz=317,SNR=7.5
GSC Goldstone, Bar 55.53 76 eP P 02 32 44.5 +0.3
GSC pmax pmax
comp=Z,7.0nm,0.8s
GSC Goldstone, Bar 55.53 76 eP P 02 32 44.5 +0.3
comp=Z,7.3nm,0.8s
TMUT Trail Mountain 55.68 69 eP P 02 32 46.2 +0.7
comp=Z,5.2nm,0.8s
MSU Marysvale 55.73 70 eP P 02 32 46.9 +1.1
MSU Marysvale 55.73 70 eP P 02 32 46.9 +1.1
CCUT Cedar City 55.78 72 eP P 02 32 45.9 -0.2
comp=Z,4.8nm,0.9s
BFSC Mount Baldy Ra 55.83 78 P P 02 32 46.3 -0.2
baz=318
SZCU Shurtz Canyon 55.90 72 eP P 02 32 47.6 +0.6
comp=Z,9.1nm,1.6s
TUQ Turquoise Moun 55.92 76 P P 02 32 47.0 -0.1
baz=318,SNR=5.8
HEC Hector,Ludlow 56.14 76 P P 02 32 48.6 +0.1
baz=318
SRU San Rafael Swe 56.18 69 eP P 02 32 49.6 +0.7
SRU pmax pmax
comp=Z,8.0nm,0.9s
SRU San Rafael Swe 56.18 69 eP P 02 32 49.6 +0.7
comp=Z,8.3nm,0.9s
SLVN Son La 56.22 259 eP P 02 32 48.3 -0.9
comp=Z,10.0nm,0.9s
LCMT Little Creek M 56.24 72 eP P 02 32 50.8 +1.5
comp=Z,3.9nm,0.8s
KLMR Klimovskoe 56.42 331 eP P 02 32 47.5 -2.5
KLMR pmax pmax
comp=Z,16nm,1.3s
KNB Kanab 56.47 72 eP P 02 32 52.1 +1.1
KNB pmax pmax
comp=Z,18nm,1.7s
KNB Kanab 56.47 72 eP P 02 32 52.1 +1.1
comp=Z,18nm,1.7s
A33A Warroad 56.48 51 P P 02 32 49.3 -1.4
baz=318
GMRC Granite Mounta 56.54 76 P P 02 32 51.4 -0.1
baz=318
AAK Ala-Archa 56.56 298 eP P 02 32 50.8 -0.8
AAK pmax pmax
comp=Z,10.0nm,1.3s
AAK Ala-Archa 56.56 298 eP P 02 32 50.8 -0.8
comp=Z,10nm,1.3s
LDFC Landfair 56.63 75 eP P 02 32 52.5 +0.4
comp=Z,9.2nm,0.9s
O20A White River Ci 56.64 66 P P 02 32 51.8 -0.4
baz=317,SNR=5.3
O20A White River Ci 56.64 66 eP P 02 32 51.7 -0.5
comp=Z,9.1nm,0.9s
BELC Belle Mtn. Jos 56.93 77 P P 02 32 53.6 -0.6
baz=318
N23A Red Feather La 57.28 64 P P 02 32 56.4 -0.4
baz=317
IRM Iron Mountain 57.29 76 P P 02 32 56.5 -0.2
baz=318
BC3 Big Chuckawall 57.49 77 P P 02 32 57.5 -0.7
baz=318
D34A Park Rapids 57.94 53 P P 02 33 00.1 -0.9
baz=319
KSH Kashi 58.09 294 SS SS 02 44 54.1 +2.4
KSH pmax pmax
comp=Z,5.0nm,1.0s
KSH pmax pmax
comp=Z,67nm,5.1s
KSH LR LR
comp=N,75nm,4.4s
KSH LR LR
comp=E,64nm,5.4s
KSH LR LR
comp=Z,100nm,7.1s
KKAR Karatay Array 58.21 301 eP P 02 33 02.0 -1.0
KKAR pmax pmax
comp=Z,27nm,0.6s
KKAR Karatay Array 58.21 301 eP P 02 33 02.0 -1.0
comp=Z,27nm,0.6s
ISCO Idaho Springs 58.26 65 eP P 02 33 02.9 -0.9
ISCO pmax pmax
comp=Z,10.0nm,1.5s
ISCO Idaho Springs 58.26 65 eP P 02 33 02.9 -0.9
comp=Z,9.9nm,1.5s
AKTO Aktyubinsk 58.36 314 P P 02 33 02.6 -1.3
comp=Z,2.4nm,0.8s,baz=63,slow=6.3,SNR=5.4
ABKAR Akbulak array 58.45 312 eP P 02 33 03.0 -1.5
comp=Z,23nm,0.6s
EYMN Ely 58.94 50 P P 02 33 06.9 -1.1
baz=320
X16A Lo Mia Camp, P 59.14 73 eP P 02 33 10.8 +1.0
comp=Z,3.6nm,0.9s
S22A 4UR Ranch, Cre 59.15 67 P P 02 33 10.4 +0.5
baz=318
FINES FINESS Array B 59.18 338 P P 02 33 07.9 -1.5
comp=Z,1.7nm,0.6s,baz=18,slow=8.0,SNR=10
X18A Snowflake 59.88 72 eP P 02 33 15.2 +0.4
comp=Z,6.5nm,1.0s
H35A Sunnyside Ranc 59.91 54 P P 02 33 14.3 -0.4
baz=320
F38A Pierce - Schro 60.29 51 P P 02 33 16.4 -0.9
baz=320
E39A Mellen 60.56 50 P P 02 33 17.6 -1.5
baz=321
CHTO Chiang Mai 61.02 261 eP P 02 33 22.1 -0.5
CHTO pmax pmax
comp=Z,6.0nm,0.7s
CHTO Chiang Mai 61.02 261 eP P 02 33 22.1 -0.5
comp=Z,6.3nm,0.7s
CMAR Chiang Mai Arr 61.30 261 P P 02 33 24.4 -0.1
comp=Z,2.5nm,0.6s,baz=20,slow=6.6,SNR=9.5
CMAR Chiang Mai Arr 61.30 261 *i* P P 02 33 24.3 -0.2
CMAR pmax pmax
comp=Z,3.0nm,0.6s
ANMO Albuquerque 61.45 69⇓ *e* P P 02 33 25.4 -0.2
ANMO pmax pmax
comp=Z,2.0nm,1.2s
PKI Pulchoki 61.90 278 eP P 02 33 27.3 -1.6
comp=Z,20nm,0.6s
PKIN Phulchoki 61.91 278 eP P 02 33 27.1 -1.7
comp=Z,20nm,0.6s
GKN Gorkha 62.01 279 eP P 02 33 28.5 -0.9
comp=Z,34nm,0.9s
NB2 NORSAR Subarra 62.17 346 P P 02 33 28.0 -1.8
comp=Z,1.3nm,0.6s,baz=18,slow=6.9
NOA NORSAR Array B 62.17 346 P P 02 33 28.4 -1.5
comp=Z,1.6nm,0.6s,baz=18,slow=6.8,SNR=9.5
KOLN Koldanda 62.77 280 eP P 02 33 33.5 -1.0
comp=Z,26nm,0.7s
PYUN Piuthan 62.86 281 eP P 02 33 34.3 -0.8
comp=Z,101nm,0.9s
K40A Colesburg 63.15 53 P P 02 33 34.7 -1.9
baz=322
N37A Lee Faris, Mou 63.23 57 P P 02 33 35.8 -1.3
baz=321
M39A Webster 63.63 55 P P 02 33 37.8 -2.0
baz=322
MNTX Cornudas Mount 64.51 71 P P 02 33 45.7 0.0
baz=321
MNTX Cornudas Mount 64.51 71 eP P 02 33 45.4 -0.3
comp=Z,4.3nm,1.0s
WMOK Wichita Mounta 65.64 64 P P 02 33 51.9 -1.2
baz=322
WMOK Wichita Mounta 65.64 64 eP P 02 33 51.8 -1.2
WMOK pmax pmax
comp=Z,4.0nm,0.8s
WMOK Wichita Mounta 65.64 64 eP P 02 33 51.8 -1.2
comp=Z,4.2nm,0.8s
HDIL Hopedale 65.69 54 P P 02 33 51.4 -1.8
baz=323
R39A Chumby, Stover 65.70 58 P P 02 33 51.4 -1.9
baz=322
Q41A Truxton 66.06 56 P P 02 33 53.8 -1.8
baz=323
R40A Maddies Statio 66.09 57 P P 02 33 54.1 -1.7
baz=323
T38A Diamond 66.10 59 P P 02 33 54.2 -1.7
baz=322
R41A Rosebud 66.51 56 P P 02 33 56.7 -1.8
baz=323
R42A Luebbering 66.80 56 P P 02 33 58.5 -1.9
baz=323
X35A Drake 66.83 63 P P 02 33 59.0 -1.6
baz=322
ABTX Abilene, Hawle 66.84 66 P P 02 33 59.1 -1.7
baz=322
ABTX Abilene, Hawle 66.84 66 eP P 02 33 59.5 -1.3
comp=Z,5.0nm,0.9s
T40A Mansfield 66.87 58 P P 02 33 59.2 -1.7
baz=323
S41A Jillco Farms, 66.90 57 P P 02 33 59.3 -1.7
baz=323
V38A Canehill 66.97 60 P P 02 33 59.8 -1.7
baz=323
U39A Green Forest 67.01 59 P P 02 34 00.0 -1.7
baz=323
W37B Quinton 67.03 61 P P 02 34 00.5 -1.4
baz=322
S42A Caledonia 67.21 56 P P 02 34 01.3 -1.7
baz=323
TX31 Lajitas Ar. Si 67.27 71 eP P 02 34 03.5 -0.1
TXAR Lajitas Array 67.27 71 P P 02 34 03.5 -0.1
comp=Z,4.3nm,0.7s,baz=298,slow=4.6,SNR=33
T41A Mountain View 67.32 58 P P 02 34 02.0 -1.7
baz=323
U40A Yellville 67.34 59 P P 02 34 02.2 -1.6
baz=323
V39A Pettigrew 67.36 60 P P 02 34 02.2 -1.8
baz=323
W38A Poteau 67.54 61 P P 02 34 03.5 -1.6
baz=323
V40A Witts Springs 67.79 59 P P 02 34 05.1 -1.6
baz=323
U41A Viola 67.81 58 P P 02 34 05.2 -1.6
baz=323
AKASG Malin Array Be 68.11 331 P P 02 34 06.8 -1.6
comp=Z,0.9nm,0.5s,baz=27,slow=6.3,SNR=4.5
KIEV Kiev 68.12 331⇓ eP P 02 34 07.3 -1.2
KIEV pmax pmax
comp=Z,2.0nm,0.6s
V41A Mountainview 68.14 59 P P 02 34 07.1 -1.8
baz=323
GEYT Alibeck 68.17 305 P P 02 34 08.3 -0.8
comp=Z,3.8nm,0.7s,baz=328,slow=5.4,SNR=4.3
X39A Fountain Ranch 68.18 61 P P 02 34 07.6 -1.6
baz=323
MIAR Mount Ida 68.42 60 P P 02 34 09.0 -1.7
baz=323
433A Art 68.60 67 P P 02 34 10.2 -1.7
baz=323
533A Kerrville 69.17 67 P P 02 34 14.5 -1.0
baz=323
EKA Eskdalemuir Ar 69.33 353 P P 02 34 14.9 -1.0
comp=Z,2.6nm,0.9s,baz=17,slow=6.1,SNR=5.7
534A Blanco 69.50 67 P P 02 34 16.0 -1.4
baz=323
KBZ Khabaz 69.79 319 P P 02 34 18.4 -0.6
comp=Z,3.4nm,0.8s,baz=0.0,slow=9.1,SNR=4.3
KBZ LR LR 03 08 33.6
comp=Z,57nm,19.8s,baz=334,slow=39
Y45A Yeager Farm, C 70.95 58 P P 02 34 25.4 -0.9
baz=325
Y46A Houston 71.27 57 P P 02 34 26.9 -1.2
baz=325
DPC Dobruska-Polom 71.52 339 eP P 02 34 28.1 -1.4
DPC Dobruska-Polom 71.52 339 eP P 02 34 28.1 -1.4
AFI Afiamalu 71.69 156 LR LR 02 57 06.7
comp=Z,348nm,21.8s,baz=96,slow=28
MORC Moravsky Berou 71.81 338 eP P 02 34 30.0 -1.2
MORC pmax pmax
comp=Z,10.0nm,1.0s
MORC Moravsky Berou 71.81 338 eP P 02 34 30.0 -1.2
comp=Z,10nm,1.0s
244A Avery, Jackson 71.87 60 P P 02 34 30.2 -1.6
baz=325
GNI Garni 72.13 316⇑ eP P 02 34 33.1 -0.4
GNI pmax pmax
comp=Z,21nm,1.2s
GNI Garni 72.13 316 eP P 02 34 32.7 -0.8
comp=Z,33nm,0.9s
Z47A Carrollton 72.21 57 P P 02 34 32.4 -1.4
baz=325
Z48A Northport 72.31 57 P P 02 34 32.5 -1.9
baz=325
LRAL Lakeview Retre 72.86 57 eP P 02 34 35.6 -2.1
comp=Z,10nm,1.2s
KHC Kasperske Hory 73.22 341 eP P 02 34 39.3 -0.3
KHC *es* P **sP** 02 34 54.8 +0.2
KHC Kasperske Hory 73.22 341 eP P 02 34 39.3 -0.3
KHC *e* 02 34 54.8
GERES GERESS Array B 73.47 341 P P 02 34 40.3 -0.8
comp=Z,0.5nm,0.5s,baz=38,slow=6.7,SNR=6.9
WLF Walferdange 73.93 346 eP P 02 34 42.3 -1.4
WLF pmax pmax
comp=Z,7.0nm,0.9s
WLF Walferdange 73.93 346 eP P 02 34 42.3 -1.4
comp=Z,7.1nm,0.9s
BRTR Keskin Array B 76.62 323 P P 02 34 58.5 -1.0
comp=Z,1.0nm,0.7s,baz=66,slow=3.8,SNR=6.6
BRTR Keskin Array B 76.62 323 *i* P P 02 34 58.7 -0.9
BRTR pmax pmax
comp=Z,1.0nm,0.7s
BR231 Keskin MP Arra 76.81 324 eP P 02 34 58.6 -1.9
WRA Warramunga Arr 79.28 209 P P 02 35 13.6 -0.5
comp=Z,1.7nm,0.8s,baz=20,slow=5.8,SNR=6.7
WRA Warramunga Arr 79.28 209 *i* P P 02 35 14.8 +0.6
WRA pmax pmax
comp=Z,1.0nm,0.7s
PALK Pallekele 80.71 269 eP P 02 35 24.0 +1.7
PALK pmax pmax
comp=Z,49nm,1.2s
PALK Pallekele 80.71 269 eP P 02 35 24.0 +1.7
comp=Z,49nm,1.2s
AS01 Alice Springs 82.92 208 eP P 02 35 33.5 0.0
ASAR Alice Springs 82.94 208 P P 02 35 33.6 +0.1
comp=Z,2.5nm,0.6s,baz=16,slow=5.5,SNR=25
ES19 SONSECA Array 84.92 351 eP P 02 35 43.4 -0.4
ESDC Sonseca Array 84.95 351 P P 02 35 43.3 -0.6
comp=Z,0.9nm,0.6s,baz=359,slow=5.6,SNR=9.7
QSPA South Pole Qui 145.01 180 eP KPbc **PKPbc** 02 42 41.9 -2.2

*ISCJB **10** 02:30:20.8±0.6,38°.45N±0°.04×27°.26E±0°.04,h12ᵏᵐ, Error ellipse: s-maj=5.8km s-min=4.5km az=34.9*
*CSEM **10** 02:30:20.9±0.2,38°.43N×27°.24E,h12ᵏᵐ,MD2.7, Error ellipse: s-maj=5.2km s-min=3.8km az=39.0*
*ISK **10** 02:30:20.1,38°.43N×27°.22E,h10ᵏᵐ,MD2.7*
*DDA **10** 02:30:21.5,38°.47N×27°.25E,h7ᵏᵐ,Md2.6*

ISC 10 02:30:20.9±0.9,38°43N±0°.03×27°25E±0°03,h12ᵏᵐ,n18, σ0ˢ37/25,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DGB	**˜zmir**	**0.48**	**217**	*e*P	**Pb**	**02 30 31.6**	**+0.3**
URLA	**Izmir**	**0.52**	**262**	*i* P	**Pb**	**02 30 32.0**	**0.0**
URLA	**Izmir**	**0.52**	**262**	P	**Pb**	**02 30 32.0**	**0.0**
ZEY	**˜zmir**	**0.61**	**252**	*i* P	**Pb**	**02 30 33.7**	**+0.1**
ZEY				*i* S	**Sb**	**02 30 43.4**	**+1.1**
DKL	**Dikili**	**0.69**	**337**	*e*PG	**Pg**	**02 30 34.2**	**-0.2**
DKL				*e*SG	**Sg**	**02 30 43.5**	**+0.1**
DKL	**Dikili**	**0.69**	**337**	*e*Pg	**Pg**	**02 30 34.2**	**-0.2**
DKL				*e*Sg	**Sg**	**02 30 43.5**	**+0.1**
AYDB	**Zeytinkoy-Aydi**	**0.70**	**134**	*e*PG	**Pg**	**02 30 34.4**	**-0.2**
AYDB				*e*SG	**Sb**	**02 30 44.8**	**-0.1**
AYDB	**Zeytinkoy-Aydi**	**0.70**	**134**	*e*Pg	**Pg**	**02 30 34.4**	**-0.2**
AYDB				*e*Sg	**Sb**	**02 30 44.8**	**-0.1**
CHOS	**Chios island**	**0.94**	**267**	*e*PG	**Pg**	**02 30 38.2**	**-0.8**
CHOS				*e*SG	**Sg**	**02 30 51.4**	**+0.1**
CHOS	**Chios island**	**0.94**	**267**	*e*Pg	**Pg**	**02 30 38.2**	**-0.8**
CHOS				*e*Sg	**Sg**	**02 30 51.4**	**+0.1**
KULA	**Kula-Manisa**	**1.11**	**85**	*e*PN	**Pb**	**02 30 42.3**	**+0.1**
KULA	**Kula-Manisa**	**1.11**	**85**	*e*Pn	**Pb**	**02 30 42.3**	**+0.1**
BALY	**Balya**	**1.34**	**12**	*i* P	**Pb**	**02 30 46.0**	**0.0**
BALY	**Balya**	**1.34**	**12**	P	**Pb**	**02 30 46.0**	**0.0**
BODT	**Bodrum**	**1.37**	**178**	*e*PN	**Pn**	**02 30 45.9**	**0.0**
BODT	**Bodrum**	**1.37**	**178**	*e*Pn	**Pn**	**02 30 45.9**	**0.0**
DAT	**Datca**	**1.72**	**171**	*e*PN	**Pn**	**02 30 50.9**	**+0.1**
DAT	**Datca**	**1.72**	**171**	*e*Pn	**Pn**	**02 30 50.9**	**+0.1**

*ISCJB **10** 02:33:24.3±0.7,36°.79N±0°.04×26°.56E±0°.03,h2ᵏᵐ±8ᵏᵐ, Error ellipse: s-maj=6.7km s-min=4.4km az=172.5*
*CSEM **10** 02:33:24.9±0.2,36°.81N×26°.58E,h5ᵏᵐ,MD2.7, Error ellipse: s-maj=4.9km s-min=2.8km az=4.0*
*DDA **10** 02:33:24.3,36°.84N×26°.52E,h7ᵏᵐ,Md2.5*
*ISK **10** 02:33:24.6,36°.82N×26°.61E,h6ᵏᵐ,MD2.7*
*THE **10** 02:33:25.4,36°.83N×26°.65E,h34ᵏᵐ±12ᵏᵐ,ML2.0/1, Error ellipse: s-maj=12.7km s-min=0.5km az=22.0*

ISC 10 02:33:25.0±1.0,36°81N±0°.04×26°.59E±0°02,h12ᵏᵐ±9ᵏᵐ, n28,σ0ˢ69/45,Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIS1	**Nisyros Isl.**	**0.52**	**114**	*e*PG	**Pg**	**02 33 35.0**	**-0.1**
NIS1				*e*SG	**Sg**	**02 33 42.5**	**+0.5**
NIS1	**Nisyros Isl.**	**0.52**	**114**	*e*Pg	**Pg**	**02 33 35.1**	**-0.1**
NIS1				*e*Sg	**Sg**	**02 33 42.5**	**+0.5**
BODT	**Bodrum**	**0.63**	**67**	*e*PG	**Pg**	**02 33 36.8**	**-0.4**
BODT				*e*SG	**Sb**	**02 33 45.7**	**-1.1**
BODT	**Bodrum**	**0.63**	**67**	P	**Pg**	**02 33 36.3**	**-0.9**
BODT				S	**Sg**	**02 33 45.3**	**-0.3**
BODT	**Bodrum**	**0.63**	**67**	P	**Pg**	**02 33 36.3**	**-0.9**
BODT	**Bodrum**	**0.63**	**67**	*e*Pg	**Pg**	**02 33 36.8**	**-0.4**
BODT				S	**Sg**	**02 33 45.3**	**-0.3**
BDRM	**Kayabasi**	**0.73**	**70**	*i* P	**Pg**	**02 33 38.6**	**-0.5**
BDRM				*i* S	**Sn**	**02 33 51.3**	**-1.0**
BDRM	**Kayabasi**	**0.73**	**70**	P	**Pg**	**02 33 38.6**	**-0.5**
BDRM				S	**Sn**	**02 33 51.3**	**-1.0**
DAT	**Datca**	**0.80**	**96**	*e*PG	**Pg**	**02 33 40.2**	**-0.2**
DAT				*e*SG	**Sb**	**02 33 51.3**	**-0.5**
DAT	**Datca**	**0.80**	**96**	*i* P	**Pb**	**02 33 41.1**	**+0.2**
DAT				*i* S	**Sb**	**02 33 52.9**	**+1.1**
DAT	**Datca**	**0.80**	**96**	*e*Pg	**Pg**	**02 33 40.3**	**-0.2**
DAT	**Datca**	**0.80**	**96**	P	**Pb**	**02 33 41.1**	**+0.2**
DAT				*e*Sg	**Sb**	**02 33 51.3**	**-0.5**
DAT				S	**Sb**	**02 33 52.9**	**+1.1**
APE	**Apeiranthos**	**0.88**	**287**	*e*PG	**Pg**	**02 33 42.2**	**+0.2**
APE	**Apeiranthos**	**0.88**	**287**	P	**Pg**	**02 33 41.7**	**-0.3**
APE				S	**Sg**	**02 33 54.0**	**+0.4**
APE	**Apeiranthos**	**0.88**	**287**	P	**Pg**	**02 33 41.7**	**-0.3**
APE	**Apeiranthos**	**0.88**	**287**	*e*Pg	**Pg**	**02 33 42.2**	**+0.2**
APE				S	**Sg**	**02 33 54.0**	**+0.4**
GCAM	**G?zelcaml?**	**1.02**	**30**	*i* P	**Pb**	**02 33 44.8**	**+0.1**
GCAM				*i* S	**Sb**	**02 33 58.5**	**+0.4**
GCAM	**G?zelcaml?**	**1.02**	**30**	P	**Pb**	**02 33 44.8**	**+0.1**
GCAM				S	**Sb**	**02 33 58.5**	**+0.4**
THR3	**Thira Island,**	**1.04**	**247**	P	**Pg**	**02 33 43.8**	**-1.1**
THR6	**Thira Island,**	**1.06**	**245**	P	**Pg**	**02 33 44.0**	**-1.4**
MLSB	**Milas**	**1.07**	**63**	*e*PG	**Pb**	**02 33 45.2**	**-0.2**
MLSB	**Milas**	**1.07**	**63**	*e*Pg	**Pb**	**02 33 45.2**	**-0.2**
DGB	**˜zmir**	**1.26**	**11**	*i* P	**Pb**	**02 33 47.4**	**-1.2**
DGB				*i* S	**Sn**	**02 34 05.7**	**+0.4**
KARP	**Karpathos**	**1.35**	**160**	*e*PN	**Pn**	**02 33 50.3**	**+0.6**
KARP	**Karpathos**	**1.35**	**160**	*e*Pn	**Pn**	**02 33 50.3**	**+0.6**
ZEY	**˜zmir**	**1.43**	**357**	*i* P	**Pb**	**02 33 51.3**	**-0.2**
ZEY				*i* S	**Sg**	**02 34 12.6**	**+1.7**
AYDB	**Zeytinkoy-Aydi**	**1.54**	**42**	*e*PN	**Pb**	**02 33 53.4**	**-0.1**
AYDB	**Zeytinkoy-Aydi**	**1.54**	**42**	*e*Pn	**Pb**	**02 33 53.4**	**-0.1**

*IDC **10** 02:34:16.1±2.2,30°.35S×177°.63W,h0ᵏᵐ,mb3.8/3, mb1 3.9/3,mb1mx3.7/18,mbtmp3.8/3, Error ellipse: s-maj=49.2km s-min=23.6km az=104.0*

ISC 10 02:34:20.7±2.2,30°3S±0°.1×177°6W±0°3,h33ᵏᵐ,n6, σ0ˢ86/7,mb3.9/3,Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**1.10**	**344**	Pn	**Pn**	**02 34 39.7**	**-0.2**
	43nm,0.3s,baz=31,slow=19,SNR=3.7						
RAO				Sn	**Sb**	**02 34 55.6**	**+0.3**
	421nm,0.3s,baz=39,slow=20,SNR=13						
STKA	**Stephens Creek**	**34.86**	**257**	P	**P**	**02 41 09.9**	**+1.1**
	4.3nm,1.1s,baz=98,slow=11,SNR=4.3						
ASAR	**Alice Springs**	**43.48**	**267**	P	**P**	**02 42 20.0**	**-1.1**
	0.1nm,0.3s,baz=103,slow=8.2,SNR=2.8						
WRA	**Warramunga Arr**	**44.46**	**272**	P	**P**	**02 42 28.3**	**-0.6**
	0.6nm,0.3s,baz=110,slow=8.0,SNR=8.0						
FINES	**FINESS Array B**	**145.19**	**340**	PKPbc	**PKPbc**	**02 53 53.8**	**0.0**
	1.3nm,0.4s,baz=52,slow=4.1,SNR=18						
AKASG	**Malin Array Be**	**151.46**	**323**	PKPbc	**PKPbc**	**02 54 11.1**	**+0.3**
	0.4nm,0.4s,baz=45,slow=2.1,SNR=4.6						

*THE **10** 02:39:27.8,36°.84N×26°.60E,h0ᵏᵐ,ML2.3/1, Error ellipse: s-maj=1.1km s-min=0.3km az=168.0*
*CSEM **10** 02:39:28.6±0.1,36°.86N×26°.59E,h10ᵏᵐ,ML2.1, Error ellipse: s-maj=3.0km s-min=2.1km az=173.0*
*ISK **10** 02:39:28.7,36°.88N×26°.64E,h13ᵏᵐ,MD2.6*
*ATH **10** 02:39:28.0,36°.88N×26°.62E,h27ᵏᵐ±1ᵏᵐ,ML2.1/8, Error ellipse: s-maj=1.6km s-min=0.8km az=50.0*
*DDA **10** 02:39:29.2,36°.91N×26°.59E,h7ᵏᵐ,Md2.8*

ISC 10 02:39:28.5±1.0,36°86N±0°.02×26°60E±0°02,h11ᵏᵐ±8ᵏᵐ, n73,σ0ˢ81/111,Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NISR	**Nisiros**	**0.49**	**120**	P	**Pg**	**02 39 38.7**	**+0.6**
NISR				S	**Sb**	**02 39 46.2**	**-0.1**
NISR	**Nisiros**	**0.49**	**120**	P	**Pg**	**02 39 38.8**	**+0.6**
NISR				S	**Sb**	**02 39 46.2**	**-0.1**
NISR				AML	AML	02 39 47.0	
	comp=E,1048μm,0.2s						
NISR				AML	AML	02 39 47.2	
	comp=N,624μm,0.2s						
NIS1	**Nisyros Isl.**	**0.53**	**118**	*e*PG	**Pg**	**02 39 39.3**	**+0.4**
NIS1				*e*SG	**Sb**	**02 39 47.1**	**-0.4**
NIS1	**Nisyros Isl.**	**0.53**	**118**	P	**Pg**	**02 39 39.0**	**+0.1**
NIS1	**Nisyros Isl.**	**0.53**	**118**	*e*Pg	**Pg**	**02 39 39.3**	**+0.4**
NIS1				S	**Sg**	**02 39 46.4**	**+0.5**
NIS1				*e*Sg	**Sb**	**02 39 47.1**	**-0.4**
NIS1	**Nisyros Isl.**	**0.53**	**118**	P	**Pg**	**02 39 39.0**	**+0.1**
NIS1				S	**Sg**	**02 39 46.5**	**+0.5**
NIS1				AML	AML	02 39 49.8	
	comp=N,491μm,0.3s						
NIS1				AML	AML	02 39 51.2	
	comp=E,515μm,0.4s						
BODT	**Bodrum**	**0.61**	**70**	*e*PG	**Pg**	**02 39 40.4**	**0.0**
BODT				*e*SG	**Sg**	**02 39 48.9**	**+0.5**
BODT	**Bodrum**	**0.61**	**70**	P	**Pg**	**02 39 40.2**	**-0.1**
BODT				S	**Sb**	**02 39 49.6**	**-0.1**
BODT	**Bodrum**	**0.61**	**70**	P	**Pg**	**02 39 40.2**	**-0.1**
BODT	**Bodrum**	**0.61**	**70**	*e*Pg	**Pg**	**02 39 40.4**	**0.0**
BODT				*e*Sg	**Sg**	**02 39 48.9**	**+0.5**
YKAV	**Yalikavak-Bodr**	**0.61**	**64**	*e*PG	**Pg**	**02 39 39.9**	**-0.5**
YKAV				*e*SG	**Sg**	**02 39 48.7**	**+0.3**
YKAV	**Yalikavak-Bodr**	**0.61**	**64**	*e*Pg	**Pg**	**02 39 39.9**	**-0.5**
YKAV				*e*Sg	**Sg**	**02 39 48.7**	**+0.3**
BDRM	**Kayabasi**	**0.71**	**73**	*i* P	**Pg**	**02 39 42.0**	**-0.3**
BDRM				*i* S	**Sb**	**02 39 52.9**	**+0.2**
BDRM	**Kayabasi**	**0.71**	**73**	P	**Pg**	**02 39 42.0**	**-0.3**
BDRM				S	**Sb**	**02 39 52.9**	**+0.2**
DAT	**Datca**	**0.80**	**99**	*e*PG	**Pg**	**02 39 44.2**	**+0.2**
DAT				*e*SG	**Sb**	**02 39 55.4**	**+0.1**
DAT	**Datca**	**0.80**	**99**	*i* P	**Pb**	**02 39 45.0**	**+0.6**
DAT				*i* S	**Sn**	**02 39 57.2**	**-0.5**
DAT	**Datca**	**0.80**	**99**	*e*Pg	**Pg**	**02 39 44.2**	**+0.2**
DAT	**Datca**	**0.80**	**99**	P	**Pb**	**02 39 45.0**	**+0.6**
DAT				*e*Sg	**Sb**	**02 39 55.4**	**+0.1**
DAT				S	**Sn**	**02 39 57.2**	**-0.5**
SMG	**Samos**	**0.87**	**13**	P	**Pg**	**02 39 44.9**	**-0.5**
SMG	**Samos**	**0.87**	**13**	P	**Pg**	**02 39 45.1**	**-0.3**
SMG				S	**Sg**	**02 39 56.2**	**-0.5**
SMG	**Samos**	**0.87**	**13**	P	**Pg**	**02 39 45.3**	**-0.1**
SMG				S	**Sg**	**02 39 56.4**	**-0.3**
SMG				AML	AML	02 40 00.3	
	comp=E,410μm,0.2s						
SMG				AML	AML	02 40 01.0	
	comp=N,476μm,0.4s						
APE	**Apeiranthos**	**0.88**	**284**	*e*PG	**Pn**	**02 39 46.6**	**-0.2**
APE	**Apeiranthos**	**0.88**	**284**	P	**Pg**	**02 39 45.3**	**-0.2**
APE				S	**Sn**	**02 39 58.8**	**-0.8**
APE	**Apeiranthos**	**0.88**	**284**	P	**Pg**	**02 39 45.5**	**0.0**
APE	**Apeiranthos**	**0.88**	**284**	*e*Pg	**Pn**	**02 39 46.7**	**-0.2**
APE				S	**Sb**	**02 39 57.7**	**+0.2**
APE	**Apeiranthos**	**0.88**	**284**	P	**Pg**	**02 39 45.5**	**0.0**
APE				S	**Sb**	**02 39 57.8**	**+0.2**
APE				AML	AML	02 39 59.1	
	comp=N,322μm,0.4s						
APE				AML	AML	02 40 03.2	
	comp=E,192μm,0.3s						
GCAM	**G?zelcaml?**	**0.98**	**31**	*i* P	**Pg**	**02 39 47.2**	**-0.3**
GCAM				*i* S	**Sn**	**02 40 02.1**	**0.0**
GCAM	**G?zelcaml?**	**0.98**	**31**	P	**Pg**	**02 39 47.2**	**-0.3**
GCAM				S	**Sn**	**02 40 02.1**	**0.0**
SAP2K	**Karterados**	**1.03**	**245**	P	**Pb**	**02 39 48.6**	**+0.3**
SANT	**Santorini**	**1.04**	**242**	P	**Pg**	**02 39 47.9**	**-0.6**
SANT	**Santorini**	**1.04**	**242**	P	**Pg**	**02 39 47.9**	**-0.6**
MLSB	**Milas**	**1.04**	**65**	*e*PG	**Pg**	**02 39 48.4**	**-0.2**
MLSB	**Milas**	**1.04**	**65**	*e*Pg	**Pg**	**02 39 48.4**	**-0.2**
THR3	**Thira Island,**	**1.06**	**245**	P	**Pg**	**02 39 47.9**	**-1.0**
THR3	**Thira Island,**	**1.06**	**245**	P	**Pg**	**02 39 47.9**	**-1.0**
THR6	**Thira Island,**	**1.09**	**243**	P	**Pb**	**02 39 48.3**	**-1.0**
THR6	**Thira Island,**	**1.09**	**243**	P	**Pb**	**02 39 48.3**	**-1.0**
SAP1	**Santorini-Akro**	**1.09**	**243**	P	**Pn**	**02 39 50.5**	**+0.8**
SAP1	**Santorini-Akro**	**1.09**	**243**	P	**Pn**	**02 39 50.5**	**+0.8**
THR5	**Thira Island,**	**1.10**	**247**	P	**Pb**	**02 39 48.4**	**-1.1**
THR5	**Thira Island,**	**1.10**	**247**	P	**Pb**	**02 39 48.4**	**-1.1**
DGB	**˜zmir**	**1.21**	**11**	*i* P	**Pg**	**02 39 51.7**	**-0.2**
DGB				*i* S	**Sn**	**02 40 10.3**	**+2.5**
ZEY	**˜zmir**	**1.38**	**357**	*i* P	**Pn**	**02 39 52.2**	**-1.5**
ZEY				*i* S	**Sg**	**02 40 14.5**	**+1.5**
KARP	**Karpathos**	**1.39**	**161**	*e*PN	**Pn**	**02 39 54.5**	**+0.7**
KARP	**Karpathos**	**1.39**	**161**	P	**Pn**	**02 39 52.9**	**-0.9**
KARP	**Karpathos**	**1.39**	**161**	*e*Pn	**Pn**	**02 39 54.5**	**+0.7**
KARP				S	**Sn**	**02 40 12.6**	**+0.5**
KARP	**Karpathos**	**1.39**	**161**	P	**Pn**	**02 39 52.8**	**-0.9**
KARP				S	**Sn**	**02 40 12.4**	**+0.3**
KARP				AML	AML	02 40 15.3	
	comp=E,99μm,0.7s						
KARP				AML	AML	02 40 18.8	
	comp=N,65μm,0.5s						
AYDB	**Zeytinkoy-Aydi**	**1.50**	**43**	*e*PN	**Pn**	**02 39 55.6**	**+0.2**
AYDB	**Zeytinkoy-Aydi**	**1.50**	**43**	*e*Pn	**Pn**	**02 39 55.6**	**+0.2**
URLA	**Izmir**	**1.50**	**360**	*i* P	**Pb**	**02 39 56.6**	**+0.3**
URLA	**Izmir**	**1.50**	**360**	P	**Pb**	**02 39 56.7**	**+0.3**
CHOS	**Chios island**	**1.59**	**344**	*e*PN	**Pn**	**02 39 57.0**	**+0.4**
CHOS	**Chios island**	**1.59**	**344**	P	**Pn**	**02 39 54.8**	**-1.8**
CHOS	**Chios island**	**1.59**	**344**	*e*Pn	**Pn**	**02 39 57.0**	**+0.4**
CHOS	**Chios island**	**1.59**	**344**	P	**Pn**	**02 39 54.8**	**-1.8**
TURN	**Turunc**	**1.61**	**89**	*i* P	**Pn**	**02 39 53.9**	**-2.9**
TURN	**Turunc**	**1.61**	**89**	P	**Pn**	**02 39 53.9**	**-2.9**
SERI	**Serifos**	**1.72**	**281**	P	**Pn**	**02 39 58.1**	**-0.3**
SERI	**Serifos**	**1.72**	**281**	P	**Pn**	**02 39 58.0**	**-0.3**
ZKR	**Zakros**	**1.77**	**190**	P	**Pn**	**02 39 59.8**	**+0.8**
ZKR				S	**Sn**	**02 40 22.3**	**+0.8**
ZKR	**Zakros**	**1.77**	**190**	P	**Pn**	**02 39 59.8**	**+0.8**
ZKR				S	**Sn**	**02 40 22.1**	**+0.7**
ZKR				AML	AML	02 40 28.4	
	comp=E,75μm,0.4s						
ZKR				AML	AML	02 40 34.3	
	comp=N,28μm,0.5s						
MHLO	**Agia Marina, M**	**1.77**	**265**	P	**Pn**	**02 39 59.5**	**+0.5**
MHLO				S	**Sb**	**02 40 22.8**	**-0.4**
MHLO	**Agia Marina, M**	**1.77**	**265**	P	**Pn**	**02 39 59.5**	**+0.5**
MHLO				S	**Sb**	**02 40 22.8**	**-0.4**
LAST	**Lasithi**	**1.92**	**208**	P	**Pn**	**02 40 00.9**	**-0.3**
LAST				S	**Sn**	**02 40 26.2**	**+0.8**
LAST	**Lasithi**	**1.92**	**208**	P	**Pn**	**02 40 00.8**	**-0.3**
LAST				S	**Sn**	**02 40 26.0**	**+0.7**
LAST				AML	AML	02 40 34.6	
	comp=E,32μm,0.9s						
LAST				AML	AML	02 40 36.0	
	comp=N,37μm,0.4s						
KARY	**Karystos**	**2.08**	**305**	P	**Pn**	**02 40 03.8**	**+0.5**
KARY				S	**Sn**	**02 40 30.3**	**+1.1**
KARY	**Karystos**	**2.08**	**305**	P	**Pn**	**02 40 03.8**	**+0.5**
KARY				S	**Sn**	**02 40 30.2**	**+1.1**
IDI	**Anoyia**	**2.09**	**222**	S	**Sn**	**02 40 30.0**	**+0.4**
IDI	**Anoyia**	**2.09**	**222**	P	**Pn**	**02 40 01.1**	**-2.4**
IDI				S	**Sn**	**02 40 29.9**	**+0.4**
IDI				AML	AML	02 40 39.8	
	comp=N,33μm,0.5s						
IDI				AML	AML	02 40 40.0	
	comp=E,38μm,0.5s						
DID	**Didima**	**2.76**	**285**	P	**Pn**	**02 40 14.1**	**+1.4**
DID	**Didima**	**2.76**	**285**	P	**Pn**	**02 40 14.1**	**+1.4**
VILL	**Villia**	**2.92**	**298**	P	**Pn**	**02 40 14.9**	**0.0**
VIL2	**Platees**	**2.97**	**298**	P	**Pn**	**02 40 14.9**	**-0.7**

*IDC **10** 02:48:39.4±1.8,17°.64S×178°.66W,h515ᵏᵐ±19ᵏᵐ, mb3.4/13,mb1 3.6/15,mb1mx3.5/24,mbtmp4.3/15, Error ellipse: s-maj=17.9km s-min=13.4km az=129.0*
*ISCJB **10** 02:48:40.9±0.7,17°.7S±0°.1×178°.7W±0°.1,h547ᵏᵐ, mb4.0/14, Error ellipse: s-maj=19.2km s-min=13.4km az=28.3*

ISC 10 02:48:41.4±0.6,17°7S±0°.1×178°6W±0°1,h547ᵏᵐ,n71, σ0ˢ68/72,mb4.0/14,7C-8D,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**7.57**	**61**	P	**P**	**02 50 32.4**	**-2.7**
	7.9nm,0.3s,baz=289,slow=7.0,SNR=6.8						
DZM	**Mont Dzumac**	**14.72**	**250**	P	**P**	**02 51 46.0**	**-2.3**
	0.5nm,0.3s,baz=84,slow=17,SNR=6.0						
URZ	**Urewera**	**20.83**	**190**	P	**P**	**02 52 44.9**	**-0.1**
	3.5nm,0.3s,baz=0.0,slow=9.1,SNR=7.6						
STKA	**Stephens Creek**	**38.57**	**241**	P	**P**	**02 55 18.1**	**+0.3**
	11nm,0.5s,baz=89,slow=10,SNR=44						
JAY	**Jayapura**	**42.67**	**286**	P	**P**	**02 55 50.5**	**-0.2**
	1.1nm,0.5s,baz=90,slow=20,SNR=14						
WRA	**Warramunga Arr**	**44.49**	**259**	P	**P**	**02 56 03.4**	**-1.3**
	4.1nm,0.5s,baz=93,slow=8.1,SNR=52						
WRA				PcP	**PcP**	**02 57 36.8**	**+0.5**
	1.9nm,0.7s,baz=77,slow=4.1,SNR=5.4						
ASAR	**Alice Springs**	**44.67**	**254**	P	**P**	**02 56 05.7**	**-0.5**
	56nm,0.6s,baz=88,slow=8.1,SNR=681						
ASAR				PcP	**PcP**	**02 57 37.4**	**+0.4**
	2.6nm,0.5s,baz=105,slow=3.8,SNR=6.8						
GUMO	**Guam**	**47.60**	**308**	P	**P**	**02 56 27.6**	**-0.8**
	60nm,0.6s,baz=166,slow=17,SNR=4.7						
MJAR	**Matsushiro Arr**	**67.63**	**323**	P	**P**	**02 58 43.7**	**-0.4**
	2.9nm,0.7s,baz=154,slow=6.1,SNR=8.6						
MAT	**Matsushiro**	**67.63**	**323**	P	**P**	**02 58 44.0**	**-0.2**
PETK	**Petropavlovsk-**	**73.43**	**345**	P	**P**	**02 59 18.6**	**+0.6**
	4.1nm,0.9s,baz=126,slow=7.3,SNR=2.7						
KSRS	**Korea Array**	**74.42**	**318**	P	**P**	**02 59 23.6**	**-0.3**
	0.5nm,0.5s,baz=126,slow=6.2,SNR=4.4						
USRK	**Ussuriysk Ar.**	**76.34**	**326**	P	**P**	**02 59 35.6**	**+1.2**
	1.1nm,0.6s,baz=114,slow=3.6,SNR=3.6						
MAW	**Mawson**	**84.00**	**200**	P	**P**	**03 00 15.3**	**+1.3**
	1.4nm,0.5s,baz=233,slow=5.1,SNR=4.1						
ILAR	**Eielson Array**	**85.72**	**13**	P	**P**	**03 00 22.2**	**-0.1**
	0.3nm,0.5s,baz=223,slow=5.3,SNR=9.1						
PDAR	**Pinedale Array**	**87.33**	**44**	P	**P**	**03 00 31.4**	**+0.6**
	0.3nm,0.5s,baz=204,slow=2.5,SNR=4.4						
CMAR	**Chiang Mai Arr**	**88.64**	**290**	P	**P**	**03 00 38.2**	**+1.1**
	1.6nm,0.5s,baz=121,slow=2.9,SNR=9.2						
SONM	**Songino Array**	**93.27**	**319**	P	**P**	**03 00 58.8**	**+0.8**
	0.5nm,0.4s,baz=106,slow=4.7,SNR=3.2						
BVAR	**Borovoye Array**	**116.57**	**321**	PKP	**PKPdf**	**03 06 23.2**	**-0.1**
	1.2nm,0.3s,baz=110,slow=2.6,SNR=9.9						
ARU	**Arti**	**122.57**	**326**	PKP	**PKPdf**	**03 06 35.2**	**+0.4**
	3.7nm,0.3s,baz=32,slow=4.6,SNR=5.4						
AKTO	**Aktyubinsk**	**124.59**	**320**	PKP	**PKPdf**	**03 06 39.2**	**+0.4**
	0.8nm,0.5s,baz=90,slow=2.0,SNR=5.3						
ARCES	**ARCESS Array B**	**126.08**	**350**	PKP	**PKPdf**	**03 06 41.6**	**+0.5**
	1.2nm,0.7s,baz=94,slow=1.6,SNR=6.1						
FINES	**FINESS Array B**	**132.94**	**344**	PKhKP	PKPpre	03 06 47.0	
	0.5nm,0.7s,baz=197,slow=6.0,SNR=3.4						
FINES				PKP	**PKiKP**	**03 06 55.0**	**-0.5**
	0.5nm,0.4s,baz=137,slow=3.9,SNR=4.7						
AKASG	**Malin Array Be**	**140.29**	**332**	PKP	**PKPdf**	**03 07 08.6**	**+0.4**
	1.0nm,0.4s,baz=43,slow=3.2,SNR=4.0						
LEOM	**Leova**	**143.72**	**328**	∥*i*P	**PKPdf**	**03 07 14.3**	**-0.1**
KWP	**Kalwaria Pacla**	**143.80**	**336**	*e*PKP	**PKPdf**	**03 07 14.5**	**0.0**
TLCR		**144.29**	**326**	∥*i*P	**PKPab**	**03 07 16.0**	**+0.4**
BURAR	**Bucovina Array**	**144.34**	**332**	∥*i*P	**PKPab**	**03 07 16.8**	**+0.9**
OJC	**Ojcow**	**144.35**	**340**	*e*PKP	**PKPab**	**03 07 15.9**	**+0.2**
TESR	**Tescani**	**144.48**	**330**	∥*i*P	**PKPab**	**03 07 16.6**	**+0.3**
BRTR	**Keskin Array B**	**144.50**	**315**	PKP	**PKPab**	**03 07 16.6**	**-0.2**
	4.0nm,0.6s,baz=97,slow=3.0,SNR=30						
STHS	**Stebnicka Huta**	**144.53**	**338**	*e*PKP	**PKPab**	**03 07 17.1**	**+0.7**
CFR	**Carcaliu**	**144.66**	**327**	∥*i*P	**PKPab**	**03 07 17.4**	**+0.4**
KSP	**Ksiaz**	**144.86**	**344**	*e*PKP	**PKPab**	**03 07 18.1**	**+0.5**
NIE	**Niedzica**	**144.86**	**338**	*e*PKP	**PKPab**	**03 07 18.2**	**+0.5**
CRVS	**Cervenica-Dubn**	**144.87**	**337**	*e*PKP	**PKPab**	**03 07 17.9**	**+0.2**
VRI	**Vrincioaia**	**144.90**	**329**	∥*i*P	**PKPab**	**03 07 18.2**	**+0.3**
ASF	**Jabal al Asfar**	**144.91**	**301**	PKP	PKPbc	03 07 18.0	+0.3
	5.5nm,1.0s,baz=75,slow=2.8,SNR=7.6						
HARR	**Harsova**	**145.09**	**326**	∥*i*P	**PKPab**	**03 07 18.6**	**-0.1**
TLB	**Topalu**	**145.10**	**326**	∥*i*P	**PKPab**	**03 07 18.8**	**+0.1**
CLL	**Colim**	**145.22**	**347**	∥*i*PKPbc	**PKPab**	**03 07 18.5**	**-0.4**
	comp=Z,13nm,0.6s						
BRG	**Berggiesshubel**	**145.42**	**346**	*i* PKP	**PKPbc**	**03 07 19.0**	**+0.6**
	comp=Z,6.3nm,0.8s						
DOPR	**Dopca**	**145.48**	**330**	∥*i*P	**PKPab**	**03 07 20.2**	**0.0**
MLR	**Muntele Rosu**	**145.56**	**329**	PKPbc	**PKPbc**	**03 07 19.2**	**0.0**
	comp=Z,0.7nm,0.6s,baz=6.7,slow=6.6,SNR=11						
MLR	**Muntele Rosu**	**145.56**	**329**	∥*i*P	**PKPab**	**03 07 20.9**	**+0.2**
CJR	**Cluj-Napoca**	**145.75**	**332**	∥*i*P	**PK

KARP					AML	AML	02 52 24.8	
	comp=E,65μm,0.5s							
KARP					AML	AML	02 52 27.9	
	comp=N,32μm,0.4s							
ZEY	**ˉzmir**	**1.42**	**356**	*i* P		**Pn**	**02 52 02.1**	**-0.2**
ZEY				*i* S		**Sg**	**02 52 23.2**	**+1.4**
AYDB	**Zeytinkoy-Aydi**	**1.51**	**42**	*e*PN		**Pg**	**02 52 05.2**	**0.0**
AYDB	**Zeytinkoy-Aydi**	**1.51**	**42**	*e*Pn		**Pg**	**02 52 05.2**	**0.0**
CHOS	**Chios island**	**1.62**	**344**	P		**Pn**	**02 52 05.8**	**+0.6**
CHOS	**Chios island**	**1.62**	**344**	P		**Pn**	**02 52 05.8**	**+0.6**
IDI	**Anoyia**	**2.08**	**223**	P		**Pn**	**02 52 10.1**	**-1.3**
IDI	**Anoyia**	**2.08**	**223**	P		**Pn**	**02 52 10.1**	**-1.3**

ISK ***10*** *02:58:30.6,36˚.79N×26˚.58E,h18km,MD2.8*
CSEM ***10*** *02:58:31.2±0.2,36˚.85N×26˚.57E,h15km,ML2.0,Error ellipse: s-maj=3.9km s-min=3.5km az=166.0*
DDA ***10*** *02:58:33.0,36˚.93N×26˚.65E,h7km,Md2.8*
ATH 10 02:58:30.7,36˚.88N×26˚.61E,h32km±1km,ML2.0/11,Error ellipse: s-maj=2.1km s-min=0.8km az=91.0,
Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
NISR	**Nisiros**	**0.49**	**122**	P		Pn	02 58 41.9	+0.4
NISR				S		Sn	02 58 49.1	+0.1
NISR	**Nisiros**	**0.49**	**122**	P		Pn	02 58 42.0	+0.5
NISR				S		Sn	02 58 49.2	+0.3
NISR					AML	AML	02 58 51.4	
	comp=E,1069μm,0.2s							
NISR					AML	AML	02 58 52.8	
	comp=N,405μm,0.3s							
NIS1	**Nisyros Isl.**	**0.53**	**121**	*e*PG		Pb	02 58 41.6	-0.1
NIS1	**Nisyros Isl.**	**0.53**	**121**	*e*Pg		Pb	02 58 41.6	-0.1
NIS1	**Nisyros Isl.**	**0.53**	**121**	P		Pn	02 58 42.6	+0.5
NIS1				S		Sn	02 58 49.8	-0.2
NIS1	**Nisyros Isl.**	**0.53**	**121**	P		Pn	02 58 42.7	+0.6
NIS1				S		Sn	02 58 50.0	0.0
NIS1					AML	AML	02 58 51.1	
	comp=E,311μm,0.4s							
NIS1					AML	AML	02 58 56.5	
	comp=N,308μm,0.5s							
BODT	**Bodrum**	**0.59**	**72**	*e*PG		Pn	02 58 43.0	+0.1
BODT				*e*SG		Sn	02 58 53.3	+1.8
BODT	**Bodrum**	**0.59**	**72**	*e*Pg		Pn	02 58 43.0	+0.1
BODT				*e*Sg		Sn	02 58 53.3	+1.8
BDRM	**Kayabasi**	**0.70**	**74**	*i* S		Sn	02 58 57.7	+3.6
BDRM	**Kayabasi**	**0.70**	**74**	S		Sn	02 58 57.7	+3.7
DAT	**Datca**	**0.79**	**100**	*e*PG		Pb	02 58 47.1	+1.0
DAT				*e*SG		Sb	02 58 58.4	+1.8
DAT	**Datca**	**0.79**	**100**	*i* P		Pb	02 58 47.2	+1.1
DAT	**Datca**	**0.79**	**100**	P		Pb	02 58 47.2	+1.1
DAT				*e*Sg		Sb	02 58 58.4	+1.8
SMG	**Samos**	**0.85**	**12**	P		Pb	02 58 47.4	+0.4
SMG				S		Sb	02 58 59.4	+1.3
SMG	**Samos**	**0.85**	**12**	P		Pb	02 58 47.4	+0.3
SMG				S		Sb	02 58 59.4	+1.3
SMG					AML	AML	02 59 03.0	
	comp=N,410μm,0.2s							
SMG					AML	AML	02 59 04.2	
	comp=E,382μm,0.3s							
APE	**Apeiranthos**	**0.88**	**283**	*e*PG		Pb	02 58 48.5	+0.9
APE	**Apeiranthos**	**0.88**	**283**	P		Pb	02 58 47.6	0.0
APE	**Apeiranthos**	**0.88**	**283**	*e*Pg		Pb	02 58 48.5	+0.9
APE	**Apeiranthos**	**0.88**	**283**	P		Pb	02 58 47.6	0.0
APE				S		Sb	02 59 00.4	+1.2
APE					AML	AML	02 59 01.8	
	comp=N,270μm,0.3s							
APE					AML	AML	02 59 02.9	
	comp=E,264μm,0.3s							
GCAM	**G?zelcaml?**	**0.96**	**31**	*i* S		Sb	02 59 06.0	+4.8
MLSB	**Milas**	**1.02**	**66**	*e*PN		Pb	02 58 51.6	+1.7
MLSB	**Milas**	**1.02**	**66**	*e*Pn		Pb	02 58 51.6	+1.7
SANT	**Santorini**	**1.05**	**242**	P		Pb	02 58 51.1	+0.7
SANT	**Santorini**	**1.05**	**242**	P		Pb	02 58 51.1	+0.7
SANT				S		Sb	02 59 06.2	+2.3
SANT					AML	AML	02 59 08.0	
	comp=N,106μm,0.2s							
SANT					AML	AML	02 59 08.2	
	comp=E,186μm,0.2s							
SAP1	**Santorini-Akro**	**1.10**	**242**	P		Pb	02 58 51.6	+0.4
SAP1	**Santorini-Akro**	**1.10**	**242**	P		Pb	02 58 51.7	+0.5
DGB	**ˉzmir**	**1.19**	**10**	*i* P		Pb	02 58 54.1	+1.4
DGB				*i* S		Sb	02 59 12.8	+4.9
ZEY	**ˉzmir**	**1.36**	**357**	*i* P		Pb	02 58 55.0	-0.6
KARP	**Karpathos**	**1.40**	**161**	*e*PN		Pn	02 58 54.4	+0.3
KARP	**Karpathos**	**1.40**	**161**	*e*Pn		Pn	02 58 54.4	+0.4
KARP	**Karpathos**	**1.40**	**161**	P		Pb	02 58 56.2	0.0
KARP				S		Sb	02 59 15.0	+1.2
KARP	**Karpathos**	**1.40**	**161**	P		Pb	02 58 56.3	+0.1
KARP				S		Sb	02 59 15.1	+1.3
KARP					AML	AML	02 59 18.8	
	comp=E,129μm,0.4s							
KARP					AML	AML	02 59 19.7	
	comp=N,130μm,0.5s							
AYDB	**Zeytinkoy-Aydi**	**1.48**	**43**	*e*PN		Pb	02 58 58.7	+1.0
AYDB	**Zeytinkoy-Aydi**	**1.48**	**43**	*e*Pn		Pb	02 58 58.7	+1.1
URLA	**Izmir**	**1.48**	**360**	*i* P		Pb	02 59 00.2	+2.6
URLA	**Izmir**	**1.48**	**360**	P		Pb	02 59 00.2	+2.6
CHOS	**Chios island**	**1.57**	**344**	*e*PN		Pb	02 58 59.0	-0.2
CHOS	**Chios island**	**1.57**	**344**	P		Pb	02 58 58.2	-1.0
CHOS	**Chios island**	**1.57**	**344**	*e*Pn		Pb	02 58 59.0	-0.2
CHOS				S		Sb	02 59 19.2	+0.5
CHOS	**Chios island**	**1.57**	**344**	P		Pb	02 58 58.2	-1.0
CHOS				S		Sb	02 59 19.1	+0.5
CHOS					AML	AML	02 59 28.6	
	comp=N,27μm,0.5s							
CHOS					AML	AML	02 59 31.2	
	comp=E,49μm,0.4s							
TURN	**Turunc**	**1.60**	**90**	*i* P		Pn	02 58 57.8	+1.1
TURN	**Turunc**	**1.60**	**90**	P		Pn	02 58 57.8	+1.1
ZKR	**Zakros**	**1.79**	**190**	P		Pn	02 59 00.6	+1.3
ZKR				S		Sn	02 59 22.5	+1.6
ZKR	**Zakros**	**1.79**	**190**	P		Pn	02 59 00.6	+1.3
ZKR				S		Sn	02 59 22.6	+1.6
ZKR					AML	AML	02 59 34.0	
	comp=E,82μm,0.6s							
ZKR					AML	AML	02 59 35.6	
	comp=N,38μm,0.6s							
NPS	**Neapolis**	**1.80**	**207**	P		Pn	02 59 00.7	+1.2
NPS				S		Sb	02 59 25.0	-0.2
NPS	**Neapolis**	**1.80**	**207**	P		Pn	02 59 00.8	+1.2
NPS				S		Sb	02 59 25.0	-0.2
NPS					AML	AML	02 59 31.7	
	comp=E,88μm,0.3s							
NPS					AML	AML	02 59 33.4	
	comp=N,64μm,0.4s							
LAST	**Lasithi**	**1.94**	**208**	P		Pn	02 59 02.6	+1.1
LAST				S		Sn	02 59 26.9	+2.1
LAST	**Lasithi**	**1.94**	**208**	P		Pn	02 59 02.6	+1.1
LAST				S		Sn	02 59 27.0	+2.1
LAST					AML	AML	02 59 37.8	
	comp=E,34μm,0.7s							
LAST					AML	AML	02 59 39.1	
	comp=N,32μm,0.4s							
IDI	**Anoyia**	**2.11**	**222**	P		Pn	02 59 05.1	+1.3
IDI				S		Sb	02 59 32.4	-1.7
IDI	**Anoyia**	**2.11**	**222**	P		Pn	02 59 05.1	+1.3
IDI				S		Sb	02 59 32.4	-1.7
IDI					AML	AML	02 59 42.6	
	comp=E,32μm,0.5s							
IDI					AML	AML	02 59 42.9	
	comp=N,33μm,0.6s							
PRK	**Paraskevi**	**2.38**	**354**	P		Pn	02 59 09.0	+1.5
PRK	**Paraskevi**	**2.38**	**354**	P		Pn	02 59 09.0	+1.6

ISK ***10*** *03:00:21.7,37˚.68N×36˚.58E,h5km,MD3.0*
ISCJB ***10*** *03:00:22.6±0.5,37˚.69N±0˚.02×36˚.58E±0˚.03,h3km±4km, Error ellipse: s-maj=3.9km s-min=3.4km az=30.6*
DDA ***10*** *03:00:22.9,37˚.70N×36˚.59E,h7km,Md2.9*
CSEM ***10*** *03:00:23.2±0.3,37˚.70N×36˚.54E,h10km,MD2.9,Error ellipse: s-maj=6.7km s-min=6.1km az=108.0*
ISC 10 03:00:23.1±0.9,37˚.68N±0˚.02×36˚.60E±0˚.02,h9km±8km, n43,σ0°88/65,Turkey

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
ANDN	**Andirin**	**0.22**	**243**	*i* P		**Pg**	**03 00 27.5**	**-0.1**
ANDN				*i* S		**Sg**	**03 00 31.4**	**+0.6**
ANDN	**Andirin**	**0.22**	**243**	P		**Pg**	**03 00 27.5**	**-0.1**
ANDN				S		**Sg**	**03 00 31.4**	**+0.6**

KMRS	**Kahramanmaras**	**0.30**	**126**	*e*PG		**Pg**	**03 00 28.3**	**-0.8**
KMRS				*e*SG		**Sg**	**03 00 33.0**	**-0.1**
KMRS	**Kahramanmaras**	**0.30**	**126**	*e*Sg		**Sg**	**03 00 33.0**	**-0.1**
HCB	**Kahramanmaraˉ**	**0.42**	**144**	*i* P		**Pg**	**03 00 31.2**	**-0.1**
HCB				*i* S		**Sg**	**03 00 36.9**	**+0.1**
KAMA	**Osmaniye**	**0.50**	**173**	*i* P		**Pg**	**03 00 32.3**	**-0.4**
KOZT	**Kozan**	**0.64**	**252**	*e*PG		**Pg**	**03 00 34.4**	**-1.0**
KOZT				*e*SG		**Sg**	**03 00 43.8**	**-0.1**
GAZ	**Gaziantep**	**0.71**	**136**	*e*PG		**Pg**	**03 00 35.8**	**-0.9**
GAZ				*e*SG		**Sg**	**03 00 46.2**	**+0.3**
GAZ	**Gaziantep**	**0.71**	**136**	*e*Sg		**Sg**	**03 00 46.2**	**+0.3**
SARI	**SarD1z-Kayseri**	**0.74**	**349**	*e*PG		**Pg**	**03 00 36.4**	**-0.9**
SARI				*e*SG		**Sb**	**03 00 47.4**	**-1.1**
GZT	**Gaziantep**	**0.84**	**113**	*i* P		**Pb**	**03 00 40.0**	**+0.2**
GZT				*i* S		**Sb**	**03 00 52.5**	**+1.2**
AKO	**Adana**	**0.94**	**257**	*i* P		**Pg**	**03 00 40.9**	**-0.2**
AKO				*i* S		**Sn**	**03 00 57.3**	**+1.3**
KUZU	**Kuzuini**	**0.98**	**157**	*i* P		**Pb**	**03 00 42.9**	**+0.6**
KUZU				*i* S		**Sn**	**03 00 57.7**	**+0.5**
KUZU	**Kuzuini**	**0.98**	**157**	P		**Pb**	**03 00 42.9**	**+0.6**
KUZU				S		**Sn**	**03 00 57.7**	**+0.5**
DARE	**Darende-Malaty**	**1.13**	**38**	*e*PN		**Pg**	**03 00 44.0**	**-0.8**
DARE				*e*SN		**Sn**	**03 01 00.4**	**-0.5**
DARE	**Darende-Malaty**	**1.13**	**38**	*e*Pn		**Pg**	**03 00 44.0**	**-0.8**
DARE				*e*Sn		**Sn**	**03 01 00.4**	**-0.5**
CUGUR	**Gurin_S¨VAS**	**1.17**	**27**	*i* P		**Pg**	**03 00 45.0**	**-0.5**
CUGUR	**Gurin_S¨VAS**	**1.17**	**27**	P		**Pg**	**03 00 45.0**	**-0.5**
BNN	**Bunyan**	**1.31**	**333**	*e*PN		**Pn**	**03 00 47.1**	**-0.5**
BNN				*e*SN		**Sn**	**03 01 05.8**	**+0.5**
BNN	**Bunyan**	**1.31**	**333**	*e*Pn		**Pn**	**03 00 47.1**	**-0.5**
TAHT	**Tahtakopru-Hat**	**1.34**	**194**	*e*PN		**Pn**	**03 00 47.6**	**-0.4**
TAHT				*e*SN		**Sn**	**03 01 06.6**	**+0.6**
TAHT	**Tahtakopru-Hat**	**1.34**	**194**	*e*Pn		**Pn**	**03 00 47.6**	**-0.4**
TAHT				*e*Sn		**Sn**	**03 01 06.6**	**+0.6**
ATAB	**Bozova**	**1.37**	**98**	*i* P		**Pn**	**03 00 48.1**	**-0.3**
ATAB				*i* S		**Sg**	**03 01 08.1**	**+1.1**
ATAB	**Bozova**	**1.37**	**98**	P		**Pn**	**03 00 48.1**	**-0.3**
ATAB				S		**Sg**	**03 01 08.1**	**+1.1**
GULE	**Gulek**	**1.50**	**255**	*i* P		**Pg**	**03 00 51.7**	**-0.1**
GULE				*i* S		**Sg**	**03 01 13.6**	**+2.3**
GULE	**Gulek**	**1.50**	**255**	P		**Pg**	**03 00 51.7**	**-0.1**
NIG	**Nigde**	**1.63**	**286**	*e*PN		**Pn**	**03 00 51.2**	**-0.9**
NIG	**Nigde**	**1.63**	**286**	*e*Pn		**Pn**	**03 00 51.2**	**-0.9**
YAYL	**Yayladag**	**1.69**	**194**	*e*PN		**Pn**	**03 00 52.5**	**-0.4**
YAYL	**Yayladag**	**1.69**	**194**	*i* P		**Pn**	**03 00 50.3**	**-2.6**
YAYL				*i* S		**Sn**	**03 01 13.0**	**-1.7**
YAYL	**Yayladag**	**1.69**	**194**	P		**Pn**	**03 00 50.3**	**-2.6**
YAYL	**Yayladag**	**1.69**	**194**	*e*Pn		**Pn**	**03 00 52.5**	**-0.4**
YAYL				S		**Sn**	**03 01 13.0**	**-1.7**
CUKAN	**kangal_SIVAS**	**1.77**	**22**	*i* P		**Pb**	**03 00 55.8**	**0.0**
CUKAN	**kangal_SIVAS**	**1.77**	**22**	P		**Pb**	**03 00 55.8**	**0.0**
URFA	**Urfa**	**1.79**	**97**	*e*PN		**Pn**	**03 00 54.2**	**0.0**
SURC	**SANLIURFA_SURC**	**1.80**	**116**	*i* P		**Pb**	**03 00 56.0**	**-0.1**
SURC				*i* S		**Sg**	**03 01 22.4**	**+1.6**
SURC	**SANLIURFA_SURC**	**1.80**	**116**	P		**Pb**	**03 00 56.0**	**-0.1**
MERS	**Mersin**	**1.84**	**244**	*e*PN		**Pn**	**03 00 54.9**	**0.0**
MERS	**Mersin**	**1.84**	**244**	*e*Pn		**Pn**	**03 00 54.9**	**0.0**
SVSK	**Karacayir**	**2.25**	**8**	*e*PN		**Pn**	**03 01 01.0**	**+0.5**
SVSK	**Karacayir**	**2.25**	**8**	*e*Pn		**Pn**	**03 01 01.0**	**+0.5**
PTK	**Pertek**	**2.51**	**60**	*e*PN		**Pn**	**03 01 04.9**	**+0.7**
PTK	**Pertek**	**2.51**	**60**	*e*Pn		**Pn**	**03 01 04.9**	**+0.7**

IDC ***10*** *03:17:04.0±0.5,34˚.09S×72˚.19W,h0km,mb4.6/13, mb1 4.8/16,mb1mx4.7/24,mbtmp4.6/16,ML4.4/3,MS4.4/13, Ms1 4.4/13,ms1mx4.2/23,Error ellipse: s-maj=25.6km s-min=14.9km az=84.0*
NEIC ***10*** *03:17:05.0±0.0,34˚.16S×72˚.32W,h23km,mb5.0/91, ML5.1(GUC),After GUC.*
NEIC Felt [III] at Colbun, La Estrella, Linares, Litueche, Longavi, Navidad, Parral, Pichilemu, Santiago and Santo Domingo; [II] at Constitucion, Rancagua, San Antonio, San Fernando, Talca, Tiltil, Valparaiso and Vina del Mar.
GUC ***10*** *03:17:05.8±0.5,34˚.16S×72˚.33W,h23km±4km,ML5.1*
GCMT ***10*** *03:17:05.0±0.3,34˚.10S×72˚.47W,h29km±1km,MW5.0/56, Moment Tensor Solution. s35,c42; s56,c70; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}=2.75±.16; $M_{\theta\theta}$=0.06±.11; $M_{\phi\phi}$=2.69±.11; $M_{r\theta}$=0.08±.18; $M_{\theta\phi}$=0.78±.07; $M_{\phi r}$=2.72±.20; Best double couple: M_o=3.92700×10^{16} NP1:ϕ_s184.00000°,δ67.00000°,λ80.00000°. NP2: ϕ_s27.00000°,δ25.00000°,λ112.00000°. Principal axes: T 3.9120, Plg66.0000°, Azm76.0000°; N 0.0240, Plg9.0000°, Azm187.0000°; P -3.9410, Plg22.0000°, Azm281.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
ISCJB ***10*** *03:17:05.6±0.8,34˚.15S±0˚.02×72˚.36W±0˚.03,h18km±6km, mb4.9/101,MS4.3/10 Error ellipse: s-maj=5.0km s-min=3.4km az=25.7*
BJI ***10*** *03:17:07.2,34˚.82S×71˚.58W,h26km,mB5.1/9,Ms5.3/7, Ms7 5.0/7*
MOS ***10*** *03:17:07.6±0.9,34˚.13S×72˚.15W,h28km,mb5.2/30,Error ellipse: s-maj=18.1km s-min=7.3km az=102.7*
ISC 10 03:17:07.7±0.7,34˚.21S±0˚.03×72˚.33W±0˚.05,h25km±4km, n683,σ1s905/705,mb5.0/101,MS4.5/11,10C-7D,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
CHPI	**Pichilemu**	**0.32**	**123**	*e*P		**Pb**	**03 17 13.4**	**-1.6**
CHPI				*i* S		**Sb**	**03 17 18.6**	**-1.5**
GO05	**HualaæØ**	**0.86**	**158**	*e*Pg		**Pb**	**03 17 23.2**	**-0.9**
GO05				*e*Sg		**Sb**	**03 17 35.4**	**+0.2**
NICH	**Los Niches**	**1.20**	**131**	*i*↑*i*P		**Pn**	**03 17 28.3**	**-0.7**
NICH				*i* S		**Sn**	**03 17 44.6**	**+0.2**
TALC	**Talca**	**1.31**	**154**	*i*↑*i*P		**Pn**	**03 17 30.1**	**-0.4**
TALC				*i* S		**Sn**	**03 17 47.6**	**+0.4**
RCDM	**Rinconada Maip**	**1.46**	**61**	*e*P		**Pn**	**03 17 30.3**	**-2.2**
RCDM				*i* S		**Sn**	**03 17 49.3**	**-1.5**
ANTU	**Antumapu**	**1.55**	**66**	*e*P		**Pn**	**03 17 32.3**	**-1.5**
ANTU				*i* S		**Sn**	**03 17 52.6**	**-0.6**
ROC1	**El Roble**	**1.65**	**42**	*e*P		**Pn**	**03 17 34.2**	**-1.1**
ROC1				*e*S		**Sn**	**03 17 55.3**	**-0.6**
ROC1	**El Roble**	**1.65**	**42**	*e*Pn		**Pn**	**03 17 33.8**	**-1.6**
ROC1				*e*Sn		**Sn**	**03 17 56.5**	**+0.5**
ROC1				*e*Sg		**Sb**	**03 18 00.9**	**+2.8**
ROCH	**El Roble**	**1.66**	**42**	*i*↑*i*P		**Pn**	**03 17 34.0**	**-1.4**
ROCH				*i* S		**Sn**	**03 17 55.4**	**-0.6**
ROCH					IAML		03 18 02.0	
	comp=E,30μm,0.6s							
FSR	**Penalolen**	**1.67**	**64**	*e*P		**Pn**	**03 17 34.5**	**-0.9**
FSR				*i* S		**Sn**	**03 17 55.7**	**-0.5**
CLCH	**Cerro Calan**	**1.70**	**62**	*i*↓*i*P		**Pn**	**03 17 34.7**	**-1.2**
CLCH				*i* S		**Sn**	**03 17 56.9**	**0.0**
CLCH					IAML		03 18 06.3	
	comp=E,39μm,0.5s							
LNCH	**Linares**	**1.74**	**160**	*i*↑*i*P		**Pn**	**03 17 37.6**	**+1.3**
LNCH				*i* S		**Sb**	**03 18 00.6**	**+0.3**
PEL	**Peldehue**	**1.74**	**53**	*i*↑*i*P		**Pn**	**03 17 35.2**	**-1.2**
PEL				*i* S		**Sn**	**03 17 57.2**	**-0.6**
PEL					IAML		03 18 07.1	
	comp=N,27μm,0.5s							
SJCH	**San Jose de Ma**	**1.74**	**71**	*e*P		**Pn**	**03 17 35.5**	**-0.9**
SJCH				*i* S		**Sn**	**03 17 57.9**	**0.0**
SJCH					IAML		03 18 02.9	
	comp=N,47μm,0.7s							
FCH	**Farellones**	**1.91**	**63**	*e*P		**Pn**	**03 17 38.6**	**-0.4**
FCH					IAML		03 18 07.1	
	comp=N,43μm,0.4s							
COCH	**Cobquecura**	**1.95**	**191**	*i*↑*i*P		**Pn**	**03 17 39.3**	**+0.1**
COCH				*i* S		**Sb**	**03 18 05.5**	**-1.0**
AAGR	**Agrelo**	**3.13**	**70**	*i* P		**Pn**	**03 17 58.7**	**+3.1**
ARCO	**CERRO ARCO**	**3.15**	**65**	*i* P		**Pn**	**03 17 59.1**	**+3.2**
ARCO					IAML		03 18 06.8	
	comp=Z,2μm,0.6s							
ARCO				*i* S		**Sb**	**03 18 47.3**	**+6.1**
AUSP	**Uspallata**	**3.17**	**52**	*i* P		**Pn**	**03 17 58.5**	**+2.3**
ASAL	**Salagasta**	**3.34**	**62**	*i* P		**Pn**	**03 18 01.3**	**+2.9**
ASAL				*i* S		**Sb**	**03 18 50.4**	**+3.9**
RTLS	**Leoncito**	**3.50**	**47**	*i* P		**Pn**	**03 18 02.4**	**+1.5**
RTLS				*i* S		**Sb**	**03 18 53.1**	**+1.6**
RTLS					IAML		03 18 56.7	
	comp=Z,2μm,0.5s							
RTCV	**Cerro Valdivia**	**3.95**	**55**	*i* P		**Pn**	**03 18 07.7**	**+0.8**
RTLL	**Cerro Villicun**	**4.34**	**50**	*i* P		**Pn**	**03 18 12.3**	**+0.1**
RTLL				*i* S		**Sb**	**03 19 11.0**	**-4.2**
AMOG	**MOGNA**	**4.60**	**46**	*e*P		**Pn**	**03 18 16.2**	**+0.4**
ACAN	**Cantantal**	**4.72**	**67**	*e*P		**Pn**	**03 18 21.2**	**+3.7**

LCO	**Las Campanas**	**5.37**	**15**	*e*Pn		**Pn**	**03 18 24.6**	**-2.0**
LCO				*e*Sg		**Sb**	**03 19 49.6**	**+4.5**
ACHE	**Chepes**	**5.66**	**59**	*e*P		**Pn**	**03 18 30.8**	**+0.3**
AGUA	**GUANDACOL**	**5.73**	**36**	*e*P		**Pn**	**03 18 32.0**	**+0.7**
APLL	**PUNTA DE LOS L**	**6.21**	**54**	*e*P		**Pn**	**03 18 37.2**	**-0.7**
ACLC	**CERRO LA CRUZ**	**6.61**	**45**	*e*P		**Pn**	**03 18 42.3**	**-1.2**
PLCA	**Paso Flores**	**6.66**	**168**	Pn		**Pn**	**03 18 45.6**	**+1.5**
	comp=Z,1.3nm,0.3s,baz=358,slow=9.6,SNR=20							
PLCA				Lg		Lg	03 20 36.1	
	comp=Z,1.0nm,0.3s,baz=270,slow=20,SNR=5.0							
PLCA				LR		LR	03 21 42.6	
	comp=Z,3μm,18.3s,baz=12,slow=41							
PLCA	**Paso Flores**	**6.66**	**168**	*e*P		**Pn**	**03 18 45.9**	**+1.8**
PLCA	**Paso Flores**	**6.66**	**168**	*e*Pn		**Pn**	**03 18 45.9**	**+1.8**
PLCA				Lg		Lg	03 20 36.1	
TRQA	**Tornquist**	**9.21**	**118**	*e*Pn		**Pn**	**03 19 20.7**	**+1.7**
TRQA				*e*Lg		Lg	03 21 54.5	
LVC	**Limon Verde**	**11.95**	**15**	Pn		Pn	03 19 50.4	-6.4
	comp=Z,35nm,0.3s,baz=181,slow=9.0,SNR=6.3							
LVC				LR		LR	03 24 52.7	
	comp=Z,9μm,18.2s,baz=204,slow=40							
LVC	**Limon Verde**	**11.95**	**15**	*e*Pn		Pn	03 19 50.8	-6.0
LVC				*e*Lg		Lg	03 22 47.7	
PB01	**IPOC Station P**	**13.36**	**12**	*e*Pn		Pn	03 20 09.5	-6.4
PB11	**IPOC Station P**	**14.59**	**10**	*e*Pn		**Pn**	**03 20 32.1**	**-0.7**
CPUP	**Villa Florida**	**15.14**	**63**	Pn		**Pn**	**03 20 37.7**	**-2.4**
	comp=Z,0.5nm,0.3s,baz=229,slow=12,SNR=11							
CPUP				LR		LR	03 26 49.1	
	comp=Z,2μm,20.4s,baz=240,slow=39							
CPUP	**Villa Florida**	**15.14**	**63**	*e*P		**Pn**	**03 20 39.8**	**-0.2**
CPUP	**Villa Florida**	**15.14**	**63**	*e*Pn		**Pn**	**03 20 39.8**	**-0.2**
LPAZ	**La Paz**	**18.25**	**13**	P		**Pn**	**03 21 18.5**	**-1.4**
	comp=Z,0.7nm,0.3s,baz=172,slow=9.0,SNR=40							
LPAZ	**La Paz**	**18.25**	**13**	*e*P		**Pn**	**03 21 19.6**	**-0.3**
LPAZ				pmax		pmax		
	comp=E,65nm,0.9s							
LPAZ	**La Paz**	**18.25**	**13**	*e*Pn		**Pn**	**03 21 19.6**	**-0.3**
	comp=Z,65nm,0.9s							
EFI	**East Falkland**	**20.27**	**154**	*e*P		**P**	**03 21 42.0**	**+0.7**
EFI				pmax		pmax		
	comp=Z,146nm,2.8s							
SIV	**San Ignacio**	**20.78**	**32**	P		**P**	**03 21 44.7**	**-2.4**
	comp=Z,35nm,0.9s,baz=210,slow=7.8,SNR=37							
SIV				LR		LR	03 31 09.8	
	comp=Z,2μm,19.2s,baz=224,slow=41							
USHA	**Ushuaia**	**20.80**	**174**	P		Pn	03 21 48.6	-0.8
	comp=Z,55nm,1.1s,baz=44,slow=4.0,SNR=3.5							
USHA				LR		LR	03 30 41.1	
	comp=Z,4μm,18.8s,baz=270,slow=39							
NNA	**Nana**	**22.50**	**348**	P		**P**	**03 22 05.2**	**-0.5**
	comp=Z,11nm,0.6s,baz=198,slow=11,SNR=6.1							
NNA				LR		LR	03 28 46.3	
	comp=Z,275nm,19.4s,baz=172,slow=31							
SPB	**Sao Paulo**	**24.17**	**71**	*e*P		**P**	**03 22 20.3**	**-1.8**
	comp=Z,73nm,0.9s							
SAML	**Samuel**	**26.51**	**21**	*e*P		**P**	**03 22 42.5**	**-0.9**
	comp=Z,32nm,0.9s							
ATAH	**Atahualpa**	**27.52**	**347**	LR		LR	03 32 07.7	
	comp=Z,148nm,19.3s,baz=178,slow=33							
OTAV	**Otavalo**	**34.75**	**349**	*e*P		**P**	**03 23 58.7**	**+2.1**
	comp=Z,8.3nm,1.0s							
OTAV				*e*PcP		**PcP**	**03 26 30.8**	**+0.7**
PTGA	**Pitinga**	**35.26**	**22**	*e*P		**P**	**03 23 59.3**	**-1.3**
	comp=Z,30nm,1.0s							
PRAC	**Prado**	**37.80**	**356**	*e*P		**P**	**03 24 23.8**	**+1.6**
	comp=Z,105nm,1.9s							
RUSC	**La Rusia**	**39.90**	**359**	*e

baz=160
633A **Saathoff Ranch** 68.23 335 P P 03 28 06.7 +0.5
baz=156
LRAL **Lakeview Retre** 68.30 347 eP P 03 28 05.8 -0.7
comp=Z,11nm,0.9s
146A **Union** 68.33 345 P P 03 28 06.9 +0.2
baz=165
340A **Bronson** 68.37 340 P P 03 28 06.8 -0.2
baz=161
339A **Huntington** 68.48 340 P P 03 28 08.0 +0.3
baz=160,SNR=5.1
437A **Phantom Ranch,** 68.48 338 P P 03 28 08.0 +0.3
baz=159
145A **Houston Renfro** 68.50 344 P P 03 28 08.6 +0.8
baz=164
534A **Blanco** 68.50 336 P P 03 28 08.5 +0.5
baz=157
242A **Grayson** 68.52 342 P P 03 28 08.5 +0.6
baz=162,SNR=7.9
144A **Alexander Plac** 68.64 344 P P 03 28 09.0 +0.4
baz=164
436A **Wall Ranch, Ga** 68.64 337 P P 03 28 09.1 +0.4
baz=158
JSC **Jenkinsville** 68.65 352 eP P 03 28 08.9 +0.2
JSC pmax pmax
comp=Z,19nm,1.2s
JSC **Jenkinsville** 68.65 352 eP P 03 28 08.9 +0.2
comp=Z,19nm,1.2s
Z47A **Carrollton** 68.67 346 P P 03 28 09.3 +0.4
baz=166,SNR=6.9
338A **Crockett** 68.72 339 P P 03 28 09.8 +0.6
baz=160
533A **Kerrville** 68.74 335 P P 03 28 10.0 +0.6
baz=156,SNR=5.6
Z48A **Northport** 68.74 346 P P 03 28 09.4 +0.1
baz=166,SNR=5.1
Z46A **Louisville** 68.84 345 P P 03 28 11.0 +1.1
baz=165,SNR=10.0
337A **Centerville** 68.86 338 P P 03 28 10.5 +0.4
baz=159
NATX **Nacogdoches** 68.91 340 P P 03 28 11.1 +0.7
baz=160
NATX **Nacogdoches** 68.91 340 eP P 03 28 12.1 +1.7
comp=Z,34nm,1.1s
240A **Hunter Patters** 68.92 341 P P 03 28 10.9 +0.5
baz=161
142A **Monroe** 68.93 342 P P 03 28 11.6 +1.1
baz=163
143A **Socs Landing,** 68.94 343 P P 03 28 12.2 +1.7
baz=163,SNR=9.4
239A **Gary** 69.10 340 P P 03 28 12.0 +0.5
baz=160
434A **Burnet** 69.16 336 P P 03 28 12.3 +0.3
baz=157,SNR=9.9
Z45A **Winona** 69.18 345 P P 03 28 13.2 +1.2
baz=165
336A **Riesel** 69.22 338 P P 03 28 13.4 +1.1
baz=158
141A **Papa Simpson,** 69.23 342 P P 03 28 13.0 +0.7
baz=162
Z44A **Pea Ridge, Bel** 69.26 344 P P 03 28 12.8 +0.3
baz=164
238A **Jacksonville** 69.27 339 P P 03 28 13.1 +0.4
baz=160
Y47A **UCPARC, Winfie** 69.31 346 P P 03 28 13.3 +0.5
baz=166,SNR=10
335A **Moody** 69.31 337 P P 03 28 13.4 +0.5
baz=158
JCT **Junction City** 69.38 335 P P 03 28 12.8 -0.5
baz=156,SNR=6.1
JCT **Junction City** 69.38 335 eP P 03 28 14.7 +1.3
JCT pmax pmax
comp=Z,19nm,1.0s
JCT **Junction City** 69.38 335 eP P 03 28 14.7 +1.3
comp=Z,19nm,1.0s
433A **Art** 69.38 336 P P 03 28 13.8 +0.4
baz=157,SNR=16
140A **Cam and Jess,** 69.44 341 P P 03 28 12.5 -1.1
baz=161
237A **Washetta, Mont** 69.47 339 P P 03 28 12.9 -0.9
baz=159
Y46A **Houston** 69.49 345 P P 03 28 13.7 -0.3
baz=166
KMSC **Kings Mountain** 69.51 352 P P 03 28 13.8 -0.2
baz=172,SNR=5.6
KMSC **Kings Mountain** 69.51 352 eP P 03 28 14.1 +0.1
comp=Z,12nm,0.8s
Z42A **Norrel Spur, H** 69.62 343 P P 03 28 14.5 -0.2
baz=163
334A **Lometa** 69.62 336 P P 03 28 14.6 -0.3
baz=157,SNR=5.8
Y45A **Yeager Farm, C** 69.62 345 P P 03 28 15.0 +0.3
baz=165,SNR=7.4
TIAR **Tiarei** 69.79 262 eT T 04 44 41.9
comp=Z,2.1nm,0.2s
TX31 **Lajitas Ar. Si** 69.80 331 eP P 03 28 17.4 +1.3
TXAR **Lajitas Array** 69.80 331 P P 03 28 16.6 +0.5
comp=Z,2.6nm,0.8s,baz=141,slow=8.1,SNR=16
Z41A **Richland Creek** 69.82 342 P P 03 28 16.0 +0.1
baz=162
333A **Richland Sprin** 69.86 336 P P 03 28 16.6 +0.3
baz=157,SNR=9.0
PPT2 **Papeete2** 69.97 262 eS PnS 03 37 50.5 -4.1
comp=Z,138nm,23.8s
PPT2 **Papeete2** 69.97 262 eLR LR 03 49 46.6
comp=Z,530nm,27.0s
WHTX **Lake Whitney,** 69.97 337 P P 03 28 17.4 +0.5
baz=158
WHTX **Lake Whitney,** 69.97 337 eP P 03 28 18.0 +1.0
comp=Z,19nm,0.9s
Z40A **Long Farm, Mag** 69.98 341 P P 03 28 17.5 +0.6
baz=162
Y43A **Makayla and Ka** 69.98 344 P P 03 28 17.5 +0.5
baz=164
137A **Heron Place, G** 70.02 339 P P 03 28 17.3 +0.2
baz=160
X45A **UM Field Stati** 70.13 345 P P 03 28 18.0 +0.2
baz=165,SNR=11
234A **Clairette** 70.21 337 P P 03 28 18.5 +0.1
baz=158
OXF **Oxford** 70.22 345 eP P 03 28 18.5 +0.1
OXF pmax pmax
comp=Z,45nm,0.9s
OXF **Oxford** 70.22 345 eP P 03 28 18.5 +0.1
comp=Z,45nm,0.9s
SWET **Sewanee** 70.23 348 eP P 03 28 19.0 +0.5
comp=Z,11nm,0.9s
CPCT **Cooper Cave** 70.23 349 eP P 03 28 18.8 +0.3
comp=Z,13nm,0.9s
WLAR **White Oak Lake** 70.31 342 eP P 03 28 20.1 +1.1
comp=Z,29nm,1.0s
TKL **Tuckaleechee C** 70.33 350 eP P 03 28 18.9 -0.2
TKL pmax pmax
comp=Z,16nm,0.9s
TKL **Tuckaleechee C** 70.33 350 eP P 03 28 18.9 -0.2
comp=Z,16nm,0.9s
Y41A **Eaglette Beard** 70.36 342 P P 03 28 19.8 +0.6
baz=162,SNR=12
X44A **Crenshaw** 70.36 344 P P 03 28 19.2 -0.1
baz=164
233A **Rising Star** 70.47 336 P P 03 28 20.1 0.0
baz=157,SNR=7.7
X43A **Marvell** 70.55 344 P P 03 28 20.2 -0.2
baz=164
Y40A **Okolona** 70.66 342 P P 03 28 21.6 +0.6
baz=162
X42A **Stuttgart** 70.76 343 P P 03 28 22.1 +0.4
baz=163
W45A **Hickory Valley** 70.79 345 P P 03 28 21.8 0.0
baz=165,SNR=5.4
Y39A **Lockesburg** 70.80 341 P P 03 28 21.8 -0.2
baz=161
Z36A **Blue Ridge** 70.85 339 P P 03 28 22.8 +0.5
baz=159,SNR=6.2
Y38A **Idabel** 70.97 340 P P 03 28 23.2 +0.2
baz=160
X40A **Basin Creek Fa** 70.99 342 P P 03 28 23.2 +0.1
baz=162
Z35A **Perchaven, San** 71.15 338 P P 03 28 24.5 +0.3
baz=158,SNR=5.3
TZTN **Tazewell** 71.17 350 eP P 03 28 24.0 -0.2
comp=Z,55nm,1.6s
MIAR **Mount Ida** 71.24 342 P P 03 28 24.8 +0.2
baz=162,SNR=5.5
MIAR **Mount Ida** 71.24 342 eP P 03 28 25.1 +0.5
MIAR pmax pmax
comp=Z,17nm,1.4s
MIAR **Mount Ida** 71.24 342 eP P 03 28 25.1 +0.5
comp=Z,17nm,1.4s
Y37A **Hugo** 71.27 340 P P 03 28 25.2 +0.4
baz=160
ABTX **Abilene, Hawle** 71.28 336 P P 03 28 25.1 +0.2
baz=156,SNR=7.2
ABTX **Abilene, Hawle** 71.28 336 eP P 03 28 25.9 +0.9
comp=Z,21nm,1.0s
V45A **Humboldt** 71.31 346 P P 03 28 24.7 -0.2
baz=166
X39A **Fountain Ranch** 71.35 341 P P 03 28 25.5 +0.2
baz=161
Y36A **Durant** 71.39 339 P P 03 28 26.1 +0.5
baz=159
Z34A **Collier Ranch,** 71.40 338 P P 03 28 25.2 -0.4
baz=158
WVT **Waverly** 71.46 347 eP P 03 28 25.8 -0.1
WVT pmax pmax
comp=Z,63nm,0.8s
WVT **Waverly** 71.46 347 eP P 03 28 25.8 -0.1
comp=Z,63nm,0.8s
W41B **Gary Mavity, V** 71.50 343 P P 03 28 26.4 +0.3
baz=163,SNR=6.9
URVA **University of** 71.58 356 eP P 03 28 27.4 +0.8
Z33A **Whitaker Ranch** 71.59 337 P P 03 28 27.2 +0.4
baz=157,SNR=7.9
X301 **Greenbrier Sit** 71.60 343 eP P 03 28 27.5 +0.8
comp=Z,27nm,1.0s
Y35A **Marietta** 71.62 339 P P 03 28 27.1 +0.2
baz=159
WHAR **Wooly Hollow** 71.62 343 eP P 03 28 27.5 +0.6
comp=Z,26nm,1.2s
V43A **Jonesboro** 71.69 344 P P 03 28 27.7 +0.4
baz=164
W40A **Ferguson Farm,** 71.72 342 P P 03 28 27.6 +0.1
baz=162
JSRW **J. Sargeant Re** 71.73 355 eP P 03 28 28.0 +0.5
X37A **Clayton** 71.77 340 P P 03 28 27.9 +0.1
baz=160
U45A **Rockin P Farm,** 71.86 346 P P 03 28 28.3 0.0
baz=166,SNR=5.2
V42A **Cord** 71.90 344 P P 03 28 28.5 -0.1
baz=164
W39A **Magazine** 71.91 342 P P 03 28 28.9 +0.3
baz=162,SNR=11
U44B **Burton Farm, H** 71.97 346 P P 03 28 28.9 0.0
baz=165,SNR=6.2
W38A **Poteau** 71.99 341 P P 03 28 29.1 0.0
baz=161
X36A **Centrahoma** 72.03 339 P P 03 28 28.6 -0.8
baz=159,SNR=5.6
X35A **Drake** 72.06 339 P P 03 28 28.9 -0.6
baz=159
V41A **Mountainview** 72.06 343 P P 03 28 29.0 -0.6
baz=163,SNR=9.8
V40A **Witts Springs** 72.24 343 P P 03 28 29.8 -0.8
baz=162
W37B **Quinton** 72.30 340 P P 03 28 30.2 -0.8
baz=160,SNR=5.1
U42A **Revenden** 72.39 344 P P 03 28 31.3 -0.1
baz=164,SNR=11
V39A **Pettigrew** 72.48 342 P P 03 28 32.2 0.0
baz=162,SNR=7.8
W36A **Wetumka** 72.53 340 P P 03 28 32.1 -0.3
baz=159
U41A **Viola** 72.54 344 P P 03 28 32.2 -0.2
baz=163
MNTX **Cornudas Mount** 72.58 331 P P 03 28 32.2 -0.5
baz=152,SNR=9.8
MNTX **Cornudas Mount** 72.58 331 eP P 03 28 32.9 +0.1
comp=Z,6.0nm,0.8s
PBMO **Poplar Bluff** 72.62 345 eP P 03 28 33.0 +0.2
comp=Z,13nm,0.9s
V38A **Canehill** 72.70 341 P P 03 28 32.7 -0.7
baz=161
W35A **Tecumseh** 72.73 339 P P 03 28 32.9 -0.7
baz=159
T44A **Benton** 72.74 346 P P 03 28 33.4 -0.1
baz=165
U40A **Yellville** 72.77 343 P P 03 28 33.7 -0.1
baz=162,SNR=12
T43A **Greenville** 72.88 345 P P 03 28 34.2 -0.2
baz=164,SNR=11
V37A **Hulbert** 72.92 341 P P 03 28 34.9 +0.3
baz=160
WMOK **Wichita Mounta** 72.93 337 P P 03 28 34.8 0.0
baz=157,SNR=6.2
WMOK **Wichita Mounta** 72.93 337 eP P 03 28 34.9 +0.1
WMOK pmax pmax
comp=Z,14nm,1.5s
WMOK **Wichita Mounta** 72.93 337 eP P 03 28 34.9 +0.1
comp=Z,14nm,1.5s
U39A **Green Forest** 72.95 342 P P 03 28 34.6 -0.3
baz=162,SNR=8.3
HHAR **Hobbs** 72.98 342 eP P 03 28 35.3 +0.3
comp=Z,9.8nm,0.9s
T42A **Van Buren** 73.00 344 P P 03 28 34.7 -0.4
baz=164
MAW **Mawson** 73.04 164 P P 03 28 35.8 +0.7
comp=Z,8.6nm,0.9s,baz=229,slow=7.3,SNR=23
MAW LR LR 04 03 30.9
comp=Z,328nm,18.2s,baz=238,slow=38
MAW **Mawson** 73.04 164 eP P 03 28 36.0 +0.9
MAW pmax pmax
comp=Z,3.0nm,0.9s
MAW **Mawson** 73.04 164 eP P 03 28 36.0 +0.9
comp=Z,2.6nm,0.9s
V36A **Jenks** 73.05 340 P P 03 28 35.5 0.0
baz=160,SNR=5.2
S45A **Carrier Mills** 73.11 347 P P 03 28 35.5 -0.2
baz=166
TUL1 **Leonard** 73.12 340 P P 03 28 35.8 0.0
baz=160
TUL1 **Leonard** 73.12 340 eP P 03 28 35.6 -0.3
comp=Z,14nm,0.9s
T41A **Mountain View** 73.17 344 P P 03 28 36.1 0.0
baz=163,SNR=6.1
USIN **University of** 73.22 347 eP P 03 28 36.1 -0.3
comp=Z,33nm,0.8s
WCI **Wyandotte Cave** 73.23 349 eP P 03 28 35.3 -1.2
WCI pmax pmax
comp=Z,28nm,0.9s
WCI **Wyandotte Cave** 73.23 349 eP P 03 28 35.3 -1.2
comp=Z,28nm,0.9s
U38A **Gravette** 73.24 342 P P 03 28 36.5 0.0
baz=161
S44A **Carbondale** 73.25 346 P P 03 28 36.5 -0.1
baz=165,SNR=5.0
V35A **Meyer Ranch, C** 73.29 339 P P 03 28 36.9 0.0
baz=159
S43A **Fulton Ridge,** 73.31 345 P P 03 28 36.7 -0.2
baz=165,SNR=6.6
U37A **Salina** 73.40 341 P P 03 28 37.5 0.0
baz=160
T40A **Mansfield** 73.45 343 P P 03 28 37.5 -0.2
baz=163
T39A **Clever** 73.54 343 P P 03 28 38.5 +0.2
baz=162
MSTX **Muleshoe** 73.59 334 P P 03 28 39.0 +0.1
baz=154,SNR=7.2
MSTX **Muleshoe** 73.59 334 eP P 03 28 39.6 +0.7
comp=Z,11nm,0.8s
S42A **Caledonia** 73.65 345 P P 03 28 38.6 -0.3
baz=164,SNR=5.4
S41A **Jillco Farms,** 73.69 344 P P 03 28 39.5 +0.3
baz=163,SNR=11
R44A **Waltonville** 73.75 346 P P 03 28 39.1 -0.4
baz=166
T38A **Diamond** 73.78 342 P P 03 28 40.0 +0.3
baz=161,SNR=5.1
U35A **Pawnee** 73.82 340 P P 03 28 39.5 -0.4
baz=159,SNR=10
S40A **Lebanon** 73.87 343 P P 03 28 40.4 +0.2
baz=163,SNR=8.5
R43A **Red Bud** 73.95 346 P P 03 28 40.9 +0.2
baz=165,SNR=5.6
T37A **Cheneyville 18** 74.03 341 P P 03 28 41.1 0.0
baz=161,SNR=6.1
AMTX **Amarillo** 74.03 335 P P 03 28 41.5 +0.2
baz=155
AMTX **Amarillo** 74.03 335 eP P 03 28 42.3 +0.9
comp=Z,23nm,1.3s
R42A **Luebbering** 74.14 345 P P 03 28 41.6 -0.2
baz=164
S39A **Bolivar** 74.16 343 P P 03 28 42.0 +0.1
baz=162,SNR=6.6
T36A **Boggs Farm, Ca** 74.23 341 P P 03 28 42.3 0.0
baz=160,SNR=6.7
S38A **Stockton** 74.25 342 P P 03 28 42.5 +0.1
baz=162,SNR=10
T35A **Sooner Cattle** 74.27 340 P P 03 28 42.8 +0.2
baz=159,SNR=6.5
R41A **Rosebud** 74.28 345 P P 03 28 42.1 -0.5
baz=164,SNR=12
121A **Cookes Peak, D** 74.30 329 P P 03 28 42.9 -0.1
baz=150,SNR=8.6
121A **Cookes Peak, D** 74.30 329 eP P 03 28 44.7 +1.6
comp=Z,6.5nm,0.8s
O56A **Blue Knob Stat** 74.34 355 P P 03 28 43.1 +0.2
baz=175
Q44A **Meyer Farm, Va** 74.38 347 P P 03 28 42.5 -0.6
baz=166
R40A **Maddies Statio** 74.48 344 P P 03 28 43.9 +0.1
baz=163,SNR=9.1
U32A **Winter Ranch,** 74.51 338 P P 03 28 43.9 -0.2
baz=157
Q43A **New Douglas** 74.55 346 P P 03 28 43.7 -0.4
baz=165,SNR=5.5
T34A **McClaskey Farm** 74.56 340 P P 03 28 44.0 -0.3
baz=159,SNR=6.0
S37A **Fort Scott** 74.60 342 P P 03 28 44.6 +0.1
baz=161
SSPA **Standing Stone** 74.66 356 eP P 03 28 45.2 +0.5
comp=Z,52nm,1.8s
R39A **Chumby, Stover** 74.68 343 P P 03 28 44.9 0.0
baz=162,SNR=6.7
Q42A **Golden Eagle** 74.69 345 P P 03 28 45.0 +0.1
baz=164
ACSO **Alum Creek Sta** 74.73 352 eP P 03 28 44.8 -0.4
comp=Z,31nm,0.8s
R38A **Fenwick Farm,** 74.77 343 P P 03 28 45.0 -0.5
baz=162
S36A **Lake Cedric, C** 74.77 341 P P 03 28 45.6 +0.1
baz=160
N59A **State Game Lan** 74.83 357 P P 03 28 46.0 +0.3
baz=177
P44A **Sand Creek, Wi** 74.85 347 P P 03 28 45.4 -0.5
baz=166
Q41A **Truxton** 74.88 345 P P 03 28 46.1 +0.1
baz=164,SNR=15
S35A **Otter Creek Ra** 74.93 340 P P 03 28 46.1 -0.3
baz=160
SUR **Sutherland** 74.94 119 eP P 03 28 48.0 +0.9
comp=Z,56nm,1.0s
LIC **Lamto** 75.07 72 eP P 03 28 46.1 -1.7
comp=Z,62nm,1.5s
Q40A **Laux Farm, Aux** 75.11 344 P P 03 28 47.3 -0.1
baz=163,SNR=11
N54A **Moraine State** 75.14 354 P P 03 28 47.2 -0.3
baz=173
S34A **Willow Spring** 75.17 340 P P 03 28 47.8 0.0
baz=159
P43A **Skaggs, Pawnee** 75.19 346 P P 03 28 47.4 -0.4
baz=165,SNR=5.9
BNM **Barren Site** 75.23 331 eP P 03 28 50.8 +2.3
P42A **Winchester** 75.30 346 P P 03 28 47.8 -0.6
baz=165,SNR=6.8
R36A **Gordon, Harris** 75.31 341 P P 03 28 48.5 -0.1
baz=160
TIC **Toumodi** 75.33 71 eP P 03 28 48.4 -0.9
Q39A **Willow Grove F** 75.36 344 P P 03 28 48.8 0.0
baz=162,SNR=5.6
KIC **Kosan Boka,** 75.38 72 eP P 03 28 48.9 -0.7
comp=Z,54nm,1.3s
TUC **Tucson** 75.42 327 P P 03 28 49.4 -0.1
baz=148
TUC **Tucson** 75.42 327 eP P 03 28 51.8 +2.4
TUC pmax pmax
comp=Z,7.0nm,1.2s
TUC **Tucson** 75.42 327 eP P 03 28 51.8 +2.4
comp=Z,6.5nm,1.2s
Q38A **Cooks Store, C** 75.44 343 P P 03 28 49.0 -0.2
baz=162,SNR=6.3
SFIN **Lafayette** 75.47 348 P P 03 28 48.5 -0.9
baz=167
DBIC **Dimbokro** 75.47 71 P P 03 28 49.6 -0.5
comp=Z,7.2nm,0.8s,baz=211,slow=7.0,SNR=7.1
DBIC LR LR 04 00 28.0
comp=Z,216nm,19.0s,baz=215,slow=35
DBIC **Dimbokro** 75.47 71 eP P 03 28 49.9 -0.2
DBIC pmax pmax
comp=Z,90nm,2.0s
DBIC **Dimbokro** 75.47 71 eP P 03 28 49.9 -0.2
comp=Z,90nm,2.0s
P41A **Barry, Barry** 75.53 345 P P 03 28 49.3 -0.5
baz=164
Q37A **Longview Farm,** 75.56 342 P P 03 28 49.8 -0.2
baz=161
P40A **Paris** 75.61 344 P P 03 28 50.4 +0.1
baz=163,SNR=19
LAZ **Ladron** 75.65 331 eP P 03 28 52.9 +2.0
M54A **Old Creek Stat** 75.65 354 P P 03 28 49.9 -0.6
baz=174
P39B **Salisbury** 75.73 344 P P 03 28 50.7 -0.3
baz=163,SNR=6.2
R34A **Isabella, Hill** 75.77 340 P P 03 28 51.1 -0.1
baz=159
O43A **Sugar Creek Fa** 75.77 347 P P 03 28 51.1 -0.1
baz=166
O42A **Bath** 75.83 346 P P 03 28 51.5 0.0
baz=165,SNR=5.9
ANMO **Albuquerque** 75.86 332 P P 03 28 51.7 -0.3
baz=151
ANMO **Albuquerque** 75.86 332 deP P 03 28 53.7 +1.6
ANMO pmax pmax
comp=Z,9.0nm,1.1s
ANMO **Albuquerque** 75.86 332 eP P 03 28 53.6 +1.6
comp=Z,6.7nm,0.9s
O41A **Passleys Farm,** 75.92 345 P P 03 28 51.7 -0.3
baz=164
Q35A **Mercer Eighty,** 75.96 341 P P 03 28 51.7 -0.6
baz=160
HDIL **Hopedale** 76.03 347 P P 03 28 52.2 -0.4
baz=166
HDIL **Hopedale** 76.03 347 eP P 03 28 52.7 +0.1
comp=Z,22nm,0.9s
P38A **Dawn** 76.04 343 P P 03 28 52.6 -0.1
baz=162,SNR=9.7
214A **Organ Pipe Nat** 76.06 325 P P 03 28 52.4 -0.7
baz=146
O40A **La Belle** 76.14 345 P P 03 28 53.2 0.0
baz=163,SNR=7.9
P37A **Lathrop** 76.21 343 P P 03 28 53.1 -0.6
baz=161
KSU1 **Kansas State U** 76.34 341 P P 03 28 53.9 -0.5
baz=160
O39A **Kirksville** 76.41 344 P P 03 28 55.2 +0.3
baz=163
N42A **Yates City** 76.44 346 P P 03 28 54.7 -0.2
baz=165
P36A **Good Intent, A** 76.45 342 P P 03 28 54.6 -0.5
baz=161
N41A **Harden Midland** 76.48 346 P P 03 28 55.1 -0.1
baz=164
O38A **Galt** 76.50 343 P P 03 28 55.1 -0.2
baz=162
P35A **Duane Minner,** 76.58 341 P P 03 28 54.5 -1.3
baz=146
O37A **Wolven Farm, M** 76.71 343 P P 03 28 56.3 -0.2
baz=162,SNR=7.3
MMNY **Mt. Morris Dam** 76.75 356 eP P 03 28 57.0 +0.4
N40A **Mertquake, Sal** 76.81 345 P P 03 28 57.0 0.0
baz=164
P34A **Walnut Farm, R** 76.81 341 P P 03 28 57.1 0.0
baz=159
O36A **Bolckow** 76.88 342 P P 03 28 57.1 -0.3
baz=161
X18A **Snowflake** 76.93 329 eP P 03 29 00.3 +2.2
CBKS **Cedar Bluff** 76.98 338 P P 03 28 58.4 +0.3
baz=157
CBKS **Cedar Bluff** 76.98 338 eP P 03 28 59.3 +1.2
CBKS pmax pmax
comp=Z,18nm,1.0s
CBKS **Cedar Bluff** 76.98 338 eP P 03 28 59.3 +1.2
comp=Z,18nm,1.0s
M42A **Sheffield** 76.99 347 P P 03 28 58.2 +0.2
baz=165
N39A **Derby Farms, D** 77.00 344 P P 03 28 58.3 +0.2
baz=163,SNR=10
T25A **Trinidad** 77.02 334 P P 03 28 59.8 +1.2
baz=153,SNR=12
M41A **Milan** 77.06 346 P P 03 28 57.9 -0.5
baz=165,SNR=6.7
N38A **Joes South For** 77.09 344 P P 03 28 57.9 -0.7
baz=162
N37A **Lee Faris, Mou** 77.28 343 P P 03 28 59.6 -0.1
baz=162

M40A	Post Highland	77.29	345	P		P	03 28 59.4	-0.3
	baz=164							
W18A	Petrified Fore	77.34	329			P	03 28 59.4	-1.0
	baz=149,SNR=6.2							
W18A	Petrified Fore	77.34	329	eP		P	03 29 02.4	+1.9
	comp=Z,13nm,1.0s							
O34A	Beatrice	77.37	341	P		P	03 29 00.3	+0.1
	baz=160							
X16A	Lo Mia Camp, P	77.49	328	eP		P	03 29 03.4	+2.1
M39A	Webster	77.50	345	P		P	03 29 00.8	-0.1
	baz=163							
O33A	Hebron	77.52	340	P		P	03 29 01.2	+0.1
	baz=159,SNR=5.9							
N36A	Muff Farm, Cla	77.52	343	P		P	03 29 01.3	+0.3
	baz=161							
M38A	Pleasantville	77.67	344	P		P	03 29 01.7	-0.1
	baz=162,SNR=12							
L41A	Preston	77.73	346	P		P	03 29 01.8	-0.4
	baz=165,SNR=7.2							
N35A	Tabor	77.73	342	P		P	03 29 02.0	-0.2
	baz=160,SNR=5.8							
M37A	Trindle Farm,	77.86	343	P		P	03 29 02.9	0.0
	baz=162,SNR=6.8							
L40A	Anamosa	77.86	346	P		P	03 29 02.7	-0.2
	baz=164,SNR=9.0							
GLA	Glamis	77.92	325	P		P	03 29 03.0	-0.5
	baz=145							
N34A	Lincoln	77.93	341	P		P	03 29 03.5	+0.1
	baz=160							
SDCO	Great Sand Dun	77.95	334	P		P	03 29 03.8	-0.1
	baz=152,SNR=6.4							
SDCO	Great Sand Dun	77.95	334	eP		P	03 29 04.5	+0.6
	comp=Z,3.8nm,0.9s							
KSCO	Kaye Shedlock'	78.08	336	P		P	03 29 04.6	+0.2
	baz=155							
KSCO	Kaye Shedlock'	78.08	336	eP		P	03 29 06.5	+2.1
M36A	Felix, Anita	78.08	343	P		P	03 29 03.9	-0.2
	baz=161,SNR=6.9							
LBNH	Lisbon	78.08	0	eP		P	03 29 05.3	+1.2
LBNH					pmax	pmax		
	comp=Z,17nm,0.9s							
LBNH	Lisbon	78.08	0	eP		P	03 29 05.3	+1.2
	comp=Z,17nm,0.9s							
SCIA	State Center	78.14	344	eP		P	03 29 05.0	+0.5
	comp=Z,22nm,1.0s							
K41A	Shullsburg	78.20	347	P		P	03 29 04.7	-0.1
	baz=165,SNR=6.1							
L38A	Oak Wood Farm,	78.31	344	P		P	03 29 05.0	-0.3
	baz=163,SNR=5.2							
M35A	Neola	78.32	342	P		P	03 29 05.8	+0.4
	baz=160							
Y12C	Blythe	78.34	325	P		P	03 29 05.6	-0.2
	baz=146							
Y12C	Blythe	78.34	325	eP		P	03 29 08.3	+2.5
	comp=Z,10.0nm,1.1s							
WUAZ	Wupatki	78.39	328	P		P	03 29 06.7	+0.5
	baz=148,SNR=5.7							
WUAZ	Wupatki	78.39	328	eP		P	03 29 08.3	+2.1
	comp=Z,13nm,1.0s							
S22A	4UR Ranch, Cre	78.45	333	P		P	03 29 07.6	+0.9
	baz=151							
K40A	Colesburg	78.46	346	P		P	03 29 05.7	-0.5
	baz=164							
L37A	Phoenix Point,	78.47	344	P		P	03 29 06.9	+0.6
	baz=162							
LONY	Lake Ozonia	78.49	358	eP		P	03 29 07.0	+0.7
	comp=Z,33nm,1.4s							
JFWS	Jewell Farm	78.49	347	eP		P	03 29 06.6	+0.2
JFWS					pmax	pmax		
	comp=Z,19nm,0.8s							
JFWS	Jewell Farm	78.49	347	eP		P	03 29 06.6	+0.2
	comp=Z,19nm,0.8s							
MONP	Monument Peak,	78.57	323	P		P	03 29 06.5	-0.8
	baz=144							
M34A	Aspy Farms, Fr	78.58	342	P		P	03 29 07.3	+0.3
	baz=160							
K39A	Oelwein	78.62	345	P		P	03 29 06.1	-1.0
	baz=164							
PDMCI	Parker Dam,Lak	78.62	326	P		P	03 29 07.3	0.0
	baz=146							
MVCO	Mesa Verde	78.64	331	P		P	03 29 07.3	-0.3
	baz=150,SNR=6.5							
MVCO	Mesa Verde	78.64	331	eP		P	03 29 09.3	+1.6
	comp=Z,9.2nm,1.1s							
L36A	Harm Buss Farm	78.66	343	P		P	03 29 07.5	+0.2
	baz=161							
FRNY	Flat Rock	78.69	359	eP		P	03 29 08.1	+0.7
	comp=Z,18nm,0.9s							
BC3	Big Chuckawall	78.71	324	P		P	03 29 08.0	0.0
	baz=145							
K38A	Parkersburg	78.75	345	P		P	03 29 07.6	-0.2
	baz=163							
SADO	Sadowa	78.86	355	eP		P	03 29 08.4	+0.1
J41A	Loganville	78.88	347	P		P	03 29 08.6	+0.1
	baz=165,SNR=8.4							
L35A	Bielow Farm, R	78.89	343	P		P	03 29 08.8	+0.2
	baz=161,SNR=5.9							
Q24A	Divide	78.91	334	P		P	03 29 09.5	+0.4
	baz=153							
BGNE	Belgrade	78.91	340	P		P	03 29 08.7	-0.1
	baz=158							
L34A	Svendsen Farm,	78.96	342	P		P	03 29 09.0	0.0
	baz=160							
IRM	Iron Mountain	78.97	325	P		P	03 29 09.1	-0.2
	baz=145							
PLVO	Plevna	79.00	357	eP		P	03 29 09.7	+0.6
J40A	Soldiers Grove	79.05	346	P		P	03 29 09.3	-0.1
	baz=165,SNR=11							
K37A	Belmond	79.06	344	P		P	03 29 08.8	-0.7
	baz=162							
GGN	Saint George	79.12	4	eP		P	03 29 11.1	+1.3
K36A	Gilmore City	79.12	344	P		P	03 29 09.9	+0.1
	baz=162							
TPFO	Pinon Flats	79.16	324	P		P	03 29 09.8	-0.7
	baz=144							
PFO	Pinyon Flats O	79.17	324	P		P	03 29 10.4	-0.1
	baz=144							
PFO	Pinyon Flats O	79.17	324	eP		P	03 29 12.6	+2.1
PFO					pmax	pmax		
	comp=Z,9.0nm,1.0s							
PFO	Pinyon Flats O	79.17	324	eP		P	03 29 12.6	+2.1
	comp=Z,8.5nm,1.0s							
J39A	Decorah	79.18	346	P		P	03 29 09.5	-0.6
	baz=164,SNR=6.0							
BELC	Belle Mtn. Jos	79.25	324	P		P	03 29 09.9	-1.1
	baz=144							
J38A	Wedel Dairy, R	79.33	345	P		P	03 29 09.7	-1.3
	baz=163							
K35A	Storm Lake	79.39	343	P		P	03 29 10.6	-0.7
	baz=161							
L32A	Elgin	79.43	341	P		P	03 29 11.5	-0.1
	baz=159							
PV01	Paradox Valley	79.46	332	eP		P	03 29 13.2	+1.1
I40A	Norwalk	79.50	347	P		P	03 29 11.3	-0.6
	baz=165							
MURC	Murrieta	79.52	323	P		P	03 29 10.9	-1.4
	baz=144							
I41A	Arkdale	79.53	347	P		P	03 29 11.8	-0.3
	baz=165							
J37A	Redenius Farm,	79.55	344	P		P	03 29 12.0	-0.2
	baz=162,SNR=5.4							
K34A	Le Mars	79.56	342	P		P	03 29 12.1	-0.2
	baz=160							
PV05	Paradox Valley	79.62	331	eP		P	03 29 14.5	+1.5
I39A	Houston	79.64	346	P		P	03 29 12.4	-0.2
	baz=164,SNR=5.1							
GMRC	Granite Mounta	79.73	325	P		P	03 29 13.6	0.0
	baz=145,SNR=6.0							
J36A	Seneca 1, Swea	79.75	344	P		P	03 29 13.5	+0.2
	baz=162,SNR=7.7							
SMCO	Snowmass	79.76	333	eP		P	03 29 15.8	+1.9
ISCO	Idaho Springs	79.81	335	P		P	03 29 13.9	-0.2
	baz=152,SNR=5.3							
ISCO	Idaho Springs	79.81	335	eP		P	03 29 15.6	+1.5
ISCO					pmax	pmax		
	comp=Z,6.0nm,1.0s							
ISCO	Idaho Springs	79.81	335	eP		P	03 29 15.6	+1.5
	comp=Z,5.7nm,1.0s							
PV10	Paradox Valley	79.86	331	eP		P	03 29 15.2	+0.9
CIS	Catalina Islan	79.97	322	P		P	03 29 14.8	0.0
	baz=143							
I38A	Scanlan Farm,	79.99	345	P		P	03 29 14.4	-0.1
	baz=163,SNR=10.0							
PV09	Paradox Valley	80.00	331	eP		P	03 29 16.8	+1.7
H41A	Junction City	80.03	348	P		P	03 29 14.6	-0.1
	baz=166							
HEC	Hector,Ludlow	80.09	325	P		P	03 29 14.6	-0.8
	baz=144							
TRQ	Mont Tremblant	80.09	358	eP		P	03 29 15.3	+0.2
J34A	George	80.09	343	P		P	03 29 15.0	-0.2
	baz=160							
H40A	Chili	80.17	347	P		P	03 29 14.8	-0.7
	baz=165,SNR=5.9							
BOSA	Boshof	80.18	118	P		P	03 29 16.6	+0.2
	comp=Z,15nm,1.0s,baz=246,slow=5.5,SNR=10							
BOSA					LR	LR	04 01 27.0	
	comp=Z,135nm,18.3s,baz=227,slow=33							
BOSA	Boshof	80.18	118	eP		P	03 29 16.8	+0.4
BOSA	Boshof	80.18	118	eP		P	03 29 16.8	+0.4
I37A	Lemond, Waseca	80.19	345	P		P	03 29 15.2	-0.5
	baz=162,SNR=8.1							
K31A	O'Neill	80.21	341	P		P	03 29 16.0	+0.2
	baz=158,SNR=9.4							
BFSC	Mount Baldy Ra	80.26	323	P		P	03 29 15.8	-0.6
	baz=143							
KNB	Kanab	80.28	328	eP		P	03 29 18.8	+2.3
KNB					pmax	pmax		
	comp=Z,15nm,1.0s							
KNB	Kanab	80.28	328	eP		P	03 29 18.8	+2.3
	comp=Z,15nm,1.0s							
I36A	Fitzsimmons Fa	80.33	344	P		P	03 29 16.5	+0.2
	baz=162,SNR=5.4							
J33A	Davis	80.38	342	P		P	03 29 16.6	0.0
	baz=160							
H39A	Augusta	80.39	346	P		P	03 29 16.1	-0.6
	baz=164							
I35A	Creeview Farm	80.40	344	P		P	03 29 17.0	+0.2
	baz=161							
LCMT	Little Creek M	80.46	328	eP		P	03 29 19.3	+1.9
	comp=Z,6.0nm,1.2s							
H37A	Dierke Farm, C	80.63	345	P		P	03 29 18.0	+0.1
	baz=163							
J32A	Parkston	80.66	341	P		P	03 29 18.1	-0.1
	baz=159,SNR=6.5							
ECSD	EROS Data Cent	80.68	342	P		P	03 29 18.2	-0.1
	baz=160,SNR=24							
ECSD	EROS Data Cent	80.68	342	eP		P	03 29 18.5	+0.2
	comp=Z,25nm,0.9s							
GSC	Goldstone, Bar	80.70	324	P		P	03 29 18.7	+0.1
	baz=144							
GSC	Goldstone, Bar	80.70	324	eP		P	03 29 21.1	+2.4
GSC					pmax	pmax		
	comp=Z,29nm,1.9s							
GSC	Goldstone, Bar	80.70	324	eP		P	03 29 21.1	+2.4
	comp=Z,29nm,1.9s							
J31A	Geddes	80.82	341	P		P	03 29 19.3	+0.2
	baz=158,SNR=7.0							
H36A	Jessenland, He	80.84	345	P		P	03 29 19.0	-0.1
	baz=162,SNR=10							
SZCU	Shurtz Canyon	80.88	328	eP		P	03 29 21.6	+1.9
	comp=Z,25nm,1.8s							
N23A	Red Feather La	80.90	335	P		P	03 29 20.3	+0.4
	baz=152							
N23A	Red Feather La	80.90	335	eP		P	03 29 21.4	+1.6
SHPR	Sheep Range	80.90	326	eP		P	03 29 22.1	+2.3
	comp=Z,7.2nm,1.0s							
EDW2	Edwards Air Fo	80.94	323	P		P	03 29 20.0	0.0
	baz=143							
G39A	Holcombe	80.95	347	P		P	03 29 20.0	+0.3
	baz=164							
CCUT	Cedar City	80.96	328	eP		P	03 29 21.7	+1.5
	comp=Z,9.7nm,1.0s							
F41A	Three Lakes	81.02	348	P		P	03 29 20.0	-0.1
	baz=165							
O20A	White River Ci	81.07	333	P		P	03 29 19.3	-1.4
	baz=151							
SRU	San Rafael Swe	81.08	331	eP		P	03 29 22.0	+1.2
SRU					pmax	pmax		
	comp=Z,6.0nm,0.9s							
SRU	San Rafael Swe	81.08	331	eP		P	03 29 22.0	+1.2
	comp=Z,5.8nm,0.9s							
PHWY	Pilot Hill	81.09	335	eP		P	03 29 22.1	+1.2
H35A	Sunnyside Ranc	81.16	344	P		P	03 29 20.8	0.0
	baz=161,SNR=15							
I32A	Karley and Nic	81.17	342	P		P	03 29 20.9	0.0
	baz=159							
SPMN	Marine on St.	81.22	346	P		P	03 29 20.6	-0.5
	baz=163,SNR=5.5							
SPMN	Marine on St.	81.22	346	eP		P	03 29 20.9	-0.2
MSU	Marysvale	81.25	329	eP		P	03 29 23.7	+1.9
MSU	Marysvale	81.25	329	eP		P	03 29 23.7	+1.9
H34A	Spellman Lake,	81.35	343	P		P	03 29 22.2	+0.4
	baz=161,SNR=8.8							
F40A	Park Falls	81.37	348	P		P	03 29 22.0	+0.1
	baz=165,SNR=8.3							
G36A	St. Michael	81.43	345	P		P	03 29 22.0	-0.2
	baz=162							
F39A	Loretta	81.51	347	P		P	03 29 22.4	-0.2
	baz=164							
TMUT	Trail Mountain	81.52	330	eP		P	03 29 24.8	+1.6
G35A	Watkins	81.58	344	P		P	03 29 23.3	+0.3
	baz=162							
H33A	Prehn Over Nor	81.60	343	P		P	03 29 22.9	-0.3
	baz=160,SNR=11							
H32A	Carlson Farm,	81.61	342	P		P	03 29 23.2	0.0
	baz=159,SNR=8.4							
MPMC	Manual Prospec	81.64	324	P		P	03 29 24.0	+0.2
	baz=144							
F37A	Hinrichs Farm,	81.66	346	P		P	03 29 23.4	0.0
	baz=163,SNR=5.5							
FURC	Furnace Creek,	81.67	325	P		P	03 29 24.3	+0.7
	baz=144							
F38A	Pierce - Schro	81.74	346	P		P	03 29 24.1	+0.2
	baz=164,SNR=10.0							
TPNV	Topopah Spring	81.77	326	P		P	03 29 25.0	+0.6
	baz=145,SNR=6.4							
TPNV	Topopah Spring	81.77	326	eP		P	03 29 26.8	+2.3
TPNV					pmax	pmax		
	comp=Z,6.0nm,0.9s							
TPNV	Topopah Spring	81.77	326	eP		P	03 29 26.8	+2.3
	comp=Z,5.7nm,0.9s							
ISA	Isabella, Lake	81.80	324	P		P	03 29 25.1	+0.6
	baz=143							
E40A	Wakefield	81.84	348	P		P	03 29 24.8	+0.5
	baz=165							
H31A	Wolsey	81.85	341	P		P	03 29 24.8	+0.3
	baz=158,SNR=5.9							
PKM	Mcpherson Peak	81.86	322	P		P	03 29 25.3	+0.3
	baz=142							
DAC	Darwin (Calif)	81.86	325	eP		P	03 29 26.2	+1.2
DAC					pmax	pmax		
	comp=Z,9.0nm,1.0s							
DAC	Darwin (Calif)	81.86	325	eP		P	03 29 26.1	+1.2
	comp=Z,9.3nm,1.0s							
E39A	Mellen	81.89	347	P		P	03 29 24.8	+0.2
	baz=165							
SUSD	Miller	81.95	341	P		P	03 29 25.1	+0.1
	baz=158							
F36A	Milaca	81.98	345	P		P	03 29 24.8	-0.3
	baz=162,SNR=13							
G33A	Ortonville	82.01	343	P		P	03 29 24.8	-0.5
	baz=160							
VLDQ	Val d'Or	82.08	357	eP		P	03 29 26.1	+0.5
F35A	Swanville	82.20	345	P		P	03 29 26.2	-0.1
	baz=162							
CWC	Cottonwood Cre	82.22	324	P		P	03 29 26.3	-0.5
	baz=143							
VES	Vestal, Richgr	82.24	323	P		P	03 29 27.2	+0.5
	baz=143							
E38A	The Farm, Brul	82.30	347	P		P	03 29 26.4	-0.3
	baz=164							
F34A	Alexandria	82.30	344	P		P	03 29 26.6	-0.1
	baz=161							
MPU	Maple Canyon	82.30	331	eP		P	03 29 28.8	+1.6
G32A	Webster	82.33	342	P		P	03 29 26.8	-0.2
	baz=159							
GRAC	Grapevine Rang	82.33	325	P		P	03 29 29.1	+1.8
	baz=144							
NLU	North Lily Min	82.43	330	eP		P	03 29 29.5	+1.6
LBTB	Lobatse	82.43	115	eP		P	03 29 28.3	-0.1
LBTB	Lobatse	82.43	115	eP		P	03 29 28.2	-0.1
E36A	McGregor	82.55	346	P		P	03 29 27.9	-0.2
	baz=163,SNR=11							
F33A	5 Mile Ranch,	82.58	343	P		P	03 29 28.3	+0.1
	baz=160							
R11A	Troy Canyon, C	82.61	327	P		P	03 29 30.2	+1.4
	baz=145,SNR=14							
R11A	Troy Canyon, C	82.61	327	eP		P	03 29 30.5	+1.7
	comp=Z,6.3nm,0.9s							
K22A	Casper	82.65	335	P		P	03 29 29.9	+1.0
	baz=152							
K22A	Casper	82.65	335	eP		P	03 29 30.2	+1.2
E35A	Pequot Lakes	82.83	345	P		P	03 29 29.9	+0.3
	baz=162							
DUG	Dugway, Tooele	82.94	330	P		P	03 29 31.6	+1.1
	baz=147,SNR=7.6							
DUG	Dugway, Tooele	82.94	330	eP		P	03 29 32.1	+1.6
DUG					pmax	pmax		
	comp=Z,17nm,1.4s							
DUG	Dugway, Tooele	82.94	330	eP		P	03 29 32.1	+1.6
	comp=Z,17nm,1.4s							
D37A	Cotton	82.99	346	P		P	03 29 30.1	-0.2
	baz=163							
E33A	Westby DABS, E	83.14	344	P		P	03 29 30.6	-0.5
	baz=160							
RSSD	Black Hills	83.14	338	P		P	03 29 30.9	-0.6
	baz=154							
RSSD	Black Hills	83.14	338	eP		P	03 29 31.9	+0.4
RSSD					pmax	pmax		
	comp=Z,8.0nm,1.0s							
RSSD	Black Hills	83.14	338	eP		P	03 29 31.9	+0.4
	comp=Z,7.6nm,1.0s							
C39A	Grand Marais	83.21	348	P		P	03 29 31.2	-0.2
	baz=165,SNR=11							
D35A	Remer	83.25	345	P		P	03 29 31.7	0.0
	baz=162,SNR=9.1							
C38A	Sawbill Land.	83.31	347	P		P	03 29 31.4	-0.7
	baz=164,SNR=11							
C37A	Embarrass	83.49	347	P		P	03 29 32.9	0.0
	baz=164,SNR=5.4							
D34A	Park Rapids	83.50	344	P		P	03 29 32.7	-0.3
	baz=161							
EYMN	Ely	83.57	347	P		P	03 29 33.1	-0.3
	baz=164,SNR=7.1							
EYMN	Ely	83.57	347	eP		P	03 29 33.2	-0.1
	comp=Z,13nm,1.0s							
HWUT	Hardware Ranch	83.62	331	eP		P	03 29 34.7	+0.7
	comp=Z,14nm,1.1s							
BGU	Big Grassy Mou	83.64	330	eP		P	03 29 35.9	+1.9
E31A	Nome	83.64	343	P		P	03 29 33.8	+0.1
	baz=159,SNR=6.3							
C36A	Pine Crest Far	83.65	346	P		P	03 29 33.4	-0.4
	baz=163							
D33A	AnnSam, Waubun	83.70	344	P		P	03 29 33.6	-0.4
	baz=161							
SPUT	South Promonto	83.72	331	eP		P	03 29 35.4	+1.0
C35A	Jirik Farms, M	83.83	345	P		P	03 29 34.3	-0.3
	baz=162,SNR=10							
BW06	Boulder Array	83.84	333	P		P	03 29 34.8	-0.4
	baz=150,SNR=5.3							
BW06	Boulder Array	83.84	333	eP		P	03 29 35.6	+0.4
PD31	Pinedale Array	83.84	333	eP		P	03 29 36.1	+1.0
PDAR	Pinedale Array	83.84	333	P		P	03 29 35.1	0.0
	comp=Z,2.1nm,0.8s,baz=134,slow=4.3,SNR=17							
D32A	Dogwood Acres,	83.97	343	P		P	03 29 36.0	+0.6
	baz=160							
D31A	Mcclaflin, Tow	84.06	343	P		P	03 29 36.0	+0.1
	baz=159,SNR=8.5							
HVU	Hansel Valley	84.25	331	eP		P	03 29 38.1	+0.9
HVU	Hansel Valley	84.25	331	eP		P	03 29 38.1	+0.9
C33A	Trail	84.27	344	P		P	03 29 37.0	+0.1
	baz=161							
B35A	Bob, Littlefor	84.40	346	P		P	03 29 37.3	-0.3
	baz=162,SNR=6.7							
TORD	Torodi Ar. Bea	84.51	70	P		P	03 29 38.4	-0.5
	comp=Z,13nm,0.9s,baz=244,slow=4.8,SNR=72							
TORD					LR	LR	04 06 21.1	
	comp=Z,242nm,18.9s,baz=220,slow=35							
WAKR	Walker	84.52	325	eP		P	03 29 41.6	+2.9
B33A	Robert and Kas	84.71	345	P		P	03 29 38.9	-0.2
	baz=161							
B34A	Aery, Baudette	84.71	345	P		P	03 29 38.6	-0.5
	baz=162							
C31A	Landman Farms,	84.75	343	P		P	03 29 39.0	-0.3
	baz=159,SNR=9.0							
AGMN	Agassiz Nation	84.80	344	P		P	03 29 39.5	-0.1
	baz=161							
AGMN	Agassiz Nation	84.80	344	eP		P	03 29 39.5	-0.1
	comp=Z,10nm,0.9s							
YERR	Yerington	84.81	325	eP		P	03 29 42.3	+2.2
REDW	Red Top Meadow	84.84	333	eP		P	03 29 40.6	+0.4
	comp=Z,8.5nm,1.2s							
TPAW	Teton Pass	84.99	333	eP		P	03 29 42.0	+1.0
	comp=Z,6.6nm,1.0s							
B32A	Ashes, Strandq	85.04	344	P		P	03 29 40.3	-0.4
	baz=160,SNR=11							
PNTR	Pine Nut	85.06	325	eP		P	03 29 44.0	+2.7
MOOW	Moose Ponds	85.13	333	eP		P	03 29 42.3	+0.7
MDND	Maddock	85.27	342	P		P	03 29 42.2	+0.3
	baz=158,SNR=7.8							
MDND	Maddock	85.27	342	eP		P	03 29 42.8	+0.8
	comp=Z,36nm,0.8s							
A33A	Warroad	85.30	345	P		P	03 29 41.9	-0.2
	baz=161,SNR=6.4							
B31A	Greenbush Farm	85.32	343	P		P	03 29 42.1	0.0
	baz=159,SNR=7.6							
IMW	Indian Meadow	85.33	333	eP		P	03 29 43.1	+0.4
	comp=Z,2.2nm,0.7s							
FLWY	Flagg Ranch	85.40	333	eP		P	03 29 44.0	+1.0
	comp=Z,13nm,0.9s							
PAHR	Pah Rah Range	85.45	325	eP		P	03 29 45.3	+2.1
A32A	Rocking H Ranc	85.52	344	P		P	03 29 43.0	-0.2
	baz=160							
AFDM	Forest Hills D	85.61	324	eP		P	03 29 45.4	+1.6
A31A	Linda, St. Vin	85.69	344	P		P	03 29 44.0	+0.1
	baz=160							
RLMT	Red Lodge	85.78	335	P		P	03 29 45.4	+0.6
	baz=150,SNR=5.9							
RLMT	Red Lodge	85.78	335	eP		P	03 29 45.7	+0.9
	comp=Z,5.5nm,0.6s							
YMR	Madison River	86.00	333	eP		P	03 29 47.8	+1.8
YHH	Holmes Hill	86.06	334	eP		P	03 29 47.8	+1.5
LAO	LASA Array	86.13	337	P		P	03 29 46.9	+0.6
	baz=152							
LAO	LASA Array	86.13	337	eP		P	03 29 47.0	+0.7
ORV	Oroville	86.34	324	eP		P	03 29 49.5	+2.1
ORV	Oroville	86.34	324	eP		P	03 29 49.5	+2.1
HLID	Hailey	86.40	331	P		P	03 29 48.9	+1.0
	baz=146,SNR=14							
HLID	Hailey	86.40	331	eP		P	03 29 48.4	+0.5
	comp=Z,5.3nm,0.9s							
ULM	Lac du Bonnet	86.64	345	P		P	03 29 48.1	-0.6
	comp=Z,9.4nm,1.0s,baz=160,slow=3.5,SNR=11							
ULM	Lac du Bonnet	86.64	345	eP		P	03 29 48.6	-0.1
ULM	Lac du Bonnet	86.64	345	eP		P	03 29 48.6	-0.1
MCMT	McKenzie Canyo	86.84	332	eP		P	03 29 51.9	+1.8
MFID	Camas Ranch	86.86	330	eP		P	03 29 51.4	+1.3
BOZ	Bozeman (W)	87.04	334	P		P	03 29 51.6	+0.8
	baz=148							
BOZ	Bozeman (W)	87.04	334	eP		P	03 29 51.7	+0.8
BOZ	Bozeman (W)	87.04	334	eP		P	03 29 51.7	+0.8
DGMT	Dagmar	87.10	339	P		P	03 29 51.8	+0.8
	baz=154,SNR=9.3							
DGMT	Dagmar	87.10	339	eP		P	03 29 52.1	+1.1
	comp=Z,44nm,1.0s							
DLMT	Dillon	87.20

ESDC	**Sonseca Array**	**96.90**	**46**	P		**P**	**03 30 35.7**	**-1.0**	
	comp=Z,0.9nm,0.9s,baz=248,slow=4.5,SNR=5.0								
ESDC				LR		LR	04 13 58.9		
	comp=Z,88nm,18.0s,baz=175,slow=35								
ES19	**SONSECA Array**	**96.95**	**46**	*e*P		**P**	**03 30 36.5**	**-0.5**	
CLL	**Collm**	**113.16**	**43**	*e*PS		PS	03 46 10.0	+1.7	
CLL				Lm		MLR	04 21 00.0		
	comp=Z,200nm,19.9s								
KDAK	**Kodiak Island**	**113.42**	**325**	*i* PKIKP		**PKiKP**	**03 35 42.9**	**+0.2**	
COLA	**College**	**114.69**	**333**	*e*PKIKP		**PKiKP**	**03 35 44.9**	**0.0**	
COLA	**College**	**114.69**	**333**	*e*PKP		PKPdf	03 35 44.9	0.0	
TOLK	**Toolik Lake Re**	**116.98**	**336**	P		**PKPdf**	**03 35 48.5**	**-0.9**	
	baz=115								
ASAR	**Alice Springs**	**117.27**	**207**	PKP		**PKPdf**	**03 35 50.8**	**-0.6**	
	comp=Z,0.5nm,0.7s,baz=168,slow=1.8,SNR=4.6								
WRA	**Warramunga Arr**	**120.46**	**209**	PKP		**PKPdf**	**03 35 57.0**	**-0.6**	
	comp=Z,1.1nm,0.8s,baz=166,slow=1.7,SNR=4.4								
WRA	**Warramunga Arr**	**120.46**	**209**	PKIKP		**PKPdf**	**03 35 57.0**	**-0.6**	
BRTR	**Keskin Array B**	**122.15**	**61**	PKP		**PKPdf**	**03 35 59.9**	**-0.4**	
	comp=Z,1.4nm,0.8s,baz=129,slow=1.8,SNR=9.0								
KIEV	**Kiev**	**122.50**	**48**	*e*PKIKP		**PKPdf**	**03 35 59.7**	**-0.7**	
KIEV	**Kiev**	**122.50**	**48**	*e*PKPdf		**PKPdf**	**03 35 59.3**	**-1.1**	
AKASG	**Malin Array Be**	**122.51**	**48**	PKP		**PKPdf**	**03 35 59.5**	**-0.9**	
	comp=Z,1.6nm,0.7s,baz=268,slow=2.7,SNR=6.2								
PMG	**Port Moresby**	**122.70**	**228**	*e*PKIKP		**PKPdf**	**03 36 03.2**	**+1.2**	
PMG	**Port Moresby**	**122.70**	**228**	*e*PKPdf		**PKPdf**	**03 36 03.2**	**+1.2**	
FINES	**FINESS Array B**	**123.30**	**35**	PKP		**PKPdf**	**03 36 01.4**	**-0.2**	
	comp=Z,1.6nm,0.8s,baz=234,slow=6.6,SNR=4.0								
ARCES	**ARCESS Array B**	**124.31**	**25**	PKP		**PKPdf**	**03 36 03.2**	**-0.2**	
	comp=Z,0.7nm,0.7s,baz=236,slow=1.3,SNR=3.9								
H11S2	**WAKE ISLAND Hy**	**125.53**	**269**	T		T	05 54 39.2		
	baz=115,slow=74,SNR=4.3								
H11S1	**WAKE ISLAND Hy**	**125.54**	**269**	T		T	05 54 38.2		
	baz=115,slow=74,SNR=6.9								
H11S3	**WAKE ISLAND Hy**	**125.54**	**269**	T		T	05 54 34.7		
	baz=115,SNR=5.8								
H11N3	**WAKE ISLAND Hy**	**125.95**	**271**	T		T	05 55 07.9		
	baz=116								
H11N1	**WAKE ISLAND Hy**	**125.96**	**271**	T		T	05 55 03.6		
	baz=116,slow=74,SNR=8.7								
H11N2	**WAKE ISLAND Hy**	**125.96**	**271**	T		T	05 55 03.8		
	baz=116,slow=74,SNR=5.5								
LVZ	**Lovozero**	**127.56**	**27**↑	*e*PKIKP		**PKPdf**	**03 36 10.3**	**+0.6**	
OBN	**Obninsk**	**127.76**	**43**↑	*e*PKIKP		**PKPdf**	**03 36 09.6**	**-0.7**	
OBN				pmax		pmax			
	comp=Z,4.0nm,1.1s								
KLMR	**Klimovskoe**	**129.72**	**36**	*e*PKIKP		**PKPdf**	**03 36 12.6**	**-1.3**	
KLMR				pmax		pmax			
	comp=Z,22nm,1.3s								
KIV	**Kislovodsk**	**129.81**	**58**	*e*PKIKP		**PKPdf**	**03 36 14.7**	**-0.1**	
KIV	**Kislovodsk**	**129.81**	**58**	*e*PKPdf		**PKPdf**	**03 36 14.7**	**-0.1**	
NCK	**Nalchik**	**130.35**	**59**↓	*i* PKIKP		**PKPdf**	**03 36 17.6**	**+1.9**	
BILL	**Bilibino**	**132.92**	**334**	*e*PKIKP		**PKPdf**	**03 36 20.3**	**+0.5**	
BILL				pmax		pmax			
	comp=Z,6.0nm,1.1s								
ARU	**Arti**	**140.06**	**41**	*i* PKIKP		**PKPdf**	**03 36 33.2**	**-0.1**	
SEY	**Seymchan**	**140.09**	**330**	PKP		**PKPdf**	**03 36 32.4**	**-0.8**	
	comp=Z,4.2nm,0.9s,baz=99,slow=2.6,SNR=5.2								
SEY	**Seymchan**	**140.09**	**330**↓	*e*PKIKP		**PKPdf**	**03 36 31.9**	**-1.3**	
PETK	**Petropavlovsk-**	**140.13**	**314**	PKP		**PKPdf**	**03 36 32.8**	**-0.8**	
	comp=Z,3.5nm,1.1s,baz=264,slow=4.2,SNR=2.2								
ABKAR	**Akbulak array**	**142.00**	**52**	*e*PKPpre		PKPpre	03 36 31.0		
BRVK	**Borovoye**	**147.53**	**43**↓	*i* PKIKP		**PKPdf**	**03 36 47.6**	**+1.1**	
BRVK	**Borovoye**	**147.53**	**43**	*e*PKPdf		**PKPdf**	**03 36 47.1**	**+0.6**	
BRVK				*e*PKPbc		**PKPbc**	**03 36 49.5**	**+0.3**	
YAK	**Yakutsk**	**148.85**	**340**	*e*PKP2		**PKPbc**	**03 36 52.4**	**+0.1**	
YAK				pmax		pmax			
	comp=Z,22nm,0.9s								
YAK				pmax		pmax			
	comp=N,4.0nm,1.2s								
YAK				pmax		pmax			
	comp=E,5.0nm,0.9s								
KKAR	**Karatay Array**	**149.86**	**62**	*e*PKP2		**PKPbc**	**03 36 55.6**	**+0.1**	
KKAR	**Karatay Array**	**149.86**	**62**	*e*PKPbc		**PKPbc**	**03 36 55.6**	**+0.1**	
KULM	**Kulim**	**150.49**	**166**	*e*PKPbc		**PKPbc**	**03 36 56.9**	**-0.9**	
KULM				*e*PKPab		**pPKPbc**	**03 37 05.6**	**-0.5**	
KKM	**Kota Kinabalu**	**150.87**	**198**	*e*PKPbc		**PKPbc**	**03 36 59.3**	**+0.4**	
KKM				*e*PKPab		**pPKPbc**	**03 37 07.2**	**0.0**	
FRU	**Bishkek**	**152.88**	**62**	*e*PKIKP		**PKPbc**	**03 37 03.0**	**+0.5**	
KURK	**Kurchatov**	**153.20**	**43**↑	*e*PKIKP		**PKPdf**	**03 36 55.7**	**+0.3**	
KURK	**Kurchatov**	**153.20**	**43**	*e*PKPdf		**PKPdf**	**03 36 55.1**	**-0.3**	
KURK				*e*PKPbc		**PKPbc**	**03 37 02.4**	**-0.5**	
KURK				*e*PKPab		**PKPab**	**03 37 13.4**	**-1.3**	
NVS	**Novosibirsk**	**153.25**	**32**	*e*PKIKP		**PKPbc**	**03 37 03.2**	**+0.4**	
NVS				pmax		pmax			
	comp=N,4.0nm,1.0s								
NVS				pmax		pmax			
	comp=E,5.0nm,1.0s								
NVS				pmax		pmax			
	comp=Z,21nm,1.0s								
KSH	**Kashi**	**154.17**	**69**	PKPbc		**PKPdf**	**03 36 58.1**	**+0.7**	
KSH				pPKP		sPKPdf	03 37 08.4	-0.2	
KSH				PKS		**PKSdf**	**03 40 31.3**	**-0.4**	
KSH				PP		**PP**	**03 40 53.1**	**-1.8**	
KSH				SKS		**SKSdf**	**03 43 59.2**	**-3.4**	
KSH				AMB		AMB			
	comp=Z,120nm,6.6s								
KSH				LR		LR			
	comp=Z,73nm,7.5s								
KSH				LR		LR			
	comp=Z,93nm,7.6s								
KSH				LR		LR			
	comp=Z,130nm,7.2s								
ZALV	**Zalesovo Beam**	**154.53**	**32**	PKP		**PKPdf**	**03 36 57.2**	**0.0**	
	comp=Z,0.9nm,0.4s,baz=241,slow=4.9,SNR=5.2								
ZALV				PKPbc		**pPKPdf**	**03 37 05.9**	**+0.3**	
	comp=Z,9.5nm,0.7s,baz=302,slow=3.6,SNR=20								
ZALV				PKPab		**PKPab**	**03 37 19.8**	**-0.5**	
	comp=Z,10nm,0.8s,baz=298,slow=5.9,SNR=11								
BOD	**Bodaibo**	**156.01**	**352**	*e*PKP2		**PKPab**	**03 37 24.5**	**-1.9**	
BOD				pmax		pmax			
	comp=Z,18nm,1.1s								
WMQ	**Urumqi**	**161.79**	**52**	PKP		**PKPdf**	**03 37 06.5**	**0.0**	
WMQ				LR		LR			
	comp=Z,87nm,21.3s								
WMQ				LR		LR			
	comp=Z,83nm,25.5s								
ZAK	**Zakamensk**	**163.53**	**10**	*e*PKP2		**PKPab**	**03 37 55.1**	**-4.3**	
ZAK				pmax		pmax			
	comp=Z,3.0nm,1.6s								
ULN	**Ulaanbaatar**	**166.35**	**2**	*e*PKP2		**PKPab**	**03 38 12.3**	**+0.3**	
ULN	**Ulaanbaatar**	**166.35**	**2**	*e*PKPab		**PKPab**	**03 38 12.3**	**+0.3**	
SONM	**Songino Array**	**166.36**	**4**	PKPab		**PKPab**	**03 38 12.4**	**+0.4**	
	comp=Z,3.8nm,1.0s,baz=346,slow=3.7,SNR=8.5								
KMI	**Kunming**	**169.98**	**153**	PKP		**PKPdf**	**03 37 15.2**	**+1.3**	
NJ2	**Nanjing**	**170.38**	**260**	*e*PKP		**PKPdf**	**03 37 15.9**	**+2.3**	
GYA	**Guiyang**	**172.22**	**173**	PKP		**PKPdf**	**03 37 15.2**	**+0.4**	
GYA				PKPab		**PKPab**	**03 38 40.0**	**+1.6**	
GYA				PKS		**PKSdf**	**03 40 46.4**	**-1.0**	
GYA				PP		**PP**	**03 42 32.6**	**+4.0**	
GYA				AMB		AMB			
	comp=Z,130nm,8.2s								
HHC	**Hu-ho-hao-te**	**172.69**	**336**	*e*PKP		**PKPdf**	**03 37 12.6**	**-2.0**	
HHC				sPKP			03 37 27.4		
HHC				PP		**PP**	**03 42 34.3**	**+3.1**	
HHC				SKKS			03 49 14.9		
HHC				AMB		AMB			
	comp=Z,35nm,4.1s								
HHC				LR		LR			
	comp=Z,130nm,16.2s								
HHC				LR		LR			
	comp=Z,190nm,14.9s								
HHC				LR		LR			
	comp=Z,100nm,14.9s								
LZH	**Lanzhou**	**176.35**	**58**	*e*PKP		**PKPdf**	**03 37 15.2**	**-0.8**	
LZH				PP		**PP**	**03 42 51.1**	**+1.1**	
LZH				SKS		**SKSdf**	**03 44 13.0**	**-4.5**	
LZH				SKKS		**SKKSac**	**03 49 34.6**	**-0.1**	
LZH				AMB		AMB			
	comp=Z,130nm,4.5s								
LZH				LR		LR			
	comp=Z,120nm,12.6s								
LZH				LR		LR			
	comp=Z,190nm,16.6s								
LZH				LR		LR			
	comp=Z,130nm,17.6s								
XAN	**Xi'an**	**178.95**	**261**	PKP		**PKPdf**	**03 37 15.8**	**-0.4**	
XAN				pPKP		pPKPdf	03 37 20.9	-3.7	

*ISCJB **10** 03:21:03.8±1.0,36°.83N±0°.06×26°.58E±0°.05,h1km±8km, Error ellipse: s-maj=9.7km s-min=6.5km az=21.3*
*ISK **10** 03:21:03.8,36°.80N×26°.65E,h5km,MD2.6*
*CSEM **10** 03:21:04.9±0.3,36°.82N×26°.62E,h5km,MD2.6, Error ellipse: s-maj=7.4km s-min=4.9km az=16.0*

ISC 10 03:21:04.2±1.5,36°.82N±0°.04×26°.61E±0°.04,h12km±12km, n18,σ0s69/31,Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
NIS1	**Nisyros Isl.**	**0.51**	**115**	*e*PG		**Pg**	**03 21 14.0**	**-0.2**
NIS1				*e*SG		**Sb**	**03 21 21.4**	**-1.0**
NIS1	**Nisyros Isl.**	**0.51**	**115**	*e*Pg		**Pg**	**03 21 14.0**	**-0.2**
NIS1				*e*Sg		**Sb**	**03 21 21.4**	**-1.0**
BODT	**Bodrum**	**0.62**	**66**	*e*PG		**Pg**	**03 21 16.2**	**0.0**
BODT				*e*SG		**Sb**	**03 21 25.4**	**-0.2**
BODT	**Bodrum**	**0.62**	**66**	*e*Pg		**Pg**	**03 21 16.2**	**0.0**
BODT				*e*Sg		**Sb**	**03 21 25.4**	**-0.2**
BDRM	**Kayabasi**	**0.72**	**69**	*i* P		**Pg**	**03 21 18.2**	**+0.1**
BDRM				*i* S		**Sb**	**03 21 28.4**	**0.0**
BDRM	**Kayabasi**	**0.72**	**69**	P		**Pg**	**03 21 18.2**	**+0.1**
BDRM				S		**Sb**	**03 21 28.5**	**0.0**
DAT	**Datca**	**0.79**	**96**	*e*PG		**Pg**	**03 21 19.2**	**-0.2**
DAT				*e*SG		**Sb**	**03 21 30.5**	**0.0**
DAT	**Datca**	**0.79**	**96**	*i* P		**Pn**	**03 21 21.2**	**0.0**
DAT				*i* S		**Sn**	**03 21 32.6**	**-0.3**
DAT	**Datca**	**0.79**	**96**	*e*Pg		**Pg**	**03 21 19.2**	**-0.2**
DAT	**Datca**	**0.79**	**96**	P		**Pn**	**03 21 21.2**	**0.0**
DAT				*e*Sg		**Sb**	**03 21 30.5**	**0.0**
DAT				S		**Sn**	**03 21 32.6**	**-0.3**
APE	**Apeiranthos**	**0.90**	**287**	*e*PG		**Pb**	**03 21 22.8**	**+1.1**
APE	**Apeiranthos**	**0.90**	**287**	*e*Pg		**Pb**	**03 21 22.8**	**+1.1**
GCAM	**G?zelcaml?**	**1.01**	**29**	*i* P		**Pg**	**03 21 23.6**	**-0.1**
GCAM				*i* S		**Sb**	**03 21 37.7**	**+0.7**
GCAM	**G?zelcaml?**	**1.01**	**29**	P		**Pg**	**03 21 23.6**	**-0.1**
GCAM				S		**Sb**	**03 21 37.7**	**+0.7**
DGB	**˜zmir**	**1.25**	**10**	*i* P		**Pg**	**03 21 26.7**	**-1.6**
DGB				*i* S		**Sn**	**03 21 45.4**	**+1.1**
ZEY	**˜zmir**	**1.42**	**357**	*i* P		**Pn**	**03 21 28.2**	**-1.6**
AYDB	**Zeytinkoy-Aydi**	**1.52**	**42**	*e*PN		**Pb**	**03 21 33.1**	**+0.6**
AYDB	**Zeytinkoy-Aydi**	**1.52**	**42**	*e*Pn		**Pb**	**03 21 33.1**	**+0.6**

IDC 10 03:21:34.4±1.3,12°.06N×141°.71E,h0km,mb3.6/4, mb1 3.8/4,mb1mx3.5/34,mbtmp3.6/4,MS3.3/2,Ms1 3.4/2, ms1mx2.8/34,Error ellipse: s-maj=106.8km s-min=26.0km az=103.0,South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
JHJ	**Hachijo jima 2**	**21.04**	**356**	LR		LR	03 34 17.1	
	comp=Z,44nm,18.2s,baz=12,slow=36							
WRA	**Warramunga Arr**	**32.62**	**193**	P		P	03 28 07.8	-0.2
	0.5nm,0.6s,baz=15,slow=9.6,SNR=4.8							
ASAR	**Alice Springs**	**36.32**	**192**	P		P	03 28 40.1	0.0
	0.3nm,0.6s,baz=17,slow=13,SNR=6.3							
ILAR	**Eielson Array**	**71.26**	**25**	P		P	03 32 55.4	0.0
	0.3nm,0.8s,baz=253,slow=6.0,SNR=5.7							
FINES	**FINESS Array B**	**91.22**	**334**	P		P	03 34 41.4	0.0
	0.5nm,0.8s,baz=79,slow=7.2,SNR=3.5							
NOA	**NORSAR Array B**	**97.34**	**338**	LR		LR	04 22 03.4	
	comp=Z,24nm,20.1s,baz=235,slow=37							

*IDC **10** 03:40:04.5±0.7,15°.08S×172°.08W,h0km,mb4.1/9, mb1 4.3/9,mb1mx4.1/30,mbtmp4.1/9,MS3.6/6,Ms1 3.6/6, ms1mx3.3/23,Error ellipse: s-maj=34.5km s-min=15.3km az=122.0*
*ISCJB **10** 03:40:06.6±0.4,15°.08S±0°.09×172°.2W±0°.1,h18km, mb4.3/22,MS3.7/5,Error ellipse: s-maj=20.2km s-min=7.3km az=31.8*
*NEIC **10** 03:40:10.7±0.4,15°.09S×172°.18W,h35km,mb4.5/14, Error ellipse: s-maj=21.6km s-min=9.3km az=128.0*

ISC 10 03:40:07.8±0.5,15°.1S±0°.1×172°.1W±0°.2,h18km,n60, σ1s11/53,mb4.5/22,MS3.8/5,6C-4D,Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
AFI	**Afiamalu**	**1.20**	**17**	Pn		**Pn**	**03 40 27.7**	**-2.1**
	245nm,0.3s,baz=200,slow=15,SNR=101							
AFI				LR		LR	03 40 35.8	
	comp=Z,84nm,20.2s,baz=226,slow=26							
AFI				Sn		**Sb**	**03 40 44.3**	**-1.0**
	540nm,0.3s,baz=348,slow=20,SNR=22							
RAR	**Rarotonga**	**13.25**	**119**	LR		LR	03 47 54.9	
	comp=Z,67nm,18.2s,baz=287,slow=36							
URZ	**Urewera**	**24.98**	**200**	P		**P**	**03 45 30.5**	**+0.1**
	6.6nm,0.5s,baz=52,slow=4.1,SNR=8.8							
URZ	**Urewera**	**24.98**	**200**	*e*P		**P**	**03 45 32.3**	**+1.8**
	17nm,1.2s							
HNR	**Honiara**	**27.83**	**278**	LR		LR	03 55 24.5	
	comp=Z,100nm,22.0s,baz=360,slow=33							
H11S2	**WAKE ISLAND Hy**	**39.32**	**327**	T		T	04 30 04.1	
	baz=145,slow=76,SNR=36							
H11S3	**WAKE ISLAND Hy**	**39.33**	**327**	T		T	04 29 47.1	
	baz=145,slow=76,SNR=33							
H11S1	**WAKE ISLAND Hy**	**39.34**	**327**	T		T	04 29 59.3	
	baz=145,slow=76,SNR=25							
H11N3	**WAKE ISLAND Hy**	**40.24**	**329**	T		T	04 30 51.5	
	baz=145,slow=75,SNR=10.0							
H11N1	**WAKE ISLAND Hy**	**40.24**	**329**	T		T	04 30 52.1	
	baz=145,slow=75,SNR=13							
H11N2	**WAKE ISLAND Hy**	**40.26**	**329**	T		T	04 30 52.9	
	baz=145,slow=75,SNR=6.0							
STKA	**Stephens Creek**	**45.26**	**240**	P		**P**	**03 48 23.5**	**-1.0**
	2.9nm,1.0s,baz=73,slow=11,SNR=4.1							
WRA	**Warramunga Arr**	**51.10**	**256**	P		**P**	**03 49 09.7**	**-0.1**
	0.8nm,0.5s,baz=91,slow=7.2,SNR=9.3							
AS01	**Alice Springs**	**51.33**	**252**	*e*P		**P**	**03 49 11.7**	**+0.1**
AS31	**Alice Springs**	**51.37**	**252**	*e*P		**P**	**03 49 12.2**	**+0.4**
	2.2nm,0.9s							
ASAR	**Alice Springs**	**51.37**	**252**	P		**P**	**03 49 11.5**	**-0.4**
	5.0nm,0.8s,baz=84,slow=8.6,SNR=35							
VNDA	**Vanda**	**63.84**	**186**	P		**P**	**03 50 37.5**	**-1.2**
	0.8nm,0.7s,baz=8.7,slow=7.8,SNR=3.9							
LPIG	**La Paz**	**71.83**	**58**	LR		LR	04 14 59.7	
	comp=Z,47nm,18.8s,baz=241,slow=29							
MOD	**Modoc Plateau**	**74.11**	**38**	*e*P		**P**	**03 51 44.5**	**+1.3**
	3.5nm,0.7s							
QSPA	**South Pole Qui**	**74.98**	**180**	*e*P		**P**	**03 51 46.4**	**-1.5**
TMUT	**Trail Mountain**	**78.39**	**44**	*e*P		**P**	**03 52 09.9**	**+2.1**
	3.1nm,0.8s							
HLID	**Hailey**	**78.60**	**39**	*e*P		**P**	**03 52 10.1**	**+1.3**
	2.9nm,0.8s							
HVU	**Hansel Valley**	**78.65**	**41**	*e*P		**P**	**03 52 10.2**	**+1.1**
	1.6nm,0.9s							
TXAR	**Lajitas Array**	**79.42**	**56**	P		**P**	**03 52 13.5**	**0.0**
	0.3nm,0.7s,baz=214,slow=4.2,SNR=3.6							
TXAR				LR		LR	04 19 01.1	
	comp=Z,28nm,21.9s,baz=0.0,slow=29							
MCK	**McKinley**	**80.57**	**10**	*e*P		**P**	**03 52 20.4**	**+1.6**
	6.0nm,0.8s							
TPAW	**Teton Pass**	**80.69**	**40**	*e*P		**P**	**03 52 21.1**	**+0.8**
	3.3nm,0.8s							
BSMT	**Bassoo Peak**	**80.79**	**35**	*e*P		**P**	**03 52 21.2**	**+0.6**
FLWY	**Flagg Ranch**	**81.15**	**40**	*e*P		**P**	**03 52 24.1**	**+1.4**
	15nm,1.6s							
BW06	**Boulder Array**	**81.21**	**41**	*e*P		**P**	**03 52 22.8**	**-0.2**
PDAR	**Pinedale Array**	**81.21**	**41**	P		**P**	**03 52 23.1**	**+0.1**
	0.8nm,0.7s,baz=209,slow=5.4,SNR=7.4							
PDAR				LR		LR	04 21 05.2	
	comp=Z,47nm,20.3s,baz=134,slow=30							
WRH	**Wood River Hil**	**81.40**	**10**	*e*P		**P**	**03 52 24.8**	**+1.6**
	11nm,1.2s							
CCB	**Clear Creek Bu**	**81.61**	**10**	*e*P		**P**	**03 52 25.7**	**+1.4**
	7.4nm,1.2s							
COLA	**College**	**81.81**	**10**	*e*P		**P**	**03 52 25.4**	**+0.1**
	6.4nm,0.8s							
ILAR	**Eielson Array**	**81.89**	**11**	P		**P**	**03 52 26.4**	**+0.6**
	1.0nm,0.8s,baz=225,slow=6.2,SNR=12							
ABTX	**Abilene, Hawle**	**83.88**	**54**	*e*P		**P**	**03 52 36.2**	**-0.7**
	5.9nm,0.9s							
EDM	**Edmonton**	**84.57**	**31**	*e*P		**P**	**03 52 40.7**	**+0.7**
	30nm,1.4s							
MAW	**Mawson**	**88.50**	**198**	P		**P**	**03 52 58.3**	**-0.6**
	2.8nm,0.6s,baz=141,slow=5.8,SNR=8.5							
ULM	**Lac du Bonnet**	**92.91**	**39**	LR		LR	04 26 34.3	
	comp=Z,67nm,21.5s,baz=244,slow=30							
ARCES	**ARCESS Array B**	**124.44**	**353**	PKP		**PKPdf**	**03 59 05.2**	**-0.1**
	1.6nm,0.9s,baz=29,slow=2.1,SNR=5.3							
FINES	**FINESS Array B**	**131.87**	**348**	PKP		**PKPdf**	**03 59 19.9**	**+0.2**
	1.5nm,0.8s,baz=64,slow=3.2,SNR=3.5							
MORC	**Moravsky Berou**	**144.49**	**349**↑	*i* P		**PKPdf**	**03 59 43.0**	**-0.2**
MORC	**Moravsky Berou**	**144.49**	**349**	*e*PKPdf		**PKPdf**	**03 59 42.9**	**-0.4**
BURAR	**Bucovina Array**	**144.49**	**340**↓	*i* P		**PKPdf**	**03 59 44.2**	**+0.8**
DOU	**Dourbes**	**144.96**	**4**	PKP		**PKPdf**	**03 59 44.5**	**+0.5**
VRAC	**Vranov**	**145.11**	**350**↓	*i* P		**PKPdf**	**03 59 46.0**	**+1.7**
GRFO	**Grafenberg**	**145.36**	**356**	*e*PKPbc		**PKPdf**	**03 59 45.2**	**+0.5**
CFR	**Carcaliu**	**145.44**	**334**↑	*i* P		**PKPab**	**03 59 46.2**	**+1.1**
WLF	**Walferdange**	**145.46**	**2**	PKP		**PKPab**	**03 59 46.4**	**+1.3**
KHC	**Kasperske Hory**	**145.70**	**353**	*e*PKPbc		**PKPab**	**03 59 47.4**	**+1.4**
PSZ	**Piszkesteto**	**145.76**	**346**	*e*PKPbc		**PKPab**	**03 59 47.5**	**+1.2**
GERES	**GERESS Array B**	**145.97**	**353**	PKPbc		**PKPab**	**03 59 46.6**	**-0.4**
	1.2nm,0.8s,baz=29,slow=3.0,SNR=11							
DRGR		**146.02**	**342**↑	*i* P		**PKPab**	**03 59 48.1**	**+0.8**
MLR	**Muntele Rosu**	**146.05**	**337**↑	*i* P		**PKPab**	**03 59 48.9**	**+1.4**
VOIR		**146.43**	**338**↓	*i* P		**PKPab**	**03 59 50.1**	**+1.2**
ARR	**Arges**	**146.64**	**338**↑	*i* P		**PKPab**	**03 59 51.3**	**+1.6**
BRTR	**Keskin Array B**	**146.65**	**322**	PKPbc		**PKPab**	**03 59 49.1**	**-0.9**
	2.5nm,0.8s,baz=131,slow=2.0,SNR=10							
SIRR	**Siria**	**146.81**	**342**↓	*i* P		**PKPab**	**03 59 51.0**	**+0.7**
BZS	**Buzias**	**147.41**	**342**↑	*i* P		**PKPab**	**03 59 52.2**	**-0.4**
BNI	**Bardonecchia**	**150.09**	**2**	*e*PKPbc		**PKPbc**	**04 00 00.0**	**+2.2**
ESDC	**Sonseca Array**	**153.38**	**21**	PKP		**PKPdf**	**03 59 56.3**	**-1.5**
	0.1nm,0.3s,baz=314,slow=2.9,SNR=2.8							
ESDC				PKPbc		**pPKPdf**	**04 00 03.4**	**-0.7**
	0.1nm,0.2s,baz=333,slow=2.3,SNR=5.1							
ESDC				PKPab		**sPKPbc**	**04 00 14.3**	**+0.6**
	0.1nm,0.4s,baz=333,slow=3.4,SNR=4.1							

*NEIC **10** 03:45:58.7±0.0,37°.54N×118°.87W,h9km,ML2.8(NCEDC), After NCEDC.*
NEIC Felt at Mammoth Lakes.

ISC 10 03:45:58.6±1.0,37°.53N±0°.03×118°.87W±0°.03,h8km±7km, n17,σ0s99/34,California-Nevada border region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
MLAC	**Mammoth, Mammo**	**0.11**	**13**	P		**Pg**	**03 46 01.2**	**-0.1**
	baz=195							
MLAC				S		**Sg**	**03 46 03.4**	**+0.1**
	baz=195							
TIN	**Tinemaha, Big**	**0.69**	**133**	P		**Pg**	**03 46 12.2**	**+0.3**
	baz=314							
CWC	**Cottonwood Cre**	**1.25**	**150**	P		**Pn**	**03 46 22.1**	**-0.5**
	baz=330							
CWC				S		**Sb**	**03 46 38.5**	**-0.4**
	baz=330							
RCTC	**Rector, Farmer**	**1.26**	**194**	P		**Pn**	**03 46 21.9**	**-0.5**
	baz=14							
RCTC				S		**Sb**	**03 46 38.3**	**-0.5**
	baz=14							
CMB	**Columbia Colle**	**1.31**	**293**	*e*Pn		**Pn**	**03 46 22.2**	**-1.0**
CMB				*e*Sn		**Sb**	**03 46 39.6**	**-0.8**
GRAC	**Grapevine Rang**	**1.31**	**113**	Pb		**Pb**	**03 46 23.6**	**+0.2**
	baz=295							
DAC	**Darwin (Calif)**	**1.61**	**140**	*e*Pn		**Pn**	**03 46 27.9**	**+0.4**
DAC				*e*Sn		**Sn**	**03 46 49.0**	**+0.5**
VES	**Vestal, Richgr**	**1.69**	**186**	Pb		**Pb**	**03 46 29.6**	**-0.3**
	baz=5.8							
VES				Sb		**Sb**	**03 46 52.2**	**+0.8**
	baz=5.8							
MPMC	**Manual Prospec**	**1.84**	**143**	Pb		**Pb**	**03 46 32.5**	**-0.1**
	baz=324							
MPMC				Sb		**Sb**	**03 46 56.6**	**+0.9**
	baz=324							
ISA	**Is

OHWZ	Ohakea	1.48	57	PN	Pn	03 47 05.5	+0.3		
TRWZ	Traveller	1.56	105	PN	Pn	03 47 06.1	-0.2		
TRWZ				AML	AML	03 47 25.6			
TRWZ				AML	AML	03 47 26.7			
DSZ	Denniston Nort	1.59	242	PN	Pn	03 47 06.1	-0.7		
WAZ	Wanganui	1.60	39	PN	Pn	03 47 07.8	+0.9		
NMEZ	Namu Road	1.61	5	PN	Pn	03 47 07.2	+0.4		
LREZ	Lake Rotokare	1.65	20	PN	Pn	03 47 08.5	+1.1		
TMWZ	Te Maipa	1.67	94	PN	Pn	03 47 07.4	-0.3		
TMWZ				AML	AML	03 47 28.8			
TMWZ				AML	AML	03 47 30.4			
TIWZ	Tintock	1.68	83	⇑PN	Pn	03 47 07.2	-0.7		
TIWZ				AML	AML	03 47 28.9			
TIWZ				AML	AML	03 47 30.6			
POWZ	Post Office Ro	1.70	69	PN	Pn	03 47 07.2	-0.9		
POWZ				AML	AML	03 47 30.8			
POWZ				AML	AML	03 47 34.3			
PREZ	Palmer Road	1.71	12	PN	Pn	03 47 08.7	+0.5		
KHEZ	Kahui Hut	1.74	8	PN	Pn	03 47 08.7	+0.1		
NEZ	North Egmont	1.77	10	PN	Pn	03 47 09.1	0.0		
PRWZ	Pori Road	1.79	76	⇓PN	Pn	03 47 08.6	-0.6		
PRWZ				AML	AML	03 47 32.5			
PRWZ				AML	AML	03 47 33.7			
PKE	Pukeiti	1.83	7	PN	Pn	03 47 10.0	+0.1		
DREZ	Durham Road	1.87	12	PN	Pn	03 47 10.5	+0.2		
CPWZ	Castlepoint	1.91	88	PN	Pn	03 47 10.7	-0.1		
CPWZ				AML	AML	03 47 37.2			
CPWZ				AML	AML	03 47 38.3			
BFZ	Birch Farm	1.97	81	PN	Pn	03 47 09.9	-1.7		
BFZ				AML	AML	03 47 36.4			
BFZ				AML	AML	03 47 36.5			
BFZ				AML	AML	03 47 37.0			
BFZ				AML	AML	03 47 37.0			
DVHZ	Dannevirke	2.02	70	PN	Pn	03 47 10.9	-1.3		
DVHZ				AML	AML	03 47 38.1			
DVHZ				AML	AML	03 47 40.3			
LTZ	Lake Taylor	2.06	210	PN	Pn	03 47 12.5	-0.3		
VRZ	Vera Road	2.06	24	PN	Pn	03 47 13.2	+0.4		
ANWZ	Angora Road	2.19	76	AML	AML	03 47 42.7			
ANWZ				AML	AML	03 47 43.5			
PNHZ	Pukenui	2.21	61	PN	Pn	03 47 13.5	-1.3		
PNHZ				AML	AML	03 47 43.4			
PNHZ				AML	AML	03 47 44.7			
WNVZ	Wahianoa	2.23	42	PN	Pn	03 47 15.0	-0.3		
MOVZ	Moawhango	2.25	45	PN	Pn	03 47 14.7	-0.7		
WHVZ	Whangaehu Hut	2.26	41	PN	Pn	03 47 15.4	-0.3		
WPHZ	Waipukurau	2.30	67	AML	AML	03 47 47.1			
WPHZ				AML	AML	03 47 48.9			
NGZ	Ngauruhoe	2.35	39	PN	Pn	03 47 17.4	+0.6		
TWVZ	Taurewa	2.36	35	PN	Pn	03 47 17.0	+0.1		
BHHZ	Black Hill Sta	2.37	51	PN	Pn	03 47 16.1	-0.9		
OTVZ	Oturere	2.39	40	PN	Pn	03 47 17.2	-0.2		
INZ	Inchbonnie	2.39	224	PN	Pn	03 47 16.9	-0.3		
WTVZ	West Tongariro	2.39	38	PN	Pn	03 47 17.9	+0.6		
KRHZ	Kereru	2.47	57	PN	Pn	03 47 16.8	-1.3		
KRHZ				AML	AML	03 47 48.8			
KRHZ				AML	AML	03 47 49.0			
KATZ	Kakaramea	2.56	38	PN	Pn	03 47 21.0	+1.5		
PXZ	Pawanui	2.61	69	PN	Pn	03 47 18.6	-1.5		
OXZ	Oxford	2.62	207	PN	Pn	03 47 18.5	-1.6		
KWHZ	Kaweka Forest	2.63	54	PN	Pn	03 47 19.0	-1.3		
KWHZ				AML	AML	03 47 53.8			
KWHZ				AML	AML	03 47 55.3			
HIZ	Hauiti	2.66	20	⇑PN	Pn	03 47 20.5	-0.1		
CRLZ	Canterbury Las	2.68	197	PN	Pn	03 47 19.6	-1.3		
RATZ	Rangitukua	2.68	37	PN	Pn	03 47 23.9	+2.8		
KAHZ	Kahuranaki	2.72	64	PN	Pn	03 47 20.1	-1.5		
MOZ	McQueen's Vall	2.80	196	PN	Pn	03 47 20.4	-2.1		
BKZ	Black Stump Fm	2.83	50	PN	Pn	03 47 21.6	-1.5		
WVZ	Waitaha Valley	3.01	226	PN	Pn	03 47 25.3	-0.1		
TLZ	Tolley Road	3.04	29	PN	Pn	03 47 25.7	-0.1		
FOZ	Fox Glacier	3.82	228	PN	Pn	03 47 36.1	-0.2		
AWAZ	Awhitu Peninsu	4.01	11	PN	Pn	03 47 38.8	-0.2		
MKAZ	Moumakai	4.07	17	PN	Pn	03 47 39.4	-0.4		
KUZ	Kuaotunu	4.55	21	PN	Pn	03 47 45.7	-0.5		
ODZ	Otahua Downs	4.60	208	PN	Pn	03 47 45.7	-1.2		

IDC ***10*** *04:02:04.7±2.2, 49°.73N×126°.70W, h0km, mb3.4/2, mb1 3.8/5, mb1mx3.5/50, mbtmp3.5/5, ML3.2/4, MS3.4/1, Ms1 3.4/1, ms1mx2.6/23, Error ellipse: s-maj=47.3km s-min=10.3km az=50.0*

PGC ***10*** *04:02:04.2±0.0, 49°.39N×127°.15W, h36km, ML3.0/39, 82km Wsw of Gold R., Bc Vancouver Island, Canada Region*

ISC 10 04:02:04.1±1.1, 49°.40N±0°.03×127°.16W±0°.03, h23km±10km, n87, σ1ᵗ34/104, Vancouver Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ETB	Estevan Point	0.41	93	P	Pb	04 02 13.1	+0.4
ETB				S	Sb	04 02 19.1	+0.6
EDB	Eliza Dome	0.48	3	P	Pb	04 02 14.0	+0.1
EDB				S	Sb	04 02 20.7	+0.2
NC89	ODP889	0.76	164	P	Pb	04 02 18.0	-0.5
NC89				S	Sb	04 02 28.5	+0.2
GDR	Gold River	0.83	62	P	Pb	04 02 18.7	-1.1
GDR				S	Sb	04 02 29.2	-1.3
WOSB	Woss	0.85	26	P	Pb	04 02 19.7	-0.6
WOSB				S	Sb	04 02 31.3	0.0
TOFB	Tofino	0.85	106	P	Pb	04 02 19.1	-1.2
TOFB				S	Sb	04 02 30.6	-0.7
BPBC	Brooks Peninsu	0.86	333	P	Pb	04 02 19.6	-0.8
MAYB	Maynard	1.00	360	P	Pb	04 02 22.1	-0.9
MAYB				S	Sb	04 02 35.2	-0.6
BTB	Buttle Lake	1.07	86	P	Pn	04 02 22.7	-1.4
BTB				S	Sb	04 02 36.1	-1.6
SPLB	Strathcona Par	1.10	63	P	Pn	04 02 23.4	-0.7
SPLB				S	Sb	04 02 37.0	-1.2
B012	Ucluelet	1.16	113	P	Pn	04 02 23.2	-1.6
B012				S	Sb	04 02 38.5	-1.7
TLCB	Telegraph Cove	1.17	10	P	Pn	04 02 24.6	-0.3
TLCB				S	Sb	04 02 39.7	-0.6
OZB	Mount Ozzard	1.18	111	P	Pn	04 02 23.6	-1.6
NCRB	Newcastle Ridg	1.23	35	P	Pn	04 02 25.7	-0.3
MWAB	Mount Washingt	1.26	73	P	Pn	04 02 25.5	-0.8
MWAB				S	Sn	04 02 41.5	-1.0
PHC	Port Hardy	1.32	352	Pn	Pn	04 02 26.7	-0.4
PHC				Pg	Pb	04 02 32.0	+3.8
PHC				Sn	Sn	04 02 43.1	-0.9
CBB	Campbell River	1.33	61	Pn	Pn	04 02 26.5	-0.7
CBB				Sn	Sn	04 02 42.7	-1.4
HOLB	Holberg	1.39	334	Pn	Pn	04 02 27.3	-0.8
HOLB				Sn	Sn	04 02 43.0	-2.4
BMSB	Bamfield Mari	1.44	112	Pn	Pn	04 02 27.6	-1.2
B928	Bamfield	1.45	112	Pn	Pn	04 02 27.2	-1.6
B928				Pg	Pb	04 02 33.4	+3.1
ALB	Alberni	1.53	94	Pn	Pn	04 02 28.8	-1.1
B927	Port Alberni	1.55	96	Pn	Pn	04 02 29.0	-1.1
B927				Sn	Sn	04 02 47.4	-2.1
MGB	Mount Grey	1.67	103	Pn	Pn	04 02 30.4	-1.6
NC27	ODP1027	1.69	194	Pn	Pn	04 02 29.7	-2.0
NC27				Sn	Sn	04 02 49.1	-3.3
TXB	Texada	1.80	79	Pn	Pn	04 02 32.9	-0.8
YOUB	Youbou, Lake C	1.97	104	Pn	Pn	04 02 34.8	-1.2
PFB	Port Renfrew	1.97	114	Pn	Pn	04 02 34.7	-1.4
OCP	Olym-Cheeka Pk	2.00	122	Pn	Pn	04 02 36.1	-0.4
B926	Mesachie Lake	2.07	105	Pn	Pn	04 02 38.3	+0.9
NLLB	Nanaimo Lost L	2.08	94	Pn	Pn	04 02 37.2	-0.4
SHB	Sechelt	2.15	83	Pn	Pn	04 02 37.8	-0.8
LZB	Mount Lazard	2.33	108	Pn	Pn	04 02 40.1	-1.0
OFR	Olym-F Res Ctr	2.35	128	Pn	Pn	04 02 40.2	-1.0
OFR				Sn	Sn	04 03 07.4	-1.9
GOBB	Galiano Island	2.44	99	Pn	Pn	04 02 41.3	-1.1
OBC	Olympics--Boni	2.45	123	Pn	Pn	04 02 41.8	-0.9
BIB	Bowen Island	2.52	88	Pn	Pn	04 02 42.6	-0.9
B010	North Saanich	2.55	106	Pn	Pn	04 02 43.8	-0.2
B010				Sn	Sn	04 03 12.2	-2.1
B009	North Saanich	2.55	106	Pn	Pn	04 02 43.7	-0.3
PGC	Sidney	2.55	106	Pn	Pn	04 02 43.3	-0.7
B011	North Saanich	2.56	106	Pn	Pn	04 02 43.8	-0.3
B011				Pg	Pb	04 02 51.6	+2.4
WPB	Watts Point	2.59	83	Pn	Pn	04 02 44.1	-0.4
SNB	Saturna Island	2.69	102	Pn	Pn	04 02 45.5	-0.5
VGZ	Gonzales	2.71	110	Pn	Pn	04 02 46.1	-0.2
OSD	Olympics--Snow	2.79	123	Pn	Pn	04 02 47.0	-0.4
WSLR	Whistler	2.84	74	Pn	Pn	04 02 48.1	0.0
BBB	Bella Bella	2.85	348	Pn	Pn	04 02 48.0	-0.2
	1.1nm,0.3s,baz=175,slow=11,SNR=47						
BBB				Sn	Sn	04 03 19.3	-2.5
	6.5nm,0.3s,baz=137,slow=19,SNR=12						
BBB	Bella Bella	2.85	348	Pn	Pn	04 02 47.8	-0.4
BBB				Sn	Sn	04 03 20.7	-1.1
MCW	Mount Constitu	2.94	103	Pn	Pn	04 02 50.0	+0.7
A04D	Lummi Island	3.01	101	P	Pn	04 02 50.8	+0.5
	baz=285,SNR=15						
BLN	Blyn Mountain	3.10	115	Pn	Pn	04 02 51.8	+0.2
WISH	Wishkah	3.21	134	Pn	Pn	04 02 53.7	+0.6
HDW	Hoodsport	3.24	121	Pn	Pn	04 02 54.0	+0.4
SMW	South Mountain	3.29	128	Pn	Pn	04 02 54.2	0.0
CMW	Cultus Mountai	3.46	104	Pn	Pn	04 02 57.9	+1.3
MBW	Mount Baker	3.51	98	Pn	Pn	04 02 57.7	+0.3
B05A	Bryant	3.53	107	P	Pn	04 02 57.7	+0.2
	baz=291,SNR=17						
LLLB	Lillooet	3.61	68	Pn	Pn	04 02 59.4	+0.7
JCW	Jim Creek	3.66	107	Pn	Pn	04 02 59.6	+0.3
E03A	Lebam	3.74	138	Pn	Pn	04 02 59.7	-0.6
E03A				Sn	Sn	04 03 40.5	-3.1
HOPB	Hope	3.75	88	Pn	Pn	04 03 00.6	+0.1
B06A	Marblemount	3.84	101	Pn	Pn	04 03 01.7	0.0
RPW	Rockport	3.84	102	Pn	Pn	04 03 02.2	+0.4
GPW	Glacier Peak	4.18	106	Pn	Pn	04 03 05.3	-1.4
BNB	Barry Inlet	4.31	319	Pn	Pn	04 03 07.4	-0.7
FMW	Mount Fremont	4.42	122	Pn	Pn	04 03 11.2	+1.3
BNAB	Bonilla	4.64	333	Pn	Pn	04 03 16.6	+3.9
MORC	Moresby Island	4.81	323	Pn	Pn	04 03 14.2	-1.0
PNT	Penticton	4.93	88	Pn	Pn	04 03 16.7	0.0
G03D	McMinnville, O	4.96	146	P	Pn	04 03 18.4	+1.4
	baz=329,SNR=19						
DIB	Dawson Inlet,	5.06	321	Pn	Pn	04 03 17.5	-1.0
H02S1	DAWSON INLET T	5.06	321	Pn	Pn	04 03 17.2	-1.3
	SNR=48						
H02S1				Sn	Sn	04 04 13.5	-2.6
	SNR=4.3						
H02N1	VAN INLET T-PH	5.13	321	Pn	Pn	04 03 18.4	-1.0
	SNR=56						
H02N1				Sn	Sn	04 04 15.3	-2.5
VIB	Van Inlet	5.13	321	Pn	Pn	04 03 18.3	-1.1
B08A	Colville Reser	5.27	98	Pn	Pn	04 03 20.6	-0.8
NDB	Naden	5.81	324	Pn	Pn	04 03 27.8	-1.0
NEW	Newport	6.72	96	Pn	Pn	04 03 41.5	+0.1
	0.5nm,0.3s,baz=290,slow=14,SNR=8.9						
PDAR	Pinedale Array	13.88	112	Pn	Pn	04 05 22.6	+3.1
	0.1nm,0.3s,baz=306,slow=13,SNR=5.1						
ULM	Lac du Bonnet	20.13	76	P	P	04 06 36.5	+0.3
	0.2nm,0.3s,baz=281,slow=9.2,SNR=4.8						
ANMO	Albuquerque	20.97	126	P	Pn	04 06 48.6	+0.3
	0.4nm,0.4s,baz=331,slow=13,SNR=3.5						
TXAR	Lajitas Array	26.85	130	P	P	04 07 46.8	+3.9
	1.0nm,0.8s,baz=337,slow=6.4,SNR=6.7						
PETK	Petropavlovsk-	45.17	305	LR	LR	04 28 56.2	
	comp=Z,40nm,19.0s,baz=103,slow=36						
H11N2	WAKE ISLAND Hy	59.67	265	T	T	05 16 54.2	
	baz=43,slow=75,SNR=62						
H11N3	WAKE ISLAND Hy	59.67	265	T	T	05 16 56.8	
	baz=43,slow=75,SNR=38						
H11N1	WAKE ISLAND Hy	59.69	265	T	T	05 16 56.2	
	baz=43,slow=75,SNR=58						
H11S1	WAKE ISLAND Hy	60.68	264	T	T	05 18 12.3	
	baz=48,slow=77						
H11S2	WAKE ISLAND Hy	60.69	264	T	T	05 18 15.3	
	baz=48,slow=77						
H11S3	WAKE ISLAND Hy	60.70	264	T	T	05 18 18.7	
	baz=48,slow=77						

IDC 10 04:09:35.5±3.2, 14°.97N×55°.38E, h0km, mb3.8/4, mb1 3.9/4, mb1mx3.4/49, mbtmp3.8/4, MS3.4/2, Ms1 3.4/2, ms1mx2.8/44, Error ellipse: s-maj=148.7km s-min=33.7km az=60.0, Owen Fracture Zone region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WSAR	Wadi Sarin	8.78	20	LR	LR	04 15 09.0	
	comp=Z,62nm,19.3s,baz=198,slow=38						
H08N2	Diego Garcia H	26.22	143	T	T	04 42 45.3	
	baz=323,slow=76,SNR=66						
H08N3	Diego Garcia H	26.23	143	T	T	04 42 46.3	
	baz=323,slow=76,SNR=67						
H08N1	Diego Carcia H	26.24	143	T	T	04 42 47.1	
	baz=323,slow=76,SNR=74						
AKTO	Aktyubinsk	35.44	3	P	P	04 16 33.9	+0.5
	1.0nm,0.6s,baz=191,slow=10,SNR=3.4						
FINES	FINESS Array B	50.94	342	P	P	04 18 37.9	-0.6
	1.3nm,0.9s,baz=131,slow=13,SNR=5.3						
ARCES	ARCESS Array B	57.66	348	P	P	04 19 27.2	-0.1
	0.4nm,0.5s,baz=153,slow=6.1,SNR=7.1						
TGY	Tagaytay City	63.25	82	LR	LR	04 44 48.5	
	comp=Z,101nm,21.8s,baz=212,slow=33						
H01W3	Cape Leeuwin H	74.58	133	T	T	05 42 53.9	
	baz=301,slow=75,SNR=30						
H01W2	Cape Leeuwin H	74.58	133	T	T	05 42 53.9	
	baz=301,slow=75,SNR=33						
H01W1	Cape Leeuwin H	74.59	133	T	T	05 42 53.9	
	baz=301,slow=75,SNR=32						
ASAR	Alice Springs	85.77	116	P	P	04 22 17.2	-0.1
	0.6nm,0.8s,baz=302,slow=5.2,SNR=3.9						

ISCJB ***10*** *04:09:53.8±0.4, 67°.81N±0°.02×20°.25E±0°.07, h0km, mb3.6/1, Error ellipse: s-maj=3.7km s-min=3.3km az=38.5*

CSEM ***10*** *04:09:54.8±0.2, 67°.82N×20°.31E, h2km, ML1.9, Error ellipse: s-maj=4.4km s-min=4.1km az=78.0, Mining explosion.*

UPP ***10*** *04:09:54.5±0.1, 67°.82N×20°.21E, h0km, ML1.9, Suspected explosion*

NAO ***10*** *04:09:54.8±1.6, 67°.82N×20°.47E, ML2.3*

IDC ***10*** *04:09:54.9±1.0, 67°.80N×20°.35E, h0km, mb3.8/1, mb1 3.2/4, mb1mx3.0/46, mbtmp3.0/4, ML2.3/3, Error ellipse: s-maj=16.6km s-min=9.2km az=106.0*

HEL ***10*** *04:09:55.1±0.1, 67°.82N×20°.21E, h0km, ML1.8, ML1.9(UPP), Explosion*

BER ***10*** *04:09:57.0±3.5, 67°.82N×20°.38E, h0km, ML1.6, ML2.3(NAO), Suspected explosion*

ISC 10 04:09:54.3±0.7, 67°.81N±0°.02×20°.28E±0°.02, h0km, n57, σ1ᵗ17/91, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RATU	Laukkuluspa	0.26	272	P	Pg	04 09 59.2	-0.1
RATU				S	Sg	04 10 02.4	-0.3
NIKU	Nikkaluokta	0.48	277	P	Pg	04 10 03.1	-0.3
NIKU	Nikkaluokta	0.48	277	*i* P	Pg	04 10 03.1	-0.3
NIKU	Nikkaluokta	0.48	277	P	Pg	04 10 03.1	-0.3
LANU	Lannavaara	0.69	69	P	Pg	04 10 07.9	+0.5
LANU	Lannavaara	0.69	69	*eP*	Pg	04 10 07.0	-0.3
LANU				*eS*	Sg	04 10 17.0	+0.8
LANU	Lannavaara	0.69	69	P	Pg	04 10 07.9	+0.5
LANU				S	Sg	04 10 17.0	+0.8
DUNU	Dundret	0.70	171	P	Pg	04 10 07.9	+0.2
DUNU	Dundret	0.70	171	*i* P	Pg	04 10 07.9	+0.2
DUNU	Dundret	0.70	171	P	Pg	04 10 07.9	+0.2
MASU	Masugnsbyn	0.75	118	P	Pg	04 10 09.1	+0.6
MASU	Masugnsbyn	0.75	118	*i* P	Pg	04 10 09.1	+0.6
MASU	Masugnsbyn	0.75	118	P	Pg	04 10 09.1	+0.6
KIF	Kilpisjarvi	1.21	9	Pg	Pg	04 10 17.6	+0.1
KIF				Lg	Lg	04 10 33.7	
KIF	Kilpisjarvi	1.21	9	Pg	Pg	04 10 17.6	+0.1
KIF				*eP*	Pg	04 10 17.6	+0.1
KIF				*eS*	Sg	04 10 33.6	+0.4
KIF				Lg	Lg	04 10 33.7	
KIF	Kilpisjarvi	1.21	9	*eP*	Pg	04 10 17.5	+0.1
	baz=193						
KIF				*eSB*	Sb	04 10 34.5	+0.3
KIF	Kilpisjarvi	1.21	9	Pg	Pg	04 10 17.5	+0.1
	SNR=90						
KIF				*eS*	Sg	04 10 33.6	+0.4
	SNR=90						
KIF				Sb	Sb	04 10 34.5	+0.3
HEF	Hetta	1.40	63	*eP*	Pg	04 10 20.8	-0.3
HEF				*eS*	Sg	04 10 39.4	+0.3
HEF	Hetta	1.40	63	*eP*	Pg	04 10 20.5	-0.6
	baz=240						
HEF				MSG		04 10 38.0	
	comp=Z,10nm,0.2s						
HEF				*eSB*	Sg	04 10 39.0	-0.1
HEF	Hetta	1.40	63	*eP*	Pg	04 10 20.8	-0.3
	SNR=50						
HEF				Sb	Sg	04 10 39.0	-0.1
KTK1	Kautokeino	1.63	41	*eP*	Pn	04 10 24.4	+0.3
KTK1				*eS*	Sn	04 10 45.7	-0.1
	SNR=50						
HARU	Harads	1.68	170	P	Pn	04 10 25.2	+0.4
HARU	Harads	1.68	170	*eP*	Pn	04 10 25.2	+0.4
HARU	Harads	1.68	170	P	Pn	04 10 25.2	+0.4
TRO	Tromso	1.89	345	*ePg*	Pg	04 10 30.7	+0.2
TRO				IAML		04 10 59.1	
	comp=Z,10nm,0.4s						
TRO	Tromso	1.89	345	*ePg*	Pg	04 10 30.7	+0.2
	SNR=90						
TOF	Tornio	2.36	136	*ePB*	Pn	04 10 36.0	+1.9
	baz=320						
TOF				*eSB*	Sb	04 11 06.9	-0.2
TOF	Tornio	2.36	136	Pb	Pn	04 10 36.0	+1.9
TOF				Sb	Sb	04 11 06.9	-0.2
RNF	Rovaniemi	2.54	116	*ePB*	Pb	04 10 39.5	-1.1
RNF				*eSG*	Sb	04 11 13.6	+1.3
RNF	Rovaniemi	2.54	116	Pb	Pb	04 10 39.5	-1.1
RNF				Sg	Sb	04 11 13.6	+1.3
LOF	Lofoten	2.56	280	*eP*	Pn	04 10 38.3	+1.3
LOF				IAML		04 11 24.5	
	comp=Z,4.3nm,0.4s						
LOF	Lofoten	2.56	280	*eP*	Pn	04 10 38.3	+1.3
	SNR=50						
ARE0	ARCESS Array S	2.58	45	*eP*	Pn	04 10 38.1	+0.9
ARE0				IAML		04 11 17.7	
	comp=Z,6.9nm,0.5s						
ARE0	ARCESS Array S	2.58	45	*eP*	Pn	04 10 37.9	+0.7
	baz=226						
ARE0				*eS*	Sn	04 11 05.7	-3.5
ARE0	ARCESS Array S	2.58	45	P	Pn	04 10 37.9	+0.7
ARE0				S	Sn	04 11 05.7	-3.5
ARA0	ARCESS Array S	2.58	45	Pn	Pn	04 10 38.2	+1.0
	baz=229,slow=16						
ARA0				Sn	Sn	04 11 11.1	+1.9
	baz=232,slow=22						
ARA0	ARCESS Array S	2.58	45	Pn	Pn	04 10 38.2	+1.0
	baz=229,slow=16						
ARA0				Sn	Sn	04 11 11.1	+1.9
	baz=232,slow=22						
ARA0	ARCESS Array S	2.58	45	Pn	Pn	04 10 38.2	+1.0
	SNR=50						
ARA0				Sn	Sn	04 11 11.1	+1.9
	SNR=50						
ARCES	ARCESS Array B	2.58	45	Pn	Pn	04 10 38.1	+0.9
	comp=Z,0.6nm,0.3s,baz=234,slow=14,SNR=24						
ARCES				Sn	Sn	04 11 11.2	+2.0
	comp=Z,2.4nm,0.3s,baz=230,slow=22,SNR=15						
BURU	Burvik	3.27	172	*eP*	Pn	04 10 48.6	+1.9
	baz=2.0						
BURU	Burvik	3.27	172	P	Pn	04 10 48.6	+1.9
MSF	Maaselka	3.95	115	*eP*	Pn	04 10 57.9	+1.9
MSF	Maaselka	3.95	115	P	Pn	04 10 57.9	+1.9
UMAU	Umeaa	3.95	177	*eP*	Pn	04 10 57.9	+1.9
	baz=345						
UMAU				*eS*	Sn	04 11 44.5	+1.5
UMAU	Umeaa	3.95	177	P	Pn	04 10 57.9	+1.9
UMAU				S	Sn	04 11 44.5	+1.5
KU6	Riekki	4.19	111	*eP*	Pn	04 11 01.1	+1.8
	baz=290						
KU6				*eSG*	Sg	04 12 07.0	-1.5
KU6	Riekki	4.19	111	P	Pn	04 11 01.1	+1.8
KU6				Sg	Sg	04 12 07.0	-1.5
APA0	Apatity Array	4.84	87	Pn	Pn	04 11 08.4	+0.1
	baz=298,slow=14						
APA0				Sn	Sn	04 12 03.5	-1.5
	baz=278,slow=28						
APA0				Lg	Lg	04 12 21.9	
	baz=283,slow=37						
APA0	Apatity Array	4.84	87	Pn	Pn	04 11 08.4	+0.1
	baz=298,slow=14						
APA0				Sn	Sn	04 12 03.5	-1.5
	baz=278,slow=28						
APA0				Lg	Lg	04 12 21.9	
	baz=283,slow=37						
APA0	Apatity Array	4.84	87	Pn	Pn	04 11 08.4	+0.1
	SNR=50						
APA0				Sn	Sn	04 12 03.5	-1.5
	SNR=50						
APA0				Lg	Lg	04 12 21.9	
	SNR=6.5						
FIA0	FINESS Array S	6.86	156	Pn	Pn	04 11 36.6	+0.7
	baz=344,slow=12						
FIA0				Sn	Sn	04 12 53.6	-1.0
	baz=346,slow=22						
FIA0				Lg	Lg	04 13 26.2	
	baz=347,slow=28						
FIA0	FINESS Array S	6.86	156	Pn	Pn	04 11 36.6	+0.7
	baz=344,slow=12						
FIA0				Sn	Sn	04 12 53.6	-1.0
	baz=346,slow=22						
FIA0				Lg	Lg	04 13 26.2	
	baz=347,slow=28						
FIA0	FINESS Array S	6.86	156	Pn	Pn	04 11 36.7	+0.7
	SNR=50						
FIA0				Sn	Sn	04 12 53.6	-1.0
	SNR=50						
FIA0				Lg	Lg	04 13 26.2	
FINES	FINESS Array B	6.86	156	Pn	Pn	04 11 37.1	+1.2
	comp=Z,0.1nm,0.3s,baz=341,slow=12,SNR=5.9						
FINES				Sn	Sn	04 12 52.8	-1.7
	comp=Z,0.1nm,0.3s,baz=343,slow=22,SNR=3.1						
FINES				Lg	Lg	04 13 26.6	
	comp=Z,0.4nm,0.3s,baz=345,slow=26,SNR=8.

BKZ	Black Stump Fm	9.85	199	*e*Pn		Pn	04 33 39.5 -1.4
BKZ	Black Stump Fm	9.85	199	PN		Pn	04 33 40.4 -0.5
KWHZ	Kaweka Forest	10.11	199	PN		Pn	04 33 42.3 -1.7
CKHZ	Cape Kidnapper	10.15	196	PN		Pn	04 33 44.5 0.0
FWVZ	Far West T-bar	10.22	203	PN		Pn	04 33 43.2 -2.3
WHVZ	Whangaehu Hut	10.23	203	PN		Pn	04 33 45.5 -0.2
BHHZ	Black Hill Sta	10.27	200	PN		Pn	04 33 45.1 -0.9
WNVZ	Wahianoa	10.27	203	PN		Pn	04 33 44.5 -1.6
MOVZ	Moawhango	10.29	202	PN		Pn	04 33 46.1 -0.1
KRHZ	Kereru	10.32	199	PN		Pn	04 33 46.1 -0.5
KAHZ	Kahuranaki	10.33	197	PN		Pn	04 33 44.4 -2.3
PXZ	Pawanui	10.56	196	PN		Pn	04 33 49.0 -0.4
PNHZ	Pukenui	10.62	199	PN		Pn	04 33 47.5 -2.6
TSZ	Takapari Road	10.83	200	PN		Pn	04 33 50.6 -1.9
PRHZ	Porangahau	10.84	197	PN		Pn	04 33 52.3 -0.3
WAZ	Wanganui	10.86	204	PN		Pn	04 33 52.2 -0.8
DVHZ	Dannevirke	10.99	198	PN		Pn	04 33 53.5 -1.0
POWZ	Post Office Ro	11.19	200	PN		Pn	04 33 56.5 -0.3
PRWZ	Pori Road	11.28	199	PN		Pn	04 33 57.9 0.0
BFZ	Birch Farm	11.33	197	*e*P		Pn	04 33 56.1 -2.4
BFZ	Birch Farm	11.33	197	PN		Pn	04 33 55.4 -3.1
MRZ	Mangatainoka R	11.49	200	PN		Pn	04 33 56.1 -4.4
TIWZ	Tintock	11.51	199	PN		Pn	04 34 00.3 -0.4
CPWZ	Castlepoint	11.55	197	PN		Pn	04 34 00.8 -0.3
HOWZ	Holdsworth Sta	11.73	200	PN		Pn	04 34 00.9 -2.4
OGWZ	Otaki Gorge	11.76	201	PN		Pn	04 34 00.1 -3.5
TMWZ	Te Maipa	11.82	198	PN		Pn	04 34 01.5 -2.9
KIW	Kapiti Island	11.88	202	PN		P	04 34 01.9 -3.1
MTW	Mount Morrison	11.97	199	PN		P	04 34 04.3 -1.7
CAW	Cannon Point	12.06	201	PN		P	04 34 04.3 -2.7
DUWZ	D'Urville Isla	12.17	205	PN		P	04 34 04.9 -3.3
MSWZ	Moikau Station	12.29	200	PN		P	04 34 08.8 -0.8
MSVF	Nonsavu	12.37	348	*e*P		P	04 34 08.7 -2.0
TCW	Tory Channel	12.40	203	PN		P	04 34 08.1 -2.7
PLWZ	Palliser	12.43	199	PN		P	04 34 10.6 -0.4
NNZ	Nelson	12.73	206	PN		P	04 34 11.7 -2.8
QRZ	Quartz Range	12.74	209	PN		P	04 34 13.4 -1.1
THZ	Tophouse	13.38	206	*e*P		P	04 34 19.9 -1.8
THZ	Tophouse	13.38	206	PN		P	04 34 18.8 -2.9
KHZ	Kahutara	13.73	203	*e*P		P	04 34 23.4 -2.0
KHZ				*e*S		S	04 36 51.2 -3.8
KHZ	Kahutara	13.73	203	PN		P	04 34 22.7 -2.7
LTZ	Lake Taylor	14.50	205	*e*P		P	04 34 32.6 -1.3
LTZ				*e*S		S	04 37 12.2 +1.6
INZ	Inchbonnie	14.77	208	PN		P	04 34 35.7 -1.1
DZM	Mont Dzumac	14.98	298	P		Pn	04 34 42.4 +0.6
	1.2nm,0.3s,baz=110,slow=18,SNR=16						
DZM	Mont Dzumac	14.98	298	*e*P		Pn	04 34 43.4 +1.6
	15nm,0.7s						
OXZ	Oxford	15.06	205	PN		P	04 34 38.0 -1.9
MQZ	McQueen's Vall	15.17	203	*e*P		P	04 34 41.3 +0.1
	141nm,1.8s						
MQZ				*e*S		S	04 37 21.9 -2.1
RPZ	Rata Peaks	15.76	206	P		P	04 34 47.7 +0.1
	1.0nm,0.3s,baz=296,slow=1.4,SNR=3.3						
RPZ				S		S	04 37 32.3 -3.4
	0.9nm,0.3s,baz=162,slow=20,SNR=4.1						
CAN	Canberra	27.15	250	*e*P		P	04 36 40.3 +3.0
	15nm,0.7s						
CTAO	Charters Tower	32.59	279	*e*P		P	04 37 26.9 +1.9
	145nm,0.8s						
STKA	Stephens Creek	33.47	257	P		P	04 37 34.2 +1.8
	9.0nm,0.5s,baz=94,slow=12,SNR=29						
STKA	Stephens Creek	33.47	257	*e*P		P	04 37 32.7 +0.3
	2.0nm,0.7s						
BBOO	Buckleboo	37.99	254	*e*P		P	04 38 10.8 +0.3
	7.7nm,0.4s						
COEN	Coen	38.03	286	*e*P		P	04 38 11.8 +0.8
	13nm,1.0s						
AS01	Alice Springs	41.95	267	*e*P		P	04 38 42.7 -0.2
AS31	Alice Springs	41.98	267	*e*P		P	04 38 43.1 -0.1
	8.9nm,1.3s						
ASAR	Alice Springs	41.99	267	P		P	04 38 43.6 +0.4
	11nm,0.5s,baz=101,slow=6.5,SNR=148						
ASAR				PcP		PcP	04 40 31.1 0.0
	1.4nm,0.4s,baz=116,slow=3.4,SNR=5.2						
ASAR				ScP		ScP	04 43 50.1 +2.7
	0.3nm,0.7s,baz=96,slow=5.7,SNR=4.4						
WB2	Warramunga Arr	42.92	272	*e*P		P	04 38 50.8 +0.2
	77nm,0.5s						
WRAB	Tennant Creek	42.92	272	*e*P		P	04 38 50.5 -0.2
	49nm,0.6s						
WRA	Warramunga Arr	42.93	272	P		P	04 38 50.8 0.0
	55nm,0.5s,baz=111,slow=7.3,SNR=488						
WRA				PcP		PcP	04 40 34.1 -0.2
	2.3nm,0.7s,baz=112,slow=3.4,SNR=4.1						
WRA				ScP		ScP	04 43 52.5 +1.3
	1.2nm,0.8s,baz=107,slow=3.5,SNR=3.8						
WRA				S		S	04 44 48.2 -0.9
	1.2nm,1.1s,baz=108,slow=15,SNR=3.3						
FORT	Forrest	45.06	255	*e*P		P	04 39 07.3 0.0
	188nm,0.9s						
JAY	Jayapura	46.66	298	P		P	04 39 19.3 -0.6
	0.8nm,0.7s,baz=96,slow=24,SNR=5.4						
VNDA	Vanda	48.46	185	P		P	04 39 35.7 +3.0
	1.0nm,0.7s,baz=5.4,slow=9.0,SNR=8.7						
VNDA				ScP		ScP	04 44 15.8 +2.6
	2.0nm,0.7s,baz=360,slow=4.9,SNR=16						
FITZ	Fitzroy Crossi	51.21	270	*e*P		P	04 39 54.8 +0.8
	18nm,0.8s						
MBWA	Marble Bar	55.13	264	*e*P		P	04 40 21.8 -0.5
	120nm,0.9s						
QSPA	South Pole Qui	60.19	180	*e*P		P	04 40 59.4 +2.8
	29nm,0.8s						
KKM	Kota Kinabalu	71.31	289	*e*P		P	04 42 07.2 -0.6
	15nm,0.7s						
MAW	Mawson	72.35	201	P		P	04 42 14.5 +1.7
	5.1nm,0.5s,baz=136,slow=7.3,SNR=12						
MJAR	Matsushiro Arr	77.20	326	P		P	04 42 39.5 -1.3
	1.9nm,0.8s,baz=150,slow=6.6,SNR=5.3						
SYO	Syowa Base	77.32	193	∥*e*X		P	04 42 40.0 -1.0
SNAA	Sanae	78.66	179	P		P	04 42 49.2 +0.7
SNAA	Sanae	78.66	179	*e*P		P	04 42 49.5 +1.1
VNA3	Neumayer Olymp	78.86	177	P		P	04 42 50.6 +1.2
VNA2	Neumayer--Watz	79.28	177	P		P	04 42 53.3 +1.6
	baz=175,slow=3.8						
VNA1	Neumayer--Stat	79.51	177	P		P	04 42 54.7 +1.8
IPM	Ipoh	83.28	279	*e*P		P	04 43 12.7 -0.8
	6.3nm,0.4s						
NJ2	Nanjing	85.06	311	*e*P		P	04 43 21.1 -0.8
PETK	Petropavlovsk-	85.07	346	P		P	04 43 20.7 -0.8
	2.4nm,0.7s,baz=104,slow=6.3,SNR=4.0						
SBT	San Benito	85.75	43	*e*P		P	04 43 19.1 -6.2
KLR	Kul'dur	90.05	330	P		P	04 43 44.8 -0.4
	1.6nm,0.6s,baz=144,slow=5.0,SNR=5.7						
GYA	Guiyang	90.32	300	*e*P		P	04 43 46.0 -1.2
GYA				pP		pP	04 45 11.6 +2.4
GYA				sP		sP	04 45 49.2 +3.8
GYA				PP		PP	04 47 30.3 +3.1
GYA				SKS		SKSac	04 53 42.0 -2.5
GYA	Guiyang	90.32	300	S		S	04 54 10.8 -0.3
GYA				pmax		pmax	
	comp=Z,10.0nm,0.8s						
CMAR	Chiang Mai Arr	92.16	290	P		P	04 43 56.4 +0.7
	comp=Z,0.9nm,0.5s,baz=142,slow=4.6,SNR=3.1						
HHC	Hu-ho-hao-te	95.08	315	*e*P		P	04 44 09.1 +0.4
HHC				PP		PP	04 48 06.8 +2.8
HHC	Hu-ho-hao-te	95.08	315	SKS		SKSac	04 54 10.0 +0.1
HHC	Hu-ho-hao-te	95.08	315	S		S	04 54 54.7 +2.4
BOSA	Boshof	117.24	204	PKP		PKPdf	04 49 30.1 +0.6
	comp=Z,1.5nm,0.8s,baz=162,slow=3.2,SNR=3.5						
KSH	Kashi	119.01	301	*e*PKP		PKPdf	04 49 31.1 -1.3
ARCES	ARCESS Array B	137.87	347	PKhKP		PKPpre	04 49 58.5
	comp=Z,1.3nm,0.7s,baz=79,slow=2.6,SNR=6.7						
ARCES				PKP		PKPdf	04 50 06.5 -0.7
	comp=Z,0.8nm,0.4s,baz=52,slow=2.0,SNR=8.4						
KBZ	Khabaz	143.89	304	PKP		PKPab	04 50 16.5 -0.4
	comp=Z,1.9nm,0.8s,baz=90,slow=4.0,SNR=4.4						
FINES	FINESS Array B	144.30	339	PKP		PKPab	04 50 17.0 -1.0
	comp=Z,7.2nm,0.4s,baz=49,slow=4.2,SNR=134						
NB2	NORSAR Subarra	148.09	350	PKP		PKPbc	04 50 28.1 -0.9
	comp=Z,2.8nm,0.6s,baz=14,slow=2.6						
NOA	NORSAR Array B	148.09	350	PKPbc		PKPbc	04 50 28.2 -0.9
	comp=Z,2.0nm,0.5s,baz=17,slow=4.2,SNR=13						
AKASG	Malin Array Be	150.22	322	PKPbc		PKPbc	04 50 32.2 -2.3
	comp=Z,2.7nm,0.5s,baz=52,slow=2.2,SNR=11						
BRTR	Keskin Array B	151.36	299	PKPbc		PKPbc	04 50 37.4 -0.3
	comp=Z,1.3nm,0.5s,baz=156,slow=4.2,SNR=7.9						
BRTR				PKPab		PKPab	04 50 47.1 -0.3
	comp=Z,1.6nm,0.7s,baz=122,slow=5.6,SNR=6.1						
CSS	Mathiatis	152.06	289	*e*PKPbc		PKPdf	04 50 35.0 +2.6
CLL	Collm	156.74	340	*i* PKPab		PKPab	04 51 09.1 -0.6
VYHS	Vyhne	156.82	328	*e*PKP		PKPab	04 51 10.0 -0.2
GERES	GERESS Array B	158.64	336	PKPab		PKPab	04 51 17.2 -0.9
	comp=Z,0.3nm,0.3s,baz=32,slow=5.2,SNR=3.5						
TORD	Torodi Ar. Bea	163.28	183	PKP		PKPdf	04 50 46.5 0.0
	comp=Z,0.8nm,1.0s,baz=135,slow=0.2,SNR=4.0						
TORD				PKPab		PKPab	04 51 40.0 +1.0
	comp=Z,2.3nm,0.5s,baz=183,slow=3.2,SNR=28						

DDA ***10*** *04:37:51.0, 36°.81N×26°.46E, h28km, Ml2.6*
ATH ***10*** *04:37:52.6, 36°.86N×26°.61E, h30km±1km, ML2.5/5, Error ellipse: s-maj=2.3km s-min=0.9km az=40.0*
ISCJB ***10*** *04:37:53.7±0.4, 36°.84N±0°.02×26°.61E±0°.03, h20km±5km, Error ellipse: s-maj=3.9km s-min=3.6km az=35.7*
ISK ***10*** *04:37:53.0, 36°.84N×26°.66E, h13km, MD2.8*
CSEM ***10*** *04:37:53.3±0.1, 36°.85N×26°.62E, h15km, ML2.6, Error ellipse: s-maj=2.5km s-min=1.9km az=171.0*
THE ***10*** *04:37:53.5, 36°.87N×26°.64E, h15km±3km, ML2.6/4, Error ellipse: s-maj=3.3km s-min=0.4km az=126.0*

ISC 10 04:37:53.1±1.0, 36°.85N±0°.02×26°.65E±0°.02, h17km±8km, n74, σ1s02/106, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
					Op			
NISR	Nisiros	0.46	121	P		Pb	04 38 02.9	+0.3
NISR				S		Sb	04 38 09.8	+0.7
NISR	Nisiros	0.46	121	P		Pb	04 38 02.9	+0.3
NISR				S		Sb	04 38 09.4	+0.3
NISR	Nisiros	0.46	121	P		Pb	04 38 03.5	+0.9
NISR				S		Sb	04 38 09.4	+0.3
NISR				AML		AML	04 38 11.1	
	comp=N,990μm,0.2s							
NISR				AML		AML	04 38 11.9	
	comp=E,1688μm,0.3s							
NIS1	Nisyros Isl.	0.49	120	*e*PG		Pg	04 38 03.0	0.0
NIS1				*e*SG		Sb	04 38 10.3	+0.1
NIS1	Nisyros Isl.	0.49	120	P		Pb	04 38 03.4	+0.1
NIS1				S		Sb	04 38 11.6	+1.4
NIS1	Nisyros Isl.	0.49	120	*e*Pg		Pg	04 38 03.0	0.0
NIS1	Nisyros Isl.	0.49	120	P		Pb	04 38 03.4	+0.1
NIS1				*e*Sg		Sb	04 38 10.4	+0.1
NIS1				S		Sb	04 38 11.6	+1.4
NIS1	Nisyros Isl.	0.49	120	P		Pb	04 38 04.5	+1.2
NIS1				S		Sb	04 38 11.7	+1.5
NIS1				AML		AML	04 38 14.1	
	comp=N,1110μm,0.3s							
NIS1				AML		AML	04 38 15.2	
	comp=E,1184μm,0.4s							
BODT	Bodrum	0.57	68	*e*PG		Pg	04 38 04.6	+0.1
BODT				*e*SG		Sb	04 38 13.0	+0.5
BODT	Bodrum	0.57	68	P		Pg	04 38 04.6	+0.1
BODT				S		Sb	04 38 13.4	+0.9
BODT	Bodrum	0.57	68	P		Pg	04 38 04.6	+0.1
BODT				*e*Sg		Sb	04 38 13.0	+0.5
YKAV	Yalikavak-Bodr	0.58	61	*e*PG		Pg	04 38 04.7	+0.1
YKAV	Yalikavak-Bodr	0.58	61	*e*Pg		Pg	04 38 04.7	+0.1
BDRM	Kayabasi	0.68	71	*i* P		Pg	04 38 06.2	-0.2
BDRM				*i* S		Sb	04 38 16.3	+0.8
BDRM	Kayabasi	0.68	71	P		Pg	04 38 06.2	-0.2
BDRM				S		Sb	04 38 16.3	+0.8
DAT	Datca	0.76	99	*e*PG		Pb	04 38 08.0	+0.1
DAT				*e*SG		Sg	04 38 18.9	+0.9
DAT	Datca	0.76	99	*i* P		Pn	04 38 09.3	+0.2
DAT	Datca	0.76	99	*e*Pg		Pb	04 38 08.0	+0.1
DAT	Datca	0.76	99	P		Pn	04 38 09.3	+0.2
DAT				*e*Sg		Sg	04 38 18.9	+0.9
SMG	Samos	0.87	10	P		Pb	04 38 09.6	-0.2
SMG				S		Sb	04 38 21.3	+0.2
SMG	Samos	0.87	10	P		Pb	04 38 09.6	-0.2
SMG				S		Sb	04 38 21.1	0.0
SMG	Samos	0.87	10	P		Pb	04 38 09.8	0.0
SMG				S		Sb	04 38 21.1	0.0
SMG				AML		AML	04 38 24.5	
	comp=N,899μm,0.5s							
SMG				AML		AML	04 38 25.0	
	comp=E,1067μm,0.4s							
APE	Apeiranthos	0.92	284	*e*PG		Pn	04 38 11.4	+0.1
APE				*e*SG		Sn	04 38 24.7	+0.6
APE	Apeiranthos	0.92	284	P		Pb	04 38 10.2	-0.4
APE				S		Sg	04 38 23.3	+0.2
APE	Apeiranthos	0.92	284	P		Pb	04 38 10.2	-0.4
APE	Apeiranthos	0.92	284	*e*Pg		Pn	04 38 11.4	+0.1
APE				S		Sg	04 38 23.1	0.0
APE				*e*Sg		Sn	04 38 24.7	+0.6
APE	Apeiranthos	0.92	284	P		Pb	04 38 10.2	-0.4
APE				S		Sg	04 38 23.1	0.0
APE				AML		AML	04 38 24.3	
	comp=N,572μm,0.4s							
APE				AML		AML	04 38 25.3	
	comp=E,463μm,0.4s							
GCAM	G?zelcami?	0.97	29	*i* P		Pb	04 38 11.2	-0.3
GCAM	G?zelcami?	0.97	29	P		Pb	04 38 11.1	-0.3
MLSB	Milas	1.01	63	*e*PG		Pn	04 38 12.6	+0.1
MLSB				*e*SG		Sn	04 38 27.3	+1.0
MLSB	Milas	1.01	63	*e*Pg		Pn	04 38 12.6	+0.1
MLSB				*e*Sg		Sn	04 38 27.3	+1.0
SANT	Santorini	1.07	244	P		Pn	04 38 13.2	-0.1
SANT	Santorini	1.07	244	P		Pn	04 38 13.2	-0.1
THR3	Thira Island,	1.09	247	P		Pb	04 38 13.1	-0.4
THR3	Thira Island,	1.09	247	P		Pb	04 38 13.1	-0.4
SAP1	Santorini-Akro	1.12	244	P		Pb	04 38 13.7	-0.3
SAP1	Santorini-Akro	1.12	244	P		Pb	04 38 13.7	-0.3
THR6	Thira Island,	1.12	244	P		Pb	04 38 13.5	-0.5
THR6	Thira Island,	1.12	244	P		Pb	04 38 13.5	-0.5
DGB	˙zmir	1.22	9	*i* P		Pb	04 38 16.2	+0.6
DGB				*i* S		Sg	04 38 32.8	+0.3
KARP	Karpathos	1.36	162	*e*PN		Pb	04 38 18.1	-0.1
KARP				*e*SN		Sg	04 38 36.8	-0.5
KARP	Karpathos	1.36	162	*e*Pn		Pb	04 38 18.1	-0.1
KARP	Karpathos	1.36	162	P		Pb	04 38 18.5	+0.3
KARP				S		Sb	04 38 36.1	+0.8
KARP	Karpathos	1.36	162	P		Pb	04 38 18.6	+0.3
KARP				S		Sb	04 38 36.1	+0.8
KARP				AML		AML	04 38 39.8	
	comp=E,308μm,0.5s							
KARP				AML		AML	04 38 40.2	
	comp=N,183μm,0.6s							
ZEY	˙zmir	1.39	355	*i* P		Pn	04 38 17.1	-0.6
ZEY				*i* S		Sb	04 38 36.6	+0.5
AYDB	Zeytinkoy-Aydi	1.48	42	*e*PN		Pb	04 38 19.8	-0.4
AYDB	Zeytinkoy-Aydi	1.48	42	*e*Pn		Pb	04 38 19.8	-0.4
URLA	Izmir	1.51	358	*e*PN		Pb	04 38 21.0	+0.3
URLA	Izmir	1.51	358	*i* P		Sb	04 38 42.7	+3.2
URLA	Izmir	1.51	358	*e*Pn		Pb	04 38 21.0	+0.3
TURN	Turunc	1.57	89	*i* P		Pn	04 38 16.9	-3.2
TURN	Turunc	1.57	89	P		Pn	04 38 16.9	-3.2
CHOS	Chios island	1.60	343	*e*PN		Pb	04 38 21.9	-0.4
CHOS	Chios island	1.60	343	P		Pn	04 38 20.4	-0.3
CHOS	Chios island	1.60	343	*e*Pn		Pb	04 38 21.9	-0.4
CHOS	Chios island	1.60	343	P		Pn	04 38 20.4	-0.3
DALY	Dalyan (Mu˘la	1.61	91	*e*PN		Pb	04 38 21.9	-0.4
DALY	Dalyan (Mu˘la	1.61	91	*e*Pn		Pb	04 38 21.9	-0.4
ZKR	Zakros	1.77	191	P		Pn	04 38 23.6	+0.8
ZKR	Zakros	1.77	191	P		Pn	04 38 23.6	+0.8
LAST	Lasithi	1.93	210	P		Pn	04 38 25.1	-0.1
LAST	Lasithi	1.93	210	P		Pn	04 38 25.1	-0.1
FETY	Fethiye	1.97	96	*e*PN		Pn	04 38 26.7	+1.0
FETY	Fethiye	1.97	96	*e*Pn		Pn	04 38 26.7	+1.0
IDI	Anoyia	2.11	223	P		Pn	04 38 27.4	-0.3
IDI				S		Sn	04 38 52.2	-1.3
IDI	Anoyia	2.11	223	P		Pn	04 38 27.4	-0.3
IDI				S		Sn	04 38 52.2	-1.3
KULA	Kula-Manisa	2.31	43	*e*PN		Pn	04 38 31.8	+1.4
KULA	Kula-Manisa	2.31	43	*e*Pn		Pn	04 38 31.8	+1.4
BOZC	Bozcaada	3.02	351	*i* P		Pn	04 38 42.5	+2.3
IGD	Bursa	3.95	30	*i* P		Sb	04 39 50.5	+0.7
IGD	Bursa	3.95	30	*i* P		Pb	04 38 58.6	-3.6
KDHN	Kadinhani	4.65	67	*i* P		Sb	04 40 09.1	-0.9
KMER	Konya-Meram	4.65	77	*i* P		Pn	04 38 59.4	-3.3
KMER	Konya-Meram	4.65	77	P		Pn	04 38 59.4	-3.3

DDA ***10*** *04:38:31.1, 36°.89N×26°.66E, h7km, Ml2.7*
CSEM ***10*** *04:38:38.3±0.1, 36°.79N×27°.11E, h2km, MD2.7, Error ellipse: s-maj=3.4km s-min=2.7km az=84.0*
ISK ***10*** *04:38:38.1, 36°.79N×27°.15E, h7km, MD2.7*

ISC 10 04:38:38.6±1.2, 36°.80N±0°.02×27°.10E±0°.04, h2km±13km, n29, σ0s63/42, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
					Op			
NIS1	Nisyros Isl.	0.21	163	*e*PG		Pg	04 38 42.3	-0.3
NIS1				*e*SG		Sg	04 38 45.5	+0.1
NIS1	Nisyros Isl.	0.21	163	*e*Pg		Pg	04 38 42.3	-0.3
NIS1				*e*Sg		Sg	04 38 45.5	+0.1
BODT	Bodrum	0.31	33	*e*PG		Pg	04 38 44.5	-0.1
BODT				*e*SG		Sg	04 38 49.3	+0.6
BODT	Bodrum	0.31	33	*e*Pg		Pg	04 38 44.5	-0.1
BODT				*e*Sg		Sg	04 38 49.3	+0.6
YKAV	Yalikavak-Bodr	0.35	24	*e*PG		Pg	04 38 45.5	0.0
YKAV				*e*SG		Sg	04 38 50.9	+0.8
YKAV	Yalikavak-Bodr	0.35	24	*e*Pg		Pg	04 38 45.5	0.0
YKAV				*e*Sg		Sg	04 38 50.9	+0.8
BDRM	Kayabasi	0.38	46	*i* P		Pg	04 38 44.5	-1.5
BDRM				*i* S		Sb	04 38 53.7	-0.8
BDRM	Kayabasi	0.38	46	P		Pg	04 38 44.5	-1.5
BDRM				S		Sb	04 38 53.7	-0.8
DAT	Datca	0.39	100	*e*PG		Pg	04 38 45.3	-0.8
DAT	Datca	0.39	100	*i* P		Pg	04 38 46.1	0.0
DAT				*i* S		Sb	04 38 55.9	+1.0
DAT	Datca	0.39	100	*e*Pg		Pg	04 38 45.3	-0.8
DAT	Datca	0.39	100	P		Pg	04 38 46.1	0.0
DATC	Datca-Mugla	0.45	95	*e*PG		Pg	04 38 46.5	-0.8
DATC				*e*SG		Sg	04 38 53.1	0.0
DATC	Datca-Mugla	0.45	95	*e*Pg		Pg	04 38 46.5	-0.8
DATC				*e*Sg		Sg	04 38 53.1	0.0
MLSB	Milas	0.73	47	*e*PG		Pg	04 38 52.2	-0.4
MLSB				*e*SG		Sg	04 39 02.5	+0.3
MLSB	Milas	0.73	47	*e*Pg		Pg	04 38 52.3	-0.4
MLSB				*e*Sg		Sg	04 39 02.5	+0.3
KARP	Karpathos	1.25	178	*e*PN		Pg	04 39 02.6	0.0
KARP	Karpathos	1.25	178	*e*Pn		Pg	04 39 02.6	0.0
GMLD	Gumuldur	1.28	353	*e*PN		Pb	04 39 03.2	-0.3
GMLD	Gumuldur	1.28	353	*e*Pn		Pb	04 39 03.2	-0.3
APE	Apeiranthos	1.29	282	*e*PN		Pb	04 39 03.3	-0.3
APE	Apeiranthos	1.29	282	*e*Pn		Pb	04 39 03.3	-0.3
URLA	Izmir	1.61	346	*e*PN		Pn	04 39 08.0	-0.1
URLA	Izmir	1.61	346	*e*Pn		Pn	04 39 08.0	-0.1
CHOS	Chios island	1.79	333	*e*PN		Pn	04 39 10.9	+0.3
CHOS	Chios island	1.79	333	*e*Pn		Pn	04 39 10.9	+0.3
KORT	Korkueli	2.61	85	*i* P		Pb	04 39 26.5	+0.2
BALY	Balya	2.96	8	*i* P		Pb	04 39 32.0	-0.2
BAGO	Egridir - ISPA	3.17	67	*i* P		Pg	04 39 40.8	+1.4

ISCJB ***10*** *05:47:27.4±0.4, 38°.66N±0°.02×30°.90E±0°.04, h12km±3km, Error ellipse: s-maj=5.4km s-min=3.9km az=17.5*
DDA ***10*** *05:47:27.5, 38°.67N×30°.96E, h13km, Md2.6*
CSEM ***10*** *05:47:27.3±0.1, 38°.66N×30°.90E, h12km, MD2.6, Error ellipse: s-maj=3.2km s-min=2.4km az=105.0*
ISK ***10*** *05:47:27.0, 38°.67N×30°.88E, h16km, MD2.6*

ISC 10 05:47:27.3±0.8, 38°.67N±0°.02×30°.90E±0°.03, h14km±5km, n27, σ0s36/45, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
					Op			
BOLV	Bolvadin	0.06	37	*i* P		Pg	05 47 30.3	+0.1
BOLV				*i* S		Sg	05 47 31.9	-0.3
BOLV	Bolvadin	0.06	37	P		Pg	05 47 30.3	+0.1
BOLV				S		Sg	05 47 31.9	-0.3
SHUT	Suhut-Afyon	0.30	247	*e*PG		Pg	05 47 33.5	-0.1
SHUT				*e*SG		Sg	05 47 38.3	+0.5
SHUT	Suhut-Afyon	0.30	247	*e*Pg		Pg	05 47 33.5	-0.1
SHUT				*e*Sg		Sg	05 47 38.3	+0.5
BAGO	Egridir - ISPA	0.68	187	*i* P		Pb	05 47 41.1	+0.1
KIZT	Kizilcal	0.79	74	*e*PG		Pb	05 47 43.0	+0.1
KIZT	Kizilcal	0.79	74	*e

JKT Katashina 1.18 284 ⇓P **Pn** **06 00 52.9 +0.3**
JKT S **Sn** **06 01 08.9 +1.1**
JFY Yanaizu 1.21 320 ⇓P **Pn** **06 00 53.3 +0.4**
JFY eS **Sn** **06 01 07.1 -1.2**
JMM Marumori 1.39 4 ⇓P **Pn** **06 00 55.3 0.0**
JMM S **Sn** **06 01 12.8 +0.2**
MJAR Matsushiro Arr 1.98 273 P **Pn** **06 01 03.9 +0.5**
419nm,0.3s,baz=98,slow=9.1,SNR=2801
MJAR S **Sn** **06 01 28.5 +1.3**
182nm,0.3s,baz=84,slow=16,SNR=8.4
MAJO Matsushiro 1.99 273 *d iP* **Pn** **06 01 04.2 +0.7**
MAJO Matsushiro 1.99 273 *e*Pn **Pn** **06 01 04.8 +1.3**
MAJO *e*Sn **Sn** **06 01 19.3 -8.0**
MAT Matsushiro 1.99 273 P **Pn** **06 01 03.7 +0.2**
MAT S **Sn** **06 01 29.7 +2.4**
MJB9 Matsu-Tunnel 1.99 273 *e*Pn **Pn** **06 01 04.8 +1.3**
MJB9 *e*Sn **Sn** **06 01 20.0 -7.4**
INU Inuyama 3.17 250 *e*Pn **Pn** **06 01 20.9 +1.2**
JHJ Hachijo jima 2 3.43 193 P **Pn** **06 01 22.8 -0.4**
181nm,0.3s,baz=336,slow=19,SNR=77
JHJ S **Sn** **06 02 01.8 -0.9**
542nm,0.3s,baz=83,slow=22,SNR=15
JHJ LR LR 06 03 01.4
comp=Z,899nm,20.0s,baz=301,slow=44
JHJ2 Mitsune 3.43 192 *e*Pn **Pn** **06 01 22.8 -0.4**
JHJ2 *e*Sn **Sn** **06 02 02.4 -0.3**
ERM Erimo 5.85 18 *e*P **Pn** **06 01 55.1 -1.3**
ERM Erimo 5.85 18 *e*Pn **Pn** **06 01 55.8 -0.5**
ERM *e*Sn **Sn** **06 03 02.7 +0.6**
ASAJ Asahikawa 7.77 10 *e*Pn **Pn** **06 02 21.0 -1.6**
YUK Yuzh-Kuril'sk 8.52 26 *i* P **Pn** **06 02 33.6 +0.7**
JNU Nakatsue 8.72 250 P **Pn** **06 02 37.3 +1.6**
3.1nm,0.3s,baz=72,slow=9.4,SNR=26
JNU Nakatsue 8.72 250 *e*Pn **Pn** **06 02 35.7 0.0**
CBIJ Chichi jima 9.44 172 *e*Pn **Pn** **06 02 41.6 -4.0**
CBIJ *e*Sn Sn 06 04 18.3 -12
VLA Vladivostok 9.47 317 *d iP* **Pn** **06 02 49.4 +3.6**
MSHR Mys Shultsa 9.54 313 *c e*P **Pn** **06 02 49.1 +2.2**
USRK Ussuriysk Ar. 10.16 322 P **Pn** **06 02 58.5 +3.2**
3.2nm,0.3s,baz=128,slow=13,SNR=40
USRK LR LR 06 06 38.0
comp=Z,684nm,19.9s,baz=131,slow=36
KSRS Korea Array 10.25 279 P **Pn** **06 03 00.3 +3.8**
1.9nm,0.3s,baz=95,slow=14,SNR=73
KSRS LR LR 06 06 46.3
comp=Z,672nm,21.0s,baz=84,slow=36
KS01 Wonju Array Si 10.27 279 *e*Pn **Pn** **06 03 00.0 +3.2**
KS15 Wonju Array Si 10.28 279 *e*Pn **Pn** **06 03 01.0 +4.1**
KSAR Wonju Array Be 10.28 279 P **Pn** **06 03 00.4 +3.4**
KSAR Wonju Array Be 10.28 279 P **Pn** **06 03 00.3 +3.4**
KUR Kuril'sk 10.30 30 *e*P **Pn** **06 02 56.3 -0.9**
KUR *e*S **Sn** **06 04 45.4 -5.6**
KUR pmax pmax
comp=Z,82nm,0.5s
KUR smax smax
comp=N,102nm,0.5s
KUR smax smax
comp=E,289nm,0.5s
YSS Yuzh-Sakhalins 10.58 8⇑ *e*P **Pn** **06 02 59.7 -1.4**
YSS *e*S **Sn** **06 04 52.1 -5.8**
YSS pmax pmax
comp=Z,40nm,0.7s
YSS MLR MLR
comp=Z,400nm,17.0s
YSS Yuzh-Sakhalins 10.58 8 *e*Pn **Pn** **06 02 59.6 -1.4**
MDJ Mudanjiang 11.70 317 P **Pn** **06 03 20.8 +4.5**
MDJ S **Sn** **06 05 23.3 -2.0**
MDJ PcP **PcP** **06 09 00.3 -1.6**
MDJ ScP **ScP** **06 12 29.6 -0.3**
MDJ ScS **ScS** **06 16 03.6 -1.8**
MDJ pmax pmax
comp=Z,73nm,1.2s
MDJ LR LR
comp=Z,440nm,21.9s
MDJ LR LR
comp=Z,380nm,25.6s
MDJ LR LR
comp=Z,510nm,29.3s
MDJ Mudanjiang 11.70 317 *e*Pn **Pn** **06 03 20.6 +4.3**
HABR Khabarovsk 12.68 343 *e*P **Pn** **06 03 28.2 -1.4**
HABR *e*S **Sn** **06 05 48.4 -0.7**
HABR pmax pmax
comp=E,47nm,1.6s
HABR pmax pmax
comp=N,29nm,1.6s
HABR pmax pmax
comp=Z,76nm,1.6s
JOW Kunigami 14.27 231 P **Pn** **06 03 51.9 +0.6**
comp=Z,1.2nm,0.3s,baz=61,slow=10,SNR=3.2
JOW LR LR 06 09 06.3
comp=Z,160nm,21.3s,baz=107,slow=36
JOW Kunigami 14.27 231 *e*Pn **Pn** **06 03 52.1 +0.8**
SNY Shenyang 14.29 297 ⇑P P 06 04 10.9 +14
SNY S S 06 06 57.1 +11
SNY pmax pmax
comp=Z,18nm,0.6s
SNY pmax pmax
comp=Z,130nm,4.6s
SNY LR LR
comp=N,400nm,13.8s
SNY LR LR
comp=E,530nm,19.2s
SNY LR LR
comp=Z,620nm,18.1s
KLR Kul'dur 14.31 336 P **Pn** **06 03 50.1 -1.5**
comp=Z,0.6nm,0.3s,baz=138,slow=12,SNR=12
KLR LR LR 06 09 18.7
comp=Z,410nm,19.7s,baz=140,slow=36
DL2 Dalian 15.27 285 P **P** **06 04 07.2 -0.8**
DL2 *e*S **Sn** **06 06 55.6 +3.3**
DL2 pmax pmax
comp=Z,51nm,0.7s
DL2 LR LR
comp=Z,920nm,20.6s
DL2 LR LR
comp=Z,650nm,18.1s
SKR Severo-Kuril's 18.02 33 *e*P Pn 06 04 50.3 +12
SKR pmax pmax
comp=Z,300nm,2.5s
SKR pmax pmax
comp=Z,67nm,1.3s
NJ2 Nanjing 18.56 263 *e*P **P** **06 04 43.5 -0.9**
NJ2 S **Sn** **06 08 08.1 -3.8**
NJ2 pmax pmax
comp=Z,24nm,0.5s
NJ2 LR LR
comp=Z,670nm,18.4s
NJ2 LR LR
comp=Z,620nm,17.9s
NJ2 LR LR
comp=Z,790nm,21.1s
TIA Tai'an 18.97 276 ⇓P **P** **06 04 48.1 -0.8**
TIA pmax pmax
comp=Z,60nm,0.8s
BJI Beijing 19.55 288 P **P** **06 04 54.0 -1.1**
BJI pP **pP** **06 05 07.0 -0.5**
BJI sP **sP** **06 05 15.3 +0.7**
BJI S **S** **06 08 28.0 -4.8**
BJI sS **sS** **06 08 53.5 +0.6**
BJI ScP **ScP** **06 12 44.6 0.0**
BJI pmax pmax
comp=Z,45nm,0.6s
BJI pmax pmax
comp=Z,100nm,5.6s
BJI LR LR
comp=Z,130nm,14.8s
BJI LR LR
comp=Z,180nm,19.6s
BJI LR LR
comp=Z,320nm,35.5s
BJT Baijiatuau 19.55 288 *e*P **P** **06 04 54.9 -0.3**
BJT pmax pmax
comp=Z,42nm,0.5s
BJT Baijiatuau 19.55 288 *e*P **P** **06 04 54.9 -0.3**
comp=Z,42nm,0.5s
HIA Hailar 19.88 317 *e*P **P** **06 04 59.8 +1.0**
HIA pmax pmax
comp=Z,16nm,0.6s
HIA Hailar 19.88 317 *e*P **P** **06 04 59.8 +1.0**
comp=Z,16nm,0.6s
YHNB Yeheng 20.32 240 *e*P **P** **06 05 02.9 -0.8**
comp=Z,23nm,0.9s
PETK Petropavlovsk- 20.46 30 P **P** **06 05 04.2 -0.8**
comp=Z,19nm,1.1s,baz=213,slow=11,SNR=8.1
PETK LR LR 06 13 00.0
comp=Z,113nm,21.8s,baz=221,slow=36
PEA1 Petropavlovsk- 20.47 30 *e*P **P** **06 05 04.2 -0.9**
NACB Ninganchiao 20.49 239 *e*P **P** **06 05 03.4 -2.1**
comp=Z,14nm,0.7s
PET Petropavlovsk 20.80 32 *e*P **P** **06 05 07.7 -0.9**
PET *e*S **S** **06 08 48.9 -8.5**
PET MLR MLR
comp=Z,200nm,15.0s
PET Petropavlovsk 20.80 32 *e*P **P** **06 05 09.6 +1.0**
comp=Z,60nm,1.4s
YULB Yu-li 21.21 237 *e*P **P** **06 05 12.2 -1.1**
comp=Z,14nm,0.9s
TPUB Ta-pu 21.73 238 *e*P **P** **06 05 17.2 -1.6**
comp=Z,26nm,0.8s
TWG Pinlang 21.75 237 *e*P **P** **06 05 17.6 -1.4**
comp=Z,354nm,1.5s
WHN Wuhan 22.70 263 ⇑P **P** **06 05 27.6 -1.5**
WHN S S 06 09 22.4 -11
WHN LR LR
comp=Z,890nm,21.0s
CLNS Chul'man 22.96 337 *e*P **P** **06 05 28.2 -3.5**
CLNS pmax pmax
comp=E,9.0nm,0.8s
CLNS pmax pmax
comp=N,7.0nm,0.9s
CLNS pmax pmax
comp=Z,14nm,0.8s
HHC Hu-ho-hao-te 23.09 290 *e*P **P** **06 05 32.2 -1.1**
HHC sP sP 06 05 53.8 +0.8
HHC PP **PnPn** **06 06 06.6 +6.2**
HHC S **S** **06 09 36.8 -3.3**
HHC sS Sn 06 09 59.2 -1.4
HHC pmax pmax
comp=Z,22nm,1.5s
HHC pmax pmax
comp=Z,65nm,4.0s
HHC LR LR
comp=Z,160nm,12.4s
HHC LR LR
comp=Z,250nm,12.4s
HHC LR LR
comp=Z,190nm,13.7s
MA2 Magadan 24.02 13 P **P** **06 05 41.7 +0.1**
comp=Z,18nm,0.6s,baz=192,slow=10.0,SNR=5.8
MA2 Magadan 24.02 13 *i* P **P** **06 05 42.3 +0.7**
SZP Santa 25.98 229 *e*P **P** **06 05 58.5 -1.2**
comp=Z,71nm,1.2s
XAN Xi'an 25.98 274 P **P** **06 05 58.8 -0.9**
XAN pP pP 06 06 13.3 -0.4
XAN S **S** **06 10 27.6 +1.2**
XAN pmax pmax
comp=Z,49nm,0.5s
XAN pmax pmax
comp=Z,140nm,6.8s
XAN LR LR
comp=Z,100nm,19.9s
XAN LR LR
comp=Z,210nm,18.8s
XAN LR LR
comp=Z,370nm,19.9s
YAK Yakutsk 26.48 348 P **P** **06 06 03.5 -0.4**
comp=Z,57nm,0.6s,baz=118,slow=1.7,SNR=11
YAK Yakutsk 26.48 348 *e*P **P** **06 06 03.1 -0.8**
YAK *e* 06 09 27.5
YAK *e*S **S** **06 10 29.0 -4.6**
YAK pmax pmax
comp=N,42nm,1.1s
YAK pmax pmax
comp=Z,82nm,1.0s
YAK pmax pmax
comp=E,14nm,1.2s
YAK pmax pmax
comp=Z,134nm,2.8s
YAK smax smax
comp=N,102nm,3.2s
YAK smax smax
comp=E,109nm,2.8s
YAK MLR MLR
comp=Z,236nm,21.0s
YAK MLR MLR
comp=N,181nm,18.0s
YAK Yakutsk 26.48 348 *e*P **P** **06 06 03.4 -0.5**
comp=N,80nm,0.8s
ENH Enshi 26.69 266 *e*P **P** **06 06 05.0 -1.2**
comp=N,58nm,0.8s
ULN Ulaanbaatar 27.18 305 *c e*P **P** **06 06 10.2 -0.3**
ULN pmax pmax
comp=Z,17nm,0.8s
ULN Ulaanbaatar 27.18 305 *e*P **P** **06 06 09.6 -0.9**
comp=Z,25nm,1.1s
ULN *e*PcP **PcP** **06 09 30.4 +0.8**
SEY Seymchan 27.45 12 P **P** **06 06 13.2 +0.7**
comp=Z,21nm,0.8s,baz=203,slow=7.3,SNR=22
SEY Seymchan 27.45 12 *e*P **P** **06 06 11.9 -0.7**
SONA1 Songino Array 27.60 305 *e*P **P** **06 06 13.9 -0.4**
SONA0 Songino Array 27.61 305 *e*P **P** **06 06 13.9 -0.5**
comp=Z,18nm,0.8s
SONA0 *e*PcP **PcP** **06 09 30.8 +0.3**
SONM Songino Array 27.61 305 P **P** **06 06 13.9 -0.5**
comp=Z,21nm,0.7s,baz=106,slow=9.3,SNR=99
SONM PcP **PcP** **06 09 30.8 +0.3**
comp=Z,2.4nm,0.6s,baz=122,slow=1.4,SNR=5.2
SONM LR LR 06 17 45.3
comp=Z,189nm,18.6s,baz=136,slow=37
BOD Bodaibo 27.69 329 *e*P **P** **06 06 14.1 -0.6**
BOD pmax pmax
comp=Z,43nm,0.8s
H11N2 WAKE ISLAND Hy 28.39 119 T T 06 36 24.0
baz=312,slow=75,SNR=143
H11N1 WAKE ISLAND Hy 28.40 119 T T 06 36 25.6
baz=312,slow=75,SNR=213
H11N3 WAKE ISLAND Hy 28.41 119 T T 06 36 26.3
baz=312,slow=75,SNR=237
H11S1 WAKE ISLAND Hy 29.07 121 T T 06 37 13.9
baz=314,slow=76,SNR=844
H11S3 WAKE ISLAND Hy 29.07 121 T T 06 37 12.8
baz=314,slow=76,SNR=509
H11S2 WAKE ISLAND Hy 29.09 121 T T 06 37 15.0
baz=314,slow=76,SNR=607
LZH Lanzhou 29.58 280 *e*P **P** **06 06 31.8 -0.2**
LZH pP pP 06 06 45.5 -0.6
LZH sP sP 06 06 53.0 +0.3
LZH PP **PnPn** **06 07 27.5 -1.2**
LZH *e*S **S** **06 11 19.3 -3.9**
LZH sS sS 06 11 43.7 -3.4
LZH SS **SnSn** **06 12 55.0 -0.7**
LZH pmax pmax
comp=Z,25nm,1.3s
LZH pmax pmax
comp=Z,83nm,4.2s
LZH LR LR
comp=Z,1μm,15.2s
LZH LR LR
comp=Z,1μm,14.6s
LZH LR LR
comp=Z,1μm,16.5s
ZAK Zakamensk 30.15 309 *e*P **P** **06 06 36.2 -0.6**
ZAK pmax pmax
comp=Z,5.0nm,1.0s
TLY Talaya 30.25 312 P **P** **06 06 36.4 -1.2**
comp=Z,5.5nm,0.6s,baz=164,slow=4.1,SNR=3.8
TLY Talaya 30.25 312 *e*P **P** **06 06 37.6 0.0**
TLY pmax pmax
comp=Z,7.0nm,0.7s
TLY MLR MLR
comp=Z,89nm,14.0s
GYA Guiyang 30.54 261 ⇑ *i*P **P** **06 06 38.8 -1.7**
GYA pP pP 06 06 57.4 +2.8
GYA PP **PnPn** **06 07 42.3 +0.9**
GYA S **S** **06 11 37.0 -1.4**
GYA sS sS 06 12 03.8 +1.5
GYA SS **SnSn** **06 13 20.2 +0.8**
GYA pmax pmax
comp=Z,30nm,1.0s
GYA pmax pmax
comp=Z,130nm,5.0s
GYA LR LR
comp=Z,540nm,16.8s
GYA LR LR
comp=Z,520nm,17.0s
GYA LR LR
comp=Z,490nm,17.3s
CD2 Chengdu 31.08 271 P **P** **06 06 44.8 -0.4**
CD2 sP sP 06 07 04.9 -1.0
CD2 PP **PnPn** **06 07 44.4 -3.9**
CD2 SS SS 06 13 39.4 -22
CD2 pmax pmax
comp=Z,40nm,0.6s
CD2 pmax pmax
comp=Z,150nm,7.0s
CD2 LR LR
comp=Z,290nm,11.9s
CD2 LR LR
comp=Z,460nm,19.0s
KMI Kunming 34.29 262 P **P** **06 07 12.5 -1.0**
KMI pP pP 06 07 25.2 -2.5
KMI sP sP 06 07 30.9 -3.4
KMI S **S** **06 12 38.5 +1.6**
KMI pmax pmax
comp=Z,31nm,0.7s
KMI LR LR
comp=Z,140nm,21.8s
KMI LR LR
comp=Z,250nm,19.2s
KMI LR LR
comp=Z,290nm,18.9s
BILL Bilibino 34.73 17 *e*P **P** **06 07 15.2 -1.3**
BILL *e* 06 08 34.2
BILL pmax pmax
comp=Z,4.0nm,0.9s
TIXI Tiksi 35.77 354 *c e*P **P** **06 07 24.9 -0.5**
TIXI pmax pmax
comp=Z,23nm,1.0s
TIXI Tiksi 35.77 354 *e*P **P** **06 07 24.7 -0.7**
comp=Z,19nm,0.8s
MYLDM Lahad Datu 37.21 218 *e*P **P** **06 07 39.7 +1.5**
comp=Z,13nm,0.8s
SKNT Sakolnakorn 37.79 249 P **P** **06 07 45.6 +2.4**
comp=Z,24nm,1.8s
FAKI Fak Fak 39.98 193 *e*P **P** **06 08 01.5 +0.1**
comp=Z,60nm,1.2s
LAMP Lampang 40.21 255 P **P** **06 08 07.2 +3.8**
comp=Z,9.0nm,0.9s
WMQ Urumqi 40.56 297 P **P** **06 08 06.5 +0.4**
WMQ pP pP 06 08 22.9 +2.3
WMQ sP sP 06 08 30.1 +2.9
WMQ pmax pmax
comp=Z,55nm,0.9s
WMQ pmax pmax
comp=Z,140nm,3.7s
WMQ LR LR
comp=Z,150nm,15.5s
WMQ LR LR
comp=Z,170nm,20.5s
WMQ LR LR
comp=Z,150nm,22.5s
CMMT Chiang Mai 40.58 256 P **P** **06 08 07.5 +1.0**
comp=Z,9.9nm,1.9s
CHTO Chiang Mai 40.58 256 P **P** **06 08 07.6 +1.1**
comp=Z,44nm,1.9s
CHTO Chiang Mai 40.58 256 *e*P **P** **06 08 06.4 -0.1**
CHTO pmax pmax
comp=Z,13nm,1.2s
CHTO Chiang Mai 40.58 256 *e*P **P** **06 08 06.4 -0.1**
comp=Z,13nm,1.2s
CM31 Chiang Mai Arr 40.78 255 *e*P **P** **06 08 07.6 -0.5**
CM01 Chiang Mai Arr 40.79 255 *e*P **P** **06 08 07.8 -0.4**
CM01 *e*PcP **PcP** **06 10 09.4 +0.9**
SUKH Sukhothai 40.81 254 P **P** **06 08 08.4 +0.1**
comp=Z,5.4nm,0.6s
LSA Lhasa 41.67 275 P **P** **06 08 16.9 +1.0**
LSA pmax pmax
comp=Z,17nm,0.5s
LSA Lhasa 41.67 275 *e*P **P** **06 08 16.2 +0.3**
LSA pmax pmax
comp=Z,15nm,0.9s
LSA Lhasa 41.67 275 *e*P **P** **06 08 16.2 +0.3**
comp=Z,16nm,0.9s
ZAA1 Zalesovo Array 41.85 313 *e*P **P** **06 08 16.6 +0.2**
ZAA1 *e*PcP **PcP** **06 10 11.2 -0.2**
ZALV Zalesovo Beam 41.85 313 P **P** **06 08 16.6 +0.1**
comp=Z,22nm,0.5s,baz=94,slow=7.2,SNR=72
ZALV PcP **PcP** **06 10 11.2 -0.2**
comp=Z,3.2nm,0.6s,baz=79,slow=3.1,SNR=3.6
ZALV LR LR 06 25 29.0
comp=Z,38nm,20.1s,baz=68,slow=36
NVS Novosibirsk 42.79 314 *e*P **P** **06 08 24.0 -0.1**
NVS pmax pmax
comp=N,6.0nm,0.9s
NVS pmax pmax
comp=E,31nm,0.9s
NVS pmax pmax
comp=Z,40nm,0.9s
SHL Shillong 42.80 269 *e*P **P** **06 08 24.0 -0.8**
NRIK Noril'sk 43.52 336 P **P** **06 08 29.7 -0.1**
comp=Z,11nm,0.6s,baz=123,slow=9.2,SNR=10
NRIK PcP **PcP** **06 10 16.2 -0.4**
comp=Z,8.3nm,0.7s,baz=85,slow=1.7,SNR=3.8
NRIK LR LR 06 28 01.7
comp=Z,152nm,18.6s,baz=95,slow=38
PHET Kaeng Krachan 43.60 248 P **P** **06 08 32.6 +1.5**
comp=Z,14nm,0.9s
MK01 Makanchi Array 43.91 302 *e*P **P** **06 08 33.3 0.0**
MK31 Makanchi Array 43.91 302 *e*P **P** **06 08 33.7 +0.4**
MK31 Makanchi Array 43.91 302 *e*P **P** **06 08 33.7 +0.4**
MKAR Makanchi Array 43.91 302 *e*P **P** **06 08 33.7 +0.4**
MKAR Makanchi Array 43.91 302 *e*P **P** **06 08 33.7 +0.4**
MAKZ Makanchi 44.12 303 *e*P **P** **06 08 35.2 +0.2**
MAKZ pmax pmax
comp=Z,25nm,0.8s
MAKZ Makanchi 44.12 303 *e*P **P** **06 08 35.2 +0.2**
comp=Z,25nm,0.8s
KSM Kuching 44.74 226 *e*P **P** **06 08 40.2 +0.1**
comp=Z,20nm,0.9s
SAUI Saumlaki 45.09 193 *e*P **P** **06 08 43.5 +0.6**
comp=Z,469nm,0.8s
TAPN Taplejung 45.38 274 *e*P **P** **06 08 45.8 +0.2**
comp=Z,33nm,0.5s
KAPI Kappang 45.69 210 *e*P **P** **06 08 48.3 +0.6**
comp=Z,124nm,1.8s
KURK Kurchatov 45.81 308 *c e*P **P** **06 08 47.9 -0.4**
KURK pmax pmax
comp=Z,151nm,0.8s
KURK Kurchatov 45.81 308 *e*P **P** **06 08 47.7 -0.6**
comp=Z,38nm,0.7s
KURK *e*PcP **PcP** **06 10 24.7 -0.2**
ODAN Odare 45.85 274 *e*P **P** **06 08 49.1 -0.1**
comp=Z,31nm,0.6s
KURBB Kurchatov Arra 45.88 308 P **P** **06 08 48.6 -0.2**
comp=Z,30nm,0.6s,baz=82,slow=7.8,SNR=181
KURBB PcP **PcP** **06 10 24.7 -0.4**
comp=Z,1.7nm,0.5s,baz=89,slow=2.8,SNR=2.7
PMG Port Moresby 46.05 171 LR LR 06 25 47.1
comp=Z,86nm,19.7s,baz=54,slow=33
TT01 Tatalina 46.21 35 *e*P **P** **06 08 52.8 +1.6**
SVW2 Sparrevohn 46.32 37 *e*P **P** **06 08 54.1 +1.9**
comp=Z,13nm,0.8s
RAMN Ramite 46.45 274 *e*P **P** **06 08 54.2 +0.3**
comp=Z,155nm,0.7s
JIRN Jiri 46.47 275 *e*P **P** **06 08 54.8 +0.5**
PDGK Podgornoye 46.51 298 P **P** **06 08 54.0 -0.1**
PDGK pmax pmax
comp=Z,63nm,1.0s
GUN Gumba 46.62 276 *e*P **P** **06 08 55.7 +0.3**
comp=Z,99nm,0.6s
PKI Pulchoki 47.14 276 *e*P **P** **06 08 59.3 -0.1**
comp=Z,67nm,0.8s
PKIN Phulchoki 47.15 276 *e*P **P** **06 08 59.1 -0.3**
comp=Z,32nm,0.6s
KKN Kakani 47.15 276 *e*P **P** **06 08 59.5 +0.1**
comp=Z,70nm,0.8s
DMN Daman 47.37 276 *e*P **P** **06 09 00.9 -0.2**
comp=Z,43nm,0.9s
OHAK Old Harbor 47.56 42 *e*P **P** **06 09 02.6 +0.7**
comp=Z,12nm,1.0s
GKN Gorkha 47.57 277 *e*P **P** **06 09 02.7 +0.1**
comp=Z,200nm,0.8s
RSO Redoubt South 47.70 38 *e*P **P** **06 09 05.0 +1.8**
KDAK Kodiak Island 47.91 42 *e*P **P** **06 09 05.1 +0.6**
KDAK pmax pmax
comp=Z,24nm,0.8s
KDAK Kodiak Island 47.91 42 *e*P **P** **06 09 05.0 +0.6**
comp=Z,24nm,0.8s
PPLA Purkeypile 47.96 35 *e*P **P** **06 09 06.2 +1.1**
comp=Z,11nm,0.9s
CAST Castle Rocks 48.02 34 *e*P **P** **06 09 07.1 +1.8**
comp=Z,11nm,0.9s
SPU Mount Spurr 48.03 37 *e*P **P** **06 09 07.0 +1.4**
KOLN Koldanda 48.50 277 *e*P **P** **06 09 10.1 +0.3**
comp=Z,39nm,0.6s
CNPM China Poot 48.50 39 *e*P **P** **06 09 10.4 +1.2**
comp=Z,26nm,1.4s

KTH **Kantishna Hill** 48.54 34 *e*P P 06 09 08.8 -0.6
comp=Z,17nm,0.9s
TRF **Thorofare Moun** 48.82 34 *e*P P 06 09 12.9 +1.2
comp=Z,7.2nm,0.8s
PYUN **Piuthan** 48.85 277 *e*P P 06 09 12.8 +0.3
comp=Z,319nm,1.2s
COLD **Coldfoot** 48.92 29 *e*P P 06 09 13.4 +1.2
comp=Z,3.8nm,0.7s
MCK **McKinley** 49.42 33 *e*P P 06 09 16.6 +0.4
MCK pmax pmax
comp=Z,11nm,0.8s
MCK **McKinley** 49.42 33 *e*P P 06 09 16.6 +0.4
comp=Z,11nm,0.8s
PMR **Palmer** 49.42 36 *e*P P 06 09 16.9 +0.8
PMR pmax pmax
comp=Z,15nm,1.1s
PMR **Palmer** 49.42 36 *e*P P 06 09 16.9 +0.8
comp=Z,15nm,1.1s
RND **Reindeer** 49.47 34 *e*P P 06 09 17.4 +0.8
RND pmax pmax
comp=Z,17nm,1.0s
RND **Reindeer** 49.47 34 *e*P P 06 09 17.4 +0.8
comp=Z,17nm,1.0s
MDM **Murphy Dome** 49.70 32 *e*P P 06 09 19.8 +1.6
comp=Z,31nm,0.8s
WRH **Wood River Hil** 49.77 33 *e*P P 06 09 20.0 +1.2
comp=Z,10nm,0.7s
WRH *e*PcP PcP 06 10 39.3 +0.4
SML **Sawmill** 49.79 36 *e*P P 06 09 19.5 +0.5
SML pmax pmax
comp=Z,13nm,0.8s
SML **Sawmill** 49.79 36 *e*P P 06 09 19.5 +0.5
comp=Z,13nm,0.8s
COLA **College** 49.86 32 *e*P P 06 09 21.3 +1.9
COLA pmax pmax
comp=Z,22nm,0.7s
COLA **College** 49.86 32 *e*P P 06 09 21.3 +1.9
comp=Z,22nm,0.7s
MTN **Manton Dam** 49.88 192 *e*P P 06 09 20.1 +0.1
comp=Z,159nm,1.9s
CCB **Clear Creek Bu** 49.89 32 *e*P P 06 09 20.8 +1.2
comp=Z,4.9nm,0.9s
FRU **Bishkek** 50.09 299 *e*P P 06 09 22.0 +0.5
FRU pmax pmax
comp=Z,30nm,1.6s
KSH **Kashi** 50.09 294 P P 06 09 25.8 +4.1
KSH pP sP 06 09 40.6 -2.4
KSH sP pP 06 09 47.7 +11
KSH PP **PP** 06 11 22.6 +5.6
KSH S **S** 06 16 32.1 +3.1
KSH sS sS 06 16 59.0 +5.0
KSH SS **SS** 06 20 02.7 +0.3
KSH pmax pmax
comp=Z,24nm,0.9s
KSH pmax pmax
comp=Z,190nm,4.4s
KSH LR LR
comp=Z,120nm,6.4s
KSH LR LR
comp=Z,89nm,4.2s
KSH LR LR
comp=Z,130nm,9.4s
COEN **Coen** 50.22 177 *e*P P 06 09 23.0 +0.4
comp=Z,31nm,1.4s
AAK **Ala-Archa** 50.23 299 LR LR 06 31 59.9
comp=Z,264nm,18.9s,baz=63,slow=38
AAK **Ala-Archa** 50.23 299 *e*P P 06 09 23.2 +0.4
AAK pmax pmax
comp=Z,8.0nm,0.8s
AAK **Ala-Archa** 50.23 299 *e*P P 06 09 23.2 +0.4
comp=Z,7.5nm,0.8s
AAK *e*PKKPdf PKKPdf 06 31 59.9 +12
SCM **Sheep Creek Mo** 50.26 36 *e*P P 06 09 23.1 +0.5
SCM pmax pmax
comp=Z,16nm,1.0s
SCM **Sheep Creek Mo** 50.26 36 *e*P P 06 09 23.1 +0.5
comp=Z,16nm,1.0s
HDA **Harding Lake** 50.27 33 *e*P P 06 09 23.3 +0.7
comp=Z,17nm,0.7s
IL1 **Eielson Array** 50.28 32 *e*P P 06 09 23.4 +0.8
ILAR **Eielson Array** 50.28 32 P P 06 09 23.1 +0.5
comp=Z,17nm,0.7s,baz=270,slow=6.3,SNR=187
ILB **Eielson Array** 50.28 32 *e*P P 06 09 23.4 +0.8
BRVK **Borovoye** 50.56 313 *ce*P P 06 09 24.6 -0.3
BRVK pmax pmax
comp=Z,16nm,1.0s
BRVK **Borovoye** 50.56 313 *e*P P 06 09 25.1 +0.2
comp=Z,17nm,1.0s
KLU **Klutina** 50.97 36 *e*P P 06 09 29.5 +1.6
comp=Z,6.9nm,0.6s
PSI **Prapat** 51.00 239 LR LR 06 33 38.6
comp=Z,226nm,18.3s,baz=62,slow=39
PAX **Paxson** 51.03 34 *e*P P 06 09 29.4 +1.0
PAX *e* 06 10 44.1
PAX **Paxson** 51.03 34 *e*P P 06 09 29.4 +1.0
PAX *e*PcP PcP 06 10 44.1 +0.5
EYAK **Cordova Ski Ar** 51.16 37 *e*P P 06 09 30.6 +1.4
comp=Z,73nm,1.9s
HARP **HAARP** 51.23 35 *e*P P 06 09 30.9 +1.1
comp=Z,15nm,0.8s
DOT **Dot Lake** 51.59 33 *e*P P 06 09 33.1 +0.6
comp=Z,26nm,0.8s
BMRM **Bremner River** 51.66 37 *e*P P 06 09 34.4 +1.3
comp=Z,9.2nm,0.8s
MNAS **Manas** 51.68 299 P P 06 09 34.3 +0.7
MNAS pmax pmax
comp=Z,28nm,0.8s
UGM **Wanagama** 52.45 219 *e*P P 06 09 39.1 -0.3
comp=Z,939nm,2.0s
EGAK **Eagle** 52.72 32 *e*P P 06 09 41.6 +0.7
comp=Z,8.7nm,0.6s
KKAR **Karatay Array** 52.89 300 *e*P P 06 09 42.4 0.0
KKAR pmax pmax
comp=Z,205nm,1.4s
KKAR **Karatay Array** 52.89 300 *e*P P 06 09 42.4 0.0
comp=Z,205nm,1.4s
JBP **Jabalpur** 53.51 273 *e*S P 06 09 47.7 +0.6
DAWY **Dawson** 53.59 33 *e*P P 06 09 48.1 +0.9
comp=Z,3.3nm,0.7s
HYT **Haines Junctio** 55.10 36 *e*P P 06 10 00.8 +2.4
comp=Z,10nm,0.8s
INK **Inuvik** 55.15 27 P P 06 09 59.5 +1.1
comp=Z,17nm,0.7s,baz=295,slow=7.1,SNR=29
SVE **Sverdlovsk** 55.17 319 *e*P P 06 09 59.2 +0.4
SVE pmax pmax
comp=Z,43nm,1.2s
DZET **Dzherino** 55.55 296 P P 06 10 02.0 0.0
DZET pmax pmax
comp=Z,71nm,0.6s
FITZ **Fitzroy Crossi** 56.12 197 *e*P P 06 10 06.2 +0.3
ARU **Arti** 56.38 319 P P 06 10 07.5 0.0
comp=Z,28nm,0.6s,baz=75,slow=3.4,SNR=51
ARU **Arti** 56.38 319 *c*P P 06 10 07.2 -0.3
ARU *i*PP **pP** 06 10 21.1 -1.4
ARU 06 10 59.7
ARU 06 12 08.9
ARU S **S** 06 17 55.4 +1.7
ARU SS **SS** 06 21 36.4 -4.3
ARU pmax pmax
comp=Z,44nm,0.8s
ARU **Arti** 56.38 319 *e*P P 06 10 07.4 0.0
comp=Z,40nm,0.8s
WHY **Whitehorse** 56.39 36 *e*P P 06 10 08.9 +1.3
comp=Z,7.2nm,0.7s
SOKR **Solikamsk** 56.40 323 *e*P P 06 10 05.5 -2.0
SOKR pmax pmax
comp=Z,41nm,1.4s
WRAB **Tennant Creek** 56.42 187 *e*P P 06 10 07.6 -0.5
WRAB pmax pmax
comp=Z,18nm,0.9s
WRAB **Tennant Creek** 56.42 187 *e*P P 06 10 07.5 -0.5
comp=Z,18nm,0.9s
WB2 **Warramunga Arr** 56.43 187 *e*P P 06 10 07.5 -0.6
comp=Z,21nm,0.8s
WR1 **Warramunga Arr** 56.43 187 *e*P P 06 10 07.2 -1.0
comp=Z,19nm,0.8s
WR1 *e*PcP PcP 06 11 04.8 +0.2
WR1 *e* 06 33 16.5
WRA **Warramunga Arr** 56.43 187 P P 06 10 07.2 -1.0
comp=Z,18nm,0.8s,baz=4.2,slow=7.3,SNR=91
WRA PcP PcP 06 11 04.8 +0.2
comp=Z,3.7nm,0.6s,baz=359,slow=4.2,SNR=3.2
WRA LR LR 06 33 16.5
comp=Z,132nm,20.7s,baz=320,slow=35
KBL **Kabul** 57.06 291 *e*P P 06 10 12.8 -0.1
KBL pmax pmax
comp=Z,17nm,1.0s
KBL **Kabul** 57.06 291 *e*P P 06 10 12.8 -0.1
comp=Z,17nm,1.0s
ABKAR **Akbulak array** 57.84 310 *e*P P 06 10 17.8 0.0
comp=Z,254nm,0.6s
AKTO **Aktyubinsk** 58.60 312 P P 06 10 22.5 -0.7
comp=Z,8.4nm,0.8s,baz=70,slow=5.8,SNR=17
CRAG **Craig** 58.87 42 *e*P P 06 10 27.9 +2.9
comp=Z,59nm,1.5s
DLBC **Dease Lake** 59.43 38 P P 06 10 31.0 +2.1
comp=Z,7.0nm,0.8s,baz=293,slow=8.4,SNR=12
DLBC **Dease Lake** 59.43 38 *e*P P 06 10 30.0 +1.2
comp=Z,10.0nm,0.9s
DIB **Dawson Inlet,** 60.03 44 *e*P P 06 10 34.4 +1.5
comp=Z,58nm,1.8s
AS01 **Alice Springs** 60.16 187 *e*P P 06 10 33.3 -0.8
AS31 **Alice Springs** 60.16 187 *e*P P 06 10 33.7 -0.4
comp=Z,3.6nm,0.9s
ASAR **Alice Springs** 60.16 187 P P 06 10 33.5 -0.7
comp=Z,8.1nm,0.8s,baz=12,slow=7.0,SNR=60
MBWA **Marble Bar** 60.65 203 *e*P P 06 10 37.3 -0.1
comp=Z,72nm,1.5s
SPITS **Spitsbergen Ar** 60.95 349 P P 06 10 39.0 +0.1
comp=Z,5.9nm,0.6s,baz=72,slow=11,SNR=9.1
SPITS **Spitsbergen Ar** 60.95 349 P P 06 10 39.0 +0.1
KBS **Kingsbay** 61.10 350 *e*P P 06 10 41.1 +1.2
KBS pmax pmax
comp=Z,24nm,0.8s
KBS **Kingsbay** 61.10 350 *e*P P 06 10 41.1 +1.2
comp=Z,24nm,0.8s
PALK **Pallekele** 61.67 257 *e*P P 06 10 45.2 +0.5
PALK pmax pmax
comp=Z,34nm,1.1s
PALK **Pallekele** 61.67 257 *e*P P 06 10 45.2 +0.5
comp=Z,34nm,1.1s
EIDS **Eidsvold** 62.30 169 *e*P P 06 10 49.2 +0.7
comp=Z,50nm,1.8s
LVZ **Lovozero** 62.37 336 *ce*P P 06 10 49.6 +1.0
LVZ pmax pmax
comp=Z,14nm,0.8s
LVZ **Lovozero** 62.37 336 *e*P P 06 10 48.6 0.0
comp=Z,31nm,1.3s
TMCR **Tamitsa** 62.95 331 *e*P P 06 10 52.3 -0.1
TMCR pmax pmax
comp=Z,49nm,0.9s
RES **Resolute Bay** 63.28 14 *e*P P 06 10 54.9 +0.4
RES pmax pmax
comp=Z,31nm,1.3s
RES **Resolute Bay** 63.28 14 *e*P P 06 10 54.9 +0.4
comp=Z,31nm,1.3s
GEYT **Alibeck** 63.58 299 P P 06 10 57.6 +0.5
comp=Z,9.7nm,0.7s,baz=29,slow=3.4,SNR=13
GEYT LR LR 06 40 41.3
comp=Z,138nm,18.7s,baz=335,slow=38
KEV **Kevo** 63.75 339 *e*P P 06 10 57.7 +0.1
KEV **Kevo** 63.75 339 *e*P P 06 10 57.7 +0.1
KLMR **Klimovskoe** 63.91 328 *e*P P 06 10 57.5 -1.3
KLMR *e* 06 13 18.5
KLMR pmax pmax
comp=Z,37nm,0.9s
ARA0 **ARCESS Array S** 64.30 339 *e*P P 06 11 01.5 +0.2
ARCES **ARCESS Array B** 64.30 339 P P 06 11 01.6 +0.3
comp=Z,14nm,0.7s,baz=54,slow=7.9,SNR=114
ARCES LR LR 06 41 48.5
comp=Z,107nm,21.2s,baz=50,slow=38
ARE0 **ARCESS Array S** 64.30 339 *e*P P 06 11 01.7 +0.3
comp=Z,20nm,1.0s
YKA **Yellowknife Ar** 64.58 30 P P 06 11 03.6 +0.3
comp=Z,3.9nm,0.7s,baz=304,slow=6.6,SNR=7.5
YKB5 **Yellowknife Ar** 64.58 30 *e*P P 06 11 03.6 +0.4
PGC **Sidney** 67.15 46 *e*P P 06 11 20.8 +0.8
comp=Z,29nm,1.4s
NLWA **Neilton Lookou** 67.53 47 *e*P P 06 11 22.6 +0.2
comp=Z,17nm,1.0s
FORT **Forrest** 67.94 192 *e*P P 06 11 25.2 +0.2
comp=Z,559nm,0.6s
STKA **Stephens Creek** 68.01 179 P P 06 11 25.2 -0.2
comp=Z,5.2nm,0.5s,baz=341,slow=11,SNR=5.5
E03A **Lebam** 68.13 48 *e*P P 06 11 28.3 +2.1
comp=Z,26nm,1.1s
OBN **Obninsk** 68.18 323 P P 06 11 26.2 -0.1
comp=Z,24nm,0.4s,baz=85,slow=12,SNR=8.5
OBN **Obninsk** 68.18 323 *de*P P 06 11 26.5 +0.2
OBN *e* 06 11 49.4
OBN pmax pmax
comp=Z,53nm,1.1s
OBN **Obninsk** 68.18 323 *e*P P 06 11 26.2 -0.1
comp=Z,45nm,1.0s
LPSR **Galich'ya Gora** 68.34 320 *e*P P 06 11 27.0 -0.4
LPSR pmax pmax
comp=Z,60nm,0.9s
D05A **Enumclaw** 68.73 47 *e*P P 06 11 31.9 +1.9
comp=Z,21nm,1.2s
VSR **Storozhevoye** 68.95 319 *e*P P 06 11 30.8 -0.4
VSR pmax pmax
comp=Z,70nm,1.0s
FIA1 **FINESS Array S** 69.02 332 *e*P P 06 11 31.6 +0.1
comp=Z,60nm,0.9s
FIA0 **FINESS Array S** 69.03 332 *e*P P 06 11 31.5 0.0
FIA0 **FINESS Array S** 69.03 332 *e*P P 06 11 31.5 0.0
FIA0 *e* 06 42 50.6
FINES **FINESS Array B** 69.03 332 P P 06 11 31.5 0.0
comp=Z,38nm,0.8s,baz=59,slow=7.8,SNR=101
FINES LR LR 06 42 50.6
comp=Z,86nm,21.5s,baz=34,slow=37
FINES **FINESS Array B** 69.03 332 P P 06 11 31.5 0.0
BBOO **Buckleboo** 69.07 184 *e*P P 06 11 31.9 -0.1
comp=Z,54nm,1.5s
LON **Longmire** 69.07 47 *e*P P 06 11 33.3 +1.1
LON pmax pmax
comp=Z,10.0nm,1.3s
LON **Longmire** 69.07 47 *e*P P 06 11 33.3 +1.1
comp=Z,9.8nm,1.3s
LTY **Liberty** 69.47 46 *e*P P 06 11 34.8 +0.1
comp=Z,3.9nm,0.6s
B08A **Colville Reser** 69.65 44 *e*P P 06 11 36.5 +0.8
comp=Z,5.2nm,1.0s
EDM **Edmonton** 70.15 38 *e*P P 06 11 39.2 +0.5
EDM pmax pmax
comp=Z,11nm,0.8s
EDM **Edmonton** 70.15 38 *e*P P 06 11 39.2 +0.5
comp=Z,11nm,0.8s
HUMO **Hull Mountain** 70.53 51 *e*P P 06 11 43.0 +1.8
comp=Z,35nm,1.8s
G06A **Carlson Farm,** 70.56 48 *e*P P 06 11 42.5 +1.2
comp=Z,6.2nm,1.0s
D08A **Wollman Farm,** 70.58 45 *e*P P 06 11 42.3 +0.9
comp=Z,8.1nm,0.9s
HAWA **Hard** 70.59 46 *e*P P 06 11 42.4 +1.0
comp=Z,5.8nm,0.9s
VSU **Vasula** 70.63 329 *ce*P P 06 11 42.1 +0.7
VSU pmax pmax
comp=Z,69nm,0.6s
ZEI **Tsey** 70.69 309 *e*P P 06 11 41.1 -1.2
ZEI pmax pmax
comp=Z,17nm,0.5s
KBZ **Khabaz** 70.81 310 P P 06 11 43.1 +0.4
comp=Z,20nm,0.9s,baz=37,slow=3.9,SNR=23
KBZ LR LR 06 46 50.3
comp=Z,43nm,19.1s,baz=56,slow=39
KVAR **Kislovodsk Arr** 70.81 311 P P 06 11 43.4 +0.4
comp=Z,27nm,0.8s,baz=228,slow=4.8,SNR=8.3
KIV **Kislovodsk** 70.82 311 *i* P P 06 11 43.4 +0.5
SNR=6.2
KIV **Kislovodsk** 70.82 311 *ce*P P 06 11 43.2 +0.2
KIV *e* 06 12 01.8
KIV pmax pmax
comp=Z,75nm,1.0s
KIV **Kislovodsk** 70.82 311 *e*P P 06 11 43.5 +0.5
comp=Z,54nm,0.8s
BANOM **Banah** 70.82 288 P P 06 11 43.7 +0.5
NEW **Newport** 70.94 44 *e*P P 06 11 44.1 +0.5
NEW pmax pmax
comp=Z,6.0nm,0.8s
NEW **Newport** 70.94 44 *e*P P 06 11 44.1 +0.5
comp=Z,6.0nm,0.8s
YBH **Yreka Blue Hor** 71.15 52 *e*P P 06 11 46.7 +1.7
YBH pmax pmax
comp=Z,38nm,1.9s
YBH **Yreka Blue Hor** 71.15 52 *e*P P 06 11 46.7 +1.7
comp=Z,38nm,1.9s
NEY **Neytrino** 71.17 310 *i* P P 06 11 45.8 +0.6
NEY pmax pmax
comp=Z,1.0nm,0.4s
E09A **Wood Farm, Sta** 71.33 46 *e*P P 06 11 46.2 +0.3
comp=Z,7.8nm,0.8s
UOSS **Minazif** 71.41 288 *e*P P 06 11 47.0 +0.3
HATD **Hatta, Dubai** 71.53 288 *i* P P 06 11 47.8 +0.4
SNR=7.6
GNI **Garni** 71.56 307 P P 06 11 48.6 +1.0
comp=Z,9.5nm,0.5s,baz=72,slow=8.9,SNR=4.7
GNI **Garni** 71.56 307 *ce*P P 06 11 48.6 +1.0
GNI pmax pmax
comp=Z,80nm,1.2s
GNI **Garni** 71.56 307 *e*P P 06 11 48.5 +0.9
ASHO **Ashiyiah** 71.66 287 *i* P P 06 11 48.4 +0.1
SNR=5.6
AKH **Akhalkalaki** 71.68 308 *i*P P 06 11 49.3 +1.0
K05A **Summer Lake** 71.76 50 *e*P P 06 11 50.6 +1.8
comp=Z,25nm,1.5s
WDC **Whiskeytown Da** 71.88 53 *e*P P 06 11 50.5 +1.2
WDC pmax pmax
comp=Z,34nm,1.8s
WDC **Whiskeytown Da** 71.88 53 *e*P P 06 11 50.5 +1.2
comp=Z,34nm,1.8s
FAQ **Al Faqa, Dubai** 71.98 288 P P 06 11 49.8 -0.3
F10A **Beach Ranch, E** 72.16 46 *e*P P 06 11 52.2 +1.2
comp=Z,13nm,1.4s
WALA **Waterton Lakes** 72.25 42 *e*P P 06 11 52.4 +0.9
comp=Z,6.2nm,0.9s
NWAO **Narrogin (SRO)** 72.44 201 *e*P P 06 11 52.3 -0.2
NWAO pmax pmax
comp=Z,12nm,0.8s
NWAO **Narrogin (SRO)** 72.44 201 *e*P P 06 11 52.3 -0.2
comp=Z,12nm,0.8s
IZAR **Zarasai** 72.55 327 *e*P P 06 11 53.5 +0.5
IZAR IAmb IAmb 06 11 54.0
comp=Z,13nm,0.7s
MOD **Modoc Plateau** 72.57 51 *e*P P 06 11 54.9 +1.3
comp=Z,3.0nm,0.7s
IDID **Didziasalis** 72.61 327 *e*P P 06 11 53.9 +0.5
IDID IAmb IAmb 06 11 55.2
comp=Z,19nm,0.9s
ISAL **Salakas** 72.72 327 *e*P P 06 11 54.5 +0.5
ISAL IAmb IAmb 06 11 55.9
comp=Z,36nm,1.0s
BMO **Blue Mountains** 72.74 47 *e*P P 06 11 55.5 +1.0
BMO pmax pmax
comp=Z,7.0nm,0.9s
BMO **Blue Mountains** 72.74 47 *e*P P 06 11 55.5 +1.0
comp=Z,7.3nm,0.9s
ARTV **Artvin** 72.79 309 *e*P P 06 11 56.0 +0.9
comp=Z,9.2nm,0.8s
JTMT **Jette** 72.81 43 *e*P P 06 11 56.3 +1.4
SOC **Sochi** 72.82 312 *e*P P 06 11 53.2 -1.7
SOC *i* *PP **pP** 06 12 08.3 -2.2
SOC *e* 06 14 35.5
SOC pmax pmax
comp=Z,46nm,1.0s
YBMT **Yellow Bay** 72.89 43 *e*P P 06 11 56.7 +1.4
SWMT **Swartz Lake** 73.10 43 *e*P P 06 11 57.6 +1.0
ORV **Oroville** 73.11 53 *e*P P 06 11 57.4 +0.8
ORV pmax pmax
comp=Z,5.0nm,0.8s
ORV **Oroville** 73.11 53 *e*P P 06 11 57.4 +0.8
comp=Z,4.7nm,0.8s
WVOR **Wild Horse Val** 73.31 49 *e*P P 06 11 59.2 +1.3
WVOR pmax pmax
comp=Z,4.0nm,1.0s
WVOR **Wild Horse Val** 73.31 49 *e*P P 06 11 59.2 +1.3
comp=Z,4.0nm,1.0s
ANN **Anapa** 73.48 314 *e*P P 06 11 48.2 -11
ANN pmax pmax
comp=Z,76nm,0.8s
MSO **Missoula** 73.53 44 *e*P P 06 11 60.0 +0.8
comp=Z,5.3nm,0.9s
SLMT **Seeley Lake** 73.53 43 *e*P P 06 12 00.2 +1.0
CHMT **Chamberlain Mo** 73.86 43 *e*P P 06 12 01.7 +0.5
NC405 **NORSAR Array S** 74.25 337 *e*P P 06 12 03.2 +0.3
NC303 **NORSAR Array S** 74.27 337 *e*P P 06 12 03.4 +0.3
AKASG **Malin Array Be** 74.37 322 P P 06 12 03.6 -0.2
comp=Z,22nm,0.7s,baz=46,slow=6.0,SNR=51
AKASG LR LR 06 47 37.6
comp=Z,112nm,20.0s,baz=45,slow=38
AKBB **Malin Array Si** 74.37 322 *e*P P 06 12 03.5 -0.3
AKBB pmax pmax
comp=Z,34nm,0.8s
AKBB **Malin Array Si** 74.37 322 *e*P P 06 12 03.5 -0.3
comp=Z,34nm,0.8s
PAHR **Pah Rah Range** 74.38 52 *e*P P 06 12 05.0 +0.7
comp=Z,6.0nm,0.8s
KIEV **Kiev** 74.38 322 *c* *i*P P 06 12 03.4 -0.4
KIEV pmax pmax
comp=Z,29nm,0.9s
KIEV **Kiev** 74.38 322 *e*P P 06 12 03.6 -0.3
comp=Z,34nm,0.8s
AK11 **Malin Array Si** 74.41 322 *e*P P 06 12 03.9 -0.1
NC204 **NORSAR Array S** 74.42 337 *e*P P 06 12 04.8 +0.8
NB201 **NORSAR Array S** 74.43 337 *e*P P 06 12 04.3 +0.3
MFID **Camas Ranch** 74.44 47 *e*P P 06 12 05.6 +1.1
comp=Z,3.6nm,0.6s
NB2 **NORSAR Subarra** 74.47 337 P P 06 12 04.4 +0.2
baz=40,slow=6.2
NB2 **NORSAR Subarra** 74.47 337 P P 06 12 04.3 +0.1
NB2 pmax pmax
comp=Z,27nm,0.7s
NB2 **NORSAR Subarra** 74.47 337 P P 06 12 04.4 +0.2
comp=Z,32nm,0.7s,baz=40,slow=6.2
NB200 **NORSAR Array S** 74.47 337 *e*P P 06 12 04.5 +0.3
NB200 *e*PP PP 06 14 50.0 -0.5
NOA **NORSAR Array B** 74.47 337 P P 06 12 04.5 +0.3
comp=Z,24nm,0.8s,baz=42,slow=5.4,SNR=146
NOA PP PP 06 14 50.0 -0.5
comp=Z,1.1nm,0.7s,baz=46,slow=8.6,SNR=3.6
FFC **Flin Flon** 74.49 32 *e*P P 06 12 04.9 +0.4
FFC **Flin Flon** 74.49 32 *e*P P 06 12 04.8 +0.4
FFC *e*PcP P 06 12 05.2 +0.8
NBO02 **NORSAR Array S** 74.57 337 *e*P P 06 12 05.0 +0.2
PNTR **Pine Nut** 74.59 53 *e*P P 06 12 07.8 +2.2
comp=Z,9.4nm,1.1s
NC602 **NORSAR Array S** 74.59 337 *e*P P 06 12 05.0 +0.1
NBO00 **NORSAR Array S** 74.61 337 *e*P P 06 12 05.3 +0.3
CMB **Columbia Colle** 74.67 54 *e*P P 06 12 07.2 +1.3
CMB pmax pmax
comp=Z,5.0nm,0.8s
CMB **Columbia Colle** 74.67 54 *e*P P 06 12 07.2 +1.3
comp=Z,5.4nm,0.8s
NAO01 **NORSAR Array S** 74.72 337 *e*P P 06 12 06.0 +0.3
FCC **Fort Churchill** 74.76 26 *e*P P 06 12 06.3 +0.4
FCC pmax pmax
comp=Z,58nm,1.4s
FCC **Fort Churchill** 74.76 26 *e*P P 06 12 06.3 +0.4
comp=Z,58nm,1.4s
HRY **Holter Researc** 74.77 43 *e*P P 06 12 07.7 +1.3
YERR **Yerington** 74.88 53 *e*P P 06 12 07.9 +0.6
comp=Z,7.8nm,0.8s
LRM **Limekiln Ridge** 74.96 44 *e*P P 06 12 08.7 +1.0
WAKR **Walker** 75.03 53 *e*P P 06 12 09.0 +0.9
comp=Z,4.0nm,0.8s
SUW **Suwalki** 75.03 327 *e*P P 06 12 08.0 +0.4
SUW **Suwalki** 75.03 327 *e*P P 06 12 08.0 +0.4
EGMT **Eagleton** 75.08 41 *e*P P 06 12 08.9 +0.8
comp=Z,14nm,0.8s
DLMT **Dillon** 75.15 44 *e*P P 06 12 09.6 +0.9
comp=Z,14nm,0.6s
HLID **Hailey** 75.18 47 *e*P P 06 12 09.6 +0.7
comp=Z,3.7nm,1.0s
SIM **Simferopol'** 75.30 315 *ce*P P 06 12 09.4 +0.1
SIM pmax pmax
comp=Z,22nm,0.7s
BMN **Battle Mountai** 75.32 50 *e*P P 06 12 09.5 -0.2
BMN pmax pmax
comp=Z,8.0nm,0.8s
BMN **Battle Mountai** 75.32 50 *e*P P 06 12 09.5 -0.2
comp=Z,7.6nm,0.8s
MCMT **McKenzie Canyo** 75.33 45 *e*P P 06 12 10.8 +1.0
TVH1 **TV Hill, Hawth** 75.48 53 *e*P P 06 12 12.2 +1.3
comp=Z,5.3nm,0.9s
TVH3 **East Aurora ar** 75.51 53 *e*P P 06 12 12.6 +1.6
comp=Z,6.6nm,0.9s
TVH2 **Borealis Mine** 75.53 53 *e*P P 06 12 12.8 +1.7
comp=Z,5.5nm,1.0s
BOZ **Bozeman (W)** 75.55 44 *e*P P 06 12 11.8 +0.8
BOZ pmax pmax
comp=Z,12nm,0.9s
BOZ **Bozeman (W)** 75.55 44 *e*P P 06 12 11.8 +0.8
comp=Z,12nm,0.9s
MARD **Mardin** 75.70 306 *e*P P 06 12 12.6 +0.6
comp=Z,44nm,0.7s
KONO **Kongsberg** 76.05 337 *ce*P P 06 12 14.2 +0.9
KONO pmax pmax
comp=Z,46nm,1.0s
KONO **Kongsberg** 76.05 337 *e*P P 06 12 13.9 +0.6

comp=Z,19nm,0.9s
YHB Horse Butte 76.31 44 *e*P **P 06 12 16.8 +1.4**
comp=Z,9.9nm,0.9s
SORM Soroca 76.44 320⇑*i*P **P 06 12 14.3 -1.4**
YHH Holmes Hill 76.48 44 *e*P **P 06 12 17.2 +0.7**
comp=Z,3.7nm,0.9s
GCMT Greycliff 76.52 43 *e*P **P 06 12 17.9 +1.5**
YPP Pitchstone Pla 76.83 44 *e*P **P 06 12 19.8 +1.4**
comp=Z,7.8nm,1.3s
H17A Grant Village 76.88 44 *e*P **P 06 12 21.3 +2.7**
comp=Z,13nm,0.8s
IMW Indian Meadow 76.98 45 *e*P **P 06 12 20.7 +1.4**
comp=Z,7.6nm,0.9s
FLWY Flagg Ranch 77.01 44 *e*P **P 06 12 20.4 +1.1**
comp=Z,6.3nm,0.9s
RLMT Red Lodge 77.15 43 *e*P **P 06 12 21.6 +1.5**
comp=Z,20nm,1.5s
MOOW Moose Ponds 77.19 45 *e*P **P 06 12 21.8 +1.5**
comp=Z,3.3nm,0.9s
HVU Hansel Valley 77.22 47 *e*P **P 06 12 21.8 +1.3**
HVU pmax pmax
comp=Z,7.0nm,0.7s
HVU Hansel Valley 77.22 47 *e*P **P 06 12 21.8 +1.3**
comp=Z,7.4nm,0.7s
TPAW Teton Pass 77.23 45 *e*P **P 06 12 22.1 +1.4**
comp=Z,5.5nm,0.8s
LOHW Long Hollow 77.35 45 *e*P **P 06 12 22.9 +1.6**
SNOW Snow King Moun 77.36 45 *e*P **P 06 12 21.8 +0.5**
comp=Z,8.2nm,1.1s
REDW Red Top Meadow 77.37 45 *e*P **P 06 12 22.7 +1.4**
comp=Z,14nm,1.3s
IAS Iasi 77.45 320⇑*i*P **P 06 12 21.8 +0.4**
LVV L'vov 77.47 324 *e*P **P 06 12 22.5 +1.0**
DAC Darwin (Calif) 77.51 54 *e*P **P 06 12 23.0 +0.8**
DAC pmax pmax
comp=Z,3.0nm,0.8s
DAC Darwin (Calif) 77.51 54 *e*P **P 06 12 23.0 +0.8**
comp=Z,3.0nm,0.8s
R11A Troy Canyon, C 77.57 51 *e*P **P 06 12 23.6 +1.1**
comp=Z,3.7nm,0.8s
BEL Belsk 77.58 327 *e*P **P 06 12 22.9 +0.8**
BEL Belsk 77.58 327 *e*P **P 06 12 22.9 +0.8**
BGU Big Grassy Mou 77.59 48 *e*P **P 06 12 23.9 +1.3**
comp=Z,4.6nm,0.9s
BSD Bornholm Skovb 77.65 331⇑*i*P **P 06 12 22.2 -0.1**
comp=Z,47nm,0.8s
BSD Bornholm Skovb 77.65 331⇑*i*P **P 06 12 22.2 -0.1**
BSD pmax pmax
comp=Z,47nm,0.8s
SPUT South Promonto 77.70 48 *e*P **P 06 12 24.3 +1.1**
comp=Z,5.5nm,1.2s
LAO LASA Array 77.78 40 *e*P **P 06 12 23.4 0.0**
comp=Z,12nm,1.0s
ILGA Ilgaz 77.91 312 *e*P **P 06 12 23.8 -0.5**
comp=Z,31nm,0.8s
TPNV Topopah Spring 77.98 53 *e*P **P 06 12 25.6 +0.8**
TPNV pmax pmax
comp=Z,8.0nm,0.9s
TPNV Topopah Spring 77.98 53 *e*P **P 06 12 25.6 +0.8**
comp=Z,7.8nm,0.9s
HWUT Hardware Ranch 78.04 47 *e*P **P 06 12 26.7 +1.6**
comp=Z,8.3nm,1.1s
TLCR 78.09 318⇑*i*P **P 06 12 25.5 +0.5**
COP Copenhagen 78.15 333⇑*i*P **P 06 12 25.7 +0.6**
comp=Z,26nm,0.6s
COP Copenhagen 78.15 333⇑*i*P **P 06 12 25.7 +0.6**
COP pmax pmax
comp=Z,26nm,0.6s
DUG Dugway, Tooele 78.17 49 *e*P **P 06 12 27.0 +1.3**
DUG pmax pmax
comp=Z,8.0nm,0.8s
DUG Dugway, Tooele 78.17 49 *e*P **P 06 12 27.0 +1.3**
comp=Z,8.4nm,0.8s
KWP Kalwaria Pacla 78.23 324 *e*P **P 06 12 26.6 +0.9**
KWP Kalwaria Pacla 78.23 324 *e*P **P 06 12 26.6 +0.9**
BUR08 Bucovina Ar. S 78.36 321 *e*P **P 06 12 27.2 +0.6**
BURAR Bucovina Array 78.37 321⇓*i*P **P 06 12 26.9 +0.2**
BURAR Bucovina Array 78.37 321 P **P 06 12 26.9 +0.2**
TESR Tescani 78.38 320⇑*i*P **P 06 12 26.7 +0.1**
CFR Carcaliu 78.46 318⇑*i*P **P 06 12 26.2 -0.9**
BW06 Boulder Array 78.48 45 *e*P **P 06 12 28.3 +0.7**
PD31 Pinedale Array 78.48 45 *e*P **P 06 12 28.2 +0.7**
PDAR Pinedale Array 78.48 45 P **P 06 12 28.1 +0.7**
comp=Z,3.5nm,0.6s,baz=260,slow=2.1,SNR=50
LLD Lille Linde 78.50 333 *i*P **P 06 12 27.6 +0.6**
comp=Z,23nm,0.7s
LLD Lille Linde 78.50 333 *i*P **P 06 12 27.6 +0.6**
LLD pmax pmax
comp=Z,23nm,0.7s
MUD Monsted U'grnd 78.70 335 *i*P **P 06 12 28.7 +0.6**
comp=Z,30nm,1.0s
MUD Monsted U'grnd 78.70 335 *i*P **P 06 12 28.7 +0.6**
MUD pmax pmax
comp=Z,30nm,1.0s
JLU Jordanelle 78.73 48 *e*P **P 06 12 30.5 +1.5**
comp=Z,12nm,1.4s
VRI Vrincioaia 78.76 319⇑*i*P **P 06 12 28.9 +0.2**
NLU North Lily Min 78.76 48 *e*P **P 06 12 30.6 +1.5**
comp=Z,5.0nm,0.8s
BR101 Keskin Array S 78.77 311 *e*P **P 06 12 28.9 -0.1**
BR101 *e*PP **PP 06 15 26.9 -0.5**
BR131 Keskin Array S 78.77 311 *e*P **P 06 12 29.6 +0.5**
BRTR Keskin Array B 78.77 311 P **P 06 12 28.9 -0.1**
comp=Z,10nm,0.9s,baz=100,slow=5.1,SNR=20
BRTR PP **PP 06 15 26.9 -0.5**
comp=Z,1.7nm,1.0s,baz=55,slow=5.5,SNR=4.4
BRTR LR LR 06 51 53.5
comp=Z,47nm,18.7s,baz=58,slow=39
TIRR Tirgusor 78.78 317⇑*i*P **P 06 12 28.3 -0.5**
TIRR Tirgusor 78.78 317 *e*P **P 06 12 29.2 +0.4**
TIRR pmax pmax
comp=Z,13nm,1.0s
TIRR Tirgusor 78.78 317 *e*P **P 06 12 29.2 +0.4**
comp=Z,12nm,1.0s
PLOR Plostina 78.81 319⇑*i*P **P 06 12 29.7 +0.6**
HARR Harsova 78.89 318⇑*i*P **P 06 12 30.2 +0.8**
TLB Topalu 78.90 318⇑*i*P **P 06 12 30.0 +0.5**
EFOR EFORIE 78.91 317⇓*i*P P 06 12 24.4 -5.1
SHPR Sheep Range 78.95 53 *e*P **P 06 12 30.9 +0.8**
comp=Z,5.1nm,0.9s
MPU Maple Canyon 78.99 48 *e*P **P 06 12 31.8 +1.5**
comp=Z,7.8nm,0.8s
STHS Stebnicka Huta 79.07 325 *e*P **P 06 12 31.3 +0.9**
STHS pmax pmax
comp=Z,12nm,0.8s
STHS Stebnicka Huta 79.07 325 *e*P **P 06 12 31.3 +0.9**
ARCR ARCALIA 79.16 321⇓*i*P **P 06 12 32.0 +1.1**
OJC Ojcow 79.16 326 *e*P **P 06 12 31.4 +0.5**
OJC Ojcow 79.16 326 *e*P **P 06 12 31.5 +0.6**
OJC pmax pmax
comp=Z,39nm,1.1s
OJC Ojcow 79.16 326 *e*P **P 06 12 31.5 +0.6**
comp=Z,39nm,1.1s
BR231 Keskin MP Arra 79.22 312 *e*P **P 06 12 30.0 -1.5**
CRVS Cervenica-Dubn 79.32 324 *e*P **P 06 12 32.3 +0.5**
CRVS Cervenica-Dubn 79.32 324 *e*P **P 06 12 32.2 +0.5**
DOPR Dopca 79.39 320⇓*i*P **P 06 12 33.5 +1.3**
MLR Muntele Rosu 79.42 319 P **P 06 12 31.9 -0.6**
comp=Z,0.6nm,0.4s,baz=22,slow=2.3,SNR=5.8
MLR Muntele Rosu 79.42 319⇑*i*P **P 06 12 31.6 -0.9**
MLR Muntele Rosu 79.42 319 *e*P **P 06 12 31.9 -0.6**
MLR pmax pmax
comp=Z,18nm,1.5s
MLR Muntele Rosu 79.42 319 *e*P **P 06 12 31.9 -0.6**
comp=Z,18nm,1.5s
CCUT Cedar City 79.45 51 *e*P **P 06 12 33.5 +0.6**
comp=Z,3.3nm,0.9s
NIE Niedzica 79.50 325 *e*P **P 06 12 33.8 +1.0**
NIE Niedzica 79.50 325 *e*P **P 06 12 33.8 +1.0**
MSU Marysvale 79.59 50 *e*P **P 06 12 34.8 +1.1**
MSU Marysvale 79.59 50 *e*P **P 06 12 34.8 +1.1**
TMUT Trail Mountain 79.69 49 *e*P **P 06 12 35.7 +1.3**
comp=Z,3.9nm,0.9s
CJR Cluj-Napoca 79.80 321⇑*i*P **P 06 12 33.6 -0.8**
LCMT Little Creek M 79.86 51 *e*P **P 06 12 36.7 +1.6**
comp=Z,6.0nm,0.8s
VOIR 79.92 320⇑*i*P **P 06 12 33.9 -1.3**
VOIR 79.92 320 P **P 06 12 33.8 -1.4**
LANS Liptovska Anna 80.08 325 *e*P **P 06 12 37.1 +1.2**
LANS Liptovska Anna 80.08 325 *e*P **P 06 12 37.1 +1.2**
KECS Kecovo 80.08 324 *e*P **P 06 12 36.6 +0.8**
KECS pmax pmax
comp=Z,4.0nm,1.0s
KECS Kecovo 80.08 324 *e*P **P 06 12 36.6 +0.8**
KNB Kanab 80.12 51 *e*P **P 06 12 37.1 +0.6**
KNB pmax pmax
comp=Z,7.0nm,0.9s
KNB Kanab 80.12 51 *e*P **P 06 12 37.1 +0.6**
comp=Z,7.4nm,0.9s
OKC Ostrava-Krasne 80.18 326⇑*e*P **P 06 12 36.7 +0.3**
OKC Ostrava-Krasne 80.18 326 *e*P **P 06 12 36.7 +0.3**
ARR Arges 80.19 320⇑*i*P **P 06 12 37.8 +1.2**
DRGR 80.19 322⇑*i*P **P 06 12 37.2 +0.7**
SRU San Rafael Swe 80.22 48 *e*P **P 06 12 38.4 +1.3**
SRU pmax pmax
comp=Z,15nm,0.7s
SRU San Rafael Swe 80.22 48 *e*P **P 06 12 38.4 +1.3**
comp=Z,15nm,0.7s
KSP Ksiaz 80.26 328 *e*P **P 06 12 37.4 +0.6**
KSP Ksiaz 80.26 328 *e*P **P 06 12 37.4 +0.6**
ULM Lac du Bonnet 80.29 33 P **P 06 12 36.8 -0.1**
comp=Z,4.7nm,0.7s,baz=312,slow=6.9,SNR=14
ULM Lac du Bonnet 80.29 33 *e*P **P 06 12 36.8 -0.1**
ULM pmax pmax
comp=Z,9.0nm,0.9s
ULM Lac du Bonnet 80.29 33 *e*P **P 06 12 36.8 -0.1**
comp=Z,9.2nm,0.9s
MDND Maddock 80.31 36 *e*P **P 06 12 38.0 +0.9**
comp=Z,18nm,0.8s
MMU Miners Mountai 80.33 49 *e*P **P 06 12 39.2 +1.4**
MORC Moravsky Berou 80.49 327⇑*i*P **P 06 12 37.8 -0.3**
MORC Moravsky Berou 80.49 327 *e*P **P 06 12 38.6 +0.5**
MORC pmax pmax
comp=Z,84nm,1.1s
MORC Moravsky Berou 80.49 327 *e*P **P 06 12 38.6 +0.5**
comp=Z,84nm,1.1s
DPC Dobruska-Polom 80.61 328⇑*i*P **P 06 12 39.5 +0.8**
DPC Dobruska-Polom 80.61 328⇑*i*P **P 06 12 39.5 +0.8**
KRLC Kraliky 80.61 327⇑*e*P **P 06 12 39.3 +0.6**
KRLC Kraliky 80.61 327 *e*P **P 06 12 39.3 +0.6**
UPC Upice 80.62 328⇑*e*P **P 06 12 39.5 +0.8**
UPC Upice 80.62 328 *e*P **P 06 12 39.5 +0.8**
RSSD Black Hills 80.64 41 *e*P **P 06 12 39.2 0.0**
RSSD pmax pmax
comp=Z,4.0nm,0.7s
RSSD Black Hills 80.64 41 *e*P **P 06 12 39.2 0.0**
comp=Z,4.2nm,0.7s
PSZ Piszkesteto 80.76 324⇑*i*P **P 06 12 40.3 +0.7**
PSZ Piszkesteto 80.76 324 *e*P **P 06 12 40.4 +0.8**
PSZ pmax pmax
comp=Z,33nm,1.1s
PSZ Piszkesteto 80.76 324⇑*e*P **P 06 12 40.3 +0.7**
PSZ Piszkesteto 80.76 324 *e*P **P 06 12 40.4 +0.8**
comp=Z,33nm,1.1s
U15A North Rim 80.82 51 *e*P **P 06 12 42.0 +1.6**
comp=Z,4.4nm,0.8s
VYHS Vyhne 80.84 325 *e*P **P 06 12 40.6 +0.7**
VYHS pmax pmax
comp=Z,6.0nm,0.9s
VYHS Vyhne 80.84 325 *e*P **P 06 12 40.6 +0.7**
O20A White River Ci 80.92 46 *e*P **P 06 12 41.7 +0.9**
comp=Z,7.7nm,0.8s
BOLV Bolvadin 81.03 312 *e*P **P 06 12 41.2 0.0**
comp=Z,38nm,1.1s
SIRR Siria 81.07 322⇓*i*P **P 06 12 40.8 -0.4**
PVCC Panska Ves 81.22 329⇑*e*P **P 06 12 42.9 +1.0**
PVCC Panska Ves 81.22 329 *e*P **P 06 12 42.9 +1.0**
BRG Berggiesshubel 81.22 329 *i*P **P 06 12 42.1 +0.2**
comp=Z,18nm,1.1s
BRG Berggiesshubel 81.22 329 *i*P **P 06 12 42.1 +0.2**
BRG pmax pmax
comp=Z,18nm,1.1s
VRAC Vranov 81.26 327 P **P 06 12 43.0 +0.8**
comp=Z,8.2nm,0.6s,baz=11,slow=9.7,SNR=14
VRAC Vranov 81.26 327⇑*i*P **P 06 12 41.8 -0.4**
VRAC Vranov 81.26 327 P **P 06 12 43.0 +0.8**
CLL Collm 81.28 330 *e*P **P 06 12 42.6 +0.4**
CLL pmax pmax
comp=Z,30nm,0.8s
CLL Collm 81.28 330⇑*i*P **P 06 12 42.3 +0.1**
comp=Z,35nm,0.9s
CLL *e*pP **pP 06 13 01.0 +3.0**
CLL *e* 06 13 22.0
CLL LmV 06 55 00.0
comp=Z,100nm,19.1s
CLL Collm 81.28 330 *e*P **P 06 12 42.6 +0.4**
comp=Z,30nm,0.8s
ASF Jabal al Asfar 81.32 304 P **P 06 12 43.6 +0.7**
comp=Z,3.5nm,0.8s,baz=33,slow=2.8,SNR=4.7
PV09 Paradox Valley 81.45 48 *e*P **P 06 12 45.2 +1.4**
SMOL Smolenice 81.47 326 *e*P **P 06 12 44.5 +1.2**
SMOL Smolenice 81.47 326 *e*P **P 06 12 44.5 +1.2**
BZS Buzias 81.55 322⇓*i*P **P 06 12 43.5 -0.2**
PV10 Paradox Valley 81.59 48 *e*P **P 06 12 45.7 +1.3**
GOPC GO Pecny, Ondr 81.59 328⇑*i*P **P 06 12 44.6 +0.7**
GOPC GO Pecny, Ondr 81.59 328⇑*i*P **P 06 12 44.6 +0.7**
PRA Prague 81.62 328⇑*e*P **P 06 12 44.8 +0.8**
PRA Prague 81.62 328 *e*P **P 06 12 44.8 +0.8**
PRU Pruhonice 81.64 328⇑*i*P **P 06 12 44.7 +0.6**
PRU *e*PCP **PcP 06 12 52.4 +2.5**
PRU Pruhonice 81.64 328⇑*i*P **P 06 12 44.7 +0.6**
PV04 Paradox Valley 81.66 48 *e*P **P 06 12 45.7 +1.0**
PV05 Paradox Valley 81.74 48 *e*P **P 06 12 46.7 +1.5**
N23A Red Feather La 81.75 45 *e*P **P 06 12 45.9 +0.7**
comp=Z,9.0nm,0.9s
TREC Trest 81.75 327⇑*e*P **P 06 12 45.6 +0.8**
TREC Trest 81.75 327 *e*P **P 06 12 45.6 +0.8**
MMAI Mount Meron Ar 81.80 305 P **P 06 12 46.0 +0.7**
comp=Z,8.0nm,0.8s,baz=41,slow=7.7,SNR=12
CSS Mathiatis 81.93 308 *e*P **P 06 12 46.3 +0.4**
comp=Z,3.7nm,0.7s
WUAZ Wupatki 81.97 52 *e*P **P 06 12 47.9 +1.6**
comp=Z,8.2nm,0.9s
PV01 Paradox Valley 82.02 48 *e*P **P 06 12 47.9 +1.2**
SMCO Snowmass 82.29 47 *e*P **P 06 12 49.2 +0.9**
comp=Z,6.0nm,0.8s
NKC Novy Kostel 82.33 329⇑*e*P **P 06 12 48.2 +0.4**
NKC Novy Kostel 82.33 329 *e*P **P 06 12 48.2 +0.4**
CONA Conrad Observa 82.61 326 *i*P **P 06 12 50.0 +0.6**
comp=Z,16nm,1.3s,SNR=6.7
ISCO Idaho Springs 82.66 45 *e*P **P 06 12 51.5 +1.4**
ISCO pmax pmax
comp=Z,3.0nm,0.8s
ISCO Idaho Springs 82.66 45 *e*P **P 06 12 51.5 +1.4**
comp=Z,3.4nm,0.8s
MVCO Mesa Verde 82.67 49 *e*P **P 06 12 51.3 +1.3**
comp=Z,5.3nm,0.7s
KHC Kasperske Hory 82.70 328⇑*i*P **P 06 12 50.2 +0.4**
KHC Kasperske Hory 82.70 328 *e*P **P 06 12 50.4 +0.6**
KHC pmax pmax
comp=Z,12nm,1.2s
KHC Kasperske Hory 82.70 328 *e*P **P 06 12 50.4 +0.6**
comp=Z,12nm,1.2s
VTS Vitosha 82.84 319⇑*i*P **P 06 12 51.7 +1.0**
VTS Vitosha 82.84 319 *e*P **P 06 12 50.7 0.0**
VTS pmax pmax
comp=Z,10.0nm,0.8s
VTS Vitosha 82.84 319 *e*P **P 06 12 50.7 0.0**
comp=Z,9.8nm,0.8s
GEC2 GERESS Array S 82.86 328 *e*P **P 06 12 50.8 +0.1**
GEC2 pmax pmax
comp=Z,17nm,1.2s
GEC2 GERESS Array S 82.86 328 *e*P **P 06 12 50.8 +0.1**
comp=Z,17nm,1.2s
GERES GERESS Array B 82.86 328 P **P 06 12 50.6 0.0**
comp=Z,6.3nm,0.6s,baz=38,slow=5.9,SNR=44
GERES LR LR 06 53 44.7
comp=Z,80nm,18.4s,baz=24,slow=38
GEA0 GERESS Array S 82.87 328 *e*P **P 06 12 50.5 -0.2**
GRFO Grafenberg 83.25 330 *e*P **P 06 12 52.9 +0.4**
GRFO pmax pmax
comp=Z,32nm,0.9s
GRFO Grafenberg 83.25 330 *e*P **P 06 12 52.9 +0.4**
comp=Z,32nm,0.9s
ARSA Arzberg 83.27 326 *i*P **P 06 12 53.1 +0.4**
comp=Z,6.9nm,1.0s
S22A 4UR Ranch, Cre 83.32 48 *e*P **P 06 12 53.9 +0.4**
comp=Z,4.3nm,0.8s
MOA Molln 83.38 327 *i*PcP **P 06 12 54.7 +1.4**
comp=Z,12nm,1.1s,SNR=7.6
EKA Eskdalemuir Ar 83.45 340 P **P 06 12 54.0 +0.5**
comp=Z,6.8nm,0.7s,baz=33,slow=4.6,SNR=16
EKA Eskdalemuir Ar 83.45 340 P **P 06 12 54.0 +0.5**
EKA pmax pmax
comp=Z,7.0nm,0.7s
ESK Eskdalemuir 83.48 340 *e*P **P 06 12 54.1 +0.5**
ESK pmax pmax
comp=Z,76nm,1.7s
ESK Eskdalemuir 83.48 340 *e*P **P 06 12 54.0 +0.5**
comp=Z,76nm,1.7s
PERS Pernice 83.91 326 *i*P **P 06 12 56.1 0.0**
SOKA Soboth 83.92 326 *i*P **P 06 12 56.3 +0.2**
comp=Z,22nm,1.0s,SNR=20
EYMN Ely 83.92 32 *e*P **P 06 12 56.2 +0.2**
comp=Z,6.3nm,0.8s
SDCO Great Sand Dun 84.10 47 *e*P **P 06 12 58.5 +1.0**
comp=Z,4.0nm,0.8s
EIL Elat 84.18 303 P **P 06 12 57.6 0.0**
comp=Z,14nm,0.9s,baz=87,slow=3.8,SNR=5.7
OBKA Obir 84.27 326 *i*P **P 06 12 57.5 -0.5**
comp=Z,3.2nm,0.6s
KBA Koelnbreinsper 84.37 327 *i*PcP **P 06 12 59.0 +0.4**
comp=Z,8.3nm,0.9s,SNR=5.4
KBA Koelnbreinsper 84.37 327 P **P 06 12 58.6 +0.1**
TUC Tucson 84.39 54 *e*P **P 06 12 59.9 +1.2**
TUC pmax pmax
comp=Z,5.0nm,0.9s
TUC Tucson 84.39 54 *e*P **P 06 12 59.9 +1.2**
comp=Z,4.7nm,0.9s
MEM Membach 84.53 333 P **P 06 12 59.1 +0.1**
MYKA Terra Mystica 84.58 326 *e*P **P 06 12 58.8 -0.7**
comp=Z,6.7nm,0.5s
VISS Visnje 84.67 325 *i*P **P 06 12 59.3 -0.5**
BOJS Bojanci 84.70 325 *i*P **P 06 12 59.9 -0.1**
ECSD EROS Data Cent 84.72 38 *e*P **P 06 13 00.0 -0.1**
comp=Z,6.6nm,0.8s
STU Stuttgart 84.79 330 *e*P **P 06 13 00.4 0.0**
STU pmax pmax
comp=Z,24nm,0.9s
STU Stuttgart 84.79 330 *e*P **P 06 13 00.4 0.0**
comp=Z,24nm,0.9s
PPT2 Papeete2 84.94 116 *e*LR LR 06 39 16.9
comp=Z,299nm,30.8s
PPT2 Papeete2 84.94 116 *e*T T 07 45 56.4
comp=Z,2.1nm,0.3s
BCLA Clavier 84.95 333 P **P 06 13 01.0 -0.2**
JAVS Javornik 84.95 326 *i*P **P 06 13 00.3 -1.1**
WTTA Wattenberg 84.97 328 *i*P **P 06 13 01.5 -0.1**
comp=Z,8.2nm,1.3s
ABTA Abfaltersbach 84.99 327 *i*P **P 06 13 00.4 -1.1**
comp=Z,8.6nm,1.1s
PDG Podgorica 85.02 321⇓*i*P **P 06 13 01.6 0.0**
MOTA Moosalm 85.13 328 *i*P **P 06 13 02.1 -0.2**
comp=Z,2.5nm,0.5s
T25A Trinidad 85.15 47 *e*P **P 06 13 03.9 +1.2**
comp=Z,11nm,0.8s
RETA Reutte 85.16 329 *i*P **P 06 13 02.5 +0.1**
comp=Z,14nm,0.8s,SNR=7.2
UDBI Udbina 85.19 324 P **P 06 13 02.0 -0.6**
WLF Walferdange 85.25 332 P **P 06 13 02.8 +0.2**
LAZ Ladron 85.34 50 *e*P **P 06 13 05.1 +1.4**
ANMO Albuquerque 85.40 49*ce*P **P 06 13 03.6 -0.4**
ANMO pmax pmax
comp=Z,6.0nm,1.2s
ANMO Albuquerque 85.40 49 *e*P **P 06 13 05.4 +1.4**
comp=Z,6.2nm,1.1s
DOU Dourbes 85.47 333 P **P 06 13 03.5 -0.2**
BFO Black Forest 85.49 330 *e*P **P 06 13 04.2 +0.3**
BFO pmax pmax
comp=Z,21nm,0.9s
BFO Black Forest 85.49 330 *e*P **P 06 13 04.2 +0.3**
comp=Z,22nm,0.9s
FETA Feichten 85.54 328 *i*P **P 06 13 04.3 -0.1**
comp=Z,6.8nm,0.8s
DAVA Damuels 85.69 329 *i*P **P 06 13 05.0 -0.1**
comp=Z,20nm,0.9s,SNR=7.1
BNM Barren Site 85.82 50 *e*P **P 06 13 07.2 +1.1**
FUORN Ofenpass-Fuorn 86.06 328 *e*P **P 06 13 07.7 +0.6**
comp=Z,33nm,1.2s
DAVOX Davos/Dischmat 86.09 329 P **P 06 13 06.9 -0.2**
comp=Z,3.0nm,0.5s,baz=28,slow=5.6,SNR=5.5
TUE Stuetta 86.56 329 *e*P **P 06 13 09.7 +0.2**
comp=Z,13nm,1.3s
IDI Anoyia 86.92 312 *e*P **P 06 13 10.9 -0.4**
comp=Z,16nm,1.0s
VLC Villacolemand 87.94 327 *e*P **P 06 13 16.1 +0.2**
comp=Z,18nm,1.0s
AQU L'Aquila 87.96 324 *e*P **P 06 13 16.7 +0.6**
AQU pmax pmax
comp=Z,22nm,0.8s
AQU L'Aquila 87.96 324 *e*P **P 06 13 16.7 +0.6**
comp=Z,22nm,0.8s
KSU1 Kansas State U 88.12 41 *e*P **P 06 13 16.8 -0.1**
comp=Z,14nm,0.8s
AMTX Amarillo 88.31 47 *e*P **P 06 13 17.2 -0.7**
comp=Z,6.3nm,0.7s
JFWS Jewell Farm 88.38 35 *e*P **P 06 13 18.1 +0.1**
JFWS pmax pmax
comp=Z,23nm,1.5s
JFWS Jewell Farm 88.38 35 *e*P **P 06 13 18.1 +0.1**
comp=Z,23nm,1.5s
CUC Castrocucco 88.56 321 *e*P **P 06 13 17.8 -1.2**
TBI Tubuai 88.76 120 *e*LR LR 06 40 46.8
comp=Z,190nm,29.5s
TBI Tubuai 88.76 120 *e*T T 07 50 45.2
comp=Z,18nm,0.3s
BNI Bardonecchia 88.81 329 *e*P **P 06 13 19.8 -0.4**
BNI pmax pmax
comp=Z,8.0nm,1.3s
BNI Bardonecchia 88.81 329 *e*P **P 06 13 19.8 -0.4**
comp=Z,8.4nm,1.3s
VLDQ Val d'Or 89.17 24 *e*P **P 06 13 21.3 -0.3**
comp=Z,12nm,0.8s
CEL Celeste 89.82 320 *e*P **P 06 13 24.4 -0.5**
comp=Z,17nm,0.8s
WMOK Wichita Mounta 90.09 45 *e*P **P 06 13 27.3 +1.1**
WMOK pmax pmax
comp=Z,3.0nm,0.9s
WMOK Wichita Mounta 90.09 45 *e*P **P 06 13 27.3 +1.1**
comp=Z,3.4nm,0.9s
TUL1 Leonard 90.91 43 *e*P **P 06 13 30.6 +0.6**
comp=Z,7.6nm,0.7s
TX31 Lajitas Ar. Si 90.93 52 *e*P **P 06 13 30.9 +0.6**
LTX Lajitas 90.93 52 *e*P **P 06 13 30.9 +0.5**
LTX Lajitas 90.93 52 *e*P **P 06 13 30.9 +0.5**
TXAR Lajitas Array 90.93 52 P **P 06 13 30.9 +0.5**
comp=Z,2.8nm,0.7s,baz=298,slow=3.1,SNR=50
ABTX Abilene, Hawle 91.10 47 *e*P **P 06 13 31.4 +0.4**
comp=Z,5.3nm,0.9s
HHAR Hobbs 91.63 41 *e*P **P 06 13 33.3 0.0**
comp=Z,4.4nm,0.8s
SFIN Lafayette 91.82 34 *e*P **P 06 13 35.1 +0.9**
comp=Z,46nm,1.9s
JCT Junction City 92.53 49 *e*P **P 06 13 38.4 +0.7**
JCT pmax pmax
comp=Z,24nm,1.9s
JCT Junction City 92.53 49 *e*P **P 06 13 38.4 +0.7**
comp=Z,24nm,1.9s
MIAR Mount Ida 93.13 42 *e*P **P 06 13 40.7 +0.4**
MIAR pmax pmax
comp=Z,21nm,1.6s
MIAR Mount Ida 93.13 42 *e*P **P 06 13 40.7 +0.4**
comp=Z,21nm,1.6s
WHAR Wooly Hollow 93.25 41 *e*P **P 06 13 41.8 +1.0**
comp=Z,43nm,2.0s
ES19 SONSECA Array 97.47 333 *e*P **P 06 13 58.9 -1.2**
ESDC Sonseca Array 97.52 333 P **P 06 14 00.1 -0.2**
comp=Z,1.5nm,0.8s,baz=16,slow=4.8,SNR=7.4
ESDC PP **PP 06 17 59.4 +2.3**
comp=Z,0.8nm,0.7s,baz=30,slow=6.1,SNR=4.1
TOA1 Torodi Ar. Sit 117.29 314 *e*PKPdf **PKPdf 06 19 10.8 -1.1**
TOA1 *e*PP **PP 06 20 20.0 -2.4**
TOA0 Torodi Ar. Sit 117.29 314 *e*PKPdf **PKPdf 06 19 11.2 -0.6**
TOA0 *e*PKPdf **PKiKP 06 19 11.4 -0.5**
TORD Torodi Ar. Bea 117.29 314 PKP **PKPdf 06 19 10.8 -1.1**
comp=Z,1.3nm,0.5s,baz=51,slow=1.4,SNR=20
TORD PP **PP 06 20 20.0 -2.4**
comp=Z,1.6nm,0.9s,baz=26,slow=7.0,SNR=5.5
LBTB Lobatse 123.97 262 *e*PKIKP **PKPdf 06 19 25.1 +0.6**
LBTB Lobatse 123.97 262 *e*PKPdf **PKPdf 06 19 25.1 +0.6**
BOSA Boshof 125.88 259 PKP **PKPdf 06 19 27.4 -0.7**
comp=Z,1.1nm,0.5s,baz=83,slow=2.9,SNR=5.5
QSPA South Pole Qui 126.22 180 *e*PKPdf **PKPdf 06 19 27.9 +0.4**
DBIC Dimbokro 126.28 316 PKP **PKPdf 06 19 28.8 -0.3**
comp=Z,4.0nm,0.7s,baz=43,slow=2.5,SNR=10
SNAA Sanae 140.05 197 PKP PKPpre 06 19 45.5
VNA3 Neumayer Olymp 141.88 195 PKP PKPpre 06 19 50.6
SAML Samuel 145.06 44 *e*PKPbc **PKPbc 06 20 03.1 -0.1**
LPAZ La Paz 147.49 59 PKPbc **PKPdf 06 20 09.4 +0.8**
comp=Z,6.6nm,0.7s,baz=352,slow=5.8,SNR=29
LPAZ La Paz 147.49 59 *e*PKPbc **PKPbc 06 20 11.4 +0.2**
PB11 IPOC Station P 148.67 66 *e*PKPbc **PKPbc 06 20 14.6 +0.9**
RCBR Riachuelo 149.33 353 *e*PKPbc **PKPbc 06 20 15.4 0.0**
PB01 IPOC Station P 149.57 68 *e*PKPbc **PKPbc 06 20 16.6 +0.7**
LVC Limon Verde 150.92 70 *e*PKPbc **PKPbc 06 20 20.7 +1.3**
GO09 Cerro Castillo 152.27 133 *e*PKPbc **PKPbc 06 20 22.0 +0.9**

LCO Las Campanas 152.67 83 *e*PKPbc **PKPbc 06 20 23.9 +0.8**

DDA **10** *06:06:10.9,36.˙83N×26.˙52E,h17km,MI3.9*
IDC **10** *06:06:11.5±0.7,36.˙71N×26.˙59E,h0km,mb4.0/10, mb1 4.0/16,mb1mx3.9/50,mbtmp4.0/16,ML3.5/6,MS3.1/11, Ms1 3.1/11,ms1mx2.9/47,Error ellipse: s-maj=17.5km s-min=12.3km az=162.0*
ISK **10** *06:06:11.9,36.˙91N×26.˙50E,h9km,ML4.2*
NEIC **10** *06:06:12.8±0.0,36.˙89N×26.˙58E,h3km,mb4.6/2, ML4.1(ATH),ML4.4(THE),After THE.*
ATH **10** *06:06:12.6,36.˙88N×26.˙59E,h30km,ML4.1/17,Error ellipse: s-maj=0.9km s-min=0.4km az=68.0*
THE **10** *06:06:12.8,36.˙89N×26.˙58E,h3km±1km,ML4.4/8,Error ellipse: s-maj=1.2km s-min=0.4km az=17.0*
MOS **10** *06:06:13.5±1.1,36.˙97N×26.˙50E,h21km,mb4.4/8,Error ellipse: s-maj=10.2km s-min=5.8km az=78.7*
CSEM **10** *06:06:13.1±0.1,36.˙85N×26.˙55E,h10km,mb4.3/6,Error ellipse: s-maj=2.6km s-min=1.9km az=7.0*
ISCJB **10** *06:06:13.5±0.3,36.˙88N±0.˙01×26.˙55E±0.˙01,h21km±2km, mb4.0/15,MS3.0/3,Error ellipse: s-maj=2.3km s-min=1.8km az=172.4*
HLW **10** *06:06:14.4,36.˙73N×26.˙73E,h24km±16km,Md3.8,MI3.9*
GII **10** *06:06:18.6±0.0,36.˙40N×26.˙74E,h30km,MD3.2/2*
ISC 10 06:06:13.2±0.9,**36.˙85N**±0.˙02×**26.˙58E**±0.˙01,**h12**km±6km, **n591,**σ**1**§**62**/675,**mb4.1**/15,**MS3.0**/3,**11C-8D,Dodecanese Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NISR	**Nisiros**	**0.50**	**118**	P	**Pg**	**06 06 23.4**	**+0.3**
NISR				S	**Sb**	**06 06 30.9**	**-0.3**
NISR	**Nisiros**	**0.50**	**118**	P	**Pg**	**06 06 23.4**	**+0.3**
NISR				S	**Sg**	**06 06 30.4**	**+0.7**
NISR	**Nisiros**	**0.50**	**118**	P	**Pb**	**06 06 24.0**	**+0.1**
NISR				S	**Sg**	**06 06 30.5**	**+0.7**
NISR				AML	AML	06 06 32.0	
NISR				AML	AML	06 06 32.3	
NISR	**Nisiros**	**0.50**	**118**	P	**Pg**	**06 06 23.4**	**+0.3**
NISR				S	**Sb**	**06 06 30.9**	**-0.3**
NIS1	**Nisyros Isl.**	**0.54**	**117**	*e*PG	**Pb**	**06 06 24.4**	**-0.3**
NIS1				*e*SG	**Sb**	**06 06 33.6**	**+1.2**
NIS1	**Nisyros Isl.**	**0.54**	**117**	P	**Pg**	**06 06 24.2**	**+0.4**
NIS1				S	**Sb**	**06 06 32.5**	**+0.1**
NIS1	**Nisyros Isl.**	**0.54**	**117**	P	**Pg**	**06 06 24.2**	**+0.4**
NIS1				S	**Sg**	**06 06 31.8**	**+0.8**
NIS1				*e*Sg	**Sb**	**06 06 33.6**	**+1.2**
NIS1	**Nisyros Isl.**	**0.54**	**117**	P	**Pb**	**06 06 24.9**	**+0.3**
NIS1				S	**Sb**	**06 06 31.9**	**-0.5**
NIS1				AML	AML	06 06 34.6	
NIS1				AML	AML	06 06 36.0	
	comp=E,97685μm,0.4s						
NIS1	**Nisyros Isl.**	**0.54**	**117**	P	**Pg**	**06 06 24.2**	**+0.4**
NIS1				S	**Sb**	**06 06 32.5**	**+0.1**
BODT	**Bodrum**	**0.62**	**70**	*e*PG	**Pg**	**06 06 25.4**	**0.0**
BODT				*e*SG	**Sb**	**06 06 34.4**	**-0.4**
BODT	**Bodrum**	**0.62**	**70**	P	**Pg**	**06 06 24.5**	**-0.9**
BODT				S	**Sg**	**06 06 33.7**	**0.0**
BODT	**Bodrum**	**0.62**	**70**	P	**Pg**	**06 06 24.5**	**-0.9**
BODT	**Bodrum**	**0.62**	**70**	*e*Pg	**Pg**	**06 06 25.4**	**0.0**
BODT				S	**Sg**	**06 06 33.7**	**0.0**
BODT				*e*Sg	**Sb**	**06 06 34.4**	**-0.4**
BODT	**Bodrum**	**0.62**	**70**	P	**Pb**	**06 06 24.5**	**-0.9**
BODT				S	**Sg**	**06 06 33.7**	**0.0**
YKAV	**Yalikavak-Bodr**	**0.63**	**64**	*e*PG	**Pg**	**06 06 24.9**	**-0.5**
YKAV	**Yalikavak-Bodr**	**0.63**	**64**	*e*Pg	**Pg**	**06 06 24.9**	**-0.5**
BDRM	**Kayabasi**	**0.73**	**73**	*i* P	**Pg**	**06 06 26.5**	**-0.8**
BDRM				*i* S	**Sg**	**06 06 36.3**	**-0.6**
BDRM	**Kayabasi**	**0.73**	**73**	P	**Pg**	**06 06 26.5**	**-0.8**
BDRM				S	**Sg**	**06 06 36.3**	**-0.6**
DIDI	**Didim-Aydin**	**0.75**	**45**	*e*PG	**Pg**	**06 06 27.0**	**-0.7**
DIDI	**Didim-Aydin**	**0.75**	**45**	*e*Pg	**Pg**	**06 06 27.0**	**-0.7**
DAT	**Datca**	**0.81**	**98**	*e*PG	**Pg**	**06 06 28.4**	**-0.5**
DAT	**Datca**	**0.81**	**98**	*i* P	**Pg**	**06 06 28.6**	**-0.4**
DAT				*i* S	**Sg**	**06 06 39.6**	**0.0**
DAT	**Datca**	**0.81**	**98**	P	**Pg**	**06 06 28.6**	**-0.4**
DAT				S	**Sg**	**06 06 39.6**	**0.0**
APE	**Apeiranthos**	**0.87**	**285**	*e*PG	**Pg**	**06 06 27.6**	**-2.3**
APE	**Apeiranthos**	**0.87**	**285**	P	**Pg**	**06 06 29.5**	**-0.5**
APE				S	**Sb**	**06 06 42.3**	**+0.5**
APE	**Apeiranthos**	**0.87**	**285**	*d* iP	**Pg**	**06 06 29.4**	**-0.5**
APE	**Apeiranthos**	**0.87**	**285**	*e*Pg	**Pg**	**06 06 27.6**	**-2.3**
APE	**Apeiranthos**	**0.87**	**285**	*i* P	**Pg**	**06 06 29.4**	**-0.5**
APE				S	**Sb**	**06 06 42.3**	**+0.5**
APE	**Apeiranthos**	**0.87**	**285**	P	**Pg**	**06 06 29.7**	**-0.3**
APE				S	**Sb**	**06 06 42.3**	**+0.5**
APE				AML	AML	06 06 43.6	
	comp=N,26302μm,0.3s						
APE				AML	AML	06 06 44.7	
	comp=E,19575μm,0.3s						
APE	**Apeiranthos**	**0.87**	**285**	P	**Pg**	**06 06 29.5**	**-0.5**
APE				S	**Sb**	**06 06 42.3**	**+0.5**
DATC	**Datca-Mugla**	**0.88**	**96**	*e*PG	**Pb**	**06 06 30.6**	**+0.3**
DATC	**Datca-Mugla**	**0.88**	**96**	*e*Pg	**Pb**	**06 06 30.6**	**+0.3**
SMG	**Samos**	**0.88**	**14**	P	**Pg**	**06 06 28.9**	**-1.4**
SMG				S	**Sg**	**06 06 41.3**	**-0.5**
SMG	**Samos**	**0.88**	**14**	P	**Pg**	**06 06 29.6**	**-0.6**
SMG				S	**Sg**	**06 06 41.3**	**-0.5**
SMG	**Samos**	**0.88**	**14**	P	**Pg**	**06 06 29.6**	**-0.6**
SMG				S	**Sg**	**06 06 41.3**	**-0.5**
SMG				AML	AML	06 06 44.4	
	comp=N,42146μm,0.7s						
SMG				AML	AML	06 06 44.9	
	comp=E,40459μm,0.4s						
SMG	**Samos**	**0.88**	**14**	P	**Pg**	**06 06 28.9**	**-1.4**
SMG				S	**Sg**	**06 06 41.3**	**-0.5**
GCAM	**G?zelcaml?**	**1.00**	**32**	*i* P	**Pg**	**06 06 31.3**	**-1.1**
GCAM				*i* S	**Sn**	**06 06 46.3**	**-0.7**
GCAM	**G?zelcaml?**	**1.00**	**32**	P	**Pg**	**06 06 31.3**	**-1.1**
GCAM				S	**Sn**	**06 06 46.3**	**-0.7**
SAP2K	**Karterados**	**1.01**	**245**	P	**Pg**	**06 06 32.4**	**-0.2**
THR7	**Fira-Santorini**	**1.02**	**246**	P	**Pg**	**06 06 32.5**	**-0.3**
THR7	**Fira-Santorini**	**1.02**	**246**	P	**Pg**	**06 06 32.5**	**-0.3**
SANT	**Santorini**	**1.02**	**242**	P	**Pg**	**06 06 32.3**	**-0.6**
SANT	**Santorini**	**1.02**	**242**	P	**Pg**	**06 06 32.3**	**-0.6**
SANT				S	**Sb**	**06 06 46.2**	**0.0**
SANT	**Santorini**	**1.02**	**242**	P	**Pg**	**06 06 32.2**	**-0.6**
SANT				S	**Sb**	**06 06 46.1**	**0.0**
SANT				AML	AML	06 06 51.0	
	comp=N,7231μm,0.3s						
SANT				AML	AML	06 06 52.3	
	comp=E,11922μm,0.3s						
SANT	**Santorini**	**1.02**	**242**	P	**Pg**	**06 06 32.3**	**-0.6**
THT1	**Athinios (Pele**	**1.03**	**244**	P	**Pb**	**06 06 32.4**	**-0.6**
THT1	**Athinios (Pele**	**1.03**	**244**	P	**Pb**	**06 06 32.4**	**-0.6**
THR3	**Thira Island,**	**1.04**	**245**	P	**Pb**	**06 06 32.7**	**-0.5**
THR3	**Thira Island,**	**1.04**	**245**	P	**Pb**	**06 06 32.7**	**-0.5**
THR3	**Thira Island,**	**1.04**	**245**	P	**Pb**	**06 06 32.7**	**-0.5**
MLSB	**Milas**	**1.06**	**65**	*e*PN	**Pb**	**06 06 33.3**	**-0.1**
MLSB	**Milas**	**1.06**	**65**	*e*Pn	**Pb**	**06 06 33.3**	**-0.1**
THR6	**Thira Island,**	**1.07**	**243**	P	**Pb**	**06 06 33.2**	**-0.4**
THR6	**Thira Island,**	**1.07**	**243**	P	**Pb**	**06 06 33.2**	**-0.4**
THR6	**Thira Island,**	**1.07**	**243**	P	**Pb**	**06 06 33.2**	**-0.4**
SAP1	**Santorini-Akro**	**1.07**	**243**	P	**Pb**	**06 06 33.5**	**-0.1**
SAP1				S	**Sg**	**06 06 48.0**	**+0.2**
SAP1	**Santorini-Akro**	**1.07**	**243**	P	**Pb**	**06 06 33.5**	**-0.1**
SAP1				S	**Sg**	**06 06 47.9**	**+0.2**
SAP1				AML	AML	06 06 54.5	
	comp=E,33295μm,0.4s						
SAP1				AML	AML	06 06 55.6	
	comp=N,32603μm,0.4s						
THR5	**Thira Island,**	**1.08**	**247**	P	**Pb**	**06 06 33.2**	**-0.6**
THR5	**Thira Island,**	**1.08**	**247**	P	**Pb**	**06 06 33.2**	**-0.6**
KUSD	**Kusadasi-Aydin**	**1.16**	**29**	*e*PN	**Pb**	**06 06 34.4**	**-0.8**
KUSD	**Kusadasi-Aydin**	**1.16**	**29**	*e*Pn	**Pb**	**06 06 34.4**	**-0.8**
DGB	**˜zmir**	**1.22**	**11**	*i* P	**Pn**	**06 06 34.7**	**-1.5**
DGB				*i* S	**Sn**	**06 06 53.2**	**+0.6**
GMLD	**Gumuldur**	**1.25**	**12**	*e*PN	**Pn**	**06 06 35.8**	**-0.7**
GMLD	**Gumuldur**	**1.25**	**12**	*e*Pn	**Pn**	**06 06 35.8**	**-0.7**
MRSB	**Marmaris-Mugla**	**1.31**	**95**	*e*PN	**Pb**	**06 06 38.0**	**+0.3**
MRSB	**Marmaris-Mugla**	**1.31**	**95**	*e*Pn	**Pb**	**06 06 38.0**	**+0.3**
KARP	**Karpathos**	**1.38**	**160**	*e*PN	**Pb**	**06 06 39.0**	**0.0**
KARP	**Karpathos**	**1.38**	**160**	P	**Pn**	**06 06 37.5**	**-0.9**
KARP				S	**Sg**	**06 06 58.3**	**+0.5**
KARP	**Karpathos**	**1.38**	**160**	P	**Pn**	**06 06 37.7**	**-0.6**
KARP	**Karpathos**	**1.38**	**160**	*e*Pn	**Pb**	**06 06 39.0**	**0.0**
KARP				S	**Sb**	**06 06 57.2**	**+0.5**
KARP	**Karpathos**	**1.38**	**160**	P	**Pn**	**06 06 37.7**	**-0.6**
KARP				S	**Sb**	**06 06 57.2**	**+0.5**
KARP				AML	AML	06 07 00.1	
	comp=E,20865μm,0.6s						
KARP				AML	AML	06 07 00.9	
	comp=N,15700μm,0.6s						
KARP	**Karpathos**	**1.38**	**160**	P	**Pn**	**06 06 37.5**	**-0.9**
KARP				S	**Sg**	**06 06 58.3**	**+0.5**
ZEY	**˜zmir**	**1.39**	**358**	*i* P	**Pn**	**06 06 36.8**	**-1.6**
ARG	**Arkhangelos**	**1.40**	**116**	P	**Pn**	**06 06 38.0**	**-0.5**
ARG				S	**Sb**	**06 06 57.4**	**+0.3**
ARG	**Arkhangelos**	**1.40**	**116**	P	**Pn**	**06 06 38.0**	**-0.5**
ARG				S	**Sb**	**06 06 57.4**	**+0.3**
ARG	**Arkhangelos**	**1.40**	**116**	P	**Pn**	**06 06 38.4**	**-0.1**
ARG				S	**Sb**	**06 06 57.4**	**+0.3**
ARG	**Arkhangelos**	**1.40**	**116**	P	**Pn**	**06 06 38.4**	**-0.1**
ARG				S	**Sn**	**06 06 56.8**	**-0.1**
ARG				AML	AML	06 07 02.8	
	comp=N,8341μm,0.5s						
ARG				AML	AML	06 07 03.6	
	comp=E,6831μm,0.4s						
ARG	**Arkhangelos**	**1.40**	**116**	P	**Pn**	**06 06 38.0**	**-0.5**
ARG				S	**Sb**	**06 06 57.4**	**+0.3**
CESE	**˜e˜me**	**1.49**	**352**	*e*PN	**Pn**	**06 06 39.2**	**-0.7**
CESE	**˜e˜me**	**1.49**	**352**	*e*Pn	**Pn**	**06 06 39.2**	**-0.7**
URLA	**Izmir**	**1.51**	**1**	*e*PN	**Pn**	**06 06 38.4**	**-1.7**
URLA	**Izmir**	**1.51**	**1**	*i* P	**Pn**	**06 06 38.8**	**-1.3**
URLA	**Izmir**	**1.51**	**1**	*e*Pn	**Pn**	**06 06 38.4**	**-1.7**
URLA	**Izmir**	**1.51**	**1**	P	**Pn**	**06 06 38.8**	**-1.3**
AYDB	**Zeytinkoy-Aydi**	**1.51**	**43**	*e*PN	**Pn**	**06 06 40.5**	**+0.3**
AYDB	**Zeytinkoy-Aydi**	**1.51**	**43**	*e*Pn	**Pn**	**06 06 40.5**	**+0.3**
CHOS	**Chios island**	**1.59**	**345**	*e*PN	**Pn**	**06 06 39.8**	**-1.5**
CHOS	**Chios island**	**1.59**	**345**	P	**Pn**	**06 06 39.7**	**-1.5**
CHOS	**Chios island**	**1.59**	**345**	*e*Pn	**Pn**	**06 06 39.8**	**-1.5**
CHOS				S	**Sn**	**06 07 00.2**	**-1.6**
CHOS	**Chios island**	**1.59**	**345**	P	**Pn**	**06 06 39.3**	**-2.0**
CHOS				S	**Sn**	**06 07 00.1**	**-1.6**
CHOS				AML	AML	06 07 07.0	
	comp=E,4243μm,0.5s						
CHOS				AML	AML	06 07 07.3	
	comp=N,3577μm,0.6s						
CHOS	**Chios island**	**1.59**	**345**	P	**Pn**	**06 06 39.7**	**-1.5**
TURN	**Turunc**	**1.62**	**89**	*i* P	**Pn**	**06 06 37.0**	**-4.6**
TURN				*i* S	**Sn**	**06 06 56.2**	**-6.3**
DALY	**Dalyan (Mu˜la**	**1.67**	**91**	*e*PN	**Pn**	**06 06 42.5**	**+0.3**
DALY	**Dalyan (Mu˜la**	**1.67**	**91**	*i* P	**Pn**	**06 06 42.3**	**+0.1**
DALY	**Dalyan (Mu˜la**	**1.67**	**91**	*e*Pn	**Pn**	**06 06 42.5**	**+0.3**
KRBN	**Karaburun**	**1.74**	**359**	*e*PN	**Pn**	**06 06 42.0**	**-1.3**
KRBN	**Karaburun**	**1.74**	**359**	*e*Pn	**Pn**	**06 06 42.0**	**-1.3**
MHLO	**Agia Marina, M**	**1.75**	**265**	P	**Pn**	**06 06 42.9**	**-0.5**
MHLO	**Agia Marina, M**	**1.75**	**265**	P	**Pn**	**06 06 42.9**	**-0.5**
MHLO				S	**Sn**	**06 07 05.9**	**+0.2**
MHLO	**Agia Marina, M**	**1.75**	**265**	P	**Pn**	**06 06 42.8**	**-0.5**
MHLO				S	**Sn**	**06 07 05.9**	**+0.2**
MHLO				AML	AML	06 07 18.7	
	comp=N,7370μm,1.0s						
MHLO				AML	AML	06 07 24.1	
	comp=E,10650μm,1.1s						
ZKR	**Zakros**	**1.76**	**190**	P	**Pn**	**06 06 43.4**	**0.0**
ZKR				S	**Sn**	**06 07 04.9**	**-0.8**
ZKR	**Zakros**	**1.76**	**190**	P	**Pn**	**06 06 43.4**	**0.0**
ZKR				S	**Sn**	**06 07 05.0**	**-0.8**
ZKR				AML	AML	06 07 19.0	
	comp=N,3436μm,0.7s						
ZKR				AML	AML	06 07 19.9	
	comp=E,10292μm,0.9s						
NPS	**Neapolis**	**1.77**	**207**	P	**Pn**	**06 06 43.0**	**-0.6**
NPS				S	**Sb**	**06 07 07.5**	**-0.2**
NPS	**Neapolis**	**1.77**	**207**	P	**Pn**	**06 06 43.0**	**-0.6**
NPS	**Neapolis**	**1.77**	**207**	P	**Pn**	**06 06 43.2**	**-0.4**
NPS				S	**Sn**	**06 07 06.4**	**+0.4**
NPS	**Neapolis**	**1.77**	**207**	P	**Pn**	**06 06 43.2**	**-0.4**
NPS				S	**Sn**	**06 07 06.3**	**+0.4**
NPS				AML	AML	06 07 12.0	
	comp=N,7019μm,0.6s						
NPS				AML	AML	06 07 12.6	
	comp=E,8322μm,0.4s						
NPS	**Neapolis**	**1.77**	**207**	P	**Pn**	**06 06 43.0**	**-0.6**
FOCM	**Fo˜ça**	**1.86**	**4**	*e*PN	**Pn**	**06 06 44.5**	**-0.4**
FOCM	**Fo˜ça**	**1.86**	**4**	*e*Pn	**Pn**	**06 06 44.5**	**-0.4**
LAST	**Lasithi**	**1.91**	**208**	P	**Pn**	**06 06 45.1**	**-0.5**
LAST				S	**Sb**	**06 07 11.1**	**-0.6**
LAST	**Lasithi**	**1.91**	**208**	P	**Pn**	**06 06 45.3**	**-0.3**
LAST				S	**Sn**	**06 07 10.4**	**+0.8**
LAST	**Lasithi**	**1.91**	**208**	P	**Pn**	**06 06 45.3**	**-0.3**
LAST				S	**Sn**	**06 07 10.3**	**+0.8**
LAST				AML	AML	06 07 19.8	
	comp=N,2741μm,0.9s						
LAST				AML	AML	06 07 25.6	
	comp=E,3189μm,0.8s						
LAST	**Lasithi**	**1.91**	**208**	P	**Pn**	**06 06 45.1**	**-0.5**
LAST				S	**Sb**	**06 07 11.1**	**-0.6**
IACM	**Heraklion**	**1.96**	**219**	P	**Pn**	**06 06 46.1**	**-0.2**
IACM	**Heraklion**	**1.96**	**219**	P	**Pn**	**06 06 46.1**	**-0.2**
FETY	**Fethiye**	**2.02**	**95**	*e*PN	**Pn**	**06 06 48.3**	**+1.3**
FETY	**Fethiye**	**2.02**	**95**	*e*Pn	**Pn**	**06 06 48.5**	**+1.3**
FETY	**Fethiye**	**2.02**	**95**	P	**Pb**	**06 06 49.0**	**-1.0**
FETI	**Fethiye-Mugla**	**2.03**	**94**	*e*PN	**Pn**	**06 06 48.3**	**+1.1**
FETI	**Fethiye-Mugla**	**2.03**	**94**	*e*Pn	**Pn**	**06 06 48.3**	**+1.1**
KARY	**Karystos**	**2.07**	**305**	P	**Pn**	**06 06 47.2**	**-0.6**
KARY	**Karystos**	**2.07**	**305**	P	**Pn**	**06 06 47.7**	**-0.1**
KARY				S	**Sn**	**06 07 13.2**	**-0.3**
KARY	**Karystos**	**2.07**	**305**	P	**Pn**	**06 06 47.7**	**-0.1**
KARY				S	**Sn**	**06 07 13.2**	**-0.3**
IDI	**Anoyia**	**2.07**	**222**	Pn	**Pn**	**06 06 47.1**	**-0.9**
	comp=E,14nm,0.3s,baz=61,slow=5.3,SNR=189						
IDI				Sn	**Sn**	**06 07 11.8**	**-1.8**
	comp=E,77nm,0.3s,baz=104,slow=20,SNR=9.5						
IDI				LR	LR	06 07 32.5	
	comp=E,101nm,21.8s,baz=42,slow=1						
IDI	**Anoyia**	**2.07**	**222**	P	**Pn**	**06 06 47.0**	**-0.9**
IDI	**Anoyia**	**2.07**	**222**	P	**Pn**	**06 06 47.0**	**-0.9**
IDI				Sn	**Sn**	**06 07 11.8**	**-1.8**
IDI	**Anoyia**	**2.07**	**222**	P	**Pn**	**06 06 46.4**	**-1.4**
IDI	**Anoyia**	**2.07**	**222**	P	**Pn**	**06 06 47.0**	**-0.9**
IDI				Sn	**Sn**	**06 07 11.8**	**-1.8**
CAND	**Candarli**	**2.11**	**5**	*e*PN	**Pn**	**06 06 47.9**	**-0.4**
DNZL	**Cakiroluk**	**2.14**	**66**	*i* P	**Pn**	**06 06 49.7**	**+0.8**
DNZL	**Cakiroluk**	**2.14**	**66**	P	**Pn**	**06 06 49.7**	**+0.8**
DENT	**Denizli**	**2.16**	**65**	*e*PN	**Pn**	**06 06 49.6**	**+0.7**
DENT	**Denizli**	**2.16**	**65**	*e*Pn	**Pn**	**06 06 49.7**	**+0.7**
DKL	**Dikili**	**2.23**	**7**	*e*PN	**Pn**	**06 06 49.0**	**-1.0**
DKL	**Dikili**	**2.23**	**7**	*e*Pn	**Pn**	**06 06 49.0**	**-1.0**
AKS	**Akhisar**	**2.25**	**25**	*e*PN	**Pn**	**06 06 49.9**	**-0.4**
AKS	**Akhisar**	**2.25**	**25**	*e*Pn	**Pn**	**06 06 49.9**	**-0.4**
MANT	**Manisa**	**2.27**	**43**	*i* P	**Pn**	**06 06 43.3**	**-7.7**
SIVA	**Sivas**	**2.32**	**219**	P	**Pn**	**06 06 51.0**	**-0.3**
SIVA	**Sivas**	**2.32**	**219**	P	**Pn**	**06 06 51.0**	**-0.3**
KULA	**Kula-Manisa**	**2.34**	**44**	*e*PN	**Pn**	**06 06 52.0**	**+0.4**
KULA	**Kula-Manisa**	**2.34**	**44**	*e*Pn	**Pn**	**06 06 52.0**	**+0.4**
VAM	**Vamos**	**2.40**	**234**	P	**Pn**	**06 06 52.2**	**-0.2**
VAM	**Vamos**	**2.40**	**234**	P	**Pn**	**06 06 52.2**	**-0.2**
VAM	**Vamos**	**2.40**	**234**	P	**Pn**	**06 06 52.2**	**-0.2**
VAM	**Vamos**	**2.40**	**234**	P	**Pn**	**06 06 51.6**	**-0.7**
VAM	**Vamos**	**2.40**	**234**	P	**Pn**	**06 06 52.2**	**-0.2**
PRK	**Paraskevi**	**2.40**	**354**	P	**Pn**	**06 06 51.3**	**-1.1**
PRK	**Paraskevi**	**2.40**	**354**	P	**Pn**	**06 06 51.3**	**-1.1**
PRK	**Paraskevi**	**2.40**	**354**	P	**Pn**	**06 06 51.3**	**-1.1**
PRK				S	**Sn**	**06 07 19.3**	**-2.4**
PRK	**Paraskevi**	**2.40**	**354**	P	**Pn**	**06 06 50.7**	**-1.7**
PRK				S	**Sn**	**06 07 19.3**	**-2.4**
PRK				AML	AML	06 07 35.5	
	comp=N,2970μm,0.5s						
PRK				AML	AML	06 07 39.4	
	comp=E,4530μm,0.7s						
PRK	**Paraskevi**	**2.40**	**354**	P	**Pn**	**06 06 51.3**	**-1.1**
GOLH	**Golhisar**	**2.42**	**80**	*i* P	**Pb**	**06 06 55.0**	**-1.7**
GOLH	**Golhisar**	**2.42**	**80**	P	**Pb**	**06 06 55.0**	**-1.7**
SIGR	**SIGRI**	**2.42**	**347**	*e*PN	**Pn**	**06 06 51.9**	**-0.8**
SIGR	**SIGRI**	**2.42**	**347**	P	**Pn**	**06 06 51.5**	**-1.1**
SIGR	**SIGRI**	**2.42**	**347**	P	**Pn**	**06 06 51.5**	**-1.1**
SIGR	**SIGRI**	**2.42**	**347**	*e*Pn	**Pn**	**06 06 51.9**	**-0.8**
SIGR	**SIGRI**	**2.42**	**347**	P	**Pn**	**06 06 51.2**	**-1.4**
SIGR	**SIGRI**	**2.42**	**347**	P	**Pn**	**06 06 51.5**	**-1.1**
VLY	**Voula,Athens**	**2.43**	**295**	P	**Pn**	**06 06 52.3**	**-0.5**
VLY	**Voula,Athens**	**2.43**	**295**	P	**Pn**	**06 06 52.3**	**-0.5**
VLY				S	**Sn**	**06 07 20.5**	**-1.9**
VLY	**Voula,Athens**	**2.43**	**295**	P	**Pn**	**06 06 53.1**	**+0.3**
VLY				S	**Sn**	**06 07 20.5**	**-1.9**
VLY				AML	AML	06 07 32.9	
	comp=E,8144μm,0.5s						
VLY				AML	AML	06 07 33.9	
	comp=N,8128μm,0.4s						
VLY	**Voula,Athens**	**2.43**	**295**	P	**Pn**	**06 06 52.3**	**-0.5**
PTL	**Penteli**	**2.47**	**300**	P	**Pn**	**06 06 53.4**	**+0.1**
PTL				S	**Sn**	**06 07 22.8**	**-0.6**
PTL	**Penteli**	**2.47**	**300**	P	**Pn**	**06 06 53.4**	**+0.1**
PTL				S	**Sn**	**06 07 22.8**	**-0.6**
PTL				AML	AML	06 07 33.2	
	comp=N,2310μm,1.6s						
PTL				AML	AML	06 07 37.5	
	comp=E,2286μm,0.5s						
ATHU	**Athens Univers**	**2.49**	**297**	P	**Pn**	**06 06 52.8**	**-0.7**
ATHU	**Athens Univers**	**2.49**	**297**	P	**Pn**	**06 06 53.4**	**-0.1**
ATHU				S	**Sn**	**06 07 24.1**	**+0.3**
ATHU	**Athens Univers**	**2.49**	**297**	P	**Pn**	**06 06 53.4**	**-0.1**
ATHU				S	**Sn**	**06 07 24.1**	**+0.3**
ATHU	**Athens Univers**	**2.49**	**297**	P	**Pn**	**06 06 52.8**	**-0.7**
AKAS	**Kas**	**2.52**	**103**	*e*PN	**Pn**	**06 06 55.3**	**+1.3**
AKAS	**Kas**	**2.52**	**103**	*i* P	**Pn**	**06 06 55.9**	**+1.9**
AKAS	**Kas**	**2.52**	**103**	*e*Pn	**Pn**	**06 06 55.3**	**+1.3**
AKAS	**Kas**	**2.52**	**103**	P	**Pn**	**06 06 55.9**	**+1.9**
IMMV	**Iera Moni Meta**	**2.52**	**237**	P	**Pn**	**06 06 53.5**	**-0.4**
IMMV	**Iera Moni Meta**	**2.52**	**237**	P	**Pn**	**06 06 53.5**	**-0.4**
IMMV	**Iera Moni Meta**	**2.52**	**237**	P	**Pn**	**06 06 53.2**	**-0.7**
KSL	**Kastellorizon**	**2.52**	**105**	P	**Pn**	**06 06 54.1**	**+0.1**
KSL	**Kastellorizon**	**2.52**	**105**	P	**Pn**	**06 06 54.1**	**+0.1**
KSL	**Kastellorizon**	**2.52**	**105**	P	**Pn**	**06 06 55.5**	**+1.6**
KSL	**Kastellorizon**	**2.52**	**105**	P	**Pn**	**06 06 54.1**	**+0.1**
ATH	**Athens Observa**	**2.54**	**297**	P	**Pn**	**06 06 54.3**	**+0.1**
ATH				S	**Sn**	**06 07 24.3**	**-0.7**
ATH	**Athens Observa**	**2.54**	**297**	P	**Pn**	**06 06 54.3**	**+0.1**
ATH				S	**Sn**	**06 07 24.2**	**-0.7**
ATH				AML	AML	06 07 36.7	
	comp=E,4186μm,0.6s						
ATH				AML	AML	06 07 38.0	
	comp=N,3001μm,0.4s						
EREA	**Eretria**	**2.62**	**308**	P	**Pn**	**06 06 54.9**	**-0.5**
EREA	**Eretria**	**2.62**	**308**	P	**Pn**	**06 06 54.9**	**-0.5**
EREA				S	**Sn**	**06 07 27.0**	**-0.1**
EREA	**Eretria**	**2.62**	**308**	P	**Pn**	**06 06 56.2**	**+0.9**
EREA				S	**Sn**	**06 07 26.9**	**-0.1**
GPNR	**Gulpinar-Canak**	**2.62**	**352**	*e*PN	**Pn**	**06 06 54.8**	**-0.6**
GPNR	**Gulpinar-Canak**	**2.62**	**352**	*e*Pn	**Pn**	**06 06 54.8**	**-0.6**
ELL	**Elmali**	**2.68**	**91**	*e*PN	**Pn**	**06 06 57.6**	**+1.4**
ELL	**Elmali**	**2.68**	**91**	*e*Pn	**Pn**	**06 06 57.6**	**+1.4**
DID	**Didima**	**2.75**	**285**	P	**Pn**	**06 06 56.9**	**-0.2**
DID	**Didima**	**2.75**	**285**	P	**Pn**	**06 06 56.9**	**-0.2**
DID	**Didima**	**2.75**	**285**	P	**Pn**	**06 06 57.3**	**+0.2**
DID	**Didima**	**2.75**	**285**	P	**Pn**	**06 06 56.9**	**-0.2**
KHL	**Karahalli**	**2.76**	**57**	*e*PN	**Pn**	**06 06 58.8**	**+1.4**
KHL	**Karahalli**	**2.76**	**57**	*e*Pn	**Pn**	**06 06 58.8**	**+1.4**
ANKY	**Antikythira Is**	**2.

AGG	Agios Georgios	4.00	304	ePn		Pn	06 07 13.9	-0.4
AGG	Agios Georgios	4.00	304	P		Pn	06 07 16.5	+2.2
AGG	Agios Georgios	4.00	304	P		Pn	06 07 16.5	+2.2
DRO	Drossia	4.03	287	P		Pn	06 07 12.0	-2.7
DRO	Drossia	4.03	287	P		Pn	06 07 11.9	-2.7
ALN	Alexandroupoli	4.06	354	ePN		Pn	06 07 14.4	-0.7
ALN	Alexandroupoli	4.06	354	P		Pn	06 07 13.9	-1.2
ALN	Alexandroupoli	4.06	354	P		Pn	06 07 13.9	-1.2
ALN	Alexandroupoli	4.06	354	P		Pn	06 07 13.9	-1.2
ALN	Alexandroupoli	4.06	354	ePn		Pn	06 07 14.4	-0.7
ALN	Alexandroupoli	4.06	354	P		Pn	06 07 13.5	-1.6
ALN	Alexandroupoli	4.06	354	P		Pn	06 07 13.9	-1.2
ARMT	Armutlu	4.12	25	ePN		Pn	06 07 16.8	+0.8
ARMT	Armutlu	4.12	25	ePn		Pn	06 07 16.8	+0.8
GEMT	Gemlik	4.12	29	ePN		Pn	06 07 17.0	+1.0
GEMT	Gemlik	4.12	29	ePn		Pn	06 07 17.0	+1.0
SBT5	Esenkoy-Cinarc	4.18	25	ePN		Pn	06 07 17.6	+0.9
SBT5	Esenkoy-Cinarc	4.18	25	ePn		Pn	06 07 17.6	+0.9
PLG	Polygyros	4.29	326	P		Pn	06 07 17.3	-1.0
PLG	Polygyros	4.29	326	P		Pn	06 07 17.3	-1.0
ESKT	Eskisehir	4.29	50	ePN		Pn	06 07 19.8	+1.3
ESKT	Eskisehir	4.29	50	ePn		Pn	06 07 19.8	+1.3
SBT2	Guzelce-Avcila	4.30	20	ePN		Pn	06 07 19.2	+1.0
SBT2	Guzelce-Avcila	4.30	20	ePn		Pn	06 07 19.2	+1.0
EVR	Evrytania	4.30	300	P		Pn	06 07 19.7	+1.2
EVR	Evrytania	4.30	300	P		Pn	06 07 19.6	+1.2
AXS	Araxos	4.35	290	P		Pn	06 07 18.6	-0.5
AXS	Araxos	4.35	290	P		Pn	06 07 18.6	-0.5
ADVT	Abdulvahap	4.35	34	ePN		Pn	06 07 20.3	+1.2
ADVT	Abdulvahap	4.35	34	ePn		Pn	06 07 20.3	+1.2
RDO	Rodhopi	4.37	350	P		Pn	06 07 18.7	-0.6
RDO	Rodhopi	4.37	350	P		Pn	06 07 18.7	-0.6
RDO	Rodhopi	4.37	350	P		Pn	06 07 18.3	+1.0
RDO	Rodhopi	4.37	350	P		Pn	06 07 18.7	-0.6
PVO	Paravola	4.38	295	P		Pn	06 07 17.0	-2.5
PVO	Paravola	4.38	295	P		Pn	06 07 17.0	-2.5
KAVA	Kavala	4.44	339	P		Pn	06 07 18.8	-1.5
KAVA	Kavala	4.44	339	P		Pn	06 07 18.8	-1.5
THL	Klokotos Trika	4.50	308	P		Pn	06 07 22.2	+1.1
THL	Klokotos Trika	4.50	308	P		Pn	06 07 22.2	+1.1
SLVT	Silivri	4.55	16	ePN		Pn	06 07 22.7	+0.8
SLVT	Silivri	4.55	16	ePn		Pn	06 07 22.7	+0.8
PDO	Prodromos	4.62	294	P		Pn	06 07 24.3	+1.5
PDO	Prodromos	4.62	294	P		Pn	06 07 24.3	+1.5
HORT	Hortiatis	4.62	325	ePN		Pn	06 07 23.1	+0.1
HORT	Hortiatis	4.62	325	P		Pn	06 07 21.8	-1.2
HORT	Hortiatis	4.62	325	ePn		Pn	06 07 23.1	+0.1
HORT	Hortiatis	4.62	325	P		Pn	06 07 21.8	-1.2
CTKS	Kestanelik-??a	4.63	18	ePN		Pn	06 07 23.8	+0.9
CTKS	Kestanelik-??a	4.63	18	ePn		Pn	06 07 23.8	+0.9
KAVV	Kandilli-Istan	4.63	24	ePN		Pn	06 07 24.1	+1.1
KAVV	Kandilli-Istan	4.63	24	ePn		Pn	06 07 24.1	+1.1
ISK	Istanbul-Kandi	4.63	24	ePN		Pn	06 07 24.1	+1.1
ISK	Istanbul-Kandi	4.63	24	ePn		Pn	06 07 24.1	+1.1
HRT	Hereke	4.64	30	ePN		Pn	06 07 24.2	+1.0
HRT	Hereke	4.64	30	ePn		Pn	06 07 24.2	+1.0
KIZT	Kizilcal	4.66	63	ePN		Pn	06 07 25.3	+1.8
KIZT	Kizilcal	4.66	63	ePn		Pn	06 07 25.3	+1.8
SVRH	Sivrihisar-ESK	4.68	55	ePN		Pn	06 07 25.5	+1.7
SVRH	Sivrihisar-ESK	4.68	55	ePn		Pn	06 07 25.5	+1.7
GULT	Gulveren	4.72	40	ePN		Pn	06 07 25.8	+1.5
GULT	Gulveren	4.72	40	ePn		Pn	06 07 25.8	+1.5
KONT	Konya--Tatoy	4.73	75	ePN		Pn	06 07 26.5	+2.1
KONT	Konya--Tatoy	4.73	75	ePn		Pn	06 07 26.5	+2.1
HDMB	Hadim	4.74	87	ePN		Pn	06 07 26.8	+2.2
HDMB	Hadim	4.74	87	ePn		Pn	06 07 26.8	+2.2
KFL	Anninata	4.77	287	P		Pn	06 07 26.5	+1.6
KFL	Anninata	4.77	287	P		Pn	06 07 26.4	+1.6
KLYT	Kilyos	4.80	23	ePN		Pn	06 07 26.2	+1.1
KLYT	Kilyos	4.80	23	ePn		Pn	06 07 26.3	+1.1
SRS	Serrai	4.85	332	P		Pn	06 07 25.8	-0.3
SRS	Serrai	4.85	332	P		Pn	06 07 25.8	-0.3
VLS	Valsamata	4.94	287	P		Pn	06 07 28.0	+0.8
VLS	Valsamata	4.94	287	P		Pn	06 07 28.0	+0.8
EDRB	Edirne	4.99	1	ePN		Pn	06 07 27.9	0.0
EDRB	Edirne	4.99	1	ePn		Pn	06 07 27.9	0.0
AKMC	Akamas	5.01	110	P		Pn	06 07 28.5	+0.3
LKD2	Lefkada island	5.07	294	P		Pn	06 07 30.6	+1.6
LKD2	Lefkada island	5.07	294	P		Pn	06 07 30.6	+1.6
PPCY	Paphos	5.08	111	P		Pn	06 07 25.6	-3.5
MDUB	Mudurnu	5.11	44	ePN		Pn	06 07 31.3	+1.6
MDUB	Mudurnu	5.11	44	ePn		Pn	06 07 31.3	+1.6
KNT	Kendrikon	5.17	327	ePN		Pn	06 07 30.9	+0.5
KNT	Kendrikon	5.17	327	ePn		Pn	06 07 30.9	+0.5
KNT	Kendrikon	5.17	327	P		Pn	06 07 31.3	+0.9
KNT	Kendrikon	5.17	327	P		Pn	06 07 31.3	+0.9
TEKE	Tekeli-Mersin	5.31	96	ePN		Pn	06 07 35.2	+2.8
TEKE	Tekeli-Mersin	5.31	96	ePn		Pn	06 07 35.2	+2.8
BERE	Bereket-Mersin	5.37	93	ePN		Pn	06 07 35.9	+2.6
BERE	Bereket-Mersin	5.37	93	ePn		Pn	06 07 35.9	+2.6
PENT	Pentalofos	5.42	310	P		Pn	06 07 35.8	+2.0
PENT	Pentalofos	5.42	310	P		Pn	06 07 35.8	+2.0
SLUM	Salum	5.46	192	S		Sn	06 08 33.0	-4.2
	baz=194							
SLUM	Salum	5.46	192	P		Pn	06 07 33.8	-0.6
	baz=193							
SLUM				AMP			06 08 00.0	
	comp=N,110μm,0.4s,logA/T=5.4,baz=193							
SLUM				S		Sn	06 08 33.0	-4.2
	baz=193							
KULU	Kulu	5.53	65	ePN		Pn	06 07 37.6	+2.2
KULU	Kulu	5.53	65	ePn		Pn	06 07 37.6	+2.2
SZAC	Souni	5.53	110	P		Pn	06 07 38.2	+2.8
TEVE	Tevekalti-Mers	5.54	92	ePN		Pn	06 07 37.9	+2.4
TEVE	Tevekalti-Mers	5.54	92	ePn		Pn	06 07 37.9	+2.4
IGT	Igoumenitsa	5.60	300	P		Pn	06 07 32.9	-3.4
FNA	Florina	5.65	316	ePN		Pn	06 07 37.4	+0.4
FNA	Florina	5.65	316	ePn		Pn	06 07 37.4	+0.4
FNA	Florina	5.65	316	P		Pn	06 07 33.3	-3.7
SULT	Sultanhani-AKS	5.68	74	ePN		Pn	06 07 39.4	+2.0
SULT	Sultanhani-AKS	5.68	74	ePn		Pn	06 07 39.4	+2.0
AFSR	Af˙ar-Bala (A	5.74	61	ePN		Pn	06 07 40.7	+2.4
AFSR	Af˙ar-Bala (A	5.74	61	ePn		Pn	06 07 40.7	+2.4
ANTO	Ankara	5.74	56	eP		Pn	06 07 41.2	+2.9
ANTO				pmax	pmax			
	comp=Z,59nm,0.7s							
ANTO	Ankara	5.74	56	eP		Pn	06 07 41.2	+2.9
	comp=Z,59nm,0.7s							
ANTO	Ankara	5.74	56	ePn		Pn	06 07 41.2	+2.9
	comp=Z,59nm,0.7s							
KEBE	Keben-Mersin	5.75	92	ePN		Pn	06 07 41.3	+2.9
KEBE	Keben-Mersin	5.75	92	ePn		Pn	06 07 41.3	+2.9
IKL	Isikli	5.76	94	ePN		Pn	06 07 40.7	+2.3
IKL	Isikli	5.76	94	ePn		Pn	06 07 40.7	+2.3
CSS	Mathiatis	5.80	107	Pn		Pn	06 07 38.7	-0.3
CSS				Sn		Sn	06 08 43.5	-1.9
CSS	Mathiatis	5.80	107	ePN		Pn	06 07 39.4	+0.4
CSS	Mathiatis	5.80	107	ePn		Pn	06 07 39.4	+0.4
BRTR	Keskin Array B	6.25	61	Pn		Pn	06 07 47.0	+1.5
	comp=Z,1.9nm,0.3s,baz=240,slow=14,SNR=52							
BRTR				LR		LR	06 11 02.2	
	comp=Z,100nm,19.6s,baz=234,slow=46							
BRTR	Keskin Array B	6.25	61	eP		Pn	06 07 46.9	+1.5
BRTR				pmax	pmax			
	comp=Z,2.0nm,0.3s							
BRTR	Keskin Array B	6.25	61	eP		Pn	06 07 46.9	+1.5
	comp=Z,2.0nm,0.3s							
BRTR	Keskin Array B	6.25	61	Pn		Pn	06 07 47.0	+1.5
VTS	Vitosha	6.29	337	⇓iP		Pn	06 07 46.4	+0.4
MERS	Mersin	6.37	87	ePN		Pn	06 07 50.1	+3.2
CORM	Corum	7.13	60	ePN		Pn	06 08 00.2	+2.7
CORM	Corum	7.13	60	ePn		Pn	06 08 00.2	+2.7
KOZT	Kozan	7.41	82	ePN		Pn	06 08 04.6	+3.4
TIRR	Tirgusor	7.73	10	⇓iP		Pn	06 08 08.6	+3.2
TLB	Topalu	7.81	8	⇓iP		Pn	06 08 08.8	+2.3
PDG	Podgorica	7.93	317	⇑iP		Pn	06 08 10.9	+2.6
HNTI	Hanita	7.99	116	Sn		Sn	06 09 34.6	-4.9
KOT	Kottamia	8.18	146	P		Pn	06 08 09.7	-2.1
	baz=146							
KOT				S		Sn	06 09 37.7	-6.4
	baz=146							
KOT	Kottamia	8.18	146	P		Pn	06 08 10.8	-1.0
	baz=146							
KOT				S		Sn	06 09 37.7	-6.4
	baz=146							
KOT	Kottamia	8.18	146	P		Pn	06 08 09.7	-2.1
MMA0B	Mount Meron ar	8.19	115	Sn		Sn	06 09 40.4	-4.2
MMAI	Mount Meron Ar	8.19	115	Pn		Pn	06 08 10.8	-1.2
	comp=Z,2.7nm,0.3s,baz=306,slow=13,SNR=12							
MMAI				Sn		Sn	06 09 39.6	-4.9
	comp=Z,3.7nm,0.3s,baz=309,slow=26,SNR=3.5							
MMAI				LR		LR	06 12 03.0	
	comp=Z,50nm,19.2s,baz=195,slow=43							
MMAI	Mount Meron Ar	8.19	115	Pn		Pn	06 08 10.8	-1.2
MMAI	Mount Meron Ar	8.19	115	Pn		Pn	06 08 10.8	-1.2
MMAI				Sn		Sn	06 09 39.6	-4.9
HHAG	Hagoal	8.28	145	P		Pn	06 08 11.3	-1.9
	baz=144							
HHAG	Hagoal	8.28	145	P		Pn	06 08 11.9	-1.3
	baz=145							
HHAG	Hagoal	8.28	145	P		Pn	06 08 11.3	-1.9
KSDI	Kefar Szold	8.29	113	Pn		Pn	06 08 12.5	-0.8
KSDI				Sn		Sn	06 09 43.1	-3.8
KSDI	Kefar Szold	8.29	113	Pn		Pn	06 08 12.5	-0.8
RSH		8.35	133	P		Pn	06 08 11.8	-2.3
	baz=132							
SLTI	Sal'it	8.36	121	Sn		Sn	06 09 42.9	-5.6
CFR	Carcaliu	8.40	8	⇑iP		Pn	06 08 15.5	+0.8
GLL	Jalalah	8.43	148	P		Pn	06 08 13.5	-1.7
	baz=148							
GLL	Jalalah	8.43	148	P		Pn	06 08 13.8	-1.3
	baz=148							
GLL	Jalalah	8.43	148	P		Pn	06 08 13.5	-1.7
MMLI	Mount Malkishu	8.51	119	Pn		Pn	06 08 14.7	-1.6
MMLI	Mount Malkishu	8.51	119	Pn		Pn	06 08 14.7	-1.6
MLR	Muntele Rosu	8.65	357	Pn		Pn	06 08 18.3	+0.1
	comp=Z,0.1nm,0.3s,baz=181,slow=8.9,SNR=3.3							
MLR				LR		LR	06 11 50.3	
	comp=Z,46nm,18.1s,baz=185,slow=38							
MLR	Muntele Rosu	8.65	357	⇑iP		Pn	06 08 18.0	-0.2
MLR	Muntele Rosu	8.65	357	P		Pn	06 08 18.3	+0.1
MLR	Muntele Rosu	8.65	357	P		Pn	06 08 18.3	+0.1
MLR	Muntele Rosu	8.65	357	Pn		Pn	06 08 18.3	+0.1
VOIR		8.66	353	⇓iP		Pn	06 08 17.7	-0.6
VOIR		8.66	353	P		Pn	06 08 17.7	-0.6
VOIR		8.66	353	P		Pn	06 08 17.7	-0.6
HMDT	Nahal Hemdat	8.69	119	Pn		Pn	06 08 17.2	-1.5
HMDT	Nahal Hemdat	8.69	119	Pn		Pn	06 08 17.2	-1.5
AMAZ	Amatzia	8.71	125	Pn		Pn	06 08 17.7	-1.3
AMAZ				Sn		Sn	06 09 51.5	-5.6
AMAZ	Amatzia	8.71	125	Pn		Pn	06 08 17.7	-1.3
SUZ	Suez	8.73	141	P		Pn	06 08 17.9	-1.4
	baz=141							
SUZ	Suez	8.73	141	P		Pn	06 08 17.9	-1.4
	baz=141							
SUZ	Suez	8.73	141	P		Pn	06 08 17.9	-1.4
MDVR	Moldovita	8.74	337	⇑iP		Pn	06 08 18.9	-0.5
KZIT	Kziot	8.80	130	Pn		Pn	06 08 17.7	-2.5
KZIT				Sn		Sn	06 09 52.4	-6.9
DSI	Dead Sea	8.99	123	Pn		Pn	06 08 20.8	-2.1
DSI	Dead Sea	8.99	123	Pn		Pn	06 08 20.8	-2.1
PLOR	Plostina	8.99	0	⇑iP		Pn	06 08 27.8	+4.9
CUC	Castrocucco	9.01	294	ePn		Pn	06 08 24.9	+1.8
	comp=Z,13nm,0.8s							
CUC	Castrocucco	9.01	294	ePn		Pn	06 08 24.9	+1.8
	comp=Z,13nm,0.8s							
VRI	Vrincioaia	9.01	1	⇓iP		Pn	06 08 22.8	-0.3
VRI	Vrincioaia	9.01	1	P		Pn	06 08 22.8	-0.3
VRI	Vrincioaia	9.01	1	P		Pn	06 08 22.8	-0.3
ZAF	Zafarana	9.06	145	P		Pn	06 08 22.6	-1.2
	baz=145							
ZAF	Zafarana	9.06	145	P		Pn	06 08 22.6	-1.2
	baz=145							
ZAF	Zafarana	9.06	145	P		Pn	06 08 22.6	-1.2
DOPR	Dopca	9.15	355	⇓iP		Pn	06 08 24.5	-0.5
ZFRI	Zfri	9.52	129	Sn		Sn	06 10 10.3	-6.8
KRMI	Paran Flat	9.56	132	Sn		Sn	06 10 10.8	-7.2
PRNI	Paran	9.56	130	Pn		Pn	06 08 28.6	-2.0
PRNI	Paran	9.56	130	Pn		Pn	06 08 28.6	-2.0
ASF	Jabal al Asfar	9.71	116	Pn		Pn	06 08 31.6	-1.1
	comp=Z,0.2nm,0.3s,baz=276,slow=9.2,SNR=1.7							
ASF				Sn		Sn	06 10 20.2	-1.6
	comp=Z,0.3nm,0.3s,baz=165,slow=20,SNR=2.3							
ASF	Jabal al Asfar	9.71	116	P		Pn	06 08 31.6	-1.1
ASF							06 10 20.2	
ASF	Jabal al Asfar	9.71	116	Pn		Pn	06 08 31.6	-1.1
ASF				Sn		Sn	06 10 20.2	-1.6
HRFI	Mount Harif	9.80	131	Pn		Pn	06 08 32.5	-1.5
HRFI				Sn		Sn	06 10 17.9	-6.1
HRFI	Mount Harif	9.80	131	Pn		Pn	06 08 32.5	-1.5
MBRI	Mt Berech	9.90	133	Pn		Pn	06 08 33.1	-2.3
MBRI				Sn		Sn	06 10 19.2	-7.4
EIL	Elat	10.02	133	Pn		Pn	06 08 35.4	-1.6
	comp=Z,1.2nm,0.3s,baz=242,slow=2.3,SNR=12							
EIL				Sn		Sn	06 10 20.6	-8.6
	comp=Z,1.7nm,0.3s,baz=262,slow=6.1,SNR=6.1							
EIL	Elat	10.02	133	Pn		Pn	06 08 35.1	-1.8
EIL	Elat	10.02	133	Pn		Pn	06 08 35.5	-1.4
EIL				Sn		Sn	06 10 22.1	-7.1
EIL				Sn		Sn	06 10 22.2	-7.0
EIL	Elat	10.02	133	Pn		Pn	06 08 35.5	-1.4
EIL	Elat	10.02	133	Pn		Pn	06 08 35.4	-1.6
EIL				Sn		Sn	06 10 20.6	-8.6
SIRR	Siria	10.10	340	⇑iP		Pn	06 08 36.1	-1.9
SIRR	Siria	10.10	340	⇑iP		Pn	06 08 36.1	-1.9
HBST	Basata	10.23	136	P		Pn	06 08 38.4	-1.5
	baz=135							
HBST	Basata	10.23	136	P		Pn	06 08 39.0	-0.9
	baz=136							
HBST	Basata	10.23	136	P		Pn	06 08 38.4	-1.5
KIS	Kishinev	10.28		e			06 11 44.0	
BURAR	Bucovina Array	10.80	355	⇑iP		Pn	06 08 47.2	-0.5
BURAR	Bucovina Array	10.80	355	P		Pn	06 08 47.2	-0.5
BURAR	Bucovina Array	10.80	355	⇑iP		Pn	06 08 47.2	-0.5
VYHS	Vyhne	12.95	336	eP		Pn	06 09 17.2	+0.3
VYHS	Vyhne	12.95	336	eP		Pn	06 09 17.2	+0.3
VYHS	Vyhne	12.95	336	ePN		Pn	06 09 17.2	+0.3
KEST	Kesra	13.95	271	Pn		Pn	06 09 31.3	+0.6
	comp=Z,0.2nm,0.3s,baz=58,slow=19,SNR=3.3							
KEST	Kesra	13.95	271	Pn		Pn	06 09 31.3	+0.6
KEST	Kesra	13.95	271	Pn		Pn	06 09 31.3	+0.6
KIEV	Kiev	13.97	7	eP		Pn	06 09 32.4	+1.6
KIEV	Kiev	13.97	7	eP		Pn	06 09 32.4	+1.6
KIV	Kislovodsk	14.17	55	eP		Pn	06 09 33.5	-0.2
KIV				pmax	pmax			
	comp=Z,9.0nm,1.0s							
KBZ	Khabaz	14.21	56	LR		LR	06 16 11.4	
	comp=Z,99nm,18.3s,baz=253,slow=42							
VRAC	Vranov	14.41	333	LR		LR	06 15 53.0	
	comp=Z,114nm,19.7s,baz=182,slow=40							
GNI	Garni	14.60	71	LR		LR	06 16 20.1	
	comp=Z,121nm,18.5s,baz=268,slow=42							
KRLC	Kraliky	14.99	335	eP		P	06 09 51.4	+1.1
KRLC	Kraliky	14.99	335	eP		P	06 09 51.4	+1.1
KRLC	Kraliky	14.99	335	eP		P	06 09 51.4	+1.1
GERES	GERESS Array B	15.23	326	Pn		P	06 09 51.5	-1.6
	comp=Z,0.0nm,0.3s,baz=145,slow=14,SNR=2.5							
GERES	GERESS Array B	15.23	326	P		P	06 09 51.5	-1.6
GERES	GERESS Array B	15.23	326	P		P	06 09 51.5	-1.6
GERES	GERESS Array B	15.23	326	Pn		P	06 09 51.5	-1.6
DPC	Dobruska-Polom	15.38	335	eP		P	06 09 57.7	+3.1
DPC	Dobruska-Polom	15.38	335	eP		P	06 09 57.7	+3.1
KHC	Kasperske Hory	15.50	326	eP		P	06 09 57.8	+1.9
KHC				ex		x	06 10 08.0	
KHC	Kasperske Hory	15.50	326	eP		P	06 09 57.8	+1.9
KHC	Kasperske Hory	15.50	326	eP		P	06 09 57.8	+1.9
DAVOX	Davos/Dischmat	15.89	314	LR		LR	06 16 48.7	
	comp=Z,147nm,21.7s,baz=120,slow=40							
OBN	Obninsk	19.50	17	LR		LR	06 19 08.8	
	comp=Z,62nm,18.0s,baz=244,slow=40							
OBN	Obninsk	19.50	17	eP		P	06 10 39.0	-1.0
OBN				pmax	pmax			
	comp=Z,4.0nm,0.8s							
OBN	Obninsk	19.50	17	eP		P	06 10 39.0	-1.0
	comp=Z,4.0nm,0.8s							
VSU	Vasula	21.62	0	i P		P	06 11 02.8	-0.1
VSU	Vasula	21.62	0	i P		P	06 11 02.8	-0.1
ESDC	Sonseca Array	24.09	286	P		P	06 11 28.1	-0.5
	comp=Z,0.9nm,0.5s,baz=81,slow=9.6,SNR=19							
ESDC	Sonseca Array	24.09	286	P		P	06 11 28.1	-0.5
ESDC	Sonseca Array	24.09	286	P		P	06 11 28.1	-0.5
MDT	Midelt	25.86	270	P		P	06 11 45.2	+0.4
	comp=Z,4.9nm,1.0s,baz=74,slow=8.1,SNR=7.4							
MDT				LR		LR	06 23 27.0	
	comp=Z,34nm,19.7s,baz=126,slow=40							
MDT	Midelt	25.86	270	P		P	06 11 45.2	+0.4
MDT	Midelt	25.86	270	P		P	06 11 45.2	+0.4
NOA	NORSAR Array B	26.09	343	P		P	06 11 47.5	+0.9
	comp=Z,2.4nm,1.0s,baz=153,slow=8.9,SNR=3.9							
NOA				LR		LR	06 22 38.3	
	comp=Z,45nm,18.9s,baz=155,slow=38							
NOA	NORSAR Array B	26.09	343	P		P	06 11 47.5	+0.9
NOA	NORSAR Array B	26.09	343	P		P	06 11 47.5	+0.9
NOA	NORSAR Array B	26.09	343	P		P	06 11 47.5	+0.9
EKA	Eskdalemuir Ar	27.37	322	P		P	06 11 59.4	+1.3
	comp=Z,0.2nm,0.4s,baz=118,slow=10,SNR=3.1							
EKA	Eskdalemuir Ar	27.37	322	P		P	06 11 59.4	+1.3
EKA	Eskdalemuir Ar	27.37	322	P		P	06 11 59.4	+1.3
EKA	Eskdalemuir Ar	27.37	322	P		P	06 11 59.4	+1.3
ARU	Arti	29.02	37	d iP		P	06 12 13.0	+0.3
ARU				S		S	06 17 04.4	+0.9
ARU				pmax	pmax			
	comp=Z,9.0nm,1.7s							
ARU	Arti	29.02	37	i P		P	06 12 13.0	+0.3
	comp=Z,9.0nm,1.7s							
ARU				S		S	06 17 04.4	+0.9
TORD	Torodi Ar. Bea	32.45	230	P		P	06 12 43.0	-0.4
	comp=Z,1.0nm,0.6s,baz=34,slow=9.0,SNR=14							
TORD				LR		LR	06 27 36.1	
	comp=Z,41nm,19.5s,baz=275,slow=40							
TORD	Torodi Ar. Bea	32.45	230	P		P	06 12 43.0	-0.4
TORD	Torodi Ar. Bea	32.45	230	P		P	06 12 43.0	-0.4
AAK	Ala-Archa	36.90	66	eP		P	06 13 24.0	+2.1
AAK				pmax	pmax			
	comp=Z,9.0nm,1.3s							
AAK	Ala-Archa	36.90	66	eP		P	06 13 24.0	+2.1
	comp=Z,8.8nm,1.3s							
AAK	Ala-Archa	36.90	66	eP		P	06 13 24.0	+2.1
	comp=Z,8.8nm,1.3s							
KURBB	Kurchatov Arra	39.17	53	P		P	06 13 41.5	+0.8
	comp=Z,2.4nm,0.8s,baz=276,slow=8.8,SNR=7.9							
KURK	Kurchatov	39.23	52	eP		P	06 13 41.5	+0.3
KURK				pmax	pmax			
	comp=Z,6.0nm,0.9s							
KURK	Kurchatov	39.23	52	eP		P	06 13 41.5	+0.3
	comp=Z,6.0nm,0.9s							
KURK	Kurchatov	39.23	52	eP		P	06 13 43.6	+2.4
	comp=Z,36nm,1.2s							
DBIC	Dimbokro	41.52	231	P		P	06 14 00.2	-0.3
	comp=Z,7.0nm,1.1s,baz=30,slow=12,SNR=3.8							
DBIC	Dimbokro	41.52	231	P		P	06 14 00.2	-0.3
DBIC	Dimbokro	41.52	231	P		P	06 14 00.2	-0.3
DBIC	Dimbokro	41.52	231	P		P	06 14 00.2	-0.3
ZALV	Zalesovo Beam	43.01	47	P		P	06 14 12.3	0.0
	comp=Z,1.2nm,0.4s,baz=273,slow=11,SNR=4.3							
ZALV	Zalesovo Beam	43.01	47	P		P	06 14 12.3	0.0
ZALV	Zalesovo Beam	43.01	47	P		P	06 14 12.3	0.0
ZALV	Zalesovo Beam	43.01	47	P		P	06 14 12.3	0.0
SONM	Songino Array	57.53	52	P		P	06 16 04.0	+1.4
	comp=Z,1.4nm,0.7s,baz=279,slow=3.8,SNR=9.7							
SONM	Songino Array	57.53	52	eP		P	06 16 05.2	+2.7
SONM				pmax	pmax			
	comp=Z,1.0nm,0.7s							
SONM	Songino Array	57.53	52	P		P	06 16 04.0	+1.4
SONM	Songino

JHO Hitachi 1.42 265 P **Pn** **06 22 02.7 -2.3**
JMM Marumori 1.66 313 P **Pn** **06 22 06.7 -1.6**
JMM *e*S **Sn** **06 22 27.3 -1.8**
JFT Otama 1.77 297 P **Pn** **06 22 08.7 -1.2**
JIO Ouri 1.88 336 P **Pn** **06 22 10.4 -0.9**
JIO *e*S **Sn** **06 22 33.6 -0.9**
JOU Okura 2.09 321 P **Pn** **06 22 13.5 -0.8**
JFY Yanaizu 2.20 288 P **Pn** **06 22 14.9 -0.9**
JYS Shiratake 2.33 310 P **Pn** **06 22 17.2 -0.3**
MJAR Matsushiro Arr 3.32 268 Pn **Pn** **06 22 31.2 0.0**
55nm,0.3s,baz=91,slow=13,SNR=272
MJAR Sn **Sn** **06 23 09.1 -1.0**
14nm,0.3s,baz=87,slow=28,SNR=4.6
MJAR LR LR 06 23 59.8
comp=Z,2μm,18.5s,baz=120,slow=43
MAJO Matsushiro 3.32 268*c i*P **Pn** **06 22 31.5 +0.3**
MAJO Matsushiro 3.32 268 *e*Pn **Pn** **06 22 31.4 +0.3**
MAT Matsushiro 3.32 268 P **Pn** **06 22 31.3 +0.1**
MAT *e*S **Sn** **06 23 10.3 +0.2**
MJB9 Matsu-Tunnel 3.32 268 *e*Pn **Pn** **06 22 31.4 +0.2**
JHJ2 Mitsune 4.17 210 *e*Pn **Pn** **06 22 42.0 -0.8**
JHJ2 *e*Sn **Sn** **06 23 27.5 -3.4**
JHJ Hachijo jima 2 4.17 211 Pn **Pn** **06 22 42.3 -0.7**
40nm,0.3s,baz=331,slow=23,SNR=13
JHJ Sn **Sn** **06 23 25.2 -6.0**
148nm,0.3s,baz=214,slow=23,SNR=14
INU Inuyama 4.52 254 *e*Pn **Pn** **06 22 48.0 +0.3**
ERM Erimo 5.31 7*d i*P **Pn** **06 22 56.9 -1.5**
ERM Erimo 5.31 7 *e*Pn **Pn** **06 22 57.5 -0.9**
ERM *e*Sn **Sn** **06 23 53.8 -5.2**
ASAJ Asahikawa 7.37 2 Pn **Pn** **06 23 26.2 -0.5**
ASAJ Sn **Sn** **06 24 45.2 -4.7**
367nm,0.3s,baz=81,slow=0.0,SNR=2.2
KUR Kuril'sk 9.46 25 P **Pn** **06 23 54.6 -0.8**
KUR *e*S **Sn** **06 25 36.2 -4.9**
KUR smax smax
comp=N,53nm,0.6s
KUR smax smax
comp=E,48nm,0.7s
KUR MLR MLR
comp=Z,469nm,9.0s
JNU Nakatsue 10.07 252 Pn **Pn** **06 24 04.4 +0.5**
comp=Z,0.9nm,0.3s,baz=216,slow=9.0,SNR=5.3
JNU Nakatsue 10.07 252 *e*Pn **Pn** **06 24 04.9 +1.0**
YSS Yuzh-Sakhalins 10.21 2 *e*P **Pn** **06 24 05.2 -0.5**
YSS pmax pmax
comp=Z,50nm,1.7s
YSS Yuzh-Sakhalins 10.21 2 *e*Pn **Pn** **06 24 05.6 -0.1**
MSHR Mys Shultsa 10.39 308*ce*P **Pn** **06 24 08.5 +0.3**
USRK Ussuriysk Ar. 10.83 317 Pn **Pn** **06 24 14.6 +0.4**
comp=Z,0.3nm,0.3s,baz=127,slow=12,SNR=7.0
USRK LR LR 06 28 05.1
comp=Z,834nm,19.2s,baz=126,slow=36
KSRS Korea Array 11.53 278 Pn **Pn** **06 24 25.7 +1.9**
comp=Z,0.4nm,0.3s,baz=87,slow=13,SNR=11
KSRS LR LR 06 28 39.3
comp=Z,839nm,18.9s,baz=97,slow=36
KS15 Wonju Array Si 11.56 278 *e*Pn **Pn** **06 24 26.1 +1.9**
KSAR Wonju Array Be 11.56 278 P **Pn** **06 24 25.7 +1.5**
KSAR Wonju Array Be 11.56 278 Pn **Pn** **06 24 25.7 +1.5**
MDJ Mudanjiang 12.45 313 P Pn 06 24 41.5 +5.1
MDJ S Sn 06 27 03.0 +8.5
MDJ PcP **PcP** **06 30 15.9 0.0**
MDJ ScP **ScP** **06 33 49.4 +1.5**
MDJ ScS **ScS** **06 37 20.1 -3.8**
MDJ pmax pmax
comp=Z,9.0nm,1.1s
MDJ pmax pmax
comp=Z,100nm,5.1s
MDJ LR LR
comp=Z,410nm,16.1s
MDJ LR LR
comp=Z,270nm,17.2s
MDJ LR LR
comp=Z,640nm,16.8s
HABR Khabarovsk 12.88 338 *e*P **Pn** **06 24 38.7 -3.5**
HABR *e*S **Sn** **06 26 57.8 -7.2**
HABR pmax pmax
comp=Z,22nm,1.4s
HABR MLR MLR
comp=Z,576nm,13.0s
KLR Kul'dur 14.67 332 Pn **Pn** **06 25 08.1 +1.4**
comp=Z,0.3nm,0.3s,baz=154,slow=16,SNR=4.3
KLR LR LR 06 30 38.5
comp=Z,540nm,19.2s,baz=144,slow=37
KLR Kul'dur 14.67 332 *i* P **Pn** **06 25 06.1 -0.5**
SNY Shenyang 15.37 295 ⇑P **Pn** **06 25 17.8 +1.7**
SNY S **Sn** **06 28 07.5 +1.7**
SNY pmax pmax
comp=Z,9.0nm,0.6s
SNY LR LR
comp=Z,250nm,13.5s
SNY LR LR
comp=Z,1μm,14.3s
SNY LR LR
comp=Z,1μm,15.1s
PETK Petropavlovsk- 19.58 28 P **P** **06 26 08.1 +1.1**
comp=Z,0.1nm,0.3s,baz=198,slow=10,SNR=8.1
PETK LR LR 06 34 20.0
comp=Z,103nm,19.1s,baz=209,slow=39
PEA1 Petropavlovsk- 19.59 28 *e*P **P** **06 26 08.1 +1.0**
TIA Tai'an 20.26 276 *e*P **P** **06 26 12.5 -2.1**
TIA pmax pmax
comp=Z,10.0nm,1.2s
BJI Beijing 20.74 287 P **P** **06 26 18.5 -1.1**
BJI sP **sP** **06 26 30.9 +3.4**
BJI S **S** **06 30 08.6 -1.7**
BJI sS **sS** **06 30 22.2 +3.2**
BJI pmax pmax
comp=Z,10.0nm,0.9s
BJI pmax pmax
comp=Z,110nm,4.2s
BJI LR LR
comp=Z,320nm,14.5s
BJI LR LR
comp=Z,360nm,14.1s
BJI LR LR
comp=Z,190nm,23.4s
BJT Baijiatuau 20.74 287 *e*P **P** **06 26 18.4 -1.3**
BJT pmax pmax
comp=Z,9.0nm,0.6s
BJT Baijiatuau 20.74 287 *e*P **P** **06 26 18.4 -1.3**
comp=Z,8.9nm,0.6s
GUMO Guam 23.17 174 LR LR 06 34 49.8
comp=Z,52nm,20.9s,baz=326,slow=34
MA2 Magadan 23.50 11 LR LR 06 35 25.2
comp=Z,75nm,20.8s,baz=139,slow=35
WHN Wuhan 24.05 263 P **P** **06 26 53.6 -0.6**
WHN LR LR
comp=Z,1μm,14.1s
WHN LR LR
comp=Z,270nm,11.2s
WHN LR LR
comp=Z,800nm,15.0s
HHC Hu-ho-hao-te 24.26 289 *e*P **P** **06 26 55.5 -0.7**
HHC pP sP 06 27 04.5 +0.1
HHC PP **PnPn** **06 27 33.6 +7.5**
HHC S **S** **06 31 09.9 -4.1**
HHC sS sS 06 31 24.9 +1.4
HHC SS **SnSn** **06 32 02.2 +5.5**
HHC ScP **ScP** **06 34 12.1 -1.5**
HHC pmax pmax
comp=Z,36nm,1.4s
HHC pmax pmax
comp=Z,76nm,4.7s
HHC LR LR
comp=Z,350nm,14.9s
HHC LR LR
comp=Z,250nm,12.4s
HHC LR LR
comp=Z,150nm,12.4s
YAK Yakutsk 26.52 347 P **P** **06 27 16.5 +0.2**
comp=Z,20nm,0.4s,baz=220,slow=0.1,SNR=8.2
YAK LR LR 06 38 04.4
comp=Z,246nm,18.2s,baz=180,slow=37
YAK Yakutsk 26.52 347 *e*P **P** **06 27 16.2 -0.1**
YAK *e**PP **sP** **06 27 26.2 +1.7**
YAK *e* 06 27 58.4
YAK *e*S **S** **06 31 45.5 -3.8**
YAK *e* 06 38 06.4
YAK pmax pmax
comp=Z,47nm,1.0s
YAK pmax pmax
comp=N,14nm,1.1s
YAK pmax pmax
comp=E,14nm,1.1s
YAK pmax pmax
comp=Z,280nm,4.1s
YAK pmax pmax
comp=N,173nm,2.6s
YAK pmax pmax
comp=E,209nm,3.0s
YAK smax smax
comp=N,142nm,3.1s
YAK MLR MLR
comp=Z,436nm,16.0s
YAK MLR MLR
comp=N,318nm,16.0s
YAK MLR MLR
comp=E,116nm,14.0s
YAK Yakutsk 26.52 347 *e*P **P** **06 27 16.5 +0.2**
comp=E,51nm,0.9s
SEY Seymchan 26.94 10 P **P** **06 27 21.6 +1.4**
comp=E,7.5nm,0.8s,baz=188,slow=7.9,SNR=8.3
SEY Seymchan 26.94 10 *i* P **P** **06 27 21.3 +1.2**
SZP Santa 27.16 231 *e*P **P** **06 27 22.6 +0.1**
comp=E,696nm,1.0s
XAN Xi'an 27.29 274 P **P** **06 27 22.7 -0.9**
XAN pP sP 06 27 31.5 -0.3
XAN S **S** **06 32 00.1 -2.1**
XAN pmax pmax
comp=E,23nm,0.6s
XAN LR LR
comp=E,190nm,15.3s
XAN LR LR
comp=E,230nm,16.7s
XAN LR LR
comp=E,280nm,14.0s
H11N2 WAKE ISLAND Hy 27.37 122 T T 06 56 09.5
baz=313,slow=75
H11N1 WAKE ISLAND Hy 27.38 122 T T 06 56 20.1
baz=313,slow=75
H11N3 WAKE ISLAND Hy 27.39 122 T T 06 56 10.8
baz=313,slow=75
ENH Enshi 28.04 266 *e*P **P** **06 27 29.4 -0.9**
comp=E,43nm,0.8s
H11S1 WAKE ISLAND Hy 28.09 124 T T 06 57 43.0
baz=315,slow=75
H11S3 WAKE ISLAND Hy 28.09 124 T T 06 58 00.1
baz=315,slow=75
H11S2 WAKE ISLAND Hy 28.10 124 T T 06 58 01.4
baz=315,slow=75
ULN Ulaanbaatar 28.12 304*ce*P **P** **06 27 31.2 +0.1**
ULN pmax pmax
comp=Z,20nm,1.2s
ULN Ulaanbaatar 28.12 304 *e*P **P** **06 27 30.2 -0.9**
comp=Z,20nm,1.2s
BOD Bodaibo 28.17 327 *e*P **P** **06 27 29.6 -1.6**
BOD pmax pmax
comp=Z,16nm,1.0s
SONA1 Songino Array 28.55 304 *e*P **P** **06 27 35.2 +0.3**
SONA0 Songino Array 28.55 304 *e*P **P** **06 27 34.9 0.0**
comp=Z,19nm,0.8s
SONM Songino Array 28.55 304 P **P** **06 27 34.9 0.0**
comp=E,16nm,0.8s,baz=103,slow=8.8,SNR=74
SONM LR LR 06 39 15.1
comp=Z,218nm,18.4s,baz=102,slow=37
LZH Lanzhou 30.84 280 *e*P **P** **06 27 54.9 -0.4**
LZH pP sP 06 28 03.9 +0.4
LZH sP pP 06 28 07.7 +6.6
LZH *e*S **S** **06 32 52.2 -6.0**
LZH sS sS 06 33 11.4 +3.6
LZH pmax pmax
comp=Z,25nm,1.0s
LZH pmax pmax
comp=Z,150nm,4.4s
LZH LR LR
comp=Z,1μm,13.6s
LZH LR LR
comp=Z,2μm,15.7s
LZH LR LR
comp=Z,2μm,15.8s
ZAK Zakamensk 31.02 309 *e*P **P** **06 27 56.3 -0.4**
ZAK pmax pmax
comp=Z,9.0nm,1.2s
TLY Talaya 31.07 311 *e*P **P** **06 27 57.1 +0.1**
TLY pmax pmax
comp=Z,11nm,0.7s
TLY MLR MLR
comp=Z,309nm,15.0s
GYA Guiyang 31.90 262⇑ *i*P **P** **06 28 03.0 -1.7**
GYA pP sP 06 28 15.3 +2.5
GYA PP **PnPn** **06 29 11.4 +1.9**
GYA S **S** **06 33 12.0 -2.8**
GYA sS sS 06 33 29.6 +5.2
GYA SS **SnSn** **06 35 04.5 +1.1**
GYA pmax pmax
comp=Z,20nm,0.9s
GYA pmax pmax
comp=Z,120nm,5.2s
GYA LR LR
comp=Z,510nm,16.8s
GYA LR LR
comp=Z,480nm,17.0s
GYA LR LR
comp=Z,470nm,17.3s
CD2 Chengdu 32.41 271 *e*P **P** **06 28 08.2 -0.8**
CD2 sP sP 06 28 19.6 +2.4
CD2 PP **PP** **06 29 19.0 -3.3**
CD2 S S 06 33 10.2 -12
CD2 SS **SnSn** **06 35 13.3 -2.3**
CD2 pmax pmax
comp=Z,20nm,0.9s
CD2 LR LR
comp=Z,440nm,15.5s
CD2 LR LR
comp=Z,420nm,15.5s
QIZ Qiongzhong 33.48 247 P **P** **06 28 18.5 +0.1**
QIZ S **S** **06 33 38.6 -0.7**
QIZ LR LR
comp=Z,300nm,15.0s
QIZ LR LR
comp=Z,300nm,15.7s
QIZ LR LR
comp=Z,300nm,16.5s
QIZ Qiongzhong 33.48 247 *e*P **P** **06 28 19.9 +1.4**
comp=Z,131nm,1.7s
BILL Bilibino 34.10 16 *e*P **P** **06 28 24.2 +0.9**
BILL *e* 06 29 39.3
BILL pmax pmax
comp=Z,6.0nm,1.0s
KMI Kunming 35.64 262 P **P** **06 28 36.9 -0.5**
KMI pP sP 06 28 46.4 +0.8
KMI sP pP 06 28 51.3 +8.1
KMI pmax pmax
comp=Z,13nm,0.7s
KMI LR LR
comp=Z,280nm,18.1s
KMI LR LR
comp=Z,310nm,13.3s
KMI LR LR
comp=Z,260nm,18.1s
TIXI Tiksi 35.67 353 *i* P **P** **06 28 37.5 +0.8**
TIXI pmax pmax
comp=Z,6.0nm,0.9s
WMQ Urumqi 41.62 297 P **P** **06 29 28.4 +1.2**
WMQ pP sP 06 29 38.2 +2.7
WMQ sP pP 06 29 42.2 +9.1
WMQ pmax pmax
comp=Z,14nm,0.9s
WMQ pmax pmax
comp=Z,140nm,4.3s
WMQ LR LR
comp=Z,220nm,14.1s
WMQ LR LR
comp=Z,220nm,15.9s
WMQ LR LR
comp=Z,160nm,18.5s
ZAA1 Zalesovo Array 42.65 313 *e*P **P** **06 29 35.2 -0.1**
ZAA1 *e*PcP **PcP** **06 31 27.0 0.0**
ZALV Zalesovo Beam 42.65 313 P **P** **06 29 35.2 -0.1**
comp=Z,9.2nm,0.9s,baz=90,slow=7.4,SNR=21
ZALV PcP **PcP** **06 31 27.0 0.0**
comp=Z,1.9nm,0.6s,baz=106,slow=3.1,SNR=3.9
ZALV LR LR 06 47 55.8
comp=Z,248nm,19.0s,baz=70,slow=37
LSA Lhasa 42.97 276 *e*P **P** **06 29 39.5 +0.7**
LSA pmax pmax
comp=Z,8.0nm,1.0s
LSA Lhasa 42.97 276 *e*P **P** **06 29 39.5 +0.7**
comp=Z,8.1nm,1.0s
NVS Novosibirsk 43.57 314 *e*P **P** **06 29 42.6 -0.1**
NVS pmax pmax
comp=N,5.0nm,1.5s
NVS pmax pmax
comp=E,14nm,1.5s
NVS pmax pmax
comp=Z,18nm,1.5s
NRIK Noril'sk 43.84 335 P **P** **06 29 44.4 -0.3**
comp=Z,2.1nm,0.5s,baz=135,slow=10,SNR=4.8
NRIK LR LR 06 49 04.1
comp=Z,289nm,18.2s,baz=98,slow=38
MK01 Makanchi Array 44.89 302 *e*P **P** **06 29 53.1 -0.4**
MK31 Makanchi Array 44.89 303 *e*P **P** **06 29 52.8 -0.7**
MK31 Makanchi Array 44.89 303 *e*P **P** **06 29 52.8 -0.7**
MKAR Makanchi Array 44.89 303 *e*P **P** **06 29 53.2 -0.3**
MKAR pmax pmax
comp=Z,34nm,0.6s
MKAR Makanchi Array 44.89 303 *e*P **P** **06 29 53.2 -0.3**
comp=Z,34nm,0.6s
MAKZ Makanchi 45.10 303 *e*P **P** **06 29 54.9 -0.3**
MAKZ pmax pmax
comp=Z,6.0nm,0.8s
MAKZ Makanchi 45.10 303 *e*P **P** **06 29 54.9 -0.3**
comp=Z,5.9nm,0.8s
TT01 Tatalina 45.24 35 *e*P **P** **06 29 57.9 +1.9**
SVW2 Sparrevohn 45.31 37 *e*P **P** **06 29 59.2 +2.6**
comp=Z,8.1nm,1.0s
OHAK Old Harbor 46.47 43 *e*P **P** **06 30 06.4 +0.7**
comp=Z,32nm,1.6s
KURK Kurchatov 46.69 308*ce*P **P** **06 30 07.1 -0.5**
KURK pmax pmax
comp=Z,69nm,1.0s
KURK Kurchatov 46.69 308 *e*P **P** **06 30 07.0 -0.5**
KURK *e*pP **pP** **06 30 07.4 -6.1**
KURBB Kurchatov Arra 46.76 308 P **P** **06 30 07.5 -0.6**
comp=Z,13nm,0.9s,baz=84,slow=7.8,SNR=76
KDAK Kodiak Island 46.83 42 *e*P **P** **06 30 09.6 +1.1**
KDAK pmax pmax
comp=Z,38nm,1.6s
KDAK Kodiak Island 46.83 42 *e*P **P** **06 30 09.6 +1.1**
comp=Z,38nm,1.6s
ODAN Odare 47.16 274 *e*P **P** **06 30 11.4 -0.5**
comp=Z,25nm,0.8s
PDGK Podgornoye 47.56 298 P **P** **06 30 14.2 -0.4**
PDGK pmax pmax
comp=Z,12nm,0.9s
RAMN Ramite 47.76 275 *e*P **P** **06 30 16.5 0.0**
JIRN Jiri 47.77 276 *e*P **P** **06 30 16.8 0.0**
comp=Z,313nm,0.8s
GUN Gumba 47.91 276 *e*P **P** **06 30 18.7 +0.8**
comp=Z,18nm,0.5s
COLD Coldfoot 48.05 29 *e*P **P** **06 30 19.8 +1.8**
comp=Z,13nm,1.6s
PKIN Phulchoki 48.44 276 *e*P **P** **06 30 22.4 +0.5**
comp=Z,21nm,0.6s
KKN Kakani 48.44 277 *e*P **P** **06 30 22.3 +0.5**
MDM Murphy Dome 48.77 32 *e*P **P** **06 30 25.2 +1.6**
comp=Z,8.8nm,0.9s
SML Sawmill 48.80 36 *e*P **P** **06 30 25.5 +1.7**
SML pmax pmax
comp=Z,10.0nm,1.2s
SML Sawmill 48.80 36 *e*P **P** **06 30 25.5 +1.7**
comp=Z,10nm,1.2s
WRH Wood River Hil 48.84 33 *e*P **P** **06 30 25.8 +1.7**
comp=Z,14nm,1.6s
GKN Gorkha 48.87 277 *e*P **P** **06 30 24.9 -0.1**
comp=Z,42nm,0.6s
CCB Clear Creek Bu 48.96 32 *e*P **P** **06 30 26.4 +1.4**
comp=Z,13nm,1.9s
SCM Sheep Creek Mo 49.27 36 *e*P **P** **06 30 28.1 +0.6**
SCM pmax pmax
comp=Z,47nm,1.8s
SCM Sheep Creek Mo 49.27 36 *e*P **P** **06 30 28.1 +0.6**
comp=Z,46nm,1.8s
HDA Harding Lake 49.33 33 *e*P **P** **06 30 29.1 +1.3**
comp=Z,4.1nm,0.9s
IL1 Eielson Array 49.35 32 *e*P **P** **06 30 29.1 +1.2**
ILAR Eielson Array 49.35 32 P **P** **06 30 28.9 +1.0**
comp=Z,3.2nm,0.7s,baz=264,slow=6.5,SNR=36
ILAR Eielson Array 49.35 32 P **P** **06 30 29.0 +1.0**
ILB Eielson Array 49.35 32 *e*P **P** **06 30 29.0 +1.0**
KOLN Koldanda 49.79 277 *e*P **P** **06 30 32.5 +0.4**
comp=Z,11nm,0.6s
PYUN Piuthan 50.13 278 *e*P **P** **06 30 34.8 +0.1**
comp=Z,64nm,1.0s
DOT Dot Lake 50.64 34 *e*P **P** **06 30 38.9 +1.1**
comp=Z,28nm,1.4s
KSH Kashi 51.19 295 *e*P **P** **06 30 46.1 +3.6**
KSH pP sP 06 30 56.0 +5.2
KSH PcP **PcP** **06 32 00.1 +2.4**
KSH PP **PP** **06 32 44.1 +5.0**
KSH S **S** **06 38 01.9 +2.0**
KSH sS sS 06 38 18.0 +8.2
KSH SS **SS** **06 41 34.8 -0.3**
KSH pmax pmax
comp=Z,10.0nm,1.3s
KSH pmax pmax
comp=Z,92nm,6.0s
KSH LR LR
comp=Z,300nm,14.0s
KSH LR LR
comp=Z,130nm,12.0s
KSH LR LR
comp=Z,470nm,16.7s
AAK Ala-Archa 51.27 299 P **P** **06 30 42.7 -0.3**
comp=Z,1.4nm,0.5s,baz=120,slow=9.4,SNR=3.5
BVAR Borovoye Array 51.31 313 P **P** **06 30 42.7 -0.3**
comp=Z,1.9nm,0.6s,baz=64,slow=6.7,SNR=9.6
BRVK Borovoye 51.36 313*ce*P **P** **06 30 41.5 -1.9**
BRVK pmax pmax
comp=Z,9.0nm,1.0s
BRVK Borovoye 51.36 313 *e*P **P** **06 30 43.1 -0.3**
comp=Z,4.6nm,0.9s
EGAK Eagle 51.80 32 *e*P **P** **06 30 47.9 +1.4**
comp=Z,15nm,1.8s
MNAS Manas 52.72 299 P **P** **06 30 54.0 +0.2**
MNAS pmax pmax
comp=Z,11nm,0.7s
KKAR Karatay Array 53.90 301 *e*P **P** **06 31 02.2 -0.2**
KKAR pmax pmax
comp=Z,83nm,1.3s
KKAR Karatay Array 53.90 301 *e*P **P** **06 31 02.2 -0.2**
comp=Z,83nm,1.3s
INK Inuvik 54.31 27 *e*P **P** **06 31 06.4 +1.5**
INK pmax pmax
comp=Z,18nm,1.5s
INK Inuvik 54.31 27 *e*P **P** **06 31 06.4 +1.5**
comp=Z,18nm,1.5s
SVE Sverdlovsk 55.85 319⇑ *e*P **P** **06 31 16.8 +0.6**
SVE pmax pmax
comp=Z,13nm,1.1s
SVE MLR MLR
comp=Z,393nm,18.0s
WB2 Warramunga Arr 56.88 189 *e*P **P** **06 31 23.5 -0.4**
comp=Z,27nm,1.4s
WR1 Warramunga Arr 56.88 189 *e*P **P** **06 31 23.1 -0.8**
comp=Z,72nm,2.0s
WRA Warramunga Arr 56.88 189 P **P** **06 31 23.1 -0.8**
comp=Z,2.2nm,0.8s,baz=4.8,slow=7.1,SNR=10
ARU Arti 57.06 319*c i*P **P** **06 31 25.0 +0.2**
ARU 06 33 28.6
ARU S **S** **06 39 16.9 -1.5**
ARU SS SS 06 42 55.1 -12
ARU pmax pmax
comp=Z,18nm,1.2s
ARU MLR MLR
comp=Z,263nm,18.0s
ARU Arti 57.06 319 *e*P **P** **06 31 24.5 -0.3**
comp=Z,13nm,1.0s
ABKAR Akbulak array 58.69 311 *e*P **P** **06 31 35.8 -0.5**
comp=Z,52nm,0.5s
AS01 Alice Springs 60.60 189 *e*P **P** **06 31 49.1 -0.6**
AS31 Alice Springs 60.60 189 *e*P **P** **06 31 49.5 -0.3**
comp=Z,1.2nm,0.7s
ASAR Alice Springs 60.61 189 P **P** **06 31 49.5 -0.3**
comp=Z,1.6nm,0.8s,baz=8.7,slow=6.7,SNR=15
YKW3 Yellowknife Ar 63.65 30 *e*P **P** **06 32 11.2 +1.4**
comp=Z,15nm,1.1s
YKA Yellowknife Ar 63.69 30 P **P** **06 32 09.7 -0.3**
comp=Z,1.1nm,0.6s,baz=300,slow=6.6,SNR=2.8
YKB5 Yellowknife Ar 63.69 30 *e*P **P** **06 32 09.7 -0.3**
KLMR Klimovskoe 64.39 328 *e*P **P** **06 32 13.5 -1.1**
KLMR pmax pmax
comp=Z,10.0nm,1.4s
ARCES ARCESS Array B 64.53 340 P **P** **06 32 14.3 -1.1**
comp=Z,1.1nm,0.8s,baz=41,slow=8.9,SNR=3.2

ARCES LR LR 07 03 36.9
comp=Z,88nm,19.6s,baz=34,slow=39
GEYT Alibeck 64.62 299 P **P** **06 32 16.1 -0.5**
comp=Z,2.7nm,0.4s,baz=23,slow=5.0,SNR=4.4
GEYT LR LR 07 03 17.7
comp=Z,107nm,18.5s,baz=55,slow=39
FORT Forrest 68.49 193 *e*P **P** **06 32 41.0 0.0**
comp=Z,811nm,1.8s
OBN **Obninsk 68.77 324** *e*P **P** **06 32 43.6 +0.9**
OBN pmax pmax
comp=Z,8.0nm,0.5s
FIA1 FINESS Array S 69.41 333 *e*P **P** **06 32 46.7 +0.2**
FIA0 FINESS Array S 69.41 333 *e*P **P** **06 32 46.8 +0.2**
FIA0 FINESS Array S 69.41 333 *e*P **P** **06 32 46.8 +0.2**
FINES FINESS Array B 69.41 333 P **P** **06 32 46.8 +0.2**
comp=Z,3.9nm,0.8s,baz=57,slow=7.7,SNR=14
FINES LR LR 07 05 24.2
comp=Z,110nm,18.6s,baz=20,slow=38
KBZ Khabaz 71.65 311 P **P** **06 33 00.8 +0.2**
comp=Z,6.0nm,0.8s,baz=48,slow=5.9,SNR=8.4
KBZ LR LR 07 09 10.1
comp=Z,116nm,18.4s,baz=56,slow=40
KIV Kislovodsk 71.65 311 *e*P **P** **06 33 01.9 +1.2**
KIV *e* 06 33 11.0
KIV *e* 06 33 20.1
KIV *e* 06 35 40.2
KIV pmax pmax
comp=Z,12nm,0.9s
AFDM Forest Hills D 72.56 54 *e*P **P** **06 33 07.1 +1.0**
comp=Z,12nm,1.7s
UOSS Minazif 72.59 288 *e*P **P** **06 33 06.6 0.0**
comp=Z,20nm,1.3s
SOC Sochi 73.64 312 *e*P **P** **06 33 10.2 -2.2**
SOC *e*SSS SSS 06 50 25.9
SOC pmax pmax
comp=Z,44nm,1.3s
DLMT Dillon 74.03 45 *e*P **P** **06 33 16.4 +1.5**
comp=Z,6.0nm,1.0s
BOZ Bozeman (W) 74.44 44 *e*P **P** **06 33 19.0 +1.7**
BOZ pmax pmax
comp=Z,5.0nm,1.2s
BOZ Bozeman (W) 74.44 44 *e*P **P** **06 33 19.0 +1.7**
comp=Z,4.7nm,1.2s
NC204 NORSAR Array S 74.69 338 *e*P **P** **06 33 19.2 +0.9**
NB2 NORSAR Subarra 74.74 338 P **P** **06 33 18.6 0.0**
comp=Z,0.7nm,0.7s,baz=40,slow=5.9
NB200 NORSAR Array S 74.74 338 *e*P **P** **06 33 18.3 -0.3**
NOA NORSAR Array B 74.74 338 P **P** **06 33 18.3 -0.3**
comp=Z,2.3nm,0.9s,baz=40,slow=5.6,SNR=6.6
NOA LR LR 07 09 47.3
comp=Z,105nm,19.0s,baz=45,slow=39
NBO02 NORSAR Array S 74.84 338 *e*P **P** **06 33 18.6 -0.6**
AKASG Malin Array Be 74.97 323 P **P** **06 33 19.5 -0.5**
comp=Z,4.4nm,0.7s,baz=46,slow=6.0,SNR=16
AKASG LR LR 07 08 33.0
comp=Z,63nm,18.4s,baz=45,slow=38
AKBB Malin Array Si 74.97 323 *e*P **P** **06 33 19.7 -0.3**
AKBB pmax pmax
comp=Z,6.0nm,0.9s
AKBB Malin Array Si 74.97 323 *e*P **P** **06 33 19.7 -0.3**
comp=Z,6.4nm,0.9s
KIEV Kiev 74.99 323 *e*P **P** **06 33 19.7 -0.4**
KIEV pmax pmax
comp=Z,6.0nm,0.9s
KIEV Kiev 74.99 323 *e*P **P** **06 33 19.7 -0.4**
comp=Z,6.0nm,0.9s
MOOW Moose Ponds 76.06 46 *e*P **P** **06 33 26.8 +0.1**
comp=Z,6.3nm,1.4s
FPU Francis Peak 77.08 48 *e*P **P** **06 33 30.5 -2.2**
BW06 Boulder Array 77.35 46 *e*P **P** **06 33 35.2 +1.1**
comp=Z,7.1nm,1.6s
PD31 Pinedale Array 77.35 46 *e*P **P** **06 33 35.1 +1.1**
PDAR Pinedale Array 77.35 46 P **P** **06 33 35.1 +1.1**
comp=Z,1.0nm,0.6s,baz=263,slow=1.8,SNR=13
TMUT Trail Mountain 78.52 49 *e*P **P** **06 33 40.9 +0.2**
comp=Z,9.0nm,1.7s
DGAR Diego Garcia 78.59 252 *e*P **P** **06 33 41.2 +0.3**
DGAR Diego Garcia 78.59 252 *e*P **P** **06 33 41.2 +0.3**
comp=Z,571nm,1.5s
BUR08 Bucovina Ar. S 78.98 322 *e*P **P** **06 33 43.5 +0.7**
SRU San Rafael Swe 79.05 49 *e*P **P** **06 33 45.0 +1.5**
SRU pmax pmax
comp=Z,4.0nm,0.7s
SRU San Rafael Swe 79.05 49 *e*P **P** **06 33 45.0 +1.5**
comp=Z,4.3nm,0.7s
BR101 Keskin Array S 79.59 312 *e*P **P** **06 33 47.0 +0.7**
BRTR Keskin Array B 79.59 312 P **P** **06 33 47.0 +0.6**
comp=Z,2.6nm,0.9s,baz=74,slow=3.7,SNR=8.8
BRTR LR LR 07 15 02.2
comp=Z,38nm,18.5s,baz=53,slow=40
STHS Stebnicka Huta 79.62 325 *e*P **P** **06 33 47.3 +1.2**
STHS pmax pmax
comp=Z,3.0nm,0.8s
STHS Stebnicka Huta 79.62 325 *e*P **P** **06 33 47.3 +1.2**
OJC Ojcow 79.69 327 *e*P **P** **06 33 47.4 +0.9**
OJC Ojcow 79.69 327 *e*P **P** **06 33 47.4 +0.9**
CRVS Cervenica-Dubn 79.88 325 *e*P **P** **06 33 48.0 +0.4**
CRVS Cervenica-Dubn 79.88 325 *e*P **P** **06 33 48.0 +0.4**
BR231 Keskin MP Arra 80.03 313 *e*P **P** **06 33 48.1 -0.6**
NIE Niedzica 80.04 326 *e*P **P** **06 33 49.8 +1.3**
NIE Niedzica 80.04 326 *e*P **P** **06 33 49.8 +1.3**
PV10 Paradox Valley 80.42 49 *e*P **P** **06 33 53.0 +2.0**
KSP Ksiaz 80.73 329 *e*P **P** **06 33 53.2 +1.1**
KSP Ksiaz 80.73 329 *e*P **P** **06 33 53.2 +1.1**
MORC Moravsky Berou 81.00 327 *e*P **P** **06 33 53.0 -0.6**
MORC pmax pmax
comp=Z,33nm,1.2s
MORC Moravsky Berou 81.00 327 *e*P **P** **06 33 53.0 -0.6**
comp=Z,33nm,1.2s
DPC Dobruska-Polom 81.09 328 *e*P **P** **06 33 55.1 +1.0**
DPC Dobruska-Polom 81.09 328 *e*P **P** **06 33 55.1 +1.0**
VYHS Vyhne 81.38 326 *e*P **P** **06 33 56.0 +0.4**
VYHS pmax pmax
comp=Z,59nm,3.6s
VYHS Vyhne 81.38 326 *e*P **P** **06 33 56.0 +0.4**
BRG Berggiesshubel 81.67 330 *i*P **P** **06 33 57.1 0.0**
comp=Z,8.4nm,1.3s
BRG Berggiesshubel 81.67 330 *i*P **P** **06 33 57.1 0.0**
BRG pmax pmax
comp=Z,8.0nm,1.3s
CLL Collm 81.71 331 *i*P **P** **06 33 57.6 +0.3**
CLL pmax pmax
comp=Z,10.0nm,1.2s
CLL Collm 81.71 331 *i*P **P** **06 33 57.6 +0.3**
comp=Z,10.0nm,1.2s
CLL Collm 81.71 331 *e*P **P** **06 33 57.2 -0.1**
comp=Z,12nm,1.3s
PRU Pruhonice 82.11 329 *e*P **P** **06 34 00.2 +0.8**
PRU Pruhonice 82.11 329 *e*P **P** **06 34 00.2 +0.8**
S22A 4UR Ranch, Cre 82.15 48 *e*P **P** **06 34 00.6 +0.3**
comp=Z,22nm,1.9s
KHC Kasperske Hory 83.17 329 *e*P **P** **06 34 05.3 +0.3**
KHC *e*pP **sP** **06 34 15.9 +2.3**
KHC Kasperske Hory 83.17 329 *e*P **P** **06 34 05.5 +0.5**
KHC pmax pmax
comp=Z,2.0nm,0.9s
KHC Kasperske Hory 83.17 329 *e*P **P** **06 34 05.5 +0.5**
comp=Z,1.7nm,0.9s
GERES GERESS Array B 83.34 329 P **P** **06 34 05.7 -0.3**
comp=Z,1.3nm,0.6s,baz=40,slow=4.4,SNR=14
GERES LR LR 07 12 56.5
comp=Z,66nm,21.5s,baz=7.0,slow=37
GEA0 GERESS Array S 83.35 329 *e*P **P** **06 34 05.8 -0.2**
WET Wettzell 83.45 329 P **P** **06 34 08.4 +2.0**
WET pmax pmax
comp=Z,5.0nm,1.1s
VTS Vitosha 83.51 320 *e*P **P** **06 34 08.1 +1.1**
VTS pmax pmax
comp=Z,6.0nm,1.0s
VTS Vitosha 83.51 320 *e*P **P** **06 34 08.1 +1.1**
comp=Z,5.5nm,1.0s
ECSD EROS Data Cent 83.69 39 *e*P **P** **06 34 08.8 +1.0**
comp=Z,21nm,1.9s
ANMO Albuquerque 84.21 50 *ce*P **P** **06 34 12.4 +1.6**
ANMO pmax pmax
comp=Z,3.0nm,1.2s
ANMO Albuquerque 84.21 50 *e*P **P** **06 34 12.3 +1.4**
comp=Z,3.9nm,1.1s
BFO Black Forest 85.91 331 *ce*P **P** **06 34 20.1 +1.2**
FUORN Ofenpass-Fuorn 86.53 329 *e*P **P** **06 34 22.1 -0.2**
TX31 Lajitas Ar. Si 89.72 53 *e*P **P** **06 34 39.2 +1.6**
LTX Lajitas 89.72 53 *e*P **P** **06 34 38.8 +1.3**
LTX Lajitas 89.72 53 *e*P **P** **06 34 38.8 +1.3**
TXAR Lajitas Array 89.72 53 P **P** **06 34 38.8 +1.3**
comp=Z,0.8nm,0.7s,baz=300,slow=3.9,SNR=13
WHAR Wooly Hollow 92.17 42 *e*P **P** **06 34 49.5 +0.8**
comp=Z,24nm,1.8s
LPAZ La Paz 146.20 61 PKPbc **PKPbc** **06 41 21.1 +0.6**
comp=Z,2.1nm,0.7s,baz=318,slow=1.6,SNR=13

*ISK **10** 06:22:05.9, 38.°99N×29.°76E, h13km, MD2.4*
*DDA **10** 06:22:06.0, 39.°02N×29.°84E, h7km, Md2.6*
*ISCJB **10** 06:22:06.0±0.7, 38.°99N±0.°04×29.°81E±0.°04, h7km±10km, Error ellipse: s-maj=7.0km s-min=4.7km az=33.6*
*CSEM **10** 06:22:06.3±0.2, 39.°01N×29.°80E, h20km, MD2.4, Error ellipse: s-maj=4.2km s-min=3.6km az=164.0*
ISC 10 06:22:05.9±1.0, **39.°02N**±0.°02×**29.°80E**±0.°02, **h14**km±10km, **n17**, σ0**s55**/32, **Turkey**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TVSB	**Tavsanli**	**0.51**	**329**	*e*PG		**Pb**	**06 22 16.5**	**-0.1**
TVSB				*e*SG		**Sb**	**06 22 24.3**	**+0.3**
TVSB	**Tavsanli**	**0.51**	**329**	*e*Pg		**Pb**	**06 22 16.5**	**-0.1**
TVSB				*e*Sg		**Sb**	**06 22 24.3**	**+0.3**
SIMA	**Simav-Kutahya**	**0.64**	**276**	*e*PG		**Pg**	**06 22 18.2**	**-0.2**
SIMA				*e*SG		**Sg**	**06 22 27.4**	**+0.5**
SIMA	**Simav-Kutahya**	**0.64**	**276**	*e*Pg		**Pg**	**06 22 18.2**	**-0.2**
SIMA				*e*Sg		**Sg**	**06 22 27.4**	**+0.5**
KHL	**Karahalli**	**0.72**	**198**	*e*PG		**Pg**	**06 22 19.6**	**-0.3**
KHL				*e*SG		**Sg**	**06 22 29.7**	**+0.1**
KHL	**Karahalli**	**0.72**	**198**	*e*Pg		**Pg**	**06 22 19.7**	**-0.3**
KHL				*e*Sg		**Sg**	**06 22 29.7**	**+0.1**
SHUT	**Suhut-Afyon**	**0.75**	**128**	*e*PG		**Pb**	**06 22 21.1**	**+0.4**
SHUT				*e*SG		**Sb**	**06 22 31.8**	**+1.0**
SHUT	**Suhut-Afyon**	**0.75**	**128**	*e*Pg		**Pb**	**06 22 21.1**	**+0.4**
SHUT				*e*Sg		**Sb**	**06 22 31.8**	**+1.0**
DEMI	**Demirci**	**0.84**	**272**	*i* P		**Pn**	**06 22 23.2**	**-0.2**
DEMI				*i* S		**Sn**	**06 22 35.3**	**-0.4**
DEMI	**Demirci**	**0.84**	**272**	P		**Pn**	**06 22 23.2**	**-0.2**
DEMI				S		**Sn**	**06 22 35.3**	**-0.4**
ESKT	**Eskisehir**	**0.96**	**58**	*i* P		**Pg**	**06 22 24.1**	**-0.4**
ESKT				*i* S		**Sg**	**06 22 36.3**	**-0.7**
SEYT	**Eskypehyr**	**0.96**	**58**	P		**Pg**	**06 22 24.1**	**-0.4**
SEYT				S		**Sg**	**06 22 36.3**	**-0.7**
BORA	**Eskisehir**	**1.00**	**30**	*i* P		**Pb**	**06 22 24.9**	**-0.2**
BORA				*i* S		**Sg**	**06 22 38.7**	**+0.3**
BORA	**Eskisehir**	**1.00**	**30**	P		**Pb**	**06 22 24.9**	**-0.2**
BORA				S		**Sg**	**06 22 38.7**	**+0.3**
KULA	**Kula-Manisa**	**1.02**	**241**	*e*PG		**Pb**	**06 22 25.1**	**-0.3**
KULA	**Kula-Manisa**	**1.02**	**241**	*e*Pg		**Pb**	**06 22 25.1**	**-0.3**
IGD	**Bursa**	**1.33**	**340**	*i* P		**Pg**	**06 22 31.6**	**+0.1**
IGD				*i* S		**Sg**	**06 22 50.6**	**+1.8**

*ISCJB **10** 06:26:27.9±0.4, 21.°13N±0.°03×121.°97E±0.°04, h184km±3km, mb3.8/13, Error ellipse: s-maj=6.6km s-min=4.8km az=0.8*
*TAP **10** 06:26:28.4, 21.°15N×122.°14E, h176km, ML5.2, D*
*IDC **10** 06:26:28.5±3.1, 20.°92N×122.°10E, h191km±29km, mb3.6/13, mb1 3.7/16, mb1mx3.5/44, mbtmp4.1/16, Error ellipse: s-maj=26.3km s-min=11.4km az=74.0*
*JMA **10** 06:26:30.8±0.4, 21.°13N×122.°09E, h126km, M3.6*
ISC 10 06:26:27.2±0.7, **21.°02N**±0.°03×**122.°08E**±0.°06, **h178**km±6km, **n95**, σ1**s28**/155, **mb3.9**/13, **6C-7D, Taiwan region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LAY	**Lan-yu**	**1.12**	**334**	P		**Pn**	**06 26 55.8**	**+0.2**
LAY	baz=329			*e*S		**Sn**	**06 27 15.6**	**-2.1**
TSEB	**Hengchuen, Pin**	**1.40**	**309**	*i* P		**Pn**	**06 26 59.7**	**+1.7**
TSEB	baz=298			S		**Sn**	**06 27 22.6**	**+0.8**
TWK1	**Hengchun**	**1.50**	**308**	⇑*i*P		**Pn**	**06 27 00.2**	**+1.3**
TWK1	baz=300			S		**Sn**	**06 27 22.8**	**-0.6**
HEN	**Hengchun**	**1.58**	**308**	⇑*i*P		**Pn**	**06 27 01.1**	**+1.3**
HEN	baz=304			*e*S		**Sn**	**06 27 24.6**	**-0.4**
TAW	**Tawu**	**1.72**	**321**	P		**Pn**	**06 27 01.3**	**+0.2**
TAW	baz=320			S		**Sn**	**06 27 26.3**	**-1.2**
EAST	**Anshuo**	**1.77**	**320**	⇑*i*P		**Pn**	**06 27 02.2**	**+0.5**
EAST	baz=316			*e*S		**Sn**	**06 27 27.2**	**-1.3**
ECL	**Taimali**	**1.88**	**327**	*e*P		**Pn**	**06 27 03.3**	**+0.5**
ECL	baz=318			*e*S		**Sn**	**06 27 28.6**	**-1.9**
SCZT	**Fangliau**	**1.91**	**315**	⇑*i*P		**Pn**	**06 27 03.9**	**+0.8**
SCZT	baz=316			S		**Sn**	**06 27 29.5**	**-1.4**
TTN	**Taitung**	**1.93**	**334**	*e*P		**Pn**	**06 27 03.4**	**+0.1**
TTN	baz=324			*e*S		**Sn**	**06 27 30.4**	**-1.0**
TWG	**Pinlang**	**2.02**	**333**	*e*P		**Pn**	**06 27 04.4**	**+0.1**
TWG	baz=324			S		**Sn**	**06 27 30.8**	**-2.3**
TWP	**Hsiaoliuchiu**	**2.07**	**310**	P		**Pn**	**06 27 07.0**	**+2.2**
TWP	baz=306			*e*S		**Sn**	**06 27 35.5**	**+1.5**
CHKT	**Chengkung**	**2.17**	**342**	P		**Pn**	**06 27 06.1**	**+0.2**
CHKT	baz=343			*e*S		**Sn**	**06 27 35.7**	**-0.4**
SGLT	**Jiouru**	**2.25**	**319**	*e*P		**Pn**	**06 27 07.5**	**+0.7**
SGLT	baz=321			*e*S		**Sn**	**06 27 36.9**	**-0.7**
KAU	**Kaohsiung**	**2.25**	**313**	*e*P		**Pn**	**06 27 08.4**	**+1.6**
KAU	baz=303			*e*S		**Sn**	**06 27 37.8**	**+0.1**
TWM1	**Shoushan**	**2.36**	**320**	*e*P		**Pn**	**06 27 09.8**	**+1.7**
TWM1	baz=323			*e*S		**Sn**	**06 27 40.8**	**+0.8**
ELDTW	**Lidau**	**2.37**	**336**	*e*P		**Pn**	**06 27 08.7**	**+0.4**
ELDTW	baz=334			*e*S		**Sn**	**06 27 38.1**	**-2.3**
TWF1	**Yuli**	**2.43**	**343**	P		**Pn**	**06 27 09.4**	**+0.5**
TWF1	baz=344			S		**Sn**	**06 27 39.6**	**-1.8**
STYT	**Tauyuan**	**2.46**	**330**	P		**Pn**	**06 27 09.9**	**+0.7**
STYT	baz=321			*e*S		**Sn**	**06 27 40.9**	**-1.2**
SGST	**Jiashian**	**2.48**	**326**	*e*P		**Pn**	**06 27 09.5**	**+0.1**
SGST	baz=323			S		**Sn**	**06 27 41.3**	**-1.1**
EHY	**Hungye**	**2.57**	**344**	*e*P		**Pn**	**06 27 10.3**	**-0.2**
EHY	baz=335			*e*S		**Sn**	**06 27 43.3**	**-1.1**
CHN1	**Nanshi**	**2.59**	**327**	⇓*i*P		**Pn**	**06 27 11.4**	**+0.6**
CHN1	baz=324			*e*S		**Sn**	**06 27 43.3**	**-1.5**
CHN3	**Shinhua**	**2.59**	**322**	*e*P		**Pn**	**06 27 12.2**	**+1.5**
CHN3	baz=326			*e*S		**Sn**	**06 27 43.5**	**-1.2**
WTP	**Ta-pu**	**2.60**	**329**	P		**Pn**	**06 27 11.4**	**+0.5**
WTP	baz=320			S		**Sn**	**06 27 43.8**	**-1.2**
TAI1	**Yung-k'ang**	**2.64**	**320**	*e*P		**Pn**	**06 27 11.8**	**+0.4**
TAI1	baz=323			S		**Sn**	**06 27 44.5**	**-1.3**
YUS	**Yu-Shan**	**2.67**	**337**	*e*P		**Pn**	**06 27 12.9**	**+0.7**
YUS	baz=335			*e*S		**Sn**	**06 27 45.8**	**-1.5**
TWK	**Hsinying**	**2.68**	**327**	P		**Pn**	**06 27 12.2**	**+0.4**
TWK	baz=324			*e*S		**Sn**	**06 27 45.1**	**-1.6**
CHN4	**Tsaushan**	**2.69**	**330**	⇓*i*P		**Pn**	**06 27 12.5**	**+0.5**
CHN4	baz=321			*e*S		**Sn**	**06 27 45.3**	**-1.7**
ALS	**Alishan**	**2.74**	**335**	⇓*i*P		**Pn**	**06 27 13.4**	**+0.6**
ALS	baz=325			S		**Sn**	**06 27 47.4**	**-1.2**
SCLT	**Jiali**	**2.76**	**321**	*e*P		**Pn**	**06 27 13.4**	**+0.6**
SCLT	baz=323			*e*S		**Sn**	**06 27 47.4**	**-1.0**
SGCP	**Mt. Cagua**	**2.77**	**181**	*e*P		**Pn**	**06 27 12.8**	**-0.1**
SGCP				*e*S		**Sn**	**06 27 45.8**	**-2.7**
ESL	**Shilin**	**2.84**	**348**	*e*P		**Pn**	**06 27 13.6**	**-0.2**
ESL	baz=340			*e*S		**Sn**	**06 27 48.0**	**-2.2**
WDT	**Danda**	**2.86**	**342**	⇓P		**Pn**	**06 27 14.7**	**+0.4**
WDT	baz=344			*e*S		**Sn**	**06 27 49.7**	**-1.4**
CHN5	**Tsauling**	**2.87**	**333**	⇓P		**Pn**	**06 27 14.2**	**-0.1**
CHN5	baz=331			*e*S		**Sn**	**06 27 49.6**	**-1.3**
CHN8	**Yiju**	**2.89**	**324**	*e*P		**Pn**	**06 27 14.2**	**-0.1**
CHN8	baz=326			*e*S		**Sn**	**06 27 49.9**	**-1.2**
CHY	**Chiayi**	**2.90**	**328**	*e*P		**Pn**	**06 27 14.1**	**-0.3**
CHY	baz=321			*e*S		**Sn**	**06 27 49.9**	**-1.5**
CHN2	**Minshiung**	**2.91**	**330**	*e*P		**Pn**	**06 27 14.7**	**+0.2**
CHN2	baz=327			*e*S		**Sn**	**06 27 50.0**	**-1.6**
HWA	**Hwalien**	**2.97**	**352**	*e*P		**Pn**	**06 27 15.8**	**+0.5**
WGK	baz=353 **Gukeng**	**3.00**	**332**	*e*P		**Pn**	**06 27 15.5**	**-0.2**
WGK	baz=330			*e*S		**Sn**	**06 27 51.8**	**-1.7**
SMLT	**Sun Moon Lake**	**3.05**	**339**	*e*P		**Pn**	**06 27 16.9**	**+0.5**
SMLT	baz=330			*e*S		**Sn**	**06 27 53.5**	**-1.4**
TWD	**Chiawan**	**3.08**	**352**	*e*P		**Pn**	**06 27 15.3**	**-1.3**
TYC	baz=353 **Yuchr**	**3.08**	**339**	P		**Pn**	**06 27 17.2**	**+0.5**
TYC	baz=330			*e*S		**Sn**	**06 27 52.3**	**-3.1**
WSF	baz=330 **Szhu**	**3.12**	**327**	*e*P		**Pn**	**06 27 17.2**	**+0.1**
WSF	baz=325			*e*S		**Sn**	**06 27 54.1**	**-2.0**
WNT	baz=325 **Mingjian**	**3.12**	**336**	P		**Pn**	**06 27 17.7**	**+0.5**
WNT	baz=334			*e*S		**Sn**	**06 27 54.5**	**-1.8**
WDGT	baz=334 **Dungji**	**3.16**	**315**	⇓*i*P		**Pn**	**06 27 17.7**	**+0.1**
WDGT	baz=313			*e*S		**Sn**	**06 27 55.1**	**-1.9**
WHF	**Hehuan Shan**	**3.20**	**347**	*e*P		**Pn**	**06 27 19.1**	**+0.6**
WHF	baz=350			*e*S		**Sn**	**06 27 56.7**	**-1.9**
WTCT	**Ta-ch'eng**	**3.28**	**330**	*e*P		**Pn**	**06 27 19.1**	**0.0**
WTCT	baz=322			*e*S		**Sn**	**06 27 57.5**	**-2.3**
CVP	baz=322 **Callao Caves**	**3.31**	**184**	⇑*i*P		**Pn**	**06 27 19.1**	**-0.5**
CVP				*e*S		**Sn**	**06 27 59.5**	**-0.9**
TWT	**Tachien**	**3.32**	**346**	*e*P		**Pn**	**06 27 20.1**	**+0.3**
TWT	baz=348			*e*S		**Sn**	**06 28 00.1**	**-0.9**
TCU	baz=348 **Taichung**	**3.37**	**338**	*e*P		**Pn**	**06 27 20.7**	**+0.5**
TCU	baz=336			*e*S		**Sn**	**06 28 00.8**	**-0.9**
ENA	**Nanau**	**3.40**	**355**	*e*P		**Pn**	**06 27 21.2**	**+0.5**
HATJ	baz=354 **Hateruma jima**	**3.42**	**28**	P		**Pn**	**06 27 22.2**	**+1.4**
PNG	**Penghu**	**3.44**	**318**	⇓*i*P		**Pn**	**06 27 21.3**	**+0.1**
PNG	baz=321			S		**Sn**	**06 28 00.3**	**-3.1**
NNS	baz=321 **Nan Shan**	**3.46**	**349**	*e*P		**Pn**	**06 27 22.3**	**+0.7**
NNS	baz=353			*e*S		**Sn**	**06 28 02.7**	**-1.4**
JYNG	baz=353 **Yonagunijimaku**	**3.51**	**13**	P		**Pn**	**06 27 23.9**	**+2.0**
TWQ1	**Liyutan**	**3.52**	**340**	*e*P		**Pn**	**06 27 22.0**	**-0.1**
TWQ1	baz=339			*e*S		**Sn**	**06 28 04.4**	**-0.8**
YOJ	baz=339 **Yonaguni jima**	**3.53**	**14**	P		**Pn**	**06 27 24.3**	**+2.1**
TWC	**Suao**	**3.58**	**357**	*e*P		**Pn**	**06 27 23.4**	**+0.6**
TWC	baz=2.0			*e*S		**Sn**	**06 28 04.9**	**-1.5**
NSY	baz=2.0 **Sanyi**	**3.59**	**340**	*e*P		**Pn**	**06 27 23.2**	**+0.2**
NSY	baz=339			*e*S		**Sn**	**06 28 05.2**	**-1.5**
ENTT	baz=339 **Nioudou**	**3.63**	**353**	*e*P		**Pn**	**06 27 24.4**	**+0.9**
ENTT	baz=356			*e*S		**Sn**	**06 28 06.5**	**-1.2**
IRIF	**Iriomote-Funau**	**3.63**	**25**	P		**Pn**	**06 27 24.9**	**+1.4**
JKRS	**Kuro-shima**	**3.67**	**29**	P		**Pn**	**06 27 25.7**	**+1.8**
NSK	**Sanguang**	**3.70**	**350**	P		**Pn**	**06 27 25.8**	**+1.4**
NSK	baz=354			*e*S		**Sn**	**06 28 07.3**	**-2.0**
TWE	baz=354 **Neicheng**	**3.70**	**354**	*e*P		**Pn**	**06 27 25.4**	**+1.0**
TWE	baz=359			*e*S		**Sn**	**06 28 08.2**	**-1.0**
NSTT	baz=359 **Nanjuang**	**3.73**	**345**	*e*P		**Pn**	**06 27 25.4**	**+0.7**
NSTT	baz=343			*e*S		**Sn**	**06 28 06.3**	**-3.5**
EGS	baz=343	**3.81**	**358**	*e*P		**Pn**	**06 27 25.9**	**+0.2**
EGS	baz=4.0			*e*S		**Sn**	**06 28 09.3**	**-2.3**
JIJ	baz=4.0 **Ishigaki jima**	**3.83**	**29**	P		**Pn**	**06 27 27.3**	**+1.2**
TWA	**Mucha**	**3.97**	**354**	*e*P		**Pn**	**06 27 29.2**	**+1.4**
TWB1	**Santiao Chiao**	**3.97**	**359**	*e*P		**Pn**	**06 27 28.4**	**+0.6**
TWB1	baz=358			*e*S		**Sn**	**06 28 11.4**	**-3.9**
NWF	baz=358 **Wu-fen Shan**	**4.04**	**356**	*e*P		**Pn**	**06 27 30.0**	**+1.2**
NWF	baz=1.0			*e*S		**Sn**	**06 28 15.3**	**-1.8**
CAUP	baz=1.0 **Cauayan**	**4.06**	**183**	*e*P		**Pn**	**06 27 31.1**	**+2.1**
JISG	**Ishigakijimahi**	**4.10**	**30**	P		**Pn**	**06 27 30.6**	**+1.1**
TWY	**Chenhua**	**4.26**	**354**	*e*P		**Pn**	**06 27 31.9**	**+0.5**
PCYT	baz=344 **Pengchaiyu**	**4.59**	**360**	*e*P		**Pn**	**06 27 36.1**	**+0.4**
KNM	baz=359 **Kinmen**	**4.77**	**316**	*e*P		**Pn**	**06 27 38.8**	**+0.7**
BOLP	baz=313 **Bolinao**	**5.05**	**204**	*e*P		**Pn**	**06 27 42.1**	**+0.3**
QZH	**Quanzhou**	**5.05**	**321**	⇑*i*P		**Pn**	**06 27 41.0**	**-0.7**
QZH				S		Sn	06 28 30.9	-9.4
QZH	comp=N,460nm,0.4s			smax	smax		
QZH	comp=E,550nm,0.6s			smax	smax		
JOW	**Kunigami**	**8.10**	**43**	P		**Pn**	**06 28 23.1**	**+1.4**
JNU	comp=E,1.4nm,0.3s,baz=228,slow=15,SNR=3.4 **Nakatsue**	**14.37**	**31**	P		**P**	**06 29 44.6**	**+0.1**
KSRS	comp=E,0.3nm,0.3s,baz=215,slow=12,SNR=5.1 **Korea Array**	**17.14**	**16**	P		**Pn**	**06 30 16.8**	**+0.7**
SONM	comp=E,0.8nm,0.3s,baz=199,slow=12,SNR=20 **Songino Array**	**29.59**	**338**	P		**P**	**06 32 16.5**	**+1.0**
	comp=E,1.5nm,0.5s,baz=155,slow=10.0,SNR=6.6						

WRA	**Warramunga Arr**	**42.44**	**163**	P	**P**	**06 34 03.3**	**-1.4**
	comp=E,1.4nm,0.5s,baz=345,slow=9.1,SNR=13						
ZALV	**Zalesovo Beam**	**43.35**	**329**	P	**P**	**06 34 11.3**	**-0.2**
	comp=E,1.9nm,0.4s,baz=117,slow=7.5,SNR=5.5						
KURBB	**Kurchatov Arra**	**45.07**	**322**	P	**P**	**06 34 26.7**	**+1.4**
	comp=E,1.7nm,0.7s,baz=115,slow=7.7,SNR=8.2						
KURBB				PcP	**PcP**	**06 36 02.2**	**-0.7**
	comp=E,0.2nm,0.4s,baz=122,slow=3.2,SNR=4.5						
ASAR	**Alice Springs**	**45.89**	**165**	P	**P**	**06 34 31.9**	**-0.1**
	comp=E,0.6nm,0.4s,baz=350,slow=6.9,SNR=9.2						
NRIK	**Noril'sk**	**52.66**	**345**	P	**P**	**06 35 23.8**	**+1.1**
	comp=E,1.8nm,0.6s,baz=146,slow=5.2,SNR=3.5						
STKA	**Stephens Creek**	**55.82**	**160**	P	**P**	**06 35 44.9**	**-1.2**
	comp=E,1.5nm,0.4s,baz=360,slow=7.0,SNR=2.9						
ILAR	**Eielson Array**	**71.64**	**27**	P	**P**	**06 37 28.9**	**-0.2**
	comp=E,1.0nm,0.8s,baz=282,slow=6.7,SNR=9.9						
ARCES	**ARCESS Array B**	**72.77**	**339**	P	**P**	**06 37 36.7**	**+1.0**
	comp=E,0.9nm,0.7s,baz=65,slow=7.3,SNR=3.4						
FINES	**FINESS Array B**	**74.58**	**330**	P	**P**	**06 37 46.7**	**+0.3**
	comp=E,1.1nm,0.5s,baz=105,slow=3.0,SNR=7.6						
INK	**Inuvik**	**75.84**	**22**	P	**P**	**06 37 54.2**	**+0.9**
	comp=E,2.0nm,0.8s,baz=236,slow=4.5,SNR=3.4						
NB2	**NORSAR Subarra**	**81.39**	**333**	P	**P**	**06 38 23.1**	**-0.9**
	comp=Z,0.7nm,0.6s,baz=62,slow=5.1						
NOA	**NORSAR Array B**	**81.39**	**333**	P	**P**	**06 38 23.1**	**-0.9**
	comp=Z,0.7nm,0.7s,baz=62,slow=5.1,SNR=4.1						
YKA	**Yellowknife Ar**	**85.55**	**23**	P	**P**	**06 38 45.5**	**+0.5**
	comp=Z,1.5nm,0.6s,baz=307,slow=4.8,SNR=7.4						
TORD	**Torodi Ar. Bea**	**112.31**	**295**	PKiKP	**PKiKP**	**06 44 41.5**	**-1.2**
	comp=Z,0.2nm,0.6s,baz=116,slow=1.9,SNR=3.0						
TXAR	**Lajitas Array**	**113.30**	**43**	PKiKP	**PKiKP**	**06 44 44.5**	**0.0**
	comp=Z,0.1nm,0.4s,baz=289,slow=2.8,SNR=4.0						

IDC ***10*** *06:41:14.8±1.5, 34.07°S×72.03°W, h0km, mb3.5/2, mb1 3.7/4, mb1mx3.5/23, mbtmp3.4/4, ML3.4/2, Error ellipse: s-maj=61.1km s-min=26.5km az=79.0*
ISCJB ***10*** *06:41:16.6±1.4, 34.14°S±0.03°×72.36°W±0.07°, h15km±10km, mb3.3/2, Error ellipse: s-maj=9.4km s-min=4.3km az=7.4*
GUC ***10*** *06:41:16.8±0.6, 34.12°S×72.30°W, h9km±2km, ML3.8*
ISC 10 06:41:15.4±2.0, 34.09°S±0.04°×72.19°W±0.09°, h4km±12km, n27,σ1°83/41, 7C-2D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
CHPI	**Pichilemu**	**0.34**	**153**	⇑*iP*			**Pb**	**06 41 23.8**	**-0.3**
CHPI				*i*S			**Sb**	**06 41 28.7**	**-1.1**
NICH	**Los Niches**	**1.21**	**139**	⇑*iP*			**Pg**	**06 41 38.3**	**-0.4**
NICH				*i*S			**Sb**	**06 41 54.4**	**-0.5**
TALC	**Talca**	**1.39**	**161**	⇑*iP*			**Pn**	**06 41 40.7**	**-0.8**
TALC				*i*S			**Sb**	**06 41 58.7**	**-1.2**
ANTU	**Antumapu**	**1.39**	**69**	*eP*			**Pg**	**06 41 42.2**	**0.0**
ANTU				*i*S			**Sn**	**06 42 01.6**	**+1.1**
ANTU					IAML			06 42 05.0	
	comp=E,3μm,0.5s								
ROC1	**El Roble**	**1.48**	**42**	*eP*			**Pb**	**06 41 43.8**	**+0.2**
ROC1				*eS*			**Sg**	**06 42 05.4**	**+2.4**
ROCH	**El Roble**	**1.48**	**42**	⇑*iP*			**Pb**	**06 41 43.7**	**0.0**
ROCH				*i*S			**Sg**	**06 42 04.2**	**+1.1**
ROCH					IAML			06 42 12.0	
	comp=N,2μm,0.5s								
CLCH	**Cerro Calan**	**1.54**	**64**	⇓*iP*			**Pb**	**06 41 44.4**	**-0.1**
CLCH				*i*S			**Sg**	**06 42 06.0**	**+1.1**
CLCH					IAML			06 42 10.0	
	comp=E,2μm,0.9s								
PEL	**Peldehue**	**1.57**	**54**	⇓*iP*			**Pb**	**06 41 44.8**	**-0.3**
PEL				*i*S			**Sg**	**06 42 06.6**	**+0.8**
PEL					IAML			06 42 16.3	
	comp=N,1μm,0.4s								
FCH	**Farellones**	**1.75**	**65**	⇑*iP*			**Pb**	**06 41 48.0**	**-0.4**
FCH				*i*S			**Sg**	**06 42 12.2**	**+0.5**
FCH					IAML			06 42 16.2	
	comp=N,2μm,0.2s								
YECH	**El Yeso**	**1.80**	**77**	⇑*iP*			**Pg**	**06 41 51.7**	**+1.7**
LNCH	**Linares**	**1.82**	**165**	⇑*iP*			**Pn**	**06 41 47.6**	**0.0**
LNCH				*eS*			**Sn**	**06 42 10.7**	**-0.4**
AAGR	**Agrelo**	**2.98**	**71**	*iP*			**Pb**	**06 42 07.9**	**-1.1**
ARCO	**CERRO ARCO**	**2.99**	**66**	*iP*			**Pb**	**06 42 08.2**	**-1.1**
ARCO					IAML			06 42 14.9	
	comp=Z,211nm,0.5s								
ARCO				*i*S			**Sg**	**06 42 53.3**	**+1.8**
AUSP	**Uspallata**	**3.00**	**52**	*eP*			**Pb**	**06 42 08.3**	**-1.2**
AUSP				*iP*			**Pg**	**06 42 09.0**	**-3.9**
ASAL	**Salagasta**	**3.18**	**63**	*iP*			**Pb**	**06 42 10.6**	**-1.9**
RTLS	**Leoncito**	**3.33**	**48**	*iP*			**Pb**	**06 42 13.3**	**-2.0**
RTLS				*i*S			**Sg**	**06 43 03.7**	**+1.1**
RTLS					IAML			06 43 13.5	
	comp=Z,105nm,0.6s								
RTCV	**Cerro Valdivia**	**3.78**	**55**	*eP*			**Pn**	**06 42 18.1**	**+3.5**
RTCV				*iP*			**Pb**	**06 42 18.7**	**-4.1**
AMOG	**MOGNA**	**4.43**	**46**	*eP*			**Pn**	**06 42 25.7**	**+2.2**
ACAN	**Cantantal**	**4.57**	**68**	*eP*			**Pn**	**06 42 28.9**	**+3.6**
ACHE	**Chepes**	**5.50**	**59**	*eP*			**Pn**	**06 42 33.8**	**-4.4**
AGUA	**GUANDACOL**	**5.56**	**35**	*eP*			**Pn**	**06 42 41.4**	**+2.4**
ACLC	**CERRO LA CRUZ**	**6.44**	**45**	*eP*			Pn	06 42 57.9	+6.7
PLCA	**Paso Flores**	**6.76**	**169**	Pn			**Pn**	**06 42 55.6**	**+0.1**
	comp=Z,0.3nm,0.3s,baz=353,slow=14,SNR=8.4								
PLCA				Sn			**Sn**	**06 44 14.2**	**+1.2**
	baz=337,slow=13,SNR=1.7								
AHML	**Horco Molle**	**9.38**	**41**	*eP*			**Pn**	**06 43 30.3**	**-1.0**
LPAZ	**La Paz**	**18.09**	**13**	P			**Pn**	**06 45 28.4**	**0.0**
	comp=Z,0.0nm,0.3s,baz=180,slow=6.1,SNR=2.5								
TXAR	**Lajitas Array**	**69.75**	**331**	P			**P**	**06 52 27.1**	**+0.4**
	comp=Z,0.1nm,0.7s,baz=138,slow=9.6,SNR=2.8								
TORD	**Torodi Ar. Bea**	**84.36**	**70**	P			**P**	**06 53 48.3**	**-0.8**
	comp=Z,0.6nm,0.8s,baz=204,slow=1.7,SNR=4.2								

KRNET 10 06:59:57.0±0.1, 40.00°N×76.13°E, mb2.3, 8C-8D, Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
NRN	**Naryn**	**1.43**	**356**	⇑*iP*			Pg	07 00 24.5	0.0
	baz=356								
NRN				⇑*i*S			Sn	07 00 44.7	+0.4
	baz=356								
NRN	**Naryn**	**1.43**	**356**	⇓*iP*			Pb	07 00 29.4	+4.6
	baz=1.0								
NRN				⇓*i*S			Sn	07 00 46.4	+2.1
	baz=1.0								
KZA	**Kyzart**	**2.18**	**343**	⇑*eP*			Pb	07 00 37.5	0.0
	baz=343								
KZA				⇑*i*S			Sb	07 01 05.5	+0.3
	baz=343								
ULHL	**Ulahol**	**2.24**	**2**	⇑*iP*			Pb	07 00 38.9	+0.4
	baz=2.0								
ULHL				⇑*i*S			Sg	07 01 08.1	-1.0
	baz=2.0								
KDJ	**Kajisay**	**2.27**	**20**	⇑*eP*			Pg	07 00 44.3	+3.8
	baz=25								
KDJ				⇑*i*S			Sg	07 01 12.5	+2.6
	baz=25								
BOOM	**Boomskoye usch**	**2.49**	**357**	⇓*eP*			Pg	07 00 46.7	+2.0
	baz=360								
BOOM				⇓*e*S			Sg	07 01 16.4	-0.6
	baz=360								
ARSB	**Arslanbob**	**2.73**	**300**	⇓*eP*			Pg	07 00 50.1	+0.7
	baz=297								
ARSB				⇓*e*S			Sb	07 01 22.5	+1.5
	baz=297								
ANVS	**Anan'yevo**	**3.01**	**22**	⇓*eP*			Pg	07 00 54.7	0.0
	baz=26								
ANVS				⇓*e*S			Sb	07 01 30.7	+1.7
	baz=26								

ISCJB ***10*** *07:32:57.6±0.7, 36.89°N±0.04°×26.54°E±0.03°, h1km±7km, Error ellipse: s-maj=7.4km s-min=4.7km az=3.9*
ISK ***10*** *07:32:57.4, 36.93°N×26.54°E, h6km, MD2.7*
CSEM ***10*** *07:32:58.1±0.2, 36.90°N×26.54°E, h8km, MD2.7, Error ellipse: s-maj=4.6km s-min=3.0km az=10.0*
DDA ***10*** *07:32:59.9, 36.89°N×26.67°E, h7km, Md2.6*
ISC 10 07:32:58.1±1.1, 36.86°N±0.04°×26.55°E±0.03°, h10km±9km, n27,σ0°96/45, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
NIS1	**Nisyros Isl.**	**0.57**	**117**	*ePG*			**Pg**	**07 33 09.5**	**+0.4**
NIS1				*eSG*			**Sb**	**07 33 18.5**	**+0.3**
NIS1	**Nisyros Isl.**	**0.57**	**117**	*ePg*			**Pg**	**07 33 09.5**	**+0.4**
NIS1				*eSg*			**Sb**	**07 33 18.5**	**+0.3**
BODT	**Bodrum**	**0.64**	**72**	*ePG*			**Pg**	**07 33 10.0**	**-0.5**
BODT				*eSG*			**Sg**	**07 33 19.2**	**+0.3**
YKAV	**Yalikavak-Bodr**	**0.64**	**66**	*ePG*			**Pg**	**07 33 09.9**	**-0.6**
YKAV				*eSG*			**Sg**	**07 33 19.0**	**+0.1**
YKAV	**Yalikavak-Bodr**	**0.64**	**66**	*ePg*			**Pg**	**07 33 09.9**	**-0.6**
YKAV				*eSg*			**Sg**	**07 33 19.0**	**+0.1**
BDRM	**Kayabasi**	**0.74**	**74**	*iP*			**Pg**	**07 33 12.8**	**+0.4**
BDRM				*i*S			**Sg**	**07 33 22.4**	**+0.2**
BDRM	**Kayabasi**	**0.74**	**74**	P			**Pg**	**07 33 12.8**	**+0.4**
BDRM				S			**Sg**	**07 33 22.4**	**+0.2**
DAT	**Datca**	**0.84**	**99**	*ePG*			**Pg**	**07 33 14.1**	**-0.1**
DAT				*eSG*			**Sb**	**07 33 26.4**	**+0.4**
DAT	**Datca**	**0.84**	**99**	*ePg*			**Pg**	**07 33 14.1**	**-0.1**
DAT				*eSg*			**Sg**	**07 33 24.4**	**-0.7**
DAT				S			**Sb**	**07 33 26.4**	**+0.4**
APE	**Apeiranthos**	**0.84**	**285**	*ePG*			**Pg**	**07 33 13.7**	**-0.6**
APE				*eSG*			**Sg**	**07 33 25.5**	**+0.2**
APE	**Apeiranthos**	**0.84**	**285**	*ePg*			**Pg**	**07 33 13.7**	**-0.6**
APE				*eSg*			**Sg**	**07 33 25.5**	**+0.2**
GCAM	**G?zelcaml?**	**1.00**	**33**	*iP*			**Pn**	**07 33 18.0**	**-0.1**
GCAM	**G?zelcaml?**	**1.00**	**33**	P			**Pn**	**07 33 18.0**	**-0.1**
MLSB	**Milas**	**1.07**	**66**	*ePG*			**Pg**	**07 33 18.0**	**-0.7**
MLSB				*eSG*			**Sb**	**07 33 33.1**	**+0.3**
MLSB	**Milas**	**1.07**	**66**	*ePg*			**Pg**	**07 33 18.0**	**-0.7**
MLSB				*eSg*			**Sb**	**07 33 33.1**	**+0.3**
DGB	**˜zmir**	**1.22**	**12**	*iP*			**Pn**	**07 33 22.0**	**+0.9**
DGB				*i*S			**Sn**	**07 33 38.4**	**+0.8**
KARP	**Karpathos**	**1.40**	**159**	*ePN*			**Pb**	**07 33 25.0**	**+0.7**
KARP	**Karpathos**	**1.40**	**159**	*ePn*			**Pb**	**07 33 25.0**	**+0.7**
URLA	**Izmir**	**1.50**	**1**	*ePN*			**Pn**	**07 33 24.6**	**-0.4**
URLA				*eSN*			**Sn**	**07 33 44.3**	**-0.3**
URLA	**Izmir**	**1.50**	**1**	*ePn*			**Pn**	**07 33 24.6**	**-0.4**
URLA				*eSn*			**Sn**	**07 33 44.3**	**-0.3**
AYDB	**Zeytinkoy-Aydi**	**1.52**	**44**	*ePN*			**Pn**	**07 33 25.1**	**-0.3**
AYDB	**Zeytinkoy-Aydi**	**1.52**	**44**	*ePn*			**Pn**	**07 33 25.1**	**-0.3**
TURN	**Turunc**	**1.65**	**89**	*iP*			**Pn**	**07 33 23.2**	**-3.8**
TURN	**Turunc**	**1.65**	**89**	P			**Pn**	**07 33 23.2**	**-3.8**
DALY	**Dalyan (Mu˘la**	**1.69**	**91**	*ePN*			**Pn**	**07 33 28.3**	**+0.7**
DALY	**Dalyan (Mu˘la**	**1.69**	**91**	*ePn*			**Pn**	**07 33 28.3**	**+0.7**

DDA ***10*** *07:36:08.8, 36.85°N×26.64°E, h5km, Ml3.3*
ATH ***10*** *07:36:08.2, 36.83°N×26.63°E, h18km±1km, ML2.8/9, Error ellipse: s-maj=2.0km s-min=0.8km az=47.0*
ISCJB ***10*** *07:36:08.7±0.5, 36.83°N±0.02°×26.60°E±0.02°, h4km±4km, Error ellipse: s-maj=3.6km s-min=2.9km az=8.2*
ISK ***10*** *07:36:08.7, 36.85°N×26.61°E, h4km, ML3.1*
THE ***10*** *07:36:09.3, 36.80°N×26.66°E, h31km±6km, ML3.1/4, Error ellipse: s-maj=6.3km s-min=0.5km az=173.0*
CSEM ***10*** *07:36:09.4±0.1, 36.82°N×26.60°E, h10km, ML3.1, Error ellipse: s-maj=4.0km s-min=2.9km az=4.0*
ISC 10 07:36:08.8±1.0, 36.83°N±0.02°×26.61°E±0.01°, h13km±8km, n93,σ1°17/131, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
NISR	**Nisiros**	**0.47**	**118**	P			**Pb**	**07 36 18.5**	**-0.4**
NISR				S			**Sb**	**07 36 25.3**	**-0.4**
NISR	**Nisiros**	**0.47**	**118**	P			**Pg**	**07 36 18.5**	**-0.4**
NISR				S			**Sg**	**07 36 24.5**	**+0.2**
NISR	**Nisiros**	**0.47**	**118**	P			**Pg**	**07 36 17.5**	**-0.5**
NISR				S			**Sg**	**07 36 24.4**	**+0.2**
NISR					AML	AML		07 36 27.9	
	comp=E,4578μm,0.2s								
NISR					AML	AML		07 36 27.9	
	comp=N,2612μm,0.2s								
NIS1	**Nisyros Isl.**	**0.51**	**116**	*ePG*			**Pb**	**07 36 19.4**	**-0.1**
NIS1				*eSG*			**Sb**	**07 36 27.4**	**+0.5**
NIS1	**Nisyros Isl.**	**0.51**	**116**	P			**Pg**	**07 36 19.0**	**+0.2**
NIS1				S			**Sb**	**07 36 26.1**	**-0.8**
NIS1	**Nisyros Isl.**	**0.51**	**116**	P			**Pg**	**07 36 19.0**	**+0.2**
NIS1	**Nisyros Isl.**	**0.51**	**116**	*ePg*			**Pb**	**07 36 19.5**	**-0.1**
NIS1				S			**Sb**	**07 36 26.1**	**-0.8**
NIS1				*eSg*			**Sb**	**07 36 27.4**	**+0.5**
BODT	**Bodrum**	**0.60**	**67**	*ePG*			**Pb**	**07 36 21.0**	**-0.3**
BODT	**Bodrum**	**0.60**	**67**	P			**Pg**	**07 36 20.6**	**0.0**
BODT				S			**Sb**	**07 36 29.1**	**-0.6**
BODT	**Bodrum**	**0.60**	**67**	P			**Pg**	**07 36 20.6**	**0.0**
BODT	**Bodrum**	**0.60**	**67**	*ePg*			**Pb**	**07 36 21.0**	**-0.3**
BODT				S			**Sb**	**07 36 29.1**	**-0.6**
YKAV	**Yalikavak-Bodr**	**0.61**	**61**	*ePG*			**Pb**	**07 36 21.1**	**-0.2**
YKAV	**Yalikavak-Bodr**	**0.61**	**61**	*ePg*			**Pb**	**07 36 21.1**	**-0.2**
BDRM	**Kayabasi**	**0.71**	**70**	*iP*			**Pg**	**07 36 22.4**	**-0.1**
BDRM				*i*S			**Sb**	**07 36 32.2**	**-0.4**
BDRM	**Kayabasi**	**0.71**	**70**	P			**Pg**	**07 36 22.4**	**-0.1**
BDRM				S			**Sb**	**07 36 32.2**	**-0.4**
DAT	**Datca**	**0.78**	**97**	*ePG*			**Pb**	**07 36 24.6**	**+0.2**
DAT				*eSG*			**Sb**	**07 36 35.9**	**+1.0**
DAT	**Datca**	**0.78**	**97**	*iP*			**Pb**	**07 36 24.4**	**+0.1**
DAT	**Datca**	**0.78**	**97**	P			**Pb**	**07 36 24.4**	**+0.1**
DAT	**Datca**	**0.78**	**97**	*ePg*			**Pb**	**07 36 24.6**	**+0.2**
DAT				*eSg*			**Sb**	**07 36 35.9**	**+1.0**
DATC	**Datca-Mugla**	**0.84**	**94**	*ePG*			**Pb**	**07 36 25.7**	**+0.4**
DATC				*eSG*			**Sn**	**07 36 38.1**	**-0.6**
DATC	**Datca-Mugla**	**0.84**	**94**	*ePg*			**Pb**	**07 36 25.7**	**+0.4**
DATC				*eSg*			**Sn**	**07 36 38.1**	**-0.6**
SMG	**Samos**	**0.90**	**11**	P			**Pg**	**07 36 25.3**	**-0.8**
SMG				S			**Sg**	**07 36 37.0**	**-0.8**
SMG	**Samos**	**0.90**	**11**	P			**Pg**	**07 36 25.7**	**-0.4**
SMG				S			**Sg**	**07 36 37.0**	**-0.8**
SMG	**Samos**	**0.90**	**11**	P			**Pg**	**07 36 25.6**	**-0.4**
SMG				S			**Sg**	**07 36 36.4**	**-1.4**
SMG					AML	AML		07 36 40.8	
	comp=E,2198μm,0.2s								
SMG					AML	AML		07 36 41.5	
	comp=N,3752μm,0.3s								
APE	**Apeiranthos**	**0.90**	**286**	*ePG*			**Pg**	**07 36 26.5**	**+0.3**
APE				*eSG*			**Sb**	**07 36 39.6**	**+1.3**
APE	**Apeiranthos**	**0.90**	**286**	P			**Pg**	**07 36 25.7**	**-0.5**
APE				S			**Sg**	**07 36 38.0**	**0.0**
APE	**Apeiranthos**	**0.90**	**286**	P			**Pg**	**07 36 25.7**	**-0.5**
APE	**Apeiranthos**	**0.90**	**286**	*ePg*			**Pg**	**07 36 26.5**	**+0.3**
APE				S			**Sg**	**07 36 38.0**	**0.0**
APE				*eSg*			**Sb**	**07 36 39.6**	**+1.3**
APE	**Apeiranthos**	**0.90**	**286**	P			**Pg**	**07 36 25.7**	**-0.5**
APE				S			**Sg**	**07 36 38.4**	**+0.5**
APE					AML	AML		07 36 41.2	
	comp=N,1621μm,0.5s								
APE					AML	AML		07 36 44.5	
	comp=E,909μm,0.5s								
GCAM	**G?zelcaml?**	**1.00**	**29**	*iP*			**Pb**	**07 36 28.2**	**+0.2**
GCAM	**G?zelcaml?**	**1.00**	**29**	P			**Pb**	**07 36 28.2**	**+0.2**
MLSB	**Milas**	**1.04**	**63**	*ePG*			**Pn**	**07 36 29.2**	**+0.1**
MLSB	**Milas**	**1.04**	**63**	*ePg*			**Pn**	**07 36 29.2**	**+0.1**
SAP1	**Santorini-Akro**	**1.09**	**245**	P			**Pb**	**07 36 29.5**	**0.0**
SAP1				S			**Sg**	**07 36 44.0**	**+0.1**
SAP1	**Santorini-Akro**	**1.09**	**245**	P			**Pb**	**07 36 29.5**	**0.0**
SAP1				S			**Sg**	**07 36 44.0**	**+0.1**
SAP1					AML	AML		07 36 48.0	
	comp=E,2074μm,0.4s								
SAP1					AML	AML		07 36 51.5	
	comp=N,1777μm,0.4s								
THR6	**Thira Island,**	**1.09**	**245**	P			**Pb**	**07 36 27.6**	**-1.9**
THR6	**Thira Island,**	**1.09**	**245**	P			**Pb**	**07 36 27.6**	**-1.9**
DGB	**˜zmir**	**1.24**	**10**	*iP*			**Pn**	**07 36 31.9**	**0.0**
DGB				*i*S			**Sn**	**07 36 49.1**	**+0.7**
GMLD	**Gumuldur**	**1.27**	**11**	*ePN*			**Pg**	**07 36 33.3**	**+0.1**
GMLD	**Gumuldur**	**1.27**	**11**	*ePn*			**Pg**	**07 36 33.3**	**+0.1**
MRSB	**Marmaris-Mugla**	**1.28**	**95**	*ePN*			**Pg**	**07 36 33.9**	**+0.5**
MRSB	**Marmaris-Mugla**	**1.28**	**95**	*ePn*			**Pg**	**07 36 33.9**	**+0.5**
KARP	**Karpathos**	**1.35**	**161**	*ePN*			**Pg**	**07 36 35.3**	**+0.5**
KARP	**Karpathos**	**1.35**	**161**	P			**Pn**	**07 36 33.9**	**+0.4**
KARP	**Karpathos**	**1.35**	**161**	*ePn*			**Pg**	**07 36 35.3**	**+0.5**
KARP				S			**Sg**	**07 36 52.8**	**+0.4**
KARP	**Karpathos**	**1.35**	**161**	P			**Pn**	**07 36 33.9**	**+0.4**
KARP				S			**Sg**	**07 36 52.8**	**+0.4**
KARP					AML	AML		07 36 55.6	
	comp=E,820μm,0.5s								
KARP					AML	AML		07 36 56.4	
	comp=N,476μm,0.6s								
ARG	**Arkhangelos**	**1.36**	**116**	P			**Pb**	**07 36 34.0**	**-0.2**
ARG				S			**Sb**	**07 36 51.1**	**-0.4**
ARG	**Arkhangelos**	**1.36**	**116**	P			**Pb**	**07 36 34.0**	**-0.2**
ARG				S			**Sb**	**07 36 51.1**	**-0.4**
ARG					AML	AML		07 36 59.1	
	comp=N,198μm,0.3s								
ARG					AML	AML		07 37 01.1	
	comp=E,200μm,0.5s								
ZEY	**˜zmir**	**1.41**	**356**	*iP*			**Pn**	**07 36 34.8**	**+0.6**
AYDB	**Zeytinkoy-Aydi**	**1.51**	**42**	*ePN*			**Pb**	**07 36 37.2**	**+0.4**
AYDB	**Zeytinkoy-Aydi**	**1.51**	**42**	*ePn*			**Pb**	**07 36 37.2**	**+0.4**
URLA	**Izmir**	**1.53**	**359**	*ePN*			**Pb**	**07 36 37.6**	**+0.6**
URLA	**Izmir**	**1.53**	**359**	*i*P			**Pb**	**07 36 37.2**	**+0.2**
URLA	**Izmir**	**1.53**	**359**	P			**Pb**	**07 36 37.2**	**+0.2**
URLA	**Izmir**	**1.53**	**359**	*ePn*			**Pb**	**07 36 37.6**	**+0.6**
TURN	**Turunc**	**1.60**	**88**	*iP*			**Pn**	**07 36 32.6**	**-4.1**
TURN				*i*S			**Sn**	**07 36 50.9**	**-6.4**
DALY	**Dalyan (Mu˘la**	**1.64**	**90**	*ePN*			**Pb**	**07 36 39.2**	**+0.4**
DALY	**Dalyan (Mu˘la**	**1.64**	**90**	*iP*			**Pn**	**07 36 36.1**	**-1.2**
DALY	**Dalyan (Mu˘la**	**1.64**	**90**	P			**Pn**	**07 36 36.1**	**-1.2**
DALY	**Dalyan (Mu˘la**	**1.64**	**90**	*ePn*			**Pb**	**07 36 39.2**	**+0.4**
KRBN	**Karaburun**	**1.76**	**358**	*ePN*			**Pb**	**07 36 41.0**	**0.0**
KRBN	**Karaburun**	**1.76**	**358**	*ePn*			**Pb**	**07 36 41.0**	**0.0**
MHLO	**Agia Marina, M**	**1.78**	**266**	P			**Pb**	**07 36 41.7**	**+0.4**
MHLO				S			**Sb**	**07 37 03.9**	**+0.3**
MHLO	**Agia Marina, M**	**1.78**	**266**	P			**Pb**	**07 36 41.6**	**+0.4**
MHLO				S			**Sb**	**07 37 03.9**	**+0.3**
MHLO					AML	AML		07 37 12.3	
	comp=N,666μm,0.5s								
MHLO					AML	AML		07 37 16.4	
	comp=E,881μm,0.6s								
LAST	**Lasithi**	**1.90**	**209**	P			**Pn**	**07 36 41.7**	**+0.7**
LAST				S			**Sn**	**07 37 06.0**	**+1.0**
LAST	**Lasithi**	**1.90**	**209**	P			**Pn**	**07 36 41.7**	**+0.7**
LAST				S			**Sn**	**07 37 06.0**	**+1.0**
LAST					AML	AML		07 37 17.1	
	comp=N,117μm,0.6s								
LAST					AML	AML		07 37 17.3	
	comp=E,152μm,0.7s								
FETY	**Fethiye**	**1.99**	**95**	*ePN*			**Pb**	**07 36 44.5**	**-0.4**
FETY	**Fethiye**	**1.99**	**95**	*ePn*			**Pb**	**07 36 44.6**	**-0.4**
FETY	**Fethiye**	**1.99**	**95**	P			**Pb**	**07 36 45.1**	**+0.1**
FETY				S			**Sb**	**07 37 10.9**	**+1.2**
IDI	**Anoyia**	**2.08**	**223**	P			**Pn**	**07 36 42.2**	**-1.2**
IDI				S			**Sb**	**07 37 11.7**	**-0.5**
IDI	**Anoyia**	**2.08**	**223**	P			**Pn**	**07 36 42.2**	**-1.2**
IDI				S			**Sb**	**07 37 11.7**	**-0.5**
IDI					AML	AML		07 37 20.4	
	comp=N,150μm,0.5s								
IDI					AML	AML		07 37 21.6	
	comp=E,130μm,0.6s								
DKL	**Dikili**	**2.25**	**6**	*ePN*			**Pn**	**07 36 47.8**	**+2.1**
DKL	**Dikili**	**2.25**	**6**	*ePn*			**Pn**	**07 36 47.8**	**+2.1**
AKS	**Akhisar**	**2.26**	**25**	*ePN*			**Pn**	**07 36 47.6**	**+1.7**
AKS	**Akhisar**	**2.26**	**25**	*ePn*			**Pn**	**07 36 47.6**	**+1.7**
MANT	**Manisa**	**2.27**	**42**	*iP*			**Pn**	**07 36 44.1**	**-2.1**
MANT	**Manisa**	**2.27**	**42**	P			**Pn**	**07 36 44.1**	**-2.1**
KULA	**Kula-Manisa**	**2.34**	**43**	*ePN*			**Pn**	**07 36 49.0**	**+1.9**
KULA	**Kula-Manisa**	**2.34**	**43**	*ePn*			**Pn**	**07 36 49.0

AKAS	**Kas**	**1.26**	**95**	*e*PN	**Pn**	**07 45 40.3**	**-0.3**
AKAS	**Kas**	**1.26**	**95**	*i* P	**Pn**	**07 45 40.4**	**-0.2**
AKAS	**Kas**	**1.26**	**95**	*e*Pn	**Pn**	**07 45 40.3**	**-0.3**
GOLH	**Golhisar**	**1.50**	**53**	*i* P	**Pg**	**07 45 45.7**	**+0.9**
GOLH				*i* S	**Sg**	**07 46 07.0**	**+2.7**
GOLH	**Golhisar**	**1.50**	**53**	P	**Pg**	**07 45 45.7**	**+0.9**
GOLH				S	**Sg**	**07 46 07.0**	**+2.7**
ELL	**Elmali**	**1.55**	**74**	*e*PN	**Pn**	**07 45 44.5**	**-0.1**
ELL	**Elmali**	**1.55**	**74**	*e*Pn	**Pn**	**07 45 44.5**	**-0.1**
DNZL	**Cakiroluk**	**1.56**	**30**	*i* P	**Pg**	**07 45 46.5**	**+0.6**
DNZL				*i* S	**Sg**	**07 46 09.2**	**+3.0**
DNZL	**Cakiroluk**	**1.56**	**30**	P	**Pg**	**07 45 46.5**	**+0.6**
DNZL				S	**Sg**	**07 46 09.2**	**+3.0**
AYDB	**Zeytinkoy-Aydi**	**1.61**	**355**	*e*PN	**Pn**	**07 45 45.5**	**+0.2**
AYDB	**Zeytinkoy-Aydi**	**1.61**	**355**	*e*Pn	**Pn**	**07 45 45.5**	**+0.2**
SMG	**Samos**	**1.68**	**325**	P	**Pn**	**07 45 46.0**	**-0.2**
SMG				S	**Sn**	**07 46 07.0**	**-1.2**
SMG	**Samos**	**1.68**	**325**	P	**Pn**	**07 45 46.0**	**-0.2**
SMG				S	**Sn**	**07 46 07.0**	**-1.2**
SMG				AML	AML	07 46 14.6	
	comp=N,134μm,0.4s						
SMG				AML	AML	07 46 17.5	
	comp=E,334μm,0.4s						
ZKR	**Zakros**	**1.93**	**231**	P	**Pn**	**07 45 50.1**	**+0.4**
ZKR				S	**Sn**	**07 46 15.1**	**+0.6**
ZKR	**Zakros**	**1.93**	**231**	P	**Pn**	**07 45 50.1**	**+0.4**
ZKR				S	**Sn**	**07 46 15.1**	**+0.6**
ZKR				AML	AML	07 46 20.0	
	comp=N,92μm,0.6s						
ZKR				AML	AML	07 46 21.7	
	comp=E,151μm,0.5s						
KORT	**Korkueli**	**1.96**	**70**	*e*PN	**Pn**	**07 45 50.2**	**0.0**
KORT	**Korkueli**	**1.96**	**70**	*i* P	**Pg**	**07 45 54.3**	**+0.7**
KORT	**Korkueli**	**1.96**	**70**	*e*Pn	**Pn**	**07 45 50.2**	**0.0**
KORT	**Korkueli**	**1.96**	**70**	P	**Pg**	**07 45 54.3**	**+0.7**
APE	**Apeiranthos**	**2.15**	**290**	*e*PN	**Pn**	**07 45 53.5**	**+0.7**
APE	**Apeiranthos**	**2.15**	**290**	*e*Pn	**Pn**	**07 45 53.5**	**+0.7**
KULA	**Kula-Manisa**	**2.22**	**12**	*e*PN	**Pn**	**07 45 54.1**	**+0.3**
KULA	**Kula-Manisa**	**2.22**	**12**	*e*Pn	**Pn**	**07 45 54.1**	**+0.3**
URLA	**Izmir**	**2.32**	**330**	*e*PN	**Pn**	**07 45 56.0**	**+0.9**
URLA	**Izmir**	**2.32**	**330**	*e*Pn	**Pn**	**07 45 56.0**	**+0.9**
LAST	**Lasithi**	**2.40**	**241**	P	**Pn**	**07 45 55.5**	**-0.7**
LAST				S	**Sn**	**07 46 27.8**	**+1.6**
LAST	**Lasithi**	**2.40**	**241**	P	**Pn**	**07 45 55.5**	**-0.7**
LAST				S	**Sn**	**07 46 27.8**	**+1.6**
LAST				AML	AML	07 46 32.1	
	comp=E,38μm,0.4s						
LAST				AML	AML	07 46 36.0	
	comp=N,39μm,0.6s						
BAGO	**Egridir - ISPA**	**2.74**	**52**	*i* P	**Pn**	**07 46 00.3**	**-0.5**
DEMI	**Demirci**	**2.75**	**11**	*i* P	**Pg**	**07 46 08.0**	**-0.6**
IDI	**Anoyia**	**2.78**	**249**	P	**Pn**	**07 46 00.9**	**-0.5**
IDI				S	**Sn**	**07 46 35.2**	**-0.2**
IDI	**Anoyia**	**2.78**	**249**	P	**Pn**	**07 46 00.9**	**-0.5**
IDI				S	**Sn**	**07 46 35.2**	**-0.2**
IDI				AML	AML	07 46 40.5	
	comp=E,42μm,0.6s						
IDI				AML	AML	07 46 42.3	
	comp=N,30μm,0.5s						

MEX 10 07:48:29.1±0.6, 16.48N×98.49W, h16km±20km, MD3.5, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PNIG	**Pinotepa**	**0.36**	**104**	*i* P	Pg	07 48 35.6	-1.0
PNIG				*i* S	Sg	07 48 40.6	-1.0
TLIG	**Tlapa**	**1.08**	**356**	*e*P	Pb	07 48 45.9	-3.6
TLIG				*e*S	Sb	07 48 58.3	-5.1
CAIG	**El Cayaco**	**1.79**	**289**	*e*P	Pn	07 48 56.8	-2.6
CAIG				*i* S	Sn	07 49 17.5	-4.4
MEIG	**Mezcala**	**1.80**	**323**	*i* P	Pn	07 48 57.2	-2.4
MEIG				*i* S	Sn	07 49 16.6	-5.5

WEL 10 07:51:45.3±0.2, 34.89S×178.03E, h33km, ML3.9/6, Error ellipse: s-maj=4.0km s-min=1.4km az=90.0, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
HAZ	**Te Kaha**	**2.87**	**184**	PN	Pn	07 52 28.6	-0.1
HAZ				SN	Sn	07 53 00.4	-1.6
WMGZ	**Waiomatatini S**	**2.94**	**174**	PN	Pn	07 52 29.0	-0.6
WMGZ				AML	AML	07 53 04.8	
PKGZ	**Pakihiroa**	**2.99**	**179**	PN	Pn	07 52 29.8	-0.7
RUGZ	**Raukumara Rang**	**3.08**	**185**	PN	Pn	07 52 31.1	-0.6
TWGZ	**Tauwhareparae**	**3.28**	**181**	PN	Pn	07 52 33.6	-0.8
TWGZ				SN	Sn	07 53 10.1	-2.2
TWGZ				AML	AML	07 53 15.3	
URZ	**Urewera**	**3.44**	**192**	PN	Pn	07 52 35.9	-0.7
MWZ	**Matawai**	**3.46**	**187**	PN	Pn	07 52 36.1	-0.8
TKGZ	**Te Karaka**	**3.55**	**182**	PN	Pn	07 52 36.0	-2.0
TKGZ				SN	Sn	07 53 14.1	-4.6
CNGZ	**Carnagh Statio**	**3.59**	**178**	PN	Pn	07 52 36.5	-2.1
MUGZ	**Murupara**	**3.72**	**195**	PN	Pn	07 52 40.1	-0.3
RIGZ	**Rimuhau**	**3.81**	**183**	PN	Pn	07 52 39.0	-2.8
KNZ	**Kokohu**	**4.13**	**184**	PN	Pn	07 52 42.4	-3.7

JMA 10 08:19:21.2±0.1, 38.39N×142.04E, h30km±1km, M3.5, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JIO	**Ouri**	**0.55**	**277**	P	Pb	08 19 32.2	-0.2
JIO				S	Sb	08 19 39.5	-0.5
OFUJ	**Ofunato**	**0.75**	**337**	P	Pn	08 19 35.2	-0.5
OFUJ				S	Sb	08 19 45.1	-0.5
JMK	**Ichinoseki**	**0.85**	**311**	P	Pn	08 19 37.1	0.0
JMK				S	Sb	08 19 48.3	-0.3
JOU	**Okura**	**1.08**	**269**	P	Pn	08 19 40.7	+0.4
JOU				S	Sn	08 19 54.4	+0.1
JMM	**Marumori**	**1.11**	**242**	P	Pn	08 19 40.1	-0.6
JOM	**Ohasama**	**1.23**	**332**	P	Pn	08 19 42.8	+0.5
JOM				S	Sn	08 19 58.4	+0.5
JFK	**Kawauchi**	**1.38**	**222**	P	Pn	08 19 43.8	-0.6
JYK	**Kaneyama**	**1.42**	**292**	P	Pn	08 19 45.5	+0.6
JYK				S	Sb	08 20 03.7	-1.0
JRG	**Rokugo**	**1.49**	**313**	P	Pn	08 19 46.9	+1.0
JYS	**Shirataka**	**1.56**	**264**	P	Pn	08 19 47.4	+0.5
JYS				*e*S	Sn	08 20 06.9	+0.7
JFT	**Otama**	**1.60**	**238**	P	Pn	08 19 48.4	+0.9
JFT				*e*S	Sn	08 20 07.7	+0.5

*ISCJB **10** 08:42:48.4±0.3, 28.13N±0.02×112.29W±0.04, h10km, Error ellipse: s-maj=5.0km s-min=3.1km az=164.7*
*NEIC **10** 08:42:50.2±0.6, 28.09N×112.30W, h10km, mb4.1/15, MD4.0(MEX), Error ellipse: s-maj=8.4km s-min=5.5km az=41.0*
*MEX **10** 08:42:50.6±0.5, 28.14N×112.34W, h8km±9km, MD4.0*
ISC 10 08:42:50.2±0.6, 28.12N±0.03×112.26W±0.04, h10km, n65, σ2ˢ35/85, Gulf of California

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SRIG	**Santa Rosalia**	**0.80**	**179**	*e*Pg	**Pg**	**08 43 04.5**	**-1.1**
SRIG				*e*Sg	**Sb**	**08 43 16.5**	**-0.6**
SRIG	**Santa Rosalia**	**0.80**	**179**	*i* P	**Pg**	**08 43 04.6**	**-1.1**
SRIG				*e*S	**Sg**	**08 43 15.1**	**-1.0**
HSIG		**1.46**	**52**	*e*Pn	**Pn**	**08 43 13.8**	**-2.8**
HSIG				*e*Sn	**Sn**	**08 43 35.1**	**-0.7**
HSIG		**1.46**	**52**	*e*P	**Pn**	**08 43 13.8**	**-2.8**
214A	**Organ Pipe Nat**	**3.85**	**353**	*e*Pn	**Pn**	**08 43 48.2**	**-1.4**
214A				*e*Pg	**Pb**	**08 43 59.4**	**+1.2**
214A				*e*Sg	**Sg**	**08 44 50.4**	**-3.5**
SPIG	**San Pedro Mart**	**4.04**	**317**	*e*P	**Pn**	**08 43 50.3**	**-2.1**
SPIG				*i* S	**Sn**	**08 44 36.6**	**-3.3**
SPIG	**San Pedro Mart**	**4.04**	**317**	*e*P	**Pn**	**08 43 50.3**	**-2.1**
SPIG				*i* S	**Sn**	**08 44 36.6**	**-3.3**
319A	**Douglas**	**4.15**	**38**	*e*Pn	**Pn**	**08 43 52.8**	**-1.0**
319A				*e*Sg	**Sg**	**08 45 02.0**	**-1.4**
TUC	**Tucson**	**4.36**	**17**	*e*Pn	**Pn**	**08 43 55.2**	**-1.5**
TUC				*e*Pg	**Pg**	**08 44 15.0**	**+1.2**
TUC				*e*Sg	**Sg**	**08 45 06.6**	**-3.8**
113A	**Mohawk Valley,**	**4.81**	**345**	*e*Pn	**Pn**	**08 44 01.6**	**-1.1**
SLBS	**Sierra La Lagu**	**4.89**	**154**	*e*Pn	**Pn**	**08 44 04.3**	**+0.5**
SLBS				*e*Pg	**Pn**	**08 44 05.2**	**+1.3**
SLBS	**Sierra La Lagu**	**4.89**	**154**	*e*P	**Pn**	**08 44 03.0**	**-0.8**
SLBS				*i* S	**Sn**	**08 44 59.4**	**-1.2**
GLA	**Glamis**	**5.39**	**336**	*e*Pn	**Pn**	**08 44 12.0**	**+1.3**
CBX	**Cerro Bola**	**5.65**	**319**	*i* P	**Pn**	**08 44 12.2**	**-2.2**
CBX				*i* S	**Sn**	**08 45 15.9**	**-3.6**
CBX	**Cerro Bola**	**5.65**	**319**	*i* P	**Pn**	**08 44 12.2**	**-2.2**
CBX				*i* S	**Sn**	**08 45 15.9**	**-3.6**
Y14A	**Wickenburg**	**5.83**	**354**	*e*Pn	**Pn**	**08 44 16.6**	**-0.3**
Y14A				*e*Sg	**Sg**	**08 45 51.6**	**-5.9**
121A	**Cookes Peak, D**	**5.85**	**40**	*e*Pn	**Pn**	**08 44 18.4**	**+1.2**
	46nm,0.9s						
121A				*e*Sg	**Sg**	**08 45 52.0**	**-6.2**
BAR	**Barrett**	**5.93**	**321**	*e*Pn	**Pn**	**08 44 20.2**	**+2.1**
Y12C	**Blythe**	**5.94**	**341**	*e*Pn	**Pn**	**08 44 17.5**	**-0.7**
HPIG		**5.97**	**100**	*e*Pn	Pn	08 44 24.4	+5.5
X16A	**Lo Mia Camp, P**	**6.31**	**6**	*e*Pn	**Pn**	**08 44 23.6**	**0.0**
CTCC	**Cactus City**	**6.38**	**331**	*e*Sn	**Sn**	**08 45 37.4**	**+0.2**
PFO	**Pinyon Flats O**	**6.55**	**328**	*e*Pg	**Pg**	**08 44 55.0**	**-0.7**
PFO				*e*Sg	**Sg**	**08 46 26.9**	**+6.3**
X18A	**Snowflake**	**6.68**	**17**	*e*Pn	**Pn**	**08 44 29.0**	**+0.4**
MNTX	**Cornudas Mount**	**6.95**	**58**	*e*Pn	**Pn**	**08 44 32.1**	**0.0**
MNTX				*e*Pg	**Pg**	**08 45 02.2**	**-1.2**
MNTX				*e*Sg	**Sg**	**08 46 30.2**	**-3.1**
W13A	**Hualapai Mount**	**7.09**	**349**	*e*Pn	**Pn**	**08 44 33.6**	**-0.6**
W18A	**Petrified Fore**	**7.30**	**17**	*e*Pn	**Pn**	**08 44 37.0**	**-0.1**
WUAZ	**Wupatki**	**7.41**	**6**	*e*Pn	**Pn**	**08 44 40.0**	**+1.4**
WUAZ				*e*Sn	**Sn**	**08 46 09.4**	**+6.6**
LAZ	**Ladron**	**7.64**	**34**	*e*Pn	**Pn**	**08 44 42.5**	**+0.7**
TX31	**Lajitas Ar. Si**	**7.64**	**79**	*e*Pn	**Pn**	**08 44 41.9**	**+0.2**
BNM	**Barren Site**	**7.70**	**37**	*e*Pn	**Pn**	**08 44 45.6**	**+2.9**
BNM				*e*Sg	**Sg**	**08 46 54.3**	**-3.2**
SNCC	**San Nicolas Is**	**8.07**	**311**	*e*Pn	**Pn**	**08 44 47.8**	**+0.3**
U15A	**North Rim**	**8.28**	**360**	*e*Pn	**Pn**	**08 44 52.4**	**+1.7**
LCMT	**Little Creek M**	**8.90**	**355**	*e*Pn	**Pn**	**08 45 00.8**	**+1.8**
TPNV	**Topopah Spring**	**9.42**	**340**	*e*Pn	Pn	08 45 12.6	+6.4
CCUT	**Cedar City**	**9.45**	**355**	*e*Pn	**Pn**	**08 45 08.2**	**+1.6**
MSU	**Marysvale**	**10.36**	**0**	*e*Pn	**Pn**	**08 45 21.9**	**+2.7**
PV01	**Paradox Valley**	**10.45**	**16**	*e*Pn	**Pn**	**08 45 22.3**	**+2.0**
PV01				*e*Sn	**Sn**	**08 47 16.9**	**-0.7**
R11A	**Troy Canyon, C**	**10.57**	**346**	*e*Pn	**Pn**	**08 45 23.3**	**+1.3**
SRU	**San Rafael Swe**	**11.05**	**7**	*e*Pn	**Pn**	**08 45 28.3**	**-0.3**
JCT	**Junction City**	**11.12**	**75**	*e*Pn	**Pn**	**08 45 31.1**	**+1.7**
TMUT	**Trail Mountain**	**11.18**	**4**	*e*Pn	**Pn**	**08 45 31.5**	**+1.1**
ABTX	**Abilene, Hawle**	**11.78**	**65**	*e*Pn	**Pn**	**08 45 40.5**	**+2.2**
WAKR	**Walker**	**11.96**	**332**	*e*Pn	**Pn**	**08 45 41.4**	**+0.3**
DUG	**Dugway, Tooele**	**12.05**	**358**	*e*Pn	**Pn**	**08 45 42.2**	**0.0**
PNTR	**Pine Nut**	**12.53**	**333**	*e*Pn	**Pn**	**08 45 49.5**	**+0.8**
BGU	**Big Grassy Mou**	**12.79**	**357**	*e*Pn	**Pn**	**08 45 52.9**	**+0.7**
BMN	**Battle Mountai**	**12.94**	**343**	*e*Pn	**Pn**	**08 45 55.7**	**+1.3**
HWUT	**Hardware Ranch**	**13.46**	**2**	*e*Pn	**Pn**	**08 46 01.8**	**+0.3**
BW06	**Boulder Array**	**14.77**	**8**	*e*Pn	**Pn**	**08 46 19.9**	**+0.5**
WVOR	**Wild Horse Val**	**15.19**	**342**	*e*Pn	**Pn**	**08 46 26.9**	**+2.0**
	8.3nm,1.1s						
K22A	**Casper**	**15.22**	**16**	*e*Pn	**Pn**	**08 46 25.6**	**+0.2**
	34nm,1.5s						
LOHW	**Long Hollow**	**15.51**	**4**	*e*Pn	**P**	**08 46 36.7**	**+3.0**
	5.8nm,1.3s						
MFID	**Camas Ranch**	**15.53**	**350**	*e*Pn	**P**	**08 46 33.2**	**-0.5**
	13nm,1.4s						
MOOW	**Moose Ponds**	**15.64**	**4**	*e*Pn	**P**	**08 46 35.2**	**+0.1**
	26nm,1.8s						
IMW	**Indian Meadow**	**15.78**	**4**	*e*Pn	**P**	**08 46 37.3**	**+0.6**
	17nm,1.4s						
FLWY	**Flagg Ranch**	**15.97**	**4**	*e*Pn	**P**	**08 46 42.3**	**+3.5**
	26nm,1.5s						
YHB	**Horse Butte**	**16.62**	**3**	*e*Pn	**P**	**08 46 49.5**	**+3.6**
	9.0nm,1.3s						
YHH	**Holmes Hill**	**16.67**	**3**	*e*Pn	**P**	**08 46 53.8**	**+7.2**
	13nm,1.4s						
RLMT	**Red Lodge**	**17.13**	**7**	*e*Pn	**Pn**	**08 46 50.0**	**0.0**
	57nm,1.9s						
HHAR	**Hobbs**	**17.49**	**58**	*e*P	**P**	**08 46 55.6**	**+0.2**
	4.6nm,1.2s						
X301	**Greenbrier Sit**	**18.31**	**62**	*e*Pn	**P**	**08 47 05.4**	**+0.9**
	41nm,1.7s						
WHAR	**Wooly Hollow**	**18.41**	**62**	*e*P	**P**	**08 47 04.7**	**-0.9**
	38nm,1.7s						
E07A	**Sunnyside**	**19.35**	**344**	*e*P	**Pn**	**08 47 16.6**	**-0.3**
	30nm,1.8s						
NEW	**Newport**	**20.46**	**351**	*e*P	**P**	**08 47 28.5**	**+0.6**
	4.6nm,0.9s						

IDC 10 08:43:43.6±2.5, 18.06S×168.29E, h0km, mb3.8/3, mb1 4.1/4, mb1mx3.7/26, mbtmpg3.8/4, ML3.7/1, MS3.1/1, Ms1 3.1/1, ms1mx2.6/20, Error ellipse: s-maj=63.7km s-min=40.2km az=118.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**4.35**	**203**	Pn	Pn	08 44 50.5	-0.6
	4.4nm,0.3s,baz=183,slow=14,SNR=39						
DZM				Sn	Sn	08 45 30.3	-12
	3.3nm,0.3s,baz=151,slow=19,SNR=2.8						
HNR	**Honiara**	**11.79**	**316**	LR	LR	08 50 15.7	
	comp=Z,78nm,18.6s,baz=252,slow=33						
WRA	**Warramunga Arr**	**32.13**	**261**	P	P	08 50 12.0	-1.0
	0.4nm,0.7s,baz=85,slow=8.5,SNR=5.5						
ASAR	**Alice Springs**	**32.56**	**254**	P	P	08 50 16.6	-0.3
	1.3nm,0.5s,baz=82,slow=8.4,SNR=20						
CMAR	**Chiang Mai Arr**	**77.20**	**294**	P	P	08 55 42.0	+2.0
	0.5nm,0.3s,baz=132,slow=3.8,SNR=4.4						
ARCES	**ARCESS Array B**	**123.70**	**345**	PKP	PKPdf	09 02 41.5	-1.2
	1.5nm,0.8s,baz=77,slow=1.9,SNR=4.5						

*FUNV **10** 08:50:10.8, 8.41N×71.00W, h1km, MW2.6*
ISC 10 08:50:10.7±1.1, 8.44N±0.03×70.96W±0.03, h6km±9km, n21, σ0ˢ83/38, 2C, Venezuela

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SOCV	**Socops**	**0.18**	**147**	*i* P	**Pg**	**08 50 14.3**	**-0.1**
SOCV				*e*S	**Sg**	**08 50 17.1**	**+0.2**
VIGV	**El Vigia**	**0.57**	**315**	*e*P	**Pg**	**08 50 21.4**	**-0.3**
VIGV				*e*S	**Sg**	**08 50 28.8**	**-0.2**
CAPV	**Capacho**	**1.46**	**247**	*e*P	**Pn**	**08 50 37.5**	**-0.2**
CAPV				*e*S	**Sb**	**08 50 56.7**	**-0.6**
QARV	**Quebrada Arrib**	**1.81**	**14**	*e*P	**Pb**	**08 50 43.9**	**-0.4**
QARV				*e*S	**Sb**	**08 51 06.5**	**-0.6**
CURV	**Curarigua**	**1.85**	**32**	*e*P	**Pb**	**08 50 44.6**	**-0.3**
CURV				*e*S	**Sb**	**08 51 08.3**	**+0.1**
ELOV	**Elorza**	**2.04**	**134**	*e*P	**Pn**	**08 50 45.3**	**-0.3**
ELOV				*e*S	**Sn**	**08 51 11.5**	**+0.1**
TEPV	**Terepaima**	**2.31**	**49**	*e*P	**Pn**	**08 50 50.5**	**+1.2**
TEPV				*e*S	**Sn**	**08 51 18.9**	**+0.9**
OCAC	**Ocana**	**2.35**	**265**	*e*S	**Sg**	**08 51 27.6**	**+1.5**
OCAC				*i*		08 51 28.9	
	comp=Z,302nm,0.5s						
SIQV	**Siquisique**	**2.47**	**27**	*e*P	**Pn**	**08 50 52.4**	**+0.9**
SIQV				*e*S	**Sn**	**08 51 22.8**	**+0.8**
DABV	**Dabajuro**	**2.49**	**7**	*e*P	**Pn**	**08 50 51.8**	**+0.1**
DABV				*e*S	**Sn**	**08 51 22.8**	**+0.4**
VIRV	**Villa del Rosa**	**2.50**	**325**	*e*P	**Pn**	**08 50 51.9**	**+0.0**
VIRV				*e*S	**Sn**	**08 51 22.1**	**-0.5**
GIRC	**Giron, Santand**	**2.60**	**239**	*e*P	**Pb**	**08 50 59.0**	**+1.3**
GIRC				*e*S	**Sg**	**08 51 33.2**	**-1.0**
MAPV	**Macapo**	**2.83**	**61**	*e*P	**Pn**	**08 50 56.8**	**+0.4**
MAPV				*e*S	**Sn**	**08 51 30.8**	**-0.1**
BARC	**Barichara**	**2.87**	**230**	*e*P	**Pb**	**08 51 03.6**	**+1.1**
BARC				*e*S	**Sb**	**08 51 38.5**	**+0.6**
BARC				*i*		08 51 42.8	
	comp=Z,26nm,0.3s						
BAUV	**El Baul**	**2.92**	**80**	*e*P	**Pn**	**08 50 57.9**	**+0.1**
BAUV				*e*S	**Sn**	**08 51 32.8**	**-0.4**
BRRC	**Barranca, Sant**	**3.04**	**244**	*e*P	**Pb**	**08 51 05.9**	**+0.7**
BRRC				*i*		08 51 13.4	
	comp=Z,6.6nm,0.6s						
BRRC				*e*S	**Sb**	**08 51 42.6**	**+0.2**
RUSC	**La Rusia**	**3.29**	**220**	*e*P	**Pb**	**08 51 07.6**	**-2.3**
RUSC				*i*		08 52 02.5	
	comp=Z,4.3nm,0.4s						
MONV	**Montecano**	**3.62**	**15**	*e*P	**Pn**	**08 51 07.5**	**+0.1**
MONV				*e*S	**Sn**	**08 51 48.8**	**-1.7**
TURV	**Turiamo**	**3.67**	**57**	*e*P	**Pn**	**08 51 08.9**	**+1.0**
TURV				*e*S	**Sn**	**08 51 50.5**	**-1.0**
MERV	**Las Mercedes**	**4.67**	**80**	*e*P	**Pn**	**08 51 22.3**	**+0.5**
CUPV	**Cepira**	**5.35**	**72**	*e*P	**Pn**	**08 51 31.7**	**+0.6**

*NEIC **10** 08:51:03.2±0.0, 58.52N×133.25W, h5km, ML2.9(AEIC), ML3.3(OTT), After OTT.*
*PGC **10** 08:51:03.2±2.7, 58.52N×133.25W, h5km, ML3.3/7, 72km east of Juneau, Ak Southeastern Alaska*
ISC 10 08:51:01.4±0.9, 58.35N±0.04×133.38W±0.04, h10km, n27, σ1ᵍ91/51, Southeastern Alaska

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JIS	**Juneau Island**	**0.53**	**263**	P	Pg	08 51 09.8	-1.9
JIS				S	**Sg**	**08 51 16.4**	**-2.4**
BESE	**Bessie Mountai**	**0.81**	**287**	P	**Pg**	**08 51 15.2**	**-1.8**
BESE				S	**Sg**	**08 51 23.7**	**-3.7**
SKAG	**Skagway**	**1.50**	**319**	P	**Pn**	**08 51 27.7**	**-0.6**
SKAG				S	**Sn**	**08 51 46.9**	**-1.1**
DLBC	**Dease Lake**	**1.77**	**86**	Pn	**Pn**	**08 51 33.1**	**+1.0**
DLBC				Sn	**Sb**	**08 51 56.2**	**+0.1**
DLBC	**Dease Lake**	**1.77**	**86**	P	**Pn**	**08 51 32.8**	**+0.7**
DLBC				Sn	**Sb**	**08 51 56.2**	**+0.1**
PLBC	**Pleasant Camp**	**1.91**	**307**	Pn	**Pn**	**08 51 34.9**	**+1.0**
PLBC				Sn	**Sn**	**08 51 59.6**	**+1.7**
PLBC	**Pleasant Camp**	**1.91**	**307**	P	**Pn**	**08 51 34.8**	**+1.0**
PLBC				Sn	**Sn**	**08 51 59.6**	**+1.7**
WRAK	**Wrangell Islan**	**2.02**	**163**	P	**Pn**	**08 51 35.5**	**+0.2**
WHY	**Whitehorse**	**2.44**	**342**	Pn	**Pn**	**08 51 41.4**	**+0.1**
WHY				Sn	**Sn**	**08 52 09.9**	**-1.3**
WHY	**Whitehorse**	**2.44**	**342**	P	**Pn**	**08 51 42.0**	**+0.7**
WHY				Sn	**Sn**	**08 52 09.9**	**-1.3**
CRAG	**Craig**	**2.89**	**177**	P	**Pn**	**08 51 47.5**	**+0.1**
HYT	**Haines Junctio**	**3.25**	**322**	Pn	**Pn**	**08 51 53.8**	**+1.4**
HYT				Pg	**Pb**	**08 51 59.8**	**+0.7**
HYT				Sn	**Sn**	**08 52 31.7**	**+0.5**
HYT				Sg	**Sg**	**08 52 41.5**	**-4.2**
HYT	**Haines Junctio**	**3.25**	**322**	Pn	**Pn**	**08 51 53.8**	**+1.4**
HYT				Pg	**Pb**	**08 51 59.8**	**+0.7**
HYT				Sn	**Sn**	**08 52 31.7**	**+0.5**
HYT				Sg	**Sg**	**08 52 41.5**	**-4.2**
YUK5	**Granite Creek**	**3.59**	**323**	Pn	**Pn**	**08 51 56.9**	**-0.4**
YUK5				Pg	**Pb**	**08 52 05.5**	**+0.4**
YUK5				Sn	**Sn**	**08 52 37.6**	**-2.1**
YUK5				Sg	**Sg**	**08 52 52.5**	**-4.2**
YUK5	**Granite Creek**	**3.59**	**323**	Pn	**Pn**	**08 51 56.9**	**-0.4**
YUK5				Pg	**Pb**	**08 52 05.5**	**+0.4**
YUK5				Sn	**Sn**	**08 52 37.6**	**-2.1**
YUK5				Sg	**Sg**	**08 52 52.5**	**-4.2**
YUK6	**Outpost Mounta**	**3.63**	**318**	Pg	**Pb**	**08 52 08.4**	**+2.8**
YUK6				Sg	**Sg**	**08 52 58.5**	**+0.8**
YUK6	**Outpost Mounta**	**3.63**	**318**	Pg	**Pb**	**08 52 08.4**	**+2.8**
YUK6				Sg	**Sg**	**08 52 58.5**	**+0.8**
YUK2	**White River**	**5.08**	**316**	Sg	**Sg**	**08 53 44.0**	**-0.4**
YUK2	**White River**	**5.08**	**316**	Sg	**Sg**	**08 53 44.0**	**-0.4**
DIB	**Dawson Inlet,**	**5.18**	**174**	Pn	**Pn**	**08 52 19.9**	**+1.1**
DIB	**Dawson Inlet,**	**5.18**	**174**	Pn	**Pn**	**08 52 19.9**	**+1.1**
MOBC	**Moresby Island**	**5.28**	**171**	Pn	**Pn**	**08 52 21.4**	**+1.2**
MOBC	**Moresby Island**	**5.28**	**171**	Pn	**Pn**	**08 52 21.4**	**+1.2**
BNB	**Barry Inlet**	**5.86**	**170**	Pn	**Pn**	**08 52 29.3**	**+1.0**
BNB	**Barry Inlet**	**5.86**	**170**	Pn	**Pn**	**08 52 29.3**	**+1.0**
DAWY	**Dawson**	**6.43**	**336**	Pn	**Pn**	**08 52 36.5**	**+0.5**
DAWY				Pg	Pg	08 52 58.5	-5.9
DAWY				Sg	**Sb**	**08 53 13.8**	**+3.8**
DAWY	**Dawson**	**6.43**	**336**	Pn	**Pn**	**08 52 36.5**	**+0.5**
DAWY				Pg	Pg	08 52 58.3	-5.9
DAWY				Sg	**Sb**	**08 54 13.8**	**+3.8**

*ISCJB **10** 09:02:36.4±0.6, 58.33N±0.04×133.53W±0.07, h10km, Error ellipse: s-maj=7.1km s-min=3.9km az=32.2*
*NEIC **10** 09:02:36.0±0.0, 58.28N×133.50W, h1km, ML2.7(AEIC), ML3.2(OTT), After OTT.*
*PGC **10**

BBLS					*e*Sg	**Sg**	**09 06 05.4 +1.2**
BBLS	**Lazići**	**1.36**	**73**		*e*Pg	**Pn**	**09 05 45.7 -1.1**
BBLS					*e*Sg	**Sg**	**09 06 05.4 +1.2**
BUM	**Brajici-Budva**	**1.52**	**141**		*e*Pg	**Pn**	**09 05 48.7 -0.3**
BUM					*e*Sg	**Sn**	**09 06 12.1 +2.6**
BUM	**Brajici-Budva**	**1.52**	**141**		*e*Pg	**Pn**	**09 05 48.7 -0.3**
BUM					*e*Sg	**Sn**	**09 06 12.1 +2.6**
PDG	**Podgorica**	**1.61**	**131**		*e*Pg	**Pb**	**09 05 50.6 -0.5**
PDG					*e*Sg	**Sg**	**09 06 12.7 +0.4**
PDG	**Podgorica**	**1.61**	**131**	⇓	*i*P	**Pg**	**09 05 51.8 +0.4**
PDG	**Podgorica**	**1.61**	**131**		S	**Sg**	**09 06 14.1 +1.8**
PDG	**Podgorica**	**1.61**	**131**		*e*Pn	**Pn**	**09 05 49.8 -0.4**
PDG	**Podgorica**	**1.61**	**131**		*e*Pg	**Pb**	**09 05 50.6 -0.5**
PDG	**Podgorica**	**1.61**	**131**	⇓	*i*P	**Pg**	**09 05 51.8 +0.4**
PDG					*e*Sn	**Sb**	**09 06 11.2 -0.7**
PDG					*e*Sg	**Sg**	**09 06 12.7 +0.4**
TTG	**Podgorica**	**1.61**	**131**	⇓	*i*Pn	**Pb**	**09 05 50.8 -0.3**
TTG					*e*Sn	**Sg**	**09 06 14.8 +2.5**
UDBI	**Udbina**	**1.69**	**309**		*e*Pn	**Pn**	**09 05 51.5 +0.1**
UDBI	**Udbina**	**1.69**	**309**		*e*Pn	**Pn**	**09 05 51.5 +0.1**
SJES	**Sjenica**	**1.74**	**97**		*e*Pg	**Pb**	**09 05 53.4 -0.1**
SJES					*e*Sg	**Sg**	**09 06 18.1 +1.6**
TEKS	**Tekeris**	**1.74**	**52**		*e*Pg	**Pn**	**09 05 53.0 +0.9**
TEKS					*e*Sg	**Sg**	**09 06 19.1 +2.5**
TEKS	**Tekeris**	**1.74**	**52**		*e*Pn	**Pn**	**09 05 50.9 -1.2**
TEKS	**Tekeris**	**1.74**	**52**		*e*Pg	**Pn**	**09 05 53.0 +0.9**
TEKS					*e*Sn	**Sn**	**09 06 15.9 +0.9**
TEKS					*e*Sg	**Sg**	**09 06 19.1 +2.5**
DRME	**Dracevica, Mon**	**1.74**	**138**		*e*Pn	**Pb**	**09 05 52.6 -0.9**
DRME					*e*Sn	**Sg**	**09 06 18.2 +1.5**
DRME	**Dracevica, Mon**	**1.74**	**138**		*e*Pn	**Pn**	**09 05 51.3 -0.8**
DRME					*e*Sn	**Sn**	**09 06 14.4 -0.6**
BEY	**Berane**	**1.78**	**110**	⇑	*i*Pn	**Pn**	**09 05 53.4 +0.7**
BEY					*e*Sn	**Sg**	**09 06 20.0 +2.1**
IVA	**Berane**	**1.78**	**110**	⇑	*i*Pn	**Pn**	**09 05 53.4 +0.7**
IVA					*e*Sn	**Sg**	**09 06 20.0 +2.1**
DIVS	**Divibare**	**1.83**	**70**		*e*Pn	**Pn**	**09 05 52.5 -0.8**
DIVS					*e*Sn	**Sn**	**09 06 18.4 +1.2**
DIVS	**Divibare**	**1.83**	**70**		*e*Pn	**Pn**	**09 05 52.5 -0.8**
DIVS					*e*Sn	**Sn**	**09 06 17.6 +0.4**
IVAS	**Ivanjica**	**1.85**	**86**		*e*Pg	**Pb**	**09 05 55.8 +0.5**
IVAS					*e*Sg	**Sg**	**09 06 21.2 +1.1**
IVAS	**Ivanjica**	**1.85**	**86**		*e*Pg	**Pb**	**09 05 55.8 +0.5**
IVAS					*e*Sg	**Sg**	**09 06 21.2 +1.1**
PVY	**Plav**	**1.94**	**117**	⇓	*i*Pn	**Pn**	**09 05 55.5 +0.6**
PVY					*e*Sn	**Sg**	**09 06 23.4 +0.4**
ULC	**Ulcinj**	**1.94**	**141**		*e*Pn	**Pn**	**09 05 55.0 +0.1**
ULC					*e*Sn	**Sg**	**09 06 22.8 -0.3**
ULC	**Ulcinj**	**1.94**	**141**		*e*Pn	**Pn**	**09 05 55.0 +0.1**
ULC					*e*Sn	**Sg**	**09 06 22.8 -0.3**
TRUS	**Trudelj**	**2.15**	**69**		*e*Pn	**Pn**	**09 05 56.7 -1.0**
TRUS	**Trudelj**	**2.15**	**69**		*e*Pn	**Pn**	**09 05 56.7 -1.0**
NVLJ	**Novalja**	**2.25**	**299**		*e*Pn	**Pn**	**09 05 59.1 +0.1**
NVLJ					Sn	**Sb**	**09 06 29.0 -1.3**
NVLJ	**Novalja**	**2.25**	**299**		*e*Pn	**Pn**	**09 05 59.1 +0.1**
NVLJ					Sn	**Sb**	**09 06 29.0 -1.3**
GRUS	**Gruza**	**2.29**	**79**		*e*Pn	**Pn**	**09 05 59.6 0.0**
GRUS					*e*Sn	**Sn**	**09 06 30.1 +1.7**
GRUS	**Gruza**	**2.29**	**79**		*e*Pn	**Pn**	**09 05 59.6 0.0**
GRUS					*e*Sn	**Sn**	**09 06 30.1 +1.7**
SELS	**Selova**	**2.57**	**95**		*e*Pn	**Pn**	**09 06 03.6 +0.1**
SELS	**Selova**	**2.57**	**95**		*e*Pn	**Pn**	**09 06 03.6 +0.1**
OZLJ	**Ozalj**	**2.62**	**325**		*e*Pn	**Pn**	**09 06 05.8 +1.7**
OZLJ	**Ozalj**	**2.62**	**325**		*e*Pn	**Pn**	**09 06 05.8 +1.7**
BOJS	**Bojanci**	**2.63**	**321**		*i*Pn	**Pn**	**09 06 06.1 +1.9**
BOJS					*i*Sn	**Sn**	**09 06 39.6 +2.9**
	comp=Z,22nm,0.4s						
BOJS	**Bojanci**	**2.63**	**321**		Pn	**Pn**	**09 06 06.1 +1.9**
BOJS					*i*Sn	**Sn**	**09 06 39.6 +2.9**
	comp=Z,22nm,0.4s						
CRES	**Cresnjev**	**2.79**	**327**		*i*Pn	**Pn**	**09 06 08.2 +1.7**
CRES					*i*Sn	**Sn**	**09 06 43.0 +2.1**
CRES	**Cresnjev**	**2.79**	**327**		*e*Pn	**Pn**	**09 06 05.9 -0.6**
CRES					*e*Sn	**Sn**	**09 06 39.2 -1.7**
VISS	**Visnje**	**3.04**	**320**		*i*Pn	**Pn**	**09 06 12.7 +2.7**
	comp=Z,1.0nm,0.1s						
VISS	**Visnje**	**3.04**	**320**		*i*Pn	**Pn**	**09 06 12.7 +2.7**
	comp=Z,1.0nm,0.1s						
KUBS	**Kucevo**	**3.08**	**71**		*e*Pn	**Pn**	**09 06 09.2 -1.2**
KUBS	**Kucevo**	**3.08**	**71**		*e*Pn	**Pn**	**09 06 09.2 -1.2**
BARS	**Barje**	**3.15**	**101**		*e*Pn	**Pn**	**09 06 11.7 +0.3**
BARS	**Barje**	**3.15**	**101**		*e*Pn	**Pn**	**09 06 11.7 +0.3**
CEY	**Cerknica**	**3.20**	**316**		*e*Pn	**Pn**	**09 06 10.2 -1.9**
MDVR	**Moldovita**	**3.22**	**65**	⇓	*i*P	**Pn**	**09 06 12.2 -0.3**
MDVR	**Moldovita**	**3.22**	**65**		S	**Sn**	**09 06 45.9 -5.7**
MDVR	**Moldovita**	**3.22**	**65**	⇓	*i*P	**Pn**	**09 06 12.2 -0.3**
ZAGS	**Zajecar**	**3.37**	**83**		*e*Pn	**Pn**	**09 06 14.5 +0.1**
ZAGS	**Zajecar**	**3.37**	**83**		*e*Pn	**Pn**	**09 06 14.5 +0.1**
BZS	**Buzias**	**3.57**	**52**		*e*Sn	**Sn**	**09 06 57.5 -2.4**
BZS	**Buzias**	**3.57**	**52**	⇑	*i*P	**Pb**	**09 06 23.1 -1.4**
BZS	**Buzias**	**3.57**	**52**		*e*Sn	**Sn**	**09 06 57.5 -2.4**
BZS					S	Sb	09 07 00.4 -7.9
PERS	**Pernice**	**3.61**	**332**		*i*Pn	**Pn**	**09 06 18.0 +0.3**
PERS					*i*Sn	**Sn**	**09 07 02.2 +1.2**
	comp=Z,1.0nm,0.1s						
PERS	**Pernice**	**3.61**	**332**		*i*Pn	**Pn**	**09 06 18.0 +0.3**
PERS					*i*Sn	**Sn**	**09 07 02.2 +1.2**
	comp=Z,1.0nm,0.1s						
ZAPS	**Zavoj**	**3.67**	**92**		*e*Pn	**Pn**	**09 06 19.0 +0.4**
ZAPS	**Zavoj**	**3.67**	**92**		*e*Pn	**Pn**	**09 06 19.0 +0.4**
SOKA	**Soboth**	**3.67**	**331**		*i*Pn	**Pn**	**09 06 19.3 +0.6**
	comp=Z,4.2nm,0.3s						
SOKA	**Soboth**	**3.67**	**331**		Pn	**Pn**	**09 06 19.3 +0.6**
	comp=Z,4.2nm,0.3s						
OBKA	**Obir**	**3.72**	**325**		*i*Pn	**Pn**	**09 06 21.2 +1.9**
	comp=Z,0.8nm,0.2s						
OBKA	**Obir**	**3.72**	**325**		Pn	**Pn**	**09 06 21.2 +1.9**
	comp=Z,0.8nm,0.2s						
ARSA	**Arzberg**	**4.04**	**339**		*i*Pn	**Pn**	**09 06 24.2 +0.5**
	comp=Z,5.4nm,0.3s						
ARSA	**Arzberg**	**4.04**	**339**		Pn	**Pn**	**09 06 24.2 +0.5**
	comp=Z,5.4nm,0.3s						
CONA	**Conrad Observa**	**4.60**	**345**		*i*Pn	**Pn**	**09 06 31.9 +0.4**
	comp=Z,0.5nm,0.2s						
CONA	**Conrad Observa**	**4.60**	**345**		Pn	**Pn**	**09 06 31.9 +0.4**
	comp=Z,0.5nm,0.2s						
ABTA	**Abfaltersbach**	**4.86**	**314**		*i*Pn	**Pn**	**09 06 35.2 +0.2**
	comp=Z,0.4nm,0.2s						
ABTA	**Abfaltersbach**	**4.86**	**314**		Pn	**Pn**	**09 06 35.2 +0.2**
	comp=Z,0.4nm,0.2s						
DRGR		**4.89**	**46**	⇑	*i*P	Pn	09 06 41.6 +6.2
DRGR		**4.89**	**46**		S	**Sn**	**09 07 33.0 +0.3**
DRGR		**4.89**	**46**		S	**Sn**	**09 07 33.0 +0.3**
VYHS	**Vyhne**	**5.08**	**9**		*e*Pn	**Pn**	**09 06 38.8 +0.9**
VYHS					*e*Sn	**Sn**	**09 07 35.6 -1.6**
VYHS	**Vyhne**	**5.08**	**9**		*e*PN	**Pn**	**09 06 38.8 +0.9**
VYHS					*e*SN	**Sn**	**09 07 35.6 -1.6**

IDC ***10*** *09:18:43.0±1.0,28˚12N×112˚21W,h0km,mb4.0/7, mb1 4.1/11,mb1mx3.8/45,mbtmp3.9/11,ML3.3/4,MS3.9/23, Ms1 3.9/23,ms1mx3.8/42,Error ellipse: s-maj=20.2km s-min=13.4km az=44.0*

ISCJB ***10*** *09:18:43.9±0.3,28˚09N±0˚02×112˚13W±0˚02,h10km, mb4.3/22,MS3.9/21,Error ellipse: s-maj=3.6km s-min=2.6km az=42.9*

MEX ***10*** *09:18:44.9±1.0,28˚17N×112˚34W,h12km±17km,MD4.2*

NEIC ***10*** *09:18:44.9±0.0,28˚17N×112˚34W,h12km,mb4.4/66, MD4.2(MEX),After MEX.*

NEIC Felt at Bahia Kino, Sonora.

ISC 10 09:18:45.0±0.5,28˚07N±0˚03×112˚35W±0˚04,h10km, n299,σ1$93/290,mb4.4/22,MS3.9/21,Gulf of California

Code	Station Name	Δ°	AZ°	Phase ID		Time			Res
				Op	ISC	h	m	s	ISC
SRIG	**Santa Rosalia**	**0.76**	**173**	*e*Pg	**Pg**	**09**	**18**	**58.4**	**-1.2**
SRIG				*i*S	**Sg**	**09**	**19**	**09.6**	**+0.1**
SRIG	**Santa Rosalia**	**0.76**	**173**	*i*P	**Pg**	**09**	**18**	**58.4**	**-1.2**
SRIG				*i*S	**Sg**	**09**	**19**	**09.6**	**+0.1**
HSIG		**1.55**	**52**	*e*Pn	**Pn**	**09**	**19**	**08.1**	**-4.6**
HSIG				*e*Sg	**Sn**	**09**	**19**	**29.2**	**-3.7**
HSIG		**1.55**	**52**	*e*P	Pn	09	19	07.7	-5.0
214A	**Organ Pipe Nat**	**3.89**	**354**	P	**Pn**	**09**	**19**	**41.3**	**-3.6**
	baz=174,SNR=12								
214A				Sb	**Sb**	**09**	**20**	**41.9**	**+1.0**
	baz=174								
214A	**Organ Pipe Nat**	**3.89**	**354**	*e*Pn	**Pn**	**09**	**19**	**41.2**	**-3.6**
214A				*e*Sg	**Sg**	**09**	**20**	**51.8**	**+1.9**
SPIG	**San Pedro Mart**	**4.02**	**318**	*e*P	**Pn**	**09**	**19**	**43.9**	**-3.0**
SPIG				*i*S	**Sn**	**09**	**20**	**28.0**	**-6.1**
SPIG	**San Pedro Mart**	**4.02**	**318**	*e*P	**Pn**	**09**	**19**	**43.9**	**-3.0**
SPIG				*i*S	**Sn**	**09**	**20**	**28.0**	**-6.1**
319A	**Douglas**	**4.24**	**38**	*e*Pn	**Pn**	**09**	**19**	**49.9**	**+0.2**
LPIG	**La Paz**	**4.36**	**155**	Pn	**Pn**	**09**	**19**	**50.7**	**-0.6**
	5.8nm,0.3s,baz=351,slow=5.7,SNR=3.9								
LPIG				Lg	Lg	09	21	01.8	
	baz=270,slow=7.1,SNR=2.0								
LPIG				LR	LR	09	21	32.7	
	comp=Z,2μm,18.6s,baz=301,slow=39								
TUC	**Tucson**	**4.43**	**17**	P	**Pn**	**09**	**19**	**48.9**	**-3.5**
	baz=198								
TUC	**Tucson**	**4.43**	**17**	*e*Pn	**Pn**	**09**	**19**	**49.2**	**-3.2**
TUC				*e*Sg	**Sg**	**09**	**21**	**03.3**	**-4.1**
113A	**Mohawk Valley,**	**4.83**	**346**	*e*Pn	**Pn**	**09**	**19**	**54.8**	**-3.1**
SLBS	**Sierra La Lagu**	**4.88**	**153**	*e*Pn	**Pn**	**09**	**20**	**00.2**	**+1.7**
SLBS	**Sierra La Lagu**	**4.88**	**153**	*e*P	**Pn**	**09**	**19**	**59.5**	**+1.0**
SLBS				*i*S	**Sn**	**09**	**20**	**51.5**	**-3.6**
GLA	**Glamis**	**5.40**	**337**	*e*Pn	**Pn**	**09**	**20**	**04.4**	**-1.2**
CBX	**Cerro Bola**	**5.64**	**320**	*i*P	**Pn**	**09**	**20**	**06.0**	**-3.0**
CBX				*i*S	**Sn**	**09**	**21**	**08.8**	**-5.1**
CBX	**Cerro Bola**	**5.64**	**320**	*i*P	**Pn**	**09**	**20**	**06.0**	**-3.0**
CBX				*i*S	**Sn**	**09**	**21**	**08.8**	**-5.1**
Y14A	**Wickenburg**	**5.87**	**355**	*e*Pn	**Pn**	**09**	**20**	**10.4**	**-1.7**
BAR	**Barrett**	**5.92**	**322**	*e*Pn	Pn	09	20	18.6	+5.9
121A	**Cookes Peak, D**	**5.94**	**41**	P	**Pn**	**09**	**20**	**12.3**	**-0.9**
	baz=223								
121A	**Cookes Peak, D**	**5.94**	**41**	*e*Pn	**Pn**	**09**	**20**	**12.3**	**-0.9**
	86nm,0.8s								
121A				*e*Sg	**Sg**	**09**	**21**	**58.6**	**+2.8**
Y12C	**Blythe**	**5.96**	**342**	P	**Pn**	**09**	**20**	**10.9**	**-2.4**
	baz=161								
Y12C	**Blythe**	**5.96**	**342**	*e*Pn	**Pn**	**09**	**20**	**11.1**	**-2.2**
HPIG		**6.04**	**99**	*e*Pn	Pn	09	20	18.0	+3.3
X16A	**Lo Mia Camp, P**	**6.37**	**7**	*e*Pn	**Pn**	**09**	**20**	**17.1**	**-2.0**
PDMCI	**Parker Dam,Lak**	**6.40**	**347**	P	**Pn**	**09**	**20**	**16.8**	**-2.4**
	baz=165,SNR=19								
PFO	**Pinyon Flats O**	**6.55**	**328**	Pn	**Pn**	**09**	**20**	**21.3**	**-0.2**
	0.1nm,0.3s,baz=107,slow=11,SNR=1.9								
PFO				Lg	Lg	09	22	16.7	
	1.2nm,0.3s,baz=133,slow=6.8,SNR=16								
PFO				LR	LR	09	22	46.4	
	comp=Z,1μm,20.1s,baz=145,slow=37								
PFO	**Pinyon Flats O**	**6.55**	**328**	*e*Pn	**Pn**	**09**	**20**	**24.1**	**+2.6**
PFO				*e*Sg	**Sg**	**09**	**22**	**16.9**	**+1.5**
BELC	**Belle Mtn. Jos**	**6.68**	**333**	P	**Pn**	**09**	**20**	**24.7**	**+1.3**
	baz=151								
X18A	**Snowflake**	**6.75**	**17**	*e*Pn	**Pn**	**09**	**20**	**22.8**	**-1.6**
MNTX	**Cornudas Mount**	**7.05**	**57**	P	**Pn**	**09**	**20**	**26.7**	**-1.6**
	baz=242								
MNTX	**Cornudas Mount**	**7.05**	**57**	*e*Pn	**Pn**	**09**	**20**	**26.5**	**-1.7**
W13A	**Hualapai Mount**	**7.12**	**350**	*e*Pn	**Pn**	**09**	**20**	**27.6**	**-1.9**
GMRC	**Granite Mounta**	**7.26**	**338**	P	**Pn**	**09**	**20**	**30.9**	**-0.4**
	baz=156								
LDFC	**Landfair**	**7.37**	**342**	*e*Pg	**Pg**	**09**	**21**	**06.6**	**+0.5**
W18A	**Petrified Fore**	**7.37**	**17**	P	**Pn**	**09**	**20**	**31.3**	**-1.5**
	baz=198,SNR=8.5								
W18A	**Petrified Fore**	**7.37**	**17**	*e*Pn	**Pn**	**09**	**20**	**31.8**	**-1.0**
WUAZ	**Wupatki**	**7.47**	**6**	P	**Pn**	**09**	**20**	**33.5**	**-0.7**
	baz=187,SNR=9.3								
WUAZ	**Wupatki**	**7.47**	**6**	*e*Pn	**Pn**	**09**	**20**	**33.2**	**-1.0**
HEC	**Hector,Ludlow**	**7.54**	**334**	*e*Pn	**Pn**	**09**	**20**	**35.0**	**-0.1**
Y22D	**IRIS PASSCAL I**	**7.58**	**37**	*e*Pn	Pn	09	20	41.4	+5.7
Y22D				*e*Pg	**Pg**	**09**	**21**	**08.7**	**-1.4**
LAZ	**Ladron**	**7.72**	**34**	*e*Pn	**Pn**	**09**	**20**	**36.5**	**-1.3**
TX31	**Lajitas Ar. Si**	**7.73**	**79**	*e*Pn	**Pn**	**09**	**20**	**36.0**	**-1.7**
TXAR	**Lajitas Array**	**7.73**	**79**	Pn	**Pn**	**09**	**20**	**35.2**	**-2.4**
	0.3nm,0.3s,baz=248,slow=14,SNR=32								
TXAR				Lg	Lg	09	22	46.3	
	1.3nm,0.3s,baz=249,slow=26,SNR=5.6								
BNM	**Barren Site**	**7.79**	**38**	*e*Pn	**Pn**	**09**	**20**	**38.1**	**-0.5**
LPM	**Los Pinos Moun**	**7.91**	**37**	*e*Pn	**Pn**	**09**	**20**	**39.6**	**-0.7**
GSC	**Goldstone, Bar**	**8.14**	**333**	*e*Pn	**Pn**	**09**	**20**	**45.2**	**+1.9**
U15A	**North Rim**	**8.33**	**0**	*e*Pn	**Pn**	**09**	**20**	**45.6**	**-0.5**
ANMO	**Albuquerque**	**8.50**	**35**	Pn	**Pn**	**09**	**20**	**48.0**	**-0.4**
	0.2nm,0.3s,baz=231,slow=6.5,SNR=4.0								
ANMO				Lg	Lg	09	23	05.2	
	0.9nm,0.3s,baz=236,slow=13,SNR=3.5								
ANMO	**Albuquerque**	**8.50**	**35**	*e*Pn	**Pn**	**09**	**20**	**47.4**	**-0.9**
ANMO				Lg	Lg	09	23	05.2	
LRMC	**Laurel Mtn Rad**	**8.66**	**330**	P	**Pn**	**09**	**20**	**51.2**	**+0.6**
	baz=147,SNR=6.9								
SHPR	**Sheep Range**	**8.74**	**345**	*e*Pn	**Pn**	**09**	**20**	**54.7**	**+3.2**
LCMT	**Little Creek M**	**8.94**	**355**	*e*Pn	**Pn**	**09**	**20**	**54.3**	**-0.1**
EKU	**East Kanab**	**8.98**	**359**	*e*Pn	**Pn**	**09**	**20**	**54.8**	**0.0**
ISA	**Isabella, Lake**	**9.18**	**327**	*e*Pn	Pn	09	21	03.2	+5.7
PKCU	**Pink Cliffs**	**9.34**	**0**	*e*Pn	**Pn**	**09**	**21**	**01.4**	**+1.4**
TPNV	**Topopah Spring**	**9.44**	**341**	P	**Pn**	**09**	**21**	**03.5**	**+2.3**
	baz=158								
TPNV	**Topopah Spring**	**9.44**	**341**	*e*Pn	**Pn**	**09**	**21**	**04.5**	**+3.3**
CCUT	**Cedar City**	**9.49**	**355**	*e*Pn	**Pn**	**09**	**21**	**01.7**	**-0.2**
SZCU	**Shurtz Canyon**	**9.52**	**356**	*e*Pn	**Pn**	**09**	**21**	**03.4**	**+1.1**
CWC	**Cottonwood Cre**	**9.65**	**331**	P	**Pn**	**09**	**21**	**06.0**	**+2.0**
	baz=148								
MVCO	**Mesa Verde**	**9.67**	**19**	P	**Pn**	**09**	**21**	**05.2**	**+0.8**
	baz=201,SNR=6.9								
MVCO	**Mesa Verde**	**9.67**	**19**	*e*Pn	**Pn**	**09**	**21**	**05.3**	**+0.9**
MTPU	**Mount Pierson**	**9.94**	**1**	*e*Pn	**Pn**	**09**	**21**	**08.7**	**+0.5**
MSTX	**Muleshoe**	**10.10**	**52**	*e*Pn	**Pn**	**09**	**21**	**10.9**	**+0.7**
PV05	**Paradox Valley**	**10.34**	**14**	*e*Pn	**Pn**	**09**	**21**	**14.2**	**+0.6**
MSU	**Marysvale**	**10.41**	**1**	*e*Pn	**Pn**	**09**	**21**	**17.0**	**+2.4**
PV01	**Paradox Valley**	**10.52**	**17**	*e*Pn	**Pn**	**09**	**21**	**15.5**	**-0.6**
R11A	**Troy Canyon, C**	**10.60**	**346**	P	**Pn**	**09**	**21**	**16.7**	**-0.3**
	baz=164								
R11A	**Troy Canyon, C**	**10.60**	**346**	*e*Pn	**Pn**	**09**	**21**	**16.9**	**-0.1**
PV10	**Paradox Valley**	**10.64**	**14**	*e*Pn	Pn	09	21	23.2	+5.5
PV04	**Paradox Valley**	**10.69**	**15**	*e*Pn	**Pn**	**09**	**21**	**18.1**	**-0.2**
PV04				*e*Sn	Sn	09	23	08.5	-10
S22A	**4UR Ranch, Cre**	**10.70**	**24**	P	**Pn**	**09**	**21**	**18.7**	**+0.1**
	baz=207								
S22A	**4UR Ranch, Cre**	**10.70**	**24**	*e*Pn	**Pn**	**09**	**21**	**20.0**	**+1.4**
SRU	**San Rafael Swe**	**11.11**	**7**	*e*Pn	**Pn**	**09**	**21**	**25.7**	**+1.6**
JCT	**Junction City**	**11.22**	**75**	P	**Pn**	**09**	**21**	**25.8**	**+0.4**
	baz=261,SNR=18								
JCT	**Junction City**	**11.22**	**75**	*e*Pn	**Pn**	**09**	**21**	**25.0**	**-0.4**
JCT				*e*Sn	**Sn**	**09**	**23**	**33.5**	**+2.6**
SDCO	**Great Sand Dun**	**11.23**	**29**	*e*Pn	**Pn**	**09**	**21**	**25.9**	**+0.1**
TMUT	**Trail Mountain**	**11.23**	**5**	*e*Pn	**Pn**	**09**	**21**	**28.2**	**+2.3**
T25A	**Trinidad**	**11.24**	**34**	*e*Pn	**Pn**	**09**	**21**	**29.4**	**+3.5**
AMTX	**Amarillo**	**11.36**	**51**	P	**Pn**	**09**	**21**	**27.3**	**-0.1**
	baz=236								
AMTX	**Amarillo**	**11.36**	**51**	*e*Pn	**Pn**	**09**	**21**	**27.9**	**+0.6**
933A	**Laredo**	**11.58**	**89**	P	**Pn**	**09**	**21**	**29.9**	**-0.5**
	baz=276								
TVH3	**East Aurora ar**	**11.59**	**334**	*e*Pn	**Pn**	**09**	**21**	**34.0**	**+3.3**
P18A	**Preston Nutter**	**11.65**	**8**	*e*Pn	**Pn**	**09**	**21**	**33.5**	**+1.9**
TVH1	**TV Hill, Hawth**	**11.66**	**334**	*e*Pn	**Pn**	**09**	**21**	**34.7**	**+2.9**
533A	**Kerrville**	**11.82**	**77**	P	**Pn**	**09**	**21**	**32.9**	**-0.8**
	baz=264								
433A	**Art**	**11.87**	**74**	P	**Pn**	**09**	**21**	**33.9**	**-0.5**
	baz=261,SNR=9.1								
ABTX	**Abilene, Hawle**	**11.87**	**64**	P	**Pn**	**09**	**21**	**33.8**	**-0.6**
	baz=251,SNR=8.2								
ABTX	**Abilene, Hawle**	**11.87**	**64**	*e*Pn	**Pn**	**09**	**21**	**34.1**	**-0.3**
MPU	**Maple Canyon**	**11.93**	**3**	*e*Pn	**Pn**	**09**	**21**	**38.5**	**+3.3**
SMCO	**Snowmass**	**11.94**	**21**	*e*Pn	**Pn**	**09**	**21**	**37.8**	**+2.2**
WAKR	**Walker**	**11.97**	**332**	*e*Pn	**Pn**	**09**	**21**	**40.0**	**+4.2**
CMB	**Columbia Colle**	**12.00**	**328**	*e*Pn	**Pn**	**09**	**21**	**38.9**	**+2.8**
CMB				*e*Sn	**Sn**	**09**	**23**	**53.9**	**+3.9**
333A	**Richland Sprin**	**12.06**	**71**	P	**Pn**	**09**	**21**	**36.6**	**-0.4**
	baz=258								
DUG	**Dugway, Tooele**	**12.10**	**358**	P	**Pn**	**09**	**21**	**39.7**	**+2.2**
	baz=178,SNR=13								
DUG	**Dugway, Tooele**	**12.10**	**358**	*e*Pn	**Pn**	**09**	**21**	**39.5**	**+2.0**
YERR	**Yerington**	**12.30**	**334**	*e*Pn	**Pn**	**09**	**21**	**44.0**	**+3.6**
O20A	**White River Ci**	**12.50**	**15**	P	**Pn**	**09**	**21**	**44.1**	**+1.0**
	baz=197,SNR=7.6								
O20A	**White River Ci**	**12.50**	**15**	*e*Pn	**Pn**	**09**	**21**	**43.9**	**+0.8**
JLU	**Jordanelle**	**12.52**	**3**	*e*Pn	**Pn**	**09**	**21**	**46.9**	**+3.5**
PNTR	**Pine Nut**	**12.53**	**333**	*e*Pn	Pn	09	21	50.3	+6.8
434A	**Burnet**	**12.57**	**74**	P	**Pn**	**09**	**21**	**42.4**	**-1.6**
	baz=261,SNR=8.6								
334A	**Lometa**	**12.69**	**72**	P	**Pn**	**09**	**21**	**43.8**	**-1.8**
	baz=259								
Z33A	**Whitaker Ranch**	**12.79**	**63**	P	**Pn**	**09**	**21**	**46.2**	**-0.8**
	baz=250,SNR=14								
BGU	**Big Grassy Mou**	**12.83**	**358**	*e*Pn	**Pn**	**09**	**21**	**50.2**	**+2.6**
234A	**Cliffette**	**12.92**	**69**	P	**Pn**	**09**	**21**	**48.2**	**-0.5**
	baz=256								
ISCO	**Idaho Springs**	**12.96**	**24**	*e*Pn	**Pn**	**09**	**21**	**48.2**	**-1.2**
BMN	**Battle Mountai**	**12.96**	**343**	*e*Pn	**Pn**	**09**	**21**	**52.0**	**+2.5**
PAHR	**Pah Rah Range**	**12.98**	**335**	*e*Pn	Pn	09	21	57.8	+8.2
435B	**Jarrell**	**13.15**	**75**	P	**Pn**	**09**	**21**	**50.6**	**-1.3**
	baz=262								
SPUT	**South Promonto**	**13.20**	**360**	*e*Pn	**Pn**	**09**	**21**	**53.9**	**+1.3**
WMOK	**Wichita Mounta**	**13.35**	**57**	P	**Pn**	**09**	**21**	**53.1**	**-1.5**
	baz=244								
WMOK	**Wichita Mounta**	**13.35**	**57**	*e*Pn	**Pn**	**09**	**21**	**53.3**	**-1.3**
335A	**Moody**	**13.36**	**73**	P	**Pn**	**09**	**21**	**54.1**	**-0.7**
	baz=260								
WHTX	**Lake Whitney,**	**13.48**	**70**	*e*Pn	**Pn**	**09**	**21**	**55.3**	**-1.1**
Z34A	**Collier Ranch,**	**13.49**	**63**	P	**Pn**	**09**	**21**	**54.4**	**-2.1**
	baz=251								
HWUT	**Hardware Ranch**	**13.52**	**3**	*e*Pn	**Pn**	**09**	**21**	**58.6**	**+1.7**
HVU	**Hansel Valley**	**13.68**	**359**	*e*Pn	**P**	**09**	**22**	**08.9**	**+0.9**
ORV	**Oroville**	**13.73**	**329**	*e*Pn	**P**	**09**	**22**	**10.8**	**+2.4**
N23A	**Red Feather La**	**13.83**	**21**	*e*Pn	**P**	**09**	**22**	**08.4**	**-1.4**
PHWY	**Pilot Hill**	**14.35**	**21**	*e*P	**P**	**09**	**22**	**17.1

	baz=176								
MSO	**Missoula**	**18.76**	**357**	*e*P		**Pn**	**09 23 05.6**	**+0.9**	
	24nm,1.4s								
CHMT	**Chamberlain Mo**	**18.82**	**358**	*e*P		**Pn**	**09 23 06.3**	**+0.9**	
E09A	**Wood Farm, Sta**	**18.96**	**348**	*e*P		**Pn**	**09 23 07.0**	**0.0**	
	39nm,1.8s								
HAWA	**Hanford**	**19.14**	**345**	*e*P		**Pn**	**09 23 10.8**	**+1.6**	
	17nm,1.2s								
SLMT	**Seeley Lake**	**19.16**	**358**	*e*P		**Pn**	**09 23 10.7**	**+1.2**	
LAO	**LASA Array**	**19.20**	**13**	*e*P		**P**	**09 23 09.4**	**+0.4**	
	30nm,1.1s								
E07A	**Sunnyside**	**19.37**	**344**	*e*P		**Pn**	**09 23 14.3**	**+2.4**	
	33nm,1.1s								
SWMT	**Swartz Lake**	**19.45**	**357**	*e*P		**Pn**	**09 23 13.9**	**+1.0**	
D08A	**Wollman Farm,**	**19.64**	**347**	*e*P		**Pn**	**09 23 16.4**	**+1.3**	
	45nm,1.9s								
U42A	**Revenden**	**19.65**	**60**	P		**P**	**09 23 12.6**	**-1.3**	
	baz=251								
JTMT	**Jette**	**19.70**	**356**	*e*P		**Pn**	**09 23 17.1**	**+1.2**	
S41A	**Jillco Farms,**	**19.71**	**56**	P		**P**	**09 23 13.9**	**-0.7**	
	baz=247								
BSMT	**Bassoo Peak**	**19.84**	**355**	*e*P		**Pn**	**09 23 18.2**	**+0.6**	
EGMT	**Eagleton**	**20.02**	**5**	P		**P**	**09 23 18.0**	**0.0**	
	baz=187								
EGMT	**Eagleton**	**20.02**	**5**	*e*P		**P**	**09 23 18.3**	**+0.4**	
	21nm,1.2s								
Q40A	**Laux Farm, Aux**	**20.06**	**52**	P		**P**	**09 23 16.9**	**-1.5**	
	baz=243								
LON	**Longmire**	**20.07**	**341**	*e*P		Pn	09 23 24.8	+4.5	
	11nm,1.1s								
ECSD	**EROS Data Cent**	**20.11**	**35**	P		**P**	**09 23 18.5**	**-0.4**	
	baz=224								
ECSD	**EROS Data Cent**	**20.11**	**35**	*e*P		**P**	**09 23 18.8**	**-0.2**	
	11nm,1.0s								
H32A	**Carlson Farm,**	**20.28**	**32**	P		**P**	**09 23 20.6**	**-0.1**	
	baz=221								
Y45A	**Yeager Farm, C**	**20.38**	**68**	P		**P**	**09 23 21.4**	**-0.4**	
	baz=260								
S42A	**Caledonia**	**20.48**	**56**	P		**P**	**09 23 22.0**	**-1.0**	
	baz=248								
NEW	**Newport**	**20.50**	**351**	P		**P**	**09 23 21.2**	**-1.8**	
	5.1nm,1.0s,baz=169,slow=12,SNR=9.8								
NEW				LR		LR	09 30 43.5		
	comp=Z,152nm,18.9s,baz=195,slow=35								
NEW	**Newport**	**20.50**	**351**	P		**P**	**09 23 22.5**	**-0.6**	
	baz=168								
NEW	**Newport**	**20.50**	**351**	*e*P		**P**	**09 23 22.6**	**-0.4**	
	15nm,1.1s								
OXF	**Oxford**	**20.61**	**66**	*e*P		**P**	**09 23 23.5**	**-0.8**	
	29nm,1.0s								
T43A	**Greenville**	**20.61**	**59**	P		**P**	**09 23 23.3**	**-1.0**	
	baz=251								
O40A	**La Belle**	**20.73**	**49**	P		**P**	**09 23 24.6**	**-1.0**	
	baz=241								
G32A	**Webster**	**20.82**	**31**	P		**P**	**09 23 25.9**	**-0.7**	
	baz=220								
SCIA	**State Center**	**20.82**	**44**	*e*P		**P**	**09 23 27.8**	**+1.2**	
	24nm,1.0s								
Y46A	**Houston**	**20.94**	**68**	P		**P**	**09 23 27.4**	**-0.5**	
	baz=260								
B08A	**Colville Reser**	**20.96**	**347**	*e*P		**P**	**09 23 27.9**	**-0.2**	
	10nm,1.0s								
H34A	**Spellman Lake,**	**21.20**	**34**	P		**P**	**09 23 30.9**	**+0.2**	
	baz=224								
G33A	**Ortonville**	**21.27**	**32**	P		**P**	**09 23 30.7**	**-0.7**	
	baz=222								
N40A	**Mertquake, Sal**	**21.30**	**48**	P		**P**	**09 23 32.7**	**+0.9**	
	baz=240								
DGMT	**Dagmar**	**21.32**	**15**	*e*P		**P**	**09 23 32.3**	**+0.3**	
	45nm,1.4s								
Z47A	**Carrollton**	**21.49**	**70**	P		**P**	**09 23 33.3**	**-0.6**	
	baz=263								
K38A	**Parkersburg**	**21.52**	**42**	P		**P**	**09 23 33.8**	**-0.4**	
	baz=234								
P42A	**Winchester**	**21.53**	**52**	P		**P**	**09 23 33.3**	**-0.9**	
	baz=245								
B05A	**Bryant**	**21.53**	**342**	P		**P**	**09 23 35.5**	**+1.4**	
	baz=156								
U45A	**Rockin P Farm,**	**21.56**	**62**	P		**P**	**09 23 34.3**	**-0.3**	
	baz=254								
G34A	**Benson**	**21.68**	**33**	P		**P**	**09 23 35.3**	**-0.5**	
	baz=224								
N41A	**Harden Midland**	**21.69**	**49**	P		**P**	**09 23 35.0**	**-1.0**	
	baz=241								
K39A	**Oelwein**	**22.09**	**43**	P		**P**	**09 23 39.7**	**-0.5**	
	baz=235								
MDND	**Maddock**	**22.10**	**23**	*e*P		**P**	**09 23 40.6**	**+0.3**	
	69nm,1.3s								
J38A	**Wedel Dairy, R**	**22.10**	**41**	P		**P**	**09 23 39.5**	**-0.9**	
	baz=233								
L40A	**Anamosa**	**22.14**	**45**	P		**P**	**09 23 41.2**	**+0.4**	
	baz=238								
M41A	**Milan**	**22.23**	**48**	P		**P**	**09 23 39.9**	**-1.8**	
	baz=240								
WVT	**Waverly**	**22.23**	**63**	*e*P		**P**	**09 23 40.9**	**-0.9**	
	17nm,1.1s								
LRAL	**Lakeview Retre**	**22.36**	**71**	*e*P		**P**	**09 23 47.2**	**+3.9**	
	15nm,1.4s								
I38A	**Scanlan Farm,**	**22.62**	**40**	P		**P**	**09 23 45.2**	**-0.7**	
	baz=232								
HDIL	**Hopedale**	**22.68**	**51**	*e*P		**P**	**09 23 51.1**	**+4.6**	
	43nm,1.3s								
OLIL	**Olney**	**22.80**	**56**	*e*P		**P**	**09 23 51.5**	**+3.6**	
	23nm,1.2s								
SPMN	**Marine on St.**	**23.12**	**37**	*e*P		**P**	**09 23 52.6**	**+1.5**	
	8.5nm,1.0s								
JFWS	**Jewell Farm**	**23.21**	**45**	*e*P		**P**	**09 23 51.9**	**-0.2**	
	18nm,1.1s								
SWET	**Sewanee**	**23.55**	**66**	*e*P		**P**	**09 24 00.6**	**+5.0**	
	13nm,1.8s								
AGMN	**Agassiz Nation**	**23.90**	**28**	*e*P		**P**	**09 24 01.6**	**+2.8**	
	11nm,1.1s								
WCI	**Wyandotte Cave**	**23.98**	**58**	*e*P		**P**	**09 24 06.5**	**+6.8**	
	55nm,1.9s								
F39A	**Loretta**	**24.57**	**38**	P		**P**	**09 24 04.3**	**-0.8**	
	baz=231								
B35A	**Bob, Littlefor**	**24.86**	**30**	P		**P**	**09 24 06.1**	**-1.6**	
	baz=222								
EDM	**Edmonton**	**25.13**	**359**	*e*P		**P**	**09 24 09.0**	**-1.0**	
	15nm,1.2s								
TKL	**Tuckaeechee C**	**25.36**	**65**	P		**P**	**09 24 11.7**	**-0.6**	
	6.7nm,1.2s,baz=127,slow=20,SNR=2.8								
TKL				LR		LR	09 34 37.2		
	comp=Z,391nm,20.2s,baz=255,slow=38								
TKL	**Tuckaleechee C**	**25.36**	**65**	*e*P		**P**	**09 24 13.2**	**+1.0**	
	12nm,1.1s								
ULM	**Lac du Bonnet**	**25.45**	**25**	P		**P**	**09 24 12.7**	**-0.3**	
	5.5nm,1.0s,baz=180,slow=8.1,SNR=3.9								
ULM				LR		LR	09 33 45.6		
	comp=Z,206nm,18.9s,baz=250,slow=36								
ULM	**Lac du Bonnet**	**25.45**	**25**	*e*P		**P**	**09 24 15.9**	**+3.0**	
	12nm,1.0s								
E40A	**Wakefield**	**25.46**	**38**	P		**P**	**09 24 12.1**	**-0.9**	
	baz=232								
EYMN	**Ely**	**25.61**	**34**	P		**P**	**09 24 15.2**	**+0.7**	
	baz=227								
EYMN	**Ely**	**25.61**	**34**	*e*P		**P**	**09 24 15.3**	**+0.9**	
	9.9nm,0.8s								
BBB	**Bella Bella**	**26.81**	**338**	LR		LR	09 34 55.4		
	comp=Z,297nm,19.1s,baz=181,slow=36								
JTS	**JuntasAbangare**	**31.22**	**119**	LR		LR	09 37 21.5		
	comp=Z,236nm,20.6s,baz=11,slow=36								
DLBC	**Dease Lake**	**32.75**	**343**	LR		LR	09 38 58.2		
	comp=Z,514nm,18.2s,baz=155,slow=37								
DLBC	**Dease Lake**	**32.75**	**343**	*e*P		**P**	**09 25 19.8**	**+1.8**	
	8.8nm,1.1s								
YKA	**Yellowknife Ar**	**34.45**	**358**	LR		LR	09 39 47.8		
	comp=Z,17nm,20.4s,baz=180,slow=37								
DAWY	**Dawson**	**39.95**	**342**	*e*P		**P**	**09 26 20.9**	**+1.6**	
	10nm,1.3s								
INK	**Inuvik**	**42.19**	**348**	LR		LR	09 45 20.8		
	comp=Z,276nm,18.6s,baz=162,slow=38								
SCHQ	**Schefferville**	**42.26**	**38**	P		**P**	**09 26 36.5**	**-1.9**	
	4.5nm,0.8s,baz=266,slow=14,SNR=2.2								
IL1	**Eielson Array**	**42.70**	**339**	*e*P		**P**	**09 26 41.8**	**+0.1**	
ILAR	**Eielson Array**	**42.70**	**339**	P		**P**	**09 26 41.4**	**-0.4**	
	2.4nm,1.0s,baz=147,slow=6.4,SNR=17								
ILAR				LR		LR	09 45 20.7		
	comp=Z,163nm,18.2s,baz=136,slow=37								
ILB	**Eielson Array**	**42.70**	**339**	*e*P		**P**	**09 26 42.8**	**+1.0**	
ROSC	**El Rosal**	**42.88**	**116**	LR		LR	09 46 31.7		
	comp=Z,64nm,18.1s,baz=290,slow=39								
PPLA	**Purkeypile**	**43.37**	**335**	*e*P		**P**	**09 26 48.6**	**+1.3**	
	13nm,1.0s								
RES	**Resolute Bay**	**47.52**	**6**	LR		LR	09 48 01.2		
	comp=Z,344nm,18.7s,baz=220,slow=37								
PPT	**Papeete**	**57.94**	**223**	LR		LR	09 48 21.4		
	comp=Z,44nm,19.4s,baz=24,slow=31								
PPT2	**Papeete2**	**57.96**	**223**	*e*LR		LR	09 45 21.6		
	127nm,25.5s								
SIV	**San Ignacio**	**66.21**	**125**	P		**P**	**09 29 33.1**	**-0.2**	
	0.7nm,0.5s,baz=309,slow=7.7,SNR=2.2								
PETK	**Petropavlovsk-**	**68.04**	**319**	LR		LR	09 55 56.9		
	comp=Z,29nm,19.3s,baz=79,slow=33								
ARCES	**ARCESS Array B**	**78.01**	**14**	LR		LR	10 07 07.6		
	comp=Z,103nm,18.2s,baz=300,slow=37								
PLCA	**Paso Flores**	**78.68**	**149**	LR		LR	09 58 05.6		
	comp=Z,121nm,18.2s,baz=320,slow=30								
NRIK	**Noril'sk**	**81.79**	**353**	LR		LR	10 09 13.4		
	comp=Z,25nm,19.3s,baz=92,slow=37								
FINES	**FINESS Array B**	**84.67**	**19**	P		**P**	**09 31 18.0**	**-0.7**	
	0.8nm,0.8s,baz=190,slow=7.1,SNR=2.8								
FINES				LR		LR	10 09 42.1		
	comp=Z,126nm,18.1s,baz=336,slow=36								
FINES	**FINESS Array B**	**84.67**	**19**	P		**P**	**09 31 18.0**	**-0.7**	
GERES	**GERESS Array B**	**89.55**	**32**	LR		LR	10 12 31.5		
	0.5nm,0.8s,baz=58,slow=2.2,SNR=2.8								
VNA3	**Neumayer Olymp**	**120.38**	**159**	PKP		**PKPdf**	**09 37 40.6**	**+4.9**	
ASAR	**Alice Springs**	**120.87**	**258**	PKP		**PKPdf**	**09 37 36.4**	**-1.7**	
	0.2nm,0.5s,baz=96,slow=1.9,SNR=2.7								

*ISCJB **10** 09:28:00.3±0.2, 15°.43N±0°.02×61°.24W±0°.04, h151km±2km, mb3.8/16, Error ellipse: s-maj=6.6km s-min=2.7km az=159.4*
*NEIC **10** 09:28:00.4±0.0, 15°.46N×61°.19W, h147km, mb4.2/4, MD3.9(TRN), After TRN.*
NEIC Felt [II] at Fort-de-France, Le Lamentin and Le Robert, Martinique. Also felt at Les Trois-Ilets. Felt at Castries, Saint Lucia.
*TRN **10** 09:28:00.5, 15°.45N×61°.19W, h145km, MD3.9*
*IDC **10** 09:28:02.2±2.4, 15°.41N×61°.43W, h158km±25km, mb3.5/14, mb1 3.7/17, mb1mx3.5/45, mbtmp4.0/17, Error ellipse: s-maj=19.4km s-min=14.0km az=69.0*

ISC 10 09:28:01.2±0.6, 15°.42N±0°.02×61°.23W±0°.05, h148km±4km, n121, σ1§23/171, mb3.8/16, 6C-15D, Leeward Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
DLPL	**La Plaine**	**0.09**	**192**	*e*P		**Pn**		**09 28 21.1**	**-0.1**
DLPL				*e*S		**Sn**		**09 28 35.7**	**-0.6**
DLPL	**La Plaine**	**0.09**	**192**	P		**Pn**		**09 28 21.1**	**-0.1**
DLPL				S		**Sn**		**09 28 35.7**	**-0.6**
DWS	**Wesley**	**0.17**	**332**	*e*P		**Pn**		**09 28 21.0**	**-0.2**
DWS				*e*S		**Sn**		**09 28 35.9**	**-0.6**
DWS	**Wesley**	**0.17**	**332**	P		**Pn**		**09 28 21.0**	**-0.2**
DWS				S		**Sn**		**09 28 35.9**	**-0.6**
DBCT	**Belle View Cho**	**0.18**	**218**	*e*P		**Pn**		**09 28 22.4**	**+1.1**
DBCT				*e*S		**Sn**		**09 28 37.2**	**+0.6**
DBCT	**Belle View Cho**	**0.18**	**218**	P		**Pn**		**09 28 22.4**	**+1.1**
DBCT				S		**Sn**		**09 28 37.2**	**+0.6**
DSTT	**Stowe**	**0.18**	**203**	*e*P		**Pn**		**09 28 21.1**	**-0.1**
DSTT	**Stowe**	**0.18**	**203**	P		**Pn**		**09 28 21.1**	**-0.1**
MDN	**Morne-Daniel**	**0.19**	**238**	⇓*i*P		**Pn**		**09 28 22.5**	**+1.3**
MDN				*e*S		**Sn**		**09 28 37.3**	**+0.8**
MDN	**Morne-Daniel**	**0.19**	**238**	P		**Pn**		**09 28 22.5**	**+1.3**
MDN				S		**Sn**		**09 28 37.3**	**+0.8**
DPMT	**Pointe Michel**	**0.21**	**223**	⇓*i*P		**Pn**		**09 28 22.4**	**+1.1**
DPMT				*e*S		**Sn**		**09 28 36.7**	**+0.1**
DPMT	**Pointe Michel**	**0.21**	**223**	P		**Pn**		**09 28 22.4**	**+1.1**
DPMT				S		**Sn**		**09 28 36.7**	**+0.1**
DSHT	**Scott's Head**	**0.25**	**215**	⇓*i*P		**Pn**		**09 28 22.4**	**+1.0**
DSHT				*e*S		**Sn**		**09 28 37.0**	**+0.3**
DSHT	**Scott's Head**	**0.25**	**215**	P		**Pn**		**09 28 22.4**	**+1.0**
DSHT				S		**Sn**		**09 28 37.0**	**+0.3**
BBL	**Barber's Block**	**0.26**	**295**	⇓*e*P		**Pn**		**09 28 21.6**	**+0.2**
BBL				*e*S		**Sn**		**09 28 37.2**	**+0.4**
BBL	**Barber's Block**	**0.26**	**295**	P		**Pn**		**09 28 21.6**	**+0.2**
BBL				S		**Sn**		**09 28 37.2**	**+0.4**
MGG	**Marie-Galante**	**0.51**	**350**	⇓*e*P		**Pn**		**09 28 22.4**	**+0.1**
MGG				*e*S		**Sn**		**09 28 37.3**	**-1.3**
MGG	**Marie-Galante**	**0.51**	**350**	P		**Pn**		**09 28 22.4**	**+0.1**
MGG				S		**Sn**		**09 28 37.3**	**-1.3**
TBG	**Guadaloupe-3**	**0.59**	**317**	*e*P		**Pn**		**09 28 22.5**	**-0.3**
PCM	**Pelee Case Pet**	**0.60**	**178**	⇓*i*P		**Pn**		**09 28 22.6**	**-0.4**
PCM	**Pelee Case Pet**	**0.60**	**178**	⇓*e*P		**Pn**		**09 28 22.9**	**0.0**
BAMF	**Morne Balai**	**0.60**	**173**	⇓*i*P		**Pn**		**09 28 22.9**	**-0.2**
CXM	**Morne La Croix**	**0.61**	**175**	⇓*i*P		**Pn**		**09 28 23.0**	**-0.2**
CXM				*e*S		**Sn**		**09 28 39.3**	**-0.6**
GBMF	**Grand Be**	**0.62**	**174**	⇓*i*P		**Pn**		**09 28 22.9**	**-0.3**
PML	**Morne Lenard**	**0.63**	**176**	⇓*e*P		**Pn**		**09 28 22.9**	**-0.3**
FDF	**Fort de France**	**0.69**	**174**	⇓*i*P		**Pn**		**09 28 23.4**	**-0.1**
FDF				*e*S		**Sn**		**09 28 39.7**	**-0.8**
FDF	**Fort de France**	**0.69**	**174**	*e*Pn		**Pn**		**09 28 23.4**	**-0.1**
FDF				*e*Sn		**Sn**		**09 28 40.3**	**-0.2**
ZAM	**Aeronautique**	**0.86**	**167**	⇑*e*P		**Pn**		**09 28 24.2**	**-0.5**
LPMF	**Morne Lapointe**	**0.88**	**163**	*e*P		**Pn**		**09 28 24.3**	**-0.5**
TRMF	**Trois Ilets**	**0.89**	**169**	*e*P		**Pn**		**09 28 24.7**	**-0.3**
DEG	**La Desirade**	**0.91**	**10**	⇑*i*P		**Pn**		**09 28 25.0**	**-0.1**
DEG				*e*S		**Sn**		**09 28 42.2**	**-1.2**
DEG	**La Desirade**	**0.91**	**10**	P		**Pn**		**09 28 25.0**	**-0.1**
DEG				S		**Sn**		**09 28 42.2**	**-1.2**
BIM	**Bigot**	**0.91**	**170**	⇓*i*P		**Pn**		**09 28 24.9**	**-0.2**
BIM				*e*S		**Sn**		**09 28 42.9**	**-0.5**
H05N1	**Guadeloupe/Mar**	**0.91**	**10**	P		**Pn**		**09 28 25.0**	**-0.1**
	SNR=8377								
H05N1				S		**Sn**		**09 28 41.6**	**-1.8**
MVM	**Montagne Vaucl**	**0.92**	**159**	⇑*e*P		**Pn**		**09 28 24.8**	**-0.4**
GDHS	**Morne Mazeau,**	**0.99**	**329**	*e*Pn		**Pn**		**09 28 26.2**	**+0.3**
GDHS				*e*Sn		**Sn**		**09 28 44.8**	**+0.1**
H05S1	**Guadeloupe/Mar**	**1.06**	**159**	P		**Pn**		**09 28 26.1**	**-0.2**
H05S1				S		**Sn**		**09 28 44.2**	**-1.3**
SLW	**Petit Monier**	**1.42**	**169**	⇑*i*P		**Pn**		**09 28 31.3**	**+1.5**
SLW				*e*S		**Sn**		**09 28 52.2**	**+0.4**
SLW	**Petit Monier**	**1.42**	**169**	P		**Pn**		**09 28 31.3**	**+1.5**
SLW				S		**Sn**		**09 28 52.2**	**+0.4**
SLTA	**Morne Tabac**	**1.55**	**173**	*e*P		**Pn**		**09 28 32.4**	**+1.2**
SLTA				*e*S		**Sn**		**09 28 55.1**	**+0.9**
SLTA	**Morne Tabac**	**1.55**	**173**	P		**Pn**		**09 28 32.4**	**+1.2**
SLTA				S		**Sn**		**09 28 55.1**	**+0.9**
SLPA	**Patience**	**1.58**	**169**	*e*P		**Pn**		**09 28 32.9**	**+1.4**
SLPA				*e*S		**Sn**		**09 28 55.9**	**+1.1**
SLPA	**Patience**	**1.58**	**169**	P		**Pn**		**09 28 32.9**	**+1.4**
SLPA				S		**Sn**		**09 28 55.9**	**+1.1**
MLYT	**Lee's Yard**	**1.59**	**325**	*i*P		**Pn**		**09 28 31.9**	**+0.2**
SLDE	**Delcer**	**1.61**	**174**	*e*P		**Pn**		**09 28 33.0**	**+1.1**
SLDE				*e*S		**Sn**		**09 28 55.2**	**-0.3**
SLDE	**Delcer**	**1.61**	**174**	P		**Pn**		**09 28 33.0**	**+1.1**
SLDE				S		**Sn**		**09 28 55.2**	**-0.3**
MCLT	**Moule a Chique**	**1.72**	**171**	*e*P		**Pn**		**09 28 33.5**	**+0.4**
MCLT				⇑*e*S		**Sn**		**09 28 55.5**	**-2.0**
MCLT	**Moule a Chique**	**1.72**	**171**	P		**Pn**		**09 28 33.5**	**+0.4**
BPA	**Boggy Peak**	**1.73**	**340**	⇓*e*P		**Pn**		**09 28 33.8**	**+0.6**
BPA				*e*S		**Sn**		**09 28 56.8**	**-1.0**
BPA	**Boggy Peak**	**1.73**	**340**	P		**Pn**		**09 28 33.8**	**+0.6**
BPA				S		**Sn**		**09 28 56.8**	**-1.0**
SFAN	**Fancy Village**	**2.02**	**178**	*e*P		**Pn**		**09 28 37.4**	**+0.8**
SFAN	**Fancy Village**	**2.02**	**178**	P		**Pn**		**09 28 37.4**	**+0.8**
SVV	**Soufriere Volc**	**2.09**	**180**	*e*P		**Pn**		**09 28 38.3**	**+1.0**
SVV				*e*S		**Sn**		**09 29 06.3**	**+1.2**
SVV	**Soufriere Volc**	**2.09**	**180**	P		**Pn**		**09 28 38.3**	**+1.0**
SVV				S		**Sn**		**09 29 06.3**	**+1.2**
SVB	**Belmont**	**2.13**	**181**	*e*P		**Pn**		**09 28 37.6**	**-0.2**
SVB				*e*S		**Sn**		**09 29 04.7**	**-1.3**
SVB	**Belmont**	**2.13**	**181**	*e*Pn		**Pn**		**09 28 37.6**	**-0.2**
SVB				*e*Sn		**Sn**		**09 29 04.5**	**-1.5**
FCV	**Fort Charlotte**	**2.25**	**180**	⇓*e*P		**Pn**		**09 28 39.7**	**+0.5**
FCV	**Fort Charlotte**	**2.25**	**180**	*e*S		**Sn**		**09 29 08.8**	**+0.4**
FCV	**Fort Charlotte**	**2.25**	**180**	P		**Pn**		**09 28 39.7**	**+0.5**
FCV				S		**Sn**		**09 29 08.8**	**+0.4**
ANWB	**Willy Bob**	**2.30**	**347**	⇑*e*P		**Pn**		**09 28 38.6**	**-1.2**
ANWB				*e*S		**Sn**		**09 29 08.3**	**-1.2**
ANWB	**Willy Bob**	**2.30**	**347**	*e*Pn		**Pn**		**09 28 38.8**	**-1.0**
ANWB				*e*S		**Sn**		**09 29 07.4**	**-2.1**
SEUS	**St. Eustatius**	**2.66**	**321**	*e*P		**Pn**		**09 28 44.4**	**+0.2**
SEUS	**St. Eustatius**	**2.66**	**321**	*e*P		**Pn**		**09 28 45.3**	**+1.0**
SEUS	**St. Eustatius**	**2.66**	**321**	*e*Pn		**Pn**		**09 28 44.4**	**+0.2**
BBGH	**Gun Hill**	**2.78**	**144**	*i*P		**Pn**		**09 28 46.4**	**+0.6**
BBGH				*e*S		**Sn**		**09 29 20.2**	**0.0**
BBGH	**Gun Hill**	**2.78**	**144**	*e*Pn		**Pn**		**09 28 46.5**	**+0.8**
BBSP	**Saint Philip**	**2.87**	**143**	*e*P		**Pn**		**09 28 48.4**	**+1.6**
BBSP				*e*S		**Sn**		**09 29 21.9**	**-0.3**
SABA	**Saba**	**2.92**	**319**	*i*P		**Pn**		**09 28 47.5**	**0.0**
SABA				*e*S		**Sn**		**09 29 21.8**	**-1.6**
SABA	**Saba**	**2.92**	**319**	*i*P		**Pn**		**09 28 47.5**	**0.0**
SABA				*e*S		**Sn**		**09 29 21.8**	**-1.6**
SMRT	**St. Maarten**	**3.16**	**326**	*e*P		**Pn**		**09 28 49.4**	**-1.2**
SMRT				*e*S		**Sn**		**09 29 29.0**	**+0.2**
SMRT	**St. Maarten**	**3.16**	**326**	*e*Pn		**Pn**		**09 28 50.1**	**-0.4**
GRGR	**Grenville**	**3.29**	**187**	*e*P		**Pn**		**09 28 53.1**	**+0.8**
GRGR				*e*S		**Sn**		**09 29 30.9**	**-0.9**
GRGR	**Grenville**	**3.29**	**187**	*e*Pn		**Pn**		**09 28 52.1**	**-0.2**
GRGR				*e*Sn		**Sn**		**09 29 31.8**	**-0.1**
CDVI	**St. Croix**	**4.11**	**305**	*e*Pn		**Pn**		**09 29 02.5**	**-0.3**
TOSP	**Speyside**	**4.15**	**171**	*e*P		**Pn**		**09 29 03.3**	**-0.1**
TOSP	**Speyside**	**4.15**	**171**	P		**Pn**		**09 29 03.3**	**-0.1**
STVI	**Saint Thomas**	**4.61**	**310**	*e*Pn		**Pn**		**09 29 09.5**	**+0.1**
STVI				*e*Sn		**Sn**		**09 30 01.8**	**-0.7**
TCE	**Chacachacare**	**4.72**	**186**	*e*P		**Pn**		**09 29 11.1**	**+0.2**
TCE	**Chacachacare**	**4.72**	**186**	*e*S		**Sn**		**09 30 02.6**	**-2.6**
TRN	**Trinidad (W)**	**4.74**	**182**	*e*P		**Pn**		**09 29 12.8**	**+1.6**
TRN	**Trinidad (W)**	**4.74**	**182**	*e*S		**Sn**		**09 30 04.8**	**-1.0**
TRN	**Trinidad (W)**	**4.74**	**182**	P		**Pn**		**09 29 13.5**	**+2.3**
TRN				S		**Sn**		**09 30 04.8**	**-1.0**
TPP	**Pointe-a-Pierr**	**5.08**	**182**	*e*P		**Pn**		**09 29 16.2**	**+0.6**
TPP	**Pointe-a-Pierr**	**5.08**	**182**	*e*S		**Sn**		**09 30 12.6**	**-1.1**
TPP	**Pointe-a-Pierr**	**5.08**	**182**	P		**Pn**		**09 29 16.2**	**+0.6**
TPP				S		**Sn**		**09 30 12.6**	**-1.1**
HUMP	**Col San Antoni**	**5.19**	**302**	*e*Pn		**Pn**		**09 29 16.8**	**-0.3**
CBYP	**Canovanas**	**5.26**	**303**	*e*Pn		**Pn**		**09 29 18.5**	**+0.4**
CBYP				*e*Sn		**Sn**		**09 30 20.4**	**+2.2**
SJG	**San Juan**	**5.42**	**300**	P		**Pn**		**09 29 19.8**	**-0.4**
	12nm,0.3s,baz=99,slow=17,SNR=18								
SJG				S		**Sn**		**09 30 24.8**	**+2.9**
	6.0nm,0.3s,baz=303,slow=20,SNR=7.3								
SJG	**San Juan**	**5.42**	**300**	*e*Pn		**Pn**		**09 29 20.0**	**-0.2**
CELP	**Cerrillos**	**5.77**	**298**	*e*Pn		**Pn**		**09 29 24.6**	**-0.2**
PCRV	**Puerto La Cruz**	**6.18**	**213**	P		**Pn**		**09 29 29.1**	**-1.3**
	1.2nm,0.3s,baz=14,slow=7.2,SNR=5.3								
MPR	**Mayaguez**	**6.31**	**297**	*e*Pn		**Pn**		**09 29 31.7**	**-0.3**
AGP	**Aguadilla**	**6.39**	**299**	*e*Pn		**Pn**		**09 29 33.2**	**0.0**
IDE	**Isla Desecheo**	**6.67**	**297**	*e*Pn		**Pn**		**09 29 36.9**	**+0.1**
SDDR	**Presa de Saban**	**10.24**	**292**	*e*Pn		**Pn**		**09 30 24.3**	**-0.3**
RUSC	**La Rusia**	**15.00**	**232**	*e*Pn		**P**		**09 31 30.4**	**+2.2**
PTGA	**Pitinga**	**16.09**	**175**	P		**Pn**		**09 31 38.7**	**-0.6**
	2.4nm,0.3s,baz=353,slow=23,SNR=27								
PTGA				S		**S**		**09 34 28.4**	**-10**
	1.9nm,0.3s,baz

ISC 10 09:33:28.1±0.5, 0.76S±0.05×99.98E±0.05, h100km, n66, σ1§67/60, mb4.3/17, 5C-1D, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PDSI	**Padang**	**0.50**	**108**	P	**Pn**	**09 33 41.3**	**-2.7**
PDSI				S	**Sn**	**09 33 50.6**	**-5.2**
PPI	**Padang Panjang**	**0.51**	**54**	P	**Pn**	**09 33 41.2**	**-2.8**
PPI				S	**Sn**	**09 33 51.0**	**-4.9**
SISI	**Saibi**	**1.06**	**238**	P	**Pn**	**09 33 47.1**	**-2.1**
SDSI	**Sungai Dareh**	**1.45**	**97**	P	**Pn**	**09 33 53.2**	**-0.6**
BKNI	**Bangkinang**	**1.51**	**44**	*e*Pn	**Pn**	**09 33 53.3**	**-1.2**
BKNI	**Bangkinang**	**1.51**	**44**	*e*Pn	**Pn**	**09 33 52.8**	**-1.8**
MNSI	**Mandailing Nat**	**1.60**	**345**	P	**Pn**	**09 33 53.7**	**-1.9**
PBSI	**Pulau Batu**	**1.84**	**292**	P	**Pn**	**09 33 56.2**	**-2.5**
PPSI	**Pulau Pagai**	**1.99**	**179**	P	**Pn**	**09 33 59.0**	**-1.6**
GSI	**Gunungsitoli**	**3.16**	**310**	*e*Pn	**Pn**	**09 34 18.4**	**+2.3**
MASI	**Maura Aman, Be**	**3.27**	**136**	P	**Pn**	**09 34 18.3**	**+0.7**
PSI	**Prapat**	**3.69**	**343**	P	**Pn**	**09 34 19.4**	**-3.9**
	8.6nm,0.3s,baz=165,slow=5.8,SNR=34						
PSI	**Prapat**	**3.69**	**343**	*e*Pn	**Pn**	**09 34 20.8**	**-2.5**
KSI	**Kapahiang**	**3.88**	**138**	P	**Pn**	**09 34 27.4**	**+1.6**
FRIM	**Kepong**	**4.29**	**22**	⇓P	**Pn**	**09 34 31.4**	**0.0**
KGM	**Kluang**	**4.33**	**50**	⇑P	**Pn**	**09 34 32.4**	**+0.6**
MYKOM	**Kota Tinggi**	**4.62**	**57**	*e*Pn	**Pn**	**09 34 36.3**	**+0.5**
MYKOM	**Kota Tinggi**	**4.62**	**57**	⇑P	**Pn**	**09 34 36.5**	**+0.7**
MNAI	**Manna**	**4.65**	**140**	*e*Pn	**Pn**	**09 34 36.0**	**-0.2**
KCSI	**Kotacane, Aceh**	**4.79**	**333**	P	**Pn**	**09 34 39.6**	**+1.5**
IPM	**Ipoh**	**5.31**	**11**	*e*Pn	**Pn**	**09 34 46.6**	**+1.5**
IPM	**Ipoh**	**5.31**	**11**	⇑P	**Pn**	**09 34 46.2**	**+1.1**
MDSI	**Maura Dua**	**5.59**	**132**	P	**Pn**	**09 34 47.3**	**-1.6**
KULM	**Kulim**	**6.05**	**6**	*e*Pn	**Pn**	**09 34 55.0**	**-0.1**
KULM	**Kulim**	**6.05**	**6**	⇑P	**Pn**	**09 34 55.1**	**-0.1**
KTGM	**Kuala Trenggan**	**6.82**	**27**	⇑P	**Pn**	**09 35 06.8**	**+1.3**
CMAR	**Chiang Mai Arr**	**19.12**	**357**	P	**Pn**	**09 37 43.6**	**-1.8**
	0.4nm,0.3s,baz=189,slow=10,SNR=6.5						
CMAR				LR	LR	09 45 48.6	
	comp=Z,95nm,21.9s,baz=220,slow=39						
KAPI	**Kappang**	**20.18**	**102**	P	Pn	09 37 55.8	-2.0
	6.2nm,0.3s						
PALK	**Pallekele**	**20.82**	**293**	*e*P	Pn	09 38 02.2	-3.1
	55nm,1.4s						
SOEI	**Soe**	**25.76**	**111**	*e*P	**P**	**09 38 49.0**	**-0.9**
	36nm,0.5s						
H08S2	**Diego Garcia H**	**28.24**	**255**	T	T	10 07 24.2	
	baz=77,slow=75,SNR=21						
H08S3	**Diego Garcia H**	**28.25**	**255**	T	T	10 07 34.2	
	baz=77,slow=75,SNR=24						
H08S1	**Diego Garcia H**	**28.26**	**255**	T	T	10 07 34.0	
	baz=77,slow=75,SNR=19						
JIRN	**Jiri**	**31.21**	**336**	*e*P	**P**	**09 39 39.5**	**+0.9**
PKIN	**Phulchoki**	**31.47**	**335**	*e*P	**P**	**09 39 40.9**	**+0.2**
	5.8nm,0.5s						
GUN	**Gumba**	**31.56**	**336**	*e*P	**P**	**09 39 42.5**	**+0.9**
	29nm,0.4s						
KKN	**Kakani**	**31.71**	**335**	*e*P	**P**	**09 39 43.5**	**+0.7**
	11nm,0.5s						
GKN	**Gorkha**	**32.17**	**334**	*e*P	**P**	**09 39 47.4**	**+0.6**
	9.2nm,0.4s						
KOLN	**Koldanda**	**32.44**	**332**	*e*P	**P**	**09 39 50.2**	**+1.0**
	15nm,0.6s						
PYUN	**Piuthan**	**33.01**	**332**	*e*P	**P**	**09 39 55.3**	**+1.2**
	16nm,0.6s						
H01W3	**Cape Leeuwin H**	**36.43**	**160**	T	T	10 18 30.2	
	baz=335,slow=76,SNR=5.4						
H01W2	**Cape Leeuwin H**	**36.44**	**160**	T	T	10 18 31.0	
	baz=335,slow=76,SNR=5.9						
H01W1	**Cape Leeuwin H**	**36.44**	**160**	T	T	10 18 31.2	
	baz=335,slow=76,SNR=7.7						
WRA	**Warramunga Arr**	**38.64**	**122**	P	**P**	**09 40 41.2**	**-0.9**
	0.6nm,0.3s,baz=306,slow=9.0,SNR=19						
WRA				PcP	**PcP**	**09 42 53.5**	**+0.9**
	0.4nm,0.8s,baz=309,slow=2.7,SNR=3.5						
WRAB	**Tennant Creek**	**38.65**	**122**	*e*P	**P**	**09 40 41.5**	**-0.7**
	0.8nm,0.3s						
ASAR	**Alice Springs**	**40.00**	**127**	P	**P**	**09 40 53.0**	**-0.5**
	0.7nm,0.5s,baz=298,slow=6.9,SNR=14						
ASAR				PcP	**PcP**	**09 42 58.2**	**+1.3**
	0.3nm,0.5s,baz=290,slow=3.0,SNR=3.0						
KSAR	**Wonju Array Be**	**45.94**	**31**	P	**P**	**09 41 41.0**	**-0.1**
KSRS	**Korea Array**	**45.97**	**31**	P	**P**	**09 41 41.0**	**-0.3**
	1.5nm,0.6s,baz=222,slow=8.5,SNR=6.4						
WSAR	**Wadi Sarin**	**46.75**	**303**	P	**P**	**09 41 48.3**	**+0.6**
	7.4nm,1.0s,baz=79,slow=12,SNR=2.9						
SONM	**Songino Array**	**48.72**	**6**	P	**P**	**09 42 03.1**	**+0.4**
	0.7nm,0.4s,baz=191,slow=9.5,SNR=3.1						
MK01	**Makanchi Array**	**49.81**	**344**	*e*P	**P**	**09 42 11.5**	**+0.7**
MK31	**Makanchi Array**	**49.84**	**344**	*e*P	**P**	**09 42 11.9**	**+0.8**
MKAR	**Makanchi Array**	**49.84**	**344**	*e*P	**P**	**09 42 11.9**	**+0.8**
	29nm,0.5s						
STKA	**Stephens Creek**	**49.99**	**132**	P	**P**	**09 42 12.6**	**+0.2**
	1.9nm,0.6s,baz=313,slow=8.7,SNR=5.7						
MJAR	**Matsushiro Arr**	**51.33**	**40**	LR	LR	10 04 10.8	
	comp=Z,42nm,20.3s,baz=280,slow=36						
USRK	**Ussuriysk Ar.**	**53.08**	**28**	P	**P**	**09 42 35.2**	**0.0**
	2.6nm,0.6s,baz=236,slow=3.9,SNR=11						
KURK	**Kurchatov**	**54.42**	**343**	*e*P	**P**	**09 42 45.7**	**+0.8**
	3.7nm,0.7s						
ZAA0	**Zalesovo Array**	**55.95**	**349**	*e*P	**P**	**09 42 56.4**	**+0.5**
ZALV	**Zalesovo Beam**	**55.95**	**349**	P	**P**	**09 42 56.3**	**+0.5**
	4.9nm,0.7s,baz=175,slow=5.9,SNR=15						
ABKAR	**Akbulak array**	**60.55**	**331**	*e*P	**P**	**09 43 28.1**	**+0.1**
	12nm,0.7s						
PETK	**Petropavlovsk-**	**71.85**	**32**	LR	LR	10 20 51.5	
	comp=Z,25nm,18.0s,baz=351,slow=40						
FINES	**FINESS Array B**	**83.01**	**332**	P	**P**	**09 45 42.0**	**-0.1**
	0.6nm,0.4s,baz=113,slow=6.1,SNR=9.3						
VNDA	**Vanda**	**83.37**	**169**	P	**P**	**09 45 46.5**	**+2.7**
	1.1nm,0.6s,baz=307,slow=6.5,SNR=10						
ARCES	**ARCESS Array B**	**85.31**	**340**	P	**P**	**09 45 54.5**	**+0.8**
	0.7nm,0.5s,baz=10,slow=4.2,SNR=8.8						
GEC2	**GERESS Array S**	**88.11**	**319**	*e*P	**P**	**09 46 08.7**	**+0.9**
	7.1nm,0.5s						
TXAR	**Lajitas Array**	**143.72**	**36**	PKP	**PKPdf**	**09 52 50.8**	**-1.6**
	0.1nm,0.4s,baz=230,slow=0.7,SNR=6.2						

IDC 10 09:42:14.5±1.1, 3.57S×68.24E, h0km, mb3.9/6, mb1 4.1/6, mb1mx3.6/40, mbtmp3.9/6, Error ellipse: s-maj=37.8km s-min=27.8km az=150.0, Chagos Archipelago region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H08N2	**Diego Garcia H**	**3.88**	**135**	T	T	09 47 37.5	
	baz=317,slow=75,SNR=1222						
H08N3	**Diego Garcia H**	**3.89**	**135**	T	T	09 47 39.8	
	baz=317,slow=75,SNR=934						
H08N1	**Diego Garcia H**	**3.90**	**135**	T	T	09 47 38.4	
	baz=317,slow=75,SNR=1000						
H08S3	**Diego Garcia H**	**5.84**	**134**	T	T	09 49 47.5	
	baz=308,slow=76,SNR=6.7						
H08S1	**Diego Garcia H**	**5.84**	**134**	T	T	09 49 50.9	
	baz=308,slow=76,SNR=9.9						
H08S2	**Diego Garcia H**	**5.86**	**134**	T	T	09 49 50.1	
	baz=308,slow=76,SNR=8.3						
CMAR	**Chiang Mai Arr**	**37.34**	**53**	P	P	09 49 29.1	+0.1
	0.5nm,0.3s,baz=244,slow=10,SNR=4.5						
BOSA	**Boshof**	**47.82**	**234**	P	P	09 50 54.1	-0.2
	4.2nm,0.9s,baz=72,slow=6.4,SNR=3.4						
ZALV	**Zalesovo Beam**	**58.97**	**11**	P	P	09 52 15.6	0.0
	0.6nm,0.3s,baz=216,slow=7.1,SNR=2.3						
SONM	**Songino Array**	**61.12**	**28**	P	P	09 52 30.3	-0.4
	1.3nm,0.8s,baz=211,slow=8.3,SNR=7.8						
WRA	**Warramunga Arr**	**66.34**	**110**	P	P	09 53 05.7	+0.1
	1.0nm,0.9s,baz=285,slow=6.0,SNR=4.3						
ESDC	**Sonseca Array**	**78.69**	**311**	P	P	09 54 19.0	0.0
	0.1nm,0.3s,baz=102,slow=8.2,SNR=4.2						
TXAR	**Lajitas Array**	**153.25**	**344**	PKPbc	PKPbc	10 02 14.6	-0.7
	0.2nm,0.8s,baz=79,slow=1.9,SNR=2.6						
TXAR				PKPab	PKPab	10 02 27.6	+0.6
	0.6nm,0.9s,baz=105,slow=1.9,SNR=4.4						

IDC 10 09:49:58.3±10.0, 1.16N×127.35E, h142km±113km, mb4.2/3, mb1 4.2/5, mb1mx3.5/37, mbtmp4.5/5, ML4.3/2, MS3.2/1, Ms1 3.2/1, ms1mx2.6/45, Error ellipse: s-maj=79.0km s-min=74.9km az=98.0, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAPI	**Kappang**	**9.76**	**231**	P	Pn	09 52 15.2	-0.1
	4.5nm,0.3s,baz=107,slow=14,SNR=6.8						
KAPI				S	Sn	09 54 04.3	+1.0
	2.7nm,0.3s,baz=162,slow=18,SNR=3.4						
FITZ	**Fitzroy Crossi**	**19.21**	**185**	P	P	09 54 11.5	0.0
	0.4nm,0.3s,baz=11,slow=9.5,SNR=8.8						
WRA	**Warramunga Arr**	**22.06**	**162**	P	P	09 54 41.7	-0.2
	8.4nm,0.4s,baz=340,slow=11,SNR=154						
ASAR	**Alice Springs**	**25.48**	**166**	P	P	09 55 13.4	-0.1
	2.7nm,0.5s,baz=351,slow=7.4,SNR=50						
ASAR				LR	LR	10 05 04.7	
	comp=Z,54nm,18.2s,baz=324,slow=36						
STKA	**Stephens Creek**	**35.52**	**159**	P	P	09 56 41.8	+0.1
	9.9nm,0.6s,baz=342,slow=8.1,SNR=34						

*ISK **10** 09:50:48.3, 37.48N×28.06E, h5km, MD2.4*
*ISCJB **10** 09:50:49.4±0.5, 37.47N±0.03×28.08E±0.04, h5km±5km, Error ellipse: s-maj=5.4km s-min=4.0km az=44.9*
*CSEM **10** 09:50:49.6±0.2, 37.47N×28.08E, h10km, MD2.4, Error ellipse: s-maj=4.4km s-min=3.8km az=144.0*
*DDA **10** 09:50:49.6, 37.48N×28.05E, h7km, Md2.7*

ISC 10 09:50:48.6±1.1, 37.50N±0.02×28.13E±0.03, h8km±10km, n32, σ0§48/49, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MLSB	**Milas**	**0.35**	**234**	*e*PG	**Pg**	**09 50 55.3**	**-0.1**
MLSB				*e*SG	**Sg**	**09 51 00.4**	**+0.4**
MLSB	**Milas**	**0.35**	**234**	*e*Pg	**Pg**	**09 50 55.3**	**-0.1**
MLSB				*e*Sg	**Sg**	**09 51 00.4**	**+0.4**
AYDB	**Zeytinkoy-Aydi**	**0.49**	**337**	*e*PG	**Pb**	**09 50 59.1**	**-0.5**
AYDB				*e*SG	**Sb**	**09 51 06.9**	**-0.1**
AYDB	**Zeytinkoy-Aydi**	**0.49**	**337**	*e*Pg	**Pb**	**09 50 59.1**	**-0.5**
AYDB				*e*Sg	**Sb**	**09 51 06.9**	**-0.1**
BDRM	**Kayabasi**	**0.70**	**232**	*i* P	**Pg**	**09 51 01.1**	**-0.9**
BDRM				*i* S	**Sg**	**09 51 11.1**	**0.0**
BDRM	**Kayabasi**	**0.70**	**232**	P	**Pg**	**09 51 01.1**	**-0.9**
BDRM				S	**Sg**	**09 51 11.1**	**0.0**
TURN	**Turunc**	**0.73**	**149**	*i* P	**Pg**	**09 51 01.5**	**-1.2**
TURN	**Turunc**	**0.73**	**149**	P	**Pg**	**09 51 01.5**	**-1.2**
GCAM	**G?zelcaml?**	**0.74**	**286**	*i* P	**Pg**	**09 51 03.1**	**+0.2**
GCAM				*i* S	**Sb**	**09 51 13.4**	**-0.7**
GCAM	**G?zelcaml?**	**0.74**	**286**	P	**Pg**	**09 51 03.1**	**+0.2**
GCAM				S	**Sb**	**09 51 13.4**	**-0.7**
DNZL	**Cakiroluk**	**0.75**	**75**	*i* P	**Pn**	**09 51 05.4**	**-0.4**
DNZL				*i* S	**Sn**	**09 51 17.8**	**+0.2**
DNZL	**Cakiroluk**	**0.75**	**75**	P	**Pn**	**09 51 05.4**	**-0.4**
DNZL				S	**Sn**	**09 51 17.8**	**+0.2**
BODT	**Bodrum**	**0.78**	**237**	*e*PG	**Pg**	**09 51 03.4**	**-0.3**
BODT				*e*SG	**Sg**	**09 51 14.7**	**+0.8**
BODT	**Bodrum**	**0.78**	**237**	*e*Pg	**Pg**	**09 51 03.4**	**-0.3**
BODT				*e*Sg	**Sg**	**09 51 14.7**	**+0.8**
DALY	**Dalyan (Mu¨la**	**0.80**	**148**	*e*PG	**Pb**	**09 51 04.9**	**+0.1**
DALY	**Dalyan (Mu¨la**	**0.80**	**148**	*e*Pg	**Pb**	**09 51 04.9**	**+0.1**
DAT	**Datca**	**0.89**	**210**	*e*PG	**Pg**	**09 51 05.5**	**-0.1**
DAT				*e*SG	**Sb**	**09 51 18.2**	**-0.1**
DAT	**Datca**	**0.89**	**210**	*i* P	**Pg**	**09 51 05.9**	**+0.3**
DAT				*i* S	**Sb**	**09 51 18.6**	**+0.2**
DAT	**Datca**	**0.89**	**210**	*e*Pg	**Pg**	**09 51 05.6**	**-0.1**
DAT	**Datca**	**0.89**	**210**	P	**Pg**	**09 51 05.9**	**+0.3**
DAT				*e*Sg	**Sb**	**09 51 18.2**	**-0.1**
KULA	**Kula-Manisa**	**1.10**	**22**	*e*PN	**Pn**	**09 51 11.2**	**+0.7**
KULA	**Kula-Manisa**	**1.10**	**22**	*e*Pn	**Pn**	**09 51 11.2**	**+0.7**
NIS1	**Nisyros Isl.**	**1.17**	**221**	*e*PN	**Pb**	**09 51 10.9**	**-0.3**
NIS1				*e*SN	**Sn**	**09 51 27.5**	**-0.1**
NIS1	**Nisyros Isl.**	**1.17**	**221**	*e*Pn	**Pb**	**09 51 10.9**	**-0.3**
NIS1				*e*Sn	**Sn**	**09 51 27.5**	**-0.1**
URLA	**Izmir**	**1.49**	**306**	*e*PN	**Pg**	**09 51 16.8**	**-0.4**
URLA	**Izmir**	**1.49**	**306**	*e*Pn	**Pg**	**09 51 16.8**	**-0.4**
ELL	**Elmali**	**1.61**	**117**	*e*PN	**Pg**	**09 51 19.6**	**+0.1**
ELL	**Elmali**	**1.61**	**117**	*e*Pn	**Pg**	**09 51 19.6**	**+0.1**
AKAS	**Kas**	**1.73**	**136**	*e*PN	**Pb**	**09 51 21.1**	**+0.3**
AKAS	**Kas**	**1.73**	**136**	*e*Pn	**Pb**	**09 51 21.1**	**+0.3**
KARP	**Karpathos**	**2.10**	**202**	*e*PN	**Pn**	**09 51 24.4**	**+0.3**
KARP	**Karpathos**	**2.10**	**202**	*e*Pn	**Pn**	**09 51 24.4**	**+0.3**

*NIED **10** 10:01:00, 39.30N×142.30E, h47km, Mw3.8 Best double couple: M0 5.92000×10^14 NP1:φs179.00000°, δ18.00000°, λ67.00000°. NP2:φs23.00000°, δ74.00000°, λ97.00000°.*
*ISCJB **10** 10:01:09.0±1.1, 39.27N±0.04×142.35E±0.1, h47km±9km, mb3.9/6, Error ellipse: s-maj=15.3km s-min=5.7km az=8.6*
*JMA **10** 10:01:10.3, 39.28N×142.24E, h43km±1km, M3.9*
JMA Felt II J1.
*IDC **10** 10:01:13.5±3.3, 39.16N×142.19E, h79km±30km, mb3.6/6, mb1 3.7/9, mb1mx3.4/36, mbtmp3.9/9, MS3.0/1, Ms1 3.0/1, ms1mx2.4/44, Error ellipse: s-maj=39.3km s-min=19.8km az=81.0*

ISC 10 10:01:08.4±1.7, 39.24N±0.04×142.42E±0.09, h31km±10km, n27, σ1§68/31, mb4.0/6, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MIYJ	**Miyakonagasawa**	**0.57**	**306**	P	**Pb**	**10 01 20.3**	**+0.2**
MIYJ				S	**Sb**	**10 01 27.4**	**-0.7**
OFUJ	**Ofunato**	**0.61**	**255**	P	**Pb**	**10 01 20.9**	**+0.3**
OFUJ				S	**Sb**	**10 01 28.3**	**-0.7**
JTH	**Tanohata**	**0.82**	**328**	P	**Pn**	**10 01 24.1**	**+0.4**
JTH				S	**Sb**	**10 01 33.7**	**-1.2**
JOM	**Ohasama**	**0.91**	**285**	P	**Pn**	**10 01 24.8**	**-0.1**
JOM				S	**Sn**	**10 01 35.3**	**-1.7**
JMK	**Ichinoseki**	**0.98**	**253**	P	**Pn**	**10 01 26.0**	**+0.1**
JMK				S	**Sn**	**10 01 37.2**	**-1.6**
JKZ	**Kuzumaki**	**1.12**	**312**	P	**Pn**	**10 01 27.6**	**-0.4**
JKZ				S	**Sn**	**10 01 41.3**	**-1.1**
JIO	**Ouri**	**1.15**	**227**	P	**Pn**	**10 01 28.7**	**+0.4**
JIO				S	**Sn**	**10 01 41.9**	**-1.0**
JANG	**Nango**	**1.33**	**328**	P	**Pn**	**10 01 31.1**	**+0.3**
JANG				*e*S	**Sn**	**10 01 47.2**	**-0.2**
JRG	**Rokugo**	**1.40**	**277**	P	**Pn**	**10 01 31.7**	**0.0**
JOU	**Okura**	**1.63**	**238**	P	**Pn**	**10 01 35.4**	**+0.5**
JYK	**Kaneyama**	**1.64**	**259**	P	**Pn**	**10 01 35.5**	**+0.5**
MAT	**Matsushiro**	**4.29**	**232**	P	**Pn**	**10 02 15.1**	**+3.6**
MAT				*e*S	**Sn**	**10 03 03.5**	**+3.1**
MJAR	**Matsushiro Arr**	**4.29**	**232**	P	**Pn**	**10 02 14.6**	**+3.2**
	2.6nm,0.3s,baz=37,slow=12,SNR=34						
JHJ	**Hachijo jima 2**	**6.47**	**200**	P	**Pn**	**10 02 42.4**	**+0.9**
	3.1nm,0.3s,baz=90,slow=20,SNR=8.7						
JHJ				S	**Sn**	**10 03 50.7**	**-3.5**
	5.0nm,0.3s,baz=252,slow=20,SNR=3.9						
USRK	**Ussuriysk Ar.**	**9.24**	**306**	P	**Pn**	**10 03 23.2**	**+3.9**
	0.2nm,0.3s,baz=123,slow=14,SNR=5.6						
USRK				LR	LR	10 06 42.7	
	comp=Z,86nm,18.1s,baz=146,slow=36						
H11N2	**WAKE ISLAND Hy**	**28.69**	**126**	T	T	10 37 31.5	
	baz=318,slow=75,SNR=887						
H11N1	**WAKE ISLAND Hy**	**28.70**	**126**	T	T	10 37 40.0	
	baz=318,slow=75,SNR=707						
H11N3	**WAKE ISLAND Hy**	**28.71**	**126**	T	T	10 37 41.1	
	baz=318,slow=75,SNR=831						
H11S1	**WAKE ISLAND Hy**	**29.48**	**128**	T	T	10 38 29.7	
	baz=319,slow=76,SNR=148						
H11S3	**WAKE ISLAND Hy**	**29.48**	**128**	T	T	10 38 37.0	
	baz=319,slow=76,SNR=191						
H11S2	**WAKE ISLAND Hy**	**29.50**	**128**	T	T	10 38 31.4	
	baz=319,slow=76,SNR=142						
ZALV	**Zalesovo Beam**	**41.05**	**311**	P	**P**	**10 08 48.0**	**-0.7**
	1.2nm,0.5s,baz=86,slow=5.9,SNR=4.1						
NRIK	**Noril'sk**	**41.61**	**334**	P	**P**	**10 08 53.2**	**+0.2**
	3.4nm,0.5s,baz=103,slow=8.5,SNR=4.8						
ILAR	**Eielson Array**	**47.21**	**33**	P	**P**	**10 09 39.5**	**+1.7**
	0.4nm,0.7s,baz=274,slow=6.4,SNR=4.9						
WRA	**Warramunga Arr**	**59.36**	**189**	P	**P**	**10 11 07.1**	**-0.4**
	0.3nm,0.5s,baz=6.7,slow=6.9,SNR=8.3						
FINES	**FINESS Array B**	**67.23**	**332**	P	**P**	**10 11 58.4**	**-0.8**
	1.2nm,0.7s,baz=27,slow=13,SNR=4.6						
AKASG	**Malin Array Be**	**73.04**	**322**	P	**P**	**10 12 34.4**	**-0.5**
	1.0nm,0.4s,baz=44,slow=6.0,SNR=3.2						

*ISCJB **10** 10:03:56.5±0.6, 39.66N±0.03×30.68E±0.05, h6km±6km, Error ellipse: s-maj=6.0km s-min=4.4km az=163.6*
*CSEM **10** 10:03:56.6±0.2, 39.65N×30.69E, h8km, MD2.7, Error ellipse: s-maj=6.1km s-min=4.5km az=86.0*
*ISK **10** 10:03:56.0, 39.63N×30.71E, h11km, MD2.3*
*DDA **10** 10:03:56.6, 39.70N×30.88E, h7km, Md2.7*

ISC 10 10:03:56.4±1.0, 39.65N±0.03×30.69E±0.03, h7km±9km, n18, σ0§75/30, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ESKT	**Eskisehir**	**0.18**	**136**	*i* P	**Pg**	**10 03 59.6**	**-0.6**
ESKT				*i* S	**Sg**	**10 04 03.8**	**+1.1**
SEYT	**Eskypehyr**	**0.18**	**136**	P	**Pg**	**10 03 59.6**	**-0.5**
SEYT				S	**Sg**	**10 04 03.8**	**+1.1**
BORA	**Eskisehir**	**0.29**	**322**	*i* P	**Pg**	**10 03 59.9**	**-2.2**
GULT	**Gulveren**	**0.79**	**350**	*e*PG	**Pg**	**10 04 12.3**	**+0.7**
GULT				*e*SG	**Sb**	**10 04 24.1**	**+0.5**
GULT	**Gulveren**	**0.79**	**350**	*e*Pg	**Pg**	**10 04 12.3**	**+0.7**
GULT				*e*Sg	**Sb**	**10 04 24.1**	**+0.5**
MDUB	**Mudurnu**	**0.91**	**25**	*e*PG	**Pg**	**10 04 14.2**	**+0.4**
MDUB				*e*SG	**Sb**	**10 04 27.4**	**+0.5**
MDUB	**Mudurnu**	**0.91**	**25**	*e*Pg	**Pg**	**10 04 14.2**	**+0.4**
MDUB				*e*Sg	**Sb**	**10 04 27.4**	**+0.5**
BOLV	**Bolvadin**	**0.96**	**168**	*i* P	**Pb**	**10 04 15.4**	**0.0**
BOLV				*i* S	**Sn**	**10 04 29.9**	**-0.5**
BOLV	**Bolvadin**	**0.96**	**168**	P	**Pb**	**10 04 15.4**	**0.0**
BOLV				S	**Sn**	**10 04 29.9**	**-0.5**
TVSB	**Tavsanli**	**0.97**	**258**	*e*PG	**Pg**	**10 04 15.2**	**+0.2**
TVSB				*e*SG	**Sb**	**10 04 29.2**	**+0.5**
TVSB	**Tavsanli**	**0.97**	**258**	*e*Pg	**Pg**	**10 04 15.2**	**+0.2**
TVSB				*e*Sg	**Sb**	**10 04 29.2**	**+0.5**
GEDZ	**Gediz**	**1.16**	**239**	*e*PN	**Pg**	**10 04 18.8**	**+0.1**
GEDZ	**Gediz**	**1.16**	**239**	*e*Pn	**Pg**	**10 04 18.8**	**+0.1**
SAHE	**Sakarya_HENDEK**	**1.21**	**6**	*i* P	Pb	10 04 12.6	-7.1
SAHE				*i* S	**Sg**	**10 04 34.6**	**-0.6**
KDHN	**Kadinhani**	**1.59**	**135**	*i* P	**Pb**	**10 04 25.6**	**-0.6**
KDHN				*i* S	**Sn**	**10 04 44.9**	**-1.1**
KDHN	**Kadinhani**	**1.59**	**135**	P	**Pb**	**10 04 25.6**	**-0.6**
KDHN				S	**Sn**	**10 04 44.9**	**-1.1**
ARMT	**Armutlu**	**1.67**	**304**	*e*PN	**Pn**	**10 04 26.4**	**+0.2**
ARMT	**Armutlu**	**1.67**	**304**	*e*Pn	**Pn**	**10 04 26.4**	**+0.2**

IDC 10 10:14:59.1±34.0, 4.09N×124.32E, h0km, mb3.7/4, mb1 3.9/4, mb1mx3.5/36, mbtmp3.8/4, Error ellipse: s-maj=617.5km s-min=120.6km az=136.0, Celebes Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**22.09**	**177**	P	P	10 19 56.4	+0.2
	2.7nm,0.9s,baz=348,slow=9.1,SNR=14						
WRA	**Warramunga Arr**	**25.84**	**158**	P	P	10 20 32.5	0.0
	0.9nm,0.3s,baz=335,slow=10.0,SNR=33						
ASAR	**Alice Springs**	**29.13**	**162**	P	P	10 21 01.6	-0.5
	0.2nm,0.3s,baz=346,slow=10,SNR=9.7						
STKA	**Stephens Creek**	**39.37**	**157**	P	P	10 22 30.7	+0.2
	0.9nm,0.5s,baz=337,slow=7.7,SNR=3.5						

IDC 10 10:26:40.0±1.5, 21.31S×67.54W, h131km±24km, mb3.7/2, mb1 3.4/5, mb1mx3.2/30, mbtmp3.8/5, Error ellipse: s-maj=45.9km s-min=14.9km az=103.0, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**1.81**	**224**	P	Pn	10 27 11.3	-0.9
	897nm,0.3s,baz=29,slow=10,SNR=399						
LVC				S	Sn	10 27 34.5	-2.3
	192nm,0.3s,baz=169,slow=18,SNR=18						
LPAZ	**La Paz**	**5.03**	**354**	P	Pn	10 27 56.0	+1.9
	1.4nm,0.3s,baz=176,slow=5.7,SNR=34						
LPAZ				S	Sn	10 28 52.0	+0.3
	baz=292,slow=17,SNR=2.3						
SIV	**San Ignacio**	**8.10**	**50**	P	Pn	10 28 34.8	-0.1
	0.7nm,0.3s,baz=256,slow=14,SNR=8.0						
PLCA	**Paso Flores**	**19.53**	**187**	P	P	10 30 58.3	+1.0
	0.1nm,0.3s,baz=24,slow=10.0,SNR=3.0						
TORD	**Torodi Ar. Bea**	**76.09**	**70**	P	P	10 38 12.9	-0.9
	0.6nm,0.6s,baz=251,slow=5.7,SNR=10	

baz=283
BTK ⇑*i*S Sg 10 41 38.7 +0.7
baz=283
BTK Batken 1.81 283 ⇑*i*P Pg 10 41 14.5 0.0
baz=288
BTK ⇑*i*S Sg 10 41 42.9 +4.9
baz=288
TOKL Toktogul 2.27 355 ⇓*e*P Pb 10 41 21.2 -0.7
baz=355
TOKL ⇓*i*S Sb 10 41 51.2 +0.6
baz=355
TOKL Toktogul 2.27 355 ⇑*e*P Pb 10 41 21.2 -0.7
baz=351
TOKL ⇑*i*S Sg 10 41 53.8 +0.9
baz=351
ARK Arkit 2.30 338 ⇓*e*P Pb 10 41 21.2 -1.1
baz=338
ARK ⇓*e*S Sb 10 41 51.2 -0.1
baz=338
ARK Arkit 2.30 338 ⇑*e*P Pb 10 41 21.9 -0.4
baz=335
ARK ⇑*i*S Sg 10 41 54.9 +1.2
baz=335
AML Almayashu 2.50 10 ⇑*i*P Pn 10 41 23.7 +1.6
baz=10.0
AML ⇑*i*S Sb 10 41 57.1 -0.2
baz=10.0
MNAS Manas 2.85 351 ⇑*e*P Pn 10 41 29.0 +2.2
baz=351
MNAS ⇑*e*S Sb 10 42 04.8 -2.4
baz=351
MNAS Manas 2.85 351 ⇓*e*P Pn 10 41 28.8 +2.0
baz=348
MNAS ⇓*e*S Sb 10 42 07.9 +0.7
baz=348

*IDC **10** 11:14:36.5±2.7, 13°.55N×91°.73W, h0km, mb3.8/6, mb1 4.0/9, mb1mx3.8/48, mbtmp3.8/9, ML3.6/3, MS3.2/5, Ms1 3.3/5, ms1mx2.8/31, Error ellipse: s-maj=50.6km s-min=37.6km az=12.0*
*MEX **10** 11:14:45.4±0.4, 13°.82N×92°.08W, h20km±43km, MD4.0*
*NEIC **10** 11:14:45.4±0.0, 13°.82N×92°.08W, h20km, mb3.8/4, MD4.0(MEX), After MEX.*
ISC 10 11:14:46.6±1.5, **13°.9N**±0°.1×**91°.88W**±0°.10, **h54**km, **n23, σ1§57/25, mb3.8/9, MS3.3/4, Near coast of Guatemala**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
CCIG	**Comitan**	**2.34**	**354**	*i* P		**Pn**	**11 15 22.6**	**-0.3**
CCIG				*i* S		**Sn**	**11 15 50.8**	**+0.2**
CCIG	**Comitan**	**2.34**	**354**	*i* P		**Pn**	**11 15 22.6**	**-0.3**
CCIG				*i* S		**Sn**	**11 15 50.8**	**+0.2**
TGIG		**3.07**	**337**	*i* P		**Pn**	**11 15 30.9**	**-1.8**
TGIG				*i* S		**Sn**	**11 16 06.8**	**-1.4**
TGIG		**3.07**	**337**	*i* P		**Pn**	**11 15 30.9**	**-1.8**
TGIG				*i* S		**Sn**	**11 16 06.8**	**-1.4**
CMIG	**Matias Romero**	**4.27**	**318**	Pn		**Pn**	**11 15 47.2**	**-1.8**
	2.3nm,0.3s,baz=154,slow=13,SNR=18							
CMIG				Sn		**Sn**	**11 16 42.8**	**+5.2**
	7.0nm,0.3s,baz=200,slow=12,SNR=4.2							
CMIG				LR		LR	11 17 29.3	
	comp=Z,35nm,21.3s,baz=141,slow=37							
TEIG	**Tepich**	**7.14**	**28**	Pn		**Pn**	**11 16 27.0**	**-1.5**
	0.5nm,0.3s,baz=264,slow=24,SNR=7.5							
TEIG	**Tepich**	**7.14**	**28**	*e*Pn		**Pn**	**11 16 30.1**	**+1.6**
TXAR	**Lajitas Array**	**18.81**	**326**	P		**Pn**	**11 19 04.1**	**+1.2**
	0.1nm,0.3s,baz=141,slow=11,SNR=14							
ABTX	**Abilene, Hawle**	**19.91**	**340**	*e*P		**P**	**11 19 15.3**	**+1.5**
	4.6nm,0.8s							
MNTX	**Cornudas Mount**	**21.58**	**327**	*e*P		**P**	**11 19 32.8**	**+0.9**
	3.3nm,0.7s							
WMOK	**Wichita Mounta**	**21.63**	**344**	*e*P		**P**	**11 19 32.5**	**+0.1**
	0.9nm,0.4s							
AMTX	**Amarillo**	**22.66**	**339**	*e*P		**P**	**11 19 43.1**	**-0.3**
	13nm,0.6s							
TKL	**Tuckaleechee C**	**22.82**	**17**	P		**P**	**11 19 44.5**	**-0.6**
	4.6nm,0.6s,baz=177,slow=9.4,SNR=9.6							
TKL				LR		LR	11 30 04.3	
	comp=Z,86nm,18.2s,baz=262,slow=40							
ANMO	**Albuquerque**	**24.71**	**330**	P		**P**	**11 20 03.9**	**+0.9**
	1.5nm,0.6s,baz=143,slow=10,SNR=12							
ANMO	**Albuquerque**	**24.71**	**330**	*e*P		**P**	**11 20 04.3**	**+1.3**
ATAH	**Atahualpa**	**24.85**	**147**	LR		LR	11 28 03.9	
	comp=Z,36nm,19.0s,baz=355,slow=33							
SJG	**San Juan**	**25.07**	**77**	LR		LR	11 30 56.9	
	comp=Z,98nm,18.2s,baz=146,slow=39							
PDAR	**Pinedale Array**	**32.52**	**335**	P		**P**	**11 21 12.7**	**+0.1**
	0.1nm,0.3s,baz=142,slow=9.0,SNR=2.8							
SCHQ	**Schefferville**	**45.24**	**20**	LR		LR	11 43 00.5	
	comp=Z,169nm,18.3s,baz=164,slow=37							
YKA	**Yellowknife Ar**	**51.11**	**347**	P		**P**	**11 23 43.0**	**-0.5**
	1.7nm,0.5s,baz=152,slow=7.3,SNR=4.4							
INK	**Inuvik**	**60.53**	**344**	P		**P**	**11 24 50.5**	**-0.4**
	1.5nm,0.7s,baz=124,slow=9.3,SNR=6.5							
ILAR	**Eielson Array**	**62.94**	**337**	P		**P**	**11 25 07.2**	**0.0**
	0.4nm,0.8s,baz=109,slow=6.6,SNR=4.4							
CMAR	**Chiang Mai Arr**	**146.09**	**341**	PKPbc		**PKPdf**	**11 34 20.1**	**-0.5**
	0.9nm,0.7s,baz=350,slow=4.7,SNR=3.6							

HLW 10 11:16:29.4, 31°.11N×36°.49E, h11km±9km, **Md2.6, Ml2.5, Dead Sea region**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
RSH		**2.38**	**267**	P		Pn	11 17 07.8	-0.6
	baz=266							
HBST	**Basata**	**2.42**	**219**	P		Pn	11 17 08.3	-0.7
	baz=221							
HBST	**Basata**	**2.42**	**219**	P		Pn	11 17 08.3	-0.7
	baz=220							
HNKL	**Nakhl**	**2.46**	**242**	P		Pn	11 17 09.1	-0.4
	baz=243							
HNKL				AMP			11 17 00.0	
	comp=E,10μm,0.5s,logA/T=4.3,baz=243							
HNKL				S		Sn	11 17 39.0	-0.7
	baz=243							
HNKL	**Nakhl**	**2.46**	**242**	P		Pn	11 17 08.9	-0.7
	baz=243							
HNKL				S		Sn	11 17 39.0	-0.7
	baz=243							
GRB	**Gharib**	**4.29**	**230**	P		Pn	11 17 34.3	-0.3
	baz=231							
GRB	**Gharib**	**4.29**	**230**	P		Pn	11 17 34.4	-0.3
	baz=230							

HLW 10 11:24:19.1, 29°.94N×36°.69E, h19km±9km, **Md2.5, Ml2.7, Western Arabian Peninsula**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
HBST	**Basata**	**1.85**	**248**	S		Sn	11 25 12.1	-0.5
	baz=248							
HBST				AMP			11 25 00.0	
	comp=N,170μm,0.6s,logA/T=5.4,baz=248							
HBST	**Basata**	**1.85**	**248**	P		Pn	11 24 49.2	-0.5
	baz=249							
HBST				S		Sn	11 25 12.2	-0.5
	baz=249							
NUB		**2.00**	**243**	P		Pn	11 24 51.6	-0.1
	baz=243							
NUB		**2.00**	**243**	P		Pn	11 24 51.6	-0.1
	baz=244							
HDHB	**Dhahab**	**2.18**	**237**	P		Pn	11 24 53.7	-0.5
	baz=237							
HDHB	**Dhahab**	**2.18**	**237**	P		Pn	11 24 53.7	-0.5
	baz=239							
HNKL	**Nakhl**	**2.35**	**270**	P		Pn	11 24 56.2	-0.5
	baz=271							
HNKL				AMP			11 25 00.0	
	comp=N,20μm,0.5s,logA/T=4.6,baz=271							
HNKL	**Nakhl**	**2.35**	**270**	P		Pn	11 24 56.2	-0.5
	baz=271							
HNKL				AMP			11 24 00.5	
	comp=E,30μm,0.5s,logA/T=4.8,baz=271							
HNKL				S		Sn	11 25 24.2	-0.9
	baz=271							
RSH		**2.76**	**292**	P		Pn	11 25 01.8	-0.4
	baz=293							
RSH		**2.76**	**292**	P		Pn	11 25 01.8	-0.4
	baz=292							
GRB	**Gharib**	**3.80**	**245**	P		Pn	11 25 15.7	-0.9
	baz=246							

IDC 10 11:24:40.8±2.8, **25°.03S×179°.69E, h476**km±33km, **mb3.2/3, mb1 3.5/5, mb1mx3.1/32, mbtmp4.1/5, Error ellipse: s-maj=52.2km s-min=23.2km az=169.0, South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
DZM	**Mont Dzumac**	**12.50**	**281**	P		P	11 27 26.4	+1.4
	0.2nm,0.3s,baz=80,slow=18,SNR=3.6							
URZ	**Urewera**	**13.37**	**189**	P		P	11 27 32.8	-1.1
	1.3nm,0.3s,baz=335,slow=1.9,SNR=9.0							
URZ				S		S	11 29 54.1	-2.8
	0.4nm,0.3s,baz=240,slow=20,SNR=5.9							
ASAR	**Alice Springs**	**41.58**	**262**	P		P	11 31 46.0	-0.2
	1.8nm,0.7s,baz=91,slow=6.4,SNR=23							
ASAR				S		S	11 37 27.6	+0.4
	0.5nm,1.0s,baz=101,slow=14,SNR=4.6							
WRA	**Warramunga Arr**	**42.06**	**267**	P		P	11 31 49.8	-0.2
	3.3nm,0.7s,baz=98,slow=7.1,SNR=35							
TXAR	**Lajitas Array**	**91.27**	**58**	P		P	11 36 55.2	+0.2
	0.4nm,0.8s,baz=217,slow=6.0,SNR=5.5							

*GUC **10** 11:34:11.7±0.7, 34°.99S×73°.03W, h18km±8km, ML3.8*
ISC 10 11:34:11.1±3.4, **35°.00S**±0°.05×**73°.0W**±0°.1, **h6**km±19km, **n14, σ1§68/25, 1C, Off coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
CHPI	**Pichilemu**	**1.03**	**54**	*e*P		**Pb**	**11 34 30.4**	**-0.9**
CHPI				*i* S		**Sb**	**11 34 44.5**	**-0.5**
TALC	**Talca**	**1.20**	**110**	*e*P		**Pn**	**11 34 33.8**	**-0.6**
TALC				*i* S		**Sb**	**11 34 49.4**	**-0.5**
LNCH	**Linares**	**1.43**	**127**	*e*P		**Pb**	**11 34 37.8**	**-0.4**
LNCH				*i* S		**Sb**	**11 34 56.4**	**-0.3**
NICH	**Los Niches**	**1.47**	**91**	⇑*i*P		**Pn**	**11 34 37.3**	**-0.7**
NICH				*i* S		**Sb**	**11 34 57.1**	**-0.5**
CLCH	**Cerro Calan**	**2.60**	**53**	*e*P		**Pn**	**11 34 55.4**	**+1.6**
CLCH				*i* S		**Sb**	**11 35 27.9**	**-2.5**
CLCH				IAML			11 35 50.1	
	comp=E,515nm,0.9s							
ROC1	**El Roble**	**2.61**	**40**	*e*P		**Pn**	**11 34 54.5**	**+0.4**
ROC1				*e*S		**Sg**	**11 35 33.5**	**-1.4**
ROCH	**El Roble**	**2.62**	**40**	*e*P		**Pn**	**11 34 55.1**	**+1.0**
ROCH				*e*S		**Sb**	**11 35 29.1**	**-1.9**
ROCH				IAML			11 35 47.9	
	comp=N,280nm,1.2s							
PEL	**Peldehue**	**2.67**	**47**	*e*P		**Pn**	**11 34 55.6**	**+0.8**
PEL				*e*S		**Sb**	**11 35 29.6**	**-2.9**
PEL				IAML			11 35 40.6	
	comp=N,444nm,1.0s							
FCH	**Farellones**	**2.81**	**54**	*e*P		**Pn**	**11 34 58.2**	**+1.4**
FCH				*i* S		**Sn**	**11 35 31.5**	**+0.4**
AAGR	**Agrelo**	**3.96**	**62**	*i* P		**Pb**	**11 35 22.1**	**+0.6**
ARCO	**CERRO ARCO**	**4.02**	**59**	*i* P		**Pb**	**11 35 21.1**	**-1.3**
ARCO				IAML			11 35 35.7	
	comp=Z,26nm,0.7s							
ARCO				*i* S		**Sg**	**11 36 22.4**	**+2.3**
AUSP	**Uspallata**	**4.10**	**49**	*i* P		**Pn**	**11 35 16.9**	**+2.3**
AUSP				*e*S		**Sb**	**11 36 14.3**	**+0.5**
ASAL	**Salagasta**	**4.23**	**57**	*e*P		**Pn**	**11 35 20.1**	**+4.0**
AGUA	**GUANDACOL**	**6.70**	**36**	*e*P		**Pn**	**11 35 50.4**	**+0.3**

*ISN **10** 12:09:55.6±3.6, 30°.56N×48°.25E, h0km, ML3.6*
*ISCJB **10** 12:10:01.0±0.9, 30°.48N±0°.06×48°.07E±0°.09, h10km, Error ellipse: s-maj=12.2km s-min=6.4km az=146.3*
*TEH **10** 12:10:02.3, 30°.59N×48°.20E, h18km, ML3.6*
*CSEM **10** 12:10:03.7±0.6, 30°.62N×48°.14E, h10km, ML3.6, Error ellipse: s-maj=15.5km s-min=8.5km az=37.0*
*DSN **10** 12:10:14.0±1.4, 30°.43N×49°.06E, h15km, Error ellipse: s-maj=45.5km s-min=7.4km az=25.0*
ISC 10 12:10:02.2±1.7, **30°.56N**±0°.07×**48°.19E**±0°.10, **h10**km, **n35, σ2§16/37, Iran-Iraq border region**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
SHGR	**Shooshtar-Gavs**	**1.64**	**19**	*e*Pg		**Pb**	**12 10 32.3**	**-0.1**
SHGR				*e*Sg		**Sg**	**12 10 53.4**	**-1.4**
IPIR	**Pirpir**	**3.13**	**47**	*e*Pn		**Pn**	**12 10 54.2**	**+2.3**
IPIR				*e*AMB		AMB	12 11 57.8	
	comp=Z,1μm,0.2s							
IPIR	**Pirpir**	**3.13**	**47**	*e*Pn		**Pn**	**12 10 54.2**	**+2.3**
KHMZ	**Khomeyn**	**3.51**	**25**	*e*Pn		**Pn**	**12 10 59.2**	**+2.1**
IGAR	**Gharneh**	**3.77**	**60**	*e*Pn		**Pn**	**12 11 02.7**	**+2.1**
IGAR				*e*AMB		AMB	12 12 18.7	
	comp=Z,720nm,0.5s							
IKLH	**Kolahrood**	**3.99**	**45**	*e*Pn		**Pn**	**12 11 05.6**	**+2.0**
IKLH				*e*AMB		AMB	12 12 25.2	
	comp=Z,656nm,0.3s							
IKLH	**Kolahrood**	**3.99**	**45**	*e*Pn		**Pn**	**12 11 05.6**	**+2.0**
IVIS	**Veis**	**4.12**	**344**	*e*Pn		**Pn**	**12 11 07.0**	**+1.7**
IVIS	**Veis**	**4.12**	**344**	*e*Pn		**Pn**	**12 11 07.0**	**+1.7**
BHD	**Baghdad**	**4.22**	**311**	*e*Pn		**Pn**	**12 11 05.0**	**-1.6**
	SNR=3.0							
IZEF	**Zefreh**	**4.23**	**55**	*e*Pn		**Pn**	**12 11 08.6**	**+1.6**
IZEF	**Zefreh**	**4.23**	**55**	*e*Pn		**Pn**	**12 11 08.6**	**+1.6**
IPAR	**Pars**	**4.26**	**98**	*e*Pn		**Pn**	**12 11 09.8**	**+2.3**
IPAR				*e*AMB		AMB	12 12 49.0	
	comp=Z,2μm,0.4s							
IPAR	**Pars**	**4.26**	**98**	*e*Pn		**Pn**	**12 11 09.8**	**+2.3**
ASAO	**Ashtian**	**4.27**	**21**	*e*Pn		**Pn**	**12 11 09.4**	**+1.9**
IDHR	**Dehrash**	**4.40**	**340**	*e*Pn		**Pn**	**12 11 10.8**	**+1.5**
IDHR				*e*AMB		AMB	12 12 13.1	
	comp=Z,550nm,0.2s							
IDHR	**Dehrash**	**4.40**	**340**	*e*Pn		**Pn**	**12 11 10.8**	**+1.5**
ISRV	**Sarvestan**	**4.43**	**104**	*e*Pn		**Pn**	**12 11 12.3**	**+2.5**
ISRV	**Sarvestan**	**4.43**	**104**	*e*Pn		**Pn**	**12 11 12.3**	**+2.5**
NASN	**Na'in**	**4.53**	**59**	*e*Pn		**Pn**	**12 11 12.3**	**+1.2**
ISAD	**Sadrabad**	**4.90**	**73**	*e*Pn		**Pn**	**12 11 18.0**	**+1.8**
ISAD				*e*AMB		AMB	12 12 19.2	
	comp=Z,948nm,0.3s							
ISAD	**Sadrabad**	**4.90**	**73**	*e*Pn		**Pn**	**12 11 18.0**	**+1.8**
IRAZ	**Razeghan**	**5.05**	**16**	*e*Pn		**Pn**	**12 11 20.0**	**+1.8**
IRAZ				*e*AMB		AMB	12 13 02.1	
	comp=Z,423nm,0.4s							
IRAZ	**Razeghan**	**5.05**	**16**	*e*Pn		**Pn**	**12 11 20.0**	**+1.8**
ICHK	**Chekchek**	**5.58**	**71**	*e*Pn		**Pn**	**12 11 27.2**	**+1.8**
ICHK	**Chekchek**	**5.58**	**71**	*e*Pn		**Pn**	**12 11 27.2**	**+1.8**
IMEH	**Mehriz**	**5.58**	**80**	*e*Pn		**Pn**	**12 11 26.9**	**+1.4**
IMEH				*e*AMB		AMB	12 12 39.6	
	comp=Z,274nm,0.3s							
IMEH	**Mehriz**	**5.58**	**80**	*e*Pn		**Pn**	**12 11 26.9**	**+1.4**
IBAF	**Bafgh**	**6.41**	**79**	*e*Pn		**Pn**	**12 11 38.6**	**+1.7**
IBAF	**Bafgh**	**6.41**	**79**	*e*Pn		**Pn**	**12 11 38.6**	**+1.7**
BANOM	**Banah**	**8.51**	**121**	*i* P		**Pn**	**12 12 07.4**	**+1.9**
	SNR=17							
BANOM				S		**Sn**	**12 13 36.3**	**-5.4**
NAZ	**Nazwa, Dubai**	**8.63**	**128**	*i* P		**Pn**	**12 12 10.1**	**+2.9**
	SNR=7.8							
FAQ	**Al Faqa, Dubai**	**8.75**	**130**	P		**Pn**	**12 12 11.4**	**+2.6**
HATD	**Hatta, Dubai**	**9.06**	**127**	P		**Pn**	**12 12 14.7**	**+1.6**
ASHO	**Ashiyiah**	**9.10**	**128**	*i* P		**Pn**	**12 12 15.7**	**+2.0**
	SNR=6.3							

*MOS **10** 12:19:25.7±1.2, 52°.08N×171°.58W, h27km, mb5.0/22, Error ellipse: s-maj=9.8km s-min=6.9km az=65.4*
*NEIC **10** 12:19:28.0±0.0, 51°.84N×171°.46W, h26km, mb4.5/73, ML4.4(AEIC), After AEIC.*
*ISCJB **10** 12:19:30.2±0.5, 52°.12N±0°.04×171°.55W±0°.03, h69km±3km, mb4.7/107, Error ellipse: s-maj=7.4km s-min=3.1km az=177.4*
*IDC **10** 12:19:31.1±2.1, 52°.16N×171°.50W, h58km±16km, mb4.1/20, mb1 4.2/22, mb1mx4.0/46, mbtmp4.3/22, MS3.6/24, Ms1 3.6/24, ms1mx3.5/34, Error ellipse: s-maj=18.6km s-min=10.5km az=167.0*
ISC 10 12:19:29.9±1.1, **51°.97N**±0°.09×**171°.57W**±0°.04, **h50**km±8km, **n539, σ1§22/537, mb4.8/107, MS3.6/24, 2C, Fox Islands**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
KOSE	**Korovin Southe**	**1.57**	**285**	P		**Pn**	**12 19 56.4**	**+1.0**
KOFP	**Korovin Flat P**	**1.59**	**282**	P		**Pn**	**12 19 55.9**	**+0.3**
KONE	**Korovin Northe**	**1.63**	**286**	P		**Pn**	**12 19 56.9**	**+0.8**
ATKA	**Atka Island**	**1.64**	**279**	P		**Pn**	**12 19 55.2**	**-1.0**
ATKA				S		**Sn**	**12 20 14.5**	**-1.6**
KOKL	**Mount Kliuchef**	**1.66**	**284**	P		**Pn**	**12 19 57.3**	**+0.7**
NIKH	**Nikolski High**	**1.94**	**58**	P		**Pn**	**12 19 58.6**	**-1.8**
NIKH				S		**Sn**	**12 20 22.6**	**-1.1**
OKSO	**Okmok South**	**2.50**	**55**	P		**Pn**	**12 20 08.3**	**+0.2**
OKCE	**Okmok Cone E**	**2.54**	**53**	P		**Pn**	**12 20 09.0**	**+0.4**
OKTU	**Okmok Mt. Tuli**	**2.58**	**55**	P		**Pn**	**12 20 09.6**	**+0.5**
OKFG	**Magazine Ridge**	**2.66**	**56**	P		**Pn**	**12 20 10.4**	**+0.2**
OKFG				S		**Sn**	**12 20 43.1**	**+2.0**
MGOD	**Makushin Gods**	**3.38**	**55**	P		**Pn**	**12 20 20.1**	**-0.1**
MCIR	**Makushin Cirqu**	**3.46**	**53**	P		**Pn**	**12 20 21.7**	**+0.5**
MSW	**Makushin Switc**	**3.49**	**54**	P		**Pn**	**12 20 21.6**	**0.0**
MTBL	**Makushin Table**	**3.58**	**54**	P		**Pn**	**12 20 23.2**	**+0.4**
UNV	**Unalaska Valle**	**3.60**	**56**	P		**Pn**	**12 20 23.2**	**+0.2**
UNV				S		**Sn**	**12 21 05.4**	**+1.2**
AKRB	**Akutan Reef Bi**	**3.96**	**55**	P		**Pn**	**12 20 28.1**	**0.0**
AKMO	**Akutan Morgan**	**3.98**	**55**	P		**Pn**	**12 20 28.7**	**+0.5**
AKGG	**Akutan Green G**	**4.04**	**54**	P		**Pn**	**12 20 29.7**	**+0.6**
AKUT	**Akutan**	**4.12**	**56**	*e*Pn		**Pn**	**12 20 31.3**	**+1.1**
AKUT				*e*Sn		Sn	12 21 26.3	+9.3
WESE	**West Dahl East**	**4.89**	**56**	P		**Pn**	**12 20 41.3**	**+0.4**
SPIA	**Saint Paul Isl**	**5.28**	**8**	P		**Pn**	**12 20 47.0**	**+0.9**
DT1	**Dutton Round H**	**6.37**	**57**	P		**Pn**	**12 21 00.8**	**-0.3**
DTNA	**Dutton South F**	**6.40**	**56**	P		**Pn**	**12 21 01.3**	**-0.2**
SDPT	**Sand Point**	**7.41**	**58**	P		**Pn**	**12 21 14.6**	**-0.6**
CHGN	**Chignik**	**8.86**	**55**	*e*Pn		**Pn**	**12 21 33.4**	**-1.7**
OHAK	**Old Harbor**	**11.82**	**56**	*e*Pn		**Pn**	**12 22 14.4**	**-1.1**
KDAK	**Kodiak Island**	**12.37**	**54**	*e*P		Pn	12 22 19.5	-3.5
KDAK	**Kodiak Island**	**12.37**	**54**	*e*Pn		Pn	12 22 19.5	-3.5
SVW2	**Sparrevohn**	**12.68**	**38**	*e*Pn		**Pn**	**12 22 29.6**	**+2.4**
RSO	**Redoubt South**	**13.45**	**43**	*e*Pn		**Pn**	**12 22 37.1**	**-0.9**
CNPM	**China Poot**	**13.69**	**48**	*e*Pn		**Pn**	**12 22 39.6**	**-1.4**
TT01	**Tatalina**	**13.75**	**31**	*e*Pn		**Pn**	**12 22 44.5**	**+2.7**
TTA	**Tatalina**	**13.77**	**31**	*e*P		**P**	**12 22 46.0**	**-3.4**
TTA	**Tatalina**	**13.77**	**31**	*e*Pn		**P**	**12 22 46.0**	**-3.4**
BRLK	**Bradley Lake**	**13.95**	**48**	*e*Pn		**Pn**	**12 22 42.4**	**-2.1**
SPU	**Mount Spurr**	**14.12**	**42**	*e*Pn		**Pn**	**12 22 47.1**	**+0.2**
SUA	**Susitna One**	**14.80**	**42**	*e*Pn		**Pn**	**12 22 56.2**	**+0.2**
	36nm,0.6s							
RC01	**Rabbit Creek A**	**15.05**	**44**	*e*Pn		**Pn**	**12 22 58.8**	**-0.3**
	46nm,1.2s							
PPLA	**Purkeypile**	**15.05**	**36**	*e*Pn		**Pn**	**12 23 00.8**	**+1.5**
	49nm,1.5s							
CAST	**Castle Rocks**	**15.41**	**34**	*e*Pn		**Pn**	**12 23 04.4**	**+0.6**
	25nm,1.2s							
PMR	**Palmer**	**15.54**	**43**	*e*P		**Pn**	**12 23 06.0**	**+0.6**
PMR				pmax		pmax		
	comp=Z,13nm,1.0s							
PMR	**Palmer**	**15.54**	**43**	*e*Pn		**Pn**	**12 23 06.0**	**+0.6**
	comp=Z,13nm,1.0s							
KTH	**Kantishna Hill**	**15.91**	**35**	*e*Pn		**Pn**	**12 23 11.1**	**+0.9**
	comp=Z,22nm,1.0s							
SML	**Sawmill**	**15.98**	**43**	*e*P		**Pn**	**12 23 10.8**	**-0.3**
SML				pmax		pmax		
	comp=Z,21nm,1.1s							
SML	**Sawmill**	**15.98**	**43**	*e*Pn		**Pn**	**12 23 10.8**	**-0.3**
	comp=Z,21nm,1.1s							
MID	**Middleton Isla**	**15.99**	**52**	*e*P		**Pn**	**12 23 08.6**	**-2.5**
MID				pmax		pmax		
	comp=Z,80nm,1.0s							
MID	**Middleton Isla**	**15.99**	**52**	*e*Pn		**Pn**	**12 23 08.6**	**-2.5**
	comp=Z,80nm,1.0s							
TRF	**Thorofare Moun**	**16.08**	**36**	*e*Pn		**Pn**	**12 23 12.5**	**+0.1**
	comp=Z,17nm,1.0s							
SCM	**Sheep Creek Mo**	**16.42**	**44**	*e*P		**Pn**	**12 23 15.7**	**-0.9**
SCM				pmax		pmax		
	comp=Z,33nm,1.0s							
SCM	**Sheep Creek Mo**	**16.42**	**44**	*e*Pn		**Pn**	**12 23 15.7**	**-0.9**
	comp=Z,33nm,1.0s							
SCM				*e*Sn		**S**	**12 26 24.9**	**-2.8**
RND	**Reindeer**	**16.58**	**38**	*e*P		**P**	**12 23 26.3**	**+5.8**
RND				pmax		pmax		
	comp=Z,28nm,0.9s							
RND	**Reindeer**	**16.58**	**38**	*e*Pn		**P**	**12 23 26.3**	**+5.8**
	comp=Z,28nm,0.9s							
EYAK	**Cordova Ski Ar**	**16.62**	**49**	*e*Pn		**Pn**	**12 23 18.0**	**-1.1**
	comp=Z,15nm,1.1s							
MCK	**McKinley**	**16.73**	**36**	*e*P		**Pn**	**12 23 20.6**	**+0.1**
MCK				pmax		pmax		
	comp=Z,36nm,1.1s							
MCK	**McKinley**	**16.73**	**36**	*e*Pn		**Pn**	**12 23 20.6**	**+0.1**
	comp=Z,36nm,1.1s							
DHY	**Denali Highway**	**16.98**	**40**	*e*Pn		**Pn**	**12 23 24.1**	**+0.4**
	comp=Z,7.7nm,0.8s							
BMRM	**Bremner River**	**17.29**	**48**	*e*Pn		**Pn**	**12 23 26.8**	**-0.7**
	comp=Z,20nm,0.9s							
WRH	**Wood River Hil**	**17.46**	**35**	*e*Pn		**P**	**12 23 30.4**	**+0.2**
HARP	**HAARP**	**17.59**	**43**	*e*Pn		**Pn**	**12 23 28.5**	**-2.5**
CCB	**Clear Creek Bu**	**17.66**	**35**	*e*P		**P**	**12 23 32.3**	**0.0**
	comp=Z,12nm,0.9s							
MDM	**Murphy Dome**	**17.69**	**34**	*e*P		**P**	**12 23 33.0**	**+0.3**
	comp=Z,9.9nm,1.0s							
COLA	**College**	**17.77**	**34**	*e*P		**Pn**	**12 23 33.0**	**-0.3**
COLA				pmax		pmax		
	comp=Z,14nm,0.9s							
COLA	**College**	**17.77**	**34**	*e*P		**Pn**	**12 23 33.0**	**-0.3**
	comp=Z,14nm,0.9s							
HDA	**Harding Lake**	**17.84**	**36**	*e*P		**Pn**	**12 23 35.5**	**+1.4**
	comp=Z,20nm,1.2s							
ILAR	**Eielson Array**	**18.06**	**35**	P		**P**	**12 23 33.3**	**-3.4**
	comp=Z,0.3nm,0.3s,baz=239,slow=9.6,SNR=30							
ILAR				S		**Sn**	**12 26 54.8**	**-2.3**
	comp=Z,0.0nm,0.3s,baz=317,slow=33,SNR=2.5							
ILAR				LR		LR	12 30 50.9	
	comp=Z,195nm,18.7s,baz=248,slow=38							
ILAR				ScP		**ScP**	**12 31 38.2**	**-1.2**

YKA **Yellowknife Ar** 31.52 48 P P 12 25 45.4 -1.4
comp=Z,1.4nm,0.4s,baz=274,slow=7.9,SNR=6.0
YKA LR LR 12 39 12.1
comp=Z,24nm,19.5s,baz=0.0,slow=38
YKA Yellowknife Ar 31.52 48 *ce*P **P 12 25 46.7 -0.1**
YKA pmax pmax
comp=Z,2.0nm,0.5s
HTW Haystack Looko 31.85 77 P **P 12 25 51.4 +1.6**
TDL Tradedollar La 32.24 80 P **P 12 25 55.5 +2.0**
TIXI Tiksi 32.39 329 *e*P **P 12 25 54.4 +0.2**
TIXI pmax pmax
comp=Z,3.0nm,0.8s
WTV Waterville 32.99 77 P **P 12 26 01.1 +1.3**
G05D Wamic, OR 33.33 81 P **P 12 26 04.1 +1.3**
baz=300
I04A Tendick Farm, 33.41 84 P **P 12 26 04.9 +1.4**
baz=302
CROR Criterion Ridg 33.66 82 P **P 12 26 07.3 +1.4**
I05D Terrebonne, OR 33.78 83 P **P 12 26 07.8 +1.0**
baz=301,SNR=6.2
HAWA Hanford 33.85 78 *e*P **P 12 26 07.9 +0.6**
comp=Z,17nm,0.7s
J04D Umpqua Nationa 33.88 85 P **P 12 26 10.1 +2.2**
baz=302
J05D Fort Rock, OR 34.40 84 P **P 12 26 14.3 +2.0**
baz=302,SNR=9.1
NEW Newport 34.42 74 P **P 12 26 13.1 +0.7**
baz=297,SNR=29
NEW Newport 34.42 74 *e*P **P 12 26 12.7 +0.4**
NEW *e* 12 27 31.8
NEW pmax pmax
comp=Z,21nm,0.8s
NEW Newport 34.42 74 *e*P **P 12 26 12.7 +0.4**
comp=Z,21nm,0.8s
NEW *e*PP **PP 12 27 31.8 +1.0**
K04D Chiloquin, OR 34.44 86 P **P 12 26 14.1 +1.5**
baz=303
EDM Edmonton 34.55 64 *e*P **P 12 26 14.1 +0.8**
EDM pmax pmax
comp=Z,48nm,0.7s
EDM Edmonton 34.55 64 *e*P **P 12 26 14.1 +0.8**
comp=Z,48nm,0.7s
M04C Macdoel 34.85 87 P **P 12 26 17.7 +1.5**
baz=304
MOD Modoc Plateau 35.73 86 *e*P **P 12 26 25.6 +1.8**
comp=Z,5.1nm,0.6s
MOD *e*PcP **PcP 12 28 51.6 +0.8**
WALA Waterton Lakes 35.96 71 *e*P **P 12 26 26.4 +0.8**
comp=Z,26nm,1.1s
H11N2 WAKE ISLAND Hy 36.31 216 T T 13 05 02.6
baz=21,slow=76,SNR=68
H11N3 WAKE ISLAND Hy 36.32 216 T T 13 05 02.9
baz=21,slow=76,SNR=65
H11N1 WAKE ISLAND Hy 36.33 216 T T 13 05 02.4
baz=21,slow=76,SNR=71
WVOR Wild Horse Val 36.46 84 *e*P **P 12 26 31.3 +1.3**
WVOR pmax pmax
comp=Z,15nm,0.9s
WVOR Wild Horse Val 36.46 84 *e*P **P 12 26 31.3 +1.3**
comp=Z,15nm,0.9s
MSO Missoula 37.00 74 P **P 12 26 35.1 +0.6**
baz=300,SNR=11
H11S1 WAKE ISLAND Hy 37.51 215 T T 13 06 50.1
baz=22
H11S2 WAKE ISLAND Hy 37.52 215 T T 13 06 31.2
baz=22,slow=74,SNR=151
H11S3 WAKE ISLAND Hy 37.52 215 T T 13 06 36.6
baz=22,slow=74,SNR=104
MFID Camas Ranch, 37.65 80 *e*P **P 12 26 39.3 -0.7**
comp=Z,11nm,0.8s
USRK Ussuriysk Ar. 37.65 281 LR LR 12 41 09.6
comp=Z,77nm,20.9s,baz=43,slow=34
MAJO Matsushiro 38.32 266 *i*P **P 12 26 44.8 -0.8**
MAJO pmax pmax
comp=Z,47nm,0.8s
MAJO Matsushiro 38.32 266 *e*P **P 12 26 46.0 +0.4**
comp=Z,8.8nm,0.6s
MAT Matsushiro 38.32 266 P **P 12 26 45.3 -0.3**
MAT *e*S S 12 32 51.0 +15
MJAR Matsushiro Arr 38.32 266 P **P 12 26 46.4 +0.8**
comp=Z,3.5nm,0.7s,baz=271,slow=6.9,SNR=19
MJAR LR LR 12 41 32.5
comp=Z,87nm,21.1s,baz=65,slow=34
HLID Hailey 38.42 79 P **P 12 26 47.1 +0.5**
baz=303
HLID Hailey 38.42 79 *e*P **P 12 26 47.6 +1.0**
comp=Z,2.1nm,0.7s
HLID *e*PcP **PcP 12 28 60.0 +1.0**
BMN Battle Mountai 38.48 85 *e*P **P 12 26 48.5 +1.4**
BMN pmax pmax
comp=Z,4.0nm,0.5s
BMN Battle Mountai 38.48 85 *e*P **P 12 26 48.5 +1.4**
comp=Z,3.7nm,0.5s
EGMT Eagleton 38.88 71 P **P 12 26 51.2 +1.0**
baz=300
EGMT Eagleton 38.88 71 *e*P P 12 26 40.3 -10
BOZ Bozeman (W) 39.01 75 P **P 12 26 51.8 +0.4**
baz=302,SNR=24
BOZ Bozeman (W) 39.01 75 *e*P **P 12 26 51.9 +0.4**
BOZ *e* 12 29 01.3
BOZ pmax pmax
comp=Z,24nm,1.3s
BOZ Bozeman (W) 39.01 75 *e*P **P 12 26 51.9 +0.4**
comp=Z,24nm,1.3s
BOZ *e*PcP **PcP 12 29 01.3 +0.6**
TIN Tinemaha, Big 39.92 90 P **P 12 27 01.0 +1.9**
baz=309
H17A Grant Village 40.29 76 P **P 12 27 03.9 +1.7**
baz=303
H17A Grant Village 40.29 76 *e*P **P 12 27 04.2 +2.0**
comp=Z,13nm,1.0s
LKWY Lake 40.30 76 *e*P **P 12 27 02.9 +0.6**
LKWY pmax pmax
comp=Z,8.0nm,0.7s
LKWY Lake 40.30 76 *e*P **P 12 27 02.9 +0.6**
comp=Z,7.9nm,0.7s
IMW Indian Meadow 40.34 77 *e*P **P 12 27 03.8 +1.1**
comp=Z,8.2nm,0.9s
PKM Mcpherson Peak 40.34 94 P **P 12 27 04.4 +1.7**
baz=311
FLWY Flagg Ranch 40.38 76 *e*P **P 12 27 03.3 +0.3**
comp=Z,8.9nm,0.8s
CWC Cottonwood Cre 40.41 91 P **P 12 27 04.3 +1.2**
baz=310
TPAW Teton Pass 40.56 77 *e*P **P 12 27 05.6 +1.1**
comp=Z,4.0nm,0.7s
ISA Isabella, Lake 40.66 92 P **P 12 27 06.0 +0.8**
baz=310
RLMT Red Lodge 40.67 74 P **P 12 27 06.1 +0.8**
baz=303,SNR=23
RLMT Red Lodge 40.67 74 *e*P **P 12 27 06.2 +0.8**
comp=Z,28nm,0.9s
REDW Red Top Meadow 40.69 77 *e*P **P 12 27 06.5 +1.0**
comp=Z,15nm,1.2s
SBC Santa Barbara 40.70 95 P **P 12 27 06.6 +1.2**
baz=312
LOHW Long Hollow 40.70 77 *e*P **P 12 27 06.1 +0.5**
comp=Z,4.6nm,1.1s
R11A Troy Canyon, C 40.75 87 P **P 12 27 06.8 +0.8**
baz=308,SNR=15
R11A Troy Canyon, C 40.75 87 *e*P **P 12 27 06.3 +0.3**
comp=Z,8.2nm,0.9s
DAC Darwin (Calif) 40.81 91 *e*P **P 12 27 07.9 +1.3**
DAC pmax pmax
comp=Z,1.0nm,0.6s
DAC Darwin (Calif) 40.81 91 *e*P **P 12 27 07.9 +1.3**
comp=Z,1.4nm,0.6s
MPMC Manual Prospec 41.02 91 P **P 12 27 09.4 +1.1**
baz=310,SNR=8.1
FURC Furnace Creek, 41.14 90 P **P 12 27 10.5 +1.5**
baz=310,SNR=18
TPNV Topopah Spring 41.22 89 P **P 12 27 11.1 +1.2**
baz=309,SNR=27
HWUT Hardware Ranch 41.27 80 *e*P **P 12 27 10.7 +0.4**
comp=Z,6.8nm,1.1s
HWUT *e*PcP **PcP 12 29 09.0 +0.9**
CCAC Calif City Air 41.28 92 *e*P P 12 27 00.3 -10
DUG Dugway, Tooele 41.34 83 P **P 12 27 11.7 +1.0**
baz=307,SNR=20
DUG Dugway, Tooele 41.34 83 *e*P **P 12 27 11.7 +1.0**
DUG *e* 12 29 09.0
DUG pmax pmax
comp=Z,20nm,1.2s
DUG Dugway, Tooele 41.34 83 *e*P **P 12 27 11.7 +1.0**
comp=Z,20nm,1.2s
DUG *e*PcP **PcP 12 29 09.0 +0.7**
EDW2 Edwards Air Fo 41.47 93 P **P 12 27 12.7 +0.8**
baz=311
LAO LASA Array 41.63 70 P **P 12 27 13.7 +0.7**
baz=302
LAO LASA Array 41.63 70 *e*P **P 12 27 14.0 +1.1**
comp=Z,19nm,0.9s
BW06 Boulder Array 41.81 77 P **P 12 27 15.2 +0.5**
baz=305,SNR=28
BW06 Boulder Array 41.81 77 *e*P **P 12 27 15.3 +0.5**
comp=Z,17nm,0.9s
PDAR Pinedale Array 41.81 77 P **P 12 27 15.2 +0.5**
comp=Z,12nm,0.8s,baz=299,slow=4.5,SNR=103
PDAR ScP **ScP 12 32 55.1 -0.8**
comp=Z,0.6nm,0.9s,baz=219,slow=3.8,SNR=3.5
PDAR LR LR 12 42 04.0
comp=Z,94nm,21.3s,baz=350,slow=32
DGMT Dagmar 41.86 67 P **P 12 27 14.8 0.0**
baz=301
SHOC Shoshone, Teco 41.87 90 P **P 12 27 16.3 +1.3**
baz=310,SNR=8.7
GSC Goldstone, Bar 41.93 91 P **P 12 27 16.9 +1.3**
baz=311,SNR=16
BFSC Mount Baldy Ra 42.10 93 P **P 12 27 18.1 +1.0**
baz=312,SNR=7.5
HEC Hector,Ludlow 42.53 91 P **P 12 27 21.6 +1.1**
baz=311,SNR=7.4
GMRC Granite Mounta 42.98 91 P **P 12 27 25.1 +0.9**
baz=311
PFO Pinyon Flats O 43.26 93 P **P 12 27 27.1 +0.6**
baz=312
TPFO Pinon Flats 43.27 93 P **P 12 27 27.2 +0.6**
baz=312
BELC Belle Mtn. Jos 43.29 92 P **P 12 27 27.4 +0.7**
baz=312
NEE2 Needles Airpor 43.63 90 P **P 12 27 30.2 +0.9**
baz=311
K22A Casper 43.70 75 P **P 12 27 29.8 -0.1**
baz=306,SNR=7.2
K22A Casper 43.70 75 *e*P **P 12 27 29.9 -0.1**
comp=Z,18nm,1.1s
IRM Iron Mountain 43.71 91 P **P 12 27 30.8 +0.8**
baz=312
MONP Monument Peak, 43.77 94 P **P 12 27 31.6 +0.9**
baz=313
KSRS Korea Array 44.10 276 P **P 12 27 33.6 +0.7**
comp=Z,1.5nm,0.6s,baz=51,slow=7.8,SNR=8.0
KSRS LR LR 12 45 24.4
comp=Z,30nm,19.2s,baz=62,slow=35
IKP In-Ko-Pah, Jac 44.13 94 P **P 12 27 34.2 +0.8**
baz=313,SNR=5.1
KSAR Wonju Array Be 44.13 276 P **P 12 27 33.6 +0.4**
KSAR Wonju Array Be 44.13 276 P **P 12 27 33.6 +0.4**
O20A White River Ci 44.16 80 P **P 12 27 34.1 +0.4**
baz=307,SNR=15
O20A White River Ci 44.16 80 *e*P **P 12 27 33.7 -0.1**
comp=Z,57nm,1.2s
PDMCI Parker Dam,Lak 44.24 90 P **P 12 27 34.8 +0.7**
baz=312,SNR=6.0
RSSD Black Hills 44.33 72 P **P 12 27 35.0 0.0**
baz=305
RSSD Black Hills 44.33 72 *e*P **P 12 27 35.0 0.0**
RSSD pmax pmax
comp=Z,9.0nm,0.6s
RSSD Black Hills 44.33 72 *e*P **P 12 27 35.0 0.0**
comp=Z,8.9nm,0.6s
Y12C Blythe 44.37 91 P **P 12 27 35.9 +0.7**
baz=312,SNR=5.4
GLA Glamis 44.65 92 P **P 12 27 38.1 +0.6**
baz=313
MDND Maddock 44.79 65 P **P 12 27 38.7 +0.3**
baz=303,SNR=8.4
MDND Maddock 44.79 65 *e*P **P 12 27 38.7 +0.3**
comp=Z,79nm,1.1s
PV04 Paradox Valley 44.83 82 *e*P **P 12 27 39.2 +0.1**
N23A Red Feather La 45.10 77 P **P 12 27 41.5 +0.3**
baz=307,SNR=5.5
WUAZ Wupatki 45.15 87 P **P 12 27 42.5 +0.8**
baz=311,SNR=13
WUAZ Wupatki 45.15 87 *e*P **P 12 27 42.9 +1.3**
comp=Z,12nm,0.8s
PV01 Paradox Valley 45.20 82 *e*P **P 12 27 42.4 +0.3**
comp=Z,2μm,1.1s
SMCO Snowmass 45.52 80 *e*P **P 12 27 45.2 +0.4**
comp=Z,2.2nm,0.7s
ULM Lac du Bonnet 45.53 61 P **P 12 27 43.1 -1.1**
comp=Z,9.3nm,0.8s,baz=302,slow=8.1,SNR=19
ULM LR LR 12 46 47.7
comp=Z,110nm,18.8s,baz=354,slow=36
A31A Linda, St. Vin 45.54 63 P **P 12 27 43.9 -0.4**
baz=303
B31A Greenbush Farm 45.56 64 P **P 12 27 44.6 +0.1**
baz=304
MVCO Mesa Verde 45.83 83 P **P 12 27 47.6 +0.6**
baz=310
MVCO Mesa Verde 45.83 83 *e*P **P 12 27 47.7 +0.6**
comp=Z,5.3nm,0.6s
C31A Landman Farms, 45.87 64 P **P 12 27 46.6 -0.4**
baz=304
A32A Rocking H Ranc 45.93 63 P **P 12 27 46.8 -0.5**
baz=304,SNR=6.7
ISCO Idaho Springs 45.97 78 P **P 12 27 48.9 +0.7**
baz=308,SNR=6.3
NRIK Noril'sk 46.13 331 LR LR 12 48 56.9
comp=Z,84nm,19.4s,baz=102,slow=38
B32A Ashes, Strandq 46.20 63 P **P 12 27 49.3 -0.2**
baz=304
W18A Petrified Fore 46.42 86 P **P 12 27 52.0 +0.3**
baz=311
E31A Nome 46.48 66 P **P 12 27 51.1 -0.7**
baz=305
S22A 4UR Ranch, Cre 46.51 81 P **P 12 27 53.1 +0.6**
baz=310,SNR=9.0
A33A Warroad 46.52 62 P **P 12 27 51.6 -0.4**
baz=304,SNR=12
C32A Crookston 46.52 64 P **P 12 27 51.7 -0.4**
baz=304
AGMN Agassiz Nation 46.62 63 P **P 12 27 52.5 -0.3**
baz=304,SNR=8.5
AGMN Agassiz Nation 46.62 63 *e*P **P 12 27 52.4 -0.5**
comp=Z,29nm,1.0s
C33A Trail 46.98 63 P **P 12 27 55.2 -0.5**
baz=305
SUSD Miller 47.11 69 P **P 12 27 56.2 -0.5**
baz=306,SNR=6.4
B34A Aery, Baudette 47.18 62 P **P 12 27 56.4 -0.8**
baz=305,SNR=14
D33A AnnSam, Waubun 47.30 64 P **P 12 27 57.4 -0.7**
baz=305,SNR=6.9
SDCO Great Sand Dun 47.32 80 P **P 12 27 59.2 +0.4**
baz=310,SNR=16
SDCO Great Sand Dun 47.32 80 *e*P **P 12 27 59.5 +0.7**
comp=Z,14nm,1.3s
H31A Wolsey 47.36 69 P **P 12 27 58.4 -0.3**
baz=306,SNR=7.2
G32A Webster 47.46 67 P **P 12 27 58.7 -0.7**
baz=306,SNR=7.8
C34A RKJ Ranch, Bem 47.52 63 P **P 12 27 59.1 -0.7**
baz=305
I31A Royce, Wessing 47.60 69 P **P 12 27 59.9 -0.6**
baz=307
TUC Tucson 47.65 90 P **P 12 28 01.9 +0.8**
baz=313
TUC Tucson 47.65 90 *e*P **P 12 28 02.2 +1.0**
TUC pmax pmax
comp=Z,11nm,0.9s
TUC Tucson 47.65 90 *e*P **P 12 28 02.1 +1.0**
comp=Z,11nm,0.9s
D34A Park Rapids 47.69 64 P **P 12 28 00.5 -0.6**
baz=306,SNR=12
B35A Bob, Littlefor 47.76 62 P **P 12 28 01.1 -0.6**
baz=305,SNR=14
F33A 5 Mile Ranch, 47.80 66 P **P 12 28 01.4 -0.6**
baz=306,SNR=5.6
J31A Geddes 47.92 70 P **P 12 28 02.6 -0.5**
baz=307,SNR=10.0
H32A Carlson Farm, 47.95 68 P **P 12 28 02.3 -0.9**
baz=307,SNR=11
C35A Jirik Farms, M 48.00 63 P **P 12 28 02.6 -1.0**
baz=306,SNR=9.5
G33A Ortonville 48.10 67 P **P 12 28 03.7 -0.7**
baz=306
H33A Prehn Over Nor 48.24 67 P **P 12 28 04.9 -0.6**
baz=307,SNR=8.0
D35A Remer 48.32 63 P **P 12 28 05.6 -0.5**
baz=306,SNR=9.7
T25A Trinidad 48.38 80 P **P 12 28 08.0 +1.1**
baz=310,SNR=23
J32A Parkston 48.39 69 P **P 12 28 05.7 -0.9**
baz=307,SNR=6.1
F34A Alexandria 48.41 65 P **P 12 28 05.8 -0.9**
baz=306
E35A Pequot Lakes 48.44 64 P **P 12 28 06.5 -0.5**
baz=306,SNR=6.4
ANMO Albuquerque 48.56 84 P **P 12 28 08.7 +0.5**
baz=312
ANMO Albuquerque 48.56 84 *e*P **P 12 28 07.6 -0.6**
ANMO pmax pmax
comp=Z,5.0nm,1.2s
I33A Coleman 48.59 68 P **P 12 28 06.9 -1.2**
baz=307
C36A Pine Crest Far 48.59 62 P **P 12 28 07.5 -0.6**
baz=306,SNR=8.8
K32A Verdigre 48.75 70 P **P 12 28 08.8 -0.7**
baz=308
D36A Goodland 48.76 63 P **P 12 28 08.2 -1.2**
baz=306
H34A Spellman Lake, 48.80 67 P **P 12 28 09.1 -0.6**
baz=307
ECSD EROS Data Cent 48.88 68 P **P 12 28 09.5 -0.9**
baz=307,SNR=10.0
ECSD EROS Data Cent 48.88 68 *e*P **P 12 28 09.4 -0.9**
comp=Z,14nm,1.1s
J33A Davis 48.93 69 P **P 12 28 10.1 -0.7**
baz=308
C37A Embarrass 48.97 62 P **P 12 28 10.4 -0.6**
baz=306,SNR=8.9
E36A McGregor 49.10 63 P **P 12 28 11.5 -0.5**
baz=307,SNR=7.3
D37A Cotton 49.17 62 P **P 12 28 12.1 -0.5**
baz=306
EYMN Ely 49.21 61 P **P 12 28 12.4 -0.5**
baz=306,SNR=11
EYMN Ely 49.21 61 *e*P **P 12 28 12.2 -0.7**
comp=Z,19nm,0.9s
H35A Sunnyside Ranc 49.31 66 P **P 12 28 13.1 -0.5**
baz=307,SNR=6.7
F36A Milaca 49.34 64 P **P 12 28 13.3 -0.6**
baz=307,SNR=5.2
121A Cookes Peak, D 49.36 87 P **P 12 28 14.6 +0.2**
baz=313
121A Cookes Peak, D 49.36 87 *e*P **P 12 28 15.1 +0.7**
comp=Z,6.2nm,0.7s
BGNE Belgrade 49.42 72 P **P 12 28 14.1 -0.5**
baz=309
BGNE Belgrade 49.42 72 *e*P **P 12 28 14.2 -0.3**
comp=Z,73nm,1.1s
BGNE *e*PcP **PcP 12 29 34.6 -1.6**
C38A Sawbill Land. 49.47 61 P **P 12 28 14.1 -0.7**
baz=306,SNR=7.5
TLY Talaya 49.48 305 P **P 12 28 14.7 -0.1**
comp=Z,4.6nm,0.7s,baz=263,slow=5.2,SNR=3.3
TLY Talaya 49.48 305 *e*P **P 12 28 13.1 -1.7**
TLY pmax pmax
comp=Z,6.0nm,0.6s
TLY MLR MLR
comp=Z,67nm,16.0s
J34A George 49.53 68 P **P 12 28 14.8 -0.6**
baz=308
G36A St. Michael 49.60 65 P **P 12 28 15.3 -0.5**
baz=307
I35A Creekview Farm 49.74 67 P **P 12 28 16.2 -0.7**
baz=308
K34A Le Mars 49.83 69 P **P 12 28 17.0 -0.6**
baz=308,SNR=8.6
M33A Taylor Creek F 49.88 71 P **P 12 28 17.6 -0.5**
baz=309
F37A Hinrichs Farm, 49.93 64 P **P 12 28 17.7 -0.6**
baz=307
ULN Ulaanbaatar 49.96 300 *ce*P **P 12 28 17.6 -1.2**
ULN pmax pmax
comp=Z,1.0nm,0.8s
E38A The Farm, Brul 49.98 62 P **P 12 28 17.9 -0.8**
baz=307,SNR=7.2
C39A Grand Marais 50.03 60 P **P 12 28 18.4 -0.7**
baz=307,SNR=6.1
L34A Svendsen Farm, 50.11 70 P **P 12 28 19.2 -0.6**
baz=309,SNR=8.6
CBKS Cedar Bluff 50.12 75 P **P 12 28 19.6 -0.4**
baz=310
CBKS Cedar Bluff 50.12 75 *e*P **P 12 28 20.4 +0.4**
CBKS pmax pmax
comp=Z,15nm,0.7s
CBKS Cedar Bluff 50.12 75 *e*P **P 12 28 20.4 +0.4**
comp=Z,15nm,0.7s
CBKS *e*ScP **ScP 12 33 31.7 +1.5**
SPMN Marine on St. 50.13 65 P **P 12 28 19.2 -0.6**
baz=308
SPMN Marine on St. 50.13 65 *e*P **P 12 28 19.3 -0.6**
comp=Z,5.7nm,0.6s
F38A Pierce - Schro 50.20 63 P **P 12 28 20.2 -0.1**
baz=308,SNR=13
M34A Aapy Farms, Fr 50.28 71 P **P 12 28 20.7 -0.4**
baz=309
K35A Storm Lake 50.30 69 P **P 12 28 20.6 -0.6**
baz=308
SONM Songino Array 50.34 300 P **P 12 28 20.8 -0.7**
comp=Z,1.1nm,0.6s,baz=52,slow=8.7,SNR=5.7
SONM LR LR 12 51 50.9
comp=Z,167nm,18.2s,baz=53,slow=39
ZAK Zakamensk 50.43 304 *e*P **P 12 28 21.6 -0.6**
ZAK pmax pmax
comp=Z,2.0nm,1.4s
J36A Seneca 1, Swea 50.44 67 P **P 12 28 21.4 -0.8**
baz=308
L35A Bielow Farm, R 50.50 69 P **P 12 28 21.8 -0.9**
baz=309
I37A Lemond, Waseca 50.54 66 P **P 12 28 22.0 -1.0**
baz=308
O33A Hebron 50.60 73 P **P 12 28 22.9 -0.6**
baz=310,SNR=7.4
E39A Mellen 50.67 62 P **P 12 28 23.0 -0.9**
baz=308
G38A Ridgeland 50.70 64 P **P 12 28 23.5 -0.7**
baz=308,SNR=5.9
F39A Loretta 50.75 63 P **P 12 28 23.9 -0.7**
baz=308
H38A Maiden Rock 50.76 65 P **P 12 28 24.1 -0.6**
baz=308
K36A Gilmore City 50.80 68 P **P 12 28 24.1 -0.8**
baz=309,SNR=5.4
J37A Redenius Farm, 50.90 67 P **P 12 28 25.0 -0.6**
baz=309,SNR=12
E40A Wakefield 50.99 62 P **P 12 28 25.6 -0.7**
baz=308
G39A Holcombe 51.00 64 P **P 12 28 25.7 -0.8**
baz=308
O34A Beatrice 51.05 72 P **P 12 28 26.1 -0.8**
baz=310,SNR=9.3
I38A Scanlan Farm, 51.13 66 P **P 12 28 26.6 -0.8**
baz=309
K37A Belmond 51.19 68 P **P 12 28 27.2 -0.7**
baz=309,SNR=9.8
F40A Park Falls 51.19 62 P **P 12 28 26.9 -0.9**
baz=308
N35A Tabor 51.24 71 P **P 12 28 27.7 -0.6**
baz=310,SNR=6.8
H39A Augusta 51.32 64 P **P 12 28 28.3 -0.5**
baz=308
M36A Felix, Anita 51.35 70 P **P 12 28 28.7 -0.4**
baz=310
P34A Walnut Farm, R 51.38 73 P **P 12 28 28.6 -0.7**
baz=310
MNTX Cornudas Mount 51.41 86 P **P 12 28 30.4 +0.7**
baz=314,SNR=10
MNTX Cornudas Mount 51.41 86 *e*P **P 12 28 30.5 +0.7**
comp=Z,4.2nm,0.7s
MSTX Muleshoe 51.47 82 P **P 12 28 30.1 -0.1**
baz=312,SNR=6.9
MSTX Muleshoe 51.47 82 *e*P **P 12 28 30.4 +0.2**
comp=Z,17nm,1.0s
J38A Wedel Dairy, R 51.50 66 P **P 12 28 29.7 -0.5**
baz=309,SNR=10
AMTX Amarillo 51.52 80 P **P 12 28 30.0 -0.6**
baz=312
L37A Phoenix Point, 51.53 68 P **P 12 28 30.0 -0.4**
baz=309
G40A Rib Lake 51.55 63 P **P 12 28 30.1 -0.4**
baz=309,SNR=6.2
I39A Houston 51.70 65 P **P 12 28 30.7 -1.0**
baz=309
Q34A Chapman 51.72 73 P **P 12 28 31.1 -0.8**
baz=310
K38A Parkersburg 51.76 67 P **P 12 28 31.6 -0.5**
baz=309
HHC Hu-ho-hao-te 51.79 290 *e*P **P 12 28 33.5 +1.0**
HHC pmax pmax
comp=Z,25nm,1.4s

HHC pmax pmax
comp=Z,160nm,2.2s
KSU1 Kansas State U 51.80 73 P P 12 28 32.0 -0.5
baz=310
KSU1 Kansas State U 51.80 73 eP P 12 28 32.1 -0.4
comp=Z,15nm,0.8s
M37A Trindle Farm, 51.81 69 P P 12 28 32.1 -0.4
baz=310
H40A Chili 51.85 64 P P 12 28 32.3 -0.5
baz=309,SNR=7.1
P35A Duane Minner, 51.87 72 P P 12 28 32.2 -0.8
baz=310,SNR=8.9
J39A Decorah 51.93 66 P P 12 28 32.4 -1.0
baz=309,SNR=12
R34A Isabella, Hill 51.94 74 P P 12 28 33.0 -0.6
baz=311,SNR=8.3
L38A Oak Wood Farm, 51.97 68 P P 12 28 33.1 -0.6
baz=310,SNR=9.6
SCIA State Center 51.98 68 eP P 12 28 33.9 +0.2
comp=Z,35nm,0.3s
I40A Norwalk 52.19 65 P P 12 28 34.6 -0.7
baz=309
K39A Oelwein 52.22 67 P P 12 28 34.4 -1.2
baz=310,SNR=8.7
H41A Junction City 52.26 63 P P 12 28 34.4 -1.4
baz=309
P36A Good Intent, A 52.29 72 P P 12 28 35.0 -1.2
baz=310,SNR=6.1
M38A Pleasantville 52.30 69 P P 12 28 34.9 -1.2
baz=310,SNR=6.4
S34A Willow Spring 52.42 75 P P 12 28 35.9 -1.2
baz=311
J40A Soldiers Grove 52.43 65 P P 12 28 35.9 -1.3
baz=310
I41A Arkdale 52.50 64 P P 12 28 36.6 -1.0
baz=309,SNR=5.1
L39A Vinton 52.53 67 P P 12 28 37.1 -0.8
baz=310,SNR=12
R35A Emporia Munici 52.55 73 P P 12 28 37.5 -0.6
baz=311
O37A Wolven Farm, M 52.56 70 P P 12 28 37.5 -0.6
baz=310,SNR=10
P37A Lathrop 52.81 71 P P 12 28 39.0 -1.0
baz=311,SNR=12
T34A McCluskey Farm 52.82 75 P P 12 28 39.3 -0.8
baz=312,SNR=11
M39A Webster 52.85 68 P P 12 28 39.7 -0.5
baz=310,SNR=19
J41A Loganville 52.86 65 P P 12 28 39.0 -1.3
baz=310,SNR=6.8
S35A Otter Creek Ra 52.90 74 P P 12 28 40.1 -0.6
baz=311,SNR=10
R36A Gordon, Harris 52.96 73 P P 12 28 40.5 -0.6
baz=311,SNR=10
O38A Galt 52.98 70 P P 12 28 40.2 -1.0
baz=311,SNR=5.9
L40A Anamosa 53.01 67 P P 12 28 40.2 -1.2
baz=310,SNR=5.5
JFWS Jewell Farm 53.02 65 eP P 12 28 40.1 -1.3
JFWS pmax pmax
comp=Z,16nm,1.0s
JFWS Jewell Farm 53.02 65 eP P 12 28 40.1 -1.3
comp=Z,16nm,1.0s
N39A Derby Farms, D 53.05 69 P P 12 28 41.1 -0.6
baz=310,SNR=16
K41A Shullsburg 53.18 66 P P 12 28 41.5 -1.1
baz=310,SNR=8.3
P38A Dawn 53.27 71 P P 12 28 42.3 -1.0
baz=311,SNR=16
M40A Post Highland 53.27 68 P P 12 28 42.5 -0.8
baz=310
T35A Sooner Cattle 53.29 75 P P 12 28 42.7 -0.9
baz=312
R37A Teagarden Farm 53.37 73 P P 12 28 42.8 -1.2
baz=311
WMOK Wichita Mounta 53.39 79 P P 12 28 44.4 0.0
baz=312,SNR=12
WMOK Wichita Mounta 53.39 79 eP P 12 28 44.3 0.0
WMOK pmax pmax
comp=Z,12nm,1.1s
WMOK Wichita Mounta 53.39 79 eP P 12 28 44.3 0.0
comp=Z,12nm,1.1s
L41A Preston 53.42 66 P P 12 28 43.2 -1.1
baz=310,SNR=6.5
U35A Pawnee 53.53 76 P P 12 28 44.6 -0.7
baz=312,SNR=5.8
N40A Mertquake, Sal 53.57 68 P P 12 28 44.5 -1.0
baz=311,SNR=5.2
T36A Boggs Farm, Ca 53.58 74 P P 12 28 44.6 -1.0
baz=312
Q38A Cooks Store, C 53.65 71 P P 12 28 44.7 -1.4
baz=311,SNR=10.0
S37A Fort Scott 53.74 73 P P 12 28 45.9 -0.9
baz=312,SNR=12
P39B Salisbury 53.81 70 P P 12 28 46.5 -0.8
baz=311,SNR=14
M41A Milan 53.85 67 P P 12 28 46.3 -1.2
baz=311
V35A Meyer Ranch, C 53.87 76 P P 12 28 47.2 -0.6
baz=312
O40A La Belle 53.91 69 P P 12 28 47.1 -0.9
baz=311,SNR=24
Q39A Willow Grove F 53.97 71 P P 12 28 47.2 -1.3
baz=311
R38A Fenwick Farm, 54.00 72 P P 12 28 47.1 -1.6
baz=312,SNR=12
T37A Cheneyville 18 54.11 74 P P 12 28 48.4 -1.1
baz=312,SNR=14
TXAR Lajitas Array 54.12 87 P P 12 28 49.7 -0.1
comp=Z,8.0nm,0.7s,baz=297,slow=5.2,SNR=104
TXAR PcP PcP 12 29 54.6 +0.6
comp=Z,0.8nm,0.6s,baz=305,slow=0.9,SNR=4.2
TXAR ScP ScP 12 33 46.0 -1.7
comp=Z,0.7nm,1.0s,baz=267,slow=2.5,SNR=3.9
TXAR LR LR 12 49 56.9
comp=Z,70nm,19.7s,baz=0.0,slow=34
P40A Paris 54.19 70 P P 12 28 49.1 -1.0
baz=311,SNR=32
W35A Tecumseh 54.26 77 P P 12 28 50.6 -0.1
baz=313,SNR=7.6
ABTX Abilene, Hawle 54.30 81 P P 12 28 51.2 +0.1
baz=314
ABTX Abilene, Hawle 54.30 81 eP P 12 28 51.1 +0.1
comp=Z,6.6nm,1.0s
S38A Stockton 54.37 73 P P 12 28 49.8 -1.6
baz=312,SNR=19
V36A Jenks 54.39 76 P P 12 28 51.0 -0.6
baz=312
TUL1 Leonard 54.40 75 P P 12 28 50.8 -0.9
baz=312
R39A Chumby, Stover 54.42 71 P P 12 28 50.0 -1.8
baz=312
U37A Salina 54.47 75 P P 12 28 51.3 -0.8
baz=312,SNR=10
O41A Passleys Farm, 54.48 68 P P 12 28 51.5 -0.6
baz=311
Q40A Laux Farm, Aux 54.53 70 P P 12 28 51.5 -1.1
baz=312,SNR=13
T38A Diamond 54.54 73 P P 12 28 51.3 -1.3
baz=312,SNR=8.4
W36A Wetumka 54.66 76 P P 12 28 53.1 -0.4
baz=313
P41A Barry, Barry 54.67 69 P P 12 28 52.4 -1.1
baz=312
S39A Bolivar 54.67 72 P P 12 28 51.7 -1.9
baz=312,SNR=8.6
X35A Drake 54.71 78 P P 12 28 53.4 -0.5
baz=313,SNR=6.4
V37A Hulbert 54.81 75 P P 12 28 53.8 -0.8
baz=313,SNR=7.2
Z34A Collier Ranch, 54.84 79 P P 12 28 54.9 0.0
baz=313
O42A Bath 54.89 68 P P 12 28 54.0 -1.0
baz=312
R40A Maddies Statio 54.89 71 P P 12 28 53.2 -1.9
baz=312,SNR=10
X36A Centrahoma 54.97 77 P P 12 28 55.1 -0.7
baz=313
Y35A Marietta 55.01 78 P P 12 28 56.1 0.0
baz=313,SNR=6.7
Q41A Truxton 55.05 70 P P 12 28 55.6 -0.7
baz=312,SNR=7.6
T39A Clever 55.09 73 P P 12 28 55.2 -1.4
baz=312,SNR=11
HDIL Hopedale 55.10 67 P P 12 28 55.6 -1.1
baz=312,SNR=6.8
HDIL Hopedale 55.10 67 eP P 12 28 55.7 -0.9
comp=Z,27nm,0.8s

W37B Quinton 55.14 76 P P 12 28 56.8 -0.2
baz=313,SNR=10
233A Rising Star 55.17 81 P P 12 28 57.1 -0.3
baz=314
V38A Canehill 55.26 75 P P 12 28 57.1 -0.7
baz=313,SNR=11
R41A Rosebud 55.40 70 P P 12 28 57.4 -1.5
baz=312,SNR=8.6
U39A Green Forest 55.46 73 P P 12 28 58.0 -1.3
baz=313,SNR=5.4
Y36A Durant 55.47 78 P P 12 28 59.1 -0.3
baz=313
Q42A Golden Eagle 55.48 69 P P 12 28 58.8 -0.6
baz=312,SNR=11
T40A Mansfield 55.51 72 P P 12 28 58.1 -1.5
baz=312,SNR=6.9
X37A Clayton 55.55 76 P P 12 28 59.8 -0.2
baz=313,SNR=9.7
P43A Skaggs, Pawnee 55.58 68 P P 12 28 59.3 -0.8
baz=312,SNR=5.6
333A Richland Sprin 55.60 82 P P 12 29 00.1 -0.3
baz=314,SNR=6.1
234A Clairette 55.65 81 P P 12 29 00.3 -0.4
baz=314
S41A Jillco Farms, 55.67 71 P P 12 28 59.2 -1.6
baz=312,SNR=13
JCT Junction City 55.69 83 P P 12 29 00.4 -0.7
baz=315
JCT Junction City 55.69 83 eP P 12 29 00.4 -0.7
JCT pmax pmax
comp=Z,6.0nm,0.6s
JCT Junction City 55.69 83 eP P 12 29 00.4 -0.7
comp=Z,5.8nm,0.6s
V39A Pettigrew 55.73 74 P P 12 29 00.1 -1.2
baz=313,SNR=6.4
W38A Poteau 55.73 75 P P 12 29 01.2 -0.1
baz=313,SNR=10
R42A Luebbering 55.76 70 P P 12 29 00.0 -1.4
baz=312
X38A Whitesboro 55.82 76 P P 12 29 01.7 -0.2
baz=313,SNR=5.9
U40A Yellville 55.85 73 P P 12 29 00.6 -1.4
baz=313,SNR=13
433A Art 55.94 82 P P 12 29 02.1 -0.7
baz=315,SNR=6.0
Q43A New Douglas 55.94 69 P P 12 29 01.6 -1.2
baz=312,SNR=6.8
T41A Mountain View 56.02 72 P P 12 29 01.7 -1.6
baz=313
334A Lometa 56.06 81 P P 12 29 03.5 -0.2
baz=314,SNR=11
W39A Magazine 56.08 75 P P 12 29 03.0 -0.7
baz=313,SNR=7.6
S42A Caledonia 56.10 70 P P 12 29 02.6 -1.3
baz=313,SNR=8.6
P44A Sand Creek, Wi 56.21 68 P P 12 29 04.0 -0.6
baz=312,SNR=11
V40A Witts Springs 56.24 74 P P 12 29 03.6 -1.4
baz=313,SNR=13
R43A Red Bud 56.26 69 P P 12 29 03.8 -1.1
baz=312,SNR=12
X39A Fountain Ranch 56.36 76 P P 12 29 04.6 -1.2
baz=313,SNR=14
Q44A Meyer Farm, Va 56.36 68 P P 12 29 04.5 -1.2
baz=312
434A Burnet 56.40 82 P P 12 29 05.5 -0.6
baz=315,SNR=9.8
VLDQ Val d'Or 56.40 53 eP P 12 29 04.0 -1.8
comp=Z,13nm,0.9s
U41A Viola 56.41 72 P P 12 29 04.6 -1.5
baz=313,SNR=6.7
T42A Van Buren 56.43 71 P P 12 29 04.3 -1.8
baz=313
533A Kerrville 56.45 83 P P 12 29 06.1 -0.4
baz=315
SFIN Lafayette 56.46 66 P P 12 29 05.7 -0.7
baz=312,SNR=7.4
SFIN Lafayette 56.46 66 eP P 12 29 05.8 -0.5
comp=Z,29nm,1.1s
SFIN ePcP PcP 12 30 04.2 +1.5
W40A Ferguson Farm, 56.51 74 P P 12 29 06.0 -0.8
baz=313,SNR=6.6
236A Katherine and 56.63 79 P P 12 29 07.7 0.0
baz=314
V41A Mountainview 56.65 73 P P 12 29 06.0 -1.8
baz=313,SNR=13
S43A Fulton Ridge, 56.65 70 P P 12 29 06.9 -0.9
baz=313,SNR=11
SCHQ Schefferville 56.65 42 LR LR 12 52 39.1
comp=Z,98nm,18.6s,baz=241,slow=35
MIAR Mount Ida 56.65 75 P P 12 29 07.6 -0.3
baz=313,SNR=15
MIAR Mount Ida 56.65 75 eP P 12 29 07.6 -0.3
MIAR pmax pmax
comp=Z,32nm,1.1s
MIAR Mount Ida 56.65 75 eP P 12 29 07.6 -0.3
comp=Z,32nm,1.1s
ZALV Zalesovo Beam 56.80 317 P P 12 29 09.4 +0.8
comp=Z,0.4nm,0.3s,baz=28,slow=6.7,SNR=4.4
ZALV PcP PcP 12 30 04.5 +0.7
comp=Z,1.7nm,0.7s,baz=8.9,slow=4.3,SNR=5.2
ZALV ScP ScP 12 33 56.9 -2.0
comp=Z,0.7nm,0.5s,baz=27,slow=4.2,SNR=3.7
ZALV LR LR 12 54 27.6
comp=Z,58nm,20.8s,baz=70,slow=37
U42A Revenden 56.80 72 P P 12 29 06.6 -2.2
baz=313,SNR=6.3
T43A Greenville 56.86 71 P P 12 29 07.8 -1.4
baz=313,SNR=27
W41B Gary Mavity, V 57.01 74 P P 12 29 09.5 -0.9
baz=314,SNR=6.9
V42A Cord 57.09 73 P P 12 29 09.2 -1.7
baz=313
X40A Basin Creek Fa 57.14 75 P P 12 29 10.6 -0.6
baz=314,SNR=6.9
T44A Benton 57.27 70 P P 12 29 10.9 -1.2
baz=313
H06E1 SOCORRO T-PHAS 57.40 101 T T 13 31 19.2
SNR=159
S45A Carrie Mills 57.45 69 P P 12 29 12.2 -1.1
baz=313
XAN Xi'an 57.91 285 P P 12 29 16.4 -0.4
XAN pmax pmax
comp=Z,5.0nm,0.7s
ARCES ARCESS Array B 58.17 353 P P 12 29 16.7 -1.3
comp=Z,1.6nm,0.9s,baz=24,slow=9.3,SNR=3.7
ARCES LR LR 12 56 27.5
comp=Z,34nm,18.3s,baz=23,slow=38
WCI Wyandotte Cave 58.38 67 eP P 12 29 19.2 -0.8
WCI pmax pmax
comp=Z,50nm,0.9s
WCI Wyandotte Cave 58.38 67 eP P 12 29 19.2 -0.8
comp=Z,50nm,0.9s
OXF Oxford 59.15 72 eP P 12 29 24.9 -0.4
OXF pmax pmax
comp=Z,72nm,1.0s
OXF Oxford 59.15 72 eP P 12 29 24.9 -0.4
comp=Z,72nm,1.0s
X45A UM Field Stati 59.22 72 P P 12 29 24.7 -1.1
baz=314
LZH Lanzhou 59.47 291 eP P 12 29 27.9 +0.2
LZH pP pP 12 29 37.1 -4.4
LZH sP sP 12 29 40.2 -6.9
LZH pmax pmax
comp=Z,15nm,1.0s
M54A Oil Creek Stat 59.79 60 P P 12 29 29.0 -0.7
baz=314
Y47A UCPARC, Winfie 60.50 72 P P 12 29 33.5 -1.1
baz=315
Z47A Carrollton 60.87 73 P P 12 29 36.0 -1.1
baz=315,SNR=7.9
Z48A Northport 61.04 72 P P 12 29 37.1 -1.2
baz=315,SNR=9.3
147A Livingston 61.12 73 P P 12 29 38.3 -0.5
baz=315,SNR=5.0
O56A Blue Knob Stat 61.25 61 P P 12 29 39.1 -0.6
baz=315
445A Amite 61.27 76 P P 12 29 39.4 -0.5
baz=316
SSPA Standing Stone 61.35 60 eP P 12 29 39.6 -0.7
comp=Z,272nm,1.8s
LRAL Lakeview Retre 61.61 72 eP P 12 29 41.0 -1.2
comp=Z,8.7nm,0.8s
KURK Kurchatov 61.76 317 eP P 12 29 43.3 +0.4
KURK pmax pmax
comp=Z,20nm,0.8s
KURK Kurchatov 61.76 317 eP P 12 29 42.2 -0.7
comp=Z,51nm,0.7s

248A Dixon Mills 61.85 73 P P 12 29 43.5 -0.2
baz=316,SNR=5.4
347A Saraland 61.87 74 P P 12 29 43.9 0.0
baz=316
KURBB Kurchatov Arra 61.87 317 P P 12 29 42.9 -0.7
comp=Z,5.2nm,0.8s,baz=43,slow=7.0,SNR=43
N59A State Game Lan 62.28 58 P P 12 29 46.0 -0.5
baz=316
WMQ Urumqi 62.70 307 P P 12 29 48.6 -0.8
WMQ pP pP 12 29 53.2 -10
WMQ sP sP 12 29 55.6 -13
WMQ pmax pmax
comp=Z,15nm,0.6s
WMQ pmax pmax
comp=Z,140nm,4.7s
WMQ LR LR
comp=N,74nm,18.3s
WMQ LR LR
comp=E,52nm,18.3s
WMQ LR LR
comp=Z,79nm,23.5s
BVAR Borovoye Array 63.23 323 P P 12 29 52.2 -0.4
baz=50,slow=7.7
BRVK Borovoye 63.24 323 eP P 12 29 53.7 +1.0
BRVK pmax pmax
comp=Z,8.0nm,0.8s
BRVK Borovoye 63.24 323 eP P 12 29 52.2 -0.6
comp=Z,8.8nm,0.8s
KMSC Kings Mountain 63.38 66 P P 12 29 53.6 -0.4
baz=316,SNR=10
KMSC Kings Mountain 63.38 66 eP P 12 29 53.5 -0.4
comp=Z,28nm,0.9s
GOGA Godfrey 63.40 69 eP P 12 29 52.7 -1.4
GOGA pmax pmax
comp=Z,17nm,0.8s
GOGA Godfrey 63.40 69 eP P 12 29 52.7 -1.4
comp=Z,17nm,0.8s
ARU Arti 64.35 332 P P 12 29 58.9 -1.0
comp=Z,2.3nm,0.4s,baz=18,slow=4.5,SNR=5.2
GYA Guiyang 64.69 281 eP P 12 30 03.6 +0.8
GYA pmax pmax
comp=Z,10.0nm,0.8s
FINES FINESS Array B 66.07 351 P P 12 30 09.5 -1.5
comp=Z,3.9nm,1.0s,baz=191,slow=29,SNR=5.5
FINES LR LR 13 00 53.4
comp=Z,34nm,20.4s,baz=350,slow=38
PDGK Podgornoye 67.01 311 P P 12 30 17.7 +0.2
PDGK pmax pmax
comp=Z,4.0nm,0.7s
NB2 NORSAR Subarra 67.32 359 P P 12 30 18.5 -0.6
comp=Z,1.0nm,0.7s,baz=1.8,slow=6.5
NOA NORSAR Array B 67.32 359 P P 12 30 17.2 -1.8
comp=Z,0.6nm,0.6s,baz=2.9,slow=6.3,SNR=3.6
KMI Kunming 68.05 283 P P 12 30 26.0 +1.6
KMI pmax pmax
comp=Z,12nm,0.7s
AKTO Aktyubinsk 69.67 329 P P 12 30 33.0 -0.8
comp=Z,3.4nm,0.7s,baz=41,slow=9.0,SNR=7.1
ABKAR Akbulak array 70.05 327 eP P 12 30 35.4 -0.8
comp=Z,0.8nm,0.4s
OBN Obninsk 70.76 343 eP P 12 30 39.7 -0.6
OBN e 12 33 13.8
OBN pmax pmax
comp=Z,8.0nm,0.5s
KKAR Karatay Array 71.17 317 eP P 12 30 42.7 -0.4
KKAR pmax pmax
comp=Z,3.0nm,0.7s
KKAR Karatay Array 71.17 317 eP P 12 30 42.7 -0.4
comp=Z,2.8nm,0.7s
LSA Lhasa 71.39 294 eP P 12 30 46.1 +0.9
LSA pmax pmax
comp=Z,11nm,0.8s
LSA Lhasa 71.39 294 eP P 12 30 46.1 +0.9
comp=Z,11nm,0.8s
KSH Kashi 71.64 311 eP P 12 30 49.4 +3.3
KSH pP PcP 12 30 59.3 -5.8
KSH sP pP 12 31 03.4 +3.2
KSH PP PP 12 33 31.0 +6.0
KSH S S 12 40 04.1 +2.3
KSH sS SKiKP 12 40 21.1 +1.0
KSH Kashi 71.64 311 SS SS 12 44 40.5 +3.6
KSH pmax pmax
comp=Z,7.0nm,0.6s
KSH pmax pmax
comp=Z,63nm,3.9s
KSH LR LR
comp=N,92nm,9.8s
KSH LR LR
comp=E,100nm,7.5s
KSH LR LR
comp=Z,130nm,5.5s
PPT Papeete 71.85 158 LR LR 12 56 20.7
comp=Z,41nm,20.1s,baz=10,slow=31
PPT2 Papeete2 71.87 158 eLR LR 12 52 33.8
comp=Z,57nm,23.0s
PPT2 Papeete2 71.87 158 eT T 13 49 35.0
comp=Z,1.6nm,0.2s
TAPN Taplejung 75.13 295 eP P 12 31 07.2 +0.1
CMAR Chiang Mai Arr 75.38 281 P P 12 31 09.1 +0.8
comp=Z,5.0nm,0.7s,baz=26,slow=6.6,SNR=22
CMAR LR LR 13 06 10.3
comp=Z,76nm,18.6s,baz=201,slow=37
ODAN Odare 75.69 295 eP P 12 31 11.3 +1.1
GUN Gumba 75.71 297 eP P 12 31 10.4 -0.1
comp=Z,12nm,0.4s
JIRN Jiri 75.73 297 eP P 12 31 10.8 +0.2
comp=Z,40nm,0.7s
KKN Kakani 76.13 297 eP P 12 31 12.6 -0.1
AKASG Malin Array Be 76.20 347 LR LR 13 09 04.1
comp=Z,38nm,19.2s,baz=45,slow=39
KIEV Kiev 76.21 347 eP P 12 31 12.7 +0.2
KIEV pmax pmax
comp=Z,2.0nm,1.0s
GKN Gorkha 76.32 298 eP P 12 31 13.0 -0.7
comp=Z,24nm,0.7s
DMN Daman 76.37 297 eP P 12 31 14.1 0.0
PYUN Piuthan 77.14 299 eP P 12 31 17.7 -0.7
TBI Tubuai 77.45 159 eT T 13 56 34.4
comp=Z,5.3nm,0.2s
DPC Dobruska-Polom 77.84 355 eP P 12 31 22.1 +0.4
DPC Dobruska-Polom 77.84 355 eP P 12 31 22.1 +0.4
KHC Kasperske Hory 79.19 357 eP P 12 31 29.8 +0.7
KHC Kasperske Hory 79.19 357 eP P 12 31 29.8 +0.7
GERES GERESS Array B 79.47 356 P P 12 31 26.8 -4.0
comp=Z,0.5nm,0.7s,baz=5.6,slow=5.5,SNR=4.2
KIV Kislovodsk 79.98 336 eP P 12 31 35.0 +1.4
KIV pmax pmax
comp=Z,6.0nm,1.0s
GEYT Alibeck 80.54 322 LR LR 13 10 45.4
comp=Z,87nm,18.3s,baz=170,slow=38
BRTR Keskin Array B 86.08 341 LR LR 13 16 12.8
comp=Z,23nm,19.0s,baz=12,slow=40
ESDC Sonseca Array 88.10 10 P P 12 32 13.0 -1.9
comp=Z,1.6nm,0.9s,baz=354,slow=4.8,SNR=6.8
ASAR Alice Springs 89.10 228 P P 12 32 19.8 +0.2
comp=Z,4.3nm,0.8s,baz=34,slow=4.2,SNR=11
TORD Torodi Ar. Bea 114.90 7 PKP PKPdf 12 38 03.8 -1.4
comp=Z,0.3nm,0.5s,baz=270,slow=0.4,SNR=3.2
PLCA Paso Flores 126.91 111 PKP **PKPdf** 12 38 27.8 +0.3
comp=Z,3.3nm,0.9s,baz=7.4,slow=5.2,SNR=4.4
MATP Matopo 144.85 326 PKP **PKPab** 12 39 00.0 -0.5
comp=Z,1.6nm,0.5s,baz=334,slow=2.4,SNR=4.7
MAW Mawson 149.72 218 PKPbc **PKPbc** 12 39 11.9 -0.6
comp=Z,5.9nm,1.0s,baz=105,slow=1.3,SNR=7.0
LBTB Lobatse 150.08 328 PKPbc **PKPbc** 12 39 14.4 -0.5
comp=Z,10nm,0.8s,baz=23,slow=1.2,SNR=9.1

*IDC **10** 12:22:01.5±2.3,6°37S×132°08E,h0km,mb3.9/1, mb1 4.6/6,mb1mx3.9/36,mbtmp4.5/6,ML4.4/4,Error ellipse: s-maj=55.3km s-min=29.4km az=87.0*
*ISCJB **10** 12:22:04.4±0.7,6°38S±0°06×131°99E±0°09,h46km, mb4.2/3,Error ellipse: s-maj=12.3km s-min=8.4km az=175.9*
*NEIC **10** 12:22:06.2±0.8,6°37S×132°02E,h35km,mb4.6/3,Error ellipse: s-maj=11.3km s-min=10.3km az=113.0*

ISC 10 12:22:05.1±0.8,**6°32S**±0°06×**132°0E**±0°1,**h46**km,**n13, σ3°06/17,mb4.4/3,Tanimbar Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FAKI	**Fak Fak**	**3.39**	**4**	ePn	**Pn**	**12 22 57.1**	**+1.6**
FAKI				eSn	**Sn**	**12 23 30.9**	**-3.5**
SIJI	**Sorong**	**5.47**	**352**	Pn	**Pn**	**12 23 25.1**	**+1.1**
	8.4nm,0.3s,baz=254,slow=7.4,SNR=3.7						

SIJI				Sn		**Sn**	**12 24 20.7**	**-5.0**
	13nm,0.3s,baz=96,slow=19,SNR=3.5								
SOEI	**Soe**	**8.40**	**246**	*e*Pn		**Pn**	**12 24 06.0**	**+1.7**
	109nm,0.8s								
FITZ	**Fitzroy Crossi**	**13.26**	**207**	Pn		**Pn**	**12 25 11.1**	**+0.3**
	1.8nm,0.3s,baz=30,slow=12,SNR=61								
FITZ				Sn		Sn	12 27 28.7	-8.2	
	5.7nm,0.3s,baz=177,slow=22,SNR=14								
COEN	**Coen**	**13.34**	**126**	*e*Pn		**Pn**	**12 25 13.0**	**+1.0**
WRAB	**Tennant Creek**	**13.72**	**171**	*e*Pn		**Pn**	**12 25 17.1**	**0.0**
	12nm,0.6s								
WRA	**Warramunga Arr**	**13.73**	**171**	Pn		**Pn**	**12 25 17.4**	**+0.2**
	1.7nm,0.3s,baz=353,slow=13,SNR=66								
WRA				Sn		**Sn**	**12 27 42.1**	**-6.2**
	2.1nm,0.3s,baz=2.6,slow=23,SNR=5.2								
PMG	**Port Moresby**	**15.31**	**103**	Pn		**Pn**	**12 25 38.8**	**+0.5**
	0.9nm,0.3s,baz=272,slow=13,SNR=3.4								
ASAR	**Alice Springs**	**17.34**	**174**	P		**Pn**	**12 26 04.8**	**+0.8**
	1.7nm,0.3s,baz=353,slow=13,SNR=56								
ASAR				S		**Sn**	**12 29 10.3**	**-5.8**
	0.5nm,0.3s,baz=357,slow=29,SNR=5.4								
CTAO	**Charters Tower**	**19.45**	**136**	*e*P		**Pn**	**12 26 32.1**	**+2.6**
	36nm,0.9s								
EIDS	**Eidsvold**	**26.30**	**138**	*e*P		**P**	**12 27 37.9**	**+1.4**
	27nm,1.6s								
BBOO	**Buckleboo**	**26.62**	**172**	*e*P		**P**	**12 27 40.8**	**+1.4**
	11nm,1.0s								
STKA	**Stephens Creek**	**26.96**	**162**	P		**P**	**12 27 43.8**	**+1.4**
	1.5nm,0.8s,baz=340,slow=12,SNR=1.6								

*CSEM **10** 12:33:12.7±0.1,44.63N×10.26E,h20km,ML2.7/18, Error ellipse: s-maj=2.8km s-min=2.3km az=125.0*
*ROM **10** 12:33:12.9±0.1,44.63N×10.28E,h21km±2km, Md2.4/15, Ml2.4/13, Error ellipse: s-maj=1.6km s-min=1.2km az=80.0*
*GEN **10** 12:33:12.6,44.66N×10.26E,h29km, ML2.2*
*LDG **10** 12:33:13.7±0.1,44.61N×10.32E,h20km,Ml2.5/9, Error ellipse: s-maj=3.0km s-min=2.5km az=93.0*

ISC 10 12:33:12.8±0.9, 44.61N±0.02×10.26E±0.02, h19km±2km, n82, σ1§35/142, Northern Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PRMA	**PARMA**	**0.16**	**14**	Pg	**Pb**	**12 33 16.9**	**+1.0**
PRMA				Sg	**Sg**	**12 33 21.2**	**+1.1**
	1µm,0.6s						
PRMA	**PARMA**	**0.16**	**14**	Pg	**Pb**	**12 33 16.9**	**+1.0**
PRMA				Sg	**Sg**	**12 33 21.2**	**+1.1**
	1µm,0.6s						
GRAM	**Graiana**	**0.18**	**229**	P	**Pb**	**12 33 17.7**	**+0.9**
GRAM				S	**Sg**	**12 33 21.7**	**+0.8**
CODM	**Codolo**	**0.37**	**233**	P	**Pg**	**12 33 20.6**	**+0.1**
CODM				S	**Sb**	**12 33 27.0**	**+0.8**
NOVE	**Novellara**	**0.38**	**60**	Pg	**Pg**	**12 33 20.9**	**+0.3**
NOVE				Sg	**Sg**	**12 33 26.6**	**+0.6**
NOVE	**Novellara**	**0.38**	**60**	Pg	**Pg**	**12 33 20.9**	**+0.3**
NOVE				Sg	**Sg**	**12 33 26.6**	**+0.6**
SARO	**Sassorosso**	**0.44**	**166**	P	**Pg**	**12 33 21.7**	**-0.1**
SARO				S	**Sb**	**12 33 28.8**	**+0.5**
VLC	**Villacollemand**	**0.46**	**169**	Pg	**Pg**	**12 33 22.4**	**+0.2**
VLC				Sg	**Sb**	**12 33 30.1**	**+1.2**
	246nm,0.6s						
VLC	**Villacollemand**	**0.46**	**169**	Pg	**Pg**	**12 33 22.4**	**+0.2**
VLC				Sg	**Sb**	**12 33 30.1**	**+1.2**
	246nm,0.6s						
SC2M	**Scurtabo**	**0.56**	**248**	Pg	**Pb**	**12 33 24.7**	**+0.8**
SC2M				Sg	**Sb**	**12 33 33.1**	**+1.6**
	205nm,0.3s						
SC2M	**Scurtabo**	**0.56**	**248**	P	**Pg**	**12 33 23.7**	**-0.2**
SC2M	**Scurtabo**	**0.56**	**248**	Pg	**Pb**	**12 33 24.7**	**+0.8**
SC2M				S	**Sb**	**12 33 32.6**	**+1.1**
SC2M				Sg	**Sb**	**12 33 33.1**	**+1.6**
	205nm,0.3s						
BOB	**Bobbio (Coli)**	**0.60**	**285**	Pg	**Pb**	**12 33 24.7**	**+0.1**
	95nm,0.5s						
BOB	**Bobbio (Coli)**	**0.60**	**285**	Pg	**Pb**	**12 33 24.7**	**+0.1**
	95nm,0.5s						
BDI	**Bagni Di Lucca**	**0.60**	**156**	Pg	**Pb**	**12 33 24.8**	**+0.2**
BDI				Sg	**Sb**	**12 33 33.4**	**+0.7**
	121nm,0.6s						
BDI	**Bagni Di Lucca**	**0.60**	**156**	Pg	**Pb**	**12 33 24.8**	**+0.2**
BDI				Sg	**Sb**	**12 33 33.4**	**+0.7**
	121nm,0.6s						
MSSA	**Maissana**	**0.61**	**241**	Pg	**Pb**	**12 33 24.9**	**+0.1**
MSSA				Sg	**Sb**	**12 33 33.5**	**+0.6**
MSSA	**Maissana**	**0.61**	**241**	Pg	**Pb**	**12 33 24.9**	**+0.1**
MSSA				Sg	**Sb**	**12 33 33.5**	**+0.6**
POPM	**Popiglio**	**0.67**	**148**	P	**Pb**	**12 33 26.3**	**+0.5**
POPM				S	**Sn**	**12 33 37.0**	**-0.3**
MAIM	**Mastiano**	**0.72**	**166**	Pg	**Pb**	**12 33 26.8**	**+0.2**
MAIM				Sg	**Sn**	**12 33 37.9**	**-0.5**
	43nm,0.6s						
MAIM	**Mastiano**	**0.72**	**166**	P	**Pb**	**12 33 26.8**	**+0.2**
MAIM				S	**Sg**	**12 33 37.7**	**+1.3**
PTF	**Prato**	**0.88**	**138**	Pg	**Pb**	**12 33 29.8**	**+0.4**
PTF				Sg	**Sg**	**12 33 41.6**	**+0.2**
PTF	**Prato**	**0.88**	**138**	Pg	**Pb**	**12 33 29.8**	**+0.4**
PTF				Sg	**Sg**	**12 33 41.6**	**+0.2**
CRMI	**Carmignano**	**0.97**	**148**	Pg	**Pb**	**12 33 31.6**	**+0.6**
CRMI				Sg	**Sb**	**12 33 43.7**	**+0.3**
	35nm,0.8s						
CRMI	**Carmignano**	**0.97**	**148**	Pg	**Pb**	**12 33 31.6**	**+0.6**
CRMI				Sg	**Sb**	**12 33 43.7**	**+0.3**
	35nm,0.8s						
SALO	**Salr**	**1.02**	**10**	Pg	**Pb**	**12 33 32.2**	**+0.3**
	169nm,0.5s						
SALO	**Salr**	**1.02**	**10**	Pg	**Pb**	**12 33 32.2**	**+0.3**
	169nm,0.5s						
ROVR	**Rover¯¤ Verone**	**1.18**	**29**	Pg	**Pn**	**12 33 34.1**	**-0.4**
ROVR				Sg	**Sn**	**12 33 50.7**	**+0.5**
	214nm,0.4s						
ROVR	**Rover¯¤ Verone**	**1.18**	**29**	Pg	**Pn**	**12 33 34.1**	**-0.4**
ROVR				Sg	**Sn**	**12 33 50.7**	**+0.5**
	214nm,0.4s						
MAGA	**Magasa**	**1.19**	**13**	Pg	**Pn**	**12 33 34.1**	**-0.5**
MAGA				Sg	**Sb**	**12 33 50.2**	**+0.2**
	192nm,0.4s						
MAGA	**Magasa**	**1.19**	**13**	Pg	**Pn**	**12 33 34.1**	**-0.5**
MAGA				Sg	**Sb**	**12 33 50.2**	**+0.2**
	192nm,0.4s						
MARN	**Marana (Italy)**	**1.23**	**33**	*e*Pg	**Pn**	**12 33 34.4**	**-0.6**
MARN				*e*Sg	**Sb**	**12 33 51.4**	**+0.6**
MARN	**Marana (Italy)**	**1.23**	**33**	*e*Pg	**Pn**	**12 33 34.4**	**-0.6**
MARN				*e*Sg	**Sb**	**12 33 51.4**	**+0.6**
PCP	**Piancastagn**	**1.23**	**267**	Pg	**Pb**	**12 33 36.0**	**+0.6**
	31nm,0.5s						
PCP	**Piancastagn**	**1.23**	**267**	Pg	**Pb**	**12 33 36.0**	**+0.6**
	31nm,0.5s						
TEOL	**Teolo**	**1.25**	**53**	Pg	**Pn**	**12 33 35.7**	**+0.4**
TEOL				Sg	**Sn**	**12 33 52.1**	**+0.5**
	215nm,0.7s						
TEOL	**Teolo**	**1.25**	**53**	*e*Pg	**Pn**	**12 33 34.9**	**-0.4**
TEOL				*e*Sg	**Sn**	**12 33 52.6**	**+1.0**
TEOL	**Teolo**	**1.25**	**53**	Pg	**Pn**	**12 33 35.7**	**+0.4**
TEOL				Sg	**Sn**	**12 33 52.1**	**+0.5**
	215nm,0.7s						
RNI	**Roncone**	**1.39**	**11**	*e*Pg	**Pn**	**12 33 37.0**	**-0.4**
RNI	**Roncone**	**1.39**	**11**	*e*Pg	**Pn**	**12 33 37.0**	**-0.4**
DDS	**Dosso del Somm**	**1.43**	**27**	*e*Pg	**Pn**	**12 33 37.2**	**-0.7**
DDS	**Dosso del Somm**	**1.43**	**27**	*e*Pg	**Pn**	**12 33 37.2**	**-0.7**
MABI	**Malga Bissina**	**1.45**	**7**	Pg	**Pn**	**12 33 37.9**	**-0.4**
	23nm,0.4s						
MABI	**Malga Bissina**	**1.45**	**7**	Pg	**Pn**	**12 33 37.9**	**-0.4**
	23nm,0.4s						
CGRP	**Cima Grappa**	**1.67**	**40**	*e*Pg	**Pn**	**12 33 40.9**	**-0.4**
CGRP	**Cima Grappa**	**1.67**	**40**	*e*Pg	**Pn**	**12 33 40.8**	**-0.4**
SBF	**Sospel**	**2.16**	**251**	*e*Pn	**Pn**	**12 33 47.9**	**0.0**
SBF				*e*Sn	**Sn**	**12 34 12.7**	**-1.5**
	12nm,0.3s						
SBF	**Sospel**	**2.16**	**251**	*e*Pn	**Pn**	**12 33 47.9**	**0.0**
SBF				*e*Sn	**Sn**	**12 34 12.7**	**-1.5**
	5.9nm,0.3s						
PGF	**Pioggiola**	**2.26**	**204**	*e*Pn	**Pn**	**12 33 49.0**	**-0.2**
PGF				*e*Sn	**Sn**	**12 34 14.1**	**-2.5**
	3.6nm,0.4s						
PGF	**Pioggiola**	**2.26**	**204**	*e*Pn	**Pn**	**12 33 49.0**	**-0.2**
PGF				*e*Sn	**Sn**	**12 34 14.1**	**-2.5**
	1.8nm,0.4s						
MBDF	**Montbardon**	**2.49**	**274**	*e*Pn	**Pn**	**12 33 52.5**	**0.0**
MBDF				*e*Sn	**Sn**	**12 34 20.7**	**-1.7**
	4.3nm,0.4s						
MBDF	**Montbardon**	**2.49**	**274**	*e*Pn	**Pn**	**12 33 52.5**	**0.0**
MBDF				*e*Sn	**Sn**	**12 34 20.7**	**-1.7**
	2.2nm,0.4s						
ABTA	**Abfaltersbach**	**2.66**	**36**	*e*Pn	**Pn**	**12 33 55.5**	**+0.8**
	1.2nm,0.2s						
ABTA	**Abfaltersbach**	**2.66**	**36**	Pn	**Pn**	**12 33 55.5**	**+0.8**
	1.2nm,0.2s						
LPL	**La Plagne**	**2.66**	**291**	*e*P	**Pn**	**12 33 57.1**	**+2.3**
LPL				*e*Sn	**Sn**	**12 34 24.8**	**-1.8**
	4.4nm,0.4s						
LPL	**La Plagne**	**2.66**	**291**	*e*P	**Pn**	**12 33 57.1**	**+2.3**
LPL				*e*Sn	**Sn**	**12 34 24.8**	**-1.8**
	2.2nm,0.4s						
DAVA	**Damuels**	**2.69**	**354**	*e*Pn	**Pn**	**12 33 54.7**	**-0.5**
	2.5nm,0.2s						
DAVA				*e*Sn	**Sn**	**12 34 29.2**	**+1.9**
	5.6nm,0.5s						
DAVA	**Damuels**	**2.69**	**354**	Pn	**Pn**	**12 33 54.7**	**-0.5**
	2.5nm,0.2s						
DAVA				Sn	**Sn**	**12 34 29.2**	**+1.9**
	5.6nm,0.5s						
MOTA	**Moosalm**	**2.80**	**12**	*e*Pn	**Pn**	**12 33 57.4**	**+0.7**
	2.9nm,0.2s						
MOTA	**Moosalm**	**2.80**	**12**	Pn	**Pn**	**12 33 57.4**	**+0.7**
	2.9nm,0.2s						
FRF	**La Foret Royal**	**2.81**	**249**	*e*Pn	**Pn**	**12 33 57.2**	**+0.5**
FRF				*e*Sn	**Sn**	**12 34 28.1**	**-1.9**
	4.6nm,0.3s						
FRF	**La Foret Royal**	**2.81**	**249**	*e*Pn	**Pn**	**12 33 57.2**	**+0.5**
FRF				*e*Sn	**Sn**	**12 34 28.1**	**-1.9**
	2.3nm,0.3s						
SKDS	**Skadanscina**	**2.82**	**69**	*i* Pn	**Pn**	**12 33 55.6**	**-1.2**
SKDS				*i* Sn	**Sn**	**12 34 27.8**	**-2.5**
	comp=Z,3.0nm,0.1s						
SKDS	**Skadanscina**	**2.82**	**69**	Pn	**Pn**	**12 33 55.6**	**-1.2**
SKDS				*i* Sn	**Sn**	**12 34 27.8**	**-2.5**
	comp=Z,3.0nm,0.1s						
WTTA	**Wattenberg**	**2.82**	**19**	*i* Pn	**Pn**	**12 33 56.5**	**-0.5**
	comp=Z,2.2nm,0.2s						
WTTA	**Wattenberg**	**2.82**	**19**	Pn	**Pn**	**12 33 56.5**	**-0.5**
	comp=Z,2.2nm,0.2s						
JAVS	**Javornik**	**2.98**	**63**	*i* Pn	**Pn**	**12 33 57.6**	**-1.5**
JAVS				*i* Sn	**Sn**	**12 34 32.9**	**-1.4**
	comp=Z,1.0nm,0.1s						
JAVS	**Javornik**	**2.98**	**63**	*i* Pn	**Pn**	**12 33 57.6**	**-1.5**
JAVS				*i* Sn	**Sn**	**12 34 32.9**	**-1.4**
	comp=Z,1.0nm,0.1s						
LMR	**La Mourre**	**2.99**	**246**	*e*Pn	**Pn**	**12 33 59.3**	**+0.1**
LMR				*e*Sn	**Sn**	**12 34 32.1**	**-2.5**
	comp=Z,4.8nm,0.3s						
LMR	**La Mourre**	**2.99**	**246**	*e*Pn	**Pn**	**12 33 59.3**	**+0.1**
LMR				*e*Sn	**Sn**	**12 34 32.1**	**-2.5**
	comp=Z,2.4nm,0.3s						
KNDS	**Knezji Dol**	**3.06**	**71**	*i* Pn	**Pn**	**12 33 59.3**	**-0.9**
KNDS				*i* Sn	**Sn**	**12 34 34.0**	**-2.4**
	comp=Z,3.0nm,0.1s						
KNDS	**Knezji Dol**	**3.06**	**71**	*i* Pn	**Pn**	**12 33 59.3**	**-0.9**
KNDS				*i* Sn	**Sn**	**12 34 34.0**	**-2.4**
	comp=Z,3.0nm,0.1s						
ORIF	**Oris-en-Rattie**	**3.13**	**277**	*e*P	**Pn**	**12 34 04.6**	**+3.4**
ORIF	**Oris-en-Rattie**	**3.13**	**277**	*e*P	**Pn**	**12 34 04.6**	**+3.4**
NVLJ	**Novalja**	**3.30**	**89**	*e*Pn	**Pn**	**12 34 04.0**	**+0.6**
NVLJ				Sn	**Sn**	**12 34 39.6**	**-2.5**
NVLJ	**Novalja**	**3.30**	**89**	*e*Pn	**Pn**	**12 34 03.9**	**+0.6**
NVLJ				Sn	**Sn**	**12 34 39.5**	**-2.5**
HINF	**Hinteralfeld**	**3.98**	**325**	*e*Pn	**Pn**	**12 34 11.4**	**-1.5**
HINF				*e*Sn	**Sn**	**12 34 56.0**	**-3.0**
	comp=Z,1.5nm,0.3s						
HINF	**Hinteralfeld**	**3.98**	**325**	*e*Pn	**Pn**	**12 34 11.4**	**-1.5**
HINF				*e*Sn	**Sn**	**12 34 56.0**	**-3.0**
	comp=Z,0.8nm,0.3s						
CDF	**Champ du Feu**	**4.32**	**333**	*e*Pn	**Pn**	**12 34 17.1**	**-0.5**
CDF				*e*Sn	**Sn**	**12 35 04.3**	**-3.2**
	comp=Z,1.8nm,0.3s						
CDF	**Champ du Feu**	**4.32**	**333**	*e*Pn	**Pn**	**12 34 17.1**	**-0.5**
CDF				*e*Sn	**Sn**	**12 35 04.3**	**-3.2**
	comp=Z,0.9nm,0.3s						
HAU	**Haudompre**	**4.34**	**323**	*e*Pn	**Pn**	**12 34 16.6**	**-1.2**
HAU				*e*Sn	**Sn**	**12 35 04.1**	**-3.8**
	comp=Z,2.2nm,0.3s						
HAU	**Haudompre**	**4.34**	**323**	*e*Pn	**Pn**	**12 34 16.6**	**-1.2**
HAU				*e*Sn	**Sn**	**12 35 04.1**	**-3.8**
	comp=Z,1.1nm,0.3s						

*FUNV **10** 13:09:31.8,9.43N×73.47W,h12km,MW2.5*
*ISCJB **10** 13:09:33.2±1.0,9.35N±0.03×73.31W±0.04,h17km±10km, Error ellipse: s-maj=7.0km s-min=5.5km az=162.5*
*RSNC **10** 13:09:34.5±1.3,9.27N×73.41W,h9km±10km,ML2.0*
ISC 10 13:09:30.5±2.6, 9.37N±0.04×73.38W±0.06, h6km±22km, n11, σ1§19/20, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CODC	**Agust¯›n Codaz**	**0.56**	**354**	*i*	Pn	13 09 51.7	+6.6
	comp=Z,55nm,0.2s						
CODC				*e*S	**Sn**	**13 09 55.1**	**+0.4**
OCAC	**Ocana**	**1.13**	**177**	*e*P	**Pn**	**13 09 53.0**	**+0.1**
OCAC				*e*S	**Sb**	**13 10 05.8**	**-1.6**
OCAC				*i*		13 10 09.7	
	comp=Z,56nm,0.3s						
VIRV	**Villa del Rosa**	**1.48**	**40**	*e*P	**Pn**	**13 09 57.8**	**+0.1**
VIRV				*e*S	**Sb**	**13 10 17.7**	**+0.2**
CBRI	**Barrientos, No**	**1.74**	**160**	*e*P	**Pn**	**13 10 02.8**	**+1.3**
CBRI				*e*S	**Sn**	**13 10 23.8**	**-0.3**
CAPV	**Capacho**	**1.83**	**145**	*e*P	**Pn**	**13 10 04.2**	**+1.4**
CAPV				*e*S	**Sb**	**13 10 28.2**	**+0.4**
SJCC	**San Jacinto, C**	**1.85**	**287**	*e*P	**Pb**	**13 10 05.0**	**+0.3**
SJCC				*i*		13 10 06.8	
	comp=Z,10.0nm,0.2s						
SJCC				*e*S	**Sg**	**13 10 29.2**	**-0.6**
VIGV	**El Vigia**	**2.06**	**105**	*e*P	**Pn**	**13 10 07.0**	**+1.2**
VIGV				*e*S	**Sn**	**13 10 33.1**	**+1.3**
PAMC	**Pamplona, Colo**	**2.13**	**161**	*e*P	**Pb**	**13 10 09.4**	**-0.3**
SOCV	**Socops**	**2.72**	**113**	*e*P	**Pn**	**13 10 16.7**	**+2.0**
SOCV				*e*S	**Sn**	**13 10 47.9**	**-0.1**
CURV	**Curarigua**	**3.44**	**79**	*e*P	**Pn**	**13 10 24.7**	**+0.1**
CURV				*e*S	**Sn**	**13 11 04.6**	**-1.2**
BAUV	**El Baul**	**5.29**	**94**	*e*P	**Pn**	**13 10 50.3**	**+0.2**
BAUV				*e*S	**Sn**	**13 11 48.9**	**-2.5**

*ISCJB **10** 13:12:15.2±1.1,23.98N±0.02×122.30E±0.02,h9km±8km, Error ellipse: s-maj=4.2km s-min=2.6km az=164.7*
*TAP **10** 13:12:16.9,24.06N×122.27E,h20km±1km,ML2.8,D*
*JMA **10** 13:12:16.0±0.1,23.95N×122.30E,h24km±3km, M2.2*
ISC 10 13:12:16.3±1.3, 23.99N±0.03×122.27E±0.02, h21km±4km, n31, σ0§63/55, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TWD	**Chiawan**	**0.62**	**278**	*e*P	**Pb**	**13 12 28.9**	**+0.3**
	baz=272						
TWD				S	**Sb**	**13 12 38.2**	**+1.3**
	baz=272						
ENA	**Nanau**	**0.65**	**312**	*e*P	**Pb**	**13 12 28.5**	**-0.5**
	baz=320						
ENA				S	**Sb**	**13 12 37.8**	**+0.1**
	baz=320						
TWC	**Suao**	**0.72**	**328**	P	**Pb**	**13 12 29.5**	**-0.7**
	baz=335						
TWC				S	**Sb**	**13 12 38.3**	**-1.3**
	baz=335						
JYNG	**Yonagunijimaku**	**0.77**	**53**	P	**Pb**	**13 12 30.4**	**-0.5**
JYNG				*e*S	**Sb**	**13 12 41.0**	**+0.1**
YOJ	**Yonaguni jima**	**0.82**	**55**	P	**Pb**	**13 12 31.4**	**-0.5**
YOJ				*e*S	**Sb**	**13 12 42.2**	**-0.3**
EGS		**0.90**	**340**	*e*P	**Pb**	**13 12 33.2**	**-0.1**
	baz=339						
EGS				*e*S	**Sb**	**13 12 44.8**	**0.0**
	baz=339						
ENTT	**Nioudou**	**0.91**	**315**	P	**Pb**	**13 12 33.7**	**+0.3**
	baz=321						
ENTT				*e*S	**Sb**	**13 12 45.5**	**+0.5**
	baz=321						
TWE	**Neicheng**	**0.91**	**323**	*e*P	**Pb**	**13 12 32.8**	**-0.6**
	baz=328						
TWE				S	**Sb**	**13 12 45.0**	**0.0**
	baz=328						
WHF	**Hehuan Shan**	**0.93**	**280**	*e*P	**Pb**	**13 12 33.5**	**-0.5**
	baz=262						
WHF				*e*S	**Sb**	**13 12 46.3**	**+0.2**
	baz=262						
NNS	**Nan Shan**	**0.93**	**299**	*e*P	**Pb**	**13 12 33.4**	**-0.5**
	baz=295						
NNS				*e*S	**Sb**	**13 12 46.5**	**+0.7**
	baz=295						
EHY	**Hungye**	**0.99**	**241**	*e*P	**Pb**	**13 12 34.1**	**-0.7**
	baz=238						
EHY				*e*S	**Sb**	**13 12 47.8**	**+0.3**
	baz=238						
TWT	**Tachien**	**1.03**	**285**	*e*P	**Pb**	**13 12 35.4**	**-0.2**
	baz=268						
TWB1	**Santiao Chiao**	**1.04**	**346**	*e*P	**Pb**	**13 12 35.6**	**0.0**
	baz=353						
NSK	**Sanguang**	**1.07**	**309**	*e*P	**Pn**	**13 12 35.8**	**-0.4**
	baz=307						
NSK				*e*S	**Sb**	**13 12 50.1**	**+0.3**
	baz=307						
TWF1	**Yuli**	**1.10**	**235**	*e*P	**Pn**	**13 12 35.8**	**-0.6**
	baz=218						
TWF1				*e*S	**Sb**	**13 12 50.8**	**+0.4**
	baz=218						
NWF	**Wu-fen Shan**	**1.16**	**338**	*e*P	**Pn**	**13 12 36.7**	**-0.7**
	baz=336						
NWF				*e*S	**Sn**	**13 12 53.1**	**+0.5**
	baz=336						
SMLT	**Sun Moon Lake**	**1.26**	**265**	*e*P	**Pn**	**13 12 38.7**	**0.0**
	baz=263						
TYC	**Yuchr**	**1.29**	**266**	*e*P	**Pn**	**13 12 39.5**	**+0.4**
	baz=265						
YUS	**Yu-Shan**	**1.31**	**248**	*e*P	**Pb**	**13 12 40.3**	**-0.2**
	baz=246						
YUS				*e*S	**Sn**	**13 12 56.8**	**0.0**
	baz=246						
NSTT	**Nanjuang**	**1.32**	**299**	*e*P	**Pn**	**13 12 39.9**	**+0.4**
	baz=297						
NSTT				*e*S	**Sb**	**13 12 57.5**	**+0.7**
	baz=297						
IRIF	**Iriomote-Funau**	**1.38**	**75**	P	**Pb**	**13 12 40.9**	**-0.4**
IRIF				*e*S	**Sn**	**13 12 57.8**	**0.0**
ELDTW	**Lidau**	**1.40**	**235**	*e*P	**Pn**	**13 12 39.8**	**-0.9**
	baz=220						
ELDTW				*e*S	**Sn**	**13 12 57.2**	**-1.3**
	baz=220						
TWQ1	**Liyutan**	**1.41**	**285**	*e*P	**Pb**	**13 12 42.5**	**+0.6**
	baz=284						
ALS	**Alishan**	**1.43**	**251**	*e*P	**Pn**	**13 12 39.9**	**-1.3**
	baz=249						
ALS				*e*S	**Sb**	**13 13 00.3**	**+0.1**
	baz=249						
CHN5	**Tsauling**	**1.51**	**255**	*e*P	**Pb**	**13 12 43.3**	**-0.4**
	baz=241						
CHN5				*e*S	**Sb**	**13 13 03.4**	**+0.9**
	baz=241						
JKRS	**Kuro-shima**	**1.61**	**81**	P	**Pn**	**13 12 43.3**	**-0.1**
JKRS				*e*S	**Sn**	**13 13 03.5**	**0.0**
CHN4	**Tsaushan**	**1.67**	**248**	*e*P	**Pb**	**13 12 46.4**	**+0.1**
	baz=247						
CHN4				*e*S	**Sb**	**13 13 07.7**	**+0.9**
	baz=247						
WTP	**Ta-pu**	**1.69**	**244**	*e*P	**Pn**	**13 12 45.8**	**+1.2**
	baz=243						
JIJ	**Ishigaki jima**	**1.75**	**77**	P	**Pn**	**13 12 45.8**	**+0.4**
JIJ				*e*S	**Sn**	**13 13 07.9**	**+0.9**
CHN1	**Nanshi**	**1.79**	**244**	*e*P	**Pb**	**13 12 47.9**	**-0.4**
	baz=243						
JISG	**Ishigakijimahi**	**1.95**	**72**	P	**Pn**	**13 12 49.2**	**+1.0**
JISG				*e*S	**Sn**	**13 13 12.9**	**+0.8**

IDC 10 13:28:14.2±4.5, 20.81S×173.47W, h0km, mb3.8/5, mb1 4.0/5, mb1mx3.7/26, mbtmp3.8/5, Error ellipse: s-maj=184.9km s-min=34.4km az=143.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**37.67**	**264**	P	P	13 35 31.4	-0.1
	2.2nm,0.7s,baz=95,slow=10,SNR=4.5						
STKA	**Stephens Creek**	**41.49**	**245**	P	P	13 36 02.5	-0.6
	0.8nm,0.4s,baz=77,slow=11,SNR=3.2						
ASAR	**Alice Springs**	**48.57**	**256**	P	P	13 37 00.1	+0.3
	0.9nm,0.8s,baz=98,slow=8.0,SNR=8.3						
WRA	**Warramunga Arr**	**48.75**	**261**	P	P	13 37 00.8	-0.3
	0.4nm,0.5s,baz=96,slow=6.1,SNR=4.8						
ILAR	**Eielson Array**	**87.74**	**11**	P	P	13 41 04.4	0.0
	0.3nm,0.9s,baz=189,slow=5.2,SNR=3.5						

IDC 10 13:38:08.6±8.1, 55.51N×85.01E, h0km, Error ellipse: s-maj=48.2km s-min=28.3km az=4.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.57**	**184**	*i*		13 47 05.0	
	baz=6.2,slow=318,SNR=27						
ZALV	**Zalesovo Beam**	**1.57**	**184**	Pg	Pn	13 38 37.0	-0.7
	0.2nm,0.3s,baz=0.5,slow=12,SNR=3.1						
ZALV				Lg	Lg	13 38 58.4	
	0.6nm,0.3s,baz=360,slow=28,SNR=6.9						
I34MN	**SONGINO INFRAS**	**15.31**	**111**	*i*		15 12 20.0	
	baz=309,slow=325,SNR=0.2						

*NIED **10** 13:42:00,39.10N×142.40E,h32km,Mw3.3 Best double couple: M0 8.69000×10^13 NP1:ϕs 177.00000°,δ1.00000°, λ86.00000°. NP2:ϕs 1.00000°,δ89.00000°,λ90.00000°.*
*IDC **10** 13:42:44.7±1.5,38.75N×143.00E,h0km,mb3.3/2, mb1 3.6/3,mb1mx3.4/35,mbtmp3.3/3,ML3.1/1, Error

DJR *eS* **Sb** **13 52 33.9 +0.7**
19nm,1.2s
PDGK **Podgornoye** **2.51 253** ⇑Pn **Pb** **13 52 12.0 -0.8**
3.3nm,0.5s
PDGK ⇓Lg Lg 13 52 43.3
4.4nm,0.4s
MK31 **Makanchi Array** **2.70 353** ⇑Pn **Pb** **13 52 16.3 +0.3**
0.5nm,0.5s,baz=181,slow=15,SNR=12
MK31 ⇓Lg Lg 13 52 49.6
1.8nm,0.5s,baz=183,slow=29,SNR=6.0
MAKZ **Makanchi** **2.75 348** ⇑Pn **Pb** **13 52 15.6 -1.3**
0.7nm,0.8s
MAKZ ⇓Lg Lg 13 52 53.8
1.6nm,0.8s
KPKS **Kokpek** **3.03 259** *eP* **Pb** **13 52 19.6 -2.2**
6.4nm,0.7s
KPKS *eS* **Sb** **13 52 58.3 -0.1**
18nm,0.4s
ARXS **Arharly** **3.56 273** *eP* **Pb** **13 52 29.3 -1.4**
1.5nm,0.3s
ARXS *eS* **Sb** **13 53 15.6 +2.0**
5.2nm,0.6s
TNSS **Tian-Shan** **4.37 258** *eP* **Pb** **13 52 46.1 +1.4**
1.6nm,0.6s
TNSS *eS* Sb 13 53 45.0 +7.8
1.7nm,0.1s

MEX 10 14:42:40.0±0.5, **16°.49N**×**98°.48W, h8**km±14km, **MD3.5, Near coast of Guerrero**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.35**	**106**	*i* P	Pg	14 42 46.6	-0.3
PNIG				*i* S	Sg	14 42 51.6	0.0
TLIG	**Tlapa**	**1.07**	**356**	*e*P	Pg	14 42 57.5	-3.0
TLIG				*e*S	Sg	14 43 10.4	-4.0
MEIG	**Mezcala**	**1.79**	**323**	*e*P	Pn	14 43 07.7	-3.6
MEIG				*i* S	Sn	14 43 29.5	-4.8
CAIG	**El Cayaco**	**1.80**	**288**	*e*P	Pn	14 43 08.1	-3.1
CAIG				*e*S	Sn	14 43 29.5	-4.8

MEX 10 14:45:26.8±0.5, **17°.68N**×**101°.38W, h34**km±4km, **MD3.7, Near coast of Guerrero**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZIIG	**Zihuatanejo**	**0.11**	**229**	*i* P	Pb	14 45 31.5	-1.3
ZIIG				*i* S	Sb	14 45 35.6	-1.4
ARIG	**Puente Sto Nin**	**1.15**	**58**	*e*P	Pn	14 45 44.5	-1.9
ARIG				*e*S	Sn	14 45 58.6	-2.4
CAIG	**El Cayaco**	**1.23**	**121**	*e*P	Pn	14 45 45.7	-1.8
CAIG				*e*S	Sn	14 46 01.4	-1.6
MEIG	**Mezcala**	**1.69**	**81**	*e*P	Pn	14 45 53.0	-0.9
MEIG				*e*S	Sn	14 46 11.9	-2.6
PLIG	**Platanillo**	**1.92**	**68**	*e*P	Pn	14 45 56.4	-0.8
PLIG				*i* S	Sn	14 46 18.1	-2.0
MMIG	**Aquila**	**1.97**	**288**	*i* P	Pn	14 45 55.5	-2.2
MMIG				*i* S	Sn	14 46 19.0	-2.3
MOIG	**Morelia**	**1.99**	**5**	*i* P	Pn	14 45 57.2	-1.1
MOIG				*i* S	Sn	14 46 19.5	-2.7
YAIG	**Yautepec**	**2.49**	**61**	*e*P	Pn	14 46 04.0	-1.0
YAIG				*e*S	Sn	14 46 33.0	-1.2
TLIG	**Tlapa**	**2.68**	**92**	*e*P	Pn	14 46 07.1	-0.5
TLIG				*i* S	Sn	14 46 36.6	-2.4
PNIG	**Pinotepa**	**3.36**	**112**	*e*P	Pn	14 46 16.0	-1.0
PNIG				*i* S	Sn	14 46 53.2	-2.4

*NIED **10** 14:55:00, 35°.50N×135°.90E, h380km, Mw3.8 Best double couple: M0 5.76000×10^14 NP1: ϕs 190.00000°, δ45.00000°, λ-143.00000°. NP2: ϕs 72.00000°, δ65.00000°, λ-52.00000°.*
*ISCJB **10** 14:55:44.6±0.4, 35°.37N±0°.06×135°.88E±0°.07, h352km, 3km, mb3.4/11, Error ellipse: s-maj=10.6km s-min=9.2km az=147.7*
*JMA **10** 14:55:45.5±0.1, 35°.45N×135°.89E, h343km±1km, M3.5*
*IDC **10** 14:55:45.8±0.7, 35°.34N×135°.83E, h354km±6km, mb3.1/11, mb1 3.2/17, mb1mx3.1/37, mbtmp3.7/17, Error ellipse: s-maj=14.2km s-min=11.3km az=69.0*

ISC 10 14:55:45.3±0.6, **35°.41N**±0°.07×**135°.84E**±0°.06, **h346**km±5km, **n35**, σ0 **95**/43, **mb3.4**/11, **Western Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JFM	**Mihama**	**0.17**	**44**	P	**Pn**	**14 56 28.8**	**+0.2**
JFM				S	**S**	**14 57 02.6**	**-0.8**
JWT	**Wachi**	**0.38**	**251**	P	**Pn**	**14 56 29.0**	**0.0**
JWT				S	**S**	**14 57 02.8**	**-1.1**
JKG	**Kaga**	**0.95**	**25**	S	**S**	**14 57 05.2**	**-1.4**
JWY	**Kouya**	**1.21**	**190**	P	**Pn**	**14 56 31.8**	**0.0**
JIE	**Ise**	**1.24**	**145**	P	**Pn**	**14 56 31.8**	**0.0**
JIE				S	**S**	**14 57 08.2**	**-0.8**
TTO1	**TONANKAI O.B.S**	**1.95**	**156**	P	**Pn**	**14 56 36.6**	**+1.0**
JAI	**Aioi**	**1.98**	**216**	P	**Pn**	**14 56 36.5**	**+0.3**
JAI				S	**S**	**14 57 16.9**	**-0.1**
TK02	**Tokai 2**	**2.15**	**132**	P	**Pn**	**14 56 37.6**	**+0.4**
JYN	**Shimob**	**2.21**	**87**	P	**Pn**	**14 56 37.2**	**-0.7**
MAT	**Matsushiro**	**2.23**	**59**	P	**Pn**	**14 56 37.3**	**-0.6**
MAT				*e*S	**S**	**14 57 20.9**	**+0.7**
MJAR	**Matsushiro Arr**	**2.23**	**59**	P	**Pn**	**14 56 37.7**	**-0.2**
	1.1nm,0.3s,baz=237,slow=7.0,SNR=19						
MJAR				S	**S**	**14 57 23.0**	**+2.8**
	0.2nm,0.3s,baz=251,slow=23,SNR=7.6						
JHS	**Saijyo**	**2.27**	**260**	P	**Pn**	**14 56 39.1**	**+0.8**
JOI	**OKI**	**2.28**	**293**	P	**Pn**	**14 56 38.8**	**+0.5**
JMN	**Monobe**	**2.33**	**225**	P	**Pn**	**14 56 39.0**	**+0.1**
JRY	**Ryogami san**	**2.56**	**75**	P	**Pn**	**14 56 40.1**	**-0.5**
JHJ	**Hachijo jima 2**	**3.98**	**124**	P	**Pn**	**14 56 54.4**	**+0.4**
	2.6nm,0.3s,baz=232,slow=19,SNR=7.4						
JHJ				S	**S**	**14 57 51.9**	**+2.6**
	6.1nm,0.3s,baz=39,slow=11,SNR=8.4						
JNU	**Nakatsue**	**4.70**	**242**	P	**Pn**	**14 57 02.5**	**+0.9**
	1.3nm,0.3s,baz=108,slow=3.2,SNR=16						
KSRS	**Korea Array**	**6.70**	**290**	P	**Pn**	**14 57 25.7**	**+1.7**
	1.5nm,0.3s,baz=106,slow=12,SNR=61						
USRK	**Ussuriysk Ar.**	**9.27**	**343**	P	**Pn**	**14 57 55.5**	**+1.2**
	0.7nm,0.3s,baz=158,slow=11,SNR=16						
KLR	**Kul'dur**	**14.14**	**349**	P	**Pn**	**14 58 52.4**	**+0.4**
	0.4nm,0.3s,baz=175,slow=12,SNR=5.7						
SONM	**Songino Array**	**25.11**	**309**	P	**P**	**15 00 41.0**	**+1.2**
	0.4nm,0.3s,baz=119,slow=8.0,SNR=4.7						
ZALV	**Zalesovo Beam**	**39.74**	**314**	PcP	**PcP**	**15 04 43.4**	**-0.4**
	1.1nm,0.5s,baz=110,slow=1.6,SNR=5.3						
ILAR	**Eielson Array**	**53.25**	**31**	P	**P**	**15 04 29.1**	**+0.2**
	0.7nm,0.5s,baz=262,slow=5.8,SNR=23						
ILAR				PcP	**PcP**	**15 05 31.3**	**-0.2**
	0.2nm,0.9s,baz=251,slow=5.6,SNR=2.8						
WRA	**Warramunga Arr**	**55.07**	**182**	P	**P**	**15 04 40.9**	**-1.5**
	0.4nm,0.4s,baz=359,slow=7.6,SNR=6.3						
ASAR	**Alice Springs**	**58.78**	**182**	P	**P**	**15 05 07.5**	**-0.8**
	0.5nm,0.9s,baz=357,slow=4.8,SNR=6.7						
ARCES	**ARCESS Array B**	**63.89**	**338**	P	**P**	**15 05 41.6**	**+0.1**
	0.9nm,0.5s,baz=74,slow=10,SNR=8.8						
FINES	**FINESS Array B**	**68.09**	**331**	P	**P**	**15 06 08.0**	**-0.2**
	1.0nm,0.8s,baz=59,slow=5.1,SNR=6.8						
AKASG	**Malin Array Be**	**72.74**	**320**	P	**P**	**15 06 35.9**	**-0.3**
	0.7nm,0.5s,baz=55,slow=5.3,SNR=4.6						
NB2	**NORSAR Subarra**	**73.86**	**335**	P	**P**	**15 06 42.0**	**-0.6**
	comp=Z,0.8nm,0.6s,baz=44,slow=5.9						
NOA	**NORSAR Array B**	**73.86**	**335**	P	**P**	**15 06 42.3**	**-0.3**
	comp=Z,0.9nm,0.7s,baz=43,slow=5.5,SNR=4.6						
GERES	**GERESS Array B**	**81.61**	**326**	P	**P**	**15 07 25.3**	**0.0**
	comp=Z,0.3nm,0.5s,baz=34,slow=7.1,SNR=2.7						
PDAR	**Pinedale Array**	**81.96**	**43**	P	**P**	**15 07 27.5**	**+0.1**
	comp=Z,0.3nm,0.7s,baz=336,slow=6.4,SNR=2.7						
TXAR	**Lajitas Array**	**94.63**	**49**	P	**P**	**15 08 28.4**	**+0.5**
	comp=Z,0.2nm,0.5s,baz=323,slow=5.8,SNR=3.5						
TORD	**Torodi Ar. Bea**	**115.08**	**309**	PKP	**PKPdf**	**15 13 44.9**	**-1.3**
	comp=Z,0.2nm,0.4s,baz=75,slow=1.6,SNR=3.0						
LPAZ	**La Paz**	**151.36**	**54**	PKPbc	**PKPbc**	**15 14 59.9**	**+0.3**
	comp=Z,0.8nm,0.6s,baz=12,slow=9.3,SNR=3.4						

*ISCJB **10** 15:01:33.1±0.7, 40°.89N±0°.04×35°.83E±0°.06, h0km, Error ellipse: s-maj=8.2km s-min=4.1km az=38.1*
*CSEM **10** 15:01:33.4±0.2, 40°.94N×35°.79E, h10km, MD2.6, Error ellipse: s-maj=9.4km s-min=4.3km az=133.0*
*DDA **10** 15:01:33.9, 40°.94N×35°.79E, h7km, Md2.6, Suspected Mining explosion.*
*ISK **10** 15:01:33.1, 41°.04N×35°.92E, h27km, MD2.7*
ISC 10 15:01:33.3±0.9, **40°.90N**±0°.04×**35°.78E**±0°.04, **h0**km, **n16, σ0 49**/24, **Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HAVZ	**Havza**	**0.18**	**346**	*i* P	**Pg**	**15 01 36.7**	**-0.1**
HAVZ				*i* S	**Sg**	**15 01 40.1**	**+0.9**
HAVZ	**Havza**	**0.18**	**346**	P	**Pg**	**15 01 36.7**	**-0.1**
HAVZ				S	**Sg**	**15 01 40.1**	**+0.9**
KVT	**Kavak**	**0.28**	**48**	*e*PG	**Pg**	**15 01 38.3**	**-0.3**
KVT				*e*SG	**Sg**	**15 01 42.2**	**+0.1**
KVT	**Kavak**	**0.28**	**48**	*e*Pg	**Pg**	**15 01 38.3**	**-0.3**
KVT				*e*Sg	**Sg**	**15 01 42.3**	**+0.1**
SAMS	**Samsun-Alacam**	**0.56**	**34**	*i* P	**Pg**	**15 01 44.2**	**+0.2**
SAMS	**Samsun-Alacam**	**0.56**	**34**	P	**Pg**	**15 01 44.2**	**+0.2**
CTAK	**Corum_Osmancik**	**0.79**	**252**	*i* P	**Pb**	**15 01 49.8**	**-0.1**
CTAK				*i* S	**Sb**	**15 02 01.9**	**+0.7**
CTAK	**Corum_Osmancik**	**0.79**	**252**	P	**Pb**	**15 01 49.8**	**-0.1**
CTAK				S	**Sb**	**15 02 01.9**	**+0.7**
DIKM	**Dikmen**	**0.85**	**333**	*e*PG	**Pg**	**15 01 48.6**	**-0.9**
DIKM	**Dikmen**	**0.85**	**333**	*e*Pg	**Pg**	**15 01 48.6**	**-0.9**
COAL	**Corum-Alaca**	**0.88**	**223**	*i* P	**Pg**	**15 01 50.1**	**0.0**
COAL				*i* S	**Sb**	**15 02 03.9**	**+0.1**
COAL	**Corum-Alaca**	**0.88**	**223**	P	**Pg**	**15 01 50.1**	**0.0**
COAL				S	**Sb**	**15 02 03.9**	**+0.1**
CORM	**Corum**	**1.13**	**231**	*e*PN	**Pn**	**15 01 56.1**	**-0.4**
CORM	**Corum**	**1.13**	**231**	*e*Pn	**Pn**	**15 01 56.1**	**-0.4**
YOZ	**Yozgat**	**1.30**	**196**	*e*PN	**Pn**	**15 01 58.5**	**-0.3**
YOZ	**Yozgat**	**1.30**	**196**	*e*Pn	**Pn**	**15 01 58.5**	**-0.3**

*ISCJB **10** 15:20:28.5±0.3, 29°.60N±0°.03×115°.45E±0°.03, h10km, mb4.1/26, MS3.4/9, Error ellipse: s-maj=4.1km s-min=3.2km az=38.3*
*IDC **10** 15:20:29.7±0.7, 29°.64N×115°.28E, h0km, mb3.9/18, mb1 4.0/23, mb1mx3.9/51, mbtmp3.9/23, ML3.3/5, MS3.4/14, Ms1 3.4/14, ms1mx3.2/50, Error ellipse: s-maj=18.2km s-min=14.1km az=59.0*
*NEIC **10** 15:20:30.5±0.4, 29°.57N×115°.36E, h10km, mb4.5/4, Error ellipse: s-maj=8.4km s-min=5.8km az=215.0*
NEIC Felt [III] at Nanchang and [II] at Huangshi, Jiujiang and Wuhan. Also felt at Changsha, Hefei, Jingdezhen and Xiaogan.
*MOS **10** 15:20:30.5±1.0, 29°.63N×115°.29E, h21km, mb4.5/6, Error ellipse: s-maj=12.9km s-min=9.7km az=105.5*
*BJI **10** 15:20:31.2, 29°.70N×115°.40E, h13km, mb4.5/37, mB4.7/32, ML5.0/25, Ms4.5/27, Ms7 4.2/16*

ISC 10 15:20:31.3±0.4, **29°.58N**±0°.03×**115°.44E**±0°.03, **h10**km, **n76, σ1 83**/94, **mb4.2**/26, **MS3.6**/11, **3C-1D, Southeastern China**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WHN	**Wuhan**	**1.34**	**316**	⇑Pg	**Pb**	**15 20 54.7**	**-1.9**
WHN				Sg	**Sn**	**15 21 12.6**	**-1.4**
WHN				smax	smax		
	comp=N,34μm,0.6s						
WHN				smax	smax		
	comp=E,41μm,0.6s						
WHN	**Wuhan**	**1.34**	**316**	⇑Pg	**Pb**	**15 20 54.7**	**-1.9**
WHN				Sg	**Sn**	**15 21 12.6**	**-1.4**
NJ2	**Nanjing**	**3.83**	**49**	*e*Pn	**Pn**	**15 21 28.9**	**-1.5**
NJ2				Pg	**Pb**	**15 21 38.4**	**-0.7**
NJ2				Sg	**Sb**	**15 22 26.2**	**+0.6**
NJ2				smax	smax		
	comp=N,3μm,0.5s						
NJ2				smax	smax		
	comp=E,2μm,0.5s						
NJ2	**Nanjing**	**3.83**	**49**	*e*Pn	**Pn**	**15 21 28.9**	**-1.5**
NJ2				Pg	**Pb**	**15 21 38.4**	**-0.7**
NJ2				Sg	**Sb**	**15 22 26.2**	**+0.6**
SSE	**Sheshan**	**5.20**	**72**	Pn	**Pn**	**15 21 47.8**	**-1.3**
SSE				smax	smax		
	comp=N,1μm,0.6s						
SSE				smax	smax		
	comp=E,1μm,0.6s						
SSE	**Sheshan**	**5.20**	**72**	Pn	**Pn**	**15 21 47.8**	**-1.3**
ENH	**Enshi**	**5.21**	**279**	*e*Pn	**Pn**	**15 21 49.0**	**-0.3**
	190nm,0.6s						
ENH				*e*Sn	**Sn**	**15 22 49.5**	**0.0**
QZH	**Quanzhou**	**5.41**	**148**	⇑*i*Pn	**Pn**	**15 21 50.4**	**-1.6**
QZH				Sn	**Sn**	**15 22 54.1**	**-0.2**
QZH				smax	smax		
	comp=N,2μm,0.6s						
QZH				smax	smax		
	comp=E,3μm,0.5s						
QZH				LR	LR		
	comp=Z,4μm,3.8s						
GZH	**Guangzhou**	**6.74**	**197**	Pn	Pn	15 22 02.5	-7.8
GZH				Pg	**Pb**	**15 22 29.6**	**+1.1**
GZH				Sn	Sn	15 23 11.3	-16
GZH				Sg	**Sb**	**15 23 48.3**	**-0.8**
GZH				pmax	pmax		
	comp=Z,150nm,0.7s						
TIA	**Tai'an**	**6.76**	**12**	Pn	**Pn**	**15 22 10.0**	**-0.6**
TIA				Sg	**Sb**	**15 23 52.9**	**+3.1**
TIA				smax	smax		
	comp=Z,610nm,0.9s						
TIA				smax	smax		
	comp=Z,570nm,1.0s						
XAN	**Xi'an**	**7.10**	**310**	Pn	**Pn**	**15 22 14.3**	**-1.1**
XAN				smax	smax		
	comp=Z,920nm,0.8s						
XAN				smax	smax		
	comp=Z,560nm,0.8s						
XAN				LR	LR		
	comp=Z,1μm,4.3s						
XAN				LR	LR		
	comp=Z,1μm,3.5s						
XAN				LR	LR		
	comp=Z,1μm,7.0s						
YHNB	**Yeheng**	**7.21**	**131**	*e*Pn	**Pn**	**15 22 16.1**	**-0.8**
	comp=Z,30nm,0.4s						
YHNB				*e*Sn	**Sn**	**15 23 34.6**	**-4.2**
MCO	**Taipa Grande**	**7.62**	**193**	P	**Pg**	**15 22 55.0**	**-2.2**
TPUB	**Ta-pu**	**7.80**	**142**	Pn	**Pn**	**15 22 23.4**	**-1.5**
	comp=Z,50nm,0.9s						
TPUB				*e*Sn	**Sn**	**15 23 52.6**	**-0.6**
YULB	**Yu-li**	**8.10**	**138**	*e*Pn	**Pn**	**15 22 29.7**	**+0.7**
	comp=Z,38nm,0.6s						
GYA	**Guiyang**	**8.35**	**250**	P	**Pn**	**15 22 35.7**	**+3.1**
GYA				S	**Sn**	**15 24 10.0**	**+2.9**
GYA				smax	smax		
	comp=Z,180nm,0.8s						
GYA				smax	smax		
	comp=Z,210nm,0.8s						
GYA				LR	LR		
	comp=Z,1μm,4.9s						
GYA				LR	LR		
	comp=Z,760nm,6.5s						
GYA				LR	LR		
	comp=Z,1μm,6.9s						
TWG	**Pinlang**	**8.42**	**142**	*e*Pn	**Pn**	**15 22 30.7**	**-2.8**
	comp=Z,97nm,0.3s						
CD2	**Chengdu**	**10.19**	**280**	⇓*i*P	**Pn**	**15 22 59.8**	**+2.1**
CD2				sP		15 23 04.2	
CD2				S	**Sn**	**15 24 53.5**	**+1.5**
CD2				SS	**SnSn**	**15 25 04.8**	**+1.1**
CD2				pmax	pmax		
	comp=Z,80nm,0.6s						
CD2				pmax	pmax		
	comp=Z,130nm,3.8s						
CD2				LR	LR		
	comp=Z,3μm,7.1s						
CD2				LR	LR		
	comp=Z,2μm,5.3s						
CD2				LR	LR		
	comp=Z,1μm,8.3s						
BJI	**Beijing**	**10.45**	**3**	P	**Pn**	**15 23 04.1**	**+2.9**
BJI				pmax	pmax		
	comp=Z,9.0nm,1.0s						
QIZ	**Qiongzhong**	**11.67**	**207**	P	**Pn**	**15 23 17.6**	**-0.5**
QIZ				S	**Sn**	**15 25 30.2**	**+1.7**
QIZ				LR	LR		
	comp=Z,1μm,6.6s						
QIZ				LR	LR		
	comp=Z,2μm,7.3s						
QIZ				LR	LR		
	comp=Z,560nm,6.6s						
HHC	**Hu-ho-hao-te**	**11.68**	**345**	*e*P	**Pn**	**15 23 17.3**	**-0.8**
HHC				PP	**PnPn**	**15 23 26.8**	**+0.8**
HHC				S	**Sn**	**15 25 29.5**	**+0.9**
HHC				SS	**SnSn**	**15 25 39.4**	**-1.4**
HHC				pmax	pmax		
	comp=Z,20nm,1.2s						
HHC				pmax	pmax		
	comp=Z,58nm,4.4s						
LZH	**Lanzhou**	**11.70**	**307**	*e*P	**Pn**	**15 23 18.3**	**-0.3**
LZH				pP		15 23 21.4	
LZH				sP		15 23 23.1	
LZH				*e*S	**Sn**	**15 25 28.4**	**-1.0**
LZH				SS	**SnSn**	**15 25 39.4**	**-2.0**
LZH				pmax	pmax		
	comp=Z,29nm,1.2s						
LZH				pmax	pmax		
	comp=Z,120nm,5.4s						
KMI	**Kunming**	**12.12**	**252**	P	**Pn**	**15 23 26.0**	**+1.6**
KMI				pP		15 23 29.2	
KMI				sP		15 23 31.4	
KMI				S	**Sn**	**15 25 40.7**	**+0.9**
KMI				SS	**SnSn**	**15 25 54.5**	**+2.7**
KMI				pmax	pmax		
	comp=Z,41nm,0.6s						
KMI				pmax	pmax		
	comp=Z,88nm,3.9s						
KMI				LR	LR		
	comp=Z,690nm,9.6s						
KSAR	**Wonju Array Be**	**13.00**	**50**	P	**Pn**	**15 23 37.3**	**+1.1**
KSAR	**Wonju Array Be**	**13.00**	**50**	Pn	**Pn**	**15 23 37.2**	**+1.1**
KSRS	**Korea Array**	**13.04**	**50**	Pn	**Pn**	**15 23 37.2**	**+0.7**
	comp=Z,0.1nm,0.3s,baz=225,slow=14,SNR=7.8						
KSRS				Lg	Lg	15 27 24.8	
	comp=Z,0.3nm,0.3s,baz=247,slow=26,SNR=4.4						
KSRS				LR	LR	15 28 31.9	
	comp=Z,80nm,18.5s,baz=250,slow=37						
JNU	**Nakatsue**	**13.66**	**71**	Pn	**Pn**	**15 23 46.2**	**+1.0**
	comp=Z,0.1nm,0.3s,baz=270,slow=20,SNR=2.0						
TGY	**Tagaytay City**	**16.22**	**161**	LR	LR	15 31 11.3	
	comp=Z,99nm,18.1s,baz=124,slow=39						
CMAR	**Chiang Mai Arr**	**18.67**	**237**	P	**P**	**15 24 47.7**	**-2.0**
	comp=Z,0.1nm,0.3s,baz=39,slow=8.8,SNR=11						
CMAR				Lg	Lg	15 30 28.1	
	comp=Z,0.2nm,0.3s,baz=66,slow=34,SNR=3.0						
CMAR				LR	LR	15 31 15.0	
	comp=Z,78nm,19.3s,baz=242,slow=35						
ULN	**Ulaanbaatar**	**19.37**	**343**	*e*P	**P**	**15 24 55.2**	**-2.1**
ULN				pmax	pmax		
	comp=Z,4.0nm,0.8s						
ULN	**Ulaanbaatar**	**19.37**	**343**	*e*P	**P**	**15 24 55.2**	**-2.1**
	comp=Z,3.8nm,0.8s						
SONM	**Songino Array**	**19.52**	**342**	P	**Pn**	**15 24 59.2**	**-0.9**
	comp=Z,0.3nm,0.3s,baz=167,slow=10,SNR=9.3						
SONM				Lg	Lg	15 30 51.9	
	comp=Z,0.3nm,0.3s,baz=160,slow=27,SNR=4.7						
SONM				LR	LR	15 33 02.7	
	comp=Z,93nm,20.0s,baz=156,slow=39						
USRK	**Ussuriysk Ar.**	**19.65**	**38**	P	**P**	**15 24 59.7**	**-0.4**
	comp=Z,0.1nm,0.3s,baz=220,slow=10,SNR=3.2						
USRK				Lg	Lg	15 30 57.8	
	comp=Z,0.1nm,0.3s,baz=234,slow=25,SNR=6.5						
USRK				LR	LR	15 33 08.5	
	comp=Z,87nm,21.0s,baz=215,slow=38						
MJAR	**Matsushiro Arr**	**20.28**	**64**	P	Pn	15 25 08.0	-1.2
	comp=Z,1.0nm,0.8s,baz=267,slow=9.5,SNR=3.0						
MJAR				LR	LR	15 33 25.4	
	comp=Z,51nm,19.8s,baz=245,slow=38						
MJAR	**Matsushiro Arr**	**20.28**	**64**	P	Pn	15 25 08.0	-1.2
LSA	**Lhasa**	**21.10**	**276**	P	**P**	**15 25 17.4**	**+0.8**
LSA				pmax	pmax		
	comp=Z,27nm,1.0s						
LSA				LR	LR		
	comp=Z,82nm,24.0s						
LSA				LR	LR		
	comp=Z,790nm,14.4s						
LSA	**Lhasa**	**21.10**	**276**	*e*P	**P**	**15 25 14.5**	**-2.1**
LSA				pmax	pmax		
	comp=Z,13nm,0.6s						
LSA	**Lhasa**	**21.10**	**276**	*e*P	**P**	**15 25 14.5**	**-2.1**
	comp=Z,13nm,0.6s						
SHL	**Shillong**	**21.25**	**265**	*e*P	**P**	**15 25 19.0**	**+1.1**
ZAK	**Zakamensk**	**22.71**	**340**	*e*P	**P**	**15 25 36.7**	**+3.4**
ZAK				pmax	pmax		
	comp=Z,5.0nm,1.2s						
KLR	**Kul'dur**	**23.23**	**28**	P	**P**	**15 25 40.1**	**+1.6**
	comp=Z,0.8nm,0.6s,baz=259,slow=6.1,SNR=1.8						
IRK	**Irkutsk**	**24.10**	**343**	*e*P	**P**	**15 25 49.7**	**+2.7**
IRK				pmax	pmax		
	comp=Z,27nm,2.3s						
MOY	**Mondy**	**24.55**	**338**	*e*P	P	15 25 59.6	+8.4
WMQ	**Urumqi**	**26.24**	**310**	P	**P**	**15 26 06.1**	**-0.5**
WMQ				pP	sP	15 26 10.9	0.0
WMQ				sP	pP	15 26 13.8	+4.1
WMQ				pmax	pmax		
	comp=Z,11nm,0.8s						
WMQ				pmax	pmax		
	comp=Z,110nm,4.1s						
GUMO	**Guam**	**31.53**	**114**	LR	LR	15 39 55.2	
	comp=Z,36nm,18.4s,baz=256,slow=37						
ZALV	**Zalesovo Beam**	**32.94**	**326**	P	**P**	**15 27 04.8**	**-1.0**
	comp=Z,3.3nm,0.4s,baz=121,slow=8.9,SNR=13						
ZALV				LR	LR	15 40 13.2	
	comp=Z,58nm,18.2s,baz=70,slow=36						
KSH	**Kashi**	**33.75**	**298**	*e*P	**P**	**15 27 15.5**	**+2.2**
KSH				sP	sP	15 27 22.7	+5.1
KSH				PP	**PP**	**15 28 29.5**	**0.0**
KSH				S	**S**	**15 32 39.8**	**+2.9**
KSH				sS	sS	15 32 46.7	+4.8
KSH				SS	**SnSn**	**15 34 47.1**	**+6.1**
KSH				pmax	pmax		
	comp=Z,7.0nm,1.1s						
KSH				pmax	pmax		
	comp=Z,120nm,4.4s						
KSH				LR	LR		
	comp=Z,650nm,13.6s						
KSH				LR	LR		
	comp=Z,180nm,6.7s						
KSH				LR	LR		
	comp=Z,120nm,7.2s						
KURK	**Kurchatov**	**34.67**	**318**	P	**P**	**15 27 19.8**	**-1.1**
KURK	**Kurchatov**	**34.67**	**318**	P	**P**	**15 27 19.8**	**-1.1**
KURBB	**Kurchatov Arra**	**34.68**	**318**	P	**P**	**15 27 19.8**	**-1.2**
	comp=Z,1.5nm,0.4s,baz=114,slow=9.2,SNR=5.2						
PETK	**Petropavlovsk-**	**38.69**	**40**	LR	LR	15 46 52.6	
	comp=Z,38nm,18.3s,baz=276,slow=41						
BVAR	**Borovoye Array**	**40.26**	**319**	P	**P**	**15 28 07.6**	**-0.6**
	comp=Z,0.8nm,0.4s,baz=119,slow=9.1,SNR=4.0						
NRIK	**Noril'sk**	**42.91**	**346**	P	**P**	**15 28 28.2**	**-1.5**
	comp=Z,2.3nm,0.6s,baz=169,slow=5.9,SNR=6.5						
NRIK				LR	LR	15 47 45.0	
	comp=Z,81nm,18.6s,baz=328,slow=38						
ABKAR	**Akbulak array**	**46.02**	**311**	*e*P	**P**	**15 28 52.5**	**-2.4**
	comp=Z,3.5nm,0.7s						
AKTO	**Aktyubinsk**	**47.35**	**313**	P	**P**	**15 29 04.2**	**-1.1**
	comp=Z,0.9nm,0.5s,baz=108,slow=20,SNR=3.1						
AKTO				LR

comp=Z,3.2nm,1.1s,baz=63,slow=6.2
NOA NORSAR Array B 71.04 330 P **P** **15 31 47.4 -1.9**
comp=Z,0.3nm,0.5s,baz=63,slow=5.9,SNR=2.9
NOA LR LR 16 04 51.4
comp=Z,33nm,19.4s,baz=80,slow=38
CLL Collm 74.66 321 *e*(P) **P** **15 32 14.0 +3.2**
GERES GERESS Array B 75.42 318 P **P** **15 32 18.1 +2.6**
comp=Z,1.1nm,0.8s,baz=59,slow=5.1,SNR=8.3
VNA2 Neumayer--Watz 128.25 201 PKP **PKPdf** **15 39 34.3 -2.8**
baz=65,slow=2.1
VNA3 Neumayer Olymp 128.81 200 PKP **PKPdf** **15 39 35.8 -2.4**

*NSSC **10** 15:39:00.7±1.7,36.11N×35.74E,h3km±24km, ML1.8*
*CSEM **10** 15:39:16.8,36.99N×36.90E,h7km, MD2.5*
*DDA **10** 15:39:16.8,36.99N×36.90E,h7km, Md2.5*
ISC 10 15:39:17.3±1.1,36.98N±0.04×36.89E±0.06,h9km±15km, n11,σ0°41/17,Jordan-Syria region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
KUZU	**Kuzuini**	**0.25**	**144**	*i* P		**Pg**		**15 39 22.2**	**-0.2**
KUZU				*i* S		**Sg**		**15 39 26.2**	**+0.4**
KUZU	**Kuzuini**	**0.25**	**144**	P		**Pg**		**15 39 22.2**	**-0.2**
KUZU				S		**Sg**		**15 39 26.2**	**+0.4**
KAMA	**Osmaniye**	**0.27**	**320**	*i* P		**Pg**		**15 39 22.7**	**-0.1**
KAMA				*i* S		**Sg**		**15 39 27.1**	**+0.6**
HCB	**Kahramanmara˜**	**0.36**	**3**	*i* P		**Pg**		**15 39 24.1**	**-0.4**
HCB				*i* S		**Sg**		**15 39 29.1**	**-0.2**
DRWC	**Darouich**	**0.40**	**206**	*e*P		Pg		15 39 18.9	-6.2
DRWC				*i* S		**Sg**		**15 39 30.2**	**-0.1**
DRWC					AML	AML		15 39 32.6	
	comp=N,59nm,0.2s								
DRWC					AML	AML		15 39 34.7	
	comp=E,43nm,0.4s								
GZT	**Gaziantep**	**0.66**	**55**	*i* P		**Pb**		**15 39 30.8**	**-0.3**
GZT				*i* S		**Sb**		**15 39 41.2**	**+0.8**
ANDN	**Andirin**	**0.74**	**324**	*i* P		**Pg**		**15 39 31.3**	**-0.2**
ANDN				*i* S		**Sg**		**15 39 41.5**	**+0.3**
ANDN	**Andirin**	**0.74**	**324**	P		**Pg**		**15 39 31.3**	**-0.2**
ANDN				S		**Sg**		**15 39 41.5**	**+0.3**
BTCH	**Batrach**	**1.00**	**200**	AML	AML			15 39 52.3	
	comp=N,60nm,0.7s								
BTCH					AML	AML		15 39 52.6	
	comp=E,57nm,0.5s								
SURC	**SANLIURFA_SURC**	**1.39**	**94**	*i* P		**Pb**		**15 39 43.1**	**-0.3**
SURC	**SANLIURFA_SURC**	**1.39**	**94**	P		**Pb**		**15 39 43.1**	**-0.3**

*ISCJB **10** 15:44:29.5±0.4,6.3S±0.1×106.69E±0.07,h177km±4km, mb3.8/13,Error ellipse: s-maj=19.4km s-min=7.0km az=29.9*
*DJA **10** 15:44:31.8±0.8,7.1S±14.1×10.6E±.1,h160km±5km,M3.8/7, Mw3.8/7*
*IDC **10** 15:44:31.9±3.3,6.1S×106.67E,h180km±29km,mb3.5/13, mb1 3.6/13,mb1mx3.4/47,mbtmp4.0/13,MS3.7/1, Ms1 3.6/1,ms1mx2.7/32,Error ellipse: s-maj=25.7km s-min=11.3km az=58.0*
ISC 10 15:44:30.7±0.7,6.5S±0.1×106.59E±0.07,h176km±5km, n30,σ1°68/36,mb3.8/13,Jawa

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
DBJI	**Dramaga**	**0.18**	**115**	P		**Pn**		**15 44 55.6**	**+1.5**
DBJI				S		**Sn**		**15 45 12.8**	**+0.8**
SKJI	**Sukabumi**	**0.53**	**183**	P		**Pn**		**15 44 55.4**	**+0.2**
SKJI				S		**Sn**		**15 45 12.4**	**-1.7**
SBJI	**Serang**	**0.58**	**308**	P		**Pn**		**15 44 58.4**	**+3.0**
CGJI	**Cibinong**	**0.90**	**261**	P		**Pn**		**15 44 57.1**	**-0.1**
CGJI				S		**Sn**		**15 45 15.4**	**-2.3**
CNJI	**Cibinong**	**0.99**	**147**	P		**Pn**		**15 44 57.4**	**-0.5**
CNJI				S		**Sn**		**15 45 16.4**	**-2.5**
LEM	**Lembang**	**1.08**	**109**	P		**Pn**		**15 45 02.0**	**+3.2**
LEM				S		Sn		15 45 30.2	+10
CISI	**Cisompet, Garu**	**1.62**	**131**	P		**Pn**		**15 45 03.2**	**-0.4**
CISI				S		**Sn**		**15 45 28.2**	**-0.9**
CMJI	**Cimerak**	**2.26**	**125**	P		**Pn**		**15 45 10.6**	**+0.3**
CMJI				S		**Sn**		**15 45 38.8**	**-2.3**
KASI	**Kota Agung**	**2.29**	**294**	P		**Pn**		**15 45 12.4**	**+1.7**
KASI				S		**Sn**		**15 45 42.2**	**+0.5**
KPJI	**Karang Pucung**	**2.48**	**110**	P		**Pn**		**15 45 14.1**	**+1.2**
KPJI				S		**Sn**		**15 45 46.2**	**+0.6**
CMAR	**Chiang Mai Arr**	**25.90**	**343**	P		**P**		**15 49 46.0**	**-0.6**
	1.4nm,0.6s,baz=179,slow=8.3,SNR=7.9								
H01W3	**Cape Leeuwin H**	**29.11**	**167**	T		T		16 21 20.4	
	baz=344,slow=76,SNR=2.9								
H01W1	**Cape Leeuwin H**	**29.13**	**167**	T		T		16 21 19.2	
	baz=344,slow=76,SNR=3.6								
H01W2	**Cape Leeuwin H**	**29.13**	**167**	T		T		16 21 20.4	
	baz=344,slow=76,SNR=4.9								
WRA	**Warramunga Arr**	**30.08**	**119**	P		**P**		**15 50 24.9**	**+1.0**
	0.4nm,0.6s,baz=297,slow=11,SNR=2.9								
WRA					PcP	**PcP**		**15 53 21.8**	**+0.5**
	0.3nm,0.3s,baz=297,slow=4.2,SNR=8.9								
ASAR	**Alice Springs**	**31.32**	**126**	P		**P**		**15 50 36.6**	**+1.9**
	0.6nm,0.4s,baz=296,slow=7.6,SNR=34								
ASAR					ScP	**ScP**		**15 56 52.0**	**+0.8**
	0.4nm,0.7s,baz=298,slow=2.0,SNR=4.3								
H08S2	**Diego Garcia H**	**33.85**	**266**	T		T		16 26 50.4	
	baz=91,slow=76,SNR=4.2								
H08S3	**Diego Garcia H**	**33.86**	**266**	T		T		16 26 52.8	
	baz=91,slow=76,SNR=4.4								
H08S1	**Diego Garcia H**	**33.87**	**266**	T		T		16 26 53.5	
	baz=91,slow=76,SNR=5.5								
STKA	**Stephens Creek**	**41.29**	**132**	P		**P**		**15 52 01.4**	**+2.4**
	1.6nm,0.4s,baz=316,slow=8.6,SNR=13								
STKA					LR	LR		16 10 15.9	
	comp=Z,89nm,18.3s,baz=9.2,slow=37								
MJAR	**Matsushiro Arr**	**52.05**	**32**	P		**P**		**15 53 20.5**	**-2.0**
	0.5nm,0.6s,baz=205,slow=7.6,SNR=4.1								
SONM	**Songino Array**	**54.08**	**360**	P		**P**		**15 53 36.1**	**-1.1**
	0.4nm,0.4s,baz=162,slow=7.1,SNR=4.5								
SONM					PcP	**PcP**		**15 54 39.3**	**-0.5**
	0.3nm,0.4s,baz=165,slow=7.1,SNR=3.2								
USRK	**Ussuriysk Ar.**	**55.41**	**22**	P		**P**		**15 53 45.7**	**-1.0**
	0.9nm,0.5s,baz=220,slow=6.0,SNR=4.3								
KURBB	**Kurchatov Arra**	**61.82**	**340**	P		**P**		**15 54 29.4**	**-1.4**
	1.3nm,0.5s,baz=151,slow=6.3,SNR=16								
KURBB					PcP	**PcP**		**15 55 09.6**	**-0.5**
	0.1nm,0.4s,baz=143,slow=3.9,SNR=4.7								
ZALV	**Zalesovo Beam**	**62.93**	**346**	P		**P**		**15 54 35.6**	**-2.5**
	1.0nm,0.3s,baz=157,slow=6.5,SNR=8.5								
BVAR	**Borovoye Array**	**66.73**	**337**	P		**P**		**15 55 01.5**	**-1.3**
	1.9nm,0.5s,baz=139,slow=8.9,SNR=17								
MAW	**Mawson**	**67.75**	**197**	P		**P**		**15 55 12.2**	**+3.3**
	0.9nm,0.3s,baz=54,slow=8.7,SNR=4.9								
MMAI	**Mount Meron Ar**	**77.97**	**306**	P		**P**		**15 56 10.2**	**+0.4**
	0.2nm,0.3s,baz=91,slow=7.9,SNR=3.3								
BRTR	**Keskin Array B**	**81.18**	**312**	P		**P**		**15 56 27.0**	**-0.1**
	3.0nm,0.7s,baz=137,slow=7.4,SNR=16								
TXAR	**Lajitas Array**	**143.53**	**48**	PKP		**PKPdf**		**16 03 43.5**	**-1.7**
	0.3nm,0.4s,baz=326,slow=0.8,SNR=7.9								

*SJA **10** 15:45:11.0±0.4,21.23S×64.15W,h233km±22km,ML3.1, MW3.3*
*ISCJB **10** 15:45:15.8±1.3,21.45S±0.07×67.00W±0.06, h201km±14km,Error ellipse: s-maj=12.3km s-min=6.1km az=32.6*
*GUC **10** 15:45:15.8±0.7,21.48S×66.79W,h14km±53km,ML3.6*
ISC 10 15:45:16.8±2.3,21.40S±0.07×66.97W±0.06, h187km±22km,n11,σ1°11/19,4C-3D,Southern Bolivia

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
YJA	**Yavi**	**1.56**	**120**	*i* P		**Pn**		**15 45 49.6**	**-0.8**
YJA					IAML			15 45 50.8	
	comp=Z,56nm,0.2s								
YJA				*i* S		**S**		**15 46 18.5**	**+2.2**
HJA	**Humahuaca**	**2.31**	**142**	*i* P		**Pn**		**15 45 56.4**	**-1.7**
HJA					IAML			15 45 57.5	
	comp=Z,87nm,0.3s								
HJA				*i* S		**S**		**15 46 29.6**	**-0.6**
PB01	**IPOC Station P**	**2.38**	**278**	⇑*i* P		**Pn**		**15 45 58.5**	**-0.1**
PB01				*i* S		**S**		**15 46 31.6**	**+0.5**
PB01					IAML			15 46 33.1	
	comp=N,207nm,0.2s								
PB08	**IPOC Station P**	**2.40**	**301**	⇑*i* P		**Pn**		**15 45 59.5**	**+0.3**
PB08				*i* S		**S**		**15 46 33.5**	**+1.5**
PB08					IAML			15 46 35.4	
	comp=E,109nm,0.8s								
PB02	**IPOC Station P**	**2.73**	**271**	⇓*i* P		**Pn**		**15 46 02.1**	**-0.6**
PB02				*i* S		**S**		**15 46 37.8**	**-0.6**
PB02					IAML			15 46 38.4	
	comp=N,758nm,0.4s								
PB07	**IPOC Station P**	**2.74**	**263**	⇓*i* P		**Pn**		**15 46 02.3**	**-0.5**
PB07				*i* S		**S**		**15 46 38.3**	**-0.3**
PB07					IAML			15 46 38.6	
	comp=N,215nm,0.3s								
PB06	**IPOC Station P**	**2.75**	**241**	⇑*i* P		**Pn**		**15 46 03.3**	**+0.4**
PB06				*i* S		**S**		**15 46 39.2**	**+0.4**
PB06					IAML			15 46 43.1	
	comp=N,65nm,0.5s								
PB11	**IPOC Station P**	**3.00**	**302**	⇓*i* P		**Pn**		**15 46 04.8**	**-1.2**
PB11				*i* S		**S**		**15 46 43.0**	**-1.2**
PATCX	**Punta Patache**	**3.03**	**280**	IAML				15 46 46.0	
	comp=E,299nm,0.3s								
PB13	**IPOC Station P**	**3.87**	**321**	⇑*i* P		**Pn**		**15 46 16.9**	**-0.3**
PB13				*i* S		**S**		**15 47 05.7**	**+1.4**
FSA	**Cafayete**	**4.78**	**169**	*i* P		**Pn**		**15 46 29.0**	**+0.9**

SJA 10 16:13:41.8±0.4,27.08S×64.43W,h20km±2km,ML3.5, MW3.6,Santiago del Estero Province

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
AHML	**Horco Molle**	**0.86**	**290**	*i* P		Pn		16 13 58.6	-0.1
FSA	**Cafayete**	**1.69**	**305**	*i* P		Pb		16 14 12.5	+0.3
FSA				*i* S		Sb		16 14 35.7	+2.5
FSA				IAML				16 14 37.1	
	comp=Z,309nm,0.3s								
CYA	**Choya**	**1.82**	**222**	*i* P		Pb		16 14 14.2	-0.2
CYA				*i* S		Sb		16 14 38.2	+1.5
CYA				IAML				16 14 38.6	
	comp=Z,860nm,0.2s								
SLA	**San Lorenzo**	**2.54**	**337**	*i* P		Pb		16 14 25.0	-1.8

IDC 10 16:15:02.1±10.0,4.86S×151.69E,h112km±88km,mb3.6/5, mb1 3.8/5,mb1mx3.5/25,mbtmp3.9/5,Error ellipse: s-maj=60.0km s-min=27.1km az=106.0,New Britain region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**6.37**	**225**	S		Sn		16 17 58.9	+14
	1.3nm,0.3s,baz=98,slow=12,SNR=3.7								
WRA	**Warramunga Arr**	**22.58**	**227**	P		P		16 19 54.5	+1.0
	6.8nm,0.5s,baz=49,slow=10.0,SNR=83								
WRA					PcP	PcP		16 23 41.8	-1.2
	0.7nm,0.9s,baz=40,slow=2.0,SNR=4.5								
ASAR	**Alice Springs**	**25.37**	**221**	P		P		16 20 19.9	+0.8
	1.1nm,0.4s,baz=51,slow=8.6,SNR=82								
ASAR					PcP	PcP		16 23 48.2	-0.8
	0.4nm,0.7s,baz=28,slow=4.2,SNR=4.1								
FITZ	**Fitzroy Crossi**	**28.66**	**241**	P		P		16 20 47.6	-0.9
	2.1nm,0.6s,baz=71,slow=8.1,SNR=14								
SONM	**Songino Array**	**65.79**	**328**	P		P		16 25 36.8	+1.3
	0.5nm,0.8s,baz=147,slow=6.4,SNR=2.7								
ILAR	**Eielson Array**	**82.63**	**22**	P		P		16 27 12.8	+0.1
	0.2nm,0.6s,baz=232,slow=6.3,SNR=3.4								
TORD	**Torodi Ar. Bea**	**149.27**	**288**	PKPbc		PKPbc		16 34 36.9	-1.9
	1.3nm,0.6s,baz=78,slow=2.9,SNR=8.1								

*IDC **10** 16:35:09.2±0.9,14.73N×144.49E,h0km,mb3.8/10, mb1 4.0/10,mb1mx3.8/32,mbtmp3.8/10,MS3.6/1, Ms1 3.8/1,ms1mx2.9/27,Error ellipse: s-maj=33.3km s-min=15.4km az=80.0*
*ISCJB **10** 16:35:11.5±0.6,14.70N±0.07×144.4E±0.2,h27km, mb3.8/12,MS3.6/1,Error ellipse: s-maj=22.4km s-min=7.8km az=161.1*
*NEIC **10** 16:35:14.1±0.4,14.70N×144.49E,h35km,mb4.0/2,Error ellipse: s-maj=18.0km s-min=7.6km az=81.0*
ISC 10 16:35:13.0±0.7,14.70N±0.09×144.5E±0.2,h27km,n19, σ0°58/14,mb3.9/12,Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
GUMO	**Guam**	**1.16**	**161**	Pn		**Pn**		**16 35 33.7**	**+0.2**
	223nm,0.3s,baz=290,slow=2.5,SNR=263								
GUMO				Sn		**Sn**		**16 35 48.1**	**-0.4**
	132nm,0.3s,baz=153,slow=21,SNR=27								
H11S3	**WAKE ISLAND Hy 21.61**	**77**		T		T		17 02 55.6	
	baz=262,slow=75,SNR=20								
H11S1	**WAKE ISLAND Hy 21.62**	**77**		T		T		17 02 52.0	
	baz=262,slow=75,SNR=16								
H11S2	**WAKE ISLAND Hy 21.63**	**77**		T		T		17 02 53.5	
	baz=262,slow=75,SNR=17								
H11N1	**WAKE ISLAND Hy 21.97**	**74**		T		T		17 03 20.2	
	baz=260,slow=75,SNR=5.1								
H11N2	**WAKE ISLAND Hy 21.98**	**74**		T		T		17 03 22.2	
	baz=260,slow=75,SNR=3.8								
H11N3	**WAKE ISLAND Hy 21.99**	**74**		T		T		17 03 23.0	
	baz=260,slow=75,SNR=4.7								
MJAR	**Matsushiro Arr**	**22.47**	**347**	P		**P**		**16 40 10.1**	**-0.1**
	3.3nm,1.2s,baz=168,slow=10,SNR=5.5								
WRAB	**Tennant Creek**	**35.83**	**196**	*e*P		**P**		**16 42 10.5**	**0.0**
	1.3nm,0.5s								
WRA	**Warramunga Arr**	**35.84**	**196**	P		**P**		**16 42 11.0**	**+0.5**
	2.1nm,0.9s,baz=13,slow=9.6,SNR=11								
ASAR	**Alice Springs**	**39.50**	**195**	P		**P**		**16 42 42.0**	**+0.5**
	0.3nm,0.7s,baz=24,slow=12,SNR=4.5								
CMAR	**Chiang Mai Arr**	**43.72**	**281**	P		**P**		**16 43 16.0**	**-0.3**
	0.7nm,0.8s,baz=75,slow=7.6,SNR=4.1								
CMAR					LR	LR		17 01 37.1	
	comp=Z,73nm,18.0s,baz=85,slow=36								
SONM	**Songino Array**	**45.62**	**324**	P		**P**		**16 43 32.2**	**+1.0**
	0.4nm,0.3s,baz=126,slow=7.3,SNR=2.6								
STKA	**Stephens Creek**	**46.39**	**183**	P		**P**		**16 43 37.1**	**-0.1**
	2.1nm,0.9s,baz=352,slow=5.3,SNR=3.1								
ZALV	**Zalesovo Beam**	**60.51**	**324**	P		**P**		**16 45 21.1**	**+0.5**
	0.6nm,0.6s,baz=96,slow=10,SNR=3.6								
ILAR	**Eielson Array**	**67.74**	**26**	P		**P**		**16 46 08.1**	**+0.2**
	0.2nm,0.5s,baz=258,slow=4.2,SNR=2.6								
ABKAR	**Akbulak array**	**75.48**	**318**	*e*P		**P**		**16 46 53.6**	**-1.2**
	0.9nm,0.7s								
FINES	**FINESS Array B**	**90.01**	**335**	P		**P**		**16 48 09.3**	**-0.6**
	2.0nm,1.0s,baz=79,slow=7.5,SNR=3.3								
PDAR	**Pinedale Array**	**91.46**	**45**	P		**P**		**16 48 17.3**	**-0.1**
	0.2nm,0.4s,baz=222,slow=1.2,SNR=3.6								

*ISCJB **10** 16:49:20.9±0.7,3.03S±0.06×99.89E±0.06,h27km, mb4.0/15,Error ellipse: s-maj=11.5km s-min=4.7km az=136.7*
*DJA **10** 16:49:21.9±0.6,3.3S±4.1×10.0E±.1,h29km±5km,M4.3/19, mB5.2/2,mb4.2/8,MLv4.4/19,Mw(mB)4.6/2*
*IDC **10** 16:49:22.1±1.1,2.77S×100.47E,h0km,mb4.0/12, mb1 4.1/13,mb1mx3.9/33,mbtmp4.0/13,ML3.3/1,Error ellipse: s-maj=39.4km s-min=16.3km az=53.0*
*NEIC **10** 16:49:27.2±0.8,2.67S×100.51E,h35km,mb4.1/3,Error ellipse: s-maj=32.9km s-min=10.9km az=55.0*
ISC 10 16:49:23.7±0.9,2.9S±0.1×100.05E±0.08,h27km,n46, σ1°29/36,mb4.0/15,Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
PPSI	**Pulau Pagai**	**0.17**	**348**	P		**Pn**		**16 49 31.2**	**+0.6**
SISI	**Saibi**	**1.86**	**329**	P		**Pn**		**16 49 52.6**	**-1.2**
SISI				S		**Sn**		**16 50 15.3**	**-1.1**
PDSI	**Padang**	**2.05**	**12**	P		**Pn**		**16 49 56.8**	**+0.4**
MASI	**Maura Aman, Be**	**2.20**	**95**	P		**Pb**		**16 49 59.6**	**-3.3**
MASI				S		**Sb**		**16 50 28.2**	**-1.5**
SDSI	**Sungai Dareh**	**2.42**	**35**	P		**Pn**		**16 50 02.7**	**+1.2**
PPI	**Padang Panjang**	**2.48**	**8**	P		**Pn**		**16 50 02.8**	**+0.4**
KSI	**Kapahiang**	**2.64**	**106**	P		Pb		16 50 05.0	-5.4
PBSI	**Pulau Batu**	**3.36**	**328**	P		**Pn**		**16 50 12.9**	**-1.5**
BKNI	**Bangkinang**	**3.39**	**17**	P		**Pn**		**16 50 13.5**	**-1.3**
RGRI	**Rengat**	**3.44**	**42**	P		**Pn**		**16 50 16.7**	**+1.2**
MNSI	**Mandailing Nat**	**3.73**	**353**	P		**Pn**		**16 50 19.3**	**-0.3**
MDSI	**Maura Dua**	**4.40**	**111**	P		**Pn**		**16 50 29.3**	**+0.5**
LWLI	**Liwa**	**4.51**	**117**	P		**Pn**		**16 50 30.3**	**0.0**
KLSI		**4.99**	**111**	P		**Pn**		**16 50 37.1**	**+0.2**
KASI	**Kota Agung**	**5.13**	**120**	P		**Pn**		**16 50 38.3**	**-0.5**
	48nm,0.7s,2µm								
PSI	**Prapat**	**5.80**	**349**	Pn		**Pn**		**16 50 45.9**	**-2.3**
	1.0nm,0.3s,baz=139,slow=20,SNR=5.6								
TPRI	**Tanjung Pinang**	**5.89**	**50**	P		**Pn**		**16 50 50.6**	**+1.3**
CGJI	**Cibinong**	**6.71**	**123**	P		**Pn**		**16 50 58.7**	**-1.8**
TPTI		**6.79**	**335**	P		**Pn**		**16 50 59.5**	**-2.0**
KCSI	**Kotacane, Aceh**	**6.80**	**340**	P		**Pn**		**16 51 00.4**	**-1.4**
CMAR	**Chiang Mai Arr**	**21.28**	**357**	P		**P**		**16 54 08.7**	**+0.4**
	1.7nm,0.7s,baz=188,slow=10.0,SNR=7.8								
H08S2	**Diego Garcia H**	**27.82**	**259**	T		T		17 24 14.3	
	baz=82,slow=75,SNR=3055								
H08S3	**Diego Garcia H**	**27.83**	**259**	T		T		17 24 14.4	
	baz=82,slow=75,SNR=2063								
H08S1	**Diego Garcia H**	**27.84**	**259**	T		T		17 24 15.3	
	baz=82,slow=75,SNR=2379								
H08N1	**Diego Garcia H**	**29.13**	**262**	T		T		17 26 47.7	
	baz=146,slow=74,SNR=30								
H08N2	**Diego Garcia H**	**29.14**	**262**	T		T		17 26 46.5	
	baz=146,slow=74,SNR=36								
H08N3	**Diego Garcia H**	**29.15**	**262**	T		T		17 26 48.3	
	baz=146,slow=74,SNR=35								
FITZ	**Fitzroy Crossi**	**29.26**	**123**	P		**P**		**16 55 24.5**	**+0.7**
	2.9nm,0.9s,baz=333,slow=4.5,SNR=2.7								
H01W3	**Cape Leeuwin H**	**34.38**	**159**	T		T		17 32 14.0	
	baz=335,slow=76,SNR=66								
H01W2	**Cape Leeuwin H**	**34.40**	**159**	T		T		17 32 15.0	
	baz=335,slow=76,SNR=83								
H01W1	**Cape Leeuwin H**	**34.40**	**159**	T		T		17 32 15.1	
	baz=335,slow=76,SNR=58								
WRA	**Warramunga Arr**	**37.49**	**119**	P		**P**		**16 56 35.3**	**-0.2**
	0.9nm,0.7s,baz=305,slow=8.4,SNR=12								
WRAB	**Tennant Creek**	**37.50**	**119**	P		**P**		**16 56 35.2**	**-0.3**
	1.1nm,0.6s								
ASAR	**Alice Springs**	**38.68**	**125**	P		**P**		**16 56 45.2**	**-0.3**
	0.8nm,0.7s,baz=298,slow=7.2,SNR=14								
SONM	**Songino Array**	**50.86**		P		**P**		**16 58 24.4**	**+2.1**
	2.7nm,0.6s,baz=188,slow=8.8,SNR=19								
SONM					PcP	**PcP**		**16 59 39.9**	**+1.2**
	0.6nm,0.6s,baz=185,slow=5.2,SNR=2.9								
ULN	**Ulaanbaatar**	**50.96**	**6**	P		**P**		**16 58 23.6**	**+0.5**
	1.8nm,0.7s								
MJAR	**Matsushiro Arr**	**52.97**	**39**	P		**P**		**16 58 37.4**	**-0.6**
	0.7nm,0.8s,baz=204,slow=8.2,SNR=5.8								
USRK	**Ussuriysk Ar.**	**54.95**	**28**	P		**P**		**16 58 53.2**	**+0.8**
	2.1nm,0.5s,baz=211,slow=4.4,SNR=9.4								
ZALV	**Zalesovo Beam**	**58.09**	**349**	P		**P**		**16 59 15.5**	**+1.0**
	3.3nm,0.8s,baz=174,slow=5.4,SNR=15								
ABKAR	**Akbulak array**	**62.48**	**332**	*e*P		**P**		**16 59 45.0**	**+0.3**
	0.6nm,0.4s								
BRTR	**Keskin Array B**	**73.98**	**313**	P		P		17 01 03.0	+5.8
	1.2nm,0.8s,baz=138,slow=7.5,SNR=7.4								
FINES	**FINESS Array B**	**84.95**	**332**	P		**P**		**17 01 57.5**	**+1.2**
	1.3nm,0.9s,baz=160,slow=6.1,SNR=3.9								
ARCES	**ARCESS Array B**	**87.36**	**340**	P		P		17 02 10.2	+2.2
	2.0nm,0.9s,baz=116,slow=2.1,SNR=3.9								
NOA	**NORSAR Array B**	**91.98**	**331**	P		P		17 02 32.7	+2.8
	0.2nm,0.6s,baz=101,slow=6.8,SNR=2.4								
TXAR	**Lajitas Array**	**145.41**	**38**	PKPbc		**PKPab**		**17 09 01.5**	**+1.4**
	2.9nm,0.7s,baz=291,slow=0.7,SNR=33								
JCT	**Junction City**	**146.78**	**32**	*e*PKPdf		**PKPab**		**17 09 03.8**	**-1.4**

GUC 10 16:52:27.9±0.5,24.21S×67.72W,h222km±17km,ML3.9, 5C-1D,Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**1.94**	**325**	*e*P		Pn		16 53 08.9	+1.0
PB06	**IPOC Station P**	**2.27**	**311**	⇑*i* P		Pn		16 53 12.9	+1.9
PB06				*i* S		S		16 53 46.6	+2.0
PB06				IAML				16 53 50.3	
	comp=N,269nm,0.2s								
PB14	**IPOC Station P**	**2.48**	**260**	⇓*i* P		Pn		16 53 15.3	+1.9
PB14				*e*S		S		16 53 51.1	+2.4
ANCH	**Antofagasta**	**2.52**	**282**	*i* P		Pn		16 53 16.6	+3.2
ANCH				*i* S		S		16 53 52.7	+3.9
PB09	**IPOC Station P**	**2.79**	**329**	⇑*i* P		Pn		16 53 18.6	+2.0
PB09				*i* S		S		16 53 56.9	+2.4
PB04	**IPOC Station P**	**2.92**	**309**	⇑*i* P		Pn		16 53 20.1	+2.1
PB04				*e*S		S		16 53 59.7	+2.6
PB04				IAML				16 54 03.6	
	comp=N,169nm,0.1s								
PB07	**IPOC Station P**	**3.18**	**321**	⇑*i* P		Pn		16 53 23.0	+1.9
PB07				*i* S		S		16 54 04.8	+2.3
PB07				IAML				16 54 06.0	
	comp=N,180nm,0.3s								
PB01	**IPOC Station P**	**3.55**	**332**	⇑*i* P		Pn		16 53 26.3	+0.9
PB01				*i* S		S		16 54 11.4	+1.1
HMBC	**Humberstone**	**4.40**	**332**	*e*P		Pn		16 53 35.4	-0.3

*ISCJB **10** 16:58:51.7±0.8,43.53N±0.04×127.26W±0.07,h14km, mb3.5/4,MS3.3/5,Error ellipse: s-maj=8.4km s-min=4.9km az=149.3*
*IDC **10**

NEW	Newport	8.51	53	ePn	Pn	17 00 57.3	+1.0	
BBB	Bella Bella	8.70	356	Pn	Pn	17 00 57.8	-1.1	
	0.4nm,0.3s,baz=181,slow=9.8,SNR=4.7							
BBB				LR	LR	17 03 41.8		
	comp=Z,122nm,19.0s,baz=134,slow=34							
BSMT	Bassoo Peak	9.74	59	ePn	Pn	17 01 11.4	-1.9	
MSO	Missoula	9.97	66	ePn	Pn	17 01 14.5	-1.9	
JTMT	Jette	10.02	60	ePn	Pn	17 01 16.6	-0.5	
BLMT	Blacktail Moun	10.06	59	ePn	Pn	17 01 17.2	-0.6	
SWMT	Swartz Lake	10.12	62	ePn	Pn	17 01 17.3	-1.1	
YBMT	Yellow Bay	10.23	60	ePn	Pn	17 01 21.0	+1.1	
SLMT	Seeley Lake	10.37	64	ePn	Pn	17 01 21.8	-0.1	
MCMT	McKenzie Canyo	10.43	78	ePn	Pn	17 01 23.6	+0.8	
CHMT	Chamberlain Mo	10.45	66	ePn	Pn	17 01 22.5	-0.5	
DLMT	Dillon	10.64	75	Pn	Pn	17 01 20.1	-5.5	
	6.4nm,0.9s							
WALA	Waterton Lakes	10.76	54	Pn	Pn	17 01 24.9	-2.3	
	12nm,0.7s							
BOZ	Bozeman (W)	11.34	74	Pn	Pn	17 01 31.0	-4.2	
	3.8nm,0.9s							
TPAW	Teton Pass	11.84	84	eP	Pn	17 01 39.7	-2.4	
	8.1nm,0.9s							
REDW	Red Top Meadow	11.92	85	ePn	Pn	17 01 44.9	+1.6	
	7.9nm,1.1s							
PDAR	Pinedale Array	12.94	87	Pn	Pn	17 01 59.5	+2.3	
	0.0nm,0.3s,baz=270,slow=12,SNR=11							
PDAR				LR	LR	17 07 20.2		
	comp=Z,155nm,20.2s,baz=274,slow=40							
PFO	Pinyon Flats O	12.98	136	LR	LR	17 06 59.0		
	comp=Z,92nm,19.1s,baz=330,slow=37							
ISCO	Idaho Springs	16.58	96	Pn	Pn	17 02 46.0	+0.2	
	9.0nm,1.1s							
ANMO	Albuquerque	18.20	111	LR	LR	17 10 29.7		
	comp=Z,58nm,21.2s,baz=298,slow=38							
ULM	Lac du Bonnet	22.36	61	P	P	17 03 49.5	-1.5	
	5.6nm,1.1s,baz=250,slow=12,SNR=2.5							
ULM				LR	LR	17 12 38.5		
	comp=Z,52nm,21.6s,baz=248,slow=37							
TXAR	Lajitas Array	23.56	119	P	P	17 04 05.7	+2.0	
	0.8nm,0.8s,baz=300,slow=8.5,SNR=9.2							
TXAR				LR	LR	17 12 46.9		
	comp=Z,91nm,19.2s,baz=0.0,slow=35							
ILAR	Eielson Array	24.01	339	P	P	17 04 07.0	-0.5	
	1.1nm,0.8s,baz=149,slow=9.5,SNR=12							
INK	Inuvik	25.08	354	LR	LR	17 12 36.4		
	comp=Z,68nm,20.3s,baz=240,slow=33							
H11N3	WAKE ISLAND Hy	59.30	269	T	T	18 12 56.2		
	baz=50,slow=75,SNR=32							
H11N2	WAKE ISLAND Hy	59.30	269	T	T	18 12 59.0		
	baz=50,slow=75,SNR=26							
H11N1	WAKE ISLAND Hy	59.31	269	T	T	18 12 57.9		
	baz=50,slow=75,SNR=24							
H11S1	WAKE ISLAND Hy	60.22	268	T	T	18 14 02.3		
	baz=50,slow=75,SNR=228							
H11S2	WAKE ISLAND Hy	60.23	268	T	T	18 14 01.4		
	baz=50,slow=75,SNR=163							
H11S3	WAKE ISLAND Hy	60.24	268	T	T	18 14 03.7		
	baz=50,slow=75,SNR=101							
SONM	Songino Array	77.51	326	P	P	17 10 47.4	-1.2	
	0.6nm,0.9s,baz=20,slow=4.6,SNR=3.5							
ZALV	Zalesovo Beam	79.11	341	LR	LR	17 46 59.4		
	comp=Z,17nm,19.0s,baz=68,slow=37							
GEYT	Alibeck	98.80	356	LR	LR	18 00 49.8		
	comp=Z,30nm,19.7s,baz=155,slow=38							

*IDC **10** 17:00:16.5±0.8, 1°.44N×126°.90E, h0km, mb4.0/8, mb1 4.1/9, mb1mx3.8/29, mbtmp4.0/9, ML3.5/1, MS3.4/2, Ms1 3.4/2, ms1mx2.7/32, Error ellipse: s-maj=50.0km s-min=12.0km az=81.0*

*ISCJB **10** 17:00:19.6±0.4, 1°.45N±0°.06×127°.0E±0°.2, h35km, mb4.4/18, MS3.3/2, Error ellipse: s-maj=25.1km s-min=7.1km az=166.2*

*NEIC **10** 17:00:21.6±0.3, 1°.44N×127°.01E, h35km, mb4.4/9, Error ellipse: s-maj=18.2km s-min=5.2km az=76.0*

ISC 10 17:00:21.8±0.6, 1°.47N±0°.08×126°.9E±0°.3, h35km, n31, σ1=22/34, mb4.3/18, Northern Moluccа Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	Fitzroy Crossi	19.50	184	P	Pn	17 04 46.9	-0.5
	0.1nm,0.3s,baz=16,slow=7.4,SNR=3.0						
FITZ	Fitzroy Crossi	19.50	184	eP	Pn	17 04 46.9	-0.5
	16nm,1.4s						
WR1	Warramunga Arr	22.49	162	eP	P	17 05 17.6	-0.7
	30nm,1.6s						
WRA	Warramunga Arr	22.49	162	P	P	17 05 17.6	-0.8
	2.6nm,0.5s,baz=338,slow=10,SNR=32						
WB2	Warramunga Arr	22.49	161	eP	P	17 05 16.9	-1.5
PMG	Port Moresby	22.86	119	LR	LR	17 16 32.7	
	comp=Z,53nm,18.5s,baz=224,slow=43						
AS31	Alice Springs	25.89	165	eP	P	17 05 50.3	-0.3
	1.3nm,0.9s						
AS31				ePcP	PcP	17 09 18.8	-0.5
AS31				eS	S	17 10 22.0	+3.6
ASAR	Alice Springs	25.89	165	P	P	17 05 50.1	-0.5
	3.0nm,0.8s,baz=345,slow=12,SNR=25						
ASAR				PcP	PcP	17 09 18.8	-0.5
	0.3nm,0.9s,baz=350,slow=2.5,SNR=3.5						
ASAR				S	S	17 10 22.0	+3.6
	0.4nm,0.7s,baz=339,slow=18,SNR=3.0						
ASAR				LR	LR	17 15 45.4	
	comp=Z,176nm,20.7s,baz=228,slow=36						
AS01	Alice Springs	25.90	165	eP	P	17 05 49.6	-1.1
JNU	Nakatsue	31.70	6	P	P	17 06 43.4	+1.2
	2.3nm,0.7s,baz=127,slow=20,SNR=2.6						
JNU	Nakatsue	31.70	6	eP	P	17 06 43.4	+1.2
	22nm,1.5s						
FORT	Forrest	32.09	178	eP	P	17 06 45.1	-0.5
	108nm,0.9s						
STKA	Stephens Creek	35.97	158	P	P	17 07 18.9	-0.3
	2.0nm,0.8s,baz=318,slow=12,SNR=4.5						
STKA	Stephens Creek	35.97	158	eP	P	17 07 19.0	-0.3
	5.8nm,1.8s						
MJAR	Matsushiro Arr	36.42	15	P	P	17 07 22.1	-1.0
	0.5nm,0.4s,baz=184,slow=9.6,SNR=8.5						
ULN	Ulaanbaatar	49.31	342	eP	P	17 09 08.1	+0.5
	2.4nm,1.0s						
SONA0	Songino Array	49.49	342	eP	P	17 09 09.9	+1.0
	2.0nm,1.1s						
SONM	Songino Array	49.49	342	P	P	17 09 09.9	+1.0
	0.5nm,0.4s,baz=156,slow=8.6,SNR=4.9						
PETK	Petropavlovsk-	57.43	21	P	P	17 10 07.8	+0.9
	4.1nm,0.9s,baz=221,slow=8.6,SNR=3.5						
PEA1	Petropavlovsk-	57.44	21	eP	P	17 10 07.8	+0.9
MK01	Makanchi Array	59.50	326	eP	P	17 10 22.1	+0.6
MK31	Makanchi Array	59.52	326	eP	P	17 10 22.4	+0.7
MKAR	Makanchi Array	59.52	326	eP	P	17 10 22.1	+0.5
	18nm,0.5s						
MAKZ	Makanchi	59.70	326	eP	P	17 10 23.3	+0.4
	2.2nm,0.6s						
YAK	Yakutsk	60.44	1	eP	P	17 10 25.7	-1.9
	17nm,1.8s						
ZALV	Zalesovo Beam	62.68	334	P	P	17 10 42.6	-0.3
	0.4nm,0.5s,baz=132,slow=4.3,SNR=2.5						
ZAA1	Zalesovo Array	62.69	334	eP	P	17 10 42.6	-0.3
KURK	Kurchatov	63.75	328	eP	P	17 10 50.4	+0.5
	6.3nm,1.1s						
KKAR	Karatay Array	65.02	318	eP	P	17 10 58.8	+0.2
	14nm,0.4s						
TORD	Torodi Ar. Bea	123.79	287	PKP	PKPdf	17 19 16.3	-0.8
	0.2nm,0.4s,baz=120,slow=2.3,SNR=3.2						
TOA1	Torodi Ar. Sit	123.79	287	ePKPdf	PKPdf	17 19 16.3	-0.8

*CSEM **10** 17:18:55.6±0.3, 37°.90N×36°.43E, h8km, MD2.8, Error ellipse: s-maj=6.9km s-min=4.8km az=101.0*

*ISK **10** 17:18:57.4, 37°.71N×36°.44E, h11km, MD2.7*

*ISCJB **10** 17:18:58.3±0.5, 37°.75N±0°.03×36°.46E±0°.04, h7km±5km, Error ellipse: s-maj=5.3km s-min=4.3km az=36.8*

*DDA **10** 17:18:58.1, 37°.78N×36°.47E, h7km, Md2.8*

ISC 10 17:18:58.0±1.0, 37°.78N±0°.04×36°.44E±0°.03, h14km±7km, n20, σ0=84/33, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ANDN	Andirin	0.21	200	iP	Pg	17 19 02.6	-0.1
ANDN				iS	Sg	17 19 06.7	+0.8
ANDN	Andirin	0.21	200	P	Pg	17 19 02.6	-0.1
ANDN				S	Sg	17 19 06.7	+0.8
KMRS	Kahramanmaras	0.46	126	ePG	Pg	17 19 06.0	-1.1
KMRS				eSG	Sg	17 19 12.3	-0.9
KMRS	Kahramanmaras	0.46	126	ePg	Pg	17 19 06.0	-1.1
KMRS				eSg	Sg	17 19 12.3	-0.9
KOZT	Kozan	0.57	239	ePG	Pg	17 19 08.3	-0.8
KOZT				eSG	Sg	17 19 16.3	-0.3
KOZT	Kozan	0.57	239	ePg	Pg	17 19 08.3	-0.8
KOZT				eSg	Sg	17 19 16.3	-0.3
HCB	Kahramanmara¯	0.57	139	iP	Pg	17 19 08.4	-0.8
HCB				iS	Sg	17 19 16.9	+0.1
KAMA	Osmaniye	0.62	162	iP	Pg	17 19 09.3	-0.8
KAMA				iS	Sg	17 19 17.7	-0.6
SARI	SarD1z-Kayseri	0.63	359	ePG	Pb	17 19 11.3	+0.4
SARI				eSG	Sn	17 19 21.6	-1.1
AKO	Adana	0.85	248	iP	Pn	17 19 15.1	-0.4
AKO				iS	Sn	17 19 27.8	0.0
YAHY	KAYSERI_Yahyal	0.91	291	iP	Pn	17 19 16.4	-0.1
YAHY				iS	Sb	17 19 28.7	+1.2
GZT	Gaziantep	0.99	115	iP	Pb	17 19 17.0	-0.1
KUZU	Kuzuini	1.12	153	iP	Pn	17 19 20.5	+1.1
KUZU				iS	Sn	17 19 36.1	+1.4
KUZU	Kuzuini	1.12	153	P	Pn	17 19 20.5	+1.1
KUZU				S	Sn	17 19 36.1	+1.4
DARE	Darende-Malaty	1.15	46	ePN	Pn	17 19 20.4	+0.6
DARE	Darende-Malaty	1.15	46	ePn	Pn	17 19 20.4	+0.6
TAHT	Tahtakopru-Hat	1.41	188	ePN	Pn	17 19 22.7	-0.6
TAHT	Tahtakopru-Hat	1.41	188	ePn	Pn	17 19 22.7	-0.6
YAYL	Yayladag	1.76	189	ePN	Pn	17 19 27.4	-0.8
YAYL	Yayladag	1.76	189	ePn	Pn	17 19 27.4	-0.8

*ISK **10** 17:27:31.6, 40°.61N×29°.07E, h2km, MD2.6*

*ISCJB **10** 17:27:32.3±0.4, 40°.63N±0°.03×29°.08E±0°.04, h6km±7km, Error ellipse: s-maj=5.2km s-min=4.5km az=174.3*

*CSEM **10** 17:27:32.3±0.2, 40°.61N×29°.08E, h10km, MD2.6, Error ellipse: s-maj=3.6km s-min=3.1km az=162.0*

*DDA **10** 17:27:32.7, 40°.58N×29°.08E, h7km, Md2.6*

ISC 10 17:27:32.4±0.9, 40°.62N±0°.03×29°.08E±0°.02, h8km±8km, n33, σ0=66/46, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SBT5	Esenkoy-Cinarc	0.15	276	ePG	Pg	17 27 35.3	-0.2
SBT5				eSG	Sg	17 27 37.9	+0.3
SBT5	Esenkoy-Cinarc	0.15	276	ePg	Pg	17 27 35.3	-0.2
SBT5				eSg	Sg	17 27 37.9	+0.3
ARMT	Armutlu	0.17	253	ePG	Pg	17 27 35.6	-0.3
ARMT				eSG	Sg	17 27 38.5	+0.2
ARMT	Armutlu	0.17	253	ePg	Pg	17 27 35.6	-0.3
ARMT				eSg	Sg	17 27 38.5	+0.2
MDNY	Mudanya-Bursa	0.29	211	ePG	Pg	17 27 38.0	0.0
MDNY				eSG	Sg	17 27 42.7	+0.8
MDNY	Mudanya-Bursa	0.29	211	ePg	Pg	17 27 38.0	0.0
MDNY				eSg	Sg	17 27 42.7	+0.8
IGD	Bursa	0.36	165	iP	Pg	17 27 39.4	-0.1
IGD				iS	Sg	17 27 45.2	+0.9
KAVV	Kandilli-Istan	0.45	359	ePG	Pg	17 27 41.4	+0.3
KAVV	Kandilli-Istan	0.45	359	ePg	Pg	17 27 41.4	+0.3
ISK	Istanbul-Kandi	0.45	358	ePG	Pg	17 27 41.4	+0.3
ISK	Istanbul-Kandi	0.45	358	ePg	Pg	17 27 41.4	+0.3
HRT	Hereke	0.49	65	ePG	Pg	17 27 42.2	+0.2
HRT	Hereke	0.49	65	ePg	Pg	17 27 42.2	+0.2
SBT2	Guzelce-Avcila	0.50	302	ePG	Pg	17 27 42.2	+0.2
SBT2				eSG	Sb	17 27 50.0	-0.8
SBT2	Guzelce-Avcila	0.50	302	ePg	Pg	17 27 42.3	+0.2
SBT2				eSg	Sb	17 27 50.0	-0.8
ADVT	Abdulvahap	0.54	110	ePG	Pg	17 27 42.9	+0.2
ADVT	Abdulvahap	0.54	110	ePg	Pg	17 27 42.9	+0.2
KLYT	Kilyos	0.64	358	ePG	Pg	17 27 44.9	+0.3
KLYT	Kilyos	0.64	358	ePg	Pg	17 27 44.9	+0.3
KCTX	Karacabey (Bur	0.65	238	ePG	Pb	17 27 45.6	-0.4
KCTX	Karacabey (Bur	0.65	238	ePg	Pb	17 27 45.6	-0.4
SILT	Sile	0.69	39	ePG	Pg	17 27 45.9	+0.3
SILT	Sile	0.69	39	ePg	Pg	17 27 45.9	+0.3
CTKS	Kestanelik-??a	0.75	325	ePG	Pg	17 27 47.2	+0.3
CTKS	Kestanelik-??a	0.75	325	ePg	Pg	17 27 47.2	+0.3
KAND	Kocaeli-Kandir	0.97	60	iP	Pg	17 27 49.0	-2.0
KAND				iS	Sb	17 28 04.8	+0.3
KAND	Kocaeli-Kandir	0.97	60	P	Pg	17 27 49.0	-2.0
KAND				S	Sb	17 28 04.8	+0.3
MRMT	Marmara Adasi	1.13	270	ePN	Pb	17 27 54.2	0.0
MRMT	Marmara Adasi	1.13	270	ePn	Pb	17 27 54.2	0.0
TVSB	Tavsanli	1.20	166	ePN	Pb	17 27 55.4	-0.1
TVSB	Tavsanli	1.20	166	ePn	Pb	17 27 55.4	-0.1
BORA	Eskisehir	1.29	124	iP	Pn	17 27 56.0	-0.8
BORA				iS	Sn	17 28 15.5	+1.3
BORA	Eskisehir	1.29	124	P	Pn	17 27 56.0	-0.8
BORA				S	Sn	17 28 15.5	+1.3

*GEN **10** 17:27:48.3, 44°.67N×10°.27E, h23km, ML2.4*

*CSEM **10** 17:27:48.5±0.1, 44°.64N×10°.29E, h10km, ML3.3/8, Error ellipse: s-maj=3.3km s-min=3.0km az=115.0*

*ISCJB **10** 17:27:48.6±0.3, 44°.64N±0°.02×10°.30E±0°.02, h25km±3km, Error ellipse: s-maj=3.9km s-min=3.0km az=178.2*

*ROM **10** 17:27:48.1±0.2, 44°.65N×10°.25E, h25km±3km, Ml2.9/14, Error ellipse: s-maj=2.4km s-min=1.9km az=99.0*

*PRU **10** 17:27:49.0, 44°.69N×10°.64E, h0km*

*IDC **10** 17:27:49.8±3.3, 44°.79N×10°.75E, h0km, mb1 3.4/4, mb1mx3.2/35, mbtmp3.2/4, ML3.1/4, Error ellipse: s-maj=54.1km s-min=22.8km az=137.0*

*VIE **10** 17:27:50.3±0.6, 44°.68N×10°.60E, h8km, mb2.2/8, ML3.3/11, Error ellipse: s-maj=9.9km s-min=5.1km az=100.0*

*LDG **10** 17:27:55.4±0.2, 44°.34N×9°.72E, h10km, Ml3.2/6, Error ellipse: s-maj=6.3km s-min=3.4km az=142.0*

ISC 10 17:27:48.2±0.9, 44°.62N±0°.02×10°.25E±0°.02, h18km±3km, n97, σ1=86/135, Northern Italy

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PRMA	PARMA	0.15	18	Pg	Pb	17 27 52.5	+0.5
PRMA				Sg	Sg	17 27 56.8	+1.5
	2µm,0.5s						
PRMA	PARMA	0.15	18	Pg	Pb	17 27 52.5	+0.5
PRMA				Sg	Sg	17 27 56.8	+1.5
	2µm,0.5s						
GRAM	Graiana	0.18	226	P	Pg	17 27 53.3	+0.4
GRAM				S	Sg	17 27 57.4	+1.2
CODM	Codolo	0.37	231	P	Pg	17 27 56.4	+0.5
NOVE	Novellara	0.38	62	Pg	Pg	17 27 56.2	+0.1
NOVE	Novellara	0.38	62	Pg	Pg	17 27 56.2	+0.1
SARO	Sassorosso	0.45	166	P	Pg	17 27 57.7	+0.3
VLC	Villacollemand	0.47	168	Pg	Pg	17 27 58.1	+0.4
VLC				Sg	Sb	17 28 06.0	+1.4
	1µm,1.0s						
VLC	Villacollemand	0.47	168	Pg	Pg	17 27 58.1	+0.4
VLC				Sg	Sb	17 28 06.0	+1.4
	1µm,1.0s						
SC2M	Scurtabo	0.56	247	Pg	Pg	17 27 59.1	-0.2
SC2M				Sg	Sb	17 28 08.6	+1.6
	375nm,0.3s						
SC2M	Scurtabo	0.56	247	Pg	Pg	17 27 59.1	-0.2
SC2M				Sg	Sb	17 28 08.6	+1.6
	375nm,0.3s						
ZCCA	Zocca	0.59	117	Pg	Pg	17 28 01.4	+1.5
	383nm,0.7s						
ZCCA	Zocca	0.59	117	Pg	Pg	17 28 01.4	+1.5
	383nm,0.7s						
BOB	Bobbio (Coli)	0.59	285	Pg	Pb	17 28 00.2	+0.2
BOB				Sg	Sn	17 28 10.1	-0.9
	325nm,0.5s						
BOB	Bobbio (Coli)	0.59	285	Pg	Pb	17 28 00.2	+0.2
BOB				Sg	Sn	17 28 10.1	-0.9
	325nm,0.5s						
MSSA	Maissana	0.60	240	Pg	Pb	17 28 00.5	+0.3
MSSA				Sg	Sb	17 28 09.1	+0.7
	380nm,0.7s						
MSSA	Maissana	0.60	240	Pg	Pb	17 28 00.5	+0.3
MSSA				Sg	Sb	17 28 09.1	+0.7
	380nm,0.7s						
BDI	Bagni Di Lucca	0.61	156	Pg	Pb	17 28 00.6	+0.3
	329nm,0.6s						
BDI	Bagni Di Lucca	0.61	156	Pg	Pb	17 28 00.6	+0.3
	329nm,0.6s						
POPM	Popiglio	0.68	147	P	Pb	17 28 02.0	+0.5
POPM				S	Sn	17 28 13.2	+0.1
MAIM	Mastiano	0.73	166	Pg	Pb	17 28 02.3	0.0
MAIM				Sg	Sg	17 28 13.3	+1.2
	216nm,0.5s						
MAIM	Mastiano	0.73	166	P	Pb	17 28 02.3	0.0
MAIM				Sg	Sg	17 28 13.3	+1.2
	216nm,0.5s						
FNVD	Fontana Vidola	0.77	125	Pg	Pb	17 28 03.7	+0.6
	302nm,0.5s						
FNVD	Fontana Vidola	0.77	125	Pg	Pb	17 28 03.7	+0.6
	302nm,0.5s						
PTF	Prato	0.89	138	Pg	Pb	17 28 05.5	+0.5
PTF	Prato	0.89	138	Pg	Pb	17 28 05.5	+0.5
CRMI	Carmignano	0.98	148	Pg	Pb	17 28 07.2	+0.6
	357nm,0.9s						
CRMI	Carmignano	0.98	148	Pg	Pb	17 28 07.2	+0.6
	357nm,0.9s						
SALO	Salr	1.02	11	Pg	Pb	17 28 07.2	-0.1
	671nm,0.6s						
SALO	Salr	1.02	11	Pg	Pb	17 28 07.2	-0.1
	671nm,0.6s						
ROVR	Rover¯¤ Verone	1.18	29	Pg	Pn	17 28 09.5	-0.4
	377nm,0.3s						
ROVR	Rover¯¤ Verone	1.18	29	Pg	Pn	17 28 09.5	-0.4
	377nm,0.3s						
MAGA	Magasa	1.19	13	Pg	Pn	17 28 09.5	-0.5
	401nm,0.4s						
MAGA	Magasa	1.19	13	Pg	Pn	17 28 09.5	-0.5
	401nm,0.4s						
TEOL	Teolo	1.25	53	Pg	Pn	17 28 10.1	-0.7
	779nm,0.4s						
TEOL	Teolo	1.25	53	Pg	Pn	17 28 10.1	-0.7
	779nm,0.4s						
SBF	Sospel	2.16	250	ePn	Pn	17 28 24.6	+1.3
SBF				eSn	Sn	17 28 44.5	-5.2
	90nm,0.4s						
SBF	Sospel	2.16	250	ePn	Pn	17 28 24.6	+1.3
SBF				eSn	Sn	17 28 44.5	-5.2
	45nm,0.4s						
DAVOX	Davos/Dischmat	2.18	353	Pn	Pn	17 28 25.4	+1.8
	4.1nm,0.3s,baz=162,slow=9.6,SNR=32						
PGF	Pioggiola	2.26	204	ePn	Pn	17 28 25.9	+1.1
	SNR=1.0						
PGF				eSn	Sn	17 28 47.0	-5.2
	46nm,0.6s						
PGF	Pioggiola	2.26	204	ePn	Pn	17 28 25.9	+1.1
	SNR=1.0						
PGF				eSn	Sn	17 28 47.0	-5.2
	23nm,0.6s						
FETA	Feichten	2.42	8	Pn	Pb	17 28 30.0	-1.4
	0.1nm,0.1s						
MBDF	Montbardon	2.48	274	ePn	Pn	17 28 29.7	+1.8
	SNR=1.0						
MBDF				eSn	Sn	17 28 55.3	-2.5
	84nm,0.7s						
MBDF	Montbardon	2.48	274	ePn	Pn	17 28 29.7	+1.8
	SNR=1.0						
MBDF				eSn	Sn	17 28 55.3	-2.5
	42nm,0.7s						
LPG	La Plagne	2.63	291	ePn	Pn	17 28 32.7	+2.7
	SNR=1.0						
LPG				eSn	Sn	17 29 01.7	+0.1
	15nm,0.3s						
LPG	La Plagne	2.63	291	ePn	Pn	17 28 32.7	+2.7
	SNR=1.0						
LPG				eSn	Sn	17 29 01.7	+0.1
	7.4nm,0.3s						
LPL	La Plagne	2.65	291	ePn	Pb	17 28 33.0	-2.2
	SNR=1.0						
LPL				eSn	Sn	17 29 01.7	-0.3
	31nm,0.4s						
LPL	La Plagne	2.65	291	ePn	Pb	17 28 33.0	-2.2
	SNR=1.0						
LPL				eSn	Sn	17 29 01.7	-0.3
	15nm,0.4s						
ABTA	Abfaltersbach	2.65	36	Pn	Pn	17 28 31.0	+0.8
	1.1nm,0.2s						
DAVA	Damuels	2.68	355	Pn	Pn	17 28 32.7	+2.1
	4.0nm,0.2s						
DAVA				Sn	Sn	17 29 05.6	+2.9
	27nm,0.3s						
MOTA	Moosalm	2.79	12	Pn	Pn	17 28 34.2	+2.1
	2.9nm,0.2s						
MOTA				Sn	Sb	17 29 09.8	-1.7
	23nm,0.4s						
FRF	La Foret Royal	2.80	249	ePn	Pn	17 28 33.3	+1.2
FRF				eSn	Sn	17 28 59.9	-5.5
	17nm,0.4s						
FRF	La Foret Royal	2.80	249	ePn	Pn	17 28 33.3	+1.2
FRF				eSn	Sn	17 28 59.9	-5.5
	8.6nm,0.4s						
WTTA	Wattenberg	2.82	20	Pn	Pn	17 28 35.0	+2.5
	4.5nm,0.2s						
SKDS	Skadanscina	2.82	70	iPn	Pn	17 28 31.3	-1.1
SKDS				i		17 28 43.5	
SKDS				iSn	Sg	17 29 17.3	-1.6
WATA	Walderalm	2.87	18	Pn	Pn	17 28 35.1	+1.9
	5.0nm,0.2s						
RETA	Reutte	2.89	7	Pn	Pn	17 28 34.9	+1.5
	1.0nm,0.1s						
CADS	Cadrg	2.94	56	iPn	Pn	17 28 33.3	-0.7
CADS				iSn	Sg	17 29 21.6	-0.9
JAVS	Javornik	2.98	63	iPn	Pn	17 28 33.7	-0.9
JAVS				i		17 28 46.1	
JAVS				iSn	Sg	17 29 21.8	-2.2
LMR	La Mourre	2.99	246	ePn	Pn	17 28 35.4	+0.7
LMR	La Mourre	2.99	246	ePn	Pn	17 28 35.4	+0.7
ORIF	Oris-en-Rattie	3.13	277	ePn	Pn	17 28 39.2	+2.6
	SNR=1.0						
ORIF	Oris-en-Rattie	3.13	277	ePn	Pn	17 28 39.2	+2.6
	SNR=1.0						
CRNS	Crni Vrh	3.18	61	iPn	Pn	17 28 37.0	-0.4
CRNS				i		17 28 49.2	
CRNS				iSn	Sb	17 29 27.0	+4.3
KBA	Koelnbreinsper	3.27	40	Pn	Pn	17 28 40.1	+1.3
	0.9nm,0.2s						
NVLJ	Novalja	3.30	89	ePn	Pn	17 28 38.7	-0.2
NVLJ				Sn	Sn	17 29 18.0	+0.3
SMRF	Simiane la Rot	3.42	261	eP	Pn	17 28 43.4	+2.8
SMRF	Simiane la Rot	3.42	261	eP	Pn	17 28 43.4	+2.8
OB

ellipse: s-maj=14.5km s-min=12.2km az=32.0
*CSEM **10** 17:28:00.1±0.2, 44°.67N×10°.25E, h10km, ML3.7/9, Error ellipse: s-maj=4.0km s-min=3.3km az=101.0*
*ROM **10** 17:28:00.9±0.1, 44°.64N×10°.25E, h18km±3km, Ml3.4/17, Error ellipse: s-maj=2.1km s-min=1.6km az=109.0*
*GEN **10** 17:28:00.6, 44°.65N×10°.27E, h21km, ML3.2*
*ISCJB **10** 17:28:00.7±0.3, 44°.64N±0°.02×10°.18E±0°.03, h27km±3km, Error ellipse: s-maj=3.6km s-min=2.6km az=44.6*
*LDG **10** 17:28:01.5±0.1, 44°.64N×10°.16E, h10km, Ml3.5/14, Error ellipse: s-maj=2.4km s-min=1.9km az=42.0*
*IDC **10** 17:28:01.8±2.5, 44°.77N×10°.68E, h0km, mb1 3.6/6, mb1mx3.3/36, mbtmp3.5/6, ML3.6/6, Error ellipse: s-maj=33.6km s-min=19.5km az=145.0*
ISC 10 17:27:59.5±0.9, 44°.68N±0°.01×10°.14E±0°.02, h17km±8km, n147, σ1s49/242, Northern Italy

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
PRMA	**PARMA**	**0.15**	**55**	Pg		**Pb**	**17 28 04.6**	**+0.7**
PRMA				Sg		**Sb**	**17 28 09.2**	**+2.4**
	4µm,0.5s							
PRMA	**PARMA**	**0.15**	**55**	Pg		**Pb**	**17 28 04.6**	**+0.7**
PRMA				Sg		**Sb**	**17 28 09.2**	**+2.4**
	4µm,0.5s							
GRAM	**Graiana**	**0.19**	**195**	P		**Pb**	**17 28 05.2**	**+0.7**
GRAM				S		**Sb**	**17 28 09.3**	**+1.4**
NOVE	**Novellara**	**0.43**	**73**	Pg		**Pb**	**17 28 09.0**	**+0.4**
NOVE	**Novellara**	**0.43**	**73**	Pg		**Pb**	**17 28 09.0**	**+0.4**
SC2M	**Scurtabo**	**0.51**	**238**	Pg		**Pn**	**17 28 12.0**	**0.0**
SC2M				Sg		**Sn**	**17 28 20.6**	**+0.3**
	2µm,0.3s							
SC2M	**Scurtabo**	**0.51**	**238**	P		**Pn**	**17 28 11.9**	**0.0**
SC2M				S		**Sn**	**17 28 20.1**	**-0.2**
SC2M				Sg		**Sn**	**17 28 20.6**	**+0.3**
	2µm,0.3s							
SARO	**Sassorosso**	**0.53**	**159**	P		**Pg**	**17 28 09.9**	**-0.1**
SARO				S		**Sg**	**17 28 16.7**	**-0.4**
VLC	**Villacollemand**	**0.55**	**161**	Pg		**Pg**	**17 28 10.3**	**-0.1**
VLC				Sg		**Sb**	**17 28 18.0**	**-0.1**
	5µm,1.0s							
VLC	**Villacollemand**	**0.55**	**161**	Pg		**Pg**	**17 28 10.3**	**-0.1**
VLC				Sg		**Sb**	**17 28 18.0**	**-0.1**
	5µm,1.0s							
MSSA	**Maissana**	**0.57**	**231**	Pg		**Pn**	**17 28 13.2**	**+0.3**
MSSA				Sg		**Sn**	**17 28 21.9**	**0.0**
	633nm,0.7s							
MSSA	**Maissana**	**0.57**	**231**	Pg		**Pn**	**17 28 13.2**	**+0.3**
MSSA				Sg		**Sn**	**17 28 21.9**	**0.0**
	633nm,0.7s							
BDI	**Bagni Di Lucca**	**0.70**	**151**	Pg		**Pg**	**17 28 12.8**	**-0.3**
BDI				Sg		**Sg**	**17 28 21.8**	**-0.6**
	2µm,0.6s							
BDI	**Bagni Di Lucca**	**0.70**	**151**	Pg		**Pg**	**17 28 12.8**	**-0.3**
BDI				Sg		**Sg**	**17 28 21.8**	**-0.6**
	2µm,0.6s							
MAIM	**Mastiano**	**0.80**	**161**	Pg		**Pg**	**17 28 15.0**	**-0.1**
MAIM				Sg		**Sg**	**17 28 25.6**	**-0.1**
	647nm,0.5s							
MAIM	**Mastiano**	**0.80**	**161**	Pg		**Pg**	**17 28 15.0**	**-0.1**
MAIM				S		**Sb**	**17 28 25.3**	**-0.2**
MAIM				Sg		**Sg**	**17 28 25.6**	**-0.1**
	647nm,0.5s							
FNVD	**Fontana Vidola**	**0.87**	**125**	Pg		**Pb**	**17 28 16.1**	**0.0**
	734nm,0.5s							
FNVD	**Fontana Vidola**	**0.87**	**125**	Pg		**Pb**	**17 28 16.1**	**0.0**
	734nm,0.5s							
PTF	**Prato**	**0.98**	**137**	Pg		**Pb**	**17 28 18.0**	**0.0**
PTF	**Prato**	**0.98**	**137**	Pg		**Pb**	**17 28 18.0**	**0.0**
SALO	**Salr**	**0.98**	**16**	Pg		**Pn**	**17 28 19.8**	**+1.3**
	3µm,0.6s							
SALO	**Salr**	**0.98**	**16**	Pg		**Pn**	**17 28 19.8**	**+1.3**
	3µm,0.6s							
CRMI	**Carmignano**	**1.07**	**146**	Pg		**Pg**	**17 28 20.1**	**-0.1**
CRMI				Sg		**Sg**	**17 28 34.1**	**-0.1**
	682nm,0.9s							
CRMI	**Carmignano**	**1.07**	**146**	Pg		**Pg**	**17 28 20.1**	**-0.1**
CRMI				Sg		**Sg**	**17 28 34.1**	**-0.1**
	682nm,0.9s							
BALD	**Monte Baldo**	**1.12**	**25**	*e*Pg		**Pg**	**17 28 21.5**	**+0.3**
BALD				eSg		**Sg**	**17 28 37.5**	**+1.7**
MAGA	**Magasa**	**1.15**	**17**	Pg		**Pg**	**17 28 22.1**	**+0.3**
	4µm,0.4s							
MAGA	**Magasa**	**1.15**	**17**	Pg		**Pg**	**17 28 22.1**	**+0.3**
	4µm,0.4s							
ROVR	**Rover¯¤ Verone**	**1.18**	**34**	Pg		**Pb**	**17 28 21.7**	**+0.3**
	3µm,0.3s							
ROVR	**Rover¯¤ Verone**	**1.18**	**34**	Pg		**Pb**	**17 28 21.7**	**+0.3**
	3µm,0.3s							
MARN	**Marana (Italy)**	**1.23**	**38**	*e*Pg		**Pg**	**17 28 23.4**	**+0.2**
TEOL	**Teolo**	**1.29**	**57**	Pg		**Pb**	**17 28 22.9**	**-0.3**
	3µm,0.4s							
TEOL	**Teolo**	**1.29**	**57**	*e*Pg		**Pg**	**17 28 24.0**	**-0.3**
TEOL				eSg		**Sg**	**17 28 41.1**	**0.0**
TEOL	**Teolo**	**1.29**	**57**	Pg		**Pb**	**17 28 22.9**	**-0.3**
	3µm,0.4s							
RNI	**Roncone**	**1.35**	**15**	*e*Pg		**Pg**	**17 28 25.7**	**+0.2**
FINB	**Finale Ligure**	**1.39**	**250**	Pg		**Pg**	**17 28 26.8**	**+0.6**
	432nm,0.3s							
FINB	**Finale Ligure**	**1.39**	**250**	Pg		**Pg**	**17 28 26.8**	**+0.6**
	432nm,0.3s							
MABI	**Malga Bissina**	**1.41**	**11**	Pg		**Pg**	**17 28 26.0**	**-0.6**
	424nm,0.5s							
MABI	**Malga Bissina**	**1.41**	**11**	Pg		**Pg**	**17 28 26.0**	**-0.6**
	424nm,0.5s							
PANI	**Panarotta**	**1.61**	**31**	*e*Pg		**Pb**	**17 28 29.3**	**+0.4**
PANI				eSg		**Sg**	**17 28 50.6**	**-0.9**
CRE	**Caprese Michel**	**1.68**	**128**	Pg		**Pb**	**17 28 30.1**	**+0.1**
	213nm,0.4s							
CRE	**Caprese Michel**	**1.68**	**128**	Pg		**Pb**	**17 28 30.1**	**+0.1**
	213nm,0.4s							
IMI	**Imperia**	**1.78**	**245**	Pg		**Pb**	**17 28 31.7**	**0.0**
	163nm,0.5s							
IMI	**Imperia**	**1.78**	**245**	Pg		**Pb**	**17 28 31.7**	**0.0**
	163nm,0.5s							
CAFI	**Castiglion Fio**	**1.89**	**135**	Pg		**Pb**	**17 28 32.7**	**-0.7**
	165nm,0.5s							
CAFI	**Castiglion Fio**	**1.89**	**135**	Pg		**Pb**	**17 28 32.7**	**-0.7**
	165nm,0.5s							
SBF	**Sospel**	**2.10**	**248**	*e*Pn		**Pn**	**17 28 35.3**	**+1.4**
SBF				eSn		**Sn**	**17 28 59.6**	**-0.1**
	200nm,0.5s							
SBF	**Sospel**	**2.10**	**248**	*e*Pn		**Pn**	**17 28 35.3**	**+1.4**
SBF				eSn		**Sn**	**17 28 59.6**	**-0.1**
	100nm,0.5s							
DAVOX	**Davos/Dischmat**	**2.11**	**355**	Pn		**Pb**	**17 28 37.5**	**+0.1**
	18nm,0.3s,baz=162,slow=20,SNR=22							
DAVOX				Sn		**Sg**	**17 29 06.9**	**-0.6**
	31nm,0.3s,baz=162,slow=20,SNR=12							
PGF	**Pioggiola**	**2.28**	**202**	*e*Pn		**Pn**	**17 28 37.1**	**+0.7**
PGF				eSn		**Sn**	**17 29 02.8**	**-1.3**
	41nm,0.5s							
PGF	**Pioggiola**	**2.28**	**202**	*e*Pn		**Pn**	**17 28 37.1**	**+0.7**
PGF				eSn		**Sn**	**17 29 02.8**	**-1.3**
	20nm,0.5s							
FETA	**Feichten**	**2.38**	**10**	*e*Pn		**Pb**	**17 28 41.0**	**-1.0**
	14nm,0.4s							
FETA				*e*Sn		**Sb**	**17 29 12.2**	**+1.1**
	29nm,0.4s							
MBDF	**Montbardon**	**2.40**	**272**	*e*P		**Pb**	**17 28 42.8**	**+0.5**
MBDF				eSg		**Sg**	**17 29 17.8**	**+1.1**
	77nm,0.5s							
MBDF	**Montbardon**	**2.40**	**272**	*e*P		**Pb**	**17 28 42.8**	**+0.5**
MBDF				eSg		**Sg**	**17 29 17.8**	**+1.1**
	38nm,0.5s							
LPG	**La Plagne**	**2.54**	**290**	*e*Pg		**Pg**	**17 28 49.6**	**+1.5**
LPG				eSg		**Sg**	**17 29 23.3**	**+2.3**
	75nm,0.6s							
LPG	**La Plagne**	**2.54**	**290**	*e*Pg		**Pg**	**17 28 49.6**	**+1.5**
LPG				eSg		**Sg**	**17 29 23.3**	**+2.3**
	38nm,0.6s							
LPL	**La Plagne**	**2.55**	**290**	*e*Pg		**Pg**	**17 28 49.6**	**+1.2**
LPL				eSg		**Sg**	**17 29 22.0**	**+0.4**
	66nm,0.5s							
LPL	**La Plagne**	**2.55**	**290**	*e*Pg		**Pg**	**17 28 49.6**	**+1.2**
LPL				eSg		**Sg**	**17 29 22.0**	**+0.4**
	33nm,0.5s							
DAVA	**Damuels**	**2.62**	**356**	*e*Pn		**Pb**	**17 28 44.7**	**-1.4**
	15nm,0.2s							
DAVA				*e*Sn		**Sb**	**17 29 18.2**	**+0.3**
	58nm,0.2s							
DAVA	**Damuels**	**2.62**	**356**	*e*Pn		**Pb**	**17 28 45.1**	**-0.9**
DAVA				eSn		**Sb**	**17 29 18.4**	**+0.5**
DAVA	**Damuels**	**2.62**	**356**	Pn		**Pb**	**17 28 45.1**	**-0.9**
DAVA				Sn		**Sb**	**17 29 18.4**	**+0.5**
ABTA	**Abfaltersbach**	**2.66**	**38**	*e*Pn		**Pn**	**17 28 43.8**	**+2.2**
	28nm,0.5s							
OBER	**Oberstdorf**	**2.73**	**2**	*e*Pn		**Pb**	**17 28 46.0**	**-1.9**
OBER				*e*Sn		**Sb**	**17 29 20.1**	**-1.1**
OBER	**Oberstdorf**	**2.73**	**2**	Pn		**Pb**	**17 28 46.0**	**-1.9**
OBER				Sn		**Sb**	**17 29 20.1**	**-1.1**
FRF	**La Foret Royal**	**2.75**	**247**	*e*Pn		**Pn**	**17 28 44.6**	**+1.9**
FRF				*e*Sn		**Sn**	**17 29 14.9**	**-0.6**
	55nm,0.4s							
FRF	**La Foret Royal**	**2.75**	**247**	*e*Pn		**Pn**	**17 28 44.6**	**+1.9**
FRF				*e*Sn		**Sn**	**17 29 14.9**	**-0.6**
	27nm,0.4s							
MOTA	**Moosalm**	**2.75**	**14**	*e*Pn		**Pb**	**17 28 46.7**	**-1.6**
	16nm,0.2s							
MOTA				*e*Sn		**Sb**	**17 29 23.0**	**+1.2**
	77nm,0.5s							
WTTA	**Wattenberg**	**2.79**	**21**	*i* Pn		**Pb**	**17 28 47.5**	**-1.5**
	22nm,0.2s							
WTTA				*e*Sn		**Sb**	**17 29 22.2**	**-0.7**
	61nm,0.4s							
WTTA	**Wattenberg**	**2.79**	**21**	*e*PN		**Pn**	**17 28 46.1**	**+2.6**
WTTA	**Wattenberg**	**2.79**	**21**	*e*Pn		**Pb**	**17 28 47.5**	**-1.5**
WTTA				*e*Sn		**Sb**	**17 29 22.7**	**-0.2**
WTTA	**Wattenberg**	**2.79**	**21**	Pn		**Pb**	**17 28 47.5**	**-1.5**
WTTA				Sn		**Sb**	**17 29 22.7**	**-0.2**
WATA	**Walderalm**	**2.84**	**20**	*e*Pn		**Pb**	**17 28 47.4**	**-2.4**
	16nm,0.2s							
RETA	**Reutte**	**2.85**	**9**	*e*Pn		**Pb**	**17 28 47.2**	**-2.6**
	4.5nm,0.2s							
RETA				*e*Sn		**Sb**	**17 29 23.1**	**-1.3**
	33nm,0.3s							
LMR	**La Mourre**	**2.94**	**244**	*e*Pn		**Pn**	**17 28 46.5**	**+1.1**
LMR				*e*Sn		**Sn**	**17 29 19.4**	**-0.8**
	57nm,0.3s							
LMR	**La Mourre**	**2.94**	**244**	*e*Pn		**Pn**	**17 28 46.5**	**+1.1**
LMR				*e*Sn		**Sn**	**17 29 19.4**	**-0.8**
	29nm,0.3s							
ORIF	**Oris-en-Rattie**	**3.04**	**276**	*e*Sn		**Sn**	**17 29 22.7**	**-0.1**
	66nm,0.5s							
ORIF	**Oris-en-Rattie**	**3.04**	**276**	*e*Sn		**Sn**	**17 29 22.7**	**-0.1**
	33nm,0.5s							
KBA	**Koelnbreinsper**	**3.29**	**42**	*i* Pn		**Pn**	**17 28 51.2**	**+1.0**
	6.4nm,0.2s							
KBA				*i* Sn		**Sn**	**17 29 32.6**	**+3.6**
	16nm,0.3s							
KBA	**Koelnbreinsper**	**3.29**	**42**	*e*Pn		**Pn**	**17 28 51.9**	**+1.6**
KBA				*e*Sn		**Sn**	**17 29 32.6**	**+3.6**
KBA	**Koelnbreinsper**	**3.29**	**42**	Pn		**Pn**	**17 28 51.9**	**+1.6**
KBA				Sn		**Sn**	**17 29 32.6**	**+3.6**
SMRF	**Simiane la Rot**	**3.35**	**260**	*e*Pn		**Pn**	**17 28 52.6**	**+1.6**
SMRF				*e*Sn		**Sn**	**17 29 30.0**	**-0.3**
	37nm,0.6s							
SMRF	**Simiane la Rot**	**3.35**	**260**	*e*Pn		**Pn**	**17 28 52.6**	**+1.6**
SMRF				*e*Sn		**Sn**	**17 29 30.0**	**-0.3**
	19nm,0.6s							
CABF	**La Chapelle**	**3.44**	**306**	*e*Pn		**Pn**	**17 28 53.6**	**+1.3**
CABF	**La Chapelle**	**3.44**	**306**	*e*Pn		**Pn**	**17 28 53.6**	**+1.3**
RJOB	**Jochberg**	**3.58**	**30**	*e*Pn		**Pn**	**17 28 57.0**	**+2.8**
RJOB				*e*Sn		**Sb**	**17 29 41.7**	**-3.7**
RJOB	**Jochberg**	**3.58**	**30**	Pn		**Pn**	**17 28 57.0**	**+2.8**
RJOB				Sn		**Sb**	**17 29 41.7**	**-3.7**
FUR	**Furstenfeldbru**	**3.58**	**12**	*e*Pn		**Pn**	**17 28 55.9**	**+1.7**
FUR				*e*Sn		**Sn**	**17 29 39.3**	**+3.2**
FUR	**Furstenfeldbru**	**3.58**	**12**	Pn		**Pn**	**17 28 55.9**	**+1.7**
FUR				Sn		**Sn**	**17 29 39.3**	**+3.2**
OBKA	**Obir**	**3.60**	**58**	*i* Pn		**Pn**	**17 28 55.5**	**+1.0**
	1.4nm,0.2s							
OBKA				*i* Sn		**Sn**	**17 29 37.3**	**+0.6**
	20nm,0.2s							
OBKA				*e*Sg		**Sg**	**17 29 56.7**	**+1.6**
	35nm,0.3s							
BFO	**Black Forest**	**3.86**	**342**	*e*Pn		**Pn**	**17 29 00.5**	**+2.4**
BFO				*e*Sn		**Sn**	**17 29 45.6**	**+2.5**
BFO	**Black Forest**	**3.86**	**342**	Pn		**Pn**	**17 29 00.5**	**+2.4**
BFO				Sn		**Sn**	**17 29 45.6**	**+2.5**
HINF	**Hinteralfeld**	**3.88**	**325**	*e*P		**Pb**	**17 29 03.3**	**-4.1**
HINF				*e*Sn		**Sn**	**17 29 42.8**	**-0.7**
	26nm,0.4s							
HINF	**Hinteralfeld**	**3.88**	**325**	*e*P		**Pb**	**17 29 03.3**	**-4.1**
HINF				*e*Sn		**Sn**	**17 29 42.8**	**-0.7**
	13nm,0.4s							
VIVF	**Saint-Julien-l**	**3.90**	**275**	*e*Pn		**Pn**	**17 28 59.6**	**+1.1**
VIVF				*e*Sn		**Sn**	**17 29 42.7**	**-1.2**
	12nm,0.4s							
VIVF	**Saint-Julien-l**	**3.90**	**275**	*e*Pn		**Pn**	**17 28 59.6**	**+1.1**
VIVF				*e*Sn		**Sn**	**17 29 42.7**	**-1.2**
	5.8nm,0.4s							
SOKA	**Soboth**	**3.97**	**58**	*e*Pn		**Pn**	**17 29 01.2**	**+1.6**
	0.5nm,0.2s							
STU	**Stuttgart**	**4.15**	**351**	*e*Sn		**Sn**	**17 29 51.6**	**+1.6**
STU	**Stuttgart**	**4.15**	**351**	Sn		**Sn**	**17 29 51.6**	**+1.6**
CDF	**Champ du Feu**	**4.23**	**333**	*e*Pn		**Pn**	**17 29 03.9**	**+0.8**
CDF				*e*Sn		**Sn**	**17 29 51.5**	**-0.6**
	16nm,0.2s							
CDF	**Champ du Feu**	**4.23**	**333**	*e*Pn		**Pn**	**17 29 03.9**	**+0.8**
CDF				*e*Sn		**Sn**	**17 29 51.5**	**-0.6**
	7.9nm,0.2s							
HAU	**Haudompre**	**4.24**	**323**	*e*Pn		**Pn**	**17 29 04.7**	**+1.4**
HAU				*e*Sn		**Sn**	**17 29 51.8**	**-0.5**
	28nm,0.2s							
HAU	**Haudompre**	**4.24**	**323**	*e*Pn		**Pn**	**17 29 04.7**	**+1.4**
HAU				*e*Sn		**Sn**	**17 29 51.8**	**-0.5**
	14nm,0.2s							
MOA	**Molln**	**4.28**	**41**	*i* Pn		**Pn**	**17 29 05.4**	**+1.7**
	7.7nm,0.3s							
MOA				*i* Sn		**Sn**	**17 29 54.4**	**+1.2**
	20nm,0.4s							
MOA	**Molln**	**4.28**	**41**	*e*Pn		**Pn**	**17 29 05.5**	**+1.7**
MOA				*e*Sn		**Sn**	**17 29 54.1**	**+0.9**
MOA	**Molln**	**4.28**	**41**	Pn		**Pn**	**17 29 05.5**	**+1.8**
MOA				Sn		**Sn**	**17 29 54.1**	**+0.9**
LASF	**Ste Croix**	**4.54**	**265**	*e*P		**Pn**	**17 29 11.9**	**+4.5**
LASF				*e*Sn		**Sn**	**17 29 58.1**	**-1.7**
	5.2nm,0.4s							
LASF	**Ste Croix**	**4.54**	**265**	*e*P		**Pn**	**17 29 11.9**	**+4.5**
LASF				*e*Sn		**Sn**	**17 29 58.1**	**-1.7**
	2.6nm,0.4s							
ARSA	**Arzberg**	**4.55**	**54**	*i* Pn		**Pn**	**17 29 08.2**	**+0.6**
	1.3nm,0.3s							
ARSA	**Arzberg**	**4.55**	**54**	*e*Pn		**Pn**	**17 29 08.4**	**+0.8**
ARSA	**Arzberg**	**4.55**	**54**	Pn		**Pn**	**17 29 08.4**	**+0.8**
SMF	**Signal de Mont**	**4.83**	**296**	*e*P		Pn	17 29 16.5	+5.1
SMF	**Signal de Mont**	**4.83**	**296**	*e*P		Pn	17 29 16.5	+5.1
GEC2	**GERESS Array S**	**4.84**	**29**	*e*Pn		**Pn**	**17 29 11.9**	**+0.4**
GEC2				*e*Sn		**Sn**	**17 30 06.2**	**-0.9**
GEC2	**GERESS Array S**	**4.84**	**29**	Pn		**Pn**	**17 29 11.9**	**+0.4**
GEC2				Sn		**Sn**	**17 30 06.2**	**-0.9**
GERES	**GERESS Array B**	**4.84**	**29**	Pn		**Pn**	**17 29 11.7**	**+0.2**
	1.4nm,0.3s,baz=202,slow=12,SNR=16							
GERES				Sn		**Sn**	**17 30 05.6**	**-1.5**
	7.8nm,0.3s,baz=206,slow=24,SNR=18							
WET	**Wettzell**	**4.85**	**22**	*e*Pn		**Pn**	**17 29 12.2**	**+0.6**
WET				*e*Sn		**Sn**	**17 30 07.2**	**-0.1**
WET	**Wettzell**	**4.85**	**22**	Pn		**Pn**	**17 29 12.2**	**+0.6**
WET				Sn		**Sn**	**17 30 07.2**	**-0.1**
KHC	**Kasperske Hory**	**5.04**	**27**	*e*PN		**Pn**	**17 29 14.7**	**+0.4**
KHC				*e*SN		**Sn**	**17 30 09.9**	**-2.2**
KHC	**Kasperske Hory**	**5.04**	**27**	Pn		**Pn**	**17 29 14.7**	**+0.4**
KHC				Sn		**Sn**	**17 30 09.9**	**-2.2**
KHC	**Kasperske Hory**	**5.04**	**27**	*ex*		**Pn**	**17 29 14.6**	**+0.3**
KHC				*ex*		**Sn**	**17 30 10.4**	**-1.7**
KHC	**Kasperske Hory**	**5.04**	**27**	Pg		**Pn**	**17 29 14.6**	**+0.3**
GRA1	**Grafenberg Arr**	**5.07**	**8**	Pn		**Pn**	**17 29 15.4**	**+0.7**
GRA1				Sn		**Sn**	**17 30 13.4**	**+0.6**
GRF	**Grafenberg Arr**	**5.07**	**8**	*e*Pn		**Pn**	**17 29 15.4**	**+0.7**
GRF				*e*Sn		**Sn**	**17 30 13.4**	**+0.6**
LOR	**Lormes**	**5.09**	**303**	*e*Pn		**Pn**	**17 29 17.2**	**+2.3**
LOR	**Lormes**	**5.09**	**303**	*e*Pn		**Pn**	**17 29 17.2**	**+2.3**
CONA	**Conrad Observa**	**5.13**	**49**	*i* Pn		**Pn**	**17 29 16.2**	**+0.7**
	0.6nm,0.1s							
CONA				*i* Sn		**Sn**	**17 30 15.2**	**+0.8**
	5.8nm,0.4s							
CONA				*e*Sg		**Sg**	**17 30 44.3**	**+0.2**
	8.8nm,0.5s							
MANZ	**Manzenberg**	**5.48**	**13**	*e*Pn		**Pn**	**17 29 22.1**	**+1.8**
MANZ				*e*Sn		**Sn**	**17 30 21.6**	**-1.3**
MANZ	**Manzenberg**	**5.48**	**13**	Pn		**Pn**	**17 29 22.1**	**+1.8**
MANZ				Sn		**Sn**	**17 30 21.6**	**-1.3**
TNS	**Taunus Mts**	**5.67**	**349**	*e*Pn		**Pn**	**17 29 24.5**	**+1.6**
TNS				*e*Sn		**Sn**	**17 30 27.6**	**+0.1**
TNS	**Taunus Mts**	**5.67**	**349**	Pn		**Pn**	**17 29 24.5**	**+1.6**
TNS				Sn		**Sn**	**17 30 27.6**	**+0.1**
CAF	**Calviac**	**5.75**	**275**	*e*P		Pn	17 29 29.2	+5.2
CAF	**Calviac**	**5.75**	**275**	*e*P		Pn	17 29 29.2	+5.2
NKC	**Novy Kostel**	**5.78**	**15**	*e*PN		**Pn**	**17 29 25.0**	**+0.6**
NKC				*e*SN		**Sn**	**17 30 28.6**	**-1.6**
NKC	**Novy Kostel**	**5.78**	**15**	Pn		**Pn**	**17 29 25.0**	**+0.6**
NKC				Sn		**Sn**	**17 30 28.6**	**-1.6**
MTLF	**Montolieu**	**5.87**	**260**	*e*P		**Pn**	**17 29 29.8**	**+4.2**
MTLF	**Montolieu**	**5.87**	**260**	*e*P		**Pn**	**17 29 29.8**	**+4.2**
MOX	**Moxa**	**6.06**	**9**	*e*Pn		**Pn**	**17 29 27.7**	**-0.5**
MOX				*e*Sn		**Sn**	**17 30 36.3**	**-0.8**
MOX	**Moxa**	**6.06**	**9**	Pn		**Pn**	**17 29 27.7**	**-0.5**
MOX				Sn		**Sn**	**17 30 36.3**	**-0.8**
PRU	**Pruhonice**	**6.10**	**28**	*e*PN		**Pn**	**17 29 28.6**	**-0.2**
PRU				*e*SN		**Sn**	**17 30 36.8**	**-1.3**
PRU	**Pruhonice**	**6.10**	**28**	Pn		**Pn**	**17 29 28.6**	**-0.2**
PRU				Sn		**Sn**	**17 30 36.8**	**-1.3**
PRU	**Pruhonice**	**6.10**	**28**	*ex*		**Pn**	**17 29 28.8**	**0.0**
VRAC	**Vranov**	**6.40**	**41**	Pn		**Pn**	**17 29 33.5**	**+0.6**
	0.3nm,0.3s,baz=248,slow=16,SNR=3.0							
VRAC				Lg		Lg	17 31 17.9	
	0.4nm,0.3s,baz=144,slow=12,SNR=2.6							
BRG	**Berggiesshubel**	**6.71**	**21**	PN		**Pn**	**17 29 37.0**	**-0.2**
BRG				SN		**Sn**	**17 30 53.1**	**0.0**
BRG				SG		**Sg**	**17 31 34.6**	**0.0**
	8.9nm,1.0s							
CLL	**Collm**	**6.91**	**15**	*i* Pn		**Pn**	**17 29 40.4**	**+0.6**
CLL				*e*Sn		**Sn**	**17 30 54.0**	**-4.0**
CLL				eSg		**Sg**	**17 31 41.0**	**0.0**
VYHS	**Vyhne**	**7.11**	**54**	*e*PN		**Pn**	**17 29 41.7**	**-0.9**
VYHS				*e*SN		**Sn**	**17 30 58.7**	**-4.2**
ESDC	**Sonseca Array**	**11.59**	**249**	Pn		Pn	17 30 55.1	+11
	0.3nm,0.3s,baz=60,slow=14,SNR=4.7							
EKA	**Eskdalemuir Ar**	**13.64**	**326**	Pn		**P**	**17 31 18.2**	**-2.6**
	baz=128,slow=14,SNR=3.8							
FINES	**FINESS Array B**	**19.24**	**24**	P		**Pn**	**17 32 24.9**	**+1.2**
	0.1nm,0.3s,baz=214,slow=18,SNR=5.3							

*NEIC **10** 17:34:29.2±0.0, 38°.23S×176°.01E, h180km, MG4.1(WEL), After WEL.*
WEL 10 17:34:29.3±0.3, 38°.24S×176°.02E, h180km±3km, ML4.1/53, 24C-17D, Error ellipse: s-maj=1.6km s-min=1.5km az=90.0, North Island

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
HRRZ	**Handcock Road**	**0.26**	**126**		Pn	Pn	17 34 53.3	0.0
HRRZ	**Handcock Road**	**0.26**	**126**		PN	Pn	17 34 53.3	0.0
HLRZ	**Highlands Stat**	**0.27**	**93**		PN	Pn	17 34 53.7	+0.4
KARZ	**Kaharoa**	**0.28**	**40**		Pn	Pn	17 34 53.4	0.0
KARZ	**Kaharoa**	**0.28**	**40**		⇑PN	Pn	17 34 53.4	0.0
WPRZ	**Whakapapatarin**	**0.30**	**158**		Pn	Pn	17 34 53.3	-0.1
WPRZ	**Whakapapatarin**	**0.30**	**158**		⇑PN	Pn	17 34 53.3	-0.1
TLZ	**Tolley Road**	**0.39**	**256**		Pn	Pn	17 34 53.9	+0.3
TLZ	**Tolley Road**	**0.39**	**256**		⇑PN	Pn	17 34 53.9	+0.3
PRRZ	**Plateau Road**	**0.40**	**131**		Pn	Pn	17 34 53.6	-0.1
PRRZ	**Plateau Road**	**0.40**	**131**		⇓PN	Pn	17 34 53.6	-0.1
RRRZ	**Republican Roa**	**0.41**	**105**		Pn	Pn	17 34 53.5	-0.2
RRRZ	**Republican Roa**	**0.41**	**105**		⇑PN	Pn	17 34 53.5	-0.2
ALRZ	**Allen Road**	**0.41**	**142**		Pn	Pn	17 34 53.6	-0.1
ALRZ	**Allen Road**	**0.41**	**142**		PN	Pn	17

PRGZ				AML	AML	17 35 33.9		
CKHZ	**Cape Kidnapper**	**1.64**	**150**	Pn	Pn	17 35 02.9	+0.4	
CKHZ	**Cape Kidnapper**	**1.64**	**150**	⇑PN	Pn	17 35 02.9	+0.4	
CKHZ				AML	AML	17 35 29.5		
CKHZ				AML	AML	17 35 31.3		
PKGZ	**Pakihiroa**	**1.66**	**79**	PN	Pn	17 35 02.8	0.0	
PNHZ	**Pukenui**	**1.68**	**175**	Pn	Pn	17 35 02.5	-0.5	
PNHZ	**Pukenui**	**1.68**	**175**	PN	Pn	17 35 02.5	-0.5	
PNHZ				AML	AML	17 35 27.1		
PNHZ				AML	AML	17 35 28.7		
KAHZ	**Kahuranaki**	**1.69**	**157**	Pn	Pn	17 35 03.3	+0.2	
KAHZ	**Kahuranaki**	**1.69**	**157**	PN	Pn	17 35 03.3	+0.2	
KAHZ				AML	AML	17 35 30.8		
KAHZ				AML	AML	17 35 33.2		
WAZ	**Wanganui**	**1.71**	**208**	Pn	Pn	17 35 02.9	-0.4	
WAZ	**Wanganui**	**1.71**	**208**	⇓PN	Pn	17 35 02.9	-0.4	
MHGZ	**Mahia Peninsul**	**1.74**	**122**	Pn	Pn	17 35 04.0	+0.4	
MHGZ	**Mahia Peninsul**	**1.74**	**122**	⇑PN	Pn	17 35 04.0	+0.4	
MHGZ				AML	AML	17 35 31.2		
MHGZ				AML	AML	17 35 33.1		
CNGZ	**Carnagh Statio**	**1.74**	**99**	Pn	Pn	17 35 04.2	+0.7	
CNGZ	**Carnagh Statio**	**1.74**	**99**	⇑PN	Pn	17 35 04.2	+0.7	
CNGZ				AML	AML	17 35 32.1		
LREZ	**Lake Rotokare**	**1.75**	**225**	PN	Pn	17 35 03.9	+0.2	
PUZ	**Puketiti**	**1.77**	**85**	Pn	Pn	17 35 03.7	-0.2	
PUZ	**Puketiti**	**1.77**	**85**	PN	Pn	17 35 03.7	-0.2	
PUZ				AML	AML	17 35 30.3		
PUZ				AML	AML	17 35 30.9		
TSZ	**Takapari Road**	**1.82**	**181**	Pn	Pn	17 35 03.8	-0.6	
TSZ	**Takapari Road**	**1.82**	**181**	⇓PN	Pn	17 35 03.8	-0.6	
TSZ				AML	AML	17 35 30.7		
TSZ				AML	AML	17 35 31.1		
NEZ	**North Egmont**	**1.82**	**235**	Pn	Pn	17 35 04.9	+0.5	
NEZ	**North Egmont**	**1.82**	**235**	PN	Pn	17 35 04.9	+0.5	
WPHZ	**Waipukurau**	**1.85**	**170**	Pn	Pn	17 35 04.4	-0.4	
WPHZ	**Waipukurau**	**1.85**	**170**	PN	Pn	17 35 04.4	-0.4	
WPHZ				AML	AML	17 35 35.9		
WPHZ				AML	AML	17 35 36.3		
PXZ	**Pawanui**	**1.91**	**160**	Pn	Pn	17 35 05.0	-0.2	
PXZ	**Pawanui**	**1.91**	**160**	⇑PN	Pn	17 35 05.0	-0.2	
PXZ				AML	AML	17 35 33.4		
PXZ				AML	AML	17 35 33.8		
MXZ	**Matakaoa Point**	**1.93**	**70**	Pn	Pn	17 35 06.0	+0.4	
MXZ	**Matakaoa Point**	**1.93**	**70**	⇓PN	Pn	17 35 06.0	+0.4	
MXZ				AML	AML	17 35 33.6		
MXZ				AML	AML	17 35 34.3		
WMGZ	**Waiomatatini S**	**1.94**	**78**	Pn	Pn	17 35 05.8	+0.2	
WMGZ				Sn	Sn	17 35 32.1	-1.8	
WMGZ	**Waiomatatini S**	**1.94**	**78**	⇓PN	Pn	17 35 05.8	+0.2	
WMGZ				AML	AML	17 35 32.6		
WMGZ				AML	AML	17 35 33.0		
OHWZ	**Ohakea**	**2.04**	**195**	PN	Pn	17 35 06.3	-0.3	
DVHZ	**Dannevirke**	**2.06**	**177**	Pn	Pn	17 35 06.0	-0.9	
DVHZ	**Dannevirke**	**2.06**	**177**	⇓PN	Pn	17 35 06.0	-0.9	
DVHZ				AML	AML	17 35 33.1		
DVHZ				AML	AML	17 35 34.5		
PRHZ	**Porangahau**	**2.08**	**167**	Pn	Pn	17 35 06.8	-0.4	
PRHZ	**Porangahau**	**2.08**	**167**	PN	Pn	17 35 06.8	-0.4	
PRHZ				AML	AML	17 35 37.0		
PRHZ				AML	AML	17 35 37.0		
POWZ	**Post Office Ro**	**2.16**	**185**	Pn	Pn	17 35 07.0	-1.0	
POWZ	**Post Office Ro**	**2.16**	**185**	PN	Pn	17 35 07.0	-1.0	
POWZ				AML	AML	17 35 37.4		
POWZ				AML	AML	17 35 44.1		
ANWZ	**Angora Road**	**2.25**	**171**	PN	Pn	17 35 08.4	-0.6	
ANWZ				AML	AML	17 35 39.7		
ANWZ				AML	AML	17 35 41.2		
PRWZ	**Pori Road**	**2.31**	**181**	Pn	Pn	17 35 08.9	-0.9	
PRWZ	**Pori Road**	**2.31**	**181**	⇓PN	Pn	17 35 08.9	-0.9	
PRWZ				AML	AML	17 35 42.0		
PRWZ				AML	AML	17 35 42.2		
MRZ	**Mangatainoka R**	**2.44**	**188**	Pn	Pn	17 35 09.7	-1.5	
MRZ	**Mangatainoka R**	**2.44**	**188**	PN	Pn	17 35 09.7	-1.5	
MRZ				AML	AML	17 35 42.2		
MRZ				AML	AML	17 35 42.2		
BFZ	**Birch Farm**	**2.45**	**176**	Pn	Pn	17 35 10.0	-1.2	
BFZ	**Birch Farm**	**2.45**	**176**	PN	Pn	17 35 10.0	-1.2	
BFZ				AML	AML	17 35 41.1		
BFZ				AML	AML	17 35 44.8		
TIWZ	**Tintock**	**2.54**	**182**	Pn	Pn	17 35 11.0	-1.4	
TIWZ	**Tintock**	**2.54**	**182**	⇓PN	Pn	17 35 11.0	-1.4	
TIWZ				AML	AML	17 35 43.9		
TIWZ				AML	AML	17 35 45.2		
OGWZ	**Otaki Gorge**	**2.66**	**194**	Pn	Pn	17 35 12.2	-1.5	
OGWZ	**Otaki Gorge**	**2.66**	**194**	⇓PN	Pn	17 35 12.2	-1.5	
OGWZ				AML	AML	17 35 46.0		
OGWZ				AML	AML	17 35 46.4		
CPWZ	**Castlepoint**	**2.67**	**177**	Pn	Pn	17 35 13.0	-0.9	
CPWZ	**Castlepoint**	**2.67**	**177**	PN	Pn	17 35 13.0	-0.9	
CPWZ				AML	AML	17 35 48.2		
CPWZ				AML	AML	17 35 50.1		
HOWZ	**Holdsworth Sta**	**2.68**	**188**	Pn	Pn	17 35 12.2	-1.8	
HOWZ	**Holdsworth Sta**	**2.68**	**188**	PN	Pn	17 35 12.2	-1.8	
HOWZ				AML	AML	17 35 45.2		
HOWZ				AML	AML	17 35 46.0		
KIW	**Kapiti Island**	**2.76**	**198**	Pn	Pn	17 35 12.9	-2.0	
KIW	**Kapiti Island**	**2.76**	**198**	⇓PN	Pn	17 35 12.9	-2.0	
KIW				AML	AML	17 35 47.4		
KIW				AML	AML	17 35 48.6		
TMWZ	**Te Maipa**	**2.87**	**182**	Pn	Pn	17 35 14.4	-1.8	
TMWZ	**Te Maipa**	**2.87**	**182**	PN	Pn	17 35 14.4	-1.8	
TMWZ				AML	AML	17 35 50.7		
TMWZ				AML	AML	17 35 51.6		
MTW	**Mount Morrison**	**2.94**	**188**	Pn	Pn	17 35 15.0	-2.2	
MTW	**Mount Morrison**	**2.94**	**188**	⇓PN	Pn	17 35 15.0	-2.2	
MTW				AML	AML	17 35 49.9		
MTW				AML	AML	17 35 50.7		
CAW	**Cannon Point**	**2.96**	**194**	Pn	Pn	17 35 15.2	-2.1	
CAW	**Cannon Point**	**2.96**	**194**	PN	Pn	17 35 15.2	-2.1	
CAW				AML	AML	17 35 52.2		
CAW				AML	AML	17 35 53.8		
DUWZ	**D'Urville Isla**	**3.03**	**212**	Pn	Pn	17 35 16.0	-2.2	
DUWZ	**D'Urville Isla**	**3.03**	**212**	⇑PN	Pn	17 35 16.0	-2.2	
TRWZ	**Traveller**	**3.17**	**184**	Pn	Pn	17 35 17.7	-2.1	
TRWZ	**Traveller**	**3.17**	**184**	PN	Pn	17 35 17.7	-2.1	
TRWZ				AML	AML	17 35 56.7		
TRWZ				AML	AML	17 35 57.4		
PAWZ	**Paruwai Farm**	**3.17**	**188**	Pn	Pn	17 35 17.7	-2.2	
PAWZ	**Paruwai Farm**	**3.17**	**188**	⇑PN	Pn	17 35 17.7	-2.2	
PAWZ				AML	AML	17 35 55.1		
PAWZ				AML	AML	17 35 56.2		
WELZ	**Wellington**	**3.19**	**197**	Pn	Pn	17 35 16.7	-3.4	
WELZ	**Wellington**	**3.19**	**197**	⇓PN	Pn	17 35 16.7	-3.4	
WELZ				AML	AML	17 35 57.1		
WELZ				AML	AML	17 35 57.2		
MSWZ	**Moikau Station**	**3.23**	**190**	Pn	Pn	17 35 18.2	-2.5	
MSWZ	**Moikau Station**	**3.23**	**190**	⇓PN	Pn	17 35 18.2	-2.5	
MSWZ				AML	AML	17 35 56.6		
MSWZ				AML	AML	17 35 57.3		
SNZO	**South Karori**	**3.23**	**198**	*e*Pn	Pn	17 35 18.2	-2.5	
SNZO				*e*Sn	Sn	17 35 55.5	-5.3	
TCW	**Tory Channel**	**3.26**	**204**	Pn	Pn	17 35 18.7	-2.3	
TCW	**Tory Channel**	**3.26**	**204**	PN	Pn	17 35 18.7	-2.3	
TCW				AML	AML	17 35 58.9		
TCW				AML	AML	17 36 00.1		
BHW	**Baring Head**	**3.29**	**195**	Pn	Pn	17 35 18.8	-2.5	
BHW	**Baring Head**	**3.29**	**195**	PN	Pn	17 35 18.8	-2.5	
BHW				AML	AML	17 35 57.3		
PLWZ	**Palliser**	**3.38**	**190**	Pn	Pn	17 35 19.9	-2.6	
PLWZ	**Palliser**	**3.38**	**190**	⇓PN	Pn	17 35 19.9	-2.6	
PLWZ				AML	AML	17 36 00.8		
PLWZ				AML	AML	17 36 01.8		
TUWZ	**Tuamarina**	**3.56**	**206**	Pn	Pn	17 35 22.1	-2.7	
TUWZ	**Tuamarina**	**3.56**	**206**	PN	Pn	17 35 22.1	-2.7	
TUWZ				AML	AML	17 36 04.8		
TUWZ				AML	AML	17 36 06.9		
NNZ	**Nelson**	**3.60**	**214**	Pn	Pn	17 35 22.4	-2.8	
NNZ	**Nelson**	**3.60**	**214**	⇓PN	Pn	17 35 22.4	-2.9	
QRZ	**Quartz Range**	**3.73**	**225**	Pn	Pn	17 35 23.7	-3.2	
QRZ	**Quartz Range**	**3.73**	**225**	PN	Pn	17 35 23.7	-3.2	
BSWZ	**Blackbirch Sta**	**3.84**	**205**	Pn	Pn	17 35 25.8	-2.5	
BSWZ	**Blackbirch Sta**	**3.84**	**205**	PN	Pn	17 35 25.8	-2.5	
THZ	**Tophouse**	**4.25**	**213**	Pn	Pn	17 35 30.3	-3.3	
THZ	**Tophouse**	**4.25**	**213**	PN	Pn	17 35 30.3	-3.3	
KHZ	**Kahutara**	**4.58**	**204**	Pn	Pn	17 35 34.9	-2.8	
KHZ	**Kahutara**	**4.58**	**204**	⇓PN	Pn	17 35 34.8	-2.8	
DSZ	**Denniston Nort**	**4.77**	**221**	Pn	Pn	17 35 36.3	-3.8	
DSZ	**Denniston Nort**	**4.77**	**221**	PN	Pn	17 35 36.3	-3.8	
LTZ	**Lake Taylor**	**5.36**	**211**	Pn	Pn	17 35 43.5	-4.4	
LTZ	**Lake Taylor**	**5.36**	**211**	PN	Pn	17 35 43.5	-4.4	
INZ	**Inchbonnie**	**5.68**	**216**	PN	Pn	17 35 47.2	-4.7	
OXZ	**Oxford**	**5.91**	**209**	Pn	Pn	17 35 50.2	-4.8	
OXZ	**Oxford**	**5.91**	**209**	PN	Pn	17 35 50.2	-4.8	
CRLZ	**Canterbury Las**	**5.92**	**205**	Pn	Pn	17 35 50.5	-4.6	
CRLZ	**Canterbury Las**	**5.92**	**205**	PN	Pn	17 35 50.5	-4.6	
MQZ	**McQueen's Vall**	**6.03**	**204**	Pn	Pn	17 35 51.8	-4.7	
MQZ	**McQueen's Vall**	**6.03**	**204**	⇑PN	Pn	17 35 51.8	-4.7	
WVZ	**Waitaha Valley**	**6.28**	**218**	Pn	Pn	17 35 55.7	-4.1	
WVZ	**Waitaha Valley**	**6.28**	**218**	PN	Pn	17 35 55.7	-4.1	
RPZ	**Rata Peaks**	**6.63**	**213**	PN	Pn	17 36 00.6	-3.9	
FOZ	**Fox Glacier**	**7.07**	**220**	PN	Pn	17 36 06.5	-3.7	
LBZ	**Lake Benmore**	**7.55**	**214**	PN	Pn	17 36 12.5	-4.0	
CTZ	**Chatham Island**	**7.82**	**137**	PN	Pn	17 36 27.7	+7.6	
EAZ	**Earnscleugh**	**8.60**	**214**	PN	Pn	17 36 25.9	-4.4	
TUZ	**Tuapeka**	**9.05**	**210**	PN	Pn	17 36 33.1	-3.1	

*CSEM **10** 17:42:01.8±0.1, 44.6°N×10.6°E, h15km, ML2.5/12, Error ellipse: s-maj=3.5km s-min=2.9km az=63.0*
*LDG **10** 17:42:03.3±0.1, 44.6°N×10.1°E, h10km, Ml2.4/9, Error ellipse: s-maj=2.1km s-min=1.8km az=9.0*
*GEN **10** 17:42:04.0, 44.6°N×10.2°E, h20km, ML2.0*
*ROM **10** 17:42:04.0±0.2, 44.6°N×10.3°E, h18km±4km, Md2.5/10, Ml2.3/10, Error ellipse: s-maj=2.9km s-min=1.6km az=89.0*

ISC 10 17:42:03.1±0.9, 44.6°N±0.02×10.1°E±0.02, h24km±5km, n57, σ1°59/89, Northern Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PRMA	**PARMA**	**0.16**	**38**	Pg	**Pb**	**17 42 07.8**	**-0.4**
PRMA				Sg	**Sb**	**17 42 11.9**	**+0.3**
	1µm,0.3s						
PRMA	**PARMA**	**0.16**	**38**	Pg	**Pb**	**17 42 07.8**	**-0.4**
PRMA				Sg	**Sb**	**17 42 11.9**	**+0.3**
	1µm,0.3s						
GRAM	**Graiana**	**0.17**	**209**	P	**Pb**	**17 42 08.5**	**0.0**
GRAM				S	**Sb**	**17 42 12.5**	**+0.5**
NOVE	**Novellara**	**0.41**	**67**	Pg	**Pb**	**17 42 11.6**	**-0.3**
	238nm,0.2s						
NOVE	**Novellara**	**0.41**	**67**	Pg	**Pb**	**17 42 11.6**	**-0.3**
	238nm,0.2s						
SARO	**Sassorosso**	**0.48**	**161**	P	**Pb**	**17 42 12.9**	**-0.2**
SARO				S	**Sb**	**17 42 19.9**	**0.0**
VLC	**Villacollemand**	**0.50**	**163**	Pg	**Pb**	**17 42 13.5**	**+0.1**
VLC				Sg	**Sb**	**17 42 20.8**	**+0.4**
	227nm,1.2s						
VLC	**Villacollemand**	**0.50**	**163**	Pg	**Pb**	**17 42 13.5**	**+0.1**
VLC				Sg	**Sb**	**17 42 20.8**	**+0.4**
	227nm,1.2s						
SC2M	**Scurtabo**	**0.52**	**243**	Pg	**Pn**	**17 42 15.3**	**+0.2**
SC2M				Sg	**Sn**	**17 42 25.1**	**+1.9**
	99nm,0.3s						
BOB	**Bobbio (Coli)**	**0.54**	**284**	Pg	**Pn**	**17 42 15.9**	**+0.5**
BOB				Sg	**Sn**	**17 42 25.4**	**+1.7**
	116nm,0.7s						
BDI	**Bagni Di Lucca**	**0.65**	**152**	Pg	**Pb**	**17 42 15.8**	**-0.1**
BDI				Sg	**Sb**	**17 42 23.6**	**-1.0**
	68nm,0.3s						
BDI	**Bagni Di Lucca**	**0.65**	**152**	Pg	**Pb**	**17 42 15.8**	**-0.1**
BDI				Sg	**Sb**	**17 42 23.6**	**-1.0**
	68nm,0.3s						
POPM	**Popiglio**	**0.73**	**145**	P	**Pb**	**17 42 17.2**	**+0.1**
POPM				S	**Sb**	**17 42 27.0**	**+0.3**
MAIM	**Mastiano**	**0.76**	**163**	Pg	**Pb**	**17 42 17.9**	**+0.2**
MAIM				Sg	**Sn**	**17 42 28.9**	**-0.1**
MAIM	**Mastiano**	**0.76**	**163**	Pg	**Pb**	**17 42 17.9**	**+0.2**
MAIM				Sg	**Sn**	**17 42 28.9**	**-0.1**
FNVD	**Fontana Vidola**	**0.82**	**125**	Pg	**Pb**	**17 42 19.1**	**+0.2**
	49nm,0.5s						
FNVD	**Fontana Vidola**	**0.82**	**125**	Pg	**Pb**	**17 42 19.1**	**+0.2**
	49nm,0.5s						
CRMI	**Carmignano**	**1.02**	**146**	Pg	**Pb**	**17 42 22.5**	**+0.3**
	35nm,0.8s						
CRMI	**Carmignano**	**1.02**	**146**	Pg	**Pb**	**17 42 22.5**	**+0.3**
	35nm,0.8s						
MAGA	**Magasa**	**1.18**	**15**	Pg	**Pn**	**17 42 24.7**	**+0.5**
MAGA				Sg	**Sb**	**17 42 41.1**	**+1.3**
	228nm,0.3s						
MAGA	**Magasa**	**1.18**	**15**	Pg	**Pn**	**17 42 24.7**	**+0.5**
MAGA				Sg	**Sb**	**17 42 41.1**	**+1.3**
	228nm,0.3s						
ROVR	**Rover¯¤ Verone**	**1.19**	**32**	Pg	**Pn**	**17 42 24.9**	**+0.5**
ROVR				Sg	**Sb**	**17 42 41.5**	**+1.4**
	286nm,0.5s						
ROVR	**Rover¯¤ Verone**	**1.19**	**32**	Pg	**Pn**	**17 42 24.9**	**+0.5**
ROVR				Sg	**Sb**	**17 42 41.5**	**+1.4**
	286nm,0.5s						
SBF	**Sospel**	**2.12**	**249**	*e*Pn	**Pn**	**17 42 36.4**	**-0.7**
SBF				*e*Sn	**Sn**	**17 43 01.1**	**-1.6**
	4.4nm,0.2s						
SBF	**Sospel**	**2.12**	**249**	*e*Pn	**Pn**	**17 42 36.4**	**-0.7**
SBF				*e*Sn	**Sn**	**17 43 01.1**	**-1.6**
	2.2nm,0.2s						
PGF	**Pioggiola**	**2.26**	**203**	*e*Pn	**Pn**	**17 42 38.6**	**-0.5**
PGF				*e*Sn	**Sn**	**17 43 05.1**	**-1.1**
	1.6nm,0.2s						
PGF	**Pioggiola**	**2.26**	**203**	*e*Pn	**Pn**	**17 42 38.6**	**-0.5**
PGF				*e*Sn	**Sn**	**17 43 05.1**	**-1.1**
	0.8nm,0.2s						
FETA	**Feichten**	**2.41**	**9**	*e*Pg	**Pb**	**17 42 45.9**	**-0.1**
	0.2nm,0.1s						
FETA	**Feichten**	**2.41**	**9**	Pg	**Pb**	**17 42 45.9**	**-0.1**
	0.2nm,0.1s						
LPL	**La Plagne**	**2.59**	**291**	*e*Pg	**Pb**	**17 42 50.2**	**+1.1**
LPL				*e*Sn	**Sn**	**17 43 12.5**	**-2.1**
	3.2nm,0.3s						
LPL	**La Plagne**	**2.59**	**291**	*e*Pg	**Pb**	**17 42 50.2**	**+1.1**
LPL				*e*Sn	**Sn**	**17 43 12.5**	**-2.1**
	1.6nm,0.3s						
DAVA	**Damuels**	**2.66**	**356**	*e*Pn	**Pn**	**17 42 47.5**	**+2.9**
	1.3nm,0.2s						
DAVA				*e*Sn	**Sb**	**17 43 20.3**	**-2.0**
	4.0nm,0.2s						
DAVA	**Damuels**	**2.66**	**356**	Pn	**Pn**	**17 42 47.5**	**+2.9**
	1.3nm,0.2s						
FRF	**La Foret Royal**	**2.76**	**248**	*e*P	**Pn**	**17 42 48.3**	**+2.4**
FRF				*e*Sn	**Sn**	**17 43 16.1**	**-2.4**
	2.7nm,0.3s						
FRF	**La Foret Royal**	**2.76**	**248**	*e*P	**Pn**	**17 42 48.3**	**+2.4**
FRF				*e*Sn	**Sn**	**17 43 16.1**	**-2.4**
	1.4nm,0.3s						
MOTA	**Moosalm**	**2.78**	**13**	*e*Pn	**Pb**	**17 42 49.9**	**-2.3**
	1.0nm,0.2s						
MOTA	**Moosalm**	**2.78**	**13**	Pn	**Pb**	**17 42 49.9**	**-2.3**
	1.0nm,0.2s						
WATA	**Walderalm**	**2.87**	**19**	*i* Pn	**Pn**	**17 42 50.6**	**+3.1**
	1.0nm,0.2s						
WATA	**Walderalm**	**2.87**	**19**	Pn	**Pn**	**17 42 50.6**	**+3.1**
	1.0nm,0.2s						
LMR	**La Mourre**	**2.95**	**245**	*e*Pn	**Pn**	**17 42 47.8**	**-0.7**
LMR	**La Mourre**	**2.95**	**245**	*e*P	**Pn**	**17 42 50.7**	**+2.2**
LMR				*e*Sn	**Sn**	**17 43 21.0**	**-2.2**
	3.7nm,0.3s						
LMR	**La Mourre**	**2.95**	**245**	*e*Pn	**Pn**	**17 42 47.8**	**-0.7**
LMR	**La Mourre**	**2.95**	**245**	*e*P	**Pn**	**17 42 50.7**	**+2.2**
LMR				*e*Sn	**Sn**	**17 43 21.0**	**-2.2**
	1.9nm,0.3s						
ORIF	**Oris-en-Rattie**	**3.07**	**277**	*e*Pg	**Pb**	**17 42 59.1**	**+1.9**
ORIF				*e*Sn	**Sn**	**17 43 23.7**	**-2.6**
	3.5nm,0.6s						
ORIF	**Oris-en-Rattie**	**3.07**	**277**	*e*Pg	**Pb**	**17 42 59.1**	**+1.9**
ORIF				*e*Sn	**Sn**	**17 43 23.7**	**-2.6**
	1.8nm,0.6s						
CABF	**La Chapelle**	**3.48**	**306**	*e*P	**Pn**	**17 42 58.4**	**+2.5**
CABF	**La Chapelle**	**3.48**	**306**	*e*P	**Pn**	**17 42 58.4**	**+2.5**
OZLJ	**Ozalj**	**3.87**	**74**	Sn	**Sn**	**17 43 45.8**	**+0.2**
OZLJ	**Ozalj**	**3.87**	**74**	Sn	**Sn**	**17 43 45.8**	**+0.2**
HINF	**Hinteralfeld**	**3.93**	**325**	*e*Sn	**Sn**	**17 43 44.8**	**-2.4**
	1.5nm,0.2s						
HINF	**Hinteralfeld**	**3.93**	**325**	*e*Sn	**Sn**	**17 43 44.8**	**-2.4**
	0.8nm,0.2s						
UDBI	**Udbina**	**3.99**	**90**	Sn	**Sn**	**17 43 47.5**	**-1.4**
UDBI	**Udbina**	**3.99**	**90**	Sn	**Sn**	**17 43 47.4**	**-1.4**
CDF	**Champ du Feu**	**4.27**	**333**	*e*Pn	**Pn**	**17 43 06.9**	**+0.2**
CDF				*e*Sn	**Sn**	**17 43 52.9**	**-2.9**
	2.5nm,0.3s						
CDF	**Champ du Feu**	**4.27**	**333**	*e*Pn	**Pn**	**17 43 06.9**	**+0.2**
CDF				*e*Sn	**Sn**	**17 43 52.9**	**-2.9**
	1.2nm,0.3s						
HAU	**Haudompre**	**4.29**	**323**	*e*Sn	**Sn**	**17 43 53.4**	**-2.7**
	2.8nm,0.2s						
HAU	**Haudompre**	**4.29**	**323**	*e*Sn	**Sn**	**17 43 53.4**	**-2.7**
	1.4nm,0.2s						

IDC 10 17:56:26.2±1.6, 2.27°S×145.51°E, h0km, mb3.6/4, mb1 3.9/4, mb1mx3.5/22, mbtmp3.6/4, Error ellipse: s-maj=88.1km s-min=26.0km az=121.0, Admiralty Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**20.68**	**211**	P	P	18 01 06.2	-1.8
	0.9nm,0.4s,baz=31,slow=11,SNR=14						
ASAR	**Alice Springs**	**24.06**	**207**	P	P	18 01 43.1	-0.3
	0.8nm,0.7s,baz=31,slow=8.5,SNR=19						
FITZ	**Fitzroy Crossi**	**25.05**	**230**	P	P	18 01 53.9	+1.5
	3.3nm,0.9s,baz=49,slow=8.8,SNR=12						
ILAR	**Eielson Array**	**82.67**	**24**	P	P	18 08 51.2	-0.2
	0.2nm,0.6s,baz=251,slow=5.6,SNR=2.8						

JMA 10 18:01:59.1±0.1, 35.83°N×140.90°E, h22km±1km, M2.7, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHOJ	**Chosi**	**0.13**	**195**	P	Pb	18 02 03.5	-0.9
CHOJ				S	Sb	18 02 06.4	-1.6
JYT	**Yasato**	**0.70**	**305**	P	Pb	18 02 12.0	-0.6
JYT				S	Sb	18 02 21.0	-0.7
JCN	**Nagara**	**0.70**	**234**	P	Pn	18 02 13.6	-0.1
JCN				*e*S	Sn	18 02 24.8	+1.0
MAT	**Matsushiro**	**2.29**	**289**	P	Pn	18 02 35.6	0.0
MAT				*e*S	Sn	18 03 04.2	+1.0

*ISCJB **10** 18:04:42.8±0.5, 50.39°N±0.03×18.78°E±0.03, h0km, Error ellipse: s-maj=4.7km s-min=2.1km az=18.6*
*IPEC **10** 18:04:44.4±0.2, 50.38°N×18.83°E, h2km±1km, ML2.3/3, Error ellipse: s-maj=2.6km s-min=0.8km az=169.0*
*CSEM **10** 18:04:44.1±0.2, 50.37°N×18.81°E, h2km, ML3.0/9, Error ellipse: s-maj=5.8km s-min=2.7km az=16.0*
*PRU **10** 18:04:45.3, 50.37°N×18.80°E, h0km*
*VIE **10** 18:04:50.1±1.4, 49.70°N×18.82°E, h0km, mb2.2/3, ML2.5/4, Error ellipse: s-maj=11.7km s-min=8.5km az=1.0, Suspected Mining induced.*

ISC 10 18:04:44.8±0.8, 50.32°N±0.04×18.78°E±0.02, h0km, n40, σ0°78/73, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OKC	**Ostrava-Krasne**	**0.63**	**221**	*i* Pg	**Pb**	**18 04 58.7**	**+0.1**
OKC				*e*SG	**Sb**	**18 05 07.2**	**-0.8**
	comp=Z,51nm,0.6s						
OKC	**Ostrava-Krasne**	**0.63**	**221**	Pg	**Pb**	**18 04 58.7**	**+0.1**
OKC				Sg	**Sb**	**18 05 07.2**	**-0.8**
	51nm,0.6s						
OJC	**Ojcow**	**0.66**	**98**	*e*Pg	**Pg**	**18 04 56.8**	**-0.6**
OJC				*e*Sg	**Sg**	**18 05 06.0**	**+0.1**
OJC	**Ojcow**	**0.66**	**98**	*e*Pg	**Pg**	**18 04 56.8**	**-0.6**
OJC				*e*Sg	**Sg**	**18 05 06.0**	**+0.1**
MORC	**Moravsky Berou**	**0.96**	**236**	*e*Pg	**Pb**	**18 05 04.2**	**-0.1**
MORC				*e*Sg	**Sg**	**18 05 16.6**	**+0.9**
	40nm,0.4s						
LANS	**Liptovska Anna**	**1.25**	**159**	*e*Pg	**Pb**	**18 05 09.4**	**+0.2**
LANS				*e*Sg	**Sn**	**18 05 27.4**	**+0.4**
LANS	**Liptovska Anna**	**1.25**	**159**	*e*Pg	**Pb**	**18 05 09.4**	**+0.2**
LANS				*e*SG	**Sn**	**18 05 27.4**	**+0.4**
KRLC	**Kraliky**	**1.31**	**260**	*e*Pg	**Pb**	**18 05 09.3**	**-0.5**
KRLC				*e*SG	**Sb**	**18 05 27.8**	**+0.3**
KRLC	**Kraliky**	**1.31**	**260**	Pg	**Pg**	**18 05 09.3**	**-0.5**
KRLC				Sg	**Sb**	**18 05 27.8**	**+0.3**
NIE	**Niedzica**	**1.33**	**132**	*e*Pg	**Pn**	**18 05 10.5**	**-0.1**
NIE				*e*Sg	**Sn**	**18 05 29.4**	**+0.3**
NIE	**Niedzica**	**1.33**	**132**	*e*Pg	**Pn**	**18 05 10.5**

MPNC				Sg	Sg	18 13 55.8	+1.6
	75nm,0.4s						
MPNC	**Port Mandanici**	**0.22**	**127**	Pg	Pg	18 13 52.1	+0.9
MPNC				Sg	Sg	18 13 55.8	+1.6
	75nm,0.4s						
MCSR	**Castroreale**	**0.23**	**156**	Pg	Pg	18 13 52.1	+0.6
MCSR				Sg	Sg	18 13 55.9	+1.2
	97nm,0.2s						
MCSR	**Castroreale**	**0.23**	**156**	Pg	Pg	18 13 52.1	+0.6
MCSR				Sg	Sg	18 13 55.9	+1.2
	97nm,0.2s						
ATN	**Antennamare**	**0.29**	**114**	Pg	Pb	18 13 53.3	-0.8
ATN				Sg	Sb	18 13 57.9	-1.1
	32nm,0.7s						
ATN	**Antennamare**	**0.29**	**114**	Pg	Pb	18 13 53.3	-0.8
ATN				Sg	Sb	18 13 57.9	-1.1
	32nm,0.7s						

*CSEM **10** 18:14:13.9±0.1, 41°.89N×20°.14E, h2km, ML2.3, Error ellipse: s-maj=2.5km s-min=1.8km az=52.0*
*ISCJB **10** 18:14:13.5±0.3, 41°.90N±0°.01×20°.16E±0°.02, h4km±2km, Error ellipse: s-maj=2.8km s-min=1.9km az=141.9*
*BEO **10** 18:14:14.9±0.3, 41°.91N×20°.20E, h4km±3km, M2.3/8*
*PDG **10** 18:14:14.7±0.2, 41°.90N×20°.10E, h11km, MD2.9/1, ML2.8/13, Error ellipse: s-maj=0.3km s-min=0.4km az=0.0*
*ATH **10** 18:14:14.3, 41°.88N×20°.04E, h28km±1km, ML2.3/6, Error ellipse: s-maj=2.7km s-min=1.3km az=186.0*
*SKO **10** 18:14:15.0, 41°.89N×20°.13E, h11km*
*TIR **10** 18:14:17.5, 41°.71N×19°.45E, h2km, ML2.6*

ISC 10 18:14:14.2±1.1, 41°.88N±0°.01×20°.14E±0°.02, h7km±9km, n118, σ0.81/194, 20C-16D, Albania

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TIR	**Tirane**	**0.57**	**201**	*i* Pg	**Pg**	**18 14 25.3**	**0.0**
TIR				*i* Sg	**Sb**	**18 14 35.1**	**+0.1**
TIR	**Tirane**	**0.57**	**201**	*e*Pg	**Pg**	**18 14 25.4**	**+0.1**
TIR	**Tirane**	**0.57**	**201**	⇓*i*P	**Pg**	**18 14 25.4**	**+0.1**
TIR	**Tirane**	**0.57**	**201**	S	**Sb**	**18 14 35.0**	**+0.1**
TIR	**Tirane**	**0.57**	**201**	P	**Pg**	**18 14 25.4**	**+0.1**
TIR				S	**Sb**	**18 14 35.1**	**+0.1**
TIR	**Tirane**	**0.57**	**201**	P	**Pg**	**18 14 25.1**	**-0.2**
TIR				S	**Sb**	**18 14 35.1**	**+0.1**
TIR				AML	AML	18 14 39.2	
	comp=E,734μm,0.4s						
TIR				AML	AML	18 14 39.4	
	comp=N,621μm,0.2s						
ZATK	**Zatriq**	**0.67**	**32**	P	**Pg**	**18 14 26.6**	**-0.6**
ULC	**Ulcinj**	**0.67**	**277**	⇓*i*Pg	**Pg**	**18 14 26.7**	**-0.4**
ULC				*e*Sg	**Sb**	**18 14 36.9**	**-1.0**
ULC	**Ulcinj**	**0.67**	**277**	P	**Pg**	**18 14 26.8**	**-0.4**
ULC				*e*Sg	**Sb**	**18 14 36.9**	**-1.0**
PVY	**Plav**	**0.72**	**349**	⇑*i*Pg	**Pg**	**18 14 27.5**	**-0.7**
PVY				*e*Sg	**Sb**	**18 14 39.1**	**-0.4**
PVY	**Plav**	**0.72**	**349**	⇑*i*Pg	**Pg**	**18 14 27.5**	**-0.7**
PVY				*e*Sg	**Sb**	**18 14 39.1**	**-0.4**
PEJK	**Peje**	**0.77**	**8**	P	**Pg**	**18 14 28.9**	**-0.1**
PEJK				S	**Sn**	**18 14 42.1**	**-1.4**
DRME	**Dracevica, Mon**	**0.77**	**293**	⇓*i*Pg	**Pg**	**18 14 28.2**	**-0.9**
DRME				*e*Sg	**Sb**	**18 14 40.5**	**-0.3**
DRME	**Dracevica, Mon**	**0.77**	**293**	⇓*i*Pg	**Pg**	**18 14 28.2**	**-0.9**
DRME				*e*Sg	**Sg**	**18 14 39.6**	**+0.4**
PDG	**Podgorica**	**0.86**	**310**	*e*Pg	**Pg**	**18 14 29.6**	**-1.1**
PDG				*e*Sg	**Sb**	**18 14 43.5**	**+0.4**
PDG	**Podgorica**	**0.86**	**310**	⇓*i*P	**Pg**	**18 14 29.8**	**-0.9**
PDG	**Podgorica**	**0.86**	**310**	S	**Sb**	**18 14 43.5**	**+0.4**
PDG	**Podgorica**	**0.86**	**310**	⇓*i*P	**Pg**	**18 14 29.8**	**-0.9**
PDG	**Podgorica**	**0.86**	**310**	*e*Pg	**Pg**	**18 14 30.1**	**-0.6**
PDG				*e*Sg	**Sg**	**18 14 41.7**	**-0.1**
TTG	**Podgorica**	**0.86**	**310**	*e*Pg	**Pg**	**18 14 30.1**	**-0.6**
TTG				*e*Sg	**Sb**	**18 14 43.2**	**+0.1**
OHR	**Ohrid**	**0.92**	**147**	⇑*i*Pg	**Pg**	**18 14 31.4**	**-0.4**
OHR				*i* Sg	**Sb**	**18 14 45.0**	**+0.1**
OHR	**Ohrid**	**0.92**	**147**	⇑*i*Pg	**Pg**	**18 14 31.4**	**-0.4**
OHR				*i* Sg	**Sb**	**18 14 45.0**	**+0.1**
SKO	**Skopje**	**0.97**	**84**	⇑*i*Pg	**Pg**	**18 14 32.5**	**-0.4**
SKO				*i* Sg	**Sg**	**18 14 46.0**	**+0.4**
SKO	**Skopje**	**0.97**	**84**	⇑*i*Pg	**Pg**	**18 14 32.5**	**-0.4**
SKO				*i* Sg	**Sg**	**18 14 45.9**	**+0.4**
BEY	**Berane**	**1.00**	**350**	⇓*i*Pg	**Pg**	**18 14 33.0**	**-0.5**
BEY				*e*Sg	**Sb**	**18 14 48.2**	**+0.6**
IVA	**Berane**	**1.00**	**350**	⇓*i*Pg	**Pg**	**18 14 33.0**	**-0.5**
IVA				*e*Sg	**Sb**	**18 14 48.2**	**+0.6**
BUM	**Brajici-Budva**	**1.02**	**295**	⇑*i*Pg	**Pg**	**18 14 33.4**	**-0.4**
BUM				*e*Sg	**Sb**	**18 14 48.4**	**+0.5**
BUM	**Brajici-Budva**	**1.02**	**295**	⇑*i*Pg	**Pg**	**18 14 33.4**	**-0.4**
BUM				*e*Sg	**Sb**	**18 14 48.4**	**+0.5**
CEME	**Cevo**	**1.12**	**307**	⇑*i*Pg	**Pg**	**18 14 34.4**	**-1.4**
CEME				*e*Sg	**Sn**	**18 14 52.0**	**-0.3**
CEME	**Cevo**	**1.12**	**307**	⇑*i*Pg	**Pg**	**18 14 34.4**	**-1.4**
CEME				*e*Sg	**Sn**	**18 14 52.0**	**-0.3**
SMRK	**Smrekonice**	**1.15**	**31**	P	**Pb**	**18 14 36.7**	**+0.1**
SMRK				S	**Sn**	**18 14 53.7**	**+0.7**
BIA	**Bitola**	**1.24**	**134**	*e*Pg	**Pb**	**18 14 37.6**	**-0.4**
BIA				*i* Sg	**Sn**	**18 14 55.0**	**-0.2**
BIA	**Bitola**	**1.24**	**134**	*e*Pg	**Pb**	**18 14 37.6**	**-0.4**
BIA				*i* Sg	**Sn**	**18 14 54.9**	**-0.2**
NKME	**Niksic**	**1.25**	**316**	⇑*i*Pg	**Pb**	**18 14 37.2**	**-1.0**
NKME				*e*Sg	**Sn**	**18 14 56.1**	**+0.8**
NKME	**Niksic**	**1.25**	**316**	⇑*i*Pg	**Pb**	**18 14 37.2**	**-1.0**
NKME				*e*Sg	**Sn**	**18 14 56.1**	**+0.8**
NKY	**Niksic**	**1.26**	**318**	⇑*i*Pg	**Pn**	**18 14 37.6**	**-0.8**
NKY				*e*Sg	**Sn**	**18 14 56.9**	**+1.2**
NKY	**Niksic**	**1.26**	**318**	⇑*i*Pg	**Pn**	**18 14 37.6**	**-0.8**
NKY				*e*Sg	**Sn**	**18 14 56.9**	**+1.2**
HCY	**Herceg Novi**	**1.35**	**295**	⇓*i*Pg	**Pn**	**18 14 38.5**	**-1.0**
HCY				*e*Sg	**Sn**	**18 14 59.4**	**+1.7**
HCY	**Herceg Novi**	**1.35**	**295**	⇓*i*Pg	**Pn**	**18 14 38.5**	**-1.0**
HCY				*e*Sg	**Sb**	**18 14 57.3**	**0.0**
FNA	**Florina**	**1.44**	**139**	P	**Pn**	**18 14 40.4**	**-0.5**
FNA				S	**Sn**	**18 15 00.1**	**+0.1**
FNA	**Florina**	**1.44**	**139**	P	**Pn**	**18 14 40.4**	**-0.5**
FNA				S	**Sn**	**18 15 00.1**	**+0.1**
FNA				AML	AML	18 15 05.2	
	comp=E,458μm,0.5s						
FNA				AML	AML	18 15 05.9	
	comp=N,377μm,0.4s						
SELS	**Selova**	**1.52**	**28**	*e*Pg	**Pn**	**18 14 40.9**	**-1.0**
SELS				*e*Sg	**Sn**	**18 15 01.4**	**-0.6**
PLE	**Pljevlja**	**1.55**	**339**	⇓*i*Pg	**Pb**	**18 14 42.9**	**-0.5**
PLE				*e*Sg	**Sg**	**18 15 05.1**	**+1.1**
PLE	**Pljevlja**	**1.55**	**339**	⇓*i*Pg	**Pb**	**18 14 42.9**	**-0.5**
PLE				*e*Sg	**Sg**	**18 15 05.1**	**+1.1**
BARS	**Barje**	**1.55**	**53**	*e*Pn	**Pn**	**18 14 42.2**	**-0.2**
BARS				*e*Sg	**Sn**	**18 15 02.8**	**0.0**
BARS	**Barje**	**1.55**	**53**	*e*Pn	**Pn**	**18 14 42.2**	**-0.2**
BARS				*e*Sg	**Sn**	**18 15 02.8**	**0.0**
BRY	**Bratogost**	**1.56**	**311**	⇑*i*Pg	**Pn**	**18 14 42.9**	**+0.3**
BRY				*e*Sg	**Sg**	**18 15 05.6**	**+1.1**
BRY	**Bratogost**	**1.56**	**311**	⇑*i*Pn	**Pn**	**18 14 42.3**	**-0.3**
BRY	**Bratogost**	**1.56**	**311**	⇑*i*Pg	**Pn**	**18 14 42.9**	**+0.3**
BRY				*e*Sn	**Sn**	**18 15 03.3**	**+0.1**
BRY				*e*Sg	**Sg**	**18 15 05.6**	**+1.1**
TREB	**Trebinje**	**1.57**	**303**	*e*Pn	**Pb**	**18 14 43.5**	**-0.1**
TREB				*e*Sg	**Sg**	**18 15 05.9**	**+1.3**
TREB	**Trebinje**	**1.57**	**303**	⇑*i*Pn	**Pn**	**18 14 42.3**	**-0.3**
TREB				*e*Sn	**Sn**	**18 15 03.2**	**+0.1**
TREB				*e*Sg	**Sg**	**18 15 05.9**	**+1.3**
UPM	**Unac-Piva**	**1.60**	**326**	⇓*i*Pg	**Pn**	**18 14 43.7**	**+0.5**
UPM				*e*Sg	**Sg**	**18 15 06.9**	**+1.1**
UPM	**Unac-Piva**	**1.60**	**326**	*e*Pn	**Pn**	**18 14 43.4**	**+0.2**
UPM	**Unac-Piva**	**1.60**	**326**	⇓*i*Pg	**Pn**	**18 14 43.7**	**+0.5**
UPM	**Unac-Piva**	**1.60**	**326**	P	**Pg**	**18 14 45.4**	**+0.4**
UPM				*e*Sn	**Sn**	**18 15 04.2**	**-0.1**
UPM				*e*Sg	**Sg**	**18 15 06.9**	**+1.1**
NEST	**Nestorio**	**1.62**	**155**	P	**Pn**	**18 14 43.6**	**+0.2**
NEST				S	**Sb**	**18 15 05.0**	**-0.2**
NEST	**Nestorio**	**1.62**	**155**	P	**Pn**	**18 14 43.6**	**+0.2**
NEST				S	**Sb**	**18 15 05.0**	**-0.2**
NEST				AML	AML	18 15 11.9	
	comp=N,110μm,0.3s						
NEST				AML	AML	18 15 13.4	
	comp=E,106μm,0.4s						
PENT	**Pentalofos**	**1.85**	**156**	P	**Pn**	**18 14 47.0**	**+0.5**
PENT				S	**Sn**	**18 15 10.8**	**+0.7**
PENT	**Pentalofos**	**1.85**	**156**	P	**Pn**	**18 14 47.0**	**+0.5**
PENT				S	**Sn**	**18 15 10.8**	**+0.7**
PENT				AML	AML	18 15 19.4	
	comp=E,83μm,0.4s						
PENT				AML	AML	18 15 21.7	
	comp=N,89μm,0.4s						
KZN	**Kozani**	**2.00**	**141**	P	**Pn**	**18 14 49.1**	**+0.5**
KZN	**Kozani**	**2.00**	**141**	P	**Pn**	**18 14 49.1**	**+0.5**
GRUS	**Gruza**	**2.05**	**12**	*e*Pn	**Pn**	**18 14 49.8**	**+0.6**
GRUS				*e*Sn	**Sn**	**18 15 15.9**	**+0.9**
GRUS	**Gruza**	**2.05**	**12**	*e*Pn	**Pn**	**18 14 49.8**	**+0.6**
GRUS				*e*Sn	**Sn**	**18 15 15.9**	**+0.9**
BBLS	**Lazići**	**2.05**	**345**	*e*Pn	**Pn**	**18 14 49.3**	**0.0**
BBLS	**Lazići**	**2.05**	**345**	*e*Pn	**Pn**	**18 14 49.3**	**0.0**
BBLS				*e*Sn	**Sn**	**18 15 14.9**	**-0.4**
BOVS	**Bovan**	**2.10**	**33**	*e*Pn	**Pn**	**18 14 50.9**	**+1.1**
BOVS				*e*Sn	**Sn**	**18 15 15.9**	**-0.3**
BOVS	**Bovan**	**2.10**	**33**	*e*Pn	**Pn**	**18 14 50.9**	**+1.1**
BOVS				*e*Sn	**Sn**	**18 15 15.9**	**-0.3**
KEK	**Kerkira**	**2.18**	**187**	P	**Pn**	**18 14 51.8**	**+0.8**
KEK	**Kerkira**	**2.18**	**187**	P	**Pn**	**18 14 51.8**	**+0.8**
KNT	**Kendrikon**	**2.19**	**108**	P	**Pb**	**18 14 53.4**	**-0.9**
KNT	**Kendrikon**	**2.19**	**108**	P	**Pb**	**18 14 53.4**	**-0.9**
SCTE	**Santa Cesarea**	**2.21**	**216**	P	**Pn**	**18 14 49.6**	**-1.7**
SCTE	**Santa Cesarea**	**2.21**	**216**	P	**Pn**	**18 14 49.6**	**-1.7**
DIVS	**Divibare**	**2.22**	**357**	*e*Pn	**Pn**	**18 14 51.3**	**-0.3**
DIVS				*e*Sn	**Sn**	**18 15 19.9**	**+0.6**
DIVS	**Divibare**	**2.22**	**357**	*e*Pn	**Pn**	**18 14 51.3**	**-0.3**
DIVS				*e*Sn	**Sn**	**18 15 18.2**	**-1.1**
SGD	**Sagiada**	**2.27**	**178**	P	**Pn**	**18 14 52.2**	**0.0**
SGD	**Sagiada**	**2.27**	**178**	P	**Pn**	**18 14 52.2**	**0.0**
ZAPS	**Zavoj**	**2.31**	**52**	*e*Pn	**Pn**	**18 14 53.0**	**+0.2**
ZAPS				*e*Sn	**Sn**	**18 15 21.8**	**+0.4**
ZAPS	**Zavoj**	**2.31**	**52**	*e*Pn	**Pn**	**18 14 53.0**	**+0.2**
ZAPS				*e*Sn	**Sn**	**18 15 21.8**	**+0.4**
IGT	**Igoumenitsa**	**2.35**	**176**	P	**Pn**	**18 14 54.0**	**+0.7**
IGT	**Igoumenitsa**	**2.35**	**176**	P	**Pn**	**18 14 54.0**	**+0.7**
BOLS	**Boljevac**	**2.36**	**34**	*e*Pn	**Pn**	**18 14 54.5**	**+1.1**
BOLS	**Boljevac**	**2.36**	**34**	*e*Pn	**Pn**	**18 14 54.5**	**+1.1**
VTS	**Vitosha**	**2.39**	**72**	*e*Pn	**Pn**	**18 14 54.4**	**+0.5**
VTS				*e*Sn	**Sn**	**18 15 22.6**	**-0.9**
VTS	**Vitosha**	**2.39**	**72**	⇓*i*P	**Pn**	**18 14 53.7**	**-0.2**
VTS	**Vitosha**	**2.39**	**72**	⇓*i*P	**Pn**	**18 14 53.7**	**-0.2**
VTS	**Vitosha**	**2.39**	**72**	*e*Pn	**Pn**	**18 14 54.4**	**+0.5**
VTS				*e*Sn	**Sn**	**18 15 22.6**	**-0.9**
ZAGS	**Zajecar**	**2.47**	**38**	*e*Pn	**Pn**	**18 14 55.8**	**+0.9**
ZAGS				*e*Sn	**Sn**	**18 15 25.0**	**-0.3**
ZAGS	**Zajecar**	**2.47**	**38**	*e*Pn	**Pn**	**18 14 55.8**	**+0.9**
ZAGS				*e*Sn	**Sn**	**18 15 25.0**	**-0.3**
NOCI	**Noci**	**2.56**	**246**	P	**Pn**	**18 14 56.5**	**+0.3**
NOCI	**Noci**	**2.56**	**246**	P	**Pn**	**18 14 56.5**	**+0.3**
NOCI				S	**Sn**	**18 15 24.6**	**-3.1**
NOCI				AML	AML	18 15 40.0	
	comp=N,58μm,0.3s						
NOCI				AML	AML	18 15 40.3	
	comp=E,65μm,0.4s						
HORT	**Hortiatis**	**2.58**	**119**	P	**Pb**	**18 14 59.6**	**-1.2**
TEKS	**Tekeris**	**2.70**	**351**	*e*Pn	**Pn**	**18 14 58.2**	**0.0**
TEKS	**Tekeris**	**2.70**	**351**	*e*Pn	**Pn**	**18 14 57.8**	**-0.4**
THL	**Klokotos Trika**	**2.72**	**148**	P	**Pn**	**18 14 58.2**	**-0.1**
THL				S	**Sn**	**18 15 31.8**	**+0.3**
THL	**Klokotos Trika**	**2.72**	**148**	P	**Pn**	**18 14 58.2**	**-0.1**
THL				S	**Sn**	**18 15 31.8**	**+0.3**
KUBS	**Kucevo**	**2.77**	**23**	*e*Pn	**Pn**	**18 14 59.2**	**+0.2**
KUBS	**Kucevo**	**2.77**	**23**	*e*Pn	**Pn**	**18 14 59.2**	**+0.2**
DSL	**Palaion Diasel**	**2.84**	**165**	P	**Pn**	**18 15 01.4**	**+1.3**
DSL	**Palaion Diasel**	**2.84**	**165**	P	**Pn**	**18 15 01.4**	**+1.3**
PLG	**Polygyros**	**2.92**	**120**	P	**Pn**	**18 15 02.8**	**+1.7**
PLG	**Polygyros**	**2.92**	**120**	P	**Pn**	**18 15 02.8**	**+1.7**
LKD2	**Lefkada island**	**3.12**	**173**	P	**Pn**	**18 15 04.1**	**+0.2**
LKD2	**Lefkada island**	**3.12**	**173**	P	**Pn**	**18 15 04.1**	**+0.2**
AGG	**Agios Georgios**	**3.31**	**149**	P	**Pn**	**18 15 07.0**	**+0.4**
AGG				S	**Sn**	**18 15 46.9**	**+0.7**
AGG	**Agios Georgios**	**3.31**	**149**	P	**Pn**	**18 15 07.0**	**+0.4**
AGG				S	**Sn**	**18 15 46.9**	**+0.7**
AGG				AML	AML	18 15 56.6	
	comp=E,34μm,0.7s						
AGG				AML	AML	18 15 59.1	
	comp=N,35μm,0.4s						
PAIG	**Paliouri**	**3.32**	**125**	P	**Pn**	**18 15 06.3**	**-0.3**
PAIG	**Paliouri**	**3.32**	**125**	P	**Pn**	**18 15 06.3**	**-0.3**
CUC	**Castrocucco**	**3.78**	**241**	P	**Pn**	**18 15 12.1**	**-0.9**
CUC	**Castrocucco**	**3.78**	**241**	P	**Pn**	**18 15 12.1**	**-0.9**
BZS	**Buzias**	**3.88**	**15**	*e*Pn	**Pn**	**18 15 14.1**	**-0.3**
BZS				*e*Sn	**Sn**	**18 15 58.8**	**-1.4**
BZS	**Buzias**	**3.88**	**15**	⇑*i*P	**Pn**	**18 15 13.7**	**-0.7**
BZS	**Buzias**	**3.88**	**15**	⇑*i*P	**Pn**	**18 15 13.7**	**-0.7**
BZS	**Buzias**	**3.88**	**15**	*e*Pn	**Pn**	**18 15 14.1**	**-0.3**
BZS				*e*Sn	**Sn**	**18 15 58.8**	**-1.4**
UDBI	**Udbina**	**4.15**	**311**	*i* Pn	**Pn**	**18 15 19.9**	**+1.8**
UDBI				Sn	**Sn**	**18 16 10.0**	**+3.1**
UDBI	**Udbina**	**4.15**	**311**	*i* Pn	**Pn**	**18 15 19.8**	**+1.7**
UDBI				Sn	**Sn**	**18 16 10.0**	**+3.1**
NVLJ	**Novalja**	**4.69**	**307**	*e*Pn	**Pn**	**18 15 25.7**	**+0.3**
NVLJ				Sn	**Sn**	**18 16 20.4**	**+0.3**
NVLJ	**Novalja**	**4.69**	**307**	*e*Pn	**Pn**	**18 15 25.7**	**+0.3**
NVLJ				Sn	**Sn**	**18 16 20.3**	**+0.2**

*NIED **10** 18:19:00, 40°.00N×143°.00E, h26km, Mw3.9 Best double couple: M0 8.71000×10^14 NP1:φ=182.00000°, δ=17.00000°, λ=70.00000°. NP2:φ=23.00000°, δ=74.00000°, λ=96.00000°.*
*ISCJB **10** 18:19:46.2±1.3, 39°.98N±0°.04×143°.14E±0°.07, h19km±9km, mb3.7/7, MS3.4/3, Error ellipse: s-maj=9.4km s-min=6.8km az=21.2*
*JMA **10** 18:19:47.7±0.2, 40°.04N×142°.97E, h17km±2km, M4.1*
*IDC **10** 18:19:49.7±1.0, 39°.97N×143°.26E, h37km±6km, mb3.6/7, mb1 3.7/10, mb1mx3.5/37, mbtmp3.9/10, ML3.1/3, MS3.3/5, Ms1 3.3/5, ms1mx3.0/31, Error ellipse: s-maj=32.4km s-min=14.5km az=81.0*

ISC 10 18:19:48.3±0.9, 39°.86N±0°.05×143°.00E±0°.07, h26km±4km, n31, σ2.501/35, mb3.7/7, MS3.5/3, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JTH	**Tanohata**	**0.88**	**276**	P	**Pb**	**18 20 03.9**	**-1.0**
JTH				*e*S	**Sb**	**18 20 15.2**	**-1.0**
MIYJ	**Miyakonagasawa**	**0.95**	**253**	P	**Pn**	**18 20 06.1**	**+0.1**
JANG	**Nango**	**1.25**	**295**	P	**Pn**	**18 20 08.7**	**-1.4**
JKZ	**Kuzumaki**	**1.29**	**276**	P	**Pn**	**18 20 10.4**	**-0.3**
JOM	**Ohasama**	**1.37**	**254**	P	**Pb**	**18 20 12.8**	**-0.5**
JOM				*e*S	**Sb**	**18 20 31.5**	**+1.1**
JMK	**Ichinoseki**	**1.65**	**237**	P	**Pb**	**18 20 17.9**	**-0.1**
JMK				S	**Sb**	**18 20 40.3**	**+2.0**
JTM	**Tenmabayashi**	**1.74**	**303**	P	**Pn**	**18 20 16.7**	**-0.1**
JAH	**Hinai**	**1.84**	**281**	P	**Pn**	**18 20 19.0**	**+0.8**
JAH				*e*S	**Sn**	**18 20 41.1**	**+0.8**
JRG	**Rokugo**	**1.88**	**257**	P	**Pb**	**18 20 20.5**	**-1.5**
JIO	**Ouri**	**1.90**	**223**	P	**Pn**	**18 20 20.7**	**+1.7**
JIO				*e*S	**Sb**	**18 20 46.6**	**+1.1**
JOT	**Ohata**	**2.13**	**316**	P	**Pn**	**18 20 22.0**	**-0.1**
JOT				*e*S	**Sn**	**18 20 47.4**	**-0.3**
JEM	**Erimo**	**2.16**	**3**	P	**Pn**	**18 20 21.4**	**-1.2**
MJAR	**Matsushiro Arr**	**5.02**	**230**	Pn	**Pn**	**18 21 05.7**	**+3.7**
	1.2nm,0.3s,baz=41,slow=12,SNR=46						
MJAR				LR	LR	18 23 17.7	
	comp=Z,143nm,18.3s,baz=45,slow=40						
MAT	**Matsushiro**	**5.02**	**230**	P	**Pn**	**18 21 05.4**	**+3.5**
MAT				*e*S	**Sb**	**18 22 08.5**	**-6.8**
JHJ	**Hachijo jima 2**	**7.21**	**202**	Pn	**Pn**	**18 21 33.6**	**+1.7**
	2.4nm,0.3s,baz=255,slow=18,SNR=5.4						
JHJ				Sn	**Sn**	**18 22 49.6**	**-3.2**
	1.2nm,0.3s,baz=216,slow=19,SNR=1.7						
USRK	**Ussuriysk Ar.**	**9.27**	**301**	Pn	**Pn**	**18 22 03.4**	**+3.3**
	0.5nm,0.3s,baz=102,slow=15,SNR=6.4						
KSRS	**Korea Array**	**12.03**	**263**	Pn	Pn	18 22 44.5	+6.6
	0.2nm,0.3s,baz=320,slow=14,SNR=3.3						
KSRS				LR	LR	18 27 02.5	
	comp=Z,92nm,18.2s,baz=66,slow=35						
SEY	**Seymchan**	**23.79**	**11**	P	**P**	**18 24 57.1**	**-1.4**
	1.9nm,0.6s,baz=207,slow=8.7,SNR=6.0						
SONM	**Songino Array**	**27.37**	**299**	P	**P**	**18 25 31.6**	**+0.2**
	1.1nm,0.8s,baz=92,slow=8.0,SNR=8.0						
SONM				LR	LR	18 36 21.1	
	comp=Z,56nm,19.3s,baz=92,slow=36						
H11N2	**WAKE ISLAND Hy 28.70**	**127**		T	T	18 56 37.5	
	baz=318,slow=75,SNR=68						
H11N1	**WAKE ISLAND Hy 28.71**	**127**		T	T	18 56 34.8	
	baz=318,slow=75,SNR=60						
H11N3	**WAKE ISLAND Hy 28.71**	**127**		T	T	18 56 38.8	
	baz=318,slow=75,SNR=52						
H11S1	**WAKE ISLAND Hy 29.52**	**129**		T	T	18 57 06.0	
	baz=321,slow=76,SNR=11						
H11S3	**WAKE ISLAND Hy 29.52**	**129**		T	T	18 57 25.6	
	baz=321,slow=76,SNR=10						
H11S2	**WAKE ISLAND Hy 29.53**	**129**		T	T	18 57 08.5	
	baz=321,slow=76,SNR=7.6						
ZALV	**Zalesovo Beam**	**40.99**	**310**	P	**P**	**18 27 28.8**	**+0.1**
	2.3nm,0.6s,baz=88,slow=7.9,SNR=10						
ZALV				pP	**sP**	**18 27 41.6**	**+1.7**
	2.0nm,0.6s,baz=97,slow=8.3,SNR=6.5						
ZALV				LR	LR	18 45 24.1	
	comp=Z,54nm,18.2s,baz=70,slow=37						
ILAR	**Eielson Array**	**46.45**	**34**	LR	LR	18 48 22.1	
	comp=Z,46nm,18.4s,baz=32,slow=37						
WRA	**Warramunga Arr**	**60.03**	**189**	P	**P**	**18 29 54.3**	**+1.5**
	0.3nm,0.5s,baz=7.7,slow=8.3,SNR=11						
WRA				pP	**sP**	**18 30 04.5**	**+0.3**
	1.9nm,0.8s,baz=6.5,slow=6.9,SNR=6.7						
ASAR	**Alice Springs**	**63.76**	**189**	P	**P**	**18 30 18.9**	**+1.0**
	0.6nm,0.8s,baz=11,slow=9.2,SNR=7.0						
ASAR				pP	**sP**	**18 30 29.6**	**+0.3**
	0.8nm,0.7s,baz=9.2,slow=5.6,SNR=5.7						
FINES	**FINESS Array B**	**66.90**	**332**	P	**P**	**18 30 37.1**	**-0.6**
	1.2nm,0.9s,baz=94,slow=7.8,SNR=4.2						
FINES				pP	**sP**	**18 30 48.0**	**-1.2**
	1.3nm,0.7s,baz=62,slow=5.4,SNR=3.0						
NOA	**NORSAR Array B**	**72.06**	**338**	P	**P**	**18 31 10.1**	**+0.3**
	0.5nm,0.7s,baz=69,slow=8.0,SNR=3.2						

GUC 10 18:20:53.3±0.7, 35°.13S×72°.88W, h14km±5km, ML3.7, 4C, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GO05	**HualaæØ**	**0.79**	**81**	⇑*i*P	Pg	18 21 07.9	-0.7
GO05				*i* S	Sb	18 21 19.3	0.0
GO05				IAML		18 21 22.0	
	comp=N,3μm,0.4s						
COCH	**Cobquecura**	**1.00**	**176**	⇑*i*P	Pb	18 21 11.8	-0.6
COCH				*i* S	Sb	18 21 25.4	0.0
COCH				IAML		18 21 29.1	
	comp=E,3μm,0.5s						
CHPI	**Pichilemu**	**1.03**	**44**	*e*P	Pb	18 21 09.5	-3.4
CHPI				*i* S	Sb	18 21 23.4	-3.0
TALC	**Talca**	**1.05**	**105**	⇑*i*P	Pb	18 21 12.8	-0.4
TALC				*i* S	Sg	18 21 27.4	+0.2
CCHI	**Chillan**	**1.60**	**156**	*e*P	Pn	18 21 21.4	+0.1
CCHI				*i* S	Sb	18 21 42.8	-0.1
CCHI				IAML		18 21 57.3	
	comp=E,1μm,0.6s						
ANTU	**Antumapu**	**2.42**	**51**	*e*S	Sb	18 22 05.6	-0.9
CLCH	**Cerro Calan**	**2.60**	**49**	*e*P	Pn	18 21 37.0	+2.0
CLCH				*i* S	Sb	18 22 10.4	-1.2
CLCH				IAML		18 22 22.9	
	comp=E,784nm,0.8s						
ROCH	**El Roble**	**2.66**	**36**	⇑*i*P	Pn	18 21 32.7	-3.2
ROCH				*i* S	Sn	18 22 09.4	+1.3
ROCH				IAML	

SERI	Serifos	1.31	60	P	Pn	18 35 47.2	-0.5	
SERI				S	Sn	18 36 04.8	-0.2	
SERI	Serifos	1.31	60	P	Pn	18 35 47.2	-0.5	
SERI				S	Sn	18 36 04.8	-0.2	
VAM	Vamos	1.44	140	P	Pn	18 35 49.3	-0.1	
VAM				S	Sb	18 36 08.8	+0.4	
VAM	Vamos	1.44	140	P	Pn	18 35 49.3	-0.1	
VAM				S	Sb	18 36 08.6	+0.2	
VAM	Vamos	1.44	140	P	Pn	18 35 49.0	-0.4	
VAM				S	Sb	18 36 08.7	+0.2	
VAM				AML	AML	18 36 11.5		
	comp=E,1717μm,0.3s							
VAM				AML	AML	18 36 12.6		
	comp=N,2819μm,0.3s							
VLY	Voula,Athens	1.46	23	P	Pn	18 35 49.2	-0.5	
VLY	Voula,Athens	1.46	23	P	Pn	18 35 49.4	-0.3	
VLY				S	Sb	18 36 09.1	-0.1	
VLY	Voula,Athens	1.46	23	P	Pn	18 35 49.4	-0.3	
VLY				S	Sb	18 36 09.1	-0.1	
VLY				AML	AML	18 36 14.9		
	comp=N,2431μm,0.5s							
VLY				AML	AML	18 36 16.9		
	comp=E,2424μm,0.6s							
AMT	Artemida-Makis	1.49	314	P	Pn	18 35 49.6	-0.5	
AMT	Artemida-Makis	1.49	314	P	Pn	18 35 50.3	+0.2	
AMT				S	Sb	18 36 10.8	+0.8	
AMT	Artemida-Makis	1.49	314	P	Pn	18 35 50.3	+0.2	
AMT				S	Sb	18 36 10.8	+0.8	
AMT				AML	AML	18 36 23.3		
	comp=E,3261μm,0.8s							
AMT				AML	AML	18 36 23.7		
	comp=N,2995μm,1.0s							
LTK	Loutraki	1.51	357	P	Pn	18 35 49.6	-0.8	
LTK				S	Sn	18 36 10.0	+0.1	
LTK	Loutraki	1.51	357	P	Pn	18 35 51.0	+0.6	
LTK				S	Sn	18 36 10.0	+0.1	
LTK	Loutraki	1.51	357	P	Pn	18 35 51.0	+0.6	
LTK				S	Sb	18 36 10.8	+0.1	
LTK				AML	AML	18 36 17.2		
	comp=N,1493μm,0.3s							
LTK				AML	AML	18 36 18.5		
	comp=E,1694μm,0.5s							
ATH	Athens Observa	1.55	19	P	Pb	18 35 51.6	-0.6	
ATH				S	Sb	18 36 11.1	-0.6	
ATH	Athens Observa	1.55	19	P	Pb	18 35 51.6	-0.6	
ATH				S	Sb	18 36 11.2	-0.6	
ATH				AML	AML	18 36 20.0		
	comp=N,1430μm,0.5s							
ATH				AML	AML	18 36 22.8		
	comp=E,1018μm,0.9s							
THAL	Thalero	1.56	348	P	Pn	18 35 51.3	+0.2	
THAL				S	Sb	18 36 12.9	+1.0	
THAL	Thalero	1.56	348	P	Pn	18 35 51.3	+0.2	
THAL				S	Sb	18 36 12.9	+1.0	
THAL				AML	AML	18 36 24.7		
	comp=E,4399μm,0.5s							
THAL				AML	AML	18 36 25.5		
	comp=N,5122μm,0.5s							
ATHU	Athens Univers	1.56	21	P	Pn	18 35 50.6	-0.5	
ATHU	Athens Univers	1.56	21	P	Pn	18 35 50.6	-0.5	
ATHU				S	Sb	18 36 11.5	-0.6	
ATHU	Athens Univers	1.56	21	P	Pn	18 35 49.7	-1.4	
ATHU				S	Sb	18 36 11.5	-0.6	
PTL	Penteli	1.66	22	P	Pn	18 35 52.3	-0.3	
PTL	Penteli	1.66	22	P	Pn	18 35 52.3	-0.3	
PTL				S	Sn	18 36 13.8	+0.1	
PTL	Penteli	1.66	22	P	Pn	18 35 52.2	-0.3	
PTL				S	Sn	18 36 13.8	+0.1	
PTL				AML	AML	18 36 25.5		
	comp=E,840μm,0.6s							
PTL				AML	AML	18 36 26.4		
	comp=N,1170μm,0.8s							
VILL	Villia	1.66	7	P	Pn	18 35 51.7	-0.8	
VILL	Villia	1.66	7	P	Pn	18 35 52.8	+0.3	
KLV	Kalavryta, Ach	1.69	335	P	Pn	18 35 52.2	-0.8	
KLV				S	Sn	18 36 15.2	+0.7	
KLV	Kalavryta, Ach	1.69	335	P	Pb	18 35 54.4	-0.4	
KLV				S	Sn	18 36 15.2	+0.7	
KLV	Kalavryta, Ach	1.69	335	P	Pb	18 35 54.4	-0.4	
KLV				S	Sb	18 36 15.9	-0.1	
KLV				AML	AML	18 36 20.9		
	comp=N,794μm,0.5s							
KLV				AML	AML	18 36 22.2		
	comp=E,1242μm,0.5s							
VIL2	Platees	1.71	5	P	Pn	18 35 52.8	-0.3	
PROD	Prodromos	1.75	356	P	Pn	18 35 54.4	+0.7	
PROD	Prodromos	1.75	356	P	Pn	18 35 54.4	+0.7	
DRO	Drossia	1.80	323	P	Pb	18 35 56.4	-0.1	
DRO				S	Sn	18 36 18.1	+1.0	
DRO	Drossia	1.80	323	P	Pb	18 35 56.4	-0.1	
DRO				S	Sn	18 36 18.1	+1.0	
DRO				AML	AML	18 36 29.1		
	comp=E,2853μm,0.5s							
DRO				AML	AML	18 36 31.0		
	comp=N,1978μm,0.6s							
THR5	Thira Island,	1.84	92	P	Pn	18 35 55.1	+0.1	
THR5	Thira Island,	1.84	92	P	Pn	18 35 55.1	+0.1	
GVD	Gavdhos	1.86	153	P	Pg	18 35 59.3	-0.3	
GVD	Gavdhos	1.86	153	P	Pg	18 35 59.3	-0.3	
KARY	Karystos	1.87	35	P	Pn	18 35 55.3	-0.1	
KARY	Karystos	1.87	35	P	Pn	18 35 55.3	-0.1	
KARY	Karystos	1.87	35	P	Pn	18 35 55.3	-0.1	
SAP1	Santorini-Akro	1.89	94	P	Pn	18 35 56.5	+0.9	
SAP1	Santorini-Akro	1.89	94	P	Pn	18 35 56.5	+0.9	
IDI	Anoyia	1.92	129	Pn	Pn	18 35 55.6	-0.5	
	comp=N,3.2nm,0.3s,baz=271,slow=14,SNR=49							
IDI				Sn	Sn	18 36 19.2	-0.9	
	comp=N,24nm,0.3s,baz=299,slow=19,SNR=10							
IDI	Anoyia	1.92	129	P	Pn	18 35 55.5	-0.5	
IDI				S	Sn	18 36 21.1	+1.1	
IDI	Anoyia	1.92	129	P	Pn	18 35 55.7	-0.4	
IDI				S	Sn	18 36 21.1	+1.1	
IDI	Anoyia	1.92	129	P	Pn	18 35 55.7	-0.5	
IDI				S	Sn	18 36 21.2	+1.1	
IDI				AML	AML	18 36 26.8		
	comp=E,878μm,0.5s							
IDI				AML	AML	18 36 32.6		
	comp=N,892μm,0.7s							
LAKA	Lakka	1.93	334	P	Pb	18 35 58.2	-0.6	
LAKA	Lakka	1.93	334	P	Pb	18 35 58.1	-0.6	
SANT	Santorini	1.94	93	P	Pn	18 35 57.3	+1.0	
SANT	Santorini	1.94	93	P	Pn	18 35 57.3	+1.0	
DSF	Desfina	1.94	347	P	Pn	18 35 57.7	+1.2	
DSF	Desfina	1.94	347	P	Pn	18 35 57.7	+1.2	
RLS	Riolos of Patr	2.00	321	P	Pg	18 36 01.7	-0.5	
RLS	Riolos of Patr	2.00	321	P	Pg	18 36 01.7	-0.5	
TRIZ	Trizonia	2.01	337	P	Pn	18 35 58.7	+1.4	
TRIZ	Trizonia	2.01	337	P	Pn	18 35 58.7	+1.4	
KALE	Kalithea	2.02	339	P	Pn	18 35 58.3	+0.9	
KALE	Kalithea	2.02	339	P	Pn	18 35 58.3	+0.9	
IACM	Heraklion	2.02	126	P	Pn	18 35 58.6	+1.2	
IACM	Heraklion	2.02	126	P	Pn	18 35 58.6	+1.2	
EREA	Eretria	2.03	20	P	Pn	18 35 57.6	+0.1	
EREA	Eretria	2.03	20	P	Pn	18 35 58.0	+0.4	
EREA				S	Sn	18 36 23.1	+0.5	
EREA	Eretria	2.03	20	P	Pn	18 35 58.0	+0.4	
EREA				S	Sn	18 36 23.1	+0.5	
EREA				AML	AML	18 36 34.0		
	comp=E,484μm,0.6s							
EREA				AML	AML	18 36 38.8		
	comp=N,631μm,0.5s							
UPR	University Cam	2.04	330	P	Pn	18 35 59.1	+1.4	
UPR	University Cam	2.04	330	P	Pn	18 35 59.1	+1.4	
VTN	Vitineika	2.05	314	P	Pn	18 35 59.0	+1.1	
VTN	Vitineika	2.05	314	P	Pn	18 35 59.0	+1.1	
APE	Apeiranthos	2.06	74	P	Pn	18 35 58.5	+0.5	
APE	Apeiranthos	2.06	74	P	Pn	18 35 58.5	+0.5	
SIVA	Sivas	2.06	136	P	Pn	18 35 57.7	-0.2	
SIVA	Sivas	2.06	136	P	Pn	18 35 57.7	-0.2	
SERG	Sergoula	2.06	337	P	Pn	18 35 57.5	-0.5	
SERG	Sergoula	2.06	337	P	Pn	18 35 58.9	+0.9	
SERG	Sergoula	2.06	337	P	Pn	18 35 58.9	+0.9	
LKR	Lokris	2.14	359	P	Pn	18 35 59.5	+0.5	
LKR	Lokris	2.14	359	P	Pn	18 35 59.5	+0.5	
AXS	Araxos	2.15	322	P	Pb	18 36 01.9	-0.7	
AXS				S	Sb	18 36 28.2	-0.9	
AXS	Araxos	2.15	322	P	Pb	18 36 01.9	-0.7	
AXS				S	Sb	18 36 28.2	-0.9	
SMIA	Simia	2.37	3	P	Pn	18 36 01.0	-1.2	
SMIA	Simia	2.37	3	P	Pn	18 36 01.0	-1.2	
LAST	Lasithi	2.38	124	P	Pn	18 36 02.5	+0.1	
LAST	Lasithi	2.38	124	P	Pn	18 36 02.5	+0.1	
LAST				S	Sn	18 36 31.8	+0.4	
LAST	Lasithi	2.38	124	P	Pn	18 36 02.5	+0.1	
LAST				S	Sn	18 36 31.8	+0.4	
LAST				AML	AML	18 36 44.4		
	comp=E,397μm,0.9s							
LAST				AML	AML	18 36 48.2		
	comp=N,607μm,0.8s							
NPS	Neapolis	2.42	120	P	Pn	18 36 02.9	0.0	
NPS				S	Sn	18 36 31.9	-0.3	
NPS	Neapolis	2.42	120	P	Pn	18 36 02.9	0.0	
NPS				S	Sn	18 36 31.9	-0.3	
NPS				AML	AML	18 36 41.7		
	comp=E,828μm,0.6s							
NPS				AML	AML	18 36 42.4		
	comp=N,619μm,0.7s							
KFL	Anninata	2.42	312	P	Pn	18 36 04.2	+1.3	
KFL	Anninata	2.42	312	P	Pn	18 36 04.2	+1.3	
PVO	Paravola	2.43	330	P	Pn	18 36 05.0	+1.9	
PVO	Paravola	2.43	330	P	Pn	18 36 05.0	+1.9	
PDO	Prodromos	2.56	325	P	Pb	18 36 08.7	-0.9	
PDO	Prodromos	2.56	325	P	Pb	18 36 08.7	-0.9	
AGG	Agios Georgios	2.57	347	P	Pn	18 36 06.2	+1.1	
AGG	Agios Georgios	2.57	347	P	Pn	18 36 06.2	+1.1	
VLS	Valsamata	2.58	311	P	Pn	18 36 06.0	+0.9	
VLS	Valsamata	2.58	311	P	Pn	18 36 06.0	+0.9	
EVR	Evrytania	2.60	338	P	Pn	18 36 06.9	+1.4	
EVR	Evrytania	2.60	338	P	Pn	18 36 06.9	+1.4	
SKY	Skiros Island	2.64	26	P	Pn	18 36 05.4	-0.5	
SKY	Skiros Island	2.64	26	P	Pn	18 36 05.5	-0.5	
SKIA	Skiathos	2.67	7	P	Pn	18 36 06.5	+0.1	
SKIA				S	Sn	18 36 38.6	+0.1	
SKIA	Skiathos	2.67	7	P	Pn	18 36 06.5	+0.1	
SKIA				S	Sn	18 36 38.6	+0.1	
SKIA				AML	AML	18 36 39.4		
	comp=E,284μm,0.5s							
SKIA				AML	AML	18 36 42.1		
	comp=N,249μm,0.4s							
AOS	Alonnisos	2.73	13	P	Pn	18 36 06.4	-0.8	
AOS	Alonnisos	2.73	13	P	Pn	18 36 06.4	-0.8	
NEO	Neokhori	2.79	3	P	Pn	18 36 08.8	+0.7	
NEO	Neokhori	2.79	3	P	Pn	18 36 08.8	+0.7	
XOR	Xorichti	2.85	2	P	Pn	18 36 10.2	+1.3	
XOR	Xorichti	2.85	2	P	Pn	18 36 10.2	+1.3	
FYTO	Fytoko, Volos	2.89	358	P	Pn	18 36 08.8	-0.7	
FYTO	Fytoko, Volos	2.89	358	P	Pn	18 36 08.8	-0.7	
ZKR	Zakros	2.92	118	P	Pn	18 36 10.9	+1.1	
ZKR	Zakros	2.92	118	P	Pn	18 36 10.9	+1.1	
LKD2	Lefkada island	2.97	321	P	Pn	18 36 11.6	+1.1	
LKD2	Lefkada island	2.97	321	P	Pn	18 36 11.6	+1.1	
CHOS	Chios island	3.03	51	P	Pn	18 36 10.5	-0.8	
CHOS	Chios island	3.03	51	P	Pn	18 36 10.5	-0.8	
DSL	Palaion Diasel	3.05	330	P	Pn	18 36 13.8	+2.2	
DSL	Palaion Diasel	3.05	330	P	Pn	18 36 13.8	+2.2	
THL	Klokotos Trika	3.16	345	P	Pn	18 36 12.7	-0.4	
THL	Klokotos Trika	3.16	345	P	Pn	18 36 12.7	-0.4	
SMG	Samos	3.24	67	P	Pn	18 36 11.4	-2.8	
SMG	Samos	3.24	67	P	Pn	18 36 11.4	-2.8	
PAIG	Paliouri	3.44	8	P	Pn	18 36 16.8	-0.2	
PAIG	Paliouri	3.44	8	P	Pn	18 36 16.8	-0.2	
KARP	Karpathos	3.46	105	P	Pn	18 36 18.4	+1.2	
KARP	Karpathos	3.46	105	P	Pn	18 36 18.4	+1.2	
SIGR	SIGRI	3.48	38	P	Pn	18 36 17.0	-0.5	
SIGR	SIGRI	3.48	38	P	Pn	18 36 17.0	-0.5	
IGT	Igoumenitsa	3.71	325	P	Pn	18 36 19.9	-0.7	
IGT	Igoumenitsa	3.71	325	P	Pn	18 36 19.9	-0.7	
PRK	Paraskevi	3.73	42	P	Pn	18 36 20.6	-0.2	
PRK	Paraskevi	3.73	42	P	Pn	18 36 20.6	-0.2	
LIA	Limnos Island	3.77	26	P	Pn	18 36 20.6	-0.8	
LIA	Limnos Island	3.77	26	P	Pn	18 36 20.6	-0.8	
SGD	Sagiada	3.82	325	P	Pn	18 36 24.2	+2.1	
SGD	Sagiada	3.82	325	P	Pn	18 36 24.2	+2.1	
OUR	Ouranopolis	3.88	10	P	Pn	18 36 23.1	+0.1	
OUR	Ouranopolis	3.88	10	P	Pn	18 36 23.1	+0.1	
PENT	Pentalofos	3.98	338	P	Pn	18 36 26.8	+2.4	
PENT	Pentalofos	3.98	338	P	Pn	18 36 26.8	+2.4	
HORT	Hortiatis	4.08	0	P	Pn	18 36 26.8	+1.0	
HORT	Hortiatis	4.08	0	P	Pn	18 36 26.8	+1.0	
ARG	Arkhangelos	4.09	93	P	Pn	18 36 28.5	+2.6	
ARG	Arkhangelos	4.09	93	P	Pn	18 36 28.5	+2.6	
KEK	Kerkira	4.11	322	P	Pn	18 36 26.7	+0.6	
KEK	Kerkira	4.11	322	P	Pn	18 36 26.7	+0.6	
NEST	Nestorio	4.21	339	P	Pn	18 36 31.3	+3.7	
NEST	Nestorio	4.21	339	P	Pn	18 36 31.3	+3.7	
SOH	Sokhos	4.31	3	P	Pn	18 36 31.8	+2.9	
SOH	Sokhos	4.31	3	P	Pn	18 36 31.8	+2.9	
SMTH	Samothraki Isl	4.40	25	P	Pn	18 36 28.1	-2.1	
SMTH	Samothraki Isl	4.40	25	P	Pn	18 36 28.1	-2.1	
SRS	Serrai	4.62	5	P	Pn	18 36 33.8	+0.6	
SRS	Serrai	4.62	5	P	Pn	18 36 33.8	+0.6	
KNT	Kendrikon	4.65	358	P	Pn	18 36 34.6	+1.1	
KNT	Kendrikon	4.65	358	P	Pn	18 36 34.6	+1.1	
ALN	Alexandroupoli	4.96	27	P	Pn	18 36 36.2	-1.6	
ALN	Alexandroupoli	4.96	27	P	Pn	18 36 36.2	-1.6	
SCTE	Santa Cesarea	5.07	316	P	Pn	18 36 38.9	-0.4	
SCTE	Santa Cesarea	5.07	316	P	Pn	18 36 38.9	-0.4	
NOCI	Noci	6.35	314	P	Pn	18 36 52.8	-4.0	
CUC	Castrocucco	6.68	304	P	Pn	18 37 01.5	0.0	
CUC	Castrocucco	6.68	304	P	Pn	18 37 01.4	0.0	
BRTR	Keskin Array B	8.93	66	Pn	Pn	18 37 37.7	+5.3	
	comp=N,0.1nm,0.3s,baz=252,slow=14,SNR=5.2							
MLR	Muntele Rosu	9.23	13	Pn	Pn	18 37 40.1	+3.6	
	baz=150,slow=16							
MMAI	Mount Meron Ar	10.73	105	Pn	Pn	18 37 56.1	-1.0	
	comp=N,0.5nm,0.3s,baz=311,slow=13,SNR=3.8							
GERES	GERESS Array B	14.10	334	Pn	P	18 38 48.5	-2.3	
	comp=N,0.1nm,0.3s,baz=131,slow=33,SNR=2.3							
GERES				LR	LR	18 46 12.7		
	comp=N,34nm,18.9s,baz=274,slow=45							
KBZ	Khabaz	16.77	58	P	P	18 39 23.4	+3.1	
	comp=N,0.1nm,0.3s,baz=205,slow=5.9,SNR=4.2							
OBN	Obninsk	20.78	22	LR	LR	18 49 49.1		
	comp=N,19nm,18.5s,baz=277,slow=41							
ESDC	Sonseca Array	21.48	287	P	P	18 40 10.4	-1.5	
	comp=N,0.1nm,0.3s,baz=86,slow=12,SNR=3.3							
EKA	Eskdalemuir Ar	25.96	325	P	P	18 40 58.9	+3.3	
	comp=N,2.1nm,0.7s,baz=117,slow=9.0,SNR=4.5							
TORD	Torodi Ar. Bea	30.15	225	LR	LR	18 54 39.4		
	comp=N,20nm,19.5s,baz=110,slow=39							

NIED ***10*** *18:35:00,35.80N×140.70E,h23km,Mw3.6 Best double couple: M0 3.27000×10^14 NP1:φs327.00000°,δ4.00000°, λ-152.00000°. NP2:φs208.00000°,δ88.00000°, λ-86.00000°.*

IDC ***10*** *18:35:40.5±1.1,35.65N×140.66E,h0km,mb3.6/5, mb1 3.8/8,mb1mx3.6/38,mbtmp3.6/8,ML2.9/3,MS4.0/1, Ms1 4.0/1,ms1mx2.6/33,Error ellipse: s-maj=27.5km s-min=17.3km az=81.0*

ISCJB ***10*** *18:35:41.5±0.7,35.75N±0.04×140.85E±0.07,h25km±4km, mb3.6/5,MS4.1/1,Error ellipse: s-maj=9.2km s-min=6.3km az=161.5*

JMA ***10*** *18:35:42.6±0.1,35.76N×140.72E,h16km±2km,M3.9 Broadband fault plane solution: P waves. NP1: φs224.00000°,δ75.00000°,λ-85.00000°. NP2:φs24.00000°, δ16.00000°,λ-110.00000°. Principal axes: T Plg30.0000°, Azm310.0000°; N Plg5.0000°, Azm43.0000°; P Plg59.0000°, Azm142.0000°;*

JMA Felt II J1.

ISC 10 18:35:42.5±0.9,35.74N±0.05×140.70E±0.06,h14km±7km, n22,σ1°26/20,mb3.7/5,4C,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CHOJ	Chosi	0.14	106	↑↑P	Pg	18 35 46.1	0.0
CHOJ				S	Sg	18 35 48.6	+0.1
JCN	Nagara	0.52	232	↑↑P	Pn	18 35 54.1	-1.4
JCN				S	Sb	18 36 02.8	+2.1
JYT	Yasato	0.64	320	↑↑P	Pg	18 35 54.6	-0.4
JYT				S	Sg	18 36 03.5	+0.1
JHO	Hitachi	0.88	353	↑↑P	Pg	18 35 57.7	-1.8
BSO3	Boso 3	0.95	189	P	Pn	18 36 00.8	-0.4
MJAR	Matsushiro Arr	2.17	292	Pn	Pn	18 36 17.2	-1.0
	8.6nm,0.3s,baz=96,slow=8.8,SNR=239						
MJAR				Sn	Sb	18 36 47.5	-0.9
	13nm,0.3s,baz=121,slow=14,SNR=6.5						
MAT	Matsushiro	2.17	292	P	Pn	18 36 17.5	-0.8
MAT				eS	Sn	18 36 46.4	+1.4
JHJ	Hachijo jima 2	2.72	196	Pn	Pn	18 36 24.4	-1.4
	12nm,0.3s,baz=336,slow=18,SNR=12						
JHJ				Sn	Sn	18 36 57.0	-1.6
	17nm,0.3s,baz=78,slow=24,SNR=7.4						
KSRS	Korea Array	10.41	283	LR	LR	18 42 16.0	
	comp=Z,37nm,19.0s,baz=90,slow=38						
USRK	Ussuriysk Ar.	10.77	324	Pn	Pn	18 38 18.4	+2.2
	0.2nm,0.3s,baz=154,slow=11,SNR=4.3						
USRK				LR	LR	18 42 25.5	
	comp=Z,73nm,18.8s,baz=150,slow=37						
H11N2	WAKE ISLAND Hy	28.02	118	T	T	19 10 44.2	
	baz=310,slow=75,SNR=47						
H11N1	WAKE ISLAND Hy	28.03	118	T	T	19 10 47.1	
	baz=310,slow=75,SNR=43						
H11N3	WAKE ISLAND Hy	28.04	118	T	T	19 10 45.7	
	baz=310,slow=75,SNR=33						
H11S1	WAKE ISLAND Hy	28.68	120	T	T	19 11 25.7	
	baz=312,slow=75,SNR=127						
H11S3	WAKE ISLAND Hy	28.68	120	T	T	19 11 26.0	
	baz=312,slow=75,SNR=104						
H11S2	WAKE ISLAND Hy	28.70	120	T	T	19 11 23.9	
	baz=312,slow=75,SNR=11						
ZALV	Zalesovo Beam	42.37	313	P	P	18 43 35.8	-0.3
	0.5nm,0.5s,baz=72,slow=4.7,SNR=3.9						
ILAR	Eielson Array	50.90	32	P	P	18 44 43.9	+1.1
	0.9nm,0.7s,baz=274,slow=5.9,SNR=10						
WRA	Warramunga Arr	55.70	187	P	P	18 45 17.8	-0.8
	0.4nm,0.5s,baz=2.4,slow=7.6,SNR=5.1						
ASAR	Alice Springs	59.43	187	P	P	18 45 44.6	-0.2
	0.4nm,0.9s,baz=21,slow=11,SNR=3.9						
NOA	NORSAR Array B	75.15	337	P	P	18 47 23.9	-0.2
	0.6nm,0.7s,baz=40,slow=5.8,SNR=3.2						
RAR	Rarotonga	79.88	125	LR	LR	19 13 40.2	
	comp=Z,98nm,21.7s,baz=234,slow=28						

IDC 10 18:48:57.9±60.0,16.70S×179.35W,h0km,mb4.0/3, mb1 4.1/3,mb1mx3.6/26,mbtmp4.0/3,Error ellipse: s-maj=1097.0km s-min=159.1km az=77.0,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
STKA	Stephens Creek	38.44	240	P	P	18 56 21.8	+0.1
	3.9nm,1.2s,baz=95,slow=11,SNR=4.3						
WRA	Warramunga Arr	43.98	258	P	P	18 57 07.0	-0.3
	0.2nm,0.2s,baz=93,slow=7.8,SNR=7.1						
ASAR	Alice Springs	44.27	253	P	P	18 57 09.5	-0.1
	2.7nm,0.6s,baz=90,slow=7.6,SNR=80						

BJI ***10*** *18:52:55.4,9.56S×66.98E,h6km,mb4.7/47,mB4.9/37, Ms4.8/36,Ms7 4.3/37*

IDC ***10*** *18:53:02.4±0.4,8.84S×67.54E,h0km,mb4.4/27, mb1 4.5/27,mb1mx4.4/44,mbtmp4.4/27,MS4.2/24, Ms1 4.2/24,ms1mx4.1/32,Error ellipse: s-maj=13.3km s-min=12.3km az=4.0*

ISCJB ***10*** *18:53:02.4±0.2,8.84S±0.04×67.49E±0.03,h10km, mb4.7/127,MS4.3/35,Error ellipse: s-maj=5.5km s-min=4.6km az=154.3*

MOS ***10*** *18:53:02.3±1.0,8.76S×67.58E,h10km,mb5.0/58,Error ellipse: s-maj=8.3km s-min=5.4km az=107.3*

NEIC ***10*** *18:53:04.0±0.2,8.83S×67.56E,h10km,mb5.0/59,Error ellipse: s-maj=5.3km s-min=4.6km az=163.0*

GCMT ***10*** *18:53:04.0±0.1,8.96S×67.44E,h18km,MW5.3/117, Moment Tensor Solution. s77,c116; s117,c211; Duration: 1ꢀ1 Moment tensor: Scale 10^17Nm; Mrr-0.08±.02; Mθθ-0.98±.02; Mφφ1.06±.02; Mrθ-0.13±.03; Mθφ0.14±.01; Mφr0.05±.03; Best double couple: Mo1.03900×10^17 NP1:φs139.00000°,δ86.00000°, λ-173.00000°. NP2:φs49.00000°,δ83.00000°,λ-4.00000°. Principal axes: T 1.0720, Plg2.0000°, Azm274.0000°; N -0.0630, Plg81.0000°, Azm170.0000°; P -1.0060, Plg8.0000°, Azm4.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

ISC 10 18:53:04.6±0.5,8.80S±0.05×67.55E±0.05,h12km±2km, h12km:pP-P,n348,σ1°61/351,mb4.8/127,MS4.3/35, 28C-16D,Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
H08N3	Diego Garcia H	4.19	55	T	T	18 59 09.4	
	baz=230,slow=74,SNR=1059						
H08N2	Diego Garcia H	4.21	55	T	T	18 59 10.3	
	baz=230,slow=74,SNR=959						
H08N1	Diego Garcia H	4.21	55	T	T	18 59 11.7	
	baz=230,slow=74,SNR=763						
H08S1	Diego Garcia H	5.01	77	Pn	Pn	18 54 14.5	-4.9
	baz=278,slow=15,SNR=1344						
H08S1				T	T	19 00 08.1	
	baz=104,slow=74,SNR=30						
H08S3	Diego Garcia H	5.02	77	Pn	Pn	18 54 14.8	-4.7
	baz=278,slow=15,SNR=907						
H08S3				T	T	18 59 46.6	
	baz=104,slow=74,SNR=27						
H08S2	Diego Garcia H	5.03	77	Pn	Pn	18 54 15.1	-4.6
	baz=278,slow=15,SNR=1247						
H08S2				T	T	18 59 54.2	
	baz=104,slow=74,SNR=28						
DGAR	Diego Garcia	5.04	75	eP	Pn	18 54 19.0	-1.1
DGAR	Diego Garcia	5.04	75	ePn	Pn	18 54 17.5	-2.6
DGAR				eSn	Sn	18 55 08.7	-10
MSEY	Mahe Island	12.67	288	ePn	Pn	18 56 06.6	+1.8
MSEY	Mahe Island

KKN Kakani 40.22 25 *e*P P **19 00 43.3 +1.8**
comp=Z,53nm,1.2s
ODAN Odare 40.34 28 *e*P P **19 00 44.5 +2.0**
comp=Z,39nm,1.1s
JIRN Jiri 40.49 26 *e*P P **19 00 45.7 +1.8**
comp=Z,120nm,0.7s
GUN Gumba 40.57 25 *e*P P **19 00 46.5 +1.9**
comp=Z,57nm,0.8s
TAPN Taplejung 40.90 28 *e*P P **19 00 49.1 +1.8**
comp=Z,40nm,1.1s
CM01 Chiang Mai Arr 41.14 49 *e*P P **19 00 50.1 +1.1**
CHTO Chiang Mai 41.37 48 *e*P P **19 00 52.0 +1.1**
CHTO pmax pmax
comp=Z,7.0nm,0.9s
CHTO Chiang Mai 41.37 48 *e*P P **19 00 52.0 +1.1**
comp=Z,6.8nm,0.9s
SHL Shillong 41.56 34 *e*P P **19 00 57.0 +4.4**
PBKT Sadao Pong 41.58 53 P P 19 01 02.4 +10
LBTB Lobatse 43.05 243 P P **19 01 04.1 -0.6**
comp=Z,16nm,0.9s,baz=92,slow=8.4,SNR=18
LBTB Lobatse 43.05 243 *e*P P **19 01 04.0 -0.7**
LBTB pmax pmax
comp=Z,43nm,1.2s
LBTB Lobatse 43.05 243 *e*P P **19 01 04.0 -0.7**
comp=Z,43nm,1.2s
KBL Kabul 43.12 2 *e*P P **19 01 06.3 +1.1**
KBL pmax pmax
comp=Z,17nm,1.2s
KBL Kabul 43.12 2 *e*P P **19 01 06.3 +1.1**
comp=Z,17nm,1.2s
BOSA Boshof 44.34 238 P P **19 01 13.8 -1.3**
comp=Z,6.0nm,0.5s,baz=80,slow=6.9,SNR=7.8
BOSA LR LR 19 18 23.5
comp=Z,296nm,18.9s,baz=76,slow=34
BOSA Boshof 44.34 238 *e*P P **19 01 14.1 -1.0**
BOSA pmax pmax
comp=Z,19nm,1.0s
BOSA Boshof 44.34 238 *e*P P **19 01 14.1 -1.0**
comp=Z,18nm,1.0s
LSA Lhasa 44.51 30 P P **19 01 19.0 +2.2**
LSA pmax pmax
comp=Z,12nm,1.6s
LSA Lhasa 44.51 30 *e*P P **19 01 18.8 +2.0**
LSA pmax pmax
comp=Z,22nm,1.3s
LSA Lhasa 44.51 30 *e*P P **19 01 18.8 +2.0**
comp=Z,22nm,1.3s
SBUM Sibu 45.91 78 *e*P P **19 01 28.0 +0.4**
comp=Z,17nm,1.2s
JAGI Jajag, Banyuwa 46.05 93 *e*P P **19 01 29.0 +0.2**
comp=Z,62nm,1.2s
GEYT Alibeck 47.31 350 P P **19 01 38.6 +0.4**
comp=Z,5.5nm,1.0s,baz=201,slow=2.9,SNR=11
GEYT LR LR 19 20 04.3
comp=Z,264nm,20.5s,baz=155,slow=34
MTKI Muara Teweh, K 47.77 83 P P **19 01 45.3 +3.1**
KMI Kunming 48.08 45 P P **19 01 46.9 +2.2**
KMI pP sP 19 01 51.5 +1.5
KMI S **S** **19 08 45.4 +2.0**
KMI pmax pmax
comp=Z,5.0nm,0.7s
KMI pmax pmax
comp=Z,79nm,5.3s
KMI LR LR
comp=Z,430nm,18.2s
KMI LR LR
comp=Z,350nm,19.4s
KMI LR LR
comp=Z,260nm,22.2s
KSH Kashi 48.70 9⇓*i*P P **19 01 46.7 -2.4**
KSH pP pP 19 01 50.5 -2.4
KSH sP sP 19 01 53.4 -1.0
KSH PcP **PcP** **19 03 12.8 -1.4**
KSH PP **PP** **19 03 39.8 -2.5**
KSH S **S** **19 08 44.7 -6.8**
KSH SS **SS** **19 12 11.7 -10**
KSH pmax pmax
comp=Z,36nm,1.1s
KSH LR LR
comp=Z,460nm,8.9s
KSH LR LR
comp=Z,430nm,9.0s
KSH LR LR
comp=Z,480nm,16.3s
SUR Sutherland 49.15 235 *e*P P **19 01 51.5 -1.3**
comp=Z,165nm,1.9s
EIL Elat 49.47 322 P P **19 01 55.8 +0.8**
comp=Z,4.5nm,1.0s,baz=66,slow=8.0,SNR=3.9
H01W3 Cape Leeuwin H 49.84 129 T T 19 55 20.2
baz=290,slow=75,SNR=294
H01W2 Cape Leeuwin H 49.84 129 T T 19 55 20.9
baz=290,slow=75,SNR=375
H01W1 Cape Leeuwin H 49.85 129 T T 19 55 21.8
baz=290,slow=75,SNR=287
QIZ Qiongzhong 50.03 56 P P **19 01 58.7 -0.7**
QIZ S **S** **19 09 11.0 +0.5**
QIZ LR LR
comp=Z,570nm,13.7s
QIZ LR LR
comp=Z,260nm,15.2s
QIZ LR LR
comp=Z,280nm,21.6s
MNAS Manas 51.24 5 *i*P P **19 02 08.8 +0.5**
MNAS pmax pmax
comp=Z,17nm,1.0s
AAK Ala-Archa 51.58 7*ce*P P **19 02 11.4 +0.5**
AAK pmax pmax
comp=Z,14nm,1.1s
AAK Ala-Archa 51.58 7 *e*P P **19 02 12.3 +1.4**
comp=Z,13nm,1.0s
GYA Guiyang 51.67 46 P P **19 02 13.2 +1.3**
GYA pmax pmax
comp=Z,10.0nm,1.0s
NWAO Narrogin (SRO) 51.68 125 P P **19 02 11.4 -0.2**
comp=Z,9.6nm,1.0s,baz=142,slow=13,SNR=2.7
NWAO Narrogin (SRO) 51.68 125 *e*P P **19 02 11.6 -0.2**
NWAO pmax pmax
comp=Z,24nm,1.3s
NWAO Narrogin (SRO) 51.68 125 *e*P P **19 02 11.6 -0.2**
comp=Z,24nm,1.3s
KK31 Karatay Array 51.72 3*ce*P P **19 02 12.6 +0.8**
KK31 pmax pmax
comp=Z,6.0nm,1.2s
KKAR Karatay Array 51.72 3 *e*P P **19 02 12.1 +0.3**
KKAR pmax pmax
comp=Z,23nm,0.9s
KKAR Karatay Array 51.72 3 *e*P P **19 02 12.1 +0.3**
comp=Z,24nm,0.9s
FRU Bishkek 51.78 7 *e*P P **19 02 12.5 +0.2**
FRU pmax pmax
comp=Z,33nm,1.9s
TKM2 Tokmak 2 51.99 7 *i*P P **19 02 12.5 -1.5**
TKM2 pmax pmax
comp=Z,15nm,1.0s
TTSI Tana Toraja 52.26 87 P P 19 02 22.4 +6.1
MARD Mardin 52.28 333 *e*P P **19 02 17.4 +1.2**
comp=Z,29nm,1.5s
CD2 Chengdu 52.57 40⇑*i*P P **19 02 19.4 +1.0**
CD2 pP sP 19 02 23.9 +0.1
CD2 sP pP 19 02 26.6 +4.3
CD2 PP **PP** **19 04 18.1 +0.5**
CD2 S **S** **19 09 46.3 +0.9**
CD2 pmax pmax
comp=Z,20nm,1.0s
CD2 LR LR
comp=Z,290nm,20.2s
CD2 LR LR
comp=Z,460nm,16.6s
CD2 LR LR
comp=Z,270nm,20.2s
PDGK Podgornoye 53.01 11 *i*P P **19 02 19.4 -2.0**
PDGK pmax pmax
comp=Z,12nm,1.0s
WMQ Urumqi 55.47 18 P P **19 02 40.9 +1.6**
WMQ pP sP 19 02 44.3 -0.5
WMQ sP pP 19 02 48.9 +5.6
WMQ ScP **ScP** **19 07 37.8 -0.5**
WMQ S **S** **19 10 24.1 -0.1**
WMQ pmax pmax
comp=Z,11nm,1.1s
WMQ pmax pmax
comp=Z,130nm,5.7s
WMQ LR LR
comp=Z,480nm,22.7s
WMQ LR LR
comp=Z,800nm,23.9s
WMQ LR LR
comp=Z,440nm,22.7s
ZEI Tsey 55.69 339 *e*P P **19 02 39.6 -1.5**
ZEI pmax pmax
comp=Z,35nm,1.5s
ENH Enshi 55.95 44 *e*P P **19 02 42.7 -0.3**
comp=Z,41nm,1.7s
LZH Lanzhou 56.21 35 *e*P P **19 02 48.1 +3.2**
LZH pP sP 19 02 51.3 +1.0
LZH sP pP 19 02 53.1 +4.3
LZH PP **PP** **19 04 52.1 +1.8**
LZH pmax pmax
comp=Z,40nm,1.4s
LZH pmax pmax
comp=Z,89nm,4.3s
LZH LR LR
comp=Z,1μm,14.4s
LZH LR LR
comp=Z,1μm,15.6s
LZH LR LR
comp=Z,1μm,16.6s
TOKA Tokat 56.68 332 *e*P P **19 02 47.7 -0.3**
MAKZ Makanchi 56.83 12 *e*P P **19 02 47.8 -1.2**
MAKZ pmax pmax
comp=Z,11nm,1.1s
MAKZ Makanchi 56.83 12 *e*P P **19 02 47.8 -1.2**
comp=Z,11nm,1.1s
MK01 Makanchi Array 56.86 12 *e*P P **19 02 48.5 -0.7**
KBZ Khabaz 56.87 339 P P **19 02 49.8 +0.6**
comp=Z,4.1nm,1.0s,baz=203,slow=6.6,SNR=4.3
KBZ LR LR 19 26 39.9
comp=Z,196nm,19.3s,baz=170,slow=36
MK31 Makanchi Array 56.88 12*ce*P P **19 02 48.7 -0.6**
MK31 pmax pmax
comp=Z,7.0nm,0.9s
MK31 Makanchi Array 56.88 12 *e*P P **19 02 48.3 -1.0**
MKAR Makanchi Array 56.88 12 *e*P P **19 02 48.5 -0.9**
MKAR pmax pmax
comp=Z,94nm,1.6s
MKAR Makanchi Array 56.88 12 *e*P P **19 02 48.5 -0.9**
comp=Z,94nm,1.6s
FITZ Fitzroy Crossi 57.05 106 P P **19 02 50.8 -0.2**
comp=Z,6.5nm,0.9s,baz=250,slow=12,SNR=4.2
KIV Kislovodsk 57.14 339 *e*P P **19 02 51.1 -0.2**
KIV *e* 19 03 44.3
KIV pmax pmax
comp=Z,7.0nm,1.2s
KIV MLR MLR
comp=Z,125nm,17.0s
KIV Kislovodsk 57.14 339 *e*P P **19 02 51.4 +0.1**
comp=Z,32nm,1.7s
BR131 Keskin Array S 57.60 329 *e*P P **19 02 53.9 -0.7**
BRTR Keskin Array B 57.60 329 P P **19 02 54.4 -0.3**
comp=Z,3.5nm,1.0s,baz=146,slow=9.0,SNR=15
BRTR Keskin Array B 57.60 329 *i* P P **19 02 54.7 0.0**
BRTR pmax pmax
comp=Z,4.0nm,1.0s
XAN Xi'an 57.91 40 P P **19 02 57.2 +0.3**
XAN pP sP 19 03 01.7 -0.6
XAN S **S** **19 11 01.2 +4.4**
XAN pmax pmax
comp=Z,10.0nm,0.9s
XAN LR LR
comp=Z,190nm,16.2s
XAN LR LR
comp=Z,180nm,16.2s
XAN LR LR
comp=Z,240nm,20.0s
BR231 Keskin MP Arra 58.12 329 *e*P P **19 02 55.0 -3.3**
ANTO Ankara 58.13 329 *e*P P **19 02 58.4 0.0**
ANTO pmax pmax
comp=Z,26nm,1.6s
ANTO Ankara 58.13 329 *e*P P **19 02 58.4 0.0**
comp=Z,26nm,1.6s
AB31 Akbulak array 58.19 354*ce*P P **19 02 57.0 -1.4**
AB31 pmax pmax
comp=Z,20nm,1.0s
ABKAR Akbulak array 58.19 354 *e*P P **19 02 58.1 -0.4**
comp=Z,91nm,0.9s
BOLV Bolvadin 58.26 327 *e*P P **19 02 59.6 +0.3**
comp=Z,60nm,1.1s
MAW Mawson 58.81 182 P P **19 03 02.1 -0.4**
comp=Z,11nm,1.1s,baz=14,slow=8.6,SNR=13
MAW LR LR 19 21 46.3
comp=Z,281nm,20.4s,baz=42,slow=29
MAW Mawson 58.81 182 *e*P P **19 03 01.6 -0.9**
MAW pmax pmax
comp=Z,4.0nm,1.1s
MAW Mawson 58.81 182 *e*P P **19 03 01.6 -0.9**
comp=Z,3.5nm,1.1s
KURK Kurchatov 60.04 8*de*P P **19 03 11.1 -0.1**
KURK pmax pmax
comp=Z,42nm,1.1s
KURK Kurchatov 60.04 8 *e*P P **19 03 10.6 -0.6**
comp=Z,16nm,1.1s
BRVK Borovoye 61.66 2*de*P P **19 03 22.0 -0.2**
BRVK pmax pmax
comp=Z,25nm,0.9s
BRVK Borovoye 61.66 2 *e*P P **19 03 21.9 -0.3**
comp=Z,8.2nm,0.8s
SYO Syowa Base 62.85 191⇓*e*X P **19 03 27.6 -2.4**
AGG Agios Georgios 63.45 322 *e*P P **19 03 37.0 +2.5**
AGG pmax pmax
comp=Z,49nm,1.1s
AGG Agios Georgios 63.45 322 *e*P P **19 03 37.0 +2.5**
comp=Z,49nm,1.1s
NJ2 Nanjing 63.61 48 *e*P P **19 03 35.0 -0.7**
TIRR Tirgusor 63.71 330⇓*i*P P 19 03 48.7 +13
HHC Hu-ho-hao-te 63.88 36 *e*P P **19 03 39.2 +1.8**
HHC S **S** **19 12 15.2 +2.3**
HHC ScS **SKSac** **19 13 29.8 -1.4**
HHC SS SS 19 16 33.8 +12
HHC pmax pmax
comp=Z,13nm,1.5s
HHC pmax pmax
comp=Z,76nm,5.3s
HHC LR LR
comp=Z,150nm,14.9s
HHC LR LR
comp=Z,160nm,14.9s
HHC LR LR
comp=Z,130nm,14.9s
TLB Topalu 63.99 330⇑*i*P P 19 03 42.9 +5.0
TLB Topalu 63.99 330⇑P P 19 03 42.9 +5.0
HARR Harsova 64.11 330⇓*i*P P 19 03 47.9 +9.2
HARR Harsova 64.11 330⇓P P 19 03 47.9 +9.2
ZAA0 Zalesovo Array 64.19 11 *e*P P **19 03 37.9 -1.1**
ZALV Zalesovo Beam 64.19 11 P P **19 03 38.4 -0.6**
comp=Z,4.0nm,0.7s,baz=224,slow=6.2,SNR=18
ZALV LR LR 19 31 57.5
comp=Z,182nm,19.1s,baz=250,slow=36
CFR Carcaliu 64.36 330⇑*i*P P **19 03 38.5 -1.8**
CFR Carcaliu 64.36 330⇑P P **19 03 38.5 -1.8**
NVS Novosibirsk 64.75 10⇑*i*P P **19 03 41.9 -0.8**
NVS pmax pmax
comp=N,6.0nm,1.4s
NVS pmax pmax
comp=Z,13nm,1.4s
NVS pmax pmax
comp=E,2.0nm,0.9s
ASAR Alice Springs 64.90 112 P P **19 03 44.2 -0.2**
comp=E,2.9nm,0.9s,baz=277,slow=6.3,SNR=33
ASAR LR LR 19 27 49.4
comp=E,184nm,21.7s,baz=274,slow=32
AS31 Alice Springs 64.91 112 *e*P P **19 03 43.2 -1.3**
comp=E,1.9nm,0.8s
AS01 Alice Springs 64.95 112 *e*P P **19 03 43.8 -1.0**
FNA Florina 65.11 323 P P **19 03 44.6 -0.8**
FNA pmax pmax
comp=Z,8.0nm,0.9s
ISR Istrita 65.12 329⇓*i*P P 19 03 56.1 +11
VTS Vitosha 65.19 325 *e*P P **19 03 45.7 -0.4**
VTS pmax pmax
comp=Z,12nm,1.0s
VTS Vitosha 65.19 325 *e*P P **19 03 45.7 -0.4**
comp=Z,12nm,1.0s
WRA Warramunga Arr 65.29 108 P P **19 03 46.8 -0.2**
comp=Z,4.0nm,1.0s,baz=277,slow=5.7,SNR=12
WRA LR LR 19 28 05.5
comp=Z,492nm,22.0s,baz=280,slow=32
WRAB Tennant Creek 65.30 108*ce*P P **19 03 47.8 +0.7**
WRAB pmax pmax
comp=Z,21nm,1.0s
WRAB Tennant Creek 65.30 108 *e*P P **19 03 46.4 -0.7**
comp=Z,24nm,1.1s
WB2 Warramunga Arr 65.30 108 *e*P P **19 03 46.9 -0.2**
ARU Arti 65.42 355*d i*P P **19 03 46.4 -0.5**
ARU 19 04 18.1
ARU S **S** **19 12 31.1 +0.1**
ARU SS **SS** **19 16 38.2 -6.5**
ARU pmax pmax
comp=Z,20nm,1.7s
ARU Arti 65.42 355 *e*P P **19 03 46.5 -0.5**
comp=Z,15nm,1.1s
VRI Vrincioaia 65.55 330⇑*i*P P **19 03 48.7 +0.6**
VRI Vrincioaia 65.55 330⇑P P **19 03 48.7 +0.6**
PLOR Plostina 65.58 330⇑*i*P P **19 03 49.1 +0.8**
PLOR Plostina 65.58 330⇑P P **19 03 49.1 +0.8**
SVE Sverdlovsk 65.64 356 *e*P P **19 03 48.7 +0.3**
SVE pmax pmax
comp=Z,17nm,1.5s
MLR Muntele Rosu 65.68 329⇑*i*P P **19 03 50.0 +0.9**
MLR Muntele Rosu 65.68 329 *e*P P **19 03 49.4 +0.3**
MLR pmax pmax
comp=Z,19nm,1.3s
MLR Muntele Rosu 65.68 329 *e*P P **19 03 49.4 +0.3**
comp=Z,19nm,1.3s
SONM Songino Array 66.02 28 P P **19 03 52.6 +1.3**
comp=Z,8.3nm,0.9s,baz=221,slow=6.6,SNR=41
SONM LR LR 19 32 27.8
comp=Z,178nm,20.2s,baz=220,slow=36
SONA1 Songino Array 66.04 28 *e*P P **19 03 51.9 +0.5**
TESR Tescani 66.04 330⇑*i*P P **19 03 51.3 0.0**
VOIR 66.10 329⇓*i*P P **19 03 51.0 -0.7**
VOIR 66.10 329⇓P P **19 03 51.0 -0.7**
BJT Baijiatuau 66.14 39 *e*P P **19 03 53.0 +1.0**
BJT pmax pmax
comp=Z,10.0nm,0.9s
BJT Baijiatuau 66.14 39 *e*P P **19 03 53.0 +1.0**
comp=Z,9.9nm,0.9s
BJI Beijing 66.16 39 P P **19 03 53.7 +1.6**
BJI S **S** **19 12 43.7 +3.0**
BJI pmax pmax
comp=Z,6.0nm,1.1s
BJI pmax pmax
comp=Z,110nm,4.1s
BJI LR LR
comp=Z,230nm,27.0s
BJI LR LR
comp=Z,190nm,24.8s
BJI LR LR
comp=Z,130nm,23.5s
DOPR Dopca 66.29 329⇑*i*P P **19 03 52.3 -0.6**
ULN Ulaanbaatar 66.35 28*ce*P P **19 03 52.9 -0.5**
ULN pmax pmax
comp=Z,10.0nm,1.7s
ULN Ulaanbaatar 66.35 28 *e*P P **19 03 53.7 +0.3**
comp=Z,9.1nm,1.3s
SORM Soroca 66.41 332⇑*i*P P **19 03 51.5 -2.0**
SORM Soroca 66.41 332⇑P P **19 03 51.5 -2.0**
ZAK Zakamensk 66.61 24 *e*P P **19 03 55.3 +0.3**
ZAK pmax pmax
comp=Z,4.0nm,1.5s
MOY Mondy 66.75 22 *e*P P **19 03 56.8 +1.0**
LOT Lotru 66.77 328⇑*i*P P **19 03 56.5 +0.4**
BURAR Bucovina Array 67.51 330⇓*i*P P **19 04 04.8 +4.0**
BURAR Bucovina Array 67.51 330⇓P P **19 04 04.8 +4.0**
AKASG Malin Array Be 67.93 335 P P **19 04 01.6 -1.5**
comp=Z,1.9nm,0.6s,baz=137,slow=5.8,SNR=4.5
AKASG LR LR 19 32 12.2
comp=Z,104nm,21.8s,baz=140,slow=35
AKBB Malin Array Si 67.93 335 *e*P P **19 04 01.7 -1.4**
AKBB pmax pmax
comp=Z,7.0nm,0.9s
AKBB Malin Array Si 67.93 335 *e*P P **19 04 01.7 -1.4**
comp=Z,6.8nm,0.9s
KIEV Kiev 67.93 335 *e*P P **19 04 02.2 -0.9**
KIEV pmax pmax
comp=Z,8.0nm,1.2s
KIEV Kiev 67.93 335 *e*P P **19 04 01.5 -1.6**
comp=Z,6.4nm,0.9s
AK11 Malin Array Si 67.93 335 *e*P P **19 04 02.2 -0.9**
BZS Buzias 68.02 327⇓*i*P P **19 04 04.4 +0.6**
BZS Buzias 68.02 327⇓P P **19 04 04.5 +0.6**
DRGR 68.21 329⇓*i*P P 19 04 16.1 +11
TAM Tamanrasset 68.33 299 *e*P P **19 04 07.2 +0.7**
TAM pmax pmax
comp=Z,3.0nm,1.0s
TAM Tamanrasset 68.33 299 *e*P P **19 04 07.2 +0.7**
comp=Z,3.0nm,1.0s
SIRR Siria 68.42 328⇑*i*P P **19 04 11.0 +4.6**
JOW Kunigami 68.67 57 *e*P P **19 04 07.8 -0.6**
comp=Z,33nm,1.2s
SOKR Solikamsk 68.71 354 *e*P P **19 04 06.6 -1.2**
SOKR pmax pmax
comp=Z,14nm,0.8s
OBN Obninsk 68.75 341*c i*P P **19 04 08.3 +0.2**
OBN *e* 19 04 33.0
OBN pmax pmax
comp=Z,4.0nm,1.0s
TOA0 Torodi Ar. Sit 68.93 288 *e*P P **19 04 09.4 -0.7**
TORD Torodi Ar. Bea 68.93 288 P P **19 04 09.2 -0.9**
comp=Z,2.9nm,1.0s,baz=120,slow=5.3,SNR=10.0
TORD LR LR 19 31 38.3
comp=Z,270nm,21.7s,baz=90,slow=34
MOS Moscow 68.95 342 *e*P P **19 04 08.7 -0.7**
MOS *e* 19 04 27.7
LVV L'vov 69.61 332 *e*P P **19 04 13.5 -0.1**
UZH Uzhgorod 69.64 330 *e*P P 19 04 09.0 -4.9
UZH *e* 19 04 11.8
UZH *e* 19 04 17.6
CRVS Cervenica-Dubn 70.24 330 *e*P P **19 04 17.5 -0.1**
CRVS Cervenica-Dubn 70.24 330 *e*P P **19 04 17.5 -0.1**
PSZ Piszkesteto 70.40 328 *e*P P **19 04 18.0 -0.7**
PSZ pmax pmax
comp=Z,5.0nm,1.0s
PSZ Piszkesteto 70.40 328 *e*P P **19 04 18.0 -0.7**
comp=Z,5.2nm,1.0s
STHS Stebnicka Huta 70.68 330 *e*P P **19 04 21.8 +1.5**
STHS pmax pmax
comp=Z,4.0nm,1.1s
STHS Stebnicka Huta 70.68 330 *e*P P **19 04 21.8 +1.5**
NVL N'lazarevskaya 70.86 197 *e*P P **19 04 21.8 +0.8**
NVL *e*S **S** **19 13 36.9 +1.1**
AQU L'Aquila 70.91 321 *e*P P **19 04 22.8 +0.9**
AQU pmax pmax
comp=Z,13nm,1.2s
AQU L'Aquila 70.91 321 *e*P P **19 04 22.8 +0.9**
comp=Z,13nm,1.2s
VYHS Vyhne 71.32 328 *e*P P **19 04 23.5 -0.6**
VYHS pmax pmax
comp=Z,3.0nm,1.1s
VYHS Vyhne 71.32 328 *e*P P **19 04 23.5 -0.6**
LANS Liptovska Anna 71.40 329 *e*P P **19 04 25.3 +0.6**
LANS Liptovska Anna 71.40 329 *e*P P **19 04 25.3 +0.6**
STKA Stephens Creek 71.88 121 LR LR 19 31 28.4
comp=Z,236nm,21.4s,baz=243,slow=32
ARSA Arzberg 72.36 326 *i* P P **19 04 31.5 +1.0**
comp=Z,5.9nm,1.2s
CONA Conrad Observa 72.56 326 *i* P P **19 04 31.4 -0.4**
comp=Z,8.1nm,1.1s
KSRS Korea Array 72.73 46 LR LR 19 37 34.1
comp=Z,156nm,18.6s,baz=234,slow=37
MORC Moravsky Berou 72.78 329⇑*i*P P 19 04 39.0 +6.1
MORC Moravsky Berou 72.78 329⇑P P 19 04 39.0 +6.1
KLMR Klimovskoe 72.87 346 *e*P P **19 04 31.2 -1.9**
KLMR *e* 19 04 48.5
KLMR *e* 19 07 14.8
KLMR pmax pmax
comp=Z,31nm,1.3s
KRLC Kraliky 73.35 329 *e*P P **19 04 40.1 +3.8**
KRLC Kraliky 73.35 329 *e*P P **19 04 40.1 +3.8**
MOA Molln 73.40 326 *i* P P **19 04 36.8 +0.1**
comp=Z,13nm,1.1s
KBA Koelnbreinsper 73.49 325 P P **19 04 38.2 +0.8**
KBA pmax pmax
comp=Z,8.0nm,1.9s
KIC Kosan Boka 73.61 279 *e*P P **19 04 37.8 -0.8**
comp=Z,71nm,1.3s
DPC Dobruska-Polom 73.75 329 *e*pP pP 19 04 45.8 +3.1
DPC Dobruska-Polom 73.75 329 *e*P P 19 04 45.8 +7.1
DBIC Dimbokro 73.79 280 P P **19 04 38.8 -0.8**
comp=Z,12nm,1.0s,baz=96,slow=7.7,SNR=3.9
DBIC LR LR 19 35 26.6
comp=Z,179nm,21.1s,baz=85,slow=34
DBIC Dimbokro 73.79 280 *e*P P **19 04 40.0 +0.4**
DBIC pmax pmax
comp=Z,15nm,1.1s
DBIC Dimbokro 73.79 280 *e*P P **19 04 40.0 +0.4**
comp=Z,15nm,1.1s

ABTA	**Abfaltersbach**	**73.79**	**324**	*i* P		**P**	**19 04 39.2**	**+0.1**
	comp=Z,7.7nm,0.8s							
LIC	**Lamto**	**73.87**	**279**	*e*P		**P**	**19 04 39.3**	**-0.8**
	comp=Z,55nm,1.2s							
TIC	**Toumodi**	**73.94**	**280**	*e*P		**P**	**19 04 39.8**	**-0.7**
GEA0	**GERESS Array S**	**74.27**	**326**	*e*P		**P**	**19 04 40.3**	**-1.4**
GERES	**GERESS Array B**	**74.27**	**326**	P		**P**	**19 04 40.5**	**-1.3**
	comp=Z,0.6nm,0.8s,baz=146,slow=6.1,SNR=5.0							
GERES				LR		LR	19 36 29.8	
	comp=Z,70nm,20.5s,baz=130,slow=35							
PRU	**Pruhonice**	**74.47**	**328**	*e*P		**P**	**19 04 43.9**	**+1.1**
PRU	**Pruhonice**	**74.47**	**328**	*e*P		**P**	**19 04 43.9**	**+1.1**
KHC	**Kasperske Hory**	**74.50**	**327**	*e*P		**P**	**19 04 42.1**	**-1.0**
KHC				*e*pP		**pP**	**19 04 47.4**	**+0.3**
KHC	**Kasperske Hory**	**74.50**	**327**	*e*P		**P**	**19 04 42.1**	**-1.0**
KHC				pmax	pmax			
	comp=Z,7.0nm,1.8s							
KHC	**Kasperske Hory**	**74.50**	**327**	*e*P		**P**	**19 04 42.0**	**-1.0**
	comp=Z,7.0nm,1.8s							
WTTA	**Wattenberg**	**74.57**	**324**	*i* P		**P**	**19 04 42.3**	**-1.4**
	comp=Z,8.5nm,1.0s							
WATA	**Walderalm**	**74.65**	**324**	*i* P		**P**	**19 04 43.8**	**-0.3**
	comp=Z,3.1nm,0.6s							
VSU	**Vasula**	**74.70**	**339**	*e*P		**P**	**19 04 43.6**	**-0.3**
VSU				pmax	pmax			
	comp=Z,22nm,0.7s							
WET	**Wettzell**	**74.89**	**326**	P		**P**	**19 04 46.0**	**+0.7**
MOTA	**Moosalm**	**74.92**	**324**	*i* P		**P**	**19 04 45.4**	**-0.3**
	comp=Z,6.9nm,0.9s							
FETA	**Feichten**	**74.97**	**324**	*i* P		**P**	**19 04 45.2**	**-0.8**
	comp=Z,9.5nm,1.0s							
FUORN	**Ofenpass-Fuorn**	**75.04**	**323**	*e*P		**P**	**19 04 45.8**	**-0.8**
	comp=Z,13nm,1.0s							
RETA	**Reutte**	**75.20**	**324**	*i* P		**P**	**19 04 47.2**	**0.0**
	comp=Z,7.2nm,1.2s							
BRG	**Berggiesshubel**	**75.29**	**328**	*e*P		**P**	**19 04 48.1**	**+0.6**
	comp=Z,31nm,1.9s							
BRG	**Berggiesshubel**	**75.29**	**328**	*e*P		**P**	**19 04 48.1**	**+0.6**
BRG				pmax	pmax			
	comp=Z,31nm,1.9s							
TUE	**Stuetta**	**75.52**	**323**	*e*P		**P**	**19 04 48.5**	**-0.7**
	comp=Z,6.7nm,0.9s							
SNAA	**Sanae**	**75.58**	**198**	P		**P**	**19 04 47.3**	**-1.7**
SNAA	**Sanae**	**75.58**	**198**	*e*P		**P**	**19 04 48.1**	**-0.9**
SNAA				pmax	pmax			
	comp=Z,7.0nm,1.0s							
SNAA	**Sanae**	**75.58**	**198**	*e*P		**P**	**19 04 48.1**	**-0.9**
	comp=Z,7.5nm,1.0s							
DAVA	**Damuels**	**75.61**	**324**	*i* P		**P**	**19 04 49.7**	**+0.1**
	comp=Z,8.5nm,0.9s							
NKC	**Novy Kostel**	**75.72**	**327**	*e*P		**P**	**19 04 51.0**	**+0.9**
NKC				*e*pP		**pP**	**19 04 54.8**	**+0.7**
NKC	**Novy Kostel**	**75.72**	**327**	*e*P		**P**	**19 04 51.0**	**+0.9**
NKC				*e*			19 04 54.8	
CLL	**Collm**	**76.02**	**328**	*e*P		**P**	**19 04 51.4**	**-0.3**
CLL				pmax	pmax			
	comp=Z,11nm,1.1s							
CLL	**Collm**	**76.02**	**328**	*e*P		**P**	**19 04 52.0**	**+0.3**
	comp=Z,9.0nm,1.3s							
CLL				*i* (sP)		**sP**	**19 04 58.3**	**+1.1**
	comp=Z,14nm,1.4s							
CLL				*i*			19 05 01.7	
CLL				*i*			19 05 06.2	
CLL				*e*S		**S**	**19 14 35.0**	**+0.3**
CLL				LmV			19 39 00.0	
	comp=Z,100nm,21.1s							
CLL	**Collm**	**76.02**	**328**	*e*P		**P**	**19 04 51.4**	**-0.3**
	comp=Z,11nm,1.1s							
GRF	**Grafenberg Arr**	**76.09**	**326**	P		**P**	**19 04 51.7**	**-0.5**
GRF				pmax	pmax			
	comp=Z,25nm,1.3s							
GRFO	**Grafenberg**	**76.09**	**326**	*e*P		**P**	**19 04 51.8**	**-0.4**
GRFO				pmax	pmax			
	comp=Z,17nm,1.1s							
GRFO	**Grafenberg**	**76.09**	**326**	*e*P		**P**	**19 04 51.8**	**-0.4**
	comp=Z,17nm,1.1s							
MOX	**Moxa**	**76.39**	**327**	P		**P**	**19 04 54.2**	**+0.4**
MOX				pmax	pmax			
	comp=Z,12nm,2.8s							
LPL	**La Plagne**	**76.66**	**321**	*e*P		**P**	**19 04 59.2**	**+3.5**
LPL				pmax	pmax			
	comp=Z,9.0nm,1.0s							
SENIN	**Lac Senin/Sane**	**76.70**	**322**	*e*P		**P**	**19 04 55.5**	**-0.5**
	comp=Z,10nm,1.0s							
JOF	**Joensuu**	**76.72**	**344**	*e*P		**P**	**19 04 56.3**	**+0.9**
JOF				pmax	pmax			
	comp=Z,9.0nm,0.9s							
VNA2	**Neumayer--Watz**	**76.83**	**199**	P		**P**	**19 04 56.3**	**+0.3**
	baz=64,slow=5.3							
MDJ	**Mudanjiang**	**77.02**	**40**	P		**P**	**19 04 57.9**	**+0.4**
MDJ				pP	pP		19 05 01.1	-0.5
MDJ				sP	sP		19 05 02.3	-0.7
MDJ				S		**S**	**19 14 45.2**	**-0.8**
MDJ				pmax	pmax			
	comp=Z,7.0nm,1.0s							
MDJ				pmax	pmax			
	comp=Z,72nm,4.5s							
MDJ				LR	LR			
	comp=Z,150nm,23.2s							
MDJ				LR	LR			
	comp=Z,110nm,27.1s							
MDJ				LR	LR			
	comp=Z,180nm,20.7s							
MDJ	**Mudanjiang**	**77.02**	**40**	*e*P		**P**	**19 04 56.4**	**-1.1**
	comp=Z,6.2nm,0.8s							
BFO	**Black Forest**	**77.03**	**324**	*e*P		**P**	**19 04 57.5**	**-0.1**
BFO				pmax	pmax			
	comp=Z,17nm,1.5s							
BFO	**Black Forest**	**77.03**	**324**	*e*P		**P**	**19 04 57.5**	**-0.1**
	comp=Z,17nm,1.5s							
VNA1	**Neumayer--Stat**	**77.06**	**199**	P		**P**	**19 04 57.7**	**+0.4**
FINES	**FINESS Array B**	**77.14**	**341**	P		**P**	**19 04 56.9**	**-0.9**
	comp=Z,1.4nm,0.7s,baz=48,slow=2.8,SNR=4.1							
FINES				LR		LR	19 39 48.3	
	comp=Z,118nm,20.4s,baz=146,slow=36							
FINES	**FINESS Array B**	**77.14**	**341**	*i* P		**P**	**19 04 58.0**	**+0.2**
FINES				pmax	pmax			
	comp=Z,1.0nm,0.8s							
VNA3	**Neumayer Olymp**	**77.61**	**199**	P		**P**	**19 05 00.2**	**-0.2**
SSB	**Saint Sauveur**	**77.93**	**320**	*e*P		**P**	**19 05 01.6**	**-1.1**
SSB				pmax	pmax			
	comp=Z,63nm,2.0s							
SSB	**Saint Sauveur**	**77.93**	**320**	*e*P		**P**	**19 05 01.6**	**-1.1**
	comp=Z,63nm,2.0s							
USRK	**Ussuriysk Ar.**	**78.39**	**41**	LR		LR	19 38 41.2	
	comp=Z,82nm,21.6s,baz=229,slow=35							
MAT	**Matsushiro**	**80.00**	**50**	P		**P**	**19 05 13.9**	**-0.3**
MAT				*e*S		**S**	**19 15 21.2**	**+2.9**
MJAR	**Matsushiro Arr**	**80.01**	**50**	P		**P**	**19 05 14.5**	**+0.3**
	comp=Z,0.9nm,1.0s,baz=204,slow=2.4,SNR=3.4							
MJAR				LR		LR	19 39 26.8	
	comp=Z,84nm,19.7s,baz=220,slow=35							
BAIF	**Baives**	**80.23**	**324**	*e*P		**P**	**19 05 15.7**	**+0.6**
BAIF				pmax	pmax			
	comp=Z,15nm,1.4s							
LFF	**La Frestale**	**80.24**	**319**	*e*P		**P**	**19 05 16.4**	**+1.1**
LFF				pmax	pmax			
	comp=Z,10.0nm,0.8s							
KLR	**Kul'dur**	**80.37**	**37**	P		**P**	**19 05 15.1**	**-0.8**
	comp=Z,1.6nm,0.7s,baz=177,slow=5.2,SNR=4.5							
KLR	**Kul'dur**	**80.37**	**37**	*e*P		**P**	**19 05 14.4**	**-1.5**
QSPA	**South Pole Qui**	**81.24**	**180**	*e*P		**P**	**19 05 19.1**	**-1.4**
ES19	**SONSECA Array**	**81.61**	**312**	*e*P		**P**	**19 05 22.4**	**-0.3**
ESDC	**Sonseca Array**	**81.65**	**312**	P		**P**	**19 05 23.2**	**+0.2**
	comp=Z,2.9nm,0.8s,baz=93,slow=4.2,SNR=7.7							
ESDC				LR		LR	19 40 39.6	
	comp=Z,68nm,18.5s,baz=100,slow=35							
ESLA	**Sonseca Array**	**81.65**	**312**	*e*P		**P**	**19 05 23.1**	**+0.1**
	comp=Z,13nm,1.3s							
PAB	**San Pablo**	**81.89**	**312**	*e*P		**P**	**19 05 24.6**	**+0.3**
PAB				pmax	pmax			
	comp=Z,7.0nm,0.9s							
PAB	**San Pablo**	**81.89**	**312**	*e*P		**P**	**19 05 24.6**	**+0.3**
	comp=Z,6.9nm,0.9s							
NB2	**NORSAR Subarra**	**82.30**	**336**	P		**P**	**19 05 25.4**	**-0.5**
	comp=Z,8.9nm,1.7s,baz=124,slow=5.3							
NOA	**NORSAR Array B**	**82.30**	**336**	P		**P**	**19 05 25.9**	**0.0**
	comp=Z,1.0nm,0.9s,baz=114,slow=5.0,SNR=3.4							
NOA	**NORSAR Array B**	**82.30**	**336**	P		**P**	**19 05 26.0**	**0.0**
VNDA	**Vanda**	**82.40**	**167**	P		**P**	**19 05 25.4**	**-0.9**
	comp=Z,0.5nm,0.9s,baz=311,slow=11,SNR=2.4							
VNDA				LR		LR	19 36 01.3	
	comp=Z,102nm,22.0s,baz=268,slow=31							
NBO02	**NORSAR Array S**	**82.45**	**336**	*e*P		**P**	**19 05 26.8**	**+0.1**
ARA0	**ARCESS Array S**	**83.34**	**346**	*e*P		**P**	**19 05 31.3**	**+0.2**
ARCES	**ARCESS Array B**	**83.34**	**346**	P		**P**	**19 05 31.8**	**+0.7**
	comp=Z,5.3nm,0.8s,baz=130,slow=5.5,SNR=21							
ARCES				LR		LR	19 43 08.9	
	comp=Z,126nm,18.2s,baz=142,slow=36							
ARE0	**ARCESS Array S**	**83.34**	**346**	*e*P		**P**	**19 05 31.5**	**+0.4**
	comp=Z,40nm,1.7s							
YAK	**Yakutsk**	**85.19**	**25**	*e*P		**P**	**19 05 40.6**	**0.0**
YAK				pmax	pmax			
	comp=Z,9.0nm,1.0s							
DZM	**Mont Dzumac**	**94.87**	**113**	LR		LR	19 47 27.9	
	comp=Z,122nm,19.1s,baz=258,slow=34							
ILAR	**Eielson Array**	**119.12**	**16**	PKP		**PKPdf**	**19 11 52.6**	**-0.5**
	comp=Z,0.5nm,1.1s,baz=257,slow=3.6,SNR=2.8							
LPAZ	**La Paz**	**129.55**	**240**	PKP		**PKPdf**	**19 12 14.4**	**-0.9**
	comp=Z,2.3nm,1.0s,baz=71,slow=13,SNR=5.8							
PPT2	**Papeete2**	**134.91**	**126**	*e*SS		SS	19 32 59.6	+7.5
	comp=Z,92nm,26.5s							
PPT2	**Papeete2**	**134.91**	**126**	*e*LR		LR	19 55 32.8	
	comp=Z,93nm,25.0s							
RKT	**Rikitea**	**141.37**	**146**	*e*T		T	21 49 46.9	
	comp=Z,3.8nm,0.2s							
Q40A	**Laux Farm, Aux**	**144.81**	**332**	P		**PKPab**	**19 12 40.8**	**-0.1**
	baz=37							
P38A	**Dawn**	**144.95**	**334**	P		**PKPab**	**19 12 40.8**	**-0.5**
	baz=34							
R41A	**Rosebud**	**145.03**	**330**	P		**PKPbc**	**19 12 41.0**	**-0.6**
	baz=38							
HUMO	**Hull Mountain**	**145.08**	**14**	*e*PKPbc		**PKPdf**	**19 12 42.5**	**+0.1**
S42A	**Caledonia**	**145.15**	**329**	P		**PKPbc**	**19 12 42.1**	**0.0**
	baz=40							
LOHW	**Long Hollow**	**145.28**	**358**	*e*PKPbc		**PKPdf**	**19 12 43.3**	**+0.4**
HLID	**Hailey**	**145.33**	**3**	*e*PKPbc		**PKPdf**	**19 12 43.7**	**+0.8**
MFID	**Camas Ranch**	**145.39**	**4**	*e*PKPbc		**PKPdf**	**19 12 43.6**	**+0.7**
K05A	**Summer Lake**	**145.40**	**11**	*e*PKPbc		**PKPdf**	**19 12 43.9**	**+0.8**
R40A	**Maddies Statio**	**145.46**	**331**	P		**PKPbc**	**19 12 42.8**	**-0.2**
	baz=37							
REDW	**Red Top Meadow**	**145.54**	**358**	*e*PKPdf		**PKPdf**	**19 12 42.0**	**-1.4**
R39A	**Chumby, Stover**	**145.81**	**332**	P		**PKPbc**	**19 12 44.0**	**-0.2**
	baz=36							
T42A	**Van Buren**	**145.87**	**329**	P		**PKPbc**	**19 12 44.2**	**-0.2**
	baz=40							
K22A	**Casper**	**145.88**	**352**	*e*PKPdf		**PKPdf**	**19 12 43.0**	**-0.9**
WVOR	**Wild Horse Val**	**146.06**	**8**	*e*PKP2		**PKPdf**	**19 12 42.8**	**-1.4**
WVOR	**Wild Horse Val**	**146.06**	**8**	*e*PKPdf		**PKPdf**	**19 12 42.8**	**-1.4**
BW06	**Boulder Array**	**146.07**	**356**	*e*PKPdf		**PKPdf**	**19 12 43.5**	**-0.8**
PDAR	**Pinedale Array**	**146.07**	**356**	PKPbc		**PKPdf**	**19 12 44.8**	**+0.4**
	comp=Z,1.0nm,0.8s,baz=5.7,slow=1.5,SNR=8.2							
Y47A	**UCPARC, Winfie**	**146.28**	**321**	P		**PKPdf**	**19 12 44.9**	**+0.3**
	baz=48							
MOD	**Modoc Plateau**	**146.31**	**11**	*e*PKPdf		**PKPbc**	**19 12 45.6**	**-0.1**
P34A	**Walnut Farm, R**	**146.34**	**338**	P		**PKPbc**	**19 12 45.5**	**-0.2**
	baz=29							
U42A	**Revenden**	**146.46**	**328**	P		**PKPbc**	**19 12 45.8**	**-0.4**
	baz=40							
T40A	**Mansfield**	**146.49**	**330**	P		**PKPbc**	**19 12 46.1**	**-0.1**
	baz=38							
HWUT	**Hardware Ranch**	**147.31**	**359**	*e*PKPdf		**PKPdf**	**19 12 46.8**	**+0.4**
U39A	**Green Forest**	**147.57**	**331**	P		**PKPdf**	**19 12 48.1**	**+1.3**
	baz=37							
T37A	**Cheneyville 18**	**147.63**	**333**	P		**PKPbc**	**19 12 48.8**	**-0.7**
	baz=34							
BGU	**Big Grassy Mou**	**148.00**	**1**	*e*PKPdf		**PKPdf**	**19 12 48.1**	**+0.6**
ORV	**Oroville**	**148.32**	**13**	*e*PKP2		**PKPbc**	**19 12 52.1**	**+0.9**
ORV	**Oroville**	**148.32**	**13**	*e*PKPbc		**PKPbc**	**19 12 52.1**	**+0.9**
DUG	**Dugway, Tooele**	**148.73**	**1**	*e*PKP2		**PKPbc**	**19 12 52.9**	**+0.4**
DUG	**Dugway, Tooele**	**148.73**	**1**	*e*PKPbc		**PKPbc**	**19 12 52.9**	**+0.4**
AFDM	**Forest Hills D**	**149.02**	**13**	*e*PKPbc		**PKPbc**	**19 12 52.7**	**-0.4**
PNTR	**Pine Nut**	**149.16**	**11**	*e*PKPbc		**PKPbc**	**19 12 55.1**	**+1.3**
SMCO	**Snowmass**	**149.35**	**352**	*e*PKPbc		**PKPbc**	**19 12 53.9**	**-0.5**
TVH1	**TV Hill, Hawth**	**149.93**	**10**	*e*PKPbc		**PKPbc**	**19 12 57.0**	**+1.1**
TVH3	**East Aurora ar**	**150.02**	**10**	*e*PKPbc		**PKPbc**	**19 12 57.2**	**+1.4**
PV10	**Paradox Valley**	**150.39**	**355**	*e*PKPbc		**PKPbc**	**19 12 57.2**	**+0.4**
PV10				*e*PKPab		**pPKPbc**	**19 13 01.6**	**+0.6**
X36A	**Centrahoma**	**150.40**	**332**	P		**PKPbc**	**19 12 55.6**	**-1.0**
	baz=34							
MSU	**Marysvale**	**150.41**	**360**	*e*PKPbc		**PKPbc**	**19 12 57.3**	**+0.5**
MSU				*e*PKPab		**sPKPbc**	**19 13 01.9**	**-0.5**
S22A	**4UR Ranch, Cre**	**150.74**	**351**	P		**PKPbc**	**19 12 57.8**	**+0.1**
	baz=11							
S22A	**4UR Ranch, Cre**	**150.74**	**351**	*e*PKPbc		**PKPbc**	**19 12 57.3**	**-0.4**
X35A	**Drake**	**150.82**	**333**	P		**PKPbc**	**19 12 57.3**	**-0.3**
	baz=33							
T25A	**Trinidad**	**150.86**	**347**	P		**PKPbc**	**19 12 57.7**	**-0.2**
	baz=16							
LCMT	**Little Creek M**	**151.90**	**1**	*e*PKPbc		**PKPbc**	**19 12 59.6**	**-0.6**
U15A	**North Rim**	**152.50**	**360**	*e*PKPdf		**PKPdf**	**19 12 55.2**	**+0.4**
U15A				*e*PKPbc		**sPKPdf**	**19 13 00.8**	**+0.3**
MNTX	**Cornudas Mount**	**156.28**	**345**	*e*PKPdf		**PKPdf**	**19 12 58.8**	**-1.2**
MNTX				*e*PKPdif		**PKPdf**	**19 13 07.5**	**+7.6**
MNTX				*e*PKPab		**PKPab**	**19 13 28.0**	**+0.3**
TX31	**Lajitas Ar. Si**	**157.97**	**339**	*e*PKPdf		**PKPdf**	**19 13 02.4**	**+0.2**
TX31				*e*PKPab		**PKPab**	**19 13 34.1**	**-1.1**
TX31				*e*PKPab		**pPKPab**	**19 13 34.3**	**-5.0**
TXAR	**Lajitas Array**	**157.97**	**339**	PKP		**PKPdf**	**19 13 04.0**	**+1.7**
	comp=Z,0.3nm,0.6s,baz=182,slow=3.8,SNR=4.4							
TXAR				PKPab		**PKPab**	**19 13 34.2**	**-0.9**
	comp=Z,2.1nm,1.0s,baz=44,slow=3.0,SNR=7.2							

WEL 10 19:04:29.9±0.1, 43.65S×172.81E, h8km, ML3.6/13, 3C-5D, Error ellipse: s-maj=1.5km s-min=0.8km az=90.0, South Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MQZ	**McQueen's Vall**	**0.13**	**246**	⇓PG	Pg	19 04 32.8	+0.1
MQZ				SG	Sg	19 04 35.2	+0.6
MQZ				AML	AML	19 04 36.8	
CRLZ	**Canterbury Las**	**0.16**	**300**	⇑PG	Pg	19 04 33.3	+0.1
CRLZ				AML	AML	19 04 38.5	
CRLZ				AML	AML	19 04 42.6	
OXZ	**Oxford**	**0.65**	**300**	⇑P*	Pg	19 04 42.6	+0.1
OXZ				AML	AML	19 04 53.9	
OXZ				AML	AML	19 04 53.9	
LTZ	**Lake Taylor**	**0.96**	**335**	P*	Pg	19 04 48.1	-0.2
LTZ				AML	AML	19 05 04.5	
RPZ	**Rata Peaks**	**1.28**	**267**	⇓P*	Pn	19 04 52.7	-1.4
RPZ				AML	AML	19 05 14.2	
RPZ				AML	AML	19 05 16.6	
KHZ	**Kahutara**	**1.35**	**24**	⇓PN	Pn	19 04 53.4	-1.6
KHZ				AML	AML	19 05 21.2	
KHZ				AML	AML	19 05 21.4	
INZ	**Inchbonnie**	**1.37**	**312**	PN	Pn	19 04 54.3	-1.0
WVZ	**Waitaha Valley**	**1.62**	**290**	⇓PN	Pn	19 04 58.4	-0.4
WVZ				AML	AML	19 05 23.9	
WVZ				AML	AML	19 05 32.3	
THZ	**Tophouse**	**1.89**	**2**	⇓PN	Pn	19 05 01.0	-1.6
THZ				AML	AML	19 05 38.8	
THZ				AML	AML	19 05 38.9	
LBZ	**Lake Benmore**	**2.03**	**248**	PN	Pn	19 05 03.8	-0.7
LBZ				AML	AML	19 05 45.0	
LBZ				AML	AML	19 05 49.6	
DSZ	**Denniston Nort**	**2.05**	**338**	PN	Pn	19 05 04.9	+0.2
ODZ	**Otahua Downs**	**2.09**	**227**	⇑PN	Pn	19 05 04.1	-1.1
ODZ				AML	AML	19 05 44.5	
ODZ				AML	AML	19 05 45.7	
FOZ	**Fox Glacier**	**2.18**	**272**	PN	Pn	19 05 07.0	+0.5
FOZ				AML	AML	19 05 36.6	
FOZ				AML	AML	19 05 51.1	
NNZ	**Nelson**	**2.47**	**10**	PN	Pn	19 05 09.6	-0.8
NNZ				AML	AML	19 07 39.5	
EAZ	**Earnscleugh**	**2.96**	**237**	PN	Pn	19 05 16.5	-0.8
EAZ				AML	AML	19 06 11.7	
EAZ				AML	AML	19 06 12.6	
CAW	**Cannon Point**	**3.04**	**34**	PN	Pn	19 05 16.0	-2.4
TUZ	**Tuapeka**	**3.23**	**223**	PN	Pn	19 05 19.8	-1.1

*ISCJB **10** 19:32:04.5±1.1, 18.3S±0.2×169.1E±0.2, h240km, mb3.6/6, Error ellipse: s-maj=39.8km s-min=17.9km az=43.3*
*IDC **10** 19:32:05.8±3.8, 18.37S×169.24E, h244km±40km, mb3.4/6, mb1 3.6/7, mb1mx3.3/25, mbtmp3.9/7, Error ellipse: s-maj=68.3km s-min=24.0km az=158.0*

ISC 10 19:32:05.6±1.2, 18.4S±0.2×169.2E±0.3, h240km, n8, σ0.91/8, mb3.5/6, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**4.54**	**215**	P	**Pn**	**19 33 15.6**	**+0.1**
	2.5nm,0.3s,baz=75,slow=6.4,SNR=34						
STKA	**Stephens Creek**	**28.33**	**236**	P	**P**	**19 37 37.3**	**-0.1**
	2.2nm,0.7s,baz=79,slow=9.8,SNR=5.5						
WRA	**Warramunga Arr**	**32.97**	**261**	P	**P**	**19 38 17.3**	**-0.9**
	0.4nm,0.7s,baz=81,slow=6.0,SNR=5.5						
ASAR	**Alice Springs**	**33.35**	**255**	P	**P**	**19 38 21.4**	**0.0**
	3.6nm,0.5s,baz=83,slow=8.9,SNR=63						
SONM	**Songino Array**	**86.51**	**323**	P	**P**	**19 44 22.6**	**+1.1**
	0.5nm,0.6s,baz=153,slow=7.7,SNR=5.2						
ILAR	**Eielson Array**	**89.39**	**17**	P	**P**	**19 44 33.3**	**-1.2**
	0.3nm,0.5s,baz=231,slow=4.3,SNR=4.5						
TXAR	**Lajitas Array**	**96.34**	**61**	P	**P**	**19 45 07.7**	**+0.2**
	0.2nm,0.7s,baz=264,slow=4.3,SNR=3.2						
GERES	**GERESS Array B**	**143.71**	**332**	PKP	**PKPab**	**19 51 10.2**	**+0.8**
	0.6nm,0.7s,baz=26,slow=3.4,SNR=5.8						

MAN 10 19:35:33, 18.06N×121.83E, h24km, mb4.3, ML3.2, MS3.0, 1C, Luzon

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SGCP	**Mt. Cagua**	**0.27**	**49**	*e*P	Pn	19 35 41.6	+0.1
SGCP				*e*S	Sn	19 35 49.3	+2.3
CVP	**Callao Caves**	**0.36**	**181**	⇑*i*P	Pn	19 35 43.1	+0.4
CVP				*i* S	Sn	19 35 52.2	+3.2
CAUP	**Cauayan**	**1.11**	**180**	*e*P	Pb	19 35 53.9	+0.4
CAUP				*e*S	Sn	19 36 14.9	+7.3

*IDC **10** 19:38:31.3±2.6, 17.13S×173.27W, h0km, mb3.7/5, mb1 4.0/6, mb1mx3.7/38, mbtmp3.8/6, ML4.1/1, MS3.7/4, Ms1 3.7/4, ms1mx3.3/23, Error ellipse: s-maj=100.2km s-min=23.4km az=133.0*
*NEIC **10** 19:38:33.9±1.3, 16.84S×173.57W, h10km, mb4.0/3, Error ellipse: s-maj=52.0km s-min=12.1km az=141.0*

ISC 10 19:38:35.0±1.7, 16.6S±0.3×173.7W±0.3, h10km, n28, σ2.817/18, mb4.0/7, MS4.0/3, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**3.24**	**34**	Pn	**Pn**	**19 39 26.6**	**+0.7**
	18nm,0.3s,baz=16,slow=1.0,SNR=20						
AFI				Sn	**Sn**	**19 40 01.2**	**-3.4**
	42nm,0.3s,baz=244,slow=21,SNR=9.2						
AFI				LR	LR	19 40 37.8	
	comp=Z,656nm,21.4s,baz=308,slow=36						
MSVF	**Nonsavu**	**8.01**	**261**	*e*Pn	**Pn**	**19 40 30.4**	**-1.1**
PPT2	**Papeete2**	**23.04**	**96**	*e*LQ	LQ	19 48 51.8	
	874nm,26.0s						
PPT2				*e*LR	LR	19 49 52.3	
	84nm,23.0s						
TBI	**Tubuai**	**23.69**	**110**	*e*LQ	LQ	19 49 16.2	
	528nm,26.8s						
TBI				*e*LR	LR	19 50 29.3	
	200nm,25.8s						
RKT	**Rikitea**	**36.87**	**106**	*e*T	T	20 26 28.0	
	5.5nm,0.3s						
H11S2	**WAKE ISLAND Hy**	**39.88**	**330**	T	T	20 27 05.1	
	baz=150,slow=74,SNR=4.0						
H11S3	**WAKE ISLAND Hy**	**39.89**	**330**	T	T	20 27 10.6	
	baz=150,slow=74,SNR=3.9						
H11S1	**WAKE ISLAND Hy**	**39.89**	**330**	T	T	20 27 05.8	
	baz=150,slow=74,SNR=27						
H11N3	**WAKE ISLAND Hy**	**40.84**	**331**	T	T	20 28 11.8	
	baz=151,slow=76,SNR=8.6						
H11N1	**WAKE ISLAND Hy**	**40.84**	**331**	T	T	20 28 12.1	
	baz=151,slow=76,SNR=12						
H11N2	**WAKE ISLAND Hy**	**40.86**	**331**	T	T	20 28 13.2	
	baz=151,slow=76,SNR=316						
STKA	**Stephens Creek**	**43.23**	**241**	P	**P**	**19 46 36.3**	**-0.3**
	1.7nm,0.9s,baz=315,slow=20,SNR=2.1						
STKA	**Stephens Creek**	**43.23**	**241**	*e*P	**P**	**19 46 36.3**	**-0.3**
	3.6nm,1.6s						
WR1	**Warramunga Arr**	**49.34**	**258**	*e*P	**P**	**19 47 23.2**	**-1.7**
	4.7nm,1.0s						
WRA	**Warramunga Arr**	**49.34**	**258**	P	**P**	**19 47 23.2**	**-1.7**
	0.6nm,0.7s,baz=91,slow=8.0,SNR=2.6						
AS01	**Alice Springs**	**49.47**	**253**	*e*P	**P**	**19 47 24.9**	**-0.9**
AS31	**Alice Springs**	**49.51**	**253**	*e*P	**P**	**19 47 24.7**	**-1.5**
	1.5nm,0.9s	

PAU Pauzhetka 3.59 20 ePN Pn 20 03 37.9 -1.3
PAU eS Sn 20 04 16.0 -4.4
PAU smax smax
comp=N,330nm,0.7s
PAU Pauzhetka 3.59 20 eP Pn 20 03 37.6 -1.6
PAU eS Sn 20 04 16.2 -4.2
PAU A A 20 04 23.1
comp=N,140nm,0.6s
PAU A A 20 04 23.1
comp=N,270nm,0.6s
ASAK Asacha 4.70 23 PN Pn 20 03 50.4 -4.2
MTVR Mutnovka 4.87 25 PN Pn 20 03 54.2 -2.7
MTVR S Sn 20 04 48.7 -3.4
RUS Russkaya 4.92 27 PN Pn 20 03 54.2 -3.3
RUS S Sn 20 04 48.2 -5.0
RUS Russkaya 4.92 27 eP Pn 20 03 54.2 -3.3
APC Apacha 5.04 16 PN Pn 20 03 56.5 -2.6
KRMR Karymshinskiy 5.17 23 PN Pn 20 03 59.6 -1.2
KRMR S Sn 20 04 57.8 -1.4
PEA0 Petropavlovsk- 5.32 19 ePn Pn 20 04 02.7 -0.3
PEA0B Petropavlovsk- 5.32 19 ePn Pn 20 04 03.4 +0.4
PETK Petropavlovsk- 5.32 19 Pn Pn 20 04 02.1 -0.9
comp=N,2.7nm,0.3s,baz=168,slow=13,SNR=26
PETK LR LR 20 06 26.7
comp=N,330nm,18.9s,baz=195,slow=43
PET Petropavlovsk 5.48 25 ePN Pn 20 04 05.1 0.0
PET eS Sn 20 05 03.3 -3.7
PET pmax pmax
comp=Z,450nm,0.8s
PET smax smax
comp=N,910nm,1.1s
PET Petropavlovsk 5.48 25 eP Pn 20 04 05.1 0.0
PET AMB AMB 20 04 08.2
comp=N,50nm,0.8s
PET eS Sn 20 05 03.5 -3.5
PET A A 20 05 19.1
comp=N,140nm,0.9s
PET Petropavlovsk 5.48 25 ePn Pn 20 04 02.1 -3.0
PET eSn Sn 20 05 05.7 -1.2
DALK Dalny 5.51 25 PN Pn 20 04 02.8 -2.8
KUR Kuril'sk 5.61 242c iPN Pn 20 04 10.2 +3.2
KUR eS Sn 20 05 17.8 +7.6
KUR pmax pmax
comp=Z,161nm,0.5s
KUR smax smax
comp=N,80nm,0.6s
KUR smax smax
comp=E,44nm,0.4s
KUR MLR MLR
comp=Z,327nm,14.0s
KUR MLR MLR
comp=N,260nm,13.0s
KUR MLR MLR
comp=E,228nm,13.0s
KUR Kuril'sk 5.61 242 iP Pn 20 04 10.2 +3.2
KUR AMB AMB 20 04 10.8
comp=E,70nm,0.6s
KUR A A 20 05 18.5
comp=E,80nm,0.5s
KUR A A 20 05 18.5
comp=E,40nm,0.5s
KUR AMS AMS 20 06 36.1
comp=E,300nm,14.0s
KUR AMS AMS 20 06 36.1
comp=E,200nm,14.0s
AVH Avacha 5.72 24 PN Pn 20 04 06.3 -2.2
AVH Avacha 5.72 24 eP Pn 20 04 06.3 -2.2
SDLR Sedlovina 5.77 25 PN Pn 20 04 05.0 -4.3
KRX Arik 5.78 23 PN Pn 20 04 07.3 -2.1
GNL Ganaly 5.92 18 PN Pn 20 04 09.0 -2.3
SPN Mys Shipunski 5.97 31 PN Pn 20 04 08.5 -3.5
SHO Shikotan 7.02 236 ePN Pn 20 04 25.8 -0.5
SHO pmax pmax
comp=Z,70nm,0.5s
SHO Shikotan 7.02 236 eP Pn 20 04 27.4 +1.1
SHO AMB AMB 20 04 33.3
comp=Z,60nm,0.9s
SHO eS Sn 20 05 45.1 +0.1
SHO A A 20 05 48.3
comp=Z,40nm,0.9s
SHO A A 20 05 48.3
comp=Z,60nm,0.9s
YUK Yuzh-Kuril'sk 7.47 240 ePN Pn 20 04 33.7 +1.2
YUK Yuzh-Kuril'sk 7.47 240 eP Pn 20 04 33.7 +1.2
YUK eS Sn 20 05 56.5 +0.5
NEM2 Nemuro 2 7.95 237 P Pn 20 04 38.3 -0.8
NEM2 eS Sn 20 06 04.4 -3.4
YSS Yuzh-Sakhalins 8.28 266⇑ ePN Pn 20 04 49.3 +5.7
YSS pmax pmax
comp=Z,40nm,0.5s
YSS MLR MLR
comp=Z,300nm,11.0s
YSS Yuzh-Sakhalins 8.28 266 eP Pn 20 04 49.3 +5.7
YSS AMB AMB 20 04 49.7
comp=Z,20nm,0.7s
YSS AMS AMS 20 07 56.1
comp=Z,300nm,11.0s
YSS Yuzh-Sakhalins 8.28 266 ePn Pn 20 04 49.1 +5.5
JNK Nakash 8.40 241 P Pn 20 04 46.6 +1.3
UGL Uglegorsk 8.54 281 ePN Pn 20 04 45.1 -2.1
UGL eSS Sn 20 06 33.4 +11
JTKR Abashiri--Toko 8.67 246 P Pn 20 04 51.6 +2.6
JAK Akkeshi 8.78 238 P Pn 20 04 49.6 -0.8
JAK eS Sn 20 06 23.7 -4.4
JMP Maruseppu 8.99 247 P Pn 20 04 56.7 +3.3
JAR Ashorobuto 9.13 242 P Pn 20 04 56.7 +1.4
JAR eS Sn 20 06 38.6 +1.7
JOB Onbets 9.33 240 P Pn 20 04 58.3 +0.3
JOB eS Sn 20 06 38.8 -2.9
ASAJ Asahikawa 9.41 249 P Pn 20 05 03.4 +4.3
ASAJ Asahikawa 9.41 249 ePn Pn 20 05 03.4 +4.3
JKK2 Kamakawa 2 9.44 248 P Pn 20 05 02.6 +3.1
JCH Churui 9.78 240 P Pn 20 05 03.6 -0.6
JCH eS Sn 20 06 49.1 -3.7
JFR Furan 9.91 245 P Pn 20 05 09.4 +3.4
JAB Ashibetsu 9.96 247 P Pn 20 05 09.9 +3.3
JBT2 Biratori 2 10.27 243 P Pn 20 05 11.3 +0.4
ERM Erimo 10.28 238 iPN Pn 20 05 11.5 +0.5
ERM Erimo 10.28 238 eP Pn 20 05 11.5 +0.5
ERM Erimo 10.28 238 ePn Pn 20 05 10.7 -0.3
ERM eSn Sn 20 07 00.3 -4.6
JNBK Urakawa-nobuka 10.34 240 eS Sn 20 07 01.6 -5.0
JNB Noboribetsu 11.25 245 P Pn 20 05 25.1 +0.8
JKB Kayabe 11.60 243 P Pn 20 05 27.4 -1.6
MA2 Magadan 11.74 350 Pn Pn 20 05 32.4 +1.5
comp=Z,0.9nm,0.3s,baz=176,slow=12,SNR=4.5
MA2 LR LR 20 10 54.4
comp=Z,144nm,18.1s,baz=150,slow=42
JYM2 Yakumo 2 11.86 245 P Pn 20 05 31.9 -0.7
JTM Tenmabayashi 12.27 238 P Pn 20 05 35.3 -2.9
JANG Nango 12.30 236 P Pn 20 05 34.3 -4.3
JOSM Okushiri--Mats 12.43 247 P Pn 20 05 40.2 -0.1
HABR Khabarovsk 13.20 279 ePN Pn 20 05 48.9 -2.0
HABR eSS Sn 20 08 28.4 +12
HABR pmax pmax
comp=Z,11nm,2.0s
HABR MLR MLR
comp=Z,130nm,12.0s
EKMR Ekimchan 14.76 298 eP Pn 20 06 12.1 0.0
EKMR AMB AMB 20 06 26.3
comp=Z,4.0nm,0.5s
KLR Kul'dur 15.31 283 Pn P 20 06 22.2 -1.6
comp=Z,0.1nm,0.3s,baz=113,slow=18,SNR=3.3
KLR Kul'dur 15.31 283 iP Pn 20 06 21.2 +1.8
KLR Kul'dur 15.31 283 eP Pn 20 06 21.2 +1.8
USRK Ussuriysk Ar. 16.31 265 Pn P 20 06 33.9 -1.1
comp=Z,0.6nm,0.3s,baz=68,slow=11,SNR=10
MJA0 Matsu Arr-Jizo 16.83 233 eP Pn 20 06 36.5 -2.5
MAJO Matsushiro 16.85 233 eP Pn 20 06 36.9 -2.3
MAJO pmax pmax
comp=Z,11nm,1.1s
MAJO Matsushiro 16.85 233 eP Pn 20 06 37.0 -2.3
MAJO Matsushiro 16.85 233 ePn Pn 20 06 36.9 -2.3
comp=Z,11nm,1.1s
MJAR Matsushiro Arr 16.85 233 Pn Pn 20 06 36.9 -2.3
comp=Z,0.2nm,0.3s,baz=29,slow=14,SNR=6.1
MJB9 Matsu-Tunnel 16.85 233 ePn Pn 20 06 37.3 -1.9
comp=Z,2.9nm,1.1s
MDJ Mudanjiang 17.77 268 P Pn 20 06 49.3 -1.2
MDJ pmax pmax
comp=Z,4.0nm,0.8s
MDJ pmax pmax
comp=Z,53nm,4.6s
INU Inuyama 18.38 233 eP P 20 06 55.2 -2.7
comp=Z,14nm,1.1s
KROS Kirovskiy 18.49 300 eP Pn 20 06 59.9 +0.6
KROS AMB AMB 20 07 02.7
comp=Z,3.0nm,0.5s
YAK Yakutsk 19.87 324 eP Pn 20 07 21.4 +5.6
YAK pmax pmax
comp=Z,13nm,1.1s
YAK pmax pmax
comp=N,11nm,0.8s
YAK pmax pmax
comp=E,6.0nm,1.2s
YAK MLR MLR
comp=Z,65nm,15.0s
YAK Yakutsk 19.87 324 eP P 20 07 13.1 -0.9
YAK Yakutsk 19.87 324 eP P 20 07 11.5 -2.5
comp=Z,11nm,0.8s
BILL Bilibino 20.81 12 eP Pn 20 07 27.2 +0.6
BILL e 20 07 42.8
BILL pmax pmax
comp=Z,3.0nm,0.9s
CN2 Changchun 20.84 269 eP P 20 07 22.9 -1.7
KSRS Korea Array 22.35 252 P P 20 07 42.1 +1.2
comp=Z,5.0nm,0.7s,baz=46,slow=10.0,SNR=14
KS01 Wonju Array Si 22.36 252 eP P 20 07 41.0 0.0
KSAR Wonju Array Be 22.38 252 P P 20 07 42.1 +0.9
KSAR Wonju Array Be 22.38 252 P P 20 07 42.1 +0.9
TIXI Tiksi 26.52 342 iP P 20 08 20.8 +0.8
TIXI pmax pmax
comp=Z,3.0nm,0.8s
TIXI Tiksi 26.52 342 eP P 20 08 20.8 +0.8
BJI Beijing 28.70 268 P P 20 08 39.4 -0.4
BJI S S 20 13 23.8 -2.7
BJI pmax pmax
comp=Z,4.0nm,1.3s
BJI LR LR
comp=Z,70nm,19.7s
H11N2 WAKE ISLAND Hy 29.94 157 T T 20 40 44.4
baz=344,slow=76,SNR=39
H11N1 WAKE ISLAND Hy 29.95 157 T T 20 40 30.0
baz=344,slow=76,SNR=60
H11N3 WAKE ISLAND Hy 29.95 157 T T 20 40 39.6
baz=344,slow=76,SNR=28
H11S1 WAKE ISLAND Hy 31.06 158 T T 20 42 11.8
baz=344,slow=76,SNR=355
H11S3 WAKE ISLAND Hy 31.07 158 T T 20 42 01.6
baz=344,slow=76,SNR=373
H11S2 WAKE ISLAND Hy 31.08 158 T T 20 42 05.0
baz=344,slow=76,SNR=318
HHC Hu-ho-hao-te 31.40 273 eP P 20 09 04.0 +0.2
HHC sP sP 20 09 20.6 +3.2
HHC PP PnPn 20 10 09.2 +2.3
HHC S S 20 14 04.8 -4.3
HHC pmax pmax
comp=Z,12nm,1.3s
HHC pmax pmax
comp=Z,60nm,5.1s
HHC LR LR
comp=Z,130nm,14.9s
HHC LR LR
comp=Z,180nm,13.7s
HHC LR LR
comp=Z,100nm,14.9s
ULN Ulaanbaatar 31.60 288 eP P 20 09 02.6 -3.0
ULN pmax pmax
comp=Z,13nm,2.0s
ULN Ulaanbaatar 31.60 288 eP P 20 09 02.6 -3.0
comp=Z,13nm,2.0s
SONA1 Songino Array 32.02 288 eP P 20 09 07.7 -1.5
SONM Songino Array 32.03 288 P P 20 09 08.5 -0.8
comp=Z,0.9nm,0.9s,baz=70,slow=7.9,SNR=5.9
IL1 Eielson Array 34.74 40 eP P 20 09 36.4 +3.8
ILAR Eielson Array 34.74 40 P P 20 09 30.9 -1.6
comp=Z,0.4nm,0.6s,baz=253,slow=6.0,SNR=4.9
ILAR Eielson Array 34.74 40 P P 20 09 31.0 -1.6
ILAR Eielson Array 34.74 40 eP P 20 09 34.0 +1.4
WHN Wuhan 35.43 255 P P 20 09 39.5 +0.7
XAN Xi'an 36.82 265 P P 20 09 50.8 0.0
XAN pP sP 20 10 02.9 -1.5
XAN pmax pmax
comp=Z,4.0nm,0.9s
XAN pmax pmax
comp=Z,140nm,6.5s
LZH Lanzhou 39.04 271 eP P 20 10 10.1 +0.5
LZH pP sP 20 10 23.3 0.0
LZH sP pP 20 10 28.0 +8.7
LZH pmax pmax
comp=Z,21nm,1.4s
CD2 Chengdu 42.18 265 eP P 20 10 34.5 -1.0
CD2 pmax pmax
comp=Z,10.0nm,0.7s
ZALV Zalesovo Beam 42.79 305 P P 20 10 39.4 -0.7
comp=Z,0.7nm,0.4s,baz=72,slow=7.5,SNR=5.1
ZALV PcP PcP 20 12 31.2 +0.4
comp=Z,0.5nm,0.3s,baz=102,slow=3.1,SNR=3.4
GYA Guiyang 43.17 258 eP P 20 10 44.2 +0.6
GYA pmax pmax
comp=Z,10.0nm,1.0s
WMQ Urumqi 45.55 291 P P 20 11 03.1 +0.7
WMQ pP sP 20 11 16.4 +0.2
WMQ sP pP 20 11 22.3 +10
WMQ pmax pmax
comp=Z,19nm,0.7s
WMQ pmax pmax
comp=Z,190nm,3.7s
WMQ LR LR
comp=Z,77nm,17.5s
WMQ LR LR
comp=Z,64nm,21.7s
WMQ LR LR
comp=Z,50nm,15.5s
KMI Kunming 46.66 260 P P 20 11 12.6 +1.1
KMI pmax pmax
comp=Z,2.0nm,1.1s
MK31 Makanchi Array 47.38 297 eP P 20 11 16.1 -0.6
MK31 Makanchi Array 47.38 297 eP P 20 11 16.1 -0.6
MKAR Makanchi Array 47.38 297 eP P 20 11 16.0 -0.7
MKAR pmax pmax
comp=Z,27nm,0.6s
MKAR Makanchi Array 47.38 297 eP P 20 11 16.0 -0.7
comp=Z,27nm,0.6s
MK01 Makanchi Array 47.39 297 eP P 20 11 15.9 -0.8
KURK Kurchatov 47.61 303 diP P 20 11 18.1 -0.2
KURK pmax pmax
comp=Z,35nm,0.7s
KURK Kurchatov 47.61 303 eP P 20 11 18.1 -0.2
KURK Kurchatov 47.61 303 eP P 20 11 18.0 -0.4
comp=Z,10nm,0.6s
BRVK Borovoye 50.96 309 diP P 20 11 43.6 -0.3
BRVK pmax pmax
comp=Z,7.0nm,0.6s
BRVK Borovoye 50.96 309 eP P 20 11 43.1 -0.8
comp=Z,3.3nm,0.6s
ARU Arti 54.82 317 ciP P 20 12 14.3 +2.0
ARU 20 14 13.9
ARU S S 20 19 54.3 +3.6
ARU SS SS 20 23 36.0 +2.6
ARU pmax pmax
comp=Z,8.0nm,2.5s
ARU Arti 54.82 317 eP P 20 12 12.4 +0.1
KSH Kashi 55.24 292 eP P 20 12 19.6 +3.9
KSH pP sP 20 12 32.6 +3.0
KSH PP PP 20 14 24.7 +5.6
KSH S S 20 19 56.1 -0.9
KSH sS sS 20 20 18.1 +4.6
KSH SS SS 20 23 40.0 -1.0
KSH pmax pmax
comp=Z,2.0nm,0.5s
KSH pmax pmax
comp=Z,93nm,4.1s
KSH LR LR
comp=Z,240nm,9.9s
KSH LR LR
comp=Z,240nm,12.9s
KSH LR LR
comp=Z,120nm,6.9s
ARCES ARCESS Array B 56.96 341 P P 20 12 26.4 -1.0
comp=Z,0.7nm,0.6s,baz=21,slow=8.7,SNR=4.7
ARCES ARCESS Array B 56.96 341 eP P 20 12 27.1 -0.3
ARCES pmax pmax
comp=Z,1.0nm,0.6s
SLMT Seeley Lake 57.98 53 eP P 20 12 38.5 +3.3
WVOR Wild Horse Val 58.04 61 P P 20 12 39.5 +3.9
WVOR pmax pmax
comp=Z,6.0nm,1.5s
WVOR Wild Horse Val 58.04 61 eP P 20 12 39.5 +3.9
comp=Z,6.1nm,1.5s
ABKAR Akbulak array 58.47 310 eP P 20 12 37.5 -0.9
comp=Z,23nm,0.6s
KSM Kuching 60.24 234 eP P 20 12 52.7 +1.7
comp=Z,40nm,1.7s
ABL Mount Abel 62.52 68 eP P 20 13 09.2 +2.7
WORM Onyx Ranch 62.56 66 eP P 20 13 10.4 +3.8
KBL Kabul 62.67 292 eP P 20 13 05.5 -2.0
KBL pmax pmax
comp=Z,9.0nm,0.5s
KBL Kabul 62.67 292 eP P 20 13 05.5 -2.0
comp=Z,9.1nm,0.5s
BW06 Boulder Array 62.99 55 eP P 20 13 12.6 +3.1
PD31 Pinedale Array 62.99 55 eP P 20 13 11.7 +2.2
PDAR Pinedale Array 62.99 55 P P 20 13 08.8 -0.8
comp=Z,0.5nm,0.6s,baz=266,slow=2.4,SNR=3.8
FINES FINESS Array B 63.31 335 P P 20 13 09.5 -1.5
comp=Z,1.0nm,0.4s,baz=38,slow=6.9,SNR=17
FINES FINESS Array B 63.31 335 iP P 20 13 11.1 0.0
FINES pmax pmax
comp=Z,1.0nm,0.4s
FINES FINESS Array B 63.31 335 eP P 20 13 11.0 0.0
ULM Lac du Bonnet 64.71 42 P P 20 13 17.9 -2.5
comp=Z,4.4nm,0.9s,baz=282,slow=9.3,SNR=3.1
OBN Obninsk 64.86 326 eP P 20 13 15.7 -5.5
OBN pmax pmax
comp=Z,3.0nm,1.0s
GEYT Alibeck 66.92 301 P P 20 13 36.0 +1.0
comp=Z,2.1nm,0.6s,baz=29,slow=3.4,SNR=6.5
NC303 NORSAR Array S 67.12 342 eP P 20 13 36.2 +0.5
NC405 NORSAR Array S 67.15 342 eP P 20 13 35.9 0.0
NB201 NORSAR Array S 67.29 342 eP P 20 13 36.7 -0.1
NB2 NORSAR Subarra 67.32 342 P P 20 13 36.2 -0.8
NB2 pmax pmax
comp=Z,1.0nm,0.5s
NB2 NORSAR Subarra 67.32 342 P P 20 13 36.5 -0.5
comp=Z,1.3nm,0.5s,baz=26,slow=6.5
NOA NORSAR Array B 67.32 342 P P 20 13 36.9 -0.2
comp=Z,2.5nm,0.7s,baz=28,slow=6.6,SNR=11
NOA LR LR 20 47 41.6
comp=Z,30nm,18.4s,baz=40,slow=40
NOA NORSAR Array B 67.32 342 eP P 20 13 36.8 -0.2
NOA pmax pmax
comp=Z,2.0nm,0.6s
NBO02 NORSAR Array S 67.39 342 eP P 20 13 37.4 0.0
NBO00 NORSAR Array S 67.42 342 eP P 20 13 37.5 -0.2
NC602 NORSAR Array S 67.53 341 eP P 20 13 38.0 -0.3
S22A 4UR Ranch, Cre 67.93 58 eP P 20 13 43.6 +2.0
comp=Z,13nm,1.6s
WRA Warramunga Arr 70.19 201 P P 20 13 54.1 -1.2
comp=Z,0.6nm,0.8s,baz=14,slow=6.4,SNR=4.7
KIV Kislovodsk 70.70 315 eP P 20 13 53.9 -4.5
KIV pmax pmax
comp=Z,5.0nm,0.9s
KIV Kislovodsk 70.70 315 eP P 20 13 55.3 -3.1
AKASG Malin Array Be 71.07 327 P P 20 13 59.2 -1.2
comp=Z,1.2nm,0.4s,baz=32,slow=6.2,SNR=4.9
AKASG Malin Array Be 71.07 327 eP P 20 14 00.0 -0.4
AKASG pmax pmax
comp=Z,1.0nm,0.4s
KIEV Kiev 71.08 327 eP P 20 14 00.1 -0.3
KIEV pmax pmax
comp=Z,2.0nm,0.6s
KIEV Kiev 71.08 327 eP P 20 14 00.1 -0.3
KIEV Kiev 71.08 327 eP P 20 13 59.7 -0.7
comp=Z,2.5nm,0.6s
AK11 Malin Array Si 71.11 327 eP P 20 13 59.9 -0.7
ASAR Alice Springs 73.88 200 P P 20 14 17.8 +0.4
comp=Z,0.5nm,0.9s,baz=17,slow=5.0,SNR=5.0
ASAR Alice Springs 73.88 200 eP P 20 14 18.7 +1.3
VLDQ Val d'Or 73.96 33 eP P 20 14 19.6 +2.0
comp=Z,23nm,1.6s
KWP Kalwaria Pacla 74.26 330 eP P 20 14 20.0 +0.6
KWP Kalwaria Pacla 74.26 330 eP P 20 14 20.0 +0.6
OJC Ojcow 74.69 332 eP P 20 14 22.6 +0.8
OJC Ojcow 74.69 332 eP P 20 14 21.4 -0.5
OJC pmax pmax
comp=Z,5.0nm,0.7s
OJC Ojcow 74.69 332 eP P 20 14 21.4 -0.5
comp=Z,4.8nm,0.7s
STHS Stebnicka Huta 74.93 331 eP P 20 14 24.8 +1.5
STHS pmax pmax
comp=Z,5.0nm,0.7s
STHS Stebnicka Huta 74.93 331 eP P 20 14 24.8 +1.5
BUR08 Bucovina Ar. S 75.08 327 eP P 20 14 24.2 -0.1
BURAR Bucovina Array 75.10 327⇑ iP P 20 14 24.5 +0.1
BURAR Bucovina Array 75.10 327 P P 20 14 24.4 +0.1
KSP Ksiaz 75.21 334 eP P 20 14 25.5 +0.7
KSP Ksiaz 75.21 334 eP P 20 14 25.5 +0.7
NIE Niedzica 75.23 331 eP P 20 14 26.2 +1.1
NIE Niedzica 75.23 331 eP P 20 14 26.2 +1.2
CRVS Cervenica-Dubn 75.30 330 eP P 20 14 25.9 +0.5
CRVS Cervenica-Dubn 75.30 330 eP P 20 14 25.8 +0.4
TESR Tescani 75.50 326⇑ iP P 20 14 26.7 +0.1
OKC Ostrava-Krasne 75.54 333 eP P 20 14 27.6 +0.8
OKC Ostrava-Krasne 75.54 333⇓ eP P 20 14 27.6 +0.8
UPC Upice 75.59 334 eP P 20 14 27.6 +0.6
UPC Upice 75.59 334 eP P 20 14 27.6 +0.6
DPC Dobruska-Polom 75.64 334 eP P 20 14 28.4 +1.0
DPC Dobruska-Polom 75.64 334 eP P 20 14 28.4 +1.0
CLL Collm 75.71 336 eP P 20 14 27.5 -0.1
CLL pmax pmax
comp=Z,7.0nm,0.7s
CLL Collm 75.71 336 iP P 20 14 27.6 -0.1
comp=Z,9.0nm,0.8s
CLL Collm 75.71 336 eP P 20 14 27.5 -0.1
comp=Z,6.9nm,0.7s
LANS Liptovska Anna 75.73 332 eP P 20 14 29.3 +1.3
LANS Liptovska Anna 75.73 332 eP P 20 14 29.2 +1.3
KRLC Kraliky 75.75 334 eP P 20 14 28.9 +0.9
KRLC Kraliky 75.75 334 eP P 20 14 28.9 +0.9
MORC Moravsky Berou 75.78 333⇓ iP P 20 14 29.0 +0.8
MORC Moravsky Berou 75.78 333 eP P 20 14 28.5 +0.3
MORC pmax pmax
comp=Z,28nm,0.9s
MORC Moravsky Berou 75.78 333 eP P 20 14 28.5 +0.3
comp=Z,28nm,0.9s
TX31 Lajitas Ar. Si 75.79 62 eP P 20 14 27.4 -1.3
TXAR Lajitas Array 75.79 62 P P 20 14 27.7 -0.9
comp=Z,1.2nm,0.6s,baz=302,slow=4.2,SNR=22
BRG Berggiesshubel 75.85 336 eP P 20 14 29.0 +0.5
comp=Z,9.5nm,1.3s
BRG Berggiesshubel 75.85 336 eP P 20 14 29.0 +0.5
BRG pmax pmax
comp=Z,10.0nm,1.3s
KECS Kecovo 75.99 331 eP P 20 14 29.2 -0.1
KECS pmax pmax
comp=Z,2.0nm,0.7s
KECS Kecovo 75.99 331 eP P 20 14 29.2 -0.1
HHAR Hobbs 76.02 51 eP P 20 14 32.0 +2.3
comp=Z,18nm,1.9s
CFR Carcaliu 76.05 324⇑ iP P 20 14 29.6 -0.1
CJR Cluj-Napoca 76.45 328⇑ iP P 20 14 33.2 +1.2
PRU Pruhonice 76.47 335 eP P 20 14 32.8 +0.7
PRU Pruhonice 76.47 335 eP P 20 14 32.8 +0.7
VRAC Vranov 76.48 333⇓ iP P 20 14 33.3 +1.1
VRAC Vranov 76.48 333 P P 20 14 33.2 +1.1
VYHS Vyhne 76.51 332 eP P 20 14 30.8 -1.5
VYHS pmax pmax
comp=Z,8.0nm,2.0s
VYHS Vyhne 76.51 332 eP P 20 14 30.8 -1.5
TIRR Tirgusor 76.54 324⇑ iP P 20 14 37.7 +5.2
TLB Topalu 76.58 324⇑ iP P 20 14 32.9 +0.2
MLR Muntele Rosu 76.62 326⇑ iP P 20 14 34.2 +1.0
MLR Muntele Rosu 76.62 326 eP P 20 14 33.0 -0.2
MLR pmax pmax
comp=Z,6.0nm,0.8s
MLR Muntele Rosu 76.62 326 eP P 20 14 33.0 -0.2
comp=Z,5.8nm,0.8s
DRGR 76.69 328⇑ iP P 20 14 34.1 +0.6
MARD Mardin 76.71 312 eP P 20 14 33.7 -0.1
comp=Z,7.7nm,0.8s
ISR Istrita 76.71 325⇑ iP P 20 14 35.1 +1.5
NKC Novy Kostel 76.83 336 eP P 20 14 35.1 +1.0
NKC Novy Kostel 76.83 336 eP P 20 14 35.1 +1.0
VOIR 77.01 326⇓ iP P 20 14 36.2 +0.9
VOIR 77.01 326 P P 20 14 36.1 +0.8
ILGA Ilgaz 77.09 318 eP P 20 14 37.1 +1.1
comp=Z,8.2nm,0.8s
ARR Arges 77.22 327⇓ iP P 20 14 37.8 +1.4
KHC Kasperske Hory 77.52 335 eP P 20 14 38.8 +0.8
KHC Kasperske Hory 77.52 335 eP P 20 14 38.2 +0.1
KHC pmax pmax
comp=Z,2.0nm,0.8s

KHC	**Kasperske Hory**	**77.52**	**335**	*e*P	**P**	**20 14 38.1**	**+0.1**
	comp=Z,2.4nm,0.8s						
GEC2	**GERESS Array S**	**77.74**	**335**	*e*P	**P**	**20 14 40.1**	**+0.7**
GEC2				pmax	pmax		
	comp=Z,3.0nm,0.7s						
GEC2	**GERESS Array S**	**77.74**	**335**	*e*P	**P**	**20 14 40.1**	**+0.7**
	comp=Z,2.9nm,0.7s						
GERES	**GERESS Array B**	**77.74**	**335**	P	**P**	**20 14 40.3**	**+1.0**
	comp=Z,1.8nm,0.6s,baz=33,slow=5.1,SNR=14						
GEA0	**GERESS Array S**	**77.75**	**335**	*e*P	**P**	**20 14 39.7**	**+0.3**
CONA	**Conrad Observa**	**77.93**	**333**	*i* pP	**P**	**20 14 41.6**	**+1.2**
	comp=Z,3.1nm,0.7s						
BZS	**Buzias**	**78.09**	**329**	⇓ *i* P	**P**	**20 14 41.2**	**0.0**
BR131	**Keskin Array S**	**78.20**	**318**	*e*P	**P**	**20 14 42.1**	**0.0**
BRTR	**Keskin Array B**	**78.20**	**318**	P	**P**	**20 14 43.3**	**+1.2**
	comp=Z,1.9nm,0.8s,baz=76,slow=3.3,SNR=11						
BRTR	**Keskin Array B**	**78.20**	**318**	*e*P	**P**	**20 14 43.0**	**+0.9**
BRTR				pmax	pmax		
	comp=Z,2.0nm,0.9s						
MOA	**Molln**	**78.48**	**334**	*i* pP	**P**	**20 14 44.7**	**+1.3**
	comp=Z,4.9nm,1.0s						
BR231	**Keskin MP Arra**	**78.50**	**318**	*e*P	**P**	**20 14 43.0**	**-0.7**
MDVR	**Moldovita**	**78.78**	**328**	⇑ *i* P	**P**	**20 14 45.5**	**+0.4**
SOKA	**Soboth**	**79.31**	**333**	*i* pP	**P**	**20 14 49.3**	**+1.3**
	comp=Z,4.7nm,1.1s						
KBA	**Koelnbreinsper**	**79.44**	**334**	*e*pP	**P**	**20 14 50.5**	**+1.7**
	comp=Z,8.2nm,0.9s						
OBKA	**Obir**	**79.60**	**333**	*i* pP	**P**	**20 14 50.1**	**+0.5**
	comp=Z,1.9nm,0.8s						
BFO	**Black Forest**	**79.65**	**338**	*e*P	**P**	**20 14 50.7**	**+0.9**
BFO				pmax	pmax		
	comp=Z,26nm,1.9s						
BFO	**Black Forest**	**79.65**	**338**	*e*P	**P**	**20 14 50.7**	**+0.9**
	comp=Z,26nm,1.9s						
WATA	**Walderalm**	**79.71**	**336**	*i* pP	**P**	**20 14 52.0**	**+1.7**
	comp=Z,1.8nm,0.4s						
WTTA	**Wattenberg**	**79.76**	**336**	*i* pP	**P**	**20 14 52.6**	**+2.0**
	comp=Z,4.4nm,0.7s						
RETA	**Reutte**	**79.80**	**336**	*i* pP	**P**	**20 14 52.2**	**+1.6**
	comp=Z,5.3nm,1.1s						
MOTA	**Moosalm**	**79.83**	**336**	*i* pP	**P**	**20 14 52.0**	**+1.1**
	comp=Z,10nm,1.0s						
VTS	**Vitosha**	**80.13**	**326**	⇓ *i* P	**P**	**20 14 52.7**	**+0.1**
VTS	**Vitosha**	**80.13**	**326**	*e*P	**P**	**20 14 52.1**	**-0.5**
VTS				pmax	pmax		
	comp=Z,3.0nm,0.7s						
VTS	**Vitosha**	**80.13**	**326**	*e*P	**P**	**20 14 52.1**	**-0.5**
	comp=Z,3.3nm,0.7s						
TORD	**Torodi Ar. Bea**	**114.51**	**331**	PKP	PKPdf	20 21 21.4	-1.3
	comp=Z,0.2nm,0.7s,baz=349,slow=2.9,SNR=2.5						

DHMR 10 20:05:49.8±1.8, 13°.47N×41°.97E, h12km±41km, ML4.0, 1C, Ethiopia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TRBA	**At Turbah**	**2.10**	**96**	⇑ *i* P	Pn	20 06 26.4	+1.4
TRBA				*i* S	Sb	20 06 55.4	+1.2
HAJJ	**Hajjah**	**2.72**	**35**	*i* P	Pn	20 06 35.4	+1.9
HAJJ				*i* S	Sb	20 07 13.0	+1.0
HAJJ				AML	AML	20 07 34.1	
	comp=Z,588nm,0.7s						
BDHA	**Al Bayda'**	**3.54**	**81**	*i* P	Pn	20 06 48.3	+3.6
BDHA				*i* S	Sb	20 07 31.7	-3.8
BDHA				AML	AML	20 08 01.0	
	comp=N,1μm,0.6s						

SJA 10 20:09:01.6±0.5, 29°.11S×71°.66W, h70km, ML3.1, MW3.5, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AGUA	**GUANDACOL**	**2.80**	**98**	*e*P	Pn	20 09 46.5	+2.4
VCA	**Vinchina**	**3.06**	**84**	*i* P	Pn	20 09 49.5	+1.8
VCA				IAML		20 09 53.3	
	comp=Z,57nm,0.2s						
VCA				*e*S	Sn	20 10 25.7	+2.4
AMOG	**MOGNA**	**3.30**	**124**	*e*P	Pn	20 09 54.8	+3.8
AVFE	**Valle Fertil**	**3.97**	**114**	*e*P	Pn	20 10 02.2	+2.1
AVFE				*e*S	Sn	20 10 46.8	+1.4
ACLC	**CERRO LA CRUZ**	**4.13**	**95**	*i* P	Pn	20 10 02.8	+0.4
CYA	**Choya**	**5.19**	**84**	*e*P	Pn	20 10 15.8	-0.9

IDC ***10*** *20:09:16.3±0.8, 37°.08N×143°.62E, h0km, mb3.7/8, mb1 4.0/10, mb1mx3.8/28, mbtmp3.8/10, ML3.7/2, MS3.7/1, Ms1 3.7/1, ms1mx2.7/28, Error ellipse: s-maj=26.3km s-min=19.0km az=98.0*

ISCJB ***10*** *20:09:19.9±0.6, 37°.18N±0°.04×143°.46E±0°.05, h33km, mb3.7/8, MS3.8/1, Error ellipse: s-maj=6.2km s-min=5.4km az=153.0*

JMA ***10*** *20:09:20.1±0.3, 37°.23N×143°.48E, h46km, M3.8*

ISC 10 20:09:21.2±0.8, 37°.15N±0°.04×143°.50E±0°.07, h35km, n31, σ1°.53/41, mb3.7/8, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JFK	**Kawauchi**	**2.11**	**277**	P	**Pn**	**20 09 53.8**	**-0.2**
JFK				S	**Sn**	**20 10 18.0**	**-1.0**
JIO	**Ouri**	**2.15**	**308**	P	**Pn**	**20 09 53.5**	**-0.9**
JIO				S	**Sn**	**20 10 17.7**	**-2.1**
ONAJ	**Iwakimizuishiy**	**2.16**	**269**	P	**Pn**	**20 09 54.3**	**-0.4**
JMM	**Marumori**	**2.27**	**289**	P	**Pn**	**20 09 55.8**	**-0.3**
JMM				S	**Sn**	**20 10 21.3**	**-1.6**
JMK	**Ichinoseki**	**2.54**	**316**	P	**Pn**	**20 09 59.3**	**-0.6**
JMK				S	**Sn**	**20 10 27.7**	**-2.0**
JFT	**Otama**	**2.55**	**279**	P	**Pn**	**20 10 00.9**	**+0.9**
JFT				S	**Sn**	**20 10 30.4**	**+0.6**
JOU	**Okura**	**2.56**	**299**	P	**Pn**	**20 10 00.0**	**-0.1**
JOU				S	**Sn**	**20 10 29.8**	**-0.2**
JOM	**Ohasama**	**2.90**	**324**	P	**Pn**	**20 10 04.5**	**-0.3**
JYK	**Kaneyama**	**3.04**	**306**	P	**Pn**	**20 10 07.0**	**+0.2**
JRG	**Rokugo**	**3.18**	**316**	S	**Sn**	**20 10 45.7**	**+0.3**
BSO1	**Boso 1**	**3.23**	**220**	P	**Pn**	**20 10 09.0**	**+0.2**
JAG	**Ashikaga**	**3.33**	**259**	P	**Pn**	**20 10 10.9**	**+0.1**
JANG	**Nango**	**3.57**	**335**	S	**Sn**	**20 10 52.2**	**-2.8**
JAH	**Hinai**	**3.77**	**324**	P	**Pn**	**20 10 16.9**	**+0.1**
JAH				S	**Sn**	**20 10 58.1**	**-1.8**
JRY	**Ryogami san**	**3.87**	**254**	P	**Pn**	**20 10 18.3**	**+0.1**
JRY				S	**Sn**	**20 11 00.4**	**-2.1**
JOD2	**Odawara 2**	**4.04**	**243**	P	**Pn**	**20 10 20.5**	**0.0**
JTM	**Tenmabayashi**	**4.09**	**333**	S	**Sn**	**20 11 05.5**	**-2.4**
MJAR	**Matsushiro Arr**	**4.29**	**263**	Pn	**Pn**	**20 10 25.2**	**+1.2**
	2.8nm,0.3s,baz=74,slow=9.1,SNR=77						
MAT	**Matsushiro**	**4.29**	**263**	P	**Pn**	**20 10 25.2**	**+1.2**
MAT				*e*S	**Sn**	**20 11 12.7**	**-0.1**
JHJ	**Hachijo jima 2**	**5.05**	**218**	Pn	**Pn**	**20 10 32.4**	**-2.0**
	12nm,0.3s,baz=66,slow=12,SNR=10						
JHJ				Sn	**Sn**	**20 11 26.3**	**-5.1**
	10nm,0.3s,baz=252,slow=20,SNR=3.1						
JCH	**Churui**	**5.46**	**359**	P	**Pn**	**20 10 37.3**	**-2.6**
KLR	**Kul'dur**	**14.78**	**328**	Pn	**P**	**20 12 50.9**	**-2.1**
	0.2nm,0.3s,baz=143,slow=10.0,SNR=5.2						
SONM	**Songino Array**	**29.11**	**303**	P	**P**	**20 15 20.9**	**+2.3**
	1.5nm,0.8s,baz=96,slow=7.7,SNR=9.7						
ZALV	**Zalesovo Beam**	**43.07**	**312**	P	**P**	**20 17 17.3**	**-0.1**
	0.5nm,0.5s,baz=107,slow=9.6,SNR=3.9						
ZALV				PcP	**PcP**	**20 19 06.8**	**-0.1**
	0.7nm,0.7s,baz=108,slow=4.7,SNR=2.9						
ILAR	**Eielson Array**	**48.50**	**32**	P	**P**	**20 18 00.8**	**+0.7**
	0.2nm,0.7s,baz=272,slow=7.1,SNR=3.0						
WRA	**Warramunga Arr**	**57.44**	**190**	P	**P**	**20 19 06.3**	**-0.1**
	1.4nm,0.8s,baz=8.2,slow=7.1,SNR=13						
AKTO	**Aktyubinsk**	**59.83**	**312**	LR	LR	20 45 19.3	
	comp=Z,60nm,18.1s,baz=25,slow=36						
ASAR	**Alice Springs**	**61.17**	**190**	P	**P**	**20 19 32.4**	**+0.2**
	0.5nm,0.7s,baz=4.4,slow=6.8,SNR=8.8						
FINES	**FINESS Array B**	**69.48**	**333**	P	**P**	**20 20 26.5**	**+0.9**
	1.4nm,0.7s,baz=52,slow=9.9,SNR=6.3						
NOA	**NORSAR Array B**	**74.71**	**338**	P	**P**	**20 20 58.0**	**+1.1**
	0.6nm,0.7s,baz=134,slow=4.4,SNR=3.1						
TXAR	**Lajitas Array**	**88.72**	**54**	P	**P**	**20 22 12.3**	**+0.9**
	0.3nm,0.8s,baz=254,slow=1.6,SNR=4.0						

ISCJB ***10*** *20:10:42.8±0.6, 61°.18S±0°.09×23°.6W±0°.2, h10km, mb4.2/9, Error ellipse: s-maj=17.9km s-min=9.7km az=148.5*

IDC ***10*** *20:10:43.3±1.0, 61°.15S×23°.73W, h0km, mb4.1/5, mb1 4.2/6, mb1mx3.9/20, mbtmp4.2/6, ML4.7/1, MS2.8/1, Ms1 2.8/1, ms1mx2.7/17, Error ellipse: s-maj=36.4km s-min=26.8km az=22.0*

NEIC ***10*** *20:10:45.2±0.6, 60°.90S×23°.32W, h10km, mb4.6/5, Error ellipse: s-maj=17.4km s-min=15.9km az=52.0*

ISC 10 20:10:45.1±0.7, 61°.05S±0°.10×23°.2W±0°.1, h10km, n25, σ2s22/26, mb4.4/9, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNA1	**Neumayer--Stat**	**11.37**	**154**	P	**Pn**	**20 13 27.8**	**+0.5**
VNA3	**Neumayer Olymp**	**11.57**	**158**	P	**Pn**	**20 13 29.3**	**-0.8**
VNA2	**Neumayer--Watz**	**11.77**	**154**	P	**Pn**	**20 13 32.2**	**-0.6**
	baz=312,slow=14						
SNAA	**Sanae**	**13.33**	**151**	P	**Pn**	**20 13 53.9**	**-0.2**
SNAA	**Sanae**	**13.33**	**151**	Pn	**Pn**	**20 13 53.8**	**-0.2**
	4.2nm,0.3s,baz=308,slow=14,SNR=263						
SNAA				Sn	Sn	20 16 12.6	-9.4
	0.7nm,0.3s,baz=306,slow=19,SNR=3.7						
SNAA				LR	LR	20 18 01.4	
	comp=Z,43nm,19.1s,baz=0.0,slow=33						
SNAA	**Sanae**	**13.33**	**151**	*e*Pn	**Pn**	**20 13 53.9**	**-0.2**
SNAA				*e*Sn	**Sn**	**20 16 15.4**	**-6.6**
PMSA	**Palmer Station**	**18.72**	**241**	P	**Pn**	**20 15 05.2**	**+1.4**
	2.1nm,0.3s,baz=84,slow=9.7,SNR=71						
EFI	**East Falkland**	**21.22**	**280**	*e*P	**P**	**20 15 28.4**	**-2.2**
	25nm,0.9s						
QSPA	**South Pole Qui**	**29.19**	**180**	*e*P	**P**	**20 16 50.7**	**+4.3**
PLCA	**Paso Flores**	**35.07**	**283**	P	**P**	**20 17 35.1**	**-2.9**
	2.0nm,0.8s,baz=307,slow=20,SNR=3.2						
PLCA	**Paso Flores**	**35.07**	**283**	*e*P	**P**	**20 17 35.1**	**-2.9**
	21nm,1.8s						
VNDA	**Vanda**	**41.65**	**182**	P	**P**	**20 18 36.0**	**+3.1**
	1.4nm,0.8s,baz=199,slow=4.5,SNR=8.4						
VNDA	**Vanda**	**41.65**	**182**	*e*P	**P**	**20 18 35.7**	**+2.8**
BOSA	**Boshof**	**45.58**	**67**	P	**P**	**20 19 06.8**	**+1.6**
	2.4nm,0.8s,baz=187,slow=12,SNR=3.7						
BOSA	**Boshof**	**45.58**	**67**	*e*P	**P**	**20 19 03.6**	**-1.6**
	40nm,1.8s						
LPAZ	**La Paz**	**54.94**	**304**	P	**P**	**20 20 16.0**	**-0.8**
	0.5nm,0.4s,baz=89,slow=11,SNR=4.8						
TOA0	**Torodi Ar. Sit**	**76.56**	**25**	*e*P	**P**	**20 22 35.5**	**+0.2**
TORD	**Torodi Ar. Bea**	**76.56**	**25**	P	**P**	**20 22 36.2**	**+0.9**
	2.3nm,0.6s,baz=198,slow=6.1,SNR=21						
TOA1	**Torodi Ar. Sit**	**76.56**	**25**	*e*P	**P**	**20 22 36.2**	**+0.9**
	2.7nm,0.6s						
ASAR	**Alice Springs**	**93.57**	**159**	P	**P**	**20 24 01.1**	**-0.2**
	0.2nm,0.8s,baz=190,slow=5.0,SNR=7.8						
AS31	**Alice Springs**	**93.57**	**159**	*e*P	**P**	**20 24 01.1**	**-0.2**
	1.6nm,1.4s						
FIA0	**FINESS Array S**	**127.85**	**27**	*e*PKPdf	**PKPdf**	**20 29 49.2**	**0.0**
FINES	**FINESS Array B**	**127.85**	**27**	PKP	**PKPdf**	**20 29 49.2**	**0.0**
	1.8nm,1.0s,baz=222,slow=1.9,SNR=4.4						
SONA0	**Songino Array**	**148.71**	**92**	*e*PKPbc	**PKPbc**	**20 30 31.9**	**+0.3**
SONM	**Songino Array**	**148.71**	**92**	PKPbc	**PKPbc**	**20 30 31.9**	**+0.3**
	1.1nm,0.6s,baz=210,slow=2.9,SNR=9.2						

GEN ***10*** *20:12:01.7, 44°.70N×10°.32E, h0km, ML2.2*

ISCJB ***10*** *20:12:02.8±0.2, 44°.62N±0°.02×10°.25E±0°.03, h29km±3km, Error ellipse: s-maj=3.5km s-min=3.1km az=150.3*

CSEM ***10*** *20:12:02.7±0.1, 44°.63N×10°.27E, h20km, ML3.1/13, Error ellipse: s-maj=3.8km s-min=2.9km az=111.0*

LDG ***10*** *20:12:03.1±0.1, 44°.61N×10°.26E, h20km, Ml2.6/10, Error ellipse: s-maj=1.9km s-min=1.6km az=48.0*

ROM ***10*** *20:12:03.1±0.1, 44°.65N×10°.26E, h18km±4km, Md2.5/18, Ml2.5/11, Error ellipse: s-maj=2.0km s-min=1.9km az=175.0*

ISC 10 20:12:02.2±0.9, 44°.65N±0°.02×10°.23E±0°.02, h24km±5km, n86, σ1s32/138, Northern Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PRMA	**PARMA**	**0.13**	**28**	Pg	**Pb**	**20 12 06.6**	**-0.4**
PRMA				Sg	**Sb**	**20 12 10.8**	**+0.6**
	2μm,0.8s						
PRMA	**PARMA**	**0.13**	**28**	Pg	**Pb**	**20 12 06.6**	**-0.4**
PRMA				Sg	**Sb**	**20 12 10.8**	**+0.6**
	2μm,0.8s						
GRAM	**Graiana**	**0.19**	**216**	P	**Pb**	**20 12 07.5**	**-0.2**
GRAM				S	**Sb**	**20 12 11.5**	**0.0**
CODM	**Codolo**	**0.37**	**226**	P	**Pb**	**20 12 11.1**	**+0.8**
CODM				S	**Sb**	**20 12 16.8**	**+1.0**
NOVE	**Novellara**	**0.38**	**67**	Pg	**Pb**	**20 12 10.3**	**0.0**
NOVE	**Novellara**	**0.38**	**67**	Pg	**Pb**	**20 12 10.3**	**0.0**
SARO	**Sassorosso**	**0.48**	**165**	P	**Pb**	**20 12 11.8**	**-0.3**
SARO				S	**Sb**	**20 12 19.0**	**+0.2**
VLC	**Villacollemand**	**0.50**	**167**	Pg	**Pb**	**20 12 12.4**	**0.0**
VLC				Sg	**Sb**	**20 12 20.1**	**+0.7**
	276nm,0.5s						
VLC	**Villacollemand**	**0.50**	**167**	Pg	**Pb**	**20 12 12.4**	**0.0**
VLC				Sg	**Sb**	**20 12 20.1**	**+0.7**
	276nm,0.5s						
SC2M	**Scurtabo**	**0.55**	**244**	Pg	**Pb**	**20 12 13.6**	**+0.3**
SC2M				Sg	**Sn**	**20 12 23.0**	**0.0**
	262nm,0.3s						
SC2M	**Scurtabo**	**0.55**	**244**	P	**Pb**	**20 12 13.6**	**+0.3**
SC2M				S	**Sn**	**20 12 22.6**	**-0.4**
SC2M				Sg	**Sn**	**20 12 23.0**	**0.0**
	262nm,0.3s						
BOB	**Bobbio (Coli)**	**0.57**	**282**	Pg	**Pn**	**20 12 15.0**	**+0.2**
BOB				Sg	**Sn**	**20 12 23.7**	**+0.2**
BOB	**Bobbio (Coli)**	**0.57**	**282**	Pg	**Pn**	**20 12 15.0**	**+0.2**
BOB				Sg	**Sn**	**20 12 23.7**	**+0.2**
MSSA	**Maissana**	**0.61**	**237**	Pg	**Pn**	**20 12 15.2**	**-0.2**
MSSA				Sg	**Sn**	**20 12 25.0**	**+0.6**
	47nm,0.5s						
MSSA	**Maissana**	**0.61**	**237**	Pg	**Pn**	**20 12 15.2**	**-0.2**
BDI	**Bagni Di Lucca**	**0.64**	**155**	Pg	**Pb**	**20 12 14.6**	**-0.2**
BDI				Sg	**Sn**	**20 12 25.2**	**-0.1**
	127nm,0.4s						
BDI	**Bagni Di Lucca**	**0.64**	**155**	Pg	**Pb**	**20 12 14.6**	**-0.2**
BDI				Sg	**Sn**	**20 12 25.2**	**-0.1**
	127nm,0.4s						
POPM	**Popiglio**	**0.71**	**148**	S	**Sb**	**20 12 25.7**	**+0.3**
MAIM	**Mastiano**	**0.76**	**165**	Pg	**Pn**	**20 12 17.3**	**-0.1**
MAIM				Sg	**Sb**	**20 12 27.6**	**+1.0**
	48nm,0.4s						
MAIM	**Mastiano**	**0.76**	**165**	Pg	**Pn**	**20 12 17.3**	**-0.1**
MAIM				S	**Sb**	**20 12 26.6**	**0.0**
MAIM				Sg	**Sb**	**20 12 27.6**	**+1.0**
	48nm,0.4s						
FNVD	**Fontana Vidola**	**0.80**	**126**	Pg	**Pn**	**20 12 18.0**	**-0.1**
FNVD	**Fontana Vidola**	**0.80**	**126**	Pg	**Pn**	**20 12 18.0**	**-0.1**
PTF	**Prato**	**0.92**	**138**	Pg	**Pn**	**20 12 19.7**	**+0.1**
PTF	**Prato**	**0.92**	**138**	Pg	**Pn**	**20 12 19.7**	**+0.1**
SALO	**Salr**	**0.99**	**12**	Pg	**Pn**	**20 12 21.8**	**+1.1**
	206nm,0.5s						
SALO	**Salr**	**0.99**	**12**	Pg	**Pn**	**20 12 21.8**	**+1.1**
	206nm,0.5s						
CRMI	**Carmignano**	**1.01**	**148**	Pg	**Pn**	**20 12 22.5**	**+1.6**
CRMI				Sg	**Sn**	**20 12 36.5**	**+2.1**
	34nm,0.6s						
CRMI	**Carmignano**	**1.01**	**148**	Pg	**Pn**	**20 12 22.5**	**+1.6**
BALD	**Monte Baldo**	**1.12**	**22**	*e*Pg	**Pb**	**20 12 23.5**	**+0.6**
BALD				*e*Sg	**Sn**	**20 12 39.2**	**+2.0**
BALD	**Monte Baldo**	**1.12**	**22**	*e*Pg	**Pb**	**20 12 23.5**	**+0.6**
BALD				*e*Sg	**Sn**	**20 12 39.2**	**+2.0**
MAGA	**Magasa**	**1.16**	**14**	Pg	**Pb**	**20 12 23.9**	**+0.2**
MAGA				Sg	**Sn**	**20 12 40.5**	**+2.3**
	214nm,0.4s						
MAGA	**Magasa**	**1.16**	**14**	Pg	**Pb**	**20 12 23.9**	**+0.2**
MAGA				Sg	**Sn**	**20 12 40.5**	**+2.3**
	214nm,0.4s						
ROVR	**Rover¯¤ Verone**	**1.16**	**31**	Pg	**Pb**	**20 12 23.8**	**+0.1**
ROVR				Sg	**Sn**	**20 12 40.4**	**+2.1**
	143nm,0.4s						
ROVR	**Rover¯¤ Verone**	**1.16**	**31**	Pg	**Pb**	**20 12 23.8**	**+0.1**
ROVR				Sg	**Sn**	**20 12 40.4**	**+2.1**
	143nm,0.4s						
PCP	**Piancastagn**	**1.21**	**265**	Pg	**Pb**	**20 12 26.2**	**+1.9**
MARN	**Marana (Italy)**	**1.21**	**35**	*e*Pg	**Pn**	**20 12 24.0**	**+0.4**
MARN				*e*Sg	**Sb**	**20 12 41.1**	**+1.5**
MARN	**Marana (Italy)**	**1.21**	**35**	*e*Pg	**Pn**	**20 12 24.0**	**+0.4**
MARN				*e*Sg	**Sb**	**20 12 41.1**	**+1.5**
TEOL	**Teolo**	**1.25**	**55**	Pg	**Pb**	**20 12 25.4**	**+0.4**
TEOL				Sg	**Sb**	**20 12 41.9**	**+1.2**
	159nm,0.6s						
TEOL	**Teolo**	**1.25**	**55**	*e*Pg	**Pb**	**20 12 24.9**	**-0.1**
TEOL				*e*Sg	**Sb**	**20 12 41.6**	**+0.9**
TEOL	**Teolo**	**1.25**	**55**	Pg	**Pb**	**20 12 25.4**	**+0.4**
TEOL				Sg	**Sb**	**20 12 41.9**	**+1.2**
	159nm,0.6s						
RNI	**Roncone**	**1.36**	**12**	*e*Pg	**Pb**	**20 12 26.6**	**-0.5**
RNI	**Roncone**	**1.36**	**12**	*e*Pg	**Pb**	**20 12 26.6**	**-0.5**
SFI	**Santa Sofia**	**1.38**	**122**	Pg	**Pb**	**20 12 29.1**	**+1.8**
DDS	**Dosso del Somm**	**1.41**	**29**	*e*Pg	**Pn**	**20 12 26.9**	**+0.4**
DDS	**Dosso del Somm**	**1.41**	**29**	*e*Pg	**Pn**	**20 12 26.9**	**+0.4**
MABI	**Malga Bissina**	**1.42**	**8**	Pg	**Pb**	**20 12 27.6**	**-0.5**
MABI	**Malga Bissina**	**1.42**	**8**	Pg	**Pb**	**20 12 27.6**	**-0.5**
PANI	**Panarotta**	**1.60**	**29**	*e*Pg	**Pn**	**20 12 29.7**	**+0.5**
PANI				*e*Sg	**Sb**	**20 12 52.2**	**+1.1**
PANI	**Panarotta**	**1.60**	**29**	*e*Pg	**Pn**	**20 12 29.7**	**+0.5**
PANI				*e*Sg	**Sb**	**20 12 52.2**	**+1.1**
CGRP	**Cima Grappa**	**1.66**	**42**	*e*Pg	**Pn**	**20 12 30.3**	**+0.4**
CGRP	**Cima Grappa**	**1.66**	**42**	*e*Pg	**Pn**	**20 12 30.3**	**+0.4**
OZOL	**Ozolo**	**1.85**	**18**	*e*Pn	**Pn**	**20 12 33.8**	**+1.3**
OZOL	**Ozolo**	**1.85**	**18**	*e*Pn	**Pn**	**20 12 33.8**	**+1.3**
SBF	**Sospel**	**2.15**	**250**	*e*P	**Pn**	**20 12 38.7**	**+2.1**
SBF				*e*Sn	**Sn**	**20 13 01.5**	**-1.1**
	19nm,0.5s						
PGF	**Pioggiola**	**2.28**	**203**	*e*Pn	**Pn**	**20 12 37.6**	**-0.8**
PGF				*e*Sn	**Sn**	**20 13 03.5**	**-2.3**
	1.8nm,0.2s						
PGF	**Pioggiola**	**2.28**	**203**	*e*Pn	**Pn**	**20 12 37.6**	**-0.8**
PGF				*e*Sn	**Sn**	**20 13 03.5**	**-2.3**
	0.9nm,0.2s						
MBDF	**Montbardon**	**2.46**	**273**	*e*P	**Pn**	**20 12 43.6**	**+2.6**
MBDF				*e*Sn	**Sn**	**20 13 09.2**	**-1.2**
	5.4nm,0.3s						
MBDF	**Montbardon**	**2.46**	**273**	*e*P	**Pn**	**20 12 43.6**	**+2.6**
MBDF				*e*Sn	**Sn**	**20 13 09.2**	**-1.2**
	2.7nm,0.3s						
LPL	**La Plagne**	**2.62**	**291**	*e*P	**Pn**	**20 12 46.1**	**+2.9**
LPL				*e*Sn	**Sn**	**20 13 12.4**	**-2.0**
	10nm,0.6s						
DAVA	**Damuels**	**2.65**	**355**	*i* Pn	**Pb**	**20 12 46.7**	**-2.3**
	4.6nm,0.3s						
DAVA	**Damuels**	**2.65**	**355**	Pn	**Pb**	**20 12 46.7**	**-2.3**
	4.6nm,0.3s						
MOTA	**Moosalm**	**2.77**	**12**	*e*Pn	**Pb**	**20 12 48.2**	**-2.8**
	3.3nm,0.3s						
MOTA	**Moosalm**	**2.77**	**12**	Pn	**Pb**	**20 12 48.2**	**-2.8**
	3.3nm,0.3s						
WTTA	**Wattenberg**	**2.79**	**20**	*e*Pn	**Pb**	**20 12 49.3**	**-2.2**
	1.4nm,0.2s						
WTTA	**Wattenberg**	**2.79**	**20**	Pn	**Pb**	**20 12 49.3**	**-2.2**
	1.4nm,0.2s						
FRF	**La Foret Royal**	**2.80**	**248**	*e*P	**Pn**	**20 12 47.3**	**+1.9**
FRF				*e*Sn	**Sn**	**20 13 16.4**	**-2.0**
	4.1nm,0.3s						
SKDS	**Skadanscina**	**2.83**	**70**	*i* Pn	**Pn**	**20 12 45.3**	**-0.6**
SKDS				*i* Sn	**Sn**	**20 13 17.6**	**-1.6**
	comp=Z,5.0nm,0.1s						
SKDS	**Skadanscina**	**2.83**	**70**	Pn	**Pb**	**20 12 45.3**	**-0.6**
SKDS				*i* Sn	**Sn**	**20 13 17.6**	**-1.6**
	comp=Z,5.0nm,0.1s						
JAVS	**Javornik**	**2.98**	**64**	*i* Pn	**Pn**	**20 12 48.1**	**0.0**
JAVS				*i* Sn	**Sn**	**20 13 22.3**	**-0.8**
	comp=Z,1.0nm,0.1s						
JAVS	**Javornik**	**2.98**	**64**	*i* Pn	**Pn**	**20 12 48.1**	**0.0**
JAVS				*i* Sn	**Sn**	**20 13 22.3**	**-0.8**
	comp=Z,1.0nm,0.1s						
LMR	**La Mourre**	**2.99**	**245**	*e*P	**Pn**	**20 12 49.5**	**+1.5**
LMR				*e*Sn	**Sn**	**20 13 21.1**	**-1.9**
	comp=Z,4.7nm,0.2s						
KNDS	**Knezji Dol**	**3.07**	**72**	*i* Pn	**Pn**	**20 12 49.0**	**-0.3**
KNDS				*i* Sn	**Sn**	**20 13 23.8**	**-1.5**
	comp=Z,2.0nm,0.1s						
KNDS	**Knezji Dol**	**3.07**	**72**	*i* Pn	**Pn**	**20 12 49.0**	**-0.3**
KNDS				*i* Sn	**Sn**	**20 13 23.8**	**-1.5**
	comp=Z,2.0nm,0.1s						
ORIF	**Oris-en-Rattie**	**3.11**	**277**	*e*P	**Pn**	**20 12 52.7**	**+2.9**
ORIF				*e*Sn	**Sn**	**20 13 24.5**	**-1.7**
	comp=Z,5.5nm,0.5s						
NVLJ	**Novalja**	**3.32**	**90**	*e*Pn	**Pn**	**20 12 53.1**	**+0.5**
NVLJ				Sn	**Sn**	**

AKO			*i* S	**Sg**	**20 31 27.7**	**-0.9**
CEYT	**Ceyhan**	**0.61**	**195**	*e*PG	**Pg**	**20 31 26.8**	**+0.2**
CEYT				*e*SG	**Sg**	**20 31 34.3**	**-0.4**
CEYT	**Ceyhan**	**0.61**	**195**	*e*Pg	**Pg**	**20 31 26.8**	**+0.2**
CEYT				*e*Sg	**Sg**	**20 31 34.3**	**-0.4**
YAHY	**KAYSERI_Yahya**	**0.67**	**317**	*i* P	**Pn**	**20 31 30.1**	**-0.1**
YAHY				*i* S	**Sn**	**20 31 40.0**	**-0.6**
YAHY	**KAYSERI_Yahya**	**0.67**	**317**	P	**Pn**	**20 31 30.1**	**-0.1**
YAHY				S	**Sn**	**20 31 40.0**	**-0.6**
NIG	**Nigde**	**1.17**	**296**	*e*PG	**Pg**	**20 31 38.2**	**+0.9**
NIG				*e*SG	**Sn**	**20 31 53.8**	**+0.7**
NIG	**Nigde**	**1.17**	**296**	*e*Pg	**Pg**	**20 31 38.2**	**+0.9**
NIG				*e*Sg	**Sn**	**20 31 53.8**	**+0.7**
TAHT	**Tahtakopru-Hat**	**1.24**	**171**	*e*PN	**Pg**	**20 31 40.0**	**+1.5**
TAHT	**Tahtakopru-Hat**	**1.24**	**171**	*e*Pn	**Pg**	**20 31 40.0**	**+1.5**
MERS	**Mersin**	**1.35**	**238**	*e*PN	**Pn**	**20 31 39.1**	**-0.2**
MERS	**Mersin**	**1.35**	**238**	*e*Pn	**Pn**	**20 31 39.1**	**-0.2**

NIED ***10*** *20:38:00.0, 37.70N × 141.80E, h53km, Mw3.8 Best double couple: M0=6.45000×10^14 NP1:φs=347.00000°, δ=37.00000°, λ=63.00000° NP2:φs=200.00000°, δ=57.00000°, λ=109.00000°.*
ISCJB ***10*** *20:38:34.0±0.9, 37.71N±0.04×141.86E±0.08, h53km±8km, mb3.8/8, MS2.5/1, Error ellipse: s-maj=11.4km s-min=5.1km az=16.9*
JMA ***10*** *20:38:35.0±0.1, 37.74N × 141.78E, h51km±2km, M4.1*
JMA Felt I J1.
IDC ***10*** *20:38:35.4±0.6, 37.60N × 141.80E, h57km±6km, mb3.5/7, mb1 3.8/11, mb1mx3.6/33, mbtmp3.8/11, MS2.6/5, Ms1 2.6/5, ms1mx2.5/43, Error ellipse: s-maj=19.0km s-min=11.5km az=113.0*

ISC 10 20:38:34.1±0.8, 37.69N±0.04×141.96E±0.09, h36km±2km, n36, σ1s43/45, mb3.8/8, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
JIO	**Ouri**	**0.91**	**328**	P	**Pn**		**20 38 50.1**	**-0.2**
JIO				S	**Sn**		**20 39 00.8**	**-1.4**
JFK	**Kawauchi**	**0.92**	**250**	P	**Pn**		**20 38 50.3**	**-0.2**
JFK				S	**Sn**		**20 39 01.1**	**-1.5**
JMM	**Marumori**	**0.94**	**281**	P	**Pn**		**20 38 50.1**	**-0.7**
JMM				S	**Sn**		**20 39 00.8**	**-2.2**
ONAJ	**Iwakimizuishiy**	**1.09**	**238**	P	**Pn**		**20 38 52.9**	**0.0**
ONAJ				S	**Sn**		**20 39 06.1**	**-0.7**
JOU	**Okura**	**1.23**	**304**	P	**Pn**		**20 38 54.1**	**-0.6**
JOU				S	**Sn**		**20 39 08.2**	**-1.9**
JFT	**Otama**	**1.30**	**263**	P	**Pn**		**20 38 55.8**	**+0.1**
JFT				S	**Sn**		**20 39 11.0**	**-0.8**
JMK	**Ichinoseki**	**1.39**	**336**	P	**Pn**		**20 38 57.1**	**+0.1**
JMK				S	**Sn**		**20 39 13.4**	**-0.7**
JYS	**Shirataka**	**1.59**	**290**	P	**Pn**		**20 38 59.2**	**-0.5**
JYK	**Kaneyama**	**1.76**	**315**	P	**Pn**		**20 39 01.8**	**-0.2**
JYK				S	**Sn**		**20 39 21.7**	**-1.5**
JFY	**Yanaizu**	**1.81**	**262**	P	**Pn**		**20 39 02.6**	**-0.2**
JFY				S	**Sn**		**20 39 23.4**	**-1.1**
JOM	**Ohasama**	**1.86**	**344**	P	**Pn**		**20 39 03.8**	**+0.4**
JOM				S	**Sn**		**20 39 25.7**	**+0.1**
JYA	**Atsumi**	**1.99**	**298**	P	**Pn**		**20 39 04.7**	**-0.5**
JRG	**Rokugo**	**2.00**	**329**	P	**Pn**		**20 39 05.9**	**+0.6**
JRG				S	**Sn**		**20 39 29.3**	**+0.2**
JNS	**Sasagawa**	**2.10**	**274**	P	**Pn**		**20 39 06.4**	**-0.3**
MJAR	**Matsushiro Arr**	**3.21**	**250**	P	**Pn**		**20 39 22.9**	**+1.0**
	5.5nm,0.3s,baz=56,slow=11,SNR=86							
MJAR				S	**Sn**		**20 40 03.7**	**+4.7**
	6.8nm,0.3s,baz=125,slow=12,SNR=5.9							
MJAR				LR	LR		20 40 45.1	
	comp=Z,74nm,18.6s,baz=40,slow=43							
MAT	**Matsushiro**	**3.21**	**250**	P	**Pn**		**20 39 23.0**	**+1.0**
MAT				*e*S	**Sn**		**20 40 00.9**	**+1.9**
JHJ	**Hachijo jima 2**	**4.89**	**202**	P	**Pn**		**20 39 45.5**	**+0.4**
	28nm,0.3s,baz=320,slow=21,SNR=17							
JHJ				S	**Sn**		**20 40 37.2**	**-3.2**
	50nm,0.3s,baz=278,slow=23,SNR=10							
JHJ				LR	LR		20 41 29.6	
	comp=Z,25nm,18.8s,baz=90,slow=37							
USRK	**Ussuriysk Ar.**	**9.96**	**314**	P	**Pn**		**20 40 55.0**	**+0.5**
	0.8nm,0.3s,baz=124,slow=14,SNR=14							
KSRS	**Korea Array**	**11.14**	**273**	P	**Pn**		**20 41 12.6**	**+1.8**
	0.2nm,0.3s,baz=81,slow=14,SNR=8.1							
KSRS				LR	LR		20 44 59.2	
	comp=Z,36nm,20.7s,baz=40,slow=35							
KLR	**Kul'dur**	**13.70**	**331**	LR	LR		20 46 17.7	
	comp=Z,60nm,19.6s,baz=222,slow=34							
MA2	**Magadan**	**22.63**	**12**	LR	LR		20 52 10.4	
	comp=Z,19nm,21.2s,baz=340,slow=36							
SONM	**Songino Array**	**27.79**	**303**	P	**P**		**20 44 18.1**	**-1.6**
	0.5nm,0.5s,baz=105,slow=9.2,SNR=5.3							
H11N2	**WAKE ISLAND Hy**	**28.12**	**123**	T	T		21 14 44.9	
	baz=316,slow=75,SNR=758							
H11N1	**WAKE ISLAND Hy**	**28.13**	**123**	T	T		21 14 45.6	
	baz=316,slow=75,SNR=657							
H11N3	**WAKE ISLAND Hy**	**28.14**	**123**	T	T		21 14 46.3	
	baz=316,slow=75,SNR=502							
H11S1	**WAKE ISLAND Hy**	**28.86**	**125**	T	T		21 15 47.3	
	baz=318,slow=76,SNR=372							
H11S3	**WAKE ISLAND Hy**	**28.86**	**125**	T	T		21 15 48.1	
	baz=318,slow=76,SNR=368							
H11S2	**WAKE ISLAND Hy**	**28.88**	**125**	T	T		21 15 48.0	
	baz=318,slow=76,SNR=243							
ZALV	**Zalesovo Beam**	**41.80**	**312**	P	**P**		**20 46 17.8**	**-2.1**
	0.4nm,0.4s,baz=79,slow=7.8,SNR=3.6							
ILAR	**Eielson Array**	**48.71**	**33**	P	**P**		**20 47 14.7**	**+0.1**
	0.3nm,0.6s,baz=264,slow=6.6,SNR=4.3							
ILAR				pP	**sP**		**20 47 29.9**	**+0.3**
	0.5nm,0.8s,baz=267,slow=6.9,SNR=3.5							
WRA	**Warramunga Arr**	**57.77**	**188**	P	**P**		**20 48 20.6**	**-1.0**
	2.9nm,0.5s,baz=5.8,slow=7.0,SNR=67							
ASAR	**Alice Springs**	**61.49**	**188**	P	**P**		**20 48 46.3**	**-0.9**
	0.9nm,0.8s,baz=10,slow=6.2,SNR=11							
FINES	**FINESS Array B**	**68.44**	**332**	P	**P**		**20 49 34.2**	**+2.3**
	1.6nm,0.8s,baz=104,slow=4.4,SNR=3.9							
PDAR	**Pinedale Array**	**76.90**	**46**	P	**P**		**20 50 23.4**	**+0.6**
	0.4nm,0.5s,baz=239,slow=2.6,SNR=4.8							
PDAR				pP	**sP**		**20 50 40.0**	**+1.6**
	0.4nm,0.6s,baz=253,slow=1.5,SNR=3.6							
TXAR	**Lajitas Array**	**89.38**	**53**	P	**P**		**20 51 27.1**	**-0.2**
	0.3nm,0.5s,baz=291,slow=3.1,SNR=5.4							
TXAR				pP	**sP**		**20 51 42.8**	**-0.1**
	0.3nm,0.6s,baz=285,slow=2.3,SNR=4.1							
LPAZ	**La Paz**	**145.99**	**59**	PKPbc	**PKPdf**		**20 58 08.0**	**-2.4**
	0.7nm,0.7s,baz=325,slow=4.9,SNR=2.2							
LPAZ				pPKPbc	pPKPbc		20 58 25.4	+2.5
	1.6nm,0.4s,baz=76,slow=1.8,SNR=7.3							

ISCJB ***10*** *20:55:02.6±0.6, 58.49N±0.04×133.56W±0.06, h10km, Error ellipse: s-maj=5.7km s-min=4.5km az=26.1*
NEIC ***10*** *20:55:02.3±0.0, 58.34N × 133.50W, h4km, ML2.6(AEIC), ML3.0(OTT), After AEIC.*
PGC ***10*** *20:55:03.1±3.3, 58.38N × 133.40W, h1km, ML3.0/6, 60km east of Juneau, Ak Southeastern Alaska*

ISC 10 20:55:02.0±0.9, 58.35N±0.04×133.38W±0.03, h10km, n20, σ2s08/53, Southeastern Alaska

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
JIS	**Juneau Island**	**0.54**	**262**	P	**Pg**		**20 55 11.3**	**-1.0**
JIS				S	**Sg**		**20 55 18.0**	**-1.5**
BESE	**Bessie Mountai**	**0.81**	**287**	P	**Pg**		**20 55 16.5**	**-1.1**
BESE				S	**Sg**		**20 55 26.8**	**-1.4**
SKAG	**Skagway**	**1.50**	**318**	P	**Pn**		**20 55 28.9**	**0.0**
SKAG				S	**Sb**		**20 55 48.4**	**-0.6**
DLBC	**Dease Lake**	**1.77**	**86**	Pn	**Pb**		**20 55 34.2**	**-0.3**
DLBC				Sn	**Sb**		**20 55 57.9**	**+1.2**
DLBC	**Dease Lake**	**1.77**	**86**	P	**Pb**		**20 55 34.2**	**-0.3**
DLBC				Sn	**Sb**		**20 55 57.9**	**+1.2**
PLBC	**Pleasant Camp**	**1.91**	**307**	Pn	**Pb**		**20 55 36.3**	**-0.5**
PLBC				Sn	**Sb**		**20 56 00.1**	**-0.5**
PLBC	**Pleasant Camp**	**1.91**	**307**	P	**Pb**		**20 55 36.1**	**-0.6**
PLBC				Sn	**Sb**		**20 56 00.1**	**-0.5**
WRAK	**Wrangell Islan**	**2.02**	**164**	P	**Pn**		**20 55 36.7**	**+0.7**
WHY	**Whitehorse**	**2.44**	**342**	Pn	**Pn**		**20 55 43.1**	**+1.1**
WHY				Sn	**Sn**		**20 56 12.6**	**+0.8**
WHY				Sg	**Sg**		**20 56 17.8**	**-2.4**
WHY	**Whitehorse**	**2.44**	**342**	P	**Pn**		**20 55 42.6**	**+0.7**
WHY				Sn	**Sn**		**20 56 12.6**	**+0.8**
WHY				Sg	**Sg**		**20 56 17.8**	**-2.4**
HYT	**Haines Junctio**	**3.25**	**322**	Pn	**Pn**		**20 55 54.5**	**+1.4**
HYT				Pg	**Pb**		**20 56 00.8**	**+1.0**
HYT				Sg	**Sg**		**20 56 42.6**	**-3.6**
HYT	**Haines Junctio**	**3.25**	**322**	Pn	**Pn**		**20 55 54.5**	**+1.4**
HYT				Pg	**Pb**		**20 56 00.8**	**+1.0**
HYT				Sg	**Sg**		**20 56 42.6**	**-3.6**
YUK7	**Dusty Glacier**	**3.27**	**314**	Pn	**Pn**		**20 55 55.1**	**+1.6**
YUK7				Pg	**Pb**		**20 56 01.0**	**+0.8**
YUK7				Sg	**Sg**		**20 56 43.7**	**-3.1**
YUK7	**Dusty Glacier**	**3.27**	**314**	Pn	**Pn**		**20 55 55.1**	**+1.6**
YUK7				Pg	**Pb**		**20 56 01.0**	**+0.8**
YUK7				Sg	**Sg**		**20 56 43.7**	**-3.1**
PNL	**Peninsula**	**3.38**	**296**	Pn	**Pn**		**20 55 56.6**	**+1.8**
PNL				Pg	**Pb**		**20 56 02.9**	**+1.0**
PNL				Sn	**Sn**		**20 56 35.1**	**+0.2**
PNL				Sg	**Sg**		**20 56 46.5**	**-4.0**
PNL	**Peninsula**	**3.38**	**296**	Pn	**Pn**		**20 55 56.6**	**+1.8**
PNL				Pg	**Pb**		**20 56 02.9**	**+1.0**
PNL				Sn	**Sn**		**20 56 35.1**	**+0.2**
PNL				Sg	**Sg**		**20 56 46.5**	**-4.0**
YUK6	**Outpost Mounta**	**3.63**	**318**	Pn	**Pn**		**20 55 59.7**	**+1.4**
YUK6				Pg	**Pb**		**20 56 06.2**	**-0.1**
YUK6				Sg	**Sg**		**20 56 54.9**	**-3.4**
YUK6	**Outpost Mounta**	**3.63**	**318**	Pn	**Pn**		**20 55 59.7**	**+1.4**
YUK6				Pg	**Pb**		**20 56 06.2**	**-0.1**
YUK6				Sg	**Sg**		**20 56 54.9**	**-3.4**
YUK2	**White River**	**5.08**	**316**	Pn	**Pn**		**20 56 19.2**	**+1.0**
YUK2				Pg	**Pb**		**20 56 32.8**	**+1.8**
YUK2				Sg	**Sb**		**20 57 37.4**	**+5.3**
YUK2	**White River**	**5.08**	**316**	Pn	**Pn**		**20 56 19.2**	**+1.0**
YUK2				Pg	**Pb**		**20 56 32.8**	**+1.8**
YUK2				Sg	**Sb**		**20 57 37.4**	**+5.3**

NNC 10 20:57:24.6±5.4, 37.08N×71.06E, h204km±105km, mb2.8, mpv3.9, 6C-2D, Error ellipse: s-maj=55.7km s-min=40.5km az=10.0, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
MNAS	**Manas**	**5.52**	**11**	⇑P		Pn	20 58 44.0	-1.8
	8.9nm,0.7s							
MNAS				⇓S		S	20 59 51.6	+1.9
	11nm,0.8s							
KK31	**Karatay Array**	**6.04**	**356**	P		Pn	20 58 51.9	-0.4
	6.2nm,0.4s,baz=180,slow=13,SNR=171							
KK31				⇑S		S	21 00 01.3	-0.2
	4.7nm,0.6s,baz=172,slow=22,SNR=4.6							
AAK	**Ala-Archa**	**6.15**	**24**	⇑P		Pn	20 58 53.9	-0.1
	2.2nm,0.3s							
AAK				⇑S		S	21 00 05.4	+0.9
	6.0nm,0.6s							
TKM2	**Tokmak 2**	**6.80**	**29**	⇓P		Pn	20 59 04.0	+1.6
	4.1nm,0.4s							
TKM2				⇑S		S	21 00 19.9	+0.1
	3.2nm,0.8s							
AB31	**Akbulak array**	**14.61**	**330**	P		P	21 00 44.6	+1.9
	0.7nm,0.5s,baz=149,slow=12,SNR=16							
AB31				⇑S		S	21 03 20.2	-3.4
	1.0nm,0.7s,baz=153,slow=23,SNR=4.8							

CSEM ***10*** *21:11:17.0±0.4, 37.55N × 36.10E, h12km, MD2.5, Error ellipse: s-maj=10.2km s-min=6.3km az=108.0*
ISCJB ***10*** *21:11:19.8±0.5, 37.41N±0.03×35.86E±0.04, h15km±4km, Error ellipse: s-maj=5.6km s-min=4.7km az=32.5*
DDA ***10*** *21:11:19.2, 37.30N × 35.84E, h7km, Md2.7*
ISK ***10*** *21:11:19.4, 37.41N × 35.89E, h15km, MD2.5*

ISC 10 21:11:19.8±0.8, 37.40N±0.03×35.85E±0.03, h15km±5km, n16, σ0s57/28, Turkey

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
KOZT	**Kozan**	**0.08**	**347**	PG		**Pg**	**21 11 22.8**	**-0.2**
KOZT				SG		**Sg**	**21 11 25.2**	**+0.2**
KOZT	**Kozan**	**0.08**	**347**	*i* Pg		**Pg**	**21 11 22.8**	**-0.2**
KOZT				*i* Sg		**Sg**	**21 11 25.2**	**+0.2**
AKO	**Adana**	**0.33**	**281**	*i* P		**Pg**	**21 11 26.9**	**+0.3**
AKO				*i* S		**Sg**	**21 11 31.8**	**+0.5**
CEYT	**Ceyhan**	**0.40**	**192**	*e*PG		**Pb**	**21 11 28.1**	**-0.4**
CEYT				*e*SG		**Sb**	**21 11 34.6**	**+0.2**
CEYT	**Ceyhan**	**0.40**	**192**	*e*Pg		**Pb**	**21 11 28.1**	**-0.4**
CEYT				*e*Sg		**Sb**	**21 11 34.6**	**+0.2**
ANDN	**Andirin**	**0.43**	**65**	*i* P		**Pb**	**21 11 28.6**	**-0.7**
ANDN				*i* S		**Sb**	**21 11 36.5**	**+0.8**
DED	**Mersin**	**0.95**	**243**	*i* P		**Pg**	**21 11 37.1**	**-1.0**
DED				*i* S		**Sg**	**21 11 49.1**	**-1.4**
TAHT	**Tahtakopru-Hat**	**1.05**	**165**	*e*PG		**Pn**	**21 11 40.4**	**+0.3**
TAHT				*e*SG		**Sn**	**21 11 55.4**	**+0.9**
TAHT	**Tahtakopru-Hat**	**1.05**	**165**	*e*Pg		**Pn**	**21 11 40.4**	**+0.3**
TAHT				*e*Sg		**Sn**	**21 11 55.4**	**+0.9**
SARI	**SarD1z-Kayseri**	**1.10**	**24**	*e*PG		**Pn**	**21 11 40.4**	**-0.6**
SARI				*e*SG		**Sn**	**21 11 55.8**	**-0.2**
MERS	**Mersin**	**1.19**	**244**	*e*PN		**Pg**	**21 11 42.5**	**-0.2**
MERS	**Mersin**	**1.19**	**244**	*e*Pn		**Pg**	**21 11 42.5**	**-0.2**
NIG	**Nigde**	**1.21**	**306**	*e*PN		**Pb**	**21 11 42.5**	**-0.1**
NIG	**Nigde**	**1.21**	**306**	*e*Pn		**Pb**	**21 11 42.6**	**-0.1**
KERG	**Konya-Eregli**	**1.37**	**271**	*i* P		**Pn**	**21 11 44.6**	**0.0**
KERG				*i* S		**Sn**	**21 12 03.2**	**+0.6**
KERG	**Konya-Eregli**	**1.37**	**271**	P		**Pn**	**21 11 44.6**	**0.0**
KERG				S		**Sn**	**21 12 03.2**	**+0.6**

ISCJB ***10*** *21:48:08.8±0.7, 39.08N±0.05×29.07E±0.07, h6km±7km, Error ellipse: s-maj=11.3km s-min=5.6km az=136.1*
CSEM ***10*** *21:48:08.8±0.1, 39.10N × 29.07E, h5km, MD2.5, Error ellipse: s-maj=4.6km s-min=1.9km az=135.0*
DDA ***10*** *21:48:08.4, 39.14N × 29.03E, h8km, Md2.7*
ISK ***10*** *21:48:08.1, 39.08N × 29.11E, h7km, MD2.5*

ISC 10 21:48:08.4±1.0, 39.07N±0.04×29.07E±0.04, h10km±6km, n15, σ1s55/25, Turkey

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
SIMA	**Simav-Kutahya**	**0.07**	**280**	*e*PG		**Pg**	**21 48 10.8**	**0.0**
SIMA				*e*SG		**Sg**	**21 48 12.6**	**+0.1**
SIMA	**Simav-Kutahya**	**0.07**	**280**	*e*Pg		**Pg**	**21 48 10.8**	**0.0**
SIMA				*e*Sg		**Sg**	**21 48 12.6**	**+0.1**
DEMI	**Demirci**	**0.27**	**264**	*i* P		**Pg**	**21 48 14.4**	**+0.4**
DEMI				*i* S		**Sg**	**21 48 17.9**	**+0.2**
DEMI	**Demirci**	**0.27**	**264**	P		**Pg**	**21 48 14.4**	**+0.4**
DEMI				S		**Sg**	**21 48 17.9**	**+0.2**
TVSB	**Tavsanli**	**0.49**	**39**	*e*PG		**Pg**	**21 48 17.7**	**-0.3**
TVSB				*e*SG		**Sg**	**21 48 24.5**	**0.0**
TVSB	**Tavsanli**	**0.49**	**39**	*e*Pg		**Pg**	**21 48 17.7**	**-0.3**
TVSB				*e*Sg		**Sg**	**21 48 24.5**	**0.0**
KULA	**Kula-Manisa**	**0.64**	**210**	*e*PG		**Pg**	**21 48 21.6**	**+0.8**
KULA				*e*SG		**Sg**	**21 48 30.6**	**+1.3**
KULA	**Kula-Manisa**	**0.64**	**210**	*e*Pg		**Pg**	**21 48 21.6**	**+0.8**
KULA				*e*Sg		**Sg**	**21 48 30.6**	**+1.3**
MANT	**Manisa**	**0.70**	**214**	*i* P		Pg	21 48 15.8	-6.2
MANT				*i* S		**Sg**	**21 48 24.7**	**-6.6**
KCTX	**Karacabey (Bur**	**1.31**	**336**	*e*PN		**Pg**	**21 48 33.7**	**+0.1**
KCTX	**Karacabey (Bur**	**1.31**	**336**	*e*Pn		**Pg**	**21 48 33.7**	**+0.1**
BORA	**Eskisehir**	**1.34**	**53**	*i* P		**Pb**	**21 48 33.6**	**-0.1**
BORA				*i* S		**Sn**	**21 48 52.0**	**+0.8**
BORA	**Eskisehir**	**1.34**	**53**	P		**Pb**	**21 48 33.6**	**-0.1**
BORA				S		**Sn**	**21 48 52.0**	**+0.8**
ARMT	**Armutlu**	**1.50**	**354**	*e*PN		**Pb**	**21 48 35.9**	**-0.5**
ARMT	**Armutlu**	**1.50**	**354**	*e*Pn		**Pb**	**21 48 35.9**	**-0.5**

GUC 10 21:52:03.0±0.4, 23.89S×67.60W, h231km±10km, ML4.1, 8C, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
PB06	**IPOC Station P**	**2.16**	**303**	⇑*i*P		Pn	21 52 47.1	+1.5
PB06				*i* S		S	21 53 20.5	+1.5
PB09	**IPOC Station P**	**2.57**	**324**	⇑*i*P		Pn	21 52 52.0	+2.1
PB09				*i* S		S	21 53 29.1	+2.5
PB09				IAML			21 53 31.9	
	comp=N,425nm,0.6s							
ANCH	**Antofagasta**	**2.58**	**274**	⇑*i*P		Pn	21 52 51.6	+1.8
ANCH				*i* S		S	21 53 28.2	+1.8
PB10	**IPOC Station P**	**2.73**	**277**	⇑*i*P		Pn	21 52 53.0	+1.6
PB10				*e*S		S	21 53 31.5	+2.2
PB04	**IPOC Station P**	**2.81**	**303**	⇑*i*P		Pn	21 52 54.5	+2.0
PB04				*i* S		S	21 53 33.7	+2.5
PB04				IAML			21 53 36.1	
	comp=N,163nm,0.1s							
PB07	**IPOC Station P**	**3.01**	**315**	⇑*i*P		Pn	21 52 56.8	+2.1
PB07				*i* S		S	21 53 37.6	+2.3
PB07				IAML			21 53 39.2	
	comp=N,278nm,0.2s							
PB02	**IPOC Station P**	**3.32**	**320**	⇑*i*P		Pn	21 53 00.5	+2.4
PB02				*i* S		S	21 53 44.0	+2.6
PB02				IAML			21 53 48.7	
	comp=E,130nm,0.3s							
PB01	**IPOC Station P**	**3.33**	**328**	⇑*i*P		Pn	21 52 59.9	+1.7
PB01				*i* S		S	21 53 43.9	+2.4
PB01				IAML			21 53 44.5	
	comp=E,162nm,0.2s							
PATCX	**Punta Patache**	**3.86**	**322**	*e*P		Pn	21 53 07.0	+2.6
PATCX				*e*S		S	21 53 55.4	+2.6
PB08	**IPOC Station P**	**4.00**	**339**	*e*P		Pn	21 53 09.2	+2.9
PB08				*e*S		S	21 53 59.6	+3.3
PB08				IAML			21 54 02.9	
	comp=E,42nm,0.3s							
HMBC	**Humberstone**	**4.17**	**329**	*e*P		Pn	21 53 10.2	+1.9
HMBC				*e*S		S	21 54 01.7	+2.1

IDC ***10*** *21:52:33.5±0.6, 19.89N × 66.56W, h0km, mb3.7/13, mb1 4.1/15, mb1mx3.9/50, mbtmp3.9/15, ML3.6/2, MS3.1/6, Ms1 3.1/6, ms1mx2.8/36, Error ellipse: s-maj=18.8km s-min=13.9km az=70.0*
ISCJB ***10*** *21:52:36.9±0.3, 19.88N±0.02×66.56W±0.03, h33km, mb4.2/24, MS3.0/5, Error ellipse: s-maj=4.1km s-min=2.8km az=151.7*
NEIC ***10*** *21:52:40.1±0.0, 19.83N × 66.54W, h43km, mb4.4/21, MD4.4(RSPR), After RSPR.*
RSPR ***10*** *21:52:40.1, 19.83N × 66.54W, h43km, 19km, MD4.4/12*

ISC 10 21:52:38.3±0.5, 19.90N±0.04×66.59W±0.04, h35km, n108, σ1s80/119, mb4.3/24, MS3.0/5, 18C-11D, Puerto Rico region

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
AGPR	**Aguadilla, PR**	**1.50**	**199**	⇑*e*P		**Pn**	**21 53 02.5**	**-0.3**
AGPR	**Aguadilla, PR**	**1.50**	**199**	*e*S		**Sn**	**21 53 20.8**	**-0.4**
AGPR	**Aguadilla, PR**	**1.50**	**199**	*e*P		**Pn**	**21 53 02.5**	**-0.3**
AGPR				*e*S		**Sn**	**21 53 20.8**	**-0.4**
AOPR	**Arecibo Observ**	**1.55**	**186**	⇑*e*P		**Pn**	**21 53 03.4**	**0.0**
AOPR	**Arecibo Observ**	**1.55**	**186**	⇑*e*P		**Pn**	**21 53 03.4**	**0.0**
AGP	**Aguadilla**	**1.57**	**199**	*e*Pn		**Pn**	**21 53 02.4**	**-1.2**
IDE	**Isla Desecheo**	**1.72**	**209**	*e*S		**Sn**	**21 53 26.5**	**0.0**
IDE	**Isla Desecheo**	**1.72**	**209**	⇑*e*P		**Pn**	**21 53 05.8**	**+0.1**
IDE	**Isla Desecheo**	**1.72**	**209**	⇑*e*P		**Pn**	**21 53 05.8**	**+0.1**
IDE				*e*S		**Sn**	**21 53 26.5**	**0.0**
MPR	**Mayaguez**	**1.75**	**197**	*e*S		**Sn**	**21 53 26.6**	**-0.7**
MPR	**Mayaguez**	**1.75**	**197**	⇓*e*P		**Pn**	**21 53 06.0**	**-0.2**
MPR	**Mayaguez**	**1.75**	**197**	⇓*e*P		**Pn**	**21 53 06.0**	**-0.2**
MPR				*e*S		**Sn**	**21 53 26.6**	**-0.7**
CBYP	**Canovanas**	**1.76**	**157**	⇑*e*P		**Pn**	**21 53 05.5**	**-0.8**
CBYP	**Canovanas**	**1.76**	**157**	⇑*e*P		**Pn**	**21 53 05.5**	**-0.8**
LSP	**Las Mesas**	**1.77**	**195**	⇓*e*P		**Pn**	**21 53 06.6**	**+0.1**
LSP	**Las Mesas**	**1.77**	**195**	⇓*e*P		**Pn**	**21 53 06.6**	**+0.1**
CELP	**Cerrillos**	**1.81**	**180**	*e*Pn		**Pn**	**21 53 06.1**	**-0.9**
SJG	**San Juan**	**1.82**	**167**	⇑*e*P		**Pn**	**21 53 06.9**	**-0.3**
SJG	**San Juan**	**1.82**	**167**	Pn		**Pn**	**21 53 06.9**	**-0.3**
	70nm,0.3s,baz=351,slow=7.8,SNR=95							
SJG				Sn		**Sn**	**21 53 27.7**	**-1.3**
	129nm,0.3s,baz=258,slow=19,SNR=43							
SJG				LR		LR	21 54 42.4	
	comp=Z,257nm,19.0s,baz=6.0,slow=71							
SJG	**San Juan**	**1.82**	**167**	*e*P		**Pn**	**21 53 06.8**	**-0.3**
SJG	**San Juan**	**1.82**	**167**	*e*Pn		**Pn**	**21 53 06.8**	**-0.3**
SJG				Sn		**Sn**	**21 53 27.7**	**-1.3**
SJG				*e*S		**Sn**	**21 53 28.0**	**-1.0**
OBIP	**Obispado Ponce**	**1.84**	**180**	⇑*e*P		**Pn**	**21 53 06.5**	**-1.0**
OBIP	**Obispado Ponce**	**1.84**	**180**	⇑*e*P		**Pn**	**21 53 06.5**	**-1.0**
HUMP	**Col San Antoni**	**1.88**	**158**	*e*S		**Sn**	**21 53 29.6**	**-0.9**
HUMP	**Col San Antoni**	**1.88**	**158**	⇓*e*P		**Pn**

BLA				*e*S	S	22 00 58.9	-13
SDMD	**Soldier's Deli**	**21.36**	**338**	*e*P	**P**	**21 57 24.7**	**+2.2**
	10nm,1.0s						
PSUB	**Penn St. - Bra**	**21.36**	**341**	*e*P	**P**	**21 57 25.5**	**+3.0**
	60nm,1.9s						
PTGA	**Pitinga**	**21.50**	**162**	P	**P**	**21 57 22.3**	**-2.0**
	9.5nm,0.5s,baz=332,slow=16,SNR=20						
PTGA				LR	LR	22 06 29.2	
	comp=Z,52nm,18.0s,baz=346,slow=39						
TKL	**Tuckaleechee C**	**21.80**	**320**	P	**P**	**21 57 28.6**	**+1.2**
	12nm,1.1s,baz=137,slow=13,SNR=4.3						
TKL				S	S	22 01 13.9	-13
	3.8nm,0.8s,baz=270,slow=17,SNR=5.2						
TKL				LR	LR	22 06 34.4	
	comp=Z,76nm,18.2s,baz=77,slow=38						
TKL	**Tuckaleechee C**	**21.80**	**320**	*e*P	**P**	**21 57 31.5**	**+4.2**
TKL				*e*S	**S**	**22 01 25.4**	**-1.2**
PAL	**Palisades**	**21.95**	**345**	*e*P	**P**	**21 57 33.8**	**+5.0**
	53nm,1.4s						
CPCT	**Cooper Cave**	**22.13**	**318**	*e*P	**P**	**21 57 32.2**	**+1.4**
	10nm,0.6s						
CPCT				*e*S	**S**	**22 01 33.7**	**+1.0**
ODNJ	**Ogdensburg**	**22.20**	**344**	*e*P	**P**	**21 57 35.5**	**+4.0**
	7.8nm,0.7s						
TZTN	**Tazewell**	**22.26**	**322**	*e*P	**P**	**21 57 33.0**	**+0.7**
	31nm,1.4s						
LRAL	**Lakeview Retre**	**22.42**	**310**	*e*P	**P**	**21 57 36.4**	**+2.4**
	18nm,1.4s						
OTAV	**Otavalo**	**22.73**	**212**	*e*P	**P**	**21 57 38.1**	**+0.2**
	13nm,1.0s						
HRV	**Adam Dziewonsk**	**22.93**	**351**	*e*P	**P**	**21 57 42.0**	**+2.7**
ATAH	**Atahualpa**	**29.27**	**205**	LR	LR	22 11 47.2	
	comp=Z,41nm,21.1s,baz=21,slow=39						
ECSD	**EROS Data Cent**	**34.55**	**320**	*e*P	**P**	**21 59 26.7**	**+3.2**
	19nm,1.8s						
TXAR	**Lajitas Array**	**34.87**	**293**	P	**P**	**21 59 26.8**	**+0.3**
	0.5nm,0.7s,baz=104,slow=10,SNR=6.1						
SCHQ	**Schefferville**	**34.88**	**360**	LR	LR	22 11 38.7	
	comp=Z,51nm,21.3s,baz=58,slow=33						
LPAZ	**La Paz**	**35.99**	**183**	P	**P**	**21 59 35.9**	**-0.8**
	0.8nm,0.5s,baz=112,slow=2.8,SNR=2.6						
OGNE	**Ogallala**	**36.71**	**313**	*e*P	**P**	**21 59 45.4**	**+3.2**
	19nm,0.3s						
OGNE				*e*S	**S**	**22 05 25.4**	**+1.9**
ULM	**Lac du Bonnet**	**38.16**	**329**	P	**P**	**21 59 54.2**	**0.0**
	4.5nm,0.8s,baz=119,slow=6.9,SNR=4.0						
SMCO	**Snowmass**	**39.64**	**308**	*e*P	**P**	**22 00 04.2**	**-3.1**
	8.5nm,0.9s						
PDAR	**Pinedale Array**	**42.61**	**312**	P	**P**	**22 00 30.9**	**-0.5**
	0.3nm,0.6s,baz=130,slow=14,SNR=2.2						
YKA	**Yellowknife Ar**	**53.71**	**335**	P	**P**	**22 01 57.0**	**+0.5**
	1.4nm,0.8s,baz=112,slow=7.0,SNR=3.2						
MDT	**Midelt**	**56.30**	**63**	P	**P**	**22 02 16.7**	**+0.8**
	0.7nm,0.7s,baz=27,slow=2.3,SNR=1.9						
ESDC	**Sonseca Array**	**56.70**	**55**	P	**P**	**22 02 18.3**	**-0.3**
	0.1nm,0.4s,baz=292,slow=7.2,SNR=3.2						
TORD	**Torodi Ar. Bea**	**65.44**	**84**	P	**P**	**22 03 18.9**	**+0.8**
	0.4nm,0.7s,baz=290,slow=6.6,SNR=4.7						
ILAR	**Eielson Array**	**68.06**	**333**	P	**P**	**22 03 34.5**	**+0.5**
	0.5nm,0.6s,baz=91,slow=3.8,SNR=6.9						
ARCES	**ARCESS Array B**	**72.27**	**22**	P	**P**	**22 04 01.2**	**+1.5**
	0.8nm,0.7s,baz=289,slow=3.7,SNR=7.0						
STKA	**Stephens Creek**	**152.06**	**239**	PKPbc	**PKPbc**	**22 12 31.4**	**+1.0**
	2.4nm,0.6s,baz=58,slow=4.5,SNR=4.2						

*ISCJB **10** 21:53:34.2±0.9, 51.45N±0.04×16.12E±0.04, h0km, Error ellipse: s-maj=6.2km s-min=3.1km az=22.4*
*CSEM **10** 21:53:35.6±0.5, 51.45N×16.11E, h2km, ML3.1/7, Error ellipse: s-maj=8.1km s-min=4.1km az=19.0*
*WAR **10** 21:53:35.8, 51.48N×16.11E, h1km, Mw2.3*
*PRU **10** 21:53:38.6, 51.37N×16.12E, h0km*

ISC 10 21:53:35.9±1.3, 51.45N±0.06×16.11E±0.03, h0km, n31, σ0.981/55, Poland

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
KSP	**Ksiaz**	**0.62**	**169**	*e*Pg		**Pg**	**21 53 48.0**	**+0.2**
KSP				*e*Sg		**Sg**	**21 53 56.8**	**+1.0**
KSP	**Ksiaz**	**0.62**	**169**	*e*Pg		**Pg**	**21 53 48.0**	**+0.2**
KSP				*e*Sg		**Sg**	**21 53 56.8**	**+1.0**
KSP	**Ksiaz**	**0.62**	**169**	*e*Pg		**Pg**	**21 53 48.0**	**+0.2**
KSP				*e*Sg		**Sg**	**21 53 56.8**	**+1.0**
UPC	**Upice**	**0.95**	**184**	*e*PG		**Pg**	**21 53 54.2**	**+0.1**
UPC				*e*SG		**Sg**	**21 54 07.4**	**+1.1**
	comp=Z,40nm,0.4s							
UPC	**Upice**	**0.95**	**184**	Pg		**Pg**	**21 53 54.2**	**+0.1**
UPC				Sg		**Sg**	**21 54 07.4**	**+1.1**
	40nm,0.4s							
DPC	**Dobruska-Polom**	**1.11**	**173**	*e*PG		**Pg**	**21 53 57.0**	**-0.2**
DPC				*e*SG		**Sg**	**21 54 11.8**	**+0.2**
	comp=Z,11nm,0.3s							
DPC	**Dobruska-Polom**	**1.11**	**173**	Pg		**Pg**	**21 53 57.0**	**-0.2**
DPC				Sg		**Sg**	**21 54 11.8**	**+0.2**
	11nm,0.3s							
PVCC	**Panska Ves**	**1.34**	**227**	*e*PG		**Pg**	**21 54 01.8**	**+0.2**
PVCC				*e*SG		**Sb**	**21 54 20.0**	**+0.3**
	comp=Z,52nm,0.2s							
PVCC	**Panska Ves**	**1.34**	**227**	Pg		**Pg**	**21 54 01.8**	**+0.2**
PVCC				Sg		**Sb**	**21 54 20.0**	**+0.3**
	52nm,0.2s							
KRLC	**Kraliky**	**1.44**	**163**	*e*PG		**Pn**	**21 54 03.0**	**-0.3**
KRLC				*e*SG		**Sg**	**21 54 21.7**	**-0.5**
KRLC	**Kraliky**	**1.44**	**163**	Pg		**Pn**	**21 54 03.0**	**-0.3**
KRLC				Sg		**Sg**	**21 54 21.7**	**-0.5**
BRG	**Berggiesshubel**	**1.48**	**248**	PN		**Pn**	**21 54 03.6**	**-0.2**
BRG				PG		**Pb**	**21 54 04.4**	**+0.1**
BRG				SG		**Sn**	**21 54 24.1**	**+0.2**
	24nm,0.4s							
GOPC	**GO Pecny, Ondr**	**1.76**	**209**	*e*PN		**Pn**	**21 54 07.9**	**+0.3**
GOPC				*e*PG		**Pg**	**21 54 09.9**	**+0.4**
GOPC				*e*SG		**Sb**	**21 54 32.2**	**+0.6**
	comp=Z,5.5nm,0.2s							
GOPC	**GO Pecny, Ondr**	**1.76**	**209**	Pn		**Pn**	**21 54 07.9**	**+0.3**
PRU	**Pruhonice**	**1.77**	**215**	*e*PG		**Pb**	**21 54 08.9**	**-0.4**
PRU				*e*SG		**Sg**	**21 54 33.0**	**+0.2**
	comp=Z,6.7nm,0.2s							
PRU	**Pruhonice**	**1.77**	**215**	Pg		**Pb**	**21 54 08.9**	**-0.4**
PRU				Sg		**Sg**	**21 54 33.0**	**+0.2**
	6.7nm,0.2s							
MORC	**Moravsky Berou**	**1.91**	**151**	*e*Pn		**Pn**	**21 54 09.0**	**-0.7**
MORC				*e*Sg		**Sb**	**21 54 35.9**	**-0.1**
CLL	**Collm**	**1.95**	**267**	*e*Pg		**Pb**	**21 54 12.0**	**-0.3**
CLL				*i* Sg		**Sb**	**21 54 38.0**	**+0.8**
	comp=Z,10.0nm,0.5s							
OKC	**Ostrava-Krasne**	**2.07**	**141**	*e*SG		**Sb**	**21 54 41.2**	**+0.6**
	comp=Z,8.0nm,0.5s							
OKC	**Ostrava-Krasne**	**2.07**	**141**	Sg		**Sb**	**21 54 41.2**	**+0.6**
	comp=Z,8.0nm,0.5s							
VRAC	**Vranov**	**2.17**	**172**	*e*Pg		**Pg**	**21 54 16.8**	**-0.6**
VRAC				*e*Sg		**Sg**	**21 54 45.1**	**-0.4**
NKC	**Novy Kostel**	**2.62**	**244**	*e*PN		**Pn**	**21 54 18.8**	**-0.7**
NKC				*e*PG		**Pg**	**21 54 25.8**	**-0.3**
NKC				*e*SG		**Sg**	**21 54 59.6**	**-0.5**
	comp=Z,15nm,0.3s							
NKC	**Novy Kostel**	**2.62**	**244**	Pn		**Pn**	**21 54 18.8**	**-0.7**
KHC	**Kasperske Hory**	**2.84**	**216**	*e*PN		**Pn**	**21 54 22.5**	**0.0**
KHC				*e*PG		**Pb**	**21 54 27.9**	**+0.5**
KHC				*e*SG		**Sg**	**21 55 05.7**	**-1.2**
KHC	**Kasperske Hory**	**2.84**	**216**	Pn		**Pn**	**21 54 22.5**	**0.0**
SMOL	**Smolenice**	**3.06**	**163**	*e*Sg		**Sg**	**21 55 12.3**	**-1.9**
SMOL	**Smolenice**	**3.06**	**163**	*e*SG		**Sg**	**21 55 12.3**	**-1.9**
LANS	**Liptovska Anna**	**3.15**	**136**	*e*Sg		**Sg**	**21 55 15.4**	**-1.7**
LANS	**Liptovska Anna**	**3.15**	**136**	*e*SG		**Sg**	**21 55 15.4**	**-1.7**
STHS	**Stebnicka Huta**	**3.86**	**120**	*e*Sg		**Sg**	**21 55 41.8**	**+1.9**
STHS	**Stebnicka Huta**	**3.86**	**120**	*e*SG		**Sg**	**21 55 41.8**	**+1.9**
STHS				*e*LG		Lg	21 55 55.4	

*MEX **10** 22:07:27.9±0.6, 28.14N×112.34W, h13km±6km, MD4.8*
*ISCJB **10** 22:07:27.3±0.2, 28.11N±0.02×112.07W±0.02, h10km, mb4.6/56, MS4.2/20, Error ellipse: s-maj=3.5km s-min=2.2km az=26.8*
*MOS **10** 22:07:28.5±1.6, 28.25N×112.12W, h10km, mb4.9/21, Error ellipse: s-maj=8.1km s-min=4.5km az=92.6*
*NEIC **10** 22:07:28.9±0.4, 28.09N×112.14W, h10km, mb4.7/88, MD4.8(MEX), Error ellipse: s-maj=5.6km s-min=3.8km az=217.0*
*GCMT **10** 22:07:28.9±0.4, 28.15N×112.31W, h12km, MW4.9/89, Moment Tensor Solution. s15,c17; s89,c117; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr-0.10±.08; Mθθ-1.93±.07; Mϕϕ2.02±.07; Mrθ-1.53±.22; Mθϕ-0.70±.07;*

Mo9.81±.21; Best double couple: Mo2.71500×10¹⁶ NP1:ϕs126.00000°, δ87.00000°, λ-141.00000°. NP2: ϕs33.00000°, δ51.00000°, λ-4.00000°. Principal axes: T 2.6230, Plg24.0000°, Azm253.0000°; N 0.1770, Plg51.0000°, Azm129.0000°; P -2.8070, Plg29.0000°, Azm357.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.
*IDC **10** 22:07:28.8±0.9, 28.42N×111.99W, h0km, mb4.4/10, mb1 4.5/14, mb1mx4.2/38, mbtmp4.3/14, ML3.7/4, MS4.2/21, Ms1 4.2/21, ms1mx4.1/32 Error ellipse: s-maj=19.7km s-min=12.0km az=39.0*

ISC 10 22:07:28.7±0.4, 28.14N±0.02×112.13W±0.04, h10km, n441, σ1.975/445, mb4.7/56, MS4.2/20, Gulf of California

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
SRIG	**Santa Rosalia**	**0.82**	**187**	*i* P		**Pg**	**22 07 41.5**	**-3.0**
SRIG				*i* S		**Sg**	**22 07 51.7**	**-3.5**
SRIG	**Santa Rosalia**	**0.82**	**187**	*i* P		**Pg**	**22 07 41.5**	**-3.0**
SRIG				*i* S		**Sg**	**22 07 51.7**	**-3.5**
HSIG		**1.36**	**50**	*i* P		**Pn**	**22 07 50.6**	**-3.2**
HSIG				*i* S		**Sb**	**22 08 09.4**	**-2.3**
214A	**Organ Pipe Nat**	**3.85**	**351**	P		**Pn**	**22 08 25.5**	**-2.5**
	baz=171,SNR=38							
214A	**Organ Pipe Nat**	**3.85**	**351**	*e*Pn		**Pn**	**22 08 24.8**	**-3.3**
214A				*e*Pb		**Pb**	**22 08 37.8**	**+1.0**
214A				*e*Pg		**Pg**	**22 08 44.3**	**+1.8**
214A				*e*Sn		**Sn**	**22 09 15.6**	**+2.2**
214A				*e*Sb		**Sb**	**22 09 26.7**	**+3.2**
319A	**Douglas**	**4.07**	**37**	*e*Pn		**Pn**	**22 08 29.6**	**-1.5**
SPIG	**San Pedro Mart**	**4.10**	**316**	*i* P		Pn	22 08 26.2	-5.6
SPIG				*i* S		**Sn**	**22 09 11.4**	**-8.6**
CGIG		**4.25**	**58**	*e*P		**Pn**	**22 08 33.3**	**-0.4**
CGIG				*i* S		**Sn**	**22 09 22.8**	**-0.7**
CGIG		**4.25**	**58**	*e*P		**Pn**	**22 08 33.3**	**-0.4**
CGIG				*i* S		**Sn**	**22 09 22.8**	**-0.7**
TUC	**Tucson**	**4.32**	**15**	P		**Pn**	**22 08 32.5**	**-2.1**
	baz=196							
TUC	**Tucson**	**4.32**	**15**	*e*P		**Pn**	**22 08 32.1**	**-2.4**
TUC				*i* S		**Sn**	**22 09 22.1**	**-2.9**
TUC	**Tucson**	**4.32**	**15**	*e*Pn		**Pn**	**22 08 32.1**	**-2.4**
TUC				*e*Pg		**Pg**	**22 08 51.5**	**0.0**
TUC				*e*Pg		Pb	22 08 52.0	+7.3
TUC				*i* S		**Sn**	**22 09 22.1**	**-2.9**
TUC				S		**Sg**	**22 09 43.7**	**-3.7**
TUC				S		**Sg**	**22 09 43.7**	**-3.7**
LPIG	**La Paz**	**4.34**	**157**	Pn		Pn	22 08 39.7	+5.0
	7.5nm,0.3s,baz=296,slow=3.0,SNR=6.3							
LPIG				Lg		Lg	22 09 56.8	
	5.1nm,0.3s,baz=324,slow=10,SNR=4.6							
LPIG	**La Paz**	**4.34**	**157**	*i* P		**Pn**	**22 08 33.0**	**-1.7**
LPIG				*i* S		**Sn**	**22 09 22.1**	**-3.3**
LPIG	**La Paz**	**4.34**	**157**	*i* P		**Pn**	**22 08 33.0**	**-1.7**
LPIG				*i* S		**Sn**	**22 09 22.1**	**-3.3**
113A	**Mohawk Valley,**	**4.83**	**343**	*e*Pn		**Pn**	**22 08 38.0**	**-3.4**
SLBS	**Sierra La Lagu**	**4.85**	**156**	*e*Pn		**Pn**	**22 08 42.4**	**+0.5**
GLA	**Glamis**	**5.42**	**335**	P		**Pn**	**22 08 45.9**	**-3.7**
	baz=154,SNR=13							
GLA	**Glamis**	**5.42**	**335**	*e*P		**Pn**	**22 08 46.0**	**-3.7**
GLA	**Glamis**	**5.42**	**335**	*e*Pn		**Pn**	**22 08 46.0**	**-3.7**
121A	**Cookes Peak, D**	**5.77**	**40**	P		**Pn**	**22 08 54.5**	**-0.1**
	baz=221,SNR=70							
121A	**Cookes Peak, D**	**5.77**	**40**	*e*Pn		**Pn**	**22 08 53.5**	**-1.1**
	292nm,0.9s							
121A				*e*Pg		**Pg**	**22 09 14.6**	**-4.7**
121A				*e*Sg		**Sg**	**22 10 28.0**	**-6.0**
Y14A	**Wickenburg**	**5.83**	**353**	*e*Pn		**Pn**	**22 08 53.0**	**-2.2**
HPIG		**5.86**	**100**	*e*Pn		**Pn**	**22 08 55.6**	**-0.3**
HPIG				*i* S		**Sn**	**22 10 03.3**	**0.0**
HPIG		**5.86**	**100**	*i* P		**Pn**	**22 08 55.2**	**-0.7**
HPIG				*i* S		**Sn**	**22 10 03.3**	**0.0**
Y12C	**Blythe**	**5.96**	**340**	P		**Pn**	**22 08 54.2**	**-2.8**
	baz=160,SNR=15							
Y12C	**Blythe**	**5.96**	**340**	*e*Pn		**Pn**	**22 08 54.2**	**-2.8**
BAR	**Barrett**	**5.99**	**320**	*e*Pn		**Pn**	**22 08 57.8**	**+0.3**
X16A	**Lo Mia Camp, P**	**6.29**	**5**	*e*Pn		**Pn**	**22 09 00.4**	**-1.3**
PDMCI	**Parker Dam,Lak**	**6.38**	**345**	P		**Pn**	**22 09 00.2**	**-2.6**
	baz=164,SNR=10							
IRM	**Iron Mountain**	**6.53**	**337**	P		**Pn**	**22 09 02.4**	**-2.5**
	baz=156,SNR=11							
PFO	**Pinyon Flats O**	**6.60**	**327**	Pn		**Pn**	**22 09 06.2**	**+0.2**
	0.1nm,0.3s,baz=145,slow=8.0,SNR=3.0							
PFO				Lg		Lg	22 10 59.5	
	0.9nm,0.3s,baz=173,slow=4.9,SNR=16							
PFO				LR		LR	22 11 29.7	
	comp=Z,3µm,20.3s,baz=147,slow=37							
PFO	**Pinyon Flats O**	**6.60**	**327**	*e*P		**Pn**	**22 09 03.9**	**-2.0**
PFO	**Pinyon Flats O**	**6.60**	**327**	*e*Pn		**Pn**	**22 09 03.9**	**-2.0**
PFO				*e*Pg		**Pg**	**22 09 31.0**	**-4.2**
PFO				*e*Sg		**Sg**	**22 10 57.7**	**-3.0**
X18A	**Snowflake**	**6.64**	**16**	*e*Pn		**Pn**	**22 09 05.5**	**-0.9**
BELC	**Belle Mtn. Jos**	**6.72**	**331**	P		**Pn**	**22 09 06.8**	**-0.7**
	baz=150							
MNTX	**Cornudas Mount**	**6.85**	**57**	P		**Pn**	**22 09 09.3**	**+0.1**
	baz=240,SNR=14							
MNTX	**Cornudas Mount**	**6.85**	**57**	*e*Pn		**Pn**	**22 09 09.3**	**+0.1**
MNTX				*e*Pg		**Pg**	**22 09 35.6**	**-4.2**
MNTX				*e*Sn		**Sn**	**22 10 27.8**	**+0.6**
MNTX				*e*Sg		**Sg**	**22 11 06.4**	**-2.1**
W13A	**Hualapai Mount**	**7.10**	**348**	*e*Pn		**Pn**	**22 09 10.6**	**-2.2**
W18A	**Petrified Fore**	**7.25**	**16**	P		**Pn**	**22 09 15.3**	**+0.3**
	baz=197,SNR=18							
W18A	**Petrified Fore**	**7.25**	**16**	*e*Pn		**Pn**	**22 09 15.4**	**+0.5**
W18A				*e*Pg		**Pg**	**22 09 43.4**	**-4.1**
W18A				*e*Sg		**Sg**	**22 11 20.4**	**-1.1**
GMRC	**Granite Mounta**	**7.28**	**336**	P		**Pn**	**22 09 14.4**	**-0.9**
	baz=155							
RVR	**Riverside**	**7.37**	**324**	*e*Pg		**Pg**	**22 09 47.1**	**-2.7**
RVR				*e*Sn		**Sn**	**22 10 32.2**	**-7.8**
LDFC	**Landfair**	**7.37**	**341**	*e*Pn		Pn	22 09 21.6	+5.1
WUAZ	**Wupatki**	**7.38**	**5**	P		**Pn**	**22 09 16.4**	**-0.4**
	baz=185,SNR=31							
WUAZ	**Wupatki**	**7.38**	**5**	*e*Pn		**Pn**	**22 09 16.5**	**-0.2**
WUAZ				*e*Pg		**Pg**	**22 09 48.2**	**-1.9**
WUAZ				*e*Sg		**Sg**	**22 11 22.2**	**-3.6**
Y22D	**IRIS PASSCAL I**	**7.41**	**36**	*e*Pn		**Pn**	**22 09 19.5**	**+2.4**
LENM	**Lemitar**	**7.46**	**35**	*e*Pn		**Pn**	**22 09 19.0**	**+1.3**
TX31	**Lajitas Ar. Si**	**7.53**	**79**	*e*Pn		**Pn**	**22 09 19.0**	**+0.4**
TXAR	**Lajitas Array**	**7.53**	**79**	Pn		**Pn**	**22 09 18.6**	**0.0**
	0.6nm,0.3s,baz=250,slow=14,SNR=36							
TXAR				Lg		Lg	22 11 28.4	
	4.3nm,0.3s,baz=257,slow=29,SNR=6.9							
LAZ	**Ladron**	**7.56**	**33**	*e*Pn		**Pn**	**22 09 19.3**	**+0.1**
BNM	**Barren Site**	**7.62**	**37**	*e*Pn		**Pn**	**22 09 21.3**	**+1.2**
LPM	**Los Pinos Moun**	**7.75**	**36**	*e*Pn		**Pn**	**22 09 23.3**	**+1.6**
MWC	**Mount Wilson**	**7.91**	**322**	*e*P		**Pn**	**22 09 25.4**	**+1.5**
MWC	**Mount Wilson**	**7.91**	**322**	*e*Pn		**Pn**	**22 09 25.4**	**+1.5**
PASC	**Pasadena Art C**	**7.94**	**321**	*e*Pn		**Pn**	**22 09 28.4**	**+4.2**
TUQ	**Turquoise Moun**	**7.96**	**337**	P		**Pn**	**22 09 24.4**	**-0.1**
	baz=155							
GSC	**Goldstone, Bar**	**8.18**	**332**	P		**Pn**	**22 09 28.0**	**+0.5**
	baz=150							
GSC	**Goldstone, Bar**	**8.18**	**332**	*e*P		**Pn**	**22 09 30.1**	**+2.6**
GSC	**Goldstone, Bar**	**8.18**	**332**	*e*Pn		**Pn**	**22 09 30.1**	**+2.6**
U15A	**North Rim**	**8.27**	**359**	*e*Pn		**Pn**	**22 09 28.8**	**-0.2**
ANMO	**Albuquerque**	**8.34**	**34**	Pn		**Pn**	**22 09 31.8**	**+2.0**
	0.2nm,0.3s,baz=222,slow=12,SNR=11							
ANMO				Lg		Lg	22 11 50.6	
	3.9nm,0.3s,baz=286,slow=17,SNR=7.0							
ANMO	**Albuquerque**	**8.34**	**34**	P		**Pn**	**22 09 31.9**	**+2.1**
	baz=217							
ANMO	**Albuquerque**	**8.34**	**34**	*e*P		**Pn**	**22 09 31.1**	**+1.3**
ANMO	**Albuquerque**	**8.34**	**34**	*e*Pn		**Pn**	**22 09 31.1**	**+1.3**
OSI	**Osito Audit: C**	**8.57**	**321**	*e*Pn		**Pn**	**22 09 32.4**	**-0.4**
SHPR	**Sheep Range**	**8.73**	**344**	*e*Pn		**Pn**	**22 09 33.9**	**-1.3**
KNB	**Kanab**	**8.87**	**356**	*e*P		**Pn**	**22 09 37.4**	**+0.2**
KNB	**Kanab**	**8.87**	**356**	*e*Pn		**Pn**	**22 09 37.4**	**+0.2**
LCMT	**Little Creek M**	**8.90**	**354**	*e*Pn		**Pn**	**22 09 37.4**	**0.0**
EKU	**East Kanab**	**8.92**	**358**	*e*Pn		**Pn**	**22 09 37.8**	**0.0**
ISA	**Isabella, Lake**	**9.24**	**326**	*e*P		**Pn**	**22 09 43.4**	**+1.4**
ISA	**Isabella, Lake**	**9.24**	**326**	*e*Pn		**Pn**	**22 09 43.4**	**+1.4**
PKCU	**Pink Cliffs**	**9.28**	**359**	*e*Pn		**Pn**	**22 09 45.5**	**+2.6**
DAC	**Darwin (Calif)**	**9.34**	**332**	*e*P		**Pn**	**22 09 44.9**	**+1.3**
DAC	**Darwin (Calif)**	**9.34**	**332**	*e*Pn		**Pn**	**22 09 44.9**	**+1.3**
CCUT	**Cedar City**	**9.44**	**354**	*e*Pn		**Pn**	**22 09 44.9**	**-0.2**
TPNV	**Topopah Spring**	**9.45**	**339**	P		**Pn**	**22 09 46.1**	**+1.1**
	baz=158							
TPNV	**Topopah Spring**	**9.45**	**339**	*e*P		**Pn**	**22 09 47.2**	**+2.2**
TPNV	**Topopah Spring**	**9.45**	**339**	*e*Pn		**Pn**	**22 09 47.2**	**+2.2**
SZCU	**Shurtz Canyon**	**9.47**	**355**	*e*Pn		**Pn**	**22 09 46.2**	**+0.9**
MVCO	**Mesa Verde**	**9.55**	**18**	P		**Pn**	**22 09 48.5**	**+2.0**
	baz=200,SNR=25							
MVCO	**Mesa Verde**	**9.55**	**18**	*e*Pn		**Pn**	**22 09 47.2**	**+0.8**
CWC	**Cottonwood Cre**	**9.69**	**330**	*e*Pn		**Pn**	**22 09 49.1**	**+0.9**
MTPU	**Mount Pierson**	**9.88**	**360**	*e*Pn		**Pn**	**22 09 54.6**	**+3.5**
MSTX	**Muleshoe**	**9.91**	**52**	P		**Pn**	**22 09 53.2**	**+2.0**
	baz=236,SNR=14							
MSTX	**Muleshoe**	**9.91**	**52**	*e*Pn		**Pn**	**22 09 53.3**	**+2.0**
ZAIG	**Zacatecas**	**10.16**	**120**	*e*Pn		**Pn**	**22 09 59.0**	**+4.1**
PV05	**Paradox Valley**	**10.23**	**14**	*e*Pn		**Pn**	**22 10 00.1**	**+4.2**
MSU	**Marysvale**	**10.35**	**360**	*e*P		**Pn**	**22 09 59.6**	**+2.2**
MSU	**Marysvale**	**10.35**	**360**	*e*Pn		**Pn**	**22 09 59.6**	**+2.2**
PV01	**Paradox Valley**	**10.40**	**16**	*e*Pn		**Pn**	**22 09 58.1**	**-0.1**
PSUT	**Pine Spring**	**10.47**	**353**	*e*Pn		**Pn**	**22 10 01.9**	**+2.9**
PV10	**Paradox Valley**	**10.53**	**13**	*e*Pn		**Pn**	**22 10 01.2**	**+1.2**
S22A	**4UR Ranch, Cre**	**10.56**	**24**	P		**Pn**	**22 10 02.6**	**+2.2**
	baz=206,SNR=8.5							
S22A	**4UR Ranch, Cre**	**10.56**	**24**	*e*Pn		**Pn**	**22 10 02.7**	**+2.3**
PV04	**Paradox Valley**	**10.58**	**14**	*e*Pn		**Pn**	**22 09 60.0**	**-0.6**
R11A	**Troy Canyon, C**	**10.59**	**345**	P		**Pn**	**22 09 59.7**	**-1.0**
	baz=163,SNR=16							
R11A	**Troy Canyon, C**	**10.59**	**345**	*e*Pn		**Pn**	**22 09 59.8**	**-0.8**
PV09	**Paradox Valley**	**10.63**	**13**	*e*Pn		**Pn**	**22 10 03.4**	**+2.1**
JCT	**Junction City**	**11.01**	**75**	P		**Pn**	**22 10 07.7**	**+1.4**
	baz=261,SNR=17							
JCT	**Junction City**	**11.01**	**75**	*e*P		**Pn**	**22 10 07.3**	**+0.9**
JCT	**Junction City**	**11.01**	**75**	*e*Pn		**Pn**	**22 10 07.3**	**+0.9**
SRU	**San Rafael Swe**	**11.03**	**7**	*e*P		**Pn**	**22 10 09.8**	**+3.2**
SRU	**San Rafael Swe**	**11.03**	**7**	*e*Pn		**Pn**	**22 10 09.8**	**+3.2**
SDCO	**Great Sand Dun**	**11.08**	**28**	P		**Pn**	**22 10 10.6**	**+3.2**
	baz=212,SNR=14							
SDCO	**Great Sand Dun**	**11.08**	**28**	*e*Pn		**Pn**	**22 10 09.1**	**+1.6**
T25A	**Trinidad**	**11.08**	**34**	P		**Pn**	**22 10 10.8**	**+3.4**
	baz=218,SNR=15							
T25A	**Trinidad**	**11.08**	**34**	*e*Pn		**Pn**	**22 10 10.6**	**+3.2**
TMUT	**Trail Mountain**	**11.16**	**4**	*e*Pn		**Pn**	**22 10 11.1**	**+2.5**
AMTX	**Amarillo**	**11.16**	**50**	P		**Pn**	**22 10 10.4**	**+1.9**
	baz=236							
AMTX	**Amarillo**	**11.16**	**50**	*e*Pn		**Pn**	**22 10 10.5**	**+2.0**
833A	**Chaparral WMA,**	**11.23**	**86**	P		**Pn**	**22 10 10.1**	**+0.8**
	baz=272,SNR=10							
933A	**Laredo**	**11.39**	**90**	P		**Pn**	**22 10 12.6**	**+1.1**
	baz=275							
533A	**Kerrville**	**11.61**	**77**	P		**Pn**	**22 10 16.2**	**+1.6**
	baz=263

W38A	**Poteau**	16.51	61	P		Pn	22 11 20.4	0.0	
	baz=250								
U37A	**Salina**	16.57	56	P		Pn	22 11 20.9	-0.2	
	baz=245								
YNR	**Norris Junctio**	16.59	4	*e*Pn		P	22 11 23.8	-0.3	
	63nm,1.5s								
Q34A	**Chapman**	16.59	46	P		Pn	22 11 22.4	+1.0	
	baz=234								
YHB	**Horse Butte**	16.60	2	*e*Pn		P	22 11 25.8	+1.6	
	17nm,1.1s								
X39A	**Fountain Ranch**	16.64	63	P		Pn	22 11 22.6	+0.5	
	baz=252,SNR=21								
YHH	**Holmes Hill**	16.65	3	*e*Pn		P	22 11 24.1	-0.7	
	70nm,1.5s								
MCMT	**McKenzie Canyo**	16.67	358	*e*Pn		P	22 11 25.5	+0.5	
QLMT	**Earthquake Lak**	16.67	2	*e*Pn		P	22 11 25.1	+0.1	
J05D	**Fort Rock, OR**	16.81	336	P		P	22 11 25.3	-1.1	
	baz=151								
S36A	**Lake Cedric, C**	16.84	51	P		Pn	22 11 24.8	+0.3	
	baz=240,SNR=9.7								
V38A	**Canehill**	16.88	58	P		Pn	22 11 24.1	-0.9	
	baz=248								
Z40A	**Long Farm, Mag**	16.89	68	P		Pn	22 11 25.1	-0.1	
	baz=257								
KSU1	**Kansas State U**	16.91	46	P		Pn	22 11 25.8	+0.4	
	baz=234								
KSU1	**Kansas State U**	16.91	46	*e*Pn		Pn	22 11 26.2	+0.8	
	110nm,1.6s								
O33A	**Hebron**	16.91	41	P		Pn	22 11 24.6	-0.9	
	baz=230								
T37A	**Cheneyville 18**	17.02	54	P		Pn	22 11 26.8	-0.1	
	baz=243								
MIAR	**Mount Ida**	17.08	63	*e*P		Pn	22 11 27.9	+0.3	
MIAR				pmax		pmax			
	comp=Z,32nm,1.1s								
MIAR	**Mount Ida**	17.08	63	*e*Pn		Pn	22 11 27.9	+0.3	
	comp=Z,32nm,1.1s								
RLMT	**Red Lodge**	17.11	7	P		Pn	22 11 28.5	+0.4	
	baz=189,SNR=11								
RLMT	**Red Lodge**	17.11	7	*e*Pn		P	22 11 29.2	-0.6	
	comp=Z,131nm,1.9s								
U38A	**Gravette**	17.12	57	P		Pn	22 11 26.6	-1.5	
	baz=246								
W39A	**Magazine**	17.12	61	P		Pn	22 11 28.1	+0.1	
	baz=251								
Q35A	**Mercer Eighty,**	17.14	47	P		Pn	22 11 28.5	+0.2	
	baz=236,SNR=6.1								
141A	**Papa Simpson,**	17.18	70	P		Pn	22 11 28.7	-0.1	
	baz=260								
BMO	**Blue Mountains**	17.19	347	*e*P		P	22 11 30.1	-0.5	
BMO				pmax		pmax			
	comp=Z,31nm,1.3s								
BMO	**Blue Mountains**	17.19	347	*e*Pn		P	22 11 30.1	-0.5	
	comp=Z,31nm,1.3s								
DLMT	**Dillon**	17.20	359	*e*Pn		P	22 11 30.8	+0.1	
	comp=Z,69nm,1.5s								
R36A	**Gordon, Harris**	17.20	50	P		Pn	22 11 29.3	+0.2	
	baz=238,SNR=6.6								
RSSD	**Black Hills**	17.22	20	*e*P		P	22 11 31.5	+0.4	
RSSD				pmax		pmax			
	comp=Z,25nm,1.1s								
RSSD	**Black Hills**	17.22	20	*e*Pn		P	22 11 31.5	+0.4	
	comp=Z,24nm,1.1s								
WLAR	**White Oak Lake**	17.23	67	*e*Pn		P	22 11 31.1	+0.1	
	comp=Z,60nm,1.2s								
S37A	**Fort Scott**	17.38	52	P		Pn	22 11 31.5	+0.1	
	baz=241,SNR=13								
HHAR	**Hobbs**	17.39	58	*e*Pn		Pn	22 11 30.6	-0.8	
	comp=Z,25nm,1.1s								
BOZ	**Bozeman (W)**	17.43	1	*e*P		P	22 11 35.5	+2.2	
BOZ	**Bozeman (W)**	17.43	1	*e*Pn		P	22 11 35.5	+2.2	
T38A	**Diamond**	17.43	55	P		Pn	22 11 31.6	-0.4	
	baz=244,SNR=6.9								
V39A	**Pettigrew**	17.44	59	P		Pn	22 11 31.4	-0.8	
	baz=249,SNR=8.5								
BGNE	**Belgrade**	17.50	37	*e*Pn		P	22 11 36.6	+2.7	
	comp=Z,85nm,1.0s								
O34A	**Beatrice**	17.51	43	P		Pn	22 11 32.6	-0.3	
	baz=231								
P35A	**Duane Minner,**	17.53	45	P		Pn	22 11 33.4	+0.3	
	baz=234,SNR=12								
X40A	**Basin Creek Fa**	17.65	64	P		Pn	22 11 33.4	-1.3	
	baz=254,SNR=9.5								
LRM	**Limekiln Ridge**	17.65	359	*e*Pn		P	22 11 37.3	+1.4	
W40A	**Ferguson Farm,**	17.67	62	P		Pn	22 11 35.0	+0.1	
	baz=252,SNR=20								
Y41A	**Eaglette Beard**	17.68	66	P		P	22 11 36.3	+0.3	
	baz=256,SNR=6.0								
GCMT	**Greycliff**	17.73	6	*e*Pn		P	22 11 38.1	+1.5	
U39A	**Green Forest**	17.77	58	P		Pn	22 11 35.4	-0.8	
	baz=248,SNR=9.0								
S38A	**Stockton**	17.97	54	P		Pn	22 11 38.5	-0.1	
	baz=243,SNR=13								
O35A	**Humboldt**	18.03	44	P		P	22 11 39.6	-0.2	
	baz=233,SNR=5.5								
V40A	**Witts Springs**	18.06	60	P		Pn	22 11 39.0	-0.8	
	baz=250,SNR=7.9								
X301	**Greenbrier Sit**	18.21	62	*e*Pn		Pn	22 11 40.9	-0.7	
	comp=Z,74nm,1.2s								
R38A	**Fenwick Farm,**	18.23	52	P		Pn	22 11 41.6	-0.2	
	baz=242								
U40A	**Yellville**	18.23	58	P		Pn	22 11 40.9	-1.0	
	baz=249,SNR=16								
CROR	**Criterion Ridg**	18.23	340	P		P	22 11 43.6	+1.5	
F10A	**Beach Ranch, E**	18.25	349	*e*Pn		P	22 11 42.7	+0.4	
	comp=Z,76nm,1.8s								
VTHM	**Trough**	18.29	341	P		P	22 11 44.1	+1.4	
W41B	**Gary Mavity, V**	18.31	63	P		Pn	22 11 42.4	-0.3	
	baz=253,SNR=12								
WHAR	**Wooly Hollow**	18.31	62	*e*Pn		Pn	22 11 42.5	-0.3	
	comp=Z,183nm,1.7s								
CCAR	**Cane Creek**	18.36	67	*e*Pn		P	22 11 44.4	+0.8	
	comp=Z,85nm,1.1s								
S39A	**Bolivar**	18.41	54	P		P	22 11 44.0	-0.1	
	baz=244,SNR=21								
V41A	**Mountainview**	18.57	61	P		P	22 11 44.8	-1.0	
	baz=251,SNR=8.5								
MSO	**Missoula**	18.71	356	P		Pn	22 11 47.9	+0.1	
	baz=175,SNR=11								
MSO	**Missoula**	18.71	356	*e*P		Pn	22 11 48.3	+0.5	
	comp=Z,29nm,1.4s								
CHMT	**Chamberlain Mo**	18.77	358	*e*P		Pn	22 11 49.1	+0.6	
T40A	**Mansfield**	18.77	56	P		P	22 11 48.1	+0.1	
	baz=247,SNR=11								
Q38A	**Cooks Store, C**	18.80	50	P		P	22 11 48.3	+0.1	
	baz=240								
R39A	**Chumby, Stover**	18.89	53	P		P	22 11 49.1	-0.2	
	baz=243,SNR=14								
U41A	**Viola**	18.93	59	P		P	22 11 49.7	0.0	
	baz=250								
E09A	**Wood Farm, Sta**	18.95	347	*e*P		P	22 11 49.4	-0.4	
	comp=Z,44nm,1.5s								
S40A	**Lebanon**	18.97	55	P		P	22 11 50.2	+0.1	
	baz=246								
LAO	**LASA Array**	19.09	13	P		P	22 11 51.9	+0.4	
	baz=196,SNR=25								
LAO	**LASA Array**	19.09	13	*e*P		Pn	22 11 52.4	+0.1	
	comp=Z,73nm,1.1s								
SLMT	**Seeley Lake**	19.10	357	*e*P		Pn	22 11 52.5	0.0	
HAWA	**Hanford**	19.13	344	*e*P		Pn	22 11 52.3	-0.4	
	comp=Z,30nm,1.3s								
V42A	**Cord**	19.16	61	P		P	22 11 51.8	-0.5	
	baz=252								
Q39A	**Willow Grove F**	19.27	51	P		Pn	22 11 54.3	-0.2	
	baz=241								
T41A	**Mountain View**	19.29	57	P		P	22 11 53.4	-0.3	
	baz=248,SNR=9.7								
TRW	**Toppenish Ridg**	19.30	342	P		Pn	22 11 56.0	+1.2	
CMIG	**Matias Romero**	19.32	121	P		Pn	22 11 59.2	+4.0	
	comp=Z,0.1nm,0.3s,baz=316,slow=13,SNR=5.6								
E07A	**Sunnyside**	19.37	344	*e*P		Pn	22 11 56.8	+1.2	
	comp=Z,41nm,1.0s								
SWMT	**Swartz Lake**	19.39	356	*e*P		Pn	22 11 56.4	+0.4	
U42A	**Revenden**	19.45	60	P		P	22 11 55.1	-0.3	
	baz=251,SNR=7.4								
S41A	**Jillco Farms,**	19.51	56	P		P	22 11 56.2	0.0	
	baz=247,SNR=5.2								
D08A	**Wollman Farm,**	19.62	346	*e*P		P	22 11 56.5	-0.7	
P39B	**Salisbury**	19.64	50	P		P	22 11 57.6	+0.1	
	baz=240								
JTMT	**Jette**	19.65	356	*e*P		Pn	22 11 58.4	-0.7	
YBMT	**Yellow Bay**	19.75	356	*e*P		Pn	22 11 59.5	-0.7	
BSMT	**Bassoo Peak**	19.79	355	*e*P		Pn	22 12 00.2	-0.6	
T42A	**Van Buren**	19.79	58	P		P	22 11 58.9	-0.2	
	baz=249								
Q40A	**Laux Farm, Aux**	19.87	52	P		P	22 11 59.1	-0.9	
	baz=243								
BLMT	**Blacktail Moun**	19.92	356	*e*P		Pn	22 12 04.1	+1.8	
EGMT	**Eagleton**	19.94	5	P		P	22 12 01.2	+0.4	
	baz=186								
EGMT	**Eagleton**	19.94	5	*e*P		P	22 12 01.5	+0.7	
	comp=Z,93nm,1.5s								
ECSD	**EROS Data Cent**	19.95	35	*e*P		P	22 12 01.5	+0.7	
	comp=Z,37nm,1.2s								
LON	**Longmire**	20.08	340	*e*P		Pn	22 12 03.8	-0.3	
LON				pmax		pmax			
	comp=Z,21nm,1.3s								
LON	**Longmire**	20.08	340	*e*P		Pn	22 12 03.8	-0.3	
	comp=Z,21nm,1.3s								
H32A	**Carlson Farm,**	20.12	32	P		P	22 12 03.0	+0.2	
	baz=220								
P40A	**Paris**	20.14	50	P		P	22 12 02.9	0.0	
	baz=242,SNR=6.7								
PBMO	**Poplar Bluff**	20.20	59	*e*P		P	22 12 03.8	+0.1	
	comp=Z,16nm,1.0s								
LTY	**Liberty**	20.22	343	*e*P		Pn	22 12 06.0	+0.2	
	comp=Z,22nm,1.0s								
DPW	**Davenport**	20.26	348	*e*P		Pn	22 12 09.8	+3.6	
DPW	**Davenport**	20.26	348	*e*P		Pn	22 12 09.8	+3.5	
S42A	**Caledonia**	20.28	56	P		P	22 12 04.2	-0.3	
	baz=248,SNR=11								
X45A	**UM Field Stati**	20.40	66	P		P	22 12 06.0	+0.2	
	baz=258								
OXF	**Oxford**	20.40	66	*e*P		Pn	22 12 07.0	-0.9	
OXF				pmax		pmax			
	comp=Z,86nm,1.2s								
OXF	**Oxford**	20.40	66	*e*P		Pn	22 12 07.0	-1.0	
	comp=Z,86nm,1.2s								
T43A	**Greenville**	20.41	59	P		P	22 12 05.8	-0.2	
	baz=250,SNR=8.1								
NEW	**Newport**	20.46	350	P		P	22 12 06.3	-0.1	
	comp=Z,11nm,0.9s,baz=175,slow=12,SNR=20								
NEW	**Newport**	20.46	350	P		P	22 12 05.9	-0.6	
	baz=167,SNR=11								
NEW	**Newport**	20.46	350	*e*P		P	22 12 05.9	-0.6	
NEW				pmax		pmax			
	comp=Z,19nm,1.0s								
NEW	**Newport**	20.46	350	*e*P		P	22 12 05.9	-0.6	
	comp=Z,19nm,1.0s								
R42A	**Luebbering**	20.48	55	P		P	22 12 06.6	-0.1	
	baz=246								
O40A	**La Belle**	20.54	49	P		P	22 12 07.2	-0.1	
	baz=240,SNR=7.8								
SCIA	**State Center**	20.64	43	*e*P		Pn	22 12 12.3	+1.6	
	comp=Z,183nm,1.8s								
Y46A	**Houston**	20.73	68	P		P	22 12 10.1	+0.7	
	baz=260,SNR=8.1								
K37A	**Belmond**	20.91	41	P		P	22 12 11.5	+0.2	
	baz=232								
L38A	**Oak Wood Farm,**	20.93	43	P		P	22 12 11.6	+0.1	
	baz=234								
WALA	**Waterton Lakes**	20.93	357	*e*P		P	22 12 12.7	+1.0	
	comp=Z,32nm,1.4s								
B08A	**Colville Reser**	20.95	346	*e*P		P	22 12 10.6	-1.1	
	comp=Z,30nm,1.4s								
DGMT	**Dagmar**	21.21	15	*e*P		P	22 12 14.5	0.0	
	comp=Z,80nm,1.2s								
NLWA	**Neilton Lookou**	21.30	338	*e*P		P	22 12 16.3	+0.8	
	comp=Z,67nm,1.6s								
J37A	**Redenius Farm,**	21.30	40	P		P	22 12 15.7	+0.3	
	baz=231								
P42A	**Winchester**	21.34	52	P		P	22 12 16.0	+0.1	
	baz=244								
K38A	**Parkersburg**	21.35	42	P		P	22 12 16.0	0.0	
	baz=233,SNR=5.6								
S44A	**Carbondale**	21.39	58	P		P	22 12 16.6	+0.1	
	baz=250								
JCW	**Jim Creek**	21.42	342	P		P	22 12 18.7	+2.0	
B05A	**Bryant**	21.53	342	P		P	22 12 18.4	+0.5	
	baz=156,SNR=6.0								
H35A	**Sunnyside Ranc**	21.54	35	P		P	22 12 18.5	+0.5	
	baz=226								
R44A	**Waltonville**	21.71	56	P		P	22 12 19.5	-0.4	
	baz=249								
S45A	**Carrier Mills**	21.89	58	P		P	22 12 21.5	-0.3	
	baz=251								
J38A	**Wedel Dairy, R**	21.92	41	P		P	22 12 22.1	-0.1	
	baz=233								
L40A	**Anamosa**	21.96	45	P		P	22 12 22.1	-0.5	
	baz=237,SNR=9.4								
MDND	**Maddock**	21.96	23	*e*P		P	22 12 24.9	+2.4	
Q44A	**Meyer Farm, Va**	22.00	55	P		P	22 12 22.7	-0.3	
	baz=248								
WVT	**Waverly**	22.03	63	*e*P		P	22 12 23.9	+0.6	
WVT				pmax		pmax			
	comp=Z,66nm,1.4s								
WVT	**Waverly**	22.03	63	*e*P		P	22 12 23.9	+0.6	
	comp=Z,66nm,1.4s								
M41A	**Milan**	22.04	48	P		P	22 12 23.1	-0.4	
	baz=240								
N42A	**Yates City**	22.11	49	P		P	22 12 24.3	+0.2	
	baz=242								
LRAL	**Lakeview Retre**	22.16	71	*e*P		P	22 12 25.7	+0.9	
	comp=Z,22nm,1.1s								
PGC	**Sidney**	22.27	340	*e*P		P	22 12 27.1	+1.3	
	comp=Z,29nm,1.0s								
K40A	**Colesburg**	22.36	44	P		P	22 12 28.9	+2.1	
	baz=236								
J39A	**Decorah**	22.38	42	P		P	22 12 28.9	+1.8	
	baz=234								
L41A	**Preston**	22.43	46	P		P	22 12 28.4	+0.8	
	baz=238								
I38A	**Scanlan Farm,**	22.45	40	P		P	22 12 27.7	-0.1	
	baz=231								
HDIL	**Hopedale**	22.49	51	P		P	22 12 28.3	0.0	
	baz=244								
HDIL	**Hopedale**	22.49	51	*e*P		P	22 12 31.4	+3.1	
	comp=Z,69nm,1.1s								
OLIL	**Olney**	22.61	56	*e*P		P	22 12 30.9	+1.4	
	comp=Z,50nm,1.1s								
SPMN	**Marine on St.**	22.95	37	*e*P		P	22 12 31.9	-1.2	
JFWS	**Jewell Farm**	23.03	44	*e*P		P	22 12 36.6	+2.7	
JFWS				pmax		pmax			
	comp=Z,23nm,1.1s								
JFWS	**Jewell Farm**	23.03	44	*e*P		P	22 12 36.6	+2.7	
	comp=Z,22nm,1.1s								
SWET	**Sewanee**	23.34	66	*e*P		P	22 12 38.4	+1.2	
	comp=Z,24nm,1.6s								
AGMN	**Agassiz Nation**	23.75	28	*e*P		P	22 12 43.8	+2.8	
	comp=Z,26nm,1.2s								
WCI	**Wyandotte Cave**	23.78	58	*e*P		P	22 12 43.7	+2.2	
WCI				pmax		pmax			
	comp=Z,46nm,1.3s								
WCI	**Wyandotte Cave**	23.78	58	*e*P		P	22 12 43.7	+2.2	
	comp=Z,46nm,1.3s								
SFIN	**Lafayette**	23.94	53	*e*P		P	22 12 43.2	+0.3	
	comp=Z,37nm,1.2s								
H41A	**Junction City**	24.33	42	P		P	22 12 48.4	+1.8	
	baz=235								
CPCT	**Cooper Cave**	24.52	66	*e*P		P	22 12 48.6	+0.2	
	comp=Z,18nm,1.5s								
C36A	**Pine Crest Far**	24.68	32	P		P	22 12 49.6	-0.1	
	baz=224								
C37A	**Embarrass**	24.97	33	P		P	22 12 52.2	-0.1	
	baz=225								
EDM	**Edmonton**	25.07	358	*e*P		P	22 12 52.3	-1.0	
EDM				pmax		pmax			
	comp=Z,65nm,1.5s								
EDM	**Edmonton**	25.07	358	*e*P		P	22 12 52.3	-1.0	
	comp=Z,65nm,1.5s								
TKL	**Tuckaleechee C**	25.16	65	P		P	22 12 54.2	+0.1	
	comp=Z,11nm,1.0s,baz=180,slow=4.7,SNR=7.1								
TKL				LR		LR	22 23 28.4		
	comp=Z,2µm,18.1s,baz=254,slow=38								
TKL	**Tuckaleechee C**	25.16	65	*e*P		P	22 12 54.0	-0.1	
TKL				pmax		pmax			
	comp=Z,43nm,1.4s								
TKL	**Tuckaleechee C**	25.16	65	*e*P		P	22 12 54.0	-0.1	
	comp=Z,43nm,1.4s								
E40A	**Wakefield**	25.29	38	P		P	22 12 55.4	+0.2	
	baz=231								
F41A	**Three Lakes**	25.30	40	P		P	22 12 55.0	-0.4	
	baz=234								
ULM	**Lac du Bonnet**	25.31	25	P		P	22 12 55.1	-0.3	
	comp=Z,15nm,1.0s,baz=210,slow=9.9,SNR=8.3								
ULM				LR		LR	22 23 40.6		
	comp=Z,651nm,20.6s,baz=216,slow=39								
ULM	**Lac du Bonnet**	25.31	25	*e*P		P	22 12 57.1	+1.7	
ULM				pmax		pmax			
	comp=Z,23nm,1.1s								
ULM	**Lac du Bonnet**	25.31	25	*e*P		P	22 12 57.0	+1.7	
	comp=Z,23nm,1.1s								
EYMN	**Ely**	25.45	33	P		P	22 12 57.2	+0.5	
	baz=226								
EYMN	**Ely**	25.45	33	*e*P		P	22 12 57.8	+1.1	
	comp=Z,39nm,1.3s								
TZTN	**Tazewell**	25.49	64	*e*P		P	22 12 57.8	+0.6	
	comp=Z,23nm,1.3s								
BBB	**Bella Bella**	26.83	338	LR		LR	22 23 38.8		
	comp=Z,659nm,18.5s,baz=163,slow=36								
KMSC	**Kings Mountain**	27.06	67	P		P	22 13 10.6	-0.8	
	baz=264								
KMSC	**Kings Mountain**	27.06	67	*e*P		P	22 13 08.8	-2.6	
	comp=Z,30nm,1.5s								
SADO	**Sadowa**	31.03	49	LR		LR	22 26 09.9		
	comp=Z,425nm,19.5s,baz=262,slow=36								
JTS	**JuntasAbangare**	31.08	119	LR		LR	22 26 03.9		
	comp=Z,512nm,21.5s,baz=14,slow=36								
DLBC	**Dease Lake**	32.75	343	P		P	22 14 02.2	+0.6	
	comp=Z,8.2nm,0.8s,baz=160,slow=7.2,SNR=16								
DLBC				LR		LR	22 27 41.4		
	comp=Z,1µm,18.4s,baz=158,slow=37								
DLBC	**Dease Lake**	32.75	343	*e*P		P	22 14 02.5	+0.9	
	comp=Z,12nm,0.9s								
YKA	**Yellowknife Ar**	34.40	358	LR		LR	22 28 40.1		
	comp=Z,44nm,18.5s,baz=180,slow=37								
WHY	**Whitehorse**	35.96	341	*e*P		P	22 14 32.1	+2.7	
	comp=Z,30nm,1.8s								
HYT	**Haines Junctio**	36.88	340	*e*P		P	22 14 40.7	+3.5	
	comp=Z,22nm,1.6s								
DAWY	**Dawson**	39.96	342	*e*P		P	22 15 03.0	0.0	
	comp=Z,26nm,1.3s								
HARP	**HAARP**	40.54	337	*e*P		P	22 15 10.5	+2.7	
	comp=Z,48nm,1.3s								
EGAK	**Eagle**	41.00	342	*e*P		P	22 15 12.0	+0.5	
	comp=Z,9.3nm,1.1s								
SML	**Sawmill**	41.30	335	*e*P		P	22 15 15.4	+1.2	
SML				pmax		pmax			
	comp=Z,59nm,2.0s								
SML	**Sawmill**	41.30	335	*e*P		P	22 15 15.4	+1.2	
	comp=Z,59nm,2.0s								
PMR	**Palmer**	41.47	334	*e*P		P	22 15 15.0	-0.5	
PMR				pmax		pmax			
	comp=Z,37nm,1.4s								
PMR	**Palmer**	41.47	334	*e*P		P	22 15 15.0	-0.5	
	comp=Z,37nm,1.4s								
DHY	**Denali Highway**	41.75	337	*e*P		P	22 15 18.5	+0.6	
	comp=Z,23nm,1.5s								
SCHQ	**Schefferville**	42.09	38	LR		LR	22 33 21.6		
	comp=Z,467nm,18.7s,baz=256,slow=37								
INK	**Inuvik**	42.16	348	P		P	22 15 22.8	+1.7	
	comp=Z,7.5nm,1.1s,baz=132,slow=4.6,SNR=3.4								
INK	**Inuvik**	42.16	348	*e*P		P	22 15 25.0	+3.9	
INK				pmax		pmax			
	comp=Z,19nm,1.4s								
INK	**Inuvik**	42.16	348	*e*P		P	22 15 25.0	+3.9	
	comp=Z,19nm,1.4s								
SPU	**Mount Spurr**	42.39	333	*e*P		P	22 15 24.4	+1.3	
OTAV	**Otavalo**	42.54	125	*e*P		P	22 15 27.3	+2.0	
	comp=Z,12nm,1.2s								
IL1	**Eielson Array**	42.71	339	*e*P		P	22 15 24.9	-0.6	
ILAR	**Eielson Array**	42.71	339	P		P	22 15 25.4	-0.1	
	comp=Z,4.5nm,1.0s,baz=151,slow=6.8,SNR=33								
ILB	**Eielson Array**	42.71	339	*e*P		P	22 15 25.6	-0.1	
MCK	**McKinley**	42.71	337	*e*P		P	22 15 25.9	+0.3	
MCK				pmax		pmax			
	comp=Z,12nm,1.0s								
MCK	**McKinley**	42.71	337	*e*P		P	22 15 25.9	+0.3	
	comp=Z,12nm,1.0s								
ROSC	**El Rosal**	42.73	116	P		P	22 15 29.4	+2.6	
	comp=Z,3.6nm,0.4s,baz=51,slow=8.5,SNR=5.8								
ROSC				LR		LR	22 35 39.8		
	comp=Z,127nm,18.7s,baz=330,slow=40								
CCB	**Clear Creek Bu**	42.92	338	*e*P		P	22 15 28.0	+0.8	
	comp=Z,3.2nm,0.9s								
TRF	**Thorofare Moun**	43.02	336	*e*P		P	22 15 28.4	+0.1	
	comp=Z,14nm,0.9s								
COLA	**College**	43.09	339	*e*P		P	22 15 30.0	+1.5	
COLA				pmax		pmax			
	comp=Z,5.0nm,0.9s								
COLA	**College**	43.09	339	*e*P		P	22 15 30.0	+1.5	
	comp=Z,5.3nm,0.9s								
RUSC	**La Rusia**	43.10	113	*e*P		P	22 15 30.3	+0.4	
	comp=Z,20nm,1.4s								
MDM	**Murphy Dome**	43.26	339	*e*P		P	22 15 31.6	+1.6	
	comp=Z,32nm,1.8s								
KTH	**Kantishna Hill**	43.31	336	*e*P		P	22 15 30.2	-0.3	
	comp=Z,15nm,1.0s								
PPLA	**Purkeypile**	43.40	335	*e*P		P	22 15 31.6	+0.3	
	comp=Z,46nm,1.2s								
SVW2	**Sparrevohn**	43.82	331	*e*P		P	22 15 34.4	-0.2	
	comp=Z,16nm,1.2s								
TT01	**Tatalina**	44.89	333	*e*P		P	22 15 42.6	-0.5	
COLD	**Coldfoot**	45.35	340	*e*P		P	22 15 47.5	+0.7	
	comp=Z,11nm,1.1s								
TOLK	**Toolik Lake Re**	46.10	342	P		P	22 15 53.2	+0.5	
	baz=132								
PPT2	**Papeete2**	58.14	223	*e*LR		LR	22 34 10.1		
	comp=Z,275nm,25.8s								
SAML	**Samuel**	59.97	121	*e*P		P	22 17 31.7	-3.9	
	comp=Z

KIV	**Kislovodsk**	**104.64**	**19**	*e*Pdif	**Pdif**	**22 21 34.6 -0.3**
KSH	**Kashi**	**112.27**	**353**	*e*PKP	**PKiKP**	**22 26 06.1 +1.0**
ASAR	**Alice Springs**	**121.07**	**258**	PKP	**PKPdf**	**22 26 24.5 +2.3**
	comp=Z,0.7nm,1.0s,baz=44,slow=4.1,SNR=3.8					

JMA 10 22:32:17.4±0.2, 37°33N×144°24E, h0km, M3.5, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JIO	**Ouri**	**2.55**	**297**	P	Pn	22 33 01.1	+1.1
JIO				*e*S	Sn	22 33 33.4	+1.7
OFUJ	**Ofunato**	**2.67**	**312**	P	Pn	22 33 02.6	+0.9
OFUJ				S	Sn	22 33 36.2	+1.4
JMK	**Ichinoseki**	**2.88**	**305**	P	Pn	22 33 06.1	+1.6
JMK				S	Sn	22 33 41.6	+1.7
JFT	**Otama**	**3.11**	**275**	*e*S	Sn	22 33 47.6	+1.9
JOM	**Ohasama**	**3.15**	**314**	P	Pn	22 33 10.4	+2.1
JOM				S	Sn	22 33 48.7	+2.1
JYK	**Kaneyama**	**3.45**	**299**	P	Pn	22 33 14.4	+2.1
JYK				*e*S	Sn	22 33 56.6	+2.7

IDC ***10*** *22:45:09.4±3.0, 50°.10N×176°.70W, h0km, mb3.7/6, mb1 3.9/7, mb1mx3.6/31, mbtmp3.8/7, ML3.0/1, Error ellipse: s-maj=70.6km s-min=29.9km az=15.0*
NEIC ***10*** *22:45:14.8±0.0, 50°.67N×177°.01W, h10km, ML3.6(AEIC), After AEIC.*

ISC 10 22:45:12.5±1.5, 50°.4N±0°.2×176°.80W±0°.10, h10km, n17, σ1s61/19, mb4.0/5, Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ATKA	**Atka Island**	**2.41**	**42**	P	**Pn**	**22 45 52.3**	**+0.4**
ATKA				S	**Sn**	**22 46 21.8**	**+0.3**
KOFP	**Korovin Flat P**	**2.50**	**41**	P	**Pn**	**22 45 54.8**	**+1.5**
KOWE	**Korovin West**	**2.51**	**38**	P	**Pn**	**22 45 55.1**	**+1.7**
KOWE				S	**Sb**	**22 46 27.1**	**-1.4**
NIKH	**Nikolski High**	**5.56**	**60**	P	**Pn**	**22 46 35.3**	**+0.1**
NIKH				S	**Sn**	**22 47 36.0**	**-3.0**
OKWE	**Okmok W'ng Wal**	**6.10**	**57**	P	**Pn**	**22 46 44.1**	**+1.4**
OKWR	**Okmok West Rim**	**6.11**	**57**	P	**Pn**	**22 46 44.5**	**+1.7**
SMY	**Shemya**	**6.12**	**296**	P	**Pn**	**22 46 40.9**	**-2.0**
OKTU	**Okmok Mt. Tuli**	**6.17**	**58**	P	**Pn**	**22 46 45.4**	**+1.8**
MREP	**Makushin Rep't**	**7.05**	**57**	P	**Pn**	**22 46 57.2**	**+1.5**
MTBL	**Makushin Table**	**7.16**	**56**	P	**Pn**	**22 46 59.0**	**+1.9**
PETK	**Petropavlovsk-** 0.3nm,0.3s,baz=89,slow=18,SNR=6.2	**15.99**	**290**	Pn	**P**	**22 48 59.7**	**-1.1**
SEY	**Seymchan** 3.5nm,0.8s,baz=104,slow=16,SNR=5.7	**20.80**	**319**	P	Pn	22 49 55.5	-0.4
ILAR	**Eielson Array** 0.6nm,0.6s,baz=232,slow=8.9,SNR=12	**21.23**	**36**	P	**P**	**22 49 59.9**	**+1.7**
TXAR	**Lajitas Array** 0.4nm,0.8s,baz=316,slow=5.2,SNR=4.0	**57.54**	**82**	P	**P**	**22 55 00.7**	**-1.4**
ARCES	**ARCESS Array B** 0.6nm,0.5s,baz=27,slow=8.2,SNR=7.3	**59.23**	**351**	P	**P**	**22 55 14.0**	**+0.7**
FINES	**FINESS Array B** 1.4nm,0.9s,baz=62,slow=13,SNR=4.8	**66.98**	**348**	P	**P**	**22 56 04.5**	**-0.2**
NOA	**NORSAR Array B** 2.2nm,1.0s,baz=5.0,slow=6.3,SNR=3.5	**68.70**	**356**	P	**P**	**22 56 16.2**	**+0.6**

NEIC ***10*** *22:48:18.0±0.0, 58°.42N×133°.33W, h1km, ML2.9(AEIC), ML3.4(OTT), After OTT.*
PGC ***10*** *22:48:18.4±0.0, 58°.42N×133°.33W, h1km, ML2.9, ML3.4/10, 65km east of Juneau, Ak Southeastern Alaska*

ISC 10 22:48:17.3±0.9, 58°.31N±0°.06×133°.38W±0°.04, h10km, n23, σ1s36/39, Southeastern Alaska

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JIS	**Juneau Island**	**0.53**	**266**	P	**Pg**	**22 48 25.9**	**-1.6**
JIS				S	**Sg**	**22 48 32.7**	**-1.8**
BESE	**Bessie Mountai**	**0.82**	**290**	P	**Pg**	**22 48 31.5**	**-1.6**
BESE				S	**Sg**	**22 48 41.5**	**-2.2**
SKAG	**Skagway**	**1.53**	**320**	P	**Pn**	**22 48 44.1**	**-0.6**
SKAG				S	**Sn**	**22 49 04.1**	**-0.5**
DLBC	**Dease Lake**	**1.77**	**85**	Pn	**Pn**	**22 48 49.4**	**+1.4**
DLBC				Sn	**Sb**	**22 49 11.7**	**-0.4**
DLBC	**Dease Lake**	**1.77**	**85**	P	**Pb**	**22 48 49.6**	**-0.2**
PLBC	**Pleasant Camp**	**1.93**	**308**	Pn	**Pn**	**22 48 50.8**	**+0.7**
PLBC				Sn	**Sn**	**22 49 15.5**	**+1.1**
PLBC				Sg	**Sb**	**22 49 17.4**	**+0.8**
PLBC	**Pleasant Camp**	**1.93**	**308**	P	**Pn**	**22 48 50.9**	**+0.7**
WRAK	**Wrangell Islan**	**1.98**	**163**	P	**Pn**	**22 48 51.4**	**+0.6**
WHY	**Whitehorse**	**2.48**	**343**	Pn	**Pn**	**22 48 57.5**	**-0.2**
WHY				Sn	**Sn**	**22 49 26.6**	**-1.5**
WHY				Sg	**Sb**	**22 49 32.1**	**-0.3**
WHY	**Whitehorse**	**2.48**	**343**	P	**Pn**	**22 48 57.7**	**-0.1**
CRAG	**Craig**	**2.85**	**177**	*e*Pn	**Pn**	**22 49 03.5**	**+0.7**
HYT	**Haines Junctio**	**3.28**	**322**	Pn	**Pn**	**22 49 09.5**	**+0.7**
HYT				Pg	**Pb**	**22 49 15.2**	**-0.3**
HYT				Sn	**Sn**	**22 49 48.5**	**+0.5**
HYT				Sg	**Sb**	**22 49 57.8**	**+2.3**
YUK7	**Dusty Glacier**	**3.30**	**314**	Pg	**Pb**	**22 49 16.0**	**+0.1**
YUK7				Sg	**Sb**	**22 49 59.0**	**+2.9**
PNL	**Peninsula**	**3.40**	**296**	Pn	**Pn**	**22 49 11.4**	**+1.1**
YUK5	**Granite Creek**	**3.62**	**323**	Pn	**Pn**	**22 49 14.0**	**+0.5**
YUK5				Pg	**Pb**	**22 49 21.2**	**-0.2**
YUK5				Sn	**Sn**	**22 49 55.3**	**-1.1**
YUK5				Sg	**Sb**	**22 50 08.4**	**+2.9**
YUK6	**Outpost Mounta**	**3.66**	**318**	Pg	**Pb**	**22 49 22.4**	**+0.4**
PCA	**Pinnacle**	**3.96**	**300**	Pg	**Pb**	**22 49 27.6**	**+0.4**
VIB	**Van Inlet**	**5.09**	**174**	Pn	**Pn**	**22 49 36.0**	**+2.3**
YUK2	**White River**	**5.11**	**316**	Pn	**Pn**	**22 49 34.7**	**+0.8**
YUK2				Pg	**Pb**	**22 49 47.9**	**+1.2**
DIB	**Dawson Inlet,**	**5.15**	**174**	Pn	**Pn**	**22 49 36.4**	**+2.1**
YUK1	**Sand Pete Hill**	**5.25**	**320**	Pn	**Pn**	**22 49 36.7**	**+0.9**
DOT	**Dot Lake**	**7.45**	**320**	Pn	**Pn**	**22 50 06.5**	**+0.6**
EGAK	**Eagle** 8.9nm,0.9s	**7.47**	**334**	*e*Pn	**Pn**	**22 50 08.4**	**+2.2**

DDA ***10*** *22:48:31.9, 36°.84N×26°.54E, h7km, Md2.9*
ISK ***10*** *22:48:31.7, 36°.81N×26°.56E, h8km, MD2.8*
ISCJB ***10*** *22:48:32.2±0.5, 36°.80N±0°.02×26°.56E±0°.02, h9km±4km, Error ellipse: s-maj=3.6km s-min=3.0km az=155.4*
ATH ***10*** *22:48:32.1, 36°.86N×26°.61E, h34km±3km, ML2.1/6, Error ellipse: s-maj=3.5km s-min=1.1km az=3.0*
CSEM ***10*** *22:48:32.3±0.1, 36°.82N×26°.55E, h10km, ML2.1, Error ellipse: s-maj=3.2km s-min=2.4km az=163.0*

ISC 10 22:48:32.3±1.0, 36°.84N±0°.02×26°.58E±0°.02, h15km±8km, n51, σ0s98/85, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NISR	**Nisiros**	**0.50**	**117**	P	**Pb**	**22 48 43.8**	**+1.0**
NISR				S	**Sb**	**22 48 50.1**	**+0.2**
NISR	**Nisiros**	**0.50**	**117**	P	**Pb**	**22 48 43.8**	**+1.0**
NISR				S	**Sb**	**22 48 50.1**	**+0.2**
NISR	comp=E,844μm,0.2s			AML	AML	22 48 51.4	
NISR	comp=N,680μm,0.3s			AML	AML	22 48 51.4	
NIS1	**Nisyros lsl.**	**0.54**	**116**	*e*PG	**Pg**	**22 48 42.8**	**-0.1**
NIS1				*e*SG	**Sg**	**22 48 50.9**	**+0.8**
NIS1	**Nisyros lsl.**	**0.54**	**116**	*e*Pg	**Pg**	**22 48 42.8**	**-0.1**
NIS1				*e*Sg	**Sg**	**22 48 50.9**	**+0.8**
BODT	**Bodrum**	**0.63**	**69**	*e*PG	**Pg**	**22 48 44.8**	**+0.1**
BODT				*e*SG	**Sb**	**22 48 54.2**	**+0.5**
BODT	**Bodrum**	**0.63**	**69**	*e*Pg	**Pg**	**22 48 44.8**	**+0.1**
BODT				*e*Sg	**Sb**	**22 48 54.2**	**+0.5**
BDRM	**Kayabasi**	**0.73**	**72**	*i* P	**Pg**	**22 48 46.3**	**-0.3**
BDRM				*i* S	**Sb**	**22 48 57.5**	**+0.8**
BDRM	**Kayabasi**	**0.73**	**72**	P	**Pg**	**22 48 46.3**	**-0.3**
BDRM				S	**Sb**	**22 48 57.5**	**+0.8**
DAT	**Datca**	**0.81**	**97**	*e*PG	**Pg**	**22 48 48.0**	**-0.1**
DAT				*e*SG	**Sb**	**22 48 59.8**	**+0.7**
DAT	**Datca**	**0.81**	**97**	*i* P	**Pb**	**22 48 48.5**	**+0.3**
DAT				*i* S	**Sg**	**22 48 58.8**	**0.0**
DAT	**Datca**	**0.81**	**97**	*e*Pg	**Pg**	**22 48 48.0**	**-0.1**
DAT	**Datca**	**0.81**	**97**	P	**Pb**	**22 48 48.5**	**+0.3**
DAT				S	**Sg**	**22 48 58.8**	**0.0**
DAT				*e*Sg	**Sb**	**22 48 59.8**	**+0.7**
APE	**Apeiranthos**	**0.87**	**286**	*e*PG	**Pg**	**22 48 48.5**	**-0.7**
APE				*e*SG	**Sb**	**22 49 01.2**	**+0.5**
APE	**Apeiranthos**	**0.87**	**286**	*e*Pg	**Pg**	**22 48 48.5**	**-0.7**
APE	**Apeiranthos**	**0.87**	**286**	P	**Pb**	**22 48 49.1**	**-0.1**
APE				*e*Sg	**Sb**	**22 49 01.2**	**+0.5**
APE	**Apeiranthos**	**0.87**	**286**	P	**Pb**	**22 48 49.1**	**-0.1**
APE				S	**Sn**	**22 49 03.0**	**+0.4**
APE				AML	AML	22 49 04.5	
APE	comp=N,232μm,0.2s			AML	AML	22 49 05.8	
SMG	**Samos**	**0.90**	**13**	P	**Pg**	**22 48 49.2**	**-0.5**
SMG	comp=E,191μm,0.1s			S	**Sg**	**22 49 00.4**	**-1.1**
SMG	**Samos**	**0.90**	**13**	P	**Pg**	**22 48 49.2**	**-0.5**
SMG				S	**Sg**	**22 49 00.3**	**-1.1**
SMG	comp=N,286μm,0.3s			AML	AML	22 49 03.7	
SMG	comp=E,255μm,0.4s			AML	AML	22 49 04.2	
SAP2K	**Karterados**	**1.00**	**245**	P	**Pn**	**22 48 51.9**	**0.0**
GCAM	**G?zelcaml?**	**1.01**	**31**	*i* P	**Pg**	**22 48 51.5**	**-0.3**
GCAM				*i* S	**Sb**	**22 49 05.3**	**+0.7**
GCAM	**G?zelcaml?**	**1.01**	**31**	P	**Pg**	**22 48 51.5**	**-0.3**
GCAM				S	**Sb**	**22 49 05.3**	**+0.7**
SANT	**Santorini**	**1.01**	**243**	P	**Pn**	**22 48 52.1**	**+0.1**
SANT	**Santorini**	**1.01**	**243**	P	**Pn**	**22 48 52.1**	**+0.1**
SAP1	**Santorini-Akro**	**1.06**	**244**	P	**Pg**	**22 48 52.1**	**-0.7**
SAP1	**Santorini-Akro**	**1.06**	**244**	P	**Pg**	**22 48 52.1**	**-0.7**
MLSB	**Milas**	**1.06**	**64**	*e*PN	**Pg**	**22 48 52.8**	**-0.1**
MLSB	**Milas**	**1.06**	**64**	*e*Pn	**Pg**	**22 48 52.8**	**-0.1**
DGB	**¯zmir**	**1.24**	**11**	*i* P	**Pn**	**22 48 55.2**	**+0.1**
DGB				*i* S	**Sn**	**22 49 12.9**	**+1.3**
KARP	**Karpathos**	**1.37**	**160**	*e*PN	**Pn**	**22 48 57.3**	**+0.3**
KARP	**Karpathos**	**1.37**	**160**	*e*Pn	**Pn**	**22 48 57.3**	**+0.3**
KARP	**Karpathos**	**1.37**	**160**	P	**Pb**	**22 48 57.9**	**+0.2**
KARP				S	**Sb**	**22 49 13.8**	**-1.3**
KARP	**Karpathos**	**1.37**	**160**	P	**Pb**	**22 48 57.9**	**+0.2**
KARP				S	**Sb**	**22 49 13.8**	**-1.3**
KARP	comp=E,75μm,0.6s			AML	AML	22 49 20.4	
KARP	comp=N,66μm,0.4s			AML	AML	22 49 22.4	
ZEY	**¯zmir**	**1.40**	**358**	*i* P	**Pn**	**22 48 57.9**	**+0.6**
ZEY				*i* S	**Sg**	**22 49 17.8**	**+0.3**
URLA	**Izmir**	**1.52**	**1**	*e*PN	**Pb**	**22 49 00.1**	**-0.2**
URLA	**Izmir**	**1.52**	**1**	*i* P	**Pg**	**22 49 01.0**	**-0.6**
URLA				*i* S	**Sg**	**22 49 22.5**	**+1.2**
URLA	**Izmir**	**1.52**	**1**	*e*Pn	**Pb**	**22 49 00.1**	**-0.2**
URLA	**Izmir**	**1.52**	**1**	P	**Pg**	**22 49 01.0**	**-0.6**
URLA				S	**Sg**	**22 49 22.5**	**+1.2**
AYDB	**Zeytinkoy-Aydi**	**1.52**	**43**	*e*PN	**Pb**	**22 49 00.4**	**0.0**
AYDB	**Zeytinkoy-Aydi**	**1.52**	**43**	*e*Pn	**Pb**	**22 49 00.4**	**0.0**
TURN	**Turunc**	**1.63**	**88**	*i* P	**Pn**	**22 48 57.8**	**-2.6**
TURN				*i* S	**Sn**	**22 49 15.6**	**-5.6**
TURN	**Turunc**	**1.63**	**88**	P	**Pn**	**22 48 57.8**	**-2.6**
DALY	**Dalyan (Mu¨la**	**1.67**	**90**	*i* P	**Pn**	**22 49 01.8**	**+0.8**
DALY				*i* S	**Sb**	**22 49 25.2**	**+1.6**
DALY	**Dalyan (Mu¨la**	**1.67**	**90**	P	**Pn**	**22 49 01.8**	**+0.8**
DALY				S	**Sb**	**22 49 25.2**	**+1.6**
NPS	**Neapolis**	**1.75**	**207**	P	**Pn**	**22 49 01.3**	**-0.9**
NPS	**Neapolis**	**1.75**	**207**	P	**Pn**	**22 49 01.3**	**-0.9**
LAST	**Lasithi**	**1.89**	**208**	P	**Pn**	**22 49 04.6**	**+0.3**
LAST				S	**Sn**	**22 49 28.3**	**+0.4**
LAST	**Lasithi**	**1.89**	**208**	P	**Pn**	**22 49 04.5**	**+0.3**
LAST				S	**Sn**	**22 49 28.3**	**+0.4**
IDI	**Anoyia**	**2.06**	**222**	P	**Pn**	**22 49 05.9**	**-0.6**
IDI				S	**Sn**	**22 49 32.5**	**+0.4**
IDI	**Anoyia**	**2.06**	**222**	P	**Pn**	**22 49 05.9**	**-0.6**
IDI				S	**Sn**	**22 49 32.5**	**+0.4**
IDI	comp=E,25μm,0.8s			AML	AML	22 49 40.8	
IDI	comp=N,23μm,0.6s			AML	AML	22 49 41.7	
IMMV	**Iera Moni Meta**	**2.51**	**238**	P	**Pn**	**22 49 12.8**	**+0.2**
IMMV				S	**Sn**	**22 49 43.6**	**+0.6**
IMMV	**Iera Moni Meta**	**2.51**	**238**	P	**Pn**	**22 49 12.8**	**+0.2**
IMMV				S	**Sn**	**22 49 43.6**	**+0.6**
IMMV				AML	AML	22 49 45.6	
IMMV	comp=N,147μm,1.5s			AML	AML	22 49 48.6	
	comp=E,68μm,1.0s						

PGC 10 22:52:01.8±1.9, 58°.39N×133°.51W, h1km, ML2.6/4, 54km east of Juneau, Ak Southeastern Alaska, Southeastern Alaska

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PLBC	**Pleasant Camp**	**1.83**	**307**	Pn	Pn	22 52 33.5	-0.8
PLBC				Sn	Sn	22 52 58.0	0.0
DLBC	**Dease Lake**	**1.83**	**87**	Pn	Pn	22 52 33.7	-0.8
DLBC				Sn	Sn	22 52 58.0	-0.3
WHY	**Whitehorse**	**2.38**	**344**	Pn	Pn	22 52 42.0	-0.1
WHY				Pg	Pb	22 52 45.0	-0.5
WHY				Sn	Sn	22 53 10.9	-1.0
HYT	**Haines Junctio**	**3.17**	**322**	Pn	Pn	22 52 53.1	+0.1
HYT				Pg	Pb	22 52 58.8	-0.2
HYT				Sg	Sb	22 53 40.2	+1.9
YUK5	**Granite Creek**	**3.52**	**323**	Pn	Pn	22 52 57.5	-0.3
YUK5				Pg	Pb	22 53 05.0	0.0

IDC ***10*** *23:06:50.9±4.6, 37°.35N×97°.23E, h0km, mb3.8/5, mb1 3.8/8, mb1mx3.5/53, mbtmp3.7/8, ML3.1/3, MS3.2/1, Ms1 3.2/1, ms1mx2.6/38, Error ellipse: s-maj=82.0km s-min=53.6km az=148.0*

ISC 10 23:06:57.6±3.7, 37°.6N±0°.4×97°.2E±0°.2, h35km, n9, σ0s99/8, mb3.6/5, Qinghai

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SONM	**Songino Array** 0.3nm,0.3s,baz=211,slow=13,SNR=2.9	**12.28**	**31**	Pn	**Pn**	**23 09 50.1**	**+0.1**
ZALV	**Zalesovo Beam** 0.1nm,0.3s,baz=139,slow=12,SNR=4.2	**18.44**	**336**	P	**Pn**	**23 11 10.6**	**+0.4**
KURBB	**Kurchatov Array** 0.1nm,0.3s,baz=127,slow=12,SNR=5.3	**18.61**	**320**	P	**P**	**23 11 11.7**	**-0.1**
BVAR	**Borovoye Array** 1.5nm,0.7s,baz=121,slow=11,SNR=6.1	**24.15**	**318**	P	**P**	**23 12 11.9**	**+1.7**
ARU	**Arti** 1.7nm,0.5s,baz=98,slow=7.1,SNR=6.0	**31.79**	**319**	P	**P**	**23 13 18.4**	**-0.1**
FINES	**FINESS Array B** 1.3nm,0.7s,baz=88,slow=10,SNR=8.1	**48.97**	**323**	P	**P**	**23 15 40.1**	**-0.1**
SPITS	**Spitsbergen Ar** comp=Z,24nm,18.6s,baz=155,slow=41	**51.65**	**345**	LR	LR	23 42 02.1	
NOA	**NORSAR Array B** 0.4nm,0.7s,baz=71,slow=7.0,SNR=4.1	**56.09**	**324**	P	**P**	**23 16 31.6**	**-1.3**
ESDC	**Sonseca Array** 0.4nm,0.6s,baz=35,slow=5.4,SNR=4.5	**74.46**	**308**	P	**P**	**23 18 32.9**	**+0.5**

IDC ***10*** *23:13:58.8±0.7, 41°.21N×143°.19E, h0km, mb4.0/17, mb1 4.2/19, mb1mx4.0/51, mbtmp4.0/19, ML2.9/2, MS3.5/14, Ms1 3.5/14, ms1mx3.2/38, Error ellipse: s-maj=18.7km s-min=17.0km az=105.0*
NIED ***10*** *23:14:00, 41°.10N×143°.20E, h29km, Mw4.1 Best double couple: M0 1.69000×10^15 NP1:φs261.00000°, δ21.00000°, λ136.00000°. NP2:φs33.00000°, δ76.00000°, λ75.00000°.*
JMA ***10*** *23:14:02.9±0.2, 41°.12N×143°.05E, h27km±5km, M4.0*
JMA Felt I J1.
ISCJB ***10*** *23:14:03.5±0.4, 41°.17N±0°.03×143°.18E±0°.04, h51km±3km, mb4.2/35, MS3.6/11, Error ellipse: s-maj=6.3km s-min=3.3km az=33.0*
MOS ***10*** *23:14:03.3±1.3, 41°.24N×143°.13E, h48km, mb4.5/14, Error ellipse: s-maj=11.0km s-min=6.2km az=95.9*
BJI ***10*** *23:14:03.1, 40°.98N×143°.05E, h42km, mb4.5/17, mB4.8/13, Ms4.0/6, Ms? 4.0/6*
NEIC ***10*** *23:14:05.9±0.8, 41°.23N×143°.11E, h51km±6km, mb4.4/9, Error ellipse: s-maj=10.5km s-min=6.4km az=105.0*
NEIC Recorded [1 JMA] in Aomori, Honshu.

ISC 10 23:14:05.0±0.5, 41°.18N±0°.04×143°.15E±0°.04, h40km±5km, n103, σ1s90/115, mb4.3/35, MS3.6/11, 11C-7D, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ERM	**Erimo**	**0.84**	**0**	*e*P	**Pn**	**23 14 19.3**	**-0.9**
ERM	comp=Z,1μm,1.0s			pmax	pmax		
ERM	**Erimo**	**0.84**	**0**	*e*Pn	**Pn**	**23 14 19.4**	**-0.9**
ERM				*e*S	**Sn**	**23 14 32.0**	**+0.6**
JEM	**Erimo**	**0.84**	**0**	||P	**Pn**	**23 14 19.3**	**-1.0**
JEM				S	**Sn**	**23 14 31.9**	**+0.5**
JNBK	**Urakawa-nobuka**	**1.14**	**345**	||P	**Pn**	**23 14 24.1**	**-0.3**
JNBK				*e*S	**Sn**	**23 14 40.2**	**+1.4**
JCH	**Churui**	**1.44**	**6**	⇑P	**Pn**	**23 14 28.0**	**-0.6**
JCH				*e*S	**Sn**	**23 14 46.2**	**-0.1**
JANG	**Nango**	**1.48**	**238**	P	**Pn**	**23 14 27.0**	**-2.1**
JOT	**Ohata**	**1.60**	**278**	⇓P	**Pn**	**23 14 29.0**	**-1.7**
JOT				*e*S	**Sn**	**23 14 48.2**	**-1.9**
JTM	**Tenmabayashi**	**1.62**	**257**	⇓P	**Pn**	**23 14 29.6**	**-1.5**
JTM				*e*S	**Sn**	**23 14 50.1**	**-0.6**
JBT2	**Biratori 2**	**1.70**	**340**	⇑P	**Pn**	**23 14 32.1**	**-0.1**
JBT2				S	**Sn**	**23 14 52.5**	**-0.2**
JKB	**Kayabe**	**1.74**	**295**	P	**Pn**	**23 14 31.2**	**-1.5**
JKB				*e*S	**Sn**	**23 14 52.1**	**-1.5**
JFR	**Furan**	**2.03**	**348**	P	**Pn**	**23 14 37.7**	**+1.1**
JFR				*e*S	**Sn**	**23 15 03.7**	**+3.0**
JEW	**Eniwo**	**2.09**	**323**	P	**Pn**	**23 14 37.7**	**+0.2**
JEW				*e*S	**Sn**	**23 15 03.4**	**+1.2**
JAK	**Akkeshi**	**2.15**	**32**	⇑P	**Pn**	**23 14 37.5**	**-0.8**
JAK				*e*S	**Sn**	**23 15 02.4**	**-1.3**
JAR	**Ashorobuto**	**2.17**	**12**	⇑P	**Pn**	**23 14 37.8**	**-0.7**
JAR				S	**Sn**	**23 15 03.8**	**-0.3**
JOM	**Ohasama**	**2.22**	**220**	P	**Pn**	**23 14 38.7**	**-0.6**
JMK	**Ichinoseki**	**2.67**	**214**	P	**Pn**	**23 14 44.9**	**-0.6**
JMK				*e*S	**Sn**	**23 15 16.6**	**0.0**
ASAJ	**Asahikawa**	**2.96**	**352**	*e*Pn	**Pn**	**23 14 50.9**	**+1.4**
YUK	**Yuzh-Kuril'sk**	**3.49**	**34**	*d i* P	**Pn**	**23 14 56.1**	**-0.6**
YUK				*i* S	**Sn**	**23 15 34.6**	**-2.0**
YUK	comp=N,15nm,0.1s			pmax	pmax		
YUK	comp=E,50nm,0.1s			pmax	pmax		
YUK	comp=Z,110nm,0.1s			pmax	pmax		
YUK	comp=N,736nm,0.6s			smax	smax		
YUK	comp=E,315nm,0.4s			smax	smax		
SHO	**Shikotan**	**3.83**	**44**	*d i* P	**Pn**	**23 14 59.9**	**-1.4**
SHO				*e*S	**Sn**	**23 15 40.8**	**-4.2**
SHO	comp=N,474nm,0.4s			smax	smax		
KUR	**Kuril'sk**	**5.32**	**39**	*e*P	**Pn**	**23 15 22.2**	**+0.4**
KUR				*e*S	**Sn**	**23 16 21.8**	**0.0**
KUR	comp=Z,111nm,0.5s			pmax	pmax		
KUR	comp=N,40nm,0.3s			pmax	pmax		
KUR	comp=E,34nm,0.2s			pmax	pmax		
YSS	**Yuzh-Sakhalins**	**5.78**	**357**	⇑*e*P	**Pn**	**23 15 30.2**	**+2.0**
YSS	comp=Z,20nm,0.7s			pmax	pmax		
YSS	comp=Z,200nm,15.0s			MLR	MLR		
MJB9	**Matsu-Tunnel**	**6.02**	**221**	*e*Pn	**Pn**	**23 15 32.2**	**+0.7**
MAJO	**Matsushiro**	**6.02**	**221**	*d i* P	**Pn**	**23 15 34.0**	**+2.4**
MAJO	**Matsushiro**	**6.02**	**221**	*e*Pn	**Pn**	**23 15 33.7**	**+2.2**
MAT	**Matsushiro**	**6.02**	**221**	P	**Pn**	**23 15 31.6**	**0.0**
MAT				*e*S	**Sn**	**23 16 42.5**	**+3.2**
MJAR	**Matsushiro Arr** comp=Z,0.9nm,0.3s,baz=30,slow=13,SNR=19	**6.02**	**221**	Pn	**Pn**	**23 15 31.9**	**+0.4**
MJAR	comp=Z,92nm,20.9s,baz=90,slow=42			LR	LR	23 18 11.5	
INU	**Inuyama**	**7.56**	**222**	*e*Pn	**Pn**	**23 15 55.0**	**+2.4**
UGL	**Uglegorsk**	**7.94**	**355**	*e*P	Pn	23 15 52.2	-5.5
UGL				*e*		23 17 21.4	
USRK	**Ussuriysk Ar.** comp=Z,0.4nm,0.3s,baz=92,slow=12,SNR=8.0	**8.76**	**294**	Pn	**Pn**	**23 16 08.7**	**-0.3**
USRK	comp=Z,200nm,20.1s,baz=61,slow=36			LR	LR	23 19 19.1	
HABR	**Khabarovsk**	**9.29**	**324**	*e*P	**Pn**	**23 16 14.3**	**-1.9**
HABR				*e*		23 18 01.0	
HABR	comp=N,20nm,1.6s			pmax	pmax		
HABR	comp=E,18nm,1.5s			pmax	pmax		
HABR	comp=Z,8.0nm,1.5s			pmax	pmax		
HABR	comp=Z,169nm,14.0s			MLR	MLR		
KLR	**Kul'dur** comp=Z,0.1nm,0.3s,baz=129,slow=13,SNR=8.1	**11.37**	**319**	Pn	**Pn**	**23 16 45.9**	**+1.1**
KLR	comp=Z,157nm,18.4s,baz=133,slow=40			LR	LR	23 21 30.6	
KLR	**Kul'dur**	**11.37**	**319**	*e*P	**Pn**	**23 16 44.3**	**-0.4**
KSRS	**Korea Array** comp=Z,0.3nm,0.3s,baz=65,slow=14,SNR=5.1	**12.36**	**257**	Pn	**Pn**	**23 17 02.7**	**+4.4**
KSRS	comp=Z,115nm,18.5s,baz=66,slow=36			LR	LR	23 21 33.1	
KSAR	**Wonju Array Be**	**12.40**	**257**	P	**Pn**	**23 17 02.7**	**+3.9**
KSAR	**Wonju Array Be**	**12.40**	**257**	Pn	**Pn**	**23 17 02.7**	**+3.9**
PET	**Petropavlovsk**	**15.83**	**36**	⇑*e*P	Pn	23 17 35.4	-9.3
PET	comp=Z,49nm,1.3s			pmax	pmax		
YAK	**Yakutsk** comp=Z,97nm,20.7s,baz=260,slow=37	**22.40**	**343**	LR	LR	23 27 48.1	
YAK	**Yakutsk**	**22.40**	**343**	*e*P	**P**	**23 18 56.0**	**-3.8**
YAK	comp=Z,27nm,1.0s			pmax	pmax		
SEY	**Seymchan** comp=Z,2.3nm,0.6s,baz=193,slow=10,SNR=8.2	**22.47**	**11**	P	**P**	**23 18 57.0**	**-3.5**
SEY	**Seymchan**	**22.47**	**11**	P	**P**	**23 18 57.0**	**-3.5**
BOD	**Bodaibo**	**24.92**	**322**	*e*P	**P**	**23 19 19.3**	**-4.8**
BOD	comp=Z,6.0nm,0.9s			pmax	pmax		
ULN	**Ulaanbaatar**	**26.41**	**297**	*ce*P	**P**	**23 19 37.0**	**-0.9**

MK31	**Makanchi Array**	**43.19 299**	*e*P	**P**	**23 22 00.8 -1.0**
MKAR	**Makanchi Array**	**43.19 299**	*e*P	**P**	**23 22 00.9 -1.0**
MKAR			pmax	pmax	
	comp=Z,20nm,0.6s				
MKAR	**Makanchi Array**	**43.19 299**	*e*P	**P**	**23 22 00.8 -1.0**
	comp=Z,20nm,0.6s				
MAKZ	**Makanchi**	**43.39 299**	*e*P	**P**	**23 22 03.0 -0.5**
MAKZ			pmax	pmax	
	comp=Z,4.0nm,0.7s				
MAKZ	**Makanchi**	**43.39 299**	*e*P	**P**	**23 22 03.0 -0.5**
	comp=Z,4.3nm,0.7s				
KURK	**Kurchatov**	**44.55 305**	*c e*P	**P**	**23 22 12.0 -0.6**
KURK			pmax	pmax	
	comp=Z,14nm,0.8s				
KURK	**Kurchatov**	**44.55 305**	*e*P	**P**	**23 22 11.2 -1.5**
	comp=Z,13nm,0.6s				
ILAR	**Eielson Array**	**45.30 35**	P	**P**	**23 22 17.7 -0.7**
	comp=Z,0.9nm,0.7s,baz=271,slow=5.7,SNR=9.9				
BVAR	**Borovoye Array**	**48.86 310**	P	**P**	**23 22 45.9 -0.5**
	comp=Z,1.1nm,0.4s,baz=73,slow=8.0				
BRVK	**Borovoye**	**48.91 310**	*e*P	**P**	**23 22 47.6 +0.8**
BRVK			pmax	pmax	
	comp=Z,3.0nm,0.9s				
AAK	**Ala-Archa**	**49.80 296**	*e*P	**P**	**23 22 52.5 -1.4**
AAK			pmax	pmax	
	comp=Z,2.0nm,0.6s				
AAK	**Ala-Archa**	**49.80 296**	*e*P	**P**	**23 22 52.5 -1.4**
	comp=Z,1.9nm,0.6s				
KSH	**Kashi**	**50.05 292**	*e*P	**P**	**23 22 59.7 +3.9**
KSH			pP	sP	23 23 11.7 -0.1
KSH			PcP	**PcP**	**23 24 19.7 +4.6**
KSH			PP	**PP**	**23 24 55.7 +4.9**
KSH			S	**S**	**23 30 06.8 +2.7**
KSH			sS	sS	23 30 27.8 +4.8
KSH			SS	**SS**	**23 33 36.7 -0.4**
KSH			pmax	pmax	
	comp=Z,2.0nm,0.9s				
KSH			pmax	pmax	
	comp=Z,69nm,5.5s				
KSH			LR	LR	
	comp=Z,89nm,5.3s				
KSH			LR	LR	
	comp=Z,100nm,5.5s				
KSH			LR	LR	
	comp=Z,110nm,6.5s				
INK	**Inuvik**	**50.10 29**	P	**P**	**23 22 55.2 -0.3**
	comp=Z,3.6nm,0.8s,baz=270,slow=8.0,SNR=4.8				
INK	**Inuvik**	**50.10 29**	*e*P	**P**	**23 22 56.6 +1.1**
INK			pmax	pmax	
	comp=Z,2.0nm,0.4s				
INK	**Inuvik**	**50.10 29**	*e*P	**P**	**23 22 56.6 +1.1**
	comp=Z,2.1nm,0.4s				
PMG	**Port Moresby**	**50.47 175**	*e*P	**P**	**23 22 58.4 -0.5**
PMG			pmax	pmax	
	comp=Z,11nm,0.9s				
PMG	**Port Moresby**	**50.47 175**	*e*P	**P**	**23 22 58.4 -0.5**
	comp=Z,11nm,0.9s				
KKAR	**Karatay Array**	**52.30 298**	*e*P	**P**	**23 23 11.0 -1.5**
KKAR			pmax	pmax	
	comp=Z,1.0nm,0.5s				
KKAR	**Karatay Array**	**52.30 298**	*e*P	**P**	**23 23 11.0 -1.5**
	comp=Z,0.8nm,0.5s				
ARU	**Arti**	**54.20 317**	P	**P**	**23 23 25.4 -0.8**
	comp=Z,0.8nm,0.3s,baz=80,slow=11,SNR=2.8				
ARU	**Arti**	**54.20 317**	*c i*P	**P**	**23 23 25.7 -0.5**
ARU					23 24 26.7
ARU					23 25 23.0
ARU			S	**S**	**23 31 04.7 +4.4**
ARU			SS	**SS**	**23 34 42.5 +0.7**
ARU			pmax	pmax	
	comp=Z,7.0nm,2.5s				
ABKAR	**Akbulak array**	**56.36 309**	*e*P	**P**	**23 23 41.0 -0.9**
	comp=Z,0.9nm,0.5s				
WRA	**Warramunga Arr**	**61.36 189**	P	**P**	**23 24 16.1 -0.6**
	comp=Z,0.5nm,0.5s,baz=10,slow=6.8,SNR=2.8				
GEYT	**Alibeck**	**63.05 298**	LR	LR	23 52 38.2
	comp=Z,42nm,18.1s,baz=135,slow=37				
ASAR	**Alice Springs**	**65.08 189**	P	**P**	**23 24 40.7 -0.7**
	comp=Z,0.4nm,0.8s,baz=17,slow=7.7,SNR=3.8				
OBN	**Obninsk**	**65.60 323**	*e*P	**P**	**23 24 42.7 -1.7**
OBN			pmax	pmax	
	comp=Z,4.0nm,0.9s				
FINES	**FINESS Array B**	**65.79 332**	P	**P**	**23 24 44.8 -0.7**
	comp=Z,1.7nm,0.4s,baz=52,slow=7.0,SNR=27				
FINES			LR	LR	23 55 52.9
	comp=Z,72nm,18.6s,baz=46,slow=38				
KVAR	**Kislovodsk Arr**	**69.22 311**	P	**P**	**23 25 08.2 +0.5**
	comp=Z,10.0nm,0.8s,baz=215,slow=4.6,SNR=8.3				
KIV	**Kislovodsk**	**69.23 311**	*e*P	**P**	**23 25 08.5 +0.8**
KIV			pmax	pmax	
	comp=Z,18nm,1.0s				
KIV	**Kislovodsk**	**69.23 311**	*e*P	**P**	**23 25 08.1 +0.4**
	comp=Z,10nm,0.7s				
KBZ	**Khabaz**	**69.24 310**	P	**P**	**23 25 08.2 +0.6**
	comp=Z,5.2nm,0.7s,baz=60,slow=4.5,SNR=11				
JHPM	**Huddart Park**	**69.55 58**	*e*P	**P**	**23 25 13.8 +4.0**
NOA	**NORSAR Array B**	**70.89 337**	P	**P**	**23 25 16.6 -1.0**
	comp=Z,0.8nm,0.7s,baz=38,slow=6.2,SNR=4.6				
NOA			LR	LR	00 00 07.6
	comp=Z,31nm,19.9s,baz=240,slow=39				
AKASG	**Malin Array Be**	**71.85 322**	P	**P**	**23 25 23.1 -0.4**
	comp=Z,2.6nm,0.6s,baz=44,slow=6.2,SNR=8.6				
AKASG	**Malin Array Be**	**71.85 322**	*c e*P	**P**	**23 25 22.7 -0.7**
AKASG			pmax	pmax	
	comp=Z,3.0nm,0.6s				
KIEV	**Kiev**	**71.86 322**	*e*P	**P**	**23 25 21.5 -2.0**
KIEV			pmax	pmax	
	comp=Z,3.0nm,0.9s				
PDAR	**Pinedale Array**	**73.83 47**	P	**P**	**23 25 36.3 +0.6**
	comp=Z,0.3nm,0.4s,baz=319,slow=3.8,SNR=2.6				
BUR08	**Bucovina Ar. S**	**75.88 322**	*e*P	**P**	**23 25 47.1 -0.1**
BRTR	**Keskin Array B**	**77.11 312**	P	**P**	**23 25 53.9 -0.5**
	comp=Z,0.7nm,0.8s,baz=55,slow=3.5,SNR=4.3				
TXAR	**Lajitas Array**	**86.55 54**	P	**P**	**23 26 44.2 0.0**
	comp=Z,0.1nm,0.6s,baz=260,slow=2.7,SNR=3.0				
KEST	**Kesra**	**92.51 324**	LR	LR	00 13 40.8
	comp=Z,62nm,18.1s,baz=285,slow=39				

ISCJB ***10*** *23:19:07.3±0.9, 43.66S±0.05×172.98E±0.06, h16km±8km, mb4.7/8, MS3.4/3, Error ellipse: s-maj=10.2km s-min=3.3km az=137.8*

IDC ***10*** *23:19:08.5±1.3, 43.46S×172.78E, h0km, mb4.5/2, mb1 4.6/3, mb1mx4.0/28, mbtmp4.4/3, ML4.0/1, MS3.5/4, Ms1 3.5/4, ms1mx3.1/17, Error ellipse: s-maj=42.2km s-min=14.3km az=159.0*

NEIC ***10*** *23:19:09.6±0.0, 43.60S×172.76E, h11km, mb4.6/3, ML4.5(WEL), After WEL.*

NEIC Felt widely at Christchurch and in Canterbury.

WEL ***10*** *23:19:09.7±0.1, 43.60S×172.76E, h10km, ML4.6/58, Mw4.3, Error ellipse: s-maj=1.0km s-min=0.5km az=90.0, reported intensity MM 7.*

WEL Felt from Nelson to Otago, and from West Coast to Canterbury, maximum.

ISC 10 23:19:07.5±1.2, 43.66S±0.05×172.90E±0.05, h13km±7km, n142, σ1§37/134, mb4.6/8, MS3.5/3, 6C-6D, South Island

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
MQZ	**McQueen's Vall**	**0.18**	**255**	*e*Pg	**Pb**		**23 19 13.1**	**+0.3**
MQZ	**McQueen's Vall**	**0.18**	**255**	⇑PG	**Pb**		**23 19 13.0**	**+0.3**
MQZ				AML	AML		23 19 15.5	
CRLZ	**Canterbury Las**	**0.22**	**293**	*e*Pg	**Pg**		**23 19 12.3**	**-0.1**
CRLZ	**Canterbury Las**	**0.22**	**293**	⇓PG	**Pg**		**23 19 12.2**	**-0.1**
CRLZ				AML	AML		23 19 13.9	
CRLZ				AML	AML		23 19 14.0	
CRLZ				AML	AML		23 19 14.0	
CRLZ				AML	AML		23 19 14.1	
OXZ	**Oxford**	**0.71**	**298**	*e*Pg	**Pb**		**23 19 21.0**	**-0.8**
OXZ	**Oxford**	**0.71**	**298**	⇓P*	**Pb**		**23 19 21.0**	**-0.8**
OXZ				AML	AML		23 19 30.8	
OXZ				AML	AML		23 19 30.8	
OXZ				AML	AML		23 19 31.5	
OXZ				AML	AML		23 19 31.5	
LTZ	**Lake Taylor**	**0.99**	**332**	*e*Pg	**Pb**		**23 19 26.5**	**0.0**
LTZ	**Lake Taylor**	**0.99**	**332**	P*	**Pb**		**23 19 26.3**	**-0.3**
LTZ				AML	AML		23 19 39.3	
KHZ	**Kahutara**	**1.33**	**21**	*e*Pn	**Pb**		**23 19 32.6**	**+0.3**
KHZ	**Kahutara**	**1.33**	**21**	⇓PN	**Pb**		**23 19 32.4**	**+0.1**
KHZ				AML	AML		23 19 39.1	
KHZ				AML	AML		23 20 07.8	
RPZ	**Rata Peaks**	**1.34**	**267**	Pg	**Pb**		**23 19 32.7**	**+0.2**
	593nm,0.3s,baz=110,slow=3.4,SNR=481							
RPZ				Lg	Lg		23 19 50.0	
	2µm,0.3s,baz=34,slow=18,SNR=35							
RPZ	**Rata Peaks**	**1.34**	**267**	*e*Pn	**Pb**		**23 19 32.1**	**-0.4**
RPZ	**Rata Peaks**	**1.34**	**267**	⇓P*	**Pn**		**23 19 31.8**	**-0.1**
RPZ				AML	AML		23 19 55.9	
RPZ				AML	AML		23 19 56.8	
INZ	**Inchbonnie**	**1.42**	**311**	⇑PN	**Pn**		**23 19 32.6**	**-0.4**
WVZ	**Waitaha Valley**	**1.68**	**290**	Pn	**Pn**		**23 19 36.8**	**+0.2**
WVZ	**Waitaha Valley**	**1.68**	**290**	⇑PN	**Pn**		**23 19 36.8**	**+0.2**
WVZ				AML	AML		23 20 09.0	
WVZ				AML	AML		23 20 09.5	
THZ	**Tophouse**	**1.90**	**0**	*e*Pn	**Pn**		**23 19 40.1**	**+0.5**
THZ	**Tophouse**	**1.90**	**0**	PN	**Pn**		**23 19 39.6**	**0.0**
THZ				AML	AML		23 20 18.0	
THZ				AML	AML		23 20 20.3	
BSWZ	**Blackbirch Sta**	**2.07**	**21**	Pn	**Pn**		**23 19 43.1**	**+1.1**
BSWZ	**Blackbirch Sta**	**2.07**	**21**	⇑PN	**Pn**		**23 19 43.1**	**+1.1**
BSWZ				AML	AML		23 20 34.2	
BSWZ				AML	AML		23 20 34.9	
DSZ	**Denniston Nort**	**2.08**	**337**	Pn	**Pn**		**23 19 42.7**	**+0.6**
DSZ	**Denniston Nort**	**2.08**	**337**	⇑PN	**Pn**		**23 19 42.7**	**+0.6**
DSZ				AML	AML		23 20 10.6	
DSZ				AML	AML		23 20 10.9	
LBZ	**Lake Benmore**	**2.09**	**249**	*e*Pn	**Pn**		**23 19 43.4**	**+1.2**
LBZ	**Lake Benmore**	**2.09**	**249**	PN	**Pn**		**23 19 43.0**	**+0.8**
LBZ				AML	AML		23 20 21.0	
LBZ				AML	AML		23 20 21.5	
ODZ	**Otahua Downs**	**2.13**	**229**	*e*Pn	**Pn**		**23 19 44.1**	**+1.4**
ODZ	**Otahua Downs**	**2.13**	**229**	⇑PN	**Pn**		**23 19 43.5**	**+0.7**
ODZ				AML	AML		23 20 19.2	
ODZ				AML	AML		23 20 23.5	
FOZ	**Fox Glacier**	**2.25**	**272**	*e*Pn	**Pb**		**23 19 46.3**	**-1.6**
FOZ	**Fox Glacier**	**2.25**	**272**	⇓PN	**Pn**		**23 19 45.8**	**+1.5**
FOZ				AML	AML		23 20 27.5	
FOZ				AML	AML		23 20 27.5	
FOZ				AML	AML		23 20 30.8	
FOZ				AML	AML		23 20 30.8	
TUWZ	**Tuamarina**	**2.36**	**19**	Pn	**Pn**		**23 19 46.6**	**+0.7**
TUWZ	**Tuamarina**	**2.36**	**19**	PN	**Pn**		**23 19 46.6**	**+0.7**
TUWZ				AML	AML		23 20 39.0	
TUWZ				AML	AML		23 20 39.1	
NNZ	**Nelson**	**2.47**	**8**	Pn	**Pn**		**23 19 48.4**	**+1.0**
NNZ	**Nelson**	**2.47**	**8**	⇓PN	**Pn**		**23 19 48.4**	**+1.0**
NNZ				AML	AML		23 20 33.0	
NNZ				AML	AML		23 20 39.8	
NNZ				AML	AML		23 20 39.8	
NNZ				AML	AML		23 20 43.5	
TCW	**Tory Channel**	**2.65**	**23**	Pn	**Pn**		**23 19 50.4**	**+0.5**
TCW	**Tory Channel**	**2.65**	**23**	PN	**Pn**		**23 19 50.4**	**+0.5**
TCW				AML	AML		23 20 06.7	
TCW				AML	AML		23 20 48.3	
BHW	**Baring Head**	**2.68**	**34**	Pn	**Pn**		**23 19 51.0**	**+0.7**
BHW	**Baring Head**	**2.68**	**34**	PN	**Pn**		**23 19 51.0**	**+0.7**
BHW				AML	AML		23 20 32.6	
BHW				AML	AML		23 21 00.2	
SNZO	**South Karori**	**2.70**	**30**	*e*Pn	**Pn**		**23 19 51.2**	**+0.7**
PLWZ	**Palliser**	**2.72**	**41**	Pn	**Pn**		**23 19 51.5**	**+0.6**
PLWZ	**Palliser**	**2.72**	**41**	PN	**Pn**		**23 19 51.5**	**+0.6**
PLWZ				AML	AML		23 20 39.4	
PLWZ				AML	AML		23 20 54.5	
WEL	**Wellington**	**2.75**	**31**	Pn	**Pn**		**23 19 52.1**	**+0.8**
WEL	**Wellington**	**2.75**	**31**	PN	**Pn**		**23 19 52.1**	**+0.8**
WEL				AML	AML		23 20 29.9	
WEL				AML	AML		23 20 29.9	
WEL				AML	AML		23 21 15.0	
WEL				AML	AML		23 21 15.1	
HHSZ	**Highcliff Hill**	**2.76**	**216**	Pn	**Pn**		**23 19 53.2**	**+1.7**
HHSZ	**Highcliff Hill**	**2.76**	**216**	PN	**Pn**		**23 19 53.2**	**+1.7**
HHSZ				AML	AML		23 20 45.2	
HHSZ				AML	AML		23 20 45.2	
MSWZ	**Moikau Station**	**2.84**	**39**	Pn	**Pn**		**23 19 53.0**	**+0.5**
MSWZ	**Moikau Station**	**2.84**	**39**	PN	**Pn**		**23 19 53.0**	**+0.5**
MSWZ				AML	AML		23 20 33.3	
MSWZ				AML	AML		23 21 03.2	
QRZ	**Quartz Range**	**2.85**	**354**	Pn	**Pn**		**23 19 54.0**	**+1.4**
QRZ	**Quartz Range**	**2.85**	**354**	PN	**Pn**		**23 19 54.0**	**+1.4**
QRZ				AML	AML		23 20 08.3	
QRZ				AML	AML		23 20 41.7	
QRZ				AML	AML		23 20 41.7	
QRZ				AML	AML		23 20 42.5	
PAWZ	**Paruwai Farm**	**2.94**	**40**	Pn	**Pn**		**23 19 54.4**	**+0.4**
PAWZ	**Paruwai Farm**	**2.94**	**40**	PN	**Pn**		**23 19 54.4**	**+0.4**
PAWZ				AML	AML		23 20 43.7	
PAWZ				AML	AML		23 20 47.5	
DUWZ	**D'Urville Isla**	**2.96**	**15**	Pn	**Pn**		**23 19 55.2**	**+1.1**
DUWZ	**D'Urville Isla**	**2.96**	**15**	PN	**Pn**		**23 19 55.2**	**+1.1**
DUWZ				AML	AML		23 20 49.3	
DUWZ				AML	AML		23 21 09.3	
CAW	**Cannon Point**	**3.01**	**33**	Pn	**Pn**		**23 19 55.3**	**+0.4**
CAW	**Cannon Point**	**3.01**	**33**	PN	**Pn**		**23 19 55.3**	**+0.4**
CAW				AML	AML		23 20 46.2	
CAW				AML	AML		23 21 12.3	
EAZ	**Earnscleugh**	**3.02**	**237**	Pn	**Pn**		**23 19 56.2**	**+1.3**
EAZ	**Earnscleugh**	**3.02**	**237**	PN	**Pn**		**23 19 56.2**	**+1.3**
EAZ				AML	AML		23 20 48.8	
EAZ				AML	AML		23 20 48.8	
EAZ				AML	AML		23 20 50.3	
EAZ				AML	AML		23 20 50.4	
WKZ	**Wanaka**	**3.02**	**246**	*e*Pn	**Pn**		**23 19 57.7**	**+2.6**
WKZ	**Wanaka**	**3.02**	**246**	PN	**Pn**		**23 19 57.9**	**+0.8**
WKZ				AML	AML		23 20 50.6	
WKZ				AML	AML		23 20 50.6	
WKZ				AML	AML		23 20 51.0	
WKZ				AML	AML		23 20 51.1	
TRWZ	**Traveller**	**3.06**	**43**	Pn	**Pn**		**23 19 56.0**	**+0.5**
TRWZ	**Traveller**	**3.06**	**43**	PN	**Pn**		**23 19 56.0**	**+0.5**
TRWZ				AML	AML		23 20 36.3	
TRWZ				AML	AML		23 20 50.9	
MTW	**Mount Morrison**	**3.16**	**38**	AML	AML		23 20 37.5	
MTW				AML	AML		23 20 49.6	
KIW	**Kapiti Island**	**3.17**	**29**	Pn	**Pn**		**23 19 57.9**	**+0.9**
KIW	**Kapiti Island**	**3.17**	**29**	PN	**Pn**		**23 19 57.9**	**+0.9**
KIW				AML	AML		23 21 02.4	
KIW				AML	AML		23 21 04.2	
TUZ	**Tuapeka**	**3.27**	**224**	Pn	**Pn**		**23 19 59.9**	**+1.5**
TUZ	**Tuapeka**	**3.27**	**224**	PN	**Pn**		**23 19 59.9**	**+1.5**
TUZ				AML	AML		23 20 56.9	
TUZ				AML	AML		23 21 01.2	
TUZ				AML	AML		23 21 25.8	
TUZ				AML	AML		23 21 05.8	
OGWZ	**Otaki Gorge**	**3.30**	**31**	Pn	**Pn**		**23 19 59.4**	**+0.5**
OGWZ	**Otaki Gorge**	**3.30**	**31**	PN	**Pn**		**23 19 59.4**	**+0.5**
OGWZ				AML	AML		23 20 56.3	
OGWZ				AML	AML		23 21 20.2	
HOWZ	**Holdsworth Sta**	**3.37**	**36**	Pn	**Pn**		**23 20 00.2**	**+0.3**
HOWZ	**Holdsworth Sta**	**3.37**	**36**	PN	**Pn**		**23 20 00.2**	**+0.3**
HOWZ				AML	AML		23 21 19.5	
HOWZ				AML	AML		23 21 41.5	
MRZ	**Mangatainoka R**	**3.60**	**34**	Pn	**Pn**		**23 20 03.0**	**0.0**
MRZ	**Mangatainoka R**	**3.60**	**34**	PN	**Pn**		**23 20 03.0**	**0.0**
MRZ				AML	AML		23 20 49.7	
MRZ				AML	AML		23 21 45.0	
TIWZ	**Tintock**	**3.63**	**39**	Pn	**Pn**		**23 20 03.7**	**+0.2**
TIWZ	**Tintock**	**3.63**	**39**	PN	**Pn**		**23 20 03.7**	**+0.2**
TIWZ				AML	AML		23 20 51.0	
TIWZ				AML	AML		23 20 51.5	
MSZ	**Milford Sound**	**3.72**	**252**	Pn	**Pn**		**23 20 06.2**	**+1.6**
MSZ	**Milford Sound**	**3.72**	**252**	PN	**Pn**		**23 20 06.2**	**+1.6**
MSZ				AML	AML		23 21 10.2	
MSZ				AML	AML		23 21 10.2	
MSZ				AML	AML		23 21 13.7	
MSZ				AML	AML		23 21 13.7	
MLZ	**Mavora Lakes**	**3.82**	**242**	*e*Pn	**Pn**		**23 20 07.6**	**+1.5**
MLZ	**Mavora Lakes**	**3.82**	**242**	PN	**Pn**		**23 20 06.4**	**+0.3**
MLZ				AML	AML		23 21 18.7	
MLZ				AML	AML		23 21 22.8	
PRWZ	**Pori Road**	**3.85**	**37**	Pn	**Pn**		**23 20 07.3**	**+0.8**
PRWZ	**Pori Road**	**3.85**	**37**	PN	**Pn**		**23 20 07.3**	**+0.8**
PRWZ				AML	AML		23 20 59.5	
PRWZ				AML	AML		23 22 16.0	
BFZ	**Birch Farm**	**3.88**	**41**	*e*Pn	**Pn**		**23 20 09.2**	**+2.4**
BFZ	**Birch Farm**	**3.88**	**41**	PN	**Pn**		**23 20 07.0**	**+0.2**
BFZ				AML	AML		23 20 58.5	
BFZ				AML	AML		23 20 58.5	
BFZ				AML	AML		23 21 05.8	
BFZ				AML	AML		23 21 05.9	
POWZ	**Post Office Ro**	**3.90**	**34**	Pn	**Pn**		**23 20 07.8**	**+0.7**
POWZ	**Post Office Ro**	**3.90**	**34**	PN	**Pn**		**23 20 07.8**	**+0.7**
POWZ				AML	AML		23 21 42.2	
POWZ				AML	AML		23 21 46.8	
SYZ	**Scrubby Hill**	**3.92**	**221**	Pn	**Pn**		**23 20 08.6**	**+1.2**
SYZ	**Scrubby Hill**	**3.92**	**221**	PN	**Pn**		**23 20 08.5**	**+1.2**
SYZ				AML	AML		23 21 25.5	
SYZ				AML	AML		23 21 25.7	
SYZ				AML	AML		23 21 25.7	
SYZ				AML	AML		23 21 28.0	
DVHZ	**Dannevirke**	**4.15**	**37**	Pn	**Pn**		**23 20 10.4**	**-0.1**
DVHZ	**Dannevirke**	**4.15**	**37**	PN	**Pn**		**23 20 10.4**	**-0.1**
DVHZ				AML	AML		23 21 21.7	
DVHZ				AML	AML		23 22 07.9	
WHZ	**Wether Hill Ro**	**4.17**	**236**	*e*Pn	**Pn**		**23 20 13.3**	**+2.5**
WHZ	**Wether Hill Ro**	**4.17**	**236**	PN	**Pn**		**23 20 10.9**	**+0.1**
WHZ				AML	AML		23 21 29.5	
WHZ				AML	AML		23 21 33.4	
TSZ	**Takapari Road**	**4.26**	**33**	Pn	**Pn**		**23 20 12.0**	**-0.1**
TSZ	**Takapari Road**	**4.26**	**33**	PN	**Pn**		**23 20 12.0**	**-0.1**
TSZ				AML	AML		23 21 03.6	
TSZ				AML	AML		23 21 47.5	
NEZ	**North Egmont**	**4.48**	**12**	Pn	**Pn**		**23 20 17.1**	**+2.0**
NEZ	**North Egmont**	**4.48**	**12**	PN	**Pn**		**23 20 17.1**	**+2.0**
PNHZ	**Pukenui**	**4.48**	**34**	Pn	**Pn**		**23 20 14.8**	**-0.3**
PNHZ	**Pukenui**	**4.48**	**34**	PN	**Pn**		**23 20 14.8**	**-0.3**
PNHZ				AML	AML		23 22 00.3	
PNHZ				AML	AML		23 22 09.9	
DCZ	**Deep Cove**	**4.49**	**244**	*e*Pn	**Pn**		**23 20 17.4**	**+2.3**
APZ	**The Paps**	**4.70**	**226**	Pn	**Pn**		**23 20 19.5**	**+1.4**
APZ	**The Paps**	**4.70**	**226**	PN	**Pn**		**23 20 19.5**	**+1.4**
APZ				AML	AML		23 21 42.4	
APZ				AML	AML		23 21 52.9	
VRZ	**Vera Road**	**4.74**	**18**	Pn	**Pn**		**23 20 20.6**	**+2.0**
VRZ	**Vera Road**	**4.74**	**18**	PN	**Pn**		**23 20 20.6**	**+2.0**
VRZ				AML	AML		23 21 50.1	
VRZ				AML	AML		23 22 09.8	
KRHZ	**Kereru**	**4.78**	**34**	PN	**Pn**		**23 20 19.1**	**-0.2**
KRHZ				AML	AML		23 21 40.8	
KRHZ				AML	AML		23 22 09.7	
BHHZ	**Black Hill Sta**	**4.79**	**31**	Pn	**Pn**		**23 20 21.0**	**+1.5**
BHHZ	**Black Hill Sta**	**4.79**	**31**	PN	**Pn**		**23 20 21.0**	**+1.5**
BHHZ				AML	AML		23 21 32.6	
BHHZ				AML	AML		23 21 38.7	
WHVZ	**Whangaehu Hut**	**4.82**	**26**	Pn	**Pn**		**23 20 22.4**	**+2.5**
WHVZ	**Whangaehu Hut**	**4.82**	**26**	PN	**Pn**		**23 20 22.4**	**+2.5**
WHVZ				AML	AML		23 21 26.0	
WHVZ				AML	AML		23 22 08.9	
KAHZ	**Kahuranaki**	**4.88**	**39**	Pn	**Pn**		**23 20 21.4**	**+0.9**
KAHZ	**Kahuranaki**	**4.88**	**39**	PN	**Pn**		**23 20 21.4**	**+0.9**
KAHZ				AML	AML		23 21 24.6	
KAHZ				AML	AML		23 21 39.2	
KWHZ	**Kaweka Forest**	**4.99**	**33**	AML	AML		23 21 30.3	
KWHZ				AML	AML		23 21 37.1	
PYZ	**Puysegur Point**	**5.08**	**238**	*e*Pn	**Pn**		**23 20 25.0**	**+1.7**
BKZ	**Black Stump Fm**	**5.24**	**32**	*e*Pn	**Pn**		**23 20 26.5**	**+1.0**
HIZ	**Hauiti**	**5.35**	**17**	*e*Pn	**Pn**		**23 20 30.0**	**+3.0**
HIZ	**Hauiti**	**5.35**	**17**	PN	**Pn**		**23 20 28.5**	**+1.5**
HIZ				AML	AML		23 22 14.6	
HIZ				AML	AML		23 22 27.6	
ARHZ	**Aropaoanui**	**5.36**	**36**	AML	AML		23 21 33.9	
ARHZ				AML	AML		23 21 43.7	
NMHZ	**Naumai**	**5.42**	**34**	Pn	**Pn**		**23 20 28.7**	**+0.6**
NMHZ	**Naumai**	**5.42**	**34**	PN	**Pn**		**23 20 28.7**	**+0.6**
NMHZ				AML	AML		23 21 39.9	
NMHZ				AML	AML		23 21 42.5	
KNZ	**Kokohu**	**5.86**	**39**	Pn	**Pn**		**23 20 33.6**	**-0.5**
KNZ	**Kokohu**	**5.86**	**39**	PN	**Pn**		**23 20 33.6**	**-0.5**
KNZ				AML	AML		23 23 05.1	
RIGZ	**Rimuhau**	**6.16**	**38**	PN	**Pn**		**23 20 38.0**	**-0.2**
RIGZ				AML	AML		23 21 53.2	
RIGZ				AML	AML		23 22 00.0	
URZ	**Urewera**	**6.26**	**32**	Pn	**Pn**		**23 20 39.2**	**-0.4**
	3.6nm,0.3s,baz=204,slow=9.9,SNR=8.8							
URZ				Sn	**Sn**		**23 21 51.1**	**+0.1**
	3.7nm,0.3s,baz=287,slow=19,SNR=3.7							
MWZ	**Matawai**	**6.37**	**35**	Pn	**Pn**		**23 20 39.9**	**-1.1**
MWZ	**Matawai**	**6.37**	**35**	PN	**Pn**		**23 20 39.9**	**-1.1**
MWZ				AML	AML		23 22 02.3	
MWZ				AML	AML		23 22 23.4	
MKAZ	**Moumakai**	**6.77**	**16**	Pn	**Pn**		**23 20 47.2**	**+0.7**
MKAZ	**Moumakai**	**6.77**	**16**	PN	**Pn**		**23 20 47.2**	**+0.7**
HAZ	**Te Kaha**	**6.96**	**34**	PN	**Pn**		**23 20 48.2**	**-0.9**
RAO	**Raoul Island**	**16.15**	**30**	LR	LR		23 29 08.5	
	comp=Z,208nm,18.6s,baz=240,slow=38							
STKA	**Stephens Creek**	**27.24**	**285**	LR	LR		23 35 09.6	
	comp=Z,46nm,18.3s,baz=35,slow=36							
CTAO	**Charters Tower**	**32.37**	**308**	*e*P	**P**		**23 25 37.0**	**+0.2**
	21nm,0.8s							
AS01	**Alice Springs**	**37.62**	**289**	*e*P	**P**		**23 26 24.0**	**+2

RPZ	Rata Peaks	17.35	211	P		Pn	00 00 56.4	-5.2	
	0.6nm,0.3s,baz=225,slow=2.9,SNR=3.7								
RAR	Rarotonga	17.38	66	LR		LR	00 05 56.5		
	comp=Z,226nm,20.0s,baz=256,slow=31								
TBI	Tubuai	25.19	83	eLR		LR	00 08 27.2		
	350nm,29.8s								
PAE	Paea	27.46	71	eT		T	00 30 47.2		
	4.2nm,0.3s								
PPT2	Papeete2	27.50	71	eLR		LR	00 09 28.0		
	287nm,28.0s								
PPT2	Papeete2	27.50	71	eT		T	00 30 50.5		
	4.1nm,0.3s								
PPT	Papeete	27.52	71	LR		LR	00 13 21.1		
	comp=Z,57nm,18.7s,baz=204,slow=36								
STKA	Stephens Creek	35.74	255	P		P	00 03 57.4	-0.6	
	4.9nm,0.6s,baz=100,slow=10,SNR=15								
PMG	Port Moresby	39.09	293	LR		LR	00 18 23.2		
	comp=Z,142nm,18.6s,baz=186,slow=33								
ASAR	Alice Springs	44.21	265	P		P	00 05 07.5	-0.9	
	7.4nm,0.6s,baz=100,slow=6.4,SNR=102								
ASAR				PcP		PcP	00 06 52.5	-0.4	
	1.2nm,0.6s,baz=115,slow=3.8,SNR=4.6								
ASAR				ScP		ScP	00 10 47.4	+4.9	
	0.8nm,0.9s,baz=101,slow=4.8,SNR=4.2								
ASAR				LR		LR	00 22 29.0		
	comp=Z,324nm,18.9s,baz=50,slow=35								
WRA	Warramunga Arr	45.10	270	P		P	00 05 14.0	-1.5	
	8.7nm,0.6s,baz=109,slow=7.8,SNR=27								
VNDA	Vanda	49.29	186	P		P	00 05 50.2	+2.8	
	1.7nm,0.8s,baz=354,slow=6.4,SNR=10.0								
VNDA				LR		LR	00 25 26.4		
	comp=Z,34nm,18.9s,baz=340,slow=34								
FITZ	Fitzroy Crossi	53.40	268	P		P	00 06 17.4	-1.6	
	5.7nm,0.8s,baz=151,slow=8.1,SNR=7.4								
GUMO	Guam	56.45	314	LR		LR	00 28 43.9		
	comp=Z,42nm,19.8s,baz=176,slow=34								
QSPA	South Pole Qui	60.81	180	eP		P	00 07 12.2	+1.4	
	58nm,1.0s								
MAW	Mawson	73.69	200	P		P	00 08 33.8	+1.6	
	5.2nm,0.7s,baz=135,slow=9.0,SNR=15								
MAW				LR		LR	00 41 06.1		
	comp=Z,76nm,18.5s,baz=64,slow=36								
MJAR	Matsushiro Arr	77.94	324	P		P	00 08 55.7	-1.1	
	2.7nm,0.8s,baz=160,slow=5.8,SNR=8.3								
MAT	Matsushiro	77.94	324	P		P	00 08 56.0	-0.9	
SYO	Syowa Base	78.41	193⇓	epP		P	00 09 00.2	+1.1	
SNAA	Sanae	79.22	178	P		P	00 09 07.1	+3.6	
VNA3	Neumayer Olymp	79.33	176	P		P	00 09 04.7	+0.6	
VNA2	Neumayer--Watz	79.77	176	P		P	00 09 07.4	+0.9	
	baz=164,slow=3.8								
VNA1	Neumayer--Stat	80.00	176	P		P	00 09 09.0	+1.3	
PLCA	Paso Flores	82.50	133	LR		LR	00 36 24.9		
	comp=Z,23nm,22.0s,baz=289,slow=29								
KSRS	Korea Array	84.19	319	P		P	00 09 30.3	+0.3	
	1.7nm,0.9s,baz=140,slow=5.9,SNR=3.8								
KSAR	Wonju Array Be	84.20	319	P		P	00 09 30.4	+0.2	
PETK	Petropavlovsk-	85.01	345	P		P	00 09 34.0	+0.1	
	5.6nm,0.7s,baz=108,slow=7.5,SNR=6.6								
USRK	Ussuriysk Ar.	86.82	326	P		P	00 09 43.2	+0.2	
	3.5nm,0.8s,baz=148,slow=7.1,SNR=5.9								
TXAR	Lajitas Array	90.93	57	P		P	00 10 03.5	+0.6	
	0.7nm,1.0s,baz=224,slow=5.2,SNR=4.5								
O20A	White River Ci	93.90	46	eP		P	00 10 11.4	-5.2	
	12nm,1.1s								
DLMT	Dillon	94.44	40	eP		P	00 10 18.1	-0.7	
	2.5nm,0.5s								
ILAR	Eielson Array	96.63	12	P		P	00 10 26.8	-1.4	
	0.2nm,0.6s,baz=236,slow=6.4,SNR=3.5								
ZALV	Zalesovo Beam	117.89	319	PKP		PKPdf	00 15 43.7	-1.1	
	0.4nm,0.4s,baz=134,slow=4.2,SNR=2.7								
KKAR	Karatay Array	125.32	304	ePKPdf		PKPdf	00 15 59.1	-0.4	
FINES	FINESS Array B	144.45	341	PKP		PKPab	00 16 31.8	-0.8	
	5.3nm,0.7s,baz=44,slow=3.8,SNR=24								
OBN	Obninsk	144.84	327	ePKPdf		PKPab	00 16 33.6	-0.7	
KBZ	Khabaz	145.33	305	PKPbc		PKPdf	00 16 36.6	+0.2	
	3.2nm,0.9s,baz=328,slow=4.4,SNR=5.1								
NOA	NORSAR Array B	147.81	353	PKPbc		PKPbc	00 16 42.1	-1.0	
	3.3nm,0.7s,baz=15,slow=4.4,SNR=11								
IZAR	Zarasai	148.87	335	eP		PKPbc	00 16 44.5	-1.4	
IZAR				IAmb		IAmb	00 16 46.5		
	comp=Z,6.6nm,0.8s								
IDID	Didziasalis	149.00	334	eP		PKPbc	00 16 45.0	-1.2	
IDID				IAmb		IAmb	00 16 46.8		
	comp=Z,3.8nm,0.9s								
IIGN	Ignalina	149.18	334	eP		PKPbc	00 16 45.1	-1.6	
IIGN				IAmb		IAmb	00 16 46.9		
	comp=Z,5.2nm,0.9s								
AKASG	Malin Array Be	151.02	325	PKPbc		PKPbc	00 16 50.6	-0.7	
	comp=Z,6.5nm,0.7s,baz=46,slow=3.0,SNR=19								
KIEV	Kiev	151.03	325	ePKPbc		PKPbc	00 16 50.9	-0.4	
BRTR	Keskin Array B	152.95	301	PKPbc		PKPbc	00 16 55.6	-0.6	
	comp=Z,1.2nm,0.6s,baz=143,slow=4.3,SNR=7.8								
BRTR				PKPab		pPKPbc	00 17 06.2	-0.2	
	comp=Z,3.9nm,1.0s,baz=170,slow=7.5,SNR=4.9								
CFR	Carcaliu	154.73	316⇓	iP		PKPab	00 17 18.5	+3.8	
TESR	Tescani	154.89	320⇓	iP		PKPab	00 17 15.2	-0.2	
BURAR	Bucovina Array	155.00	320⇓	iP		PKPab	00 17 14.4	-1.6	
TLB	Topalu	155.08	315⇓	iP		PKPab	00 17 27.4	+11	
HARR	Harsova	155.10	315⇑	iP		PKPab	00 17 17.1	+0.8	
VRI	Vrincioaia	155.21	318⇑	iP		PKPab	00 17 20.0	+3.2	
PLOR	Plostina	155.26	318⇑	iP		PKPab	00 17 16.6	-0.4	
MLR	Muntele Rosu	155.87	318⇓	iP		PKPab	00 17 20.8	+1.0	
DOPR	Dopca	155.91	320⇓	iP		PKPab	00 17 20.5	+0.7	
ARR	Arges	156.70	319⇓	iP		PKPab	00 17 24.0	+0.7	
HUMR	Humele	156.98	317⇑	iP		PKPab	00 17 24.6	+0.2	
MDVR	Moldovita	158.69	321⇓	iP		PKPab	00 17 40.3	+8.5	
GERES	GERESS Array B	158.88	340	PKPab		PKPab	00 17 30.9	-1.7	
	comp=Z,0.2nm,0.6s,baz=35,slow=3.6,SNR=4.3								
CONA	Conrad Observa	158.98	336	iPKPab		PKPab	00 17 33.0	0.0	
	comp=Z,2.1nm,0.7s								
VTS	Vitosha	159.12	315⇑	iP		PKPab	00 17 34.4	+0.5	
MOA	Molln	159.59	338	ePKPab		PKPab	00 17 34.6	-1.0	
	comp=Z,3.0nm,1.2s								
OBKA	Obir	160.66	336	iPKPab		PKPab	00 17 40.5	+0.1	
	comp=Z,1.9nm,1.0s								
RETA	Reutte	160.91	344	iPKPab		PKPab	00 17 40.8	-0.6	
	comp=Z,6.4nm,2.0s								
MOTA	Moosalm	160.96	343	iPKPab		PKPab	00 17 40.9	-0.8	
	comp=Z,1.7nm,0.8s								
ABTA	Abfaltersbach	161.12	340	iPKPab		PKPab	00 17 38.6	-3.8	
	comp=Z,3.5nm,1.5s								
DAVA	Damuels	161.30	346	iPKPab		PKPab	00 17 43.2	0.0	
	comp=Z,6.0nm,1.5s								
PDG	Podgorica	161.57	320⇑	iP		PKPab	00 17 43.7	-0.7	
TORD	Torodi Ar. Bea	163.87	175	PKP		PKPdf	00 17 02.4	-0.3	
	comp=Z,0.6nm,1.0s,baz=198,slow=1.4,SNR=3.0								
TORD				PKPab		PKPab	00 17 56.1	+1.1	
	comp=Z,2.2nm,0.9s,baz=201,slow=3.3,SNR=8.9								

*ISCJB **11** 00:04:56.7±0.3,47°.32N±0°.01×6°.82E±0°.02,h7km±2km,*
Error ellipse: s-maj=2.4km s-min=2.1km az=147.0
*ZUR **11** 00:04:57.8, 47°.33N×6°.84E,h7km±3km, ML2.2/6*
*LDG **11** 00:04:58.5±0.1,47°.33N×6°.84E,h5km, Ml2.7/16, Error*
ellipse: s-maj=9999.9km s-min=9999.9km az=99.0
*CSEM **11** 00:04:58.0±0.1,47°.33N×6°.83E,h12km,ML2.6/26, Error*
ellipse: s-maj=2.1km s-min=1.8km az=151.0
*BGR **11** 00:04:58.0±1.0,47°.28N×6°.81E,h10km,ML2.3/6, Error*
ellipse: s-maj=10.0km s-min=5.6km az=42.0
*PRU **11** 00:04:59.3,47°.35N×6°.91E,h8km*

ISC 11 00:04:57.8±0.9, 47°.33N±0°.01×6°.84E±0°.01, h17km±7km, n94, σ0°76/158, 5C-4D, France

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
BOURR	Bourrignon	0.27	76	⇑iPg		Pg		00 05 03.8	0.0
	558nm,0.7s								
BOURR	Bourrignon	0.27	76	⇑iPg		Pg		00 05 03.8	0.0
	558nm,0.7s								
BRANT	Les Verrieres	0.46	213	⇑iPg		Pg		00 05 07.2	+0.1
	243nm,1.1s								
BRANT				eSg		Sb		00 05 14.3	+0.1
	243nm,1.1s								
BRANT	Les Verrieres	0.46	213	⇑iPg		Pg		00 05 07.2	+0.1
	243nm,1.1s								
BRANT				eSg		Sb		00 05 14.3	+0.1
	243nm,1.1s								
HINF	Hinteralfeld	0.49	1	ePg		Pg		00 05 07.5	-0.1
HINF				eSg		Sg		00 05 14.3	+0.1
	33nm,0.3s								
HINF				eSn		Sn		00 05 18.1	-0.1
HINF	Hinteralfeld	0.49	1	ePg		Pg		00 05 07.5	-0.1
HINF				eSg		Sg		00 05 14.3	+0.1
	16nm,0.3s								
HINF				eSn		Sn		00 05 18.1	-0.1
TORNY	Torny/Romont	0.56	172	⇓iPg		Pb		00 05 09.0	-0.2
	112nm,1.2s								
TORNY	Torny/Romont	0.56	172	⇓iPg		Pg		00 05 09.0	-0.2
	112nm,1.2s								
BALST	Balsthal	0.58	89	⇑iPg		Pb		00 05 09.5	0.0
	187nm,0.3s								
BALST	Balsthal	0.58	89	ePg		Pb		00 05 09.6	0.0
BALST				eSg		Sb		00 05 16.6	-1.0
BALST	Balsthal	0.58	89	Pg		Pb		00 05 09.6	0.0
BALST				Sg		Sb		00 05 16.6	-1.0
HAU	Haudompre	0.75	334	ePg		Pb		00 05 12.7	+0.2
HAU	Haudompre	0.75	334	ePn		Pn		00 05 14.1	+0.4
HAU				eSg		Sg		00 05 23.1	+0.6
HAU				eSn		Sn		00 05 25.5	+0.7
	71nm,0.2s								
HAU	Haudompre	0.75	334	ePg		Pb		00 05 12.7	+0.2
HAU	Haudompre	0.75	334	ePn		Pn		00 05 14.1	+0.4
HAU				eSg		Sg		00 05 23.1	+0.6
HAU				eSn		Sn		00 05 25.5	+0.7
	36nm,0.2s								
CABF	La Chapelle	0.88	216	ePg		Pg		00 05 15.4	+0.5
CABF	La Chapelle	0.88	216	eP		Pn		00 05 16.8	+1.3
CABF				eSg		Sg		00 05 26.8	+0.2
	37nm,0.3s								
CABF	La Chapelle	0.88	216	ePg		Pg		00 05 15.4	+0.5
CABF	La Chapelle	0.88	216	eP		Pn		00 05 16.8	+1.3
CABF				eSg		Sg		00 05 26.8	+0.2
	19nm,0.3s								
GIMEL	St. Georges /	0.89	207	⇓iPg		Pg		00 05 15.2	+0.2
	268nm,0.6s								
GIMEL	St. Georges /	0.89	207	⇓iPg		Pg		00 05 15.2	+0.2
	268nm,0.6s								
SULZ	Cheisacher	0.89	77	ePg		Pn		00 05 16.2	+0.7
SULZ				eSg		Sn		00 05 28.5	+0.5
SULZ	Cheisacher	0.89	77	Pg		Pn		00 05 16.2	+0.7
SULZ				Sg		Sn		00 05 28.5	+0.5
ECH	Echery	0.91	14	ePg		Pn		00 05 16.3	+0.4
ECH				eSg		Sn		00 05 29.4	+0.7
ECH	Echery	0.91	14	Pg		Pn		00 05 16.3	+0.4
ECH				Sg		Sn		00 05 29.4	+0.7
CDF	Champ du Feu	1.12	15	ePn		Pn		00 05 18.9	+0.1
CDF	Champ du Feu	1.12	15	ePg		Pg		00 05 19.6	+0.1
CDF				eSn		Sn		00 05 33.9	-0.1
	22nm,0.2s								
CDF	Champ du Feu	1.12	15	ePn		Pn		00 05 18.9	+0.1
CDF	Champ du Feu	1.12	15	ePg		Pg		00 05 19.6	+0.1
CDF				eSn		Sn		00 05 33.9	-0.1
	11nm,0.2s								
SLE	Schleitheim	1.20	68	ePn		Pn		00 05 20.0	+0.1
	330nm,0.5s								
SLE	Schleitheim	1.20	68	ePg		Pg		00 05 21.3	+0.3
SLE				eSg		Sg		00 05 37.4	+0.7
SLE	Schleitheim	1.20	68	ePn		Pn		00 05 20.0	+0.1
	330nm,0.5s								
SLE	Schleitheim	1.20	68	Pg		Pg		00 05 21.3	+0.3
SLE				Sg		Sg		00 05 37.4	+0.7
WILA	Wila	1.41	86	ePg		Pg		00 05 25.4	+0.5
WILA				eSg		Sg		00 05 42.9	-0.4
WILA	Wila	1.41	86	Pg		Pg		00 05 25.4	+0.5
WILA				Sg		Sg		00 05 42.9	-0.4
BFO	Black Forest	1.42	45	ePn		Pn		00 05 23.0	+0.1
BFO				ePg		Pg		00 05 25.3	+0.2
BFO				eSg		Sg		00 05 44.0	+0.4
BFO	Black Forest	1.42	45	Pn		Pn		00 05 23.0	+0.1
PAGF	Fort de Pagny	1.44	329	ePn		Pn		00 05 23.5	+0.4
PAGF	Fort de Pagny	1.44	329	ePg		Pg		00 05 25.7	+0.3
	baz=158								
PAGF				eSn		Sn		00 05 41.7	+0.1
PAGF				eSg		Sg		00 05 44.7	+0.5
	5.1nm,0.3s,baz=152								
PAGF	Fort de Pagny	1.44	329	ePn		Pn		00 05 23.5	+0.4
PAGF	Fort de Pagny	1.44	329	ePg		Pg		00 05 25.7	+0.3
PAGF				eSn		Sn		00 05 41.7	+0.1
PAGF				eSg		Sg		00 05 44.7	+0.5
	2.5nm,0.3s								
SFTF	Sexfontaines	1.50	306	ePn		Pn		00 05 24.5	+0.6
SFTF	Sexfontaines	1.50	306	eP		Pg		00 05 26.5	-0.1
	baz=131								
SFTF				eSn		Sn		00 05 43.3	+0.2
	6.3nm,0.2s								
SFTF	Sexfontaines	1.50	306	ePn		Pn		00 05 24.5	+0.6
SFTF	Sexfontaines	1.50	306	eP		Pg		00 05 26.5	-0.1
SFTF				eSn		Sn		00 05 43.3	+0.2
	3.2nm,0.2s								
SATI	Passo dei Sala	1.62	154	P		Pb		00 05 28.3	+0.9
SATI				S		Sb		00 05 48.6	+1.0
MEZF	Maizieres J'vi	1.68	315	ePg		Pg		00 05 30.1	0.0
	baz=134								
MEZF				eSn		Sn		00 05 47.6	+0.1
MEZF				eSg		Sg		00 05 52.2	+0.3
	42nm,0.4s								
MEZF	Maizieres J'vi	1.68	315	ePg		Pg		00 05 30.1	0.0
MEZF				eSn		Sn		00 05 47.6	+0.1
MEZF				eSg		Sg		00 05 52.2	+0.3
	21nm,0.4s								
LPL	La Plagne	1.81	182	ePn		Pn		00 05 29.6	+1.2
LPL				eSg		Sg		00 05 55.3	-0.9
	6.0nm,0.3s								
LPL	La Plagne	1.81	182	ePn		Pn		00 05 29.6	+1.2
LPL				eSg		Sg		00 05 55.3	-0.9
	3.0nm,0.3s								
LPG	La Plagne	1.83	182	ePn		Pb		00 05 30.1	-0.9
LPG				eSn		Sn		00 05 50.7	-1.0
LPG				eSg		Sg		00 05 56.6	-0.2
	8.9nm,0.3s								
LPG	La Plagne	1.83	182	ePn		Pb		00 05 30.1	-0.9
LPG				eSn		Sn		00 05 50.7	-1.0
LPG				eSg		Sg		00 05 56.6	-0.2
	4.4nm,0.3s								
LSD	Lago del Serru	1.88	174	P		Pb		00 05 31.8	0.0
LSD				S		Sn		00 05 54.0	+1.2
LOR	Lormes	2.03	269	eP		Pb		00 05 33.8	-0.4
	baz=86								
LOR	Lormes	2.03	269	ePg		Pg		00 05 36.1	-0.6
LOR				eSn		Sn		00 05 56.8	+0.6
LOR				eSg		Sg		00 06 02.3	-0.7
	15nm,0.3s								
LOR	Lormes	2.03	269	eP		Pb		00 05 33.8	-0.4
LOR	Lormes	2.03	269	ePg		Pg		00 05 36.1	-0.6
LOR				eSn		Sn		00 05 56.8	+0.6
LOR				eSg		Sg		00 06 02.3	-0.7
	7.7nm,0.3s								
DAVA	Damuels	2.07	90	ePn		Pb		00 05 33.8	-1.2
	0.8nm,0.3s								
DAVA				Sg		Sg		00 06 04.7	+0.3
	8.6nm,0.2s								
DAVA	Damuels	2.07	90	Pn		Pb		00 05 33.8	-1.2
	0.8nm,0.3s								
DAVA				Sg		Sg		00 06 04.7	+0.3
	8.6nm,0.2s								
SMF	Signal de Mont	2.16	253	ePg		Pg		00 05 39.0	-0.3
SMF				eSg		Sg		00 06 06.1	-1.2
	17nm,0.4s								
SMF	Signal de Mont	2.16	253	ePg		Pg		00 05 39.0	-0.3
SMF				eSg		Sg		00 06 06.1	-1.2
	8.4nm,0.4s								
SSF	Saint Saulge	2.29	265	ePg		Pg		00 05 40.8	-0.8
SSF				eSg		Sg		00 06 10.5	-0.8
	8.4nm,0.3s								
SSF	Saint Saulge	2.29	265	ePg		Pg		00 05 40.8	-0.8
SSF				eSg		Sg		00 06 10.5	-0.8
	4.2nm,0.3s								
AVF	Avril sur Loir	2.44	259	eP		Pn		00 05 39.2	+2.3
AVF	Avril sur Loir	2.44	259	ePg		Pg		00 05 44.3	-0.3
AVF				eSg		Sg		00 06 15.7	-0.6
	2.3nm,0.3s								
AVF	Avril sur Loir	2.44	259	eP		Pn		00 05 39.2	+2.3
AVF	Avril sur Loir	2.44	259	ePg		Pg		00 05 44.3	-0.3
AVF				eSg		Sg		00 06 15.7	-0.6
	1.1nm,0.3s								
ORIF	Oris-en-Rattie	2.50	196	ePn		Pn		00 05 38.5	+0.7
ORIF	Oris-en-Rattie	2.50	196	ePg		Pg		00 05 46.7	+1.0
ORIF				eSg		Sg		00 06 17.2	-1.0
	5.6nm,0.3s								
ORIF	Oris-en-Rattie	2.50	196	ePn		Pn		00 05 38.5	+0.7
ORIF	Oris-en-Rattie	2.50	196	ePg		Pg		00 05 46.7	+1.0
ORIF				eSg		Sg		00 06 17.2	-1.0
	2.8nm,0.3s								
RETA	Reutte	2.67	85	Sg		Sg		00 06 24.3	+0.8
	1.0nm,0.2s								
RETA	Reutte	2.67	85	Sg		Sg		00 06 24.3	+0.8
	1.0nm,0.2s								
FETA	Feichten	2.67	95	ePn		Pb		00 05 44.7	-0.5
FETA				Sg		Sg		00 06 24.4	+0.8
	0.2nm,0.1s								
FETA	Feichten	2.67	95	Pn		Pb		00 05 44.7	-0.5
FETA				Sg		Sg		00 06 24.4	+0.8
	0.2nm,0.1s								
HYF	Humbligny	2.86	270	eP		Pg		00 05 52.0	-0.5
VIVF	Saint-Julien-l	2.90	212	eSg		Sg		00 06 29.0	-1.8
	6.7nm,0.3s								
VIVF	Saint-Julien-l	2.90	212	eSg		Sg		00 06 29.0	-1.8
	3.3nm,0.3s								
MOTA	Moosalm	2.90	88	eSg		Sg		00 06 31.3	+0.3
	1.3nm,0.2s								
MOTA	Moosalm	2.90	88	Sg		Sg		00 06 31.3	+0.3
	1.3nm,0.2s								
WTTA	Wattenberg	3.27	89	Sg		Sg		00 06 43.6	+1.0
	1.5nm,0.3s								
WTTA	Wattenberg	3.27	89	Sn		Sg		00 06 43.6	+1.0
	1.5nm,0.3s								
WTTA	Wattenberg	3.27	89	Sg		Sg		00 06 43.6	+1.0
	1.5nm,0.3s								
LASF	Ste Croix	3.87	214	ePn		Pn		00 05 56.5	0.0
LASF				eSg		Sg		00 07 02.4	+0.5
	2.3nm,0.3s								
LASF	Ste Croix	3.87	214	ePn		Pn		00 05 56.5	0.0
LASF				eSg		Sg		00 07 02.4	+0.5
	1.1nm,0.3s								
ABTA	Abfaltersbach	3.92	96	eSg		Sg		00 07 02.4	-1.3
	0.2nm,0.1s								
ABTA	Abfaltersbach	3.92	96	Sg		Sg		00 07 02.4	-1.3
	0.2nm,0.1s								
KBA	Koelnbreinsper	4.44	91	ePn		Pn		00 06 04.0	-0.5
KBA				Sg		Sg		00 07 20.0	-0.3
	0.3nm,0.2s								
KBA	Koelnbreinsper	4.44	91	Pn		Pn		00 06 04.0	-0.5
KBA				Sg		Sg		00 07 20.0	-0.3
	0.3nm,0.2s								
NKC	Novy Kostel	4.71	50	eSG		Sg		00 07 28.4	-0.5
	comp=Z,5.5nm,0.6s								
NKC	Novy Kostel	4.71	50	Sg		Sg		00 07 28.4	-0.5
	5.5nm,0.6s								
KHC	Kasperske Hory	4.85	66	eSG		Sg		00 07 31.9	-1.5
KHC	Kasperske Hory	4.85	66	Sg		Sg		00 07 31.9	-1.5
PRU	Pruhonice	5.75	60	eSG		Sg		00 07 58.9	-3.5
	comp=Z,3.7nm,0.8s								

*ISCJB **11** 00:05:16.5±0.3,47°.28N±0°.02×6°.79E±0°.02,h10km±4km,*
Error ellipse: s-maj=3.3km s-min=2.5km az=146.0
*CSEM **11** 00:05:18.5±0.1,47°.32N×6°.82E,h12km,ML2.8/16, Error*
ellipse: s-maj=3.0km s-min=2.2km az=129.0
*LDG **11** 00:05:19.1±0.1,47°.33N×6°.86E,h6km,Md2.4/1, Ml2.9/15,*
Error ellipse: s-maj=1.8km s-min=1.5km az=118.0
*BGR **11** 00:05:19.8±1.8,47°.33N×6°.84E,h10km,ML2.4/8, Error*
ellipse: s-maj=15.6km s-min=5.6km az=47.0

ISC 11 00:05:18.2±1.0, 47°.32N±0°.02×6°.82E±0°.02, h16km±8km, n58, σ0°50/79, France

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
HINF	Hinteralfeld	0.50	2	ePg		Pg		00 05 27.9	-0.3
HINF				eSg		Sg		00 05 34.7	-0.3
	27nm,0.2s								
HINF				eSn		Sn		00 05 38.5	-0.7
	47nm,0.3s								
HINF	Hinteralfeld	0.50	2	ePg		Pg		00 05 27.9	-0.3
HINF				eSg		Sg		00 05 34.7	-0.3
	13nm,0.2s								
BALST	Balsthal	0.59	88	eSg		Sb		00 05 38.2	-0.3
BALST	Balsthal	0.59	88	Sg		Sb		00 05 38.2	-0.3
HAU	Haudompre	0.76	335	ePg		Pb		00 05 33.1	0.0
HAU	Haudompre	0.76	335	ePn		Pn		00 05 34.6	+0.2
HAU				eSn		Sn		00 05 45.7	+0.1
	115nm,0.2s								
HAU	Haudompre	0.76	335	ePg		Pb		00 05 33.1	0.0
HAU	Haudompre	0.76	335	ePn		Pn		00 05 34.6	+0.2
HAU				eSn		Sn		00 05 45.7	+0.1
	57nm,0.2s								
CABF	La Chapelle	0.86	216	ePg		Pn		00 05 35.8	0.0
CABF	La Chapelle	0.86	216	eP		Pn		00 05 37.3	+1.5
CABF				eSg		Sg		00 05 47.3	+0.9
	80nm,0.4s								
CABF	La Chapelle	0.86	216	ePg		Pn		00 05 35.8	0.0
CABF	La Chapelle	0.86	216	eP		Pn		00 05 37.3	+1.5
CABF				eSg		Sg		00 05 47.3	+0.9

HYF	**Humbligny**	**2.85**	**271**	*e*Pg		**Pg**	**00 06 12.9**	**+0.2**
VIVF	**Saint-Julien-l**	**2.88**	**212**	*e*Sg		**Sg**	**00 06 49.6**	**-1.0**
	9.3nm,0.2s							
VIVF	**Saint-Julien-l**	**2.88**	**212**	*e*Sg		**Sg**	**00 06 49.6**	**-1.0**
	4.7nm,0.2s							
LASF	**Ste Croix**	**3.85**	**214**	*e*Pn		**Pn**	**00 06 16.9**	**+0.1**
LASF				*e*Sg		**Sg**	**00 07 21.5**	**-0.2**
	5.1nm,0.4s							
LASF	**Ste Croix**	**3.85**	**214**	*e*Pn		**Pn**	**00 06 16.9**	**+0.1**
LASF				*e*Sg		**Sg**	**00 07 21.5**	**-0.2**
	2.5nm,0.4s							

IDC 11 00:05:34.9±7.6, 24°56S×179°90W, h538km±94km, mb3.3/3, mb1 3.5/4, mb1mx3.0/32, mbtmp4.3/4, Error ellipse: s-maj=99.1km s-min=29.8km az=5.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**13.89**	**190**	P	P	00 08 32.7	-0.2
	2.3nm,0.3s,baz=34,slow=20,SNR=7.9						
CTA	**Charters Tower**	**31.57**	**271**	P	P	00 11 13.5	-0.2
	4.6nm,0.4s,baz=102,slow=9.6,SNR=7.8						
ASAR	**Alice Springs**	**42.02**	**261**	P	P	00 12 39.5	0.0
	0.9nm,0.5s,baz=94,slow=6.5,SNR=9.5						
TXAR	**Lajitas Array**	**90.70**	**58**	P	P	00 17 40.8	0.0
	0.6nm,0.8s,baz=210,slow=6.1,SNR=7.4						
FINES	**FINESS Array B**	**139.09**	**341**	PKP	PKPdf	00 24 00.5	+0.6
	0.9nm,0.9s,baz=30,slow=6.6,SNR=4.0						
BRTR	**Keskin Array B**	**148.04**	**306**	PKPbc	PKPbc	00 24 19.4	-0.9
	0.2nm,0.3s,baz=141,slow=4.5,SNR=4.2						

*ISCJB **11** 00:09:10.0±0.2, 10°.52S±0°.03×124°.19E±0°.04, h27km, mb4.7/32, MS3.9/4, Error ellipse: s-maj=6.8km s-min=3.4km az=143.3*

*NEIC **11** 00:09:09.8±2.7, 10°.45S×123°.94E, h8km±18km, mb4.7/14, Error ellipse: s-maj=11.5km s-min=6.4km az=59.0*

*IDC **11** 00:09:09.6±0.8, 10°.26S×123°.95E, h0km, mb4.5/12, mb1 4.5/14, mb1mx4.2/39, mbtmp4.4/14, ML4.0/2, MS3.4/4, Ms1 3.4/4, ms1mx2.9/23, Error ellipse: s-maj=36.0km s-min=18.0km az=75.0*

*DJA **11** 00:09:12.6±0.4, 10°.S±4°×12°4E±°, h10km, M4.7/12, mB4.8/2, mb4.8/9, MLv4.7/12, Mw(mB)4.1/2*

ISC 11 00:09:12.3±0.4, 10°.49S±0°.04×124°.05E±0°.05, h27km, n80, σ2s07/93, mb4.8/31, MS3.8/4, 1C, Timor region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BATI	**Baumata**	**0.48**	**307**	P	**Pb**	**00 09 18.3**	**-4.0**
SOEI	**Soe**	**0.76**	**16**	P	**Pn**	**00 09 27.6**	**+0.2**
SOEI	**Soe**	**0.76**	**16**	*e*Pn	**Pn**	**00 09 27.8**	**+0.3**
SOEI				*e*S	**Sn**	**00 09 39.7**	**+1.6**
MMRI	**Maumere**	**2.57**	**316**	P	**Pn**	**00 09 52.3**	**+0.1**
MMRI				S	**Sn**	**00 10 24.9**	**+2.3**
MMRI	**Maumere**	**2.57**	**316**	*e*Pn	**Pn**	**00 09 52.6**	**+0.4**
MMRI				*e*S	**Sn**	**00 10 25.4**	**+2.8**
BASI	**Baing, Sumba**	**3.43**	**274**	P	**Pn**	**00 10 06.9**	**+2.9**
WSI	**Waingapu**	**3.79**	**282**	P	**Pn**	**00 10 11.4**	**+2.5**
WSI				S	**Sn**	**00 10 57.9**	**+5.3**
BBSI	**Bau Bau**	**5.19**	**343**	P	**Pn**	**00 10 28.5**	**+0.3**
	32nm,1.0s,488nm0.1nm						
BSSI	**Bau Bau, Buton**	**5.58**	**321**	P	**Pn**	**00 10 35.3**	**+1.7**
	204nm,1.0s,0.6nm						
PLAI	**Plampang**	**6.41**	**284**	P	**Pn**	**00 10 45.0**	**+0.1**
KDI	**Kendari**	**6.65**	**348**	P	**Pn**	**00 10 49.7**	**+1.4**
	72nm,0.7s,0.3nm						
KAPI	**Kappang**	**6.91**	**322**	Pn	**Pn**	**00 10 49.9**	**-2.0**
	2.4nm,0.3s,baz=159,slow=11,SNR=11						
KAPI	**Kappang**	**6.91**	**322**	*e*Pn	**Pn**	**00 10 50.1**	**-1.8**
TWSI	**Taliwang, Sumb**	**7.28**	**283**	P	**Pn**	**00 10 59.2**	**+2.2**
MTN	**Manton Dam**	**7.32**	**109**	*e*Pn	**Pn**	**00 11 01.0**	**+3.5**
FITZ	**Fitzroy Crossi**	**7.72**	**169**	Pn	**Pn**	**00 11 04.5**	**+1.5**
	1.7nm,0.3s,baz=6.9,slow=11,SNR=36						
FITZ				Sn	**Sn**	**00 12 26.7**	**-2.8**
	4.7nm,0.3s,baz=81,slow=6.5,SNR=9.2						
FITZ				LR	LR	00 14 18.9	
	comp=Z,238nm,18.7s,baz=360,slow=39						
FITZ	**Fitzroy Crossi**	**7.72**	**169**	*e*Pn	**Pn**	**00 11 04.3**	**+1.4**
FITZ				*e*S	**Sn**	**00 12 27.9**	**-1.7**
TTSI	**Tana Toraja**	**8.51**	**330**	P	**Pn**	**00 11 15.4**	**+1.6**
FAKI	**Fak Fak**	**11.08**	**48**	*e*Pn	**Pn**	**00 11 48.8**	**-0.3**
MBWA	**Marble Bar**	**11.39**	**201**	*e*Pn	**Pn**	**00 11 54.0**	**+0.7**
WRA	**Warramunga Arr**	**13.66**	**135**	Pn	**Pn**	**00 12 23.4**	**-1.0**
	0.9nm,0.3s,baz=299,slow=14,SNR=16						
WRA				Sn	**Sn**	**00 14 49.9**	**-5.5**
	2.2nm,0.3s,baz=306,slow=23,SNR=8.9						
WRA				LR	LR	00 18 28.3	
	comp=Z,116nm,18.2s,baz=180,slow=40						
WRAB	**Tennant Creek**	**13.66**	**135**	*e*Pn	**Pn**	**00 12 24.9**	**+0.5**
	12nm,0.8s						
WRAB				*e*S	**Sn**	**00 14 52.1**	**-3.2**
WB2	**Warramunga Arr**	**13.67**	**135**	*e*Pn	**Pn**	**00 12 25.4**	**+0.9**
WB2				*e*Sn	**Sn**	**00 14 53.4**	**-2.1**
AS31	**Alice Springs**	**16.12**	**146**	*e*Pn	**Pn**	**00 12 57.6**	**+0.4**
	4.7nm,0.6s						
ASAR	**Alice Springs**	**16.12**	**146**	Pn	**Pn**	**00 12 57.5**	**+0.3**
	2.4nm,0.3s,baz=318,slow=12,SNR=101						
ASAR				Sn	**Sn**	**00 15 51.2**	**-4.1**
	0.6nm,0.3s,baz=328,slow=24,SNR=5.6						
AS01	**Alice Springs**	**16.14**	**145**	*e*Pn	**Pn**	**00 12 56.5**	**-1.0**
KSM	**Kuching**	**18.12**	**310**	*e*Pn	**Pn**	**00 13 17.2**	**-5.0**
	8.8nm,1.0s						
KKM	**Kota Kinabalu**	**18.19**	**334**	*e*Pn	**P**	**00 13 24.4**	**+1.2**
	16nm,0.7s						
COEN	**Coen**	**19.00**	**102**	*e*P	**Pn**	**00 13 36.8**	**+3.8**
	124nm,1.9s						
COEN				*e*S	Sn	00 16 53.0	-12
STKA	**Stephens Creek**	**26.76**	**145**	P	**P**	**00 14 52.8**	**+2.9**
	2.9nm,0.7s,baz=311,slow=8.4,SNR=5.4						
CM01	**Chiang Mai Arr**	**37.93**	**319**	*e*P	**P**	**00 16 26.6**	**-1.1**
GYA	**Guiyang**	**40.43**	**336**	*e*P	**P**	**00 16 51.0**	**+2.3**
GYA				pmax	pmax		
	comp=Z,10.0nm,0.8s						
KMI	**Kunming**	**41.05**	**330**	P	**P**	**00 16 56.1**	**+2.2**
KMI				pmax	pmax		
	comp=Z,11nm,0.5s						
NJ2	**Nanjing**	**42.59**	**353**	*e*P	**P**	**00 17 06.1**	**0.0**
NJ2				pmax	pmax		
	comp=Z,19nm,0.7s						
CD2	**Chengdu**	**45.55**	**335**	*e*P	**P**	**00 17 29.1**	**-0.8**
XAN	**Xi'an**	**46.56**	**343**	P	**P**	**00 17 36.2**	**-1.7**
XAN				pP	pP	00 17 43.5	-2.6
XAN				sP	sP	00 17 45.0	-4.4
XAN				pmax	pmax		
	comp=Z,11nm,0.9s						
XAN				pmax	pmax		
	comp=Z,39nm,3.9s						
KSAR	**Wonju Array Be**	**47.82**	**4**	P	**P**	**00 17 47.2**	**-0.3**
KSAR				PcP	**PcP**	**00 19 17.9**	**+1.7**
KSRS	**Korea Array**	**47.83**	**4**	P	**P**	**00 17 47.2**	**-0.4**
	comp=Z,1.3nm,0.7s,baz=182,slow=10,SNR=6.8						
KSRS				PcP	**PcP**	**00 19 17.9**	**+1.7**
	comp=Z,0.6nm,0.5s,baz=183,slow=3.6,SNR=4.9						
MJAR	**Matsushiro Arr**	**48.65**	**15**	P	**P**	**00 17 53.0**	**-1.0**
	comp=Z,6.1nm,0.8s,baz=191,slow=8.7,SNR=21						
MJAR				LR	LR	00 40 06.1	
	comp=Z,14nm,18.6s,baz=250,slow=38						
MAJO	**Matsushiro**	**48.65**	**15**	*e*P	**P**	**00 17 52.8**	**-1.2**
	comp=Z,5.0nm,0.6s						
MAT	**Matsushiro**	**48.65**	**15**	P	**P**	**00 17 53.0**	**-1.0**
LZH	**Lanzhou**	**50.10**	**339**	*e*P	**P**	**00 18 07.6**	**+2.3**
LZH				pP	pP	00 18 13.1	-0.5
LZH				sP	sP	00 18 15.5	-1.3
LZH				PP	PP	00 20 15.0	+14
LZH				*e*S	**S**	**00 25 15.5**	**+0.2**
LZH				sS	pS	00 25 25.6	+0.5
LZH	**Lanzhou**	**50.10**	**339**	SS	**SS**	**00 28 52.0**	**+3.0**
LZH				pmax	pmax		
	comp=Z,51nm,1.4s						
LZH				pmax	pmax		
	comp=Z,150nm,4.2s						
LZH				LR	LR		
	comp=N,1μm,14.3s						
LZH				LR	LR		
	comp=E,1μm,15.9s						
LZH				LR	LR		
	comp=Z,2μm,16.9s						
LSA	**Lhasa**	**51.01**	**323**	*e*P	**P**	**00 18 09.9**	**-2.8**
HHC	**Hu-ho-hao-te**	**52.37**	**348**	*e*P	**P**	**00 18 26.1**	**+3.9**
HHC				pmax	pmax		
	comp=Z,17nm,0.9s						
HHC				pmax	pmax		
	comp=Z,53nm,8.7s						
CN2	**Changchun**	**54.05**	**1**	*e*P	**P**	**00 18 37.8**	**+3.5**
USRK	**Ussuriysk Ar.**	**54.91**	**7**	P	**P**	**00 18 40.5**	**-0.1**
	comp=Z,5.1nm,0.7s,baz=187,slow=6.6,SNR=9.7						
MDJ	**Mudanjiang**	**55.08**	**5**	*e*P	**P**	**00 18 42.0**	**+0.2**
	comp=Z,7.7nm,0.6s						
KLR	**Kul'dur**	**59.85**	**6**	P	**P**	**00 19 15.4**	**+0.1**
	comp=Z,0.9nm,0.5s,baz=126,slow=9.0,SNR=4.6						
ULN	**Ulaanbaatar**	**60.03**	**347**	*e*P	**P**	**00 19 16.8**	**0.0**
	comp=Z,2.5nm,0.8s						
SONM	**Songino Array**	**60.15**	**346**	P	**P**	**00 19 16.9**	**-0.7**
	comp=Z,2.4nm,0.7s,baz=164,slow=8.5,SNR=16						
SONA1	**Songino Array**	**60.16**	**346**	*e*P	**P**	**00 19 17.9**	**+0.2**
WMQ	**Urumqi**	**63.36**	**331**	P	**P**	**00 19 39.2**	**0.0**
WMQ				pP	pP	00 19 44.6	-3.1
WMQ				sP	sP	00 19 48.1	-2.8
WMQ				pmax	pmax		
	comp=Z,12nm,0.7s						
WMQ				pmax	pmax		
	comp=Z,47nm,3.7s						
WMQ				LR	LR		
	comp=N,45nm,18.5s						
WMQ				LR	LR		
	comp=Z,26nm,18.5s						
KSH	**Kashi**	**66.82**	**321**	*e*P	**P**	**00 20 01.3**	**-0.6**
KSH				sP	pP	00 20 10.1	-0.3
KSH				PP	**PP**	**00 22 30.2**	**+0.7**
KSH				S	**S**	**00 28 48.0**	**-5.0**
KSH				sS	pS	00 28 58.9	-4.5
KSH	**Kashi**	**66.82**	**321**	SS	SS	00 33 07.6	-4.1
KSH				pmax	pmax		
	comp=Z,6.0nm,0.7s						
KSH				pmax	pmax		
	comp=Z,50nm,5.3s						
KSH				LR	LR		
	comp=N,120nm,5.8s						
KSH				LR	LR		
	comp=E,93nm,6.7s						
KSH				LR	LR		
	comp=Z,120nm,7.0s						
MK01	**Makanchi Array**	**68.11**	**330**	*e*P	**P**	**00 20 09.3**	**-0.4**
MK31	**Makanchi Array**	**68.13**	**330**	*e*P	**P**	**00 20 09.7**	**-0.2**
MKAR	**Makanchi Array**	**68.13**	**330**	*e*P	**P**	**00 20 09.7**	**-0.2**
	comp=Z,98nm,0.7s						
MAKZ	**Makanchi**	**68.29**	**330**	*e*P	**P**	**00 20 10.4**	**-0.5**
	comp=Z,7.7nm,0.8s						
KBL	**Kabul**	**68.69**	**313**	*e*P	**P**	**00 20 13.5**	**-0.4**
	comp=Z,11nm,0.7s						
PETK	**Petropavlovsk-**	**69.56**	**21**	P	**P**	**00 20 19.1**	**+0.5**
	comp=Z,11nm,0.9s,baz=233,slow=0.9,SNR=6.5						
AAK	**Ala-Archa**	**69.60**	**323**	*e*P	**P**	**00 20 19.1**	**-0.2**
	comp=Z,2.4nm,0.6s						
VNDA	**Vanda**	**69.78**	**172**	LR	LR	00 50 11.6	
	comp=Z,71nm,19.1s,baz=340,slow=35						
ZAA0	**Zalesovo Array**	**72.28**	**337**	*e*P	**P**	**00 20 34.3**	**-0.8**
ZALV	**Zalesovo Beam**	**72.28**	**337**	P	**P**	**00 20 34.3**	**-0.8**
	comp=Z,11nm,0.6s,baz=137,slow=4.5,SNR=54						
KURK	**Kurchatov**	**72.60**	**332**	*e*P	**P**	**00 20 36.6**	**-0.4**
	comp=Z,12nm,0.8s						
SEY	**Seymchan**	**76.40**	**13**	P	**P**	**00 20 59.5**	**+0.6**
	comp=Z,10nm,0.7s,baz=204,slow=4.5,SNR=26						
BRVK	**Borovoye**	**78.08**	**330**	*e*P	**P**	**00 21 08.5**	**-0.1**
	comp=Z,35nm,1.0s						
GEYT	**Alibeck**	**78.09**	**312**	P	**P**	**00 21 09.4**	**+0.4**
	comp=Z,1.7nm,0.8s,baz=108,slow=4.8,SNR=4.9						
SYO	**Syowa Base**	**78.29**	**201**	*e*X	**P**	**00 21 08.0**	**-1.5**
ABKAR	**Akbulak array**	**81.68**	**323**	*e*P	**P**	**00 21 28.0**	**-0.2**
	comp=Z,14nm,0.7s						
NRIK	**Noril'sk**	**83.60**	**348**	P	**P**	**00 21 38.2**	**+0.5**
	comp=Z,2.2nm,0.6s,baz=136,slow=7.0,SNR=5.8						
ARU	**Arti**	**85.63**	**330**	*e*P	**P**	**00 21 47.7**	**-0.5**
	comp=Z,1.6nm,0.6s						
BRTR	**Keskin Array B**	**96.93**	**309**	P	**P**	**00 22 41.4**	**-0.3**
	comp=Z,0.6nm,0.9s,baz=50,slow=8.2,SNR=3.7						
BMRM	**Bremner River**	**99.74**	**30**	*e*Pdif	**Pdif**	**00 22 49.5**	**-4.2**
	comp=Z,25nm,1.2s						
PDAR	**Pinedale Array**	**123.51**	**45**	PKP	**PKPdf**	**00 28 09.5**	**+1.7**
	comp=Z,0.2nm,0.5s,baz=321,slow=7.0,SNR=2.9						
TORD	**Torodi Ar. Bea**	**123.62**	**279**	PKP	**PKPdf**	**00 28 10.2**	**+1.8**
	comp=Z,0.5nm,0.8s,baz=53,slow=2.0,SNR=5.7						
BLA	**Blacksburg**	**145.45**	**36**	*e*PKPbc	**PKPab**	**00 28 50.9**	**+2.3**
GOGA	**Godfrey**	**145.97**	**44**	*e*PKPbc	**PKPab**	**00 28 52.6**	**+2.1**
LPAZ	**La Paz**	**150.79**	**155**	PKPbc	**PKPab**	**00 29 07.6**	**-3.3**
	comp=Z,0.9nm,0.6s,baz=207,slow=2.3,SNR=6.1						

WEL 11 00:19:29.1±0.9, 38°.48S×175°.34E, h210km±7km, ML3.5/20, 4D, Error ellipse: s-maj=10.5km s-min=5.7km az=90.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BHHZ	**Black Hill Sta**	**1.16**	**151**	PN	Pn	00 20 01.1	+0.1
KWHZ	**Kaweka Forest**	**1.27**	**139**	AML	AML	00 20 31.5	
URZ	**Urewera**	**1.41**	**82**	⇓P	Pn	00 20 02.9	+0.1
URZ				*e*SN	S	00 20 28.6	-0.2
KRHZ	**Kereru**	**1.42**	**146**	PN	Pn	00 20 03.1	+0.2
PNHZ	**Pukenui**	**1.58**	**155**	⇓PN	Pn	00 20 04.2	-0.2
MWZ	**Matawai**	**1.72**	**86**	PN	Pn	00 20 05.9	+0.2
OHWZ	**Ohakea**	**1.73**	**181**	PN	Pn	00 20 05.5	-0.1
WPHZ	**Waipukurau**	**1.80**	**152**	PN	Pn	00 20 06.0	-0.3
KNZ	**Kokohu**	**1.90**	**107**	⇓PN	Pn	00 20 07.5	+0.2
RUGZ	**Raukumara Rang**	**1.91**	**75**	PN	Pn	00 20 06.8	-0.8
RIGZ	**Rimuhau**	**1.91**	**98**	PN	Pn	00 20 07.8	+0.4
DVHZ	**Dannevirke**	**1.93**	**161**	⇓PN	Pn	00 20 06.6	-1.0
HAZ	**Te Kaha**	**2.06**	**70**	PN	Pn	00 20 08.3	-0.6
MRZ	**Mangatainoka R**	**2.19**	**175**	PN	Pn	00 20 08.0	-2.2
MRZ				SN	S	00 20 39.3	-2.8
BFZ	**Birch Farm**	**2.31**	**163**	PN	Pn	00 20 09.8	-1.7
TIWZ	**Tintock**	**2.34**	**170**	PN	Pn	00 20 10.0	-1.8
OGWZ	**Otaki Gorge**	**2.34**	**183**	PN	Pn	00 20 10.2	-1.6
OGWZ				AML	AML	00 20 10.7	
KIW	**Kapiti Island**	**2.41**	**188**	PN	Pn	00 20 10.5	-2.0
HOWZ	**Holdsworth Sta**	**2.42**	**177**	PN	Pn	00 20 10.5	-2.2
DUWZ	**D'Urville Isla**	**2.57**	**205**	PN	Pn	00 20 12.1	-2.2
CAW	**Cannon Point**	**2.64**	**185**	PN	Pn	00 20 12.7	-2.3
TCW	**Tory Channel**	**2.85**	**196**	PN	Pn	00 20 15.1	-2.4
PLWZ	**Palliser**	**3.09**	**181**	PN	Pn	00 20 17.0	-3.2
NNZ	**Nelson**	**3.13**	**208**	PN	Pn	00 20 17.3	-3.3
NNZ				SN	S	00 20 55.0	-5.7
TUWZ	**Tuamarina**	**3.14**	**200**	PN	Pn	00 20 18.0	-2.7
THZ	**Tophouse**	**3.78**	**209**	PN	Pn	00 20 25.0	-3.5
KHZ	**Kahutara**	**4.17**	**199**	PN	Pn	00 20 29.4	-3.7
OXZ	**Oxford**	**5.45**	**206**	PN	Pn	00 20 43.7	-5.7

*ISCJB **11** 00:20:00.0±1.1, 37°.15N±0°.03×141°.67E±0°.06, h19km±7km, mb3.9/6, MS3.8/2, Error ellipse: s-maj=8.6km s-min=5.4km az=14.5*

*JMA **11** 00:20:00.2±0.2, 37°.17N×141°.67E, h33km±2km, M4.2*

JMA Felt I J1.

*NIED **11** 00:20:00, 37°.20N×141°.70E, h5km, Mw3.9 Best double couple: Mo6.70000×10^14 NP1:φ≈33.00000°, δ35.00000°, λ-92.00000°. NP2:φ≈215.00000°, δ55.00000°, λ-89.00000°.*

*IDC **11** 00:20:05.0±3.2, 37°.13N×141°.56E, h41km±30km, mb3.6/6, mb1 3.8/10, mb1mx3.6/32, mbtmp3.8/10, ML2.9/4, MS3.4/3, Ms1 3.4/3, ms1mx2.8/36, Error ellipse: s-maj=32.0km s-min=14.2km az=84.0*

ISC 11 00:20:00.5±1.7, 37°.20N±0°.04×141°.62E±0°.06, h9km±10km, n29, σ1s09/31, mb3.9/6, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JFK	**Kawauchi**	**0.62**	**286**	P	**Pg**	**00 20 12.6**	**+0.2**
JFK				S	**Sg**	**00 20 21.2**	**+0.7**
ONAJ	**Iwakimizuishiy**	**0.66**	**262**	P	**Pg**	**00 20 13.3**	**0.0**
ONAJ				S	**Sb**	**00 20 23.1**	**-0.4**
JMM	**Marumori**	**0.94**	**316**	P	**Pg**	**00 20 17.9**	**-0.6**
JMM				S	**Sg**	**00 20 30.7**	**0.0**
JHO	**Hitachi**	**1.02**	**236**	P	**Pg**	**00 20 18.6**	**-1.6**
JHO				S	**Sb**	**00 20 32.7**	**-1.2**
JFT	**Otama**	**1.07**	**288**	P	**Pb**	**00 20 20.5**	**-0.7**
JFT				S	**Sg**	**00 20 35.2**	**+0.2**
JIO	**Ouri**	**1.27**	**350**	P	**Pn**	**00 20 22.9**	**-1.5**
JIO				*e*S	**Sb**	**00 20 40.2**	**-0.9**
JOU	**Okura**	**1.39**	**327**	P	**Pn**	**00 20 25.6**	**-0.5**
JOU				*e*S	**Sn**	**00 20 44.4**	**-0.2**
JFY	**Yanaizu**	**1.54**	**278**	P	**Pn**	**00 20 27.8**	**-0.3**
JFY				*e*S	**Sn**	**00 20 47.9**	**-0.3**
JYS	**Shirataka**	**1.60**	**310**	P	**Pn**	**00 20 28.8**	**-0.2**
JMK	**Ichinoseki**	**1.78**	**350**	P	**Pn**	**00 20 30.9**	**-0.5**
MJAR	**Matsushiro Arr**	**2.81**	**258**	P	**Pn**	**00 20 46.2**	**+0.6**
	2.6nm,0.3s,baz=74,slow=9.2,SNR=34						
MAT	**Matsushiro**	**2.81**	**258**	P	**Pn**	**00 20 46.1**	**+0.5**
MAT				*e*S	**Sn**	**00 21 17.9**	**-1.7**
JHJ	**Hachijo jima 2**	**4.33**	**201**	P	**Pn**	**00 21 07.4**	**+0.8**
	13nm,0.3s,baz=100,slow=17,SNR=3.6						
JHJ				S	**Sn**	**00 21 55.6**	**-1.5**
	21nm,0.3s,baz=247,slow=23,SNR=6.6						
USRK	**Ussuriysk Ar.**	**10.11**	**317**	P	**Pn**	**00 22 28.7**	**+2.9**
	0.2nm,0.3s,baz=265,slow=17,SNR=5.2						
KSRS	**Korea Array**	**10.91**	**275**	P	**Pn**	**00 22 39.4**	**+2.6**
	0.1nm,0.3s,baz=92,slow=17,SNR=3.2						
KSRS				LR	LR	00 26 14.2	
	comp=Z,59nm,21.0s,baz=68,slow=34						
SONM	**Songino Array**	**27.83**	**304**	P	**P**	**00 25 50.2**	**0.0**
	0.9nm,0.7s,baz=98,slow=7.7,SNR=6.5						
H11N2	**WAKE ISLAND Hy**	**28.09**	**121**	T	T	00 55 13.7	
	baz=314,slow=75,SNR=286						
H11N1	**WAKE ISLAND Hy**	**28.10**	**121**	T	T	00 55 14.9	
	baz=314,slow=75,SNR=272						
H11N3	**WAKE ISLAND Hy**	**28.11**	**121**	T	T	00 55 16.8	
	baz=314,slow=75,SNR=248						
H11S1	**WAKE ISLAND Hy**	**28.81**	**123**	T	T	00 56 06.8	
	baz=316,slow=76,SNR=192						
H11S3	**WAKE ISLAND Hy**	**28.81**	**123**	T	T	00 56 08.1	
	baz=316,slow=76,SNR=169						
H11S2	**WAKE ISLAND Hy**	**28.83**	**123**	T	T	00 56 08.5	
	baz=316,slow=76,SNR=156						
ZALV	**Zalesovo Beam**	**41.93**	**312**	P	**P**	**00 27 50.9**	**-0.2**
	1.9nm,0.8s,baz=90,slow=7.4,SNR=8.7						
NRIK	**Noril'sk**	**43.19**	**335**	LR	LR	00 46 58.8	
	comp=Z,45nm,18.2s,baz=180,slow=37						
ILAR	**Eielson Array**	**49.27**	**32**	P	**P**	**00 28 49.1**	**0.0**
	1.1nm,0.8s,baz=275,slow=6.8,SNR=11						
WRA	**Warramunga Arr**	**57.24**	**188**	P	**P**	**00 29 47.4**	**-0.8**
	0.9nm,0.6s,baz=5.5,slow=7.5,SNR=7.0						
ASAR	**Alice Springs**	**60.97**	**188**	P	**P**	**00 30 14.2**	**+0.2**
	1.0nm,0.7s,baz=9.5,slow=6.4,SNR=8.9						
RAO	**Raoul Island**	**76.22**	**144**	LR	LR	01 03 01.3	
	comp=Z,102nm,19.2s,baz=232,slow=34						
TXAR	**Lajitas Array**	**89.89**	**52**	P	**P**	**00 33 00.8**	**+0.6**
	0.4nm,0.8s,baz=308,slow=6.2,SNR=3.4						

MEX 11 00:40:54.9±0.5, 16°.31N×93°.86W, h109km±8km, MD3.8, Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TGIG		**0.84**	**57**	*e*P	Pn	00 41 13.3	-1.2
TGIG				*e*S	Sn	00 41 27.6	-1.7
CCIG	**Comitan**	**1.65**	**91**	*e*P	Pn	00 41 22.4	-1.3
CCIG				*e*S	Sn	00 41 43.7	-1.8
HUIG	**Huatulco**	**2.23**	**256**	*e*P	Pn	00 41 28.8	-2.0
HUIG				*e*S	Sn	00 41 57.0	-1.3
VHO	**Vista Hermosa**	**2.86**	**286**	*i*P	Pn	00 41 37.8	-1.4
VHO				*i*S	Sn	00 42 12.0	-1.2
TPIG	**Tehuac#an**	**3.95**	**303**	*e*P	Pn	00 41 51.8	-1.9
TPIG				*e*S	Sn	00 42 37.8	-1.4
PNIG	**Pinotepa**	**4.10**	**272**	*e*P	Pn	00 41 54.5	-1.1
PNIG				*i*S	Sn	00 42 40.5	-2.2

CASC 11 00:40:56.1±1.8, 12°.07N×87°.96W, h20km±15km, MD3.6, ML2.5, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CNCH	**Conchagua**	**1.20**	**6**	*e*P	Pn	00 41 17.6	-0.3
CNCH				*e*S	Sn	00 41 33.9	+0.2
CNGN	**Cerro Negro**	**1.30**	**71**	*e*P	Pn	00 41 19.2	0.0
CNGN				*e*S	Sb	00 41 38.6	+2.4
COPN	**Copaltepe**	**1.34**	**85**	*e*P	Pn	00 41 18.9	-0.8
COPN				AML	AML	00 41 32.2	
	comp=Z,64nm,0.3s						
MOMN	**Momotombo**	**1.42**	**76**	*e*P	Pn	00 41 19.6	-1.2
MOMN				*e*S	Sn	00 41 39.2	+0.1
PACA	**Pacayal**	**1.43**	**346**	*e*P	Pn	00 41 21.1	0.0
PACA				*e*S	Sb	00 41 40.0	-0.2
CAHU	**Cacacuatique**	**1.71**	**352**	*e*P	Pn	00 41 25.5	+0.5
LFRS	**El Faro**	**1.88**	**325**	*e*P	Pn	00 41 27.9	+0.7
LFRS				*e*S	Sn	00 41 51.4	+0.9
TGUH	**Tegucigalpa,Un**	**2.08**	**19**	*e*P	Pn	00 41 29.5	-0.4

GUC 11 00:44:41.6±0.7, 21°.28S×70°.44W, h48km±1km, ML3.6, 3C-5D, Near coast of northern Chile

| Code | Station Name | Δ° | AZ° | Phase ID Op | ISC | Time h m s | Res ISC |
|---|---|---|---|---|---

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NISR	**Nisiros**	**0.49**	**121**	P	**Pb**	**00 52 53.3**	**+0.7**
NISR				S	**Sg**	**00 52 59.2**	**+0.3**
NISR	**Nisiros**	**0.49**	**121**	P	**Pb**	**00 52 53.4**	**+0.7**
NISR				S	**Sg**	**00 52 59.3**	**+0.3**
NISR				AML	AML	00 53 00.6	
	comp=N,564μm,0.3s						
NISR				AML	AML	00 53 00.7	
	comp=E,1005μm,0.3s						
NIS1	**Nisyros Isl.**	**0.53**	**119**	*e*PG	**Pg**	**00 52 52.8**	**-0.2**
NIS1				*e*SG	**Sg**	**00 53 00.7**	**+0.5**
NIS1	**Nisyros Isl.**	**0.53**	**119**	P	**Pg**	**00 52 52.9**	**-0.1**
NIS1				S	**Sg**	**00 53 00.7**	**+0.5**
NIS1	**Nisyros Isl.**	**0.53**	**119**	P	**Pg**	**00 52 52.9**	**-0.1**
NIS1				S	**Sg**	**00 53 00.7**	**+0.5**
NIS1	**Nisyros Isl.**	**0.53**	**119**	P	**Pb**	**00 52 54.0**	**+0.7**
NIS1				S	**Sb**	**00 53 01.0**	**+0.2**
NIS1				AML	AML	00 53 03.2	
	comp=E,413μm,0.3s						
NIS1				AML	AML	00 53 03.7	
	comp=N,360μm,0.3s						
BODT	**Bodrum**	**0.60**	**71**	*e*PG	**Pg**	**00 52 54.1**	**-0.1**
BODT				*e*SG	**Sb**	**00 53 03.2**	**+0.4**
BODT	**Bodrum**	**0.60**	**71**	P	**Pg**	**00 52 54.0**	**-0.3**
BODT				S	**Sb**	**00 53 02.7**	**-0.1**
BODT	**Bodrum**	**0.60**	**71**	*e*Pg	**Pg**	**00 52 54.2**	**-0.1**
BODT				S	**Sb**	**00 53 02.7**	**-0.1**
BODT				*e*Sg	**Sb**	**00 53 03.2**	**+0.4**
BDRM	**Kayabasi**	**0.71**	**73**	*i* P	**Pb**	**00 52 56.4**	**+0.1**
BDRM				*i* S	**Sb**	**00 53 06.0**	**+0.2**
BDRM	**Kayabasi**	**0.71**	**73**	P	**Pb**	**00 52 56.4**	**+0.1**
BDRM				S	**Sb**	**00 53 06.0**	**+0.2**
DAT	**Datca**	**0.80**	**99**	*e*PG	**Pg**	**00 52 57.8**	**-0.1**
DAT				*e*SG	**Sb**	**00 53 09.4**	**+0.9**
DAT	**Datca**	**0.80**	**99**	*i* P	**Pg**	**00 52 57.8**	**-0.1**
DAT				*i* S	**Sb**	**00 53 09.4**	**+0.9**
DAT	**Datca**	**0.80**	**99**	P	**Pg**	**00 52 57.8**	**-0.1**
DAT				*e*Sg	**Sb**	**00 53 09.4**	**+0.9**
SMG	**Samos**	**0.86**	**13**	P	**Pg**	**00 52 58.0**	**-1.2**
SMG				S	**Sb**	**00 53 10.4**	**+0.1**
SMG	**Samos**	**0.86**	**13**	P	**Pg**	**00 52 58.8**	**-0.4**
SMG				S	**Sb**	**00 53 10.5**	**+0.1**
SMG	**Samos**	**0.86**	**13**	P	**Pg**	**00 52 58.7**	**-0.5**
SMG				S	**Sb**	**00 53 10.4**	**+0.1**
SMG				AML	AML	00 53 14.0	
	comp=E,286μm,0.3s						
SMG				AML	AML	00 53 14.5	
	comp=N,306μm,0.2s						
APE	**Apeiranthos**	**0.88**	**284**	*e*PG	**Pg**	**00 52 59.0**	**-0.4**
APE				*e*SG	**Sb**	**00 53 11.6**	**+0.9**
APE	**Apeiranthos**	**0.88**	**284**	P	**Pg**	**00 52 58.9**	**-0.6**
APE				S	**Sb**	**00 53 11.7**	**+0.9**
APE	**Apeiranthos**	**0.88**	**284**	P	**Pg**	**00 52 58.5**	**-1.0**
APE	**Apeiranthos**	**0.88**	**284**	*e*Pg	**Pg**	**00 52 59.1**	**-0.4**
APE				*e*Sg	**Sb**	**00 53 11.6**	**+0.9**
APE	**Apeiranthos**	**0.88**	**284**	P	**Pg**	**00 52 58.5**	**-1.0**
APE				S	**Sb**	**00 53 11.8**	**+1.0**
APE				AML	AML	00 53 12.8	
	comp=N,337μm,0.4s						
APE				AML	AML	00 53 13.8	
	comp=E,219μm,0.3s						
GCAM	**G?zelcaml?**	**0.98**	**31**	*i* P	**Pg**	**00 53 00.9**	**-0.4**
GCAM				*i* S	**Sn**	**00 53 15.2**	**+0.4**
GCAM	**G?zelcaml?**	**0.98**	**31**	P	**Pg**	**00 53 00.9**	**-0.4**
GCAM				S	**Sn**	**00 53 15.2**	**+0.4**
SAP2K	**Karterados**	**1.03**	**244**	P	**Pn**	**00 53 03.8**	**+1.7**
MLSB	**Milas**	**1.04**	**65**	*e*PG	**Pb**	**00 53 02.2**	**+0.3**
MLSB				*e*SG	**Sn**	**00 53 17.3**	**+1.0**
MLSB	**Milas**	**1.04**	**65**	*e*Pg	**Pb**	**00 53 02.2**	**+0.3**
MLSB				*e*Sg	**Sn**	**00 53 17.3**	**+1.0**
SANT	**Santorini**	**1.04**	**242**	P	**Pn**	**00 53 02.9**	**+0.6**
SANT	**Santorini**	**1.04**	**242**	P	**Pn**	**00 53 02.9**	**+0.6**
THR3	**Thira Island,**	**1.06**	**245**	P	**Pg**	**00 53 01.7**	**-1.3**
THR3	**Thira Island,**	**1.06**	**245**	P	**Pg**	**00 53 01.7**	**-1.3**
THR6	**Thira Island,**	**1.09**	**243**	P	**Pb**	**00 53 02.2**	**-0.6**
THR6	**Thira Island,**	**1.09**	**243**	P	**Pb**	**00 53 02.2**	**-0.6**
SAP1	**Santorini-Akro**	**1.09**	**243**	P	**Pn**	**00 53 04.8**	**+1.9**
THR5	**Thira Island,**	**1.10**	**246**	P	**Pb**	**00 53 02.4**	**-0.6**
THR5	**Thira Island,**	**1.10**	**246**	P	**Pb**	**00 53 02.4**	**-0.6**
DGB	**˜zmir**	**1.21**	**11**	*i* P	**Pg**	**00 53 05.3**	**-0.4**
DGB				*i* S	**Sn**	**00 53 21.4**	**+0.9**
ZEY	**˜zmir**	**1.37**	**357**	*i* P	**Pn**	**00 53 07.2**	**+0.4**
ZEY				*i* S	**Sb**	**00 53 25.1**	**+0.2**
KARP	**Karpathos**	**1.39**	**161**	P	**Pn**	**00 53 06.6**	**-0.5**
KARP	**Karpathos**	**1.39**	**161**	P	**Pn**	**00 53 06.5**	**-0.5**
AYDB	**Zeytinkoy-Aydi**	**1.49**	**43**	*e*PN	**Pb**	**00 53 09.8**	**+0.1**
AYDB				*e*SN	**Sg**	**00 53 30.3**	**-0.3**
AYDB	**Zeytinkoy-Aydi**	**1.49**	**43**	*e*Pn	**Pb**	**00 53 09.8**	**+0.1**
AYDB				*e*Sn	**Sg**	**00 53 30.3**	**-0.3**
URLA	**Izmir**	**1.49**	**360**	*e*PN	**Pb**	**00 53 10.0**	**+0.3**
URLA	**Izmir**	**1.49**	**360**	*e*Pn	**Pb**	**00 53 10.0**	**+0.3**
TURN	**Turunc**	**1.61**	**89**	*i* P	**Pn**	**00 53 07.0**	**-3.0**
TURN				*i* S	**Sn**	**00 53 25.6**	**-4.8**
TURN	**Turunc**	**1.61**	**89**	P	**Pn**	**00 53 07.0**	**-3.0**
DALY	**Dalyan (Mu˘la**	**1.65**	**91**	*e*PN	**Pb**	**00 53 12.4**	**+0.1**
DALY	**Dalyan (Mu˘la**	**1.65**	**91**	*e*Pn	**Pb**	**00 53 12.4**	**+0.1**
FETY	**Fethiye**	**2.01**	**96**	*e*PN	**Pn**	**00 53 17.2**	**+1.6**
FETY	**Fethiye**	**2.01**	**96**	*e*Pn	**Pn**	**00 53 17.2**	**+1.6**

*SJA **11** 00:56:17.9±0.5, 32°.39S×71°.39W, h4km±4km, ML3.2, MW3.2*
*GUC **11** 00:56:19.1±0.6, 32°.52S×71°.42W, h43km±3km, ML3.3*
ISC 11 00:56:17.1±3.4, **32°.49S**±0°.08×**71°.6W**±0°.2, **h22**km±11km, **n12**, σ0s**62**/19, **Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ROC1	**El Roble**	**0.69**	**135**	*i* P	**Pn**	**00 56 32.1**	**+0.3**
ROC1				*i* S	**Sn**	**00 56 42.2**	**+0.1**
ROCH	**El Roble**	**0.69**	**134**	*e*P	**Pn**	**00 56 32.1**	**+0.3**
ROCH				*i* S	**Sn**	**00 56 41.8**	**-0.3**
ROCH				IAML		00 56 43.3	
	comp=E,1μm,0.1s						
PEL	**Peldehue**	**1.01**	**131**	*e*P	**Pn**	**00 56 36.3**	**+0.2**
PEL				*i* S	**Sn**	**00 56 49.5**	**-0.1**
PEL				IAML		00 56 50.6	
	comp=N,3μm,0.2s						
CLCH	**Cerro Calan**	**1.27**	**136**	*e*P	**Pb**	**00 56 40.6**	**+0.1**
CLCH				*i* S	**Sb**	**00 56 56.6**	**+0.1**
CLCH				IAML		00 56 58.1	
	comp=N,1μm,0.4s						
ANTU	**Antumapu**	**1.35**	**143**	*i* S	**Sb**	**00 56 58.7**	**0.0**
FCH	**Farellones**	**1.39**	**128**	*e*P	**Pb**	**00 56 42.4**	**-0.2**
FCH				*i* S	**Sb**	**00 57 00.0**	**+0.1**
FCH				IAML		00 57 00.6	
	comp=N,2μm,0.2s						
AUSP	**Uspallata**	**1.89**	**83**	*i* P	**Pb**	**00 56 50.7**	**-0.4**
AUSP				*i* S	**Sb**	**00 57 15.8**	**+1.4**
RTLS	**Leoncito**	**2.07**	**71**	*i* P	**Pb**	**00 56 53.7**	**-0.4**
RTLS				*i* S	**Sb**	**00 57 20.2**	**+0.6**
ARCO	**CERRO ARCO**	**2.28**	**100**	*i* P	**Pb**	**00 56 57.0**	**-0.6**
ARCO				*i* S	**Sb**	**00 57 25.6**	**+0.1**
ARCO				IAML		00 57 45.2	
	comp=Z,96nm,0.5s						
ASAL	**Salagasta**	**2.34**	**93**	*i* P	**Pb**	**00 56 57.3**	**-1.3**
AAGR	**Agrelo**	**2.41**	**105**	*i* P	**Pb**	**00 56 59.0**	**-0.8**
AVFE	**Valle Fertil**	**3.98**	**64**	IAML		00 58 16.2	
	comp=Z,54nm,0.5s						

GUC 11 01:06:42.8±0.4, **22°.75S**×**69°.14W**, **h91**km±2km, **ML4.0, 7C-3D, Northern Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB06	**IPOC Station P**	**0.40**	**276**	*i* P	Pn	01 06 57.5	+0.4
PB06				*i* S	Sn	01 07 08.6	+0.8
PB06				IAML		01 07 09.5	
	comp=N,4μm,0.1s						
PB09	**IPOC Station P**	**0.95**	**354**	*i* P	Pn	01 07 02.9	+0.7
PB09				*i* S	Sn	01 07 17.5	+0.8
PB09				IAML		01 07 18.3	
	comp=N,6μm,0.2s						
PB04	**IPOC Station P**	**1.02**	**294**	*i* P	Pn	01 07 03.7	+0.7
PB04				*i* S	Sn	01 07 19.3	+1.2
PB07	**IPOC Station P**	**1.23**	**326**	*i* P	Pn	01 07 06.2	+0.7
PB07				*i* S	Sn	01 07 23.5	+1.0
PB07				IAML		01 07 25.1	
	comp=E,3μm,0.1s						
ANCH	**Antofagasta**	**1.50**	**231**	*i* P	Pn	01 07 10.8	+2.2
ANCH				*i* S	Sn	01 07 30.7	+2.7
PB10	**IPOC Station P**	**1.51**	**239**	*i* P	Pn	01 07 09.2	+0.4
PB10				*i* S	Sn	01 07 29.2	+0.8
PB10				IAML		01 07 35.5	
	comp=N,4μm,0.8s						
PB02	**IPOC Station P**	**1.58**	**333**	*i* P	Pn	01 07 10.6	+0.8
PB02				*i* S	Sn	01 07 31.5	+1.3
PB01	**IPOC Station P**	**1.73**	**349**	*i* P	Pn	01 07 12.1	+0.5
PB01				*i* S	Sn	01 07 34.7	+1.3
PATCX	**Punta Patache**	**2.14**	**334**	*i* P	Pn	01 07 16.6	-0.3
PB14	**IPOC Station P**	**2.20**	**212**	*i* P	Pn	01 07 19.2	+1.2
PB14				*i* S	Sn	01 07 46.9	+2.0
PB14				IAML		01 07 53.2	
	comp=E,2μm,0.7s						
PB08	**IPOC Station P**	**2.59**	**360**	*i* P	Pn	01 07 23.7	+0.5
PB11	**IPOC Station P**	**3.01**	**351**	*e*P	Pn	01 07 28.0	-0.7

*DDA **11** 01:18:17.0, 38°.50N×31°.82E, h7km, Md2.6*
*CSEM **11** 01:18:17.4±0.2, 38°.47N×31°.79E, h10km, MD2.6, Error ellipse: s-maj=4.7km s-min=3.4km az=41.0*
*ISK **11** 01:18:17.0, 38°.45N×31°.77E, h9km, MD2.8*
ISC 11 01:18:16.9±1.1, **38°.48N**±0°.03×**31°.79E**±0°.03, **h9**km±10km, **n23**, σ0s**32**/40, **Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KDHN	**Kadinhani**	**0.26**	**80**	*i* P	**Pg**	**01 18 22.2**	**0.0**
KDHN				*i* S	**Sg**	**01 18 25.7**	**0.0**
KDHN	**Kadinhani**	**0.26**	**80**	P	**Pg**	**01 18 22.2**	**0.0**
KDHN				S	**Sg**	**01 18 25.7**	**0.0**
KIZT	**Kizilcal**	**0.41**	**10**	*e*PG	**Pb**	**01 18 26.1**	**-0.3**
KIZT	**Kizilcal**	**0.41**	**10**	*e*Pg	**Pb**	**01 18 26.1**	**-0.3**
KONT	**Konya--Tatoy**	**0.69**	**140**	*e*PG	**Pg**	**01 18 30.3**	**0.0**
KONT				*e*SG	**Sb**	**01 18 40.2**	**-0.7**
KONT	**Konya--Tatoy**	**0.69**	**140**	*i* P	**Pg**	**01 18 30.5**	**+0.2**
KONT				*i* S	**Sb**	**01 18 40.4**	**-0.6**
KONT	**Konya--Tatoy**	**0.69**	**140**	*e*Pg	**Pg**	**01 18 30.3**	**0.0**
KONT				*e*Sg	**Sb**	**01 18 40.2**	**-0.7**
BOLV	**Bolvadin**	**0.70**	**290**	*i* P	**Pb**	**01 18 31.5**	**0.0**
BOLV				*i* S	**Sb**	**01 18 40.8**	**-0.5**
BOLV	**Bolvadin**	**0.70**	**290**	P	**Pb**	**01 18 31.5**	**0.0**
BOLV				S	**Sb**	**01 18 40.8**	**-0.5**
KMER	**Konya-Meram**	**0.84**	**147**	*i* P	**Pn**	**01 18 35.2**	**+0.1**
KMER				*i* S	**Sb**	**01 18 45.9**	**+0.6**
KMER	**Konya-Meram**	**0.84**	**147**	P	**Pn**	**01 18 35.2**	**+0.1**
KMER				S	**Sb**	**01 18 45.8**	**+0.6**
CHBY	**Cihanbeyli**	**0.87**	**83**	*e*PG	**Pb**	**01 18 34.4**	**+0.1**
CHBY	**Cihanbeyli**	**0.87**	**83**	*e*Pg	**Pb**	**01 18 34.4**	**+0.1**
SHUT	**Suhut-Afyon**	**0.98**	**275**	*e*PG	**Pb**	**01 18 36.0**	**-0.1**
SHUT				*e*SG	**Sb**	**01 18 49.7**	**+0.6**
SHUT	**Suhut-Afyon**	**0.98**	**275**	*e*Pg	**Pb**	**01 18 36.0**	**-0.1**
SHUT				*e*Sg	**Sb**	**01 18 49.7**	**+0.6**
SVRH	**Sivrihisar-ESK**	**0.99**	**348**	*e*PG	**Pb**	**01 18 36.5**	**+0.1**
SVRH				*e*SG	**Sn**	**01 18 51.4**	**0.0**
SVRH	**Sivrihisar-ESK**	**0.99**	**348**	*e*Pg	**Pb**	**01 18 36.5**	**+0.1**
SVRH				*e*Sg	**Sn**	**01 18 51.4**	**0.0**
SUTC	**Sutluce-Ispart**	**1.18**	**212**	*e*PN	**Pb**	**01 18 39.4**	**-0.2**
SUTC				*e*SN	**Sn**	**01 18 55.8**	**-0.2**
SUTC	**Sutluce-Ispart**	**1.18**	**212**	*e*Pn	**Pb**	**01 18 39.4**	**-0.2**
SUTC				*e*Sn	**Sn**	**01 18 55.8**	**-0.2**
SULT	**Sultanhani-AKS**	**1.38**	**101**	*e*PN	**Pb**	**01 18 43.2**	**+0.2**
SULT	**Sultanhani-AKS**	**1.38**	**101**	*e*Pn	**Pb**	**01 18 43.2**	**+0.2**
HDMB	**Hadim**	**1.61**	**160**	*e*PN	**Pn**	**01 18 45.9**	**+0.2**
HDMB				*e*SN	**Sb**	**01 19 07.3**	**-0.1**
HDMB	**Hadim**	**1.61**	**160**	*e*Pn	**Pn**	**01 18 45.9**	**+0.2**
HDMB				*e*Sn	**Sb**	**01 19 07.3**	**-0.1**

*DDA **11** 01:18:29.9, 38°.71N×40°.23E, h7km, Md2.6*
*CSEM **11** 01:18:30.6±0.3, 38°.77N×40°.25E, h10km, MD2.8, Error ellipse: s-maj=8.0km s-min=6.5km az=34.0*
*ISK **11** 01:18:30.0, 38°.83N×40°.26E, h14km, MD2.8*
ISC 11 01:18:31.2±0.9, **38°.81N**±0°.03×**40°.26E**±0°.03, **h29**km±8km, **n20**, σ1s**07**/36, **Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BINT	**Bingol**	**0.19**	**69**	*e*Pg	**Pb**	**01 18 38.0**	**+0.6**
BINT				*e*Sg	**Sb**	**01 18 43.4**	**+1.7**
BNGB	**Bing˜l**	**0.38**	**61**	*e*PG	**Pb**	**01 18 38.0**	**-1.8**
BNGB				*e*SG	**Sb**	**01 18 43.4**	**-2.3**
TNCL	**Tunceli-Merkez**	**0.64**	**299**	*i* P	**Pb**	**01 18 43.0**	**-0.9**
TNCL				*i* S	**Sb**	**01 18 52.4**	**-0.3**
TNCL	**Tunceli-Merkez**	**0.64**	**299**	P	**Pb**	**01 18 43.0**	**-0.9**
TNCL				S	**Sb**	**01 18 52.4**	**-0.3**
YEDI	**Yedisu-Bingol**	**0.67**	**19**	*e*PG	**Pb**	**01 18 43.1**	**-1.4**
YEDI				*e*SG	**Sb**	**01 18 52.5**	**-1.0**
YEDI	**Yedisu-Bingol**	**0.67**	**19**	*e*Pg	**Pb**	**01 18 43.1**	**-1.4**
YEDI				*e*Sg	**Sb**	**01 18 52.5**	**-1.0**
PTK	**Pertek**	**0.68**	**277**	*e*PG	**Pb**	**01 18 43.5**	**-1.3**
PTK				*e*SG	**Sb**	**01 18 53.8**	**-0.2**
PTK	**Pertek**	**0.68**	**277**	*e*Pg	**Pb**	**01 18 43.5**	**-1.3**
PTK				*e*Sg	**Sb**	**01 18 53.8**	**-0.2**
BNGL	**BINGOL**	**0.71**	**78**	*i* P	**Pb**	**01 18 44.8**	**+0.5**
BNGL				*i* S	**Sb**	**01 18 55.4**	**+0.6**
SVRC	**Sivrice-ELAZID**	**0.86**	**240**	*e*PG	**Pn**	**01 18 47.5**	**-0.1**
SVRC				*e*SG	**Sn**	**01 19 00.1**	**+0.9**
SVRC	**Sivrice-ELAZID**	**0.86**	**240**	*e*Pg	**Pn**	**01 18 47.5**	**-0.1**
SVRC				*e*Sg	**Sn**	**01 19 00.1**	**+0.9**
ERZN	**Erzincan**	**0.88**	**332**	*e*PG	**Pb**	**01 18 47.1**	**-1.0**
ERZN				*e*SG	**Sb**	**01 18 59.8**	**+0.2**
SVAN	**Silvan-Diyarba**	**0.99**	**131**	*e*PG	**Pn**	**01 18 49.5**	**+0.4**
SVAN	**Silvan-Diyarba**	**0.99**	**131**	*e*Pg	**Pn**	**01 18 49.6**	**+0.4**
EUZM	**Uzumlu**	**1.00**	**334**	*i* P	**Pn**	**01 18 50.6**	**+1.2**
EUZM				*i* S	**Sn**	**01 19 04.1**	**+1.5**
EUZM	**Uzumlu**	**1.00**	**334**	P	**Pn**	**01 18 50.6**	**+1.2**
EUZM				S	**Sn**	**01 19 04.1**	**+1.5**
BTMN	**Batman**	**1.21**	**139**	*i* P	**Pn**	**01 18 51.8**	**-0.5**
BTMN				*i* S	**Sn**	**01 19 08.6**	**+0.9**
BTMN	**Batman**	**1.21**	**139**	P	**Pn**	**01 18 51.8**	**-0.5**
BTMN				S	**Sn**	**01 19 08.6**	**+0.9**
MAZI	**Mazidag**	**1.35**	**174**	*e*PN	**Pb**	**01 18 55.4**	**-0.6**
MAZI	**Mazidag**	**1.35**	**174**	*e*Pn	**Pb**	**01 18 55.4**	**-0.6**

*DDA **11** 01:19:09.3, 38°.49N×31°.80E, h7km, Md2.6*
*ISK **11** 01:19:10.2, 38°.57N×32°.12E, h18km, MD2.5*
*CSEM **11** 01:19:10.7±0.2, 38°.57N×32°.12E, h19km, MD2.6, Error ellipse: s-maj=6.3km s-min=3.2km az=57.0*
*ISCJB **11** 01:19:11.6±0.8, 38°.58N±0°.04×32°.13E±0°.07, h21km±8km, Error ellipse: s-maj=10.6km s-min=5.0km az=152.8*
ISC 11 01:19:10.6±1.0, **38°.54N**±0°.03×**31°.97E**±0°.04, **h25**km±6km, **n13**, σ1s**66**/26, **Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KDHN	**Kadinhani**	**0.12**	**97**	*i* P	**Pb**	**01 19 14.8**	**-0.7**
KDHN				*i* S	**Sb**	**01 19 18.4**	**-0.4**
KDHN	**Kadinhani**	**0.12**	**97**	P	**Pb**	**01 19 14.8**	**-0.7**
KDHN				S	**Sb**	**01 19 18.4**	**-0.4**
KIZT	**Kizilcal**	**0.35**	**349**	*e*PG	**Pb**	**01 19 18.3**	**-0.2**
KIZT				*e*SG	**Sb**	**01 19 24.1**	**+0.2**
KIZT	**Kizilcal**	**0.35**	**349**	*e*Pg	**Pb**	**01 19 18.3**	**-0.2**
KIZT				*e*Sg	**Sb**	**01 19 24.1**	**+0.2**
KONT	**Konya--Tatoy**	**0.66**	**152**	*e*PG	**Pb**	**01 19 23.2**	**-0.4**
KONT				*e*SG	**Sb**	**01 19 32.6**	**+0.2**
KONT	**Konya--Tatoy**	**0.66**	**152**	*i* P	**Pb**	**01 19 23.0**	**-0.6**
KONT				*i* S	**Sb**	**01 19 32.9**	**+0.4**
KONT	**Konya--Tatoy**	**0.66**	**152**	*e*Pg	**Pb**	**01 19 23.2**	**-0.4**
KONT				*e*Sg	**Sb**	**01 19 32.6**	**+0.2**
CHBY	**Cihanbeyli**	**0.72**	**86**	*e*PG	**Pb**	**01 19 22.6**	**-2.0**
CHBY				*e*SG	**Sb**	**01 19 31.6**	**-2.6**
CHBY	**Cihanbeyli**	**0.72**	**86**	*e*Pg	**Pb**	**01 19 22.6**	**-2.0**
CHBY				*e*Sg	**Sb**	**01 19 31.6**	**-2.6**
BOLV	**Bolvadin**	**0.82**	**283**	*i* P	**Pb**	**01 19 24.0**	**-2.3**
BOLV				*i* S	**Sb**	**01 19 32.8**	**-4.2**
KMER	**Konya-Meram**	**0.83**	**158**	*i* P	**Pn**	**01 19 28.4**	**+1.5**
KMER				*i* S	**Sn**	**01 19 38.3**	**0.0**
SVRH	**Sivrihisar-ESK**	**0.97**	**339**	*e*PG	**Pn**	**01 19 29.8**	**+1.0**
SVRH				*e*SG	**Sn**	**01 19 44.1**	**+2.2**
SVRH	**Sivrihisar-ESK**	**0.97**	**339**	*e*Pg	**Pn**	**01 19 29.8**	**+1.0**
SVRH				*e*Sg	**Sn**	**01 19 44.1**	**+2.2**

*ISK **11** 01:26:40.7, 39°.22N×28°.97E, h14km, MD2.4*
*DDA **11** 01:26:41.5, 39°.14N×29°.10E, h7km, Md2.6*
*ISCJB **11** 01:26:42.0±0.7, 39°.11N±0°.05×29°.12E±0°.07, h8km±8km, Error ellipse: s-maj=11.2km s-min=5.7km az=43.5*

*CSEM **11** 01:26:42.0±0.1, 39°.14N×29°.07E, h12km, MD2.4, Error ellipse: s-maj=6.0km s-min=1.5km az=135.0*
ISC 11 01:26:41.2±1.0, **39°.11N**±0°.05×**29°.09E**±0°.05, **h17**km±4km, **n12**, σ1s**66**/23, **Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIMA	**Simav-Kutahya**	**0.09**	**255**	*e*PG	**Pb**	**01 26 45.1**	**+0.3**
SIMA				*e*SG	**Sg**	**01 26 47.3**	**+0.1**
SIMA	**Simav-Kutahya**	**0.09**	**255**	*e*Pg	**Pb**	**01 26 45.1**	**+0.3**
SIMA				*e*Sg	**Sg**	**01 26 47.3**	**+0.1**
DEMI	**Demirci**	**0.30**	**258**	*i* P	**Pb**	**01 26 48.4**	**+0.3**
DEMI				*i* S	**Sb**	**01 26 52.8**	**0.0**
DEMI	**Demirci**	**0.30**	**258**	P	**Pb**	**01 26 48.4**	**+0.3**
DEMI				S	**Sb**	**01 26 52.8**	**0.0**
TVSB	**Tavsanli**	**0.45**	**40**	*e*PG	**Pb**	**01 26 50.7**	**0.0**
TVSB				*e*SG	**Sg**	**01 26 56.0**	**-0.5**
TVSB	**Tavsanli**	**0.45**	**40**	*e*Pg	**Pb**	**01 26 50.7**	**0.0**
TVSB				*e*Sg	**Sg**	**01 26 56.0**	**-0.5**
KULA	**Kula-Manisa**	**0.68**	**210**	*e*PG	**Pb**	**01 26 55.5**	**+0.9**
KULA				*e*SG	**Sg**	**01 27 05.1**	**+1.5**
KULA	**Kula-Manisa**	**0.68**	**210**	*e*Pg	**Pb**	**01 26 55.5**	**+0.9**
KULA				*e*Sg	**Sg**	**01 27 05.1**	**+1.5**
MANT	**Manisa**	**0.74**	**214**	*i* P	Pg	01 26 49.4	-6.4
MANT				*i* S	**Sg**	**01 26 59.0**	**-6.7**
IGD	**Bursa**	**1.16**	**4**	*i* P	**Pg**	**01 27 03.7**	**0.0**
IGD				*i* S	**Sn**	**01 27 18.7**	**+0.6**
BORA	**Eskisehir**	**1.31**	**53**	*i* P	**Pg**	**01 27 06.4**	**0.0**
BORA				*i* S	**Sg**	**01 27 23.1**	**-0.4**
BORA	**Eskisehir**	**1.31**	**53**	P	**Pg**	**01 27 06.4**	**0.0**
BORA				S	**Sg**	**01 27 23.1**	**-0.4**

*ISK **11** 01:27:17.5, 38°.48N×31°.70E, h11km, MD2.6*
*CSEM **11** 01:27:18.1±0.3, 38°.43N×31°.75E, h2km, MD2.9, Error ellipse: s-maj=5.6km s-min=5.1km az=9.0*
*DDA **11** 01:27:18.0±1.1, 38°.45N×31°.80E, h7km, Md2.9*
ISC 11 01:27:18.0±1.1, **38°.45N**±0°.02×**31°.75E**±0°.02, **h5**km±10km, **n23**, σ0s**56**/44, **Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KDHN	**Kadinhani**	**0.29**	**75**	*i* P	**Pg**	**01 27 23.4**	**-0.4**
KDHN				*i* S	**Sg**	**01 27 27.4**	**-0.3**
KDHN	**Kadinhani**	**0.29**	**75**	P	**Pg**	**01 27 23.4**	**-0.4**
KDHN				S	**Sg**	**01 27 27.4**	**-0.3**
KIZT	**Kizilcal**	**0.44**	**13**	*e*PG	**Pg**	**01 27 26.1**	**-0.5**
KIZT				*e*SG	**Sg**	**01 27 32.9**	**+0.5**
KIZT	**Kizilcal**	**0.44**	**13**	*e*Pg	**Pg**	**01 27 26.1**	**-0.5**
KIZT				*e*Sg	**Sg**	**01 27 32.9**	**+0.5**
BOLV	**Bolvadin**	**0.69**	**294**	*i* P	**Pb**	**01 27 32.5**	**0.0**
BOLV				*i* S	**Sb**	**01 27 43.2**	**+0.8**
BOLV	**Bolvadin**	**0.69**	**294**	P	**Pb**	**01 27 32.5**	**0.0**
BOLV				S	**Sb**	**01 27 43.2**	**+0.8**
KONT	**Konya--Tatoy**	**0.69**	**136**	*i* P	**Pg**	**01 27 31.9**	**+0.6**
KONT				*i* S	**Sb**	**01 27 41.9**	**-0.6**
KMER	**Konya-Meram**	**0.83**	**144**	*i* P	**Pb**	**01 27 34.6**	**-0.4**
KMER				*i* S	**Sg**	**01 27 45.5**	**+0.7**
KMER	**Konya-Meram**	**0.83**	**144**	P	**Pb**	**01 27 34.7**	**-0.4**
KMER				S	**Sg**	**01 27 45.5**	**+0.7**
SHUT	**Suhut-Afyon**	**0.95**	**277**	*e*PG	**Pg**	**01 27 35.4**	**-0.8**
SHUT				*e*SG	**Sg**	**01 27 48.3**	**-0.2**
SHUT	**Suhut-Afyon**	**0.95**	**277**	*e*Pg	**Pg**	**01 27 35.4**	**-0.8**
SHUT				*e*Sg	**Sg**	**01 27 48.3**	**-0.2**
SVRH	**Sivrihisar-ESK**	**1.01**	**350**	*e*PG	**Pg**	**01 27 36.6**	**-0.9**
SVRH				*e*SG	**Sg**	**01 27 50.8**	**+0.2**

comp=N,8725µm,0.5s
KYTH AML AML 01 34 49.8
comp=E,11800µm,0.3s
KYTH Kithira 0.92 111 P Pn **01 34 27.2 +1.3**
KYTH S Sn **01 34 40.6 +2.4**
TRIP Tripoli 0.95 14 P Pn **01 34 26.5 +0.2**
TRIP S Sb **01 34 38.8 0.0**
TRIP Tripoli 0.95 14 P Pn **01 34 26.5 +0.2**
TRIP S Sb **01 34 38.9 0.0**
AMT Artemida-Makis 0.95 347 P Pb **01 34 26.2 -0.4**
AMT S Sn **01 34 41.0 +1.9**
AMT Artemida-Makis 0.95 347 P Pn **01 34 26.5 +0.2**
AMT S Sn **01 34 39.9 +0.8**
AMT Artemida-Makis 0.95 347 P Pn **01 34 26.5 +0.2**
AMT S Sn **01 34 39.9 +0.8**
AMT AML AML 01 34 44.2
comp=N,46524µm,0.7s
AMT AML AML 01 34 45.6
comp=E,48034µm,0.6s
ANKY Antikythira Is 1.29 124 P Pb **01 34 33.9 +1.6**
ANKY S Sb **01 34 52.5 +4.0**
ANKY Antikythira Is 1.29 124 P Pb **01 34 33.9 +1.6**
ANKY S Sb **01 34 50.2 +1.7**
ANKY Antikythira Is 1.29 124 P Pb **01 34 34.4 +2.1**
ANKY S Sb **01 34 50.2 +1.7**
ANKY AML AML 01 34 57.4
comp=N,5145µm,0.4s
ANKY AML AML 01 35 07.3
comp=E,6842µm,0.7s
ANKY Antikythira Is 1.29 124 P Pb **01 34 33.9 +1.6**
ANKY S Sb **01 34 52.5 +4.0**
DID Didima 1.35 48 P Pb **01 34 33.5 +0.2**
DID S Sb **01 34 52.1 +2.0**
DID Didima 1.35 48 P Pb **01 34 33.5 +0.2**
DID S Sb **01 34 52.1 +2.0**
DID Didima 1.35 48 P Pb **01 34 34.5 +1.2**
DID S Sb **01 34 53.0 +2.9**
DID AML AML 01 34 56.0
comp=E,7689µm,0.6s
DID AML AML 01 34 59.0
comp=N,5083µm,0.8s
DID Didima 1.35 48 P Pb **01 34 33.5 +0.2**
DID S Sb **01 34 52.1 +2.0**
DRO Drossia 1.36 351 P Pb **01 34 33.7 +0.1**
DRO S Sb **01 34 53.7 +3.1**
DRO Drossia 1.36 351 P Pb **01 34 33.4 -0.2**
DRO S Sb **01 34 53.7 +3.1**
DRO Drossia 1.36 351 P Pb **01 34 34.6 +1.1**
DRO S Sb **01 34 52.9 +2.3**
DRO AML AML 01 34 59.9
comp=N,20800µm,0.5s
DRO AML AML 01 35 02.0
comp=E,21864µm,0.4s
KLV Kalavryta, Ach 1.44 5 P Pn **01 34 33.6 +0.5**
KLV S Sb **01 34 54.6 +1.7**
KLV Kalavryta, Ach 1.44 5 P Pb **01 34 34.4 -0.5**
KLV S Sb **01 34 53.0 +0.1**
KLV Kalavryta, Ach 1.44 5 P Pb **01 34 34.4 -0.5**
KLV S Sb **01 34 53.0 +0.1**
KLV AML AML 01 35 00.1
comp=E,5327µm,0.5s
KLV AML AML 01 35 04.5
comp=N,4419µm,0.7s
KLV Kalavryta, Ach 1.44 5 P Pn **01 34 33.6 +0.5**
KLV S Sb **01 34 54.6 +1.7**
VTN Vitineika 1.46 334 P Pb **01 34 36.1 +1.0**
VTN Vitineika 1.46 334 P Pb **01 34 36.1 +1.0**
RLS Riolos of Patr 1.51 344 P Pb **01 34 36.0 0.0**
RLS S Sb **01 34 56.6 +1.9**
RLS Riolos of Patr 1.51 344 P Pb **01 34 36.0 0.0**
RLS S Sb **01 34 56.6 +1.9**
RLS Riolos of Patr 1.51 344 P Pb **01 34 36.4 +0.4**
RLS S Sb **01 34 56.0 +1.3**
RLS AML AML 01 35 05.2
comp=N,6450µm,0.5s
RLS AML AML 01 35 06.2
comp=E,8571µm,0.6s
RLS Riolos of Patr 1.51 344 P Pb **01 34 36.0 0.0**
RLS S Sb **01 34 56.6 +1.9**
THAL Thalero 1.53 20 P Pb **01 34 36.1 -0.2**
THAL S Sb **01 34 57.7 +2.4**
THAL Thalero 1.53 20 P Pb **01 34 36.1 -0.2**
THAL S Sb **01 34 57.7 +2.4**
THAL Thalero 1.53 20 P Pb **01 34 36.6 +0.2**
LOUT Loutraki 1.59 29 P Pb **01 34 37.8 +0.4**
LOUT S Sb **01 34 58.5 +1.4**
LOUT Loutraki 1.59 29 P Pb **01 34 37.8 +0.4**
LOUT S Sb **01 34 58.5 +1.4**
LTK Loutraki 1.62 29 P Pb **01 34 37.4 -0.5**
LTK Loutraki 1.62 29 P Pb **01 34 37.4 -0.5**
LTK Loutraki 1.62 29 P Pb **01 34 38.6 +0.7**
LTK Loutraki 1.62 29 P Pb **01 34 37.4 -0.5**
LAKA Lakka 1.63 360 P Pb **01 34 37.5 -0.7**
LAKA Lakka 1.63 360 P Pb **01 34 37.5 -0.7**
LAKA S Sb **01 34 59.0 +0.7**
LAKA Lakka 1.63 360 P Pb **01 34 37.6 -0.5**
LAKA S Sb **01 34 59.0 +0.7**
LAKA Lakka 1.63 360 P Pb **01 34 37.5 -0.7**
AXS Araxos 1.66 343 P Pb **01 34 38.3 -0.3**
AXS Araxos 1.66 343 P Pb **01 34 38.3 -0.3**
AXS Araxos 1.66 343 P Pb **01 34 39.0 +0.4**
AXS S Sb **01 35 00.6 +1.5**
UPR University Cam 1.68 355 S Sb **01 35 00.2 +0.4**
UPR University Cam 1.68 355 P Pb **01 34 39.9 +0.9**
UPR S Sb **01 35 00.2 +0.4**
TRIZ Trizonia 1.76 2 P Pb **01 34 40.3 0.0**
TRIZ S Sb **01 35 01.4 -0.5**
TRIZ Trizonia 1.76 2 P Pb **01 34 40.3 0.0**
TRIZ S Sb **01 35 01.4 -0.5**
KFL Anninata 1.78 328 P Pb **01 34 39.5 -1.1**
KFL Anninata 1.78 328 P Pb **01 34 39.5 -1.1**
KFL Anninata 1.78 328 P Pb **01 34 39.7 -0.9**
KALE Kalithea 1.79 4 P Pb **01 34 40.1 -0.7**
KALE Kalithea 1.79 4 P Pb **01 34 40.1 -0.7**
KALE S Sb **01 35 02.2 -0.6**
KALE Kalithea 1.79 4 P Pb **01 34 40.9 +0.1**
KALE S Sb **01 35 02.2 -0.6**
KALE AML AML 01 35 11.5
comp=E,3668µm,0.6s
KALE AML AML 01 35 15.5
comp=N,5252µm,0.8s
KALE Kalithea 1.79 4 P Pb **01 34 40.1 -0.7**
PROD Prodromos 1.81 24 P Pb **01 34 40.1 -1.0**
PROD S Sb **01 35 03.8 +0.6**
PROD Prodromos 1.81 24 P Pb **01 34 40.1 -1.0**
PROD S Sb **01 35 03.9 +0.6**
PROD AML AML 01 35 12.0
comp=E,3822µm,0.5s
PROD AML AML 01 35 15.3
comp=N,2527µm,0.6s
SERG Sergoula 1.81 2 P Pb **01 34 40.4 -0.7**
SERG Sergoula 1.81 2 P Pb **01 34 40.4 -0.7**
SERG Sergoula 1.81 2 P Pb **01 34 40.6 -0.5**
DSF Desfina 1.85 13 P Pb **01 34 40.5 -1.4**
DSF Desfina 1.85 13 P Pn **01 34 40.1 +1.3**
DSF Desfina 1.85 13 P Pn **01 34 40.1 +1.3**
DSF Desfina 1.85 13 P Pb **01 34 40.5 -1.4**
VILL Villia 1.88 34 P Pb **01 34 40.8 -1.6**
VILL Villia 1.88 34 P Pb **01 34 40.8 -1.6**
VILL Platees 1.90 32 P Pb **01 34 41.4 -1.4**
VLY Voula,Athens 1.91 49 P Pb **01 34 41.0 -1.8**
VLY Voula,Athens 1.91 49 P Pb **01 34 41.0 -1.8**
VLY Voula,Athens 1.91 49 P Pb **01 34 40.7 +1.3**
VLY Voula,Athens 1.91 49 P Pb **01 34 41.0 -1.8**
VLS Valsamata 1.92 325 P Pn **01 34 40.8 +1.1**
VLS Valsamata 1.92 325 P Pn **01 34 40.8 +1.1**
VLS Valsamata 1.92 325 P Pn **01 34 40.1 +0.4**
VLS Valsamata 1.92 325 P Pn **01 34 40.8 +1.1**
ATH Athens Observa 1.94 45 P Pb **01 34 42.6 -0.8**
ATH Athens Observa 1.94 45 P Pb **01 34 42.6 -0.8**
MHLO Agia Marina, M 1.94 87 P Pb **01 34 42.7 -0.7**
MHLO Agia Marina, M 1.94 87 P Pb **01 34 43.5 +0.1**
MHLO Agia Marina, M 1.94 87 P Pb **01 34 43.5 +0.1**
ATHU Athens Univers 1.98 46 P Pn **01 34 41.6 +1.2**
ATHU Athens Univers 1.98 46 P Pn **01 34 41.6 +1.2**
ATHU Athens Univers 1.98 46 P Pn **01 34 40.6 +0.2**
ATHU Athens Univers 1.98 46 P Pn **01 34 41.6 +1.2**
IMMV Iera Moni Meta 1.98 125 P Pb **01 34 44.0 0.0**
IMMV Iera Moni Meta 1.98 125 P Pb **01 34 44.0 0.0**
IMMV Iera Moni Meta 1.98 125 P Pb **01 34 45.1 +1.1**
PVO Paravola 2.04 350 P Pb **01 34 44.7 -0.4**
PVO Paravola 2.04 350 P Pb **01 34 45.5 +0.4**
PVO S Sb **01 35 10.2 +0.2**
PVO AML AML 01 35 25.2
comp=E,3312µm,0.7s
PVO AML AML 01 35 27.0
comp=N,2341µm,0.5s
PTL Penteli 2.08 46 P Pb **01 34 43.6 -2.1**
PTL Penteli 2.08 46 P Pb **01 34 43.6 -2.1**
PTL S Sb **01 35 09.1 -2.1**
PTL Penteli 2.08 46 P Pb **01 34 44.0 -1.8**
PTL S Sb **01 35 09.1 -2.1**
PTL AML AML 01 35 14.9
comp=N,1613µm,0.5s
PTL AML AML 01 35 20.7
comp=E,1411µm,0.5s
PTL Penteli 2.08 46 P Pb **01 34 43.6 -2.1**
SERI Serifos 2.08 74 P Pn **01 34 43.4 +1.6**
SERI Serifos 2.08 74 P Pn **01 34 43.4 +1.6**
PDO Prodromos 2.09 342 P Pb **01 34 44.4 -1.5**
PDO Prodromos 2.09 342 P Pb **01 34 44.4 -1.5**
PDO Prodromos 2.09 342 P Pb **01 34 45.3 -0.7**
VAM Vamos 2.16 123 P Pb **01 34 46.2 -0.8**
VAM Vamos 2.16 123 P Pb **01 34 46.2 -0.8**
VAM Vamos 2.16 123 P Pb **01 34 47.7 +0.7**
VAM Vamos 2.16 123 P Pb **01 34 46.2 -0.8**
LKR Lokris 2.20 21 P Pn **01 34 45.0 +1.5**
LKR Lokris 2.20 21 P Pn **01 34 44.9 +1.5**
LKR Lokris 2.20 21 P Pn **01 34 44.9 +1.5**
LKR Lokris 2.20 21 P Pn **01 34 45.0 +1.5**
EVR Evrytania 2.31 357 P Pb **01 34 48.5 -1.3**
EVR Evrytania 2.31 357 P Pb **01 34 48.5 -1.3**
EVR S Sn **01 35 15.3 +2.6**
EVR Evrytania 2.31 357 P Pb **01 34 49.4 -0.3**
EVR S Sn **01 35 15.3 +2.6**
EVR AML AML 01 35 34.4
comp=E,1964µm,0.7s
EVR AML AML 01 35 39.7
comp=N,1678µm,1.1s
EVR Evrytania 2.31 357 P Pb **01 34 48.5 -1.3**
EREA Eretria 2.38 40 P Pn **01 34 47.4 +1.4**
EREA Eretria 2.38 40 P Pn **01 34 47.4 +1.4**
KARY Karystos 2.42 53 P Pn **01 34 48.3 +1.8**
KARY Karystos 2.42 53 P Pn **01 34 48.0 +1.5**
KARY Karystos 2.42 53 P Pn **01 34 48.0 +1.5**
LKD2 Lefkada island 2.42 335 P Pb **01 34 49.1 -2.5**
LKD2 Lefkada island 2.42 335 P Pb **01 34 49.1 -2.5**
LKD2 Lefkada island 2.42 335 P Pb **01 34 49.9 -1.7**
LKD2 Lefkada island 2.42 335 P Pb **01 34 49.1 -2.5**
AGG Agios Georgios 2.43 6 P Pn **01 34 48.2 +1.6**
AGG Agios Georgios 2.43 6 P Pn **01 34 47.7 +1.0**
AGG Agios Georgios 2.43 6 P Pn **01 34 47.6 +1.0**
AGG Agios Georgios 2.43 6 P Pn **01 34 48.2 +1.6**
GVD Gavdhos 2.45 135 P Pb **01 34 49.9 -2.2**
GVD Gavdhos 2.45 135 P Pb **01 34 49.4 -2.7**
GVD Gavdhos 2.45 135 P Pb **01 34 49.4 -2.7**
GVD Gavdhos 2.45 135 P Pb **01 34 49.9 -2.2**
SMIA Simia 2.47 23 P Pn **01 34 49.0 +1.8**
SMIA Simia 2.47 23 P Pn **01 34 48.8 +1.6**
SMIA Simia 2.47 23 P Pn **01 34 48.8 +1.6**
DSL Palaion Diasel 2.62 345 P Pn **01 34 51.9 +2.6**
DSL Palaion Diasel 2.62 345 P Pn **01 34 51.9 +2.6**
DSL Palaion Diasel 2.62 345 P Pb **01 34 52.9 -2.1**
DSL Palaion Diasel 2.62 345 P Pn **01 34 51.9 +2.6**
IDI Anoyia 2.70 118 Pn Pn **01 34 52.2 +1.8**
comp=N,4.6nm,0.3s,baz=274,slow=12,SNR=39
IDI Sn **Sb** **01 35 25.7 -3.2**
comp=N,16nm,0.3s,baz=286,slow=21,SNR=8.1
IDI LR LR 01 36 15.3
comp=N,66nm,20.0s,baz=328,slow=47
IDI Anoyia 2.70 118 P Pn **01 34 52.0 +1.6**
IDI Anoyia 2.70 118 Pn Pn **01 34 52.2 +1.8**
IDI *e*Pn Pb **01 34 54.0 -2.3**
IDI Sn **Sb** **01 35 25.7 -3.2**
THR5 Thira Island, 2.71 93 P Pb **01 34 53.4 -3.1**
THR3 Thira Island, 2.76 93 P Pb **01 34 53.9 -3.4**
THR3 Thira Island, 2.76 93 P Pb **01 34 53.9 -3.4**
SAP1 Santorini-Akro 2.76 94 P Pb **01 34 54.0 -3.2**
SAP1 Santorini-Akro 2.76 94 P Pb **01 34 54.1 -3.2**
THR6 Thira Island, 2.76 94 P Pb **01 34 54.1 -3.2**
THR6 Thira Island, 2.76 94 P Pb **01 34 54.1 -3.2**
SIVA Sivas 2.79 124 P Pb **01 34 54.8 -3.0**
SIVA Sivas 2.79 124 P Pb **01 34 54.8 -3.0**
SIVA Sivas 2.79 124 P Pb **01 34 55.0 -2.8**
SIVA Sivas 2.79 124 P Pb **01 34 54.8 -3.0**
SANT Santorini 2.81 94 P Pb **01 34 54.8 -3.0**
SANT Santorini 2.81 94 P Pb **01 34 55.1 -3.0**
SKIA Skiathos 2.81 24 P Pn **01 34 53.5 +1.6**
SKIA Skiathos 2.81 24 P Pn **01 34 53.5 +1.6**
SKIA Skiathos 2.81 24 P Pn **01 34 52.7 +0.8**
NEO Neokhori 2.87 20 P Pn **01 34 53.3 +0.6**
NEO Neokhori 2.87 20 P Pn **01 34 53.3 +0.6**
APE Apeiranthos 2.88 80 *i*P Pn **01 34 54.9 +2.0**
APE Apeiranthos 2.88 80 S Sn **01 35 29.2 +2.5**
APE Apeiranthos 2.88 80 P Pn **01 34 55.1 +2.3**
APE Apeiranthos 2.88 80 P Pn **01 34 55.1 +2.3**
FYTO Fytoko, Volos 2.90 15 P Pn **01 34 54.8 +1.7**
FYTO Fytoko, Volos 2.90 15 P Pn **01 34 54.8 +1.7**
XOR Xorichti 2.92 19 P Pn **01 34 54.6 +1.2**
XOR Xorichti 2.92 19 P Pn **01 34 54.6 +1.2**
XOR Xorichti 2.92 19 P Pn **01 34 54.4 +1.1**
XOR Xorichti 2.92 19 P Pn **01 34 54.6 +1.2**
THL Klokotos Trika 2.96 0 P Pn **01 34 56.0 +2.2**
THL Klokotos Trika 2.96 0 P Pn **01 34 56.0 +2.2**
THL Klokotos Trika 2.96 0 P Pn **01 34 56.5 +2.6**
AOS Alonnisos 2.97 30 P Pn **01 34 55.1 +1.1**
AOS Alonnisos 2.97 30 P Pn **01 34 55.1 +1.1**
AOS Alonnisos 2.97 30 P Pn **01 34 54.4 +0.4**
AOS Alonnisos 2.97 30 P Pn **01 34 55.1 +1.1**
JAN Janina 3.18 344 P Pn **01 34 59.3 +2.4**
JAN Janina 3.18 344 P Pn **01 34 59.3 +2.4**
LAST Lasithi 3.18 116 P Pn **01 34 59.2 +2.2**
LAST Lasithi 3.18 116 P Pn **01 34 59.2 +2.2**
IGT Igoumenitsa 3.20 336 P Pn **01 34 57.7 +0.4**
IGT Igoumenitsa 3.20 336 P Pn **01 34 57.7 +0.4**
NPS Neapolis 3.23 113 P Pn **01 34 59.7 +2.0**
NPS Neapolis 3.23 113 P Pn **01 34 59.7 +2.0**
SGD Sagiada 3.31 336 P Pn **01 34 59.1 +0.5**
SGD Sagiada 3.31 336 P Pn **01 34 59.1 +0.5**
LIT Litokhoron 3.51 6 P Pn **01 35 04.1 +2.6**
LIT Litokhoron 3.51 6 P Pn **01 35 04.1 +2.6**
KEK Kerkira 3.55 332 P Pn **01 35 01.6 -0.4**
KEK Kerkira 3.55 332 P Pn **01 35 01.6 -0.4**
PAIG Paliouri 3.58 21 P Pn **01 35 01.9 -0.4**
PAIG Paliouri 3.58 21 P Pn **01 35 01.9 -0.4**
PENT Pentalofos 3.65 350 P Pn **01 35 07.4 +3.9**
CHOS Chios island 3.69 60 P Pn **01 35 04.6 +0.6**
CHOS Chios island 3.69 60 P Pn **01 35 04.6 +0.6**
KZN Kozani 3.70 357 P Pn **01 35 05.6 +1.4**
KZN Kozani 3.70 357 P Pn **01 35 05.6 +1.4**
ZKR Zakros 3.74 112 P Pb **01 35 11.5 -2.5**
NEST Nestorio 3.88 349 P Pn **01 35 09.9 +3.3**
NEST Nestorio 3.88 349 P Pn **01 35 09.8 +3.3**
PLG Polygyros 3.94 16 P Pn **01 35 06.8 -0.5**
PLG Polygyros 3.94 16 P Pn **01 35 06.8 -0.5**
SIGR SIGRI 4.02 48 P Pn **01 35 07.8 -0.6**
SIGR SIGRI 4.02 48 P Pn **01 35 07.8 -0.6**
SMG Samos 4.03 73 P Pn **01 35 09.9 +1.3**
SMG Samos 4.03 73 P Pn **01 35 09.9 +1.3**
OUR Ouranopolis 4.04 22 P Pn **01 35 08.1 -0.6**
OUR Ouranopolis 4.04 22 P Pn **01 35 08.1 -0.6**
HORT Hortiatis 4.08 12 P Pn **01 35 09.8 +0.4**
HORT Hortiatis 4.08 12 P Pn **01 35 09.8 +0.4**
LIA Limnos Island 4.14 36 P Pn **01 35 08.9 -1.2**
FNA Florina 4.20 354 P Pn **01 35 11.7 +0.7**
FNA Florina 4.20 354 P Pn **01 35 11.7 +0.7**
PRK Paraskevi 4.29 51 P Pn **01 35 15.6 +3.4**
PRK Paraskevi 4.29 51 P Pn **01 35 15.6 +3.4**
KARP Karpathos 4.32 103 P Pn **01 35 14.2 +1.5**
KARP Karpathos 4.32 103 P Pn **01 35 14.2 +1.5**
SOH Sokhos 4.34 14 P Pn **01 35 15.0 +2.0**
SOH Sokhos 4.34 14 P Pn **01 35 15.0 +2.0**
SCTE Santa Cesarea 4.43 322 P Pn **01 35 12.0 -2.1**
BIA Bitola 4.44 354 *i* Pn Pn **01 35 15.5 +1.2**
BIA Bitola 4.44 354 *i* Pn Pn **01 35 15.5 +1.2**
OHR Ohrid 4.59 349 *i* Pn Pb **01 35 23.2 -5.4**
SRS Serrai 4.68 15 P Pn **01 35 18.0 +0.5**
SRS Serrai 4.68 15 P Pn **01 35 18.1 +0.5**
VAY Valandovo 4.73 5 *i* Pn Pn **01 35 21.3 +3.0**
VAY Valandovo 4.73 5 *i* Pn Pn **01 35 21.2 +3.0**
SMTH Samothraki Isl 4.76 35 P Pn **01 35 16.0 -2.6**
ARG Arkhangelos 4.97 93 P Pn **01 35 26.4 +4.9**
TIR Tirane 5.02 341 ||*i*P Pn **01 35 23.3 +1.1**
TIR Tirane 5.02 341 *e*Pn Pn **01 35 23.2 +1.1**
TIR Tirane 5.02 341 *e*Pn Pn **01 35 23.2 +1.1**
CEL Celeste 5.12 291 *e*Pn Pn **01 35 24.8 +1.1**
comp=N,42nm,0.6s
CEL Celeste 5.12 291 *e*Pn Pn **01 35 24.8 +1.1**
comp=N,42nm,0.6s
RDO Rodhopi 5.32 30 P Pn **01 35 24.7 -1.5**
TURN Turunc 5.32 85 *i* P Pn **01 35 26.8 +0.4**
TURN Turunc 5.32 85 P Pn **01 35 26.8 +0.4**
ALN Alexandroupoli 5.33 35 P Pn **01 35 24.5 -2.0**
DALY Dalyan (Mu˘la 5.36 86 *i* P Pb **01 35 35.8 -5.8**
CGL1 Ceglie Messapi 5.37 320 *e*Pn Pn **01 35 27.8 +0.8**
TAR1 Taranto 5.38 318 *e*Pn Pn **01 35 27.6 +0.5**
TAR1 Sn **Sn** **01 36 25.0 -3.1**
SKO Skopje 5.38 356 *i* Pn Pn **01 35 24.6 -2.5**
SKO Skopje 5.38 356 *i* Pn Pn **01 35 24.6 -2.5**
MASS Massafra 5.53 318 *i* Pn Pn **01 35 29.6 +0.4**
FASA Fasano 5.55 321 *i* Pn Pn **01 35 29.9 +0.4**
NOCI Noci 5.68 319 P Pn **01 35 28.6 -2.8**
FETY Fethiye 5.71 88 P Pn **01 35 35.1 +3.4**
SLUM Salum 5.76 151 P Pn **01 35 31.4 -1.0**
baz=152
SLUM AMP **01 36 00.0**
comp=E,80µm,0.5s,logA/T=5.2,baz=152
SLUM Salum 5.76 151 P Pn **01 35 31.4 -1.0**
CUC Castrococco 5.92 307 P Pn **01 35 35.5 +0.9**
CUC Castrococco 5.92 307 *e*Pn Pn **01 35 36.4 +1.8**
comp=E,32nm,0.7s
CUC *e*Sn **Sn** **01 36 42.3 +0.8**
CUC Castrococco 5.92 307 P Pn **01 35 35.5 +0.9**
CUC Castrococco 5.92 307 *e*Pn Pn **01 35 36.4 +1.8**
comp=E,32nm,0.7s
CUC *e*Sn **Sn** **01 36 42.3 +0.8**
SG1 Sgolgore (BA) 5.92 317 *e*Pn Pn **01 35 35.0 +0.3**
DRME Dracevica, Mon 5.98 340 ||*i*Pn Pn **01 35 34.8 -0.6**
BAI Bari 6.01 320 *e*Pn Pn **01 35 36.2 +0.5**
VTS Vitosha 6.05 9 ||*i*P Pn **01 35 38.6 +2.0**
VTS Vitosha 6.05 9 ||*i*P Pn **01 35 38.6 +2.0**
GOLH Golhisar 6.10 82 *i* P Pn **01 35 43.1 +5.9**
VAE Valguarnera 6.12 280 Pn Pn **01 35 38.5 +1.1**
comp=E,0.4nm,0.3s,baz=106,slow=7.4,SNR=5.2
VAE Sn **Sn** **01 36 51.4 +4.8**
comp=E,4.8nm,0.3s,baz=326,slow=11,SNR=5.9
KSL Kastellorizon 6.15 92 P Pn **01 35 40.1 +2.4**
KSL Kastellorizon 6.15 92 P Pn **01 35 40.1 +2.4**
AKAS Kas 6.16 91 *i* P Pn **01 35 41.0 +3.1**
AKAS *i* S Sn **01 36 46.5 -1.1**
AKAS Kas 6.16 91 P Pn **01 35 41.0 +3.1**
PDG Podgorica 6.19 341 ||*i*P Pn **01 35 38.9 +0.7**
PDG Podgorica 6.19 341 S Sn **01 36 49.0 +0.9**
PDG Podgorica 6.19 341 *e*Pn Pn **01 35 38.0 -0.2**
PDG Podgorica 6.19 341 ||*i*P Pn **01 35 38.9 +0.7**
BARS Barje 6.21 359 ||*i*Pn Pn **01 35 39.8 +1.3**
CDT Castel del Mon 6.31 317 *e*Pn Pn **01 35 40.3 +0.3**
HCY Herceg Novi 6.43 336 *e*Pn Pn **01 35 40.3 -1.3**
TREB Trebinje 6.72 336 *e*Pn Pn **01 35 44.1 -1.4**
KORT Korkueli 6.72 84 *i* P Pn **01 35 51.9 +6.1**
BRY Bratogost 6.83 338 *e*Pn Pn **01 35 46.1 -1.0**
MS1 Monte Sant'Ang 6.93 319 *e*Pn Pn **01 35 48.9 +0.4**
UPM Unac-Piva 7.00 341 *e*Pn Pn **01 35 49.8 +0.2**
BOVS Bovan 7.03 358 *e*Pn Pn **01 35 50.1 +0.4**
CLTB Caltabellotta 7.08 281 *e*Pn Pn **01 35 52.8 +2.2**
comp=E,4.1nm,0.4s
CLTB Caltabellotta 7.08 281 *e*Pn Pn **01 35 52.8 +2.2**
comp=E,4.1nm,0.4s
ZAGS Zajecar 7.20 1 ||*i*Pn Pn **01 35 53.3 +1.1**
BOLS Boljevac 7.22 360 *e*Pn Pn **01 35 51.8 -0.6**
GRUS Gruza 7.34 353 ||*i*Pn Pn **01 35 54.0 -0.1**
BBLS Lazići 7.52 346 ||*i*Pn Pn **01 35 55.8 -0.8**
DIVS Divibare 7.64 349 *e*Pn Pn **01 35 57.4 -0.8**
SWA2 7.90 157 S Sn **01 37 28.8 -1.4**
baz=157
SWA2 7.90 157 S Sn **01 37 28.8 -1.4**
TEKS Tekeris 8.15 348 *e*Pn Pn **01 36 04.3 -0.9**
FGSL Fruska Gora 8.70 350 ||*i*Pn Pn **01 36 11.8 -0.9**
AQU L'Aquila 8.77 314 *e*Pn Pn **01 36 16.9 +3.1**
comp=E,13nm,0.8s
AQU L'Aquila 8.77 314 *e*Pn Pn **01 36 16.9 +3.1**
comp=E,13nm,0.8s
BLY Banja Luka 8.91 337 *e*Pn Pn **01 36 14.5 -1.1**
LOT Lotru 8.94 8 ||*i*P Pn **01 36 18.1 +2.0**
LOT Lotru 8.94 8 ||*i*P Pn **01 36 18.1 +2.0**
ARR Arges 8.98 12 ||*i*P Pn **01 36 12.7 -3.9**
BZS Buzias 9.01 358 ||*i*P Pn **01 36 17.3 +0.4**
BZS Buzias 9.01 358 ||*i*P Pn **01 36 17.3 +0.4**
VOIR 9.12 14 ||*i*P Pn **01 36 20.7 +2.1**
VOIR 9.12 14 ||*i*P Pn **01 36 20.7 +2.1**
UDBI Udbina 9.22 331 *e*Pn Pn **01 36 20.2 +0.3**
UDBI Sn **Sn** **01 37 56.9 -5.8**
UDBI Udbina 9.22 331 *e*Pn Pn **01 36 20.2 +0.3**
CSS Mathiatis 9.36 97 *e*Pn Pn **01 36 23.7 +1.9**
CSS Mathiatis 9.36 97 *e*Pn Pn **01 36 23.7 +1.9**
MLR Muntele Rosu 9.37 17 P Pn Pn **01 36 27.6 +5.6**
comp=E,0.1nm,0.3s,baz=167,slow=17,SNR=5.9
MLR Muntele Rosu 9.37 17 ||*i*P Pn **01 36 23.6 +1.6**
MLR Muntele Rosu 9.37 17 ||*i*P Pn **01 36 23.6 +1.6**
NVLJ Novalja 9.61 328 *i* Pn Pn **01 36 24.4 -0.8**
NVLJ Sn **Sn** **01 38 05.7 -6.6**
NVLJ Novalja 9.61 328 *i* Pn Pn **01 36 24.3 -0.8**
BRTR Keskin Array B 9.69 68 Pn Pn **01 36 27.6 +1.2**
comp=E,0.1nm,0.3s,baz=249,slow=12,SNR=5.4
DOPR Dopca 9.70 14 ||*i*P Pn **01 36 28.9 +2.5**
DOPR Dopca 9.70 14 ||*i*P Pn **01 36 28.9 +2.5**
PLOR Plostina 9.88 19 ||*i*P Pn **01 36 29.5 +0.6**
PLOR Plostina 9.88 19 ||*i*P Pn **01 36 29.5 +0.6**
VRI Vrincioaia 9.92 20 ||*i*P Pn **01 36 30.8 +1.4**
VRI Vrincioaia 9.92 20 ||*i*P Pn **01 36 30.8 +1.4**
DRGR 10.19 3 ||*i*P Pn **01 36 34.6 +1.4**
DRGR 10.19 3 ||*i*P Pn **01 36 34.6 +1.4**
OZLJ Ozalj 10.25 333 *e*Pn Pn **01 36 33.4 -0.6**
OZLJ Ozalj 10.25 333 *e*Pn Pn **01 36 33.4 -0.6**
KEST Kesra 10.26 269 Pn Pn **01 36 35.8 +1.6**
comp=E,0.1nm,0.3s,baz=63,slow=14,SNR=4.9
CRES Cresnjev 10.44 334 *e*Pn Pn **01 36 35.1 -1.4**
GLL Jalalah 10.75 128 P Pn **01 36 39.5 -1.4**
baz=129
GLL Jalalah 10.75 128 P Pn **01 36 39.5 -1.4**
CEY Cerknica 10.75 330 *e*Pn Pn **01 36 39.6 -1.2**
HFRF Wahat Farafira 10.85 149 P Pn **01 36 41.9 -0.3**
baz=149
HFRF Wahat Farafira 10.85 149 P Pn **01 36 41.9 -0.3**
LJU Ljubljana 10.97 332 *e*Pn Pn **01 36 43.6 -0.1**
BURAR Bucovina Array 11.26 11 ||*i*P Pn **01 36 49.2 +1.4**
BURAR Bucovina Array 11.26 11 ||*i*P Pn **01 36 49.2 +1.4**
RSH 11.27 117 P Pn **01 36 46.5 -1.5**
baz=117
RSH 11.27 117 P Pn **01 36 46.4 -1.5**
OBKA Obir 11.35 333 *i* Pn Pn **01 36 48.2 -0.9**
comp=E,0.1nm,0.1s
OBKA Obir 11.35 333 Pn Pn **01 36 48.2 -0.9**
comp=E,0.1nm,0.1s
MMAI Mount Meron Ar 11.59 104 Pn Pn **01 36 52.3 -0.2**
comp=E,0.7nm,0.3s,baz=296,slow=12,SNR=7.9
MMAI Sn **Sn** **01 38 55.0 -6.1**
comp=E,0.9nm,0.3s,baz=288,slow=28,SNR=4.3
ARSA Arzberg 11.67 338 *e*Pn Pn **01 36 52.7 -0.7**
comp=E,0.1nm,0.1s
ARSA Arzberg 11.67 338 Pn Pn **01 36 52.7 -0.7**
comp=E,0.1nm,0.1s
HNKL Nakhl 12.04 120 P Pn **01 36 57.5 -1.0**
baz=121
HNKL Nakhl 12.04 120 P Pn **01 36 57.5 -1.0**
VYHS Vyhne 12.11 350 *e*Pn Pn **01 36 58.6 -0.8**
VYHS Vyhne 12.11 350 *e*PN Pn **01 36 58.5 -0.8**
KBA Koelnbreinsper 12.28 331 *i* Pn Pn **01 37 01.0 -0.9**
comp=E,0.1nm,0.1s
KBA *i* Sn **Sn** **01 39 18.3 +0.4**
comp=E,0.3nm,0.0s
KBA Koelnbreinsper 12.28 331 Pn Pn **01 37 01.0 -0.9**
comp=E,0.1nm,0.1s
KBA Sn **Sn** **01 39 18.3 +0.4**
comp=E,0.3nm,0.0s
CRVS Cervenica-Dubn 12.30 358 *e*PN Pn 01 36 54.3 -7.6
GRB Gharib 12.33 129 P Pn **01 37 01.8 -0.7**
baz=130
GRB Gharib 12.33 129 P Pn **01 37 01.8 -0.7**
ABTA Abfaltersbach 12.35 328 *i* Pn Pn **01 37 02.8 0.0**
comp=E,0.2nm,0.1s
ABTA *i* Sn **Sn** **01 39 18.0 -1.5**
comp=E,4.1nm,0.6s

ABTA	**Abfaltersbach**	**12.35**	**328**	Pn		**Pn**	**01 37 02.8**	**0.0**
	comp=E,0.2nm,0.1s							
MOA	**Molln**	**12.60**	**335**	*i* Pn		**Pn**	**01 37 05.5**	**-0.6**
	comp=E,0.9nm,0.3s							
MOA	**Molln**	**12.60**	**335**	Pn		**Pn**	**01 37 05.5**	**-0.6**
	comp=E,0.9nm,0.3s							
WATA	**Walderalm**	**13.21**	**327**	*i* Pn		**Pn**	**01 37 16.0**	**+1.4**
	comp=E,3.0nm,0.5s							
WATA	**Walderalm**	**13.21**	**327**	Pn		**Pn**	**01 37 16.0**	**+1.4**
	comp=E,3.0nm,0.5s							
AKRG	**Al Kharijah**	**13.25**	**144**	P		**Pn**	**01 37 14.7**	**-0.3**
	baz=145							
GTR	**Jabal at Tayr**	**13.27**	**144**	P		**Pn**	**01 37 15.0**	**-0.3**
	baz=144							
GTR	**Jabal at Tayr**	**13.27**	**144**	P		**Pn**	**01 37 15.0**	**-0.3**
VRAC	**Vranov**	**13.29**	**344**	ǁ *i*P		**Pn**	**01 37 18.2**	**+2.7**
VRAC	**Vranov**	**13.29**	**344**	ǁ *i*P		**Pn**	**01 37 18.2**	**+2.7**
FETA	**Feichten**	**13.36**	**325**	*i* Pn		**P**	**01 37 22.8**	**-3.0**
	comp=E,0.4nm,0.3s							
FETA				*i* Sn		**Sn**	**01 39 42.3**	**-1.9**
MOTA	**Moosalm**	**13.43**	**326**	*i* Pn		**Pn**	**01 37 17.2**	**-0.3**
	comp=E,4.0nm,0.8s							
MOTA				*i* Sn		**Sn**	**01 39 45.1**	**-0.8**
	comp=E,0.7nm,0.5s							
MOTA	**Moosalm**	**13.43**	**326**	Pn		**Pn**	**01 37 17.2**	**-0.3**
	comp=E,4.0nm,0.8s							
MOTA				Sn		**Sn**	**01 39 45.1**	**-0.8**
	comp=E,0.7nm,0.5s							
OKC	**Ostrava-Krasne**	**13.52**	**349**	*e*P		**P**	**01 37 29.2**	**+1.8**
OKC				*ex*		x	01 37 35.8	
MORC	**Moravsky Berou**	**13.56**	**348**	ǁ *i*P		**Pn**	**01 37 19.6**	**+0.5**
MORC	**Moravsky Berou**	**13.56**	**348**	ǁ *i*P		**Pn**	**01 37 19.6**	**+0.5**
MORC	**Moravsky Berou**	**13.56**	**348**	*e*Pn		**Pn**	**01 37 22.6**	**+3.5**
MORC	**Moravsky Berou**	**13.56**	**348**	*e*Pn		**Pn**	**01 37 22.6**	**+3.5**
GERES	**GERESS Array B**	**13.65**	**336**	Pn		**Pn**	**01 37 18.3**	**-2.2**
	comp=E,0.2nm,0.3s,baz=155,slow=13,SNR=7.9							
GERES				LR		LR	01 43 52.1	
	comp=E,166nm,21.1s,baz=132,slow=43							
RETA	**Reutte**	**13.69**	**326**	*i* Pn		**Pn**	**01 37 23.7**	**+2.7**
	comp=E,0.5nm,0.4s							
RETA				*e*Sn		**Sn**	**01 39 51.6**	**-0.5**
	comp=E,1.9nm,0.6s							
RETA	**Reutte**	**13.69**	**326**	Pn		**Pn**	**01 37 23.7**	**+2.7**
	comp=E,0.5nm,0.4s							
RETA				Sn		**Sn**	**01 39 51.6**	**-0.5**
	comp=E,1.9nm,0.6s							
KHC	**Kasperske Hory**	**13.94**	**337**	*e*P		**P**	**01 37 33.9**	**+1.7**
KHC				*ex*		x	01 37 41.8	
KHC	**Kasperske Hory**	**13.94**	**337**	*e*Pn		**Pn**	**01 37 26.1**	**+1.7**
	comp=E,1.5nm,0.9s							
KHC	**Kasperske Hory**	**13.94**	**337**	*e*Pn		**Pn**	**01 37 26.1**	**+1.7**
	comp=E,1.5nm,0.9s							
DAVA	**Damuels**	**13.95**	**324**	*i* Pn		**Pn**	**01 37 26.3**	**+1.7**
	comp=E,0.4nm,0.1s							
DAVA	**Damuels**	**13.95**	**324**	Pn		**Pn**	**01 37 26.3**	**+1.7**
	comp=E,0.4nm,0.1s							
KRLC	**Kraliky**	**13.98**	**346**	*e*P		**P**	**01 37 34.4**	**+1.7**
KRLC	**Kraliky**	**13.98**	**346**	P		**P**	**01 37 34.4**	**+1.7**
DPC	**Dobruska-Polom**	**14.34**	**345**	*e*P		**P**	**01 37 37.8**	**+1.2**
DPC	**Dobruska-Polom**	**14.34**	**345**	P		**P**	**01 37 37.8**	**+1.2**
PRU	**Pruhonice**	**14.42**	**340**	*e*P		**P**	**01 37 38.5**	**+1.0**
PRU				*e*pP		Pn	01 37 46.8	+16
PRU	**Pruhonice**	**14.42**	**340**	P		**P**	**01 37 38.5**	**+1.0**
UPC	**Upice**	**14.55**	**345**	*e*P		**P**	**01 37 40.7**	**+1.8**
UPC	**Upice**	**14.55**	**345**	P		**P**	**01 37 40.7**	**+1.8**
AKASG	**Malin Array Be**	**15.02**	**18**	Pn		**Pn**	**01 37 36.1**	**-2.9**
	comp=E,0.4nm,0.3s,baz=210,slow=12,SNR=2.8							
CLL	**Collm**	**16.04**	**339**	*e*(P)		**P**	**01 37 57.0**	**+1.6**
KIV	**Kislovodsk**	**17.39**	**59**	*e*Pn		**P**	**01 38 12.0**	**+1.4**
KIV	**Kislovodsk**	**17.39**	**59**	*e*Pn		**P**	**01 38 12.0**	**+1.4**
KBZ	**Khabaz**	**17.47**	**60**	P		**Pn**	**01 38 09.9**	**-0.4**
	comp=E,0.2nm,0.3s,baz=262,slow=9.1,SNR=6.5							
BSD	**Bornholm Skovb**	**19.14**	**348**	*i* P		**P**	**01 38 28.6**	**-0.9**
	comp=E,8.2nm,0.6s							
BSD	**Bornholm Skovb**	**19.14**	**348**	*i* P		**P**	**01 38 28.6**	**-0.9**
TAM	**Tamanrasset**	**19.81**	**231**	*e*P		**Pn**	**01 38 42.0**	**+3.0**
	comp=E,2.6nm,1.1s							
ESDC	**Sonseca Array**	**20.62**	**286**	P		**P**	**01 38 45.2**	**-0.7**
	comp=E,0.7nm,0.7s,baz=82,slow=10,SNR=6.6							
OBN	**Obninsk**	**21.04**	**24**	P		**P**	**01 38 49.2**	**-0.9**
	comp=E,15nm,0.5s,baz=297,slow=23,SNR=4.6							
FINES	**FINESS Array B**	**25.00**	**5**	P		**P**	**01 39 28.9**	**-1.0**
	comp=E,4.0nm,0.6s,baz=170,slow=12,SNR=28							
FINES				LR		LR	01 50 08.6	
	comp=E,38nm,19.5s,baz=166,slow=39							
EKA	**Eskdalemuir Ar**	**25.38**	**326**	P		**P**	**01 39 32.6**	**-0.8**
	comp=E,3.3nm,0.7s,baz=126,slow=8.4,SNR=7.4							
NB2	**NORSAR Subarra**	**25.39**	**348**	P		**P**	**01 39 33.1**	**-0.5**
	comp=E,2.2nm,0.5s							
NB2	**NORSAR Subarra**	**25.39**	**348**	P		**P**	**01 39 33.1**	**-0.5**
	comp=E,2.2nm,0.5s,baz=154,slow=9.3							
NOA	**NORSAR Array B**	**25.39**	**348**	P		**P**	**01 39 33.2**	**-0.3**
	comp=E,1.7nm,0.5s,baz=154,slow=9.4,SNR=13							
NOA				LR		LR	01 50 45.0	
	comp=E,20nm,20.1s,baz=325,slow=40							
GEYT	**Alibeck**	**28.68**	**76**	P		**P**	**01 40 03.4**	**0.0**
	comp=E,2.8nm,0.7s,baz=250,slow=7.7,SNR=3.6							
TORD	**Torodi Ar. Bea**	**29.61**	**223**	P		**P**	**01 40 12.5**	**+0.8**
	comp=E,0.5nm,0.6s,baz=41,slow=9.0,SNR=6.3							
ARU	**Arti**	**31.50**	**39**	*e*P		**P**	**01 40 30.0**	**+2.0**
	comp=E,1.7nm,0.7s							
ARU	**Arti**	**31.50**	**39**	*e*P		**P**	**01 40 29.9**	**+2.0**
	comp=E,1.7nm,0.7s							
ARCES	**ARCESS Array B**	**33.05**	**2**	P		**P**	**01 40 40.1**	**-1.4**
	comp=E,2.6nm,0.6s,baz=193,slow=9.9,SNR=16							
ARCES				LR		LR	01 55 21.8	
	comp=E,46nm,18.0s,baz=204,slow=39							
BRVK	**Borovoye**	**37.20**	**48**	*e*P		**P**	**01 41 16.6**	**-0.9**
	comp=E,7.6nm,0.8s							
KKAR	**Karatay Array**	**37.39**	**65**	*e*P		**P**	**01 41 19.2**	**+0.1**
	comp=E,3.0nm,0.5s							
KKAR	**Karatay Array**	**37.39**	**65**	*e*P		**P**	**01 41 19.2**	**+0.1**
	comp=E,3.0nm,0.5s							
ZALV	**Zalesovo Beam**	**45.89**	**47**	P		**P**	**01 42 27.7**	**-0.9**
	comp=E,4.1nm,0.6s,baz=271,slow=8.8,SNR=16							
SONM	**Songino Array**	**60.56**	**50**	P		**P**	**01 44 15.8**	**-1.0**
	comp=E,0.9nm,0.8s,baz=284,slow=9.6,SNR=5.0							
KLR	**Kul'dur**	**74.34**	**40**	P		**P**	**01 45 42.9**	**-0.7**
	comp=E,1.2nm,0.5s,baz=344,slow=1.8,SNR=4.8							
USRK	**Ussuriysk Ar.**	**77.61**	**44**	P		**P**	**01 46 02.0**	**-0.4**
	comp=E,1.7nm,0.7s,baz=270,slow=5.1,SNR=8.9							
KSAR	**Wonju Array Be**	**79.40**	**51**	P		**P**	**01 46 12.6**	**+0.2**
KSAR	**Wonju Array Be**	**79.40**	**51**	P		**P**	**01 46 12.6**	**+0.2**
KSRS	**Korea Array**	**79.42**	**51**	P		**P**	**01 46 12.6**	**+0.1**
	comp=E,1.9nm,0.5s,baz=309,slow=4.6,SNR=12							
MJAR	**Matsushiro Arr**	**86.24**	**46**	P		**P**	**01 46 48.0**	**0.0**
	comp=E,0.5nm,0.5s,baz=259,slow=5.7,SNR=4.1							
MJAR	**Matsushiro Arr**	**86.24**	**46**	P		**P**	**01 46 48.0**	**0.0**

BER 11 01:35:41.0±0.3,**78°52N**×**12°09E,h11**km±7km**, ML1.0, Svalbard region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KBS	**Kingsbay**	**0.41**	**356**	*e*P	Pg	01 35 48.3	-0.7
KBS				*e*S	Sg	01 35 53.8	-0.6
KBS				IAML		01 35 55.5	
	comp=Z,30nm,0.3s						
SPA0	**Spitsbergen Ar**	**0.94**	**110**	*e*P	Pg	01 35 57.4	-1.5
SPA0				*e*S	Sg	01 36 09.6	-1.5
SPA0				IAML		01 36 16.2	
	comp=Z,4.1nm,0.7s						
HSPB	**Hornsund (broa**	**1.69**	**153**	*e*P	Pn	01 36 08.7	-1.8
HSPB				*e*S	Sn	01 36 29.1	-2.9
HSPB				IAML		01 36 35.1	
	comp=Z,2.2nm,0.6s						

ISCJB ***11*** *01:41:26.6*±*0.4,51°.97N*±*0°.07*×*171°.69W*±*0°.05,h44km, mb4.4/34,MS2.9/4,Error ellipse: s-maj=9.6km s-min=4.1km az=166.1*

NEIC ***11*** *01:41:26.2*±*0.0,51°.82N*×*171°.65W,h41km,mb4.4/26, ML4.1(AEIC),After AEIC.*

IDC ***11*** *01:41:32.7*±*6.8,52°.26N*×*171°.68W,h90km*±*61km, mb3.8/10, mb1 4.0/11,mb1mx3.5/35,mbtmp4.0/11,ML4.3/1,MS2.8/4, Ms1 2.8/4,ms1mx2.6/42,Error ellipse: s-maj=34.4km s-min=16.2km az=174.0*

ISC 11 01:41:27.7±0.7,**51°.9N**±0°.1×**171°.66W**±0°.05,**h44km, n76,** σ1**8**3**1/7**3**, mb4.4/34, MS2.8/4, Fox Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KOSE	**Korovin Southe**	**1.54**	**288**	P	**Pn**	**01 41 52.2**	**-0.5**
ATKA	**Atka Island**	**1.60**	**282**	P	**Pn**	**01 41 52.8**	**-0.6**
ATKA				S	**Sn**	**01 42 12.0**	**-0.8**
NIKH	**Nikolski High**	**2.02**	**57**	P	**Pn**	**01 41 58.2**	**-1.1**
NIKH				S	**Sn**	**01 42 24.0**	**+0.7**
OKSO	**Okmok South**	**2.58**	**54**	P	**Pn**	**01 42 06.7**	**-0.2**
OKSO				S	**Sn**	**01 42 37.7**	**+0.6**
OKCE	**Okmok Cone E**	**2.62**	**53**	P	**Pn**	**01 42 08.1**	**+0.6**
OKTU	**Okmok Mt. Tuli**	**2.66**	**55**	P	**Pn**	**01 42 09.1**	**+1.1**
OKFG	**Magazine Ridge**	**2.73**	**55**	P	**Pn**	**01 42 09.4**	**+0.4**
OKFG				S	**Sn**	**01 42 44.1**	**+3.3**
MSW	**Makushin Switc**	**3.57**	**54**	P	**Pn**	**01 42 20.6**	**+0.1**
MTBL	**Makushin Table**	**3.65**	**54**	P	**Pn**	**01 42 22.6**	**+0.9**
UNV	**Unalaska Valle**	**3.68**	**56**	P	**Pn**	**01 42 22.1**	**+0.1**
UNV				S	**Sn**	**01 43 05.1**	**+1.1**
AKRB	**Akutan Reef Bi**	**4.04**	**54**	P	**Pn**	**01 42 27.6**	**+0.6**
AKMO	**Akutan Morgan**	**4.05**	**55**	P	**Pn**	**01 42 27.3**	**+0.2**
AKGG	**Akutan Green G**	**4.12**	**54**	P	**Pn**	**01 42 28.8**	**+0.8**
AKUT	**Akutan**	**4.20**	**55**	*e*Pn	**Pn**	**01 42 28.8**	**-0.2**
SPIA	**Saint Paul Isl**	**5.35**	**8**	P	**Pn**	**01 42 47.3**	**+2.4**
SDPT	**Sand Point**	**7.49**	**58**	P	**Pn**	**01 43 13.8**	**-0.4**
CHGN	**Chignik**	**8.94**	**55**	*e*Pn	**Pn**	**01 43 32.2**	**-1.8**
OHAK	**Old Harbor**	**11.90**	**56**	*e*Pn	**Pn**	**01 44 10.8**	**-3.7**
SVW2	**Sparrevohn**	**12.76**	**38**	*e*Pn	**Pn**	**01 44 26.5**	**+0.3**
CNPM	**China Poot**	**13.77**	**48**	*e*Pn	**Pn**	**01 44 38.5**	**-1.5**
KTH	**Kantishna Hill**	**15.99**	**35**	*e*Pn	**Pn**	**01 45 07.9**	**-1.4**
MCK	**McKinley**	**16.81**	**36**	*e*Pn	**Pn**	**01 45 18.7**	**-0.9**
ILAR	**Eielson Array**	**18.14**	**35**	P	**P**	**01 45 32.5**	**-3.4**
	0.4nm,0.3s,baz=230,slow=9.1,SNR=15						
ILAR				LR	LR	01 53 19.2	
	comp=Z,45nm,18.3s,baz=314,slow=40						
PCA	**Pinnacle**	**19.22**	**52**	*e*P	**Pn**	**01 45 49.0**	**0.0**
	30nm,0.6s						
EGAK	**Eagle**	**20.28**	**39**	*e*P	**P**	**01 45 57.9**	**-1.4**
	5.6nm,0.6s						
HYT	**Haines Junctio**	**20.69**	**51**	*e*P	**P**	**01 46 05.0**	**+1.1**
	12nm,0.6s						
SKAG	**Skagway**	**21.60**	**55**	*e*P	**P**	**01 46 13.4**	**0.0**
	11nm,0.6s						
SEY	**Seymchan**	**21.97**	**314**	P	**P**	**01 46 17.3**	**-0.1**
	2.6nm,0.6s,baz=107,slow=13,SNR=5.2						
DLBC	**Dease Lake**	**24.33**	**58**	P	**P**	**01 46 41.6**	**+0.6**
	9.6nm,0.8s,baz=284,slow=8.9,SNR=16						
DLBC	**Dease Lake**	**24.33**	**58**	*e*P	**P**	**01 46 42.8**	**+1.8**
	16nm,1.0s						
INK	**Inuvik**	**24.51**	**34**	P	**P**	**01 46 40.2**	**-2.2**
	3.2nm,0.5s,baz=245,slow=14,SNR=11						
INK				LR	LR	01 57 54.4	
	comp=Z,39nm,18.1s,baz=117,slow=40						
INK	**Inuvik**	**24.51**	**34**	*e*P	**P**	**01 46 39.9**	**-2.6**
	3.8nm,0.5s						
YKA	**Yellowknife Ar**	**31.61**	**48**	P	**P**	**01 47 43.9**	**-1.9**
	1.1nm,0.4s,baz=276,slow=7.2,SNR=24						
YKA				LR	LR	02 01 32.5	
	comp=Z,8.0nm,18.6s,baz=0.0,slow=38						
B08A	**Colville Reser**	**33.13**	**75**	*e*P	**P**	**01 48 00.5**	**+1.0**
	5.0nm,1.0s						
NEW	**Newport**	**34.49**	**74**	*e*P	**P**	**01 48 11.8**	**+0.5**
	6.8nm,1.0s						
EDM	**Edmonton**	**34.62**	**64**	*e*P	**P**	**01 48 11.9**	**-0.4**
	10nm,0.7s						
BSMT	**Bassoo Peak**	**36.07**	**73**	*e*P	**P**	**01 48 25.8**	**+0.8**
H11N2	**WAKE ISLAND Hy**	**36.23**	**216**	T	T	02 26 54.3	
	baz=20,slow=75,SNR=60						
H11N3	**WAKE ISLAND Hy**	**36.24**	**216**	T	T	02 26 57.4	
	baz=20,slow=75,SNR=73						
H11N1	**WAKE ISLAND Hy**	**36.25**	**216**	T	T	02 27 05.5	
	baz=20,slow=75,SNR=66						
H11S1	**WAKE ISLAND Hy**	**37.43**	**215**	T	T	02 28 28.2	
	baz=21,slow=76,SNR=59						
H11S2	**WAKE ISLAND Hy**	**37.44**	**215**	T	T	02 28 23.3	
	baz=21,slow=76,SNR=65						
H11S3	**WAKE ISLAND Hy**	**37.44**	**215**	T	T	02 28 27.7	
	baz=21,slow=76,SNR=35						
PNTR	**Pine Nut**	**37.87**	**89**	*e*P	**P**	**01 48 42.6**	**+2.2**
	7.7nm,0.9s						
MJAR	**Matsushiro Arr**	**38.27**	**266**	P	**P**	**01 48 43.8**	**+0.3**
	0.8nm,0.6s,baz=32,slow=6.9,SNR=4.2						
MCMT	**McKenzie Canyo**	**38.75**	**77**	*e*P	**P**	**01 48 48.3**	**+0.5**
EGMT	**Eagleton**	**38.95**	**70**	*e*P	**P**	**01 48 49.5**	**+0.3**
	8.1nm,0.9s						
YHH	**Holmes Hill**	**39.98**	**75**	*e*P	**P**	**01 48 58.6**	**+0.6**
	5.9nm,1.0s						
FFC	**Flin Flon**	**40.16**	**58**	*e*P	**P**	**01 48 58.7**	**-0.4**
	3.6nm,0.5s						
IMW	**Indian Meadow**	**40.41**	**77**	*e*P	**P**	**01 49 02.5**	**+0.8**
	2.6nm,0.9s						
RLMT	**Red Lodge**	**40.74**	**74**	*e*P	**P**	**01 49 05.1**	**+0.8**
	9.8nm,1.1s						
TPNV	**Topopah Spring**	**41.27**	**89**	*e*P	**P**	**01 49 09.7**	**+1.1**
	4.4nm,0.9s						
BW06	**Boulder Array**	**41.88**	**77**	*e*P	**P**	**01 49 14.1**	**+0.4**
	2.8nm,0.8s						
PD31	**Pinedale Array**	**41.88**	**77**	*e*P	**P**	**01 49 14.1**	**+0.4**
PDAR	**Pinedale Array**	**41.88**	**77**	P	**P**	**01 49 13.8**	**+0.2**
	2.3nm,0.7s,baz=305,slow=5.2,SNR=17						
GSC	**Goldstone, Bar**	**41.98**	**91**	*e*P	**P**	**01 49 15.3**	**+0.9**
	7.3nm,1.0s						
LDFC	**Landfair**	**43.18**	**90**	*e*P	**P**	**01 49 24.9**	**+0.8**
	10.0nm,1.1s						
SRU	**San Rafael Swe**	**43.46**	**82**	*e*P	**P**	**01 49 27.7**	**+1.2**
	26nm,1.9s						
U15A	**North Rim**	**44.05**	**86**	*e*P	**P**	**01 49 32.4**	**+1.1**
	3.9nm,1.0s						
KSRS	**Korea Array**	**44.05**	**276**	LR	LR	02 10 07.7	
	comp=Z,8.1nm,18.1s,baz=80,slow=39						
O20A	**White River Ci**	**44.23**	**79**	*e*P	**P**	**01 49 32.8**	**+0.1**
	4.7nm,0.8s						
WUAZ	**Wupatki**	**45.21**	**87**	*e*P	**P**	**01 49 41.6**	**+1.2**
	4.9nm,0.9s						
PV01	**Paradox Valley**	**45.26**	**82**	*e*P	**P**	**01 49 41.2**	**+0.2**
ULM	**Lac du Bonnet**	**45.61**	**61**	P	**P**	**01 49 42.3**	**-0.9**
	1.5nm,0.5s,baz=310,slow=5.4,SNR=4.3						
HHC	**Hu-ho-hao-te**	**51.76**	**290**	*e*P	**P**	**01 50 33.6**	**+2.9**
HHC				pmax	pmax		
	comp=Z,16nm,0.8s						
HHC				pmax	pmax		
	comp=Z,74nm,6.4s						
TX31	**Lajitas Ar. Si**	**54.17**	**87**	*e*P	**P**	**01 50 48.6**	**+0.1**
TXAR	**Lajitas Array**	**54.17**	**87**	P	**P**	**01 50 48.4**	**-0.2**
	comp=Z,1.8nm,0.7s,baz=284,slow=5.0,SNR=14						
MIAR	**Mount Ida**	**56.72**	**75**	*e*P	**P**	**01 51 06.4**	**-0.3**
	comp=Z,10.0nm,1.1s						
KURK	**Kurchatov**	**61.77**	**317**	*e*P	**P**	**01 51 41.7**	**+0.4**
	comp=Z,9.1nm,0.6s						
WMQ	**Urumqi**	**62.70**	**307**	P	**P**	**01 51 49.7**	**+1.9**
WMQ				pmax	pmax		
	comp=Z,6.0nm,0.7s						
WMQ				pmax	pmax		
	comp=Z,110nm,4.3s						
WMQ				LR	LR		
	comp=N,120nm,19.5s						
WMQ				LR	LR		
	comp=Z,28nm,23.7s						
FINES	**FINESS Array B**	**66.12**	**351**	P	**P**	**01 52 06.8**	**-3.0**
	comp=Z,1.1nm,0.8s,baz=97,slow=4.4,SNR=4.1						
KMI	**Kunming**	**68.01**	**283**	P	**P**	**01 52 23.1**	**+0.5**
KMI				pmax	pmax		
	comp=Z,16nm,0.5s						
ABKAR	**Akbulak array**	**70.07**	**327**	*e*P	**P**	**01 52 34.7**	**0.0**
	comp=Z,8.2nm,0.6s						
ASAR	**Alice Springs**	**89.02**	**228**	P	**P**	**01 54 18.0**	**+0.3**
	comp=Z,1.0nm,0.6s,baz=27,slow=4.6,SNR=13						
TORD	**Torodi Ar. Bea**	**114.97**		7 PKP	PKPdf	02 00 01.9	-2.0
	comp=Z,0.2nm,0.5s,baz=282,slow=3.0,SNR=4.0						
BOSA	**Boshof**	**153.53**	**325**	PKPbc	**PKPbc**	**02 01 20.8**	**-0.5**
	comp=Z,0.9nm,0.4s,baz=52,slow=0.5,SNR=8.1						

ISCJB ***11*** *01:58:56.0*±*0.2,3°.57N*±*0°.03*×*126°.79E*±*0°.05,h53km, mb4.6/45,MS3.2/5,Error ellipse: s-maj=7.7km s-min=4.1km az=155.0*

IDC ***11*** *01:58:56.9*±*4.5,3°.59N*×*126°.48E,h50km*±*44km,mb4.1/16, mb1 4.1/17,mb1mx3.9/37,mbtmp4.3/17,ML3.2/1,MS3.3/7, Ms1 3.3/7,ms1mx3.0/30,Error ellipse: s-maj=35.2km s-min=11.6km az=86.0*

NEIC ***11*** *01:59:00.5*±*0.9,3°.57N*×*126°.72E,h84km*±*8km,mb4.7/15, Error ellipse: s-maj=8.0km s-min=4.8km az=60.0*

BJI ***11*** *01:59:03.1,4°.12N*×*126°.60E,h75km,mb4.7/26,mB4.8/19, Ms4.6/10,Ms7 4.4/9*

ISC 11 01:58:57.6±0.4,**3°.64N**±0°.05×**126°.83E**±0°.07,**h53km, n75,** σ2**9**2**7/8**4**, mb4.7/45, MS3.3/5, 2C-1D, Talaud Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GSPH	**General Santos**	**3.06**	**322**	ǁ *i*P	**Pn**	**01 59 41.9**	**-1.8**
MATI	**Mati**	**3.33**	**350**	*e*P	**Pn**	**01 59 47.6**	**+0.3**
MATI				*e*S	**Sn**	**02 00 29.4**	**+3.8**
CTBH	**Cotabato--PC H**	**4.38**	**324**	ǁ *i*P	**Pn**	**02 00 04.0**	**+2.3**
CTBH				*i* S	**Sn**	**02 00 53.7**	**+2.2**
PAGZ	**Pagadian**	**5.40**	**321**	*e*P	**Pn**	**02 00 15.5**	**-0.2**
MYLDM	**Lahad Datu**	**8.44**	**281**	*e*Pn	**Pn**	**02 00 59.5**	**+2.2**
MYLDM				*e*Sn	**Sn**	**02 02 37.9**	**+6.6**
FAKI	**Fak Fak**	**8.48**	**140**	*e*Pn	**Pn**	**02 01 00.1**	**+2.2**
KKM	**Kota Kinabalu**	**10.84**	**283**	*e*Pn	**Pn**	**02 01 32.0**	**+1.8**
KAPI	**Kappang**	**11.13**	**219**	LR	LR	02 06 28.5	
	comp=Z,140nm,18.8s,baz=91,slow=42						
TGY	**Tagaytay City**	**11.91**	**331**	LR	LR	02 06 58.3	
	comp=Z,300nm,18.9s,baz=24,slow=41						
SBUM	**Sibu**	**14.63**	**266**	*e*Pn	**P**	**02 02 23.5**	**-3.3**
JAY	**Jayapura**	**15.16**	**114**	P	**Pn**	**02 02 30.6**	**+1.9**
	0.1nm,0.3s,baz=100,slow=23,SNR=12						
KSM	**Kuching**	**16.64**	**263**	*e*Pn	**Pn**	**02 02 47.1**	**-0.3**
GUMO	**Guam**	**20.37**	**60**	LR	LR	02 10 44.6	
	comp=Z,35nm,20.0s,baz=172,slow=34						
FITZ	**Fitzroy Crossi**	**21.64**	**183**	P	**P**	**02 03 42.2**	**-1.5**
	8.6nm,0.7s,baz=270,slow=20						
QIZ	**Qiongzhong**	**22.57**	**314**	P	**P**	**02 03 51.7**	**-2.0**
QIZ				pmax	pmax		
	comp=Z,61nm,2.3s						
QIZ				pmax	pmax		
	comp=Z,270nm,3.1s						
PMG	**Port Moresby**	**24.06**	**123**	*e*P	**P**	**02 04 08.1**	**0.0**
	32nm,1.0s						
WRAB	**Tennant Creek**	**24.57**	**163**	*e*P	**P**	**02 04 11.3**	**-1.4**
	34nm,0.8s						
WRA	**Warramunga Arr**	**24.57**	**163**	P	**P**	**02 04 12.0**	**-0.8**
	17nm,0.8s,baz=343,slow=10,SNR=38						
WB2	**Warramunga Arr**	**24.58**	**163**	*e*P	**P**	**02 04 12.1**	**-0.8**
	32nm,0.8s						
MBWA	**Marble Bar**	**25.61**	**195**	*e*P	**P**	**02 04 22.3**	**+0.1**
	37nm,0.6s						
PSI	**Prapat**	**27.87**	**269**	LR	LR	02 16 08.7	
	comp=Z,111nm,19.1s,baz=284,slow=38						
AS31	**Alice Springs**	**28.01**	**166**	*e*P	**P**	**02 04 43.5**	**-0.2**
	1.9nm,0.6s						
ASAR	**Alice Springs**	**28.01**	**166**	P	**P**	**02 04 43.5**	**-0.2**
	1.1nm,0.3s,baz=354,slow=16,SNR=24						
ASAR				PcP	**PcP**	**02 07 58.0**	**+0.1**
	0.9nm,0.5s,baz=352,slow=2.0,SNR=4.8						
AS01	**Alice Springs**	**28.02**	**166**	*e*P	**P**	**02 04 42.8**	**-1.1**
NJ2	**Nanjing**	**29.24**	**346**	*e*P	**P**	**02 04 57.1**	**+2.5**
NJ2				pmax	pmax		
	comp=Z,13nm,0.5s						
JNU	**Nakatsue**	**29.57**	**7**	P	**P**	**02 04 56.9**	**-0.7**
	5.4nm,0.9s,baz=84,slow=4.6,SNR=4.5						
GYA	**Guiyang**	**29.80**	**322**	P	**P**	**02 05 02.6**	**+2.8**
GYA				pP	sP	02 05 20.4	+0.8
GYA				PP	**PP**	**02 06 02.8**	**-5.0**
GYA				S	**S**	**02 09 54.0**	**+1.1**
GYA				pmax	pmax		
	comp=Z,10.0nm,0.8s						
KMI	**Kunming**	**31.51**	**315**	P	**P**	**02 05 17.7**	**+2.7**
KMI				sP	sP	02 05 45.1	+10
KMI				S	**S**	**02 10 18.3**	**-1.7**
KMI				pmax	pmax		
	comp=Z,10.0nm,0.5s						
KMI				pmax	pmax		
	comp=Z,130nm,5.7s						
KMI				LR	LR		
	comp=N,110nm,4.7s						
KMI				LR	LR		
	comp=E,69n

VNDA	Vanda	83.33	173	P		P	02 11 17.9	-0.4
	0.6nm,0.7s,baz=285,slow=7.5,SNR=4.2							
COLD	Coldfoot	83.94	23	*e*P		P	02 11 23.6	+1.9
	5.8nm,1.0s							
PMR	Palmer	83.97	29	*e*P		P	02 11 23.2	+1.3
	8.8nm,1.0s							
MCK	McKinley	84.20	26	*e*P		P	02 11 23.5	+0.4
	6.4nm,0.8s							
SML	Sawmill	84.37	28	*e*P		P	02 11 24.5	+0.5
	13nm,0.8s							
WRH	Wood River Hil	84.61	26	*e*P		P	02 11 25.7	+0.6
	12nm,1.5s							
ILAR	Eielson Array	85.14	25	P		P	02 11 27.6	-0.3
	0.6nm,0.6s,baz=245,slow=5.2,SNR=11							
BRTR	Keskin Array B	90.15	310	P		P	02 11 50.1	-2.6
	0.6nm,0.7s,baz=136,slow=4.0,SNR=6.3							
ARCES	ARCESS Array B	90.56	340	P		P	02 11 51.8	-1.9
	0.7nm,0.4s,baz=79,slow=6.3,SNR=12							
FINES	FINESS Array B	91.95	332	P		P	02 11 59.4	-0.9
	0.7nm,0.5s,baz=66,slow=6.5,SNR=11							
NOA	NORSAR Array B	98.91	334	LR		LR	03 01 10.1	
	comp=Z,24nm,18.6s,baz=120,slow=38							
TXAR	Lajitas Array	121.58	52	PKP		PKPdf	02 17 47.0	+0.8
	0.3nm,0.8s,baz=199,slow=2.7,SNR=3.4							
TORD	Torodi Ar. Bea	123.04	288	PKP		PKPdf	02 17 48.2	-1.0
	0.3nm,0.6s,baz=69,slow=1.8,SNR=3.7							
LCO	Las Campanas	149.77	148	*e*PKPbc		PKPbc	02 18 43.5	+0.7

IDC 11 02:17:25.3±1.1, 1°42N×118°66E, h47km±9km, mb3.5/6, mb1 3.8/6, mb1mx3.4/28, mbtmp3.8/6, MS3.2/2, Ms1 3.2/2, ms1mx2.7/33, Error ellipse: s-maj=56.5km s-min=15.0km az=70.0, Borneo

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KAPI	Kappang	6.49	170	LR	LR	02 22 29.9	
	comp=Z,125nm,19.2s,baz=3.3,slow=47						
FITZ	Fitzroy Crossi	20.58	161	P	P	02 22 01.4	+1.0
	3.0nm,0.9s,baz=342,slow=6.4,SNR=3.8						
WRA	Warramunga Arr	26.22	145	P	P	02 22 54.4	-1.6
	2.4nm,0.9s,baz=333,slow=9.8,SNR=10						
WRA				pP	pP	02 23 08.3	+0.1
	4.3nm,0.9s,baz=334,slow=9.6,SNR=8.2						
ASAR	Alice Springs	29.01	150	P	P	02 23 21.0	0.0
	0.6nm,0.5s,baz=341,slow=14,SNR=9.1						
ASAR				pP	pP	02 23 34.8	+1.4
	2.5nm,1.1s,baz=336,slow=12,SNR=3.7						
ASAR				PcP	PcP	02 26 28.1	-0.8
	0.2nm,0.4s,baz=334,slow=2.3,SNR=4.3						
ASAR				pPcP		02 26 43.6	
	0.3nm,0.5s,baz=340,slow=2.2,SNR=5.0						
ASAR				LR	LR	02 35 27.3	
	comp=Z,83nm,19.7s,baz=347,slow=37						
MJAR	Matsushiro Arr	39.35	25	P	P	02 24 51.7	+1.5
	0.4nm,0.7s,baz=224,slow=6.7,SNR=2.6						
STKA	Stephens Creek	39.62	149	P	P	02 24 52.2	-0.3
	1.3nm,0.6s,baz=325,slow=10,SNR=5.2						
SONM	Songino Array	47.44	349	pP	pP	02 26 07.4	-0.8
	1.8nm,0.7s,baz=170,slow=8.8,SNR=10						
ZALV	Zalesovo Beam	59.29	337	P	P	02 27 21.8	-0.3
	0.2nm,0.3s,baz=120,slow=8.5,SNR=2.4						
ZALV				pP	pP	02 27 34.2	-1.1
	1.9nm,0.7s,baz=136,slow=7.0,SNR=5.5						

CSEM 11 02:31:49.6, 42°.45N×13°.34E, h12km, ML1.4/4
ROM 11 02:31:49.6±0.1, 42°.45N×13°.34E, h12km±1km, Ml1.4/4, Error ellipse: s-maj=0.7km s-min=0.6km az=100.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
T0104	Madonna delle	0.09	182	Pg	Pg	02 31 52.8	+0.5
T0104				Sg	Sg	02 31 54.9	+0.6
AQU	L'Aquila	0.11	155	Pg	Pg	02 31 53.0	+0.5
AQU				Sg	Sg	02 31 55.3	+0.6
AQU	L'Aquila	0.11	155	Pg	Pg	02 31 53.0	+0.5
AQU				Sg	Sg	02 31 55.3	+0.6
SMA1	SAN MARTINO	0.18	358	Pg	Pb	02 31 54.4	-0.6
SMA1				Sg	Sg	02 31 57.9	+1.3
	58nm,0.3s						
SMA1	SAN MARTINO	0.18	358	Pg	Pb	02 31 54.4	-0.6
SMA1				Sg	Sg	02 31 57.9	+1.3
	58nm,0.3s						
FIAM	Fiamignano	0.25	223	Pg	Pg	02 31 55.2	+0.4
FIAM				Sg	Sg	02 31 59.5	+1.2
FIAM	Fiamignano	0.25	223	Pg	Pg	02 31 55.2	+0.4
FIAM				Sg	Sg	02 31 59.5	+1.2
FAGN	Fagnano	0.26	136	Pg	Pg	02 31 55.5	+0.5
	78nm,0.4s						
FAGN	Fagnano	0.26	136	Pg	Pg	02 31 55.5	+0.5
	78nm,0.4s						
TERO	Teramo	0.26	48	Pg	Pg	02 31 55.4	+0.4
TERO				Sg	Sg	02 31 59.6	+0.9
	43nm,0.1s						
TERO	Teramo	0.26	48	Pg	Pg	02 31 55.4	+0.4
TERO				Sg	Sg	02 31 59.6	+0.9
	43nm,0.1s						
LNSS	Leonessa	0.27	305	Pg	Pg	02 31 55.7	+0.5
LNSS				Sg	Sg	02 32 00.0	+1.0
LNSS	Leonessa	0.27	305	Pg	Pg	02 31 55.7	+0.5
LNSS				Sg	Sg	02 32 00.0	+1.0
VCEL	Villa Celiera	0.37	98	Pg	Pb	02 31 57.7	-0.6
	33nm,0.5s						
VCEL	Villa Celiera	0.37	98	Pg	Pb	02 31 57.7	-0.6
	33nm,0.5s						
NRCA	Norcia	0.42	336	Pg	Pg	02 31 58.1	+0.2
NRCA				Sg	Sb	02 32 04.5	-0.9
NRCA	Norcia	0.42	336	Pg	Pg	02 31 58.1	+0.2
NRCA				Sg	Sb	02 32 04.5	-0.9

ISCJB 11 02:32:41.9±0.3, 42°.48N±0°.02×13°.52E±0°.03, h15km±5km, Error ellipse: s-maj=4.3km s-min=3.0km az=164.3
ROM 11 02:32:41.7±0.1, 42°.48N×13°.52E, h11km±1km, Ml2.3/21, Error ellipse: s-maj=1.3km s-min=0.8km az=76.0
CSEM 11 02:32:41.6±0.1, 42°.47N×13°.50E, h20km, ML3.1/10, Error ellipse: s-maj=3.6km s-min=2.4km az=78.0
ISC 11 02:32:41.8±0.8, 42°.48N±0°.02×13°.51E±0°.02, h17km±5km, n55, σ0°72/84, Central Italy

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AQU	L'Aquila	0.14	213	Pg	Pb	02 32 46.0	-0.1
AQU				Sg	Sb	02 32 49.1	+0.1
	754nm,0.3s						
AQU	L'Aquila	0.14	213	Pg	Pb	02 32 46.0	-0.1
AQU				Sg	Sb	02 32 49.1	+0.1
	754nm,0.3s						
TERO	Teramo	0.16	26	Pg	Pg	02 32 45.8	-0.4
TERO				Sg	Sg	02 32 48.8	-0.3
	1μm,0.5s						
TERO	Teramo	0.16	26	Pg	Pg	02 32 45.8	-0.4
TERO				Sg	Sg	02 32 48.8	-0.3
	1μm,0.5s						
T0104	Madonna delle	0.17	227	Pg	Pb	02 32 46.4	-0.2
T0104				Sg	Sb	02 32 49.8	0.0
SMA1	SAN MARTINO	0.20	321	Pg	Pg	02 32 46.6	-0.1
SMA1				Sg	Sg	02 32 50.2	+0.2
SMA1	SAN MARTINO	0.20	321	Pg	Pg	02 32 46.6	-0.1
SMA1				Sg	Sg	02 32 50.2	+0.2
FAGN	Fagnano	0.22	165	Pg	Pg	02 32 46.8	-0.1
FAGN				Sg	Sb	02 32 51.0	-0.1
	1μm,0.3s						
FAGN	Fagnano	0.22	165	Pg	Pg	02 32 46.8	-0.1
FAGN				Sg	Sb	02 32 51.0	-0.1
	1μm,0.3s						
VCEL	Villa Celiera	0.26	108	Pg	Pg	02 32 47.5	-0.1
VCEL				Sg	Sb	02 32 52.5	+0.1
	763nm,0.3s						
VCEL	Villa Celiera	0.26	108	Pg	Pg	02 32 47.5	-0.1
VCEL				Sg	Sb	02 32 52.5	+0.1
	763nm,0.3s						
FIAM	Fiamignano	0.35	234	Pg	Pg	02 32 49.3	+0.1
	182nm,0.5s						
FIAM	Fiamignano	0.35	234	Pg	Pg	02 32 49.3	+0.1
	182nm,0.5s						
LNSS	Leonessa	0.37	290	Pg	Pg	02 32 49.3	-0.2
LNSS				Sg	Sb	02 32 55.1	-0.4
	379nm,0.2s						
LNSS	Leonessa	0.37	290	Pg	Pg	02 32 49.3	-0.2
LNSS				Sg	Sb	02 32 55.1	-0.4
	379nm,0.2s						
TRTR	Tortoreto Alta	0.45	42	Pg	Pb	02 32 51.4	+0.1

TRTR	Tortoreto Alta	0.45	42	Pg		Pb	02 32 51.4	+0.1
NRCA	Norcia	0.46	321	Pg		Pg	02 32 50.6	-0.5
NRCA				Sg		Sb	02 32 57.8	-0.4
	557nm,0.1s							
NRCA	Norcia	0.46	321	Pg		Pg	02 32 50.6	-0.5
NRCA				Sg		Sb	02 32 57.8	-0.4
	557nm,0.1s							
PTQR	Pietraquaria	0.46	190	Pg		Pg	02 32 51.0	-0.1
PTQR				Sg		Sb	02 32 58.7	+0.6
PTQR	Pietraquaria	0.46	190	Pg		Pg	02 32 51.0	-0.1
PTQR				Sg		Sb	02 32 58.7	+0.6
INTR	Introdacqua	0.55	147	Pg		Pg	02 32 52.1	-0.7
INTR				Sg		Sb	02 33 00.5	-0.2
	137nm,0.2s							
INTR	Introdacqua	0.55	147	Pg		Pg	02 32 52.1	-0.7
INTR				Sg		Sb	02 33 00.5	-0.2
	137nm,0.2s							
VVLD	Villa Vallelon	0.61	172	Pg		Pg	02 32 53.4	-0.5
	67nm,0.8s							
VVLD	Villa Vallelon	0.61	172	Pg		Pg	02 32 53.4	-0.5
	67nm,0.8s							
FDMO	Fiordimonte	0.64	331	Pg		Pg	02 32 53.7	-0.8
FDMO				Sg		Sb	02 33 03.5	+0.2
	89nm,0.2s							
FDMO	Fiordimonte	0.64	331	Pg		Pg	02 32 53.7	-0.8
FDMO				Sg		Sb	02 33 03.5	+0.2
	89nm,0.2s							
CERT	Cerreto	0.65	217	Pg		Pg	02 32 54.3	-0.4
	72nm,0.5s							
CERT	Cerreto	0.65	217	Pg		Pg	02 32 54.3	-0.4
	72nm,0.5s							
GUMA	Gualdo di Mace	0.67	28	Pg		Pg	02 32 53.6	-1.3
GUMA				Sg		Sg	02 33 02.9	-0.9
	386nm,0.5s							
GUMA	Gualdo di Mace	0.67	28	Pg		Pg	02 32 53.6	-1.3
GUMA				Sg		Sg	02 33 02.9	-0.9
	386nm,0.5s							
CESI	CESI - Serrava	0.69	320	Pg		Pg	02 32 54.7	-0.7
CESI				Sg		Sb	02 33 05.8	+1.0
	36nm,0.3s							
CESI	CESI - Serrava	0.69	320	Pg		Pg	02 32 54.7	-0.7
CESI				Sg		Sb	02 33 05.8	+1.0
	36nm,0.3s							
MTCE	Montecelio	0.72	232	Pg		Pn	02 32 56.8	-0.6
	70nm,0.7s							
MTCE	Montecelio	0.72	232	Pg		Pn	02 32 56.8	-0.6
	70nm,0.7s							
POFI	Posta Fibreno	0.77	169	Pg		Pg	02 32 55.8	-1.1
POFI	Posta Fibreno	0.77	169	Pg		Pg	02 32 55.8	-1.1
SNTG	Esanatoglia	0.88	332	Pg		Pb	02 32 58.1	-0.7
	45nm,0.2s							
SNTG	Esanatoglia	0.88	332	Pg		Pb	02 32 58.1	-0.7
	45nm,0.2s							
CING	Cingoli	0.93	346	Pg		Pb	02 32 58.8	-0.7
	58nm,0.4s							
CING	Cingoli	0.93	346	Pg		Pb	02 32 58.8	-0.7
	58nm,0.4s							
GIUL	Giuliano Di Ro	0.94	192	Pg		Pb	02 32 59.5	-0.1
	29nm,0.7s							
GIUL	Giuliano Di Ro	0.94	192	Pg		Pb	02 32 59.5	-0.1
	29nm,0.7s							
ATCC	AVT- Casa Cast	0.95	318	Pg		Pb	02 32 59.4	-0.6
	50nm,0.5s							
ATCC	AVT- Casa Cast	0.95	318	Pg		Pb	02 32 59.4	-0.6
	50nm,0.5s							
MIDA	Miranda	1.00	146	Pg		Pb	02 32 59.5	-1.3
	29nm,0.6s							
MIDA	Miranda	1.00	146	Pg		Pb	02 32 59.5	-1.3
	29nm,0.6s							
SSFR	Montelago di S	1.10	331	Pg		Pb	02 33 01.8	-0.6
	151nm,0.2s							
SSFR	Montelago di S	1.10	331	Pg		Pb	02 33 01.8	-0.6
	151nm,0.2s							
FRON	Frontone	1.19	331	Pg		Pn	02 33 03.3	-0.5
	31nm,0.4s							
FRON	Frontone	1.19	331	Pg		Pn	02 33 03.3	-0.5
	31nm,0.4s							
NVLJ	Novalja	2.31	25	*e*Pn		Pn	02 33 19.2	+0.1
NVLJ				Sn		Sn	02 33 48.4	+1.2
NVLJ	Novalja	2.31	25	*e*Pn		Pn	02 33 19.2	+0.1
NVLJ				Sn		Sn	02 33 48.3	+1.2
UDBI	Udbina	2.63	38	*i* Pn		Pn	02 33 25.3	+1.7
UDBI				Sn		Sn	02 33 57.2	+2.1
UDBI	Udbina	2.63	38	*i* Pn		Pn	02 33 25.3	+1.7
UDBI				Sn		Sn	02 33 57.2	+2.1

SJA 11 02:37:15.0±0.5, 27°.78S×67°.54W, h150km±3km, ML3.7, MW4.0, Catamarca Province

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VCA	Vinchina	1.12	212	*i* P	Pn	02 37 41.9	+0.8
VCA				*i* S	Sn	02 38 01.3	+0.3
VCA				IAML		02 38 03.4	
	comp=Z,858nm,0.3s						
CYA	Choya	1.67	114	*i* P	Pn	02 37 47.4	+1.0
CYA				*i* S	Sn	02 38 10.7	+0.2
ACLC	CERRO LA CRUZ	1.71	163	*i* P	Pn	02 37 48.0	+0.8
AGUA	GUANDACOL	1.89	206	*i* P	Pn	02 37 49.9	+0.9
AHML	Horco Molle	2.20	64	*i* P	Pn	02 37 53.3	+0.8
APLL	PUNTA DE LOS L	2.75	162	*i* P	Pn	02 38 00.2	+1.0
SJA	San Juan	3.84	193	*i* P	Pn	02 38 14.1	+0.9
SJA				IAML		02 38 14.2	
	comp=Z,216nm,0.2s						
SJA				*i* S	Sn	02 38 58.0	-0.4
RTCV	Cerro Valdivia	4.16	192	*i* P	Pn	02 38 18.1	+0.7
RTLS	Leoncito	4.29	201	*i* P	Pn	02 38 20.5	+1.2
RTLS				IAML		02 39 13.2	
	comp=Z,34nm,0.3s						

IDC 11 02:48:00.7±0.7, 55°.54S×26°.18W, h0km, mb4.3/9, mb1 4.3/10, mb1mx4.1/22, mbtmp4.2/10, ML3.6/1, MS3.9/7, Ms1 3.9/7, ms1mx3.5/22, Error ellipse: s-maj=21.3km s-min=19.8km az=107.0
NEIC 11 02:48:02.8±4.8, 55°.51S×26°.12W, h14km±29km, mb4.5/6, Error ellipse: s-maj=11.7km s-min=8.1km az=221.0
ISCJB 11 02:48:03.4±0.5, 55°.57S±0°.07×26°.2W±0°.1, h32km, mb4.3/13, MS3.9/6, Error ellipse: s-maj=12.9km s-min=8.2km az=143.2
ISC 11 02:48:05.3±0.6, 55°.61S±0°.09×26°.33W±0°.08, h32km, n29, σ0s86/28, mb4.3/12, MS4.0/6, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HOPE	Hope Point	6.00	279	*e*Pn	Pn	02 49 32.6	+0.8
	96nm,0.8s						
HOPE				*e*Sn	Sn	02 50 36.5	-2.9
VNA1	Neumayer--Stat	17.03	159	P	P	02 52 01.7	-0.5
VNA3	Neumayer Olymp	17.25	162	P	Pn	02 52 03.1	-0.4
VNA2	Neumayer--Watz	17.42	159	P	Pn	02 52 05.0	-0.6
	baz=314,slow=16						
SNAA	Sanae	18.95	157	P	Pn	02 52 23.8	-0.5
SNAA	Sanae	18.95	157	P	P	02 52 23.6	+0.2
	0.2nm,0.3s,baz=296,slow=8.2,SNR=12						
SNAA				LR	LR	02 59 45.2	
	comp=Z,170nm,18.4s,baz=354,slow=37						
PMSA	Palmer Station	20.55	228	P	P	02 52 41.7	+0.9
	24nm,0.8s,baz=64,slow=7.1,SNR=18						
PMSA	Palmer Station	20.55	228	*e*P	Pn	02 52 44.3	+1.1
	19nm,0.7s						
USHA	Ushuaia	23.77	254	LR	LR	03 00 34.4	
	comp=Z,944nm,19.8s,baz=91,slow=32						
TRQA	Tornquist	29.60	291	*e*P	P	02 54 07.2	-0.2
	6.1nm,0.9s						
QSPA	South Pole Qui	34.64	180	*e*P	P	02 54 50.9	-0.5
CPUP	Villa Florida	36.89	310	P	P	02 55 09.8	-1.0
	1.4nm,0.7s,baz=151,slow=4.3,SNR=4.0						
CPUP				LR	LR	03 10 28.4	
	comp=Z,148nm,19.6s,baz=166,slow=36						
BOSA	Boshof	45.39	75	P	P	02 56 19.4	-1.4
	2.1nm,0.6s,baz=188,slow=7.3,SNR=5.9						
BOSA				LR	LR	03 12 13.6	
	comp=Z,260nm,18.3s,baz=214,slow=32						
LVC	Limon Verde	45.51	299	*e*P	P	02 56 22.4	+0.4
	6.2nm,0.6s						
VNDA	Vanda	47.03	182	P	P	02 56 33.3	+0.4
	2.6nm,0.7s,baz=190,slow=6.2,SNR=25						
VNDA				LR	LR	03 15 17.0	
	comp=Z,44nm,19.8s,baz=168,slow=35						
LBTB	Lobatse	48.41	73	P	P	02 56 43.7	-0.7
	1.6nm,0.6s,baz=224,slow=8.5,SNR=4.4						
LPAZ	La Paz	50.52	304	P	P	02 57 01.8	+0.6

	4.5nm,0.7s,baz=148,slow=4.3,SNR=23							
SAML	Samuel	54.84	314	*e*P		P	02 57 32.1	-0.2
	7.7nm,1.3s							
DBIC	Dimbokro	64.57	24	P		P	02 58 39.0	-0.2
	1.9nm,0.7s,baz=154,slow=8.0,SNR=4.1							
DBIC				LR		LR	03 21 02.9	
	comp=Z,97nm,19.0s,baz=163,slow=31							
OTAV	Otavalo	69.82	303	*e*P		P	02 59 14.2	+1.1
	3.3nm,0.9s							
TORD	Torodi Ar. Bea	72.43	29	P		P	02 59 28.2	0.0
	1.7nm,0.6s,baz=200,slow=6.0,SNR=31							
TORD				LR		LR	03 25 57.5	
	comp=Z,60nm,18.4s,baz=120,slow=32							
JTS	JuntasAbangare	81.69	302	*e*P		P	03 00 21.3	+0.9
	3.1nm,0.9s							
ASAR	Alice Springs	99.26	162	P		Pdif	03 01 44.7	+0.8
	0.4nm,0.7s,baz=173,slow=4.3,SNR=5.7							
YKA	Yellowknife Ar	136.17	318	PKP		PKPdf	03 07 21.8	+0.1
	0.8nm,0.8s,baz=129,slow=2.5,SNR=4.2							
KURK	Kurchatov	136.78	64	*e*PKPdf		PKPdf	03 07 23.7	+0.4
INK	Inuvik	145.77	321	PKPbc		PKPab	03 07 39.9	+0.1
	2.6nm,0.7s,baz=84,slow=8.5,SNR=5.7							
PAX	Paxson	149.17	309	*e*PKPbc		PKPbc	03 07 49.7	+0.7
ILAR	Eielson Array	150.18	312	PKPbc		PKPbc	03 07 51.4	0.0
	2.5nm,0.8s,baz=126,slow=2.0,SNR=27							
MCK	McKinley	150.87	310	*e*PKPbc		PKPbc	03 07 53.7	+0.6

IDC 11 02:52:24.2±1.0, 42°.10N×63°.89E, h0km, mb3.4/5, mb1 3.8/13, mb1mx3.6/47, mbtmp3.8/13, ML3.2/7, MS2.4/3, Ms1 2.4/3, ms1mx2.2/41, Error ellipse: s-maj=15.1km s-min=11.7km az=174.0
ISCJB 11 02:52:26.6±0.7, 42°.38N±0°.06×64°.02E±0°.06, h33km, mb3.4/5, Error ellipse: s-maj=8.9km s-min=5.9km az=20.4
CSEM 11 02:52:27.8, 42°.65N×64°.22E, h0km, mb4.1
NNC 11 02:52:27.8±2.2, 42°.65N×64°.22E, h0km, mb4.1, mpv3.8, Error ellipse: s-maj=24.0km s-min=8.5km az=30.0
ISC 11 02:52:29.0±0.9, 42°.36N±0°.09×64°.08E±0°.05, h35km, n30, σ2s10/36, mb3.5/5, 10C-7D, Northwestern Uzbekistan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KK31	Karatay Array	4.79	79	⇓Pn	Pn	02 53 40.8	+2.1
	11nm,0.6s						
KK31				⇑Sn	Sn	02 54 35.8	+2.7
	8.5nm,0.3s						
KK31				⇑Lg	Lg	02 54 55.8	
	37nm,0.8s,baz=266,slow=28,SNR=5.5						
KK31	Karatay Array	4.79	79	Pn	Pn	02 53 40.8	+2.1
	11nm,0.6s						
KK31				Sn	Sn	02 54 35.8	+2.7
	8.5nm,0.3s						
KK31				Lg	Lg	02 54 55.8	
	37nm,0.8s,SNR=5.5						
MNAS	Manas	6.24	86	⇑Pn	Pn	02 53 58.7	+0.1
	5.1nm,0.6s						
MNAS				⇑Lg	Lg	02 55 44.4	
	15nm,0.8s						
MNAS	Manas	6.24	86	Pn	Pn	02 53 58.7	+0.1
	5.1nm,0.6s						
MNAS				Lg	Lg	02 55 44.4	
	15nm,0.8s						
GEYT	Alibeck	6.36	228	Pn	Pn	02 53 54.3	-5.9
	2.0nm,0.3s,baz=44,slow=7.9,SNR=14						
GEYT				Sn	Sn	02 55 02.4	-9.3
	3.6nm,0.3s,baz=302,slow=46,SNR=4.4						
GEYT				LR	LR	02 55 56.4	
	comp=Z,220nm,20.1s,baz=75,slow=35						
AB31	Akbulak array	7.48	339	⇓Pn	Pn	02 54 15.9	+0.4
	2.3nm,0.4s,baz=158,slow=13,SNR=110						
AB31				⇑Sn	Sn	02 55 39.3	+0.3
	3.1nm,0.4s,baz=154,slow=24,SNR=4.5						
AB31				⇓Lg	Lg	02 56 20.6	
	17nm,0.8s,baz=144,slow=31,SNR=3.8						
AB31	Akbulak array	7.48	339	Pn	Pn	02 54 15.9	+0.4
	2.3nm,0.4s,SNR=110						
AB31				Sn	Sn	02 55 39.3	+0.3
	3.1nm,0.4s,SNR=4.5						
AB31				Lg	Lg	02 56 20.6	
	17nm,0.8s,SNR=3.8						
AAK	Ala-Archa	7.70	84	Pn	Pn	02 54 19.1	+0.3
	0.3nm,0.3s,baz=219,slow=11,SNR=7.1						
AAK				Lg	Lg	02 56 37.4	
	0.4nm,0.3s,baz=159,slow=22,SNR=3.6						
AAK	Ala-Archa	7.70	84	⇓Pn	Pn	02 54 17.0	-1.7
	2.4nm,0.6s						
AAK				⇓Lg	Lg	02 56 29.7	
	15nm,1.1s						
AAK	Ala-Archa	7.70	84	Pn	Pn	02 54 17.0	-1.7
	2.4nm,0.6s						
AAK				Lg	Lg	02 56 29.7	
	15nm,1.1s						
TKM2	Tokmak 2	8.51	82	⇑Pn	Pn	02 54 31.0	+1.1
	3.8nm,0.7s						
TKM2				⇑Lg	Lg	02 56 54.7	
	5.7nm,0.8s						
TKM2	Tokmak 2	8.51	82	Pn	Pn	02 54 31.0	+1.1
	3.8nm,0.7s						
TKM2				Lg	Lg	02 56 54.7	
	5.7nm,0.8s						
AKTO	Aktyubinsk	9.10	335	Pn	Pn	02 54 37.0	-0.7
	0.5nm,0.3s,baz=117,slow=23,SNR=13						
AKTO				Sn	Sn	02 56 22.2	+3.5
	0.5nm,0.3s,baz=330,slow=21,SNR=3.9						
AKTO				Lg	Lg	02 57 24.5	
	0.6nm,0.3s,baz=57,slow=14,SNR=4.4						
PDGK	Podgornoye	11.36	80	⇓Lg	Lg	02 58 20.8	
	6.9nm,0.8s						
BVAR	Borovoye Array	11.48	19	Pn	Pn	02 55 10.4	+0.1
	3.6nm,0.3s,baz=211,slow=13,SNR=40						
BVAR				Sn	Sn	02 57 18.7	+1.5
	1.2nm,0.3s,baz=208,slow=22,SNR=8.4						
BRVK	Borovoye	11.49	19	⇓Pn	Pn	02 55 06.4	-4.0
	7.9nm,0.8s						
BRVK				⇑Sn	Sn	02 57 15.7	-1.6
	4.6nm,0.6s						
BRVK	Borovoye	11.49	19	Pn	Pn	02 55 06.4	-4.0
	7.9nm,0.8s						
BRVK				Sn	Sn	02 57 15.

*MOS **11** 03:00:21.1±0.9,43.°00N×45.°89E,h19km,mb4.0/4,Error ellipse: s-maj=6.2km s-min=4.4km az=36.5*
*NEIC **11** 03:00:21.9±1.3,42.°99N×45.°77E,h15km±8km,mb4.0/3, Error ellipse: s-maj=9.5km s-min=6.2km az=176.0*
*DDA **11** 03:00:33.7,42.°21N×45.°26E,h31km,Md3.5*
ISC 11 03:00:21.7±0.8,**42.°92N**±0.°02×**45.°81E**±0.°01,**h18**km±2km, **n319**,σ**1**§**76**/460,**mb3.5**/18,**37C-47D**,**Eastern Caucasus**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GROC	**Groznyy**	**0.28**	**358**	*e*Pg	**Pb**	**03 00 28.3**	**+0.1**
GROC				*e*		03 00 34.3	
GROC				pmax	pmax		
	comp=Z,667nm,0.4s						
GROC				smax	smax		
	comp=N,10µm,0.4s						
GROC				smax	smax		
	comp=N,11µm,0.5s						
GROC				smax	smax		
	comp=E,4µm,0.5s						
GROC	**Groznyy**	**0.28**	**358**	*e*Pg	**Pb**	**03 00 28.3**	**+0.1**
	comp=E,667nm,0.4s						
GROC	**Groznyy**	**0.28**	**358**	*e*Pg	**Pb**	**03 00 28.3**	**+0.1**
	comp=E,667nm,0.4s						
GROC				*e*Sg	**Sb**	**03 00 34.3**	**+1.8**
	comp=E,11µm,0.5s						
GRO	**Groznyy**	**0.40**	**354**⇑	*e*P	**Pg**	**03 00 28.1**	**-1.9**
GRO	**Groznyy**	**0.40**	**354**⇑	*e*P	**Pg**	**03 00 28.1**	**-1.9**
GRO	**Groznyy**	**0.40**	**354**⇑	*e*P	**Pg**	**03 00 28.1**	**-1.9**
KMGR	**Komgaron**	**0.71**	**281**	*e*PG	**Pb**	**03 00 34.7**	**-0.8**
KMGR				*e*S	**Sn**	**03 00 46.8**	**-0.5**
KMGR	**Komgaron**	**0.71**	**281**	*e*Pg	**Pb**	**03 00 34.7**	**-0.8**
KMGR				*e*Sg	**Sn**	**03 00 46.8**	**-0.5**
KMGR	**Komgaron**	**0.71**	**281**	*e*Pg	**Pb**	**03 00 34.7**	**-0.8**
KMGR				*e*Sg	**Sn**	**03 00 46.8**	**-0.5**
UNCR	**Uncukul**	**0.75**	**106**⇑	*i*PG	**Pb**	**03 00 35.0**	**-1.2**
UNCR				*e*S	**Sg**	**03 00 46.5**	**+0.1**
UNCR	**Uncukul**	**0.75**	**106**	*i* Pg	**Pb**	**03 00 35.0**	**-1.2**
UNCR				*e*Sg	**Sg**	**03 00 46.5**	**+0.1**
UNCR	**Uncukul**	**0.75**	**106**	*i* Pg	**Pb**	**03 00 35.0**	**-1.2**
UNCR				*e*Sg	**Sg**	**03 00 46.5**	**+0.1**
DBC	**Dubki**	**0.75**	**82**⇑	*i*PG	**Pb**	**03 00 35.7**	**-0.6**
DBC				*i* S	**Sn**	**03 00 48.4**	**0.0**
DBC	**Dubki**	**0.75**	**82**	*i* Pg	**Pb**	**03 00 35.7**	**-0.6**
DBC				*i* Sg	**Sn**	**03 00 48.4**	**0.0**
DBC	**Dubki**	**0.75**	**82**	*i* Pg	**Pb**	**03 00 35.7**	**-0.6**
DBC				*i* Sg	**Sn**	**03 00 48.4**	**0.0**
XNZR	**Khunzakh**	**0.76**	**120**⇓	*i*PG	**Pb**	**03 00 35.0**	**-1.4**
XNZR				*e*S	**Sb**	**03 00 46.4**	**-0.1**
XNZR	**Khunzakh**	**0.76**	**120**	*e*Sg	**Sb**	**03 00 46.4**	**-0.1**
XNZR	**Khunzakh**	**0.76**	**120**	*i* Pg	**Pb**	**03 00 35.0**	**-1.4**
XNZR				*e*Sg	**Sb**	**03 00 46.4**	**-0.1**
KRNR	**Karanay**	**0.81**	**96**⇓	*i*PG	**Pb**	**03 00 35.7**	**-1.6**
KRNR				*i* S	**Sb**	**03 00 47.7**	**-0.2**
KRNR	**Karanay**	**0.81**	**96**	*i* Pg	**Pb**	**03 00 35.7**	**-1.6**
KRNR				*i* Sg	**Sb**	**03 00 47.7**	**-0.2**
KRNR	**Karanay**	**0.81**	**96**	*i* Pg	**Pb**	**03 00 35.7**	**-1.6**
KRNR				*i* Sg	**Sb**	**03 00 47.7**	**-0.2**
VLKR	**Vladikavkaz**	**0.84**	**279**⇓	*i*PG	**Pn**	**03 00 38.4**	**-0.2**
VLKR				*i* S	**Sn**	**03 00 52.2**	**+1.6**
VLKR	**Vladikavkaz**	**0.84**	**279**	*i* Pg	**Pn**	**03 00 38.4**	**-0.2**
VLKR	**Vladikavkaz**	**0.84**	**279**	*i* Pg	**Pn**	**03 00 38.4**	**-0.2**
VLKR				*i* Sg	**Sn**	**03 00 52.2**	**+1.6**
GNBR	**Gunib**	**1.00**	**122**⇑	*i*PG	**Pb**	**03 00 39.3**	**-1.2**
GNBR				*e*		03 00 53.4	
GNBR				pmax	pmax		
	comp=Z,241nm,0.4s						
GNBR				smax	smax		
	comp=E,2µm,0.5s						
GNBR				smax	smax		
	comp=E,1µm,0.5s						
GNBR				smax	smax		
	comp=N,1µm,0.5s						
GNBR	**Gunib**	**1.00**	**122**	*i* Pg	**Pb**	**03 00 39.3**	**-1.2**
	comp=N,241nm,0.4s						
GNBR				*e*Sg	**Sb**	**03 00 53.4**	**0.0**
	comp=N,1µm,0.5s						
GNBR	**Gunib**	**1.00**	**122**	*i* Pg	**Pb**	**03 00 39.3**	**-1.2**
	comp=N,241nm,0.4s						
GNBR				*e*Sg	**Sb**	**03 00 53.4**	**0.0**
	comp=N,1µm,0.5s						
BTKR	**Batakoyurt**	**1.03**	**296**⇓	*i*PG	**Pn**	**03 00 41.4**	**+0.1**
BTKR				*e*S	**Sg**	**03 00 58.4**	**+3.1**
BTKR	**Batakoyurt**	**1.03**	**296**	*i* Pg	**Pn**	**03 00 41.4**	**+0.1**
BTKR	**Batakoyurt**	**1.03**	**296**	*i* Pg	**Pn**	**03 00 41.4**	**+0.1**
BTKR				*e*Sg	**Sg**	**03 00 58.4**	**+3.1**
GUDG	**Gudauri**	**1.08**	**246**	P	**Pb**	**03 00 40.2**	**-1.8**
GUDG	**Gudauri**	**1.08**	**246**	P	**Pb**	**03 00 40.2**	**-1.8**
LACR	**Lac**	**1.12**	**266**⇓	*i*PG	**Pn**	**03 00 41.3**	**-1.2**
LACR				*i* S	**Sn**	**03 00 57.6**	**+0.1**
LACR	**Lac**	**1.12**	**266**	*i* Pg	**Pn**	**03 00 41.3**	**-1.2**
LACR				*i* Sg	**Sn**	**03 00 57.6**	**+0.1**
LACR	**Lac**	**1.12**	**266**	*i* Pg	**Pn**	**03 00 41.3**	**-1.2**
LACR				*i* Sg	**Sn**	**03 00 57.6**	**+0.1**
TRKR	**Terskaya**	**1.12**	**316**	*e*PG	**Pg**	**03 00 43.7**	**+0.2**
TRKR				*e*S	**Sg**	**03 01 02.0**	**+3.8**
TRKR	**Terskaya**	**1.12**	**316**	*e*Pg	**Pg**	**03 00 43.7**	**+0.2**
TRKR	**Terskaya**	**1.12**	**316**	*e*Pg	**Pg**	**03 00 43.7**	**+0.2**
TRKR				*e*Sg	**Sg**	**03 01 02.0**	**+3.8**
ARNR	**Ardon**	**1.15**	**284**⇓	*i*PG	**Pg**	**03 00 43.5**	**-0.4**
ARNR				*i* S	**Sg**	**03 01 01.5**	**+2.5**
ARNR	**Ardon**	**1.15**	**284**	*i* Pg	**Pg**	**03 00 43.5**	**-0.4**
ARNR	**Ardon**	**1.15**	**284**	*i* Pg	**Pg**	**03 00 43.5**	**-0.4**
ARNR				*i* Sg	**Sg**	**03 01 01.5**	**+2.5**
DUS	**Dusheti**	**1.17**	**225**	P	**Pn**	**03 00 42.8**	**-0.4**
KMKR	**Kumukh**	**1.24**	**129**⇑	*i*PG	**Pn**	**03 00 43.5**	**-0.7**
KMKR				*i* S	**Sb**	**03 01 00.0**	**-0.3**
KMKR	**Kumukh**	**1.24**	**129**	*i* Pg	**Pn**	**03 00 43.5**	**-0.7**
KMKR				*i* Sg	**Sb**	**03 01 00.0**	**-0.3**
KMKR	**Kumukh**	**1.24**	**129**	*i* Pg	**Pn**	**03 00 43.5**	**-0.7**
KMKR				*i* Sg	**Sb**	**03 01 00.0**	**-0.3**
MAK	**Makhachkala**	**1.24**	**88**	*e*PG	**Pg**	**03 00 45.9**	**+0.2**
MAK				*e*		03 01 04.9	
MAK				pmax	pmax		
	comp=Z,23nm,0.4s						
MAK				smax	smax		
	comp=E,159nm,0.5s						
MAK				smax	smax		
	comp=N,106nm,0.9s						
MAK	**Makhachkala**	**1.24**	**88**	*e*Pg	**Pg**	**03 00 45.9**	**+0.2**
	comp=N,23nm,0.4s						
MAK	**Makhachkala**	**1.24**	**88**	*e*Pg	**Pg**	**03 00 45.9**	**+0.2**
	comp=N,23nm,0.4s						
MAK				*e*Sg	**Sg**	**03 01 04.9**	**+2.9**
	comp=N,106nm,0.9s						
KORR	**Kora**	**1.29**	**278**⇓	*i*PG	**Pb**	**03 00 45.3**	**-0.1**
KORR				*e*S	**Sg**	**03 01 04.5**	**+1.0**
KORR	**Kora**	**1.29**	**278**	*i* Pg	**Pb**	**03 00 45.3**	**-0.1**
KORR				*e*Sg	**Sg**	**03 01 04.5**	**+1.0**
KORR	**Kora**	**1.29**	**278**	*i* Pg	**Pb**	**03 00 45.3**	**-0.1**
KORR				*e*Sg	**Sg**	**03 01 04.5**	**+1.0**
STDR	**Stavd-Durt**	**1.36**	**290**⇑	*i*PG	**Pg**	**03 00 47.2**	**-0.7**
STDR				*e*S	**Sg**	**03 01 07.9**	**+2.3**
STDR	**Stavd-Durt**	**1.36**	**290**	*i* Pg	**Pg**	**03 00 47.2**	**-0.7**
STDR	**Stavd-Durt**	**1.36**	**290**	*i* Pg	**Pg**	**03 00 47.2**	**-0.7**
STDR				*e*Sg	**Sg**	**03 01 07.9**	**+2.3**
SEAG	**Tbilisi Sea**	**1.38**	**213**	P	**Pn**	**03 00 45.8**	**-0.2**
SEAG				S	**Sg**	**03 01 07.4**	**+1.2**
PRTR	**Priterechnaya**	**1.39**	**307**⇓	*i*PG	**Pg**	**03 00 47.8**	**-0.7**
PRTR				*e*S	**Sg**	**03 01 09.3**	**+2.6**
PRTR	**Priterechnaya**	**1.39**	**307**	*i* Pg	**Pg**	**03 00 47.8**	**-0.7**
PRTR	**Priterechnaya**	**1.39**	**307**	*i* Pg	**Pg**	**03 00 47.8**	**-0.7**
PRTR				*e*Sg	**Sg**	**03 01 09.3**	**+2.6**
ZEI	**Tsey**	**1.41**	**265**⇓	*i*PG	**Pn**	**03 00 45.9**	**-0.7**
ZEI				*e*S	**Sb**	**03 01 05.9**	**+0.6**
ZEI	**Tsey**	**1.41**	**265**	*i* Pg	**Pn**	**03 00 45.9**	**-0.7**
ZEI				*e*Sg	**Sb**	**03 01 05.9**	**+0.6**
ZEI	**Tsey**	**1.41**	**265**	*i* Pg	**Pn**	**03 00 45.9**	**-0.7**
ZEI				*e*Sg	**Sb**	**03 01 05.9**	**+0.6**
ZKTA	**Zakatala**	**1.42**	**155**	⇓P	**Pb**	**03 00 47.6**	**+0.1**
	SNR=34						
ZKTA				⇓S	**Sg**	**03 01 09.9**	**+2.5**
TBLG	**Delisi**	**1.43**	**214**	P	**Pn**	**03 00 46.4**	**-0.4**
TBLG				S	**Sg**	**03 01 07.5**	**-0.5**
TBLG	**Delisi**	**1.43**	**214**	PG	**Pn**	**03 00 46.3**	**-0.4**
TBLG	**Delisi**	**1.43**	**214**	P	**Pn**	**03 00 46.4**	**-0.4**
TBLG				S	**Sn**	**03 01 04.0**	**-1.1**
TBLG	**Delisi**	**1.43**	**214**	P	**Pn**	**03 00 46.4**	**-0.4**
TBLG				S	**Sn**	**03 01 04.0**	**-1.1**
LSNR	**Lesken**	**1.50**	**284**⇓	*i*PG	**Pb**	**03 00 49.1**	**+0.1**
LSNR				*e*S	**Sg**	**03 01 11.0**	**+0.9**
DGRG	**David-gareji**	**1.50**	**193**	P	**Pb**	**03 00 48.8**	**-0.4**
DGRG				S	**Sg**	**03 01 14.3**	**+4.0**
DGRG	**David-gareji**	**1.50**	**193**	PG	**Pb**	**03 00 48.7**	**-0.4**
DGRG	**David-gareji**	**1.50**	**193**	Pg	**Pb**	**03 00 48.7**	**-0.4**
DGRG				S	**Sg**	**03 01 10.6**	**+0.3**
DGRG	**David-gareji**	**1.50**	**193**	Pg	**Pb**	**03 00 48.7**	**-0.4**
DGRG				S	**Sg**	**03 01 10.6**	**+0.3**
URKR	**Urkarakh**	**1.54**	**119**⇓	*i*PG	**Pn**	**03 00 49.0**	**+0.6**
URKR				*i* S	**Sg**	**03 01 10.5**	**-1.1**
URKR	**Urkarakh**	**1.54**	**119**	*i* Pg	**Pn**	**03 00 49.0**	**+0.6**
URKR				*i* Sg	**Sg**	**03 01 10.5**	**-1.1**
URKR	**Urkarakh**	**1.54**	**119**	*i* Pg	**Pn**	**03 00 49.0**	**+0.6**
URKR				*i* Sg	**Sg**	**03 01 10.5**	**-1.1**
DIGR	**Digorskoe uzhe**	**1.64**	**270**	*e*PN	**Pn**	**03 00 49.2**	**-0.6**
DIGR	**Digorskoe uzhe**	**1.64**	**270**	*e*Pn	**Pn**	**03 00 49.2**	**-0.6**
DIGR	**Digorskoe uzhe**	**1.64**	**270**	*e*Pn	**Pn**	**03 00 49.2**	**-0.6**
NCK	**Nalchik**	**1.72**	**290**	*e*PN	**Pb**	**03 00 51.8**	**-0.9**
NCK				*i* S	**Sg**	**03 01 16.1**	**-1.0**
NCK	**Nalchik**	**1.72**	**290**	*e*Pn	**Pb**	**03 00 51.8**	**-0.9**
NCK	**Nalchik**	**1.72**	**290**	*e*Pn	**Pb**	**03 00 51.8**	**-0.9**
NCK				*i* Sg	**Sg**	**03 01 16.1**	**-1.0**
ONI	**Oni**	**1.77**	**260**	P	**Pn**	**03 00 52.2**	**+0.8**
ONI				S	**Sg**	**03 01 17.3**	**-1.4**
ONI	**Oni**	**1.77**	**260**	PN	**Pn**	**03 00 52.4**	**+1.0**
ONI	**Oni**	**1.77**	**260**	Pn	**Pn**	**03 00 52.4**	**+1.0**
ONI	**Oni**	**1.77**	**260**	Pn	**Pn**	**03 00 52.4**	**+1.0**
KZR	**Kazreti**	**1.86**	**214**	P	**Pn**	**03 00 53.0**	**+0.5**
KZR				S	**Sb**	**03 01 17.2**	**-0.7**
QZX	**Qazax, Azerbai**	**1.89**	**190**	⇓P	**Pn**	**03 00 54.0**	**+1.0**
	SNR=90						
QZX				⇑S	**Sb**	**03 01 18.1**	**-0.8**
QZX	**Qazax, Azerbai**	**1.89**	**190**	P	**Pn**	**03 00 54.0**	**+1.0**
	SNR=90						
QZX				S	**Sb**	**03 01 18.1**	**-0.8**
QZX	**Qazax, Azerbai**	**1.89**	**190**	P	**Pn**	**03 00 54.0**	**+1.0**
	SNR=90						
QZX				S	**Sb**	**03 01 18.1**	**-0.8**
KBTC	**Kuba-Taba**	**1.97**	**298**	*e*PN	**Pb**	**03 00 55.7**	**-1.3**
KBTC	**Kuba-Taba**	**1.97**	**298**	*e*Pn	**Pb**	**03 00 55.7**	**-1.3**
KBTC	**Kuba-Taba**	**1.97**	**298**	*e*Pn	**Pb**	**03 00 55.7**	**-1.3**
SEKA	**Sheki**	**2.00**	**148**	⇑P	**Pb**	**03 00 57.0**	**-0.6**
	SNR=120						
SEKA				⇓S	**Sg**	**03 01 25.2**	**-0.8**
SEKA	**Sheki**	**2.00**	**148**	PN	**Pb**	**03 00 56.9**	**-0.6**
SEKA	**Sheki**	**2.00**	**148**	Pn	**Pb**	**03 00 56.9**	**-0.6**
SEKA				S	**Sg**	**03 01 25.2**	**-0.8**
SEKA	**Sheki**	**2.00**	**148**	Pn	**Pb**	**03 00 56.9**	**-0.6**
SEKA				S	**Sg**	**03 01 25.2**	**-0.8**
AKT	**Akhty**	**2.03**	**135**⇓	*i*PN	**Pn**	**03 00 56.4**	**+1.4**
AKT				pmax	pmax		
	comp=Z,100nm,0.5s						
AKT	**Akhty**	**2.03**	**135**	*i* Pn	**Pn**	**03 00 56.4**	**+1.4**
	comp=Z,100nm,0.5s						
AKT	**Akhty**	**2.03**	**135**	*i* Pn	**Pn**	**03 00 56.4**	**+1.4**
	comp=Z,100nm,0.5s						
DRN	**Derbent**	**2.06**	**115**	*e*PN	**Pb**	**03 00 59.8**	**+1.2**
DRN				*e*		03 01 28.4	
DRN				pmax	pmax		
	comp=Z,88nm,0.4s						
DRN				smax	smax		
	comp=N,270nm,0.7s						
DRN				smax	smax		
	comp=E,248nm,0.9s						
DRN				smax	smax		
	comp=N,327nm,0.7s						
DRN	**Derbent**	**2.06**	**115**⇓	*e*P	**Pb**	**03 00 58.1**	**-0.5**
DRN	**Derbent**	**2.06**	**115**⇓	*e*P	**Pb**	**03 00 58.1**	**-0.5**
DRN	**Derbent**	**2.06**	**115**	*e*Pn	**Pb**	**03 00 59.8**	**+1.2**
	comp=N,88nm,0.4s						
DRN				*e*Sg	**Sg**	**03 01 28.4**	**+0.3**
	comp=N,327nm,0.7s						
DRN	**Derbent**	**2.06**	**115**⇓	*e*P	**Pb**	**03 00 58.1**	**-0.5**
GDB	**GEDABAY**	**2.20**	**181**	⇓P	**Pn**	**03 00 58.1**	**+0.7**
	SNR=49						
GDB				⇓S	**Sb**	**03 01 27.4**	**-0.5**
GDB	**GEDABAY**	**2.20**	**181**	P	**Pn**	**03 00 58.1**	**+0.7**
	SNR=49						
GDB				S	**Sb**	**03 01 27.4**	**-0.5**
GDB	**GEDABAY**	**2.20**	**181**	P	**Pn**	**03 00 58.1**	**+0.7**
	SNR=49						
GDB				S	**Sb**	**03 01 27.4**	**-0.5**
KBZ	**Khabaz**	**2.27**	**292**	Pn	**Pn**	**03 00 58.6**	**+0.3**
	comp=N,9.2nm,0.3s,baz=222,slow=1.5,SNR=60						
KBZ				Lg	Lg	03 01 30.1	
	comp=N,23nm,0.3s,baz=315,slow=21,SNR=14						
KBZ	**Khabaz**	**2.27**	**292**	Pn	**Pn**	**03 00 58.6**	**+0.3**
	comp=N,9.0nm,0.3s						
KBZ				Lg	Lg	03 01 30.1	
KBZ	**Khabaz**	**2.27**	**292**	Pn	**Pn**	**03 00 58.6**	**+0.3**
KBZ				Lg	Lg	03 01 30.1	
PYA1	**Pyatigorsk**	**2.28**	**301**	*e*PN	**Pn**	**03 00 57.8**	**-0.6**
PYA1				*e*S	**Sn**	**03 01 27.8**	**+1.7**
PYA1	**Pyatigorsk**	**2.28**	**301**	*e*Pn	**Pn**	**03 00 57.8**	**-0.6**
PYA1				*e*Sn	**Sn**	**03 01 27.8**	**+1.7**
PYA1	**Pyatigorsk**	**2.28**	**301**	*e*Pn	**Pn**	**03 00 57.8**	**-0.6**
PYA1				*e*Sn	**Sn**	**03 01 27.8**	**+1.7**
NEY	**Neytrino**	**2.29**	**279**	*ce*PN	**Pb**	**03 01 00.9**	**-1.6**
NEY				pmax	pmax		
	comp=Z,259nm,0.8s						
NEY	**Neytrino**	**2.29**	**279**	*e*Pn	**Pb**	**03 01 00.9**	**-1.6**
	comp=Z,259nm,0.8s						
NEY	**Neytrino**	**2.29**	**279**	*e*Pn	**Pb**	**03 01 00.9**	**-1.6**
	comp=Z,259nm,0.8s						
AKH	**Akhalkalaki**	**2.29**	**230**	P	**Pb**	**03 01 00.7**	**-1.8**
AKH				S	**Sb**	**03 01 30.2**	**-0.4**
AKH	**Akhalkalaki**	**2.29**	**230**	PN	**Pb**	**03 01 01.0**	**-1.6**
AKH	**Akhalkalaki**	**2.29**	**230**	Pn	**Pb**	**03 01 01.0**	**-1.6**
AKH	**Akhalkalaki**	**2.29**	**230**	Pn	**Pb**	**03 01 01.0**	**-1.6**
QSAR	**Qusar**	**2.30**	**127**	P	**Pb**	**03 01 03.0**	**+0.4**
	SNR=10						
QSAR				⇑S	**Sg**	**03 01 34.1**	**-1.5**
QSAR	**Qusar**	**2.30**	**127**	P	**Pb**	**03 01 03.0**	**+0.4**
	SNR=10						
QSAR	**Qusar**	**2.30**	**127**	P	**Pb**	**03 01 03.0**	**+0.4**
	SNR=10						
GANJ	**Ganja**	**2.31**	**170**	⇑P	**Pn**	**03 01 00.5**	**+1.7**
	SNR=37						
GANJ				⇑S	**Sb**	**03 01 30.1**	**-0.7**
GANJ	**Ganja**	**2.31**	**170**	PN	**Pn**	**03 01 00.4**	**+1.7**
GANJ	**Ganja**	**2.31**	**170**	P	**Pn**	**03 01 00.5**	**+1.7**
	SNR=37						
GANJ				S	**Sb**	**03 01 30.1**	**-0.7**
GANJ	**Ganja**	**2.31**	**170**	P	**Pn**	**03 01 00.5**	**+1.7**
	SNR=37						
GANJ				S	**Sb**	**03 01 30.1**	**-0.7**
BGD	**Bogdanovka**	**2.33**	**226**	P	**Pb**	**03 01 01.4**	**-2.0**
BGD				S	**Sb**	**03 01 31.9**	**0.0**
MNGR	**Mingechevir, A**	**2.35**	**156**	⇓P	**Pb**	**03 01 02.2**	**-1.2**
MNGR				⇓S	**Sb**	**03 01 31.0**	**-1.0**
MNGR	**Mingechevir, A**	**2.35**	**156**	PN	**Pb**	**03 01 02.6**	**-0.8**
MNGR	**Mingechevir, A**	**2.35**	**156**	P	**Pb**	**03 01 02.2**	**-1.2**
MNGR	**Mingechevir, A**	**2.35**	**156**	Pn	**Pb**	**03 01 02.6**	**-0.8**
MNGR				S	**Sb**	**03 01 31.0**	**-1.0**
MNGR	**Mingechevir, A**	**2.35**	**156**	P	**Pb**	**03 01 02.2**	**-1.2**
MNGR	**Mingechevir, A**	**2.35**	**156**	Pn	**Pb**	**03 01 02.6**	**-0.8**
BEYR	**Belyy Ugol+**	**2.44**	**298**	*e*PN	**Pn**	**03 01 00.4**	**-0.2**
BEYR				*e*S	**Sn**	**03 01 32.2**	**+2.3**
BEYR	**Belyy Ugol+**	**2.44**	**298**	*e*Pn	**Pn**	**03 01 00.4**	**-0.2**
BEYR				*e*Sn	**Sn**	**03 01 32.2**	**+2.3**
BEYR	**Belyy Ugol+**	**2.44**	**298**	*e*Pn	**Pn**	**03 01 00.4**	**-0.2**
BEYR				*e*Sn	**Sn**	**03 01 32.2**	**+2.3**
SHA1	**Shidzhatmaz**	**2.44**	**291**	*e*PN	**Pn**	**03 01 01.5**	**+0.7**
SHA1				*e*S	**Sb**	**03 01 33.8**	**-1.2**
SHA1	**Shidzhatmaz**	**2.44**	**291**	*e*Pn	**Pn**	**03 01 01.5**	**+0.7**
SHA1	**Shidzhatmaz**	**2.44**	**291**	*e*Pn	**Pn**	**03 01 01.5**	**+0.7**
SHA1				*e*Sn	**Sb**	**03 01 33.8**	**-1.2**
XNQ	**Khinaliq**	**2.46**	**134**	⇓P	**Pb**	**03 01 04.6**	**-0.9**
	SNR=28						
XNQ				⇓S	**Sb**	**03 01 35.1**	**-0.4**
XNQ	**Khinaliq**	**2.46**	**134**	P	**Pb**	**03 01 04.6**	**-0.9**
	SNR=28						
XNQ				S	**Sb**	**03 01 35.1**	**-0.4**
XNQ	**Khinaliq**	**2.46**	**134**	P	**Pb**	**03 01 04.6**	**-0.9**
	SNR=28						
XNQ				S	**Sb**	**03 01 35.1**	**-0.4**
QBL	**Gabala**	**2.48**	**142**	⇓P	**Pb**	**03 01 04.3**	**-1.5**
	SNR=6.1						
QBL				⇓S	**Sb**	**03 01 35.8**	**-0.3**
QBL	**Gabala**	**2.48**	**142**	P	**Pb**	**03 01 04.3**	**-1.5**
	SNR=6.1						
QBL				S	**Sb**	**03 01 35.8**	**-0.3**
QBL	**Gabala**	**2.48**	**142**	P	**Pb**	**03 01 04.3**	**-1.5**
	SNR=6.1						
QBL				S	**Sb**	**03 01 35.8**	**-0.3**
KVAR	**Kislovodsk Arr**	**2.50**	**296**	Pn	**Pn**	**03 01 01.5**	**+0.1**
	baz=94,slow=7.1,SNR=61						
KVAR				Lg	Lg	03 01 35.6	
	baz=240,slow=24,SNR=8.5						
KVAR	**Kislovodsk Arr**	**2.50**	**296**	Pn	**Pn**	**03 01 01.5**	**+0.1**
KVAR				Lg	Lg	03 01 35.6	
KVAR	**Kislovodsk Arr**	**2.50**	**296**	Pn	**Pn**	**03 01 01.5**	**+0.1**
KVAR				Lg	Lg	03 01 35.6	
KIV	**Kislovodsk**	**2.50**	**295**	*e*PN	**Pn**	**03 01 01.1**	**-0.4**
KIV				*e*Sn	**Sn**	**03 01 30.8**	**-0.8**
KIV	**Kislovodsk**	**2.50**	**295**	*e*Pn	**Pn**	**03 01 01.1**	**-0.4**
KIV				*e*Sn	**Sn**	**03 01 30.8**	**-0.8**
KIV	**Kislovodsk**	**2.50**	**295**	*e*Pn	**Pn**	**03 01 01.1**	**-0.4**
KIV				*e*Sn	**Sn**	**03 01 30.8**	**-0.8**
QUBA	**Quba, Azerbaij**	**2.54**	**127**	⇓P	**Pb**	**03 01 05.0**	**-1.6**
	SNR=4.7						
QUBA				⇓S	**Sb**	**03 01 37.9**	**+0.4**
QUBA	**Quba, Azerbaij**	**2.54**	**127**	P	**Pb**	**03 01 05.0**	**-1.6**
	SNR=4.7						
QUBA				S	**Sb**	**03 01 37.9**	**+0.4**
QUBA	**Quba, Azerbaij**	**2.54**	**127**	P	**Pb**	**03 01 05.0**	**-1.6**
	SNR=4.7						
QUBA				S	**Sb**	**03 01 37.9**	**+0.4**
EPOS	**Posof**	**2.69**	**239**	*i* P	**Pb**	**03 01 07.8**	**-1.6**
EPOS				*i* S	**Sb**	**03 01 40.2**	**-1.9**
EPOS	**Posof**	**2.69**	**239**	P	**Pb**	**03 01 07.8**	**-1.6**
EPOS				S	**Sb**	**03 01 40.2**	**-1.9**
EPOS	**Posof**	**2.69**	**239**	P	**Pb**	**03 01 07.8**	**-1.6**
EPOS				S	**Sb**	**03 01 40.2**	**-1.9**
IML	**Ismayilli**	**2.77**	**139**	⇓P	**Pb**	**03 01 08.6**	**-2.0**
	SNR=3.9						
IML				⇓S	**Sb**	**03 01 42.4**	**-1.7**
IML	**Ismayilli**	**2.77**	**139**	P	**Pb**	**03 01 08.6**	**-2.0**
	SNR=3.9						
IML				S	**Sb**	**03 01 42.4**	**-1.7**
IML	**Ismayilli**	**2.77**	**139**	P	**Pb**	**03 01 08.6**	**-2.0**
	SNR=3.9						
IML				S	**Sb**	**03 01 42.4**	**-1.7**
EAK	**Akyaka**	**2.77**	**217**	*i* P	**Pb**	**03 01 08.4**	**-2.4**
EAK				*i* S	**Sn**	**03 01 41.1**	**+2.7**
EAK	**Akyaka**	**2.77**	**217**	P	**Pb**	**03 01 08.4**	**-2.4**
EAK				S	**Sn**	**03 01 41.1**	**+2.7**
EAK	**Akyaka**	**2.77**	**217**	P	**Pb**	**03 01 08.4**	**-2.4**
EAK				S	**Sn**	**03 01 41.1**	**+2.7**
BRDA	**Brd**	**2.85**	**158**	⇓P	**Pn**	**03 01 08.5**	**+2.3**
	SNR=2.8						
BRDA				⇑S	**Sn**	**03 01 42.9**	**+3.0**
BRDA	**Brd**	**2.85**	**158**	P	**Pn**	**03 01 08.5**	**+2.3**
	SNR=2.8						
BRDA				S	**Sn**	**03 01 42.9**	**+3.0**
BRDA	**Brd**	**2.85**	**158**	P	**Pn**	**03 01 08.5**	**+2.3**
	SNR=2.8						
BRDA				S	**Sn**	**03 01 42.9**	**+3.0**
GNI	**Garni**	**2.88**	**197**	Pn	**Pn**	**03 01 08.5**	**+1.7**
	comp=Z,21nm,0.3s,baz=306,slow=6.4,SNR=32						
GNI				Lg	Lg	03 01 49.1	
	comp=Z,19nm,0.3s,baz=243,slow=23,SNR=5.8						
GNI	**Garni**	**2.88**	**197**	*ce*PN	**Pn**	**03 01 08.3**	**+1.5**
GNI				pmax	pmax		
	comp=Z,

comp=E,36nm,19.1s,baz=205,slow=44
AKTO Aktyubinsk 11.25 44 ⇑Pn **Pn** 03 03 01.3 -0.1
comp=E,2.0nm,0.3s
AKTO ⇓Sn **Sn** 03 05 01.0 -5.6
comp=E,8.6nm,0.6s
AKTO Aktyubinsk 11.25 44 P **Pn** 03 03 01.3 -0.1
AKTO S **Sn** 03 05 01.0 -5.6
AKTO pmax pmax
comp=Z,2.0nm,0.4s
AKTO smax smax
comp=N,9.0nm,0.6s
AKTO Aktyubinsk 11.25 44 Pn **Pn** 03 03 01.3 -0.1
comp=N,2.0nm,0.3s
AKTO Aktyubinsk 11.25 44 Pn **Pn** 03 03 02.5 +1.1
AKTO Sn **Sn** 03 05 01.0 -5.6
comp=N,8.6nm,0.6s
AKTO Aktyubinsk 11.25 44 Pn **Pn** 03 03 01.3 -0.1
comp=N,2.0nm,0.3s
AKTO Aktyubinsk 11.25 44 Pn **Pn** 03 03 02.5 +1.1
AKTO Sn **Sn** 03 05 00.1 -6.4
AB31 Akbulak array 11.67 52 ⇓Pn **Pn** 03 03 07.1 -0.1
comp=N,0.9nm,0.3s,baz=232,slow=15,SNR=19
AB31 ⇓Sn **Sn** 03 05 10.9 -6.0
comp=N,1.6nm,0.5s,baz=234,slow=26,SNR=6.3
AB31 Akbulak array 11.67 52 P **Pn** 03 03 07.1 -0.1
AB31 S **Sn** 03 05 10.9 -6.0
AB31 pmax pmax
comp=Z,1.0nm,0.3s
AB31 smax smax
comp=N,2.0nm,0.5s
AB31 Akbulak array 11.67 52 Pn **Pn** 03 03 07.1 -0.1
comp=N,0.9nm,0.3s,SNR=19
AB31 Sn **Sn** 03 05 10.9 -6.0
comp=N,1.6nm,0.5s,SNR=6.3
AB31 Akbulak array 11.67 52 Pn **Pn** 03 03 07.1 -0.1
comp=N,0.9nm,0.3s,SNR=19
AB31 Sn **Sn** 03 05 10.9 -6.0
comp=N,1.6nm,0.5s,SNR=6.3
ABKAR Akbulak array 11.67 52 *e*Pn **Pn** 03 03 07.1 0.0
comp=N,2.7nm,0.3s
ABKAR Akbulak array 11.67 52 *e*Pn **Pn** 03 03 07.1 0.0
comp=N,2.7nm,0.3s
ABKAR Akbulak array 11.67 52 *e*Pn **Pn** 03 03 07.1 0.0
comp=N,2.7nm,0.3s
ABKAR *e*Sn **Sn** 03 05 12.7 -4.2
OBN Obninsk 13.61 337 ⇓*e*P **Pn** 03 03 33.5 -0.1
OBN pmax pmax
comp=Z,5.0nm,0.8s
OBN MLR MLR
comp=Z,51nm,16.0s
OBN Obninsk 13.61 337 *e*P **Pn** 03 03 33.5 -0.1
comp=Z,51nm,16.0s
OBN Obninsk 13.61 337 *e*P **Pn** 03 03 33.5 -0.1
comp=Z,51nm,16.0s
MLR Muntele Rosu 14.48 287 Pn **Pn** 03 03 47.6 +1.9
comp=Z,0.0nm,0.3s,baz=148,slow=19,SNR=2.2
MLR Muntele Rosu 14.48 287 ⇑*i*P **P** 03 03 56.0 +3.7
MLR Muntele Rosu 14.48 287 Pn **Pn** 03 03 47.6 +1.9
MLR Muntele Rosu 14.48 287 Pn **Pn** 03 03 47.6 +1.9
DOPR Dopca 14.90 289 ⇓*i*P **P** 03 03 59.2 +2.3
DOPR Dopca 14.90 289 ⇓*i*P **P** 03 03 59.2 +2.3
DOPR Dopca 14.90 289 ⇓*i*P **P** 03 03 59.2 +2.3
BURAR Bucovina Array 15.23 295 ⇑*i*P **P** 03 04 03.0 +2.4
BURAR Bucovina Array 15.23 295 ⇑*i*P **P** 03 04 03.0 +2.4
BURAR Bucovina Array 15.23 295 ⇑*i*P **P** 03 04 03.0 +2.4
ARU Arti 15.80 27 LR LR 03 11 50.5
comp=Z,47nm,18.1s,baz=230,slow=44
ARU Arti 15.80 27 *d*iP **P** 03 04 12.0 +5.2
ARU pmax pmax
comp=Z,4.0nm,0.8s
ARU Arti 15.80 27 *e*Pn **Pn** 03 03 59.2 -3.8
DRGR 16.81 291 ⇑*i*P **P** 03 04 20.2 +2.1
DRGR 16.81 291 ⇑*i*P **P** 03 04 20.2 +2.1
DRGR 16.81 291 ⇑*i*P **P** 03 04 20.2 +2.1
KKAR Karatay Array 18.05 81 *e*P **P** 03 04 31.8 0.0
KKAR pmax pmax
comp=Z,1.0nm,0.3s
KKAR Karatay Array 18.05 81 *e*P **P** 03 04 31.8 0.0
comp=Z,1.2nm,0.3s
KKAR Karatay Array 18.05 81 *e*P **P** 03 04 31.8 0.0
comp=Z,1.2nm,0.3s
KKAR Karatay Array 18.05 81 *e*P **P** 03 04 31.8 0.0
comp=Z,1.2nm,0.3s
KLMR Klimovskoe 18.36 350 *e*P **P** 03 04 30.4 -4.6
KLMR *e* 03 07 53.4
KLMR pmax pmax
comp=Z,10.0nm,1.5s
BRVK Borovoye 19.17 50 *ce*P **Pn** 03 04 45.1 +0.2
BRVK pmax pmax
comp=Z,4.0nm,0.8s
BRVK Borovoye 19.17 50 *e*P **Pn** 03 04 44.5 -0.4
comp=Z,8.2nm,0.7s
BRVK Borovoye 19.17 50 *e*P **Pn** 03 04 45.1 +0.2
comp=Z,4.0nm,0.8s
BRVK Borovoye 19.17 50 *e*P **Pn** 03 04 44.5 -0.4
comp=Z,8.2nm,0.7s
BVAR Borovoye Array 19.22 50 P **P** 03 04 44.8 +0.3
comp=Z,0.9nm,0.3s,baz=256,slow=10.0,SNR=7.8
BVAR Borovoye Array 19.22 50 P **P** 03 04 44.8 +0.3
comp=Z,1.0nm,0.3s
BVAR Borovoye Array 19.22 50 P **P** 03 04 44.8 +0.3
VYHS Vyhne 19.59 296 *e*P Pn 03 04 59.9 +10
VYHS pmax pmax
comp=Z,36nm,2.9s
VYHS Vyhne 19.59 296 *e*P Pn 03 04 59.9 +10
comp=Z,36nm,2.9s
VYHS Vyhne 19.59 296 *e*P Pn 03 04 59.9 +10
CONA Conrad Observa 21.53 294 *i*P **P** 03 05 12.3 +2.6
comp=Z,0.6nm,0.4s
CONA Conrad Observa 21.53 294 P **P** 03 05 12.3 +2.6
comp=Z,0.6nm,0.4s
CONA Conrad Observa 21.53 294 P **P** 03 05 12.3 +2.6
comp=Z,0.6nm,0.4s
ARSA Arzberg 21.75 292 *i*pP **P** 03 05 15.7 +3.7
comp=Z,0.4nm,0.3s
FINES FINESS Array B 21.98 334 P **P** 03 05 13.7 -0.7
comp=Z,2.1nm,0.5s,baz=150,slow=11,SNR=16
FINES FINESS Array B 21.98 334 *i*P **P** 03 05 13.6 -0.7
comp=Z,2.0nm,0.5s
FINES FINESS Array B 21.98 334 P **P** 03 05 13.7 -0.7
MOA Molln 22.60 294 *i*P **P** 03 05 18.1 -3.1
comp=Z,0.2nm,0.2s
GERES GERESS Array B 23.01 296 P **P** 03 05 25.1 -0.4
comp=Z,0.5nm,0.7s,baz=99,slow=8.2,SNR=6.3
GERES GERESS Array B 23.01 296 *e*P **P** 03 05 26.4 +0.9
GERES pmax pmax
comp=Z,1.0nm,0.8s
GERES GERESS Array B 23.01 296 *e*P **P** 03 05 26.4 +0.9
comp=Z,1.0nm,0.8s
GERES GERESS Array B 23.01 296 *e*P **P** 03 05 26.4 +0.9
comp=Z,1.0nm,0.8s
GERES GERESS Array B 23.01 296 P **P** 03 05 25.1 -0.4
KBA Koelnbreinsper 23.23 292 *i*pP **P** 03 05 29.1 +1.2
comp=Z,1.2nm,0.5s
KBA Koelnbreinsper 23.23 292 Pn **P** 03 05 29.1 +1.2
comp=Z,1.2nm,0.5s
KBA Koelnbreinsper 23.23 292 Pn **P** 03 05 29.1 +1.2
comp=Z,1.2nm,0.5s
KURBB Kurchatov Arra 23.55 60 P **P** 03 05 30.5 -0.2
comp=Z,0.6nm,0.5s,baz=275,slow=12,SNR=8.4
KURK Kurchatov 23.61 59 P **P** 03 05 30.5 -0.9
KURK pmax pmax
comp=Z,1.0nm,0.5s
KURK Kurchatov 23.61 59 *e*P **P** 03 05 31.6 +0.3
comp=Z,8.5nm,0.6s
KURK Kurchatov 23.61 59 P **P** 03 05 30.5 -0.9
comp=Z,1.0nm,0.5s
KURK Kurchatov 23.61 59 *e*P **P** 03 05 31.6 +0.3
comp=Z,8.5nm,0.6s
ABTA Abfaltersbach 23.82 291 *i*P **P** 03 05 33.8 +0.3
comp=Z,0.3nm,0.3s
ABTA Abfaltersbach 23.82 291 P **P** 03 05 33.8 +0.3
comp=Z,0.3nm,0.3s
ABTA Abfaltersbach 23.82 291 P **P** 03 05 33.8 +0.3
comp=Z,0.3nm,0.3s
WTTA Wattenberg 24.39 292 *i*pP **P** 03 05 41.2 +2.3
comp=Z,0.6nm,0.2s
WTTA Wattenberg 24.39 292 Pn **P** 03 05 41.2 +2.3
comp=Z,0.6nm,0.2s
WTTA Wattenberg 24.39 292 Pn **P** 03 05 41.2 +2.3
comp=Z,0.6nm,0.2s
MOTA Moosalm 24.75 292 *i*P **P** 03 05 41.7 -0.5
comp=Z,0.6nm,0.4s
MOTA Moosalm 24.75 292 P **P** 03 05 41.7 -0.5
comp=Z,0.6nm,0.4s
MOTA Moosalm 24.75 292 P **P** 03 05 41.7 -0.5
comp=Z,0.6nm,0.4s
RETA Reutte 24.98 293 *i*pP **P** 03 05 45.8 +1.7
comp=Z,0.7nm,0.5s
RETA Reutte 24.98 293 Pn **P** 03 05 45.8 +1.7
comp=Z,0.7nm,0.5s
RETA Reutte 24.98 293 Pn **P** 03 05 45.8 +1.7
comp=Z,0.7nm,0.5s
FETA Feichten 25.02 292 *i*P **P** 03 05 45.9 +1.3
comp=Z,0.3nm,0.4s
FETA Feichten 25.02 292 P **P** 03 05 45.9 +1.3
comp=Z,0.3nm,0.4s
FETA Feichten 25.02 292 P **P** 03 05 45.9 +1.3
comp=Z,0.3nm,0.4s
DAVA Damuels 25.59 292 *i*P **P** 03 05 50.2 +0.5
comp=Z,0.2nm,0.2s
DAVA Damuels 25.59 292 P **P** 03 05 50.2 +0.5
comp=Z,0.2nm,0.2s
DAVA Damuels 25.59 292 P **P** 03 05 50.2 +0.5
comp=Z,0.2nm,0.2s
ARCES ARCESS Array B 28.66 345 P **P** 03 06 18.1 +1.1
comp=Z,0.3nm,0.4s,baz=156,slow=9.2,SNR=4.3
ARCES ARCESS Array B 28.66 345 *e*P **P** 03 06 18.0 +1.1
ARCES ARCESS Array B 28.66 345 P **P** 03 06 18.1 +1.1
TORD Torodi Ar. Bea 48.16 246 P **P** 03 09 00.6 -0.3
comp=Z,1.0nm,0.7s,baz=36,slow=7.4,SNR=8.8
TORD Torodi Ar. Bea 48.16 246 P **P** 03 09 00.6 -0.3
TORD Torodi Ar. Bea 48.16 246 P **P** 03 09 00.6 -0.3
DBIC Dimbokro 57.26 246 P **P** 03 10 07.2 -1.0
comp=Z,0.9nm,0.6s,baz=33,slow=9.1,SNR=3.6
DBIC Dimbokro 57.26 246 P **P** 03 10 07.2 -1.0
comp=Z,1.0nm,0.6s
DBIC Dimbokro 57.26 246 P **P** 03 10 07.2 -1.0
YKA Yellowknife Ar 73.76 351 P **P** 03 11 54.2 +0.1
comp=Z,0.5nm,0.6s,baz=13,slow=5.5,SNR=5.4
YKA Yellowknife Ar 73.76 351 P **P** 03 11 54.3 +0.1
YKA Yellowknife Ar 73.76 351 P **P** 03 11 54.2 +0.1
TKL Tuckaleechee C 89.28 321 LR LR 03 52 43.6
comp=Z,53nm,18.8s,slow=35

*CSEM **11** 03:01:38.0,39.32N×25.49E, h20km, ML1.5/3*
ATH 11 03:01:38.1,39.32N×25.48E, h6km±26km**, ML1.5**/3**, Error ellipse: s-maj=26.0km s-min=1.0km az=97.0, Aegean Sea**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
SIGR	**SIGRI**	**0.31**	**110**	P		Pg	03 01 43.6	-0.7
SIGR				S		Sg	03 01 48.4	0.0
SIGR	**SIGRI**	**0.31**	**110**	P		Pg	03 01 44.0	-0.3
SIGR				S		Sg	03 01 49.1	+0.7
SIGR				AML		AML	03 01 49.3	
	comp=E,286μm,0.5s							
SIGR				AML		AML	03 01 49.4	
	comp=N,466μm,0.8s							
LIA	**Limnos Island**	**0.62**	**339**	P		Pg	03 01 50.7	+0.6
LIA				S		Sg	03 01 58.0	-0.2
LIA	**Limnos Island**	**0.62**	**339**	P		Pb	03 01 51.0	-0.4
LIA				S		Sg	03 01 58.5	+0.4
LIA				AML		AML	03 01 59.6	
	comp=E,68μm,0.7s							
LIA				AML		AML	03 02 04.2	
	comp=N,65μm,0.5s							
PRK	**Paraskevi**	**0.62**	**97**	P		Pg	03 01 50.0	-0.1
PRK				S		Sg	03 01 58.5	+0.3
PRK	**Paraskevi**	**0.62**	**97**	P		Pg	03 01 50.0	-0.1
PRK				S		Sg	03 01 58.6	+0.4
PRK				AML		AML	03 01 59.4	
	comp=E,171μm,0.5s							
PRK				AML		AML	03 02 05.3	
	comp=N,104μm,0.8s							
SKY	**Skiros Island**	**0.84**	**239**	P		Pb	03 01 54.9	-0.3
SKY				S		Sg	03 02 04.4	-0.9
SKY	**Skiros Island**	**0.84**	**239**	P		Pb	03 01 55.1	-0.1
SKY				S		Sg	03 02 04.8	-0.5
CHOS	**Chios island**	**1.03**	**154**	P		Pg	03 01 57.7	-0.3
CHOS				S		Sg	03 02 11.8	+0.4
CHOS	**Chios island**	**1.03**	**154**	P		Pg	03 01 57.6	-0.4
CHOS				S		Sg	03 02 11.8	+0.4
SMTH	**Samothraki Isl**	**1.15**	**2**	P		Pg	03 01 59.8	-0.4
SMTH				S		Sg	03 02 14.2	-1.0
SMTH	**Samothraki Isl**	**1.15**	**2**	P		Pg	03 01 59.8	-0.5
SMTH				S		Sg	03 02 14.3	-0.8

*ISK **11** 03:17:44.8, 40.15N×38.05E, h12km, MD2.7*
*DDA **11** 03:17:47.4, 40.30N×37.88E, h7km, Md3.0*
*CSEM **11** 03:17:47.0±0.2, 40.28N×37.97E, h10km, MD3.0, Error ellipse: s-maj=6.3km s-min=4.5km az=134.0*
ISC 11 03:17:46.9±0.9**, 40°29N**±0°.02×**37°92E**±0°.02**, h25**km±7km**, n27, σ1$30/50, Turkey**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
SUSE	**Susehri**	**0.23**	**110**	*i*P		**Pb**	**03 17 53.7**	**+0.6**
SUSE				*i*S		**Sb**	**03 17 57.5**	**+0.1**
SUSE	**Susehri**	**0.23**	**110**	P		**Pb**	**03 17 53.7**	**+0.6**
SUSE				S		**Sb**	**03 17 57.5**	**+0.1**
CUZAR	**Zara_SIVAS**	**0.41**	**196**	*i*P		**Pb**	**03 17 56.1**	**+0.3**
CUZAR				*i*S		**Sb**	**03 18 01.4**	**-0.5**
CUZAR	**Zara_SIVAS**	**0.41**	**196**	P		**Pb**	**03 17 56.1**	**+0.3**
CUZAR				S		**Sb**	**03 18 01.4**	**-0.5**
RSDY	**Resadiye-TOKAT**	**0.47**	**284**	*e*PG		**Pb**	**03 17 57.1**	**+0.5**
RSDY				*e*SG		**Sn**	**03 18 06.0**	**+0.4**
RSDY	**Resadiye-TOKAT**	**0.47**	**284**	*e*Pg		**Pb**	**03 17 57.1**	**+0.5**
RSDY				*e*Sg		**Sn**	**03 18 06.0**	**+0.4**
GRSN	**GIRESUNGRSN**	**0.69**	**22**	*i*P		**Pb**	**03 18 00.2**	**-0.2**
GRSN				*i*S		**Sb**	**03 18 09.2**	**-0.4**
GRSN	**GIRESUNGRSN**	**0.69**	**22**	P		**Pb**	**03 18 00.2**	**-0.2**
GRSN				S		**Sb**	**03 18 09.2**	**-0.4**
ORDU	**Ordu-Boztepe**	**0.71**	**356**	*i*P		**Pn**	**03 18 01.4**	**0.0**
ORDU				*i*S		**Sn**	**03 18 11.3**	**-0.1**
ORDU	**Ordu-Boztepe**	**0.71**	**356**	P		**Pn**	**03 18 01.4**	**0.0**
ORDU				S		**Sn**	**03 18 11.3**	**-0.1**
SCER	**sogukcermik**	**0.74**	**235**	*i*P		**Pn**	**03 18 01.8**	**-0.1**
SCER				*i*S		**Sb**	**03 18 11.2**	**+0.1**
SCER	**sogukcermik**	**0.74**	**235**	P		**Pn**	**03 18 01.8**	**-0.1**
SCER				S		**Sb**	**03 18 11.2**	**+0.1**
SVSK	**Karacayir**	**0.80**	**243**	*e*PG		**Pb**	**03 18 01.4**	**-0.7**
SVSK				*e*SG		**Sn**	**03 18 13.6**	**0.0**
SVSK	**Karacayir**	**0.80**	**243**	*e*Pg		**Pb**	**03 18 01.4**	**-0.7**
SVSK				*e*Sg		**Sn**	**03 18 13.6**	**0.0**
ESPY	**Espiye-Giresun**	**0.88**	**44**	*e*PG		**Pb**	**03 18 03.2**	**-0.4**
ESPY				*e*SG		**Sn**	**03 18 15.8**	**+0.1**
ESPY	**Espiye-Giresun**	**0.88**	**44**	*e*Pg		**Pb**	**03 18 03.2**	**-0.4**
ESPY				*e*Sg		**Sn**	**03 18 15.8**	**+0.1**
CUKAN	**kangal_SIVAS**	**1.03**	**200**	*i*P		**Pb**	**03 18 06.9**	**+0.7**
CUKAN				*i*S		**Sn**	**03 18 26.6**	**+3.0**
CUKAN	**kangal_SIVAS**	**1.03**	**200**	P		**Pb**	**03 18 06.9**	**+0.7**
KELT	**Kelkit**	**1.03**	**97**	*i*P		**Pn**	**03 18 06.0**	**0.0**
KELT				*i*S		**Sn**	**03 18 19.8**	**+0.1**
KELT	**Kelkit**	**1.03**	**97**	P		**Pn**	**03 18 06.0**	**0.0**
KELT				S		**Sn**	**03 18 19.8**	**+0.1**
KEMA	**Kemaliye**	**1.11**	**156**	*i*P		**Pb**	**03 18 08.8**	**+1.3**
KEMA				*i*S		**Sb**	**03 18 25.3**	**+3.8**
KEMA	**Kemaliye**	**1.11**	**156**	P		**Pb**	**03 18 08.8**	**+1.3**
GUMT	**Gumushane**	**1.20**	**81**	*e*PN		**Pn**	**03 18 07.3**	**-1.0**
GUMT	**Gumushane**	**1.20**	**81**	*e*Pn		**Pn**	**03 18 07.3**	**-1.0**
MACK	**Trabzon**	**1.55**	**64**	*i*P		**Pb**	**03 18 16.4**	**+1.3**
MACK				*i*S		**Sb**	**03 18 37.2**	**+3.0**
PTK	**Pertek**	**1.80**	**140**	*e*PN		**Pn**	**03 18 14.0**	**-2.5**
PTK				*e*SN		**Sn**	**03 18 35.3**	**-3.2**
PTK	**Pertek**	**1.80**	**140**	*e*Pn		**Pn**	**03 18 14.0**	**-2.5**
PTK				*e*Sn		**Sn**	**03 18 35.3**	**-3.2**

*DDA **11** 03:21:43.7, 38.68N×41.38E, h25km, Md3.4*
*ISK **11** 03:21:43.2, 38.69N×41.35E, h5km, ML3.5*
*CSEM **11** 03:21:44.8±0.2, 38.69N×41.37E, h10km, ML3.5, Error ellipse: s-maj=4.0km s-min=3.7km az=152.0*
ISC 11 03:21:43.8±1.0**, 38°69N**±0°.02×**41°38E**±0°.02**, h9**km±9km**, n79, σ1$05/122, Turkey**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
BNGL	**BINGOL**	**0.32**	**326**	*i*P		**Pb**	**03 21 51.0**	**-0.9**
BNGL				*i*S		**Sb**	**03 21 56.8**	**-0.4**
VRTB	**Varto-Mus**	**0.48**	**7**	*e*PG		**Pb**	**03 21 53.7**	**-0.8**
VRTB				*e*SG		**Sb**	**03 22 01.6**	**-0.1**
VRTB	**Varto-Mus**	**0.48**	**7**	*i*P		**Pg**	**03 21 53.5**	**+0.4**
VRTB				*i*S		**Sb**	**03 22 01.4**	**-0.3**
VRTB	**Varto-Mus**	**0.48**	**7**	*e*Pg		**Pb**	**03 21 53.7**	**-0.8**
VRTB				S		**Sb**	**03 22 01.4**	**-0.3**
SVAN	**Silvan-Diyarba**	**0.55**	**195**	*e*PG		**Pb**	**03 21 55.2**	**-0.5**
SVAN				*e*SG		**Sb**	**03 22 03.8**	**+0.1**
SVAN	**Silvan-Diyarba**	**0.55**	**195**	*i*P		**Pb**	**03 21 55.0**	**-0.7**
SVAN				*i*S		**Sb**	**03 22 03.5**	**-0.3**
SVAN	**Silvan-Diyarba**	**0.55**	**195**	P		**Pb**	**03 21 55.0**	**-0.7**
SVAN				S		**Sb**	**03 22 03.5**	**-0.3**
BNGB	**Bing¨¶l**	**0.62**	**299**	*e*PG		**Pb**	**03 21 56.2**	**-0.8**
BNGB				*e*SG		**Sb**	**03 22 05.6**	**-0.3**
TATV	**Tatvan**	**0.72**	**104**	*i*P		**Pg**	**03 21 57.4**	**-0.3**
TATV				*i*S		**Sg**	**03 22 07.7**	**+0.6**
TATV	**Tatvan**	**0.72**	**104**	P		**Pg**	**03 21 57.4**	**-0.3**
TATV				S		**Sg**	**03 22 07.7**	**+0.6**
BINT	**Bingol**	**0.72**	**285**	*e*Pg		**Pg**	**03 21 56.2**	**-1.5**
BINT				*e*Sg		**Sg**	**03 22 05.6**	**-1.5**
EKAR	**Karacoban**	**0.78**	**43**	*i*P		**Pb**	**03 21 59.6**	**-0.1**
EKAR				*i*S		**Sb**	**03 22 10.4**	**-0.1**
EKAR	**Karacoban**	**0.78**	**43**	P		**Pb**	**03 21 59.6**	**-0.1**
EKAR				S		**Sb**	**03 22 10.4**	**-0.1**
BTMN	**Batman**	**0.80**	**186**	*i*P		**Pb**	**03 21 59.8**	**-0.1**
BTMN				*i*S		**Sn**	**03 22 12.2**	**-1.3**
BTMN	**Batman**	**0.80**	**186**	P		**Pb**	**03 21 59.8**	**-0.1**
BTMN				S		**Sn**	**03 22 12.2**	**-1.3**
ECAT	**Cat-ERZURUM**	**0.97**	**341**	*i*P		**Pg**	**03 22 02.1**	**-0.4**
ECAT				*i*S		**Sn**	**03 22 17.2**	**-0.7**
ECAT	**Cat-ERZURUM**	**0.97**	**341**	P		**Pg**	**03 22 02.1**	**-0.4**
ECAT				S		**Sn**	**03 22 17.2**	**-0.7**
YEDI	**Yedisu-Bingol**	**0.99**	**319**	*e*PG		**Pg**	**03 22 02.6**	**-0.3**
YEDI	**Yedisu-Bingol**	**0.99**	**319**	*e*Pg		**Pg**	**03 22 02.6**	**-0.3**
DIY	**Diyarbakir**	**1.20**	**229**	*e*Pn		**Pg**	**03 22 07.4**	**+0.5**
DIY				*e*Sn		**Sn**	**03 22 24.9**	**+1.5**
ERZM	**Erzurum**	**1.22**	**360**	*i*P		**Pg**	**03 22 07.2**	**0.0**
ERZM	**Erzurum**	**1.22**	**360**	P		**Pg**	**03 22 07.2**	**0.0**
EZM	**Erzurum**	**1.22**	**359**	*e*PN		**Pg**	**03 22 07.2**	**0.0**
EZM	**Erzurum**	**1.22**	**359**	*e*Pn		**Pg**	**03 22 07.2**	**0.0**
DYBB	**Diyarbakir**	**1.22**	**233**	*e*PN		**Pg**	**03 22 07.4**	**+0.2**
DYBB				*e*SN		**Sn**	**03 22 24.9**	**+1.1**
DIYA	**Diyarbakir**	**1.25**	**233**	*i*P		**Pn**	**03 22 06.9**	**-0.6**
DIYA				*i*S		**Sn**	**03 22 25.2**	**+0.7**
DIYA	**Diyarbakir**	**1.25**	**233**	P		**Pn**	**03 22 06.9**	**-0.6**
DIYA				S		**Sn**	**03 22 25.2**	**+0.7**
TUTA	**Tutak**	**1.33**	**57**	*i*P		**Pn**	**03 22 08.5**	**-0.3**
TUTA				*i*S		**Sn**	**03 22 26.6**	**-0.1**
TUTA	**Tutak**	**1.33**	**57**	P		**Pn**	**03 22 08.5**	**-0.3**
TUTA				S		**Sn**	**03 22 26.6**	**-0.1**
GEVA	**Gevas**	**1.37**	**105**	*i*P		**Pn**	**03 22 09.2**	**-0.1**
GEVA				*i*S		**Sg**	**03 22 28.1**	**+0.2**
GEVA	**Gevas**	**1.37**	**105**	P		**Pn**	**03 22 09.2**	**-0.1**
GEVA				S		**Sg**	**03 22 28.1**	**+0.2**
HOMI	**Horasan**	**1.42**	**17**	*i*P		**Pg**	**03 22 10.9**	**-0.1**
HOMI				*i*S		**Sg**	**03 22 32.6**	**+3.2**
MAZI	**Mazidag**	**1.43**	**211**	*e*PN		**Pb**	**03 22 10.3**	**-0.4**
MAZI	**Mazidag**	**1.43**	**211**	*e*Pn		**Pb**	**03 22 10.3**	**-0.4**
SIRN	**S¨¨rnak**	**1.44**	**145**	*i*P		**Pn**	**03 22 09.9**	**-0.3**
SIRN				*i*S		**Sg**	**03 22 30.6**	**+0.4**
SIRN	**S¨¨rnak**	**1.44**	**145**	P		**Pn**	**03 22 09.9**	**-0.3**
SIRN				S		**Sg**	**03 22 30.6**	**+0.4**
MARD	**Mardin**	**1.45**	**199**	*i*P		**Pb**	**03 22 10.7**	**-0.4**
MARD				*i*S		**Sn**	**03 22 28.7**	**-0.9**
KOPT	**Kop Dagi**	**1.49**	**333**	*i*P		**Pg**	**03 22 12.0**	**-0.5**
KOPT				*i*S		**Sn**	**03 22 30.0**	**-0.9**
KOPT	**Kop Dagi**	**1.49**	**333**	P		**Pg**	**03 22 12.0**	**-0.5**
KOPT				S		**Sn**	**03 22 30.0**	**-0.9**
TNCL	**Tunceli-Merkez**	**1.50**	**287**	*i*P		**Pb**	**03 22 11.1**	**-0.7**
TNCL				*i*S		**Sg**	**03 22 31.1**	**-0.8**
AGRB	**Hanur-Agry**	**1.54**	**54**	*e*PN		**Pg**	**03 22 13.2**	**-0.1**
AGRB				*e*SN		**Sg**	**03 22 35.1**	**+1.9**
AGRB	**Hanur-Agry**	**1.54**	**54**	*e*Pn		**Pg**	**03 22 13.2**	**-0.1**
AGRB				*e*Sn		**Sg**	**03 22 35.1**	**+1.9**
PTK	**Pertek**	**1.57**	**278**	*e*PN		**Pb**	**03 22 13.0**	**-0.1**
PTK				*e*SN		**Sg**	**03 22 34.6**	**+0.5**
PTK	**Pertek**	**1.57**	**278**	*e*Pn		**Pb**	**03 22 13.0**	**-0.1**
PTK				*e*Sn		**Sg**	**03 22 34.6**	**+0.5**
ERZN	**Erzincan**	**1.57**	**305**	*e*PN		**Pg**	**03 22 13.6**	**-0.4**
VANB	**Van**	**1.58**	**93**	*e*PN		**Pg**	**03 22 13.9**	**-0.1**
VANB	**Van**	**1.58**	**93**	*e*Pn		**Pg**	**03 22 13.9**	**-0.1**
SVRC	**Sivrice-ELAZID**	**1.65**	**260**	*e*PN		**Pb**	**03 22 14.1**	**-0.5**
SVRC	**Sivrice-ELAZID**	**1.65**	**260**	*e*Pn		**Pb**	**03 22 14.1**	**-0.5**
VMUR	**Van-Muradiye**	**1.74**	**79**	*i*P		**Pg**	**03 22 16.7**	**-0.5**
VMUR				*i*S		**Sg**	**03 22 42.8**	**+3.1**
VMUR	**Van-Muradiye**	**1.74**	**79**	P		**Pg**	**03 22 16.7**	**-0.5**
VMUR				S		**Sg**	**03 22 42.8**	**+3.1**
ELZG	**Elazig**	**1.89**	**265**	*i*P		**Pb**	**03 22 17.9**	**-0.6**
ELZG	**Elazig**	**1.89**	**265**	P		**Pb**	**03 22 17.9**	**-0.6**
DYDN	**Diyadin**	**1.99**	**64**	*i*P		**Pg**	**03 22 21.6**	**-0.4**
DYDN				*i*S		**Sg**	**03 22 47.6**	**-0.2**
DYDN	**Diyadin**	**1.99**	**64**	P		**Pg**	**03 22 21.6**	**-0.4**
DYDN				S		**Sg**	**03 22 47.6**	**-0.2**
SENK	**Senkaya-Erzuru**	**2.02**	**22**	*e*PN		**Pb**	**03 22 19.9**	**-0.9**
SENK	**Senkaya-Erzuru**	**2.02**	**22**	*e*Pn		**Pb**	**03 22 19.9**	**-0.9**
CLDR	**Caldiran**	**2.03**	**76**	*e*PN		**Pb**	**03 22 20.5**	**-0.5**
CLDR	**Caldiran**	**2.03**	**76**	*e*Pn		**Pb**	**03 22 20.5**	**-0.5**
HAKT	**HAKKARI**	**2.15**	**121**	*i*P		**Pb**	**03 22 21.6**	**-1.6**
HAKT				*i*S		**Sg**	**03 22 53.1**	**+0.1**
HAKT	**HAKKARI**	**2.15**	**121**	P		**Pb**	**03 22 21.6**	**-1.6**
HAKT				S		**Sg**	**03 22 53.1**	**+0.1**
KELT	**Kelkit**	**2.20**	**312**	*i*P		**Pb**	**03 22 22.1**	**-1.7**
KELT	**Kelkit**	**2.20**	**312**	P		**Pb**	**03 22 22.1**	**-1.7**
DDEM	**Demirkent**	**2.22**	**7**	*i*P		**Pb**	**03 22 23.1**	**-1.1**
DDEM				*i*S		**Sg**	**03 22 54.0**	**-1.2**
DDEM	**Demirkent**	**2.22**	**7**	S		**Sg**	**03 22 54.0**	**-1.2**
GUMT	**Gumushane**	**2.30**	**321**	*e*PN		**Pb**	**03 22 23.9**	**-1.7**
GUMT	**Gumushane**	**2.30**	**321**	*e*Pn		**Pb**	**03 22 23.9**	**-1.7**
URFA	**Urfa**	**2.37**	**239**	*e*PN		**Pn**	**03 22 23.8**	**+0.8**
URFA	**Urfa**	**2.37**	**239**	*e*Pn		**Pn**	**03 22 23.8**	**+0.8**
KTUT	**Trabzon**	**2.61**	**332**	*e*PN		**Pn**	**03 22 27.8**	**+1.6**
KTUT	**Trabzon**

PB10	**IPOC Station P**	**2.76**	**357**	*i* P		**Pn**	**03 25 31.8**	**-1.5**
PB10				*i* S		**Sn**	**03 26 04.9**	**-0.6**
PB10				IAML			03 26 25.1	
	comp=E,6µm,0.3s							
PB10	**IPOC Station P**	**2.76**	**357**	*e*Pn		**Pn**	**03 25 32.6**	**-0.7**
VCA	**Vinchina**	**3.13**	**142**	*i* P		**Pn**	**03 25 42.2**	**+3.7**
VCA				IAML			03 26 09.4	
	comp=Z,1µm,0.4s							
PB06	**IPOC Station P**	**3.64**	**12**	*e*P		**Pn**	**03 25 44.8**	**-0.7**
TLL	**Tololo Astrono**	**3.89**	**185**	*e*P		**Pn**	**03 25 48.5**	**-0.5**
TLL				*e*S		**Sn**	**03 26 32.8**	**-0.7**
LVC	**Limon Verde**	**3.90**	**21**	P		**Pn**	**03 25 49.7**	**+0.4**
	comp=Z,1µm,0.3s,baz=169,slow=7.7,SNR=381							
LVC				LR		LR	03 27 25.3	
	comp=Z,2µm,20.3s,baz=185,slow=40							
LVC	**Limon Verde**	**3.90**	**21**	*e*Pn		**Pn**	**03 25 49.5**	**+0.3**
LVC				*e*Lg		Lg	03 26 53.0	
PB04	**IPOC Station P**	**3.94**	**4**	*e*P		**Pn**	**03 25 47.8**	**-1.8**
PB04	**IPOC Station P**	**3.94**	**4**	*e*Pn		**Pn**	**03 25 48.2**	**-1.3**
FSA	**Cafayete**	**3.98**	**89**	*i* P		**Pn**	**03 25 53.0**	**+2.8**
FSA				IAML			03 26 16.7	
	comp=Z,141nm,0.5s							
AHML	**Horco Molle**	**4.58**	**97**	*i* P		**Pn**	**03 26 00.1**	**+2.0**
CYA	**Choya**	**4.63**	**119**	*i* P		**Pn**	**03 26 00.1**	**+1.2**
CYA				IAML			03 26 37.0	
	comp=Z,139nm,0.6s							
SLA	**San Lorenzo**	**4.70**	**72**	*i* P		**Pn**	**03 26 01.8**	**+1.9**
AVFE	**Valle Fertil**	**5.08**	**150**	*i* P		**Pn**	**03 26 06.5**	**+1.5**
AVFE				*i* S		**Sn**	**03 27 02.0**	**-0.5**
AZAP	**Zapla**	**5.25**	**68**	*i* P		**Pn**	**03 26 09.7**	**+2.1**
PB01	**IPOC Station P**	**5.28**	**9**	*e*Pn		**Pn**	**03 26 06.2**	**-1.6**
APLL	**PUNTA DE LOS L**	**5.34**	**141**	*i* P		**Pn**	**03 26 10.0**	**+1.4**
HJA	**Humahuaca**	**5.48**	**57**	*i* P		**Pn**	**03 26 13.0**	**+2.2**
PB11	**IPOC Station P**	**6.53**	**6**	*e*Pn		**Pn**	**03 26 21.7**	**-3.2**
ROC1	**El Roble**	**6.69**	**184**	*e*Pn		**Pn**	**03 26 25.0**	**-2.3**
GO05	**HualaæØ**	**8.80**	**188**	*e*Pn		Pn	03 26 51.0	-4.9
LPAZ	**La Paz**	**10.17**	**13**	P		**Pn**	**03 27 14.6**	**-0.6**
	comp=Z,4.5nm,0.3s,baz=200,slow=5.8,SNR=123							
LPAZ				LR		LR	03 31 42.2	
	comp=Z,166nm,20.1s,baz=184,slow=40							
CPUP	**Villa Florida**	**11.74**	**93**	P		**Pn**	**03 27 35.4**	**-0.6**
	comp=Z,0.5nm,0.3s,baz=275,slow=11,SNR=7.7							
CPUP				LR		LR	03 32 41.3	
	comp=Z,200nm,18.1s,baz=274,slow=40							
CPUP	**Villa Florida**	**11.74**	**93**	*e*P		**Pn**	**03 27 34.3**	**-1.6**
CPUP	**Villa Florida**	**11.74**	**93**	*e*Pn		**Pn**	**03 27 34.3**	**-1.6**
SIV	**San Ignacio**	**13.44**	**42**	P		Pn	03 27 53.8	-5.3
	comp=Z,4.7nm,0.3s,baz=250,slow=12,SNR=38							
TRQA	**Tornquist**	**13.73**	**151**	*e*Pn		**Pn**	**03 28 00.5**	**-2.4**
PLCA	**Paso Flores**	**14.42**	**180**	P		**Pn**	**03 28 11.3**	**-0.6**
	comp=Z,0.2nm,0.3s,baz=336,slow=6.8,SNR=3.9							
PLCA				LR		LR	03 34 02.8	
	comp=Z,202nm,20.9s,baz=11,slow=38							
PLCA	**Paso Flores**	**14.42**	**180**	*e*P		**Pn**	**03 28 12.1**	**+0.2**
PLCA	**Paso Flores**	**14.42**	**180**	*e*Pn		**Pn**	**03 28 12.1**	**+0.2**
NNA	**Nana**	**15.46**	**336**	*e*P		**Pn**	**03 28 22.8**	**-2.6**
NNA	**Nana**	**15.46**	**336**	*e*Pn		**Pn**	**03 28 22.8**	**-2.6**
SAML	**Samuel**	**18.55**	**23**	*e*P		**P**	**03 29 00.2**	**-2.5**
	comp=Z,45nm,0.9s							
CHRN	**Cochrane**	**21.00**	**184**	*e*P		**P**	**03 29 28.0**	**-1.1**
	comp=Z,20nm,0.8s							
SPB	**Sao Paulo**	**21.00**	**88**	*e*P		**P**	**03 29 28.6**	**-0.8**
	comp=Z,49nm,1.2s							
EFI	**East Falkland**	**27.04**	**163**	*e*P		**P**	**03 30 26.2**	**-0.8**
EFI				pmax		pmax		
	comp=Z,24nm,0.9s							
EFI	**East Falkland**	**27.04**	**163**	*e*P		**P**	**03 30 26.2**	**-0.8**
	comp=Z,24nm,0.9s							
PTGA	**Pitinga**	**27.32**	**23**	P		**P**	**03 30 30.0**	**+0.1**
	comp=Z,5.7nm,0.8s,baz=205,slow=11,SNR=9.5							
PTGA				LR		LR	03 41 30.1	
	comp=Z,64nm,19.4s,baz=176,slow=37							
OTAV	**Otavalo**	**27.48**	**342**	*e*P		**P**	**03 30 29.9**	**-1.9**
	comp=Z,2.6nm,0.8s							
USHA	**Ushuaia**	**28.56**	**178**	P		**P**	**03 30 40.7**	**+0.1**
	comp=Z,48nm,0.7s,baz=343,slow=6.7,SNR=15							
ROSC	**El Rosal**	**31.17**	**352**	LR		LR	03 43 41.8	
	comp=Z,56nm,19.6s,baz=227,slow=36							
RUSC	**La Rusia**	**32.09**	**355**	*e*P		**P**	**03 31 13.7**	**+1.1**
	comp=Z,3.4nm,1.0s							
HELC	**Santa Helena**	**32.66**	**351**	*e*P		**P**	**03 31 18.4**	**+0.9**
	comp=Z,22nm,1.0s							
PMSA	**Palmer Station**	**38.72**	**176**	P		**P**	**03 32 09.3**	**+0.9**
	comp=Z,11nm,0.9s,baz=360,slow=4.8,SNR=7.7							
PMSA	**Palmer Station**	**38.72**	**176**	*e*P		**P**	**03 32 09.0**	**+0.6**
	comp=Z,7.2nm,0.6s							
JTS	**JuntasAbangare**	**39.00**	**337**	*e*P		**P**	**03 32 12.3**	**+0.9**
JTS				pmax		pmax		
	comp=Z,1.0nm,0.7s							
JTS	**JuntasAbangare**	**39.00**	**337**	*e*P		**P**	**03 32 12.3**	**+0.9**
	comp=Z,1.1nm,0.7s							
VNA3	**Neumayer Olymp**	**56.04**	**160**	P		**P**	**03 34 22.5**	**-0.3**
VNA1	**Neumayer--Stat**	**56.29**	**159**	P		**P**	**03 34 24.9**	**+0.4**
VNA2	**Neumayer--Watz**	**56.65**	**159**	P		**P**	**03 34 26.8**	**-0.3**
	baz=286,slow=7.7							
LNIG	**Linares**	**58.11**	**329**	*e*P		**P**	**03 34 36.4**	**-1.5**
	comp=Z,9.3nm,1.1s							
SNAA	**Sanae**	**58.26**	**160**	P		**P**	**03 34 38.0**	**-0.4**
SNAA	**Sanae**	**58.26**	**160**	P		**P**	**03 34 38.1**	**-0.4**
	comp=Z,5.6nm,0.6s,baz=282,slow=8.3,SNR=35							
SNAA				pP		**pP**	**03 34 56.3**	**+0.1**
	comp=Z,3.6nm,0.6s,baz=256,slow=10.0,SNR=5.0							
SNAA	**Sanae**	**58.26**	**160**	*e*P		**P**	**03 34 38.1**	**-0.4**
SNAA				*PP		**pP**	**03 34 56.3**	**+0.1**
SNAA				pmax		pmax		
	comp=Z,17nm,1.2s							
SNAA	**Sanae**	**58.26**	**160**	*e*P		**P**	**03 34 38.0**	**-0.4**
	comp=Z,17nm,1.2s							
SNAA				pP		**pP**	**03 34 56.3**	**+0.1**
NHSC	**New Hope**	**59.78**	**351**	*e*P		**P**	**03 34 48.0**	**-1.3**
	comp=Z,26nm,0.8s							
835A	**Beeville**	**60.31**	**332**	P		**P**	**03 34 55.4**	**+2.3**
	baz=150							
933A	**Laredo**	**60.35**	**330**	P		**P**	**03 34 54.9**	**+1.5**
	baz=149							
834A	**Tilden**	**60.48**	**331**	P		**P**	**03 34 55.9**	**+1.7**
	baz=150							
736A	**Circle Diamond**	**60.59**	**333**	P		**P**	**03 34 57.1**	**+2.2**
	baz=151,SNR=6.5							
344A	**Westbrook Farm**	**60.60**	**340**	P		**P**	**03 34 56.4**	**+1.5**
	baz=158							
GOGA	**Godfrey**	**60.65**	**347**	*e*P		**P**	**03 34 53.7**	**-1.5**
GOGA				pmax		pmax		
	comp=Z,7.0nm,0.9s							
GOGA	**Godfrey**	**60.65**	**347**	*e*P		**P**	**03 34 53.7**	**-1.5**
	comp=Z,6.5nm,0.9s							
637A	**Eagle Lake**	**60.72**	**334**	P		**P**	**03 34 57.6**	**+1.8**
	baz=152							
833A	**Chaparral WMA,**	**61.02**	**331**	P		**P**	**03 34 59.4**	**+1.6**
	baz=149							
342A	**Flagon Creek P**	**61.03**	**339**	P		**P**	**03 34 59.4**	**+1.5**
	baz=156							
636A	**Smothers Creek**	**61.05**	**333**	P		**P**	**03 34 59.7**	**+1.6**
	baz=152							
LRAL	**Lakeview Retre**	**61.06**	**344**	*e*P		**P**	**03 34 57.1**	**-1.0**
	comp=Z,6.6nm,0.9s							
734A	**La Parita Cree**	**61.11**	**332**	P		**P**	**03 35 00.0**	**+1.6**
	baz=150							
832A	**Faith Ranch, C**	**61.24**	**330**	P		**P**	**03 35 00.7**	**+1.3**
	baz=148,SNR=13							
635A	**Leesville**	**61.26**	**333**	P		**P**	**03 35 00.4**	**+0.9**
	baz=151							
733A	**Divot King Ran**	**61.32**	**331**	P		**P**	**03 35 01.4**	**+1.5**
	baz=149							
Z47A	**Carrollton**	**61.49**	**343**	P		**P**	**03 35 00.9**	**0.0**
	baz=161							
Z48A	**Northport**	**61.53**	**344**	P		**P**	**03 35 00.7**	**-0.5**
	baz=161							
242A	**Grayson**	**61.61**	**339**	P		**P**	**03 35 03.2**	**+1.4**
	baz=157							
535A	**Dale**	**61.74**	**333**	P		**P**	**03 35 03.9**	**+1.2**
	baz=151							
633A	**Saathoff Ranch**	**61.91**	**332**	P		**P**	**03 35 04.7**	**+0.9**
	baz=150,SNR=7.0							
143A	**Socs Landing,**	**61.97**	**340**	P		**P**	**03 35 05.7**	**+1.5**
	baz=158,SNR=5.1							
Y47A	**UCPARC, Winfie**	**62.10**	**344**	P		**P**	**03 35 05.0**	**-0.1**
	baz=161,SNR=5.9							
534A	**Blanco**	**62.11**	**333**	P		**P**	**03 35 05.8**	**+0.5**
	baz=150							
Y46A	**Houston**	**62.34**	**343**	P		**P**	**03 35 06.3**	**-0.4**
	baz=160							
533A	**Kerrville**	**62.38**	**332**	P		**P**	**03 35 07.8**	**+0.7**
	baz=150							
237A	**Washetta, Mont**	**62.82**	**336**	P		**P**	**03 35 11.2**	**+1.3**
	baz=153							
CPCT	**Cooper Cave**	**62.83**	**347**	*e*P		**P**	**03 35 09.9**	**0.0**
	comp=Z,5.2nm,0.9s							
TKL	**Tuckaleechee C**	**62.88**	**348**	*e*P		**P**	**03 35 09.8**	**-0.5**
TKL				*e*PP		**pP**	**03 35 28.1**	**-0.1**
TKL	**Tuckaleechee C**	**62.88**	**348**	*e*P		**P**	**03 35 09.8**	**-0.5**
TKL				*e*pP		**pP**	**03 35 28.1**	**-0.1**
SWET	**Sewanee**	**62.90**	**346**	*e*P		**P**	**03 35 10.2**	**-0.2**
SWET				*e*pP		**pP**	**03 35 28.2**	**-0.2**
Y43A	**Makayla and Ka**	**62.95**	**341**	P		**P**	**03 35 11.4**	**+0.7**
	baz=158							
433A	**Art**	**63.00**	**332**	P		**P**	**03 35 11.9**	**+0.8**
	baz=150,SNR=16							
X45A	**UM Field Stati**	**63.00**	**342**	P		**P**	**03 35 11.0**	**-0.1**
	baz=160							
JCT	**Junction City**	**63.06**	**332**	P		**P**	**03 35 12.5**	**+0.8**
	baz=149,SNR=8.7							
JCT	**Junction City**	**63.06**	**332**	*e*P		**P**	**03 35 12.4**	**+0.8**
JCT				pmax		pmax		
	comp=Z,27nm,0.8s							
JCT	**Junction City**	**63.06**	**332**	*e*P		**P**	**03 35 12.3**	**+0.8**
	comp=Z,27nm,0.8s							
OXF	**Oxford**	**63.09**	**342**	*e*P		**P**	**03 35 11.0**	**-0.6**
OXF				*e*PP		**pP**	**03 35 29.4**	**-0.1**
OXF	**Oxford**	**63.09**	**342**	*e*P		**P**	**03 35 11.0**	**-0.6**
OXF				*e*pP		**pP**	**03 35 29.4**	**-0.1**
Z40A	**Long Farm, Mag**	**63.12**	**338**	P		**P**	**03 35 13.0**	**+1.1**
	baz=156							
Y42A	**Garnett, Star**	**63.14**	**340**	P		**P**	**03 35 12.5**	**+0.5**
	baz=157							
334A	**Lometa**	**63.16**	**333**	P		**P**	**03 35 12.6**	**+0.4**
	baz=151							
137A	**Heron Place, G**	**63.33**	**336**	P		**P**	**03 35 14.6**	**+1.3**
	baz=153							
WLAR	**White Oak Lake**	**63.42**	**339**	*e*P		**P**	**03 35 15.6**	**+1.8**
WLAR				*e*pP		**pP**	**03 35 33.4**	**+1.6**
333A	**Richland Sprin**	**63.45**	**333**	P		**P**	**03 35 14.8**	**+0.6**
	baz=150,SNR=11							
X43A	**Marvell**	**63.51**	**341**	P		**P**	**03 35 15.6**	**+1.2**
	baz=158							
Y40A	**Okolona**	**63.77**	**339**	P		**P**	**03 35 16.9**	**+0.8**
	baz=156							
TXAR	**Lajitas Array**	**63.84**	**328**	P		**P**	**03 35 18.3**	**+1.5**
	comp=Z,2.1nm,0.7s,baz=152,slow=8.3,SNR=25							
TXAR				pP		**pP**	**03 35 36.2**	**+1.5**
	comp=Z,3.6nm,0.9s,baz=154,slow=9.0,SNR=12							
TX31	**Lajitas Ar. Si**	**63.84**	**328**	*e*P		**P**	**03 35 18.1**	**+1.3**
QSPA	**South Pole Qui**	**63.93**	**180**	*e*P		**P**	**03 35 17.6**	**+0.5**
Y39A	**Lockesburg**	**63.97**	**338**	P		**P**	**03 35 18.2**	**+0.7**
	baz=155							
233A	**Rising Star**	**64.03**	**333**	P		**P**	**03 35 18.6**	**+0.7**
	baz=150,SNR=7.2							
UALR	**University of**	**64.18**	**340**	*e*P		**P**	**03 35 18.2**	**-0.6**
UALR				*e*pP		**pP**	**03 35 37.2**	**+0.4**
Z36A	**Blue Ridge**	**64.19**	**336**	P		**P**	**03 35 19.8**	**+0.9**
	baz=153,SNR=7.5							
WVT	**Waverly**	**64.22**	**344**	*e*P		**P**	**03 35 18.4**	**-0.6**
WVT				*e*PP		**pP**	**03 35 36.5**	**-0.5**
WVT	**Waverly**	**64.22**	**344**	*e*P		**P**	**03 35 18.4**	**-0.6**
WVT				*e*pP		**pP**	**03 35 36.5**	**-0.5**
MIAR	**Mount Ida**	**64.36**	**339**	P		**P**	**03 35 20.4**	**+0.4**
	baz=156,SNR=5.8							
MIAR	**Mount Ida**	**64.36**	**339**	*e*P		**P**	**03 35 20.2**	**+0.2**
MIAR				pmax		pmax		
	comp=Z,11nm,0.9s							
MIAR	**Mount Ida**	**64.36**	**339**	*e*P		**P**	**03 35 20.2**	**+0.2**
	comp=Z,11nm,0.9s							
X39A	**Fountain Ranch**	**64.50**	**338**	P		**P**	**03 35 21.7**	**+0.7**
	baz=155							
W41B	**Gary Mavity, V**	**64.52**	**340**	P		**P**	**03 35 21.4**	**+0.4**
	baz=157							
X301	**Greenbrier Sit**	**64.63**	**340**	*e*P		**P**	**03 35 22.4**	**+0.7**
X301				*e*pP		**pP**	**03 35 40.3**	**+0.6**
WHAR	**Wooly Hollow**	**64.64**	**340**	*e*P		**P**	**03 35 22.3**	**+0.5**
WHAR				*e*pP		**pP**	**03 35 40.2**	**+0.4**
W40A	**Ferguson Farm,**	**64.79**	**340**	P		**P**	**03 35 23.8**	**+1.0**
	baz=156							
V42A	**Cord**	**64.85**	**341**	P		**P**	**03 35 22.8**	**-0.4**
	baz=158							
ABTX	**Abilene, Hawle**	**64.86**	**333**	P		**P**	**03 35 24.5**	**+1.2**
	baz=150,SNR=9.0							
ABTX	**Abilene, Hawle**	**64.86**	**333**	*e*P		**P**	**03 35 24.1**	**+0.8**
	comp=Z,23nm,0.8s							
X38A	**Whitesboro**	**64.88**	**338**	P		**P**	**03 35 24.5**	**+1.1**
	baz=155							
Y35A	**Marietta**	**64.98**	**336**	P		**P**	**03 35 25.0**	**+1.0**
	baz=152							
X37A	**Clayton**	**65.00**	**337**	P		**P**	**03 35 25.0**	**+0.8**
	baz=154,SNR=5.9							
W39A	**Magazine**	**65.02**	**339**	P		**P**	**03 35 25.1**	**+0.9**
	baz=156							
V41A	**Mountainview**	**65.06**	**341**	P		**P**	**03 35 24.4**	**-0.2**
	baz=157,SNR=5.4							
Z33A	**Whitaker Ranch**	**65.09**	**334**	P		**P**	**03 35 25.4**	**+0.6**
	baz=151,SNR=7.7							
U43A	**Rector**	**65.11**	**342**	P		**P**	**03 35 24.8**	**0.0**
	baz=159							
W38A	**Poteau**	**65.14**	**338**	P		**P**	**03 35 25.9**	**+0.8**
	baz=155							
V40A	**Witts Springs**	**65.28**	**340**	P		**P**	**03 35 25.9**	**-0.1**
	baz=157							
U42A	**Revenden**	**65.32**	**342**	P		**P**	**03 35 26.0**	**-0.1**
	baz=158,SNR=14							
X36A	**Centrahoma**	**65.32**	**337**	P		**P**	**03 35 26.2**	**-0.1**
	baz=153,SNR=7.5							
X35A	**Drake**	**65.39**	**336**	P		**P**	**03 35 26.8**	**+0.1**
	baz=153,SNR=12							
PBMO	**Poplar Bluff**	**65.50**	**342**	*e*P		**P**	**03 35 27.2**	**-0.1**
PBMO				*e*pP		**pP**	**03 35 45.5**	**+0.1**
U41A	**Viola**	**65.51**	**341**	P		**P**	**03 35 27.4**	**-0.1**
	baz=158,SNR=7.5							
W37B	**Quinton**	**65.52**	**338**	P		**P**	**03 35 28.2**	**+0.7**
	baz=154,SNR=10							
T44A	**Benton**	**65.56**	**343**	P		**P**	**03 35 27.6**	**-0.2**
	baz=160							
V39A	**Pettigrew**	**65.57**	**339**	P		**P**	**03 35 28.2**	**+0.3**
	baz=156,SNR=8.6							
T43A	**Greenville**	**65.74**	**343**	P		**P**	**03 35 28.9**	**0.0**
	baz=159,SNR=12							
W36A	**Wetumka**	**65.79**	**337**	P		**P**	**03 35 29.1**	**-0.1**
	baz=154,SNR=5.5							
U40A	**Yellville**	**65.80**	**340**	P		**P**	**03 35 29.5**	**+0.2**
	baz=157,SNR=9.8							
V38A	**Canehill**	**65.83**	**339**	P		**P**	**03 35 29.8**	**+0.2**
	baz=155,SNR=13							
WCI	**Wyandotte Cave**	**65.88**	**346**	*e*P		**P**	**03 35 28.9**	**-0.9**
WCI				pmax		pmax		
	comp=Z,11nm,0.8s							
WCI	**Wyandotte Cave**	**65.88**	**346**	*e*P		**P**	**03 35 28.9**	**-0.9**
	comp=Z,11nm,0.8s							
T42A	**Van Buren**	**65.91**	**342**	P		**P**	**03 35 29.6**	**-0.4**
	baz=159							
U39A	**Green Forest**	**66.02**	**340**	P		**P**	**03 35 31.0**	**+0.3**
	baz=156,SNR=7.3							
W35A	**Tecumseh**	**66.03**	**336**	P		**P**	**03 35 30.6**	**-0.3**
	baz=153							
S44A	**Carbondale**	**66.05**	**344**	P		**P**	**03 35 30.6**	**-0.2**
	baz=160,SNR=5.6							
HHAR	**Hobbs**	**66.07**	**339**	*e*P		**P**	**03 35 31.5**	**+0.5**
HHAR				*e*pP		**pP**	**03 35 49.5**	**+0.4**
V37A	**Hulbert**	**66.09**	**338**	P		**P**	**03 35 31.4**	**+0.2**
	baz=155,SNR=6.0							
T41A	**Mountain View**	**66.12**	**341**	P		**P**	**03 35 31.4**	**+0.1**
	baz=158,SNR=7.7							
S43A	**Fulton Ridge,**	**66.15**	**343**	P		**P**	**03 35 31.2**	**-0.3**
	baz=160							
V36A	**Jenks**	**66.28**	**337**	P		**P**	**03 35 32.5**	**+0.2**
	baz=154,SNR=5.7							
TUL1	**Leonard**	**66.34**	**338**	P		**P**	**03 35 33.2**	**+0.5**
	baz=154,SNR=5.3							
TUL1	**Leonard**	**66.34**	**338**	*e*P		**P**	**03 35 32.5**	**-0.2**
	comp=Z,18nm,0.8s							
U38A	**Grette**	**66.35**	**339**	P		**P**	**03 35 32.7**	**-0.1**
	baz=155,SNR=5.2							
WMOK	**Wichita Mounta**	**66.37**	**335**	P		**P**	**03 35 32.9**	**-0.1**
	baz=151							
WMOK	**Wichita Mounta**	**66.37**	**335**	*e*P		**P**	**03 35 32.5**	**-0.5**
WMOK				*e*PP		**pP**	**03 35 51.3**	**+0.2**
WMOK	**Wichita Mounta**	**66.37**	**335**	*e*P		**P**	**03 35 32.5**	**-0.5**
WMOK				*e*pP		**pP**	**03 35 51.3**	**+0.2**
T40A	**Mansfield**	**66.43**	**341**	P		**P**	**03 35 33.2**	**-0.2**
	baz=157							
S42A	**Caledonia**	**66.53**	**342**	P		**P**	**03 35 33.3**	**-0.7**
	baz=159,SNR=6.0							
R44A	**Waltonville**	**66.53**	**344**	P		**P**	**03 35 33.2**	**-0.7**
	baz=161							
U37A	**Salina**	**66.56**	**338**	P		**P**	**03 35 34.4**	**+0.3**
	baz=155,SNR=13							
V35A	**Meyer Ranch, C**	**66.57**	**337**	P		**P**	**03 35 33.9**	**-0.3**
	baz=153							
T39A	**Clever**	**66.58**	**340**	P		**P**	**03 35 34.3**	**0.0**
	baz=156,SNR=7.4							
S41A	**Jillco Farms,**	**66.62**	**342**	P		**P**	**03 35 34.6**	**+0.1**
	baz=158,SNR=18							
MNTX	**Cornudas Mount**	**66.62**	**328**	P		**P**	**03 35 35.2**	**+0.5**
	baz=145,SNR=9.1							
MNTX	**Cornudas Mount**	**66.62**	**328**	*e*P		**P**	**03 35 35.0**	**+0.3**
	comp=Z,10nm,0.8s							
O56A	**Blue Knob Stat**	**66.64**	**353**	P		**P**	**03 35 35.1**	**+0.4**
	baz=171							
S40A	**Lebanon**	**66.84**	**341**	P		**P**	**03 35 36.3**	**+0.3**
	baz=157,SNR=14							
T38A	**Diamond**	**66.87**	**339**	P		**P**	**03 35 36.5**	**+0.3**
	baz=156,SNR=20							
R42A	**Luebbering**	**67.00**	**343**	P		**P**	**03 35 37.1**	**+0.1**
	baz=159,SNR=9.1							
U35A	**Pawnee**	**67.08**	**337**	P		**P**	**03 35 37.8**	**+0.3**
	baz=153,SNR=9.5							
T37A	**Cheneyville 18**	**67.15**	**339**	P		**P**	**03 35 38.2**	**+0.3**
	baz=155,SNR=12							
S39A	**Bolivar**	**67.17**	**340**	P		**P**	**03 35 38.3**	**+0.2**
	baz=157,SNR=16							
R41A	**Rosebud**	**67.18**	**342**	P		**P**	**03 35 38.2**	**+0.1**
	baz=158,SNR=10							
ACSO	**Alum Creek Sta**	**67.20**	**350**	*e*P		**P**	**03 35 37.5**	**-0.6**
	comp=Z,16nm,0.8s							
ACSO				*e*pP		**pP**	**03 35 56.4**	**+0.1**
S38A	**Stockton**	**67.30**	**340**	P		**P**	**03 35 38.8**	**0.0**
	baz=156,SNR=13							
MSTX	**Muleshoe**	**67.33**	**331**	P		**P**	**03 35 39.7**	**+0.4**
	baz=148,SNR=11							
MSTX	**Muleshoe**	**67.33**	**331**	*e*P		**P**	**03 35 39.9**	**+0.6**
	comp=Z,31nm,0.8s							
T36A	**Boggs Farm, Ca**	**67.41**	**338**	P		**P**	**03 35 40.1**	**+0.5**
	baz=154							
R40A	**Maddies Statio**	**67.42**	**342**	P		**P**	**03 35 39.8**	**+0.2**
	baz=158,SNR=30							
N54A	**Moraine State**	**67.49**	**352**	P		**P**	**03 35 40.0**	**0.0**
	baz=170							
T35A	**Sooner Cattle**	**67.49**	**338**	P		**P**	**03 35 40.9**	**+0.8**
	baz=154							
Q42A	**Golden Eagle**	**67.53**	**343**	P		**P**	**03 35 40.2**	**0.0**
	baz=159,SNR=10							
AMTX	**Amarillo**	**67.66**	**333**	P		**P**	**03 35 41.9**	**+0.6**
	baz=149							
AMTX	**Amarillo**	**67.66**	**333**	*e*P		**P**	**03 35 41.8**	**+0.6**
	comp=Z,8.7nm,0.8s							
R39A	**Chumby, Stover**	**67.67**	**341**	P		**P**	**03 35 41.4**	**+0.2**
	baz=157,SNR=12							
S37A	**Fort Scott**	**67.70**	**339**	P		**P**	**03 35 41.4**	**0.0**
	baz=155,SNR=7.5							
Q41A	**Truxton**	**67.75**	**343**	P		**P**	**03 35 41.6**	**0.0**
	baz=159,SNR=8.6							
R38A	**Fenwick Farm,**	**67.81**	**340**	P		**P**	**03 35 42.1**	**+0.1**
	baz=156,SNR=8.4							
T34A	**McClaskey Farm**	**67.82**	**337**	P		**P**	**03 35 43.0**	**+0.9**
	baz=153							
U32A	**Winter Ranch,**	**67.91**	**335**	P		**P**	**03 35 43.6**	**+0.8**
	baz=151							
S36A	**Lake Cedric, C**	**67.92**	**339**	P		**P**	**03 35 43.1**	**+0.3**
	baz=155,SNR=16							
P43A	**Skaggs, Pawnee**	**67.96**	**344**	P		**P**	**03 35 42.6**	**-0.4**
	baz=160							
M54A	**Oil Creek Stat**	**67.99**	**353**	P		**P**	**03 35 43.0**	**-0.1**
	baz=170							
Q40A	**Laux Farm, Aux**	**68.02**	**342**	P		**P**	**03 35 43.2**	**-0.1**
	baz=158,SNR=7.2							
SFIN	**Lafayette**	**68.11**	**346**	P		**P**	**03 35 42.4**	**-1.5**
	baz=163							
P42A	**Winchester**	**68.11**	**344**	P		**P**	**03 35 43.5**	**-0.4**
	baz=160							
S35A	**Otter Creek Ra**	**68.12**	**338**	P		**P**	**03 35 44.2**	**+0.2**
	baz=154,SNR=7.6							
R37A	**Teagarden Farm**	**68.21**	**339**	P		**P**	**03 35 44.5**	**-0.1**
	baz=155							
319A	**Douglas**	**68.30**	**325**	*e*P		**P**	**03

baz=159,SNR=11
O33A **Hebron** 70.70 338 P P 03 36 00.6 +0.7
baz=153
T25A **Trinidad** 70.73 332 P P 03 36 01.7 +1.3
baz=147
T25A **Trinidad** 70.73 332 *e*P P 03 36 00.9 +0.5
T25A epP PcP 03 36 20.7 -0.2
N35A **Tabor** 70.79 340 P P 03 36 00.5 +0.1
baz=155,SNR=5.0
M37A **Trindle Farm,** 70.82 341 P P 03 36 01.2 +0.6
baz=156,SNR=14
FRNY **Flat Rock** 70.83 358 *e*P P 03 36 01.8 +1.2
comp=Z,8.8nm,0.7s
L39A **Vinton** 70.93 343 P P 03 36 00.9 -0.3
baz=158
K41A **Shullsburg** 70.96 345 P P 03 36 01.4 0.0
baz=160
N34A **Lincoln** 71.04 339 P P 03 36 02.0 0.0
baz=154
M36A **Felix, Anita** 71.08 341 P P 03 36 02.3 +0.1
baz=156,SNR=5.4
SADO **Sadowa** 71.15 353 *e*P P 03 36 02.6 +0.1
comp=Z,13nm,0.9s
L38A **Oak Wood Farm,** 71.20 342 P P 03 36 02.9 +0.1
baz=158
JFWS **Jewell Farm** 71.24 345 *e*P P 03 36 02.6 -0.4
JFWS pmax pmax
comp=Z,12nm,0.8s
JFWS **Jewell Farm** 71.24 345 *e*P P 03 36 02.6 -0.4
comp=Z,12nm,0.8s
K40A **Colesburg** 71.25 344 P P 03 36 03.0 -0.2
baz=159
K39A **Oelwein** 71.44 343 P P 03 36 04.2 -0.1
baz=159,SNR=9.8
DBIC **Dimbokro** 71.44 73 P P 03 36 04.8 -0.1
comp=Z,4.0nm,0.7s,baz=214,slow=8.5,SNR=7.8
DBIC pP PcP 03 36 23.6 -0.6
comp=Z,5.4nm,0.8s,baz=210,slow=4.5,SNR=4.1
DBIC LR LR 04 04 19.9
comp=Z,31nm,22.0s,baz=245,slow=33
W18A **Petrified Fore** 71.51 327 *e*P P 03 36 07.5 +2.4
comp=Z,17nm,1.0s
KSCO **Kaye Shedlock'** 71.60 334 P P 03 36 06.9 +1.4
baz=149
KSCO **Kaye Shedlock'** 71.60 334 *e*P P 03 36 06.9 +1.4
comp=Z,22nm,0.8s
J41A **Loganville** 71.61 345 P P 03 36 05.2 -0.1
baz=160
K38A **Parkersburg** 71.62 343 P P 03 36 05.1 -0.3
baz=158
SDCO **Great Sand Dun** 71.70 331 P P 03 36 07.9 +1.5
baz=146,SNR=6.5
SDCO **Great Sand Dun** 71.70 331 *e*P P 03 36 07.7 +1.4
comp=Z,5.8nm,0.8s
J40A **Soldiers Grove** 71.81 345 P P 03 36 06.5 0.0
baz=160,SNR=7.1
L35A **Bielow Farm, R** 71.91 341 P P 03 36 07.1 0.0
baz=155
VNDA **Vanda** 71.92 190 P P 03 36 08.7 +1.8
comp=Z,1.9nm,0.6s,baz=127,slow=6.4,SNR=16
VNDA **Vanda** 71.92 190 *e*P P 03 36 08.7 +1.8
VNDA pmax pmax
comp=Z,5.0nm,1.0s
VNDA **Vanda** 71.92 190 *e*P P 03 36 08.7 +1.8
comp=Z,4.6nm,1.0s
K37A **Belmond** 71.96 342 P P 03 36 07.2 -0.3
baz=157
J39A **Decorah** 71.99 344 P P 03 36 07.2 -0.3
baz=159,SNR=12
L34A **Svendsen Farm,** 72.03 340 P P 03 36 08.2 +0.3
baz=154,SNR=5.8
K36A **Gilmore City** 72.07 342 P P 03 36 08.4 +0.3
baz=156
BGNE **Belgrade** 72.09 338 P P 03 36 08.8 +0.6
baz=153
BGNE **Belgrade** 72.09 338 *e*P P 03 36 08.8 +0.6
comp=Z,51nm,0.8s
J38A **Wedel Dairy, R** 72.17 343 P P 03 36 08.4 -0.3
baz=158
I41A **Arkdale** 72.23 345 P P 03 36 08.7 -0.3
baz=161
I40A **Norwalk** 72.25 345 P P 03 36 08.8 -0.3
baz=160
TRQ **Mont Tremblant** 72.26 357 *e*P P 03 36 09.8 +0.6
K35A **Storm Lake** 72.37 341 P P 03 36 10.2 +0.3
baz=156
I39A **Houston** 72.43 344 P P 03 36 10.1 -0.1
baz=159,SNR=6.4
J37A **Redenius Farm,** 72.44 342 P P 03 36 10.4 +0.1
baz=157
SYO **Syowa Base** 72.53 159⇑ *e*P P 03 36 09.0 -1.6
Q24A **Divide** 72.58 332 *e*P P 03 36 13.6 +2.0
comp=Z,15nm,0.8s
MVCO **Mesa Verde** 72.60 329 P P 03 36 13.3 +1.6
baz=144
MVCO **Mesa Verde** 72.60 329 *e*P P 03 36 13.3 +1.6
comp=Z,10nm,0.9s
WUAZ **Wupatki** 72.64 326 P P 03 36 13.5 +1.7
baz=141
WUAZ **Wupatki** 72.64 326 *e*P P 03 36 14.1 +2.2
comp=Z,10.0nm,0.9s
J36A **Seneca 1, Swea** 72.68 342 P P 03 36 11.8 +0.2
baz=156,SNR=5.2
H41A **Junction City** 72.71 346 P P 03 36 11.7 -0.2
baz=161
I38A **Scanlan Farm,** 72.81 344 P P 03 36 12.5 0.0
baz=158,SNR=11
H40A **Chili** 72.89 345 P P 03 36 12.6 -0.3
baz=160,SNR=6.2
Y12C **Blythe** 72.93 323 P P 03 36 14.1 +0.7
baz=138
Y12C **Blythe** 72.93 323 *e*P P 03 36 15.9 +2.5
Y12C epP pP 03 36 34.2 +2.5
J35A **Milford** 72.96 341 P P 03 36 13.0 -0.3
baz=156
I37A **Lemond, Waseca** 73.06 343 P P 03 36 14.3 +0.4
baz=157,SNR=5.5
I36A **Fitzsimmons Fa** 73.23 342 P P 03 36 15.2 +0.2
baz=157
BAR **Barrett** 73.33 321 *e*P P 03 36 18.0 +2.1
comp=Z,9.7nm,0.9s
I35A **Creekview Farm** 73.34 342 P P 03 36 16.0 +0.4
baz=156,SNR=7.6
MONP **Monument Peak,** 73.35 321 P P 03 36 17.8 +1.7
baz=137
BC3 **Big Chuckawall** 73.37 322 P P 03 36 17.9 +1.8
baz=137
K31A **O'Neill** 73.38 339 P P 03 36 16.8 +0.9
baz=152,SNR=5.5
PV01 **Paradox Valley** 73.39 329 *e*P P 03 36 18.1 +1.8
PV01 epP pP 03 36 36.8 +2.2
J33A **Davis** 73.44 340 P P 03 36 16.4 +0.2
baz=154,SNR=6.6
G40A **Rib Lake** 73.45 346 P P 03 36 16.3 0.0
baz=160
H37A **Dierke Farm, C** 73.46 343 P P 03 36 16.6 +0.4
baz=158
ISCO **Idaho Springs** 73.48 332 P P 03 36 18.5 +1.6
baz=146
ISCO **Idaho Springs** 73.48 332 *e*P P 03 36 17.0 +0.1
ISCO *e**PP pP 03 36 37.0 +1.8
ISCO **Idaho Springs** 73.48 332 *e*P P 03 36 17.0 +0.1
ISCO epP pP 03 36 37.0 +1.8
SMCO **Snowmass** 73.53 331 *e*P P 03 36 19.3 +1.9
comp=Z,11nm,0.8s
IRM **Iron Mountain** 73.58 323 P P 03 36 19.0 +1.8
baz=138
F41A **Three Lakes** 73.67 346 P P 03 36 17.6 +0.1
baz=162,SNR=5.8
G39A **Holcombe** 73.69 345 P P 03 36 17.8 +0.1
baz=160
ECSD **EROS Data Cent** 73.71 341 P P 03 36 18.1 +0.3
baz=155,SNR=7.8
ECSD **EROS Data Cent** 73.71 341 *e*P P 03 36 18.0 +0.2
comp=Z,15nm,0.9s
H36A **Jessenland, He** 73.72 343 P P 03 36 18.2 +0.4
baz=157,SNR=6.9
U15A **North Rim** 73.81 326 *e*P P 03 36 21.3 +2.4
BELC **Belle Mtn. Jos** 73.93 322 P P 03 36 20.9 +1.5
baz=137
J31A **Geddes** 73.97 339 P P 03 36 20.4 +1.0
baz=153,SNR=7.7
SPMN **Marine on St.** 74.03 344 P P 03 36 19.3 -0.3
baz=158,SNR=5.3
SPMN **Marine on St.** 74.03 344 *e*P P 03 36 19.1 -0.5
comp=Z,12nm,0.9s
F40A **Park Falls** 74.06 346 P P 03 36 20.3 +0.6
baz=161,SNR=10
H35A **Sunnyside Ranc** 74.08 342 P P 03 36 19.8 -0.1
baz=156,SNR=5.1
F39A **Loretta** 74.23 345 P P 03 36 20.7 0.0
baz=160
I32A **Karley and Nic** 74.23 340 P P 03 36 21.2 +0.4
baz=154
MURC **Murrieta** 74.30 321 P P 03 36 23.3 +1.8
baz=136
H34A **Spellman Lake,** 74.31 341 P P 03 36 21.6 +0.4
baz=155,SNR=6.1
GMRC **Granite Mounta** 74.33 323 P P 03 36 23.7 +2.0
baz=138
F37A **Hinrichs Farm,** 74.46 344 P P 03 36 22.5 +0.5
baz=158,SNR=5.3
G35A **Watkins** 74.47 343 P P 03 36 22.7 +0.6
baz=157
F38A **Pierce - Schro** 74.50 345 P P 03 36 22.2 0.0
baz=159
E40A **Wakefield** 74.51 346 P P 03 36 22.9 +0.6
baz=161
KNB **Kanab** 74.54 326 *e*P P 03 36 25.8 +2.8
KNB pmax pmax
comp=Z,20nm,1.2s
KNB **Kanab** 74.54 326 *e*P P 03 36 25.8 +2.8
comp=Z,20nm,1.2s
I31A **Royce, Wessing** 74.57 339 P P 03 36 23.8 +1.1
baz=153
E39A **Mellen** 74.59 346 P P 03 36 23.0 +0.2
baz=160
H33A **Prehn Over Nor** 74.61 341 P P 03 36 23.6 +0.6
baz=155,SNR=8.1
H32A **Carlson Farm,** 74.65 340 P P 03 36 24.0 +0.7
baz=154
HEC **Hector,Ludlow** 74.73 322 P P 03 36 26.2 +2.2
baz=137
LCMT **Little Creek M** 74.75 326 *e*P P 03 36 26.5 +2.3
LCMT *e*PcP PcP 03 36 40.3 +2.3
F36A **Milaca** 74.81 343 P P 03 36 24.4 +0.3
baz=158,SNR=6.5
O20A **White River Ci** 74.88 331 P P 03 36 26.5 +1.6
baz=144
O20A **White River Ci** 74.88 331 *e*P P 03 36 27.0 +2.1
O20A epP pP 03 36 45.4 +2.1
TUQ **Turquoise Moun** 74.95 323 P P 03 36 27.5 +2.2
baz=137
G33A **Ortonville** 74.99 341 P P 03 36 25.4 +0.3
baz=155
E38A **The Farm, Brul** 75.03 345 P P 03 36 25.4 0.0
baz=159
BFSC **Mount Baldy Ra** 75.03 321 P P 03 36 27.3 +1.5
baz=136
SRU **San Rafael Swe** 75.08 329 *e*P P 03 36 28.0 +1.9
SRU *e**PP pP 03 36 46.4 +1.9
SRU **San Rafael Swe** 75.08 329 *e*P P 03 36 28.0 +1.9
SRU epP pP 03 36 46.4 +1.9
CCUT **Cedar City** 75.22 326 *e*P P 03 36 28.9 +1.8
CCUT *e*PcP PcP 03 36 39.8 -0.3
SHPR **Sheep Range** 75.35 324 *e*P P 03 36 30.2 +2.5
comp=Z,6.5nm,0.9s
E36A **McGregor** 75.35 344 P P 03 36 27.1 -0.1
baz=158,SNR=5.9
MSU **Marysvale** 75.39 327 *e*P P 03 36 30.4 +2.5
MSU **Marysvale** 75.39 327 *e*P P 03 36 30.4 +2.5
E35A **Pequot Lakes** 75.68 343 P P 03 36 29.5 +0.4
baz=157
EDW2 **Edwards Air Fo** 75.69 321 P P 03 36 30.7 +1.2
baz=136
D37A **Cotton** 75.75 345 P P 03 36 29.6 +0.1
baz=159
C39A **Grand Marais** 75.86 346 P P 03 36 29.9 -0.2
baz=161,SNR=5.1
D35A **Remer** 76.08 344 P P 03 36 31.4 +0.1
baz=157,SNR=6.0
F31A **Hecla** 76.13 340 P P 03 36 32.2 +0.5
baz=153,SNR=6.8
FURC **Furnace Creek,** 76.23 323 P P 03 36 34.6 +2.1
baz=137
K22A **Casper** 76.24 333 P P 03 36 34.0 +1.4
baz=146
K22A **Casper** 76.24 333 *e*P P 03 36 33.6 +1.0
K22A epP pP 03 36 52.8 +1.8
TPNV **Topopah Spring** 76.26 324 P P 03 36 34.5 +1.7
baz=137
TPNV **Topopah Spring** 76.26 324 *e*P P 03 36 35.1 +2.2
TPNV pmax pmax
comp=Z,8.0nm,0.9s
TPNV **Topopah Spring** 76.26 324 *e*P P 03 36 35.1 +2.2
comp=Z,7.5nm,0.9s
MPMC **Manual Prospec** 76.27 322 P P 03 36 34.1 +1.1
baz=136
EYMN **Ely** 76.28 346 P P 03 36 32.8 +0.3
baz=160
MPU **Maple Canyon** 76.31 329 *e*P P 03 36 34.5 +1.4
C36A **Pine Crest Far** 76.41 345 P P 03 36 33.5 +0.3
baz=158
NLU **North Lily Min** 76.47 328 *e*P P 03 36 36.3 +2.3
NLU epP pP 03 36 54.6 +2.1
DAC **Darwin (Calif)** 76.49 322 *e*P P 03 36 36.3 +2.1
DAC *e**PP pP 03 36 54.7 +2.1
DAC pmax pmax
comp=Z,7.0nm,0.9s
DAC **Darwin (Calif)** 76.49 322 *e*P P 03 36 36.3 +2.1
comp=Z,7.1nm,0.9s
DAC epP pP 03 36 54.7 +2.1
RSSD **Black Hills** 76.53 336 P P 03 36 35.3 +1.1
baz=148
RSSD **Black Hills** 76.53 336 *e*P P 03 36 35.4 +1.1
RSSD pmax pmax
comp=Z,5.0nm,0.8s
RSSD **Black Hills** 76.53 336 *e*P P 03 36 35.4 +1.1
comp=Z,5.5nm,0.8s
D33A **AnnSam, Waubun** 76.60 342 P P 03 36 34.8 +0.5
baz=156
C35A **Jirik Farms, M** 76.64 344 P P 03 36 34.2 -0.3
baz=157
E31A **Nome** 76.65 341 P P 03 36 35.2 +0.6
baz=154
JLU **Jordanelle** 76.69 329 *e*P P 03 36 37.4 +2.1
comp=Z,7.8nm,0.9s
PKM **Mcpherson Peak** 76.73 320 P P 03 36 36.9 +1.4
baz=134
C34A **RKJ Ranch, Bem** 76.83 343 P P 03 36 35.9 +0.4
baz=156
CWC **Cottonwood Cre** 76.87 322 P P 03 36 37.9 +1.6
baz=136
GRAC **Grapevine Rang** 76.89 323 P P 03 36 38.2 +1.9
baz=137
R11A **Troy Canyon, C** 76.97 325 P P 03 36 38.9 +2.1
baz=138
R11A **Troy Canyon, C** 76.97 325 *e*P P 03 36 38.9 +2.1
R11A epP pP 03 36 57.8 +2.5
DUG **Dugway, Tooele** 77.01 328 P P 03 36 38.7 +1.7
baz=141
DUG **Dugway, Tooele** 77.01 328 *e*P P 03 36 38.8 +1.8
DUG *e**PP pP 03 36 57.6 +2.1
DUG **Dugway, Tooele** 77.01 328 *e*P P 03 36 38.8 +1.8
DUG epP pP 03 36 57.6 +2.1
C33A **Trail** 77.15 343 P P 03 36 37.5 +0.1
baz=156
B35A **Bob, Littlefor** 77.19 344 P P 03 36 37.8 +0.2
SUR **Sutherland** 77.38 120 *e*P P 03 36 39.6 +0.1
HWUT **Hardware Ranch** 77.55 330 *e*P P 03 36 41.1 +1.1
comp=Z,8.4nm,0.8s
BW06 **Boulder Array** 77.60 332 P P 03 36 40.2 -0.1
baz=144
BW06 **Boulder Array** 77.60 332 *e*P P 03 36 41.0 +0.7
PD31 **Pinedale Array** 77.60 332 *e*P P 03 36 39.4 -0.9
PDAR **Pinedale Array** 77.60 332 P P 03 36 41.1 +0.8
comp=Z,1.3nm,0.8s,baz=125,slow=6.9,SNR=9.4
PDAR pP pP 03 36 59.5 +0.7
comp=Z,0.9nm,0.7s,baz=111,slow=6.5,SNR=4.3
AGMN **Agassiz Nation** 77.67 343 P P 03 36 40.6 +0.4
baz=156
AGMN **Agassiz Nation** 77.67 343 *e*P P 03 36 40.9 +0.6
AGMN epP pP 03 36 59.1 +0.3
C31A **Landman Farms,** 77.72 342 P P 03 36 40.8 +0.3
baz=154
B32A **Ashes, Strandq** 77.94 343 P P 03 36 42.0 +0.2
baz=155,SNR=7.1
A33A **Warroad** 78.14 343 P P 03 36 43.1 +0.3
baz=156
REDW **Red Top Meadow** 78.64 331 *e*P P 03 36 47.5 +1.5
comp=Z,7.6nm,1.0s
LOHW **Long Hollow** 78.73 331 *e*P P 03 36 48.0 +1.4
comp=Z,5.2nm,0.9s
TPAW **Teton Pass** 78.78 331 *e*P P 03 36 48.6 +1.8
comp=Z,6.6nm,0.9s
MOOW **Moose Ponds** 78.90 331 *e*P P 03 36 48.7 +1.2
MOOW epP pP 03 37 07.5 +1.5
IMW **Indian Meadow** 79.10 331 *e*P P 03 36 49.9 +1.2
comp=Z,10.0nm,1.3s
IMW epP pP 03 37 09.0 +1.7
FLWY **Flagg Ranch** 79.15 332 *e*P P 03 36 50.4 +1.5
comp=Z,14nm,0.8s
YERR **Yerington** 79.36 323 *e*P P 03 36 52.4 +2.3
comp=Z,8.1nm,0.8s
RLMT **Red Lodge** 79.40 333 P P 03 36 51.5 +1.3
baz=144
RLMT **Red Lodge** 79.40 333 *e*P P 03 36 51.7 +1.5
comp=Z,6.5nm,0.6s
RLMT epP pP 03 37 10.1 +1.4
ULM **Lac du Bonnet** 79.47 344 P P 03 36 50.1 0.0
comp=Z,3.1nm,0.5s,baz=158,slow=5.2,SNR=10
ULM pP pP 03 37 08.8 +0.1
comp=Z,3.3nm,0.5s,baz=159,slow=8.4,SNR=3.8
YFT **Old Faithful** 79.50 332 *e*P P 03 36 51.6 +0.8
comp=Z,8.2nm,0.9s
LAO **LASA Array** 79.53 336 P P 03 36 51.7 +1.1
baz=147
LAO **LASA Array** 79.53 336 *e*P P 03 36 51.8 +1.2
comp=Z,7.6nm,0.7s
LAO epP pP 03 37 10.6 +1.4
PNTR **Pine Nut** 79.62 323 *e*P P 03 36 54.0 +2.5
comp=Z,16nm,0.8s
YMR **Madison River** 79.73 332 *e*P P 03 36 54.5 +2.6
comp=Z,14nm,0.8s
YHH **Holmes Hill** 79.78 332 *e*P P 03 36 54.4 +2.0
YHH epP pP 03 37 13.3 +2.3
PAHR **Pah Rah Range** 79.95 324 *e*P P 03 36 55.6 +2.4
comp=Z,14nm,0.9s
PAHR epP pP 03 37 14.1 +2.3
TSUM **Tsumeb** 80.00 106 *e*P P 03 36 54.0 0.0
comp=Z,19nm,1.3s
GCMT **Greycliff** 80.11 333 *e*P P 03 36 55.4 +1.5
GCMT epP pP 03 37 13.9 +1.5
MAW **Mawson** 80.16 164 P P 03 36 54.3 +0.5
comp=Z,22nm,0.8s,baz=215,slow=6.2,SNR=47
TORD **Torodi Ar. Bea** 80.26 70 P P 03 36 55.1 -0.1
comp=Z,15nm,0.7s,baz=265,slow=5.2,SNR=161
TORD pP pP 03 37 13.8 +0.1
comp=Z,10nm,0.6s,baz=261,slow=4.9,SNR=10.0
AFDM **Forest Hills D** 80.27 322 *e*P P 03 36 56.3 +1.5
DGMT **Dagmar** 80.33 338 P P 03 36 56.3 +1.3
baz=148
DGMT **Dagmar** 80.33 338 *e*P P 03 36 56.2 +1.3
comp=Z,17nm,0.9s
HLID **Hailey** 80.38 329 P P 03 36 57.3 +1.8
baz=140
HLID **Hailey** 80.38 329 *e*P P 03 36 57.5 +2.0
comp=Z,9.3nm,0.9s
MCMT **McKenzie Canyo** 80.67 331 *e*P P 03 36 59.0 +2.0
MCMT epP pP 03 37 17.9 +2.2
BOZ **Bozeman (W)** 80.76 332 P P 03 36 58.5 +1.1
baz=142
BOZ **Bozeman (W)** 80.76 332 *e*P P 03 36 58.2 +0.8
BOZ *e**PP pP 03 37 17.4 +1.4
BOZ **Bozeman (W)** 80.76 332 *e*P P 03 36 58.2 +0.8
BOZ epP pP 03 37 17.4 +1.4
MFID **Camas Ranch** 80.93 328 *e*P P 03 37 00.1 +1.8
comp=Z,14nm,1.7s
ORV **Oroville** 80.99 322 *e*P P 03 37 00.4 +1.8
ORV *e**PP pP 03 37 19.4 +2.2
ORV **Oroville** 80.99 322 *e*P P 03 37 00.4 +1.8
ORV epP pP 03 37 19.4 +2.2
EGMT **Eagleton** 81.97 335 *e*P P 03 37 04.6 +1.0
EGMT epP pP 03 37 23.3 +1.0
MOD **Modoc Plateau** 82.02 325 *e*P P 03 37 05.9 +1.8
comp=Z,9.4nm,1.0s
MOD epP pP 03 37 24.5 +1.7
BOSA **Boshof** 82.42 118 P P 03 37 06.6 -0.1
comp=Z,3.9nm,0.6s,baz=276,slow=3.2,SNR=14
BMO **Blue Mountains** 82.71 328 *e*P P 03 37 08.1 +0.5
BMO *e**PP pP 03 37 27.7 +1.4
BMO **Blue Mountains** 82.71 328 *e*P P 03 37 08.1 +0.5
BMO epP pP 03 37 27.7 +1.4
SLMT **Seeley Lake** 82.85 332 *e*P P 03 37 09.7 +1.3
SLMT epP pP 03 37 28.5 +1.5
YBMT **Yellow Bay** 83.56 332 *e*P P 03 37 12.8 +0.9
YBMT epP pP 03 37 32.1 +1.5
JTMT **Jette** 83.58 332 *e*P P 03 37 13.6 +1.5
LBTB **Lobatse** 84.27 115 *e*P P 03 37 16.1 -0.1
LBTB **Lobatse** 84.27 115 *e*P P 03 37 16.1 -0.1
WALA **Waterton Lakes** 84.45 333 *e*P P 03 37 17.4 +0.9
WALA epP pP 03 37 36.5 +1.3
EDM **Edmonton** 87.52 336 *e*P P 03 37 31.3 0.0
EDM *e**PP pP 03 37 50.1 -0.1
EDM pmax pmax
comp=Z,13nm,0.8s
EDM **Edmonton** 87.52 336 *e*P P 03 37 31.3 0.0
comp=Z,13nm,0.8s
EDM epP pP 03 37 50.1 -0.1
TAM **Tamanrasset** 88.18 64 *e*P P 03 37 35.2 -0.2
TAM *e**PP pP 03 37 48.3 -6.0
TAM pmax pmax
comp=Z,3.0nm,1.1s
TAM **Tamanrasset** 88.18 64 *e*P P 03 37 35.2 -0.2
comp=Z,2.8nm,1.1s
TAM epP pP 03 37 48.3 -6.0
ESDC **Sonseca Array** 90.18 45 P P 03 37 44.2 -0.1
comp=Z,0.1nm,0.3s,baz=247,slow=6.4,SNR=3.5
YKA **Yellowknife Ar** 95.23 341 P P 03 38 06.8 -0.1
comp=Z,1.7nm,0.8s,baz=139,slow=4.3,SNR=11
AKASG **Malin Array Be** 115.81 44 PKP PKPdf 03 43 25.1 -0.7
comp=Z,0.6nm,0.5s,baz=263,slow=2.9,SNR=5.8
BRTR **Keskin Array B** 116.64 57 PKP PKPdf 03 43 27.6 -0.4
comp=Z,0.6nm,0.8s,baz=251,slow=3.8,SNR=3.6
OBN **Obninsk** 120.73 40⇓ *e*PKIKP PKPdf 03 43 35.5 +0.4
OBN pmax pmax
comp=Z,25nm,2.0s
KBZ **Khabaz** 124.12 54 PKP PKPdf 03 43 42.3 +0.3
comp=Z,2.2nm,0.8s,baz=192,slow=3.0,SNR=4.7
ASAR **Alice Springs** 125.06 207 PKP PKPdf 03 43 44.1 -0.5
comp=Z,1.7nm,0.6s,baz=132,slow=1.8,SNR=22
ASAR pPKP pPKPdf 03 44 03.9 -0.3
comp=Z,2.1nm,0.7s,baz=145,slow=2.7,SNR=8.7
H11S2 **WAKE ISLAND Hyl** 126.97 274 T T 06 03 46.0
baz=108,slow=75,SNR=54
H11S1 **WAKE ISLAND Hyl** 126.98 274 T T 06 03 47.1
baz=108,slow=75,SNR=78
H11S3 **WAKE ISLAND Hyl** 126.99 274 T T 06 03 47.3
baz=108,slow=75,SNR=65
H11N3 **WAKE ISLAND Hyl** 127.18 276 T T 06 03 53.0
baz=111,slow=77,SNR=14
H11N1 **WAKE ISLAND Hyl** 127.20 276 T T 06 03 56.8
baz=111,slow=77,SNR=8.4
H11N2 **WAKE ISLAND Hyl** 127.20 276 T T 06 03 55.3
baz=111,slow=77,SNR=12
WRA **Warramunga Arr** 128.15 210 PKP PKPdf 03 43 50.0 -0.5
comp=Z,2.7nm,0.6s,baz=159,slow=1.7,SNR=25
WRA pPKP pPKPdf 03 44 10.4 +0.2
comp=Z,3.3nm,0.8s,baz=156,slow=1.6,SNR=9.5
WRAB **Tennant Creek** 128.15 210 *e*PKIKP PKPdf 03 43 50.4 -0.2
WRAB **Tennant Creek** 128.15 210 *e*PKPdf PKPdf 03 43 50.4 -0.2
ARU **Arti** 132.83 36 *e*PKIKP PKPdf 03 43 59.2 +1.0
ARU **Arti** 132.83 36 *e*PKPdf PKPdf 03 43 59.2 +1.0
ABKAR **Akbulak array** 135.53 45 *e*PKPdf PKPdf 03 44 04.0 +0.5
BRVK **Borovoye** 140.39 37 *e*PKIKP PKPdf 03 44 12.9 +0.6
BRVK **Borovoye** 140.39 37 *e*PKPdf PKPdf 03 44 12.9 +0.6
NVS **Novosibirsk** 145.55 27⇑ *i*PKIKP PKPab 03 44 22.7 +0.8
NVS *i* 03 44 42.0
NVS pmax pmax
comp=Z,23nm,0.9s
NVS pmax pmax
comp=N,2.0nm,0.8s
NVS pmax pmax
comp=E,6.0nm,0.8s
KURK **Kurchatov** 146.03 36 *e*PKP2 PKPbc 03 44 23.0 -0.2
KURK **Kurchatov** 146.03 36 *e*PKPbc PKPbc 03 44 23.0 -0.2
YSS **Yuzh-Sakhalins** 146.68 317 *e*PKP2 PKPbc 03 44 25.4 +0.2
YSS **Yuzh-Sakhalins** 146.68 317 *e*PKPbc PKPbc 03 44 25.4 +0.2
ZALV **Zalesovo Beam** 146.83 27 PKPbc PKPdf 03 44 24.3 +0.8
comp=E,41nm,0.7s,baz=297,slow=3.1,SNR=83
ZALV pPKPbc pPKPbc 03 44 44.0 -0.9
comp=E,26nm,0.7s,baz=304,slow=3.8,SNR=12
AAK **Ala-Archa** 147.06 51 PKPbc PKPbc 03 44 26.3 -0.4
comp=E,15nm,1.0s,baz=175,slow=1.9,SNR=14
AAK pPKPbc pPKPbc 03 44 45.3 -0.8
comp=E,12nm,0.8s,baz=198,slow=3.4,SNR=5.3
KAPI **Kappang** 147.37 199 *e*PKPbc PKPbc 03 44 28.5 +0.3
BOD **Bodaibo** 148.33 356 *e*PKP2 PKPbc 03 44 29.0 -0.4

BOD				pmax	pmax		
	comp=Z,111nm,0.9s						
KSH	**Kashi**	**149.03**	**56**	PKPbc	**PKPdf**	**03 44 24.1**	**-3.7**
KSH				pPKP	pPKPdf	03 44 51.0	+3.5
KSH				sPKP		03 45 01.1	
KSH				PKS	**PKSdf**	**03 47 57.8**	**-5.1**
KSH				PP	**PP**	**03 48 01.2**	**-2.6**
KSH				SS	SS	04 07 03.2	-7.3
KSH				AMB	AMB		
	comp=Z,120nm,4.6s						
KSH				LR	LR		
	comp=Z,54nm,5.8s						
KSH				LR	LR		
	comp=Z,50nm,7.3s						
KSH				LR	LR		
	comp=Z,120nm,13.2s						
MJAR	**Matsushiro Arr**	**153.61**	**300**	PKPbc	**PKPbc**	**03 44 42.4**	**-0.2**
	comp=Z,1.7nm,0.8s,baz=139,slow=0.9,SNR=7.3						
MJAR				PKPab	**PKPab**	**03 44 55.8**	**+0.4**
	comp=Z,2.4nm,0.9s,baz=126,slow=3.3,SNR=8.7						
MJAR				pPKPab	**pPKPab**	**03 45 15.9**	**+1.5**
	comp=Z,2.8nm,0.7s,baz=85,slow=4.2,SNR=4.9						
MAJO	**Matsushiro**	**153.61**	**300**	*e*PKIKP	**PKPbc**	**03 44 42.7**	**+0.2**
MAJO	**Matsushiro**	**153.61**	**300**	*e*PKPbc	**PKPbc**	**03 44 42.7**	**+0.2**
WMQ	**Urumqi**	**155.07**	**40**	*e*PKPbc	**PKPdf**	**03 44 36.8**	**+0.2**
ZAK	**Zakamensk**	**155.45**	**10**	*e*PKP2	**PKPab**	**03 44 56.8**	**-6.0**
ZAK				pmax	pmax		
	comp=Z,3.0nm,1.4s						
MDJ	**Mudanjiang**	**155.61**	**324**	PKP	**PKPdf**	**03 44 37.2**	**0.0**
SONM	**Songino Array**	**158.34**	**6**	PKP	**PKPdf**	**03 44 41.9**	**+1.2**
	comp=Z,2.8nm,0.8s,baz=323,slow=0.9,SNR=14						
SONM				pPKP	**pPKPdf**	**03 45 01.8**	**+1.3**
	comp=Z,3.3nm,1.0s,baz=352,slow=0.7,SNR=8.4						
SONM				PKPab	**PKPab**	**03 45 16.3**	**+1.0**
	comp=Z,1.9nm,0.7s,baz=338,slow=4.3,SNR=6.2						
SONM				pPKPab	**pPKPab**	**03 45 35.2**	**+0.8**
	comp=Z,2.0nm,0.8s,baz=331,slow=5.4,SNR=4.7						
ULN	**Ulaanbaatar**	**158.36**	**5**	*e*PKIKP	**PKPdf**	**03 44 41.8**	**+0.9**
ULN				*e*		03 45 16.1	
ULN	**Ulaanbaatar**	**158.36**	**5**	*e*PKPdf	**PKPdf**	**03 44 41.8**	**+0.9**
ULN				*e*PKPab	**PKPab**	**03 45 16.1**	**+0.7**
HHC	**Hu-ho-hao-te**	**165.38**	**354**	*e*PKP	**PKPdf**	**03 44 48.4**	**+0.2**
CHTO	**Chiang Mai**	**167.68**	**125**	*e*PKIKP	**PKPdf**	**03 44 50.9**	**+0.4**
CHTO	**Chiang Mai**	**167.68**	**125**	*e*PKPdf	**PKPdf**	**03 44 50.9**	**+0.4**
LZH	**Lanzhou**	**169.06**	**25**	*e*PKP	**PKPdf**	**03 44 56.2**	**+5.1**
LZH				pPKP	pPKPdf	03 45 14.6	+3.7
LZH				sPKP		03 45 20.3	
LZH				AMB	AMB		
	comp=Z,130nm,4.4s						
NJ2	**Nanjing**	**170.07**	**308**	*e*PKP	**PKPdf**	**03 44 51.4**	**-0.2**
GYA	**Guiyang**	**177.37**	**85**	*e*PKP	**PKPdf**	**03 44 54.0**	**-0.6**
GYA				sPKP		03 45 21.2	
GYA				PKPab	PKPab	03 46 40.4	+0.2
GYA				PKS	**PKSdf**	**03 48 24.6**	**-2.3**
GYA				PP	**PP**	**03 50 35.8**	**+1.9**
GYA				AMB	AMB		
	comp=Z,110nm,8.4s						

*ISCJB **11** 03:27:46.3±0.5,24°.45N±0°.03×98°.12E±0°.05,h10km, mb3.8/9,MS3.3/5,Error ellipse: s-maj=6.2km s-min=3.8km az=178.1*

*IDC **11** 03:27:47.1±1.0,24°.52N×97°.87E,h0km,mb3.7/8, mb1 3.8/8,mb1mx3.5/45,mbtmp3.7/8,MS3.4/5,Ms1 3.4/5, ms1mx3.0/45,Error ellipse: s-maj=52.6km s-min=19.1km az=56.0*

*BJI **11** 03:27:47.7,24°.74N×97°.98E,h10km,ML3.6/4,Ms7 3.3/2*

*BKK **11** 03:28:02.6±0.8,24°.N±4°×9°.8E±°,h110km±22km,M4.3/4, mb4.1/4,mB4.4/1,MLv4.5/4,Mw(mB)3.6/1*

ISC 11 03:27:48.3±0.6,**24°.64N**±0°.04×**98°.03E**±0°.05,**h10**km,**n23,** σ2**s**17/27,**mb3.9**/9,**MS3.3**/5,**Myanmar-China border region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KMI	**Kunming**	**4.31**	**83**	Pn	**Pn**	**03 28 54.4**	**+0.2**
KMI				Pg	**Pg**	**03 29 09.0**	**-1.9**
KMI				Sn	**Sn**	**03 29 44.1**	**-0.5**
KMI				Sg	**Sg**	**03 30 06.9**	**+0.2**
KMI				smax	smax		
	comp=N,120nm,1.1s						
KMI				smax	smax		
	comp=E,98nm,0.8s						
KMI				LR	LR		
	comp=Z,150nm,3.9s						
SHL	**Shillong**	**5.65**	**281**	*e*P	**Pb**	**03 29 23.0**	**-4.1**
CHTO	**Chiang Mai**	**5.86**	**171**	Pg	**Pg**	**03 29 40.7**	**+0.1**
	130nm,0.8s,2.8nm						
CHTO				Pn	**Pn**	**03 29 18.6**	**+3.3**
	130nm,0.8s,2.8nm						
CHTO				Sg	**Sg**	**03 30 54.6**	**-1.9**
	130nm,0.8s,2.8nm						
CMMT	**Chiang Mai**	**5.86**	**171**	Pg	**Pg**	**03 29 40.7**	**+0.1**
	29nm,0.8s,485nm0.6nm						
CMMT				Pn	**Pn**	**03 29 18.5**	**+3.2**
	29nm,0.8s,485nm0.6nm						
CMMT				Sg	**Sg**	**03 30 54.5**	**-2.1**
	29nm,0.8s,485nm0.6nm						
LAMP	**Lampang**	**6.27**	**166**	Pg	**Pg**	**03 29 46.3**	**-2.1**
LAMP				Pn	**Pn**	**03 29 24.4**	**+3.5**
LAMP				Sg	**Sg**	**03 31 07.2**	**-2.4**
UTTA	**Uttaradit**	**7.25**	**161**	Sg	**Sg**	**03 31 40.6**	**-0.7**
UMPA	**Umpang Tak**	**8.43**	**175**	Sg	**Sg**	**03 32 20.8**	**+1.9**
PBKT	**Sadao Pong**	**8.49**	**161**	Sg	**Sg**	**03 32 15.8**	**-5.0**
SRDT	**SRDT**	**10.29**	**174**	Sg	Sg	03 33 13.0	
WMQ	**Urumqi**	**20.92**	**339**	*e*P	**P**	**03 32 29.7**	**-1.5**
KSH	**Kashi**	**23.77**	**314**	*e*P	**P**	**03 33 03.2**	**+2.0**
KSH				pP	sP	03 33 06.7	+1.2
KSH				pmax	pmax		
	comp=Z,9.0nm,1.1s						
KSH				pmax	pmax		
	comp=Z,22nm,2.3s						
SONM	**Songino Array**	**24.08**	**14**	P	**P**	**03 33 05.8**	**+1.7**
	comp=Z,0.7nm,0.7s,baz=191,slow=9.1,SNR=5.0						
AAK	**Ala-Archa**	**26.43**	**319**	P	**P**	**03 33 25.5**	**0.0**
	comp=Z,0.9nm,0.3s,baz=160,slow=5.9,SNR=5.8						
AAK				LR	LR	03 45 01.6	
	comp=Z,48nm,20.1s,baz=136,slow=39						
TLY	**Talaya**	**27.34**	**8**	LR	LR	03 46 05.6	
	comp=Z,49nm,20.8s,baz=174,slow=40						
ZALV	**Zalesovo Beam**	**30.90**	**345**	P	**P**	**03 34 05.6**	**+0.7**
	comp=Z,1.7nm,0.6s,baz=172,slow=10.0,SNR=6.5						
USRK	**Ussuriysk Ar.**	**33.81**	**46**	LR	LR	03 50 07.4	
	comp=Z,58nm,18.8s,baz=286,slow=39						
KBZ	**Khabaz**	**48.49**	**307**	LR	LR	04 00 07.2	
	comp=Z,59nm,21.1s,baz=259,slow=40						
KVAR	**Kislovodsk Arr**	**48.66**	**308**	LR	LR	04 00 01.4	
	comp=Z,70nm,20.4s,baz=252,slow=40						
WRA	**Warramunga Arr**	**56.68**	**138**	P	**P**	**03 37 32.3**	**+0.1**
	comp=Z,0.5nm,0.6s,baz=329,slow=7.7,SNR=5.2						
AKASG	**Malin Array Be**	**58.05**	**316**	P	**P**	**03 37 41.5**	**0.0**
	comp=Z,0.2nm,0.2s,baz=80,slow=6.1,SNR=4.2						
ASAR	**Alice Springs**	**59.30**	**141**	P	**P**	**03 37 51.1**	**+0.5**
	comp=Z,0.4nm,0.7s,baz=327,slow=6.7,SNR=3.2						
FINES	**FINESS Array B**	**60.06**	**328**	P	**P**	**03 37 56.6**	**+1.3**
	comp=Z,2.3nm,1.0s,baz=106,slow=7.4,SNR=3.4						
GERES	**GERESS Array B**	**68.24**	**315**	P	**P**	**03 38 49.8**	**+0.4**
	comp=Z,0.6nm,0.7s,baz=57,slow=4.9,SNR=5.8						

*HEL **11** 03:53:20.2±0.5,67°.99N×33°.01E,h0km,ML2.2,Explosion*

*CSEM **11** 03:53:23.1±0.8,67°.55N×33°.47E,h1km,ML2.4,Error ellipse: s-maj=17.8km s-min=7.4km az=97.0,Mining explosion.*

*KOLA **11** 03:53:23.3,67°.68N×33°.76E,h0km*

*UPP **11** 03:53:23.5±2.9,67°.70N×33°.62E,h0km,ML1.5,Suspected explosion*

*ISCJB **11** 03:53:23.4±0.5,67°.54N±0°.03×33°.04E±0°.07,h0km,Error ellipse: s-maj=4.9km s-min=3.6km az=153.3*

*NAO **11** 03:53:24.0±1.0,67°.68N×33°.65E,ML2.8*

*IDC **11** 03:53:25.2±1.8,67°.79N×33°.63E,h0km,mb1 3.4/4, mb1mx3.0/40,mbtmp3.3/4,ML2.9/4,Error ellipse: s-maj=20.3km s-min=9.8km az=79.0*

ISC 11 03:53:25.0±0.9,**67°.52N**±0°.03×**33°.34E**±0°.04,**h0**km,**n53,** σ1**s**64/84,**Baltic States-Belarus-Northwestern Russia**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
APA	**Apatity**	**0.05**	**29**	P	**Pg**	**03 53 26.5**	**+0.5**
APA				S	**Sg**	**03 53 28.8**	**+2.1**
APZ9	**Apatity**	**0.05**	**29**	Pg	**Pg**	**03 53 26.5**	**+0.5**
APZ9				Lg	Lg	03 53 28.7	
APA0	**Apatity Array**	**0.16**	**302**	Pg	**Pg**	**03 53 28.7**	**+0.7**
	baz=73,slow=14						
APA0				Lg	Lg	03 53 32.9	
APA0				Rg	Rg	03 53 34.3	
	baz=67,slow=37						
APA0	**Apatity Array**	**0.16**	**302**	Pg	**Pg**	**03 53 28.7**	**+0.7**
	baz=73,slow=14						
APA0				Lg	Lg	03 53 32.9	
APA0				Rg	Rg	03 53 34.3	
	baz=67,slow=37						
APA0	**Apatity Array**	**0.16**	**302**	P	**Pg**	**03 53 28.7**	**+0.7**
APA0				S	**Sg**	**03 53 32.7**	**+2.7**
KU6	**Riekki**	**2.03**	**224**	PG	**Pb**	**03 54 02.1**	**-0.7**
KU6				MSG		03 54 28.9	
	comp=Z,13nm,0.2s						
KU6				SG	**Sg**	**03 54 31.8**	**+1.5**
KU6	**Riekki**	**2.03**	**224**	Pg	**Pb**	**03 54 02.0**	**-0.7**
KU6				Sg	**Sg**	**03 54 31.7**	**+1.5**
MSF	**Maaselka**	**2.35**	**229**	PG	**Pb**	**03 54 07.1**	**-1.1**
MSF				SG	**Sg**	**03 54 41.0**	**+0.5**
MSF	**Maaselka**	**2.35**	**229**	Pg	**Pb**	**03 54 07.1**	**-1.1**
MSF				Sg	**Sg**	**03 54 41.0**	**+0.5**
ARA0	**ARCESS Array S**	**3.52**	**309**	Pn	**Pn**	**03 54 19.5**	**-1.4**
	baz=121,slow=14						
ARA0				Pg	**Pb**	**03 54 28.2**	**+0.2**
	baz=118,slow=16						
ARA0				Sn	**Sn**	**03 55 00.5**	**-2.6**
	baz=118,slow=28						
ARA0				Lg	Lg	03 55 12.2	
	baz=116,slow=37						
ARA0	**ARCESS Array S**	**3.52**	**309**	Pn	**Pn**	**03 54 19.5**	**-1.4**
	SNR=50						
ARA0				Sn	**Sn**	**03 55 00.5**	**-2.6**
	SNR=50						
ARA0				Lg	Lg	03 55 12.2	
	SNR=0.3						
ARCES	**ARCESS Array B**	**3.52**	**309**	Pn	**Pn**	**03 54 19.4**	**-1.4**
	comp=Z,2.5nm,0.3s,baz=120,slow=15,SNR=97						
ARCES				Pg	**Pb**	**03 54 27.7**	**-0.4**
	comp=Z,2.7nm,0.3s,baz=117,slow=15,SNR=24						
ARCES				Sn	**Sn**	**03 54 59.8**	**-3.3**
	comp=Z,1.7nm,0.3s,baz=116,slow=24,SNR=16						
ARCES				Lg	Lg	03 55 11.8	
	comp=Z,3.0nm,0.3s,baz=115,slow=31,SNR=11						
ARE0	**ARCESS Array S**	**3.52**	**309**	*e*P	**Pn**	**03 54 19.6**	**-1.3**
ARE0				IAML		03 55 18.8	
	comp=Z,16nm,0.6s						
ARE0	**ARCESS Array S**	**3.52**	**309**	*e*P	**Pn**	**03 54 19.6**	**-1.3**
	SNR=50						
HEF	**Hetta**	**3.75**	**288**	*e*P	**Pn**	**03 54 23.4**	**-0.7**
HEF				*e*S	**Sn**	**03 55 08.1**	**-0.9**
HEF	**Hetta**	**3.75**	**288**	PG	**Pn**	**03 54 23.4**	**-0.7**
HEF				SG	**Sn**	**03 55 09.2**	**+0.2**
HEF	**Hetta**	**3.75**	**288**	*e*P	**Pn**	**03 54 23.4**	**-0.7**
	SNR=50						
HEF				*e*S	**Sn**	**03 55 08.1**	**-0.9**
	SNR=50						
HEF				Sg	**Sn**	**03 55 09.1**	**+0.2**
TOF	**Tornio**	**3.85**	**252**	PB	**Pn**	**03 54 25.4**	**0.0**
TOF				SB	**Sn**	**03 55 14.9**	**+3.7**
TOF	**Tornio**	**3.85**	**252**	Pb	**Pn**	**03 54 25.4**	**0.0**
OUL	**Oulu**	**3.88**	**234**	PB	**Pn**	**03 54 27.6**	**+1.9**
OUL				SG	**Sb**	**03 55 23.7**	**+2.2**
KTK1	**Kautokeino**	**4.04**	**296**	*e*P	**Pn**	**03 54 27.3**	**-0.7**
KTK1				IAML		03 55 37.5	
	comp=Z,17nm,0.7s						
KTK1	**Kautokeino**	**4.04**	**296**	*e*P	**Pn**	**03 54 27.3**	**-0.7**
	SNR=49						
HAMF	**Hammerfest**	**4.66**	**317**	*e*P	**Pn**	**03 54 33.5**	**-3.1**
HAMF				IAML		03 55 51.5	
	comp=Z,19nm,0.5s						
HAMF	**Hammerfest**	**4.66**	**317**	*e*P	**Pn**	**03 54 33.5**	**-3.1**
	SNR=49						
KIF	**Kilpisjarvi**	**4.89**	**293**	*e*P	**Pn**	**03 54 38.5**	**-1.2**
KIF	**Kilpisjarvi**	**4.89**	**293**	PB	**Pn**	**03 54 38.4**	**-1.2**
KIF				SB	**Sn**	**03 55 35.8**	**-1.1**
KIF	**Kilpisjarvi**	**4.89**	**293**	*e*P	**Pn**	**03 54 38.5**	**-1.2**
	SNR=49						
KIF				Sb	**Sn**	**03 55 35.7**	**-1.1**
HARU	**Harads**	**5.07**	**260**	P	**Pn**	**03 54 41.0**	**-1.1**
HARU				S	**Sn**	**03 55 42.2**	**+1.0**
HARU	**Harads**	**5.07**	**260**	P	**Pn**	**03 54 41.0**	**-1.1**
HARU				S	**Sn**	**03 55 42.2**	**+1.0**
SJUU	**Sjulsmark**	**5.11**	**252**	P	**Pn**	**03 54 42.7**	**0.0**
SJUU				S	**Sn**	**03 55 42.2**	**-0.1**
SJUU	**Sjulsmark**	**5.11**	**252**	P	**Pn**	**03 54 42.7**	**0.0**
SJUU				S	**Sn**	**03 55 42.2**	**-0.1**
NIKU	**Nikkaluokta**	**5.46**	**280**	P	**Pn**	**03 54 46.0**	**-1.5**
NIKU	**Nikkaluokta**	**5.46**	**280**	P	**Pn**	**03 54 46.0**	**-1.5**
TRO	**Tromso**	**5.69**	**298**	*e*P	**Pn**	**03 54 53.7**	**+3.1**
TRO				*e*S	**Sn**	**03 55 55.7**	**-0.7**
TRO				IAML		03 56 27.5	
	comp=Z,7.8nm,0.6s						
BURU	**Burvik**	**5.69**	**244**	P	**Pn**	**03 54 48.8**	**-1.9**
BURU				S	**Sn**	**03 55 56.6**	**0.0**
BURU	**Burvik**	**5.69**	**244**	P	**Pn**	**03 54 48.8**	**-1.9**
BURU				S	**Sn**	**03 55 56.6**	**0.0**
UMAU	**Umeaa**	**6.37**	**241**	P	**Pn**	**03 55 00.5**	**+0.5**
UMAU	**Umeaa**	**6.37**	**241**	P	**Pn**	**03 55 00.5**	**+0.5**
SVAU	**Svanoeiden**	**6.38**	**248**	S	**Sn**	**03 56 12.6**	**-0.9**
SVAU	**Svanoeiden**	**6.38**	**248**	S	**Sn**	**03 56 12.6**	**-0.9**
FIA0	**FINESS Array S**	**6.86**	**211**	Pn	**Pn**	**03 55 06.8**	**+0.1**
FIA0				Sn	**Sn**	**03 56 25.3**	**0.0**
	baz=28,slow=28						
FIA0				Lg	Lg	03 56 56.5	
	baz=28,slow=28						
FIA0	**FINESS Array S**	**6.86**	**211**	Pn	**Pn**	**03 55 06.8**	**+0.1**
FIA0				Sn	**Sn**	**03 56 25.3**	**0.0**
	baz=28,slow=28						
FIA0				Lg	Lg	03 56 56.5	
	baz=28,slow=28						
FIA0	**FINESS Array S**	**6.86**	**211**	Pn	**Pn**	**03 55 06.8**	**+0.1**
	SNR=50						
FIA0				Sn	**Sn**	**03 56 25.3**	**0.0**
	SNR=50						
FINES	**FINESS Array B**	**6.86**	**211**	Pn	**Pn**	**03 55 07.9**	**+1.3**
	comp=Z,0.1nm,0.3s,baz=30,slow=14,SNR=4.3						
FINES				Sn	**Sn**	**03 56 26.4**	**+1.1**
	comp=Z,0.3nm,0.3s,baz=28,slow=24,SNR=7.3						
FINES				Lg	Lg	03 56 58.3	
	comp=Z,1.3nm,0.3s,baz=25,slow=27,SNR=8.9						
HFS	**Hagfors**	**11.36**	**239**	Pn	**Pn**	**03 56 06.1**	**-2.1**
	baz=50,slow=16						
HFS				Sn	**Sn**	**03 58 10.3**	**-5.3**
	baz=52,slow=22						
HFS	**Hagfors**	**11.36**	**239**	Pn	**Pn**	**03 56 06.1**	**-2.1**
	baz=50,slow=16						
HFS				Sn	**Sn**	**03 58 10.3**	**-5.3**
	baz=52,slow=22						
HFS	**Hagfors**	**11.36**	**239**	Pn	**Pn**	**03 56 06.1**	**-2.1**
	SNR=50						
NOA	**NORSAR Array B**	**11.54**	**246**	Pn	**Pn**	**03 56 11.3**	**+0.4**
	comp=Z,0.1nm,0.3s,baz=40,slow=12,SNR=2.6						
SPA0	**Spitsbergen Ar**	**11.73**	**343**	Pn	Pn	03 56 07.0	-6.3
	baz=148,slow=14						
SPA0	**Spitsbergen Ar**	**11.73**	**343**	P	Pn	03 56 07.0	-6.3
	baz=148,slow=14						
SPITS	**Spitsbergen Ar**	**11.73**	**343**	Pn	Pn	03 56 06.7	-6.5
	baz=141,slow=19,SNR=3.6						

*ISCJB **11** 04:17:25.2±0.7,21°.2S±0°.1×178°.6W±0°.2,h536km, mb3.5/8, Error ellipse: s-maj=23.8km s-min=13.7km az=42.3*

*IDC **11** 04:17:25.9±2.5,21°.27S×178°.58W,h533km±31km, mb3.0/8, mb1 3.4/10,mb1mx3.3/22,mbtmp4.1/10,Error ellipse: s-maj=21.5km s-min=15.8km az=136.0*

ISC 11 04:17:26.1±0.8,**21°.3S**±0°.2×**178°.6W**±0°.2,**h536**km,**n10,** σ0**s**55/10,**mb3.3**/8,**Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**9.78**	**43**	P	**P**	**04 19 41.7**	**0.0**
	5.5nm,0.3s,baz=357,slow=17,SNR=5.0						
URZ	**Urewera**	**17.34**	**191**	P	**P**	**04 20 57.9**	**-0.5**
	1.1nm,0.3s,baz=4.4,slow=13,SNR=5.3						

STKA	**Stephens Creek**	**36.97**	**245**	P	**P**	**04 23 50.4**	**+0.3**
	2.2nm,0.6s,baz=65,slow=12,SNR=3.3						
ASAR	**Alice Springs**	**43.81**	**258**	P	**P**	**04 24 45.0**	**+0.2**
	3.6nm,0.6s,baz=98,slow=7.7,SNR=55						
WRA	**Warramunga Arr**	**43.96**	**263**	P	**P**	**04 24 45.8**	**-0.2**
	0.7nm,0.3s,baz=96,slow=7.8,SNR=18						
VNDA	**Vanda**	**57.11**	**185**	P	**P**	**04 26 20.9**	**+0.1**
	1.1nm,0.8s,baz=4.5,slow=7.4,SNR=11						
MJAR	**Matsushiro Arr**	**70.50**	**324**	P	**P**	**04 27 47.0**	**+0.1**
	0.4nm,0.4s,baz=160,slow=7.8,SNR=4.0						
TXAR	**Lajitas Array**	**87.93**	**58**	P	**P**	**04 29 20.1**	**+0.8**
	0.4nm,0.8s,baz=254,slow=3.5,SNR=4.3						
ILAR	**Eielson Array**	**89.18**	**13**	P	**P**	**04 29 23.1**	**-0.9**
	0.2nm,0.5s,baz=212,slow=5.3,SNR=4.1						
PDAR	**Pinedale Array**	**89.89**	**43**	P	**P**	**04 29 28.2**	**0.0**
	0.3nm,0.7s,baz=282,slow=5.4,SNR=2.8						

*IDC **11** 04:20:09.3±1.5,34°.65N×23°.78E,h0km,mb3.7/3, mb1 3.5/6,mb1mx3.3/40,mbtmp3.4/6,ML3.2/3,Error ellipse: s-maj=30.4km s-min=18.5km az=152.0*

*ISCJB **11** 04:20:10.9±0.5,34°.29N±0°.04×24°.24E±0°.06,h78km±7km, mb3.2/3,Error ellipse: s-maj=8.7km s-min=5.7km az=155.5*

*ATH **11** 04:20:12.7,34°.35N×24°.23E,h40km±1km,ML3.4/4, Error ellipse: s-maj=3.5km s-min=1.9km az=191.0*

*CSEM **11** 04:20:12.1±0.3,34°.28N×24°.23E,h30km,ML3.4,Error ellipse: s-maj=10.2km s-min=6.5km az=71.0*

*THE **11** 04:20:14.1,34°.36N×24°.25E,h24km,ML3.5/4,Error ellipse: s-maj=1.1km s-min=0.7km az=211.0*

*HLW **11** 04:20:15.1,34°.37N×24°.67E,h32km±14km,Md3.7*

ISC 11 04:20:11.9±0.9,**34°.31N**±0°.04×**24°.28E**±0°.04,**h51**km±11km, **n60,**σ1**s**98/82,**mb3.2**/3,**Crete**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GVD	**Gavdhos**	**0.55**	**343**	P	**Pn**	**04 20 24.1**	**+0.3**
GVD				S	**Sn**	**04 20 31.6**	**-0.8**
GVD	**Gavdhos**	**0.55**	**343**	P	**Pn**	**04 20 24.1**	**+0.3**
GVD				S	**Sn**	**04 20 31.8**	**-0.6**
GVD	**Gavdhos**	**0.55**	**343**	P	**Pn**	**04 20 24.1**	**+0.3**
GVD				S	**Sn**	**04 20 31.8**	**-0.6**
GVD				AML	AML	04 20 37.1	
	comp=E,12587μm,0.4s						
GVD				AML	AML	04 20 37.6	
	comp=N,10683μm,0.4s						
SIVA	**Sivas**	**0.83**	**32**	P	**Pn**	**04 20 28.7**	**+1.3**
SIVA				S	**Sn**	**04 20 40.2**	**+1.5**
SIVA	**Sivas**	**0.83**	**32**	P	**Pn**	**04 20 28.6**	**+1.3**
SIVA				S	**Sn**	**04 20 40.2**	**+1.5**
SIVA	**Sivas**	**0.83**	**32**	P	**Pn**	**04 20 28.6**	**+1.3**
SIVA				S	**Sn**	**04 20 40.8**	**+2.1**
SIVA				AML	AML	04 20 44.9	
	comp=N,6242μm,0.6s						
SIVA				AML	AML	04 20 47.0	
	comp=E,12452μm,0.6s						
VAM	**Vamos**	**1.09**	**357**	P	**Pn**	**04 20 32.1**	**+1.2**
VAM	**Vamos**	**1.09**	**357**	P	**Pn**	**04 20 32.1**	**+1.2**
VAM				S	**Sn**	**04 20 45.9**	**+0.9**
VAM	**Vamos**	**1.09**	**357**	P	**Pn**	**04 20 45.9**	**+1.6**
VAM				S	**Sn**	**04 20 45.9**	**+0.9**
IDI	**Anoyia**	**1.10**	**27**	Pn	**Pn**	**04 20 33.1**	**+2.1**
	comp=E,14nm,0.3s,baz=224,slow=12,SNR=51						
IDI				Sn	**Sn**	**04 20 48.9**	**+3.8**
	comp=E,27nm,0.3s,baz=294,slow=20,SNR=15						
IDI				LR	LR	04 21 17.2	
	comp=E,51nm,20.9s,baz=265,slow=61						
IDI	**Anoyia**	**1.10**	**27**	P	**Pn**	**04 20 32.4**	**+1.4**
IDI				S	**Sn**	**04 20 46.8**	**+1.7**
IDI	**Anoyia**	**1.10**	**27**	P	**Pn**	**04 20 32.4**	**+1.4**
IDI				S	**Sn**	**04 20 46.8**	**+1.7**
IDI	**Anoyia**	**1.10**	**27**	P	**Pn**	**04 20 32.1**	**+1.0**
IDI				S	**Sn**	**04 20 48.6**	**+3.4**
IDI				AML	AML	04 20 54.6	
	comp=E,1238μm,0.6s						
IDI				AML	AML	04 20 55.2	
	comp=N,962μm,0.6s						
IMMV	**Iera Moni Meta**	**1.17**	**348**	P	**Pn**	**04 20 33.2**	**+1.2**
IMMV				S	**Sn**	**04 20 48.0**	**+1.1**
IMMV	**Iera Moni Meta**	**1.17**	**348**	P	**Pn**	**04 20 33.1**	**+1.1**
IMMV				S	**Sn**	**04 20 48.0**	**+1.1**
IMMV	**Iera Moni Meta**	**1.17**	**348**	P	**Pn**	**04 20 33.1**	**+1.1**
IMMV				S	**Sn**	**04 20 49.9**	**+3.1**
IMMV				AML	AML	04 20 56.4	
	comp=E,3271μm,0.4s						
IMMV				AML	AML	04 20 57.4	
	comp=N,2160μm,0.5s						
LAST	**Lasithi**	**1.30**	**49**	P	**Pn**	**04 20 35.6**	**+1.8**
LAST	**Lasithi**	**1.30**	**49**	P	**Pn**	**04 20 35.6**	**+1.8**
LAST				S	**Sn**	**04 20 51.5**	**+1.4**
LAST	**Lasithi**	**1.30**	**49**	P	**Pn**	**04 20 36.6**	**+2.9**
LAST				S	**Sn**	**04 20 51.5**	**+1.4**
NPS	**Neapolis**	**1.45**	**49**	P	**Pn**	**04 20 39.7**	**+4.0**
NPS	**Neapolis**	**1.45**	**49**	P	**Pn**	**04 20 39.7**	**+4.0**
ANKY	**Antikythira Is**	**1.75**	**333**	P	**Pn**	**04 20 41.8**	**+2.1**
ANKY	**Antikythira Is**	**1.75**	**333**	P	**Pn**	**04 20 41.8**	**+2.1**
VLI	**Veliai**	**2.64**	**336**	P	**Pn**	**04 20 52.8**	**+0.8**
VLI	**Veliai**	**2.64**	**336**	P	**Pn**	**04 20 52.8**	**+0.8**
SLUM	**Salum**	**2.92**	**164**	P	**Pn**	**04 20 57.7**	**+1.9**
	baz=170						
SLUM	**Salum**	**2.92**	**164**	P	**Pn**	**04 20 57.7**	**+1.9**
PYL	**PYLOS**	**3.30**	**322**	P	**Pn**	**04 21 01.7**	**+0.6**
PYL	**PYLOS**	**3.30**	**322**	P	**Pn**	**04 21 01.7**	**+0.6**
DAT	**Datca**	**3.61**	**47**	*i* P	**Pn**	**04 21 07.0**	**+1.6**
DAT

az=73.0
MAN 11 04:29:33,17.˚78N×119.˚05E,h33km,mb4.6,ML3.4,MS3.4
ISC 11 04:29:35.4±1.2,17.˚76N±0.˚08×119.˚46E±0.˚09,h31km,n9,
σ1s43/9,mb3.8/3,1C,Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BOLP	**Bolinao**	**1.44**	**162**	*eP*	**Pb**	**04 30 00.3**	**-1.3**
BOLP				*eS*	**Sb**	**04 30 19.9**	**+0.4**
CVP	**Callao Caves**	**2.25**	**91**	*iP*	**Pb**	**04 30 13.5**	**-1.8**
CVP				*i* S	**Sb**	**04 30 44.5**	**+1.8**
CAUP	**Cauayan**	**2.40**	**109**	*eP*	**Pb**	**04 30 17.4**	**-0.4**
KSRS	**Korea Array**	**20.98**	**19**	P	**P**	**04 34 14.8**	**-1.2**
	1.1nm,0.6s,baz=208,slow=12,SNR=4.2						
WRA	**Warramunga Arr**	**40.21**	**158**	P	**P**	**04 37 09.2**	**-0.1**
	0.7nm,0.7s,baz=339,slow=9.1,SNR=4.3						
ASAR	**Alice Springs**	**43.52**	**161**	P	**P**	**04 37 37.4**	**+1.1**
	0.8nm,0.5s,baz=339,slow=7.0,SNR=18						
KURBB	**Kurchatov Arra**	**46.19**	**325**	P	**P**	**04 37 58.2**	**+1.0**
	0.8nm,0.7s,baz=123,slow=8.1,SNR=6.8						
ARU	**Arti**	**59.37**	**326**	LR	LR	05 07 53.8	
	comp=Z,23nm,19.1s,baz=194,slow=39						
GERES	**GERESS Array B**	**86.75**	**320**	LR	LR	05 25 07.0	
	comp=Z,26nm,19.2s,baz=68,slow=38						

CSEM 11 04:37:23.1,36.˚70N×22.˚02E,h15km,ML1.8/8
ATH 11 04:37:23.1,36.˚70N×22.˚02E,h15km±7km,ML1.8/8,Error ellipse: s-maj=7.2km s-min=1.4km az=282.0,Southern Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PYL	**PYLOS**	**0.30**	**311**	P	Pg	04 37 29.1	-0.3
PYL				S	Sg	04 37 34.2	+0.6
PYL	**PYLOS**	**0.30**	**311**	P	Pg	04 37 29.2	-0.2
PYL				S	Sg	04 37 33.6	0.0
PYL				AML	AML	04 37 34.4	
	comp=N,302μm,0.3s						
PYL				AML	AML	04 37 36.1	
	comp=E,412μm,0.1s						
PYL	**PYLOS**	**0.30**	**311**	P	Pg	04 37 29.1	-0.3
PYL				S	Sg	04 37 34.2	+0.6
PYL				AML	AML	04 37 34.4	
	comp=N,302μm,0.3s						
PYL				AML	AML	04 37 36.1	
	comp=E,412μm,0.1s						
ITM	**Ithomi**	**0.48**	**351**	P	Pg	04 37 32.6	-0.2
ITM				S	Sg	04 37 39.1	-0.2
ITM	**Ithomi**	**0.48**	**351**	P	Pg	04 37 32.7	-0.1
ITM				S	Sg	04 37 39.4	+0.1
ITM				AML	AML	04 37 41.7	
	comp=N,320μm,0.2s						
ITM				AML	AML	04 37 42.5	
	comp=E,436μm,0.2s						
ITM	**Ithomi**	**0.48**	**351**	P	Pg	04 37 32.6	-0.2
ITM				S	Sg	04 37 39.1	-0.2
ITM				AML	AML	04 37 41.7	
	comp=N,320μm,0.2s						
ITM				AML	AML	04 37 42.5	
	comp=E,436μm,0.2s						
VLX	**Vlachokerasia**	**0.73**	**23**	P	Pg	04 37 37.1	-0.2
VLX				S	Sb	04 37 47.5	+0.1
VLX	**Vlachokerasia**	**0.73**	**23**	P	Pg	04 37 37.0	-0.3
VLX				S	Sb	04 37 47.3	-0.1
VLX				AML	AML	04 37 50.2	
	comp=N,249μm,0.4s						
VLX	**Vlachokerasia**	**0.73**	**23**	P	Pg	04 37 37.1	-0.2
VLX				S	Sb	04 37 47.5	+0.1
VLX				AML	AML	04 37 50.0	
	comp=E,202μm,0.4s						
VLX				AML	AML	04 37 50.2	
	comp=N,249μm,0.4s						
VLI	**Veliai**	**0.74**	**88**	P	Pn	04 37 39.1	+0.1
VLI	**Veliai**	**0.74**	**88**	P	Pn	04 37 38.4	-0.5
VLI	**Veliai**	**0.74**	**88**	P	Pn	04 37 39.1	+0.2
TRIP	**Tripoli**	**0.85**	**14**	P	Pb	04 37 38.7	-0.9
TRIP				S	Sb	04 37 51.2	+0.3
TRIP	**Tripoli**	**0.85**	**14**	P	Pb	04 37 38.8	-0.8
TRIP				S	Sb	04 37 51.4	+0.5
TRIP				AML	AML	04 37 55.0	
	comp=N,112μm,0.5s						
TRIP				AML	AML	04 37 56.0	
	comp=E,88μm,0.4s						
TRIP	**Tripoli**	**0.85**	**14**	P	Pb	04 37 38.7	-1.0
TRIP				S	Sb	04 37 51.2	+0.3
TRIP				AML	AML	04 37 55.0	
	comp=N,112μm,0.5s						
TRIP				AML	AML	04 37 56.0	
	comp=E,88μm,0.4s						
AMT	**Artemida-Makis**	**0.87**	**343**	P	Pb	04 37 39.0	-0.9
AMT				S	Sn	04 37 52.4	-0.8
AMT	**Artemida-Makis**	**0.87**	**343**	P	Pb	04 37 39.3	-0.6
AMT				S	Sn	04 37 52.3	-0.9
AMT				AML	AML	04 37 55.5	
	comp=E,213μm,0.3s						
AMT				AML	AML	04 37 58.0	
	comp=N,252μm,0.3s						
AMT	**Artemida-Makis**	**0.87**	**343**	P	Pb	04 37 39.0	-0.9
AMT				S	Sn	04 37 52.4	-0.8
AMT				AML	AML	04 37 55.5	
	comp=E,213μm,0.3s						
AMT				AML	AML	04 37 58.0	
	comp=N,252μm,0.3s						
DID	**Didima**	**1.26**	**50**	P	Pb	04 37 46.5	-0.1
DID				S	Sg	04 38 04.0	+0.1
DID	**Didima**	**1.26**	**50**	P	Pb	04 37 46.5	-0.2
DID				S	Sg	04 38 04.0	+0.1
DID				AML	AML	04 38 07.0	
	comp=E,43μm,0.2s						
DID				AML	AML	04 38 09.9	
	comp=N,41μm,0.5s						
DRO	**Drossia**	**1.27**	**349**	P	Pg	04 37 48.1	+0.4
DRO				S	Sg	04 38 04.4	+0.1
DRO	**Drossia**	**1.27**	**349**	P	Pg	04 37 48.1	+0.4
DRO				S	Sg	04 38 04.4	+0.1
DRO				AML	AML	04 38 10.2	
	comp=N,135μm,0.5s						
DRO				AML	AML	04 38 11.0	
	comp=E,194μm,0.3s						
KLV	**Kalavryta, Ach**	**1.34**	**4**	P	Pn	04 37 47.6	+0.2
KLV				S	Sg	04 38 07.4	+0.8
KLV	**Kalavryta, Ach**	**1.34**	**4**	P	Pn	04 37 47.5	+0.1
KLV				S	Sg	04 38 06.5	-0.1
KLV				AML	AML	04 38 09.8	
	comp=E,33μm,0.4s						
KLV				AML	AML	04 38 16.3	
	comp=N,19μm,0.7s						
KLV	**Kalavryta, Ach**	**1.34**	**4**	P	Pn	04 37 47.6	+0.2
KLV				S	Sg	04 38 07.4	+0.9
KLV				AML	AML	04 38 09.8	
	comp=E,33μm,0.4s						
KLV				AML	AML	04 38 16.3	
	comp=N,19μm,0.7s						

DDA 11 04:42:16.9,36.˚26N×28.˚97E,h28km,Md3.0
THE 11 04:42:16.5,36.˚24N×28.˚94E,h0km,ML2.2/2,Error ellipse: s-maj=0.6km s-min=0.3km az=181.0
ISK 11 04:42:16.0,36.˚22N×28.˚91E,h19km,MD2.9
ISCJB 11 04:42:17.6±0.6,36.˚20N±0.˚04×28.˚94E±0.˚03,h25km±5km,Error ellipse: s-maj=6.9km s-min=4.3km az=1.3
CSEM 11 04:42:17.3±0.3,36.˚22N×28.˚96E,h19km±1km,MD3.0,Error ellipse: s-maj=7.2km s-min=4.1km az=7.0
ISC 11 04:42:16.7±1.1,36.˚22N±0.˚04×28.˚94E±0.˚02,h19km±3km,
n37,σ0s61/66,Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FETY	**Fethiye**	**0.43**	**15**	*ePG*	**Pb**	**04 42 25.5**	**-0.3**
FETY				*eSG*	**Sb**	**04 42 32.5**	**+0.4**
FETY	**Fethiye**	**0.43**	**15**	P	**Pb**	**04 42 25.5**	**-0.3**
FETY				S	**Sb**	**04 42 32.4**	**+0.4**
FETY	**Fethiye**	**0.43**	**15**	P	**Pb**	**04 42 25.5**	**-0.3**
FETY				S	**Sb**	**04 42 32.2**	**+0.2**
KSL	**Kastellorizon**	**0.52**	**97**	P	**Pg**	**04 42 27.7**	**+0.5**
KSL				S	**Sn**	**04 42 36.7**	**-0.9**
KSL	**Kastellorizon**	**0.52**	**97**	P	**Pg**	**04 42 27.7**	**+0.5**
KSL				S	**Sn**	**04 42 36.7**	**-0.9**
AKAS	**Kas**	**0.54**	**88**	*ePG*	**Pg**	**04 42 27.8**	**+0.3**
AKAS				*eSG*	**Sn**	**04 42 36.3**	**-1.8**
AKAS	**Kas**	**0.54**	**88**	*iP*	**Pg**	**04 42 27.8**	**+0.3**
AKAS				*i* S	**Sb**	**04 42 36.1**	**+1.1**
AKAS	**Kas**	**0.54**	**88**	P	**Pg**	**04 42 27.8**	**+0.3**
AKAS				S	**Sb**	**04 42 36.1**	**+1.1**
DALY	**Dalyan (Mu˘la**	**0.64**	**339**	*ePG*	**Pb**	**04 42 29.0**	**-0.2**
DALY				*eSG*	**Sg**	**04 42 38.4**	**+0.4**
DALY	**Dalyan (Mu˘la**	**0.64**	**339**	*iP*	**Pb**	**04 42 28.7**	**-0.6**
DALY				*i* S	**Sg**	**04 42 38.6**	**+0.6**
DALY	**Dalyan (Mu˘la**	**0.64**	**339**	P	**Pb**	**04 42 28.7**	**-0.6**
DALY	**Dalyan (Mu˘la**	**0.64**	**339**	*ePg*	**Pb**	**04 42 29.0**	**-0.2**
DALY				*eSg*	**Sg**	**04 42 38.4**	**+0.4**
ARG	**Arkhangelos**	**0.66**	**270**	P	**Pg**	**04 42 30.1**	**+0.3**
ARG				S	**Sn**	**04 42 40.8**	**-0.2**
ARG	**Arkhangelos**	**0.66**	**270**	S	**Pg**	**04 42 30.1**	**+0.3**
ARG				S	**Sn**	**04 42 40.8**	**-0.2**
TURN	**Turunc**	**0.71**	**337**	*iP*	**Pn**	**04 42 32.5**	**+0.8**
TURN				*i* S	**Sn**	**04 42 43.8**	**+1.6**
TURN	**Turunc**	**0.71**	**337**	P	**Pn**	**04 42 32.5**	**+0.8**
ELL	**Elmali**	**0.94**	**56**	*ePG*	**Pn**	**04 42 35.1**	**0.0**
ELL				*eSG*	**Sn**	**04 42 49.0**	**+0.9**
ELL	**Elmali**	**0.94**	**56**	*ePg*	**Pn**	**04 42 35.1**	**0.0**
ELL				*eSg*	**Sn**	**04 42 49.0**	**+0.9**
GOLH	**Golhisar**	**1.13**	**26**	*iP*	**Pg**	**04 42 38.3**	**-0.3**
GOLH				*i* S	**Sg**	**04 42 52.8**	**-0.7**
GOLH	**Golhisar**	**1.13**	**26**	P	**Pg**	**04 42 38.3**	**-0.3**
GOLH				S	**Sg**	**04 42 52.8**	**-0.7**
DAT	**Datca**	**1.21**	**295**	*ePN*	**Pn**	**04 42 38.3**	**-0.5**
DAT				*eSN*	**Sb**	**04 42 54.4**	**-0.1**
DAT	**Datca**	**1.21**	**295**	*iP*	**Pb**	**04 42 39.4**	**+0.2**
DAT				*i* S	**Sg**	**04 42 56.3**	**+0.2**
DAT	**Datca**	**1.21**	**295**	*ePn*	**Pn**	**04 42 38.3**	**-0.5**
DAT	**Datca**	**1.21**	**295**	P	**Pb**	**04 42 39.4**	**+0.2**
DAT				*eSn*	**Sb**	**04 42 54.4**	**-0.1**
DAT				S	**Sg**	**04 42 56.3**	**+0.2**
KORT	**Korkueli**	**1.38**	**55**	*ePN*	**Pn**	**04 42 41.2**	**+0.1**
KORT				*eSN*	**Sb**	**04 42 59.7**	**+0.5**
KORT	**Korkueli**	**1.38**	**55**	*iP*	**Pn**	**04 42 40.4**	**-0.7**
KORT				*i* S	**Sg**	**04 43 02.2**	**+0.9**
KORT	**Korkueli**	**1.38**	**55**	P	**Pn**	**04 42 40.4**	**-0.7**
KORT	**Korkueli**	**1.38**	**55**	*ePn*	**Pn**	**04 42 41.2**	**+0.1**
KORT				*eSn*	**Sb**	**04 42 59.7**	**+0.5**
DNZL	**Cakiroluk**	**1.47**	**3**	*iP*	**Pb**	**04 42 43.5**	**-0.1**
DNZL				*i* S	**Sg**	**04 43 03.3**	**-1.0**
DNZL	**Cakiroluk**	**1.47**	**3**	P	**Pb**	**04 42 43.5**	**-0.1**
DNZL				S	**Sg**	**04 43 03.3**	**-1.0**
BDRM	**Kayabasi**	**1.47**	**305**	*iP*	**Pg**	**04 42 45.0**	**-0.1**
BDRM				*i* S	**Sb**	**04 43 02.1**	**+0.2**
BDRM	**Kayabasi**	**1.47**	**305**	P	**Pg**	**04 42 45.0**	**-0.1**
BDRM				S	**Sb**	**04 43 02.1**	**+0.2**
DENT	**Denizli**	**1.53**	**3**	*ePN*	**Pn**	**04 42 43.2**	**+0.1**
DENT	**Denizli**	**1.53**	**3**	*ePn*	**Pn**	**04 42 43.3**	**+0.1**
BODT	**Bodrum**	**1.56**	**303**	*ePN*	**Pn**	**04 42 42.9**	**-0.6**
KARP	**Karpathos**	**1.59**	**246**	*ePN*	**Pn**	**04 42 43.6**	**-0.4**
AYDB	**Zeytinkoy-Aydi**	**1.92**	**334**	*ePN*	**Pn**	**04 42 48.6**	**+0.1**

ISCJB 11 05:11:47.5±0.9,38.˚51N±0.˚04×28.˚28E±0.˚06,h3km±8km,Error ellipse: s-maj=8.4km s-min=6.2km az=19.7
CSEM 11 05:11:47.7±0.1,38.˚50N×28.˚30E,h8km,MD2.7,Error ellipse: s-maj=3.3km s-min=2.6km az=110.0
DDA 11 05:11:47.4,38.˚49N×28.˚29E,h7km,Md2.7
ISK 11 05:11:47.3,38.˚51N×28.˚31E,h6km,MD2.6
ISC 11 05:11:47.2±1.3,38.˚50N±0.˚03×28.˚31E±0.˚04,h3km±11km,
n15,σ1s49/25,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MANT	**Manisa**	**0.19**	**92**	*i* P	Pg	05 11 44.9	-6.1
MANT				*i* S	**Sg**	**05 11 47.9**	**-5.6**
KULA	**Kula-Manisa**	**0.27**	**86**	*ePG*	**Pg**	**05 11 53.3**	**+0.8**
KULA				*eSG*	**Sg**	**05 11 57.6**	**+1.5**
KULA	**Kula-Manisa**	**0.27**	**86**	*ePg*	**Pg**	**05 11 53.3**	**+0.8**
KULA				*eSg*	**Sg**	**05 11 57.6**	**+1.5**
AKS	**Akhisar**	**0.55**	**314**	*ePG*	**Pg**	**05 11 58.1**	**+0.4**
AKS	**Akhisar**	**0.55**	**314**	*ePg*	**Pg**	**05 11 58.1**	**+0.4**
DEMI	**Demirci**	**0.63**	**30**	*iP*	**Pb**	**05 12 00.2**	**-0.7**
DEMI				*i* S	**Sg**	**05 12 08.6**	**+1.1**
DEMI	**Demirci**	**0.63**	**30**	P	**Pb**	**05 12 00.2**	**-0.7**
DEMI				S	**Sg**	**05 12 08.6**	**+1.1**
AYDB	**Zeytinkoy-Aydi**	**0.64**	**211**	*ePG*	**Pb**	**05 12 00.4**	**-0.7**
AYDB	**Zeytinkoy-Aydi**	**0.64**	**211**	*ePg*	**Pb**	**05 12 00.4**	**-0.7**
SIMA	**Simav-Kutahya**	**0.79**	**42**	*ePG*	**Pg**	**05 12 02.7**	**+0.4**
SIMA				*eSG*	**Sb**	**05 12 13.8**	**-0.8**
SIMA	**Simav-Kutahya**	**0.79**	**42**	*ePg*	**Pg**	**05 12 02.7**	**+0.4**
SIMA				*eSg*	**Sb**	**05 12 13.9**	**-0.8**
DNZL	**Cakiroluk**	**0.99**	**144**	*iP*	**Pg**	**05 12 06.7**	**+0.5**
DNZL				*i* S	**Sb**	**05 12 21.5**	**+0.9**
DNZL	**Cakiroluk**	**0.99**	**144**	P	**Pg**	**05 12 06.7**	**+0.5**
DNZL				S	**Sb**	**05 12 21.5**	**+0.9**
TVSB	**Tavsanli**	**1.31**	**43**	*ePN*	**Pg**	**05 12 12.5**	**+0.2**
TVSB				*eSN*	**Sn**	**05 12 30.9**	**+0.4**
TVSB	**Tavsanli**	**1.31**	**43**	*ePn*	**Pg**	**05 12 12.5**	**+0.2**
TVSB				*eSn*	**Sn**	**05 12 30.9**	**+0.4**

JMA 11 05:17:35.7±0.2,43.˚27N×147.˚18E,h48km,M3.4
SKHL 11 05:17:36.5±0.4,43.˚31N×147.˚21E,h37km,mb3.9/3
ISC 11 05:17:35.7±2.5,43.˚3N±0.˚1×147.˚2E±0.˚1,h35km±11km,n11,
σ0s67/21,Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHO	**Shikotan**	**0.64**	**333**	*i* P	**Pb**	**05 17 48.5**	**-0.2**
SHO				AMB	AMB	05 17 50.2	
	300nm,0.3s						
SHO				AMB	AMB	05 17 50.2	
	40nm,0.3s						
SHO				*i* S	**Sn**	**05 17 57.2**	**-0.1**
SHO				A	A	05 17 57.9	
	1μm,0.2s						
NEM2	**Nemuro 2**	**1.09**	**274**	P	**Pn**	**05 17 54.4**	**-0.1**
NEM2				*eS*	**Sn**	**05 18 08.4**	**0.0**
YUK	**Yuzh-Kuril'sk**	**1.24**	**307**	*iP*	**Pn**	**05 17 56.9**	**-0.2**
YUK				AMB	AMB	05 17 58.2	
	130nm,0.2s						
YUK				AMB	AMB	05 17 58.2	
	30nm,0.2s						
YUK				*i* S	**Sn**	**05 18 11.4**	**-0.6**
YUK				A	A	05 18 14.0	
	640nm,0.4s						
YUK				A	A	05 18 14.0	
	770nm,0.4s						
JRA	**Rausu**	**1.66**	**293**	P	**Pn**	**05 18 02.6**	**+0.3**
JRA				*eS*	**Sn**	**05 18 22.3**	**-0.2**
JNK	**Nakash**	**1.86**	**280**	P	**Pn**	**05 18 05.0**	**0.0**
JNK				*eS*	**Sn**	**05 18 26.7**	**-0.6**
JAK	**Akkeshi**	**1.89**	**262**	P	**Pn**	**05 18 05.5**	**+0.1**
JAK				*eS*	**Sn**	**05 18 27.2**	**-0.7**
KUR	**Kuril'sk**	**1.98**	**13**	*iP*	**Pn**	**05 18 07.4**	**+0.6**
KUR				AMB	AMB	05 18 08.1	
	110nm,0.2s						
KUR				AMB	AMB	05 18 08.1	
	20nm,0.2s						
KUR				AMB	AMB	05 18 08.1	
	30nm,0.2s						
KUR				*i* S	**Sn**	**05 18 29.5**	**-0.9**
KUR				A	A	05 18 30.9	
	210nm,0.3s						
KUR				A	A	05 18 30.9	
	90nm,0.3s						
JTKR	**Abashiri--Toko**	**2.51**	**287**	P	**Pn**	**05 18 15.1**	**+1.1**
JTKR				*eS*	**Sn**	**05 18 44.2**	**+0.9**
JOB	**Onbets**	**2.52**	**262**	P	**Pn**	**05 18 14.7**	**+0.5**
JOB				*eS*	**Sn**	**05 18 43.8**	**+0.1**
JAR	**Ashorobuto**	**2.53**	**271**	P	**Pn**	**05 18 15.2**	**+0.9**
JAR				*eS*	**Sn**	**05 18 44.0**	**+0.1**
JCH	**Churui**	**2.93**	**258**	*eS*	**Sn**	**05 18 52.3**	**-1.3**

ISCJB 11 05:39:56.3±0.5,58.˚53N±0.˚03×133.˚47W±0.˚05,h10km,Error ellipse: s-maj=5.4km s-min=3.4km az=31.4
NEIC 11 05:39:57.8±0.0,58.˚33N×133.˚47W,h2km,ML2.6(AEIC),After AEIC.
PGC 11 05:39:58.4±16.0,58.˚29N×133.˚54W,h1km,ML3.1/7,51km east of Juneau, Ak Southeastern Alaska
ISC 11 05:39:58.2±0.9,58.˚36N±0.˚04×133.˚42W±0.˚03,h10km,n21,
σ2s27/37,Southeastern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIS	**Juneau Island**	**0.52**	**261**	P	**Pg**	**05 40 07.0**	**-1.2**
JIS				S	**Sg**	**05 40 13.8**	**-1.2**
BESE	**Bessie Mountai**	**0.79**	**287**	P	**Pg**	**05 40 12.1**	**-1.3**
BESE				S	**Sg**	**05 40 22.8**	**-0.9**
SKAG	**Skagway**	**1.48**	**319**	P	**Pn**	**05 40 24.9**	**0.0**
SKAG				S	**Sg**	**05 40 46.0**	**+0.1**
DLBC	**Dease Lake**	**1.79**	**86**	P	**Pn**	**05 40 29.8**	**+0.7**
DLBC				Pg	**Pb**	**05 40 31.5**	**+0.5**
DLBC				Sn	**Sn**	**05 40 54.5**	**+2.6**
DLBC				Sg	**Sb**	**05 40 56.8**	**+3.3**
DLBC	**Dease Lake**	**1.79**	**86**	P	**Pn**	**05 40 29.8**	**+0.7**
PLBC	**Pleasant Camp**	**1.88**	**307**	Pg	**Pb**	**05 40 31.7**	**-0.9**
PLBC				Sg	**Sb**	**05 40 56.5**	**+0.3**
PLBC	**Pleasant Camp**	**1.88**	**307**	P	**Pn**	**05 40 31.2**	**+0.8**
PLBC				S	**Sb**	**05 40 56.3**	**+0.1**
WRAK	**Wrangell Islan**	**2.03**	**163**	P	**Pn**	**05 40 32.3**	**-0.1**
WHY	**Whitehorse**	**2.42**	**343**	Pn	**Pn**	**05 40 38.6**	**+0.6**
WHY				Sg	**Sb**	**05 41 14.0**	**+2.2**
WHY	**Whitehorse**	**2.42**	**343**	P	**Pn**	**05 40 38.7**	**+0.7**
DHAK	**Deception Hill**	**2.61**	**288**	P	**Pn**	**05 40 40.8**	**+0.4**
CRAG	**Craig**	**2.91**	**177**	P	**Pn**	**05 40 44.3**	**-0.1**
HYT	**Haines Junctio**	**3.23**	**322**	Pn	**Pn**	**05 40 50.4**	**+1.4**
HYT				Pg	**Pb**	**05 40 57.0**	**+1.3**
HYT				Sg	**Sb**	**05 41 38.2**	**+3.2**
YUK7	**Dusty Glacier**	**3.25**	**314**	Pg	**Pb**	**05 40 57.1**	**+1.1**
YUK7				Sg	**Sg**	**05 41 39.9**	**-2.6**
PNL	**Peninsula**	**3.36**	**295**	P	**Pn**	**05 40 50.9**	**+0.2**
YUK5	**Granite Creek**	**3.57**	**323**	Pn	**Pn**	**05 40 55.2**	**+1.4**
YUK5				Pg	**Pb**	**05 41 02.6**	**+1.1**
YUK5				Sg	**Sb**	**05 41 48.8**	**+3.8**
YUK6	**Outpost Mounta**	**3.61**	**318**	Pg	**Pb**	**05 41 02.9**	**+0.7**
YUK6				Sg	**Sb**	**05 41 50.1**	**+4.2**
YUK2	**White River**	**5.06**	**316**	Pg	**Pb**	**05 41 28.9**	**+2.1**
YUK2				Sg	**Sg**	**05 42 35.8**	**-4.8**
FNBB	**Fort Nelson**	**5.46**	**80**	Sg	**Sg**	**05 42 50.5**	**-2.9**
BVCY	**Beaver Creek**	**5.49**	**321**	Sg	**Sg**	**05 42 49.8**	**-4.4**
DAWY	**Dawson**	**6.41**	**336**	Sg	**Sg**	**05 43 18.0**	**-5.6**

IDC 11 05:43:41.8±0.9,5.˚17N×127.˚09E,h0km,mb4.0/7,mb1 4.2/7,mb1mx3.8/41,mbtmp4.0/7,MS2.9/1,Ms1 2.9/1,ms1mx2.3/35,Error ellipse: s-maj=50.2km s-min=17.6km az=71.0
ISCJB 11 05:43:49.9±0.8,5.˚1N±0.˚1×127.˚2E±0.˚3,h76km,mb4.1/8,Error ellipse: s-maj=39.3km s-min=14.9km az=162.1
ISC 11 05:43:51.4±0.9,5.˚1N±0.˚2×127.˚1E±0.˚3,h76km,n10,
σ0s84/9,mb4.0/8,Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**19.45**	**63**	LR	LR	05 54 37.6	
	comp=Z,39nm,21.8s,baz=171,slow=34						
FITZ	**Fitzroy Crossi**	**23.07**	**184**	P	**P**	**05 48 49.6**	**-1.1**
	1.7nm,0.5s,baz=9.5,slow=8.8,SNR=8.2						
WRA	**Warramunga Arr**	**25.85**	**164**	P	**P**	**05 49 16.6**	**+0.6**
	3.3nm,0.8s,baz=344,slow=10.0,SNR=18						
ASAR	**Alice Springs**	**29.32**	**167**	P	**P**	**05 49 47.1**	**+0.1**
	0.4nm,0.4s,baz=354,slow=7.4,SNR=9.6						
HNR	**Honiara**	**35.76**	**114**	P	**P**	**05 50 42.9**	**-0.4**
	143nm,0.5s,baz=263,slow=8.0,SNR=4.1						
STKA	**Stephens Creek**	**39.24**	**160**	P	**P**	**05 51 13.4**	**+0.8**
	3.0nm,0.7s,baz=341,slow=8.6,SNR=7.7						
SONM	**Songino Array**	**46.17**	**341**	P	**P**	**05 52 08.9**	**+0.3**
	0.7nm,0.6s,baz=155,slow=9.8,SNR=4.8						
ARCES	**ARCESS Array B**	**89.33**	**340**	P	**P**	**05 56 37.9**	**-1.2**
	1.1nm,0.7s,baz=90,slow=7.3,SNR=5.8						
FINES	**FINESS Array B**	**90.84**	**332**	P	**P**	**05 56 46.4**	**+0.2**
	0.7nm,0.4s,baz=51,slow=5.0,SNR=13						
TORD	**Torodi Ar. Bea**	**122.85**	**289**	PKP	**PKPdf**	**06 02 40.5**	**+0.6**
	0.4nm,0.7s,baz=68,slow=2.7,SNR=3.2						

ROM 11 05:44:56.7±0.2,39.˚82N×15.˚48E,h299km±2km,Ml3.9/79,Error ellipse: s-maj=3.8km s-min=2.2km az=83.0
ISCJB 11 05:44:59.5±0.1,39.˚83N±0.˚02×15.˚33E±0.˚02,h282km±1km,mb4.2/38,Error ellipse: s-maj=2.8km s-min=2.7km az=0.8
LDG 11 05:44:59.1±0.1,39.˚79N×15.˚26E,h277km,Error ellipse: s-maj=5.0km s-min=3.0km az=10.0
PDG 11 05:44:59.6±0.6,40.˚09N×15.˚44E,h277km±1km,ML3.9/9,Error ellipse: s-maj=1.3km s-min=1.2km az=90.0
NEIC 11 05:45:00.4±0.3,39.˚84N×15.˚27E,h280km±4km,mb4.3/11,Error ellipse: s-maj=5.5km s-min=5.3km az=92.0
IDC 11 05:45:00.9±0.9,39.˚91N×15.˚19E,h282km±10km,mb3.7/20,mb1 3.7/34,mb1mx3.6/59,mbtmp4.2/34,Error ellipse: s-maj=9.5km s-min=8.6km az=136.0
CSEM 11 05:45:00.1±0.1,39.˚85N×15.˚33E,h278km,mb4.3/30,ML3.7/16,Error ellipse: s-maj=2.5km s-min=2.4km az=123.0
MOS 11 05:45:00.4±0.9,39.˚90N×15.˚30E,h287km,mb4.3/20,Error ellipse: s-maj=6.8km s-min=4.1km az=80.0
PRU 11 05:45:07.5,40.˚40N×15.˚85E,h3km,M4.3
TIR 11 05:45:16.0,41.˚97N×17.˚93E,h2km
ISC 11 05:45:00.2±0.5,39.˚81N±0.˚04×15.˚45E±0.˚04,h278km±4km,
n640,σ1s27/704,mb4.2/38,96C-96D,Southern Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BULG	**Bulgheria - Ca**	**0.27**	**348**	*i*P	**Pn**	**05 45 36.0**	**+0.1**
BULG					**S**	**05 46 04.1**	**-0.1**
	574nm,0.9s						
BULG	**Bulgheria - Ca**	**0.27**	**348**	*i*Pg	**Pn**	**05 45 36.0**	**+0.1**
BULG					**S**	**05 46 04.1**	**-0.1**
	574nm,0.9s						
CUC	**Castrocucco**	**0.33**	**57**	*i*Pg	**Pn**	**05 45 35.8**	**-0.2**
CUC					**S**	**05 46 03.3**	**-1.0**
	217nm,0.8s						
CUC	**Castrocucco**	**0.33**	**57**	*i*Pg	**Pn**	**05 45 35.8**	**-0.2**
CUC					**S**	**05 46 03.3**	**-1.0**
	217n

PZUN	Potenza	0.88	18	Pg	Pn	05 45 37.5	-0.1			
	430nm,1.6s									
PZUN	Potenza	0.88	18	Pg	Pn	05 45 37.5	-0.1			
	430nm,1.6s									
CRAC	Craco	0.93	53	Pg	Pn	05 45 37.8	-0.1			
CRAC				Sg	S	05 46 08.7	+0.9			
	380nm,0.8s									
CRAC	Craco	0.93	53	Pg	Pn	05 45 37.8	-0.1			
CRAC				Sg	S	05 46 08.7	+0.9			
	380nm,0.8s									
MRLC	Muro Lucano	0.94	2⇑	*i*Pg	Pn	05 45 38.0	0.0			
MRLC				Sg	S	05 46 08.5	+0.6			
	130nm,0.9s									
MRLC	Muro Lucano	0.94	2⇑	*i*Pg	Pn	05 45 38.0	0.0			
MRLC				Sg	S	05 46 08.5	+0.6			
	130nm,0.9s									
MCRV	Calabrutti - M	0.99	347	Pg	Pn	05 45 38.3	0.0			
MCRV				Sg	S	05 46 09.2	+0.7			
	330nm,1.1s									
MCRV	Calabrutti - M	0.99	347	Pg	Pn	05 45 38.3	0.0			
MCRV				Sg	S	05 46 09.2	+0.7			
	330nm,1.1s									
ACER	Acerenza	1.04	21⇑	*i*Pg	Pn	05 45 37.7	-0.8			
	282nm,0.7s									
ACER	Acerenza	1.04	21⇑	*i*Pg	Pn	05 45 37.7	-0.8			
	282nm,0.7s									
MIGL	Miglionico	1.09	43	Pg	Pn	05 45 38.1	-0.6			
MIGL				Sg	S	05 46 08.2	-1.0			
	2µm,1.5s									
MIGL	Miglionico	1.09	43	Pg	Pn	05 45 38.1	-0.6			
MIGL				Sg	S	05 46 08.2	-1.0			
	2µm,1.5s									
PIPA	Pietrapaola	1.10	107⇓	*i*Pg	Pn	05 45 39.2	+0.4			
PIPA				Sg	S	05 46 09.2	-0.2			
	830nm,0.7s									
PIPA	Pietrapaola	1.10	107⇓	*i*Pg	Pn	05 45 39.2	+0.4			
PIPA				Sg	S	05 46 09.2	-0.2			
	830nm,0.7s									
SNAL	S. Angelo Dei	1.13	351⇑	*i*Pg	Pn	05 45 38.9	-0.1			
SNAL				Sg	S	05 46 10.9	+1.2			
	508nm,1.1s									
SNAL	S. Angelo Dei	1.13	351⇑	*i*Pg	Pn	05 45 38.9	-0.1			
SNAL				Sg	S	05 46 10.9	+1.2			
	508nm,1.1s									
VULT	Monte Vulture	1.15	6	Pg	Pn	05 45 38.6	-0.5			
	211nm,1.1s									
VULT	Monte Vulture	1.15	6	Pg	Pn	05 45 38.6	-0.5			
	211nm,1.1s									
PALZ	Palazzo San Ge	1.20	19	Pg	Pn	05 45 38.7	-0.6			
	478nm,1.4s									
PALZ	Palazzo San Ge	1.20	19	Pg	Pn	05 45 38.7	-0.6			
	478nm,1.4s									
CAFE	Carife	1.23	352⇑	*i*Pg	Pn	05 45 39.7	+0.1			
CAFE	Carife	1.23	352⇑	*i*Pg	Pn	05 45 39.7	+0.1			
SERS	Sersale	1.23	129⇓	*i*Pg	Pn	05 45 40.0	+0.3			
SERS				Sg	S	05 46 09.9	-1.1			
	521nm,0.4s									
SERS	Sersale	1.23	129⇓	*i*Pg	Pn	05 45 40.0	+0.3			
SERS				Sg	S	05 46 09.9	-1.1			
	521nm,0.4s									
GRI	Girifalco	1.24	143	Pg	Pn	05 45 39.7	0.0			
	1µm,0.5s									
GRI	Girifalco	1.24	143	Pg	Pn	05 45 39.7	0.0			
	1µm,0.5s									
JOPP	Joppolo	1.25	164⇓	*i*Pg	Pn	05 45 39.1	-0.7			
JOPP				Sg	S	05 46 09.1	-2.0			
	409nm,0.4s									
JOPP	Joppolo	1.25	164⇓	*i*Pg	Pn	05 45 39.1	-0.7			
JOPP				Sg	S	05 46 09.1	-2.0			
	409nm,0.4s									
MATE	Matera	1.27	48⇑	*i*Pg	Pn	05 45 39.1	-0.6			
	360nm,0.8s									
MATE	Matera	1.27	48⇑	*i*Pg	Pn	05 45 39.1	-0.6			
	360nm,0.8s									
SGTA	Sant Agata di	1.32	357⇑	*i*Pg	Pn	05 45 40.1	0.0			
	183nm,1.2s									
SGTA	Sant Agata di	1.32	357⇑	*i*Pg	Pn	05 45 40.1	0.0			
	183nm,1.2s									
MRVN	Minervino Murg	1.37	24⇑	*i*Pg	Pn	05 45 39.7	-0.7			
	153nm,0.8s									
MRVN	Minervino Murg	1.37	24⇑	*i*Pg	Pn	05 45 39.7	-0.7			
	153nm,0.8s									
SG1	Sgolgore (BA)	1.39	42	*e*Pn	Pn	05 45 40.1	-0.4			
PAOL	Paolisi	1.39	331⇓	*i*Pg	Pn	05 45 40.3	-0.2			
PAOL				Sg	S	05 46 13.6	+1.1			
PAOL	Paolisi	1.39	331⇓	*i*Pg	Pn	05 45 40.3	-0.2			
PAOL				Sg	S	05 46 13.6	+1.1			
AMUR	Altamura	1.40	38⇑	*i*Pg	Pn	05 45 40.1	-0.5			
AMUR				Sg	S	05 46 11.1	-1.5			
	206nm,0.8s									
AMUR	Altamura	1.40	38⇑	*i*Pg	Pn	05 45 40.1	-0.5			
AMUR				Sg	S	05 46 11.1	-1.5			
	206nm,0.8s									
CDT	Castel del Mon	1.41	26	*i* Pn	Pn	05 45 40.0	-0.6			
LLI	Lipari	1.42	196⇓	*i*Pg	Pn	05 45 41.3	+0.5			
	2µm,0.5s									
LLI	Lipari	1.42	196⇓	*i*Pg	Pn	05 45 41.3	+0.5			
	2µm,0.5s									
IFIL	Filicudi I Eol	1.43	209	Pg	Pn	05 45 40.6	-0.2			
	5650µm,73.0s									
IFIL	Filicudi I Eol	1.43	209	Pg	Pn	05 45 40.6	-0.2			
	5650µm,73.0s									
VPL	Vulcano Piano	1.48	194⇓	*i*Pg	Pn	05 45 40.9	-0.3			
	1µm,0.6s									
VPL	Vulcano Piano	1.48	194⇓	*i*Pg	Pn	05 45 40.9	-0.3			
	1µm,0.6s									
MASS	Massafra	1.53	57	*i* Pn	Pn	05 45 41.1	-0.3			
IACL	Alicudi	1.54	214⇓	*i*Pg	Pn	05 45 41.4	-0.2			
	287nm,0.7s									
IACL	Alicudi	1.54	214⇓	*i*Pg	Pn	05 45 41.4	-0.2			
	287nm,0.7s									
MSRU	Castanea	1.55	178⇓	*i*Pg	Pn	05 45 41.1	-0.6			
	824nm,0.7s									
MSRU	Castanea	1.55	178⇓	*i*Pg	Pn	05 45 41.1	-0.6			
	824nm,0.7s									
MILZ	Milazzo	1.55	187⇓	*i*Pg	Pn	05 45 41.7	+0.1			
	1µm,0.6s									
MILZ	Milazzo	1.55	187⇓	*i*Pg	Pn	05 45 41.7	+0.1			
	1µm,0.6s									
PLAC	Placanica	1.56	150⇓	*i*Pg	Pn	05 45 41.7	-0.1			
	610nm,0.4s									
PLAC	Placanica	1.56	150⇓	*i*Pg	Pn	05 45 41.7	-0.1			
	610nm,0.4s									
NOCI	Noci	1.57	51⇑	*i*Pg	Pn	05 45 41.4	-0.3			
NOCI				Sg	S	05 46 13.3	-1.3			
	425nm,0.6s									
NOCI	Noci	1.57	51⇑	*i*Pg	Pn	05 45 41.4	-0.3			
NOCI				Sg	S	05 46 13.3	-1.3			
	425nm,0.6s									
TAR1	Taranto	1.57	62	*e*Pn	Pn	05 45 41.3	-0.4			
CEL	Celeste	1.59	167	Pg	Pn	05 45 41.2	-0.8			
	761nm,0.8s									
CEL	Celeste	1.59	167	Pg	Pn	05 45 41.2	-0.8			
	761nm,0.8s									
CEL	Celeste	1.59	167	*e*Pn	Pn	05 45 41.1	-0.9			
MSCL	Scilla	1.60	170	Pg	Pn	05 45 41.2	-0.9			
	1µm,0.8s									
MSCL	Scilla	1.60	170	Pg	Pn	05 45 41.2	-0.9			
	1µm,0.8s									
ATN	Antennamare	1.65	180⇓	*i*Pg	Pn	05 45 41.9	-0.7			
	593nm,0.6s									
ATN	Antennamare	1.65	180⇓	*i*Pg	Pn	05 45 41.9	-0.7			
	593nm,0.6s									
MPNC	Port Mandanici	1.67	183⇓	*i*Pg	Pn	05 45 42.1	-0.5			
	1µm,1.0s									
MPNC	Port Mandanici	1.67	183⇓	*i*Pg	Pn	05 45 42.1	-0.5			
	1µm,1.0s									
GMB	Gambarie	1.67	170	Pg	Pn	05 45 42.1	-0.6			
	2µm,0.5s									
GMB	Gambarie	1.67	170	Pg	Pn	05 45 42.1	-0.6			
	2µm,0.5s									
BAI	Bari	1.69	40	*e*Pn	Pn	05 45 42.3	-0.2			
PTRJ	Pietraroja	1.70	336	Pg	Pn	05 45 42.6	-0.2			
	521nm,1.3s									
PTRJ	Pietraroja	1.70	336	Pg	Pn	05 45 42.6	-0.2			
	521nm,1.3s									
MCSR	Castroreale	1.75	185⇓	*i*Pg	Pn	05 45 43.4	+0.1			
	1µm,0.3s									
MCSR	Castroreale	1.75	185⇓	*i*Pg	Pn	05 45 43.4	+0.1			
	1µm,0.3s									
CGL1	Ceglie Messapi	1.76	61	*i* Pn	Pn	05 45 43.1	0.0			
FASA	Fasano	1.77	55	*i* Pn	Pn	05 45 43.2	+0.1			
MODR	Mondragone	1.79	318	Pg	Pn	05 45 43.0	-0.4			
	124nm,1.4s									
MODR	Mondragone	1.79	318	Pg	Pn	05 45 43.0	-0.4			
	124nm,1.4s									

NOV	Novara	1.80	188⇓	*i*Pg	Pn	05 45 44.2	+0.6			
	2µm,0.9s									
NOV	Novara	1.80	188⇓	*i*Pg	Pn	05 45 44.2	+0.6			
	2µm,0.9s									
SOI	Samo	1.80	165⇓	*i*Pg	Pn	05 45 43.4	-0.2			
	490nm,0.7s									
SOI	Samo	1.80	165⇓	*i*Pg	Pn	05 45 43.4	-0.2			
	490nm,0.7s									
MUCR	Ucria	1.82	195	Pg	Pn	05 45 43.7	-0.2			
	248nm,0.6s									
MUCR	Ucria	1.82	195	Pg	Pn	05 45 43.7	-0.2			
	248nm,0.6s									
VENT	Ventotene	1.84	303	Pg	Pn	05 45 41.2	-2.5			
	212nm,0.7s									
VENT	Ventotene	1.84	303	Pg	Pn	05 45 41.2	-2.5			
	212nm,0.7s									
BSSO	Busso	1.85	340	Pg	Pn	05 45 43.9	0.0			
	452nm,2.1s									
BSSO	Busso	1.85	340	Pg	Pn	05 45 43.9	0.0			
	452nm,2.1s									
VAGA	Valle Agricola	1.85	330	Pg	Pn	05 45 44.0	+0.1			
	144nm,1.0s									
VAGA	Valle Agricola	1.85	330	Pg	Pn	05 45 44.0	+0.1			
	144nm,1.0s									
MMME	Mongiuffi-Meli	1.88	185⇓	*i*Pg	Pn	05 45 44.6	+0.3			
	563nm,0.7s									
MMME	Mongiuffi-Meli	1.88	185⇓	*i*Pg	Pn	05 45 44.6	+0.3			
	563nm,0.7s									
CIGN	Sant'Elia a Pi	1.89	347	Pg	Pn	05 45 43.6	-0.5			
	126nm,1.3s									
CIGN	Sant'Elia a Pi	1.89	347	Pg	Pn	05 45 43.6	-0.5			
	126nm,1.3s									
MSFR	San Fratello	1.90	201⇓	*i*Pg	Pn	05 45 44.6	+0.2			
	75nm,0.5s									
MSFR	San Fratello	1.90	201⇓	*i*Pg	Pn	05 45 44.6	+0.2			
	75nm,0.5s									
MPAZ	Palizzi	1.91	167⇓	*i*Pg	Pn	05 45 44.3	-0.1			
	1µm,0.4s									
MPAZ	Palizzi	1.91	167⇓	*i*Pg	Pn	05 45 44.3	-0.1			
	1µm,0.4s									
MS1	Monte Sant'Ang	1.93	11	*e*Pn	Pn	05 45 43.7	-0.8			
MSAG	Monte S. Angel	1.93	10⇑	*i*Pg	Pn	05 45 43.6	-0.9			
	169nm,1.1s									
MSAG	Monte S. Angel	1.93	10⇑	*i*Pg	Pn	05 45 43.6	-0.9			
	169nm,1.1s									
SGRT	San Giovanni R	1.95	6	Pg	Pn	05 45 43.7	-1.0			
	195nm,1.5s									
SGRT	San Giovanni R	1.95	6	Pg	Pn	05 45 43.7	-1.0			
	195nm,1.5s									
MNO	Monte Soro	1.97	198	Pg	Pn	05 45 45.8	+0.7			
	579nm,1.2s									
MNO	Monte Soro	1.97	198	Pg	Pn	05 45 45.8	+0.7			
	579nm,1.2s									
MESG	Mesagne	1.99	66⇑	*i*Pg	Pn	05 45 45.1	+0.2			
	751nm,0.8s									
MESG	Mesagne	1.99	66⇑	*i*Pg	Pn	05 45 45.1	+0.2			
	751nm,0.8s									
USI	Ustica	2.08	239⇓	*i*Pg	Pn	05 45 45.2	-0.6			
	157nm,0.5s									
USI	Ustica	2.08	239⇓	*i*Pg	Pn	05 45 45.2	-0.6			
	157nm,0.5s									
PLLN	Pollina	2.09	210⇓	*i*Pg	Pn	05 45 45.8	-0.2			
	190nm,0.4s									
PLLN	Pollina	2.09	210⇓	*i*Pg	Pn	05 45 45.8	-0.2			
	190nm,0.4s									
CERA	Filignano	2.09	329	Pg	Pn	05 45 45.7	-0.2			
CERA	Filignano	2.09	329	Pg	Pn	05 45 45.7	-0.2			
RNI2	Rionero Sannit	2.13	333⇑	*i*Pg	Pn	05 45 46.8	+0.6			
	465nm,1.8s									
RNI2	Rionero Sannit	2.13	333⇑	*i*Pg	Pn	05 45 46.8	+0.6			
	465nm,1.8s									
GIB	Gibilmanna	2.13	212⇓	*i*Pg	Pn	05 45 46.2	-0.2			
	311nm,0.5s									
GIB	Gibilmanna	2.13	212⇓	*i*Pg	Pn	05 45 46.2	-0.2			
	311nm,0.5s									
FRES	Fresagrandinar	2.24	345⇑	*i*Pg	Pn	05 45 46.5	-0.6			
	473nm,1.2s									
FRES	Fresagrandinar	2.24	345⇑	*i*Pg	Pn	05 45 46.5	-0.6			
	473nm,1.2s									
CAGR	Agira	2.31	199⇓	*i*Pg	Pn	05 45 49.4	+1.5			
	495nm,0.8s									
CAGR	Agira	2.31	199⇓	*i*Pg	Pn	05 45 49.4	+1.5			
	495nm,0.8s									
POFI	Posta Fibreno	2.32	326	Pg	Pn	05 45 47.7	-0.2			
	97nm,1.5s									
POFI	Posta Fibreno	2.32	326	Pg	Pn	05 45 47.7	-0.2			
	97nm,1.5s									
MPG	Monte Pellegri	2.32	225	Pg	Pn	05 45 47.7	-0.3			
	256nm,0.9s									
MPG	Monte Pellegri	2.32	225	Pg	Pn	05 45 47.7	-0.3			
	256nm,0.9s									
SCTE	Santa Cesarea	2.33	83⇑	*i*Pg	Pn	05 45 48.6	+0.7			
	169nm,0.7s									
SCTE	Santa Cesarea	2.33	83⇑	*i*Pg	Pn	05 45 48.6	+0.7			
	169nm,0.7s									
GIUL	Giuliano Di Ro	2.42	317⇓	*i*Pg	Pn	05 45 48.1	-0.6			
	70nm,1.6s									
GIUL	Giuliano Di Ro	2.42	317⇓	*i*Pg	Pn	05 45 48.1	-0.6			
	70nm,1.6s									
RESU	Resuttano	2.42	207⇓	*i*Pg	Pn	05 45 50.5	+1.5			
	276nm,0.5s									
RESU	Resuttano	2.42	207⇓	*i*Pg	Pn	05 45 50.5	+1.5			
	276nm,0.5s									
ALJA	Alia	2.45	213⇓	*i*Pg	Pn	05 45 49.9	+0.7			
	657nm,1.5s									
ALJA	Alia	2.45	213⇓	*i*Pg	Pn	05 45 49.9	+0.7			
	657nm,1.5s									
VAE	Valguarnera	2.47	200	P	Pn	05 45 50.6	+1.2			
	8.4nm,0.3s,baz=124,slow=1.9,SNR=15									
VVLD	Villa Vallelon	2.48	327	Pg	Pn	05 45 49.2	-0.2			
	25nm,0.5s									
VVLD	Villa Vallelon	2.48	327	Pg	Pn	05 45 49.2	-0.2			
	25nm,0.5s									
INTR	Introdacqua	2.49	332	Pg	Pn	05 45 49.3	-0.2			
	290nm,1.8s									
INTR	Introdacqua	2.49	332	Pg	Pn	05 45 49.3	-0.2			
	290nm,1.8s									
HLNI	Lentini	2.50	191⇓	*i*Pg	Pn	05 45 49.3	-0.3			
	299nm,1.2s									
HLNI	Lentini	2.50	191⇓	*i*Pg	Pn	05 45 49.3	-0.3			
	299nm,1.2s									
HAGA	Augusta	2.53	185⇓	*i*Pg	Pn	05 45 49.0	-0.9			
HAGA	Augusta	2.53	185⇓	*i*Pg	Pn	05 45 49.0	-0.9			
CORL	Corleone	2.55	222⇓	*i*Pg	Pn	05 45 50.3	+0.2			
	90nm,0.6s									
CORL	Corleone	2.55	222⇓	*i*Pg	Pn	05 45 50.3	+0.2			
	90nm,0.6s									
HCRL	Carlentini	2.55	188⇓	*i*Pg	Pn	05 45 49.7	-0.4			
	544nm,0.7s									
HCRL	Carlentini	2.55	188⇓	*i*Pg	Pn	05 45 49.7	-0.4			
	544nm,0.7s									
SSY	Sortino	2.67	187	Pg	Pn	05 45 50.5	-0.8			
	255nm,0.6s									
SSY	Sortino	2.67	187	Pg	Pn	05 45 50.5	-0.8			
	255nm,0.6s									
HVZN	Vizzini	2.69	193⇓	*i*Pg	Pn	05 45 51.8	+0.2			
	352nm,0.4s									
HVZN	Vizzini	2.69	193⇓	*i*Pg	Pn	05 45 51.8	+0.2			
	352nm,0.4s									
PTQR	Pietraquaria	2.70	325	Pg	Pn	05 45 51.7	+0.2			
PTQR	Pietraquaria	2.70	325	Pg	Pn	05 45 51.7	+0.2			
CLTB	Caltabellotta	2.84	219	Pg	Pn	05 45 52.8	-0.2			
	305nm,0.6s									
CLTB	Caltabellotta	2.84	219	*e*Pn	Pn	05 45 52.2	-0.8			
CLTB	Caltabellotta	2.84	219	Pg	Pn	05 45 52.8	-0.2			
	305nm,0.6s									
CLTB	Caltabellotta	2.84	219	*e*Pn	Pn	05 45 52.2	-0.8			
CERT	Cerreto	2.84	320	Pg	Pn	05 45 52.5	-0.4			
	16nm,0.5s									
CERT	Cerreto	2.84	320	Pg	Pn	05 45 52.5	-0.4			
	16nm,0.5s									
HAVL	Avola	2.86	185	Pg	Pn	05 45 52.8	-0.4			
	282nm,0.3s									
HAVL	Avola	2.86	185	Pg	Pn	05 45 52.8	-0.4			
	282nm,0.3s									
HMDC	Modica	2.90	191⇓	*i*Pg	Pn	05 45 53.7	+0.1			
	116nm,0.5s									
HMDC	Modica	2.90	191⇓	*i*Pg	Pn	05 45 53.7	+0.1			
	116nm,0.5s									
AQU	L'Aquila	2.98	329	*e*P	Pn	05 45 54.4	+0.2			
AQU	L'Aquila	2.98	329	*e*P	Pn	05 45 54.4	+0.2			
AQU	L'Aquila	2.98	329	*e*Pn	Pn	05 45 54.4	+0.2			
FIAM	Fiamignano	3.02	325	Pg	Pn	05 45 55.2	+0.4			
	117nm,1.6s									
FIAM	Fiamignano	3.02	325	Pg	Pn	05 45 55.2	+0.4			
	117nm,1.6s									
HCY	Herceg Novi	3.49	40⇑	*i*Pn	Pn	05 45 59.0	-0.6			
HCY				*e*Sn	S	05 46 42.4	-4.6			

HCY	Herceg Novi	3.49	40⇑	*i*Pn	Pn	05 45 59.0	-0.6			
ULC	Ulcinj	3.59	52⇑	*i*Pn	Pn	05 46 00.8	+0.1			
ULC				*e*Sn	S	05 46 45.4	-3.6			
ULC	Ulcinj	3.59	52⇑	*i*Pn	Pn	05 46 00.8	+0.1			
BUM	Brajici-Budva	3.60	45⇑	*i*Pn	Pn	05 46 00.9	+0.1			
BUM	Brajici-Budva	3.60	45⇑	*i*Pn	Pn	05 46 00.9	+0.1			
TREB	Trebinje	3.63	36⇑	*i*Pn	Pn	05 46 01.1	0.0			
DRME	Dracevica, Mon	3.69	49	*e*Pn	Pn	05 46 01.2	-0.5			
DRME				*e*Sn	S	05 46 47.2	-3.7			
DRME	Dracevica, Mon	3.69	49	*e*Pn	Pn	05 46 01.2	-0.5			
TIR	Tirane	3.69	64	*i* PN	Pn	05 46 03.2	+1.4			
TIR	Tirane	3.69	64⇓	*i*P	Pn	05 46 03.3	+1.4			
TIR	Tirane	3.69	64	*e*P	Pn	05 46 03.1	+1.3			
TIR	Tirane	3.69	64	*e*P	Pn	05 46 03.1	+1.3			
TIR	Tirane	3.69	64	*e*Pn	Pn	05 46 03.1	+1.3			
CEME	Cevo	3.78	43⇑	*i*Pn	Pn	05 46 02.5	-0.3			
CEME				*e*Sn	S	05 46 48.6	-4.3			
CEME	Cevo	3.78	43⇑	*i*Pn	Pn	05 46 02.5	-0.3			
BRY	Bratogost	3.86	36	*e*Pn	Pn	05 46 03.2	-0.6			
BRY				*e*Sn	S	05 46 49.5	-5.1			
BRY	Bratogost	3.86	36	*e*Pn	Pn	05 46 03.2	-0.6			
PDG	Podgorica	3.88	46⇑	*i*Pn	Pn	05 46 03.9	0.0			
TTG	Podgorica	3.88	46⇑	*i*Pn	Pn	05 46 03.9	0.0			
TTG				*e*Sn	S	05 46 50.8	-4.0			
NKME	Niksic	3.96	41⇓	*i*Pn	Pn	05 46 04.4	-0.4			
NKME				*e*Sn	S	05 46 52.1	-4.3			
NKME	Niksic	3.96	41⇓	*i*Pn	Pn	05 46 04.4	-0.4			
NKY	Niksic	4.01	40	*e*Pn	Pn	05 46 05.0	-0.5			
NKY				*e*Sn	S	05 46 53.4	-4.2			
NKY	Niksic	4.01	40	*e*Pn	Pn	05 46 05.0	-0.5			
WDD	Wied Dalam	4.04	191	*e*Pn	Pn	05 46 03.7	-2.1			
WDD	Wied Dalam	4.04	191	*e*Pn	Pn	05 46 03.7	-2.1			
UPM	Unac-Piva	4.26	36⇑	*i*Pn	Pn	05 46 08.2	-0.2			
UPM				*e*Sn	S	05 46 58.0	-5.0			
UPM	Unac-Piva	4.26	36⇑	*i*Pn	Pn	05 46 08.2	-0.2			
OHR	Ohrid	4.28	71⇑	*i*Pn	Pn	05 46 10.6	+2.1			
OHR	Ohrid	4.28	71	P	Pn	05 46 10.4	+1.9			
OHR	Ohrid	4.28	71	P	Pn	05 46 10.4	+1.9			
PVY	Plav	4.39	49⇑	*i*Pn	Pn	05 46 09.9	+0.1			
PVY				*e*Sn	S	05 47 01.3	-4.2			
BEY	Berane	4.53	46⇓	*i*Pn	Pn	05 46 11.5	+0.1			
IVA	Berane	4.53	46⇓	*i*Pn	Pn	05 46 11.5	+0.1			
IVA				*e*Sn	S	05 47 03.8	-4.5			
PLE	Pljevlja	4.59	39⇑	*i*Pn	Pn	05 46 12.0	-0.1			
PLE				*e*Sn	S	05 47 05.2	-4.5			
PLE	Pljevlja	4.59	39⇑	*i*Pn	Pn	05 46 12.0	-0.1			
FNA	Florina	4.63	76	P	Pn	05 46 14.0	+1.4			
FNA	Florina	4.63	76	P	Pn	05 46 14.0	+1.4			
BIA	Bitola	4.64	73⇑	*i*Pn	Pn	05 46 15.0	+2.3			
BIA	Bitola	4.64	73⇑	*i*Pn	Pn	05 46 15.0	+2.3			
VSL	Villasalto	4.70	268	*e*Pn	Pn	05 46 12.2	-1.2			
VSL	Villasalto	4.70	268	*e*Pn	Pn	05 46 12.2	-1.2			
UDBI	Udbina	4.72	3	P	Pn	05 46 13.7	+0.2			
UDBI	Udbina	4.72	3	*i* P	Pn	05 46 13.7	+0.2			
NVLJ	Novalja	4.77	355	P	Pn	05 46 13.8	-0.2			
NVLJ	Novalja	4.77	355	*i* P	Pn	05 46 13.8	-0.2			
BBLS	Lazići	5.01	35⇑	*i*Pn	Pn	05 46 17.8	+0.8

WATA Walderalm 8.03 341 P Pn 05 46 54.1 +0.1
comp=Z,15nm,0.4s,SNR=33
DAVOX Davos/Dischmat 8.06 332 P Pn 05 46 54.0 -0.4
comp=Z,2.6nm,0.3s,baz=139,slow=12,SNR=40
MOA Molln 8.08 354 *i* Pn Pn 05 46 54.5 0.0
comp=Z,6.1nm,0.6s,SNR=5.4
MOA Molln 8.08 354 P Pn 05 46 54.5 0.0
comp=Z,6.1nm,0.6s,SNR=5.4
MBDF Montbardon 8.10 310 *e*Pn Pn 05 46 56.1 +1.2
MBDF Montbardon 8.10 310 *e*Pn Pn 05 46 56.1 +1.2
CONA Conrad Observa 8.12 2 *i* Pn Pn 05 46 54.5 -0.5
comp=Z,5.8nm,1.0s
CONA Conrad Observa 8.12 2 P Pn 05 46 54.5 -0.5
comp=Z,5.8nm,1.0s
MOTA Moosalm 8.16 339 *i* Pn Pn 05 46 55.8 +0.1
comp=Z,35nm,0.8s,SNR=29
MOTA Moosalm 8.16 339 Pn Pn 05 46 55.8 +0.1
comp=Z,35nm,0.8s,SNR=29
BNI Bardonecchia 8.34 312 *e*P Pn 05 46 58.5 +0.7
BNI Bardonecchia 8.34 312 *e*P Pn 05 46 58.5 +0.7
BNI Bardonecchia 8.34 312 *e*Pn Pn 05 46 58.5 +0.7
RETA Reutte 8.39 338 *i* Pn Pn 05 46 58.7 +0.3
comp=Z,17nm,0.4s,SNR=11
RETA Reutte 8.39 338 Pn Pn 05 46 58.7 +0.3
comp=Z,17nm,0.4s,SNR=11
SMRF Simiane la Rot 8.46 303 *e*Pn Pn 05 47 01.2 +1.9
DAVA Damuels 8.49 333 *i* Pn Pn 05 46 59.7 -0.1
comp=Z,24nm,0.5s,SNR=13
DAVA Damuels 8.49 333 Pn Pn 05 46 59.7 -0.1
comp=Z,24nm,0.5s,SNR=13
LPG La Plagne 8.56 314 *e*P Pn 05 47 00.3 -0.5
LPG La Plagne 8.56 314 *e*Pn Pn 05 47 02.4 +1.6
LPG La Plagne 8.56 314 *e*P Pn 05 47 00.7 -0.1
LPG La Plagne 8.56 314 *e*P Pn 05 47 00.3 -0.5
LPG La Plagne 8.56 314 *e*Pn Pn 05 47 02.4 +1.6
LPL La Plagne 8.59 314 *e*P Pn 05 47 00.3 -0.7
comp=Z,36nm,0.6s
LPL La Plagne 8.59 314 *e*Pn Pn 05 47 02.2 +1.2
LPL La Plagne 8.59 314 *e*P Pn 05 47 00.8 -0.2
LPL La Plagne 8.59 314 *e*P Pn 05 47 00.3 -0.7
comp=Z,18nm,0.6s
LPL La Plagne 8.59 314 *e*Pn Pn 05 47 02.2 +1.2
PSZ Piszkesteto 8.71 20⇓*i*P Pn 05 47 02.5 +0.1
PSZ Piszkesteto 8.71 20⇓*i*P Pn 05 47 02.5 +0.1
ORIF Oris-en-Rattie 8.73 309 *e*Pn Pn 05 47 04.5 +1.8
IDI Anoyia 8.75 118 P Pn 05 47 06.1 +3.1
comp=Z,0.8nm,0.3s,baz=308,slow=12,SNR=7.8
DRGR 8.75 35⇑*i*P Pn 05 47 03.5 +0.6
DRGR 8.75 35⇑*i*P Pn 05 47 03.5 +0.6
SENIN Lac Senin/Sane 8.85 320 *e*Pn Pn 05 47 03.0 -1.4
SENIN Lac Senin/Sane 8.85 320 *e*Pn Pn 05 47 03.0 -1.4
VYHS Vyhne 9.01 15 *e*P P 05 47 10.3 -1.6
VYHS Vyhne 9.01 15 *e*PN P 05 47 10.3 -1.6
VOIR 9.03 48⇓*i*P Pn 05 47 08.8 +2.4
VOIR 9.03 48 P P 05 47 09.6 -2.6
VOIR pmax pmax
comp=Z,8.0nm,1.1s
VOIR 9.03 48 P P 05 47 09.6 -2.6
comp=Z,8.0nm,1.1s
GEA0 GERESS Array S 9.11 353 *e*Pn Pn 05 47 06.1 -1.3
GEA0 GERESS Array S 9.11 353 *e*Pn Pn 05 47 06.1 -1.3
GEC2 GERESS Array S 9.12 353 *e*P Pn 05 47 07.0 -0.5
GEC2 GERESS Array S 9.12 353 *e*P Pn 05 47 07.0 -0.5
GEC2 GERESS Array S 9.12 353 *e*Pn Pn 05 47 07.0 -0.5
GERES GERESS Array B 9.12 353 P Pn 05 47 06.8 -0.6
comp=Z,1.5nm,0.3s,baz=169,slow=13,SNR=56
KECS Kecovo 9.39 21 *e*P P 05 47 17.7 +1.6
KECS Kecovo 9.39 21 *e*PN P 05 47 17.6 +1.5
KHC Kasperske Hory 9.41 352 *e*P Pn 05 47 10.1 -1.0
KHC 05 47 19.5 ex x
KHC Kasperske Hory 9.41 352 *e*P Pn 05 47 10.3 -0.8
KHC Kasperske Hory 9.41 352 *e*P Pn 05 47 10.3 -0.8
KHC Kasperske Hory 9.41 352 *e*Pn Pn 05 47 10.2 -0.8
VIVF Saint-Julien-I 9.44 306 *e*P Pn 05 47 10.2 -1.2
VIVF Saint-Julien-I 9.44 306 *e*Pn Pn 05 47 13.5 +2.1
VIVF Saint-Julien-I 9.44 306 *e*P Pn 05 47 10.2 -1.2
WET Wettzell 9.51 350 P Pn 05 47 11.1 -1.2
WET pmax pmax
comp=Z,20nm,0.6s
WET Wettzell 9.51 350 P Pn 05 47 11.1 -1.2
comp=Z,20nm,0.6s
VRAC Vranov 9.53 5 P Pn 05 47 12.8 +0.4
comp=Z,1.7nm,0.3s,baz=188,slow=12,SNR=7.1
DOPR Dopca 9.54 47⇑*i*P Pn 05 47 14.7 +2.1
DOPR Dopca 9.54 47⇑*i*P Pn 05 47 14.7 +2.1
MLR Muntele Rosu 9.58 50 P P 05 47 17.0 -1.5
comp=Z,0.4nm,0.3s,baz=191,slow=13,SNR=31
MLR Muntele Rosu 9.58 50⇑*i*P P 05 47 16.3 -2.1
MLR Muntele Rosu 9.58 50 *e*P P 05 47 16.9 -1.5
MLR Muntele Rosu 9.58 50 *e*P P 05 47 16.9 -1.5
MLR Muntele Rosu 9.58 50 *e*Pn P 05 47 16.9 -1.5
CABF La Chapelle 9.63 318 *e*P Pn 05 47 11.5 -2.4
comp=Z,70nm,0.6s
CABF La Chapelle 9.63 318 *e*P Pn 05 47 11.5 -2.4
comp=Z,35nm,0.6s
ISR Istrita 9.76 53⇑*i*P P 05 47 18.4 -1.9
ISR Istrita 9.76 53⇑*i*P P 05 47 18.4 -1.9
LANS Liptovska Anna 9.77 16 *e*P P 05 47 21.7 +1.4
LANS Liptovska Anna 9.77 16 *e*PN P 05 47 21.7 +1.4
BFO Black Forest 9.93 331 *i* P Pn 05 47 17.0 -0.5
BFO Black Forest 9.93 331 *e*Pn Pn 05 47 16.1 -1.5
BFO Black Forest 9.93 331 *i* P Pn 05 47 17.0 -0.5
BFO Black Forest 9.93 331 *e*Pn Pn 05 47 16.1 -1.5
STU Stuttgart 10.01 335 *e*P Pn 05 47 18.1 -0.4
STU Stuttgart 10.01 335 *e*Pn Pn 05 47 18.0 -0.4
STU Stuttgart 10.01 335 *e*Pn Pn 05 47 18.1 -0.4
CRVS Cervenica-Dubn 10.05 23 *e*P P 05 47 22.9 -0.5
CRVS Cervenica-Dubn 10.05 23 *e*P P 05 47 22.9 -0.5
CRVS Cervenica-Dubn 10.05 23 *e*PN P 05 47 22.9 -0.5
MORC Moravsky Berou 10.07 8⇑*i*P Pn 05 47 19.7 +0.4
MORC Moravsky Berou 10.07 8 *e*P Pn 05 47 19.4 +0.1
MORC Moravsky Berou 10.07 8 *e*Pn Pn 05 47 19.4 +0.1
MORC Moravsky Berou 10.07 8⇑*i*P Pn 05 47 19.7 +0.4
MORC Moravsky Berou 10.07 8 *e*Pn Pn 05 47 19.4 +0.1
UZH Uzhgorod 10.09 27 *e*P Pn 05 47 20.7 +1.3
UZH *e*S S 05 49 12.3 -0.4
UZH Uzhgorod 10.09 27 *e*P Pn 05 47 20.7 +1.3
UZH *e*S S 05 49 12.3 -0.4
HINF Hinteralfeld 10.13 325 *e*P Pn 05 47 17.7 -2.2
comp=Z,21nm,0.4s
PLOR Plostina 10.20 50⇑*i*P P 05 47 23.0 -2.1
PLOR Plostina 10.20 50⇑*i*P P 05 47 23.0 -2.1
PRU Pruhonice 10.20 357 *e*P Pn 05 47 20.8 +0.1
PRU Pruhonice 10.20 357 *e*P Pn 05 47 20.8 +0.1
PRU Pruhonice 10.20 357 Pn Pn 05 47 20.8 +0.1
VRI Vrincioaia 10.25 50⇑*i*P P 05 47 24.1 -1.6
VRI Vrincioaia 10.25 50 P P 05 47 24.0 -1.7
VRI Vrincioaia 10.25 50 P P 05 47 24.0 -1.7
GRA1 Grafenberg Arr 10.32 344 P Pn 05 47 24.0 +1.7
comp=Z,21nm,1.8s
GRF Grafenberg Arr 10.32 344 P Pn 05 47 24.0 +1.7
GRF pmax pmax
comp=Z,21nm,1.8s
GRFO Grafenberg 10.32 344 *e*P Pn 05 47 21.3 -1.0
GRFO Grafenberg 10.32 344 *e*Pn Pn 05 47 21.3 -1.0
GRFO Grafenberg 10.32 344 *e*Pn Pn 05 47 21.3 -1.0
CDF Champ du Feu 10.41 328 *e*P Pn 05 47 22.3 -1.2
comp=Z,32nm,0.4s
STHS Stebnicka Huta 10.45 21 *e*P P 05 47 30.4 +2.6
STHS Stebnicka Huta 10.45 21 *e*PN P 05 47 30.4 +2.6
HARR Harsova 10.45 58⇑*i*P P 05 47 28.4 +0.5
HARR Harsova 10.45 58 P P 05 47 28.3 +0.4
HARR Harsova 10.45 58 P P 05 47 28.3 +0.4
TLB Topalu 10.48 59⇑*i*P P 05 47 28.0 -0.2
TLB Topalu 10.48 59⇑*i*P P 05 47 28.0 -0.2
HAU Haudompre 10.49 324 *e*P Pn 05 47 22.6 -1.9
comp=Z,10.0nm,0.2s
BURAR Bucovina Array 10.52 39⇓*i*P P 05 47 27.2 -1.5
BURAR Bucovina Array 10.52 39 P P 05 47 27.2 -1.5
BURAR Bucovina Array 10.52 39⇓*i*P P 05 47 27.2 -1.5
BUR08 Bucovina Ar. S 10.53 39 *e*Pn P 05 47 28.0 -0.9
BUR08 Bucovina Ar. S 10.53 39 *e*Pn P 05 47 28.0 -0.9
DPC Dobruska-Polom 10.56 3 *e*P P 05 47 29.6 +0.6
DPC Dobruska-Polom 10.56 3 *e*P P 05 47 29.6 +0.6
TIRR Tirgusor 10.68 60⇑*i*P P 05 47 31.3 +0.9
TIRR Tirgusor 10.68 60⇑*i*P P 05 47 31.3 +0.9
CFR Carcaliu 10.79 56⇑*i*P P 05 47 33.0 +1.4
CFR Carcaliu 10.79 56⇑*i*P P 05 47 33.0 +1.4
OJC Ojcow 10.85 15 *e*P P 05 47 33.6 +1.4
OJC Ojcow 10.85 15 *e*P P 05 47 33.6 +1.4
OJC Ojcow 10.85 15 *e*Pn P 05 47 33.6 +1.4
SMF Signal de Mont 10.88 313 *e*P Pn 05 47 26.1 -3.1
comp=Z,13nm,0.6s
BRG Berggiesshubel 11.11 355 *e*P Pn 05 47 31.4 -0.6
comp=Z,3.8nm,1.0s
BRG Berggiesshubel 11.11 355 *e*P Pn 05 47 31.5 -0.5
BRG pmax pmax
comp=Z,4.0nm,1.0s
BRG Berggiesshubel 11.11 355 *e*P Pn 05 47 31.5 -0.5
comp=Z,4.0nm,1.0s
MOX Moxa 11.16 347 P P 05 47 36.9 +1.1
MOX pmax pmax
comp=Z,9.0nm,1.2s
PAGF Fort de Pagny 11.18 325 *e*P Pn 05 47 31.1 -1.8
TLCR 11.23 57⇓*i*P P 05 47 37.2 +0.7
TLCR 11.23 57⇓*i*P P 05 47 37.2 +0.7
LOR Lormes 11.23 315 *e*P Pn 05 47 31.7 -1.9
comp=Z,7.5nm,0.6s,baz=127
AVF Avril sur Loir 11.23 312 *e*P Pn 05 47 30.6 -3.0
comp=Z,9.1nm,0.4s
AVF Avril sur Loir 11.23 312 *e*P Pn 05 47 29.4 -4.2
SFTF Sexfontaines 11.24 322 *e*P Pn 05 47 31.6 -2.1
comp=Z,12nm,0.6s,baz=144
SSF Saint Saulge 11.30 314 *e*P Pn 05 47 32.6 -1.9
comp=Z,4.7nm,0.4s
BGF Bois d'Agland 11.40 310 *e*P Pn 05 47 33.9 -1.8
comp=Z,3.6nm,0.2s
MEZF Maizieres J'vi 11.45 323 *e*P Pn 05 47 35.6 -0.6
comp=Z,15nm,0.7s,baz=149
MEZF Maizieres J'vi 11.45 323 *e*P Pn 05 47 35.6 -0.6
comp=Z,7.5nm,0.7s,baz=149
CLL Collm 11.62 352⇑*i*P Pn 05 47 38.6 +0.3
CLL pmax pmax
comp=Z,5.0nm,0.5s
CLL Collm 11.62 352 *e*Pn Pn 05 47 38.8 +0.5
CLL Collm 11.62 352⇑*i*P Pn 05 47 38.6 +0.3
comp=Z,5.0nm,0.5s
CLL Collm 11.62 352 *e*Pn Pn 05 47 38.8 +0.5
TCF Toulx Ste Croi 11.64 308 *e*P Pn 05 47 38.7 0.0
TCF Toulx Ste Croi 11.64 308 *e*P Pn 05 47 38.7 0.0
WLF Walferdange 11.85 329 P P 05 47 42.3 -1.1
WLF Walferdange 11.85 329 P P 05 47 42.3 -1.1
KIS Kishinev 12.07 49 *e*P P 05 47 57.0 +11
KIS Kishinev 12.07 49 *e*P P 05 47 57.0 +11
KIS *i* 05 50 00.0
KIS Kishinev 12.07 49 *i* S S 05 50 00.0 +1.8
ETSF Etsaut 12.42 290 *e*P Pn 05 47 48.5 +0.2
comp=Z,6.5nm,0.6s
ETSF Etsaut 12.42 290 *e*P Pn 05 47 48.5 +0.2
comp=Z,3.2nm,0.6s
MEM Membach 12.67 332 P P 05 47 52.4 -0.1
comp=Z,12nm,0.9s
MEM Membach 12.67 332 P P 05 47 53.2 +0.7
MEM pmax pmax
comp=Z,35nm,0.8s
MEM Membach 12.67 332 P P 05 47 53.2 +0.7
comp=Z,35nm,0.8s
GIVF Givet 12.73 327 *e*P Pn 05 47 51.9 0.0
comp=Z,10nm,0.4s
GIVF Givet 12.73 327 *e*P Pn 05 47 51.9 0.0
comp=Z,5.2nm,0.4s
DOU Dourbes 12.82 327 P P 05 47 54.2 +0.1
DOU Dourbes 12.82 327 P P 05 47 54.2 0.0
BAIF Baives 12.96 326 *e*P Pn 05 47 54.4 -0.3
comp=Z,3.5nm,0.3s
BAIF Baives 12.96 326 *e*P Pn 05 47 54.4 -0.3
comp=Z,1.8nm,0.3s
MFF Saint Martin d 13.24 306 *e*P Pn 05 47 58.1 0.0
MFF Saint Martin d 13.24 306 *e*P Pn 05 47 58.1 0.0
BR131 Keskin Array S 13.99 85 *e*P Pn 05 48 11.1 +3.7
BRTR Keskin Array B 13.99 85 P Pn 05 48 10.8 +3.4
comp=Z,0.3nm,0.3s,baz=268,slow=11,SNR=20
LDF La Druitiere 14.19 313 *e*P P 05 48 06.6 -2.7
comp=Z,21nm,0.6s
LDF La Druitiere 14.19 313 *e*P P 05 48 06.6 -2.7
comp=Z,10nm,0.6s
FLN La Foliniere 14.48 313 *e*P P 05 48 10.0 -2.5
comp=Z,8.5nm,0.5s,baz=131
FLN La Foliniere 14.48 313 *e*P P 05 48 11.6 -0.9
FLN La Foliniere 14.48 313 *e*P P 05 48 11.6 -0.9
GRR Gorron 14.50 312 *e*P P 05 48 10.4 -2.3
comp=Z,3.2nm,0.3s
GRR Gorron 14.50 312 *e*P P 05 48 10.4 -2.3
comp=Z,1.6nm,0.3s
AK11 Malin Array Si 14.51 37 *e*P Pn 05 48 13.1 -0.2
AK11 Malin Array Si 14.51 37 *e*P Pn 05 48 13.1 -0.2
KIEV Kiev 14.54 37 *e*P Pn 05 48 14.4 +0.8
KIEV Kiev 14.54 37 *i*P Pn 05 48 14.4 +0.8
KIEV Kiev 14.54 37 *e*P Pn 05 48 14.5 +0.8
AKASG Malin Array Be 14.55 37 P Pn 05 48 13.7 -0.2
comp=Z,16nm,0.3s,baz=230,slow=11,SNR=30
AKASG S S 05 50 48.4 -5.1
comp=Z,0.5nm,0.3s,baz=234,slow=20,SNR=5.6
AKASG Malin Array Be 14.55 37 *ce*P Pn 05 48 13.6 -0.2
AKASG pmax pmax
comp=Z,13nm,0.4s
AKASG Malin Array Be 14.55 37 *e*P Pn 05 48 13.6 -0.2
comp=Z,13nm,0.4s
ES19 SONSECA Array 14.89 276 *e*P P 05 48 17.0 -0.2
ES19 SONSECA Array 14.89 276 *e*P P 05 48 17.1 -0.2
ESDC Sonseca Array 14.94 276 P P 05 48 16.5 -1.3
comp=Z,0.5nm,0.3s,baz=75,slow=11,SNR=18
SUW Suwalki 15.14 18 *e*P P 05 48 20.0 +0.3
SUW Suwalki 15.14 18 *e*P P 05 48 20.0 +0.3
SUW Suwalki 15.14 18 *e*P P 05 48 20.0 +0.3
MMAI Mount Meron Ar 17.41 107 P Pn 05 48 47.8 +0.1
comp=Z,3.0nm,0.3s,baz=306,slow=10.0,SNR=13
MDT Midelt 17.60 253 P P 05 48 45.6 -1.3
comp=Z,0.3nm,0.3s,baz=74,slow=10,SNR=14
EIL Elat 18.91 116 P Pn 05 49 05.0 -0.2
comp=Z,0.6nm,0.3s,baz=323,slow=16,SNR=3.7
TAM Tamanrasset 18.95 209 *e*P P 05 49 02.8 +1.3
TAM pmax pmax
comp=Z,6.0nm,0.8s
TAM Tamanrasset 18.95 209 *e*P P 05 49 02.8 +1.3
comp=Z,5.9nm,0.8s
TAM Tamanrasset 18.95 209 *e*P P 05 49 02.8 +1.3
comp=Z,5.9nm,0.8s
EKA Eskdalemuir Ar 19.87 328 P P 05 49 08.0 -2.8
baz=140,slow=11,SNR=11
MARD Mardin 19.94 89 *e*P P 05 49 13.1 +1.2
comp=Z,9.2nm,0.6s
MARD Mardin 19.94 89 *e*P P 05 49 13.2 +1.2
comp=Z,9.2nm,0.6s
VSU Vasula 20.02 17 *di*P P 05 49 11.1 -1.2
VSU Vasula 20.02 17 *i*P P 05 49 11.1 -1.2
KIV Kislovodsk 20.65 70 *e*P P 05 49 20.4 +1.2
KIV pmax pmax
comp=Z,8.0nm,1.0s
KIV Kislovodsk 20.65 70 *e*P P 05 49 20.4 +1.2
comp=Z,8.0nm,1.0s
NEY Neytrino 20.66 72 *i*P P 05 49 20.3 +0.9
NEY pmax pmax
comp=Z,1.0nm,1.0s
NEY Neytrino 20.66 72 *i*P P 05 49 20.3 +0.9
comp=Z,1.0nm,1.0s
KBZ Khabaz 20.80 70 P P 05 49 21.5 +1.0
comp=Z,2.5nm,0.5s,baz=277,slow=7.9,SNR=7.0
OBN Obninsk 20.80 36⇑*e*P P 05 49 19.1 -1.3
OBN *e*S S 05 52 53.4 -0.9
OBN pmax pmax
comp=Z,10.0nm,0.6s
OBN Obninsk 20.80 36 *e*P P 05 49 19.1 -1.3
comp=Z,10.0nm,0.6s
OBN *e*S S 05 52 53.4 -0.9
NAO01 NORSAR Array S 21.25 354 *e*P P 05 49 22.9 -1.8
NAO01 NORSAR Array S 21.25 354 *e*P P 05 49 22.9 -1.8
NB2 NORSAR Subarra 21.41 354 P P 05 49 24.1 -2.2
comp=Z,2.0nm,0.4s,SNR=6.9
NB2 NORSAR Subarra 21.41 354 P P 05 49 24.1 -2.2
comp=Z,2.0nm,0.4s,baz=172,slow=10
NOA NORSAR Array B 21.41 354 P P 05 49 24.4 -1.9
comp=Z,0.8nm,0.3s,baz=167,slow=8.2,SNR=25
NB201 NORSAR Array S 21.42 354 *e*P P 05 49 24.6 -1.7
NB201 NORSAR Array S 21.42 354 *e*P P 05 49 24.6 -1.7
NC405 NORSAR Array S 21.45 355 *e*P P 05 49 25.1 -1.5
NC405 NORSAR Array S 21.45 355 *e*P P 05 49 25.1 -1.5
ZEI Tsey 21.54 73 *e*P P 05 49 28.5 +0.7
ZEI pmax pmax
comp=Z,22nm,1.1s
ZEI Tsey 21.54 73 *e*P P 05 49 28.5 +0.7
comp=Z,22nm,1.1s
NC303 NORSAR Array S 21.59 355 *e*P P 05 49 25.7 -2.1
NC303 NORSAR Array S 21.59 355 *e*P P 05 49 25.7 -2.1
NC204 NORSAR Array S 21.68 354 *e*P P 05 49 27.9 -0.9
NC204 NORSAR Array S 21.68 354 *e*P P 05 49 27.9 -0.9
FINES FINESS Array B 22.62 13 P P 05 49 36.7 -0.5
comp=Z,19nm,0.6s,baz=195,slow=7.6,SNR=143
FIA1 FINESS Array S 22.62 13 *e*P P 05 49 36.8 -0.4
FIA1 FINESS Array S 22.62 13 *e*P P 05 49 36.8 -0.4
VAF Ylistaro 23.66 8 *e*P P 05 49 46.3 -0.3
VAF Ylistaro 23.66 8 *e*P P 05 49 46.3 -0.3
SUF Sumiainen 23.83 12 P P 05 49 47.7 -0.4
SUF pmax pmax
comp=Z,12nm,0.8s
SUF Sumiainen 23.83 12 P P 05 49 47.7 -0.4
comp=Z,12nm,0.8s
KLMR Klimovskoe 25.79 27 *e*P P 05 50 04.4 -1.4
KLMR pmax pmax
comp=Z,9.0nm,0.7s
KLMR Klimovskoe 25.79 27 *e*P P 05 50 04.4 -1.4
comp=Z,9.0nm,0.7s
TOA0 Torodi Ar. Sit 29.20 208 *e*P P 05 50 36.0 -0.5
TOA0 Torodi Ar. Sit 29.20 208 *e*P P 05 50 36.0 -0.5
TORD Torodi Ar. Bea 29.20 208 P P 05 50 36.2 -0.3
comp=Z,2.0nm,0.4s,baz=18,slow=9.6,SNR=45
ARCES ARCESS Array B 30.26 7 P P 05 50 44.0 -1.2
comp=Z,1.8nm,0.4s,baz=190,slow=9.9,SNR=22
ARA0 ARCESS Array S 30.26 7 *e*P P 05 50 43.8 -1.5
ARA0 ARCESS Array S 30.26 7 *e*P P 05 50 43.8 -1.5
ARU Arti 32.58 45 *ci*P P 05 51 06.3 +0.7
ARU 05 52 25.3
ARU 05 53 42.8
ARU S S 05 56 03.5 +3.7
ARU SS SS 05 58 30.2 -0.5
ARU pmax pmax
comp=Z,17nm,1.0s
ARU Arti 32.58 45 *i* P P 05 51 06.3 +0.7
comp=Z,17nm,1.0s
ARU Arti 32.58 45 PcP PcP 05 53 42.8 -1.8
ARU S S 05 56 03.5 +3.7
ARU Arti 32.58 45 *e*P P 05 51 05.5 0.0
comp=Z,14nm,0.5s
ABKAR Akbulak array 32.67 58 *e*P P 05 51 07.3 +0.9
comp=Z,20nm,0.6s
ABKAR Akbulak array 32.67 58 *e*P P 05 51 07.3 +0.9
comp=Z,20nm,0.6s
GEYT Alibeck 33.04 79 P P 05 51 11.5 +1.6
comp=Z,6.3nm,0.6s,baz=263,slow=5.8,SNR=9.3
ROSA Rosais 33.60 282 *e*P P 05 51 13.2 -1.4
comp=Z,113nm,1.0s
ROSA Rosais 33.60 282 *e*P P 05 51 13.2 -1.4
comp=Z,113nm,1.0s
SVE Sverdlovsk 33.78 45 *e*P P 05 51 16.0 +0.1
SVE pmax pmax
comp=Z,15nm,1.0s
SVE Sverdlovsk 33.78 45 *e*P P 05 51 16.0 +0.1
comp=Z,15nm,1.0s
UOSS Minazif 37.14 101 *e*P P 05 51 45.9 +1.1
comp=Z,5.3nm,0.8s
UOSS Minazif 37.14 101 *e*P P 05 51 45.9 +1.1
comp=Z,5.3nm,0.8s
DBIC Dimbokro 37.71 214 P P 05 51 49.2 -0.4
comp=Z,2.7nm,0.3s,baz=18,slow=8.1,SNR=24
DBIC Dimbokro 37.71 214 *e*P P 05 51 48.5 -1.1
comp=Z,4.4nm,0.6s
TIC Toumodi 37.80 215 *e*P P 05 51 49.3 -1.1
KIC Kosan Boka 37.94 214 *e*P P 05 51 50.9 -0.6
comp=Z,9.1nm,0.3s
LIC Lamto 38.18 214 *e*P P 05 51 52.7 -0.8
comp=Z,17nm,0.5s,baz=25
LIC Lamto 38.18 214 *e*P P 05 51 52.7 -0.8
comp=Z,8.4nm,0.5s,baz=25
LIC Lamto 38.18 214 *e*P P 05 51 52.9 -0.6
comp=Z,23nm,0.4s
SPA0 Spitsbergen Ar 38.48 0 *e*P P 05 51 55.3 0.0
SPA0 Spitsbergen Ar 38.48 0 *e*P P 05 51 55.3 0.0
BRVK Borovoye 39.08 52 *di*P P 05 52 01.9 +1.4
BRVK pmax pmax
comp=Z,27nm,0.9s
BRVK Borovoye 39.08 52 *i* P P 05 52 01.9 +1.4
comp=Z,27nm,0.9s
BRVK Borovoye 39.08 52 *e*P P 05 52 02.0 +1.5
comp=Z,29nm,0.6s
KBS Kingsbay 39.26 359 *e*P P 05 52 01.6 0.0
KBS pmax pmax
comp=Z,6.0nm,1.1s
KBS Kingsbay 39.26 359 *e*P P 05 52 01.6 0.0
comp=Z,6.0nm,1.1s
KBS Kingsbay 39.26 359 *e*P P 05 52 01.6 0.0
comp=Z,6.0nm,1.1s
KKAR Karatay Array 40.77 67 *e*P P 05 52 16.1 +1.5
KKAR pmax pmax
comp=Z,3.0nm,0.4s
KKAR Karatay Array 40.77 67 *e*P P 05 52 16.1 +1.5
comp=Z,3.2nm,0.4s
KKAR Karatay Array 40.77 67 *e*P P 05 52 16.1 +1.5
comp=Z,3.2nm,0.4s
AAK Ala-Archa 43.71 66 P P 05 52 39.7 +1.4
comp=Z,2.1nm,0.4s,baz=185,slow=6.1,SNR=4.7
KURK Kurchatov 44.49 54⇓*i*P P 05 52 45.0 +0.8
KURK pmax pmax
comp=Z,35nm,0.7s
KURK Kurchatov 44.49 54 *i* P P 05 52 45.0 +0.8
comp=Z,35nm,0.7s
KURK Kurchatov 44.49 54 *e*P P 05 52 44.9 +0.7
comp=Z,11nm,0.7s
KSH Kashi 45.78 70 *e*P P 05 52 54.1 -0.5
KSH pP pP 05 53 53.1 +0.6
KSH PP PP 05 54 45.1 -1.1
KSH S S 05 59 13.3 -3.3
KSH sS sS 06 00 58.1 -1.5
KSH SS SS 06 02 36.2 -8.5
KSH pmax pmax
comp=Z,5.0nm,1.3s
KSH pmax pmax
comp=Z,69nm,4.5s
KSH LR LR
comp=N,220nm,10.8s
KSH LR LR
comp=E,110nm,7.6s
KSH LR LR
comp=Z,170nm,7.3s
NVS Novosibirsk 46.47 48⇓*i*P P 05 53 01.4 +1.9
NVS Novosibirsk 46.47 48 *i* P P 05 53 01.4 +1.9
NRIK Noril'sk 47.14 27 P P 05 53 05.8 +1.4
comp=Z,4.1nm,0.5s,baz=274,slow=7.0,SNR=3.6
ZAA0 Zalesovo Array 47.56 49 *e*P P 05 53 08.5 +0.6
ZAA0 Zalesovo Array 47.56 49 *e*P P 05 53 08.5 +0.6
ZALV Zalesovo Beam 47.56 49 P P 05 53 08.5 +0.6
comp=Z,9.1nm,0.3s,baz=287,slow=6.9,SNR=34
MK31 Makanchi Array 47.81 58 *e*P P 05 53 10.8 +0.8
MK31 Makanchi Array 47.81 58 *e*P P 05 53 10.8 +0.8
MK31 Makanchi Array 47.81 58 *e*P P 05 53 10.8 +0.8
MKAR Makanchi Array 47.81 58 *e*P P 05 53 10.9 +0.9
MKAR pmax pmax
comp=Z,60nm,0.6s
MKAR Makanchi Array 47.81 58 *e*P P 05 53 10.9 +0.9
comp=Z,60nm,0.6s
MKAR Makanchi Array 47.81 58 *e*P P 05 53 10.8 +0.9
comp=Z,60nm,0.6s
MK01 Makanchi Array 47.83 59 *e*P P 05 53 10.9 +0.8
MK01 Makanchi Array 47.83 59 *e*P P 05 53 10.9 +0.8
WMQ Urumqi 52.40 60 P P 05 53 44.1 -0.3
PYUN Piuthan 56.02 80 *e*P P 05 54 11.5 +0.7
comp=Z,20nm,0.6s
KOLN Koldanda 56.66 80 *e*P P 05 54 15.5 +0.3
comp=Z,5.6nm,0.4s
GKN Gorkha 57.32 79 *e*P P 05 54 20.1 +0.3
comp=Z,13nm,0.6s
DMN Daman 57.88 79 *e*P P 05 54 24.4 +0.6
comp=Z,9.1nm,0.5s
PKIN Phulchoki 58.12 79 *e*P P 05 54 25.7 +0.3
comp=Z,6.5nm,0.4s
PKI Pulchoki 58.13 79 *e*P P 05 54 25.8 +0.2
GUN Gumba 58.31 79 *e*P P 05 54 27.4 +0.6
comp=Z,12nm,0.5s
TLY Talaya 59.06 47 P P 05 54 32.1 +0.9
comp=Z,3.0nm,0.6s,baz=269,slow=9.7,SNR=6.0
TLY Talaya 59.06 47⇑*e*P P 05 54 33.0 +1.8
TLY pmax pmax
comp=Z,5.0nm,0.3s
TLY Talaya 59.06 47 *e*P P 05 54 33.0 +1.8
comp=Z,5.0nm,0.3s
RAMN Ramite 59.36 79 *e*P P 05 54 33.5 -0.4
comp=Z,19nm,0.6s
SONA1 Songino Array 62.44 49 *e*P P 05 54 54.7 +0.6
SONA1 Songino Array 62.44 49 *e*P P 05 54 54.7 +0.6
SONM Songino Array 62.44 49 P P 05 54 54.7 +0.7
comp=Z,2.4nm,0.7s,baz=288,slow=7.4,SNR=15
ULN Ulaanbaatar 62.80 49 *ce*P P 05 54 56.8 +0.3
ULN pmax pmax
comp=Z,2.0nm,1.0s

ULN	**Ulaanbaatar**	**62.80**	**49**	*e*P		**P**	**05 54 56.8**	**+0.3**
	comp=Z,2.0nm,1.0s							
YAK	**Yakutsk**	**65.58**	**28**	⇑*i*P		**P**	**05 55 14.8**	**+0.8**
YAK				pmax		pmax		
	comp=Z,8.0nm,1.0s							
YAK	**Yakutsk**	**65.58**	**28**	*i* P		**P**	**05 55 14.8**	**+0.8**
	comp=Z,8.0nm,1.0s							
YKA	**Yellowknife Ar**	**70.45**	**338**	P		**P**	**05 55 43.8**	**-0.3**
	comp=Z,1.0nm,0.6s,baz=37,slow=5.7,SNR=11							
ULM	**Lac du Bonnet**	**72.00**	**321**	P		**P**	**05 55 53.0**	**-0.6**
	comp=Z,3.2nm,0.6s,baz=31,slow=6.4,SNR=6.7							
ULM	**Lac du Bonnet**	**72.00**	**321**	P		**P**	**05 55 53.0**	**-0.6**
ULM				pmax		pmax		
	comp=Z,3.0nm,0.6s							
ULM	**Lac du Bonnet**	**72.00**	**321**	P		**P**	**05 55 53.0**	**-0.6**
	comp=Z,3.0nm,0.6s							
MA2	**Magadan**	**74.32**	**22**	⇑*i*P		**P**	**05 56 07.4**	**+0.4**
MA2	**Magadan**	**74.32**	**22**	*i* P		**P**	**05 56 07.4**	**+0.4**
ILAR	**Eielson Array**	**74.83**	**352**	P		**P**	**05 56 10.6**	**+0.8**
	comp=Z,0.4nm,0.8s,baz=358,slow=7.8,SNR=7.7							
KLR	**Kul'dur**	**75.05**	**37**	P		**P**	**05 56 11.8**	**+0.5**
	comp=Z,0.9nm,0.4s,baz=322,slow=5.3,SNR=5.2							
USRK	**Ussuriysk Ar.**	**78.72**	**41**	P		**P**	**05 56 32.2**	**+0.4**
	comp=Z,2.0nm,0.6s,baz=297,slow=6.5,SNR=5.2							
KSRS	**Korea Array**	**81.26**	**48**	P		**P**	**05 56 46.0**	**+0.5**
	comp=Z,2.0nm,0.7s,baz=326,slow=5.2,SNR=5.9							
YSS	**Yuzh-Sakhalins**	**81.67**	**33**	⇑*e*P		**P**	**05 56 48.3**	**+0.9**
YSS				pmax		pmax		
	comp=Z,20nm,1.1s							
YSS	**Yuzh-Sakhalins**	**81.67**	**33**	*e*P		**P**	**05 56 48.3**	**+0.9**
	comp=Z,20nm,1.1s							
KDAK	**Kodiak Island**	**82.25**	**354**	*ce*P		**P**	**05 56 50.9**	**+0.7**
KDAK	**Kodiak Island**	**82.25**	**354**	*e*P		**P**	**05 56 50.9**	**+0.7**
PDAR	**Pinedale Array**	**83.91**	**323**	P		**P**	**05 56 59.5**	**+0.2**
	comp=Z,0.7nm,0.6s,baz=66,slow=3.7,SNR=5.0							
TXAR	**Lajitas Array**	**90.94**	**310**	P		**P**	**05 57 33.9**	**+0.9**
	comp=Z,0.3nm,0.8s,baz=80,slow=3.7,SNR=3.9							
WRA	**Warramunga Arr**	**124.49**	**88**	PKP		**PKPdf**	**06 03 26.0**	**-0.6**
	comp=Z,0.3nm,0.5s,baz=314,slow=1.8,SNR=6.1							
ASAR	**Alice Springs**	**126.23**	**92**	PKP		**PKPdf**	**06 03 29.8**	**-0.1**
	comp=Z,0.3nm,0.3s,baz=308,slow=1.3,SNR=4.6							

NIED **11** *06:01:00,30.00N×131.80E,h8km,Mw3.9 Best double couple: M₀8.08000×10¹⁴ NP1:φs350.00000°, δ36.00000°, λ-105.00000°. NP2:φs189.00000°, δ55.00000°, λ-79.00000°.*

IDC **11** *06:01:03.0±0.8,30.00N×131.74E,h0km,mb4.0/7, mb1 4.0/13,mb1mx3.8/39,mbtmp3.9/13,ML3.4/6,MS3.0/3, Ms1 3.1/3,ms1mx2.6/43,Error ellipse: s-maj=27.1km s-min=15.5km az=89.0*

ISCJB **11** *06:01:05.8±0.7,30.01N±0.03×131.86E±0.05,h35km±9km, mb4.0/7,MS3.0/2,Error ellipse: s-maj=7.8km s-min=4.7km az=21.9*

JMA **11** *06:01:06.7±0.1,30.04N×131.82E,h61km±3km,M3.6*

ISC 11 06:01:05.2±1.8,30.02N±0.04×131.83E±0.06,h17km±10km, n28,σ1°30/40,mb4.2/7,Kyushu

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
JTN	**Tanegashima 3**	**0.97**	**311**	P			**Pg**	**06 01 24.1**	**+0.1**
JTN				*e*S			**Sg**	**06 01 37.7**	**+0.9**
JYAK	**Yakushimahirau**	**1.17**	**281**	P			**Pg**	**06 01 27.0**	**-0.7**
JYAK				*e*S			**Sg**	**06 01 42.0**	**-0.9**
JTSR	**Tashiro 2**	**1.39**	**326**	P			**Pn**	**06 01 29.9**	**+0.1**
JTSR				*e*S			**Sb**	**06 01 46.9**	**-1.2**
JKC	**Kuchinoerabu**	**1.48**	**288**	P			**Pn**	**06 01 31.9**	**+0.9**
JKC				*e*S			**Sn**	**06 01 49.8**	**-0.2**
JNAR	**Kushima--Naru**	**1.58**	**342**	P			**Pn**	**06 01 32.8**	**+0.4**
JNAR				*e*S			**Sn**	**06 01 51.8**	**-0.6**
JNN	**Nakanoshima**	**1.71**	**265**	P			**Pn**	**06 01 34.8**	**+0.7**
JTZ	**Takazaki**	**1.98**	**341**	P			**Pn**	**06 01 38.5**	**+0.5**
JTZ				*e*S			**Sn**	**06 02 01.9**	**-0.5**
JTAJ	**Takarajima**	**2.44**	**250**	P			**Pn**	**06 01 45.0**	**+0.7**
JTAJ				*e*S			**Sn**	**06 02 14.6**	**+0.9**
JSJ	**Shimokoshiki**	**2.46**	**313**	P			**Pn**	**06 01 43.7**	**-0.8**
JSJ				*e*S			**Sn**	**06 02 12.3**	**-1.9**
JAM	**Amami Oshima**	**2.52**	**231**	P			**Pn**	**06 01 45.3**	**0.0**
JAM				*e*S			**Sn**	**06 02 14.6**	**-1.0**
JIU2	**Izumi 2**	**2.67**	**341**	P			**Pn**	**06 01 47.9**	**+0.5**
JIU2				*e*S			**Sn**	**06 02 18.1**	**-1.2**
JTO	**Tosashimizu**	**2.95**	**16**	P			**Pn**	**06 01 50.2**	**-1.1**
JTO				S			**Sn**	**06 02 21.9**	**-4.5**
JNU	**Nakatsue**	**3.20**	**346**	Pn			**Pn**	**06 01 55.4**	**+0.7**
	5.5nm,0.3s,baz=3.1,slow=21,SNR=71								
JNU					Sn		**Sn**	**06 02 31.0**	**-1.5**
	5.4nm,0.3s,baz=33,slow=16,SNR=8.8								
JTK	**Tokunoshima**	**3.36**	**229**	P			**Pn**	**06 01 57.0**	**+0.1**
JTK				S			**Sn**	**06 02 35.4**	**-1.1**
JOW	**Kunigami**	**4.46**	**225**	Pn			**Pn**	**06 02 11.6**	**-0.4**
	2.4nm,0.3s,baz=170,slow=26,SNR=16								
JOW					Sn		**Sn**	**06 03 00.2**	**-3.2**
	16nm,0.3s,baz=74,slow=27,SNR=16								
JHJ	**Hachijo jima 2**	**7.46**	**63**	Pn			**Pn**	**06 02 55.5**	**+2.3**
	18nm,0.3s,baz=90,slow=20,SNR=5.8								
KSRS	**Korea Array**	**8.10**	**337**	Pn			**Pn**	**06 03 02.8**	**+0.8**
	0.1nm,0.3s,baz=157,slow=14,SNR=3.2								
KSRS					LR		LR	06 06 37.5	
	comp=Z,55nm,18.5s,baz=164,slow=41								
MJAR	**Matsushiro Arr**	**8.42**	**38**	Pn			**Pn**	**06 03 07.8**	**+1.5**
	0.7nm,0.3s,baz=242,slow=14,SNR=9.7								
KLR	**Kul'dur**	**19.19**	**360**	P			**P**	**06 05 29.2**	**+1.3**
	0.2nm,0.3s,baz=179,slow=8.7,SNR=4.4								
TLY	**Talaya**	**30.07**	**324**	LR			LR	06 20 24.3	
	comp=Z,36nm,18.0s,baz=163,slow=39								
CMAR	**Chiang Mai Arr**	**32.01**	**256**	LR			LR	06 20 31.2	
	comp=Z,29nm,18.8s,baz=165,slow=37								
WRA	**Warramunga Arr**	**49.73**	**177**	P			**P**	**06 09 56.8**	**+0.2**
	0.8nm,0.6s,baz=353,slow=8.2,SNR=3.0								
ASAR	**Alice Springs**	**53.41**	**178**	P			**P**	**06 10 25.1**	**+1.0**
	0.7nm,0.5s,baz=10,slow=13,SNR=13								
STKA	**Stephens Creek**	**62.25**	**171**	P			**P**	**06 11 26.3**	**+0.3**
	1.4nm,0.8s,baz=302,slow=5.4,SNR=3.5								
INK	**Inuvik**	**64.16**	**24**	P			**P**	**06 11 38.1**	**-0.1**
	1.3nm,0.7s,baz=287,slow=11,SNR=3.8								
KBZ	**Khabaz**	**69.23**	**309**	P			**P**	**06 12 11.6**	**+0.5**
	1.7nm,0.7s,baz=205,slow=1.6,SNR=4.6								
FINES	**FINESS Array B**	**71.13**	**331**	P			**P**	**06 12 22.6**	**+0.1**
	1.0nm,0.5s,baz=151,slow=4.4,SNR=11								
BRTR	**Keskin Array B**	**77.20**	**308**	P			**P**	**06 12 58.8**	**+0.3**
	1.5nm,0.8s,baz=84,slow=3.8,SNR=6.5								

MEX 11 06:07:32.0±0.6,14.63N×93.84W,h16km±19km,MD3.9, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
TGIG		**2.25**	**18**	*e*P			Pn	06 08 06.0	-2.6
TGIG				*i* S			Sn	06 08 30.8	-5.2
CCIG	**Comitan**	**2.32**	**45**	*e*P			Pn	06 08 07.3	-2.4
CCIG				*e*S			Sn	06 08 33.7	-4.4
HUIG	**Huatulco**	**2.47**	**298**	*i* P			Pn	06 08 08.3	-3.2
HUIG				*i* S			Sn	06 08 36.4	-5.0
VHO	**Vista Hermosa**	**3.70**	**311**	*i* P			Pn	06 08 25.9	-2.8
VHO				*i* S			Sn	06 09 08.4	-3.7

ISCJB **11** *06:27:46.1±0.4,49.60N±0.02×14.14E±0.03,h0km,Error ellipse: s-maj=3.4km s-min=2.5km az=32.3*

VIE **11** *06:27:46.9±0.4,49.58N×14.15E,h0km,mb2.2/3,ML2.4/6, Error ellipse: s-maj=3.2km s-min=2.4km az=4.0, Suspected Mining explosion.*

PRU **11** *06:27:47.9,49.64N×14.10E,h0km,Near Pribram-felt In Haje*

IPEC **11** *06:27:47.4±0.1,49.67N×14.05E,h0km±1km,ML1.8/8, Error ellipse: s-maj=0.6km s-min=0.5km az=2.0*

CSEM **11** *06:27:47.1±0.2,49.62N×14.11E,h2km,ML2.5/13,Error ellipse: s-maj=4.5km s-min=2.8km az=110.0,Suspected Mining explosion.*

ISC 11 06:27:47.3±0.8,49.63N±0.02×14.11E±0.03,h0km,n24, σ0°57/41,Czech and Slovak Republics

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
PRU	**Pruhonice**	**0.45**	**38**	*e*PG			**Pg**	**06 27 55.9**	**0.0**
PRU				*e*SG			**Sg**	**06 28 01.4**	**-0.4**
	comp=Z,15nm,0.2s								
PRU	**Pruhonice**	**0.45**	**38**	Pg			**Pg**	**06 27 55.9**	**0.0**
PRU				Sg			**Sg**	**06 28 01.4**	**-0.4**
	15nm,0.2s								
PRA	**Prague**	**0.48**	**25**	*e*SG			**Sg**	**06 28 03.1**	**+0.2**
	comp=Z,11nm,0.2s								
PRA	**Prague**	**0.48**	**25**	Sg			**Sg**	**06 28 03.1**	**+0.2**
	11nm,0.2s								
GOPC	**GO Pecny, Ondr**	**0.52**	**57**	*e*PG			**Pg**	**06 27 57.5**	**+0.2**
GOPC				*e*SG			**Sg**	**06 28 04.5**	**+0.5**
GOPC	**GO Pecny, Ondr**	**0.52**	**57**	Pg			**Pg**	**06 27 57.5**	**+0.2**
GOPC				Sg			**Sg**	**06 28 04.5**	**+0.5**
KHC	**Kasperske Hory**	**0.61**	**215**	*e*PG			**Pg**	**06 27 59.1**	**+0.1**
KHC				*e*SG			**Sg**	**06 28 07.2**	**+0.3**
	comp=Z,13nm,0.3s								
KHC	**Kasperske Hory**	**0.61**	**215**	Pg			**Pg**	**06 27 59.1**	**+0.1**
KHC				Sg			**Sg**	**06 28 07.2**	**+0.3**
	13nm,0.3s								
WET	**Wettzell**	**0.94**	**239**	*e*PG			**Pg**	**06 28 05.1**	**-0.2**
WET				*e*SG			**Sg**	**06 28 17.2**	**-0.3**
PVCC	**Panska Ves**	**0.94**	**18**	*e*PG			**Pg**	**06 28 05.2**	**-0.2**
PVCC				*e*SG			**Sg**	**06 28 18.1**	**+0.5**
	comp=Z,27nm,0.2s								
PVCC	**Panska Ves**	**0.94**	**18**	Pg			**Pg**	**06 28 05.2**	**-0.2**
PVCC				Sg			**Sg**	**06 28 18.1**	**+0.5**
	27nm,0.2s								
NKC	**Novy Kostel**	**1.23**	**300**	*e*SG			**Sg**	**06 28 26.6**	**-0.2**
	comp=Z,43nm,0.3s								
NKC	**Novy Kostel**	**1.23**	**300**	Sg			**Sg**	**06 28 26.6**	**-0.2**
	43nm,0.3s								
DPC	**Dobruska-Polom**	**1.60**	**62**	*e*PG			**Pn**	**06 28 17.1**	**+0.3**
DPC				*e*SG			**Sn**	**06 28 38.4**	**+0.2**
	comp=Z,5.7nm,0.3s								
DPC	**Dobruska-Polom**	**1.60**	**62**	Pg			**Pn**	**06 28 17.1**	**+0.3**
DPC				Sg			**Sn**	**06 28 38.4**	**+0.2**
	5.7nm,0.3s								
KRUC	**Moravsky**	**1.60**	**110**	*e*Pn			**Pn**	**06 28 17.5**	**+0.7**
	baz=293								
KRUC					Sg		**Sg**	**06 28 39.1**	**+0.4**
	10nm,0.2s,baz=293								
VRAC	**Vranov**	**1.65**	**100**	*e*Pn			**Pb**	**06 28 18.4**	**-0.2**
VRAC				*e*Sg			**Sb**	**06 28 40.6**	**+0.6**
	10nm,0.2s,baz=283								
MOA	**Molln**	**1.79**	**177**	Pg			**Pn**	**06 28 19.8**	**+0.4**
	0.1nm,0.1s								
MOA				Sg			**Sg**	**06 28 45.3**	**+0.6**
	1.5nm,0.1s								
CONA	**Conrad Observa**	**2.06**	**145**	Pg			**Pb**	**06 28 25.3**	**-0.3**
	0.2nm,0.1s								
CONA				Sg			**Sb**	**06 28 52.2**	**+0.4**
	0.8nm,0.1s								
MORC	**Moravsky Berou**	**2.23**	**85**	*e*Pn			**Pn**	**06 28 26.0**	**+0.4**
MORC				*e*Sg			**Sn**	**06 28 58.4**	**-0.6**
	3.6nm,0.3s,baz=269								
ARSA	**Arzberg**	**2.56**	**158**	Pg			**Pg**	**06 28 35.5**	**-0.9**
	0.1nm,0.1s								
ARSA				Sg			**Sg**	**06 29 09.7**	**+0.1**
	0.3nm,0.1s								
KBA	**Koelnbreinsper**	**2.61**	**192**	Sg			**Sg**	**06 29 12.4**	**+1.4**
	0.3nm,0.1s								
VYHS	**Vyhne**	**3.31**	**108**	*e*Sn			**Sn**	**06 29 18.8**	**-1.6**
VYHS	**Vyhne**	**3.31**	**108**	*e*SN			**Sn**	**06 29 18.8**	**-1.6**

KRNET **11** *06:36:02.4±0.1,40.43N×73.87E,h21km,mb3.4*

SOME **11** *06:36:05.5,40.70N×73.88E,h5km*

NNC **11** *06:36:06.5±5.6,40.62N×74.21E,h0km,mb3.9,mpv3.5, Error ellipse: s-maj=45.8km s-min=22.2km az=4.0*

ISC 11 06:36:02.3±1.6,40.44N±0.05×73.70E±0.03,h1km±12km, n37,σ1°37/73,28C-24D,Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
ARSB	**Arslanbob**	**1.04**	**328**	⇓*i*P			**Pn**	**06 36 23.2**	**-0.9**
	baz=323								
ARSB				⇓*i*S			**Sn**	**06 36 40.4**	**+1.1**
	baz=323								
TOKL	**Toktogul**	**1.62**	**337**	⇓*i*P			**Pb**	**06 36 33.2**	**+0.1**
	baz=334								
TOKL				⇓*i*S			**Sg**	**06 36 56.4**	**+2.0**
	baz=334								
AML	**Almayashu**	**1.69**	**360**	⇑*i*P			**Pb**	**06 36 33.3**	**-1.0**
	baz=355								
AML				⇑*i*S			**Sb**	**06 36 56.7**	**+0.5**
	baz=355								
UCH	**Uchtor**	**1.88**	**19**	⇑*i*P			**Pn**	**06 36 35.8**	**-0.2**
	baz=15								
UCH				⇑*i*S			**Sb**	**06 37 01.2**	**-0.7**
	baz=15								
ARK	**Arkit**	**1.89**	**316**	⇓*i*P			**Pg**	**06 36 38.2**	**-0.3**
	baz=314								
ARK				⇓*i*S			**Sg**	**06 37 05.3**	**+2.4**
	baz=314								
NRN	**Naryn**	**2.00**	**60**	⇓*i*P			**Pn**	**06 36 36.2**	**-1.3**
	baz=58								
NRN				⇓*i*S			**Sn**	**06 37 02.2**	**-1.1**
	baz=58								
KZA	**Kyzart**	**2.01**	**35**	⇑*i*P			**Pn**	**06 36 37.5**	**-0.2**
	baz=32								
KZA				⇑*i*S			**Sb**	**06 37 04.1**	**-1.3**
	baz=32								
EKS2	**Erkin-Say**	**2.22**	**1**	⇑*i*P			**Pb**	**06 36 41.9**	**-1.3**
	baz=359								
EKS2				⇑*i*S			**Sb**	**06 37 09.3**	**-1.9**
	baz=359								
MNAS	**Manas**	**2.23**	**337**	⇓*i*P			**Pb**	**06 36 42.9**	**-0.6**
	baz=334								
MNAS				⇓*i*S			**Sg**	**06 37 13.9**	**-0.1**
	baz=334								
MNAS	**Manas**	**2.23**	**337**	⇑Pg			**Pb**	**06 36 43.7**	**+0.2**
	24nm,0.4s								
MNAS				⇑Sn			**Sg**	**06 37 14.2**	**+0.2**
	192nm,0.6s								
BTK	**Batken**	**2.24**	**261**	⇓*i*P			**Pb**	**06 36 43.2**	**-0.4**
	baz=262								
BTK				⇓*i*S			**Sg**	**06 37 13.4**	**-0.9**
	baz=262								
AAK	**Ala-Archa**	**2.27**	**15**	⇓*i*P			**Pb**	**06 36 42.3**	**-1.9**
	baz=12								
AAK				⇓*i*S			**Sn**	**06 37 09.9**	**+0.1**
	baz=12								
AAK	**Ala-Archa**	**2.27**	**15**	⇑Pn			**Pb**	**06 36 42.8**	**-1.4**
	19nm,0.6s								
AAK				⇑Pg			**Pg**	**06 36 45.5**	**-0.3**
	19nm,0.4s								
AAK				⇑Lg			Lg	06 37 12.2	
	54nm,0.5s								
MRKS	**Merke**	**2.33**	**351**	*e*P			**Pb**	**06 36 44.5**	**-0.5**
	166nm,0.4s								
MRKS				*e*S			**Sb**	**06 37 12.8**	**-1.5**
	231nm,0.3s								
KBK	**Karagaybulak**	**2.40**	**22**	⇑*i*P			**Pb**	**06 36 44.4**	**-2.0**
	baz=20								
KBK				⇑*i*S			**Sn**	**06 37 13.5**	**+0.5**
	baz=20								
FRU1	**Bishkek**	**2.46**	**16**	⇓*i*P			**Pb**	**06 36 45.5**	**-1.9**
	baz=13								
FRU1				⇓*i*S			**Sb**	**06 37 16.1**	**-2.2**
	baz=13								
ULHL	**Ulahol**	**2.62**	**46**	⇑*i*P			**Pn**	**06 36 45.8**	**-0.2**
	baz=44								
ULHL				⇑*i*S			**Sn**	**06 37 16.8**	**-1.8**
	baz=44								
BOOM	**Boomskoye usch**	**2.65**	**39**	⇓*i*P			**Pn**	**06 36 46.9**	**+0.6**
	baz=36								
BOOM				⇓*i*S			**Sb**	**06 37 21.0**	**-2.6**
	baz=36								
CHMS	**Chumysh**	**2.67**	**17**	⇓*i*P			**Pb**	**06 36 48.1**	**-2.8**
	baz=14								
CHMS				⇓*i*S			**Sn**	**06 37 19.9**	**+0.5**
	baz=14								
TKM2	**Tokmak 2**	**2.85**	**29**	⇑*i*P			**Pn**	**06 36 50.7**	**+1.6**
	baz=27								
TKM2				⇑*i*S			**Sn**	**06 37 24.1**	**-0.1**
	baz=27								
TKM2	**Tokmak 2**	**2.85**	**29**	⇑Pg			**Pb**	**06 36 51.2**	**-2.9**
	7.2nm,0.3s								
TKM2				⇑Lg			Lg	06 37 28.9	
	45nm,0.6s								
USP	**Ospenovka**	**2.88**	**12**	⇓*i*P			**Pn**	**06 36 51.2**	**+1.8**
	baz=9.0								
USP				⇓*i*S			**Sn**	**06 37 25.0**	**+0.3**
	baz=9.0								
KST	**Kastek**	**3.10**	**32**	*e*P			**Pb**	**06 36 58.2**	**-0.1**
	4.7nm,0.3s								
KST				*e*S			**Sb**	**06 37 35.7**	**-0.9**
	39nm,0.4s								
KDJ	**Kajisay**	**3.11**	**56**	⇑*i*P			**Pn**	**06 36 52.7**	**0.0**
	baz=55								
KDJ				⇑*i*S			**Sn**	**06 37 31.0**	**+0.4**
	baz=55								
DGS	**Degeres**	**3.19**	**28**	*e*P			**Pb**	**06 37 00.1**	**+0.2**
	23nm,0.6s								
DGS				*e*S			**Sb**	**06 37 39.1**	**-0.3**
	44nm,0.4s								
IUG	**Iuzhnay**	**3.25**	**303**	*e*P			**Pg**	**06 37 04.4**	**-0.2**
	55nm,0.2s								
IUG				*e*S			**Sg**	**06 37 47.0**	**+0.3**
	119nm,0.3s								
MTBS	**Maitube**	**3.37**	**36**	*e*P			**Pn**	**06 36 58.5**	**+2.3**
	12nm,0.4s								
MTBS				*e*S			**Sn**	**06 37 36.1**	**-0.7**
	22nm,0.2s								
IZV	**Izvestkoviy**	**3.38**	**39**	*e*P			**Pb**	**06 37 02.6**	**-0.6**
	24nm,0.4s								
IZV				*e*S			**Sb**	**06 37 43.8**	**-1.0**
	60nm,0.6s								
TNSS	**Tian-Shan**	**3.55**	**42**	*e*P			**Pb**	**06 37 05.4**	**-0.7**
	14nm,0.4s								
TNSS				*e*S			**Sb**	**06 37 48.9**	**-1.0**
	25nm,0.8s								
KK31	**Karatay Array**	**3.57**	**319**	⇓Pn			**Pb**	**06 37 08.1**	**+1.8**
	5.0nm,0.3s,baz=143,slow=14,SNR=96								
KK31				⇓Pg			**Pg**	**06 37 10.3**	**-0.4**
	6.8nm,0.3s,baz=128,slow=17,SNR=10								
KK31				⇑Sn			**Sg**	**06 37 55.6**	**-1.5**
	8.0nm,0.3s,baz=247,slow=59,SNR=6.8								
KK31				⇑Lg			Lg	06 38 00.7	
	6.1nm,0.3s,baz=120,slow=27,SNR=4.0								
KTBS	**Karatobe**	**3.95**	**33**	*e*P			**Pb**	**06 37 12.9**	**+0.2**
	4.8nm,0.4s								
KTBS				*e*S			**Sb**	**06 38 00.9**	**0.0**
	15nm,0.7s								
KUU	**Kurty**	**3.96**	**29**	*e*P			**Pb**	**06 37 13.4**	**+0.5**
	16nm,0.4s								
KUU				*e*S			**Sb**	**06 38 01.7**	**+0.4**
	26nm,0.6s								
CHKK	**Chushkaly**	**4.19**	**35**	*e*P			**Pb**	**06 37 17.7**	**+0.9**
	8.0nm,0.3s								
CHKK				*e*S			**Sb**	**06 38 09.3**	**+1.4**
	13nm,0.2s								
KURS	**Kuram**	**4.51**	**46**	*e*P			**Pb**	**06 37 24.9**	**+2.6**
	0.8nm,0.1s								
KURS				*e*S			**Sb**	**06 38 21.2**	**+4.1**
	9.3nm,0.6s								
ARXS	**Arharly**	**4.85**	**38**	*e*P			**Pb**	**06 37 28.6**	**+0.5**
	11nm,0.6s								
ARXS				*e*S			**Sb**	**06 38 28.1**	**+1.2**
	14nm,0.5s								
PDGK	**Podgornoye**	**5.19**	**54**	⇑Pn			**Pn**	**06 37 21.0**	**-0.2**
	2.7nm,0.7s								
PDGK				⇑Pg			Pb	06 37 28.8	-5.2
	3.9nm,0.7s								
PDGK				⇑Lg			Lg	06 38 38.1	
	13nm,0.8s								
DJR	**Jarkent**	**5.95**	**47**	*e*P			**Pb**	**06 37 47.7**	**+0.9**
	1.3nm,0.1s								
DJR				*e*S			**Sb**	**06 39 01.0**	**+2.4**
	5.5nm,0.5s								

IDC **11** *06:39:14.5±2.0,60.13S×24.09W,h0km,mb4.1/2, mb1 4.2/2,mb1mx3.7/18,mbtmp4.1/2,Error ellipse: s-maj=77.9km s-min=48.0km az=3.0*

ISCJB **11** *06:39:15.5±1.1,59.9S±0.2×23.9W±0.6,h10km,mb4.1/2, Error ellipse: s-maj=50.8km s-min=14.2km az=155.0*

ISC 11 06:39:16.0±1.0,60.1S±0.2×23.8W±0.3,h10km,n8,σ3°04/6, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
VNA1	**Neumayer--Stat**	**12.38**	**155**	P			Pn	06 42 16.6	+4.6
VNA3	**Neumayer Olymp**	**12.59**	**159**	P			**Pn**	**06 42 17.9**	**+3.1**
VNA2	**Neumayer--Watz**	**12.78**	**155**	P			Pn	06 42 22.4	+5.0
	baz=316,slow=14								
SNAA	**Sanae**	**14.33**	**153**	P			**P**	**06 42 42.1**	**-3.7**
LPAZ	**La Paz**	**54.14**	**304**	P			**P**	**06 48 42.1**	**+0.3**
	1.0nm,0.6s,baz=178,slow=9.0,SNR=4.0								
TORD	**Torodi Ar. Bea**	**75.80**	**26**	P			**P**	**06 51 02.5**	**+0.6**
	2.0nm,0.6s,baz=195,slow=6.4,SNR=14								
SONM	**Songino Array**	**149.04**	**91**	PKPbc			**PKPbc**	**06 59 04.4**	**+1.1**
	0.9nm,0.7s,baz=238,slow=2.7,SNR=4.7								
ILAR	**Eielson Array**	**154.02**	**305**	PKPbc			**PKPbc**	**06 59 12.3**	**-1.7**
	0.8nm,1.0s,baz=134,slow=2.6,SNR=5.3								

ISCJB **11** *06:49:20.5±1.0,31.25S±0.05×68.36W±0.06, h116km±12km,Error ellipse: s-maj=10.3km s-min=5.5km az=40.0*

SJA **11** *06:49:20.1±0.6,31.21S×68.37W,h111km±6km,ML3.4, MW3.9*

GUC **11** *06:49:22.1±0.4,31.33S×68.60W,h147km±23km,ML3.3*

ISC 11 06:49:21.7±1.5,31.24S±0.05×68.35W±0.06, h104km±12km,n20,σ0°67/26,San Juan Province

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
RTLL	**Cerro Vill

JYA				eS	Sn	07 19 37.1	-0.1	
JFY	**Yanaizu**	**1.91**	**245**	P	Pn	07 19 19.5	+1.0	
JFY				eS	Sn	07 19 42.4	+0.9	

IDC ***11*** *07:24:45.0±1.2,36°.84N×21°.98E, h0km, mb3.7/5, mb1 3.7/6, mb1mx3.4/39, mbtmp3.6/6, ML2.7/1, Error ellipse: s-maj=27.8km s-min=22.5km az=79.0*

ISCJB ***11*** *07:24:48.1±0.6,36°.58N±0°.02×21°.89E±0°.03, h16km±5km, mb3.6/5, Error ellipse: s-maj=5.0km s-min=3.0km az=141.4*

CSEM ***11*** *07:24:48.9±0.2,36°.64N×21°.96E, h10km, ML3.3, Error ellipse: s-maj=5.8km s-min=3.3km az=45.0*

ATH ***11*** *07:24:49.1,36°.68N×22°.03E, h23km, ML3.3/13, Error ellipse: s-maj=1.3km s-min=0.6km az=49.0*

THE ***11*** *07:24:49.7,36°.67N×22°.03E, h2km, ML3.5/15, Error ellipse: s-maj=0.9km s-min=0.5km az=229.0*

ISC 11 07:24:48.7±0.9, 36°.65N±0°.02×21°.98E±0°.03, h27km±7km, n167, σ1§62/224, mb3.7/5, Southern Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PYL	**PYLOS**	**0.31**	**322**	P	**Pb**	**07 24 56.1**	**0.0**
PYL				S	**Sb**	**07 25 00.8**	**-0.3**
PYL	**PYLOS**	**0.31**	**322**	P	**Pb**	**07 24 56.1**	**0.0**
PYL				S	**Sb**	**07 25 00.8**	**-0.3**
PYL	**PYLOS**	**0.31**	**322**	P	**Pb**	**07 24 55.9**	**-0.1**
PYL				S	**Sb**	**07 25 01.1**	**0.0**
PYL				AML	AML	07 25 01.2	
	comp=E,23682μm,0.3s						
PYL				AML	AML	07 25 01.7	
	comp=N,11869μm,0.2s						
ITM	**Ithomi**	**0.53**	**355**	P	**Pb**	**07 24 59.3**	**-0.2**
ITM				S	**Sb**	**07 25 06.8**	**-0.1**
ITM	**Ithomi**	**0.53**	**355**	P	**Pb**	**07 24 59.4**	**-0.1**
ITM				S	**Sb**	**07 25 06.8**	**-0.1**
ITM	**Ithomi**	**0.53**	**355**	P	**Pb**	**07 24 59.4**	**-0.1**
ITM				S	**Sb**	**07 25 06.8**	**-0.1**
ITM				AML	AML	07 25 08.7	
	comp=N,13034μm,0.2s						
ITM				AML	AML	07 25 10.8	
	comp=E,12298μm,0.3s						
VLI	**Veliai**	**0.77**	**85**	P	**Pb**	**07 25 03.7**	**+0.2**
VLI				S	**Sn**	**07 25 14.3**	**-0.2**
VLI	**Veliai**	**0.77**	**85**	P	**Pn**	**07 25 04.4**	**+0.6**
VLI				S	**Sb**	**07 25 13.6**	**0.0**
VLI	**Veliai**	**0.77**	**85**	P	**Pn**	**07 25 04.5**	**+0.6**
VLI				S	**Sb**	**07 25 13.6**	**0.0**
VLI				AML	AML	07 25 18.8	
	comp=E,3054μm,0.5s						
VLI				AML	AML	07 25 23.5	
	comp=N,3515μm,0.8s						
VLX	**Vlachokerasia**	**0.79**	**24**	P	**Pb**	**07 25 03.8**	**-0.1**
VLX				S	**Sn**	**07 25 14.8**	**-0.3**
VLX	**Vlachokerasia**	**0.79**	**24**	P	**Pb**	**07 25 03.8**	**-0.1**
VLX				S	**Sn**	**07 25 14.8**	**-0.3**
VLX	**Vlachokerasia**	**0.79**	**24**	P	**Pb**	**07 25 03.8**	**-0.1**
VLX				S	**Sn**	**07 25 15.3**	**+0.2**
VLX				AML	AML	07 25 16.7	
	comp=N,17349μm,0.6s						
VLX				AML	AML	07 25 16.9	
	comp=E,23139μm,0.4s						
TRIP	**Tripoli**	**0.91**	**15**	P	**Pb**	**07 25 05.9**	**0.0**
TRIP				S	**Sn**	**07 25 18.1**	**+0.1**
TRIP	**Tripoli**	**0.91**	**15**	P	**Pb**	**07 25 05.9**	**0.0**
TRIP				S	**Sn**	**07 25 18.1**	**+0.1**
AMT	**Artemida-Makis**	**0.91**	**346**	P	**Pb**	**07 25 05.9**	**+0.1**
AMT				S	**Sn**	**07 25 20.5**	**+2.5**
AMT	**Artemida-Makis**	**0.91**	**346**	P	**Pb**	**07 25 06.0**	**+0.1**
AMT				S	**Sn**	**07 25 19.0**	**+1.0**
AMT	**Artemida-Makis**	**0.91**	**346**	P	**Pb**	**07 25 06.0**	**+0.1**
AMT				S	**Sn**	**07 25 19.0**	**+1.0**
AMT				AML	AML	07 25 23.5	
	comp=N,15305μm,0.5s						
AMT				AML	AML	07 25 24.9	
	comp=E,15590μm,0.3s						
KYTH	**Kithira**	**0.94**	**114**	P	**Pn**	**07 25 06.8**	**+0.6**
KYTH				S	**Sn**	**07 25 20.7**	**+2.0**
KYTH	**Kithira**	**0.94**	**114**	P	**Pn**	**07 25 07.0**	**+0.8**
KYTH				S	**Sb**	**07 25 18.8**	**+0.3**
KYTH				AML	AML	07 25 28.1	
	comp=N,2853μm,0.6s						
KYTH				AML	AML	07 25 28.1	
	comp=E,2329μm,0.4s						
DRO	**Drossia**	**1.32**	**351**	P	**Pb**	**07 25 14.1**	**+1.3**
DRO				S	**Sb**	**07 25 33.0**	**+3.7**
DRO	**Drossia**	**1.32**	**351**	P	**Pb**	**07 25 14.1**	**+1.3**
DRO				S	**Sb**	**07 25 32.1**	**+2.8**
DRO	**Drossia**	**1.32**	**351**	P	**Pb**	**07 25 14.6**	**+1.8**
DRO				S	**Sb**	**07 25 32.1**	**+2.8**
DID	**Didima**	**1.32**	**49**	P	**Pb**	**07 25 13.2**	**+0.4**
DID				S	**Sb**	**07 25 32.2**	**+2.9**
DID	**Didima**	**1.32**	**49**	P	**Pb**	**07 25 13.7**	**+0.9**
DID				S	**Sb**	**07 25 30.0**	**+0.7**
DID	**Didima**	**1.32**	**49**	P	**Pb**	**07 25 13.7**	**+0.9**
DID				S	**Sb**	**07 25 30.0**	**+0.7**
DID				AML	AML	07 25 35.4	
	comp=E,1662μm,0.5s						
DID				AML	AML	07 25 36.7	
	comp=N,2014μm,0.4s						
ANKY	**Antikythira Is**	**1.32**	**126**	P	**Pb**	**07 25 14.0**	**+1.1**
ANKY				S	**Sb**	**07 25 32.9**	**+3.5**
ANKY	**Antikythira Is**	**1.32**	**126**	P	**Pb**	**07 25 13.9**	**+1.1**
ANKY				S	**Sb**	**07 25 32.3**	**+2.9**
ANKY	**Antikythira Is**	**1.32**	**126**	P	**Pb**	**07 25 13.9**	**+1.1**
ANKY				S	**Sb**	**07 25 32.3**	**+2.9**
ANKY				AML	AML	07 25 40.3	
	comp=N,1536μm,0.4s						
ANKY				AML	AML	07 25 46.2	
	comp=E,2036μm,0.7s						
KLV	**Kalavryta, Ach**	**1.40**	**5**	P	**Pn**	**07 25 13.2**	**+0.7**
KLV				S	**Sb**	**07 25 34.9**	**+3.3**
KLV	**Kalavryta, Ach**	**1.40**	**5**	P	**Pb**	**07 25 14.1**	**-0.1**
KLV				S	**Sb**	**07 25 34.0**	**+2.4**
KLV	**Kalavryta, Ach**	**1.40**	**5**	P	**Pb**	**07 25 14.2**	**-0.1**
KLV				S	**Sb**	**07 25 34.0**	**+2.4**
KLV				AML	AML	07 25 39.4	
	comp=E,1786μm,0.5s						
KLV				AML	AML	07 25 42.0	
	comp=N,973μm,0.7s						
VTN	**Vitineika**	**1.42**	**334**	P	**Pb**	**07 25 15.3**	**+0.9**
VTN	**Vitineika**	**1.42**	**334**	P	**Pb**	**07 25 15.3**	**+0.9**
RLS	**Riolos of Patr**	**1.46**	**344**	P	**Pb**	**07 25 16.1**	**+0.8**
RLS				S	**Sb**	**07 25 39.5**	**+6.1**
RLS	**Riolos of Patr**	**1.46**	**344**	P	**Pb**	**07 25 16.1**	**+0.8**
RLS				S	**Sb**	**07 25 35.1**	**+1.7**
RLS	**Riolos of Patr**	**1.46**	**344**	P	**Pb**	**07 25 16.4**	**+1.1**
RLS				S	**Sb**	**07 25 35.1**	**+1.7**
RLS				AML	AML	07 25 42.6	
	comp=N,2213μm,0.5s						
RLS				AML	AML	07 25 45.6	
	comp=E,1976μm,0.6s						
THAL	**Thalero**	**1.49**	**21**	P	**Pb**	**07 25 16.0**	**+0.3**
THAL				S	**Sb**	**07 25 37.1**	**+3.0**
THAL	**Thalero**	**1.49**	**21**	P	**Pb**	**07 25 16.4**	**+0.7**
THAL				S	**Sb**	**07 25 37.1**	**+3.0**
THAL	**Thalero**	**1.49**	**21**	P	**Pb**	**07 25 16.4**	**+0.7**
LOUT	**Loutraki**	**1.55**	**30**	P	**Pb**	**07 25 17.2**	**+0.4**
LOUT				S	**Sb**	**07 25 38.4**	**+2.4**
LOUT	**Loutraki**	**1.55**	**30**	P	**Pb**	**07 25 17.2**	**+0.4**
LOUT				S	**Sb**	**07 25 38.4**	**+2.4**
LOUT	**Loutraki**	**1.55**	**30**	P	**Pb**	**07 25 18.0**	**+1.3**
LTK	**Loutraki**	**1.58**	**30**	P	**Pb**	**07 25 17.4**	**+0.2**
LTK				S	**Sb**	**07 25 38.7**	**+1.9**
LTK	**Loutraki**	**1.58**	**30**	P	**Pb**	**07 25 17.4**	**+0.2**
LTK				S	**Sb**	**07 25 38.7**	**+1.9**
LTK	**Loutraki**	**1.58**	**30**	P	**Pb**	**07 25 17.9**	**+0.7**
LAKA	**Lakka**	**1.59**	**360**	P	**Pb**	**07 25 17.6**	**+0.2**
LAKA				S	**Sb**	**07 25 39.8**	**+2.8**
LAKA	**Lakka**	**1.59**	**360**	P	**Pb**	**07 25 17.6**	**+0.2**
LAKA				S	**Sb**	**07 25 39.8**	**+2.8**
AXS	**Araxos**	**1.62**	**343**	P	**Pb**	**07 25 18.0**	**+0.1**
AXS				S	**Sb**	**07 25 38.3**	**+0.5**
AXS	**Araxos**	**1.62**	**343**	P	**Pb**	**07 25 18.0**	**+0.1**
AXS				S	**Sb**	**07 25 38.3**	**+0.5**
UPR	**University Cam**	**1.64**	**355**	P	**Pb**	**07 25 19.5**	**+1.3**
UPR				S	**Sb**	**07 25 39.6**	**+1.2**
UPR	**University Cam**	**1.64**	**355**	P	**Pb**	**07 25 19.5**	**+1.3**
UPR				S	**Sb**	**07 25 39.6**	**+1.2**
TRIZ	**Trizonia**	**1.71**	**2**	P	**Pb**	**07 25 20.4**	**+0.9**
TRIZ				S	**Sb**	**07 25 42.8**	**+2.2**
TRIZ	**Trizonia**	**1.71**	**2**	P	**Pb**	**07 25 20.4**	**+0.9**
TRIZ				S	**Sb**	**07 25 42.8**	**+2.2**
KFL	**Anninata**	**1.74**	**327**	P	**Pb**	**07 25 19.6**	**-0.4**
KFL	**Anninata**	**1.74**	**327**	P	**Pb**	**07 25 19.6**	**-0.4**
KFL				S	**Sb**	**07 25 42.3**	**+0.9**
KFL	**Anninata**	**1.74**	**327**	P	**Pb**	**07 25 19.0**	**-0.9**
KFL				S	**Sb**	**07 25 42.3**	**+0.9**
KALE	**Kalithea**	**1.74**	**4**	P	**Pb**	**07 25 19.8**	**-0.3**
KALE	**Kalithea**	**1.74**	**4**	P	**Pb**	**07 25 19.8**	**-0.3**
KALE				S	**Sb**	**07 25 42.1**	**+0.6**
KALE	**Kalithea**	**1.74**	**4**	P	**Pb**	**07 25 20.3**	**+0.3**
KALE				S	**Sb**	**07 25 42.1**	**+0.6**
KALE				AML	AML	07 25 50.9	
	comp=E,1080μm,0.4s						
KALE				AML	AML	07 25 54.2	
	comp=N,1546μm,0.4s						
SERG	**Sergoula**	**1.76**	**2**	P	**Pb**	**07 25 20.6**	**+0.3**
SERG	**Sergoula**	**1.76**	**2**	P	**Pb**	**07 25 20.6**	**+0.3**
DSF	**Desfina**	**1.81**	**14**	P	**Pb**	**07 25 20.1**	**-1.1**
DSF	**Desfina**	**1.81**	**14**	P	**Pb**	**07 25 20.1**	**-1.1**
DSF	**Desfina**	**1.81**	**14**	P	**Pn**	**07 25 19.7**	**+1.5**
VILL	**Villia**	**1.84**	**35**	P	**Pb**	**07 25 20.7**	**-1.0**
VILL				S	**Sb**	**07 25 45.4**	**+0.9**
VILL	**Villia**	**1.84**	**35**	P	**Pb**	**07 25 20.8**	**-1.0**
VILL				S	**Sb**	**07 25 43.6**	**-0.9**
VIL2	**Platees**	**1.86**	**33**	P	**Pb**	**07 25 20.8**	**-1.3**
VIL2				S	**Sb**	**07 25 43.6**	**-1.4**
VIL2				AML	AML	07 25 55.5	
	comp=E,1027μm,0.7s						
VIL2				AML	AML	07 26 00.2	
	comp=N,1006μm,0.6s						
VLY	**Voula,Athens**	**1.88**	**50**	P	**Pn**	**07 25 20.7**	**+1.6**
VLY	**Voula,Athens**	**1.88**	**50**	P	**Pn**	**07 25 20.7**	**+1.6**
VLY	**Voula,Athens**	**1.88**	**50**	P	**Pn**	**07 25 20.2**	**+1.1**
VLS	**Valsamata**	**1.89**	**324**	P	**Pn**	**07 25 19.4**	**+0.3**
ATH	**Athens Observa**	**1.91**	**46**	P	**Pb**	**07 25 21.9**	**-1.0**
ATH	**Athens Observa**	**1.91**	**46**	P	**Pb**	**07 25 21.9**	**-1.0**
MHLO	**Agia Marina, M**	**1.95**	**88**	P	**Pb**	**07 25 22.5**	**-1.0**
MHLO	**Agia Marina, M**	**1.95**	**88**	P	**Pb**	**07 25 22.5**	**-1.0**
MHLO	**Agia Marina, M**	**1.95**	**88**	P	**Pb**	**07 25 22.9**	**-0.6**
ATHU	**Athens Univers**	**1.95**	**47**	P	**Pn**	**07 25 20.6**	**+0.6**
ATHU	**Athens Univers**	**1.95**	**47**	P	**Pn**	**07 25 20.6**	**+0.6**
PVO	**Paravola**	**2.00**	**350**	P	**Pb**	**07 25 25.1**	**+0.8**
PVO	**Paravola**	**2.00**	**350**	P	**Pb**	**07 25 25.1**	**+0.8**
IMMV	**Iera Moni Meta**	**2.01**	**126**	P	**Pb**	**07 25 23.8**	**-0.7**
IMMV	**Iera Moni Meta**	**2.01**	**126**	P	**Pb**	**07 25 23.8**	**-0.7**
IMMV	**Iera Moni Meta**	**2.01**	**126**	P	**Pb**	**07 25 24.8**	**+0.3**
PDO	**Prodromos**	**2.05**	**342**	P	**Pb**	**07 25 24.9**	**-0.3**
PDO	**Prodromos**	**2.05**	**342**	P	**Pb**	**07 25 24.9**	**-0.3**
PDO	**Prodromos**	**2.05**	**342**	P	**Pb**	**07 25 25.5**	**+0.3**
PTL	**Penteli**	**2.05**	**46**	P	**Pb**	**07 25 23.6**	**-1.7**
PTL	**Penteli**	**2.05**	**46**	P	**Pb**	**07 25 23.9**	**-1.3**
PTL	**Penteli**	**2.05**	**46**	P	**Pb**	**07 25 23.9**	**-1.3**
LKR	**Lokris**	**2.15**	**22**	P	**Pn**	**07 25 24.6**	**+1.8**
LKR	**Lokris**	**2.15**	**22**	P	**Pn**	**07 25 24.6**	**+1.8**
LKR	**Lokris**	**2.15**	**22**	P	**Pn**	**07 25 24.3**	**+1.5**
VAM	**Vamos**	**2.18**	**124**	P	**Pb**	**07 25 26.1**	**-1.4**
VAM	**Vamos**	**2.18**	**124**	P	**Pb**	**07 25 26.1**	**-1.4**
VAM	**Vamos**	**2.18**	**124**	P	**Pb**	**07 25 26.5**	**-1.0**
EVR	**Evrytania**	**2.27**	**357**	P	**Pb**	**07 25 27.5**	**-1.5**
EVR				S	**Sb**	**07 25 55.9**	**-0.7**
EVR	**Evrytania**	**2.27**	**357**	P	**Pb**	**07 25 27.5**	**-1.5**
EVR				S	**Sb**	**07 25 55.9**	**-0.7**
EVR				AML	AML	07 26 13.8	
	comp=E,481μm,0.7s						
EVR				AML	AML	07 26 14.5	
	comp=N,340μm,0.4s						
EREA	**Eretria**	**2.35**	**41**	P	**Pn**	**07 25 25.7**	**+0.1**
EREA	**Eretria**	**2.35**	**41**	P	**Pn**	**07 25 25.7**	**+0.1**
LKD2	**Lefkada island**	**2.38**	**334**	P	**Pb**	**07 25 29.6**	**-1.3**
LKD2	**Lefkada island**	**2.38**	**334**	P	**Pb**	**07 25 29.6**	**-1.3**
AGG	**Agios Georgios**	**2.38**	**7**	P	**Pn**	**07 25 28.3**	**+2.3**
AGG	**Agios Georgios**	**2.38**	**7**	P	**Pn**	**07 25 28.3**	**+2.3**
AGG	**Agios Georgios**	**2.38**	**7**	P	**Pn**	**07 25 27.7**	**+1.7**
KARY	**Karystos**	**2.39**	**54**	P	**Pn**	**07 25 27.1**	**+1.0**
KARY	**Karystos**	**2.39**	**54**	P	**Pn**	**07 25 27.1**	**+1.0**
SMIA	**Simia**	**2.43**	**23**	P	**Pn**	**07 25 28.5**	**+1.9**
SMIA	**Simia**	**2.43**	**23**	P	**Pn**	**07 25 28.5**	**+1.9**
GVD	**Gavdhos**	**2.49**	**136**	P	**Pn**	**07 25 28.8**	**+1.3**
GVD	**Gavdhos**	**2.49**	**136**	P	**Pn**	**07 25 28.8**	**+1.3**
DSL	**Palaion Diasel**	**2.58**	**344**	P	**Pb**	**07 25 32.0**	**-2.2**
DSL	**Palaion Diasel**	**2.58**	**344**	P	**Pb**	**07 25 32.0**	**-2.2**
IDI	**Anoyia**	**2.72**	**119**	Pn	**Pn**	**07 25 33.0**	**+2.3**
	comp=N,1.0nm,0.3s,baz=248,slow=11,SNR=10.0						
IDI				Sn	**Sb**	**07 26 07.6**	**-2.1**
	comp=N,9.6nm,0.3s,baz=267,slow=22,SNR=9.1						
IDI	**Anoyia**	**2.72**	**119**	P	**Pn**	**07 25 32.3**	**+1.6**
IDI	**Anoyia**	**2.72**	**119**	P	**Pn**	**07 25 32.4**	**+1.6**
SKIA	**Skiathos**	**2.77**	**25**	P	**Pn**	**07 25 32.3**	**+1.0**
SKIA	**Skiathos**	**2.77**	**25**	P	**Pn**	**07 25 32.4**	**+1.0**
NEO	**Neokhori**	**2.83**	**20**	P	**Pn**	**07 25 33.2**	**+1.0**
NEO	**Neokhori**	**2.83**	**20**	P	**Pn**	**07 25 33.1**	**+1.0**
XOR	**Xorichti**	**2.88**	**19**	P	**Pn**	**07 25 33.7**	**+0.9**
XOR	**Xorichti**	**2.88**	**19**	P	**Pn**	**07 25 33.7**	**+0.9**
APE	**Apeiranthos**	**2.88**	**81**	P	**Pn**	**07 25 34.3**	**+1.5**
APE	**Apeiranthos**	**2.88**	**81**	P	**Pn**	**07 25 34.3**	**+1.5**
THL	**Klokotos Trika**	**2.91**	**0**	P	**Pn**	**07 25 36.0**	**+2.8**
THL	**Klokotos Trika**	**2.91**	**0**	P	**Pn**	**07 25 36.0**	**+2.8**
AOS	**Alonnisos**	**2.93**	**30**	P	**Pn**	**07 25 33.4**	**-0.1**
IGT	**Igoumenitsa**	**3.16**	**336**	P	**Pn**	**07 25 37.2**	**+0.5**
IGT	**Igoumenitsa**	**3.16**	**336**	P	**Pn**	**07 25 37.2**	**+0.5**
LAST	**Lasithi**	**3.20**	**117**	P	**Pn**	**07 25 41.1**	**+3.8**
LAST	**Lasithi**	**3.20**	**117**	P	**Pn**	**07 25 41.1**	**+3.8**
SGD	**Sagiada**	**3.26**	**336**	P	**Pn**	**07 25 39.4**	**+1.3**
SGD	**Sagiada**	**3.26**	**336**	P	**Pn**	**07 25 39.4**	**+1.3**
KEK	**Kerkira**	**3.51**	**331**	P	**Pn**	**07 25 40.8**	**-0.6**
PENT	**Pentalofos**	**3.60**	**350**	P	**Pn**	**07 25 46.9**	**+4.1**
PENT	**Pentalofos**	**3.60**	**350**	P	**Pn**	**07 25 46.9**	**+4.1**
CHOS	**Chios island**	**3.67**	**61**	P	**Pn**	**07 25 41.7**	**-2.1**
PLG	**Polygyros**	**3.89**	**17**	P	**Pn**	**07 25 49.4**	**+2.6**
PLG	**Polygyros**	**3.89**	**17**	P	**Pn**	**07 25 49.4**	**+2.6**
SIGR	**SIGRI**	**3.99**	**49**	P	**Pn**	**07 25 47.5**	**-0.5**
HORT	**Hortiatis**	**4.04**	**12**	P	**Pn**	**07 25 49.3**	**+0.5**
HORT	**Hortiatis**	**4.04**	**12**	P	**Pn**	**07 25 49.3**	**+0.5**
LIA	**Limnos Island**	**4.11**	**37**	P	**Pn**	**07 25 48.0**	**-1.6**
FNA	**Florina**	**4.15**	**354**	P	**Pn**	**07 25 52.9**	**+2.5**
FNA	**Florina**	**4.15**	**354**	P	**Pn**	**07 25 52.9**	**+2.5**
SCTE	**Santa Cesarea**	**4.39**	**322**	P	**Pn**	**07 25 51.5**	**-2.1**
OHR	**Ohrid**	**4.55**	**349**	*e*Pn	Pb	07 26 02.4	-5.5
OHR	**Ohrid**	**4.55**	**349**	*e*Pn	Pb	07 26 02.3	-5.5
KNT	**Kendrikon**	**4.56**	**9**	P	**Pn**	**07 25 58.5**	**+2.5**
KNT	**Kendrikon**	**4.56**	**9**	P	**Pn**	**07 25 58.5**	**+2.5**
KAVA	**Kavala**	**4.77**	**24**	P	**Pn**	**07 25 57.1**	**-1.6**
CGL1	**Geglie Messapi**	**5.33**	**320**	*e*Pn	**Pn**	**07 26 07.3**	**+0.8**
MASS	**Massafra**	**5.49**	**318**	*e*Pn	**Pn**	**07 26 09.4**	**+0.7**
FASA	**Fasano**	**5.51**	**320**	*e*Pn	**Pn**	**07 26 09.5**	**+0.5**
NOCI	**Noci**	**5.64**	**319**	P	**Pn**	**07 26 08.0**	**-2.8**
CUC	**Castrocucco**	**5.88**	**306**	P	**Pn**	**07 26 14.9**	**+0.7**
CUC	**Castrocucco**	**5.88**	**306**	P	**Pn**	**07 26 14.9**	**+0.7**
SG1	**Sgolgore (BA)**	**5.89**	**317**	*e*Pn	**Pn**	**07 26 14.8**	**+0.6**
KSL	**Kastellorizon**	**6.15**	**92**	P	**Pn**	**07 26 22.5**	**+4.7**
KSL	**Kastellorizon**	**6.15**	**92**	P	**Pn**	**07 26 22.5**	**+4.7**
CDT	**Castel del Mon**	**6.28**	**317**	*e*Pn	**Pn**	**07 26 20.2**	**+0.7**
UDBI	**Udbina**	**9.18**	**331**	*e*Pn	**Pn**	**07 27 00.4**	**+1.1**
UDBI					Sn	**Sn**	**07 28 39.4**	**-2.3**
NVLJ	**Novalja**	**9.57**	**328**	Sn	**Sn**	**07 28 47.5**	**-3.7**
FINES	**FINESS Array B**	**24.95**	**5**	P	**P**	**07 30 08.8**	**-0.6**
	comp=N,1.3nm,0.7s,baz=164,slow=12,SNR=4.9						
NOA	**NORSAR Array B**	**25.35**	**348**	P	**P**	**07 30 12.2**	**-0.9**
	comp=N,0.5nm,0.8s,baz=154,slow=9.4,SNR=4.1						
TORD	**Torodi Ar. Bea**	**29.64**	**223**	P	**P**	**07 30 53.2**	**+1.2**
	comp=N,0.2nm,0.4s,baz=42,slow=13,SNR=3.5						
ARCES	**ARCESS Array B**	**33.00**	**2**	P	**P**	**07 31 19.6**	**-1.5**
	comp=N,1.0nm,0.6s,baz=183,slow=9.0,SNR=4.0						
ZALV	**Zalesovo Beam**	**45.86**	**47**	P	**P**	**07 33 06.5**	**-1.8**
	comp=N,0.7nm,0.3s,baz=282,slow=10,SNR=3.1						

DJA 11 08:11:46.4±0.4, 8°S±3°×107°9E±°, h13km, M3.5/12, MLv3.5/12, Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMJI	**Cimerak**	**0.48**	**335**	P	Pb	08 11 56.3	-0.4
CMJI				S	Sb	08 12 03.3	-0.3
KPJI	**Karang Pucung**	**0.92**	**18**	P	Pg	08 12 03.9	-0.4
KPJI				S	Sb	08 12 16.6	+0.1
CISI	**Cisompet, Garu**	**1.06**	**309**	P	Pb	08 12 06.5	-0.1
LEM	**Lembang**	**1.72**	**323**	P	Pn	08 12 16.0	-0.2
CNJI	**Cibinong**	**1.76**	**301**	P	Pn	08 12 15.4	-1.2
UGM	**Wanagama**	**1.88**	**81**	P	Pn	08 12 18.4	+0.1
UGM				S	Sn	08 12 42.3	+0.4
SMRI	**Semarang**	**2.12**	**57**	P	Pn	08 12 21.7	+0.1
SMRI				S	Sn	08 12 49.0	+1.1
WOJI	**Wonogiri, Jawa**	**2.28**	**81**	P	Pn	08 12 23.9	+0.1
SKJI	**Sukabumi**	**2.40**	**300**	P	Pn	08 12 25.5	+0.1
SKJI				S	Sn	08 12 56.0	+1.3
PCJI	**Pacitan**	**2.50**	**90**	P	Pn	08 12 26.7	-0.1
PCJI				S	Sn	08 12 58.1	+0.9
DBJI	**Dramaga**	**2.51**	**311**	P	Pn	08 12 27.0	+0.1
DBJI				S	Sn	08 12 58.4	+1.0
PWJI	**Pagerwojo**	**3.13**	**87**	P	Pn	08 12 35.2	-0.2
PWJI				S	Sn	08 13 13.3	+0.6

MEX 11 08:49:24.9±0.3, 14°.61N×92°.71W, h81km±11km, MD3.8, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CCIG	**Comitan**	**1.75**	**18**	*e*P	Pn	08 49 52.7	-1.0
CCIG				*e*S	Sn	08 50 13.9	-1.5
TGIG		**2.19**	**350**	*e*P	Pn	08 49 58.2	-1.2
TGIG				*e*S	Sn	08 50 24.1	-1.7

ISCJB ***11*** *08:57:25.5±0.6,12°.20N±0°.08×144°.2E±0°.2, h29km, mb4.1/13, MS3.6/15, Error ellipse: s-maj=23.4km s-min=8.4km az=23.0*

NEIC ***11*** *08:57:28.9±1.6,12°.26N×144°.31E, h46km±15km, mb4.2/4, Error ellipse: s-maj=25.1km s-min=10.9km az=101.0*

IDC ***11*** *08:57:29.3±2.1,12°.22N×144°.46E, h52km±20km, mb3.9/9, mb1 4.1/9, mb1mx3.7/39, mbtmp4.2/9, MS3.5/15, Ms1 3.6/15, ms1mx3.3/46, Error ellipse: s-maj=41.7km s-min=14.5km az=102.0*

ISC 11 08:57:27.1±0.9, 12°.2N±0°.1×144°.3E±0°.2, h29km, n36, σ0§81/22, mb4.2/13, MS3.6/15, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**1.46**	**23**	P	**Pn**	**08 57 52.0**	**+0.4**
	162nm,0.3s,baz=202,slow=4.4,SNR=60						
GUMO				S	**Sn**	**08 58 10.4**	**+0.6**
	207nm,0.3s,baz=0.0,slow=20,SNR=6.4						
GUMO	**Guam**	**1.46**	**23**	P	**Pn**	**08 57 52.0**	**+0.4**
GUMO				S	**Sn**	**08 58 10.4**	**+0.6**
GUMO				*e*Sn	**Sb**	**08 58 11.5**	**-0.4**
H11S3	**WAKE ISLAND Hy**	**22.47**	**71**	T	T	09 25 23.1	
	baz=251,slow=26,SNR=5.6						
H11S1	**WAKE ISLAND Hy**	**22.49**	**71**	T	T	09 25 27.3	
	baz=251,slow=26,SNR=6.5						
H11S2	**WAKE ISLAND Hy**	**22.49**	**71**	T	T	09 25 30.8	
	baz=251,slow=26,SNR=7.0						
H11N1	**WAKE ISLAND Hy**	**22.96**	**68**	T	T	09 26 11.0	
	baz=255,slow=74,SNR=6.6						
H11N2	**WAKE ISLAND Hy**	**22.97**	**68**	T	T	09 26 12.0	
	baz=255,slow=74,SNR=7.7						
H11N3	**WAKE ISLAND Hy**	**22.98**	**68**	T	T	09 26 17.4	
	baz=255,slow=74,SNR=5.2						
MJAR	**Matsushiro Arr**	**24.81**	**348**	P	**P**	**09 02 47.4**	**+0.6**
	1.1nm,0.7s,baz=165,slow=8.9,SNR=4.4						
WRAB	**Tennant Creek**	**33.43**	**197**	*e*P	**P**	**09 04 04.5**	**+1.0**
	1.4nm,0.6s						
WRA	**Warramunga Arr**	**33.44**	**197**	P	**P**	**09 04 03.1**	**-0.5**
	2.9nm,0.7s,baz=21,slow=9.9,SNR=18						
WRA				LR	LR	09 17 21.7	
	comp=Z,102nm,21.8s,baz=60,slow=36						
ASAR	**Alice Springs**	**37.09**	**196**	P	**P**	**09 04 35.6**	**+0.5**
	2.1nm,0.8s,baz=18,slow=10.0,SNR=30						
ASAR				LR	LR	09 20 12.1	
	comp

AXS	**Araxos**	**1.29**	**71**	P		**Pg**	**09 00 35.5**	**+0.3**
AXS				S		**Sn**	**09 00 55.7**	**+2.5**
AXS	**Araxos**	**1.29**	**71**	P		**Pg**	**09 00 35.5**	**+0.3**
AXS				S		**Sn**	**09 00 55.7**	**+2.5**
AXS	**Araxos**	**1.29**	**71**	P		**Pg**	**09 00 36.5**	**+1.2**
AXS				S		**Sn**	**09 00 53.8**	**+0.6**
RLS	**Riolos of Patr**	**1.32**	**77**	P		**Pg**	**09 00 35.7**	**-0.2**
RLS				S		**Sn**	**09 00 56.0**	**+2.0**
RLS	**Riolos of Patr**	**1.32**	**77**	P		**Pg**	**09 00 36.3**	**+0.4**
RLS				S		**Sn**	**09 00 56.0**	**+2.0**
RLS	**Riolos of Patr**	**1.32**	**77**	P		**Pg**	**09 00 36.3**	**+0.4**
RLS				S		**Sn**	**09 00 55.5**	**+1.6**
RLS				AML	AML		09 01 02.5	
	comp=N,546μm,0.5s							
RLS				AML	AML		09 01 06.3	
	comp=E,399μm,0.8s							
PDO	**Prodromos**	**1.34**	**52**	P		**Pb**	**09 00 35.9**	**-0.4**
PDO	**Prodromos**	**1.34**	**52**	P		**Pg**	**09 00 37.1**	**+0.8**
PDO	**Prodromos**	**1.34**	**52**	P		**Pg**	**09 00 37.1**	**+0.8**
DRO	**Drossia**	**1.50**	**83**	P		**Pg**	**09 00 38.4**	**-0.8**
DRO				S		**Sg**	**09 01 00.9**	**+2.3**
DRO	**Drossia**	**1.50**	**83**	P		**Pg**	**09 00 38.4**	**-0.8**
DRO				S		**Sg**	**09 00 59.9**	**+1.2**
DRO	**Drossia**	**1.50**	**83**	P		**Pg**	**09 00 39.9**	**+0.7**
DRO				S		**Sg**	**09 00 59.9**	**+1.2**
DRO				AML	AML		09 01 09.2	
	comp=E,847μm,0.4s							
DRO				AML	AML		09 01 09.8	
	comp=N,649μm,0.5s							
PVO	**Paravola**	**1.58**	**57**	P		**Pg**	**09 00 40.1**	**-0.6**
PVO	**Paravola**	**1.58**	**57**	P		**Pg**	**09 00 40.1**	**-0.6**
PVO	**Paravola**	**1.58**	**57**	P		**Pg**	**09 00 41.3**	**+0.6**
LAKA	**Lakka**	**1.76**	**74**	P		**Pb**	**09 00 43.0**	**-0.4**
LAKA	**Lakka**	**1.76**	**74**	P		**Pb**	**09 00 43.0**	**-0.4**
ITM	**Ithomi**	**1.77**	**109**	P		**Pn**	**09 00 41.6**	**-0.5**
ITM	**Ithomi**	**1.77**	**109**	P		**Pn**	**09 00 41.5**	**-0.5**
IGT	**Igoumenitsa**	**1.79**	**13**	P		**Pn**	**09 00 41.2**	**-1.2**
IGT	**Igoumenitsa**	**1.79**	**13**	P		**Pn**	**09 00 40.8**	**-1.6**
IGT	**Igoumenitsa**	**1.79**	**13**	P		**Pn**	**09 00 40.8**	**-1.6**
KLV	**Kalavryta, Ach**	**1.85**	**81**	P		**Pb**	**09 00 44.2**	**-0.8**
KLV	**Kalavryta, Ach**	**1.85**	**81**	P		**Pb**	**09 00 44.2**	**-0.8**
SGD	**Sagiada**	**1.86**	**10**	P		**Pn**	**09 00 42.8**	**-0.4**
SGD	**Sagiada**	**1.86**	**10**	P		**Pn**	**09 00 42.8**	**-0.4**
TRIZ	**Trizonia**	**1.86**	**71**	P		**Pb**	**09 00 44.3**	**-0.9**
TRIZ	**Trizonia**	**1.86**	**71**	P		**Pb**	**09 00 44.3**	**-0.9**
SERG	**Sergoula**	**1.87**	**69**	P		**Pn**	**09 00 43.4**	**0.0**
SERG	**Sergoula**	**1.87**	**69**	P		**Pb**	**09 00 44.3**	**-0.9**
SERG	**Sergoula**	**1.87**	**69**	P		**Pb**	**09 00 44.3**	**-0.9**
KALE	**Kalithea**	**1.92**	**71**	P		**Pb**	**09 00 44.5**	**-1.7**
KALE	**Kalithea**	**1.92**	**71**	P		**Pb**	**09 00 45.4**	**-0.8**
KALE	**Kalithea**	**1.92**	**71**	P		**Pb**	**09 00 45.4**	**-0.8**
EVR	**Evrytania**	**1.93**	**53**	P		**Pg**	**09 00 47.0**	**-0.4**
EVR	**Evrytania**	**1.93**	**53**	P		**Pg**	**09 00 47.0**	**-0.4**
KEK	**Kerkira**	**1.93**	**359**	P		**Pb**	**09 00 45.4**	**-0.9**
KEK	**Kerkira**	**1.93**	**359**	P		**Pb**	**09 00 45.4**	**-0.9**
DSF	**Desfina**	**2.22**	**73**	P		**Pn**	**09 00 48.7**	**+0.5**
DSF				S		**Sb**	**09 01 17.9**	**-1.3**
DSF	**Desfina**	**2.22**	**73**	P		**Pn**	**09 00 48.7**	**+0.5**
DSF				S		**Sb**	**09 01 17.9**	**-1.3**
DSF	**Desfina**	**2.22**	**73**	P		**Pb**	**09 00 48.5**	**-0.2**
AGG	**Agios Georgios**	**2.32**	**57**	P		**Pb**	**09 00 50.9**	**-2.1**
AGG	**Agios Georgios**	**2.32**	**57**	P		**Pb**	**09 00 50.9**	**-2.1**
SCTE	**Santa Cesarea**	**2.52**	**336**	Pn		**Pn**	**09 00 52.3**	**-0.1**
SCTE	**Santa Cesarea**	**2.52**	**336**	Pn		**Pn**	**09 00 52.3**	**-0.1**
PIPA	**Pietrapaola**	**2.91**	**307**	Pn		**Pn**	**09 00 58.8**	**+1.1**
PIPA	**Pietrapaola**	**2.91**	**307**	Pn		**Pn**	**09 00 58.8**	**+1.1**
MPAZ	**Palizzi**	**3.03**	**274**	Pn		**Pn**	**09 01 00.2**	**+0.8**
MPAZ	**Palizzi**	**3.03**	**274**	Pn		**Pn**	**09 01 00.2**	**+0.8**
ATN	**Antennamare**	**3.47**	**278**	Pn		**Pn**	**09 01 06.9**	**+1.4**
ATN	**Antennamare**	**3.47**	**278**	Pn		**Pn**	**09 01 06.9**	**+1.4**
MCSR	**Castroreale**	**3.63**	**276**	Pn		**Pn**	**09 01 09.1**	**+1.4**
	comp=N,124nm,1.4s							
MCSR	**Castroreale**	**3.63**	**276**	Pn		**Pn**	**09 01 09.1**	**+1.4**
	comp=N,124nm,1.4s							
HAVL	**Avola**	**3.84**	**259**	Pn		**Pn**	**09 01 10.0**	**-0.4**
	comp=N,47nm,0.2s							
HAVL	**Avola**	**3.84**	**259**	Pn		**Pn**	**09 01 10.0**	**-0.4**
	comp=N,47nm,0.2s							
HCRL	**Carlentini**	**3.85**	**264**	Pn		**Pn**	**09 01 09.8**	**-0.7**
	comp=N,65nm,0.2s							
HCRL	**Carlentini**	**3.85**	**264**	Pn		**Pn**	**09 01 09.8**	**-0.7**
	comp=N,65nm,0.2s							
HLNI	**Lentini**	**3.96**	**265**	Pn		**Pn**	**09 01 11.3**	**-0.8**
HLNI	**Lentini**	**3.96**	**265**	Pn		**Pn**	**09 01 11.3**	**-0.8**
HMDC	**Modica**	**4.10**	**260**	Pn		**Pn**	**09 01 13.6**	**-0.5**
HMDC	**Modica**	**4.10**	**260**	Pn		**Pn**	**09 01 13.6**	**-0.5**
HVZN	**Vizzini**	**4.11**	**263**	Pn		**Pn**	**09 01 13.8**	**-0.5**
	comp=N,60nm,0.5s							
HVZN	**Vizzini**	**4.11**	**263**	Pn		**Pn**	**09 01 13.8**	**-0.5**
	comp=N,60nm,0.5s							

IDC 11 09:03:32.7±4.8, 49°.59S×117°.77E, h0km, mb3.6/3, mb1 3.8/3, mb1mx3.5/32, mbtmp3.6/3, MS3.1/2, Ms1 3.0/2, ms1mx2.9/17, Error ellipse: s-maj=226.0km s-min=29.5km az=98.0, Western Indian-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
H01W2	**Cape Leeuwin H**	**14.92**	**348**	T	T	09 22 13.1	
	baz=171,slow=73,SNR=45						
H01W1	**Cape Leeuwin H**	**14.93**	**348**	T	T	09 22 13.3	
	baz=171,slow=73,SNR=35						
H01W3	**Cape Leeuwin H**	**14.94**	**348**	T	T	09 22 14.2	
	baz=171,slow=73,SNR=38						
STKA	**Stephens Creek**	**25.11**	**54**	LR	LR	09 18 21.6	
	comp=Z,66nm,18.5s,baz=215,slow=35						
ASAR	**Alice Springs**	**28.81**	**32**	P	P	09 09 32.5	+0.1
	0.3nm,0.7s,baz=208,slow=9.0,SNR=4.3						
MAW	**Mawson**	**32.36**	**216**	LR	LR	09 18 50.3	
	comp=Z,25nm,21.1s,baz=63,slow=28						
WRA	**Warramunga Arr**	**32.41**	**30**	P	P	09 10 04.0	-0.3
	1.2nm,0.8s,baz=204,slow=9.2,SNR=4.7						
VNDA	**Vanda**	**32.56**	**164**	P	P	09 10 05.0	0.0
	0.6nm,0.7s,baz=297,slow=6.8,SNR=4.3						
H08S2	**Diego Garcia H**	**56.34**	**302**	T	T	10 13 42.0	
	baz=140						
H08S1	**Diego Garcia H**	**56.35**	**302**	T	T	10 13 36.3	
	baz=140						
H08S3	**Diego Garcia H**	**56.36**	**302**	T	T	10 13 36.6	
	baz=140						
TXAR	**Lajitas Array**	**142.76**	**107**	PKP	PKPdf	09 23 04.9	-2.9
	0.1nm,0.7s,baz=256,slow=3.6,SNR=1.6						
PDAR	**Pinedale Array**	**146.98**	**84**	PKPbc	PKPbc	09 23 16.4	-0.5
	0.1nm,0.4s,baz=197,slow=2.8,SNR=3.4						
YKA	**Yellowknife Ar**	**148.97**	**46**	PKPbc	PKPbc	09 23 21.1	-0.1
	0.3nm,0.6s,baz=255,slow=1.4,SNR=2.1						

*NIED **11** 09:10:00, 36°.40N×141°.70E, h5km, Mw3.9 Best double couple: M₀7.66000×10¹⁴ NP1:φs320.00000°, δ42.00000°, λ-110.00000°. NP2:φs166.00000°, δ51.00000°, λ-73.00000°.*
*IDC **11** 09:10:51.3±0.7, 36°.28N×141°.74E, h0km, mb3.9/14, mb1 4.0/17, mb1mx3.9/48, mbtmp3.9/17, ML3.7/2, Error ellipse: s-maj=19.9km s-min=15.3km az=102.0*
*ISCJB **11** 09:10:53.3±1.0, 36°.34N±0°.03×141°.76E±0°.05, h25km±7km, mb4.3/28, Error ellipse: s-maj=6.8km s-min=5.2km az=178.9*
*JMA **11** 09:10:53.5±0.2, 36°.42N×141°.75E, h32km±4km, M3.9*
*NEIC **11** 09:10:55.1±1.7, 36°.32N×141°.80E, h24km±12km, mb4.7/15, Error ellipse: s-maj=6.9km s-min=5.4km az=118.0*

ISC 11 09:10:55.0±1.3, 36°.35N±0°.04×141°.69E±0°.06, h23km±9km, n71, σ1°36/76, mb4.2/28, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CHOJ	**Chosi**	**0.93**	**226**	P	**Pn**	**09 11 11.6**	**-1.1**
CHOJ				S	**Sn**	**09 11 25.7**	**+0.4**
JHO	**Hitachi**	**0.94**	**286**	P	**Pn**	**09 11 10.7**	**-2.1**
JHO				eS	**Sb**	**09 11 24.0**	**-0.7**
ONAJ	**Iwakimizuishiy**	**1.04**	**317**	P	**Pn**	**09 11 11.8**	**-2.4**
JFT	**Otama**	**1.59**	**318**	P	**Pn**	**09 11 20.8**	**-1.0**
JFT				eS	**Sn**	**09 11 41.1**	**-0.6**
JMM	**Marumori**	**1.68**	**335**	P	**Pn**	**09 11 21.1**	**-1.8**
JMM				eS	**Sn**	**09 11 43.2**	**-0.5**
JAG	**Ashikaga**	**1.81**	**273**	P	**Pn**	**09 11 24.0**	**-0.7**
JAG				S	**Sn**	**09 11 45.7**	**-1.3**
BSO3	**Boso 3**	**1.82**	**212**	P	**Pn**	**09 11 25.1**	**+0.4**
MJAR	**Matsushiro Arr**	**2.81**	**275**	Pn	**Pn**	**09 11 38.4**	**-0.2**
	6.0nm,0.3s,baz=101,slow=8.0,SNR=39						
MJAR					Sn	**Sn**	**09 12 13.1**	**+1.3**
	13nm,0.3s,baz=78,slow=19,SNR=7.8						
MAJO	**Matsushiro**	**2.81**	**275**	*e*Pn	**Pn**	**09 11 39.4**	**+0.8**
MAJO				*e*Sn	**Sn**	**09 12 07.8**	**-4.1**
MAT	**Matsushiro**	**2.81**	**275**	P	**Pn**	**09 11 39.0**	**+0.4**
MAT				S	**Sn**	**09 12 07.0**	**-4.9**
MJB9	**Matsu-Tunnel**	**2.82**	**275**	*e*Pn	**Pn**	**09 11 39.5**	**+0.8**
JHJ2	**Mitsune**	**3.58**	**206**	*e*Pn	**Pn**	**09 11 49.7**	**+0.6**
JHJ2				*e*Sn	**Sn**	**09 12 28.0**	**-2.7**
JHJ	**Hachijo jima 2**	**3.58**	**207**	Pn	**Pn**	**09 11 48.8**	**-0.4**
	41nm,0.3s,baz=336,slow=16,SNR=17						
JHJ					Sn	**Sn**	**09 12 30.1**	**-0.7**
	75nm,0.3s,baz=256,slow=23,SNR=9.9						
INU	**Inuyama**	**3.92**	**257**	*e*Pn	**Pn**	**09 11 56.5**	**+2.6**
ERM	**Erimo**	**5.77**	**11**	*e*Pn	**Pn**	**09 12 18.0**	**-1.2**
ASAJ	**Asahikawa**	**7.79**	**5**	Pn	**Pn**	**09 12 47.6**	**+0.7**
	458nm,0.3s,baz=95,slow=0.1,SNR=3.9						
ASAJ	**Asahikawa**	**7.79**	**5**	*e*Pn	**Pn**	**09 12 46.6**	**-0.3**
USRK	**Ussuriysk Ar.**	**10.78**	**320**	Pn	**Pn**	**09 13 29.9**	**+1.9**
	0.1nm,0.3s,baz=150,slow=15,SNR=2.7						
KSRS	**Korea Array**	**11.08**	**280**	Pn	**Pn**	**09 13 36.1**	**+4.1**
	0.1nm,0.3s,baz=95,slow=14,SNR=2.8						
KS15	**Wonju Array Si**	**11.11**	**280**	*e*Pn	**Pn**	**09 13 33.8**	**+1.4**
KSAR	**Wonju Array Be**	**11.11**	**280**	Pn	**Pn**	**09 13 36.1**	**+3.7**
H11N2	**WAKE ISLAND Hy**	**27.61**	**120**	T	T	09 45 24.3	
	baz=312,slow=75,SNR=38						
H11N1	**WAKE ISLAND Hy**	**27.62**	**120**	T	T	09 45 29.4	
	baz=312,slow=75,SNR=31						
H11N3	**WAKE ISLAND Hy**	**27.63**	**120**	T	T	09 45 30.2	
	baz=312,slow=75,SNR=32						
H11S1	**WAKE ISLAND Hy**	**28.30**	**122**	T	T	09 46 21.0	
	baz=314,slow=76,SNR=45						
H11S3	**WAKE ISLAND Hy**	**28.30**	**122**	T	T	09 46 21.4	
	baz=314,slow=76,SNR=41						
H11S2	**WAKE ISLAND Hy**	**28.32**	**122**	T	T	09 46 22.4	
	baz=314,slow=76,SNR=31						
SONA1	**Songino Array**	**28.35**	**305**	*e*P	**P**	**09 16 47.4**	**0.0**
SONA0	**Songino Array**	**28.36**	**305**	*e*P	**P**	**09 16 46.9**	**-0.5**
	3.1nm,0.9s						
SONM	**Songino Array**	**28.36**	**305**	P	**P**	**09 16 46.9**	**-0.5**
	3.0nm,0.8s,baz=104,slow=9.0,SNR=15						
LSA	**Lhasa**	**42.50**	**276**	*e*P	**P**	**09 18 48.1**	**-1.1**
	3.9nm,0.4s						
ZAA0	**Zalesovo Array**	**42.54**	**313**	*e*P	**P**	**09 18 49.6**	**+0.9**
ZAA1	**Zalesovo Array**	**42.54**	**313**	*e*P	**P**	**09 18 49.4**	**+0.7**
ZALV	**Zalesovo Beam**	**42.54**	**313**	P	**P**	**09 18 49.4**	**+0.7**
	1.7nm,0.5s,baz=89,slow=6.3,SNR=7.9						
CHGN	**Chignik**	**44.30**	**44**	*e*P	**P**	**09 19 02.5**	**-0.3**
	35nm,1.5s						
KURK	**Kurchatov**	**46.53**	**309**	*e*P	**P**	**09 19 20.8**	**+0.3**
	3.1nm,0.6s						
ILAR	**Eielson Array**	**49.95**	**32**	P	**P**	**09 19 46.9**	**+0.1**
	0.3nm,0.9s,baz=286,slow=6.5,SNR=3.5						
ILB	**Eielson Array**	**49.95**	**32**	*e*P	**P**	**09 19 46.9**	**+0.1**
PAX	**Paxson**	**50.67**	**34**	*e*P	**P**	**09 19 52.3**	**-0.1**
	17nm,1.8s						
INK	**Inuvik**	**54.90**	**27**	P	**P**	**09 20 23.2**	**-0.1**
	1.2nm,0.8s,baz=287,slow=11,SNR=3.8						
INK	**Inuvik**	**54.90**	**27**	*e*P	**P**	**09 20 23.2**	**-0.1**
	18nm,1.8s						
WR1	**Warramunga Arr**	**56.41**	**188**	*e*P	**P**	**09 20 34.3**	**-0.5**
	34nm,1.6s						
WRA	**Warramunga Arr**	**56.41**	**188**	P	**P**	**09 20 34.3**	**-0.5**
	1.5nm,0.7s,baz=6.3,slow=7.4,SNR=9.5						
ARU	**Arti**	**57.02**	**319**	*e*P	**P**	**09 20 39.2**	**+0.4**
	4.1nm,0.8s						
ABKAR	**Akbulak array**	**58.55**	**311**	*e*P	**P**	**09 20 49.9**	**+0.3**
	15nm,0.6s						
AS01	**Alice Springs**	**60.13**	**188**	*e*P	**P**	**09 21 00.9**	**+0.2**
AS31	**Alice Springs**	**60.14**	**188**	*e*P	**P**	**09 20 59.8**	**-1.0**
	1.5nm,1.1s						
ASAR	**Alice Springs**	**60.14**	**188**	P	**P**	**09 20 59.8**	**-1.0**
	0.6nm,0.8s,baz=20,slow=8.5,SNR=3.8						
YKA	**Yellowknife Ar**	**64.29**	**30**	P	**P**	**09 21 28.6**	**+0.5**
	0.9nm,0.7s,baz=305,slow=6.7,SNR=4.5						
YKB5	**Yellowknife Ar**	**64.29**	**30**	*e*P	**P**	**09 21 28.6**	**+0.4**
ARCES	**ARCESS Array B**	**64.72**	**340**	P	**P**	**09 21 31.5**	**+0.6**
	1.1nm,0.8s,baz=61,slow=15,SNR=4.2						
ARE0	**ARCESS Array S**	**64.72**	**340**	*e*P	**P**	**09 21 32.0**	**+1.1**
	20nm,1.7s						
FIA1	**FINESS Array S**	**69.52**	**332**	*e*P	**P**	**09 22 02.0**	**+0.6**
FIA0	**FINESS Array S**	**69.52**	**332**	*e*P	**P**	**09 22 01.9**	**+0.5**
FINES	**FINESS Array B**	**69.52**	**332**	P	**P**	**09 22 01.9**	**+0.5**
	1.5nm,0.7s,baz=46,slow=14,SNR=6.6						
YBH	**Yreka Blue Hor**	**70.59**	**52**	*e*P	**P**	**09 22 07.7**	**-0.8**
	37nm,1.8s						
NB2	**NORSAR Subarra**	**74.90**	**337**	P	**P**	**09 22 33.9**	**+0.2**
	comp=Z,1.6nm,0.6s,baz=40,slow=5.9						
NB200	**NORSAR Array S**	**74.90**	**337**	*e*P	**P**	**09 22 34.2**	**+0.5**
NOA	**NORSAR Array B**	**74.90**	**337**	P	**P**	**09 22 34.2**	**+0.5**
	comp=Z,1.8nm,0.8s,baz=39,slow=5.8,SNR=7.0						
AKASG	**Malin Array Be**	**74.97**	**323**	P	**P**	**09 22 34.2**	**0.0**
	comp=Z,1.2nm,0.6s,baz=46,slow=6.2,SNR=5.9						
AKBB	**Malin Array Si**	**74.97**	**323**	*e*P	**P**	**09 22 34.2**	**0.0**
	comp=Z,8.9nm,0.6s						
IMW	**Indian Meadow**	**76.50**	**45**	*e*P	**P**	**09 22 42.3**	**-1.2**
	comp=Z,1.9nm,0.9s						
BR101	**Keskin Array S**	**79.47**	**312**	*e*P	**P**	**09 23 00.8**	**+0.9**
BRTR	**Keskin Array B**	**79.47**	**312**	P	**P**	**09 23 00.8**	**+0.9**
	comp=Z,0.7nm,0.6s,baz=45,slow=4.5,SNR=4.4						
CLL	**Collm**	**81.80**	**330**	*e*P	**P**	**09 23 13.0**	**+1.1**
CLL				*e*pP	**pP**	**09 23 19.0**	**-0.3**
GEC2	**GERESS Array S**	**83.41**	**328**	*e*P	**P**	**09 23 21.1**	**+0.6**
	comp=Z,5.8nm,1.3s						
GERES	**GERESS Array B**	**83.41**	**328**	P	**P**	**09 23 20.3**	**-0.2**
	comp=Z,0.5nm,0.6s,baz=32,slow=5.8,SNR=6.2						
GEA0	**GERESS Array S**	**83.42**	**328**	*e*P	**P**	**09 23 20.4**	**-0.1**
FOZ	**Fox Glacier**	**83.52**	**160**	*e*P	**P**	**09 23 19.2**	**-1.5**
	comp=Z,230nm,1.4s						
LTX	**Lajitas**	**90.36**	**53**	*e*P	**P**	**09 23 54.8**	**0.0**
TXAR	**Lajitas Array**	**90.36**	**53**	P	**P**	**09 23 54.8**	**0.0**
	comp=Z,0.4nm,0.8s,baz=290,slow=3.2,SNR=5.6						

DDA 11 09:15:03.2, 37°.55N×35°.53E, h7km, Md2.5, Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AKO	**Adana**	**0.11**	**217**	*i* P	Pg	09 15 05.9	+0.1
AKO				*i* S	Sg	09 15 08.2	+0.8
YAHY	**KAYSERI_Yahyal**	**0.56**	**346**	*i* P	Pg	09 15 14.4	+0.4
YAHY				*i* S	Sg	09 15 22.3	+1.0
GULE	**Gulek**	**0.66**	**246**	*i* P	Pg	09 15 15.7	-0.2
GULE				*i* S	Sb	09 15 25.8	-0.8

*NIED **11** 09:22:00, 38°.60N×142°.20E, h44km, Mw3.6 Best double couple: M₀3.12000×10¹⁴ NP1:φs158.00000°, δ29.00000°, λ47.00000°. NP2:φs25.00000°, δ69.00000°, λ111.00000°.*
*JMA **11** 09:22:09.6±0.1, 38°.67N×142°.16E, h40km±1km, M3.5*
JMA Felt I J1.
*IDC **11** 09:22:13.4±3.5, 38°.56N×141°.97E, h71km±31km, mb3.3/8, mb1 3.4/10, mb1mx3.3/48, mbtmp3.5/10, ML2.4/2, Error ellipse: s-maj=28.4km s-min=24.6km az=84.0*

ISC 11 09:22:06.4±1.7, 38°.63N±0°.05×142°.13E±0°.07, h13km±10km, n26, σ1°42/29, mb3.7/8, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
OFUJ	**Ofunato**	**0.58**	**322**	P	**Pn**	**09 22 21.2**	**+1.0**
OFUJ				S	**Sn**	**09 22 29.5**	**-0.1**
JIO	**Ouri**	**0.64**	**254**	P	**Pn**	**09 22 22.3**	**+1.3**
JIO				S	**Sn**	**09 22 31.2**	**+0.2**
JMK	**Ichinoseki**	**0.78**	**295**	P	**Pn**	**09 22 24.4**	**+1.4**
JMK				S	**Sn**	**09 22 34.8**	**+0.2**
JOM	**Ohasama**	**1.06**	**323**	P	**Pn**	**09 22 28.3**	**+1.3**
JOM				S	**Sb**	**09 22 40.1**	**-0.4**
JOU	**Okura**	**1.18**	**258**	P	**Pg**	**09 22 30.4**	**+1.3**
JOU				eS	**Sn**	**09 22 45.4**	**+0.9**
JMM	**Marumori**	**1.30**	**234**	P	**Pg**	**09 22 32.3**	**+1.0**
JMM				eS	**Sg**	**09 22 48.5**	**+0.3**
JTH	**Tanohata**	**1.32**	**351**	P	**Pg**	**09 22 31.4**	**-0.4**
JTH				S	**Sn**	**09 22 47.9**	**-0.1**
JRG	**Rokugo**	**1.39**	**304**	P	**Pg**	**09 22 33.3**	**+0.1**
JYK	**Kaneyama**	**1.41**	**282**	P	**Pg**	**09 22 33.6**	**+0.1**
MJAR	**Matsushiro Arr**	**3.75**	**237**	P	**Pn**	**09 23 07.1**	**+3.2**
	1.0nm,0.3s,baz=37,slow=12,SNR=17						
MAT	**Matsushiro**	**3.75**	**237**	P	**Pb**	**09 23 09.3**	**-3.1**
MAT				eS	**Sb**	**09 23 55.6**	**-2.1**
USRK	**Ussuriysk Ar.**	**9.43**	**309**	P	**Pn**	**09 24 25.0**	**+3.2**
	0.1nm,0.3s,baz=124,slow=18,SNR=4.4						
H11N2	**WAKE ISLAND Hy**	**28.53**	**124**	T	T	09 58 28.2	
	baz=317,slow=75,SNR=45						
H11N1	**WAKE ISLAND Hy**	**28.54**	**124**	T	T	09 58 28.9	
	baz=317,slow=75,SNR=34						
H11N3	**WAKE ISLAND Hy**	**28.54**	**124**	T	T	09 58 30.5	
	baz=317,slow=75,SNR=29						
H11S1	**WAKE ISLAND Hy**	**29.30**	**126**	T	T	09 59 23.5	
	baz=318,slow=76,SNR=14						
H11S3	**WAKE ISLAND Hy**	**29.30**	**126**	T	T	09 59 22.2	
	baz=318,slow=76,SNR=17						
H11S2	**WAKE ISLAND Hy**	**29.31**	**126**	T	T	09 59 23.9	
	baz=318,slow=76,SNR=14						
ZALV	**Zalesovo Beam**	**41.28**	**311**	P	**P**	**09 29 50.8**	**-0.2**
	0.7nm,0.5s,baz=67,slow=6.3,SNR=2.7						
KURBB	**Kurchatov Arra**	**45.48**	**307**	P	**P**	**09 30 24.4**	**-0.7**
	1.2nm,0.5s,baz=82,slow=8.2,SNR=12						
ILAR	**Eielson Array**	**47.85**	**33**	P	**P**	**09 30 43.9**	**+0.5**
	0.3nm,0.8s,baz=279,slow=7.2,SNR=4.0						
BVAR	**Borovoye Array**	**49.93**	**311**	P	**P**	**09 30 59.3**	**-0.3**
	0.4nm,0.5s,baz=65,slow=8.1,SNR=3.2						
BVAR				PcP	**PcP**	**09 32 18.2**	**-1.5**
	0.4nm,0.5s,baz=98,slow=6.0,SNR=3.2						
AKTO	**Aktyubinsk**	**58.04**	**311**	P	**P**	**09 31 59.1**	**+0.3**
	0.5nm,0.6s,baz=97,slow=8.1,SNR=2.6						
WRA	**Warramunga Arr**	**58.72**	**189**	P	**P**	**09 32 02.9**	**-0.9**
	0.5nm,0.9s,baz=7.0,slow=7.0,SNR=4.4						
YKA	**Yellowknife Ar**	**62.15**	**31**	P	**P**	**09 32 28.2**	**+1.4**
	0.7nm,0.8s,baz=304,slow=3.3,SNR=3.1						
TXAR	**Lajitas Array**	**88.70**	**53**	P	**P**	**09 34 59.8**	**0.0**
	0.2nm,0.8s,baz=335,slow=4.1,SNR=2.5						

*KRSC **11** 09:29:14.4±1.4, 49°.03N×155°.30E, h80km±24km, ML4.3*
*ISCJB **11** 09:29:16.4±0.6, 49°.12N±0°.07×155°.2E±0°.1, h55km, mb3.6/9, Error ellipse: s-maj=16.1km s-min=4.4km az=38.2*
*MOS **11** 09:29:19.1±1.5, 49°.26N×155°.06E, h88km, mb4.1/5, Error ellipse: s-maj=31.4km s-min=6.5km az=70.7*
*IDC **11** 09:29:20.7±3.5, 49°.24N×154°.87E, h85km±32km, mb3.4/9, mb1 3.6/11, mb1mx3.3/61, mbtmp3.7/11, MS2.7/1, Ms1 2.7/1, ms1mx2.1/25, Error ellipse: s-maj=28.4km s-min=15.4km az=142.0*

ISC 11 09:29:17.7±0.8, 49°.1N±0°.1×155°.2E±0°.1, h55km, n39, σ1°43/44, mb3.6/9, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SKR	**Severo-Kuril's**	**1.68**	**20**	*e*PN	**Pn**	**09 29 45.0**	**+0.6**
SKR				*e*S	**Sn**	**09 30 05.3**	**+0.2**
SKR				pmax	pmax		
	comp=Z,80nm,0.5s						
SKR				smax	smax		
	comp=E,990nm,0.3s						
SKR	**Severo-Kuril's**	**1.68**	**20**	*e*P	**Pn**	**09 29 45.0**	**+0.3**
SKR				*e*S	**Sn**	**09 30 05.5**	**+0.4**
PAU	**Pauzhetka**	**2.57**	**23**	*e*PN	**Pn**	**09 29 57.7**	**+0.8**
PAU				*e*S	**Sn**	**09 30 25.6**	**-1.3**
PAU				smax	smax		
	comp=N,600nm,0.4s						
MTVR	**Mutnovka**	**3.86**	**28**	PN	**Pn**	**09 30 15.5**	**+0.8**
MTVR				S	**Sn**	**09 30 58.9**	**0.0**
MTVR	**Mutnovka**	**3.86**	**28**	*e*P	**Pn**	**09 30 15.5**	**+0.8**
MTVR				*e*S	**Sn**	**09 30 58.9**	**0.0**
RUS	**Russkaya**	**3.93**	**31**	PN	**Pn**	**09 30

MURB	**Monte Urbino**	**0.09 174**	Pg	Pg	09 49 52.1	+0.1
MURB			Sg	Sg	09 49 54.3	+0.6
	46nm,0.3s					
ATPC	**Poggio Castell**	**0.13 343**	Pg	Pg	09 49 53.0	+0.4
ATPC			Sg	Sg	09 49 55.9	+1.3
	18nm,0.1s					
ATPC	**Poggio Castell**	**0.13 343**	Pg	Pg	09 49 53.0	+0.4
ATPC			Sg	Sg	09 49 55.9	+1.3
	18nm,0.1s					
ATCC	**AVT- Casa Cast**	**0.19 151**	Pg	Pg	09 49 54.2	+0.6
ATCC			Sg	Sg	09 49 58.1	+1.8
	15nm,0.4s					
ATCC	**AVT- Casa Cast**	**0.19 151**	Pg	Pg	09 49 54.2	+0.6
ATCC			Sg	Sg	09 49 58.1	+1.8
	15nm,0.4s					
SSFR	**Montelago di S**	**0.21 68**	Pg	Pg	09 49 54.5	+0.5
SSFR			Sg	Sg	09 49 58.2	+1.3
	27nm,0.2s					
SSFR	**Montelago di S**	**0.21 68**	Pg	Pg	09 49 54.5	+0.5
SSFR			Sg	Sg	09 49 58.2	+1.3
	27nm,0.2s					
BADI	**Badiali**	**0.25 309**	Pg	Pg	09 49 55.4	+0.8
BADI			Sg	Sg	09 49 59.8	+1.8
	26nm,1.0s					
BADI	**Badiali**	**0.25 309**	Pg	Pg	09 49 55.4	+0.8
BADI			Sg	Sg	09 49 59.8	+1.8
	26nm,1.0s					

BJI 11 09:52:46.6, 40.69N × 99.59E, h8km, ML3.6/7, Western Nei Mongol

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GTA	**Gaotai**	**1.29**	**172**	Pg	Pn	09 53 09.4	-1.6
GTA				Sg	Sb	09 53 26.0	-1.9
GTA				smax	smax		
	comp=N,310nm,0.7s						
GTA				smax	smax		
	comp=E,930nm,0.9s						
LZH	**Lanzhou**	**5.68**	**143**	*e*Pn	Pn	09 54 16.6	+5.1
LZH				Pg	Pb	09 54 29.7	+3.6
LZH				Sn	Sn	09 55 18.7	+1.7
LZH				Sg	Sg	09 55 42.9	-6.1
LZH				smax	smax		
	comp=N,140nm,1.4s						
LZH				smax	smax		
	comp=E,56nm,1.2s						
LZH				LR	LR		
	comp=N,210nm,5.0s						
LZH				LR	LR		
	comp=E,110nm,4.1s						
LZH				LR	LR		
	comp=Z,110nm,5.4s						
WMQ	**Urumqi**	**9.36**	**293**	P	Pn	09 55 04.1	+2.3
WMQ				S	Sn	09 56 51.2	+4.0
WMQ				smax	smax		
	comp=Z,15nm,1.1s						
WMQ				smax	smax		
	comp=Z,18nm,0.9s						

NNC 11 10:03:06.2±11.0, 38.77N × 73.34E, h0km, mb3.6, mpv3.2, 3C-2D, Error ellipse: s-maj=95.4km s-min=86.6km az=63.0, Tajikistan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MNAS	**Manas**	**3.77**	**351**	⇓Pn	Pn	10 04 08.6	+3.0
MNAS	4.3nm,0.3s			⇑Lg	Lg	10 05 02.8	
	5.4nm,0.4s						
AAK	**Ala-Archa**	**3.96**	**12**	⇑Pg	Pb	10 04 14.9	-2.0
AAK	1.2nm,0.4s			⇑Lg	Lg	10 05 15.0	
	4.7nm,0.8s						
KK31	**Karatay Array**	**4.83**	**335**	⇓Pn	Pn	10 04 17.8	-2.3
	1.0nm,0.3s,baz=167,slow=12,SNR=26						
KK31				Sn	Sn	10 05 18.6	+1.8
	0.8nm,0.2s,baz=169,slow=22,SNR=14						

*NIED **11** 10:09:00, 35.60N × 140.10E, h68km, Mw4.5 Best double couple: M0 6.37000×10^15 NP1: φs 164.00000°, δ 29.00000°, λ 62.00000°. NP2: φs 15.00000°, δ 65.00000°, λ 104.00000°.*

*NEIC **11** 10:09:28.9±0.4, 35.53N × 139.94E, h72km±4km, mb4.7/70, Error ellipse: s-maj=4.1km s-min=3.5km az=119.0*

NEIC Felt [III] at Tokyo and Zushi and [II] at Yokosuka. Also felt at Chiba, Fuchu, Hamura, Narita, Sagamihara, Tachikawa, Togane and Yokohama. Recorded [3 JMA] in Chiba.

*JMA **11** 10:09:28.1±0.2, 35.61N × 140.03E, h73km±2km, M4.3 Broadband fault plane solution: P waves. NP1: φs 10.00000°, δ 70.00000°, λ 97.00000°. NP2: φs 171.00000°, δ 21.00000°, λ 72.00000°. Principal axes: T Plg64.0000°, Azm291.0000°; N Plg6.0000°, Azm188.0000°; P Plg25.0000°, Azm95.0000°;*

JMA Felt III J1.

*ISCJB **11** 10:09:28.1±0.2, 35.52N±0.02 × 139.94E±0.03, h78km±2km, mb4.5/107 Error ellipse: s-maj=4.1km s-min=3.7km az=154.9*

*IDC **11** 10:09:29.6±1.6, 35.53N × 139.96E, h82km±14km, mb4.0/23, mb1 4.2/28, mb1mx4.0/51, mbtmp4.3/28, MS3.3/13, Ms1 3.3/13, ms1mx3.1/35, Error ellipse: s-maj=15.7km s-min=11.0km az=84.0*

*MOS **11** 10:09:31.2±0.9, 36.02N × 139.93E, h84km, mb4.5/50, Error ellipse: s-maj=9.7km s-min=5.3km az=117.5*

ISC 11 10:09:28.7±0.4, 35.57N±0.03 × 140.01E±0.04, h69km±3km, h69km:pP-P, n283, σ1§19/301, mb4.6/107, 21C-20D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCN	**Nagara**	**0.22**	**134**	⇑P	Pn	10 09 39.9	+0.7
JCN				S	Sn	10 09 48.8	+1.8
TOK	**Tokyo**	**0.23**	**300**	⇓P	Pn	10 09 40.2	+0.9
TOK				S	Sn	10 09 49.3	+2.3
I30JP	**ISUMI INFRASON**	**0.36**	**136**	P	Pn	10 09 40.5	+0.3
	baz=296,slow=7.0,SNR=1.7						
I30JP				S	Sn	10 09 50.0	+1.4
	baz=340,slow=314						
JOD2	**Odawara 2**	**0.81**	**248**	⇓P	Pn	10 09 44.8	0.0
JOD2				S	Sn	10 09 56.6	-0.2
BSO3	**Boso 3**	**0.87**	**152**	⇑P	Pn	10 09 45.1	-0.1
JAG	**Ashikaga**	**0.96**	**332**	⇓P	Pn	10 09 46.4	-0.3
JAG				S	Sn	10 09 59.3	-0.7
JIM2	**Oshima 3**	**0.97**	**209**	⇓P	Pn	10 09 46.2	-0.6
JIM2				S	Sn	10 09 59.9	-0.4
JRY	**Ryogami san**	**1.00**	**297**	⇓P	Pn	10 09 47.6	+0.4
JYN	**Shimob**	**1.20**	**267**	⇓P	Pn	10 09 49.9	+0.2
JYN				S	Sn	10 10 06.5	+1.1
BSO1	**Boso 1**	**1.21**	**139**	⇑P	Pn	10 09 48.7	-0.6
JIZS	**Izushimoda**	**1.26**	**228**	⇓P	Pn	10 09 50.5	+0.1
JIZS				S	Sn	10 10 06.7	0.0
JKT	**Katashina**	**1.34**	**333**	⇓P	Pn	10 09 51.2	-0.4
JKT				*e*S	Sn	10 10 08.4	-0.4
MJAR	**Matsushiro Arr**	**1.75**	**304**	P	Pn	10 09 57.1	+0.1
	69nm,0.3s,baz=154,slow=14,SNR=1001						
MJAR				LR	LR	10 10 37.2	
	comp=Z,667nm,19.3s,baz=140,slow=40						
MAJO	**Matsushiro**	**1.75**	**304**	*d*iP	Pn	10 09 57.6	+0.6
MAJO	**Matsushiro**	**1.75**	**304**	*e*Pn	Pn	10 09 57.5	+0.5
MAT	**Matsushiro**	**1.75**	**304**	P	Pn	10 09 57.3	+0.3
MAT				S	Sn	10 10 19.3	+0.9
MJB9	**Matsu-Tunnel**	**1.76**	**304**	*e*Pn	Pn	10 09 57.5	+0.5
INU	**Inuyama**	**2.45**	**266**	*e*Pn	Pn	10 10 07.4	+1.0
JHJ	**Hachijo jima 2**	**2.45**	**184**	P	Pn	10 10 06.5	+0.1
	329nm,0.3s,baz=332,slow=21,SNR=106						
JHJ				S	Sn	10 10 33.5	-1.9
	766nm,0.3s,baz=254,slow=23,SNR=15						
JHJ				LR	LR	10 10 54.2	
	comp=Z,136nm,21.6s,baz=352,slow=35						
JHJ2	**Mitsune**	**2.46**	**184**	*e*Pn	Pn	10 10 06.5	0.0
JHJ2				*e*Sn	Sn	10 10 35.5	+0.1
ERM	**Erimo**	**6.89**	**20**	*d*iP	Pn	10 11 05.1	-1.8
ERM	**Erimo**	**6.89**	**20**	*e*Pn	Pn	10 11 04.5	-2.4
JNU	**Nakatsue**	**7.94**	**255**	P	Pn	10 11 22.9	+1.5
	0.9nm,0.3s,baz=60,slow=6.4,SNR=8.3						
JNU	**Nakatsue**	**7.94**	**255**	*e*Pn	Pn	10 11 23.5	+2.2
CBIJ	**Chichi jima**	**8.65**	**167**	*e*Pn	Pn	10 11 28.2	-2.9
ASAJ	**Asahikawa**	**8.76**	**12**	*e*Pn	Pn	10 11 30.7	-1.8
VLA	**Vladivostok**	**9.81**	**323**	⇓*i*P	Pn	10 11 46.1	-0.8
KSRS	**Korea Array**	**9.91**	**284**	P	Pn	10 11 51.0	+2.9
	0.5nm,0.3s,baz=100,slow=14,SNR=32						
KSRS				LR	LR	10 15 34.0	
	comp=Z,244nm,20.3s,baz=125,slow=37						
KS15	**Wonju Array Si**	**9.94**	**284**	*e*Pn	Pn	10 11 48.0	-0.6
KSAR	**Wonju Array Be**	**9.94**	**284**	P	Pn	10 11 51.1	+2.5
KSAR	**Wonju Array Be**	**9.94**	**284**	P	Pn	10 11 51.0	+2.5
USRK	**Ussuriysk Ar.**	**10.59**	**327**	P	Pn	10 11 58.5	+1.1
	0.2nm,0.3s,baz=153,slow=13,SNR=12						
YSS	**Yuzh-Sakhalins**	**11.56**	**9**	*e*P	Pn	10 12 01.9	-8.7
YSS				*e*S	Sn	10 14 06.3	-12
YSS				pmax	pmax		
	comp=Z,20nm,1.8s						
YSS				pmax	pmax		
	comp=E,20nm,1.4s						
YSS	**Yuzh-Sakhalins**	**11.56**	**9**	*e*Pn	Pn	10 12 11.0	+0.3
MDJ	**Mudanjiang**	**12.04**	**322**	P	Pn	10 12 16.8	-0.5
MDJ				sP	P	10 12 34.5	+6.9
MDJ				S	Sn	10 14 25.9	-3.8
MDJ	**Mudanjiang**	**12.04**	**322**	*e*Pn	Pn	10 12 17.2	0.0
HABR	**Khabarovsk**	**13.40**	**346**	*e*P	Pn	10 12 32.3	-3.4
HABR				*e*S	Sn	10 14 58.4	-4.4
HABR				pmax	pmax		
	comp=N,11nm,1.4s						
HABR				pmax	pmax		
	comp=E,14nm,1.4s						
HABR				pmax	pmax		
	comp=Z,15nm,1.4s						
HABR				MLR	MLR		
	comp=Z,31nm,12.0s						
CN2	**Changchun**	**13.89**	**311**	*e*P	Pn	10 12 43.5	+1.4
KLR	**Kul'dur**	**14.94**	**339**	P	Pn	10 12 54.7	-1.0
	comp=Z,0.2nm,0.3s,baz=146,slow=7.7,SNR=7.1						
KLR				LR	LR	10 19 23.9	
	comp=Z,63nm,18.0s,baz=156,slow=40						
DL2	**Dalian**	**15.01**	**288**	P	P	10 13 01.6	+0.9
DL2				pP	pP	10 13 12.4	-2.4
DL2				S	S	10 15 50.3	-5.4
NJ2	**Nanjing**	**17.92**	**265**	*e*P	P	10 13 31.9	-1.0
TIA	**Tai'an**	**18.55**	**279**	*e*P	P	10 13 39.3	-0.5
BJI	**Beijing**	**19.34**	**290**	P	P	10 13 48.1	-0.2
BJI				S	S	10 17 22.9	-0.5
NACB	**Ninganchiao**	**19.56**	**240**	*e*P	P	10 13 49.8	-1.1
	comp=Z,12nm,0.8s						
YULB	**Yu-li**	**20.27**	**238**	*e*P	P	10 13 58.1	-0.5
	comp=Z,51nm,1.7s						
WHN	**Wuhan**	**22.05**	**264**	P	P	10 14 20.9	+3.2
HHC	**Hu-ho-hao-te**	**22.91**	**292**	*e*P	P	10 14 26.3	-0.5
CLNS	**Chul'man**	**23.60**	**339**	*e*P	P	10 14 32.3	-0.8
CLNS				pmax	pmax		
	comp=Z,18nm,1.0s						
CLNS				pmax	pmax		
	comp=N,12nm,1.1s						
CLNS				pmax	pmax		
	comp=E,7.0nm,1.2s						
MA2	**Magadan**	**25.02**	**13**	P	P	10 14 46.6	+0.6
	comp=E,14nm,0.7s,baz=196,slow=7.5,SNR=5.6						
MA2				LR	LR	10 25 50.8	
	comp=E,26nm,20.1s,baz=126,slow=39						
ULN	**Ulaanbaatar**	**27.28**	**307**	*e*P	P	10 15 07.5	+0.9
ULN				pmax	pmax		
	comp=Z,11nm,2.5s						
SONA1	**Songino Array**	**27.70**	**307**	*e*P	P	10 15 09.5	-0.8
SONA0	**Songino Array**	**27.70**	**307**	*e*P	P	10 15 09.1	-1.3
	comp=Z,4.0nm,1.1s						
SONM	**Songino Array**	**27.70**	**307**	P	P	10 15 09.1	-1.3
	comp=Z,2.1nm,0.6s,baz=110,slow=8.7,SNR=14						
SONM				LR	LR	10 26 36.3	
	comp=Z,102nm,19.1s,baz=107,slow=37						
BOD	**Bodaibo**	**28.20**	**330**	*e*P	P	10 15 14.7	+0.2
BOD				pmax	pmax		
	comp=Z,14nm,1.0s						
H11N2	**WAKE ISLAND Hy**	**28.44**	**117**	T	T	10 44 49.4	
	baz=308,slow=75,SNR=87						
SEY	**Seymchan**	**28.45**	**12**	P	P	10 15 17.3	+0.7
	comp=Z,3.5nm,0.8s,baz=188,slow=5.1,SNR=6.3						
H11N1	**WAKE ISLAND Hy**	**28.45**	**117**	T	T	10 44 48.0	
	baz=308,slow=75,SNR=89						
H11N3	**WAKE ISLAND Hy**	**28.46**	**117**	T	T	10 45 09.9	
	baz=308,slow=75,SNR=18						
H11S1	**WAKE ISLAND Hy**	**29.09**	**119**	T	T	10 45 23.4	
	baz=311,slow=75,SNR=54						
H11S3	**WAKE ISLAND Hy**	**29.09**	**119**	T	T	10 45 30.1	
	baz=311,slow=75,SNR=50						
H11S2	**WAKE ISLAND Hy**	**29.10**	**119**	T	T	10 45 28.7	
	baz=311,slow=75,SNR=41						
GYA	**Guiyang**	**29.87**	**262**	*e*P	P	10 15 30.6	+0.8
QIZ	**Qiongzhong**	**31.30**	**246**	P	P	10 15 39.8	-2.5
GTA	**Gaotai**	**31.94**	**289**	*e*P	P	10 15 48.8	+0.9
GTA				pP	pP	10 16 03.6	-0.9
GTA				sP	sP	10 16 11.0	-1.6
KMI	**Kunming**	**33.63**	**262**	P	P	10 16 03.1	+0.2
TIXI	**Tiksi**	**36.62**	**354**	⇑*i*P	P	10 16 26.2	-1.5
TIXI				pmax	pmax		
	comp=Z,32nm,1.7s						
CM31	**Chiang Mai Arr**	**40.03**	**256**	*e*P	P	10 16 56.5	-0.6
CMAR	**Chiang Mai Ar**	**40.03**	**256**	P	P	10 16 56.5	-0.6
	comp=Z,0.8nm,0.6s,baz=47,slow=8.5,SNR=4.5						
CMAR				LR	LR	10 33 38.3	
	comp=Z,69nm,20.8s,baz=189,slow=36						
WMQ	**Urumqi**	**40.51**	**298**	P	P	10 17 03.1	+2.3
WMQ				pP	pP	10 17 16.2	-1.7
WMQ				sP	sP	10 17 26.9	+1.1
ZAA0	**Zalesovo Array**	**42.08**	**314**	*e*P	P	10 17 13.6	+0.2
ZAA1	**Zalesovo Array**	**42.08**	**314**	*e*P	P	10 17 13.2	-0.3
ZAA1				*e*PcP	PcP	10 19 06.7	-0.3
ZALV	**Zalesovo Beam**	**42.08**	**314**	P	P	10 17 13.2	-0.3
	comp=Z,8.4nm,0.7s,baz=92,slow=6.4,SNR=29						
ZALV				PcP	PcP	10 19 06.7	-0.3
	comp=Z,2.7nm,0.5s,baz=80,slow=3.1,SNR=5.2						
ZALV				LR	LR	10 34 06.3	
	comp=Z,28nm,19.1s,baz=70,slow=35						
NVS	**Novosibirsk**	**43.05**	**315**	*e*P	P	10 17 21.4	+0.1
NVS				pmax	pmax		
	comp=E,11nm,1.1s						
NVS				pmax	pmax		
	comp=Z,16nm,1.1s						
NVS				pmax	pmax		
	comp=N,4.0nm,1.0s						
KSM	**Kuching**	**43.72**	**226**	*e*P	P	10 17 25.8	-1.3
	comp=N,36nm,1.8s						
MK01	**Makanchi Array**	**43.95**	**303**	*e*P	P	10 17 28.9	+0.2
MK31	**Makanchi Array**	**43.95**	**303**	*e*P	P	10 17 27.7	-1.1
MK31	**Makanchi Array**	**43.95**	**303**	*e*P	P	10 17 27.6	-1.1
MKAR	**Makanchi Array**	**43.95**	**303**	*e*P	P	10 17 28.4	-0.3
MKAR				pmax	pmax		
	comp=Z,61nm,0.8s						
MKAR	**Makanchi Array**	**43.95**	**303**	*e*P	P	10 17 28.4	-0.3
	comp=Z,61nm,0.8s						
NRIK	**Noril'sk**	**44.13**	**336**	P	P	10 17 29.0	-0.8
	comp=Z,5.5nm,0.6s,baz=117,slow=9.1,SNR=6.9						
MAKZ	**Makanchi**	**44.16**	**303**	*e*P	P	10 17 30.7	+0.3
MAKZ				pmax	pmax		
	comp=Z,10.0nm,0.9s						
MAKZ	**Makanchi**	**44.16**	**303**	*e*P	P	10 17 30.7	+0.3
	comp=Z,10nm,0.9s						
SDPT	**Sand Point**	**44.64**	**44**	*e*P	P	10 17 33.8	-0.2
	comp=Z,33nm,1.1s						
KURK	**Kurchatov**	**45.95**	**309**	*c iP*	P	10 17 44.4	-0.2
KURK				pmax	pmax		
	comp=Z,91nm,0.9s						
KURK	**Kurchatov**	**45.95**	**309**	*e*P	P	10 17 44.3	-0.2
	comp=Z,30nm,0.9s						
KURBB	**Kurchatov Arra**	**46.02**	**309**	P	P	10 17 45.0	-0.1
	comp=Z,20nm,1.0s,baz=84,slow=7.8,SNR=85						
PDGK	**Podgornoye**	**46.47**	**299**	P	P	10 17 48.7	-0.2
PDGK				pmax	pmax		
	comp=Z,22nm,0.8s						
TT01	**Tatalina**	**47.26**	**34**	*e*P	P	10 17 55.5	+0.9
IPM	**Ipoh**	**47.41**	**238**	*e*P	P	10 17 55.2	-1.1
	comp=Z,106nm,1.9s						
MTN	**Manton Dam**	**48.88**	**192**	*e*P	P	10 18 07.6	+0.1
	comp=Z,112nm,1.6s						
KDAK	**Kodiak Island**	**48.95**	**41**	*e*P	P	10 18 07.9	+0.3
KDAK				pmax	pmax		
	comp=Z,23nm,1.5s						
KDAK	**Kodiak Island**	**48.95**	**41**	*e*P	P	10 18 07.9	+0.3
	comp=Z,23nm,1.5s						
PPLA	**Purkeypile**	**49.02**	**34**	*e*P	P	10 18 09.6	+1.3
	comp=Z,36nm,1.8s						
KSH	**Kashi**	**49.98**	**295**	*e*P	P	10 18 20.1	+4.2
KSH				pP	pP	10 18 35.1	+1.7
KSH				PP	PP	10 20 17.0	+5.8
KSH				S	S	10 25 25.8	+4.3
KSH				sS	sS	10 25 52.8	+1.5
KSH	**Kashi**	**49.98**	**295**	SS	SS	10 28 56.8	+1.9
AAK	**Ala-Archa**	**50.19**	**299**	LR	LR	10 40 14.2	
	comp=Z,77nm,18.1s,baz=60,slow=37						
AAK	**Ala-Archa**	**50.19**	**299**	*e*P	P	10 18 17.4	-0.2
AAK				pmax	pmax		
	comp=Z,7.0nm,1.0s						
AAK	**Ala-Archa**	**50.19**	**299**	*e*P	P	10 18 17.4	-0.2
	comp=Z,6.6nm,1.0s						
PMR	**Palmer**	**50.47**	**36**	*e*P	P	10 18 19.4	+0.3
PMR				pmax	pmax		
	comp=Z,15nm,1.6s						
PMR	**Palmer**	**50.47**	**36**	*e*P	P	10 18 19.4	+0.3
	comp=Z,15nm,1.6s						
RND	**Reindeer**	**50.52**	**33**	*e*P	P	10 18 20.3	+0.7
RND				pmax	pmax		
	comp=Z,3.0nm,0.8s						
RND	**Reindeer**	**50.52**	**33**	*e*P	P	10 18 20.3	+0.7
	comp=Z,3.4nm,0.8s						
MDM	**Murphy Dome**	**50.75**	**31**	*e*P	P	10 18 22.4	+1.1
	comp=Z,4.6nm,0.8s						
BRVK	**Borovoye**	**50.78**	**313**	⇓*i*P	P	10 18 21.9	+0.3
BRVK				pmax	pmax		
	comp=Z,19nm,1.2s						
BRVK	**Borovoye**	**50.78**	**313**	*e*P	P	10 18 22.6	+0.9
	comp=Z,4.9nm,0.8s						
IL1	**Eielson Array**	**51.33**	**32**	*e*P	P	10 18 25.3	-0.3
ILAR	**Eielson Array**	**51.33**	**32**	P	P	10 18 25.7	+0.1
	comp=Z,1.5nm,0.8s,baz=270,slow=6.0,SNR=19						
ILB	**Eielson Array**	**51.33**	**32**	*e*P	P	10 18 25.9	+0.3
MNAS	**Manas**	**51.65**	**299**	P	P	10 18 29.5	+1.0
MNAS				pmax	pmax		
	comp=Z,6.0nm,1.5s						
EYAK	**Cordova Ski Ar**	**52.20**	**37**	*e*P	P	10 18 33.2	+1.2
	comp=Z,19nm,1.6s						
HARP	**HAARP**	**52.28**	**35**	*e*P	P	10 18 34.2	+1.5
	comp=Z,24nm,0.4s						
BMRM	**Bremner River**	**52.71**	**36**	*e*P	P	10 18 36.3	+0.4
	comp=Z,5.8nm,0.8s						
KKAR	**Karatay Array**	**52.88**	**301**	*e*P	P	10 18 38.0	+0.5
KKAR				pmax	pmax		
	comp=Z,61nm,1.1s						
KKAR	**Karatay Array**	**52.88**	**301**	*e*P	P	10 18 38.0	+0.5
	comp=Z,61nm,1.1s						
FITZ	**Fitzroy Crossi**	**55.09**	**197**	*e*P	P	10 18 53.5	-0.1
	comp=Z,36nm,1.6s						
WRAB	**Tennant Creek**	**55.46**	**186**	⇑*i*P	P	10 18 55.3	-1.0
WRAB				*e**PP	pP	10 19 14.4	+0.3
WRAB				pmax	pmax		
	comp=Z,38nm,2.5s						
WRAB	**Tennant Creek**	**55.46**	**186**	*e*P	P	10 18 55.4	-0.8
	comp=Z,26nm,1.5s						
DZET	**Dzherino**	**55.46**	**296**	P	P	10 18 58.0	+1.6
DZET				pmax	pmax		
	comp=Z,6.0nm,0.6s						
WB2	**Warramunga Arr**	**55.47**	**186**	*e*P	P	10 18 55.5	-0.8
	comp=Z,10nm,0.9s						
WR1	**Warramunga Arr**	**55.47**	**186**	*e*P	P	10 18 55.4	-1.0
	comp=Z,12nm,1.0s						
WRA	**Warramunga Arr**	**55.47**	**186**	P	P	10 18 55.4	-1.0
	comp=Z,4.9nm,0.7s,baz=23,slow=7.3,SNR=60						
WRA	**Warramunga Arr**	**55.47**	**186**	P	P	10 18 55.4	-1.0
WRA				pmax	pmax		
	comp=Z,3.0nm,0.5s						
HYT	**Haines Junctio**	**56.15**	**36**	*e*P	P	10 19 02.7	+1.7
	comp=Z,3.9nm,0.7s						
INK	**Inuvik**	**56.20**	**27**	P	P	10 19 01.3	+0.3
	comp=Z,1.3nm,0.6s,baz=334,slow=7.2,SNR=5.2						
INK	**Inuvik**	**56.20**	**27**	*e*P	P	10 19 01.3	+0.3
	comp=Z,12nm,1.5s						
ARU	**Arti**	**56.71**	**319**	*c iP*	P	10 19 04.4	-0.4
ARU				*PP	pP	10 19 22.7	0.0
ARU						10 19 57.3	
ARU						10 21 08.4	
ARU				S	S	10 26 53.1	+1.1
ARU				SS	SS	10 30 36.4	-3.7
ARU				pmax	pmax		
	comp=Z,11nm,0.8s						
ARU	**Arti**	**56.71**	**319**	*e*P	P	10 19 04.5	-0.4
	comp=Z,9.7nm,0.7s						
ABKAR	**Akbulak array**	**58.02**	**310**	*e*P	P	10 19 14.3	+0.1
	comp=Z,47nm,0.9s						
AS01	**Alice Springs**	**59.19**	**186**	*e*P	P	10 19 21.4	-1.1
AS31	**Alice Springs**	**59.20**	**187**	*e*P	P	10 19 22.8	+0.3
	comp=Z,1.4nm,1.0s						
ASAR	**Alice Springs**	**59.20**	**187**	P	P	10 19 21.5	-1.1
	comp=Z,1.7nm,0.7s,baz=16,slow=9.8,SNR=21						
MBWA	**Marble Bar**	**59.60**	**202**	*e*P	P	10 19 25.0	-0.4
	comp=Z,16nm,0.8s						
KBS	**Kingsbay**	**61.90**	**350**	*e*P	P	10 19 41.5	+1.2
KBS				pmax	pmax		
	comp=Z,12nm,0.9s						
KBS	**Kingsbay**	**61.90**	**350**	*e*P	P	10 19 41.5	+1.2
	comp=Z,12nm,0.9s						
LVZ	**Lovozero**	**62.98**	**336**	⇑*e*P	P	10 19 47.7	0.0
LVZ				pmax	pmax		
	comp=Z,5.0nm,1.0s						
LVZ	**Lovozero**	**62.98**	**336**	*e*P	P	10 19 48.0	+0.4
	comp=Z,24nm,1.6s						
GEYT	**Alibeck**	**63.55**	**299**	LR	LR	10 50 14.2	
	comp=Z,28nm,18.3s,baz=155,slow=38						
BBB	**Bella Bella**	**63.90**	**43**	*e*P	P	10 19 55.4	+1.4
	comp=Z,1.9nm,1.5s						
KLMR	**Klimovskoe**	**64.38**	**328**	*e*P	P	10 19 55.4	-1.6
KLMR				pmax	pmax		
	comp=Z,7.0nm,0.8s						
ARA0	**ARCESS Array S**	**64.96**	**339**	*e*P	P	10 20 00.8	+0.2
ARCES	**ARCESS Array B**	**64.96**	**339**	P	P	10 19 59.0	-1.7
	comp=Z,3.6nm,0.7s,baz=63,slow=8.6,SNR=17						
ARCES	**ARCESS Array B**	**64.96**	**339**	P	P	10 19 59.0	-1.7
ARCES				pmax	pmax		
	comp=Z,4.0nm,0.7s						
ARE0	**ARCESS Array S**	**64.96**	**339**	*e*P	P	10 20 00.8	+0.2
	comp=Z,43nm,2.0s						
YKA	**Yellowknife Ar**	**65.64**	**29**	P	P	10 20 04.3	-0.8
	comp=Z,0.7nm,0.7s,baz=300,slow=7.6,SNR=3.4						
YKB5	**Yellowknife Ar**	**65.64**	**29**	*e*P	P	10 20 04.3	-0.8
FORT	**Forrest**	**66.95**	**191**	*e*P	P	10 20 13.6	-0.1
	comp=Z,203nm,0.6s						
STKA	**Stephens Creek**	**67.11**	**179**	P	P	10 20 14.3	-0.4
	comp=Z,2.4nm,0.8s,baz=330,slow=9.2,SNR=3.8						
STKA	**Stephens Creek**	**

E09A	**Wood Farm, Sta**	**72.35**	**45**	*e*P		**P**	**10 20 48.0**	**+1.0**
	comp=Z,6.1nm,1.0s							
K05A	**Summer Lake**	**72.75**	**50**	*e*P		**P**	**10 20 51.5**	**+1.7**
	comp=Z,57nm,1.9s							
BMO	**Blue Mountains**	**73.76**	**46**	*e*P		**P**	**10 20 56.0**	**+0.5**
BMO					pmax	pmax		
	comp=Z,4.0nm,1.2s							
BMO	**Blue Mountains**	**73.76**	**46**	*e*P		**P**	**10 20 56.0**	**+0.5**
	comp=Z,4.0nm,1.2s							
JTMT	**Jette**	**73.84**	**43**	*e*P		**P**	**10 20 57.3**	**+1.3**
SWMT	**Swartz Lake**	**74.13**	**43**	*e*P		**P**	**10 20 57.6**	**0.0**
SLMT	**Seeley Lake**	**74.56**	**43**	*e*P		**P**	**10 21 00.8**	**+0.6**
AKASG	**Malin Array Be**	**74.75**	**322**	P		**P**	**10 21 00.3**	**-0.6**
	comp=Z,5.8nm,0.8s,baz=45,slow=6.0,SNR=16							
AKBB	**Malin Array Si**	**74.75**	**322**	*e*P		**P**	**10 21 00.4**	**-0.6**
AKBB					pmax	pmax		
	comp=Z,12nm,1.0s							
AKBB	**Malin Array Si**	**74.75**	**322**	*e*P		**P**	**10 21 00.3**	**-0.6**
	comp=Z,12nm,1.0s							
KIEV	**Kiev**	**74.76**	**322**	⇓*j*P		**P**	**10 21 00.6**	**-0.4**
KIEV				*i* *PP		**pP**	**10 21 22.2**	**+2.6**
KIEV					pmax	pmax		
	comp=Z,8.0nm,0.9s							
KIEV	**Kiev**	**74.76**	**322**	*e*P		**P**	**10 21 00.1**	**-0.9**
	comp=Z,9.6nm,1.0s							
AK11	**Malin Array Si**	**74.80**	**322**	*e*P		**P**	**10 21 01.4**	**+0.1**
NC405	**NORSAR Array S**	**74.87**	**337**	*e*P		**P**	**10 21 01.2**	**-0.3**
CHMT	**Chamberlain Mo**	**74.89**	**43**	*e*P		**P**	**10 21 01.8**	**-0.4**
NC204	**NORSAR Array S**	**75.05**	**337**	*e*P		**P**	**10 21 02.4**	**-0.2**
NB201	**NORSAR Array S**	**75.06**	**337**	*e*P		**P**	**10 21 03.3**	**+0.7**
NB2	**NORSAR Subarra**	**75.09**	**337**	P		**P**	**10 21 02.2**	**-0.6**
NB2					pmax	pmax		
	comp=Z,4.0nm,0.7s							
NB2	**NORSAR Subarra**	**75.09**	**337**	P		**P**	**10 21 02.5**	**-0.3**
	comp=Z,4.6nm,0.7s,baz=42,slow=5.9							
NB200	**NORSAR Array S**	**75.09**	**337**	*e*P		**P**	**10 21 02.5**	**-0.3**
NOA	**NORSAR Array B**	**75.09**	**337**	P		**P**	**10 21 02.5**	**-0.3**
	comp=Z,4.9nm,0.8s,baz=41,slow=5.7,SNR=15							
NOA					LR	LR	10 56 56.6	
	comp=Z,8.2nm,18.5s,baz=80,slow=38							
NBO02	**NORSAR Array S**	**75.20**	**337**	*e*P		**P**	**10 21 03.3**	**-0.1**
HRY	**Holter Researc**	**75.80**	**42**	*e*P		**P**	**10 21 07.1**	**-0.1**
YERR	**Yerington**	**75.86**	**52**	*e*P		**P**	**10 21 09.3**	**+1.4**
	comp=Z,3.9nm,1.0s							
LRM	**Limekiln Ridge**	**75.99**	**43**	*e*P		**P**	**10 21 08.7**	**+0.2**
DLMT	**Dillon**	**76.18**	**44**	*e*P		**P**	**10 21 10.1**	**+0.6**
	comp=Z,5.7nm,1.0s							
HLID	**Hailey**	**76.20**	**46**	*e*P		**P**	**10 21 10.0**	**+0.3**
	comp=Z,4.4nm,1.3s							
H17A	**Grant Village**	**77.91**	**44**	*e*P		**P**	**10 21 20.6**	**+1.3**
	comp=Z,4.2nm,0.8s							
IMW	**Indian Meadow**	**78.01**	**44**	*e*P		**P**	**10 21 22.0**	**+2.0**
	comp=Z,2.0nm,0.7s							
MOOW	**Moose Ponds**	**78.21**	**44**	*e*P		**P**	**10 21 22.8**	**+1.8**
	comp=Z,11nm,2.0s							
HVU	**Hansel Valley**	**78.23**	**47**	*e*P		**P**	**10 21 22.3**	**+1.3**
HVU					pmax	pmax		
	comp=Z,3.0nm,0.9s							
HVU	**Hansel Valley**	**78.23**	**47**	*e*P		**P**	**10 21 22.3**	**+1.3**
	comp=Z,3.3nm,0.9s							
TPAW	**Teton Pass**	**78.25**	**45**	*e*P		**P**	**10 21 22.8**	**+1.5**
	comp=Z,2.5nm,0.7s							
R11A	**Troy Canyon, C**	**78.56**	**51**	*e*P		**P**	**10 21 24.1**	**+1.1**
	comp=Z,7.8nm,1.5s							
BUR08	**Bucovina Ar. S**	**78.73**	**321**	*e*P		**P**	**10 21 23.8**	**+0.1**
BURAR	**Bucovina Array**	**78.75**	**321**	⇑*j*P		**P**	**10 21 24.3**	**+0.6**
BURAR	**Bucovina Array**	**78.75**	**321**	⇑P		**P**	**10 21 24.3**	**+0.6**
TPNV	**Topopah Spring**	**78.96**	**52**	*e*P		**P**	**10 21 25.5**	**+0.3**
TPNV					pmax	pmax		
	comp=Z,8.0nm,1.4s							
TPNV	**Topopah Spring**	**78.96**	**52**	*e*P		**P**	**10 21 25.5**	**+0.3**
	comp=Z,7.7nm,1.4s							
BR101	**Keskin Array S**	**78.96**	**311**	*e*P		**P**	**10 21 25.6**	**+0.5**
BRTR	**Keskin Array B**	**78.96**	**311**	P		**P**	**10 21 25.6**	**+0.5**
	comp=Z,1.3nm,0.7s,baz=117,slow=4.7,SNR=5.1							
VRI	**Vrincioaia**	**79.10**	**319**	⇑*j*P		**P**	**10 21 26.6**	**+1.1**
VRI	**Vrincioaia**	**79.10**	**319**	⇑P		**P**	**10 21 26.6**	**+1.1**
DUG	**Dugway, Tooele**	**79.17**	**48**	*e*P		**P**	**10 21 27.5**	**+1.3**
DUG					pmax	pmax		
	comp=Z,17nm,1.9s							
DUG	**Dugway, Tooele**	**79.17**	**48**	*e*P		**P**	**10 21 27.5**	**+1.3**
	comp=Z,17nm,1.9s							
BR231	**Keskin MP Arra**	**79.42**	**312**	*e*P		**P**	**10 21 28.0**	**+0.5**
STHS	**Stebnicka Huta**	**79.49**	**324**	*e*P		**P**	**10 21 28.4**	**+0.8**
STHS					pmax	pmax		
	comp=Z,4.0nm,1.1s							
STHS	**Stebnicka Huta**	**79.49**	**324**	*e*P		**P**	**10 21 28.4**	**+0.8**
BW06	**Boulder Array**	**79.50**	**45**	*e*P		**P**	**10 21 28.3**	**+0.2**
PD31	**Pinedale Array**	**79.50**	**45**	*e*P		**P**	**10 21 27.1**	**-1.0**
PDAR	**Pinedale Array**	**79.50**	**45**	P		**P**	**10 21 28.4**	**+0.3**
	comp=Z,1.0nm,0.6s,baz=267,slow=1.6,SNR=16							
OJC	**Ojcow**	**79.61**	**326**	*e*P		**P**	**10 21 28.5**	**+0.3**
OJC	**Ojcow**	**79.61**	**326**	*e*P		**P**	**10 21 28.4**	**+0.2**
OJC					pmax	pmax		
	comp=Z,12nm,1.0s							
OJC	**Ojcow**	**79.61**	**326**	*e*P		**P**	**10 21 28.4**	**+0.2**
	comp=Z,12nm,1.0s							
CRVS	**Cervenica-Dubn**	**79.74**	**324**	*e*P		**P**	**10 21 29.1**	**+0.1**
CRVS	**Cervenica-Dubn**	**79.74**	**324**	*e*P		**P**	**10 21 29.1**	**+0.1**
MLR	**Muntele Rosu**	**79.76**	**319**	⇑*j*P		**P**	**10 21 28.7**	**-0.6**
MLR	**Muntele Rosu**	**79.76**	**319**	⇑P		**P**	**10 21 28.7**	**-0.6**
SHPR	**Sheep Range**	**79.93**	**52**	*e*P		**P**	**10 21 30.9**	**+0.4**
	comp=Z,4.1nm,1.3s							
NIE	**Niedzica**	**79.94**	**325**	*e*P		**P**	**10 21 31.2**	**+1.2**
NIE	**Niedzica**	**79.94**	**325**	*e*P		**P**	**10 21 31.2**	**+1.1**
LANS	**Liptovska Anna**	**80.51**	**325**	*e*P		**P**	**10 21 33.7**	**+0.5**
LANS	**Liptovska Anna**	**80.51**	**325**	*e*P		**P**	**10 21 33.7**	**+0.5**
DRGR		**80.57**	**322**	⇑*j*P		**P**	**10 21 33.6**	**+0.1**
DRGR		**80.57**	**322**	⇑P		**P**	**10 21 33.6**	**+0.1**
LCMT	**Little Creek M**	**80.85**	**51**	*e*P		**P**	**10 21 36.1**	**+0.8**
	comp=Z,4.1nm,0.9s							
MORC	**Moravsky Berou**	**80.95**	**326**	⇓*j*P		**P**	**10 21 36.0**	**+0.5**
MORC	**Moravsky Berou**	**80.95**	**326**	⇓P		**P**	**10 21 36.1**	**+0.6**
MORC	**Moravsky Berou**	**80.95**	**326**	*e*P		**P**	**10 21 36.1**	**+0.6**
	comp=Z,32nm,1.2s							
DPC	**Dobruska-Polom**	**81.08**	**327**	*e*P		**P**	**10 21 36.5**	**+0.3**
DPC	**Dobruska-Polom**	**81.08**	**327**	*e*P		**P**	**10 21 36.5**	**+0.3**
KNB	**Kanab**	**81.11**	**51**	*e*P		**P**	**10 21 38.7**	**+1.9**
KNB					pmax	pmax		
	comp=Z,6.0nm,1.1s							
KNB	**Kanab**	**81.11**	**51**	*e*P		**P**	**10 21 38.7**	**+1.9**
	comp=Z,6.0nm,1.1s							
PSZ	**Piszkesteto**	**81.18**	**324**	⇓*j*P		**P**	**10 21 37.3**	**+0.5**
PSZ	**Piszkesteto**	**81.18**	**324**	⇓P		**P**	**10 21 37.3**	**+0.5**
SRU	**San Rafael Swe**	**81.23**	**48**	*e*P		**P**	**10 21 38.6**	**+1.2**
SRU					pmax	pmax		
	comp=Z,4.0nm,0.7s							
SRU	**San Rafael Swe**	**81.23**	**48**	*e*P		**P**	**10 21 38.6**	**+1.2**
	comp=Z,3.9nm,0.7s							
VYHS	**Vyhne**	**81.27**	**325**	*e*P		**P**	**10 21 37.6**	**+0.4**
VYHS					pmax	pmax		
	comp=Z,4.0nm,1.3s							
VYHS	**Vyhne**	**81.27**	**325**	*e*P		**P**	**10 21 37.6**	**+0.4**
VRAC	**Vranov**	**81.72**	**326**	P		**P**	**10 21 40.0**	**+0.5**
	comp=Z,1.2nm,0.5s,baz=82,slow=4.9,SNR=4.0							
VRAC	**Vranov**	**81.72**	**326**	P		**P**	**10 21 40.0**	**+0.5**
VRAC					pmax	pmax		
	comp=Z,1.0nm,0.5s							
BRG	**Berggiesshubel**	**81.72**	**329**	*e*P		**P**	**10 21 39.8**	**+0.3**
	comp=Z,6.5nm,1.1s							
BRG				*e*			10 22 05.1	
	comp=Z,3.7nm,1.0s							
BRG	**Berggiesshubel**	**81.72**	**329**	*e*P		**P**	**10 21 39.8**	**+0.3**
BRG				*e*			10 22 05.1	
BRG					pmax	pmax		
	comp=Z,7.0nm,1.1s							
BRG					pmax	pmax		
	comp=Z,4.0nm,1.0s							
CLL	**Collm**	**81.79**	**330**	⇑*j*P		**P**	**10 21 39.3**	**-0.5**
CLL				*e*SP		**sP**	**10 22 05.0**	**-1.2**
CLL					pmax	pmax		
	comp=Z,9.0nm,0.9s							
CLL	**Collm**	**81.79**	**330**	⇑*j*P		**P**	**10 21 39.3**	**-0.5**
	comp=Z,9.0nm,0.9s							
CLL				*es*P		**sP**	**10 22 05.0**	**-1.2**
CLL	**Collm**	**81.79**	**330**	*e*P		**P**	**10 21 39.1**	**-0.7**
	comp=Z,9.7nm,1.0s							
U15A	**North Rim**	**81.81**	**51**	*e*P		**P**	**10 21 41.7**	**+1.1**
	comp=Z,2.5nm,0.8s							
PRU	**Pruhonice**	**82.12**	**328**	*e*P		**P**	**10 21 42.0**	**+0.4**
PRU				*ex*		x	10 22 07.9	
PRU	**Pruhonice**	**82.12**	**328**	*e*P		**P**	**10 21 42.0**	**+0.4**
PRU				*e*			10 22 07.9	
PV10	**Paradox Valley**	**82.59**	**48**	*e*P		**P**	**10 21 46.2**	**+1.6**
PV05	**Paradox Valley**	**82.75**	**48**	*e*P		**P**	**10 21 46.9**	**+1.5**
VTS	**Vitosha**	**83.16**	**318**	⇓*j*P		**P**	**10 21 48.0**	**+0.7**
VTS	**Vitosha**	**83.16**	**318**	*e*P		**P**	**10 21 47.6**	**+0.2**
VTS					pmax	pmax		
	comp=Z,6.0nm,1.0s							
VTS	**Vitosha**	**83.16**	**318**	*e*P		**P**	**10 21 47.5**	**+0.2**
	comp=Z,5.8nm,1.0s							
KHC	**Kasperske Hory**	**83.18**	**328**	*e*P		**P**	**10 21 47.5**	**+0.3**
KHC				*ex*		x	10 22 13.2	
KHC	**Kasperske Hory**	**83.18**	**328**	*e*P		**P**	**10 21 47.5**	**+0.3**
KHC				*e*			10 22 13.2	
GERES	**GERESS Array B**	**83.34**	**328**	P		**P**	**10 21 48.2**	**+0.1**
	comp=Z,1.2nm,0.9s,baz=52,slow=5.2,SNR=9.0							
GERES					LR	LR	11 04 23.1	
	comp=Z,24nm,18.4s,baz=27,slow=40							
GEA0	**GERESS Array S**	**83.35**	**328**	*e*P		**P**	**10 21 48.1**	**0.0**
X16A	**Lo Mia Camp, P**	**83.60**	**52**	*e*P		**P**	**10 21 50.3**	**+0.5**
	comp=Z,4.1nm,1.1s							
MVCO	**Mesa Verde**	**83.67**	**48**	*e*P		**P**	**10 21 50.5**	**+0.3**
	comp=Z,17nm,1.8s							
W18A	**Petrified Fore**	**84.25**	**51**	*e*P		**P**	**10 21 53.0**	**-0.1**
	comp=Z,16nm,0.7s							
PPT	**Papeete**	**85.01**	**116**	LR		LR	10 49 52.0	
	comp=Z,36nm,21.8s,baz=317,slow=28							
ECSD	**EROS Data Cent**	**85.77**	**37**	*e*P		**P**	**10 21 59.9**	**-0.4**
	comp=Z,6.0nm,1.1s							
BFO	**Black Forest**	**86.01**	**330**	*i* P		**P**	**10 22 03.1**	**+1.7**
ANMO	**Albuquerque**	**86.40**	**49**	⇑*e*P		**P**	**10 22 04.0**	**+0.2**
ANMO					pmax	pmax		
	comp=Z,1.0nm,1.1s							
TX31	**Lajitas Ar. Si**	**91.91**	**52**	*e*P		**P**	**10 22 30.6**	**+0.7**
LTX	**Lajitas**	**91.92**	**52**	*e*P		**P**	**10 22 30.0**	**+0.2**
LTX	**Lajitas**	**91.92**	**52**	*e*P		**P**	**10 22 30.0**	**+0.2**
TXAR	**Lajitas Array**	**91.92**	**52**	P		**P**	**10 22 30.0**	**+0.2**
	comp=Z,0.9nm,0.9s,baz=295,slow=2.8,SNR=7.9							
TXAR					LR	LR	11 00 07.1	
	comp=Z,11nm,20.2s,baz=0.0,slow=33							
TOA1	**Torodi Ar. Sit**	**117.53**	**313**	*e*PKPdf		**PKPdf**	**10 28 06.0**	**-1.2**
TOA0	**Torodi Ar. Sit**	**117.53**	**313**	*e*PKPdf		**PKPdf**	**10 28 06.3**	**-0.9**
TORD	**Torodi Ar. Bea**	**117.53**	**313**	PKP		**PKPdf**	**10 28 06.0**	**-1.2**
	comp=Z,0.5nm,0.6s,baz=58,slow=1.0,SNR=6.4							
SAML	**Samuel**	**146.08**	**44**	*e*PKPdf		**PKPbc**	**10 29 01.4**	**0.0**
LPAZ	**La Paz**	**148.41**	**60**	PKPbc		**PKPbc**	**10 29 06.8**	**-1.7**
	comp=Z,1.6nm,0.6s,baz=272,slow=1.0,SNR=7.0							
LPAZ	**La Paz**	**148.41**	**60**	*e*PKPbc		**PKPbc**	**10 29 09.1**	**+0.6**
PB11	**IPOC Station P**	**149.52**	**67**	*e*PKPbc		**PKPbc**	**10 29 11.4**	**+0.7**
LCO	**Las Campanas**	**153.30**	**85**	*e*PKPbc		**PKPbc**	**10 29 20.1**	**+0.7**

MEX 11 10:13:22.7±0.3, 16.67N×99.44W, h16km±7km, MD3.6, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
ACX	**Acapulco**	**0.45**	**296**	*e*P		Pg	10 13 30.2	-1.5
ACX				*e*S		Sg	10 13 35.9	-1.9
ACP2	**Acapulco**	**0.47**	**296**	*e*P		Pg	10 13 30.3	-1.9
ACP2				*e*S		Sg	10 13 37.0	-1.6
CAIG	**El Cayaco**	**0.88**	**296**	*e*P		Pb	10 13 36.4	-3.1
CAIG				*e*S		Sb	10 13 47.0	-4.0
TLIG	**Tlapa**	**1.22**	**43**	*e*P		Pn	10 13 41.3	-4.0
TLIG				*e*S		Sb	10 13 55.6	-5.5
MEIG	**Mezcala**	**1.26**	**352**	*e*P		Pn	10 13 42.0	-3.7
MEIG				*e*S		Sb	10 13 57.1	-5.1
PNIG	**Pinotepa**	**1.29**	**102**	*e*P		Pn	10 13 42.4	-3.7
PLIG	**Platanillo**	**1.71**	**358**	*e*P		Pn	10 13 49.1	-2.9
ARIG	**Puente Sto Nin**	**1.82**	**332**	*e*P		Pn	10 13 50.7	-2.8

WEL 11 10:14:15.6±0.5, 45.41S×166.65E, h5km, ML3.8/16, 5D, Error ellipse: s-maj=4.6km s-min=2.9km az=90.0, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
DCZ	**Deep Cove**	**0.36**	**98**	⇓PG		Pb	10 14 24.0	-0.5
DCZ				SG		Sg	10 14 28.1	+0.8
DCZ				AML		AML	10 14 28.2	
DCZ				AML		AML	10 14 28.3	
DCZ				AML		AML	10 14 28.6	
PYZ	**Puysegur Point**	**0.75**	**178**	⇓P*		Pg	10 14 30.4	+0.3
PYZ				AML		AML	10 14 44.7	
PYZ				AML		AML	10 14 44.7	
PYZ				AML		AML	10 14 47.6	
PYZ				AML		AML	10 14 47.6	
WHZ	**Wether Hill Ro**	**1.03**	**118**	P*		Pg	10 14 34.8	-0.5
WHZ				S*		Sg	10 14 47.2	-1.5
WHZ				AML		AML	10 14 49.1	
MLZ	**Mavora Lakes**	**1.04**	**88**	⇓P*		Pg	10 14 35.0	-0.5
MLZ				AML		AML	10 14 49.6	
MLZ				AML		AML	10 14 56.7	
MSZ	**Milford Sound**	**1.17**	**51**	P*		Pg	10 14 36.0	-2.0
MSZ				*e*S*		Sn	10 14 54.8	-0.2
MSZ				AML		AML	10 14 59.0	
MSZ				AML		AML	10 14 59.2	
MSZ				AML		AML	10 14 59.2	
APZ	**The Paps**	**1.70**	**147**	⇓PN		Pn	10 14 46.2	+0.3
APZ				AML		AML	10 15 11.4	
APZ				AML		AML	10 15 13.3	
WKZ	**Wanaka**	**1.78**	**72**	PN		Pn	10 14 47.0	0.0
WKZ				AML		AML	10 15 14.4	
WKZ				AML		AML	10 15 14.4	
WKZ				AML		AML	10 15 18.9	
WKZ				AML		AML	10 15 18.9	
EAZ	**Earnscleugh**	**1.89**	**85**	⇓PN		Pn	10 14 48.4	-0.1
EAZ				AML		AML	10 15 16.1	
EAZ				AML		AML	10 15 17.0	
EAZ				AML		AML	10 15 17.8	
EAZ				AML		AML	10 15 17.8	
JCZ	**Jackson Bay**	**2.03**	**49**	*e*PN		Pn	10 14 51.5	+1.0
JCZ				AML		AML	10 15 25.3	
JCZ				AML		AML	10 15 25.7	
SYZ	**Scrubby Hill**	**2.07**	**124**	PN		Pn	10 14 51.5	+0.5
SYZ				AML		AML	10 15 18.7	
SYZ				AML		AML	10 15 18.7	
SYZ				AML		AML	10 15 22.4	
SYZ				AML		AML	10 15 22.4	
TUZ	**Tuapeka**	**2.16**	**106**	PN		Pn	10 14 52.1	-0.1
TUZ				AML		AML	10 15 21.6	
TUZ				AML		AML	10 15 21.7	
TUZ				AML		AML	10 15 22.0	
TUZ				AML		AML	10 15 22.1	
LBZ	**Lake Benmore**	**2.72**	**69**	*e*PN		Pn	10 14 58.9	-1.0
LBZ				AML		AML	10 15 36.6	
LBZ				AML		AML	10 16 58.9	
HHSZ	**Highcliff Hill**	**2.81**	**101**	*e*PN		Pn	10 15 01.8	+0.6
ODZ	**Otahua Downs**	**2.85**	**84**	PN		Pn	10 15 00.5	-1.2
ODZ				AML		AML	10 15 38.5	
ODZ				AML		AML	10 15 39.0	
FOZ	**Fox Glacier**	**2.95**	**51**	AML		AML	10 15 51.8	
FOZ				AML		AML	10 15 52.9	
RPZ	**Rata Peaks**	**3.58**	**63**	PN		Pn	10 15 12.2	+0.4
RPZ				AML		AML	10 15 56.9	
WVZ	**Waitaha Valley**	**3.76**	**53**	AML		AML	10 15 57.8	
WVZ				AML		AML	10 16 22.1	
INZ	**Inchbonnie**	**4.38**	**54**	*e*PN		Pn	10 15 23.3	+0.6

MAN 11 10:28:57, 8.94N×123.08E, h48km, mb4.2, ML3.0, MS2.8, 2D, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
SNPH	**Sibulan**	**0.43**	**22**	⇓*j*P		Pn	10 29 09.9	+2.5
SNPH				*i* S		Sn	10 29 17.8	+3.1
DCPH	**Dipolog City**	**0.45**	**143**	⇓*j*P		Pn	10 29 05.1	-2.5
DCPH				*e*S		Sn	10 29 10.0	-5.0
PAGZ	**Pagadian**	**1.13**	**164**	*e*P		Pn	10 29 17.0	+0.6
PAGZ				*e*S		Sn	10 29 29.9	-0.9
CGP	**Cagayan de Oro**	**1.67**	**107**	*e*P		Pn	10 29 25.0	+1.1
CGP				*e*S		Sn	10 29 55.5	+11

*CSEM **11** 10:37:08.5±0.2, 45.61N×11.18E, h10km, ML2.2/13, Error ellipse: s-maj=3.5km s-min=2.2km az=3.0*

ROM 11 10:37:08.2±0.2, 45.57N×11.14E, h8km±1km, Md2.3/7, Ml1.7/4, 3C-2D, Error ellipse: s-maj=3.8km s-min=1.9km az=22.0, Northern Italy

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
MARN	**Marana (Italy)**	**0.08**	**37**	⇑*e*Pg		Pg	10 37 10.1	-0.3
MARN				*e*Sg		Sg	10 37 11.1	-0.8
ROVR	**Rover˜¤ Verone**	**0.09**	**327**	Pg		Pg	10 37 10.8	+0.2
ROVR				Sg		Sg	10 37 12.6	+0.4
ROVR	**Rover˜¤ Verone**	**0.09**	**327**	Pg		Pg	10 37 10.8	+0.2
ROVR				Sg		Sg	10 37 12.6	+0.4
BALD	**Monte Baldo**	**0.25**	**296**	*e*Pg		Pg	10 37 14.1	+0.7
BALD				*e*Sg		Sg	10 37 18.1	+1.3
BALD	**Monte Baldo**	**0.25**	**296**	*e*Pg		Pg	10 37 14.1	+0.8
BALD				*e*Sg		Sg	10 37 18.1	+1.3
DDS	**Dosso del Somm**	**0.31**	**6**	⇓*e*Pg		Pg	10 37 14.3	-0.1
DDS				*e*Sg		Sg	10 37 18.3	-0.2
DDS	**Dosso del Somm**	**0.31**	**6**	*e*Pg		Pg	10 37 14.3	-0.1
DDS				*e*Sg		Sg	10 37 18.3	-0.3
MAGA	**Magasa**	**0.41**	**300**	Pg		Pg	10 37 16.9	+0.6
MAGA				Sg		Sg	10 37 22.8	+1.1
MAGA	**Magasa**	**0.41**	**300**	Pg		Pg	10 37 16.9	+0.6
MAGA				Sg		Sg	10 37 22.8	+1.1
TEOL	**Teolo**	**0.43**	**120**	Pg		Pb	10 37 17.4	-0.6
TEOL				Sg		Sb	10 37 23.9	-0.7
	180nm,0.8s							
TEOL	**Teolo**	**0.43**	**120**	⇓*e*Pg		Pb	10 37 17.4	-0.7
TEOL	**Teolo**	**0.43**	**120**	Pg		Pb	10 37 17.4	-0.6
TEOL				Sg		Sb	10 37 23.9	-0.7
	180nm,0.8s							
SALO	**Salr**	**0.43**	**276**	Pg		Pb	10 37 18.2	+0.1
SALO				Sg		Sb	10 37 24.7	-0.1
	104nm,0.9s							
SALO	**Salr**	**0.43**	**276**	Pg		Pb	10 37 18.2	+0.1
SALO				Sg		Sb	10 37 24.7	-0.1
	104nm,0.9s							
PANI	**Panarotta**	**0.50**	**16**	⇑*e*Pg		Pg	10 37 17.7	-0.2
PANI				*e*Sg		Sg	10 37 23.6	-0.8
PANI	**Panarotta**	**0.50**	**16**	*e*Pg		Pg	10 37 17.7	-0.2
PANI				*e*Sg		Sg	10 37 23.6	-0.8
RNI	**Roncone**	**0.55**	**318**	⇑*e*Pg		Pg	10 37 19.1	+0.3
CGRP	**Cima Grappa**	**0.55**	**56**	Pg		Pg	10 37 19.1	+0.1
	28nm,0.6s							
CGRP	**Cima Grappa**	**0.55**	**56**	*e*Pg		Pg	10 37 18.9	0.0
CGRP	**Cima Grappa**	**0.55**	**56**	Pg		Pg	10 37 19.1	+0.1
	28nm,0.6s							
MABI	**Malga Bissina**	**0.65**	**318**	Pg		Pg	10 37 20.8	0.0
MABI				Sg		Sb	10 37 30.4	-0.8
	16nm,0.2s							
MABI	**Malga Bissina**	**0.65**	**318**	Pg		Pg	10 37 20.8	0.0
MABI				Sg		Sb	10 37 30.4	-0.8
	16nm,0.2s							
VARN	**Col Varnada, M**	**0.80**	**58**	*e*Pg		Pg	10 37 23.2	-0.3
VARN	**Col Varnada, M**	**0.80**	**58**	*e*Pg		Pg	10 37 23.2	-0.3
CARE	**Lago del Cares**	**0.91**	**340**	*e*Pg		Pg	10 37 25.7	0.0
CARE	**Lago del Cares**	**0.91**	**340**	*e*Pg		Pg	10 37 25.7	0.0
AGOR	**Agordo**	**0.95**	**41**	Pg		Pg	10 37 26.5	0.0
AGOR	**Agordo**	**0.95**	**41**	*e*Pg		Pg	10 37 26.4	-0.1
ABSI	**Aberstueckl**	**1.16**	**6**	Pg		Pb	10 37 30.7	+0.1
ABSI				Sg		Sb	10 37 45.9	0.0
ABSI	**Aberstueckl**	**1.16**	**6**	Pg		Pb	10 37 30.7	+0.1
ABSI				Sg		Sb	10 37 45.9	0.0
CIMO	**Cimolais**	**1.17**	**50**	*e*Pg		Pg	10 37 30.0	-0.7
CIMO	**Cimolais**	**1.17**	**50**	*e*Pg		Pg	10 37 30.0	-0.6
FETA	**Feichten**	**1.48**	**349**	*i* ScP		Sb	10 37 55.0	0.0
	0.3nm,0.1s							
FETA	**Feichten**	**1.48**	**349**	*i* Pg		Pg	10 37 36.3	-0.2
	0.1nm,0.1s							
FETA				*i* Sg		Sb	10 37 55.0	0.0
	0.3nm,0.1s							
FETA	**Feichten**	**1.48**	**349**	Pg		Pg	10 37 36.3	-0.2
	0.1nm,0.1s							
FETA				Sg		Sb	10 37 55.0	0.0
	0.3nm,0.1s							
ABTA	**

ONAJ			eS	Sg	10 37 45.9	-0.2
JMM	**Marumori**	**1.15 298**	P	Pb	10 37 34.5	0.0
JMM			eS	Sg	10 37 48.5	-1.0
JIO	**Ouri**	**1.26 333**	P	Pn	10 37 35.7	-0.5
JIO			S	Sb	10 37 50.9	-1.8
JFT	**Otama**	**1.39 278**	P	Pb	10 37 39.1	+0.4
JFT			S	Sb	10 37 56.6	+0.1
JHO	**Hitachi**	**1.40 240**	P	Pn	10 37 37.8	-0.4
JHO			S	Sb	10 37 54.4	-2.3
JOU	**Okura**	**1.52 313**	P	Pn	10 37 40.5	+0.7
JOU			S	Sn	10 37 59.4	-0.3
JMK	**Ichinoseki**	**1.75 338**	P	Pn	10 37 43.4	+0.4
JFY	**Yanaizu**	**1.89 273**	P	Pb	10 37 46.4	-0.7
MJAR	**Matsushiro Arr**	**3.19 257**	Pn	Pn	10 38 06.2	+3.3
	2.4nm,0.3s,baz=81,slow=15,SNR=24					
MJAR			Sn	Sb	10 38 47.5	-0.8
	2.8nm,0.3s,baz=78,slow=16,SNR=6.0					
MJAR			LR	LR	10 39 39.1	
	comp=Z,73nm,18.3s,baz=50,slow=44					
MAT	**Matsushiro**	**3.19 257**	P	Pn	10 38 06.1	+3.3
MAT			S	Sb	10 38 45.4	-2.9
JHJ	**Hachijo jima 2**	**4.60 205**	Pn	Pn	10 38 23.1	+1.0
	7.8nm,0.3s,baz=76,slow=23,SNR=11					
JHJ			Sn	Sn	10 39 13.4	-2.2
	22nm,0.3s,baz=8.8,slow=23,SNR=8.7					
USRK	**Ussuriysk Ar.**	**10.27 315**	Pn	Pn	10 39 47.1	+7.2
	0.1nm,0.3s,baz=95,slow=16,SNR=4.7					
H11N2	**WAKE ISLAND Hy**	**27.85 122**	T	T	11 12 13.1	
	baz=314,slow=75,SNR=37					
H11N1	**WAKE ISLAND Hy**	**27.86 122**	T	T	11 12 14.7	
	baz=314,slow=75,SNR=23					
H11N3	**WAKE ISLAND Hy**	**27.87 122**	T	T	11 12 14.2	
	baz=314,slow=75,SNR=27					
SONM	**Songino Array**	**28.06 303**	P	**P**	**10 43 05.6**	**+1.5**
	0.3nm,0.3s,baz=98,slow=7.4,SNR=2.2					
H11S1	**WAKE ISLAND Hy**	**28.59 124**	T	T	11 13 05.0	
	baz=316,slow=76,SNR=22					
H11S3	**WAKE ISLAND Hy**	**28.59 124**	T	T	11 13 03.4	
	baz=316,slow=76,SNR=15					
H11S2	**WAKE ISLAND Hy**	**28.60 124**	T	T	11 13 07.8	
	baz=316,slow=76,SNR=20					
TGY	**Tagaytay City**	**29.82 225**	LR	LR	10 53 28.4	
	comp=Z,32nm,19.4s,baz=359,slow=33					
ILAR	**Eielson Array**	**48.97 33**	P	**P**	**10 45 59.6**	**+0.9**
	0.4nm,0.8s,baz=262,slow=6.1,SNR=4.3					
WRA	**Warramunga Arr**	**57.43 189**	P	**P**	**10 47 00.7**	**-0.8**
	0.4nm,0.4s,baz=7.0,slow=7.4,SNR=11					
ASAR	**Alice Springs**	**61.15 189**	P	**P**	**10 47 26.7**	**-0.5**
	0.4nm,0.7s,baz=8.9,slow=6.6,SNR=4.5					

*IDC **11** 11:09:04.7±1.1,26°.88N×143°.94E, h0km, mb3.8/7, mb1 4.0/11, mb1mx3.8/46, mbtmp3.9/11, ML3.6/4, MS2.8/2, Ms1 2.8/2, ms1mx2.3/46, Error ellipse: s-maj=40.2km s-min=18.5km az=80.0*

*NEIC **11** 11:09:05.7±0.3,26°.87N×144°.04E, h10km, mb4.9/11, Error ellipse: s-maj=9.3km s-min=6.3km az=66.0*

*JMA **11** 11:09:09.3±0.1,27°.28N×143°.74E, h31km±5km, M4.5*

ISC 11 11:09:09.6±0.7, 27°.05N±0°.07×143°.90E±0°.07, h35km, n42, σ1§93/47, mb4.3/18, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**1.53**	**272**	P	**Pn**		**11 09 33.5**	**-0.9**
CBIJ				eS	**Sn**		**11 09 51.2**	**-1.8**
CBIJ	**Chichi jima**	**1.53**	**272**	eP	**Pn**		**11 09 33.8**	**-0.6**
CBIJ				eS	**Sn**		**11 09 52.5**	**-0.5**
JHHJ	**Haha-jima-NKT**	**1.59**	**255**	eS	**Sn**		**11 09 54.5**	**-0.1**
JHJ	**Hachijo jima 2**	**7.02**	**330**	Pn	**Pn**		**11 10 49.3**	**-0.5**
	5.3nm,0.3s,baz=50,slow=17,SNR=6.3							
JHJ				Sn	**Sn**		**11 12 05.8**	**-2.5**
	9.4nm,0.3s,baz=76,slow=19,SNR=4.7							
BSO4	**Boso 4**	**8.48**	**340**	S	**Sn**		**11 12 41.6**	**-2.6**
JOD2	**Odawara 2**	**9.16**	**334**	P	**Pn**		**11 11 19.2**	**-0.1**
JHU	**Hanno**	**9.61**	**337**	P	**Pn**		**11 11 25.7**	**+0.2**
JHU				eS	**Sn**		**11 13 05.5**	**-6.7**
JRY	**Ryogami san**	**9.90**	**336**	P	**Pn**		**11 11 29.1**	**-0.3**
JRY				eS	**Sn**		**11 13 15.1**	**-4.1**
JFK	**Kawauchi**	**10.60**	**347**	eS	Sn		11 13 26.9	-9.5
MJAR	**Matsushiro Arr**	**10.62**	**334**	Pn	**Pn**		**11 11 39.4**	**+0.1**
	2.8nm,0.3s,baz=166,slow=12,SNR=50							
MJAR				Sn	**Sn**		**11 13 33.9**	**-3.1**
	0.5nm,0.3s,baz=283,slow=30,SNR=5.6							
MAJO	**Matsushiro**	**10.62**	**334**	ePn	**Pn**		**11 11 39.8**	**+0.5**
MAT	**Matsushiro**	**10.62**	**334**	P	**Pn**		**11 11 39.2**	**-0.1**
MAT				S	**Sn**		**11 13 35.4**	**-1.6**
MJB9	**Matsu-Tunnel**	**10.63**	**334**	ePn	**Pn**		**11 11 39.8**	**+0.5**
KSRS	**Korea Array**	**17.01**	**312**	Pn	**P**		**11 13 06.0**	**-0.2**
	0.3nm,0.3s,baz=120,slow=11,SNR=11							
KSRS				LR	LR		11 19 24.1	
	comp=Z,22nm,19.3s,baz=250,slow=36							
KS15	**Wonju Array Si**	**17.03**	**311**	ePn	**P**		**11 13 08.1**	**+1.6**
KSAR	**Wonju Array Be**	**17.03**	**311**	Pn	**Pn**		**11 13 06.0**	**+1.1**
USRK	**Ussuriysk Ar.**	**19.62**	**334**	P	**P**		**11 13 35.1**	**+0.2**
	0.2nm,0.3s,baz=134,slow=12,SNR=4.0							
KLR	**Kul'dur**	**24.05**	**340**	P	**P**		**11 14 23.6**	**+2.2**
	2.0nm,0.6s,baz=159,slow=7.8,SNR=8.1							
SONA0	**Songino Array**	**35.81**	**315**	eP	**P**		**11 16 08.1**	**+2.4**
	4.6nm,1.4s							
SONA1	**Songino Array**	**35.81**	**316**	eP	**P**		**11 16 08.1**	**+2.4**
SONM	**Songino Array**	**35.81**	**315**	P	**P**		**11 16 08.1**	**+2.4**
	1.0nm,0.5s,baz=120,slow=7.1,SNR=7.3							
HNR	**Honiara**	**39.47**	**155**	eP	**P**		**11 16 34.0**	**-2.7**
	95nm,0.7s							
WR1	**Warramunga Arr**	**47.63**	**192**	eP	**P**		**11 17 41.2**	**-1.1**
	12nm,0.8s							
WRA	**Warramunga Arr**	**47.63**	**192**	P	**P**		**11 17 41.2**	**-1.1**
	1.0nm,0.7s,baz=11,slow=8.6,SNR=13							
ZAA0	**Zalesovo Array**	**50.52**	**319**	eP	**P**		**11 18 05.8**	**+1.6**
AS31	**Alice Springs**	**51.34**	**192**	eP	**P**		**11 18 08.4**	**-2.2**
	1.2nm,0.6s							
ASAR	**Alice Springs**	**51.34**	**192**	P	**P**		**11 18 09.4**	**-1.3**
	0.2nm,0.6s,baz=18,slow=6.2,SNR=2.6							
MK01	**Makanchi Array**	**51.67**	**310**	eP	**P**		**11 18 14.4**	**+1.3**
MK31	**Makanchi Array**	**51.68**	**310**	eP	**P**		**11 18 14.7**	**+1.7**
MKAR	**Makanchi Array**	**51.68**	**310**	eP	**P**		**11 18 14.3**	**+1.2**
	17nm,0.6s							
MAKZ	**Makanchi**	**51.89**	**310**	eP	**P**		**11 18 16.5**	**+1.8**
	4.1nm,0.7s							
RSO	**Redoubt South**	**53.76**	**33**	eP	**P**		**11 18 28.8**	**+0.4**
KURK	**Kurchatov**	**54.10**	**315**	eP	**P**		**11 18 32.3**	**+1.5**
	2.6nm,0.9s							
ILAR	**Eielson Array**	**57.02**	**29**	P	**P**		**11 18 53.0**	**+1.4**
	0.4nm,0.8s,baz=243,slow=6.0,SNR=2.4							
ILB	**Eielson Array**	**57.02**	**29**	eP	**P**		**11 18 53.0**	**+1.4**
BVAR	**Borovoye Array**	**59.10**	**318**	P	**P**		**11 19 07.8**	**+1.4**
	1.2nm,0.5s,baz=97,slow=7.6,SNR=5.8							
ABKAR	**Akbulak array**	**66.21**	**315**	eP	**P**		**11 19 55.0**	**+1.2**
	15nm,0.6s							
LTY	**Liberty**	**74.12**	**45**	eP	**P**		**11 20 41.8**	**-0.6**
	16nm,1.8s							
FINES	**FINESS Array B**	**78.65**	**334**	LR	LR		12 03 16.6	
	comp=Z,8.7nm,18.6s,baz=215,slow=41							
KBZ	**Khabaz**	**79.15**	**314**	P	**P**		**11 21 12.5**	**+1.8**
	2.7nm,0.7s,baz=72,slow=3.2,SNR=6.9							
SZCU	**Shurtz Canyon**	**83.38**	**51**	eP	**P**		**11 21 32.1**	**-1.6**
	20nm,1.1s							
HPIG		**94.25**	**57**	eP	**P**		**11 22 25.9**	**+0.1**
	10nm,1.6s							

IDC 11 11:13:53.4±1.4, 0°.55N×126°.02E, h0km, mb4.0/6, mb1 4.2/6, mb1mx3.8/35, mbtmp4.0/6, Error ellipse: s-maj=79.6km s-min=19.2km az=86.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**21.94**	**159**	P	P		11 18 48.0	-0.8
	8.8nm,0.8s,baz=338,slow=11,SNR=16							
ASAR	**Alice Springs**	**25.26**	**163**	P	P		11 19 22.1	+0.6
	1.3nm,0.4s,baz=351,slow=15,SNR=18							
STKA	**Stephens Creek**	**35.46**	**157**	P	P		11 20 51.7	0.0
	1.3nm,0.6s,baz=327,slow=9.3,SNR=5.3							
MJAR	**Matsushiro Arr**	**37.56**	**16**	P	P		11 21 09.0	-0.6
	0.5nm,0.5s,baz=192,slow=9.1,SNR=4.0							
PETK	**Petropavlovsk-**	**58.63**	**22**	P	P		11 23 53.4	+1.1
	10.0nm,1.1s,baz=160,slow=4.6,SNR=2.8							
ILAR	**Eielson Array**	**88.26**	**25**	P	P		11 26 45.1	-1.4
	0.1nm,0.4s,baz=251,slow=4.9,SNR=4.3							
TORD	**Torodi Ar. Bea**	**123.17**	**286**	PKP	PKPdf		11 32 53.1	-0.2
	0.4nm,0.7s,baz=95,slow=2.4,SNR=2.7							

*IDC **11** 11:27:08.3±0.6, 22°.83N×144°.02E, h0km, mb4.0/12, mb1 4.1/12, mb1mx3.9/43, mbtmp4.0/12, MS3.4/4, Ms1 3.4/4, ms1mx2.9/47, Error ellipse: s-maj=33.5km s-min=14.1km az=96.0*

*ISCJB **11** 11:27:11.5±0.3, 22°.79N±0°.05×144°.06E±0°.07, h35km, mb4.7/46, MS3.3/3, Error ellipse: s-maj=10.1km s-min=6.2km az=15.7*

*NEIC **11** 11:27:17.2±1.4, 22°.77N×144°.01E, h69km±12km, mb4.9/34, Error ellipse: s-maj=8.0km s-min=4.7km az=103.0*

ISC 11 11:27:13.8±0.5, 22°.79N±0°.08×144°.1E±0°.1, h35km, n79, σ0§87/68, mb4.8/46, MS3.3/3, Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
JOW	**Kunigami**	**14.88**	**289**	LR	LR		11 35 51.8	
	comp=Z,184nm,20.1s,baz=88,slow=35							
KS15	**Wonju Array Si**	**20.18**	**320**	eP	**P**		**11 31 45.4**	**+0.2**
KS01	**Wonju Array Si**	**20.20**	**320**	eP	**P**		**11 31 44.3**	**-1.2**
SSLB	**Suanglung**	**21.24**	**277**	eP	**P**		**11 31 57.5**	**+0.5**
	16nm,0.8s							
WAKE	**Wake Island**	**21.37**	**95**	eP	**P**		**11 31 58.0**	**-0.3**
	362nm,1.6s							
H11N1	**WAKE ISLAND Hy**	**21.50**	**94**	T	T		11 54 14.5	
	baz=283,slow=74,SNR=6.7							
H11N2	**WAKE ISLAND Hy**	**21.50**	**94**	T	T		11 54 26.0	
	baz=283,slow=74,SNR=6.6							
H11N3	**WAKE ISLAND Hy**	**21.51**	**94**	T	T		11 54 28.3	
	baz=283,slow=74,SNR=6.7							
H11S3	**WAKE ISLAND Hy**	**21.60**	**97**	T	T		11 54 40.3	
	baz=281							
H11S1	**WAKE ISLAND Hy**	**21.61**	**97**	T	T		11 55 13.7	
	baz=281							
H11S2	**WAKE ISLAND Hy**	**21.62**	**97**	T	T		11 54 54.7	
	baz=281							
TGY	**Tagaytay City**	**23.55**	**252**	LR	LR		11 40 00.4	
	comp=Z,65nm,19.7s,baz=6.5,slow=33							
KLR	**Kul'dur**	**28.13**	**343**	P	**P**		**11 33 01.5**	**-0.8**
	4.0nm,0.7s,baz=143,slow=10,SNR=11							
SAUI	**Saumlaki**	**33.03**	**204**	eP	**P**		**11 33 45.5**	**-0.5**
	537nm,1.1s							
HNR	**Honiara**	**35.60**	**152**	eP	**P**		**11 34 07.3**	**-0.9**
	101nm,0.8s							
COEN	**Coen**	**36.53**	**181**	eP	**P**		**11 34 15.9**	**-0.2**
	86nm,1.9s							
SONA0	**Songino Array**	**39.03**	**319**	eP	**P**		**11 34 37.5**	**+0.3**
	4.1nm,0.8s							
SONA1	**Songino Array**	**39.03**	**319**	eP	P		11 34 43.0	+5.8
SONM	**Songino Array**	**39.03**	**319**	P	**P**		**11 34 37.5**	**+0.3**
	0.5nm,0.5s,baz=101,slow=7.5,SNR=3.1							
SEY	**Seymchan**	**40.52**	**6**	P	**P**		**11 34 49.3**	**+0.2**
	1.5nm,0.7s,baz=141,slow=5.3,SNR=4.4							
CMAR	**Chiang Mai Arr**	**42.32**	**273**	LR	LR		11 54 33.0	
	comp=Z,34nm,18.4s,baz=200,slow=39							
WRAB	**Tennant Creek**	**43.51**	**193**	eP	**P**		**11 35 14.4**	**+0.4**
	34nm,1.7s							
WB2	**Warramunga Arr**	**43.52**	**193**	eP	**P**		**11 35 14.2**	**+0.1**
	51nm,1.9s							
WR1	**Warramunga Arr**	**43.52**	**193**	eP	**P**		**11 35 14.2**	**+0.1**
	13nm,1.2s							
WRA	**Warramunga Arr**	**43.52**	**193**	P	**P**		**11 35 14.2**	**+0.1**
	1.2nm,0.6s,baz=14,slow=8.9,SNR=28							
FITZ	**Fitzroy Crossi**	**44.45**	**205**	P	**P**		**11 35 21.1**	**-0.4**
	2.2nm,0.9s,baz=7.1,slow=8.1,SNR=7.7							
FITZ	**Fitzroy Crossi**	**44.45**	**205**	eP	**P**		**11 35 21.1**	**-0.4**
	32nm,1.6s							
AS01	**Alice Springs**	**47.21**	**193**	eP	**P**		**11 35 43.1**	**-0.3**
AS31	**Alice Springs**	**47.22**	**193**	eP	**P**		**11 35 42.9**	**-0.5**
	0.8nm,0.8s							
ASAR	**Alice Springs**	**47.22**	**193**	P	**P**		**11 35 42.9**	**-0.5**
	0.5nm,0.5s,baz=9.4,slow=7.2,SNR=16							
STKA	**Stephens Creek**	**54.41**	**183**	P	**P**		**11 36 36.9**	**-0.5**
	1.5nm,0.6s,baz=341,slow=9.2,SNR=7.5							
STKA	**Stephens Creek**	**54.41**	**183**	eP	**P**		**11 36 36.9**	**-0.5**
	9.8nm,1.9s							
MK01	**Makanchi Array**	**54.55**	**312**	eP	**P**		**11 36 39.0**	**+0.5**
MWH	**Moku'aweowe**	**56.05**	**81**	eP	**P**		**11 36 49.0**	**-1.2**
	206nm,1.4s							
SVW2	**Sparrevohn**	**56.06**	**31**	eP	**P**		**11 36 49.5**	**+0.4**
	18nm,1.6s							
TT01	**Tatalina**	**56.35**	**28**	eP	**P**		**11 36 51.6**	**+0.6**
OHAK	**Old Harbor**	**56.37**	**35**	eP	**P**		**11 36 51.6**	**+0.3**
	51nm,2.0s							
KDAK	**Kodiak Island**	**56.85**	**35**	eP	**P**		**11 36 54.3**	**-0.3**
	9.4nm,0.7s							
CNPM	**China Poot**	**57.84**	**33**	eP	**P**		**11 37 01.8**	**+0.1**
	15nm,1.1s							
PPLA	**Purkeypile**	**58.04**	**29**	eP	**P**		**11 37 03.7**	**+0.5**
	33nm,1.8s							
CAST	**Castle Rocks**	**58.21**	**28**	eP	**P**		**11 37 04.7**	**+0.5**
	10nm,1.5s							
TRF	**Thorofare Moun**	**59.00**	**29**	eP	**P**		**11 37 10.1**	**+0.2**
	11nm,1.4s							
PMR	**Palmer**	**59.20**	**31**	eP	**P**		**11 37 10.9**	**-0.2**
	4.4nm,0.9s							
SML	**Sawmill**	**59.61**	**31**	eP	**P**		**11 37 14.3**	**+0.3**
	7.7nm,0.9s							
RND	**Reindeer**	**59.63**	**29**	eP	**P**		**11 37 13.7**	**-0.4**
	15nm,1.7s							
COLD	**Coldfoot**	**59.84**	**24**	eP	**P**		**11 37 16.4**	**+0.9**
	14nm,1.8s							
SCM	**Sheep Creek Mo**	**60.09**	**31**	eP	**P**		**11 37 17.6**	**+0.3**
	6.6nm,0.8s							
MDM	**Murphy Dome**	**60.17**	**27**	eP	**P**		**11 37 17.1**	**-0.7**
	3.7nm,0.9s							
DHY	**Denali Highway**	**60.24**	**29**	eP	**P**		**11 37 18.3**	**-0.1**
	4.9nm,1.3s							
CCB	**Clear Creek Bu**	**60.29**	**27**	eP	**P**		**11 37 18.0**	**-0.5**
	12nm,1.9s							
FID	**Port Fidalgo**	**60.36**	**32**	eP	**P**		**11 37 19.2**	**+0.1**
	39nm,2.0s							
EYAK	**Cordova Ski Ar**	**60.70**	**32**	eP	**P**		**11 37 21.9**	**+0.5**
	23nm,1.7s							
IL1	**Eielson Array**	**60.70**	**27**	eP	**P**		**11 37 20.2**	**-1.2**
ILAR	**Eielson Array**	**60.70**	**27**	P	**P**		**11 37 20.2**	**-1.2**
	1.5nm,0.8s,baz=256,slow=5.4,SNR=17							
ILB	**Eielson Array**	**60.70**	**27**	eP	**P**		**11 37 20.4**	**-0.9**
KLU	**Klutina**	**60.71**	**31**	eP	**P**		**11 37 22.0**	**+0.4**
	9.0nm,1.4s							
BMRM	**Bremner River**	**61.30**	**32**	eP	**P**		**11 37 25.9**	**+0.3**
	15nm,1.6s							
FYU	**Fort Yukon**	**61.65**	**25**	eP	**P**		**11 37 29.3**	**+1.6**
	10nm,0.8s							
DOT	**Dot Lake**	**61.79**	**29**	eP	**P**		**11 37 28.3**	**-0.5**
	38nm,2.0s							
CRQM	**Cirque**	**62.00**	**32**	eP	**P**		**11 37 30.5**	**+0.1**
	15nm,1.4s							
DAWY	**Dawson**	**63.88**	**28**	eP	**P**		**11 37 43.1**	**+0.4**
	16nm,2.0s							
INK	**Inuvik**	**66.25**	**24**	P	**P**		**11 37 57.7**	**-0.2**
	2.3nm,0.8s,baz=252,slow=3.2,SNR=5.8							
INK	**Inuvik**	**66.25**	**24**	eP	**P**		**11 37 57.7**	**-0.2**
	15nm,1.6s							
YKA	**Yellowknife Ar**	**75.11**	**28**	P	**P**		**11 38 51.6**	**-0.4**
	0.7nm,0.6s,baz=285,slow=5.9,SNR=3.2							
YKB5	**Yellowknife Ar**	**75.11**	**28**	eP	**P**		**11 38 51.6**	**-0.4**
ARCES	**ARCESS Array B**	**78.15**	**342**	P	**P**		**11 39 08.8**	**-0.3**
	0.6nm,0.6s,baz=64,slow=8.3,SNR=4.0							
BGC	**Bolinger Road**	**79.30**	**54**	eP	**P**		**11 39 17.5**	**+1.5**
FIA1	**FINESS Array S**	**82.55**	**335**	eP	**P**		**11 39 31.5**	**-1.3**
FIA0	**FINESS Array S**	**82.55**	**335**	eP	**P**		**11 39 30.9**	**-1.9**
FINES	**FINESS Array B**	**82.55**	**335**	P	**P**		**11 39 30.9**	**-1.9**
	1.2nm,0.7s,baz=64,slow=6.3,SNR=6.6							
NB201	**NORSAR Array S**	**88.19**	**339**	eP	**P**		**11 39 59.1**	**-1.9**
GERES	**GERESS Array B**	**96.06**	**330**	LR	LR		12 26 44.7	
	comp=Z,19nm,18.4s,baz=342,slow=37							
PLCA	**Paso Flores**	**145.85**	**130**	PKPbc	**PKPdf**		**11 46 50.4**	**+1.4**
	2.0nm,0.7s,baz=252,slow=3.5,SNR=7.5							
EFI	**East Falkland**	**146.48**	**155**	ePKPdf	**PKPdf**		**11 46 51.1**	**+1.5**
ROC1	**El Roble**	**147.51**	**116**	ePKPbc	**PKPdf**		**11 46 53.4**	**+1.1**
HOPE	**Hope Point**	**148.55**	**179**	ePKPbc	**PKPdf**		**11 46 56.2**	**+3.3**
LPAZ	**La Paz**	**149.03**	**84**	PKPbc	**PKPbc**		**11 47 00.4**	**+0.7**
	3.8nm,0.6s,baz=266,slow=3.8,SNR=13							
LPAZ	**La Paz**	**149.03**	**84**	ePKPbc	**PKPbc**		**11 47 00.7**	**+0.9**
SAML	**Samuel**	**150.48**	**67**	ePKPbc	**PKPbc**		**11 47 02.8**	**+0.2**

*ISCJB **11** 11:28:59.6±0.3, 36°.17N±0°.03×141°.76E±0°.04, h26km, mb4.4/31, MS3.5/3, Error ellipse: s-maj=4.7km s-min=3.9km az=145.5*

*JMA **11** 11:29:00.6±0.2, 36°.21N×141°.70E, h54km±4km, M3.9*

*NIED **11** 11:29:00, 36°.20N×141°.70E, h14km, Mw4.1 Best double couple: Mo1.44000×10^15 NP1:φ=210.00000°, δ=20.00000°, λ=101.00000°. NP2:φ=18.00000°, δ=70.00000°, λ=86.00000°.*

*NEIC **11** 11:29:02.7±0.4, 36°.16N×141°.67E, h35km±3km, mb4.8/18, Error ellipse: s-maj=4.7km s-min=3.7km az=136.0*

*IDC **11** 11:29:02.8±3.4, 36°.13N×141°.64E, h37km±28km, mb3.8/15, mb1 4.0/18, mb1mx3.8/45, mbtmp4.0/18, ML4.0/2, MS3.3/6, Ms1 3.3/6, ms1mx2.9/50, Error ellipse: s-maj=21.1km s-min=16.4km az=95.0*

ISC 11 11:29:01.2±0.5, 36°.18N±0°.05×141°.74E±0°.06, h26km, n90, σ1§03/90, mb4.3/31, MS3.5/3, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
CHOJ	**Chosi**	**0.86**	**237**	P	**Pb**		**11 29 16.5**	**-1.0**
CHOJ				eS	**Sb**		**11 29 28.3**	**-0.3**
JHO	**Hitachi**	**1.04**	**295**	P	**Pn**		**11 29 18.2**	**-1.9**
ONAJ	**Iwakimizuishiy**	**1.19**	**321**	P	**Pn**		**11 29 20.5**	**-1.8**
JFK	**Kawauchi**	**1.37**	**330**	P	**Pn**		**11 29 23.2**	**-1.6**
JFK				eS	**Sn**		**11 29 39.4**	**-2.8**
BSO1	**Boso 1**	**1.64**	**202**	P	**Pn**		**11 29 27.8**	**-0.1**
BSO3	**Boso 3**	**1.70**	**216**	P	**Pn**		**11 29 29.0**	**0.0**
JFT	**Otama**	**1.75**	**320**	P	**Pn**		**11 29 29.3**	**-0.6**
JMM	**Marumori**	**1.85**	**336**	P	**Pn**		**11 29 30.3**	**-0.9**
JAG	**Ashikaga**	**1.86**	**278**	P	**Pn**		**11 29 30.2**	**-1.3**
JAG				eS	**Sn**		**11 29 52.5**	**-1.6**
JFY	**Yanaizu**	**2.04**	**308**	P	**Pn**		**11 29 33.9**	**-0.1**
JKT	**Katashina**	**2.09**	**287**	P	**Pn**		**11 29 34.3**	**-0.4**
MJAR	**Matsushiro Arr**	**2.87**	**278**	Pn	**Pn**		**11 29 45.5**	**+0.1**
	16nm,0.3s,baz=98,slow=8.4,SNR=248							
MJAR				Sn	**Sn**		**11 30 21.6**	**+2.5**
	7.8nm,0.3s,baz=83,slow=30,SNR=5.2							
MJAR				LR	LR		11 30 57.8	
	comp=Z,328nm,19.6s,baz=120,slow=42							
MAJO	**Matsushiro**	**2.87**	**278**	ePn	**Pn**		**11 29 45.8**	**+0.4**
MAT	**Matsushiro**	**2.87**	**278**	P	**Pn**		**11 29 45.7**	**+0.3**
MAT				S	**Sn**		**11 30 21.0**	**+1.9**
MJB9	**Matsu-Tunnel**	**2.88**	**278**	ePn	**Pn**		**11 29 45.9**	**+0.4**
JHJ2	**Mitsune**	**3.44**	**208**	ePn	**Pn**		**11 29 52.7**	**-0.6**
JHJ2	**Mitsune**	**3.44**	**208**	ePn	**Pn**		**11 29 52.7**	**-0.6**
JHJ	**Hachijo jima 2**	**3.45**	**208**	Pn	**Pn**		**11 29 52.6**	**-0.7**
	57nm,0.3s,baz=77,slow=23,SNR=20							
JHJ				Sn	**Sn**		**11 30 31.8**	**-1.5**
	82nm,0.3s,baz=69,slow=22,SNR=12							
INU	**Inuyama**	**3.93**	**259**	ePn	**Pn**		**11 30 00.6**	**+0.7**
ERM	**Erimo**	**5.93**	**10**	ePn	**Pn**		**11 30 25.0**	**-2.3**
ASAJ	**Asahikawa**	**7.96**	**4**	ePn	**Pn**		**11 30 54.7**	**-0.4**
USRK	**Ussuriysk Ar.**	**10.94**	**320**	Pn	**Pn**		**11 31 36.9**	**+0.9**
	0.2nm,0.3s,baz=147,slow=13,SNR=5.2							
USRK				LR	LR		11 35 30.7	
	comp=Z,160nm,19.5s,baz=110,slow=36							
KSRS	**Korea Array**	**11.15**	**281**	Pn	**Pn**		**11 31 42.8**	**+3.9**
	0.2nm,0.3s,baz=97,slow=13,SNR=7.3							
KSRS				LR	LR		11 35 53.0	
	comp=Z,114nm,18.4s,baz=85,slow=37							
KS15	**Wonju Array Si**	**11.18**	**281**	ePn	**Pn**		**11 31 39.5**	**+0.2**
KSAR	**Wonju Array Be**	**11.18**	**281**	Pn	**Pn**		**11 31 42.8**	**+3.5**
YOJ	**Yonaguni jima**	**19.90**	**239**	eP	**P**		**11 33 31.0**	**+0.1**
	157nm,0.4s							
YOJ				epP	**pP**		**11 33 37.2**	**-0.7**
PETK	**Petropavlovsk-**	**20.30**	**29**	P	**P**		**11 33 35.4**	**+0.4**
	6.9nm,1.0s,baz=223,slow=7.9,SNR=2.9							
PEA1	**Petropavlovsk-**	**20.31**	**29**	eP	**P**		**11 33 35.4**	**+0.4**
H11N2	**WAKE ISLAND Hy**	**27.49**	**120**	T	T		12 03 34.7	
	baz=312,slow=75,SNR=24							
H11N1	**WAKE ISLAND Hy**	**27.50**	**120**	T	T		12 03 30.8	
	baz=312,slow=75,SNR=17							
H11N3	**WAKE ISLAND Hy**	**27.51**	**120**	T	T		12 03 25.2

comp=Z,1.0nm,0.5s,baz=297,slow=4.5,SNR=5.3

LPAZ	**La Paz**	**146.89**	**61**	*e*PKPdf	**PKPbc**	**11 48 42.3**	**-0.2**
LPAZ				*e*PKPbc	**PKPab**	**11 48 42.6**	**-1.3**

IDC 11 11:35:49.4±0.9, 22.85N×144.06E, h0km, mb3.6/7, mb1 3.8/7, mb1mx3.6/41, mbtmp3.7/7, MS2.9/1, Ms1 2.9/1, ms1mx2.2/44, Error ellipse: s-maj=45.5km s-min=18.5km az=89.0, Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GUMO	**Guam**	**9.25**	**175**	LR	LR	11 40 33.1	
	comp=Z,74nm,19.1s,baz=74,slow=31						
KSRS	**Korea Array**	**20.12**	**320**	P	P	11 40 25.1	+0.3
	0.4nm,0.7s,baz=144,slow=9.7,SNR=3.2						
KLR	**Kul'dur**	**28.07**	**343**	P	P	11 41 43.5	+1.1
	1.6nm,0.6s,baz=154,slow=5.2,SNR=7.1						
WRA	**Warramunga Arr**	**43.58**	**193**	P	P	11 43 55.1	-0.2
	0.6nm,0.7s,baz=16,slow=8.9,SNR=20						
ASAR	**Alice Springs**	**47.28**	**193**	P	P	11 44 25.4	+0.7
	0.3nm,0.7s,baz=15,slow=8.6,SNR=5.9						
STKA	**Stephens Creek**	**54.47**	**183**	P	P	11 45 17.8	-0.9
	2.1nm,0.9s,baz=333,slow=6.8,SNR=4.9						
ILAR	**Eielson Array**	**60.65**	**27**	P	P	11 46 01.6	-0.2
	0.5nm,0.7s,baz=254,slow=5.9,SNR=7.2						
FINES	**FINESS Array B**	**82.49**	**335**	P	P	11 48 12.3	-1.3
	1.9nm,1.0s,baz=51,slow=5.5,SNR=4.6						
LPAZ	**La Paz**	**149.02**	**84**	PKPbc	PKPbc	11 55 41.1	+0.1
	1.4nm,0.6s,baz=293,slow=3.6,SNR=5.9						

IDC 11 11:36:04.2±1.8, 52.04N×171.64W, h0km, mb3.4/3, mb1 3.6/4, mb1mx3.6/3.45, mbtmp3.3/4, ML3.2/1, Error ellipse: s-maj=83.7km s-min=32.5km az=149.0
ISCJB 11 11:36:09.1±0.9, 51.9N±0.1×171.57W±0.08, h44km, mb3.4/3, Error ellipse: s-maj=18.7km s-min=4.9km az=162.6
NEIC 11 11:36:09.3±0.0, 51.99N×171.60W, h41km, ML3.1(AEIC), After AEIC.

ISC 11 11:36:10.3±1.1, 52.0N±0.2×171.62W±0.06, h44km, n18, σ0.88/18, mb3.4/3, Fox Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KOFP	**Korovin Flat P**	**1.55**	**282**	P	**Pn**	**11 36 35.6**	**0.0**
ATKA	**Atka Island**	**1.60**	**279**	P	**Pn**	**11 36 36.0**	**-0.1**
ATKA				S	**Sn**	**11 36 56.3**	**+0.8**
NIKH	**Nikolski High**	**1.96**	**59**	P	**Pn**	**11 36 40.3**	**-0.8**
NIKH				S	**Sn**	**11 37 03.3**	**-1.2**
OKSO	**Okmok South**	**2.52**	**56**	P	**Pn**	**11 36 49.1**	**+0.3**
OKSO				S	**Sn**	**11 37 20.1**	**+1.9**
OKFG	**Magazine Ridge**	**2.67**	**56**	P	**Pn**	**11 36 51.3**	**+0.5**
OKFG				S	**Sn**	**11 37 22.4**	**+0.4**
MREP	**Makushin Rep't**	**3.48**	**56**	P	**Pn**	**11 37 02.7**	**+0.8**
MSW	**Makushin Switc**	**3.51**	**55**	P	**Pn**	**11 37 02.7**	**+0.3**
MSW				S	**Sn**	**11 37 43.4**	**+0.8**
UNV	**Unalaska Valle**	**3.62**	**57**	P	**Pn**	**11 37 04.2**	**+0.4**
UNV				S	**Sn**	**11 37 45.7**	**+0.5**
ILAR	**Eielson Array**	**18.06**	**35**	P	**Pn**	**11 40 15.9**	**-1.7**
	0.0nm,0.3s,baz=230,slow=13,SNR=4.8						
H11N2	**WAKE ISLAND Hy**	**36.31**	**216**	T	T	12 21 41.2	
	baz=21,slow=76,SNR=11						
H11N3	**WAKE ISLAND Hy**	**36.31**	**216**	T	T	12 21 44.6	
	baz=21,slow=76,SNR=8.0						
H11N1	**WAKE ISLAND Hy**	**36.33**	**216**	T	T	12 21 37.2	
	baz=21,slow=76,SNR=8.4						
H11S1	**WAKE ISLAND Hy**	**37.50**	**215**	T	T	12 23 11.3	
	baz=22,slow=22,SNR=12						
H11S2	**WAKE ISLAND Hy**	**37.52**	**215**	T	T	12 23 10.1	
	baz=22,slow=22,SNR=7.6						
H11S3	**WAKE ISLAND Hy**	**37.52**	**215**	T	T	12 23 10.1	
	baz=22,slow=22,SNR=10						
PDAR	**Pinedale Array**	**41.84**	**77**	P	**P**	**11 43 56.1**	**+0.2**
	0.4nm,0.9s,baz=296,slow=4.6,SNR=3.7						
TXAR	**Lajitas Array**	**54.15**	**87**	P	**P**	**11 45 30.7**	**-0.3**
	0.2nm,0.5s,baz=301,slow=6.7,SNR=4.0						
ASAR	**Alice Springs**	**89.09**	**228**	P	**P**	**11 49 01.1**	**+0.4**
	0.3nm,0.7s,baz=30,slow=4.2,SNR=3.8						

WEL 11 11:40:03.3±0.5, 38.87S×175.15E, h238km±3km, ML3.6/9, 7D, Error ellipse: s-maj=4.2km s-min=3.1km az=90.0, North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PKVZ	**Pokaka**	**0.44**	**160**	PN	Pn	11 40 34.4	-0.2
FWVZ	**Far West T-bar**	**0.49**	**141**	↓PN	Pn	11 40 34.9	-0.1
FWVZ				*e*SN	S	11 40 59.2	-0.7
WNVZ	**Wahianoa**	**0.57**	**143**	PN	Pn	11 40 35.1	-0.1
MOVZ	**Moawhango**	**0.71**	**139**	PN	Pn	11 40 35.2	-0.4
WAZ	**Wanganui**	**0.89**	**188**	PN	Pn	11 40 36.1	-0.2
WAZ				*e*SN	S	11 41 01.1	-1.3
BHHZ	**Black Hill Sta**	**0.94**	**131**	PN	Pn	11 40 36.5	-0.2
MRHZ	**Matea Rd**	**0.99**	**88**	PN	Pn	11 40 36.7	-0.3
BKZ	**Black Stump Fm**	**1.08**	**106**	↓PN	Pn	11 40 37.6	+0.1
KWHZ	**Kaweka Forest**	**1.13**	**119**	PN	Pn	11 40 37.7	-0.1
KWHZ				SN	S	11 41 05.1	+0.1
KWHZ				AML	AML	11 41 08.0	
KRHZ	**Kereru**	**1.22**	**129**	↓PN	Pn	11 40 38.5	+0.2
KRHZ				AML	AML	11 41 06.0	
PNHZ	**Pukenui**	**1.32**	**142**	PN	Pn	11 40 38.9	-0.1
OHWZ	**Ohakea**	**1.34**	**175**	PN	Pn	11 40 39.0	-0.1
TSZ	**Takapari Road**	**1.34**	**152**	↓PN	Pn	11 40 38.9	-0.3
TSZ				SN	S	11 41 06.4	-1.0
WPHZ	**Waipukurau**	**1.55**	**140**	PN	Pn	11 40 40.7	-0.1
KAHZ	**Kahuranaki**	**1.62**	**125**	PN	Pn	11 40 41.9	+0.5
URZ	**Urewera**	**1.65**	**69**	PN	Pn	11 40 41.1	-0.5
URZ				SN	S	11 41 10.0	-1.7
PXZ	**Pawanui**	**1.76**	**132**	↓PN	Pn	11 40 42.4	-0.1
MRZ	**Mangatainoka R**	**1.81**	**170**	PN	Pn	11 40 41.5	-1.5
MRZ				SN	S	11 41 11.5	-2.8
MRZ				AML	AML	11 41 13.5	
MWZ	**Matawai**	**1.94**	**75**	PN	Pn	11 40 44.1	-0.1
OGWZ	**Otaki Gorge**	**1.94**	**180**	PN	Pn	11 40 42.6	-1.5
OGWZ				AML	AML	11 41 15.1	
OGWZ				AML	AML	11 41 15.6	
KNZ	**Kokohu**	**1.97**	**95**	↓PN	Pn	11 40 44.8	+0.4
KIW	**Kapiti Island**	**1.99**	**185**	PN	Pn	11 40 42.7	-1.9
KIW				AML	AML	11 41 14.0	
HOWZ	**Holdsworth Sta**	**2.04**	**172**	PN	Pn	11 40 43.2	-1.8
HOWZ				AML	AML	11 41 15.0	
RUGZ	**Raukumara Rang**	**2.18**	**66**	PN	Pn	11 40 45.4	-1.2
CAW	**Cannon Point**	**2.23**	**182**	↓PN	Pn	11 40 44.8	-2.0
CAW				AML	AML	11 41 18.9	
MTW	**Mount Morrison**	**2.30**	**173**	PN	Pn	11 40 45.5	-2.0
HAZ	**Te Kaha**	**2.35**	**62**	PN	Pn	11 40 47.1	-1.0
TCW	**Tory Channel**	**2.43**	**196**	PN	Pn	11 40 46.7	-2.1
TCW				AML	AML	11 41 22.1	
TCW				AML	AML	11 41 22.2	
PLWZ	**Palliser**	**2.69**	**178**	PN	Pn	11 40 49.1	-2.6
NNZ	**Nelson**	**2.71**	**210**	PN	Pn	11 40 48.6	-3.1
NNZ				SN	S	11 41 24.4	-5.5
TUWZ	**Tuamarina**	**2.71**	**200**	PN	Pn	11 40 49.3	-2.6
TUWZ				AML	AML	11 41 26.5	
TUWZ				AML	AML	11 41 26.7	
QRZ	**Quartz Range**	**2.81**	**225**	PN	Pn	11 40 49.0	-3.9
THZ	**Tophouse**	**3.36**	**210**	PN	Pn	11 40 55.3	-3.7
INZ	**Inchbonnie**	**4.76**	**215**	PN	Pn	11 41 10.7	-5.0
MQZ	**McQueen's Vall**	**5.18**	**200**	PN	Pn	11 41 15.3	-5.5
MQZ				*e*SN	S	11 42 12.7	-10

IDC 11 11:58:52.9±1.1, 18.83S×167.69E, h0km, mb4.1/8, mb1 4.3/9, mb1mx4.0/41, mbtmp4.1/9, ML3.7/1, MS3.2/4, Ms1 3.2/4, ms1mx2.8/29, Error ellipse: s-maj=43.4km s-min=20.8km az=142.0
ISCJB 11 11:58:55.7±0.3, 18.92S±0.06×167.53E±0.07, h28km, mb4.9/30, MS3.2/3, Error ellipse: s-maj=10.8km s-min=6.6km az=36.4
NEIC 11 11:58:58.2±0.3, 18.94S×167.60E, h35km, mb5.1/23, Error ellipse: s-maj=12.1km s-min=7.6km az=151.0

ISC 11 11:58:57.1±0.5, 18.94S±0.08×167.6E±0.1, h28km, n78, σ1.01/72, mb5.1/29, MS3.3/3, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**3.31**	**199**	Pn	**Pn**	**11 59 46.6**	**-0.5**
	7.1nm,0.3s,baz=82,slow=13,SNR=25						
DZM				Sn	**Sn**	**12 00 25.6**	**0.0**
	8.4nm,0.3s,baz=358,slow=22,SNR=4.0						

DZM	**Mont Dzumac**	**3.31**	**199**	*e*Pn	**Pn**	**11 59 45.8**	**-1.3**
DZM				*e*Sn	**Sn**	**12 00 25.6**	**0.0**
HNR	**Honiara**	**12.02**	**321**	LR	LR	12 05 19.1	
	comp=Z,76nm,18.2s,baz=102,slow=32						
HNR	**Honiara**	**12.02**	**321**	*e*Pn	**Pn**	**12 01 45.1**	**-1.5**
HNR				*e*Sn	Sn	12 03 45.6	-14
CTA	**Charters Tower**	**20.17**	**263**	P	Pn	12 03 32.0	+0.5
	6.3nm,0.8s,baz=112,slow=7.2,SNR=6.2						
STKA	**Stephens Creek**	**26.72**	**236**	P	**P**	**12 04 36.6**	**+2.4**
	2.8nm,0.7s,baz=60,slow=11,SNR=7.0						
STKA				LR	LR	12 13 10.4	
	comp=Z,86nm,19.3s,baz=45,slow=32						
STKA	**Stephens Creek**	**26.72**	**236**	*e*P	**P**	**12 04 35.6**	**+1.3**
	8.0nm,1.8s						
RAR	**Rarotonga**	**30.68**	**100**	*e*P	**P**	**12 05 08.7**	**-0.9**
	307nm,1.9s						
WB2	**Warramunga Arr**	**31.36**	**263**	*e*P	**P**	**12 05 14.5**	**-1.2**
WR1	**Warramunga Arr**	**31.37**	**263**	*e*P	**P**	**12 05 14.5**	**-1.2**
	32nm,1.8s						
WRA	**Warramunga Arr**	**31.37**	**263**	P	**P**	**12 05 14.5**	**-1.2**
	0.6nm,0.8s,baz=82,slow=6.1,SNR=8.8						
AS01	**Alice Springs**	**31.67**	**255**	*e*P	**P**	**12 05 18.2**	**-0.1**
AS31	**Alice Springs**	**31.71**	**255**	*e*P	**P**	**12 05 18.9**	**+0.2**
	3.1nm,0.8s						
ASAR	**Alice Springs**	**31.71**	**255**	P	**P**	**12 05 18.9**	**+0.1**
	5.9nm,0.7s,baz=84,slow=8.2,SNR=45						
ASAR				LR	LR	12 17 03.7	
	comp=Z,84nm,19.5s,baz=100,slow=34						
GUMO	**Guam**	**39.33**	**324**	LR	LR	12 22 41.4	
	comp=Z,17nm,18.8s,baz=72,slow=36						
FITZ	**Fitzroy Crossi**	**39.74**	**264**	P	**P**	**12 06 27.8**	**+0.2**
	4.3nm,0.8s,baz=194,slow=9.4,SNR=4.0						
FITZ	**Fitzroy Crossi**	**39.74**	**264**	*e*P	**P**	**12 06 27.8**	**+0.2**
	10nm,1.0s						
PTCN	**Pitcairn Islan**	**57.65**	**108**	*e*P	**P**	**12 08 45.6**	**+0.4**
	317nm,0.5s						
SVW2	**Sparrevohn**	**85.05**	**17**	*e*P	**P**	**12 11 30.7**	**+0.9**
	31nm,1.8s						
HOM	**Homer**	**85.06**	**19**	*e*P	**P**	**12 11 30.5**	**+0.7**
	100nm,1.0s						
RSO	**Redoubt South**	**85.35**	**18**	*e*P	**P**	**12 11 31.3**	**-0.3**
BRLK	**Bradley Lake**	**85.38**	**20**	*e*P	**P**	**12 11 31.9**	**+0.4**
	23nm,1.4s						
SONA0	**Songino Array**	**86.06**	**324**	*e*P	**P**	**12 11 36.4**	**+1.2**
	2.9nm,1.2s						
SONM	**Songino Array**	**86.06**	**324**	P	**P**	**12 11 36.4**	**+1.2**
	0.8nm,0.7s,baz=146,slow=4.4,SNR=5.8						
SONA1	**Songino Array**	**86.06**	**324**	*e*P	**P**	**12 11 36.6**	**+1.3**
TT01	**Tatalina**	**86.43**	**16**	*e*P	**P**	**12 11 37.7**	**+1.1**
RC01	**Rabbit Creek A**	**86.77**	**19**	*e*P	**P**	**12 11 38.3**	**+0.1**
	30nm,1.5s						
CAST	**Castle Rocks**	**87.90**	**17**	*e*P	**P**	**12 11 42.7**	**-1.0**
	3.6nm,0.6s						
SCM	**Sheep Creek Mo**	**88.09**	**20**	*e*P	**P**	**12 11 44.0**	**-0.8**
	33nm,1.8s						
TRF	**Thorofare Moun**	**88.43**	**18**	*e*P	**P**	**12 11 45.5**	**-0.9**
	17nm,1.6s						
RND	**Reindeer**	**88.81**	**18**	*e*P	**P**	**12 11 47.0**	**-1.1**
	18nm,1.8s						
SNAA	**Sanae**	**89.39**	**183**	*e*P	**P**	**12 11 51.5**	**+0.6**
	20nm,2.0s						
K05A	**Summer Lake**	**89.81**	**44**	*e*P	**P**	**12 11 53.9**	**+0.5**
	52nm,2.0s						
BTCC	**Brunts Corner**	**89.90**	**55**	*e*P	**P**	**12 11 55.9**	**+2.1**
CCB	**Clear Creek Bu**	**90.05**	**18**	*e*P	**P**	**12 11 53.6**	**-0.1**
	14nm,1.8s						
HDA	**Harding Lake**	**90.12**	**18**	*e*P	**P**	**12 11 53.7**	**-0.4**
	26nm,1.6s						
SRIG	**Santa Rosalia**	**90.18**	**61**	*e*P	**P**	**12 11 52.1**	**-3.1**
	55nm,0.6s						
ILAR	**Eielson Array**	**90.41**	**18**	P	**P**	**12 11 54.0**	**-1.4**
	1.0nm,0.7s,baz=240,slow=4.9,SNR=16						
ILB	**Eielson Array**	**90.41**	**18**	*e*P	**P**	**12 11 54.0**	**-1.4**
IL1	**Eielson Array**	**90.41**	**18**	*e*P	**P**	**12 11 54.1**	**-1.3**
WVOR	**Wild Horse Val**	**91.19**	**45**	*e*P	**P**	**12 12 00.6**	**+0.9**
	4.9nm,1.2s						
LTY	**Liberty**	**91.94**	**40**	*e*P	**P**	**12 12 03.0**	**0.0**
	15nm,1.8s						
EGAK	**Eagle**	**92.15**	**20**	*e*P	**P**	**12 12 03.8**	**+0.3**
	12nm,1.6s						
FYU	**Fort Yukon**	**92.19**	**17**	*e*P	**P**	**12 12 04.3**	**+0.7**
	61nm,1.8s						
B08A	**Colville Reser**	**93.23**	**40**	*e*P	**P**	**12 12 08.9**	**-0.1**
	6.7nm,1.6s						
ROA	**Roan Cliffs**	**95.95**	**50**	*e*P	**P**	**12 12 24.0**	**+2.0**
LTX	**Lajitas**	**97.97**	**62**	*e*P	Pdif	12 12 31.3	+0.2
TXAR	**Lajitas Array**	**97.97**	**62**	P	Pdif	12 12 31.3	+0.2
	0.2nm,0.6s,baz=223,slow=5.8,SNR=3.7						
YKA	**Yellowknife Ar**	**101.11**	**28**	P	**Pdif**	**12 12 44.1**	**0.0**
	0.7nm,0.6s,baz=260,slow=4.5,SNR=4.9						
YKB5	**Yellowknife Ar**	**101.11**	**28**	*e*Pdif	**Pdif**	**12 12 44.1**	**0.0**
TZTN	**Tazewell**	**115.93**	**58**	*e*PKPdf	**PKPdf**	**12 17 37.6**	**+0.1**
SSPA	**Standing Stone**	**120.53**	**54**	*e*PKPdf	**PKPdf**	**12 17 45.1**	**-1.2**
DAMY	**Dhamar**	**125.65**	**275**	*e*PKPdf	**PKPdf**	**12 17 54.8**	**-2.4**
SFJD	**Kangerlussuaq**	**126.07**	**18**	*e*PKPdf	**PKPdf**	**12 17 57.5**	**+1.5**
PKME	**Peaks-Kenny Pk**	**126.39**	**47**	*e*PKPdf	**PKPdf**	**12 17 57.0**	**-0.3**
FIA0	**FINESS Array S**	**129.72**	**337**	*e*PKPdf	**PKPdf**	**12 18 04.1**	**+0.9**
FINES	**FINESS Array B**	**129.72**	**337**	PKP	**PKPdf**	**12 18 04.1**	**+0.9**
	1.4nm,0.9s,baz=310,slow=7.2,SNR=3.8						
FDF	**Fort de France**	**133.25**	**87**	*e*PKPdf	**PKPdf**	**12 18 10.6**	**-0.7**
CONA	**Conrad Observa**	**143.08**	**328**	*i* PKPdf	**PKPdf**	**12 18 29.2**	**+0.7**
	4.0nm,1.7s						
GERES	**GERESS Array B**	**143.49**	**331**	PKP	PKPbc	12 18 27.1	+0.7
	0.4nm,0.7s,baz=42,slow=1.6,SNR=4.0						
MOA	**Molln**	**143.92**	**329**	*i* PKPdf	**PKPdf**	**12 18 28.8**	**-1.0**
	4.6nm,1.0s						
SOKA	**Soboth**	**144.34**	**327**	*i* PKPdf	PKPbc	12 18 29.4	+0.4
	4.6nm,1.1s						
OBKA	**Obir**	**144.70**	**327**	*i* PKPdf	**PKPdf**	**12 18 31.2**	**-0.2**
	3.6nm,0.8s						
KBA	**Koelnbreinsper**	**144.91**	**329**	*i* PKPdf	PKPbc	12 18 31.1	+0.1
	3.6nm,0.7s						
MYKA	**Terra Mystica**	**145.07**	**328**	*i* PKPdf	**PKPdf**	**12 18 31.6**	**-0.3**
	5.3nm,0.9s						
ABTA	**Abfaltersbach**	**145.55**	**329**	*i* PKPab	**PKPdf**	**12 18 32.8**	**0.0**
	11nm,0.9s						
WATA	**Walderalm**	**145.57**	**331**	*i* PKPab	**PKPab**	**12 18 33.6**	**+0.2**
	3.1nm,0.8s						
WTTA	**Wattenberg**	**145.59**	**331**	*i* PKPab	**PKPab**	**12 18 33.7**	**+0.2**
	3.9nm,0.6s						
MOTA	**Moosalm**	**145.78**	**331**	*i* PKPab	**PKPab**	**12 18 34.3**	**+0.2**
	7.8nm,0.8s						
RETA	**Reutte**	**145.82**	**332**	*i* PKPab	**PKPab**	**12 18 34.4**	**+0.2**
	1.6nm,0.5s						
FETA	**Feichten**	**146.19**	**331**	*i* PKPab	**PKPab**	**12 18 35.9**	**+0.2**
	6.0nm,0.8s						
BFO	**Black Forest**	**146.21**	**335**	*e*PKPdf	**PKPab**	**12 18 35.7**	**+0.1**
DAVA	**Damuels**	**146.37**	**332**	*i* PKPab	**PKPbc**	**12 18 35.0**	**-0.6**
	3.8nm,0.6s						
FUORN	**Ofenpass-Fuorn**	**146.70**	**331**	*e*PKPbc	**PKPab**	**12 18 37.8**	**-0.1**
TUE	**Stuetta**	**147.23**	**332**	*e*PKPbc	**PKPab**	**12 18 39.0**	**-0.8**
SENIN	**Lac Senin/Sane**	**148.20**	**334**	*e*PKPbc	**PKPbc**	**12 18 41.8**	**+1.1**
TORD	**Torodi Ar. Bea**	**165.30**	**249**	PKPab	**PKPab**	**12 19 58.1**	**+0.7**
	0.5nm,0.7s,baz=75,slow=4.5,SNR=3.3						
TOA1	**Torodi Ar. Sit**	**165.30**	**249**	*e*PKPab	**PKPab**	**12 19 58.1**	**+0.7**

MOS 11 12:06:12.6±1.4, 50.10N×155.53E, h133km, mb4.2/1, Error ellipse: s-maj=99.9km s-min=11.3km az=69.2

KRSC 11 12:06:12.7±1.0, 50.10N×155.53E, h132km±11km, ML4.1, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SKR	**Severo-Kuril's**	**0.69**	**33**	*e*PN	Pn	12 06 36.2	+3.1
SKR				*e*S	Sn	12 06 49.0	+0.3
SKR				pmax	pmax		
	comp=Z,275nm,0.4s						
SKR				smax	smax		
	comp=E,638nm,0.6s						
SKR				smax	smax		
	comp=N,639nm,0.9s						
SKR	**Severo-Kuril's**	**0.69**	**33**	*e*P	Pn	12 06 36.0	+2.9
SKR				*e*S	Sn	12 06 48.8	+0.1
KDTR	**Khodutka, Kamc**	**2.35**	**42**	*e*P	Pn	12 06 53.2	+2.3
KDTR				*e*S	Sn	12 07 20.9	+0.5
MTVR	**Mutnovka**	**2.91**	**34**	PN	Pn	12 06 59.8	+1.6
MTVR				S	Sn	12 07 34.6	+1.2
MTVR	**Mutnovka**	**2.91**	**34**	*e*P	Pn	12 06 59.8	+1.6
MTVR				*e*S	Sn	12 07 34.6	+1.2
RUS	**Russkaya**	**2.99**	**38**	PN	Pn	12 07 01.7	+2.6
RUS				S	Sn	12 07 34.9	-0.1
RUS	**Russkaya**	**2.99**	**38**	*e*P	Pn	12 07 01.7	+2.6
RUS				*e*S	Sn	12 07 34.9	-0.1
APC	**Apacha**	**3.00**	**19**	PN	Pn	12 07 01.5	+2.2
APC	**Apacha**	**3.00**	**19**	P	Pn	12 07 01.5	+2.2
KRMR	**Karymshinskiy**	**3.18**	**30**	PN	Pn	12 07 02.8	+1.3
KRMR				S	Sn	12 07 40.2	+0.8
KRMR	**Karymshinskiy**	**3.18**	**30**	*e*P	Pn	12 07 02.8	+1.3
KRMR				*e*S	Sn	12 07 40.2	+0.8
DALK	**Dalny**	**3.56**	**33**	PN	Pn	12 07 10.0	+3.5
DALK				S	Sn	12 07 50.2	+2.0
DALK	**Dalny**	**3.56**	**33**	*e*P	Pn	12 07 10.0	+3.5
DALK				*e*S	Sn	12 07 50.2	+2.0
AVH	**Avacha**	**3.74**	**31**	PN	Pn	12 07 11.9	+2.9
AVH				S	Sn	12 07 54.5	+1.8
AVH	**Avacha**	**3.74**	**31**	*e*P	Pn	12 07 11.9	+2.9
AVH				*e*S	Sn	12 07 54.5	+1.8
GNL	**Ganaly**	**3.90**	**22**	PN	Pn	12 07 13.0	+1.9
GNL	**Ganaly**	**3.90**	**22**	*e*P	Pn	12 07 13.0	+1.9
SPN	**Mys Shipunski**	**4.10**	**41**	PN	Pn	12 07 16.1	+2.4
SPN				S	Sn	12 08 00.8	-0.3
SPN	**Mys Shipunski**	**4.10**	**41**	*e*P	Pn	12 07 16.1	+2.4
SPN				*e*S	Sn	12 08 00.8	-0.3

IDC 11 12:22:46.0±6.7, 19.46S×178.12W, h620km±77km, mb3.3/8, mb1 3.5/9, mb1mx3.2/31, mbtmp4.3/9, Error ellipse: s-maj=44.1km s-min=25.5km az=85.0

ISC 11 12:22:44.2±1.2, 19.45S±0.2×178.0W±0.2, h600km, n12, σ1.14/11, mb3.9/8, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**8.08**	**48**	P	P	12 24 40.4	-4.0
	6.5nm,0.3s,baz=200,slow=2.0,SNR=11						
AFI				S	S	12 26 15.1	-7.7
	2.4nm,0.3s,baz=24,slow=20,SNR=4.0						
DZM	**Mont Dzumac**	**14.80**	**257**	P	**P**	**12 25 51.9**	**+1.2**
	1.6nm,0.3s,baz=115,slow=21,SNR=14						
STKA	**Stephens Creek**	**38.28**	**243**	P	**P**	**12 29 14.5**	**-0.4**
	1.6nm,0.3s,baz=76,slow=7.8,SNR=14						
WRA	**Warramunga Arr**	**44.77**	**261**	P	**P**	**12 30 05.2**	**-0.8**
	3.8nm,0.3s,baz=97,slow=7.5,SNR=194						
ASAR	**Alice Springs**	**44.79**	**256**	P	**P**	**12 30 05.8**	**-0.4**
	5.0nm,0.5s,baz=87,slow=8.1,SNR=105						
VNDA	**Vanda**	**59.00**	**185**	P	**P**	**12 31 46.8**	**-0.1**
	0.4nm,0.6s,baz=6.2,slow=7.0,SNR=3.5						
MJAR	**Matsushiro Arr**	**69.33**	**323**	P	**P**	**12 32 53.2**	**+0.4**
	1.6nm,0.6s,baz=154,slow=6.2,SNR=8.6						
PETK	**Petropavlovsk-**	**75.21**	**345**	P	**P**	**12 33 26.8**	**+0.6**
	3.8nm,0.8s,baz=174,slow=5.4,SNR=2.5						
ILAR	**Eielson Array**	**87.24**	**13**	P	**P**	**12 34 27.1**	**-0.3**
	0.5nm,1.0s,baz=222,slow=3.7,SNR=4.2						
SONM	**Songino Array**	**94.93**	**319**	P	**P**	**12 35 01.6**	**-1.8**
	0.3nm,0.4s,baz=104,slow=6.1,SNR=5.3						
BRTR	**Keskin Array B**	**146.10**	**314**	PKPbc	**PKPdf**	**12 41 18.3**	**+2.0**
	1.1nm,0.6s,baz=134,slow=2.9,SNR=5.0						
GERES	**GERESS Array B**	**149.15**	**345**	PKPbc	**PKPbc**	**12 41 26.2**	**+0.2**
	0.7nm,0.6s,baz=11,slow=2.7,SNR=6.5						

JMA 11 12:23:15.0±0.1, 37.98N×144.56E, h34km, M3.6, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JIO	**Ouri**	**2.57**	**282**	P	Pn	12 23 55.9	+1.7
JIO				*e*S	Sn	12 24 25.9	+1.6
MIYJ	**Miyakonagasawa**	**2.67**	**308**	P	Pn	12 23 57.0	+1.4
MIYJ				*e*S	Sn	12 24 28.6	+1.9
JOM	**Ohasama**	**2.96**	**301**	P	Pn	12 24 01.6	+2.0
JFT	**Otama**	**3.38**	**263**	*e*S	Sn	12 24 45.7	+1.4
JRY	**Ryogami san**	**4.94**	**248**	*e*S	Sn	12 25 20.2	-2.5

ISCJB 11 12:27:43.4±0.1, 32.90N±0.02×100.80W±0.01, h10km, mb4.5/51, MS3.8/16, Error ellipse: s-maj=2.7km s-min=1.6km az=20.9
*IDC 11 12:27:43.4±0.6, 32.88N×100.91W, h0km, mb4.2/11, mb1 4.4/19, mb1mx4.1/50, mbtmp4.2/19, ML4.4/7, MS3.8

TX31 ePg Pb 12 28 59.8 -0.1
TX31 eSg Sb 12 29 52.9 +0.6
TXAR Lajitas Array 4.29 215 Pn Pn 12 28 48.5 -1.6
20nm,0.3s,baz=43,slow=11,SNR=908
TXAR Pg Pb 12 28 59.8 -0.1
385nm,0.3s,baz=36,slow=16,SNR=300
TXAR Lg Lg 12 29 53.5
461nm,0.3s,baz=41,slow=23,SNR=11
TXAR LR LR 12 30 34.1
comp=Z,1μm,18.6s,baz=0.0,slow=40
BNM Barren Site 5.00 286 ePn Pn 12 28 60.0 -0.1
BNM ePg Pb 12 29 14.0 +1.9
LPM Los Pinos Moun 5.05 288 ePn Pn 12 29 00.5 -0.1
ANMO Albuquerque 5.11 295 Pn Pn 12 29 01.6 +0.2
3.4nm,0.3s,baz=111,slow=16,SNR=54
ANMO Lg Lg 12 30 18.5
486nm,0.3s,baz=25,slow=19,SNR=19
ANMO LR LR 12 31 10.4
comp=Z,570nm,19.4s,baz=120,slow=41
ANMO Albuquerque 5.11 295 ePn Pn 12 29 01.4 0.0
ANMO eSg Sb 12 30 19.6 +3.7
TUL1 Leonard 5.14 53 ePn Pn 12 29 02.5 +0.8
T25A Trinidad 5.16 326 ePn Pn 12 29 03.7 +1.5
T25A ePg Pb 12 29 16.6 +1.8
T25A eSg Sg 12 30 27.4 -2.0
Y22D IRIS PASSCAL I 5.23 285 ePn Pn 12 29 03.8 +0.8
Y22D eSg Sg 12 30 26.8 -4.6
NATX Nacogdoches 5.34 100 ePn Pn 12 29 06.0 +1.5
LAZ Ladron 5.47 288 ePn Pn 12 29 06.0 -0.5
LAZ eSg Sb 12 30 31.9 +5.5
121A Cookes Peak, D 5.87 268 ePn Pn 12 29 12.1 +0.1
7μm,0.7s
KVTX Kingsville 5.90 154 ePn Pn 12 29 12.3 +0.2
CBKS Cedar Bluff 5.98 8 ePn Pn 12 29 15.2 +1.8
SDCO Great Sand Dun 6.17 323 ePn Pn 12 29 17.1 +1.0
SDCO ePg Pb 12 29 37.1 +5.1
MIAR Mount Ida 6.27 73 ePn Pn 12 29 18.2 +1.0
KSCO Kaye Shedlock' 6.29 347 ePn Pn 12 29 18.5 +1.0
KSCO ePg Pg 12 29 39.7 -4.3
KSCO eSg Sg 12 31 06.2 +0.8
WLAR White Oak Lake 6.51 81 ePn Pn 12 29 20.9 +0.3
HHAR Hobbs 6.62 57 ePn Pn 12 29 22.1 0.0
S22A 4UR Ranch, Cre 6.90 316 ePn Pn 12 29 28.0 +1.9
S22A ePg Pb 12 29 49.5 +5.1
S22A eSg Sg 12 31 25.1 +0.1
Q24A Divide 7.00 331 ePn Pn 12 29 29.1 +1.4
Q24A ePg Pg 12 29 53.8 -3.9
Q24A eSg Sg 12 31 29.0 +0.5
KSU1 Kansas State U 7.08 28 ePn Pn 12 29 28.7 +0.3
HPIG 7.26 217 ePn Pn 12 29 29.9 -1.2
UALR University of 7.31 73 ePn Pn 12 29 32.1 +0.6
319A Douglas 7.32 260 ePn Pn 12 29 31.3 -0.5
X301 Greenbrier Sit 7.38 69 ePn Pn 12 29 33.7 +1.2
X301 eSg Sg 12 31 40.9 +0.4
WHAR Wooly Hollow 7.48 69 ePn Pn 12 29 34.9 +1.1
MVCO Mesa Verde 7.62 307 ePn Pn 12 29 37.7 +1.6
MVCO eSg Sg 12 31 46.4 -2.0
CCAR Cane Creek 7.65 80 ePn Pn 12 29 36.9 +0.8
W18A Petrified Fore 7.72 289 ePn Pn 12 29 38.5 +1.1
X18A Snowflake 7.77 285 ePn Pn 12 29 38.6 +0.6
ISCO Idaho Springs 7.91 332 ePn Pn 12 29 41.5 +1.5
ISCO eSg Sg 12 31 55.0 -2.4
SMCO Snowmass 8.01 323 ePn Pn 12 29 43.9 +2.5
SMCO ePg Pg 12 30 11.3 -5.7
LNIG Linares 8.05 171 ePn Pn 12 29 41.0 -0.7
OGNE Ogallala 8.10 354 ePn Pn 12 29 42.8 +0.3
OGNE ePg Pg 12 30 18.2 -0.6
PV01 Paradox Valley 8.20 312 ePn Pn 12 29 47.5 +3.6
PV01 ePg Pg 12 30 19.9 -0.7
TUC Tucson 8.42 269 ePn Pn 12 29 46.6 -0.2
PV05 Paradox Valley 8.50 310 ePn Pn 12 29 51.5 +3.4
PV04 Paradox Valley 8.56 312 ePn Pn 12 29 52.6 +3.7
PV10 Paradox Valley 8.64 312 ePn Pn 12 29 53.0 +3.1
VBMS Vicksburg 8.73 92 ePn Pn 12 29 51.8 +0.8
PV09 Paradox Valley 8.77 312 ePn Pn 12 29 57.0 +5.1
BGNE Belgrade 8.77 13 ePn Pn 12 29 52.0 +0.4
HBAR Harrisburg 8.84 70 ePn Pn 12 29 52.9 +0.5
X16A Lo Mia Camp, P 8.98 283 ePn Pn 12 29 58.5 +4.0
N23A Red Feather La 8.98 334 ePn Pn 12 29 55.8 +1.1
WUAZ Wupatki 9.12 290 ePn Pn 12 29 58.0 +1.5
PHWY Pilot Hill 9.18 338 ePn Pn 12 29 58.6 +1.2
O20A White River Ci 9.37 323 ePn Pn 12 30 03.3 +3.3
PBMO Poplar Bluff 9.39 63 ePn Pn 12 29 59.5 -0.5
OXF Oxford 9.65 77 ePn Pn 12 30 02.2 -1.5
EBZ Ebenezer Churc 9.79 74 ePn Pn 12 30 05.3 -0.2
PARMO Parma 9.86 64 ePn Pn 12 30 06.5 +0.1
HALT Halls 9.96 69 ePn Pn 12 30 07.6 -0.3
SRLS San Rafael Swe 10.01 311 ePn Pn 12 30 12.1 +2.3
U15A North Rim 10.08 294 ePn Pn 12 30 12.2 +2.4
GLAT Glass 10.10 67 ePn Pn 12 30 08.9 -0.8
P18A Preston Nutter 10.15 314 ePn Pn 12 30 14.5 +3.8
214A Organ Pipe Nat 10.17 268 ePn Pn 12 30 10.7 -0.1
134nm,0.5s
ZAIG Zacatecas 10.19 189 ePn Pn 12 30 12.0 +0.6
Y14A Wickenburg 10.23 279 ePn Pn 12 30 11.8 +0.1
SLM Saint Louis 10.34 53 ePn Pn 12 30 12.1 -0.9
PKCU Pink Cliffs 10.44 299 ePn Pn 12 30 16.4 +1.7
UTMT University of 10.45 67 ePn Pn 12 30 14.8 +0.3
TMUT Trail Mountain 10.55 310 ePn Pn 12 30 17.3 +1.1
K22A Casper 10.74 337 ePn Pn 12 30 20.1 +1.5
MSU Marysvale 10.80 305 ePn Pn 12 30 20.9 +1.4
SCIA State Center 10.85 32 ePn Pn 12 30 19.8 -0.2
113A Mohawk Valley, 10.88 273 ePn Pn 12 30 20.7 +0.2
LCMT Little Creek M 10.99 295 ePn Pn 12 30 25.0 +3.0
W13A Hualapai Mount 11.06 285 ePn Pn 12 30 22.5 -0.7
WVT Waverly 11.20 70 ePn Pn 12 30 23.0 -1.8
MPU Maple Canyon 11.23 312 ePn Pn 12 30 26.0 +0.5
CCUT Cedar City 11.26 298 ePn Pn 12 30 32.5 +6.7
ECSD EROS Data Cent 11.32 16 ePn Pn 12 30 25.3 -1.2
SRIG Santa Rosalia 11.33 244 ePn Pn 12 30 26.5 -0.1
NLU North Lily Min 11.47 311 ePn Pn 12 30 34.1 +5.3
JLU Jordanelle 11.48 315 ePn Pn 12 30 28.6 -0.2
Y12C Blythe 11.49 278 ePn Pn 12 30 27.9 -0.9
RSSD Black Hills 11.50 348 ePn Pn 12 30 28.5 -0.6
IMU Iron Mountain 11.54 303 ePn Pn 12 30 30.1 +0.5
IMU eSn Sn 12 32 35.3 -4.0
LRAL Lakeview Retre 11.62 86 ePn Pn 12 30 29.0 -1.6
GLA Glamis 11.76 275 ePn Pn 12 30 32.0 -0.5
BRAL Brewton 11.82 95 ePn Pn 12 30 31.6 -1.7
OLIL Olney 11.87 57 ePn Pn 12 30 33.3 -0.6
USIN University of 11.87 61 ePn Pn 12 30 32.2 -0.8
HDIL Hopedale 12.01 47 ePn Pn 12 30 34.5 -1.3
PD31 Pinedale Array 12.03 328 ePn Pn 12 30 37.0 +0.7
PDAR Pinedale Array 12.03 328 Pn Pn 12 30 37.4 +1.0
0.4nm,0.3s,baz=123,slow=15,SNR=19
PDAR Pg 12 31 21.9
1.5nm,0.3s,baz=113,slow=14,SNR=6.0
PDAR Lg Lg 12 33 48.9
1.1nm,0.3s,baz=86,slow=31,SNR=2.7
BW06 Boulder Array 12.03 328 ePn Pn 12 30 37.0 +0.6
LDFC Landfair 12.05 284 ePn Pn 12 30 41.0 +4.3
LPIG La Paz 12.08 226 Pn Pn 12 30 38.7 +1.9
2.5nm,0.3s,baz=184,slow=2.6,SNR=11
LPIG LR LR 12 35 00.2
comp=Z,178nm,18.8s,baz=43,slow=36
DUG Dugway, Tooele 12.08 311 ePn Pn 12 30 37.0 0.0
SLBS Sierra La Lagu 12.18 224 ePn Pn 12 30 40.1 +1.7
HWUT Hardware Ranch 12.20 319 ePn Pn 12 30 40.5 +1.9
SHPR Sheep Range 12.33 291 ePn Pn 12 30 43.2 +2.7
SWET Sewanee 12.57 75 ePn Pn 12 30 42.2 -1.5
BGU Big Grassy Mou 12.63 313 ePn Pn 12 30 45.0 +0.5
WCI Wyandotte Cave 12.98 62 ePn Pn 12 30 47.8 -1.4
HVU Hansel Valley 12.99 317 ePn Pn 12 30 50.9 +1.4
JFWS Jewell Farm 13.03 37 ePn Pn 12 30 48.3 -1.5
REDW Red Top Meadow 13.09 326 ePn Pn 12 30 53.3 +2.4
PFO Pinyon Flats O 13.10 277 Pn Pn 12 30 52.0 +1.0
0.3nm,0.3s,baz=84,slow=11,SNR=7.0
PFO Lg Lg 12 34 36.3
0.2nm,0.3s,baz=356,slow=15,SNR=6.0
PFO Pinyon Flats O 13.10 277 ePn Pn 12 30 50.6 -0.4
PFO Lg Lg 12 34 36.3
SNOW Snow King Moun 13.12 326 ePn Pn 12 30 51.5 +0.2
BLO Bloomington 13.16 58 ePn Pn 12 30 50.5 -1.1
LOHW Long Hollow 13.17 327 ePn Pn 12 30 53.9 +2.0
R11A Troy Canyon, C 13.18 299 ePn Pn 12 30 53.6 +1.6
TPAW Teton Pass 13.23 326 ePn Pn 12 30 54.5 +1.6
TPNV Topopah Spring 13.29 292 ePn Pn 12 30 57.1 +3.7
SFIN Lafayette 13.32 52 ePn Pn 12 30 51.7 -2.0
BAR Barrett 13.33 273 ePn Pn 12 30 54.4 +0.3
MOOW Moose Ponds 13.34 327 ePn Pn 12 30 56.0 +1.8
GSC Goldstone, Bar 13.46 285 ePn Pn 12 30 58.8 +3.0
EML El Monte Cty P 13.46 274 eSn Sn 12 33 25.9 -0.2
IMW Indian Meadow 13.54 327 ePn Pn 12 30 58.7 +1.6
FLWY Flagg Ranch 13.58 328 ePn Pn 12 30 59.4 +1.9
CPCT Cooper Cave 13.75 75 ePn Pn 12 30 58.2 -1.4
SPMN Marine on St. 13.80 24 ePn Pn 12 30 58.1 -2.2
RLMT Red Lodge 13.86 334 ePn Pn 12 31 02.0 +0.7
SSK Sunset Peak 14.13 280 eSn Sn 12 33 35.1 -7.5
YMR Madison River 14.16 329 ePn Pn 12 31 08.4 +2.9
YHH Holmes Hill 14.21 330 ePn Pn 12 31 08.3 +2.2
DAC Darwin (Calif) 14.22 288 ePn Pn 12 31 08.8 +2.5
TKL Tuckaleechee C 14.38 74 Pn Pn 12 31 05.8 -2.5
2.0nm,0.3s,baz=225,slow=10,SNR=37
TKL Lg Lg 12 35 16.0
2.7nm,0.3s,baz=137,slow=17,SNR=3.9
LAO LASA Array 14.39 345 ePn Pn 12 31 08.5 0.0
MWC Mount Wilson 14.43 280 ePn Pn 12 31 09.1 -0.1
CCAC Calif City Air 14.43 284 eSn Sn 12 34 00.0 +10
GOGA Godfrey 14.56 83 ePn Pn 12 31 08.2 -2.6
TZTN Tazewell 14.68 71 ePn Pn 12 31 11.0 -1.3
TIGA Tifton 14.68 91 ePn Pn 12 31 09.8 -2.5
MDND Maddock 14.98 3 ePn Pn 12 31 15.6 -0.8
45nm,0.9s
HLID Hailey 15.06 319 ePn Pn 12 31 20.0 +2.3
6.0nm,0.9s
MCMT McKenzie Canyo 15.14 325 ePn Pn 12 31 19.4 +0.6
BMN Battle Mountai 15.14 304 ePn Pn 12 31 18.4 -0.4
14nm,1.4s
BOZ Bozeman (W) 15.18 330 ePn Pn 12 31 20.5 +1.2
19nm,0.8s
TLIG Tlapa 15.39 172 ePn P 12 31 25.5 -1.5
20nm,0.9s
DLMT Dillon 15.43 327 ePn P 12 31 26.8 -0.4
16nm,1.0s
TVH2 Borealis Mine 15.57 296 ePn Pn 12 31 26.5 +2.1
9.9nm,1.1s
TVH3 East Aurora ar 15.61 296 ePn Pn 12 31 27.2 +2.2
18nm,1.0s
LRM Limekiln Ridge 15.71 329 ePn P 12 31 31.0 +0.4
DGMT Dagmar 15.78 352 ePn Pn 12 31 26.5 -0.4
37nm,0.8s
MFID Camas Ranch 15.78 316 ePn Pn 12 31 27.8 +0.7
9.9nm,1.1s
AGMN Agassiz Nation 15.85 12 ePn Pn 12 31 28.3 +0.5
19nm,0.6s
TUIG Tuzandepetl 15.87 157 ePn Pn 12 31 28.0 -0.3
92nm,0.6s
ACSO Alum Creek Sta 16.09 58 ePn Pn 12 31 28.2 -2.8
51nm,0.8s
YERR Yerington 16.10 297 ePn Pn 12 31 31.6 +0.4
18nm,1.3s
WAKR Walker 16.11 296 ePn Pn 12 31 32.4 +0.9
22nm,1.2s
HRY Holter Researc 16.17 332 ePn Pn 12 31 33.0 +0.9
KMSC Kings Mountain 16.32 77 ePn Pn 12 31 32.7 -1.3
109nm,0.8s
SCIG Sabancuy 16.34 146 ePn P 12 31 35.7 -1.6
74nm,0.6s
JSC Jenkinsville 16.37 80 ePn Pn 12 31 32.2 -2.5
82nm,0.8s
PNTR Pine Nut 16.39 297 ePn P 12 31 37.5 -0.6
31nm,1.4s
PAHR Pah Rah Range 16.42 300 ePn P 12 31 39.7 +1.3
13nm,1.3s
AAM Ann Arbor 16.52 50 ePn Pn 12 31 32.5 -4.0
46nm,0.5s
EGMT Eagleton 16.56 339 ePn Pn 12 31 36.7 -0.4
35nm,0.8s
CMIG Matias Romero 16.62 160 Pn Pn 12 31 38.5 +0.6
1.8nm,0.3s,baz=341,slow=12,SNR=26
EYMN Ely 16.62 22 ePn Pn 12 31 36.3 -1.5
19nm,0.6s
CMB Columbia Colle 16.73 293 ePn Pn 12 31 40.0 +0.7
16nm,1.1s
CHMT Chamberlain Mo 16.91 330 ePn Pn 12 31 42.9 +1.1
WVOR Wild Horse Val 16.99 309 ePn Pn 12 31 43.0 +0.3
8.6nm,0.9s
MSO Missoula 17.15 328 ePn Pn 12 31 45.6 +1.1
9.9nm,1.0s
BLA Blacksburg 17.26 70 ePn Pn 12 31 45.3 -0.6
41nm,0.8s
SLMT Seeley Lake 17.27 330 ePn Pn 12 31 46.9 +0.7
NHSC New Hope 17.33 84 ePn P 12 31 47.3 -0.9
113nm,1.0s
RGRS Roger Stewart 17.34 84 ePn Pn 12 31 47.1 +0.3
694nm,0.7s
SAO San Andreas Ge 17.36 289 ePn P 12 31 51.0 +2.4
11nm,0.9s
DWPF Disney Wildern 17.38 101 ePn P 12 31 50.8 +2.0
57nm,0.7s
AFDM Forest Hills D 17.39 296 ePn Pn 12 31 47.1 -0.4
6.1nm,1.0s
HJGM San Juan Grade 17.46 289 eSn Sn 12 35 07.0 +3.5
BMO Blue Mountains 17.49 318 ePn Pn 12 31 49.6 +0.7
22nm,1.8s
VWCC Virginia Weste 17.61 70 ePn Pn 12 31 49.7 -0.6
SWMT Swartz Lake 17.70 329 ePn Pn 12 31 52.0 +0.6
ULM Lac du Bonnet 17.74 10 P Pn 12 31 50.1 -1.6
0.8nm,0.3s,baz=188,slow=12,SNR=9.3
ULM Lg Lg 12 36 57.6
0.6nm,0.3s,baz=320,slow=18,SNR=3.7
ULM LR LR 12 38 53.6
comp=Z,359nm,18.6s,baz=180,slow=38
ULM Lac du Bonnet 17.74 10 ePn Pn 12 31 51.6 -0.1
14nm,0.8s
ULM Lg Lg 12 36 57.6
MOD Modoc Plateau 17.87 306 ePn P 12 31 55.2 +0.9
14nm,1.3s
ORV Oroville 17.94 298 ePn Pn 12 31 54.6 +0.3
21nm,1.7s
F10A Beach Ranch, E 18.16 321 ePn P 12 31 58.2 +0.8
15nm,1.2s
MCWV Mont Chateau 18.20 62 ePn Pn 12 31 57.0 -0.6
10.0nm,0.6s
BLMT Blacktail Moun 18.24 330 ePn P 12 31 59.9 +1.4
BSMT Bassoo Peak 18.30 329 ePn P 12 31 59.7 +0.5
CCIG Comitan 18.31 152 ePn Pn 12 31 58.2 -0.9
27nm,0.9s
ALLY Alegheny Colle 18.61 56 ePn P 12 32 00.2 -2.1
54nm,1.1s
K05A Summer Lake 18.61 308 ePn Pn 12 32 03.7 +1.0
18nm,0.9s
E09A Wood Farm, Sta 18.99 321 ePn P 12 32 06.8 +0.3
16nm,1.4s
JSRW J. Sargeant Re 19.33 69 ePn P 12 32 10.4 +0.1
VTHM Trough 19.58 315 P Pn 12 32 14.1 -0.2
URVA University of 19.58 70 ePn Pn 12 32 13.6 -0.7
G06A Carlson Farm, 19.65 315 ePn Pn 12 32 15.0 -0.2
75nm,1.2s
NEW Newport 19.66 326 P P 12 32 14.0 +0.1
0.3nm,0.3s,baz=144,slow=11,SNR=7.6
NEW LR LR 12 40 20.1
comp=Z,726nm,18.4s,baz=135,slow=39
NEW Newport 19.66 326 ePn P 12 32 14.0 +0.1
14nm,1.3s
HAWA Hanford 19.67 319 ePn P 12 32 14.0 +0.1
9.8nm,0.9s
D08A Wollman Farm, 19.75 321 ePn P 12 32 15.3 +0.5
7.4nm,0.8s
GBL Gable Mountain 19.75 319 P Pn 12 32 16.8 +0.6
CBN Corbin Frederi 19.79 68 ePn Pn 12 32 16.6 -0.2
27nm,0.4s
SSPA Standing Stone 19.91 61 ePn P 12 32 17.0 +0.4
52nm,0.7s
E07A Sunnyside 19.95 319 ePn P 12 32 16.8 -0.2
10nm,0.8s
TDH Tom, Dick, Har 20.38 314 P Pn 12 32 25.7 +1.9
SDMD Soldier's Deli 20.41 65 ePn P 12 32 22.2 +0.2
8.4nm,0.9s
SAW Saint Andrews 20.41 322 P P 12 32 22.4 +0.4
MMNY Mt. Morris Dam 20.55 55 ePn P 12 32 24.0 +0.5
SADO Sadowa 20.58 48 P P 12 32 23.2 -0.6
11nm,0.5s,baz=266,slow=11,SNR=14
SADO S Sn 12 36 20.5 +1.9
22nm,1.2s,baz=273,slow=19,SNR=3.7
SADO Lg Lg 12 38 33.2
54nm,1.0s,baz=160,slow=22,SNR=6.9
SADO LR LR 12 40 41.5
comp=Z,457nm,19.1s,baz=252,slow=38
SADO Sadowa 20.58 48 ePn P 12 32 23.8 0.0
15nm,0.8s
SADO S Sn 12 36 20.5 +1.9
SADO Lg Lg 12 38 33.2
WTV Waterville 20.70 321 ePn P 12 32 25.4 +0.3
TBM Table Mountain 20.72 319 ePn Pn 12 32 28.0 +0.2
B08A Colville Reser 20.80 323 ePn P 12 32 26.9 +0.6
7.1nm,0.9s
LTY Liberty 20.81 319 ePn P 12 32 26.2 -0.2
9.1nm,0.9s
ETW Entiat 20.84 321 ePn P 12 32 26.4 -0.3
NLW Nelson Butte 21.14 322 P P 12 32 30.2 +0.2
LON Longmire 21.16 317 ePn P 12 32 30.9 +0.7
10.0nm,0.9s
D05A Enumclaw 21.50 318 ePn P 12 32 34.9 +1.1
26nm,1.0s
PSUB Penn St. - Bra 21.56 64 ePn P 12 32 34.9 +0.4
48nm,0.8s
KSPA Keystone Colle 21.70 59 ePn P 12 32 36.1 +0.2
23nm,1.0s
BINY Binghamton 21.72 58 ePn P 12 32 36.9 +0.6
48nm,0.8s
LUPA Lehigh Univers 21.76 62 ePn P 12 32 37.2 +0.6
36nm,0.8s
PLVO Plevna 22.01 50 ePn P 12 32 39.4 +0.2
28nm,0.7s
E03A Lebam 22.08 315 ePn P 12 32 40.6 +0.6
60nm,1.8s
EDM Edmonton 22.23 340 ePn P 12 32 41.6 +0.1
50nm,1.8s
BRNJ Basking Ridge 22.37 62 ePn P 12 32 43.9 +0.7
50nm,1.4s
ODNJ Ogdensburg 22.43 61 ePn P 12 32 44.3 +0.5
20nm,0.9s
TGUH Tegucigalpa,Un 22.45 143 ePn P 12 32 44.7 +0.6
41nm,1.0s
BLN Blyn Mountain 22.52 319 ePn P 12 32 45.6 +0.9
NLWA Neilton Lookou 22.69 316 ePn P 12 32 46.2 -0.4
11nm,0.8s
CPNY Central Park 22.85 62 ePn P 12 32 50.0 +1.8
33nm,0.9s
PGC Sidney 23.14 320 ePn P 12 32 49.8 -1.3
22nm,1.3s
VLDQ Val d'Or 23.27 42 ePn P 12 32 51.3 -1.1
26nm,1.3s
LONY Lake Ozonia 23.48 52 ePn P 12 32 55.3 +0.6
36nm,1.1s
NCB Newcomb 23.50 54 ePn P 12 32 55.4 +0.5
0.3nm,0.8s
TRY Troy 23.52 57 ePn P 12 32 55.5 +0.5
31nm,0.9s
LLLB Lillooet 23.53 325 ePn P 12 32 55.7 +0.5
14nm,1.1s
ACCN Adirondack Com 23.70 56 ePn P 12 32 57.1 +0.2
25nm,1.2s
TRQ Mont Tremblant 24.11 49 ePn P 12 33 01.5 +0.6
FRNY Flat Rock 24.22 53 ePn P 12 33 02.2 +0.4
13nm,0.8s
MDV Middlebury 24.22 55 ePn P 12 33 02.0 +0.1
QUA2 Belchertown 24.35 59 ePn P 12 33 03.6 +0.6
17nm,0.9s
HRV Adam Dziewonsk 24.97 59 ePn P 12 33 09.5 +0.9
46nm,1.2s
WES Weston 25.11 59 ePn P 12 33 10.9 +1.1
77nm,1.4s
LBNH Lisbon 25.16 55 ePn P 12 33 11.7 +1.3
47nm,1.6s
BCX Boston College 25.21 59 ePn P 12 33 13.4 +2.6
115nm,1.5s
PKME Peaks-Kenny Pk 27.25 54 ePn P 12 33 30.2 +1.0
45nm,1.8s
YKA Yellowknife Ar 30.90 348 P P 12 33 59.5 -2.0
1.8nm,1.0s,baz=156,slow=7.8,SNR=3.0
YKA LR LR 12 47 00.7
comp=Z,42nm,18.2s,baz=180,slow=37
YKB5 Yellowknife Ar 30.90 348 ePn P 12 33 59.5 -2.0
DLBC Dease Lake 32.23 331 LR LR 12 47 55.1
comp=Z,201nm,19.7s,baz=324,slow=38
SCHQ Schefferville 32.40 37 LR LR 12 47 41.5
comp=Z,188nm,19.5s,baz=274,slow=37
RUSC La Rusia 37.26 130 ePn P 12 34 57.6 -0.1
14nm,1.4s
ROSC El Rosal 37.29 133 ePn P 12 34 58.0 +0.2
20nm,1.7s
OTAV Otavalo 38.72 142 ePn P 12 35 10.2 +0.3
38nm,1.6s
INK Inuvik 40.10 342 P P 12 35 21.2 +0.9
2.0nm,0.6s,baz=98,slow=4.3,SNR=6.4
INK LR LR 12 53 20.6
comp=Z,256nm,18.6s,baz=116,slow=38
INK Inuvik 40.10 342 ePn P 12 35 21.2 +0.9
15nm,1.5s
DOT Dot Lake 40.78 332 ePn P 12 35 27.0 +0.9
42nm,1.9s
SML Sawmill 41.80 328 ePn P 12 35 35.4 +0.9
4.9nm,0.8s
RES Resolute Bay 41.98 2 LR LR 12 53 29.2
comp=Z,127nm,18.2s,baz=125,slow=37
HDA Harding Lake 42.26 332 ePn P 12 35 41.3 +3.1
63nm,1.7s
IL1 Eielson Array 42.40 333 ePn P 12 35 39.5 +0.2
ILAR Eielson Array 42.40 333 P P 12 35 39.8 +0.5
2.4nm,0.8s,baz=134,slow=6.5,SNR=36
ILB Eielson Array 42.40 333 ePn P 12 35 40.0 +0.7
CCB Clear Creek Bu 42.70 332 ePn P 12 35 42.1 +0.4
12nm,1.8s
COLA College 42.81 333 ePn P 12 35 42.6 0.0
5.5nm,0.7s
TRF Thorofare Moun 43.24 330 ePn P 12 35 47.3 +1.0
6.6nm,0.8s
CAST Castle Rocks 43.98 330 ePn P 12 35 52.0 -0.2
5.5nm,0.8s
PTGA Pitinga 50.99 123 ePn P 12 36 47.1 -0.2
27nm,1.6s
SAML Samuel 54.92 132 ePn P 12 37 13.9 -2.3
16nm,1.8s
PPT Papeete 68.46 230 LR LR 13 03 47.3
comp=Z,39nm,22.0s,baz=341,slow=32
ARCES ARCESS Array B 70.70 17 P P 12 39 00.5 -0.2
1.3nm,0.8s,baz=322,slow=5.7,SNR=7.6
ARCES LR LR 13 09 52.7
comp=Z,48nm,18.4s,baz=313,slow=36
ESDC Sonseca Array 74.58 53 P P 12 39 24.3 -0.1
0.6nm,0.5s,baz=302,slow=6.0,SNR=6.6
ES19 SONSECA Array 74.61 53 ePn P 12 39 24.8 +0.2
FIA0 FINESS Array S 76.64 23 ePn P 12 39 36.0 +0.3
FINES FINESS Array B 76.64 23 P P 12 39 36.0 +0.3
1.7nm,0.8s,baz=319,slow=4.0,SNR=4.6
RAR Rarotonga 77.84 235 LR LR 13 08 21.3
comp=Z,62nm,18.3s,baz=118,slow=31
NRIK North Sk 77.89 357 LR LR 13 14 31.2
comp=Z,77nm,21.6s,baz=78,slow=36
GERES GERESS Array B 79.93 38 P P 12 39 55.5 +1.2
0.2nm,0.3s,baz=309,slow=6.2,SNR=4.2
GERES LR LR 13 14 39.9
comp=Z,78nm,18.6s,baz=289,slow=35
AFI Afiamalu 82.09 248 LR LR 13 09 09.1
comp=Z,61nm,20.1s,baz=129,slow=30
KEST Kesra 85.52 50 P P 12 40 24.9 +1.3
4.7nm,0.8s,baz=321,slow=6.5,SNR=4.4
KEST Kesra 85.52 50 eP P 12 40 24.4 +0.7
47nm,2.0s
DBIC Dimbokro 91.41 81 P P 12 40 51.8 -0.2
2.5nm,0.8s,baz=287,slow=5.2,SNR=7.5
MAJO Matsushiro 91.62 316 ePn P 12 40 51.9 -0.7
25nm,1.8s
TORD Torodi Ar. Bea 93.19 72 LR LR 13 21 58.8
comp=Z,28nm,18.8s,baz=250,slow=35
ZAA1 Zalesovo Array 93.38 357 eP P 12 41 00.6 +0.2
ZALV Zalesovo Beam 93.39 357 P P 12 41 00.5 +0.2
0.3nm,0.3s,baz=347,slow=4.4,SNR=2.8
ZALV LR LR 13 26 04.0
comp=Z,35nm,18.5s,baz=70,slow=38
SONM Songino Array 96.02 342 LR LR 13 29 01.7
comp=Z,29nm,20.2s,baz=48,slow=38
BRTR Keskin Array B 96.35 34 LR LR 13 25 50.0
comp=Z,25nm,21.2s,baz=273,slow=36
HHC Hu-ho-hao-te 100.77 336 eP Pdif 12 41 33.1 -1.1
HHC pmax pmax
comp=Z,19nm,0.8s
HHC pmax pmax
comp=Z,92nm,8.9s
CTAO Charters Tower 119.50 264 ePKPdf PKPdf 12 46 34.8 -0.7

GUC 11 12:30:54.8±0.7,36°08S×72°92W,h14km±2km, ML4.0, 3C-2D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
COCH	**Cobquecura**	**0.12**	**117**	‖ *i* P	Pg	12 30 58.2	+0.1
COCH				*i* S	Sg	12 30 59.9	-0.4
COCH				IAML		12 31 00.0	
	comp=E,70μm,0.5s						
CCHI	**Chillan**	**0.85**	**128**	‖ *i* P	Pg	12 31 09.7	-1.7
CCHI				*i* S	Sg	12 31 20.8	-1.8

TALC	**Talca**	**1.24**	**57**	⇑*i*P	Pn	12 31 16.3	-1.5
TALC				*i* S	Sb	12 31 31.7	-2.3
GO05	**HualaæØ**	**1.33**	**37**	⇑*i*P	Pn	12 31 16.7	-2.4
GO05				*i* S	Sb	12 31 34.2	-2.4
NICH	**Los Niches**	**1.74**	**53**	⇑*i*P	Pn	12 31 23.6	-1.1
NICH				*i* S	Sn	12 31 46.0	-0.7
NICH				IAML		12 31 52.0	
	comp=E,2µm,0.5s						
CLCH	**Cerro Calan**	**3.31**	**37**	*e*P	Pn	12 31 46.7	+0.4
CLCH				IAML		12 32 40.3	
	comp=N,397nm,0.7s						
PEL	**Peldehue**	**3.46**	**33**	*e*P	Pn	12 31 48.6	+0.3
PEL				IAML		12 32 47.6	
	comp=N,125nm,0.6s						

IDC ***11*** *12:40:50.9±0.7, 13°.18S×77°.17W, h28km±3km, mb3.9/11, mb1 4.1/14, mb1mx4.0/33, mbtmp4.1/14, ML3.7/2, MS3.7/10, Ms1 3.7/10, ms1mx3.5/25, Error ellipse: s-maj=21.9km s-min=14.6km az=53.0*

NEIC ***11*** *12:40:50.1±0.5, 13°.35S×77°.18W, mb4.8/51, ML4.4(ARE), Error ellipse: s-maj=14.1km s-min=7.0km az=52.0*

NEIC Felt [II] at San Vicente de Canete. Also felt at Lima and Quilmana.

ISCJB ***11*** *12:40:51.5±3.1, 13°.30S±0°.06×76°.25W±0°.09, h7km±19km, mb4.6/60, MS3.7/7, Error ellipse: s-maj=16.5km s-min=5.7km az=145.6*

ISC 11 12:40:50.8±0.5, 13°.26S±0°.05×77°.09W±0°.09, h25km±3km, h25km:pP-P, n232, σ1°86/78, mb4.7/61, MS3.8/7, 1D, Off coast of Peru

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
NNA	**Nana**	**1.29**	**11**	Pn		**Pn**		**12 41 11.7**	**-1.6**
	484nm,0.3s,baz=195,slow=13,SNR=207								
NNA				Sn		**Sn**		**12 41 28.8**	**-1.0**
	3µm,0.3s,baz=275,slow=19,SNR=40								
NNA				LR		LR		12 41 38.9	
	comp=Z,1µm,19.4s,baz=182,slow=39								
NNA	**Nana**	**1.29**	**11**	*e*Pn		**Pn**		**12 41 11.8**	**-1.6**
NNA				*e*Sn		**Sn**		**12 41 28.6**	**-1.2**
NNA				*e*				12 41 28.8	
ATAH	**Atahualpa**	**6.22**	**348**	Pn		**Pn**		**12 42 22.6**	**+1.1**
	3.3nm,0.3s,baz=116,slow=2.9,SNR=19								
ATAH				Sn		**Sn**		**12 43 26.6**	**-5.5**
	4.2nm,0.3s,baz=115,slow=7.4,SNR=2.4								
ATAH				LR		LR		12 44 33.2	
	comp=Z,306nm,19.4s,baz=196,slow=36								
LPAZ	**La Paz**	**9.17**	**110**	Pn		**Pn**		**12 43 05.2**	**+3.0**
	0.4nm,0.3s,baz=307,slow=4.7,SNR=16								
LPAZ				LR		LR		12 47 21.2	
	comp=Z,520nm,18.0s,baz=292,slow=42								
LPAZ	**La Paz**	**9.17**	**110**	*e*Pn		**Pn**		**12 43 04.7**	**+2.5**
PB11	**IPOC Station P**	**9.62**	**133**	*e*Pn		**Pn**		**12 43 04.6**	**-3.3**
PB01	**IPOC Station P**	**10.61**	**138**	*e*Pn		**Pn**		**12 43 19.6**	**-1.8**
PB01				*e*Sn		**Sn**		**12 45 13.6**	**-6.0**
LVC	**Limon Verde**	**12.12**	**141**	Pn		**Pn**		**12 43 42.4**	**+0.1**
	37nm,0.3s,baz=307,slow=7.0,SNR=3.8								
LVC				Sn		**Sn**		**12 45 55.4**	**-1.5**
	17nm,0.3s,baz=125,slow=22,SNR=2.3								
LVC	**Limon Verde**	**12.12**	**141**	*e*Pn		**Pn**		**12 43 40.0**	**-2.4**
LVC				*e*Sn		**Sn**		**12 45 55.4**	**-1.5**
OTAV	**Otavalo**	**13.48**	**354**	*e*Pn		**P**		**12 44 09.7**	**-0.4**
SAML	**Samuel**	**14.30**	**74**	*e*Pn		**Pn**		**12 44 12.2**	**+0.3**
SIV	**San Ignacio**	**15.73**	**102**	Pn		**Pn**		**12 44 32.4**	**+1.4**
	0.2nm,0.3s,baz=278,slow=8.8,SNR=3.8								
SIV				LR		LR		12 51 33.1	
	comp=Z,392nm,19.4s,baz=288,slow=41								
RUSC	**La Rusia**	**19.44**	**12**	*e*P		**Pn**		**12 45 19.2**	**+1.8**
	16nm,0.9s								
PTGA	**Pitinga**	**21.04**	**55**	P		**P**		**12 45 32.7**	**-0.4**
	4.1nm,0.4s,baz=243,slow=11,SNR=14								
PTGA				LR		LR		12 54 17.6	
	comp=Z,395nm,19.0s,baz=232,slow=38								
PTGA	**Pitinga**	**21.04**	**55**	*e*P		**P**		**12 45 32.1**	**-0.9**
	8.2nm,0.8s								
CPUP	**Villa Florida**	**22.64**	**128**	P		**P**		**12 45 50.0**	**-0.1**
	3.9nm,0.8s,baz=306,slow=6.2,SNR=6.6								
CPUP				LR		LR		12 56 38.3	
	comp=Z,187nm,20.5s,baz=316,slow=42								
CPUP	**Villa Florida**	**22.64**	**128**	*e*P		**P**		**12 45 48.8**	**-1.4**
SDV	**Santo Domingo**	**22.92**	**17**	P		**P**		**12 45 53.1**	**-0.2**
	17nm,0.6s,baz=268,slow=3.5,SNR=3.4								
JTS	**JuntasAbangare**	**24.67**	**341**	LR		LR		12 53 59.7	
	comp=Z,126nm,21.8s,baz=246,slow=32								
MGAN	**Managua**	**26.83**	**340**	*e*P		pP		12 46 38.7	+1.9
	0.2nm,0.5s								
SMRT	**St. Maarten**	**34.05**	**24**	*e*P		**P**		**12 47 36.9**	**+3.7**
	73nm,0.9s								
GO09	**Cerro Castillo**	**38.10**	**175**	*e*P		**P**		**12 48 11.0**	**+3.4**
	49nm,0.8s								
446A	**Poplarville**	**45.36**	**345**	P		pP		12 49 15.9	+1.1
	baz=162								
347A	**Saraland**	**45.75**	**346**	P		pP		12 49 18.9	+1.1
	baz=163								
344A	**Westbrook Farm**	**46.35**	**344**	P		pP		12 49 23.6	+1.0
	baz=160								
LRAL	**Lakeview Retre**	**47.00**	**349**	*e*P		pP		12 49 27.4	-0.3
	6.8nm,1.0s								
Z48A	**Northport**	**47.44**	**348**	P		pP		12 49 31.6	+0.5
	baz=165								
Y47A	**UCPARC, Winfie**	**48.01**	**348**	P		pP		12 49 35.4	-0.1
	baz=165								
HPIG		**48.65**	**325**	*e*P		pP		12 49 42.3	+1.4
	5.5nm,1.0s								
334A	**Lometa**	**48.77**	**336**	P		pP		12 49 41.9	+0.4
	baz=151								
138A	**Matatall Enter**	**48.80**	**340**	P		pP		12 49 42.8	+1.1
	baz=156								
WLAR	**White Oak Lake**	**49.12**	**342**	*e*P		pP		12 49 44.1	0.0
	39nm,0.7s								
136A	**Ennis**	**49.13**	**338**	P		pP		12 49 45.1	+0.8
	baz=154								
Y41A	**Eaglette Beard**	**49.16**	**343**	P		pP		12 49 45.2	+0.8
	baz=159								
LTX	**Lajitas**	**49.52**	**329**	*e*P		**P**		**12 49 39.5**	**-0.1**
LTX				*ep*P		**pP**		**12 49 48.0**	**+0.6**
TXAR	**Lajitas Array**	**49.52**	**329**	P		**P**		**12 49 39.5**	**-0.1**
	0.3nm,0.7s,baz=146,slow=9.8,SNR=3.3								
TXAR				pP		**pP**		**12 49 48.0**	**+0.6**
	1.9nm,0.7s,baz=154,slow=8.1,SNR=17								
TX31	**Lajitas Ar. Si**	**49.52**	**329**	*e*P		pP		12 49 48.1	+0.7
233A	**Rising Star**	**49.64**	**336**	P		pP		12 49 48.6	+0.4
	baz=151								
Y39A	**Lockesburg**	**49.65**	**341**	P		pP		12 49 49.0	+0.8
	baz=157,SNR=5.0								
Z36A	**Blue Ridge**	**49.82**	**339**	P		pP		12 49 49.3	-0.2
	baz=154								
MIAR	**Mount Ida**	**50.06**	**342**	P		pP		12 49 52.0	+0.7
	baz=158,SNR=5.5								
MIAR	**Mount Ida**	**50.06**	**342**	*e*P		pP		12 49 51.3	0.0
	9.1nm,0.8s								
Y37A	**Hugo**	**50.18**	**340**	P		pP		12 49 53.2	+1.0
	baz=155,SNR=6.7								
X39A	**Fountain Ranch**	**50.19**	**342**	P		pP		12 49 52.9	+0.6
	baz=157								
W41B	**Gary Mavity, V**	**50.27**	**344**	P		pP		12 49 53.4	+0.5
	baz=160								
ABTX	**Abilene, Hawle**	**50.47**	**335**	P		pP		12 49 55.4	+1.0
	baz=150,SNR=5.2								
ABTX	**Abilene, Hawle**	**50.47**	**335**	*e*P		**P**		**12 49 45.6**	**-1.1**
	10nm,0.8s								
ABTX				*e*				12 49 54.8	
W40A	**Ferguson Farm,**	**50.52**	**343**	P		pP		12 49 55.4	+0.6
	baz=159								
X38A	**Whitesboro**	**50.56**	**341**	P		pP		12 49 56.0	+0.9
	baz=156								
Y35A	**Marietta**	**50.61**	**338**	P		pP		12 49 56.4	+0.9
	baz=154								
X37A	**Clayton**	**50.66**	**340**	P		pP		12 49 56.9	+1.1
	baz=156,SNR=7.4								
Z33A	**Whitaker Ranch**	**50.70**	**336**	P		pP		12 49 57.0	+0.8
	baz=152								
W39A	**Magazine**	**50.73**	**342**	P		pP		12 49 57.4	+1.1
	baz=158								
V41A	**Mountainview**	**50.82**	**344**	P		pP		12 49 57.3	+0.3
	baz=160								
W38A	**Poteau**	**50.83**	**342**	P		pP		12 49 57.6	+0.5
	baz=157								
V40A	**Witts Springs**	**51.02**	**344**	P		pP		12 49 58.8	+0.2
	baz=159								
X35A	**Drake**	**51.03**	**339**	P		pP		12 49 59.3	+0.7
	baz=154								
U42A	**Revenden**	**51.12**	**345**	P		pP		12 49 59.2	-0.1
	baz=161								
W37B	**Quinton**	**51.18**	**341**	P		pP		12 50 00.1	+0.3
	baz=156,SNR=6.5								
U41A	**Viola**	**51.29**	**345**	P		pP		12 50 00.4	-0.1
	baz=160								
PBMO	**Poplar Bluff**	**51.34**	**346**	*e*P		pP		12 50 00.5	-0.3
	7.3nm,0.8s								
W36A	**Wetumka**	**51.44**	**340**	P		pP		12 50 02.0	+0.3
	baz=155								
V38A	**Canehill**	**51.53**	**342**	P		pP		12 50 02.8	+0.4
	baz=157,SNR=6.1								
U40A	**Yellville**	**51.55**	**344**	P		pP		12 50 02.7	+0.2
	baz=159,SNR=5.5								
T43A	**Greenville**	**51.59**	**347**	P		pP		12 50 02.4	-0.4
	baz=163								
W35A	**Tecumseh**	**51.68**	**339**	P		pP		12 50 03.3	-0.3
	baz=154								
T42A	**Van Buren**	**51.73**	**346**	P		pP		12 50 03.4	-0.5
	baz=162								
U39A	**Green Forest**	**51.74**	**343**	P		pP		12 50 03.7	-0.3
	baz=159								
V37A	**Hulbert**	**51.77**	**341**	P		pP		12 50 04.0	-0.2
	baz=157,SNR=5.1								
T41A	**Mountain View**	**51.91**	**345**	P		pP		12 50 05.1	-0.1
	baz=161								
WMOK	**Wichita Mounta**	**51.99**	**337**	P		pP		12 50 05.8	-0.1
	baz=152								
WMOK	**Wichita Mounta**	**51.99**	**337**	*e*P		pP		12 50 06.0	+0.1
	4.7nm,0.8s								
TUL1	**Leonard**	**52.01**	**341**	P		pP		12 50 06.0	+0.1
	baz=156,SNR=5.8								
TUL1	**Leonard**	**52.01**	**341**	*e*P		**P**		**12 49 56.8**	**-1.3**
	24nm,0.8s								
TUL1				*e*				12 50 05.8	
U38A	**Gravette**	**52.06**	**342**	P		pP		12 50 06.3	0.0
	baz=158								
U37A	**Salina**	**52.25**	**342**	P		pP		12 50 08.2	+0.4
	baz=157								
MNTX	**Cornudas Mount**	**52.29**	**329**	P		pP		12 50 08.5	+0.3
	baz=144								
T39A	**Clever**	**52.32**	**344**	P		pP		12 50 08.0	-0.2
	baz=159								
S41A	**Jillco Farms,**	**52.42**	**345**	P		pP		12 50 08.6	-0.4
	baz=161,SNR=6.8								
U36A	**Oologah**	**52.43**	**341**	P		pP		12 50 09.1	0.0
	baz=156								
T38A	**Diamond**	**52.59**	**343**	P		pP		12 50 10.2	0.0
	baz=158								
S40A	**Lebanon**	**52.62**	**345**	P		pP		12 50 10.3	-0.2
	baz=160								
R43A	**Red Bud**	**52.66**	**347**	P		pP		12 50 10.6	-0.2
	baz=163								
U35A	**Pawnee**	**52.73**	**340**	P		pP		12 50 11.5	+0.2
	baz=155								
OLIL	**Olney**	**52.74**	**349**	*e*P		pP		12 50 10.8	-0.5
	9.4nm,0.7s								
T37A	**Cheneyville 18**	**52.85**	**342**	P		pP		12 50 12.2	0.0
	baz=157,SNR=6.5								
R42A	**Luebbering**	**52.85**	**346**	P		pP		12 50 11.9	-0.3
	baz=162								
BLO	**Bloomington**	**52.90**	**351**	*e*P		pP		12 50 11.2	-1.3
	10.0nm,0.6s								
S39A	**Bolivar**	**52.93**	**344**	P		pP		12 50 12.6	-0.1
	baz=159,SNR=5.2								
R41A	**Rosebud**	**53.01**	**346**	P		pP		12 50 13.0	-0.3
	baz=162								
S38A	**Stockton**	**53.03**	**343**	P		pP		12 50 13.5	0.0
	baz=158,SNR=5.5								
Q44A	**Meyer Farm, Va**	**53.08**	**348**	P		pP		12 50 13.3	-0.5
	baz=164								
T36A	**Boggs Farm, Ca**	**53.09**	**341**	P		pP		12 50 14.3	+0.3
	baz=156								
T35A	**Sooner Cattle**	**53.16**	**341**	P		pP		12 50 15.0	+0.5
	baz=158,SNR=6.0								
R40A	**Maddies Statio**	**53.22**	**345**	P		pP		12 50 14.6	-0.2
	baz=161,SNR=6.1								
Q42A	**Golden Eagle**	**53.40**	**347**	P		pP		12 50 16.1	-0.1
	baz=163								
S37A	**Fort Scott**	**53.41**	**342**	P		pP		12 50 16.2	-0.1
	baz=158,SNR=5.5								
T34A	**McClaskey Farm**	**53.48**	**340**	P		pP		12 50 16.8	-0.1
	baz=155								
P44A	**Sand Creek, Wi**	**53.55**	**349**	P		pP		12 50 16.9	-0.3
	baz=165								
R38A	**Fenwick Farm,**	**53.55**	**344**	P		pP		12 50 17.2	-0.1
	baz=159								
S36A	**Lake Cedric, C**	**53.61**	**342**	P		pP		12 50 17.7	-0.1
	baz=157,SNR=5.2								
S35A	**Otter Creek Ra**	**53.80**	**341**	P		pP		12 50 19.3	+0.1
	baz=156								
Q40A	**Laux Farm, Aux**	**53.84**	**346**	P		pP		12 50 19.1	-0.3
	baz=161								
R37A	**Teagarden Farm**	**53.93**	**343**	P		pP		12 50 20.3	+0.2
	baz=158								
S34A	**Willow Spring**	**54.07**	**340**	P		pP		12 50 21.2	+0.1
	baz=155								
Q39A	**Willow Grove F**	**54.11**	**345**	P		pP		12 50 21.8	+0.3
	baz=160								
R36A	**Gordon, Harris**	**54.14**	**342**	P		pP		12 50 22.0	+0.3
	baz=157								
121A	**Cookes Peak, D**	**54.18**	**328**	P		pP		12 50 23.6	+1.3
	baz=142								
Q38A	**Cooks Store, C**	**54.20**	**344**	P		pP		12 50 22.1	0.0
	baz=159,SNR=6.1								
P41A	**Barry, Barry**	**54.25**	**347**	P		pP		12 50 21.9	-0.5
	baz=162								
P40A	**Paris**	**54.34**	**346**	P		pP		12 50 22.7	-0.3
	baz=161								
P39B	**Salisbury**	**54.47**	**345**	P		pP		12 50 23.8	-0.2
	baz=160,SNR=6.7								
O41A	**Baseleys Farm,**	**54.63**	**347**	P		pP		12 50 24.4	-0.8
	baz=163								
R34A	**Isabella, Hill**	**54.66**	**341**	P		pP		12 50 25.0	-0.5
	baz=155								
O40A	**La Belle**	**54.86**	**346**	P		pP		12 50 26.8	-0.1
	baz=161								
P37A	**Lathrop**	**54.98**	**344**	P		pP		12 50 27.5	-0.3
	baz=158								
Q34A	**Chapman**	**55.13**	**341**	P		pP		12 50 28.9	0.0
	baz=155								
ANMO	**Albuquerque**	**55.45**	**331**	*e*P		pP		12 50 31.7	+0.1
	4.4nm,1.0s								
TUC	**Tucson**	**55.62**	**325**	P		pP		12 50 33.2	+0.6
	baz=138								
TUC	**Tucson**	**55.62**	**325**	*e*P		pP		12 50 33.5	+0.9
	3.0nm,0.8s								
N39A	**Derby Farms, D**	**55.73**	**346**	P		pP		12 50 32.7	-0.4
	baz=161								
CBKS	**Cedar Bluff**	**55.96**	**339**	*e*P		pP		12 50 35.4	+0.4
	15nm,0.7s								
O34A	**Beatrice**	**56.21**	**342**	P		pP		12 50 36.4	-0.2
	baz=156								
T25A	**Trinidad**	**56.34**	**334**	P		pP		12 50 38.2	+0.3
	baz=147								
M38A	**Pleasantville**	**56.40**	**345**	P		pP		12 50 37.5	-0.5
	baz=160								
N33A	**J Bar K, Exete**	**56.95**	**342**	P		pP		12 50 41.5	-0.3
	baz=156								
L38A	**Oak Wood Farm,**	**57.03**	**346**	P		pP		12 50 41.9	-0.5
	baz=161								
SDCO	**Great Sand Dun**	**57.32**	**333**	P		pP		12 50 45.0	+0.1
	baz=146								
SDCO	**Great Sand Dun**	**57.32**	**333**	*e*P		**P**		**12 50 36.2**	**-0.8**
	5.9nm,0.9s								
SDCO				*e*				12 50 45.0	
X16A	**Lo Mia Camp, P**	**57.57**	**326**	*e*P		pP		12 50 47.0	+0.4
	3.0nm,0.8s								
L34A	**Svendsen Farm,**	**57.76**	**343**	P		pP		12 50 46.3	-1.3
	baz=157								
K37A	**Belmond**	**57.79**	**346**	P		pP		12 50 46.6	-1.2
	baz=160								
S22A	**4UR Ranch, Cre**	**57.91**	**332**	P		pP		12 50 49.5	+0.4
	baz=144								
MVCO	**Mesa Verde**	**58.25**	**331**	P		pP		12 50 51.9	+0.5
	baz=143								
WUAZ	**Wupatki**	**58.37**	**327**	P		pP		12 50 52.5	+0.3
	baz=139								
WUAZ	**Wupatki**	**58.37**	**327**	*e*P		pP		12 50 53.1	+0.9
	5.8nm,0.9s								
J36A	**Seneca 1, Swea**	**58.49**	**345**	P		pP		12 50 52.2	-0.4
	baz=159								
PV01	**Paradox Valley**	**59.03**	**331**	P		**P**		**12 50 49.0**	**0.0**
PV01				*e*				12 50 57.1	
ISCO	**Idaho Springs**	**59.09**	**335**	*e*P		pP		12 50 57.9	+0.6
	2.1nm,0.8s								
IRM	**Iron Mountain**	**59.45**	**324**	P		pP		12 51 00.4	+0.9
	baz=135								
ECSD	**EROS Data Cent**	**59.46**	**344**	*e*P		pP		12 50 59.1	-0.3
	4.5nm,1.0s								
H36A	**Jessenland, He**	**59.56**	**346**	P		pP		12 50 59.9	-0.3
	baz=160								
G39A	**Holcombe**	**59.65**	**349**	P		pP		12 51 00.6	-0.1
	baz=163								
G38A	**Ridgeland**	**59.67**	**348**	P		pP		12 51 00.3	-0.5
	baz=162								
PFO	**Pinyon Flats O**	**59.83**	**322**	*e*P		pP		12 51 03.5	+1.2
	24nm,1.9s								
H35A	**Sunnyside Ranc**	**59.90**	**345**	P		pP		12 51 02.2	-0.2
	baz=159								
H34A	**Spellman Lake,**	**60.10**	**345**	P		pP		12 51 03.5	-0.3
	baz=158								
H32A	**Carlson Farm,**	**60.40**	**343**	P		pP		12 51 06.2	+0.3
	baz=156								
LCMT	**Little Creek M**	**60.48**	**327**	*e*P		pP		12 51 08.1	+1.3
	7.7nm,1.4s								
O20A	**White River Ci**	**60.50**	**333**	P		pP		12 51 07.6	+0.7
	baz=144								
E40A	**Wakefield**	**60.54**	**350**	P		pP		12 51 06.0	-0.8
	baz=165								
E39A	**Mellen**	**60.59**	**349**	P		pP		12 51 07.0	-0.1
	baz=164								
F36A	**Milaca**	**60.69**	**347**	P		pP		12 51 07.5	-0.3
	baz=161								
BFSC	**Mount Baldy Ra**	**60.98**	**322**	P		pP		12 51 11.1	+0.9
	baz=133								
F34A	**Alexandria**	**61.03**	**346**	P		pP		12 51 10.1	0.0
	baz=159								
VLDQ	**Val d'Or**	**61.10**	**360**	*e*P		pP		12 51 08.7	-1.8
	31nm,1.8s								
E36A	**McGregor**	**61.25**	**347**	P		pP		12 51 11.4	-0.2
	baz=161								
TPNV	**Topopah Spring**	**62.07**	**325**	P		pP		12 51 18.4	+0.8
	baz=135								
TPNV	**Topopah Spring**	**62.07**	**325**	*e*P		pP		12 51 18.9	+1.3
	9.2nm,1.3s								
FURC	**Furnace Creek,**	**62.07**	**324**	P		pP		12 51 18.1	+0.7
	baz=135								
JLU	**Jordanelle**	**62.34**	**331**	*e*P		pP		12 51 20.5	+1.0
	15nm,1.7s								
DUG	**Dugway, Tooele**	**62.68**	**330**	P		pP		12 51 22.5	+0.9
	baz=140								
DUG	**Dugway, Tooele**	**62.68**	**330**	P		**P**		**12 51 12.7**	**-1.0**
	6.1nm,0.9s								
DUG				*e*				12 51 22.9	
R11A	**Troy Canyon, C**	**62.72**	**327**	P		pP		12 51 22.4	+0.4
	baz=136								
CWC	**Cottonwood Cre**	**62.75**	**323**	P		pP		12 51 23.2	+1.1
	baz=134								
HWUT	**Hardware Ranch**	**63.18**	**332**	*e*P		**P**		**12 51 16.2**	**-0.8**
	5.6nm,0.9s								
HWUT				*e*				12 51 25.3	
BW06	**Boulder Array**	**63.21**	**334**	P		pP		12 51 24.6	-0.6
	baz=144								
BW06	**Boulder Array**	**63.21**	**334**	*e*P		pP		12 51 25.3	+0.1
	2.6nm,1.0s								
PD31	**Pinedale Array**	**63.21**	**334**	*e*P		pP		12 51 25.0	-0.2
PDAR	**Pinedale Array**	**63.21**	**334**	P		**P**		**12 51 15.7**	**-1.6**
	0.9nm,1.1s,baz=149,slow=7.2,SNR=3.0								
PDAR				pP		**pP**		**12 51 24.2**	**-1.0**
	1.1nm,0.7s,baz=132,slow=7.7,SNR=8.8								
B34A	**Aery, Baudette**	**63.42**	**347**	P		pP		12 51 26.2	+0.1
	baz=160								
C31A	**Landman Farms,**	**63.51**	**345**	P		pP		12 51 26.8	+0.1
	baz=157								
AGMN	**Agassiz Nation**	**63.52**	**346**	P		pP		12 51 26.9	+0.1
	baz=159								
AGMN	**Agassiz Nation**	**63.52**	**346**	*e*P		pP		12 51 26.9	+0.1
	8.4nm,0.8s								
A33A	**Warroad**	**64.01**	**347**	P		pP		12 51 30.2	+0.2
	baz=159								
MLAC	**Mammoth, Mammo**	**64.01**	**324**	P		pP		12 51 31.4	+0.8
	baz=133								
IMW	**Indian Meadow**	**64.72**	**334**	*e*P		pP		12 51 35.2	+0.1
	11nm,1.6s								
FLWY	**Flagg Ranch**	**64.76**	**334**	P		**P**		**12 51 27.2**	**-0.2**
	5.9nm,0.9s								
FLWY				*e*				12 51 35.8	
RLMT	**Red Lodge**	**65.01**	**335**	*e*P		pP		12 51 37.4	+0.5
	17nm,1.8s								
ULM	**Lac du Bonnet**	**65.35**	**347**	P		**P**		**12 51 28.6**	**-2.2**
	4.7nm,0.8s,baz=149,slow=5.9,SNR=3.9								
ULM				pP		**pP**		**12 51 37.3**	**-1.5**
	8.9nm,0.9s,baz=144,slow=6.9,SNR=6.3								
PAHR	**Pah Rah Range**	**65.76**	**325**	*e*P		pP		12 51 41.4	-0.5
	12nm,1.3s								
HLID	**Hailey**	**66.03**	**331**	P		pP		12 51 44.4	+0.9
	baz=139								
HLID	**Hailey**	**66.03**	**331**	*e*P		pP		12 51 44.7	+1.2
	17nm,1.9s								
MFID	**Camas Ranch**	**66.59**	**330**	*e*P		pP		12 51 48.4	+1.3
DLMT	**Dillon**	**66.60**	**334**	*e*P		pP		12 51 46.9	-0.2
	5.2nm,1.2s								
MSO	**Missoula**	**68.33**	**334**	P		pP		12 51 58.9	+0.9
	baz=140								
MSO	**Missoula**	**68.33**	**334**	*e*P		pP		12 51 56.9	-1.1
	7.4nm,1.3s								
SCHQ	**Schefferville**	**68.38**	**6**	LR		LR		13 24 33.9	
	comp=Z,27nm,18.4s,baz=277,slow=38								
VNA3	**Neumayer Olymp**	**70.33**	**162**	P		**P**		**12 52 02.0**	**+0.1**
NEW	**Newport**	**70.82**	**333**	LR		LR		13 22 57.4	
	comp=Z,47nm,18.0s,baz=112,slow=36								
VNA2	**Neumayer--Watz**	**70.95**	**161**	P		P	

baz=94,slow=74,SNR=24
H11S3 WAKE ISLAND Hy 118.70 284 T T 15 09 17.1
baz=94,slow=74,SNR=24
ASAR Alice Springs 132.40 220 PKP **PKPdf** **13 00 02.8 -1.1**
0.5nm,1.0s,baz=156,slow=2.5,SNR=3.7
ASAR pPKP **pPKPdf** **13 00 12.2 0.0**
0.6nm,0.9s,baz=134,slow=2.1,SNR=4.3
WR1 Warramunga Arr 134.78 224 *e*PKPpre **PKPdf** **13 00 07.7 -0.7**
WRA Warramunga Arr 134.78 224 PKP **PKPdf** **13 00 07.7 -0.7**
1.1nm,0.8s,baz=127,slow=2.4,SNR=5.7
ZAA1 Zalesovo Array 136.96 16 *e*PKPpre **PKPdf** **13 00 10.4 -0.9**
ZAA1 *e*PKPdf **pPKPdf** **13 00 19.8 0.0**
ZALV Zalesovo Beam 136.97 16 PKP **PKPdf** **13 00 10.4 -0.9**
0.8nm,0.6s,baz=337,slow=3.3,SNR=4.7
ZALV pPKP **pPKPdf** **13 00 19.8 0.0**
2.0nm,0.7s,baz=321,slow=2.1,SNR=4.5
KSH Kashi 144.68 37 PKP **PKPdf** **13 00 27.1 +1.2**
KSH pPKP sPKPdf 13 00 38.1 +0.9
KSH sPKP 13 00 42.0
KSH PP **PP** **13 03 46.1 +3.9**
KSH PKS **PKSdf** **13 04 02.1 +0.6**
KSH SKS **SKSdf** **13 07 32.1 -1.8**
ULN Ulaanbaatar 145.33 355 *e*PKPdf **PKPbc** **13 00 26.2 -0.4**
SONM Songino Array 145.41 356 PKPbc **PKPbc** **13 00 26.4 -0.4**
5.0nm,0.8s,baz=20,slow=4.7,SNR=26
SONM pPKPbc **pPKPdf** **13 00 36.0 +0.7**
12nm,0.8s,baz=342,slow=2.8,SNR=24
KSRS Korea Array 147.16 322 pPKPbc pPKPbc 13 00 40.9 +0.4
1.3nm,0.7s,baz=66,slow=2.5,SNR=4.2
KS01 Wonju Array Si 147.17 322 *e*PKPbc **PKPab** **13 00 41.4 +7.5**
KSJR Wonju Array Be 147.19 322 pPKPbc pPKPbc 13 00 40.9 +0.3
LZH Lanzhou 157.26 358 *e*PKP **PKPdf** **13 00 44.2 -1.0**
LZH pPKP pPKPdf 13 00 51.8 -1.9
LZH sPKP 13 00 54.5
LZH PP **PP** **13 04 54.1 +0.6**
LZH SKS **SKSdf** **13 07 50.6 +0.6**

*SOME **11** 12:59:12.8,44.67°N×82.27°E,h30km*
*NNC **11** 12:59:12.8±3.6,44.78°N×81.74°E,h0km,mb3.0,mpv2.5, Error ellipse: s-maj=68.8km s-min=12.1km az=118.0*
ISC 11 12:59:14.8±2.4,**44.66N**±0.06×**82.1E**±0.1,**h23**km±21km, **n12,σ1°53/21,3C-3D,Northern Xinjiang**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
KTMS	**Ketmen**	**1.75**	**227**		*e*P		**Pb**	**12 59 46.4**	**0.0**
	1.5nm,0.1s								
KTMS					*e*S		**Sb**	**13 00 10.8**	**+2.9**
	17nm,0.2s								
KAPS	**Kapalarasan**	**2.05**	**289**		*e*P		**Pb**	**12 59 50.0**	**-1.4**
	1.8nm,0.1s								
KAPS					*e*S		**Sb**	**13 00 17.0**	**+0.5**
	6.6nm,0.2s								
MK31	**Makanchi Array**	**2.14**	**3**	⇓	Pn		**Pn**	**12 59 49.9**	**+0.7**
	2.4nm,0.2s,baz=181,slow=13,SNR=150								
MK31				⇑	Lg		Lg	13 00 16.9	
	0.6nm,0.2s,baz=186,slow=29,SNR=8.2								
MAKZ	**Makanchi**	**2.15**	**358**	⇑	Pg		**Pn**	**12 59 49.4**	**+0.1**
	1.9nm,0.6s								
MAKZ				⇓	Lg		Lg	13 00 16.9	
	1.8nm,0.4s								
PDGK	**Podgornoye**	**2.31**	**236**	⇓	Pg		**Pn**	**12 59 51.3**	**-0.3**
	1.1nm,0.5s								
PDGK				⇑	Lg		Lg	13 00 24.5	
	4.8nm,0.6s								
SHLS	**Shalkode**	**2.43**	**233**		*e*P		**Pn**	**12 59 53.2**	**0.0**
	3.2nm,0.2s								
SHLS					*e*S		**Sn**	**13 00 22.0**	**-0.2**
	14nm,0.3s								
UZB	**Uzynbulak**	**2.69**	**237**		*e*P		**Pb**	**12 59 60.0**	**-2.4**
	2.3nm,0.6s								
UZB					*e*S		**Sb**	**13 00 33.7**	**-1.3**
	2.2nm,0.9s								
MNBS	**Baschi**	**2.72**	**259**		*e*P		**Pb**	**13 00 01.4**	**-1.5**
	3.5nm,0.2s								
MNBS					*e*S		**Sb**	**13 00 36.4**	**+0.6**
	13nm,0.3s								
KPKS	**Kokpek**	**2.74**	**245**		*e*P		**Pb**	**13 00 01.5**	**-1.6**
	7.5nm,0.3s								
KPKS					*e*S		**Sb**	**13 00 36.5**	**+0.2**
	16nm,0.3s								
ARXS	**Arharly**	**3.10**	**263**		*e*P		**Pb**	**13 00 09.1**	**-0.1**
	2.4nm,0.3s								
ARXS					*e*S		**Sb**	**13 00 49.3**	**+2.7**
	7.5nm,0.3s								
SATY	**Saty**	**3.12**	**240**		*e*P		**Pb**	**13 00 09.1**	**-0.5**
	3.7nm,0.1s								
SATY					*e*S		**Sb**	**13 00 49.3**	**+2.0**
	15nm,0.1s								
CHKK	**Chushkaly**	**3.76**	**260**		*e*P		**Pb**	**13 00 19.5**	**-1.0**
	1.0nm,0.4s								
CHKK					*e*S		**Sb**	**13 01 07.4**	**+1.7**
	3.2nm,0.2s								

*ISK **11** 13:13:11.7,38.49°N×28.44°E,h5km,MD2.4*
*CSEM **11** 13:13:12.4±0.2,38.49°N×28.45°E,h5km,MD2.6,Error ellipse: s-maj=3.2km s-min=3.2km az=98.0*
*DDA **11** 13:13:12.2,38.50°N×28.51°E,h4km,Md2.6*
ISC 11 13:13:11.2±1.1,**38.47N**±0.03×**28.46E**±0.03,**h0**km±10km, **n23,σ1°38/38,Turkey**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
MANT	**Manisa**	**0.08**	**77**		*i*P		Pg	13 13 07.2	-5.6
MANT					*i*S		**Sg**	**13 13 08.5**	**-5.3**
KULA	**Kula-Manisa**	**0.16**	**75**		*e*PG		**Pg**	**13 13 15.8**	**+1.4**
KULA					*e*SG		**Sg**	**13 13 18.6**	**+2.1**
KULA	**Kula-Manisa**	**0.16**	**75**		*e*Pg		**Pg**	**13 13 15.8**	**+1.4**
KULA					*e*Sg		**Sg**	**13 13 18.6**	**+2.1**
DEMI	**Demirci**	**0.60**	**19**		*i*P		**Pb**	**13 13 24.1**	**-0.6**
DEMI					*i*S		**Sg**	**13 13 30.8**	**+0.1**
DEMI	**Demirci**	**0.60**	**19**		P		**Pb**	**13 13 24.1**	**-0.6**
DEMI					S		**Sg**	**13 13 30.8**	**+0.1**
AKS	**Akhisar**	**0.65**	**309**		*e*PG		**Pg**	**13 13 24.5**	**+0.8**
AKS					*e*SG		**Sb**	**13 13 33.5**	**-1.6**
AKS	**Akhisar**	**0.65**	**309**		*e*Pg		**Pg**	**13 13 24.5**	**+0.8**
AKS					*e*Sg		**Sb**	**13 13 33.5**	**-1.6**
AYDB	**Zeytinkoy-Aydi**	**0.69**	**221**		*e*PG		**Pg**	**13 13 25.4**	**+1.0**
AYDB					*e*SG		**Sb**	**13 13 35.7**	**-0.6**
AYDB	**Zeytinkoy-Aydi**	**0.69**	**221**		*e*Pg		**Pg**	**13 13 25.4**	**+1.0**
AYDB					*e*Sg		**Sb**	**13 13 35.7**	**-0.6**
SIMA	**Simav-Kutahya**	**0.73**	**34**		*e*PG		**Pg**	**13 13 26.3**	**+1.0**
SIMA					*e*SG		**Sb**	**13 13 36.7**	**-0.9**
SIMA	**Simav-Kutahya**	**0.73**	**34**		*e*Pg		**Pg**	**13 13 26.3**	**+1.0**
SIMA					*e*Sg		**Sb**	**13 13 36.7**	**-0.9**
KHL	**Karahalli**	**0.85**	**100**		*e*PG		**Pb**	**13 13 28.9**	**0.0**
KHL	**Karahalli**	**0.85**	**100**		*e*Pg		**Pb**	**13 13 28.9**	**0.0**
DNZL	**Cakiroluk**	**0.91**	**149**		*i*P		**Pb**	**13 13 30.4**	**+0.4**
DNZL					*i*S		**Sn**	**13 13 44.2**	**-1.1**
DNZL	**Cakiroluk**	**0.91**	**149**		P		**Pb**	**13 13 30.4**	**+0.4**
DNZL					S		**Sn**	**13 13 44.2**	**-1.1**
BALB	**Balikesir**	**1.25**	**339**		*e*PN		**Pn**	**13 13 35.9**	**-0.1**
BALB					*e*SN		**Sn**	**13 13 53.7**	**+0.2**
BALB	**Balikesir**	**1.25**	**339**		*e*Pn		**Pn**	**13 13 35.9**	**-0.1**
BALB					*e*Sn		**Sn**	**13 13 53.7**	**+0.2**
TVSB	**Tavsanli**	**1.25**	**38**		*e*PN		**Pn**	**13 13 35.9**	**-0.2**
TVSB	**Tavsanli**	**1.25**	**38**		*e*Pn		**Pn**	**13 13 35.9**	**-0.2**
BALY	**Balya**	**1.43**	**333**		*i*P		**Pg**	**13 13 39.9**	**+1.3**
BALY					*i*S		**Sn**	**13 13 59.7**	**+1.8**
BALY	**Balya**	**1.43**	**333**		P		**Pg**	**13 13 39.9**	**+1.3**
URLA	**Izmir**	**1.47**	**266**		*e*PN		**Pb**	**13 13 39.4**	**-0.1**
URLA	**Izmir**	**1.47**	**266**		*e*Pn		**Pb**	**13 13 39.4**	**-0.1**

*ISCJB **11** 13:25:41.8±1.4,52.6°N±0.1°×169.7°W±0.1°,1,h10km,8km, mb3.6/3,Error ellipse: s-maj=26.7km s-min=4.9km az=154.8*
*NEIC **11** 13:25:41.9±0.0,52.71°N×169.72°W,h5km,ML3.3(AEIC), After AEIC.*
*IDC **11** 13:25:43.1±1.8,52.45°N×169.29°W,h0km,mb3.7/3, mb1 3.9/4,mb1mx3.4/53,mbtmp3.6/4,ML3.2/1,Error ellipse: s-maj=59.3km s-min=32.0km az=142.0*
ISC 11 13:25:42.0±1.9,**52.7N**±0.2×**169.73W**±0.09,**h2**km±12km, **n23,σ0°67/23,mb3.7/3,Fox Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
NIKH	**Nikolski High**	**0.58**	**66**		P		**Pg**	**13 25 53.6**	**+0.5**
NIKH					S		**Sb**	**13 26 02.8**	**-0.8**
OKSO	**Okmok South**	**1.13**	**56**		P		**Pg**	**13 26 03.3**	**-0.4**
OKSO					S		**Sb**	**13 26 19.3**	**-0.2**
OKTU	**Okmok Mt. Tuli**	**1.21**	**57**		P		**Pg**	**13 26 04.9**	**-0.2**
OKFG	**Magazine Ridge**	**1.29**	**58**		P		**Pn**	**13 26 06.0**	**-1.0**
OKFG					S		**Sg**	**13 26 23.6**	**+0.3**
MGOD	**Makushin Gods**	**2.02**	**57**		P		**Pn**	**13 26 17.0**	**-0.1**
MCIR	**Makushin Cirqu**	**2.09**	**53**		P		**Pn**	**13 26 18.6**	**+0.5**
MSW	**Makushin Switc**	**2.12**	**55**		P		**Pn**	**13 26 18.4**	**-0.2**
MSW					S		**Sn**	**13 26 45.9**	**+0.4**
UNV	**Unalaska Valle**	**2.23**	**59**		P		**Pn**	**13 26 19.6**	**-0.3**
UNV					S		**Sn**	**13 26 47.5**	**-0.6**
AKMO	**Akutan Morgan**	**2.61**	**57**		P		**Pn**	**13 26 25.9**	**+0.8**
KOFP	**Korovin Flat P**	**2.71**	**262**		P		**Pn**	**13 26 26.4**	**-0.2**
AKUT	**Akutan**	**2.75**	**58**		*e*Pn		**Pn**	**13 26 27.7**	**+0.6**
KOKL	**Mount Kliuchef**	**2.76**	**263**		P		**Pn**	**13 26 27.7**	**+0.4**
ATKA	**Atka Island**	**2.78**	**261**		P		**Pn**	**13 26 26.4**	**-1.1**
ATKA					S		**Sn**	**13 27 01.5**	**-0.2**
ILAR	**Eielson Array**	**16.77**	**35**		Pn		**Pn**	**13 29 38.2**	**+0.4**
	0.0nm,0.3s,baz=224,slow=11,SNR=4.1								
H11N2	**WAKE ISLAND Hy**	**37.61**	**218**		T		T	14 12 38.7	
	baz=24								
H11N3	**WAKE ISLAND Hy**	**37.62**	**218**		T		T	14 12 44.7	
	baz=24								
H11N1	**WAKE ISLAND Hy**	**37.63**	**218**		T		T	14 12 43.3	
	baz=24								
H11S1	**WAKE ISLAND Hy**	**38.80**	**217**		T		T	14 14 12.8	
	baz=23,slow=76,SNR=182								
H11S2	**WAKE ISLAND Hy**	**38.81**	**217**		T		T	14 14 07.7	
	baz=23,slow=76,SNR=157								
H11S3	**WAKE ISLAND Hy**	**38.82**	**217**		T		T	14 14 08.4	
	baz=23,slow=76,SNR=143								
PDAR	**Pinedale Array**	**40.55**	**79**		P		**P**	**13 33 22.3**	**-0.5**
	0.4nm,0.6s,baz=298,slow=4.0,SNR=3.2								
TXAR	**Lajitas Array**	**52.96**	**89**		P		**P**	**13 34 59.4**	**-0.6**
	0.9nm,0.7s,baz=296,slow=5.3,SNR=13								
ASAR	**Alice Springs**	**90.47**	**230**		P		**P**	**13 38 46.5**	**+1.4**
	0.5nm,1.1s,baz=38,slow=4.8,SNR=4.5								

IDC 11 13:29:36.4±68.0,**15.02S**×**178.16E**,**h0**km,**mb3.7/3, mb1 3.9/3,mb1mx3.5/36,mbtmp3.7/3,Error ellipse: s-maj=1212.0km s-min=157.3km az=73.0,Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**37.28**	**237**		P		P	13 36 49.9	-0.4
	2.1nm,1.0s,baz=70,slow=6.2,SNR=4.6								
WRA	**Warramunga Arr**	**41.99**	**257**		P		P	13 37 29.8	+0.1
	0.4nm,0.8s,baz=88,slow=9.4,SNR=3.2								
ASAR	**Alice Springs**	**42.49**	**251**		P		P	13 37 33.7	-0.1
	0.9nm,0.4s,baz=82,slow=8.2,SNR=36								

*NIED **11** 13:37:00,38.50N×142.30E,h20km,Mw3.4 Best double couple: M0 1.63000×10^14 NP1:φs296.00000°,δ29.00000°, λ-91.00000°. NP2:φs117.00000°,δ61.00000°, λ-89.00000°.*
JMA 11 13:37:58.7±0.1,**38.46N**×**142.28E**,**h28**km±2km,**M3.5, Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
JIO	**Ouri**	**0.73**	**270**		P		Pb	13 38 12.4	-0.5
JIO					S		Sb	13 38 21.6	-0.9
OFUJ	**Ofunato**	**0.78**	**323**		P		Pb	13 38 13.4	-0.3
OFUJ					S		Sb	13 38 24.2	+0.2
JMK	**Ichinoseki**	**0.96**	**301**		P		Pn	13 38 16.2	-0.2
JMK					S		Sn	13 38 28.7	-0.4
JOM	**Ohasama**	**1.27**	**323**		P		Pn	13 38 21.1	+0.5
JOM					S		Sb	13 38 37.4	-0.6
JOU	**Okura**	**1.27**	**266**		P		Pn	13 38 21.1	+0.5
JOU					S		Sn	13 38 37.1	+0.3
JMM	**Marumori**	**1.31**	**244**		P		Pn	13 38 20.5	-0.7
JMM					S		Sn	13 38 37.0	-0.8
JFK	**Kawauchi**	**1.56**	**226**		P		Pn	13 38 23.3	-1.3
JFK					*e*S		Sn	13 38 42.1	-1.8
JYK	**Kaneyama**	**1.57**	**288**		P		Pn	13 38 25.6	+0.9
JYK					S		Sb	13 38 45.6	-1.0
JRG	**Rokugo**	**1.59**	**307**		P		Pb	13 38 26.4	-1.0
JRG					S		Sb	13 38 47.0	0.0

GUC 11 13:57:08.7±0.5,**22.99S**×**67.33W**,**h242**km±12km,**ML4.5, 9C,Chile-Bolivia border region**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PB06	**IPOC Station P**	**2.09**	**277**	⇑	*i*P		Pn	13 57 53.0	+1.5
PB06					*i*S		S	13 58 27.3	+2.1
PB09	**IPOC Station P**	**2.13**	**303**	⇑	*i*P		Pn	13 57 53.9	+1.9
PB09					*e*S		S	13 58 27.6	+1.7
PB09					IAML			13 58 30.6	
	comp=E,808nm,0.4s								
PB07	**IPOC Station P**	**2.68**	**297**	⇑	*i*P		Pn	13 57 59.6	+2.1
PB07					*i*S		S	13 58 38.1	+2.2
PB07					IAML			13 58 39.2	
	comp=N,993nm,0.2s								
PB04	**IPOC Station P**	**2.68**	**283**	⇑	*i*P		Pn	13 57 59.6	+2.1
PB04					*i*S		S	13 58 38.3	+2.4
PB01	**IPOC Station P**	**2.78**	**314**	⇑	*i*P		Pn	13 58 00.2	+1.7
PB01					*i*S		S	13 58 40.1	+2.3
PB01					IAML			13 58 42.5	
	comp=E,563nm,0.1s								
PB10	**IPOC Station P**	**3.01**	**259**	⇑	*i*P		Pn	13 58 03.0	+2.1
PB10					*i*S		S	13 58 44.3	+2.3
PB14	**IPOC Station P**	**3.26**	**239**		*i*P		Pn	13 58 04.8	+0.9
PB14					*i*S		S	13 58 47.9	+0.5
PB08	**IPOC Station P**	**3.30**	**329**	⇑	*i*P		Pn	13 58 06.8	+2.3
PB08					*i*S		S	13 58 51.8	+3.3
PATCX	**Punta Patache**	**3.39**	**309**	⇑	*i*P		Pn	13 58 07.2	+1.9
PATCX					*e*S		S	13 58 52.1	+2.2
HMBC	**Humberstone**	**3.59**	**318**	⇑	*i*P		Pn	13 58 09.2	+1.6
HMBC					*i*S		S	13 58 55.7	+1.5
PSGC	**Pisagua**	**4.26**	**322**		*e*P		Pn	13 58 16.2	+0.7
PSGC					*e*S		S	13 59 08.9	+0.6

*ISCJB **11** 14:15:38.4±0.5,39.01N±0.02×27.64E±0.03,h8km,5km, Error ellipse: s-maj=4.2km s-min=4.0km az=138.5*
*CSEM **11** 14:15:38.6±0.2,39.00N×27.63E,h10km,MD2.6,Error ellipse: s-maj=4.6km s-min=4.1km az=9.0*
*DDA **11** 14:15:38.8,38.97N×27.61E,h7km,Md2.6*
*ISK **11** 14:15:38.1,39.04N×27.67E,h9km,MD2.6*
ISC 11 14:15:38.0±0.9,**39.02N**±0.03×**27.63E**±0.02,**h17**km±6km, **n27,σ1°04/47,Turkey**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
AKS	**Akhisar**	**0.20**	**134**		*e*PG		**Pg**	**14 15 42.8**	**0.0**
AKS					*e*SG		**Sg**	**14 15 45.9**	**-0.1**
AKS	**Akhisar**	**0.20**	**134**		*e*Pg		**Pg**	**14 15 42.8**	**0.0**
AKS					*e*Sg		**Sg**	**14 15 45.9**	**-0.1**
BALB	**Balikesir**	**0.65**	**17**		*e*PG		**Pb**	**14 15 50.8**	**-0.1**
BALB					*e*SG		**Sb**	**14 15 59.9**	**+0.2**
BALB	**Balikesir**	**0.65**	**17**		*e*Pg		**Pb**	**14 15 50.8**	**-0.1**
BALB					*e*Sg		**Sb**	**14 15 59.9**	**+0.2**
BALY	**Balya**	**0.72**	**359**		*i*P		**Pn**	**14 15 53.4**	**-0.1**
BALY					*i*S		**Sn**	**14 16 04.1**	**-0.1**
BALY	**Balya**	**0.72**	**359**		P		**Pn**	**14 15 53.4**	**-0.1**
BALY					S		**Sn**	**14 16 04.1**	**-0.1**
AYVA	**Ayvalik**	**0.79**	**292**		*i*P		**Pn**	**14 15 54.6**	**+0.3**
AYVA					*i*S		**Sn**	**14 16 05.2**	**-0.5**
AYVA	**Ayvalik**	**0.79**	**292**		P		**Pn**	**14 15 54.6**	**+0.3**
AYVA					S		**Sn**	**14 16 05.2**	**-0.5**
DEMI	**Demirci**	**0.84**	**88**		*i*P		**Pn**	**14 15 57.2**	**+2.0**
DEMI					*i*S		**Sn**	**14 16 07.0**	**-0.2**
DEMI	**Demirci**	**0.84**	**88**		P		**Pn**	**14 15 57.2**	**+2.0**
DEMI					S		**Sn**	**14 16 07.0**	**-0.2**
MANT	**Manisa**	**0.89**	**126**		*i*P		Pb	14 15 49.7	-5.5
MANT					*i*S		**Sb**	**14 16 01.1**	**-5.7**
KULA	**Kula-Manisa**	**0.95**	**122**		*e*PG		**Pb**	**14 15 56.3**	**+0.3**
KULA					*e*SG		**Sn**	**14 16 09.9**	**+0.2**
KULA	**Kula-Manisa**	**0.95**	**122**		*e*Pg		**Pb**	**14 15 56.3**	**+0.3**
KULA					*e*Sg		**Sn**	**14 16 09.9**	**+0.2**
URLA	**Izmir**	**1.04**	**231**		*e*PN		**Pg**	**14 15 59.2**	**+1.1**
URLA	**Izmir**	**1.04**	**231**		*i*P		**Pb**	**14 15 57.5**	**-0.1**
URLA					*i*S		**Sn**	**14 16 12.3**	**+0.3**
URLA	**Izmir**	**1.04**	**231**		P		**Pb**	**14 15 57.5**	**-0.1**
URLA	**Izmir**	**1.04**	**231**		*e*Pn		**Pg**	**14 15 59.2**	**+1.1**
URLA					S		**Sn**	**14 16 12.3**	**+0.3**
SIMA	**Simav-Kutahya**	**1.05**	**86**		*e*PG		**Pb**	**14 15 58.0**	**+0.2**
SIMA					*e*SG		**Sg**	**14 16 12.7**	**+0.4**
SIMA	**Simav-Kutahya**	**1.05**	**86**		*e*Pg		**Pb**	**14 15 58.0**	**+0.2**
SIMA					*e*Sg		**Sg**	**14 16 12.7**	**+0.4**
AYDB	**Zeytinkoy-Aydi**	**1.09**	**169**		*e*PN		**Pg**	**14 15 59.6**	**+0.6**
AYDB	**Zeytinkoy-Aydi**	**1.09**	**169**		*e*Pn		**Pg**	**14 15 59.6**	**+0.6**
DGB	**˜zmir**	**1.13**	**212**		*i*P		**Pg**	**14 15 59.4**	**-0.4**
DGB					*i*S		**Sn**	**14 16 14.2**	**+0.2**
ZEY	**˜zmir**	**1.18**	**229**		*i*P		**Pg**	**14 16 00.6**	**-0.1**
ZEY					*i*S		**Sg**	**14 16 16.8**	**+0.7**
KCTX	**Karacabey (Bur**	**1.37**	**24**		*e*PN		**Pb**	**14 16 03.3**	**+0.2**
KCTX					*e*SN		**Sg**	**14 16 21.7**	**-0.5**
KCTX	**Karacabey (Bur**	**1.37**	**24**		*e*Pn		**Pb**	**14 16 03.3**	**+0.2**
KCTX					*e*Sn		**Sg**	**14 16 21.7**	**-0.5**
TVSB	**Tavsanli**	**1.49**	**72**		*e*PN		**Pb**	**14 16 05.0**	**-0.1**
TVSB	**Tavsanli**	**1.49**	**72**		*e*Pn		**Pb**	**14 16 05.1**	**-0.1**

*IDC **11** 14:22:36.0±0.8,34.94°N×89.74°E,h0km,mb4.0/9, mb1 4.2/12,mb1mx3.8/48,mbtmp4.0/12,ML3.1/3,MS3.3/14, Ms1 3.3/14,ms1mx3.0/58,Error ellipse: s-maj=28.7km s-min=16.9km az=58.0*
*BJI **11** 14:22:37.8,34.98°N×89.84°E,h10km,mb3.9/5,Ms3.8/13, Ms7 3.7/13*
*ISCJB **11** 14:22:40.1±0.3,34.89°N±0.04×89.91°E±0.05,h33km, mb4.2/20,MS3.3/10,Error ellipse: s-maj=7.2km s-min=4.4km az=42.8*
*MOS **11** 14:22:40.7±1.3,34.91°N×89.94E,h33km,mb4.4/12,Error ellipse: s-maj=18.1km s-min=8.3km az=100.1*
*NEIC **11** 14:22:41.0±2.6,34.89°N×89.75E,h32km±19km,mb4.7/4, Error ellipse: s-maj=11.6km s-min=7.3km az=69.0*
ISC 11 14:22:43.2±0.5,**34.96N**±0.06×**90.10E**±0.05,**h35**km,**n75, σ2956/78,mb4.2/20,MS3.2/10,5C-1D,Qinghai**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
LSA	**Lhasa**	**5.32**	**170**			Pn	**Pn**	**14 24 04.4**	**+3.8**
LSA						Sn	Sn	14 25 29.1	+28
LSA						smax	smax		
	comp=N,5.0nm,1.0s								
LSA						smax	smax		
	comp=E,27nm,0.8s								
LSA	**Lhasa**	**5.32**	**170**		*e*P		**Pn**	**14 23 59.1**	**-1.5**
LSA						pmax	pmax		
	comp=Z,19nm,0.8s								
LSA	**Lhasa**	**5.32**	**170**		*e*Pn		**Pn**	**14 23 59.1**	**-1.5**
	comp=Z,19nm,0.8s								
GTA	**Gaotai**	**8.94**	**57**		*e*P		Pn	14 25 00.7	+11
GTA						pP		14 25 10.0	
GTA						sP		14 25 14.8	
GTA						S	Sn	14 26 47.2	+18
GTA						pmax	pmax		
	comp=Z,2.0nm,0.8s								
GTA						pmax	pmax		
	comp=Z,44nm,6.2s								
GTA						LR	LR		
	comp=N,340nm,16.9s								
GTA						LR	LR		
	comp=E,170nm,14.3s								
GTA						LR	LR		
	comp=Z,180nm,12.8s								
WMQ	**Urumqi**	**9.04**	**349**			Pn	**Pn**	**14 24 53.4**	**+2.2**
WMQ						sP		14 25 09.5	
WMQ						Sg	**Sn**	**14 26 35.5**	**+3.7**
WMQ						pmax	pmax		
	comp=Z,10.0nm,0.7s								
WMQ						pmax	pmax		
	comp=Z,190nm,3.9s								
WMQ						smax	smax		
	comp=N,7.0nm,0.5s								
WMQ						smax	smax		
	comp=E,11nm,0.3s								
LZH	**Lanzhou**	**11.26**	**80**		*e*P		**Pn**	**14 25 19.5**	**-2.3**
LZH						pP		14 25 22.0	
LZH						sP		14 25 24.0	
LZH						*e*S	**Sn**	**14 27 26.4**	**0.0**
LZH						sS		14 27 32.4	
LZH						SS	**SnSn**	**14 27 40.7**	**+2.5**
LZH						pmax	pmax		
	comp=Z,24nm,1.3s								
LZH						pmax	pmax		
	comp=Z,100nm,4.2s								
LZH						LR	LR		
	comp=N,400nm,10.0s								
LZH						LR	LR		
	comp=E,97nm,9.7s								
LZH						LR	LR		
	comp=Z,420nm,10.3s								
KSH	**Kashi**	**12.14**	**296**		*e*P		**Pn**	**14 25 36.4**	**+2.7**
KSH						PP	**P**	**14 25 47.6**	**+1.7**
KSH						S	**Sn**	**14 27 51.2**	**+3.4**
KSH						SS	**SnSn**	**14 28 06.4**	**+6.6**
KSH						LR	LR		
	comp=Z,170nm,7.0s								
KSH						LR	LR		
	comp=Z,120nm,6.8s								
KSH						LR	LR		
	comp=Z,200nm,7.3s								
CD2	**Chengdu**	**12.16**	**106**		*e*P		**Pn**	**14 25 36.2**	**+2.1**
CD2						S	**Sn**	**14 27 51.2**	**+2.7**
CD2						LR	LR		
	comp=Z,450nm,9.5s								
CD2						LR	LR		
	comp=Z,470nm,8.3s								
AAK	**Ala-Archa**	**14.37**	**307**			LR	LR	14 32 35.8	
	comp=Z,110nm,21.1s,baz=101,slow=42								
KMI	**Kunming**	**14.68**	**128**			P	**Pn**	**14 26 10.3**	**+1.7**
GYA	**Guiyang**	**16.56**	**116

	comp=Z,16nm,0.7s								
GEYT	**Alibeck**		**25.83**	**286**	LR	LR	14 40 17.4		
	comp=Z,75nm,19.6s,baz=110,slow=42								
ABKAR	**Akbulak array**		**26.33**	**312**	*e*P	**P**	**14 28 12.6**	**-3.0**	
AKTO	**Aktyubinsk**		**27.92**	**314**	P	**P**	**14 28 25.5**	**-4.4**	
	comp=Z,0.5nm,0.3s,baz=117,slow=14,SNR=4.3								
AKTO					LR	LR	14 40 44.7		
	comp=Z,28nm,19.7s,baz=206,slow=38								
CN2	**Changchun**		**28.54**	**61**	*e*P	**P**	**14 28 36.5**	**+1.0**	
ARU	**Arti**		**30.32**	**325***c*	*i*P	**P**	**14 28 51.1**	**0.0**	
ARU							14 29 45.2		
ARU					S	**S**	**14 33 54.0**	**+5.3**	
ARU					SS	**ScP**	**14 35 28.7**	**-1.5**	
ARU					pmax	pmax			
	comp=Z,5.0nm,1.0s								
KSRS	**Korea Array**		**30.49**	**74**	LR	LR	14 40 49.4		
	comp=Z,17nm,19.6s,baz=175,slow=36								
NRIK	**Noril'sk**		**34.46**	**358**	P	**P**	**14 29 23.4**	**-3.8**	
	comp=Z,2.1nm,0.6s,baz=152,slow=9.1,SNR=3.4								
NRIK					LR	LR	14 44 06.4		
	comp=Z,34nm,18.2s,baz=118,slow=37								
KLMR	**Klimovskoe**		**41.17**	**325**	P	**P**	**14 30 22.3**	**-1.6**	
KLMR					pmax	pmax			
	comp=Z,10.0nm,1.3s								
BRTR	**Keskin Array B**		**44.51**	**294**	LR	LR	14 53 53.8		
	comp=Z,24nm,18.7s,baz=84,slow=42								
AKASG	**Malin Array Be**		**46.02**	**309**	LR	LR	14 52 15.7		
	comp=Z,42nm,19.4s,baz=260,slow=39								
FINES	**FINESS Array B**		**47.69**	**324**	LR	LR	14 52 49.5		
	comp=Z,65nm,18.4s,baz=109,slow=38								
MLR	**Muntele Rosu**		**48.90**	**303**	LR	LR	14 54 38.7		
	comp=Z,11nm,19.9s,baz=48,slow=40								
KBS	**Kingsbay**		**53.68**	**346**⇑	*i*P	**P**	**14 31 59.5**	**-1.4**	
KBS					pmax	pmax			
	comp=Z,67nm,2.5s								
DPC	**Dobruska-Polom**		**54.20**	**311**	*e*P	**P**	**14 32 03.3**	**-1.8**	
DPC					*ex*	x	14 32 06.0		
DPC	**Dobruska-Polom**		**54.20**	**311**	*e*P	**P**	**14 32 03.3**	**-1.8**	
UPC	**Upice**		**54.35**	**311**	*e*P	**P**	**14 32 07.1**	**+0.9**	
UPC	**Upice**		**54.35**	**311**	*e*P	**P**	**14 32 07.1**	**+0.9**	
CLL	**Collm**		**56.00**	**312**	*e*P	**P**	**14 32 21.0**	**+3.0**	
CLL	**Collm**		**56.00**	**312**	*e*pP	**P**	**14 32 21.0**	**+3.0**	
KHC	**Kasperske Hory**		**56.23**	**310**	*e*P	**P**	**14 32 20.2**	**+0.4**	
KHC	**Kasperske Hory**		**56.23**	**310**	*e*P	**P**	**14 32 20.2**	**+0.4**	
GERES	**GERESS Array B**		**56.23**	**309**	P	**P**	**14 32 16.9**	**-3.0**	
	comp=Z,1.1nm,0.8s,baz=100,slow=6.9,SNR=7.7								
GERES	**GERESS Array B**		**56.23**	**309**	*e*P	**P**	**14 32 20.3**	**+0.4**	
GERES					pmax	pmax			
	comp=Z,1.0nm,0.8s								
GEA0	**GERESS Array S**		**56.23**	**309**	*e*P	**P**	**14 32 16.8**	**-3.0**	
BFO	**Black Forest**		**59.78**	**310**	*i*P	**P**	**14 32 45.1**	**+0.4**	
WRA	**Warramunga Arr**		**68.89**	**135**	P	**P**	**14 33 43.9**	**-0.6**	
	comp=Z,2.2nm,0.9s,baz=327,slow=6.2,SNR=12								
WRA	**Warramunga Arr**		**68.89**	**135**	*e*P	**P**	**14 33 44.4**	**-0.1**	
WRA					pmax	pmax			
	comp=Z,2.0nm,0.9s								
PMG	**Port Moresby**		**69.63**	**118**	LR	LR	15 03 26.6		
	comp=Z,180nm,21.2s,baz=228,slow=35								
COLA	**College**		**70.75**	**23**⇓	*i*P	**P**	**14 33 57.5**	**+2.2**	
COLA					pmax	pmax			
	comp=Z,5.0nm,1.0s								
IL1	**Eielson Array**		**71.12**	**22**	*e*P	**P**	**14 33 56.7**	**-0.9**	
ILAR	**Eielson Array**		**71.12**	**22**	P	**P**	**14 33 57.2**	**-0.5**	
	comp=Z,1.7nm,0.9s,baz=308,slow=5.2,SNR=14								
ILAR	**Eielson Array**		**71.12**	**22**	*e*P	**P**	**14 34 00.0**	**+2.3**	
ILAR					pmax	pmax			
	comp=Z,2.0nm,0.9s								
ASAR	**Alice Springs**		**71.59**	**138**	P	**P**	**14 34 00.8**	**-0.2**	
	comp=Z,1.3nm,0.8s,baz=326,slow=6.1,SNR=16								
PMR	**Palmer**		**72.54**	**26**	*e*P	**P**	**14 34 05.6**	**-0.6**	
PMR					pmax	pmax			
	comp=Z,4.0nm,0.7s								
PMR	**Palmer**		**72.54**	**26**	*e*P	**P**	**14 34 05.6**	**-0.6**	
	comp=Z,3.7nm,0.7s								
SML	**Sawmill**		**72.67**	**25**	*e*P	**P**	**14 34 06.6**	**-0.5**	
SML					pmax	pmax			
	comp=Z,14nm,1.2s								
SML	**Sawmill**		**72.67**	**25**	*e*P	**P**	**14 34 06.6**	**-0.5**	
	comp=Z,14nm,1.2s								
SCM	**Sheep Creek Mo**		**73.00**	**25**	*e*P	**P**	**14 34 08.4**	**-0.7**	
SCM					pmax	pmax			
	comp=Z,9.0nm,0.8s								
SCM	**Sheep Creek Mo**		**73.00**	**25**	*e*P	**P**	**14 34 08.4**	**-0.7**	
	comp=Z,8.8nm,0.8s								
KDAK	**Kodiak Island**		**73.76**	**30**	*i*P	**P**	**14 34 13.5**	**+0.1**	
YKA	**Yellowknife Ar**		**80.86**	**11**	P	**P**	**14 34 51.1**	**-2.1**	
	comp=Z,1.4nm,0.8s,baz=342,slow=5.4,SNR=2.9								
TOA0	**Torodi Ar. Sit**		**81.30**	**280**	*e*P	**P**	**14 34 53.4**	**-2.9**	
TORD	**Torodi Ar. Bea**		**81.30**	**280**	P	**P**	**14 34 53.2**	**-3.1**	
	comp=Z,1.6nm,1.0s,baz=40,slow=5.9,SNR=6.7								
SAML	**Samuel**		**144.39**	**310**	*e*PKPdf	**PKPab**	**14 42 13.0**	**-1.4**	
CPUP	**Villa Florida**		**150.79**	**278**	PKPbc	**PKPdf**	**14 42 28.9**	**+2.5**	
	comp=Z,1.4nm,0.7s,baz=76,slow=4.2,SNR=2.5								

*IDC **11** 14:33:43.5±1.3,22°.45N×69°.86E, h0km, mb3.5/3, mb1 3.6/4, mb1mx3.3/33, mbtmp3.6/4, ML3.5/1, MS3.0/1, Ms1 3.0/1, ms1mx2.3/41, Error ellipse: s-maj=49.7km s-min=28.7km az=179.0*

*ISCJB **11** 14:33:44.6±0.6,23°.15N±0°.06×70°.23E±0°.04, h26km, mb3.4/3, MS2.9/1, Error ellipse: s-maj=9.3km s-min=5.1km az=4.9*

*NDI **11** 14:33:47.1±3.3,23°.15N×70°.15E, h15km±41km, ML3.5*

ISC 11 14:33:45.7±0.8,**23°.20N**±0°.08×**70°.18E**±0°.05,**h26**km,**n19,**
σ2^{66}/21,mb3.6/3,1D,Southern India

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
BHJ	**Bhuj**	**0.49**	**277**	*e*P		**Pb**	**14 33 56.0**	**+0.2**
BHJ				*e*S		**Sb**	**14 34 03.1**	**+0.5**
POO	**Poona**	**5.77**	**143**	*e*S		**Sn**	**14 36 15.3**	**+0.1**
POO				IAML			14 37 06.1	
	comp=E,40nm,0.8s							
POO				IAML			14 37 07.1	
	comp=N,43nm,0.2s							
BHPL	**Bhopal**	**6.66**	**88**	*e*P		**Pn**	**14 35 23.6**	**+1.6**
BHPL				*e*S		**Sn**	**14 36 36.4**	**-0.7**
BHPL				IAML			14 37 18.2	
	comp=N,69nm,0.4s							
BHPL				IAML			14 37 18.2	
	comp=E,39nm,0.5s							
THW	**Thamme Wali**	**9.66**	**8**	⇓P		**Pn**	**14 36 06.4**	**+3.3**
HYB	**Hyderabad**	**9.73**	**125**	*e*S		**Sn**	**14 37 46.3**	**-6.3**
HYB				IAML			14 38 57.7	
	comp=E,17nm,0.6s							
HYB				IAML			14 38 59.1	
	comp=N,20nm,0.2s							
SMLA	**Simla**	**10.05**	**37**	*e*S		**Sn**	**14 37 55.2**	**-5.2**
SMLA				IAML			14 38 40.2	
	comp=N,15nm,0.9s							
SMLA				IAML			14 38 44.9	
	comp=E,18nm,0.5s							
DHRM	**DHARAMSHALA**	**10.52**	**30**	*e*S		**Sn**	**14 38 07.7**	**-4.5**
WSAR	**Wadi Sarin**	**10.62**	**273**	Pn		**Pn**	**14 36 14.8**	**-1.6**
	comp=E,0.4nm,0.3s,baz=109,slow=7.3,SNR=7.0							
WSAR				Sn		Sn	14 38 05.1	-9.5
	comp=E,0.2nm,0.3s,baz=43,slow=19,SNR=2.5							
CEP	**Cherat**	**10.70**	**8**	P		**Pn**	**14 36 18.1**	**+0.7**
PYUN	**Piuthan**	**12.54**	**64**	*e*P		**Pn**	**14 36 42.6**	**-0.1**
	comp=E,9.2nm,0.4s							
PYUN				*e*S		**Sn**	**14 39 03.9**	**+2.2**
KOLN	**Koldanda**	**12.94**	**67**	*e*P		**Pn**	**14 36 48.6**	**+0.4**
	comp=E,5.5nm,0.3s							
PKIN	**Phulchoki**	**14.42**	**69**	*e*P		**Pn**	**14 37 08.3**	**-0.2**
	comp=E,4.6nm,0.4s							
PKIN				*e*S		**Sn**	**14 39 51.3**	**+3.5**
JIRN	**Jiri**	**15.13**	**70**	*e*P		**Pn**	**14 37 18.0**	**-0.1**
RAMN	**Ramite**	**15.34**	**73**	*e*P		**Pn**	**14 37 22.1**	**+1.4**
	comp=E,9.5nm,0.4s							
ODAN	**Odare**	**16.02**	**73**	*e*P		**Pn**	**14 37 31.0**	**+1.5**
	comp=E,9.5nm,0.5s							
MMAI	**Mount Meron Ar**	**32.08**	**296**	LR		LR	14 56 14.6	
	comp=E,24nm,18.4s,baz=135,slow=42							
SONM	**Songino Array**	**37.85**	**40**	P		P	14 41 08.2	+7.8
	comp=E,0.9nm,0.8s,baz=241,slow=9.7,SNR=4.7							
TORD	**Torodi Ar. Bea**	**65.34**	**274**	P		**P**	**14 44 26.1**	**-0.1**
	comp=E,0.4nm,0.6s,baz=77,slow=6.3,SNR=3.8							
ASAR	**Alice Springs**	**77.45**	**123**	P		**P**	**14 45 40.5**	**+1.4**
	comp=E,0.2nm,0.7s,baz=291,slow=6.2,SNR=3.4							

*ISCJB **11** 14:38:47.7±0.9,51°.45N±0°.04×16°.11E±0°.04, h0km, Error ellipse: s-maj=5.7km s-min=3.4km az=11.6*

*CSEM **11** 14:38:48.9±0.5,51°.48N×16°.12E, h2km, ML2.8/5, Error ellipse: s-maj=8.1km s-min=4.7km az=171.0*

*WAR **11** 14:38:49.6,51°.50N×16°.13E, h1km, Mw2.2*

*VIE **11** 14:38:54.4±0.8,51°.21N×15°.93E, h0km, mb2.2/5, ML2.1/6, Error ellipse: s-maj=5.1km s-min=4.2km az=24.0, Suspected Mining induced.*

ISC 11 14:38:48.8±1.2,**51°.51N**±0°.05×**16°.13E**±0°.03,**h0**km,**n32,**
σ0^{76}/57,Poland

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
KSP	**Ksiaz**	**0.67**	**171**	*e*Pg		**Pg**	**14 39 02.1**	**+0.5**
KSP				*e*Sg		**Sg**	**14 39 11.0**	**+0.7**
KSP	**Ksiaz**	**0.67**	**171**	*e*Pg		**Pg**	**14 39 02.1**	**+0.5**
KSP				*e*Sg		**Sg**	**14 39 11.0**	**+0.7**
KSP	**Ksiaz**	**0.67**	**171**	*e*Pg		**Pg**	**14 39 02.1**	**+0.5**
KSP				*e*Sg		**Sg**	**14 39 11.0**	**+0.7**
UPC	**Upice**	**1.00**	**184**	*e*PG		**Pg**	**14 39 08.1**	**+0.2**
UPC				*e*SG		**Sg**	**14 39 20.6**	**-0.3**
UPC	**Upice**	**1.00**	**184**	Pg		**Pg**	**14 39 08.1**	**+0.2**
UPC				Sg		**Sg**	**14 39 20.6**	**-0.3**
DPC	**Dobruska-Polom**	**1.16**	**174**	*e*PG		**Pg**	**14 39 10.9**	**-0.1**
DPC				*e*SG		**Sg**	**14 39 26.3**	**+0.2**
	comp=Z,11nm,0.3s							
DPC	**Dobruska-Polom**	**1.16**	**174**	Pg		**Pg**	**14 39 10.9**	**-0.1**
DPC				Sg		**Sg**	**14 39 26.3**	**+0.2**
	11nm,0.3s							
PVCC	**Panska Ves**	**1.39**	**226**	*e*PG		**Pg**	**14 39 15.3**	**0.0**
PVCC				*e*SG		**Sn**	**14 39 34.6**	**+0.2**
	comp=Z,19nm,0.2s							
PVCC	**Panska Ves**	**1.39**	**226**	Pg		**Pg**	**14 39 15.3**	**0.0**
PVCC				Sg		**Sn**	**14 39 34.6**	**+0.2**
	19nm,0.2s							
KRLC	**Kraliky**	**1.49**	**164**	*e*PG		**Pn**	**14 39 16.8**	**0.0**
KRLC				*e*SG		**Sg**	**14 39 35.8**	**-0.8**
KRLC	**Kraliky**	**1.49**	**164**	Pg		**Pn**	**14 39 16.8**	**0.0**
KRLC				Sg		**Sg**	**14 39 35.8**	**-0.8**
BRG	**Berggiesshubel**	**1.51**	**246**	PG		**Pg**	**14 39 17.8**	**+0.1**
BRG				SG		**Sn**	**14 39 38.2**	**+0.7**
	12nm,0.5s							
GOPC	**GO Pecny, Ondr**	**1.81**	**209**	*e*SG		**Sg**	**14 39 46.4**	**-0.3**
GOPC	**GO Pecny, Ondr**	**1.81**	**209**	Sg		**Sg**	**14 39 46.4**	**-0.3**
PRU	**Pruhonice**	**1.82**	**214**	*e*PG		**Pb**	**14 39 23.0**	**+0.1**
PRU				*e*SG		**Sb**	**14 39 46.8**	**+0.5**
	comp=Z,8.3nm,0.3s							
PRU	**Pruhonice**	**1.82**	**214**	Pg		**Pb**	**14 39 23.0**	**+0.1**
PRU				Sg		**Sb**	**14 39 46.8**	**+0.5**
	8.3nm,0.3s							
MORC	**Moravsky Berou**	**1.95**	**152**	*e*Pn		**Pn**	**14 39 22.9**	**-0.3**
CLL	**Collm**	**1.97**	**265**	*e*Pg		**Pb**	**14 39 25.0**	**-0.4**
CLL				*i*			14 39 29.6	
CLL				*e*Sg		**Sg**	**14 39 52.0**	**+0.1**
	comp=Z,5.0nm,0.6s							
OKC	**Ostrava-Krasne**	**2.11**	**142**	*e*SG		**Sb**	**14 39 54.7**	**+0.2**
OKC	**Ostrava-Krasne**	**2.11**	**142**	Sg		**Sb**	**14 39 54.7**	**+0.2**
NKC	**Novy Kostel**	**2.66**	**243**	*e*SG		**Sg**	**14 40 14.1**	**+0.1**
	comp=Z,6.3nm,0.4s							
NKC	**Novy Kostel**	**2.66**	**243**	Sg		**Sg**	**14 40 14.1**	**+0.1**
	comp=Z,6.3nm,0.4s							
OJC	**Ojcow**	**2.66**	**118**	*e*Pg		**Pg**	**14 39 39.4**	**-0.3**
OJC				*e*Sg		**Sg**	**14 40 14.2**	**+0.1**
OJC	**Ojcow**	**2.66**	**118**	*e*Pg		**Pg**	**14 39 39.4**	**-0.3**
OJC				*e*Sg		**Sg**	**14 40 14.2**	**+0.1**
OJC	**Ojcow**	**2.66**	**118**	*e*Pg		**Pg**	**14 39 39.4**	**-0.3**
OJC				*e*Sg		**Sg**	**14 40 14.2**	**+0.1**
KHC	**Kasperske Hory**	**2.88**	**215**	*e*PG		**Pb**	**14 39 42.0**	**+0.9**
KHC				*e*SN		**Sn**	**14 40 09.5**	**-1.9**
KHC				*e*SG		**Sg**	**14 40 19.9**	**-1.5**
KHC	**Kasperske Hory**	**2.88**	**215**	Pg		**Pb**	**14 39 42.0**	**+0.9**
KHC				Sn		**Sn**	**14 40 09.5**	**-1.9**
KHC				Sg		**Sg**	**14 40 19.9**	**-1.5**
KHC	**Kasperske Hory**	**2.88**	**215**	*e*		**Sn**	**14 40 09.5**	**-1.9**
KHC				*e*		**Sg**	**14 40 19.9**	**-1.5**
CONA	**Conrad Observa**	**3.58**	**183**	Pn		**Pn**	**14 39 45.4**	**-0.3**
	comp=Z,2μm,0.0s							
CONA				Sg		**Sg**	**14 40 43.2**	**-0.7**
	comp=Z,523nm,0.0s							
MOA	**Molln**	**3.85**	**199**	Pn		**Pn**	**14 39 50.9**	**+1.6**
	comp=Z,0.1nm,0.1s							
MOA				Sg		**Sg**	**14 40 51.6**	**-0.9**
ARSA	**Arzberg**	**4.28**	**186**	Sg		**Sg**	**14 41 05.1**	**-1.0**
KBA	**Koelnbreinsper**	**4.79**	**203**	Sg		**Sg**	**14 41 23.9**	**+1.3**
	comp=Z,0.2nm,0.1s							

*ISK **11** 14:40:01.4,36°.06N×35°.97E, h13km, MD3.1*

*ISCJB **11** 14:40:02.8±0.4,36°.10N±0°.02×35°.93E±0°.02, h10km±2km, Error ellipse: s-maj=2.9km s-min=2.8km az=7.6*

*CSEM **11** 14:40:02.9±0.1,36°.11N×35°.94E, h10km, MD3.1, Error ellipse: s-maj=3.1km s-min=2.6km az=6.0*

*NSSC **11** 14:40:03.7±0.8,36°.12N×35°.96E, h8km±2km, MD1.2, ML2.7*

*DDA **11** 14:40:03.2,36°.17N×35°.90E, h30km, Md3.1*

ISC 11 14:40:02.0±0.9,**36°.12N**±0°.02×**35°.96E**±0°.02,**h7**km±7km,
n75,σ0^{73}/133,Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
YAYL	**Yayladag**	**0.15**	**125**	*e*PG		**Pg**	**14 40 04.8**	**-0.4**
YAYL				*e*SG		**Sg**	**14 40 07.2**	**-0.1**
YAYL	**Yayladag**	**0.15**	**125**	*i*P		**Pg**	**14 40 04.7**	**-0.4**
YAYL				*i*S		**Sg**	**14 40 08.4**	**+1.1**
YAYL	**Yayladag**	**0.15**	**125**	*e*Pg		**Pg**	**14 40 04.8**	**-0.4**
YAYL				*e*Sg		**Sg**	**14 40 07.2**	**-0.1**
YAYL				*S*		**Sg**	**14 40 08.4**	**+1.1**
ARNB	**Al Arnab**	**0.26**	**177**	*e*P		**Pb**	**14 40 08.9**	**-0.1**
ARNB				*e*S		**Sb**	**14 40 12.8**	**-0.9**
ARNB				AML	AML		14 40 14.7	
	comp=E,759nm,0.2s							
ARNB				AML	AML		14 40 15.6	
	comp=N,1μm,0.1s							
ARNB	**Al Arnab**	**0.26**	**177**	*e*P		**Pb**	**14 40 08.9**	**-0.1**
	SNR=105							
ARNB				*e*S		**Sb**	**14 40 12.8**	**-0.9**
	comp=N,1μm,0.1s,SNR=102							
TAHT	**Tahtakopru-Hat**	**0.32**	**36**	*e*PG		**Pb**	**14 40 09.1**	**-0.9**
TAHT				*e*SG		**Sb**	**14 40 14.8**	**-0.6**
TAHT	**Tahtakopru-Hat**	**0.32**	**36**	*e*Pg		**Pb**	**14 40 09.1**	**-0.9**
TAHT				*e*Sg		**Sb**	**14 40 14.8**	**-0.6**
BTCH	**Batrach**	**0.41**	**101**	*e*P		**Pb**	**14 40 12.8**	**+1.1**
BTCH				*e*S		**Sb**	**14 40 17.5**	**-0.7**
BTCH				AML	AML		14 40 20.8	
	comp=E,861nm,0.2s							
BTCH				AML	AML		14 40 20.9	
	comp=N,2μm,0.3s							
BTCH	**Batrach**	**0.41**	**101**	*e*P		**Pb**	**14 40 12.8**	**+1.1**
	SNR=99							
BTCH				*e*S		**Sb**	**14 40 17.5**	**-0.7**
	comp=N,2μm,0.3s,SNR=97							
KRTD	**Karatas-Adana**	**0.65**	**317**	*e*PG		**Pb**	**14 40 15.5**	**-0.1**
KRTD				*e*SG		**Sb**	**14 40 25.7**	**+0.9**
KRTD	**Karatas-Adana**	**0.65**	**317**	*e*Pg		**Pb**	**14 40 15.5**	**-0.1**
KRTD				*e*Sg		**Sb**	**14 40 25.7**	**+0.9**
KRTS	**Karatas**	**0.65**	**314**	*e*PG		**Pb**	**14 40 26.0**	**+1.0**
KRTS				*e*SG		**Sb**	**14 40 26.0**	**+1.0**
KRTS	**Karatas**	**0.65**	**314**	*e*Pg		**Pb**	**14 40 15.7**	**0.0**
KRTS				*e*Sg		**Sb**	**14 40 26.0**	**+1.0**
DORT	**Dortyol-Hatay**	**0.73**	**15**	*e*PG		**Pb**	**14 40 17.1**	**0.0**
DORT				*e*SG		**Sn**	**14 40 28.6**	**-1.6**
DORT	**Dortyol-Hatay**	**0.73**	**15**	*e*Pg		**Pb**	**14 40 17.1**	**0.0**
DORT				*e*Sg		**Sn**	**14 40 28.6**	**-1.6**
YURE	**YUREGIR**	**0.75**	**340**	*i*P		**Pb**	**14 40 17.4**	**-0.1**
YURE				*i*S		**Sn**	**14 40 30.2**	**-0.6**
YURE	**YUREGIR**	**0.75**	**340**	P		**Pb**	**14 40 17.4**	**-0.1**
YURE				S		**Sn**	**14 40 30.2**	**-0.6**
DRWC	**Darouich**	**0.76**	**49**	*e*P		**Pb**	**14 40 18.2**	**+0.6**
DRWC				*e*S		**Sb**	**14 40 28.5**	**+0.3**
DRWC				AML	AML		14 40 31.5	
	comp=N,398nm,0.6s							
DRWC				AML	AML		14 40 33.2	
	comp=E,456nm,0.4s							
DRWC	**Darouich**	**0.76**	**49**	*e*P		**Pb**	**14 40 18.2**	**+0.6**
	SNR=72							
DRWC				*e*S		**Sb**	**14 40 28.5**	**+0.3**
	comp=E,456nm,0.4s,SNR=93							
CEYT	**Ceyhan**	**0.91**	**349**	*e*PG		**Pb**	**14 40 20.3**	**+0.3**
CEYT				*e*SG		**Sn**	**14 40 34.5**	**0.0**
CEYT	**Ceyhan**	**0.91**	**349**	*e*Pg		**Pb**	**14 40 20.3**	**+0.3**
CEYT				*e*Sg		**Sn**	**14 40 34.5**	**0.0**
KUZU	**Kuzuini**	**1.11**	**54**	*i*P		**Pn**	**14 40 24.5**	**+0.4**
KUZU				*i*S		**Sn**	**14 40 40.4**	**+0.7**
KUZU	**Kuzuini**	**1.11**	**54**	P		**Pn**	**14 40 24.5**	**+0.4**
KUZU				S		**Sn**	**14 40 40.4**	**+0.7**
KAMA	**Osmaniye**	**1.21**	**28**	*i*P		**Pn**	**14 40 25.2**	**-0.2**
KAMA				*i*S		**Sn**	**14 40 41.5**	**-0.6**
DED	**Mersin**	**1.26**	**312**	*i*P		**Pn**	**14 40 26.8**	**+0.8**
DED				*i*S		**Sg**	**14 40 42.5**	**+0.1**
KOZT	**Kozan**	**1.36**	**356**	*e*PN		**Pb**	**14 40 27.6**	**-0.2**
KOZT				*e*SN		**Sn**	**14 40 46.8**	**+1.0**
KOZT	**Kozan**	**1.36**	**356**	*e*Pn		**Pb**	**14 40 27.6**	**-0.2**
KOZT				*e*Sn		**Sn**	**14 40 46.8**	**+1.0**
AKO	**Adana**	**1.40**	**343**	*i*P		**Pg**	**14 40 29.1**	**+0.2**
AKO				*i*S		**Sg**	**14 40 47.1**	**+0.1**
HCB	**Kahramanmara¯**	**1.44**	**32**	*i*P		**Pb**	**14 40 28.8**	**-0.4**
HCB				*i*S		**Sg**	**14 40 48.5**	**+0.1**
ANDN	**Andirin**	**1.49**	**12**	*i*P		**Pn**	**14 40 29.2**	**-0.1**
ANDN				*i*S		**Sb**	**14 40 49.1**	**-0.1**
ANDN	**Andirin**	**1.49**	**12**	P		**Pn**	**14 40 29.2**	**-0.1**
ANDN				S		**Sb**	**14 40 49.2**	**-0.1**
GULE	**Gulek**	**1.50**	**321**	*i*P		**Pn**	**14 40 29.2**	**-0.3**
GULE				*i*S		**Sn**	**14 40 49.4**	**-0.1**
GULE	**Gulek**	**1.50**	**321**	P		**Pn**	**14 40 29.2**	**-0.3**
GULE				S		**Sn**	**14 40 49.3**	**-0.1**
KIZK	**Mersin**	**1.51**	**284**	*i*P		**Pn**	**14 40 29.7**	**+0.2**
KIZK				*i*S		**Sn**	**14 40 48.8**	**-0.6**
KIZK	**Mersin**	**1.51**	**284**	P		**Pn**	**14 40 29.7**	**+0.2**
KIZK				S		**Sn**	**14 40 48.8**	**-0.6**
KMRS	**Kahramanmaras**	**1.58**	**28**	*e*PN		**Pn**	**14 40 30.7**	**+0.3**
KMRS				*e*SN		**Sg**	**14 40 51.9**	**-0.8**
KMRS	**Kahramanmaras**	**1.58**	**28**	*e*Pn		**Pn**	**14 40 30.7**	**+0.3**
KMRS				*e*Sn		**Sg**	**14 40 51.9**	**-0.8**
SLFK	**Silifke-Mersin**	**1.65**	**280**	*e*PN		**Pn**	**14 40 31.2**	**-0.1**
SLFK				*e*SN		**Sn**	**14 40 53.0**	**+0.2**
SLFK	**Silifke-Mersin**	**1.65**	**280**	*e*Pn		**Pn**	**14 40 31.3**	**-0.1**
SLFK				*e*Sn		**Sn**	**14 40 53.0**	**+0.2**
GZT	**Gaziantep**	**1.79**	**46**	*i*P		**Pg**	**14 40 36.0**	**-0.8**
GZT				*i*S		**Sg**	**14 41 00.2**	**+0.8**
IKL	**Isikli**	**1.84**	**274**	*e*PN		**Pn**	**14 40 33.9**	**-0.1**
IKL				*e*SN		**Sn**	**14 40 57.5**	**-0.1**
IKL	**Isikli**	**1.84**	**274**	*e*Pn		**Pn**	**14 40 33.9**	**-0.1**
IKL				*e*Sn		**Sn**	**14 40 57.5**	**-0.1**
KEBE	**Keben-Mersin**	**1.84**	**281**	*e*PN		**Pn**	**14 40 33.9**	**-0.2**
KEBE				*e*SN		**Sn**	**14 40 57.7**	**0.0**
KEBE	**Keben-Mersin**	**1.84**	**281**	*e*Pn		**Pn**	**14 40 33.9**	**-0.2**
KEBE				*e*Sn		**Sn**	**14 40 57.7**	**0.0**
YESI	**Yesilovacik-Me**	**1.88**	**273**	*e*PN		**Pn**	**14 40 34.2**	**-0.3**
YESI				*e*SN		**Sn**	**14 40 58.3**	**0.0**
YESI	**Yesilovacik-Me**	**1.88**	**273**	*e*Pn		**Pn**	**14 40 34.2**	**-0.3**
YESI				*e*Sn		**Sn**	**14 40 58.3**	**0.0**
AKKU	**Akkuyu-Mersin**	**1.95**	**272**	*e*PN		**Pn**	**14 40 35.2**	**-0.3**
AKKU	**Akkuyu-Mersin**	**1.95**	**272**	*e*Pn		**Pn**	**14 40 35.2**	**-0.3**
KERG	**Konya-Eregli**	**1.96**	**312**	*i*P		**Pn**	**14 40 36.0**	**+0.2**
KERG				*i*S		**Sb**	**14 41 02.5**	**-0.3**
KERG	**Konya-Eregli**	**1.96**	**312**	P		**Pn**	**14 40 36.0**	**+0.2**
KERG				S		**Sb**	**14 41 02.5**	**-0.3**
YAHY	**KAYSERI_Yahyal**	**2.03**	**347**	*i*P		**Pb**	**14 40 38.4**	**-0.9**
YAHY				*i*S		**Sn**	**14 41 01.3**	**-1.1**
YAHY	**KAYSERI_Yahyal**	**2.03**	**347**	P		**Pb**	**14 40 38.4**	**-0.9**
YAHY				S		**Sn**	**14 41 01

EMUR Lg Lg 15 10 32.0
1µm,0.4s
EMUR La Murta 0.46 94 Pg **Pb** **15 10 25.4 -0.5**
78nm,0.2s,SNR=18
EMUR Lg Lg 15 10 32.0
1µm,0.4s
SESP Santiago Espad 0.62 293 ⇑Pg **Pb** **15 10 29.8 +1.0**
26nm,0.2s,SNR=18
SESP Lg Lg 15 10 38.9
379nm,0.2s,SNR=7.9
SESP Santiago Espad 0.62 293 Pg **Pb** **15 10 29.8 +1.0**
26nm,0.2s,SNR=18
SESP Lg Lg 15 10 38.9
379nm,0.2s,SNR=7.9
CART Cartagena 0.71 114 *i* P **Pb** **15 10 30.0 -0.1**
CART *e*S **Sb** **15 10 39.2 -0.7**
ETOB Tobarra 0.79 15 ⇓Pg **Pn** **15 10 32.9 -0.1**
5.7nm,0.1s,SNR=18
ETOB Lg Lg 15 10 43.6
137nm,0.2s,SNR=22
ETOB Tobarra 0.79 15 Pg **Pn** **15 10 32.9 -0.1**
5.7nm,0.1s,SNR=18
ETOB Lg Lg 15 10 43.6
137nm,0.2s,SNR=22
ENIJ Nijar 0.96 199 ⇑Pg **Pg** **15 10 34.3 +0.3**
27nm,0.2s,SNR=18
ENIJ Lg Lg 15 10 46.7
328nm,0.3s,SNR=7.9
ENIJ Nijar 0.96 199 Pg **Pg** **15 10 34.3 +0.3**
27nm,0.2s,SNR=18
ENIJ Lg Lg 15 10 46.7
328nm,0.3s,SNR=7.9
EQES Quesada 0.99 266 Pg **Pn** **15 10 36.1 +0.3**
28nm,0.3s,SNR=166
EQES Lg Lg 15 10 50.8
94nm,0.2s,SNR=11
EQES Quesada 0.99 266 Pg **Pn** **15 10 36.1 +0.3**
28nm,0.3s,SNR=166
EQES Lg Lg 15 10 50.8
94nm,0.2s,SNR=11
GORA Gorafe 1.05 248 Pg **Pn** **15 10 36.6 0.0**
7.0nm,0.2s,SNR=7.9
GORA Lg Lg 15 10 52.0
74nm,0.2s,SNR=7.9
GORA Gorafe 1.05 248 Pg **Pn** **15 10 36.6 0.0**
7.0nm,0.2s,SNR=7.9
GORA Lg Lg 15 10 52.0
74nm,0.2s,SNR=7.9
AFON Font Roja 1.27 52 Pg **Pg** **15 10 40.8 +0.7**
1.5nm,0.2s,SNR=38
AFON Lg Lg 15 10 58.0
17nm,0.3s,SNR=11
AFON Font Roja 1.27 52 Pg **Pg** **15 10 40.8 +0.7**
1.5nm,0.2s,SNR=38
AFON Lg Lg 15 10 58.0
17nm,0.3s,SNR=11
EBER Berja 1.30 221 Pg **Pb** **15 10 40.5 +0.2**
13nm,0.3s,SNR=62
EBER Lg Lg 15 10 58.5
35nm,0.3s,SNR=18
EBER Berja 1.30 221 Pg **Pb** **15 10 40.5 +0.2**
13nm,0.3s,SNR=62
EBER Lg Lg 15 10 58.5
35nm,0.3s,SNR=18
EQUE Quentar 1.45 243 Pg **Pg** **15 10 44.2 +0.7**
33nm,0.4s,SNR=124
EQUE Lg Lg 15 11 05.4
121nm,0.4s,SNR=16
EQUE Quentar 1.45 243 Pg **Pg** **15 10 44.2 +0.7**
33nm,0.4s,SNR=124
EQUE Lg Lg 15 11 05.4
121nm,0.4s,SNR=16
SELV Sierra Elvira 1.65 248 Pg **Pg** **15 10 48.1 +0.9**
24nm,0.3s,SNR=7.9
SELV Lg Lg 15 11 11.1
82nm,0.4s,SNR=7.9
SELV Sierra Elvira 1.65 248 Pg **Pg** **15 10 48.1 +0.9**
24nm,0.3s,SNR=7.9
SELV Lg Lg 15 11 11.1
82nm,0.4s,SNR=7.9
EGOR Sierra Gorda, 1.98 248 Pg **Pb** **15 10 52.8 +1.0**
5.2nm,0.2s,SNR=7.9
EGOR Lg Lg 15 11 21.4
23nm,0.3s,SNR=7.9
EGOR Sierra Gorda, 1.98 248 Pg **Pb** **15 10 52.8 +1.0**
5.2nm,0.2s,SNR=7.9
EGOR Lg Lg 15 11 21.4
23nm,0.3s,SNR=7.9
EADA Adamuz 2.20 278 Pn **Pn** **15 10 53.8 +1.5**
SNR=7.9
EADA Pg **Pg** **15 10 58.5 +0.7**
12nm,0.1s,SNR=7.9
EADA Sn **Sn** **15 11 20.5 +0.9**
33nm,0.2s,SNR=7.9
EADA Lg Lg 15 11 28.6
51nm,0.2s,SNR=7.9
EADA Adamuz 2.20 278 Pn **Pn** **15 10 53.8 +1.5**
SNR=7.9
ESDC Sonseca Array 2.46 318 Pn **Pn** **15 10 57.0 +1.1**
2.0nm,0.3s,baz=129,slow=13,SNR=30
ESDC Lg Lg 15 11 34.8
22nm,0.3s,baz=137,slow=30,SNR=11
ESDC Sonseca Array 2.46 318 Pn **Pn** **15 10 57.0 +1.1**
2.0nm,0.3s,SNR=30
ESDC Lg Lg 15 11 34.8
22nm,0.3s,SNR=11
EMOS Mosqueruela 2.69 22 Pn **Pn** **15 11 01.3 +2.0**
3.2nm,0.2s,SNR=14
EMOS Pg **Pg** **15 11 07.8 +0.5**
2.2nm,0.2s,SNR=16
EMOS Sn **Sn** **15 11 33.1 +1.0**
5.8nm,0.3s,SNR=7.1
EMOS Lg Lg 15 11 43.2
10nm,0.2s,SNR=5.0
EMIJ Mijas 2.70 242 Pn **Pb** **15 11 02.0 -2.1**
10nm,0.5s,SNR=13
EMIJ Pg **Pg** **15 11 07.7 +0.4**
9.7nm,0.3s,SNR=6.1
EMIJ Sn **Sn** **15 11 32.8 +0.9**
6.6nm,0.3s,SNR=8.8
EMIJ Lg Lg 15 11 44.8
12nm,0.4s,SNR=94
EIBI Ibiza 2.73 64 Pn **Pn** **15 10 59.4 -0.3**
2.8nm,0.2s,SNR=9.2
EIBI Pg **Pg** **15 11 07.6 -0.4**
3.9nm,0.2s,SNR=6.9
EIBI Sn **Sn** **15 11 32.4 -0.4**
6.1nm,0.2s,SNR=7.2
EIBI Lg Lg 15 11 44.3
6.6nm,0.2s,SNR=5.0
ECAB El Cabril 2.85 275 Pn **Pn** **15 11 02.5 +1.2**
5.7nm,0.2s,SNR=37
ECAB Pg **Pg** **15 11 09.8 -0.5**
12nm,0.3s,SNR=6.8
ECAB Sn **Sn** **15 11 36.7 +0.9**
36nm,0.2s,SNR=27
ECAB Lg Lg 15 11 48.6
28nm,0.2s,SNR=15
GUD Guadarrama 3.30 327 Pn **Pn** **15 11 09.7 +2.1**
5.9nm,0.4s,SNR=16
GUD Pg **Pg** **15 11 19.1 +0.1**
11nm,0.2s,SNR=25
GUD Sn **Sn** **15 11 47.1 +0.1**
9.6nm,0.3s,SNR=9.3
GUD Lg Lg 15 12 03.2
38nm,0.3s
ESPR Espera 3.37 254 Pn **Pn** **15 11 10.7 +2.4**
2.6nm,0.2s,SNR=9.4
ESPR Pg **Pg** **15 11 20.2 0.0**
3.2nm,0.2s,SNR=6.5
ESPR Sn **Sn** **15 11 50.1 +1.6**
6.2nm,0.3s,SNR=5.0
ESPR Lg Lg 15 12 06.6
8.9nm,0.2s
ERTA Horta de San J 3.50 28 Pn **Pn** **15 11 12.2 +2.0**
8.3nm,0.3s,SNR=18
ERTA Sn **Sn** **15 11 52.2 +0.5**
4.7nm,0.3s,SNR=5.6
ERTA Lg Lg 15 12 09.1
13nm,0.3s
EMIN Mina Concepcio 3.85 270 Pn **Pn** **15 11 16.0 +1.1**
2.7nm,0.2s,SNR=22
EMIN Sn **Sn** **15 12 00.1 -0.1**
3.8nm,0.1s,SNR=6.9
EMIN Lg Lg 15 12 21.7
35nm,0.4s,SNR=7.7
EPLA Plasencia 3.98 305 Pn **Pn** **15 11 17.9 +1.2**
9.8nm,0.2s,SNR=31

EPLA Pg **Pg** **15 11 30.4 -1.3**
3.8nm,0.2s,SNR=7.0
EPLA Sn **Sn** **15 12 02.9 -0.5**
4.4nm,0.2s,SNR=5.6
EPLA Lg Lg 15 12 24.1
38nm,0.4s
ESAC San Caprasio 3.98 15 Pn **Pn** **15 11 19.8 +3.0**
11nm,0.3s,SNR=6.5
ESAC Pg **Pb** **15 11 29.2 +3.4**
9.3nm,0.2s,SNR=6.9
ESAC Sn **Sn** **15 12 03.1 -0.4**
20nm,0.3s,SNR=7.9
ESAC Lg Lg 15 12 23.3
24nm,0.3s,SNR=5.0
ETOS Mallorca 4.08 61 Pn **Pn** **15 11 19.0 +0.9**
5.3nm,0.4s,SNR=8.6
ETOS Pg **Pb** **15 11 30.9 +3.3**
1.5nm,0.2s,SNR=5.1
ETOS Sn **Sn** **15 12 04.9 -1.1**
2.9nm,0.3s,SNR=7.9
EPOB Poblet 4.13 32 Pn **Pn** **15 11 20.8 +2.0**
4.0nm,0.2s,SNR=14
EPOB Sn **Sn** **15 12 06.5 -0.8**
5.3nm,0.4s,SNR=7.9
EPOB Lg Lg 15 12 28.2
1.5nm,0.2s
PBAR Barrancos 4.13 276 *e*Pn **Pn** **15 11 20.0 +1.1**
PBAR *e*Sn **Sn** **15 12 07.6 +0.3**
PBAR A A 15 12 31.8
9.5nm,0.2s
PBAR Barrancos 4.13 276 *e*Pn **Pn** **15 11 20.0 +1.1**
PBAR *e*Sn **Sn** **15 12 07.6 +0.3**
9.5nm,0.2s
EBAD Badajoz 4.18 284 Pn **Pn** **15 11 21.1 +1.6**
3.6nm,0.1s,SNR=6.4
EBAD Sn **Sn** **15 12 08.8 +0.4**
22nm,0.3s,SNR=14
EBAD Lg Lg 15 12 31.4
17nm,0.2s
EGRO El Granado 4.51 267 Pn **Pn** **15 11 25.1 +1.1**
4.7nm,0.2s,SNR=12
EGRO Pg **Pg** **15 11 40.4 -1.5**
0.8nm,0.2s,SNR=7.9
EGRO Sn **Sn** **15 12 15.8 -0.7**
8.0nm,0.3s,SNR=5.3
EGRO Lg Lg 15 12 41.3
11nm,0.4s,SNR=7.4
PMRV Marv??o 4.63 291 *e*Pn **Pn** **15 11 26.7 +1.0**
PMRV *e*Sn **Sn** **15 12 19.8 +0.2**
PMRV A A 15 12 53.0
4.2nm,0.2s
PMRV Marv??o 4.63 291 *e*Pn **Pn** **15 11 26.7 +1.0**
PMRV *e*Sn **Sn** **15 12 19.8 +0.2**
4.2nm,0.2s
PESTR Estremoz 4.64 284 *e*Pn **Pn** **15 11 27.0 +1.1**
PESTR *e*Sn **Sn** **15 12 19.7 -0.2**
PESTR A A 15 12 21.1
4.6nm,0.2s
PESTR Estremoz 4.64 284 *e*Pn **Pn** **15 11 27.0 +1.1**
PESTR *e*Sn **Sn** **15 12 19.7 -0.2**
4.6nm,0.2s
PVAQ Vaqueiros 4.71 266 *e*Pn **Pn** **15 11 27.5 +0.8**
PVAQ *e*Sn **Sn** **15 12 20.8 -0.6**
PVAQ A A 15 12 22.0
4.9nm,0.2s
PVAQ Vaqueiros 4.71 266 *e*Pn **Pn** **15 11 27.5 +0.8**
PVAQ *e*Sn **Sn** **15 12 20.8 -0.6**
4.9nm,0.2s
EMIR Miracle 4.78 31 Pn **Pn** **15 11 29.6 +1.8**
1.6nm,0.2s,SNR=7.9
EMIR Pg **Pg** **15 11 45.1 -2.1**
2.4nm,0.3s,SNR=7.9
EMIR Sn **Sn** **15 12 22.0 -1.3**
1.8nm,0.3s,SNR=7.9
EMIR Lg Lg 15 12 51.6
4.2nm,0.3s,SNR=7.9
PBEJ Beja 4.78 274 *e*Pn **Pn** **15 11 29.1 +1.3**
PBEJ *e*Sn **Sn** **15 12 23.0 -0.3**
PBEJ A A 15 12 26.1
2.2nm,0.2s
PBEJ Beja 4.78 274 *e*Pn **Pn** **15 11 29.1 +1.3**
PBEJ *e*Sn **Sn** **15 12 23.0 -0.3**
2.2nm,0.2s
PCBR Castelo Branco 4.83 296 *e*Pn **Pn** **15 11 29.7 +1.2**
PCBR *e*Sn **Sn** **15 12 24.7 +0.2**
PCBR A A 15 13 03.1
31nm,0.6s
PCBR Castelo Branco 4.83 296 *e*Pn **Pn** **15 11 29.7 +1.2**
PCBR *e*Sn **Sn** **15 12 24.7 +0.2**
31nm,0.6s
EVO Evora 4.92 280 *e*Sn **Sn** **15 12 26.8 0.0**
EVO Evora 4.92 280 *e*Sn **Sn** **15 12 26.8 0.0**
EORO Oroz-Betelu 5.02 4 Pn **Pn** **15 11 34.0 +2.9**
1.0nm,0.2s,SNR=8.7
EORO Sn **Sn** **15 12 28.7 -0.6**
5.2nm,0.4s,SNR=7.9
EORO Lg Lg 15 12 59.2
2.4nm,0.3s
CSOR Sort 5.03 26 Pn **Pn** **15 11 33.6 +2.3**
2.0nm,0.2s,SNR=20
CSOR Sn **Sn** **15 12 29.5 0.0**
5.7nm,0.3s,SNR=5.6
CSOR Lg Lg 15 12 57.7
3.0nm,0.3s
MESJ Messejana 5.07 272 *e*P **Pn** **15 11 32.6 +1.0**
MESJ *e*S **Sn** **15 12 28.4 -1.9**
MESJ AML AML 15 12 31.2
comp=E,11nm,0.3s
MESJ Messejana 5.07 272 *e*Pn **Pn** **15 11 32.8 +1.1**
MESJ *e*Sn **Sn** **15 12 29.2 -1.1**
MESJ A A 15 12 33.0
comp=E,1.6nm,0.2s
MESJ Messejana 5.07 272 *e*Pn **Pn** **15 11 32.8 +1.1**
MESJ *e*Sn **Sn** **15 12 29.2 -1.1**
comp=E,1.6nm,0.2s
CFON Fontmartina 5.08 39 Pn **Pn** **15 11 33.3 +1.4**
comp=E,1.0nm,0.2s,SNR=13
CFON Sn **Sn** **15 12 29.1 -1.6**
comp=E,1.8nm,0.2s,SNR=7.9
ETSF Etsaut 5.11 10 *e*P **Pn** **15 11 35.3 +3.0**
ETSF *e*Sn **Sn** **15 12 26.1 -5.3**
comp=E,5.0nm,0.4s
ETSF Etsaut 5.11 10 *e*P **Pn** **15 11 35.3 +3.0**
MTE Manteigas 5.12 301 *e*Pn **Pn** **15 11 34.5 +2.1**
MTE *e*Sn **Sn** **15 12 31.4 -0.2**
MTE *e*Sg **Sg** **15 12 56.6 -3.2**
MTE A A 15 13 11.4
comp=E,43nm,0.5s
MTE Manteigas 5.12 301 *e*Pn **Pn** **15 11 34.5 +2.1**
MTE *e*Sn **Sn** **15 12 31.4 -0.2**
MTE *e*Sg **Sg** **15 12 56.6 -3.2**
comp=E,43nm,0.5s
MVO Moncorvo 5.20 311 *e*Pn **Pn** **15 11 34.8 +1.3**
MVO *e*Sn **Sn** **15 12 33.0 -0.6**
MVO *e*Sg **Sg** **15 13 02.2 -0.2**
MVO A A 15 13 24.0
comp=E,16nm,0.5s
MVO Moncorvo 5.20 311 Pn **Pn** **15 11 34.8 +1.3**
comp=E,1.3nm,0.1s,SNR=11
MVO Sn **Sn** **15 12 32.0 -1.6**
comp=E,4.8nm,0.3s,SNR=7.9
MVO Lg Lg 15 13 03.6
comp=E,7.7nm,0.3s
MVO Moncorvo 5.20 311 *e*Pn **Pn** **15 11 34.8 +1.3**
MVO *e*Sn **Sn** **15 12 33.0 -0.6**
MVO *e*Sg **Sg** **15 13 02.2 -0.2**
comp=E,16nm,0.5s
MVO Lg Lg 15 13 03.6
comp=E,7.7nm,0.3s
SJPF Ste Jean 5.25 5 *e*P **Pn** **15 11 37.6 +3.4**
SJPF Ste Jean 5.25 5 *e*Pn **Sn** **15 12 29.7 -5.1**
comp=E,4.2nm,0.3s
SJPF Ste Jean 5.25 5 *e*P **Pn** **15 11 37.6 +3.4**
ATE Arette 5.27 9 Pn **Pn** **15 11 37.2 +2.7**
comp=E,0.7nm,0.2s,SNR=7.9
ATE Sn **Sn** **15 12 34.7 -0.7**
comp=E,1.4nm,0.4s,SNR=7.9
ATE Lg Lg 15 13 05.8
comp=E,2.8nm,0.4s,SNR=7.9
PNCL Nicolau / Gran 5.31 275 *e*Pn **Pn** **15 11 36.4 +1.4**
PNCL *e*Sn **Sn** **15 12 35.6 -0.6**
PNCL A A 15 12 39.3
comp=E,1.6nm,0.2s
PNCL Nicolau / Gran 5.31 275 *e*Pn **Pn** **15 11 36.4 +1.4**
PNCL *e*Sn **Sn** **15 12 35.6 -0.6**
comp=E,1.6nm,0.2s

EALK Alkurruntz 5.34 2 Pn **Pn** **15 11 38.6 +3.1**
comp=E,1.4nm,0.2s,SNR=8.8
EALK Sn **Sn** **15 12 37.4 +0.2**
comp=E,21nm,0.5s,SNR=5.1
EALK Lg Lg 15 13 08.9
comp=E,9.6nm,0.3s
EPF Esparros 5.40 17 *e*P **Pn** **15 11 39.4 +3.0**
EPF *e*Sn **Sn** **15 12 33.1 -5.6**
comp=E,6.3nm,0.4s
CLLI Llivia 5.43 31 Pn **Pn** **15 11 39.3 +2.4**
comp=E,0.4nm,0.3s,SNR=12
CLLI Sn **Sn** **15 12 39.0 -0.5**
comp=E,3.2nm,0.4s,SNR=7.9
CLLI Lg Lg 15 13 10.3
comp=E,0.5nm,0.3s
PBRG Braganca 5.45 318 *e*Pn **Pn** **15 11 38.8 +1.8**
PBRG *e*Sg **Sg** **15 13 09.2 -1.5**
PBRG A A 15 13 22.1
comp=E,18nm,0.5s
MORF Marmelete 5.46 266 *e*P **Pn** **15 11 37.8 +0.7**
MORF *e*S **Sn** **15 12 37.0 -3.0**
MORF AML AML 15 12 39.6
comp=E,13nm,0.2s
MORF Marmelete 5.46 266 *e*Pn **Pn** **15 11 38.3 +1.2**
MORF *e*Sn **Sn** **15 12 39.1 -0.9**
MORF A A 15 12 42.8
comp=E,5.3nm,0.2s
PTEO Sao Teotonio 5.49 269 *e*Sn **Sn** **15 12 40.6 0.0**
PTEO A A 15 12 41.4
comp=E,0.9nm,0.2s
ELAN Lanestosa 5.49 348 Pn **Pn** **15 11 40.2 +2.7**
comp=E,1.0nm,0.2s,SNR=8.6
ELAN Sn **Sn** **15 12 39.1 -1.6**
comp=E,1.4nm,0.3s,SNR=7.9
ELAN Lg Lg 15 13 12.8
comp=E,1.2nm,0.2s
PVIS Viseu 5.50 303 *e*Pn **Pn** **15 11 39.1 +1.4**
PVIS *e*Sn **Sn** **15 12 39.5 -1.5**
PVIS *e*Sg **Sg** **15 13 10.6 -1.6**
PVIS A A 15 13 24.7
comp=E,15nm,0.5s
ECAL Calabor 5.55 319 Pn **Pn** **15 11 40.0 +1.6**
comp=E,1.7nm,0.3s,SNR=7.9
ECAL Sn **Sn** **15 12 41.0 -1.3**
comp=E,2.0nm,0.2s,SNR=7.9
ECAL Lg Lg 15 13 15.4
comp=E,4.7nm,0.3s,SNR=7.9
PFVI Vila Bisbo 5.62 265 *e*Sn **Sn** **15 12 42.8 -1.2**
PFVI A A 15 12 46.0
comp=E,2.3nm,0.1s
PFVI Vila Bisbo 5.62 265 Pn **Pn** **15 11 40.4 +1.1**
comp=E,1.9nm,0.2s,SNR=7.9
PFVI Sn **Sn** **15 12 42.7 -1.2**
comp=E,3.3nm,0.1s,SNR=7.9
PFVI Lg Lg 15 13 16.5
comp=E,5.3nm,0.2s,SNR=7.9
PCAS Casmilo, Conde 5.64 295 *e*Pn **Pn** **15 11 41.3 +1.7**
PCAS *e*Sn **Sn** **15 12 43.5 -1.0**
PCAS *e*Sg **Sg** **15 13 16.8 +0.1**
PCAS A A 15 13 26.0
comp=E,39nm,0.6s
PVRL Vila Real 5.68 309 *e*Pn **Pn** **15 11 41.9 +1.7**
PVRL *e*Sn **Sn** **15 12 44.5 -1.0**
PVRL A A 15 13 31.0
comp=E,15nm,0.5s
POLO Lamas de Olo 5.79 309 *e*Pn **Pn** **15 11 43.0 +1.3**
POLO *e*Sn **Sn** **15 12 47.1 -1.0**
POLO *e*Sg **Sg** **15 13 17.3 -4.0**
POLO A A 15 13 28.9
comp=E,7.7nm,0.5s
EJON La Jonquera 5.82 37 Pn **Pn** **15 11 44.3 +2.3**
comp=E,0.6nm,0.3s,SNR=7.9
EJON Sn **Sn** **15 12 47.3 -1.5**
comp=E,0.4nm,0.3s,SNR=7.9
EJON Lg Lg 15 13 22.5
comp=E,0.6nm,0.3s,SNR=7.9
PMST Lisbon--Monsan 5.86 281 *e*Sg **Sg** **15 13 23.6 0.0**
PMST A A 15 13 32.0
comp=E,34nm,0.7s
PMAFR Mafra 5.96 283 *e*Sn **Sn** **15 12 51.3 -1.0**
PMAFR A A 15 12 54.4
comp=E,2.6nm,0.2s
PMAFR Mafra 5.96 283 Pn **Pn** **15 11 46.1 +2.1**
comp=E,2.0nm,0.2s,SNR=7.9
PMAFR Sn **Sn** **15 12 50.2 -2.1**
comp=E,37nm,0.5s,SNR=7.9
PMAFR Lg Lg 15 13 28.2
comp=E,8.2nm,0.3s,SNR=7.9
EARI Arriondas 6.00 336 Pn **Pn** **15 11 45.3 +0.7**
comp=E,1.4nm,0.4s,SNR=16
EARI Sn **Sn** **15 12 50.2 -3.1**
comp=E,0.7nm,0.3s,SNR=7.9
EARI Lg Lg 15 13 28.8
comp=E,1.2nm,0.4s,SNR=7.9
PCAB Cabril 6.12 311 *e*Pn **Pn** **15 11 48.6 +2.4**
PCAB *e*Sn **Sn** **15 12 56.4 0.0**
PCAB A A 15 13 54.4
comp=E,18nm,0.6s
ELOB Lobios 6.24 312 Pn **Pn** **15 11 48.4 +0.6**
comp=E,0.4nm,0.2s,SNR=5.5
ELOB Sn **Sn** **15 12 56.3 -3.0**
comp=E,1.3nm,0.2s,SNR=7.9
ELOB Lg Lg 15 13 36.9
comp=E,14nm,0.4s,SNR=6.0
MTLF Montolieu 6.26 28 *e*P **Pn** **15 11 51.9 +3.8**
MTLF *e*Sn **Sn** **15 12 53.6 -6.1**
comp=E,2.4nm,0.6s
PGAV Gavieira, Arco 6.42 311 *e*Pn **Pn** **15 11 51.6 +1.2**
PGAV *e*Sn **Sn** **15 13 02.8 -1.0**
PGAV A A 15 13 47.4
comp=E,13nm,0.6s
EPON Pontenova 6.79 325 Pn **Pn** **15 11 56.5 +1.2**
comp=E,0.5nm,0.2s,SNR=7.9
EPON Sn **Sn** **15 13 10.6 -2.1**
comp=E,0.7nm,0.2s,SNR=7.9
EPON Lg Lg 15 13 54.4
comp=E,3.0nm,0.2s,SNR=7.9
EAGO Agolada(Pontev 6.87 318 Pn **Pn** **15 11 57.4 +1.0**
comp=E,0.3nm,0.2s,SNR=7.9
EAGO Lg Lg 15 13 55.6
comp=E,0.7nm,0.2s,SNR=7.9

NIED ***11*** *15:14:00,38˚.80N×142˚.10E,h50km,Mw3.4 Best double couple: M0 1.66000×10^14 NP1:φs 245.00000˚,δ21.00000˚, λ148.00000˚. NP2:φs 5.00000˚,δ79.00000˚,λ72.00000˚.*
ISCJB ***11*** *15:14:20.8±0.8,38˚.83N±0˚.05×142˚.14E±0˚.09,h51km, mb3.5/4,MS2.2/1,Error ellipse: s-maj=10.0km s-min=6.7km az=0.5*
JMA ***11*** *15:14:22.4±0.1,38˚.85N×142˚.05E,h46km±1km,M3.6 JMA Felt I J1.*
IDC ***11*** *15:14:23.2±2.9,38˚.86N×142˚.06E,h59km±24km,mb3.2/4, mb1 3.4/7,mb1mx3.1/53,mbtmp3.6/7,ML3.1/3,MS2.4/2, Ms1 2.4/2,ms1mx2.1/18,Error ellipse: s-maj=40.7km s-min=19.0km az=83.0*
ISC 11 15:14:22.1±1.2,38˚.82N±0˚.05×142˚.0E±0˚.1,h51km,n20, σ1§41/24,mb3.6/4,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
OFUJ	**Ofunato**	**0.39**	**312**	P	**Pn**		**15 14 32.0**	**-0.2**
OFUJ				*e*S	**Sn**		**15 14 38.7**	**-0.7**
JIO	**Ouri**	**0.65**	**237**	P	**Pn**		**15 14 35.4**	**+0.2**
JIO				*e*S	**Sn**		**15 14 44.2**	**-0.5**
JMK	**Ichinoseki**	**0.66**	**282**	P	**Pn**		**15 14 35.5**	**+0.2**
JMK				*e*S	**Sn**		**15 14 44.6**	**-0.2**
JOM	**Ohasama**	**0.88**	**319**	P	**Pn**		**15 14 38.3**	**+0.1**
JOM				S	**Sn**		**15 14 49.7**	**-0.3**
JOU	**Okura**	**1.17**	**248**	P	**Pn**		**15 14 42.6**	**+0.5**
JRG	**Rokugo**	**1.24**	**298**	P	**Pn**		**15 14 43.3**	**+0.3**
JYK	**Kaneyama**	**1.32**	**275**	P	**Pn**		**15 14 44.6**	**+0.5**
JMM	**Marumori**	**1.36**	**226**	P	**Pn**		**15 14 45.0**	**+0.3**
JANG	**Nango**	**1.61**	**346**	P	**Pn**		**15 14 47.8**	**-0.3**
MJAR	**Matsushiro Arr** 1.0nm,0.3s,baz=41,slow=11,SNR=23	**3.79**	**234**	P	**Pn**		**15 15 20.4**	**+2.4**
MJAR				S	Sn		15 16 16.2	+15
	0.3nm,0.3s,baz=320,slow=38,SNR=3.2							
MJAR				LR	LR		15 17 08.1	
	comp=Z,42nm,18.5s,baz=240,slow=43							
MAT	**Matsushiro**	**3.79**	**234**	P	**Pn**		**15 15 21.7**	**+3.7**
ASAJ	**Asahikawa** baz=269,slow=2.0	**5.31**	**4**	P	**Pn**		**15 15 39.3**	**+0.5**
JHJ	**Hachijo jima 2** 5.2nm,0.3s,baz=240,slow=20,SNR=2.4	**5.97**	**199**	P	**Pn**		**15 15 49.0**	**+1.1**

JHJ				S		**Sn**	**15 16 51.4**	**-3.5**
	4.0nm,0.3s,baz=90,slow=20,SNR=3.2								
USRK	**Ussuriysk Ar.**	**9.26**	**309**	P		**Pn**	**15 16 30.8**	**-2.1**
	0.2nm,0.3s,baz=114,slow=15,SNR=4.1								
KSRS	**Korea Array**	**11.21**	**267**	P		**Pn**	**15 17 00.8**	**+1.3**
	0.1nm,0.3s,baz=75,slow=14,SNR=2.9								
YAK	**Yakutsk**	**24.45**	**346**	LR		LR	15 31 06.3		
	comp=Z,8.4nm,20.0s,baz=296,slow=41								
ZALV	**Zalesovo Beam**	**41.10**	**311**	P		**P**	**15 22 01.0**	**+0.3**
	0.5nm,0.4s,baz=106,slow=9.3,SNR=2.9								
BVAR	**Borovoye Array**	**49.76**	**311**	P		**P**	**15 23 09.3**	**+0.1**
	0.5nm,0.3s,baz=58,slow=5.5,SNR=3.7								
WRA	**Warramunga Arr**	**58.89**	**188**	P		**P**	**15 24 16.2**	**+0.5**
	0.5nm,0.9s,baz=4.6,slow=6.9,SNR=3.1								
ASAR	**Alice Springs**	**62.62**	**188**	P		**P**	**15 24 41.6**	**+0.6**
	0.1nm,0.8s,baz=7.5,slow=7.8,SNR=2.8								

MAN 11 15:33:56,7.32N×124.71E,h22km,mb4.9,ML3.9,MS4.0, 3C-1D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CTBH	**Cotabato--PC H**	**0.47**	**258**	⇑*iP*	Pn	15 34 07.6	+0.1
CTBH				*i* S	Sn	15 34 16.6	+1.4
KCP	**Kidapawan**	**0.49**	**130**	⇓*eP*	Pb	15 34 05.3	-0.6
DMPH	**Davao City--Mi**	**0.82**	**107**	⇑*eP*	Pn	15 34 12.1	-0.2
DMPH				*eS*	Sn	15 34 24.9	+1.1
CGP	**Cagayan de Oro**	**1.12**	**359**	⇑*iP*	Pn	15 34 16.5	0.0
CGP				*i* S	Sn	15 34 31.5	+0.3
PAGZ	**Pagadian**	**1.42**	**292**	*eP*	Pb	15 34 23.8	+2.0
MATI	**Mati**	**1.58**	**104**	*eP*	Pb	15 34 23.9	-0.6

MEX 11 16:07:02.5±0.8,16.78N×98.71W,h20km±138km,MD3.5, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PNIG	**Pinotepa**	**0.68**	**125**	*eP*	Pb	16 07 13.2	-2.4
PNIG				*i* S	Sb	16 07 22.8	-1.8
TLIG	**Tlapa**	**0.79**	**10**	*eP*	Pb	16 07 14.5	-3.1
TLIG				*i* S	Sb	16 07 25.6	-2.3
CAIG	**El Cayaco**	**1.52**	**280**	*iP*	Pn	16 07 26.1	-2.4
CAIG				*i* S	Sn	16 07 44.0	-3.7
PLIG	**Platanillo**	**1.77**	**335**	*eP*	Pn	16 07 29.7	-2.4
PLIG				*i* S	Sn	16 07 50.1	-4.1
YAIG	**Yautepec**	**2.10**	**351**	*iP*	Pn	16 07 34.7	-2.0
YAIG				*i* S	Sn	16 07 59.2	-3.1
ARIG	**Puente Sto Nin**	**2.16**	**314**	*iP*	Pn	16 07 35.6	-1.8
ARIG				*i* S	Sn	16 08 00.6	-3.1

*ISCJB **11** 16:27:11.4±0.7,45.24S±0.04×166.56E±0.07,h15km, mb3.5/2, Error ellipse: s-maj=7.0km s-min=5.3km az=179.9*
*IDC **11** 16:27:11.1±1.2,45.19S×166.60E,h0km,mb3.5/2, mb1 3.9/3,mb1mx3.5/34,mbtmp3.7/3,ML4.4/1, Error ellipse: s-maj=50.6km s-min=26.0km az=177.0*
*WEL **11** 16:27:12.5±0.2,45.30S×166.60E,h12km,ML4.3/19, Mw4.0, Error ellipse: s-maj=2.1km s-min=0.9km az=90.0*
*NEIC **11** 16:27:12.6±0.0,45.30S×166.62E,h12km,ML4.2(WEL), After WEL.*

ISC 11 16:27:12.3±0.8,45.28S±0.04×166.64E±0.05,h15km,n40, σ0.93/46,6D, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DCZ	**Deep Cove**	**0.41**	**117**	P*	**Pb**	**16 27 21.2**	**0.0**
DCZ				S*	**Sb**	**16 27 26.8**	**-0.5**
DCZ	**Deep Cove**	**0.41**	**117**	⇓P*	**Pb**	**16 27 21.2**	**0.0**
DCZ				S*	**Sb**	**16 27 26.7**	**-0.5**
DCZ				AML	AML	16 27 27.0	
DCZ				AML	AML	16 27 27.5	
DCZ				AML	AML	16 27 27.5	
PYZ	**Puysegur Point**	**0.89**	**178**	P*	**Pb**	**16 27 28.6**	**-0.8**
PYZ	**Puysegur Point**	**0.89**	**178**	P*	**Pb**	**16 27 28.6**	**-0.8**
PYZ				S*	**Sg**	**16 27 39.5**	**-1.7**
PYZ				AML	AML	16 27 43.6	
MLZ	**Mavora Lakes**	**1.05**	**95**	P*	**Pb**	**16 27 31.9**	**-0.2**
MLZ	**Mavora Lakes**	**1.05**	**95**	P*	**Pb**	**16 27 31.9**	**-0.2**
MLZ				AML	AML	16 27 53.5	
MLZ				AML	AML	16 27 54.4	
MSZ	**Milford Sound**	**1.10**	**57**	P*	**Pb**	**16 27 32.7**	**-0.2**
MSZ	**Milford Sound**	**1.10**	**57**	P*	**Pb**	**16 27 32.7**	**-0.2**
MSZ				AML	AML	16 27 50.4	
MSZ				AML	AML	16 27 54.5	
WHZ	**Wether Hill Ro**	**1.10**	**124**	P*	**Pb**	**16 27 32.6**	**-0.5**
WHZ				S*	**Sg**	**16 27 47.0**	**-1.1**
WHZ	**Wether Hill Ro**	**1.10**	**124**	⇓P*	**Pb**	**16 27 32.6**	**-0.5**
WHZ				S*	**Sg**	**16 27 47.0**	**-1.1**
WHZ				AML	AML	16 27 47.5	
WKZ	**Wanaka**	**1.75**	**76**	Pn	**Pb**	**16 27 43.8**	**-0.3**
WKZ	**Wanaka**	**1.75**	**76**	⇓Pn	**Pb**	**16 27 43.8**	**-0.3**
WKZ				AML	AML	16 28 11.9	
WKZ				AML	AML	16 28 25.0	
APZ	**The Paps**	**1.81**	**149**	Pn	**Pb**	**16 27 44.7**	**-0.5**
APZ	**The Paps**	**1.81**	**149**	PN	**Pb**	**16 27 44.7**	**-0.5**
APZ				AML	AML	16 28 11.7	
APZ				AML	AML	16 28 13.4	
EAZ	**Earnscleugh**	**1.89**	**89**	Pn	**Pn**	**16 27 45.5**	**+1.5**
EAZ	**Earnscleugh**	**1.89**	**89**	⇓PN	**Pn**	**16 27 45.5**	**+1.5**
EAZ				AML	AML	16 28 12.4	
EAZ				AML	AML	16 28 13.2	
JCZ	**Jackson Bay**	**1.95**	**53**	Pn	**Pn**	**16 27 45.2**	**+0.2**
JCZ	**Jackson Bay**	**1.95**	**53**	PN	**Pn**	**16 27 45.2**	**+0.2**
JCZ				AML	AML	16 28 16.9	
JCZ				AML	AML	16 28 20.6	
SYZ	**Scrubby Hill**	**2.15**	**127**	Pn	**Pn**	**16 27 48.6**	**+1.0**
SYZ	**Scrubby Hill**	**2.15**	**127**	PN	**Pn**	**16 27 48.6**	**+1.0**
SYZ				AML	AML	16 28 21.6	
SYZ				AML	AML	16 28 22.3	
TUZ	**Tuapeka**	**2.21**	**109**	Pn	**Pn**	**16 27 49.3**	**+0.9**
TUZ	**Tuapeka**	**2.21**	**109**	PN	**Pn**	**16 27 49.3**	**+0.9**
TUZ				AML	AML	16 28 21.3	
TUZ				AML	AML	16 28 22.3	
LBZ	**Lake Benmore**	**2.67**	**72**	PN	**Pn**	**16 27 55.7**	**+0.8**
LBZ				AML	AML	16 28 42.8	
LBZ				AML	AML	16 28 45.7	
ODZ	**Otahua Downs**	**2.84**	**87**	Pn	**Pn**	**16 27 57.6**	**+0.5**
ODZ	**Otahua Downs**	**2.84**	**87**	⇓PN	**Pn**	**16 27 57.6**	**+0.5**
ODZ				AML	AML	16 28 34.9	
ODZ				AML	AML	16 28 35.5	
HHSZ	**Highcliff Hill**	**2.84**	**104**	⇓PN	**Pn**	**16 27 58.7**	**+1.5**
HHSZ				AML	AML	16 28 46.5	
HHSZ				AML	AML	16 28 49.0	
FOZ	**Fox Glacier**	**2.87**	**54**	PN	**Pn**	**16 27 57.6**	**+0.1**
FOZ				AML	AML	16 28 46.1	
FOZ				AML	AML	16 28 50.1	
RPZ	**Rata Peaks**	**3.52**	**65**	Pn	**Pn**	**16 28 07.3**	**+0.8**
	37nm,0.3s,baz=231,slow=6.4,SNR=145						
RPZ				Sn	**Sn**	**16 28 49.6**	**+1.6**
	25nm,0.3s,baz=333,slow=20,SNR=9.0						
RPZ	**Rata Peaks**	**3.52**	**65**	PN	**Pn**	**16 28 07.3**	**+0.8**
RPZ				AML	AML	16 29 10.4	
RPZ				AML	AML	16 29 11.5	
INZ	**Inchbonnie**	**4.30**	**55**	PN	**Pn**	**16 28 17.4**	**+0.1**
LTZ	**Lake Taylor**	**4.77**	**60**	AML	AML	16 29 57.6	
DSZ	**Denniston Nort**	**5.16**	**49**	Sn	**Sn**	**16 29 25.9**	**-2.4**
DSZ	**Denniston Nort**	**5.16**	**49**	PN	**Pn**	**16 28 28.5**	**-0.4**
DSZ				SN	**Sn**	**16 29 25.8**	**-2.4**
DSZ				AML	AML	16 29 36.8	
QRZ	**Quartz Range**	**6.20**	**46**	PN	**Pn**	**16 28 43.4**	**+0.1**
QRZ				AML	AML	16 30 40.9	
QRZ				AML	AML	16 31 15.4	
ASAR	**Alice Springs**	**34.19**	**298**	P	**P**	**16 33 57.5**	**+0.3**
	0.4nm,0.9s,baz=127,slow=8.4,SNR=4.6						
WRA	**Warramunga Arr**	**36.72**	**303**	P	**P**	**16 34 19.4**	**+0.4**
	0.9nm,0.9s,baz=135,slow=8.6,SNR=3.6						
BRTR	**Keskin Array B**	**145.30**	**278**	PKPbc	**PKPab**	**16 46 50.0**	**+0.8**
	1.9nm,1.0s,baz=79,slow=3.1,SNR=6.1						
TORD	**Torodi Ar. Bea**	**145.51**	**207**	PKPbc	**PKPab**	**16 46 50.7**	**+0.3**
	2.1nm,0.6s,baz=145,slow=2.6,SNR=14						
AKASG	**Malin Array Be**	**151.30**	**296**	PKPbc	**PKPbc**	**16 47 05.2**	**+0.8**
	0.2nm,0.3s,baz=79,slow=2.0,SNR=3.5						
FINES	**FINESS Array B**	**152.02**	**319**	PKPbc	**PKPbc**	**16 47 06.5**	**+0.7**
	1.9nm,1.0s,baz=45,slow=2.2,SNR=4.2						

*NIED **11** 16:29:00,39.00N×142.40E,h14km,Mw3.2 Best double couple: M07.83000×10^13 NP1:ϕs115.00000°,δ44.00000°, λ4.00000°. NP2:ϕs23.00000°,δ87.00000°,λ134.00000°.*
*IDC **11** 16:29:12.6±1.2,38.66N×143.01E,h0km,mb3.3/3, mb1 3.6/5,mb1mx3.3/50,mbtmp3.4/5,ML3.2/2,Error ellipse: s-maj=44.9km s-min=20.9km az=116.0*
*JMA **11** 16:29:16.1±0.1,39.01N×142.35E,h33km±1km,M3.6 JMA Felt I /1.*

ISC 11 16:29:13.2±1.8,38.96N±0.04×142.36E±0.07,h12km±11km, n17,σ1.26/25,mb3.4/3,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
OFUJ	**Ofunato**	**0.55**	**283**	P	**Pn**	**16 29 27.1**	**+0.3**
OFUJ				S	**Sn**	**16 29 34.7**	**-1.2**
MIYJ	**Miyakonagasawa**	**0.74**	**326**	P	**Pn**	**16 29 29.4**	**-0.1**
MIYJ				*eS*	**Sb**	**16 29 38.7**	**+0.5**
JMK	**Ichinoseki**	**0.89**	**270**	P	**Pn**	**16 29 32.3**	**+0.8**
JMK				*eS*	**Sn**	**16 29 43.7**	**-0.5**
JIO	**Ouri**	**0.94**	**238**	P	**Pn**	**16 29 32.6**	**+0.5**
JIO				*eS*	**Sb**	**16 29 44.2**	**+0.5**
JOM	**Ohasama**	**0.97**	**302**	P	**Pn**	**16 29 33.5**	**+0.8**
JOM				*eS*	**Sn**	**16 29 46.1**	**-0.3**
JTH	**Tanohata**	**1.05**	**339**	P	**Pn**	**16 29 33.6**	**-0.1**
JKZ	**Kuzumaki**	**1.29**	**323**	P	**Pg**	**16 29 38.3**	**+0.2**
JKZ				*eS*	**Sg**	**16 29 54.6**	**-0.3**
JRG	**Rokugo**	**1.41**	**289**	P	**Pg**	**16 29 40.5**	**+0.3**
JOU	**Okura**	**1.45**	**246**	P	**Pg**	**16 29 40.8**	**-0.2**
JOU				*eS*	**Sg**	**16 29 59.3**	**-0.6**
JANG	**Nango**	**1.55**	**336**	P	**Pb**	**16 29 41.5**	**-0.4**
JYK	**Kaneyama**	**1.56**	**269**	P	**Pg**	**16 29 42.4**	**-0.7**
MJAR	**Matsushiro Arr**	**4.08**	**235**	Pn	**Pn**	**16 30 19.2**	**+3.8**
	0.5nm,0.3s,baz=44,slow=12,SNR=7.4						
MJAR				Sn	**Sb**	**16 31 13.7**	**-0.5**
	0.2nm,0.3s,baz=36,slow=30,SNR=3.4						
ASAJ	**Asahikawa**	**5.16**	**2**	Pn	Pn	16 30 35.1	+4.9
	baz=90,slow=0.0,SNR=1.6						
JHJ	**Hachijo jima 2**	**6.19**	**200**	Pn	**Pn**	**16 30 45.2**	**+0.8**
	4.4nm,0.3s,baz=80,slow=18,SNR=3.1						
JHJ				Sn	**Sn**	**16 31 51.8**	**-3.3**
	baz=28,slow=11,SNR=1.8						
ILAR	**Eielson Array**	**47.48**	**33**	P	**P**	**16 37 48.7**	**+1.2**
	0.3nm,0.8s,baz=251,slow=6.2,SNR=4.9						
WRA	**Warramunga Arr**	**59.07**	**189**	P	**P**	**16 39 13.1**	**-0.1**
	0.3nm,0.9s,baz=4.5,slow=7.1,SNR=3.3						
ASAR	**Alice Springs**	**62.80**	**189**	P	**P**	**16 39 37.9**	**-0.7**
	0.2nm,0.8s,baz=7.7,slow=7.6,SNR=2.8						

*NIED **11** 16:33:00,48.30N×155.20E,h29km,Mw3.9 Best double couple: M07.76000×10^14 NP1:ϕs337.00000°,δ55.00000°, λ-6.00000°. NP2:ϕs70.00000°,δ85.00000°,λ-145.00000°.*
*IDC **11** 16:33:03.5±0.9,48.12N×155.06E,h0km,mb3.7/11, mb1 3.9/13,mb1mx3.7/49,mbtmp3.7/13,ML2.7/2,MS3.2/8, Ms1 3.2/8,ms1mx2.8/39, Error ellipse: s-maj=25.9km s-min=17.8km az=149.0*
*SKHL **11** 16:33:05.5±0.9,47.66N×155.61E,h46km±3km,mb4.7/6, Ms3.2/1*
*KRSC **11** 16:33:05.6±1.0,48.17N×156.50E,h6km±18km,ML4.3*
*ISCJB **11** 16:33:05.4±0.6,48.02N±0.07×155.2E±0.1,h33km, mb4.0/17,MS3.2/5,Error ellipse: s-maj=13.7km s-min=3.2km az=43.3*
*MOS **11** 16:33:08.8±1.3,48.37N×154.83E,h43km,mb4.2/11, Error ellipse: s-maj=11.8km s-min=5.6km az=74.9*

ISC 11 16:33:06.3±0.7,47.92N±0.06×155.34E±0.07,h33km,n92, σ2.24/96,mb3.9/17,MS3.1/5,8C-3D,East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SKR	**Severo-Kuril's**	**2.81**	**10**	*e*PN	**Pn**	**16 33 51.0**	**+2.1**
SKR				pmax	pmax		
	comp=Z,249nm,0.8s						
SKR	**Severo-Kuril's**	**2.81**	**10**	*eP*	**Pn**	**16 33 51.0**	**+2.1**
SKR				AMB	AMB	16 33 54.1	
	comp=Z,240nm,1.0s						
SKR				*eS*	**Sb**	**16 34 25.8**	**-4.0**
SKR				A	A	16 34 31.0	
	comp=Z,210nm,0.6s						
SKR				A	A	16 34 31.0	
	comp=Z,270nm,0.6s						
SKR	**Severo-Kuril's**	**2.81**	**10**	*eP*	**Pn**	**16 33 48.8**	**-0.1**
SKR				*eS*	**Sn**	**16 34 20.2**	**-1.4**
PAU	**Pauzhetka**	**3.68**	**14**	*eP*	**Pn**	**16 34 02.7**	**+1.9**
PAU				A	A	16 34 43.3	
	comp=Z,260nm,0.5s						
KDTR	**Khodutka, Kamc**	**4.28**	**23**	*eP*	**Pn**	**16 34 07.5**	**-1.5**
KDTR				*eS*	**Sn**	**16 34 53.9**	**-3.8**
RUS	**Russkaya**	**4.96**	**23**	PN	**Pn**	**16 34 17.1**	**-1.2**
RUS	**Russkaya**	**4.96**	**23**	*eP*	**Pn**	**16 34 17.1**	**-1.2**
RUS	**Russkaya**	**4.96**	**23**	*eP*	**Pn**	**16 34 17.1**	**-1.2**
RUS				*eS*	**Sn**	**16 35 10.8**	**-3.6**
APC	**Apacha**	**5.14**	**12**	PN	**Pn**	**16 34 22.0**	**+1.1**
APC	**Apacha**	**5.14**	**12**	*eP*	**Pn**	**16 34 22.0**	**+1.1**
KRMR	**Karymshinskiy**	**5.23**	**19**	PN	**Pn**	**16 34 22.1**	**0.0**
KRMR	**Karymshinskiy**	**5.23**	**19**	*eP*	**Pn**	**16 34 22.1**	**0.0**
PETK	**Petropavlovsk-**	**5.41**	**15**	Pn	**Pn**	**16 34 25.5**	**+0.9**
	comp=Z,1.4nm,0.3s,baz=198,slow=13,SNR=28						
PETK				Sn	**Sn**	**16 35 25.3**	**-0.3**
	baz=196,slow=26,SNR=2.0						
PETK				LR	LR	16 36 29.6	
	comp=Z,103nm,20.5s,baz=174,slow=39						
DALK	**Dalny**	**5.56**	**22**	PN	**Pn**	**16 34 25.9**	**-0.7**
DALK	**Dalny**	**5.56**	**22**	*eP*	**Pn**	**16 34 25.9**	**-0.7**
DALK				*eS*	**Sn**	**16 35 26.9**	**-2.4**
AVH	**Avacha**	**5.77**	**21**	PN	**Pn**	**16 34 30.0**	**+0.4**
AVH	**Avacha**	**5.77**	**21**	*eP*	**Pn**	**16 34 30.0**	**+0.4**
AVH	**Avacha**	**5.77**	**21**	*eP*	**Pn**	**16 34 30.0**	**+0.4**
KRER	**Koryakskii**	**5.81**	**21**	PN	**Pn**	**16 34 30.7**	**+0.5**
KRER	**Koryakskii**	**5.81**	**21**	*eP*	**Pn**	**16 34 30.7**	**+0.5**
KUR	**Kuril'sk**	**5.81**	**245**	*c* iPN	**Pn**	**16 34 33.0**	**+2.9**
KUR				pmax	pmax		
	comp=Z,92nm,0.5s						
KUR				pmax	pmax		
	comp=N,15nm,0.4s						
KUR				pmax	pmax		
	comp=E,5.0nm,0.6s						
KUR				MLR	MLR		
	comp=Z,443nm,12.0s						
KUR	**Kuril'sk**	**5.81**	**245**	*i* P	**Pn**	**16 34 33.0**	**+2.9**
KUR				AMB	AMB	16 34 33.6	
	comp=Z,20nm,0.5s						
KUR				AMB	AMB	16 34 33.6	
	comp=Z,10.0nm,0.5s						
KUR				AMB	AMB	16 34 33.6	
	comp=Z,60nm,0.5s						
KUR				*eS*	**Sn**	**16 35 38.0**	**+2.5**
KUR				A	A	16 36 17.8	
	comp=Z,60nm,0.6s						
KUR				A	A	16 36 17.8	
	comp=Z,10.0nm,0.6s						
KUR				AMS	AMS	16 37 11.8	
	comp=Z,400nm,12.0s						
SDLR	**Sedlovina**	**5.82**	**21**	PN	**Pn**	**16 34 29.8**	**-0.5**
SDLR	**Sedlovina**	**5.82**	**21**	*eP*	**Pn**	**16 34 29.8**	**-0.5**
KRX	**Arik**	**5.84**	**20**	PN	**Pn**	**16 34 30.9**	**+0.3**
KRX	**Arik**	**5.84**	**20**	*eP*	**Pn**	**16 34 30.9**	**+0.3**
SPN	**Mys Shipunski**	**5.98**	**28**	PN	**Pn**	**16 34 31.6**	**-0.8**
SPN	**Mys Shipunski**	**5.98**	**28**	*eP*	**Pn**	**16 34 31.6**	**-0.8**
SPN				*eS*	**Sn**	**16 35 35.2**	**-4.5**
GNL	**Ganaly**	**6.01**	**15**	PN	**Pn**	**16 34 34.4**	**+1.4**
GNL	**Ganaly**	**6.01**	**15**	*eP*	**Pn**	**16 34 34.4**	**+1.4**
SHO	**Shikotan**	**7.19**	**239**	*c* iPN	**Pn**	**16 34 48.0**	**-0.9**
SHO				pmax	pmax		
	comp=Z,43nm,0.6s						
SHO				pmax	pmax		
	comp=N,15nm,0.5s						
SHO	**Shikotan**	**7.19**	**239**	*i* P	**Pn**	**16 34 48.0**	**-0.9**
SHO				AMB	AMB	16 34 49.1	
	comp=N,20nm,0.6s						
SHO				AMB	AMB	16 34 49.1	
	comp=N,40nm,0.6s						
SHO				*i* S	**Sn**	**16 36 07.7**	**-1.7**
SHO				A	A	16 36 12.1	
	comp=N,260nm,0.5s						
YUK	**Yuzh-Kuril'sk**	**7.66**	**243**	*c* iPN	**Pn**	**16 34 56.8**	**+1.4**
YUK				pmax	pmax		
	comp=Z,84nm,0.4s						
YUK				pmax	pmax		
	comp=N,29nm,0.5s						
YUK				pmax	pmax		
	comp=E,11nm,0.2s						
YUK				MLR	MLR		
	comp=Z,310nm,15.0s						
YUK	**Yuzh-Kuril'sk**	**7.66**	**243**	*i* P	**Pn**	**16 34 56.9**	**+1.5**
YUK				AMB	AMB	16 34 57.9	
	comp=Z,10.0nm,0.4s						
YUK				AMB	AMB	16 34 57.9	
	comp=Z,30nm,0.4s						
YUK				*i* S	**Sn**	**16 36 21.0**	**0.0**
YUK				AMS	AMS	16 37 51.0	
	comp=Z,300nm,15.0s						
NEM2	**Nemuro 2**	**8.12**	**239**	P	**Pn**	**16 35 00.8**	**-0.9**
NEM2				*eS*	**Sn**	**16 36 27.6**	**-4.7**
YSS	**Yuzh-Sakhalins**	**8.59**	**268**	⇓*e*PN	Pn	16 35 12.3	+4.1
YSS				pmax	pmax		
	comp=Z,20nm,0.8s						
YSS				pmax	pmax		
	comp=E,20nm,0.6s						
YSS				MLR	MLR		
	comp=Z,100nm,15.0s						
YSS				MLR	MLR		
	comp=N,100nm,14.0s						
YSS	**Yuzh-Sakhalins**	**8.59**	**268**	*e*P	**Pn**	**16 35 10.7**	**+2.5**
YSS				AMB	AMB	16 35 12.8	
	comp=N,20nm,0.8s						
YSS				AMS	AMS	16 39 36.0	
	comp=N,100nm,15.0s						
JNK	**Nakash**	**8.60**	**244**	P	**Pn**	**16 35 09.3**	**+1.0**
UGL	**Uglegorsk**	**8.89**	**282**	*e*PN	**Pn**	**16 35 09.1**	**-3.2**
UGL				*e*SS	**Sn**	**16 36 57.4**	**+6.1**
UGL	**Uglegorsk**	**8.89**	**282**	*eP*	**Pn**	**16 35 14.3**	**+2.0**
JAK	**Akkeshi**	**8.95**	**241**	P	**Pn**	**16 35 12.3**	**-0.9**
JAK				*eS*	**Sn**	**16 36 45.9**	**-6.9**
JAR	**Ashorobuto**	**9.33**	**245**	P	**Pn**	**16 35 19.5**	**+1.1**
JAR				*eS*	**Sn**	**16 37 01.1**	**-1.0**
ASAJ	**Asahikawa**	**9.65**	**251**	P	**Pn**	**16 35 26.1**	**+3.4**
JKK2	**Kamakawa 2**	**9.67**	**250**	P	**Pn**	**16 35 25.4**	**+2.4**
JCH	**Churui**	**9.97**	**242**	P	**Pn**	**16 35 26.4**	**-0.7**
JCH				*eS*	**Sn**	**16 37 11.2**	**-6.5**
ERM	**Erimo**	**10.45**	**240**	⇓*i*PN	**Pn**	**16 35 33.2**	**-0.5**
JNBK	**Urakawa-nobuka**	**10.53**	**242**	P	**Pn**	**16 35 32.7**	**-2.1**
MA2	**Magadan**	**11.98**	**349**	Pn	**Pn**	**16 35 50.6**	**-4.0**
	comp=N,0.2nm,0.3s,baz=31,slow=18,SNR=3.0						
MA2				Sn	Sn	16 37 53.6	-13
	comp=N,0.3nm,0.3s,baz=171,slow=14,SNR=2.1						
MA2				LR	LR	16 41 08.3	
	comp=N,90nm,18.5s,baz=139,slow=41						
HABR	**Khabarovsk**	**13.55**	**280**	*e*PN	**P**	**16 36 20.4**	**-4.2**
HABR				*e*SS	Sn	16 38 52.7	+7.5
HABR				pmax	pmax		
	comp=N,15nm,1.9s						
HABR				pmax	pmax		
	comp=E,29nm,1.9s						
HABR				pmax	pmax		
	comp=Z,16nm,1.9s						
HABR				MLR	MLR		
	comp=Z,57nm,12.0s						
HABR	**Khabarovsk**	**13.55**	**280**	*eP*	**P**	**16 36 20.4**	**-4.2**
EKMR	**Ekimchan**	**15.13**	**298**	*eP*	**Pn**	**16 36 38.6**	**+1.2**
EKMR				AMB	AMB	16 36 46.5	
	comp=Z,5.0nm,0.7s						
KLR	**Kul'dur**	**15.66**	**284**	Pn	**P**	**16 36 46.8**	**-1.3**
	comp=Z,0.1nm,0.3s,baz=292,slow=19,SNR=2.7						
KLR				LR	LR	16 43 09.3	
	comp=Z,69nm,18.5s,baz=88,slow=39						
USRK	**Ussuriysk Ar.**	**16.61**	**266**	Pn	**P**	**16 36 57.4**	**-1.3**
	comp=Z,0.3nm,0.3s,baz=67,slow=13,SNR=5.8						
MJAO	**Matsu Ar-Jizo**	**16.97**	**234**	*eP*	**P**	**16 37 05.3**	**+2.6**
MJAR	**Matsushiro Arr**	**16.99**	**234**	Pn	**Pn**	**16 36 56.6**	**-4.8**
	comp=Z,0.2nm,0.3s,baz=29,slow=13,SNR=4.6						
MSHR	**Mys Shultsa**	**17.82**	**262**	⇑*eP*	**Pn**	**16 37 10.5**	**-0.9**
YAK	**Yakutsk**	**20.21**	**324**	LR	LR	16 44 14.3	
	comp=Z,68nm,21.4s,baz=190,slow=34						
YAK	**Yakutsk**	**20.21**	**324**	⇓*eP*	**P**	**16 37 37.0**	**-1.0**
YAK				pmax	pmax		
	comp=Z,1.0nm,0.7s						
KSRS	**Korea Array**	**22.59**	**253**	P	**P**	**16 38 04.8**	**+1.0**
	comp=Z,4.5nm,1.0s,baz=54,slow=11,SNR=12						
KSRS				LR	LR	16 45 27.6	
	comp=Z,39nm,18.8s,baz=47,slow=33						
TIXI	**Tiksi**	**26.80**	**342**	⇑*eP*	**P**	**16 38 41.9**	**-1.0**
TIXI				pmax	pmax		
	comp=Z,14nm,1.5s						
H11N2	**WAKE ISLAND Hy**	**29.64**	**158**	T	T	17 10 56.6	
	baz=343						
H11N1	**WAKE ISLAND Hy**	**29.66**	**158**	T	T	17 10 58.8	
	baz=343						
H11N3	**WAKE ISLAND Hy**	**29.66**	**158**	T	T	17 11 00.5	
	baz=343						
H11S1	**WAKE ISLAND Hy**	**30.76**	**159**	T	T	17 12 31.5	
	baz=344,slow=76,SNR=88						
H11S3	**WAKE ISLAND Hy**	**30.77**	**159**	T	T	17 12 27.1	
	baz=344,slow=76,SNR=103						
H11S2	**WAKE ISLAND Hy**	**30.78**	**159**	T	T	17 12 29.3	
	baz=344,slow=76,SNR=53						
ULN	**Ulaanbaatar**	**31.96**	**288**	⇑*eP*	**P**	**16 39 28.4**	**-0.7**
ULN				pmax	pmax		
	comp=Z,1.0nm,0.9s						
ULN	**Ulaanbaatar**	**31.96**	**288**	*eP*	**P**	**16 39 28.4**	**-0.7**
SONM	**Songino Array**	**32.39**	**288**	LR	LR	16 54 10.0	
	comp=Z,41nm,18.6s,baz=80,slow=39						
ILAR	**Eielson Array**	**34.69**	**40**	P	**P**	**16 39

ANTU	**Antumapu**	**1.37**	**97**	*e*S		**Sg**	**16 47 42.0**	**+1.2**
CLCH	**Cerro Calan**	**1.44**	**89**	⇑*i*P		**Pn**	**16 47 23.0**	**+0.4**
CLCH				*i* S		**Sg**	**16 47 43.9**	**+0.7**
CLCH				IAML			16 47 52.2	
	comp=E,581nm,0.4s							
GO05	**HualaæØ**	**1.60**	**170**	⇑*i*P		**Pn**	**16 47 24.6**	**-0.2**
GO05				*i* S		**Sn**	**16 47 45.3**	**-0.2**
FCH	**Farellones**	**1.65**	**87**	*e*P		**Pb**	**16 47 26.9**	**-0.3**
FCH				*i* S		**Sg**	**16 47 49.6**	**-0.3**
AUSP	**Uspallata**	**2.70**	**64**	*i* P		**Pb**	**16 47 46.5**	**+1.4**
ARCO	**CERRO ARCO**	**2.85**	**79**	*i* P		**Pb**	**16 47 49.4**	**+1.8**
ARCO				IAML			16 47 53.2	
	comp=Z,54nm,0.4s							
AAGR	**Agrelo**	**2.89**	**84**	*e*P		**Pb**	**16 47 50.0**	**+1.7**
RTLS	**Leoncito**	**2.98**	**58**	*i* P		**Pb**	**16 47 48.9**	**-0.9**
RTLS				*i* S		**Sg**	**16 48 33.7**	**+1.2**
RTLS				IAML			16 48 39.2	
	comp=Z,40nm,0.5s							
ASAL	**Salagasta**	**3.00**	**75**	*i* P		**Pb**	**16 47 50.7**	**+0.7**
CCSP	**San Pedro de C**	**3.48**	**191**	*i* S		Sn	16 48 08.7	-23
RTCV	**Cerro Valdivia**	**3.50**	**65**	*i* P		**Pb**	**16 47 56.0**	**-2.6**
ACCO	**Cerro Coronel**	**3.92**	**45**	*e*P		**Pn**	**16 47 59.4**	**+2.5**
ACCO				*e*S		**Sg**	**16 48 59.3**	**-3.3**
AROD	**Rodeo**	**4.02**	**37**	*i* P		**Pn**	**16 47 59.0**	**+0.7**
AMOG	**MOGNA**	**4.04**	**53**	*i* P		**Pn**	**16 48 00.7**	**+2.3**
ACDV	**Cuesta del Vie**	**4.20**	**40**	*e*P		**Pn**	**16 48 02.5**	**+1.9**
ACDV				*e*S		**Sg**	**16 49 09.9**	**-1.8**
AGUA	**GUANDACOL**	**5.08**	**40**	*e*P		**Pn**	**16 48 14.2**	**+1.6**
AGUA				*e*S		**Sb**	**16 49 31.9**	**+5.5**
ACHE	**Chepes**	**5.25**	**66**	*e*P		**Pn**	**16 48 17.2**	**+2.2**
ACHE				*e*S		**Sb**	**16 49 30.0**	**-1.4**
ACLC	**CERRO LA CRUZ**	**6.04**	**50**	*e*P		**Pn**	**16 48 25.9**	**0.0**
ACLC				*e*S		**Sb**	**16 49 46.7**	**-7.5**

NIED ***11*** *17:11:00,35˚.80N×143˚.20E,h5km,Mw3.8 Best double couple: M₀5.57000×10¹⁴ NP1:φs36.00000°, δ44.00000°, λ-69.00000°. NP2:φs188.00000°, δ50.00000°, λ-109.00000°.*

IDC ***11*** *17:11:46.9±1.0,35˚.68N×143˚.46E,h0km,mb4.0/10, mb1 4.0/15,mb1mx3.8/52,mbtmp4.0/15,ML3.4/5,MS3.0/4, Ms1 3.0/4,ms1mx2.6/41,Error ellipse: s-maj=22.9km s-min=17.0km az=96.0*

ISCJB ***11*** *17:11:48.9±1.6,35˚.82N±0˚.04×143˚.29E±0˚.05, h24km±13km,mb4.0/10,MS3.5/2,Error ellipse: s-maj=7.1km s-min=6.0km az=40.6*

JMA ***11*** *17:11:50.6±0.3,35˚.81N×143˚.21E,h99km,M3.8*

ISC 11 17:11:51.4±3.0,35˚.83N±0˚.05×143˚.30E±0˚.05,h29km±23km, n40,σ1s34/40,mb4.0/10,Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
CHOJ	**Chosi**	**1.98**	**267**	P		**Pn**	**17 12 22.9**	**-0.1**
CHOJ				*e*S		**Sn**	**17 12 46.7**	**-0.1**
BSO1	**Boso 1**	**2.23**	**239**	P		**Pn**	**17 12 24.7**	**-1.2**
BSO1				*e*S		**Sn**	**17 12 51.8**	**-0.3**
JHO	**Hitachi**	**2.34**	**290**	P		Pn	17 12 26.9	-0.9
JHO				*e*S		**Sn**	**17 12 54.1**	**-1.5**
ONAJ	**Iwakimizuishiy**	**2.38**	**303**	P		Pn	17 12 27.5	-0.9
ONAJ				S		**Sn**	**17 12 56.1**	**-0.6**
JFT	**Otama**	**2.91**	**306**	P		**Pn**	**17 12 35.8**	**0.0**
JFT				S		**Sn**	**17 13 09.9**	**+0.1**
JAG	**Ashikaga**	**3.17**	**282**	P		**Pn**	**17 12 38.9**	**-0.3**
JAG				*e*S		**Sn**	**17 13 14.9**	**-1.1**
JOD2	**Odawara 2**	**3.48**	**262**	P		**Pn**	**17 12 43.0**	**-0.5**
JOD2				S		**Sn**	**17 13 22.3**	**-1.4**
JMK	**Ichinoseki**	**3.53**	**333**	P		Pn	17 12 43.2	-1.0
JMK				S		**Sn**	**17 13 24.2**	**-0.7**
JRY	**Ryogami san**	**3.57**	**274**	P		**Pn**	**17 12 44.9**	**+0.1**
JRY				*e*S		**Sn**	**17 13 26.6**	**+0.6**
JYK	**Kaneyama**	**3.87**	**324**	P		**Pn**	**17 12 48.5**	**-0.4**
JYN	**Shimob**	**3.88**	**266**	P		**Pn**	**17 12 49.1**	**0.0**
JHJ2	**Mitsune**	**3.95**	**228**	P		**Pn**	**17 12 48.4**	**-1.6**
JHJ2				*e*S		**Sn**	**17 13 31.2**	**-4.2**
JHJ	**Hachijo jima 2**	**3.97**	**228**	Pn		Pn	17 12 48.3	-1.9
	36nm,0.3s,baz=337,slow=22,SNR=27							
JHJ				Sn		Sn	17 13 30.3	-5.5
	114nm,0.3s,baz=56,slow=19,SNR=10.0							
JOM	**Ohasama**	**3.97**	**337**	P		**Pn**	**17 12 49.8**	**-0.4**
JOM				*e*S		**Sn**	**17 13 34.1**	**-1.7**
MJAR	**Matsushiro Arr**	**4.17**	**281**	Pn		**Pn**	**17 12 54.0**	**+0.9**
	8.0nm,0.3s,baz=101,slow=9.5,SNR=124							
MJAR				Sn		**Sn**	**17 13 41.1**	**+0.2**
	2.9nm,0.3s,baz=236,slow=16,SNR=6.1							
MJAR				LR		LR	17 14 43.7	
	comp=Z,71nm,21.4s,baz=125,slow=41							
MAT	**Matsushiro**	**4.18**	**281**	P		**Pn**	**17 12 54.1**	**+1.0**
MAT				S		Sn	17 13 35.4	-5.6
JOT	**Ohata**	**5.81**	**343**	P		**Pn**	**17 13 15.8**	**+0.2**
ASAJ	**Asahikawa**	**8.29**	**357**	Pn		**Pn**	**17 13 48.7**	**-0.9**
ASAJ				Sn		Sn	17 15 17.1	-5.1
	520nm,0.3s,baz=89,slow=0.0,SNR=2.1							
JNU	**Nakatsue**	**10.60**	**259**	Pn		**Pn**	**17 14 21.5**	**+0.2**
	0.2nm,0.3s,baz=356,slow=3.5,SNR=3.6							
USRK	**Ussuriysk Ar.**	**12.03**	**317**	Pn		**Pn**	**17 14 41.4**	**+0.6**
	0.2nm,0.3s,baz=123,slow=15,SNR=4.9							
KSRS	**Korea Array**	**12.46**	**282**	Pn		**Pn**	**17 14 48.9**	**+2.3**
	0.1nm,0.3s,baz=97,slow=14,SNR=5.9							
KSRS				LR		LR	17 19 16.5	
	comp=Z,28nm,19.3s,baz=164,slow=36							
KLR	**Kul'dur**	**15.84**	**331**	Pn		**Pn**	**17 15 29.6**	**-2.5**
	0.2nm,0.3s,baz=121,slow=12,SNR=3.7							
H11N2	**WAKE ISLAND Hy**	**26.23**	**121**	T		T	17 44 34.8	
	baz=313,slow=75,SNR=6.1							
H11N1	**WAKE ISLAND Hy**	**26.24**	**121**	T		T	17 44 39.2	
	baz=313,slow=75,SNR=21							
H11N3	**WAKE ISLAND Hy**	**26.25**	**121**	T		T	17 44 40.1	
	baz=313,slow=75,SNR=21							
H11S1	**WAKE ISLAND Hy**	**26.93**	**124**	T		T	17 45 31.0	
	baz=314,slow=75,SNR=24							
H11S3	**WAKE ISLAND Hy**	**26.93**	**124**	T		T	17 45 35.1	
	baz=314,slow=75,SNR=3.4							
H11S2	**WAKE ISLAND Hy**	**26.95**	**124**	T		T	17 45 32.6	
	baz=314,slow=75,SNR=4.9							
SEY	**Seymchan**	**27.71**	**9**	P		**P**	**17 17 38.2**	**+1.5**
	2.5nm,0.8s,baz=180,slow=20,SNR=3.6							
SONM	**Songino Array**	**29.72**	**305**	P		**P**	**17 17 57.4**	**+2.4**
	1.1nm,0.8s,baz=109,slow=9.4,SNR=6.3							
ZALV	**Zalesovo Beam**	**43.84**	**313**	P		**P**	**17 19 56.1**	**+1.4**
	2.8nm,0.5s,baz=91,slow=7.2,SNR=15							
KURBB	**Kurchatov Arra**	**47.94**	**309**	P		**P**	**17 20 28.1**	**+1.1**
	1.7nm,0.6s,baz=83,slow=7.9,SNR=18							
ILAR	**Eielson Array**	**49.70**	**32**	P		**P**	**17 20 41.0**	**+0.6**
	0.6nm,0.6s,baz=258,slow=6.4,SNR=8.8							
BVAR	**Borovoye Array**	**52.50**	**313**	P		**P**	**17 21 03.3**	**+1.7**
	0.7nm,0.6s,baz=40,slow=10.0,SNR=5.6							
WRA	**Warramunga Arr**	**56.11**	**190**	P		**P**	**17 21 27.0**	**-1.1**
	1.1nm,0.8s,baz=10,slow=7.4,SNR=6.4							
ARU	**Arti**	**58.26**	**319**	P		**P**	**17 21 43.7**	**+0.8**
	3.1nm,0.6s,baz=90,slow=7.1,SNR=5.2							
ASAR	**Alice Springs**	**59.84**	**190**	P		**P**	**17 21 53.4**	**-0.8**
	0.4nm,0.7s,baz=4.6,slow=7.0,SNR=8.5							
ARCES	**ARCESS Array B**	**65.65**	**340**	P		**P**	**17 22 33.6**	**+1.3**
	2.1nm,1.0s,baz=55,slow=7.8,SNR=3.0							
GEYT	**Alibeck**	**65.75**	**300**	LR		LR	17 54 13.9	
	comp=Z,35nm,18.5s,baz=75,slow=39							
URZ	**Urewera**	**80.09**	**154**	LR		LR	17 59 43.3	
	comp=Z,21nm,18.3s,baz=0.0,slow=36							

ISCJB ***11*** *17:15:06.2±0.6,27˚.72N±0˚.04×53˚.03E±0˚.06,h14km, mb3.8/9,Error ellipse: s-maj=7.7km s-min=5.2km az=159.5*

CSEM ***11*** *17:15:08.3±1.5,27˚.76N×53˚.15E,h2km,ML3.1,Error ellipse: s-maj=38.4km s-min=12.6km az=50.0*

TEH ***11*** *17:15:11.1,27˚.80N×53˚.21E,h4km,ML3.2*

IDC ***11*** *17:15:11.6±2.4,27˚.65N×53˚.07E,h46km±28km,mb3.5/10, mb1 3.6/12,mb1mx3.4/46,mbtmp3.8/12,ML3.5/2,Error ellipse: s-maj=20.2km s-min=15.4km az=30.0*

ISC 11 17:15:07.7±0.8,27˚.69N±0˚.05×53˚.08E±0˚.07,h14km,n25, σ1s62/31,mb3.9/9,Southern Iran

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
GHIR	**Ghir-Karzin**	**0.60**	**353**	*e*Pg		**Pg**	**17 15 16.9**	**-2.6**
GHIR				*e*Sg		**Sg**	**17 15 24.5**	**-3.0**
ISRV	**Sarvestan**	**1.69**	**1**	*e*Pg		**Pb**	**17 15 40.1**	**+1.4**
ISRV				*e*Sg		**Sb**	**17 16 00.2**	**+0.2**
ISRV				*e*AMB		AMB	17 16 13.8	
	comp=Z,4μm,0.2s							
ISRV	**Sarvestan**	**1.69**	**1**	*e*Pg		**Pb**	**17 15 40.1**	**+1.4**
ISRV				*e*Sg		**Sb**	**17 16 00.2**	**+0.2**
IPAR	**Pars**	**2.15**	**359**	*e*Pn		**Pn**	**17 15 46.0**	**+2.6**
IPAR				*e*AMB		AMB	17 16 20.8	
	comp=Z,1μm,0.4s							
IPAR	**Pars**	**2.15**	**359**	*e*Pn		**Pn**	**17 15 46.0**	**+2.6**
BNDS	**Bandar-Abbas**	**2.76**	**95**	*e*P		**Pn**	**17 15 52.4**	**+0.6**
BNDS				*e*S		**Sn**	**17 16 25.1**	**+0.1**
IMEH	**Mehriz**	**3.92**	**20**	*e*Sn		**Sn**	**17 16 53.7**	**-0.1**
IMEH				*e*Pn		**Pn**	**17 16 09.8**	**+2.0**
IMEH				*e*AMB		AMB	17 16 57.7	
	comp=Z,259nm,0.2s							
ISAD	**Sadrabad**	**4.24**	**7**	*e*Pn		**Pn**	**17 16 14.8**	**+2.6**
ISAD	**Sadrabad**	**4.24**	**7**	*e*Pn		**Pn**	**17 16 14.8**	**+2.6**
IBAF	**Bafgh**	**4.45**	**29**	*e*Pn		**Pn**	**17 16 16.4**	**+1.4**
IBAF				*e*AMB		AMB	17 17 10.6	
	comp=Z,243nm,0.1s							
IBAF	**Bafgh**	**4.45**	**29**	*e*Pn		**Pn**	**17 16 16.4**	**+1.4**
NASN	**Na'in**	**5.10**	**357**	*e*P		**Pn**	**17 16 24.0**	**0.0**
WSAR	**Wadi Sarin**	**6.70**	**130**	P		**Pn**	**17 16 47.3**	**+1.6**
	comp=Z,0.9nm,0.3s,baz=332,slow=5.6,SNR=19							
WSAR				S		**Sn**	**17 18 01.3**	**-0.5**
	comp=Z,0.4nm,0.3s,baz=22,slow=19,SNR=3.1							
TABS	**Tabas**	**6.89**	**29**	*e*Pn		**Pn**	**17 16 48.1**	**-0.3**
GEYT	**Alibeck**	**11.05**	**21**	P		**Pn**	**17 17 48.4**	**+3.0**
	comp=Z,0.3nm,0.3s,baz=215,slow=12,SNR=2.9							
BRTR	**Keskin Array B**	**20.09**	**312**	P		**P**	**17 19 42.1**	**+1.1**
	comp=Z,0.8nm,0.6s,baz=101,slow=13,SNR=3.9							
AKTO	**Aktyubinsk**	**23.03**	**8**	P		**P**	**17 20 13.2**	**+0.9**
	comp=Z,0.4nm,0.4s,baz=180,slow=11,SNR=3.8							
IDI	**Anoyia**	**25.14**	**295**	P		**P**	**17 20 33.2**	**+0.7**
	comp=Z,3.8nm,0.6s,baz=104,slow=12,SNR=5.2							
AKASG	**Malin Array Be**	**29.25**	**328**	P		**P**	**17 21 08.4**	**-0.8**
	comp=Z,0.3nm,0.4s,baz=120,slow=7.2,SNR=4.2							
ZALV	**Zalesovo Beam**	**35.06**	**33**	P		**P**	**17 21 59.9**	**-0.1**
	comp=Z,0.5nm,0.3s,baz=249,slow=9.8,SNR=4.3							
FINES	**FINESS Array B**	**38.28**	**339**	P		**P**	**17 22 26.9**	**-0.5**
	comp=Z,1.3nm,0.6s,baz=153,slow=9.0,SNR=14							
CMAR	**Chiang Mai Arr**	**42.98**	**92**	P		**P**	**17 23 07.6**	**+0.8**
	comp=Z,0.4nm,0.5s,baz=291,slow=10,SNR=3.3							
TORD	**Torodi Ar. Bea**	**49.94**	**264**	P		**P**	**17 24 01.4**	**0.0**
	comp=Z,0.5nm,0.5s,baz=61,slow=8.3,SNR=5.9							
DBIC	**Dimbokro**	**58.60**	**260**	P		**P**	**17 25 03.8**	**-0.8**
	comp=Z,1.4nm,0.6s,baz=43,slow=11,SNR=2.9							
KSRS	**Korea Array**	**62.33**	**60**	P		**P**	**17 25 28.9**	**-0.9**
	comp=Z,0.4nm,0.4s,baz=276,slow=7.0,SNR=5.2							

CSEM ***11*** *17:26:09.1,35˚.94N×29˚.01E,h7km,MD2.9*

DDA ***11*** *17:26:09.2,35˚.94N×29˚.01E,h7km,Md2.9*

ISK ***11*** *17:26:17.1,37˚.03N×29˚.11E,h10km,MD2.6*

ISC 11 17:26:09.8±2.8,36˚.0N±0˚.1×29˚.08E±0˚.06,h14km±9km,n17, σ1s93/28,Eastern Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
AKAS	**Kas**	**0.50**	**58**	*i* P		**Pg**	**17 26 20.4**	**+0.6**
AKAS				*i* S		**Sb**	**17 26 28.9**	**+1.1**
AKAS	**Kas**	**0.50**	**58**	P		**Pg**	**17 26 20.4**	**+0.6**
AKAS				S		**Sb**	**17 26 28.9**	**+1.1**
FETY	**Fethiye**	**0.66**	**0**	*e*PG		**Pb**	**17 26 23.8**	**+0.6**
FETY				*e*SG		**Sg**	**17 26 31.9**	**+0.3**
FETY	**Fethiye**	**0.66**	**0**	*e*Pg		**Pb**	**17 26 23.8**	**+0.6**
FETY				*e*Sg		**Sg**	**17 26 31.9**	**+0.3**
FETY	**Fethiye**	**0.66**	**0**	P		**Pb**	**17 26 23.4**	**+0.1**
FETY				S		**Sb**	**17 26 33.7**	**+1.3**
DALY	**Dalyan (Mu¨la**	**0.91**	**338**	*e*PG		**Pg**	**17 26 26.1**	**-1.4**
DALY	**Dalyan (Mu¨la**	**0.91**	**338**	*e*Pg		**Pg**	**17 26 26.1**	**-1.4**
ELL	**Elmali**	**1.03**	**41**	*e*PG		**Pn**	**17 26 30.9**	**+1.0**
ELL				*e*SG		**Sg**	**17 26 41.6**	**-1.5**
ELL	**Elmali**	**1.03**	**41**	*e*Pg		**Pn**	**17 26 30.9**	**+1.0**
ELL				*e*Sg		**Sg**	**17 26 41.6**	**-1.5**
GOLH	**Golhisar**	**1.32**	**17**	*i* P		**Pn**	**17 26 34.7**	**+0.7**
GOLH				*i* S		**Sn**	**17 26 54.0**	**+2.4**
GOLH	**Golhisar**	**1.32**	**17**	P		**Pn**	**17 26 34.7**	**+0.7**
GOLH				S		**Sn**	**17 26 54.0**	**+2.4**
DAT	**Datca**	**1.43**	**302**	*e*PN		Pg	17 26 41.4	+4.0
DAT	**Datca**	**1.43**	**302**	*e*Pn		Pg	17 26 41.4	+4.1
DNZL	**Cakiroluk**	**1.72**	**359**	*i* P		**Pb**	**17 26 41.5**	**+0.2**
DNZL				*i* S		**Sn**	**17 27 00.6**	**-0.8**
DNZL	**Cakiroluk**	**1.72**	**359**	P		**Pb**	**17 26 41.5**	**+0.2**
DNZL				S		**Sn**	**17 27 00.6**	**-0.8**
SUTC	**Sutluce-Ispart**	**2.15**	**45**	*e*PN		**Pn**	**17 26 46.1**	**+0.7**
SUTC				*e*SN		**Sn**	**17 27 06.7**	**-5.4**
SUTC	**Sutluce-Ispart**	**2.15**	**45**	*e*Pn		**Pn**	**17 26 46.2**	**+0.7**
SUTC				*e*Sn		**Sn**	**17 27 06.7**	**-5.4**

IDC 11 17:29:44.1±1.4,29˚.72N×139˚.20E,h446km±54km,mb2.8/3, mb1 3.0/4,mb1mx2.6/34,mbtmp3.7/4,Error ellipse: s-maj=310.3km s-min=22.0km az=85.0,Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
JHJ	**Hachijo jima 2**	**3.42**	**8**	P		P	17 30 55.3	+1.3
	5.1nm,0.3s,baz=109,slow=17,SNR=9.3							
JHJ				S		S	17 31 50.9	-0.1
	4.2nm,0.3s,baz=235,slow=24,SNR=3.9							
WRA	**Warramunga Arr**	**49.60**	**186**	P		P	17 37 52.9	-0.2
	0.3nm,0.2s,baz=7.1,slow=7.8,SNR=8.9							
ASAR	**Alice Springs**	**53.32**	**186**	P		P	17 38 20.2	-0.1
	0.2nm,0.3s,baz=359,slow=6.4,SNR=9.9							
ARCES	**ARCESS Array B**	**70.20**	**340**	P		P	17 40 10.3	0.0
	0.4nm,0.4s,baz=57,slow=8.7,SNR=4.1							

WEL 11 17:30:35.4±0.1,41˚.80S×174˚.60E,h32km±1km,ML3.5/32, 3C-8D,Error ellipse: s-maj=1.0km s-min=0.7km az=0.0, Cook Strait

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
CMWZ	**Cape Campbell**	**0.29**	**279**	⇓P*		Pb	17 30 42.9	+0.1
CMWZ				AML		AML	17 30 50.0	
CMWZ				AML		AML	17 30 51.4	
BHW	**Baring Head**	**0.44**	**28**	⇓P*		Pb	17 30 45.0	0.0
BHW				S*		Sn	17 30 52.1	-0.2
BHW				AML		AML	17 30 52.5	
WEL	**Wellington**	**0.53**	**14**	⇑P*		Pb	17 30 46.2	-0.1
WEL				AML		AML	17 30 54.4	
WEL				AML		AML	17 30 54.4	
WEL				AML		AML	17 30 54.4	
WEL				AML		AML	17 30 54.4	
PLWZ	**Palliser**	**0.54**	**66**	⇓P*		Pb	17 30 46.7	+0.1
PLWZ				AML		AML	17 30 56.6	
PLWZ				AML		AML	17 30 59.9	
BSWZ	**Blackbirch Sta**	**0.55**	**278**	⇓P*		Pb	17 30 46.5	-0.2
BSWZ				S*		Sn	17 30 55.1	+0.2
BSWZ				AML		AML	17 30 55.5	
TUWZ	**Tuamarina**	**0.61**	**307**	⇑P*		Pb	17 30 46.9	-0.8
TUWZ				AML		AML	17 30 56.0	
TUWZ				AML		AML	17 30 56.1	
MSWZ	**Moikau Station**	**0.62**	**52**	P*		Pn	17 30 47.9	0.0
MSWZ				AML		AML	17 30 57.9	
MSWZ				AML		AML	17 30 58.1	
TCW	**Tory Channel**	**0.63**	**338**	⇑P*		Pb	17 30 47.4	-0.7
TCW				AML		AML	17 30 47.7	
TCW				AML		AML	17 30 56.7	
PAWZ	**Paruwai Farm**	**0.75**	**57**	⇓P*		Pn	17 30 49.5	-0.3
PAWZ				AML		AML	17 31 04.3	
PAWZ				AML		AML	17 31 04.5	
CAW	**Cannon Point**	**0.77**	**27**	P*		Pn	17 30 50.1	0.0
CAW				AML		AML	17 31 01.3	
CAW				AML		AML	17 31 02.1	
TRWZ	**Traveller**	**0.91**	**64**	P*		Pn	17 30 51.4	-0.5
TRWZ				AML		AML	17 31 11.6	
TRWZ				AML		AML	17 31 17.9	
MTW	**Mount Morrison**	**0.93**	**47**	P*		Pn	17 30 51.9	-0.4
MTW				AML		AML	17 31 10.0	
MTW				AML		AML	17 31 10.7	
KIW	**Kapiti Island**	**0.96**	**14**	P*		Pn	17 30 52.6	-0.1
KIW				AML		AML	17 31 06.0	
KIW				AML		AML	17 31 06.5	
KHZ	**Kahutara**	**1.00**	**231**	⇓P*		Pn	17 30 53.0	-0.2
KHZ				AML		AML	17 31 09.4	
KHZ				AML		AML	17 31 19.2	
OGWZ	**Otaki Gorge**	**1.07**	**24**	P*		Pn	17 30 54.1	0.0
OGWZ				AML		AML	17 31 09.5	
OGWZ				AML		AML	17 31 09.5	
NNZ	**Nelson**	**1.08**	**302**	PN		Pn	17 30 54.1	-0.2
NNZ				AML		AML	17 31 10.4	
NNZ				AML		AML	17 31 11.3	
NNZ				AML		AML	17 31 11.8	
NNZ				AML		AML	17 31 11.8	
DUWZ	**D'Urville Isla**	**1.12**	**333**	⇓P*		Pn	17 30 54.8	0.0
DUWZ				AML		AML	17 31 09.3	
DUWZ				AML		AML	17 31 10.1	
HOWZ	**Holdsworth Sta**	**1.13**	**38**	P*		Pn	17 30 54.7	-0.3
HOWZ				AML		AML	17 31 12.9	
HOWZ				AML		AML	17 31 16.6	
TMWZ	**Te Maipa**	**1.19**	**55**	P*		Pn	17 30 55.2	-0.6
TMWZ				AML		AML	17 31 23.8	
TMWZ				AML		AML	17 31 27.3	
THZ	**Tophouse**	**1.27**	**271**	P*		Pn	17 30 56.4	-0.5
THZ				AML		AML	17 31 18.4	
THZ				AML		AML	17 31 19.4	
MRZ	**Mangatainoka R**	**1.35**	**33**	PN		Pn	17 30 57.9	-0.2
MRZ				AML		AML	17 31 23.5	
MRZ				AML		AML	17 31 30.7	
TIWZ	**Tintock**	**1.41**	**44**	PN		Pn	17 30 58.1	-0.7
TIWZ				AML		AML	17 31 29.0	
TIWZ				AML		AML	17 31 30.3	
PRWZ	**Pori Road**	**1.62**	**40**	PN		Pn	17 31 01.3	-0.4
PRWZ				AML		AML	17 31 35.7	
PRWZ				AML		AML	17 31 37.4	
BFZ	**Birch Farm**	**1.67**	**49**	PN		Pn	17 31 01.4	-1.0
BFZ				AML		AML	17 31 48.7	
QRZ	**Quartz Range**	**1.83**	**301**	*e*PN		Pn	17 31 05.4	+0.8
QRZ				AML		AML	17 31 27.9	
QRZ				AML		AML	17 31 33.8	
LTZ	**Lake Taylor**	**1.99**	**240**	⇓PN		Pn	17 31 06.3	-0.5
TSZ	**Takapari Road**	**2.02**	**31**	PN		Pn	17 31 07.0	-0.2
WAZ	**Wanganui**	**2.06**	**8**	PN		Pn	17 31 09.7	+1.9
WAZ				AML		AML	17 31 44.7	
WAZ				AML		AML	17 31 50.5	
DSZ	**Denniston Nort**	**2.09**	**270**	PN		Pb	17 31 11.9	-0.7
DSZ				AML		AML	17 31 18.3	
DSZ				AML		AML	17 32 06.3	
CRLZ	**Canterbury Las**	**2.30**	**219**	PN		Pn	17 31 10.0	-1.0
MQZ	**McQueen's Vall**	**2.38**	**216**	PN		Pn	17 31 10.7	-1.5
MQZ				AML		AML	17 31 37.3	
MQZ				AML		AML	17 31 37.7	
INZ	**Inchbonnie**	**2.52**	**247**	PN		Pn	17 31 13.6	-0.4
KRHZ	**Kereru**	**2.54**	**33**	PN		Pn	17 31 13.4	-0.9
KRHZ				AML		AML	17 32 10.3	
KRHZ				AML		AML	17 32 14.6	
FWVZ	**Far West T-bar**	**2.64**	**16**	PN		Pn	17 31 16.7	+0.7
FWVZ				AML		AML	17 32 00.0	
FWVZ				AML		AML	17 32 02.1	
VRZ	**Vera Road**	**2.67**	**3**	PN		Pn	17 31 17.6	+1.5
VRZ				AML		AML	17 31 48.5	
VRZ				AML		AML	17 32 07.6	
HIZ	**Hauiti**	**3.29**	**4**	AML		AML	17 32 21.9	
HIZ				AML		AML	17 32 27.4	

NIED ***11*** *18:02:00,37˚.50N×142˚.60E,h17km,Mw3.5 Best double couple: M₀1.91000×10¹⁴ NP1:φs142.00000°, δ8.00000°, λ17.00000°. NP2:φs35.00000°, δ88.00000°, λ98.00000°.*

IDC ***11*** *18:02:19.0±1.8,37˚.87N×143˚.28E,h0km,mb3.6/5, mb1 3.7/6,mb1mx3.5/33,mbtmp3.6/6,ML3.5/1,MS2.5/2, Ms1 2.5/2,ms1mx2.3/27,Error ellipse: s-maj=56.2km s-min=23.2km az=70.0*

JMA ***11*** *18:02:24.0±0.2,37˚.50N×142˚.58E,h11km,M3.7*

ISCJB ***11*** *18:02:25.8±1.3,37˚.52N±0˚.07×142˚.7E±0˚.1,h46km±12km, mb3.6/5,Error ellipse: s-maj=15.3km s-min=8.4km az=33.3*

ISC 11 18:02:27.1±2.8,37˚.55N±0˚.08×142˚.7E±0˚.2,h43km±23km, n26,σ1s54/26,mb3.6/5,Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
JIO	**Ouri**	**1.37**	**312**	P		**Pn**	**18 02 49.0**	**-0.7**
JIO				*e*S		**Sn**	**18 03 07.1**	**+0.5**
**JF

KPKS	**Kokpek**	**2.38 310**	*e*S		Sg	18 34 10.3	-1.8
	6.8nm,0.2s						
DJR	**Jarkent**	**2.59 337**	*e*P		Pb	18 33 42.8	+0.7
	0.6nm,0.1s						
DJR			*e*S		Sg	18 34 16.6	-2.1
	3.1nm,0.3s						
DJR	**Jarkent**	**2.59 337**	*e*S		Sg	18 34 16.6	-2.1
	3.2nm,0.3s						

SOME 11 18:33:05.7,42°25′25N×81°05′E,h10km,Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SHLS	**Shalkode**	**1.48 308**		*e*P	Pn	18 33 27.7	-4.8
	2.4nm,0.2s						
SHLS				*e*S	Sn	18 33 43.8	-8.2
	5.1nm,0.4s						
UZB	**Uzynbulak**	**1.74 302**		*e*P	Pb	18 33 37.7	-0.1
	1.9nm,0.2s						
UZB				*e*S	Sb	18 34 00.4	+0.5
	3.1nm,0.2s						
KPKS	**Kokpek**	**2.12 306**		*e*P	Pb	18 33 43.3	-1.0
	7.8nm,0.2s						
DJR	**Jarkent**	**2.27 337**		*e*P	Pb	18 33 46.8	-0.1
	0.9nm,0.1s						

IDC ***11*** *18:44:15.8±1.5,17°.57S×167°.45E,h0km,mb4.0/7, mb1 4.2/8,mb1mx3.9/25,mbtmp4.0/8,ML4.2/1,MS3.5/10, Ms1 3.5/10,ms1mx3.2/34,Error ellipse: s-maj=45.3km s-min=24.7km az=130.0*

ISCJB ***11*** *18:44:17.1±1.2,17°.79S±0°.07×167°.4E±0°.2,h19km, mb3.9/6,MS3.5/8,Error ellipse: s-maj=27.3km s-min=10.5km az=3.4*

ISC 11 18:44:18.9±1.0,17.76S±0°.10×167°.5E±0°.2,h19km,n23, σ1s24/16,mb4.0/6,MS3.5/8,Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**4.40 193**		Pn	**Pn**	**18 45 25.9**	**+1.1**
	11nm,0.3s,baz=74,slow=1.5,SNR=105						
DZM				Sn	**Sn**	**18 46 13.7**	**-1.9**
	5.1nm,0.3s,baz=315,slow=20,SNR=2.5						
DZM				LR	LR	18 47 01.7	
	comp=Z,159nm,18.4s,baz=2.0,slow=36						
HNR	**Honiara**	**11.05 318**		LR	LR	18 50 44.2	
	comp=Z,102nm,19.0s,baz=104,slow=36						
CTA	**Charters Tower**	**20.21 260**		P	**P**	**18 48 53.5**	**+0.6**
	3.4nm,0.7s,baz=63,slow=9.0,SNR=3.8						
AFI	**Afiamalu**	**20.32 82**		LR	LR	18 55 03.6	
	comp=Z,170nm,20.9s,baz=67,slow=32						
URZ	**Urewera**	**22.09 160**		LR	LR	18 56 44.5	
	comp=Z,82nm,18.8s,baz=332,slow=34						
RPZ	**Rata Peaks**	**26.05 174**		LR	LR	18 59 10.8	
	comp=Z,138nm,19.1s,baz=303,slow=34						
STKA	**Stephens Creek**	**27.29 234**		P	**P**	**18 50 03.8**	**+1.4**
	3.6nm,0.6s,baz=63,slow=8.5,SNR=8.4						
WRA	**Warramunga Arr**	**31.41 261**		P	**P**	**18 50 38.4**	**-0.7**
	1.0nm,0.9s,baz=88,slow=8.5,SNR=8.9						
ASAR	**Alice Springs**	**31.90 254**		P	**P**	**18 50 42.6**	**-0.8**
	1.7nm,0.6s,baz=80,slow=8.6,SNR=34						
ASAR				LR	LR	19 02 24.8	
	comp=Z,137nm,19.6s,baz=87,slow=34						
GUMO	**Guam**	**38.32 323**		LR	LR	19 06 07.4	
	comp=Z,46nm,18.7s,baz=174,slow=34						
FITZ	**Fitzroy Crossi**	**39.75 263**		LR	LR	19 06 59.2	
	comp=Z,101nm,20.7s,slow=34						
PPT	**Papeete**	**40.85 97**		LR	LR	19 06 48.1	
	comp=Z,96nm,18.5s,baz=187,slow=33						
TGY	**Tagaytay City**	**55.77 302**		LR	LR	19 16 45.2	
	comp=Z,30nm,18.5s,baz=114,slow=35						
CMAR	**Chiang Mai Arr**	**76.38 295**		P	**P**	**18 56 07.6**	**+0.1**
	1.2nm,0.9s,baz=146,slow=5.4,SNR=5.5						
SONM	**Songino Array**	**85.05 324**		P	**P**	**18 56 52.1**	**-1.3**
	0.6nm,0.9s,baz=92,slow=2.9,SNR=3.6						
ILAR	**Eielson Array**	**89.33 18**		P	**P**	**18 57 13.0**	**-0.6**
	0.8nm,0.8s,baz=235,slow=5.8,SNR=6.9						
ARCES	**ARCESS Array B 123.22 345**			PKP	**PKPdf**	**19 03 13.4**	**-0.4**
	1.2nm,0.8s,baz=339,slow=2.2,SNR=3.8						
MOA	**Molln**	**142.85 330**		*i* PKiKP	**PKiKP**	**19 03 55.3**	**+0.9**
	4.0nm,1.5s						
SOKA	**Soboth**	**143.28 328**		*i* PKiKP	**PKiKP**	**19 03 55.8**	**+0.4**
	3.4nm,1.4s						
OBKA	**Obir**	**143.64 328**		*i* PKiKP	**PKiKP**	**19 03 58.9**	**+2.7**
	2.8nm,1.0s						
MOTA	**Moosalm**	**144.69 332**		*i* PKPdf	**PKPdf**	**19 03 54.6**	**-0.1**
	6.1nm,1.2s						
FETA	**Feichten**	**145.10 332**		*i* PKPdf	**PKPbc**	**19 03 54.3**	**-0.6**
	7.2nm,1.4s						
DAVA	**Damuels**	**145.27 333**		*i* PKPdf	**PKPab**	**19 03 56.4**	**+0.9**
	7.6nm,1.1s						

CSEM ***11*** *18:51:27.1,39°.69N×20°.41E,h13km,ML1.3/3*

ATH 11 18:51:27.1,39°.69N×20°.41E,h13km±6km,ML1.3/3,Error ellipse: s-maj=6.2km s-min=1.2km az=220.0, Greece-Albania border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SGD	**Sagiada**	**0.16 239**		P	Pg	18 51 30.3	-0.6
SGD				S	Sg	18 51 33.7	+0.2
SGD	**Sagiada**	**0.16 239**		P	Pg	18 51 30.3	-0.6
SGD				S	Sg	18 51 33.7	+0.2
IGT	**Igoumenitsa**	**0.17 200**		P	Pg	18 51 30.8	-0.3
IGT				S	Sb	18 51 34.7	-0.7
IGT	**Igoumenitsa**	**0.17 200**		P	Pg	18 51 30.8	-0.3
IGT				S	Sb	18 51 34.7	-0.7
IGT				AML	AML	18 51 35.7	
	comp=N,349μm,0.1s						
IGT				AML	AML	18 51 35.7	
	comp=E,346μm,0.1s						
KEK	**Kerkira**	**0.47 273**		P	Pg	18 51 35.9	-0.5
KEK				S	Sb	18 51 44.7	+0.7
KEK	**Kerkira**	**0.47 273**		P	Pg	18 51 35.9	-0.5
KEK				S	Sb	18 51 44.7	+0.6
KEK				AML	AML	18 51 46.3	
	comp=N,98μm,0.5s						
KEK				AML	AML	18 51 49.3	
	comp=E,107μm,0.4s						
PENT	**Pentalofos**	**0.75 48**		P	Pg	18 51 41.8	+0.1
PENT	**Pentalofos**	**0.75 48**		P	Pg	18 51 41.8	+0.1
DSL	**Palaion Diasel**	**0.77 136**		P	Pg	18 51 41.6	-0.4
DSL				S	Sb	18 51 53.3	+0.6
DSL	**Palaion Diasel**	**0.77 136**		P	Pg	18 51 41.6	-0.4
DSL				S	Sb	18 51 53.3	+0.6
DSL				AML	AML	18 51 57.2	
	comp=N,32μm,0.4s						
DSL				AML	AML	18 51 58.5	
	comp=E,40μm,0.3s						
NEST	**Nestorio**	**0.87 34**		P	Pg	18 51 43.5	-0.5
NEST	**Nestorio**	**0.87 34**		P	Pg	18 51 43.5	-0.4

SOF ***11*** *18:52:11.8,42°.03N×25°.73E,h11km,MD3.0*

THE ***11*** *18:52:12.5,42°.00N×25°.74E,h5km±1km,ML2.8/6,Error ellipse: s-maj=1.2km s-min=0.5km az=96.0*

CSEM ***11*** *18:52:12.9±0.2,42°.02N×25°.63E,h2km,ML2.8,Error ellipse: s-maj=5.1km s-min=4.0km az=48.0*

ATH ***11*** *18:52:12.7,42°.00N×25°.75E,h9km±3km,ML2.7/5,Error ellipse: s-maj=4.8km s-min=1.9km az=176.0*

DDA ***11*** *18:52:30.6,41°.02N×26°.55E,h40km,Ml2.5*

ISC 11 18:52:11.5±1.1,42°.08N±0°.02×25°.77E±0°.02,h6km±9km, n120,σ1s30/144,15C-4D,Bulgaria

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DIM	**Dimitrovgrad**	**0.18 262**		P	**Pg**	**18 52 15.0**	**0.0**
KDZ	**Kurdzhali**	**0.50 212**		P	**Pg**	**18 52 21.9**	**+0.8**
JMB	**Yambol**	**0.72 57**		P	**Pb**	**18 52 26.3**	**-0.1**
EDRB	**Edirne**	**0.76 107**		*e*P	**Pb**	**18 52 27.0**	**-0.1**
EDRB	**Edirne**	**0.76 107**		P	**Pb**	**18 52 27.0**	**-0.1**
EDRB				S	**Sb**	**18 52 37.8**	**0.0**
EDRB	**Edirne**	**0.76 107**		*e*P	**Pb**	**18 52 27.0**	**-0.1**
PLD	**Plovdiv**	**0.79 272**		P	**Pg**	**18 52 25.9**	**-0.8**
RZN	**Rozhen**	**0.88 244**		P	**Pg**	**18 52 28.0**	**-0.3**
RDO	**Rodhopi**	**0.94 191**		P	**Pg**	**18 52 29.0**	**-0.6**
RDO				S	**Sg**	**18 52 41.5**	**-0.3**
RDO	**Rodhopi**	**0.94 191**		P	**Pg**	**18 52 29.0**	**-0.6**
RDO				S	**Sg**	**18 52 41.5**	**-0.3**
RDO	**Rodhopi**	**0.94 191**		P	**Pg**	**18 52 29.0**	**-0.6**
RDO				S	**Sg**	**18 52 41.8**	**0.0**
RDO				AML	AML	18 52 45.4	
	comp=N,1459μm,0.4s						
RDO				AML	AML	18 52 46.5	
	comp=E,1298μm,0.3s						
ALN	**Alexandroupoli**	**1.20 170**		*e*P	**Pn**	**18 52 35.4**	**+0.6**
ALN	**Alexandroupoli**	**1.20 170**		P	**Pg**	**18 52 33.9**	**-0.5**
ALN				S	**Sg**	**18 52 50.0**	**+0.1**
ALN	**Alexandroupoli**	**1.20 170**		P	**Pg**	**18 52 34.3**	**-0.1**
ALN				S	**Sg**	**18 52 50.0**	**+0.1**
ALN	**Alexandroupoli**	**1.20 170**		P	**Pg**	**18 52 34.3**	**-0.1**
ALN				S	**Sg**	**18 52 48.6**	**-1.2**
ALN				AML	AML	18 52 52.3	
	comp=E,217μm,0.2s						
ALN				AML	AML	18 52 53.8	
	comp=N,278μm,0.3s						
SZH	**Strazhica**	**1.20 6**		P	**Pn**	**18 52 35.7**	**+0.9**
ENEZ	**Enez**	**1.37 168**		*e*P	**Pg**	**18 52 38.4**	**+0.7**
ENEZ	**Enez**	**1.37 168**		P	**Pn**	**18 52 36.7**	**-0.4**
ENEZ				S	**Sb**	**18 52 54.8**	**-0.4**
ENEZ	**Enez**	**1.37 168**		P	**Pn**	**18 52 36.7**	**-0.4**
ENEZ				S	**Sb**	**18 52 54.8**	**-0.4**
PHSR	**Pinarhisar**	**1.38 108**		*e*P	**Pg**	**18 52 38.8**	**+0.8**
PHSR	**Pinarhisar**	**1.38 108**		*e*P	**Pg**	**18 52 38.8**	**+0.8**
KESN	**Edirne-Kesan**	**1.42 151**		*i* P	**Pg**	**18 52 38.9**	**+0.1**
KAVA	**Kavala**	**1.43 222**		P	**Pn**	**18 52 37.7**	**-0.3**
KAVA				S	**Sb**	**18 52 56.6**	**-0.5**
KAVA	**Kavala**	**1.43 222**		P	**Pn**	**18 52 37.7**	**-0.3**
KAVA				S	**Sb**	**18 52 56.5**	**-0.5**
KAVA	**Kavala**	**1.43 222**		P	**Pn**	**18 52 38.0**	**+0.1**
KAVA				S	**Sb**	**18 52 56.5**	**-0.5**
KAVA				AML	AML	18 52 59.5	
	comp=N,857μm,0.3s						
KAVA				AML	AML	18 52 59.9	
	comp=E,539μm,0.3s						
ERIK	**Erikli-Kesan**	**1.51 158**		*e*P	**Pg**	**18 52 40.6**	**+0.2**
MMB	**Musomiste**	**1.60 253**		P	**Pg**	**18 52 42.0**	**-0.2**
ZIMR		**1.61 349**	⇑	*i*P	**Pg**	**18 52 44.0**	**+1.7**
ZIMR		**1.61 349**		P	**Sg**	**18 53 05.7**	**+2.6**
SMTH	**Samothraki Isl**	**1.61 186**		P	**Pn**	**18 52 40.1**	**-0.4**
SMTH				S	**Sn**	**18 53 01.3**	**-0.3**
SMTH	**Samothraki Isl**	**1.61 186**		P	**Pb**	**18 52 41.6**	**-0.1**
SMTH				S	**Sn**	**18 53 01.3**	**-0.3**
SMTH	**Samothraki Isl**	**1.61 186**		P	**Pb**	**18 52 41.6**	**-0.1**
SMTH				S	**Sg**	**18 53 03.2**	**-0.1**
SMTH				AML	AML	18 53 06.2	
	comp=E,225μm,0.6s						
SMTH				AML	AML	18 53 07.4	
	comp=N,175μm,0.2s						
PRD	**Provadia**	**1.65 46**		P	**Pg**	**18 52 43.9**	**+0.9**
LPK	**Lapseki**	**1.86 156**		*e*P	**Pb**	**18 52 46.0**	**+0.2**
LPK	**Lapseki**	**1.86 156**		*e*P	**Pb**	**18 52 46.0**	**+0.2**
GADA	**Gvkgeada**	**1.89 177**		*e*P	**Pb**	**18 52 46.1**	**-0.2**
GADA	**Gvkgeada**	**1.89 177**		*e*P	**Pb**	**18 52 46.1**	**-0.2**
SRS	**Serrai**	**1.89 240**		P	**Pn**	**18 52 43.9**	**-0.4**
SRS				S	**Sn**	**18 53 08.7**	**+0.2**
SRS	**Serrai**	**1.89 240**		P	**Pn**	**18 52 43.9**	**-0.4**
SRS				S	**Sn**	**18 53 08.7**	**+0.2**
SRS	**Serrai**	**1.89 240**		P	**Pb**	**18 52 47.0**	**+0.5**
SRS				S	**Sg**	**18 53 11.7**	**-0.6**
SRS				AML	AML	18 53 14.9	
	comp=N,509μm,0.4s						
SRS				AML	AML	18 53 15.3	
	comp=E,484μm,0.3s						
VTS	**Vitosha**	**1.97 286**		P	**Pn**	**18 52 45.5**	**0.0**
VTS				S	**Sb**	**18 53 11.7**	**-0.9**
VTS	**Vitosha**	**1.97 286**	⇑	*i*P	**Pn**	**18 52 45.6**	**0.0**
VTS	**Vitosha**	**1.97 286**		S	**Sg**	**18 53 16.9**	**+2.2**
VTS	**Vitosha**	**1.97 286**		P	**Pn**	**18 52 46.0**	**+0.5**
VTS	**Vitosha**	**1.97 286**		P	**Pn**	**18 52 45.5**	**0.0**
VTS				S	**Sb**	**18 53 11.7**	**-0.9**
MPEP	**Malo Peshtene**	**1.97 311**		P	**Pn**	**18 52 46.2**	**+0.8**
MPEP				Pg	**Pg**	**18 52 49.2**	**0.0**
CTYL	**Yalikoy Yolu**	**1.98 107**		*e*P	**Pg**	**18 52 48.9**	**-0.5**
CTYL	**Yalikoy Yolu**	**1.98 107**		*e*P	**Pg**	**18 52 48.9**	**-0.5**
KKB	**Krupnik**	**2.01 265**		P	**Pb**	**18 52 49.2**	**+0.7**
MRMT	**Marmara Adasi**	**2.01 136**		*e*P	**Pb**	**18 52 48.1**	**-0.4**
SLVT	**Silivri**	**2.02 114**		*e*P	**Pg**	**18 52 49.4**	**-0.7**
SLVT	**Silivri**	**2.02 114**		*e*P	**Pg**	**18 52 49.4**	**-0.7**
KRBG	**Karabiga-Canak**	**2.04 145**		*e*P	**Pb**	**18 52 48.4**	**-0.5**
KRBG	**Karabiga-Canak**	**2.04 145**		*e*P	**Pb**	**18 52 48.4**	**-0.5**
OUR	**Ouranopolis**	**2.20 218**		*e*P	**Pn**	**18 52 50.1**	**+1.6**
OUR	**Ouranopolis**	**2.20 218**		*e*P	**Pn**	**18 52 50.1**	**+1.6**
OUR	**Ouranopolis**	**2.20 218**		P	**Pb**	**18 52 52.2**	**+0.5**
CTKS	**Kestanelik-??a**	**2.22 111**		*e*P	**Pb**	**18 52 51.8**	**-0.1**
CTKS	**Kestanelik-??a**	**2.22 111**		*e*P	**Pb**	**18 52 51.8**	**-0.1**
LIA	**Limnos Island**	**2.22 192**		P	**Pn**	**18 52 49.3**	**+0.5**
LIA	**Limnos Island**	**2.22 192**		P	**Pn**	**18 52 49.3**	**+0.5**
BOZC	**Bozcaada**	**2.24 174**		*e*P	**Pb**	**18 52 51.8**	**-0.6**
BOZC	**Bozcaada**	**2.24 174**		*i* P	**Pb**	**18 52 52.9**	**+0.6**
BOZC				*i* S	**Sn**	**18 53 16.7**	**-0.4**
BOZC	**Bozcaada**	**2.24 174**		*e*P	**Pb**	**18 52 51.8**	**-0.6**
KNT	**Kendrikon**	**2.34 248**		*e*P	**Pb**	**18 52 53.9**	**-0.1**
KNT	**Kendrikon**	**2.34 248**		P	**Pn**	**18 52 50.2**	**-0.3**
KNT				S	**Sn**	**18 53 20.0**	**+0.5**
KNT	**Kendrikon**	**2.34 248**		P	**Pn**	**18 52 50.2**	**-0.3**
KNT				S	**Sn**	**18 53 20.0**	**+0.5**
EDC	**Edincik**	**2.34 137**		*e*P	**Pb**	**18 52 53.1**	**-0.9**
HORT	**Hortiatis**	**2.49 235**		*e*P	**Pb**	**18 52 55.6**	**-1.1**
HORT	**Hortiatis**	**2.49 235**		*e*P	**Pb**	**18 52 55.6**	**-1.1**
VAY	**Valandovo**	**2.51 254**		*e*Pn	**Pb**	**18 52 56.8**	**-0.1**
VAY	**Valandovo**	**2.51 254**		*e*Pn	**Pb**	**18 52 56.8**	**-0.1**
HUMR	**Humele**	**2.52 347**	⇓	*i*P	**Pb**	**18 52 58.1**	**+1.0**
HUMR	**Humele**	**2.52 347**	⇓	*i*P	**Pb**	**18 52 58.1**	**+1.0**
KLYT	**Kilyos**	**2.59 107**		*e*P	**Pb**	**18 52 56.9**	**-1.3**
KLYT	**Kilyos**	**2.59 107**		*e*P	**Pb**	**18 52 56.9**	**-1.3**
SULR		**2.62 8**	⇑	*i*P	**Pg**	**18 53 00.3**	**-1.5**
SULR		**2.62 8**	⇑	*i*P	**Pg**	**18 53 00.3**	**-1.5**
KCTX	**Karacabey (Bur**	**2.66 132**		*e*P	**Pn**	**18 52 57.1**	**+2.2**
ISK	**Istanbul-Kandi**	**2.67 111**		*e*P	**Pb**	**18 52 58.4**	**-1.2**
ISK	**Istanbul-Kandi**	**2.67 111**		*e*P	**Pb**	**18 52 58.4**	**-1.2**
KAVV	**Kandilli-Istan**	**2.67 111**		*e*P	**Pb**	**18 52 58.2**	**-1.4**
KAVV	**Kandilli-Istan**	**2.67 111**		*e*P	**Pb**	**18 52 58.2**	**-1.4**
BALY	**Balya**	**2.72 148**		*i* P	**Pn**	**18 52 58.1**	**+2.3**
ARMT	**Armutlu**	**2.77 122**		*e*P	**Pb**	**18 52 59.5**	**-2.0**
ARMT	**Armutlu**	**2.77 122**		*e*P	**Pb**	**18 52 59.5**	**-2.0**
BALB	**Balikesir**	**2.91 146**		*e*P	**Pn**	**18 53 00.8**	**+2.5**
BALB	**Balikesir**	**2.91 146**		*e*P	**Pn**	**18 53 00.8**	**+2.5**
TLB	**Topalu**	**3.01 33**	⇑	*i*P	**Pb**	**18 53 03.3**	**-2.1**
TLB	**Topalu**	**3.01 33**		S	**Sg**	**18 53 47.0**	**-1.0**
TLB	**Topalu**	**3.01 33**	⇑	*i*P	**Pb**	**18 53 03.3**	**-2.1**
TIRR	**Tirgusor**	**3.06 38**	⇑	*i*P	**Pn**	**18 53 02.7**	**+2.3**
TIRR	**Tirgusor**	**3.06 38**		S	**Sg**	**18 53 48.3**	**-1.6**
TIRR	**Tirgusor**	**3.06 38**	⇑	*i*P	**Pn**	**18 53 02.7**	**+2.3**
ISR	**Istrita**	**3.09 10**	⇑	*i*P	**Pb**	**18 53 06.2**	**-0.7**
ISR	**Istrita**	**3.09 10**		S	**Sg**	**18 53 56.5**	**+5.7**
ISR	**Istrita**	**3.09 10**	⇑	*i*P	**Pb**	**18 53 06.2**	**-0.7**
ZAGS	**Zajecar**	**3.12 305**		*e*Pn	**Pn**	**18 53 01.2**	**0.0**
AOS	**Alonnisos**	**3.24 207**		*e*P	**Pn**	**18 53 05.9**	**+3.1**
AOS	**Alonnisos**	**3.24 207**		*e*P	**Pn**	**18 53 05.9**	**+3.1**
BOLS	**Boljevac**	**3.30 303**		*e*Pn	**Pn**	**18 53 04.3**	**+0.6**
BOVS	**Bovan**	**3.37 299**		*e*Pn	**Pn**	**18 53 05.0**	**+0.4**
VOIR		**3.40 351**	⇑	*i*P	**Pb**	**18 53 10.7**	**-1.5**
VOIR		**3.40 351**	⇑	*i*P	**Pb**	**18 53 10.7**	**-1.5**
MLR	**Muntele Rosu**	**3.42 2**	⇑	*i*P	**Pb**	**18 53 11.0**	**-1.5**
MLR	**Muntele Rosu**	**3.42 2**		S	**Sg**	**18 54 04.5**	**+3.3**
CFR	**Carcaliu**	**3.54 28**	⇓	*i*P	**Pb**	**18 53 11.0**	**-3.6**
CFR	**Carcaliu**	**3.54 28**		S	**Sg**	**18 54 02.7**	**-2.6**
CFR	**Carcaliu**	**3.54 28**	⇓	*i*P	**Pb**	**18 53 11.0**	**-3.6**
SELS	**Selova**	**3.62 290**		*e*Pn	**Pn**	**18 53 08.4**	**+0.4**
KUBS	**Kucevo**	**3.79 309**		*e*Pn	**Pn**	**18 53 09.1**	**-1.4**
PLOR	**Plostina**	**3.83 9**	⇑	*i*P	**Pb**	**18 53 17.1**	**-2.3**
PLOR	**Plostina**	**3.83 9**		S	**Sg**	**18 54 13.1**	**-1.3**
VRI	**Vrincioaia**	**3.85 10**	⇑	*i*P	**Pb**	**18 53 16.7**	**-3.1**
SAHE	**Sakarya_HENDEK**	**4.01 106**		*i* P	**Pb**	**18 53 23.8**	**+1.2**
GRUS	**Gruza**	**4.13 298**		*e*Pn	**Pn**	**18 53 15.7**	**+0.7**
IVAS	**Ivanjica**	**4.39 292**		*e*Pn	**Pn**	**18 53 18.8**	**0.0**
TRUS	**Trudelj**	**4.47 300**		*e*Pn	**Pn**	**18 53 20.3**	**+0.5**
DIVS	**Divibare**	**4.69 297**		*e*Pn	**Pn**	**18 53 23.1**	**+0.3**
TEKS	**Tekeris**	**5.18 301**		*e*Pn	**Pn**	**18 53 30.0**	**+0.5**

IDC ***11*** *19:02:10.0±0.7,51°.96N×173°.44W,h74km±7km,mb3.6/8, mb1 3.9/10,mb1mx3.4/51,mbtmp3.9/10,MS3.3/4, Ms1 3.4/4,ms1mx2.8/31,Error ellipse: s-maj=35.7km s-min=13.3km az=159.0*

NEIC ***11*** *19:02:10.1±0.0,51°.86N×173°.21W,h40km,ML3.4(AEIC), After AEIC.*

ISC 11 19:02:09.1±0.7,51°.8N±0°.1×173°.36W±0°.05,h56km,n29, σ2s23/29,mb3.9/8,MS3.4/4,Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KOFP	**Korovin Flat P**	**0.63 314**		P	**Pn**	**19 02 24.2**	**+1.9**
ATKA	**Atka Island**	**0.63 305**		P	**Pn**	**19 02 23.7**	**+1.4**
ATKA				S	**Sn**	**19 02 34.0**	**+2.2**
NIKH	**Nikolski High**	**2.98 66**		P	**Pn**	**19 02 55.2**	**+1.4**
NIKH				S	**Sn**	**19 03 28.2**	**-0.1**
OKSO	**Okmok South**	**3.51 62**		P	**Pn**	**19 03 01.8**	**+0.6**
OKSO				S	**Sn**	**19 03 44.6**	**+3.2**
OKFG	**Magazine Ridge**	**3.67 63**		P	**Pn**	**19 03 04.5**	**+1.2**
OKFG				S	**Sn**	**19 03 47.9**	**+2.7**
MSW	**Makushin Switc**	**4.49 60**		P	**Pn**	**19 03 15.6**	**+1.1**
MSW				S	**Sn**	**19 04 05.6**	**+0.3**
UNV	**Unalaska Valle**	**4.61 62**		*e*Pn	**Pn**	**19 03 15.1**	**-1.0**
UNV				*e*Sn	**Sn**	**19 04 05.7**	**-2.7**
PETK	**Petropavlovsk-**	**17.63 286**		P	**Pn**	**19 06 08.0**	**-2.5**
	0.1nm,0.3s,baz=84,slow=15,SNR=2.8						
ILAR	**Eielson Array**	**18.80 36**		P	**P**	**19 06 20.9**	**-2.7**
	0.1nm,0.3s,baz=232,slow=8.1,SNR=20						
EGAK	**Eagle**	**21.00 40**		*e*P	**P**	**19 06 44.6**	**-2.8**
	3.9nm,0.6s						
INK	**Inuvik**	**25.15 34**		P	**P**	**19 07 28.2**	**-0.3**
	1.3nm,0.6s,baz=279,slow=6.9,SNR=2.8						
KLR	**Kul'dur**	**34.30 288**		LR	LR	19 24 48.4	
	comp=Z,25nm,18.8s,baz=117,slow=40						
NEW	**Newport**	**35.52 73**		P	**P**	**19 08 59.3**	**-1.0**
	4.8nm,0.8s,baz=288,slow=6.6,SNR=5.7						
H11N2	**WAKE ISLAND Hy**	**35.59 213**		T	T	19 47 08.7	
	baz=21,slow=76						
H11N3	**WAKE ISLAND Hy**	**35.59 213**		T	T	19 47 10.9	
	baz=21,slow=76						
H11N1	**WAKE ISLAND Hy**	**35.60 213**		T	T	19 47 11.7	
	baz=21,slow=76						
H11S1	**WAKE ISLAND Hy**	**36.79 213**		T	T	19 48 27.8	
	baz=20,slow=76,SNR=86						
H11S2	**WAKE ISLAND Hy**	**36.80 213**		T	T	19 48 28.0	
	baz=20,slow=76,SNR=100						
H11S3	**WAKE ISLAND Hy**	**36.80 213**		T	T	19 48 28.7	
	baz=20,slow=76,SNR=57						
MJAR	**Matsushiro Arr**	**37.21 265**		P	**P**	**19 09 14.0**	**-0.8**
	1.7nm,0.7s,baz=46,slow=7.5,SNR=11						
PDAR	**Pinedale Array**	**42.92 76**		P	**P**	**19 10 01.8**	**-0.5**
	3.3nm,0.7s,baz=289,slow=4.3,SNR=9.8						
PDAR				pP	**pP**	**19 10 19.6**	**+2.8**
	0.7nm,0.5s,baz=294,slow=2.9,SNR=2.1						
PDAR				sP	**sP**	**19 10 28.3**	**+5.0**
	1.0nm,0.5s,baz=305,slow=3.2,SNR=2.6						
KSRS	**Korea Array**	**43.01 274**		P	**P**	**19 10 01.9**	**-0.8**
	0.3nm,0.4s,baz=66,slow=7.7,SNR=6.6						
SONM	**Songino Array**	**49.43 299**		LR	LR	19 33 52.0	
	comp=Z,32nm,18.4s,baz=66,slow=39						
CMAR	**Chiang Mai Arr**	**74.31 280**		P	**P**	**19 13 38.8**	**-1.8**
	1.4nm,0.8s,baz=22,slow=7.0,SNR=9.8						
GEYT	**Alibeck**	**79.95 321**		LR	LR	19 54 00.5	
	comp=Z,27nm,18.5s,baz=300,slow=39						
WRA	**Warramunga Arr**	**84.78 228**		P	**P**	**19 14 35.4**	**-1.8**
	0.5nm,0.7s,baz=34,slow=5.7,SNR=3.3						
WRA				pP	**pP**	**19 14 55.7**	**+2.7**
	0.7nm,0.7s,baz=32,slow=5.7,SNR=3.6						
ASAR	**Alice Springs**	**88.20 227**		P	**P**	**19 14 53.3**	**-0.6**
	0.4nm,0.7s,baz=19,slow=4.9,SNR=5.1						
ASAR				pP	**pP**	**19 15 13.4**	**+3.6**
	0.8nm,0.6s,baz=25,slow=4.8,SNR=5.6						
ESDC	**Sonseca Array**	**88.39 8**		LR	LR	19 54 55.7	
	comp=Z,19nm,18.9s,baz=320,slow=36						
BOSA	**Boshof**	**152.95 322**		PKPbc	**PKPbc**	**19 21 57.7**	**-2.2**

MWZ				AML	AML	20 05 43.6
TKGZ	**Te Karaka**	**2.20 177**		Pn	Pn	20 05 12.6 +0.3
TKGZ	**Te Karaka**	**2.20 177**		PN	Pn	20 05 12.6 +0.3
TKGZ				AML	AML	20 05 42.8
TKGZ				AML	AML	20 05 44.4
RAGZ	**Rawiri**	**2.26 186**		Pn	Pn	20 05 13.9 +0.7
RAGZ				Sn	Sn	20 05 44.6 +0.2
RAGZ	**Rawiri**	**2.26 186**		PN	Pn	20 05 13.9 +0.7
RAGZ				SN	Sn	20 05 44.6 +0.2
RAGZ				AML	AML	20 05 46.7
CNGZ	**Carnagh Statio**	**2.28 170**		Pn	Pn	20 05 13.6 +0.4
CNGZ	**Carnagh Statio**	**2.28 170**		PN	Pn	20 05 13.6 +0.4
CNGZ				AML	AML	20 05 46.1
CNGZ				AML	AML	20 05 46.8
RIGZ	**Rimuhau**	**2.46 179**		PN	Pn	20 05 15.4 0.0
RIGZ				SN	Sn	20 05 47.0 -1.3
RIGZ				AML	AML	20 05 48.4
SNGZ	**Shannon Statio**	**2.55 186**		Pn	Pn	20 05 16.6 +0.1
SNGZ				Sn	Sn	20 05 50.3 +0.1
SNGZ	**Shannon Statio**	**2.55 186**		PN	Pn	20 05 16.6 +0.1
SNGZ				AML	AML	20 05 51.4
SNGZ				AML	AML	20 05 52.5
KNZ	**Kokohu**	**2.78 180**		Pn	Pn	20 05 18.5 -0.5
KNZ	**Kokohu**	**2.78 180**	⇑	PN	Pn	20 05 18.5 -0.5
KNZ				AML	AML	20 05 54.4
WHHZ	**Waihua**	**2.86 187**		PN	Pn	20 05 20.1 +0.1
WHHZ				SN	Sn	20 05 56.4 -0.2
WHHZ				AML	AML	20 05 58.6
MHGZ	**Mahia Peninsul**	**2.91 177**		Pn	Pn	20 05 20.4 -0.3
MHGZ	**Mahia Peninsul**	**2.91 177**		PN	Pn	20 05 20.4 -0.3
MHGZ				AML	AML	20 06 01.5
MHGZ				AML	AML	20 06 15.2
NMHZ	**Naumai**	**2.94 194**		Pn	Pn	20 05 21.8 +0.7
NMHZ	**Naumai**	**2.94 194**		PN	Pn	20 05 21.8 +0.7
NMHZ				AML	AML	20 06 01.7
NMHZ				AML	AML	20 06 02.7
ARHZ	**Aropaoanui**	**3.07 190**		Pn	Pn	20 05 22.5 -0.1
ARHZ	**Aropaoanui**	**3.07 190**		PN	Pn	20 05 22.5 -0.1
ARHZ				AML	AML	20 06 03.8
ARHZ				AML	AML	20 06 06.3
MCHZ	**McNeill Hill**	**3.30 194**		Pn	Pn	20 05 25.5 +0.1
MCHZ	**McNeill Hill**	**3.30 194**		PN	Pn	20 05 25.5 +0.1
MCHZ				AML	AML	20 06 12.4
MCHZ				AML	AML	20 06 13.1
KRHZ	**Kereru**	**3.56 197**		PN	Pn	20 05 28.0 -0.7
KRHZ				AML	AML	20 06 11.5
KRHZ				AML	AML	20 06 12.7
KAHZ	**Kahuranaki**	**3.61 190**		Pn	Pn	20 05 28.6 -0.7
KAHZ	**Kahuranaki**	**3.61 190**		PN	Pn	20 05 28.6 -0.7
PXZ	**Pawanui**	**3.84 190**		Pn	Pn	20 05 30.9 -1.3
PXZ	**Pawanui**	**3.84 190**		PN	Pn	20 05 30.9 -1.3
PXZ				AML	AML	20 06 18.0
TSZ	**Takapari Road**	**4.05 199**		Pn	Pn	20 05 33.3 -1.6
PRHZ	**Porangahau**	**4.11 191**		Pn	Pn	20 05 34.4 -1.2
PRHZ	**Porangahau**	**4.11 191**	⇑	PN	Pn	20 05 34.4 -1.2
PRHZ				AML	AML	20 06 27.1
PRHZ				AML	AML	20 06 27.7
BFZ	**Birch Farm**	**4.58 194**		Pn	Pn	20 05 39.7 -1.9
BFZ	**Birch Farm**	**4.58 194**		PN	Pn	20 05 39.7 -1.9
BFZ			*e*	SN	Sn	20 06 31.1 -4.3
MRZ	**Mangatainoka R**	**4.72 200**		Pn	Pn	20 05 41.3 -2.1
MRZ	**Mangatainoka R**	**4.72 200**		PN	Pn	20 05 41.3 -2.1
MRZ				SN	Sn	20 06 33.5 -5.1
MRZ				AML	AML	20 06 42.1
HOWZ	**Holdsworth Sta**	**4.96 200**		Pn	Pn	20 05 44.1 -2.5
HOWZ	**Holdsworth Sta**	**4.96 200**		PN	Pn	20 05 44.1 -2.5
OGWZ	**Otaki Gorge**	**4.98 203**		Pn	Pn	20 05 45.1 -1.7
OGWZ	**Otaki Gorge**	**4.98 203**		PN	Pn	20 05 45.1 -1.7
OGWZ				AML	AML	20 06 42.4
OGWZ				AML	AML	20 06 45.9
KIW	**Kapiti Island**	**5.11 204**		Pn	Pn	20 05 46.4 -2.0
KIW	**Kapiti Island**	**5.11 204**		PN	Pn	20 05 46.4 -2.0
MTW	**Mount Morrison**	**5.20 199**		Pn	Pn	20 05 46.6 -3.1
MTW	**Mount Morrison**	**5.20 199**		PN	Pn	20 05 46.6 -3.1
CAW	**Cannon Point**	**5.28 202**		Pn	Pn	20 05 48.3 -2.4
CAW	**Cannon Point**	**5.28 202**		PN	Pn	20 05 48.3 -2.4

MEX 11 20:07:35.2±0.4, 16°26N×97°92W, h7km±4km, MD3.5, Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.24**	**304**	*eP*	Pg	20 07 39.5	-0.5
PNIG				*i* S	Sg	20 07 43.5	+0.2
VHO	**Vista Hermosa**	**1.40**	**54**	*eP*	Pn	20 07 57.6	-3.7
VHO				*eS*	Sb	20 08 14.7	-5.1
TLIG	**Tlapa**	**1.44**	**335**	*eP*	Pn	20 07 58.1	-3.7
TLIG				*eS*	Sb	20 08 15.8	-5.2
HUIG	**Huatulco**	**1.81**	**105**	*i* P	Pn	20 08 02.6	-4.1
HUIG				*i* S	Sn	20 08 25.9	-4.0
MEIG	**Mezcala**	**2.33**	**316**	*i* P	Pn	20 08 10.9	-3.1
MEIG				*i* S	Sn	20 08 37.7	-5.2
CAIG	**El Cayaco**	**2.39**	**290**	*i* P	Pn	20 08 11.7	-3.0
CAIG				*i* S	Sn	20 08 40.2	-4.0
PLIG	**Platanillo**	**2.61**	**325**	*i* P	Pn	20 08 15.6	-2.2
PLIG				*i* S	Sn	20 08 46.3	-3.5
YAIG	**Yautepec**	**2.81**	**337**	*i* P	Pn	20 08 17.1	-3.6
YAIG				*i* S	Sn	20 08 52.0	-3.0

*IDC **11** 20:23:13.8±2.8, 5°03N×95°19E, h72km±27km, mb3.8/14, mb1 3.9/16, mb1mx3.6/52, mbtmp4.1/16, MS3.1/3, Ms1 3.1/3, ms1mx2.7/38, Error ellipse: s-maj=29.6km s-min=14.3km az=43.0*

*NEIC **11** 20:23:14.8±1.2, 4°83N×95°09E, h90km±11km, mb4.1/2, Error ellipse: s-maj=15.9km s-min=9.4km az=49.0*

ISC 11 20:23:10.6±0.6, 4°90N±0°10×94°92E±0°08, h50km, n37, σ1§42/36, mb4.1/16, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LHMI	**Lhok Sumawe**	**2.04**	**81**	*eP*	**Pn**	**20 23 43.9**	**+1.3**
LHMI				*eS*	**Sn**	**20 24 09.1**	**+2.2**
PSI	**Prapat**	**4.50**	**117**	P	**Pn**	**20 24 19.3**	**+2.9**
	4.2nm,0.3s,baz=318,slow=6.3,SNR=14						
PSI				S	**Sn**	**20 25 08.2**	**+0.6**
	4.0nm,0.3s,baz=342,slow=13,SNR=4.8						
CMAR	**Chiang Mai Arr**	**14.04**	**16**	P	**P**	**20 26 32.2**	**-1.1**
	0.5nm,0.3s,baz=210,slow=12,SNR=25						
CMAR				LR	LR	20 32 18.1	
	comp=Z,44nm,20.6s,baz=206,slow=39						
PALK	**Pallekele**	**14.34**	**280**	P	**P**	**20 26 35.6**	**-1.1**
	0.2nm,0.3s,baz=116,slow=18,SNR=2.4						
CHTO	**Chiang Mai**	**14.38**	**16**	*eP*	**P**	**20 26 36.0**	**-1.1**
JIRN	**Jiri**	**24.12**	**341**	*eP*	**P**	**20 28 22.8**	**+0.5**
PKIN	**Phulchoki**	**24.31**	**339**	*eP*	**P**	**20 28 25.1**	**+1.2**
	1.9nm,0.4s						
KKN	**Kakani**	**24.55**	**339**	*eP*	**P**	**20 28 26.4**	**+0.4**
GKN	**Gorkha**	**24.98**	**338**	*eP*	**P**	**20 28 30.8**	**+1.0**
	7.1nm,0.3s						
KOLN	**Koldanda**	**25.17**	**336**	*eP*	**P**	**20 28 32.8**	**+1.1**
	8.7nm,0.5s						
H08S2	**Diego Garcia H**	**25.61**	**241**	T	T	20 55 42.4	
	baz=61,slow=75,SNR=99						
H08S3	**Diego Garcia H**	**25.61**	**241**	T	T	20 55 40.7	
	baz=61,slow=75,SNR=69						
H08S1	**Diego Carcia H**	**25.63**	**241**	T	T	20 55 41.9	
	baz=61,slow=75,SNR=97						
PYUN	**Piuthan**	**25.72**	**335**	*eP*	**P**	**20 28 37.8**	**+1.2**
	11nm,0.3s						
MBWA	**Marble Bar**	**35.53**	**138**	*eP*	**P**	**20 30 01.0**	**-2.1**
FITZ	**Fitzroy Crossi**	**37.95**	**128**	*eP*	P	20 30 16.8	-6.9
AAK	**Ala-Archa**	**41.73**	**337**	P	**P**	**20 30 56.9**	**+1.9**
	1.0nm,0.3s,baz=164,slow=6.2,SNR=5.0						
JNU	**Nakatsue**	**43.70**	**45**	P	**P**	**20 31 08.2**	**-2.8**
	2.7nm,0.8s,baz=153,slow=6.8,SNR=3.1						
SONM	**Songino Array**	**43.90**	**11**	P	**P**	**20 31 11.9**	**-0.6**
	0.5nm,0.4s,baz=190,slow=8.5,SNR=5.2						
WRA	**Warramunga Arr**	**45.94**	**124**	P	**P**	**20 31 29.0**	**0.0**
	2.8nm,0.9s,baz=302,slow=9.5,SNR=29						
WRAB	**Tennant Creek**	**45.94**	**124**	*eP*	**P**	**20 31 28.5**	**-0.4**
	1.1nm,0.5s						
GEYT	**Alibeck**	**46.94**	**320**	P	**P**	**20 31 38.6**	**+2.0**
	5.2nm,0.5s,baz=139,slow=9.2,SNR=5.2						
ASAR	**Alice Springs**	**47.44**	**128**	P	**P**	**20 31 40.6**	**0.0**
	0.5nm,0.4s,baz=300,slow=7.6,SNR=18						
KURBB	**Kurchatov Arra**	**47.60**	**346**	P	**P**	**20 31 42.2**	**+0.8**
	1.3nm,0.6s,baz=169,slow=6.9,SNR=25						
KURBB				PcP	**PcP**	**20 33 11.5**	**+1.0**
	0.6nm,0.5s,baz=161,slow=3.1,SNR=6.9						
KURK	**Kurchatov**	**47.67**	**346**	P	**P**	**20 31 42.2**	**+0.3**
KURK				PcP	**PcP**	**20 33 11.5**	**+0.7**
ZALV	**Zalesovo Beam**	**49.59**	**352**	P	**P**	**20 31 56.8**	**+0.1**
	2.3nm,0.6s,baz=194,slow=7.9,SNR=14						
MJAR	**Matsushiro Arr**	**50.63**	**46**	LR	LR	20 54 29.0	
	comp=Z,19nm,20.1s,baz=85,slow=37						
BRVK	**Borovoye**	**52.10**	**341**	*eP*	**P**	**20 32 12.2**	**-3.4**
ABKAR	**Akbulak array**	**53.20**	**332**	*eP*	**P**	**20 32 23.9**	**+0.1**
	0.9nm,0.3s						
KLR	**Kul'dur**	**54.07**	**29**	P	**P**	**20 32 29.3**	**-0.8**
	0.8nm,0.5s,baz=270,slow=6.2,SNR=3.9						
CTAO	**Charters Tower**	**56.21**	**118**	P	**P**	**20 32 44.0**	**-2.0**
BRTR	**Keskin Array B**	**64.96**	**312**	P	**P**	**20 33 46.2**	**+0.6**
	1.0nm,0.5s,baz=129,slow=6.5,SNR=7.6						
AKASG	**Malin Array Be**	**70.96**	**322**	P	**P**	**20 34 22.9**	**+0.1**
	0.2nm,0.4s,baz=93,slow=5.0,SNR=3.4						
AKASG				LR	LR	21 08 52.0	
	comp=Z,16nm,18.0s,baz=135,slow=39						
FINES	**FINESS Array B**	**75.69**	**332**	P	**P**	**20 34 51.0**	**+0.5**
	1.6nm,0.4s,baz=107,slow=5.7,SNR=20						
ARCES	**ARCESS Array B**	**78.31**	**340**	P	**P**	**20 35 05.5**	**+0.4**
	1.2nm,0.5s,baz=95,slow=5.2,SNR=20						
GERES	**GERESS Array B**	**80.56**	**319**	P	**P**	**20 35 19.2**	**+1.3**
	1.1nm,0.7s,baz=96,slow=5.4,SNR=12						
TXAR	**Lajitas Array**	**141.56**	**27**	PKP	**PKPdf**	**20 42 38.2**	**+1.0**
	0.3nm,0.6s,baz=137,slow=2.2,SNR=4.2						

NEIC 11 20:31:58.1±0.6, 32°89N×100°85W, h5km, MN2.8, Error ellipse: s-maj=10.1km s-min=7.0km az=184.0, Western Texas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ABTX	**Abilene, Hawle**	**1.05**	**104**	*ePg*	Pb	20 32 18.5	-0.3
ABTX				*eSg*	Sg	20 32 30.3	-1.6
MSTX	**Muleshoe**	**1.94**	**304**	*ePn*	Pn	20 32 31.5	-0.3
MSTX				*eSn*	Sb	20 32 57.7	-0.7
AMTX	**Amarillo**	**2.10**	**341**	*ePn*	Pn	20 32 34.8	+0.7
AMTX				*eSg*	Sg	20 33 10.2	+4.5
WMOK	**Wichita Mounta**	**2.52**	**42**	*ePn*	Pn	20 32 41.3	+1.5
WMOK				*eSn*	Sn	20 33 12.9	+2.0
CPRX	**Cap Rock**	**2.54**	**274**	*ePn*	Pn	20 32 41.1	+0.9
JCT	**Junction City**	**2.56**	**159**	*ePn*	Pn	20 32 40.2	-0.2
JCT				*eSn*	Sn	20 33 10.3	-1.7
CLNB	**Carlsbad**	**2.63**	**257**	*ePn*	Pn	20 32 41.9	+0.5
WHTX	**Lake Whitney,**	**3.00**	**106**	*ePn*	Pn	20 32 46.9	+0.5
WHTX				*eSg*	Sg	20 33 34.6	-0.1
MNTX	**Cornudas Mount**	**4.02**	**254**	*ePn*	Pn	20 33 01.1	+0.7
TX31	**Lajitas Ar. Si**	**4.29**	**215**	*ePn*	Pn	20 33 03.3	-0.9
BNM	**Barren Site**	**4.99**	**286**	*ePn*	Pn	20 33 16.7	+2.8
ANMO	**Albuquerque**	**5.09**	**295**	Pn	Pn	20 33 13.7	-1.6
TUL1	**Leonard**	**5.15**	**53**	Pn	Pn	20 33 13.8	-2.1
TUL1				*eSg*	Sg	20 34 46.2	+2.6
121A	**Cookes Peak, D**	**5.86**	**268**	Pn	Pn	20 33 26.6	+0.8
121A				*eSg*	Sb	20 34 57.3	+5.9
KSCO	**Kaye Shedlock'**	**6.27**	**347**	Pn	Pn	20 33 34.2	+2.8
MIAR	**Mount Ida**	**6.28**	**73**	*ePn*	Pn	20 33 32.5	+1.1

*NIED **11** 20:50:00, 37°20N×141°60E, h5km, Mw3.6 Best double couple: M0 2.54000×10^14 NP1:φ=233.00000°, δ=42.00000°, λ=-77.00000°. NP2:φ=36.00000°, δ=49.00000°, λ=-101.00000°.*

*JMA **11** 20:50:07.1±0.2, 37°17N×141°65E, h33km±2km, M3.5*

*IDC **11** 20:50:13.2±3.5, 37°22N×141°28E, h52km±32km, mb3.3/8, mb1 3.5/10, mb1mx3.3/44, mbtmp3.6/10, ML3.0/2, MS2.4/1, Ms1 2.4/1, ms1mx2.3/14, Error ellipse: s-maj=29.9km s-min=15.7km az=72.0*

ISC 11 20:50:06.5±1.9, 37°24N±0°04×141°55E±0°06, h3km±12km, n28, σ1§04/28, mb3.6/9, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JFK	**Kawauchi**	**0.55**	**283**	P	**Pb**	**20 50 19.3**	**+0.4**
JFK				S	**Sb**	**20 50 28.2**	**+0.9**
ONAJ	**Iwakimizuishiy**	**0.62**	**257**	P	**Pb**	**20 50 20.0**	**0.0**
ONAJ				S	**Sb**	**20 50 29.9**	**+0.8**
JMM	**Marumori**	**0.87**	**316**	P	**Pb**	**20 50 24.7**	**+0.5**
JMM				S	**Sb**	**20 50 37.5**	**+1.3**
JFT	**Otama**	**1.01**	**286**	S	**Sn**	**20 50 41.5**	**-0.8**
JHO	**Hitachi**	**1.01**	**232**	P	**Pg**	**20 50 25.4**	**-0.5**
JHO				S	**Sg**	**20 50 42.9**	**+0.3**
JIO	**Ouri**	**1.22**	**353**	P	**Pn**	**20 50 29.8**	**-0.7**
JIO				S	**Sb**	**20 50 46.0**	**-0.4**
JOU	**Okura**	**1.32**	**328**	P	**Pb**	**20 50 32.5**	**+0.5**
JMK	**Ichinoseki**	**1.73**	**351**	P	**Pn**	**20 50 37.9**	**+0.4**
MJAR	**Matsushiro Arr**	**2.77**	**256**	P	**Pn**	**20 50 52.7**	**+0.8**
	1.1nm,0.3s,baz=86,slow=15,SNR=17						
MJAR				S	**Sb**	**20 51 30.8**	**-0.2**
	2.5nm,0.3s,baz=82,slow=18,SNR=5.1						
MAT	**Matsushiro**	**2.77**	**256**	P	**Pn**	**20 50 53.0**	**+1.1**
MAT				S	**Sb**	**20 51 29.3**	**-1.8**
JHJ	**Hachijo jima 2**	**4.36**	**200**	P	**Pn**	**20 51 14.2**	**+0.5**
	7.4nm,0.3s,baz=63,slow=16,SNR=4.3						
JHJ				S	**Sn**	**20 52 05.2**	**+0.1**
	9.0nm,0.3s,baz=52,slow=19,SNR=3.3						
USRK	**Ussuriysk Ar.**	**10.04**	**317**	P	Pn	20 52 36.9	+5.2
	0.1nm,0.3s,baz=131,slow=15,SNR=2.5						
KSRS	**Korea Array**	**10.85**	**275**	P	Pn	20 52 49.0	+6.2
	baz=84,slow=14,SNR=2.8						
KSRS				LR	LR	20 56 32.9	
	comp=Z,24nm,21.9s,baz=120,slow=36						
SONM	**Songino Array**	**27.76**	**304**	P	**P**	**20 55 54.9**	**-1.7**
	0.7nm,0.7s,baz=108,slow=9.3,SNR=2.2						
H11N2	**WAKE ISLAND Hy**	**28.16**	**121**	T	T	21 25 23.2	
	baz=314,slow=75,SNR=91						
H11N1	**WAKE ISLAND Hy**	**28.17**	**121**	T	T	21 25 21.7	
	baz=314,slow=75,SNR=67						
H11N3	**WAKE ISLAND Hy**	**28.18**	**121**	T	T	21 25 24.7	
	baz=314,slow=75,SNR=73						
H11S1	**WAKE ISLAND Hy**	**28.88**	**123**	T	T	21 26 12.7	
	baz=316,slow=76,SNR=94						
H11S3	**WAKE ISLAND Hy**	**28.88**	**123**	T	T	21 26 16.5	
	baz=316,slow=76,SNR=47						
H11S2	**WAKE ISLAND Hy**	**28.90**	**123**	T	T	21 26 13.9	
	baz=316,slow=76,SNR=71						
ZALV	**Zalesovo Beam**	**41.85**	**312**	P	**P**	**20 57 55.6**	**-2.0**
	0.4nm,0.3s,baz=85,slow=6.2,SNR=3.3						
KURBB	**Kurchatov Arra**	**45.96**	**308**	P	**P**	**20 58 30.4**	**-0.3**
	0.4nm,0.3s,baz=82,slow=7.9,SNR=3.7						
ILAR	**Eielson Array**	**49.26**	**32**	P	**P**	**20 58 56.8**	**+0.7**
	0.5nm,0.7s,baz=263,slow=6.8,SNR=5.8						
BVAR	**Borovoye Array**	**50.51**	**312**	P	**P**	**20 59 04.8**	**-1.0**
	0.6nm,0.8s,baz=38,slow=7.3,SNR=3.4						
ARU	**Arti**	**56.28**	**318**	P	**P**	**20 59 50.2**	**+2.2**
	0.8nm,0.3s,baz=83,slow=8.1,SNR=3.2						
WRA	**Warramunga Arr**	**57.28**	**188**	P	**P**	**20 59 54.7**	**-0.9**
	0.4nm,0.5s,baz=6.6,slow=7.4,SNR=6.3						
ASAR	**Alice Springs**	**61.01**	**188**	P	**P**	**21 00 21.0**	**-0.4**
	0.4nm,0.7s,baz=3.4,slow=5.2,SNR=4.8						
TXAR	**Lajitas Array**	**89.91**	**52**	P	**P**	**21 03 08.5**	**+1.1**
	0.2nm,0.5s,baz=264,slow=2.4,SNR=3.5						

*ISCJB **11** 20:58:09.7±0.6, 40°69N±0°03×32°86E±0°03, h2km±5km, Error ellipse: s-maj=5.5km s-min=3.8km az=178.3*

*DDA **11** 20:58:09.4, 40°68N×32°87E, h7km, Md2.9*

*ISK **11** 20:58:09.0, 40°65N×32°88E, h5km, MD3.0*

*CSEM **11** 20:58:10.0±0.2, 40°69N×32°87E, h8km, MD3.0, Error ellipse: s-maj=4.7km s-min=3.7km az=179.0*

ISC 11 20:58:09.7±1.1, 40°68N±0°03×32°87E±0°02, h5km±10km, n37, σ0§74/58, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CANT	**Cankiri**	**0.57**	**97**	*ePG*	**Pg**	**20 58 20.8**	**+0.1**
CANT				*eSG*	**Sb**	**20 58 30.3**	**-0.4**
SAFT	**Safranbolu**	**0.58**	**346**	*ePG*	**Pb**	**20 58 21.9**	**-0.4**
SAFT	**Safranbolu**	**0.58**	**346**	*ePg*	**Pb**	**20 58 21.9**	**-0.4**
BCAM	**Yenicaga**	**0.63**	**283**	*i* P	**Pg**	**20 58 21.9**	**+0.1**
BCAM				*i* S	**Sg**	**20 58 30.4**	**+0.4**
BCAM	**Yenicaga**	**0.63**	**283**	P	**Pg**	**20 58 21.9**	**+0.1**
BCAM				S	**Sg**	**20 58 30.4**	**+0.4**
ILGA	**Ilgaz**	**0.74**	**60**	*i* P	**Pg**	**20 58 23.5**	**-0.4**
ILGA				*i* S	**Sb**	**20 58 35.7**	**+0.1**
ILGA	**Ilgaz**	**0.74**	**60**	P	**Pg**	**20 58 23.5**	**-0.4**
ILGA				S	**Sb**	**20 58 35.7**	**+0.1**
LOD	**Lodumlu**	**0.79**	**186**	*ePG*	**Pg**	**20 58 24.9**	**-0.1**
LOD				*eSG*	**Sb**	**20 58 36.5**	**-0.6**
LOD	**Lodumlu**	**0.79**	**186**	*ePg*	**Pg**	**20 58 24.9**	**-0.1**
LOD				*eSg*	**Sb**	**20 58 36.5**	**-0.6**
BBAL	**Bala**	**1.15**	**170**	*i* P	**Pn**	**20 58 32.7**	**+0.1**
BBAL				*i* S	**Sn**	**20 58 49.6**	**+0.9**
BBAL	**Bala**	**1.15**	**170**	P	**Pn**	**20 58 32.7**	**+0.1**
BBAL				S	**Sn**	**20 58 49.6**	**+0.9**
AFSR	**Af˙ar-Bala (A**	**1.24**	**173**	*ePN*	**Pg**	**20 58 33.1**	**-0.4**
AFSR				*eSN*	**Sn**	**20 58 50.8**	**-0.1**
AFSR	**Af˙ar-Bala (A**	**1.24**	**173**	*ePn*	**Pg**	**20 58 33.1**	**-0.4**
AFSR				*eSn*	**Sn**	**20 58 50.8**	**-0.1**
MDUB	**Mudurnu**	**1.29**	**261**	*ePN*	**Pg**	**20 58 34.9**	**+0.4**
MDUB				*eSN*	**Sn**	**20 58 53.7**	**+1.5**
MDUB	**Mudurnu**	**1.29**	**261**	*ePn*	**Pg**	**20 58 34.9**	**+0.4**
MDUB				*eSn*	**Sn**	**20 58 53.7**	**+1.5**
CORM	**Corum**	**1.43**	**110**	*ePN*	**Pg**	**20 58 36.8**	**-0.3**
CORM				*eSN*	**Sg**	**20 58 57.0**	**+1.4**
CORM	**Corum**	**1.43**	**110**	*ePn*	**Pg**	**20 58 36.8**	**-0.3**
CORM				*eSn*	**Sg**	**20 58 57.1**	**+1.4**
CTAK	**Corum_Osmancik**	**1.46**	**91**	*i* P	**Pb**	**20 58 36.9**	**-0.6**
CTAK				*i* S	**Sb**	**20 58 56.1**	**-0.2**
CTAK	**Corum_Osmancik**	**1.46**	**91**	P	**Pb**	**20 58 36.8**	**-0.6**
CTAK				S	**Sb**	**20 58 56.1**	**-0.2**
KKUL	**Konya-Kulu**	**1.51**	**179**	*i* P	**Pb**	**20 58 37.8**	**-0.4**
KKUL				*i* S	**Sg**	**20 58 59.2**	**+1.1**
KKUL	**Konya-Kulu**	**1.51**	**179**	P	**Pb**	**20 58 37.8**	**-0.4**
KKUL				S	**Sg**	**20 58 59.2**	**+1.1**
CDAG	**Cicekdag**	**1.56**	**132**	*i* P	**Pb**	**20 58 38.2**	**-0.9**
CDAG				*i* S	**Sg**	**20 58 59.6**	**-0.2**
CDAG	**Cicekdag**	**1.56**	**132**	P	**Pb**	**20 58 38.2**	**-0.9**
CDAG				S	**Sg**	**20 58 59.6**	**-0.2**
SVRH	**Sivrihisar-ESK**	**1.61**	**221**	*ePN*	**Pb**	**20 58 39.5**	**-0.4**
SVRH	**Sivrihisar-ESK**	**1.61**	**221**	*ePn*	**Pb**	**20 58 39.5**	**-0.4**
KULU	**Kulu**	**1.64**	**177**	*ePN*	**Pb**	**20 58 39.8**	**-0.6**
KULU	**Kulu**	**1.64**	**177**	*ePn*	**Pb**	**20 58 39.8**	**-0.6**
COAL	**Corum-Alaca**	**1.67**	**104**	*i* P	**Pn**	**20 58 39.7**	**+0.1**
COAL	**Corum-Alaca**	**1.67**	**104**	P	**Pn**	**20 58 39.7**	**+0.1**
GULT	**Gulveren**	**1.81**	**263**	*ePN*	**Pb**	**20 58 43.2**	**-0.2**
GULT	**Gulveren**	**1.81**	**263**	*ePn*	**Pb**	**20 58 43.2**	**-0.2**
ESKT	**Eskisehir**	**1.94**	**234**	*i* P	**Pn**	**20 58 42.3**	**-1.1**
SEYT	**Eskypehyr**	**1.94**	**234**	P	**Pn**	**20 58 42.3**	**-1.0**
BORA	**Eskisehir**	**2.02**	**247**	*i* P	**Pn**	**20 58 42.6**	**-1.8**
BORA	**Eskisehir**	**2.02**	**247**	P	**Pn**	**20 58 42.6**	**-1.8**
GULA	**Gulagac**	**2.56**	**155**	*ePN*	**Pn**	**20 58 52.9**	**+1.0**
GULA	**Gulagac**	**2.56**	**155**	*ePn*	**Pn**	**20 58 52.9**	**+1.0**

*ISCJB **11** 20:58:52.1±0.3, 36°65N±0°03×71°14E±0°04, h250km, mb3.7/18, Error ellipse: s-maj=5.3km s-min=3.2km az=150.8*

*IDC **11** 20:58:52.7±1.9, 36°57N×71°09E, h244km±19km, mb3.4/18, mb1 3.6/25, mb1mx3.4/46, mbtmp4.1/25, Error ellipse: s-maj=12.1km s-min=10.5km az=169.0*

*NNC **11** 20:58:53.2±11.0, 37°07N×70°50E, h0km, mb5.1, mpv4.7, Error ellipse: s-maj=92.0km s-min=82.8km az=138.0*

ISC 11 20:58:52.8±0.4, 36°65N±0°04×71°15E±0°05, h250km, n52, σ1§86/65, mb3.8/18, 3C-4D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CEP	**Cherat**	**2.89**	**167**	P	**Pn**	**20 59 45.3**	**+0.9**
CHCP	**Chirah Chowk**	**3.45**	**149**	P	**Pn**	**20 59 51.7**	**+1.3**
THW	**Thamme Wali**	**3.88**	**173**	P	**Pn**	**20 59 56.1**	**+0.8**
SARP	**Sargodha**	**4.88**	**165**	P	**Pn**	**21 00 07.6**	**+0.3**
THN	**Thein Dam**	**5.65**	**137**	*eP*	**Pn**	**21 00 17.0**	**+0.4**
THN				*eS*	**S**	**21 01 20.8**	**-2.7**
MNAS	**Manas**	**5.92**	**10**	⇑P	**Pn**	**21 00 20.1**	**+0.2**
	94nm,0.5s						
MNAS				⇓S	**S**	**21 01 25.9**	**-3.7**
	324nm,1.1s						
PONG	**Pong**	**6.14**	**138**	*eP*	**Pn**	**21 00 25.0**	**+2.3**
PONG				*eS*	**S**	**21 01 35.0**	**+0.3**
KK31	**Karatay Array**	**6.

ILAR	**Eielson Array**	**74.60**	**16**	P	**P**	**21 10 04.5**	**+0.5**
	comp=Z,0.5nm,0.5s,baz=325,slow=4.7,SNR=6.1						
DBIC	**Dimbokro**	**74.83**	**267**	P	**P**	**21 10 05.6**	**-0.6**
	comp=Z,1.8nm,0.6s,baz=356,slow=7.4,SNR=5.2						
BOSA	**Boshof**	**77.94**	**220**	P	**P**	**21 10 23.4**	**0.0**
	comp=Z,1.1nm,0.6s,baz=348,slow=9.3,SNR=2.7						
YKA	**Yellowknife Ar**	**81.09**	**3**	P	**P**	**21 10 41.0**	**+1.3**
	comp=Z,1.3nm,0.5s,baz=351,slow=5.4,SNR=7.0						
WRA	**Warramunga Arr**	**81.97**	**122**	P	**P**	**21 10 44.7**	**-0.3**
	comp=Z,1.7nm,0.7s,baz=326,slow=5.3,SNR=13						
ASAR	**Alice Springs**	**84.24**	**125**	P	**P**	**21 10 56.5**	**-0.1**
	comp=Z,1.6nm,0.7s,baz=308,slow=4.7,SNR=23						

NIED ***11*** *21:17:00,23.˚90N×123.˚40E, h32km, Mw4.2 Best double couple: M₀2.30000×10¹⁵ NP1:φs190.00000°,δ57.00000°, λ-10.00000°. NP2:φs286.00000°,δ82.00000°, λ-146.00000°.*

IDC ***11*** *21:17:15.6±0.7,23.˚94N×123.˚35E, h0km, mb4.0/15, mb1 4.2/15,mb1mx3.9/43,mbtmp4.0/15,ML5.4/1,MS3.5/8, Ms1 3.5/8,ms1mx3.2/37, Error ellipse: s-maj=34.2km s-min=15.7km az=68.0*

ISCJB ***11*** *21:17:19.1±0.4,23.˚87N±0.˚04×123.˚34E±0.˚03, h40km±4km, mb4.2/24,MS3.6/6, Error ellipse: s-maj=6.7km s-min=3.7km az=160.9*

JMA ***11*** *21:17:19.3±0.2,23.˚86N×123.˚37E, h28km±3km, M3.7*

NEIC ***11*** *21:17:21.5±0.7,23.˚89N×123.˚29E, h45km±6km, mb4.7/10, Error ellipse: s-maj=8.3km s-min=5.9km az=92.0*

ISC 11 21:17:19.2±1.1, 23.˚88N±0.˚05×123.˚33E±0.˚03, h26km±8km, n63, σ1§06/73, mb4.1/24, MS3.6/6, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time	Res
								h m s	ISC
HATJ	**Hateruma jima**	**0.47**	**68**	P			**Pb**	**21 17 28.4**	**-0.5**
HATJ				S			**Sb**	**21 17 35.2**	**-0.3**
IRIF	**Iriomote-Funau**	**0.58**	**39**	P			**Pb**	**21 17 30.5**	**-0.3**
IRIF				S			**Sb**	**21 17 38.8**	**+0.2**
YOJ	**Yonaguni jima**	**0.65**	**333**	P			**Pn**	**21 17 32.7**	**+0.1**
YOJ				S			**Sb**	**21 17 40.6**	**0.0**
YOJ	**Yonaguni jima**	**0.65**	**333**	*e*Pn			**Pn**	**21 17 32.7**	**+0.1**
YOJ				*e*Sn			**Sn**	**21 17 42.4**	**+0.3**
JYNG	**Yonagunijimaku**	**0.67**	**328**	P			**Pb**	**21 17 32.7**	**+0.4**
JYNG				S			**Sb**	**21 17 41.2**	**0.0**
JKRS	**Kuro-shima**	**0.71**	**60**	P			**Pb**	**21 17 32.9**	**-0.1**
JKRS				S			**Sn**	**21 17 42.6**	**-1.0**
JIJ	**Ishigaki jima**	**0.88**	**57**	P			**Pn**	**21 17 35.1**	**-0.8**
JIJ				S			**Sb**	**21 17 46.4**	**-0.9**
JISG	**Ishigakijimahi**	**1.13**	**52**	P			**Pn**	**21 17 38.9**	**-0.5**
JISG				S			**Sb**	**21 17 54.1**	**-0.4**
JTJ	**Tarama**	**1.46**	**59**	P			**Pn**	**21 17 43.9**	**+0.1**
JTJ				S			**Sb**	**21 18 02.6**	**-1.2**
NACB	**Ninganchiao**	**1.61**	**281**	*e*Pn			**Pn**	**21 17 46.8**	**+0.8**
NACB				*e*Sn			**Sn**	**21 18 02.5**	**-3.5**
JIRB	**Irabujima**	**1.92**	**60**	P			**Pn**	**21 17 51.0**	**+0.8**
YULB	**Yu-li**	**1.93**	**256**	*e*Pn			**Pn**	**21 17 50.5**	**+0.1**
YULB				*e*Sn			**Sn**	**21 18 13.1**	**-0.7**
YHNB	**Yeheng**	**1.95**	**294**	*e*Pn			**Pb**	**21 17 52.7**	**-1.5**
TATO	**Taipei**	**2.00**	**303**	*e*Pn			**Pb**	**21 17 53.6**	**-1.3**
SSLB	**Suanglung**	**2.18**	**268**	*e*Pn			**Pn**	**21 17 54.7**	**+0.9**
SSLB				*e*Sn			**Sn**	**21 18 18.6**	**-1.4**
TWG	**Pinlang**	**2.33**	**243**	*e*Pn			**Pn**	**21 17 55.5**	**-0.3**
TWG				*e*Sn			**Sn**	**21 18 21.5**	**-2.2**
TPUB	**Ta-pu**	**2.55**	**257**	*e*Pn			**Pn**	**21 18 01.0**	**+2.1**
TGY	**Tagaytay City**	**9.99**	**194**	Pn			**Pn**	**21 19 42.4**	**+1.2**
	30nm,0.3s,baz=5.7,slow=10,SNR=2.9								
TGY				LR			LR	21 23 48.2	
	comp=Z,139nm,19.1s,baz=73,slow=39								
KS15	**Wonju Array Si**	**14.07**	**15**	*e*Pn			**Pn**	**21 20 38.8**	**+2.0**
KSAR	**Wonju Array Be**	**14.07**	**15**	Pn			**Pn**	**21 20 38.8**	**+2.0**
KSRS	**Korea Array**	**14.09**	**15**	Pn			**Pn**	**21 20 38.8**	**+1.8**
	0.1nm,0.3s,baz=199,slow=12,SNR=6.6								
KSRS				LR			LR	21 26 35.8	
	comp=Z,76nm,18.9s,baz=188,slow=40								
SONA0	**Songino Array**	**27.44**	**335**	*e*P			**P**	**21 23 02.4**	**-0.6**
	7.8nm,1.8s								
SONM	**Songino Array**	**27.44**	**335**	P			**P**	**21 23 02.4**	**-0.6**
	1.6nm,1.1s,baz=126,slow=7.5,SNR=7.2								
SONM				LR			LR	21 35 16.0	
	comp=Z,93nm,19.1s,baz=139,slow=39								
SONA1	**Songino Array**	**27.45**	**335**	*e*P			**P**	**21 23 03.0**	**-0.1**
TLY	**Talaya**	**31.61**	**336**	LR			LR	21 37 18.9	
	comp=Z,66nm,20.0s,slow=38								
MK01	**Makanchi Array**	**39.91**	**315**	*e*P			**P**	**21 24 50.9**	**-0.1**
MKAR	**Makanchi Array**	**39.92**	**315**	*e*P			**P**	**21 24 51.5**	**+0.4**
	27nm,1.6s								
ZAA0	**Zalesovo Array**	**41.57**	**326**	*e*P			**P**	**21 25 03.4**	**-1.2**
ZALV	**Zalesovo Beam**	**41.57**	**326**	P			**P**	**21 25 04.0**	**-0.6**
	1.5nm,0.6s,baz=115,slow=9.1,SNR=6.9								
ZALV				LR			LR	21 43 38.2	
	comp=Z,75nm,18.4s,baz=70,slow=38								
ZAA1	**Zalesovo Array**	**41.57**	**326**	*e*P			**P**	**21 25 04.0**	**-0.6**
KURK	**Kurchatov**	**43.59**	**320**	*e*P			**P**	**21 25 20.8**	**-0.2**
KURBB	**Kurchatov Arra**	**43.61**	**319**	P			**P**	**21 25 20.7**	**-0.4**
	0.6nm,0.3s,baz=110,slow=8.0,SNR=3.7								
WR1	**Warramunga Arr**	**44.86**	**165**	*e*P			**P**	**21 25 31.6**	**+0.1**
	51nm,2.0s								
WRA	**Warramunga Arr**	**44.86**	**165**	P			**P**	**21 25 31.6**	**+0.1**
	0.7nm,0.7s,baz=345,slow=8.6,SNR=4.3								
AS31	**Alice Springs**	**48.37**	**167**	*e*P			**P**	**21 25 59.3**	**+0.3**
	2.0nm,1.4s								
ASAR	**Alice Springs**	**48.37**	**167**	P			**P**	**21 25 59.3**	**+0.3**
	0.4nm,0.6s,baz=355,slow=15,SNR=5.1								
NRIK	**Noril'sk**	**50.21**	**344**	LR			LR	21 49 46.7	
	comp=Z,53nm,18.8s,baz=100,slow=39								
ABKAR	**Akbulak array**	**55.05**	**314**	*e*P			**P**	**21 26 48.5**	**-0.2**
	13nm,0.5s								
ARU	**Arti**	**56.53**	**323**	*e*P			**P**	**21 26 56.9**	**-2.2**
	2.5nm,0.7s								
GEYT	**Alibeck**	**56.64**	**301**	P			**P**	**21 27 01.6**	**+1.4**
	10nm,0.7s,baz=46,slow=4.2,SNR=4.4								
STKA	**Stephens Creek**	**58.13**	**162**	P			**P**	**21 27 11.2**	**+0.6**
	1.4nm,0.8s,baz=338,slow=5.2,SNR=4.7								
STKA	**Stephens Creek**	**58.13**	**162**	*e*P			**P**	**21 27 11.2**	**+0.6**
	9.0nm,2.0s								
TT01	**Tatalina**	**64.78**	**30**	*e*P			**P**	**21 27 54.7**	**-0.6**
SVW2	**Sparrevohn**	**65.11**	**32**	*e*P			**P**	**21 27 55.4**	**-2.0**
	30nm,1.8s								
PPLA	**Purkeypile**	**66.53**	**30**	*e*P			**P**	**21 28 05.5**	**-1.2**
	31nm,1.8s								
KBZ	**Khabaz**	**67.19**	**309**	P			**P**	**21 28 12.6**	**+1.6**
	0.8nm,0.6s,baz=99,slow=11,SNR=3.1								
ILAR	**Eielson Array**	**68.58**	**27**	P			**P**	**21 28 20.6**	**+1.2**
	0.3nm,0.6s,baz=298,slow=8.8,SNR=6.2								
ILB	**Eielson Array**	**68.58**	**27**	*e*P			**P**	**21 28 20.6**	**+1.2**
FIA1	**FINESS Array S**	**72.69**	**330**	*e*P			**P**	**21 28 44.4**	**-0.1**
FIA0	**FINESS Array S**	**72.69**	**330**	*e*P			**P**	**21 28 44.4**	**-0.1**
FINES	**FINESS Array B**	**72.69**	**330**	P			**P**	**21 28 44.4**	**-0.1**
	2.1nm,0.8s,baz=57,slow=7.0,SNR=7.1								
FINES				LR			LR	22 04 18.2	
	comp=Z,68nm,18.1s,baz=40,slow=39								
AKASG	**Malin Array Be**	**74.39**	**319**	P			**P**	**21 28 54.1**	**-0.6**
	0.7nm,0.5s,baz=52,slow=5.5,SNR=4.5								
AKBB	**Malin Array Si**	**74.39**	**319**	*e*P			**P**	**21 28 54.1**	**-0.6**
	2.2nm,0.8s								
BR101	**Keskin Array S**	**74.93**	**307**	*e*P			**P**	**21 28 59.2**	**+1.0**
BRTR	**Keskin Array B**	**74.93**	**307**	P			**P**	**21 28 59.2**	**+1.0**
	2.5nm,0.7s,baz=101,slow=6.1,SNR=17								
BR231	**Keskin MP Arra**	**75.52**	**307**	*e*P			**P**	**21 28 59.7**	**-1.9**
NB2	**NORSAR Subarra**	**79.40**	**333**	P			**P**	**21 29 22.3**	**-0.5**
	comp=Z,1.0nm,0.5s,baz=55,slow=5.9								
NB200	**NORSAR Array S**	**79.40**	**333**	*e*P			**P**	**21 29 22.5**	**-0.3**
NOA	**NORSAR Array B**	**79.40**	**333**	P			**P**	**21 29 22.5**	**-0.3**
	comp=Z,1.2nm,0.6s,baz=57,slow=5.9,SNR=5.0								
NOA				LR			LR	22 08 26.1	
	comp=Z,42nm,18.7s,baz=40,slow=39								
YKA	**Yellowknife Ar**	**82.47**	**23**	P			**P**	**21 29 39.6**	**+0.5**
	comp=Z,0.7nm,0.7s,baz=307,slow=5.2,SNR=4.1								
YKB5	**Yellowknife Ar**	**82.47**	**23**	*e*P			**P**	**21 29 39.6**	**+0.5**
CLL	**Collm**	**83.47**	**324**	*e*pP			pP	21 29 59.0	+6.0
GERES	**GERESS Array B**	**84.31**	**321**	P			**P**	**21 29 49.5**	**+0.6**
	comp=Z,0.9nm,0.6s,baz=146,slow=2.6,SNR=5.7								

IDC 11 21:30:00.6±7.6, 17.˚77S×173.˚97W, h276km±223km, mb3.6/4, mb1 3.7/5, mb1mx3.2/34, mbtmp4.3/5, Error ellipse: s-maj=241.0km s-min=32.1km az=71.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time	Res
								h m s	ISC
AFI	**Afiamalu**	**4.38**	**29**	P			Pn	21 31 12.0	+2.0
	24nm,0.3s,baz=186,slow=2.3,SNR=22								
AFI				S			S	21 32 04.9	-0.7
	19nm,0.3s,baz=263,slow=15,SNR=9.4								
URZ	**Urewera**	**21.86**	**199**	P			P	21 34 31.1	0.0
	6.2nm,0.4s,baz=271,slow=3.1,SNR=9.4								
STKA	**Stephens Creek**	**42.41**	**242**	P			P	21 37 27.6	-1.1
	1.5nm,0.8s,baz=62,slow=8.1,SNR=3.7								
WRA	**Warramunga Arr**	**48.81**	**259**	P			P	21 38 18.7	0.0
	0.7nm,0.4s,baz=98,slow=6.9,SNR=16								
ASAR	**Alice Springs**	**48.89**	**254**	P			P	21 38 19.4	+0.1
	4.1nm,0.6s,baz=89,slow=8.7,SNR=70								

DDA ***11*** *21:30:19.9,38.˚98N×27.˚63E, h17km, Md2.7*

ISCJB ***11*** *21:30:20.5±0.5, 39.˚00N±0.˚03×27.˚61E±0.˚03, h8km±5km, Error ellipse: s-maj=4.8km s-min=3.7km az=44.8*

CSEM ***11*** *21:30:20.5±0.2, 38.˚99N×27.˚60E, h10km, MD2.7, Error ellipse: s-maj=4.2km s-min=3.6km az=162.0*

ISK ***11*** *21:30:20.1,39.˚01N×27.˚61E, h7km, MD2.7*

ISC 11 21:30:20.3±0.9, 39.˚00N±0.˚03×27.˚60E±0.˚02, h13km±7km, n29, σ0§49/47, Turkey

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time	Res
								h m s	ISC
AKHS	**Akhisar**	**0.20**	**125**	*i* P			**Pg**	**21 30 24.6**	**-0.2**
AKHS				*i* S			**Sg**	**21 30 27.8**	**-0.1**
AKHS	**Akhisar**	**0.20**	**125**	P			**Pg**	**21 30 24.6**	**-0.2**
AKHS				S			**Sg**	**21 30 27.8**	**-0.1**
AKS	**Akhisar**	**0.20**	**125**	*e*PG			**Pg**	**21 30 24.7**	**-0.1**
AKS				*e*SG			**Sg**	**21 30 28.2**	**+0.4**
AKS	**Akhisar**	**0.20**	**125**	*e*Pg			**Pg**	**21 30 24.7**	**-0.1**
AKS				*e*Sg			**Sg**	**21 30 28.2**	**+0.4**
BALB	**Balikesir**	**0.68**	**19**	*e*PG			**Pg**	**21 30 33.6**	**0.0**
BALB				*e*SG			**Sb**	**21 30 43.3**	**-0.1**
BALY	**Balya**	**0.74**	**1**	*i* P			**Pb**	**21 30 35.4**	**+0.2**
BALY				*i* S			**Sb**	**21 30 45.5**	**+0.1**
BALY	**Balya**	**0.74**	**1**	P			**Pb**	**21 30 35.4**	**+0.2**
BALY				S			**Sb**	**21 30 45.5**	**+0.1**
AYVA	**Ayvalik**	**0.77**	**294**	*i* P			**Pg**	**21 30 33.8**	**-1.5**
AYVA				*i* S			**Sb**	**21 30 47.0**	**+0.9**
AYVA	**Ayvalik**	**0.77**	**294**	P			**Pg**	**21 30 33.8**	**-1.5**
AYVA				S			**Sb**	**21 30 47.0**	**+0.9**
DEMI	**Demirci**	**0.87**	**87**	*i* P			**Pb**	**21 30 37.4**	**-0.1**
DEMI				*i* S			**Sb**	**21 30 48.6**	**-0.4**
DEMI	**Demirci**	**0.87**	**87**	P			**Pb**	**21 30 37.3**	**-0.1**
DEMI				S			**Sb**	**21 30 48.6**	**-0.4**
KULA	**Kula-Manisa**	**0.96**	**120**	*e*PG			**Pb**	**21 30 39.0**	**+0.1**
KULA				*e*SG			**Sn**	**21 30 52.7**	**-0.5**
URLA	**Izmir**	**1.01**	**231**	*e*PG			**Pn**	**21 30 40.1**	**-0.1**
URLA				*e*SG			**Sn**	**21 30 54.8**	**+0.4**
URLA	**Izmir**	**1.01**	**231**	*i* P			**Pg**	**21 30 39.4**	**-0.4**
URLA				*i* S			**Sn**	**21 30 53.9**	**-0.5**
URLA	**Izmir**	**1.01**	**231**	P			**Pg**	**21 30 39.4**	**-0.4**
URLA	**Izmir**	**1.01**	**231**	*e*Pg			**Pn**	**21 30 40.2**	**-0.1**
URLA				S			**Sn**	**21 30 53.9**	**-0.5**
URLA				*e*Sg			**Sn**	**21 30 54.8**	**+0.4**
AYDB	**Zeytinkoy-Aydi**	**1.07**	**168**	*e*PN			**Pb**	**21 30 40.8**	**0.0**
AYDB	**Zeytinkoy-Aydi**	**1.07**	**168**	*e*Pn			**Pb**	**21 30 40.8**	**0.0**
SIMA	**Simav-Kutahya**	**1.08**	**85**	*e*PN			**Pn**	**21 30 41.1**	**-0.2**
DGB	**¯zmir**	**1.10**	**211**	*i* P			**Pb**	**21 30 41.0**	**-0.2**
DGB				*i* S			**Sb**	**21 30 55.6**	**+0.2**
ZEY	**¯zmir**	**1.14**	**229**	*i* P			**Pn**	**21 30 42.3**	**+0.2**
ZEY				*i* S			**Sn**	**21 30 58.2**	**+0.6**
CHOS	**Chios island**	**1.35**	**244**	*e*PN			**Pg**	**21 30 46.5**	**+0.1**
CHOS	**Chios island**	**1.35**	**244**	*e*Pn			**Pg**	**21 30 46.5**	**+0.1**
KCTX	**Karacabey (Bur**	**1.40**	**24**	*e*PN			**Pb**	**21 30 46.2**	**-0.1**
KCTX	**Karacabey (Bur**	**1.40**	**24**	*e*Pn			**Pb**	**21 30 46.2**	**-0.1**
TVSB	**Tavsanli**	**1.52**	**72**	*e*PN			**Pb**	**21 30 48.3**	**-0.1**
TVSB	**Tavsanli**	**1.52**	**72**	*e*Pn			**Pb**	**21 30 48.3**	**-0.1**
MRMT	**Marmara Adasi**	**1.61**	**360**	*e*PN			**Pn**	**21 30 49.3**	**+0.8**
MRMT	**Marmara Adasi**	**1.61**	**360**	*e*Pn			**Pn**	**21 30 49.3**	**+0.8**

WEL 11 21:37:06.5±0.2, 45.˚30S×166.˚64E, h12km, ML3.6/14, 2C-2D, Error ellipse: s-maj=1.7km s-min=0.9km az=90.0, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time	Res
								h m s	ISC
DCZ	**Deep Cove**	**0.40**	**115**	P*			Pg	21 37 14.9	+0.5
DCZ				S*			Sg	21 37 20.3	+0.5
DCZ					AML		AML	21 37 20.6	
DCZ					AML		AML	21 37 21.2	
DCZ					AML		AML	21 37 21.2	
PYZ	**Puysegur Point**	**0.87**	**178**	⇑P*			Pg	21 37 22.5	-0.8
PYZ				*e*S*			Sb	21 37 35.2	0.0
PYZ					AML		AML	21 37 37.2	
PYZ					AML		AML	21 37 37.2	
PYZ					AML		AML	21 37 37.3	
MLZ	**Mavora Lakes**	**1.05**	**94**	⇓P*			Pb	21 37 25.6	-1.0
MLZ					AML		AML	21 37 45.8	
MLZ					AML		AML	21 37 51.8	
WHZ	**Wether Hill Ro**	**1.09**	**123**	⇓P*			Pb	21 37 26.3	-1.1
WHZ				S*			Sb	21 37 40.6	-1.1
WHZ					AML		AML	21 37 47.4	
MSZ	**Milford Sound**	**1.11**	**56**	⇑P*			Pb	21 37 26.5	-1.1
MSZ				*e*S*			Sb	21 37 41.9	0.0
MSZ					AML		AML	21 37 46.3	
MSZ					AML		AML	21 37 46.8	
MSZ					AML		AML	21 37 46.8	
WKZ	**Wanaka**	**1.75**	**75**	*e*PN			Pb	21 37 37.8	-0.8
WKZ					AML		AML	21 38 05.5	
WKZ					AML		AML	21 38 05.6	
WKZ					AML		AML	21 38 08.0	
APZ	**The Paps**	**1.80**	**149**	PN			Pb	21 37 39.0	-0.4
APZ					AML		AML	21 38 06.8	
APZ					AML		AML	21 38 09.3	
EAZ	**Earnscleugh**	**1.89**	**89**	PN			Pn	21 37 39.3	+0.8
EAZ					AML		AML	21 38 06.8	
EAZ					AML		AML	21 38 06.8	
EAZ					AML		AML	21 38 07.4	
EAZ					AML		AML	21 38 07.4	
JCZ	**Jackson Bay**	**1.96**	**52**	*e*PN			Pn	21 37 38.5	-1.1
JCZ					AML		AML	21 38 11.7	
JCZ					AML		AML	21 38 15.4	
SYZ	**Scrubby Hill**	**2.14**	**126**	PN			Pn	21 37 42.5	+0.4
SYZ					AML		AML	21 38 13.8	
SYZ					AML		AML	21 38 13.8	
TUZ	**Tuapeka**	**2.20**	**108**	*e*PN			Pn	21 37 43.3	+0.5
TUZ					AML		AML	21 38 15.2	
TUZ					AML		AML	21 38 15.3	
TUZ					AML		AML	21 38 15.9	
TUZ					AML		AML	21 38 15.9	
LBZ	**Lake Benmore**	**2.68**	**71**	PN			Pn	21 37 50.9	+1.4
LBZ					AML		AML	21 38 48.0	
LBZ					AML		AML	21 39 05.7	
ODZ	**Otahua Downs**	**2.85**	**86**	PN			Pn	21 37 51.2	-0.5
FOZ	**Fox Glacier**	**2.88**	**53**	AML			AML	21 38 42.4	
FOZ					AML		AML	21 39 37.9	
RPZ	**Rata Peaks**	**3.53**	**65**	AML			AML	21 40 10.8	

ISK ***11*** *21:47:28.8,38.˚69N×31.˚11E, h5km, MD2.7*

ISCJB ***11*** *21:47:29.5±0.5, 38.˚71N±0.˚03×31.˚09E±0.˚04, h8km±4km, Error ellipse: s-maj=5.0km s-min=4.7km az=161.6*

CSEM ***11*** *21:47:29.2±0.1, 38.˚70N×31.˚09E, h6km, MD2.8, Error ellipse: s-maj=3.1km s-min=2.7km az=30.0*

DDA ***11*** *21:47:29.2,38.˚71N×31.˚09E, h7km, Md2.8*

ISC 11 21:47:29.3±0.9, 38.˚71N±0.˚03×31.˚09E±0.˚03, h9km±7km, n30, σ0§52/46, Turkey

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time	Res
								h m s	ISC
BOLV	**Bolvadin**	**0.11**	**273**	*i* P			**Pg**	**21 47 32.2**	**+0.1**
BOLV				*i* S			**Sg**	**21 47 33.9**	**-0.2**
BOLV	**Bolvadin**	**0.11**	**273**	P			**Pg**	**21 47 32.2**	**+0.1**
BOLV				S			**Sg**	**21 47 33.9**	**-0.2**
SHUT	**Suhut-Afyon**	**0.45**	**250**	*e*PG			**Pg**	**21 47 38.2**	**0.0**
SHUT				*e*SG			**Sg**	**21 47 45.0**	**+0.8**
SHUT	**Suhut-Afyon**	**0.45**	**250**	*e*Pg			**Pg**	**21 47 38.2**	**0.0**
SHUT				*e*Sg			**Sg**	**21 47 45.0**	**+0.8**
KIZT	**Kizilcal**	**0.64**	**75**	*e*PG			**Pg**	**21 47 41.5**	**-0.2**
KIZT	**Kizilcal**	**0.64**	**75**	*e*Pg			**Pg**	**21 47 41.5**	**-0.2**
SVRH	**Sivrihisar-ESK**	**0.81**	**24**	*e*PG			**Pb**	**21 47 45.5**	**-0.1**
SVRH				*e*SG			**Sb**	**21 47 56.6**	**+0.1**
SVRH	**Sivrihisar-ESK**	**0.81**	**24**	*e*Pg			**Pb**	**21 47 45.5**	**-0.1**
SVRH				*e*Sg			**Sb**	**21 47 56.7**	**+0.1**
KDHN	**Kadinhani**	**0.82**	**103**	*i* P			**Pg**	**21 47 45.1**	**-0.1**
KDHN				*i* S			**Sb**	**21 47 57.3**	**+0.2**
KDHN	**Kadinhani**	**0.82**	**103**	P			**Pg**	**21 47 45.1**	**-0.1**
KDHN				S			**Sb**	**21 47 57.3**	**+0.2**

ESKT	**Eskisehir**	**0.83**	**347**	*i* P		**Pb**	**21 47 45.9**	**-0.1**
ESKT				*i* S		**Sg**	**21 47 55.0**	**-1.1**
SEYT	**Eskypehyr**	**0.83**	**347**	P		**Pb**	**21 47 45.9**	**-0.1**
SEYT				S		**Sg**	**21 47 55.0**	**-1.1**
SUTC	**Sutluce-Ispart**	**1.24**	**183**	*e*PN		**Pg**	**21 47 52.5**	**-0.6**
SUTC				*e*SN		**Sn**	**21 48 09.7**	**0.0**
SUTC	**Sutluce-Ispart**	**1.24**	**183**	*e*Pn		**Pg**	**21 47 52.5**	**-0.6**
SUTC				*e*Sn		**Sn**	**21 48 09.7**	**0.0**
KONT	**Konya--Tatoy**	**1.26**	**127**	*e*PN		**Pg**	**21 47 52.8**	**-0.7**
KONT				*e*SN		**Sn**	**21 48 10.2**	**0.0**
KONT	**Konya--Tatoy**	**1.26**	**127**	*i* P		**Pn**	**21 47 53.3**	**+0.2**
KONT	**Konya--Tatoy**	**1.26**	**127**	*e*Pn		**Pg**	**21 47 52.8**	**-0.7**
KONT				*e*Sn		**Sn**	**21 48 10.2**	**0.0**
BORA	**Eskisehir**	**1.27**	**337**	*i* P		**Pn**	**21 47 52.6**	**-0.7**
BORA				*i* S		**Sg**	**21 48 09.8**	**-0.3**
BORA	**Eskisehir**	**1.27**	**337**	P		**Pn**	**21 47 52.6**	**-0.7**
BORA				S		**Sg**	**21 48 09.8**	**-0.3**
KHL	**Karahalli**	**1.29**	**253**	*e*PN		**Pn**	**21 47 53.6**	**0.0**
KHL	**Karahalli**	**1.29**	**253**	*e*Pn		**Pn**	**21 47 53.6**	**0.0**
KMER	**Konya-Meram**	**1.38**	**133**	*i* P		**Pb**	**21 47 55.3**	**0.0**
KMER	**Konya-Meram**	**1.38**	**133**	P		**Pb**	**21 47 55.3**	**0.0**
CHBY	**Cihanbeyli**	**1.41**	**95**	*e*PN		**Pn**	**21 47 55.7**	**+0.4**
CHBY	**Cihanbeyli**	**1.41**	**95**	*e*Pn		**Pn**	**21 47 55.7**	**+0.4**
TVSB	**Tavsanli**	**1.47**	**301**	*e*PN		**Pb**	**21 47 56.8**	**-0.1**
TVSB	**Tavsanli**	**1.47**	**301**	*e*Pn		**Pb**	**21 47 56.8**	**-0.1**
KKUL	**Konya-Kulu**	**1.49**	**72**	*i* P		**Pg**	**21 47 59.2**	**+1.2**
GULT	**Gulveren**	**1.77**	**346**	*e*PN		**Pn**	**21 48 01.4**	**+1.1**
GULT	**Gulveren**	**1.77**	**346**	*e*Pn		**Pn**	**21 48 01.4**	**+1.1**

NIED ***11*** *21:48:00,35.˚60N×140.˚10E, h80km, Mw3.9 Best double couple: M₀8.92000×10¹⁴ NP1:φs164.00000°,δ23.00000°, λ36.00000°. NP2:φs40.00000°,δ77.00000°,λ109.00000°.*

ISCJB ***11*** *21:48:23.1±0.5, 35.˚53N±0.˚04×140.˚04E±0.˚06, h79km±4km, mb3.6/8, Error ellipse: s-maj=8.4km s-min=5.7km az=157.0*

JMA ***11*** *21:48:23.7±0.2, 35.˚61N×140.˚03E, h70km±2km, M3.6 Broadband fault plane solution: P waves. NP1: φs44.00000°,δ75.00000°,λ91.00000°. NP2:φs220.00000°, δ15.00000°,λ87.00000°. Principal axes: T Plg60.0000°, Azm315.0000°; N Plg1.0000°, Azm223.0000°; P Plg30.0000°, Azm133.0000°;*

JMA Felt I J1.

IDC ***11*** *21:48:24.6±2.0, 35.˚49N×140.˚07E, h80km±18km, mb3.5/8, mb1 3.6/11,mb1mx3.4/34,mbtmp3.8/11,MS2.3/2, Ms1 2.3/2,ms1mx2.2/23 Error ellipse: s-maj=33.1km s-min=6.8km az=67.0*

ISC 11 21:48:24.4±0.8, 35.˚54N±0.˚04×140.˚02E±0.˚06, h75km±6km, n30, σ1§11/33, mb3.7/8, 5C-3D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time	Res
								h m s	ISC
JCN	**Nagara**	**0.19**	**131**	⇑P			**P

ROC1	**El Roble**	**0.61**	**289**	*e*P		**Pg**	**22 15 12.8**	**0.0**
ROC1				⇓*e*S		**Sn**	**22 15 27.6**	**+1.4**
AUSP	**Uspallata**	**1.24**	**40**	*e*P		**Pg**	**22 15 22.6**	**-2.3**
AAGR	**Agrelo**	**1.27**	**86**	*e*P		**Pb**	**22 15 25.0**	**-0.2**
ASAL	**Salagasta**	**1.39**	**65**	*e*P		**Pn**	**22 15 26.1**	**-0.7**
RTLS	**Leoncito**	**1.63**	**33**	*e*P		**Pg**	**22 15 33.6**	**+1.3**
RTLS				IAML			22 15 37.8	
	comp=Z,65nm,0.3s							
RTLS				*i* S		**Sg**	**22 15 57.6**	**+4.1**
ACCO	**Cerro Coronel**	**2.80**	**23**	*e*P		**Pb**	**22 15 52.2**	**+0.7**
ACAN	**Cantantal**	**2.80**	**72**	*e*P		**Pb**	**22 15 50.2**	**-1.1**
AROD	**Rodeo**	**3.09**	**14**	*e*P		**Pb**	**22 15 57.3**	**+0.9**
AVFE	**Valle Fertil**	**3.51**	**45**	*e*P		**Pb**	**22 16 02.1**	**-1.2**
AGUA	**GUANDACOL**	**4.00**	**24**	*e*P		**Pb**	**22 16 09.3**	**-2.5**

ISCJB ***11*** *22:29:39.1±2.1,30˚36S±0˚06×176˚6W±0˚2,h16km, mb3.9/3,Error ellipse: s-maj=29.2km s-min=7.3km az=171.2*

IDC ***11*** *22:29:43.0±2.2,28˚06S×177˚42W,h0km,mb3.9/3, mb1 4.1/3,mb1mx3.6/28,mbtmp3.9/3,Error ellipse: s-maj=52.1km s-min=23.3km az=98.0*

ISC 11 22:29:39.9±1.6,**30˚22S**±0˚08×**176˚5W**±0˚2,**h16**km,**n13,** σ1§**86**/15,**mb3.9/3,Kermadec Islands region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**1.59**	**307**	Pn	**Pn**	**22 30 08.1**	**+0.6**
	127nm,0.3s,baz=22,slow=13,SNR=18						
RAO				Sn	**Sn**	**22 30 26.5**	**-1.2**
	1μm,0.3s,baz=74,slow=20,SNR=10						
WMGZ	**Waiomatatini S**	**8.69**	**208**	*e*PN	**Pn**	**22 31 45.6**	**+0.7**
HAZ	**Te Kaha**	**8.90**	**211**	*e*PN	**Pn**	**22 31 48.1**	**+0.2**
HAZ				*e*SN	**Sn**	**22 33 29.2**	**+1.4**
PUZ	**Puketiti**	**8.97**	**208**	*e*PN	**Pn**	**22 31 48.2**	**-0.6**
PUZ				*e*SN	**Sn**	**22 33 28.2**	**-1.3**
URZ	**Urewera**	**9.62**	**212**	*e*PN	**Pn**	**22 31 56.3**	**-1.4**
KNZ	**Kokohu**	**10.02**	**207**	*e*PN	**Pn**	**22 32 01.2**	**-1.9**
OXZ	**Oxford**	**15.98**	**212**	*e*SN	Sn	22 36 07.3	-13
STKA	**Stephens Creek**	**35.81**	**256**	P	**P**	**22 36 40.9**	**+2.2**
	0.9nm,0.7s,baz=108,slow=12,SNR=4.7						
ASAR	**Alice Springs**	**44.45**	**266**	P	**P**	**22 37 51.3**	**+0.9**
	1.0nm,0.6s,baz=105,slow=8.2,SNR=11						
WRA	**Warramunga Arr**	**45.42**	**271**	P	**P**	**22 37 57.6**	**-0.6**
	0.8nm,0.3s,baz=110,slow=8.0,SNR=12						
FINES	**FINESS Array B**	**145.42**	**341**	PKP	**PKPab**	**22 49 17.5**	**+0.9**
	4.8nm,0.6s,baz=55,slow=2.2,SNR=32						
AKASG	**Malin Array Be**	**151.95**	**324**	PKPbc	**PKPbc**	**22 49 35.3**	**+1.5**
	0.8nm,0.4s,baz=48,slow=3.1,SNR=5.3						
BRTR	**Keskin Array B**	**153.68**	**299**	PKPab	**PKPab**	**22 49 46.5**	**-4.5**
	0.4nm,0.8s,baz=52,slow=2.6,SNR=3.3						

NIED ***11*** *22:30:00,36˚70N×142˚10E,h14km,Mw4.4 Best double couple: M0 5.16000×10^15 NP1:φ=223.00000°,δ=14.00000°, λ=116.00000°. NP2:φ=16.00000°,δ=77.00000°,λ=84.00000°.*

BJI ***11*** *22:30:35.3,36˚13N×142˚38E,h15km,mb4.7/27,mB4.8/15, Ms4.2/13,Ms7 4.1/13*

ISCJB ***11*** *22:30:39.9±0.3,36˚73N±0˚03×142˚20E±0˚04,h19km, mb4.5/49,MS3.8/15,Error ellipse: s-maj=5.1km s-min=3.6km az=26.6*

NEIC ***11*** *22:30:40.6±2.6,36˚71N×142˚29E,h15km±16km,mb4.8/15, Error ellipse: s-maj=9.0km s-min=6.1km az=129.0*

NEIC Recorded [1 JMA] in Miyagi.

JMA ***11*** *22:30:41.4±0.3,36˚72N×142˚14E,h41km,M4.4*

JMA Felt I J1.

IDC ***11*** *22:30:43.7±4.0,36˚74N×142˚12E,h33km±29km,mb4.0/17, mb1 4.1/23,mb1mx3.9/50,mbtmp4.1/23,ML3.7/5,MS3.7/18, Ms1 3.7/18,ms1mx3.4/39,Error ellipse: s-maj=20.7km s-min=15.9km az=105.0*

MOS ***11*** *22:30:45.2±0.9,37˚01N×141˚92E,h42km,mb4.7/26,Error ellipse: s-maj=10.0km s-min=6.2km az=124.7*

ISC 11 22:30:41.6±0.5,**36.73N**±0˚04×**142.14E**±0˚05,**h19**km,**n153,** σ1§**43**/157,**mb4.5**/49,**MS3.9**/15,**5C-7D,Off east coast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ONAJ	**Iwakimizuishiy**	**1.13**	**289**	P	**Pn**	**22 31 01.2**	**-1.3**
JFK	**Kawauchi**	**1.19**	**303**	P	**Pn**	**22 31 01.9**	**-1.4**
JHO	**Hitachi**	**1.27**	**265**	P	**Pn**	**22 31 02.9**	**-1.4**
JMM	**Marumori**	**1.56**	**317**	P	**Pn**	**22 31 07.5**	**-0.8**
JMM				*e*S	**Sn**	**22 31 27.1**	**-0.9**
JFT	**Otama**	**1.64**	**299**	P	**Pn**	**22 31 09.5**	**+0.1**
JIO	**Ouri**	**1.83**	**340**	P	**Pn**	**22 31 11.4**	**-0.6**
JIO				*e*S	**Sn**	**22 31 34.0**	**-0.7**
JOU	**Okura**	**2.01**	**325**	P	**Pn**	**22 31 14.4**	**-0.1**
JAG	**Ashikaga**	**2.18**	**263**	P	**Pn**	**22 31 16.6**	**-0.3**
BSO1	**Boso 1**	**2.28**	**205**	P	**Pn**	**22 31 17.0**	**-0.7**
BSO1				*e*S	**Sn**	**22 31 44.8**	**-0.1**
JMK	**Ichinoseki**	**2.33**	**342**	P	**Pn**	**22 31 19.0**	**+0.1**
JYK	**Kaneyama**	**2.60**	**328**	P	**Pn**	**22 31 22.9**	**+0.3**
JRY	**Ryogami san**	**2.71**	**256**	P	**Pn**	**22 31 24.1**	**0.0**
JRY				*e*S	**Sn**	**22 31 56.0**	**-0.3**
JOM	**Ohasama**	**2.82**	**347**	P	**Pn**	**22 31 25.6**	**0.0**
JAW	**Awa shima**	**2.87**	**308**	P	**Pn**	**22 31 28.5**	**+2.2**
JOD2	**Odawara 2**	**2.87**	**240**	P	**Pn**	**22 31 26.3**	**-0.1**
MJA0	**Matsu Arr-Jizo**	**3.13**	**268**	*e*P	**Pn**	**22 31 31.5**	**+1.5**
MJA0				pmax	pmax		
	comp=Z,40nm,0.3s						
MJAR	**Matsushiro Arr**	**3.16**	**268**	Pn	**Pn**	**22 31 31.3**	**+0.9**
	comp=Z,40nm,0.3s,baz=95,slow=8.5,SNR=242						
MJAR				Sn	**Sb**	**22 32 13.7**	**-1.7**
	comp=Z,20nm,0.3s,baz=90,slow=14,SNR=5.4						
MJAR				LR	LR	22 32 59.9	
	comp=Z,1μm,18.5s,baz=115,slow=44						
MAJO	**Matsushiro**	**3.17**	**268**	*c iP*	**Pn**	**22 31 31.9**	**+1.5**
MAJO	**Matsushiro**	**3.17**	**268**	*e*Pn	**Pn**	**22 31 32.0**	**+1.6**
MJB9	**Matsu-Tunnel**	**3.17**	**268**	*e*Pn	**Pn**	**22 31 32.1**	**+1.6**
JHJ2	**Mitsune**	**4.08**	**208**	*e*Pn	**Pn**	**22 31 41.5**	**-1.5**
JHJ2				*e*Sn	**Sn**	**22 32 26.9**	**-3.4**
JHJ	**Hachijo jima 2**	**4.09**	**209**	Pn	**Pn**	**22 31 42.4**	**-0.7**
	comp=Z,56nm,0.3s,baz=323,slow=23,SNR=28						
JHJ				Sn	**Sn**	**22 32 26.2**	**-4.2**
	comp=Z,171nm,0.3s,baz=232,slow=23,SNR=14						
JHJ				LR	LR	22 33 39.5	
	comp=Z,131nm,19.5s,baz=316,slow=43						
INU	**Inuyama**	**4.37**	**253**	*e*Pn	**Pn**	**22 31 48.6**	**+1.6**
INU				*e*Sn	**Sn**	**22 32 39.5**	**+2.1**
ERM	**Erimo**	**5.34**	**8**	⇓*i* P	**Pn**	**22 32 01.2**	**+1.0**
ERM	**Erimo**	**5.34**	**8**	*e*Pn	**Pn**	**22 31 59.2**	**-1.0**
ERM				*e*Sn	**Sn**	**22 33 00.5**	**-0.6**
ASAJ	**Asahikawa**	**7.39**	**3**	Pn	**Pn**	**22 32 28.2**	**-0.2**
	comp=Z,3μm,0.3s,baz=89,slow=0.0,SNR=2.3						
ASAJ	**Asahikawa**	**7.39**	**3**	*e*Pn	**Pn**	**22 32 28.3**	**-0.1**
ASAJ				*e*Sn	**Sn**	**22 33 50.4**	**-1.2**
JNU	**Nakatsue**	**9.92**	**252**	Pn	**Pn**	**22 33 03.7**	**+0.5**
	comp=Z,0.3nm,0.3s,baz=61,slow=19,SNR=3.4						
VLA	**Vladivostok**	**10.13**	**312**	⇓P	**Pn**	**22 33 05.6**	**-0.3**
USRK	**Ussuriysk Ar.**	**10.74**	**317**	Pn	**Pn**	**22 33 15.0**	**+0.8**
	comp=Z,0.3nm,0.3s,baz=151,slow=12,SNR=6.4						
USRK				LR	LR	22 37 06.5	
	comp=Z,591nm,19.5s,baz=119,slow=36						
KSRS	**Korea Array**	**11.38**	**278**	Pn	**Pn**	**22 33 26.1**	**+3.1**
	comp=Z,0.2nm,0.3s,baz=92,slow=13,SNR=13						
KSRS				LR	LR	22 37 39.8	
	comp=Z,608nm,18.8s,baz=91,slow=36						
KS15	**Wonju Array Si**	**11.41**	**278**	*e*Pn	**Pn**	**22 33 26.1**	**+2.7**
KLR	**Kul'dur**	**14.60**	**332**	Pn	**Pn**	**22 34 08.6**	**+1.5**
	comp=Z,0.2nm,0.3s,baz=150,slow=20,SNR=2.4						
KLR				LR	LR	22 39 40.6	
	comp=Z,399nm,18.7s,baz=144,slow=37						
JOW	**Kunigami**	**15.36**	**234**	LR	LR	22 40 00.4	
	comp=Z,240nm,20.8s,baz=156,slow=36						
GUMO	**Guam**	**23.18**	**173**	LR	LR	22 43 38.2	
	comp=Z,44nm,21.0s,baz=11,slow=33						
MA2	**Magadan**	**23.53**	**11**	LR	LR	22 45 47.0	
	comp=Z,54nm,18.2s,baz=183,slow=38						
SEY	**Seymchan**	**26.98**	**10**	P	**P**	**22 36 21.1**	**-0.7**
	comp=Z,2.6nm,0.2s,baz=165,slow=20,SNR=2.1						
SMY	**Shemya**	**27.48**	**44**	*e*P	**P**	**22 36 24.5**	**-1.9**
SMY	**Shemya**	**27.48**	**44**	*e*P	**P**	**22 36 24.5**	**-1.9**
	comp=Z,342nm,1.8s						
H11N2	**WAKE ISLAND Hy**	**27.50**	**121**	T	T	23 05 49.6	
	baz=313,slow=75,SNR=52						
H11N1	**WAKE ISLAND Hy**	**27.50**	**121**	T	T	23 05 47.4	
	baz=313,slow=75,SNR=64						
H11N3	**WAKE ISLAND Hy**	**27.51**	**121**	T	T	23 05 52.5	
	baz=313,slow=75,SNR=54						
ENH	**Enshi**	**27.89**	**266**	*e*P	**P**	**22 36 29.9**	**-0.4**
	comp=Z,24nm,0.8s						

ULN	**Ulaanbaatar**	**28.00**	**304**	*c iP*		**P**	**22 36 31.8**	**+0.4**
ULN				pmax	pmax				
	comp=Z,14nm,1.2s								
ULN	**Ulaanbaatar**	**28.00**	**304**	*e*P		**P**	**22 36 31.9**	**+0.5**
	comp=Z,11nm,1.1s								
BOD	**Bodaibo**	**28.09**	**328**	*e*P		**P**	**22 36 31.3**	**-0.6**
BOD				pmax	pmax				
	comp=Z,12nm,1.4s								
H11S1	**WAKE ISLAND Hy**	**28.21**	**123**	T		T	23 06 50.9		
	baz=315,slow=76,SNR=54								
H11S3	**WAKE ISLAND Hy**	**28.21**	**123**	T		T	23 06 50.9		
	baz=315,slow=76,SNR=32								
H11S2	**WAKE ISLAND Hy**	**28.23**	**123**	T		T	23 06 50.9		
	baz=315,slow=76,SNR=28								
SONA1	**Songino Array**	**28.43**	**304**	*e*P		**P**	**22 36 35.6**	**+0.5**
SONA0	**Songino Array**	**28.43**	**304**	*e*P		**P**	**22 36 35.0**	**-0.2**
	comp=Z,11nm,0.8s								
SONM	**Songino Array**	**28.43**	**304**	P		**P**	**22 36 35.0**	**-0.2**
	comp=Z,9.4nm,0.8s,baz=103,slow=8.8,SNR=43								
SONM				LR		LR	22 48 07.9		
	comp=Z,155nm,18.2s,baz=84,slow=37								
SONM	**Songino Array**	**28.43**	**304**	*e*P		**P**	**22 36 35.6**	**+0.4**
SONM				pmax	pmax				
	comp=Z,9.0nm,0.8s								
LZH	**Lanzhou**	**30.69**	**280**	*e*P		**P**	**22 36 55.3**	**0.0**
LZH				pmax	pmax				
	comp=Z,51nm,1.5s								
LZH				pmax	pmax				
	comp=Z,190nm,4.5s								
ZAK	**Zakamensk**	**30.91**	**309**	*e*P		**P**	**22 36 56.8**	**-0.3**
ZAK				pmax	pmax				
	comp=Z,60nm,1.2s								
TLY	**Talaya**	**30.97**	**311**	*e*P		**P**	**22 36 57.7**	**+0.3**
TLY				pmax	pmax				
	comp=Z,9.0nm,1.3s								
TLY				MLR	MLR				
	comp=Z,211nm,15.0s								
GTA	**Gaotai**	**33.20**	**288**	*e*P		**P**	**22 37 17.7**	**+0.3**
GTA				pP	sP		22 37 26.9	+1.3	
GTA				sP	pP		22 37 30.6	+7.4	
GTA				pmax	pmax				
	comp=Z,7.0nm,1.1s								
CM31	**Chiang Mai Arr**	**41.98**	**256**	*e*P		**P**	**22 38 31.9**	**+0.2**
CMAR	**Chiang Mai Arr**	**41.98**	**256**	P		**P**	**22 38 31.9**	**+0.2**
	comp=Z,1.2nm,0.4s,baz=46,slow=7.7,SNR=7.9								
CMAR				LR		LR	22 56 35.4		
	comp=Z,72nm,19.7s,baz=82,slow=37								
ZAA0	**Zalesovo Array**	**42.55**	**313**	*e*P		**P**	**22 38 36.1**	**+0.3**
ZAA1	**Zalesovo Array**	**42.55**	**313**	*e*P		**P**	**22 38 36.1**	**+0.3**
ZAA1				*e*PcP		**PcP**	**22 40 28.2**	**+0.2**
ZALV	**Zalesovo Beam**	**42.55**	**313**	P		**P**	**22 38 36.1**	**+0.3**
	comp=Z,6.6nm,1.0s,baz=90,slow=7.4,SNR=19								
ZALV				PcP		**PcP**	**22 40 28.2**	**+0.2**	
	comp=Z,1.7nm,0.8s,baz=64,slow=3.4,SNR=3.8								
ZALV				LR		LR	22 56 57.0		
	comp=Z,169nm,18.8s,baz=70,slow=37								
LSA	**Lhasa**	**42.81**	**276**	*e*P		**P**	**22 38 40.9**	**+2.0**
LSA				pmax	pmax				
	comp=Z,17nm,1.7s								
LSA	**Lhasa**	**42.81**	**276**	*e*P		**P**	**22 38 40.9**	**+2.0**
	comp=Z,17nm,1.7s								
NVS	**Novosibirsk**	**43.47**	**314**	*e*P		**P**	**22 38 42.7**	**-0.5**
NVS				pmax	pmax				
	comp=Z,6.0nm,1.1s								
NVS				pmax	pmax				
	comp=E,5.0nm,1.0s								
NRIK	**Noril'sk**	**43.78**	**335**	LR		LR	22 58 23.8		
	comp=E,181nm,18.3s,baz=100,slow=38								
MK01	**Makanchi Array**	**44.77**	**302**	*e*P		**P**	**22 38 53.7**	**-0.2**
MK31	**Makanchi Array**	**44.77**	**302**	*e*P		**P**	**22 38 54.2**	**+0.3**
MK31	**Makanchi Array**	**44.77**	**302**	*e*P		**P**	**22 38 54.2**	**+0.3**
MKAR	**Makanchi Array**	**44.77**	**302**	*e*P		**P**	**22 38 54.2**	**+0.3**
MKAR				pmax	pmax				
	comp=Z,23nm,0.8s								
MKAR	**Makanchi Array**	**44.77**	**302**	*e*P		**P**	**22 38 54.2**	**+0.3**
	comp=Z,23nm,0.8s								
PMG	**Port Moresby**	**46.13**	**173**	⇓P		P	22 39 10.6	+5.8	
KURK	**Kurchatov**	**46.57**	**308**	⇑*i* P		**P**	**22 39 08.0**	**0.0**
KURK				pmax	pmax				
	comp=Z,38nm,1.1s								
KURK	**Kurchatov**	**46.57**	**308**	*e*P		**P**	**22 39 07.9**	**-0.1**
	comp=Z,11nm,0.7s								
ODAN	**Odzer**	**47.01**	**274**	*e*P		**P**	**22 39 12.8**	**+0.7**
PDGK	**Podgornoye**	**47.43**	**298**	P		**P**	**22 39 14.7**	**-0.3**
PDGK				pmax	pmax				
	comp=Z,7.0nm,1.0s								
RAMN	**Ramite**	**47.60**	**275**	*e*P		**P**	**22 39 17.0**	**+0.3**
JIRN	**Jiri**	**47.62**	**276**	*e*P		**P**	**22 39 17.9**	**+0.9**
PKIN	**Phulchoki**	**48.29**	**276**	*e*P		**P**	**22 39 23.0**	**+1.0**
KKN	**Kakani**	**48.29**	**276**	*e*P		**P**	**22 39 23.4**	**+1.4**
DMN	**Daman**	**48.51**	**276**	*e*P		**P**	**22 39 24.8**	**+1.1**
GKN	**Gorkha**	**48.71**	**277**	*e*P		**P**	**22 39 25.6**	**+0.4**
	comp=Z,37nm,0.8s								
HNR	**Honiara**	**48.87**	**156**	LR		LR	22 58 58.8		
	comp=Z,68nm,19.4s,baz=119,slow=35								
IL1	**Eielson Array**	**49.44**	**32**	*e*P		**P**	**22 39 28.5**	**-1.5**
ILAR	**Eielson Array**	**49.44**	**32**	P		**P**	**22 39 30.3**	**+0.3**
	comp=Z,2.0nm,0.7s,baz=276,slow=7.4,SNR=16								
ILAR	**Eielson Array**	**49.44**	**32**	*e*P		**P**	**22 39 31.7**	**+1.7**
ILAR				pmax	pmax				
	comp=Z,2.0nm,0.7s								
PYUN	**Piuthan**	**49.98**	**278**	*e*P		**P**	**22 39 35.6**	**+0.7**
AAK	**Ala-Archa**	**51.14**	**299**	⇓*i* P		**P**	**22 39 44.0**	**+0.6**
AAK				pmax	pmax				
	comp=Z,4.0nm,1.1s								
BRVK	**Borovoye**	**51.26**	**313**	*d iP*		**P**	**22 39 44.7**	**+0.8**
BRVK				pmax	pmax				
	comp=Z,8.0nm,1.1s								
MNAS	**Manas**	**52.59**	**299**	P		**P**	**22 39 54.5**	**+0.3**
MNAS				pmax	pmax				
	comp=Z,6.0nm,0.9s								
KKAR	**Karatay Array**	**53.78**	**301**	*e*P		**P**	**22 40 04.3**	**+1.5**
KKAR				pmax	pmax				
	comp=Z,22nm,0.8s								
KKAR	**Karatay Array**	**53.78**	**301**	*e*P		**P**	**22 40 04.3**	**+1.5**
	comp=Z,22nm,0.8s								
SVE	**Sverdlovsk**	**55.76**	**319**	*e*P		**P**	**22 40 17.8**	**+0.9**
SVE				pmax	pmax				
	comp=Z,18nm,1.2s								
WR1	**Warramunga Arr**	**56.84**	**189**	*e*P		**P**	**22 40 24.9**	**0.0**
	comp=Z,12nm,1.1s								
WRA	**Warramunga Arr**	**56.84**	**189**	P		**P**	**22 40 24.9**	**0.0**
	comp=Z,0.9nm,0.7s,baz=5.8,slow=7.3,SNR=3.8								
ARU	**Arti**	**56.97**	**319**	*c iP*		**P**	**22 40 25.5**	**0.0**
ARU							22 41 19.5		
ARU							22 42 30.2		
ARU				PPP		PPP	22 43 51.0		
ARU				S		**S**	**22 48 17.3**	**-1.2**
ARU				SS		**SS**	**22 51 55.7**	**-11**
ARU				pmax	pmax				
	comp=Z,10.0nm,1.2s								
ARU				MLR	MLR				
	comp=Z,213nm,18.0s								
ARU	**Arti**	**56.97**	**319**	*e*P		**P**	**22 40 25.5**	**0.0**
	comp=Z,8.9nm,1.1s								
KBL	**Kabul**	**58.06**	**291**	*e*P		**P**	**22 40 33.8**	**0.0**
KBL				pmax	pmax				
	comp=Z,7.0nm,0.6s								
KBL	**Kabul**	**58.06**	**291**	*e*P		**P**	**22 40 33.8**	**0.0**
	comp=Z,6.9nm,0.6s								
ABKAR	**Akbulak array**	**58.58**	**310**	*e*P		**P**	**22 40 36.8**	**-0.2**
	comp=Z,32nm,0.8s								
AS31	**Alice Springs**	**60.57**	**189**	*e*P		**P**	**22 40 50.6**	**-0.2**
	comp=Z,1.4nm,1.0s								
ASAR	**Alice Springs**	**60.57**	**189**	P		**P**	**22 40 50.6**	**-0.3**
	comp=Z,0.9nm,0.8s,baz=353,slow=4.9,SNR=4.2								
ASAR	**Alice Springs**	**60.57**	**189**	*e*P		**P**	**22 40 53.2**	**+2.3**
ASAR				pmax	pmax				
	comp=Z,1.0nm,0.9s								
ARCES	**ARCESS Array B**	**64.48**	**340**	P		**P**	**22 41 15.2**	**-1.3**
	comp=Z,1.8nm,0.9s,baz=46,slow=23,SNR=2.5								
ARCES				LR		LR	23 14 37.1		
	comp=Z,79nm,18.4s,baz=44,slow=41								
GEYT	**Alibeck**	**64.49**	**299**	P		**P**	**22 41 16.2**	**-0.9**
	comp=Z,3.9nm,0.5s,baz=36,slow=8.2,SNR=6.6								
GEYT				LR		LR	23 10 57.2		
	comp=Z,54nm,18.9s,baz=155,slow=37								
COR	**Corvallis**	**68.23**	**50**	*e*P		**P**	**22 41 43.4**	**+2.6**
COR	**Corvallis**	**68.23**	**50**	*e*P		**P**	**22 41 43.4**	**+2.6**
	comp=Z,298nm,1.9s								
HOOD	**Mount Hood Mea**	**68.86**	**49**	*e*P		**P**	**22 41 44.2**	**-0.8**
FIA0	**FINESS Array S**	**69.35**	**333**	*e*P		**P**	**22 41 47.6**	**+0.1**
FIA0	**FINESS Array S**	**69.35**	**333**	*e*P		**P**	**22 41 47.6**	**+0.1**
FINES	**FINESS Array B**	**69.35**	**333**	P		**P**	**22 41 47.6**	**+0.1**
	comp=Z,3.3nm,0.8s,baz=76,slow=8.0,SNR=8.7								
FINES				LR		LR	23 14 34.7		
	comp=Z,104nm,18.1s,baz=32,slow=38								
VSU	**Vasula**	**71.01**	**330**	⇓*i* P		**P**	**22 41 58.1**	**+0.4**
VSU				pmax	pmax				
	comp=Z,69nm,1.8s								
KBZ	**Khabaz**	**71.54**	**311**	P		**P**	**22 42 01.9**	**+0.7**
	comp=Z,3.4nm,0.8s,baz=17,slow=4.9,SNR=8.8								
KIV	**Kislovodsk**	**71.54**	**311**	*e*P		**P**	**22 42 01.2**	**-0.2**
KIV				pmax	pmax				
	comp=Z,11nm,1.1s								
KIV				MLR	MLR				
	comp=Z,77nm,18.0s								
KIV	**Kislovodsk**	**71.54**	**311**	*e*P		**P**	**22 42 02.1**	**+0.7**
	comp=Z,9.4nm,0.9s								
GNI	**Garni**	**72.35**	**307**	⇑*i* P		**P**	**22 42 08.4**	**+2.0**
GNI				pmax	pmax				
	comp=Z,18nm,1.4s								
NB2	**NORSAR Subarra**	**74.69**	**338**	P		**P**	**22 42 19.3**	**-0.3**
	comp=Z,1.6nm,1.1s,baz=40,slow=5.9								
NB200	**NORSAR Array S**	**74.69**	**338**	*e*P		**P**	**22 42 18.8**	**-0.8**
NOA	**NORSAR Array B**	**74.69**	**338**	P		**P**	**22 42 18.8**	**-0.8**
	comp=Z,1.8nm,0.9s,baz=40,slow=5.6,SNR=4.5								
NOA	**NORSAR Array B**	**74.69**	**338**	*e*P		**P**	**22 42 19.4**	**-0.2**
NOA				pmax	pmax				
	comp=Z,2.0nm,0.9s								
AKASG	**Malin Array Be**	**74.89**	**323**	P		**P**	**22 42 20.5**	**-0.4**
	comp=Z,3.8nm,0.8s,baz=48,slow=6.2,SNR=8.8								
AKASG				LR		LR	23 18 44.6		
	comp=Z,75nm,18.6s,baz=35,slow=38								
AKBB	**Malin Array Si**	**74.89**	**323**	*e*P		**P**	**22 42 20.5**	**-0.4**
AKBB				pmax	pmax				
	comp=Z,5.0nm,0.8s								
AKBB	**Malin Array Si**	**74.89**	**323**	*e*P		**P**	**22 42 20.5**	**-0.4**
	comp=Z,4.7nm,0.8s								
SUW	**Suwalki**	**75.45**	**328**	P		**P**	**22 42 24.9**	**+0.8**
PD31	**Pinedale Array**	**77.47**	**46**	*e*P		**P**	**22 42 36.0**	**-0.1**
PDAR	**Pinedale Array**	**77.47**	**46**	P		**P**	**22 42 36.0**	**-0.1**
	comp=Z,0.2nm,0.5s,baz=265,slow=4.4,SNR=2.9								
KWP	**Kalwaria Pacla**	**78.71**	**325**	P		**P**	**22 42 43.2**	**+0.7**
VRI	**Vrincioaia**	**79.33**	**320**	P		**P**	**22 42 46.9**	**+0.9**
VRI				pmax	pmax				
	comp=Z,36nm,1.4s								
BR101	**Keskin Array S**	**79.48**	**312**	*e*P		**P**	**22 42 47.5**	**+0.4**
BRTR	**Keskin Array B**	**79.48**	**312**	P		**P**	**22 42 47.5**	**+0.4**
	comp=Z,2.1nm,1.0s,baz=96,slow=4.3,SNR=5.2								
OJC	**Ojcow**	**79.61**	**327**	P		**P**	**22 42 48.6**	**+1.2**
OJC				pmax	pmax				
	comp=Z,10.0nm,1.2s								
NIE	**Niedzica**	**79.97**	**326**	P		**P**	**22 42 49.9**	**+0.5**
NIE				pmax	pmax				
	comp=Z,2.0nm,1.2s								
DPC	**Dobruska-Polom**	**81.02**	**328**	*e*P		**P**	**22 42 55.7**	**+0.6**
DPC	**Dobruska-Polom**	**81.02**	**328**	*e*P		**P**	**22 42 55.7**	**+0.6**
KRLC	**Kraliky**	**81.03**	**328**	*e*P		**P**	**22 42 54.9**	**-0.2**
KRLC	**Kraliky**	**81.03**	**328**	*e*P		**P**	**22 42 54.9**	**-0.2**
VYHS	**Vyhne**	**81.30**	**326**	*e*P		**P**	**22 42 57.9**	**+1.3**
VYHS	**Vyhne**	**81.30**	**326**	*e*P		**P**	**22 42 57.9**	**+1.3**
CLL	**Collm**	**81.64**	**331**	*i* P		**P**	**22 42 58.1**	**-0.2**
CLL				pmax	pmax				
	comp=Z,4.0nm,0.8s								
CLL	**Collm**	**81.64**	**331**	*i* P		**P**	**22 42 58.1**	**-0.2**
	comp=Z,4.0nm,0.8s								
PRU	**Pruhonice**	**82.04**	**329**	*e*P		**P**	**22 43 01.2**	**+0.8**
PRU	**Pruhonice**	**82.04**	**329**	*e*P		**P**	**22 43 01.2**	**+0.8**
TREC	**Trest**	**82.17**	**

OCAC				*i*			22 49 30.0		
	comp=Z,68nm,0.4s								
ZARC	**Zaragoza, Cauc**	**1.87**	**291**	*e*P		**Pn**	**22 49 09.0**	**+0.8**
ZARC				*e*S		**Sn**	**22 49 33.2**	**-1.4**
ZARC				*i*			22 49 40.3		
	comp=Z,50nm,0.4s								
NORC	**Norcasia**	**2.15**	**235**	*e*S		**Sn**	**22 49 39.4**	**-1.0**
CHIC	**Chingaza**	**2.25**	**196**	*e*P		**Pn**	**22 49 13.5**	**+0.6**
CHIC				*i*			22 49 47.5		
	comp=Z,8.1nm,0.3s								
HELC	**Santa Helena**	**2.49**	**256**	*e*P		**Pn**	**22 49 17.0**	**+1.3**
HELC				*i*			22 49 49.8		
	comp=Z,8.9nm,0.3s								
VIGV	**El Vigia**	**2.65**	**40**	*e*P		**Pn**	**22 49 18.7**	**+1.3**
VIGV				*e*S		**Sn**	**22 49 51.4**	**+0.3**
SOCV	**Socops**	**2.66**	**56**	*e*P		**Pn**	**22 49 18.6**	**+1.1**
PRAC	**Prado**	**3.55**	**210**	*e*P		**Pn**	**22 49 29.4**	**+0.8**
PRAC				*e*S		**Sn**	**22 50 11.3**	**+0.1**
VIRV	**Villa del Rosa**	**3.73**	**11**	*e*P		**Pn**	**22 49 31.4**	**+0.4**
VIRV				*e*S		**Sn**	**22 50 13.2**	**-2.2**
CURV	**Curarigua**	**4.45**	**44**	*e*P		**Pn**	**22 49 40.2**	**-0.1**
BAUV	**El Baul**	**5.44**	**67**	*e*P		**Pn**	**22 49 52.8**	**-0.5**

DDA ***11*** *22:52:44.0, 38.°74N×31.°10E, h7km, Md2.9*
ISCJB ***11*** *22:52:44.7±0.6, 38.°70N±0.°05×31.°08E±0.°04, h5km±6km, Error ellipse: s-maj=8.2km s-min=4.9km az=26.6*
CSEM ***11*** *22:52:44.5±0.2, 38.°68N×31.°07E, h5km, MD2.9, Error ellipse: s-maj=5.3km s-min=3.4km az=15.0*
ISK ***11*** *22:52:44.6, 38.°64N×31.°05E, h9km, MD2.6*
ISC 11 22:52:44.6±0.9, 38.°69N±0.°05×31.°07E±0.°03, h8km±7km, n17, σ0.°43/30, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BOLV	**Bolvadin**	**0.10**	**285**	*i* P	**Pg**	**22 52 47.2**	**+0.1**
BOLV				*i* S	**Sg**	**22 52 48.8**	**-0.1**
BOLV	**Bolvadin**	**0.10**	**285**	P	**Pg**	**22 52 47.2**	**+0.1**
BOLV				S	**Sg**	**22 52 48.8**	**-0.1**
SHUT	**Suhut-Afyon**	**0.43**	**251**	*e*PG	**Pg**	**22 52 53.0**	**0.0**
SHUT				*e*SG	**Sg**	**22 52 59.1**	**+0.4**
SHUT	**Suhut-Afyon**	**0.43**	**251**	*e*Pg	**Pg**	**22 52 53.0**	**0.0**
SHUT				*e*Sg	**Sg**	**22 52 59.1**	**+0.4**
SVRH	**Sivrihisar-ESK**	**0.83**	**25**	*e*PG	**Pb**	**22 53 01.9**	**+0.6**
SVRH	**Sivrihisar-ESK**	**0.83**	**25**	*e*Pg	**Pb**	**22 53 02.0**	**+0.6**
KDHN	**Kadinhani**	**0.84**	**101**	*i* P	**Pg**	**22 53 00.0**	**-0.7**
KDHN				*i* S	**Sg**	**22 53 11.9**	**+0.3**
KDHN	**Kadinhani**	**0.84**	**101**	P	**Pg**	**22 53 00.0**	**-0.7**
KDHN				S	**Sg**	**22 53 11.9**	**+0.3**
KONT	**Konya--Tatoy**	**1.26**	**126**	*e*PN	**Pg**	**22 53 08.7**	**0.0**
KONT				*e*SN	**Sn**	**22 53 26.1**	**+0.6**
KONT	**Konya--Tatoy**	**1.26**	**126**	*i* P	**Pb**	**22 53 08.4**	**-0.1**
KONT				*i* S	**Sn**	**22 53 26.0**	**+0.4**
KONT	**Konya--Tatoy**	**1.26**	**126**	*e*Pn	**Pg**	**22 53 08.7**	**0.0**
KONT				*e*Sn	**Sn**	**22 53 26.1**	**+0.6**
BORA	**Eskisehir**	**1.28**	**338**	*i* P	**Pn**	**22 53 08.3**	**-0.5**
BORA				*i* S	**Sb**	**22 53 25.2**	**-0.4**
BORA	**Eskisehir**	**1.28**	**338**	P	**Pn**	**22 53 08.3**	**-0.5**
BORA				S	**Sb**	**22 53 25.2**	**-0.4**
CHBY	**Cihanbeyli**	**1.43**	**94**	*e*PN	**Pb**	**22 53 11.5**	**0.0**
CHBY				*e*SN	**Sg**	**22 53 31.1**	**+0.6**
CHBY	**Cihanbeyli**	**1.43**	**94**	*e*Pn	**Pb**	**22 53 11.5**	**0.0**
CHBY				*e*Sn	**Sg**	**22 53 31.2**	**+0.6**
TVSB	**Tavsanli**	**1.46**	**302**	*e*PN	**Pb**	**22 53 12.1**	**0.0**
TVSB	**Tavsanli**	**1.46**	**302**	*e*Pn	**Pb**	**22 53 12.1**	**0.0**

MEX 11 23:15:13.1±0.7, 18.°21N×103.°38W, h10km, MD3.5, Near coast of Michoacan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MMIG	**Aquila**	**0.09**	**19**	*e*P	Pg	23 15 14.4	-1.1
MMIG				*i* S	Sg	23 15 16.7	-0.6
R15V		**1.12**	**329**	*e*P	Pb	23 15 30.7	-3.9
R15V				*e*S	Sg	23 15 45.9	-3.3
EZ5V		**1.28**	**350**	*e*P	Pn	23 15 33.5	-3.9
EZ5V				*i* S	Sb	23 15 49.2	-5.1
ZIIG	**Zihuatanejo**	**1.92**	**108**	*e*P	Pn	23 15 42.5	-3.3
ZIIG				*e*S	Sn	23 16 05.9	-4.0
ARIG	**Puente Sto Nin**	**2.88**	**88**	*e*P	Pn	23 15 56.4	-2.7
ARIG				*e*S	Sn	23 16 30.4	-3.5

NIED ***11*** *23:19:00, 36.°60N×141.°60E, h17km, Mw4.3 Best double couple: M0 2.90000×10^15 NP1:φs317.00000°, δ9.00000°, λ-146.00000°. NP2:φs193.00000°, δ85.00000°, λ-82.00000°.*
ISCJB ***11*** *23:19:56.8±1.2, 36.°56N±0.°04×141.°65E±0.°06, h27km±7km, mb4.2/24, MS3.7/7, Error ellipse: s-maj=8.1km s-min=6.4km az=22.4*
JMA ***11*** *23:19:57.6±0.2, 36.°60N×141.°59E, h56km±3km, M4.4*
JMA Felt I J1.
NEIC ***11*** *23:19:59.8±1.3, 36.°44N×141.°68E, h41km±10km, mb4.4/8, Error ellipse: s-maj=13.0km s-min=8.7km az=133.0*
NEIC Recorded [1 JMA] in Fukushima and Miyagi.
IDC ***11*** *23:20:00.1±2.6, 36.°51N×141.°64E, h39km±22km, mb3.9/16, mb1 4.1/20, mb1mx3.9/51, mbtmp4.1/20, ML3.3/4, MS3.4/9, Ms1 3.4/9, ms1mx3.3/41, Error ellipse: s-maj=20.6km s-min=14.0km az=97.0*
ISC 11 23:19:56.1±3.3, 36.°59N±0.°05×141.°70E±0.°06, h12km±20km, n62, σ1.°48/57, mb4.2/24, MS3.9/6, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ONAJ	**Iwakimizuishiy**	**0.89**	**305**	P	**Pb**	**23 20 12.9**	**-0.6**
JHO	**Hitachi**	**0.91**	**271**	P	**Pb**	**23 20 13.1**	**-0.8**
JHO				S	**Sb**	**23 20 24.5**	**-1.5**
JFK	**Kawauchi**	**1.02**	**320**	P	**Pb**	**23 20 14.8**	**-0.9**
JYT	**Yasato**	**1.27**	**254**	P	**Pn**	**23 20 18.4**	**-1.3**
JFT	**Otama**	**1.43**	**311**	P	**Pn**	**23 20 21.6**	**-0.4**
JFT				*e*S	**Sn**	**23 20 38.2**	**-2.5**
JMM	**Marumori**	**1.46**	**330**	P	**Pn**	**23 20 21.1**	**-1.3**
JMM				*e*S	**Sn**	**23 20 38.5**	**-3.0**
JAG	**Ashikaga**	**1.82**	**265**	P	**Pn**	**23 20 26.3**	**-1.0**
JAG				S	**Sn**	**23 20 47.3**	**-3.0**
MJAR	**Matsushiro Arr**	**2.81**	**270**	Pn	**Pn**	**23 20 41.3**	**+0.3**
	30nm,0.3s,baz=90,slow=9.1,SNR=246						
MJAR				Sn	**Sn**	**23 21 18.3**	**+3.4**
	20nm,0.3s,baz=91,slow=13,SNR=9.1						
MJAR				LR	LR	23 21 56.6	
	comp=Z,825nm,19.2s,baz=110,slow=43						
MAJO	**Matsushiro**	**2.81**	**270**	*e*Pn	**Pn**	**23 20 41.9**	**+0.9**
MAT	**Matsushiro**	**2.81**	**270**	P	**Pn**	**23 20 41.8**	**+0.8**
MAT				S	**Sn**	**23 21 15.0**	**+0.1**
JHJ	**Hachijo jima 2**	**3.81**	**205**	Pn	**Pn**	**23 20 54.6**	**0.0**
	36nm,0.3s,baz=54,slow=19,SNR=11						
JHJ				Sn	**Sn**	**23 21 37.4**	**-2.0**
	49nm,0.3s,baz=67,slow=23,SNR=7.7						
JHJ				LR	LR	23 22 34.6	
	comp=Z,180nm,19.1s,baz=88,slow=42						
ASAJ	**Asahikawa**	**7.55**	**5**	Pn	**Pn**	**23 21 50.0**	**+4.1**
	baz=256,slow=0.0						
ASAJ				Sn	**Sn**	**23 23 08.3**	**-3.0**
	6μm,0.3s,baz=87,slow=0.1,SNR=8.0						
JNU	**Nakatsue**	**9.54**	**252**	Pn	**Pn**	**23 22 13.6**	**+0.1**
	0.1nm,0.3s,baz=57,slow=8.0,SNR=2.8						
USRK	**Ussuriysk Ar.**	**10.61**	**319**	Pn	**Pn**	**23 22 29.9**	**+2.0**
	0.3nm,0.3s,baz=148,slow=12,SNR=4.2						
USRK				LR	LR	23 26 29.0	
	comp=Z,354nm,18.1s,baz=121,slow=37						
KSRS	**Korea Array**	**11.05**	**279**	Pn	Pn	23 22 39.3	+5.3
	0.2nm,0.3s,baz=89,slow=13,SNR=21						
KSRS				LR	LR	23 26 47.4	
	comp=Z,323nm,18.9s,baz=92,slow=37						
KSAR	**Wonju Array Be**	**11.08**	**279**	Pn	Pn	23 22 39.2	+4.8
MDJ	**Mudanjiang**	**12.19**	**315**	Pn	**Pn**	**23 22 51.3**	**+1.7**
	12nm,0.6s						
KLR	**Kul'dur**	**14.56**	**333**	Pn	**P**	**23 23 26.8**	**-1.7**
	0.1nm,0.3s,baz=138,slow=17,SNR=2.6						
PETK	**Petropavlovsk-**	**19.95**	**29**	LR	LR	23 32 00.2	
	comp=Z,59nm,21.7s,baz=117,slow=36						
BJT	**Baijiatuau**	**20.31**	**287**	*e*P	**P**	**23 24 32.3**	**+0.5**
	13nm,0.7s						
GUMO	**Guam**	**23.08**	**172**	LR	LR	23 36 33.3	
	comp=Z,18nm,18.6s,baz=38,slow=43						
SEY	**Seymchan**	**27.18**	**11**	P	**P**	**23 25 40.7**	**+1.5**
	1.7nm,0.4s,baz=137,slow=5.7,SNR=3.7						
ENH	**Enshi**	**27.53**	**266**	*e*P	**P**	**23 25 42.0**	**-0.8**
	15nm,0.6s						

H11N2	**WAKE ISLAND Hy**	**27.72**	**120**	T	T		23 54 57.4		
	baz=313,slow=75,SNR=160								
H11N1	**WAKE ISLAND Hy**	**27.73**	**120**	T	T		23 54 57.4		
	baz=313,slow=75,SNR=104								
H11N3	**WAKE ISLAND Hy**	**27.74**	**120**	T	T		23 54 57.4		
	baz=313,slow=75,SNR=123								
ULN	**Ulaanbaatar**	**27.80**	**305**	*e*P	**P**		**23 25 45.5**	**+0.3**
	8.6nm,0.9s								
SONM	**Songino Array**	**28.23**	**305**	P	**P**		**23 25 49.1**	**+0.2**
	3.8nm,0.8s,baz=108,slow=8.8,SNR=20								
SONM				LR	LR		23 36 22.5		
	comp=Z,79nm,18.9s,baz=59,slow=35								
H11S1	**WAKE ISLAND Hy**	**28.43**	**123**	T	T		23 55 51.7		
	baz=314,slow=76,SNR=113								
H11S3	**WAKE ISLAND Hy**	**28.43**	**123**	T	T		23 55 55.4		
	baz=314,slow=76,SNR=64								
H11S2	**WAKE ISLAND Hy**	**28.44**	**123**	T	T		23 55 51.7		
	baz=314,slow=76,SNR=59								
CMAR	**Chiang Mai Arr**	**41.61**	**256**	P	**P**		**23 27 43.3**	**-1.0**
	0.7nm,0.4s,baz=48,slow=6.4,SNR=7.1								
ZALV	**Zalesovo Beam**	**42.38**	**313**	P	**P**		**23 27 49.8**	**-0.3**
	3.7nm,0.7s,baz=91,slow=6.3,SNR=17								
ZALV				LR	LR		23 46 18.9		
	comp=Z,91nm,18.1s,baz=70,slow=37								
KURK	**Kurchatov**	**46.39**	**308**	*e*P	**P**		**23 28 22.0**	**-0.2**
	54nm,0.8s								
RAMN	**Ramite**	**47.27**	**275**	*e*P	**P**		**23 28 29.7**	**0.0**
	30nm,0.8s								
PKIN	**Phulchoki**	**47.96**	**276**	*e*P	**P**		**23 28 35.9**	**+0.8**
KKN	**Kakani**	**47.96**	**276**	*e*P	**P**		**23 28 35.7**	**+0.6**
GKN	**Gorkha**	**48.39**	**277**	*e*P	**P**		**23 28 38.8**	**+0.5**
	19nm,0.8s								
PYUN	**Piuthan**	**49.66**	**278**	*e*P	**P**		**23 28 48.9**	**+0.8**
ILAR	**Eielson Array**	**49.74**	**32**	P	**P**		**23 28 47.9**	**-0.1**
	1.5nm,1.1s,baz=259,slow=5.9,SNR=7.4								
AAK	**Ala-Archa**	**50.90**	**299**	LR	LR		23 51 39.3		
	comp=Z,173nm,19.3s,baz=50,slow=37								
AAK	**Ala-Archa**	**50.90**	**299**	*e*P	**P**		**23 28 58.3**	**+1.0**
	3.3nm,0.8s								
KKAR	**Karatay Array**	**53.55**	**300**	*e*P	**P**		**23 29 17.1**	**+0.3**
	2.0nm,0.6s								
INK	**Inuvik**	**54.67**	**27**	P	**P**		**23 29 24.9**	**+0.4**
	1.4nm,0.8s,baz=317,slow=6.7,SNR=2.7								
WRA	**Warramunga Arr**	**56.66**	**188**	P	**P**		**23 29 38.6**	**-0.7**
	3.2nm,0.9s,baz=4.2,slow=7.2,SNR=11								
ABKAR	**Akbulak array**	**58.40**	**310**	*e*P	**P**		**23 29 50.8**	**-0.6**
	1.1nm,0.5s								
ASAR	**Alice Springs**	**60.39**	**188**	P	**P**		**23 30 05.0**	**-0.3**
	1.9nm,0.8s,baz=5.6,slow=6.8,SNR=13								
GEYT	**Alibeck**	**64.25**	**299**	P	**P**		**23 30 31.5**	**+0.3**
	6.0nm,0.6s,baz=56,slow=5.9,SNR=3.4								
FINES	**FINESS Array B**	**69.31**	**332**	P	**P**		**23 31 03.5**	**+0.6**
	4.3nm,1.0s,baz=76,slow=8.0,SNR=6.4								
KBZ	**Khabaz**	**71.37**	**311**	P	**P**		**23 31 16.6**	**+0.7**
	1.8nm,0.8s,baz=125,slow=3.4,SNR=4.5								
NB2	**NORSAR Subarra**	**74.68**	**337**	P	**P**		**23 31 35.5**	**+0.2**
	comp=Z,1.0nm,0.7s,baz=40,slow=5.9								
NOA	**NORSAR Array B**	**74.68**	**337**	P	**P**		**23 31 35.7**	**+0.5**
	comp=Z,2.0nm,0.8s,baz=38,slow=5.8,SNR=6.3								
AKASG	**Malin Array Be**	**74.79**	**322**	P	**P**		**23 31 35.9**	**-0.1**
	comp=Z,0.6nm,0.4s,baz=45,slow=6.3,SNR=4.7								
BOZ	**Bozeman (W)**	**74.89**	**44**	*e*P	**P**		**23 31 37.7**	**+0.8**
	comp=Z,5.3nm,0.7s								
BOZ				*e*			23 31 47.9		
RAO	**Raoul Island**	**75.69**	**144**	LR	LR		00 05 39.5		
	comp=Z,487nm,18.5s,baz=244,slow=36								
IMW	**Indian Meadow**	**76.32**	**45**	*e*P	**P**		**23 31 42.0**	**-3.4**
	comp=Z,14nm,0.4s								
BRTR	**Keskin Array B**	**79.32**	**312**	P	**P**		**23 32 03.4**	**+1.5**
	comp=Z,0.4nm,0.7s,baz=80,slow=3.8,SNR=3.0								
RAR	**Rarotonga**	**79.71**	**126**	LR	LR		00 05 12.9		
	comp=Z,283nm,18.1s,baz=337,slow=34								
CLL	**Collm**	**81.59**	**330**	*e*P	**P**		**23 32 16.0**	**+2.3**
GERES	**GERESS Array B**	**83.21**	**328**	P	**P**		**23 32 22.6**	**+0.2**
	comp=Z,0.3nm,0.5s,baz=14,slow=5.9,SNR=4.9								
TXAR	**Lajitas Array**	**90.20**	**53**	P	**P**		**23 32 57.4**	**+0.5**
	comp=Z,0.4nm,0.7s,baz=300,slow=5.0,SNR=4.7								
LPAZ	**La Paz**	**146.71**	**61**	PKPbc	**PKPdf**		**23 39 38.5**	**+1.0**
	comp=Z,2.2nm,0.8s,baz=28,slow=12,SNR=7.2								

ATH ***11*** *23:33:33.5, 36.°62N×26.°01E, h29km±2km, ML2.5/4, Error ellipse: s-maj=4.2km s-min=1.2km az=287.0*
ISCJB ***11*** *23:33:35.8±0.4, 36.°66N±0.°04×25.°82E±0.°08, h29km±7km, Error ellipse: s-maj=11.4km s-min=4.9km az=27.8*
CSEM ***11*** *23:33:35.6±0.2, 36.°65N×25.°84E, h20km, ML2.3, Error ellipse: s-maj=5.0km s-min=3.2km az=138.0*
THE ***11*** *23:33:35.5, 36.°67N×25.°87E, h7km±15km, ML2.3/2, Error ellipse: s-maj=15.3km s-min=0.5km az=166.0*
ISK ***11*** *23:33:36.1, 36.°85N×25.°99E, h5km, MD2.9*
ISC 11 23:33:34.6±1.2, 36.°66N±0.°03×25.°88E±0.°03, h16km±10km, n43, σ0.°64/61, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THR8	**Santorini-Mono**	**0.41**	**232**	P	**Pb**	**23 33 43.5**	**-0.1**
THR8	**Santorini-Mono**	**0.41**	**232**	P	**Pb**	**23 33 43.5**	**-0.1**
SAP2K	**Karterados**	**0.43**	**235**	P	**Pb**	**23 33 44.2**	**+0.3**
SAP2K				S	**Sb**	**23 33 51.8**	**+1.6**
SAP2K				AML	AML	23 33 52.9	
	comp=N,2022μm,0.1s						
SAP2K				AML	AML	23 33 55.5	
	comp=E,2130μm,0.2s						
THR7	**Fira-Santorini**	**0.44**	**237**	P	**Pb**	**23 33 44.0**	**0.0**
THR7	**Fira-Santorini**	**0.44**	**237**	P	**Pb**	**23 33 44.0**	**0.0**
SANT	**Santorini**	**0.45**	**230**	P	**Pb**	**23 33 44.1**	**-0.1**
SANT				S	**Sb**	**23 33 50.9**	**+0.2**
SANT	**Santorini**	**0.45**	**230**	P	**Pb**	**23 33 44.2**	**0.0**
SANT				S	**Sb**	**23 33 50.9**	**+0.2**
SANT	**Santorini**	**0.45**	**230**	P	**Pb**	**23 33 44.2**	**0.0**
SANT				S	**Sb**	**23 33 51.4**	**+0.7**
SANT				AML	AML	23 33 51.9	
	comp=N,513μm,0.1s						
SANT				AML	AML	23 33 54.3	
	comp=E,859μm,0.1s						
THT1	**Athinios (Pele**	**0.46**	**233**	P	**Pb**	**23 33 44.3**	**0.0**
THT1				S	**Sb**	**23 33 51.1**	**+0.2**
THT1	**Athinios (Pele**	**0.46**	**233**	P	**Pb**	**23 33 44.3**	**0.0**
THT1				S	**Sb**	**23 33 51.1**	**+0.2**
THR3	**Thira Island,**	**0.46**	**237**	P	**Pb**	**23 33 44.6**	**+0.1**
THR3	**Thira Island,**	**0.46**	**237**	P	**Pb**	**23 33 44.6**	**+0.1**
APE	**Apeiranthos**	**0.49**	**325**	*e*PG	**Pb**	**23 33 45.6**	**+0.5**
APE				*e*SG	**Sb**	**23 33 52.3**	**+0.2**
APE	**Apeiranthos**	**0.49**	**325**	P	**Pb**	**23 33 44.9**	**-0.1**
APE				S	**Sb**	**23 33 52.8**	**+0.7**
APE	**Apeiranthos**	**0.49**	**325**	P	**Pb**	**23 33 44.9**	**-0.1**
APE	**Apeiranthos**	**0.49**	**325**	*e*Pg	**Pb**	**23 33 45.6**	**+0.5**
APE				*e*Sg	**Sb**	**23 33 52.3**	**+0.2**
APE	**Apeiranthos**	**0.49**	**325**	P	**Pg**	**23 33 44.0**	**-0.5**
APE				AML	AML	23 33 55.5	
	comp=N,684μm,0.1s						
APE				S	**Sn**	**23 33 55.6**	**+0.1**
APE				AML	AML	23 33 56.9	
	comp=E,554μm,0.2s						
THR5	**Thira Island,**	**0.50**	**241**	P	**Pb**	**23 33 45.1**	**+0.1**
THR5	**Thira Island,**	**0.50**	**241**	P	**Pb**	**23 33 45.1**	**+0.1**
SAP1	**Santorini-Akro**	**0.50**	**232**	P	**Pb**	**23 33 45.5**	**+0.5**
SAP1				S	**Sb**	**23 33 52.6**	**+0.6**
SAP1	**Santorini-Akro**	**0.50**	**232**	P	**Pb**	**23 33 45.5**	**+0.5**
SAP1				S	**Sb**	**23 33 52.6**	**+0.6**
SAP1				AML	AML	23 33 54.6	
	comp=E,1253μm,0.1s						
SAP1				AML	AML	23 33 55.3	
	comp=N,1504μm,0.2s						
THR6	**Thira Island,**	**0.50**	**232**	P	**Pb**	**23 33 45.2**	**+0.2**
THR6	**Thira Island,**	**0.50**	**232**	P	**Pb**	**23 33 45.2**	**+0.2**
NIS1	**Nisyros Isl.**	**1.04**	**93**	*e*PG	**Pn**	**23 33 55.9**	**+1.2**
NIS1	**Nisyros Isl.**	**1.04**	**93**	*e*Pg	**Pn**	**23 33 55.9**	**+1.2**
BODT	**Bodrum**	**1.21**	**70**	*e*PG	**Pb**	**23 33 57.3**	**+0.1**
BODT				*e*SG	**Sg**	**23 34 13.5**	**-0.3**
BODT	**Bodrum**	**1.21**	**70**	*e*Pg	**Pb**	**23 33 57.3**	**+0.1**
BODT				*e*Sg	**Sg**	**23 34 13.5**	**-0.3**
SMG	**Samos**	**1.29**	**36**	P	**Pn**	**23 33 57.2**	**-0.9**
SMG	**Samos**	**1.29**	**36**	P	**Pn**	**23 33 57.2**	**-0.9**
DAT	**Datca**	**1.36**	**87**	*e*PN	**Pg**	**23 34 01.6**	**+0.7**
DAT	**Datca**	**1.36**	**87**	*e*Pn	**Pg**	**23 34 01.6**	**+0.7**
NPS	**Neapolis**	**1.41**	**189**	P	**Pn**	**23 33 58.8**	**-1.0**
NPS				S	**Sn**	**23 34 16.5**	**-1.6**
NPS	**Neapolis**	**1.41**	**189**	P	**Pn**	**23 33 58.8**	**-1.0**
NPS				S	**Sn**	**23 34 16.5**	**-1.6**
LAST	**Lasithi**	**1.53**	**192**	P	**Pn**	**23 34 01.2**	**-0.3**
LAST				S	**Sn**	**23 34 20.9**	**-0.2**
LAST	**Lasithi**	**1.53**	**192**	P	**Pn**	**23 34 01.2**	**-0.3**
LAST				S	**Sn**	**23 34 20.9**	**-0.2**

IDI	**Anoyia**	**1.59**	**211**	P	**Pn**		**23 34 02.2**	**0.0**
IDI	**Anoyia**	**1.59**	**211**	P	**Pn**		**23 34 02.2**	**0.0**
MLSB	**Milas**	**1.64**	**67**	*e*PN	**Pb**		**23 34 05.1**	**+0.5**
MLSB	**Milas**	**1.64**	**67**	*e*Pn	**Pb**		**23 34 05.1**	**+0.5**
AYDB	**Zeytinkoy-Aydi**	**2.05**	**51**	*e*PN	**Pb**		**23 34 10.5**	**-1.1**
AYDB	**Zeytinkoy-Aydi**	**2.05**	**51**	*e*Pn	**Pb**		**23 34 10.5**	**-1.1**
VLI	**Veliai**	**2.37**	**272**	P	**Pn**		**23 34 13.8**	**+0.9**
VLI	**Veliai**	**2.37**	**272**	P	**Pn**		**23 34 13.8**	**+0.9**

IDC ***11*** *23:37:30.6±0.5, 18.°09S×167.°64E, h0km, mb4.8/24, mb1 4.9/24, mb1mx4.8/27, mbtmp4.8/24, MS5.4/29, Ms1 5.4/29, ms1mx5.3/39, Error ellipse: s-maj=16.6km s-min=13.3km az=87.0*
ISCJB ***11*** *23:37:33.8±1.7, 18.°16S±0.°03×167.°82E±0.°03, h29km±12km, mb5.3/190, MS5.7/513, Error ellipse: s-maj=5.5km s-min=4.5km az=4.4*
GCMT ***11*** *23:37:34.9±0.1, 18.°19S×167.°70E, h12km, MW5.8/135, Moment Tensor Solution. s127,c248; s135,c358; Duration: 1s9 Moment tensor: Scale 10^17Nm; Mrr4.15±.04; Mθθ-0.80±.05; Mφφ-3.35±.04; Mrθ2.48±.12; Mrφ3.06±.04; Mθφ-1.30±.11; Best double couple: M0 5.58900×10^17 NP1:φs129.00000°, δ61.00000°, λ70.00000°. NP2:φs346.00000°, δ35.00000°, λ121.00000°. Principal axes: T 5.1790, Plg68.0000°, Azm1.0000°; N 0.8210, Plg17.0000°, Azm139.0000°; P -6.0000, Plg14.0000°, Azm234.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*
NEIC ***11*** *23:37:34.9±1.1, 18.°19S×167.°73E, h29km±7km, mb5.5/141, MS5.7/297, MW5.8 Error ellipse: s-maj=6.8km s-min=5.8km az=151.0*
NEIC Felt [IV] at Port-Vila. Also felt at Lakatoro.
MOS ***11*** *23:37:35.1±1.8, 18.°09S×167.°71E, h33km, mb5.4/50, MS5.5/38, Error ellipse: s-maj=7.8km s-min=6.6km az=122.6*
BJI ***11*** *23:37:36.1, 17.°67S×167.°93E, h35km, mb5.1/70, mB5.9/74, Ms5.7/85, Ms7 5.3/79*
NEIC ***11*** *23:37:36.0±0.0, 18.°09S×167.°66E, h11km, Moment Tensor Solution. s19 Moment tensor: Scale 10^17Nm; Mrr4.07; Mθθ-1.58; Mφφ-2.49; Mrθ3.87; Mrφ2.93; Mθφ-0.41; Best double couple: M0 6.00000×10^17 NP1:φs114.00000°, δ66.00000°, λ64.00000°. NP2:φs344.00000°, δ34.00000°, λ134.00000°. Principal axes: T 6.1500, Plg60.0000°, Azm345.0000°; N -0.2600, Plg23.0000°, Azm124.0000°; P -5.9000, Plg17.0000°, Azm222.0000°;*
ISC 11 23:37:35.8±0.3, 18.°20S±0.°04×167.°88E±0.°04, h32km±1km, h32km:pP-P, n1147, σ1.°92/803, mb5.4/190, MS5.7/526, 47C-31D, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**4.08**	**199**	Pn	**Pn**	**23 38 31.7**	**-4.5**
	20nm,0.3s,baz=58,slow=6.8,SNR=42						
DZM				Sn	**Sn**	**23 39 18.5**	**-4.4**
	167nm,0.3s,baz=142,slow=22,SNR=11						
DZM				LR	LR	23 39 25.3	
	comp=Z,23μm,19.3s,baz=351,slow=28						
DZM	**Mont Dzumac**	**4.08**	**199**	*e*Pn	Pn	23 38 31.2	-4.9
DZM				*e*Sn	**Sn**	**23 39 18.8**	**-4.1**
MSVF	**Nonsavu**	**9.69**	**89**	*e*P	**Pn**	**23 39 57.6**	**+4.4**
MSVF	**Nonsavu**	**9.69**	**89**	*e*Pn	**Pn**	**23 39 56.6**	**+3.4**
HNR	**Honiara**	**11.62**	**318**	Pn	**Pn**	**23 40 18.3**	**-1.4**
	26nm,0.3s,baz=234,slow=5.2,SNR=14						
HNR	**Honiara**	**11.62**	**318**	*e*P	**Pn**	**23 40 18.0**	**-1.6**
HNR	**Honiara**	**11.62**	**318**	*e*Pn	**Pn**	**23 40 17.4**	**-2.2**
RAO	**Raoul Island**	**17.02**	**133**	LR	LR	23 46 36.2	
	comp=Z,4μm,20.0s,baz=281,slow=32						
EIDS	**Eidsvold**	**17.14**	**242**	P	**P**	**23 41 35.3**	**+0.8**
	baz=17,SNR=7.5						
EIDS	**Eidsvold**	**17.14**	**242**	*e*Pn	**Pn**	**23 41 32.3**	**-0.8**
	438nm,1.9s						
OUZ	**Omah

	comp=Z,168nm,1.1s								
CAN				LR	LR				
	comp=Z,25µm,20.0s								
COEN	**Coen**	**24.10 276**	*eP*	**P**		**23 42 47.1**	**-1.7**		
	comp=Z,288nm,1.9s								
COEN				LR	LR				
	comp=Z,13µm,22.0s								
KHZ	**Kahutara**	**24.62 170**	*eP*	**P**		**23 42 52.9**	**-0.3**		
	comp=Z,183nm,1.4s								
KHZ				LR	LR				
	comp=Z,18µm,18.0s								
LTZ	**Lake Taylor**	**24.79 172**	*eP*	**P**		**23 42 52.2**	**-2.6**		
	comp=Z,316nm,1.5s								
LTZ				LR	LR				
	comp=Z,26µm,18.0s								
MILA	**Mila**	**24.98 217**	P	**P**		**23 42 57.6**	**+1.0**		
	baz=25,SNR=5.7								
OXZ	**Oxford**	**25.30 173**	*eP*	**P**		**23 43 00.7**	**+1.3**		
	comp=Z,296nm,1.8s								
OXZ				LR	LR				
	comp=Z,18µm,18.0s								
FOZ	**Fox Glacier**	**25.31 177**		PFAKE		23 43 10.0	+11		
FOZ				LR	LR				
	comp=Z,15µm,18.0s								
RPZ	**Rata Peaks**	**25.58 175**	P	**P**		**23 43 03.9**	**+2.0**		
	comp=Z,13nm,0.3s,baz=334,slow=12,SNR=3.0								
RPZ				LR	LR	23 53 05.5			
	comp=Z,13µm,18.3s,baz=336,slow=36								
MANU	**Manus Island**	**25.74 306**	*eP*	**P**		**23 43 03.8**	**+0.1**		
	comp=Z,390nm,1.8s								
LBZ	**Lake Benmore**	**26.18 176**		PFAKE		23 43 20.0	+13		
LBZ				LR	LR				
	comp=Z,12µm,19.0s								
WKZ	**Wanaka**	**26.57 178**		PFAKE		23 43 20.0	+9.1		
WKZ				LR	LR				
	comp=Z,17µm,19.0s								
PATS	**Pohnpei**	**26.61 338**	P	**P**		**23 43 13.0**	**+1.5**		
	baz=27,SNR=7.8								
PATS	**Pohnpei**	**26.61 338**	*eP*	**P**		**23 43 09.3**	**-2.2**		
	comp=Z,244nm,1.0s								
QIS	**Mount Isa**	**26.76 260**	P	**P**		**23 43 13.6**	**+0.7**		
	baz=27,SNR=3.1								
KWAJ	**Kwajalein Atol**	**26.83 359**		PFAKE		23 43 20.0	+6.5		
KWAJ				LR	LR				
	comp=Z,9µm,20.0s								
ODZ	**Otahua Downs**	**26.87 176**		PFAKE		23 43 30.0	+16		
ODZ				LR	LR				
	comp=Z,9µm,20.0s								
MLZ	**Mavora Lakes**	**27.09 180**		PFAKE		23 43 30.0	+14		
MLZ				LR	LR				
	comp=Z,19µm,19.0s								
STKA	**Stephens Creek**	**27.34 235**	P	**P**		**23 43 16.5**	**-1.6**		
	comp=Z,16nm,0.8s,baz=68,slow=9.1,SNR=16								
STKA			S	**S**		**23 48 01.1**	**+5.2**		
	comp=Z,2.1nm,0.9s,baz=163,slow=20,SNR=1.4								
STKA				LR	LR	23 53 37.0			
	comp=Z,21µm,19.4s,baz=56,slow=36								
STKA	**Stephens Creek**	**27.34 235**	P	**P**		**23 43 17.4**	**-0.7**		
	baz=27,SNR=12								
STKA	**Stephens Creek**	**27.34 235**	*eP*	**P**		**23 43 17.1**	**-0.9**		
	comp=Z,21nm,1.2s								
STKA			S	**S**		**23 48 01.1**	**+5.2**		
TOO	**Toolangi**	**27.52 221**	P	**P**		**23 43 21.5**	**+1.9**		
	baz=28,SNR=3.9								
WHZ	**Wether Hill Ro**	**27.62 180**		PFAKE		23 43 30.0	+10		
WHZ				LR	LR				
	comp=Z,14µm,20.0s								
MOO	**Moorlands**	**29.89 212**	P	**P**		**23 43 43.6**	**+3.0**		
	baz=30,SNR=4.2								
HTT	**Hallett**	**30.03 234**	P	**P**		**23 43 43.1**	**+1.1**		
	baz=30,SNR=5.3								
TAU	**Tasmania Unive**	**30.17 211**		PFAKE		23 43 50.0	+6.9		
TAU				LR	LR				
	comp=Z,18µm,19.0s								
JAY	**Jayapura**	**30.86 297**	P	**P**		**23 43 51.7**	**+2.2**		
GENI	**Genyem**	**31.27 297**	P	**P**		**23 43 54.8**	**+1.7**		
WR0	**Warramunga Arr**	**31.53 261**		PFAKE		23 44 10.0	+15		
WR0				LR	LR				
	comp=Z,14µm,20.0s								
WR9	**Warramunga Arr**	**31.55 261**		PFAKE		23 44 10.0	+14		
WR9				LR	LR				
	comp=Z,13µm,19.0s								
WR8	**Warramunga Arr**	**31.57 261**		PFAKE		23 44 10.0	+14		
WR8				LR	LR				
	comp=Z,13µm,19.0s								
WR7	**Warramunga Arr**	**31.59 261**		PFAKE		23 44 10.0	+14		
WR7				LR	LR				
	comp=Z,13µm,20.0s								
WR6	**Warramunga Arr**	**31.61 261**		PFAKE		23 44 10.0	+14		
WR6				LR	LR				
	comp=Z,13µm,20.0s								
WR5	**Warramunga Arr**	**31.63 261**		PFAKE		23 44 10.0	+14		
WR5				LR	LR				
	comp=Z,13µm,22.0s								
WR4	**Warramunga Arr**	**31.65 261**		PFAKE		23 44 10.0	+14		
WR4				LR	LR				
	comp=Z,12µm,21.0s								
WR3	**Warramunga Arr**	**31.67 261**		PFAKE		23 44 10.0	+13		
WR3				LR	LR				
	comp=Z,11µm,20.0s								
WB0	**Warramunga Arr**	**31.67 262**		PFAKE		23 44 10.0	+13		
WB0				LR	LR				
	comp=Z,10µm,18.0s								
WB9	**Warramunga Arr**	**31.68 262**		PFAKE		23 44 10.0	+13		
WB9				LR	LR				
	comp=Z,31µm,18.0s								
WB8	**Warramunga Arr**	**31.68 262**		PFAKE		23 44 10.0	+13		
WB8				LR	LR				
	comp=Z,14µm,18.0s								
WC3	**Warramunga Arr**	**31.68 261**		PFAKE		23 44 10.0	+13		
WC3				LR	LR				
	comp=Z,12µm,21.0s								
WC2	**Warramunga Arr**	**31.69 261**		PFAKE		23 44 10.0	+13		
WC2				LR	LR				
	comp=Z,12µm,20.0s								
WB5	**Warramunga Arr**	**31.69 261**		PFAKE		23 44 10.0	+13		
WB5				LR	LR				
	comp=Z,12µm,20.0s								
WB6	**Warramunga Arr**	**31.69 262**		PFAKE		23 44 10.0	+13		
WB6				LR	LR				
	comp=Z,12µm,19.0s								
WR2	**Warramunga Arr**	**31.70 261**		PFAKE		23 44 10.0	+13		
WR2				LR	LR				
	comp=Z,15µm,18.0s								
WB4	**Warramunga Arr**	**31.70 261**		PFAKE		23 44 10.0	+13		
WB4				LR	LR				
	comp=Z,11µm,19.0s								
WB3	**Warramunga Arr**	**31.70 261**		PFAKE		23 44 10.0	+13		
WB3				LR	LR				
	comp=Z,11µm,20.0s								
WB2	**Warramunga Arr**	**31.70 261**	*eP*	**P**		**23 43 54.5**	**-2.5**		
	comp=Z,16nm,0.9s								
WB2				LR	LR				
	comp=Z,15µm,22.0s								
WRAB	**Tennant Creek**	**31.71 261**	⇓*iP*		**P**		**23 43 57.5**	**+0.6**	
WRAB				pmax	pmax				
	comp=Z,44nm,1.2s								
WRAB	**Tennant Creek**	**31.71 261**	*eP*		**P**		**23 43 54.6**	**-2.3**	
	comp=Z,26nm,0.8s								
WRAB				LR	LR				
	comp=Z,14µm,21.0s								
WC4	**Warramunga Arr**	**31.71 261**		PFAKE		23 44 10.0	+13		
WC4				LR	LR				
	comp=Z,12µm,19.0s								
WR1	**Warramunga Arr**	**31.72 261**		PFAKE		23 44 10.0	+13		
WR1				LR	LR				
	comp=Z,14µm,22.0s								
WRA	**Warramunga Arr**	**31.72 261**	P	**P**		**23 43 52.8**	**-4.2**		
	comp=Z,2.9nm,0.8s,baz=86,slow=5.6,SNR=13								
WRA			PcP	**PcP**		**23 46 48.0**	**-0.4**		
	comp=Z,3.4nm,0.8s,baz=90,slow=2.1,SNR=4.6								
WRA				LR	LR	23 56 02.3			
	comp=Z,13µm,18.3s,baz=100,slow=35								
WC1	**Warramunga Arr**	**31.72 261**		PFAKE		23 44 10.0	+13		
WC1				LR	LR				
	comp=Z,8µm,19.0s								
BBOO	**Buckleboo**	**32.05 237**	P	**P**		**23 43 58.5**	**-1.2**		
	baz=32,SNR=11								
BBOO	**Buckleboo**	**32.05 237**	*eP*	**P**		**23 43 58.7**	**-1.1**		
	comp=Z,52nm,1.3s								
BBOO				LR	LR				
	comp=Z,12µm,18.0s								
AS01	**Alice Springs**	**32.10 254**	*eP*	**P**		**23 43 57.8**	**-2.6**		
AS31	**Alice Springs**	**32.14 254**	*eP*	**P**		**23 43 58.5**	**-2.2**		
	comp=Z,8.5nm,0.8s								
AS31				LR	LR				
	comp=Z,400nm,19.0s								

ASAR	**Alice Springs**	**32.14 254**		P	**P**		**23 43 58.1**	**-2.6**	
	comp=Z,11nm,0.6s,baz=82,slow=8.4,SNR=35								
ASAR				PcP	**PcP**		**23 46 50.3**	**+0.8**	
	comp=Z,4.9nm,0.9s,baz=88,slow=3.5,SNR=5.0								
ASAR				LR	LR	23 56 33.2			
	comp=Z,24µm,19.3s,baz=87,slow=36								
SMPI	**Sarmi**	**32.83 296**		P	**P**		**23 44 09.2**	**+2.4**	
MTN	**Manton Dam**	**35.76 273**	*eP*		**P**		**23 44 29.4**	**-2.8**	
	comp=Z,62nm,1.3s								
MTN				LR	LR				
	comp=Z,8µm,22.0s								
WAKE	**Wake Island**	**37.27 358**		PFAKE		23 45 00.0	+15		
WAKE				LR	LR				
	comp=Z,5µm,18.0s								
WRKA	**Warakurna**	**37.32 252**		P	**P**		**23 44 43.5**	**-2.0**	
	baz=37,SNR=11								
KNRA	**Kununurra**	**37.46 268**		P	**P**		**23 44 46.4**	**-0.2**	
	baz=37,SNR=3.5								
FAKI	**Fak Fak**	**38.06 289**		P	**P**		**23 44 53.7**	**+1.9**	
FAKI	**Fak Fak**	**38.06 289**	*eP*		**P**		**23 44 48.8**	**-3.0**	
	comp=Z,201nm,1.7s								
FAKI				LR	LR				
	comp=Z,6µm,20.0s								
FORT	**Forrest**	**38.15 243**		P	**P**		**23 44 52.2**	**-0.1**	
	baz=38,SNR=16								
FORT	**Forrest**	**38.15 243**	*eP*		**P**		**23 44 51.5**	**-0.8**	
	comp=Z,481nm,0.8s								
FORT				LR	LR				
	comp=Z,161µm,18.0s								
GUMO	**Guam**	**38.89 323**		LR	LR	23 59 57.1			
	comp=Z,4µm,18.4s,baz=130,slow=35								
GUMO	**Guam**	**38.89 323**	*eP*		**P**		**23 44 56.4**	**-2.3**	
GUMO				pmax	pmax				
	comp=Z,190nm,1.3s								
GUMO	**Guam**	**38.89 323**	*eP*		**P**		**23 44 56.4**	**-2.3**	
	comp=Z,191nm,1.3s								
XMAS	**Kiritimati**	**39.62 63**		PFAKE		23 45 20.0	+15		
XMAS				LR	LR				
	comp=Z,14µm,20.0s								
FITZ	**Fitzroy Crossi**	**40.07 263**		P	**P**		**23 45 07.1**	**-1.4**	
	baz=40,SNR=13								
TBI	**Tubuai**	**40.11 105**	*eS*		**S**		**23 51 14.5**	**+1.2**	
	comp=Z,2µm,30.9s								
TBI			*eLQ*		LQ	23 54 29.9			
	comp=Z,20µm,27.2s								
TBI			*eLR*		LR	23 56 10.4			
	comp=Z,8µm,29.2s								
PPT2	**Papeete2**	**40.43 96**	*eS*		**S**		**23 51 15.2**	**-3.1**	
	comp=Z,2µm,24.5s								
PPT2			*eLQ*		LQ	23 54 36.7			
	comp=Z,21µm,29.2s								
PPT2			*eLR*		LR	23 56 18.9			
	comp=Z,16µm,27.5s,baz=263								
PPT	**Papeete**	**40.43 96**		LR	LR	23 58 17.1			
	comp=Z,3µm,21.2s,baz=259,slow=31								
JOHN	**Johnston Islan**	**41.23 34**		PFAKE		23 45 30.0	+12		
JOHN				LR	LR				
	comp=Z,10µm,19.0s								
SOEI	**Soe**	**43.05 275**		PFAKE		23 45 40.0	+6.8		
SOEI				LR	LR				
	comp=Z,6µm,20.0s								
MMRI	**Maumere**	**45.29 276**	*eP*		**P**		**23 45 49.9**	**-1.1**	
	comp=Z,57nm,0.9s								
MMRI				LR	LR				
	comp=Z,4µm,18.0s								
MBWA	**Marble Bar**	**45.30 258**		PFAKE		23 46 00.0	+9.0		
MBWA				LR	LR				
	comp=Z,7µm,20.0s								
MEEK	**Meekatharra**	**46.08 250**		P	**P**		**23 45 55.5**	**-1.6**	
	baz=46,SNR=20								
KLBR	**Kellerberrin**	**47.01 244**		P	**P**		**23 46 02.4**	**-1.9**	
	baz=47,SNR=17								
LUWI	**Luwuk**	**47.43 286**	*eP*		**P**		**23 46 09.4**	**+1.5**	
	comp=Z,511nm,1.9s								
NWAO	**Narrogin (SRO)**	**47.55 242**		P	**P**		**23 46 09.2**	**+0.7**	
	baz=47,SNR=6.8								
NWAO				P	**P**		**23 46 09.2**	**+0.7**	
	baz=47,SNR=6.8								
NWAO	**Narrogin (SRO)**	**47.55 242**	*eP*		**P**		**23 46 08.4**	**-0.2**	
NWAO				pmax	pmax				
	comp=Z,37nm,0.9s								
NWAO	**Narrogin (SRO)**	**47.55 242**	*eP*		**P**		**23 46 08.4**	**-0.2**	
	comp=Z,37nm,0.9s								
NWAO				LR	LR				
	comp=Z,13µm,21.0s								
GTOI	**Gorontalo**	**47.91 288**		P	**P**		**23 46 13.9**	**+2.4**	
	comp=Z,31nm,1.5s,comp=Z,1µm								
MIDW	**Midway**	**48.30 18**		PFAKE		23 46 30.0	+16		
MIDW				LR	LR				
	comp=Z,6µm,22.0s								
MORW	**Morawa**	**48.38 247**		P	**P**		**23 46 13.2**	**-1.8**	
	baz=48,SNR=7.3								
DAV	**Davao City (W)**	**48.71 297**	⇑*iP*		**P**		**23 46 16.9**	**-0.7**	
KAPI	**Kappang**	**48.77 279**		PFAKE		23 46 30.0	+12		
KAPI				LR	LR				
	comp=Z,3µm,19.0s								
TTSI	**Tana Toraja**	**49.39 282**		P		23 46 31.4	+8.5		
PCI	**Palu**	**50.18 285**		P	**P**		**23 46 32.1**	**+3.2**	
	comp=Z,149nm,1.1s,comp=Z,3µm								
TWSI	**Taliwang, Sumb**	**50.34 274**		P	**P**		**23 46 31.6**	**+1.5**	
	comp=Z,87nm,1.6s,comp=Z,2µm								
HON	**Honolulu**	**51.57 42**		PFAKE		23 46 50.0	+11		
HON				LR	LR				
	comp=Z,11µm,18.0s								
KIP	**Kipapa**	**51.64 42**		PFAKE		23 46 50.0	+10		
KIP				LR	LR				
	comp=Z,10µm,20.0s								
OPA	**Opana**	**51.83 42**		PFAKE		23 46 50.0	+8.9		
OPA				LR	LR				
	comp=Z,11µm,20.0s								
MWH	**Moku'aweowe**	**51.85 46**		PFAKE		23 46 50.0	+8.1		
MWH				LR	LR				
	comp=Z,8µm,19.0s								
AIN	**Ainahou**	**51.86 46**	*eP*		**P**		**23 46 37.9**	**-3.7**	
	comp=Z,486nm,1.9s								
MLOA	**Mauna Loa Obse**	**51.90 46**		PFAKE		23 46 50.0	+7.8		
MLOA				LR	LR				
	comp=Z,10µm,21.0s								
SDHHI	**Sand Hill**	**51.99 46**		PFAKE		23 46 50.0	+7.5		
SDHHI				LR	LR				
	comp=Z,8µm,20.0s								
RIM	**Rim**	**52.01 46**		PFAKE		23 46 50.0	+7.4		
RIM				LR	LR				
	comp=Z,8µm,20.0s								
NPH	**North Pit**	**52.01 46**		PFAKE		23 46 50.0	+7.3		
NPH				LR	LR				
	comp=Z,8µm,20.0s								
KKO	**Keanakako'i**	**52.01 46**		PFAKE		23 46 50.0	+7.3		
KKO				LR	LR				
	comp=Z,8µm,20.0s								
BYL	**Byron's Ledge**	**52.03 46**	*eP*		**P**		**23 46 40.5**	**-2.2**	
	comp=Z,76nm,0.8s								
SBLHI	**Steaming Bluff**	**52.03 46**		PFAKE		23 47 00.0	+17		
SBLHI				LR	LR				
	comp=Z,9µm,19.0s								
HATHI	**Halema'uma'u T**	**52.03 46**		PFAKE		23 47 00.0	+17		
HATHI				LR	LR				
	comp=Z,9µm,19.0s								
POHA	**Pohakuloa**	**52.08 45**		PFAKE		23 47 00.0	+17		
POHA				LR	LR				
	comp=Z,9µm,20.0s								
STCH	**Steam Cracks**	**52.10 46**		PFAKE		23 47 00.0	+17		
STCH				LR	LR				
	comp=Z,9µm,20.0s								
HPAH	**Hawaii Prepara**	**52.16 45**		PFAKE		23 47 00.0	+16		
HPAH				LR	LR				
	comp=Z,8µm,20.0s								
HLK	**Haleakala**	**52.30 44**		PFAKE		23 47 00.0	+15		
HLK				LR	LR				
	comp=Z,9µm,20.0s								
RKT	**Rikitea**	**53.42 106**	*eS*		**S**		**23 54 21.3**	**-2.2**	
	comp=Z,2µm,30.0s								
RKT			*eLQ*		LQ	23 59 50.5			
	comp=Z,2µm,35.8s								
RKT			*eLR*		LR	00 02 22.6			
	comp=Z,5µm,28.0s								
RCP	**Roxas**	**53.46 300**	⇑*eP*		**P**		**23 46 52.5**	**-0.8**	
MYLDM	**Lahad Datu**	**53.94 291**	*eP*		**P**		**23 46 59.4**	**+2.4**	
	comp=Z,128nm,1.3s								
TSM	**Tawau**	**54.11 289**	⇑P		**P**		**23 46 59.7**	**+1.5**	
KDM	**Kudat**	**56.20 292**	⇓P		**P**		**23 47 14.9**	**+1.6**	
TGY	**Tagaytay City**	**56.32 302**	P		**P**		**23 47 14.6**	**+0.5**	
	comp=Z,236nm,0.4s,baz=239,slow=5.9,SNR=6.1								
KKM	**Kota Kinabalu**	**56.36 290**	*eP*		**P**		**23 47 13.8**	**-0.7**	
	comp=Z,101nm,1.2s								
KKM	**Kota Kinabalu**	**56.36 290**	⇓P		**P**		**23 47 16.0**	**+1.5**	
KPJI	**Karang Pucung**	**58.28 273**	P		P		23 47 40.2	+12	

STKI	**Sintang**	**58.28 282**		P	**P**		**23 47 30.9**	**+2.9**	
SBUM	**Sibu**	**58.49 285**	*eP*		**P**		**23 47 30.5**	**+1.0**	
	comp=Z,102nm,1.7s								
SBUM	**Sibu**	**58.49 285**	⇓P		**P**		**23 47 30.8**	**+1.4**	
JOW	**Kunigami**	**59.00 318**		PFAKE		23 47 40.0	+7.3		
JOW				LR	LR				
	comp=Z,3µm,19.0s								
CISI	**Cisompet, Garu**	**59.28 272**	P		P	23 47 42.3	+7.3		
CISI	**Cisompet, Garu**	**59.28 272**	*eP*		**P**		**23 47 34.5**	**-0.5**	
	comp=Z,333nm,1.6s								
CISI				LR	LR				
	comp=Z,4µm,20.0s								
VNDA	**Vanda**	**59.43 182**	P		**P**		**23 47 35.1**	**+0.1**	
	comp=Z,4.0nm,1.0s,baz=3.2,slow=7.3,SNR=14								
VNDA				LR	LR	00 11 55.7			
	comp=Z,1µm,18.0s,baz=11,slow=35								
VNDA	**Vanda**	**59.43 182**	*eP*		**P**		**23 47 33.7**	**-1.2**	
	comp=Z,75nm,1.8s								
SBA	**Scott Base**	**59.69 180**	*eP*		**P**		**23 47 36.8**	**+0.1**	
SBA				pmax	pmax				
	comp=Z,27nm,1.0s								
SBA	**Scott Base**	**59.69 180**	*eP*		**P**		**23 47 36.8**	**+0.1**	
	comp=Z,27nm,1.0s								
SBA				LR	LR				
	comp=Z,2µm,19.0s								
KSM	**Kuching**	**59.89 283**	*eP*		**P**		**23 47 39.5**	**+0.4**	
	comp=Z,37nm,1.1s								
KSM	**Kuching**	**59.89 283**	⇑P		**P**		**23 47 40.5**	**+1.4**	
INU	**Inuyama**	**60.77 331**	*eP*		**P**		**23 47 46.2**	**+1.5**	
	comp=Z,147nm,2.0s								
INU				LR	LR				
	comp=Z,2µm,18.0s								
MJAR	**Matsushiro Arr**	**61.24 333**	P		**P**		**23 47 45.4**	**-2.4**	
	comp=Z,16nm,1.0s,baz=163,slow=6.9,SNR=20								
MAJO	**Matsushiro**	**61.24 333**	⇓*iP*		**P**		**23 47 49.6**	**+1.7**	
MAJO				pmax	pmax				
	comp=Z,136nm,1.0s								
MAJO	**Matsushiro**	**61.24 333**	*eP*		**P**		**23 47 47.6**	**-0.3**	
	comp=Z,26nm,1.1s								
MAJO				LR	LR				
	comp=Z,2µm,22.0s								
MAT	**Matsushiro**	**61.24 333**	P		**P**		**23 47 45.4**	**-2.5**	
MAT			S		**S**		**23 56 04.8**	**-1.0**	
MJB9	**Matsu-Tunnel**	**61.24 333**	*eP*		**P**		**23 47 47.6**	**-0.3**	
	comp=Z,6.5nm,1.1s								
MJB9				LR	LR				
	comp=Z,500nm,19.0s								
TWG	**Pinlang**	**61.27 310**		PFAKE		23 48 00.0	+12		
TWG				LR	LR				
	comp=Z,4µm,20.0s								
YULB	**Yu-li**	**61.46 311**	*eP*		**P**		**23 47 49.9**	**+0.3**	
	comp=Z,64nm,1.7s								
NACB	**Ninganchiao**	**61.73 311**	*eP*		**P**		**23 47 51.6**	**+0.2**	
	comp=Z,39nm,1.0s								
TPUB	**Ta-pu**	**61.89 310**	*eP*		**P**		**23 47 51.0**	**-1.5**	
	comp=Z,74nm,1.2s								
SSLB	**Suanglung**	**61.95 311**	*eP*		**P**		**23 47 52.9**	**-0.1**	
	comp=Z,30nm,1.1s								
JNU	**Nakatsue**	**62.08 325**	P		**P**		**23 47 50.5**	**-3.1**	
	comp=Z,4.9nm,0.6s,baz=148,slow=7.2,SNR=4.9								
YHNB	**Yeheng**	**62.20 312**	*eP*		**P**		**23 47 52.8**	**-1.8**	
	comp=Z,100nm,1.2s								
YHNB				LR	LR				
	comp=Z,3µm,19.0s								
KASI	**Kota Agung**	**63.02 273**	P		P	23 48 06.5	+6.2		
MDSI	**Maura Dua**	**63.64 274**	P		**P**		**23 48 04.1**	**-0.3**	
	comp=Z,20nm,1.3s,comp=Z,831nm								
ERM	**Erimo**	**64.12 340**	⇑*iP*		**P**		**23 48 09.0**	**+2.1**	
ERM				pmax	pmax				
	comp=Z,18nm,1.2s								
ERM	**Erimo**	**64.12 340**		PFAKE		23 48 20.0	+13		
ERM				LR	LR				
	comp=Z,2µm,20.0s								
QZH	**Quanzhou**	**64.36 310**	⇑*iP*		**P**		**23 48 08.9**	**+0.1**	
QZH			S		**S**		**23 56 46.9**	**+1.7**	
QZH				pmax	pmax				
	comp=Z,60nm,0.8s								
QZH				pmax	pmax				
	comp=Z,3µm,7.8s								
QZH				LR	LR				
	comp=Z,4µm,18.0s								
QZH				LR	LR				
	comp=Z,3µm,16.5s								
QZH				LR	LR				
	comp=Z,3µm,17.9s								
KUR	**Kuril'sk**	**65.70 345**	*c iP*		**P**		**23 48 18.9**	**+1.8**	
KUR			*i*				23 50 44.6		
KUR			*eS*		**S**		**23 57 05.3**	**+4.4**	
KUR			*e*SSS		SSS		00 04 14.3		
KUR				pmax	pmax				
	comp=Z,129nm,1.2s								
DLV	**T Lat**	**65.80 293**	*eP*		**P**		**23 48 19.4**	**+0.7**	
	comp=Z,190nm,1.7s								
MYKOM	**Kota Tinggi**	**66.02 280**	*eP*		**P**		**23 48 17.8**	**-2.1**	
	comp=Z,48nm,1.5s								
MYKOM				LR	LR				
	comp=Z,3µm,19.0s								
MYKOM	**Kota Tinggi**	**66.02 280**	⇑P		**P**		**23 48 21.2**	**+1.3**	
ASAJ	**Asahikawa**	**66.19 340**	*eP*		**P**		**23 48 21.8**	**+1.6**	
	comp=Z,264nm,1.9s								
SSE	**Sheshan**	**66.43 317**	*eP*		**P**		**23 48 22.8**	**+0.7**	
SSE			sP		**sP**		**23 48 39.0**	**+3.2**	
SSE			PcP		**PcP**		**23 48 51.0**	**-0.6**	
SSE			S		**S**		**23 57 10.8**	**+0.4**	
SSE			sS		**sS**		**23 57 27.1**	**+0.3**	
SSE			ScS		**SKSac**		**23 58 15.1**	**-1.3**	
SSE			pmax	pmax					
	comp=Z,25nm,0.6s								
SSE				pmax	pmax				
	comp=Z,410nm,5.0s								
SSE				LR	LR				
	comp=Z,1µm,17.3s								
SSE				LR	LR				
	comp=Z,1µm,17.3s								
SSE				LR	LR				
	comp=Z,2µm,20.0s								
KGM	**Kluang**	**66.59 280**	⇓P		**P**		**23 48 25.7**	**+2.1**	
KSRS	**Korea Array**	**66.92 326**	P		**P**		**23 48 24.0**	**-1.2**	
	comp=Z,1.4nm,0.8s,baz=157,slow=5.9,SNR=6.7								
KSRS	**

NJ2 sS **sS** **23 57 54.9 +2.5**
NJ2 pmax pmax
comp=Z,14nm,0.6s
NJ2 pmax pmax
comp=Z,2µm,7.5s
NJ2 LR LR
comp=Z,2µm,16.6s
NJ2 LR LR
comp=Z,2µm,19.3s
NJ2 LR LR
comp=Z,2µm,18.2s
YSS Yuzh-Sakhalins 68.69 342⇓ *e*P **P** **23 48 36.7 +0.7**
YSS *e*SP 23 48 52.5
YSS *e*S **S** **23 57 42.8 +6.0**
YSS pmax pmax
comp=Z,70nm,1.1s
YSS pmax pmax
comp=Z,2µm,4.5s
YSS pmax pmax
comp=N,900nm,4.7s
YSS MLR MLR
comp=Z,1µm,16.0s
YSS MLR MLR
comp=E,1µm,15.0s
YSS Yuzh-Sakhalins 68.69 342 *e*P **P** **23 48 33.1 -2.9**
comp=E,107nm,1.2s
MSHR Mys Shultsa 69.30 332⇑ *e*P **P** **23 48 40.7 +0.8**
SKR Severo-Kuril's 69.36 352⇑ *i*P **P** **23 48 41.5 +1.4**
VLA Vladivostok 69.41 333 ⇓P **P** **23 48 42.6 +2.0**
VLA pmax pmax
comp=Z,43nm,1.7s
MNSI Mandailing Nat 69.68 278 P **P** **23 48 43.3 +0.3**
comp=Z,33nm,2.2s,comp=Z,2µm
USRK Ussuriysk Ar. 70.23 333 P **P** **23 48 44.3 -1.4**
comp=Z,12nm,0.9s,baz=122,slow=2.5,SNR=38
USRK LR LR 00 16 16.0
comp=Z,748nm,21.9s,baz=131,slow=33
KULM Kulim 70.25 283 PFAKE 23 49 00.0 +14
KULM LR LR
comp=Z,2µm,18.0s
WHN Wuhan 70.70 313 ⇓P **P** **23 48 49.9 +1.1**
WHN S **S** **23 58 03.5 +2.3**
WHN pmax pmax
comp=Z,75nm,1.0s
WHN pmax pmax
comp=Z,960nm,4.8s
WHN LR LR
comp=Z,2µm,11.6s
WHN LR LR
comp=Z,1µm,12.3s
WHN LR LR
comp=Z,4µm,21.7s
SMY Shemya 70.83 4 PFAKE 23 49 00.0 +11
SMY LR LR
comp=Z,6µm,20.0s
SKLT Songkhla 70.96 285 P P 23 48 59.7 +8.9
PSI Prapat 70.98 280 P **P** **23 48 48.6 -2.4**
comp=Z,16nm,1.0s,baz=128,slow=2.9,SNR=8.4
PSI Prapat 70.98 280 *e*P **P** **23 48 48.8 -2.2**
comp=Z,63nm,1.4s
PSI LR LR
comp=Z,5µm,21.0s
PET Petropavlovsk 71.37 354*c i*P **P** **23 48 51.5 -0.9**
PET *e* 23 51 29.6
PET *e*S **S** **23 58 07.1 -0.9**
PET *e*PS **PnS** **23 58 36.8 -3.2**
PET pmax pmax
comp=Z,1µm,8.4s
PET pmax pmax
comp=Z,2µm,5.9s
PET Petropavlovsk 71.37 354 *e*P **P** **23 48 49.0 -3.3**
comp=Z,156nm,1.5s
PET LR LR
comp=Z,2µm,21.0s
DL2 Dalian 71.41 324⇑ *i*P **P** **23 48 52.8 -0.1**
DL2 S **S** **23 58 10.9 +1.8**
DL2 pmax pmax
comp=Z,56nm,0.9s
DL2 pmax pmax
comp=Z,2µm,8.7s
DL2 LR LR
comp=Z,2µm,17.2s
DL2 LR LR
comp=Z,1µm,18.2s
DL2 LR LR
comp=Z,2µm,16.5s
PEA0 Petropavlovsk- 71.55 354 *e*P **P** **23 48 53.1 -0.4**
PEA0B Petropavlovsk- 71.55 354 *e*P **P** **23 48 53.7 +0.2**
comp=Z,190nm,1.2s
PEA0B LR LR
comp=Z,2µm,20.0s
PETK Petropavlovsk- 71.55 354 P **P** **23 48 52.4 -1.1**
comp=Z,68nm,1.1s,baz=105,slow=8.5,SNR=13
PETK LR LR 00 15 09.2
comp=Z,2µm,20.4s,baz=161,slow=32
PETK Petropavlovsk- 71.55 354 P **P** **23 48 52.4 -1.1**
PETK pmax pmax
comp=Z,55nm,1.0s
MDJ Mudanjiang 71.60 332 P **P** **23 48 52.9 -1.1**
MDJ pP pP 23 49 02.4 -1.6
MDJ sP sP 23 49 05.7 -2.0
MDJ S **S** **23 58 07.8 -3.3**
MDJ pmax pmax
comp=Z,22nm,1.7s
MDJ pmax pmax
comp=Z,680nm,4.7s
MDJ LR LR
comp=Z,1µm,21.1s
MDJ LR LR
comp=Z,960nm,24.8s
MDJ LR LR
comp=Z,1µm,16.0s
MDJ Mudanjiang 71.60 332 *e*P **P** **23 48 53.9 -0.1**
comp=Z,143nm,1.5s
MDJ LR LR
comp=Z,1µm,20.0s
ATKA Atka Island 71.82 12 PFAKE 23 49 10.0 +15
ATKA LR LR
comp=Z,4µm,19.0s
QSPA South Pole Qui 71.85 180 *e*P **P** **23 48 54.2 -1.3**
comp=Z,58nm,1.2s
QSPA LR LR
comp=Z,2µm,20.0s
SKNT Sakolnakorn 71.93 295 P **P** **23 48 57.2 +0.7**
comp=Z,181nm,1.2s
TYV Tymovskoe 72.25 344 *e*P P 23 48 52.7 -5.0
TYV pmax pmax
comp=Z,2µm,5.2s
TIA Tai'an 72.31 319 *e*P **P** **23 48 58.3 -0.2**
TIA pmax pmax
comp=Z,10.0nm,1.4s
TIA pmax pmax
comp=Z,2µm,10.0s
TIA LR LR
comp=Z,2µm,17.0s
TIA LR LR
comp=Z,2µm,18.0s
TIA LR LR
comp=Z,2µm,18.0s
SNY Shenyang 72.41 327 ⇓P **P** **23 48 58.8 0.0**
SNY S **S** **23 58 21.9 +1.5**
SNY pmax pmax
comp=Z,2µm,8.8s
SNY LR LR
comp=Z,680nm,13.7s
SNY LR LR
comp=Z,1µm,15.1s
SNY LR LR
comp=Z,2µm,17.1s
HABR Khabarovsk 72.55 338*ce*P **P** **23 48 59.4 -0.1**
HABR *e**PP **pP** **23 49 09.6 +0.1**
HABR *e**SP **sP** **23 49 13.8 +0.6**
HABR *e* 23 49 16.8
HABR *e* 23 51 40.5
HABR *e*S **S** **23 58 22.0 +0.2**
HABR *e* 23 59 03.7
HABR *e*SS **SS** **00 03 01.4 -0.3**
HABR pmax pmax
comp=Z,925nm,3.1s
HABR pmax pmax
comp=N,59nm,1.6s
HABR pmax pmax
comp=Z,195nm,1.6s
HABR pmax pmax
comp=E,17nm,0.8s
HABR MLR MLR
comp=Z,935nm,18.0s
NIKH Nikolski High 73.69 14 PFAKE 23 49 20.0 +14
NIKH LR LR
comp=Z,4µm,21.0s
SLVN Son La 73.94 299 *e*P **P** **23 49 08.0 -0.5**
comp=Z,58nm,1.3s
ENH Enshi 74.02 310 *e*P **P** **23 49 09.4 +0.7**
comp=Z,42nm,1.1s
GYA Guiyang 74.17 305⇑ *i*P **P** **23 49 09.8 0.0**
GYA pP sP 23 49 22.0 -1.5
GYA PP **PP** **23 51 59.2 +3.3**
GYA S **S** **23 58 46.9 +5.6**
GYA sS sS 23 58 59.4 +1.5
GYA SKS **SKSac** **23 59 11.0 -4.5**
GYA pmax pmax
comp=Z,20nm,1.0s
GYA pmax pmax
comp=Z,1µm,9.6s
GYA LR LR
comp=Z,840nm,19.8s
GYA LR LR
comp=Z,810nm,20.0s
GYA LR LR
comp=Z,780nm,19.6s
PBKT Sadao Pong 74.36 294 P **P** **23 49 13.4 +2.5**
comp=Z,42nm,3.4s,comp=Z,2µm
KLR Kul'dur 74.40 336 P **P** **23 49 10.1 -0.4**
comp=Z,51nm,1.0s,baz=137,slow=4.5,SNR=41
KLR LR LR 00 18 04.4
comp=Z,923nm,21.3s,baz=154,slow=33
NKL Nikolayevsk 74.84 343 *e*P **P** **23 49 13.0 +0.1**
NKL pmax pmax
comp=N,20nm,1.0s
NKL pmax pmax
comp=Z,100nm,1.0s
NKL pmax pmax
comp=Z,7µm,16.0s
UNV Unalaska Valle 75.06 15 PFAKE 23 49 30.0 +16
UNV LR LR
comp=Z,6µm,22.0s
SRDT SRDT 75.08 291 P P 23 49 23.5 +8.4
UTTA Uttaradit 75.21 295 P **P** **23 49 18.0 +2.2**
comp=Z,7.9nm,1.2s,comp=Z,112nm
BJT Baijiatuau 75.31 321 *e*P **P** **23 49 15.5 -0.4**
BJT pmax pmax
comp=Z,129nm,0.8s
BJT MLR MLR
comp=Z,2µm,18.0s
BJT Baijiatuau 75.31 321 *e*P **P** **23 49 15.5 -0.4**
comp=Z,129nm,0.8s
BJT LR LR
comp=Z,2µm,18.0s
BJI Beijing 75.32 321 P **P** **23 49 17.1 +1.1**
BJI S **S** **23 58 56.6 +3.2**
BJI sS **sS** **23 59 12.7 +2.8**
BJI pmax pmax
comp=Z,30nm,1.0s
BJI pmax pmax
comp=Z,1µm,3.6s
BJI LR LR
comp=Z,2µm,20.0s
BJI LR LR
comp=Z,1µm,18.9s
BJI LR LR
comp=Z,1µm,21.7s
AKUT Akutan 75.50 16 PFAKE 23 49 30.0 +13
AKUT LR LR
comp=Z,5µm,22.0s
NANT Nan 75.53 296 P **P** **23 49 18.5 +0.8**
comp=Z,20nm,1.1s
SUKH Sukhothai 75.90 294 P **P** **23 49 22.7 +2.9**
comp=Z,7.0nm,0.9s,comp=Z,112nm
TIY Taiyuan 76.20 318 *e*P **P** **23 49 20.5 -0.7**
TIY pP **sP** **23 49 35.3 +0.4**
TIY S **S** **23 59 08.6 +5.2**
TIY pmax pmax
comp=Z,880nm,4.9s
TIY LR LR
comp=Z,930nm,12.4s
TIY LR LR
comp=Z,1µm,16.8s
TIY LR LR
comp=Z,1µm,16.9s
LAMP Lampang 76.33 295 P **P** **23 49 24.5 +2.3**
comp=Z,16nm,1.0s,comp=Z,193nm
XAN Xi'an 76.46 313 P **P** **23 49 23.2 +0.5**
XAN S **S** **23 59 09.7 +3.4**
XAN pmax pmax
comp=Z,21nm,1.5s
XAN pmax pmax
comp=Z,810nm,7.4s
XAN LR LR
comp=Z,790nm,20.2s
XAN LR LR
comp=Z,220nm,14.8s
XAN LR LR
comp=Z,2µm,21.8s
KMI Kunming 76.63 302 P **P** **23 49 24.4 +0.3**
KMI pP PcP 23 49 35.8 +0.3
KMI PP **PP** **23 52 19.2 +2.4**
KMI S **S** **23 59 06.4 -2.5**
KMI sS sS 23 59 28.2 +2.7
KMI SKS **SKSac** **23 59 30.3 -3.8**
KMI SS **SS** **00 04 02.8 -2.3**
KMI pmax pmax
comp=Z,78nm,1.6s
KMI pmax pmax
comp=Z,840nm,4.2s
KMI LR LR
comp=Z,430nm,22.0s
KMI LR LR
comp=Z,590nm,18.2s
KMI LR LR
comp=Z,750nm,17.1s
CM01 Chiang Mai Arr 76.87 295 *e*P **P** **23 49 25.2 -0.1**
CM31 Chiang Mai Arr 76.90 295 *e*P **P** **23 49 28.7 +3.2**
CMAR Chiang Mai Arr 76.90 295 P **P** **23 49 25.3 -0.2**
comp=Z,16nm,1.0s,baz=129,slow=4.0,SNR=29
CMAR LR LR 00 24 14.4
comp=Z,489nm,19.4s,baz=132,slow=37
CMMT Chiang Mai 77.04 295 P **P** **23 49 27.3 +1.0**
comp=Z,88nm,1.6s,comp=Z,1µm
CHTO Chiang Mai 77.05 295 P **P** **23 49 27.3 +1.0**
comp=Z,214nm,1.8s,comp=Z,6µm
CHTO Chiang Mai 77.05 295 *e*P **P** **23 49 26.5 +0.2**
CHTO pmax pmax
comp=Z,71nm,1.2s
CHTO Chiang Mai 77.05 295 *e*P **P** **23 49 26.5 +0.2**
comp=Z,71nm,1.3s
CHTO LR LR
comp=Z,1µm,19.0s
SPIA Saint Paul Isl 77.29 12 PFAKE 23 49 40.0 +13
SPIA LR LR
comp=Z,4µm,21.0s
SDPT Sand Point 78.03 18 PFAKE 23 49 40.0 +9.1
SDPT LR LR
comp=Z,6µm,20.0s
CD2 Chengdu 78.58 308 P **P** **23 49 34.6 0.0**
CD2 PP **PP** **23 52 34.2 +1.3**
CD2 S **S** **23 59 32.8 +3.4**
CD2 pmax pmax
comp=Z,50nm,2.0s
CD2 pmax pmax
comp=Z,2µm,9.5s
CD2 LR LR
comp=Z,2µm,16.7s
CD2 LR LR
comp=Z,2µm,21.4s
CD2 LR LR
comp=Z,1µm,17.8s
HHC Hu-ho-hao-te 78.60 320 *e*P **P** **23 49 35.4 +0.8**
HHC PP **PP** **23 52 37.5 +4.6**
HHC S **S** **23 59 34.3 +5.0**
HHC pmax pmax
comp=Z,29nm,1.4s
HHC pmax pmax
comp=Z,2µm,9.9s
HHC LR LR
comp=Z,1µm,16.0s
HHC LR LR
comp=Z,800nm,17.3s
HHC LR LR
comp=Z,1µm,17.1s
MA2 Magadan 78.75 351 P **P** **23 49 33.8 -1.0**
comp=Z,18nm,0.8s,baz=174,slow=19,SNR=6.3
MA2 LR LR 00 20 52.9
comp=Z,666nm,19.6s,baz=158,slow=33
MAW Mawson 78.91 202 P **P** **23 49 35.4 -0.3**
comp=Z,9.6nm,0.9s,baz=117,slow=6.0,SNR=24
MAW LR LR 00 19 33.3
comp=Z,5µm,20.5s,baz=88,slow=32
MAW Mawson 78.91 202 P **P** **23 49 37.5 +1.8**
baz=79,SNR=18
MAW Mawson 78.91 202 *e*P **P** **23 49 37.5 +1.8**
comp=Z,11nm,1.3s
BTO Baotou 79.41 319 *e*P **P** **23 49 38.5 -0.5**
CHGN Chignik 79.45 18 PFAKE 23 49 50.0 +11
CHGN LR LR
comp=Z,4µm,20.0s
HIA Hailar 79.57 330 *e*P **P** **23 49 38.6 -1.0**
HIA pmax pmax
comp=Z,78nm,1.3s
HIA MLR MLR
comp=Z,1µm,20.0s
HIA Hailar 79.57 330 *e*P **P** **23 49 38.6 -1.0**
comp=Z,78nm,1.3s
HIA LR LR
comp=Z,1µm,20.0s
DGPR DIGLIPUR 80.20 287 *ex* **P** **23 49 39.4 -4.3**
LZH Lanzhou 81.08 313 *e*P **P** **23 49 50.6 +2.4**
LZH pP pP 23 49 59.3 +1.0
LZH sP sP 23 50 03.4 +1.4
LZH sS sS **00 00 16.3 +3.7**
LZH SS **SS** **00 05 12.6 +1.1**
LZH pmax pmax
comp=Z,37nm,1.1s
LZH pmax pmax
comp=Z,170nm,4.8s
LZH LR LR
comp=Z,920nm,13.0s
LZH LR LR
comp=Z,630nm,12.5s
LZH LR LR
comp=Z,1µm,16.5s
SEY Seymchan 81.78 353 LR LR 00 20 32.8
comp=Z,2µm,21.5s,baz=154,slow=32
SEY Seymchan 81.78 353 ⇓*i*P **P** **23 49 52.5 +1.5**
OHAK Old Harbor 81.82 20 *e*P **P** **23 49 52.5 +1.2**
comp=Z,46nm,1.0s
OHAK LR LR
comp=Z,3µm,20.0s
CLNS Chul'man 82.94 338 *e*P **P** **23 49 57.3 0.0**
CLNS *e* 23 50 06.8
CLNS *e*S **S** **00 00 16.8 +2.9**
CLNS *e* 00 01 23.6
CLNS *e*SS **SS** **00 05 32.7 -5.4**
CLNS pmax pmax
comp=Z,66nm,1.5s
CLNS pmax pmax
comp=N,43nm,1.3s
CLNS pmax pmax
comp=E,16nm,1.3s
CLNS smax smax
comp=E,616nm,11.0s
CLNS smax smax
comp=N,561nm,10.8s
SVW2 Sparrevohn 84.28 17 *e*P **P** **23 50 04.7 +0.6**
comp=N,105nm,1.8s
SVW2 LR LR
comp=Z,5µm,20.0s
HOM Homer 84.28 19 PFAKE 23 50 20.0 +16
HOM LR LR
comp=Z,3µm,20.0s
CNPM China Poot 84.31 20 *e*P **P** **23 50 03.4 -0.8**
comp=Z,98nm,1.2s
CNPM LR LR
comp=Z,3µm,20.0s
RSO Redoubt South 84.58 18 *e*P **P** **23 50 04.1 -1.7**
BRLK Bradley Lake 84.60 20 *e*P **P** **23 50 06.8 +1.1**
comp=Z,101nm,1.7s
BRLK LR LR
comp=Z,4µm,19.0s
ULN Ulaanbaatar 85.27 324*c i*P **P** **23 50 10.8 +1.3**
ULN pmax pmax
comp=Z,76nm,1.9s
ULN Ulaanbaatar 85.27 324 *e*P **P** **23 50 09.2 -0.3**
comp=Z,181nm,2.0s
SPU Mount Spurr 85.36 18 *e*P **P** **23 50 09.1 -0.4**
GTA Gaotai 85.48 314 *e*P **P** **23 50 10.7 -0.1**
GTA pP pP 23 50 21.1 +0.2
GTA sP sP 23 50 25.0 +0.4
GTA S **S** **00 00 38.6 -1.6**
GTA sS sS 00 00 56.6 -0.5
GTA pmax pmax
comp=Z,5.0nm,0.9s
GTA pmax pmax
comp=Z,640nm,5.5s
GTA LR LR
comp=Z,890nm,16.4s
GTA LR LR
comp=Z,920nm,18.8s
GTA LR LR
comp=Z,700nm,18.1s
SYO Syowa Base 85.56 196⇑ *e*P **P** **23 50 07.0 -3.5**
SYO Syowa Base 85.56 196⇑ *e*PcP **PcP** **23 50 14.4 +1.0**
SONM Songino Array 85.62 324 P **P** **23 50 10.3 -0.9**
comp=Z,15nm,1.1s,baz=141,slow=3.6,SNR=23
SONM LR LR 00 29 31.1
comp=Z,828nm,18.5s,baz=128,slow=36
TT01 Tatalina 85.66 16 *e*P **P** **23 50 10.1 -0.8**
TTA Tatalina 85.68 16 *e*P **P** **23 50 09.4 -1.7**
TTA Tatalina 85.68 16 *e*P **P** **23 50 09.4 -1.7**
comp=Z,41nm,1.4s
TTA LR LR
comp=Z,5µm,20.0s
MCCM Marconi Confer 85.72 48 PFAKE 23 50 20.0 +8.2
MCCM LR LR
comp=Z,4µm,20.0s
SHL Shillong 85.72 299 *e*P **P** **23 50 11.7 -0.7**
MID Middleton Isla 85.87 22 PFAKE 23 50 20.0 +8.0
MID LR LR
comp=Z,2µm,19.0s
KCPM Cahto Peak 85.93 46 PFAKE 23 50 20.0 +7.0
KCPM LR LR
comp=Z,9µm,20.0s
PEV Pleasant Valle 85.94 49 *e*P **P** **23 50 13.6 +0.7**
HOPS Hopland Field 85.97 47 PFAKE 23 50 20.0 +7.0
HOPS LR LR
comp=Z,9µm,20.0s
SUA Susitna One 85.97 19 *e*P **P** **23 50 11.7 -1.0**
comp=Z,29nm,1.3s
SUA LR LR
comp=Z,4µm,22.0s
RC01 Rabbit Creek A 85.99 19 *e*P **P** **23 50 14.0 +1.4**
comp=Z,30nm,1.4s
RC01 LR LR
comp=Z,3µm,20.0s
BILL Bilibino 86.00 359*c i*P **P** **23 50 11.1 -1.4**
BILL *e* 23 50 20.5
BILL *e**PP **sP** **23 50 24.9 -1.4**
BILL *e*PS **PnS** **00 01 34.4 -10**
BILL *e*SSS SSS 00 09 55.6
BILL pmax pmax
comp=Z,56nm,1.2s
BILL MLR MLR
comp=Z,1µm,19.0s
GDXM Geysers 86.08 47 PFAKE 23 50 20.0 +6.3
GDXM LR LR
comp=Z,9µm,20.0s
KMRM Mail Ridge 86.09 46 PFAKE 23 50 20.0 +6.3
KMRM LR LR
comp=Z,10µm,20.0s
SAO San Andreas Ge 86.12 49 *e*P **P** **23 50 12.8 -1.0**
SAO San Andreas Ge 86.12 49 *e*P **P** **23 50 12.8 -1.0**
comp=Z,17nm,1.1s
JCC Jacoby Creek, 86.16 45 PFAKE 23 50 30.0 +16
JCC LR LR
comp=Z,7µm,20.0s
PMPB Monarch Peak 86.35 50 *e*P **P** **23 50 16.3 +1.2**
comp=Z,44nm,1.4s
PMPB LR LR
comp=Z,8µm,20.0s
KHMM Horse Mountain 86.38 45 PFAKE 23 50 30.0 +15
KHMM LR LR
comp=Z,8µm,20.0s
PKM Mcpherson Peak 86.52 52 P **P** **23 50 15.4 -0.7**
baz=245
PAGB Antelope Grade 86.55 51 PFAKE 23 50 30.0 +14
PAGB LR LR
comp=Z,9µm,20.0s
SMMC Simmler 86.56 51 P **P** **23 50 16.1 0.0**
baz=245

KRMB Red Mountain 86.56 44 PFAKE 23 50 30.0 +14
KRMB LR LR
comp=Z,5µm,20.0s
PMR Palmer 86.57 19 eP P **23 50 17.4 +2.0**
PMR Palmer 86.57 19 eP P **23 50 17.4 +2.0**
comp=Z,55nm,1.9s
PMR LR LR
comp=Z,3µm,20.0s
KBO Bosley Butte 86.68 44 PFAKE 23 50 30.0 +13
KBO LR LR
comp=Z,5µm,20.0s
PPLA Purkeypile 86.68 17 PFAKE 23 50 30.0 +14
PPLA LR LR
comp=Z,4µm,20.0s
FID Port Fidalgo 86.79 21 PFAKE 23 50 30.0 +13
FID LR LR
comp=Z,4µm,22.0s
EYAK Cordova Ski Ar 86.89 21 PFAKE 23 50 30.0 +13
EYAK LR LR
comp=Z,3µm,21.0s
KEBM Edson Butte 86.92 43 PFAKE 23 50 30.0 +12
KEBM LR LR
comp=Z,4µm,20.0s
SML Sawmill 86.98 19 PFAKE 23 50 30.0 +12
SML LR LR
comp=Z,3µm,20.0s
WDC Whiskeytown Da 87.05 46 PFAKE 23 50 30.0 +12
WDC LR LR
comp=Z,10µm,20.0s
CAST Castle Rocks 87.12 17 eP P **23 50 16.2 -2.0**
comp=Z,11nm,0.8s
CAST LR LR
comp=Z,4µm,20.0s
OSI Osito Audit: C 87.22 52 PFAKE 23 50 30.0 +11
OSI LR LR
comp=Z,4µm,21.0s
DIV Divide 87.30 21 PFAKE 23 50 30.0 +11
DIV LR LR
comp=Z,4µm,22.0s
ORV Oroville 87.31 47 eP P **23 50 18.4 -1.2**
ORV Oroville 87.31 47 eP P **23 50 18.4 -1.2**
comp=Z,34nm,1.4s
SCM Sheep Creek Mo 87.31 20 eP P **23 50 23.4 +4.2**
SCM pmax pmax
comp=Z,12nm,0.8s
SCM MLR MLR
comp=Z,2µm,20.0s
SCM Sheep Creek Mo 87.31 20 eP P **23 50 23.4 +4.2**
comp=Z,12nm,0.8s
SCM LR LR
comp=Z,2µm,20.0s
ARVC Arvin 87.35 52 P P **23 50 19.7 -0.2**
baz=246
AFDM Forest Hills D 87.41 48 eP P **23 50 18.9 -1.3**
comp=Z,28nm,1.2s
CMB Columbia Colle 87.43 49 eP P **23 50 18.9 -1.4**
CMB Columbia Colle 87.43 49 eP P **23 50 18.9 -1.4**
comp=Z,17nm,1.0s
PASC Pasadena Art C 87.45 53 PFAKE 23 50 30.0 +10
PASC LR LR
comp=Z,4µm,20.0s
KLU Klutina 87.52 20 eP P **23 50 20.3 +0.1**
comp=Z,14nm,1.3s
KLU LR LR
comp=Z,3µm,22.0s
KTH Kantishna Hill 87.55 17 PFAKE 23 50 30.0 +10
KTH LR LR
comp=Z,5µm,20.0s
MWC Mount Wilson 87.57 53 eP P **23 50 21.7 +0.5**
MWC Mount Wilson 87.57 53 eP P **23 50 21.7 +0.5**
comp=Z,35nm,1.4s
MWC LR LR
comp=Z,4µm,19.0s
BMRM Bremner River 87.58 21 eP P **23 50 21.5 +1.1**
comp=Z,29nm,1.7s
BMRM LR LR
comp=Z,2µm,19.0s
DIB Dawson Inlet, 87.65 31 PFAKE 23 50 30.0 +9.2
DIB LR LR
comp=Z,3µm,20.0s
TRF Thorofare Moun 87.65 17 eP P **23 50 19.6 -1.3**
comp=Z,6.1nm,0.8s
TRF LR LR
comp=Z,4µm,20.0s
HUMO Hull Mountain 87.69 44 eP P **23 50 23.3 +1.9**
comp=Z,15nm,1.1s
HUMO LR LR
comp=Z,6µm,20.0s
ISA Isabella, Lake 87.84 51 P P **23 50 22.3 0.0**
baz=246
ISA Isabella, Lake 87.84 51 PFAKE 23 50 30.0 +7.7
ISA LR LR
comp=Z,6µm,21.0s
BOD Bodaibo 87.84 334 eP P **23 50 20.0 -1.7**
BOD pmax pmax
comp=Z,47nm,1.8s
BFSC Mount Baldy Ra 87.88 53 P P **23 50 22.3 -0.3**
baz=246
EDW2 Edwards Air Fo 87.88 52 P P **23 50 21.5 -1.0**
baz=246,SNR=7.5
LSA Lhasa 87.89 302 P P **23 50 22.8 -0.4**
LSA Lhasa 87.89 302 eP P **23 50 22.6 -0.6**
LSA pmax pmax
comp=Z,52nm,1.5s
LSA Lhasa 87.89 302 eP P **23 50 22.6 -0.6**
comp=Z,52nm,1.5s
CRQM Cirque 87.94 22 PFAKE 23 50 30.0 +7.7
CRQM LR LR
comp=Z,3µm,20.0s
BAR Barrett 88.02 55 eP P **23 50 26.9 +3.7**
comp=Z,36nm,1.8s
BAR LR LR
comp=Z,3µm,20.0s
RND Reindeer 88.03 18 eP P **23 50 21.0 -1.6**
RND Reindeer 88.03 18 eP P **23 50 21.0 -1.6**
comp=Z,22nm,1.3s
RND LR LR
comp=Z,4µm,20.0s
DHY Denali Highway 88.23 19 PFAKE 23 50 30.0 +6.4
DHY LR LR
comp=Z,3µm,22.0s
MCK McKinley 88.26 18 eP P **23 50 24.6 +1.0**
MCK McKinley 88.26 18 eP P **23 50 24.6 +1.0**
comp=Z,16nm,1.2s
MCK LR LR
comp=Z,5µm,20.0s
MONP Monument Peak, 88.29 55 P P **23 50 23.8 -1.0**
baz=247,SNR=5.6
WAKR Walker 88.31 49 eP P **23 50 23.9 -0.8**
comp=Z,64nm,1.6s
PMSA Palmer Station 88.32 160 PFAKE 23 50 40.0 +16
PMSA LR LR
comp=Z,2µm,20.0s
LRMC Laurel Mtn Rad 88.35 52 P P **23 50 23.8 -1.0**
baz=246
YKU2 Yakutat 88.38 24 PFAKE 23 50 40.0 +16
YKU2 LR LR
comp=Z,2µm,18.0s
COR Corvallis 88.38 42 PFAKE 23 50 40.0 +15
COR LR LR
comp=Z,3µm,21.0s
HARP HAARP 88.43 20 PFAKE 23 50 40.0 +16
HARP LR LR
comp=Z,2µm,21.0s
PNTR Pine Nut 88.44 48 eP P **23 50 24.8 -0.5**
comp=Z,73nm,1.7s
PNTR LR LR
comp=Z,4µm,20.0s
CWC Cottonwood Cre 88.44 51 P P **23 50 24.2 -1.1**
baz=246
PCA Pinnacle 88.54 23 PFAKE 23 50 40.0 +15
PCA LR LR
comp=Z,4µm,20.0s
PFO Pinyon Flats O 88.54 54 LR LR 00 21 48.9
comp=Z,5µm,21.1s,baz=258,slow=30
PFO Pinyon Flats O 88.54 54 eP P **23 50 26.6 +0.8**
PFO Pinyon Flats O 88.54 54 eP P **23 50 26.6 +0.8**
comp=Z,13nm,1.4s
TPFO Pinon Flats 88.55 54 P P **23 50 25.8 0.0**
baz=247
CRAG Craig 88.65 29 PFAKE 23 50 40.0 +14
CRAG LR LR
comp=Z,4µm,20.0s
YERR Yerington 88.65 48 eP P **23 50 26.7 +0.5**
comp=Z,34nm,1.4s
YERR LR LR
comp=Z,4µm,20.0s

DHAK Deception Hill 88.67 25 PFAKE 23 50 40.0 +14
DHAK LR LR
comp=Z,2µm,18.0s
TVH3 East Aurora ar 88.69 49 eP P **23 50 25.5 -1.0**
comp=Z,37nm,1.6s
ZAK Zakamensk 88.70 325 eP P **23 50 24.0 -2.1**
ZAK pmax pmax
comp=Z,20nm,1.7s
MPMC Manual Prospec 88.73 51 P P **23 50 25.6 -1.1**
baz=246,SNR=8.4
DAC Darwin (Calif) 88.74 51 eP P **23 50 26.1 -0.6**
DAC Darwin (Calif) 88.74 51 eP P **23 50 26.1 -0.6**
comp=Z,38nm,1.6s
PAX Paxson 88.74 19 PFAKE 23 50 40.0 +14
PAX LR LR
comp=Z,2µm,21.0s
TVH2 Borealis Mine 88.74 49 eP P **23 50 26.2 -0.6**
comp=Z,46nm,1.8s
TVH2 LR LR
comp=Z,2µm,19.0s
TVH1 TV Hill, Hawth 88.77 49 eP P **23 50 26.6 -0.5**
comp=Z,44nm,1.5s
TVH1 LR LR
comp=Z,3µm,19.0s
SWSC Sam W. Stewart 88.80 55 P P **23 50 26.5 -0.3**
baz=248
PAHR Pah Rah Range 88.85 47 eP P **23 50 26.1 -1.0**
comp=Z,46nm,1.4s
GSC Goldstone, Bar 88.94 52 P P **23 50 26.8 -0.8**
baz=247,SNR=5.4
GSC Goldstone, Bar 88.94 52 eP P **23 50 26.9 -0.6**
GSC Goldstone, Bar 88.94 52 eP P **23 50 26.9 -0.6**
comp=Z,51nm,1.8s
BELC Belle Mtn. Jos 89.05 54 P P **23 50 27.3 -0.9**
baz=247,SNR=6.5
WRH Wood River Hil 89.06 18 eP P **23 50 27.0 -0.3**
comp=Z,28nm,1.7s
WRH LR LR
comp=Z,4µm,20.0s
K05A Summer Lake 89.11 44 eP P **23 50 27.9 -0.5**
comp=Z,110nm,1.8s
K05A LR LR
comp=Z,6µm,20.0s
E03A Lebam 89.13 40 PFAKE 23 50 40.0 +12
E03A LR LR
comp=Z,3µm,20.0s
J05D Fort Rock, OR 89.13 44 P P **23 50 27.9 -0.4**
baz=244,SNR=5.8
MOD Modoc Plateau 89.15 45 eP P **23 50 27.3 -1.2**
comp=Z,56nm,1.8s
TLY Talaya 89.18 326 P P **23 50 25.2 -2.9**
comp=Z,5.2nm,1.0s,baz=145,slow=7.0,SNR=6.9
TLY Talaya 89.18 326 eP P **23 50 27.7 -0.5**
TLY pmax pmax
comp=Z,28nm,1.6s
TLY Talaya 89.18 326 P P **23 50 25.2 -2.9**
TLY LR LR
comp=Z,899nm,19.0s
GRAC Grapevine Rang 89.19 51 P P **23 50 28.1 -0.5**
baz=246,SNR=6.3
CCB Clear Creek Bu 89.27 18 eP P **23 50 25.9 -2.4**
comp=Z,40nm,1.9s
MENT Mentasta 89.28 20 eP P **23 50 30.2 +1.8**
comp=Z,19nm,1.4s
MENT LR LR
comp=Z,3µm,22.0s
BBB Bella Bella 89.32 34 LR LR 00 23 20.2
comp=Z,2µm,20.1s,baz=250,slow=31
BBB Bella Bella 89.32 34 PFAKE 23 50 40.0 +11
baz=247,SNR=5.4
BBB LR LR
comp=Z,2µm,21.0s
NLWA Neilton Lookou 89.34 39 PFAKE 23 50 40.0 +11
NLWA LR LR
comp=Z,3µm,19.0s
HDA Harding Lake 89.34 18 eP P **23 50 26.3 -2.4**
comp=Z,28nm,1.2s
FURC Furnace Creek, 89.35 51 P P **23 50 28.5 -0.8**
baz=247,SNR=5.4
MDM Murphy Dome 89.39 17 eP P **23 50 26.6 -2.3**
comp=Z,14nm,0.9s
MDM LR LR
comp=Z,3µm,20.0s
COLA College 89.43 17 PFAKE 23 50 40.0 +11
COLA LR LR
comp=Z,4µm,20.0s
WRAK Wrangell Islan 89.55 29 PFAKE 23 50 40.0 +10
WRAK LR LR
comp=Z,3µm,20.0s
F04A Amboy 89.55 41 PFAKE 23 50 40.0 +10
F04A LR LR
comp=Z,2µm,21.0s
SHOC Shoshone, Teco 89.57 52 P P **23 50 29.6 -0.8**
baz=247
PALK Pallekele 89.57 278 P P **23 50 28.8 -2.1**
comp=Z,21nm,1.1s,baz=116,slow=6.7,SNR=2.8
PALK Pallekele 89.57 278 P P **23 50 28.8 -2.1**
PALK LR LR
comp=Z,2µm,20.0s
GLA Glamis 89.59 55 P P **23 50 29.6 -1.0**
baz=248
GLA Glamis 89.59 55 PFAKE 23 50 40.0 +9.4
GLA LR LR
comp=Z,2µm,18.0s
SRIG Santa Rosalia 89.61 61 PFAKE 23 50 40.0 +9.3
SRIG LR LR
comp=Z,2µm,19.0s
GMRC Granite Mounta 89.61 53 P P **23 50 29.7 -1.1**
baz=248
ILAR Eielson Array 89.63 18 P P **23 50 27.1 -2.9**
comp=Z,3.6nm,0.6s,baz=234,slow=4.8,SNR=21
ILAR LR LR 00 26 00.9
comp=Z,4µm,19.6s,baz=246,slow=32
ILB Eielson Array 89.63 18 eP P **23 50 27.5 -2.5**
IL1 Eielson Array 89.63 18 eP P **23 50 26.3 -3.7**
TUQ Turquoise Moun 89.66 52 P P **23 50 29.8 -1.2**
baz=247,SNR=5.6
DOT Dot Lake 89.67 19 eP P **23 50 30.2 0.0**
comp=Z,112nm,1.9s
NVL N'lazarevskaya 89.71 188 eP P **23 50 32.8 +2.3**
NVL e*PP **pP** **23 50 39.1 -1.6**
NVL eS **SKSac** **00 01 01.8 +3.4**
NVL eSS **SS** **00 07 22.1 +6.8**
NVL eSSS SSS 00 10 57.8
NVL MLR MLR
comp=Z,3µm,20.0s
TUM Tumwater 89.75 40 PFAKE 23 50 40.0 +9.1
TUM LR LR
comp=Z,2µm,21.0s
TAPN Taplejung 89.86 299 eP P **23 50 31.7 -0.6**
ODAN Odare 89.95 298 eP P **23 50 31.6 -1.1**
comp=Z,80nm,1.3s
TPNV Topopah Spring 90.00 51 P P **23 50 31.4 -1.2**
baz=247,SNR=6.4
TPNV Topopah Spring 90.00 51 eP P **23 50 31.5 -1.1**
TPNV Topopah Spring 90.00 51 eP P **23 50 31.5 -1.1**
comp=Z,51nm,1.7s
HYT Haines Junctio 90.05 24 eP P **23 50 32.8 +0.6**
comp=Z,16nm,1.7s
HYT LR LR
comp=Z,2µm,22.0s
SKAG Skagway 90.06 25 PFAKE 23 50 40.0 +8.0
SKAG LR LR
comp=Z,2µm,22.0s
Y12C Blythe 90.09 54 eP P **23 50 34.6 +1.7**
comp=Z,32nm,1.4s
Y12C LR LR
comp=Z,3µm,21.0s
SNAA Sanae 90.14 183 P P **23 50 31.0 -1.5**
SNAA Sanae 90.14 183 *d* iP P **23 50 33.4 +0.9**
SNAA *i* *PP **sP** **23 50 45.0 -1.4**
SNAA Sanae 90.14 183 eP P **23 50 30.8 -1.8**
comp=Z,82nm,1.2s
SNAA LR LR
comp=Z,2µm,21.0s
LDFC Landfair 90.14 53 PFAKE 23 50 40.0 +6.8
LDFC LR LR
comp=Z,4µm,20.0s
LPIG La Paz 90.14 65 LR LR 00 22 23.3
comp=Z,6µm,20.0s,baz=270,slow=30
PGC Sidney 90.17 38 eP P **23 50 34.6 +1.8**
comp=Z,37nm,1.5s
PGC LR LR
comp=Z,3µm,20.0s
BOK Bokaro 90.19 295 eP P **23 50 33.3 -0.2**
LON Longmire 90.30 40 eP P **23 50 35.5 +1.9**
LON Longmire 90.30 40 eP P **23 50 35.5 +1.9**
comp=Z,49nm,2.0s

SLBS Sierra La Lagu 90.31 65 PFAKE 23 50 50.0 +16
SLBS LR LR
comp=Z,8µm,20.0s
113A Mohawk Valley, 90.32 56 PFAKE 23 50 50.0 +16
113A LR LR
comp=Z,2µm,22.0s
G06A Carlson Farm, 90.37 42 PFAKE 23 50 50.0 +16
G06A LR LR
comp=Z,3µm,21.0s
D05A Enumclaw 90.38 40 eP P **23 50 36.8 +2.9**
comp=Z,79nm,1.3s
D05A LR LR
comp=Z,2µm,20.0s
VIS Vishakhapatnam 90.45 288 eP P **23 50 33.0 -1.9**
WVOR Wild Horse Val 90.50 45 eP P **23 50 33.8 -0.9**
WVOR Wild Horse Val 90.50 45 eP P **23 50 33.8 -0.9**
comp=Z,41nm,1.4s
PDMCI Parker Dam,Lak 90.59 54 P P **23 50 34.7 -0.5**
baz=248
COLD Coldfoot 90.61 15 eP P **23 50 34.1 -0.3**
comp=Z,9.4nm,1.1s
COLD LR LR
comp=Z,4µm,19.0s
SHPR Sheep Range 90.64 52 eP P **23 50 34.7 -0.9**
comp=Z,50nm,1.8s
RAMN Ramite 90.64 298 eP P **23 50 35.1 -0.8**
BMN Battle Mountai 90.66 47 eP P **23 50 34.7 -0.9**
BMN pmax pmax
comp=Z,39nm,1.5s
BMN Battle Mountai 90.66 47 eP P **23 50 34.6 -0.9**
comp=Z,40nm,1.5s
VNA3 Neumayer Olymp 90.78 181 P P **23 50 33.5 -1.9**
214A Organ Pipe Nat 90.78 57 P P **23 50 35.6 -0.6**
baz=249
WHY Whitehorse 90.96 24 PFAKE 23 50 50.0 +14
WHY LR LR
comp=Z,3µm,21.0s
R11A Troy Canyon, C 91.02 50 P P **23 50 36.5 -0.9**
baz=248
R11A Troy Canyon, C 91.02 50 eP P **23 50 35.8 -1.5**
comp=Z,8.8nm,1.3s
VNA2 Neumayer--Watz 91.05 182 P P **23 50 35.3 -1.4**
baz=150,slow=4.4
W13A Hualapai Mount 91.08 53 eP P **23 50 36.7 -1.0**
comp=Z,21nm,1.5s
LTY Liberty 91.22 40 PFAKE 23 50 50.0 +12
LTY LR LR
comp=Z,2µm,20.0s
JIRN Jiri 91.23 299 eP P **23 50 38.3 -0.5**
HSIG 91.26 60 PFAKE 23 50 50.0 +12
HSIG LR LR
comp=Z,2µm,18.0s
B06A Marblemount 91.28 39 PFAKE 23 50 50.0 +12
B06A LR LR
comp=Z,3µm,19.0s
Y14A Wickenburg 91.33 55 PFAKE 23 50 50.0 +11
Y14A LR LR
comp=Z,12µm,20.0s
VNA1 Neumayer--Stat 91.34 181 P P **23 50 37.0 -1.1**
EGAK Eagle 91.37 19 eP P **23 50 38.5 +0.4**
comp=Z,15nm,1.4s
EGAK LR LR
comp=Z,2µm,21.0s
FYU Fort Yukon 91.42 17 PFAKE 23 50 50.0 +12
FYU LR LR
comp=Z,3µm,20.0s
E07A Sunnyside 91.43 41 eP P **23 50 40.5 +1.6**
comp=Z,14nm,1.0s
E07A LR LR
comp=Z,2µm,22.0s
DAWY Dawson 91.47 20 eP P **23 50 39.7 +1.1**
comp=Z,4.9nm,1.0s
DAWY LR LR
comp=Z,2µm,21.0s
HAWA Hanford 91.56 41 eP P **23 50 38.4 -1.0**
comp=Z,22nm,1.2s
HAWA LR LR
comp=Z,2µm,20.0s
GUN Gumba 91.57 299 eP P **23 50 39.7 -0.6**
DLBC Dease Lake 91.72 28 LR LR 00 24 17.4
comp=Z,4µm,20.5s,baz=280,slow=31
MDRS Chennai 91.80 283 eP P **23 50 39.2 -2.0**
PKI Pulchoki 91.85 298 eP P **23 50 40.5 -1.1**
PKIN Phulchoki 91.86 298 eP P **23 50 40.4 -1.2**
comp=Z,76nm,1.4s
LLLB Lillooet 91.98 37 eP P **23 50 43.3 +2.0**
comp=Z,9.3nm,0.9s
LLLB LR LR
comp=Z,4µm,20.0s
KKN Kakani 92.03 298 eP P **23 50 41.6 -0.7**
DMN Daman 92.12 298 eP P **23 50 42.0 -0.8**
comp=Z,151nm,1.4s
D08A Wollman Farm, 92.22 41 eP P **23 50 44.0 +1.5**
comp=Z,36nm,1.9s
D08A LR LR
comp=Z,2µm,20.0s
LCMT Little Creek M 92.25 52 eP P **23 50 44.7 +1.7**
comp=Z,33nm,1.7s
LCMT LR LR
comp=Z,5µm,21.0s
PSUT Pine Spring 92.35 50 PFAKE 23 50 50.0 +6.5
PSUT LR LR
comp=Z,3µm,20.0s
BMO Blue Mountains 92.36 43 eP P **23 50 43.8 +0.5**
BMO Blue Mountains 92.36 43 eP P **23 50 43.8 +0.5**
comp=Z,18nm,1.6s
BMO LR LR
comp=Z,4µm,19.0s
CCUT Cedar City 92.36 51 eP P **23 50 44.4 +0.8**
comp=Z,26nm,1.7s
CCUT LR LR
comp=Z,7µm,20.0s
E09A Wood Farm, Sta 92.48 42 eP P **23 50 42.1 -1.5**
comp=Z,34nm,1.8s
B08A Colville Reser 92.50 40 eP P **23 50 44.6 +0.8**
comp=Z,13nm,1.4s
B08A LR LR
comp=Z,2µm,19.0s
TUC Tucson 92.52 57 P P **23 50 43.7 -0.5**
baz=250
TUC Tucson 92.52 57 eP P **23 50 46.1 +1.8**
TUC Tucson 92.52 57 eP P **23 50 46.1 +1.8**
comp=Z,26nm,1.8s
TUC LR LR
comp=Z,2µm,18.0s
KNB Kanab 92.57 52 eP P **23 50 45.2 +0.7**
KNB Kanab 92.57 52 eP P **23 50 45.2 +0.7**
comp=Z,46nm,1.7s
KNB epP **sP** **23 50 57.0 -1.5**
KNB LR LR
comp=Z,4µm,20.0s
SZCU Shurtz Canyon 92.58 51 PFAKE 23 51 00.0 +15
SZCU LR LR
comp=Z,6µm,20.0s
GKN Gorkha 92.64 298 eP P **23 50 43.5 -1.5**
X16A Lo Mia Camp, P 92.72 55 eP P **23 50 44.4 -0.9**
comp=Z,12nm,1.1s
U15A North Rim 92.76 53 eP P **23 50 44.7 -0.8**
comp=Z,8.7nm,0.9s
MFID Camas Ranch 92.78 45 eP P **23 50 46.5 +1.3**
comp=Z,25nm,1.8s
MFID LR LR
comp=Z,6µm,20.0s
DGAR Diego Garcia 92.83 261 PFAKE 23 51 00.0 +14
DGAR LR LR
comp=Z,8µm,19.0s
F10A Beach Ranch, E 92.85 42 eP P **23 50 44.4 -1.1**
comp=Z,33nm,1.5s
PKCU Pink Cliffs 93.10 52 PFAKE 23 51 00.0 +13
PKCU LR LR
comp=Z,5µm,22.0s
TCRU Three Creeks R 93.41 51 PFAKE 23 51 00.0 +12
TCRU LR LR
comp=Z,8µm,20.0s
319A Douglas 93.41 58 epP **pP** **23 50 57.6 -1.1**
319A LR LR
comp=Z,2µm,19.0s
KOLN Koldanda 93.43 298 eP P **23 50 47.1 -1.7**
TIXI Tiksi 93.47 348 ⇑P P **23 50 48.8 +1.2**
TIXI pmax pmax
comp=Z,16nm,1.4s
TIXI Tiksi 93.47 348 PFAKE 23 51 00.0 +12
TIXI LR LR
comp=Z,2µm,18.0s
TRD Trivandrum 93.48 278 eP P **23 50 46.2 -2.8**
DUG Dugway, Tooele 93.70 49 PFAKE 23 51 00.0 +10

DUG LR LR
comp=Z,4µm,20.0s
HLID Hailey 93.79 45 *e*P **P 23 50 51.3 +1.3**
comp=Z,3.2nm,1.0s
HLID LR LR
comp=Z,7µm,20.0s
BGU Big Grassy Mou 93.80 48 PFAKE 23 51 00.0 +10
BGU LR LR
comp=Z,3µm,19.0s
NEW Newport 93.82 40 LR LR 00 26 00.3
comp=Z,1µm,20.1s,baz=252,slow=31
X18A Snowflake 93.91 55 PFAKE 23 51 00.0 +9.2
X18A LR LR
comp=Z,2µm,21.0s
PYUN Piuthan 94.05 298 *e*P **P 23 50 49.6 -2.0**
NLU North Lily Min 94.14 49 PFAKE 23 51 00.0 +8.2
NLU LR LR
comp=Z,3µm,20.0s
W18A Petrified Fore 94.27 55 PFAKE 23 51 00.0 +7.6
W18A LR LR
comp=Z,3µm,21.0s
HVU Hansel Valley 94.28 47 PFAKE 23 51 00.0 +7.7
HVU LR LR
comp=Z,3µm,22.0s
SPUT South Promonto 94.34 48 PFAKE 23 51 00.0 +7.4
SPUT LR LR
comp=Z,3µm,22.0s
MPU Maple Canyon 94.48 49 PFAKE 23 51 00.0 +6.7
MPU LR LR
comp=Z,2µm,20.0s
TMUT Trail Mountain 94.55 50 PFAKE 23 51 00.0 +6.2
TMUT LR LR
comp=Z,4µm,20.0s
HYB Hyderabad 94.68 287 *e*P **P 23 50 53.3 -1.2**
JLU Jordanelle 94.81 49 PFAKE 23 51 10.0 +15
JLU LR LR
comp=Z,6µm,20.0s
P17A Butcher Ranch, 94.95 50 PFAKE 23 51 10.0 +15
P17A LR LR
comp=Z,3µm,20.0s
SRU San Rafael Swe 94.99 51 PFAKE 23 51 10.0 +14
SRU LR LR
comp=Z,7µm,20.0s
HPIG 95.02 63 PFAKE 23 51 10.0 +14
HPIG LR LR
comp=Z,4µm,20.0s
HWUT Hardware Ranch 95.07 48 PFAKE 23 51 10.0 +14
HWUT LR LR
comp=Z,2µm,21.0s
MSO Missoula 95.28 42 PFAKE 23 51 10.0 +13
MSO LR LR
comp=Z,2µm,20.0s
P18A Preston Nutter 95.36 50 PFAKE 23 51 10.0 +13
P18A LR LR
comp=Z,4µm,20.0s
WMQ Urumqi 95.56 314 P **P 23 50 57.9 -0.1**
WMQ sP pP 23 51 08.7 +0.5
WMQ PP **PP 23 54 51.0 +1.5**
WMQ SKS **SKSac 00 01 33.5 +1.7**
WMQ pmax pmax
comp=Z,7.0nm,2.3s
WMQ pmax pmax
comp=Z,460nm,4.9s
WMQ LR LR
comp=Z,2µm,17.5s
WMQ LR LR
comp=Z,700nm,17.5s
WMQ LR LR
comp=Z,720nm,21.3s
DLMT Dillon 95.64 44 PFAKE 23 51 10.0 +12
DLMT LR LR
comp=Z,4µm,21.0s
MVCO Mesa Verde 95.89 53 PFAKE 23 51 10.0 +10
MVCO LR LR
comp=Z,3µm,20.0s
INK Inuvik 95.97 19 LR LR 00 28 50.5
comp=Z,3µm,20.9s,baz=234,slow=32
INK Inuvik 95.97 19 *e*P **P 23 51 00.4 +1.3**
INK Inuvik 95.97 19 *e*P **P 23 51 00.4 +1.3**
comp=Z,21nm,1.8s
WALA Waterton Lakes 96.09 40 PFAKE 23 51 10.0 +10
WALA LR LR
comp=Z,2µm,21.0s
TPAW Teton Pass 96.12 46 PFAKE 23 51 10.0 +9.2
TPAW LR LR
comp=Z,6µm,20.0s
Y22D IRIS PASSCAL I 96.15 56 PFAKE 23 51 10.0 +9.0
Y22D LR LR
comp=Z,2µm,21.0s
REDW Red Top Meadow 96.15 46 *e*P **P 23 51 01.8 +0.9**
comp=Z,13nm,1.5s
REDW LR LR
comp=Z,5µm,20.0s
SNOW Snow King Moun 96.25 46 PFAKE 23 51 10.0 +8.6
SNOW LR LR
comp=Z,5µm,20.0s
IMW Indian Meadow 96.27 46 PFAKE 23 51 10.0 +8.5
IMW LR LR
comp=Z,6µm,20.0s
MOOW Moose Ponds 96.35 46 PFAKE 23 51 10.0 +8.2
MOOW LR LR
comp=Z,6µm,20.0s
BOZ Bozeman (W) 96.36 44 PFAKE 23 51 10.0 +8.3
BOZ LR LR
comp=Z,4µm,21.0s
YHB Horse Butte 96.37 45 PFAKE 23 51 10.0 +8.1
YHB LR LR
comp=Z,7µm,20.0s
LOHW Long Hollow 96.40 46 PFAKE 23 51 10.0 +8.0
LOHW LR LR
comp=Z,6µm,21.0s
ZAIG Zacatecas 96.47 68 PFAKE 23 51 10.0 +7.1
ZAIG LR LR
comp=Z,3µm,21.0s
YPP Pitchstone Pla 96.48 46 PFAKE 23 51 10.0 +7.6
YPP LR LR
comp=Z,8µm,21.0s
FLWY Flagg Ranch 96.49 46 PFAKE 23 51 10.0 +7.6
FLWY LR LR
comp=Z,6µm,20.0s
YMR Madison River 96.50 45 PFAKE 23 51 10.0 +7.6
YMR LR LR
comp=Z,6µm,20.0s
YFT Old Faithful 96.52 45 PFAKE 23 51 10.0 +7.5
YFT LR LR
comp=Z,10µm,20.0s
YHH Holmes Hill 96.62 45 PFAKE 23 51 10.0 +6.9
YHH LR LR
comp=Z,7µm,20.0s
H17A Grant Village 96.67 46 PFAKE 23 51 10.0 +6.7
H17A LR LR
comp=Z,8µm,20.0s
MNTX Cornudas Mount 96.67 59 PFAKE 23 51 10.0 +6.7
MNTX LR LR
comp=Z,2µm,19.0s
YNR Norris Junctio 96.71 45 PFAKE 23 51 10.0 +6.6
YNR LR LR
comp=Z,6µm,20.0s
ANMO Albuquerque 96.78 56 LR LR 00 26 29.9
comp=Z,2µm,21.9s,baz=215,slow=30
ANMO Albuquerque 96.78 56 *e*P **P 23 51 05.2 +1.3**
ANMO pmax pmax
comp=Z,4.0nm,1.4s
ANMO Albuquerque 96.78 56 PFAKE 23 51 20.0 +16
ANMO LR LR
comp=Z,2µm,22.0s
MOIG Morelia 96.81 72 PFAKE 23 51 20.0 +16
MOIG LR LR
comp=Z,2µm,22.0s
LKWY Lake 96.85 45 PFAKE 23 51 20.0 +16
LKWY LR LR
comp=Z,9µm,20.0s
BW06 Boulder Array 96.86 47 *e*P **P 23 51 04.1 0.0**
BW06 LR LR
comp=Z,2µm,20.0s
PDAR Pinedale Array 96.86 47 P **P 23 51 04.8 +0.6**
comp=Z,0.2nm,0.4s,baz=27,slow=1.7,SNR=4.7
PDAR LR LR 00 28 06.8
comp=Z,2µm,20.2s,baz=270,slow=31
O20A White River Ci 96.99 50 PFAKE 23 51 20.0 +15
O20A LR LR
comp=Z,5µm,20.0s
S22A 4UR Ranch, Cre 97.32 53 PFAKE 23 51 20.0 +14
S22A LR LR
comp=Z,3µm,20.0s
BHPL Bhopal 97.39 292 *e*P **P 23 51 06.0 -0.8**

TXAR Lajitas Array 97.41 62 P **P 23 51 05.8 -1.0**
comp=Z,0.2nm,0.7s,baz=263,slow=7.2,SNR=2.9
TXAR LR LR 00 28 47.9
comp=Z,2µm,18.8s,baz=0.0,slow=32
SMCO Snowmass 97.63 51 PFAKE 23 51 20.0 +12
SMCO LR LR
comp=Z,6µm,22.0s
RLMT Red Lodge 97.79 45 PFAKE 23 51 20.0 +12
RLMT LR LR
comp=Z,9µm,20.0s
EDM Edmonton 97.86 37 PFAKE 23 51 20.0 +12
EDM LR LR
comp=Z,5µm,20.0s
SDCO Great Sand Dun 98.33 53 PFAKE 23 51 20.0 +9.0
SDCO LR LR
comp=Z,3µm,20.0s
EGMT Eagleton 98.36 42 PFAKE 23 51 20.0 +9.4
EGMT LR LR
comp=Z,2µm,21.0s
GOA Goa 98.46 284 *e*P **P 23 51 09.3 -2.3**
GOA IAMs_20 IAMs_20 00 48 02.2
comp=Z,1µm,16.8s
UNM Universidad Na 98.53 72 PFAKE 23 51 20.0 +7.8
UNM LR LR
comp=Z,2µm,21.0s
TLIG Tlapa 98.59 74 PFAKE 23 51 20.0 +7.7
TLIG LR LR
comp=Z,2µm,21.0s
ISCO Idaho Springs 98.82 51 PFAKE 23 51 20.0 +6.9
ISCO LR LR
comp=Z,5µm,21.0s
DDI Dehra Dun 98.82 299 *e*P **P 23 51 11.1 -1.9**
N23A Red Feather La 98.88 50 PFAKE 23 51 20.0 +6.7
N23A LR LR
comp=Z,6µm,20.0s
Q24A Divide 98.93 52 PFAKE 23 51 20.0 +6.3
Q24A LR LR
comp=Z,3µm,22.0s
K22A Casper 98.96 48 PFAKE 23 51 20.0 +6.5
K22A LR LR
comp=Z,2µm,22.0s
T25A Trinidad 98.99 54 PFAKE 23 51 20.0 +6.2
T25A LR LR
comp=Z,2µm,20.0s
POO Poona 99.29 286 *e*P **Pdif 23 51 13.2 -2.1**
PHWY Pilot Hill 99.35 50 PFAKE 23 51 30.0 +15
PHWY LR LR
comp=Z,6µm,20.0s
MSTX Muleshoe 99.42 57 PFAKE 23 51 30.0 +14
MSTX LR LR
comp=Z,2µm,18.0s
SMLA Simla 99.78 300 *e*P **Pdif 23 51 16.8 -0.3**
LNIG Linares 99.79 67 PFAKE 23 51 30.0 +13
LNIG LR LR
comp=Z,5µm,21.0s
MK01 Makanchi Array 100.08 316 *e*Pdif **Pdif 23 51 17.5 -0.7**
LAO LASA Array 100.27 44 PFAKE 23 51 30.0 +11
LAO LR LR
comp=Z,3µm,20.0s
MAKZ Makanchi 100.31 316 PFAKE 23 51 30.0 +11
MAKZ LR LR
comp=Z,700nm,20.0s
YKW3 Yellowknife Ar 100.36 27 PFAKE 23 51 30.0 +11
YKW3 LR LR
comp=Z,2µm,20.0s
ZAA0 Zalesovo Array 100.51 323 *e*Pdif **Pdif 23 51 20.8 +0.9**
ZALV Zalesovo Beam 100.51 323 P **Pdif 23 51 18.2 -1.7**
comp=Z,0.8nm,0.6s,baz=158,slow=1.6,SNR=8.3
AMTX Amarillo 100.53 57 PFAKE 23 51 30.0 +9.4
AMTX LR LR
comp=Z,2µm,22.0s
KSCO Kaye Shedlock' 100.84 52 PFAKE 23 51 30.0 +8.1
KSCO LR LR
comp=Z,3µm,20.0s
JCT Junction City 100.95 61 PFAKE 23 51 30.0 +7.5
JCT LR LR
comp=Z,2µm,21.0s
PAYG Puerto Ayora 101.03 94 PFAKE 23 51 30.0 +6.8
PAYG LR LR
comp=Z,2µm,18.0s
RSSD Black Hills 101.10 47 PFAKE 23 51 30.0 +7.0
RSSD LR LR
comp=Z,3µm,19.0s
LVIG Laguna Verde 101.14 73 PFAKE 23 51 30.0 +6.6
LVIG LR LR
comp=Z,2µm,20.0s
ABTX Abilene, Hawle 101.61 59 PFAKE 23 51 40.0 +15
ABTX LR LR
comp=Z,2µm,19.0s
NVS Novosibirsk 101.65 324 *e*P **Pdif 23 51 20.8 -4.1**
NVS pmax pmax
comp=Z,19nm,1.8s
OGNE Ogallala 101.76 51 PFAKE 23 51 40.0 +14
OGNE LR LR
comp=Z,4µm,20.0s
KVTX Kingsville 101.83 65 PFAKE 23 51 40.0 +14
KVTX LR LR
comp=Z,2µm,19.0s
DGMT Dagmar 102.05 43 PFAKE 23 51 40.0 +13
DGMT LR LR
comp=Z,1µm,21.0s
GO05 HualaæØ 102.42 133 PFAKE 23 51 40.0 +11
GO05 LR LR
comp=Z,900nm,19.0s
TUIG Tuzandepetl 102.52 75 PFAKE 23 51 40.0 +10
TUIG LR LR
comp=Z,2µm,21.0s
KSH Kashi 102.78 308 *e*P **Pdif 23 51 32.2 +1.7**
KSH Kashi 102.78 308 PP PP 23 55 49.1 +4.3
KSH pmax pmax
comp=Z,10.0nm,1.7s
KSH pmax pmax
comp=Z,140nm,5.2s
KSH LR LR
comp=N,460nm,14.3s
KSH LR LR
comp=E,940nm,18.1s
KSH LR LR
comp=Z,640nm,16.1s
WMOK Wichita Mounta 102.81 57 PFAKE 23 51 40.0 +9.4
WMOK LR LR
comp=Z,2µm,18.0s
CBKS Cedar Bluff 102.98 53 PFAKE 23 51 40.0 +8.7
CBKS LR LR
comp=Z,3µm,21.0s
WHTX Lake Whitney, 103.26 60 PFAKE 23 51 40.0 +7.4
WHTX LR LR
comp=Z,3µm,20.0s
KURK Kurchatov 103.40 319 P **Pdif 23 51 29.8 -3.0**
KURK Kurchatov 103.40 319 Pdif **Pdif 23 51 29.8 -3.0**
KURK LR LR
comp=Z,2µm,18.0s
KURBB Kurchatov Arra 103.44 319 Pdiff **Pdif 23 51 29.8 -3.1**
comp=Z,0.2nm,0.7s,baz=123,slow=3.4,SNR=2.6
NRIK Noril'sk 103.50 339 Pdiff **Pdif 23 51 30.3 -2.5**
comp=Z,3.5nm,0.8s,baz=108,slow=4.7,SNR=8.0
CCIG Comitan 104.17 77 PFAKE 23 51 50.0 +13
CCIG LR LR
comp=Z,2µm,20.0s
BHJ Bhuj 104.30 290 *e*P **Pdif 23 51 35.0 -2.4**
BHJ IAMs_20 IAMs_20 00 41 33.3
comp=Z,1µm,15.5s
AAK Ala-Archa 104.53 310 Pdiff **Pdif 23 51 34.6 -3.7**
comp=Z,0.8nm,0.3s,baz=94,slow=7.3,SNR=1.8
AAK PKiKP **PKiKP 23 55 54.9 +0.7**
comp=Z,0.9nm,0.3s,baz=91,slow=9.9,SNR=4.5
BGNE Belgrade 104.72 51 PFAKE 23 51 50.0 +11
BGNE LR LR
comp=Z,5µm,20.0s
FFC Flin Flon 104.73 37 PFAKE 23 51 50.0 +11
FFC LR LR
comp=Z,4µm,20.0s
HOPE Hope Point 104.85 166 PFAKE 23 51 50.0 +11
HOPE LR LR
comp=Z,2µm,19.0s
MDND Maddock 104.93 44 PFAKE 23 56 10.0
MDND LR LR
comp=Z,2µm,21.0s
KSU1 Kansas State U 105.43 53 PFAKE 23 56 10.0
KSU1 LR LR
comp=Z,4µm,20.0s
TUL1 Leonard 105.45 57 PFAKE 23 56 10.0
TUL1 LR LR
comp=Z,3µm,18.0s
NATX Nacogdoches 105.53 61 PFAKE 23 56 10.0

NATX LR LR
comp=Z,2µm,19.0s
SCIG Sabancuy 105.72 75 PFAKE 23 56 10.0
SCIG LR LR
comp=Z,2µm,22.0s
ECSD EROS Data Cent 106.26 49 PFAKE 23 56 10.0
ECSD LR LR
comp=Z,5µm,20.0s
LCO Las Campanas 106.52 129 PFAKE 23 56 10.0
LCO LR LR
comp=Z,1µm,21.0s
MIAR Mount Ida 106.97 59 PFAKE 23 56 10.0
MIAR LR LR
comp=Z,2µm,19.0s
HHAR Hobbs 106.99 57 PFAKE 23 56 10.0
HHAR LR LR
comp=Z,2µm,22.0s
TRQA Tornquist 107.05 141 PFAKE 23 56 10.0
TRQA LR LR
comp=Z,900nm,19.0s
WLAR White Oak Lake 107.19 60 PFAKE 23 56 10.0
WLAR LR LR
comp=Z,3µm,20.0s
KBL Kabul 107.20 301 PFAKE 23 56 10.0
KBL LR LR
comp=Z,800nm,19.0s
AGMN Agassiz Nation 107.47 44 PFAKE 23 56 10.0
AGMN LR LR
comp=Z,2µm,20.0s
ULM Lac du Bonnet 107.72 42 PFAKE 23 56 10.0
ULM LR LR
comp=Z,2µm,20.0s
UALR University of 108.01 59 PFAKE 23 56 10.0
UALR LR LR
comp=Z,2µm,21.0s
X301 Greenbrier Sit 108.04 58 PFAKE 23 56 10.0
X301 LR LR
comp=Z,2µm,19.0s
TGUH Tegucigalpa,Un 108.14 81 PFAKE 23 56 10.0
TGUH LR LR
comp=Z,1µm,20.0s
WHAR Wooly Hollow 108.14 58 PFAKE 23 56 10.0
WHAR LR LR
comp=Z,2µm,19.0s
CCAR Cane Creek 108.33 60 PFAKE 23 56 10.0
CCAR LR LR
comp=Z,4µm,19.0s
SCIA State Center 108.45 51 PFAKE 23 56 10.0
SCIA LR LR
comp=Z,4µm,21.0s
TEIG Tepich 108.68 74 PFAKE 23 56 10.0
TEIG LR LR
comp=Z,1µm,22.0s
BVAR Borovoye Array 108.80 321 PKiKP **PKiKP 23 56 01.2 -0.4**
comp=Z,3.0nm,0.9s,baz=81,slow=4.7,SNR=11
BRVK Borovoye 108.86 321 *e*PKP **PKiKP 23 56 00.4 -1.3**
BRVK LR LR
comp=Z,1µm,18.0s
VBMS Vicksburg 109.07 61 PFAKE 23 56 10.0
VBMS LR LR
comp=Z,3µm,18.0s
SPMN Marine on St. 109.17 48 PFAKE 23 56 10.0
SPMN LR LR
comp=Z,1µm,20.0s
RES Resolute Bay 109.33 16 PFAKE 23 56 10.0
RES LR LR
comp=Z,2µm,20.0s
JTS JuntasAbangare 109.35 85 PFAKE 23 56 20.0
JTS LR LR
comp=Z,2µm,22.0s
NNA Nana 109.46 110 PFAKE 23 56 20.0
NNA LR LR
comp=Z,900nm,20.0s
FCC Fort Churchill 109.52 33 PFAKE 23 56 10.0
FCC LR LR
comp=Z,4µm,20.0s
MSEY Mahe Island 109.63 258 PFAKE 23 56 20.0
MSEY LR LR
comp=Z,4µm,19.0s
PBMO Poplar Bluff 109.86 57 PFAKE 23 56 20.0
PBMO LR LR
comp=Z,2µm,21.0s
MET Memphis--Engin 110.02 59 PFAKE 23 56 20.0
MET LR LR
comp=Z,1µm,21.0s
HDC Heredia 110.06 86 PFAKE 23 56 20.0
HDC LR LR
comp=Z,2µm,22.0s
SLM Saint Louis 110.27 55 PFAKE 23 56 20.0
SLM LR LR
comp=Z,3µm,21.0s
EYMN Ely 110.34 45 PFAKE 23 56 20.0
EYMN LR LR
comp=Z,4µm,20.0s
OXF Oxford 110.35 59 PFAKE 23 56 20.0
OXF LR LR
comp=Z,2µm,20.0s
PVMO Portageville 110.39 57 PFAKE 23 56 20.0
PVMO LR LR
comp=Z,2µm,20.0s
HALT Halls 110.61 58 PFAKE 23 56 20.0
HALT LR LR
comp=Z,2508µm,18.0s
JFWS Jewell Farm 110.75 50 PFAKE 23 56 20.0
JFWS LR LR
comp=Z,6µm,21.0s
ABPO Ambohimpanom 110.97 241 PFAKE 23 56 20.0
ABPO LR LR
comp=Z,3µm,20.0s
HDIL Hopedale 111.22 53 PFAKE 23 56 20.0
HDIL LR LR
comp=Z,2µm,20.0s
WVT Waverly 111.85 58 PFAKE 23 56 20.0
WVT LR LR
comp=Z,2µm,19.0s
OLIL Olney 111.94 55 PFAKE 23 56 20.0
OLIL LR LR
comp=Z,3µm,20.0s
LRAL Lakeview Retre 112.13 61 PFAKE 23 56 20.0
LRAL LR LR
comp=Z,2µm,19.0s
USIN University of 112.19 56 PFAKE 23 56 20.0
USIN LR LR
comp=Z,2µm,20.0s
OTAV Otavalo 112.52 98 PFAKE 23 56 20.0
OTAV LR LR
comp=Z,2µm,19.0s
SFIN Lafayette 112.87 53 PFAKE 23 56 20.0
SFIN LR LR
comp=Z,2µm,20.0s
BLO Bloomington 113.20 55 PFAKE 23 56 20.0
BLO LR LR
comp=Z,4µm,22.0s
SWET Sewanee 113.28 59 PFAKE 23 56 20.0
SWET LR LR
comp=Z,800nm,18.0s
CPCT Cooper Cave 114.45 59 PFAKE 23 56 20.0 +7.1
CPCT LR LR
comp=Z,2µm,21.0s
SVE Sverdlovsk 114.47 325 *e*PKIKP PKPdf 23 56 11.6 -0.6
TIGA Tifton 114.80 63 PFAKE 23 56 30.0 +16
TIGA LR LR
comp=Z,2µm,21.0s
TKL Tuckaleechee C 115.08 59 PFAKE 23 56 30.0 +16
TKL LR LR
comp=Z,3µm,21.0s
LPAZ La Paz 115.08 118 PKP **PKPdf 23 56 17.3 +1.9**
comp=Z,1.1nm,0.9s,baz=194,slow=3.8,SNR=2.9
GOGA Godfrey 115.12 61 PFAKE 23 56 30.0 +16
GOGA LR LR
comp=Z,2µm,21.0s
ABKAR Akbulak array 115.23 316 *e*PKP **PKPdf 23 56 12.8 -1.2**
TZTN Tazewell 115.33 58 PFAKE 23 56 30.0 +15
TZTN LR LR
comp=Z,3µm,20.0s
ARU Arti 115.64 324 *i* PKIKP **PKPdf 23 56 15.8 +1.3**
ARU 23 57 19.5
ARU PPP PPP 23 59 50.5
ARU 00 03 25.2
ARU SP SP 00 06 56.6 +3.0
ARU SS **SS 00 13 16.4 +1.3**
ARU SSS SSS 00 17 36.8
ARU MLR MLR
comp=Z,990nm,21.0s
ARU Arti 115.64 324 *e*PKPdf **PKPdf 23 56 14.5 0.0**

ARU LR LR
comp=Z,1µm,19.0s
ACSO Alum Creek Sta 116.00 54 PFAKE 23 56 30.0 +14
ACSO LR LR
comp=Z,3µm,20.0s
SOKR Solikamsk 116.18 328⇑ *i*PKIKP **PKPdf 23 56 13.5 -1.9**
SOKR PS **PS 00 06 56.8 -6.3**
SOKR SS SS 00 13 21.0 -0.8
SOKR pmax pmax
comp=Z,16nm,1.1s
DWPF Disney Wildern 116.24 67 PFAKE 23 56 30.0 +13
DWPF LR LR
comp=Z,1µm,21.0s
UOSS Minazif 116.67 289 PFAKE 23 56 30.0 +13
UOSS LR LR
comp=Z,500nm,20.0s
PRAC Prado 117.01 95 PFAKE 23 56 30.0 +12
PRAC LR LR
comp=Z,2µm,21.0s
JSC Jenkinsville 117.02 60 PFAKE 23 56 30.0 +12
JSC LR LR
comp=Z,3µm,18.0s
KMSC Kings Mountain 117.03 59 PFAKE 23 56 30.0 +12
KMSC LR LR
comp=Z,3µm,22.0s
HELC Santa Helena 117.15 92 PFAKE 23 56 30.0 +11
HELC LR LR
comp=Z,2µm,18.0s
NHSC New Hope 117.83 62 PFAKE 23 56 30.0 +11
NHSC LR LR
comp=Z,2µm,22.0s
BLA Blacksburg 117.88 57 PFAKE 23 56 30.0 +11
BLA LR LR
comp=Z,2µm,18.0s
ROSC El Rosal 117.89 94 PFAKE 23 56 30.0 +9.4
ROSC LR LR
comp=Z,1µm,22.0s
ALLY Alegheny Colle 118.17 52 PFAKE 23 56 30.0 +10
ALLY LR LR
comp=Z,3µm,20.0s
KBS Kingsbay 118.19 355 *e*PP PP 23 57 35.7 +1.3
KBS *e*PS **PS 00 07 23.1 +2.3**
KBS *e*SS SS 00 13 49.5 +2.5
KBS Kingsbay 118.19 355 PFAKE 23 56 30.0 +11
KBS LR LR
comp=Z,1µm,22.0s
ERPA Erie 118.29 52 PFAKE 23 56 30.0 +10
ERPA LR LR
comp=Z,3µm,20.0s
MCWV Mont Chateau 118.39 54 PFAKE 23 56 30.0 +10
MCWV LR LR
comp=Z,2µm,20.0s
SPA0 Spitsbergen Ar 118.42 354 *e*PP PP 23 57 35.7 -0.4
SPA0 IAMs_20 IAMs_20 00 38 49.7
comp=Z,962nm,21.5s
HOPEN Hopen 118.66 351 IAMs_20 IAMs_20 00 40 21.7
comp=Z,1µm,21.7s
SADO Sadowa 118.83 48 PFAKE 23 56 30.0 +9.0
SADO LR LR
comp=Z,5µm,20.0s
RUSC La Rusia 119.39 93 PFAKE 23 56 30.0 +6.4
RUSC LR LR
comp=Z,300nm,19.0s
HSPB Hornsund (broa 119.53 353 *e*PP PP 23 57 42.6 -1.1
HSPB *e*SKpdf **SKpdf 23 59 53.9 -0.8**
HSPB *e*PS **PS 00 07 33.7 +0.8**
HSPB IAMs_20 IAMs_20 00 46 26.2
comp=Z,993nm,19.9s
VLDQ Val d'Or 119.75 45 PFAKE 23 56 30.0 +7.4
VLDQ LR LR
comp=Z,2µm,18.0s
CNNC Cliffs of the 119.85 59 PFAKE 23 56 30.0 +6.8
CNNC LR LR
comp=Z,3µm,19.0s
SSPA Standing Stone 119.89 53 PFAKE 23 56 30.0 +6.8
SSPA LR LR
comp=Z,2µm,19.0s
CBN Corbin Frederi 120.31 56 PFAKE 23 56 40.0 +16
CBN LR LR
comp=Z,3µm,19.0s
SDMD Soldier's Deli 120.72 55 PFAKE 23 56 40.0 +15
SDMD LR LR
comp=Z,2µm,20.0s
BOSA Boshof 121.08 219 PKP **PKPdf 23 56 23.6 -2.5**
comp=Z,7.6nm,1.1s,baz=181,slow=6.2,SNR=3.0
BINY Binghamton 121.26 51 PFAKE 23 56 40.0 +14
BINY LR LR
comp=Z,4µm,21.0s
KSPA Keystone Colle 121.46 52 PFAKE 23 56 40.0 +14
KSPA LR LR
comp=Z,4µm,20.0s
PSUB Penn St. - Bra 121.77 54 PFAKE 23 56 40.0 +13
PSUB LR LR
comp=Z,3µm,20.0s
LUPA Lehigh Univers 121.81 53 PFAKE 23 56 40.0 +13
LUPA LR LR
comp=Z,4µm,21.0s
LONY Lake Ozonia 122.08 48 PFAKE 23 56 40.0 +13
LONY LR LR
comp=Z,6µm,20.0s
LVZ Lovozero 122.26 341 PFAKE 23 56 40.0 +13
LVZ LR LR
comp=Z,2µm,22.0s
ODNJ Ogdensburg 122.36 53 PFAKE 23 56 40.0 +12
ODNJ LR LR
comp=Z,3µm,20.0s
NCB Newcomb 122.41 49 PFAKE 23 56 40.0 +12
NCB LR LR
comp=Z,100nm,22.0s
BRNJ Basking Ridge 122.41 53 PFAKE 23 56 40.0 +12
BRNJ LR LR
comp=Z,4µm,21.0s
SDV Santo Domingo 122.57 91 PFAKE 23 56 40.0 +11
SDV LR LR
comp=Z,700nm,19.0s
FRNY Flat Rock 122.77 48 PFAKE 23 56 40.0 +11
FRNY LR LR
comp=Z,5µm,21.0s
APA Apatity 122.83 341⇑ *i*PKIKP **PKPdf 23 56 27.7 -0.3**
APA *i* 23 58 17.0
APA *i* 00 08 01.0
APA pmax pmax
comp=Z,6.0nm,0.9s
APA MLR MLR
comp=Z,2µm,24.0s
ACCN Adirondack Com 122.87 50 PFAKE 23 56 40.0 +11
ACCN LR LR
comp=Z,5µm,22.0s
PAL Palisades 122.89 53 PFAKE 23 56 40.0 +11
PAL LR LR
comp=Z,4µm,20.0s
TRY Troy 122.93 51 PFAKE 23 56 40.0 +11
TRY LR LR
comp=Z,5µm,22.0s
KEV Kevo 123.21 345 PFAKE 23 56 40.0 +11
KEV LR LR
comp=Z,900nm,19.0s
HAMF Hammerfest 123.35 346 *e*PP PP 23 58 08.4 -1.3
HAMF *e*PS **PS 00 08 08.5 +1.6**
HAMF IAMs_20 IAMs_20 00 46 26.9
comp=Z,985nm,18.4s
YLE Yale 123.60 52 PFAKE 23 56 40.0 +10
YLE LR LR
comp=Z,4µm,19.0s
ARA0 ARCESS Array S 123.74 345 *e*PKPdf **PKPdf 23 56 30.7 +1.0**
ARCES ARCESS Array B 123.74 345 PKP **PKPdf 23 56 30.6 +0.9**
comp=Z,3.3nm,0.7s,baz=103,slow=2.6,SNR=9.6
ARE0 ARCESS Array S 123.74 345 *e*PKPdf **PKPdf 23 56 31.0 +1.3**
ARE0 *e*PP **PP 23 58 10.3 -2.2**
ARE0 IAMs_20 IAMs_20 00 55 01.1
comp=Z,1µm,18.5s
ARE0 ARCESS Array S 123.74 345 PFAKE 23 56 40.0 +10
ARE0 LR LR
comp=Z,1µm,20.0s
HNH Hanover 123.83 49 PFAKE 23 56 40.0 +9.4
HNH LR LR
comp=Z,12µm,20.0s
QUA2 Belchertown 123.94 51 PFAKE 23 56 40.0 +9.1
QUA2 LR LR
comp=Z,2µm,20.0s
KLMR Klimovskoe 124.02 332 *e*PKIKP **PKPdf 23 56 28.4 -2.1**
KLMR pmax pmax
comp=Z,42nm,1.3s
LBNH Lisbon 124.02 49 PFAKE 23 56 40.0 +9.0
LBNH LR LR
comp=Z,6µm,20.0s
SDDR Presa de Saban 124.16 79 PFAKE 23 56 40.0 +7.9
SDDR LR LR
comp=Z,1µm,19.0s
FFD Franklin Falls 124.31 49 PFAKE 23 56 40.0 +8.4
FFD LR LR
comp=Z,11µm,20.0s
HRV Adam Dziewonsk 124.50 51 PFAKE 23 56 40.0 +8.0
HRV LR LR
comp=Z,2µm,22.0s
BRYW Bryant College 124.58 51 PFAKE 23 56 40.0 +7.8
BRYW LR LR
comp=Z,5µm,18.0s
LMQ La Malbaie 124.59 44 PFAKE 23 56 40.0 +8.0
LMQ LR LR
comp=Z,2µm,20.0s
WES Weston 124.69 51 PFAKE 23 56 40.0 +7.7
WES LR LR
comp=Z,4µm,20.0s
SEKA Sheki 124.73 308 PKIKP **PKPdf 23 56 31.6 -1.0**
SCHQ Schefferville 124.81 35 PFAKE 23 56 40.0 +7.8
SCHQ LR LR
comp=Z,5µm,19.0s
MNGR Mingechevir, A 124.86 307 PKIKP **PKPdf 23 56 31.9 -0.8**
TRO Tromso 125.16 347 *e*PKPdf **PKPdf 23 56 34.1 +1.7**
TRO *e*PP **PP 23 58 21.7 -0.2**
TRO IAMs_20 IAMs_20 00 54 01.3
comp=Z,1µm,20.8s
SDD Santo Domingo 125.35 80 PFAKE 23 56 50.0 +16
SDD LR LR
comp=Z,1µm,19.0s
GANJ Ganja 125.45 307 PKIKP **PKPdf 23 56 33.0 -0.9**
GROC Groznyy 125.52 310 *i* PKIKP **PKPdf 23 56 34.3 +0.4**
WVL Waterville 125.58 48 PFAKE 23 56 50.0 +16
WVL LR LR
comp=Z,6µm,20.0s
PKME Peaks-Kenny Pk 125.71 47 PFAKE 23 56 50.0 +16
PKME LR LR
comp=Z,3µm,20.0s
DAMY Dhamar 125.83 275 *e*PKPdf **PKPdf 23 56 38.4 +2.7**
DAMY LR LR
comp=Z,2µm,21.0s
SPB Sao Paulo 126.02 139 PFAKE 23 56 50.0 +14
SPB LR LR
comp=Z,800nm,18.0s
NAX Nakhchivan 126.23 306 PKIKP **PKPdf 23 56 34.5 -1.0**
PQI Presque Isle 126.31 45 PFAKE 23 56 50.0 +15
PQI LR LR
comp=Z,7µm,21.0s
TBLG Delisi 126.50 309 P **PKPdf 23 56 37.7 +1.8**
TBLG Delisi 126.50 309 PKIKP **PKPdf 23 56 37.6 +1.8**
GUDG Gudauri 126.58 310 P **PKPdf 23 56 40.2 +3.9**
GNI Garni 126.70 307 PKP **PKPdf 23 56 35.3 -1.2**
comp=Z,17nm,1.0s,baz=46,slow=22,SNR=6.5
GNI Garni 126.70 307⇓ *i*PKIKP **PKPdf 23 56 37.3 +0.8**
GNI pmax pmax
comp=Z,126nm,1.7s
GNI Garni 126.70 307 *e*PKPdf **PKPdf 23 56 36.8 +0.3**
GNI LR LR
comp=Z,800nm,22.0s
ZEI Tsey 126.95 310 *i* PKIKP **PKPdf 23 56 35.6 -1.4**
ZEI pmax pmax
comp=Z,58nm,1.0s
NCK Nalchik 127.05 311⇓ *i*PKIKP **PKPdf 23 56 38.7 +1.8**
MOS Moscow 127.11 327 *e*PKIKP **PKPdf 23 56 36.2 -0.3**
MOS pmax pmax
comp=Z,43nm,1.2s
GOF Gofitskoye 127.14 313⇑ *e*PKIKP **PKPdf 23 56 35.2 -1.8**
GOF pmax pmax
comp=Z,34nm,1.2s
ONI Oni 127.31 310 P **PKPdf 23 56 38.3 +0.8**
ONI Oni 127.31 310 PKIKP **PKPdf 23 56 38.3 +0.8**
BGD Bogdanovka 127.41 308 P **PKPdf 23 56 38.8 +1.0**
GGN Saint George 127.44 47 PFAKE 23 56 50.0 +13
GGN LR LR
comp=Z,4µm,18.0s
AKH Akhalkalaki 127.47 309 P **PKPdf 23 56 40.8 +2.9**
AKH Akhalkalaki 127.47 309⇑ *i*P **PKPdf 23 56 38.6 +0.6**
AKH Akhalkalaki 127.47 309 PKIKP **PKPdf 23 56 40.8 +2.9**
LOF Lofoten 127.50 348 *e*PP PP 23 58 39.3 +1.9
KBZ Khabaz 127.51 312 PKP **PKPdf 23 56 36.0 -1.7**
comp=Z,11nm,1.1s,baz=82,slow=3.8,SNR=9.5
KBZ Khabaz 127.51 312 PKIKP **PKPdf 23 56 36.0 -1.7**
KBZ pmax pmax
comp=Z,11nm,1.1s
KIV Kislovodsk 127.61 312 *i* PKIKP **PKPdf 23 56 39.1 +1.1**
KIV *e* 23 58 39.9
KIV *e*SS SS 00 15 49.4 +0.6
KIV pmax pmax
comp=Z,31nm,1.1s
KIV Kislovodsk 127.61 312 *e*PKPdf **PKPdf 23 56 39.6 +1.5**
KIV LR LR
comp=Z,700nm,20.0s
LPSR Galich'ya Gora 127.62 323 *e*PKIKP **PKPdf 23 56 37.5 -0.1**
LPSR pmax pmax
comp=Z,50nm,1.0s
NEY Neytrino 127.72 311⇓ PKIKP **PKPdf 23 56 40.4 +2.0**
KMBO Kilima Mbogo 127.79 254 PKP **PKPdf 23 56 36.7 -2.7**
comp=Z,0.7nm,0.2s,baz=98,slow=7.1,SNR=2.9
KMBO Kilima Mbogo 127.79 254 PKP **PKPdf 23 56 36.7 -2.7**
KMBO LR LR
comp=Z,3µm,20.0s
OBN Obninsk 127.92 327⇑ *e*PKIKP **PKPdf 23 56 37.2 -0.9**
OBN *i* 23 58 40.0
OBN SSS SSS 00 20 34.0
OBN pmax pmax
comp=Z,18nm,1.5s
OBN Obninsk 127.92 327 *e*PKPdf **PKPdf 23 56 39.7 +1.6**
VSR Storozhevoye 127.97 321 *e*PKIKP **PKPdf 23 56 38.2 -0.1**
VSR MLR MLR
comp=Z,1µm,21.0s
LSZ Lusaka 128.19 233 *e*PKIKP **PKPdf 23 56 41.8 +1.8**
LSZ MLR MLR
comp=Z,4µm,21.0s
LSZ Lusaka 128.19 233 *e*PKPdf **PKPdf 23 56 41.8 +1.8**
LSZ LR LR
comp=Z,4µm,21.0s
LMN Caledonia Moun 128.67 45 PFAKE 23 56 50.0 +10
LMN LR LR
comp=Z,4µm,20.0s
ARTV Artvin 128.67 308 *e*PKPdf **PKPdf 23 56 42.7 +2.4**
ARTV LR LR
comp=Z,400nm,18.0s
MOR8 Moi Rana 128.98 346 *e*PP PP 23 58 46.0 -1.2
FIA1 FINESS Array S 129.14 337 *e*PKPdf **PKPdf 23 56 41.5 +1.3**
FIA1 *e*PKPdf **PKiKP 23 56 42.0 +1.1**
FINES FINESS Array B 129.14 337 PKP **PKPdf 23 56 40.5 +0.3**
comp=Z,20nm,1.2s,baz=85,slow=4.0,SNR=11
FINES FINESS Array B 129.14 337*c* *i*PKIKP **PKPdf 23 56 41.4 +1.2**
FINES pmax pmax
comp=Z,20nm,1.2s
PTGA Pitinga 129.35 107 *e*PKPdf **PKPdf 23 56 41.6 -0.5**
PTGA LR LR
comp=Z,1µm,22.0s
SOC Sochi 129.80 312 *i* PKIKP **PKPdf 23 56 44.7 +2.6**
SOC *e* 23 58 52.8
SOC *e*PPP PPP 00 01 48.5
FURI Furi 129.89 266 PFAKE 23 56 50.0 +6.5
FURI LR LR
comp=Z,2µm,19.0s
KOPT Kop Dagi 129.94 307 PFAKE 23 56 50.0 +7.2
KOPT LR LR
comp=Z,1µm,19.0s
MARD Mardin 130.13 304 *e*PKPdf **PKPdf 23 56 46.1 +3.1**
VSU Vasula 130.78 334⇑ *i*PKIKP **PKPdf 23 56 45.1 +1.7**
VSU pmax pmax
comp=Z,90nm,2.5s
ANN Anapa 131.07 314 *i* PKIKP PKPpre 23 56 39.0
ANN pmax pmax
comp=Z,89nm,1.4s
ANN MLR MLR
comp=Z,465nm,20.0s
ANN MLR MLR
comp=N,934nm,20.0s
ANN MLR MLR
comp=E,231nm,20.0s
SABA Saba 131.49 82 PFAKE 23 57 00.0 +14
SABA LR LR
comp=Z,1µm,20.0s
DRLN Deer Lake 132.22 39 PFAKE 23 57 00.0 +14
DRLN LR LR
comp=Z,5µm,20.0s
TBLU Trondheim 132.42 347 *e*SKPdf **SKPdf 00 00 17.1 -2.2**
MICGM Minsk 132.60 329 *e* **PKPdf 23 56 46.0 -1.0**
MNK Minsk 132.60 329 *e*PKIKP **PKPdf 23 56 46.0 -1.0**
IZAR Zarasai 132.64 332 *e*P **PKPdf 23 56 43.4 -3.6**
IZAR IAmb IAmb 23 56 51.2
comp=Z,9.3nm,1.2s
IDID Didziasalis 132.67 331 *e*P **PKPdf 23 56 47.2 +0.1**
IDID IAmb IAmb 23 56 51.3
comp=Z,7.0nm,1.0s
ISAL Salakas 132.80 331 *e*P **PKPdf 23 56 45.5 -1.9**
ISAL IAmb IAmb 23 56 50.4
comp=Z,19nm,1.4s
IIGN Ignalina 132.89 331 *e*P **PKPdf 23 56 46.6 -1.0**
IIGN IAmb IAmb 23 56 51.4
comp=Z,8.1nm,0.9s
NACGM Naroch 132.89 330 *e*LR LR 23 59 06.0
FDF Fort de France 132.96 87 PFAKE 23 57 00.0 +11
FDF LR LR
comp=Z,900nm,20.0s
SIM Simferopol' 133.27 315 *e*PKIKP **PKPdf 23 56 56.2 +7.6**
SIM *e* 23 59 16.0
SIM pmax pmax
comp=Z,250nm,9.3s
DOMB Dombas 133.75 346 *e*PP PP 23 59 18.6 +0.6
DOMB *e*SKPdf **SKPdf 00 00 21.7 -0.2**
DOMB IAMs_20 IAMs_20 00 51 46.5
comp=Z,875nm,19.7s
AKASG Malin Array Be 133.90 324 PKP **PKPdf 23 56 48.4 -1.1**
comp=Z,3.6nm,0.6s,baz=61,slow=2.7,SNR=10
AKASG Malin Array Be 133.90 324 PKIKP **PKPdf 23 56 48.4 -1.1**
AKASG pmax pmax
comp=Z,8.0nm,0.9s
AKBB Malin Array Si 133.90 324 *e*PKIKP **PKPdf 23 56 50.8 +1.2**
AKBB Malin Array Si 133.90 324 *e*PKPdf **PKPdf 23 56 50.8 +1.2**
KIEV Kiev 133.91 324 *e*PKIKP **PKPdf 23 56 50.7 +1.1**
KIEV MLR MLR
comp=Z,1µm,19.0s
KIEV Kiev 133.91 324 *e*PKPdf **PKPdf 23 56 50.7 +1.1**
KIEV LR LR
comp=Z,1µm,19.0s
AK11 Malin Array Si 133.94 324 *e*PKPdf **PKPdf 23 56 49.0 -0.6**
AKN Aaknes 134.07 348 *e*PKPdf **PKPdf 23 56 48.9 -0.7**
AKN *e*SKPdf **SKPdf 00 00 21.9 -0.7**
NOA NORSAR Array B 134.10 344 PKP **PKPdf 23 56 49.0 -0.7**
comp=Z,1.9nm,0.9s,baz=39,slow=2.1,SNR=3.8
NOA NORSAR Array B 134.10 344 PKIKP **PKPdf 23 56 49.0 -0.7**
NOA pmax pmax
comp=Z,2.0nm,0.9s
NC602 NORSAR Array S 134.28 344 *e*PP PP 23 59 22.9 +1.5
NC602 *e*SKPdf **SKPab 00 00 21.1 +0.9**
NC602 IAMs_20 IAMs_20 00 49 28.2
comp=Z,1µm,18.0s
ILGA Ilgaz 134.74 310 *e*PKPdf **PKPdf 23 56 53.3 +1.5**
ILGA LR LR
comp=Z,1µm,20.0s
FOO Floro 134.98 348 *e*PKPdf **PKPdf 23 56 53.0 +1.8**
SUW Suwalki 135.11 331 *e*PKP **PKPdf 23 56 52.9 +1.2**
SUW Suwalki 135.11 331 *e*PKIKP **PKPdf 23 56 52.9 +1.2**
BR131 Keskin Array S 135.16 308 *e*PKPdf **PKPdf 23 56 52.8 +0.2**
BRTR Keskin Array B 135.16 308 PKP **PKPdf 23 56 51.8 -0.8**
comp=Z,8.7nm,1.1s,baz=127,slow=3.7,SNR=17
BRTR PP **PP 23 59 30.6 +2.4**
comp=Z,1.0nm,0.9s,baz=106,slow=4.5,SNR=3.7
SORM Soroca 135.63 322⇑ *i*P **PKPdf 23 56 51.6 -1.3**
SORM Soroca 135.63 322⇑ PKIKP **PKPdf 23 56 51.6 -1.3**
KONO Kongsberg 135.71 344 *e*PKSdf PKSdf 00 00 30.7 +2.0
KONO Kongsberg 135.71 344 PFAKE 23 57 00.0 +7.3
KONO LR LR
comp=Z,800nm,20.0s
ANTO Ankara 135.75 309 *e*PKIKP **PKPdf 23 56 54.5 +1.0**
ANTO MLR MLR
comp=Z,800nm,19.0s
ANTO Ankara 135.75 309 *e*PKPdf **PKPdf 23 56 54.5 +1.0**
ANTO LR LR
comp=Z,800nm,19.0s
BR231 Keskin MP Arra 135.77 309 *e*PKPdf **PKPdf 23 56 52.5 -1.1**
KIS Kishinev 135.87 320 *e*PKP **PKPdf 23 56 53.0 -0.4**
KIS Kishinev 135.87 320 *e*PsP 23 57 06.0
KIS Kishinev 135.87 320 *e*PP PP 23 59 46.0 +14
KIS *e*SKP 00 00 26.0
KIS Kishinev 135.87 320 *e*PKS **PKSab 00 00 38.0 +6.8**
KIS Kishinev 135.87 320 *e*PPP PPP 00 02 50.0
KIS LRM MLR 00 59 30.0
comp=Z,1µm,20.0s
KIS Kishinev 135.87 320 *e*PKIKP **PKPdf 23 56 53.0 -0.4**
KIS *e*PS **sPKPdf 23 57 06.0 -1.5**
KIS *e* 00 09 44.0
BER Bergen 136.04 348 *e*PKPdf **PKPdf 23 56 53.7 +0.5**
BER IAMs_20 IAMs_20 00 57 35.4
comp=Z,1µm,21.2s
CSS Mathiatis 136.45 302 P **PKPdf 23 56 54.8 -0.1**
CSS Mathiatis 136.45 302 *e*PKPdf **PKPdf 23 56 55.5 +0.6**
CSS LR LR
comp=Z,400nm,22.0s
BLS5 Blasjo 136.67 346 IAMs_20 IAMs_20 00 55 18.1
comp=Z,1µm,21.4s
CFR Carcaliu 137.10 318⇑ *i*P **PKPdf 23 56 54.1 -1.6**
CFR Carcaliu 137.10 318⇑ PKIKP **PKPdf 23 56 54.1 -1.6**
LVV L'vov 137.19 326 *e*PKHKP PKPpre 23 56 42.5
LVV MLR MLR
comp=Z,1µm,22.0s
HOMB Homborsund 137.20 344 *e*PP PP 23 59 40.5 +0.9
HOMB IAMs_20 IAMs_20 00 59 17.2
comp=Z,1µm,18.2s
TIRR Tirgusor 137.22 317⇓ *i*P **PKPdf 23 56 57.5 +1.5**
TIRR Tirgusor 137.22 317 *e*PKIKP **PKPdf 23 56 57.3 +1.3**
TIRR MLR MLR
comp=Z,1µm,19.0s
TIRR Tirgusor 137.22 317 *e*PKPdf **PKPdf 23 56 57.3 +1.3**
TIRR LR LR
comp=Z,1µm,19.0s
STAV Stavanger 137.28 346 IAMs_20 IAMs_20 00 55 34.0
comp=Z,1µm,18.6s
TLB Topalu 137.41 317⇓ *i*P **PKPdf 23 56 56.0 -0.2**
TLB Topalu 137.41 317⇓ PKIKP **PKPdf 23 56 56.1 -0.2**
TESR Tescani 137.42 320⇑ *i*P **PKPdf 23 56 57.6 +1.3**
BOLV Bolvadin 137.44 308 PFAKE 23 57 10.0 +13
BOLV LR LR
comp=Z,1µm,19.0s
BUR08 Bucovina Ar. S 137.72 322 *e*PKPdf **PKPdf 23 56 59.2 +2.2**
BURAR Bucovina Array 137.72 322⇓ *i*P **PKPdf 23 56 59.0 +2.0**
BURAR Bucovina Array 137.72 322⇓ PKIKP **PKPdf 23 56 59.0 +2.0**
PLOR Plostina 137.73 319⇓ *i*P **PKPdf 23 56 59.4 +2.5**
PLOR Plostina 137.73 319⇓ PKIKP **PKPdf 23 56 59.4 +2.5**
KWP Kalwaria Pacla 138.00 326 *e*PKP **PKPdf 23 56 59.3 +2.0**
KWP Kalwaria Pacla 138.00 326 *e*PKIKP **PKPdf 23 56 59.3 +2.0**
ISP Isparta 138.01 307 *e*PKIKP **PKPdf 23 57 00.1 +2.3**
ISP MLR MLR
comp=Z,1µm,21.0s
ISP Isparta 138.01 307 *e*PKPdf **PKPdf 23 57 00.1 +2.3**
ISP LR LR
comp=Z,1µm,21.0s
MLR Muntele Rosu 138.34 319⇑ *i*P **PKPdf 23 56 58.4 +0.2**
MLR Muntele Rosu 138.34 319 *e*PKIKP **PKPdf 23 56 57.1 -1.1**
MLR MLR
comp=Z,1µm,22.0s
MLR Muntele Rosu 138.34 319 *e*PKPdf **PKPdf 23 56 57.1 -1.1**
MLR LR LR
comp=Z,1µm,22.0s
PRD Provadia 138.41 315 *e*P **PKPdf 23 57 01.0 +2.8**
UZH Uzhgorod 138.81 325 *e*PKIKP **PKPdf 23 56 55.0 -3.8**
UZH *e* 23 57 05.2
STHS Stebnicka Huta 138.90 327 *e*PKIKP **PKPdf 23 56 55.3 -3.7**
STHS *e* 23 59 51.3
STHS Stebnicka Huta 138.90 327 *e*PKP **PKPdf 23 56 55.3 -3.7**
STHS *e*PP **PP 23 59 51.2 +0.4**
VOIR 138.92 320⇓ *i*P PKPpre 23 56 49.8
VOIR 138.92 320⇓ PKHKP PKPpre 23 56 49.8
TRPA Tarpa 138.96 325 *e*PKPdf **PKPdf 23 56 59.4 +0.4**
CRVS Cervenica-Dubn 139.09 326 *e*PKIKP PKPpre 23 56 55.0
CRVS *e* 00 00 00.4
OJC Ojcow 139.13 329 *e*PKP **PKPdf 23 57 00.4 +1.1**
OJC Ojcow 139.13 329 *e*PKIKP **PKPdf 23 57 00.4 +1.1**
OJC Ojcow 139.13 329 *e*PKPdf **PKPdf 23 57 01.7 +2.4**
AKAS Kas 139.14 305 PFAKE 23 57 10.0 +10
AKAS LR LR
comp=Z,600nm,22.0s
ARR Arges 139.21 320⇑ *i*P **PKPdf 23 56 56.1 -3.6**
KULA Kula-Manisa 139.21 308 P **PKPdf 23 57 00.0 0.0**
KULA Kula-Manisa 139.21 308 P **PKPdf 23 57 00.0 0.0**
MANT Manisa 139.30 308 PFAKE 23 57 10.0 +10
MANT LR LR
comp=Z,900nm,20.0s
NIE Niedzica 139.38 327 *e*PKP **PKPdf 23 57 01.7 +1.8**
NIE Niedzica 139.38 327 *e*PKIKP **PKPdf 23 57 01.7 +1.8**

DRGR		**139.61 323**	⇓	*i*P	PKPpre	23 56 54.3		
DRGR		**139.61 323**	⇓	PKHKP	PKPpre	23 56 54.3		
LOT	**Lotru**	**139.69 320**	⇑	*i*P	PKPpre	23 56 52.1		
KECS	**Kecovo**	**139.86 326**		*e*PKIKP	**PKPdf**	**23 57 02.1**	**+1.4**	
KECS	**Kecovo**	**139.86 326**		*e*	**PKPdf**	**23 57 02.1**	**+1.4**	
LANS	**Liptovska Anna**	**139.98 328**		*e*PKIKP	**PKPdf**	**23 56 57.2**	**-3.8**	
LANS	**Liptovska Anna**	**139.98 328**		*e*PKP	**PKPdf**	**23 56 57.2**	**-3.8**	
OKC	**Ostrava-Krasne**	**140.19 329**		*e*PKP	**PKPdf**	**23 57 01.7**	**+0.5**	
OKC				AMS	AMS	01 02 10.0		
	comp=Z,900nm,21.2s							
OKC	**Ostrava-Krasne**	**140.19 329**		*e*PKIKP	**PKPdf**	**23 57 01.7**	**+0.5**	
ALN	**Alexandroupoli**	**140.26 313**		P	**PKPdf**	**23 57 00.0**	**-1.6**	
ALN	**Alexandroupoli**	**140.26 313**		PKIKP	**PKPdf**	**23 57 00.0**	**-1.6**	
ALN	**Alexandroupoli**	**140.26 313**		P	**PKPdf**	**23 57 00.0**	**-1.6**	
KSP	**Ksiaz**	**140.37 332**		*e*PKP	**PKPdf**	**23 57 03.0**	**+1.4**	
KSP	**Ksiaz**	**140.37 332**		*e*PKIKP	**PKPdf**	**23 57 02.9**	**+1.4**	
RDO	**Rodhopi**	**140.52 313**		P	**PKPdf**	**23 56 58.1**	**-4.0**	
RDO	**Rodhopi**	**140.52 313**		P	**PKPdf**	**23 56 58.1**	**-4.0**	
MORC	**Moravsky Berou**	**140.52 330**	⇑	*i*P	**PKPdf**	**23 56 59.7**	**-2.2**	
MORC	**Moravsky Berou**	**140.52 330**	⇑	PKIKP	**PKPdf**	**23 56 59.7**	**-2.2**	
MORC	**Moravsky Berou**	**140.52 330**		*e*PKPdf	**PKPdf**	**23 57 03.7**	**+1.8**	
PSZ	**Piszkesteto**	**140.52 326**	⇓	*i*P	**PKPdf**	**23 56 59.7**	**-2.3**	
PSZ	**Piszkesteto**	**140.52 326**		*e*PKIKP	**PKPdf**	**23 56 59.9**	**-2.1**	
PSZ				MLR	MLR			
	comp=Z,1μm,20.0s							
PSZ	**Piszkesteto**	**140.52 326**		*e*PKPdf	**PKPdf**	**23 56 59.6**	**-2.4**	
PSZ	**Piszkesteto**	**140.52 326**		*e*PKPdf	**PKPdf**	**23 56 59.9**	**-2.1**	
PSZ				LR	LR			
	comp=Z,1μm,20.0s							
KRLC	**Kraliky**	**140.68 331**		*e*PKP	**PKPdf**	**23 57 02.3**	**+0.1**	
KRLC	**Kraliky**	**140.68 331**		*e*PKIKP	**PKPdf**	**23 57 02.3**	**+0.1**	
DPC	**Dobruska-Polom**	**140.70 331**		*e*PKP	**PKPdf**	**23 57 01.1**	**-1.1**	
DPC				AMS	AMS	01 00 40.0		
	comp=Z,1μm,22.1s							
DPC	**Dobruska-Polom**	**140.70 331**		*e*PKIKP	**PKPdf**	**23 57 01.1**	**-1.1**	
UPC	**Upice**	**140.73 332**		*e*PKP	**PKPdf**	**23 57 03.0**	**+0.8**	
UPC				AMS	AMS	01 05 30.0		
	comp=Z,1μm,19.5s							
UPC	**Upice**	**140.73 332**		*e*PKIKP	**PKPdf**	**23 57 03.0**	**+0.8**	
MPEP	**Malo Peshtene**	**140.74 318**		*e*P	**PKPdf**	**23 57 02.0**	**-0.5**	
RZN	**Rozhen**	**140.85 315**		*e*P	**PKPdf**	**23 56 58.0**	**-5.0**	
BZS	**Buzias**	**140.89 322**	⇑	*i*P	**PKPdf**	**23 57 00.7**	**-2.0**	
BZS	**Buzias**	**140.89 322**	⇑	PKIKP	**PKPdf**	**23 57 00.7**	**-2.0**	
KARP	**Karpathos**	**141.23 304**		PFAKE		23 57 10.0	+6.4	
KARP				LR	LR			
	comp=Z,300nm,21.0s							
KAVA	**Kavala**	**141.28 314**		P	**PKPdf**	**23 57 01.8**	**-1.7**	
KAVA	**Kavala**	**141.28 314**		P	**PKPdf**	**23 57 01.8**	**-1.7**	
MDVR	**Moldovita**	**141.28 321**	⇑	*i*P	**PKPdf**	**23 57 00.7**	**-2.8**	
VRAC	**Vranov**	**141.29 330**	⇑	*i*P	**PKPdf**	**23 57 05.2**	**+1.9**	
VRAC	**Vranov**	**141.29 330**	⇑	PKIKP	**PKPdf**	**23 57 05.2**	**+1.9**	
PVCC	**Panska Ves**	**141.35 333**		*e*PKP	**PKPdf**	**23 57 02.9**	**-0.4**	
PVCC				AMS	AMS	01 02 50.0		
	comp=Z,900nm,22.4s							
PVCC	**Panska Ves**	**141.35 333**		*e*PKIKP	**PKPdf**	**23 57 02.9**	**-0.4**	
BRG	**Berggiesshubel**	**141.37 334**		*e*PKP	**PKPdf**	**23 56 59.7**	**-3.7**	
	comp=Z,52nm,2.0s							
BRG				*e*		23 57 06.7		
	comp=Z,23nm,1.3s							
	comp=N,618nm,14.1s							
	comp=E,567nm,14.4s							
	comp=Z,1μm,17.2s							
BRG	**Berggiesshubel**	**141.37 334**		*e*PKIKP	**PKPdf**	**23 56 59.7**	**-3.7**	
BRG				*e*		23 57 06.7		
BRG				pmax	pmax			
	comp=Z,52nm,2.0s							
BRG				MLR	MLR			
	comp=N,618nm,14.1s							
BRG				MLR	MLR			
	comp=E,567nm,14.4s							
BRG				MLR	MLR			
	comp=Z,1μm,17.2s							
SMOL	**Smolenice**	**141.42 328**		*e*PKIKP	**PKPdf**	**23 57 05.3**	**+1.8**	
SMOL	**Smolenice**	**141.42 328**		*e*	**PKPdf**	**23 57 05.3**	**+1.8**	
CLL	**Collm**	**141.43 335**		*e*PKIKP	**PKPdf**	**23 57 01.0**	**-2.4**	
CLL				*i*		23 57 07.0		
CLL				MLR	MLR			
	comp=Z,1μm,19.6s							
CLL	**Collm**	**141.43 335**		*e*PKPdf	**PKPdf**	**23 57 01.0**	**-2.4**	
CLL				*i* PKiKP	**PKiKP**	**23 57 07.0**	**+0.8**	
	comp=Z,24nm,1.5s							
CLL				*e*PP	**PP**	**00 00 08.0**	**+2.0**	
CLL				*es*PP		00 00 19.0		
CLL				*e*SKPdf	**SKPdf**	**00 00 35.0**	**-0.9**	
CLL				*e*		00 01 02.0		
CLL				*e*PPS	PPS	00 12 26.0		
CLL				*e*SSS	SSS	00 24 06.0		
CLL				Lm	MLR	01 07 00.0		
	comp=N,900nm,20.1s							
CLL				Lm	MLR	01 07 00.0		
	comp=E,400nm,20.6s							
CLL				Lm	MLR	01 07 00.0		
	comp=Z,1μm,19.6s							
CLL	**Collm**	**141.43 335**		PFAKE		23 57 10.0	+6.6	
CLL				LR	LR			
	comp=Z,1μm,18.0s							
VTS	**Vitosha**	**141.44 317**		P	**PKPdf**	**23 57 02.2**	**-1.8**	
VTS	**Vitosha**	**141.44 317**	⇑	*i*P	**PKPdf**	**23 57 01.6**	**-2.4**	
VTS	**Vitosha**	**141.44 317**	⇑	PKIKP	**PKPdf**	**23 57 01.6**	**-2.4**	
VTS	**Vitosha**	**141.44 317**		*e*P	**PKPdf**	**23 57 02.0**	**-2.0**	
VTS	**Vitosha**	**141.44 317**		*e*PKPdf	**PKPdf**	**23 57 01.6**	**-2.4**	
VTS				LR	LR			
	comp=Z,1μm,20.0s							
MMB	**Musomiste**	**141.56 315**		*e*P	**PKPdf**	**23 57 00.0**	**-4.1**	
GOPC	**GO Pecny, Ondr**	**141.70 332**		*e*PKP	**PKPdf**	**23 57 03.0**	**-1.0**	
GOPC				*ex*	x	23 57 08.5		
GOPC				AMS	AMS	01 04 40.0		
	comp=Z,1μm,19.5s							
GOPC	**GO Pecny, Ondr**	**141.70 332**		*e*PKIKP	**PKPdf**	**23 57 03.0**	**-1.0**	
GOPC				*e*		23 57 08.5		
PRA	**Prague**	**141.75 332**		AMS	AMS	01 03 50.0		
	comp=Z,1μm,22.4s							
PRU	**Pruhonice**	**141.76 332**		*e*PKP	**PKPdf**	**23 57 00.8**	**-3.3**	
PRU				*ex*	x	23 57 03.4		
PRU				AMS	AMS	01 03 40.0		
	comp=Z,1μm,20.5s							
PRU	**Pruhonice**	**141.76 332**		*e*PKIKP	**PKPdf**	**23 57 00.8**	**-3.3**	
SRS	**Serrai**	**141.86 314**		P	PKPpre	23 56 58.6		
APE	**Apeiranthos**	**142.03 307**	⇓	PKIKP	**PKPdf**	**23 57 06.6**	**+1.6**	
SOH	**Sokhos**	**142.15 314**		P	PKPpre	23 56 58.5		
PLG	**Polygyros**	**142.28 313**		P	PKPpre	23 57 00.6		
PLG	**Polygyros**	**142.28 313**		PKIKP	PKPpre	23 57 00.6		
PLG	**Polygyros**	**142.28 313**		P	PKPpre	23 57 00.6		
SANT	**Santorini**	**142.31 306**		PFAKE		23 57 20.0	+14	
SANT				LR	LR			
	comp=Z,600nm,22.0s							
PAIG	**Paliouri**	**142.31 313**		P	PKPpre	23 56 59.0		
KNT	**Kendrikon**	**142.31 315**		P	PKPpre	23 56 59.5		
HORT	**Hortiatis**	**142.42 314**		P	PKPpre	23 57 00.1		
HORT	**Hortiatis**	**142.42 314**		P	PKPpre	23 57 00.1		
NKC	**Novy Kostel**	**142.48 334**		*e*PKP	**PKPdf**	**23 57 02.3**	**-3.1**	
NKC				AMS	AMS	00 58 40.0		
	comp=Z,1μm,18.9s							
NKC	**Novy Kostel**	**142.48 334**		*e*PKIKP	**PKPdf**	**23 57 02.3**	**-3.1**	
THE	**Thessaloniki**	**142.50 314**		P	PKPpre	23 57 01.1		
THE	**Thessaloniki**	**142.50 314**		PKIKP	PKPpre	23 57 01.1		
THE	**Thessaloniki**	**142.50 314**		P	PKPpre	23 57 01.1		
CONA	**Conrad Observa**	**142.59 329**		*i* PKPdf	**PKPdf**	**23 57 04.0**	**-1.7**	
	comp=Z,19nm,1.6s,SNR=8.6							
LAST	**Lasithi**	**142.66 304**		P	**PKPdf**	**23 57 02.7**	**-3.6**	
LAST	**Lasithi**	**142.66 304**		P	**PKPdf**	**23 57 02.7**	**-3.6**	
DIVS	**Divibare**	**142.69 321**		P	**PKPdf**	**23 57 02.8**	**-3.2**	
SKIA	**Skiathos**	**142.77 312**		P	**PKPdf**	**23 57 03.8**	**-2.4**	
KHC	**Kasperske Hory**	**142.81 332**		*e*PKP	PKPpre	23 57 01.9		
KHC				*ex*	x	23 57 04.7		
KHC				*ex*	x	23 58 00.0		
KHC				AMS	AMS	01 06 00.0		
	comp=Z,1μm,18.1s							
KHC	**Kasperske Hory**	**142.81 332**		*e*PKIKP	PKPpre	23 57 02.0		
KHC				MLR	MLR			
	comp=Z,400nm,20.0s							
KHC	**Kasperske Hory**	**142.81 332**		*e*PKPpre	PKPpre	23 57 02.0		
KHC				LR	LR			
	comp=Z,400nm,20.0s							
XOR	**Xorichti**	**142.88 312**		P	PKPpre	23 56 55.7		
SKO	**Skopje**	**142.89 317**		*i* P	**PKPdf**	**23 57 03.6**	**-2.8**	
PTL	**Penteli**	**142.92 310**		P	**PKPdf**	**23 57 03.1**	**-3.5**	
PTL	**Penteli**	**142.92 310**		P	**PKPdf**	**23 57 03.1**	**-3.5**	
GEC2	**GERESS Array S**	**142.97 331**		*e*PKIKP	**PKPdf**	**23 57 03.5**	**-2.9**	
GEC2				MLR	MLR			
	comp=Z,1μm,21.0s							
GEC2	**GERESS Array S**	**142.97 331**		*e*PKPpre	PKPpre	23 57 03.5		
GEC2				LR	LR			
	comp=Z,1μm,21.0s							
GERES	**GERESS Array B**	**142.97 331**		PKhKP	PKPpre	23 57 01.4		
	comp=Z,3.8nm,0.9s,baz=48,slow=2.0,SNR=18							
GEA0	**GERESS Array S**	**142.97 331**		*e*PKPpre	PKPpre	23 57 02.3		
SMIA	**Simia**	**143.07 311**		P	PKPbc	23 57 05.1	+1.4	
IDI	**Anoyia**	**143.08 305**		PFAKE		23 57 20.0	+13	
IDI				LR	LR			
	comp=Z,600nm,21.0s							
ARSA	**Arzberg**	**143.22 328**		*i* PKPdf	**PKPdf**	**23 57 05.4**	**-1.4**	
	comp=Z,15nm,1.2s,SNR=7.5							
SIVA	**Sivas**	**143.22 305**		P	PKPbc	23 57 03.9	-0.3	
SIVA	**Sivas**	**143.22 305**		P	PKPbc	23 57 03.9	-0.3	
VILL	**Villia**	**143.28 310**		P	PKPab	23 57 03.0	-0.1	
LKR	**Lokris**	**143.31 311**		P	PKPab	23 57 03.6	+0.5	
LKR	**Lokris**	**143.31 311**		P	PKPab	23 57 03.6	+0.5	
GRFO	**Grafenberg**	**143.41 334**		*e*PKIKP	**PKPdf**	**23 57 06.1**	**-0.9**	
GRFO				MLR	MLR			
	comp=Z,1μm,20.0s							
GRFO	**Grafenberg**	**143.41 334**		*e*PKPdf	**PKPdf**	**23 57 06.0**	**-0.9**	
GRFO				LR	LR			
	comp=Z,1μm,20.0s							
MOA	**Molln**	**143.42 330**		*i* PKPdf	PKPbc	23 57 04.0	-0.3	
	comp=Z,24nm,1.5s,SNR=5.9							
BIA	**Bitola**	**143.43 316**		*i* P	PKPbc	23 57 05.5	+0.8	
FNA	**Florina**	**143.51 315**		P	PKPab	23 57 02.4	-1.5	
FNA	**Florina**	**143.51 315**		P	PKPab	23 57 02.4	-1.5	
VAM	**Vamos**	**143.58 305**		P	PKPab	23 57 04.0	-0.3	
VAM	**Vamos**	**143.58 305**		PKIKP	PKPab	23 57 04.0	-0.3	
VAM	**Vamos**	**143.58 305**		P	PKPab	23 57 04.0	-0.3	
DID	**Didima**	**143.58 309**		P	PKPab	23 57 02.3	-2.0	
DID	**Didima**	**143.58 309**		P	PKPab	23 57 02.3	-2.0	
LTK	**Loutraki**	**143.58 310**		P	PKPab	23 57 03.4	-0.8	
LTK	**Loutraki**	**143.58 310**		P	PKPab	23 57 03.4	-0.8	
THL	**Klokotos Trika**	**143.62 313**		P	PKPab	23 57 03.7	-0.6	
AGG	**Agios Georgios**	**143.63 312**		P	PKPab	23 57 04.4	0.0	
AGG	**Agios Georgios**	**143.63 312**		*e*PKIKP	PKPbc	23 57 05.2	-0.1	
AGG				MLR	MLR			
	comp=Z,2μm,21.0s							
AGG	**Agios Georgios**	**143.63 312**		*e*PKPdf	PKPbc	23 57 05.2	-0.1	
AGG				LR	LR			
	comp=Z,2μm,21.0s							
IMMV	**Iera Moni Meta**	**143.73 306**		P	PKPab	23 57 03.6	-1.3	
OHR	**Ohrid**	**143.73 316**		*i* P	PKPbc	23 57 05.8	+0.3	
DSF	**Desfina**	**143.75 311**		P	PKPab	23 57 03.0	-1.9	
DSF	**Desfina**	**143.75 311**		P	PKPab	23 57 03.0	-1.9	
THAL	**Thalero**	**143.80 310**		P	PKPbc	23 57 05.5	-0.2	
SOKA	**Soboth**	**143.85 328**		*i* PKPdf	**PKPdf**	**23 57 07.5**	**-0.5**	
	comp=Z,42nm,1.5s,SNR=9.8							
NEST	**Nestorio**	**143.90 315**		P	PKPab	23 57 04.0	-1.5	
PENT	**Pentalofos**	**143.94 314**		P	PKPab	23 57 04.2	-1.5	
KALE	**Kalithea**	**144.03 311**		P	**PKPab**	**23 57 05.8**	**-0.2**	
KALE	**Kalithea**	**144.03 311**		P	**PKPab**	**23 57 05.8**	**-0.2**	
EVR	**Evrytania**	**144.05 312**		P	**PKPab**	**23 57 01.1**	**-5.0**	
PDG	**Podgorica**	**144.05 319**		P	**PKPab**	**23 57 05.1**	**-0.7**	
PDG	**Podgorica**	**144.05 319**	⇓	*i*P	**PKPab**	**23 57 05.6**	**-0.2**	
TTG	**Podgorica**	**144.05 319**		PKIKP	**PKPab**	**23 57 05.1**	**-0.7**	
TTG	**Podgorica**	**144.05 319**		P	**PKPab**	**23 57 05.1**	**-0.7**	
SERG	**Sergoula**	**144.08 311**		P	**PKPab**	**23 57 05.3**	**-0.8**	
VLI	**Veliai**	**144.10 308**		P	**PKPab**	**23 57 05.1**	**-1.1**	
VLI	**Veliai**	**144.10 308**		P	**PKPab**	**23 57 05.1**	**-1.1**	
ANKY	**Antikythira Is**	**144.12 307**		P	**PKPab**	**23 57 03.6**	**-2.7**	
ANKY	**Antikythira Is**	**144.12 307**		P	**PKPab**	**23 57 03.6**	**-2.7**	
KLV	**Kalavryta, Ach**	**144.17 311**		P	**PKPab**	**23 57 01.9**	**-4.6**	
KYTH	**Kithira**	**144.18 307**		P	**PKPab**	**23 57 06.0**	**-0.6**	
KYTH	**Kithira**	**144.18 307**		P	**PKPab**	**23 57 06.0**	**-0.6**	
LAKA	**Lakka**	**144.21 311**		P	**PKPab**	**23 57 05.6**	**-1.0**	
LAKA	**Lakka**	**144.21 311**		P	**PKPab**	**23 57 05.6**	**-1.0**	
OBKA	**Obir**	**144.21 328**		*i* PKPdf	**PKPdf**	**23 57 08.0**	**-0.7**	
	comp=Z,26nm,1.3s,SNR=7.9							
TIR	**Tirane**	**144.23 317**	⇑	*i*P	PKPbc	23 57 06.8	-0.1	
TIR	**Tirane**	**144.23 317**	⇑	PKIKP	PKPbc	23 57 06.9	0.0	
TIR	**Tirane**	**144.23 317**		*e*PKPdf	**PKPab**	**23 57 06.4**	**-0.1**	
TIR				LR	LR			
	comp=Z,1μm,22.0s							
VLX	**Vlachokerasia**	**144.27 309**		P	PKPbc	23 57 07.4	+0.1	
VLX	**Vlachokerasia**	**144.27 309**		P	PKPbc	23 57 07.4	+0.1	
PVO	**Paravola**	**144.38 312**		P	**PKPdf**	**23 57 08.8**	**-0.3**	
JAN	**Janina**	**144.38 314**		P	**PKPab**	**23 57 05.7**	**-1.6**	
JAN	**Janina**	**144.38 314**		PKIKP	**PKPab**	**23 57 05.7**	**-1.6**	
JAN	**Janina**	**144.38 314**		P	**PKPab**	**23 57 05.7**	**-1.6**	
KBA	**Koelnbreinsper**	**144.41 330**		*i* PKPdf	**PKPdf**	**23 57 08.5**	**-0.6**	
	comp=Z,54nm,1.3s,SNR=5.3							
KBA	**Koelnbreinsper**	**144.41 330**		PKIKP	**PKPdf**	**23 57 09.2**	**+0.1**	
DSL	**Palaion Diasel**	**144.45 313**		P	**PKPab**	**23 57 06.1**	**-1.4**	
DSL	**Palaion Diasel**	**144.45 313**		P	**PKPab**	**23 57 06.1**	**-1.4**	
CWF	**Charnwood Fore**	**144.50 349**		*e*PKPdf	**PKPdf**	**23 57 09.0**	**+0.2**	
BEBN	**Eben Emael**	**144.52 340**		PKP	**PKPab**	**23 57 07.3**	**+0.1**	
DRO	**Drossia**	**144.52 311**		P	PKPbc	23 57 08.0	0.0	
LJU	**Ljubljana**	**144.54 327**		*e*PKPdf	**PKPab**	**23 57 06.3**	**-1.3**	
MEM	**Membach**	**144.57 340**		PKP	**PKPab**	**23 57 06.8**	**-0.7**	
MEM				APKP	**pPKPdf**	**23 57 17.1**	**-2.4**	
MYKA	**Terra Mystica**	**144.58 329**		*i* PKPdf	**PKPdf**	**23 57 08.7**	**-0.6**	
	comp=Z,54nm,1.5s,SNR=13							
PDO	**Prodromos**	**144.62 312**		P	**PKPab**	**23 57 06.9**	**-1.2**	
RLS	**Riolos of Patr**	**144.65 311**		P	**PKPdf**	**23 57 09.3**	**-0.2**	
RLS	**Riolos of Patr**	**144.65 311**		P	**PKPdf**	**23 57 09.3**	**-0.2**	
ITM	**Ithomi**	**144.67 309**		P	**PKPab**	**23 57 05.5**	**-2.9**	
ITM	**Ithomi**	**144.67 309**		P	**PKPab**	**23 57 05.5**	**-2.9**	
AMT	**Artemida-Makis**	**144.69 310**		P	**PKPab**	**23 57 05.2**	**-3.2**	
IGT	**Igoumenitsa**	**144.80 314**		P	**PKPab**	**23 57 05.6**	**-3.1**	
IGT	**Igoumenitsa**	**144.80 314**		P	**PKPab**	**23 57 05.6**	**-3.1**	
CADS	**Cadrg**	**144.81 328**		*e*PKPdf	**PKPab**	**23 57 06.5**	**-2.2**	
SGD	**Sagiada**	**144.83 314**		P	**PKPab**	**23 57 07.2**	**-1.6**	
LKD2	**Lefkada island**	**144.91 313**		P	**PKPab**	**23 57 08.0**	**-1.2**	
LKD2	**Lefkada island**	**144.91 313**		P	**PKPab**	**23 57 08.0**	**-1.2**	
PYL	**PYLOS**	**144.92 309**		P	**PKPab**	**23 57 07.4**	**-1.9**	
PYL	**PYLOS**	**144.92 309**		P	**PKPab**	**23 57 07.4**	**-1.9**	
STU	**Stuttgart**	**144.95 335**		*e*PKIKP	**PKPab**	**23 57 08.7**	**-0.3**	
STU				MLR	MLR			
	comp=Z,1μm,19.0s							
STU	**Stuttgart**	**144.95 335**		*e*PKPdf	**PKPab**	**23 57 08.7**	**-0.3**	
STU				LR	LR			
	comp=Z,1μm,19.0s							
BCLA	**Clavier**	**144.96 341**		PKP	**PKPab**	**23 57 08.0**	**-0.9**	
ABTA	**Abfaltersbach**	**145.04 330**		*i* PKPdf	**PKPbc**	**23 57 08.2**	**-1.3**	
	comp=Z,143nm,1.4s,SNR=51							
WATA	**Walderalm**	**145.04 332**		*i* PKPdf	**PKPbc**	**23 57 08.7**	**-0.9**	
	comp=Z,55nm,1.1s,SNR=33							
WTTA	**Wattenberg**	**145.07 331**		*i* PKPdf	**PKPbc**	**23 57 09.1**	**-0.6**	
	comp=Z,79nm,1.2s,SNR=26							
KEK	**Kerkira**	**145.08 315**		P	**PKPbc**	**23 57 08.0**	**-1.7**	
KEK	**Kerkira**	**145.08 315**		P	**PKPbc**	**23 57 08.0**	**-1.7**	
KFL	**Anninata**	**145.12 311**		P	**PKPbc**	**23 57 07.9**	**-2.0**	
TRI	**Trieste**	**145.16 328**		*e*PKIKP	**PKPbc**	**23 57 08.0**	**-1.7**	
TRI				MLR	MLR			
	comp=Z,900nm,18.0s							
TRI	**Trieste**	**145.16 328**		*e*PKPbc	**PKPbc**	**23 57 08.0**	**-1.7**	
TRI				LR	LR			
	comp=Z,900nm,18.0s							
SNF	**Seneffe**	**145.20 342**		PKP	**PKPbc**	**23 57 09.1**	**-0.6**	
VLS	**Valsamata**	**145.23 312**		P	**PKPbc**	**23 57 07.6**	**-2.7**	
VLS	**Valsamata**	**145.23 312**		PKP2	**PKPbc**	**23 57 07.6**	**-2.7**	
VLS	**Valsamata**	**145.23 312**		P	**PKPbc**	**23 57 07.6**	**-2.7**	
MOTA	**Moosalm**	**145.25 332**		*i* PKPdf	**PKPbc**	**23 57 09.4**	**-0.8**	
	comp=Z,141nm,1.3s,SNR=63							
RETA	**Reutte**	**145.29 332**		*i* PKPdf	**PKPbc**	**23 57 09.4**	**-0.8**	
	comp=Z,88nm,1.2s,SNR=30							
LANF	**Langenberg**	**145.32 337**		PKP	**PKPbc**	**23 57 10.0**	**-0.2**	
WLF	**Walferdange**	**145.33 339**		PKP	**PKPbc**	**23 57 10.3**	**+0.1**	
WLF	**Walferdange**	**145.33 339**		*e*PKIKP	**PKPbc**	**23 57 10.1**	**-0.1**	
WLF				MLR	MLR			
	comp=Z,2μm,20.0s							
WLF	**Walferdange**	**145.33 339**		*e*PKPbc	**PKPbc**	**23 57 10.1**	**-0.1**	
WLF				LR	LR			
	comp=Z,2μm,20.0s							
DOU	**Dourbes**	**145.47 341**		PKP	**PKPdf**	**23 57 10.0**	**-0.6**	
BFO	**Black Forest**	**145.65 336**		*e*PKIKP	**PKPdf**	**23 57 10.6**	**-0.4**	
BFO	**Black Forest**	**145.65 336**		*e*PKPdf	**PKPdf**	**23 57 10.6**	**-0.4**	
FETA	**Feichten**	**145.66 332**		*i* PKPab	**PKPdf**	**23 57 10.7**	**-0.5**	
	comp=Z,156nm,1.2s,SNR=69							
DAVA	**Damuels**	**145.83 333**		*i* PKPab	**PKPdf**	**23 57 11.7**	**+0.1**	
	comp=Z,141nm,1.3s,SNR=36							
FUORN	**Ofenpass-Fuorn**	**146.17 332**		*e*PKPdf	**PKPdf**	**23 57 12.7**	**+0.4**	
FUORN				LR	LR			
	comp=Z,1μm,19.0s							
ECH	**Echery**	**146.19 337**		PKP	**PKPbc**	**23 57 12.6**	**-0.4**	
MOF	**Molkenrain**	**146.50 336**		PKP	**PKPdf**	**23 57 12.6**	**+0.1**	
RCBR	**Riachuelo**	**146.53 133**		*e*PKPdf	**PKPdf**	**23 57 12.8**	**-0.7**	
RCBR				LR	LR			
	comp=Z,1μm,20.0s							
THEF	**They Montfort**	**146.61 338**		PKP	**PKPbc**	**23 57 13.5**	**-0.7**	
TUE	**Stuetta**	**146.69 333**		*e*PKPdf	**PKPbc**	**23 57 14.1**	**-0.6**	
LOMF	**Lomont**	**147.03 336**		PKP	**PKPbc**	**23 57 15.7**	**+0.2**	
CUC	**Castrocucco**	**147.55 318**		*e*PKPdf	**PKPdf**	**23 57 15.1**	**+0.6**	
CUC				LR	LR			
	comp=Z,600nm,20.0s							
AQU	**L'Aquila**	**147.59 323**		*e*PKP2	**PKPdf**	**23 57 15.4**	**+0.9**	
AQU				MLR	MLR			
	comp=Z,1μm,22.0s							
AQU	**L'Aquila**	**147.59 323**		*e*PKPdf	**PKPdf**	**23 57 15.4**	**+0.9**	
AQU				LR	LR			
	comp=Z,1μm,22.0s							
SENIN	**Lac Senin/Sane**	**147.65 335**		*e*PKPdf	**PKPbc**	**23 57 16.3**	**-1.1**	
VLC	**Villacollemand**	**147.95 329**		*e*PKPdf	**PKPdf**	**23 57 15.8**	**+0.8**	
VLC				LR	LR			
	comp=Z,1μm,19.0s							
CEL	**Celeste**	**148.44 315**		*e*PKPbc	**PKPbc**	**23 57 18.6**	**-0.9**	
CEL				LR	LR			
	comp=Z,700nm,21.0s							
BNI	**Bardonecchia**	**148.96 334**		*e*PKIKP	**PKPdf**	**23 57 18.3**	**+1.5**	
BNI				MLR	MLR			
	comp=Z,1μm,20.0s							
BNI	**Bardonecchia**	**148.96 334**		*e*PKPdf	**PKPdf**	**23 57 18.3**	**+1.5**	
BNI				LR	LR			
	comp=Z,1μm,20.0s							
PLDF	**La Plantade**	**149.38 338**		PKP	**PKPbc**	**23 57 23.3**	**+1.6**	
AGO	**Saint Agoulin**	**149.48 339**		PKP	**PKPbc**	**23 57 22.3**	**+0.4**	
SSB	**Saint Sauveur**	**149.63 336**		*e*PKP2	**PKPbc**	**23 57 21.9**	**-0.4**	
SSB				MLR	MLR			
	comp=Z,1μm,19.0s							
SSB	**Saint Sauveur**	**149.63 336**		*e*PKPbc	**PKPbc**	**23 57 21.9**	**-0.4**	
SSB				LR	LR			
	comp=Z,1μm,19.0s							
PYM	**Petit Puy Mans**	**149.78 339**		PKP	**PKPbc**	**23 57 23.2**	**+0.5**	
LBL	**Lubilhac**	**150.15 338**		PKP	**PKPbc**	**23 57 24.4**	**+0.8**	
CLTB	**Caltabellotta**	**150.59 316**		*e*PKPdf	**PKPdf**	**23 57 20.6**	**+1.1**	
WDD	**Wied Dalam**	**150.61 312**		*e*PKPdf	**PKPdf**	**23 57 21.4**	**+1.9**	
WD

JYNG				S	Sg	23 52 05.9	-0.5
YOJ	**Yonaguni jima**	**0.82**	**29**	P	Pn	23 51 57.2	-0.2
YOJ				S	Sg	23 52 06.9	-0.7
TWD	**Chiawan**	**0.96**	**291**	⇓*i*P	Pb	23 51 58.5	-0.3
	baz=293						
ENA	**Nanau**	**1.03**	**312**	*e*P	Pn	23 52 00.3	+0.1
	baz=315						
ESL	**Shilin**	**1.05**	**274**	*e*P	Pb	23 51 59.6	-0.8
	baz=274						
ESL				*e*S	Sb	23 52 13.5	-0.4
	baz=274						
TWC	**Suao**	**1.09**	**323**	*i* P	Pn	23 52 01.1	0.0
	baz=326						
TWC				S	Sn	23 52 15.8	-0.1
	baz=326						
HATJ	**Hateruma jima**	**1.17**	**74**	P	Pg	23 52 03.9	+0.7
EHY	**Hungye**	**1.17**	**259**	P	Pn	23 52 02.2	0.0
	baz=258						
EHY				S	Sb	23 52 17.1	-0.3
	baz=258						
IRIF	**Iriomote-Funau**	**1.21**	**60**	P	Pg	23 52 04.1	+0.1
TWF1	**Yuli**	**1.24**	**252**	P	Pn	23 52 03.3	+0.2
	baz=251						
TWF1				S	Sb	23 52 18.6	-0.6
	baz=251						
WHF	**Hehuan Shan**	**1.27**	**289**	*e*P	Pn	23 52 03.7	-0.3
	baz=290						
WHF				*e*S	Sn	23 52 21.3	+0.5
	baz=290						
CHKT	**Chengkung**	**1.28**	**240**	P	Pn	23 52 03.4	-0.4
	baz=238						
CHKT				*e*S	Sn	23 52 18.3	-2.2
	baz=238						
TWE	**Neicheng**	**1.28**	**320**	⇑P	Pb	23 52 04.6	+0.3
	baz=322						
ENTT	**Nioudou**	**1.29**	**314**	P	Pb	23 52 04.3	-0.1
	baz=316						
ENTT				*e*S	Sg	23 52 23.5	+1.1
	baz=316						
NNS	**Nan Shan**	**1.30**	**303**	*e*P	Pn	23 52 04.3	+0.2
	baz=304						
TWB1	**Santiao Chiao**	**1.37**	**337**	*e*P	Pb	23 52 05.8	0.0
	baz=339						
TWT	**Tachien**	**1.38**	**292**	*e*P	Pn	23 52 05.6	+0.3
	baz=292						
JKRS	**Kuro-shima**	**1.40**	**69**	P	Pg	23 52 08.0	+0.3
NWF	**Wu-fen Shan**	**1.51**	**331**	P	Pn	23 52 07.6	+0.6
	baz=333						
NWF				*e*S	Sg	23 52 29.2	-0.3
	baz=333						
TWA	**Mucha**	**1.53**	**324**	*e*P	Pb	23 52 08.3	-0.3
	baz=326						
TWA				*e*S	Sg	23 52 29.6	-0.5
	baz=326						
ELDTW	**Lidau**	**1.53**	**249**	*e*P	Pn	23 52 07.3	0.0
	baz=248						
ELDTW				*e*S	Sn	23 52 25.2	-1.7
	baz=248						
SMLT	**Sun Moon Lake**	**1.54**	**276**	*e*P	Pn	23 52 07.9	+0.5
	baz=275						
SMLT				*e*S	Sn	23 52 27.9	+0.7
	baz=275						
JIJ	**Ishigaki jima**	**1.56**	**66**	P	Pb	23 52 09.5	+0.4
JIJ				*e*S	Sb	23 52 28.5	0.0
TYC	**Yuchr**	**1.58**	**276**	P	Pn	23 52 08.6	+0.7
	baz=276						
ALS	**Alishan**	**1.64**	**262**	*e*P	Pn	23 52 10.0	+1.1
	baz=261						
ALS				*e*S	Sn	23 52 30.3	+0.5
	baz=261						
TWG	**Pinlang**	**1.66**	**237**	*e*P	Pn	23 52 09.5	+0.5
	baz=235						
TWG				*e*S	Sn	23 52 28.6	-1.2
	baz=235						
NSTT	**Nanjuang**	**1.69**	**302**	*e*P	Pb	23 52 11.0	-0.3
	baz=303						
NSTT				*e*S	Sb	23 52 32.2	0.0
	baz=303						
CHN5	**Tsauling**	**1.75**	**266**	*e*P	Pb	23 52 11.7	-0.6
	baz=265						
CHN5				*e*S	Sb	23 52 33.5	-0.4
	baz=265						
TWQ1	**Liyutan**	**1.76**	**291**	*e*P	Pb	23 52 12.2	-0.2
	baz=291						
TWQ1				*e*S	Sb	23 52 34.8	+0.6
	baz=291						
STYT	**Tauyuan**	**1.77**	**251**	*e*P	Pn	23 52 11.5	+1.0
	baz=250						
STYT				*e*S	Sn	23 52 32.9	+0.3
	baz=250						
TWY	**Chenhua**	**1.77**	**330**	*e*P	Pb	23 52 12.0	-0.7
	baz=331						
TCU	**Taichung**	**1.79**	**284**	*e*P	Pb	23 52 12.0	-0.9
	baz=284						
TCU				*e*S	Sb	23 52 34.8	-0.2
	baz=284						
NSY	**Sanyi**	**1.79**	**292**	*e*P	Pb	23 52 13.0	0.0
	baz=293						
JISG	**Ishigakijimahi**	**1.79**	**62**	P	Pb	23 52 12.4	-0.6
JISG				*e*S	Sn	23 52 33.1	-0.1
WTP	**Ta-pu**	**1.87**	**255**	*e*P	Pb	23 52 13.5	-0.8
	baz=254						
ECL	**Taimali**	**1.88**	**233**	*e*S	Sn	23 52 35.1	-0.1
	baz=231						
SGST	**Jiashian**	**1.94**	**251**	*e*P	Pn	23 52 14.5	+1.6
	baz=249						
SGST				*e*S	Sb	23 52 39.5	-0.1
	baz=249						
CHN1	**Nanshi**	**1.96**	**254**	*e*P	Pb	23 52 15.3	-0.6
	baz=253						
CHN1				*e*S	Sb	23 52 40.2	+0.1
	baz=253						
TWK	**Hsinying**	**1.97**	**257**	*e*P	Pb	23 52 15.5	-0.6
	baz=255						
TWK				*e*S	Sb	23 52 40.7	+0.2
	baz=255						
TAW	**Tawu**	**2.07**	**229**	*e*S	Sn	23 52 38.3	-1.7
	baz=227						
EAST	**Anshuo**	**2.09**	**230**	*e*P	Pn	23 52 15.9	+1.0
	baz=228						
SCZT	**Fangliau**	**2.26**	**233**	*e*P	Pb	23 52 20.2	-0.8
	baz=231						
TSEB	**Hengchuen, Pin**	**2.40**	**221**	*e*S	Sb	23 52 51.0	-1.6
	baz=219						
HEN	**Hengchun**	**2.42**	**225**	*e*S	Sn	23 52 50.5	+1.9
	baz=223						
TWK1	**Hengchun**	**2.42**	**223**	*e*P	Pn	23 52 21.1	+1.7
	baz=221						
TWK1				*e*S	Sn	23 52 51.4	+2.7
	baz=221						

IDC ***11*** *23:57:12.0±65.0, 17.57S×176.44E, h0km, mb4.2/3, mb1 4.4/3, mb1mx3.7/33, mbtmp4.2/3, Error ellipse: s-maj=1141.0km s-min=140.6km az=76.0*

ISCJB ***11*** *23:57:16.5±0.9, 17.0S±0.2×176.1E±0.2, h33km, mb4.7/9, Error ellipse: s-maj=29.4km s-min=13.2km az=142.9*

NEIC ***11*** *23:57:17.4±0.7, 17.18S×176.24E, h35km, mb4.5/4, Error ellipse: s-maj=21.5km s-min=10.3km az=155.0*

ISC 11 23:57:17.3±0.9, 17.2S±0.2×176.3E±0.1, h35km, n12, σ1s04/12, mb4.6/9, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FUNA	**Funafuti**	**9.08**	**19**	Pn	**Pn**	**23 59 26.4**	**+0.3**
AFI	**Afiamalu**	**11.98**	**76**	Pn	**Pn**	**00 00 04.4**	**-1.4**
HNR	**Honiara**	**17.64**	**294**	*e*Pn	**Pn**	**00 01 18.8**	**-1.8**
STKA	**Stephens Creek**	**34.58**	**238**	P	**P**	**00 04 03.0**	**0.0**
	1.2nm,0.4s,baz=90,slow=9.8,SNR=6.0						
WRA	**Warramunga Arr**	**39.76**	**259**	P	**P**	**00 04 47.4**	**+0.2**
	1.0nm,0.7s,baz=95,slow=8.0,SNR=8.1						
ASAR	**Alice Springs**	**40.10**	**254**	P	**P**	**00 04 49.8**	**-0.1**
	7.9nm,0.6s,baz=90,slow=7.9,SNR=32						
COCO	**West Island**	**76.52**	**261**	P	**P**	**00 09 04.8**	**+0.3**
	153nm,0.6s						
PMR	**Palmer**	**83.22**	**16**	*e*P	**P**	**00 09 41.1**	**+1.4**
	0.7nm,0.5s						
MCK	**McKinley**	**85.06**	**15**	*e*P	**P**	**00 09 48.3**	**-0.8**
	9.7nm,1.1s						
DOT	**Dot Lake**	**86.26**	**17**	*e*P	**P**	**00 09 54.7**	**-0.3**
	5.9nm,1.1s						
NEW	**Newport**	**88.00**	**38**	P	**P**	**00 10 04.3**	**+0.5**
	0.8nm,0.6s						
PV10	**Paradox Valley**	**89.05**	**49**	*e*P	**P**	**00 10 10.5**	**+1.2**
	93nm,0.5s						

ISCJB ***11*** *23:57:19.9±0.5, 10.97N±0.04×62.36W±0.04, h100km±6km, Error ellipse: s-maj=7.7km s-min=4.1km az=141.9*

FUNV ***11*** *23:57:21.9, 10.87N×62.26W, h94km, MW2.9*

TRN ***11*** *23:57:23.0, 11.09N×62.27W, h81km, MD3.3*

ISC 11 23:57:19.7±1.4, 10.94N±0.04×62.32W±0.04, h107km±9km, n28, σ1s32/39, 2C, Near coast of Venezuela

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GUIV	**Guiria**	**0.31**	**162**	*e*P	**Pn**	**23 57 35.6**	**+0.4**
GUIV				*e*S	**Sn**	**23 57 44.5**	**-2.3**
TCE	**Chacachacare**	**0.61**	**113**	*e*P	**Pn**	**23 57 38.3**	**+1.2**
TCE				*e*S	**Sn**	**23 57 49.5**	**-0.6**
CRUV	**Carupano**	**0.94**	**254**	⇑*e*P	**Pn**	**23 57 40.8**	**+0.7**
CRUV				*e*S	**Sn**	**23 57 55.0**	**-0.3**
TRN	**Trinidad (W)**	**0.95**	**108**	*e*P	**Pn**	**23 57 41.4**	**+1.3**
TRN				*e*S	**Sn**	**23 57 55.2**	**-0.3**
GUNV	**Guanoco**	**0.99**	**218**	*e*P	**Pn**	**23 57 41.9**	**+1.3**
GUNV				*e*S	**Sn**	**23 57 55.6**	**-0.6**
TPP	**Pointe-a-Pierr**	**1.05**	**126**	*e*P	Pn	23 57 44.7	+3.4
TPP				*e*S	**Sn**	**23 57 59.1**	**+1.6**
GRGR	**Grenville**	**1.35**	**29**	⇑*i*P	**Pn**	**23 57 45.5**	**+0.8**
GRGR				*e*S	**Sn**	**23 58 00.4**	**-3.1**
TOSP	**Speyside**	**1.79**	**78**	*e*P	**Pn**	**23 57 51.1**	**+1.2**
TOSP				*e*S	**Sn**	**23 58 12.5**	**-0.4**
ORIV	**Oritupano**	**2.15**	**210**	*e*P	**Pn**	**23 57 54.9**	**+0.4**
ORIV				*e*S	**Sn**	**23 58 20.1**	**-1.0**
PCRV	**Puerto La Cruz**	**2.40**	**252**	*e*P	**Pn**	**23 57 59.4**	**+1.6**
PCRV				*e*S	**Sn**	**23 58 26.4**	**-0.6**
SVB	**Belmont**	**2.54**	**24**	*e*P	**Pn**	**23 58 01.4**	**+1.7**
SVB				*e*S	**Sn**	**23 58 28.1**	**-2.2**
RIOV	**Rio Grande**	**2.90**	**170**	*e*P	**Pn**	**23 58 05.1**	**+0.7**
PRGV	**PARIAGUAN**	**3.15**	**227**	*e*P	**Pn**	**23 58 08.3**	**+0.6**
CUPV	**Cepira**	**3.52**	**256**	*e*P	**Pn**	**23 58 14.1**	**+1.4**
TRMF	**Trois Ilets**	**3.78**	**19**	*e*P	**Pn**	**23 58 17.0**	**+0.9**
MVM	**Montagne Vaucl**	**3.85**	**21**	*e*P	**Pn**	**23 58 18.1**	**+1.0**
BIRV	**Birongo**	**3.91**	**264**	*e*P	**Pn**	**23 58 20.2**	**+2.4**
FDF	**Fort de France**	**3.94**	**17**	*e*P	**Pn**	**23 58 18.2**	**-0.1**
PML	**Morne Lenard**	**3.98**	**16**	*e*P	**Pn**	**23 58 19.7**	**+1.0**
GBMF	**Grand Be**	**4.00**	**16**	*e*P	**Pn**	**23 58 20.1**	**+1.0**
PCM	**Pelee Case Pet**	**4.00**	**16**	*e*P	**Pn**	**23 58 20.1**	**+1.0**
PCM	**Pelee Case Pet**	**4.00**	**16**	*e*P	**Pn**	**23 58 20.4**	**+1.2**
BAMF	**Morne Balai**	**4.02**	**16**	*e*P	**Pn**	**23 58 20.5**	**+1.1**
MERV	**Las Mercedes**	**4.26**	**247**	*e*P	**Pn**	**23 58 23.3**	**+0.7**
MERV				*e*S	**Sn**	**23 59 09.8**	**-1.6**
LUEV	**Luepa**	**5.13**	**170**	*e*P	**Pn**	**23 58 33.9**	**-0.7**
TURV	**Turiamo**	**5.45**	**265**	*e*P	**Pn**	**23 58 40.5**	**+1.9**
BAUV	**El Baul**	**5.97**	**251**	*e*P	**Pn**	**23 58 45.7**	**-0.1**
MAPV	**Macapo**	**6.14**	**260**	*e*P	**Pn**	**23 58 48.1**	**+0.1**

ISCJB ***11*** *23:57:24.0±0.6, 9.5S±0.1×159.46E±0.05, h26km, mb3.9/8, Error ellipse: s-maj=18.6km s-min=6.3km az=165.6*

IDC ***11*** *23:57:24.7±5.4, 9.51S×159.57E, h21km±36km, mb3.8/6, mb1 4.1/6, mb1mx3.8/32, mbtmp4.0/6, Error ellipse: s-maj=29.0km s-min=10.2km az=162.0*

NEIC ***11*** *23:57:25.2±1.8, 9.49S×159.47E, h21km±16km, mb4.2/2, Error ellipse: s-maj=19.5km s-min=10.7km az=128.0*

ISC 11 23:57:25.8±0.8, 9.5S±0.1×159.52E±0.07, h26km, n13, σ0s70/17, mb4.0/8, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**0.43**	**83**	Pn	**Pb**	**23 57 34.9**	**0.0**
	4µm,0.3s,baz=204,slow=13,SNR=7.49						
HNR				Sn	**Sb**	**23 57 41.6**	**+0.5**
	8µm,0.3s,baz=262,slow=19,SNR=109						
HNR	**Honiara**	**0.43**	**83**	*i* P	**Pb**	**23 57 34.0**	**-0.9**
HNR				*i* S	**Sb**	**23 57 41.5**	**+0.5**
HNR	**Honiara**	**0.43**	**83**	Pn	**Pb**	**23 57 34.9**	**0.0**
HNR				Sn	**Sb**	**23 57 41.6**	**+0.5**
HNR				*e*Sb	**Sn**	**23 57 42.8**	**-0.5**
CTA	**Charters Tower**	**16.59**	**229**	Pn	**P**	**00 01 20.7**	**+1.6**
	0.3nm,0.3s,baz=78,slow=13,SNR=8.0						
CTAO	**Charters Tower**	**16.59**	**229**	*e*Pn	**Pn**	**00 01 16.4**	**-0.3**
	104nm,3.3s						
WRAB	**Tennant Creek**	**26.43**	**244**	*e*P	**P**	**00 03 00.6**	**-0.2**
	4.4nm,0.9s						
WRA	**Warramunga Arr**	**26.44**	**244**	P	**P**	**00 03 00.2**	**-0.7**
	2.3nm,0.9s,baz=72,slow=9.4,SNR=9.2						
GUMO	**Guam**	**27.14**	**327**	P	**P**	**00 03 07.2**	**+0.1**
	3.0nm,0.3s						
STKA	**Stephens Creek**	**27.80**	**214**	P	**P**	**00 03 13.3**	**+0.4**
	2.4nm,0.5s,baz=42,slow=13,SNR=8.1						
ASAR	**Alice Springs**	**28.24**	**237**	P	**P**	**00 03 16.0**	**-1.0**
	1.4nm,0.9s,baz=65,slow=9.7,SNR=7.9						
VNDA	**Vanda**	**68.03**	**179**	P	**P**	**00 08 22.1**	**-0.3**
	0.6nm,0.8s,baz=344,slow=5.7,SNR=3.9						
SONM	**Songino Array**	**73.86**	**326**	P	**P**	**00 08 58.1**	**-0.4**
	0.7nm,0.6s,baz=126,slow=7.3,SNR=3.1						
ILAR	**Eielson Array**	**84.09**	**20**	P	**P**	**00 09 54.8**	**+0.7**
	1.3nm,1.0s,baz=263,slow=4.5,SNR=7.4						

MEX 12 00:16:56.5±0.7, 16.00N×96.41W, h13km±10km, MD3.5, Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
HUIG	**Huatulco**	**0.37**	**128**	*e*P	Pg	00 17 03.2	-0.7
HUIG				*e*S	Sg	00 17 09.0	0.0
VHO	**Vista Hermosa**	**1.11**	**344**	*e*P	Pb	00 17 14.1	-3.7
VHO				*e*S	Sb	00 17 28.3	-4.0
PNIG	**Pinotepa**	**1.69**	**284**	*e*P	Pn	00 17 23.2	-2.7
PNIG				*e*S	Sn	00 17 41.9	-5.6

ISCJB ***12*** *00:22:27.5±2.0, 37.24N±0.10×72.0E±0.4, h33km, Error ellipse: s-maj=42.9km s-min=7.3km az=164.2*

NNC ***12*** *00:22:32.9±2.7, 37.77N×71.71E, h0km, mb3.8, mpv3.4, Error ellipse: s-maj=32.6km s-min=17.7km az=68.0*

ISC 12 00:22:28.6±1.9, 37.24N±0.10×71.8E±0.2, h35km, n5, σ1s73/8, 2C-2D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MNAS	**Manas**	**5.28**	**6**	⇓P	**Pn**	**00 23 46.6**	**+1.6**
	1.8nm,0.4s						
MNAS				⇓S	**Sn**	**00 24 43.7**	**-1.1**
	44nm,0.9s						
AAK	**Ala-Archa**	**5.79**	**20**	⇑P	**Pn**	**00 23 53.6**	**+1.5**
	2.5nm,0.4s						
THN	**Thein Dam**	**5.79**	**145**	*e*P	**Pn**	**00 23 52.0**	**0.0**
THN				*e*S	**Sn**	**00 24 56.4**	**-0.9**
KK31	**Karatay Array**	**5.94**	**351**	P	**Pn**	**00 23 55.2**	**+1.2**
	2.2nm,0.7s,baz=173,slow=12,SNR=24						
KK31				S	**Sn**	**00 24 58.3**	**-2.5**
	5.2nm,0.5s,baz=167,slow=20,SNR=17						
TKM2	**Tokmak 2**	**6.40**	**26**	⇑P	**Pn**	**00 24 01.3**	**+0.8**
	2.8nm,0.6s						

JMA 12 00:29:54.6±0.3, 37.43N×142.43E, h8km±3km, M3.8, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JFK	**Kawauchi**	**1.24**	**268**	P	Pn	00 30 17.9	-0.4
JIO	**Ouri**	**1.33**	**320**	P	Pn	00 30 19.3	-0.2
ONAJ	**Iwakimizuishiy**	**1.34**	**256**	P	Pn	00 30 19.3	-0.4
JMM	**Marumori**	**1.37**	**289**	P	Pn	00 30 19.8	-0.2
JFT	**Otama**	**1.67**	**274**	P	Pb	00 30 25.0	-0.6
JOU	**Okura**	**1.68**	**304**	P	Pn	00 30 24.9	+0.6
JMK	**Ichinoseki**	**1.79**	**328**	P	Pn	00 30 26.6	+0.8
JOM	**Ohasama**	**2.23**	**337**	P	Pn	00 30 32.7	+0.9
JOM				*e*S	Sn	00 30 59.9	+0.4
MAT	**Matsushiro**	**3.50**	**257**	P	Pn	00 30 52.3	+3.0
MAT				S	Sb	00 31 38.3	-1.0

ISCJB ***12*** *00:31:58.1±0.9, 29.2S±0.2×176.50W±0.08, h10km, mb4.6/9, Error ellipse: s-maj=22.6km s-min=9.8km az=179.6*

IDC ***12*** *00:31:59.5±1.2, 29.12S×176.70W, h0km, mb4.2/5, mb1 4.3/6, mb1mx3.9/29, mbtmp4.2/6, ML4.3/1, MS3.6/1, Ms1 3.6/1, ms1mx3.1/20, Error ellipse: s-maj=37.1km s-min=22.0km az=177.0*

NEIC ***12*** *00:32:00.8±0.7, 29.17S×176.68W, h10km, mb4.6/4, Error ellipse: s-maj=16.7km s-min=15.3km az=193.0*

ISC 12 00:32:01.9±0.9, 29.3S±0.2×176.69W±0.07, h10km, n19, σ1s75/22, mb4.3/9, 1C, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**1.07**	**271**	Pn	**Pg**	**00 32 22.6**	**+0.1**
	1µm,0.3s,baz=77,slow=5.5,SNR=47						
RAO				Sn	**Sg**	**00 32 37.4**	**+0.9**
	2µm,0.3s,baz=90,slow=20,SNR=16						
RAO	**Raoul Island**	**1.07**	**271**	Pn	**Pg**	**00 32 22.6**	**+0.1**
RAO				*e*Pb	**Pb**	**00 32 22.9**	**+0.3**
RAO				*e*Sb	**Sg**	**00 32 37.2**	**+0.7**
RAO				Sn	**Sg**	**00 32 37.4**	**+0.9**
DZM	**Mont Dzumac**	**16.80**	**291**	LR	LR	00 40 02.1	
	comp=Z,205nm,20.9s,baz=262,slow=29						
RPZ	**Rata Peaks**	**17.42**	**211**	P	**Pn**	**00 36 03.9**	**-1.2**
	1.1nm,0.3s,baz=3.4,slow=4.3,SNR=5.6						
CTA	**Charters Tower**	**34.77**	**277**	P	**P**	**00 38 52.8**	**0.0**
	1.9nm,0.5s,baz=100,slow=13,SNR=3.6						
CTAO	**Charters Tower**	**34.77**	**277**	*e*P	**P**	**00 38 52.1**	**-0.6**
	8.3nm,0.6s						
STKA	**Stephens Creek**	**35.85**	**255**	P	**P**	**00 39 01.6**	**-0.4**
	1.8nm,0.6s,baz=99,slow=8.1,SNR=7.6						
PMG	**Port Moresby**	**39.19**	**293**	*e*P	P	00 39 27.8	-2.5
	9.1nm,0.8s						
ASAR	**Alice Springs**	**44.32**	**265**	P	**P**	**00 40 11.2**	**-1.2**
	2.1nm,0.6s,baz=99,slow=6.8,SNR=9.5						
WRAB	**Tennant Creek**	**45.20**	**270**	*e*P	**P**	**00 40 18.1**	**-1.3**
	1.6nm,0.6s						
WRA	**Warramunga Arr**	**45.21**	**270**	P	**P**	**00 40 17.9**	**-1.6**
	2.9nm,0.8s,baz=109,slow=7.9,SNR=6.3						
MAW	**Mawson**	**73.75**	**200**	P	**P**	**00 43 36.1**	**+0.3**
	1.5nm,0.6s,baz=141,slow=7.4,SNR=4.9						
SYO	**Syowa Base**	**78.45**	**193**	⇑*e*pP	**P**	**00 44 04.2**	**+1.6**
COCO	**West Island**	**81.11**	**261**	*e*P	**P**	**00 44 17.0**	**-0.9**
	235nm,0.6s						
BJT	**Baijiatuau**	**92.92**	**315**	*e*P	**P**	**00 45 13.1**	**-2.1**
	5.1nm,0.7s						
FINES	**FINESS Array B**	**144.47**	**341**	PKP	**PKPab**	**00 51 35.2**	**-0.9**
	1.6nm,0.7s,baz=70,slow=1.6,SNR=8.2						
AKASG	**Malin Array Be**	**151.07**	**325**	PKPbc	**PKPdf**	**00 51 54.1**	**+5.0**
	1.4nm,0.5s,baz=44,slow=2.9,SNR=5.5						
BRTR	**Keskin Array B**	**153.04**	**301**	PKPbc	**PKPbc**	**00 51 59.4**	**-0.5**
	0.7nm,0.7s,baz=120,slow=3.5,SNR=4.9						
BRTR				PKPab	**sPKPbc**	**00 52 08.2**	**+3.8**
	0.5nm,0.7s,baz=72,slow=4.7,SNR=4.6						
TORD	**Torodi Ar. Bea**	**163.88**	**174**	PKPab	**PKPab**	**00 52 58.5**	**+0.2**
	0.3nm,0.7s,baz=194,slow=2.7,SNR=4.0						

IDC 12 00:34:38.7±2.8, 6.60S×146.89E, h94km±28km, mb3.6/7, mb1 3.8/9, mb1mx3.6/28, mbtmp3.9/9, Error ellipse: s-maj=35.1km s-min=21.9km az=101.0, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**2.80**	**175**	P	Pn	00 35 23.3	+1.6
	8.2nm,0.3s,baz=352,slow=15,SNR=7.6						
PMG				S	Sn	00 35 55.1	+0.3
	64nm,0.3s,baz=98,slow=22,SNR=39						
WRA	**Warramunga Arr**	**18.02**	**221**	P	P	00 38 42.4	+0.1
	0.9nm,0.3s,baz=40,slow=11,SNR=18						
ASAR	**Alice Springs**	**21.07**	**215**	P	P	00 39 15.8	+0.2
	2.1nm,0.3s,baz=49,slow=8.7,SNR=32						
FITZ	**Fitzroy Crossi**	**23.67**	**239**	P	P	00 39 41.4	-0.5
	7.5nm,0.4s,baz=66,slow=12,SNR=27						
STKA	**Stephens Creek**	**25.63**	**190**	P	P	00 39 59.3	-0.2
	0.7nm,0.3s,baz=28,slow=13,SNR=3.2						
KSRS	**Korea Array**	**47.27**	**339**	P	P	00 43 03.3	+0.7
	9.9nm,0.9s,baz=147,slow=7.3,SNR=4.6						
VNDA	**Vanda**	**71.33**	**177**	P	P	00 45 48.5	+0.8
	0.5nm,0.7s,baz=345,slow=5.7,SNR=2.9						
ZALV	**Zalesovo Beam**	**79.46**	**328**	P	P	00 46 33.8	-0.9
	0.5nm,0.4s,baz=116,slow=3.4,SNR=2.7						
ILAR	**Eielson Array**	**86.07**	**23**	P	P	00 47 08.0	-0.7
	0.4nm,0.7s,baz=255,slow=5.0,SNR=4.6						
TORD	**Torodi Ar. Bea**	**145.13**	**283**	PKPbc	PKPab	00 54 06.1	0.0
	0.4nm,0.8s,baz=75,slow=3.7,SNR=5.1						

ISCJB ***12*** *00:40:34.2±0.7, 39.69N±0.04×40.34E±0.05, h2km±12km, Error ellipse: s-maj=7.4km s-min=5.1km az=39.6*

CSEM ***12*** *00:40:34.5±0.4, 39.71N×40.33E, h10km, MD2.5, Error ellipse: s-maj=8.7km s-min=5.9km az=154.0*

DDA ***12*** *00:40:34.9, 39.70N×40.38E, h7km, Md2.4*

ISK ***12*** *00:40:34.4, 39.64N×40.37E, h18km, MD2.5*

ISC 12 00:40:34.3±1.1, 39.71N±0.03×40.34E±0.03, h9km±12km, n15, σ0s44/26, Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
YEDI	**Yedisu-Bingol**	**0.31**	**150**	*e*PG	**Pg**	**00 40 40.4**	**-0.2**
YEDI				*e*SG	**Sg**	**00 40 44.8**	**0.0**
YEDI	**Yedisu-Bingol**	**0.31**	**150**	*e*Pg	**Pg**	**00 40 40.4**	**-0.2**
YEDI				*e*Sg	**Sg**	**00 40 44.8**	**0.0**
KOPT	**Kop Dagi**	**0.33**	**21**	*i* P	**Pg**	**00 40 40.6**	**-0.3**
KOPT				*i* S	**Sb**	**00 40 48.1**	**0.0**
KOPT	**Kop Dagi**	**0.33**	**21**	P	**Pg**	**00 40 40.7**	**-0.3**
KOPT				S	**Sb**	**00 40 48.2**	**0.0**
ECAT	**Cat-ERZURUM**	**0.50**	**102**	*i* P	**Pg**	**00 40 43.9**	**-0.1**
ECAT				*i* S	**Sg**	**00 40 51.2**	**+0.6**
ECAT	**Cat-ERZURUM**	**0.50**	**102**	P	**Pg**	**00 40 43.9**	**-0.1**
ECAT				S	**Sg**	**00 40 51.2**	**+0.6**
EZM	**Erzurum**	**0.81**	**76**	*e*PG	**Pg**	**00 40 49.6**	**-0.4**
EZM				*e*SG	**Sg**	**00 41 00.7**	**+0.1**
ERZM	**Erzurum**	**0.81**	**76**	*i* S	**Sb**	**00 41 01.4**	**-0.6**
ERZM	**Erzurum**	**0.81**	**76**	S	**Sb**	**00 41 01.4**	**-0.6**
TNCL	**Tunceli-Merkez**	**0.86**	**226**	*i* P	**Pn**	**00 40 53.1**	**+0.4**
TNCL				*i* S	**Sg**	**

	5.9nm,0.7s						
TAU	**Tasmania Unive**	**31.86**	**235**	P	**P**	**00 59 48.1**	**-0.7**
	5.0nm,0.7s						
PMG	**Port Moresby**	**38.98**	**293**	*e*P	**P**	**01 00 47.0**	**-3.3**
	6.9nm,0.7s						
ASAR	**Alice Springs**	**44.20**	**265**	P	**P**	**01 01 33.1**	**+0.1**
	4.9nm,0.3s,baz=100,slow=8.3,SNR=6.6						
WRAB	**Tennant Creek**	**45.06**	**270**	*e*P	**P**	**01 01 38.3**	**-1.6**
	2.7nm,0.8s						
WRA	**Warramunga Arr**	**45.07**	**270**	P	**P**	**01 01 40.2**	**+0.2**
	0.7nm,0.4s,baz=109,slow=7.9,SNR=6.8						
MIDW	**Midway**	**56.97**	**359**	*e*P	**P**	**01 03 10.3**	**+1.3**
	45nm,0.6s						
COCO	**West Island**	**81.00**	**261**	*e*P	**P**	**01 05 38.7**	**0.0**
	326nm,0.5s						
PV01	**Paradox Valley**	**92.39**	**47**	*e*P	**P**	**01 06 34.3**	**0.0**
	32nm,0.7s						
HWUT	**Hardware Ranch**	**92.59**	**43**	*e*P	**P**	**01 06 35.4**	**+0.3**
	0.3nm,0.6s						
MCK	**McKinley**	**95.09**	**12**	*e*P	**P**	**01 06 46.0**	**+0.1**
	1.5nm,0.6s						
WALA	**Waterton Lakes**	**95.86**	**36**	*e*P	**P**	**01 06 50.9**	**+1.0**
	3.3nm,0.8s						
RSSD	**Black Hills**	**98.57**	**44**	*e*P	Pdif	01 07 02.8	+0.4
	0.7nm,0.6s						
FINES	**FINESS Array B**	**144.23**	**341**	PKP	PKPbc	01 12 57.4	+0.6
	2.6nm,1.0s,baz=36,slow=3.6,SNR=3.7						
AKASG	**Malin Array Be**	**150.82**	**325**	PKPbc	**PKPbc**	**01 13 16.2**	**+0.8**
	0.5nm,0.5s,baz=43,slow=2.3,SNR=4.5						

DDA ***12*** *01:03:36.7,39˚.11N×29˚.07E,h7km,Md3.0*
ISK ***12*** *01:03:36.0,39˚.08N×29˚.14E,h5km,MD2.9*
CSEM ***12*** *01:03:37.1±0.1,39˚.08N×29˚.10E,h2km,MD2.9,Error ellipse: s-maj=3.1km s-min=2.8km az=143.0*

ISC 12 01:03:36.7±0.9,**39˚.07N**±0˚.02×**29˚.10E**±0˚.02,**h6**km±8km, **n48,**σ1**§02**/67**, Turkey**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SIMA	**Simav-Kutahya**	**0.09**	**276**	*e*PG	**Pg**	**01 03 39.2**	**+0.4**
SIMA	**Simav-Kutahya**	**0.09**	**276**	*e*Pg	**Pg**	**01 03 39.2**	**+0.4**
GEDZ	**Gediz**	**0.24**	**97**	*e*PG	**Pg**	**01 03 41.1**	**-0.4**
GEDZ				*e*SG	**Sg**	**01 03 45.0**	**+0.2**
GEDZ	**Gediz**	**0.24**	**97**	*e*Pg	**Pg**	**01 03 41.1**	**-0.4**
GEDZ				*e*Sg	**Sg**	**01 03 45.0**	**+0.2**
DEMI	**Demirci**	**0.30**	**264**	*i* P	**Pg**	**01 03 43.1**	**+0.6**
DEMI				*i* S	**Sg**	**01 03 47.1**	**+0.6**
DEMI	**Demirci**	**0.30**	**264**	P	**Pg**	**01 03 43.1**	**+0.6**
DEMI				S	**Sg**	**01 03 47.1**	**+0.6**
TVSB	**Tavsanli**	**0.47**	**37**	*e*PG	**Pg**	**01 03 45.6**	**-0.2**
TVSB	**Tavsanli**	**0.47**	**37**	*e*Pg	**Pg**	**01 03 45.6**	**-0.2**
KULA	**Kula-Manisa**	**0.66**	**212**	*e*PG	**Pb**	**01 03 50.1**	**-0.4**
KULA				*e*SG	**Sg**	**01 03 59.0**	**+1.2**
KULA	**Kula-Manisa**	**0.66**	**212**	*e*Pg	**Pb**	**01 03 50.1**	**-0.4**
KULA				*e*Sg	**Sg**	**01 03 59.0**	**+1.2**
MANT	**Manisa**	**0.72**	**216**	*i* P	Pg	01 03 44.1	-6.4
MANT				*i* S	**Sg**	**01 03 53.5**	**-6.4**
KHL	**Karahalli**	**0.82**	**156**	*e*PG	**Pg**	**01 03 52.9**	**+0.5**
KHL				*e*SG	**Sb**	**01 04 05.1**	**+0.4**
KHL	**Karahalli**	**0.82**	**156**	*e*Pg	**Pg**	**01 03 52.9**	**+0.5**
KHL				*e*Sg	**Sb**	**01 04 05.1**	**+0.4**
AKHS	**Akhisar**	**1.02**	**259**	*i* P	**Pg**	**01 03 55.9**	**-0.4**
AKHS				*i* S	**Sb**	**01 04 10.3**	**-0.1**
AKHS	**Akhisar**	**1.02**	**259**	P	**Pg**	**01 03 55.9**	**-0.4**
AKHS				S	**Sb**	**01 04 10.3**	**-0.1**
BALB	**Balikesir**	**1.10**	**301**	*e*PN	**Pn**	**01 03 59.0**	**+0.4**
BALB	**Balikesir**	**1.10**	**301**	*e*Pn	**Pn**	**01 03 59.0**	**+0.4**
IGD	**Bursa**	**1.19**	**4**	*i* P	**Pg**	**01 03 58.7**	**-0.9**
IGD				*i* S	**Sn**	**01 04 16.6**	**+0.3**
MDNY	**Mudanya-Bursa**	**1.30**	**353**	*e*PN	**Pn**	**01 04 01.4**	**+0.1**
MDNY	**Mudanya-Bursa**	**1.30**	**353**	*e*Pn	**Pn**	**01 04 01.5**	**+0.1**
KCTX	**Karacabey (Bur**	**1.32**	**335**	*e*PN	**Pg**	**01 04 02.6**	**+0.6**
KCTX	**Karacabey (Bur**	**1.32**	**335**	*e*Pn	**Pg**	**01 04 02.6**	**+0.6**
BORA	**Eskisehir**	**1.32**	**52**	*i* P	**Pn**	**01 04 01.7**	**-0.1**
BORA				*i* S	**Sn**	**01 04 19.8**	**+0.1**
BORA	**Eskisehir**	**1.32**	**52**	P	**Pn**	**01 04 01.7**	**-0.1**
BORA				S	**Sn**	**01 04 19.8**	**+0.1**
BALY	**Balya**	**1.32**	**301**	*i* P	**Pn**	**01 04 01.3**	**-0.5**
BALY				*i* S	**Sg**	**01 04 18.6**	**-0.7**
BALY	**Balya**	**1.32**	**301**	P	**Pn**	**01 04 01.3**	**-0.5**
BALY				S	**Sg**	**01 04 18.6**	**-0.7**
DNZL	**Cakiroluk**	**1.38**	**182**	*i* P	**Pn**	**01 04 01.9**	**-0.8**
DNZL				*i* S	**Sn**	**01 04 22.5**	**+1.1**
DNZL	**Cakiroluk**	**1.38**	**182**	P	**Pn**	**01 04 01.9**	**-0.8**
DNZL				S	**Sn**	**01 04 22.5**	**+1.1**
ESKT	**Eskisehir**	**1.43**	**71**	*i* P	**Pg**	**01 04 05.4**	**+1.3**
ESKT				*i* S	**Sb**	**01 04 22.0**	**-0.3**
SEYT	**Eskypehyr**	**1.43**	**71**	P	**Pg**	**01 04 05.4**	**+1.3**
SEYT				S	**Sb**	**01 04 22.0**	**-0.3**
ADVT	**Abdulvahap**	**1.45**	**20**	*e*PN	**Pg**	**01 04 04.1**	**-0.3**
ADVT	**Abdulvahap**	**1.45**	**20**	*e*Pn	**Pg**	**01 04 04.1**	**-0.3**
AYDB	**Zeytinkoy-Aydi**	**1.47**	**220**	*e*PN	**Pg**	**01 04 05.5**	**+0.6**
AYDB	**Zeytinkoy-Aydi**	**1.47**	**220**	*e*Pn	**Pg**	**01 04 05.5**	**+0.6**
ARMT	**Armutlu**	**1.50**	**353**	*e*PN	**Pg**	**01 04 05.2**	**-0.3**
ARMT	**Armutlu**	**1.50**	**353**	*e*Pn	**Pg**	**01 04 05.2**	**-0.3**
SBT5	**Esenkoy-Cinarc**	**1.56**	**354**	*e*PN	**Pb**	**01 04 06.0**	**0.0**
SBT5	**Esenkoy-Cinarc**	**1.56**	**354**	*e*Pn	**Pb**	**01 04 06.0**	**0.0**
EDC	**Edincik**	**1.59**	**324**	*e*PN	**Pg**	**01 04 06.8**	**-0.3**
EDC	**Edincik**	**1.59**	**324**	*e*Pn	**Pg**	**01 04 06.8**	**-0.3**
GULT	**Gulveren**	**1.74**	**38**	*e*PN	**Pb**	**01 04 08.4**	**-0.7**
GULT	**Gulveren**	**1.74**	**38**	*e*Pn	**Pb**	**01 04 08.4**	**-0.7**
MRMT	**Marmara Adasi**	**1.92**	**323**	*e*PN	**Pb**	**01 04 11.8**	**-0.3**
MRMT	**Marmara Adasi**	**1.92**	**323**	*e*Pn	**Pb**	**01 04 11.8**	**-0.3**
KAVV	**Kandilli-Istan**	**1.99**	**359**	*e*PN	**Pn**	**01 04 11.8**	**+1.0**
KAVV	**Kandilli-Istan**	**1.99**	**359**	*e*Pn	**Pn**	**01 04 11.8**	**+1.0**
CTKS	**Kestanelik-??a**	**2.21**	**348**	*e*PN	**Pn**	**01 04 15.3**	**+1.5**
CTKS	**Kestanelik-??a**	**2.21**	**348**	*e*Pn	**Pn**	**01 04 15.3**	**+1.5**

JMA 12 01:12:18.6±0.1,**37˚.54N×141˚.35E,h27**km±1km,**M3.5, Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JFK	**Kawauchi**	**0.42**	**246**	P	Pb	01 12 27.4	-0.2
JMM	**Marumori**	**0.55**	**307**	P	Pb	01 12 29.3	-0.4
JMM				S	Sb	01 12 36.4	-0.8
ONAJ	**Iwakimizuishiy**	**0.62**	**225**	P	Pb	01 12 30.2	-0.7
ONAJ				S	Sb	01 12 38.6	-0.7
JFT	**Otama**	**0.81**	**269**	P	Pb	01 12 33.9	-0.1
JFT				S	Sn	01 12 45.2	-0.1
JIO	**Ouri**	**0.91**	**360**	P	Pn	01 12 34.8	-0.9
JIO				S	Sb	01 12 46.2	-1.4
JOU	**Okura**	**0.99**	**327**	P	Pn	01 12 36.7	0.0
JOU				S	Sb	01 12 49.7	0.0
JYS	**Shirataka**	**1.22**	**304**	P	Pb	01 12 41.0	-0.1
JYS				S	Sb	01 12 56.7	+0.2
JFY	**Yanaizu**	**1.32**	**265**	P	Pb	01 12 42.2	-0.5
JFY				S	Sb	01 12 59.0	-0.1
JMK	**Ichinoseki**	**1.41**	**356**	P	Pn	01 12 42.8	+0.3
JMK				S	Sn	01 12 59.9	-0.4
MAT	**Matsushiro**	**2.71**	**249**	P	Pn	01 13 02.0	+1.7
MAT				S	Sb	01 13 37.5	-1.5

ISK ***12*** *01:15:04.9,38˚.98N×27˚.83E,h5km,MD2.9*
ISCJB ***12*** *01:15:06.5±0.4,38˚.97N±0˚.03×27˚.91E±0˚.03,h8km±4km, Error ellipse: s-maj=4.7km s-min=3.7km az=136.0*
CSEM ***12*** *01:15:06.6±0.2,38˚.95N×27˚.87E,h8km±2km,MD2.6,Error ellipse: s-maj=4.8km s-min=4.3km az=8.0*
DDA ***12*** *01:15:06.2,38˚.99N×27˚.94E,h16km,Md2.6*

ISC 12 01:15:06.6±0.8,**38˚.97N**±0˚.03×**27˚.88E**±0˚.02,**h17**km±5km, **n40,**σ1**§80/59, Turkey**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AKHS	**Akhisar**	**0.10**	**210**	*i* P	**Pg**	**01 15 10.2**	**-0.1**
AKHS				*i* S	**Sg**	**01 15 12.9**	**+0.3**
AKHS	**Akhisar**	**0.10**	**210**	P	**Pg**	**01 15 10.1**	**-0.1**
AKHS				S	**Sg**	**01 15 12.9**	**+0.3**
DEMI	**Demirci**	**0.66**	**83**	*i* P	**Pg**	**01 15 18.9**	**-0.6**
DEMI				*i* S	**Sg**	**01 15 27.1**	**-1.2**
DEMI	**Demirci**	**0.66**	**83**	P	**Pg**	**01 15 19.0**	**-0.6**
DEMI				S	**Sg**	**01 15 27.1**	**-1.2**
BALB	**Balikesir**	**0.67**	**0**	*e*PG	**Pg**	**01 15 19.0**	**-0.9**
BALB				*e*SG	**Sb**	**01 15 29.1**	**+0.3**
BALB	**Balikesir**	**0.67**	**0**	*e*Pg	**Pg**	**01 15 19.0**	**-0.9**
BALB				*e*Sg	**Sb**	**01 15 29.1**	**+0.3**
MANT	**Manisa**	**0.71**	**132**	*i* P	Pg	01 15 13.1	-7.6
MANT				*i* S	**Sg**	**01 15 22.2**	**-7.9**
KULA	**Kula-Manisa**	**0.76**	**126**	*e*PG	**Pg**	**01 15 21.3**	**-0.2**
KULA	**Kula-Manisa**	**0.76**	**126**	*e*Pg	**Pg**	**01 15 21.3**	**-0.2**
DKL	**Dikili**	**0.77**	**278**	*e*PG	**Pg**	**01 15 19.9**	**-1.6**
DKL				*e*SG	**Sg**	**01 15 30.9**	**-0.8**
DKL	**Dikili**	**0.77**	**278**	*e*Pg	**Pg**	**01 15 19.9**	**-1.6**
DKL				*e*Sg	**Sg**	**01 15 30.9**	**-0.8**
BALY	**Balya**	**0.80**	**346**	*i* P	**Pb**	**01 15 22.4**	**+0.4**
BALY				*i* S	**Sb**	**01 15 33.1**	**+0.6**
BALY	**Balya**	**0.80**	**346**	P	**Pb**	**01 15 22.4**	**+0.4**
BALY				S	**Sb**	**01 15 33.2**	**+0.6**
SIMA	**Simav-Kutahya**	**0.87**	**82**	*e*PG	**Pg**	**01 15 23.1**	**-0.4**
SIMA	**Simav-Kutahya**	**0.87**	**82**	*e*Pg	**Pg**	**01 15 23.1**	**-0.4**
AYVA	**Ayvalik**	**0.98**	**291**	*i* P	**Pn**	**01 15 26.7**	**+1.1**
AYVA				*i* S	**Sn**	**01 15 40.1**	**+1.0**
AYVA	**Ayvalik**	**0.98**	**291**	P	**Pn**	**01 15 26.7**	**+1.1**
AYVA				S	**Sn**	**01 15 40.1**	**+1.0**
AYDB	**Zeytinkoy-Aydi**	**1.02**	**179**	*e*PG	**Pg**	**01 15 25.8**	**-0.5**
AYDB				*e*SG	**Sn**	**01 15 41.1**	**+1.0**
AYDB	**Zeytinkoy-Aydi**	**1.02**	**179**	*e*Pg	**Pg**	**01 15 25.8**	**-0.5**
AYDB				*e*Sg	**Sn**	**01 15 41.1**	**+1.0**
URLA	**Izmir**	**1.17**	**239**	*e*PN	**Pg**	**01 15 28.0**	**-1.3**
URLA				*e*SN	**Sn**	**01 15 44.5**	**+0.8**
URLA	**Izmir**	**1.17**	**239**	*e*Pn	**Pg**	**01 15 28.0**	**-1.3**
URLA				*e*Sn	**Sn**	**01 15 44.6**	**+0.8**
DGB	**˜zmir**	**1.20**	**221**	*i* P	**Pg**	**01 15 29.9**	**+0.1**
DGB				*i* S	**Sn**	**01 15 46.5**	**+2.1**
ZEY	**˜zmir**	**1.30**	**236**	*i* P	**Pn**	**01 15 29.6**	**-0.2**
TVSB	**Tavsanli**	**1.32**	**68**	*e*PN	**Pg**	**01 15 32.1**	**0.0**
TVSB	**Tavsanli**	**1.32**	**68**	*e*Pn	**Pg**	**01 15 32.1**	**0.0**
KCTX	**Karacabey (Bur**	**1.35**	**16**	*e*PN	**Pb**	**01 15 31.6**	**+0.2**
KCTX	**Karacabey (Bur**	**1.35**	**16**	*e*Pn	**Pb**	**01 15 31.6**	**+0.2**
EDC	**Edincik**	**1.38**	**360**	*e*PN	**Pb**	**01 15 32.1**	**+0.2**
EDC	**Edincik**	**1.38**	**360**	*e*Pn	**Pb**	**01 15 32.1**	**+0.2**
IGD	**Bursa**	**1.65**	**38**	*i* P	**Pn**	**01 15 34.5**	**-0.2**
IGD				*i* S	**Sn**	**01 15 55.4**	**-0.1**
ARMT	**Armutlu**	**1.77**	**25**	*e*PN	**Pb**	**01 15 38.2**	**-0.3**
ARMT	**Armutlu**	**1.77**	**25**	*e*Pn	**Pb**	**01 15 38.2**	**-0.3**
ADVT	**Abdulvahap**	**2.05**	**44**	*e*PN	**Pb**	**01 15 42.6**	**-0.7**
ADVT	**Abdulvahap**	**2.05**	**44**	*e*Pn	**Pb**	**01 15 42.7**	**-0.7**
BORA	**Eskisehir**	**2.19**	**65**	*i* P	**Pb**	**01 15 46.9**	**+1.1**
BORA				*i* S	**Sg**	**01 16 17.3**	**+0.1**
GULT	**Gulveren**	**2.51**	**53**	*e*PN	**Pn**	**01 15 49.2**	**+2.6**
GULT	**Gulveren**	**2.51**	**53**	*e*Pn	**Pn**	**01 15 49.2**	**+2.6**
VOIR		**6.80**	**343**	S	**Sn**	**01 18 08.2**	**+5.7**
ARR	**Arges**	**6.83**	**340**	S	**Sn**	**01 18 00.1**	**-3.3**
LOT	**Lotru**	**7.16**	**336**	S	**Sn**	**01 18 06.4**	**-5.0**

DDA ***12*** *01:32:06.8,38˚.16N×41˚.40E,h7km,Md2.4*
ISK ***12*** *01:32:06.7,38˚.16N×41˚.39E,h5km,MD2.6*
CSEM ***12*** *01:32:07.0±0.2,38˚.16N×41˚.41E,h5km,MD2.6,Error ellipse: s-maj=4.8km s-min=3.0km az=42.0*

ISC 12 01:32:07.3±1.2,**38˚.16N**±0˚.04×**41˚.41E**±0˚.04,**h6**km±10km, **n13,**σ0**§28**/24**, Turkey**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SVAN	**Silvan-Diyarba**	**0.17**	**266**	*e*PG	**Pg**	**01 32 10.4**	**-0.3**
SVAN				*e*SG	**Sg**	**01 32 13.1**	**+0.2**
SVAN	**Silvan-Diyarba**	**0.17**	**266**	*i* P	**Pg**	**01 32 10.6**	**-0.1**
SVAN				*i* S	**Sg**	**01 32 13.2**	**+0.2**
SVAN	**Silvan-Diyarba**	**0.17**	**266**	*e*Pg	**Pg**	**01 32 10.4**	**-0.3**
SVAN				S	**Sg**	**01 32 13.2**	**+0.2**
BTMN	**Batman**	**0.29**	**202**	*i* P	**Pg**	**01 32 12.8**	**-0.2**
BTMN				*i* S	**Sg**	**01 32 17.4**	**+0.5**
BTMN	**Batman**	**0.29**	**202**	P	**Pg**	**01 32 12.8**	**-0.2**
BTMN				S	**Sg**	**01 32 17.4**	**+0.5**
BNGB	**Bing˜¶l**	**1.01**	**325**	*e*PG	**Pg**	**01 32 26.4**	**-0.2**
BNGB				*e*SG	**Sb**	**01 32 41.0**	**+0.3**
BINT	**Bingol**	**1.01**	**315**	*e*Pg	**Pg**	**01 32 26.4**	**-0.4**
BINT				*e*Sg	**Sb**	**01 32 41.0**	**+0.1**
SIRN	**S¨¨rnak**	**1.03**	**130**	*i* P	**Pg**	**01 32 26.8**	**-0.3**
SIRN				*i* S	**Sb**	**01 32 41.5**	**0.0**
SIRN	**S¨¨rnak**	**1.03**	**130**	P	**Pg**	**01 32 26.8**	**-0.3**
SIRN				S	**Sb**	**01 32 41.5**	**0.0**
MAZI	**Mazidag**	**1.04**	**228**	*e*PG	**Pg**	**01 32 26.8**	**-0.4**
MAZI				*e*SG	**Sb**	**01 32 41.4**	**-0.2**
MAZI	**Mazidag**	**1.04**	**228**	*e*Pg	**Pg**	**01 32 26.8**	**-0.4**
MAZI				*e*Sg	**Sb**	**01 32 41.4**	**-0.2**
PTK	**Pertek**	**1.74**	**295**	*e*PN	**Pn**	**01 32 38.3**	**+0.1**
PTK	**Pertek**	**1.74**	**295**	*e*Pn	**Pn**	**01 32 38.3**	**+0.1**

NIED ***12*** *01:50:00,36˚.70N×142˚.20E,h20km,Mw3.9 Best double couple: M₀8.65000×10¹⁴ NP1:φs170.00000°,δ12.00000°, λ38.00000°. NP2:φs42.00000°,δ83.00000°,λ99.00000°.*
JMA ***12*** *01:50:02.3±0.3,36˚.73N×142˚.21E,h1km±3km,M4.0*
ISCJB ***12*** *01:50:03.0±1.6,36˚.72N±0˚.05×142˚.19E±0˚.08,h6km±13km, mb3.7/4,MS3.6/1,Error ellipse: s-maj=11.2km s-min=7.4km az=22.9*
IDC ***12*** *01:50:14.8±4.1,36˚.94N×141˚.58E,h63km±36km,mb3.4/4, mb1 3.5/7,mb1mx3.3/40,mbtmp3.5/7,ML2.7/3,MS3.1/3, Ms1 3.1/3,ms1mx2.7/36,Error ellipse: s-maj=38.2km s-min=24.9km az=87.0*

ISC 12 01:50:03.8±2.4,**36˚.71N**±0˚.05×**142˚.10E**±0˚.08,**h1**km±13km, **n29,**σ1**§59/28, mb3.7/4, Off east coast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ONAJ	**Iwakimizuishiy**	**1.11**	**291**	P	**Pg**	**01 50 25.2**	**+0.1**
JFK	**Kawauchi**	**1.18**	**304**	P	**Pb**	**01 50 26.1**	**-0.9**
JHO	**Hitachi**	**1.23**	**266**	P	**Pn**	**01 50 27.3**	**-0.8**
JHO				*e*S	**Sn**	**01 50 45.3**	**-0.1**
JMM	**Marumori**	**1.56**	**318**	P	**Pn**	**01 50 31.6**	**-1.0**
JMM				*e*S	**Sb**	**01 50 52.7**	**-0.8**
JFT	**Otama**	**1.62**	**300**	P	**Pb**	**01 50 33.7**	**-0.8**
JFT				*e*S	**Sg**	**01 50 56.0**	**0.0**
JIO	**Ouri**	**1.84**	**341**	P	**Pn**	**01 50 35.7**	**-0.8**
JIO				S	**Sn**	**01 50 59.0**	**-1.4**
JOU	**Okura**	**2.01**	**326**	P	**Pn**	**01 50 39.2**	**+0.4**
JOU				S	**Sb**	**01 51 04.6**	**-2.0**
JAG	**Ashikaga**	**2.15**	**263**	P	**Pn**	**01 50 41.1**	**+0.4**
JMK	**Ichinoseki**	**2.35**	**343**	P	**Pn**	**01 50 43.2**	**-0.2**
JYK	**Kaneyama**	**2.60**	**329**	P	**Pn**	**01 50 47.2**	**+0.3**
JRY	**Ryogami san**	**2.67**	**256**	P	**Pn**	**01 50 48.1**	**+0.2**
JOD2	**Odawara 2**	**2.83**	**240**	P	**Pn**	**01 50 50.9**	**+0.8**
JOM	**Ohasama**	**2.83**	**347**	P	**Pn**	**01 50 50.2**	**+0.1**
MJAR	**Matsushiro Arr**	**3.13**	**268**	P	**Pn**	**01 50 55.4**	**+1.1**
	9.4nm,0.3s,baz=107,slow=10.0,SNR=43						
MJAR				LR	LR	01 52 24.7	
	comp=Z,108nm,18.5s,baz=70,slow=48						
MAT	**Matsushiro**	**3.13**	**268**	P	**Pn**	**01 50 56.1**	**+1.8**
MAT				S	**Sn**	**01 51 33.7**	**+1.4**
JHJ	**Hachijo jima 2**	**4.05**	**209**	P	**Pn**	**01 51 06.6**	**-0.3**
	14nm,0.3s,baz=75,slow=20,SNR=6.2						
JHJ				S	**Sn**	**01 51 50.1**	**-4.9**
	49nm,0.3s,baz=52,slow=22,SNR=9.8						
USRK	**Ussuriysk Ar.**	**10.73**	**317**	P	**Pn**	**01 52 39.8**	**+1.3**
	0.1nm,0.3s,baz=133,slow=14,SNR=2.3						
KSRS	**Korea Array**	**11.35**	**278**	P	**Pn**	**01 52 49.4**	**+2.5**
	0.1nm,0.3s,baz=88,slow=14,SNR=3.4						
KSRS				LR	LR	01 57 03.9	
	comp=Z,101nm,18.5s,baz=280,slow=37						
H11N2	**WAKE ISLAND Hy 27.51**	**121**		T	T	02 25 44.4	
	baz=314,slow=75,SNR=69						
H11N1	**WAKE ISLAND Hy 27.52**	**121**		T	T	02 25 46.0	
	baz=314,slow=75,SNR=62						
H11N3	**WAKE ISLAND Hy 27.53**	**121**		T	T	02 25 46.8	
	baz=314,slow=75,SNR=53						
H11S1	**WAKE ISLAND Hy 28.22**	**123**		T	T	02 26 39.9	
	baz=316,slow=76,SNR=86						
H11S3	**WAKE ISLAND Hy 28.22**	**123**		T	T	02 26 39.3	
	baz=316,slow=76,SNR=62						
H11S2	**WAKE ISLAND Hy 28.24**	**123**		T	T	02 26 40.7	
	baz=316,slow=76,SNR=59						
SONM	**Songino Array**	**28.42**	**304**	P	**P**	**01 55 59.3**	**-0.7**
	1.8nm,0.7s,baz=107,slow=8.1,SNR=8.7						
ZALV	**Zalesovo Beam**	**42.54**	**313**	P	**P**	**01 57 60.0**	**-0.7**
	0.4nm,0.3s,baz=89,slow=6.3,SNR=2.9						
ILAR	**Eielson Array**	**49.48**	**32**	P	**P**	**01 58 58.4**	**+3.2**
	0.4nm,0.8s,baz=273,slow=6.1,SNR=4.8						
AAK	**Ala-Archa**	**51.13**	**299**	LR	LR	02 22 31.9	
	comp=Z,57nm,18.8s,baz=95,slow=38						
WRA	**Warramunga Arr**	**56.82**	**189**	P	P	01 59 54.0	+4.2
	0.6nm,0.8s,baz=5.7,slow=7.5,SNR=3.9						

IDC 12 02:00:16.3±58.0,**17˚.47S×174˚.74W,h0km,mb4.0/3, mb1 4.1/3,mb1mx3.6/33,mbtmp4.0/3,Error ellipse: s-maj=1099.0km s-min=178.7km az=80.0,Tonga**

Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**41.91**	**242**	P	P	02 08 09.1	+0.3
	0.7nm,0.4s,baz=82,slow=7.1,SNR=5.0						
WRA	**Warramunga Arr**	**48.15**	**259**	P	P	02 08 58.5	-0.2
	0.8nm,0.3s,baz=96,slow=8.2,SNR=15						
ASAR	**Alice Springs**	**48.28**	**254**	P	P	02 08 59.3	-0.4
	1.1nm,0.5s,baz=88,slow=8.1,SNR=12						

ISCJB ***12*** *02:07:24.8±0.8,37˚.17N±0˚.05×141˚.70E±0˚.06,h10km, mb3.6/4,Error ellipse: s-maj=7.8km s-min=6.1km az=141.1*
JMA ***12*** *02:07:25.9±0.1,37˚.17N×141˚.66E,h26km±2km,M3.4*
IDC ***12*** *02:07:25.7±1.3,37˚.09N×141˚.59E,h0km,mb3.5/4, mb1 3.7/5,mb1mx3.4/41,mbtmp3.4/5,ML2.6/1,Error ellipse: s-maj=32.8km s-min=29.8km az=154.0*

ISC 12 02:07:26.3±1.0,**37˚.23N**±0˚.06×**141˚.60E**±0˚.07,**h10**km,**n21,** σ1**§09/21, mb3.6/4, Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JFK	**Kawauchi**	**0.60**	**284**	P	**Pb**	**02 07 38.3**	**-0.6**
JFK				S	**Sb**	**02 07 47.1**	**-0.3**
ONAJ	**Iwakimizuishiy**	**0.66**	**259**	P	**Pb**	**02 07 39.0**	**-0.9**
ONAJ				*e*S	**Sb**	**02 07 49.3**	**+0.3**
JMM	**Marumori**	**0.91**	**315**	P	**Pb**	**02 07 43.6**	**-0.5**
JMM				S	**Sb**	**02 07 56.4**	**+0.2**
JHO	**Hitachi**	**1.03**	**234**	P	**Pg**	**02 07 44.6**	**-1.5**
JHO				S	**Sg**	**02 07 58.1**	**-1.4**
JFT	**Otama**	**1.05**	**286**	P	**Pg**	**02 07 46.3**	**-0.8**
JFT				S	**Sb**	**02 08 00.7**	**+0.3**
JIO	**Ouri**	**1.24**	**351**	P	**Pn**	**02 07 48.8**	**-0.9**
JOU	**Okura**	**1.36**	**327**	P	**Pb**	**02 07 51.6**	**-0.3**
JMK	**Ichinoseki**	**1.75**	**350**	P	**Pb**	**02 07 57.0**	**-1.5**
MJAR	**Matsushiro Arr**	**2.81**	**257**	Pn	**Pn**	**02 08 11.7**	**+0.4**
	1.0nm,0.3s,baz=80,slow=16,SNR=6.8						
MAT	**Matsushiro**	**2.81**	**257**	P	**Pn**	**02 08 12.4**	**+1.1**
MAT				S	**Sn**	**02 08 47.0**	**+1.8**
H11N2	**WAKE ISLAND Hy 28.12**	**121**		T	T	02 42 40.2	
	baz=314,slow=75,SNR=119						
H11N1	**WAKE ISLAND Hy 28.13**	**121**		T	T	02 42 41.4	
	baz=314,slow=75,SNR=153						
H11N3	**WAKE ISLAND Hy 28.14**	**121**		T	T	02 42 41.6	
	baz=314,slow=75,SNR=138						
H11S1	**WAKE ISLAND Hy 28.84**	**123**		T	T	02 43 33.4	
	baz=316,slow=76,SNR=186						
H11S3	**WAKE ISLAND Hy 28.84**	**123**		T	T	02 43 32.5	
	baz=316,slow=76,SNR=125						
H11S2	**WAKE ISLAND Hy 28.85**	**123**		T	T	02 43 35.7	
	baz=316,slow=76,SNR=138						
ZALV	**Zalesovo Beam**	**41.90**	**312**	P	**P**	**02 15 18.4**	**+1.8**
	0.5nm,0.3s,baz=90,slow=8.9,SNR=3.6						
KURBB	**Kurchatov Arra**	**46.00**	**308**	P	**P

JIZS	**Izushimoda**	**1.00**	**260**	⇑P		**Pn**	**03 24 34.5**	**-0.3**
JIZS				S		**Sn**	**03 24 47.9**	**-0.3**
JYN	**Shimob**	**1.39**	**296**	⇓P		**Pn**	**03 24 39.5**	**-0.7**
JYN				S		**Sn**	**03 24 57.4**	**-0.2**
JRY	**Ryogami san**	**1.48**	**320**	⇓P		**Pn**	**03 24 40.4**	**-0.9**
JRY				S		**Sn**	**03 24 58.6**	**-1.0**
SHZ3	**Shizuoka 3**	**1.54**	**277**	P		**Pn**	**03 24 42.2**	**0.0**
JHJ	**Hachijo jima 2**	**1.78**	**188**	P		**Pn**	**03 24 45.5**	**+0.2**
	236nm,0.3s,baz=78,slow=9.8,SNR=121							
JHJ				S		**Sn**	**03 25 06.7**	**-0.2**
	501nm,0.3s,baz=258,slow=23,SNR=27							
MJAR	**Matsushiro Arr**	**2.24**	**318**	P		**Pn**	**03 24 51.5**	**-0.1**
	28nm,0.3s,baz=148,slow=13,SNR=344							
MJAR				S		**Sn**	**03 25 18.4**	**+0.2**
	14nm,0.3s,baz=160,slow=26,SNR=9.4							
MJAR				LR		LR	03 25 59.4	
	comp=Z,77nm,21.3s,baz=115,slow=46							
MAT	**Matsushiro**	**2.24**	**318**	P		**Pn**	**03 24 51.6**	**0.0**
MAT				S		**Sn**	**03 25 18.4**	**+0.2**
KSRS	**Korea Array**	**10.15**	**288**	P		**Pn**	**03 26 42.3**	**+2.5**
	0.1nm,0.3s,baz=106,slow=14,SNR=9.0							
H11S3	**WAKE ISLAND Hy**	**28.71**	**118**	T		T	04 00 30.8	
	baz=310,slow=75,SNR=15							
H11S1	**WAKE ISLAND Hy**	**28.72**	**118**	T		T	04 00 30.8	
	baz=310,slow=75,SNR=13							
H11S2	**WAKE ISLAND Hy**	**28.73**	**118**	T		T	04 00 31.9	
	baz=310,slow=75,SNR=19							
ZALV	**Zalesovo Beam**	**42.59**	**314**	P		**P**	**03 32 07.4**	**+0.5**
	0.8nm,0.4s,baz=87,slow=8.8,SNR=2.9							
ILAR	**Eielson Array**	**51.88**	**31**	P		**P**	**03 33 18.8**	**-0.3**
	0.9nm,1.0s,baz=265,slow=5.8,SNR=7.0							
WRA	**Warramunga Arr**	**54.80**	**187**	P		**P**	**03 33 40.3**	**-0.6**
	0.8nm,0.7s,baz=1.6,slow=7.5,SNR=6.4							
TXAR	**Lajitas Array**	**92.29**	**52**	P		**P**	**03 37 21.5**	**+0.5**
	0.2nm,0.8s,baz=297,slow=2.7,SNR=3.7							

IDC ***12*** *03:47:40.1±0.7,9.°60S×117.°69E, h0km, mb4.3/11, mb1 4.2/13,mb1mx4.0/32,mbtmp4.2/13,ML3.8/2,MS3.1/2, Ms1 3.1/2,ms1mx2.7/27, Error ellipse: s-maj=27.6km s-min=18.9km az=61.0*

ISCJB ***12*** *03:47:43.1±0.3,9.°77S±0.°04×117.°82E±0.°04, h35km, mb4.5/20,MS3.8/4, Error ellipse: s-maj=6.9km s-min=4.5km az=39.5*

NEIC ***12*** *03:47:47.6±0.8,9.°77S×117.°74E,h64km±8km,mb4.4/4, Error ellipse: s-maj=10.8km s-min=7.3km az=223.0*

DJA ***12*** *03:47:55.1±0.3,9.°5S±6.°×11.°8E±.°, h28km±4km,M4.6/11, MLv4.6/11*

ISC 12 03:47:45.4±0.5,**9.°83S**±0.°05×**117.°83E**±0.°04,**h35**km,**n56, σ25 41**/51,**mb4.6**/19,**MS3.9**/4,**Sumbawa region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLAI	**Plampang**	**1.00**	**357**	P	**Pn**	**03 48 02.8**	**-0.1**
PLAI				S	**Sn**	**03 48 08.6**	**-7.2**
TWSI	**Taliwang, Sumb**	**1.44**	**319**	P	**Pn**	**03 48 11.0**	**+2.1**
TWSI				S	**Sn**	**03 48 22.9**	**-3.7**
WSI	**Waingapu**	**2.44**	**86**	P	Pn	03 48 37.5	+15
DNP	**Denpasar**	**2.83**	**294**	P	Pn	03 48 33.9	+5.8
DNP				S	**Sn**	**03 49 03.4**	**+2.4**
IGBI	**Denpasar**	**2.84**	**291**	P	Pn	03 48 33.9	+5.7
SRBI	**Singaraja**	**3.12**	**304**	P	**Pn**	**03 48 34.5**	**+2.5**
JAGI	**Jajag, Banyuwa**	**3.88**	**290**	P	Pn	03 48 48.1	+5.6
JAGI	**Jajag, Banyuwa**	**3.88**	**290**	*e*Pn	**Pn**	**03 48 44.0**	**+1.5**
JAGI				*e*Sn	**Sn**	**03 49 29.8**	**+2.8**
MMRI	**Maumere**	**4.51**	**75**	*e*Pn	Pn	03 48 56.7	+5.6
MMRI				*e*Sn	**Sn**	**03 49 48.9**	**+6.4**
BSSI	**Bau Bau, Buton**	**4.51**	**36**	P	**Pn**	**03 48 51.1**	**-0.2**
GMJI	**Gumukmas**	**4.60**	**289**	P	**Pn**	**03 48 57.1**	**+4.6**
KAPI	**Kappang**	**5.15**	**22**	*e*Pn	**Pn**	**03 49 03.3**	**+3.2**
KAPI				*e*Sn	**Sn**	**03 49 59.5**	**+1.2**
UGM	**Wanagama**	**7.47**	**284**	*e*Pn	**Pn**	**03 49 32.5**	**+0.5**
UGM				*e*Sn	**Sn**	**03 50 55.0**	**-0.6**
MTKI	**Muara Teweh, K**	**9.30**	**342**	P	Pn	03 49 54.5	-2.6
FITZ	**Fitzroy Crossi**	**11.18**	**138**	Pn	**Pn**	**03 50 24.5**	**+1.8**
	0.5nm,0.3s,baz=320,slow=13,SNR=23						
FITZ				Sn	**Sn**	**03 52 21.6**	**-4.9**
	0.7nm,0.3s,baz=180,slow=20,SNR=4.5						
FITZ				LR	LR	03 54 25.7	
	comp=Z,69nm,21.5s,baz=326,slow=36						
MBWA	**Marble Bar**	**11.41**	**171**	*e*Pn	**Pn**	**03 50 26.9**	**+1.0**
MBWA				*e*Sn	Sn	03 52 20.9	-11
MTN	**Manton Dam**	**13.38**	**104**	*e*Pn	**Pn**	**03 50 51.9**	**-1.0**
FAKI	**Fak Fak**	**15.88**	**65**	*e*Pn	**Pn**	**03 51 26.6**	**+0.2**
	120nm,1.4s						
WRA	**Warramunga Arr**	**18.84**	**124**	P	**P**	**03 52 04.2**	**+1.8**
	0.3nm,0.3s,baz=302,slow=12,SNR=8.4						
WRA				S	Sn	03 55 22.7	-10
	0.2nm,0.3s,baz=300,slow=22,SNR=3.3						
WB2	**Warramunga Arr**	**18.85**	**124**	*e*P	**P**	**03 52 03.5**	**+1.0**
	15nm,1.4s						
WB2				*e*S	Sn	03 55 21.0	-12
PPI	**Padang Panjang**	**19.69**	**297**	P	**P**	**03 52 14.0**	**+2.2**
AS31	**Alice Springs**	**20.61**	**134**	*e*P	**P**	**03 52 23.6**	**+1.9**
	3.0nm,1.4s						
ASAR	**Alice Springs**	**20.61**	**134**	P	**P**	**03 52 24.1**	**+2.4**
	2.6nm,0.6s,baz=316,slow=11,SNR=22						
ASAR				S	**S**	**03 56 07.6**	**-2.8**
	0.5nm,0.6s,baz=308,slow=22,SNR=3.6						
AS01	**Alice Springs**	**20.64**	**134**	*e*P	**P**	**03 52 22.8**	**+0.7**
STKA	**Stephens Creek**	**31.07**	**138**	LR	LR	04 06 15.6	
	comp=Z,48nm,20.4s,baz=34,slow=36						
GYA	**Guiyang**	**37.67**	**343**	*e*P	**P**	**03 54 58.0**	**+0.5**
GYA				pmax	pmax		
	comp=Z,10.0nm,1.0s						
KMI	**Kunming**	**37.73**	**337**	P	**P**	**03 54 59.1**	**+0.9**
KMI				pmax	pmax		
	comp=Z,10.0nm,0.6s						
LZH	**Lanzhou**	**47.54**	**345**	*e*P	**P**	**03 56 17.8**	**+0.2**
LZH				pP	sP	03 56 36.0	+3.8
LZH				sP	pP	03 56 43.4	+15
LZH				pmax	pmax		
	comp=Z,14nm,1.2s						
LZH				pmax	pmax		
	comp=Z,58nm,4.5s						
LZH				LR	LR		
	comp=N,98nm,12.3s						
LZH				LR	LR		
	comp=Z,160nm,13.5s						
LZH				LR	LR		
	comp=E,98nm,13.8s						
KSAR	**Wonju Array Be**	**47.96**	**11**	P	**P**	**03 56 20.2**	**-0.4**
KSRS	**Korea Array**	**47.98**	**11**	P	**P**	**03 56 20.2**	**-0.5**
	comp=E,2.8nm,0.7s,baz=189,slow=9.1,SNR=14						
KS01	**Wonju Array Si**	**47.99**	**11**	*e*P	P	03 56 18.5	-2.4
BJI	**Beijing**	**49.64**	**358**	P	**P**	**03 56 32.0**	**-1.5**
BJI				pmax	pmax		
	comp=Z,4.0nm,1.5s						
MJAR	**Matsushiro Arr**	**49.95**	**21**	P	P	03 56 33.6	-2.3
	comp=Z,1.0nm,0.7s,baz=203,slow=8.8,SNR=6.3						
HHC	**Hu-ho-hao-te**	**50.76**	**354**	*e*P	**P**	**03 56 41.2**	**-0.9**
HHC				pmax	pmax		
	comp=Z,9.0nm,0.8s						
HHC				pmax	pmax		
	comp=Z,74nm,7.6s						
CN2	**Changchun**	**53.82**	**7**	*e*P	**P**	**03 57 06.2**	**+1.5**
CN2				*es*P	sP	03 57 34.2	+15
CN2				*e*S	**S**	**04 04 35.2**	**-1.9**
CN2				pmax	pmax		
	comp=Z,10.0nm,0.6s						
CN2				pmax	pmax		
	comp=Z,200nm,4.0s						
CN2				LR	LR		
	comp=N,200nm,15.0s						
CN2				LR	LR		
	comp=E,300nm,15.0s						
CN2				LR	LR		
	comp=Z,300nm,16.0s						
MDJ	**Mudanjiang**	**55.23**	**10**	P	**P**	**03 57 14.0**	**-0.8**
MDJ				pmax	pmax		
	comp=Z,7.0nm,0.9s						
MDJ				pmax	pmax		
	comp=Z,66nm,6.0s						
USRK	**Ussuriysk Ar.**	**55.29**	**12**	P	**P**	**03 57 14.3**	**-1.0**
	comp=Z,3.6nm,0.5s,baz=194,slow=6.9,SNR=12						
SONM	**Songino Array**	**58.30**	**351**	P	**P**	**03 57 34.9**	**-1.9**
	comp=Z,1.8nm,0.6s,baz=169,slow=8.7,SNR=10						
SONA1	**Songino Array**	**58.31**	**351**	*e*P	P	03 57 34.1	-2.8
WMQ	**Urumqi**	**60.01**	**335**	P	**P**	**03 57 48.1**	**-0.5**
WMQ				pP	sP	03 58 07.6	+4.2
WMQ				pmax	pmax		
	comp=Z,11nm,0.6s						
WMQ				pmax	pmax		
	comp=Z,83nm,4.5s						
WMQ				LR	LR		
	comp=N,43nm,21.3s						
WMQ				LR	LR		
	comp=E,30nm,25.5s						
WMQ				LR	LR		
	comp=Z,32nm,16.9s						
KSH	**Kashi**	**62.60**	**324**	*e*P	**P**	**03 58 07.1**	**+0.8**
KSH				pP	sP	03 58 26.1	+5.0
KSH				PP	**PP**	**04 00 27.0**	**+2.6**
KSH				S	**S**	**04 06 27.1**	**-5.0**
KSH				sS	sS	04 07 00.0	+10
KSH	**Kashi**	**62.60**	**324**	SS	SS	04 10 34.9	-2.2
KSH				pmax	pmax		
	comp=Z,110nm,5.5s						
KSH				LR	LR		
	comp=N,99nm,6.1s						
KSH				LR	LR		
	comp=E,71nm,5.0s						
KSH				LR	LR		
	comp=Z,140nm,6.2s						
MK01	**Makanchi Array**	**64.66**	**334**	*e*P	P	03 58 17.5	-2.1
MK31	**Makanchi Array**	**64.68**	**334**	*e*P	P	03 58 17.6	-2.1
MKAR	**Makanchi Array**	**64.68**	**334**	*e*P	P	03 58 17.6	-2.2
	comp=Z,11nm,0.8s						
WSAR	**Wadi Sarin**	**66.57**	**301**	P	**P**	**03 58 31.3**	**-1.2**
	comp=Z,3.1nm,0.6s,baz=176,slow=5.7,SNR=5.5						
ZAA0	**Zalesovo Array**	**69.41**	**340**	*e*P	P	03 58 47.2	-2.4
ZALV	**Zalesovo Beam**	**69.41**	**340**	P	P	03 58 47.2	-2.4
	comp=Z,1.3nm,0.3s,baz=153,slow=4.4,SNR=8.3						
ABKAR	**Akbulak array**	**77.58**	**325**	*e*P	P	03 59 35.2	-2.6
	comp=Z,20nm,0.6s						
BOSA	**Boshof**	**87.60**	**242**	P	**P**	**04 00 31.4**	**+0.7**
	comp=Z,2.1nm,1.1s,baz=180,slow=5.1,SNR=3.2						
BRTR	**Keskin Array B**	**91.78**	**310**	P	**P**	**04 00 49.0**	**-1.0**
	comp=Z,0.5nm,0.7s,baz=136,slow=5.5,SNR=3.5						
AKASG	**Malin Array Be**	**96.64**	**320**	P	**P**	**04 01 10.2**	**-1.6**
	comp=Z,0.4nm,0.4s,baz=83,slow=3.1,SNR=4.3						
FINES	**FINESS Array B**	**99.40**	**331**	P	**Pdif**	**04 01 22.5**	**-1.4**
	comp=Z,1.0nm,0.6s,baz=124,slow=6.9,SNR=3.6						
YKA	**Yellowknife Ar**	**115.42**	**24**	PKP	**PKPdf**	**04 06 23.0**	**-0.1**
	comp=Z,1.8nm,0.8s,baz=288,slow=1.9,SNR=5.8						
TORD	**Torodi Ar. Bea**	**117.47**	**280**	PKP	**PKPdf**	**04 06 28.3**	**-0.1**
	comp=Z,0.4nm,0.7s,baz=94,slow=2.0,SNR=4.5						
DBIC	**Dimbokro**	**123.25**	**272**	PKP	**PKPdf**	**04 06 39.8**	**+0.2**
	comp=Z,4.1nm,1.1s,baz=297,slow=2.3,SNR=3.5						

SCB ***12*** *03:51:39.9±0.8,24.°32S×65.°23W, h50km, Ml4.1/1, Error ellipse: s-maj=21.0km s-min=11.3km az=5.0*

SJA ***12*** *03:51:44.0±1.4,24.°07S×65.°22W,h13km±8km, ML3.6, MW3.9*

ISCJB ***12*** *03:51:45.0±0.6,24.°10S±0.°03×65.°1W±0.°1, h25km±6km, Error ellipse: s-maj=18.9km s-min=5.7km az=0.7*

ISC 12 03:51:45.4±1.0,**24.°07S**±0.°03×**65.°12W**±0.°09,**h11**km±9km, **n15,σ1924/21,Salta Province**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AZAP	**Zapla**	**0.17**	**161**	*e*P	**Pg**	**03 51 49.4**	**+0.2**
AZAP				*e*S	**Sg**	**03 51 53.5**	**+1.5**
SLA	**San Lorenzo**	**0.74**	**208**	*e*P	**Pg**	**03 51 59.0**	**-0.7**
SLA				*e*S	**Sg**	**03 52 08.0**	**-1.4**
HJA	**Humahuaca**	**0.90**	**343**	*e*P	**Pg**	**03 52 02.5**	**-0.3**
HJA				*e*S	**Sg**	**03 52 14.2**	**-0.2**
HJA				IAML		03 52 18.6	
	comp=Z,3μm,0.4s						
ALOL	**LOMAS DE OLMED**	**1.07**	**77**	*e*P	Pg	03 51 52.0	-14
YJA	**Yavi**	**1.92**	**349**	*e*P	**Pb**	**03 52 19.6**	**-1.1**
YJA				*e*S	**Sb**	**03 52 45.4**	**+0.6**
YJA				IAML		03 52 47.5	
	comp=Z,328nm,0.3s						
FSA	**Cafayete**	**2.18**	**201**	*e*P	**Pn**	**03 52 21.1**	**-0.6**
FSA				*e*S	**Sb**	**03 52 53.3**	**+1.3**
FSA				IAML		03 52 55.2	
	comp=Z,276nm,0.3s						
AHML	**Horco Molle**	**2.71**	**184**	*e*P	**Pn**	**03 52 27.1**	**-1.9**
AHML				*e*S	**Sb**	**03 53 08.5**	**+1.2**
MOCB	**Mochara**	**2.84**	**350**	*e*Pn	**Pn**	**03 52 31.7**	**+0.5**
MOCB				*e*Sn	**Sn**	**03 53 08.4**	**+2.7**
	comp=Z,120nm,0.3s						
CYA	**Choya**	**4.40**	**188**	*e*P	**Pn**	**03 52 51.4**	**-0.8**
CYA				IAML		03 54 03.1	
	comp=Z,78nm,0.4s						
BBOJ	**La Paz, Jacaqu**	**7.62**	**337**	*e*Pn	**Pn**	**03 53 37.6**	**+0.7**
BBOE	**La Paz, Chanca**	**7.70**	**339**	*e*Pn	**Pn**	**03 53 38.2**	**+0.2**
BBOD	**La Paz, Gloria**	**8.08**	**336**	*e*Pn	**Pn**	**03 53 43.6**	**+0.4**
LPAZ	**La Paz**	**8.24**	**339**	*e*Pn	**Pn**	**03 53 45.8**	**+0.3**
BBOB	**La Paz, Bander**	**8.38**	**340**	*e*Pn	**Pn**	**03 53 47.4**	**+0.1**
SIV	**San Ignacio**	**8.89**	**26**	*e*P	**Pn**	**03 53 52.1**	**-1.8**

IDC ***12*** *04:07:33.0±1.0,0.°61N×97.°04E, h0km, mb3.8/11, mb1 3.9/12,mb1mx3.7/52,mbtmp3.7/12,ML3.0/1,MS2.9/1, Ms1 2.9/1,ms1mx2.5/28, Error ellipse: s-maj=32.5km s-min=19.3km az=50.0*

ISCJB ***12*** *04:07:34.8±0.8,0.°6N±0.°1×97.°1E±0.°1, h23km, mb3.8/11, Error ellipse: s-maj=20.2km s-min=14.8km az=145.9*

ISC 12 04:07:37.0±1.0,**0.°7N**±0.°1×**97.°2E**±0.°2,**h23**km,**n19, σ0990/13,mb3.8**/11,**Northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**2.77**	**40**	Pn	**Pn**	**04 08 20.3**	**+0.3**
	2.2nm,0.3s,baz=325,slow=12,SNR=4.1						
PSI				Sn	Sn	04 08 39.6	-13
	2.8nm,0.3s,baz=63,slow=8.4,SNR=7.8						
PSI				LR	LR	04 09 41.0	
	comp=Z,224nm,19.8s,baz=181,slow=46						
H08S2	**Diego Garcia H**	**25.94**	**251**	T	T	04 39 56.9	
	baz=72,slow=75,SNR=179						
H08S3	**Diego Garcia H**	**25.94**	**251**	T	T	04 40 03.8	
	baz=72,slow=75,SNR=170						
H08S1	**Diego Carcia H**	**25.95**	**251**	T	T	04 39 59.3	
	baz=72,slow=75,SNR=238						
H01W3	**Cape Leeuwin H**	**38.77**	**157**	T	T	04 56 04.5	
	baz=333,slow=76,SNR=74						
H01W2	**Cape Leeuwin H**	**38.79**	**157**	T	T	04 56 05.4	
	baz=333,slow=76,SNR=79						
H01W1	**Cape Leeuwin H**	**38.79**	**157**	T	T	04 56 05.4	
	baz=333,slow=76,SNR=79						
WRA	**Warramunga Arr**	**41.80**	**121**	P	**P**	**04 15 24.4**	**-0.8**
	1.3nm,0.9s,baz=303,slow=9.1,SNR=3.6						
ASAR	**Alice Springs**	**43.12**	**127**	P	**P**	**04 15 35.8**	**-0.1**
	0.5nm,0.5s,baz=306,slow=8.0,SNR=5.4						
KSRS	**Korea Array**	**46.31**	**34**	P	**P**	**04 16 00.6**	**-0.5**
	0.3nm,0.3s,baz=197,slow=13,SNR=4.2						
SONM	**Songino Array**	**47.66**	**8**	P	**P**	**04 16 12.7**	**+1.0**
	0.6nm,0.8s,baz=187,slow=10,SNR=2.9						
STKA	**Stephens Creek**	**53.04**	**132**	P	**P**	**04 16 53.3**	**+0.8**
	1.9nm,0.7s,baz=334,slow=1.4,SNR=4.2						
ZALV	**Zalesovo Beam**	**54.07**	**351**	P	**P**	**04 17 00.3**	**+0.6**
	1.4nm,0.5s,baz=176,slow=6.1,SNR=5.4						
KLR	**Kul'dur**	**56.75**	**26**	P	**P**	**04 17 17.6**	**-1.5**
	1.1nm,0.8s,baz=294,slow=10.0,SNR=3.8						
BRTR	**Keskin Array B**	**69.43**	**313**	P	**P**	**04 18 42.8**	**-0.9**
	0.6nm,0.6s,baz=140,slow=7.1,SNR=4.5						
AKASG	**Malin Array Be**	**75.65**	**323**	P	**P**	**04 19 19.7**	**-0.6**
	0.4nm,0.5s,baz=95,slow=4.6,SNR=4.2						
MLR	**Muntele Rosu**	**76.42**	**317**	P	**P**	**04 19 24.4**	**-0.6**
	0.3nm,0.6s,baz=120,slow=14,SNR=2.8						
ARCES	**ARCESS Array B**	**83.02**	**340**	P	**P**	**04 20 00.9**	**+0.7**
	1.1nm,0.9s,baz=116,slow=4.1,SNR=4.2						
TXAR	**Lajitas Array**	**144.15**	**32**	PKP	**PKPab**	**04 27 10.2**	**+0.8**
	0.1nm,0.4s,baz=318,slow=1.2,SNR=3.4						

IDC ***12*** *04:10:57.6±1.5,36.°75N×142.°41E, h0km,mb3.5/3, mb1 3.7/6,mb1mx3.5/48,mbtmp3.6/6,ML3.2/3,MS2.7/2, Ms1 2.7/2,ms1mx2.4/28, Error ellipse: s-maj=32.1km s-min=27.1km az=123.0*

NIED ***12*** *04:11:00, 37.°00N×141.°90E, h29km, Mw3.6 Best double couple: M0 2.94000×10^14 NP1:φs=285.00000°, δ36.00000°, λ=144.00000°. NP2:φs=165.00000°, δ70.00000°, λ=59.00000°.*

JMA ***12*** *04:11:01.6±0.2,37.°03N×141.°91E, h38km±3km, M3.7*

ISC 12 04:10:58.4±2.2,**36.°92N**±0.°04×**141.°97E**±0.°07,**h15**km±13km, **n25,σ1938/26,mb3.6/3,Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ONAJ	**Iwakimizuishiy**	**0.95**	**281**	P	**Pn**	**04 11 17.7**	**+0.4**
JFK	**Kawauchi**	**0.98**	**297**	P	**Pn**	**04 11 17.7**	**+0.1**
JHO	**Hitachi**	**1.16**	**255**	P	**Pg**	**04 11 21.3**	**+0.5**
JHO				*e*S	**Sb**	**04 11 36.1**	**+1.0**
JMM	**Marumori**	**1.32**	**316**	P	**Pb**	**04 11 22.6**	**-0.4**
JFT	**Otama**	**1.43**	**295**	P	**Pb**	**04 11 25.3**	**+0.6**
JIO	**Ouri**	**1.60**	**342**	P	**Pn**	**04 11 25.8**	**-0.4**
JIO				*e*S	**Sn**	**04 11 44.6**	**-2.1**
JAG	**Ashikaga**	**2.08**	**257**	P	**Pb**	**04 11 35.1**	**-0.7**
JMK	**Ichinoseki**	**2.11**	**344**	P	**Pn**	**04 11 33.8**	**+0.7**
JMK				S	**Sn**	**04 11 57.2**	**-1.9**
JYK	**Kaneyama**	**2.36**	**328**	P	**Pn**	**04 11 38.0**	**+1.4**
JYK				*e*S	**Sn**	**04 12 04.3**	**-1.1**
JOM	**Ohasama**	**2.60**	**348**	P	**Pn**	**04 11 40.9**	**+1.0**
JOM				*e*S	**Sn**	**04 12 10.1**	**-1.1**
JRY	**Ryogami san**	**2.63**	**251**	P	**Pb**	**04 11 43.1**	**-2.1**
JRY				*e*S	**Sn**	**04 12 13.1**	**+1.1**
JAW	**Awa shima**	**2.64**	**306**	P	**Pn**	**04 11 42.3**	**+1.8**
MJAR	**Matsushiro Arr**	**3.04**	**264**	Pn	**Pb**	**04 11 49.4**	**-2.8**
	8.7nm,0.3s,baz=89,slow=16,SNR=30						
MJAR				Sn	**Sb**	**04 12 29.7**	**+0.5**
	7.4nm,0.3s,baz=200,slow=36,SNR=7.0						
MJAR				LR	LR	04 13 19.2	
	comp=Z,112nm,18.3s,baz=85,slow=42						
MAT	**Matsushiro**	**3.04**	**264**	P	**Pb**	**04 11 50.2**	**-2.1**
MAT				S	**Sb**	**04 12 28.0**	**-1.2**
JHJ	**Hachijo jima 2**	**4.20**	**206**	Pn	**Pn**	**04 12 01.4**	**-0.4**
	3.4nm,0.3s,baz=72,slow=19,SNR=2.0						
JHJ				Sn	**Sn**	**04 12 50.6**	**-0.1**
	17nm,0.3s,baz=78,slow=20,SNR=4.8						
KSRS	**Korea Array**	**11.22**	**277**	Pn	Pn	04 13 44.3	+6.2
	0.1nm,0.3s,baz=90,slow=15,SNR=4.7						
KSRS				LR	LR	04 17 21.9	
	comp=Z,32nm,20.1s,baz=225,slow=33						
H11N2	**WAKE ISLAND Hy**	**27.71**	**121**	T	T	04 46 13.1	
	baz=314,slow=75,SNR=21						
H11N1	**WAKE ISLAND Hy**	**27.72**	**121**	T	T	04 46 21.9	
	baz=314,slow=75,SNR=28						
H11N3	**WAKE ISLAND Hy**	**27.73**	**121**	T	T	04 46 08.6	
	baz=314,slow=75,SNR=24						
SONM	**Songino Array**	**28.21**	**304**	P	P	04 16 57.3	+6.6
	0.6nm,0.5s,baz=113,slow=11,SNR=3.2						
H11S1	**WAKE ISLAND Hy**	**28.43**	**123**	T	T	04 47 26.7	
	baz=316,slow=76,SNR=20						
H11S3	**WAKE ISLAND Hy**	**28.43**	**124**	T	T	04 47 08.5	
	baz=316,slow=76,SNR=14						
H11S2	**WAKE ISLAND Hy**	**28.45**	**124**	T	T	04 47 18.9	
	baz=316,slow=76,SNR=13						
ILAR	**Eielson Array**	**49.35**	**32**	P	**P**	**04 19 46.8**	**0.0**
	0.4nm,0.8s,baz=263,slow=7.2,SNR=4.5						
WRA	**Warramunga Arr**	**57.02**	**189**	P	**P**	**04 20 45.2**	**+1.5**
	0.4nm,0.6s,baz=4.7,slow=7.1,SNR=5.0						

ISCJB ***12*** *04:32:28.8±0.8,13.°93S±0.°04×75.°92W±0.°07, h58km±8km, mb4.6/55,MS3.6/6, Error ellipse: s-maj=12.4km s-min=4.9km az=155.3*

NEIC ***12*** *04:32:30.3±0.7,13.°90S×75.°97W, h52km±7km, mb4.7/52, Error ellipse: s-maj=10.6km s-min=4.6km az=65.0*

NEIC Felt [III] at Chincha Alta, Ica, Pisco and Salas.

IDC ***12*** *04:32:30.8±0.6, 13.°86S×75.°89W, h58km±4km, mb4.1/11, mb1 4.2/14,mb1mx4.1/23,mbtmp4.3/14,MS3.4/8, Ms1 3.4/8,ms1mx3.3/17, Error ellipse: s-maj=21.7km s-min=13.4km az=57.0*

ISC 12 04:32:30.4±0.5,**13.°95S**±0.°05×**75.°84W**±0.°07,**h55**km±4km, **h55**km;**pP-P,n120,σ1971/131,mb4.7**/56,**MS3.7**/6,**2C, Central Peru**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NNA	**Nana**	**2.18**	**333**	P	**Pn**	**04 33 03.0**	**-1.3**
	44nm,0.3s,baz=136,slow=14,SNR=69						
NNA				S	**Sn**	**04 33 31.8**	**+1.6**
	454nm,0.3s,baz=65,slow=19,SNR=10.0						
NNA				LR	LR	04 33 47.6	
	comp=Z,292nm,20.0s,baz=168,slow=37						
ATAH	**Atahualpa**	**7.22**	**339**	P	**Pn**	**04 34 15.0**	**+1.2**
	0.9nm,0.3s,baz=135,slow=14,SNR=5.2						
ATAH				S	**Sn**	**04 35 38.1**	**+3.4**
	2.8nm,0.3s,baz=122,slow=19,SNR=1.8						
LPAZ	**La Paz**	**7.80**	**108**	P	Pn	04 34 28.1	+6.1
	2.6nm,0.3s,baz=294,slow=9.1,SNR=49						
LPAZ	**La Paz**	**7.80**	**108**	*e*Pn	Pn	04 34 27.8	+5.9
PB11	**IPOC Station P**	**8.27**	**135**	*e*Pn	**Pn**	**04 34 29.1**	**+1.1**
PB11				*e*Sn	**Sn**	**04 35 54.0**	**-6.1**
PB01	**IPOC Station P**	**9.30**	**140**	*e*Pn	**Pn**	**04 34 43.4**	**+1.4**
PB01				*e*Sn	**Sn**	**04 36 19.4**	**-5.9**
PB04	**IPOC Station P**	**9.94**	**148**	*e*Pn	**Pn**	**04 34 50.3**	**-0.5**
PB10	**IPOC Station P**	**10.75**	**153**	*e*Pn	**Pn**	**04 35 02.1**	**+0.4**
LVC	**Limon Verde**	**10.84**	**144**	P	**Pn**	**04 35 05.5**	**+2.3**
	50nm,0.3s,baz=316,slow=9.8,SNR=12						
LVC				S	**Sn**	**

WMOK	**Wichita Mounta**	**53.10**	**336**	*e*P		**P**	**04 41 40.6**	**-1.9**
	2.8nm,0.9s							
OLIL	**Olney**	**53.65**	**348**	*e*P		**P**	**04 41 45.2**	**-1.2**
	11nm,0.9s							
319A	**Douglas**	**55.33**	**325**	*e*P		**P**	**04 41 58.1**	**-0.8**
	11nm,1.0s							
ANMO	**Albuquerque**	**56.65**	**330**	*e*P		**P**	**04 42 08.6**	**+0.3**
	3.5nm,0.9s							
TUC	**Tucson**	**56.87**	**325**	*e*P		**P**	**04 42 09.5**	**-0.4**
	4.1nm,1.0s							
SDCO	**Great Sand Dun**	**58.48**	**333**	*e*P		**P**	**04 42 21.6**	**+0.2**
	3.8nm,0.8s							
X16A	**Lo Mia Camp, P**	**58.81**	**326**	*e*P		**P**	**04 42 24.4**	**+0.8**
	6.8nm,1.2s							
WUAZ	**Wupatki**	**59.60**	**327**	*e*P		**P**	**04 42 29.3**	**+0.3**
	9.2nm,1.1s							
SMCO	**Snowmass**	**60.31**	**332**	*e*P		**P**	**04 42 33.6**	**-0.5**
	3.6nm,0.9s							
U15A	**North Rim**	**60.78**	**327**	*e*P		**P**	**04 42 36.4**	**-0.8**
	9.8nm,1.4s							
SRU	**San Rafael Swe**	**61.92**	**330**	*e*P		**P**	**04 42 42.9**	**-1.9**
	19nm,1.8s							
CCUT	**Cedar City**	**62.18**	**327**	*e*P		**P**	**04 42 46.5**	**-0.1**
	4.5nm,1.2s							
MSU	**Marysvale**	**62.29**	**328**	*e*P		**P**	**04 42 47.3**	**0.0**
SHPR	**Sheep Range**	**62.40**	**325**	*e*P		**P**	**04 42 47.9**	**-0.1**
	8.6nm,1.4s							
K22A	**Casper**	**62.98**	**335**	*e*P		**P**	**04 42 51.2**	**-0.5**
	10.0nm,0.8s							
WMUT	**West Mountain**	**63.31**	**330**	*e*P		**P**	**04 42 54.5**	**+0.5**
JLU	**Jordanelle**	**63.53**	**330**	*e*P		**P**	**04 42 56.6**	**+1.1**
	11nm,1.3s							
DUG	**Dugway, Tooele**	**63.88**	**329**	*e*P		**P**	**04 42 58.0**	**+0.3**
	7.7nm,0.8s							
R11A	**Troy Canyon, C**	**63.96**	**326**	*e*P		**P**	**04 42 59.0**	**+0.7**
	11nm,1.6s							
HWUT	**Hardware Ranch**	**64.36**	**331**	*e*P		**P**	**04 43 00.6**	**-0.3**
	8.8nm,0.8s							
BW06	**Boulder Array**	**64.36**	**333**	*e*P		**P**	**04 42 57.6**	**-3.3**
	6.1nm,1.4s							
PDAR	**Pinedale Array**	**64.36**	**333**	P		**P**	**04 42 59.5**	**-1.4**
	0.8nm,0.7s,baz=124,slow=8.0,SNR=8.0							
PDAR				pP		**pP**	**04 43 16.2**	**+0.3**
	1.4nm,0.7s,baz=123,slow=8.5,SNR=8.5							
AGMN	**Agassiz Nation**	**64.48**	**345**	*e*P		**P**	**04 43 00.6**	**-0.6**
	2.8nm,0.5s							
MDND	**Maddock**	**65.07**	**343**	*e*P		**P**	**04 43 05.5**	**+0.4**
	34nm,1.2s							
IMW	**Indian Meadow**	**65.87**	**333**	*e*P		**P**	**04 43 11.0**	**+0.2**
	18nm,1.6s							
FLWY	**Flagg Ranch**	**65.92**	**333**	*e*P		**P**	**04 43 10.5**	**-0.4**
	14nm,0.8s							
ULM	**Lac du Bonnet**	**66.30**	**346**	P		**P**	**04 43 11.7**	**-1.3**
	5.5nm,0.5s,baz=153,slow=6.3,SNR=13							
ULM				pP		**pP**	**04 43 27.4**	**-0.7**
	6.6nm,0.9s,baz=150,slow=5.6,SNR=3.6							
YHH	**Holmes Hill**	**66.54**	**334**	*e*P		**P**	**04 43 14.8**	**-0.2**
	7.0nm,0.8s							
PAHR	**Pah Rah Range**	**67.02**	**325**	*e*P		**P**	**04 43 17.9**	**-0.1**
	10nm,1.0s							
HLID	**Hailey**	**67.21**	**331**	*e*P		**P**	**04 43 19.0**	**-0.2**
	4.1nm,0.7s							
MFID	**Camas Ranch**	**67.79**	**330**	*e*P		**P**	**04 43 22.6**	**-0.1**
	13nm,0.9s							
ORV	**Oroville**	**68.12**	**323**	*e*P		**P**	**04 43 25.5**	**+0.7**
	16nm,1.1s							
MOD	**Modoc Plateau**	**69.03**	**326**	*e*P		**P**	**04 43 31.0**	**+0.4**
	4.2nm,1.2s							
VNA3	**Neumayer Olymp**	**69.30**	**162**	P		**P**	**04 43 32.9**	**+1.2**
VNA2	**Neumayer--Watz**	**69.91**	**161**	P		**P**	**04 43 36.6**	**+1.2**
	baz=302,slow=5.1							
F10A	**Beach Ranch, E**	**70.35**	**331**	*e*P		**P**	**04 43 38.3**	**-0.2**
	10.0nm,0.6s							
SNAA	**Sanae**	**71.52**	**161**	P		**P**	**04 43 46.5**	**+1.2**
SNAA	**Sanae**	**71.52**	**161**	*e*P		**P**	**04 43 46.4**	**+1.2**
	6.7nm,0.9s							
HAWA	**Hanford**	**71.76**	**330**	*e*P		**P**	**04 43 48.1**	**+1.2**
	13nm,1.4s							
NEW	**Newport**	**71.98**	**332**	*e*P		**P**	**04 43 47.7**	**-0.6**
	8.6nm,1.1s							
DBIC	**Dimbokro**	**73.35**	**79**	P		**P**	**04 43 57.0**	**-0.1**
	5.3nm,1.1s,baz=223,slow=4.6,SNR=4.2							
DBIC				pP		**pP**	**04 44 11.6**	**-0.8**
	4.0nm,0.9s,baz=267,slow=7.0,SNR=3.0							
DBIC				LR		LR	05 14 03.9	
	comp=Z,47nm,20.5s,baz=262,slow=34							
EDM	**Edmonton**	**74.23**	**338**	*e*P		**P**	**04 43 59.8**	**-1.6**
	39nm,1.1s							
TOA0	**Torodi Ar. Sit**	**81.38**	**74**	*e*P		**P**	**04 44 43.2**	**+1.2**
TORD	**Torodi Ar. Bea**	**81.38**	**74**	P		**P**	**04 44 43.4**	**+1.4**
	4.1nm,0.9s,baz=261,slow=5.2,SNR=19							
TORD				pP		**pP**	**04 44 57.0**	**-0.5**
	6.0nm,0.7s,baz=262,slow=4.6,SNR=14							
TORD				LR		LR	05 19 57.0	
	comp=Z,23nm,19.5s,baz=20,slow=35							
YKA	**Yellowknife Ar**	**81.99**	**343**	pP		pP	04 44 59.9	+0.2
	1.7nm,0.6s,baz=135,slow=5.1,SNR=5.0							
VNDA	**Vanda**	**83.05**	**191**	P		**P**	**04 44 50.2**	**+0.6**
	1.4nm,0.9s,baz=143,slow=4.5,SNR=9.4							
VNDA	**Vanda**	**83.05**	**191**	*e*P		**P**	**04 44 49.5**	**-0.1**
	2.4nm,0.9s							
DLBC	**Dease Lake**	**84.54**	**335**	*e*P		**P**	**04 44 57.2**	**-0.2**
	6.0nm,1.5s							
ESDC	**Sonseca Array**	**85.37**	**47**	LR		LR	05 18 54.0	
	comp=Z,30nm,21.0s,baz=135,slow=33							
SYO	**Syowa Base**	**85.80**	**161**	*e*P		**P**	**04 45 03.2**	**-0.4**
SYO	**Syowa Base**	**85.80**	**161**	*e*pP		pP	04 45 19.8	+0.5
BOSA	**Boshof**	**92.88**	**120**	P		**P**	**04 45 38.8**	**+0.7**
	1.5nm,0.8s,baz=170,slow=6.1,SNR=2.7							
BOSA				LR		LR	05 26 07.9	
	comp=Z,32nm,19.0s,baz=261,slow=35							
MAW	**Mawson**	**93.34**	**165**	P		**P**	**04 45 39.7**	**+0.6**
	2.1nm,0.8s,baz=211,slow=7.6,SNR=5.4							
MAW				LR		LR	05 26 15.6	
	comp=Z,32nm,19.9s,baz=242,slow=34							
ILAR	**Eielson Array**	**94.66**	**336**	P		**P**	**04 45 44.0**	**-1.1**
	0.4nm,0.8s,baz=158,slow=4.0,SNR=5.8							
ILAR				pP		**pP**	**04 46 00.6**	**-0.4**
	0.5nm,0.8s,baz=141,slow=2.4,SNR=4.3							
H11N3	**WAKE ISLAND Hyl**	**19.94**	**285**	T		T	07 01 57.8	
	baz=96,slow=74,SNR=22							
H11N2	**WAKE ISLAND Hyl**	**19.95**	**285**	T		T	07 02 00.2	
	baz=96,slow=74,SNR=25							
H11N1	**WAKE ISLAND Hyl**	**19.96**	**285**	T		T	07 02 03.3	
	baz=96,slow=74,SNR=11							
H11S2	**WAKE ISLAND Hyl**	**20.02**	**283**	T		T	07 02 00.8	
	baz=93,slow=74,SNR=7.9							
H11S1	**WAKE ISLAND Hyl**	**20.03**	**283**	T		T	07 02 00.2	
	baz=93,slow=74,SNR=7.9							
H11S3	**WAKE ISLAND Hyl**	**20.04**	**283**	T		T	07 02 01.0	
	baz=93,slow=74,SNR=7.5							
ASAR	**Alice Springs**	**132.63**	**218**	PKP		**PKPdf**	**04 51 39.5**	**-0.4**
	1.3nm,1.0s,baz=107,slow=1.7,SNR=5.0							
ASAR				pPKP		**pPKPdf**	**04 51 57.6**	**+1.3**
	0.7nm,0.6s,baz=112,slow=1.8,SNR=3.2							
WRA	**Warramunga Arr**	**135.10**	**222**	PKP		**PKPdf**	**04 51 44.6**	**0.0**
	2.0nm,0.8s,baz=136,slow=1.7,SNR=7.6							
WRA				pPKP		**pPKPdf**	**04 52 02.4**	**+1.4**
	1.0nm,0.7s,baz=131,slow=2.2,SNR=3.1							
ZALV	**Zalesovo Beam**	**137.28**	**17**	PKP		**PKPdf**	**04 51 48.0**	**+0.4**
	0.7nm,0.3s,baz=242,slow=3.1,SNR=3.6							
KSH	**Kashi**	**144.47**	**39**	*e*PKP		**PKPdf**	**04 52 03.1**	**+1.9**
KSH				sPKP			04 52 17.0	
KSH				PP		**PP**	**04 55 22.1**	**+5.1**
KSH				PKS		**PKSdf**	**04 55 37.6**	**+0.7**
KSH				SKS		**SKSdf**	**04 59 07.0**	**+0.8**
ULN	**Ulaanbaatar**	**146.10**	**357**	*e*PKPbc		**PKPab**	**04 52 06.5**	**+1.1**
SONM	**Songino Array**	**146.16**	**357**	PKPbc		**PKPab**	**04 52 05.4**	**-0.1**
	5.0nm,0.8s,baz=336,slow=2.1,SNR=19							
SONM				pPKPbc		pPKPab	04 52 21.6	+0.1
	4.6nm,0.7s,baz=325,slow=2.8,SNR=8.2							
KSRS	**Korea Array**	**148.45**	**322**	PKPbc		**PKPdf**	**04 52 08.6**	**+0.9**
	4.2nm,0.9s,baz=21,slow=1.2,SNR=15							
KSRS				pPKPbc		**pPKPbc**	**04 52 28.6**	**+1.1**
	1.4nm,0.9s,baz=69,slow=3.1,SNR=2.6							
KSAR	**Wonju Array Be**	**148.48**	**322**	PKPbc		**PKPdf**	**04 52 08.6**	**+0.8**
KSAR				pPKPbc		**pPKPbc**	**04 52 28.6**	**+1.0**
LZH	**Lanzhou**	**157.95**	**1**	*e*PKP		**PKPdf**	**04 52 20.1**	**-1.6**
LZH				pPKP		pPKPdf	04 52 32.9	-5.2
LZH				sPKP			04 52 37.3	
LZH				PKP		**PKPab**	**04 52 55.7**	**+0.9**
LZH				PP		**PP**	**04 56 35.0**	**+1.7**
LZH				SKS		**SKSdf**	**04 59 20.5**	**-2.8**
LZH				AMB		AMB		
	comp=Z,110nm,4.5s							

*ISCJB **12** 04:55:55.3±0.4,50.09N±0.03×18.33E±0.02,h0km, Error ellipse: s-maj=4.1km s-min=2.1km az=16.3*
*CSEM **12** 04:55:56.7±0.2,50.09N×18.37E,h1km,ML3.3/11, Error ellipse: s-maj=5.2km s-min=2.8km az=11.0*
*IPEC **12** 04:55:57.2±0.2,50.06N×18.46E,h0km,ML2.6/4, Error ellipse: s-maj=2.0km s-min=1.1km az=160.0*
*BGR **12** 04:55:57.9±0.3,50.07N×18.40E,h1km,ML3.0/12, Error ellipse: s-maj=5.6km s-min=3.3km az=1.0*
*WAR **12** 04:55:57.0,50.06N×18.42E,h1km,Mw2.8*

ISC 12 04:55:57.2±0.7,50.07N±0.02×18.40E±0.02,h0km,n69, σ1§12/112,4C,Poland

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
RAC	**Raciborz**	**0.13**	**275**	*e*Pg		**Pg**		**04 56 01.2**	**+1.5**
RAC				*e*Sg		**Sg**		**04 56 04.5**	**+3.0**
OKC	**Ostrava-Krasne**	**0.28**	**215**	⇑*i*Pg		**Pg**		**04 56 03.6**	**+1.0**
OKC				*e*SG		**Sg**		**04 56 07.8**	**+1.5**
	comp=Z,658nm,0.7s								
OKC	**Ostrava-Krasne**	**0.28**	**215**	*e*Pg		**Pg**		**04 56 03.3**	**+0.6**
OKC				*e*Sg		**Sg**		**04 56 08.4**	**+2.1**
OKC	**Ostrava-Krasne**	**0.28**	**215**	Pg		**Pg**		**04 56 03.3**	**+0.6**
OKC				Sg		**Sg**		**04 56 08.4**	**+2.1**
MORC	**Moravsky Berou**	**0.63**	**242**	*e*Pg		**Pg**		**04 56 09.8**	**+0.6**
MORC				*e*Sg		**Sg**		**04 56 19.0**	**+1.6**
MORC	**Moravsky Berou**	**0.63**	**242**	*e*Pg		**Pg**		**04 56 09.5**	**+0.3**
MORC				*e*Sg		**Sg**		**04 56 17.9**	**+0.6**
	103nm,0.4s								
OJC	**Ojcow**	**0.91**	**80**	*e*Pg		**Pg**		**04 56 14.1**	**-0.5**
OJC				*e*Sg		**Sg**		**04 56 27.0**	**+0.5**
OJC	**Ojcow**	**0.91**	**80**	*e*Pg		**Pg**		**04 56 14.2**	**-0.5**
OJC				*e*Sg		**Sg**		**04 56 27.1**	**+0.6**
OJC	**Ojcow**	**0.91**	**80**	Pg		**Pg**		**04 56 14.2**	**-0.5**
OJC				Sg		**Sg**		**04 56 27.0**	**+0.5**
OJC	**Ojcow**	**0.91**	**80**	*e*Pg		**Pg**		**04 56 14.1**	**-0.5**
OJC				*e*Sg		**Sg**		**04 56 27.0**	**+0.5**
KRLC	**Kraliky**	**1.04**	**271**	*e*PG		**Pg**		**04 56 17.2**	**0.0**
KRLC				*e*SG		**Sg**		**04 56 30.7**	**0.0**
KRLC	**Kraliky**	**1.04**	**271**	Pg		**Pg**		**04 56 17.2**	**0.0**
KRLC				Sg		**Sg**		**04 56 30.7**	**0.0**
LANS	**Liptovska Anna**	**1.15**	**143**	*e*PG		**Pg**		**04 56 19.4**	**+0.1**
LANS				*e*SG		**Sb**		**04 56 36.0**	**+0.4**
JAVC	**Velka Javorina**	**1.30**	**202**	*e*Sg		**Sn**		**04 56 41.6**	**+0.8**
	57nm,0.7s								
DPC	**Dobruska-Polom**	**1.36**	**283**	*e*PG		**Pg**		**04 56 23.1**	**-0.2**
DPC				*e*SG		**Sg**		**04 56 41.1**	**+0.1**
	comp=Z,108nm,0.6s								
DPC	**Dobruska-Polom**	**1.36**	**283**	*e*Pg		**Pg**		**04 56 23.2**	**-0.2**
DPC				*e*Sg		**Sg**		**04 56 41.1**	**+0.1**
DPC	**Dobruska-Polom**	**1.36**	**283**	Pg		**Pg**		**04 56 23.2**	**-0.2**
DPC				Sg		**Sg**		**04 56 41.1**	**+0.1**
NIE	**Niedzica**	**1.40**	**117**	*e*Pg		**Pg**		**04 56 23.7**	**-0.2**
NIE				*e*Sg		**Sn**		**04 56 43.7**	**+0.6**
NIE	**Niedzica**	**1.40**	**117**	*e*Pg		**Pg**		**04 56 23.7**	**-0.2**
NIE				*e*Sg		**Sn**		**04 56 43.7**	**+0.6**
NIE	**Niedzica**	**1.40**	**117**	*e*Pg		**Pg**		**04 56 23.7**	**-0.2**
NIE				*e*Sg		**Sn**		**04 56 43.7**	**+0.6**
VRAC	**Vranov**	**1.40**	**238**	*e*Pg		**Pn**		**04 56 23.6**	**-0.4**
VRAC				*e*Sg		**Sg**		**04 56 42.2**	**+0.1**
	90nm,0.5s								
KSP	**Ksiaz**	**1.55**	**301**	*e*Pg		**Pn**		**04 56 25.6**	**-0.5**
KSP				*e*Sg		**Sn**		**04 56 46.9**	**0.0**
KSP	**Ksiaz**	**1.55**	**301**	*e*Pn		**Pn**		**04 56 25.9**	**-0.2**
KSP				*e*Pg		**Pg**		**04 56 28.0**	**+1.0**
KSP				*e*Sg		**Sn**		**04 56 47.0**	**+0.1**
KSP	**Ksiaz**	**1.55**	**301**	*e*Pg		**Pn**		**04 56 25.6**	**-0.5**
KSP	**Ksiaz**	**1.55**	**301**	Pn		**Pn**		**04 56 25.9**	**-0.2**
KSP				*e*Sg		**Sn**		**04 56 46.9**	**0.0**
KSP	**Ksiaz**	**1.55**	**301**	*e*Pg		**Pn**		**04 56 25.6**	**-0.5**
KSP				*e*Sg		**Sn**		**04 56 46.9**	**0.0**
UPC	**Upice**	**1.59**	**287**	⇑*e*SG		**Sn**		**04 56 48.1**	**+0.2**
	comp=Z,57nm,0.4s								
UPC	**Upice**	**1.59**	**287**	Sg		**Sn**		**04 56 48.1**	**+0.2**
	57nm,0.4s								
VYHS	**Vyhne**	**1.60**	**170**	*e*Pg		**Pb**		**04 56 27.7**	**0.0**
VYHS				*e*Sn		**Sn**		**04 56 48.0**	**-0.2**
VYHS	**Vyhne**	**1.60**	**170**	*e*PG		**Pb**		**04 56 27.7**	**0.0**
VYHS				*e*SN		**Sn**		**04 56 48.0**	**-0.2**
VYHS				*e*LG		Lg		04 56 50.9	
KRUC	**Moravsky**	**1.65**	**233**	*e*Pg		**Pn**		**04 56 27.4**	**0.0**
KRUC				*e*Sg		**Sn**		**04 56 49.5**	**+0.2**
	51nm,0.4s								
STHS	**Stebnicka Huta**	**1.96**	**108**	*e*Pg		**Pg**		**04 56 34.8**	**+0.1**
STHS	**Stebnicka Huta**	**1.96**	**108**	*e*PG		**Pg**		**04 56 34.8**	**+0.1**
STHS				*e*LG		Lg		04 57 06.4	
TREC	**Trest**	**2.04**	**249**	⇑*e*SG		**Sb**		**04 57 00.9**	**-0.3**
	comp=Z,50nm,0.5s								
TREC	**Trest**	**2.04**	**249**	Sg		**Sb**		**04 57 00.9**	**-0.3**
	50nm,0.5s								
CRVS	**Cervenica-Dubn**	**2.31**	**119**	*e*Pg		**Pg**		**04 56 40.7**	**-0.8**
CRVS				*e*Sg		**Sg**		**04 57 12.5**	**+1.0**
CRVS	**Cervenica-Dubn**	**2.31**	**119**	*e*PG		**Pg**		**04 56 40.7**	**-0.8**
CRVS				*e*SG		**Sg**		**04 57 12.5**	**+1.0**
GOPC	**GO Pecny, Ondr**	**2.34**	**268**	*e*PG		**Pb**		**04 56 39.2**	**-1.0**
GOPC	**GO Pecny, Ondr**	**2.34**	**268**	Pg		**Pb**		**04 56 39.2**	**-1.0**
PRU	**Pruhonice**	**2.49**	**270**	⇑*e*PG		**Pb**		**04 56 42.3**	**-0.5**
PRU				*e*SG		**Sb**		**04 57 14.7**	**+0.8**
	comp=Z,26nm,0.6s								
PRU	**Pruhonice**	**2.49**	**270**	Pg		**Pb**		**04 56 42.3**	**-0.5**
PRU				Sg		**Sb**		**04 57 14.7**	**+0.8**
	26nm,0.6s								
CONA	**Conrad Observa**	**2.72**	**219**	*e*Pn		**Pn**		**04 56 40.6**	**-1.6**
	0.3nm,0.1s								
CONA				Sn		**Sn**		**04 57 14.4**	**-1.4**
	5.4nm,0.3s								
CONA	**Conrad Observa**	**2.72**	**219**	Pn		**Pn**		**04 56 40.6**	**-1.6**
	0.3nm,0.1s								
CONA				Sn		**Sn**		**04 57 14.4**	**-1.4**
	5.4nm,0.3s								
BRG	**Berggiesshubel**	**2.96**	**287**	PG		**Pg**		**04 56 54.0**	**+0.1**
BRG				SG		**Sg**		**04 57 31.2**	**-1.0**
	20nm,0.4s								
KHC	**Kasperske Hory**	**3.27**	**255**	*e*PN		**Pn**		**04 56 49.2**	**-0.6**
KHC				*e*PG		**Pb**		**04 56 58.1**	**+1.9**
KHC				*e*SG		**Sb**		**04 57 39.5**	**+2.9**
	comp=Z,28nm,0.4s								
KHC	**Kasperske Hory**	**3.27**	**255**	Pn		**Pn**		**04 56 49.2**	**-0.6**
KHC	**Kasperske Hory**	**3.27**	**255**	Pg		**Pb**		**04 56 58.1**	**+1.9**
KHC				Sg		**Sb**		**04 57 39.5**	**+2.9**
	28nm,0.4s								
GEC2	**GERESS Array S**	**3.30**	**250**	*e*Pg		**Pg**		**04 56 59.3**	**-1.2**
GEC2				*e*Sg		**Sg**		**04 57 41.0**	**-2.2**
GEC2	**GERESS Array S**	**3.30**	**250**	Pg		**Pg**		**04 56 59.3**	**-1.2**
GEC2				Sg		**Sg**		**04 57 41.0**	**-2.2**
FBE	**Freiberg**	**3.33**	**287**	*e*Sg		**Sg**		**04 57 43.4**	**-0.8**
FBE	**Freiberg**	**3.33**	**287**	Sg		**Sg**		**04 57 43.4**	**-0.8**
ARSA	**Arzberg**	**3.41**	**215**	*e*Pn		**Pn**		**04 56 51.0**	**-0.6**
	1.4nm,0.3s								
ARSA	**Arzberg**	**3.41**	**215**	Pn		**Pn**		**04 56 51.0**	**-0.6**
	1.4nm,0.3s								
MOA	**Molln**	**3.52**	**232**	*e*Pn		**Pn**		**04 56 53.4**	**+0.2**
	0.3nm,0.1s								
MOA				Sg		**Sg**		**04 57 47.9**	**-2.2**
	16nm,0.4s								
MOA	**Molln**	**3.52**	**232**	Pn		**Pn**		**04 56 53.3**	**+0.2**
	0.3nm,0.1s								
MOA				Sg		**Sg**		**04 57 47.9**	**-2.2**
	16nm,0.4s								
CLL	**Collm**	**3.65**	**292**	*e*Sg		**Sg**		**04 57 54.6**	**+0.2**
CLL	**Collm**	**3.65**	**292**	Sg		**Sg**		**04 57 54.6**	**+0.2**
CLL	**Collm**	**3.65**	**292**	*e*Pg		**Pg**		**04 57 07.0**	**-0.1**
CLL				*e*Sg		**Sg**		**04 57 54.0**	**-0.3**
	comp=Z,23nm,0.7s								
WET	**Wettzell**	**3.71**	**258**	*e*Sg		**Sg**		**04 57 54.6**	**-1.7**
WET	**Wettzell**	**3.71**	**258**	Sg		**Sg**		**04 57 54.6**	**-1.7**
WERD	**Werda**	**3.93**	**278**	*e*Sg		**Sg**		**04 58 00.4**	**-3.0**
WERD	**Werda**	**3.93**	**278**	Sg		**Sg**		**04 58 00.4**	**-3.0**
MOX	**Moxa**	**4.38**	**280**	*e*Sg		**Sg**		**04 58 18.1**	**+0.2**
MOX	**Moxa**	**4.38**	**280**	Sg		**Sg**		**04 58 18.1**	**+0.2**
WTTA	**Wattenberg**	**5.29**	**240**	Sg		**Sg**		**04 58 44.8**	**-2.2**
	comp=Z,5.0nm,0.6s								
WTTA	**Wattenberg**	**5.29**	**240**	Sg		**Sg**		**04 58 44.8**	**-2.2**
	comp=Z,5.0nm,0.6s								
MOTA	**Moosalm**	**5.55**	**243**	Sg		**Sg**		**04 58 54.9**	**-0.4**
	comp=Z,7.6nm,0.6s								
FETA	**Feichten**	**5.94**	**242**	Sg		**Sg**		**04 59 07.0**	**-0.8**
	comp=Z,2.4nm,0.6s								
DAVA	**Damuels**	**6.29**	**247**	Sg		**Sg**		**04 59 20.2**	**+1.0**
	comp=Z,4.2nm,0.5s								

NNC 12 04:59:43.0±2.5,48.26N×84.44E,h8km±17km,mb3.6,
mpv3.0,4C-6D,Error ellipse: s-maj=23.6km s-min=10.0km az=77.0,Eastern Kazakhstan

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
MK31	**Makanchi Array**	**2.07**	**226**	P			Pn	05 00 18.4	+0.5
	0.4nm,0.1s,baz=62,slow=16,SNR=155								
MK31				⇓*i*S			Sn	05 00 44.8	+0.9
	9.6nm,0.3s,baz=48,slow=25,SNR=36								
MAKZ	**Makanchi**	**2.21**	**230**	⇑P			Pn	05 00 20.5	+0.5
	1.4nm,0.2s								
MAKZ				⇓S			Sn	05 00 48.0	+0.5
	30nm,0.3s								
KURK	**Kurchatov**	**4.52**	**305**	⇑Sn			Sn	05 01 44.4	+0.1
	2.6nm,0.7s								
KURK				⇓Lg			Lg	05 02 05.3	
	7.9nm,0.4s								
KURBB	**Kurchatov Arra**	**4.52**	**304**	⇑Pn			Pn	05 00 52.2	+0.6
	3.3nm,0.3s								
KURBB				⇓Pg			Pb	05 01 04.0	+1.5
	2.6nm,0.5s								
KURBB				⇑Lg			Lg	05 02 05.1	
	39nm,0.8s								
ZAA0	**Zalesovo Array**	**5.70**	**2**	⇓Lg			Lg	05 02 44.6	
	1.3nm,0.8s								
PDGK	**Podgornoye**	**6.03**	**217**	⇓Lg			Lg	05 02 52.1	
	3.9nm,0.8s								

*NIED **12** 05:09:00,37.40N×142.30E,h8km,Mw3.5 Best double couple: M0 2.04000×10^14 NP1:ϕs 44.00000°,δ 32.00000°, λ -96.00000°. NP2:ϕs 231.00000°,δ 59.00000°, λ -86.00000°.*

JMA 12 05:09:09.3±0.3,37.45N×142.31E,h3km±3km,M3.8,Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
JFK	**Kawauchi**	**1.15**	**266**	P		P	Pg	05 09 31.2	-0.1
ONAJ	**Iwakimizuishiy**	**1.25**	**254**	P		P	Pg	05 09 32.8	-0.6
JIO	**Ouri**	**1.26**	**323**	P		P	Pg	05 09 33.0	-0.4
JMM	**Marumori**	**1.27**	**289**	P		P	Pg	05 09 33.6	-0.1
JMM				*e*S		S	Sb	05 09 50.9	+0.2
JFT	**Otama**	**1.57**	**273**	P		P	Pb	05 09 38.6	-0.4
JOU	**Okura**	**1.59**	**306**	P		P	Pn	05 09 38.6	+0.2
JOU				*e*S		S	Sn	05 09 59.3	-0.2
JMK	**Ichinoseki**	**1.73**	**331**	P		P	Pn	05 09 40.4	+0.2
JFY	**Yanaizu**	**2.07**	**270**	P		P	Pn	05 09 45.1	+0.1
JYK	**Kaneyama**	**2.12**	**314**	P		P	Pn	05 09 46.4	+0.7
JOM	**Ohasama**	**2.17**	**339**	P		P	Pn	05 09 47.7	+1.3
MAT	**Matsushiro**	**3.41**	**256**	P		P	Pn	05 10 06.6	+3.2
MAT				*e*S		S	Sb	05 10 48.6	-3.5

*NIED **12** 05:15:00,23.60N×122.80E,h32km,Mw4.6 Best double couple: M0 7.50000×10^15 NP1:ϕs 125.00000°,δ 63.00000°, λ 29.00000°. NP2:ϕs 21.00000°,δ 65.00000°,λ 149.00000°.*
*IDC **12** 05:15:07.6±0.5,23.88N×123.03E,h0km,mb4.7/22, mb1 4.9/23,mb1mx4.6/38,mbtmp4.7/23,ML3.6/1,MS3.7/12, Ms1 3.7/12,ms1mx3.5/31,Error ellipse: s-maj=16.9km s-min=13.0km az=80.0*
*JMA **12** 05:15:11.8±0.1,23.65N×122.79E,

baz=298
NNS eS Sn 05 15 56.2 -1.5
baz=298
WDT Danda 1.57 272 ⇑*i*P Pn 05 15 38.2 -1.5
baz=272
JISG Ishigakijimahi 1.60 57 P Pn 05 15 37.3 -2.5
JISG S Sn 05 15 58.4 -0.9
TWT Tachien 1.62 290 ⇑*i*P Pn 05 15 39.7 -0.5
baz=289
TWT eS Sn 05 15 58.7 -1.3
baz=289
YHNB Yeheng 1.64 306 *e*Pn Pn 05 15 40.0 -0.5
YHNB eSn Sn 05 16 00.9 +0.4
NWF Wu-fen Shan 1.66 325 ⇓*i*P Pn 05 15 40.5 -0.3
baz=323
NWF eS Sn 05 16 00.2 -0.8
baz=323
TWA Mucha 1.71 318 *e*P Pn 05 15 41.4 0.0
baz=331
TWA eS Sn 05 16 02.0 +0.1
baz=331
SSLB Suanglung 1.73 273 *e*Pn Pn 05 15 40.2 -1.5
SSLB eSn Sn 05 16 01.1 -1.6
ELDTW Lidau 1.76 253 ⇑*i*P Pn 05 15 40.2 -1.9
baz=253
TATO Taipei 1.76 316 *e*Pn Pn 05 15 41.9 -0.2
TATO eSn Sn 05 16 03.7 +0.4
TAP1 Taipei 1.79 318 *e*P Pn 05 15 41.2 -1.1
baz=329
TAP1 S Sn 05 16 04.2 +0.4
baz=329
SMLT Sun Moon Lake 1.79 276 ⇑*i*P Pn 05 15 41.9 -0.7
baz=275
SMLT eS Sn 05 16 01.8 -2.3
baz=275
TAP Taipei 1.80 318 *e*P Pn 05 15 43.0 +0.5
baz=329
TAP eS Sn 05 16 05.0 +0.8
baz=329
TTN Taitung 1.83 239 ⇑P Pn 05 15 41.2 -1.8
baz=239
TTN eS Sn 05 16 01.6 -3.3
baz=239
TWG Pinlang 1.85 242 ⇑*i*P Pn 05 15 41.5 -1.8
baz=234
TWG S Sn 05 16 02.3 -3.3
baz=234
TWG Pinlang 1.85 242 *e*Pn Pn 05 15 41.2 -2.1
TWG eSn Sn 05 16 02.6 -3.0
ALS Alishan 1.88 264 ⇑*i*P Pn 05 15 43.7 -0.2
baz=264
TWS1 Kuangyinshan 1.90 317 *e*P Pn 05 15 43.9 0.0
baz=328
TWS1 eS Sn 05 16 06.8 +0.1
baz=328
NSTT Nanjuang 1.91 299 ⇑*i*P Pn 05 15 44.9 +0.7
baz=298
NSTT S Sn 05 16 06.8 -0.2
baz=298
TWY Chenhua 1.92 324 *e*P Pn 05 15 43.1 -1.2
baz=322
TWY eS Sn 05 16 07.1 -0.2
baz=322
JTJ Tarama 1.93 61 P Pn 05 15 43.5 -0.9
JTJ S Sn 05 16 07.2 -0.3
NCU National Centr 1.96 310 *e*P Pn 05 15 45.1 +0.3
baz=296
NCU eS Sn 05 16 08.3 +0.1
baz=296
WNT Mingjian 1.98 275 ⇑*i*P Pn 05 15 45.8 +0.7
baz=274
WNT eS Sn 05 16 09.3 +0.5
baz=274
CHN5 Tsauling 1.99 267 ⇑*i*P Pn 05 15 45.5 +0.3
baz=266
CHN5 eS Sn 05 16 09.0 0.0
baz=266
STYT Tauyuan 1.99 254 ⇑P Pn 05 15 44.5 -0.8
baz=247
STYT eS Sn 05 16 07.7 -1.4
baz=247
TWQ1 Liyutan 2.00 289 ⇑*i*P Pn 05 15 46.2 +0.9
baz=288
TWQ1 S Sn 05 16 09.8 +0.7
baz=288
HSN Hsinchu 2.02 303 *e*P Pn 05 15 45.6 0.0
baz=302
HSN eS Sn 05 16 09.9 +0.1
baz=302
NSY Sanyi 2.03 291 ⇑*i*P Pn 05 15 46.8 +1.0
baz=289
NSY eS Sn 05 16 10.8 +1.0
baz=289
TCU Taichung 2.03 283 ⇑*i*P Pn 05 15 46.8 +1.1
baz=282
TCU eS Sn 05 16 10.9 +1.0
baz=282
PCYT Pengchaiyu 2.03 340 *i*P Pn 05 15 45.6 -0.1
baz=338
PCYT eS Sn 05 16 11.1 +1.1
baz=338
LAY Lan-yu 2.05 216 ⇑P Pn 05 15 43.3 -2.7
baz=224
ECL Taimali 2.06 238 ⇑*i*P Pn 05 15 44.1 -2.1
baz=247
ECL eS Sn 05 16 06.6 -4.1
baz=247
TPUB Ta-pu 2.07 259 *e*Pn Pn 05 15 46.3 0.0
TPUB eSn Sn 05 16 11.4 +0.4
WGK Gukeng 2.09 270 *e*P Pn 05 15 47.0 +0.4
baz=269
WGK eS Sn 05 16 13.2 +1.8
baz=269
WTP Ta-pu 2.10 258 ⇑*i*P Pn 05 15 46.9 +0.2
baz=257
WTP eS Sn 05 16 12.4 +0.8
baz=257
SGST Jiashian 2.17 254 ⇑*i*P Pn 05 15 48.0 +0.3
baz=253
SGST eS Sn 05 16 14.5 +1.1
baz=253
CHN2 Minshiung 2.18 266 ⇑P Pn 05 15 49.0 +1.2
baz=265
CHN2 eS Sn 05 16 15.3 +1.7
baz=265
CHN1 Nanshi 2.19 257 ⇑*i*P Pn 05 15 48.5 +0.5
baz=256
CHN1 eS Sn 05 16 15.4 +1.5
baz=256
TWK Hsinying 2.21 259 ⇑*i*P Pn 05 15 48.6 +0.4
baz=258
TWK eS Sn 05 16 14.8 +0.4
baz=258
TAW Tawu 2.25 233 ⇑*i*P Pn 05 15 47.0 -1.7
baz=233
TAW eS Sn 05 16 11.3 -3.8
baz=233
EAST Anshuo 2.27 235 ⇑*i*P Pn 05 15 47.4 -1.7
baz=234
WTCT Ta-ch'eng 2.35 274 *e*P Pn 05 15 51.0 +0.8
baz=289
WTCT eS Sn 05 16 19.6 +1.8
baz=289
CHN3 Shinhua 2.36 255 *e*P Pn 05 15 51.8 +1.5
baz=254
CHN3 eS Sn 05 16 22.1 +4.0
baz=254
SGLT Jiouru 2.38 246 *e*P Pn 05 15 51.4 +0.9
baz=242
TWM1 Shoushan 2.40 249 ⇑P Pn 05 15 52.5 +1.7
baz=241
JIRB Irabujima 2.40 62 P Pn 05 15 49.8 -1.0
JIRB S Sn 05 16 17.9 -1.1
WSF Szhu 2.40 269 *e*P Pn 05 15 51.2 +0.4
baz=268
WSF eS Sn 05 16 19.8 +0.7
baz=268
CHN8 Yiju 2.44 262 *e*P Pn 05 15 51.8 +0.4
baz=261
CHN8 eS Sn 05 16 20.9 +0.8
baz=261
SCZT Fangliau 2.44 237 *e*P Pn 05 15 50.5 -1.0
baz=242
JMJ Miyako jima 2 2.49 63 *e*P Pn 05 15 51.0 -1.1
baz=65
JMJ eS Sn 05 16 21.1 -0.1
baz=65
JMJ Miyako jima 2 2.49 63 P Pn 05 15 51.7 -0.4
JMJ S Sn 05 16 21.5 +0.3
SCLT Jiali 2.49 258 ⇑P Pn 05 15 52.9 +0.8
baz=257
SCLT eS Sn 05 16 22.4 +1.2
baz=257
TAI1 Yung-k'ang 2.50 255 ⇑*i*P Pn 05 15 53.3 +1.2
baz=266
JIKM Ikemajima 2.50 61 P Pn 05 15 51.3 -0.9
JIKM S Sn 05 16 20.4 -1.1
TSEB Hengchuen, Pin 2.54 225 *e*P Pn 05 15 52.2 -0.6
baz=233
TSEB eS Sn 05 16 21.9 -0.6
baz=233
JOGS Gusukube 2.56 65 P Pn 05 15 52.6 -0.4
JOGS S Sn 05 16 24.0 +1.0
TWK1 Hengchun 2.58 227 ⇑P Pn 05 15 52.2 -1.1
baz=227
TWK1 eS Sn 05 16 20.4 -2.9
baz=227
HEN Hengchun 2.58 229 *e*P Pn 05 15 52.0 -1.3
baz=229
HEN eS Sn 05 16 21.3 -2.1
baz=229
KAU Kaohsiung 2.60 244 *e*P Pn 05 15 55.1 +1.6
baz=256
KAU eS Sn 05 16 26.9 +3.0
baz=256
TWP Hsiaoliuchiu 2.66 240 ⇑*i*P Pn 05 15 56.7 +2.3
baz=235
TWP eS Sn 05 16 28.2 +2.8
baz=235
WDGT Dungji 2.96 262 ⇑*i*P Pn 05 15 58.4 -0.1
baz=261
WDGT eS Sn 05 16 30.9 -1.8
baz=261
PNG Penghu 3.02 268 *e*P Pn 05 15 59.1 -0.2
baz=259
PNG eS Sn 05 16 33.1 -1.1
baz=259
QZH Quanzhou 4.07 288 ⇓*i*Pn Pn 05 16 11.9 -1.8
QZH Sn Sn 05 16 54.8 -5.2
QZH smax smax
comp=N,2μm,0.6s
QZH smax smax
comp=E,1μm,0.6s
QZH LR LR
comp=N,4μm,16.4s
QZH LR LR
comp=E,2μm,14.6s
QZH LR LR
comp=Z,2μm,15.3s
KNM Kinmen 4.09 281 *e*P Pn 05 16 14.9 +0.8
baz=279
KNM eS Sn 05 16 59.9 -0.8
baz=279
JKE Kume jima 2 4.42 53 P Pn 05 16 16.9 -1.7
JKE eS Sn 05 17 05.5 -3.3
JAGN Aguni-jima 4.91 53 P Pn 05 16 23.6 -1.6
JJT2 Tamagusuku 2 5.07 60 P Pn 05 16 26.4 -1.0
JNTH Nagotoyohara 5.46 58 P Pn 05 16 30.4 -2.5
JNTH S Sn 05 17 33.7 -0.7
JIH Iheya 5.69 53 P Pn 05 16 34.2 -1.8
JIH S Sn 05 17 38.5 -1.6
JOW Kunigami 5.81 57 Pn Pn 05 16 31.2 -6.5
3.9nm,0.3s,baz=246,slow=15,SNR=4.5
JOW Sn Sn 05 17 38.6 -4.5
7.3nm,0.3s,baz=135,slow=19,SNR=2.0
JOW Kunigami 5.81 57 *e*P Pn 05 16 35.3 -2.4
baz=60
JOW Kunigami 5.81 57 *e*Pn Pn 05 16 35.4 -2.3
JOW eSn Sn 05 17 42.2 -0.9
CVP Callao Caves 6.06 189 ⇓*e*P Pn 05 16 40.5 -0.6
SZP Santa 6.53 200 *e*Sn Sn 05 17 59.6 -1.1
SSE Sheshan 7.50 349 Pn Pn 05 17 00.1 -0.7
SSE Sn Sn 05 18 22.6 -1.9
SSE smax smax
comp=N,48nm,0.8s
SSE smax smax
comp=E,63nm,0.7s
SSE LR LR
comp=N,460nm,18.2s
SSE LR LR
comp=E,300nm,18.1s
SSE LR LR
comp=Z,570nm,17.8s
JAM Amami Oshima 7.67 51 P Pn 05 16 59.6 -3.5
JAM *e*S Sn 05 18 22.8 -5.9
JTAJ Takarajima 7.86 45 P Pn 05 17 03.1 -2.7
JZK Kikaishima 7.88 53 P Pn 05 17 02.6 -3.4
JZK S Sn 05 18 34.4 +0.5
GZH Guangzhou 8.75 268 P Pn 05 17 12.6 -5.3
GZH S Sn 05 18 40.8 -14
GZH smax smax
comp=N,15nm,0.7s
GZH smax smax
comp=E,210nm,0.9s
NJ2 Nanjing 9.02 338 *e*P Pn 05 17 20.6 -1.1
NJ2 S Sn 05 19 01.1 -0.8
NJ2 smax smax
comp=E,56nm,0.8s
NJ2 smax smax
comp=E,52nm,1.1s
NJ2 LR LR
comp=E,290nm,4.0s
NJ2 LR LR
comp=E,360nm,4.8s
NJ2 LR LR
comp=E,200nm,5.3s
TGY Tagaytay City 9.73 191 LR LR 05 21 25.2
comp=E,261nm,21.0s,baz=30,slow=38
WHN Wuhan 10.17 314 ⇓P Pn 05 17 39.7 +2.3
WHN S Sn 05 19 31.6 +1.5
WHN LR LR
comp=E,880nm,6.8s
WHN LR LR
comp=E,920nm,8.0s
WHN LR LR
comp=E,2μm,19.6s
QIZ Qiongzhong 12.97 251 P Pn 05 18 16.2 +0.4
QIZ pP P 05 18 24.2 -1.0
QIZ sP 05 18 30.5
QIZ S Sn 05 20 40.5 +1.7
QIZ pmax pmax
comp=E,29nm,1.5s
QIZ LR LR
comp=E,470nm,16.5s
QIZ LR LR
comp=E,560nm,18.1s
QIZ Qiongzhong 12.97 251 *e*Pn Pn 05 18 17.4 +1.6
TIA Tai'an 13.40 340 ⇑P Pn 05 18 23.4 +1.9
TIA pmax pmax
comp=E,20nm,0.8s
TIA LR LR
comp=E,340nm,16.0s
TIA LR LR
comp=E,280nm,14.0s
TIA LR LR
comp=E,470nm,14.0s
INCN Inchon 14.11 12 *e*Pn Pn 05 18 30.5 -0.6
KS15 Wonju Array Si 14.35 16 *e*Pn Pn 05 18 35.8 +1.4
KS15 *e*Sn Sn 05 21 11.6 -0.5
KSAR Wonju Array Be 14.35 16 P Pn 05 18 35.0 +0.6
KSAR Wonju Array Be 14.35 16 Pn Pn 05 18 35.0 +0.6
KSRS Korea Array 14.37 16 Pn Pn 05 18 35.0 +0.3
comp=E,1.7nm,0.3s,baz=198,slow=11,SNR=37
KS01 Wonju Array Si 14.39 16 *e*Pn Pn 05 18 34.4 -0.4
GYA Guiyang 14.91 284 P P 05 18 49.7 +2.9
GYA pP Pn 05 18 51.0 +9.0
GYA PP PnPn 05 18 55.2 +4.7
GYA S Sn 05 21 22.1 -4.0
GYA sS S 05 21 40.4 -1.8
GYA SS SnSn 05 21 46.8 +7.8
GYA pmax pmax
comp=Z,20nm,0.8s
GYA pmax pmax
comp=Z,120nm,4.6s
GYA LR LR
comp=N,280nm,13.7s
GYA LR LR
comp=E,330nm,13.3s
GYA LR LR
comp=Z,430nm,13.7s
XAN Xi'an 15.94 313 P Pn 05 18 54.7 -0.4
XAN pP pP 05 19 02.3 -6.6
XAN sP sP 05 19 05.0 -10
XAN pmax pmax
comp=Z,44nm,1.3s
XAN pmax pmax
comp=Z,98nm,5.4s
XAN LR LR
comp=Z,260nm,9.2s
XAN LR LR
comp=Z,190nm,10.4s
XAN LR LR
comp=Z,580nm,18.4s
BJT Baijiatuau 17.21 342 *e*P Pn 05 19 11.0 +0.1
BJT pmax pmax
comp=Z,15nm,0.6s
BJT Baijiatuau 17.21 342 *e*Pn Pn 05 19 11.0 +0.1
comp=Z,15nm,0.6s
BJI Beijing 17.23 342 P P 05 19 11.6 -0.6
BJI pP pP 05 19 23.1 +0.1
BJI S Sn 05 22 22.5 +0.7
BJI pmax pmax
comp=Z,21nm,0.8s
BJI pmax pmax
comp=Z,180nm,6.2s
BJI LR LR
comp=Z,250nm,20.7s
BJI LR LR
comp=Z,250nm,16.6s
BJI LR LR
comp=Z,230nm,25.1s
SLVN Son La 17.66 266 *e*Pn Pn 05 19 15.1 -1.7
comp=Z,10nm,1.0s
SNY Shenyang 18.07 2 ⇓P Pn 05 19 18.7 -2.9
SNY S Sn 05 22 20.2 -22
SNY pmax pmax
comp=Z,15nm,0.6s
SNY pmax pmax
comp=Z,89nm,4.3s
SNY LR LR
comp=N,250nm,15.2s
SNY LR LR
comp=E,320nm,13.6s
SNY LR LR
comp=Z,420nm,21.4s
KMI Kunming 18.36 279 P Pn 05 19 25.0 -0.5
KMI pP pP 05 19 34.1 -1.9
KMI sP sP 05 19 40.2 -1.7
KMI pmax pmax
comp=Z,3.0nm,0.5s
KMI LR LR
comp=Z,230nm,7.7s
KMI LR LR
comp=Z,110nm,5.0s
KMI LR LR
comp=Z,340nm,12.0s
CD2 Chengdu 18.40 297 P Pn 05 19 27.5 +1.8
CD2 pP pP 05 19 35.4 -0.8
CD2 PP **sP** 05 19 42.7 +0.6
CD2 S Sn 05 22 45.4 -5.1
CD2 SS SnSn 05 23 09.5 +4.9
CD2 pmax pmax
comp=Z,30nm,1.1s
CD2 pmax pmax
comp=Z,170nm,4.2s
CD2 LR LR
comp=Z,600nm,14.3s
CD2 LR LR
comp=Z,620nm,16.6s
CD2 LR LR
comp=Z,700nm,14.3s
MAJO Matsushiro 18.41 43 *i*P P 05 19 25.4 0.0
HHC Hu-ho-hao-te 19.54 334 *e*P Pn 05 19 38.9 -0.4
HHC S S 05 23 12.8 -3.2
HHC SS SnSn 05 23 40.4 +7.7
HHC pmax pmax
comp=Z,16nm,1.0s
HHC pmax pmax
comp=Z,130nm,6.7s
HHC LR LR
comp=Z,290nm,14.8s
HHC LR LR
comp=Z,170nm,14.6s
HHC LR LR
comp=Z,280nm,16.9s
CN2 Changchun 20.15 5 *e*P Pn 05 19 47.9 +1.4
CN2 *e*pP sP 05 19 58.9 -2.2
CN2 *e*S S 05 23 27.1 -0.9
CN2 pmax pmax
comp=Z,10.0nm,0.6s
CN2 pmax pmax
comp=Z,200nm,3.0s
CN2 LR LR
comp=Z,200nm,15.0s
CN2 LR LR
comp=Z,400nm,15.0s
CN2 LR LR
comp=Z,300nm,14.0s
LZH Lanzhou 20.53 311 *e*P Pn 05 19 50.5 -0.7
LZH pP sP 05 20 01.1 -4.4
LZH sP pP 05 20 06.6 +6.9
LZH *e*S S 05 23 29.2 -6.7
LZH sS sS 05 23 46.7 -7.0
LZH SS SnSn 05 24 01.0 +3.9
LZH pmax pmax
comp=Z,82nm,1.0s
LZH pmax pmax
comp=Z,310nm,5.8s
LZH LR LR
comp=Z,1μm,11.5s
LZH LR LR
comp=Z,1μm,11.9s
LZH LR LR
comp=Z,2μm,13.3s
MDJ Mudanjiang 21.57 13 P P 05 20 00.3 +0.7
MDJ S S 05 23 57.9 +1.9
MDJ pmax pmax
comp=Z,7.0nm,0.8s
MDJ pmax pmax
comp=Z,23nm,6.4s
MDJ LR LR
comp=Z,98nm,15.9s
MDJ LR LR
comp=Z,380nm,20.8s
MDJ LR LR
comp=Z,250nm,17.7s
USRK Ussuriysk Ar. 21.77 18 P P 05 19 60.0 -1.7
comp=Z,3.8nm,0.7s,baz=205,slow=11,SNR=6.4
CHTO Chiang Mai 22.79 262 *e*P P 05 20 14.6 +1.7
CHTO pmax pmax
comp=Z,82nm,0.6s
CHTO Chiang Mai 22.79 262 *e*P P 05 20 14.6 +1.7
comp=Z,82nm,0.6s
CM01 Chiang Mai Arr 22.89 261 *e*P P 05 20 15.6 +1.7
CMAR Chiang Mai Arr 22.89 261 P P 05 20 15.8 +1.9
comp=Z,4.1nm,0.8s,baz=63,slow=8.2,SNR=19
CMAR PcP PcP 05 24 05.0 +1.6
comp=Z,2.6nm,0.6s,baz=34,slow=0.8,SNR=6.1
GUMO Guam 23.14 112 LR LR 05 28 28.5
comp=Z,116nm,18.8s,baz=296,slow=35
GTA Gaotai 25.00 314 P P 05 20 33.3 -0.3
GTA pP pP 05 20 44.5 -1.2
GTA sP sP 05 20 49.9 -1.4
GTA S S 05 24 48.6 -5.8
GTA sS sS 05 25 10.0 -4.8
GTA SS SnSn 05 25 48.2 +1.9
GTA pmax pmax
comp=Z,20nm,1.1s
GTA pmax pmax
comp=Z,110nm,6.2s
GTA LR LR
comp=Z,210nm,11.9s
GTA LR LR
comp=Z,320nm,16.9s
GTA LR LR
comp=Z,290nm,16.4s
ASAJ Asahikawa 26.01 34 *e*P P 05 20 38.7 -3.8
comp=Z,7.5nm,0.9s
KLR Kul'dur 26.42 13 P P 05 20 44.2 -2.0
comp=Z,2.4nm,0.5s,baz=200,slow=2.5,SNR=7.7
KLR PcP PcP 05 24 11.6 +0.9
comp=Z,1.8nm,0.9s,baz=267,slow=4.6,SNR=3.9
KLR Kul'dur 26.42 13 ⇑*i*P P 05 20 43.8 -2.4
ULN Ulaanbaatar 27.18 336 *ce*P P 05 20 52.2 -1.1
ULN pmax pmax
comp=Z,24nm,1.5s
ULN Ulaanbaatar 27.18 336 *e*P P 05 20 52.0 -1.3
comp=Z,34nm,1.5s
SONA0 Songino Array 27.41 336 *e*P P 05 20 54.0 -1.3

SONA0 ePcP PcP 05 24 13.8 +0.6
SONM Songino Array 27.41 336 P P 05 20 54.0 -1.3
comp=Z,18nm,0.7s,baz=151,slow=8.8,SNR=42
SONM PcP PcP 05 24 13.8 +0.6
comp=Z,0.9nm,0.5s,baz=158,slow=4.0,SNR=3.1
SONM LR LR 05 33 17.8
comp=Z,348nm,18.4s,baz=112,slow=40
SONA1 Songino Array 27.41 336 eP P 05 20 54.0 -1.3
SHL Shillong 28.17 280 eP P 05 21 03.0 +0.6
LSA Lhasa 28.88 289 P P 05 21 10.6 +1.6
LSA pmax pmax
comp=Z,16nm,0.9s
LSA Lhasa 28.88 289 eP P 05 21 10.8 +1.8
LSA pmax pmax
comp=Z,14nm,0.6s
LSA Lhasa 28.88 289 eP P 05 21 10.8 +1.8
comp=Z,14nm,0.6s
KUR Kuril'sk 29.56 37 *i* P P 05 21 14.4 +0.1
ZAK Zakamensk 30.67 335 eP P 05 21 21.1 -3.1
ZAK pmax pmax
comp=Z,5.0nm,1.5s
TLY Talaya 31.59 337 eP P 05 21 31.0 -1.1
TLY pmax pmax
comp=Z,16nm,0.7s
TLY MLR MLR
comp=Z,199nm,20.0s
TAPN Taplejung 31.84 284 eP P 05 21 36.5 +1.5
comp=Z,43nm,0.8s
ODAN Odare 32.15 283 eP P 05 21 38.8 +1.2
comp=Z,51nm,0.9s
RAMN Ramite 32.85 283 eP P 05 21 44.9 +1.1
comp=Z,25nm,0.7s
JIRN Jiri 33.19 285 eP P 05 21 48.0 +1.1
comp=Z,268nm,0.8s
GUN Gumba 33.45 285 eP P 05 21 50.4 +1.2
comp=Z,36nm,0.7s
PKI Pulchoki 33.88 285 eP P 05 21 53.4 +0.5
PKIN Phulchoki 33.89 285 eP P 05 21 53.9 +1.0
comp=Z,15nm,0.7s
KKN Kakani 33.99 285 eP P 05 21 54.4 +0.7
comp=Z,36nm,0.8s
DMN Daman 34.15 285 eP P 05 21 55.7 +0.6
comp=Z,26nm,0.8s
GKN Gorkha 34.55 285 eP P 05 21 59.0 +0.5
comp=Z,16nm,0.6s
WMQ Urumqi 35.08 314 P P 05 22 03.8 +1.1
WMQ pP pP 05 22 11.1 -4.0
WMQ sP sP 05 22 13.9 -6.7
WMQ pmax pmax
comp=Z,12nm,0.7s
WMQ pmax pmax
comp=Z,45nm,3.7s
WMQ LR LR
comp=Z,110nm,28.5s
WMQ LR LR
comp=Z,44nm,18.1s
KOLN Koldanda 35.48 285 eP P 05 22 07.2 +0.7
comp=Z,23nm,0.8s
PYUN Piuthan 36.00 286 eP P 05 22 12.0 +1.0
comp=Z,38nm,0.8s
PETK Petropavlovsk- 39.42 33 LR LR 05 40 29.3
comp=Z,84nm,19.4s,baz=241,slow=39
MK01 Makanchi Array 39.72 316 eP P 05 22 41.6 -0.3
MK01 ePcP PcP 05 24 47.7 0.0
MK31 Makanchi Array 39.73 316 eP P 05 22 41.1 -0.9
MK31 pmax pmax
comp=Z,10.0nm,0.8s
MK31 Makanchi Array 39.73 316 eP P 05 22 41.8 -0.2
MKAR Makanchi Array 39.73 316 eP P 05 22 41.9 -0.1
MKAR *e* 05 24 47.9
MKAR pmax pmax
comp=Z,58nm,0.7s
MKAR Makanchi Array 39.73 316 eP P 05 22 41.9 -0.1
comp=Z,58nm,0.7s
MKAR ePcP PcP 05 24 47.9 +0.1
PET Petropavlovsk 39.85 33 eP P 05 22 42.6 -0.3
PET pmax pmax
comp=Z,18nm,0.6s
PET Petropavlovsk 39.85 33 eP P 05 22 42.6 -0.3
comp=Z,18nm,0.6s
MAKZ Makanchi 39.94 316 P P 05 22 43.0 -0.7
MAKZ pmax pmax
comp=Z,14nm,0.7s
MAKZ Makanchi 39.94 316 eP P 05 22 43.8 0.0
comp=Z,16nm,0.8s
MAKZ ePcP PcP 05 24 48.8 +0.3
PDGK Podgornoye 40.56 310 P P 05 22 49.3 +0.3
PDGK pmax pmax
comp=Z,63nm,0.7s
MA2 Magadan 40.85 21⇑ *i*P P 05 22 50.3 -0.8
H11N1 WAKE ISLAND Hy 41.00 87 T T
baz=280 06 06 47.4
H11N2 WAKE ISLAND Hy 41.00 87 T T
baz=280 06 06 51.3
H11N3 WAKE ISLAND Hy 41.01 87 T T
baz=280 06 06 45.3
H11S3 WAKE ISLAND Hy 41.11 89 T T
baz=277 06 07 11.9
H11S1 WAKE ISLAND Hy 41.12 89 T T
baz=277 06 06 59.8
H11S2 WAKE ISLAND Hy 41.13 89 T T
baz=277 06 06 58.2
ZAA0 Zalesovo Array 41.47 327 eP P 05 22 54.7 -1.5
ZAA0 ePcP PcP 05 24 52.1 -1.1
ZALV Zalesovo Beam 41.47 327 P P 05 22 54.9 -1.2
comp=Z,19nm,0.6s,baz=111,slow=7.9,SNR=75
ZALV PcP PcP 05 24 52.5 -0.7
comp=Z,2.0nm,0.4s,baz=119,slow=4.1,SNR=4.7
ZAA1 Zalesovo Array 41.47 327 eP P 05 22 54.9 -1.3
ZAA1 ePcP PcP 05 24 52.5 -0.7
FITZ Fitzroy Crossi 41.65 176 P P 05 22 58.5 +0.5
comp=Z,5.4nm,1.0s,baz=350,slow=11,SNR=2.5
KSH Kashi 42.43 303 P P 05 23 08.6 +4.2
KSH pP sP 05 23 21.7 -0.8
KSH sP pP 05 23 26.4 +9.4
KSH PP PcP 05 24 51.6 -5.3
KSH S S 05 29 28.4 +5.4
KSH sS sS 05 29 48.4 +4.3
KSH SS SS 05 32 32.6 -0.7
KSH pmax pmax
comp=Z,32nm,1.2s
KSH pmax pmax
comp=Z,72nm,3.4s
KSH LR LR
comp=Z,220nm,7.6s
KSH LR LR
comp=Z,120nm,6.0s
KSH LR LR
comp=Z,270nm,12.1s
NVS Novosibirsk 42.72 327 eP P 05 23 05.2 -1.2
NVS pmax pmax
comp=Z,8.0nm,0.9s
NVS pmax pmax
comp=N,4.0nm,0.8s
NVS pmax pmax
comp=E,5.0nm,0.5s
TKM2 Tokmak 2 43.25 308 P P 05 23 12.0 +0.9
TKM2 pmax pmax
comp=Z,53nm,0.9s
KURK Kurchatov 43.43 320*c*eP P 05 23 11.5 -0.7
KURK pmax pmax
comp=Z,42nm,0.9s
KURK Kurchatov 43.43 320 eP P 05 23 11.5 -0.7
comp=Z,22nm,1.1s
SEY Seymchan 43.91 19 eP P 05 23 14.6 -1.3
FRU Bishkek 43.94 308 eP P 05 23 17.0 +0.5
FRU pmax pmax
comp=Z,40nm,1.2s
AAK Ala-Archa 44.00 307 LR LR 05 44 19.3
comp=Z,170nm,18.8s,baz=72,slow=40
AAK Ala-Archa 44.00 307 P P 05 23 17.1 0.0
AAK pmax pmax
comp=Z,16nm,1.0s
AAK Ala-Archa 44.00 307 eP P 05 23 18.4 +1.3
comp=Z,15nm,0.9s
WRAB Tennant Creek 44.81 165 eP P 05 23 32.1 +8.6
WRAB pmax pmax
comp=Z,22nm,1.3s
WRAB Tennant Creek 44.81 165 eP P 05 23 23.6 +0.1
comp=Z,3.3nm,1.0s
WR1 Warramunga Arr 44.82 165 eP P 05 23 24.3 +0.7
comp=Z,29nm,1.6s
WR1 ePcP PcP 05 25 05.0 +0.1
WRA Warramunga Arr 44.82 165 P P 05 23 24.3 +0.7
comp=Z,1.1nm,0.6s,baz=346,slow=8.8,SNR=6.6
WRA PcP PcP 05 25 05.0 +0.1
comp=Z,1.2nm,0.6s,baz=346,slow=3.4,SNR=7.5
MNAS Manas 45.43 307 P P 05 23 29.6 +1.1
MNAS pmax pmax
comp=Z,36nm,1.0s
KK31 Karatay Array 46.96 308 *i* P P 05 23 40.6 +0.2
KK31 pmax pmax
comp=Z,4.0nm,0.5s
KKAR Karatay Array 46.96 308 eP P 05 23 40.9 +0.5
KKAR pmax pmax
comp=Z,84nm,0.5s
KKAR Karatay Array 46.96 308 eP P 05 23 40.9 +0.5
comp=Z,84nm,0.5s
KBL Kabul 47.73 296 eP P 05 23 47.9 +1.1
KBL pmax pmax
comp=Z,15nm,0.8s
KBL Kabul 47.73 296 eP P 05 23 47.9 +1.1
comp=Z,15nm,0.8s
DZET Dzherino 47.91 302 eP P 05 23 48.8 +0.9
TIXI Tiksi 48.09 3*ce*P P 05 23 48.1 -0.5
TIXI pmax pmax
comp=Z,7.0nm,0.8s
ASAR Alice Springs 48.31 166 P P 05 23 52.2 +1.3
comp=Z,1.3nm,0.8s,baz=348,slow=7.8,SNR=5.6
ASAR PcP PcP 05 25 17.5 +0.3
comp=Z,1.1nm,0.6s,baz=353,slow=3.0,SNR=5.3
AS01 Alice Springs 48.31 166 eP P 05 23 50.1 -0.9
BRVK Borovoye 49.07 321*ce*P P 05 23 56.0 -0.4
BRVK pmax pmax
comp=Z,12nm,0.6s
BRVK Borovoye 49.07 321 eP P 05 23 56.0 -0.4
comp=Z,10nm,1.0s
NRIK Noril'sk 50.25 345 LR LR 05 47 53.3
comp=Z,112nm,21.2s,baz=116,slow=39
ABKAR Akbulak array 54.85 314 eP P 05 24 39.8 +0.3
comp=Z,142nm,0.6s
AKTO Aktyubinsk 56.17 316 LR LR 05 50 42.9
comp=Z,98nm,18.3s,slow=38
GEYT Alibeck 56.34 301 P P 05 24 52.3 +1.8
comp=Z,17nm,0.7s,baz=90,slow=3.0,SNR=20
GEYT LR LR 05 54 05.5
comp=Z,84nm,20.1s,baz=100,slow=42
ARU Arti 56.39 323*c* *i*P P 05 24 49.6 -0.9
ARU 05 25 47.5
ARU S S 05 32 35.6 -2.1
ARU SS SS 05 36 21.5 -3.4
ARU pmax pmax
comp=Z,6.0nm,0.6s
ARU Arti 56.39 323 eP P 05 24 49.7 -0.8
comp=Z,9.3nm,0.5s
STKA Stephens Creek 58.12 161 P P 05 25 04.0 +1.2
comp=Z,1.5nm,0.7s,baz=344,slow=8.7,SNR=4.4
GNI Garni 66.32 305*ce*P P 05 25 59.6 +1.5
GNI pmax pmax
comp=Z,67nm,1.2s
KLMR Klimovskoe 66.37 328 eP P 05 25 55.7 -2.1
KLMR *e* 05 26 26.3
KLMR pmax pmax
comp=Z,20nm,1.0s
ZEI Tsey 66.42 308 eP P 05 25 58.4 -0.3
ZEI pmax pmax
comp=Z,48nm,1.0s
NCK Nalchik 66.50 309 eP P 05 25 59.6 +0.6
NCK pmax pmax
comp=Z,12nm,1.0s
TMCR Tamitsa 66.68 332 eP P 05 25 59.2 -0.5
CAST Castle Rocks 66.89 29 eP P 05 26 01.9 +0.8
comp=Z,5.7nm,1.0s
KBZ Khabaz 66.95 309 P P 05 26 03.0 +1.2
comp=Z,15nm,0.9s,baz=104,slow=3.6,SNR=25
KBZ LR LR 05 59 08.4
comp=Z,63nm,19.5s,baz=48,slow=39
KBZ Khabaz 66.95 309 eP P 05 26 03.0 +1.2
KIV Kislovodsk 67.06 309 eP P 05 26 03.6 +0.9
KIV pmax pmax
comp=Z,45nm,1.1s
KIV MLR MLR
comp=Z,46nm,17.0s
KIV Kislovodsk 67.06 309 eP P 05 26 04.0 +1.3
comp=Z,32nm,0.9s
NEY Neytrino 67.17 309⇓ *i*P P 05 26 05.5 +2.0
NEY pmax pmax
comp=Z,2.0nm,0.7s
KDAK Kodiak Island 67.41 35 *i* P P 05 26 06.0 +1.6
LVZ Lovozero 67.60 336⇑ *i*P P 05 26 04.8 -0.7
LVZ pmax pmax
comp=Z,8.0nm,0.9s
SUA Susitna One 67.77 31 eP P 05 26 07.1 +0.3
comp=Z,14nm,1.1s
LPSR Galich'ya Gora 67.90 319 eP P 05 26 07.4 -0.3
LPSR pmax pmax
comp=Z,90nm,1.8s
VSR Storozhevoye 68.01 318 eP P 05 26 07.9 -0.5
VSR pmax pmax
comp=Z,30nm,1.2s
MCK McKinley 68.24 29 eP P 05 26 10.0 +0.4
MCK pmax pmax
comp=Z,9.0nm,1.0s
MCK McKinley 68.24 29 eP P 05 26 10.0 +0.4
comp=Z,8.8nm,1.0s
RND Reindeer 68.33 29 eP P 05 26 10.1 -0.1
RND pmax pmax
comp=Z,25nm,1.2s
RND Reindeer 68.33 29 eP P 05 26 10.1 -0.1
comp=Z,25nm,1.2s
MDM Murphy Dome 68.33 27 eP P 05 26 11.1 +0.9
comp=Z,19nm,1.1s
WRH Wood River Hil 68.48 28 eP P 05 26 11.6 +0.5
comp=Z,19nm,1.5s
COLA College 68.51 27 eP P 05 26 12.0 +0.8
COLA pmax pmax
comp=Z,3.0nm,0.6s
PMR Palmer 68.51 31 eP P 05 26 10.8 -0.5
PMR pmax pmax
comp=Z,11nm,1.2s
PMR Palmer 68.51 31 eP P 05 26 10.8 -0.5
comp=Z,11nm,1.2s
OBN Obninsk 68.81 322⇓ *i*P P 05 26 13.2 0.0
OBN *e*S S 05 35 10.2 -3.2
OBN *e*SSS SSS 05 42 35.3
OBN pmax pmax
comp=Z,59nm,2.5s
OBN MLR MLR
comp=Z,72nm,18.0s
IL1 Eielson Array 68.93 27 eP P 05 26 12.8 -1.1
ILAR Eielson Array 68.93 27 P P 05 26 13.0 -0.9
comp=Z,1.2nm,0.5s,baz=285,slow=5.9,SNR=23
ILB Eielson Array 68.93 27 eP P 05 26 13.1 -0.9
SCM Sheep Creek Mo 69.31 30 eP P 05 26 16.6 +0.2
SCM pmax pmax
comp=Z,35nm,1.4s
SCM Sheep Creek Mo 69.31 30 eP P 05 26 16.6 +0.2
comp=Z,34nm,1.4s
KOPT Kop Dagi 69.52 306 eP P 05 26 20.2 +1.9
comp=Z,22nm,1.0s
PAX Paxson 69.92 29 eP P 05 26 20.4 +0.3
PAX pmax pmax
comp=Z,20nm,1.6s
PAX Paxson 69.92 29 eP P 05 26 20.4 +0.3
comp=Z,20nm,1.6s
KEV Kevo 69.97 338 eP P 05 26 19.3 -0.9
KEV pmax pmax
comp=Z,12nm,0.6s
KEV Kevo 69.97 338 eP P 05 26 19.3 -0.9
comp=Z,12nm,0.6s
MARD Mardin 69.98 303 eP P 05 26 22.1 +1.0
comp=Z,39nm,0.7s
DIV Divide 70.19 31 eP P 05 26 22.2 +0.4
comp=Z,32nm,1.4s
SPA0 Spitsbergen Ar 70.26 348 eP P 05 26 21.5 -0.4
DOT Dot Lake 70.38 28 eP P 05 26 23.0 +0.1
comp=Z,53nm,1.6s
ARA0 ARCESS Array S 70.54 338 eP P 05 26 23.3 -0.4
ARCES ARCESS Array B 70.54 338 P P 05 26 23.3 -0.4
comp=Z,5.4nm,0.6s,baz=71,slow=9.1,SNR=18
ARCES LR LR 06 02 43.6
comp=Z,43nm,18.5s,baz=71,slow=40
ARE0 ARCESS Array S 70.54 338 eP P 05 26 23.4 -0.3
ARE0 lAmb lAmb 05 26 23.7
comp=Z,7.5nm,0.8s
ANN Anapa 70.55 311 eP P 05 26 24.2 0.0
ANN pmax pmax
comp=Z,69nm,1.2s
BMRM Bremner River 70.78 31 eP P 05 26 25.9 +0.5
comp=Z,18nm,1.3s
HSPB Hornsund (broa 70.86 347 eP P 05 26 25.3 -0.3
HSPB lAmb lAmb 05 26 26.5
comp=Z,14nm,0.8s
PUL Pulkovo 71.07 328*c* *i*P P 05 26 28.5 +1.5
EGAK Eagle 71.32 27 eP P 05 26 29.1 +0.5
comp=Z,6.7nm,0.8s
KTK1 Kautokeino 71.46 338⇑ *i*P P 05 26 28.9 -0.5
KTK1 lAmb lAmb 05 26 29.4
comp=Z,12nm,0.6s
CRQM Cirque 71.53 31 eP P 05 26 30.7 +0.6
comp=Z,15nm,1.2s
KSRV Kasrt alli 71.75 302 *i* P P 05 26 32.6 +0.9
DAWY Dawson 72.26 27 eP P 05 26 34.8 +0.5
comp=Z,8.0nm,0.8s
SLMH Al Salmeh 72.49 302 *i* P P 05 26 36.9 +0.8
FIA1 FINESS Array S 72.61 330 eP P 05 26 36.4 +0.1
FIA0 FINESS Array S 72.61 330 eP P 05 26 36.3 0.0
FIA0 FINESS Array S 72.61 330 eP P 05 26 36.3 0.0
FINES FINESS Array B 72.61 330 P P 05 26 36.3 0.0
comp=Z,18nm,0.5s,baz=59,slow=5.8,SNR=117
PCA Pinnacle 73.09 31 eP P 05 26 40.4 +1.2
comp=Z,29nm,0.8s
INK Inuvik 73.09 22 P P 05 26 37.8 -1.2
comp=Z,8.4nm,1.0s,baz=294,slow=6.5,SNR=14
INK Inuvik 73.09 22 eP P 05 26 39.0 0.0
INK pmax pmax
comp=Z,12nm,1.0s
INK Inuvik 73.09 22 eP P 05 26 39.0 0.0
comp=Z,12nm,1.0s
VSU Vasula 73.20 327*c* *i*P P 05 26 40.0 +0.2
VSU pmax pmax
comp=Z,129nm,1.4s
DRWC Darouich 73.34 303 *i* P P 05 26 42.1 +0.8
RABH Abou Rabah 73.58 301 *i* P P 05 26 42.7 +0.1
ARNB Al Arnab 74.11 303 *i* P P 05 26 46.1 +0.4
HYT Haines Junctio 74.14 30 eP P 05 26 46.7 +1.2
comp=Z,17nm,1.4s
AKASG Malin Array Be 74.23 319 P P 05 26 45.7 -0.3
comp=Z,22nm,0.6s,baz=59,slow=6.4,SNR=67
AKBB Malin Array Si 74.23 319 eP P 05 26 45.5 -0.5
AKBB pmax pmax
comp=Z,24nm,0.6s
AKBB Malin Array Si 74.23 319 eP P 05 26 45.5 -0.5
comp=Z,24nm,0.6s
KIEV Kiev 74.24 319*c* *i*P P 05 26 45.4 -0.7
KIEV pmax pmax
comp=Z,23nm,0.7s
KIEV Kiev 74.24 319 eP P 05 26 45.8 -0.3
comp=Z,24nm,0.6s
AK11 Malin Array Si 74.27 319 eP P 05 26 45.9 -0.3
NACGM Naroch 74.30 323 *e* P 05 26 47.0 +0.6
TOTH TOTAH 74.52 300 *i* P P 05 26 48.0 -0.1
STEI Steigen 74.60 338 eP P 05 26 47.1 -0.7
STEI lAmb lAmb 05 26 47.9
comp=Z,33nm,1.3s
BR101 Keskin Array S 74.67 307 eP P 05 26 49.4 +0.3
BR131 Keskin Array S 74.67 307 eP P 05 26 49.6 +0.6
BRTR Keskin Array B 74.67 307 P P 05 26 49.4 +0.3
comp=Z,10nm,0.8s,baz=101,slow=6.4,SNR=52
BRTR LR LR 06 02 59.1
comp=Z,34nm,20.7s,baz=64,slow=38
BRTR Keskin Array B 74.67 307 *i* P P 05 26 49.7 +0.7
BRTR pmax pmax
comp=Z,11nm,0.8s
BRBR Barbar 74.89 300 *i* P P 05 26 49.7 -0.7
LOF Lofoten 75.09 339 eP P 05 26 49.9 -0.8
LOF lAmb lAmb 05 27 00.4
comp=Z,44nm,1.4s
TCHB Talchebab 75.11 299 *i* P P 05 26 51.3 -0.3
BR231 Keskin MP Arra 75.26 307 eP P 05 26 49.2 -3.2
WHY Whitehorse 75.40 30 eP P 05 26 53.9 +1.1
comp=Z,26nm,1.4s
SORM Soroca 75.59 316⇓ *i*P P 05 26 53.5 -0.4
SORM Soroca 75.59 316⇓ P P 05 26 53.5 -0.4
SKAG Skagway 75.65 31 eP P 05 26 55.4 +1.4
comp=Z,6.8nm,0.9s
MOR8 Moi Rana 75.65 337 eP P 05 26 52.4 -1.6
MOR8 lAmb lAmb 05 26 53.0
comp=Z,20nm,0.9s
KIS Kishinev 75.67 315 eP P 05 26 53.0 -1.4
KIS Kishinev 75.67 315 eP P 05 26 53.0 -1.4
KONS Konsvik 75.98 337 eP P 05 26 55.3 -0.4
STOK Stokkvaagen 76.09 337 eP P 05 26 55.7 -0.7
CSS Mathiatis 76.44 302 eP P 05 26 59.7 +0.6
comp=Z,6.3nm,0.9s
SUW Suwalki 76.58 323 eP P 05 26 59.4 -0.1
SUW Suwalki 76.58 323 eP P 05 26 59.4 -0.1
CFR Carcaliu 76.73 314⇓ *i*P P 05 27 00.6 +0.1
CFR Carcaliu 76.73 314⇓ P P 05 27 00.6 +0.1
TIRR Tirgusor 76.80 313⇑ *i*P P 05 27 01.0 +0.2
TIRR Tirgusor 76.80 313⇑ P P 05 27 01.0 +0.2
BOLV Bolvadin 76.97 307 eP P 05 27 03.0 +0.9
comp=Z,26nm,1.0s
TLB Topalu 77.00 313⇑ *i*P P 05 27 02.2 +0.2
TLB Topalu 77.00 313⇑ P P 05 27 02.2 +0.2
HARR Harsova 77.04 313⇑ *i*P P 05 27 03.2 +1.0
HARR Harsova 77.04 313⇑ P P 05 27 03.2 +1.0
TESR Tescani 77.24 315⇓ *i*P P 05 27 03.3 0.0
VRI Vrincioaia 77.42 315⇓ *i*P P 05 27 04.8 +0.4
VRI Vrincioaia 77.42 315⇓ P P 05 27 04.8 +0.4
PLOR Plostina 77.47 315⇑ *i*P P 05 27 05.9 +1.2
PLOR Plostina 77.47 315⇑ P P 05 27 05.9 +1.2
LVV L'vov 77.66 319 eP P 05 27 06.6 +1.0
BUR08 Bucovina Ar. S 77.75 317 eP P 05 27 06.8 +0.5
BURAR Bucovina Array 77.75 317⇑ *i*P P 05 27 06.6 +0.3
BURAR Bucovina Array 77.75 317⇑ P P 05 27 06.6 +0.3
MLR Muntele Rosu 78.06 314⇑ *i*P P 05 27 08.9 +0.8
MLR Muntele Rosu 78.06 314 eP P 05 27 07.5 -0.6
MLR pmax pmax
comp=Z,15nm,0.8s
MLR Muntele Rosu 78.06 314 eP P 05 27 07.5 -0.6
comp=Z,15nm,0.8s
SECR 78.15 314⇓ *i*P P 05 27 08.7 +0.2
DOPR Dopca 78.25 315⇑ *i*P P 05 27 09.5 +0.5
ARCR ARCALIA 78.49 316⇑ *i*P P 05 27 11.9 +1.6
KWP Kalwaria Pacla 78.53 319 eP P 05 27 11.1 +0.7
KWP Kalwaria Pacla 78.53 319 eP P 05 27 11.1 +0.7
DLBC Dease Lake 78.57 31 eP P 05 27 12.4 +1.8
comp=Z,15nm,1.4s
VOIR 78.67 315⇑ *i*P P 05 27 10.9 -0.5
VOIR 78.67 315⇑ P P 05 27 10.9 -0.5
BEL Belsk 78.76 322 eP P 05 27 12.2 +0.6
BEL Belsk 78.76 322 eP P 05 27 12.2 +0.6
ARR Arges 78.97 315⇓ *i*P P 05 27 13.7 +0.7
NC405 NORSAR Array S 79.09 333 eP P 05 27 13.1 -0.2
UZH Uzhgorod 79.17 318 eP P 05 27 14.2 +0.3
UZH *i* 05 27 18.0
UZH *e* 05 27 31.4
NC303 NORSAR Array S 79.19 333 eP P 05 27 13.4 -0.4
TRPA Tarpa 79.22 318⇑ eP P 05 27 14.7 +0.5
NB201 NORSAR Array S 79.31 333 eP P 05 27 14.1 -0.4
NB2 NORSAR Subarra 79.34 333 P P 05 27 14.2 -0.5
baz=58,slow=5.6
NB2 NORSAR Subarra 79.34 333 P P 05 27 14.2 -0.5
comp=Z,26nm,0.8s,baz=58,slow=5.6
NB200 NORSAR Array S 79.34 333 eP P 05 27 14.2 -0.5
NOA NORSAR Array B 79.34 333 P P 05 27 14.2 -0.5
comp=Z,22nm,0.7s,baz=59,slow=5.7,SNR=68
NC602 NORSAR Array S 79.36 332 eP P 05 27 14.0 -0.8
NC602 lAmb lAmb 05 27 27.4
comp=Z,436nm,3.0s
NC602 NORSAR Array S 79.36 332 eP P 05 27 14.2 -0.5
NC204 NORSAR Array S 79.41 333 eP P 05 27 14.2 -0.9
STHS Stebnicka Huta 79.48 319 eP P 05 27 16.3 +0.6
STHS pmax pmax
comp=Z,8.0nm,0.7s
STHS Stebnicka Huta 79.48 319 eP P 05 27 16.3 +0.6
NBO02 NORSAR Array S 79.49 333 eP P 05 27 14.9 -0.5
LOT Lotru 79.50 315⇓ *i*P P 05 27 16.7 +0.7
NBO00 NORSAR Array S 79.53 333 eP P 05 27 15.5 -0.2
CRVS Cervenica-Dubn 79.56 319 eP P 05 27 16.8 +0.7
CRVS Cervenica-Dubn 79.56 319 eP P 05 27 16.8 +0.7
NAO01 NORSAR Array S 79.58 332 eP P 05 27 15.5 -0.5
DRGR 79.64 317⇓ *i*P P 05 27 17.5 +0.8
DRGR 79.64 317⇓ P P 05 27 17.5 +0.8
DOMB Dombas 79.72 334 eP P 05 27 16.2 -0.5
DOMB lAmb lAmb 05 27 17.1
comp=Z,39nm,0.8s
OJC Ojcow 80.00 321 eP P 05 27 19.1 +0.6
OJC Ojcow 80.00 321 eP P 05 27 19.1 +0.6
OJC Ojcow 80.00 321 eP P 05 27 19.1 +0.6
comp=Z,51nm,0.8s
MOL Molde 80.03 335 eP P 05 27 18.4 0.0
MOL lAmb lAmb 05 27 19.7

comp=Z,26nm,1.0s
NIE Niedzica 80.05 320 *e*P **P 05 27 19.8 +1.0**
NIE Niedzica 80.05 320 *e*P **P 05 27 19.8 +1.0**
OSL Oslo 80.11 332 *e*P **P 05 27 18.7 -0.1**
OSL IAmb IAmb 05 27 19.2
comp=Z,37nm,0.7s
GKP Gorka Klasztor 80.12 324 *e*P **P 05 27 19.6 +0.6**
GKP Gorka Klasztor 80.12 324 *e*P **P 05 27 19.6 +0.6**
KECS Kecovo 80.33 319 *e*P **P 05 27 20.7 +0.5**
KECS pmax pmax
comp=Z,25nm,1.8s
KECS Kecovo 80.33 319 *e*P **P 05 27 20.7 +0.5**
AKN Aaknes 80.46 335 *e*P **P 05 27 20.5 -0.2**
AKN IAmb IAmb 05 27 21.7
comp=Z,53nm,0.9s
LANS Liptovska Anna 80.65 320 *e*P **P 05 27 23.3 +1.3**
LANS Liptovska Anna 80.65 320 *e*P **P 05 27 23.3 +1.3**
PSZ Piszkesteto 80.92 318⇓*i*P **P 05 27 23.2 -0.3**
PSZ Piszkesteto 80.92 318 *e*P **P 05 27 24.3 +0.8**
PSZ pmax pmax
comp=Z,9.0nm,0.7s
PSZ Piszkesteto 80.92 318⇓*e*P **P 05 27 24.4 +0.8**
PSZ Piszkesteto 80.92 318 *e*P **P 05 27 24.3 +0.8**
comp=Z,8.6nm,0.7s
VTS Vitosha 81.00 313⇑*i*P **P 05 27 24.7 +0.6**
VTS Vitosha 81.00 313 *e*P **P 05 27 24.8 +0.6**
VTS pmax pmax
comp=Z,15nm,0.7s
VTS Vitosha 81.00 313 *e*P **P 05 27 24.8 +0.6**
comp=Z,15nm,0.7s
MDVR Moldovita 81.10 315⇓*i*P **P 05 27 25.1 +0.6**
OKC Ostrava-Krasne 81.13 321⇑*e*P **P 05 27 25.2 +0.7**
OKC Ostrava-Krasne 81.13 321 *e*P **P 05 27 25.2 +0.7**
VYHS Vyhne 81.31 319 *e*P **P 05 27 26.4 +0.9**
VYHS pmax pmax
comp=Z,20nm,0.8s
VYHS Vyhne 81.31 319 *e*P **P 05 27 26.4 +0.9**
HYA Hoyanger 81.35 334 *e*P **P 05 27 25.1 -0.2**
MORC Moravsky Berou 81.51 321⇑*i*P **P 05 27 25.7 -0.9**
MORC Moravsky Berou 81.51 321 *e*P **P 05 27 27.1 +0.5**
MORC pmax pmax
comp=Z,65nm,1.0s
MORC Moravsky Berou 81.51 321 *e*P **P 05 27 27.1 +0.5**
comp=Z,65nm,1.0s
FOO Floro 81.56 335 *e*P **P 05 27 26.1 -0.4**
KSP Ksiaz 81.74 322 *e*P **P 05 27 28.3 +0.6**
KSP Ksiaz 81.74 322 *e*P **P 05 27 28.3 +0.6**
KRLC Kraliky 81.81 321⇑*e*P **P 05 27 29.1 +0.9**
KRLC Kraliky 81.81 321 *e*P **P 05 27 29.1 +0.9**
ODD1 Odda 81.87 333 *e*P **P 05 27 27.9 -0.4**
ODD1 IAmb IAmb 05 27 30.1
comp=Z,30nm,1.0s
DPC Dobruska-Polom 81.95 322⇑*i*P **P 05 27 29.6 +0.7**
DPC Dobruska-Polom 81.95 322⇑*i*P **P 05 27 29.6 +0.7**
UPC Upice 82.05 322⇑*e*P **P 05 27 30.3 +0.9**
UPC Upice 82.05 322 *e*P **P 05 27 30.3 +0.9**
BLS5 Blasjo 82.22 332 *e*P **P 05 27 30.3 +0.2**
BLS5 IAmb IAmb 05 27 30.9
comp=Z,26nm,0.8s
VRAC Vranov 82.27 321⇓*i*P **P 05 27 31.5 +0.9**
VRAC Vranov 82.27 321⇓*i*P **P 05 27 31.5 +0.9**
SNART Snartemo 82.50 331 *e*P **P 05 27 31.7 +0.2**
SNART IAmb IAmb 05 27 32.2
comp=Z,29nm,1.1s
YKA Yellowknife Ar 82.81 23 P **P 05 27 33.1 +0.1**
comp=Z,5.2nm,0.7s,baz=316,slow=4.7,SNR=13
YKB5 Yellowknife Ar 82.81 23 *e*P **P 05 27 33.1 +0.1**
PVCC Panska Ves 82.85 322⇑*e*P **P 05 27 34.3 +0.8**
PVCC Panska Ves 82.85 322 *e*P **P 05 27 34.3 +0.8**
TREC Trest 82.92 321⇑*e*P **P 05 27 34.8 +0.9**
TREC Trest 82.92 321 *e*P **P 05 27 34.8 +0.9**
GOPC GO Pecny, Ondr 83.02 322⇑*e*P **P 05 27 35.0 +0.5**
GOPC GO Pecny, Ondr 83.02 322 *e*P **P 05 27 35.0 +0.5**
BRG Berggiesshubel 83.03 323 *i*P **P 05 27 34.9 +0.5**
comp=Z,10nm,0.8s
BRG *e* 05 27 51.3
comp=Z,5.1nm,0.9s
BRG Berggiesshubel 83.03 323 *i*P **P 05 27 34.9 +0.5**
BRG *e* 05 27 51.3
BRG pmax pmax
comp=Z,10.0nm,0.8s
BRG pmax pmax
comp=Z,5.0nm,0.9s
AGG Agios Georgios 83.08 310 *e*P **P 05 27 33.7 -1.3**
AGG pmax pmax
comp=Z,29nm,0.8s
AGG Agios Georgios 83.08 310 *e*P **P 05 27 33.6 -1.3**
comp=Z,29nm,0.8s
PRU Pruhonice 83.13 322⇑*e*P **P 05 27 35.8 +0.8**
PRU Pruhonice 83.13 322 *e*P **P 05 27 35.8 +0.8**
PRA Prague 83.15 322⇑*e*P **P 05 27 35.9 +0.8**
PRA Prague 83.15 322 *e*P **P 05 27 35.9 +0.8**
CLL Collm 83.34 324⇑*i*P **P 05 27 36.1 +0.1**
CLL pmax pmax
comp=Z,27nm,0.9s
CLL Collm 83.34 324⇑*i*P **P 05 27 36.1 +0.1**
comp=Z,27nm,0.9s
CLL *es*P **sP 05 27 51.0 -3.9**
CLL *e*PP **PP 05 30 46.0 -1.7**
CLL Collm 83.34 324 *e*P **P 05 27 36.1 +0.1**
comp=Z,22nm,0.7s
CONA Conrad Observa 83.34 320 *e*P **P 05 27 36.9 +0.6**
comp=Z,20nm,1.0s,SNR=9.5
PDG Podgorica 83.72 314⇓*i*P **P 05 27 37.8 -0.3**
ARSA Arzberg 83.86 319 *e*P **P 05 27 39.3 +0.4**
comp=Z,9.6nm,1.2s
BLY Banja Luka 84.01 316 *e*P **P 05 27 40.6 +1.0**
comp=Z,17nm,0.9s
KHC Kasperske Hory 84.09 321⇑*i*P **P 05 27 40.5 +0.6**
KHC Kasperske Hory 84.09 321 *e*P **P 05 27 40.6 +0.6**
KHC pmax pmax
comp=Z,7.0nm,0.8s
KHC Kasperske Hory 84.09 321 *e*P **P 05 27 40.6 +0.6**
comp=Z,6.6nm,0.8s
GEC2 GERESS Array S 84.16 321 *e*P **P 05 27 40.9 +0.4**
GEC2 pmax pmax
comp=Z,27nm,0.8s
GEC2 GERESS Array S 84.16 321 *e*P **P 05 27 40.9 +0.4**
comp=Z,27nm,0.8s
GERES GERESS Array B 84.16 321 P **P 05 27 40.8 +0.4**
comp=Z,20nm,0.8s,baz=57,slow=4.9,SNR=90
GEA0 GERESS Array S 84.17 321 *e*P **P 05 27 40.6 +0.2**
NKC Novy Kostel 84.18 323⇑*i*P **P 05 27 40.9 +0.5**
NKC Novy Kostel 84.18 323⇑*i*P **P 05 27 40.9 +0.5**
MOA Molln 84.32 320 *e*P **P 05 27 41.9 +0.8**
comp=Z,14nm,0.7s,SNR=12
PERS Pernice 84.40 319 *i*P **P 05 27 41.6 0.0**
SOKA Soboth 84.43 319 *i*P **P 05 27 42.3 +0.5**
comp=Z,13nm,0.7s,SNR=8.8
OBKA Obir 84.81 319 *e*P **P 05 27 43.9 +0.2**
comp=Z,15nm,0.9s,SNR=5.6
BOJS Bojanci 84.86 318 *i*P **P 05 27 44.5 +0.5**
VISS Visnje 84.97 318 *i*P **P 05 27 44.6 +0.1**
KBA Koelnbreinsper 85.25 320 *i*P **P 05 27 46.3 +0.3**
comp=Z,7.6nm,0.8s
MYKA Terra Mystica 85.29 319 *e*P **P 05 27 46.3 +0.1**
comp=Z,3.3nm,0.5s
JAVS Javornik 85.40 318 *i*P **P 05 27 46.3 -0.4**
ABTA Abfaltersbach 85.91 320 *e*P **P 05 27 48.5 -0.7**
comp=Z,9.3nm,0.7s
WATA Walderalm 86.16 321 *i*PcP **P 05 27 51.2 +0.7**
comp=Z,6.1nm,0.7s
WTTA Wattenberg 86.22 321 *e*PcP **P 05 27 51.3 +0.7**
comp=Z,15nm,1.2s
KMBO Kilima Mbogo 86.41 267 P **P 05 27 53.9 +1.4**
comp=Z,20nm,0.3s,baz=248,slow=0.4,SNR=22
MOTA Moosalm 86.43 321 *e*PcP **P 05 27 52.4 +0.6**
comp=Z,11nm,1.0s
FETA Feichten 86.81 321 *e*PcP **P 05 27 54.7 +0.9**
comp=Z,9.8nm,1.2s
FUORN Ofenpass-Fuorn 87.30 320 *e*P **P 05 27 56.3 0.0**
comp=Z,8.2nm,0.7s
MEM Membach 87.44 325 P **P 05 27 56.9 +0.3**
BFO Black Forest 87.47 323*ce*P **P 05 27 59.5 +2.7**
TUE Stuetta 87.91 321 *e*P **P 05 27 59.5 +0.4**
comp=Z,9.2nm,1.0s
WLF Walferdange 87.91 324 P **P 05 27 59.4 +0.7**
comp=Z,24nm,1.4s
WLF Walferdange 87.91 324 *e*P **P 05 27 59.6 +0.8**
WLF pmax pmax
comp=Z,28nm,1.0s
WLF Walferdange 87.91 324 *e*P **P 05 27 59.5 +0.8**
comp=Z,28nm,1.0s
CEL Celeste 87.92 311 *e*P **P 05 27 59.9 +0.8**
comp=Z,14nm,0.8s

DOU Dourbes 88.48 325 P **P 05 28 01.8 +0.4**
EDM Edmonton 89.26 30 *e*P **P 05 28 06.2 +1.1**
EDM pmax pmax
comp=Z,10.0nm,1.0s
EDM Edmonton 89.26 30 *e*P **P 05 28 06.2 +1.1**
comp=Z,10nm,1.0s
B08A Colville Reser 89.28 36 *e*P **P 05 28 06.5 +1.2**
comp=Z,32nm,1.7s
D08A Wollman Farm, 90.27 37 *e*P **P 05 28 11.5 +1.6**
comp=Z,4.1nm,0.8s
NEW Newport 90.52 35 *e*P **P 05 28 12.7 +1.6**
NEW pmax pmax
comp=Z,6.0nm,0.9s
NEW Newport 90.52 35 *e*P **P 05 28 12.7 +1.6**
comp=Z,5.7nm,0.9s
MOD Modoc Plateau 92.46 42 *e*P **P 05 28 22.0 +1.6**
comp=Z,4.6nm,0.9s
FFC Flin Flon 92.94 24 *e*P **P 05 28 22.3 +0.2**
FFC pmax pmax
comp=Z,3.0nm,0.5s
FFC Flin Flon 92.94 24 *e*P **P 05 28 22.3 +0.2**
comp=Z,2.7nm,0.5s
KEST Kesra 93.72 312 P **P 05 28 25.9 -0.3**
comp=Z,4.9nm,0.9s,baz=334,slow=3.5,SNR=6.6
KEST Kesra 93.72 312 *e*P **P 05 28 25.9 -0.3**
comp=Z,10nm,1.2s
MFID Camas Ranch 94.21 39 *e*P **P 05 28 28.0 -0.4**
comp=Z,32nm,1.9s
EGMT Eagleton 94.44 32 *e*P **P 05 28 26.4 -2.8**
comp=Z,64nm,0.9s
CMB Columbia Colle 94.62 45 *e*P **P 05 28 31.2 +0.9**
CMB pmax pmax
comp=Z,12nm,1.6s
CMB Columbia Colle 94.62 45 *e*P **P 05 28 31.2 +0.9**
comp=Z,12nm,1.6s
PPT Papeete 94.77 107 LR LR 06 02 30.3
comp=Z,26nm,20.9s,baz=309,slow=30
HLID Hailey 94.92 38 *e*P **P 05 28 33.2 +1.5**
comp=Z,0.5nm,0.5s
TOA1 Torodi Ar. Sit 111.80 296 *e*PKiKP **PKiKP 05 33 44.4 -0.3**
TORD Torodi Ar. Bea 111.81 296 PKiKP **PKiKP 05 33 44.4 -0.3**
comp=Z,0.4nm,0.6s,baz=31,slow=1.9,SNR=4.8
DBIC Dimbokro 120.70 294 PKP **PKPdf 05 34 01.6 -0.1**
comp=Z,2.6nm,1.0s,baz=2.2,slow=1.7,SNR=4.1
VNA2 Neumayer--Watz 124.91 198 P **PKPdf 05 34 08.5 +0.3**
baz=58,slow=1.4
HELC Santa Helena 145.28 33 *e*P **PKPbc 05 34 46.4 -1.4**
BRRC Barranca, Sant 145.36 30 *e*P **PKPbc 05 34 46.8 -0.7**
BARC Barichara 146.06 29 *e*P **PKPdf 05 34 49.8 +0.6**
RUSC La Rusia 146.72 30 *e*P **PKPbc 05 34 51.9 -0.4**
RUSC La Rusia 146.72 30 *e*PKPdf **PKPbc 05 34 52.0 -0.3**
ROSC El Rosal 147.05 33 PKPbc **PKPdf 05 34 52.2 +1.2**
comp=Z,1.9nm,0.7s,baz=62,slow=18,SNR=2.8
ROSC El Rosal 147.05 33 *e*PKPdf **PKPdf 05 34 48.9 -2.2**
ROSC *e*PKPbc **PKPbc 05 34 51.0 -2.1**
ROSC *e*PKPab **PKPab 05 34 53.1 -1.5**
CHIC Chingaza 147.52 32 *e*P **PKPdf 05 34 53.2 +1.3**
PRAC Prado 147.72 35 *e*PKPbc **PKPbc 05 34 53.9 -0.6**
FLOC Florencia 149.08 38 *e*P **PKPbc 05 34 58.2 +0.1**
LPAZ La Paz 167.32 56 PKP **PKPdf 05 35 17.2 +0.8**
comp=Z,0.8nm,0.7s,baz=336,slow=9.7,SNR=3.9

NIED ***12*** *05:17:00,36˚.80N×141˚.70E,h26km,Mw4.0 Best double couple: Mo1.19000×10¹⁵ NP1:φs=203.00000°,δ21.00000°, λ91.00000°. NP2:φs=22.00000°,δ69.00000°,λ90.00000°.*
JMA ***12*** *05:17:02.2±0.2,36˚.77N×141˚.71E,h54km±4km,M3.9*
IDC ***12*** *05:17:06.3±3.4,36˚.57N×141˚.66E,h70km±30km,mb3.6/5, mb1 3.7/10,mb1mx3.5/40,mbtmp3.9/10,ML3.3/4, Error ellipse: s-maj=41.0km s-min=22.3km az=80.0*
ISC 12 05:17:01.5±0.9,36.72N±0.04×141.62E±0.07,h26km,n26,
σ1§15/24,mb4.1/5,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
ONAJ	**Iwakimizuishiy**	**0.76**	**300**	P	**Pn**	**Pn**	**05 17 17.3**	**+0.6**
ONAJ				*e*S	**Sn**	**Sn**	**05 17 28.3**	**+0.9**
JHO	**Hitachi**	**0.86**	**263**	P	**Pn**	**Pn**	**05 17 18.9**	**+1.0**
JFK	**Kawauchi**	**0.88**	**317**	P	**Pn**	**Pn**	**05 17 18.6**	**+0.3**
JFT	**Otama**	**1.30**	**308**	P	**Pb**	**Pb**	**05 17 26.0**	**+0.7**
JMM	**Marumori**	**1.32**	**330**	P	**Pn**	**Pn**	**05 17 24.6**	**+0.3**
JFY	**Yanaizu**	**1.68**	**295**	P	**Pb**	**Pb**	**05 17 31.9**	**+0.1**
JIO	**Ouri**	**1.74**	**353**	P	**Pn**	**Pn**	**05 17 30.0**	**-0.1**
JIO				S	**Sn**	**Sn**	**05 17 50.5**	**-1.0**
JAG	**Ashikaga**	**1.77**	**261**	P	**Pb**	**Pb**	**05 17 32.5**	**-0.8**
JOU	**Okura**	**1.81**	**335**	P	**Pb**	**Pb**	**05 17 32.8**	**-1.2**
JOU				*e*S	**Sn**	**Sn**	**05 17 54.7**	**+1.5**
MJAR	**Matsushiro Arr**	**2.75**	**267**	P	**Pb**	**Pb**	**05 17 47.5**	**-2.6**
	21nm,0.3s,baz=98,slow=11,SNR=82							
MJAR				S	**Sb**	**Sb**	**05 18 23.2**	**-0.1**
	5.9nm,0.3s,baz=84,slow=34,SNR=3.6							
MAT	**Matsushiro**	**2.75**	**267**	P	**Pb**	**Pb**	**05 17 47.7**	**-2.4**
MAT				S	**Sb**	**Sb**	**05 18 23.3**	**-0.1**
JHJ	**Hachijo jima 2**	**3.90**	**203**	P	**Pn**	**Pn**	**05 18 01.6**	**+1.9**
	11nm,0.3s,baz=330,slow=23,SNR=17							
JHJ				S	**Sn**	**Sn**	**05 18 44.4**	**-0.3**
	14nm,0.3s,baz=60,slow=20,SNR=1.7							
USRK	**Ussuriysk Ar.**	**10.47**	**318**	P	Pn	Pn	05 19 35.1	+5.3
	0.3nm,0.3s,baz=122,slow=14,SNR=13							
KSRS	**Korea Array**	**10.97**	**278**	P	Pn	Pn	05 19 43.0	+6.2
	baz=91,slow=14,SNR=2.2							
KLR	**Kul'dur**	**14.42**	**333**	P	**P**	**P**	**05 20 29.6**	**-0.8**
	0.1nm,0.3s,baz=137,slow=12,SNR=3.0							
H11N2	**WAKE ISLAND Hy**	**27.84**	**121**	T	T	T	05 52 08.6	
	baz=314,slow=75,SNR=45							
H11N1	**WAKE ISLAND Hy**	**27.85**	**121**	T	T	T	05 52 09.1	
	baz=314,slow=75,SNR=35							
H11N3	**WAKE ISLAND Hy**	**27.86**	**121**	T	T	T	05 52 05.9	
	baz=314,slow=75,SNR=28							
SONM	**Songino Array**	**28.10**	**304**	P	**P**	**P**	**05 22 51.8**	**+0.6**
	2.8nm,0.7s,baz=102,slow=8.6,SNR=4.2							
H11S1	**WAKE ISLAND Hy**	**28.55**	**123**	T	T	T	05 52 59.2	
	baz=315,slow=76,SNR=19							
H11S3	**WAKE ISLAND Hy**	**28.55**	**123**	T	T	T	05 53 02.8	
	baz=315,slow=76,SNR=20							
H11S2	**WAKE ISLAND Hy**	**28.57**	**123**	T	T	T	05 53 06.9	
	baz=315,slow=76,SNR=16							
ILAR	**Eielson Array**	**49.67**	**32**	P	**P**	**P**	**05 25 51.3**	**+0.6**
	0.3nm,0.8s,baz=263,slow=6.3,SNR=3.0							
WRA	**Warramunga Arr**	**56.78**	**188**	P	**P**	**P**	**05 26 42.4**	**-1.0**
	0.7nm,0.9s,baz=7.1,slow=7.5,SNR=2.3							
NOA	**NORSAR Array B**	**74.54**	**337**	P	**P**	**P**	**05 28 37.5**	**-0.1**
	1.5nm,0.8s,baz=42,slow=5.6,SNR=3.2							
AKASG	**Malin Array Be**	**74.65**	**322**	P	**P**	**P**	**05 28 39.2**	**+0.8**
	0.9nm,0.4s,baz=48,slow=6.2,SNR=4.1							

ROM ***12*** *05:39:40.4±0.2,45˚.86N×6˚.98E,h1km,Ml1.6/2, Error ellipse: s-maj=3.3km s-min=1.4km az=69.0*
CSEM ***12*** *05:39:46.3±0.3,45˚.89N×7˚.02E,h5km,ML2.6/10, Error ellipse: s-maj=5.9km s-min=2.9km az=85.0*
LDG ***12*** *05:39:47.4±0.1,45˚.86N×7˚.01E,h2km,Md2.2/2,Ml2.7/8, Error ellipse: s-maj=3.4km s-min=1.7km az=86.0*
VIE ***12*** *05:39:51.0±3.3,45˚.64N×6˚.87E,h14km±90km,mb2.4/1, ML2.3/2, Error ellipse: s-maj=91.8km s-min=29.3km az=61.0*
ISC 12 05:39:45.1±1.1,45˚.93N±0˚.02×7˚.06E±0˚.03,h3km±10km,
n31,σ1§40/52,Northern Italy

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
MRGE	**Morge**	**0.16**	**179**	Pg	Pg	Pg	05 39 42.6	-5.8
EMV	**Vieux Emosson**	**0.17**	**320**	Pg	Pg	Pg	05 39 44.9	-3.6
EMV				Sg	**Sg**	**Sg**	**05 39 49.1**	**-1.7**
DIX	**Grande Dixence**	**0.29**	**59**	Pg	**Pg**	**Pg**	**05 39 48.8**	**-1.9**
DIX	**Grande Dixence**	**0.29**	**59**	Pg	**Pg**	**Pg**	**05 39 48.8**	**-1.9**
LPL	**La Plagne**	**0.47**	**209**	*e*Pg	**Pg**	**Pg**	**05 39 54.9**	**+0.7**
LPL				*e*Sg	**Sg**	**Sg**	**05 40 00.4**	**0.0**
	43nm,0.5s							
LPL	**La Plagne**	**0.47**	**209**	*e*Pg	**Pg**	**Pg**	**05 39 54.9**	**+0.7**
LPL				*e*Sg	**Sg**	**Sg**	**05 40 00.4**	**0.0**
	21nm,0.5s							
LSD	**Lago del Serru**	**0.48**	**173**	Pg	Pg	Pg	05 39 49.9	-4.4
	62nm,0.8s							
LPG	**La Plagne**	**0.48**	**206**	*e*Pg	**Pg**	**Pg**	**05 39 55.2**	**+0.8**
LPG				*e*Sg	**Sg**	**Sg**	**05 40 01.4**	**+0.6**
	87nm,0.6s							
LPG	**La Plagne**	**0.48**	**206**	*e*Pg	**Pg**	**Pg**	**05 39 55.2**	**+0.8**
LPG				*e*Sg	**Sg**	**Sg**	**05 40 01.4**	**+0.6**
	44nm,0.6s							
SATI	**Passo dei Sala**	**0.57**	**95**	Pg	**Pg**	**Pg**	**05 39 53.8**	**-2.3**
	40nm,0.7s							
SATI	**Passo dei Sala**	**0.57**	**95**	Pg	**Pg**	**Pg**	**05 39 53.8**	**-2.3**
	40nm,0.7s							

CABF La Chapelle 0.95 316 *e*Pg **Pn 05 40 06.5 +1.0**
CABF *e*Sg **Sn 05 40 19.2 -0.5**
81nm,0.7s
CABF La Chapelle 0.95 316 *e*Pg **Pn 05 40 06.5 +1.0**
CABF *e*Sg **Sn 05 40 19.2 -0.5**
40nm,0.7s
MBDF Montbardon 1.22 190 *e*Pg **Pg 05 40 09.0 +0.5**
MBDF *e*Sg **Sg 05 40 25.5 +1.1**
36nm,0.6s
MBDF Montbardon 1.22 190 *e*Pg **Pg 05 40 09.0 +0.5**
MBDF *e*Sg **Sg 05 40 25.5 +1.1**
18nm,0.6s
ORIF Oris-en-Rattie 1.31 220 *e*Pg **Pg 05 40 10.8 +0.6**
ORIF *e*Sg **Sn 05 40 27.4 -1.0**
80nm,0.7s
ORIF Oris-en-Rattie 1.31 220 *e*Pg **Pg 05 40 10.8 +0.6**
ORIF *e*Sg **Sn 05 40 27.4 -1.0**
40nm,0.7s
HINF Hinteralfeld 1.89 356 *e*Pn **Pb 05 40 19.9 -0.4**
HINF *e*Sn **Sb 05 40 43.6 -0.7**
3.5nm,0.2s
HINF Hinteralfeld 1.89 356 *e*Pn **Pb 05 40 19.9 -0.4**
HINF *e*Sn **Sb 05 40 43.6 -0.7**
1.8nm,0.2s
VIVF Saint-Julien-l 2.00 238 *e*Pg **Pg 05 40 23.0 -0.3**
VIVF *e*Sg **Sg 05 40 48.4 -0.8**
12nm,0.4s
VIVF Saint-Julien-l 2.00 238 *e*Pg **Pg 05 40 23.0 -0.3**
VIVF *e*Sg **Sg 05 40 48.4 -0.8**
6.2nm,0.4s
SBF Sospel 2.09 172 *e*Pg **Pg 05 40 25.6 +0.5**
SBF *e*Sg **Sg 05 40 51.8 -0.3**
27nm,0.6s
SBF Sospel 2.09 172 *e*Pg **Pg 05 40 25.6 +0.5**
SBF *e*Sg **Sg 05 40 51.8 -0.3**
14nm,0.6s
HAU Haudompre 2.13 347 *e*Pn **Pb 05 40 22.9 -1.4**
HAU *e*Sn **Sn 05 40 48.3 -0.2**
17nm,0.6s
HAU Haudompre 2.13 347 *e*Pn **Pb 05 40 22.9 -1.4**
HAU *e*Sn **Sn 05 40 48.3 -0.2**
8.3nm,0.6s
SMF Signal de Mont 2.34 289 *e*Pn **Pn 05 40 25.0 +0.5**
SMF Signal de Mont 2.34 289 *e*Pg **Pg 05 40 31.2 +1.2**
SMF *e*Sn **Sn 05 40 52.2 -1.5**
SMF *e*Sg **Sg 05 41 00.8 +0.5**
15nm,0.6s
SMF Signal de Mont 2.34 289 *e*Pn **Pn 05 40 25.0 +0.5**
SMF Signal de Mont 2.34 289 *e*Pg **Pg 05 40 31.2 +1.2**
SMF *e*Sn **Sn 05 40 52.2 -1.5**
SMF *e*Sg **Sg 05 41 00.8 +0.5**
7.6nm,0.6s
DAVA Damuels 2.37 54 Pn **Pg 05 40 32.2 +1.6**
7.3nm,0.5s
DAVA Sn **Sg 05 41 06.9 +5.6**
4.2nm,0.3s
FETA Feichten 2.76 65 Pn **Pg 05 40 41.5 +3.5**
0.8nm,0.3s

DDA ***12*** *05:51:15.8,36˚.15N×28˚.51E,h22km,Ml3.6*
ISK ***12*** *05:51:15.2,36˚.14N×28˚.47E,h7km,ML3.4*
ATH ***12*** *05:51:15.5,36˚.21N×28˚.50E,h21km±1km,ML2.8/6, Error ellipse: s-maj=3.2km s-min=1.2km az=357.0*
ISCJB ***12*** *05:51:15.8±0.5,36˚.15N±0˚.02×28˚.47E±0˚.02,h4km±3km, Error ellipse: s-maj=4.2km s-min=2.7km az=163.8*
CSEM ***12*** *05:51:16.3±0.1,36˚.16N×28˚.48E,h5km,ML2.8, Error ellipse: s-maj=3.3km s-min=2.0km az=161.0*
THE ***12*** *05:51:17.0,36˚.16N×28˚.52E,h1km±1km,ML3.2/3, Error ellipse: s-maj=1.8km s-min=0.8km az=165.0*
ISC 12 05:51:16.2±1.0,36˚.16N±0˚.02×28˚.49E±0˚.01,h8km±9km,
n102,σ1§27/156,Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
ARG	**Arkhangelos**	**0.30**	**281**	P	**Pb**	**Pb**	**05 51 23.0**	**-0.8**
ARG				S	**Sb**	**Sb**	**05 51 29.8**	**+0.9**
ARG	**Arkhangelos**	**0.30**	**281**	P	**Pb**	**Pb**	**05 51 23.0**	**-0.8**
ARG				S	**Sg**	**Sg**	**05 51 27.2**	**+1.1**
ARG	**Arkhangelos**	**0.30**	**281**	P	**Pg**	**Pg**	**05 51 21.9**	**-0.2**
ARG				S	**Sg**	**Sg**	**05 51 27.2**	**+1.1**
ARG				AML	AML	AML	05 51 31.0	
	comp=N,3542μm,0.4s							
ARG				AML	AML	AML	05 51 31.1	
	comp=E,6576μm,0.3s							
MRSB	**Marmaris-Mugla**	**0.60**	**337**	*e*PG	**Pg**	**Pg**	**05 51 27.6**	**-0.2**
MRSB				*e*SG	**Sb**	**Sb**	**05 51 36.6**	**-1.0**
MRSB	**Marmaris-Mugla**	**0.60**	**337**	*e*Pg	**Pg**	**Pg**	**05 51 27.6**	**-0.2**
MRSB				*e*Sg	**Sb**	**Sb**	**05 51 36.7**	**-1.0**
DALY	**Dalyan (Mu¨la**	**0.67**	**11**	*e*PG	**Pg**	**Pg**	**05 51 29.0**	**-0.1**
DALY				*e*SG	**Sb**	**Sb**	**05 51 39.0**	**-0.6**
DALY	**Dalyan (Mu¨la**	**0.67**	**11**	*i*P	**Pg**	**Pg**	**05 51 28.4**	**-0.7**
DALY				*i*S	**Sb**	**Sb**	**05 51 38.5**	**-1.1**
DALY	**Dalyan (Mu¨la**	**0.67**	**11**	P	**Pg**	**Pg**	**05 51 28.4**	**-0.7**
DALY	**Dalyan (Mu¨la**	**0.67**	**11**	*e*Pg	**Pg**	**Pg**	**05 51 29.0**	**-0.1**
DALY				S	**Sb**	**Sb**	**05 51 38.5**	**-1.1**
DALY				*e*Sg	**Sb**	**Sb**	**05 51 39.0**	**-0.6**
FETY	**Fethiye**	**0.67**	**45**	*e*PG	**Pg**	**Pg**	**05 51 29.1**	**-0.1**
FETY				*e*SG	**Sb**	**Sb**	**05 51 39.3**	**-0.5**
FETY	**Fethiye**	**0.67**	**45**	P	**Pb**	**Pb**	**05 51 29.4**	**-0.8**
FETY				S	**Sb**	**Sb**	**05 51 40.5**	**+0.7**
FETY	**Fethiye**	**0.67**	**45**	*e*Pg	**Pg**	**Pg**	**05 51 29.1**	**-0.1**
FETY	**Fethiye**	**0.67**	**45**	P	**Pb**	**Pb**	**05 51 29.4**	**-0.8**
FETY				*e*Sg	**Sb**	**Sb**	**05 51 39.3**	**-0.5**
TURN	**Turunc**	**0.72**	**7**	*i*P	**Pg**	**Pg**	**05 51 28.7**	**-1.3**
TURN				*i*S	**Sg**	**Sg**	**05 51 39.3**	**0.0**
TURN	**Turunc**	**0.72**	**7**	P	**Pg**	**Pg**	**05 51 28.7**	**-1.3**
TURN				S	**Sg**	**Sg**	**05 51 39.3**	**0.0**
FETI	**Fethiye-Mugla**	**0.72**	**43**	*e*PG	**Pg**	**Pg**	**05 51 30.0**	**-0.1**
FETI				*e*SG	**Sb**	**Sb**	**05 51 40.9**	**-0.2**
FETI	**Fethiye-Mugla**	**0.72**	**43**	*e*Pg	**Pg**	**Pg**	**05 51 30.0**	**-0.1**
FETI				*e*Sg	**Sb**	**Sb**	**05 51 40.9**	**-0.2**
KSL	**Kastellorizon**	**0.89**	**90**	P	**Pb**	**Pb**	**05 51 33.8**	**0.0**
KSL				S	**Sn**	**Sn**	**05 51 48.0**	**0.0**
KSL	**Kastellorizon**	**0.89**	**90**	P	**Pb**	**Pb**	**05 51 33.8**	**0.0**
KSL				S	**Sg**	**Sg**	**05 51 44.6**	**-0.1**
KSL	**Kastellorizon**	**0.89**	**90**	P	**Pg**	**Pg**	**05 51 32.3**	**-0.9**
KSL				S	**Sg**	**Sg**	**05 51 44.6**	**-0.1**
KSL				AML	AML	AML	05 51 50.3	
	comp=N,1724μm,1.0s							
KSL				AML	AML	AML	05 51 56.5	
	comp=E,1350μm,0.4s							
AKAS	**Kas**	**0.91**	**85**	*e*PG	**Pg**	**Pg**	**05 51 33.3**	**-0.3**
AKAS				*e*SG	**Sb**	**Sb**	**05 51 46.5**	**0.0**
AKAS	**Kas**	**0.91**	**85**	*i*S	**Sn**	**Sn**	**05 51 49.0**	**+0.3**
AKAS	**Kas**	**0.91**	**85**	*e*Pg	**Pg**	**Pg**	**05 51 33.3**	**-0.3**
AKAS				*e*Sg	**Sb**	**Sb**	**05 51 46.6**	**0.0**
DAT	**Datca**	**0.93**	**308**	*e*PG	**Pg**	**Pg**	**05 51 33.5**	**-0.5**
DAT	**Datca**	**0.93**	**308**	*i*P	**Pg**	**Pg**	**05 51 34.1**	**+0.1**
DAT				*i*S	**Sn**	**Sn**	**05 51 49.5**	**+0.2**
DAT	**Datca**	**0.93**	**308**	*e*Pg	**Pg**	**Pg**	**05 51 33.5**	**-0.5**
DAT	**Datca**	**0.93**	**308**	P	**Pg**	**Pg**	**05 51 34.1**	**+

MLSB	**Milas**	**1.27**	**333**	*e*PN	**Pb**	**05 51 40.2**	**-0.2**
MLSB	**Milas**	**1.27**	**333**	*e*Pn	**Pb**	**05 51 40.2**	**-0.2**
ELL	**Elmali**	**1.29**	**62**	*e*PN	**Pg**	**05 51 40.5**	**-0.4**
ELL	**Elmali**	**1.29**	**62**	*e*Pn	**Pg**	**05 51 40.5**	**-0.4**
BODT	**Bodrum**	**1.31**	**314**	*e*PN	**Pn**	**05 51 40.5**	**-0.3**
BODT	**Bodrum**	**1.31**	**314**	P	**Pb**	**05 51 40.8**	**-0.2**
BODT				S	**Sn**	**05 52 00.2**	**+1.7**
BODT	**Bodrum**	**1.31**	**314**	*e*Pn	**Pn**	**05 51 40.5**	**-0.3**
BODT	**Bodrum**	**1.31**	**314**	P	**Pb**	**05 51 40.8**	**-0.2**
BODT				S	**Sn**	**05 52 00.2**	**+1.7**
YKAV	**Yalikavak-Bodr**	**1.37**	**315**	*e*PN	**Pn**	**05 51 41.4**	**-0.2**
YKAV	**Yalikavak-Bodr**	**1.37**	**315**	*e*Pn	**Pn**	**05 51 41.4**	**-0.2**
GOLH	**Golhisar**	**1.38**	**38**	*i* P	**Pn**	**05 51 41.7**	**-0.1**
GOLH				*i* S	**Sg**	**05 52 01.6**	**+1.1**
GOLH	**Golhisar**	**1.38**	**38**	P	**Pn**	**05 51 41.7**	**-0.1**
GOLH				S	**Sg**	**05 52 01.6**	**+1.1**
DNZL	**Cakiroluk**	**1.59**	**16**	*i* P	**Pb**	**05 51 45.7**	**-0.3**
DNZL				*i* S	**Sg**	**05 52 12.3**	**+5.0**
DNZL	**Cakiroluk**	**1.59**	**16**	P	**Pb**	**05 51 45.7**	**-0.3**
KORT	**Korkueli**	**1.72**	**60**	*e*PN	**Pn**	**05 51 46.8**	**+0.2**
KORT	**Korkueli**	**1.72**	**60**	*i* P	**Pb**	**05 51 47.5**	**-0.6**
KORT				*i* S	**Sb**	**05 52 09.4**	**-0.5**
KORT	**Korkueli**	**1.72**	**60**	*e*Pn	**Pn**	**05 51 46.8**	**+0.2**
KORT	**Korkueli**	**1.72**	**60**	P	**Pb**	**05 51 47.5**	**-0.6**
KORT				S	**Sb**	**05 52 09.4**	**-0.5**
GCAM	**G?zelcaml?**	**1.84**	**327**	*i* P	**Pn**	**05 51 48.7**	**+0.6**
GCAM				*i* S	**Sn**	**05 52 08.6**	**-2.9**
GCAM	**G?zelcaml?**	**1.84**	**327**	P	**Pn**	**05 51 48.7**	**+0.6**
GCAM				S	**Sn**	**05 52 08.6**	**-2.9**
AYDB	**Zeytinkoy-Aydi**	**1.85**	**345**	*e*PN	**Pn**	**05 51 48.4**	**+0.1**
AYDB	**Zeytinkoy-Aydi**	**1.85**	**345**	*e*Pn	**Pn**	**05 51 48.4**	**+0.1**
ZKR	**Zakros**	**2.12**	**241**	P	**Pb**	**05 51 53.0**	**+1.0**
ZKR				S	**Sb**	**05 52 20.3**	**-1.2**
ZKR	**Zakros**	**2.12**	**241**	P	**Pn**	**05 51 53.0**	**+1.0**
ZKR				S	**Sb**	**05 52 20.3**	**-1.2**
ZKR				AML	AML	05 52 40.2	
	comp=N,114µm,0.7s						
ZKR				AML	AML	05 52 40.9	
	comp=E,166µm,0.5s						
BCK	**Bucak**	**2.13**	**52**	*e*PN	**Pn**	**05 51 52.5**	**+0.4**
BCK	**Bucak**	**2.13**	**52**	*e*Pn	**Pn**	**05 51 52.5**	**+0.4**
DGB	**¯zmir**	**2.28**	**326**	*i* P	**Pn**	**05 51 54.7**	**+0.5**
DGB				*i* S	**Sn**	**05 52 21.5**	**-1.0**
KHL	**Karahalli**	**2.31**	**21**	*e*PN	**Pn**	**05 51 55.4**	**+0.7**
KHL	**Karahalli**	**2.31**	**21**	*e*Pn	**Pn**	**05 51 55.4**	**+0.7**
MANT	**Manisa**	**2.33**	**1**	*i* P	Pn	05 51 49.0	-6.0
MANT				*i* S	**Sn**	**05 52 15.7**	**-8.3**
KULA	**Kula-Manisa**	**2.35**	**3**	*e*PN	**Pn**	**05 51 55.8**	**+0.5**
KULA	**Kula-Manisa**	**2.35**	**3**	P	**Pn**	**05 51 55.9**	**+0.6**
KULA	**Kula-Manisa**	**2.35**	**3**	*e*Pn	**Pn**	**05 51 55.8**	**+0.5**
SUTC	**Sutluce-Ispart**	**2.41**	**56**	*e*PN	**Pn**	**05 51 56.7**	**+0.7**
SUTC	**Sutluce-Ispart**	**2.41**	**56**	*e*Pn	**Pn**	**05 51 56.7**	**+0.7**
NPS	**Neapolis**	**2.51**	**250**	P	**Pn**	**05 51 57.9**	**+0.6**
NPS	**Neapolis**	**2.51**	**250**	P	**Pn**	**05 51 57.9**	**+0.6**
BAGO	**Egridir - ISPA**	**2.59**	**45**	*i* P	**Pn**	**05 51 57.8**	**-0.7**
BAGO				*i* S	**Sb**	**05 52 33.2**	**-1.9**
ZEY	**¯zmir**	**2.61**	**323**	*i* P	**Pn**	**05 51 58.6**	**-0.1**
ZEY				*i* S	**Sn**	**05 52 32.6**	**+2.0**
LAST	**Lasithi**	**2.65**	**249**	P	**Pn**	**05 52 00.4**	**+1.1**
LAST	**Lasithi**	**2.65**	**249**	P	**Pn**	**05 51 59.9**	**+0.7**
LAST				S	**Sn**	**05 52 32.0**	**+0.4**
LAST	**Lasithi**	**2.65**	**249**	P	**Pn**	**05 51 59.9**	**+0.7**
LAST				S	**Sn**	**05 52 32.0**	**+0.4**
LAST				AML	AML	05 52 35.0	
	comp=N,113µm,0.5s						
LAST				AML	AML	05 52 48.4	
	comp=E,120µm,0.8s						
URLA	**Izmir**	**2.67**	**326**	*e*PN	**Pn**	**05 51 59.3**	**-0.2**
URLA	**Izmir**	**2.67**	**326**	*i* P	**Pn**	**05 51 58.9**	**-0.6**
URLA				*i* S	**Sn**	**05 52 30.6**	**-1.4**
URLA	**Izmir**	**2.67**	**326**	P	**Pn**	**05 51 58.9**	**-0.6**
URLA	**Izmir**	**2.67**	**326**	*e*Pn	**Pn**	**05 51 59.3**	**-0.2**
URLA				S	**Sn**	**05 52 30.6**	**-1.4**
AKS	**Akhisar**	**2.77**	**349**	*e*PN	**Pn**	**05 52 01.7**	**+0.8**
AKS	**Akhisar**	**2.77**	**349**	*e*Pn	**Pn**	**05 52 01.7**	**+0.8**
DEMI	**Demirci**	**2.88**	**4**	*i* P	**Pn**	**05 52 03.9**	**+1.4**
DEMI				*i* S	**Sn**	**05 52 40.2**	**+2.8**
DEMI	**Demirci**	**2.88**	**4**	P	**Pn**	**05 52 03.9**	**+1.4**
DEMI				S	**Sn**	**05 52 40.2**	**+2.8**
CHOS	**Chios island**	**2.95**	**320**	P	**Pn**	**05 52 03.9**	**+0.4**
CHOS				S	**Sn**	**05 52 40.8**	**+1.7**
CHOS	**Chios island**	**2.95**	**320**	P	**Pn**	**05 52 03.9**	**+0.4**
CHOS				S	**Sn**	**05 52 40.8**	**+1.7**
IDI	**Anoyia**	**3.06**	**254**	P	**Pn**	**05 52 05.7**	**+0.8**
IDI	**Anoyia**	**3.06**	**254**	P	**Pn**	**05 52 05.7**	**+0.8**
IDI	**Anoyia**	**3.06**	**254**	P	**Pn**	**05 52 03.6**	**-1.2**
SIGR	**SIGRI**	**3.69**	**326**	P	**Pn**	**05 52 14.4**	**+0.8**
SIGR	**SIGRI**	**3.69**	**326**	P	**Pn**	**05 52 14.4**	**+0.8**
VLI	**Veliai**	**4.51**	**279**	P	**Pn**	**05 52 25.9**	**+1.1**
VLI	**Veliai**	**4.51**	**279**	P	**Pn**	**05 52 25.9**	**+1.1**
LIA	**Limnos Island**	**4.55**	**326**	P	**Pn**	**05 52 26.9**	**+1.5**
LIA	**Limnos Island**	**4.55**	**326**	P	**Pn**	**05 52 26.9**	**+1.5**
SMTH	**Samothraki Isl**	**4.89**	**332**	P	**Pn**	**05 52 31.5**	**+1.4**
SMTH	**Samothraki Isl**	**4.89**	**332**	P	**Pn**	**05 52 31.5**	**+1.4**

DDA ***12*** *06:16:31.8,39.09N×29.10E,h5km,Ml3.6*
IASPEI ***12*** *06:16:33.0±1.0,39.09N±0.03×29.02E±0.03,h11km±6km, Error ellipse: s-maj=4.5km s-min=3.8km az=20.3,GT5 selection from ISC bulletin GT5 identified by Bond¨jr and McLaughlin (2009) selection criteria Bond¨jr and McLaughlin, A new ground truth data set for seismic studies, Seism. Res. Let., 80, 465-472, 2009*
ISCJB ***12*** *06:16:34.0±0.4,39.11N±0.03×29.02E±0.03,h3km±4km, Error ellipse: s-maj=4.5km s-min=3.3km az=0.4*
ISK ***12*** *06:16:33.5,39.11N×29.03E,h4km,ML2.9*
CSEM ***12*** *06:16:34.1±0.1,39.11N×29.02E,h2km,ML2.9, Error ellipse: s-maj=2.6km s-min=2.4km az=168.0*

ISC 12 06:16:32.8±0.9, 39.08N±0.02×29.03E±0.02, h13km±5km, n91, σ1s32/106, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIMA	**Simav-Kutahya**	**0.04**	**269**	*e*PG	**Pg**	**06 16 35.4**	**0.0**
SIMA	**Simav-Kutahya**	**0.04**	**269**	*e*Pg	**Pg**	**06 16 35.4**	**0.0**
DEMI	**Demirci**	**0.25**	**260**	*i* P	**Pg**	**06 16 37.3**	**-0.9**
DEMI				*i* S	**Sb**	**06 16 43.8**	**+0.4**
DEMI	**Demirci**	**0.25**	**260**	P	**Pg**	**06 16 37.3**	**-0.9**
DEMI				S	**Sb**	**06 16 43.8**	**+0.4**
GEDZ	**Gediz**	**0.30**	**97**	*e*PG	**Pg**	**06 16 40.2**	**+1.2**
GEDZ				*e*SG	**Sg**	**06 16 45.3**	**+2.0**
GEDZ	**Gediz**	**0.30**	**97**	*e*Pg	**Pg**	**06 16 40.3**	**+1.2**
GEDZ				*e*Sg	**Sg**	**06 16 45.3**	**+2.0**
TVSB	**Tavsanli**	**0.50**	**43**	*e*PG	**Pb**	**06 16 42.7**	**-0.8**
TVSB	**Tavsanli**	**0.50**	**43**	*e*Pg	**Pb**	**06 16 42.7**	**-0.8**
KULA	**Kula-Manisa**	**0.64**	**207**	*e*PG	**Pb**	**06 16 46.2**	**+0.4**
KULA	**Kula-Manisa**	**0.64**	**207**	*e*Pg	**Pb**	**06 16 46.2**	**+0.4**
MANT	**Manisa**	**0.70**	**212**	*i* P	Pg	06 16 38.6	-7.9
MANT				*i* S	**Sg**	**06 16 47.6**	**-8.0**
KHL	**Karahalli**	**0.85**	**153**	*e*PG	**Pn**	**06 16 50.8**	**+0.2**
KHL				*e*SG	**Sn**	**06 17 03.0**	**+0.1**
KHL	**Karahalli**	**0.85**	**153**	*e*Pg	**Pn**	**06 16 50.8**	**+0.2**
KHL				*e*Sg	**Sn**	**06 17 03.0**	**+0.1**
ORLT	**Orhaneli**	**0.97**	**354**	*e*PG	**Pb**	**06 16 51.4**	**-0.1**
ORLT	**Orhaneli**	**0.97**	**354**	*e*Pg	**Pb**	**06 16 51.4**	**-0.1**
AKS	**Akhisar**	**0.97**	**258**	*e*PG	**Pn**	**06 16 52.7**	**+0.6**
AKS				*e*SG	**Sn**	**06 17 07.2**	**+1.5**
AKS	**Akhisar**	**0.97**	**258**	*e*Pg	**Pn**	**06 16 52.7**	**+0.6**
AKS				*e*Sg	**Sn**	**06 17 07.2**	**+1.5**
BALB	**Balikesir**	**1.05**	**302**	*e*PG	**Pn**	**06 16 54.4**	**+1.2**
BALB				*e*SG	**Sn**	**06 17 09.7**	**+2.0**
BALB	**Balikesir**	**1.05**	**302**	*e*Pg	**Pn**	**06 16 54.4**	**+1.2**
BALB				*e*Sg	**Sn**	**06 17 09.7**	**+2.0**
IGD	**Bursa**	**1.19**	**6**	*i* P	**Pn**	**06 16 55.1**	**0.0**
BALY	**Balya**	**1.27**	**301**	*i* P	**Pn**	**06 16 57.5**	**+0.2**
BALY	**Balya**	**1.27**	**301**	P	**Pn**	**06 16 57.5**	**+0.2**
MDNY	**Mudanya-Bursa**	**1.29**	**355**	*e*PN	**Pb**	**06 16 57.8**	**+0.9**
MDNY	**Mudanya-Bursa**	**1.29**	**355**	*e*Pn	**Pb**	**06 16 57.8**	**+0.9**
KCTX	**Karacabey (Bur**	**1.29**	**337**	*e*PN	**Pg**	**06 16 57.7**	**+0.1**
KCTX	**Karacabey (Bur**	**1.29**	**337**	*e*Pn	**Pg**	**06 16 57.7**	**+0.1**
SHUT	**Suhut-Afyon**	**1.30**	**114**	*e*PN	**Pn**	**06 16 59.1**	**+2.3**
SHUT	**Suhut-Afyon**	**1.30**	**114**	*e*Pn	**Pn**	**06 16 59.1**	**+2.3**
BORA	**Eskisehir**	**1.36**	**54**	*i* P	**Pn**	**06 16 56.7**	**-0.9**
BORA				*i* S	**Sn**	**06 17 17.5**	**+2.0**
BORA	**Eskisehir**	**1.36**	**54**	P	**Pn**	**06 16 56.7**	**-0.9**
BORA				S	**Sn**	**06 17 17.5**	**+2.0**
AYDB	**Zeytinkoy-Aydi**	**1.44**	**219**	*e*PN	**Pg**	**06 17 01.1**	**+0.5**
AYDB	**Zeytinkoy-Aydi**	**1.44**	**219**	*e*Pn	**Pg**	**06 17 01.1**	**+0.5**
ADVT	**Abdulvahap**	**1.45**	**22**	*e*PN	**Pg**	**06 17 00.8**	**0.0**
ADVT	**Abdulvahap**	**1.45**	**22**	*e*Pn	**Pg**	**06 17 00.8**	**0.0**
ESKT	**Eskisehir**	**1.48**	**72**	*e*PN	**Pg**	**06 17 01.8**	**+0.5**
ESKT	**Eskisehir**	**1.48**	**72**	*e*Pn	**Pg**	**06 17 01.8**	**+0.5**
ARMT	**Armutlu**	**1.48**	**355**	*e*PN	**Pg**	**06 17 00.8**	**-0.5**
ARMT	**Armutlu**	**1.48**	**355**	*e*Pn	**Pg**	**06 17 00.9**	**-0.5**
EDC	**Edincik**	**1.55**	**325**	*e*PN	**Pg**	**06 17 02.6**	**0.0**
EDC	**Edincik**	**1.55**	**325**	*e*Pn	**Pg**	**06 17 02.6**	**0.0**
SBT5	**Esenkoy-Cinarc**	**1.55**	**356**	*e*PN	**Pg**	**06 17 02.1**	**-0.5**
SBT5	**Esenkoy-Cinarc**	**1.55**	**356**	*e*Pn	**Pg**	**06 17 02.1**	**-0.5**
GULT	**Gulveren**	**1.77**	**40**	*e*PN	**Pg**	**06 17 06.0**	**-0.8**
GULT	**Gulveren**	**1.77**	**40**	*e*Pn	**Pg**	**06 17 06.0**	**-0.8**
HRT	**Hereke**	**1.80**	**16**	*e*PN	**Pg**	**06 17 05.9**	**-1.6**
HRT	**Hereke**	**1.80**	**16**	*e*Pn	**Pg**	**06 17 05.9**	**-1.6**
AYVA	**Ayvalik**	**1.83**	**278**	*i* P	**Pg**	**06 17 05.8**	**-0.3**
AYVA				*i* S	**Sn**	**06 17 29.1**	**+2.2**
AYVA	**Ayvalik**	**1.83**	**278**	P	**Pb**	**06 17 05.8**	**-0.3**
AYVA				S	**Sn**	**06 17 29.1**	**+2.2**
KRBG	**Karabiga-Canak**	**1.87**	**315**	*e*PN	**Pb**	**06 17 07.0**	**+0.2**
KRBG	**Karabiga-Canak**	**1.87**	**315**	*e*Pn	**Pb**	**06 17 07.0**	**+0.2**
MRMT	**Marmara Adasi**	**1.88**	**324**	*e*PN	**Pb**	**06 17 07.1**	**+0.2**
MRMT	**Marmara Adasi**	**1.88**	**324**	*e*Pn	**Pb**	**06 17 07.1**	**+0.2**
SPNC	**Sapanca-Adapaz**	**1.88**	**31**	*e*PN	**Pg**	**06 17 07.3**	**-1.6**
SPNC	**Sapanca-Adapaz**	**1.88**	**31**	*e*Pn	**Pg**	**06 17 07.3**	**-1.6**
HVHR	**Bakirkoy-Istan**	**1.89**	**356**	*e*PN	**Pb**	**06 17 07.2**	**+0.1**
HVHR	**Bakirkoy-Istan**	**1.89**	**356**	*e*Pn	**Pb**	**06 17 07.2**	**+0.1**
SVRH	**Sivrihisar-ESK**	**1.97**	**79**	*e*PN	**Pg**	**06 17 09.4**	**-1.2**
SVRH	**Sivrihisar-ESK**	**1.97**	**79**	*e*Pn	**Pg**	**06 17 09.4**	**-1.2**
KAVV	**Kandilli-Istan**	**1.98**	**1**	*e*PN	**Pb**	**06 17 08.9**	**+0.3**
KAVV	**Kandilli-Istan**	**1.98**	**1**	*e*Pn	**Pb**	**06 17 08.9**	**+0.3**
ISK	**Istanbul-Kandi**	**1.98**	**1**	*e*PN	**Pb**	**06 17 08.5**	**-0.2**
ISK	**Istanbul-Kandi**	**1.98**	**1**	*e*Pn	**Pb**	**06 17 08.5**	**-0.2**
URLA	**Izmir**	**2.04**	**250**	*e*PN	**Pb**	**06 17 09.6**	**0.0**
URLA	**Izmir**	**2.04**	**250**	*e*Pn	**Pb**	**06 17 09.6**	**0.0**
MLSB	**Milas**	**2.04**	**209**	*e*PN	**Pb**	**06 17 10.0**	**+0.3**
MLSB	**Milas**	**2.04**	**209**	*e*Pn	**Pb**	**06 17 10.0**	**+0.3**
SILT	**Sile**	**2.12**	**13**	*e*PN	**Pb**	**06 17 10.6**	**-0.5**
SILT	**Sile**	**2.12**	**13**	*e*Pn	**Pb**	**06 17 10.6**	**-0.5**
ZEY	**¯zmir**	**2.15**	**248**	*i* P	**Pg**	**06 17 14.9**	**+0.8**
KLYT	**Kilyos**	**2.17**	**0**	*e*PN	**Pb**	**06 17 11.4**	**-0.4**
KLYT	**Kilyos**	**2.17**	**0**	*e*Pn	**Pb**	**06 17 11.4**	**-0.4**
MDUB	**Mudurnu**	**2.17**	**50**	*e*PN	**Pb**	**06 17 11.4**	**-0.5**
MDUB	**Mudurnu**	**2.17**	**50**	*e*Pn	**Pb**	**06 17 11.5**	**-0.5**
CTKS	**Kestanelik-??a**	**2.19**	**350**	*e*PN	**Pb**	**06 17 11.4**	**-0.8**
CTKS	**Kestanelik-??a**	**2.19**	**350**	*e*Pn	**Pb**	**06 17 11.4**	**-0.8**
KAND	**Kocaeli-Kandir**	**2.20**	**24**	*i* P	**Pg**	**06 17 14.0**	**-1.0**
KAND				*i* S	**Sn**	**06 17 34.3**	**-1.7**
KAND	**Kocaeli-Kandir**	**2.20**	**24**	P	**Pg**	**06 17 14.0**	**-1.0**
EZN	**Ezine**	**2.22**	**290**	*e*PN	**Pb**	**06 17 12.4**	**-0.3**
EZN	**Ezine**	**2.22**	**290**	*e*Pn	**Pb**	**06 17 12.4**	**-0.3**
KIZT	**Kizilcal**	**2.23**	**94**	*e*PN	**Pg**	**06 17 13.0**	**-2.7**
KIZT	**Kizilcal**	**2.23**	**94**	*e*Pn	**Pg**	**06 17 13.0**	**-2.7**
SLVT	**Silivri**	**2.23**	**344**	*e*PN	**Pb**	**06 17 12.1**	**-0.9**
SLVT	**Silivri**	**2.23**	**344**	*e*Pn	**Pb**	**06 17 12.1**	**-0.9**
KORT	**Korkueli**	**2.33**	**153**	*e*PN	**Pb**	**06 17 13.9**	**-0.7**
KORT	**Korkueli**	**2.33**	**153**	*e*Pn	**Pb**	**06 17 14.0**	**-0.7**
CHOS	**Chios island**	**2.43**	**254**	*e*PN	**Pb**	**06 17 15.2**	**-1.1**
CHOS	**Chios island**	**2.43**	**254**	*e*Pn	**Pb**	**06 17 15.2**	**-1.1**
SIGR	**SIGRI**	**2.47**	**274**	*e*PN	**Pb**	**06 17 15.7**	**-1.3**
SIGR	**SIGRI**	**2.47**	**274**	*e*Pn	**Pb**	**06 17 15.7**	**-1.3**
ERIK	**Erikli-Kesan**	**2.50**	**310**	*e*PN	**Pb**	**06 17 16.2**	**-1.4**
ERIK	**Erikli-Kesan**	**2.50**	**310**	*e*Pn	**Pb**	**06 17 16.2**	**-1.4**

ISCJB ***12*** *06:27:37.5±0.8,21.97S±0.07×67.01W±0.09,h180km, mb3.9/1,Error ellipse: s-maj=11.7km s-min=9.0km az=25.2*
IDC ***12*** *06:27:38.0±0.9,21.91S×67.15W,h183km±18km,mb3.8/1, mb1 3.4/5,mb1mx3.1/24,mbtmp3.8/5,Error ellipse: s-maj=28.5km s-min=13.4km az=107.0*

ISC 12 06:27:37.7±0.9, 21.96S±0.08×67.02W±0.09, h180km, n6, σ2s01/9, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**1.86**	**249**	P	**Pn**	**06 28 13.7**	**0.0**
	369nm,0.3s,baz=54,slow=8.5,SNR=253						
LVC				S	**Sn**	**06 28 40.5**	**-1.0**
	249nm,0.3s,baz=276,slow=21,SNR=24						
LPAZ	**La Paz**	**5.73**	**349**	P	**Pn**	**06 29 03.0**	**+1.2**
	0.3nm,0.3s,baz=168,slow=8.1,SNR=12						
LPAZ				S	**Sn**	**06 30 08.2**	**+0.2**
	0.0nm,0.3s,baz=342,slow=16,SNR=1.5						
SIV	**San Ignacio**	**8.18**	**45**	P	**Pn**	**06 29 33.5**	**+0.1**
	1.9nm,0.3s,baz=244,slow=14,SNR=14						
SIV				S	**Sn**	**06 31 01.4**	**-3.7**
	0.5nm,0.3s,baz=156,slow=22,SNR=8.7						
CPUP	**Villa Florida**	**9.86**	**118**	P	**Pn**	**06 29 58.0**	**+2.6**
	0.1nm,0.3s,baz=277,slow=13,SNR=2.5						
PLCA	**Paso Flores**	**18.96**	**188**	P	**Pn**	**06 31 47.0**	**-0.9**
	0.0nm,0.3s,baz=355,slow=11,SNR=2.6						
TORD	**Torodi Ar. Bea**	**75.86**	**69**	P	**P**	**06 39 04.6**	**-0.1**
	1.6nm,0.5s,baz=253,slow=5.4,SNR=9.7						

GUC 12 07:01:54.0±0.5, 21.23S×67.60W, h235km±12km, ML3.6, 6C, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB09	**IPOC Station P**	**1.64**	**249**	↑*i*P	Pn	07 02 34.0	+1.8
PB09				*i* S	S	07 03 03.6	+1.5
PB09				IAML		07 03 07.8	
	comp=N,228nm,0.5s						
PB07	**IPOC Station P**	**2.19**	**256**	↑*i*P	Pn	07 02 39.2	+1.9
PB07				*i* S	S	07 03 13.3	+2.1
PB07				IAML		07 03 13.8	
	comp=N,192nm,0.4s						
HMBC	**Humberstone**	**2.34**	**293**	↑*i*P	Pn	07 02 40.3	+1.6
HMBC				*i* S	S	07 03 15.8	+1.9
PB06	**IPOC Station P**	**2.35**	**231**	↑*i*P	Pn	07 02 40.3	+1.4
PB06				*i* S	S	07 03 16.0	+1.9
PB06				IAML		07 03 17.1	
	comp=E,108nm,0.1s						
MNMC	**Minye Minye**	**2.81**	**318**	↑*i*P	Pn	07 02 45.8	+2.0
MNMC				*i* S	S	07 03 25.1	+2.2
PSGC	**Pisagua**	**2.87**	**304**	*e*P	Pn	07 02 45.6	+1.2
PSGC				*i* S	S	07 03 25.4	+1.6
PB13	**IPOC Station P**	**3.39**	**328**	↑*i*P	Pn	07 02 53.3	+2.6
PB13				*i* S	S	07 03 38.7	+3.4

IDC ***12*** *07:05:05.3±0.5,30.57S×177.90W,h0km,mb4.5/10, mb1 4.7/12,mb1mx4.6/21,mbtmp4.5/12,ML4.1/2,MS3.8/12, Ms1 3.8/12,ms1mx3.6/25,Error ellipse: s-maj=21.7km s-min=17.2km az=109.0*
ISCJB ***12*** *07:05:11.4±0.2,30.80S±0.03×178.04W±0.06,h46km, mb4.9/37,MS3.9/10,Error ellipse: s-maj=7.8km s-min=3.8km az=25.9*
NEIC ***12*** *07:05:18.9±0.7,30.59S×178.15W,h100km±6km,mb4.7/25, Error ellipse: s-maj=8.2km s-min=5.9km az=117.0*
BJI ***12*** *07:05:19.4,30.60S×178.10W,h99km,mb5.0/14, mB5.3/10*

ISC 12 07:05:12.4±0.3, 30.71S±0.04×178.02W±0.07, h46km, n145, σ2s51/144, mb4.8/37, MS3.9/11, 1C-1D, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**1.45**	**3**	Pn	Pn	07 05 31.3	-4.9
	802nm,0.3s,baz=42,slow=22,SNR=24						
RAO				Sn	**Sn**	**07 05 46.2**	**-7.9**
	4µm,0.3s,baz=90,slow=20,SNR=16						
RAO	**Raoul Island**	**1.45**	**3**	*e*Pn	Pn	07 05 44.6	+8.4
MXZ	**Matakaoa Point**	**7.49**	**203**	*e*Pn	Pn	07 07 06.4	+7.4
HAZ	**Te Kaha**	**7.84**	**205**	PN	**Pn**	**07 07 02.6**	**-1.2**
HAZ				SN	**Sn**	**07 08 34.8**	**+3.6**
PKGZ	**Pakihiroa**	**7.86**	**203**	PN	**Pn**	**07 07 01.3**	**-2.8**
RUGZ	**Raukumara Rang**	**8.07**	**205**	PN	**Pn**	**07 07 06.7**	**-0.3**
TWGZ	**Tauwhareparae**	**8.15**	**203**	SN	**Sn**	**07 08 40.7**	**+1.8**
WCZ	**Waipu Caves**	**8.25**	**229**	PN	Pn	07 07 17.6	+8.2
CNGZ	**Carnagh Statio**	**8.36**	**201**	PN	**Pn**	**07 07 09.5**	**-1.4**
OUZ	**Omahuta**	**8.36**	**235**	*e*Pn	Pn	07 07 18.7	+7.8
OUZ	**Omahuta**	**8.36**	**235**	PN	Pn	07 07 18.6	+7.7
MWZ	**Matawai**	**8.45**	**205**	SN	**Sn**	**07 08 49.2**	**+3.0**
URZ	**Urewera**	**8.54**	**207**	Pn	**Pn**	**07 07 11.0**	**-2.4**
	4.5nm,0.3s,baz=257,slow=4.2,SNR=29						
URZ				Sn	**Sn**	**07 08 49.7**	**+1.4**
	13nm,0.3s,baz=230,slow=13,SNR=15						
URZ	**Urewera**	**8.54**	**207**	*e*Pn	Pn	07 07 20.9	+7.5
URZ				*e*Sn	**Sn**	**07 08 51.6**	**+3.3**
URZ	**Urewera**	**8.54**	**207**	PN	**Pn**	**07 07 10.8**	**-2.6**
URZ				SN	**Sn**	**07 08 49.4**	**+1.1**
SNGZ	**Shannon Statio**	**8.91**	**204**	SN	**Sn**	**07 08 59.6**	**+2.0**
KNZ	**Kokohu**	**9.02**	**202**	*e*PN	**Pn**	**07 07 16.4**	**-3.5**
KNZ				SN	**Sn**	**07 08 58.1**	**-2.0**
ARHZ	**Aropaoanui**	**9.46**	**204**	SN	**Sn**	**07 09 10.9**	**-0.1**
BKZ	**Black Stump Fm**	**9.56**	**207**	*e*Pn	Pn	07 07 32.9	+5.4
PNHZ	**Pukenui**	**10.33**	**206**	SN	**Sn**	**07 09 29.0**	**-3.2**
DVHZ	**Dannevirke**	**10.68**	**205**	SN	**Sn**	**07 09 37.4**	**-3.4**
BFZ	**Birch Farm**	**10.99**	**204**	*e*Pn	Pn	07 07 53.9	+7.0
MRZ	**Mangatainoka R**	**11.21**	**206**	SN	**Sn**	**07 09 48.4**	**-5.4**
HOWZ	**Holdsworth Sta**	**11.44**	**206**	SN	**Sn**	**07 09 53.2**	**-6.2**
TMWZ	**Te Maipa**	**11.49**	**204**	SN	**Sn**	**07 09 55.3**	**-5.3**
OGWZ	**Otaki Gorge**	**11.50**	**207**	SN	**Sn**	**07 09 56.8**	**-4.1**
SNZO	**South Karori**	**12.10**	**207**	*e*Pn	Pn	07 08 07.3	+5.2
TCW	**Tory Channel**	**12.19**	**209**	SN	**Sn**	**07 10 11.2**	**-6.6**
NNZ	**Nelson**	**12.58**	**211**	SN	**Sn**	**07 10 23.0**	**-4.3**
THZ	**Tophouse**	**13.23**	**211**	*e*Pn	**P**	**07 08 21.9**	**-4.5**
THZ				*e*Sn	**Sn**	**07 10 39.5**	**-3.8**
THZ	**Tophouse**	**13.23**	**211**	*e*PN	**Pn**	**07 08 14.3**	**-3.4**
MSVF	**Nonsavu**	**13.40**	**344**	*e*Pn	**Pn**	**07 08 23.0**	**+2.8**
MSVF				*e*Sn	**Sn**	**07 10 43.1**	**-4.7**
KHZ	**Kahutara**	**13.50**	**208**	*e*Pn	**P**	**07 08 27.1**	**-2.2**
KHZ				*e*Sn	**Sn**	**07 10 44.4**	**-5.3**
KHZ	**Kahutara**	**13.50**	**208**	*e*PN	Pn	07 08 15.5	-5.8
KHZ				SN	**Sn**	**07 10 41.1**	**-8.7**
OXZ	**Oxford**	**14.87**	**209**	*e*Pn	**P**	**07 08 42.6**	**-1.9**
	60nm,1.1s						
OXZ				*e*Sn	Sn	07 11 12.9	-10
OXZ	**Oxford**	**14.87**	**209**	SN	Sn	07 11 09.8	-13
MQZ	**McQueen's Vall**	**14.94**	**207**	SN	Sn	07 11 11.3	-13
RPZ	**Rata

	comp=Z,10.0nm,0.5s								
U15A	**North Rim**	**90.85**	**47**	*e*P		**P**	**07 18 12.2**	**+0.9**
	3.7nm,0.9s								
GYA	**Guiyang**	**91.69**	**300**	*e*P		**P**	**07 18 16.2**	**+1.0**
GYA				pP		sP	07 18 43.5	+9.5
GYA				PP		**PP**	**07 21 59.6**	**+5.0**
GYA				SKS		**SKSac**	**07 28 38.3**	**-6.1**
GYA				S		**SKKSac**	**07 29 05.0**	**+4.3**
GYA				sS		sS	07 29 52.4	+17
GYA				pmax		pmax			
	comp=Z,10.0nm,1.0s								
MMU	**Miners Mountai**	**92.56**	**46**	*e*P		**P**	**07 18 18.5**	**-0.7**
TX31	**Lajitas Ar. Si**	**92.56**	**57**	*e*P		**P**	**07 18 18.6**	**-0.5**
LTX	**Lajitas**	**92.57**	**57**	*e*P		**P**	**07 18 18.8**	**-0.3**
TXAR	**Lajitas Array**	**92.57**	**57**	P		**P**	**07 18 18.8**	**-0.3**
	0.6nm,0.9s,baz=204,slow=8.0,SNR=5.7								
KMI	**Kunming**	**93.95**	**297**	P		**P**	**07 18 27.9**	**+2.1**
KMI				pmax		pmax			
	comp=Z,6.0nm,0.5s								
SNOW	**Snow King Moun**	**96.08**	**42**	*e*P		**P**	**07 18 35.6**	**+0.4**
	9.8nm,0.4s								
PD31	**Pinedale Array**	**96.37**	**44**	*e*P		**P**	**07 18 35.9**	**-0.5**
PDAR	**Pinedale Array**	**96.37**	**44**	P		**P**	**07 18 35.9**	**-0.5**
	0.1nm,0.3s,baz=206,slow=3.9,SNR=2.9								
HHC	**Hu-ho-hao-te**	**96.44**	**314**	*e*P		**P**	**07 18 39.8**	**+3.2**
HHC				pmax		pmax			
	comp=Z,21nm,0.8s								
HHC				pmax		pmax			
	comp=Z,140nm,8.1s								
LPAZ	**La Paz**	**98.03**	**114**	LR		LR	07 54 19.8		
	comp=Z,20nm,21.5s,baz=306,slow=30								
ILAR	**Eielson Array**	**98.23**	**13**	P		**P**	**07 18 42.8**	**-1.2**
	0.4nm,0.8s,baz=224,slow=4.7,SNR=3.4								
ILB	**Eielson Array**	**98.23**	**13**	*e*P		**P**	**07 18 43.8**	**-0.2**
CPUP	**Villa Florida**	**99.80**	**128**	LR		LR	07 59 13.1		
	comp=Z,24nm,19.0s,baz=244,slow=32								
WMQ	**Urumqi**	**113.41**	**308**	PKP		**PKiKP**	**07 23 45.0**	**-0.1**
BOSA	**Boshof**	**116.97**	**203**	PKP		**PKPdf**	**07 23 53.2**	**+0.5**
	4.6nm,1.1s,baz=159,slow=8.6,SNR=2.3								
ZALV	**Zalesovo Beam**	**118.25**	**318**	PKP		**PKPdf**	**07 23 53.0**	**-1.0**
	0.8nm,0.4s,baz=144,slow=2.8,SNR=3.8								
ZAA1	**Zalesovo Array**	**118.25**	**318**	*e*PKPdf		**PKPdf**	**07 23 53.0**	**-1.0**
NRIK	**Noril'sk**	**119.91**	**336**	PKP		**PKPdf**	**07 23 55.4**	**-1.4**
	3.6nm,0.8s,baz=137,slow=2.8,SNR=4.6								
KSH	**Kashi**	**120.39**	**300**	*e*PKP		**PKPdf**	**07 23 59.1**	**+0.3**
KSH				sPKP			07 24 37.2		
KSH				PP		**PP**	**07 25 32.0**	**+6.0**
KSH				PKS		**PKSdf**	**07 27 35.0**	**-0.5**
KSH				SKS		**SKSdf**	**07 31 00.0**	**-7.1**
KSH				SS		**SS**	**07 41 51.1**	**-0.6**
KSH				AMB		AMB			
	comp=Z,80nm,5.0s								
KSH				LR		LR			
	comp=N,220nm,11.8s								
KSH				LR		LR			
	comp=E,120nm,8.4s								
KSH				LR		LR			
	comp=Z,250nm,6.3s								
GEYT	**Alibeck**	**133.68**	**295**	PKP		**PKPdf**	**07 24 26.1**	**+2.0**
	1.2nm,0.3s,baz=29,slow=3.3,SNR=2.9								
ARCES	**ARCESS Array B**	**138.89**	**348**	PKhKP		PKPpre	07 24 25.2		
	2.0nm,0.7s,baz=5.7,slow=3.6,SNR=4.9								
ARCES				PKP		**PKPdf**	**07 24 32.4**	**-0.3**
	2.1nm,0.7s,baz=337,slow=1.6,SNR=5.3								
KBZ	**Khabaz**	**145.27**	**304**	PKPbc		**PKPbc**	**07 24 43.7**	**-0.9**
	7.1nm,0.9s,baz=84,slow=2.0,SNR=12								
FIA0	**FINESS Array S**	**145.43**	**340**	*e*PKPbc		**PKPdf**	**07 24 43.2**	**-1.3**
FINES	**FINESS Array B**	**145.43**	**340**	PKPbc		**PKPdf**	**07 24 43.2**	**-1.3**
	46nm,0.7s,baz=64,slow=4.4,SNR=110								
NB2	**NORSAR Subarra**	**149.05**	**351**	PKP		**PKPbc**	**07 24 53.7**	**-1.2**
	comp=Z,12nm,0.8s,baz=14,slow=2.8								
NB200	**NORSAR Array S**	**149.05**	**351**	*e*PKPbc		**PKPbc**	**07 24 53.6**	**-1.2**
NOA	**NORSAR Array B**	**149.05**	**351**	PKPbc		**PKPbc**	**07 24 53.6**	**-1.2**
	comp=Z,9.0nm,0.8s,baz=15,slow=4.3,SNR=26								
AKASG	**Malin Array Be**	**151.54**	**322**	PKPbc		**PKPbc**	**07 25 00.0**	**-1.0**
	comp=Z,18nm,0.7s,baz=49,slow=2.8,SNR=51								
AKBB	**Malin Array Si**	**151.54**	**322**	*e*PKPdf		**PKPdf**	**07 24 54.8**	**-0.1**
AKBB				*e*PKPbc		**PKPbc**	**07 25 00.1**	**-0.9**
AKBB				*e*PKPab		**pPKPdf**	**07 25 08.9**	**-0.1**
BR101	**Keskin Array S**	**152.73**	**298**	*e*PKPbc		**PKPbc**	**07 25 03.2**	**-1.1**
BRTR	**Keskin Array B**	**152.73**	**298**	PKPbc		**PKPbc**	**07 25 03.2**	**-1.1**
	comp=Z,2.4nm,0.8s,baz=150,slow=2.7,SNR=8.4								
LIC	**Lamto**	**154.77**	**163**	*e*P		**PKPab**	**07 25 24.5**	**+0.3**
	comp=Z,46nm,1.4s								
KIC	**Kosan Boka**	**154.97**	**164**	*e*P		**PKPab**	**07 25 25.8**	**+0.8**
	comp=Z,13nm,0.7s								
TIC	**Toumodi**	**155.18**	**163**	*e*P		**PKPab**	**07 25 26.2**	**+0.3**
STHS	**Stebnicka Huta**	**156.32**	**328**	*e*PKP		**PKPab**	**07 25 30.0**	**0.0**
CRVS	**Cervenica-Dubn**	**156.58**	**326**	*e*PKP		**PKPab**	**07 25 30.8**	**-0.3**
CLL	**Collm**	**157.85**	**341**	*i* PKPab		**PKPab**	**07 25 39.0**	**+2.5**
	comp=Z,7.0nm,0.8s								
VYHS	**Vyhne**	**158.08**	**329**	*e*PKP		**PKPab**	**07 25 40.5**	**+2.9**
GERES	**GERESS Array B**	**159.81**	**337**	PKPab		**PKPab**	**07 25 43.8**	**-1.5**
	comp=Z,0.8nm,0.7s,baz=60,slow=7.9,SNR=3.5								
TORD	**Torodi Ar. Bea**	**162.52**	**179**	PKP		**PKPdf**	**07 25 09.3**	**-0.5**
	comp=Z,1.2nm,0.9s,baz=55,slow=2.0,SNR=3.7								
TORD				PKPab		**PKPab**	**07 25 58.2**	**+0.6**
	comp=Z,5.8nm,0.9s,baz=182,slow=3.5,SNR=19								
TORD				PP		**PP**	**07 29 40.3**	**-0.4**
	comp=Z,0.8nm,0.9s,baz=182,slow=4.3,SNR=3.3								
TOA1	**Torodi Ar. Sit**	**162.53**	**179**	*e*PKPdf		**PKPdf**	**07 25 09.3**	**-0.5**
TOA1				*e*PKPab		**PKPab**	**07 25 58.2**	**+0.6**
TOA1				*e*PP		**PP**	**07 29 40.3**	**-0.4**
ESDC	**Sonseca Array**	**169.82**	**27**	PKP		**PKPdf**	**07 25 13.3**	**-1.7**
	comp=Z,0.5nm,0.4s,baz=352,slow=1.3,SNR=8.8								
ESDC				PKPab		**PKPab**	**07 26 28.0**	**-1.4**
	comp=Z,0.2nm,0.3s,baz=330,slow=4.9,SNR=2.1								

IDC ***12*** *07:09:04.9±4.9,* **20.16N×175.91W,h150km±39km, mb3.7/6,mb1 3.9/7,mb1mx3.6/26,mbtmp4.2/7,Error ellipse: s-maj=76.2km s-min=19.5km az=151.0,Tonga Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**7.37**	**33**	P	Pn	07 10 49.8	-0.2
	2.4nm,0.3s,baz=225,slow=20,SNR=1.9						
AFI				S	Sn	07 12 02.2	-10
	12nm,0.3s,baz=46,slow=23,SNR=7.8						
DZM	**Mont Dzumac**	**16.58**	**260**	P	Pn	07 12 53.9	+5.1
	1.4nm,0.3s,baz=82,slow=17,SNR=12						
PMG	**Port Moresby**	**37.19**	**281**	P	P	07 16 02.4	+0.5
	12nm,0.8s,baz=135,slow=4.3,SNR=1.9						
STKA	**Stephens Creek**	**39.70**	**244**	P	P	07 16 22.7	0.0
	1.4nm,0.6s,baz=51,slow=9.7,SNR=2.4						
ASAR	**Alice Springs**	**46.51**	**256**	P	P	07 17 17.6	+0.1
	4.3nm,0.6s,baz=97,slow=8.3,SNR=19						
ASAR				PcP	PcP	07 18 48.6	-0.9
	0.9nm,0.7s,baz=104,slow=3.9,SNR=4.1						
WRA	**Warramunga Arr**	**46.59**	**261**	P	P	07 17 17.6	-0.5
	5.5nm,0.6s,baz=97,slow=8.9,SNR=26						
TXAR	**Lajitas Array**	**85.23**	**57**	P	P	07 21 25.5	+0.5
	0.6nm,1.0s,baz=210,slow=7.2,SNR=4.3						
ILAR	**Eielson Array**	**87.57**	**12**	P	P	07 21 34.9	-0.5
	0.1nm,0.5s,baz=194,slow=7.3,SNR=1.3						
BRTR	**Keskin Array B**	**148.04**	**314**	PKPbc	PKPbc	07 28 32.6	-0.6
	0.9nm,0.4s,baz=135,slow=3.3,SNR=4.3						

NIED ***12*** *07:23:00,35.30N×141.20E,h17km,Mw3.5 Best double couple: M0 1.93000×10^14 NP1:φ=237.00000°,δ60.00000°, λ=178.00000°. NP2:φ=145.00000°,δ88.00000°, λ=30.00000°.*

ISCJB ***12*** *07:23:54.7±1.2,35.26N±0.04×141.21E±0.08,h6km±6km, mb3.6/2,MS3.0/1,Error ellipse: s-maj=11.2km s-min=6.4km az=169.5*

JMA ***12*** *07:23:55.6±0.1,35.34N×141.17E,h22km±2km,M3.5*

IDC ***12*** *07:23:55.3±1.5,34.99N×141.09E,h0km,mb3.6/2, mb1 3.8/4,mb1mx3.5/51,mbtmp3.5/4,ML3.1/2,MS2.3/2, Ms1 2.5/2,ms1mx2.3/37,Error ellipse: s-maj=34.2km s-min=26.9km az=70.0*

ISC 12 07:23:56.4±1.4,35.32N±0.04×141.10E±0.07,h20km±4km, n20,σ1°32/19,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CHOJ	**Chosi**	**0.43**	**333**	P	**Pg**	**07 24 04.6**	**-0.7**
CHOJ				S	**Sg**	**07 24 11.5**	**+0.2**
KTR	**Katsuura**	**0.66**	**255**	P	**Pb**	**07 24 09.4**	**+0.2**
KTR				*e*S	**Sg**	**07 24 19.4**	**+1.0**
BSO1	**Boso 1**	**0.67**	**188**	P	**Pb**	**07 24 08.8**	**-0.3**
BSO1				X		07 24 18.7	
BSO4	**Boso 4**	**0.70**	**242**	P	**Pg**	**07 24 10.6**	**+0.4**
BSO3	**Boso 3**	**0.70**	**223**	P	**Pb**	**07 24 10.2**	**+0.4**
BSO3				X		07 24 20.1	
JCN	**Nagara**	**0.74**	**278**	P	**Pn**	**07 24 11.9**	**+0.2**
JYT	**Yasato**	**1.17**	**321**	P	**Pn**	**07 24 17.1**	**-0.5**
JYT				S	**Sb**	**07 24 32.6**	**0.0**
JIM2	**Oshima 3**	**1.49**	**247**	P	**Pn**	**07 24 20.5**	**-1.6**
JHJ	**Hachijo jima 2**	**2.45**	**207**	Pn	**Pn**	**07 24 33.2**	**-2.1**
	15nm,0.3s,baz=98,slow=19,SNR=4.9						
JHJ				Sn	**Sn**	**07 25 03.7**	**-0.9**
	18nm,0.3s,baz=258,slow=19,SNR=4.3						
MJAR	**Matsushiro Arr**	**2.64**	**298**	Pn	**Pb**	**07 24 41.7**	**-1.4**
	2.3nm,0.3s,baz=140,slow=13,SNR=13						
MJAR				Sn	**Sb**	**07 25 15.0**	**-0.1**
	2.4nm,0.3s,baz=150,slow=13,SNR=5.7						
MJAR				LR	LR	07 25 36.8	
	comp=Z,12nm,21.1s,baz=90,slow=37						
MAT	**Matsushiro**	**2.64**	**298**	P	**Pb**	**07 24 41.9**	**-1.2**
MAT				*e*S	**Sb**	**07 25 16.5**	**+1.3**
H11N2	**WAKE ISLAND Hy**	**27.54**	**118**	T	T	07 58 23.5	
	baz=310,slow=75,SNR=162						
H11N1	**WAKE ISLAND Hy**	**27.55**	**118**	T	T	07 58 30.2	
	baz=310,slow=75,SNR=162						
H11N3	**WAKE ISLAND Hy**	**27.56**	**118**	T	T	07 58 24.9	
	baz=310,slow=75,SNR=130						
H11S1	**WAKE ISLAND Hy**	**28.19**	**120**	T	T	07 59 12.8	
	baz=312,slow=76,SNR=680						
H11S3	**WAKE ISLAND Hy**	**28.19**	**120**	T	T	07 59 12.5	
	baz=312,slow=76,SNR=533						
H11S2	**WAKE ISLAND Hy**	**28.20**	**120**	T	T	07 59 13.0	
	baz=312,slow=76,SNR=613						
ILAR	**Eielson Array**	**51.08**	**32**	LR	LR	07 56 36.9	
	comp=Z,16nm,20.0s,baz=251,slow=38						
WRA	**Warramunga Arr**	**55.33**	**188**	P	**P**	**07 33 27.9**	**-0.9**
	0.3nm,0.4s,baz=2.8,slow=7.3,SNR=8.3						
TXAR	**Lajitas Array**	**91.37**	**52**	P	**P**	**07 37 04.5**	**+3.1**
	0.2nm,0.8s,baz=266,slow=3.6,SNR=2.8						

ISCJB ***12*** *07:25:51.3±0.7,37.41N±0.04×72.2E±0.1,h130km, Error ellipse: s-maj=13.1km s-min=4.2km az=161.7*

NNC ***12*** *07:25:58.3±1.4,37.80N×72.06E,h178km±15km,mb2.9, mpv3.8,Error ellipse: s-maj=14.1km s-min=6.0km az=142.0*

ISC 12 07:25:52.5±1.0,37.47N±0.07×72.23E±0.08,h130km,n18, σ2°28/24,6C-6D,Tajikistan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZET	**Dzherino**	**3.00**	**298**	⇓P	Pn	07 26 43.6	+4.4
	40nm,0.3s						
DZET				⇑S	**Sn**	**07 27 19.3**	**+4.2**
	111nm,0.3s						
MNAS	**Manas**	**5.02**	**2**	⇓P	**Pn**	**07 27 09.0**	**+3.0**
	9.7nm,0.3s						
MNAS				⇑S	**Sn**	**07 28 03.6**	**+0.5**
	59nm,0.8s						
AAK	**Ala-Archa**	**5.45**	**18**	⇑P	**Pn**	**07 27 14.7**	**+2.9**
	3.4nm,0.6s						
AAK				⇓S	**Sn**	**07 28 15.7**	**+2.2**
	25nm,0.7s						
THN	**Thein Dam**	**5.78**	**149**	*e*P	**Pn**	**07 27 18.0**	**+1.9**
THN				*e*S	**Sn**	**07 28 22.0**	**+0.8**
KK31	**Karatay Array**	**5.78**	**347**	⇓P	**Pn**	**07 27 18.4**	**+2.3**
	5.6nm,0.5s,baz=161,slow=11,SNR=34						
KK31				S	**Sn**	**07 28 20.8**	**-0.5**
	14nm,0.4s,baz=156,slow=18,SNR=18						
TKM2	**Tokmak 2**	**6.03**	**24**	⇑P	**Pn**	**07 27 21.6**	**+2.0**
	2.1nm,0.5s						
TKM2				⇑S	**Sn**	**07 28 28.0**	**+0.5**
	7.3nm,1.1s						
PYUN	**Piuthan**	**13.00**	**133**	*e*P	**Pn**	**07 28 50.3**	**-2.3**
	7.5nm,0.4s						
KOLN	**Koldanda**	**13.60**	**132**	*e*P	**Pn**	**07 28 58.5**	**-1.9**
	5.9nm,0.3s						
GKN	**Gorkha**	**14.06**	**129**	*e*P	**Pn**	**07 29 05.4**	**-0.8**
	24nm,0.4s						
KKN	**Kakani**	**14.62**	**128**	*e*P	**Pn**	**07 29 12.7**	**-0.6**
	6.4nm,0.2s						
DMN	**Daman**	**14.63**	**128**	*e*P	**Pn**	**07 29 12.2**	**-1.3**
	6.8nm,0.3s						
AB31	**Akbulak array**	**14.76**	**327**	⇑P	**Pn**	**07 29 13.5**	**-1.2**
	3.0nm,0.6s,baz=137,slow=12,SNR=62						
AB31				⇓S	**Sn**	**07 31 51.9**	**-6.1**
	0.4nm,0.5s,baz=140,slow=23,SNR=2.9						
PKIN	**Phulchoki**	**14.84**	**128**	*e*P	**Pn**	**07 29 15.3**	**-0.8**
	8.6nm,0.4s						
PKI	**Pulchoki**	**14.85**	**128**	*e*P	**Pn**	**07 29 15.0**	**-1.3**
	4.1nm,0.2s						
GUN	**Gumba**	**14.91**	**126**	*e*P	**Pn**	**07 29 16.5**	**-0.7**
	9.1nm,0.3s						
JIRN	**Jiri**	**15.29**	**126**	*e*P	**Pn**	**07 29 21.0**	**-0.8**
RAMN	**Ramite**	**16.04**	**127**	*e*P	**Pn**	**07 29 30.1**	**-0.9**
	18nm,0.6s						
AKTO	**Aktyubinsk**	**16.48**	**326**	⇓P	**Pn**	**07 29 35.4**	**-0.5**
	2.3nm,0.5s						

MOS ***12*** *07:30:28.7±0.8,5.14N×127.34E,h72km,mb5.2/37,Error ellipse: s-maj=11.4km s-min=6.3km az=107.5*

BJI ***12*** *07:30:30.5,4.68N×127.67E,h118km,mb4.7/54,mB4.9/39*

IDC ***12*** *07:30:33.9±1.7,5.08N×127.37E,h106km±15km,mb4.4/27, mb1 4.5/30,mb1mx4.4/41,mbtmp4.7/30,MS3.5/12, Ms1 3.5/12,ms1mx3.3/33,Error ellipse: s-maj=15.4km s-min=8.5km az=82.0*

ISCJB ***12*** *07:30:34.3±0.4,5.08N±0.02×127.42E±0.03,h125km±3km, mb4.8/123,Error ellipse: s-maj=4.5km s-min=2.9km az=159.3*

GCMT ***12*** *07:30:35.5±0.3,5.19N×127.51E,h117km±4km,MW4.9/78, Moment Tensor Solution. s21,c24; s78,c103; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr1.69±.10; Mθθ-0.33±.11; Mφφ-1.36±.15; Mrθ-0.41±.07; Mθφ1.33±.12; Mφr-1.65±.09; Best double couple: Mo2.65700×10^16 NP1:φs174.00000°,δ67.00000°,λ120.00000°. NP2: φs298.00000°,δ37.00000°,λ41.00000°. Principal axes: T 2.7070, Plg57.0000°, Azm125.0000°; N -0.1020, Plg27.0000°, Azm341.0000°; P -2.6080, Plg16.0000°, Azm242.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

MAN ***12*** *07:30:35.5,77N×127.76E,h142km,mb5.6,ML4.6,MS5.0*

NEIC ***12*** *07:30:35.5±0.7,5.06N×127.41E,h121km±6km,mb5.0/57, Error ellipse: s-maj=5.7km s-min=3.8km az=73.0*

DJA ***12*** *07:30:36.5±0.5,5°N±4°×12°7E±°,h120km±4km,M5.2/37, mb5.1/37,mB5.5/12,MLv5.5/4,Mw(mB)5.0/12*

KLM ***12*** *07:30:44.2,5.76N×126.88E,h160km,mb5.0*

ISC 12 07:30:35.3±0.4,5.07N±0.03×127.44E±0.04,h119km±3km, h120km:pP-P,n392,σ1°43/443,mb4.9/123,22C-10D, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MATI	**Mati**	**2.20**	**328**	*e*P	Pn	07 31 27.1	+16
MATI				*e*S	**Sn**	**07 31 40.1**	**+1.2**
SGSI	**Sangihe**	**2.35**	**234**	P	**Pn**	**07 31 12.2**	**-1.0**
SGSI				S	**Sn**	**07 31 40.4**	**-1.9**
DAV	**Davao City (W)**	**2.71**	**317**	*e*Pn	**Pn**	**07 31 17.8**	**-0.1**
DMPH	**Davao City--Mi**	**2.77**	**316**	⇓*e*P	**Pn**	**07 31 18.7**	**+0.1**
DMPH				*e*S	**Sn**	**07 31 52.1**	**+0.2**
KCP	**Kidapawan**	**3.03**	**310**	⇓*e*P	**Pn**	**07 31 20.5**	**-1.5**
KCP				*i* S	**Sn**	**07 31 58.9**	**+0.9**
BIPH	**Bislig**	**3.27**	**341**	⇑*i*P	**Pn**	**07 31 22.8**	**-2.4**
BIPH				*i* S	**Sn**	**07 31 56.7**	**-7.0**
PAGZ	**Pagadian**	**4.88**	**305**	*e*P	**Pn**	**07 31 45.0**	**-1.7**
PAGZ				*e*S	**Sn**	**07 32 41.7**	**-0.6**
SCPH	**Surigao**	**5.06**	**338**	⇑*i*P	**Sn**	**07 32 40.4**	**-6.2**
KMSI	**Cibinong**	**5.65**	**218**	P	**Pn**	**07 31 57.4**	**+0.3**
	3μm,0.8s,25μm11nm						
GTOI	**Gorontalo**	**6.25**	**225**	P	**Pn**	**07 32 04.0**	**-1.1**
	293nm,1.0s,5μm1.4nm						
PLP	**Palo**	**6.52**	**338**	⇓*e*P	**Pn**	**07 32 09.4**	**+0.6**
PLP				*e*S	**Sn**	**07 33 14.7**	**-7.3**
SIJI	**Sorong**	**7.03**	**147**	P	**Pn**	**07 32 16.8**	**+1.0**
	22nm,0.3s,baz=90,slow=20,SNR=2.7						
SIJI				S	**Sn**	**07 33 30.2**	**-4.1**
	16nm,0.3s,baz=276,slow=23,SNR=7.7						
MRSI	**Marisa**	**7.14**	**230**	P	**Pn**	**07 32 17.8**	**+0.6**
SANI	**Sanana**	**7.22**	**192**	P	**Pn**	**07 32 18.3**	**0.0**
SANI				S	**Sn**	**07 33 31.8**	**-7.1**
PALU	**Palau**	**7.35**	**72**	P	**Pn**	**07 32 19.1**	**-0.9**
	baz=7.3,SNR=32						
NLAI	**Namlea**	**8.27**	**182**	P	**Pn**	**07 32 33.6**	**+1.2**
NLAI				S	**Sn**	**07 33 59.1**	**-5.1**
MYLDM	**Lahad Datu**	**8.91**	**271**	*e*Pn	**Pn**	**07 32 42.7**	**+1.6**
MYLDM	**Lahad Datu**	**8.91**	**271**	⇑P	**Pn**	**07 32 43.4**	**+2.3**
FAKI	**Fak Fak**	**9.28**	**149**	P	**Pn**	**07 32 47.5**	**+1.3**
FAKI				S	**Sn**	**07 34 23.4**	**-5.4**
FAKI	**Fak Fak**	**9.28**	**149**	*e*Pn	**Pn**	**07 32 47.4**	**+1.3**
FAKI				*e*Sn	**Sn**	**07 34 25.2**	**-3.6**
RKPI	**Ransiki, Papua**	**9.38**	**134**	P	**Pn**	**07 32 49.3**	**+1.7**
	336nm,0.9s,10μm						
TSM	**Tawau**	**9.57**	**266**	⇓P	**Pn**	**07 32 51.0**	**+0.9**
PCI	**Palu**	**9.64**	**232**	P	**Pn**	**07 32 52.1**	**+1.0**
	148nm,1.1s,2μm						
KDI	**Kendari**	**10.18**	**208**	P	**Pn**	**07 32 56.7**	**-1.6**
	138nm,0.7s,2μm						
KDI				S	**Sn**	**07 34 42.7**	**-8.0**
	138nm,0.7s,2μm						
SDKM	**Sandakan**	**10.22**	**274**	⇓P	**Pn**	**07 32 58.9**	**0.0**
KDM	**Kudat**	**10.71**	**280**	⇑P	**Pn**	**07 33 04.9**	**-0.5**
TGY	**Tagaytay City**	**11.02**	**325**	LR	LR	07 37 54.1	
	comp=Z,220nm,20.1s,baz=250,slow=40						
TTSI	**Tana Toraja**	**11.09**	**224**	P	**Pn**	**07 33 10.6**	**0.0**
	74nm,0.9s						
KKM	**Kota Kinabalu**	**11.21**	**275**	*e*Pn	**Pn**	**07 33 11.7**	**-0.6**
KKM	**Kota Kinabalu**	**11.21**	**275**	⇓P	**Pn**	**07 33 12.1**	**-0.2**
SPSI	**Sidrap Palu**	**11.80**	**221**	P	**Pn**	**07 33 18.5**	**-1.5**
	62nm,0.9s						
BKB	**Balikpapan**	**12.27**	**239**	P	**Pn**	**07 33 26.4**	**+0.2**
	289nm,1.1s,4μm						
KAPI	**Kappang**	**12.62**	**218**	*e*Pn	**Pn**	**07 33 29.5**	**-1.3**
SMPI	**Sarmi**	**13.27**	**122**	P	**Pn**	**07 33 41.1**	**+2.0**
	178nm,1.4s,3μm						
MTKI	**Muara Teweh, K**	**13.88**	**245**	P	**Pn**	**07 33 47.2**	**+0.1**
BTM	**Bintulu**	**14.44**	**263**	⇑P	**P**	**07 33 58.6**	**+1.0**
MMRI	**Maumere**	**14.57**	**201**	P	**P**	**07 34 02.6**	**+3.6**
MMRI	**Maumere**	**14.57**	**201**	*e*Pn	**Pn**	**07 33 53.4**	**-2.5**
GENI	**Genyem**	**14.82**	**121**	P	**P**	**07 34 00.8**	**-1.0**
	206nm,1.1s,6μm						
EDFI	**Ende, Flores**	**14.88**	**203**	P	**P**	**07 34 04.0**	**+1.4**
BBKI	**Banjar Baru**	**15.18**	**236**	P	**Pn**	**07 34 04.3**	**+0.8**
	246nm,1.3s,10μm						
JAY	**Jayapura**	**15.24**	**119**	P	**Pn**	**07 34 04.4**	**0.0**
	0.3nm,0.3s,baz=98,slow=23,SNR=8.1						
JAY	**Jayapura**	**15.24**	**119**	P	**P**	**07 34 09.9**	**+3.3**
	40nm,0.8s,423nm						
SBUM	**Sibu**	**15.41**	**261**	*e*Pn	**Pn**	**07 34 05.7**	**-0.7**
	191nm,0.9s						
SBUM	**Sibu**	**15.41**	**261**	⇓P	**Pn**	**07 34 07.0**	**+0.6**
STKI	**Sintang**	**16.70**	**253**	P	**P**	**07 34 23.1**	**+0.5**
	96nm,1.2s						
TWSI	**Taliwang, Sumb**	**17.30**	**218**	P	**Pn**	**07 34 31.8**	**+2.2**
	48nm,0.7s,2μm						
KSM	**Kuching**	**17.47**	**259**	*e*P	**P**	**07 34 31.3**	**+0.2**
	217nm,1.2s						
KSM	**Kuching**	**17.47**	**259**	⇑P	**Pn**	**07 34 32.5**	**+0.8**
MTN	**Manton Dam**	**18.18**	**168**	P	**P**	**07 34 38.4**	**-0.4**
	baz=18,SNR=14						
MTN	**Manton Dam**	**18.18**	**168**	*e*P	**P**	**07 34 39.1**	**+0.3**
	66nm,0.6s						
KDU	**Kakadu**	**18.34**	**164**	P	**P**	**07 34 40.4**	**-0.2**
	baz=18,SNR=11						
GUMO	**Guam**	**19.15**	**63**	P	**P**	**07 34 48.7**	**-0.8**
	1.5nm,0.3s,baz=340,slow=12,SNR=2.9						
KNRA	**Kununurra**	**20.66**	**176**	P	**P**	**07 35 06.3**	**+0.6**
	baz=21,SNR=30						
QIZ	**Qiongzhong**	**22.07**	**310**	P	**P**	**07 35 19.8**	**-1.0**
QIZ				*e*P	**sP**	**07 35 56.8**	**-1.3**
QIZ				S	**S**	**07 39 14.8**	**-1.6**
QIZ				sS	**sS**	**07 39 56.7**	**+1.6**
QIZ				pmax	pmax		
	comp=Z,140nm,3.2s						
KPJI	**Karang Pucung**	**22.20**	**236**	P	**P**	**07 35 22.9**	**+0.7**
	48nm,0.9s						
FITZ	**Fitzroy Crossi**	**23.10**	**184**	P	**P**	**07 35 30.7**	**-0.3**
	54nm,1.0s,baz=11,slow=7.8,SNR=21						
FITZ	**Fitzroy Crossi**	**23.10**	**184**	P	**P**	**07 35 30.6**	**-0.3**
	baz=23

CMAR LR LR 07 50 03.5
comp=Z,70nm,18.5s,baz=115,slow=38
MLSI Meulaboh, Aceh 30.94 270 P **P** **07 36 40.0 -1.3**
comp=Z,127nm,0.8s
KMI Kunming 30.97 313 P **P** **07 36 42.0 +0.3**
KMI pP pP 07 37 06.5 -1.3
KMI PP **PP** **07 37 52.7 -1.2**
KMI S **S** **07 41 36.9 -0.9**
KMI pmax pmax
comp=Z,9.0nm,0.5s
KMI pmax pmax
comp=Z,130nm,3.6s
KMI LR LR
comp=Z,120nm,5.7s
KMI LR LR
comp=Z,130nm,4.4s
KMI LR LR
comp=Z,140nm,13.8s
CMMT Chiang Mai 30.97 299 P **P** **07 36 41.1 -0.4**
comp=Z,28nm,1.0s
CHTO Chiang Mai 30.97 299 P **P** **07 36 41.1 -0.5**
comp=Z,116nm,1.3s
CHTO Chiang Mai 30.97 299 *e*P **P** **07 36 41.0 -0.5**
CHTO pmax pmax
comp=Z,15nm,0.8s
CHTO Chiang Mai 30.97 299 *e*P **P** **07 36 41.0 -0.5**
comp=Z,15nm,0.8s
CTAO Charters Tower 31.10 144 *e*P **P** **07 36 42.9 +0.3**
CTAO pmax pmax
comp=Z,14nm,0.7s
CTAO Charters Tower 31.10 144 *e*P **P** **07 36 42.9 +0.3**
comp=Z,14nm,0.7s
KS15 Wonju Array Si 32.22 1 *e*P **P** **07 36 53.2 +1.1**
KSRS Korea Array 32.23 1 P **P** **07 36 52.9 +0.7**
comp=Z,4.8nm,0.7s,baz=178,slow=9.8,SNR=35
KSRS PcP **PcP** **07 39 39.1 +1.0**
comp=Z,1.5nm,0.7s,baz=169,slow=4.2,SNR=6.3
KSRS ScP **ScP** **07 43 12.1 +1.2**
comp=Z,1.0nm,0.8s,baz=192,slow=2.3,SNR=5.9
MEEK Meekatharra 32.66 195 P **P** **07 36 56.1 -0.1**
baz=33,SNR=21
MJAR Matsushiro Arr 32.84 16 P **P** **07 36 56.3 -1.4**
comp=Z,3.2nm,0.7s,baz=183,slow=10.0,SNR=9.3
MJAR PcP **PcP** **07 39 40.6 +0.7**
comp=Z,0.6nm,0.4s,baz=168,slow=2.2,SNR=4.1
MAJO Matsushiro 32.84 16 *i* P **P** **07 36 57.4 -0.3**
MAJO pmax pmax
comp=Z,31nm,0.8s
MAT Matsushiro 32.84 16 P **P** **07 36 56.9 -0.8**
XAN Xi'an 33.56 332 P **P** **07 37 03.6 -0.4**
XAN pmax pmax
comp=Z,12nm,1.0s
XAN pmax pmax
comp=Z,49nm,6.0s
CD2 Chengdu 34.01 322 P **P** **07 37 08.2 +0.3**
CD2 pP pP 07 37 33.9 -0.4
CD2 sP sP 07 37 47.5 -0.5
CD2 PP **PP** **07 38 29.1 +1.8**
CD2 S **S** **07 42 24.6 0.0**
CD2 SS **SnSn** **07 44 41.3 -3.6**
CD2 pmax pmax
comp=Z,20nm,0.8s
CD2 pmax pmax
comp=Z,200nm,9.5s
CD2 LR LR
comp=Z,210nm,14.3s
CD2 LR LR
comp=Z,220nm,13.1s
QLP Quilpie 35.42 153 P **P** **07 37 19.3 -0.7**
baz=36,SNR=8.6
FORT Forrest 35.66 179 P **P** **07 37 22.1 +0.1**
baz=36,SNR=24
FORT Forrest 35.66 179 *e*P **P** **07 37 22.1 +0.1**
comp=Z,549nm,0.8s
MORW Morawa 35.67 197 P **P** **07 37 22.4 +0.3**
baz=36,SNR=9.4
BJI Beijing 36.26 345 P **P** **07 37 26.7 -0.3**
BJI pP **pP** **07 37 53.8 +0.2**
BJI S **S** **07 43 01.3 +2.6**
BJI pmax pmax
comp=Z,10.0nm,1.0s
BJI pmax pmax
comp=Z,99nm,8.3s
KMBL Kambalda 36.62 188 P **P** **07 37 30.5 +0.3**
baz=37,SNR=14
BLDU Ballidu 36.94 195 P **P** **07 37 33.1 +0.2**
baz=37,SNR=18
MSHR Mys Shultsa 37.49 5 *e*P **P** **07 37 36.8 -0.6**
KLBR Kellerberrin 37.61 194 P **P** **07 37 39.6 +1.0**
baz=38,SNR=15
LZH Lanzhou 37.73 328 *e*P **P** **07 37 41.5 +1.8**
LZH pP pP 07 38 07.3 +0.8
LZH sP sP 07 38 20.6 +0.5
LZH PP **PnPn** **07 39 14.7 +3.9**
LZH *e*S **S** **07 43 26.1 +4.6**
LZH SS **SS** **07 46 05.3 -6.7**
LZH pmax pmax
comp=Z,16nm,1.0s
LZH pmax pmax
comp=Z,67nm,5.4s
EIDS Eidsvold 37.99 144 *e*P **P** **07 37 41.2 -0.6**
comp=Z,21nm,1.3s
VLA Vladivostok 38.09 5⇑*i*P **P** **07 37 42.2 -0.2**
VLA pmax pmax
comp=Z,24nm,0.6s
HHC Hu-ho-hao-te 38.36 340 *e*P **P** **07 37 46.6 +1.7**
HHC pmax pmax
comp=Z,13nm,0.8s
HHC pmax pmax
comp=Z,100nm,6.4s
BBOO Buckleboo 38.55 168 P **P** **07 37 46.4 -0.1**
baz=39,SNR=56
BBOO Buckleboo 38.55 168 *e*P **P** **07 37 46.4 -0.1**
comp=Z,26nm,0.6s
CN2 Changchun 38.61 358 *e*P **P** **07 37 49.9 +3.1**
CN2 pmax pmax
comp=Z,10.0nm,0.7s
NWAO Narrogin (SRO) 39.02 194 P **P** **07 37 51.2 +0.9**
baz=39,SNR=11
NWAO P **P** **07 37 51.2 +0.9**
baz=39,SNR=11
NWAO Narrogin (SRO) 39.02 194 *e*P **P** **07 37 51.4 +1.1**
NWAO pmax pmax
comp=Z,63nm,0.9s
NWAO Narrogin (SRO) 39.02 194 *e*P **P** **07 37 51.4 +1.1**
comp=Z,63nm,0.9s
STKA Stephens Creek 39.14 161 P **P** **07 37 51.4 0.0**
comp=Z,49nm,0.7s,baz=336,slow=8.5,SNR=120
STKA LR LR 07 57 57.1
comp=Z,43nm,19.5s,baz=23,slow=42
STKA Stephens Creek 39.14 161 P **P** **07 37 51.3 0.0**
baz=39,SNR=77
STKA Stephens Creek 39.14 161 *e*P **P** **07 37 51.1 -0.3**
STKA pmax pmax
comp=Z,9.0nm,0.8s
STKA Stephens Creek 39.14 161 *e*P **P** **07 37 51.1 -0.3**
comp=Z,9.3nm,0.8s
USRK Ussuriysk Ar. 39.17 5 P **P** **07 37 51.3 -0.2**
comp=Z,4.9nm,0.6s,baz=190,slow=8.2,SNR=12
ERM Erimo 39.36 19⇑*i*P **P** **07 37 53.0 0.0**
ERM pmax pmax
comp=Z,17nm,1.0s
MDJ Mudanjiang 39.43 2 P **P** **07 37 54.8 +1.2**
MDJ pmax pmax
comp=Z,14nm,0.8s
MDJ pmax pmax
comp=Z,40nm,5.5s
MDJ Mudanjiang 39.43 2 *e*P **P** **07 37 54.9 +1.2**
comp=Z,13nm,0.6s
SHL Shillong 39.68 305 *e*P **P** **07 37 55.5 -0.7**
SHL *e*S **PcP** **07 40 01.0 +0.2**
HTT Hallett 39.81 165 P **P** **07 37 57.4 +0.5**
baz=40,SNR=8.1
CMSA Cobar Meteorol 40.36 156 P **P** **07 38 01.2 -0.2**
baz=40,SNR=20
RKGY Rocky Gully 40.69 193 P **P** **07 38 05.9 +1.9**
baz=41,SNR=6.7
ARMA Armidale 42.21 148 P **P** **07 38 17.0 +0.2**
baz=42,SNR=12
ARMA Armidale 42.21 148 *e*P **P** **07 38 17.2 +0.5**
comp=Z,17nm,0.7s
GTA Gaotai 42.33 328 *e*P **P** **07 38 19.2 +1.5**
GTA pP pP 07 38 44.5 -0.4
GTA sP sP 07 38 57.4 -1.0
GTA S **S** **07 44 31.7 +1.8**
GTA SS **SS** **07 47 38.8 -4.5**

GTA pmax pmax
comp=Z,4.0nm,0.6s
GTA pmax pmax
comp=Z,87nm,5.5s
GTA LR LR
comp=Z,160nm,15.0s
GTA LR LR
comp=Z,230nm,22.1s
GTA LR LR
comp=Z,110nm,16.6s
HABR Khabarovsk 43.73 7 *e*P **P** **07 38 27.1 -1.4**
HABR *e**PP **pP** **07 38 56.6 +0.7**
HABR *e* 07 40 11.6
HABR *e*S **S** **07 44 47.8 -1.9**
HABR pmax pmax
comp=Z,23nm,1.6s
HABR pmax pmax
comp=N,8.0nm,0.9s
HABR pmax pmax
comp=E,39nm,1.6s
HABR MLR MLR
comp=Z,70nm,18.0s
ARPS Mount Arapiles 43.75 163 P **P** **07 38 29.5 +0.6**
baz=44,SNR=14
YSS Yuzh-Sakhalins 43.77 15 *e*P **P** **07 38 28.7 -0.2**
YSS pmax pmax
comp=Z,40nm,0.7s
YSS Yuzh-Sakhalins 43.77 15 *e*P **P** **07 38 29.6 +0.7**
comp=Z,28nm,0.7s
TAPN Taplejung 43.82 305 *e*P **P** **07 38 29.8 -0.2**
comp=Z,14nm,0.5s
YNG Young 43.88 155 P **P** **07 38 31.7 +1.7**
baz=44,SNR=18
ODAN Odare 43.89 304 *e*P **P** **07 38 30.3 -0.3**
comp=Z,14nm,0.4s
KLR Kul'dur 44.15 4 P **P** **07 38 31.3 -0.7**
comp=Z,10nm,0.7s,baz=197,slow=4.4,SNR=34
KLR Kul'dur 44.15 4*c i*P **P** **07 38 31.7 -0.3**
KLR *i* *PP **pP** **07 39 01.2 +1.9**
RAMN Ramite 44.58 304 *e*P **P** **07 38 36.0 0.0**
comp=Z,38nm,0.8s
CNB Canberra Magne 45.16 154 P **P** **07 38 41.6 +1.4**
baz=45,SNR=5.6
JIRN Jiri 45.18 304 *e*P **P** **07 38 40.8 -0.2**
comp=Z,228nm,0.6s
GUN Gumba 45.53 305 *e*P **P** **07 38 43.5 -0.2**
comp=Z,51nm,0.7s
TOO Toolangi 45.64 160 P **P** **07 38 45.0 +1.0**
baz=46,SNR=6.3
PKI Pulchoki 45.79 304 *e*P **P** **07 38 45.0 -0.7**
comp=Z,7.4nm,0.3s
PKIN Phulchoki 45.80 304 *e*P **P** **07 38 45.2 -0.6**
KKN Kakani 45.98 304 *e*P **P** **07 38 46.5 -0.6**
comp=Z,8.8nm,0.4s
DMN Daman 46.06 304 *e*P **P** **07 38 47.1 -0.6**
comp=Z,23nm,0.8s
ULN Ulaanbaatar 46.08 341*c i*P **P** **07 38 47.9 +0.5**
ULN pmax pmax
comp=Z,7.0nm,0.7s
ULN Ulaanbaatar 46.08 341 *e*P **P** **07 38 48.3 +0.8**
comp=Z,7.7nm,0.8s
SONA0 Songino Array 46.27 340 *e*P **P** **07 38 49.1 +0.2**
comp=Z,4.4nm,0.6s
SONA0 *e*PcP **PcP** **07 40 22.7 +0.3**
SONM Songino Array 46.27 340 P **P** **07 38 49.1 +0.2**
comp=Z,1.5nm,0.3s,baz=158,slow=8.4,SNR=8.8
SONM PcP **PcP** **07 40 22.7 +0.3**
comp=Z,2.2nm,0.8s,baz=142,slow=7.5,SNR=3.5
SONM LR LR 07 59 50.0
comp=Z,41nm,18.4s,baz=78,slow=38
SONA1 Songino Array 46.27 340 *e*P **P** **07 38 49.2 +0.3**
GKN Gorkha 46.59 304 *e*P **P** **07 38 50.5 -1.2**
comp=Z,9.9nm,0.4s
KOLN Koldanda 47.36 303 *e*P **P** **07 38 57.5 -0.3**
comp=Z,38nm,0.6s
PYUN Piuthan 47.98 304 *e*P **P** **07 39 02.6 0.0**
comp=Z,48nm,0.9s
HYB Hyderabad 49.35 289 *i* P **P** **07 39 12.0 -1.0**
TLY Talaya 50.49 341 *e*P **P** **07 39 21.9 +0.8**
TLY pmax pmax
comp=Z,13nm,1.2s
WMQ Urumqi 52.05 324 P **P** **07 39 33.9 +1.0**
WMQ pP pP 07 40 02.9 +1.8
WMQ S **S** **07 46 42.9 -4.7**
WMQ pmax pmax
comp=Z,12nm,0.6s
WMQ pmax pmax
comp=Z,220nm,5.3s
WMQ LR LR
comp=Z,95nm,27.9s
WMQ LR LR
comp=Z,130nm,27.9s
WMQ LR LR
comp=Z,82nm,25.1s
BOD Bodaibo 53.65 351 *e*P **P** **07 39 43.8 -0.5**
BOD pmax pmax
comp=Z,12nm,1.2s
PEA0 Petropavlovsk- 53.93 22 *e*P **P** **07 39 46.9 +0.5**
PEA0B Petropavlovsk- 53.93 22 *e*P **P** **07 39 45.0 -1.4**
comp=Z,40nm,0.7s
PETK Petropavlovsk- 53.93 22 P **P** **07 39 47.5 +1.1**
comp=Z,47nm,0.7s,baz=187,slow=4.7,SNR=45
PETK LR LR 08 03 42.9
comp=Z,27nm,19.6s,baz=222,slow=37
PEA1 Petropavlovsk- 53.93 22 *e*P **P** **07 39 47.5 +1.1**
MSVF Nonsavu 54.84 116 *e*P **P** **07 39 54.9 +1.2**
MSVF pmax pmax
comp=Z,12nm,0.8s
MSVF Nonsavu 54.84 116 *e*P **P** **07 39 54.9 +1.2**
comp=Z,12nm,0.8s
PDGK Podgornoye 56.84 320 P **P** **07 40 07.4 -0.3**
PDGK pmax pmax
comp=Z,10.0nm,1.0s
MK01 Makanchi Array 56.85 324 *e*P **P** **07 40 07.8 +0.3**
MK31 Makanchi Array 56.87 324 *e*P **P** **07 40 07.7 0.0**
MK31 pmax pmax
comp=Z,7.0nm,0.7s
MK31 Makanchi Array 56.87 324 *e*P **P** **07 40 08.3 +0.6**
MKAR Makanchi Array 56.87 324 *e*P **P** **07 40 08.3 +0.6**
MKAR pmax pmax
comp=Z,54nm,0.6s
MKAR Makanchi Array 56.87 324 *e*P **P** **07 40 08.3 +0.6**
comp=Z,54nm,0.6s
MAKZ Makanchi 57.06 324 *e*P **P** **07 40 09.5 +0.5**
MAKZ pmax pmax
comp=Z,13nm,0.9s
MAKZ Makanchi 57.06 324 *e*P **P** **07 40 09.5 +0.5**
comp=Z,13nm,0.9s
MA2 Magadan 57.24 14 *i* P **P** **07 40 10.4 +0.4**
comp=Z,11nm,0.7s,baz=195,slow=6.7,SNR=4.9
MA2 Magadan 57.24 14 *i* P **P** **07 40 10.8 +0.8**
MA2 *i* *PP **pP** **07 40 41.1 +2.5**
KSH Kashi 57.61 314 *e*P **P** **07 40 16.1 +3.0**
KSH pP pP 07 40 43.1 +1.3
KSH PP **PP** **07 42 27.1 +4.9**
KSH S **S** **07 48 02.5 +0.3**
KSH SS **SS** **07 51 55.5 +1.2**
KSH pmax pmax
comp=Z,25nm,1.7s
KSH pmax pmax
comp=Z,85nm,4.1s
KSH LR LR
comp=Z,170nm,7.9s
KSH LR LR
comp=Z,170nm,6.5s
KSH LR LR
comp=Z,140nm,6.1s
TKM2 Tokmak 2 59.22 318 P **P** **07 40 23.9 -0.5**
TKM2 pmax pmax
comp=Z,10.0nm,1.5s
ZAA0 Zalesovo Array 59.73 332 *e*P **P** **07 40 26.8 -0.5**
ZALV Zalesovo Beam 59.73 332 P **P** **07 40 27.0 -0.4**
comp=Z,1.2nm,0.3s,baz=116,slow=6.9,SNR=9.8
ZALV LR LR 08 07 38.1
comp=Z,51nm,21.4s,baz=72,slow=37
ZAA1 Zalesovo Array 59.73 332 *e*P **P** **07 40 27.0 -0.4**
AAK Ala-Archa 59.85 317 P **P** **07 40 29.1 +0.4**
comp=Z,2.5nm,0.5s,baz=136,slow=8.6,SNR=4.5
AAK LR LR 08 08 40.1
comp=Z,49nm,20.4s,baz=52,slow=38
AAK Ala-Archa 59.85 317⇑*i*P **P** **07 40 29.3 +0.6**
AAK *e**PP **pP** **07 40 58.1 +0.6**
SEY Seymchan 60.57 13 P **P** **07 40 33.6 +0.7**
comp=Z,8.9nm,0.8s,baz=223,slow=5.1,SNR=12
SEY Seymchan 60.57 13⇑*i*P **P** **07 40 34.9 +2.0**
KURK Kurchatov 61.00 327*d i*P **P** **07 40 36.4 +0.3**

KURK pmax pmax
comp=Z,80nm,1.1s
KURK Kurchatov 61.00 327 *e*P **P** **07 40 36.7 +0.6**
comp=Z,21nm,1.0s
NVS Novosibirsk 61.01 333 *e*P **P** **07 40 35.4 -0.6**
MNAS Manas 61.16 316 P **P** **07 40 37.2 -0.3**
MNAS pmax pmax
comp=Z,11nm,1.3s
KKAR Karatay Array 62.75 316 *e*P **P** **07 40 48.2 +0.2**
KKAR pmax pmax
comp=Z,51nm,0.9s
KKAR Karatay Array 62.75 316 *e*P **P** **07 40 48.2 +0.2**
comp=Z,51nm,0.9s
TIXI Tiksi 66.50 0*ce*P **P** **07 41 11.0 -0.7**
TIXI pmax pmax
comp=Z,17nm,0.9s
TIXI Tiksi 66.50 0 *e*P **P** **07 41 11.7 0.0**
comp=Z,13nm,0.8s
BVA0 Borovoye Array 66.59 326 *i* P **P** **07 41 11.7 -1.0**
BVA0 pmax pmax
comp=Z,18nm,1.3s
BRVK Borovoye 66.66 326*ce*P **P** **07 41 13.1 -0.1**
BRVK pmax pmax
comp=Z,31nm,1.0s
BRVK Borovoye 66.66 326 *e*P **P** **07 41 13.3 +0.1**
comp=Z,18nm,1.1s
NRIK Noril'sk 69.30 346 P **P** **07 41 29.2 -0.1**
comp=Z,4.1nm,0.7s,baz=125,slow=5.7,SNR=7.5
GEYT Alibeck 70.62 308 P **P** **07 41 38.4 +0.3**
comp=Z,3.9nm,0.7s,baz=178,slow=3.7,SNR=5.3
GEYT LR LR 08 15 46.9
comp=Z,34nm,20.0s,baz=130,slow=38
AB31 Akbulak array 71.57 320 *i* P **P** **07 41 42.8 -0.7**
AB31 pmax pmax
comp=Z,8.0nm,0.9s
ABKAR Akbulak array 71.57 320 *e*P **P** **07 41 43.2 -0.3**
comp=Z,264nm,1.8s
AKTO Aktyubinsk 73.06 321 LR LR 08 15 25.0
comp=Z,49nm,21.7s,slow=37
AKTO Aktyubinsk 73.06 321 P **P** **07 41 51.9 -0.5**
AKTO pmax pmax
comp=Z,9.0nm,0.9s
ARU Arti 74.19 327*d i*P **P** **07 41 57.9 -0.9**
ARU *PP **pP** **07 42 29.4 +0.6**
ARU S **S** **07 51 21.0 -1.5**
ARU pmax pmax
comp=Z,10.0nm,1.2s
MIR Mirnyy 75.62 194 *i* P **P** **07 42 08.0 +1.2**
MIR pmax pmax
comp=Z,5.0nm,1.0s
KDAK Kodiak Island 80.38 32*ce*P **P** **07 42 34.5 +1.2**
SPU Mount Spurr 81.00 29 *e*P **P** **07 42 37.1 +0.4**
CAST Castle Rocks 81.22 27 *e*P **P** **07 42 36.3 -1.5**
comp=Z,28nm,1.2s
SUA Susitna One 81.65 29 *e*P **P** **07 42 39.6 -0.6**
comp=Z,19nm,0.7s
KTH Kantishna Hill 81.75 27 *e*P **P** **07 42 41.0 +0.4**
comp=Z,19nm,1.0s
ZEI Tsey 81.84 312 *e*P **P** **07 42 39.4 -2.3**
ZEI *e* 07 43 04.0
ZEI pmax pmax
comp=Z,22nm,1.0s
TRF Thorofare Moun 82.03 27 *e*P **P** **07 42 42.2 0.0**
comp=Z,44nm,1.4s
COLD Coldfoot 82.39 23 *e*P **P** **07 42 44.4 +0.7**
comp=Z,49nm,1.6s
PMR Palmer 82.43 29 *e*P **P** **07 42 43.2 -0.9**
PMR pmax pmax
comp=Z,33nm,1.4s
PMR Palmer 82.43 29 *e*P **P** **07 42 43.2 -0.9**
comp=Z,32nm,1.4s
KBZ Khabaz 82.58 313 P **P** **07 42 45.4 +0.2**
comp=Z,4.0nm,1.1s,baz=137,slow=10,SNR=2.6
MCK McKinley 82.65 26 *e*P **P** **07 42 45.1 -0.2**
MCK pmax pmax
comp=Z,55nm,1.3s
MCK McKinley 82.65 26 *e*P **P** **07 42 45.0 -0.2**
comp=Z,56nm,1.3s
RND Reindeer 82.67 27 *e*P **P** **07 42 44.9 -0.5**
RND pmax pmax
comp=Z,38nm,1.3s
RND Reindeer 82.67 27 *e*P **P** **07 42 44.9 -0.5**
comp=Z,38nm,1.3s
KIV Kislovodsk 82.73 314 *e*P **P** **07 42 45.8 -0.4**
KIV pmax pmax
comp=Z,8.0nm,0.9s
TOLK Toolik Lake Re 82.74 22 P **P** **07 42 46.3 +0.7**
baz=265
SML Sawmill 82.82 28 *e*P **P** **07 42 46.4 +0.2**
SML pmax pmax
comp=Z,41nm,1.0s
SML Sawmill 82.82 28 *e*P **P** **07 42 46.4 +0.2**
comp=Z,41nm,1.0s
MDM Murphy Dome 83.03 25 *e*P **P** **07 42 47.0 -0.2**
comp=Z,38nm,1.7s
WRH Wood River Hil 83.06 26 *e*P **P** **07 42 47.0 -0.3**
comp=Z,20nm,1.0s
COLA College 83.18 25⇑*i*P **P** **07 42 47.1 -0.8**
COLA pmax pmax
comp=Z,12nm,1.4s
CCB Clear Creek Bu 83.19 26 *e*P **P** **07 42 47.4 -0.6**
comp=Z,18nm,1.1s
SCM Sheep Creek Mo 83.30 28 *e*P **P** **07 42 48.6 -0.1**
SCM pmax pmax
comp=Z,71nm,1.3s
SCM Sheep Creek Mo 83.30 28 *e*P **P** **07 42 48.6 -0.1**
comp=Z,71nm,1.3s
DHY Denali Highway 83.32 27 *e*P **P** **07 42 49.4 +0.5**
comp=Z,22nm,1.4s
IL1 Eielson Array 83.59 25 *e*P **P** **07 42 48.1 -1.9**
ILAR Eielson Array 83.59 25 P **P** **07 42 48.6 -1.3**
comp=Z,5.0nm,0.9s,baz=246,slow=5.1,SNR=38
ILB Eielson Array 83.59 25 *e*P **P** **07 42 48.7 -1.3**
FID Port Fidalgo 83.69 30 *e*P **P** **07 42 50.4 -0.2**
comp=Z,28nm,1.1s
DIV Divide 84.03 29 *e*P **P** **07 42 52.9 +0.5**
comp=Z,49nm,1.0s
EYAK Cordova Ski Ar 84.04 30 *e*P **P** **07 42 53.0 +0.6**
comp=Z,26nm,1.2s
PAX Paxson 84.19 27 *e*P **P** **07 42 53.6 +0.4**
PAX pmax pmax
comp=Z,22nm,1.2s
PAX Paxson 84.19 27 *e*P **P** **07 42 53.6 +0.4**
comp=Z,22nm,1.2s
FYU Fort Yukon 84.31 24 *e*P **P** **07 42 54.9 +1.3**
comp=Z,48nm,1.2s
KLMR Klimovskoe 84.59 331 *e*P **P** **07 42 52.8 -2.3**
KLMR pmax pmax
comp=Z,22nm,1.4s
BMRM Bremner River 84.61 29 *e*P **P** **07 42 55.9 +0.6**
comp=Z,44nm,1.2s
VNDA Vanda 84.66 173 P **P** **07 42 55.0 -0.1**
comp=Z,3.7nm,0.8s,baz=316,slow=6.3,SNR=29
VNDA LR LR 08 22 28.2
comp=Z,23nm,18.1s,baz=332,slow=37
DOT Dot Lake 84.82 27 *e*P **P** **07 42 56.5 +0.2**
comp=Z,106nm,1.8s
MENT Mentasta 84.99 27 *e*P **P** **07 42 57.9 +0.7**
comp=Z,9.0nm,0.9s
VSR Storozhevoye 85.00 321 *e*P **P** **07 42 56.4 -1.0**
VSR pmax pmax
comp=Z,10.0nm,0.6s
LPSR Galich'ya Gora 85.10 322 *e*P **P** **07 42 57.1 -0.8**
LPSR pmax pmax
comp=Z,20nm,1.0s
MAW Mawson 85.25 200 P **P** **07 42 58.8 +0.6**
comp=Z,2.6nm,0.7s,baz=77,slow=6.4,SNR=10
MAW Mawson 85.25 200 *e*P **P** **07 42 59.0 +0.8**
MAW pmax pmax
comp=Z,2.0nm,1.0s
MAW Mawson 85.25 200 *e*P **P** **07 42 59.0 +0.8**
comp=Z,1.6nm,1.0s
CRQM Cirque 85.33 30 *e*P **P** **07 42 59.8 +0.7**
comp=Z,21nm,1.0s
OBN Obninsk 86.38 325⇓*e*P **P** **07 43 03.5 -0.6**
OBN *e* 07 43 26.0
OBN *e* 07 43 32.1
OBN *e* 07 55 00.7
OBN pmax pmax
comp=Z,22nm,1.4s
INK Inuvik 88.66 22 *e*P **P** **07 43 14.1 -0.7**
INK pmax pmax
comp=Z,10.0nm,1.3s
INK Inuvik 88.66 22 *e*P **P** **07 43 14.1 -0.7**
comp=Z,10nm,1.3s
WHY Whitehorse 89.37 29 *e*P **P** **07 43 18.0 -0.4**

comp=Z,14nm,0.9s
ARCES **ARCESS Array B** 89.44 340 P **P** 07 43 16.6 -1.8
comp=Z,3.6nm,0.9s,baz=64,slow=5.5,SNR=8.8
BR101 **Keskin Array S** 89.71 310 *e*P **P** 07 43 18.8 -1.7
BRTR **Keskin Array B** 89.71 310 P **P** 07 43 18.8 -1.7
comp=Z,0.3nm,0.4s,baz=50,slow=2.3,SNR=3.1
FIA0 **FINESS Array S** 90.99 332 *e*P **P** 07 43 26.5 +0.7
FIA0 **FINESS Array S** 90.99 332 *e*P **P** 07 43 26.5 +0.7
FINES **FINESS Array B** 90.99 332 P **P** 07 43 26.5 +0.7
comp=Z,0.8nm,0.5s,baz=72,slow=8.9,SNR=5.0
FINES LR LR 08 27 56.5
comp=Z,59nm,19.6s,baz=38,slow=38
SYO **Syowa Base** 93.93 201⇑*e*P **P** 07 43 38.4 -0.7
QSPA **South Pole Qui** 94.97 180 *e*P **P** 07 43 44.1 0.0
CRVS **Cervenica-Dubn** 96.60 320 *e*P **P** 07 43 52.2 +0.4
CRVS **Cervenica-Dubn** 96.60 320 *e*P **P** 07 43 52.2 +0.4
YKA **Yellowknife Ar** 97.99 24 P **P** 07 43 56.6 -1.1
comp=Z,1.5nm,0.7s,baz=312,slow=5.4,SNR=4.6
YKB5 **Yellowknife Ar** 97.99 24 *e*P **P** 07 43 56.6 -1.1
PDAR **Pinedale Array** 109.88 41 PKKPab PKKPab 08 00 06.9 -2.1
comp=Z,0.4nm,0.7s,baz=145,slow=3.3,SNR=4.5
ANMO **Albuquerque** 115.60 47 PKP **PKPdf** 07 49 04.2 0.0
comp=Z,0.5nm,0.5s,baz=252,slow=6.4,SNR=4.1
ANMO **Albuquerque** 115.60 47 *c i*PKIKP **PKPdf** 07 49 03.4 -0.8
ANMO pmax pmax
comp=Z,4.0nm,2.5s
ANMO **Albuquerque** 115.60 47 *e*PKPdf **PKPdf** 07 49 01.6 -2.7
ESDC **Sonseca Array** 116.91 320 PKP **PKPdf** 07 49 06.7 +0.2
comp=Z,0.2nm,0.3s,baz=85,slow=1.1,SNR=2.5
H35A **Sunnyside Ranc** 117.65 33 P **PKPdf** 07 49 07.7 0.0
baz=311
MNTX **Cornudas Mount** 117.85 50 P **PKPdf** 07 49 09.3 +0.9
baz=296
H36A **Jessenland, He** 118.22 32 P **PKPdf** 07 49 08.5 -0.2
baz=312
E39A **Mellen** 118.69 29 P **PKPdf** 07 49 09.1 -0.5
baz=316
O33A **Hebron** 118.94 38 P **PKPdf** 07 49 09.8 -0.5
baz=306
I38A **Scanlan Farm,** 119.42 32 P **PKPdf** 07 49 10.9 -0.1
baz=313
H39A **Augusta** 119.53 31 P **PKPdf** 07 49 11.0 -0.3
baz=314
P34A **Walnut Farm, R** 119.72 38 P **PKPdf** 07 49 11.7 -0.1
baz=307
Q34A **Chapman** 120.03 39 P **PKPdf** 07 49 12.7 +0.3
baz=306
TX31 **Lajitas Ar. Si** 120.22 52 *e*PKPdf **PKPdf** 07 49 11.5 -1.6
LTX **Lajitas** 120.22 52 *e*PKIKP **PKPdf** 07 49 13.6 +0.5
LTX **Lajitas** 120.22 52 *e*PKPdf **PKPdf** 07 49 13.6 +0.5
TXAR **Lajitas Array** 120.22 52 PKP **PKPdf** 07 49 13.6 +0.4
comp=Z,0.9nm,0.7s,baz=269,slow=0.4,SNR=14
J39A **Decorah** 120.24 32 P **PKPdf** 07 49 11.7 -0.9
baz=313
H41A **Junction City** 120.39 30 P **PKPdf** 07 49 12.5 -0.4
baz=316
K40A **Colesburg** 120.98 32 P **PKPdf** 07 49 13.5 -0.6
baz=314
J41A **Loganville** 121.10 31 P **PKPdf** 07 49 14.1 -0.3
baz=315
WMOK **Wichita Mounta** 121.18 44 P **PKPdf** 07 49 14.7 0.0
baz=303
P37A **Lathrop** 121.21 37 P **PKPdf** 07 49 14.2 -0.4
baz=309
R36A **Gordon, Harris** 121.28 39 P **PKPdf** 07 49 14.4 -0.4
baz=308
JFWS **Jewell Farm** 121.30 32 *e*PKIKP **PKPdf** 07 49 14.3 -0.4
JFWS **Jewell Farm** 121.30 32 *e*PKPdf **PKPdf** 07 49 14.3 -0.4
L40A **Anamosa** 121.37 33 P **PKPdf** 07 49 14.5 -0.3
baz=313
K41A **Shullsburg** 121.48 32 P **PKPdf** 07 49 14.5 -0.5
baz=314
S36A **Lake Cedric, C** 121.59 39 P **PKPdf** 07 49 15.7 +0.2
baz=307
P38A **Dawn** 121.67 37 P **PKPdf** 07 49 15.2 -0.3
baz=310
R37A **Teagarden Farm** 121.71 38 P **PKPdf** 07 49 14.9 -0.7
baz=308
T36A **Boggs Farm, Ca** 121.80 40 P **PKPdf** 07 49 15.6 -0.2
baz=307
S37A **Fort Scott** 122.05 39 P **PKPdf** 07 49 16.0 -0.3
baz=308
P39B **Salisbury** 122.22 36 P **PKPdf** 07 49 16.0 -0.5
baz=311
R38A **Fenwick Farm,** 122.36 38 P **PKPdf** 07 49 16.4 -0.4
baz=309
Q39A **Willow Grove F** 122.38 37 P **PKPdf** 07 49 16.6 -0.2
baz=310
T37A **Cheneyville 18** 122.38 40 P **PKPdf** 07 49 17.1 +0.2
baz=308
JCT **Junction City** 122.65 49 P **PKPdf** 07 49 18.0 +0.3
baz=300
JCT **Junction City** 122.65 49 *e*PKIKP **PKPdf** 07 49 17.5 -0.2
JCT **Junction City** 122.65 49 *e*PKPdf **PKPdf** 07 49 17.5 -0.2
S38A **Stockton** 122.70 39 P **PKPdf** 07 49 17.0 -0.5
baz=309
R39A **Chumby, Stover** 122.81 37 P **PKPdf** 07 49 17.5 -0.3
baz=310
333A **Richland Sprin** 122.83 48 P **PKPdf** 07 49 18.1 +0.1
baz=301
T38A **Diamond** 122.83 39 P **PKPdf** 07 49 17.6 -0.2
baz=308
O41A **Passleys Farm,** 122.88 34 P **PKPdf** 07 49 17.3 -0.5
baz=313
X36A **Centrahoma** 122.94 43 P **PKPdf** 07 49 18.4 +0.4
baz=305
V37A **Hulbert** 122.98 41 P **PKPdf** 07 49 18.1 -0.1
baz=307
S39A **Bolivar** 123.03 38 P **PKPdf** 07 49 17.8 -0.3
baz=309
433A **Art** 123.04 48 P **PKPdf** 07 49 18.5 +0.1
baz=300
P41A **Barry, Barry** 123.08 35 P **PKPdf** 07 49 18.3 +0.1
baz=312
TOA0 **Torodi Ar. Sit** 123.16 289 *e*PKPdf **PKPdf** 07 49 18.1 -0.9
TORD **Torodi Ar. Bea** 123.16 289 PKP **PKPdf** 07 49 18.2 -0.8
comp=Z,1.8nm,0.6s,baz=55,slow=2.1,SNR=13
TORD PKKPbc **PKKPbc** 07 59 09.9 +0.1
comp=Z,2.0nm,0.8s,baz=267,slow=3.3,SNR=12
TOA1 **Torodi Ar. Sit** 123.16 289 *e*PKPdf **PKPdf** 07 49 18.2 -0.8
W37B **Quinton** 123.23 42 P **PKPdf** 07 49 19.0 +0.4
baz=306
R40A **Maddies Statio** 123.28 37 P **PKPdf** 07 49 18.5 -0.1
baz=311
Y36A **Durant** 123.36 44 P **PKPdf** 07 49 19.1 +0.2
baz=305
334A **Lometa** 123.37 47 P **PKPdf** 07 49 19.2 +0.1
baz=302
T39A **Clever** 123.41 39 P **PKPdf** 07 49 18.8 -0.1
baz=309
Q41A **Truxton** 123.46 36 P **PKPdf** 07 49 19.1 +0.1
baz=312
V38A **Canehill** 123.47 41 P **PKPdf** 07 49 18.9 -0.2
baz=307
P42A **Winchester** 123.55 35 P **PKPdf** 07 49 19.0 -0.1
baz=313
832A **Faith Ranch, C** 123.58 51 P **PKPdf** 07 49 20.2 +0.7
baz=298
S40A **Lebanon** 123.59 38 P **PKPdf** 07 49 19.1 -0.2
baz=310
X37A **Clayton** 123.59 42 P **PKPdf** 07 49 20.0 +0.6
baz=306
U39A **Green Forest** 123.75 39 P **PKPdf** 07 49 19.2 -0.4
baz=308
R41A **Rosebud** 123.81 36 P **PKPdf** 07 49 19.7 0.0
baz=311
T40A **Mansfield** 123.86 38 P **PKPdf** 07 49 19.5 -0.3
baz=310
534A **Blanco** 123.87 49 P **PKPdf** 07 49 20.4 +0.4
baz=301
833A **Chaparral WMA,** 124.01 51 P **PKPdf** 07 49 21.4 +1.1
baz=299
S41A **Jillco Farms,** 124.05 37 P **PKPdf** 07 49 20.2 0.0
baz=311
U40A **Yellville** 124.16 39 P **PKPdf** 07 49 20.2 -0.2
baz=309
W39A **Magazine** 124.28 41 P **PKPdf** 07 49 20.8 +0.2
baz=308
T41A **Mountain View** 124.40 38 P **PKPdf** 07 49 20.6 -0.3
baz=310
X39A **Fountain Ranch** 124.47 42 P **PKPdf** 07 49 21.9 +0.9
baz=307
S42A **Caledonia** 124.50 37 P **PKPdf** 07 49 21.1 +0.1
baz=312
V40A **Witts Springs** 124.52 40 P **PKPdf** 07 49 21.2 +0.1
baz=309
R43A **Red Bud** 124.67 36 P **PKPdf** 07 49 21.6 +0.3
baz=313
U41A **Viola** 124.75 39 P **PKPdf** 07 49 21.3 -0.2
baz=310
MIAR **Mount Ida** 124.81 41 P **PKPdf** 07 49 22.3 +0.7
baz=307
MIAR **Mount Ida** 124.81 41 *e*PKIKP **PKPdf** 07 49 22.2 +0.5
MIAR **Mount Ida** 124.81 41 *e*PKPdf **PKPdf** 07 49 22.2 +0.5
T42A **Van Buren** 124.81 37 P **PKPdf** 07 49 21.8 +0.2
baz=311
V41A **Mountainview** 124.96 39 P **PKPdf** 07 49 22.1 +0.1
baz=309
U42A **Revenden** 125.17 38 P **PKPdf** 07 49 22.3 0.0
baz=310
T43A **Greenville** 125.26 37 P **PKPdf** 07 49 22.4 -0.1
baz=312
V42A **Cord** 125.42 39 P **PKPdf** 07 49 23.1 +0.3
baz=310
WLAR **White Oak Lake** 125.63 42 *e*PKPdf **PKPdf** 07 49 24.6 +1.4
M54A **Oil Creek Stat** 127.44 26 P **PKPdf** 07 49 27.1 +0.5
baz=325
Y47A **UCPARC, Winfie** 128.86 38 P **PKPdf** 07 49 29.6 +0.2
baz=312
DBIC **Dimbokro** 130.98 283 PKP **PKPdf** 07 49 33.3 -0.6
comp=Z,2.1nm,0.7s,baz=340,slow=2.1,SNR=3.6
PLCA **Paso Flores** 140.99 158 PKhKP PKPpre 07 49 48.6
comp=Z,1.7nm,0.9s,baz=262,slow=7.1,SNR=3.3
TRQA **Tornquist** 146.07 167 *e*PKPdf **PKPbc** 07 50 02.1 +0.2
ASAL **Salagasta** 148.68 153 *i* P **PKPbc** 07 50 09.8 +0.6
AUSP **Uspallata** 148.74 152 *i* P **PKPbc** 07 50 10.5 +0.8
ACAN **Cantantal** 149.67 155 *i* P **PKPbc** 07 50 11.6 -0.1
MRA **San Martin** 150.14 157 *i* P **PKPbc** 07 50 12.8 -0.1
AROD **Rodeo** 150.38 149 *i* P **PKPbc** 07 50 14.6 +0.8
LCO **Las Campanas** 150.64 146 *e*PKPbc **PKPbc** 07 50 13.5 -0.9
ACHE **Chepes** 150.86 155 *i* P **PKPbc** 07 50 14.7 0.0
AVFE **Valle Fertil** 150.94 153 *i* P **PKPbc** 07 50 15.0 +0.2
TCA **Tanti** 151.53 158 *i* P **PKPbc** 07 50 16.4 +0.2
ACLC **CERRO LA CRUZ** 152.21 152 *i* P **PKPbc** 07 50 17.7 -0.2
RUSC **La Rusia** 156.79 62 *e*PKPdf **PKPdf** 07 50 18.2 -0.1
RUSC *e*PKPab **PKPab** 07 50 48.3 0.0
PB01 **IPOC Station P** 157.15 136 *e*PKPab **PKPab** 07 50 51.6 +2.5
PB11 **IPOC Station P** 157.86 133 *e*PKPab **PKPab** 07 50 53.8 +1.5
CPUP **Villa Florida** 158.38 168 PKPab **PKPab** 07 50 54.0 0.0
comp=Z,3.1nm,1.0s,baz=182,slow=9.4,SNR=4.8
LPAZ **La Paz** 161.09 127 PKP **PKPdf** 07 50 24.1 +0.8
comp=Z,0.9nm,0.7s,baz=138,slow=1.8,SNR=5.4
LPAZ PKPab **sPKPdf** 07 51 08.7 +0.5
comp=Z,7.4nm,0.9s,baz=288,slow=2.2,SNR=18
LPAZ **La Paz** 161.09 127 *e*PKPdf **PKPdf** 07 50 24.1 +0.8
LPAZ *e*PKPab **sPKPdf** 07 51 09.0 +0.9
SAML **Samuel** 168.78 111 *e*PKPab **PKPab** 07 51 40.8 +0.5

NNC 12 07:43:46.4±1.2, 37.06N×71.07E, h193km±23km, mb2.7, mpv3.8, 5C-4D, Error ellipse: s-maj=20.1km s-min=7.9km az=129.0, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
DZET	**Dzherino**	**2.48**	**315**	⇑P		Pn	07 44 29.8	0.0
	9.0nm,0.4s							
DZET				⇑S		Sn	07 45 04.0	+0.4
	48nm,0.4s							
MNAS	**Manas**	**5.53**	**11**	⇓P		Pn	07 45 07.8	+0.3
	3.2nm,0.3s							
MNAS				⇓S		Sn	07 46 11.9	+0.4
	9.1nm,0.5s							
KK31	**Karatay Array**	**6.05**	**356**	⇑P		Pn	07 45 14.7	+0.6
	4.6nm,0.3s,baz=0.1,slow=42,SNR=36							
KK31				S		Sn	07 46 23.6	+0.2
	1.2nm,0.3s,baz=180,slow=16,SNR=6.3							
AAK	**Ala-Archa**	**6.16**	**24**	⇓P		Pn	07 45 15.4	-0.3
	6.0nm,0.4s							
AAK				⇓S		Sn	07 46 27.6	+1.4
	7.7nm,0.6s							
TKM2	**Tokmak 2**	**6.80**	**29**	⇑P		Pn	07 45 23.3	-0.8
	2.2nm,0.4s							
TKM2				⇑S		Sn	07 46 41.5	0.0
	5.5nm,0.8s							

*ATH **12** 07:49:26.4, 36.51N×23.05E, h24km, ML3.3/26, Error ellipse: s-maj=1.4km s-min=0.7km az=236.0*
*ISCJB **12** 07:49:27.1±0.5, 36.50N±0.02×23.07E±0.03, h11km±3km, Error ellipse: s-maj=4.5km s-min=2.3km az=145.4*
*CSEM **12** 07:49:27.3±0.1, 36.50N×23.06E, h10km, ML3.4, Error ellipse: s-maj=4.0km s-min=2.2km az=49.0*
*THE **12** 07:49:27.1, 36.50N×23.08E, h0km±1km, ML3.4/7, Error ellipse: s-maj=1.8km s-min=0.7km az=192.0*

ISC 12 07:49:27.4±0.8, 36.51N±0.02×23.06E±0.02, h16km±6km, n152, σ1.9 16/219, Southern Greece

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
VLI	**Veliai**	**0.23**	**335**	P		**Pg**	**07 49 32.4**	**-0.2**
VLI				S		**Sg**	**07 49 36.2**	**+0.1**
VLI	**Veliai**	**0.23**	**335**	P		**Pg**	**07 49 32.6**	**0.0**
VLI				S		**Sg**	**07 49 36.2**	**+0.1**
VLI	**Veliai**	**0.23**	**335**	P		**Pg**	**07 49 32.6**	**0.0**
VLI				S		**Sg**	**07 49 35.6**	**-0.6**
VLI				AML		AML	07 49 36.2	
	comp=E,72510μm,0.3s							
VLI				AML		AML	07 49 36.5	
	comp=N,33897μm,0.4s							
KYTH	**Kithira**	**0.25**	**182**	P		**Pg**	**07 49 32.9**	**0.0**
KYTH				S		**Sg**	**07 49 36.9**	**+0.3**
KYTH	**Kithira**	**0.25**	**182**	P		**Pg**	**07 49 33.3**	**+0.4**
KYTH				AML		AML	07 49 37.2	
KYTH				S		**Sg**	**07 49 37.3**	**+0.6**
KYTH				AML		AML	07 49 37.7	
ANKY	**Antikythira Is**	**0.67**	**163**	P		**Pb**	**07 49 40.5**	**-0.3**
ANKY				S		**Sg**	**07 49 49.2**	**-0.3**
ANKY	**Antikythira Is**	**0.67**	**163**	P		**Pb**	**07 49 40.5**	**-0.3**
ANKY				S		**Sg**	**07 49 49.2**	**-0.3**
ANKY	**Antikythira Is**	**0.67**	**163**	P		**Pb**	**07 49 41.2**	**+0.5**
ANKY				S		**Sg**	**07 49 48.5**	**-1.0**
ANKY				AML		AML	07 49 50.8	
	comp=N,10429μm,0.3s							
ANKY				AML		AML	07 49 51.9	
	comp=E,7514μm,0.5s							
DID	**Didima**	**1.00**	**8**	P		**Pg**	**07 49 46.6**	**-0.3**
DID				S		**Sn**	**07 50 02.7**	**+2.0**
DID	**Didima**	**1.00**	**8**	P		**Pg**	**07 49 46.6**	**-0.3**
DID				S		**Sn**	**07 50 01.0**	**+0.3**
DID	**Didima**	**1.00**	**8**	P		**Pn**	**07 49 47.2**	**+0.3**
DID				S		**Sn**	**07 50 01.0**	**+0.3**
DID				AML		AML	07 50 04.4	
	comp=N,2719μm,0.3s							
DID				AML		AML	07 50 05.3	
	comp=E,4192μm,0.2s							
VLX	**Vlachokerasia**	**1.01**	**328**	P		**Pg**	**07 49 45.8**	**-1.3**
VLX	**Vlachokerasia**	**1.01**	**328**	P		**Pg**	**07 49 45.8**	**-1.3**
VLX				S		**Sg**	**07 49 58.8**	**-1.6**
VLX	**Vlachokerasia**	**1.01**	**328**	P		**Pg**	**07 49 45.5**	**-1.6**
VLX				S		**Sg**	**07 49 58.8**	**-1.6**
VLX				AML		AML	07 50 03.0	
	comp=E,6468μm,0.4s							
VLX				AML		AML	07 50 05.0	
	comp=N,7104μm,0.6s							
MHLO	**Agia Marina, M**	**1.10**	**80**	P		**Pn**	**07 49 48.6**	**+0.5**
MHLO				S		**Sn**	**07 50 03.7**	**+0.8**
MHLO	**Agia Marina, M**	**1.10**	**80**	P		**Pb**	**07 49 47.9**	**-0.1**
MHLO				S		**Sg**	**07 50 01.7**	**-1.3**
MHLO	**Agia Marina, M**	**1.10**	**80**	P		**Pb**	**07 49 47.9**	**-0.1**
MHLO				S		**Sg**	**07 50 01.7**	**-1.3**
MHLO				AML		AML	07 50 10.4	
	comp=N,12505μm,0.5s							
MHLO				AML		AML	07 50 10.7	
	comp=E,20407μm,0.5s							
PYL	**PYLOS**	**1.12**	**290**	P		**Pb**	**07 49 46.9**	**-1.6**
PYL				S		**Sn**	**07 50 06.2**	**+2.6**
PYL	**PYLOS**	**1.12**	**290**	P		**Pb**	**07 49 46.9**	**-1.6**
PYL				S		**Sn**	**07 50 04.7**	**+1.1**
PYL	**PYLOS**	**1.12**	**290**	P		**Pb**	**07 49 46.3**	**-2.2**
PYL				S		**Sn**	**07 50 04.7**	**+1.1**
PYL				AML		AML	07 50 08.6	
	comp=E,1912μm,0.4s							
PYL				AML		AML	07 50 09.5	
	comp=N,1996μm,0.6s							
ITM	**Ithomi**	**1.12**	**307**	P		**Pb**	**07 49 47.0**	**-1.5**
ITM				S		**Sn**	**07 50 06.5**	**+2.8**
ITM	**Ithomi**	**1.12**	**307**	P		**Pb**	**07 49 47.0**	**-1.5**
ITM				S		**Sn**	**07 50 06.5**	**+2.8**
ITM	**Ithomi**	**1.12**	**307**	P		**Pb**	**07 49 46.1**	**-2.4**
ITM				S		**Sb**	**07 50 01.4**	**-1.5**
ITM				AML		AML	07 50 07.4	
	comp=N,1948μm,0.7s							
ITM				AML		AML	07 50 08.2	
	comp=E,2203μm,0.7s							
TRIP	**Tripoli**	**1.19**	**328**	P		**Pb**	**07 49 48.5**	**-1.2**
TRIP				S		**Sb**	**07 50 04.1**	**-0.9**
TRIP	**Tripoli**	**1.19**	**328**	P		**Pb**	**07 49 48.5**	**-1.2**
TRIP				S		**Sb**	**07 50 04.1**	**-0.9**
TRIP				AML		AML	07 50 08.3	
	comp=E,3346μm,0.4s							
TRIP				AML		AML	07 50 09.7	
	comp=N,2829μm,0.5s							
IMMV	**Iera Moni Meta**	**1.29**	**144**	P		**Pn**	**07 49 50.7**	**0.0**
IMMV				S		**Sg**	**07 50 08.6**	**-0.5**
IMMV	**Iera Moni Meta**	**1.29**	**144**	P		**Pn**	**07 49 50.7**	**0.0**
IMMV				S		**Sn**	**07 50 08.2**	**+0.6**
IMMV	**Iera Moni Meta**	**1.29**	**144**	P		**Pn**	**07 49 50.3**	**-0.5**
IMMV				S		**Sn**	**07 50 08.2**	**+0.6**
IMMV				AML		AML	07 50 17.9	
	comp=N,2172μm,0.2s							
IMMV				AML		AML	07 50 24.0	
	comp=E,4031μm,0.7s							
SERI	**Serifos**	**1.32**	**60**	P		**Pn**	**07 49 50.2**	**-1.0**
SERI				S		**Sg**	**07 50 10.7**	**+0.7**
SERI	**Serifos**	**1.32**	**60**	P		**Pn**	**07 49 50.2**	**-1.0**
SERI				S		**Sg**	**07 50 10.7**	**+0.7**
SERI				AML		AML	07 50 15.3	
	comp=N,2689μm,0.3s							
SERI				AML		AML	07 50 17.3	
	comp=E,1474μm,0.4s							
VAM	**Vamos**	**1.44**	**140**	P		**Pn**	**07 49 52.8**	**0.0**
VAM	**Vamos**	**1.44**	**140**	P		**Pn**	**07 49 52.8**	**0.0**
VAM				S		**Sn**	**07 50 11.5**	**+0.1**
VAM	**Vamos**	**1.44**	**140**	P		**Pn**	**07 49 52.5**	**-0.3**
VAM				S		**Sn**	**07 50 11.5**	**+0.1**
VAM				AML		AML	07 50 25.3	
	comp=E,1845μm,0.4s							
VAM				AML		AML	07 50 25.5	
	comp=N,1874μm,0.5s							
VLY	**Voula,Athens**	**1.46**	**24**	P		**Pn**	**07 49 53.5**	**+0.4**
VLY	**Voula,Athens**	**1.46**	**24**	P		**Pn**	**07 49 53.5**	**+0.4**
VLY				S		**Sn**	**07 50 12.2**	**+0.3**
VLY	**Voula,Athens**	**1.46**	**24**	P		**Pb**	**07 49 54.2**	**0.0**
VLY				S		**Sn**	**07 50 12.2**	**+0.3**
VLY				AML		AML	07 50 21.4	
	comp=E,1951μm,0.7s							
VLY				AML		AML	07 50 24.1	
	comp=N,1473μm,0.4s							
LOUT	**Loutraki**	**1.48**	**357**	P		**Pn**	**07 49 54.0**	**+0.7**
LOUT	**Loutraki**	**1.48**	**357**	P		**Pn**	**07 49 54.0**	**+0.7**
LOUT	**Loutraki**	**1.48**	**357**	P		**Pn**	**07 49 53.5**	**+0.2**
AMT	**Artemida-Makis**	**1.48**	**314**	P		**Pn**	**07 49 53.6**	**+0.1**
AMT	**Artemida-Makis**	**1.48**	**314**	P		**Pn**	**07 49 53.6**	**+0.1**
AMT	**Artemida-Makis**	**1.48**	**314**	P		**Pn**	**07 49 53.2**	**-0.2**
LTK	**Loutraki**	**1.51**	**357**	P		**Pn**	**07 49 54.5**	**+0.7**
LTK	**Loutraki**	**1.51**	**357**	P		**Pn**	**07 49 54.5**	**+0.7**
LTK	**Loutraki**	**1.51**	**357**	P		**Pn**	**07 49 54.0**	**+0.2**
ATH	**Athens Observa**	**1.55**	**20**	P		**Pb**	**07 49 55.9**	**+0.2**
ATH				S		**Sg**	**07 50 18.5**	**+1.1**
ATH	**Athens Observa**	**1.55**	**20**	P		**Pn**	**07 49 55.2**	**+0.9**
ATH				S		**Sn**	**07 50 13.9**	**-0.2**
ATH	**Athens Observa**	**1.55**	**20**	P		**Pn**	**07 49 55.2**	**+0.9**
ATH				S		**Sn**	**07 50 13.8**	**-0.2**
ATH				AML		AML	07 50 26.4	
	comp=E,1112μm,0.3s							
ATH				AML		AML	07 50 28.1	
	comp=N,1000μm,0.5s							
THAL	**Thalero**	**1.56**	**348**	P		**Pn**	**07 49 55.3**	**+0.9**
THAL	**Thalero**	**1.56**	**348**	P		**Pn**	**07 49 55.3**	**+0.9**
ATHU	**Athens Univers**	**1.56**	**22**	P		**Pn**	**07 49 55.5**	**+0.9**
ATHU	**Athens Univers**	**1.56**	**22**	P		**Pn**	**07 49 55.3**	**+0.8**
ATHU	**Athens Univers**	**1.56**	**22**	P		**Pn**	**07 49 55.4**	**+0.8**
VILL	**Villia**	**1.66**	**7**	P		**Pn**	**07 49 56.3**	**+0.4**
VILL	**Villia**	**1.66**	**7**	P		**Pn**	**07 49 56.3**	**+0.4**
VILL				S		**Sg**	**07 50 20.1**	**-0.9**
PTL	**Penteli**	**1.67**	**23**	P		**Pn**	**07 49 56.8**	**+0.8**
PTL	**Penteli**	**1.67**	**23**	P		**Pn**	**07 49 56.8**	**+0.8**
PTL				S		**Sn**	**07 50 17.6**	**+0.6**
PTL	**Penteli**	**1.67**	**23**	P		**Pn**	**07 49 54.8**	**-1.2**
PTL				S		**Sn**	**07 50 17.6**	**+0.6**
PTL				AML		AML	07 50 26.7	
	comp=N,691μm,0.7s							
PTL				AML		AML	07 50 27.2	
	comp=E,861μm,0.5s							
KLV	**Kalavryta, Ach**	**1.69**	**335**	P		**Pn**	**07 49 57.0**	**+0.6**
KLV				S		**Sb**	**07 50 20.3**	**+1.0**
KLV	**Kalavryta, Ach**	**1.69**	**335**	P		**Pn**	**07 49 57.0**	**+0.6**
KLV				S		**Sn**	**07 50 19.3**	**+1.6**
KLV	**Kalavryta, Ach**	**1.69**	**335**	P		**Pn**	**07 49 57.4**	**+1.1**
KLV				S		**Sn**	**07 50 19.3**	**+1.6**
KLV				AML		AML	07 50 25.5	
	comp=N,1114μm,0.4s							
KLV				AML		AML	07 50 28.1	
	comp=E,846μm,0.4s							
VIL2	**Platees**	**1.71**	**6**	P		**Pn**	**07 49 55.7**	**-0.8**
VIL2				S		**Sb**	**07 50 20.1**	**+0.5**
VIL2				AML		AML	07 50 30.6	
	comp=N,2247μm,0.5s							
VIL2				AML		AML	07 50 31.8	
	comp=Z,762μm,0.5s							
DRO	**Drossia**	**1.79**	**324**	P		**Pb**	**07 49 59.8**	**-0.1**
DRO				S		**Sg**	**07 50 24.1**	**-1.1**
DRO	**Drossia**	**1.79**	**324**	P		**Pn**	**07 49 57.8**	**+0.1**
DRO				S		**Sg**	**07 50 24.1**	**-1.1**
DRO	**Drossia**	**1.79**	**324**	P		**Pn**	**07 49 57.8**	**+0.1**
DRO				AML		AML	07 50 31.4	
	comp=E,2780μm,0.7s							
DRO				AML		AML	07 50 31.9	
	comp=N,2026μm,0.7s							
THR5	**Thira Island,**	**1.85**	**92**	P		**Pn**	**07 49 59.3**	**+0.9**
THR5	**Thira Island,**	**1.85**	**92**	P		**Pn**	**07 49 59.3**	**+0.9**
KARY	**Karystos**	**1.88**	**36**	P		**Pn**	**07 50 00.0**	**+1.2**
KARY	**Karystos**	**1.88**	**36**	P		**Pn**	**07 50 00.0**	**+1.2**
SAP1	**Santorini-Akro**	**1.89**	**94**	P		**Pn**	**07 49 59.5**	**+0.5**
SAP1	**Santorini-Akro**	**1.89**	**94**	P		**Pn**	**07 49 59.5**	**+0.5**
THR6	**Thira Island,**	**1.89**	**94**	P		**Pn**	**07 50 00.0**	**+0.9**
THR6	**Thira Island,**	**1.89**	**94**	P		**Pn**	**07 50 00.0**	**+0.9**
IDI	**Anoyia**	**1.93**	**129**	P		**Pn**	**07 49 59.7**	**+0.1**
IDI	**Anoyia**	**1.93**	**129**	P		**Pn**	**07 50 00.4**	**+0.9**
IDI				S		**Sn**	**07 50 22.7**	**-0.8**
IDI	**Anoyia**	**1.93**	**129**	P		**Pn**	**07 50 00.4**	**+0.9**
IDI				S		**Sn**	**07 50 22.7**	**-0.8**
IDI				AML		AML	07 50 37.6	
	comp=E,545μm,0.3s							
IDI				AML		AML	07 50 38.1	
	comp=N,522μm,0.5s							
LAKA	**Lakka**	**1.93**	**334**	P		**Pn**	**07 50 00.8**	**+1.2**
LAKA				S		**Sb**	**07 50 26.8**	**+0.8**
LAKA	**Lakka**	**1.93**	**334**	P		**Pn**	**07 50 00.8**	**+1.2**
LAKA				S		**Sn**	**07 50 24.6**	**+1.1**
LAKA	**Lakka**	**1.93**	**334**	P		**Pb**	**07 50 01.7**	**-0.5**
LAKA				S		**Sn**	**07 50 24.6**	**+1.1**
LAKA				AML		AML	07 50 33.8	
	comp=N,973μm,0.6s							
LAKA				AML		AML	07 50 34.2	
	comp=E,622μm,0.8s							
DSF	**Desfina**	**1.94**	**348**	P		**Pn**	**07 50 00.4**	**+0.7**
DSF	**Desfina**	**1.94**	**348**	P		**Pn**	**07 50 00.5**	**+0.7**
DSF	**Desfina**	**1.94**	**348**	P		**Pn**	**07 50 00.5**	**+0.7**
RLS	**Riolos of Patr**	**2.00**	**321**	P		**Pn**	**07 50 02.3**	**+1.8**
RLS				S		**Sb**	**07 50 28.1**	**+0.1**
RLS	**Riolos of Patr**	**2.00**	**321**	P		**Pn**	**07 50 01.4**	**+0.9**
RLS				S		**Sn**	**07 50 27.1**	**+2.0**
RLS	**Riolos of Patr**	**2.00**	**321**	P		**Pn**	**07 50 01.4**	**+0.9**
RLS				S		**Sn**	**07 50 27.1**	**+2.0**
RLS				AML		AML	07 50 42.3	
	comp=E,819μm,1.0s					

APE	**Apeiranthos**	**2.06**	**74**	P		**Pn**	**07 50 01.8**	**+0.4**
APE	**Apeiranthos**	**2.06**	**74**	P		**Pn**	**07 50 01.8**	**+0.4**
APE	**Apeiranthos**	**2.06**	**74**	P		**Pn**	**07 50 00.6**	**-0.8**
APE				AML	AML		07 50 38.8	
	comp=N,562μm,0.4s							
APE				AML	AML		07 50 49.4	
	comp=E,364μm,0.5s							
SIVA	**Sivas**	**2.06**	**136**	P		**Pn**	**07 50 02.8**	**+1.4**
SIVA	**Sivas**	**2.06**	**136**	P		**Pn**	**07 50 02.8**	**+1.4**
SIVA				S		**Sn**	**07 50 26.0**	**-0.7**
SIVA	**Sivas**	**2.06**	**136**	P		**Pb**	**07 50 03.4**	**-1.1**
SIVA				S		**Sn**	**07 50 26.0**	**-0.7**
SIVA				AML	AML		07 50 44.6	
	comp=N,548μm,0.5s							
SIVA				AML	AML		07 50 48.7	
	comp=E,1565μm,0.5s							
LKR	**Lokris**	**2.14**	**359**	P		**Pn**	**07 50 02.8**	**+0.4**
LKR	**Lokris**	**2.14**	**359**	P		**Pn**	**07 50 02.8**	**+0.4**
SMIA	**Simia**	**2.37**	**3**	P		**Pn**	**07 50 06.3**	**+0.7**
SMIA	**Simia**	**2.37**	**3**	P		**Pn**	**07 50 06.3**	**+0.7**
LAST	**Lasithi**	**2.38**	**124**	P		**Pn**	**07 50 06.3**	**+0.4**
LAST	**Lasithi**	**2.38**	**124**	P		**Pn**	**07 50 06.3**	**+0.4**
NPS	**Neapolis**	**2.42**	**120**	P		**Pn**	**07 50 07.0**	**+0.7**
NPS				S		**Sn**	**07 50 37.7**	**+2.1**
NPS	**Neapolis**	**2.42**	**120**	P		**Pn**	**07 50 07.0**	**+0.7**
NPS				S		**Sn**	**07 50 37.7**	**+2.1**
PVO	**Paravola**	**2.43**	**330**	P		**Pb**	**07 50 09.1**	**-1.6**
PVO	**Paravola**	**2.43**	**330**	P		**Pn**	**07 50 08.0**	**+1.6**
PVO				S		**Sn**	**07 50 38.7**	**+2.9**
PVO	**Paravola**	**2.43**	**330**	P		**Pn**	**07 50 08.0**	**+1.6**
PVO				S		**Sn**	**07 50 38.7**	**+2.9**
PVO				AML	AML		07 50 54.5	
	comp=N,435μm,0.4s							
PVO				AML	AML		07 50 56.8	
	comp=E,510μm,0.5s							
PDO	**Prodromos**	**2.56**	**325**	P		**Pn**	**07 50 09.1**	**+0.9**
PDO	**Prodromos**	**2.56**	**325**	P		**Pn**	**07 50 09.1**	**+0.9**
AGG	**Agios Georgios**	**2.57**	**347**	P		**Pn**	**07 50 09.4**	**+1.0**
AGG				S		**Sn**	**07 50 42.7**	**+3.3**
AGG	**Agios Georgios**	**2.57**	**347**	P		**Pn**	**07 50 09.1**	**+0.7**
AGG				S		**Sn**	**07 50 42.7**	**+3.3**
AGG	**Agios Georgios**	**2.57**	**347**	P		**Pn**	**07 50 09.1**	**+0.7**
AGG				S		**Sn**	**07 50 38.2**	**-1.2**
AGG				AML	AML		07 50 54.9	
	comp=E,555μm,1.1s							
AGG				AML	AML		07 50 59.0	
	comp=N,907μm,0.7s							
VLS	**Valsamata**	**2.58**	**311**	P		**Pn**	**07 50 07.2**	**-1.2**
VLS	**Valsamata**	**2.58**	**311**	P		**Pn**	**07 50 07.2**	**-1.2**
EVR	**Evrytania**	**2.60**	**338**	P		**Pn**	**07 50 10.7**	**+1.9**
EVR	**Evrytania**	**2.60**	**338**	P		**Pn**	**07 50 10.7**	**+1.9**
SKIA	**Skiathos**	**2.67**	**7**	P		**Pn**	**07 50 10.2**	**+0.4**
SKIA	**Skiathos**	**2.67**	**7**	P		**Pn**	**07 50 09.2**	**+0.4**
SKIA				S		**Sn**	**07 50 41.2**	**-0.6**
SKIA	**Skiathos**	**2.67**	**7**	P		**Pn**	**07 50 09.7**	**0.0**
SKIA				S		**Sn**	**07 50 41.2**	**-0.6**
SKIA				AML	AML		07 50 50.8	
	comp=E,163μm,0.3s							
SKIA				AML	AML		07 50 54.0	
	comp=N,204μm,0.5s							
AOS	**Alonnisos**	**2.73**	**14**	P		**Pn**	**07 50 10.9**	**+0.3**
AOS				S		**Sb**	**07 50 47.6**	**-1.6**
AOS	**Alonnisos**	**2.73**	**14**	P		**Pn**	**07 50 10.9**	**+0.3**
NEO	**Neokhori**	**2.79**	**3**	P		**Pn**	**07 50 12.3**	**+0.8**
NEO	**Neokhori**	**2.79**	**3**	P		**Pn**	**07 50 12.3**	**+0.8**
XOR	**Xorichti**	**2.85**	**2**	P		**Pn**	**07 50 13.2**	**+0.9**
XOR	**Xorichti**	**2.85**	**2**	P		**Pn**	**07 50 13.2**	**+0.9**
FYTO	**Fytoko, Volos**	**2.89**	**358**	P		**Pn**	**07 50 13.3**	**+0.5**
FYTO	**Fytoko, Volos**	**2.89**	**358**	P		**Pn**	**07 50 13.3**	**+0.5**
LKD2	**Lefkada island**	**2.96**	**321**	P		**Pn**	**07 50 16.5**	**+2.7**
LKD2	**Lefkada island**	**2.96**	**321**	P		**Pn**	**07 50 16.5**	**+2.7**
DSL	**Palaion Diasel**	**3.04**	**330**	P		**Pn**	**07 50 17.5**	**+2.6**
DSL	**Palaion Diasel**	**3.04**	**330**	P		**Pn**	**07 50 17.1**	**+2.2**
DSL	**Palaion Diasel**	**3.04**	**330**	P		**Pn**	**07 50 17.1**	**+2.2**
THL	**Klokotos Trika**	**3.16**	**345**	P		**Pn**	**07 50 17.3**	**+0.9**
THL	**Klokotos Trika**	**3.16**	**345**	P		**Pn**	**07 50 17.3**	**+0.9**
SMG	**Samos**	**3.25**	**67**	P		**Pn**	**07 50 17.7**	**0.0**
SMG	**Samos**	**3.25**	**67**	P		**Pn**	**07 50 17.7**	**0.0**
PAIG	**Paliouri**	**3.45**	**8**	P		**Pn**	**07 50 21.0**	**+0.6**
PAIG	**Paliouri**	**3.45**	**8**	P		**Pn**	**07 50 21.0**	**+0.6**
KARP	**Karpathos**	**3.46**	**105**	P		**Pn**	**07 50 22.0**	**+1.3**
KARP	**Karpathos**	**3.46**	**105**	P		**Pn**	**07 50 22.0**	**+1.3**
SGD	**Sagiada**	**3.81**	**325**	P		**Pn**	**07 50 27.2**	**+1.7**
SGD	**Sagiada**	**3.81**	**325**	P		**Pn**	**07 50 27.2**	**+1.7**
OUR	**Ouranopolis**	**3.89**	**10**	P		**Pn**	**07 50 27.1**	**+0.7**
OUR	**Ouranopolis**	**3.89**	**10**	P		**Pn**	**07 50 27.1**	**+0.7**
KEK	**Kerkira**	**4.10**	**322**	P		**Pn**	**07 50 30.6**	**+1.2**
KEK	**Kerkira**	**4.10**	**322**	P		**Pn**	**07 50 30.6**	**+1.2**
KNT	**Kendrikon**	**4.64**	**359**	P		**Pn**	**07 50 38.5**	**+1.6**
KNT	**Kendrikon**	**4.64**	**359**	P		**Pn**	**07 50 38.5**	**+1.6**

IDC 12 07:53:00.3±4.6, 27.°76N×140.°88E, h0km, mb3.4/2, mb1 3.6/3, mb1mx3.3/50, mbtmp3.3/3, ML3.4/1, Error ellipse: s-maj=320.2km s-min=35.5km az=84.0, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
MJAR	**Matsushiro Arr**	**9.04**	**346**	Pn		Pn	07 55 11.9	-0.3
	0.4nm,0.3s,baz=191,slow=5.8,SNR=2.1							
WRA	**Warramunga Arr**	**47.84**	**188**	P		P	08 01 40.0	+0.1
	0.4nm,0.5s,baz=6.8,slow=7.9,SNR=8.2							
ASAR	**Alice Springs**	**51.57**	**188**	P		P	08 02 08.0	-0.4
	0.2nm,0.6s,baz=8.5,slow=6.4,SNR=4.2							

MAN 12 07:55:20, 13.°63N×124.°89E, h27km, mb4.6, ML3.5, MS3.4, 1C-1D, Luzon

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
PVCP	**Virac**	**0.71**	**268**	*e*P		Pn	07 55 34.9	+0.5
PVCP				*e*S		Sn	07 55 45.9	+1.5
PLP	**Palo**	**2.45**	**178**⇓	*e*P		Pn	07 55 59.4	+1.2
PLP				*e*S		Sn	07 56 24.1	-3.2
RCP	**Roxas**	**2.93**	**226**⇑	*e*P		Pn	07 56 07.7	+2.9

*ISCJB **12** 08:05:23.6±0.2, 45.°55N±0.°02×26.°38E±0.°02, h134km±2km, mb4.0/10, Error ellipse: s-maj=2.8km s-min=2.5km az=40.1*
*IDC **12** 08:05:23.8±0.7, 45.°59N×26.°44E, h131km±4km, mb3.4/5, mb1 3.4/10, mb1mx3.1/44, mbtmp3.7/10, Error ellipse: s-maj=19.5km s-min=13.6km az=121.0*
*SIGU **12** 08:05:23.7, 45.°58N×26.°40E, h139km, mb3.2*
*MOS **12** 08:05:24.2±0.8, 45.°62N×26.°47E, h127km, mb4.3/6, Error ellipse: s-maj=8.6km s-min=5.1km az=112.2*
*BUC **12** 08:05:24.6±0.7, 45.°53N×26.°35E, h137km±7km, MD4.4/3, Error ellipse: s-maj=5.0km s-min=4.3km az=0.0*
*CSEM **12** 08:05:24.3±0.1, 45.°53N×26.°38E, h133km±1km, mb4.2/7*
*BEO **12** 08:05:30.7±2.3, 45.°44N×25.°83E, h0km, M3.1/8*

ISC 12 08:05:24.9±0.6, 45.°54N±0.°02×26.°37E±0.°02, h135km±4km, n243, σ1$29/339, mb3.9/10, 83C-19D, Romania

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
MLR	**Muntele Rosu**	**0.30**	**261**	P		**Pn**	**08 05 43.6**	**-0.2**
MLR				S		**Sn**	**08 05 57.0**	**-1.1**
MLR	**Muntele Rosu**	**0.30**	**261**	P		**Pn**	**08 05 43.6**	**-0.2**
	29nm,0.3s,baz=343,slow=11,SNR=2050							
MLR				S		**Sn**	**08 05 57.7**	**-0.4**
	baz=270,slow=20							
MLR	**Muntele Rosu**	**0.30**	**261**⇑	*i*P		**Pn**	**08 05 43.6**	**-0.2**
MLR	**Muntele Rosu**	**0.30**	**261**⇑	*i*P		**Pn**	**08 05 43.6**	**-0.2**
MLR				*i* S		**Sn**	**08 05 57.5**	**-1.4**
PLOR	**Plostina**	**0.37**	**32**	P		**Pn**	**08 05 43.6**	**-0.4**
PLOR				S		**Sn**	**08 05 57.0**	**-1.4**
PLOR	**Plostina**	**0.37**	**32**⇑	*i*P		**Pn**	**08 05 43.6**	**-0.4**
PLOR	**Plostina**	**0.37**	**32**	S		**Sn**	**08 05 56.6**	**-1.8**
PLOR	**Plostina**	**0.37**	**32**⇑	*i*P		**Pn**	**08 05 43.6**	**-0.4**
PLOR				*i* S		**Sn**	**08 05 56.6**	**-1.8**
PLOR	**Plostina**	**0.37**	**32**	P		**Pn**	**08 05 43.5**	**-0.4**
PLOR				S		**Sn**	**08 05 56.6**	**-1.8**
PLOR	**Plostina**	**0.37**	**32**	P		**Pn**	**08 05 43.5**	**-0.4**
PLOR				*i* S		**Sn**	**08 05 56.6**	**-1.8**
VRI	**Vrincioaia**	**0.41**	**37**	P		**Pn**	**08 05 44.0**	**-0.1**
VRI				S		**Sn**	**08 05 58.3**	**-0.4**
VRI	**Vrincioaia**	**0.41**	**37**⇑	*i*P		**Pn**	**08 05 44.0**	**-0.1**
VRI	**Vrincioaia**	**0.41**	**37**	S		**Sn**	**08 05 57.7**	**-1.0**
VRI	**Vrincioaia**	**0.41**	**37**⇑	*i*P		**Pn**	**08 05 44.0**	**-0.1**
VRI				*i* S		**Sn**	**08 05 57.7**	**-1.0**
VRI	**Vrincioaia**	**0.41**	**37**	*e*P		**Pn**	**08 05 43.7**	**-0.4**
VRI				*e*S		**Sn**	**08 05 57.6**	**-1.1**
VRI	**Vrincioaia**	**0.41**	**37**	*e*P		**Pn**	**08 05 43.7**	**-0.4**
VRI				*e*S		**Sn**	**08 05 57.6**	**-1.1**
ISR	**Istrita**	**0.44**	**164**⇑	*i*P		**Pn**	**08 05 44.3**	**0.0**
ISR	**Istrita**	**0.44**	**164**⇑	*i*P		**Pn**	**08 05 44.3**	**0.0**
ISR				*i* S		**Sn**	**08 05 58.8**	**-0.1**
ISR	**Istrita**	**0.44**	**164**⇑	*i*P		**Pn**	**08 05 44.3**	**0.0**
ISR				*i* S		**Sn**	**08 05 58.8**	**-0.1**
GRER		**0.46**	**110**⇑	*i*P		**Pn**	**08 05 45.2**	**+0.9**
GRER		**0.46**	**110**⇑	*i*P		**Pn**	**08 05 45.2**	**+0.9**
GRER		**0.46**	**110**⇑	*i*P		**Pn**	**08 05 45.2**	**+0.9**
ODBI	**Odobesti**	**0.53**	**65**⇑	*i*P		**Pn**	**08 05 45.5**	**+0.8**
ODBI	**Odobesti**	**0.53**	**65**⇑	*i*P		**Pn**	**08 05 45.5**	**+0.8**
ODBI	**Odobesti**	**0.53**	**65**⇑	*i*P		**Pn**	**08 05 45.5**	**+0.8**
SECR		**0.55**	**203**⇑	*i*P		**Pn**	**08 05 45.1**	**+0.3**
SECR		**0.55**	**203**⇑	*i*P		**Pn**	**08 05 45.1**	**+0.3**
SECR				*i* S		**Sn**	**08 06 00.2**	**+0.3**
SECR		**0.55**	**203**⇑	*i*P		**Pn**	**08 05 45.1**	**+0.3**
SECR				*i* S		**Sn**	**08 06 00.2**	**+0.3**
PETR	**Petresti**	**0.63**	**73**⇑	*i*P		**Pn**	**08 05 45.7**	**+0.4**
PETR	**Petresti**	**0.63**	**73**⇑	*i*P		**Pn**	**08 05 45.7**	**+0.4**
PETR				*i* S		**Sn**	**08 06 01.0**	**+0.3**
PETR	**Petresti**	**0.63**	**73**⇑	*i*P		**Pn**	**08 05 45.7**	**+0.4**
PETR				*i* S		**Sn**	**08 06 01.0**	**+0.3**
PGOR	**Pogoanele**	**0.77**	**145**⇑	*i*P		**Pn**	**08 05 46.0**	**-0.3**
PGOR	**Pogoanele**	**0.77**	**145**⇑	*i*P		**Pn**	**08 05 46.0**	**-0.3**
PGOR				*i* S		**Sn**	**08 06 03.0**	**+0.6**
PGOR	**Pogoanele**	**0.77**	**145**⇑	*i*P		**Pn**	**08 05 46.0**	**-0.3**
PGOR				*i* S		**Sn**	**08 06 03.0**	**+0.6**
DOPR	**Dopca**	**0.81**	**302**⇑	*i*P		**Pn**	**08 05 46.2**	**-0.4**
DOPR	**Dopca**	**0.81**	**302**⇑	*i*P		**Pn**	**08 05 46.2**	**-0.4**
DOPR				*i* S		**Sn**	**08 06 01.8**	**-1.3**
DOPR	**Dopca**	**0.81**	**302**⇑	*i*P		**Pn**	**08 05 46.2**	**-0.4**
DOPR				*i* S		**Sn**	**08 06 01.8**	**-1.3**
SULR		**0.86**	**185**⇑	*i*P		**Pn**	**08 05 47.2**	**+0.1**
SULR		**0.86**	**185**⇑	*i*P		**Pn**	**08 05 47.2**	**+0.1**
SULR				*i* S		**Sn**	**08 06 04.1**	**+0.3**
SULR		**0.86**	**185**⇑	*i*P		**Pn**	**08 05 47.2**	**+0.1**
SULR				*i* S		**Sn**	**08 06 04.1**	**+0.3**
VOIR		**0.93**	**264**⇑	*i*P		**Pn**	**08 05 47.3**	**-0.5**
VOIR		**0.93**	**264**	S		**Sn**	**08 06 03.3**	**-1.8**
VOIR		**0.93**	**264**⇑	*i*P		**Pn**	**08 05 47.3**	**-0.5**
VOIR				*i* S		**Sn**	**08 06 03.3**	**-1.8**
VOIR		**0.93**	**264**	P		**Pn**	**08 05 47.3**	**-0.5**
VOIR				S		**Sn**	**08 06 03.2**	**-1.8**
VOIR		**0.93**	**264**⇑	*i*P		**Pn**	**08 05 47.3**	**-0.5**
VOIR				*i* S		**Sn**	**08 06 03.3**	**-1.8**
TESR	**Tescani**	**0.99**	**11**⇑	*i*P		**Pn**	**08 05 47.8**	**-0.4**
TESR	**Tescani**	**0.99**	**11**⇑	*i*P		**Pn**	**08 05 47.8**	**-0.4**
TESR				*i* S		**Sn**	**08 06 04.2**	**-1.7**
TESR	**Tescani**	**0.99**	**11**⇑	*i*P		**Pn**	**08 05 47.8**	**-0.4**
TESR				*i* S		**Sn**	**08 06 04.2**	**-1.7**
BUC	**Bucharest**	**1.14**	**190**	P		**Pn**	**08 05 49.5**	**-0.1**
BUC				S		**Sn**	**08 06 08.0**	**-0.3**
BUC	**Bucharest**	**1.14**	**190**	P		**Pn**	**08 05 49.5**	**-0.1**
AMRR	**Amara**	**1.15**	**143**⇑	*i*P		**Pn**	**08 05 49.7**	**0.0**
AMRR	**Amara**	**1.15**	**143**⇑	*i*P		**Pn**	**08 05 49.7**	**0.0**
AMRR				*i* S		**Sn**	**08 06 07.9**	**-0.6**
AMRR	**Amara**	**1.15**	**143**⇑	*i*P		**Pn**	**08 05 49.7**	**0.0**
AMRR				*i* S		**Sn**	**08 06 07.9**	**-0.6**
BUC1	**Bucharest**	**1.22**	**192**⇑	*i*P		**Pn**	**08 05 50.2**	**-0.1**
BUC1				S		**Sn**	**08 06 08.0**	**-1.6**
BUC1	**Bucharest**	**1.22**	**192**⇑	*i*P		**Pn**	**08 05 50.2**	**-0.1**
BUC1				*i* S		**Sn**	**08 06 08.0**	**-1.6**
BUC1	**Bucharest**	**1.22**	**192**⇑	*i*P		**Pn**	**08 05 50.2**	**-0.1**
BUC1				*i* S		**Sn**	**08 06 08.0**	**-1.6**
ARR	**Arges**	**1.23**	**263**⇑	*i*P		**Pn**	**08 05 50.4**	**-0.2**
ARR	**Arges**	**1.23**	**263**⇑	*i*P		**Pn**	**08 05 50.4**	**-0.2**
ARR				*i* S		**Sn**	**08 06 08.6**	**-1.5**
ARR	**Arges**	**1.23**	**263**⇑	*i*P		**Pn**	**08 05 50.4**	**-0.2**
ARR				*i* S		**Sn**	**08 06 08.6**	**-1.5**
GIUM	**Giurgiulesti**	**1.29**	**92**	P		**Pn**	**08 05 51.4**	**+0.3**
GIUM				S		**Sn**	**08 06 10.6**	**-0.4**
GIUM	**Giurgiulesti**	**1.29**	**92**	P		**Pn**	**08 05 51.4**	**+0.3**
GIUM				S		**Sn**	**08 06 10.6**	**-0.4**
CFR	**Carcaliu**	**1.30**	**106**⇑	*i*P		**Pn**	**08 05 50.7**	**-0.4**
CFR	**Carcaliu**	**1.30**	**106**	S		**Sn**	**08 06 09.0**	**-2.1**
CFR	**Carcaliu**	**1.30**	**106**⇑	*i*P		**Pn**	**08 05 50.7**	**-0.4**
CFR				*i* S		**Sn**	**08 06 09.0**	**-2.1**
CFR	**Carcaliu**	**1.30**	**106**	P		**Pn**	**08 05 50.6**	**-0.5**
CFR				S		**Sn**	**08 06 09.0**	**-2.1**
CFR	**Carcaliu**	**1.30**	**106**	P		**Pn**	**08 05 50.6**	**-0.5**
CFR				*i* S		**Sn**	**08 06 09.0**	**-2.1**
HARR	**Harsova**	**1.40**	**127**⇓	*i*P		**Pn**	**08 05 51.9**	**-0.3**
HARR	**Harsova**	**1.40**	**127**⇓	*i*P		**Pn**	**08 05 51.9**	**-0.3**
HARR	**Harsova**	**1.40**	**127**	P		**Pn**	**08 05 51.8**	**-0.4**
HARR	**Harsova**	**1.40**	**127**	P		**Pn**	**08 05 51.8**	**-0.4**
HUMR	**Humele**	**1.41**	**225**⇑	*i*P		**Pn**	**08 05 52.0**	**-0.4**
HUMR	**Humele**	**1.41**	**225**⇑	*i*P		**Pn**	**08 05 52.0**	**-0.4**
HUMR				*i* S		**Sn**	**08 06 12.1**	**-1.2**
HUMR	**Humele**	**1.41**	**225**⇑	*i*P		**Pn**	**08 05 52.0**	**-0.4**
HUMR				*i* S		**Sn**	**08 06 12.1**	**-1.2**
TLB	**Topalu**	**1.52**	**128**⇓	*i*P		**Pn**	**08 05 53.3**	**-0.2**
TLB	**Topalu**	**1.52**	**128**⇓	*i*P		**Pn**	**08 05 53.3**	**-0.2**
TLB				*i* S		**Sn**	**08 06 13.9**	**-1.5**
TLB	**Topalu**	**1.52**	**128**⇓	*i*P		**Pn**	**08 05 53.3**	**-0.2**
TLB				*i* S		**Sn**	**08 06 13.9**	**-1.5**
LEOM	**Leova**	**1.61**	**54**	P		**Pn**	**08 05 54.5**	**0.0**
LEOM				S		**Sn**	**08 06 15.7**	**-1.4**
LEOM	**Leova**	**1.61**	**54**⇑	*i*P		**Pn**	**08 05 54.5**	**0.0**
LEOM	**Leova**	**1.61**	**54**⇑	*i*P		**Pn**	**08 05 54.5**	**0.0**
LEOM				*i* S		**Sn**	**08 06 16.3**	**-0.8**
LEOM	**Leova**	**1.61**	**54**	P		**Pn**	**08 05 54.5**	**0.0**
LEOM				S		**Sn**	**08 06 15.7**	**-1.4**
CVDA	**Cernavoda**	**1.69**	**135**⇑	*i*P		**Pn**	**08 05 55.3**	**-0.2**
CVDA	**Cernavoda**	**1.69**	**135**⇑	*i*P		**Pn**	**08 05 55.3**	**-0.2**
CVDA				*i* S		**Sn**	**08 06 17.0**	**-1.8**
CVDA	**Cernavoda**	**1.69**	**135**⇑	*i*P		**Pn**	**08 05 55.3**	**-0.2**
CVDA				*i* S		**Sn**	**08 06 17.0**	**-1.8**
TLCR		**1.76**	**101**⇓	*i*P		**Pn**	**08 05 56.3**	**+0.1**
TLCR		**1.76**	**101**⇓	*i*P		**Pn**	**08 05 56.3**	**+0.1**
TLCR				*i* S		**Sn**	**08 06 19.2**	**-1.0**
TLCR		**1.76**	**101**⇓	*i*P		**Pn**	**08 05 56.3**	**+0.1**
TLCR				*i* S		**Sn**	**08 06 19.2**	**-1.0**
TIRR	**Tirgusor**	**1.81**	**126**⇓	*i*P		**Pn**	**08 05 56.5**	**-0.3**
TIRR	**Tirgusor**	**1.81**	**126**	S		**Sn**	**08 06 19.0**	**-2.2**
TIRR	**Tirgusor**	**1.81**	**126**⇓	*i*P		**Pn**	**08 05 56.5**	**-0.3**
TIRR				*i* S		**Sn**	**08 06 19.0**	**-2.2**
TIRR	**Tirgusor**	**1.81**	**126**	P		**Pn**	**08 05 56.3**	**-0.5**
TIRR				S		**Sn**	**08 06 19.3**	**-1.9**
TIRR	**Tirgusor**	**1.81**	**126**	P		**Pn**	**08 05 56.3**	**-0.5**
TIRR				S		**Sn**	**08 06 19.3**	**-1.9**
LOT	**Lotru**	**1.83**	**268**⇑	*i*P		**Pn**	**08 05 56.7**	**-0.5**
LOT	**Lotru**	**1.83**	**268**⇑	*i*P		**Pn**	**08 05 56.7**	**-0.5**
LOT				*i* S		**Sn**	**08 06 19.9**	**-2.0**
LOT	**Lotru**	**1.83**	**268**⇑	*i*P		**Pn**	**08 05 56.7**	**-0.5**
LOT				*i* S		**Sn**	**08 06 19.9**	**-2.0**
IAS	**Iasi**	**1.85**	**26**	S		**Sn**	**08 06 20.4**	**-1.7**
IAS	**Iasi**	**1.85**	**26**	*i* S		**Sn**	**08 06 20.4**	**-1.7**
IAS	**Iasi**	**1.85**	**26**	*i* S		**Sn**	**08 06 20.4**	**-1.7**
ARCR	**ARCALIA**	**2.08**	**319**⇑	*i*P		**Pn**	**08 06 00.0**	**-0.1**
ARCR				S		**Sn**	**08 06 25.8**	**-1.4**
ARCR	**ARCALIA**	**2.08**	**319**⇑	*i*P		**Pn**	**08 06 00.0**	**-0.1**
ARCR				*i* S		**Sn**	**08 06 25.8**	**-1.4**
ARCR	**ARCALIA**	**2.08**	**319**⇑	*i*P		**Pn**	**08 06 00.0**	**-0.1**
ARCR				*i* S		**Sn**	**08 06 25.8**	**-1.4**
EFOR	**EFORIE**	**2.17**	**131**⇑	*i*P		**Pn**	**08 06 01.2**	**0.0**
EFOR	**EFORIE**	**2.17**	**131**⇑	*i*P		**Pn**	**08 06 01.2**	**0.0**
EFOR				*i* S		**Sn**	**08 06 28.3**	**-0.8**
EFOR	**EFORIE**	**2.17**	**131**⇑	*i*P		**Pn**	**08 06 01.2**	**0.0**
EFOR				*i* S		**Sn**	**08 06 28.3**	**-0.8**
MILM	**Milestii Mici**	**2.19**	**50**	P		**Pn**	**08 06 01.2**	**-0.1**
MILM				S		**Sn**	**08 06 26.7**	**-2.6**
MILM	**Milestii Mici**	**2.19**	**50**⇑	*i*P		**Pn**	**08 06 01.2**	**-0.1**
MILM	**Milestii Mici**	**2.19**	**50**⇑	*i*P		**Pn**	**08 06 01.2**	**-0.1**
MILM				*i* S		**Sn**	**08 06 27.0**	**-2.3**
MILM	**Milestii Mici**	**2.19**	**50**	P		**Pn**	**08 06 01.2**	**-0.1**
MILM				S		**Sn**	**08 06 26.7**	**-2.6**
BURAR	**Bucovina Array**	**2.22**	**339**⇓	*i*P		**Pn**	**08 06 03.3**	**+1.4**
BURAR	**Bucovina Array**	**2.22**	**339**⇓	*i*P		**Pn**	**08 06 03.3**	**+1.4**
BURAR	**Bucovina Array**	**2.22**	**339**	P		**Pn**	**08 06 03.2**	**+1.4**
BURAR				S		**Sn**	**08 06 31.3**	**+0.9**
BURAR	**Bucovina Array**	**2.22**	**339**⇓	*i*P		**Pn**	**08 06 03.3**	**+1.4**
KIS	**Kishinev**	**2.24**	**48**⇑	*i*P		**Pn**	**08 06 01.5**	**-0.5**
	1μm,0.6s							
KIS				*i* S		**Sn**	**08 06 28.5**	**-2.0**
	2μm,0.5s							
KIS	**Kishinev**	**2.24**	**48**⇑	*i*P		**Pn**	**08 06 01.9**	**-0.1**
KIS	**Kishinev**	**2.24**	**48**	S		**Sn**	**08 06 28.8**	**-1.7**
KIS	**Kishinev**	**2.24**	**48**⇑	*i*P		**Pn**	**08 06 01.9**	**-0.1**
KIS				*i* S		**Sn**	**08 06 28.8**	**-1.7**
KIS	**Kishinev**	**2.24**	**48**α	*i*P		**Pn**	**08 06 01.3**	**-0.7**
KIS				*i* S		**Sn**	**08 06 28.5**	**-2.0**
KIS				pmax	pmax			
	comp=Z,1μm,0.6s							
KIS				pmax	pmax			
	comp=Z,1μm,0.5s							
KIS				smax	smax			
	comp=E,2μm,0.5s							
KIS				smax	smax			
	comp=N,2μm,0.5s							
KIS				smax	smax			
	comp=E,2μm,0.5s							
KIS	**Kishinev**	**2.24**	**48**	*i* P		**Pn**	**08 06 01.3**	**-0.7**
KIS				Pm			08 06 01.5	
KIS				*i* S		**Sn**	**08 06 28.5**	**-2.0**
KIS				Sm			08 06 29.0	
KIS	**Kishinev**	**2.24**	**48**	*i* P		**Pn**	**08 06 01.3**	**-0.7**
	comp=E,1μm,0.5s							
KIS				*i* S		**Sn**	**08 06 28.5**	**-2.0**
	comp=E,2μm,0.5s							
CJR	**Cluj-Napoca**	**2.26**	**302**⇑	*i*P		**Pn**	**08 06 02.7**	**+0.4**
CJR	**Cluj-Napoca**	**2.26**	**302**⇑	*i*P		**Pn**	**08 06 02.7**	**+0.4**
CJR	**Cluj-Napoca**	**2.26**	**302**	P		**Pn**	**08 06 02.6**	**+0.3**
CJR	**Cluj-Napoca**	**2.26**	**302**	P		**Pn**	**08 06 02.6**	**+0.3**
PSN	**Preselentsi**	**2.27**	**144**	P		**Pn**	**08 06 02.8**	**+0.4**
PSN	**Preselentsi**	**2.27**	**144**	P		**Pn**	**08 06 02.8**	**+0.4**
MANR	**Mangalia**	**2.34**	**137**⇑	*i*P		**Pn**	**08 06 03.0**	**-0.3**
MANR	**Mangalia**	**2.34**	**137**⇑	*i*P		**Pn**	**08 06 03.0**	**-0.3**
MANR	**Mangalia**	**2.34**	**137**⇑	*i*P		**Pn**	**08 06 03.0**	**-0.3**
NEF	**NEVSHA**	**2.37**	**164**	P		**Pn**	**08 06 03.5**	**-0.2**
NEF	**NEVSHA**	**2.37**	**164**	P		**Pn**	**08 06 03.5**	**-0.2**
SRE	**Strehaia**	**2.41**	**250**⇓	*i*P		**

KHC	**Kasperske Hory**	**9.40**	**297**	*e*P		**Pn**	**08 07 38.2**	**+1.2**
KHC	**Kasperske Hory**	**9.40**	**297**	*e*P		**Pn**	**08 07 38.2**	**+1.2**
KLNR	**Kaliningrad**	**9.90**	**339**	*i* P		**Pn**	**08 07 42.5**	**-1.0**
KLNR	**Kaliningrad**	**9.90**	**339**	*i* P		**Pn**	**08 07 42.5**	**-1.0**
OBN	**Obninsk**	**11.58**	**30**	*i* P		**Pn**	**08 08 04.6**	**-1.2**
OBN	comp=Z,3.0nm,0.9s				pmax	pmax		
OBN	**Obninsk**	**11.58**	**30**	*i* P		**Pn**	**08 08 04.6**	**-1.2**
	comp=Z,3.0nm,0.9s							
KIV	**Kislovodsk**	**11.71**	**92**	*e*P		**Pn**	**08 08 06.1**	**-1.8**
KIV	comp=Z,7.0nm,1.0s				pmax	pmax		
KIV	**Kislovodsk**	**11.71**	**92**	*e*P		**Pn**	**08 08 06.1**	**-1.8**
	comp=Z,7.0nm,1.0s							
GNI	**Garni**	**14.51**	**105**	*i* P		**Pn**	**08 08 44.7**	**+0.8**
GNI	comp=Z,11nm,0.9s				pmax	pmax		
GNI	**Garni**	**14.51**	**105**	*i* P		**Pn**	**08 08 44.7**	**+0.8**
	comp=Z,11nm,0.9s							
FINES	**FINESS Array B**	**15.94**	**359**	P		**Pn**	**08 08 59.2**	**-2.1**
	comp=Z,0.1nm,0.3s,baz=170,slow=24,SNR=2.6							
NB2	**NORSAR Subarra**	**17.90**	**336**	P		**Pn**	**08 09 24.9**	**-0.2**
	comp=Z,1.6nm,0.6s,SNR=4.6							
NB2	**NORSAR Subarra**	**17.90**	**336**	P		**Pn**	**08 09 24.9**	**-0.2**
	comp=Z,1.6nm,0.6s,baz=147,slow=12							
NOA	**NORSAR Array B**	**17.90**	**336**	P		**Pn**	**08 09 24.5**	**-0.6**
	comp=Z,0.3nm,0.3s,baz=140,slow=10,SNR=5.2							
NOA	**NORSAR Array B**	**17.90**	**336**	*e*P		**Pn**	**08 09 24.9**	**-0.2**
NOA	**NORSAR Array B**	**17.90**	**336**	*e*P		**Pn**	**08 09 24.9**	**-0.2**
ARU	**Arti**	**22.79**	**50**	*d* iP		**P**	**08 10 15.3**	**-0.4**
ARU							08 10 44.4	
ARU					S	**S**	**08 14 15.7**	**+1.4**
ARU	comp=Z,9.0nm,2.5s				pmax	pmax		
ARU	**Arti**	**22.79**	**50**	*i* P		**P**	**08 10 15.3**	**-0.4**
	comp=Z,9.0nm,2.5s							
ARU					S	**S**	**08 14 15.7**	**+1.4**
ESDC	**Sonseca Array**	**23.00**	**266**	P		**P**	**08 10 17.4**	**-0.5**
	comp=Z,0.2nm,0.3s,baz=64,slow=10,SNR=4.7							
ARCES	**ARCESS Array B**	**24.07**	**359**	P		**P**	**08 10 25.9**	**-1.3**
	comp=Z,2.3nm,0.9s,baz=359,slow=8.9,SNR=2.6							
MDT	**Midelt**	**26.99**	**253**	P		**P**	**08 10 52.0**	**-2.2**
	comp=Z,0.8nm,0.6s,baz=11,slow=8.2,SNR=2.4							
BRVK	**Borovoye**	**29.22**	**59**	*i* P		**P**	**08 11 15.5**	**+1.9**
BRVK	comp=Z,3.0nm,1.0s				pmax	pmax		
BRVK	**Borovoye**	**29.22**	**59**	*i* P		**P**	**08 11 15.5**	**+1.9**
	comp=Z,3.0nm,1.0s							
AAK	**Ala-Archa**	**34.28**	**77**	*i* P		**P**	**08 11 59.6**	**+1.4**
AAK	comp=Z,2.0nm,0.9s				pmax	pmax		
AAK	**Ala-Archa**	**34.28**	**77**	*i* P		**P**	**08 11 59.6**	**+1.4**
	comp=Z,2.0nm,0.9s							
TORD	**Torodi Ar. Bea**	**38.47**	**221**	P		**P**	**08 12 34.4**	**+0.6**
	comp=Z,1.4nm,0.6s,baz=24,slow=8.5,SNR=17							
DBIC	**Dimbokro**	**47.23**	**225**	P		**P**	**08 13 43.9**	**-0.5**
	comp=Z,2.0nm,0.4s,baz=6.9,slow=6.0,SNR=13							
YAK	**Yakutsk**	**56.56**	**33**	P		**P**	**08 14 50.4**	**-2.4**
	comp=Z,14nm,0.4s,baz=209,slow=0.5,SNR=2.5							
BILL	**Bilibino**	**62.81**	**16**	⇓*e*P		**P**	**08 15 37.9**	**+2.4**
BILL							08 16 16.0	
BILL					pmax	pmax		
	comp=Z,11nm,0.6s							
BILL	**Bilibino**	**62.81**	**16**	*e*P		**P**	**08 15 37.9**	**+2.4**
	comp=Z,11nm,0.6s							
CMAR	**Chiang Mai Arr**	**64.94**	**89**	*i* P		**P**	**08 15 54.2**	**+4.0**
CMAR	comp=Z,2.0nm,0.5s				pmax	pmax		
ASAR	**Alice Springs**	**118.56**	**95**	PKP		**PKPdf**	**08 23 56.5**	**-0.3**
	comp=Z,0.2nm,0.3s,baz=302,slow=1.5,SNR=3.5							

LJU 12 08:06:02.3, 46°39N×15°07E, h0km Rockburst, Northwestern Balkan Peninsula

MEX 12 08:18:55.5±0.8, 16°92N×95°49W, h126km±10km, MD3.8, Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VHO	**Vista Hermosa**	**1.20**	**278**	*e*P	Pn	08 19 18.9	-1.3
VHO				*i* S	Sn	08 19 37.1	-1.8
HUIG	**Huatulco**	**1.29**	**207**	*e*P	Pn	08 19 19.9	-1.1
HUIG				*i* S	Sn	08 19 38.8	-1.5
TGIG		**2.27**	**93**	*i* P	Pn	08 19 31.3	-1.4
TGIG				*i* S	Sn	08 19 59.3	-2.0
TPIG	**Tehuac#an**	**2.33**	**310**	*i* P	Pn	08 19 32.2	-1.3
TPIG				*i* S	Sn	08 20 00.6	-2.0
PNIG	**Pinotepa**	**2.58**	**259**	*e*P	Pn	08 19 34.9	-1.7
PNIG				*e*S	Sn	08 20 05.6	-2.5
TLIG	**Tlapa**	**3.01**	**283**	*e*P	Pn	08 19 40.8	-1.4
TLIG				*i* S	Sn	08 20 16.5	-1.7
CCIG	**Comitan**	**3.28**	**101**	*i* P	Pn	08 19 45.6	-0.2
CCIG				*i* S	Sn	08 20 22.9	-1.7

*ISCJB **12** 08:29:44.5±0.4, 32°24N±0°02×115°28W±0°03, h17km±4km, Error ellipse: s-maj=4.3km s-min=3.8km az=26.6*
*NEIC **12** 08:29:45.8±0.0, 32°26N×115°32W, h4km, ML2.6(ECX), ML2.6(PAS), After ECX.*
*ECX **12** 08:29:45.6±0.5, 32°26N×115°31W, h4km, MD2.4, ML2.7*
ISC 12 08:29:43.5±1.0, 32°24N±0°03×115°30W±0°03, h16km±8km, n46, σ1s02/61, 4C-4D, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CPBX	**Cerro Prieto**	**0.18**	**359**	*e*P	**Pb**	**08 29 48.5**	**+0.1**
CPBX				*e*S	**Sg**	**08 29 51.3**	**+0.3**
CPBX	comp=N,6μm,0.1s			IAML		08 29 53.8	
CPBX				⇓*e*		08 29 53.8	
SGL	**Mount Signal**	**0.55**	**319**	⇑*i*P	**Pb**	**08 29 54.9**	**+0.2**
EMSC	**East Mesa**	**0.57**	**28**	*e*Pg	**Pn**	**08 29 56.4**	**-0.5**
DREC	**Desert Rsrch C**	**0.58**	**348**	⇓*i*P	**Pb**	**08 29 56.2**	**+0.9**
DREC	**Desert Rsrch C**	**0.58**	**348**	*e*Pg	**Pn**	**08 29 56.8**	**-0.3**
DREC				*e*Sg	**Sn**	**08 30 05.7**	**-0.5**
ERPC	**Ernies Place**	**0.59**	**329**	*e*Pg	**Pn**	**08 29 56.4**	**-0.8**
WESC	**Westside Schoo**	**0.64**	**325**	⇑*i*P	**Pb**	**08 29 56.9**	**+0.8**
WESC	**Westside Schoo**	**0.64**	**325**	*e*Pg	**Pn**	**08 29 57.1**	**-0.7**
WESC				*e*Sg	**Sb**	**08 30 06.2**	**+1.4**
COA	**Coachella**	**0.64**	**13**	*e*P	**Pn**	**08 29 57.2**	**-0.7**
COA	**Coachella**	**0.64**	**13**	*e*Pg	**Pb**	**08 29 57.5**	**-0.4**
YUH	**Yuha Desert**	**0.67**	**308**	⇑*i*P	**Pb**	**08 29 56.8**	**+0.1**
YUH	**Yuha Desert**	**0.67**	**308**	*e*Pg	**Pb**	**08 29 56.8**	**+0.1**
RMX	**La Rumorosa**	**0.75**	**299**	*e*P	**Pg**	**08 29 57.9**	**-0.3**
RMX				*e*S	**Sg**	**08 30 07.6**	**-0.6**
ECBX	**El Chinero**	**0.79**	**164**	⇓*e*P	**Pn**	**08 29 59.7**	**-0.3**
ECBX				*e*S	**Sn**	**08 30 11.0**	**-0.5**
IKP	**In-Ko-Pah, Jac**	**0.80**	**301**	P	**Pg**	**08 29 59.3**	**+0.2**
IKP	baz=120			S	**Sb**	**08 30 09.6**	**0.0**
IKP	**In-Ko-Pah, Jac**	**0.80**	**301**	⇑*i*P	**Pg**	**08 29 59.2**	**+0.2**
SWSC	**Sam W. Stewart**	**0.82**	**329**	P	**Pb**	**08 29 59.3**	**-0.1**
	baz=150						
CRR	**Carrizo Plain**	**0.86**	**319**	*e*Pg	**Pn**	**08 30 00.6**	**-0.3**
GLA	**Glamis**	**0.90**	**26**	P	**Pb**	**08 30 00.8**	**0.0**
	baz=208						
GLA	**Glamis**	**0.90**	**26**	*e*Pg	**Pb**	**08 30 00.8**	**0.0**
GLA				*e*Sg	**Sn**	**08 30 14.1**	**-0.2**
CBKC	**Canebrake**	**1.04**	**310**	*e*Pg	**Pg**	**08 30 04.2**	**+0.6**
ZAX	**El Zacaton**	**1.10**	**229**	*e*P	**Pg**	**08 30 04.8**	**+0.1**
MONP	**Monument Peak,**	**1.15**	**305**	P	**Pg**	**08 30 05.6**	**-0.2**
	baz=124						
CBX	**Cerro Bola**	**1.16**	**274**	*e*P	**Pg**	**08 30 05.9**	**0.0**
CBX	comp=E,185nm,0.3s			IAML		08 30 18.4	
CBX				⇓*e*		08 30 18.4	
TJIG	**Tijuana**	**1.18**	**280**	*e*P	**Pb**	**08 30 05.5**	**+0.1**
SPIG	**San Pedro Mart**	**1.20**	**187**	*e*P	**Pg**	**08 30 06.7**	**0.0**
SPX	**San Pedro Mart**	**1.20**	**187**	*e*P	**Pg**	**08 30 07.0**	**+0.3**
BAR	**Barrett**	**1.24**	**291**	*e*P	**Pg**	**08 30 07.1**	**-0.4**
BAR	**Barrett**	**1.24**	**291**	*e*Pn	**Pg**	**08 30 07.1**	**-0.4**
BAR				*e*Sg	**Sg**	**08 30 23.2**	**-0.5**
ECNX	**Esteban Cantu**	**1.25**	**243**	*e*P	**Pg**	**08 30 07.2**	**-0.3**
113A	**Mohawk Valley,**	**1.40**	**67**	*e*Pn	**Pn**	**08 30 08.5**	**+0.2**
113A				*e*Sn	**Sn**	**08 30 24.9**	**-1.5**
EML	**El Monte Cty P**	**1.46**	**297**	*e*Pn	**Pg**	**08 30 11.2**	**-0.3**
SDRC	**San Diego Road**	**1.47**	**290**	*e*P	**Pb**	**08 30 10.9**	**+0.4**
DPP	**Dos Picos Cty**	**1.58**	**299**	*e*Pn	**Pg**	**08 30 14.4**	**+0.5**
DPP				*e*Sn	**Sb**	**08 30 33.2**	**+1.2**
HWB	**Hans Werner Br**	**1.61**	**300**	*e*Pn	**Pg**	**08 30 14.1**	**-0.3**
Y12C	**Blythe**	**1.64**	**23**	*e*Pn	**Pg**	**08 30 15.0**	**-0.1**
Y12C				*e*Sn	**Sn**	**08 30 31.6**	**-0.9**
109C	**Camp Elliot, M**	**1.66**	**294**	Pb	**Pb**	**08 30 14.0**	**+0.4**
	baz=112						
109C				Sb	**Sb**	**08 30 35.1**	**+0.9**
	baz=112						
CPE	**Camp Elliot**	**1.66**	**294**	*e*Pn	**Pn**	**08 30 09.3**	**-2.6**
CPE				*e*Sn	**Sb**	**08 30 35.4**	**+1.1**
XPFO	**Piæon Flat**	**1.68**	**325**	*e*Pn	**Pn**	**08 30 12.1**	**-0.3**
PFO	**Pinyon Flats O**	**1.68**	**325**	*e*Pn	**Pn**	**08 30 12.1**	**-0.3**
PFO				*e*Sn	**Sn**	**08 30 30.3**	**-3.3**
HMTC	**Hemet**	**2.05**	**316**	*e*Pn	**Pg**	**08 30 22.6**	**-0.2**
MURC	**Murrieta**	**2.09**	**311**	Sb	**Sg**	**08 30 49.5**	**-1.4**
	baz=130						
214A	**Organ Pipe Nat**	**2.13**	**97**	P	**Pn**	**08 30 18.7**	**+0.2**
	baz=279						
Y14A	**Wickenburg**	**2.57**	**48**	*e*Pn	**Pb**	**08 30 27.5**	**-1.6**
X16A	**Lo Mia Camp, P**	**3.89**	**55**	*e*Pn	**Pn**	**08 30 45.0**	**+2.2**
CARC	**Carrizo Plain**	**4.87**	**310**	*e*Pn	**Pn**	**08 30 57.0**	**+0.9**
CARC				*e*Sn	**Sn**	**08 31 56.2**	**+4.1**

*ISCJB **12** 08:29:54.4±1.2, 32°20N±0°06×115°30W±0°04, h1km±5km, Error ellipse: s-maj=10.8km s-min=4.9km az=174.1*
*NEIC **12** 08:29:55.8±0.0, 32°18N×115°35W, h7km, ML2.9(PAS), After PAS.*
NEIC Felt at Somerton, Arizona.
ISC 12 08:29:54.3±2.0, 32°17N±0°09×115°30W±0°03, h4km±11km, n24, σ0s95/36, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WESC	**Westside Schoo**	**0.70**	**328**	*e*Pg	**Pg**	**08 30 08.6**	**+0.9**
IKP	**In-Ko-Pah, Jac**	**0.84**	**305**	S	**Sg**	**08 30 21.0**	**-0.4**
	baz=126						
SWSC	**Sam W. Stewart**	**0.89**	**331**	P	**Pg**	**08 30 11.0**	**-0.3**
	baz=153						
GLA	**Glamis**	**0.97**	**24**	*e*Pg	**Pg**	**08 30 13.1**	**+0.1**
GLA				*e*Sg	**Sg**	**08 30 24.6**	**-0.9**
GLA	**Glamis**	**0.97**	**24**	P	**Pg**	**08 30 13.0**	**+0.1**
	baz=207						
MONP	**Monument Peak,**	**1.20**	**308**	P	**Pg**	**08 30 17.1**	**-0.2**
	baz=128						
MONP				S	**Sg**	**08 30 31.7**	**-1.1**
	baz=128						
BAR	**Barrett**	**1.27**	**294**	*e*Pn	**Pb**	**08 30 18.7**	**-0.2**
BAR				*e*Pg	**Pb**	**08 30 18.8**	**-0.2**
BAR				*e*Sn	**Sg**	**08 30 34.5**	**-0.7**
113A	**Mohawk Valley,**	**1.43**	**65**	*e*Pn	**Pn**	**08 30 20.6**	**-0.4**
113A				*e*Sn	**Sn**	**08 30 38.2**	**-2.0**
BC3	**Big Chuckawall**	**1.49**	**355**	Pb	**Pn**	**08 30 22.1**	**0.0**
	baz=176						
EML	**El Monte Cty P**	**1.50**	**299**	*e*Pn	**Pn**	**08 30 22.6**	**+0.6**
DPP	**Dos Picos Cty**	**1.62**	**301**	*e*Pn	**Pb**	**08 30 25.3**	**+0.5**
DPP				*e*Sn	**Sn**	**08 30 44.5**	**-0.6**
HWB	**Hans Werner Br**	**1.65**	**302**	*e*Pn	**Pb**	**08 30 26.1**	**+0.8**
HWB				*e*Sn	**Sb**	**08 30 46.4**	**0.0**
109C	**Camp Elliot, M**	**1.69**	**296**	Pb	**Pn**	**08 30 25.5**	**+0.8**
	baz=115						
109C				Sb	**Sn**	**08 30 46.6**	**-0.2**
	baz=115						
CPE	**Camp Elliot**	**1.69**	**296**	*e*Pn	**Pn**	**08 30 25.6**	**+1.0**
CPE				*e*Sn	**Sn**	**08 30 46.9**	**+0.1**
Y12C	**Blythe**	**1.71**	**22**	*e*Pn	**Pn**	**08 30 26.3**	**+1.4**
Y12C				*e*Sn	**Sb**	**08 30 49.9**	**+1.7**
PFO	**Pinyon Flats O**	**1.74**	**326**	P	**Pn**	**08 30 23.6**	**-1.9**
	baz=147						
PFO	**Pinyon Flats O**	**1.74**	**326**	*e*Pn	**Pn**	**08 30 23.6**	**-1.9**
PFO				*e*Sn	**Sn**	**08 30 48.4**	**+0.2**
SNDA	**J Saunders Pla**	**1.77**	**322**	*e*Sn	**Sb**	**08 30 50.1**	**0.0**
PLM	**Palomar**	**1.77**	**312**	*e*Pn	**Pb**	**08 30 27.9**	**+0.4**
DGR	**Domenigoni Val**	**2.07**	**316**	*e*Pn	**Pb**	**08 30 33.3**	**+0.8**
MURC	**Murrieta**	**2.14**	**312**	Sb	**Sb**	**08 31 00.9**	**+0.1**
	baz=132						
LDFC	**Landfair**	**2.91**	**3**	*e*Pn	**Pn**	**08 30 41.4**	**-0.2**
W13A	**Hualapai Mount**	**3.15**	**22**	*e*Pn	**Pn**	**08 30 46.1**	**+1.1**
CARC	**Carrizo Plain**	**4.92**	**311**	*e*Pn	**Pn**	**08 31 10.3**	**+1.2**
CARC				*e*Sn	**Sn**	**08 32 05.0**	**-1.6**

*ISCJB **12** 08:33:30.5±0.5, 37°04N±0°03×36°83E±0°04, h7km±6km, Error ellipse: s-maj=5.0km s-min=4.2km az=9.1*
*DDA **12** 08:33:30.4, 37°05N×36°85E, h7km, Md2.8*
*CSEM **12** 08:33:31.0±0.2, 37°00N×36°84E, h12km, MD2.8, Error ellipse: s-maj=4.9km s-min=4.6km az=155.0*
*ISK **12** 08:33:34.7, 36°79N×35°58E, h5km, MD2.5*
ISC 12 08:33:30.0±1.0, 37°02N±0°03×36°84E±0°03, h12km±8km, n18, σ0s62/36, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAMA	**Osmaniye**	**0.22**	**322**	*i* P	**Pg**	**08 33 34.7**	**+0.1**
KAMA				*i* S	**Sg**	**08 33 38.0**	**+0.2**
KUZU	**Kuzuini**	**0.31**	**142**	*i* P	**Pb**	**08 33 37.4**	**-0.1**
KUZU				*i* S	**Sb**	**08 33 42.4**	**-0.2**
KUZU	**Kuzuini**	**0.31**	**142**	P	**Pb**	**08 33 37.4**	**-0.1**
KUZU				S	**Sb**	**08 33 42.4**	**-0.2**
HCB	**Kahramanmara¯**	**0.33**	**10**	*i* P	**Pg**	**08 33 36.0**	**-0.8**
HCB				*i* S	**Sg**	**08 33 40.4**	**-0.8**
ANDN	**Andirin**	**0.69**	**325**	*i* P	**Pn**	**08 33 45.0**	**-0.6**
ANDN				*i* S	**Sg**	**08 33 52.7**	**+0.3**
ANDN	**Andirin**	**0.69**	**325**	P	**Pn**	**08 33 45.0**	**-0.6**
ANDN				S	**Sg**	**08 33 52.7**	**+0.3**
TAHT	**Tahtakopru-Hat**	**0.83**	**219**	*e*PG	**Pn**	**08 33 48.2**	**+0.8**
TAHT				*e*SG	**Sn**	**08 33 58.2**	**-1.4**
TAHT	**Tahtakopru-Hat**	**0.83**	**219**	*e*Pg	**Pn**	**08 33 48.2**	**+0.8**
TAHT				*e*Sg	**Sn**	**08 33 58.2**	**-1.4**
KOZT	**Kozan**	**0.93**	**300**	*e*PG	**Pn**	**08 33 49.5**	**+0.7**
KOZT				*e*SG	**Sb**	**08 34 00.6**	**+0.3**
KOZT	**Kozan**	**0.93**	**300**	*e*Pg	**Pn**	**08 33 49.6**	**+0.7**
KOZT				*e*Sg	**Sb**	**08 34 00.6**	**+0.3**
YAYL	**Yayladag**	**1.14**	**211**	*e*PG	**Pg**	**08 33 52.3**	**+0.3**
YAYL				*e*SG	**Sb**	**08 34 05.7**	**-0.9**
YAYL	**Yayladag**	**1.14**	**211**	*i* P	**Pn**	**08 33 51.6**	**-0.3**
YAYL				*i* S	**Sn**	**08 34 08.1**	**+0.5**
YAYL	**Yayladag**	**1.14**	**211**	P	**Pn**	**08 33 51.6**	**-0.3**
YAYL	**Yayladag**	**1.14**	**211**	*e*Pg	**Pg**	**08 33 52.3**	**+0.3**
YAYL				*e*Sg	**Sb**	**08 34 05.7**	**-0.9**
YAYL				S	**Sn**	**08 34 08.1**	**+0.5**
ATAB	**Bozova**	**1.25**	**68**	*i* P	**Pb**	**08 33 53.9**	**+0.4**
ATAB				*i* S	**Sb**	**08 34 10.1**	**+0.5**
ATAB	**Bozova**	**1.25**	**68**	P	**Pb**	**08 33 53.9**	**+0.4**
ATAB				S	**Sb**	**08 34 10.1**	**+0.5**
SURC	**SANLIURFA_SURC**	**1.43**	**95**	*i* P	**Pb**	**08 33 57.2**	**+0.6**
SURC				*i* S	**Sg**	**08 34 16.1**	**+0.1**
SURC	**SANLIURFA_SURC**	**1.43**	**95**	P	**Pb**	**08 33 57.2**	**+0.6**
SURC				S	**Sg**	**08 34 16.1**	**+0.1**

*SOME **12** 08:38:01.7, 44°25N×77°67E, h5km*
*NNC **12** 08:38:01.6±0.6, 44°32N×77°60E, h0km, mb3.2, mpv2.8, Error ellipse: s-maj=6.0km s-min=2.7km az=175.0*
ISC 12 08:38:01.7±1.3, 44°28N±0°04×77°61E±0°02, h1km±10km, n27, σ1s21/49, 6C-7D, Eastern Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARXS	**Arharly**	**0.17**	**113**	*e*P	**Pg**	**08 38 04.7**	**-0.2**
ARXS	179nm,0.3s			*e*S	**Sg**	**08 38 07.1**	**-0.1**
MNBS	**Baschi**	**0.60**	**109**	*e*P	**Pb**	**08 38 14.5**	**-0.7**
MNBS	281nm,0.3s			*e*S	**Sb**	**08 38 23.6**	**-0.6**
CHKK	**Chushkaly**	**0.62**	**227**	*e*P	**Pg**	**08 38 13.4**	**-0.1**
CHKK	57nm,0.3s			*e*S	**Sg**	**08 38 21.8**	**+0.3**
KTBS	**Karatobe**	**0.88**	**230**	*e*P	**Pg**	**08 38 18.4**	**-0.1**
KTBS	61nm,0.3s			*e*S	**Sg**	**08 38 30.5**	**+0.7**
KURS	**Kuram**	**0.89**	**153**	*e*P	**Pg**	**08 38 18.2**	**-0.5**
KURS				*e*S	**Sg**	**08 38 30.1**	**-0.1**
KUU	**Kurty**	**0.99**	**248**	*e*P	**Pg**	**08 38 20.1**	**-0.6**
KUU	78nm,0.2s			*e*S	**Sg**	**08 38 33.2**	**-0.3**
KOTS	**Kotyrbulak**	**1.10**	**199**	*e*P	**Pg**	**08 38 22.4**	**-0.4**
KOTS	39nm,0.2s			*e*S	**Sg**	**08 38 37.3**	**+0.1**
KPKS	**Kokpek**	**1.13**	**136**	*e*P	**Pg**	**08 38 22.0**	**-1.3**
KPKS	32nm,0.1s			*e*S	**Sg**	**08 38 36.5**	**-1.3**
TNSS	**Tian-Shan**	**1.33**	**201**	*e*P	**Pg**	**08 38 26.6**	**-0.6**
TNSS	30nm,0.3s			*e*S	**Sg**	**08 38 44.5**	**+0.1**
SATY	**Saty**	**1.35**	**154**	*e*P	**Pg**	**08 38 26.3**	**-1.2**
SATY	32nm,0.2s			*e*S	**Sg**	**08 38 44.2**	**-0.8**
MTBS	**Maitube**	**1.43**	**217**	*e*P	**Pn**	**08 38 28.4**	**-0.4**
MTBS	32nm,0.3s			*e*S	**Sg**	**08 38 47.9**	**+0.2**
IZV	**Izvestkoviy**	**1.44**	**210**	*e*P	**Pn**	**08 38 29.1**	**+0.1**
IZV	38nm,0.2s			*e*S	**Sn**	**08 38 48.8**	**+0.2**
UZB	**Uzynbulak**	**1.53**	**137**	*e*P	**Pn**	**08 38 29.2**	**-1.0**
UZB	18nm,0.2s			*e*S	**Sn**	**08 38 49.7**	**-1.2**
DJR	**Jarkent**	**1.57**	**87**	*e*P	**Pn**	**08 38 30.4**	**-0.4**
DJR	81nm,0.2s			*e*S	**Sn**	**08 38 50.8**	**-1.0**
KAPS	**Kapalarasan**	**1.60**	**50**	*e*P	**Pn**	**08 38 31.0**	**-0.2**
KAPS	15nm,0.1s			*e*S	**Sn**	**08 38 51.9**	**-0.7**
PDGK	**Podgornoye**	**1.66**	**124**	⇑P	**Pn**	**08 38 31.2**	**-0.9**
PDGK	5.0nm,0.2s			⇑S	**Sg**	**08 38 55.3**	**+0.3**
DGS	**Degeres**	**1.69**	**233**	*e*P	**Pn**	**08 38 32.6**	**+0.2**
DGS	29nm,0.5s			*e*S	**Sn**	**08 38 54.9**	**+0.2**
KST	**Kastek**	**1.72**	**225**	*e*P	**Pn**	**08 38 32.8**	**-0.1**
KST	10nm,0.2s			*e*S	**Sn**	**08 38 55.0**	**-0.5**
SHLS	**Shalkode**	**1.75**	**129**	*e*P	**Pg**	**08 38 37.0**	**+1.8**
SHLS	14nm,0.2s			*e*S	**Sg**	**08 39 03.0**	**+5.1**
TKM2	**Tokmak 2**	**1.99**	**228**	⇑Pn	**Pn**	**08 38 37.2**	**+0.4**
TKM2	8.1nm,0.5s			⇑Sn	**Sb**	**08 39 04.1**	**-0.2**
KTMS	**Ketmen**	**2.15**	**112**	*e*P	**Pn**	**08 38 39.6**	**+0.7**
KTMS	16nm,0.3s			*e*S	**Sn**	**08 39 06.7**	**+0.4**
AAK	**Ala-Archa**	**2.80**	**235**	⇓Pg	**Pb**	**08 38 53.3**	**+0.7**
AAK	2.3nm,0.6s			⇓Lg	Lg	08 39 29.8	
MRKS	**Merke**	**3.54**	**246**	*e*P	**Pb**	**08 39 06.8**	**+1.7**
MRKS	4.9nm,0.4s			*e*S	**Sg**	**08 39 53.3**	**-2.0**
MNAS	**Manas**	**4.13**	**246**	⇓Pg	**Pg**	**08 39 18.4**	**-2.3**
MNAS	0.6nm,0.3s			⇓Lg	Lg	08 40 12.9	
MK31	**Makanchi Array**	**4.14**	**51**	⇓Pn	**Pn**	**08 39 06.8**	**+0.8**
	0.3nm,0.3s,baz=220,slow=13,SNR=11						
MK31				⇑Pg	**Pb**	**08 39 16.0**	**+0.6**
	0.5nm,0.3s,baz=229,slow=13,SNR=4.5						
MK31				Lg	Lg	08 40 13.0	
	1.7nm,0.6s,baz=228,slow=29,SNR=5.2						
KK31	**Karatay Array**	**5.28**	**260**	⇑Pg	**Pb**	**08 39 37.7**	**+3.0**
	1.1nm,0.6s,baz=74,slow=17,SNR=7.5						
KK31				⇓Lg	Lg	08 40 47.2	
	1.8nm,0.6s,baz=72,slow=29,SNR=7.8						
KURBB	**Kurchatov Arra**	**6.38**	**5**	⇓Lg	Lg	08 41 23.1	
	6.3nm,0.7s						

MEX 12 08:46:00.6±0.7, 16°26N×97°92W, h8km±9km, MD3.5, Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.24**	**303**	*e*P	Pg	08 46 04.9	-0.5
PNIG				*e*S	Sg	08 46 08.7	0.0
VHO	**Vista Hermosa**	**1.39**	**54**	*e*P	Pn	08 46 22.5	-4.0
VHO				*e*S	Sb	08 46 40.3	-4.7
TLIG	**Tlapa**	**1.44**	**335**	*e*P	Pn	08 46 23.9	-3.1
TLIG				*e*S	Sn	08 46 40.4	-5.7
HUIG	**Huatulco**	**1.81**	**105**	*i* P	Pn	08 46 32.1	-4.0
HUIG				*i* S	Sn	08 46 50.4	-4.8
TPIG	**Tehuac#an**	**2.21**	**14**	*i* P	Pn	08 46 35.2	-2.5
TPIG				*i* S	Sn	08 47 01.7	-3.7

IDC 12 08:50:04.6±53.0, 16°74S×176°74W, h0km, mb3.6/3, mb1 3.8/3, mb1mx3.5/28, mbtmp3.6/3, Error ellipse: s-maj=982.6km s-min=163.3km az=78.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**40.59**	**240**	P	P	08 57 45.8	-0.4
	1.4nm,1.0s,baz=56,slow=11,SNR=2.3						
WRA	**Warramunga Arr**	**46.42**	**258**	P	P	08 58 33.3	-0.2
	0.5nm,0.8s,baz=91,slow=8.0,SNR=5.8						
ASAR	**Alice Springs**	**46.65**	**253**	P	P	08 58 35.5	+0.2
	1.1nm,0.6s,baz=88,slow=8.5,SNR=19						

*ISCJB **12** 08:52:43.7±0.8, 39°99N±0°03×31°65E±0°05, h2km±7km, Error ellipse: s-ma

*ISK **12** 08:57:50.4, 37.20N × 37.62E, h6km, MD2.7*
*DDA **12** 08:57:56.7, 37.39N × 37.05E, h21km, Md2.6*
ISC 12 08:57:50.1±1.0, 37.18N±0.05×37.62E±0.03, h8km, n18, σ1§06/23, Turkey

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
HCB	**Kahramanmara¯**	**0.59**	**287**	*i* P	**Pg**		**08 58 01.6**	**+0.1**
HCB				*i* S	**Sg**		**08 58 09.3**	**+0.1**
ATAB	**Bozova**	**0.62**	**61**	*i* P	Pn		08 58 14.4	+9.2
KMRS	**Kahramanmaras**	**0.66**	**300**	*e*PG	**Pb**		**08 58 03.4**	**-0.5**
KMRS				*e*SG	**Sb**		**08 58 13.0**	**-0.3**
KMRS	**Kahramanmaras**	**0.66**	**300**	*e*Pg	**Pb**		**08 58 03.4**	**-0.5**
KMRS				*e*Sg	**Sb**		**08 58 13.0**	**-0.3**
KAMA	**Osmaniye**	**0.76**	**271**	*i* P	**Pg**		**08 58 04.5**	**-0.2**
KAMA				*i* S	**Sg**		**08 58 10.9**	**-3.7**
SURC	**SANLIURFA_SURC**	**0.85**	**110**	*i* P	**Pg**		**08 58 05.9**	**-0.6**
SURC	**SANLIURFA_SURC**	**0.85**	**110**	P	**Pg**		**08 58 05.9**	**-0.6**
URFA	**Urfa**	**1.00**	**74**	*e*PG	**Pb**		**08 58 09.8**	**+0.1**
URFA	**Urfa**	**1.00**	**74**	*e*Pg	**Pb**		**08 58 09.8**	**+0.1**
ANDN	**Andirin**	**1.09**	**292**	*i* P	**Pn**		**08 58 13.7**	**+1.8**
ANDN				*i* S	**Sb**		**08 58 25.4**	**-0.3**
ANDN	**Andirin**	**1.09**	**292**	P	**Pn**		**08 58 13.6**	**+1.8**
ANDN				S	**Sb**		**08 58 25.5**	**-0.3**
TAHT	**Tahtakopru-Hat**	**1.40**	**236**	*e*PN	**Pg**		**08 58 17.4**	**+0.4**
TAHT	**Tahtakopru-Hat**	**1.40**	**236**	*e*Pn	**Pg**		**08 58 17.4**	**+0.4**
KOZT	**Kozan**	**1.46**	**283**	*e*PN	**Pg**		**08 58 18.2**	**+0.1**
KOZT	**Kozan**	**1.46**	**283**	*e*Pn	**Pg**		**08 58 18.2**	**+0.1**
SARI	**SarD1z-Kayseri**	**1.55**	**323**	*e*PN	**Pb**		**08 58 19.0**	**-0.2**
YAYL	**Yayladag**	**1.66**	**227**	*e*PN	**Pb**		**08 58 21.0**	**-0.1**
YAYL	**Yayladag**	**1.66**	**227**	*e*Pn	**Pb**		**08 58 21.0**	**-0.1**

*IDC **12** 09:03:34.0±1.5, 54.45N × 159.47W, h0km, mb4.0/7, mb1 4.1/9, mb1mx3.7/47, mbtmp3.9/9, ML3.9/2, MS3.1/5, Ms1 3.1/5, ms1mx2.7/47, Error ellipse: s-maj=35.8km s-min=26.2km az=160.0*
*ISCJB **12** 09:03:35.6±0.6, 54.19N±0.06×159.59W±0.06, h33km, mb4.0/7, MS3.2/4, Error ellipse: s-maj=8.5km s-min=5.0km az=167.1*
*NEIC **12** 09:03:36.4±0.0, 54.26N × 159.68W, h26km, ML3.5(AEIC), After AEIC.*
ISC 12 09:03:38.5±0.9, 54.38N±0.09×159.59W±0.07, h35km, n45, σ1§57/39, mb4.0/7, MS3.4/4, South of Alaska

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
SDPT	**Sand Point**	**1.10**	**333**	P	**Pn**		**09 03 56.8**	**-0.6**
SDPT				S	**Sn**		**09 04 13.2**	**+1.8**
DOL	**Dolgoi Island**	**1.53**	**301**	P	**Pn**		**09 04 02.0**	**-1.3**
DOL				S	**Sn**		**09 04 22.1**	**+0.1**
PVV	**Pavlof Volcano**	**1.62**	**309**	P	**Pn**		**09 04 04.1**	**-0.4**
PS4A	**Pavlof South-4**	**1.63**	**308**	P	**Pn**		**09 04 04.1**	**-0.6**
DT1	**Dutton Round H**	**1.72**	**296**	P	**Pn**		**09 04 04.5**	**-1.4**
DT1				S	**Sn**		**09 04 26.4**	**-0.3**
PN6	**Pavlof North-6**	**1.73**	**310**	P	**Pn**		**09 04 06.6**	**+0.5**
DTNA	**Dutton South F**	**1.73**	**298**	P	**Pn**		**09 04 04.9**	**-1.2**
VNWF	**Veniaminof 8**	**1.78**	**1**	P	**Pn**		**09 04 08.6**	**+1.7**
VNHG	**Veniaminof 1**	**1.87**	**7**	P	**Pn**		**09 04 09.6**	**+1.6**
ISLZ	**Isanotski Laza**	**2.42**	**280**	P	**Pn**		**09 04 14.6**	**-1.1**
ANPB	**Aniakchak Plen**	**2.54**	**16**	P	**Pn**		**09 04 18.5**	**+1.2**
SSLN	**Shishaldin Nor**	**2.60**	**281**	P	**Pn**		**09 04 17.9**	**-0.1**
ANPK	**Aniakchak Peak**	**2.61**	**18**	P	**Pn**		**09 04 19.5**	**+1.3**
ANNE	**Aniakchak Nort**	**2.69**	**18**	P	**Pn**		**09 04 19.8**	**+0.5**
WESE	**West Dahl East**	**2.92**	**274**	P	**Pn**		**09 04 21.5**	**-1.0**
UNV	**Unalaska Valle**	**4.10**	**265**	P	**Pn**		**09 04 36.7**	**-2.0**
MREP	**Makushin Rep't**	**4.25**	**265**	P	**Pn**		**09 04 39.1**	**-1.7**
MSW	**Makushin Switc**	**4.25**	**267**	P	**Pn**		**09 04 39.1**	**-1.7**
SLKM	**Skilak Lake**	**7.95**	**36**	P	**Pn**		**09 05 32.0**	**+0.5**
ATKA	**Atka Island**	**9.02**	**262**	P	**Pn**		**09 05 44.4**	**-1.6**
PPLA	**Purkeypile**	**9.37**	**21**	P	**Pn**		**09 05 54.3**	**+3.3**
PAX	**Paxson** 3.2nm,0.5s	**11.30**	**35**	*e*Pn	**Pn**		**09 06 17.3**	**0.0**
ILAR	**Eielson Array** 0.1nm,0.3s,baz=216,slow=13,SNR=6.7	**12.22**	**26**	Pn	Pn		09 06 22.9	-6.9
ILAR				Sn	**Sn**		**09 08 39.0**	**-5.6**
	0.1nm,0.3s,baz=87,slow=14,SNR=3.1							
ILAR				LR	LR		09 11 44.7	
	comp=Z,41nm,20.8s,baz=202,slow=40							
DAWY	**Dawson** 3.3nm,0.6s	**14.11**	**39**	*e*Pn	**Pn**		**09 06 56.2**	**+0.5**
SKAG	**Skagway** 6.0nm,0.6s	**14.15**	**59**	*e*Pn	**Pn**		**09 06 57.2**	**+1.0**
INK	**Inuvik** 0.7nm,0.3s,baz=241,slow=12,SNR=32	**18.52**	**31**	P	**P**		**09 07 51.0**	**-0.4**
INK	**Inuvik**	**18.52**	**31**	P	**P**		**09 07 51.0**	**-0.4**
INK				*e*P	**Pn**		**09 07 51.5**	**-0.2**
YKA	**Yellowknife Ar** comp=Z,4.9nm,19.4s,baz=180,slow=40	**24.44**	**52**	LR	LR		09 19 35.4	
H11N2	**WAKE ISLAND Hy** baz=28,slow=76,SNR=63	**42.97**	**230**	T	T		09 57 42.3	
H11N3	**WAKE ISLAND Hy** baz=28,slow=76,SNR=54	**42.98**	**230**	T	T		09 57 38.4	
H11N1	**WAKE ISLAND Hy** baz=28,slow=76,SNR=46	**42.99**	**230**	T	T		09 57 45.4	
H11S1	**WAKE ISLAND Hy** baz=28,slow=76,SNR=39	**44.13**	**229**	T	T		09 59 15.5	
H11S2	**WAKE ISLAND Hy** baz=28,slow=76,SNR=31	**44.15**	**229**	T	T		09 59 11.1	
H11S3	**WAKE ISLAND Hy** baz=28,slow=76,SNR=21	**44.15**	**229**	T	T		09 59 11.4	
TXAR	**Lajitas Array** 0.3nm,0.7s,baz=316,slow=5.0,SNR=4.1	**47.04**	**99**	P	**P**		**09 12 06.3**	**-0.2**
NRIK	**Noril'sk** 5.5nm,0.5s,baz=79,slow=5.9,SNR=4.2	**47.35**	**334**	P	**P**		**09 12 07.8**	**-0.5**
KSRS	**Korea Array** 0.6nm,0.6s,baz=44,slow=7.0,SNR=4.4	**50.86**	**282**	P	**P**		**09 12 37.2**	**+1.6**
KSAR	**Wonju Array Be**	**50.89**	**282**	P	**P**		**09 12 37.2**	**+1.4**
ARCES	**ARCESS Array B** 1.0nm,0.6s,baz=34,slow=9.9,SNR=3.1	**56.34**	**358**	P	**P**		**09 13 14.6**	**-0.7**
FINES	**FINESS Array B** 1.7nm,0.8s,baz=22,slow=6.8,SNR=5.4	**64.44**	**357**	P	**P**		**09 14 10.5**	**-0.1**
BVAR	**Borovoye Array** comp=Z,91nm,19.0s,baz=68,slow=36	**65.22**	**329**	LR	LR		09 43 06.7	
AKTO	**Aktyubinsk** comp=Z,25nm,18.6s,slow=40	**70.91**	**336**	LR	LR		09 50 32.9	
AKASG	**Malin Array Be** 0.3nm,0.3s,baz=9.5,slow=5.9,SNR=1.4	**75.03**	**354**	P	**P**		**09 15 16.0**	**0.0**
KVAR	**Kislovodsk Arr** comp=Z,13nm,20.9s,baz=350,slow=38	**80.21**	**344**	LR	LR		09 53 48.9	
CMAR	**Chiang Mai Arr** 0.7nm,0.3s,baz=10,slow=6.7,SNR=2.7	**81.67**	**290**	P	**P**		**09 15 55.8**	**+2.6**

*IDC **12** 09:14:40.9±0.8, 18.32S × 167.65E, h0km, mb4.2/13, mb1 4.3/14, mb1mx4.1/39, mbtmp4.2/14, ML3.6/1, MS3.6/12, Ms1 3.6/12, ms1mx3.4/34, Error ellipse: s-maj=25.2km s-min=17.3km az=96.0*
*ISCJB **12** 09:14:43.4±0.5, 18.42S±0.06×167.55E±0.08, h25km, mb4.3/15, MS3.5/11, Error ellipse: s-maj=11.7km s-min=8.5km az=11.6*
*NEIC **12** 09:14:46.5±0.5, 18.44S × 167.57E, h35km, mb4.7/1, Error ellipse: s-maj=12.4km s-min=10.9km az=177.0*
ISC 12 09:14:45.1±0.6, 18.41S±0.07×167.5E±0.1, h25km, n35, σ0§86/28, mb4.2/15, MS3.5/11, 1D, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac** 4.1nm,0.3s,baz=71,slow=10,SNR=22	**3.77**	**195**	Pn	**Pn**		**09 15 41.4**	**-0.5**
DZM				Sn	**Sn**		**09 16 25.1**	**-0.4**
	9.9nm,0.3s,baz=316,slow=22,SNR=17							
DZM				LR	LR		09 17 00.3	
	comp=Z,519nm,19.3s,baz=41,slow=36							
DZM	**Mont Dzumac**	**3.77**	**195**	*e*Pn	**Pn**		**09 15 40.2**	**-1.6**
DZM				Pn	**Pn**		**09 15 41.4**	**-0.5**
DZM				Sn	**Sn**		**09 16 25.1**	**-0.4**
MSVF	**Nonsavu** 111nm,1.5s	**10.07**	**88**	*e*Pn	**Pn**		**09 17 09.3**	**+1.0**
CTA	**Charters Tower** 14nm,0.6s,baz=88,slow=12,SNR=17	**20.12**	**262**	P	Pn		09 19 19.8	+0.5
CTAO	**Charters Tower** 116nm,0.8s	**20.12**	**262**	*e*P	Pn		09 19 20.0	+0.7
AFI	**Afiamalu** comp=Z,92nm,20.3s,baz=215,slow=30	**20.41**	**80**	LR	LR		09 24 49.9	
URZ	**Urewera** 17nm,0.8s,baz=336,slow=5.9,SNR=4.8	**21.49**	**159**	P	**P**		**09 19 31.1**	**-0.8**
URZ				LR	LR		09 27 01.8	
	comp=Z,208nm,19.0s,baz=348,slow=34							
PMG	**Port Moresby** comp=Z,247nm,18.1s,baz=150,slow=35	**21.65**	**292**	LR	LR		09 27 28.2	
RPZ	**Rata Peaks** comp=Z,145nm,18.7s,baz=340,slow=35	**25.41**	**174**	LR	LR		09 29 40.0	
STKA	**Stephens Creek** 8.0nm,0.8s,baz=60,slow=8.2,SNR=14	**26.92**	**235**	P	**P**		**09 20 26.1**	**+1.6**
STKA				LR	LR		09 30 32.4	
	comp=Z,157nm,18.7s,baz=31,slow=35							
RAR	**Rarotonga** comp=Z,72nm,18.3s,baz=263,slow=36	**30.90**	**101**	LR	LR		09 33 01.3	
WRA	**Warramunga Arr** 1.7nm,0.8s,baz=93,slow=8.8,SNR=13	**31.32**	**262**	P	**P**		**09 21 03.6**	**-0.1**
ASAR	**Alice Springs** 4.0nm,0.6s,baz=81,slow=8.9,SNR=94	**31.73**	**255**	P	**P**		**09 21 07.5**	**+0.1**
ASAR				LR	LR		09 33 40.4	
	comp=Z,211nm,18.9s,baz=94,slow=36							
GUMO	**Guam** comp=Z,54nm,19.3s,baz=148,slow=36	**38.84**	**323**	LR	LR		09 37 45.0	
FITZ	**Fitzroy Crossi** comp=Z,144nm,20.9s,slow=35	**39.68**	**264**	LR	LR		09 37 54.6	
FITZ	**Fitzroy Crossi** 10nm,0.7s	**39.68**	**264**	*e*P	**P**		**09 22 16.2**	**+0.6**
PPT	**Papeete** comp=Z,68nm,18.1s,baz=286,slow=33	**40.78**	**96**	LR	LR		09 36 60.0	
VNDA	**Vanda** 0.5nm,0.8s,baz=342,slow=9.6,SNR=2.5	**59.21**	**181**	P	**P**		**09 24 44.3**	**+0.6**
USRK	**Ussuriysk Ar.** 1.5nm,0.9s,baz=145,slow=5.3,SNR=4.1	**70.25**	**334**	P	**P**		**09 25 56.3**	**+0.2**
QSPA	**South Pole Qui** 19nm,0.8s	**71.64**	**180**	*e*P	**P**		**09 26 04.3**	**-0.2**
KLR	**Kul'dur** 0.5nm,0.3s,baz=116,slow=10,SNR=3.9	**74.44**	**337**	P	**P**		**09 26 21.5**	**+0.5**
KLR				LR	LR		09 55 00.5	
	comp=Z,34nm,20.0s,slow=32							
CMAR	**Chiang Mai Arr** 1.0nm,0.3s,baz=119,slow=2.7,SNR=5.9	**76.65**	**295**	P	**P**		**09 26 34.8**	**+0.5**
MAW	**Mawson** 0.5nm,0.3s,baz=73,slow=6.8,SNR=3.4	**78.57**	**202**	P	**P**		**09 26 45.4**	**+1.2**
SEY	**Seymchan** 2.8nm,1.0s,baz=155,slow=19,SNR=2.0	**81.94**	**353**	P	**P**		**09 27 01.7**	**-0.4**
SYO	**Syowa Base**	**85.26**	**197**	*e*pP	pP		09 27 32.8	+5.3
SONM	**Songino Array** 0.7nm,0.5s,baz=124,slow=7.7,SNR=2.1	**85.57**	**324**	P	**P**		**09 27 20.6**	**-0.8**
SNAA	**Sanae**	**89.91**	**183**	P	**P**		**09 27 42.8**	**+1.0**
SNAA	**Sanae** 273nm,1.1s	**89.91**	**183**	*e*P	**P**		**09 27 41.3**	**-0.5**
ILAR	**Eielson Array** 0.6nm,0.7s,baz=242,slow=5.1,SNR=6.6	**89.94**	**18**	P	**P**		**09 27 39.9**	**-1.9**
VNA3	**Neumayer Olymp**	**90.56**	**181**	P	**P**		**09 27 45.7**	**+0.9**
VNA2	**Neumayer--Watz** baz=155,slow=2.3	**90.83**	**182**	P	**P**		**09 27 45.6**	**-0.4**
AKASG	**Malin Array Be** 0.4nm,0.4s,baz=72,slow=0.3,SNR=3.1	**133.85**	**324**	PKP	**PKPdf**		**09 34 00.2**	**+0.3**
ABTA	**Abfaltersbach** 5.8nm,1.0s	**145.03**	**329**	*e*PKPab	**PKPbc**		**09 34 18.8**	**-1.0**
FETA	**Feichten** 10nm,1.6s	**145.67**	**331**	*e*PKPab	**PKPdf**		**09 34 21.7**	**+0.1**
TORD	**Torodi Ar. Bea** 0.3nm,0.7s,baz=94,slow=1.9,SNR=2.9	**165.36**	**251**	PKPab	**PKPab**		**09 35 45.8**	**-0.4**

*ISCJB **12** 09:29:36.5±1.2, 10.3S±0.1×161.0E±0.2, h62km, mb3.5/4, Error ellipse: s-maj=29.6km s-min=12.1km az=146.3*
*IDC **12** 09:29:38.6±2.8, 10.29S × 160.95E, h65km±19km, mb3.4/4, mb1 3.6/5, mb1mx3.3/47, mbtmp3.8/5, Error ellipse: s-maj=35.2km s-min=19.8km az=69.0*
ISC 12 09:29:38.4±1.3, 10.3S±0.2×160.9E±0.2, h62km, n7, σ1§49/9, mb3.6/4, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
HNR	**Honiara** 34nm,0.3s,baz=157,slow=6.5,SNR=9.7	**1.26**	**311**	P	**Pn**		**09 30 00.3**	**+0.3**
HNR				S	**Sn**		**09 30 17.5**	**+1.4**
	171nm,0.3s,baz=156,slow=20,SNR=16							
HNR				LR	LR		09 30 46.3	
	comp=Z,119nm,21.9s,baz=112,slow=52							
HNR	**Honiara**	**1.26**	**311**	*e*P	**Pn**		**09 30 01.0**	**+1.0**
HNR				*e*S	**Sn**		**09 30 13.0**	**-3.1**
DZM	**Mont Dzumac** 0.3nm,0.3s,baz=340,slow=11,SNR=11	**12.88**	**156**	P	**Pn**		**09 32 38.4**	**-0.4**
WRA	**Warramunga Arr** 0.5nm,0.5s,baz=73,slow=9.1,SNR=4.8	**27.36**	**246**	P	**P**		**09 35 18.1**	**+0.1**
ASAR	**Alice Springs** 0.3nm,0.8s,baz=61,slow=10,SNR=3.5	**28.99**	**239**	P	**P**		**09 35 32.8**	**+0.3**
USRK	**Ussuriysk Ar.** 1.1nm,0.6s,baz=164,slow=8.5,SNR=4.3	**60.23**	**336**	P	**P**		**09 39 39.9**	**-0.2**
SONM	**Songino Array** 0.9nm,0.6s,baz=126,slow=7.3,SNR=2.4	**75.28**	**325**	P	**P**		**09 41 15.3**	**+0.3**

*MDD **12** 09:30:51.5±1.5, 36.59N × 9.68W, h42km±32km, mb3.5/7, Error ellipse: s-maj=13.5km s-min=12.3km az=7.0, PRXIMO*
*INMG **12** 09:30:51.8±1.1, 36.62N × 9.62W, h21km±4km, ML1.9, Error ellipse: s-maj=5.1km s-min=3.3km az=71.0*
*IGIL **12** 09:30:52.4, 36.62N × 9.66W, h39km, ML1.9*
*CSEM **12** 09:30:52.6±0.4, 36.72N × 9.54W, h30km, ML1.9, Error ellipse: s-maj=6.8km s-min=5.7km az=45.0*
ISC 12 09:30:50.7±2.7, 36.64N±0.10×9.63W±0.09, h32km±12km, n58, σ1§00/100, 2C, West of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
PFVI	**Vila Bisbo**	**0.81**	**52**	⇑*e*P	**Pn**		**09 31 06.7**	**+0.9**
PFVI				*e*S	**Sn**		**09 31 17.6**	**+0.9**
PFVI				A	A		09 31 18.9	
	16nm,0.5s							
PFVI	**Vila Bisbo** 3.6nm,0.1s,SNR=18	**0.81**	**52**	⇑P	**Pn**		**09 31 06.7**	**+0.9**
PFVI				S	**Sn**		**09 31 17.6**	**+0.9**
	47nm,0.2s,SNR=14							
PFVI	**Vila Bisbo** 3.6nm,0.1s,SNR=18	**0.81**	**52**	P	**Pn**		**09 31 06.7**	**+0.9**
PFVI				S	**Sn**		**09 31 17.6**	**+0.9**
	47nm,0.2s,SNR=14							
MORF	**Marmelete**	**1.03**	**49**	*e*P	**Pb**		**09 31 09.8**	**-0.2**
MORF				*e*S	**Sb**		**09 31 22.7**	**-0.4**
MORF				AML	AML		09 31 23.5	
	comp=N,25nm,0.2s							
MORF	**Marmelete**	**1.03**	**49**	*e*P	**Pb**		**09 31 09.8**	**-0.2**
MORF				*e*S	**Sb**		**09 31 23.0**	**-0.1**
MORF				A	A		09 31 24.1	
	comp=N,24nm,0.1s							
MORF	**Marmelete**	**1.03**	**49**	P	**Pb**		**09 31 09.8**	**-0.2**
MORF				S	**Sb**		**09 31 23.0**	**-0.1**
	comp=N,24nm,0.1s							
MORF	**Marmelete**	**1.03**	**49**	*e*P	**Pb**		**09 31 09.8**	**-0.2**
MORF				S	**Sb**		**09 31 23.0**	**-0.1**
	comp=N,24nm,0.1s							
PCVE	**Castro Verde**	**1.61**	**52**	*e*P	**Pn**		**09 31 18.1**	**+1.3**
PCVE				*e*S	**Sn**		**09 31 37.2**	**+0.7**
PCVE				A	A		09 31 39.3	
	comp=N,5.2nm,0.2s							
PCVE	**Castro Verde**	**1.61**	**52**	P	**Pn**		**09 31 18.1**	**+1.3**
PCVE				S	**Sn**		**09 31 37.2**	**+0.7**
	comp=N,5.2nm,0.2s							
PCVE	**Castro Verde**	**1.61**	**52**	*e*P	**Pn**		**09 31 18.1**	**+1.3**
PCVE				S	**Sn**		**09 31 37.2**	**+0.7**
	comp=N,5.2nm,0.2s							
MESJ	**Messejana**	**1.64**	**43**	*e*P	**Pn**		**09 31 18.2**	**+0.9**
MESJ				*e*S	**Sn**		**09 31 37.2**	**-0.1**
MESJ				AML	AML		09 31 38.7	
	comp=N,7.3nm,0.1s							
MESJ	**Messejana**	**1.64**	**43**	*e*Pn	**Pn**		**09 31 18.2**	**+0.9**
MESJ				*e*Sn	**Sn**		**09 31 38.0**	**+0.8**
MESJ				A	A		09 31 41.2	
	comp=N,4.6nm,0.2s							
MESJ	**Messejana**	**1.64**	**43**	P	**Pn**		**09 31 18.2**	**+0.9**
MESJ				S	**Sn**		**09 31 38.0**	**+0.8**
	comp=N,4.6nm,0.2s							
MESJ	**Messejana**	**1.64**	**43**	P	**Pn**		**09 31 18.2**	**+0.9**
MESJ				S	**Sn**		**09 31 38.0**	**+0.8**
	comp=N,4.6nm,0.2s							
PVAQ	**Vaqueiros**	**1.71**	**63**	*e*Pn	**Pn**		**09 31 19.1**	**+0.9**
PVAQ				*e*Sn	**Sn**		**09 31 39.0**	**+0.1**
PVAQ				A	A		09 31 41.1	
	comp=N,5.1nm,0.1s							
PVAQ	**Vaqueiros**	**1.71**	**63**	P	**Pn**		**09 31 19.1**	**+0.9**
PVAQ				S	**Sn**		**09 31 39.0**	**+0.1**
	comp=N,5.1nm,0.1s							
PVAQ	**Vaqueiros**	**1.71**	**63**	P	**Pn**		**09 31 19.1**	**+0.9**
PVAQ				S	**Sn**		**09 31 39.0**	**+0.1**
	comp=N,5.1nm,0.1s							
PNCL	**Nicolau / Gran**	**1.71**	**30**	*e*Pn	**Pn**		**09 31 18.8**	**+0.6**
PNCL				*e*Sn	**Sn**		**09 31 39.1**	**+0.2**
PNCL				A	A		09 31 41.5	
	comp=N,4.6nm,0.3s							
PNCL	**Nicolau / Gran**	**1.71**	**30**	*e*Pn	**Pn**		**09 31 18.8**	**+0.6**
PNCL				*e*Sn	**Sn**		**09 31 39.1**	**+0.2**
	comp=N,4.6nm,0.3s							
EGRO	**El Granado** comp=N,0.4nm,0.1s,SNR=7.9	**1.93**	**62**	P	**Pn**		**09 31 22.3**	**+1.1**
EGRO				S	**Sn**		**09 31 44.7**	**+0.3**
	comp=N,3.5nm,0.1s,SNR=13							
EGRO	**El Granado** comp=N,0.4nm,0.1s,SNR=7.9	**1.93**	**62**	P	**Pn**		**09 31 22.3**	**+1.1**
EGRO				S	**Sn**		**09 31 44.7**	**+0.3**
	comp=N,3.5nm,0.1s,SNR=13							
PBEJ	**Beja**	**1.97**	**45**	*e*Sn	**Sn**		**09 31 45.8**	**+0.4**
PBEJ	**Beja**	**1.97**	**45**	S	**Sn**		**09 31 45.8**	**+0.4**
PBEJ	**Beja**	**1.97**	**45**	S	**Sn**		**09 31 45.8**	**+0.4**
EVO	**Evora**	**2.28**	**34**	*e*Pn	**Pn**		**09 31 26.8**	**+0.7**
EVO				*e*Sn	**Sn**		**09 31 52.8**	**-0.3**
EVO				A	A		09 31 53.7	
	comp=N,9.1nm,0.2s							
EVO	**Evora**	**2.28**	**34**	P	**Pn**		**09 31 26.8**	**+0.7**
EVO				S	**Sn**		**09 31 52.8**	**-0.3**
	comp=N,9.1nm,0.2s							
EVO	**Evora**	**2.28**	**34**	P	**Pn**		**09 31 26.8**	**+0.7**
EVO				S	**Sn**		**09 31 52.8**	**-0.3**
	comp=N,9.1nm,0.2s							
PMAFR	**Mafra**	**2.33**	**7**	*e*Pn	**Pn**		**09 31 27.1**	**+0.4**
PMAFR				*e*Sn	**Sn**		**09 31 54.6**	**+0.4**
PMAFR	**Mafra** comp=N,5.2nm,0.1s,SNR=7.9	**2.33**	**7**	P	**Pn**		**09 31 27.2**	**+0.4**
PMAFR				S	**Sn**		**09 31 53.7**	**-0.5**
	comp=N,10nm,0.2s,SNR=7.9							
PMAFR	**Mafra** comp=N,5.2nm,0.1s,SNR=7.9	**2.33**	**7**	P	**Pn**		**09 31 27.2**	**+0.5**
PMAFR				S	**Sn**		**09 31 53.7**	**-0.5**
	comp=N,10nm,0.2s,SNR=7.9							
PMAFR				*e*Sn	**Sn**		**09 31 54.6**	**+0.4**
PBAR	**Barrancos**	**2.57**	**53**	*e*Pn	**Pn**		**09 31 30.8**	**+0.8**
PBAR				*e*Sn	**Sn**		**09 32 00.1**	**0.0**
PBAR				A	A		09 32 01.7	
	comp=N,4.1nm,0.3s							
PBAR	**Barrancos**	**2.57**	**53**	P	**Pn**		**09 31 30.8**	**+0.8**
PBAR				S	**Sn**		**09 32 00.1**	**0.0**
	comp=N,4.1nm,0.3s							
PBAR	**Barrancos**	**2.57**	**53**	P	**Pn**		**09 31 30.8**	**+0.8**
PBAR				S	**Sn**		**09 32 00.1**	**0.0**
	comp=N,4.1nm,0.3s							
EMIN	**Mina Concepcio** comp=N,0.2nm,0.1s,SNR=7.9	**2.61**	**64**	P	**Pn**		**09 31 30.9**	**+0.3**
EMIN				S	**Sn**		**09 32 00.5**	**-0.7**
	comp=N,0.7nm,0.1s,SNR=7.9							
EMIN	**Mina Concepcio** comp=N,0.2nm,0.1s,SNR=7.9	**2.61**	**64**	P	**Pn**		**09 31 30.9**	**+0.3**
EMIN				S	**Sn**		**09 32 00.5**	**-0.7**
	comp=N,0.7nm,0.1s,SNR=7.9							
PESTR	**Estremoz**	**2.75**	**35**	*e*Sn	**Sn**		**09 32 03.9**	**-0.7**
PESTR				A	A		09 32 11.2	
	comp=N,2.2nm,0.7s							
PESTR	**Estremoz** comp=N,2.2nm,0.7s	**2.75**	**35**	*e*Sn	**Sn**		**09 32 03.9**	**-0.7**
EBAD	**Badajoz** comp=N,0.4nm,0.1s,SNR=7.9	**2.96**	**44**	P	**Pn**		**09 31 36.2**	**+0.8**
EBAD				S	**Sn**		**09 32 09.4**	**-0.3**
	comp=N,1.7nm,0.1s,SNR=7.9							
EBAD	**Badajoz** comp=N,0.4nm,0.1s,SNR=7.9	**2.96**	**44**	P	**Pn**		**09 31 36.2**	**+0.8**
EBAD				S	**Sn**		**09 32 09.4**	**-0.3**
	comp=N,1.7nm,0.1s,SNR=7.9							
ESPR	**Espera** comp=N,1.5nm,0.2s,SNR=7.9	**3.04**	**85**	P	**Pn**		**09 31 37.0**	**+0.5**
ESPR				S	**Sn**		**09 32 10.6**	**-1.1**
	comp=N,3.3nm,0.2s,SNR=7.9							
ESPR	**Espera** comp=N,1.5nm,0.2s,SNR=7.9	**3.04**	**85**	P	**Pn**		**09 31 37.0**	**+0.5**
ESPR				S	**Sn**		**09 32 10.6**	**-1.1**
	comp=N,3.3nm,0.2s,SNR=7.9							
PMRV	**Marv??o**	**3.29**	**32**	*e*Pn	**Pn**		**09 31 40.5**	**+0.5**
PMRV				*e*Sn	**Sn**		**09 32 16.8**	**-1.3**
PMRV				A	A		09 32 18.9	
	comp=N,3.1nm,0.1s							
PMRV	**Marv??o**	**3.29**	**32**	P	**Pn**		**09 31 40.5**	**+0.5**
PMRV				S	**Sn**		**09 32 16.8**	**-1.3**
	comp=N,3.1nm,0.1s							
PMRV	**Marv??o**	**3.29**	**32**	P	**Pn**		**09 31 40.5**	**+0.5**
PMRV				S	**Sn**		**09 32 16.8**	**-1.3**
	comp=N,3.1nm,0.1s							
PCBR	**Castelo Branco**	**3.61**	**27**	*e*Sn	**Sn**		**09 32 24.9**	**-1.0**
PCBR	**Castelo Branco**	**3.61**	**27**	S	**Sn**		**09 32 24.9**	**-1.0**
PCBR	**Castelo Branco**	**3.61**	**27**	S	**Sn**		**09 32 24.9**	**-1.0**
ECAB	**El Cabril** comp=N,0.3nm,0.1s,SNR=4.0	**3.65**	**66**	P	**Pn**		**09 31 45.9**	**+1.0**
ECAB			

NEO				S	Sb	09 33 59.9	+1.0
NEO	**Neokhori**	**0.78**	**301**	P	Pg	09 33 47.9	+0.1
NEO				S	Sg	09 33 58.0	0.0
NEO	**Neokhori**	**0.78**	**301**	P	Pb	09 33 48.8	+0.5
NEO				S	Sg	09 33 58.0	0.0
NEO				AML	AML	09 34 01.1	
	comp=N,1014µm,0.2s						
NEO				AML	AML	09 34 02.1	
	comp=E,1128µm,0.4s						
XOR	**Xorichti**	**0.83**	**303**	P	Pb	09 33 49.5	+0.3
XOR				S	Sb	09 34 00.8	+0.4
XOR	**Xorichti**	**0.83**	**303**	P	Pb	09 33 49.5	+0.3
XOR				S	Sb	09 34 00.8	+0.4
XOR	**Xorichti**	**0.83**	**303**	P	Pb	09 33 49.5	+0.3
XOR				S	Sg	09 33 58.6	-1.0
XOR				AML	AML	09 34 03.1	
	comp=N,954µm,0.3s						
XOR				AML	AML	09 34 03.1	
	comp=E,1095µm,0.3s						
PTL	**Penteli**	**0.88**	**192**	P	Pg	09 33 49.5	-0.2
PTL				S	Sn	09 34 03.1	-0.7
PTL	**Penteli**	**0.88**	**192**	P	Pg	09 33 49.5	-0.2
PTL				S	Sb	09 34 01.6	-0.2
PTL	**Penteli**	**0.88**	**192**	P	Pg	09 33 49.5	-0.2
PTL				S	Sb	09 34 01.6	-0.2
PTL				AML	AML	09 34 03.5	
	comp=E,712µm,0.5s						
PTL				AML	AML	09 34 04.0	
	comp=N,564µm,0.6s						
LKR	**Lokris**	**0.89**	**253**	P	Pg	09 33 50.0	+0.1
LKR				S	Sb	09 34 02.4	+0.4
LKR	**Lokris**	**0.89**	**253**	P	Pg	09 33 50.0	+0.1
LKR				S	Sb	09 34 02.2	+0.2
LKR	**Lokris**	**0.89**	**253**	P	Pg	09 33 48.4	-1.4
LKR				S	Sb	09 34 02.2	+0.2
LKR				AML	AML	09 34 05.9	
	comp=E,257µm,0.3s						
LKR				AML	AML	09 34 07.5	
	comp=N,269µm,0.3s						
KARY	**Karystos**	**0.92**	**163**	P	Pb	09 33 51.1	+0.4
KARY				S	Sn	09 34 04.3	-0.5
KARY	**Karystos**	**0.92**	**163**	P	Pb	09 33 51.1	+0.4
KARY				S	Sg	09 34 02.2	-0.2
KARY	**Karystos**	**0.92**	**163**	P	Pg	09 33 49.2	-1.2
KARY				S	Sg	09 34 02.2	-0.2
KARY				AML	AML	09 34 05.3	
	comp=E,434µm,0.2s						
KARY				AML	AML	09 34 05.9	
	comp=N,360µm,0.2s						
VIL2	**Platees**	**0.95**	**223**	P	Pn	09 33 51.8	-0.2
VIL2				S	Sb	09 34 03.9	+0.2
VIL2				AML	AML	09 34 06.9	
	comp=N,671µm,0.4s						
VIL2				AML	AML	09 34 07.2	
	comp=E,846µm,0.5s						
VILL	**Villia**	**0.96**	**219**	P	Pb	09 33 51.5	+0.1
VILL				S	Sn	09 34 05.4	-0.5
VILL	**Villia**	**0.96**	**219**	P	Pb	09 33 51.5	+0.1
VILL				S	Sg	09 34 03.9	+0.1
ATHU	**Athens Univers**	**0.97**	**194**	P	Pb	09 33 51.6	0.0
ATHU				S	Sn	09 34 05.8	-0.3
ATHU	**Athens Univers**	**0.97**	**194**	P	Pb	09 33 51.6	0.0
ATHU				S	Sb	09 34 04.4	0.0
ATHU	**Athens Univers**	**0.97**	**194**	P	Pn	09 33 52.2	-0.1
ATHU				S	Sb	09 34 04.4	0.0
ATHU				AML	AML	09 34 05.6	
	comp=E,107µm,0.2s						
ATHU				AML	AML	09 34 07.0	
	comp=N,178µm,0.3s						
FYTO	**Fytoko, Volos**	**1.02**	**299**	P	Pb	09 33 52.4	0.0
FYTO				S	Sn	09 34 06.6	-0.7
FYTO	**Fytoko, Volos**	**1.02**	**299**	P	Pb	09 33 52.4	0.0
FYTO				S	Sg	09 34 05.1	-0.6
FYTO	**Fytoko, Volos**	**1.02**	**299**	P	Pn	09 33 53.2	+0.2
FYTO				S	Sg	09 34 05.1	-0.6
FYTO				AML	AML	09 34 08.7	
	comp=E,359µm,0.4s						
FYTO				AML	AML	09 34 09.0	
	comp=N,233µm,0.3s						
PAIG	**Paliouri**	**1.06**	**343**	P	Pg	09 33 53.2	+0.1
PAIG				S	Sn	09 34 08.4	+0.1
PAIG	**Paliouri**	**1.06**	**343**	P	Pb	09 33 52.9	-0.2
PAIG				S	Sb	09 34 07.2	+0.2
PAIG	**Paliouri**	**1.06**	**343**	P	Pb	09 33 52.9	-0.2
PAIG				S	Sb	09 34 07.2	+0.2
PAIG				AML	AML	09 34 10.2	
	comp=N,128µm,0.5s						
PAIG				AML	AML	09 34 11.2	
	comp=E,125µm,0.5s						
VLY	**Voula,Athens**	**1.08**	**192**	P	Pn	09 33 54.5	+0.7
VLY				S	Sn	09 34 08.7	-0.1
VLY	**Voula,Athens**	**1.08**	**192**	P	Pb	09 33 52.9	-0.5
VLY				S	Sn	09 34 08.7	-0.1
VLY	**Voula,Athens**	**1.08**	**192**	P	Pb	09 33 52.9	-0.5
VLY				S	Sn	09 34 09.3	+0.5
VLY				AML	AML	09 34 10.8	
	comp=N,556µm,0.3s						
VLY				AML	AML	09 34 12.6	
	comp=E,294µm,0.4s						
LTK	**Loutraki**	**1.25**	**225**	P	Pn	09 33 55.9	-0.2
LTK				S	Sg	09 34 14.5	+1.5
LTK	**Loutraki**	**1.25**	**225**	P	Pn	09 33 55.9	-0.2
LTK				S	Sb	09 34 12.4	0.0
LTK	**Loutraki**	**1.25**	**225**	P	Pn	09 33 55.3	-0.9
LTK				S	Sb	09 34 12.4	0.0
LTK				AML	AML	09 34 16.6	
	comp=N,354µm,0.4s						
LTK				AML	AML	09 34 21.3	
	comp=E,274µm,0.6s						
LOUT	**Loutraki**	**1.27**	**224**	P	Pn	09 33 56.2	-0.2
LOUT				S	Sg	09 34 14.6	+1.0
LOUT	**Loutraki**	**1.27**	**224**	P	Pn	09 33 56.2	-0.2
LOUT				S	Sg	09 34 13.9	+0.3
LOUT	**Loutraki**	**1.27**	**224**	P	Pn	09 33 56.1	-0.3
LOUT				S	Sg	09 34 13.9	+0.3
LOUT				AML	AML	09 34 17.6	
	comp=E,386µm,0.4s						
LOUT				AML	AML	09 34 20.6	
	comp=N,260µm,0.2s						
LIA	**Limnos Island**	**1.30**	**40**	P	Pb	09 33 57.2	+0.1
LIA	**Limnos Island**	**1.30**	**40**	P	Pb	09 33 57.2	+0.1
DSF	**Desfina**	**1.32**	**248**	P	Pn	09 33 56.4	-0.7
DSF	**Desfina**	**1.32**	**248**	P	Pn	09 33 56.4	-0.7
DSF				S	Sb	09 34 14.6	+0.2
DSF	**Desfina**	**1.32**	**248**	P	Pn	09 33 55.6	-1.5
DSF				S	Sb	09 34 14.7	+0.2
DSF				AML	AML	09 34 19.0	
	comp=E,116µm,0.2s						
DSF				AML	AML	09 34 22.3	
	comp=N,94µm,0.2s						
AGG	**Agios Georgios**	**1.38**	**275**	P	Pn	09 33 57.5	-0.3
AGG	**Agios Georgios**	**1.38**	**275**	P	Pn	09 33 57.5	-0.3
AGG				S	Sg	09 34 17.9	+1.0
AGG	**Agios Georgios**	**1.38**	**275**	P	Pn	09 33 56.7	-1.1
AGG				S	Sg	09 34 17.9	+1.0
AGG				AML	AML	09 34 25.0	
	comp=N,111µm,0.4s						
AGG				AML	AML	09 34 25.6	
	comp=E,134µm,0.7s						
OUR	**Ouranopolis**	**1.42**	**357**	P	Pn	09 33 58.6	+0.1
OUR	**Ouranopolis**	**1.42**	**357**	P	Pn	09 33 58.6	+0.1
DID	**Didima**	**1.56**	**206**	P	Pn	09 34 00.6	+0.3
DID				S	Sn	09 34 20.9	+0.4
DID	**Didima**	**1.56**	**206**	P	Pn	09 34 00.6	+0.3
DID				S	Sn	09 34 20.9	+0.4
KLV	**Kalavryta, Ach**	**1.75**	**241**	P	Pn	09 34 02.7	-0.3
KLV	**Kalavryta, Ach**	**1.75**	**241**	P	Pn	09 34 02.7	-0.3
SMTH	**Samothraki Isl**	**1.91**	**35**	P	Pn	09 34 04.7	-0.5
SMTH	**Samothraki Isl**	**1.91**	**35**	P	Pn	09 34 04.7	-0.5
VLI	**Veliai**	**2.37**	**203**	P	Pn	09 34 12.0	+0.5
VLI	**Veliai**	**2.37**	**203**	P	Pn	09 34 12.0	+0.5

*NEIC **12** 09:37:25.5±0.0,50.58N×130.35W,h10km,mb4.2/86, MW4.6(OTT),After OTT.*

NEIC Felt at Port Alberni, Squamish, Vancouver, Victoria and White Rock. Also felt at Anacortes, Everett, Lynnwood and Seattle, Washington.

*PGC **12** 09:37:25.5±2.0,50.58N×130.35W,h10km,MLSn4.0/37, Mw4.6/37,207km west of Pt. Hardy, Bc Vancouver Island, Canada Region*

*IDC **12** 09:37:29.1±0.8,50.76N×129.69W,h0km,mb4.1/15, mb1 4.2/21,mb1mx4.1/54,mbtmp4.1/21,ML3.9/6,MS3.6/28, Ms1 3.6/28,ms1mx3.5/46,Error ellipse: s-maj=16.9km s-min=9.9km az=46.0*

ISC 12 09:37:28.8±1.9,50.72N±0.05×129.79W±0.05,h3km±12km, n383,σ1♀25/369,mb4.4/42,MS3.5/23,Vancouver Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOLB	**Holberg**	**1.06**	**94**	Pn	Pg	09 37 35.1	0.0
HOLB				Sn	Sn	09 38 05.9	0.0
BPBC	**Brooks Peninsu**	**1.41**	**113**	Pn	Pn	09 37 52.3	-3.1
PHC	**Port Hardy**	**1.50**	**89**	Pn	Pn	09 37 55.6	-1.0
PHC				Sn	Sn	09 38 16.9	+0.3
MAYB	**Maynard**	**1.70**	**100**	Pn	Pn	09 37 57.8	-1.7
BBB	**Bella Bella**	**1.81**	**35**	Pn	Pn	09 37 59.7	-1.2
	22nm,0.3s,baz=224,slow=6.3,SNR=696						
BBB				Sn	Sn	09 38 24.6	+0.4
	170nm,0.3s,baz=204,slow=12,SNR=9.6						
BBB				LR	LR	09 38 42.9	
	comp=Z,241nm,21.7s,baz=220,slow=42						
BBB	**Bella Bella**	**1.81**	**35**	Pn	Pn	09 37 59.8	-1.0
BBB				Sn	Sn	09 38 24.1	-0.1
BBB	**Bella Bella**	**1.81**	**35**	*e*Pn	Pn	09 38 00.1	-0.7
BBB				*e*Sn	Sn	09 38 23.9	-0.3
EDB	**Eliza Dome**	**1.91**	**115**	Pn	Pn	09 37 59.3	-2.9
WOSB	**Woss**	**2.13**	**104**	Pn	Pn	09 38 04.0	-1.4
BNB	**Barry Inlet**	**2.23**	**328**	Pn	Pn	09 37 59.9	-6.8
NCRB	**Newcastle Ridg**	**2.41**	**96**	Pn	Pn	09 38 08.0	-1.1
ETB	**Estevan Point**	**2.49**	**121**	Pn	Pn	09 38 07.2	-3.0
BCBC	**Bella Coola**	**2.52**	**48**	Pn	Pn	09 38 12.3	+1.7
MOBC	**Moresby Island**	**2.78**	**332**	Pn	Pn	09 38 08.1	-6.2
SPLB	**Strathcona Par**	**2.78**	**106**	Pn	Pn	09 38 13.0	-1.2
NC89	**ODP889**	**2.80**	**136**	Pn	Pn	09 38 10.9	-3.5
BNAB	**Bonilla**	**2.83**	**350**	Pn	Pn	09 38 15.0	+0.1
TOFB	**Tofino**	**2.96**	**120**	Pn	Pn	09 38 12.5	-4.1
DIB	**Dawson Inlet,**	**2.99**	**327**	Pn	Pn	09 38 10.9	-6.2
DIB	**Dawson Inlet,**	**2.99**	**327**	*e*Pn	Pn	09 38 13.0	-4.1
BTB	**Buttle Lake**	**3.02**	**113**	Pn	Pn	09 38 15.7	-2.0
MWAB	**Mount Washingt**	**3.04**	**107**	Pn	Pn	09 38 16.7	-1.2
VIB	**Van Inlet**	**3.06**	**327**	Pn	Pn	09 38 11.7	-6.3
B012	**Ucluelet**	**3.29**	**121**	Pn	Pn	09 38 17.4	-3.7
OZB	**Mount Ozzard**	**3.29**	**121**	Pn	Pn	09 38 18.8	-2.5
ALB	**Alberni**	**3.51**	**112**	Pn	Pn	09 38 22.7	-1.5
B927	**Port Alberni**	**3.55**	**113**	Pn	Pn	09 38 23.1	-1.6
BMSB	**Bamfield Mari**	**3.56**	**120**	Pn	Pn	09 38 24.2	-0.7
B928	**Bamfield**	**3.56**	**120**	Pn	Pn	09 38 23.7	-1.1
TXB	**Texada**	**3.59**	**104**	Pn	Pn	09 38 24.3	-1.1
MGB	**Mount Grey**	**3.72**	**116**	Pn	Pn	09 38 25.0	-2.3
NDB	**Naden**	**3.77**	**330**	Pn	Pn	09 38 21.8	-6.1
SHB	**Sechelt**	**3.97**	**104**	Pn	Pn	09 38 29.7	-0.9
NLLB	**Nanaimo Lost L**	**4.03**	**109**	Pn	Pn	09 38 29.9	-1.5
PFB	**Port Renfrew**	**4.09**	**120**	Pn	Pn	09 38 30.1	-2.1
UBRB	**Upper Baezaeko**	**4.16**	**56**	Pn	Pn	09 38 35.5	+2.2
BPCB	**Bare Point**	**4.33**	**112**	Pn	Pn	09 38 36.0	+0.5
WPB	**Watts Point**	**4.36**	**102**	Pn	Pn	09 38 35.8	-0.2
BIB	**Bowen Island**	**4.38**	**105**	Pn	Pn	09 38 35.7	-0.5
LZB	**Mount Lazard**	**4.41**	**116**	Pn	Pn	09 38 36.3	-0.5
WSLR	**Whistler**	**4.43**	**95**	Pn	Pn	09 38 37.2	+0.2
GOBB	**Galiano Island**	**4.43**	**111**	Pn	Pn	09 38 36.3	-0.6
OFR	**Olym-F Res Ctr**	**4.50**	**126**	Pn	Pn	09 38 37.0	-0.7
OBC	**Olympics--Boni**	**4.60**	**124**	P	Pn	09 38 38.8	-0.5
B010	**North Saanich**	**4.61**	**114**	Pn	Pn	09 38 38.5	-0.8
PGC	**Sidney**	**4.61**	**114**	Pn	Pn	09 38 38.1	-1.2
PGC	**Sidney**	**4.61**	**114**	*e*Pn	Pn	09 38 38.2	-1.0
B009	**North Saanich**	**4.61**	**114**	Pn	Pn	09 38 37.8	-1.5
B011	**North Saanich**	**4.61**	**114**	Pn	Pn	09 38 37.6	-1.7
SNB	**Saturna Island**	**4.71**	**112**	Pn	Pn	09 38 39.4	-1.4
MCW	**Mount Constitu**	**4.96**	**112**	Pn	Pn	09 38 43.8	-0.4
MCW	**Mount Constitu**	**4.96**	**112**	P	Pn	09 38 44.0	-0.2
A04D	**Lummi Island**	**5.01**	**111**	P	Pn	09 38 44.7	-0.2
	baz=294						
LLLB	**Lillooet**	**5.03**	**88**	Pn	Pn	09 38 45.5	+0.2
LLLB	**Lillooet**	**5.03**	**88**	*e*Pn	Pn	09 38 45.8	+0.6
NLWA	**Neilton Lookou**	**5.12**	**128**	*e*Pn	Pn	09 38 46.2	-0.2
CRAG	**Craig**	**5.17**	**338**	*e*Pn	Pn	09 38 41.5	-5.5
CRAG				*e*Pn	Pn	09 38 44.7	-2.2
WISH	**Wishkah**	**5.36**	**130**	Pn	Pn	09 38 49.1	-0.5
HDW	**Hoodsport**	**5.38**	**122**	P	Pn	09 38 50.0	0.0
MBW	**Mount Baker**	**5.47**	**108**	P	Pn	09 38 51.7	+0.4
CMW	**Cultus Mountai**	**5.50**	**112**	P	Pn	09 38 52.4	+0.8
B05A	**Bryant**	**5.58**	**113**	P	Pn	09 38 53.4	+0.7
	baz=296,SNR=17						
JCW	**Jim Creek**	**5.72**	**113**	*e*Pn	Pn	09 38 54.9	+0.3
B06A	**Marblemount**	**5.83**	**109**	*e*Pn	Pn	09 38 56.7	+0.6
B06A				*e*		09 38 57.1	
RPW	**Rockport**	**5.84**	**110**	*e*Pn	Pn	09 38 56.5	+0.1
WRAK	**Wrangell Islan**	**5.91**	**346**	*e*Pn	Pn	09 38 54.2	-3.0
HTW	**Haystack Looko**	**6.01**	**118**	P	Pn	09 38 58.8	+0.2
D05A	**Enumclaw**	**6.24**	**121**	*e*Pn	Pn	09 39 02.6	+0.9
C06D	**Leavenworth**	**6.46**	**112**	P	Pn	09 39 05.4	+0.7
	baz=297						
FMW	**Mount Fremont**	**6.56**	**122**	P	Pn	09 39 06.9	+0.5
LON	**Longmire**	**6.61**	**124**	*e*Pn	Pn	09 39 07.2	+0.4
PANH	**Panhandle Gap,**	**6.62**	**123**	*e*Pn	Pn	09 39 08.0	+0.8
ERK	**Elk Rock**	**6.63**	**129**	P	Pn	09 39 07.7	+0.4
TDL	**Tradedollar La**	**6.66**	**128**	*e*Pn	Pn	09 39 07.9	+0.2
PNT	**Penticton**	**6.71**	**98**	Pn	Pn	09 39 08.2	0.0
LVP	**Lakeview Peak**	**6.77**	**131**	P	Pn	09 39 09.5	+0.4
F04A	**Amboy**	**6.86**	**131**	*e*Pn	Pn	09 39 10.8	+0.6
MTMW	**Mount Mitchell**	**6.89**	**130**	P	Pn	09 39 11.1	+0.3
LTY	**Liberty**	**6.93**	**116**	*e*Pn	Pn	09 39 12.1	+0.9
ETW	**Entiat**	**6.94**	**113**	*e*Pn	Pn	09 39 12.5	+1.0
WTV	**Waterville**	**7.12**	**111**	P	Pn	09 39 14.3	+0.5
DOWB	**Downie Slide**	**7.15**	**79**	Pn	Pn	09 39 15.4	+1.2
B08A	**Colville Reser**	**7.21**	**105**	*e*Pn	Pn	09 39 15.3	+0.3
DLBC	**Dease Lake**	**7.74**	**359**	Pn	Pn	09 39 22.3	0.0
	2.6nm,0.3s,baz=195,slow=12,SNR=33						
DLBC				Sn	Sn	09 40 51.2	+0.8
	0.6nm,0.3s,baz=143,slow=20,SNR=2.3						
DLBC				LR	LR	09 42 14.6	
	comp=Z,765nm,21.2s,baz=172,slow=37						
DLBC	**Dease Lake**	**7.74**	**359**	Pn	Pn	09 39 22.0	-0.3
E07A	**Sunnyside**	**7.79**	**118**	*e*Pn	Pn	09 39 23.8	+0.8
D08A	**Wollman Farm,**	**8.05**	**113**	*e*Pn	Pn	09 39 26.6	+0.1
HAWA	**Hanford**	**8.06**	**116**	*e*Pn	Pn	09 39 27.1	+0.3
G06A	**Carlson Farm,**	**8.23**	**128**	*e*Pn	Pn	09 39 30.2	+1.1
NEW	**Newport**	**8.61**	**102**	Pn	Pn	09 39 34.5	+0.2
	0.4nm,0.3s,baz=291,slow=13,SNR=10						
NEW				Sn	Sn	09 41 10.4	-1.4
	0.2nm,0.3s,baz=274,slow=19,SNR=2.1						
NEW				LR	LR	09 42 57.2	
	comp=Z,1µm,18.4s,baz=292,slow=38						
NEW	**Newport**	**8.61**	**102**	P	Pn	09 39 34.2	0.0
	baz=290						
NEW	**Newport**	**8.61**	**102**	*e*Pn	Pn	09 39 35.0	+0.7
NEW				Sn	Sn	09 41 10.4	-1.4
E09A	**Wood Farm, Sta**	**8.79**	**114**	*e*Pn	Pn	09 39 36.5	+0.1
FNBB	**Fort Nelson**	**9.07**	**23**	Pn	Pn	09 39 40.2	-0.4
SKAG	**Skagway**	**9.31**	**342**	*e*Pn	Pn	09 39 42.6	-1.3
HUMO	**Hull Mountain**	**9.37**	**147**	*e*Pn	Pn	09 39 46.4	+1.7
L02D	**Cave Junction,**	**9.56**	**151**	P	Pn	09 39 48.5	+1.1
	baz=334						
F10A	**Beach Ranch, E**	**9.62**	**115**	*e*Pn	Pn	09 39 48.2	+0.1
PRDA	**Priddis**	**9.82**	**83**	Pn	Pn	09 39 55.0	+4.0
K05A	**Summer Lake**	**10.05**	**139**	*e*Pn	Pn	09 39 55.9	+1.7
KRMB	**Red Mountain**	**10.06**	**154**	*e*Pn	Pn	09 39 55.9	+1.7
BSMT	**Bassoo Peak**	**10.22**	**100**	*e*Pn	Pn	09 39 57.9	+1.5
YBH	**Yreka Blue Hor**	**10.23**	**149**	*e*Pn	Pn	09 39 59.0	+2.4
BMO	**Blue Mountains**	**10.24**	**120**	*e*Pn	Pn	09 39 56.9	+0.1
WHY	**Whitehorse**	**10.37**	**346**	Pn	Pn	09 39 55.9	-2.4
WHY	**Whitehorse**	**10.37**	**346**	*e*Pn	Pn	09 39 56.6	-1.8
WALA	**Waterton Lakes**	**10.38**	**93**	*e*Pn	Pn	09 40 01.9	+3.2
EDM	**Edmonton**	**10.45**	**70**	*e*Pn	Pn	09 40 01.9	+2.4
KHMM	**Horse Mountain**	**10.71**	**154**	*e*Pn	Pn	09 40 05.9	+2.7
SWMT	**Swartz Lake**	**10.84**	**101**	*e*Pn	Pn	09 40 05.9	+1.0
MOD	**Modoc Plateau**	**10.98**	**140**	*e*Pn	Pn	09 40 08.4	+1.5
HYT	**Haines Junctio**	**11.01**	**340**	*e*Pn	Pn	09 40 08.8	+1.6
PCA	**Pinnacle**	**11.11**	**332**	*e*Pn	Pn	09 40 07.9	-0.5
PCA				*e*Pn	Pn	09 40 13.7	+5.3
MSO	**Missoula**	**11.16**	**104**	P	Pn	09 40 08.9	-0.4
	baz=295,SNR=7.3						
MSO	**Missoula**	**11.16**	**104**	*e*Pn	Pn	09 40 09.6	+0.4
SLMT	**Seeley Lake**	**11.26**	**102**	*e*Pn	Pn	09 40 11.7	+1.0
WVOR	**Wild Horse Val**	**11.29**	**133**	*e*Pn	Pn	09 40 12.5	+1.5
KMRM	**Mail Ridge**	**11.33**	**156**	*e*Pn	Pn	09 40 14.2	+2.7
WDC	**Whiskeytown Da**	**11.33**	**151**	*e*Pn	Pn	09 40 13.5	+2.0
CHMT	**Chamberlain Mo**	**11.55**	**103**	*e*Pn	Pn	09 40 15.5	+0.8
KCPM	**Cahto Peak**	**11.86**	**156**	*e*Pn	Pn	09 40 20.8	+1.9
MFID	**Camas Ranch**	**11.99**	**122**	*e*Pn	Pn	09 40 22.1	+1.4
HRY	**Holter Researc**	**12.52**	**102**	*e*Pn	Pn	09 40 28.9	+1.0
ORV	**Oroville**	**12.59**	**149**	*e*Pn	Pn	09 40 29.9	+1.2
HOPS	**Hopland Field**	**12.65**	**155**	*e*Pn	Pn	09 40 30.7	+1.2
HLID	**Hailey**	**12.67**	**118**	P	Pn	09 40 31.2	+1.2
	baz=309						
HLID	**Hailey**	**12.67**	**118**	*e*Pn	Pn	09 40 31.5	+1.6
DLMT	**Dillon**	**12.69**	**108**	*e*Pn	Pn	09 40 30.5	+0.3
MCMT	**McKenzie Canyo**	**12.82**	**111**	*e*Pn	Pn	09 40 33.0	+0.9
BOZ	**Bozeman (W)**	**13.15**	**106**	P	Pn	09 40 36.9	+0.4
	baz=298						
BOZ	**Bozeman (W)**	**13.15**	**106**	*e*Pn	Pn	09 40 37.3	+0.8
BMRM	**Bremner River**	**13.18**	**327**	*e*Pn	Pn	09 40 37.1	+0.4
PAHR	**Pah Rah Range**	**13.21**	**142**	*e*Pn	Pn	09 40 39.2	+1.8
AFDM	**Forest Hills D**	**13.32**	**149**	*e*Pn	Pn	09 40 40.0	+1.3
EGMT	**Eagleton**	**13.33**	**94**	*e*Pn	Pn	09 40 41.4	+2.5
QLMT	**Earthquake Lak**	**13.67**	**108**	*e*Pn	Pn	09 40 44.5	+0.8
PNTR	**Pine Nut**	**13.67**	**144**	*e*Pn	Pn	09 40 46.8	+3.1
YHB	**Horse Butte**	**13.85**	**108**	*e*Pn	Pn	09 40 47.2	+1.1
YERR	**Yerington**	**13.90**	**144**	*e*Pn	Pn	09 40 48.8	+2.0
KLU	**Klutina**	**14.00**	**327**	*e*Pn	Pn	09 40 49.0	+1.0
YMR	**Madison River**	**14.03**	**108**	*e*Pn	Pn	09 40 49.9	+1.3
YHH	**Holmes Hill**	**14.04**	**108**	*e*Pn	Pn	09 40 49.9	+1.1
YFT	**Old Faithful**	**14.23**	**109**	*e*Pn	Pn	09 40 53.6	+2.3
WAKR	**Walker**	**14.25**	**145**	*e*P	P	09 40 58.8	-0.3
DAWY	**Dawson**	**14.32**	**343**	*e*Pn	Pn	09 40 53.9	+1.6
CMB	**Columbia Colle**	**14.34**	**149**	*e*Pn	Pn	09 40 54.5	+1.8
YPP	**Pitchstone Pla**	**14.35**	**109**	*e*Pn	Pn	09 40 54.9	+2.0
MENT	**Mentasta**	**14.38**	**334**	*e*Pn	Pn	09 40 53.7	+0.6
YKA	**Yellowknife Ar**	**14.41**	**29**	Pn	Pn	09 40 52.4	-1.1
	0.4nm,0.3s,baz=221,slow=12,SNR=7.9						
YKA				Sn	Sn	09 43 30.3	-3.3
	0.2nm,0.3s,baz=214,slow=23,SNR=4.1						
YKA				LR	LR	09 46 12.8	
	comp=Z,17nm,21.2s,baz=180,slow=36						
H17A	**Grant Village**	**14.41**	**109**	*e*Pn	Pn	09 40 56.3	+2.4
LKWY	**Lake**	**14.43**	**108**	*e*Pn	Pn	09 40 56.5	+2.4
IMW	**Indian Meadow**	**14.47**	**111**	*e*Pn	Pn	09 40 56.5	+1.8
TVH1	**TV Hill, Hawth**	**14.54**	**143**	*e*Pn	Pn	09 40 57.7	+2.0
TVH3	**East Aurora ar**	**14.61**	**144**	*e*Pn	Pn	09 40 58.6	+2.1
TVH2	**Borealis Mine**	**14.61**	**143**	*e*Pn	Pn	09 40 58.4	+1.9
MOOW	**Moose Ponds**	**14.68**	**111**	*e*Pn	Pn	09 40 59.5	+2.1
TPAW	**Teton Pass**	**14.70**	**112**	*e*Pn	Pn	09 41 01.0	+3.2
SCM	**Sheep Creek Mo**	**14.73**	**326**	*e*Pn	Pn	09 40 58.3	+0.4
HVU	**Hansel Valley**	**14.75**	**121**	*e*Pn	Pn	09 41 00.3	+1.9
SNOW	**Snow King Moun**	**14.84**	**112**	*e*Pn	Pn	09 41 01.7	+2.1
LOHW	**Long Hollow**	**14.84**	**111**	*e*Pn	Pn	09 41 01.6	+2.0
REDW	**Red Top Meadow**	**14.84**	**112**	*e*Pn	Pn	09 41 01.7	+2.1
RLMT	**Red Lodge**	**14.84**	**104**	P	Pn	09 41 00.5	+0.9
	baz=299						
RLMT	**Red Lodge**	**14.84**	**104**	*e*Pn	Pn	09 41 01.5	+1.9
PAX	**Paxson**	**14.92**	**331**	*e*Pn	Pn	09 41 01.2	+0.8
DOT	**Dot Lake**	**15.04**	**335**	*e*Pn	Pn	09 41 02.9	+0.8
	51nm,1.3s						
SML	**Sawmill**	**15.08**	**325**	*e*Pn	Pn	09 41 03.7	+1.1
	20nm,1.0s						
SAO	**San Andreas Ge**	**15.18**	**154**	*e*Pn	Pn	09 41 05.6	+1.6
	39nm,1.9s						
BGU	**Big Grassy Mou**	**15.21**	**124**	*e*Pn	Pn	09 41 06.1	+1.5
	9.4nm,1.1s						
PMR	**Palmer**	**15.25**

6.9nm,1.1s
LCMT **Little Creek M** 18.11 133 *e*Pn P 09 41 42.3 +0.5
7.9nm,0.9s
TUQ **Turquoise Moun** 18.28 141 P P 09 41 44.0 +0.3
baz=330
O20A **White River Ci** 18.39 117 P P 09 41 45.5 +0.5
baz=312,SNR=6.4
O20A **White River Ci** 18.39 117 *e*P P 09 41 46.1 +1.1
39nm,1.6s
MWC **Mount Wilson** 18.58 148 *e*P Pn 09 41 47.3 +0.1
13nm,1.1s
RSSD **Black Hills** 18.58 101 P Pn 09 41 48.9 +1.7
baz=299
RSSD **Black Hills** 18.58 101 *e*P Pn 09 41 48.3 +1.1
9.5nm,0.8s
BFSC **Mount Baldy Ra** 18.70 147 P P 09 41 46.6 -1.7
baz=334
LDFC **Landfair** 18.92 140 *e*P Pn 09 41 51.9 +0.6
20nm,1.2s
U15A **North Rim** 19.03 132 *e*P Pn 09 41 53.0 +0.3
5.8nm,0.9s
PV09 **Paradox Valley** 19.04 122 *e*P Pn 09 41 53.6 +0.7
PV10 **Paradox Valley** 19.18 122 *e*P Pn 09 41 55.0 +0.4
N23A **Red Feather La** 19.23 111 P Pn 09 41 54.9 -0.2
baz=308
N23A **Red Feather La** 19.23 111 *e*P Pn 09 41 55.3 +0.1
53nm,1.9s
PV04 **Paradox Valley** 19.24 122 *e*P P 09 41 54.6 +0.3
PHWY **Pilot Hill** 19.27 110 *e*P P 09 41 55.1 +0.3
19nm,1.0s
PV05 **Paradox Valley** 19.37 123 *e*P Pn 09 41 56.7 -0.1
W13A **Hualapai Mount** 19.41 137 *e*P P 09 41 56.6 +0.4
9.0nm,1.4s
W13A *e*P P 09 42 01.8 +5.6
COLD **Coldfoot** 19.44 336 *e*P Pn 09 41 57.6 +0.3
20nm,1.2s
BELC **Belle Mtn. Jos** 19.51 144 P P 09 41 56.7 -0.5
baz=332
PV01 **Paradox Valley** 19.61 122 *e*P P 09 41 58.7 +0.3
PFO **Pinyon Flats O** 19.69 145 P P 09 41 58.9 -0.3
0.1nm,0.3s,baz=321,slow=8.4,SNR=4.9
PFO LR LR 09 50 00.1
comp=Z,185nm,18.9s,baz=322,slow=38
PFO **Pinyon Flats O** 19.69 145 P P 09 41 58.9 -0.3
baz=333
PFO **Pinyon Flats O** 19.69 145 *e*P Pn 09 42 01.1 +0.5
7.1nm,1.1s
IRM **Iron Mountain** 19.70 142 P P 09 41 59.6 +0.3
baz=331
SMCO **Snowmass** 19.76 117 *e*P Pn 09 42 01.2 -0.4
7.2nm,0.8s
MDND **Maddock** 19.84 87 P Pn 09 42 03.5 +1.4
baz=289,SNR=14
MDND **Maddock** 19.84 87 *e*P Pn 09 42 03.1 +1.0
145nm,1.2s
PDMCI **Parker Dam,Lak** 19.98 139 P P 09 42 02.8 +0.6
baz=329
BC3 **Big Chuckawall** 20.03 143 P P 09 42 02.8 -0.1
baz=332
ISCO **Idaho Springs** 20.13 114 P Pn 09 42 05.5 -0.4
baz=310
ISCO **Idaho Springs** 20.13 114 *e*P Pn 09 42 05.6 -0.3
26nm,1.8s
WUAZ **Wupatki** 20.20 132 P P 09 42 05.0 +0.2
baz=324,SNR=7.6
WUAZ **Wupatki** 20.20 132 *e*P P 09 42 05.5 +0.7
8.2nm,0.9s
Y12C **Blythe** 20.31 141 P P 09 42 06.6 +0.7
baz=330
Y12C **Blythe** 20.31 141 *e*P P 09 42 06.5 +0.7
13nm,1.1s
MVCO **Mesa Verde** 20.33 123 P P 09 42 06.3 0.0
baz=318
MVCO **Mesa Verde** 20.33 123 *e*P P 09 42 06.2 0.0
17nm,1.0s
MONP **Monument Peak,** 20.35 146 P P 09 42 05.8 -0.7
baz=334,SNR=6.9
TOLK **Toolik Lake Re** 20.38 339 P P 09 42 04.9 -1.4
baz=143,SNR=6.2
BAR **Barrett** 20.46 147 *e*P P 09 42 07.7 +0.2
13nm,1.2s
SWSC **Sam W. Stewart** 20.53 145 P P 09 42 07.5 -0.7
baz=333
IKP **In-Ko-Pah, Jac** 20.68 146 P P 09 42 10.1 +0.1
baz=334
Y14A **Wickenburg** 20.78 137 *e*P P 09 42 11.6 +0.6
39nm,0.9s
GLA **Glamis** 20.80 142 P P 09 42 10.9 -0.3
baz=332,SNR=7.0
GLA **Glamis** 20.80 142 *e*P P 09 42 11.1 -0.1
22nm,1.2s
S22A **4UR Ranch, Cre** 20.84 120 P P 09 42 11.6 -0.3
baz=315
S22A **4UR Ranch, Cre** 20.84 120 *e*P P 09 42 13.0 +1.1
8.8nm,0.9s
B31A **Greenbush Farm** 20.89 84 P P 09 42 13.0 +1.0
baz=288,SNR=7.9
C31A **Landman Farms,** 21.04 85 P P 09 42 14.3 +0.7
baz=290,SNR=18
X16A **Lo Mia Camp, P** 21.07 134 *e*P P 09 42 15.2 +0.9
10nm,1.0s
W18A **Petrified Fore** 21.32 129 P P 09 42 17.2 +0.3
baz=322
W18A **Petrified Fore** 21.32 129 *e*P P 09 42 17.6 +0.8
28nm,1.2s
E31A **Nome** 21.39 89 P P 09 42 18.2 +0.7
baz=293
F31A **Hecla** 21.44 91 P P 09 42 18.9 +1.0
baz=294
A32A **Rocking H Ranc** 21.46 82 P P 09 42 18.4 +0.2
baz=287
ULM **Lac du Bonnet** 21.48 78 P P 09 42 18.0 -0.3
6.3nm,0.7s,baz=289,slow=7.1,SNR=6.8
ULM LR LR 09 50 14.4
comp=Z,151nm,21.0s,baz=304,slow=36
ULM **Lac du Bonnet** 21.48 78 *e*P P 09 42 18.1 -0.3
15nm,0.8s
SDCO **Great Sand Dun** 21.59 118 P P 09 42 19.9 +0.1
baz=314,SNR=15
SDCO **Great Sand Dun** 21.59 118 *e*P P 09 42 20.3 +0.4
5.9nm,0.9s
B32A **Ashes, Strandq** 21.60 83 P P 09 42 20.3 +0.7
baz=288
X18A **Snowflake** 21.68 131 *e*P P 09 42 20.9 +0.1
29nm,1.4s
H31A **Wolsey** 21.91 94 P P 09 42 23.5 +0.5
baz=297,SNR=12
AGMN **Agassiz Nation** 22.06 83 P P 09 42 25.2 +0.7
baz=289,SNR=8.9
AGMN **Agassiz Nation** 22.06 83 *e*P P 09 42 26.5 +2.0
20nm,0.8s
B33A **Robert and Kas** 22.24 83 P P 09 42 27.4 +0.9
baz=289
KSCO **Kaye Shedlock'** 22.40 111 P P 09 42 29.1 +0.8
baz=310,SNR=9.2
KSCO **Kaye Shedlock'** 22.40 111 *e*P P 09 42 29.2 +0.8
29nm,1.0s
214A **Organ Pipe Nat** 22.57 140 P P 09 42 30.2 0.0
baz=330
214A **Organ Pipe Nat** 22.57 140 *e*P P 09 42 30.2 0.0
52nm,1.1s
T25A **Trinidad** 22.63 117 P P 09 42 30.5 -0.5
baz=314
B34A **Aery, Baudette** 22.76 82 P P 09 42 32.1 +0.1
baz=289
I32A **Karley and Nic** 22.77 94 P P 09 42 32.9 +0.7
baz=298,SNR=6.8
J32A **Parkston** 22.84 96 P P 09 42 32.9 -0.1
baz=300
G33A **Ortonville** 22.88 91 P P 09 42 33.1 -0.2
baz=296
H33A **Prehn Over Nor** 22.92 92 P P 09 42 33.9 +0.2
baz=297,SNR=11
ANMO **Albuquerque** 23.12 124 P P 09 42 36.1 0.0
3.4nm,1.0s,baz=321,slow=9.8,SNR=12
ANMO LR LR 09 51 32.2
comp=Z,132nm,19.1s,baz=316,slow=36
ANMO **Albuquerque** 23.12 124 P P 09 42 35.8 -0.3
baz=320
ANMO **Albuquerque** 23.12 124 *e*P P 09 42 36.2 0.0
6.6nm,1.1s
TUC **Tucson** 23.14 135 P P 09 42 35.4 -0.7
baz=327
TUC **Tucson** 23.14 135 *e*P P 09 42 35.9 -0.3
9.5nm,1.0s
LAZ **Ladron** 23.19 126 *e*P P 09 42 37.3 +0.5
G34A **Benson** 23.37 90 P P 09 42 38.4 0.0
baz=296,SNR=10

ECSD **EROS Data Cent** 23.45 94 P P 09 42 39.0 -0.1
baz=299
ECSD **EROS Data Cent** 23.45 94 *e*P P 09 42 39.2 +0.1
11nm,0.9s
H34A **Spellman Lake,** 23.54 92 P P 09 42 39.6 -0.4
baz=297,SNR=8.6
BNM **Barren Site** 23.65 126 *e*P P 09 42 41.7 +0.2
F35A **Swanville** 23.78 88 P P 09 42 42.8 +0.4
baz=294
H35A **Sunnyside Ranc** 24.12 91 P P 09 42 45.2 -0.5
baz=297
121A **Cookes Peak, D** 24.36 130 P P 09 42 47.9 -0.2
baz=324
121A **Cookes Peak, D** 24.36 130 *e*P P 09 42 48.1 0.0
9.0nm,1.1s
319A **Douglas** 24.61 134 *e*P P 09 42 52.3 +2.0
15nm,1.1s
EYMN **Ely** 24.93 81 *e*P P 09 42 53.7 +0.7
14nm,0.9s
N34A **Lincoln** 25.04 100 P P 09 42 52.9 -1.1
baz=304
F37A **Hinrichs Farm,** 25.08 87 P P 09 42 53.7 -0.6
baz=295
J36A **Seneca 1, Swea** 25.09 93 P P 09 42 54.1 -0.3
baz=299
C38A **Sawbill Land.** 25.15 82 P P 09 42 54.8 -0.2
baz=291
SPMN **Marine on St.** 25.18 88 *e*P P 09 42 56.3 +1.0
8.1nm,1.0s
O34A **Beatrice** 25.30 102 P P 09 42 55.8 -0.5
baz=305
F38A **Pierce - Schro** 25.45 86 P P 09 42 57.4 -0.3
baz=294,SNR=7.0
N35A **Tabor** 25.57 99 P P 09 42 58.5 -0.3
baz=304
AMTX **Amarillo** 25.78 117 *e*P P 09 43 01.1 +0.2
18nm,0.9s
MSTX **Muleshoe** 25.85 120 *e*P P 09 43 01.6 +0.1
29nm,1.8s
HSIG 25.91 140 *e*P P 09 43 01.6 -0.3
9.1nm,1.1s
I38A **Scanlan Farm,** 26.02 90 P P 09 43 02.9 +0.1
baz=298
MNTX **Cornudas Mount** 26.23 127 P P 09 43 04.2 -0.6
baz=323,SNR=9.3
MNTX **Cornudas Mount** 26.23 127 *e*P P 09 43 04.7 -0.1
5.8nm,1.0s
J39A **Decorah** 26.75 91 P P 09 43 09.7 +0.2
baz=299
M38A **Pleasantville** 26.80 96 P P 09 43 10.4 +0.4
baz=302
SRIG **Santa Rosalia** 26.92 144 *e*P P 09 43 11.2 +0.2
12nm,1.1s
WMOK **Wichita Mounta** 27.55 113 P P 09 43 14.1 -2.7
baz=314,SNR=8.2
WMOK **Wichita Mounta** 27.55 113 *e*P P 09 43 17.0 +0.2
8.4nm,0.9s
RES **Resolute Bay** 28.02 19 LR LR 09 54 50.6
comp=Z,208nm,20.1s,baz=201,slow=37
P39B **Salisbury** 28.16 99 P P 09 43 21.4 -0.8
baz=306
TX31 **Lajitas Ar. Si** 29.00 128 *e*P P 09 43 29.6 -0.3
TX31 *e*P P 09 43 29.8 0.0
LTX **Lajitas** 29.00 128 *e*P P 09 43 29.7 -0.2
TXAR **Lajitas Array** 29.00 128 P P 09 43 29.7 -0.2
2.5nm,1.0s,baz=319,slow=7.9,SNR=18
TXAR LR LR 09 55 55.2
comp=Z,123nm,19.4s,baz=0.0,slow=38
JCT **Junction City** 30.13 121 *e*P P 09 43 39.0 -0.7
6.2nm,0.9s
OXF **Oxford** 33.36 103 *e*P P 09 44 07.8 -0.3
22nm,0.9s
SCHQ **Schefferville** 37.17 59 LR LR 09 58 35.7
comp=Z,194nm,19.0s,baz=358,slow=34
SFJD **Kangerlussuaq** 40.82 36 P P 09 45 09.5 -1.5
2.2nm,0.5s,baz=270,slow=10,SNR=4.3
SEY **Seymchan** 41.60 318 P P 09 45 19.4 +1.8
2.0nm,0.6s,baz=143,slow=6.4,SNR=3.9
PETK **Petropavlovsk-** 43.02 303 LR LR 10 00 55.6
comp=Z,49nm,21.3s,baz=82,slow=33
NRIK **Noril'sk** 57.16 345 P P 09 47 16.3 +0.1
2.0nm,0.4s,baz=48,slow=12,SNR=4.0
NRIK LR LR 10 14 28.8
comp=Z,29nm,19.3s,baz=70,slow=39
H11N2 **WAKE ISLAND Hy** 58.13 262 T T 10 49 55.2
baz=42,slow=75,SNR=4707
H11N3 **WAKE ISLAND Hy** 58.13 262 T T 10 49 53.3
baz=42,slow=75,SNR=4722
H11N1 **WAKE ISLAND Hy** 58.14 262 T T 10 49 56.4
baz=42,slow=75,SNR=3360
ARCES **ARCESS Array B** 58.70 10 LR LR 10 13 20.8
comp=Z,51nm,21.1s,baz=323,slow=37
H11S1 **WAKE ISLAND Hy** 59.16 262 T T 10 51 10.8
baz=41,slow=75,SNR=148
H11S2 **WAKE ISLAND Hy** 59.17 262 T T 10 51 21.5
baz=41,slow=75,SNR=101
H11S3 **WAKE ISLAND Hy** 59.18 262 T T 10 51 29.3
baz=41,slow=75,SNR=51
USRK **Ussuriysk Ar.** 61.90 306 P P 09 47 51.4 +2.0
2.2nm,0.8s,baz=34,slow=6.2,SNR=5.4
MJAR **Matsushiro Arr** 63.91 296 LR LR 10 11 21.1
comp=Z,9nm,21.8s,baz=90,slow=32
ROSC **El Rosal** 64.93 115 LR LR 10 21 50.4
comp=Z,19nm,18.4s,baz=253,slow=41
CN2 **Changchun** 65.47 310 *e*P P 09 48 12.5 -0.4
CN2 pmax pmax
comp=Z,10.0nm,0.8s
FINES **FINESS Array B** 66.53 12 LR LR 10 17 09.6
comp=Z,88nm,19.9s,baz=300,slow=36
KSRS **Korea Array** 68.91 304 P P 09 48 35.4 +0.6
comp=Z,0.6nm,0.9s,baz=38,slow=5.6,SNR=2.7
KSRS LR LR 10 17 36.7
comp=Z,17nm,19.6s,baz=55,slow=35
KS15 **Wonju Array Si** 68.94 304 *e*P P 09 48 34.3 -0.7
KSAR **Wonju Array Be** 68.94 304 P P 09 48 35.4 +0.4
PPT **Papeete** 70.18 200 LR LR 10 12 17.6
comp=Z,27nm,19.6s,baz=324,slow=30
SONA0 **Songino Array** 70.60 324 *e*P P 09 48 46.4 +1.1
comp=Z,3.7nm,1.2s
SONM **Songino Array** 70.60 324 P P 09 48 46.4 +1.1
comp=Z,0.7nm,0.5s,baz=41,slow=7.7,SNR=2.4
SONM LR LR 10 19 59.5
comp=Z,58nm,18.9s,baz=52,slow=36
ZAA1 **Zalesovo Array** 71.73 339 *e*P P 09 48 51.0 -0.8
ZALV **Zalesovo Beam** 71.74 339 P P 09 48 51.0 -0.8
comp=Z,1.1nm,0.5s,baz=36,slow=5.4,SNR=3.4
ZALV LR LR 10 23 06.7
comp=Z,35nm,18.5s,baz=250,slow=38
ARU **Arti** 73.00 355 P P 09 49 00.4 +1.1
comp=Z,1.4nm,0.3s,baz=200,slow=2.1,SNR=5.0
ARU **Arti** 73.00 355 *e*P P 09 48 60.0 +0.7
comp=Z,8.5nm,1.2s
HHC **Hu-ho-hao-te** 74.23 316 *e*P P 09 49 05.1 -1.9
HHC pmax pmax
comp=Z,10.0nm,0.7s
HHC pmax pmax
comp=Z,93nm,8.9s
BVAR **Borovoye Array** 75.24 348 P P 09 49 13.6 +1.2
comp=Z,1.0nm,0.7s,baz=358,slow=4.3,SNR=6.1
AKASG **Malin Array Be** 77.39 13 P P 09 49 25.4 +0.7
comp=Z,0.4nm,0.3s,baz=342,slow=5.3,SNR=2.7
AKASG LR LR 10 24 28.8
comp=Z,76nm,18.1s,baz=315,slow=36
AKBB **Malin Array Si** 77.39 13 *e*P P 09 49 25.4 +0.7
comp=Z,11nm,1.6s
AKTO **Aktyubinsk** 79.01 355 P P 09 49 34.3 +0.6
comp=Z,1.3nm,0.7s,baz=14,slow=5.0,SNR=4.9
WMQ **Urumqi** 80.36 333 P P 09 49 41.8 +0.6
WMQ pP pP 09 49 51.1 +8.8
WMQ pmax pmax
comp=Z,12nm,0.8s
WMQ pmax pmax
comp=Z,72nm,5.1s
KBZ **Khabaz** 85.72 5 LR LR 10 32 54.3
comp=Z,15nm,19.2s,baz=6.0,slow=39
LPAZ **La Paz** 85.72 122 P P 09 50 11.0 +1.1
comp=Z,1.2nm,0.7s,baz=9.3,slow=7.8,SNR=5.0
LPAZ LR LR 10 34 05.0
comp=Z,20nm,18.2s,baz=349,slow=40
BRTR **Keskin Array B** 88.77 13 LR LR 10 31 16.6
comp=Z,22nm,18.7s,baz=316,slow=36
KMI **Kunming** 91.41 314 P P 09 50 34.3 -2.3
KMI pmax pmax
comp=Z,6.0nm,0.5s
KMI pmax pmax
comp=Z,5.0nm,0.5s
GEYT **Alibeck** 91.45 354 LR LR 10 34 32.2
comp=Z,19nm,20.5s,baz=320,slow=37

DZM **Mont Dzumac** 91.59 236 LR LR 10 30 18.6
comp=Z,105nm,18.2s,baz=266,slow=35
CMAR **Chiang Mai Arr** 98.92 314 LR LR 10 39 39.1
comp=Z,21nm,18.4s,baz=220,slow=38
CPUP **Villa Florida** 99.71 120 LR LR 10 40 57.7
comp=Z,19nm,19.9s,baz=16,slow=38

NNC 12 09:45:21.9±1.1, 37°.93N×71°.97E, h0km, mb3.6, mpv3.2, 5C-2D, Error ellipse: s-maj=10.1km s-min=3.7km az=151.0, Afghanistan-Tajikistan border region

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

DZET **Dzherino** 2.62 290 ⇓P Pn 09 46 05.5 -0.1
7.0nm,0.2s
DZET ⇓S Sn 09 46 39.5 +1.4
21nm,0.5s
MNAS **Manas** 4.57 5 ⇑P Pn 09 46 32.9 +0.6
1.2nm,0.3s
MNAS ⇑S Sn 09 47 27.8 +1.6
12nm,0.8s
AAK **Ala-Archa** 5.08 22 ⇑P Pn 09 46 39.2 -0.2
1.2nm,0.3s
AAK ⇑S Sn 09 47 40.1 +1.2
4.1nm,0.6s
KK31 **Karatay Array** 5.28 348 ⇑P Pn 09 46 41.8 -0.3
0.4nm,0.3s,baz=179,slow=14,SNR=6.5
KK31 S Sn 09 47 44.2 +0.5
0.7nm,0.2s,baz=166,slow=21,SNR=14

*ISCJB **12** 10:06:11.0±1.5, 12°.1S±0°.2×166°.7E±0°.2, h220km, mb3.7/5, Error ellipse: s-maj=30.6km s-min=22.9km az=5.6*
*IDC **12** 10:06:14.8±7.8, 12°.23S×166°.89E, h253km±82km, mb3.4/5, mb1 3.6/6, mb1mx3.2/33, mbtmp4.0/6, Error ellipse: s-maj=72.9km s-min=26.0km az=158.0*
ISC 12 10:06:11.7±1.4, 12°.0S±0°.2×166°.8E±0°.2, h220km, n7, σ0.8 s4/7, mb3.7/5, Santa Cruz Islands

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

DZM **Mont Dzumac** 9.98 182 P Pn 10 08 30.6 +0.1
0.3nm,0.3s,baz=288,slow=3.2,SNR=4.9
STKA **Stephens Creek** 30.48 226 P P 10 12 04.2 0.0
0.9nm,0.5s,baz=56,slow=11,SNR=3.7
WRA **Warramunga Arr** 32.16 252 P P 10 12 19.1 0.0
1.1nm,0.4s,baz=83,slow=8.9,SNR=25
ASAR **Alice Springs** 33.31 245 P P 10 12 28.8 -0.4
1.3nm,0.6s,baz=69,slow=9.6,SNR=30
FITZ **Fitzroy Crossi** 40.16 256 P P 10 13 27.4 +0.6
1.3nm,0.3s,baz=72,slow=9.5,SNR=6.6
ILAR **Eielson Array** 84.12 18 P P 10 18 18.2 +0.6
0.5nm,0.6s,baz=236,slow=4.6,SNR=8.7
ARCES **ARCESS Array B** 117.56 346 PKP PKPdf 10 24 29.4 -1.4
0.7nm,0.3s,baz=79,slow=1.9,SNR=5.4

*MEX **12** 10:25:17.7±0.7, 14°.42N×92°.09W, h94km±6km, MD4.6*
*NEIC **12** 10:25:20.3±0.6, 14°.73N×91°.62W, h118km±5km, mb4.5/105, MD4.6(MEX), Error ellipse: s-maj=6.0km s-min=3.8km az=218.0*
*IDC **12** 10:25:21.2±2.4, 14°.88N×91°.44W, h129km±20km, mb3.8/13, mb1 4.0/15, mb1mx3.8/32, mbtmp4.2/15, Error ellipse: s-maj=26.4km s-min=12.6km az=53.0*
*CASC **12** 10:25:26.4±0.6, 14°.54N×91°.28W, h66km±27km, ML4.0, mb4.5(NEIC)*
ISC 12 10:25:17.1±0.7, 14°.58N±0°.05×91°.89W±0°.04, h99km±5km, n454, σ1.5 s56/478, mb4.5/98, 1C, Guatemala

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

CCIG **Comitan** 1.71 352 *e*Pn Pn 10 25 47.5 +1.3
CCIG *i* S Sn 10 26 09.9 +1.7
CCIG **Comitan** 1.71 352 *e*P Pn 10 25 47.3 +1.1
CCIG *i* S Sn 10 26 09.9 +1.7
MRL **Marmol** 2.19 77 *e*P Pn 10 25 53.2 +1.1
MRL *e*S Sn 10 26 14.2 -4.8
RBDL **Robledal** 2.19 102 *e*P Pn 10 25 53.1 +0.9
RTR **El Retiro** 2.28 107 *e*P Pn 10 25 54.5 +1.1
MONT **Ecomontaæa** 2.29 108 *e*P Pn 10 25 54.8 +1.1
SBLS **San Blas** 2.32 108 *e*P Pn 10 25 55.3 +1.3
SBLS *e*S Sn 10 26 17.4 -4.8
SNJE **San Jose** 2.33 107 *e*P Pn 10 25 54.4 +0.4
MTO3 **Montecristo** 2.46 94 *e*P Pn 10 25 56.4 +0.6
TGIG 2.49 332 *e*P Pn 10 25 55.6 -0.5
TGIG *e*P Pn 10 25 55.9 -0.2
TGIG *i* S Sn 10 26 26.1 +0.1
TGIG 2.49 332 *e*P Pn 10 25 55.6 -0.5
TGIG *e*P Pn 10 25 55.9 -0.2
TGIG *i* S Sn 10 26 26.1 +0.1
BOQS **Boqueron** 2.67 108 *e*P Pn 10 25 60.0 +1.4
SNET **Serv Nac Est T** 2.73 109 *e*P Pn 10 26 00.7 +1.5
SNET AML AML 10 26 40.0
comp=Z,2μm,0.3s
OPAM **San Salvador** 2.75 108 *e*P Pn 10 26 00.6 +1.1
OPAM AML AML 10 26 44.1
comp=Z,1μm,0.3s
CMIG **Matias Romero** 3.81 311 P Pn 10 26 13.6 -0.2
comp=Z,12nm,0.3s,baz=132,slow=9.4,SNR=184
CMIG S Sn 10 26 56.5 -1.1
comp=Z,25nm,0.3s,baz=155,slow=7.4,SNR=11
HUIG **Huatulco** 4.24 287 *i* P Pn 10 26 18.2 -1.3
HUIG *e*S Sn 10 27 03.5 -4.5
HUIG **Huatulco** 4.24 287 *i* P Pn 10 26 18.2 -1.3
HUIG *e*S Sn 10 27 03.5 -4.5
SCIG **Sabancuy** 4.42 9 *e*Pn Pn 10 26 21.2 -0.7
SCIG *e*S Sn 10 27 08.9 -3.3
SCIG **Sabancuy** 4.42 9 *e*P Pn 10 26 21.2 -0.7
SCIG *e*S Sn 10 27 08.9 -3.3
TGUH **Tegucigalpa,Un** 4.51 96 *e*Pn Pn 10 26 24.6 +1.5
VHO **Vista Hermosa** 5.28 299 *e*P Pn 10 26 33.1 -0.7
VHO *i* S Sn 10 27 30.2 -3.3
VHO **Vista Hermosa** 5.28 299 *e*P Pn 10 26 33.1 -0.7
VHO *i* S Sn 10 27 30.2 -3.3
TLIG **Tlapa** 7.07 296 *e*Pn Pn 10 26 59.8 +1.7
JTS **JuntasAbangare** 8.00 121 P Pn 10 27 12.1 +1.4
comp=Z,3.0nm,0.3s,baz=19,slow=17,SNR=16
JTS S Sn 10 28 44.3 +4.6
comp=Z,0.9nm,0.3s,baz=29,slow=19,SNR=2.6
MOIG **Morelia** 10.23 301 *e*Pn Pn 10 27 44.4 +3.2
LNIG **Linares** 12.50 326 *e*Pn Pn 10 28 14.3 +2.9
ZAIG **Zacatecas** 12.98 310 *e*Pn Pn 10 28 21.2 +3.2
034A **Hebbronville** 13.95 334 P P 10 28 35.4 +0.2
baz=150
MTDJ **Mount Denham** 14.25 73 *e*Pn P 10 28 37.7 -1.0
933A **Laredo** 14.68 333 P P 10 28 44.8 +1.4
baz=150
835A **Beeville** 14.72 339 P P 10 28 43.2 -0.5
baz=156
833A **Chaparral WMA,** 15.35 334 P P 10 28 51.4 +0.6
baz=150
832A **Faith Ranch, C** 15.57 332 P P 10 28 54.2 +1.0
baz=148
636A **Smothers Creek** 15.58 343 P P 10 28 53.0 -0.4
baz=160
733A **Divot King Ran** 15.66 335 P P 10 28 54.7 +0.5
baz=152
539A **Cross D Ranch,** 15.68 351 P P 10 28 53.6 -0.8
baz=169
540A **Vidor** 15.68 353 P P 10 28 53.1 -1.3
baz=172
537A **Green Hill Far** 15.96 346 P P 10 28 56.9 -0.6
baz=163
441A **DeRidder** 16.14 356 P Pn 10 28 58.2 0.0
baz=174
535A **Dale** 16.25 342 P P 10 29 01.1 +0.4
baz=159
633A **Saathoff Ranch** 16.27 337 P P 10 29 01.3 +0.4
baz=153
446A **Poplarville** 16.31 8 P Pn 10 28 60.0 -0.2
baz=188
439A **Center Grove,** 16.36 351 P P 10 29 01.0 -0.8
baz=169
447A **Lucedale** 16.42 10 P P 10 29 02.3 -0.2
baz=190
438A **Sam Houston St** 16.43 349 P P 10 29 02.0 -0.7
baz=167
534A **Blanco** 16.53 340 P P 10 29 03.8 -0.1
baz=156,SNR=7.3
448A **Bay Minette** 16.70 12 P P 10 29 06.0 +0.4
baz=193
341A **Kurthwood** 16.72 356 P P 10 29 05.1 -0.8
baz=175

342A	Flagon Creek P baz=178	16.73	359	P		P	10 29 06.1	+0.1
436A	Wall Ranch, Ga baz=162	16.74	345	P		P	10 29 07.0	+0.9
345A	Thompson Farm, baz=185	16.74	6	P		P	10 29 06.3	+0.1
533A	Kerrville baz=154	16.77	338	P		P	10 29 07.7	+1.1
344A	Westbrook Farm baz=183	16.83	3	P		P	10 29 07.2	0.0
339A	Huntington baz=170	16.86	352	P		P	10 29 08.3	+0.9
340A	Bronson baz=172,SNR=7.6	16.86	354	P		P	10 29 07.9	+0.4
MOTC	Monteria, Cord	16.90	108	*e*P		Pn	10 29 06.6	-1.0
435B	Jarrell baz=160	16.96	343	P		P	10 29 09.6	+1.1
SJCC	San Jacinto, C	16.98	104	*e*P		Pn	10 29 06.0	-2.7
338A	Crockett baz=168,SNR=7.2	17.00	350	P		P	10 29 09.7	+0.7
347A	Saraland baz=190,SNR=9.6	17.03	10	P		P	10 29 10.2	+0.9
BRAL	Brewton comp=Z,143nm,1.2s	17.10	14	*e*Pn		P	10 29 12.3	+2.2
348A	Jackson baz=192,SNR=6.0	17.16	12	P		P	10 29 11.0	+0.3
434A	Burnet baz=158	17.19	341	P		P	10 29 12.2	+1.0
NATX	Nacogdoches baz=170	17.29	352	P		Pn	10 29 13.4	+1.1
336A	Riesel baz=163	17.34	346	P		Pn	10 29 14.0	+1.2
335A	Moody baz=161	17.39	344	P		Pn	10 29 15.3	+1.8
241A	Mo Tay, Goldon baz=176	17.39	357	P		Pn	10 29 14.4	+0.9
242A	Grayson baz=178,SNR=5.4	17.41	359	P		Pn	10 29 14.6	+0.9
433A	Art baz=155,SNR=9.8	17.41	339	P		Pn	10 29 14.7	+1.0
244A	Avery, Jackson baz=183	17.42	3	P		Pn	10 29 14.9	+1.0
245A	Little AP, Sta baz=186	17.47	6	P		Pn	10 29 15.5	+1.0
239A	Gary baz=171	17.52	353	P		Pn	10 29 15.4	+0.4
238A	Jacksonville baz=169	17.60	351	P		Pn	10 29 16.3	+0.3
VBMS	Vicksburg baz=184	17.61	4	P		Pn	10 29 16.1	+0.1
VBMS	Vicksburg comp=Z,36nm,0.7s	17.61	4	*e*P		Pn	10 29 16.7	+0.6
247A	Quitman baz=190	17.66	9	P		Pn	10 29 16.7	0.0
334A	Lometa baz=158,SNR=8.5	17.66	342	P		Pn	10 29 17.5	+0.7
248A	Dixon Mills baz=192	17.85	12	P		Pn	10 29 19.2	+0.2
236A	Katherine and baz=164	17.86	347	P		Pn	10 29 19.7	+0.6
142A	Monroe baz=179,SNR=6.5	17.89	360	P		Pn	10 29 19.8	+0.3
333A	Richland Sprin baz=156,SNR=12	17.89	340	P		Pn	10 29 20.1	+0.4
141A	Papa Simpson, baz=176	17.97	357	P		Pn	10 29 20.7	+0.2
140A	Cam and Jess, baz=174	18.05	355	P		Pn	10 29 21.6	+0.2
143A	Socs Landing, baz=181,SNR=9.6	18.05	1	P		Pn	10 29 21.1	-0.4
WHTX	Lake Whitney, baz=162	18.07	345	P		Pn	10 29 22.1	+0.5
WHTX	Lake Whitney, comp=Z,15nm,1.0s	18.07	345	*e*P		Pn	10 29 21.9	+0.3
ZARC	Zaragoza, Cauc	18.13	111	*e*P		P	10 29 18.8	-2.9
146A	Union baz=188	18.17	8	P		Pn	10 29 22.6	-0.2
139A	Bunkhouse Ranc baz=171	18.17	353	P		Pn	10 29 22.7	-0.1
138A	Matatall Enter baz=169	18.24	351	P		Pn	10 29 23.9	+0.2
234A	Clairette baz=160,SNR=16	18.26	343	P		Pn	10 29 23.9	-0.2
LTX	Lajitas	18.28	325	*e*P		Pn	10 29 25.9	+1.6
LTX				*e*			10 33 52.5	
TXAR	Lajitas Array comp=Z,0.2nm,0.3s,baz=153,slow=12,SNR=54	18.28	325	P		Pn	10 29 25.9	+1.6
TXAR				PcP		PcP	10 33 52.5	+1.1
	comp=Z,0.1nm,0.3s,baz=147,slow=3.0,SNR=7.2							
TX31	Lajitas Ar. Si	18.28	325	*e*P		Pn	10 29 25.7	+1.4
TX31				*e*P		P	10 29 25.9	+2.6
137A	Heron Place, G baz=167	18.28	350	P		Pn	10 29 24.0	-0.3
136A	Ennis baz=165	18.31	347	P		Pn	10 29 24.7	+0.1
TIGA	Tifton baz=206	18.43	23	P		Pn	10 29 25.4	-0.6
TIGA	Tifton comp=Z,45nm,0.8s	18.43	23	*e*P		Pn	10 29 26.0	0.0
233A	Rising Star baz=157,SNR=20	18.51	341	P		Pn	10 29 27.1	+0.1
Z43A	Armstrong Fami baz=181	18.56	2	P		Pn	10 29 26.8	-0.7
Z42A	Norrel Spur, H baz=179,SNR=6.0	18.62	360	P		Pn	10 29 27.2	-1.0
Z41A	Richland Creek baz=176	18.62	358	P		Pn	10 29 27.4	-0.8
Z40A	Long Farm, Mag baz=175,SNR=8.9	18.65	356	P		Pn	10 29 28.0	-0.6
Z44A	Pea Ridge, Bel baz=184,SNR=6.4	18.67	4	P		Pn	10 29 27.6	-1.2
Z39A	Irene McRaven, baz=172	18.70	354	P		Pn	10 29 28.5	-0.6
Z46A	Louisville baz=188	18.73	8	P		Pn	10 29 28.9	-0.6
Z38A	Mt. Pleasant baz=170	18.80	352	P		P	10 29 29.1	+0.3
Z37A	Pogue Cattle C baz=168	18.85	350	P		Pn	10 29 30.2	-0.8
Z47A	Carrollton baz=191,SNR=34	18.86	10	P		Pn	10 29 30.2	-0.9
LRAL	Lakeview Retre comp=Z,47nm,1.4s	18.91	13	*e*P		Pn	10 29 31.3	-0.4
WLAR	White Oak Lake comp=Z,45nm,1.0s	19.06	357	*e*P		Pn	10 29 32.4	-1.0
Z36A	Blue Ridge baz=166	19.06	348	P		Pn	10 29 32.4	-1.1
Z48A	Northport baz=192,SNR=7.9	19.13	11	P		Pn	10 29 33.4	-0.9
Y42A	Garnett, Star baz=180	19.18	0	P		P	10 29 33.1	+0.3
Y41A	Eaglette Beard baz=177	19.23	358	P		Pn	10 29 34.0	-1.4
OCAC	Ocana	19.26	107	*e*P		P	10 29 32.7	-1.4
CCAR	Cane Creek comp=Z,32nm,0.7s	19.26	0	*e*P		Pn	10 29 34.7	-1.0
ABTX	Abilene, Hawle baz=156	19.31	340	P		P	10 29 34.8	+0.4
ABTX	Abilene, Hawle comp=Z,31nm,1.4s	19.31	340	*e*P		Pn	10 29 36.0	-0.4
Y45A	Yeager Farm, C baz=186,SNR=10	19.32	6	P		Pn	10 29 35.2	-1.3
Y44A	Strider, Charl baz=184,SNR=6.4	19.36	4	P		P	10 29 34.8	-0.1
Y39A	Lockesburg baz=173	19.38	354	P		P	10 29 35.4	+0.3
Y40A	Okolona baz=175,SNR=11	19.39	357	P		P	10 29 35.2	0.0
Y46A	Houston baz=188,SNR=11	19.42	8	P		P	10 29 35.7	+0.2
Y38A	Idabel baz=171,SNR=41	19.44	353	P		P	10 29 36.1	+0.4
OTAV	Otavalo comp=Z,3.4nm,0.8s	19.48	136	*e*P		Pn	10 29 39.0	0.0
OTAV				*e*P		P	10 29 44.8	+7.9
URIC	Uribia, Colomb	19.59	96	*e*P		P	10 29 33.8	-3.7
Y47A	UCPARC, Winfie baz=191,SNR=8.6	19.59	10	P		P	10 29 37.3	-0.1
Y37A	Hugo baz=168,SNR=7.3	19.61	351	P		P	10 29 37.7	+0.1
Y36A	Durant baz=166	19.65	349	P		P	10 29 37.7	-0.3
Y35A	Marietta baz=164,SNR=18	19.80	347	P		P	10 29 39.7	+0.1
X41A	Kaden, Bauxite baz=177	19.84	358	P		P	10 29 40.0	-0.1
X40A	Basin Creek Fa baz=176,SNR=6.8	19.84	358	P		P	10 29 39.6	-0.5
X45A	UM Field Stati baz=186	19.89	6	P		P	10 29 40.4	-0.2
X42A	Stuttgart baz=180	19.89	1	P		P	10 29 40.5	-0.1
X44A	Crenshaw baz=184	19.90	4	P		P	10 29 40.6	-0.2
PRAC	Prado	19.94	121	*e*P		Pn	10 29 43.1	-0.8
PRAC	Prado comp=Z,26nm,0.4s	19.94	121	*e*P		P	10 29 42.5	+1.1
MIAR	Mount Ida baz=174	19.94	356	P		P	10 29 40.8	-0.4
MIAR	Mount Ida comp=Z,56nm,1.9s	19.94	356	*e*P		P	10 29 41.2	+0.1
X39A	Fountain Ranch baz=173	19.95	355	P		P	10 29 41.3	0.0
OXF	Oxford comp=Z,24nm,0.6s	19.98	6	*e*P		P	10 29 40.0	-1.5
BARC	Barichara	20.02	111	*e*P		Pn	10 29 44.9	-0.2
UALR	University of comp=Z,19nm,0.8s	20.12	359	*e*P		P	10 29 43.2	+0.2
X37A	Clayton baz=169,SNR=12	20.17	352	P		P	10 29 43.7	+0.1
X38A	Whitesboro baz=171,SNR=17	20.18	353	P		P	10 29 43.9	+0.2
SDDR	Presa de Saban comp=Z,19nm,0.8s	20.20	75	*e*P		P	10 29 44.8	+0.6
GOGA	Godfrey comp=Z,20nm,0.6s	20.25	21	*e*P		P	10 29 44.4	-0.1
X35A	Drake baz=165	20.27	348	P		P	10 29 44.8	+0.1
X36A	Centrahoma baz=167,SNR=8.4	20.31	349	P		P	10 29 45.0	-0.2
RUSC	La Rusia	20.41	113	*e*P		P	10 29 46.0	-0.9
RUSC	La Rusia comp=Z,2.7nm,0.8s	20.41	113	*e*P		P	10 29 48.0	+1.1
CHIC	Chingaza	20.43	117	*e*P		Pn	10 29 49.5	-0.6
W41B	Gary Mavity, V baz=176	20.51	359	P		P	10 29 47.3	0.0
W38A	Poteau baz=172	20.55	354	P		P	10 29 47.2	-0.4
W40A	Ferguson Farm, baz=176	20.56	357	P		P	10 29 48.0	+0.2
X301	Greenbrier Sit comp=Z,6.2nm,0.9s	20.58	359	*e*P		P	10 29 48.1	+0.1
FLOC	Florencia	20.59	127	*e*P		P	10 29 50.1	+1.7
W39A	Magazine baz=174	20.60	356	P		P	10 29 48.2	-0.1
WHAR	Wooly Hollow comp=Z,10nm,1.1s	20.63	359	*e*P		P	10 29 48.7	+0.1
W45A	Hickory Valley baz=187	20.64	6	P		P	10 29 48.6	-0.1
W37B	Quinton baz=170,SNR=5.2	20.72	352	P		P	10 29 49.3	-0.3
W36A	Wetumka baz=167	20.84	350	P		P	10 29 50.0	-0.9
HBAR	Harrisburg	20.92	3	*e*P		P	10 29 50.7	-1.0
W35A	Tecumseh baz=166,SNR=6.1	20.98	349	P		P	10 29 50.9	-1.4
WMOK	Wichita Mounta baz=160,SNR=6.1	21.02	344	P		P	10 29 51.8	-1.0
WMOK	Wichita Mounta comp=Z,5.5nm,0.9s	21.02	344	*e*P		P	10 29 52.1	-0.7
MNTX	Cornudas Mount baz=140,SNR=27	21.04	326	P		P	10 29 53.8	+0.7
MNTX	Cornudas Mount comp=Z,14nm,0.6s	21.04	326	*e*P		P	10 29 54.1	+1.0
V41A	Mountainview baz=179	21.12	359	P		P	10 29 52.3	-1.5
V42A	Cord baz=181,SNR=6.3	21.15	1	P		P	10 29 52.2	-1.9
V40A	Witts Springs baz=177	21.16	358	P		P	10 29 52.7	-1.6
V39A	Pettigrew baz=175	21.23	356	P		P	10 29 53.4	-1.7
V45A	Humboldt baz=187	21.24	7	P		P	10 29 52.9	-2.2
SWET	Sewanee comp=Z,5.2nm,0.6s	21.24	14	*e*P		P	10 29 55.1	-0.1
V38A	Canehill baz=173,SNR=6.0	21.32	354	P		P	10 29 54.5	-1.5
V37A	Hulbert baz=171,SNR=6.8	21.42	353	P		P	10 29 55.6	-1.4
V36A	Jenks baz=168	21.43	351	P		P	10 29 56.0	-1.2
TUL1	Leonard baz=169	21.53	351	P		P	10 29 56.5	-1.7
V35A	Meyer Ranch, C baz=166	21.56	349	P		P	10 29 57.0	-1.5
MSTX	Muleshoe baz=150,SNR=9.1	21.68	335	P		P	10 29 59.1	-0.9
MSTX	Muleshoe comp=Z,10nm,0.6s	21.68	335	*e*P		P	10 29 59.6	-0.3
U41A	Viola baz=179,SNR=5.7	21.68	360	P		P	10 29 58.4	-1.4
HHAR	Hobbs comp=Z,7.6nm,1.0s	21.69	356	*e*P		P	10 29 59.4	-0.6
U42A	Revenden baz=181,SNR=16	21.69	1	P		P	10 29 58.6	-1.3
U40A	Yellville baz=177,SNR=5.9	21.71	358	P		P	10 29 58.8	-1.3
GLAT	Glass	21.73	6	*e*P		P	10 30 00.2	-0.2
U43A	Rector baz=183,SNR=12	21.75	3	P		P	10 29 58.7	-1.8
U39A	Green Forest baz=175	21.76	357	P		P	10 29 59.4	-1.3
WVT	Waverly comp=Z,21nm,0.6s	21.77	9	*e*P		P	10 30 00.1	-0.7
U44B	Burton Farm, H baz=186,SNR=9.6	21.79	6	P		P	10 29 59.4	-1.6
CPCT	Cooper Cave comp=Z,7.2nm,0.6s	21.82	16	*e*P		P	10 30 01.2	-0.1
JSC	Jenkinsville comp=Z,20nm,0.8s	21.85	24	*e*P		P	10 30 01.8	+0.2
U45A	Rockin P Farm, baz=188	21.86	7	P		P	10 30 00.6	-1.1
U38A	Gravette baz=173	21.89	355	P		P	10 30 01.0	-1.0
U44A	Portageville baz=185	21.93	5	P		P	10 30 01.2	-1.2
U37A	Salina baz=171,SNR=8.6	21.93	353	P		P	10 30 00.9	-1.5
AMTX	Amarillo baz=153	22.06	338	P		P	10 30 03.4	-0.6
AMTX	Amarillo comp=Z,25nm,0.6s	22.06	338	*e*P		P	10 30 03.8	-0.2
U35A	Pawnee baz=167	22.13	350	P		P	10 30 03.4	-1.2
PBMO	Poplar Bluff comp=Z,29nm,0.8s	22.15	3	*e*P		P	10 30 03.5	-1.3
TKL	Tuckaleechee C comp=Z,17nm,0.8s,baz=188,slow=9.7,SNR=33	22.22	18	P		P	10 30 04.9	-0.7
TKL	Tuckaleechee C comp=Z,22nm,0.8s	22.22	18	*e*P		P	10 30 05.4	-0.2
T41A	Mountain View baz=180,SNR=7.7	22.38	0	P		P	10 30 05.8	-1.4
T39A	Clever baz=176,SNR=7.0	22.40	357	P		P	10 30 05.6	-1.8
T43A	Greenville baz=183,SNR=20	22.46	3	P		P	10 30 06.2	-1.8
T38A	Diamond baz=173	22.47	355	P		P	10 30 06.4	-1.8
T40A	Mansfield baz=178	22.49	359	P		P	10 30 06.5	-1.9
T44A	Benton baz=185,SNR=11	22.51	5	P		P	10 30 06.6	-2.0
KMSC	Kings Mountain baz=207,SNR=13	22.58	23	P		P	10 30 09.0	-0.3
KMSC	Kings Mountain comp=Z,26nm,0.8s	22.58	23	*e*P		P	10 30 09.1	-0.1
T37A	Cheneyville 18 baz=172,SNR=9.7	22.62	354	P		P	10 30 07.5	-2.1
T35A	Sooner Cattle baz=168	22.63	350	P		P	10 30 07.8	-1.9
T36A	Boggs Farm, Ca baz=169,SNR=6.6	22.67	352	P		P	10 30 08.2	-2.0
T34A	McClaskey Farm baz=166,SNR=6.7	22.85	349	P		P	10 30 09.6	-2.3
S41A	Jillco Farms, baz=180,SNR=10	22.92	0	P		P	10 30 10.2	-2.4
S40A	Lebanon baz=178,SNR=7.5	22.94	359	P		P	10 30 10.5	-2.3
S43A	Fulton Ridge, baz=184,SNR=5.9	22.96	4	P		P	10 30 10.8	-2.2
121A	Cookes Peak, D baz=137,SNR=9.2	23.01	324	P		P	10 30 15.7	+2.0
121A	Cookes Peak, D comp=Z,20nm,1.0s	23.01	324	*e*P		P	10 30 16.0	+2.2
S38A	Stockton baz=174,SNR=9.2	23.03	356	P		P	10 30 11.8	-1.9
S39A	Bolivar baz=176,SNR=14	23.06	357	P		P	10 30 12.2	-1.8
319A	Douglas comp=Z,14nm,1.2s	23.09	319	*e*P		P	10 30 17.4	+2.8
TZTN	Tazewell comp=Z,22nm,0.6s	23.11	17	*e*P		P	10 30 13.8	-0.7
S42A	Caledonia baz=182,SNR=9.0	23.12	2	P		P	10 30 12.6	-2.0
S44A	Carbondale baz=186,SNR=50	23.14	5	P		P	10 30 13.8	-1.0
S45A	Carrier Mills baz=188,SNR=10	23.20	7	P		P	10 30 13.4	-1.9
S36A	Lake Cedric, C baz=170	23.29	353	P		P	10 30 13.9	-2.2
S35A	Otter Creek Ra baz=168	23.35	351	P		P	10 30 14.3	-2.4
R38A	Fenwick Farm, baz=174,SNR=9.0	23.59	356	P		P	10 30 17.2	-1.6
USIN	University of comp=Z,55nm,0.6s	23.60	8	*e*P		P	10 30 18.2	-0.7
BNM	Barren Site	23.61	328	*e*P		P	10 30 21.6	+2.2
R40A	Maddies Statio baz=178,SNR=7.3	23.62	359	P		P	10 30 16.5	-2.7
R42A	Luebbering baz=182,SNR=9.9	23.63	2	P		P	10 30 17.6	-1.7
R41A	Rosebud baz=181	23.63	1	P		P	10 30 17.3	-2.0
R39A	Chumby, Stover baz=177,SNR=7.0	23.67	358	P		P	10 30 17.6	-2.0
R43A	Red Bud baz=184,SNR=14	23.67	4	P		P	10 30 18.0	-1.6
Y22D	IRIS PASSCAL I comp=Z,22nm,0.6s	23.70	328	*e*P		P	10 30 20.8	+0.7
R44A	Waltonville baz=186,SNR=5.3	23.71	6	P		P	10 30 18.0	-1.9
R36A	Gordon, Harris baz=171	23.87	353	P		P	10 30 19.9	-1.5
R35A	Emporia Munici baz=169	23.96	352	P		P	10 30 20.6	-1.6
SLM	Saint Louis comp=Z,42nm,0.7s	24.01	3	*e*P		P	10 30 22.3	-0.3
LAZ	Ladron	24.07	328	*e*P		P	10 30 25.3	+1.8
WCI	Wyandotte Cave comp=Z,32nm,0.7s	24.08	11	*e*P		P	10 30 22.5	-0.8
R34A	Isabella, Hill baz=167	24.10	350	P		P	10 30 21.9	-1.6
CNNC	Cliffs of the comp=Z,20nm,0.6s	24.13	29	*e*P		P	10 30 22.5	-1.2
ANMO	Albuquerque comp=Z,1.0nm,0.5s,baz=155,slow=14,SNR=8.7	24.16	330	P		P	10 30 26.0	+1.7
ANMO				PcP		PcP	10 34 03.1	+0.3
	comp=Z,1.4nm,0.8s,baz=161,slow=7.5,SNR=5.1							
ANMO	Albuquerque baz=143	24.16	330	P		P	10 30 24.6	+0.3
Q42A	Golden Eagle baz=183,SNR=7.0	24.27	3	P		P	10 30 23.5	-1.5
Q41A	Truxton baz=181,SNR=19	24.29	1	P		P	10 30 23.7	-1.4
OLIL	Olney comp=Z,83nm,0.8s	24.30	7	*e*P		P	10 30 24.2	-1.0
Q40A	Laux Farm, Aux baz=179	24.33	360	P		P	10 30 24.1	-1.4
Q38A	Cook Store, C baz=175,SNR=9.6	24.34	357	P		P	10 30 24.7	-0.9
Q43A	New Douglas baz=184,SNR=5.7	24.35	4	P		P	10 30 23.8	-1.8
Q44A	Meyer Farm, Va baz=186,SNR=9.6	24.37	5	P		P	10 30 24.5	-1.3
Q39A	Willow Grove F baz=177	24.39	358	P		P	10 30 24.5	-1.6
Q35A	Mercer Eighty, baz=170	24.46	352	P		P	10 30 25.0	-1.8
Q34A	Chapman baz=168	24.66	351	P		P	10 30 27.1	-1.4
TUC	Tucson baz=131	24.67	319	P		P	10 30 29.6	+0.8
TUC	Tucson comp=Z,5.2nm,1.1s	24.67	319	*e*P		P	10 30 31.2	+2.4
BLA	Blacksburg comp=Z,12nm,0.8s	24.75	22	*e*P		P	10 30 29.1	-0.3
P39B	Salisbury baz=177	24.83	358	P		P	10 30 28.4	-1.7
P40A	Paris baz=179,SNR=5.6	24.86	360	P		P	10 30 28.3	-2.1
VWCC	Virginia Weste	24.95	23	*e*P		P	10 30 31.2	0.0
P42A	Winchester baz=183,SNR=11	24.95	3	P		P	10 30 29.4	-1.8
BLO	Bloomington comp=Z,30nm,0.6s	24.95	10	*e*P		P	10 30 30.0	-1.2
P44A	Sand Creek, Wi baz=187,SNR=7.3	24.96	6	P		P	10 30 29.3	-2.0
P38A	Dawn baz=176	25.00	357	P		P	10 30 29.1	-2.4
P37A	Lathrop baz=174	25.01	356	P		P	10 30 29.7	-2.0
P41A	Barry, Barry baz=181,SNR=6.3	25.02	2	P		P	10 30 29.9	-1.9
P43A	Skaggs, Pawnee baz=185	25.06	4	P		P	10 30 30.4	-1.7
T25A	Trinidad baz=150	25.09	336	P		P	10 30 31.6	-1.2
T25A	Trinidad comp=Z,4.9nm,0.8s	25.09	336	*e*P		P	10 30 33.8	+1.1
P36A	Good Intent, A baz=172	25.12	354	P		P	10 30 30.5	-2.3
P35A	Duane Minner, baz=170	25.12	352	P		P	10 30 31.3	-1.5
P34A	Walnut Farm, R baz=168	25.25	351	P		P	10 30 32.7	-1.2
O40A	La Belle baz=179	25.45	0	P		P	10 30 34.1	-1.6
O41A	Passleys Farm, baz=182	25.46	2	P		P	10 30 34.2	-1.5
O42A	Bath baz=184	25.57	3	P		P	10 30 35.9	-0.9
O36A	Bolckow baz=172	25.60	355	P		P	10 30 35.3	-1.7
X18A	Snowflake comp=Z,15nm,1.6s	25.70	324	*e*P		P	10 30 40.9	+2.7
O43A	Sugar Creek Fa baz=185	25.71	5	P		P	10 30 36.2	-1.8
214A	Organ Pipe Nat baz=127	25.78	316	P		P	10 30 40.8	+2.0
HDIL	Hopedale baz=185	25.98	5	P		P	10 30 38.4	-2.2
HDIL	Hopedale comp=Z,19nm,0.8s	25.98	5	*e*P		P	10 30 39.6	-0.9
W18A	Petrified Fore baz=137	26.00	325	P		P	10 30 42.5	+1.4
W18A	Petrified Fore comp=Z,17nm,1.4s	26.00	325	*e*P		P	10 30 43.4	+2.4
SFIN	Lafayette baz=190,SNR=12	26.05	8	P		P	10 30 39.2	-1.9
SFIN	Lafayette comp=Z,28nm,0.6s	26.05	8	*e*P		P	10 30 39.9	-1.2
N41A	Harden Midland baz=182	26.05	2	P		P	10 30 39.3	-1.9
KSCO	Kaye Shedlock' baz=155	26.12	341	P		P	10 30 40.7	-1.2
N38A	Joes South For baz=176	26.15	358	P		P	10 30 40.0	-2.0
N42A	Yates City baz=184	26.21	3	P		P	10 30 41.1	-1.5
N40A	Mertquake, Sal baz=180	26.21	1	P		P	10 30 41.4	-1.2
X16A	Lo Mia Camp, P comp=Z,5.5nm,0.7s	26.49	322	*e*P		P	10 30 47.9	+2.5
S22A	4UR Ranch, Cre baz=146	26.61	333	P		P	10 30 46.6	0.0
ACSO	Alum Creek Sta comp=Z,19nm,0.6s	26.72	15	*e*P		P	10 30 46.3	-0.9
M41A	Milan baz=182	26.73	2	P		P	10 30 46.4	-0.8
M40A	Post Highland baz=180	26.74	1	P		P	10 30 45.9	-1.4
M38A	Pleasantville baz=177	26.77	358	P		P	10 30 46.4	-1.2
M37A	Trindle Farm, baz=175	26.80	356	P		P	10 30 47.7	-0.1
113A	Mohawk Valley, comp=Z,16nm,1.9s	26.91	316	*e*P		P	10 30 51.5	+2.5
MVCO	Mesa Verde baz=142	26.96	330	P		P	10 30 50.1	+0.5
Y14A	Wickenburg comp=Z,17nm,0.6s	27.14	319	*e*P		P	10 30 53.5	+2.4
WUAZ	Wupatki baz=135,SNR=6.5	27.22	323	P		P	10 30 53.7	+1.8

WUAZ	Wupatki	27.22	323	*e*P		P	10 30 54.5	+2.6		
	comp=Z,5.9nm,0.9s									
L40A	Anamosa	27.40	1	P		P	10 30 52.2	-0.9		
	baz=181									
L38A	Oak Wood Farm,	27.48	358	P		P	10 30 53.4	-0.5		
	baz=177									
GLA	Glamis	27.79	315	P		P	10 30 58.8	+1.9		
	baz=126									
GLA	Glamis	27.79	315	*e*P		P	10 30 59.8	+2.9		
	comp=Z,4.3nm,0.7s									
ISCO	Idaho Springs	27.86	337	P		P	10 30 57.5	-0.3		
	baz=150									
K41A	Shullsburg	27.97	3	P		P	10 30 57.7	-0.5		
	baz=183									
Y12C	Blythe	28.01	317	P		P	10 31 01.4	+2.6		
	baz=127									
K39A	Oelwein	28.03	0	P		P	10 30 57.4	-1.5		
	baz=179									
PDMCI	Parker Dam,Lak	28.10	318	P		P	10 31 01.7	+2.2		
	baz=128									
O56A	Blue Knob Stat	28.13	22	P		P	10 30 59.0	-0.8		
	baz=208									
PV10	Paradox Valley	28.14	331	*e*P		P	10 31 00.6	+0.5		
N54A	Moraine State	28.26	19	P		P	10 30 59.8	-1.1		
	baz=204,SNR=5.2									
JFWS	Jewell Farm	28.28	3	*e*P		P	10 31 01.6	+0.6		
	comp=Z,16nm,1.4s									
U15A	North Rim	28.39	324	*e*P		P	10 31 04.9	+2.5		
	comp=Z,2.6nm,0.8s									
W13A	Hualapai Mount	28.44	320	*e*P		P	10 31 05.7	+2.8		
	comp=Z,3.0nm,0.8s									
BC3	Big Chuckawall	28.57	316	P		P	10 31 06.5	+2.6		
	baz=126,SNR=7.3									
IRM	Iron Mountain	28.66	317	P		P	10 31 06.6	+2.0		
	baz=127									
SSPA	Standing Stone	28.70	23	*e*P		P	10 31 04.4	-0.4		
	comp=Z,11nm,0.7s									
J41A	Loganville	28.74	3	P		P	10 31 04.7	-0.4		
	baz=183									
MONP	Monument Peak,	28.81	314	P		P	10 31 08.2	+2.0		
	baz=123									
M54A	Oil Creek Stat	28.86	19	P		P	10 31 05.9	-0.3		
	baz=205									
BELC	Belle Mtn. Jos	29.14	316	P		P	10 31 10.9	+1.9		
	baz=125									
LDFC	Landfair	29.20	318	*e*P		P	10 31 13.2	+3.7		
	comp=Z,15nm,0.6s									
O20A	White River Ci	29.21	334	P		P	10 31 09.4	-0.2		
	baz=146									
PFO	Pinyon Flats O	29.23	315	P		P	10 31 11.6	+1.8		
	comp=Z,1.2nm,0.9s,baz=78,slow=7.4,SNR=2.9									
PFO	Pinyon Flats O	29.23	315	*e*P		P	10 31 11.6	+1.8		
	comp=Z,6.1nm,1.5s									
LCMT	Little Creek M	29.34	324	*e*P		P	10 31 13.5	+2.8		
	comp=Z,4.4nm,1.1s									
I38A	Scanlan Farm,	29.37	359	P		P	10 31 09.4	-1.3		
	baz=179									
GMRC	Granite Mounta	29.38	317	P		P	10 31 13.8	+2.7		
	baz=127,SNR=5.8									
SZCU	Shurtz Canyon	29.66	325	*e*P		P	10 31 16.2	+2.6		
	comp=Z,4.6nm,0.8s									
LUPA	Lehigh Univers	29.67	26	*e*P		P	10 31 13.2	-0.2		
	comp=Z,22nm,0.5s									
I33A	Coleman	29.67	353	P		P	10 31 12.9	-0.5		
	baz=170									
N59A	State Game Lan	29.77	25	P		P	10 31 13.6	-0.7		
	baz=212									
CCUT	Cedar City	29.78	324	*e*P		P	10 31 16.3	+1.6		
	comp=Z,6.6nm,0.9s									
MSU	Marysvale	29.82	327	*e*P		P	10 31 17.4	+2.3		
TUQ	Turquoise Moun	29.95	318	P		P	10 31 18.3	+2.2		
	baz=127									
H40A	Chili	29.98	2	P		P	10 31 13.9	-2.1		
	baz=182									
H38A	Maiden Rock	30.00	359	P		P	10 31 14.8	-1.5		
	baz=179									
SHPR	Sheep Range	30.14	321	*e*P		P	10 31 20.6	+2.8		
	comp=Z,3.7nm,0.9s									
IMU	Iron Mountain	30.44	326	*e*pP		pP	10 31 40.8	-1.9		
IMU				*e*S		S	10 36 19.2	+4.8		
SPMN	Marine on St.	30.56	359	P		P	10 31 19.9	-1.3		
	baz=178									
G39A	Holcombe	30.62	1	P		P	10 31 20.1	-1.6		
	baz=181									
K22A	Casper	30.69	339	P		P	10 31 22.0	-0.6		
	baz=151									
BINY	Binghamton	30.77	23	*e*P		P	10 31 22.6	-0.5		
	comp=Z,22nm,0.6s									
EDW2	Edwards Air Fo	31.00	315	P		P	10 31 27.2	+1.9		
	baz=124									
TPNV	Topopah Spring	31.10	320	P		P	10 31 28.4	+2.1		
	baz=129,SNR=6.4									
TPNV	Topopah Spring	31.10	320	*e*P		P	10 31 29.3	+3.0		
	comp=Z,2.9nm,0.8s									
F41A	Three Lakes	31.15	4	P		P	10 31 25.9	-0.6		
	baz=185									
FURC	Furnace Creek,	31.18	319	P		P	10 31 29.1	+2.3		
	baz=127,SNR=6.7									
F38A	Pierce - Schro	31.29	0	P		P	10 31 27.0	-0.6		
	baz=180									
MPMC	Manual Prospec	31.34	318	P		P	10 31 30.8	+2.3		
	baz=126,SNR=13									
DAC	Darwin (Calif)	31.54	318	*e*P		P	10 31 32.8	+2.6		
	comp=Z,3.9nm,1.0s									
R11A	Troy Canyon, C	31.61	323	P		P	10 31 32.6	+1.8		
	baz=132,SNR=6.5									
R11A	Troy Canyon, C	31.61	323	*e*P		P	10 31 32.8	+2.0		
	comp=Z,5.8nm,1.2s									
ARVC	Arvin	31.70	315	P		P	10 31 34.1	+2.7		
	baz=123									
GRAC	Grapevine Rang	31.83	319	P		P	10 31 35.0	+2.5		
	baz=127									
E36A	McGregor	31.86	358	P		P	10 31 31.1	-1.5		
	baz=177									
HWUT	Hardware Ranch	31.88	331	*e*P		P	10 31 34.7	+1.6		
	comp=Z,1.8nm,0.7s									
E38A	The Farm, Brul	31.93	0	P		P	10 31 31.5	-1.8		
	baz=180									
PD31	Pinedale Array	31.95	335	*e*P		P	10 31 33.6	-0.1		
PDAR	Pinedale Array	31.95	335	P		P	10 31 33.6	-0.1		
	comp=Z,0.4nm,0.4s,baz=128,slow=10,SNR=6.5									
PDAR				PcP		PcP	10 34 22.1	+0.4		
	comp=Z,0.6nm,0.5s,baz=145,slow=5.6,SNR=8.0									
PDAR				ScP		ScP	10 37 54.3	-2.1		
	comp=Z,0.5nm,0.8s,baz=114,slow=3.6,SNR=5.0									
CWC	Cottonwood Cre	31.95	318	P		P	10 31 36.3	+2.6		
	baz=126									
E34A	Wadena	31.96	356	P		P	10 31 31.8	-1.7		
	baz=174									
NCB	Newcomb	32.95	24	*e*P		P	10 31 41.0	-1.2		
	comp=Z,0.1nm,0.6s									
REDW	Red Top Meadow	32.97	334	*e*P		P	10 31 43.6	+0.9		
	comp=Z,6.3nm,0.6s									
SNOW	Snow King Moun	33.01	334	*e*P		P	10 31 44.1	+1.0		
	comp=Z,10nm,0.6s									
C35A	Jirik Farms, M	33.07	357	P		P	10 31 42.1	-1.1		
	baz=176									
LOHW	Long Hollow	33.07	335	*e*P		P	10 31 44.2	+0.7		
	comp=Z,2.5nm,0.5s									
C36A	Pine Crest Far	33.09	359	P		P	10 31 42.6	-0.8		
	baz=178									
TPAW	Teton Pass	33.12	334	*e*P		P	10 31 44.8	+0.8		
	comp=Z,3.0nm,0.5s									
LONY	Lake Ozonia	33.37	23	*e*P		P	10 31 45.0	-0.8		
	comp=Z,10.0nm,0.8s									
PSMM	Smith Mountain	33.42	315	*e*P		P	10 31 50.6	+4.1		
PSMM				*e*pP		pP	10 32 06.2	-2.7		
IMW	Indian Meadow	33.45	335	*e*P		P	10 31 47.3	+0.4		
	comp=Z,2.2nm,0.6s									
TVH2	Borealis Mine	33.54	320	*e*P		P	10 31 51.1	+3.4		
	comp=Z,6.3nm,1.4s									
TVH3	East Aurora ar	33.57	320	*e*P		P	10 31 51.1	+3.2		
	comp=Z,1.9nm,0.8s									
RLMT	Red Lodge	33.82	338	P		P	10 31 50.1	+0.1		
	baz=148									
BMN	Battle Mountai	33.95	324	*e*P		P	10 31 53.6	+2.5		
	comp=Z,6.6nm,0.8s									
WAKR	Walker	34.05	320	*e*P		P	10 31 53.6	+1.6		
	comp=Z,3.3nm,1.0s									
YERR	Yerington	34.21	320	*e*P		P	10 31 56.1	+2.7		
	comp=Z,7.8nm,0.6s									
CMB	Columbia Colle	34.37	318	*e*P		P	10 31 57.1	+2.4		
	comp=Z,2.2nm,0.8s									
SAO	San Andreas Ge	34.37	315	*e*P		P	10 31 55.9	+1.2		
	comp=Z,3.9nm,1.1s									
PNTR	Pine Nut	34.50	320	*e*P		P	10 31 59.1	+3.2		
	comp=Z,8.7nm,0.7s									
HLID	Hailey	34.73	331	P		P	10 31 59.2	+1.3		
	baz=139,SNR=7.8									
HLID	Hailey	34.73	331	*e*P		P	10 31 59.0	+1.2		
	comp=Z,4.0nm,1.0s									
PAHR	Pah Rah Range	34.74	321	*e*P		P	10 32 00.8	+2.8		
	comp=Z,3.6nm,0.8s									
MCMT	McKenzie Canyo	35.01	334	*e*P		P	10 32 01.8	+1.5		
BOZ	Bozeman (W)	35.12	336	P		P	10 32 01.7	+0.6		
	baz=145									
BOZ	Bozeman (W)	35.12	336	*e*P		P	10 32 01.9	+0.8		
	comp=Z,1.5nm,0.6s									
MFID	Camas Ranch	35.30	329	*e*P		P	10 32 04.8	+2.1		
	comp=Z,21nm,2.0s									
DLMT	Dillon	35.33	334	*e*P		P	10 32 04.1	+1.2		
	comp=Z,18nm,2.0s									
CYBM	Yerba Buena Is	35.55	316	*e*PcP		PcP	10 34 32.8	+1.1		
WVOR	Wild Horse Val	36.08	326	*e*P		P	10 32 11.3	+2.0		
	comp=Z,7.2nm,1.0s									
EGMT	Eagleton	36.49	340	P		P	10 32 12.4	-0.3		
	baz=150									
MOD	Modoc Plateau	36.67	324	*e*P		P	10 32 15.7	+1.3		
	comp=Z,19nm,1.6s									
SAML	Samuel	36.84	128	*e*P		P	10 32 14.7	-1.2		
	comp=Z,12nm,0.8s									
MSO	Missoula	37.06	335	P		P	10 32 18.0	+0.4		
	baz=142									
BMO	Blue Mountains	37.08	330	*e*P		P	10 32 18.6	+0.8		
	comp=Z,9.6nm,1.6s									
M04C	Macdoel	37.49	322	P		P	10 32 23.0	+1.7		
	baz=127									
F10A	Beach Ranch, E	37.86	331	*e*P		P	10 32 25.1	+0.7		
	comp=Z,14nm,0.6s									
J04D	Umpqua Nationa	38.55	324	P		P	10 32 31.6	+1.3		
	baz=128									
LPAZ	La Paz	38.62	142	P		P	10 32 32.8	+1.2		
	comp=Z,0.7nm,0.6s,baz=315,slow=11,SNR=4.0									
LPAZ				PcP		PcP	10 34 43.3	+1.1		
	comp=Z,1.1nm,0.5s,baz=15,slow=1.3,SNR=6.0									
E09A	Wood Farm, Sta	38.69	331	*e*P		P	10 32 32.5	+1.4		
	comp=Z,11nm,1.5s									
I05D	Terrebonne, OR	38.81	326	P		P	10 32 33.4	+1.0		
	baz=130									
I04A	Tendick Farm,	39.06	324	P		P	10 32 35.6	+1.2		
	baz=128									
G05D	Wamic, OR	39.40	327	P		P	10 32 38.0	+0.9		
	baz=131									
NEW	Newport	39.53	333	P		P	10 32 38.3	+0.1		
	baz=139									
I03D	Drain, OR	39.54	324	P		P	10 32 38.9	+0.6		
	baz=127									
G03D	McMinnville, O	40.43	325	P		P	10 32 46.5	+0.9		
	baz=129									
LTY	Liberty	40.44	330	*e*P		P	10 32 46.8	+1.0		
	comp=Z,14nm,1.5s									
LON	Longmire	40.66	328	*e*P		P	10 32 49.2	+1.6		
	comp=Z,6.5nm,0.8s									
B05A	Bryant	41.83	330	P		P	10 32 57.0	0.0		
	baz=133									
EDM	Edmonton	42.13	341	*e*P		P	10 32 58.8	-0.6		
	comp=Z,6.1nm,0.5s									
SCHQ	Schefferville	44.65	20	P		P	10 33 16.9	-2.7		
	comp=Z,4.3nm,0.7s,baz=214,slow=7.7,SNR=4.4									
YKA	Yellowknife Ar	50.49	347	P		P	10 34 03.9	-0.8		
	comp=Z,6.0nm,0.6s,baz=150,slow=7.6,SNR=19									
YKA				PcP		PcP	10 35 20.4	-1.0		
	comp=Z,2.5nm,0.9s,baz=154,slow=3.8,SNR=3.3									
DLBC	Dease Lake	52.17	336	*e*P		P	10 34 19.8	+2.3		
	comp=Z,14nm,1.6s									
CPUP	Villa Florida	52.76	140	PcP		PcP	10 35 31.0	+0.6		
	comp=Z,1.5nm,0.8s,baz=324,slow=3.3,SNR=3.8									
BMRM	Bremner River	59.71	333	*e*P		P	10 35 13.0	+1.9		
	comp=Z,25nm,1.6s									
INK	Inuvik	59.92	343	*e*P		P	10 35 12.0	-0.3		
	comp=Z,4.1nm,0.8s									
IL1	Eielson Array	62.35	337	*e*P		P	10 35 29.4	+0.6		
ILAR	Eielson Array	62.36	337	P		P	10 35 28.7	-0.2		
	comp=Z,3.3nm,0.9s,baz=127,slow=4.9,SNR=25									
ILB	Eielson Array	62.36	337	*e*P		P	10 35 29.6	+0.8		
RND	Reindeer	62.55	335	*e*P		P	10 35 31.7	+1.4		
	comp=Z,13nm,0.9s									
COLA	College	62.77	337	*e*P		P	10 35 32.6	+1.0		
	comp=Z,7.1nm,0.4s									
TRF	Thorofare Moun	63.17	335	*e*P		P	10 35 35.8	+1.3		
	comp=Z,9.3nm,0.8s									
RSO	Redoubt South	63.20	331	*e*P		P	10 35 36.1	+1.3		
TOLK	Toolik Lake Re	65.02	340	P		P	10 35 45.9	-0.4		
	baz=115									
TTA	Tatalina	65.44	333	*e*P		P	10 35 49.4	+0.2		
	comp=Z,10nm,0.9s									
ESDC	Sonseca Array	79.28	52	P		P	10 37 08.9	-3.0		
	comp=Z,0.7nm,0.5s,baz=285,slow=6.4,SNR=6.2									
DBIC	Dimbokro	85.49	84	P		P	10 37 42.7	-1.9		
	comp=Z,2.2nm,0.8s,baz=236,slow=3.6,SNR=3.0									
SEY	Seychelles	88.27	336	P		P	10 37 57.8	+0.6		
	comp=Z,3.2nm,1.0s,baz=95,slow=6.6,SNR=4.7									
TOA1	Torodi Ar. Sit	90.14	76	*e*P		P	10 38 04.9	-2.0		
TORD	Torodi Ar. Bea	90.14	76	P		P	10 38 04.9	-2.0		
	comp=Z,0.2nm,0.4s,baz=295,slow=5.0,SNR=5.4									
PEA1	Petropavlovsk-	90.23	326	*e*P		P	10 38 07.2	+0.7		
PETK	Petropavlovsk-	90.23	326	P		P	10 38 07.2	+0.7		
	comp=Z,7.1nm,0.9s,baz=67,slow=11,SNR=5.0									
KSRS	Korea Array	116.13	325	PKP		PKPdf	10 43 49.4	+0.3		
	comp=Z,1.1nm,0.7s,baz=20,slow=1.4,SNR=7.0									
KSAR	Wonju Array Be	116.16	325	PKP		PKPdf	10 43 49.4	+0.3		
BOSA	Boshof	120.50	115	PKP		PKPdf	10 43 57.6	-0.2		
	comp=Z,4.9nm,0.8s,baz=239,slow=6.3,SNR=6.3									
HHC	Hu-ho-hao-te	120.72	339	*e*PKP		PKPdf	10 44 01.9	+3.9		
HHC				PP		PP	10 45 34.2	+8.3		
HHC	Hu-ho-hao-te	120.72	339	SS		SS	11 01 51.0	+3.0		
HHC				LR		LR				
	comp=N,110nm,18.5s									
HHC				LR		LR				
	comp=E,110nm,18.5s									
HHC				LR		LR				
	comp=Z,86nm,17.3s									
MAW	Mawson	124.51	169	PKP		PKPdf	10 44 04.5	+0.4		
	comp=Z,0.6nm,0.3s,baz=289,slow=4.9,SNR=6.3									
KSH	Kashi	125.01	11	*e*PKP		PKPdf	10 44 08.1	+1.8		
LZH	Lanzhou	127.46	344	*e*PKP		PKPdf	10 44 13.6	+2.5		
LZH				sPKP			10 44 50.7			
LZH				PP		PP	10 46 19.5	+8.5		
LZH				SKS		SKSdf	10 51 14.4	+0.1		
LZH				SKKS		SKKSac	10 52 56.4	-4.4		
LZH	Lanzhou	127.46	344	SS		SS	11 03 09.1	-3.9		
LZH				AMB		AMB				
	comp=Z,120nm,4.8s									
WR1	Warramunga Arr	135.63	256	*e*P		PKPdf	10 44 27.5	+0.8		
WRA	Warramunga Arr	135.63	256	PKP		PKPdf	10 44 27.5	+0.8		
	comp=Z,0.8nm,0.7s,baz=88,slow=2.9,SNR=9.2									
ASAR	Alice Springs	135.95	251	PKP		PKPdf	10 44 28.0	+0.7		
	comp=Z,0.5nm,0.6s,baz=27,slow=1.4,SNR=4.3									
FITZ	Fitzroy Crossi	143.85	259	PKP		PKPdf	10 44 41.8	+0.2		
	comp=Z,7.2nm,1.2s,baz=93,slow=11,SNR=2.6									
CMAR	Chiang Mai Arr	145.48	342	PKPbc		PKPdf	10 44 43.7	-0.8		
	comp=Z,8.5nm,0.7s,baz=335,slow=3.6,SNR=32									

*ISCJB **12** 10:34:23.4±0.7, 18°.10N±0°.07×146°.9E±0°.2, h50km, mb3.9/10, MS3.4/9, Error ellipse: s-maj=28.7km s-min=8.0km az=11.5*

*IDC **12** 10:34:25.4±3.9, 18°.10N×146°.88E, h52km±35km, mb3.7/10, mb1 3.8/12, mb1mx3.6/43, mbtmp3.9/12, ML4.0/2, MS3.4/9, Ms1 3.4/9, ms1mx3.2/34, Error ellipse: s-maj=39.1km s-min=14.5km az=93.0*

ISC 12 10:34:25.1±0.9, 18°.11N±0°.10×146°.9E±0°.3, h50km, n19, σ0$67/13, mb3.9/10, MS3.4/9, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
GUMO	Guam	4.90	204	P	P	Pn	10 35 37.1	+0.8
	9.6nm,0.3s,baz=146,slow=4.0,SNR=7.5							
GUMO				S	S	Sn	10 36 31.2	-0.6
	9.0nm,0.3s,baz=18,slow=20,SNR=2.4							
MJAR	Matsushiro Arr	19.90	339	P	P		10 38 53.3	+0.7
	0.3nm,0.3s,baz=154,slow=11,SNR=3.8							
KSRS	Korea Array	25.48	323	P	P		10 39 48.4	-0.2
	0.8nm,0.5s,baz=145,slow=8.8,SNR=5.9							
KSRS				LR	LR		10 50 06.1	
	comp=Z,114nm,19.2s,baz=122,slow=37							
USRK	Ussuriysk Ar.	28.88	337	LR	LR		10 51 08.5	
	comp=Z,66nm,21.3s,baz=82,slow=35							
HNR	Honiara	30.24	154	LR	LR		10 52 47.7	
	comp=Z,93nm,19.5s,baz=348,slow=36							
PETK	Petropavlovsk-	35.33	11	LR	LR		10 53 48.2	
	comp=Z,29nm,20.4s,baz=243,slow=32							
WRA	Warramunga Arr	39.77	199	P	P		10 41 53.8	+0.4
	0.6nm,0.6s,baz=26,slow=8.6,SNR=5.6							
FITZ	Fitzroy Crossi	41.62	211	P	P		10 42 08.0	-0.6
	2.1nm,0.8s,baz=24,slow=8.0,SNR=6.6							
ASAR	Alice Springs	43.42	197	P	P		10 42 23.5	+0.3
	0.3nm,0.6s,baz=21,slow=7.0,SNR=3.2							
ASAR				LR	LR		11 00 40.0	
	comp=Z,74nm,20.1s,baz=65,slow=36							
SONM	Songino Array	44.32	321	LR	LR		11 01 09.5	
	comp=Z,53nm,20.2s,baz=142,slow=36							
CMAR	Chiang Mai Arr	45.44	278	LR	LR		10 59 28.9	
	comp=Z,20nm,20.9s,baz=235,slow=33							
STKA	Stephens Creek	49.96	186	P	P		10 43 13.8	-0.4
	2.7nm,1.0s,baz=346,slow=12,SNR=2.5							
ZALV	Zalesovo Beam	59.18	323	P	P		10 44 20.7	-0.1
	1.8nm,0.5s,baz=97,slow=7.6,SNR=5.0							
ILAR	Eielson Array	63.67	26	P	P		10 44 50.8	-0.1
	0.2nm,0.4s,baz=256,slow=6.1,SNR=7.1							
AAK	Ala-Archa	65.13	309	LR	LR		11 14 23.5	
	comp=Z,33nm,19.3s,baz=37,slow=37							
YKA	Yellowknife Ar	77.97	28	P	P		10 46 17.8	0.0
	0.4nm,0.4s,baz=280,slow=5.5,SNR=2.7							
ARCES	ARCESS Array B	83.40	342	P	P		10 46 47.7	+0.9
	2.2nm,0.6s,baz=64,slow=6.9,SNR=7.5							
FINES	FINESS Array B	87.90	336	P	P		10 47 08.0	-1.2
	1.0nm,0.4s,baz=67,slow=5.6,SNR=7.7							
NOA	NORSAR Array B	93.52	340	LR	LR		11 34 04.2	
	comp=Z,23nm,20.9s,baz=10.0,slow=38							

*CSEM **12** 10:41:48.6±0.3, 37°.23N×42°.94E, h2km, MD2.9, Error ellipse: s-maj=7.3km s-min=6.2km az=41.0*

*DDA **12** 10:41:48.9, 37°.30N×42°.92E, h5km, Md2.9*

*ISN **12** 10:41:48.4±0.3, 36°.02N×42°.32E, h0km, ML2.0*

*ISCJB **12** 10:41:49.5±1.4, 37°.3N±0°.1×42°.98E±0°.05, h8km, Error ellipse: s-maj=18.3km s-min=5.1km az=172.5*

ISC 12 10:41:49.4±1.3, 37°.27N±0°.09×42°.92E±0°.03, h8km, n14, σ0$40/21, Turkey

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
SIRN	S¯–rnak	0.46	299	*i* P	P	Pg	10 41 58.2	-0.2
SIRN	S¯–rnak	0.46	299	P	P	Pg	10 41 58.2	-0.2
HAKT	HAKKARI	0.69	65	*i* P	P	Pg	10 42 02.5	-0.2
HAKT				*i* S	S	Sg	10 42 11.8	+0.1
HAKT	HAKKARI	0.69	65	P	P	Pg	10 42 02.5	-0.2
HAKT				S	S	Sg	10 42 11.8	+0.1
GEVA	Gevas	1.05	6	*i* P	P	Pg	10 42 09.0	-0.5
GEVA	Gevas	1.05	6	P	P	Pg	10 42 09.0	-0.5
BTMN	Batman	1.45	296	*i* P	P	Pn	10 42 16.3	+0.3
BTMN				*i* S	S	Sg	10 42 36.4	+0.4
BTMN	Batman	1.45	296	P	P	Pn	10 42 16.3	+0.3
BTMN				S	S	Sg	10 42 36.4	+0.4
SVAN	Silvan-Diyarba	1.62	303	*i* P	P	Pb	10 42 19.2	-0.4
SVAN				*i* S	S	Sg	10 42 41.7	+0.1
SVAN	Silvan-Diyarba	1.62	303	P	P	Pb	10 42 19.2	-0.4
SVAN				S	S	Sg	10 42 41.7	+0.1
MARD	Mardin	1.71	272	*i* P	P	Pb	10 42 20.8	-0.3
MARD				*i* S	S	Sg	10 42 43.8	-0.5
BNGL	BINGOL	2.19	321	*i* P	P	Pn	10 42 27.2	+1.0
YAHY	KAYSERI_Yahyal	6.05	280	*i* P	P	Pb	10 43 35.0	-0.1
YAHY	KAYSERI_Yahyal	6.05	280	P	P	Pb	10 43 35.0	-0.1

*NEIC **12** 10:50:09.9±1.5, 31°.35S×178°.29W, h43km±12km, mb4.7/1, Error ellipse: s-maj=15.2km s-min=11.3km az=101.0*

*ISCJB **12** 10:50:10.7±0.6, 31°.61S±0°.04×178°.4W±0°.1, h61km, mb4.9/15, Error ellipse: s-maj=13.6km s-min=5.8km az=10.4*

*IDC **12** 10:50:12.2±2.2, 31°.11S×178°.36W, h59km±18km, mb4.1/8, mb1 4.3/8, mb1mx4.0/23, mbtmp4.4/8, MS3.4/5, Ms1 3.4/5, ms1mx3.0/27, Error ellipse: s-maj=21.2km s-min=14.0km az=130.0*

ISC 12 10:50:11.7±0.5, 31°.37S±0°.06×178°.6W±0°.1, h61km, n73, σ3$15/62, mb4.9/13, 2D, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
RAO	Raoul Island	2.18	15	P	P	Pn	10 50 42.7	-2.9
	553nm,0.3s,baz=115,slow=17,SNR=17							
RAO				S	S	Sn	10 51 05.3	-6.3
	1µm,0.3s,baz=120,slow=20,SNR=12							
RAO				LR	LR		10 51 25.7	
	comp=Z,310nm,19.5s,baz=237,slow=39							
WMGZ	Waiomatatini S	6.90	200	*e*PN	P	Pn	10 51 49.0	-1.3

	60nm,0.4s,baz=111,slow=8.0,SNR=1025								
VNDA	**Vanda**	**47.09**	**186**	P		**P**	**10 58 40.2**	**+3.3**
	0.5nm,0.5s,baz=7.2,slow=7.4,SNR=7.0								
FITZ	**Fitzroy Crossi**	**51.89**	**271**	P		**P**	**10 59 16.3**	**+1.9**
	4.5nm,0.4s,baz=108,slow=4.8,SNR=29								
GUMO	**Guam**	**56.84**	**316**	LR		LR	11 20 25.9		
	comp=Z,25nm,21.3s,baz=151,slow=32								
QSPA	**South Pole Qui**	**58.74**	**180**	*eP*		**P**	**11 00 05.3**	**+2.2**
	53nm,0.9s								
MAW	**Mawson**	**71.24**	**201**	P		**P**	**11 01 22.7**	**-1.2**
	3.6nm,0.8s,baz=98,slow=10,SNR=7.9								
JHJ	**Hachijo jima 2**	**75.25**	**325**	LR		LR	11 33 22.7		
	comp=Z,18nm,18.9s,baz=79,slow=34								
SYO	**Syowa Base**	**76.07**	**193**	*eP*		**P**	**11 01 51.0**	**-1.2**
SYO	**Syowa Base**	**76.07**	**193**	*eX*		P	11 02 00.6	+8.4
SNAA	**Sanae**	**77.20**	**179**	P		P	11 02 04.4	+5.7
SNAA	**Sanae**	**77.20**	**179**	*eP*		**P**	**11 01 59.2**	**+0.5**
	644nm,1.0s								
VNA3	**Neumayer Olymp**	**77.37**	**176**	P		**P**	**11 02 00.7**	**+1.2**
VNA2	**Neumayer--Watz**	**77.80**	**177**	P		**P**	**11 02 03.5**	**+1.5**
	baz=180,slow=5.5								
VNA1	**Neumayer--Stat**	**78.03**	**177**	P		P	11 02 10.3	+7.1
PLCA	**Paso Flores**	**82.19**	**133**	P		**P**	**11 02 27.9**	**+1.6**
	3.3nm,0.9s,baz=248,slow=11,SNR=4.1								
PETK	**Petropavlovsk-**	**86.63**	**346**	P		**P**	**11 02 48.0**	**-0.1**
	2.3nm,0.7s,baz=147,slow=2.9,SNR=3.5								
PDAR	**Pinedale Array**	**97.16**	**44**	P		Pdif	11 03 37.8	+0.2	
	0.2nm,0.5s,baz=194,slow=3.3,SNR=3.2								
ILAR	**Eielson Array**	**98.97**	**13**	P		Pdif	11 03 44.2	-0.7	
	0.4nm,0.9s,baz=219,slow=5.6,SNR=3.2								
KURK	**Kurchatov**	**121.37**	**313**	PKP		**PKPdf**	**11 08 56.9**	**-0.6**
KURBB	**Kurchatov Arra**	**121.41**	**313**	PKP		**PKPdf**	**11 08 56.9**	**-0.7**
	1.4nm,0.5s,baz=115,slow=1.9,SNR=9.3								
BVAR	**Borovoye Array**	**126.76**	**315**	PKP		**PKPdf**	**11 09 07.2**	**-0.7**
	1.4nm,0.3s,baz=118,slow=2.3,SNR=7.7								
ARCES	**ARCESS Array B**	**139.43**	**347**	PKhKP		PKPpre	11 09 22.6		
	0.6nm,0.4s,baz=66,slow=4.4,SNR=2.9								
ARCES				PKP		**PKiKP**	**11 09 31.1**	**-2.4**	
	1.3nm,0.6s,baz=40,slow=2.1,SNR=4.1								
KBZ	**Khabaz**	**145.25**	**303**	PKPbc		**PKPdf**	**11 09 43.7**	**+1.5**
	3.6nm,0.6s,baz=175,slow=1.4,SNR=8.5								
FINES	**FINESS Array B**	**145.88**	**339**	PKPbc		**PKPab**	**11 09 42.7**	**-1.3**
	10nm,0.4s,baz=49,slow=4.1,SNR=98								
NB2	**NORSAR Subarra1**	**149.63**	**351**	PKP		**PKPbc**	**11 09 52.8**	**-0.9**
	comp=Z,2.5nm,0.6s,baz=19,slow=2.6								
NOA	**NORSAR Array B**	**149.63**	**351**	PKPbc		**PKPbc**	**11 09 53.0**	**-0.7**
	comp=Z,2.5nm,0.5s,baz=14,slow=4.1,SNR=7.6								
AKASG	**Malin Array Be**	**151.77**	**321**	PKPbc		**PKPbc**	**11 09 58.3**	**-0.7**
	comp=Z,3.4nm,0.6s,baz=53,slow=2.7,SNR=9.1								
BRTR	**Keskin Array B**	**152.63**	**297**	PKPbc		**PKPbc**	**11 10 01.5**	**0.0**
	comp=Z,1.6nm,0.6s,baz=143,slow=4.3,SNR=7.2								
TORD	**Torodi Ar. Bea**	**161.86**	**181**	PKP		**PKPdf**	**11 10 07.1**	**+0.5**
	comp=Z,0.9nm,1.0s,baz=132,slow=2.2,SNR=3.7								
TORD				PKPab		**PKPab**	**11 10 53.2**	**+0.9**	
	comp=Z,1.7nm,0.5s,baz=168,slow=3.4,SNR=12								
ESDC	**Sonseca Array**	**170.62**	**27**	PKP		**PKPdf**	**11 10 14.1**	**+1.2**
	comp=Z,0.2nm,0.3s,baz=54,slow=2.2,SNR=4.1								

*SJA **12** 10:54:24.3±0.7,34.˚53S×72.˚07W,h7km,ML3.3,MW3.2*
*GUC **12** 10:54:28.0±0.8,34.˚77S×71.˚82W,h42km±3km,ML3.5*

ISC 12 10:54:26.8±1.7,34.70S±0.03×71.80W±0.05,h13km±14km, n29,σ1s81/48,5C-2D,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CHPI	**Pichilemu**	**0.35**	**331**	*iP*	**Pb**	**10 54 37.0**	**+2.0**
CHPI				*i* S	**Sn**	**10 54 44.2**	**-0.4**
NICH	**Los Niches**	**0.55**	**123**	*iP*	**Pb**	**10 54 38.7**	**+0.3**
NICH				*i* S	**Sb**	**10 54 47.1**	**+0.8**
TALC	**Talca**	**0.71**	**169**	*iP*	**Pg**	**10 54 40.6**	**0.0**
TALC				*i* S	**Sb**	**10 54 50.2**	**-0.5**
LNCH	**Linares**	**1.15**	**172**	*iP*	**Pn**	**10 54 47.8**	**-0.9**
LNCH				*e*S	**Sb**	**10 55 01.6**	**-1.9**
RCDM	**Rinconada Maip**	**1.46**	**34**	*iP*	**Pn**	**10 54 52.5**	**-0.5**
RCDM				*i* S	**Sn**	**10 55 12.0**	**0.0**
ANTU	**Antumapu**	**1.48**	**41**	*eP*	**Pn**	**10 54 53.2**	**-0.1**
ANTU				*i* S	**Sn**	**10 55 13.2**	**+0.6**
ANTU				IAML		10 55 15.2	
	comp=E,1μm,0.2s						
CLCH	**Cerro Calan**	**1.67**	**39**	*iP*	**Pn**	**10 54 55.8**	**0.0**
CLCH				*i* S	**Sn**	**10 55 17.9**	**+0.6**
CLCH				IAML		10 55 21.4	
	comp=N,911nm,0.9s						
PEL	**Peldehue**	**1.81**	**31**	*eP*	**Pn**	**10 54 57.9**	**+0.1**
PEL				*i* S	**Sn**	**10 55 20.9**	**+0.3**
PEL				IAML		10 55 25.5	
	comp=N,663nm,0.3s						
ROC1	**El Roble**	**1.84**	**21**	*eP*	**Pn**	**10 54 58.5**	**+0.1**
ROC1				*e*S	**Sn**	**10 55 23.2**	**+1.6**
ROC1				*e*S	**Sb**	**10 55 23.8**	**+0.2**
ROCH	**El Roble**	**1.84**	**21**	*eP*	**Pn**	**10 54 58.5**	**+0.1**
ROCH				*i* S	**Sn**	**10 55 22.5**	**+0.8**
ROCH				IAML		10 55 27.8	
	comp=N,608nm,0.5s						
FCH	**Farellones**	**1.85**	**43**	*iP*	**Pn**	**10 54 58.5**	**-0.2**
FCH				*i* S	**Sn**	**10 55 21.7**	**-0.5**
AAGR	**Agrelo**	**2.95**	**58**	*eP*	**Pn**	**10 55 16.5**	**+3.0**
ARCO	**CERRO ARCO**	**3.02**	**53**	*eP*	**Pn**	**10 55 17.0**	**+2.4**
AUSP	**Uspallata**	**3.19**	**40**	*eP*	**Pn**	**10 55 18.8**	**+1.8**
AUSP				*e*S	**Sb**	**10 56 03.0**	**+0.7**
ASAL	**Salagasta**	**3.25**	**50**	*eP*	**Pn**	**10 55 19.9**	**+2.3**
ASAL				*e*S	**Sb**	**10 56 00.7**	**-3.2**
RTLS	**Leoncito**	**3.57**	**37**	*eP*	**Pn**	**10 55 23.7**	**+1.4**
RTLS				*e*S	**Sb**	**10 56 14.4**	**+0.9**
RTLS				IAML		10 56 25.8	
	comp=Z,38nm,0.5s						
RTCV	**Cerro Valdivia**	**3.93**	**45**	*eP*	**Pn**	**10 55 28.9**	**+2.0**
RTLL	**Cerro Villicun**	**4.37**	**41**	IAML		10 56 38.0	
	comp=Z,39nm,0.4s						
AMOG	**MOGNA**	**4.67**	**37**	*eP*	**Pn**	**10 55 37.3**	**+0.1**
AMOG				*e*S	**Sb**	**10 56 39.7**	**-5.1**
ACCO	**Cerro Coronel**	**4.70**	**30**	*eP*	**Pn**	**10 55 37.9**	**0.0**
ACCO				*e*S	**Sn**	**10 56 35.5**	**+3.0**
ACCO				IAML		10 56 48.8	
	comp=Z,20nm,0.6s						
AROD	**Rodeo**	**4.93**	**24**	*eP*	**Pn**	**10 55 41.8**	**+0.9**
AROD				*e*S	**Sb**	**10 56 48.4**	**-4.1**
ACDV	**Cuesta del Vie**	**5.05**	**27**	*eP*	**Pn**	**10 55 42.8**	**+0.3**
ACDV				*e*S	**Sb**	**10 56 51.8**	**-4.2**
AVFE	**Valle Fertil**	**5.44**	**43**	*eP*	**Pn**	**10 55 46.7**	**-1.1**
AVFE				*e*S	**Sn**	**10 56 50.6**	**+0.3**
AVFE				IAML		10 57 02.1	
	comp=Z,17nm,0.4s						
MRA	**San Martin**	**5.56**	**68**	*eP*	**Pn**	**10 55 49.8**	**+0.4**
ACHE	**Chepes**	**5.57**	**52**	*eP*	**Pn**	**10 55 49.0**	**-0.6**
ACHE				*e*S	**Sn**	**10 56 55.6**	**+1.9**
AGUA	**GUANDACOL**	**5.91**	**29**	*eP*	**Pn**	**10 55 54.0**	**-0.2**
APLL	**PUNTA DE LOS L**	**6.18**	**47**	*eP*	**Pn**	**10 55 55.8**	**-2.1**
ACLC	**CERRO LA CRUZ**	**6.67**	**39**	*eP*	**Pn**	**10 56 01.9**	**-2.9**
VCA	**Vinchina**	**6.69**	**28**	IAML		10 57 39.3	
	comp=Z,11nm,0.4s						

TAP 12 11:06:47.1,24.˚21N×121.˚99E,h25km,ML3.1,D,Taiwan

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ENA	**Nanau**	**0.31**	**314**	*i* P	Pb	11 06 54.6	+0.3
	baz=314						
ENA				*i* S	Sb	11 07 00.3	+1.1
	baz=314						
TWD	**Chiawan**	**0.38**	**250**	P	Pb	11 06 55.6	+0.3
	baz=249						
TWD				S	Sn	11 07 02.5	-1.1
	baz=249						
TWC	**Suao**	**0.42**	**343**	*i* P	Pb	11 06 56.5	+0.5
	baz=343						
TWC				*i* S	Sn	11 07 03.3	-1.2
	baz=343						
HWA	**Hwalien**	**0.42**	**237**	*eP*	Pb	11 06 56.7	+0.7
	baz=235						
HWA				*e*S	Sn	11 07 03.3	-1.2
	baz=235						
ENTT	**Nioudou**	**0.58**	**318**	*i* P	Pb	11 06 58.6	-0.1
	baz=318						
ENTT				*i* S	Sn	11 07 07.8	-0.6
	baz=318						
TWE	**Neicheng**	**0.59**	**330**	*i* P	Pb	11 06 59.2	+0.4
	baz=331						
TWE				*i* S	Sn	11 07 07.7	-1.0
	baz=331						
ILA	**Ilan**	**0.59**	**339**	*eP*	Pb	11 06 59.4	+0.5
	baz=339						
ILA				*e*S	Sn	11 07 08.4	-0.5
	baz=339						
NNS	**Nan Shan**	**0.61**	**292**	*i* P	Pb	11 06 59.2	0.0
	baz=292						
NNS				*i* S	Sb	11 07 07.8	+0.4
	baz=292						
WHF	**Hehuan Shan**	**0.66**	**265**	P	Pb	11 07 00.1	-0.2
	baz=264						
WHF				S	Sb	11 07 10.0	+0.7
	baz=264						
TWT	**Tachien**	**0.74**	**274**	*i* P	Pn	11 07 02.0	-0.2
	baz=273						
TWT				S	Sn	11 07 12.7	-0.1
	baz=273						
TWB1	**Santiao Chiao**	**0.80**	**0**	*eP*	Pn	11 07 02.8	+0.1
TWB1				*e*S	Sn	11 07 13.4	-0.4
TWA	**Mucha**	**0.85**	**335**	*eP*	Pb	11 07 03.0	-0.2
	baz=334						
TWA				*e*S	Sn	11 07 15.5	+0.3
	baz=334						
NWF	**Wu-fen Shan**	**0.88**	**348**	*eP*	Pb	11 07 03.6	-0.2
	baz=347						
NWF				*e*S	Sn	11 07 16.8	+0.8
	baz=347						
EHY	**Hungye**	**0.93**	**221**	*eP*	Pb	11 07 03.8	-0.8
	baz=220						
EHY				*e*S	Sn	11 07 16.8	-0.3
	baz=220						
NSTT	**Nanjuang**	**0.99**	**295**	P	Pn	11 07 05.5	+0.1
	baz=295						
NSTT				*e*S	Sn	11 07 19.0	+0.3
	baz=295						
SMLT	**Sun Moon Lake**	**1.05**	**252**	*eP*	Pn	11 07 06.0	-0.3
	baz=251						
SMLT				*e*S	Sn	11 07 20.7	+0.6
	baz=251						
TWF1	**Yuli**	**1.06**	**217**	*eP*	Pn	11 07 05.1	-1.4
	baz=216						
TWF1				*e*S	Sn	11 07 21.0	+0.6
	baz=216						
TWQ1	**Liyutan**	**1.12**	**277**	*eP*	Pb	11 07 07.9	+0.1
	baz=277						
TWQ1				*e*S	Sb	11 07 22.6	+0.7
	baz=277						
NSY	**Sanyi**	**1.14**	**281**	*eP*	Pn	11 07 07.7	+0.2
	baz=280						
NSY				*e*S	Sn	11 07 22.0	-0.3
	baz=280						
ALS	**Alishan**	**1.29**	**238**	*eP*	Pb	11 07 10.4	-0.5
	baz=237						
ALS				*e*S	Sb	11 07 27.1	0.0
	baz=237						
CHN5	**Tsauling**	**1.34**	**243**	*eP*	Pn	11 07 11.0	+0.6
	baz=243						
CHN5				*e*S	Sb	11 07 28.3	-0.2
	baz=243						
ELDTW	**Lidau**	**1.35**	**221**	*eP*	Pn	11 07 10.0	-0.5
	baz=220						
ELDTW				*e*S	Sb	11 07 28.5	-0.2
	baz=220						
STYT	**Tauyuan**	**1.54**	**228**	*eP*	Pn	11 07 13.8	+0.8
	baz=227						
STYT				*e*S	Sb	11 07 33.4	-0.6
	baz=227						
CHN1	**Nanshi**	**1.68**	**233**	*eP*	Pn	11 07 15.0	0.0
	baz=232						
CHN1				*e*S	Sn	11 07 35.7	0.0
	baz=232						

JMA 12 11:07:28.6±0.4,23.˚75N×123.˚38E,h21km,M1.9, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
HATJ	**Hateruma jima**	**0.49**	**52**	*e*S	Sb	11 07 44.9	-0.5
IRIF	**Iriomote-Funau**	**0.66**	**29**	P	Pb	11 07 41.9	+0.3
JKRS	**Kuro-shima**	**0.75**	**50**	P	Pb	11 07 43.1	+0.1
JKRS				*e*S	Sb	11 07 53.1	+0.3
YOJ	**Yonaguni jima**	**0.79**	**335**	P	Pb	11 07 42.9	-0.6
YOJ				*e*S	Sb	11 07 54.5	+0.8
JYNG	**Yonagunijimaku**	**0.80**	**330**	P	Pb	11 07 43.5	-0.4
JYNG				*e*S	Sn	11 07 55.2	-0.8
JIJ	**Ishigaki jima**	**0.93**	**49**	P	Pb	11 07 45.8	-0.2
JIJ				*e*S	Sb	11 07 56.6	-1.2
JISG	**Ishigakijimahi**	**1.19**	**45**	P	Pn	11 07 49.7	-0.3
JISG				*e*S	Sb	11 08 04.8	-0.6
JTJ	**Tarama**	**1.50**	**53**	*e*S	Sb	11 08 14.5	+0.2

*CSEM **12** 11:25:11.2,39.˚54N×29.˚71W,h5km,ML3.2*

PDA 12 11:25:11.2±1.0,39.54N×29.71W,h5km,MD3.6,ML3.2,2C, Error ellipse: s-maj=22.5km s-min=7.4km az=60.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PCED	**Cedros**	**1.20**	**139**	*e*S	Sg	11 25 43.4	-6.3
PCED				A	A	11 25 47.9	
	216nm,0.3s						
PCED	**Cedros**	**1.20**	**139**	*e*S	Sg	11 25 43.4	-6.3
CALA	**Caldeira**	**1.23**	**140**	*e*S	Sg	11 25 45.0	-5.9
CALA	**Caldeira**	**1.23**	**140**	*e*S	Sg	11 25 45.0	-5.9
HOR	**Horta**	**1.31**	**140**	*e*S	Sg	11 25 46.3	-7.1
HOR				A	A	11 25 47.8	
	283nm,0.3s						
HOR	**Horta**	**1.31**	**140**	*e*S	Sg	11 25 46.3	-7.1
ROSA	**Rosais**	**1.40**	**125**	*eP*	Pn	11 25 32.9	-4.5
ROSA				*e*S	Sb	11 25 48.4	-7.7
ROSA				A	A	11 25 53.5	
	89nm,0.3s						
ROSA	**Rosais**	**1.40**	**125**	*eP*	Pn	11 25 32.9	-4.5
ROSA				*e*S	Sb	11 25 48.4	-7.7
PCAN	**Candelaria**	**1.44**	**138**	*eP*	Pn	11 25 32.9	-5.0
PCAN				*e*S	Sb	11 25 49.4	-7.6
PCAN				A	A	11 25 52.3	
	281nm,0.3s						
PCAN	**Candelaria**	**1.44**	**138**	*eP*	Pn	11 25 32.9	-5.0
PCAN				*e*S	Sb	11 25 49.4	-7.6
PICO	**Pico**	**1.44**	**136**	*iP*	Pg	11 25 48.2	+9.4
PICO				*e*S	Sg	11 26 04.8	+7.4
PICO				A	A	11 26 08.5	
	332nm,0.3s						
PICO	**Pico**	**1.44**	**136**	*iP*	Pg	11 25 48.2	+9.4
PICO				*e*S	Sg	11 26 04.8	+7.4

*ISCJB **12** 11:25:29.8±0.8,25.˚9N±0.˚1×70.˚5W±0.˚2,h10km,mb3.5/4, Error ellipse: s-maj=34.1km s-min=8.8km az=144.1*
*IDC **12** 11:25:30.9±1.1,26.˚00N×70.˚43W,h0km,mb3.4/4, mb1 4.0/6,mb1mx3.7/35,mbtmp3.7/6,ML4.2/2,Error ellipse: s-maj=42.7km s-min=21.3km az=38.0*

ISC 12 11:25:32.1±0.9,26.0N±0.2×70.5W±0.2,h10km,n8,σ1s05/9, mb3.5/4,Off east coast of United States

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SJG	**San Juan**	**8.82**	**152**	Pn	**Pn**	**11 27 38.8**	**-0.8**
	3.5nm,0.3s,baz=318,slow=12,SNR=2.9						
SJG				Sn	**Sn**	**11 29 19.0**	**-0.1**
	2.1nm,0.3s,baz=90,slow=20,SNR=3.0						
TKL	**Tuckaleechee C**	**14.92**	**313**	Pn	**Pn**	**11 29 01.2**	**-1.9**
	0.9nm,0.3s,baz=99,slow=10,SNR=7.7						
TKL				Sn	Sn	11 31 25.7	-23
	0.4nm,0.3s,baz=117,slow=14,SNR=3.4						
TXAR	**Lajitas Array**	**29.53**	**284**	P	**P**	**11 31 37.9**	**+0.9**
	0.2nm,0.7s,baz=108,slow=12,SNR=3.7						
PDAR	**Pinedale Array**	**35.96**	**308**	P	**P**	**11 32 33.9**	**+0.6**
	0.5nm,0.8s,baz=119,slow=9.4,SNR=3.8						
ILAR	**Eielson Array**	**61.02**	**332**	P	**P**	**11 35 45.9**	**+0.4**
	0.3nm,0.8s,baz=92,slow=5.4,SNR=2.8						
TORD	**Torodi Ar. Bea**	**68.47**	**85**	P	**P**	**11 36 35.2**	**+0.3**
	0.8nm,0.7s,baz=292,slow=7.7,SNR=5.6						
WRA	**Warramunga Arr**	**156.39**	**280**	PKPab	**PKPab**	**11 45 57.0**	**+0.8**
	0.2nm,0.4s,baz=68,slow=4.9,SNR=5.5						
ASAR	**Alice Springs**	**157.76**	**271**	PKPab	**PKPab**	**11 46 02.5**	**+0.4**
	0.6nm,1.0s,baz=88,slow=3.8,SNR=4.8						

*NIED **12** 11:30:00,36.˚90N×141.˚60E,h8km,Mw3.6 Best double couple: M₀3.25000×10¹⁴ NP1:φ=240.00000°,δ42.00000°, λ=-55.00000°. NP2:φ=17.00000°,δ57.00000°, λ=-117.00000°.*
*IDC **12** 11:30:35.3±0.8,36.˚95N×141.˚54E,h0km,mb3.8/8, mb1 3.9/10,mb1mx3.7/38,mbtmp3.8/10,ML3.7/2,Error ellipse: s-maj=23.1km s-min=17.8km az=97.0*

*JMA **12** 11:30:37.6±0.1,36.˚94N×141.˚52E,h41km±2km,M3.9*
JMA Felt I J1.

ISC 12 11:30:35.5±1.9,36.92N±0.04×141.59E±0.07,h4km±11km, n25,σ1s23/30,mb3.8/8,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ONAJ	**Iwakimizuishiy**	**0.66**	**286**	P	**Pg**	**11 30 49.6**	**+1.4**
ONAJ				*e*S	**Sg**	**11 30 58.4**	**+1.6**
JFK	**Kawauchi**	**0.73**	**308**	P	**Pg**	**11 30 50.3**	**+0.9**
JFK				*e*S	**Sg**	**11 30 59.5**	**+0.6**
JHO	**Hitachi**	**0.88**	**250**	P	**Pg**	**11 30 52.6**	**+0.2**
JHO				S	**Sg**	**11 31 04.3**	**+0.5**
JMM	**Marumori**	**1.14**	**326**	P	**Pg**	**11 30 56.7**	**-0.6**
JMM				*e*S	**Sg**	**11 31 10.3**	**-1.8**
JFT	**Otama**	**1.17**	**301**	P	**Pg**	**11 30 57.8**	**-0.1**
JFT				S	**Sg**	**11 31 11.5**	**-1.5**
JYT	**Yasato**	**1.32**	**239**	P	**Pn**	**11 30 59.3**	**-1.5**
JYT				S	**Sg**	**11 31 15.4**	**-2.6**
JSB	**Shiboa**	**1.34**	**272**	P	**Pn**	**11 31 01.0**	**-0.1**
JSB				S	**Sg**	**11 31 17.5**	**-1.1**
JFY	**Yanaizu**	**1.58**	**288**	P	**Pn**	**11 31 04.2**	**-0.2**
JFY				S	**Sn**	**11 31 23.9**	**-1.5**
MJAR	**Matsushiro Arr**	**2.75**	**263**	Pn	**Pn**	**11 31 21.2**	**+0.8**
	7.5nm,0.3s,baz=88,slow=15,SNR=66						
MJAR				Sn	**Sn**	**11 31 53.8**	**-0.2**
	8.5nm,0.3s,baz=76,slow=32,SNR=6.3						
MAT	**Matsushiro**	**2.75**	**263**	P	**Pn**	**11 31 21.3**	**+0.9**
MAT				S	**Sn**	**11 31 56.3**	**+2.2**
JHJ	**Hachijo jima 2**	**4.08**	**202**	Pn	**Pn**	**11 31 40.0**	**+1.3**
	22nm,0.3s,baz=61,slow=18,SNR=13						
JHJ				Sn	**Sn**	**11 32 24.8**	**-2.1**
	36nm,0.3s,baz=90,slow=20,SNR=7.1						
H11N2	**WAKE ISLAND Hy**	**27.97**	**121**	T	T	12 05 45.4	
	baz=314,slow=75,SNR=458						
SONM	**Songino Array**	**27.97**	**304**	P	**P**	**11 36 27.2**	**-0.1**
	0.4nm,0.5s,baz=101,slow=7.5,SNR=2.6						
H11N1	**WAKE ISLAND Hy**	**27.97**	**121**	T	T	12 05 44.3	
	baz=314,slow=75,SNR=316						
H11N3	**WAKE ISLAND Hy**	**27.98**	**121**	T	T	12 05 44.9	
	baz=314,slow=75,SNR=406						
H11S1	**WAKE ISLAND Hy**	**28.68**	**123**	T	T	12 06 37.6	
	baz=315,slow=76,SNR=146						
H11S3	**WAKE ISLAND Hy**	**28.68**	**123**	T	T	12 06 35.8	
	baz=315,slow=76,SNR=118						
H11S2	**WAKE ISLAND Hy**	**28.69**	**123**	T	T	12 06 36.1	
	baz=315,slow=76,SNR=124						
ZALV	**Zalesovo Beam**	**42.10**	**312**	P	**P**	**11 38 27.7**	**-0.8**
	1.2nm,0.6s,baz=109,slow=7.8,SNR=3.1						
ILAR	**Eielson Array**	**49.51**	**32**	P	**P**	**11 39 28.1**	**+1.2**
	0.8nm,0.7s,baz=266,slow=6.5,SNR=10						
FITZ	**Fitzroy Crossi**	**56.76**	**198**	P	**P**	**11 40 20.6**	**-0.1**
	2.6nm,0.9s,baz=0.0,slow=5.1,SNR=4.2						
WRA	**Warramunga Arr**	**56.97**	**188**	P	**P**	**11 40 22.5**	**+0.2**
	0.5nm,0.5s,baz=5.1,slow=7.4,SNR=11						
ASAR	**Alice Springs**	**60.70**	**188**	P	**P**	**11 40 48.7**	**+0.6**
	0.3nm,0.7s,baz=7.1,slow=5.7,SNR=5.2						
FINES	**FINESS Array B**	**68.98**	**332**	P	**P**	**11 41 41.4**	**-0.3**
	2.7nm,0.9s,baz=67,slow=12,SNR=2.7						
TXAR	**Lajitas Array**	**90.07**	**52**	P	**P**	**11 43 37.1**	**0.0**
	0.1nm,0.7s,baz=306,slow=2.0,SNR=2.3						

*FUNV **12** 11:35:53.6,8.˚58N×71.˚44W,h1km,MW2.6*
*ISCJB **12** 11:35:54.4±0.8,8.˚62N±0.03×71.˚37W±0.03,h11km±5km, Error ellipse: s-maj=6.1km s-min=4.4km az=43.4*

ISC 12 11:35:53.8±1.1,8.59N±0.04×71.44W±0.04,h8km±9km,n14, σ0s77/25,1C,Venezuela

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
VIGV	**El Vigia**	**0.26**	**16**	*eP*	**Pg**	**11 35 58.5**	**-0.6**
VIGV				*e*S	**Sg**	**11 36 03.1**	**+0.4**
SOCV	**Socops**	**0.65**	**118**	*eP*	**Pg**	**11 36 06.1**	**-0.3**
SOCV				*e*S	**Sg**	**11 36 15.5**	**+0.6**
CAPV	**Capacho**	**1.13**	**231**	*eP*	**Pg**	**11 36 14.6**	**-1.0**
CAPV				*e*S	**Sb**	**11 36 30.5**	**-0.1**
PAMC	**Pamplona, Colo**	**1.76**	**225**	*eP*	**Pg**	**11 36 27.1**	**-0.6**
QARV	**Quebrada Arrib**	**1.84**	**29**	*eP*	**Pn**	**11 36 26.1**	**+0.3**
QARV				*e*S	**Sn**	**11 36 49.4**	**0.0**
OCAC	**Ocana**	**1.89**	**260**	*eP*	**Pb**	**11 36 28.4**	**-0.4**
OCAC				*e*S	**Sb**	**11 36 53.7**	**+1.1**
CURV	**Curarigua**	**2.03**	**46**	*eP*	**Pn**	**11 36 29.6**	**+1.2**
CURV				*e*S	**Sn**	**11 36 54.6**	**+0.6**
VIRV	**Villa del Rosa**	**2.13**	**333**	*eP*	**Pn**	**11 36 29.8**	**+0.1**
VIRV				*e*S	**Sn**	**11 36 56.5**	**+0.2**
GIRC	**Giron, Santand**	**2.30**	**229**	*eP*	**Pb**	**11 36 36.4**	**+0.8**
DABV	**Dabajuro**	**2.45**	**19**	*eP*	**Pn**	**11 36 34.0**	**-0.1**
DABV				*e*S	**Sn**	**11 37 04.8**	**+0.5**
SIQV	**Siquisique**	**2.60**	**38**	*eP*	**Pn**	**11 36 36.2**	**0.0**
SIQV				*e*S	**Sn**	**11 37 07.0**	**-1.1**
BANC	**Barichara**	**2.63**	**221**	*eP*	**Pb**	**11 36 42.3**	**+0.7**
BAUV	**El Baul**	**3.38**	**

baz=23,slow=76,SNR=1674
H11S3 WAKE ISLAND Hy 39.36 219 T T 12 31 02.8
baz=23,slow=76,SNR=1292
PDAR Pinedale Array 39.73 80 P **P** **11 48 49.7 +0.2**
0.6nm,0.5s,baz=291,slow=3.4,SNR=13
KSRS Korea Array 45.95 277 P **P** **11 49 39.5 -0.2**
0.5nm,0.6s,baz=53,slow=7.5,SNR=4.9
KSRS LR LR 12 09 12.4
comp=Z,19nm,18.0s,baz=312,slow=36
KSAR Wonju Array Be 45.99 277 P **P** **11 49 39.5 -0.4**
SONM Songino Array 51.60 301 P **P** **11 50 23.1 +0.1**
0.5nm,0.4s,baz=54,slow=7.3,SNR=2.8
TXAR Lajitas Array 52.14 90 P **P** **11 50 27.5 +0.3**
0.6nm,0.5s,baz=301,slow=5.6,SNR=16
AKASG Malin Array Be 75.82 349 P **P** **11 53 01.0 -1.4**
0.8nm,0.4s,baz=14,slow=5.9,SNR=3.8
CMAR Chiang Mai Arr 77.11 283 P **P** **11 53 09.5 -0.7**
3.5nm,0.7s,baz=27,slow=6.4,SNR=14
BRTR Keskin Array B 85.90 343 P **P** **11 53 57.3 +0.7**
0.5nm,0.4s,baz=0.0,slow=1.2,SNR=4.3
ESDC Sonseca Array 86.92 12 P **P** **11 54 01.2 -0.3**
0.3nm,0.4s,baz=0.9,slow=3.8,SNR=5.0
WRA Warramunga Arr 87.74 232 P **P** **11 54 04.1 -1.4**
0.6nm,1.0s,baz=37,slow=5.8,SNR=3.2
ASAR Alice Springs 91.13 231 P **P** **11 54 21.2 -0.1**
0.7nm,0.9s,baz=21,slow=3.9,SNR=8.5

*ROM **12** 11:44:05.8±0.2,44°.65N×10°.16E,h19km±4km, Md2.9/19, Ml2.9/20,Error ellipse: s-maj=4.7km s-min=3.0km az=88.0*
*CSEM **12** 11:44:05.6±0.1,44°.65N×10°.28E,h10km,ML3.3/8, Error ellipse: s-maj=3.7km s-min=3.0km az=100.0*
*GEN **12** 11:44:05.8,44°.66N×10°.23E,h23km, ML2.9*
*ISCJB **12** 11:44:06.2±0.3,44°.63N±0°.02×10°.15E±0°.02,h26km±2km, Error ellipse: s-maj=3.3km s-min=2.5km az=136.9*
*LDG **12** 11:44:06.6±0.1,44°.61N×10°.20E,h10km,Ml3.1/12,Error ellipse: s-maj=1.9km s-min=1.4km az=35.0*
*PRU **12** 11:44:08.6,44°.58N×10°.65E,h31km*
*VIE **12** 11:44:08.1±1.9,44°.55N×10°.35E,h35km±45km,mb2.6/10, ML3.0/13,Error ellipse: s-maj=34.4km s-min=9.8km az=24.0*

ISC 12 11:44:05.9±0.9,**44°.63N**±0°.02×**10°.21E**±0°.02,**h19**km±2km, **n115,**σ1§**35**/169,**1C,Northern Italy**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PRMA	**PARMA**	**0.15**	**30**	*i*	Pg	**Pg**		**11 44 10.2**	**-0.1**
PRMA					Sg	**Sg**		**11 44 14.7**	**+1.4**
	9μm,0.5s								
PRMA	**PARMA**	**0.15**	**30**	*i*	Pg	**Pg**		**11 44 10.2**	**-0.1**
PRMA					Sg	**Sg**		**11 44 14.7**	**+1.4**
	9μm,0.5s								
GRAM	**Graiana**	**0.17**	**216**		P	**Pg**		**11 44 10.9**	**+0.3**
GRAM					S	**Sg**		**11 44 14.9**	**+1.1**
CODM	**Codolo**	**0.35**	**227**		P	**Pb**		**11 44 13.8**	**+0.2**
CODM					S	**Sb**		**11 44 20.6**	**+1.9**
NOVE	**Novellara**	**0.40**	**65**		Pg	**Pg**		**11 44 14.0**	**-0.2**
NOVE					Sg	**Sb**		**11 44 21.6**	**+1.3**
	3μm,0.3s								
NOVE	**Novellara**	**0.40**	**65**		Pg	**Pg**		**11 44 14.0**	**-0.2**
NOVE					Sg	**Sb**		**11 44 21.6**	**+1.3**
	3μm,0.3s								
SARO	**Sassorosso**	**0.47**	**162**		P	**Pg**		**11 44 14.9**	**-0.6**
SARO					S	**Sb**		**11 44 22.5**	**+0.4**
VLC	**Villacollemand**	**0.49**	**164**		Pg	**Pg**		**11 44 15.6**	**-0.2**
VLC					Sg	**Sb**		**11 44 23.5**	**+0.8**
	3μm,1.1s								
VLC	**Villacollemand**	**0.49**	**164**		Pg	**Pg**		**11 44 15.6**	**-0.2**
VLC					Sg	**Sb**		**11 44 23.5**	**+0.8**
	3μm,1.1s								
SC2M	**Scurtabo**	**0.53**	**245**		Pg	**Pg**		**11 44 17.1**	**+0.5**
	433nm,0.6s								
SC2M	**Scurtabo**	**0.53**	**245**		P	**Pg**		**11 44 16.9**	**+0.3**
SC2M	**Scurtabo**	**0.53**	**245**		Pg	**Pg**		**11 44 17.1**	**+0.5**
	433nm,0.6s								
SC2M					S	**Sb**		**11 44 24.6**	**+0.8**
ZCCA	**Zocca**	**0.62**	**117**		Pg	**Pn**		**11 44 19.0**	**-0.7**
	406nm,0.5s								
ZCCA	**Zocca**	**0.62**	**117**		Pg	**Pn**		**11 44 19.0**	**-0.7**
	406nm,0.5s								
BDI	**Bagni Di Lucca**	**0.63**	**153**		Pg	**Pb**		**11 44 18.2**	**-0.1**
	751nm,0.7s								
BDI	**Bagni Di Lucca**	**0.63**	**153**		Pg	**Pb**		**11 44 18.2**	**-0.1**
	751nm,0.7s								
POPM	**Popiglio**	**0.71**	**146**		P	**Pg**		**11 44 19.6**	**-0.2**
POPM					S	**Sn**		**11 44 30.0**	**-1.2**
MAIM	**Mastiano**	**0.74**	**164**		Pg	**Pb**		**11 44 19.6**	**-0.6**
	201nm,0.5s								
MAIM	**Mastiano**	**0.74**	**164**		Pg	**Pb**		**11 44 19.6**	**-0.6**
	201nm,0.5s								
MAIM	**Mastiano**	**0.74**	**164**		P	**Pb**		**11 44 20.0**	**-0.2**
MAIM					S	**Sg**		**11 44 30.5**	**+0.1**
PTF	**Prato**	**0.91**	**137**		Pg	**Pb**		**11 44 22.9**	**-0.2**
PTF	**Prato**	**0.91**	**137**		Pg	**Pb**		**11 44 22.9**	**-0.2**
SEI	**Scarperia**	**1.01**	**124**		Pg	**Pn**		**11 44 25.1**	**+0.1**
SEI	**Scarperia**	**1.01**	**124**		Pg	**Pn**		**11 44 25.1**	**+0.1**
BALD	**Monte Baldo**	**1.14**	**22**	*e*	Pg	**Pn**		**11 44 26.8**	**-0.2**
BALD				*e*	Sg	**Sn**		**11 44 42.5**	**+0.3**
BALD	**Monte Baldo**	**1.14**	**22**	*e*	Pg	**Pn**		**11 44 26.8**	**-0.2**
BALD				*e*	Sg	**Sn**		**11 44 42.5**	**+0.3**
VMG	**Vicchio**	**1.17**	**124**		Pg	**Pg**		**11 44 29.1**	**+0.5**
VMG	**Vicchio**	**1.17**	**124**		Pg	**Pg**		**11 44 29.1**	**+0.5**
MAGA	**Magasa**	**1.18**	**14**		Pg	**Pn**		**11 44 27.2**	**-0.4**
MAGA					Sg	**Sn**		**11 44 43.7**	**+0.5**
	1μm,0.4s								
MAGA	**Magasa**	**1.18**	**14**		Pg	**Pn**		**11 44 27.2**	**-0.4**
MAGA					Sg	**Sn**		**11 44 43.7**	**+0.5**
	1μm,0.4s								
MARN	**Marana (Italy)**	**1.23**	**35**	↑	*e*Pg	**Pn**		**11 44 27.5**	**-0.6**
MARN					*e*Sg	**Sn**		**11 44 44.9**	**+0.6**
MARN	**Marana (Italy)**	**1.23**	**35**		*e*Pg	**Pn**		**11 44 27.5**	**-0.6**
MARN					*e*Sg	**Sn**		**11 44 44.9**	**+0.6**
TEOL	**Teolo**	**1.27**	**54**		Pg	**Pn**		**11 44 27.8**	**-0.8**
TEOL					Sg	**Sn**		**11 44 45.5**	**+0.3**
	1μm,0.4s								
TEOL	**Teolo**	**1.27**	**54**	*e*	Pg	**Pn**		**11 44 27.9**	**-0.8**
TEOL				*e*	Sg	**Sn**		**11 44 46.1**	**+0.9**
TEOL	**Teolo**	**1.27**	**54**		Pg	**Pn**		**11 44 27.8**	**-0.8**
TEOL					Sg	**Sn**		**11 44 45.5**	**+0.3**
	1μm,0.4s								
RNI	**Roncone**	**1.38**	**12**	*e*	Pg	**Pn**		**11 44 30.1**	**-0.2**
RNI				*e*	Sg	**Sb**		**11 44 49.5**	**+0.9**
RNI	**Roncone**	**1.38**	**12**	*e*	Pg	**Pn**		**11 44 30.1**	**-0.2**
RNI				*e*	Sg	**Sb**		**11 44 49.5**	**+0.9**
SFI	**Santa Sofia**	**1.38**	**121**		Pg	**Pg**		**11 44 32.9**	**+0.3**
	139nm,0.8s								
SFI	**Santa Sofia**	**1.38**	**121**		Pg	**Pg**		**11 44 32.9**	**+0.3**
	139nm,0.8s								
SASS	**Sassa**	**1.42**	**166**		Pg	**Pb**		**11 44 31.4**	**-0.3**
	118nm,0.8s								
SASS	**Sassa**	**1.42**	**166**		Pg	**Pb**		**11 44 31.4**	**-0.3**
	118nm,0.8s								
DDS	**Dosso del Somm**	**1.43**	**29**	*e*	Pg	**Pn**		**11 44 30.6**	**-0.4**
DDS				*e*	Sg	**Sb**		**11 44 50.1**	**+0.1**
DDS	**Dosso del Somm**	**1.43**	**29**	*e*	Pg	**Pn**		**11 44 30.6**	**-0.4**
DDS				*e*	Sg	**Sb**		**11 44 50.1**	**+0.1**
TRIF	**Trifonti**	**1.60**	**161**		Pg	**Pb**		**11 44 34.4**	**-0.4**
	64nm,0.6s								
TRIF	**Trifonti**	**1.60**	**161**		Pg	**Pb**		**11 44 34.4**	**-0.4**
	64nm,0.6s								
CRE	**Caprese Michel**	**1.61**	**128**		Pg	**Pb**		**11 44 35.0**	**-0.1**
	96nm,0.7s								
CRE	**Caprese Michel**	**1.61**	**128**		Pg	**Pb**		**11 44 35.0**	**-0.1**
	96nm,0.7s								
PANI	**Panarotta**	**1.63**	**29**	*e*	Pg	**Pn**		**11 44 33.5**	**-0.2**
PANI				*e*	Sg	**Sb**		**11 44 56.0**	**+0.3**
PANI	**Panarotta**	**1.63**	**29**	*e*	Pg	**Pn**		**11 44 33.5**	**-0.2**
PANI				*e*	Sg	**Sb**		**11 44 56.0**	**+0.3**
CGRP	**Cima Grappa**	**1.68**	**41**		Pg	**Pn**		**11 44 34.0**	**-0.4**
	237nm,0.5s								
CGRP	**Cima Grappa**	**1.68**	**41**	*e*	Pg	**Pn**		**11 44 34.1**	**-0.4**
CGRP	**Cima Grappa**	**1.68**	**41**	*e*	Pg	**Pn**		**11 44 34.1**	**-0.4**
PARC	**Parchiule**	**1.76**	**123**		Pg	**Pb**		**11 44 38.0**	**+0.4**
	63nm,1.0s								
PARC	**Parchiule**	**1.76**	**123**		Pg	**Pb**		**11 44 38.0**	**+0.4**
	63nm,1.0s								
CARE	**Lago del Cares**	**1.83**	**11**	*e*	Pn	**Pn**		**11 44 37.0**	**+0.4**
CARE	**Lago del Cares**	**1.83**	**11**	*e*	Pn	**Pn**		**11 44 37.0**	**+0.4**
OZOL	**Ozolo**	**1.87**	**18**	*e*	Pn	**Pn**		**11 44 37.4**	**+0.4**
OZOL	**Ozolo**	**1.87**	**18**	*e*	Pn	**Pn**		**11 44 37.4**	**+0.4**
TUE	**Stuetta**	**1.94**	**342**		Pg	**Pn**		**11 44 39.1**	**+1.1**
	58nm,0.5s								
APPI	**Appiano**	**1.98**	**21**		Pg	**Pn**		**11 44 38.8**	**+0.3**
	176nm,0.4s								
PIEI	**Pieia**	**2.00**	**122**		Pg	**Pb**		**11 44 41.3**	**-0.4**
	31nm,0.7s								
KOSI	**Kohlern**	**2.01**	**24**		Pg	**Pn**		**11 44 39.2**	**+0.2**
	135nm,0.7s								
ATTE	**AVT- Monte Tez**	**2.11**	**132**		Pg	**Pn**		**11 44 41.1**	**+0.8**
	69nm,0.9s								
SBF	**Sospel**	**2.13**	**250**	*e*	Sn	**Sn**		**11 45 05.7**	**-0.8**
	55nm,0.4s								
SBF	**Sospel**	**2.13**	**250**	*e*	Sn	**Sn**		**11 45 05.7**	**-0.8**
	27nm,0.4s								
PGF	**Pioggiola**	**2.26**	**203**	*e*	Pn	**Pn**		**11 44 42.6**	**+0.3**
PGF				*e*	Sn	**Sn**		**11 45 07.8**	**-1.8**
	6.8nm,0.3s								
PGF	**Pioggiola**	**2.26**	**203**	*e*	Pn	**Pn**		**11 44 42.6**	**+0.3**
PGF				*e*	Sn	**Sn**		**11 45 07.8**	**-1.8**
	3.4nm,0.3s								
FETA	**Feichten**	**2.42**	**9**		Pn	**Pn**		**11 44 46.1**	**+1.5**
	SNR=8.7								
MBDF	**Montbardon**	**2.45**	**273**	*e*	P	**Pb**		**11 44 47.9**	**-1.5**
MBDF				*e*	Sn	**Sn**		**11 45 13.1**	**-1.4**
	54nm,0.7s								
MBDF	**Montbardon**	**2.45**	**273**	*e*	P	**Pb**		**11 44 47.9**	**-1.5**
MBDF				*e*	Sn	**Sn**		**11 45 13.1**	**-1.4**
	27nm,0.7s								
LPG	**La Plagne**	**2.60**	**291**	*e*	P	**Pb**		**11 44 49.9**	**-2.1**
LPG	**La Plagne**	**2.60**	**291**	*e*	Pg	Pg		11 44 55.2	-0.5
LPG				*e*	Sn	**Sn**		**11 45 17.5**	**-0.8**
	37nm,0.6s								
LPG	**La Plagne**	**2.60**	**291**	*e*	P	**Pb**		**11 44 49.9**	**-2.1**
LPG	**La Plagne**	**2.60**	**291**	*e*	Pg	Pg		11 44 55.2	-0.5
LPG				*e*	Sn	**Sn**		**11 45 17.5**	**-0.8**
	19nm,0.6s								
LPL	**La Plagne**	**2.62**	**291**	*e*	P	**Pb**		**11 44 50.2**	**-2.1**
LPL	**La Plagne**	**2.62**	**291**	*e*	Pg	Pg		11 44 55.5	-0.6
LPL				*e*	Sn	**Sn**		**11 45 17.5**	**-1.1**
	28nm,0.5s								
LPL	**La Plagne**	**2.62**	**291**	*e*	P	**Pb**		**11 44 50.2**	**-2.1**
LPL	**La Plagne**	**2.62**	**291**	*e*	Pg	Pg		11 44 55.5	-0.6
LPL				*e*	Sn	**Sn**		**11 45 17.5**	**-1.1**
	14nm,0.5s								
ABTA	**Abfaltersbach**	**2.67**	**37**		Pn	**Pn**		**11 44 48.8**	**+0.9**
	2.2nm,0.1s								
ABTA					Sn	**Sn**		**11 45 21.6**	**+1.9**
	18nm,0.4s								
DAVA	**Damuels**	**2.67**	**355**		Pn	**Pn**		**11 44 50.2**	**+2.2**
	4.3nm,0.2s,SNR=12								
DAVA					Sn	**Sb**		**11 45 23.7**	**-1.8**
	21nm,0.5s								
FRF	**La Foret Royal**	**2.78**	**249**	*e*	Pn	**Pn**		**11 44 49.6**	**+0.3**
FRF				*e*	Sn	**Sn**		**11 45 20.4**	**-1.9**
	13nm,0.3s								
FRF	**La Foret Royal**	**2.78**	**249**	*e*	Pn	**Pn**		**11 44 49.6**	**+0.3**
FRF				*e*	Sn	**Sn**		**11 45 20.4**	**-1.9**
	6.6nm,0.3s								
MOTA	**Moosalm**	**2.79**	**13**		Pn	**Pn**		**11 44 51.9**	**+2.3**
	12nm,0.3s,SNR=6.5								
WTTA	**Wattenberg**	**2.82**	**20**	*e*	PN	**Pn**		**11 44 51.6**	**+1.5**
WTTA	**Wattenberg**	**2.82**	**20**		Pn	**Pn**		**11 44 51.7**	**+1.6**
	1.1nm,0.1s,SNR=11								
WATA	**Walderalm**	**2.87**	**19**		Pn	**Pn**		**11 44 52.8**	**+2.0**
	7.1nm,0.2s,SNR=6.7								
RETA	**Reutte**	**2.88**	**8**		Pn	**Pn**		**11 44 52.6**	**+1.7**
	3.3nm,0.2s,SNR=5.6								
RETA					Sn	**Sn**		**11 45 27.5**	**+2.4**
	4.8nm,0.3s								
LMR	**La Mourre**	**2.96**	**245**	*e*	Pn	**Pn**		**11 44 52.0**	**+0.1**
LMR				*e*	Sn	**Sn**		**11 45 25.0**	**-1.9**
	15nm,0.4s								
LMR	**La Mourre**	**2.96**	**245**	*e*	Pn	**Pn**		**11 44 52.0**	**+0.1**
LMR				*e*	Sn	**Sn**		**11 45 25.0**	**-1.9**
	7.3nm,0.4s								
ORIF	**Oris-en-Rattie**	**3.09**	**277**	*e*	P	**Pn**		**11 44 56.6**	**+2.8**
ORIF				*e*	Sn	**Sn**		**11 45 28.3**	**-2.0**
	32nm,0.6s								
ORIF	**Oris-en-Rattie**	**3.09**	**277**	*e*	P	**Pn**		**11 44 56.6**	**+2.8**
ORIF				*e*	Sn	**Sn**		**11 45 28.3**	**-2.0**
	16nm,0.6s								
MYKA	**Terra Mystica**	**3.13**	**49**		Pn	**Pn**		**11 44 56.0**	**+1.7**
	0.1nm,0.1s								
KBA	**Koelnbreinsper**	**3.29**	**41**		Pn	**Pn**		**11 44 57.7**	**+1.2**
	2.5nm,0.3s								
NVLJ	**Novalja**	**3.33**	**90**	*e*	Pn	**Pn**		**11 44 56.7**	**-0.3**
NVLJ				*e*	Sn	**Sn**		**11 45 33.4**	**-2.6**
NVLJ	**Novalja**	**3.33**	**90**	*e*	Pn	**Pn**		**11 44 56.6**	**-0.3**
NVLJ				*e*	Sn	**Sn**		**11 45 33.4**	**-2.6**
SMRF	**Simiane la Rot**	**3.39**	**260**	*e*	Pn	**Pn**		**11 44 57.6**	**-0.2**
SMRF	**Simiane la Rot**	**3.39**	**260**	*e*	Pn	**Pn**		**11 44 57.6**	**-0.2**
OBKA	**Obir**	**3.58**	**57**		Sn	**Sn**		**11 45 42.7**	**+0.4**
	11nm,0.5s								
OZLJ	**Ozalj**	**3.85**	**73**	*e*	Pn	**Pn**		**11 45 01.6**	**-2.5**
OZLJ				*e*	Sn	**Sn**		**11 45 45.8**	**-3.0**
OZLJ	**Ozalj**	**3.85**	**73**	*e*	Pn	**Pn**		**11 45 01.6**	**-2.5**
OZLJ				*e*	Sn	**Sn**		**11 45 45.8**	**-3.0**
HINF	**Hinteralfeld**	**3.95**	**325**	*e*	Pn	**Pn**		**11 45 05.4**	**0.0**
HINF				*e*	Sn	**Sn**		**11 45 49.5**	**-1.7**
	8.0nm,0.3s								
HINF	**Hinteralfeld**	**3.95**	**325**	*e*	Pn	**Pn**		**11 45 05.4**	**0.0**
HINF				*e*	Sn	**Sn**		**11 45 49.5**	**-1.7**
	4.0nm,0.3s								
VIVF	**Saint-Julien-l**	**3.95**	**275**	*e*	P	**Pn**		**11 45 08.5**	**+3.0**
VIVF				*e*	Sn	**Sn**		**11 45 48.8**	**-2.5**
	4.7nm,0.4s								
VIVF	**Saint-Julien-l**	**3.95**	**275**	*e*	P	**Pn**		**11 45 08.5**	**+3.0**
VIVF				*e*	Sn	**Sn**		**11 45 48.8**	**-2.5**
	2.3nm,0.4s								
SOKA	**Soboth**	**3.96**	**57**		Sn	**Sn**		**11 45 51.0**	**-0.5**
	5.2nm,0.3s								
MOA	**Molln**	**4.28**	**40**		Pn	**Pn**		**11 45 10.4**	**+0.4**
	0.7nm,0.1s								
MOA					Sn	**Sn**		**11 45 59.9**	**+0.5**
	10nm,0.6s								
CDF	**Champ du Feu**	**4.29**	**333**	*e*	Pn	**Pn**		**11 45 10.0**	**-0.2**
CDF				*e*	Sn	**Sn**		**11 45 57.4**	**-2.3**
	11nm,0.5s								
CDF	**Champ du Feu**	**4.29**	**333**	*e*	Pn	**Pn**		**11 45 10.0**	**-0.2**
CDF				*e*	Sn	**Sn**		**11 45 57.4**	**-2.3**
	5.7nm,0.5s								
HAU	**Haudompre**	**4.31**	**323**	*e*	Pn	**Pn**		**11 45 10.8**	**+0.4**
HAU				*e*	Sn	**Sn**		**11 45 57.7**	**-2.3**
	13nm,0.3s								
HAU	**Haudompre**	**4.31**	**323**	*e*	Pn	**Pn**		**11 45 10.8**	**+0.4**
HAU				*e*	Sn	**Sn**		**11 45 57.7**	**-2.3**
	6.3nm,0.3s								
LASF	**Ste Croix**	**4.59**	**265**	*e*	P	**Pn**		**11 45 17.4**	**+3.2**
LASF	**Ste Croix**	**4.59**	**265**	*e*	P	**Pn**		**11 45 17.4**	**+3.2**
KHC	**Kasperske Hory**	**5.06**	**26**	*e*	PN	**Pn**		**11 45 20.3**	**-0.5**
KHC				*e*	SN	**Sn**		**11 46 15.0**	**-3.7**
KHC				*e*	SG	Sg		11 46 46.9	-1.4
	comp=Z,13nm,0.8s								
KHC	**Kasperske Hory**	**5.06**	**26**		Pn	**Pn**		**11 45 20.3**	**-0.5**
KHC					Sn	**Sn**		**11 46 15.0**	**-3.7**
KHC					Sg	Sg		11 46 46.9	-1.4
	13nm,0.8s								
DPC	**Dobruska-Polom**	**7.06**	**34**	*e*	SG	Sg		11 47 48.5	-3.9

*SOME **12** 12:47:34.4,44°.05N×82°.97E,h0km*
*NNC **12** 12:47:42.6±0.8,44°.30N×82°.55E,h20km±3km, mb3.5, mpv3.1,Error ellipse: s-maj=8.7km s-min=2.7km az=118.0*

ISC 12 12:47:34.8±1.8,**44°.06N**±0°.06×**82°.92E**±0°.07,**h2**km±12km, **n25,**σ1§**97**/41,**11C-4D,Northern Xinjiang**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
KTMS	**Ketmen**	**1.96**	**253**	*e*	P	**Pb**		**12 48 11.2**	**-0.1**
	16nm,0.6s								
KTMS					S	**Sg**		**12 48 38.2**	**+0.4**
	81nm,0.4s								
DJR	**Jarkent**	**2.27**	**278**	*e*	P	**Pg**		**12 48 17.9**	**-0.4**
	41nm,0.5s								
DJR					S	**Sg**		**12 48 49.8**	**+2.0**
	231nm,0.6s								
PDGK	**Podgornoye**	**2.59**	**255**	↑	Pn	**Pb**		**12 48 20.9**	**-1.2**
	6.6nm,0.5s								
PDGK				↓	Pg	**Pg**		**12 48 27.5**	**+2.9**
	15nm,0.5s								
PDGK				↑	Lg	Lg		12 48 58.7	
	46nm,0.6s								
SHLS	**Shalkode**	**2.67**	**252**	*e*	P	**Pn**		**12 48 17.9**	**-1.1**
	18nm,0.5s								
SHLS					S	**Sn**		**12 48 50.3**	**-1.7**
	238nm,0.8s								
MK31	**Makanchi Array**	**2.77**	**351**		Pn	**Pn**		**12 48 21.9**	**+1.6**
	0.6nm,0.3s,baz=172,slow=14,SNR=72								
MK31				↑	Pg	**Pg**		**12 48 28.4**	**+0.4**
	2.0nm,0.3s,baz=185,slow=18,SNR=21								
MK31					Lg	Lg		12 49 02.4	
	25nm,0.5s,baz=166,slow=28,SNR=12								
KAPS	**Kapalarasan**	**2.83**	**297**	*e*	P	**Pg**		**12 48 28.4**	**-0.6**
	5.6nm,0.3s								
KAPS				*e*	S	**Sg**		**12 49 07.2**	**+1.6**
	68nm,0.6s								
UZB	**Uzynbulak**	**2.98**	**254**	*e*	P	**Pb**		**12 48 28.8**	**+0.1**
	10nm,0.4s								
UZB				*e*	S	**Sg**		**12 49 08.5**	**-1.9**
	25nm,0.8s								
KPKS	**Kokpek**	**3.13**	**261**	*e*	P	**Pb**		**12 48 32.8**	**+1.6**
	14nm,0.1s								
KPKS				*e*	S	**Sg**		**12 49 14.3**	**-0.9**
	106nm,0.4s								
MNBS	**Baschi**	**3.26**	**272**	*e*	P	**Pb**		**12 48 32.8**	**-0.7**
	26nm,0.5s								
MNBS				*e*	S	**Sb**		**12 49 15.3**	**+1.7**
	38nm,0.6s								
KURS	**Kuram**	**3.49**	**262**	*e*	P	**Pg**		**12 48 41.2**	**-0.5**
KURS				*e*	S	**Sg**		**12 49 29.2**	**+2.2**
ZSN	**Zaisan**	**3.66**	**21**	*e*	P	**Pb**		**12 48 41.1**	**+1.0**
	3.0nm,0.5s								
ZSN				*e*	S	**Sg**		**12 49 29.7**	**-2.6**
	12nm,0.7s								
ARXS	**Arharly**	**3.67**	**274**	*e*	P	**Pb**		**12 48 41.4**	**+1.0**
	29nm,0.8s								
ARXS				*e*	S	**Sg**		**12 49 29.8**	**-3.0**
	59nm,0.6s								
CHKK	**Chushkaly**	**4.29**	**269**	*e*	P	**Pb**		**12 48 53.3**	**+2.3**
	12nm,0.6s								
CHKK				*e*	S	**Sg**		**12 49 50.5**	**-2.1**
	29nm,0.5s								
KOTS	**Kotyrbulak**	**4.30**	**261**	*e*	P	**Pb**		**12 48 53.5**	**+2.3**
KOTS				*e*	S	**Sg**		**12 49 50.7**	**-2.1**
TNSS	**Tian-Shan**	**4.46**	**259**	*e*	P	**Pg**		**12 48 59.1**	**-1.3**
	5.2nm,0.5s								
TNSS				*e*	S	**Sg**		**12 49 60.0**	**+1.8**
	19nm,0.7s								
KTBS	**Karatobe**	**4.53**	**268**	*e*	P	**Pg**		**12 48 59.5**	**-2.1**
KTBS				*e*	S	**Sg**		**12 50 00.6**	**+0.4**
KUU	**Kurty**	**4.76**	**270**	*e*	P	**Pb**		**12 49 00.9**	**+2.0**
	5.6nm,0.1s								
KUU				*e*	S	**Sg**		**12 50 03.6**	**-4.0**
	23nm,0.7s								
DGS	**Degeres**	**5.25**	**264**	*e*	P	**Pg**		**12 49 12.3**	**-3.2**
	6.2nm,0.4s								
DGS				*e*	S	**Sg**		**12 50 23.0**	**-0.5**
	19nm,0.6s								
TKM2	**Tokmak 2**	**5.45**	**261**	↑	Pn	**Pn**		**12 49 00.6**	**+3.3**
	2.6nm,0.8s								
TKM2				↓	Pg	**Pg**		**12 49 18.3**	**-0.9**
	3.1nm,0.5s								
TKM2				↑	Lg	Lg		12 50 27.6	
	13nm,0.7s								
AAK	**Ala-Archa**	**6.31**	**260**	↑	Pg	**Pg**		**12 49 33.6**	**-2.0**
	3.4nm,0.8s								
AAK				↑	Lg	Lg		12 50 56.8	
	9.0nm,0.7s								
KURBB	**Kurchatov Arra**	**7.21**	**337**	↑	Sn	**Sn**		**12 50 41.7**	**-1.9**
	5.6nm,0.7s								
KURBB				↓	Lg	Lg		12 51 22.1	
	27nm,0.6s								
KURK	**Kurchatov**	**7.27**	**338**	↑	Sn	**Sn**		**12 50 42.4**	**-2.8**
	3.3nm,0.6s								
KURK				↑	Lg	Lg		12 51 25.2	
	25nm,1.3s								
MNAS	**Manas**	**7.76**	**262**	↓	Lg	Lg		12 51 42.4	
	3.6nm,0.7s								
KK31	**Karatay Array**	**9.06**	**268**		Lg	Lg		12 52 22.7	
	1.6nm,0.5s,baz=74,slow=28,SNR=3.6								
BVA0	**Borovoye Array**	**12.21**	**322**	↑	Lg	Lg		12 54 00.9	
	7.4nm,1.2s,baz=266,slow=39,SNR=4.4								

*IDC **12** 13:05:13.3±1.8,51°.36N×173°.28E,h0km,mb3.9/12, mb1 4.1/14,mb1mx3.8/64,mbt

TEKE	**Tekeli-Mersin**	**3.57**	**63**	*e*Pn		**Pn**	**13 09 25.3**	**-0.6**
TEKE				*e*Sn		**Sn**	**13 10 07.3**	**-0.9**
HDMB	**Hadim**	**3.60**	**47**	*e*PN		**Pn**	**13 09 26.3**	**-0.1**
HDMB	**Hadim**	**3.60**	**47**	*e*Pn		**Pn**	**13 09 26.3**	**-0.1**
HDMB				*e*Sn		**Sn**	**13 10 09.2**	**+0.2**
BERE	**Bereket-Mersin**	**3.74**	**60**	*e*PN		**Pn**	**13 09 27.6**	**-0.7**
BERE	**Bereket-Mersin**	**3.74**	**60**	*e*Pn		**Pn**	**13 09 27.6**	**-0.7**
BERE				*e*Sn		**Sn**	**13 10 11.6**	**-1.0**
AKKU	**Akkuyu-Mersin**	**3.90**	**65**	*e*PN		**Pn**	**13 09 29.8**	**-0.6**
AKKU	**Akkuyu-Mersin**	**3.90**	**65**	*e*Pn		**Pn**	**13 09 29.8**	**-0.6**
AKKU				*e*Sn		**Sn**	**13 10 15.2**	**-1.1**
TEVE	**Tevekalti-Mers**	**3.94**	**60**	*e*PN		**Pn**	**13 09 30.3**	**-0.7**
TEVE	**Tevekalti-Mers**	**3.94**	**60**	*e*Pn		**Pn**	**13 09 30.3**	**-0.7**
TEVE				*e*Sn		**Sn**	**13 10 16.5**	**-0.9**
IKL	**Isikli**	**4.04**	**64**	*e*PN		**Pn**	**13 09 31.6**	**-0.5**
IKL	**Isikli**	**4.04**	**64**	*e*Pn		**Pn**	**13 09 31.7**	**-0.5**
IKL				*e*Sn		**Sn**	**13 10 18.5**	**-1.0**

*SJA **12** 13:21:04.1±0.9,31°.77S×70°.95W,h17km±4km, ML2.4, MW3.0*
*GUC **12** 13:21:05.4±0.6,31°.74S×71°.03W,h65km±602km, ML3.1*
ISC 12 13:21:05.6±2.9,31°.81S±0°.08×71°.1W±0°.1,h85km±38km, n15,σ0°75/23,3C-1D,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
ROCH	**El Roble**	**1.17**	**175**	⇑	*i*P		**Pn**	**13 21 27.4**	**+0.2**
ROCH					*i* S		**Sn**	**13 21 44.2**	**+0.8**
ROCH					IAML			13 21 45.3	
	comp=N,432nm,0.5s								
ROC1	**El Roble**	**1.17**	**175**		*e*P		**Pn**	**13 21 27.2**	**-0.1**
ROC1					*e*S		**Sn**	**13 21 43.8**	**+0.3**
PEL	**Peldehue**	**1.39**	**164**	⇑	*i*P		**Pn**	**13 21 29.9**	**+0.1**
PEL					*i* S		**Sn**	**13 21 48.2**	**+0.2**
PEL					IAML			13 21 49.1	
	comp=E,567nm,0.6s								
AUSP	**Uspallata**	**1.54**	**106**		*e*P		**Pn**	**13 21 31.8**	**-0.2**
AUSP					*e*S		**Sn**	**13 21 50.6**	**-1.2**
CLCH	**Cerro Calan**	**1.67**	**162**		*e*P		**Pn**	**13 21 33.4**	**0.0**
CLCH					*i* S		**Sn**	**13 21 54.8**	**+0.4**
FCH	**Farellones**	**1.68**	**155**		*e*P		**Pn**	**13 21 34.0**	**+0.3**
FCH					*i* S		**Sn**	**13 21 55.4**	**+0.3**
FCH					IAML			13 21 56.4	
	comp=E,253nm,0.4s								
RCDM	**Rinconada Maip**	**1.70**	**171**	⇑	*i*P		**Pn**	**13 21 33.8**	**0.0**
RCDM					*i* S		**Sn**	**13 21 54.0**	**-1.1**
ANTU	**Antumapu**	**1.81**	**167**		*e*P		Pn	13 21 32.5	-2.7
ANTU					*i* S		**Sn**	**13 21 55.6**	**-2.1**
ASAL	**Salagasta**	**2.10**	**112**		*e*P		**Pn**	**13 21 39.3**	**+0.2**
ASAL					*e*S		**Sn**	**13 22 05.0**	**+0.4**
ARCO	**CERRO ARCO**	**2.13**	**120**	⇓	*e*P		**Pn**	**13 21 40.3**	**+0.7**
ARCO					*e*S		**Sn**	**13 22 06.0**	**+0.6**
ARCO					IAML			13 22 10.1	
	comp=Z,20nm,0.2s								
ACCO	**Cerro Coronel**	**2.15**	**56**		*e*P		**Pn**	**13 21 40.1**	**+0.1**
ACCO					IAML			13 21 40.9	
	comp=Z,52nm,0.2s								
AROD	**Rodeo**	**2.17**	**42**		*e*P		**Pn**	**13 21 40.8**	**+0.6**
AAGR	**Agrelo**	**2.33**	**124**		*e*P		**Pn**	**13 21 42.8**	**+0.6**
AMOG	**MOGNA**	**2.42**	**70**		*e*P		**Pn**	**13 21 42.5**	**-0.8**
AVFE	**Valle Fertil**	**3.35**	**71**		IAML			13 22 33.6	
	comp=Z,11nm,0.3s								

*CSEM **12** 13:25:45.4±0.3,38°.90N×39°.33E,h10km, MD2.4, Error ellipse: s-maj=7.4km s-min=6.7km az=88.0*
*ISCJB **12** 13:25:46.7±0.8,38°.72N±0°.05×39°.74E±0°.05,h10km, Error ellipse: s-maj=7.0km s-min=5.3km az=172.3*
*ISK **12** 13:25:46.2,38°.74N×39°.71E,h24km, MD2.4*
*DDA **12** 13:25:47.5,38°.83N×39°.03E,h7km, Md2.7*
ISC 12 13:25:45.2±0.8,38°.71N±0°.03×39°.65E±0°.03,h10km,n17, σ2s28/26,Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PTK	**Pertek**	**0.27**	**312**		*e*PG		**Pb**	**13 25 53.4**	**+1.1**
PTK					*e*SG		**Sb**	**13 25 58.6**	**+1.6**
PTK	**Pertek**	**0.27**	**312**		*e*Pg		**Pb**	**13 25 53.4**	**+1.1**
PTK					*e*Sg		**Sb**	**13 25 58.6**	**+1.6**
TNCL	**Tunceli-Merkez**	**0.41**	**348**		*i* P		**Pn**	**13 25 57.4**	**+0.1**
TNCL					*i* S		**Sb**	**13 26 05.3**	**+4.3**
TNCL	**Tunceli-Merkez**	**0.41**	**348**		P		**Pn**	**13 25 57.4**	**+0.1**
TNCL					S		**Sb**	**13 26 05.3**	**+4.3**
SVRC	**Sivrice-ELAZID**	**0.43**	**219**		*e*PG		**Pb**	**13 25 56.6**	**+1.6**
SVRC					*e*SG		**Sb**	**13 26 04.2**	**+2.6**
SVRC	**Sivrice-ELAZID**	**0.43**	**219**		*e*Pg		**Pb**	**13 25 56.6**	**+1.6**
SVRC					*e*Sg		**Sb**	**13 26 04.2**	**+2.6**
ELZG	**Elazig**	**0.56**	**248**		*i* P		**Pg**	**13 25 54.9**	**-1.3**
ELZG					*i* S		**Sg**	**13 25 59.5**	**-4.2**
ELZG	**Elazig**	**0.56**	**248**		P		**Pg**	**13 25 54.9**	**-1.3**
ELZG					S		**Sg**	**13 25 59.5**	**-4.2**
BINT	**Bingol**	**0.68**	**76**		*e*Pg		**Pn**	**13 26 02.4**	**+1.4**
BINT					*e*Sg		**Sn**	**13 26 14.1**	**+2.4**
BNGB	**Bing˜¶l**	**0.85**	**71**		*e*PG		**Pb**	**13 26 02.4**	**+0.2**
BNGB					*e*SG		**Sb**	**13 26 14.1**	**+0.4**
ERZN	**Erzincan**	**0.87**	**4**		*e*PG		**Pb**	**13 26 02.9**	**+0.3**
KEMA	**Kemaliye**	**1.06**	**302**		*i* P		Pg	13 25 59.5	-6.1
KEMA					*i* S		Sg	13 26 09.2	-10
KEMA	**Kemaliye**	**1.06**	**302**		P		Pg	13 25 59.5	-6.1
KEMA					S		Sg	13 26 09.2	-10
EZC	**Erzincan**	**1.06**	**348**		*e*Pg		**Pg**	**13 26 02.9**	**-2.8**
KELT	**Kelkit**	**1.47**	**348**		*i* P		**Pn**	**13 26 12.5**	**+0.6**
KELT					*i* S		**Sn**	**13 26 31.7**	**+0.4**
VRTB	**Varto-Mus**	**1.48**	**72**		*e*PN		**Pn**	**13 26 11.0**	**-1.1**
VRTB	**Varto-Mus**	**1.48**	**72**		*e*Pn		**Pn**	**13 26 11.0**	**-1.1**

MEX 12 13:26:50.0±0.8,15°.27N×93°.28W,h55km±105km,MD3.5, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CCIG	**Comitan**	**1.49**	**47**		*e*P		Pn	13 27 13.1	-1.4
CCIG					*e*S		Sn	13 27 30.9	-2.1

IDC 12 13:39:17.6±1.5,4°.67N×128°.19E,h0km,mb3.9/5, mb1 4.0/5,mb1mx3.6/46,mbtmp3.9/5,Error ellipse: s-maj=95.9km s-min=22.6km az=73.0,North of Halmahera

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**22.77**	**186**		P		P	13 44 22.3	+0.5
	2.5nm,0.9s,baz=9.8,slow=7.0,SNR=5.4								
WRA	**Warramunga Arr**	**25.19**	**166**		P		P	13 44 44.7	-0.4
	1.0nm,0.4s,baz=346,slow=11,SNR=17								
ASAR	**Alice Springs**	**28.71**	**169**		P		P	13 45 16.5	-0.3
	1.6nm,0.5s,baz=353,slow=7.6,SNR=56								
STKA	**Stephens Creek**	**38.52**	**162**		P		P	13 46 42.0	+0.1
	0.7nm,0.4s,baz=333,slow=8.8,SNR=6.6								
ZALV	**Zalesovo Beam**	**60.43**	**332**		P		P	13 49 28.9	0.0
	0.4nm,0.3s,baz=136,slow=8.4,SNR=2.5								

*ISCJB **12** 13:40:07.3±0.9, 18°.3S±0°.1×168°.9E±0°.1,h201km,mb4.1/6, Error ellipse: s-maj=18.2km s-min=12.0km az=145.3*
*NEIC **12** 13:40:09.8±2.4, 18°.45S×169°.01E,h223km±35km,mb4.2/3, Error ellipse: s-maj=70.5km s-min=13.9km az=157.0*
*IDC **12** 13:40:16.1±7.2, 18°.81S×168°.58E,h247km±37km,mb3.8/5, mb1 3.8/6,mb1mx3.3/40,mbtmp4.3/6, Error ellipse: s-maj=91.9km s-min=60.9km az=87.0*
ISC 12 13:40:08.8±1.1,18°.3S±0°.1×168°.9E±0°.1,h201km,n12, σ0s90/14,mb4.1/6,Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**4.39**	**211**		P		**Pn**	**13 41 17.3**	**+1.8**
	2.1nm,0.3s,baz=47,slow=19,SNR=12								
DZM					S		**S**	**13 42 06.8**	**-0.7**
	1.6nm,0.3s,baz=323,slow=20,SNR=1.8								
DZM	**Mont Dzumac**	**4.39**	**211**		eP*n*		**Pn**	**13 41 16.2**	**+0.7**
DZM					S		**S**	**13 42 06.8**	**-0.7**
MSVF	**Nonsavu**	**8.73**	**88**		e*Pn*		**Pn**	**13 42 11.5**	**-0.2**
	30nm,0.9s								
EIDS	**Eidsvold**	**17.95**	**244**		*e*P		**Pn**	**13 44 06.1**	**-0.2**
CTA	**Charters Tower**	**21.45**	**262**		P		**P**	**13 44 42.0**	**+0.4**
	4.9nm,0.7s,baz=97,slow=13,SNR=4.0								
CTAO	**Charters Tower**	**21.45**	**262**		*e*P		**P**	**13 44 42.2**	**+0.6**
STKA	**Stephens Creek**	**28.07**	**236**		P		**P**	**13 45 40.5**	**-1.2**
	2.1nm,0.6s,baz=66,slow=7.9,SNR=11								

WRAB	**Tennant Creek**	**32.65**	**261**		*e*P		**P**	**13 46 21.2**	**-0.9**
	5.1nm,1.0s								
WRA	**Warramunga Arr**	**32.66**	**261**		P		**P**	**13 46 21.2**	**-0.9**
	2.2nm,0.8s,baz=95,slow=8.6,SNR=12								
ASAR	**Alice Springs**	**33.04**	**255**		P		**P**	**13 46 25.1**	**-0.5**
	9.9nm,0.6s,baz=84,slow=8.8,SNR=157								
FITZ	**Fitzroy Crossi**	**41.02**	**263**		P		**P**	**13 47 33.0**	**+0.4**
	7.9nm,0.8s,baz=84,slow=6.3,SNR=10								
FITZ	**Fitzroy Crossi**	**41.02**	**263**		*e*P		**P**	**13 47 33.0**	**+0.4**
	6.3nm,0.8s								

*ISCJB **12** 13:41:49.8±0.3,24°.00N±0°.02×121°.86E±0°.02,h23km±3km, Error ellipse: s-maj=3.5km s-min=2.1km az=148.3*
*JMA **12** 13:41:49.1±0.1,23°.98N×121°.80E,h25km±2km,M3.1*
*TAP **12** 13:41:50.5,24°.04N×121°.75E,h30km,ML3.9,B*
ISC 12 13:41:50.0±0.9,24°.00N±0°.02×121°.81E±0°.02,h28km±7km, n70,σ0s73/112,10C-10D,Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
HWA	**Hwalien**	**0.18**	**264**	⇓	*i*P		**Pn**	**13 41 56.4**	**-0.5**
	baz=245								
HWA					*e*S		**Sb**	**13 42 00.7**	**+0.9**
	baz=245								
TWD	**Chiawan**	**0.21**	**294**	⇓	*i*P		**Pn**	**13 41 56.2**	**-1.1**
	baz=288								
TWD					*i* S		**Sb**	**13 42 00.3**	**0.0**
	baz=288								
ESF	**Shoufeng Towns**	**0.30**	**246**	⇑	*e*P		**Pn**	**13 41 58.0**	**-0.5**
	baz=234								
EHP	**Heping Village**	**0.32**	**349**		*e*P		**Pb**	**13 41 57.6**	**0.0**
	baz=354								
TEGC	**Jichi Village**	**0.38**	**220**		*e*P		**Pn**	**13 41 59.9**	**+0.3**
	baz=210								
ESL	**Shilin**	**0.39**	**242**	⇓	*e*P		**Pb**	**13 41 58.4**	**-0.2**
	baz=232								
ENA	**Nanau**	**0.43**	**352**	⇑	P		**Pb**	**13 41 59.2**	**-0.1**
	baz=358								
ENA					*e*S		**Sb**	**13 42 05.4**	**-0.3**
	baz=358								
WHF	**Hehuan Shan**	**0.52**	**287**	⇑	P		**Pb**	**13 42 00.5**	**-0.4**
	baz=275								
WHF					*e*S		**Sb**	**13 42 07.8**	**-0.6**
	baz=275								
NNS	**Nan Shan**	**0.59**	**318**	⇑	P		**Pb**	**13 42 01.5**	**-0.5**
	baz=319								
NNS					*e*S		**Sb**	**13 42 09.6**	**-0.6**
	baz=319								
TWC	**Suao**	**0.61**	**4**	⇓	*i*P		**Pn**	**13 42 02.3**	**-0.5**
	baz=4.0								
TWC					S		**Sn**	**13 42 10.9**	**-0.8**
	baz=4.0								
TWT	**Tachien**	**0.63**	**294**	⇑	*i*P		**Pn**	**13 42 02.7**	**-0.6**
	baz=291								
TWT					*e*S		**Sb**	**13 42 10.8**	**-0.5**
	baz=291								
EHY	**Hungye**	**0.66**	**222**		*e*P		**Pb**	**13 42 02.4**	**-0.6**
	baz=216								
ENTT	**Nioudou**	**0.68**	**341**	⇑	*i*P		**Pb**	**13 42 03.0**	**-0.4**
	baz=344								
ENTT					S		**Sb**	**13 42 12.1**	**-0.3**
	baz=344								
TWE	**Neicheng**	**0.73**	**350**	⇑	P		**Pn**	**13 42 04.0**	**-0.5**
	baz=348								
ILA	**Ilan**	**0.77**	**356**		*e*P		**Pb**	**13 42 03.9**	**-0.9**
	baz=352								
TWF1	**Yuli**	**0.79**	**216**	⇓	P		**Pb**	**13 42 04.5**	**-0.8**
	baz=223								
SMLT	**Sun Moon Lake**	**0.84**	**262**	⇓	P		**Pn**	**13 42 05.8**	**-0.2**
	baz=259								
SMLT					*e*S		**Sb**	**13 42 16.3**	**-0.7**
	baz=259								
NSTT	**Nanjuang**	**0.97**	**311**	⇑	P		**Pb**	**13 42 08.1**	**-0.1**
	baz=311								
NSTT					*e*S		**Sn**	**13 42 19.9**	**-0.7**
	baz=311								
CHKT	**Chengkung**	**0.98**	**204**		*e*P		**Pn**	**13 42 06.9**	**-0.9**
	baz=187								
TWA	**Mucha**	**1.00**	**348**		*e*P		**Pb**	**13 42 08.6**	**-0.1**
	baz=340								
TWA					*e*S		**Sn**	**13 42 21.1**	**-0.3**
	baz=340								
TWQ1	**Liyutan**	**1.01**	**291**	⇑	P		**Pb**	**13 42 09.3**	**+0.5**
	baz=289								
TWQ1					*e*S		**Sn**	**13 42 22.7**	**+1.2**
	baz=289								
TWB1	**Santiao Chiao**	**1.02**	**9**	⇓	*i*P		**Pb**	**13 42 09.2**	**+0.1**
	baz=11								
TWB1					*e*S		**Sb**	**13 42 22.3**	**+0.2**
	baz=11								
WNT	**Mingjian**	**1.03**	**264**		*e*P		**Pb**	**13 42 09.4**	**+0.1**
	baz=261								
WNT					S		**Sb**	**13 42 23.5**	**+1.0**
	baz=261								
ALS	**Alishan**	**1.04**	**242**	⇓	*i*P		**Pb**	**13 42 09.4**	**-0.1**
	baz=238								
NSY	**Sanyi**	**1.04**	**294**	⇑	P		**Pb**	**13 42 10.0**	**+0.5**
	baz=293								
NSY					*e*S		**Sb**	**13 42 24.0**	**+1.3**
	baz=293								
TCU	**Taichung**	**1.04**	**279**		*e*P		**Pb**	**13 42 10.0**	**+0.6**
	baz=276								
TCU					*e*S		**Sb**	**13 42 23.7**	**+0.9**
	baz=276								
TAP1	**Taipei**	**1.07**	**346**		*e*P		**Pn**	**13 42 07.8**	**-1.3**
	baz=347								
NWF	**Wu-fen Shan**	**1.07**	**359**		*e*P		**Pb**	**13 42 09.9**	**-0.1**
	baz=352								
NWF					*e*S		**Sb**	**13 42 24.2**	**+0.5**
	baz=352								
TAP	**Taipei**	**1.07**	**345**		*e*P		**Pn**	**13 42 09.0**	**-0.2**
	baz=346								
TAP					*e*S		**Sb**	**13 42 23.1**	**-0.6**
	baz=346								
ELDTW	**Lidau**	**1.08**	**222**	⇓	P		**Pn**	**13 42 08.9**	**-0.5**
	baz=209								
CHN5	**Tsauling**	**1.11**	**249**		*e*P		**Pb**	**13 42 10.8**	**+0.2**
	baz=235								
CHN5					*e*S		**Sb**	**13 42 25.3**	**+0.6**
	baz=235								
HSN	**Hsinchu**	**1.11**	**317**		*e*P		**Pb**	**13 42 10.5**	**0.0**
	baz=319								
HSN					*e*S		**Sb**	**13 42 25.6**	**+1.0**
	baz=319								
NCU	**National Centr**	**1.12**	**330**		*e*P		**Pb**	**13 42 10.3**	**-0.5**
	baz=331								
NCU					*e*S		**Sb**	**13 42 25.7**	**+0.7**
	baz=331								
JYNG	**Yonaguniijimaku**	**1.14**	**66**		P		**Pn**	**13 42 09.8**	**-0.2**
JYNG					*e*S		**Sn**	**13 42 22.9**	**-1.8**
TWS1	**Kuangyinshan**	**1.16**	**342**		*e*P		**Pb**	**13 42 11.0**	**-0.4**
	baz=343								
TWS1					*e*S		**Sb**	**13 42 26.3**	**+0.3**
	baz=343								
WGK	**Gukeng**	**1.18**	**255**		*e*P		**Pb**	**13 42 11.9**	**+0.1**
	baz=252								
YOJ	**Yonaguni jima**	**1.19**	**67**		*e*P		**Pn**	**13 42 11.1**	**+0.2**
	baz=79								
YOJ					*e*S		**Sn**	**13 42 25.4**	**-0.7**
	baz=79								
YOJ	**Yonaguni jima**	**1.19**	**67**		P		**Pn**	**13 42 11.1**	**+0.2**
YOJ					S		**Sn**	**13 42 26.6**	**+0.5**
STYT	**Tauyuan**	**1.27**	**229**	⇓	*i*P		**Pb**	**13 42 12.7**	**-0.7**
	baz=221								
STYT					*e*S		**Sb**	**13 42 28.9**	**-0.4**
	baz=221								
TWY	**Chenhua**	**1.29**	**352**		*e*P		**Pb**	**13 42 13.0**	**-0.6**
	baz=338								
CHN2	**Minshiung**	**1.30**	**250**		*e*P		**Pb**	**13 42 14.5**	**+0.6**
	baz=247								
CHN2					*e*S		**Sb**	**13 42 32.1**	**+1.9**
	baz=247								
WTP	**Ta-pu**	**1.32**	**236**		*e*P		**Pb**	**13 42 14.1**	**-0.2**
	baz=234								
WTP					*e*S		**Sb**	**13 42 30.9**	**0.0**
	baz=234								
TWG	**Pinlang**	**1.35**	**210**		*e*P		**Pn**	**13 42 11.8**	**-1.2**
	baz=195								
WTCT	**Ta-ch'eng**	**1.40**	**265**		*e*P		**Pb**	**13 42 14.9**	**-0.6**
	baz=275								
WTCT					*e*S		**Sb**	**13 42 33.3**	**+0.3**
	baz=275								
TWK	**Hsinying**	**1.41**	**239**		*e*P		**Pb**	**13 42 15.2**	**-0.6**
	baz=226								
TWK					*e*S		**Sb**	**13 42 33.6**	**+0.3**
	baz=226								
CHN1	**Nanshi**	**1.42**	**236**		*e*P		**Pb**	**13 42 15.3**	**-0.7**
	baz=234								
CHN1					*e*S		**Sb**	**13 42 33.4**	**-0.3**
	baz=234								
SGST	**Jiashian**	**1.44**	**231**		*e*P		**Pb**	**13 42 15.9**	**-0.4**
	baz=230								
SGST					*e*S		**Sb**	**13 42 35.3**	**+1.0**
	baz=230								
WSF	**Szhu**	**1.49**	**257**		*e*P		**Pb**	**13 42 16.7**	**-0.4**
	baz=254								
WSF					*e*S		**Sb**	**13 42 36.7**	**+1.1**
	baz=254								
ECL	**Taimali**	**1.60**	**210**		*e*P		**Pn**	**13 42 15.7**	**-0.7**
	baz=196								
CHN8	**Yiju**	**1.60**	**246**		*e*P		**Pn**	**13 42 17.0**	**+0.6**
	baz=244								
CHN8					*e*S		**Sb**	**13 42 38.7**	**0.0**
	baz=244								
CHN3	**Shinhua**	**1.61**	**236**		*e*P		**Pb**	**13 42 18.2**	**-0.8**
	baz=235								
CHN3					*e*S		**Sb**	**13 42 40.4**	**+1.4**
	baz=235								
PCYT	**Pengchaiyu**	**1.64**	**8**		*e*P		**Pn**	**13 42 17.5**	**+0.4**
	baz=9.0								
SCLT	**Jiali**	**1.69**	**241**		*e*P		**Pb**	**13 42 20.1**	**-0.3**
	baz=240								
SCLT					*e*S		**Sb**	**13 42 41.8**	**+0.5**
	baz=240								
TWM1	**Shoushan**	**1.73**	**228**		*e*P		**Pb**	**13 42 20.4**	**-0.6**
	baz=225								
SGLT	**Jiouru**	**1.75**	**224**		*e*P		**Pb**	**13 42 20.6**	**-0.8**
	baz=221								
IRIF	**Iriomote-Funau**	**1.79**	**79**		P		**Pn**	**13 42 19.6**	**+0.6**
IRIF					S		**Sn**	**13 42 41.5**	**+0.7**
HATJ	**Hateruma jima**	**1.83**	**88**		*e*S		**Sn**	**13 42 40.9**	**-0.9**
EAST	**Anshuo**	**1.83**	**209**		*e*P		**Pn**	**13 42 20.9**	**+1.3**
	baz=198								
TAW	**Tawu**	**1.83**	**207**		*e*P		**Pb**	**13 42 22.7**	**-0.2**
	baz=196								
SCZT	**Fangliau**	**1.95**	**214**		*e*P		**Pb**	**13 42 23.0**	**-1.9**
	baz=200								
SCZT					*e*S		**Sb**	**13 42 49.0**	**+0.2**
	baz=200								
LAY	**Lan-yu**	**1.96**	**187**		*e*P		**Pn**	**13 42 20.1**	**-1.4**
	baz=185								
JKRS	**Kuro-shima**	**2.03**	**83**		P		**Pn**	**13 42 24.0**	**+1.7**
JKRS					S		**Sn**	**13 42 47.6**	**+0.9**
WDGT	**Dungji**	**2.10**	**250**		*e*P		**Pn**	**13 42 23.0**	**-0.3**
	baz=247								
PNG	**Penghu**	**2.10**	**259**		*e*P		**Pn**	**13 42 24.0**	**+0.7**
	baz=257								
PNG					*e*S		**Sn**	**13 42 48.8**	**+0.2**
	baz=257								
JIJ	**Ishigaki jima**	**2.17**	**80**		P		**Pn**	**13 42 24.8**	**+0.6**
JIJ					S		**Sn**	**13 42 49.6**	**-0.5**
TWK1	**Hengchun**	**2.24**	**204**		*e*P		**Pn**	**13 42 25.7**	**+0.5**
	baz=192								
JISG	**Ishigakijimahi**	**2.36**	**75**		P		**Pn**	**13 42 27.2**	**+0.3**
JISG					S		**Sn**	**13 42 54.5**	**-0.4**
JTJ	**Tarama**	**2.72**	**76**		*e*S		**Sn**	**13 43 04.3**	**+0.5**
KNM	**Kinmen**	**3.11**	**278**		*e*P		**Pn**	**13 42 37.9**	**+0.8**
	baz=277								
JIRB	**Irabujima**	**3.18**	**74**		*e*S		**Sn**	**13 43 16.5**	**+1.4**

IDC 12 13:49:23.1±5.9,26°.75N×141°.79E,h0km,mb3.3/2, mb1 3.7/3,mb1mx3.4/30,mbtmp3.4/3,ML3.6/1,Error ellipse: s-maj=364.4km s-min=35.4km az=83.0,Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
MJAR	**Matsushiro Arr**	**10.23**	**344**			P*n*	P*n*	13 51 50.8	-0.3
	0.5nm,0.3s,baz=166,slow=11,SNR=5.4								
H11N2	**WAKE ISLAND Hy 24.07**	**102**				T	T	14 20 05.1	
	baz=282,slow=75,SNR=7.1								
H11N1	**WAKE ISLAND Hy 24.08**	**102**				T	T	14 20 03.3	
	baz=282,slow=75,SNR=6.0								
H11N3	**WAKE ISLAND Hy 24.09**	**102**				T	T	14 20 03.6	
	baz=282,slow=75,SNR=9.2								
H11S3	**WAKE ISLAND Hy 24.37**	**105**				T	T	14 20 08.1	
	baz=284,slow=75,SNR=5.4								
H11S1	**WAKE ISLAND Hy 24.38**	**104**				T	T	14 20 12.8	
	baz=284,slow=75,SNR=6.5								
H11S2	**WAKE ISLAND Hy 24.39**	**105**				T	T	14 20 09.7	
	baz=284,slow=75,SNR=7.3								
WRA	**Warramunga Arr**	**46.98**	**190**		P		P	13 57 55.6	-0.4
	0.6nm,0.7s,baz=11,slow=8.4,SNR=5.0								
ASAR	**Alice Springs**	**50.70**	**189**		P		P	13 58 24.8	+0.1
	0.2nm,0.7s,baz=9.3,slow=5.8,SNR=4.3								

*NIED **12** 14:07:00.37°.70N×142°.80E,h17km,Mw3.4 Best double couple: M0 1.52000×10^14 NP1:φs358.00000°,δ35.00000°, λ17.00000°. NP2:φs255.00000°,δ81.00000°,λ124.00000°.*
*ISCJB **12** 14:07:36.0±1.7,37°.72N±0°.06×142°.98E±0°.07, h16km±14km,mb3.5/2,Error ellipse: s-maj=11.7km s-min=8.8km az=36.4*
*JMA **12** 14:07:36.2±0.3,37°.67N×142°.83E,h10km±4km,M3.9*
*IDC **12** 14:07:43.0±3.9,36°.60N×142°.72E,h0km,mb3.5/2, mb1 3.7/3,mb1mx3.4/40,mbtmp3.

1.3nm,0.9s,baz=326,slow=15,SNR=2.1

*ISCJB **12** 14:18:32.7±0.2,32°.94N±0°.02×100°.89W±0°.02,h10km, Error ellipse: s-maj=3.0km s-min=2.4km az=44.5*
*NEIC **12** 14:18:34.0±1.3,32°.82N×100°.87W,h8km±11km,MN3.4, MW3.5(SLM),Error ellipse: s-maj=4.8km s-min=3.4km az=179.0*
NEIC Felt [III] at Snyder. Also felt at Abilene, Big Spring, Childress, Coahoma, Eastland, Fluvanna, Hermleigh, Ira, Midland, Rotan, San Angelo and Sweetwater.

ISC 12 14:18:33.9±0.7,32°.80N±0°.03×100°.83W±0°.03,h10km, n119,σ1ŝ46/143,1D,Western Texas

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
ABTX	**Abilene, Hawle**	**1.01**	**100**	**P**		**Pn**		**14 18 54.3**	**+0.1**
	baz=282								
ABTX				S		**Sn**		**14 19 08.9**	**+0.4**
	baz=282								
ABTX	**Abilene, Hawle**	**1.01**	**100**	*e*Pg		**Pn**		**14 18 54.3**	**+0.1**
ABTX				*e*Sg		**Sg**		**14 19 05.1**	**-1.5**
233A	**Rising Star**	**1.81**	**115**	**P**		**Pb**		**14 19 07.4**	**+0.3**
	baz=296,SNR=262								
233A				S		**Sg**		**14 19 32.0**	**0.0**
	baz=296								
MSTX	**Muleshoe**	**2.00**	**306**	P		**Pn**		**14 19 08.0**	**+0.1**
	baz=125								
MSTX				S		**Sb**		**14 19 33.7**	**-1.8**
	baz=125								
MSTX	**Muleshoe**	**2.00**	**306**	*e*Pn		**Pn**		**14 19 07.9**	**0.0**
MSTX				*e*Sn		**Sn**		**14 19 32.8**	**-0.3**
333A	**Richland Sprin**	**2.15**	**133**	P		**Pb**		**14 19 11.5**	**-1.4**
	baz=314,SNR=88								
333A				S		**Sb**		**14 19 39.7**	**+0.1**
	baz=314								
AMTX	**Amarillo**	**2.20**	**341**	P		**Pb**		**14 19 11.4**	**-2.4**
	baz=162								
AMTX				S		**Sb**		**14 19 39.6**	**-1.5**
	baz=162								
AMTX	**Amarillo**	**2.20**	**341**	*e*Pn		**Pb**		**14 19 11.4**	**-2.4**
AMTX				*e*Sn		**Sb**		**14 19 39.1**	**-2.0**
234A	**Clairette**	**2.41**	**109**	P		**Pb**		**14 19 15.3**	**-2.1**
	baz=290								
234A				S		**Sb**		**14 19 46.9**	**-0.3**
	baz=290								
JCT	**Junction City**	**2.47**	**159**	P		**Pn**		**14 19 16.0**	**+1.7**
	baz=339,SNR=146								
JCT				S		**Sb**		**14 19 47.9**	**-1.1**
	baz=339								
JCT	**Junction City**	**2.47**	**159**	*e*Pn		**Pn**		**14 19 15.9**	**+1.6**
JCT				*e*Sn		**Sb**		**14 19 47.6**	**-1.4**
433A	**Art**	**2.52**	**144**	P		**Pn**		**14 19 16.6**	**+1.7**
	baz=324,SNR=75								
433A				S		**Sb**		**14 19 49.2**	**-1.1**
	baz=324								
CPRX	**Cap Rock**	**2.57**	**276**	*e*Pn		**Pn**		**14 19 16.5**	**+0.8**
CPRX				*e*Sn		**Sb**		**14 19 48.9**	**-2.9**
WMOK	**Wichita Mounta**	**2.58**	**41**	P		**Pn**		**14 19 17.2**	**+1.5**
	baz=223								
WMOK	**Wichita Mounta**	**2.58**	**41**	*e*Pn		**Pn**		**14 19 17.0**	**+1.3**
CLNB	**Carlsbad**	**2.63**	**259**	*e*Pn		**Pn**		**14 19 17.4**	**+0.8**
334A	**Lometa**	**2.64**	**123**	P		**Pn**		**14 19 18.6**	**+2.1**
	baz=304,SNR=51								
334A				S		**Sb**		**14 19 51.8**	**-2.0**
	baz=304								
434A	**Burnet**	**2.94**	**132**	P		**Pn**		**14 19 22.4**	**+1.6**
	baz=313,SNR=44								
434A				S		**Sn**		**14 19 58.1**	**+1.9**
	baz=313								
WHTX	**Lake Whitney,**	**2.96**	**105**	P		**Pn**		**14 19 22.8**	**+1.8**
	baz=287								
WHTX				S		**Sn**		**14 19 59.8**	**+3.2**
	baz=287								
WHTX	**Lake Whitney,**	**2.96**	**105**	*e*Pn		**Pn**		**14 19 22.5**	**+1.5**
GDL2	**Guadalupe Moun**	**3.05**	**260**	*e*Pn		Pn		14 19 17.0	-5.2
GDL2				*e*Sn		Sn		14 19 49.0	-10
533A	**Kerrville**	**3.12**	**150**	P		**Pn**		**14 19 24.5**	**+1.3**
	baz=331,SNR=22								
335A	**Moody**	**3.26**	**117**	P		**Pn**		**14 19 26.7**	**+1.6**
	baz=299,SNR=11								
335A				S		**Sn**		**14 20 06.9**	**+2.9**
	baz=299								
Y35A	**Marietta**	**3.36**	**70**	P		**Pn**		**14 19 28.1**	**+1.7**
	baz=252								
Y35A				Sb		**Sg**		**14 20 20.2**	**-1.5**
	baz=252								
435B	**Jarrell**	**3.42**	**125**	S		**Sn**		**14 20 11.0**	**+3.2**
	baz=307								
534A	**Blanco**	**3.42**	**143**	P		**Pn**		**14 19 28.4**	**+1.1**
	baz=324,SNR=44								
534A				Sb		**Sg**		**14 20 20.8**	**-2.9**
	baz=324								
X35A	**Drake**	**3.59**	**63**	P		**Pn**		**14 19 31.2**	**+1.5**
	baz=245								
X35A				S		**Sn**		**14 20 15.6**	**+3.5**
	baz=245								
633A	**Saathoff Ranch**	**3.62**	**157**	P		**Pn**		**14 19 31.8**	**+1.8**
	baz=337,SNR=27								
633A				S		**Sn**		**14 20 15.9**	**+3.1**
	baz=337								
136A	**Ennis**	**3.64**	**94**	P		**Pn**		**14 19 32.3**	**+2.0**
	baz=277								
336A	**Riesel**	**3.66**	**112**	Sb		**Sg**		**14 20 29.6**	**-1.9**
	baz=294								
Z36A	**Blue Ridge**	**3.72**	**82**	P		**Pn**		**14 19 33.1**	**+1.7**
	baz=264								
236A	**Katherine and**	**3.72**	**101**	P		**Pn**		**14 19 33.3**	**+1.9**
	baz=284								
535A	**Dale**	**3.92**	**134**	S		**Sn**		**14 20 24.1**	**+3.9**
	baz=316								
MNTX	**Cornudas Mount**	**4.01**	**255**	P		**Pn**		**14 19 35.8**	**+0.4**
	baz=72								
MNTX				Sb		**Sb**		**14 20 35.8**	**+2.5**
	baz=72								
MNTX	**Cornudas Mount**	**4.01**	**255**	*e*Pn		**Pn**		**14 19 35.6**	**+0.2**
634A	**China Grove, S**	**4.01**	**147**	Sb		**Sg**		**14 20 39.7**	**-3.1**
	baz=328								
W35A	**Tecumseh**	**4.04**	**53**	P		**Pn**		**14 19 36.8**	**+1.1**
	baz=236								
X36A	**Centrahoma**	**4.13**	**63**	P		**Pn**		**14 19 38.2**	**+1.2**
	baz=246								
TX31	**Lajitas Ar. Si**	**4.23**	**216**	*e*Pn		**Pn**		**14 19 39.0**	**+0.5**
733A	**Divot King Ran**	**4.28**	**162**	P		**Pn**		**14 19 40.3**	**+1.2**
	baz=342								
635A	**Leesville**	**4.29**	**142**	P		**Pn**		**14 19 41.3**	**+2.0**
	baz=323								
Z37A	**Pogue Cattle C**	**4.39**	**83**	P		**Pn**		**14 19 42.2**	**+1.5**
	baz=267								
734A	**La Parita Cree**	**4.40**	**153**	P		**Pn**		**14 19 42.5**	**+1.8**
	baz=334								
W36A	**Wetumka**	**4.48**	**57**	P		**Pn**		**14 19 42.6**	**+0.8**
	baz=240								
833A	**Chaparral WMA,**	**4.63**	**164**	P		**Pn**		**14 19 45.2**	**+1.3**
	baz=344,SNR=14								
X37A	**Clayton**	**4.88**	**67**	P		**Pn**		**14 19 48.6**	**+1.2**
	baz=250								
Z38A	**Mt. Pleasant**	**4.93**	**83**	P		**Pn**		**14 19 50.1**	**+2.1**
	baz=267								
V36A	**Jenks**	**5.02**	**52**	P		**Pn**		**14 19 49.5**	**+0.2**
	baz=236								
BNM	**Barren Site**	**5.03**	**287**	*e*Pn		**Pn**		**14 19 48.8**	**-0.9**
W37B	**Quinton**	**5.05**	**61**	↓P		**Pn**		**14 19 50.9**	**+1.1**
	baz=244								
LPM	**Los Pinos Moun**	**5.08**	**289**	*e*Pn		**Pn**		**14 19 50.0**	**-0.3**
ANMO	**Albuquerque**	**5.15**	**296**	*e*Pn		**Pn**		**14 19 49.7**	**-1.5**
ANMO				*e*Sg		**Sb**		**14 21 08.7**	**+2.5**
TUL1	**Leonard**	**5.19**	**52**	*e*Pn		**Pn**		**14 19 52.7**	**+1.0**
T25A	**Trinidad**	**5.23**	**327**	P		**Pn**		**14 19 52.9**	**+0.5**
	baz=145								
T25A	**Trinidad**	**5.23**	**327**	*e*Pn		**Pn**		**14 19 53.1**	**+0.7**
X38A	**Whitesboro**	**5.33**	**68**	P		**Pn**		**14 19 54.8**	**+1.2**
	baz=252								
LAZ	**Ladron**	**5.50**	**289**	*e*Pn		**Pn**		**14 19 55.2**	**-0.9**
934A	**Benavides**	**5.55**	**158**	P		**Pn**		**14 19 58.3**	**+1.7**
	baz=339								
V37A	**Hulbert**	**5.62**	**55**	P		**Pn**		**14 19 58.6**	**+1.1**
	baz=239								
W38A	**Poteau**	**5.71**	**65**	P		**Pn**		**14 19 59.8**	**+1.1**
	baz=249								
X39A	**Fountain Ranch**	**5.85**	**71**	P		**Pn**		**14 20 02.3**	**+1.6**
	baz=255								
121A	**Cookes Peak, D**	**5.87**	**269**	P		**Pn**		**14 20 01.0**	**-0.2**
	baz=85								
T36A	**Boggs Farm, Ca**	**5.88**	**42**	P		**Pn**		**14 20 02.3**	**+1.2**
	baz=226								
U37A	**Salina**	**5.92**	**51**	P		**Pn**		**14 20 02.7**	**+1.0**
	baz=235								
CBKS	**Cedar Bluff**	**6.07**	**8**	P		**Pn**		**14 20 04.7**	**+1.0**
	baz=189								
CBKS	**Cedar Bluff**	**6.07**	**8**	*e*Pn		**Pn**		**14 20 04.5**	**+0.9**
V38A	**Canehill**	**6.13**	**58**	P		**Pn**		**14 20 05.2**	**+0.7**
	baz=242								
SDCO	**Great Sand Dun**	**6.24**	**324**	*e*Pn		**Pn**		**14 20 08.3**	**+1.9**
SDCO				*e*Pg		**Pb**		**14 20 24.4**	**+1.6**
Z40A	**Long Farm, Mag**	**6.25**	**84**	P		**Pn**		**14 20 07.8**	**+1.6**
	baz=268								
MIAR	**Mount Ida**	**6.29**	**72**	P		**Pn**		**14 20 08.3**	**+1.6**
	baz=256								
MIAR	**Mount Ida**	**6.29**	**72**	*e*Pn		**Pn**		**14 20 07.7**	**+0.9**
W39A	**Magazine**	**6.32**	**66**	P		**Pn**		**14 20 08.2**	**+1.1**
	baz=250								
KSCO	**Kaye Shedlock'**	**6.37**	**347**	P		**Pn**		**14 20 08.3**	**+0.4**
	baz=167								
KSCO	**Kaye Shedlock'**	**6.37**	**347**	*e*Pn		**Pn**		**14 20 07.7**	**-0.3**
KSCO				*e*Pg		**Pb**		**14 20 28.3**	**+3.4**
Y40A	**Okolona**	**6.43**	**77**	P		**Pn**		**14 20 09.7**	**+1.1**
	baz=262								
T37A	**Cheneyville 18**	**6.49**	**47**	P		**Pn**		**14 20 10.1**	**+0.7**
	baz=230								
S36A	**Lake Cedric, C**	**6.52**	**40**	P		**Pn**		**14 20 10.6**	**+0.8**
	baz=223								
WLAR	**White Oak Lake**	**6.52**	**80**	*e*Pn		**Pn**		**14 20 09.6**	**-0.4**
HHAR	**Hobbs**	**6.66**	**57**	*e*Pn		**Pn**		**14 20 11.5**	**-0.3**
V39A	**Pettigrew**	**6.67**	**61**	P		**Pn**		**14 20 12.4**	**+0.4**
	baz=245								
R35A	**Emporia Munici**	**6.68**	**33**	P		**Pn**		**14 20 12.4**	**+0.3**
	baz=216								
Z41A	**Richland Creek**	**6.75**	**84**	P		**Pn**		**14 20 14.2**	**+1.1**
	baz=269								
W40A	**Ferguson Farm,**	**6.87**	**68**	P		**Pn**		**14 20 16.3**	**+1.6**
	baz=252								
X40A	**Basin Creek Fa**	**6.87**	**74**	P		**Pn**		**14 20 15.5**	**+0.8**
	baz=258								
S22A	**4UR Ranch, Cre**	**6.96**	**317**	*e*Pn		**Pn**		**14 20 13.7**	**-2.5**
S22A				*e*Pg		Pb		14 20 39.2	+4.1
S37A	**Fort Scott**	**6.97**	**43**	P		**Pn**		**14 20 16.5**	**+0.5**
	baz=227								
U39A	**Green Forest**	**7.03**	**57**	P		**Pn**		**14 20 17.8**	**+0.8**
	baz=242								
Q24A	**Divide**	**7.08**	**332**	*e*Pn		**Pn**		**14 20 17.5**	**-0.4**
Q24A				*e*Pg		Pb		14 20 41.7	+4.6
V40A	**Witts Springs**	**7.27**	**63**	P		**Pn**		**14 20 20.8**	**+0.6**
	baz=248								
319A	**Douglas**	**7.31**	**261**	*e*Pn		**Pn**		**14 20 19.8**	**-1.1**
X301	**Greenbrier Sit**	**7.41**	**69**	*e*Pn		**Pn**		**14 20 22.9**	**+0.9**
S38A	**Stockton**	**7.43**	**48**	P		**Pn**		**14 20 22.6**	**+0.1**
	baz=232								
U40A	**Yellville**	**7.47**	**59**	P		**Pn**		**14 20 23.7**	**+0.7**
	baz=244								
W41B	**Gary Mavity, V**	**7.51**	**69**	P		**Pn**		**14 20 24.6**	**+1.2**
	baz=254								
WHAR	**Wooly Hollow**	**7.51**	**68**	*e*Pn		**Pn**		**14 20 23.8**	**+0.3**
CCAR	**Cane Creek**	**7.66**	**79**	*e*Pn		**Pn**		**14 20 26.6**	**+1.1**
MVCO	**Mesa Verde**	**7.68**	**307**	*e*Pn		**Pn**		**14 20 25.6**	**-0.4**
W18A	**Petrified Fore**	**7.75**	**290**	*e*Pn		**Pn**		**14 20 27.6**	**+0.6**
V41A	**Mountainview**	**7.77**	**65**	P		**Pn**		**14 20 27.3**	**+0.3**
	baz=250								
S39A	**Bolivar**	**7.84**	**49**	P		**Pn**		**14 20 27.7**	**-0.3**
	baz=234								
LNIG	**Linares**	**7.96**	**171**	*e*Pn		**Pn**		**14 20 30.1**	**+0.4**
T40A	**Mansfield**	**8.08**	**55**	P		**Pn**		**14 20 31.8**	**+0.5**
	baz=240								
U41A	**Viola**	**8.15**	**62**	P		**Pn**		**14 20 32.2**	**0.0**
	baz=247								
OGNE	**Ogallala**	**8.19**	**354**	P		**Pn**		**14 20 32.5**	**-0.3**
	baz=173								
OGNE	**Ogallala**	**8.19**	**354**	*e*Pn		**Pn**		**14 20 32.4**	**-0.5**
S40A	**Lebanon**	**8.33**	**53**	P		**Pn**		**14 20 34.7**	**0.0**
	baz=238								
V42A	**Cord**	**8.36**	**66**	P		**Pn**		**14 20 35.3**	**+0.2**
	baz=252								
R39A	**Chumby, Stover**	**8.40**	**47**	P		**Pn**		**14 20 35.7**	**0.0**
	baz=232								
U42A	**Revenden**	**8.66**	**63**	P		**Pn**		**14 20 39.0**	**-0.3**
	baz=249								
S41A	**Jillco Farms,**	**8.83**	**55**	P		**Pn**		**14 20 41.5**	**-0.1**
	baz=240								
T42A	**Van Buren**	**9.04**	**59**	P		**Pn**		**14 20 44.5**	**+0.1**
	baz=245								
U43A	**Rector**	**9.30**	**65**	P		**Pn**		**14 20 48.7**	**+0.7**
	baz=251								
Q40A	**Laux Farm, Aux**	**9.41**	**46**	P		**Pn**		**14 20 50.8**	**+1.3**
	baz=232								
W44A	**Shelby Farms P**	**9.44**	**73**	P		**Pn**		**14 20 51.1**	**+1.2**
	baz=259								
R41A	**Rosebud**	**9.45**	**52**	P		**Pn**		**14 20 50.3**	**+0.2**
	baz=238								
T43A	**Greenville**	**9.65**	**61**	P		**Pn**		**14 20 52.8**	**0.0**
	baz=247								
R43A	**Red Bud**	**10.42**	**55**	P		**Pn**		**14 21 03.6**	**+0.3**
	baz=242								
S44A	**Carbondale**	**10.64**	**59**	P		**Pn**		**14 21 06.2**	**-0.2**
	baz=246								
Q43A	**New Douglas**	**10.91**	**53**	P		**Pn**		**14 21 10.0**	**0.0**
	baz=239								

*IDC **12** 14:29:21.1±0.9,38°.65N×23°.36E,h0km, mb3.7/5, mb1 3.7/8, mb1mx3.5/59, mbtmp3.6/8, ML3.4/3, MS2.5/3, Ms1 2.5/3, ms1mx2.3/35, Error ellipse: s-maj=24.0km s-min=14.1km az=112.0*
*ISCJB **12** 14:29:22.8±0.3,38°.74N±0°.01×23°.43E±0°.02,h12km±2km, mb3.6/5, Error ellipse: s-maj=2.6km s-min=2.0km az=176.6*
*CSEM **12** 14:29:22.9±0.1,38°.71N×23°.43E,h8km,ML3.7, Error ellipse: s-maj=2.5km s-min=2.0km az=85.0*
*ATH **12** 14:29:22.4,38°.72N×23°.39E,h21km±1km, ML3.7/22, Error ellipse: s-maj=1.0km s-min=0.7km az=254.0*
*THE **12** 14:29:23.1,38°.71N×23°.39E,h4km, ML3.9/15, Error ellipse: s-maj=0.9km s-min=0.3km az=215.0*

ISC 12 14:29:23.0±0.8,38°.71N±0°.01×23°.39E±0°.01,h13km±6km, n214,σ0ŝ87/274,mb3.8/5,1C,Greece

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
SMIA	**Simia**	**0.22**	**320**	P		**Pg**		**14 29 27.7**	**0.0**
SMIA				S		**Sg**		**14 29 31.2**	**+0.1**
SMIA	**Simia**	**0.22**	**320**	P		**Pg**		**14 29 27.8**	**0.0**
SMIA				S		**Sg**		**14 29 31.2**	**+0.1**
SMIA	**Simia**	**0.22**	**320**	P		**Pg**		**14 29 27.8**	**0.0**
SMIA				S		**Sg**		**14 29 30.5**	**-0.6**
SMIA				AML		AML		14 29 32.1	
SMIA				AML		AML		14 29 32.2	
LKR	**Lokris**	**0.31**	**259**	P		**Pg**		**14 29 28.9**	**-0.5**
LKR				S		**Sg**		**14 29 33.6**	**-0.1**
LKR	**Lokris**	**0.31**	**259**	P		**Pg**		**14 29 28.9**	**-0.5**
LKR				S		**Sg**		**14 29 33.6**	**-0.1**
LKR	**Lokris**	**0.31**	**259**	P		**Pg**		**14 29 28.2**	**-1.1**
LKR				S		**Sg**		**14 29 32.9**	**-0.7**
LKR				AML		AML		14 29 34.7	
	comp=E,34040μm,0.2s								
LKR				AML		AML		14 29 35.6	
	comp=N,36868μm,0.2s								
SKIA	**Skiathos**	**0.46**	**7**	P		**Pg**		**14 29 32.3**	**+0.2**
SKIA				S		**Sg**		**14 29 38.9**	**+0.7**
SKIA	**Skiathos**	**0.46**	**7**	P		**Pg**		**14 29 32.3**	**+0.2**
SKIA				S		**Sg**		**14 29 38.5**	**+0.3**
SKIA	**Skiathos**	**0.46**	**7**	P		**Pb**		**14 29 32.9**	**-0.1**
SKIA				S		**Sg**		**14 29 38.5**	**+0.3**
SKIA				AML		AML		14 29 40.3	
	comp=E,29673μm,0.3s								
SKIA				AML		AML		14 29 40.4	
	comp=N,23322μm,0.4s								
VIL2	**Platees**	**0.51**	**191**	P		**Pg**		**14 29 32.8**	**-0.1**
VIL2				S		**Sb**		**14 29 42.1**	**+1.1**
VIL2				AML		AML		14 29 43.5	
	comp=E,22061μm,0.7s								
VIL2				AML		AML		14 29 44.8	
	comp=N,33333μm,0.4s								
EREA	**Eretria**	**0.51**	**124**	P		**Pg**		**14 29 33.1**	**+0.1**
EREA				S		**Sb**		**14 29 40.9**	**-0.3**
EREA	**Eretria**	**0.51**	**124**	P		**Pg**		**14 29 33.1**	**+0.1**
EREA				S		**Sb**		**14 29 40.9**	**-0.3**
EREA	**Eretria**	**0.51**	**124**	P		**Pb**		**14 29 33.8**	**-0.1**
EREA				S		**Sb**		**14 29 41.7**	**+0.5**
EREA				AML		AML		14 29 43.1	
	comp=E,20572μm,0.3s								
EREA				AML		AML		14 29 43.5	
	comp=N,22207μm,0.2s								
VILL	**Villia**	**0.55**	**187**	P		**Pg**		**14 29 33.3**	**-0.4**
VILL				S		**Sb**		**14 29 42.0**	**-0.3**
VILL	**Villia**	**0.55**	**187**	P		**Pg**		**14 29 33.3**	**-0.4**
VILL				S		**Sb**		**14 29 42.0**	**-0.3**
AOS	**Alonnisos**	**0.60**	**39**	*e*P		**Pg**		**14 29 34.0**	**-0.6**
AOS	**Alonnisos**	**0.60**	**39**	P		**Pg**		**14 29 34.1**	**-0.6**
AOS				S		**Sg**		**14 29 42.7**	**+0.2**
AOS	**Alonnisos**	**0.60**	**39**	P		**Pg**		**14 29 34.5**	**-0.1**
AOS				S		**Sg**		**14 29 42.7**	**+0.2**
AOS	**Alonnisos**	**0.60**	**39**	P		**Pg**		**14 29 34.5**	**-0.1**
AOS				AML		AML		14 29 43.6	
	comp=E,10694μm,0.3s								
AOS				AML		AML		14 29 43.8	
	comp=N,12676μm,0.5s								
NEO	**Neokhori**	**0.61**	**348**	P		**Pg**		**14 29 34.7**	**-0.2**
NEO				S		**Sb**		**14 29 44.0**	**-0.1**
NEO	**Neokhori**	**0.61**	**348**	P		**Pb**		**14 29 35.3**	**-0.3**
NEO				S		**Sg**		**14 29 43.0**	**0.0**
NEO	**Neokhori**	**0.61**	**348**	P		**Pb**		**14 29 35.3**	**-0.3**
NEO				S		**Sg**		**14 29 43.0**	**0.0**
NEO				AML		AML		14 29 47.0	
	comp=N,34952μm,0.5s								
NEO				AML		AML		14 29 47.3	
	comp=E,12362μm,0.3s								
XOR	**Xorichti**	**0.67**	**347**	P		**Pg**		**14 29 35.8**	**-0.3**
XOR				S		**Sb**		**14 29 46.0**	**+0.1**
XOR	**Xorichti**	**0.67**	**347**	P		**Pb**		**14 29 36.5**	**-0.2**
XOR				S		**Sb**		**14 29 46.0**	**+0.1**
XOR	**Xorichti**	**0.67**	**347**	P		**Pb**		**14 29 36.5**	**-0.2**
XOR				AML		AML		14 29 48.4	
	comp=E,4559μm,0.3s								
XOR				AML		AML		14 29 48.5	
	comp=N,10322μm,0.3s								
DSF	**Desfina**	**0.74**	**247**	P		**Pg**		**14 29 36.8**	**-0.5**
DSF				S		**Sb**		**14 29 48.1**	**+0.2**
DSF	**Desfina**	**0.74**	**247**	P		**Pg**		**14 29 36.8**	**-0.5**
DSF				S		**Sb**		**14 29 48.1**	**+0.2**
DSF	**Desfina**	**0.74**	**247**	P		**Pg**		**14 29 35.6**	**-1.8**
DSF				AML		AML		14 29 51.3	
	comp=N,22841μm,0.3s								
DSF				AML		AML		14 29 51.9	
	comp=E,14671μm,0.3s								
PTL	**Penteli**	**0.76**	**151**	P		**Pg**		**14 29 37.4**	**-0.2**
PTL				S		**Sb**		**14 29 49.0**	**+0.7**
PTL	**Penteli**	**0.76**	**151**	P		**Pg**		**14 29 37.5**	**-0.2**
PTL				S		**Sb**		**14 29 49.0**	**+0.7**
PTL	**Penteli**	**0.76**	**151**	P		**Pg**		**14 29 37.5**	**-0.2**
PTL				S		**Sb**		**14 29 49.0**	**+0.7**
PTL				AML		AML		14 29 51.7	
	comp=N,19390μm,0.5s								
PTL				AML		AML		14 29 51.9	
	comp=E,20863μm,0.6s								
LTK	**Loutraki**	**0.76**	**206**	P		**Pg**		**14 29 36.9**	**-0.8**
LTK				S		**Sb**		**14 29 49.0**	**+0.6**
LTK	**Loutraki**	**0.76**	**206**	P		**Pg**		**14 29 36.9**	**-0.8**
LTK				S		**Sb**		**14 29 49.0**	**+0.6**
LTK	**Loutraki**	**0.76**	**206**	P		**Pg**		**14 29 36.5**	**-1.3**
LTK				AML		AML		14 29 52.4	
	comp=E,28072μm,0.5s								
LTK				AML		AML		14 29 54.9	
	comp=N,20169μm,0.4s								
ATH	**Athens Observa**	**0.78**	**161**	P		**Pg**		**14 29 38.0**	**0.0**
ATH				S		**Sb**		**14 29 49.7**	**+0.8**
ATH	**Athens Observa**	**0.78**	**161**	P		**Pg**		**14 29 38.0**	**0.0**
ATH				S		**Sb**		**14 29 49.5**	**+0.6**
ATH	**Athens Observa**	**0.78**	**161**	P		**Pb**		**14 29 38.4**	**+0.1**
ATH				S		**Sb**		**14 29 49.5**	**+0.6**
ATH				AML		AML		14 29 52.7	
	comp=N,34011μm,0.5s								
ATH				AML		AML		14 29 52.9	
	comp=E,23194μm,0.4s								
FYTO	**Fytoko, Volos**	**0.78**	**333**	P		**Pg**		**14 29 37.7**	**-0.4**
FYTO				S		**Sg**		**14 29 48.5**	**+0.1**
FYTO	**Fytoko, Volos**	**0.78**	**333**	P		**Pg**		**14 29 38.2**	**+0.1**
FYTO				S		**Sg**		**14 29 48.5**	**+0.1**
FYTO	**Fytoko, Volos**	**0.78**	**333**	P		**Pg**		**14 29 38.2**	**+0.1**
FYTO				S		**Sg**		**14 29 48.2**	**-0.2**
FYTO				AML		AML		14 29 51.4	
	comp=N,4806μm,0.5s								
FYTO				AML		AML		14 29 51.5	
	comp=E,2969μm,0.4s								
ATHU	**Athens Univers**	**0.80**	**157**	P		**Pg**		**14 29 37.7**	**-0.8**
ATHU	**Athens Univers**	**0.80**	**157**	P		**Pg**		**14 29 37.7**	**-0.8**
ATHU				S		**Sg**		**14 29 48.8**	**-0.2**
ATHU	**Athens Univers**	**0.80**	**157**	P		**Pg**		**14 29 37.3**	**-1.2**
ATHU				S		**Sg**		**14 29 48.8**	**-0.2**
ATHU				AML		AML		14 29 51.6	
	comp=E,7129μm,0.6s								
ATHU				AML		AML		14 29 52.4	
	comp=N,17088μm,0.5s								
THAL	**Thalero**	**0.88**	**221**	P		**Pg**		**14 29 39.8**	**-0.2**
THAL				S		**Sb**		**14 29 53.2**	**+1.3**
THAL	**Thalero**	**0.88**	**221**	P		**Pb**		**14 29 40.4**	**+0.3**
THAL				S		**Sb**		**14 29 52.1**	**+0.2**
THAL	**Thalero**	**0.88**	**221**	P		**Pb**		**14 29 40.4**	**+0.3**
THAL				S		**Sb**		**14 29 52.1**	**+0.2**
THAL				AML		AML		14 29 55.5	
	comp=E,29888μm,0.4s								

comp=N,6858μm,0.5s
DID AML AML 14 30 06.9
comp=E,12290μm,0.4s
PAIG Paliouri 1.24 10 P **Pn** **14 29 45.4 -0.6**
PAIG Paliouri 1.24 10 P **Pn** **14 29 45.4 -0.6**
PAIG Paliouri 1.24 10 P **Pn** **14 29 45.0 -0.9**
EVR Evrytania 1.25 280 P **Pb** **14 29 46.9 +0.3**
EVR Evrytania 1.25 280 P **Pb** **14 29 46.9 +0.3**
EVR Evrytania 1.25 280 P **Pg** **14 29 47.7 +0.5**
THL Klokotos Trika 1.37 309 P **Pn** **14 29 47.6 -0.2**
THL S **Sg** **14 30 07.7 +0.6**
THL Klokotos Trika 1.37 309 P **Pn** **14 29 47.6 -0.2**
THL S **Sg** **14 30 07.7 +0.6**
THL Klokotos Trika 1.37 309 P **Pn** **14 29 46.8 -1.1**
PVO Paravola 1.47 267 P **Pb** **14 29 50.1 0.0**
PVO Paravola 1.47 267 P **Pb** **14 29 50.1 0.0**
PVO Paravola 1.47 267 P **Pb** **14 29 50.6 +0.5**
DRO Drossia 1.52 241 P **Pn** **14 29 50.4 +0.5**
DRO Drossia 1.52 241 P **Pn** **14 29 50.5 +0.5**
DRO Drossia 1.52 241 P **Pn** **14 29 50.5 +0.5**
VLX Vlachokerasia 1.56 211 P **Pn** **14 29 51.2 +0.7**
VLX S **Sb** **14 30 12.1 +0.7**
VLX Vlachokerasia 1.56 211 P **Pn** **14 29 51.2 +0.7**
VLX S **Sb** **14 30 12.1 +0.7**
VLX Vlachokerasia 1.56 211 P **Pn** **14 29 51.4 +0.9**
RLS Riolos of Patr 1.65 247 P **Pn** **14 29 52.8 +1.2**
RLS Riolos of Patr 1.65 247 P **Pn** **14 29 52.8 +1.2**
RLS Riolos of Patr 1.65 247 P **Pn** **14 29 53.1 -0.1**
PLG Polygyros 1.66 1 P **Pn** **14 29 51.6 -0.3**
PLG Polygyros 1.66 1 P **Pn** **14 29 51.6 -0.3**
PLG Polygyros 1.66 1 P **Pn** **14 29 50.6 -1.3**
AXS Araxos 1.66 253 P **Pn** **14 29 52.9 +1.0**
AXS Araxos 1.66 253 P **Pn** **14 29 52.9 +1.0**
OUR Ouranopolis 1.69 15 *e*P **Pn** **14 29 51.7 -0.4**
OUR Ouranopolis 1.69 15 P **Pn** **14 29 51.9 -0.2**
OUR Ouranopolis 1.69 15 P **Pn** **14 29 51.9 -0.2**
OUR Ouranopolis 1.69 15 P **Pn** **14 29 51.5 -0.7**
PDO Prodromos 1.73 267 P **Pb** **14 29 54.4 -0.3**
PDO Prodromos 1.73 267 P **Pb** **14 29 54.4 -0.3**
AMT Artemida-Makis 1.77 229 P **Pn** **14 29 54.3 +0.9**
AMT Artemida-Makis 1.77 229 P **Pn** **14 29 54.3 +0.9**
AMT Artemida-Makis 1.77 229 P **Pb** **14 29 54.9 -0.5**
LIA Limnos Island 1.83 49 P **Pn** **14 29 53.8 -0.3**
LIA Limnos Island 1.83 49 P **Pn** **14 29 53.8 -0.3**
LIA Limnos Island 1.83 49 P **Pn** **14 29 52.8 -1.3**
DSL Palaion Diasel 1.84 284 P **Pn** **14 29 56.6 +0.1**
DSL Palaion Diasel 1.84 284 *e*P **Pb** **14 29 56.6 +0.1**
HORT Hortiatis 1.90 353 *e*P **Pn** **14 29 55.3 +0.1**
HORT Hortiatis 1.90 353 P **Pn** **14 29 55.0 -0.2**
HORT Hortiatis 1.90 353 P **Pn** **14 29 54.2 -1.0**
HORT Hortiatis 1.90 353 P **Pn** **14 29 54.3 -1.0**
ITM Ithomi 1.92 218 P **Pn** **14 29 56.7 +1.3**
ITM Ithomi 1.92 218 P **Pn** **14 29 56.7 +1.3**
ITM Ithomi 1.92 218 P **Pb** **14 29 57.4 -0.4**
THE Thessaloniki 1.95 350 P **Pn** **14 29 54.4 -1.3**
THE Thessaloniki 1.95 350 P **Pn** **14 29 54.5 -1.3**
SIGR SIGRI 1.98 75 *e*P **Pn** **14 29 55.2 -1.0**
SIGR SIGRI 1.98 75 P **Pn** **14 29 56.5 +0.3**
SIGR S **Sb** **14 30 23.2 -0.4**
SIGR SIGRI 1.98 75 P **Pn** **14 29 56.5 +0.3**
SIGR S **Sb** **14 30 23.2 -0.4**
SIGR SIGRI 1.98 75 P **Pn** **14 29 56.0 -0.2**
VLI Veliai 2.02 190 P **Pn** **14 29 57.0 +0.2**
VLI Veliai 2.02 190 P **Pn** **14 29 57.0 +0.2**
VLI Veliai 2.02 190 P **Pn** **14 29 56.5 -0.3**
KZN Kozani 2.03 322 P **Pn** **14 29 57.8 +0.8**
KZN Kozani 2.03 322 P **Pn** **14 29 58.1 +1.1**
KZN Kozani 2.03 322 P **Pn** **14 29 58.1 +1.1**
SOH Sokhos 2.11 359 P **Pn** **14 29 58.3 +0.2**
SOH Sokhos 2.11 359 P **Pn** **14 29 58.3 +0.2**
SOH Sokhos 2.11 359 P **Pn** **14 29 58.1 +0.1**
CHOS Chios island 2.11 98 *e*P **Pn** **14 29 56.6 -1.4**
CHOS Chios island 2.11 98 P **Pn** **14 29 58.8 +0.7**
CHOS Chios island 2.11 98 P **Pn** **14 29 58.5 +0.4**
CHOS Chios island 2.11 98 P **Pn** **14 29 58.5 +0.4**
KFL Anninata 2.13 254 P **Pb** **14 30 00.9 -0.6**
KFL Anninata 2.13 254 P **Pb** **14 30 00.9 -0.6**
LKD2 Lefkada island 2.14 273 P **Pb** **14 30 00.8 -0.8**
LKD2 Lefkada island 2.14 273 P **Pb** **14 30 00.8 -0.8**
JAN Janina 2.19 296 P **Pb** **14 30 02.0 -0.5**
JAN Janina 2.19 296 P **Pb** **14 30 02.0 -0.5**
VLS Valsamata 2.27 257 P **Pn** **14 30 01.9 +1.8**
VLS Valsamata 2.27 257 P **Pn** **14 30 01.9 +1.8**
PENT Pentalofos 2.29 311 P **Pn** **14 30 01.1 +0.6**
PENT Pentalofos 2.29 311 P **Pn** **14 30 01.2 +0.6**
PENT Pentalofos 2.29 311 P **Pn** **14 30 01.2 +0.6**
APE Apeiranthos 2.35 133 P **Pn** **14 30 01.1 -0.3**
APE Apeiranthos 2.35 133 P **Pn** **14 30 01.1 -0.3**
BOZC Bozcaada 2.35 60 *e*P **Pn** **14 30 00.6 -0.8**
BOZC Bozcaada 2.35 60 *e*P **Pn** **14 30 00.6 -0.8**
SRS Serrai 2.41 4 P **Pn** **14 30 01.6 -0.5**
SRS Serrai 2.41 4 P **Pn** **14 30 01.6 -0.5**
GADA Gvkgeada 2.44 52 *e*P **Pn** **14 30 02.0 -0.5**
KAVA Kavala 2.44 20 P **Pn** **14 30 00.8 -1.7**
KAVA Kavala 2.44 20 P **Pn** **14 30 00.8 -1.7**
KYTH Kithira 2.46 187 P **Pn** **14 30 02.9 +0.1**
KNT Kendrikon 2.48 351 *e*P **Pn** **14 30 03.7 +0.6**
KNT Kendrikon 2.48 351 P **Pn** **14 30 03.9 +0.8**
KNT Kendrikon 2.48 351 P **Pn** **14 30 03.7 +0.6**
KNT Kendrikon 2.48 351 P **Pn** **14 30 03.7 +0.6**
NEST Nestorio 2.49 314 P **Pn** **14 30 04.8 +1.5**
NEST Nestorio 2.49 314 P **Pn** **14 30 04.8 +1.5**
FNA Florina 2.59 324 *e*P **Pn** **14 30 04.9 +0.3**
FNA Florina 2.59 324 P **Pn** **14 30 05.4 +0.7**
FNA Florina 2.59 324 P **Pn** **14 30 05.4 +0.7**
FNA Florina 2.59 324 P **Pn** **14 30 06.0 +1.3**
NVR Nevrokopi 2.66 8 P **Pn** **14 30 04.9 -0.7**
NVR Nevrokopi 2.66 8 P **Pn** **14 30 05.0 -0.7**
VAY Valandovo 2.68 347 *i* Pn **Pn** **14 30 07.1 +1.2**
VAY Valandovo 2.68 347 *i* Pn **Pn** **14 30 07.1 +1.2**
THR5 Thira Island, 2.77 145 P **Pn** **14 30 07.3 +0.3**
THR5 Thira Island, 2.77 145 P **Pn** **14 30 07.3 +0.3**
BIA Bitola 2.80 326 *i* Pn **Pn** **14 30 09.8 +2.2**
BIA Bitola 2.80 326 *i* Pn **Pn** **14 30 09.8 +2.2**
ANKY Antikythira Is 2.84 182 P **Pn** **14 30 07.9 -0.1**
ANKY Antikythira Is 2.84 182 P **Pn** **14 30 08.0 -0.1**
SMG Samos 2.89 109 P **Pn** **14 30 09.5 +0.8**
SMG Samos 2.89 109 P **Pn** **14 30 09.5 +0.8**
ENEZ Enez 2.94 46 *e*P **Pn** **14 30 09.4 0.0**
ENEZ Enez 2.94 46 *e*P **Pn** **14 30 09.4 0.0**
KEK Kerkira 2.97 291 P **Pn** **14 30 12.3 +2.5**
KEK Kerkira 2.97 291 P **Pn** **14 30 12.3 +2.5**
ALN Alexandroupoli 2.99 42 *e*P **Pn** **14 30 10.1 0.0**
ALN Alexandroupoli 2.99 42 *e*P **Pn** **14 30 10.1 0.0**
OHR Ohrid 3.12 321 *i* Pn **Pn** **14 30 14.5 +2.5**
OHR Ohrid 3.12 321 *i* Pn **Pn** **14 30 14.4 +2.5**
IMMV Iera Moni Meta 3.28 172 P **Pn** **14 30 14.0 -0.1**
IMMV Iera Moni Meta 3.28 172 P **Pn** **14 30 14.0 -0.1**
IDI Anoyia 3.62 160 Pn **Pn** **14 30 19.7 +0.9**
comp=E,6.9nm,0.3s,baz=352,slow=8.9,SNR=34
IDI Sn **Sn** **14 31 00.8 -0.7**
comp=E,3.8nm,0.3s,baz=30,slow=20,SNR=5.5
IDI LR LR 14 31 49.4
comp=E,59nm,21.6s,baz=271,slow=42
IDI Anoyia 3.62 160 P **Pn** **14 30 21.8 +2.9**
GVD Gavdhos 3.90 172 P **Pn** **14 30 25.7 +3.0**
BARS Barje 4.27 344 *i* Pn **Pn** **14 30 28.4 +0.6**
BOVS Bovan 5.08 346 *e*Pn **Pn** **14 30 40.0 +1.1**
ZAGS Zajecar 5.17 351 *e*Pn **Pn** **14 30 40.2 +0.1**
BOLS Boljevac 5.23 348 *e*Pn **Pn** **14 30 41.9 +1.0**
IVAS Ivanjica 5.44 334 *e*Pn **Pn** **14 30 43.8 -0.1**
KUBS Kucevo 5.84 348 *e*Pn **Pn** **14 30 48.2 -1.1**
DIVS Divibare 5.96 336 *e*Pn **Pn** **14 30 51.9 +0.9**
BBLS Lazići 5.96 331 *e*Pn **Pn** **14 30 52.3 +1.3**
TEKS Tekeris 6.51 335 *e*Pn **Pn** **14 30 59.5 +1.0**
MLR Muntele Rosu 7.04 15 Pn **Pn** **14 31 07.0 +1.2**
comp=E,0.4nm,0.3s,baz=290,slow=12,SNR=9.2
MLR Sn **Sn** **14 32 27.1 +1.4**
comp=E,0.1nm,0.3s,baz=215,slow=12,SNR=2.2
MLR LR LR 14 34 31.8
comp=E,13nm,18.7s,baz=174,slow=44
BRTR Keskin Array B 8.02 80 Pn **Pn** **14 31 22.1 +2.8**
comp=E,0.1nm,0.3s,baz=261,slow=13,SNR=2.4
UDBI Udbina 8.15 318 *e*Pn **Pn** **14 31 22.2 +1.1**
UDBI Sn **Sn** **14 32 51.3 -1.7**
UDBI Udbina 8.15 318 *e*Pn **Pn** **14 31 22.1 +1.1**
VRAC Vranov 11.66 337 LR LR 14 37 23.1
comp=E,61nm,20.8s,baz=336,slow=41
ESDC Sonseca Array 21.20 281 P **P** **14 34 08.7 +0.3**
comp=E,0.9nm,0.6s,baz=79,slow=9.9,SNR=6.7
NOA NORSAR Array B 23.61 345 P **P** **14 34 34.8 +1.3**
comp=E,1.6nm,1.0s,baz=152,slow=9.8,SNR=3.0
TORD Torodi Ar. Bea 31.91 223 P **P** **14 35 48.6 +0.3**
comp=E,1.9nm,0.5s,baz=33,slow=9.4,SNR=16
DBIC Dimbokro 40.85 226 P **P** **14 37 03.0 -1.6**
comp=E,1.2nm,0.6s,baz=26,slow=5.3,SNR=3.2
ZALV Zalesovo Beam 43.65 49 P **P** **14 37 27.7 +0.6**
comp=E,0.5nm,0.3s,baz=289,slow=8.8,SNR=4.0
ASAR Alice Springs 120.00 97 PKP **PKPdf** **14 48 12.0 -1.6**
comp=E,0.4nm,1.1s,baz=327,slow=1.5,SNR=2.8

*ISCJB **12** 14:31:50.0±0.5, 52.°65N±0.°08×33.°41W±0.°10, h10km, mb4.0/24, MS3.5/25, Error ellipse: s-maj=12.1km s-min=8.4km az=14.3*
*IDC **12** 14:31:50.4±0.5, 52.°67N×33.°41W, h0km, mb3.9/21, mb1 4.1/23, mb1mx3.9/68, mbtmp4.0/23, ML4.4/2, MS3.5/27, Ms1 3.5/27, ms1mx3.4/50, Error ellipse: s-maj=16.1km s-min=12.5km az=9.0*
*NEIC **12** 14:31:51.9±0.4, 52.°63N×33.°36W, h10km, mb4.4/4, Error ellipse: s-maj=9.8km s-min=7.0km az=199.0*
*CSEM **12** 14:31:51.4, 52.°63N×33.°36W, h10km, mb4.3/4*
ISC 12 14:31:51.9±0.5, 52.°7N±0.°1×33.°39W±0.°08, h10km, n52, σ0°74/40, mb4.1/24, MS3.5/25, 1C, Reykjanes Ridge

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time	Res
SFJD	**Kangerlussuaq**	**16.67**	**336**	Pn	**P**		**14 35 46.9**	**-0.8**
	0.5nm,0.3s,baz=152,slow=12,SNR=6.8							
SFJD				LR	LR		14 40 57.6	
	comp=E,260nm,21.9s,baz=128,slow=33							
SFJD	**Kangerlussuaq**	**16.67**	**336**	⇑*i*P	**P**		**14 35 48.8**	**+1.1**
	38nm,1.0s							
SFJD	**Kangerlussuaq**	**16.67**	**336**	*e*P	**P**		**14 35 48.7**	**+1.1**
SFJD	**Kangerlussuaq**	**16.67**	**336**	*e*P	**P**		**14 35 48.6**	**+1.1**
EKA	**Eskdalemuir Ar**	**17.90**	**69**	P	**Pn**		**14 36 00.5**	**-0.2**
	baz=277,slow=9.8,SNR=11							
SCHQ	**Schefferville**	**19.79**	**290**	LR	LR		14 42 45.7	
	comp=Z,221nm,20.5s,baz=104,slow=33							
SUMG	**Summit**	**20.10**	**356**	P	**P**		**14 36 26.1**	**+0.4**
	5.7nm,0.8s							
SUMG	**Summit**	**20.10**	**356**	P	**P**		**14 36 26.1**	**+0.4**
	5.7nm,0.8s							
FRB	**Frobisher Bay**	**21.27**	**315**	P	**P**		**14 36 38.6**	**+0.6**
	22nm,0.8s,baz=106,slow=9.4,SNR=7.2							
FRB				LR	LR		14 43 19.7	
	comp=Z,105nm,19.6s,baz=52,slow=32							
JMIC	**Jan Mayen**	**21.50**	**22**	LR	LR		14 42 22.2	
	comp=Z,114nm,19.1s,baz=7.0,slow=29							
ESDC	**Sonseca Array**	**23.98**	**111**	P	**P**		**14 37 06.3**	**0.0**
	0.2nm,0.3s,baz=327,slow=14,SNR=3.1							
ESDC				LR	LR		14 44 35.2	
	comp=Z,140nm,19.2s,baz=340,slow=32							
NB2	**NORSAR Subarra**	**25.32**	**53**	P	**P**		**14 37 18.4**	**-0.1**
	3.7nm,0.8s,SNR=3.9							
NB2	**NORSAR Subarra**	**25.32**	**53**	P	**P**		**14 37 18.4**	**-0.1**
	comp=Z,3.7nm,0.8s,baz=274,slow=11							
NOA	**NORSAR Array B**	**25.32**	**53**	P	**P**		**14 37 18.3**	**-0.2**
	comp=Z,2.6nm,0.7s,baz=272,slow=8.9,SNR=3.8							
NOA				LR	LR		14 45 30.7	
	comp=Z,150nm,19.1s,baz=265,slow=32							
MDT	**Midelt**	**28.68**	**122**	LR	LR		14 48 09.3	
	comp=Z,59nm,18.1s,baz=347,slow=34							
GERES	**GERESS Array B**	**29.62**	**78**	P	**P**		**14 37 57.5**	**+0.3**
	comp=Z,0.4nm,0.4s,baz=294,slow=12,SNR=2.6							
GERES				LR	LR		14 49 37.6	
	comp=Z,74nm,18.1s,baz=298,slow=36							
FINES	**FINESS Array B**	**32.41**	**51**	P	**P**		**14 38 21.9**	**+0.5**
	comp=Z,1.6nm,0.6s,baz=289,slow=7.7,SNR=6.5							
FINES				LR	LR		14 49 54.0	
	comp=Z,111nm,21.3s,baz=244,slow=33							
KEST	**Kesra**	**34.41**	**102**	P	**P**		**14 38 40.2**	**+1.0**
	comp=Z,1.3nm,0.6s,baz=294,slow=8.7,SNR=2.3							
KIEV	**Kiev**	**37.79**	**67**	*e*P	**P**		**14 39 07.2**	**-0.7**
	comp=Z,7.7nm,1.2s							
KIEV	**Kiev**	**37.79**	**67**	*e*P	**P**		**14 39 07.2**	**-0.7**
	comp=Z,7.7nm,1.2s							
AKASG	**Malin Array Be**	**37.79**	**67**	P	**P**		**14 39 07.9**	**0.0**
	comp=Z,0.4nm,0.4s,baz=300,slow=8.6,SNR=6.1							
AKASG				LR	LR		14 53 40.0	
	comp=Z,50nm,20.1s,baz=300,slow=35							
ULM	**Lac du Bonnet**	**37.93**	**292**	LR	LR		14 53 22.0	
	comp=Z,93nm,18.1s,baz=50,slow=34							
MLR	**Muntele Rosu**	**38.53**	**76**	LR	LR		14 55 39.9	
	comp=Z,18nm,19.1s,baz=306,slow=37							
YKA	**Yellowknife Ar**	**41.78**	**316**	P	**P**		**14 39 41.5**	**+0.6**
	comp=Z,2.4nm,0.8s,baz=60,slow=8.6,SNR=3.1							
INK	**Inuvik**	**45.85**	**329**	P	**P**		**14 40 14.0**	**+0.4**
	comp=Z,1.7nm,0.7s,baz=0.6,slow=11,SNR=5.8							
BRTR	**Keskin Array B**	**46.52**	**78**	P	**P**		**14 40 19.9**	**+0.5**
	comp=Z,1.6nm,0.7s,baz=301,slow=6.4,SNR=7.2							
BRTR				LR	LR		15 01 12.3	
	comp=Z,44nm,18.9s,baz=292,slow=38							
TORD	**Torodi Ar. Bea**	**48.34**	**131**	P	**P**		**14 40 33.4**	**-0.2**
	comp=Z,0.9nm,0.5s,baz=334,slow=6.9,SNR=6.5							
KVAR	**Kirkuduk Arr**	**49.13**	**68**	LR	LR		15 01 17.8	
	comp=Z,56nm,18.2s,baz=36							
KBZ	**Khabaz**	**49.38**	**68**	LR	LR		15 01 07.4	
	comp=Z,59nm,19.4s,baz=306,slow=36							
ARU	**Arti**	**49.61**	**47**	P	**P**		**14 40 42.0**	**-0.9**
	comp=Z,0.9nm,0.3s,baz=265,slow=6.2,SNR=5.2							
PDAR	**Pinedale Array**	**49.92**	**291**	P	**P**		**14 40 44.7**	**-1.0**
	comp=Z,0.5nm,0.5s,baz=63,slow=6.3,SNR=5.0							
PDAR				LR	LR		15 01 06.5	
	comp=Z,99nm,18.3s,baz=54,slow=35							
DAWY	**Dawson**	**50.31**	**327**	*e*P	**P**		**14 40 49.4**	**+1.2**
	comp=Z,7.3nm,1.2s							
DAWY	**Dawson**	**50.31**	**327**	*e*P	**P**		**14 40 49.4**	**+1.2**
	comp=Z,7.3nm,1.2s							
DBIC	**Dimbokro**	**51.47**	**143**	P	**P**		**14 40 57.4**	**+0.1**
	comp=Z,1.6nm,0.5s,baz=328,slow=6.3,SNR=4.6							
DBIC				LR	LR		14 59 48.9	
	comp=Z,84nm,21.8s,baz=324,slow=33							
HWUT	**Hardware Ranch**	**51.81**	**291**	*e*P	**P**		**14 40 59.5**	**-0.4**
	comp=Z,4.1nm,0.8s							
HWUT	**Hardware Ranch**	**51.81**	**291**	*e*P	**P**		**14 40 59.5**	**-0.4**
	comp=Z,4.1nm,0.8s							
ILAR	**Eielson Array**	**52.22**	**330**	P	**P**		**14 41 02.5**	**+0.1**
	comp=Z,1.0nm,0.7s,baz=44,slow=5.5,SNR=14							
ILAR				LR	LR		15 01 28.0	
	comp=Z,54nm,20.8s,baz=94,slow=34							
GNI	**Garni**	**52.74**	**70**	LR	LR		15 04 03.6	
	comp=Z,42nm,18.8s,baz=318,slow=37							
AKTO	**Aktyubinsk**	**53.12**	**53**	P	**P**		**14 41 09.2**	**-0.1**
	comp=Z,2.5nm,0.6s,baz=86,slow=23,SNR=3.7							
TXAR	**Lajitas Array**	**55.52**	**274**	P	**P**		**14 41 26.4**	**-0.8**
	comp=Z,0.7nm,1.0s,baz=27,slow=10,SNR=3.9							
TXAR				LR	LR		15 05 54.5	
	comp=Z,50nm,18.0s,baz=0.0,slow=37							
PTGA	**Pitinga**	**57.68**	**212**	P	**P**		**14 41 42.0**	**-0.5**
	comp=Z,1.6nm,0.5s,baz=53,slow=20,SNR=2.3							
PTGA				LR	LR		15 02 32.7	
	comp=Z,26nm,18.9s,baz=354,slow=32							
ZALV	**Zalesovo Beam**	**61.99**	**36**	P	**P**		**14 42 10.4**	**-1.3**
	comp=Z,0.3nm,0.3s,baz=314,slow=9.1,SNR=2.6							
ZALV				LR	LR		15 08 37.7	
	comp=Z,37nm,18.6s,baz=256,slow=36							
ATAH	**Atahualpa**	**70.76**	**228**	LR	LR		15 12 09.7	
	comp=Z,23nm,21.8s,baz=17,slow=34							
SONM	**Songino Array**	**74.17**	**27**	P	**P**		**14 43 27.9**	**-0.5**
	comp=Z,1.0nm,0.9s,baz=336,slow=6.8,SNR=4.0							
LPAZ	**La Paz**	**74.96**	**215**	P	**P**		**14 43 33.8**	**0.0**
	comp=Z,0.9nm,0.8s,baz=70,slow=12,SNR=2.3							
LPAZ				LR	LR		15 13 27.7	
	comp=Z,20nm,20.4s,baz=353,slow=33							
CPUP	**Villa Florida**	**81.39**	**202**	LR	LR		15 18 07.0	
	comp=Z,21nm,18.4s,baz=30,slow=34							
BOSA	**Boshof**	**95.70**	**131**	LR	LR		15 27 37.7	
	comp=Z,37nm,18.4s,baz=5.0,slow=35							
PLCA	**Paso Flores**	**98.44**	**208**	LR	LR		15 25 51.4	
	comp=Z,18nm,18.4s,baz=135,slow=33							
WRA	**Warramunga Arr**	**145.97**	**21**	PKPbc	**PKPab**		**14 51 32.0**	**-0.2**
	comp=Z,1.3nm,0.8s,baz=346,slow=3.4,SNR=7.2							
WRA	**Warramunga Arr**	**145.97**	**21**	PKPbc	**PKPab**		**14 51 32.0**	**-0.2**
ASAR	**Alice Springs**	**149.47**	**23**	PKPbc	**PKPbc**		**14 51 40.8**	**-0.4**
	comp=Z,0.7nm,0.7s,baz=349,slow=2.3,SNR=8.3							
VNDA	**Vanda**	**154.42**	**188**	PKPbc	**PKPbc**		**14 51 52.8**	**+2.0**
	comp=Z,0.5nm,0.7s,baz=88,slow=20,SNR=6.0							

*GUC **12** 14:34:52.8±0.6, 32.°32S×70.°00W, h101km±16km, ML2.9*
*SJA **12** 14:34:52.9±0.8, 32.°39S×69.°88W, h101km±5km, ML2.7, MW3.1*
*ISCJB **12** 14:34:53.0±1.2, 32.°42S±0.°05×69.°88W±0.°06, h111km±11km, Error ellipse: s-maj=10.6km s-min=5.2km az=141.0*
ISC 12 14:34:53.6±2.2, 32.°41S±0.°06×69.°89W±0.°06, h106km±17km, n15, σ0°75/25, 3C-2D, Mendoza Province

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time	Res
AUSP	**Uspallata**	**0.47**	**67**	*e*P		**Pn**	**14 35 09.9**	**-0.3**
AUSP				*e*S		**Sn**	**14 35 22.4**	**-0.2**
RTLS	**Leoncito**	**0.79**	**40**	*e*P		**Pn**	**14 35 12.7**	**-0.1**
RTLS				*e*S		**Sn**	**14 35 27.3**	**+0.1**
ASAL	**Salagasta**	**0.91**	**102**	*e*P		**Pn**	**14 35 13.5**	**-0.2**
ASAL				*e*S		**Sn**	**14 35 28.0**	**-0.9**
ARCO	**CERRO ARCO**	**0.92**	**118**	*e*P		**Pn**	**14 35 13.8**	**0.0**
ARCO				IAML			14 35 31.2	
	comp=E,185nm,0.3s							
FCH	**Farellones**	**0.98**	**200**	⇑*i*P		**Pn**	**14 35 15.3**	**+0.6**
FCH				*i*S		**Sn**	**14 35 32.1**	**+1.6**
FCH				IAML			14 35 34.5	
	comp=N,350nm,0.2s							
PEL	**Peldehue**	**0.99**	**222**	⇓*i*P		**Pn**	**14 35 14.0**	**-0.5**
PEL				*i*S		**Sn**	**14 35 30.5**	**+0.3**
ROCH	**El Roble**	**1.10**	**239**	⇑*i*P		**Pn**	**14 35 15.5**	**-0.3**
ROCH				*i*S		**Sn**	**14 35 32.7**	**+0.2**
ROCH				IAML			14 35 34.1	
	comp=N,448nm,0.3s							
ROC1	**El Roble**	**1.10**	**239**	*e*P		**Pn**	**14 35 15.5**	**-0.4**
ROC1				*e*S		**Sn**	**14 35 32.9**	**+0.2**
AAGR	**Agrelo**	**1.12**	**127**	*e*P		**Pn**	**14 35 16.4**	**+0.4**
AAGR				*e*S		**Sn**	**14 35 32.6**	**-0.3**
CLCH	**Cerro Calan**	**1.13**	**209**	⇑*i*P		**Pn**	**14 35 16.1**	**+0.2**
CLCH				*i*S		**Sn**	**14 35 34.1**	**+1.3**
CLCH				IAML			14 35 34.8	
	comp=E,285nm,0.4s							
ANTU	**Antumapu**	**1.32**	**208**	*e*S		**Sn**	**14 35 37.3**	**+0.7**
ANTU				IAML			14 35 39.1	
	comp=E,212nm,0.2s							
RCDM	**Rinconada Maip**	**1.32**	**215**	*e*P		**Pn**	**14 35 16.4**	**-1.8**
RCDM				*e*S		**Sn**	**14 35 35.7**	**-1.1**
AMOG	**MOGNA**	**1.89**	**40**	*e*P		**Pn**	**14 35 24.8**	**-0.3**
ACCO	**Cerro Coronel**	**1.95**	**22**	⇓*e*P		**Pn**	**14 35 26.1**	**0.0**
ACCO				IAML			14 35 53.1	
	comp=Z,31nm,0.2s							
ACDV	**Cuesta del Vie**	**2.33**	**17**	*e*P		**Pn**	**14 35 31.4**	**+0.6**

MAN 12 14:38:44, 13.°68N×120.°75E, h97km, mb3.9, ML2.6, MS2.2, Mindoro

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time	Res
LUBP	**Lubang**	**0.49**	**276**	*e*P		Pn	14 39 01.6	+2.1
LUBP				*e*S		Sn	14 39 14.0	+3.1
BUSP	**Coron**	**1.75**	**198**	*e*P		Pn	14 39 14.5	+1.1
BUSP				*e*S		Sn	14 39 36.5	+0.9
ENPP	**El Nido**	**2.78**	**208**	*e*P		Pn	14 39 27.7	+1.0

IDC 12 14:51:23.1±50.0, 19.°08S×175.°96W, h0km, mb4.0/3, mb1 4.2/3, mb1mx3.7/25, mbtmp4.0/3, Error ellipse: s-maj=941.4km s-min=171.0km az=82.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time	Res
STKA	**Stephens Creek**	**40.14**	**243**	P	P		14 59 00.3	-0.6
	2.0nm,0.9s,baz=94,slow=13,SNR=3.6							
WRA	**Warramunga Arr**	**46.72**	**260**	P	P		14 59 54.5	+0.3
	0.7nm,0.2s,baz=96,slow=7.4,SNR=77							
ASAR	**Alice Springs**	**46.73**	**255**	P	P		14 59 54.0	-0.2
	1.4nm,0.5s,baz=90,slow=8.3,SNR=60							

MAN 12 15:10:39, 9.°26N×125.°53E, h142km, mb4.3, ML3.2, MS3.0, 1D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time	Res
SCPH	**Surigao**	**0.52**	**356**	*e*P		Pn	15 10 52.1	-7.5
SCPH				*e*S		Sn	15 11 01.9	-13
PLP	**Palo**	**1.97**	**344**	⇓*e*P		Pn	15 11 15.0	+1.7
PLP				*e*S		Sn	15 11 41.0	+1.3
MATI	**Mati**	**2.41**	**163**	*e*P		Pn	15 11 20.2	+1.5
MATI				*e*S		Sn	15 11 51.1	+1.9
PAGZ	**Pagadian**	**2.55**	**237**	*e*P		Pn	15 11 21.5	+1.2
PAGZ				*e*S		Sn	15 11 54.1	+2.0

*NIED **12** 15:25:00, 35.°60N×141.°00E, h41km, Mw4.6 Best double couple: M0 9.91000×10^15 NP1: φs175.00000°, δ20.00000°, λ78.00000°. NP2: φs7.00000°, δ70.00000°, λ94.00000°.*
*BJI **12** 15:25:54.0, 35.°41N×141.°26E, h33km, mb4.6/47, mB4.8/25, Ms4.3/31, Ms7 4.0/30*
*ISCJB **12** 15:25:55.8±0.3, 35.°55N±0.°03×141.°27E±0.°04, h33km, mb4.5/67, MS3.8/27, Error ellipse: s-maj=4.6km s-min=3.7km az=31.4*
*MOS **12** 15:25:57.9±1.3, 35.°64N×141.°19E, h47km, mb4.8/42, Error ellipse: s-maj=9.3km s-min=5.2km az=114.4*
*JMA **12** 15:25:58.6±0.1, 35.°56N×141.°01E, h37km±1km, M4.3 Broadband fault plane solution: P waves. NP1: φs341.00000°, δ75.00000°, λ79.00000°. NP2: φs196.00000°, δ18.00000°, λ124.00000°. Principal axes: T Pl

MSHR Mys Shultsa 10.48 315⇑ *i*P **Pn 15 28 26.9 +1.2**
KSRS Korea Array 10.83 284 P **Pn 15 28 33.8 +3.2**
comp=Z,0.3nm,0.3s,baz=100,slow=14,SNR=14
KSRS LR LR 15 32 41.7
comp=Z,880nm,20.4s,baz=102,slow=38
KSAR Wonju Array Be 10.86 284 P **Pn 15 28 33.8 +2.8**
KSAR Wonju Array Be 10.86 284 P **Pn 15 28 33.8 +2.8**
KUR Kuril'sk 10.94 26 *e*P **Pn 15 28 31.9 -0.1**
KUR *i*S **Sn 15 30 27.4 -5.7**
KUR pmax pmax
comp=E,8.0nm,0.7s
KUR pmax pmax
comp=Z,27nm,0.7s
KUR pmax pmax
comp=N,9.0nm,0.5s
KUR smax smax
comp=N,39nm,0.3s
KUR smax smax
comp=E,29nm,0.4s
KUR MLR MLR
comp=Z,440nm,20.0s
USRK Ussuriysk Ar. 11.15 324 P **Pn 15 28 37.0 +2.1**
comp=Z,0.3nm,0.3s,baz=130,slow=13,SNR=11
USRK LR LR 15 32 42.5
comp=Z,525nm,18.9s,baz=131,slow=36
YSS Yuzh-Sakhalins 11.46 5⇑ *e*P **Pn 15 28 38.5 -0.7**
YSS *e*S **Sn 15 30 44.0 -1.9**
YSS pmax pmax
comp=Z,10.0nm,0.7s
YSS MLR MLR
comp=Z,300nm,15.0s
YSS Yuzh-Sakhalins 11.46 5 *e*Pn **Pn 15 28 38.1 -1.1**
MDJ Mudanjiang 12.66 319 P **Pn 15 28 55.6 0.0**
MDJ pmax pmax
comp=Z,3.0nm,0.9s
MDJ pmax pmax
comp=Z,47nm,5.8s
MDJ LR LR
comp=Z,240nm,17.8s
MDJ LR LR
comp=Z,140nm,18.6s
MDJ LR LR
comp=Z,340nm,17.2s
HABR Khabarovsk 13.69 343 *e*P **Pn 15 29 07.2 -2.4**
HABR pmax pmax
comp=Z,24nm,2.1s
JOW Kunigami 14.03 235 LR LR 15 34 09.3
comp=Z,300nm,22.0s,baz=171,slow=35
CN2 Changchun 14.63 309 *e*P **Pn 15 29 24.2 +1.8**
CN2 *e*sP P 15 29 37.3 +8.9
CN2 *e*S **Sn 15 32 05.7 +2.3**
CN2 pmax pmax
comp=Z,10.0nm,0.6s
CN2 pmax pmax
comp=Z,200nm,3.0s
CN2 LR LR
comp=Z,200nm,15.0s
CN2 LR LR
comp=Z,200nm,15.0s
CN2 LR LR
comp=Z,200nm,16.0s
KLR Kul'dur 15.32 336 P **Pn 15 29 31.3 -0.4**
comp=Z,0.4nm,0.3s,baz=160,slow=11,SNR=5.8
KLR LR LR 15 35 26.0
comp=Z,338nm,18.9s,baz=149,slow=37
NJ2 Nanjing 18.86 266 *e*P **P 15 30 14.6 -0.7**
NJ2 pmax pmax
comp=Z,8.0nm,0.5s
BJI Beijing 20.23 290 P **P 15 30 28.4 -1.7**
BJI S **S 15 34 08.4 -6.9**
BJI pmax pmax
comp=Z,14nm,0.8s
BJI pmax pmax
comp=Z,100nm,3.7s
BJI LR LR
comp=Z,190nm,19.1s
BJI LR LR
comp=Z,200nm,22.5s
BJI LR LR
comp=Z,310nm,27.3s
PETK Petropavlovsk- 21.08 28 P **P 15 30 42.2 +2.9**
comp=Z,4.0nm,0.8s,baz=231,slow=6.9,SNR=3.0
PETK LR LR 15 38 43.8
comp=Z,109nm,21.7s,baz=217,slow=36
PET Petropavlovsk 21.39 30⇑ *i*P **P 15 30 42.2 -0.4**
PET pmax pmax
comp=Z,27nm,1.3s
GUMO Guam 22.12 170 LR LR 15 38 02.1
comp=Z,54nm,19.2s,baz=350,slow=33
HHC Hu-ho-hao-te 23.80 292 *e*P **P 15 31 07.9 +0.1**
HHC S **S 15 35 17.0 -4.3**
HHC SS **SnSn 15 36 12.4 +11**
HHC pmax pmax
comp=Z,16nm,0.7s
HHC pmax pmax
comp=Z,95nm,8.1s
HHC LR LR
comp=Z,150nm,12.3s
HHC LR LR
comp=Z,110nm,13.6s
HHC LR LR
comp=Z,120nm,14.8s
MA2 Magadan 24.85 12 P **P 15 31 18.1 +1.0**
comp=Z,9.2nm,0.7s,baz=195,slow=11,SNR=7.1
MA2 LR LR 15 41 32.9
comp=Z,61nm,21.5s,baz=147,slow=37
ENH Enshi 27.04 268 *e*P **P 15 31 34.3 -3.0**
comp=Z,9.8nm,0.8s
YAK Yakutsk 27.48 348⇑ *e*P **P 15 31 40.7 -0.1**
YAK pmax pmax
comp=Z,1.0nm,0.8s
H11N2 WAKE ISLAND Hy 27.59 118 T T 16 00 52.5
baz=310,slow=75,SNR=144
H11N1 WAKE ISLAND Hy 27.60 118 T T 16 00 49.0
baz=310,slow=75,SNR=199
H11N3 WAKE ISLAND Hy 27.61 118 T T 16 00 44.2
baz=310,slow=75,SNR=187
TGY Tagaytay City 28.05 226 LR LR 15 42 31.1
comp=Z,39nm,20.0s,baz=87,slow=36
ULN Ulaanbaatar 28.05 307 *e*P **P 15 31 44.9 -1.4**
ULN pmax pmax
comp=Z,3.0nm,0.6s
H11S1 WAKE ISLAND Hy 28.25 120 T T 16 01 29.0
baz=312,slow=75,SNR=550
H11S3 WAKE ISLAND Hy 28.25 120 T T 16 01 38.7
baz=312,slow=75,SNR=497
H11S2 WAKE ISLAND Hy 28.27 120 T T 16 01 29.7
baz=312,slow=75,SNR=418
SEY Seymchan 28.29 11 P **P 15 31 48.1 +0.2**
comp=Z,4.1nm,0.8s,baz=179,slow=10.0,SNR=4.4
SEY Seymchan 28.29 11 P **P 15 31 48.2 +0.2**
SEY pmax pmax
comp=Z,2.0nm,0.7s
SONM Songino Array 28.48 306 P **P 15 31 49.7 -0.4**
comp=Z,2.1nm,0.6s,baz=96,slow=9.6,SNR=10.0
SONM LR LR 15 43 34.5
comp=Z,152nm,18.3s,baz=86,slow=37
BOD Bodaibo 28.69 329 *e*P **P 15 31 51.3 -0.4**
BOD pmax pmax
comp=Z,6.0nm,1.6s
LZH Lanzhou 30.15 282 *e*P **P 15 32 05.3 +0.2**
LZH pP pP 15 32 13.7 -0.9
LZH sP sP 15 32 17.1 -1.5
LZH PP **PnPn 15 33 07.6 +4.7**
LZH *e*S **S 15 36 58.4 -3.6**
LZH pmax pmax
comp=Z,17nm,1.0s
LZH pmax pmax
comp=Z,91nm,5.3s
LZH LR LR
comp=Z,1μm,15.4s
LZH LR LR
comp=Z,1μm,15.1s
LZH LR LR
comp=Z,1μm,17.2s
GYA Guiyang 30.80 263 *e*P **P 15 32 11.0 +0.2**
GYA pmax pmax
comp=Z,10.0nm,0.8s
TLY Talaya 31.17 313 LR LR 15 44 57.5
comp=Z,114nm,20.1s,baz=122,slow=37
TLY Talaya 31.17 313 *i*P **P 15 32 13.2 -0.5**
TLY pmax pmax
comp=Z,3.0nm,0.5s
CD2 Chengdu 31.50 272 *e*P **P 15 32 19.2 +2.3**
CD2 pmax pmax
comp=Z,10.0nm,0.6s
QIZ Qiongzhong 32.16 248 P **P 15 32 19.5 -3.2**
QIZ pmax pmax
comp=Z,30nm,2.0s
QIZ pmax pmax
comp=Z,140nm,5.8s
GTA Gaotai 32.84 289 *e*P **P 15 32 28.0 -0.6**
GTA pmax pmax
comp=Z,4.0nm,0.8s
KMI Kunming 34.56 263 P **P 15 32 44.6 +0.7**
KMI pmax pmax
comp=Z,8.0nm,0.6s
BILL Bilibino 35.51 16⇑ *e*P **P 15 32 48.3 -2.9**
BILL *e**PP **pP 15 32 58.9 -2.0**
BILL *SP **sP 15 33 09.0 +4.1**
BILL SSS SSS 15 41 05.0
BILL pmax pmax
comp=Z,35nm,1.8s
CMAR Chiang Mai Arr 40.94 257 P **P 15 33 36.2 -1.3**
comp=Z,0.9nm,0.8s,baz=54,slow=6.9,SNR=5.9
CMAR LR LR 15 52 18.4
comp=Z,209nm,18.1s,baz=65,slow=39
WMQ Urumqi 41.35 298 P **P 15 33 41.6 +0.9**
WMQ sP sP 15 33 56.4 +2.0
WMQ pmax pmax
comp=Z,15nm,0.7s
WMQ pmax pmax
comp=Z,130nm,4.5s
WMQ LR LR
comp=Z,66nm,15.3s
WMQ LR LR
comp=Z,100nm,21.9s
WMQ LR LR
comp=Z,120nm,24.1s
LSA Lhasa 42.16 277 *e*P **P 15 33 48.5 +0.5**
LSA pmax pmax
comp=Z,6.0nm,1.0s
LSA Lhasa 42.16 277 *e*P **P 15 33 48.5 +0.5**
comp=Z,5.9nm,1.0s
ZAA0 Zalesovo Array 42.78 314 *e*P **P 15 33 51.5 -0.7**
ZALV Zalesovo Beam 42.78 314 P **P 15 33 52.1 0.0**
comp=Z,6.1nm,0.6s,baz=90,slow=6.9,SNR=22
ZALV PcP **PcP 15 35 43.0 0.0**
comp=Z,0.7nm,0.5s,baz=90,slow=4.3,SNR=2.3
ZALV LR LR 15 52 26.4
comp=Z,57nm,18.5s,baz=70,slow=37
NVS Novosibirsk 43.73 315 *e*P **P 15 33 59.8 0.0**
NVS *e*S **S 15 40 19.5 -8.2**
NVS pmax pmax
comp=N,4.0nm,0.9s
NVS pmax pmax
comp=E,9.0nm,0.9s
NVS pmax pmax
comp=Z,12nm,0.9s
NVS smax smax
comp=N,4.0nm,1.1s
NVS smax smax
comp=E,6.0nm,1.1s
NRIK Noril'sk 44.54 336 P **P 15 34 06.6 +0.5**
comp=E,1.9nm,0.4s,baz=111,slow=8.5,SNR=5.2
NRIK LR LR 15 53 42.0
comp=E,120nm,18.1s,baz=104,slow=37
MK01 Makanchi Array 44.75 303 *e*P **P 15 34 07.5 -0.6**
MK31 Makanchi Array 44.75 303 *i*P **P 15 34 07.7 -0.5**
MK31 pmax pmax
comp=Z,12nm,1.1s
MK31 Makanchi Array 44.75 303 *e*P **P 15 34 07.6 -0.6**
MAKZ Makanchi 44.96 303 *e*P **P 15 34 09.2 -0.6**
MAKZ pmax pmax
comp=Z,5.0nm,0.8s
MAKZ Makanchi 44.96 303 *e*P **P 15 34 09.2 -0.6**
comp=Z,4.9nm,0.8s
TAPN Taplejung 45.86 275 *e*P **P 15 34 17.7 +0.2**
ODAN Odare 46.32 275 *e*P **P 15 34 20.4 -0.7**
KURK Kurchatov 46.70 309 *c**e*P **P 15 34 23.2 -0.2**
KURK pmax pmax
comp=Z,58nm,1.0s
KURK Kurchatov 46.70 309 *e*P **P 15 34 22.5 -0.9**
comp=Z,14nm,0.8s
RAMN Ramite 46.93 275 *e*P **P 15 34 25.1 -0.7**
comp=Z,32nm,0.8s
JIRN Jiri 46.97 276 *e*P **P 15 34 26.3 0.0**
GUN Gumba 47.12 277 *e*P **P 15 34 27.8 +0.4**
PDGK Podgornoye 47.31 299 P **P 15 34 27.3 -1.2**
PDGK pmax pmax
comp=Z,12nm,1.3s
PKI Pulchoki 47.64 277 *e*P **P 15 34 30.9 -0.6**
PKIN Phulchoki 47.65 277 *e*P **P 15 34 30.8 -0.7**
KKN Kakani 47.65 277 *e*P **P 15 34 31.1 -0.3**
GKN Gorkha 48.09 278 *e*P **P 15 34 34.5 -0.2**
comp=Z,28nm,0.9s
KOLN Koldanda 49.02 278 *e*P **P 15 34 41.8 -0.2**
comp=Z,12nm,0.8s
PYUN Piuthan 49.38 279 *e*P **P 15 34 44.7 0.0**
comp=Z,53nm,0.9s
TKM2 Tokmak 2 50.17 299 P **P 15 34 50.4 -0.2**
TKM2 pmax pmax
comp=Z,8.0nm,1.3s
COLA College 50.44 32 *i*P **P 15 34 52.4 +0.4**
COLA pmax pmax
comp=Z,12nm,2.2s
KSH Kashi 50.84 295 *e*P **P 15 34 59.1 +3.5**
KSH pP sP 15 35 09.1 -0.3
KSH PcP **PcP 15 36 14.6 +2.6**
KSH PP **PP 15 36 56.1 +4.3**
KSH S **S 15 42 12.1 +2.5**
KSH sS sS 15 42 29.1 +3.2
KSH SS **SS 15 45 45.2 +1.0**
KSH pmax pmax
comp=Z,5.0nm,1.1s
KSH pmax pmax
comp=Z,83nm,4.0s
KSH LR LR
comp=Z,79nm,6.4s
KSH LR LR
comp=Z,140nm,6.0s
KSH LR LR
comp=Z,160nm,14.4s
ILAR Eielson Array 50.86 32 P **P 15 34 57.5 +2.3**
comp=Z,0.9nm,0.7s,baz=262,slow=6.1,SNR=11
ILAR LR LR 15 55 54.2
comp=Z,32nm,21.3s,baz=220,slow=35
ILB Eielson Array 50.86 32 *e*P **P 15 34 57.2 +2.1**
AAK Ala-Archa 51.03 299⇑ *i*P **P 15 34 56.6 -0.4**
AAK pmax pmax
comp=Z,11nm,1.2s
BVA0 Borovoye Array 51.43 313 P **P 15 34 58.3 -1.3**
BVA0 pmax pmax
comp=Z,7.0nm,1.3s
BRVK Borovoye 51.49 313 *c**i*P **P 15 35 00.3 +0.2**
BRVK pmax pmax
comp=Z,16nm,1.0s
BRVK Borovoye 51.49 313 *e*P **P 15 35 00.1 0.0**
comp=Z,4.4nm,0.7s
MNAS Manas 52.48 300 P **P 15 35 06.4 -1.4**
MNAS pmax pmax
comp=Z,6.0nm,1.0s
WRAB Tennant Creek 55.55 188 *c**e*P **P 15 35 30.4 +0.3**
WRAB pmax pmax
comp=Z,18nm,0.8s
WRA Warramunga Arr 55.56 188 P **P 15 35 29.8 -0.5**
comp=Z,5.7nm,0.7s,baz=5.8,slow=7.7,SNR=49
WRA Warramunga Arr 55.56 188 *i*P **P 15 35 30.3 +0.1**
WRA pmax pmax
comp=Z,6.0nm,0.7s
SVE Sverdlovsk 56.13 319 *e*P **P 15 35 35.0 +1.1**
SVE pmax pmax
comp=Z,12nm,0.9s
ARU Arti 57.35 319 *c**i*P **P 15 35 42.5 0.0**
ARU 15 36 32.8
ARU 15 37 48.2
ARU S **S 15 43 38.3 +1.7**
ARU 15 45 25.3
ARU SS **SS 15 47 26.8 +1.1**
ARU pmax pmax
comp=Z,15nm,1.0s
ARU Arti 57.35 319 *e*P **P 15 35 42.3 -0.2**
comp=Z,11nm,0.7s
AB31 Akbulak array 58.75 311 P **P 15 35 51.5 -1.0**
AB31 pmax pmax
comp=Z,3.0nm,0.6s
AS31 Alice Springs 59.29 188 *e*P **P 15 35 56.5 +0.1**
comp=Z,1.0nm,0.4s
ASAR Alice Springs 59.29 188 P **P 15 35 55.9 -0.6**
comp=Z,1.3nm,0.9s,baz=5.9,slow=7.9,SNR=30
KBS Kingsbay 62.09 350⇑ *i*P **P 15 36 15.8 +1.0**
KBS pmax pmax
comp=Z,53nm,0.9s
LVZ Lovozero 63.38 336 *e*P **P 15 36 24.1 +0.4**
LVZ pmax pmax
comp=Z,6.0nm,1.1s
GEYT Alibeck 64.39 299 P **P 15 36 29.1 -1.7**
comp=Z,9.1nm,0.7s,baz=127,slow=0.7,SNR=5.6
GEYT LR LR 16 07 21.7
comp=Z,93nm,18.9s,baz=90,slow=39
KLMR Klimovskoe 64.91 328 *e*P **P 15 36 31.7 -2.0**
KLMR pmax pmax
comp=Z,11nm,1.5s
ARCES ARCESS Array B 65.32 340 P **P 15 36 36.5 +0.3**
comp=Z,1.3nm,0.6s,baz=48,slow=7.2,SNR=3.8
ARCES LR LR 16 07 54.8
comp=Z,86nm,21.3s,baz=79,slow=38
STKA Stephens Creek 67.07 180 P **P 15 36 46.6 -1.2**
comp=Z,1.7nm,0.9s,baz=327,slow=10,SNR=3.9
OBN Obninsk 69.17 323⇓ *e*P **P 15 37 02.4 +1.6**
OBN 15 37 26.0
OBN *e*S **S 15 46 02.9 -1.2**
OBN pmax pmax
comp=Z,7.0nm,0.9s
OBN MLR MLR
comp=Z,86nm,18.0s
VSR Storozhevoye 69.92 319 *e*P **P 15 37 05.1 -0.5**
VSR pmax pmax
comp=Z,8.0nm,0.6s
FINES FINESS Array B 70.04 332 P **P 15 37 06.1 0.0**
comp=Z,3.3nm,0.5s,baz=62,slow=6.7,SNR=18
FINES LR LR 16 09 49.2
comp=Z,109nm,18.1s,baz=62,slow=38
FINES FINESS Array B 70.04 332 *i*P **P 15 37 06.8 +0.7**
FINES pmax pmax
comp=Z,3.0nm,0.5s
ZEI Tsey 71.59 310 *e*P **P 15 37 15.1 -1.1**
ZEI pmax pmax
comp=Z,13nm,0.9s
KBZ Khabaz 71.72 311 P **P 15 37 16.8 +0.1**
comp=Z,5.7nm,0.9s,baz=43,slow=2.0,SNR=13
KBZ LR LR 16 10 27.3
comp=Z,64nm,18.3s,baz=35,slow=37
KIV Kislovodsk 71.73 311 *e*P **P 15 37 17.5 +0.6**
KIV pmax pmax
comp=Z,14nm,0.9s
KIV MLR MLR
comp=Z,57nm,18.0s
NEY Neytrino 72.08 311 *e*P **P 15 37 20.1 +1.0**
NEY pmax pmax
comp=Z,1.0nm,0.9s
GNI Garni 72.44 307 *c**i*P **P 15 37 21.6 +0.4**
GNI pmax pmax
comp=Z,47nm,1.3s
AKASG Malin Array Be 75.35 322 P **P 15 37 37.5 -0.4**
comp=Z,2.5nm,0.5s,baz=46,slow=6.1,SNR=13
AKASG LR LR 16 13 11.3
comp=Z,118nm,20.6s,baz=255,slow=38
AKASG Malin Array Be 75.35 322 *i*P **P 15 37 38.0 +0.1**
AKASG pmax pmax
comp=Z,3.0nm,0.5s
KIEV Kiev 75.36 322 *c**i*P **P 15 37 38.0 +0.1**
KIEV pmax pmax
comp=Z,5.0nm,0.7s
KIEV Kiev 75.36 322 *e*P **P 15 37 37.4 -0.5**
comp=Z,5.1nm,0.7s
NC204 NORSAR Array S 75.44 338 *e*P **P 15 37 38.9 +0.6**
NB2 NORSAR Subarra 75.48 337 P **P 15 37 39.2 +0.7**
comp=Z,5.5nm,0.8s,baz=41,slow=6.2
NOA NORSAR Array B 75.48 337 P **P 15 37 39.5 +1.0**
comp=Z,4.3nm,0.7s,baz=40,slow=5.7,SNR=13
NOA LR LR 16 13 58.4
comp=Z,80nm,19.7s,baz=35,slow=38
BZMT Bozeman Pass 76.39 43 *e*P **P 15 37 45.9 +1.7**
LAO LASA Array 78.23 40 *e*P **P 15 37 53.5 -0.8**
comp=Z,50nm,1.5s
PDAR Pinedale Array 78.85 45 P **P 15 37 59.5 +1.4**
comp=Z,0.4nm,0.6s,baz=226,slow=3.9,SNR=4.5
BR131 Keskin Array S 79.69 312 *e*P **P 15 38 02.8 +0.3**
BRTR Keskin Array B 79.69 312 P **P 15 38 03.4 +0.8**
comp=Z,3.0nm,1.0s,baz=97,slow=4.0,SNR=10
BRTR LR LR 16 17 39.9
comp=Z,32nm,18.1s,baz=36,slow=39
BR231 Keskin MP Arra 80.14 312 *e*P **P 15 38 04.2 -0.8**
VYHS Vyhne 81.83 325 *e*P **P 15 38 14.4 +0.7**
VYHS pmax pmax
comp=Z,2.0nm,1.1s
VYHS Vyhne 81.83 325 *e*P **P 15 38 14.4 +0.7**
BRG Berggiesshubel 82.23 329 *e*(P) **P 15 38 15.9 +0.2**
comp=Z,7.5nm,1.1s
BRG Berggiesshubel 82.23 329 *e*P **P 15 38 15.9 +0.2**
BRG pmax pmax
comp=Z,8.0nm,1.1s
CLL Collm 82.28 330 *e*P **P 15 38 16.0 +0.1**
CLL pmax pmax
comp=Z,6.0nm,0.8s
CLL Collm 82.28 330 *e*P **P 15 38 16.0 +0.1**
comp=Z,6.0nm,0.8s
KHC Kasperske Hory 83.70 328 *e*P **P 15 38 24.0 +0.6**
KHC Kasperske Hory 83.70 328 *e*P **P 15 38 24.0 +0.6**
VTS Vitosha 83.80 319 *e*P **P 15 38 24.4 +0.3**
VTS pmax pmax
comp=Z,6.0nm,1.0s
VTS Vitosha 83.80 319 *e*P **P 15 38 24.4 +0.3**
comp=Z,6.0nm,1.0s
GERES GERESS Array B 83.87 328 P **P 15 38 25.2 +0.9**
comp=Z,0.5nm,0.2s,baz=26,slow=6.5,SNR=4.5
GERES LR LR 16 17 54.5
comp=Z,61nm,18.7s,baz=311,slow=37
PPT Papeete 84.15 116 LR LR 16 07 58.1
comp=Z,64nm,21.9s,baz=342,slow=30
PPT2 Papeete2 84.17 116 *e*LR LR 16 04 57.7
comp=Z,89nm,22.8s
ESK Eskdalemuir 84.49 340 *i*P **P 15 38 28.9 +1.7**
SCHQ Schefferville 86.82 16 LR LR 16 23 27.9
comp=Z,32nm,18.3s,baz=292,slow=40
TBI Tubuai 87.94 121 *e*LR LR 16 06 35.6
comp=Z,93nm,22.2s
TXAR Lajitas Array 91.19 52 LR LR 16 14 39.2
comp=Z,44nm,21.0s,baz=0.0,slow=32
TORD Torodi Ar. Bea 118.23 314 PKP **PKPdf 15 44 41.9 -0.4**
comp=Z,0.3nm,0.6s,baz=329,slow=1.7,SNR=3.5
LPAZ La Paz 147.60 61 PKPbc **PKPbc 15 45 41.1 +1.0**
comp=Z,2.2nm,0.9s,baz=333,slow=5.4,SNR=6.3

---

*ISCJB **12** 15:35:27.1±0.3,35°.64N±0°.01×97°.26W±0°.02,h8km±2km, Error ellipse: s-maj=2.8km s-min=2.3km az=16.9*
*NEIC **12** 15:35:28.0±0.0,35°.63N×97°.24W,h3km,ML3.3(TUL), After TUL.*
NEIC Felt [III] at Jones and Luther. Also felt at Arcadia, Broken Arrow, Cushing, Harrah, Newalla, Norman, Oklahoma City, Purcell and Spencer.

ISC 12 15:35:27.7±0.8,35°.62N±0°.02×97°.23W±0°.02, h9km±5km, n119,ₙ0ᵩ77/145, Oklahoma

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OK005	**Luther M Schoo**	**0.05**	**40**	Sg	**Sg**	**15 35 30.8**	**-0.1**
OK002	**Wilshire Harra**	**0.07**	**158**	*i*P	**Pg**	**15 35 30.2**	**+0.4**
OK002				*i*S	**Sg**	**15 35 31.8**	**+0.5**
OK001	**Jones High Sch**	**0.07**	**221**	*i*P	**Pg**	**15 35 29.7**	**-0.1**
OK001				*i*S	**Sg**	**15 35 31.2**	**-0.1**
OK003	**Hefner Road**	**0.11**	**232**	*i*P	**Pg**	**15 35 30.1**	**-0.3**
OK003				*i*S	**Sg**	**15 35 31.8**	**-0.3**
V35A	**Meyer Ranch, C** baz=249	**0.35**	**65**	P	**Pg**	**15 35 35.1**	**+0.4**
V35A				S	**Sg**	**15 35 40.3**	**+1.0**
W35A	**Tecumseh** baz=327,SNR=17	**0.55**	**148**	P	**Pg**	**15 35 38.5**	**+0.1**
W35A				S	**Sg**	**15 35 46.3**	**+0.8**
U35A	**Pawnee** baz=210,SNR=29	**0.85**	**28**	P	**Pg**	**15 35 43.5**	**-0.6**
U35A				S	**Sg**	**15 35 55.3**	**+0.1**
W36A	**Wetumka** baz=301,SNR=37	**0.95**	**120**	P	**Pg**	**15 35 45.4**	**-0.6**
W36A				S	**Sg**	**15 35 58.5**	**+0.2**
V36A	**Jenks** baz=262,SNR=148	**1.06**	**80**	P	**Pg**	**15 35 47.0**	**-1.1**
V36A				S	**Sg**	**15 36 01.8**	**-0.1**
TUL1	**Leonard** baz=257,SNR=87	**1.21**	**76**	P	**Pb**	**15 35 49.5**	**-1.2**
TUL1				S	**Sb**	**15 36 06.3**	**-0.1**
	baz=257						

X35A	**Drake**	**1.23**	**170**	P		**Pn**	15 35 50.4	-0.8
	baz=350							
X35A				S		**Sb**	15 36 07.2	0.0
	baz=350							
X36A	**Centrahoma**	**1.27**	**145**	P		**Pn**	15 35 51.0	-0.6
	baz=326							
X36A				S		**Sb**	15 36 08.7	+0.5
	baz=326							
T34A	**McClaskey Farm**	**1.40**	**1**	P		**Pn**	15 35 53.5	0.0
	baz=182,SNR=151							
T34A				S		**Sg**	15 36 12.6	-0.2
	baz=182							
T35A	**Sooner Cattle**	**1.42**	**24**	P		**Pn**	15 35 53.4	-0.3
	baz=205,SNR=168							
T35A				S		**Sb**	15 36 13.0	+0.4
	baz=205							
U36A	**Oologah**	**1.44**	**57**	P		**Pn**	15 35 53.6	-0.3
	baz=239,SNR=16							
U36A				S		**Sb**	15 36 13.5	+0.4
	baz=239							
WMOK	**Wichita Mounta**	**1.54**	**236**	P		**Pn**	15 35 55.5	0.0
	baz=54							
WMOK				S		**Sn**	15 36 16.1	+0.4
	baz=54							
WMOK	**Wichita Mounta**	**1.54**	**236**	*e*Pn		**Pn**	15 35 55.2	-0.2
WMOK				*e*Sn		**Sb**	15 36 16.2	0.0
W37B	**Quinton**	**1.54**	**107**	P		**Pn**	15 35 55.8	+0.3
	baz=289,SNR=145							
W37B				S		**Sg**	15 36 17.7	+0.3
	baz=289							
U32A	**Winter Ranch,**	**1.63**	**298**	P		**Pn**	15 35 57.0	+0.5
	baz=117							
U32A				Sb		**Sg**	15 36 19.6	-0.4
	baz=117							
Y35A	**Marietta**	**1.71**	**175**	P		**Pn**	15 35 58.8	+1.1
	baz=354							
Y35A				Sb		**Sg**	15 36 23.6	+0.7
	baz=354							
V37A	**Hulbert**	**1.72**	**81**	P		**Pn**	15 35 58.4	+0.6
	baz=262,SNR=187							
V37A				S		**Sb**	15 36 21.8	+0.6
	baz=262							
T36A	**Boggs Farm, Ca**	**1.81**	**37**	P		**Pn**	15 35 59.6	+0.6
	baz=218,SNR=74							
X37A	**Clayton**	**1.84**	**123**	P		**Pn**	15 36 00.3	+0.9
	baz=305,SNR=130							
X37A				Sb		**Sg**	15 36 26.9	+0.2
	baz=305							
Y36A	**Durant**	**1.88**	**155**	P		**Pn**	15 36 01.2	+1.1
	baz=336							
Y36A				Sb		**Sg**	15 36 27.9	-0.3
	baz=336							
U37A	**Salina**	**1.89**	**65**	P		**Pn**	15 36 00.8	+0.7
	baz=246,SNR=193							
S34A	**Willow Spring**	**2.08**	**3**	P		**Pn**	15 36 03.3	+0.5
	baz=183,SNR=32							
S34A				Sb		**Sb**	15 36 33.0	+1.4
	baz=183							
Y37A	**Hugo**	**2.10**	**141**	P		**Pn**	15 36 04.3	+1.2
	baz=321,SNR=16							
X38A	**Whitesboro**	**2.18**	**115**	P		**Pn**	15 36 05.4	+1.2
	baz=297,SNR=106							
S35A	**Otter Creek Ra**	**2.19**	**19**	P		**Pn**	15 36 04.9	+0.6
	baz=200,SNR=88							
S35A				Sb		**Sb**	15 36 35.7	+1.1
	baz=200							
W38A	**Poteau**	**2.28**	**103**	P		**Pn**	15 36 06.5	+0.9
	baz=285							
V38A	**Canehill**	**2.31**	**83**	P		**Pn**	15 36 06.6	+0.7
	baz=265,SNR=41							
U38A	**Gravette**	**2.45**	**70**	P		**Pn**	15 36 09.1	+1.2
	baz=252							
S36A	**Lake Cedric, C**	**2.48**	**32**	P		**Pn**	15 36 08.7	+0.4
	baz=213							
S36A				Sb		**Sb**	15 36 45.0	+1.9
	baz=213							
Y38A	**Idabel**	**2.66**	**129**	P		**Pn**	15 36 10.8	0.0
	baz=310							
R34A	**Isabella, Hill**	**2.68**	**360**	P		**Pn**	15 36 11.7	+0.6
	baz=180,SNR=14							
HHAR	**Hobbs**	**2.75**	**75**	*e*Pn		**Pn**	15 36 12.7	+0.7
T38A	**Diamond**	**2.76**	**58**	P		**Pn**	15 36 12.1	-0.1
	baz=240							
X39A	**Fountain Ranch**	**2.78**	**112**	P		**Pn**	15 36 13.5	+1.0
	baz=294,SNR=56							
R35A	**Emporia Munici**	**2.82**	**17**	P		**Pn**	15 36 13.6	+0.5
	baz=198							
W39A	**Magazine**	**2.85**	**98**	P		**Pn**	15 36 14.0	+0.7
	baz=280,SNR=15							
S37A	**Fort Scott**	**2.88**	**41**	P		**Pn**	15 36 14.2	+0.4
	baz=223							
V39A	**Pettigrew**	**2.92**	**85**	P		**Pn**	15 36 15.2	+0.7
	baz=267,SNR=37							
Z38A	**Mt. Pleasant**	**3.00**	**141**	P		**Pn**	15 36 16.2	+0.7
	baz=322							
R36A	**Gordon, Harris**	**3.03**	**27**	P		**Pn**	15 36 16.5	+0.5
	baz=208,SNR=13							
Y39A	**Lockesburg**	**3.08**	**122**	P		**Pn**	15 36 17.9	+1.4
	baz=304,SNR=5.3							
U39A	**Green Forest**	**3.13**	**75**	P		**Pn**	15 36 17.6	+0.2
	baz=257							
MIAR	**Mount Ida**	**3.18**	**109**	P		**Pn**	15 36 19.1	+1.1
	baz=291,SNR=80							
MIAR	**Mount Ida**	**3.18**	**109**	*e*Pn		**Pn**	15 36 18.9	+1.0
Q34A	**Chapman**	**3.31**	**4**	P		**Pn**	15 36 19.5	-0.2
	baz=184,SNR=5.2							
R37A	**Teagarden Farm**	**3.31**	**35**	P		**Pn**	15 36 20.4	+0.7
	baz=216,SNR=26							
S38A	**Stockton**	**3.34**	**52**	P		**Pn**	15 36 20.7	+0.6
	baz=234							
Q35A	**Mercer Eighty,**	**3.37**	**16**	P		**Pn**	15 36 20.9	+0.3
	baz=197							
T39A	**Clever**	**3.41**	**65**	P		**Pn**	15 36 21.8	+0.6
	baz=247,SNR=11							
W40A	**Ferguson Farm,**	**3.42**	**96**	P		**Pn**	15 36 22.4	+1.1
	baz=278,SNR=5.6							
138A	**Matatall Enter**	**3.44**	**148**	P		**Pn**	15 36 22.7	+1.1
	baz=330							
Z39A	**Irene McRaven,**	**3.46**	**132**	P		**Pn**	15 36 22.8	+1.1
	baz=314							
KSU1	**Kansas State U**	**3.51**	**8**	Pn		**Pn**	15 36 25.9	+3.4
KSU1				*e*Sg		**Sg**	15 37 20.6	+0.1
V40A	**Witts Springs**	**3.59**	**86**	P		**Pn**	15 36 24.3	+0.7
	baz=268,SNR=14							
ABTX	**Abilene, Hawle**	**3.59**	**215**	P		**Pn**	15 36 24.1	+0.5
	baz=33							
WHTX	**Lake Whitney,**	**3.62**	**183**	P		**Pn**	15 36 24.8	+0.8
	baz=2.6							
Q36A	**Arnold C. Orve**	**3.62**	**22**	P		**Pn**	15 36 24.3	+0.3
	baz=204							
Y40A	**Okolona**	**3.62**	**115**	P		**Pn**	15 36 24.5	+0.5
	baz=298,SNR=5.5							
U40A	**Yellville**	**3.62**	**77**	P		**Pn**	15 36 23.9	-0.1
	baz=260,SNR=14							
236A	**Katherine and**	**3.66**	**171**	P		**Pn**	15 36 25.5	+1.0
	baz=351							
234A	**Clairette**	**3.68**	**192**	P		**Pn**	15 36 25.3	+0.5
	baz=11							
R38A	**Fenwick Farm,**	**3.70**	**45**	P		**Pn**	15 36 25.7	+0.7
	baz=227							
AMTX	**Amarillo**	**3.72**	**260**	*e*Pn		**Pn**	15 36 26.9	+1.6
S39A	**Bolivar**	**3.76**	**55**	P		**Pn**	15 36 26.4	+0.5
	baz=238,SNR=7.9							
CBKS	**Cedar Bluff**	**3.77**	**329**	P		**Pn**	15 36 26.2	+0.2
	baz=147							
CBKS	**Cedar Bluff**	**3.77**	**329**	*e*Pn		**Pn**	15 36 27.5	+1.5
X40A	**Basin Creek Fa**	**3.78**	**106**	P		**Pn**	15 36 27.2	+1.1
	baz=289,SNR=10							
WLAR	**White Oak Lake**	**3.90**	**118**	*e*Pn		**Pn**	15 36 28.4	+0.6
P34A	**Walnut Farm, R**	**3.94**	**5**	P		**Pn**	15 36 29.1	+0.8
	baz=185,SNR=29							
Z40A	**Long Farm, Mag**	**3.94**	**126**	P		**Pn**	15 36 28.8	+0.4
	baz=308							
X301	**Greenbrier Sit**	**3.96**	**94**	*e*Pn		**Pn**	15 36 29.2	+0.6
P35A	**Duane Minner,**	**4.02**	**13**	P		**Pn**	15 36 29.5	0.0
	baz=194							
WHAR	**Wooly Hollow**	**4.05**	**93**	*e*Pn		**Pn**	15 36 30.3	+0.5
UALR	**University of**	**4.09**	**100**	*e*Pn		**Pn**	15 36 31.2	+0.8
W41B	**Gary Mavity, V**	**4.09**	**95**	P		**Pn**	15 36 31.1	+0.7
	baz=278,SNR=34							
T40A	**Mansfield**	**4.10**	**67**	P		**Pn**	15 36 31.2	+0.6
	baz=250,SNR=6.2							
V41A	**Mountainview**	**4.13**	**86**	P		**Pn**	15 36 31.6	+0.6
	baz=269,SNR=7.4							
S40A	**Lebanon**	**4.29**	**61**	P		**Pn**	15 36 33.7	+0.6
	baz=244,SNR=13							
R39A	**Chumby, Stover**	**4.30**	**50**	P		**Pn**	15 36 33.6	+0.3
	baz=233,SNR=8.4							
P36A	**Good Intent, A**	**4.31**	**21**	P		**Pn**	15 36 33.7	+0.3
	baz=203,SNR=6.9							
334A	**Lometa**	**4.36**	**191**	P		**Pn**	15 36 34.7	+0.6
	baz=11							
U41A	**Viola**	**4.37**	**79**	P		**Pn**	15 36 34.4	+0.2
	baz=262							
Q38A	**Cooks Store, C**	**4.41**	**40**	P		**Pn**	15 36 34.8	0.0
	baz=222							
333A	**Richland Sprin**	**4.53**	**199**	P		**Pn**	15 36 36.4	-0.1
	baz=18							
P37A	**Lathrop**	**4.58**	**29**	P		**Pn**	15 36 37.7	+0.6
	baz=211							
O34A	**Beatrice**	**4.58**	**5**	P		**Pn**	15 36 37.4	+0.3
	baz=186							
T41A	**Mountain View**	**4.64**	**71**	P		**Pn**	15 36 38.6	+0.6
	baz=254							
V42A	**Cord**	**4.75**	**86**	P		**Pn**	15 36 39.4	-0.2
	baz=270,SNR=5.7							
O35A	**Humboldt**	**4.76**	**12**	P		**Pn**	15 36 39.2	-0.4
	baz=193							
R40A	**Maddies Statio**	**4.79**	**55**	P		**Pn**	15 36 40.3	+0.4
	baz=238,SNR=8.9							
CCAR	**Cane Creek**	**4.80**	**109**	*e*Pn		**Pn**	15 36 40.7	+0.5
Q39A	**Willow Grove F**	**4.82**	**43**	P		**Pn**	15 36 40.7	+0.3
	baz=226							
O36A	**Bolckow**	**4.85**	**21**	P		**Pn**	15 36 41.4	+0.6
	baz=203							
434A	**Burnet**	**4.87**	**191**	P		**Pn**	15 36 41.7	+0.5
	baz=9.8							
U42A	**Revenden**	**4.91**	**80**	P		**Pn**	15 36 41.7	0.0
	baz=263							
433A	**Art**	**5.09**	**198**	P		**Pn**	15 36 44.4	+0.1
	baz=17							
O37A	**Wolven Farm, M**	**5.15**	**27**	P		**Pn**	15 36 45.3	+0.3
	baz=209							
O38A	**Galt**	**5.39**	**32**	P		**Pn**	15 36 48.9	+0.6
	baz=215							
R41A	**Rosebud**	**5.39**	**59**	P		**Pn**	15 36 49.0	+0.7
	baz=242							
JCT	**Junction City**	**5.56**	**204**	*e*Pn		**Pn**	15 36 51.5	+0.8
N37A	**Lee Faris, Mou**	**5.66**	**24**	P		**Pn**	15 36 51.9	-0.1
	baz=206,SNR=6.3							
534A	**Blanco**	**5.67**	**191**	P		**Pn**	15 36 52.4	+0.2
	baz=10							
O39A	**Kirksville**	**5.93**	**37**	P		**Pn**	15 36 55.9	+0.2
	baz=220							
CPRX	**Cap Rock**	**6.07**	**247**	*e*Pn		**Pn**	15 36 59.5	+1.8
HALT	**Halls**	**6.42**	**85**	*e*Pn		**Pn**	15 37 01.7	-0.7
OXF	**Oxford**	**6.51**	**98**	*e*Pn		**Pn**	15 37 03.9	+0.2
UTMT	**University of**	**6.82**	**81**	*e*Pn		**Pn**	15 37 08.4	+0.4
SDCO	**Great Sand Dun**	**6.98**	**290**	P		**Pn**	15 37 11.7	+1.3
	baz=105,SNR=6.3							
SDCO	**Great Sand Dun**	**6.98**	**290**	*e*Pn		**Pn**	15 37 11.6	+1.2
SCIA	**State Center**	**7.02**	**25**	Pn		**Pn**	15 37 10.7	+0.1
	28nm,0.5s							
ISCO	**Idaho Springs**	**7.85**	**305**	*e*Pn		**Pn**	15 37 22.6	+0.3
BNM	**Barren Site**	**7.86**	**262**	*e*Pn		**Pn**	15 37 23.2	+0.7
ECSD	**EROS Data Cent**	**8.12**	**3**	*e*Pn		**Pn**	15 37 24.8	-1.2
PHWY	**Pilot Hill**	**8.59**	**314**	*e*Pn		**Pn**	15 37 34.1	+1.6
BW06	**Boulder Array**	**11.93**	**310**	*e*Pn		**Pn**	15 38 16.5	-1.6
	5.5nm,0.9s							

*IDC **12** 15:36:22.2±1.5, 32.°63N×139.°26E, h0km, mb3.3/2, mb1 3.6/3, mb1mx3.3/40, mbtmp3.3/3, ML2.9/1, Error ellipse: s-maj=49.1km s-min=14.9km az=121.0*
*ISCJB **12** 15:36:24.6±1.6, 33.°18N±0.°06×140.°6E±0.°2, h76km±15km, mb3.4/2, Error ellipse: s-maj=33.7km s-min=9.2km az=173.7*
*JMA **12** 15:36:24.0±0.2, 33.°25N×140.°76E, h59km, M2.9*
ISC 12 15:36:24.4±3.7, 33.°20N±0.°07×140.°7E±0.°3, h54km±35km, n11, σ1°02/17, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHJ2	**Mitsune**	**0.78**	**264**	P	**Pn**	**15 36 39.7**	**+0.4**
JHJ2				S	**Sn**	**15 36 51.0**	**+0.8**
JHCJ	**Hachijojimakas**	**0.80**	**261**	P	**Pn**	**15 36 39.8**	**+0.2**
JHCJ				S	**Sn**	**15 36 50.5**	**-0.2**
JHJ	**Hachijo jima 2**	**0.80**	**265**	Pn	**Pn**	**15 36 39.8**	**+0.2**
	54nm,0.3s,baz=73,slow=21,SNR=62						
JHJ				Sn	**Sn**	**15 36 49.2**	**-1.6**
	147nm,0.3s,baz=60,slow=20,SNR=35						
JKO	**Kozu shima**	**1.66**	**307**	P	**Pn**	**15 36 51.7**	**+0.6**
JKO				*e*S	**Sn**	**15 37 12.3**	**+1.0**
JIM2	**Oshima 3**	**1.86**	**325**	P	**Pn**	**15 36 53.9**	**-0.1**
JIM2				*e*S	**Sn**	**15 37 14.8**	**-1.6**
JIZS	**Izushimoda**	**2.17**	**315**	P	**Pn**	**15 36 58.7**	**+0.7**
KTJJ	**Kamata 2**	**2.21**	**322**	P	**Pn**	**15 36 58.9**	**+0.2**
KTJJ				*e*S	**Sn**	**15 37 23.5**	**-1.4**
JOD2	**Odawara 2**	**2.47**	**327**	P	**Pn**	**15 37 02.4**	**+0.1**
MJAR	**Matsushiro Arr**	**2.93**	**329**	Pn	**Pn**	**15 37 24.1**	**+1.9**
	0.9nm,0.3s,baz=165,slow=14,SNR=8.8						
WRA	**Warramunga Arr**	**53.19**	**188**	P	**P**	**15 45 36.7**	**-0.4**
	0.2nm,0.3s,baz=3.8,slow=7.4,SNR=9.3						
ASAR	**Alice Springs**	**56.92**	**187**	P	**P**	**15 46 04.0**	**0.0**
	0.2nm,0.6s,baz=2.3,slow=6.8,SNR=4.9						

*ISCJB **12** 15:39:47.8±0.8, 13.°59N±0.°04×120.°22E±0.°05, h14km±4km, mb3.8/7, Error ellipse: s-maj=7.5km s-min=6.0km az=6.0*
*MAN **12** 15:39:48, 13.°53N×120.°20E, h15km, mb4.5, ML3.3, MS3.2*
*IDC **12** 15:39:50.8±2.9, 13.°53N×120.°52E, h34km±24km, mb3.8/7, mb1 4.0/7, mb1mx3.6/41, mbtmp4.0/7, Error ellipse: s-maj=36.0km s-min=16.0km az=69.0*
ISC 12 15:39:48.0±1.1, 13.°54N±0.°04×120.°30E±0.°04, h10km±8km, n20, σ2°19/28, mb3.9/7, 3C-1D, Mindoro

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LUBP	**Lubang**	**0.20**	**345**	*e*P	**Pg**	**15 39 51.6**	**-0.5**
LUBP				*e*S	**Sg**	**15 39 54.1**	**-0.8**
TGY	**Tagaytay City**	**0.83**	**48**	Pg	**Pg**	**15 40 03.9**	**-0.3**
	619nm,0.3s,baz=244,slow=3.1,SNR=23						
TGY				Lg	Lg	15 40 15.8	
	934nm,0.3s,baz=135,slow=20,SNR=28						
TGY	**Tagaytay City**	**0.83**	**48**	*e*P	Pn	15 40 14.2	+8.2
TGY				*e*S		15 40 14.2	+8.2
LQP	**Lukban**	**1.33**	**65**	*e*P	**Pg**	**15 40 14.8**	**+1.2**
BOAC	**Boac**	**1.51**	**93**	*e*P	**Pb**	**15 40 16.5**	**+0.3**
BOAC				*e*S	**Sg**	**15 40 36.6**	**+0.1**
BUSP	**Coron**	**1.53**	**184**	*e*P	**Pn**	**15 40 15.4**	**-0.1**
BUSP				*e*S	**Sn**	**15 40 34.9**	**-0.6**
GQP	**Guinayangan**	**2.12**	**80**	*e*P	**Pn**	**15 40 19.6**	**-3.9**
GQP				*e*S	**Sn**	**15 40 50.8**	**+0.8**
PCPH	**Palayan**	**2.15**	**21**	*e*P	**Pn**	**15 40 22.5**	**-1.5**
PCPH				*e*S	**Sn**	**15 40 49.9**	**-0.9**
AUQP	**San Andres**	**2.33**	**95**	*e*P	**Pb**	**15 40 28.8**	**-1.2**
AUQP				*e*S	**Sg**	**15 41 08.3**	**+5.5**
BOLP	**Bolinao**	**2.84**	**353**	*e*P	**Pn**	**15 40 34.7**	**+1.1**
BOLP				*e*S	**Sg**	**15 41 24.9**	**+5.4**
RCP	**Roxas**	**3.10**	**129**	*e*P	**Pb**	**15 40 40.6**	**-2.7**
GUIM	**Jordan**	**3.67**	**142**	*e*P	**Pn**	**15 40 45.9**	**+1.0**
GUIM				*e*S	**Sn**	**15 41 31.0**	**+2.9**
CAUP	**Cauayan**	**3.69**	**23**	*e*P	**Pn**	**15 40 46.3**	**+1.2**
CAUP				*e*S	**Sg**	**15 41 46.1**	**-0.4**
CMAR	**Chiang Mai Arr**	**21.09**	**286**	P	**P**	**15 44 35.4**	**+2.5**
	0.9nm,0.7s,baz=98,slow=9.5,SNR=5.9						
KSRS	**Korea Array**	**24.77**	**15**	P	**P**	**15 45 08.6**	**-1.3**
	0.4nm,0.8s,baz=187,slow=7.0,SNR=3.1						
WRA	**Warramunga Arr**	**36.03**	**157**	P	**P**	**15 46 48.0**	**-1.8**
	5.1nm,0.8s,baz=334,slow=9.6,SNR=26						
SONM	**Songino Array**	**36.10**	**344**	P	**P**	**15 46 49.6**	**-0.6**
	2.6nm,0.7s,baz=157,slow=9.5,SNR=11						
ASAR	**Alice Springs**	**39.30**	**160**	P	**P**	**15 47 16.5**	**-1.0**
	1.9nm,0.5s,baz=337,slow=7.2,SNR=38						
ZALV	**Zalesovo Beam**	**49.02**	**333**	P	**P**	**15 48 35.4**	**+0.5**
	0.6nm,0.5s,baz=122,slow=7.1,SNR=3.4						
KURBB	**Kurchatov Arra**	**50.10**	**326**	P	**P**	**15 48 43.4**	**+0.2**
	0.6nm,0.5s,baz=123,slow=6.7,SNR=4.6						

*IDC **12** 15:40:22.4±2.0, 9.°32S×106.°97E, h0km, mb4.0/9, mb1 4.0/9, mb1mx3.8/35, mbtmp4.0/9, Error ellipse: s-maj=76.9km s-min=17.3km az=54.0*
*ISCJB **12** 15:40:23.5±0.6, 9.°34S±0.°08×106.°93E±0.°08, h22km, mb3.9/11, Error ellipse: s-maj=11.7km s-min=11.0km az=149.0*
*NEIC **12** 15:40:23.5±0.5, 9.°37S×106.°97E, h10km, mb4.3/2, Error ellipse: s-maj=10.9km s-min=9.5km az=209.0*
ISC 12 15:40:25.3±0.7, 9.°37S±0.°08×106.°96E±0.°08, h22km, n21, σ1°12/18, mb4.0/11, South of Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
XMIS	**Christmas Isla**	**1.69**	**229**	*e*Pn	**Pn**	**15 40 52.3**	**-1.3**
CISI	**Cisompet, Garu**	**1.99**	**25**	*e*Pn	**Pn**	**15 40 56.2**	**-1.5**
SMRI	**Semarang**	**4.15**	**56**	*e*Pn	**Pn**	**15 41 27.4**	**+0.1**
MNAI	**Manna**	**6.37**	**321**	*e*Pn	**Pn**	**15 41 57.7**	**-0.2**
JAGI	**Jajag, Banyuwa**	**7.16**	**83**	*e*Pn	**Pn**	**15 42 06.3**	**-2.5**
WRA	**Warramunga Arr**	**28.45**	**115**	P	**P**	**15 46 19.6**	**+0.7**
	0.6nm,1.2s,baz=289,slow=10,SNR=3.5						
CMAR	**Chiang Mai Arr**	**28.76**	**344**	P	**P**	**15 46 21.4**	**-0.2**
	2.2nm,0.6s,baz=179,slow=8.7,SNR=15						
CHTO	**Chiang Mai**	**29.10**	**344**	*e*P	**P**	**15 46 25.1**	**+0.5**
	3.1nm,0.8s						
ASAR	**Alice Springs**	**29.41**	**122**	P	**P**	**15 46 29.5**	**+2.2**
	0.4nm,0.6s,baz=294,slow=9.2,SNR=8.9						
H08S2	**Diego Garcia H**	**34.12**	**270**	T	T	16 23 52.0	
	baz=95,slow=75						
H08S3	**Diego Garcia H**	**34.13**	**270**	T	T	16 23 49.8	
	baz=95,slow=75						
H08S1	**Diego Carcia H**	**34.14**	**270**	T	T	16 23 58.9	
	baz=95,slow=75						
STKA	**Stephens Creek**	**39.12**	**130**	P	**P**	**15 47 50.7**	**-0.6**
	1.4nm,0.8s,baz=293,slow=9.9,SNR=3.0						
KSAR	**Wonju Array Be**	**50.53**	**22**	P	**P**	**15 49 22.8**	**+0.8**
KSRS	**Korea Array**	**50.55**	**22**	P	**P**	**15 49 22.8**	**+0.7**
	0.4nm,0.7s,baz=220,slow=7.6,SNR=4.9						
SONM	**Songino Array**	**56.96**	**360**	P	**P**	**15 50 08.9**	**-0.1**
	0.7nm,0.6s,baz=191,slow=9.5,SNR=3.8						
KURBB	**Kurchatov Arra**	**64.60**	**340**	P	**P**	**15 51 02.2**	**+1.0**
	2.5nm,0.2s,baz=158,slow=5.7,SNR=6.1						
KURK	**Kurchatov**	**64.71**	**341**	P	**P**	**15 51 02.2**	**+0.7**
ZALV	**Zalesovo Beam**	**65.81**	**346**	P	**P**	**15 51 08.9**	**+0.3**
	0.4nm,0.3s,baz=127,slow=9.2,SNR=2.8						
ABKAR	**Akbulak array**	**71.42**	**330**	P	**P**	**15 51 43.9**	**+0.1**
	1.7nm,0.5s						
PETK	**Petropavlovsk-**	**75.67**	**29**	P	**P**	**15 52 08.1**	**-0.6**
	4.5nm,0.9s,baz=194,slow=1.8,SNR=3.9						

*NNC **12** 15:40:55.7±0.2, 47.°37N×82.°30E, h6km±4km, mb3.4, mpv3.1, Error ellipse: s-maj=2.8km s-min=2.4km az=10.0*
*SOME **12** 15:40:57.4, 47.°30N×82.°15E, h5km*
ISC 12 15:40:55.5±1.4, 47.°34N±0.°03×82.°29E±0.°04, h2km±11km, n38, σ2°00/63, 25C-14D, Kazakhstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MK05	**Makanchi Array**	**0.55**	**180**	⇑P	**Pb**	**15 41 07.5**	**-0.4**
MK05				⇑S	**Sb**	**15 41 15.9**	**-0.3**
MK31	**Makanchi Array**	**0.55**	**180**	⇑P	**Pg**	**15 41 07.4**	**+1.4**
	26nm,0.3s,baz=285,slow=9.3,SNR=2441						
MK31				⇑S	**Sb**	**15 41 15.6**	**-0.5**
	12nm,0.2s,baz=352,slow=12,SNR=24						
MK06	**Makanchi Array**	**0.57**	**179**	⇑P	**Pg**	**15 41 07.7**	**+1.4**
MK06				⇑S	**Sb**	**15 41 16.0**	**-0.7**
MK09	**Makanchi Array**	**0.57**	**181**	⇓P	**Pb**	**15 41 07.8**	**-0.3**
MK09				⇓S	**Sb**	**15 41 16.0**	**-0.7**
MK04	**Makanchi Array**	**0.57**	**180**	⇑P	**Pg**	**15 41 07.8**	**+1.4**
MK04				⇑S	**Sb**	**15 41 16.5**	**-0.4**
MK01	**Makanchi Array**	**0.57**	**180**	⇓P	**Pb**	**15 41 07.9**	**-0.4**
MK01				⇓S	**Sb**	**15 41 16.9**	**0.0**
MK02	**Makanchi Array**	**0.57**	**179**	⇓P	**Pg**	**15 41 07.8**	**+1.4**
MK02				⇑S	**Sb**	**15 41 16.6**	**-0.3**
MAKZ	**Makanchi**	**0.58**	**202**	⇑P	**Pb**	**15 41 08.2**	**-0.1**
	11nm,0.2s						
MAKZ				⇑S	**Sb**	**15 41 16.6**	**-0.4**
	146nm,0.5s						
MK03	**Makanchi Array**	**0.58**	**180**	⇓P	**Pb**	**15 41 07.9**	**-0.4**
MK03				⇑S	**Sb**	**15 41 16.6**	**-0.4**
MK08	**Makanchi Array**	**0.59**	**181**	⇓P	**Pb**	**15 41 08.2**	**-0.3**
MK08				⇑S	**Sb**	**15 41 16.8**	**-0.5**
MK07	**Makanchi Array**	**0.59**	**179**	⇑P	**Pg**	**15 41 08.0**	**+1.3**
MK07				⇑S	**Sg**	**15 41 16.5**	**+2.2**
ZSN	**Zaisan**	**1.75**	**86**	*e*P	**Pn**	**15 41 26.7**	**-0.2**
	5.1nm,0.1s						
ZSN				*e*S	**Sn**	**15 41 48.3**	**-1.5**
	31nm,0.3s						
KAPS	**Kapalarasan**	**2.89**	**226**	*e*P	**Pb**	**15 41 47.9**	**0.0**
	5.8nm,0.3s						
KAPS				*e*S	**Sb**	**15 42 25.3**	**+1.6**
	32nm,0.3s						
SEM	**Semipalatinsk**	**3.35**	**337**	*e*P	**Pb**	**15 41 56.2**	**+0.5**
	22nm,0.4s						
SEM				*e*S	**Sb**	**15 42 38.6**	**+1.5**
	25nm,0.5s						
DJR	**Jarkent**	**3.48**	**211**	*e*P	**Pb**	**15 41 59.1**	**+1.3**
	5.3nm,0.3s						
DJR				*e*S	**Sg**	**15 42 44.9**	**-2.4**
	16nm,0.3s						

BVA0				⇑Lg	Lg	15 45 57.5	
	7.8nm,0.8s						
BRVK	**Borovoye**	**9.59**	**311**	⇑Sn	**Sn**	**15 45 02.2**	**-0.5**
	2.5nm,1.0s						
BRVK				⇑Lg	Lg	15 45 59.9	
	7.2nm,1.1s						

ISCJB ***12*** *15:43:38.2±0.3,58°.45N±0°.03×153°.09W±0°.05, h78km±4km, mb3.7/7, Error ellipse: s-maj=5.5km s-min=3.6km az=156.4*

NEIC ***12*** *15:43:40.5±0.0,58°.43N×153°.17W, h58km, ML3.5(AEIC), After AEIC.*

IDC ***12*** *15:43:40.4±4.1,58°.69N×153°.31W, h69km±36km, mb3.5/7, mb1 3.9/11, mb1mx3.6/46, mbtmp4.0/11, ML4.0/4, Error ellipse: s-maj=31.8km s-min=21.1km az=14.0*

ISC 12 15:43:39.6±0.8, 58°.46N±0°.05×153°.12W±0°.04, h70km±7km, n96, σ0°.78/102, mb3.8/7, Kodiak Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FOPK	**Fourpeaked Vol**	**0.35**	**329**	P	**Pn**	**15 43 50.3**	**-0.9**
CDD	**Cape Douglas**	**0.55**	**330**	P	**Pn**	**15 43 52.4**	**-0.5**
KAPH	**Katmai Pasha**	**0.66**	**283**	P	**Pn**	**15 43 53.3**	**-0.8**
KAPH				S	**Sn**	**15 44 03.9**	**-0.8**
KDAK	**Kodiak Island**	**0.73**	**157**	P	**Pn**	**15 43 54.3**	**-0.5**
KDAK				S	**Sn**	**15 44 05.9**	**-0.1**
KAWH	**Katmai**	**0.89**	**266**	P	**Pn**	**15 43 56.0**	**-0.7**
AUI	**Augustine Isla**	**0.89**	**350**	P	**Pn**	**15 43 57.1**	**+0.4**
AUI				S	**Sn**	**15 44 09.9**	**+0.5**
AUE	**Augustine Isla**	**0.91**	**352**	P	**Pn**	**15 43 57.6**	**+0.7**
KAHC	**Katmai Hardscr**	**1.01**	**282**	P	**Pn**	**15 43 57.5**	**-0.8**
KABR	**Katmai Barrier**	**1.03**	**252**	P	**Pn**	**15 43 57.5**	**-1.0**
KAKN	**Katmai Knife C**	**1.03**	**262**	P	**Pn**	**15 43 57.7**	**-0.8**
KAKN				S	**Sn**	**15 44 12.0**	**-0.6**
KVTA	**Katmai Vly 10**	**1.15**	**267**	P	**Pn**	**15 43 59.4**	**-0.5**
KABU	**Katmai Buttres**	**1.15**	**262**	P	**Pn**	**15 43 60.0**	**-0.1**
OHAK	**Old Harbor**	**1.24**	**184**	P	**Pn**	**15 44 00.5**	**-0.6**
KELA	**Mount Kelaz**	**1.38**	**270**	P	**Pn**	**15 44 02.2**	**-0.7**
HOM	**Homer**	**1.43**	**32**	P	**Pn**	**15 44 04.8**	**+1.4**
CNPM	**China Poot**	**1.45**	**42**	P	**Pn**	**15 44 04.5**	**+0.6**
ILIM	**Iliamna**	**1.63**	**3**	P	**Pn**	**15 44 06.8**	**+0.5**
BRLK	**Bradley Lake**	**1.75**	**40**	P	**Pn**	**15 44 07.9**	**+0.1**
PLK3	**Peulik 3**	**1.84**	**247**	P	**Pn**	**15 44 09.1**	**+0.1**
PLK3				S	**Sn**	**15 44 31.3**	**-0.1**
PLK4	**Peulik 4**	**1.91**	**246**	P	**Pn**	**15 44 10.2**	**+0.2**
BGRM	**Barrier Glacie**	**2.33**	**9**	P	**Pn**	**15 44 16.8**	**+1.1**
SLKM	**Skilak Lake**	**2.53**	**35**	P	**Pn**	**15 44 18.5**	**0.0**
CKL	**Chakachamna La**	**2.78**	**6**	P	**Pn**	**15 44 22.6**	**+0.9**
SPWE	**Spurr West**	**2.84**		P	**Pn**	**15 44 23.9**	**+1.2**
SVW2	**Sparrevohn**	**2.92**	**336**	P	**Pn**	**15 44 23.6**	**-0.1**
STLK	**Strandline Lak**	**3.12**	**11**	P	**Pn**	**15 44 27.2**	**+0.8**
RC01	**Rabbit Creek A**	**3.15**	**32**	P	**Pn**	**15 44 27.1**	**+0.4**
SUA	**Susitna One**	**3.24**	**21**	P	**Pn**	**15 44 29.0**	**+0.8**
PWL	**Port Wells**	**3.42**	**43**	P	**Pn**	**15 44 30.2**	**-0.2**
SKT	**Skwentna**	**3.62**	**12**	P	**Pn**	**15 44 33.6**	**+0.4**
PMR	**Palmer**	**3.73**	**31**	P	**Pn**	**15 44 34.5**	**-0.1**
KNK	**Knik Glacier**	**3.78**	**36**	P	**Pn**	**15 44 35.1**	**-0.3**
HIN	**Hinchinbrook I**	**3.90**	**57**	P	**Pn**	**15 44 37.0**	**-0.1**
GHO	**Glory Hole Cre**	**3.93**	**30**	P	**Pn**	**15 44 37.5**	**0.0**
FID	**Port Fidalgo**	**4.08**	**53**	P	**Pn**	**15 44 38.3**	**-1.2**
SML	**Sawmill**	**4.13**	**33**	P	**Pn**	**15 44 40.1**	**0.0**
JPK	**Jack Peak**	**4.20**	**49**	P	**Pn**	**15 44 40.6**	**-0.6**
EYAK	**Cordova Ski Ar**	**4.30**	**58**	P	**Pn**	**15 44 42.2**	**-0.3**
VLZ	**Valdez**	**4.35**	**49**	P	**Pn**	**15 44 43.2**	**+0.1**
SCM	**Sheep Creek Mo**	**4.45**	**38**	P	**Pn**	**15 44 44.5**	**-0.1**
PPLA	**Purkeypile**	**4.48**	**5**	P	**Pn**	**15 44 45.6**	**+1.6**
DIV	**Divide**	**4.58**	**51**	P	**Pn**	**15 44 46.2**	**-0.1**
TT01	**Tatalina**	**4.69**	**344**	P	**Pn**	**15 44 48.6**	**+1.0**
TTA	**Tatalina**	**4.71**	**344**	P	**Pn**	**15 44 48.8**	**+0.7**
KLU	**Klutina**	**4.73**	**47**	P	**Pn**	**15 44 48.5**	**+0.2**
BMRM	**Bremner River**	**4.99**	**56**	P	**Pn**	**15 44 51.5**	**-0.4**
NICHA	**Nichawak Mount**	**5.01**	**65**	P	**Pn**	**15 44 52.5**	**+0.4**
SUCK	**Suckling Hills**	**5.06**	**67**	P	**Pn**	**15 44 53.2**	**+0.4**
KTH	**Kantishna Hill**	**5.22**	**11**	P	**Pn**	**15 44 56.3**	**+1.2**
GRIN	**Grindle Hills**	**5.34**	**66**	P	**Pn**	**15 44 57.1**	**+0.5**
RND	**Reindeer**	**5.38**	**21**	P	**Pn**	**15 44 57.5**	**+0.2**
KHIT	**Khitrov Hills**	**5.42**	**64**	P	**Pn**	**15 44 56.5**	**-1.2**
DHY	**Denali Highway**	**5.42**	**29**	P	**Pn**	**15 44 58.1**	**+0.2**
CRQM	**Cirque**	**5.57**	**61**	P	**Pn**	**15 44 59.8**	**-0.2**
HARP	**HAARP**	**5.59**	**42**	P	**Pn**	**15 45 01.0**	**+1.0**
KULT	**Kultieth River**	**5.62**	**67**	P	**Pn**	**15 45 00.8**	**+0.3**
MCK	**McKinley**	**5.67**	**19**	P	**Pn**	**15 45 02.2**	**+1.1**
TGL	**Tana Glacier**	**5.71**	**62**	P	**Pn**	**15 45 01.6**	**-0.1**
MCARA	**McCarthy VSAT**	**5.87**	**56**	P	**Pn**	**15 45 03.6**	**+0.1**
PAX	**Paxson**	**5.88**	**36**	P	**Pn**	**15 45 04.3**	**+0.2**
ISLE	**Juniper Island**	**5.89**	**64**	P	**Pn**	**15 45 04.5**	**+0.2**
BAGL	**Bagley Icefiel**	**5.98**	**65**	P	**Pn**	**15 45 05.9**	**+0.6**
PTPK	**Patty Peak**	**6.03**	**59**	P	**Pn**	**15 45 06.5**	**+0.3**
GRNC	**Granite Creek**	**6.21**	**64**	P	**Pn**	**15 45 09.1**	**+0.4**
RKAV	**Rock Avalanche**	**6.29**	**68**	P	**Pn**	**15 45 10.6**	**+0.8**
TABL	**Table Mountain**	**6.42**	**67**	P	**Pn**	**15 45 12.3**	**+0.7**
MENT	**Mentasta**	**6.44**	**42**	P	**Pn**	**15 45 12.8**	**+1.2**
CTGM	**Chitina Glacie**	**6.47**	**62**	P	**Pn**	**15 45 12.9**	**+0.7**
WRH	**Wood River Hil**	**6.50**	**20**	P	**Pn**	**15 45 12.2**	**-0.1**
LOGN	**Logan Glacier**	**6.59**	**64**	P	**Pn**	**15 45 13.9**	**+0.1**
HDA	**Harding Lake**	**6.66**	**24**	P	**Pn**	**15 45 14.7**	**0.0**
CCB	**Clear Creek Bu**	**6.71**	**20**	P	**Pn**	**15 45 14.7**	**-0.5**
PCA	**Pinnacle**	**6.79**	**71**	P	**Pn**	**15 45 16.8**	**+0.3**
DOT	**Dot Lake**	**6.81**	**36**	P	**Pn**	**15 45 17.5**	**+0.7**
MDM	**Murphy Dome**	**6.92**	**18**	P	**Pn**	**15 45 17.8**	**-0.5**
ILAR	**Eielson Array**	**6.99**	**22**	P	**Pn**	**15 45 18.1**	**-1.1**
	1.6nm,0.3s,baz=209,slow=14,SNR=63						
ILAR				S	**Sn**	**15 46 33.5**	**-3.7**
	1.4nm,0.3s,baz=216,slow=22,SNR=5.8						
PNL	**Peninsula**	**7.18**	**74**	P	**Pn**	**15 45 21.6**	**-0.2**
BCA3	**Beaver Creek A**	**7.22**	**45**	P	**Pn**	**15 45 22.8**	**+0.5**
IM3	**Indian Mountai**	**7.56**	**358**	P	**Pn**	**15 45 27.4**	**+0.5**
DHAK	**Deception Hill**	**7.78**	**79**	P	**Pn**	**15 45 29.8**	**-0.1**
EGAK	**Eagle**	**8.51**	**37**	*e*Pn	**Pn**	**15 45 39.8**	**-0.1**
	7.9nm,0.6s						
DAWY	**Dawson**	**8.67**	**44**	*e*Pn	**Pn**	**15 45 42.4**	**+0.3**
	5.2nm,0.6s						
COLD	**Coldfoot**	**8.90**	**7**	P	**Pn**	**15 45 44.7**	**-0.5**
WHY	**Whitehorse**	**9.51**	**69**	P	**Pn**	**15 45 54.4**	**+0.7**
BM3	**Burnt Mountain**	**9.78**	**20**	P	**Pn**	**15 45 56.5**	**-0.8**
DLBC	**Dease Lake**	**12.08**	**80**	P	**Pn**	**15 46 29.1**	**+0.4**
	0.8nm,0.3s,baz=269,slow=13,SNR=6.5						
INK	**Inuvik**	**13.14**	**33**	P	**Pn**	**15 46 42.2**	**-0.6**
	0.1nm,0.3s,baz=223,slow=13,SNR=9.6						
YKA	**Yellowknife Ar**	**19.20**	**62**	P	**P**	**15 47 58.9**	**+1.6**
	0.9nm,0.3s,baz=274,slow=9.9,SNR=20						
PDAR	**Pinedale Array**	**31.13**	**101**	P	**P**	**15 49 53.7**	**+2.2**
	0.4nm,0.6s,baz=319,slow=6.1,SNR=5.1						
KLR	**Kul'dur**	**43.04**	**292**	P	**P**	**15 51 31.5**	**-0.5**
	2.2nm,0.5s,baz=44,slow=8.8,SNR=7.5						
KSRS	**Korea Array**	**53.47**	**284**	P	**P**	**15 52 51.8**	**-0.5**
	0.9nm,0.6s,baz=40,slow=7.0,SNR=7.9						
KSAR	**Wonju Array Be**	**53.50**	**284**	P	**P**	**15 52 51.8**	**-0.7**
SONM	**Songino Array**	**55.65**	**307**	P	**P**	**15 53 08.7**	**+0.5**
	0.6nm,0.5s,baz=57,slow=6.0,SNR=3.7						
AKASG	**Malin Array Be**	**71.18**	**358**	P	**P**	**15 54 49.8**	**-0.6**
	0.2nm,0.3s,baz=6.2,slow=5.7,SNR=3.2						
BRTR	**Keskin Array B**	**82.02**	**355**	P	**P**	**15 55 51.2**	**-0.6**
	0.3nm,0.3s,baz=350,slow=3.2,SNR=3.4						
CMAR	**Chiang Mai Arr**	**83.45**	**295**	P	**P**	**15 55 58.8**	**-0.6**
	0.8nm,0.7s,baz=9.9,slow=5.1,SNR=4.9						

IDC 12 15:54:54.0±2.6, 4°.92S×149°.77E, h383km±26km, mb3.2/6, mb1 3.3/9, mb1mx3.1/27, mbtmp3.9/9, Error ellipse: s-maj=36.2km s-min=18.1km az=100.0, Bismarck Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.15**	**210**	P	Pn	15 56 16.9	+0.1
	1.2nm,0.3s,baz=31,slow=19,SNR=5.5						
JAY	**Jayapura**	**9.36**	**284**	P	Pn	15 57 04.2	-0.5
	0.1nm,0.3s,baz=90,slow=20,SNR=3.9						
CTA	**Charters Tower**	**15.46**	**192**	P	P	15 58 13.2	+1.0
	0.1nm,0.3s,baz=10.0,slow=14,SNR=3.6						
WRA	**Warramunga Arr**	**21.18**	**224**	P	P	15 59 10.8	+0.3
	3.1nm,0.5s,baz=48,slow=9.9,SNR=62						
ASAR	**Alice Springs**	**24.11**	**218**	P	P	15 59 37.1	0.0
	1.2nm,0.5s,baz=48,slow=8.4,SNR=65						
FITZ	**Fitzroy Crossi**	**26.98**	**239**	P	P	16 00 02.6	0.0
	1.5nm,0.3s,baz=48,slow=10,SNR=31						
STKA	**Stephens Creek**	**27.89**	**195**	P	P	16 00 09.4	-1.1
	2.3nm,1.1s,baz=37,slow=15,SNR=3.7						
KSRS	**Korea Array**	**46.82**	**336**	P	P	16 02 47.2	+0.2
	0.7nm,0.8s,baz=147,slow=8.2,SNR=4.4						
ILAR	**Eielson Array**	**83.42**	**23**	P	P	16 06 39.1	-0.1
	0.7nm,0.7s,baz=247,slow=5.3,SNR=5.5						

ISCJB ***12*** *16:07:21.7±0.5,39°.81N±0°.03×35°.30E±0°.03, h3km±6km, Error ellipse: s-maj=5.0km s-min=3.5km az=136.4*

DDA ***12*** *16:07:21.3,39°.77N×35°.27E, h7km, Md3.0*

CSEM ***12*** *16:07:21.7±0.2,39°.82N×35°.32E, h5km, MD2.7, Error ellipse: s-maj=4.3km s-min=3.4km az=43.0*

ISK ***12*** *16:07:21.2,39°.84N×35°.32E, h6km, MD2.7*

ISC 12 16:07:21.9±0.9, 39°.81N±0°.02×35°.29E±0°.02, h11km±7km, n31, σ0°.69/53, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YOZ	**Yozgat**	**0.17**	**172**	*e*Pg	**Pg**	**16 07 25.5**	**-0.4**
YOZ				*e*Sg	**Sg**	**16 07 29.2**	**+0.6**
YOZ	**Yozgat**	**0.17**	**172**	*e*Pg	**Pg**	**16 07 25.5**	**-0.4**
YOZ				*e*Sg	**Sg**	**16 07 29.2**	**+0.6**
COAL	**Corum-Alaca**	**0.50**	**332**	*i* P	**Pg**	**16 07 31.5**	**-0.3**
COAL				*i* S	**Sb**	**16 07 39.7**	**-0.4**
COAL	**Corum-Alaca**	**0.50**	**332**	P	**Pg**	**16 07 31.5**	**-0.3**
COAL				S	**Sb**	**16 07 39.7**	**-0.4**
CORM	**Corum**	**0.62**	**306**	*e*PG	**Pg**	**16 07 33.6**	**-0.5**
CORM				*e*SG	**Sb**	**16 07 43.2**	**-0.6**
CORM	**Corum**	**0.62**	**306**	*e*Pg	**Pg**	**16 07 33.6**	**-0.5**
CORM				*e*Sg	**Sb**	**16 07 43.2**	**-0.6**
CDAG	**Cicekdag**	**0.73**	**255**	*i* P	**Pg**	**16 07 35.5**	**-0.6**
CDAG				*i* S	**Sg**	**16 07 45.4**	**-0.3**
CDAG	**Cicekdag**	**0.73**	**255**	P	**Pg**	**16 07 35.5**	**-0.6**
CDAG				S	**Sg**	**16 07 45.4**	**-0.3**
CUSAR	**Sarkisla-SIVAS**	**0.84**	**118**	*i* P	**Pg**	**16 07 36.7**	**-1.4**
CUSAR				*i* S	**Sb**	**16 07 50.2**	**+0.4**
CUSAR	**Sarkisla-SIVAS**	**0.84**	**118**	P	**Pg**	**16 07 36.7**	**-1.4**
CUSAR				S	**Sb**	**16 07 50.2**	**+0.4**
CTAK	**Corum_Osmancik**	**0.92**	**336**	*i* P	**Pg**	**16 07 39.6**	**-0.1**
CTAK				*i* S	**Sn**	**16 07 54.2**	**0.0**
CTAK	**Corum_Osmancik**	**0.92**	**336**	P	**Pg**	**16 07 39.6**	**-0.1**
CTAK				S	**Sn**	**16 07 54.2**	**0.0**
BNN	**Bunyan**	**1.05**	**156**	*e*PG	**Pg**	**16 07 42.0**	**-0.2**
BNN				*e*SG	**Sn**	**16 07 57.9**	**+0.5**
BNN	**Bunyan**	**1.05**	**156**	*e*Pg	**Pg**	**16 07 42.0**	**-0.2**
BNN				*e*Sg	**Sn**	**16 07 57.9**	**+0.5**
TOKT	**Tokat**	**1.09**	**62**	*e*PG	**Pg**	**16 07 41.4**	**-1.5**
TOKT				*e*SG	**Sg**	**16 07 56.9**	**-0.2**
TOKT	**Tokat**	**1.09**	**62**	*e*Pg	**Pg**	**16 07 41.4**	**-1.5**
TOKT				*e*Sg	**Sg**	**16 07 56.9**	**-0.2**
HAVZ	**Havza**	**1.30**	**14**	*i* P	**Pg**	**16 07 47.0**	**0.0**
HAVZ				*i* S	**Sg**	**16 08 05.3**	**+1.4**
HAVZ	**Havza**	**1.30**	**14**	P	**Pg**	**16 07 47.0**	**0.0**
HAVZ				S	**Sg**	**16 08 05.3**	**+1.4**
SVSK	**Karacayir**	**1.32**	**85**	*e*PN	**Sg**	**16 07 45.7**	**-0.4**
SVSK				*e*SN	**Sg**	**16 08 04.8**	**+0.4**
SVSK	**Karacayir**	**1.32**	**85**	*e*Pn	**Pn**	**16 07 45.7**	**-0.5**
SVSK				*e*Sn	**Sg**	**16 08 04.8**	**+0.4**
KVT	**Kavak**	**1.39**	**24**	*e*PN	**Pn**	**16 07 47.1**	**-0.2**
KVT	**Kavak**	**1.39**	**24**	*e*Pn	**Pn**	**16 07 47.1**	**-0.2**
SCER	**sogukcermik**	**1.42**	**87**	*i* P	**Pn**	**16 07 47.7**	**-0.1**
SCER				*i* S	**Sg**	**16 08 09.1**	**+1.5**
SCER	**sogukcermik**	**1.42**	**87**	P	**Pn**	**16 07 47.7**	**-0.1**
SCER				S	**Sg**	**16 08 09.1**	**+1.5**
TOS	**Tosya**	**1.56**	**322**	*e*PN	**Pn**	**16 07 49.9**	**+0.2**
TOS	**Tosya**	**1.56**	**322**	*e*Pn	**Pn**	**16 07 49.9**	**+0.2**
SERE	**Sereflikochisa**	**1.59**	**238**	*e*PN	**Pb**	**16 07 51.4**	**0.0**
SERE	**Sereflikochisa**	**1.59**	**238**	*e*Pn	**Pb**	**16 07 51.4**	**0.0**
SARI	**SarD1z-Kayseri**	**1.66**	**148**	*e*PN	**Pn**	**16 07 51.7**	**+0.7**
RSDY	**Resadiye-TOKAT**	**1.67**	**69**	*e*PN	**Pn**	**16 07 51.2**	**+0.1**
RSDY	**Resadiye-TOKAT**	**1.67**	**69**	*e*Pn	**Pn**	**16 07 51.2**	**+0.1**

DDA ***12*** *16:08:10.6,39°.58N×32°.79E, h7km, Md2.7, Suspected Mining explosion.*

ISCJB ***12*** *16:08:11.4±0.4,39°.74N±0°.03×33°.03E±0°.04, h0km, Error ellipse: s-maj=4.5km s-min=3.8km az=32.1*

CSEM ***12*** *16:08:11.3±0.3,39°.72N×33°.02E, h1km, MD2.8, Error ellipse: s-maj=6.1km s-min=5.6km az=119.0, Suspected Mining explosion.*

ISK ***12*** *16:08:12.0,39°.75N×33°.03E, h14km, MD2.8*

ISC 12 16:08:10.8±0.8, 39°.78N±0°.02×33°.06E±0°.02, h0km, n29, σ2°.39/47, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BBAL	**Bala**	**0.24**	**168**	*i* P	**Pg**	**16 08 17.5**	**+2.1**
BBAL				*i* S	**Sg**	**16 08 20.0**	**+1.5**
BBAL	**Bala**	**0.24**	**168**	P	**Pg**	**16 08 17.5**	**+2.1**
BBAL				S	**Sg**	**16 08 20.0**	**+1.5**
LOD	**Lodumlu**	**0.25**	**296**	*e*PG	**Pg**	**16 08 17.8**	**+2.2**
LOD				*e*SG	**Sg**	**16 08 21.9**	**+3.0**
LOD	**Lodumlu**	**0.25**	**296**	*e*Pg	**Pg**	**16 08 17.8**	**+2.2**
LOD				*e*Sg	**Sg**	**16 08 21.9**	**+3.0**
KKUL	**Konya-Kulu**	**0.61**	**190**	*i* P	**Pg**	**16 08 20.2**	**-2.4**
KKUL				*i* S	**Sg**	**16 08 24.7**	**-5.9**
KKUL	**Konya-Kulu**	**0.61**	**190**	P	**Pg**	**16 08 20.2**	**-2.4**
KKUL	**Konya-Kulu**	**0.61**	**190**	S	**Sg**	**16 08 24.7**	**-5.8**
CMDR	**Camlidere-ANKA**	**0.84**	**328**	*i* P	**Pb**	**16 08 28.3**	**-0.1**
CMDR				*i* S	**Sg**	**16 08 31.2**	**-6.7**
CMDR	**Camlidere-ANKA**	**0.84**	**328**	P	**Pb**	**16 08 28.3**	**-0.1**
CMDR	**Camlidere-ANKA**	**0.84**	**328**	S	**Sg**	**16 08 31.2**	**-6.7**
CANT	**Cankiri**	**0.93**	**27**	*e*PG	**Pn**	**16 08 31.0**	**-0.2**
CANT				*e*SG	**Sn**	**16 08 44.9**	**-0.4**
CDAG	**Cicekdag**	**1.02**	**98**	*i* P	**Pb**	**16 08 32.4**	**+0.9**
CDAG				*i* S	**Sn**	**16 08 52.0**	**+4.3**
CDAG	**Cicekdag**	**1.02**	**98**	P	**Pb**	**16 08 32.4**	**+0.9**
SVRH	**Sivrihisar-ESK**	**1.23**	**255**	*e*PN	**Pb**	**16 08 35.1**	**+0.2**
SVRH				*e*SN	**Sb**	**16 08 51.6**	**+0.2**
SVRH	**Sivrihisar-ESK**	**1.23**	**255**	*e*Pn	**Pb**	**16 08 35.2**	**+0.2**
SVRH				*e*Sn	**Sb**	**16 08 51.6**	**+0.2**
CORM	**Corum**	**1.27**	**71**	*e*PN	**Pb**	**16 08 36.4**	**+0.7**
CORM				*e*SN	**Sn**	**16 08 54.2**	**+0.4**
CORM	**Corum**	**1.27**	**71**	*e*Pn	**Pb**	**16 08 36.4**	**+0.7**
CORM				*e*Sn	**Sn**	**16 08 54.2**	**+0.4**
KIZT	**Kizilcal**	**1.28**	**226**	*e*PN	**Pg**	**16 08 35.7**	**+0.4**
KIZT				*e*SN	**Sb**	**16 08 52.9**	**0.0**
KIZT	**Kizilcal**	**1.28**	**226**	*e*Pn	**Pg**	**16 08 35.7**	**+0.4**
KIZT				*e*Sn	**Sb**	**16 08 52.9**	**0.0**
BCAM	**Yenicaga**	**1.28**	**324**	*i* P	**Pb**	**16 08 36.0**	**+0.1**
BCAM				*i* S	**Sn**	**16 08 57.1**	**+2.9**
BCAM	**Yenicaga**	**1.28**	**324**	P	**Pb**	**16 08 36.0**	**+0.1**
BCAM				S	**Sn**	**16 08 57.1**	**+2.9**
ILGA	**Ilgaz**	**1.37**	**21**	*i* P	**Pg**	**16 08 37.0**	**-0.1**
ILGA				*i* S	**Sn**	**16 08 57.0**	**+0.6**
ILGA	**Ilgaz**	**1.37**	**21**	P	**Pg**	**16 08 37.0**	**-0.1**
ILGA				S	**Sn**	**16 08 57.0**	**+0.6**
SAFT	**Safranbolu**	**1.49**	**349**	*e*PN	**Pg**	**16 08 39.4**	**+0.1**
SAFT	**Safranbolu**	**1.49**	**349**	*e*Pn	**Pg**	**16 08 39.4**	**+0.1**
CTAK	**Corum_Osmancik**	**1.59**	**56**	*i* P	**Pb**	**16 08 41.6**	**+0.5**
CTAK	**Corum_Osmancik**	**1.59**	**56**	P	**Pb**	**16 08 41.6**	**+0.5**
ESKT	**Eskisehir**	**1.72**	**262**	*e*PN	**Pn**	**16 08 41.8**	**-0.4**
ESKT	**Eskisehir**	**1.72**	**262**	*e*Pn	**Pn**	**16 08 41.8**	**-0.4**

NIED ***12*** *16:14:00,38°.30N×142°.20E, h38km, Mw4.0 Best double couple: M0 9.53000×10^14 NP1:φs 104.00000°, δ18.00000°, λ -7.00000°. NP2:φs 200.00000°, δ88.00000°, λ -108.00000°.*

ISCJB ***12*** *16:14:10.8±0.9,38°.28N±0°.04×142°.13E±0°.07, h39km±7km, mb3.8/12, MS3.2/2, Error ellipse: s-maj=10.0km s-min=5.8km az=13.0*

JMA ***12*** *16:14:11.1±0.1,38°.31N×142°.13E, h38km±1km, M4.1*

JMA Felt II J1.

IDC ***12*** *16:14:14.5±2.9,38°.25N×142°.07E, h58km±26km, mb3.6/12, mb1 3.8/16, mb1mx3.6/46, mbtmp3.8/16, ML3.3/4, MS3.1/6, Ms1 3.1/6, ms1mx2.8/46, Error ellipse: s-maj=25.6km s-min=17.3km az=74.0*

ISC 12 16:14:10.3±1.9, 38°.26N±0°.04×142°.15E±0°.07, h24km±12km, n45, σ1°.32/50, mb3.8/12, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIO	**Ouri**	**0.66**	**288**	P	**Pb**	**16 14 23.5**	**+0.2**
JIO				S	**Sb**	**16 14 32.0**	**-0.1**
OFUJ	**Ofunato**	**0.91**	**335**	P	**Pn**	**16 14 26.6**	**-0.9**
OFUJ				*e*S	**Sb**	**16 14 37.5**	**-1.5**
JMK	**Ichinoseki**	**1.01**	**314**	P	**Pn**	**16 14 28.5**	**-0.4**
JMK				S	**Sn**	**16 14 40.2**	**-2.1**
JMM	**Marumori**	**1.14**	**250**	P	**Pn**	**16 14 30.4**	**-0.4**
JMM				S	**Sn**	**16 14 44.0**	**-1.6**
JOU	**Okura**	**1.18**	**276**	P	**Pn**	**16 14 31.4**	**+0.1**
JOU				S	**Sn**	**16 14 46.0**	**-0.6**
JFK	**Kawauchi**	**1.35**	**229**	P	**Pn**	**16 14 33.0**	**-0.6**
JFK				S	**Sn**	**16 14 48.7**	**-2.1**
JOM	**Ohasama**	**1.39**	**331**	P	**Pn**	**16 14 34.1**	**-0.1**
JOM				*e*S	**Sn**	**16 14 50.8**	**-0.9**
JYK	**Kaneyama**	**1.55**	**296**	P	**Pn**	**16 14 36.6**	**+0.2**
JYK				*e*S	**Sn**	**16 14 55.6**	**-0.2**
JFT	**Otama**	**1.62**	**243**	P	**Pn**	**16 14 38.1**	**+0.8**
JFT				S	**Sn**	**16 14 57.1**	**-0.3**
JRG	**Rokugo**	**1.65**	**314**	P	**Pn**	**16 14 37.8**	**+0.1**
JYS	**Shirataka**	**1.65**	**269**	P	**Pn**	**16 14 37.9**	**+0.2**
JYS				*e*S	**Sn**	**16 14 57.0**	**-1.1**
MJAR	**Matsushiro Arr**	**3.58**	**243**	P	**Pn**	**16 15 07.1**	**+2.8**
	2.2nm,0.3s,baz=67,slow=11,SNR=20						
MJAR				LR	LR	16 16 42.9	
	comp=Z,207nm,18.6s,baz=55,slow=42						
MAT	**Matsushiro**	**3.58**	**243**	P	**Pn**	**16 15 07.4**	**+3.1**
MAT				*e*S	**Sb**	**16 15 52.7**	**-3.2**
JHJ	**Hachijo jima 2**	**5.48**	**201**	P	**Pn**	**16 15 31.6**	**+1.3**
	20nm,0.3s,baz=314,slow=22,SNR=15						
JHJ				S	**Sn**	**16 16 29.9**	**-2.7**
	14nm,0.3s,baz=66,slow=23,SNR=6.8						
USRK	**Ussuriysk Ar.**	**9.69**	**311**	P	**Pn**	**16 16 30.0**	**+1.9**
	0.6nm,0.3s,baz=125,slow=15,SNR=13						
USRK				LR	LR	16 19 54.7	
	comp=Z,77nm,21.1s,baz=114,slow=35						
KSRS	**Korea Array**	**11.28**	**270**	P	**Pn**	**16 16 53.7**	**+3.8**
	0.1nm,0.3s,baz=72,slow=15,SNR=5.5						
KSRS				LR	LR	16 20 52.1	
	comp=Z,75nm,19.4s,baz=120,slow=35						
KLR	**Kul'dur**	**13.28**	**329**	LR	LR	16 22 19.7	
	comp=Z,73nm,19.7s,baz=136,slow=37						
SONM	**Songino Array**	**27.62**	**302**	P	**P**	**16 19 57.1**	**+1.3**
	1.0nm,0.6s,baz=114,slow=8.9,SNR=6.8						
SONM				LR	LR	16 31 27.9	
	comp=Z,63nm,18.2s,baz=84,slow=38						
H11N2	**WAKE ISLAND Hy**	**28.30**	**124**	T	T	16 49 52.5	
	baz=316,slow=75						
H11N1	**WAKE ISLAND Hy**	**28.31**	**124**	T	T	16 50 21.5	
	baz=316						
H11N3	**WAKE ISLAND Hy**	**28.32**	**124**	T	T	16 50 00.2	
	baz=316,slow=75						
H11S1	**WAKE ISLAND Hy**	**29.06**	**126**	T	T	16 51 18.6	
	baz=318,slow=76,SNR=225						
H11S3	**WAKE ISLAND Hy**	**29.06**	**126**	T	T	16 51 19.3	
	baz=318,slow=76,SNR=186						
H11S2	**WAKE ISLAND Hy**	**29.08**	**126**	T	T	16 51 23.5	
	baz=318,slow=76,SNR=138					

mb1 4.4/4, mb1mx3.9/31, mbtmp4.2/4, MS3.8/7, Ms1 3.8/7, ms1mx3.3/39, Error ellipse: s-maj=34.1km s-min=21.8km az=60.0

NEIC ***12*** *16:43:56.5±3.1, 29.°85S×177.°03W, h16km±17km, mb4.5/1, Error ellipse: s-maj=30.9km s-min=22.5km az=202.0*

ISCJB ***12*** *16:43:58.4±1.3, 30.°27S±0.°04×177.°4W±0.°2, h35km, mb4.4/6, MS3.9/6, Error ellipse: s-maj=24.5km s-min=5.5km az=2.2*

ISC 12 16:44:00.2±1.1, 30.°16S±0.°06×177.°4W±0.°2, h35km, n31, σ2ş26/35, mb4.4/6, MS3.8/6, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**1.02**	**332**	Pn		**Pn**	**16 44 15.6**	**-2.4**
	4μm,0.3s,baz=144,slow=2.6,SNR=194							
RAO				Sn		**Sn**	**16 44 30.9**	**0.0**
	6μm,0.3s,baz=53,slow=23,SNR=33							
RAO				LR		LR	16 44 40.9	
	comp=Z,3μm,20.3s,baz=258,slow=48							
RAO	**Raoul Island**	**1.02**	**332**	*e*Pg		**Pn**	**16 44 15.5**	**-2.5**
RAO				*e*Sg		**Sn**	**16 44 29.7**	**-1.3**
RAO				Sn		Sn	16 44 30.9	0.0
WMGZ	**Waiomatatini S**	**8.40**	**203**	PN		**Pn**	**16 45 58.1**	**-1.3**
HAZ	**Te Kaha**	**8.58**	**207**	PN		**Pn**	**16 45 60.0**	**-1.8**
HAZ				SN		**Sn**	**16 47 41.3**	**+3.9**
PUZ	**Puketiti**	**8.69**	**203**	PN		**Pn**	**16 46 00.1**	**-3.2**
PUZ				SN		**Sn**	**16 47 41.7**	**+1.7**
URZ	**Urewera**	**9.28**	**208**	Pn		**Pn**	**16 46 08.7**	**-2.7**
	0.8nm,0.3s,baz=273,slow=6.5,SNR=11							
URZ				Sn		**Sn**	**16 47 53.6**	**-0.9**
	1.1nm,0.3s,baz=248,slow=5.4,SNR=3.8							
URZ	**Urewera**	**9.28**	**208**	PN		**Pn**	**16 46 08.5**	**-2.9**
URZ				SN		**Sn**	**16 47 55.9**	**+1.3**
MUGZ	**Murupara**	**9.61**	**209**	*e*PN		**Pn**	**16 46 15.6**	**-0.3**
MUGZ				SN		**Sn**	**16 48 02.8**	**+0.2**
MRZ	**Mangatainoka R**	**11.95**	**207**	*e*PN		Pn	16 46 41.3	-6.6
MRZ				SN		**Sn**	**16 48 56.5**	**-3.4**
HOWZ	**Holdsworth Sta**	**12.18**	**206**	SN		**Sn**	**16 49 00.9**	**-4.6**
KHZ	**Kahutara**	**14.25**	**208**	*e*PN		**Pn**	**16 47 19.0**	**-0.3**
KHZ				SN		**Sn**	**16 49 50.7**	**-5.3**
OXZ	**Oxford**	**15.63**	**210**	*e*PN		**Pn**	**16 47 37.4**	**-0.3**
RPZ	**Rata Peaks**	**16.37**	**211**	Pn		**Pn**	**16 47 45.1**	**-2.0**
	1.2nm,0.3s,baz=36,slow=4.9,SNR=6.2							
RPZ				Sn		Sn	16 50 37.9	-10
	0.5nm,0.3s,baz=41,slow=19,SNR=3.7							
DZM	**Mont Dzumac**	**16.60**	**295**	LR		LR	16 52 48.3	
	comp=Z,506nm,19.7s,baz=144,slow=32							
TBI	**Tubuai**	**25.79**	**81**	*e*LR		LR	16 55 37.8	
	161nm,25.8s							
PPT2	**Papeete2**	**28.25**	**70**	*e*LR		LR	16 56 41.5	
	172nm,26.5s							
CTAO	**Charters Tower**	**34.30**	**278**	*e*P		**P**	**16 50 45.9**	**+2.6**
	30nm,0.6s							
STKA	**Stephens Creek**	**35.06**	**256**	P		**P**	**16 50 52.4**	**+2.5**
	1.7nm,0.6s,baz=100,slow=9.8,SNR=5.0							
STKA				LR		LR	17 04 05.0	
	comp=Z,168nm,18.6s,baz=33,slow=34							
PMG	**Port Moresby**	**38.99**	**295**	LR		LR	17 04 57.9	
	comp=Z,116nm,19.6s,baz=68,slow=32							
ASAR	**Alice Springs**	**43.66**	**266**	P		**P**	**16 52 02.4**	**+0.6**
	1.4nm,0.6s,baz=102,slow=7.7,SNR=36							
ASAR				PcP		**PcP**	**16 53 51.0**	**+2.3**
	0.3nm,0.6s,baz=116,slow=4.1,SNR=4.3							
ASAR				LR		LR	17 10 06.1	
	comp=Z,256nm,18.3s,baz=112,slow=36							
WRAB	**Tennant Creek**	**44.62**	**272**	*e*P		**P**	**16 52 10.0**	**+0.5**
	2.6nm,0.4s							
WRA	**Warramunga Arr**	**44.63**	**272**	P		**P**	**16 52 10.3**	**+0.8**
	2.6nm,0.4s,baz=110,slow=8.0,SNR=41							
FITZ	**Fitzroy Crossi**	**52.90**	**269**	P		**P**	**16 53 14.1**	**+1.1**
	3.2nm,0.9s,baz=140,slow=16,SNR=3.2							
QSPA	**South Pole Qui**	**59.95**	**180**	*e*P		**P**	**16 54 03.6**	**+0.9**
PFO	**Pinyon Flats O**	**85.64**	**47**	LR		LR	17 27 50.8	
	comp=Z,52nm,20.1s,baz=132,slow=31							
TXAR	**Lajitas Array**	**91.80**	**57**	LR		LR	17 33 42.4	
	comp=Z,33nm,18.2s,baz=0.0,slow=33							
ANMO	**Albuquerque**	**93.00**	**51**	LR		LR	17 32 02.9	
	comp=Z,22nm,18.9s,baz=222,slow=31							
FINES	**FINESS Array B**	**145.10**	**340**	PKPbc		**PKPbc**	**17 03 30.8**	**-1.8**
	4.0nm,0.5s,baz=49,slow=4.4,SNR=8.6							
AKASG	**Malin Array Be**	**151.43**	**323**	PKPbc		**PKPbc**	**17 03 48.8**	**-1.1**
	1.1nm,0.4s,baz=46,slow=3.0,SNR=6.6							
AKASG				PKPab		**PKPab**	**17 03 57.9**	**-0.3**
	4.6nm,0.7s,baz=46,slow=3.2,SNR=8.0							
BRTR	**Keskin Array B**	**152.96**	**299**	PKPbc		**PKPbc**	**17 03 55.0**	**+1.1**
	0.3nm,0.6s,baz=325,slow=1.8,SNR=2.7							
BRTR				PKPab		**pPKPbc**	**17 04 03.4**	**-2.0**
	0.7nm,0.8s,baz=164,slow=2.2,SNR=4.4							
TORD	**Torodi Ar. Bea**	**163.05**	**177**	PKPab		**PKPab**	**17 04 49.9**	**+0.9**
	0.5nm,0.6s,baz=179,slow=2.7,SNR=3.2							

ISCJB ***12*** *16:45:05.3±0.9, 9.°36S±0.°07×107.°02E±0.°05, h22km, mb3.6/4, MS3.0/1, Error ellipse: s-maj=11.6km s-min=4.9km az=34.3*

IDC ***12*** *16:45:06.9±4.5, 8.°93S×107.°44E, h0km, mb3.7/4, mb1 3.9/4, mb1mx3.6/47, mbtmp3.7/4, MS3.1/1, Ms1 3.1/1, ms1mx2.6/34, Error ellipse: s-maj=176.4km s-min=23.4km az=53.0*

DJA ***12*** *16:45:07.5±0.9, 9.°S±4.°×10.°7E±.°, h33km±18km, M4.3/19, mb4.5/5, MLv4.2/19*

ISC 12 16:45:07.9±1.3, 9.°33S±0.°10×107.°04E±0.°07, h22km, n26, σ1ş07/27, mb3.6/4, South of Jawa

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
CISI	**Cisompet, Garu**	**1.92**	**24**	P		**Pn**	**16 45 38.0**	**-1.4**
CISI				S		**Sn**	**16 46 02.9**	**0.0**
CNJI	**Cibinong**	**2.01**	**3**	P		**Pn**	**16 45 39.6**	**-0.9**
CMJI	**Cimerak**	**2.07**	**42**	P		**Pn**	**16 45 40.2**	**-1.2**
SKJI	**Sukabumi**	**2.36**	**348**	P		**Pn**	**16 45 44.1**	**-1.2**
LEM	**Lembang**	**2.55**	**13**	P		**Pb**	**16 45 54.5**	**+1.4**
KPJI	**Karang Pucung**	**2.73**	**44**	P		**Pn**	**16 45 50.1**	**-0.3**
CGJI	**Cibinong**	**3.01**	**334**	P		**Pn**	**16 45 53.4**	**-0.9**
CGJI				S		**Sn**	**16 46 30.8**	**+1.1**
SBJI	**Serang**	**3.31**	**344**	P		**Pn**	**16 45 57.3**	**-1.2**
UGM	**Wanagama**	**3.72**	**68**	P		**Pn**	**16 46 02.4**	**-1.8**
SMRI	**Semarang**	**4.06**	**56**	P		**Pn**	**16 46 07.2**	**-1.6**
PCJI	**Pacitan**	**4.24**	**75**	P		**Pn**	**16 46 10.4**	**-0.9**
KASI	**Kota Agung**	**4.54**	**326**	P		**Pn**	**16 46 14.2**	**-1.2**
KASI				S		**Sn**	**16 47 06.7**	**-0.9**
PWJI	**Pagerwojo**	**4.89**	**75**	P		**Pn**	**16 46 18.7**	**-1.4**
KLSI		**5.15**	**333**	P		**Pn**	**16 46 23.3**	**-0.4**
KLSI				S		**Sn**	**16 47 22.3**	**-0.2**
LWLI	**Liwa**	**5.20**	**325**	P		**Pn**	**16 46 24.7**	**+0.1**
LWLI				S		**Sn**	**16 47 22.9**	**-1.1**
MDSI	**Maura Dua**	**5.58**	**329**	P		**Pn**	**16 46 29.0**	**-0.7**
GMJI	**Gumukmas**	**6.42**	**81**	P		**Pn**	**16 46 41.1**	**-0.1**
JAGI	**Jajag, Banyuwa**	**7.08**	**84**	P		**Pn**	**16 46 49.1**	**-1.2**
NWAO	**Narrogin (SRO)**	**25.30**	**160**	LR		LR	17 00 05.3	
	comp=Z,45nm,20.1s,baz=118,slow=35							
WRA	**Warramunga Arr**	**28.40**	**115**	P		**P**	**16 51 01.6**	**+0.5**
	0.4nm,0.8s,baz=289,slow=10,SNR=2.9							
CMAR	**Chiang Mai Arr**	**28.74**	**344**	P		**P**	**16 51 03.6**	**-0.4**
	2.0nm,0.6s,baz=178,slow=8.8,SNR=13							
ASAR	**Alice Springs**	**29.36**	**122**	P		**P**	**16 51 11.0**	**+1.4**
	0.6nm,0.9s,baz=295,slow=9.0,SNR=5.3							
H08S2	**Diego Garcia H**	**34.20**	**270**	T		T	17 28 19.7	
	baz=90,slow=74,SNR=11							
H08S3	**Diego Garcia H**	**34.21**	**270**	T		T	17 28 19.7	
	baz=90,slow=74,SNR=12							
H08S1	**Diego Garcia H**	**34.22**	**270**	T		T	17 28 20.9	
	baz=90,slow=74,SNR=9.2							
SONM	**Songino Array**	**56.91**	**359**	P		**P**	**16 54 51.4**	**0.0**
	0.6nm,0.6s,baz=184,slow=8.7,SNR=3.8							

NIED ***12*** *16:45:00, 35.°60N×141.°00E, h44km, Mw4.2 Best double couple: M0=2.64000×10^15 NP1:φs=181.00000°, δ=28.00000°, λ=91.00000°. NP2:φs=0.00000°, δ=62.00000°, λ=90.00000°.*

ISCJB ***12*** *16:45:14.0±0.7, 35.°52N±0.°04×141.°24E±0.°08, h33km, mb3.9/10, MS3.5/6, Error ellipse: s-maj=9.1km s-min=6.3km az=3.5*

JMA ***12*** *16:45:16.4±0.1, 35.°57N×141.°02E, h35km±1km, M3.6*

IDC ***12*** *16:45:18.4±2.8, 35.°49N×140.°97E, h56km±23km, mb3.7/10, mb1 3.8/14, mb1mx3.6/52, mbtmp3.9/14, ML3.0/4, MS3.4/8, Ms1 3.4/8, ms1mx3.1/38, Error ellipse: s-maj=33.7km s-min=11.8km az=82.0*

ISC 12 16:45:16.0±0.8, 35.°54N±0.°05×141.°07E±0.°09, h33km, n34, σ0ş99/26, mb3.9/10, MS3.5/6, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
CHOJ	**Chosi**	**0.24**	**315**	P		**Pb**	**16 45 22.9**	**-0.1**
CHOJ				S		**Sb**	**16 45 27.7**	**-0.1**
KTR	**Katsuura**	**0.73**	**238**	P		**Pn**	**16 45 29.9**	**0.0**
KTR				*e*S		**Sb**	**16 45 39.2**	**-0.8**
BSO3	**Boso 3**	**0.86**	**212**	P		**Pn**	**16 45 31.9**	**+0.3**
JYT	**Yasato**	**0.99**	**315**	P		**Pn**	**16 45 33.1**	**-0.5**
JHO	**Hitachi**	**1.15**	**340**	P		**Pn**	**16 45 36.1**	**+0.3**
JAG	**Ashikaga**	**1.58**	**305**	P		**Pn**	**16 45 42.4**	**+0.6**
MJAR	**Matsushiro Arr**	**2.53**	**294**	P		**Pn**	**16 45 56.1**	**+1.3**
	11nm,0.3s,baz=98,slow=14,SNR=53							
MJAR				LR		LR	16 47 01.4	
	comp=Z,412nm,19.5s,baz=115,slow=42							
MAT	**Matsushiro**	**2.53**	**294**	P		**Pn**	**16 45 56.2**	**+1.4**
MAT				*e*S		**Sb**	**16 46 30.3**	**-1.1**
JHJ	**Hachijo jima 2**	**2.63**	**204**	P		**Pn**	**16 45 56.7**	**+0.5**
	20nm,0.3s,baz=317,slow=23,SNR=17							
JHJ				S		**Sn**	**16 46 27.8**	**+0.8**
	47nm,0.3s,baz=61,slow=23,SNR=8.3							
JHJ				LR		LR	16 47 13.3	
	comp=Z,255nm,20.2s,baz=302,slow=45							
KSRS	**Korea Array**	**10.76**	**284**	P		**Pn**	**16 47 50.2**	**+2.5**
	0.1nm,0.3s,baz=101,slow=14,SNR=8.4							
USRK	**Ussuriysk Ar.**	**11.11**	**324**	P		**Pn**	**16 47 54.2**	**+1.7**
	0.2nm,0.3s,baz=118,slow=18,SNR=3.8							
PETK	**Petropavlovsk-**	**21.13**	**29**	LR		LR	16 59 42.6	
	comp=Z,76nm,18.0s,baz=236,slow=41							
H11N2	**WAKE ISLAND Hy**	**27.66**	**118**	T		T	17 20 08.5	
	baz=310,slow=75,SNR=24							
H11N1	**WAKE ISLAND Hy**	**27.66**	**118**	T		T	17 20 05.5	
	baz=310,slow=75,SNR=26							
H11N3	**WAKE ISLAND Hy**	**27.68**	**118**	T		T	17 20 10.0	
	baz=310,slow=75,SNR=24							
H11S1	**WAKE ISLAND Hy**	**28.32**	**120**	T		T	17 20 53.7	
	baz=312,slow=75,SNR=75							
H11S3	**WAKE ISLAND Hy**	**28.32**	**120**	T		T	17 20 56.0	
	baz=312,slow=75,SNR=68							
H11S2	**WAKE ISLAND Hy**	**28.33**	**120**	T		T	17 20 54.9	
	baz=312,slow=75,SNR=71							
SONM	**Songino Array**	**28.42**	**306**	P		**P**	**16 51 05.8**	**-1.9**
	1.2nm,0.6s,baz=97,slow=8.9,SNR=6.9							
CMAR	**Chiang Mai Arr**	**40.86**	**257**	LR		LR	17 10 36.4	
	comp=Z,54nm,18.9s,baz=115,slow=37							
ZALV	**Zalesovo Beam**	**42.73**	**314**	P		**P**	**16 53 09.9**	**+0.1**
	2.0nm,0.6s,baz=97,slow=7.1,SNR=7.6							
ILAR	**Eielson Array**	**50.91**	**32**	P		**P**	**16 54 14.1**	**+0.4**
	0.6nm,0.7s,baz=260,slow=5.9,SNR=6.0							
AAK	**Ala-Archa**	**50.97**	**299**	LR		LR	17 16 46.0	
	comp=Z,77nm,21.1s,baz=40,slow=37							
WRA	**Warramunga Arr**	**55.54**	**188**	P		**P**	**16 54 47.5**	**-0.6**
	2.1nm,0.7s,baz=5.2,slow=7.6,SNR=12							
ARU	**Arti**	**57.30**	**319**	LR		LR	17 20 51.0	
	comp=Z,59nm,18.2s,baz=159,slow=37							
ASAR	**Alice Springs**	**59.27**	**188**	P		**P**	**16 55 13.6**	**-0.7**
	0.4nm,0.8s,baz=15,slow=12,SNR=4.7							
PALK	**Pallekele**	**61.78**	**258**	LR		LR	17 22 58.5	
	comp=Z,33nm,18.8s,baz=117,slow=37							
RES	**Resolute Bay**	**64.12**	**14**	LR		LR	17 24 25.2	
	comp=Z,22nm,20.4s,baz=296,slow=37							
FINES	**FINESS Array B**	**70.01**	**332**	P		**P**	**16 56 23.2**	**-0.8**
	2.8nm,0.9s,baz=28,slow=6.3,SNR=7.1							
KBZ	**Khabaz**	**71.67**	**311**	P		**P**	**16 56 34.6**	**+0.2**
	1.7nm,0.9s,baz=210,slow=9.8,SNR=5.0							
AKASG	**Malin Array Be**	**75.31**	**322**	P		**P**	**16 56 55.5**	**-0.2**
	0.7nm,0.5s,baz=47,slow=6.0,SNR=4.3							
NB2	**NORSAR Subarra**	**75.46**	**337**	P		**P**	**16 56 56.9**	**+0.4**
	comp=Z,0.6nm,0.5s,baz=41,slow=5.9							
NOA	**NORSAR Array B**	**75.46**	**337**	P		**P**	**16 56 56.6**	**+0.2**
	comp=Z,1.3nm,0.8s,baz=39,slow=5.7,SNR=4.1							
BRTR	**Keskin Array B**	**79.64**	**312**	P		**P**	**16 57 20.0**	**-0.3**
	comp=Z,1.1nm,1.0s,baz=46,slow=7.1,SNR=4.1							

NIED ***12*** *16:49:00, 42.°70N×142.°50E, h98km, Mw4.6 Best double couple: M0=8.44000×10^15 NP1:φs=76.00000°, δ=84.00000°, λ=180.00000°. NP2:φs=166.00000°, δ=90.00000°, λ=6.00000°.*

BJI ***12*** *16:49:56.3, 42.°70N×142.°68E, h99km, mb4.8/58, mB4.9/39*

ISCJB ***12*** *16:49:58.4±0.2, 42.°64N±0.°02×142.°44E±0.°02, h101km, 1km, mb4.6/103, Error ellipse: s-maj=4.1km s-min=2.6km az=154.6*

MOS ***12*** *16:49:58.2±1.0, 42.°67N×142.°44E, h102km, mb4.6/38, Error ellipse: s-maj=6.9km s-min=5.1km az=87.8*

IDC ***12*** *16:49:58.4±1.3, 42.°71N×142.°52E, h88km±11km, mb4.1/22, mb1 4.3/29, mb1mx4.2/50, mbtmp4.5/29, MS3.4/2, Ms1 3.4/2, ms1mx2.8/32, Error ellipse: s-maj=13.6km s-min=9.9km az=115.0*

JMA ***12*** *16:49:59.0±0.1, 42.°70N×142.°50E, h101km±2km, M4.5 Broadband fault plane solution: P waves. NP1: φs=259.00000°, δ=83.00000°, λ=164.00000°. NP2: φs=351.00000°, δ=74.00000°, λ=7.00000°. Principal axes: T Plg=16.0000°, Azm=214.0000°; N Plg=73.0000°, Azm=56.0000°; P Plg=6.0000°, Azm=306.0000°;*

JMA Felt III J1.

NEIC ***12*** *16:49:59.1±0.4, 42.°68N×142.°44E, h91km±4km, mb4.7/55 Error ellipse: s-maj=5.8km s-min=3.3km az=144.0*

NEIC Felt at Sapporo. Recorded [3 JMA] in southern Hokkaido.

ISC 12 16:49:59.4±0.4, 42.°62N±0.°03×142.°46E±0.°03, h99km±3km, h99km:pP-P, n251, σ1ş43/290, mb4.6/103, 23C-12D, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
JBT2	**Biratori 2**	**0.17**	**337**	⇑P		**Pn**	**16 50 12.9**	**-0.4**
JBT2				*e*S		**Sn**	**16 50 23.5**	**-0.2**
JNBK	**Urakawa-nobuka**	**0.40**	**147**	⇓P		**Pn**	**16 50 14.9**	**+0.6**
JNBK				*e*S		**Sn**	**16 50 27.3**	**+1.8**
JFR	**Furan**	**0.55**	**11**	⇑P		**Pn**	**16 50 14.6**	**-0.8**
JFR				*e*S		**Sn**	**16 50 26.5**	**-1.0**
JCH	**Churui**	**0.67**	**90**	⇑P		**Pn**	**16 50 15.9**	**-0.4**
JCH				*e*S		**Sn**	**16 50 28.4**	**-0.7**
JEW	**Eniwo**	**0.77**	**287**	⇓P		**Pn**	**16 50 17.0**	**-0.3**
JEW				*e*S		**Sn**	**16 50 30.4**	**-0.4**
ERM	**Erimo**	**0.80**	**139**	*c* iPN		**Pn**	**16 50 18.2**	**+0.6**
ERM	**Erimo**	**0.80**	**139**	*e*Pn		**Pn**	**16 50 18.1**	**+0.6**
JEM	**Erimo**	**0.80**	**139**	⇓P		**Pn**	**16 50 18.0**	**+0.5**
JAB	**Ashibetsu**	**0.90**	**349**	⇑P		**Pn**	**16 50 18.3**	**-0.3**
JAB				*e*S		**Sn**	**16 50 32.9**	**-0.2**
JOB	**Onbets**	**1.05**	**74**	⇑P		**Pn**	**16 50 20.3**	**+0.1**
JOB				*e*S		**Sn**	**16 50 36.0**	**0.0**
JNB	**Noboribetsu**	**1.06**	**262**	⇑P		**Pn**	**16 50 19.6**	**-0.7**
JNB				*e*S		**Sn**	**16 50 35.0**	**-1.0**
JAR	**Ashorobuto**	**1.18**	**54**	⇑P		**Pn**	**16 50 21.0**	**-0.7**
JAR				*e*S		**Sn**	**16 50 37.5**	**-1.0**
JHR	**Hokuryu**	**1.24**	**335**	⇓P		**Pn**	**16 50 22.4**	**0.0**
JHR				*e*S		**Sn**	**16 50 40.7**	**+0.8**
JKK2	**Kamakawa 2**	**1.27**	**10**	⇑P		**Pn**	**16 50 22.4**	**-0.4**
JKK2				*e*S		**Sn**	**16 50 39.9**	**-0.6**
JKB	**Kayabe**	**1.28**	**236**	⇑P		**Pn**	**16 50 22.6**	**-0.3**
JKB				*e*S		**Sn**	**16 50 40.1**	**-0.6**
ASAJ	**Asahikawa**	**1.50**	**4**	P		**Pn**	**16 50 21.8**	**-3.8**
	9μm,0.3s,baz=118,slow=0.0,SNR=147							
ASAJ				S		**Sn**	**16 50 45.1**	**-0.3**
	5μm,0.3s,baz=353,slow=1.1,SNR=39							
ASAJ	**Asahikawa**	**1.50**	**4**	*e*Pn		**Pn**	**16 50 25.3**	**-0.3**
ASAJ				S		**Sn**	**16 50 45.1**	**-0.3**
JOT	**Ohata**	**1.62**	**221**	⇑P		**Pn**	**16 50 26.7**	**-0.3**
JSK	**Shakotan**	**1.63**	**297**	⇓P		**Pn**	**16 50 26.4**	**-0.7**
JSK				*e*S		**Sn**	**16 50 47.6**	**-0.5**
JAK	**Akkeshi**	**1.69**	**76**	⇑P		**Pn**	**16 50 27.3**	**-0.6**
JAK				*e*S		**Sn**	**16 50 48.3**	**-1.3**
JTKR	**Abashiri--Toko**	**1.72**	**38**	⇑P		**Pn**	**16 50 28.2**	**0.0**
JTKR				*e*S		**Sn**	**16 50 49.6**	**-0.6**
YUK	**Yuzh-Kuril'sk**	**2.86**	**59**	*e*PN		**Pn**	**16 50 44.2**	**+1.1**
YUK				*e*S		**Sn**	**16 51 17.6**	**+0.7**
YUK				pmax	pmax			
	comp=E,814nm,0.2s							
YUK				pmax	pmax			
	comp=N,82μm,0.2s							
YUK				pmax	pmax			
	comp=N,572nm,0.3s							
SHO	**Shikotan**	**3.43**	**67**	*e*PN		**Pn**	**16 50 50.3**	**-0.5**
SHO				*e*S		**Sn**	**16 51 28.3**	**-2.3**
SHO				pmax	pmax			
	comp=Z,1μm,0.4s							
SHO				pmax	pmax			
	comp=N,525nm,0.5s							
YSS	**Yuzh-Sakhalins**	**4.34**	**3**	*e*PN		**Pn**	**16 51 03.9**	**+0.9**
YSS				*e*S		**Sn**	**16 51 54.0**	**+1.5**
YSS				pmax	pmax			
	comp=Z,900nm,2.0s							
YSS				pmax	pmax			
	comp=Z,450nm,0.6s							
YSS				smax	smax			
	comp=N,900nm,3.7s							
YSS				smax	smax			
	comp=E,800nm,4.1s							
YSS				smax	smax			
	comp=Z,220nm,1.2s							
YSS	**Yuzh-Sakhalins**	**4.34**	**3**	*e*Pn		**Pn**	**16 51 03.9**	**+0.9**
KUR	**Kuril'sk**	**4.70**	**54**	*c* iPN		**Pn**	**16 51 09.1**	**+1.2**
KUR				*i* S		**Sn**	**16 52 05.2**	**+4.0**
KUR				pmax	pmax			
	comp=Z,1μm,0.9s							
KUR				pmax	pmax			
	comp=N,58nm,0.4s							
KUR				pmax	pmax			
	comp=Z,387nm,0.4s							
KUR				pmax	pmax			
	comp=E,92nm,0.3s							
KUR				smax	smax			
	comp=N,680nm,0.2s							
KUR				smax	smax			
	comp=E,408nm,0.3s							
KUR				smax	smax			
	comp=E,2μm,2.4s							
KUR				smax	smax			
	comp=N,1μm,1.7s							
UGL	**Uglegorsk**	**6.47**	**358**	*c*ePN		**Pn**	**16 51 31.6**	**-0.2**
UGL				*e*S		**Sn**	**16 52 45.3**	**+1.2**
MJB9	**Matsu-Tunnel**	**6.89**	**210**	*e*Pn		**Pn**	**16 51 37.4**	**-0.4**
MAJO	**Matsushiro**	**6.90**	**210**	*c* iPN		**Pn**	**16 51 37.9**	**+0.1**
MAJO	**Matsushiro**	**6.90**	**210**	*e*Pn		**Pn**	**16 51 37.4**	**-0.4**
MJAR	**Matsushiro Arr**	**6.90**	**210**	P		**Pn**	**16 51 37.9**	**+0.1**
	comp=N,19nm,0.3s,baz=20,slow=14,SNR=165							
VLA	**Vladivostok**	**7.78**	**277**	*d* iPN		**Pn**	**16 51 51.4**	**+1.6**
USRK	**Ussuriysk Ar.**	**7.78**	**285**	P		**Pn**	**16 51 50.8**	**+1.0**
	comp=N,7.9nm,0.3s,baz=86,slow=15,SNR=116							
HABR	**Khabarovsk**	**7.83**	**321**	*c*ePN		**Pn**	**16 51 49.9**	**-0.4**
HABR				*e*S		**Sn**	**16 53 18.0**	**+0.8**
HABR				pmax	pmax			
	comp=N,76nm,1.1s							
HABR				pmax	pmax			
	comp=E,107nm,1.1s							
HABR				pmax	pmax			
	comp=Z,234nm,1.1s							
MSHR	**Mys Shultsa**	**8.34**	**274**	*d* iPN		**Pn**	**16 51 58.5**	**+1.2**
INU	**Inuyama**	**8.40**	**212**	*e*Pn		**Pn**	**16 51 57.7**	**-0.5**
MDJ	**Mudanjiang**	**9.54**	**286**	P		**Pn**	**16 52 13.5**	**-0.2**
MDJ				S		**Sn**	**16 53 55.6**	**-3.4**
MDJ				pmax	pmax			
	comp=Z,62nm,1.0s							
MDJ				pmax	pmax			
	comp=Z,170nm,11.5s							
MDJ				LR	LR			
	comp=Z,210nm,22.8s							
MDJ				LR	LR			
	comp=Z,62nm,24.0s							
MDJ				LR	LR			
	comp=Z,110nm,22.2s							
MDJ	**Mudanjiang**	**9.54**	**286**	*e*Pn		**Pn**	**16 52 14.7**	**+1.0**
JHJ	**Hachijo jima 2**	**9.71**	**193**	P		Pn	16 52 11.7	-4.5
	comp=Z,81nm,0.3s,baz=40,slow=3.0,SNR=42							
JHJ				S		Sn	16 53 51.9	-12
	comp=Z,50nm,0.3s,baz=74,slow=24,SNR=8.1							
JHJ2	**Mitsune**	**9.72**	**193**	*e*Pn		Pn	16 52 11.8	-4.4
JHJ2				*e*Sn		**Sn**	**16 53 57.4**	**-6.0**
KLR	**Kul'dur**	**9.96**	**315**	P		**Pn**	**16 52 20.0**	**+0.6**
	comp=Z,2.0nm,0.3s,baz=122,slow=14,SNR=84							
KSRS	**Korea Array**	**12.27**	**250**	P		**Pn**	**16 52 51.3**	**+0.8**
	comp=Z,0.2nm,0.3s,baz=60,slow=12,SNR=32							
KS01	**Wonju Array Si**	**12.28**	**250**	*e*Pn		**Pn**	**16 52 49.7**	**-1.0**
KS01				*e*Sn		Sn	16 55 16.5	+11
KS15	**Wonju Array Si**	**12.30**	**250**	*e*Pn		**Pn**	**16 52 50.6**	**-0.4**
KS15				*e*Sn		Sn	16 55 16.8	+11
KSAR	**Wonju Array Be**	**12.30**	**250**	PN		**Pn**	**16 52 51.3**	**+0.3**
KSAR	**Wonju Array Be**	**12.30**	**250**	P		**Pn**	**16 52 51.3**	**+0.3**
SKR	**Severo-Kuril's**	**12.36**	**45**	*i* PN		**Pn**	**16 52 52.5**	**+0.9**
CN2	**Changch

SZP	Santa	31.23	224	eP		P		16 56 11.1	+1.6	
	comp=Z,104nm,1.3s									
H11S1	WAKE ISLAND Hy	31.62	132	T		T		17 28 59.1		
	baz=324,slow=74,SNR=240									
H11S3	WAKE ISLAND Hy	31.63	132	T		T		17 29 01.8		
	baz=324,slow=74,SNR=160									
H11S2	WAKE ISLAND Hy	31.64	132	T		T		17 29 06.1		
	baz=324,slow=74,SNR=243									
GTA	Gaotai	32.09	279	P		P		16 56 18.0	+1.0	
GTA				pP		pP		16 56 40.4	+1.2	
GTA				sP		sP		16 56 51.7	+1.0	
GTA				S		S		17 01 20.2	-1.9	
GTA				sS		sS		17 01 58.2	-2.4	
GTA				pmax		pmax				
	comp=Z,14nm,1.0s									
GTA				pmax		pmax				
	comp=Z,100nm,5.5s									
GTA				LR		LR				
	comp=Z,150nm,18.1s									
GTA				LR		LR				
	comp=Z,120nm,15.0s									
GTA				LR		LR				
	comp=Z,84nm,12.8s									
CD2	Chengdu	32.86	262	eP		P		16 56 23.9	+0.1	
CD2				pP		pP		16 56 43.9	-2.1	
CD2				sP		sP		16 56 54.0	-3.4	
CD2				pmax		pmax				
	comp=Z,20nm,0.9s									
GYA	Guiyang	33.31	253	eP		P		16 56 29.3	+1.5	
GYA				pmax		pmax				
	comp=Z,10.0nm,0.9s									
QIZ	Qiongzhong	36.21	240	P		P		16 56 52.7	0.0	
QIZ				pP		pP		16 57 13.8	-1.4	
QIZ				sP		sP		16 57 24.6	-1.9	
QIZ				S		S		17 02 27.6	+2.0	
QIZ				pmax		pmax				
	comp=Z,19nm,2.3s									
QIZ				LR		LR				
	comp=Z,210nm,5.0s									
KMI	Kunming	36.91	255	P		P		16 56 59.2	+0.3	
KMI				pmax		pmax				
	comp=Z,6.0nm,0.5s									
SLVN	Son La	38.54	249	eP		P		16 57 14.9	+2.5	
	comp=Z,4.9nm,0.8s									
ZAA0	Zalesovo Array	38.95	307	eP		P		16 57 15.2	-0.1	
ZALV	Zalesovo Beam	38.95	307	P		P		16 57 15.5	+0.2	
	comp=Z,8.6nm,0.8s,baz=90,slow=7.3,SNR=28									
ZALV				PcP		PcP		16 59 23.8	0.0	
	comp=Z,1.1nm,0.6s,baz=80,slow=2.5,SNR=2.6									
ZALV				ScP		ScP		17 03 03.0	0.0	
	comp=Z,1.3nm,0.6s,baz=80,slow=4.5,SNR=4.9									
WMQ	Urumqi	39.30	291	P		P		16 57 19.3	+0.7	
WMQ				sP		sP		16 57 53.2	+0.6	
WMQ				pmax		pmax				
	comp=Z,20nm,0.7s									
WMQ				pmax		pmax				
	comp=Z,81nm,3.9s									
WMQ				LR		LR				
	comp=Z,55nm,22.5s									
WMQ				LR		LR				
	comp=Z,74nm,21.3s									
WMQ				LR		LR				
	comp=Z,75nm,20.3s									
CHGN	Chignik	39.54	49	eP		P		16 57 15.7	-4.5	
	comp=Z,522nm,1.8s									
NVS	Novosibirsk	39.75	309	eP		P		16 57 21.6	-0.4	
NVS				pmax		pmax				
	comp=E,6.0nm,1.3s									
NVS				pmax		pmax				
	comp=Z,10.0nm,1.3s									
MK31	Makanchi Array	42.05	297	eP		P		16 57 41.3	+0.2	
MK31	Makanchi Array	42.05	297	eP		P		16 57 41.2	+0.2	
MKAR	Makanchi Array	42.05	297	eP		P		16 57 40.6	-0.5	
MKAR	Makanchi Array	42.05	297	eP		P		16 57 40.6	-0.5	
	comp=Z,124nm,0.6s									
MK01	Makanchi Array	42.05	297	eP		P		16 57 40.9	-0.3	
RSO	Redoubt South	42.12	42	eP		P		16 57 43.2	+1.5	
PPLA	Purkeypile	42.21	38	eP		P		16 57 43.5	+1.2	
	comp=Z,20nm,1.2s									
CAST	Castle Rocks	42.23	38	eP		P		16 57 43.1	+0.8	
	comp=Z,12nm,0.8s									
MAKZ	Makanchi	42.26	297	P		P		16 57 42.0	-0.7	
MAKZ				pmax		pmax				
	comp=Z,21nm,0.9s									
MAKZ	Makanchi	42.26	297	eP		P		16 57 42.7	0.0	
	comp=Z,20nm,0.8s									
SPU	Mount Spurr	42.39	41	eP		P		16 57 44.5	+0.8	
KDAK	Kodiak Island	42.52	46	i P		P		16 57 44.5	-0.1	
KTH	Kantishna Hill	42.74	37	eP		P		16 57 47.1	+0.6	
	comp=Z,19nm,0.9s									
LSA	Lhasa	42.77	270	eP		P		16 57 48.7	+1.1	
LSA				pmax		pmax				
	comp=Z,6.0nm,0.6s									
LSA	Lhasa	42.77	270	eP		P		16 57 48.7	+1.1	
	comp=Z,5.5nm,0.6s									
COLD	Coldfoot	42.94	32	eP		P		16 57 47.6	-0.3	
	comp=Z,10nm,1.0s									
KURK	Kurchatov	43.31	304	ceP		P		16 57 51.1	0.0	
KURK				pmax		pmax				
	comp=Z,95nm,0.8s									
KURK	Kurchatov	43.31	304	eP		P		16 57 50.8	-0.3	
	comp=Z,36nm,0.7s									
RC01	Rabbit Creek A	43.52	41	eP		P		16 57 52.9	+0.2	
MCK	McKinley	43.62	37	eP		P		16 57 52.9	-0.6	
MCK				pmax		pmax				
	comp=Z,11nm,0.9s									
MCK	McKinley	43.62	37	eP		P		16 57 52.9	-0.6	
	comp=Z,11nm,0.9s									
CHTO	Chiang Mai	43.67	251	eP		P		16 57 56.2	+1.8	
CHTO				pmax		pmax				
	comp=Z,22nm,1.6s									
CHTO	Chiang Mai	43.67	251	eP		P		16 57 56.1	+1.8	
	comp=Z,22nm,1.6s									
RND	Reindeer	43.68	37	eP		P		16 57 53.7	-0.4	
RND				pmax		pmax				
	comp=Z,9.0nm,0.8s									
RND	Reindeer	43.68	37	eP		P		16 57 53.7	-0.4	
	comp=Z,9.3nm,0.8s									
PMR	Palmer	43.75	40	eP		P		16 57 53.2	-1.3	
PMR				pmax		pmax				
	comp=Z,10.0nm,1.0s									
PMR	Palmer	43.75	40	eP		P		16 57 53.2	-1.3	
	comp=Z,10nm,1.0s									
MDM	Murphy Dome	43.82	35	eP		P		16 57 55.4	+0.3	
	comp=Z,8.2nm,1.0s									
CMAR	Chiang Mai Arr	43.91	250	P		P		16 57 58.2	+1.9	
	comp=Z,1.5nm,0.8s,baz=48,slow=6.6,SNR=9.5									
CMAR	Chiang Mai Arr	43.91	250	i P		P		16 57 59.2	+2.9	
CMAR				pmax		pmax				
	comp=Z,2.0nm,0.8s									
WRH	Wood River Hil	43.92	36	eP		P		16 57 55.9	0.0	
	comp=Z,37nm,1.8s									
CM01	Chiang Mai Arr	43.92	250	eP		P		16 57 59.3	+2.8	
COLA	College	43.99	35	eP		P		16 57 59.0	+2.6	
COLA	College	43.99	35	eP		P		16 57 59.0	+2.6	
	comp=Z,56nm,0.3s									
CCB	Clear Creek Bu	44.03	36	eP		P		16 57 56.7	0.0	
	comp=Z,4.2nm,0.7s									
SML	Sawmill	44.10	40	eP		P		16 57 57.4	0.0	
SML				pmax		pmax				
	comp=Z,17nm,0.7s									
SML	Sawmill	44.10	40	eP		P		16 57 57.4	0.0	
	comp=Z,17nm,0.7s									
DHY	Denali Highway	44.38	38	eP		P		16 57 59.6	-0.2	
	comp=Z,15nm,0.7s									
IL1	Eielson Array	44.41	35	eP		P		16 57 59.2	-0.6	
ILAR	Eielson Array	44.41	35	P		P		16 57 59.5	-0.3	
	comp=Z,7.7nm,0.8s,baz=267,slow=6.3,SNR=46									
ILB	Eielson Array	44.41	35	eP		P		16 57 59.8	0.0	
SCM	Sheep Creek Mo	44.57	40	eP		P		16 58 01.9	+0.7	
SCM				pmax		pmax				
	comp=Z,18nm,0.8s									
SCM	Sheep Creek Mo	44.57	40	eP		P		16 58 01.9	+0.7	
	comp=Z,18nm,0.8s									
FYU	Fort Yukon	44.92	33	eP		P		16 58 04.6	+0.8	
	comp=Z,50nm,1.4s									
PDGK	Podgornoye	45.08	293	P		P		16 58 04.8	-0.7	
PDGK				pmax		pmax				
	comp=Z,9.0nm,0.9s									
DIV	Divide	45.42	40	eP		P		16 58 08.4	+0.5	
	comp=Z,17nm,0.7s									
HARP	HAARP	45.49	38	eP		P		16 58 09.2	+0.8	
	comp=Z,26nm,0.8s									
EYAK	Cordova Ski Ar	45.54	41	eP		P		16 58 09.3	+0.6	
	comp=Z,40nm,1.2s									
DOT	Dot Lake	45.78	37	eP		P		16 58 09.9	-0.7	
	comp=Z,26nm,1.2s									
BMRM	Bremner River	46.01	40	eP		P		16 58 12.9	+0.4	
	comp=Z,12nm,0.7s									
MENT	Mentasta	46.05	38	eP		P		16 58 13.8	+1.0	
	comp=Z,6.2nm,0.6s									
TAPN	Taplejung	46.58	269	eP		P		16 58 18.9	+1.1	
	comp=Z,19nm,0.3s									
CRQM	Cirque	46.75	40	eP		P		16 58 19.4	+0.9	
	comp=Z,17nm,0.8s									
EGAK	Eagle	46.84	35	eP		P		16 58 18.8	-0.1	
	comp=Z,8.2nm,0.9s									
ODAN	Odare	47.09	269	eP		P		16 58 23.1	+1.4	
	comp=Z,35nm,0.7s									
JIRN	Jiri	47.53	271	eP		P		16 58 25.8	+0.6	
BVA0	Borovoye Array	47.55	309	P		P		16 58 24.0	-0.6	
BVA0				pmax		pmax				
	comp=Z,5.0nm,0.4s									
BRVK	Borovoye	47.60	309	ceP		P		16 58 25.3	+0.4	
BRVK				i *PP		pP		16 58 49.4	+1.0	
BRVK				pmax		pmax				
	comp=Z,21nm,0.9s									
BRVK	Borovoye	47.60	309	eP		P		16 58 25.4	+0.4	
	comp=Z,8.7nm,0.8s									
GUN	Gumba	47.63	271	eP		P		16 58 26.8	+0.9	
	comp=Z,65nm,0.3s									
RAMN	Ramite	47.63	270	eP		P		16 58 26.3	+0.5	
	comp=Z,27nm,0.4s									
DAWY	Dawson	47.73	36	eP		P		16 58 26.2	+0.3	
	comp=Z,8.1nm,1.3s									
TKM2	Tokmak 2	47.87	294	P		P		16 58 27.8	+0.4	
TKM2				pmax		pmax				
	comp=Z,22nm,0.9s									
KKN	Kakani	48.13	271	eP		P		16 58 30.3	+0.6	
	comp=Z,18nm,0.5s									
PKI	Pulchoki	48.16	271	eP		P		16 58 30.4	+0.4	
	comp=Z,25nm,0.6s									
PKIN	Phulchoki	48.17	271	eP		P		16 58 30.7	+0.7	
	comp=Z,32nm,0.6s									
DMN	Daman	48.36	271	eP		P		16 58 32.1	+0.6	
	comp=Z,26nm,0.6s									
GKN	Gorkha	48.49	272	eP		P		16 58 32.8	+0.5	
	comp=Z,16nm,0.3s									
AAK	Ala-Archa	48.72	294	i P		P		16 58 34.4	+0.5	
AAK				pmax		pmax				
	comp=Z,10.0nm,0.9s									
AAK	Ala-Archa	48.72	294	eP		P		16 58 34.5	+0.6	
	comp=Z,4.9nm,0.6s									
KSH	Kashi	49.05	290	eP		P		16 58 40.0	+3.6	
KSH				pP		pP		16 59 03.1	+3.1	
KSH				PP		PP		17 00 36.0	+5.4	
KSH				S		S		17 05 36.7	+3.0	
KSH				sS		sS		17 06 17.7	+3.6	
KSH				SS		SS		17 09 05.7	+0.2	
KSH				pmax		pmax				
	comp=Z,6.0nm,1.2s									
KSH				pmax		pmax				
	comp=Z,140nm,4.9s									
KSH				LR		LR				
	comp=Z,97nm,5.7s									
KSH				LR		LR				
	comp=Z,72nm,5.7s									
KSH				LR		LR				
	comp=Z,95nm,5.8s									
INK	Inuvik	49.09	29	P		P		16 58 35.7	-0.4	
	comp=Z,8.7nm,0.3s,baz=296,slow=5.6,SNR=51									
INK	Inuvik	49.09	29	eP		P		16 58 35.8	-0.4	
INK				pmax		pmax				
	comp=Z,10.0nm,0.8s									
INK	Inuvik	49.09	29	eP		P		16 58 35.8	-0.3	
	comp=Z,9.7nm,0.8s									
KOLN	Koldanda	49.38	272	eP		P		16 58 40.1	+0.9	
	comp=Z,22nm,0.3s									
HYT	Haines Junctio	49.41	39	eP		P		16 58 40.5	+1.7	
PYUN	Piuthan	49.65	273	eP		P		16 58 42.1	+0.8	
	comp=Z,22nm,0.3s									
MNAS	Manas	50.12	295	P		P		16 58 44.8	+0.3	
MNAS				pmax		pmax				
	comp=Z,13nm,0.9s									
WHY	Whitehorse	50.69	39	eP		P		16 58 49.7	+1.2	
	comp=Z,7.6nm,0.6s									
SKAG	Skagway	50.87	41	eP		P		16 58 49.4	-0.3	
	comp=Z,13nm,1.2s									
KK31	Karatay Array	51.18	297	i P		P		16 58 51.5	-0.8	
KK31				pmax		pmax				
	comp=Z,5.0nm,0.7s									
KKAR	Karatay Array	51.18	297	eP		P		16 58 51.9	-0.4	
KKAR				pmax		pmax				
	comp=Z,55nm,0.7s									
KKAR	Karatay Array	51.18	297	eP		P		16 58 51.9	-0.4	
	comp=Z,55nm,0.7s									
SVE	Sverdlovsk	51.59	316	eP		P		16 58 55.9	+0.8	
SVE				pmax		pmax				
	comp=Z,16nm,0.7s									
ARU	Arti	52.80	316	d iP		P		16 59 04.0	-0.1	
ARU				*PP		pP		16 59 27.4	-0.5	
ARU								17 00 12.1		
ARU								17 01 07.9		
ARU				S		S		17 06 26.3	+1.6	
ARU				SS		SS		17 10 00.0	-4.0	
ARU				pmax		pmax				
	comp=Z,12nm,0.8s									
ARU	Arti	52.80	316	eP		P		16 59 03.5	-0.6	
	comp=Z,10nm,0.7s									
DLBC	Dease Lake	53.80	41	LR		LR		17 22 05.8		
	comp=Z,20nm,21.4s,baz=320,slow=36									
DLBC	Dease Lake	53.80	41	eP		P		16 59 13.3	+1.8	
	comp=Z,4.7nm,0.8s									
AB31	Akbulak array	55.06	308	P		P		16 59 20.6	-0.1	
AB31				pmax		pmax				
	comp=Z,2.0nm,0.3s									
ABKAR	Akbulak array	55.06	308	eP		P		16 59 20.9	+0.3	
	comp=Z,99nm,0.8s									
YKA	Yellowknife Ar	58.62	32	P		P		16 59 45.6	+0.1	
	comp=Z,3.9nm,0.4s,baz=307,slow=6.8,SNR=14									
YKA	Yellowknife Ar	58.62	32	i P		P		16 59 45.9	+0.4	
YKA				pmax		pmax				
	comp=Z,6.0nm,0.6s									
ARCES	ARCESS Array B	59.08	339	P		P		16 59 48.5	-0.2	
	comp=Z,3.8nm,1.0s,baz=52,slow=7.9,SNR=4.1									
DAG	Danmarks Havn	60.28	355	i P		P		16 59 56.3	-0.5	
	comp=Z,4.1nm,0.7s									
DAG	Danmarks Havn	60.28	355	i P		P		16 59 56.3	-0.5	
DAG				pmax		pmax				
	comp=Z,3.0nm,0.7s									
GEYT	Alibeck	61.93	297	P		P		17 00 08.3	-0.3	
	comp=Z,15nm,0.8s,baz=35,slow=3.6,SNR=11									
FITZ	Fitzroy Crossi	62.38	198	P		P		17 00 12.5	+0.9	
	comp=Z,4.7nm,1.1s,baz=34,slow=7.3,SNR=2.9									
WRAB	Tennant Creek	62.69	189	i P		P		17 00 11.1	-2.5	
WRAB				pmax		pmax				
	comp=Z,28nm,1.4s									
WRA	Warramunga Arr	62.70	189	P		P		17 00 13.9	+0.2	
	comp=Z,1.2nm,0.7s,baz=7.3,slow=6.9,SNR=19									
WRA	Warramunga Arr	62.70	189	i P		P		17 00 12.6	-1.1	
WRA				pmax		pmax				
	comp=Z,1.0nm,0.5s									
ALST	Alston	63.63	51	eP		P		17 00 18.7	-1.0	
OBN	Obninsk	64.14	322	eP		P		17 00 21.3	-1.5	
OBN				e*PP		pP		17 00 49.7	+2.3	
OBN				*SP		sP		17 01 01.0	+2.7	
OBN				pmax		pmax				
	comp=Z,7.0nm,0.6s									
OBN				MLR		MLR				
	comp=Z,88nm,15.0s									
FINES	FINESS Array B	64.27	331	P		P		17 00 23.1	-0.5	
	comp=Z,2.9nm,0.4s,baz=50,slow=7.4,SNR=38									
SUMG	Summit	65.11	0	i P		P		17 00 29.8	+0.4	
	comp=Z,10.0nm,0.8s									
SUMG	Summit	65.11	0	eP		P		17 00 29.6	+0.2	
SUMG				pmax		pmax				
	comp=Z,10.0nm,0.8s									
SUMG	Summit	65.11	0	eP		P		17 00 29.6	+0.2	
	comp=Z,9.8nm,0.8s									
VSU	Vasula	66.07	329	i P		P		17 00 32.8	-2.5	
VSU				pmax		pmax				
	comp=Z,82nm,1.4s									
E09A	Wood Farm, Sta	66.13	48	eP		P		17 00 37.1	+1.2	
	comp=Z,4.7nm,0.8s									
ASAR	Alice Springs	66.42	189	P		P		17 00 39.0	+1.1	
	comp=Z,0.8nm,0.6s,baz=1.8,slow=6.4,SNR=17									
ASAR	Alice Springs	66.42	189	P		P		17 00 39.0	+1.1	
ASAR				pmax		pmax				
	comp=Z,1.0nm,0.6s									
BSMT	Bassoo Peak	67.11	45	eP		P		17 00 43.3	+0.9	
BMO	Blue Mountains	67.61	49	eP		P		17 00 44.9	-0.5	
BMO				pmax		pmax				
	comp=Z,12nm,1.8s									
BMO	Blue Mountains	67.61	49	eP		P		17 00 44.9	-0.5	
	comp=Z,12nm,1.8s									
SWMT	Swartz Lake	67.74	45	eP		P		17 00 47.4	+1.1	
KIV	Kislovodsk	67.90	310	eP		P		17 00 48.7	+1.4	
KIV				pmax		pmax				
	comp=Z,18nm,0.9s									
KIV	Kislovodsk	67.90	310	eP		P		17 00 49.0	+1.7	
	comp=Z,16nm,0.8s									
KBZ	Khabaz	67.92	310	P		P		17 00 48.0	+0.8	
	comp=Z,5.0nm,0.7s,baz=52,slow=4.0,SNR=22									
ZEI	Tsey	67.93	308	eP		P		17 00 45.8	-1.8	
ZEI				pmax		pmax				
	comp=Z,8.0nm,0.4s									
NB2	NORSAR Subarra	69.36	337	P		P		17 00 56.2	+0.2	
	comp=Z,6.4nm,0.8s,baz=36,slow=6.2									
NOA	NORSAR Array B	69.36	337	P		P		17 00 55.5	-0.5	
	comp=Z,2.0nm,0.7s,baz=36,slow=6.1,SNR=8.1									
HRY	Holter Researc	69.39	45	eP		P		17 00 57.3	+0.8	
EGMT	Eagleton	69.60	43	eP		P		17 00 58.9	+1.1	
	comp=Z,9.1nm,1.0s									
BOZ	Bozeman (W)	70.23	46	eP		P		17 01 02.5	+0.8	
BOZ				pmax		pmax				
	comp=Z,4.0nm,0.6s									
BOZ	Bozeman (W)	70.23	46	eP		P		17 01 02.5	+0.8	
	comp=Z,4.3nm,0.6s									
AKASG	Malin Array Be	70.39	322	P		P		17 01 00.9	-1.5	
	comp=Z,2.0nm,0.4s,baz=43,slow=6.4,SNR=18									
AKASG	Malin Array Be	70.39	322	i P		P		17 01 02.0	-0.4	
AKASG				pmax		pmax				
	comp=Z,2.0nm,0.4s									
AKBB	Malin Array Si	70.39	322	eP		P		17 01 02.0	-0.4	
AKBB				pmax		pmax				
	comp=Z,6.0nm,0.8s									
AKBB	Malin Array Si	70.39	322	eP		P		17 01 02.0	-0.4	
	comp=Z,5.8nm,0.8s									
KIEV	Kiev	70.41	322	d iP		P		17 01 02.2	-0.3	
KIEV				pmax		pmax				
	comp=Z,4.0nm,0.9s									
KIEV	Kiev	70.41	322	eP		P		17 01 02.2	-0.3	
	comp=Z,5.8nm,0.8s									
YHB	Horse Butte	71.02	46	eP		P		17 01 07.4	+0.8	
	comp=Z,5.5nm,0.7s									
IMW	Indian Meadow	71.72	47	eP		P		17 01 11.4	+0.5	
	comp=Z,2.6nm,0.7s									
BW06	Boulder Array	73.23	47	eP		P		17 01 20.3	+0.5	
	comp=Z,1.8nm,0.6s									
PD31	Pinedale Array	73.23	47	eP		P		17 01 20.2	+0.4	
PDAR	Pinedale Array	73.23	47	P		P		17 01 20.0	+0.2	
	comp=Z,1.5nm,0.5s,baz=268,slow=1.5,SNR=17									
TPNV	Topopah Spring	73.26	55	eP		P		17 01 20.3	+0.2	
TPNV				pmax		pmax				
	comp=Z,3.0nm,0.8s									
TPNV	Topopah Spring	73.26	55	eP		P		17 01 20.3	+0.2	
	comp=Z,3.0nm,0.8s									
BUR08	Bucovina Ar. S	74.43	321	eP		P		17 01 26.8	+0.2	
SRU	San Rafael Swe	75.18	50	eP		P		17 01 31.0	-0.2	
SRU				pmax		pmax				
	comp=Z,6.0nm,0.9s									
SRU	San Rafael Swe	75.18	50	eP		P		17 01 31.0	-0.2	
	comp=Z,5.5nm,0.9s									
BRTR	Keskin Array B	75.77	311	P		P		17 01 34.8	+0.3	
	comp=Z,1.3nm,0.7s,baz=53,slow=3.4,SNR=7.3									
BRTR				LR		LR		17 40 54.3		
	comp=Z,36nm,18.1s,baz=298,slow=40									
BRTR	Keskin Array B	75.77	311	i P		P		17 01 35.0	+0.5	
BRTR				pmax		pmax				
	comp=Z,1.0nm,0.7s									
U15A	North Rim	75.98	53	eP		P		17 01 35.0	-0.9	
	comp=Z,4.0nm,1.0s									
DPC	Dobruska-Polom	76.16	328	eP		P		17 01 40.3	+3.9	
DPC				epP		pP		17 02 02.8	+1.1	
DPC				ex		x		17 02 16.4		
DPC	Dobruska-Polom	76.16	328	eP		P		17 01 40.3	+3.9	
DPC				e				17 02 02.8		
DPC				e				17 02 16.4		
BR231	Keskin MP Arra	76.16	312	eP		P		17 01 35.1	-1.6	
CLL	Collm	76.66	330	eP		P		17 01 39.0	-0.1	
CLL				e*PP		pP		17 02 05.0	+0.6	
CLL	Collm	76.66	330	eP		P		17 01 39.0	-0.1	
CLL				epP		pP		17 02 05.0	+0.6	
PV05	Paradox Valley	76.70	50	eP		P		17 01 41.4	+1.5	
KHC	Kasperske Hory	78.21	329	eP		P		17 01 49.5	+1.7	
KHC				epP		pP		17 02 14.1	+0.9	
KHC				ex		x		17 02 28.2		
KHC	Kasperske Hory	78.21	329	eP		P		17 01 49.5	+1.7	
KHC				e				17 02 14.1		
KHC				e				17 02 28.2		
GERES	GERESS Array B	78.39	328	P		P		17 01 48.9	-0.1	
	comp=Z,0.2nm,0.3s,baz=36,slow=8.5,SNR=3.0									
NWAO	Narrogin (SRO)	78.66	201	P		P		17 01 51.0	+0.7	
	comp=Z,4.8nm,0.8s,baz=18,slow=19,SNR=3.2									
NWAO	Narrogin (SRO)	78.66	201	P		P		17 01 51.0	+0.7	
NWAO				pmax		pmax				
	comp=Z,5.0nm,0.8s									
ANMO	Albuquerque	80.41	51	eP		P		17 02 01.2	+0.9	
ANMO				pmax		pmax				
	comp=Z,8.0nm,2.7s									
WMOK	Wichita Mounta	84.83	46	eP		P		17 02 20.2	-2.7	
WMOK				pmax		pmax				
	comp=Z,3.0nm,0.8s									
WMOK	Wichita Mounta	84.83	46	eP		P		17 02 20.2	-2.7	
	comp=Z,2.7nm,0.8s									
TX31	Lajitas Ar. Si	86.11	53	eP		P		17 02 29.9	+0.4	
TXAR	Lajitas Array	86.11	53	P		P		17 02 30.1	+0.6	
	comp=Z,1.0nm,0.6s,baz=284,slow=3.5,SNR=15									
MSEV

NEIC ***12*** *17:03:38.4±0.8, 18.16S×176.68W, h10km, mb4.6/2, Error ellipse: s-maj=27.3km s-min=13.7km az=144.0*

ISC 12 17:03:38.4±1.2, 18°10.0S±0.2×176°12.2W±0.2, h35km, n9, σ0§90/8, mb4.3/8, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**5.89**	**47**	Pn		17 05 10.9	+7.7
	2.5nm,0.3s,baz=243,slow=6.8,SNR=4.0						
AFI				Sn		17 06 09.7	+0.1
	5.0nm,0.3s,baz=195,slow=20,SNR=7.5						
URZ	**Urewera**	**21.03**	**195**	P		**P** 17 08 18.7	-0.4
	11nm,1.1s,baz=256,slow=4.2,SNR=5.9						
HNR	**Honiara**	**24.64**	**287**	P		**P** 17 08 54.5	-1.4
	32nm,0.4s,baz=213,slow=15,SNR=7.4						
CTA	**Charters Tower**	**35.49**	**260**	P		**P** 17 10 33.4	+1.4
	2.9nm,0.9s,baz=82,slow=15,SNR=3.4						
STKA	**Stephens Creek**	**40.42**	**242**	P		**P** 17 11 13.6	+0.1
	2.0nm,0.9s,baz=97,slow=8.1,SNR=2.8						
WRAB	**Tennant Creek**	**46.66**	**259**	*e*P		**P** 17 12 03.7	-0.2
	1.4nm,0.4s						
WRA	**Warramunga Arr**	**46.66**	**259**	P		**P** 17 12 03.9	-0.1
	1.5nm,0.5s,baz=98,slow=7.0,SNR=28						
ASAR	**Alice Springs**	**46.77**	**254**	P		**P** 17 12 04.6	-0.2
	7.0nm,0.6s,baz=90,slow=8.1,SNR=156						
NEW	**Newport**	**84.36**	**35**	P		P 17 16 14.6	+7.7
	7.9nm,1.1s						

ISCJB ***12*** *17:09:29.5±1.1, 23.1N±0.2×94.2E±0.2, h58km, mb3.5/5, Error ellipse: s-maj=41.2km s-min=9.4km az=140.7*

IDC ***12*** *17:09:33.4±4.4, 23.12N×94.20E, h81km±40km, mb3.2/4, mb1 3.3/5, mb1mx3.0/50, mbtmp3.4/5, Error ellipse: s-maj=61.6km s-min=17.5km az=67.0*

ISC 12 17:09:32.5±1.1, 23.3N±0.2×94.4E±0.2, h58km, n7, σ1§63/8, mb3.5/5, 1C, Myanmar-India border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SHL	**Shillong**	**3.25**	**315**	⇑*i*PN		**Pn** 17 10 23.0	+1.9
SHL				*e*SN		17 10 57.0	-1.6
CMAR	**Chiang Mai Arr**	**6.39**	**138**	P		**Pn** 17 11 05.2	+1.1
	0.4nm,0.3s,baz=310,slow=13,SNR=9.3						
SONM	**Songino Array**	**26.32**	**18**	P		**P** 17 15 03.7	+0.8
	0.3nm,0.4s,baz=188,slow=8.7,SNR=3.2						
KURBB	**Kurchatov Arra**	**29.98**	**340**	P		**P** 17 15 35.0	-0.3
	0.6nm,0.2s,baz=158,slow=8.0,SNR=2.8						
ZALV	**Zalesovo Beam**	**31.48**	**349**	P		**P** 17 15 47.6	-0.8
	0.4nm,0.3s,baz=175,slow=6.2,SNR=3.0						
WRA	**Warramunga Arr**	**57.98**	**135**	P		**P** 17 19 17.7	-1.7
	0.3nm,0.7s,baz=319,slow=7.6,SNR=5.1						
ASAR	**Alice Springs**	**60.40**	**138**	P		**P** 17 19 34.9	-1.3
	0.3nm,0.8s,baz=316,slow=6.7,SNR=7.0						

JMA ***12*** *17:10:49.9, 24.43N×121.88E, h24km±4km, M2.2*

ISCJB ***12*** *17:10:50.5±0.3, 24.46N±0.03×121.95E±0.02, h17km±5km, Error ellipse: s-maj=4.4km s-min=3.2km az=157.4*

TAP ***12*** *17:10:50.5, 24.46N×121.87E, h16km, ML3.0, D*

ISC 12 17:10:50.2±0.8, 24°45N±0.02×121°93E±0.03, h17km±6km, n35, σ0§59/53, 1C-5D, Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ENA	**Nanau**	**0.17**	**264**	⇑*i*P		**Pg** 17 10 54.6	-0.1
	baz=251						
ENA				S		**Sg** 17 10 57.6	-0.1
	baz=251						
TWC	**Suao**	**0.18**	**335**	⇓*i*P		**Pg** 17 10 55.1	+0.3
	baz=355						
TWC				S		**Sg** 17 10 58.2	+0.3
	baz=355						
ILA	**Ilan**	**0.36**	**332**	⇓P		**Pb** 17 10 58.0	-0.2
	baz=340						
ILA				*e*S		**Sb** 17 11 03.6	+0.1
	baz=340						
TWE	**Neicheng**	**0.36**	**319**	⇓*i*P		**Pg** 17 10 57.7	-0.1
	baz=325						
TWE				S		**Sg** 17 11 02.8	-0.2
	baz=325						
ENTT	**Nioudou**	**0.39**	**300**	⇓*i*P		**Pg** 17 10 58.0	-0.2
	baz=302						
ENTT				S		**Sg** 17 11 03.2	-0.4
	baz=302						
TWD	**Chiawan**	**0.48**	**220**	P		**Pg** 17 10 59.4	-0.4
	baz=212						
TWD				*e*S		**Sb** 17 11 08.3	+1.4
	baz=212						
NNS	**Nan Shan**	**0.51**	**269**	*e*P		**Pg** 17 11 00.2	-0.3
	baz=266						
NNS				*e*S		**Sg** 17 11 06.8	-0.5
	baz=266						
TWB1	**Santiao Chiao**	**0.56**	**5**	P		**Pb** 17 11 01.3	-0.3
	baz=12						
TWB1				*e*S		**Sg** 17 11 08.8	-0.2
	baz=12						
TWA	**Mucha**	**0.62**	**329**	*e*P		**Pb** 17 11 02.3	-0.3
	baz=333						
NWF	**Wu-fen Shan**	**0.64**	**348**	⇓P		**Pb** 17 11 02.9	-0.1
	baz=352						
NWF				*e*S		**Sb** 17 11 11.2	-0.4
	baz=352						
WHF	**Hehuan Shan**	**0.68**	**244**	*e*P		**Pb** 17 11 03.0	-0.9
	baz=239						
TAP1	**Taipei**	**0.70**	**328**	*e*P		**Pg** 17 11 04.3	+0.3
	baz=330						
TAP	**Taipei**	**0.71**	**327**	*e*P		**Pg** 17 11 04.3	+0.2
	baz=330						
TWT	**Tachien**	**0.71**	**255**	*e*P		**Pg** 17 11 04.4	+0.1
	baz=251						
TWS1	**Kuangyinshan**	**0.80**	**325**	*e*P		**Pb** 17 11 05.7	0.0
	baz=327						
TWS1				*e*S		**Sn** 17 11 17.6	-0.7
	baz=327						
NSTT	**Nanjuang**	**0.87**	**282**	*e*P		**Pg** 17 11 07.1	0.0
	baz=281						
NSTT				*e*S		**Sg** 17 11 18.1	-0.5
	baz=281						
TWY	**Chenhua**	**0.88**	**340**	*e*P		**Pb** 17 11 07.1	+0.1
	baz=343						
JYNG	**Yonagunijimaku**	**0.92**	**89**	P		**Pb** 17 11 07.5	-0.3
JYNG				*e*S		**Sb** 17 11 20.1	+0.3
YOJ	**Yonaguni jima**	**0.98**	**89**	P		**Pb** 17 11 08.5	-0.3
YOJ				*e*S		**Sb** 17 11 22.0	+0.5
TWQ1	**Liyutan**	**1.06**	**265**	*e*P		**Pg** 17 11 11.3	+0.5
	baz=263						
TWQ1				*e*S		**Sg** 17 11 25.9	+1.2
	baz=263						
EHY	**Hungye**	**1.09**	**211**	*e*P		**Pb** 17 11 10.5	-0.1
	baz=207						
SMLT	**Sun Moon Lake**	**1.10**	**239**	*e*P		**Pn** 17 11 10.8	-0.1
	baz=236						
TWF1	**Yuli**	**1.23**	**208**	*e*P		**Pg** 17 11 13.8	-0.3
	baz=205						
WNT	**Mingjian**	**1.27**	**244**	*e*P		**Pb** 17 11 14.1	+0.4
	baz=241						
ALS	**Alishan**	**1.39**	**228**	*e*P		**Pb** 17 11 16.4	+0.6
	baz=225						
CHN5	**Tsauling**	**1.42**	**234**	*e*P		**Pb** 17 11 16.7	+0.3
	baz=231						
ELDTW	**Lidau**	**1.50**	**214**	*e*P		**Pn** 17 11 16.5	0.0
	baz=211						
IRIF	**Iriomote-Funau**	**1.64**	**93**	P		**Pn** 17 11 18.0	-0.3
IRIF				*e*S		**Sn** 17 11 38.1	-0.9
STYT	**Tauyuan**	**1.67**	**220**	*e*P		**Pn** 17 11 19.4	+0.7
	baz=217						
WTP	**Ta-pu**	**1.70**	**226**	*e*P		**Pb** 17 11 20.2	-0.8
	baz=223						
TWK	**Hsinying**	**1.77**	**229**	*e*P		**Pb** 17 11 21.9	-0.3
	baz=226						
CHN1	**Nanshi**	**1.80**	**226**	*e*P		**Pb** 17 11 22.1	-0.5
	baz=223						
JKRS	**Kuro-shima**	**1.91**	**96**	P		**Pn** 17 11 22.3	+0.4
JKRS				*e*S		**Sn** 17 11 46.0	+0.5
JIJ	**Ishigaki jima**	**2.02**	**92**	P		**Pn** 17 11 23.7	+0.2
JIJ				*e*S		**Sn** 17 11 46.4	-1.9
JISG	**Ishigakijimahi**	**2.17**	**86**	P		**Pn** 17 11 27.2	+1.6
JISG				*e*S		**Sn** 17 11 52.2	+0.1

ISCJB ***12*** *17:12:35.7±0.4, 49.37N±0.03×127.18W±0.04, h28km, mb3.1/1, MS3.2/1, Error ellipse: s-maj=4.7km s-min=2.6km az=138.9*

PGC ***12*** *17:12:36.5±0.0, 49.35N×127.15W, h39km, ML3.2/35, 84km Wsw of Gold R., Bc Vancouver Island, Canada Region*

IDC ***12*** *17:12:37.8±2.3, 49.77N×126.39W, h0km, mb3.4/1, mb1 3.7/4, mb1mx3.4/50, mbtmp3.3/4, ML3.5/3, MS2.8/2, Ms1 2.8/2, ms1mx2.5/30, Error ellipse: s-maj=76.1km s-min=9.7km az=56.0*

ISC 12 17:12:37.2±1.0, 49°39N±0°05×127°07W±0°05, h28km, n67, σ1§75/76, Vancouver Island region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ETB	**Estevan Point**	**0.35**	**93**	P		**Pn** 17 12 45.7	-0.7
ETB				S		**Sb** 17 12 52.1	+1.5
EDB	**Eliza Dome**	**0.48**	**356**	P		**Pb** 17 12 47.0	-0.3
EDB				S		**Sn** 17 12 53.9	-1.8
GDR	**Gold River**	**0.78**	**60**	P		**Pn** 17 12 51.6	-0.8
GDR				S		**Sn** 17 13 02.3	-0.8
TOFB	**Tofino**	**0.80**	**107**	P		**Pb** 17 12 51.7	-0.8
WOSB	**Woss**	**0.83**	**23**	P		**Pn** 17 12 52.6	-0.5
WOSB				S		**Sn** 17 13 04.2	-0.4
BPBC	**Brooks Peninsu**	**0.89**	**329**	P		**Pn** 17 12 52.6	-1.3
MAYB	**Maynard**	**1.01**	**356**	P		**Pb** 17 12 55.1	-1.1
MAYB				S		**Sn** 17 13 08.8	-0.2
BTB	**Buttle Lake**	**1.01**	**85**	P		**Pn** 17 12 55.3	-0.4
BTB				S		**Sn** 17 13 08.9	-0.2
SPLB	**Strathcona Par**	**1.05**	**61**	P		**Pn** 17 12 55.9	-0.2
SPLB				S		**Sn** 17 13 10.2	+0.5
B012	**Ucluelet**	**1.11**	**115**	P		**Pn** 17 12 55.8	-1.0
OZB	**Mount Ozzard**	**1.12**	**112**	P		**Pn** 17 12 56.0	-1.1
TLCB	**Telegraph Cove**	**1.16**	**7**	P		**Pb** 17 12 57.8	-0.8
TLCB				S		**Sb** 17 13 12.4	-0.9
MWAB	**Mount Washingt**	**1.20**	**73**	P		**Pb** 17 12 58.3	-1.1
MWAB				S		**Sn** 17 13 13.9	+0.3
NCRB	**Newcastle Ridg**	**1.20**	**33**	P		**Pb** 17 12 58.5	-0.9
NCRB				S		**Sn** 17 13 14.8	+1.0
PHC	**Port Hardy**	**1.33**	**350**	P		**Pn** 17 12 59.7	-0.3
PHC				S		**Sb** 17 13 16.1	-2.2
BMSB	**Bamfield Mari**	**1.39**	**113**	P		**Pn** 17 12 59.8	-0.9
B928	**Bamfield**	**1.39**	**113**	P		**Pn** 17 12 59.6	-1.0
HOLB	**Holberg**	**1.42**	**332**	P		**Pn** 17 13 00.3	-0.9
HOLB				S		**Sn** 17 13 16.7	-2.4
B927	**Port Alberni**	**1.49**	**96**	P		**Pb** 17 13 01.5	-2.7
MGB	**Mount Grey**	**1.61**	**103**	P		**Pn** 17 13 03.0	-0.9
MGB				S		**Sb** 17 13 22.2	-4.0
TXB	**Texada**	**1.74**	**79**	P		**Pb** 17 13 05.7	-2.8
TXB				S		**Sb** 17 13 27.7	-2.3
YOUB	**Youbou, Lake C**	**1.91**	**104**	P		**Pn** 17 13 07.4	-0.5
PFB	**Port Renfrew**	**1.92**	**114**	P		**Pn** 17 13 07.1	-0.9
OCP	**Olym-Cheeka Pk**	**1.95**	**123**	P		**Pn** 17 13 08.4	0.0
B926	**Mesachie Lake**	**2.01**	**105**	P		**Pn** 17 13 09.8	+0.5
NLLB	**Nanaimo Lost L**	**2.02**	**94**	P		**Pb** 17 13 09.8	-3.5
NLLB				S		**Sb** 17 13 34.5	-3.5
SHB	**Sechelt**	**2.09**	**83**	P		**Pb** 17 13 10.6	-4.0
SHB				S		**Sb** 17 13 35.7	-4.4
LZB	**Mount Lazard**	**2.28**	**109**	P		**Pn** 17 13 12.7	-0.3
GOBB	**Galiano Island**	**2.38**	**99**	P		**Pn** 17 13 14.6	+0.3
B009	**North Saanich**	**2.50**	**106**	P		**Pn** 17 13 15.9	0.0
B010	**North Saanich**	**2.50**	**106**	P		**Pn** 17 13 16.5	+0.6
PGC	**Sidney**	**2.50**	**106**	P		**Pn** 17 13 15.9	0.0
B011	**North Saanich**	**2.50**	**106**	P		**Pn** 17 13 16.2	+0.2
SNB	**Saturna Island**	**2.64**	**102**	P		**Pn** 17 13 18.8	+0.9
VGZ	**Gonzales**	**2.66**	**110**	P		**Pn** 17 13 17.6	-0.5
WSLR	**Whistler**	**2.79**	**73**	P		Pb 17 13 21.3	-5.1
BBB	**Bella Bella**	**2.87**	**347**	Pn		**Pn** 17 13 20.8	-0.3
	2.6nm,0.3s,baz=183,slow=6.8,SNR=51						
BBB				Pg		**Pb** 17 13 26.1	-1.6
	12nm,0.3s,baz=190,slow=14,SNR=44						
BBB				Sn		**Sn** 17 13 52.3	-2.4
	13nm,0.3s,baz=349,slow=22,SNR=6.3						
BBB				Lg		Lg 17 14 01.2	
	14nm,0.3s,baz=11,slow=18,SNR=5.3						
BBB	**Bella Bella**	**2.87**	**347**	P		**Pn** 17 13 20.8	-0.3
MCW	**Mount Constitu**	**2.88**	**103**	P		**Pn** 17 13 22.5	+1.3
HDW	**Hoodsport**	**3.19**	**122**	P		**Pn** 17 13 26.3	+0.7
CMW	**Cultus Mountai**	**3.41**	**105**	P		**Pn** 17 13 30.4	+1.9
MBW	**Mount Baker**	**3.45**	**98**	P		**Pn** 17 13 30.5	+1.3
B05A	**Bryant**	**3.47**	**107**	P		**Pn** 17 13 31.0	+1.6
	baz=290						
LLLB	**Lillooet**	**3.56**	**68**	P		**Pn** 17 13 31.9	+1.3
JCW	**Jim Creek**	**3.60**	**108**	P		**Pn** 17 13 32.4	+1.2
RPW	**Rockport**	**3.78**	**102**	P		**Pn** 17 13 34.8	+1.1
UBRB	**Upper Baezaeko**	**3.98**	**27**	P		**Pn** 17 13 38.3	+1.9
BNB	**Barry Inlet**	**4.35**	**319**	P		**Pn** 17 13 40.5	-1.0
FMW	**Mount Fremont**	**4.37**	**122**	P		**Pn** 17 13 44.3	+2.3
BNAB	**Bonilla**	**4.67**	**333**	P		**Pn** 17 13 49.7	+3.9
MOBC	**Moresby Island**	**4.85**	**323**	P		**Pn** 17 13 47.1	-1.3
G03D	**McMinnville, O**	**4.92**	**147**	P		**Pn** 17 13 50.6	+1.4
	baz=329						
DIB	**Dawson Inlet,**	**5.10**	**320**	P		**Pn** 17 13 50.3	-1.4
VIB	**Van Inlet**	**5.17**	**320**	P		**Pn** 17 13 51.3	-1.4
NDB	**Naden**	**5.85**	**324**	P		**Pn** 17 14 00.8	-1.2
I04A	**Tendick Farm,**	**6.45**	**148**	P		**Pn** 17 14 13.1	+2.7
	baz=331						
NEW	**Newport**	**6.66**	**96**	LR		LR 17 16 17.3	
	comp=Z,36nm,20.5s,baz=288,slow=35						
PDAR	**Pinedale Array**	**13.83**	**112**	Pn		**Pn** 17 15 53.7	+2.2
	0.1nm,0.3s,baz=302,slow=10,SNR=4.3						
ILAR	**Eielson Array**	**18.66**	**333**	P		**Pn** 17 16 55.6	+2.5
	0.0nm,0.3s,baz=142,slow=10,SNR=5.0						
TXAR	**Lajitas Array**	**26.80**	**130**	P		**P** 17 18 19.0	+4.0
	0.5nm,0.8s,baz=334,slow=9.3,SNR=5.6						
H11N2	**WAKE ISLAND Hy**	**59.73**	**265**	T		T 18 27 30.9	
	baz=43,slow=75,SNR=38						
H11N3	**WAKE ISLAND Hy**	**59.73**	**265**	T		T 18 27 29.9	
	baz=43,slow=75,SNR=42						
H11N1	**WAKE ISLAND Hy**	**59.75**	**265**	T		T 18 27 37.3	
	baz=43,slow=75,SNR=30						
H11S1	**WAKE ISLAND Hy**	**60.74**	**265**	T		T 18 28 49.7	
	baz=39						
H11S2	**WAKE ISLAND Hy**	**60.75**	**264**	T		T 18 28 53.0	
	baz=39						
H11S3	**WAKE ISLAND Hy**	**60.76**	**265**	T		T 18 28 54.7	
	baz=39						
JHJ	**Hachijo jima 2**	**67.57**	**295**	LR		LR 17 53 09.2	
	comp=Z,13nm,18.1s,baz=1.0,slow=36						

ISCJB ***12*** *17:20:17.2±0.7, 51.50N±0.03×16.10E±0.03, h0km, Error ellipse: s-maj=4.6km s-min=2.7km az=12.1*

CSEM ***12*** *17:20:18.5±0.4, 51.54N×16.09E, h1km, ML3.2/10, Error ellipse: s-maj=6.3km s-min=3.5km az=179.0*

VIE ***12*** *17:20:19.8±0.8, 51.44N×15.98E, h0km, mb2.5/3, ML2.5/5, Error ellipse: s-maj=6.8km s-min=4.0km az=32.0, Suspected Mining induced.*

WAR ***12*** *17:20:19.3, 51.55N×16.09E, h1km, Mw2.4*

ISC 12 17:20:18.1±1.1, 51°59N±0.05×16°10E±0.02, h0km, n41, σ0§64/76, Poland

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KSP	**Ksiaz**	**0.75**	**171**	*e*Pg		**Pg** 17 20 32.8	+0.3
KSP				*e*Sg		**Sg** 17 20 42.6	+0.3
KSP	**Ksiaz**	**0.75**	**171**	*e*Pg		**Pg** 17 20 32.8	+0.3
KSP				*e*Sg		**Sg** 17 20 42.6	+0.3
KSP	**Ksiaz**	**0.75**	**171**	*e*Pg		**Pg** 17 20 32.8	+0.3
KSP				*e*Sg		**Sg** 17 20 42.6	+0.3
UPC	**Upice**	**1.08**	**183**	*e*PG		**Pg** 17 20 38.9	+0.1
UPC				*e*SG		**Sg** 17 20 52.8	0.0
	comp=Z,41nm,0.2s						
UPC	**Upice**	**1.08**	**183**	Pg		**Pg** 17 20 38.9	+0.1
UPC				Sg		**Sg** 17 20 52.8	0.0
	41nm,0.2s						
DPC	**Dobruska-Polom**	**1.25**	**173**	*e*PG		**Pg** 17 20 41.6	-0.3
DPC				*e*SG		**Sg** 17 20 57.2	-0.9
	comp=Z,12nm,0.3s						
DPC	**Dobruska-Polom**	**1.25**	**173**	Pg		**Pg** 17 20 41.6	-0.3
DPC				Sg		**Sg** 17 20 57.2	-0.9
	12nm,0.3s						
PVCC	**Panska Ves**	**1.43**	**223**	*e*PG		**Pb** 17 20 45.9	+0.2
PVCC				*e*SG		**Sb** 17 21 04.5	0.0
	comp=Z,93nm,0.2s						
PVCC	**Panska Ves**	**1.43**	**223**	Pg		**Pb** 17 20 45.9	+0.2
PVCC				Sg		**Sb** 17 21 04.5	0.0
	93nm,0.2s						
BRG	**Berggiesshubel**	**1.53**	**243**	PG		**Pb** 17 20 47.4	0.0
BRG				SG		**Sb** 17 21 07.7	+0.4
	41nm,0.6s						
KRLC	**Kraliky**	**1.57**	**164**	*e*PG		**Pn** 17 20 46.9	-0.4
KRLC				*e*SG		**Sn** 17 21 07.2	-1.2
KRLC	**Kraliky**	**1.57**	**164**	Pg		**Pn** 17 20 46.9	-0.4
KRLC				Sg		**Sn** 17 21 07.2	-1.2
PRA	**Prague**	**1.85**	**216**	*e*SG		**Sb** 17 21 16.5	+0.1
	comp=Z,18nm,0.4s						
PRA	**Prague**	**1.85**	**216**	Sg		**Sb** 17 21 16.5	+0.1
	18nm,0.4s						
GOPC	**GO Pecny, Ondr**	**1.87**	**207**	*e*PG		**Pb** 17 20 52.8	-0.3
GOPC				*e*SG		**Sb** 17 21 17.1	0.0
	comp=Z,11nm,0.2s						
GOPC	**GO Pecny, Ondr**	**1.87**	**207**	Pg		**Pb** 17 20 52.8	-0.3
GOPC				Sg		**Sb** 17 21 17.1	0.0
	11nm,0.2s						
PRU	**Pruhonice**	**1.88**	**212**	*e*PG		**Pn** 17 20 52.2	+0.7
PRU				*e*SG		**Sb** 17 21 17.4	+0.1
	comp=Z,19nm,0.3s						
PRU	**Pruhonice**	**1.88**	**212**	Pg		**Pn** 17 20 52.2	+0.7
PRU				Sg		**Sb** 17 21 17.4	+0.1
	19nm,0.3s						
CLL	**Collm**	**1.96**	**263**	*e*Pn		**Pn** 17 20 52.0	-0.6
CLL				*e*Pg		**Pb** 17 20 55.0	+0.4
CLL				*e*Sg		**Sg** 17 21 21.0	0.0
	comp=Z,11nm,0.4s						
MORC	**Moravsky Berou**	**2.03**	**153**	*e*Pn		**Pn** 17 20 53.2	-0.4
MORC				*e*Sg		**Sb** 17 21 21.8	+0.1
OKC	**Ostrava-Krasne**	**2.18**	**143**	*e*PG		**Pb** 17 20 58.9	+0.5
OKC				*e*SG		**Sb** 17 21 27.1	+1.1
	comp=Z,11nm,0.4s						
OKC	**Ostrava-Krasne**	**2.18**	**143**	Pg		**Pb** 17 20 58.9	+0.5
OKC				Sg		**Sb** 17 21 27.1	+1.1
	comp=Z,11nm,0.4s						
VRAC	**Vranov**	**2.30**	**172**	*e*Pn		**Pn** 17 20 58.0	+0.7
VRAC				*e*Sg		**Sb** 17 21 30.3	+0.8
NKC	**Novy Kostel**	**2.68**	**241**	*e*PN		**Pn** 17 21 03.3	+0.8
NKC				*e*PG		**Pg** 17 21 09.3	-0.1
NKC				*e*SG		**Sg** 17 21 43.5	-0.6
	comp=Z,23nm,0.4s						
NKC	**Novy Kostel**	**2.68**	**241**	Pn		**Pn** 17 21 03.3	+0.8
OJC	**Ojcow**	**2.71**	**119**	*e*Pg		**Pg** 17 21 09.3	-0.8
OJC				*e*Sg		**Sg** 17 21 45.2	0.0
OJC	**Ojcow**	**2.71**	**119**	*e*Pg		**Pg** 17 21 09.3	-0.8
OJC				*e*Sg		**Sg** 17 21 45.2	0.0
OJC	**Ojcow**	**2.71**	**119**	*e*Pg		**Pg** 17 21 09.3	-0.8
OJC				*e*Sg		**Sg** 17 21 45.2	0.0
KHC	**Kasperske Hory**	**2.94**	**214**	*e*PN		**Pn** 17 21 06.8	+0.7
KHC				*e*PG		**Pb** 17 21 12.1	+0.7
KHC				*e*SN		**Sn** 17 21 40.5	-1.6
KHC				*e*SG		**Sb** 17 21 50.0	+2.1
	comp=Z,6.0nm,0.3s						
KHC	**Kasperske Hory**	**2.94**	**214**	Pn		**Pn** 17 21 06.8	+0.7
SMOL	**Smolenice**	**3.19**	**164**	*e*Sg		**Sg** 17 22 00.9	+0.3
SMOL	**Smolenice**	**3.19**	**164**	*e*SG		**Sg** 17 22 00.9	+0.3
LANS	**Liptovska Anna**	**3.25**	**137**	*e*Pg		**Pg** 17 21 19.8	-0.6
LANS				*e*Sg		**Sg** 17 22 02.1	-0.5
LANS	**Liptovska Anna**	**3.25**	**137**	*e*PG		**Pg** 17 21 19.8	-0.6
LANS				*e*SG		**Sg** 17 22 02.1	-0.5
VYHS	**Vyhne**	**3.56**	**149**	*e*Pg		**Pg** 17 21 26.8	+0.5
VYHS	**Vyhne**	**3.56**	**149**	*e*PG		**Pg** 17 21 26.8	+0.5
CONA	**Conrad Observa**	**3.67**	**183**	Pn		**Pn** 17 21 15.2	-0.9
	comp=Z,0.4nm,0.2s						
CONA				Sg		**Sg** 17 22 15.6	-0.2
	comp=Z,214nm,0.0s						
MOA	**Molln**	**3.92**	**198**	Pn		**Pn** 17 21 19.8	+0.2
	comp=Z,0.5nm,0.1s						
MOA				Sg		**Sg** 17 22 23.6	-0.5
	comp=Z,0.2nm,0.1s						
STHS	**Stebnicka Huta**	**3.94**	**121**	*e*Pg		**Pg** 17 21 34.6	+1.1
STHS	**Stebnicka Huta**	**3.94**	**121**	*e*PG		**Pg** 17 21 34.6	+1.1
STHS				*e*LG		Lg 17 22 35.4	
KBA	**Koelnbreinsper**	**4.86**	**203**	Pn		**Pn** 17 21 32.8	+0.2
KBA				Sg		**Sg** 17 22 54.7	+0.6
	comp=Z,0.8nm,0.2s						

CSEM ***12*** *17:24:35.5, 11.97N×44.90E, h14km, ML3.8*

DHMR 12 17:24:35.5±1.4, 11°97N×44°90E, h14km±8km, ML3.8, 1C, Western Gulf of Aden

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ADEN	**Aden**	**0.81**	**6**	*i* P		Pg 17 24 51.2	0.0
ADEN				*i* S		Sg 17 25 01.8	-0.1
ADEN	**Aden**	**0.81**	**6**	*i* P		Pg 17 24 51.2	-0.1
ADEN				*i* S		Sg 17 25 01.8	-0.1
TRBA	**At Turbah**	**1.47**	**329**	⇑*i*P		Pb 17 25 02.5	-0.3
TRBA				*i* S		Sg 17 25 22.4	-0.8
TRBA				AML	AML	17 25 30.1	
	comp=N,2μm,0.5s						
BDHA	**Al Bayda'**	**2.10**	**18**	*i* P		Pn 17 25 11.2	+0.7
BDHA				AML	AML	17 25 20.0	
	comp=N,1μm,0.3s						
BDHA				*i* S		Sb 17 25 40.9	+1.3
BDHA	**Al Bayda'**	**2.10**	**18**	*i* P		Pn 17 25 11.2	+0.7
	comp=N,673nm,0.3s						
BDHA				*i* S		Sb 17 25 40.9	+1.3
UDYN	**Al 'Udayn**	**2.19**	**336**	*i* P		Pn 17 25 13.1	+1.5
UDYN				*i* S		Sb 17 25 42.6	+0.6
UDYN				AML	AML	17 25 55.0	
	com

ERM					pmax	pmax		
	comp=Z,94nm,1.0s							
ERM	**Erimo**	**5.77**	**17**	*e*Pn	**Pn**	**17 44 03.5**	**-0.9**	
ASAJ	**Asahikawa**	**7.71**	**9**	*e*Pn	**Pn**	**17 44 30.6**	**-0.4**	
YUK	**Yuzh-Kuril'sk**	**8.42**	**25**	*i* P	**Pn**	**17 44 38.8**	**-1.9**	
JNU	**Nakatsue**	**8.90**	**251**	P	**Pn**	**17 44 48.8**	**+1.2**	
	comp=Z,0.4nm,0.3s,baz=98,slow=2.6,SNR=8.1							
JNU	**Nakatsue**	**8.90**	**251**	*e*Pn	**Pn**	**17 44 51.1**	**+3.5**	
VLA	**Vladivostok**	**9.57**	**316***d*	*i* P	**Pn**	**17 45 00.1**	**+3.6**	
MSHR	**Mys Shultsa**	**9.66**	**312**	*d* P	Pn	17 45 02.6	+4.9	
KUR	**Kuril'sk**	**10.18**	**29***c*	*i* P	**Pn**	**17 45 04.4**	**-0.5**	
KUR				*e*S	**Sn**	**17 46 53.9**	**-3.6**	
KUR				pmax	pmax			
	comp=N,8.0nm,0.4s							
KUR				pmax	pmax			
	comp=Z,47nm,0.4s							
KUR				pmax	pmax			
	comp=E,6.0nm,0.3s							
KUR				smax	smax			
	comp=N,42nm,0.7s							
KUR				smax	smax			
	comp=E,18nm,0.4s							
USRK	**Ussuriysk Ar.**	**10.25**	**321**	P	**Pn**	**17 45 07.9**	**+2.1**	
	comp=E,0.7nm,0.3s,baz=133,slow=13,SNR=28							
KSRS	**Korea Array**	**10.43**	**279**	P	**Pn**	**17 45 11.5**	**+3.3**	
	comp=E,0.4nm,0.3s,baz=90,slow=13,SNR=34							
KSRS				LR	LR	17 48 59.6		
	comp=E,141nm,19.6s,baz=78,slow=36							
KS01	**Wonju Array Si**	**10.45**	**279**	*e*Pn	**Pn**	**17 45 11.0**	**+2.4**	
KS15	**Wonju Array Si**	**10.46**	**279**	*e*Pn	**Pn**	**17 45 11.2**	**+2.6**	
KSAR	**Wonju Array Be**	**10.46**	**279**	P	**Pn**	**17 45 11.5**	**+2.8**	
KSAR	**Wonju Array Be**	**10.46**	**279**	P	**Pn**	**17 45 11.5**	**+2.8**	
YSS	**Yuzh-Sakhalins**	**10.53**	**7**⇑	*e*P	**Pn**	**17 45 09.8**	**+0.2**	
YSS				pmax	pmax			
	comp=Z,20nm,0.7s							
YSS				MLR	MLR			
	comp=Z,100nm,13.0s							
YSS	**Yuzh-Sakhalins**	**10.53**	**7**⇑	*e*Pg	**Pn**	**17 45 09.8**	**+0.2**	
YSS				AMB	AMB	17 45 11.5		
	comp=Z,20nm,0.7s							
YSS				AMS	AMS	17 49 35.0		
	comp=Z,100nm,13.0s							
YSS	**Yuzh-Sakhalins**	**10.53**	**7**	*e*Pn	**Pn**	**17 45 09.3**	**-0.2**	
MDJ	**Mudanjiang**	**11.80**	**317**	P	**Pn**	**17 45 29.7**	**+2.7**	
MDJ				S	**Sn**	**17 47 36.8**	**-0.4**	
MDJ				pmax	pmax			
	comp=Z,13nm,0.9s							
MDJ				pmax	pmax			
	comp=Z,39nm,5.2s							
MDJ	**Mudanjiang**	**11.80**	**317**	*e*Pn	**Pn**	**17 45 30.9**	**+3.9**	
	comp=Z,9.0nm,0.7s							
HABR	**Khabarovsk**	**12.71**	**342**	*e*P	**Pn**	**17 45 38.1**	**-1.2**	
HABR				*e*S	**Sn**	**17 48 00.0**	**+0.9**	
HABR				pmax	pmax			
	comp=N,16nm,1.1s							
HABR				pmax	pmax			
	comp=E,28nm,1.1s							
HABR				pmax	pmax			
	comp=Z,14nm,1.1s							
CN2	**Changchun**	**13.87**	**306**	⇓P	**Pn**	**17 45 53.4**	**-1.8**	
CN2				*ep*P	P	17 46 03.5	+1.4	
CN2				*e*S	**Sn**	**17 48 25.6**	**-2.0**	
CN2				pmax	pmax			
	comp=Z,10.0nm,0.7s							
CN2				pmax	pmax			
	comp=Z,200nm,4.0s							
CN2				LR	LR			
	comp=Z,200nm,13.0s							
CN2				LR	LR			
	comp=Z,200nm,13.0s							
CN2				LR	LR			
	comp=Z,200nm,14.0s							
KLR	**Kul'dur**	**14.36**	**335**	P	**Pn**	**17 46 03.5**	**+1.8**	
	comp=Z,0.1nm,0.3s,baz=139,slow=16,SNR=2.8							
KLR				LR	LR	17 51 27.4		
	comp=Z,28nm,18.9s,baz=149,slow=37							
SKR	**Severo-Kuril's**	**17.90**	**33**	*e*P	**P**	**17 46 50.1**	**+3.4**	
SKR				pmax	pmax			
	comp=Z,500nm,2.5s							
NJ2	**Nanjing**	**18.74**	**263**	*e*P	**P**	**17 46 55.6**	**-0.5**	
NJ2				pmax	pmax			
	comp=Z,10.0nm,0.5s							
TIA	**Tai'an**	**19.14**	**276**	⇓P	**P**	**17 46 58.8**	**-1.7**	
TIA				pmax	pmax			
	comp=Z,10.0nm,1.0s							
BJI	**Beijing**	**19.71**	**288**	P	**P**	**17 47 02.5**	**-4.1**	
BJI				pmax	pmax			
	comp=Z,4.0nm,0.9s							
BJI				pmax	pmax			
	comp=Z,80nm,3.2s							
PETK	**Petropavlovsk-**	**20.35**	**30**	P	Pn	17 47 14.9	-1.0	
	comp=Z,5.1nm,0.8s,baz=227,slow=7.0,SNR=3.8							
PETK				LR	LR	17 55 11.8		
	comp=Z,35nm,18.6s,baz=212,slow=37							
WHN	**Wuhan**	**22.88**	**263**	⇓*i* P	**P**	**17 47 38.6**	**-2.2**	
HHC	**Hu-ho-hao-te**	**23.25**	**290**	*e*P	**P**	**17 47 44.6**	**0.0**	
HHC				pP	pP	17 47 58.3	+1.8	
HHC				sP	sP	17 48 06.1	+3.4	
HHC				S	**S**	**17 51 47.8**	**-5.2**	
HHC				pmax	pmax			
	comp=Z,13nm,0.7s							
HHC				pmax	pmax			
	comp=Z,69nm,7.4s							
HHC				LR	LR			
	comp=Z,110nm,14.8s							
HHC				LR	LR			
	comp=Z,91nm,13.6s							
MA2	**Magadan**	**23.95**	**12**	LR	LR	17 57 11.6		
	comp=Z,48nm,21.1s,baz=193,slow=36							
MA2	**Magadan**	**23.95**	**12**	*e*P	**P**	**17 47 49.7**	**-1.1**	
ENH	**Enshi**	**26.88**	**266**	*e*P	**P**	**17 48 16.4**	**-1.2**	
	comp=Z,8.4nm,0.6s							
ULN	**Ulaanbaatar**	**27.31**	**305***c*	*i* P	**P**	**17 48 22.3**	**+0.8**	
ULN				pmax	pmax			
	comp=Z,10.0nm,1.0s							
ULN	**Ulaanbaatar**	**27.31**	**305**	*e*P	**P**	**17 48 20.7**	**-0.8**	
	comp=Z,12nm,1.1s							
SEY	**Seymchan**	**27.38**	**11**	P	**P**	**17 48 25.5**	**+3.7**	
	comp=Z,4.4nm,0.8s,baz=200,slow=6.9,SNR=6.2							
SONA1	**Songino Array**	**27.74**	**305**	*e*P	**P**	**17 48 24.3**	**-1.0**	
SONM	**Songino Array**	**27.74**	**305**	P	**P**	**17 48 24.3**	**-1.0**	
	comp=Z,8.2nm,0.6s,baz=101,slow=8.8,SNR=16							
SONM				LR	LR	17 59 37.6		
	comp=Z,67nm,18.1s,baz=82,slow=37							
H11N2	**WAKE ISLAND Hy 28.24 119**			T	T	18 18 34.2		
	baz=313,slow=75,SNR=307							
H11N1	**WAKE ISLAND Hy 28.25 119**			T	T	18 18 32.6		
	baz=313,slow=75,SNR=340							
H11N3	**WAKE ISLAND Hy 28.26 119**			T	T	18 18 35.6		
	baz=313,slow=75,SNR=336							
TGY	**Tagaytay City**	**28.58**	**224**	LR	LR	17 59 09.1		
	comp=Z,46nm,20.1s,baz=199,slow=35							
H11S1	**WAKE ISLAND Hy 28.93 121**			T	T	18 19 26.0		
	baz=314,slow=75,SNR=756							
H11S3	**WAKE ISLAND Hy 28.93 121**			T	T	18 19 24.7		
	baz=314,slow=75,SNR=526							
H11S2	**WAKE ISLAND Hy 28.95 121**			T	T	18 19 26.0		
	baz=314,slow=75,SNR=423							
LZH	**Lanzhou**	**29.75**	**280**	*e*P	**P**	**17 48 42.6**	**-0.7**	
LZH				pP	pP	17 48 54.4	-1.9	
LZH				sP	sP	17 49 01.5	-0.7	
LZH				PcP	**PcP**	**17 51 47.0**	**+0.9**	
LZH				*e*S	**S**	**17 53 34.0**	**-2.2**	
LZH				sS	sS	17 53 57.2	-0.8	
LZH				pmax	pmax			
	comp=Z,22nm,1.3s							
LZH				pmax	pmax			
	comp=Z,85nm,4.6s							
LZH				LR	LR			
	comp=Z,1μm,10.2s							
LZH				LR	LR			
	comp=Z,1μm,11.2s							
LZH				LR	LR			
	comp=Z,1μm,12.2s							
TLY	**Talaya**	**30.37**	**312**	*i* P	**P**	**17 48 49.3**	**+0.9**	
TLY				pmax	pmax			
	comp=Z,8.0nm,0.8s							
GYA	**Guiyang**	**30.73**	**261**	*e*P	**P**	**17 48 52.8**	**+0.8**	
GYA				pP	sP	17 49 08.4	-2.4	
GYA				S	**S**	**17 53 50.0**	**-1.6**	
GYA				pmax	pmax			
	comp=Z,20nm,0.8s							
GYA				pmax	pmax			
	comp=Z,120nm,4.9s							
GYA				LR	LR			
	comp=Z,480nm,17.0s							
GYA				LR	LR			
	comp=Z,430nm,17.3s							
GYA				LR	LR			
	comp=Z,460nm,17.7s							
GTA	**Gaotai**	**32.33**	**288**	*e*P	**P**	**17 49 06.3**	**+0.3**	
GTA				pmax	pmax			
	comp=Z,3.0nm,1.0s							
KMI	**Kunming**	**34.48**	**262**	P	**P**	**17 49 25.9**	**+1.0**	
KMI				pP	sP	17 49 41.4	-2.4	
KMI				sP	pP	17 49 49.3	+11	
KMI				PP	**PnPn**	**17 50 41.2**	**+0.1**	
KMI				S	**S**	**17 54 50.8**	**+0.7**	
KMI				pmax	pmax			
	comp=Z,4.0nm,0.5s							
KMI				pmax	pmax			
	comp=Z,120nm,4.7s							
KMI				LR	LR			
	comp=Z,120nm,3.8s							
KMI				LR	LR			
	comp=Z,99nm,6.9s							
KMI				LR	LR			
	comp=Z,86nm,6.5s							
WMQ	**Urumqi**	**40.71**	**297**	P	**P**	**17 50 18.1**	**+0.9**	
WMQ				pP	sP	17 50 33.6	-2.7	
WMQ				pmax	pmax			
	comp=Z,16nm,0.9s							
WMQ				LR	LR			
	comp=Z,51nm,17.5s							
WMQ				LR	LR			
	comp=Z,23nm,17.5s							
CMAR	**Chiang Mai Arr**	**40.97**	**255**	P	**P**	**17 50 18.6**	**-0.9**	
	comp=Z,1.4nm,0.9s,baz=45,slow=6.8,SNR=6.6							
CMAR				LR	LR	18 08 32.5		
	comp=Z,77nm,19.1s,baz=88,slow=38							
CMAR	**Chiang Mai Arr**	**40.97**	**255***c*	*e*P	**P**	**17 50 20.7**	**+1.2**	
CMAR				pmax	pmax			
	comp=Z,1.0nm,0.9s							
ZAA0	**Zalesovo Array**	**41.96**	**313**	*e*P	**P**	**17 50 26.2**	**-1.0**	
ZALV	**Zalesovo Beam**	**41.96**	**313**	P	**P**	**17 50 27.0**	**-0.2**	
	comp=Z,10nm,0.5s,baz=91,slow=6.7,SNR=51							
MK01	**Makanchi Array**	**44.05**	**302**	*e*P	**P**	**17 50 43.7**	**-0.5**	
MK31	**Makanchi Array**	**44.05**	**302**	*e*P	**P**	**17 50 43.8**	**-0.5**	
MK31	**Makanchi Array**	**44.05**	**302**	*e*P	**P**	**17 50 43.8**	**-0.5**	
MKAR	**Makanchi Array**	**44.05**	**302**	*e*P	**P**	**17 50 43.8**	**-0.5**	
MKAR				pmax	pmax			
	comp=Z,25nm,0.9s							
MKAR	**Makanchi Array**	**44.05**	**302**	*e*P	**P**	**17 50 43.8**	**-0.5**	
	comp=Z,25nm,0.9s							
TAPN	**Taplejung**	**45.57**	**274**	*e*P	**P**	**17 50 56.2**	**-0.7**	
	comp=Z,7.2nm,0.5s							
KURK	**Kurchatov**	**45.93**	**308***c*	*e*P	**P**	**17 50 58.6**	**-0.5**	
KURK				pmax	pmax			
	comp=Z,25nm,0.7s							
KURK	**Kurchatov**	**45.93**	**308**	*e*P	**P**	**17 50 57.9**	**-1.2**	
	comp=Z,76nm,0.7s							
KURBB	**Kurchatov Arra**	**46.00**	**308**	P	**P**	**17 50 58.9**	**-0.8**	
	comp=Z,2.6nm,0.5s,baz=84,slow=8.5,SNR=16							
ODAN	**Odare**	**46.03**	**274**	*e*P	**P**	**17 51 00.3**	**-0.2**	
	comp=Z,8.7nm,0.7s							
RAMN	**Ramite**	**46.63**	**274**	*e*P	**P**	**17 51 05.0**	**-0.2**	
	comp=Z,43nm,0.6s							
JIRN	**Jiri**	**46.65**	**275**	*e*P	**P**	**17 51 05.8**	**+0.3**	
	comp=Z,168nm,0.8s							
GUN	**Gumba**	**46.80**	**276**	*e*P	**P**	**17 51 06.7**	**+0.1**	
PKI	**Pulchoki**	**47.32**	**276**	*e*P	**P**	**17 51 10.1**	**-0.6**	
PKIN	**Phulchoki**	**47.33**	**276**	*e*P	**P**	**17 51 11.2**	**+0.5**	
	comp=Z,13nm,0.8s							
KKN	**Kakani**	**47.33**	**276**	*e*P	**P**	**17 51 09.7**	**-0.9**	
	comp=Z,20nm,1.0s							
DMN	**Daman**	**47.55**	**276**	*e*P	**P**	**17 51 11.9**	**-0.4**	
	comp=Z,4.2nm,0.4s							
GKN	**Gorkha**	**47.75**	**277**	*e*P	**P**	**17 51 13.4**	**-0.4**	
	comp=Z,21nm,0.7s							
KOLN	**Koldanda**	**48.68**	**277**	*e*P	**P**	**17 51 21.9**	**+0.8**	
	comp=Z,12nm,0.9s							
PYUN	**Piuthan**	**49.03**	**278**	*e*P	**P**	**17 51 23.6**	**-0.1**	
	comp=Z,59nm,1.1s							
COLA	**College**	**49.74**	**32**	*e*P	**P**	**17 51 25.5**	**-2.8**	
COLA				pmax	pmax			
	comp=Z,2.0nm,0.4s							
ILAR	**Eielson Array**	**50.16**	**32**	P	**P**	**17 51 31.9**	**+0.4**	
	comp=Z,0.8nm,0.8s,baz=262,slow=5.1,SNR=8.5							
ILAR	**Eielson Array**	**50.16**	**32**	P	**P**	**17 51 32.0**	**+0.4**	
ILAR				pmax	pmax			
	comp=Z,1.0nm,0.8s							
KSH	**Kashi**	**50.24**	**294**	*e*P	**P**	**17 51 36.7**	**+4.0**	
KSH				pP	sP	17 51 52.7	+0.6	
KSH				PP	**PP**	**17 53 33.7**	**+5.5**	
KSH				S	**S**	**17 58 44.4**	**+2.9**	
KSH				sS	sS	17 59 11.6	+7.3	
KSH				SS	**SS**	**18 02 15.4**	**+0.3**	
KSH				pmax	pmax			
	comp=Z,4.0nm,0.9s							
KSH				pmax	pmax			
	comp=Z,59nm,4.1s							
KSH				LR	LR			
	comp=Z,120nm,6.3s							
KSH				LR	LR			
	comp=Z,63nm,4.8s							
KSH				LR	LR			
	comp=Z,91nm,7.1s							
AAK	**Ala-Archa**	**50.38**	**299**	P	**P**	**17 51 33.9**	**+0.2**	
	comp=Z,2.6nm,0.6s,baz=339,slow=11,SNR=2.8							
AAK	**Ala-Archa**	**50.38**	**299**	*e*P	**P**	**17 51 34.0**	**+0.3**	
AAK				pmax	pmax			
	comp=Z,6.0nm,0.6s							
BRVK	**Borovoye**	**50.68**	**313***c*	*e*P	**P**	**17 51 34.5**	**-1.1**	
BRVK				pmax	pmax			
	comp=Z,12nm,0.8s							
KKAR	**Karatay Array**	**53.03**	**300**	*e*P	**P**	**17 51 53.7**	**+0.3**	
KKAR				pmax	pmax			
	comp=Z,2.0nm,0.7s							
KKAR	**Karatay Array**	**53.03**	**300**	*e*P	**P**	**17 51 53.7**	**+0.3**	
	comp=Z,2.3nm,0.7s							
INK	**Inuvik**	**55.04**	**27**	P	**P**	**17 52 08.5**	**+1.0**	
	comp=Z,1.2nm,0.8s,baz=219,slow=14,SNR=2.8							
SVE	**Sverdlovsk**	**55.27**	**319**⇓	*e*P	**P**	**17 52 09.2**	**-0.2**	
SVE				pmax	pmax			
	comp=Z,10.0nm,0.9s							
WRAB	**Tennant Creek**	**56.48**	**187**⇑	*i* P	**P**	**17 52 14.2**	**-4.2**	
WRAB				pmax	pmax			
	comp=Z,36nm,1.7s							
ARU	**Arti**	**56.48**	**319***c*	*i* P	**P**	**17 52 17.4**	**-0.6**	
ARU				S	**S**	**18 00 07.0**	**+1.6**	
ARU				SS	**SS**	**18 03 52.2**	**-0.4**	
ARU				pmax	pmax			
	comp=Z,14nm,0.8s							
ARU	**Arti**	**56.48**	**319**	*e*P	**P**	**17 52 16.8**	**-1.3**	
	comp=Z,12nm,0.7s							
WRA	**Warramunga Arr**	**56.49**	**187**	P	**P**	**17 52 18.4**	**-0.1**	
	comp=Z,0.7nm,0.6s,baz=346,slow=7.9,SNR=5.4							
WRA	**Warramunga Arr**	**56.49**	**187**	*i* P	**P**	**17 52 16.1**	**-2.3**	
WRA				pmax	pmax			
	comp=Z,1.0nm,0.6s							
ABKAR	**Akbulak array**	**57.96**	**310**	*e*P	**P**	**17 52 27.8**	**-0.8**	
	comp=Z,57nm,0.6s							
ASAR	**Alice Springs**	**60.22**	**187**	P	**P**	**17 52 45.2**	**+0.8**	
	comp=Z,1.0nm,0.8s,baz=7.8,slow=8.7,SNR=11							
GEYT	**Alibeck**	**63.73**	**299**	P	**P**	**17 53 07.9**	**-0.2**	
	comp=Z,2.3nm,0.6s,baz=8.5,slow=3.0,SNR=6.1							
GEYT				LR	LR	18 21 09.0		
	comp=Z,22nm,20.6s,baz=75,slow=36							
KLMR	**Klimovskoe**	**63.98**	**328**	*e*P	**P**	**17 53 07.4**	**-1.8**	
KLMR				pmax	pmax			
	comp=Z,6.0nm,0.8s							
ARCES	**ARCESS Array B**	**64.34**	**339**	P	**P**	**17 53 11.2**	**-0.3**	
	comp=Z,1.9nm,0.8s,baz=56,slow=7.5,SNR=4.0							
STKA	**Stephens Creek**	**68.03**	**179**	P	**P**	**17 53 36.5**	**+1.0**	
	comp=Z,1.8nm,0.7s,baz=304,slow=9.8,SNR=3.4							
OBN	**Obninsk**	**68.27**	**323**⇓	*e*P	**P**	**17 53 36.5**	**-0.3**	
OBN				*e**PP	**pP**	**17 53 51.0**	**+0.1**	
OBN				*e**SP	**sP**	**17 53 55.5**	**-1.1**	
OBN						17 54 01.0		
OBN				pmax	pmax			
	comp=Z,6.0nm,0.6s							
OBN				MLR	MLR			
	comp=Z,62nm,14.0s							
LPSR	**Galich'ya Gora**	**68.44**	**320**	*e*P	**P**	**17 53 37.0**	**-0.9**	
LPSR				pmax	pmax			
	comp=Z,10.0nm,0.7s							
VSR	**Storozhevoye**	**69.05**	**319**	*e*P	**P**	**17 53 39.9**	**-1.9**	
VSR				pmax	pmax			
	comp=Z,10.0nm,1.0s							
FINES	**FINESS Array B**	**69.08**	**332**	P	**P**	**17 53 41.5**	**-0.3**	
	comp=Z,2.6nm,0.7s,baz=39,slow=7.0,SNR=8.7							
ZEI	**Tsey**	**70.81**	**309**	*e*P	**P**	**17 53 51.4**	**-1.6**	
ZEI				pmax	pmax			
	comp=Z,19nm,1.2s							
KBZ	**Khabaz**	**70.93**	**311**	P	**P**	**17 53 53.9**	**+0.5**	
	comp=Z,5.9nm,0.8s,baz=86,slow=4.1,SNR=20							
KVAR	**Kislovodsk Arr**	**70.93**	**311**	LR	LR	18 28 18.8		
	comp=Z,34nm,19.0s,slow=39							
KIV	**Kislovodsk**	**70.94**	**311**	*e*P	**P**	**17 53 54.7**	**+1.1**	
KIV				pmax	pmax			
	comp=Z,19nm,1.1s							
KIV	**Kislovodsk**	**70.94**	**311**	*e*P	**P**	**17 53 53.3**	**-0.3**	
	comp=Z,14nm,0.9s							
AKASG	**Malin Array Be**	**74.46**	**322**	P	**P**	**17 54 13.7**	**-0.5**	
	comp=Z,1.8nm,0.4s,baz=46,slow=5.8,SNR=8.3							
AKBB	**Malin Array Si**	**74.46**	**322**	*e*P	**P**	**17 54 13.1**	**-1.1**	
AKBB				pmax	pmax			
	comp=Z,5.0nm,0.7s							
AKBB	**Malin Array Si**	**74.46**	**322**	*e*P	**P**	**17 54 13.1**	**-1.1**	
	comp=Z,4.9nm,0.7s							
KIEV	**Kiev**	**74.47**	**322**	*e*P	**P**	**17 54 13.4**	**-0.9**	
KIEV				pmax	pmax			
	comp=Z,5.0nm,0.8s							
KIEV	**Kiev**	**74.47**	**322**	*e*P	**P**	**17 54 13.4**	**-0.9**	
	comp=Z,4.9nm,0.8s							
NB2	**NORSAR Subarra**	**74.51**	**337**	P	**P**	**17 54 14.3**	**-0.1**	
	comp=Z,0.7nm,0.5s,baz=41,slow=6.2							
NOA	**NORSAR Array B**	**74.51**	**337**	P	**P**	**17 54 14.4**	**-0.1**	
	comp=Z,1.5nm,0.7s,baz=40,slow=5.8,SNR=4.8							
BGU	**Big Grassy Mou**	**77.43**	**48**	*e*P	**P**	**17 54 31.5**	**-0.1**	
	comp=Z,17nm,0.9s							
BUR08	**Bucovina Ar. S**	**78.45**	**322**	*e*P	**P**	**17 54 36.9**	**-0.1**	
BRTR	**Keskin Array B**	**78.89**	**311**	P	**P**	**17 54 39.6**	**-0.1**	
	comp=Z,1.6nm,0.8s,baz=114,slow=5.5,SNR=11							
BRTR	**Keskin Array B**	**78.89**	**311**	*i* P	**P**	**17 54 40.5**	**+0.8**	
BRTR				pmax	pmax			
	comp=Z,2.0nm,0.9s							
BR231	**Keskin MP Arra**	**79.33**	**312**	*e*P	**P**	**17 54 39.7**	**-2.3**	
CLL	**Collm**	**81.34**	**330**	*e*P	**P**	**17 54 52.0**	**-0.4**	
CLL				pmax	pmax			
	comp=Z,8.0nm,0.9s							
CLL	**Collm**	**81.34**	**330**	*e*P	**P**	**17 54 52.0**	**-0.4**	
	comp=Z,8.0nm,0.9s							
KHC	**Kasperske Hory**	**82.77**	**328**	*e*P	**P**	**17 55 00.6**	**+0.5**	
KHC	**Kasperske Hory**	**82.77**	**328**	*e*P	**P**	**17 55 00.6**	**+0.5**	
GERES	**GERESS Array B**	**82.94**	**328**	P	**P**	**17 55 00.6**	**-0.4**	
	comp=Z,1.4nm,0.8s,baz=42,slow=4.2,SNR=6.1							
TXAR	**Lajitas Array**	**90.77**	**52**	P	**P**	**17 55 40.4**	**+0.8**	
	comp=Z,0.2nm,0.6s,baz=29,slow=2.1,SNR=3.2							
LPAZ	**La Paz**	**147.31**	**60**	PKPbc	**PKPbc**	**18 02 20.9**	**+0.3**	
	comp=Z,0.5nm,0.5s,baz=342,slow=6.4,SNR=3.1							
LPAZ	**La Paz**	**147.31**	**60**	PKP2	**PKPbc**	**18 02 21.0**	**+0.3**	
LPAZ				pmax	pmax			
	comp=Z,1.0nm,0.5s							

SKHL 12 17:44:13.4±1.4, 49°.69N×142°.24E, h10km, mb3.6/2, Sakhalin Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
UGL	**Uglegorsk**	**0.62**	**191**	*e*Pg	Pb	17 44 26.0	-0.3
UGL				AMB	AMB	17 44 28.0	
	79nm,0.6s						
UGL				*e*Sg	Sb	17 44 34.8	-0.3
UGL				A	A	17 44 35.5	
	185nm,0.3s						
UGL				A	A	17 44 35.5	
	222nm,0.3s						
TYV	**Tymovskoe**	**1.20**	**13**	*e*Sb	Sb	17 44 49.8	-2.1
TYV				A	A	17 44 54.9	
	87nm,0.9s						
GRNR	**Gornyy**	**3.89**	**288**	*e*Sg	Sg	17 46 23.0	+4.8
GRNR				A	A	17 46 24.0	
	14nm,0.8s						

*ISK **12** 17:52:53.2, 37°.20N×36°.91E, h19km, MD2.5*
*ISCJB **12** 17:52:54.5±0.5, 37°.22N±0°.03×36°.93E±0°.03, h19km±5km, Error ellipse: s-maj=4.5km s-min=4.4km az=14.7*
*CSEM **12** 17:52:54.0±0.2, 37°.19N×36°.91E, h10km, MD2.6, Error ellipse: s-maj=5.2km s-min=4.8km az=40.0*
*DDA **12** 17:52:54.5, 37°.18N×36°.90E, h7km, Md2.6*
ISC 12 17:52:54.2±0.8, 37°.20N±0°.02×36°.92E±0°.02, h17km±6km, n24, σ0°.873/44, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HCB	**Kahramanmara˜**	**0.15**	**357**	*i* P	**Pg**	**17 52 58.1**	**-0.3**
HCB				*i* S	**Sg**	**17 53 00.7**	**-0.5**
KAMA	**Osmaniye**	**0.20**	**267**	*i* P	**Pg**	**17 52 59.1**	**-0.1**
KAMA				*i* S	**Sg**	**17 53 02.9**	**+0.3**
GAZ	**Gaziantep**	**0.24**	**96**	*e*PG	**Pg**	**17 52 59.2**	**-0.5**
GAZ				*e*SG	**Sg**	**17 53 03.6**	**+0.1**
GAZ	**Gaziantep**	**0.24**	**96**	*e*Pg	**Pg**	**17 52 59.2**	**-0.5**
GAZ				*e*Sg	**Sg**	**17 53 03.6**	**+0.1**
KMRS	**Kahramanmaras**	**0.31**	**357**	*e*PG	**Pg**	**17 53 00.3**	**-0.6**
KMRS				*e*SG	**Sg**	**17 53 05.3**	**-0.1**
KMRS	**Kahramanmaras**	**0.31**	**357**	*e*Pg	**Pg**	**17 53 00.3**	**-0.6**
KMRS				*e*Sg	**Sg**	**17 53 05.3**	**-0.1**
KUZU	**Kuzuini**	**0.44**	**163**	*i* P	**Pb**	**17 53 04.1**	**+0.6**
KUZU				*i* S	**Sb**	**17 53 10.2**	**+0.3**
KUZU	**Kuzuini**	**0.44**	**163**	P	**Pb**	**17 53 04.1**	**+0.6**
KUZU				S	**Sb**	**17 53 10.2**	**+0.3**
GZT	**Gaziantep**	**0.54**	**73**	*i* P	**Pb**	**17 53 05.9**	**+0.6**
GZT				*i* S	**Sb**	**17 53 14.2**	**+1.4**
ANDN	**Andirin**	**0.60**	**310**	*i* P	**Pg**	**17 53 06.0**	**-0.1**
ANDN				*i* S	**Sb**	**17 53 15.7**	**+1.3**
ANDN	**Andirin**	**0.60**	**310**	P	**Pg**	**17 53 06.0**	**-0.1**
ANDN				S	**Sb**	**17 53 15.7**	**+1.3**
KOZT	**Kozan**	**0.92**	**288**	*e*PG	**Pg**	**17

H10S1	**ASCENSION HYDR**	**21.60**	**129**	T	T	18 31 44.7		
	baz=306,slow=74,SNR=80							
H10S2	**ASCENSION HYDR**	**21.61**	**129**	T	T	18 31 58.4		
	baz=306,slow=74,SNR=45							
DBIC	**Dimbokro**	**26.49**	**85**	LR	LR	18 19 03.6		
	comp=Z,242nm,20.8s,baz=260,slow=31							
TORD	**Torodi Ar. Bea**	**33.70**	**74**	P	P	18 12 07.7	+0.1	
	0.9nm,0.8s,baz=251,slow=8.8,SNR=5.8							
TORD				LR	LR	18 24 19.9		
	comp=Z,332nm,18.5s,baz=255,slow=34							
MDT	**Midelt**	**37.44**	**39**	LR	LR	18 26 34.8		
	comp=Z,286nm,20.6s,baz=239,slow=34							
CPUP	**Villa Florida**	**39.86**	**218**	LR	LR	18 28 45.1		
	comp=Z,283nm,18.2s,baz=42,slow=35							
LPAZ	**La Paz**	**41.93**	**239**	LR	LR	18 29 38.4		
	comp=Z,248nm,20.5s,baz=84,slow=35							
ROSC	**El Rosal**	**42.74**	**272**	LR	LR	18 30 36.3		
	comp=Z,120nm,20.6s,baz=220,slow=35							
KEST	**Kesra**	**48.50**	**45**	LR	LR	18 34 50.5		
	comp=Z,168nm,20.0s,baz=283,slow=36							
PLCA	**Paso Flores**	**57.78**	**215**	LR	LR	18 38 54.5		
	comp=Z,175nm,21.7s,baz=128,slow=35							
BOSA	**Boshof**	**63.79**	**125**	LR	LR	18 39 04.5		
	comp=Z,59nm,19.2s,baz=340,slow=32							
MATP	**Matopo**	**63.93**	**115**	LR	LR	18 38 50.1		
	comp=Z,137nm,19.3s,slow=31							
BRTR	**Keskin Array B**	**67.84**	**49**	P	P	18 16 24.7	-0.1	
	0.3nm,0.7s,baz=244,slow=9.3,SNR=2.7							
BRTR				LR	LR	18 46 44.9		
	comp=Z,45nm,21.3s,baz=272,slow=37							
TXAR	**Lajitas Array**	**72.18**	**299**	P	P	18 16 51.6	0.0	
	0.1nm,0.4s,baz=128,slow=6.9,SNR=4.0							
PDAR	**Pinedale Array**	**78.04**	**313**	P	P	18 17 25.5	+0.1	
	0.2nm,0.3s,baz=72,slow=5.8,SNR=2.7							

JMA ***12*** *18:19:32.5±0.1,23°.87N×121°.61E,h0km,M3.0*
TAP ***12*** *18:19:33.6,23°.91N×121°.58E,h10km,ML3.5,B*
ISC 12 18:19:33.5±0.8,23°.89N±0°.02×121°.62E±0°.02,h13km±5km, n60,σ0°79/92,18C-1D,Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HWA	**Hwalien**	**0.09**	**352**	⇑*iP*	**Pg**	**18 19 36.3**	**-0.1**
	baz=23						
HWA				*eS*	**Sg**	**18 19 38.8**	**+0.4**
	baz=23						
ESF	**Shoufeng Towns**	**0.10**	**261**	*eP*	**Pg**	**18 19 36.2**	**-0.3**
	baz=241						
ESL	**Shilin**	**0.18**	**247**	⇑*eP*	**Pg**	**18 19 36.6**	**-1.1**
	baz=232						
TEGC	**Jichi Village**	**0.19**	**202**	*eP*	**Pb**	**18 19 39.1**	**+0.1**
	baz=191						
TEGC				*eS*	**Sg**	**18 19 43.2**	**+2.5**
	baz=191						
TWD	**Chiawan**	**0.19**	**354**	⇑*iP*	**Pb**	**18 19 37.8**	**-1.2**
	baz=359						
TWD				S	**Sg**	**18 19 40.7**	**-0.1**
	baz=359						
WHF	**Hehuan Shan**	**0.41**	**309**	⇑*iP*	**Pg**	**18 19 41.4**	**-0.5**
	baz=309						
EHY	**Hungye**	**0.47**	**216**	*eP*	**Pg**	**18 19 42.0**	**-0.7**
	baz=213						
TWT	**Tachien**	**0.55**	**312**	⇑*iP*	**Pb**	**18 19 44.4**	**-0.7**
	baz=303						
TWT				*eS*	**Sg**	**18 19 51.3**	**-0.3**
	baz=303						
ENA	**Nanau**	**0.55**	**12**	⇑P	**Pb**	**18 19 44.5**	**-0.6**
	baz=5.0						
NNS	**Nan Shan**	**0.59**	**338**	⇑*iP*	**Pb**	**18 19 45.2**	**-0.8**
	baz=338						
NNS				*eS*	**Sb**	**18 19 54.0**	**-0.3**
	baz=338						
TWF1	**Yuli**	**0.61**	**209**	*eP*	**Pg**	**18 19 45.1**	**-0.3**
	baz=216						
SMLT	**Sun Moon Lake**	**0.66**	**270**	⇑*iP*	**Pb**	**18 19 46.2**	**-0.8**
	baz=278						
SMLT				S	**Sg**	**18 19 54.7**	**-0.4**
	baz=278						
TWC	**Suao**	**0.75**	**16**	*eP*	**Pb**	**18 19 48.6**	**+0.1**
	baz=9.0						
TWC				*eS*	**Sn**	**18 20 00.6**	**-0.5**
	baz=9.0						
ENTT	**Nioudou**	**0.75**	**356**	⇑P	**Pb**	**18 19 48.3**	**-0.2**
	baz=357						
ENTT				*eS*	**Sb**	**18 19 59.4**	**+0.7**
	baz=357						
CHKT	**Chengkung**	**0.82**	**197**	*eP*	**Pg**	**18 19 49.0**	**-0.4**
	baz=196						
TWE	**Neicheng**	**0.83**	**3**	⇓P	**Pn**	**18 19 50.1**	**-0.9**
	baz=4.0						
TWE				*eS*	**Sn**	**18 20 02.5**	**-0.6**
	baz=4.0						
ALS	**Alishan**	**0.83**	**244**	⇑*iP*	**Pb**	**18 19 49.7**	**-0.4**
	baz=243						
ALS				*eS*	**Sb**	**18 20 01.1**	**-0.3**
	baz=243						
WNT	**Mingjian**	**0.85**	**270**	P	**Pn**	**18 19 50.9**	**-0.4**
	baz=269						
WNT				S	**Sn**	**18 20 03.1**	**-0.7**
	baz=269						
ELDTW	**Lidau**	**0.89**	**219**	*eP*	**Pg**	**18 19 49.6**	**-1.1**
	baz=218						
TWQ1	**Liyutan**	**0.90**	**301**	⇑P	**Pn**	**18 19 51.5**	**-0.5**
	baz=301						
TWQ1				*eS*	**Sb**	**18 20 03.2**	**+0.3**
	baz=301						
TCU	**Taichung**	**0.90**	**287**	⇑*eP*	**Pn**	**18 19 52.3**	**+0.3**
	baz=287						
CHN5	**Tsauling**	**0.91**	**252**	⇑*iP*	**Pn**	**18 19 51.5**	**-0.6**
	baz=241						
CHN5				S	**Sn**	**18 20 04.9**	**-0.3**
	baz=241						
NSTT	**Nanjuang**	**0.93**	**323**	⇑*iP*	**Pn**	**18 19 51.9**	**-0.5**
	baz=323						
NSTT				*eS*	**Sn**	**18 20 04.3**	**-1.4**
	baz=323						
NSY	**Sanyi**	**0.94**	**304**	*eP*	**Pn**	**18 19 52.8**	**+0.2**
	baz=304						
NSY				*eS*	**Sn**	**18 20 06.6**	**+0.6**
	baz=304						
WGK	**Gukeng**	**0.99**	**259**	⇑P	**Pn**	**18 19 53.6**	**+0.5**
	baz=260						
WGK				*eS*	**Sn**	**18 20 07.1**	**+0.1**
	baz=260						
STYT	**Tauyuan**	**1.07**	**228**	⇑P	**Pb**	**18 19 53.8**	**-0.2**
	baz=229						
STYT				*eS*	**Sn**	**18 20 09.2**	**+0.1**
	baz=229						
HSN	**Hsinchu**	**1.09**	**327**	*eP*	**Pn**	**18 19 55.8**	**+1.3**
	baz=329						
TWA	**Mucha**	**1.09**	**358**	*eP*	**Pn**	**18 19 55.1**	**+0.5**
	baz=358						
CHN2	**Minshiung**	**1.11**	**252**	*eP*	**Pn**	**18 19 55.1**	**+0.3**
	baz=254						
CHN2				*eS*	**Sn**	**18 20 11.2**	**+1.3**
	baz=254						
WTP	**Ta-pu**	**1.12**	**236**	⇑P	**Pn**	**18 19 55.2**	**+0.2**
	baz=237						
WTP				*eS*	**Sn**	**18 20 10.5**	**+0.1**
	baz=237						
NCU	**National Centr**	**1.15**	**340**	*eP*	**Pn**	**18 19 57.2**	**+1.8**
	baz=347						
TAP1	**Taipei**	**1.15**	**356**	*eP*	**Pn**	**18 19 56.6**	**+1.2**
	baz=354						
TAP	**Taipei**	**1.15**	**355**	*eP*	**Pn**	**18 19 55.7**	**+0.3**
	baz=354						
TWB1	**Santiao Chiao**	**1.17**	**17**	*eP*	**Pg**	**18 19 56.0**	**-0.1**
	baz=7.0						
TWG	**Pinlang**	**1.17**	**205**	*eP*	**Pb**	**18 19 54.2**	**-1.5**
	baz=206						
NWF	**Wu-fen Shan**	**1.19**	**7**	*eP*	**Pg**	**18 19 56.7**	**+0.3**
	baz=6.0						
TWK	**Hsinying**	**1.21**	**239**	*eP*	**Pg**	**18 19 56.9**	**+0.1**
	baz=241						
TWK				*eS*	**Sn**	**18 20 13.7**	**+1.2**
	baz=241						
CHN1	**Nanshi**	**1.22**	**235**	⇑P	**Pg**	**18 19 57.2**	**+0.2**
	baz=237						
CHN1				S	**Sn**	**18 20 14.1**	**+1.4**
	baz=237						
TWS1	**Kuangyinshan**	**1.22**	**351**	*eP*	**Pg**	**18 19 57.5**	**+0.4**
	baz=350						
TWS1				*eS*	**Sn**	**18 20 15.3**	**+2.5**
	baz=350						
WTCT	**Ta-ch'eng**	**1.22**	**269**	*eP*	**Pg**	**18 19 57.0**	**-0.1**
	baz=270						
WTCT				*eS*	**Sn**	**18 20 14.0**	**+1.2**
	baz=270						
SGST	**Jiashian**	**1.24**	**230**	*eP*	**Pg**	**18 19 57.8**	**+0.3**
	baz=233						
SGST				*eS*	**Sn**	**18 20 14.8**	**+1.5**
	baz=233						
WSF	**Szhu**	**1.30**	**259**	*eP*	**Pg**	**18 19 58.0**	**-0.6**
	baz=261						
WSF				*eS*	**Sg**	**18 20 16.7**	**+1.1**
	baz=261						
JYNG	**Yonagunijimaku**	**1.34**	**65**	P	**Pb**	**18 19 58.5**	**0.0**
JYNG				*eS*	**Sg**	**18 20 17.6**	**+1.0**
TWY	**Chenhua**	**1.38**	**359**	*eP*	**Pg**	**18 20 00.0**	**-0.1**
	baz=359						
YOJ	**Yonaguni jima**	**1.40**	**65**	*eP*	**Pb**	**18 19 59.2**	**-0.3**
	baz=67						
YOJ	**Yonaguni jima**	**1.40**	**65**	P	**Pb**	**18 19 59.4**	**-0.1**
YOJ				*eS*	**Sg**	**18 20 18.2**	**-0.3**
CHN8	**Yiju**	**1.40**	**248**	*eP*	**Pn**	**18 19 58.8**	**0.0**
	baz=251						
CHN8				*eS*	**Sg**	**18 20 19.1**	**+0.5**
	baz=251						
CHN3	**Shinhua**	**1.41**	**235**	*eP*	**Pg**	**18 20 00.3**	**-0.2**
	baz=237						
ECL	**Taimali**	**1.42**	**206**	*eP*	**Pn**	**18 19 59.1**	**0.0**
	baz=190						
TWM1	**Shoushan**	**1.53**	**226**	*eP*	**Pg**	**18 20 02.8**	**-0.1**
	baz=227						
EAST	**Anshao**	**1.66**	**206**	*eP*	**Pb**	**18 20 03.6**	**-0.4**
	baz=193						
SCZT	**Fangliau**	**1.77**	**212**	*eP*	**Pb**	**18 20 05.8**	**0.0**
	baz=199						
PNG	**Penghu**	**1.92**	**261**	*eP*	**Pb**	**18 20 07.0**	**-1.4**
	baz=263						
TWP	**Hsiaoliuchiu**	**1.92**	**217**	*eP*	**Pb**	**18 20 08.5**	**+0.1**
	baz=219						
IRIF	**Iriomote-Funau**	**1.98**	**77**	P	**Pn**	**18 20 07.4**	**+0.6**
IRIF				*eS*	**Sb**	**18 20 33.5**	**-0.6**
TWK1	**Hengchun**	**2.07**	**201**	*eP*	**Pn**	**18 20 07.4**	**-0.7**
	baz=204						
JKRS	**Kuro-shima**	**2.21**	**80**	P	**Pb**	**18 20 11.7**	**-1.7**
JKRS				*eS*	**Sb**	**18 20 40.0**	**-0.8**
JIJ	**Ishigaki jima**	**2.35**	**78**	P	**Pn**	**18 20 12.0**	**0.0**
JIJ				*eS*	**Sn**	**18 20 41.0**	**+0.2**
JISG	**Ishigakijimahi**	**2.56**	**74**	P	**Pn**	**18 20 14.8**	**+0.1**
JISG				*eS*	**Sn**	**18 20 45.8**	**+0.1**
KNM	**Kinmen**	**2.96**	**281**	*eP*	**Pn**	**18 20 20.3**	**+0.1**
	baz=284						

BJI ***12*** *18:23:53.7,6°.50S×103°.60E,h15km,mb4.9/57,mB4.9/38, Ms4.5/27,Ms7 4.1/25*
IDC ***12*** *18:23:54.9±0.5,6°.17S×103°.90E,h0km,mb4.7/27, mb1 4.7/28,mb1mx4.6/42,mbtmp4.7/28,ML4.2/1,MS3.9/15, Ms1 3.9/15,ms1mx3.6/36,Error ellipse: s-maj=16.9km s-min=11.3km az=38.0*
MOS ***12*** *18:23:57.8±0.9,6°.18S×103°.87E,h33km,mb5.1/26,Error ellipse: s-maj=10.2km s-min=5.9km az=109.9*
ISCJB ***12*** *18:23:59.6±0.5,6°.39S±0°.03×103°.76E±0°.03,h55km±4km, mb4.8/84,MS3.9/22,Error ellipse: s-maj=6.4km s-min=3.2km az=44.4*
DJA ***12*** *18:24:00.2-0.3,6°.5S-2°×10°.4E±°,h53km±5km,M5.0/28, mb5.0/28,mB5.4/8,MLv5.1/22,Mw(mB)4.9/8*
NEIC ***12*** *18:24:01.4±0.9,6°.27S×103°.84E,h51km±7km,mb5.0/25, Error ellipse: s-maj=10.4km s-min=4.8km az=47.0*
ISC 12 18:24:00.0±0.6,6°.40S±0°.05×103°.72E±0°.04,h41km±4km, h41km:pP-P,n302,σ1s36/305,mb4.9/84,MS4.0/22,25C-5D, Southwest of Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KASI	**Kota Agung**	**1.16**	**42**	P	**Pn**	**18 24 18.8**	**-1.0**
KASI				S	**Sn**	**18 24 35.1**	**+0.6**
LWLI	**Liwa**	**1.41**	**14**	P	**Pn**	**18 24 23.3**	**-0.1**
LWLI				S	**Sn**	**18 24 42.2**	**+1.4**
BLSI	**Bandar Lampung**	**1.83**	**56**	P	**Pn**	**18 24 29.5**	**+0.5**
BLSI				S	**Sn**	**18 24 52.9**	**+1.9**
MDSI	**Maura Dua**	**1.95**	**13**	P	**Pn**	**18 24 31.0**	**+0.3**
MDSI				S	**Sn**	**18 24 55.9**	**+1.9**
KLSI		**1.97**	**31**	P	**Pn**	**18 24 31.4**	**+0.5**
KLSI				S	**Sn**	**18 24 56.2**	**+1.8**
MNAI	**Manna**	**2.16**	**339**	P	**Pn**	**18 24 34.0**	**+0.4**
MNAI	**Manna**	**2.16**	**339**	*ePn*	**Pn**	**18 24 33.7**	**+0.2**
SBJI	**Serang**	**2.41**	**84**	P	**Pn**	**18 24 37.8**	**+0.8**
SBJI				S	**Sn**	**18 25 08.4**	**+3.1**
TNG	**Tangerang**	**2.92**	**86**	P	**Pn**	**18 24 45.1**	**+1.2**
KSI	**Kapahiang**	**2.95**	**338**	P	**Pn**	**18 24 44.6**	**+0.1**
KSI				S	**Sn**	**18 25 20.8**	**+2.1**
DBJI	**Dramaga**	**3.01**	**93**	P	**Pn**	**18 24 46.8**	**+1.5**
CNJI	**Cibinong**	**3.50**	**105**	P	**Pn**	**18 24 51.4**	**-0.6**
MASI	**Maura Aman, Be**	**3.56**	**335**	P	**Pn**	**18 24 53.3**	**+0.5**
MASI				S	**Sn**	**18 25 36.4**	**+0.8**
PMBI	**Palembang**	**3.60**	**17**	P	**Pn**	**18 24 54.3**	**+0.9**
CISI	**Cisompet, Garu**	**4.22**	**106**	P	**Pn**	**18 25 01.6**	**-0.4**
CISI	**Cisompet, Garu**	**4.22**	**106**	*ePn*	**Pn**	**18 25 01.2**	**-0.8**
XMIS	**Christmas Isla**	**4.48**	**155**	*ePn*	Pn	18 25 00.6	-4.9
PPBI	**Pangkal Pinang**	**4.85**	**30**	P	**Pn**	**18 25 11.6**	**+1.1**
CMJI	**Cimerak**	**4.89**	**107**	P	**Pn**	**18 25 11.4**	**+0.3**
PPSI	**Pulau Pagai**	**5.17**	**314**	P	**Pn**	**18 25 14.9**	**0.0**
KPJI	**Karang Pucung**	**5.26**	**100**	P	**Pn**	**18 25 18.0**	**+1.9**
PDSI	**Padang**	**6.35**	**329**	P	**Pn**	**18 25 30.0**	**-1.1**
PPI	**Padang Panjang**	**6.77**	**331**	P	**Pn**	**18 25 38.2**	**+1.3**
SISI	**Saibi**	**6.83**	**317**	P	**Pn**	**18 25 37.4**	**-0.4**
UGM	**Wanagama**	**6.92**	**103**	P	**Pn**	**18 25 40.6**	**+1.7**
UGM	**Wanagama**	**6.92**	**103**	*ePn*	**Pn**	**18 25 40.3**	**+1.4**
TPRI	**Tanjung Pinang**	**7.31**	**6**	P	**Pn**	**18 25 45.6**	**+1.2**
	61nm,0.5s,978nm						
PCJI	**Pacitan**	**7.61**	**104**	P	**Pn**	**18 25 49.7**	**+1.3**
	245nm,1.0s						
NGJI	**Ngawi**	**7.75**	**98**	P	**Pn**	**18 25 52.7**	**+2.4**
	118nm,0.7s						
MYKOM	**Kota Tinggi**	**8.13**	**1**	*ePn*	**Pn**	**18 25 56.7**	**+1.1**
PWJI	**Pagerwojo**	**8.18**	**102**	P	**Pn**	**18 25 57.1**	**+0.8**
MNSI	**Mandailing Nat**	**8.26**	**330**	P	**Pn**	**18 25 57.3**	**0.0**
COCO	**West Island**	**8.90**	**229**	*ceP*	**Pn**	**18 26 08.2**	**+2.0**
GMJI	**Gumukmas**	**9.82**	**102**	P	**Pn**	**18 26 20.5**	**+1.7**
BLJI	**Banyuglugur**	**9.89**	**98**	P	**Pn**	**18 26 21.6**	**+1.9**
STKI	**Sintang**	**10.06**	**51**	P	Pn	18 26 28.3	+6.3
KSM	**Kuching**	**10.22**	**40**	*ePn*	**Pn**	**18 26 24.9**	**+0.7**
PSI	**Prapat**	**10.32**	**332**	P	**Pn**	**18 26 22.2**	**-3.5**
	2.2nm,0.3s,baz=256,slow=11,SNR=4.1						
ABJI	**Asem Bagus**	**10.53**	**98**	P	**Pn**	**18 26 29.7**	**+1.3**
JAGI	**Jajag, Banyuwa**	**10.55**	**102**	P	**Pn**	**18 26 29.1**	**+0.4**
JAGI	**Jajag, Banyuwa**	**10.55**	**102**	*ePn*	**Pn**	**18 26 28.0**	**-0.8**
SRBI	**Singaraja**	**11.52**	**99**	P	**Pn**	**18 26 43.0**	**+0.9**
IGBI	**Denpasar**	**11.58**	**103**	P	**Pn**	**18 26 42.9**	**+0.1**
TPTI		**11.61**	**326**	P	**Pn**	**18 26 41.8**	**-1.4**
MTKI	**Muara Teweh, K**	**12.39**	**65**	P	**P**	**18 27 09.0**	**+3.8**
TWSI	**Taliwang, Sumb**	**13.25**	**101**	P	**Pn**	**18 27 03.1**	**-2.6**
PLAI	**Plampang**	**14.14**	**101**	P	**Pn**	**18 27 14.5**	**-3.3**
TTSI	**Tana Toraja**	**16.38**	**79**	P	**P**	**18 27 48.3**	**-1.2**
PCI	**Palu**	**16.98**	**72**	P	**P**	**18 27 55.7**	**-0.4**
MMRI	**Maumere**	**18.49**	**98**	P	**P**	**18 28 11.3**	**-1.5**
MMRI	**Maumere**	**18.49**	**98**	*eP*	**P**	**18 28 11.9**	**-0.9**
	105nm,0.5s						
MYLDM	**Lahad Datu**	**18.71**	**52**	*eP*	**Pn**	**18 28 17.0**	**+1.1**
	28nm,0.6s						
DLV	**T Lat**	**18.83**	**15**	*eP*	**Pn**	**18 28 17.2**	**-0.3**
	19nm,1.0s						
GIRL	**Giralia**	**19.07**	**149**	P	**P**	**18 28 18.7**	**-0.4**
	baz=19,SNR=4.5						
MRSI	**Marisa**	**19.42**	**70**	P	**P**	**18 28 22.8**	**-0.3**
BATI	**Baumata**	**20.09**	**102**	P	**P**	**18 28 30.8**	**+0.4**
SOEI	**Soe**	**20.61**	**101**	P	**P**	**18 28 35.2**	**-0.9**
SOEI	**Soe**	**20.61**	**101**	*eP*	**P**	**18 28 35.3**	**-0.9**
	345nm,0.7s						
MBWA	**Marble Bar**	**21.35**	**135**	*eP*	**P**	**18 28 45.3**	**+1.5**
FITZ	**Fitzroy Crossi**	**24.34**	**121**	P	**P**	**18 29 14.5**	**+0.3**
	3.7nm,0.8s,baz=325,slow=7.4,SNR=9.6						
FITZ				LR	LR	18 39 19.6	
	comp=Z,143nm,21.8s,baz=322,slow=38						
FITZ	**Fitzroy Crossi**	**24.34**	**121**	P	**P**	**18 29 14.1**	**-0.1**
	baz=24,SNR=6.2						
CM01	**Chiang Mai Arr**	**25.10**	**349**	*eP*	**P**	**18 29 19.9**	**-1.2**
CM31	**Chiang Mai Arr**	**25.14**	**349**	*eP*	**P**	**18 29 20.5**	**-1.0**
CMAR	**Chiang Mai Arr**	**25.14**	**349**	P	**P**	**18 29 19.9**	**-1.5**
	24nm,0.8s,baz=182,slow=9.1,SNR=100						
CMAR				PcP	**PcP**	**18 32 56.6**	**+1.6**
	1.5nm,0.7s,baz=202,slow=3.7,SNR=4.4						
CMAR				LR	LR	18 39 51.9	
	comp=Z,185nm,18.1s,baz=180,slow=38						
CHTO	**Chiang Mai**	**25.49**	**349**	P	**P**	**18 29 23.8**	**-0.8**
	95nm,1.1s						
CHTO	**Chiang Mai**	**25.49**	**349**	*eP*	**P**	**18 29 23.1**	**-1.5**
CHTO				pmax	pmax		
	comp=Z,17nm,0.8s						
CHTO	**Chiang Mai**	**25.49**	**349**	*eP*	**P**	**18 29 23.1**	**-1.5**
	comp=Z,17nm,0.8s						
QIZ	**Qiongzhong**	**25.98**	**13**	P	**P**	**18 29 30.8**	**+1.8**
QIZ				sP	**pP**	**18 29 37.5**	**-2.7**
QIZ				S	**S**	**18 34 04.2**	**+7.2**
QIZ				pmax	pmax		
	comp=Z,25nm,2.4s						
QIZ				pmax	pmax		
	comp=Z,86nm,3.2s						
QIZ				LR	LR		
	comp=Z,360nm,17.9s						
QIZ				LR	LR		
	comp=Z,390nm,16.5s						
KNRA	**Kununurra**	**26.22**	**113**	P	**P**	**18 29 31.0**	**-0.4**
	baz=26,SNR=11						
TGY	**Tagaytay City**	**26.58**	**40**	LR	LR	18 40 28.2	
	comp=Z,86nm,20.1s,baz=292,slow=38						
PALK	**Pallekele**	**26.68**	**300**	LR	LR	18 38 34.2	
	comp=Z,144nm,20.7s,baz=116,slow=33						
SLVN	**Son La**	**27.56**	**0**	*eP*	**P**	**18 29 42.1**	**-1.2**
	comp=Z,32nm,2.0s						
MTN	**Manton Dam**	**27.76**	**105**	P	**P**	**18 29 44.0**	**-1.2**
	baz=28,SNR=14						
MTN	**Manton Dam**	**27.76**	**105**	*eP*	**P**	**18 29 43.4**	**-1.8**
	comp=Z,72nm,1.4s						
NWAO	**Narrogin (SRO)**	**29.24**	**156**	LR	LR	18 40 33.3	
	comp=Z,224nm,20.3s,baz=172,slow=34						
H01W3	**Cape Leeuwin H**	**29.93**	**163**	T	T	19 01 09.0	
	baz=336						
H01W2	**Cape Leeuwin H**	**29.95**	**163**	T	T	19 01 13.2	
	baz=336,slow=74						
H01W1	**Cape Leeuwin H**	**29.95**	**163**	T	T	19 01 05.6	
	baz=336,slow=74						
WRKA	**Warakurna**	**29.95**	**131**	P	**P**	**18 30 05.6**	**+0.9**
	baz=30,SNR=3.2						
H08S2	**Diego Garcia H**	**31.02**	**266**	T	T	19 02 45.1	
	baz=93						
H08S3	**Diego Garcia H**	**31.02**	**266**	T	T	19 02 47.9	
	baz=93						
H08S1	**Diego Garcia H**	**31.03**	**266**	T	T	19 02 46.7	
	baz=93						
KMI	**Kunming**	**31.34**	**358**	P	**P**	**18 30 19.2**	**+2.1**
KMI				pP	pP	18 30 23.0	-5.3
KMI				sP	sP	18 30 24.9	-8.3
KMI				S	**S**	**18 35 28.0**	**+6.2**
KMI				sS	sS	18 35 34.6	-5.9
KMI				pmax	pmax		
	comp=Z,7.0nm,0.5s						
KMI				pmax	pmax		
	comp=Z,120nm,3.7s						
KMI				LR	LR		
	comp=Z,260nm,20.9s						
KMI				LR	LR		
	comp=Z,190nm,14.7s						
KMI				LR	LR		
	comp=Z,380nm,21.8s						
H08N1	**Diego Garcia H**	**32.50**	**268**	T	T	19 05 31.3	
	baz=145						
H08N2	**Diego Garcia H**	**32.52**	**268**	T	T	19 05 34.4	
	baz=145						
H08N3	**Diego Garcia H**	**32.52**	**268**	T	T	19 05 28.1	
	baz=145						
WRA	**Warramunga Arr**	**32.63**	**117**	P	**P**	**18 30 28.2**	**-0.1**
	comp=Z,7.7nm,0.7s,baz=287,slow=12,SNR=54						
WRA				LR	LR	18 45 05.7	
	comp=Z,159nm,18.7s,baz=275,slow=39						
WRAB	**Tennant Creek**	**32.64**	**117**	*ceP*	**P**	**18 30 28.9**	**+0.6**
WRAB				pmax	pmax		
	comp=Z,30nm,0.7s						
WB2	**Warramunga Arr**	**32.64**	**117**	*eP*	**P**	**18 30 27.9**	**-0.4**
GYA	**Guiyang**	**32.78**	**5**	*eP*	**P**	**18 30 33.0**	**+3.4**
GYA				PP	**PP**	**18 31 42.3**	**-2.0**
GYA				S	**S**	**18 35 50.0**	**+6.0**
GYA				pmax	pmax		
	comp=Z,20nm,0.8s						
GYA				pmax	pmax		
	comp=Z,120nm,4.9s						
GYA				LR	LR		
	comp=Z,510nm,17.0s						
GYA				LR	LR		
	comp=Z,480nm,18.0s						
GYA				LR	LR		
	comp=Z,530nm,17.2s						
AS31	**Alice Springs**	**33.71**	**124**	*eP*	**P**	**18 30 37.6**	**-0.1**
	comp=Z,3.4nm,0.3s						
ASAR	**Alice Springs**	**33.71**	**124**	P	**P**	**18 30 38.2**	**+0.5**
	comp=Z,5.1nm,0.9s,baz=306,slow=8.0,SNR=69						
ASAR				S	**S**	**18 35 57.2**	**-1.1**
	comp=Z,1.1nm,1.0s,baz=294,slow=16,SNR=4.7						
ASAR				LR	LR	18 45 23.7	
	comp=Z,160nm,20.2s,baz=302,slow=38						
AS01	**Alice Springs**	**33.74**	**124**	*eP*	**P**	**18 30 37.6**	**-0.4**
ODAN	**Odare**	**36.65**	**335**	*eP*	**P**	**18 31 03.2**	**+0.1**
	comp=Z,97nm,0.6s						
ENH	**Enshi**	**36.88**	**8**	*eP*	**P**	**18 31 03.0**	**-1.7**
	comp=Z,16nm,0.6s						
TAPN	**Taplejung**	**36.95**	**336**	*eP*	**P**	**18 31 06.3**	**+0.5**
	comp=Z,105nm,0.8s						
JAY	**Jayapura**	**37.06**	**86**	P	**P**	**18 31 03.6**	**-3.1**
	comp=Z,0.8nm,0.7s,baz=270,slow=20,SNR=3.7						
RAMN	**Ramite**	**37.07**	**334**	*eP*	**P**	**18 31 07.0**	**+0.3**
	comp=Z,66nm,0.5s						
CD2	**Chengdu**	**37.10**	**0**	*eP*	**P**	**18 31 05.8**	**-0.8**
CD2				pP	pP	18 31 11.9	-6.1
CD2				sP	sP	18 31 15.2	-7.7
CD2				pmax	pmax		
	comp=Z,10.0nm,0.8s						
CD2	

comp=E,120nm,12.0s
LZH LR LR
comp=Z,250nm,19.1s
HTT Hallett 42.28 134 P **P** **18 31 49.7 -0.2**
baz=42,SNR=4.2
PMG Port Moresby 43.11 97 P **P** **18 31 56.4 -0.4**
comp=Z,41nm,0.7s,baz=269,slow=3.3,SNR=12
PMG Port Moresby 43.11 97 *ce*P **P** **18 31 56.2 -0.5**
PMG pmax pmax
comp=Z,152nm,0.7s
CTA Charters Tower 43.44 112 P **P** **18 31 59.9 +0.5**
comp=Z,6.1nm,0.8s,baz=352,slow=12,SNR=4.2
CTAO Charters Tower 43.44 112 *e*P **P** **18 31 59.6 +0.3**
CTAO Charters Tower 43.44 112 *e*P **P** **18 31 59.6 +0.3**
STKA Stephens Creek 43.48 131 P **P** **18 32 00.6 +1.1**
comp=Z,7.0nm,0.5s,baz=306,slow=7.4,SNR=46
STKA Stephens Creek 43.48 131 P **P** **18 32 00.7 +1.1**
baz=44,SNR=34
STKA Stephens Creek 43.48 131 *e*P **P** **18 32 00.2 +0.7**
STKA pmax pmax
comp=Z,8.0nm,0.6s
STKA Stephens Creek 43.48 131 *e*P **P** **18 32 00.2 +0.7**
comp=Z,8.0nm,0.6s
TIA Tai'an 44.21 16 ⇑P **P** **18 32 03.9 -1.3**
TIA pmax pmax
comp=Z,20nm,0.7s
GTA Gaotai 45.72 356 *e*P **P** **18 32 17.5 +0.2**
GTA pP pP 18 32 24.8 -4.2
GTA sP sP 18 32 28.4 -5.4
GTA pmax pmax
comp=Z,9.0nm,0.9s
CMSA Cobar Meteorol 46.48 128 P **P** **18 32 22.9 -0.6**
baz=47,SNR=6.8
THN Thein Dam 46.92 327 *e*P **P** **18 32 26.4 -0.3**
JNU Nakatsue 47.01 32 P **P** **18 32 26.2 -1.3**
comp=Z,13nm,0.8s,baz=137,slow=5.7,SNR=13
JNU Nakatsue 47.01 32 *e*P **P** **18 32 26.9 -0.5**
comp=Z,19nm,1.0s
HHC Hu-ho-hao-te 47.56 8 *e*P **P** **18 32 32.5 +0.8**
HHC sP pP 18 32 40.2 -3.2
HHC pmax pmax
comp=Z,14nm,0.8s
HHC pmax pmax
comp=Z,89nm,8.8s
HHC LR LR
comp=Z,200nm,12.7s
HHC LR LR
comp=Z,130nm,12.3s
HHC LR LR
comp=Z,160nm,15.3s
BJT Baijiatuau 47.59 13 *e*P **P** **18 32 31.5 -0.3**
BJT pmax pmax
comp=Z,20nm,0.7s
BJT Baijiatuau 47.59 13 *e*P **P** **18 32 31.5 -0.3**
comp=Z,20nm,0.7s
BJI Beijing 47.61 13 P **P** **18 32 31.4 -0.6**
BJI pmax pmax
comp=Z,32nm,0.7s
KS15 Wonju Array Si 49.10 26 *e*P **P** **18 32 43.2 -0.2**
KSAR Wonju Array Be 49.10 26 P **P** **18 32 43.0 -0.5**
KSAR Wonju Array Be 49.10 26 P **P** **18 32 43.0 -0.5**
KSRS Korea Array 49.13 26 P **P** **18 32 43.0 -0.7**
comp=Z,15nm,0.7s,baz=222,slow=7.6,SNR=131
KS01 Wonju Array Si 49.13 26 *e*P **P** **18 32 42.9 -0.9**
WMQ Urumqi 52.05 345 P **P** **18 33 06.3 +0.6**
WMQ pP pP 18 33 11.2 -6.3
WMQ pmax pmax
comp=Z,38nm,0.7s
WMQ pmax pmax
comp=Z,100nm,4.5s
WMQ LR LR
comp=Z,42nm,20.7s
WMQ LR LR
comp=Z,49nm,18.9s
KSH Kashi 52.39 333 ⇑*i*P **P** **18 33 07.1 -1.4**
KSH sP pP 18 33 13.9 -6.3
KSH PcP **PcP** **18 34 16.7 -2.3**
KSH PP **PP** **18 35 08.0 +0.4**
KSH S **S** **18 40 28.7 -3.0**
KSH SS **SS** **18 44 04.7 -5.5**
KSH pmax pmax
comp=Z,14nm,0.6s
KSH pmax pmax
comp=Z,56nm,3.5s
KSH LR LR
comp=Z,92nm,6.4s
KSH LR LR
comp=Z,120nm,5.5s
KSH LR LR
comp=Z,110nm,7.6s
WSAR Wadi Sarin 52.99 305 P **P** **18 33 14.9 +1.9**
comp=Z,1.8nm,0.4s,baz=150,slow=6.1,SNR=8.8
MAJO Matsushiro 53.55 35 *e*P **P** **18 33 14.8 -2.1**
MAJO pmax pmax
comp=Z,8.0nm,0.6s
MAJO Matsushiro 53.55 35 *e*P **P** **18 33 14.8 -2.1**
comp=Z,8.2nm,0.6s
MJAR Matsushiro Arr 53.55 35 P **P** **18 33 14.7 -2.2**
comp=Z,4.1nm,0.5s,baz=208,slow=7.7,SNR=19
MJAR LR LR 18 57 40.7
comp=Z,22nm,18.6s,baz=305,slow=38
MJB9 Matsu-Tunnel 53.55 35 *e*P **P** **18 33 14.9 -2.1**
comp=Z,21nm,0.6s
SONM Songino Array 54.05 2 P **P** **18 33 20.8 +0.3**
comp=Z,23nm,0.7s,baz=180,slow=9.1,SNR=121
SONM PcP **PcP** **18 34 24.7 -0.3**
comp=Z,2.6nm,0.7s,baz=182,slow=4.4,SNR=3.3
SONM LR LR 18 59 33.9
comp=Z,136nm,18.2s,baz=240,slow=40
SONA1 Songino Array 54.06 2 *e*P **P** **18 33 20.5 0.0**
ULN Ulaanbaatar 54.11 3 *ce*P **P** **18 33 21.0 +0.1**
ULN pmax pmax
comp=Z,13nm,0.7s
ULN Ulaanbaatar 54.11 3 *e*P **P** **18 33 21.1 +0.1**
comp=Z,14nm,0.8s
PDGK Podgornoye 54.15 338 P **P** **18 33 20.7 -0.6**
PDGK pmax pmax
comp=Z,21nm,1.0s
MSHR Mys Shultsa 54.77 25 ⇓*i*P **P** **18 33 25.0 -0.6**
TKM2 Tokmak 2 55.34 335 P **P** **18 33 29.4 -0.6**
TKM2 pmax pmax
comp=Z,15nm,0.6s
VLA Vladivostok 55.52 25 *e*P **P** **18 33 29.4 -1.6**
VLA pmax pmax
comp=Z,10.0nm,0.6s
AAK Ala-Archa 55.58 334 *c i*P **P** **18 33 31.8 +0.1**
AAK pmax pmax
comp=Z,8.0nm,0.7s
AAK Ala-Archa 55.58 334 *e*P **P** **18 33 31.9 +0.3**
comp=Z,8.4nm,1.2s
FRU Bishkek 55.68 334 *e*P **P** **18 33 32.0 -0.3**
FRU *e* 18 33 46.0
MDJ Mudanjiang 55.86 22 P **P** **18 33 35.1 +1.6**
MDJ pmax pmax
comp=Z,5.0nm,0.8s
MDJ pmax pmax
comp=Z,39nm,4.9s
MDJ Mudanjiang 55.86 22 *e*P **P** **18 33 32.7 -0.7**
MK01 Makanchi Array 56.25 342 *e*P **P** **18 33 35.4 -0.9**
MK31 Makanchi Array 56.27 342 *e*P **P** **18 33 35.6 -0.8**
MK31 pmax pmax
comp=Z,10.0nm,0.7s
MK31 Makanchi Array 56.27 342 *e*P **P** **18 33 35.9 -0.6**
MKAR Makanchi Array 56.27 342 *e*P **P** **18 33 35.9 -0.5**
MKAR pmax pmax
comp=Z,73nm,0.7s
MKAR Makanchi Array 56.27 342 *e*P **P** **18 33 35.9 -0.5**
comp=Z,73nm,0.7s
MNAS Manas 56.34 333 P **P** **18 33 36.6 -0.5**
MNAS pmax pmax
comp=Z,20nm,0.7s
MAKZ Makanchi 56.38 342 *e*P **P** **18 33 36.7 -0.5**
MAKZ pmax pmax
comp=Z,12nm,1.3s
MAKZ Makanchi 56.38 342 *e*P **P** **18 33 36.7 -0.5**
comp=Z,12nm,1.3s
USRK Ussuriysk Ar. 56.45 24 P **P** **18 33 37.0 -0.6**
comp=Z,22nm,0.6s,baz=204,slow=5.4,SNR=77
ZAK Zakamensk 56.55 360 *e*P **P** **18 33 38.1 -0.3**
ZAK pmax pmax
comp=Z,5.0nm,1.1s
HIA Hailar 57.17 12 *e*P **P** **18 33 41.9 -0.8**
HIA Hailar 57.17 12 *e*P **P** **18 33 41.9 -0.8**
KK31 Karatay Array 57.75 332 P **P** **18 33 45.8 -1.1**
KK31 pmax pmax
comp=Z,2.0nm,0.7s

KKAR Karatay Array 57.75 332 *e*P **P** **18 33 46.1 -0.8**
KKAR pmax pmax
comp=Z,40nm,0.9s
KKAR Karatay Array 57.75 332 *e*P **P** **18 33 46.1 -0.8**
comp=Z,40nm,0.9s
TLY Talaya 57.85 360 *i*P **P** **18 33 47.8 +0.4**
TLY pmax pmax
comp=Z,7.0nm,0.7s
MOY Mondy 57.88 358 *e*P **P** **18 33 48.0 +0.2**
KLR Kul'dur 60.56 21 *c i*P **P** **18 34 04.8 -1.4**
KURK Kurchatov 60.88 342 *c i*P **P** **18 34 07.9 -0.4**
KURK *i* *PP **pP** **18 34 21.5 +1.2**
KURK pmax pmax
comp=Z,48nm,0.8s
KURK Kurchatov 60.88 342 *e*P **P** **18 34 08.0 -0.3**
comp=Z,16nm,0.8s
GEYT Alibeck 61.18 320 P **P** **18 34 11.3 +0.6**
comp=Z,12nm,0.7s,baz=152,slow=6.6,SNR=12
ZAA0 Zalesovo Array 62.19 347 *e*P **P** **18 34 15.8 -1.3**
ZALV Zalesovo Beam 62.19 347 P **P** **18 34 16.4 -0.8**
comp=Z,15nm,0.3s,baz=155,slow=5.5,SNR=95
ZALV LR LR 19 04 03.6
comp=Z,142nm,19.2s,baz=250,slow=39
NVS Novosibirsk 63.37 347 *e*P **P** **18 34 24.0 -0.9**
NVS pmax pmax
comp=N,5.0nm,1.0s
NVS pmax pmax
comp=E,4.0nm,1.0s
NVS pmax pmax
comp=Z,6.0nm,1.0s
YSS Yuzh-Sakhalins 63.37 29 *e*P **P** **18 34 23.6 -1.5**
YSS pmax pmax
comp=Z,20nm,0.9s
YSS Yuzh-Sakhalins 63.37 29 *e*P **P** **18 34 24.0 -1.1**
comp=Z,22nm,0.9s
BRVK Borovoye 65.65 339 *ce*P **P** **18 34 39.4 -0.5**
BRVK *i* *PP **pP** **18 34 52.7 +0.7**
BRVK pmax pmax
comp=Z,13nm,0.5s
BRVK Borovoye 65.65 339 *e*P **P** **18 34 39.6 -0.3**
comp=Z,8.6nm,0.5s
MAW Mawson 67.03 196 LR LR 18 58 49.2
comp=Z,120nm,18.7s,baz=60,slow=31
AB31 Akbulak array 67.26 331 *i*P **P** **18 34 50.1 -0.2**
AB31 pmax pmax
comp=Z,4.0nm,0.5s
ABKAR Akbulak array 67.26 331 *e*P **P** **18 34 50.3 0.0**
comp=Z,109nm,0.6s
AKTO Aktyubinsk 68.98 331 P **P** **18 35 00.6 -0.4**
AKTO pmax pmax
comp=Z,5.0nm,0.9s
RPZ Rata Peaks 69.27 134 LR LR 19 02 10.0
comp=Z,197nm,19.6s,baz=260,slow=33
TARA Tarawa 69.50 86 *e*P **P** **18 35 07.2 +2.1**
ARU Arti 72.70 336 *c i*P **P** **18 35 23.6 0.0**
ARU 18 35 37.4
ARU 18 38 03.7
ARU PPP PPP 18 39 50.2
ARU S **S** **18 44 48.2 +2.4**
ARU SS **SS** **18 49 28.8 +2.6**
ARU pmax pmax
comp=Z,13nm,1.0s
ARU Arti 72.70 336 *e*P **P** **18 35 22.7 -0.8**
comp=Z,17nm,1.0s
ZEI Tsey 72.97 318 *e*P **P** **18 35 26.1 +0.4**
ZEI pmax pmax
comp=Z,18nm,0.6s
URZ Urewera 73.03 128 LR LR 19 09 35.6
comp=Z,127nm,18.4s,baz=308,slow=38
NCK Nalchik 73.48 319 *e*P **P** **18 35 29.3 +0.8**
NCK pmax pmax
comp=Z,9.0nm,0.8s
NEY Neytrino 73.95 318 *i*P **P** **18 35 32.9 +1.5**
NEY pmax pmax
comp=Z,2.0nm,0.8s
MATP Matopo 73.97 251 P **P** **18 35 34.1 +2.1**
comp=Z,1.1nm,0.7s,baz=214,slow=7.3,SNR=2.3
KBZ Khabaz 74.04 319 P **P** **18 35 32.7 +1.1**
comp=Z,8.2nm,0.8s,baz=116,slow=6.0,SNR=27
KIV Kislovodsk 74.27 319 *e*P **P** **18 35 33.5 +0.3**
KIV pmax pmax
comp=Z,10.0nm,1.1s
PETK Petropavlovsk- 74.69 30 P **P** **18 35 33.2 -2.1**
comp=Z,2.4nm,0.8s,baz=270,slow=2.5,SNR=5.4
SOKR Solikamsk 75.53 337 ⇑*i*P **P** **18 35 38.7 -1.2**
SOKR pmax pmax
comp=Z,19nm,1.4s
NRIK Noril'sk 76.39 354 P **P** **18 35 43.9 -0.8**
comp=Z,3.6nm,0.3s,baz=144,slow=3.9,SNR=7.5
NRIK LR LR 19 12 54.0
comp=Z,80nm,19.2s,baz=185,slow=39
BOSA Boshof 76.85 242 P **P** **18 35 50.3 +1.9**
comp=Z,2.5nm,1.0s,baz=61,slow=10,SNR=2.9
SEY Seynchan 78.35 21 *e*P **P** **18 35 56.2 +0.4**
BR131 Keskin Array S 79.01 312 *e*P **P** **18 36 00.6 +0.4**
BRTR Keskin Array B 79.01 312 P **P** **18 36 00.5 +0.4**
comp=Z,1.8nm,0.6s,baz=140,slow=6.8,SNR=10
VSR Storozhevoye 79.48 325 *e*P **P** **18 36 01.6 -0.6**
VSR pmax pmax
comp=Z,10.0nm,0.6s
BR231 Keskin MP Arra 79.68 312 *e*P **P** **18 36 01.2 -2.5**
LPSR Galich'ya Gora 80.19 326 *e*P **P** **18 36 04.9 -1.1**
LPSR pmax pmax
comp=Z,9.0nm,0.9s
OBN Obninsk 82.47 328 ⇑*e*P **P** **18 36 18.7 +0.7**
OBN *e**PP **pP** **18 36 30.3 -0.1**
OBN *e**SP **sP** **18 36 34.9 -0.2**
OBN 18 39 28.0
OBN pmax pmax
comp=Z,18nm,1.1s
KLMR Klimovskoe 83.38 334 *e*P **P** **18 36 20.8 -1.9**
KLMR pmax pmax
comp=Z,14nm,1.3s
TLCR 83.99 317 ⇑*i*P **P** **18 36 27.5 +1.4**
CFR Carcaliu 84.45 317 ⇑*i*P **P** **18 36 29.6 +1.1**
LEOM Leova 84.70 318 ⇑*i*P P 18 36 46.2 +16
SORM Soroca 85.07 319 ⇓*i*P **P** **18 36 32.0 +0.5**
AKASG Malin Array Be 85.21 322 P **P** **18 36 32.1 -0.1**
comp=Z,3.7nm,0.7s,baz=83,slow=4.4,SNR=11
KIEV Kiev 85.22 322 *c i*P **P** **18 36 32.5 +0.3**
KIEV pmax pmax
comp=Z,5.0nm,0.7s
PLOR Plostina 85.63 317 ⇑*i*P **P** **18 36 36.0 +1.6**
TESR Tescani 85.78 318 ⇑*i*P **P** **18 36 36.2 +1.0**
MLR Muntele Rosu 86.02 316 ⇑*i*P **P** **18 36 36.8 +0.3**
MLR Muntele Rosu 86.02 316 *e*P **P** **18 36 38.1 +1.6**
MLR pmax pmax
comp=Z,19nm,1.3s
MLR Muntele Rosu 86.02 316 *e*P **P** **18 36 38.1 +1.6**
comp=Z,19nm,1.3s
PRAR RASCA 86.27 318 ⇑*i*P **P** **18 36 38.8 +1.3**
VOIR 86.63 316 ⇑*i*P **P** **18 36 41.8 +2.4**
BURAR Bucovina Array 86.99 318 ⇑*i*P **P** **18 36 43.3 +2.1**
BUR08 Bucovina Ar. S 87.01 318 *e*P **P** **18 36 43.6 +2.3**
VTS Vitosha 87.34 313 ⇑*i*P **P** **18 36 43.5 +0.4**
LOT Lotru 87.51 316 ⇓*i*P **P** **18 36 44.7 +0.9**
MDVR Moldovita 88.81 315 ⇑*i*P **P** **18 36 51.1 +1.2**
BZS Buzias 89.03 316 ⇑*i*P **P** **18 36 51.6 +0.8**
CRVS Cervenica-Dubn 89.70 319 *e*P **P** **18 36 55.3 +1.4**
CRVS Cervenica-Dubn 89.70 319 *e*P **P** **18 36 55.3 +1.4**
FINES FINESS Array B 89.71 332 P **P** **18 36 54.4 +0.8**
comp=Z,2.9nm,0.7s,baz=101,slow=6.2,SNR=16
STHS Stebnicka Huta 89.93 320 *e*P **P** **18 36 56.6 +1.6**
STHS pmax pmax
comp=Z,3.0nm,0.8s
STHS Stebnicka Huta 89.93 320 *e*P **P** **18 36 56.6 +1.6**
PDG Podgorica 90.20 313 ⇓*i*P **P** **18 36 56.8 +0.5**
ARCES ARCESS Array B 91.85 340 P **P** **18 37 03.8 +0.3**
comp=Z,0.4nm,0.3s,baz=106,slow=6.7,SNR=3.9
ARCES LR LR 19 22 27.3
comp=Z,78nm,18.9s,baz=152,slow=38
SPITS Spitsbergen Ar 95.67 348 P **P** **18 37 20.4 -0.5**
comp=Z,13nm,1.0s,baz=70,slow=8.1,SNR=4.2
S37A Fort Scott 144.52 26 P **PKPab** **18 43 30.3 -0.5**
baz=327
R38A Fenwick Farm, 144.54 24 P **PKPab** **18 43 30.1 -0.9**
baz=329
Q40A Laux Farm, Aux 144.55 21 P PKPbc 18 43 30.9 -0.3
baz=332
T36A Boggs Farm, Ca 144.62 28 P PKPbc 18 43 31.3 -0.2
baz=325
U35A Pawnee 144.78 29 P PKPbc 18 43 31.9 -0.2
baz=323
R39A Chumby, Stover 144.78 23 P **PKPab** **18 43 31.3 -0.5**
baz=330

SFIN Lafayette 144.80 14 P PKPbc 18 43 31.7 -0.3
baz=341
M54A Oil Creek Stat 144.91 4 P **PKPab** **18 43 31.8 -0.5**
baz=354
WMOK Wichita Mounta 144.98 33 P **PKPab** **18 43 32.3 -0.4**
baz=319
WMOK Wichita Mounta 144.98 33 *e*PKIKP **PKPab** **18 43 32.3 -0.4**
WMOK Wichita Mounta 144.98 33 *e*PKPdf **PKPab** **18 43 32.3 -0.4**
T37A Cheneyville 18 145.01 26 P **PKPab** **18 43 32.2 -0.5**
baz=326
S38A Stockton 145.01 25 P **PKPab** **18 43 31.7 -1.1**
baz=328
R40A Maddies Statio 145.09 22 P **PKPbc** **18 43 32.4 -0.6**
baz=331
S39A Bolivar 145.20 24 P **PKPbc** **18 43 32.6 -0.7**
baz=329
P44A Sand Creek, Wi 145.25 17 P **PKPbc** **18 43 33.0 -0.4**
baz=338
T38A Diamond 145.35 26 P **PKPbc** **18 43 33.3 -0.6**
baz=327
R41A Rosebud 145.42 21 P **PKPbc** **18 43 33.4 -0.5**
baz=333
N54A Moraine State 145.42 5 P **PKPbc** **18 43 33.5 -0.4**
baz=353
U37A Salina 145.51 27 P **PKPdf** **18 43 34.0 -0.3**
baz=326
TXAR Lajitas Array 145.54 45 PKPbc **PKPab** **18 43 35.7 +0.6**
comp=Z,12nm,0.7s,baz=284,slow=1.1,SNR=118
TUL1 Leonard 145.60 29 P **PKPab** **18 43 34.8 -0.1**
baz=324
S40A Lebanon 145.61 23 P **PKPdf** **18 43 34.0 -0.4**
baz=331
N59A State Game Lan 145.62 359 P **PKPab** **18 43 34.6 -0.3**
baz=0.7
V36A Jenks 145.63 29 P **PKPbc** **18 43 34.4 -0.3**
baz=324
R42A Luebbering 145.64 20 P **PKPdf** **18 43 34.2 -0.2**
baz=334
Q44A Meyer Farm, Va 145.65 18 P **PKPdf** **18 43 34.3 -0.1**
baz=337
T39A Clever 145.75 25 P **PKPdf** **18 43 34.6 -0.1**
baz=329
ACSO Alum Creek Sta 145.78 9 *e*PKPdf **PKPdf** **18 43 34.5 -0.1**
S41A Jillco Farms, 145.91 22 P **PKPbc** **18 43 35.2 -0.4**
baz=332
R43A Red Bud 145.93 19 P **PKPdf** **18 43 34.9 0.0**
baz=335
T40A Mansfield 145.99 24 P **PKPdf** **18 43 35.0 -0.1**
baz=330
S42A Caledonia 146.09 21 P **PKPbc** **18 43 35.4 -0.7**
baz=334
X35A Drake 146.20 32 P **PKPbc** **18 43 36.2 -0.3**
baz=321
O56A Blue Knob Stat 146.21 3 P **PKPbc** **18 43 36.3 -0.2**
baz=356
R44A Waltonville 146.23 18 P **PKPbc** **18 43 36.1 -0.4**
baz=337
U39A Green Forest 146.25 25 P **PKPbc** **18 43 36.4 -0.3**
baz=328
W37B Quinton 146.40 29 P **PKPbc** **18 43 36.2 -0.9**
baz=324
U40A Yellville 146.54 25 P **PKPbc** **18 43 36.7 -0.8**
baz=329
V39A Pettigrew 146.64 26 P **PKPdf** **18 43 36.6 +0.3**
baz=327
T42A Van Buren 146.65 22 P **PKPbc** **18 43 37.4 -0.3**
baz=332
X37A Clayton 146.87 30 P **PKPbc** **18 43 38.2 -0.3**
baz=324
T43A Greenville 146.89 21 P **PKPbc** **18 43 37.8 -0.6**
baz=334
233A Rising Star 146.90 37 P **PKPab** **18 43 39.2 -0.8**
baz=316
U41A Viola 146.93 24 P **PKPbc** **18 43 37.5 -1.1**
baz=331
Y36A Durant 146.95 31 P **PKPbc** **18 43 38.3 -0.4**
baz=322
V40A Witts Springs 147.02 25 P **PKPbc** **18 43 38.3 -0.7**
baz=329
X38A Whitesboro 147.06 29 P **PKPbc** **18 43 39.1 +0.1**
baz=324
U42A Revenden 147.19 23 P **PKPbc** **18 43 38.8 -0.5**
baz=332
V41A Mountainview 147.32 24 P **PKPbc** **18 43 38.5 -1.2**
baz=330
JCT Junction City 147.41 40 P **PKPbc** **18 43 39.5 -0.7**
baz=313
JCT Junction City 147.41 40 *e*PKP2 **PKPbc** **18 43 39.1 -1.1**
JCT Junction City 147.41 40 *e*PKPdf **PKPbc** **18 43 39.1 -1.1**
X39A Fountain Ranch 147.53 28 P **PKPbc** **18 43 40.4 0.0**
baz=326
MIAR Mount Ida 147.75 27 *e*PKP2 **PKPbc** **18 43 41.0 +0.1**
MIAR Mount Ida 147.75 27 *e*PKPbc **PKPbc** **18 43 41.0 +0.1**
TKL Tuckaleechee C 150.07 12 PKPbc **PKPbc** **18 43 47.0 +0.2**
comp=Z,7.7nm,0.5s,baz=140,slow=5.3,SNR=12
KMSC Kings Mountain 151.02 9 *e*PKPbc **PKPbc** **18 43 49.1 0.0**

NIED **12** *18:24:00.37˝30N×141˚80E,h32km,Mw3.3 Best double couple: M₀1.06000×10¹⁴ NP1:φ₀1.00000°,δ47.00000°, λ66.00000°. NP2:φ₀214.00000°,δ48.00000°,λ113.00000°.*
JMA 12 18:24:05.1±0.1,37.33N×141.77E,h46km±3km,M3.7,
Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JFK	**Kawauchi**	**0.71**	**273**	P	Pn	18 24 19.0	+0.1
JFK				S	Sn	18 24 28.8	-0.1
ONAJ	**Iwakimizuishiy**	**0.81**	**254**	P	Pn	18 24 20.3	+0.1
ONAJ				S	Sn	18 24 30.9	-0.3
JMM	**Marumori**	**0.94**	**305**	P	Pn	18 24 22.1	+0.2
JMM				S	Sn	18 24 34.7	+0.4
JFT	**Otama**	**1.16**	**280**	P	Pn	18 24 26.0	+1.1
JFT				S	Sn	18 24 41.0	+1.4
JIO	**Ouri**	**1.17**	**344**	P	Pn	18 24 25.3	+0.2
JIO				S	Sn	18 24 39.2	-0.7
JHO	**Hitachi**	**1.20**	**234**	P	Pn	18 24 25.3	-0.2
JHO				S	Sn	18 24 40.1	-0.5
JOU	**Okura**	**1.35**	**320**	P	Pn	18 24 28.4	+0.8
JYS	**Shirataka**	**1.62**	**304**	P	Pn	18 24 32.4	+1.2
JYS				S	Sn	18 24 53.1	+2.3
JFY	**Yanaizu**	**1.65**	**273**	P	Pn	18 24 32.6	+1.0
JFY				S	Sn	18 24 54.0	+2.4
MAT	**Matsushiro**	**2.96**	**256**	P	Pn	18 25 51.0	+1.4
MAT				*e*S	Sn	18 25 26.9	+3.0

ISCJB **12** *18:26:41.6±0.7,50˚32N±0˚04×18˚77E±0˚03,h0km,Error ellipse: s-maj=6.1km s-min=3.0km az=11.9*
IPEC **12** *18:26:42.9±0.2,50˚31N×18˚81E,h2km±1km,ML1.8/3, Error ellipse: s-maj=2.4km s-min=1.1km az=168.0*
CSEM **12** *18:26:42.5±0.2,50˚32N×18˚79E,h2km,ML2.5/5,Error ellipse: s-maj=5.0km s-min=2.3km az=11.0*
PRU **12** *18:26:43.2,50˚34N×18˚74E,h0km*
ISC 12 18:26:43.0±0.8,50˚23N±0˚04×18˚75E±0˚02,h0km,n24,
σ0s60/41,Poland

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OKC	**Ostrava-Krasne**	**0.55**	**225**	*e*PG	**Pb**	**18 26 55.2**	**-0.3**
OKC				*e*SG	**Sb**	**18 27 04.9**	**+0.9**
	comp=Z,14nm,0.5s						
OKC	**Ostrava-Krasne**	**0.55**	**225**	Pg	**Pb**	**18 26 55.2**	**-0.3**
OKC				Sg	**Sb**	**18 27 04.9**	**+0.9**
	14nm,0.5s						
OJC	**Ojcow**	**0.68**	**91**	*e*Pg	**Pg**	**18 26 55.5**	**-0.3**
OJC				*e*Sg	**Sg**	**18 27 04.2**	**-0.4**
OJC	**Ojcow**	**0.68**	**91**	*e*Pg	**Pg**	**18 26 55.6**	**-0.3**
OJC				*e*Sg	**Sg**	**18 27 04.2**	**-0.4**
MORC	**Moravsky Berou**	**0.90**	**240**	*e*Pg	**Pb**	**18 27 01.0**	**-0.5**
	baz=57						
MORC				*e*Sg	**Sb**	**18 27 13.9**	**-0.1**
	14nm,0.4s,baz=57						
LANS	**Liptovska Anna**	**1.18**	**156**	*e*Pg	**Pb**	**18 27 06.0**	**-0.2**
LANS				*e*Sg	**Sb**	**18 27 22.2**	**+0.1**
LANS	**Liptovska Anna**	**1.18**	**156**	*e*PG	**Pb**	**18 27 06.0**	**-0.2**
LANS				*e*SG	**Sb**	**18 27 22.2**	**+0.1**
KRLC	**Kraliky**	**1.27**	**264**	*e*PG	**Pg**	**18 27 07.1**	**-0.2**
KRLC				*e*SG	**Sb**	**18 27 24.6**	**-0.2**
KRLC	**Kraliky**	**1.27**	**264**	Pg	**Pg**	**18 27 07.1**	**-0.2**
KRLC				Sg	**Sb**	**18 27 24.6**	**-0.2**
NIE	**Niedzica**	**1.29**	**128**	*e*Pg	**Pn**	**18 27 08.5**	**+0.2**
NIE				*e*Sg	**Sn**	**18 27 27.1**	**+0.7**
NIE	**Niedzica**	**1.29**	**128**	*e*Pg	**Pn**	**18 27 08.5**	**+0.2**

NIE				*e*Sg	**Sn**	**18 27 27.1**	**+0.7**
DPC	**Dobruska-Polom**	**1.56**	**275**	*e*PG	**Pn**	**18 27 12.0**	**0.0**
DPC				*e*SG	**Sg**	**18 27 33.0**	**0.0**
	comp=Z,4.9nm,0.3s						
DPC	**Dobruska-Polom**	**1.56**	**275**	Pg	**Pn**	**18 27 12.0**	**0.0**
DPC				Sg	**Sg**	**18 27 33.0**	**0.0**
	4.9nm,0.3s						
VRAC	**Vranov**	**1.67**	**237**	*e*Pn	**Pb**	**18 27 14.6**	**0.0**
VRAC				*e*Sg	**Sg**	**18 27 37.3**	**+0.6**
	9.2nm,0.3s,baz=54						
KSP	**Ksiaz**	**1.68**	**292**	*e*Pg	**Pg**	**18 27 15.1**	**-0.1**
KSP				*e*Sg	**Sg**	**18 27 37.2**	**+0.3**
KSP	**Ksiaz**	**1.68**	**292**	*e*Pg	**Pg**	**18 27 15.1**	**-0.1**
KSP				*e*Sg	**Sg**	**18 27 37.2**	**+0.3**
VYHS	**Vyhne**	**1.74**	**178**	*e*Sn	**Sg**	**18 27 38.4**	**-0.4**
VYHS	**Vyhne**	**1.74**	**178**	*e*SN	**Sb**	**18 27 38.3**	**+0.1**
VYHS				*e*LG	Lg	18 27 41.3	
STHS	**Stebnicka Huta**	**1.81**	**116**	*e*Pg	**Pb**	**18 27 16.9**	**-0.1**
STHS	**Stebnicka Huta**	**1.81**	**116**	*e*PG	**Pb**	**18 27 16.8**	**-0.2**
STHS				*e*LG	Lg	18 27 46.6	
KRUC	**Moravsky**	**1.93**	**233**	*e*Pn	**Pn**	**18 27 17.5**	**+0.5**
	baz=51						
KRUC				*e*Sn	**Sg**	**18 27 44.1**	**-0.7**
	6.2nm,0.5s,baz=51						
GOPC	**GO Pecny, Ondr**	**2.57**	**264**	*e*SG	**Sb**	**18 28 03.3**	**+1.2**
PRU	**Pruhonice**	**2.72**	**266**	*e*SG	**Sg**	**18 28 08.3**	**-1.9**
KHC	**Kasperske Hory**	**3.53**	**254**	*e*SG	**Sg**	**18 28 34.8**	**-1.6**

IDC **12** *18:34:42.9±1.0,53°.69N×35°.34W,h0km,mb3.8/8, mb1 4.0/8,mb1mx3.7/42,mbtmp3.8/8,MS3.5/2,Ms1 3.5/2, ms1mx2.9/39,Error ellipse: s-maj=33.3km s-min=19.7km az=35.0*

ISCJB **12** *18:34:43.5±0.9,53°.6N±0°.2×35°.4W±0°.2,h16km,mb3.8/8, MS3.6/2,Error ellipse: s-maj=28.1km s-min=17.4km az=32.5*

ISC 12 18:34:45.1±0.9,53°.7N±0°.2×35°.4W±0°.2,h16km,n12, σ1ᵍ34/10,mb3.9/8,Reykjanes Ridge

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ESDC	**Sonseca Array**	**25.44**	**111**	P	**P**	**18 40 12.6**	**+0.6**
	1.5nm,0.7s,baz=316,slow=11,SNR=9.6						
NOA	**NORSAR Array B**	**25.71**	**55**	P	**P**	**18 40 13.8**	**-0.5**
	1.0nm,0.8s,baz=273,slow=8.8,SNR=2.6						
KEST	**Kesra**	**35.78**	**102**	LR	LR	18 56 57.8	
	comp=Z,70nm,18.4s,baz=308,slow=37						
BRTR	**Keskin Array B**	**47.48**	**78**	P	**P**	**18 43 20.2**	**+1.1**
	0.7nm,0.8s,baz=286,slow=8.9,SNR=4.1						
PDAR	**Pinedale Array**	**48.46**	**289**	P	**P**	**18 43 28.4**	**+1.6**
	1.1nm,0.6s,baz=50,slow=11,SNR=4.7						
TORD	**Torodi Ar. Bea**	**49.89**	**130**	P	**P**	**18 43 38.4**	**+0.7**
	1.8nm,0.6s,baz=332,slow=7.7,SNR=14						
ILAR	**Eielson Array**	**50.76**	**329**	P	**P**	**18 43 42.4**	**-1.4**
	0.3nm,0.5s,baz=38,slow=6.4,SNR=5.1						
DBIC	**Dimbokro**	**52.99**	**141**	P	**P**	**18 43 59.3**	**-1.6**
	1.8nm,0.7s,baz=340,slow=4.6,SNR=4.2						
SONM	**Songino Array**	**73.81**	**26**	P	**P**	**18 46 18.7**	**+0.2**
	1.1nm,0.8s,baz=336,slow=6.8,SNR=4.0						
KSRS	**Korea Array**	**88.11**	**13**	LR	LR	19 26 59.2	
	comp=Z,25nm,18.6s,baz=317,slow=36						
WRA	**Warramunga Arr**	**145.43**	**17**	PKPbc	**PKPdf**	**18 54 20.5**	**-1.7**
	1.9nm,1.2s,baz=349,slow=3.4,SNR=4.1						
ASAR	**Alice Springs**	**148.98**	**19**	PKPbc	**PKPbc**	**18 54 32.8**	**+0.7**
	0.7nm,0.7s,baz=340,slow=2.3,SNR=12						

IDC 12 18:37:40.8±1.1,53°.37N×35°.65W,h0km,mb3.6/6, mb1 3.8/6,mb1mx3.5/42,mbtmp3.6/6,MS3.7/11, Ms1 3.7/11,ms1mx3.4/36,Error ellipse: s-maj=48.2km s-min=20.8km az=35.0,Reykjanes Ridge

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SFJD	**Kangerlussuaq**	**15.49**	**338**	LR	LR	18 46 03.7	
	comp=Z,164nm,18.8s,baz=98,slow=32						
ESDC	**Sonseca Array**	**25.49**	**110**	P	P	18 43 09.2	-1.4
	0.1nm,0.3s,baz=321,slow=7.8,SNR=4.3						
ESDC				LR	LR	18 50 15.4	
	comp=Z,145nm,18.9s,baz=325,slow=30						
NOA	**NORSAR Array B**	**26.00**	**54**	LR	LR	18 51 31.8	
	comp=Z,117nm,18.0s,baz=265,slow=32						
DAVOX	**Davos/Dischmat**	**29.53**	**84**	LR	LR	18 54 29.3	
	comp=Z,198nm,20.7s,baz=276,slow=34						
GERES	**GERESS Array B**	**30.81**	**78**	LR	LR	18 55 07.1	
	comp=Z,77nm,18.2s,baz=275,slow=34						
FINES	**FINESS Array B**	**33.02**	**51**	LR	LR	18 55 26.3	
	comp=Z,123nm,20.7s,baz=243,slow=32						
ULM	**Lac du Bonnet**	**36.41**	**290**	LR	LR	18 58 33.5	
	comp=Z,144nm,18.1s,baz=64,slow=34						
YKA	**Yellowknife Ar**	**40.33**	**315**	LR	LR	18 59 47.7	
	comp=Z,6.2nm,20.1s,baz=0.0,slow=33						
BRTR	**Keskin Array B**	**47.69**	**77**	P	P	18 46 20.7	+1.7
	0.7nm,0.8s,baz=306,slow=5.8,SNR=2.9						
PDAR	**Pinedale Array**	**48.40**	**289**	P	P	18 46 25.6	+1.0
	0.4nm,0.5s,baz=65,slow=8.4,SNR=3.4						
PDAR				LR	LR	19 04 18.9	
	comp=Z,69nm,19.3s,baz=59,slow=33						
NEW	**Newport**	**49.08**	**299**	LR	LR	19 05 46.1	
	comp=Z,58nm,19.4s,baz=346,slow=34						
TORD	**Torodi Ar. Bea**	**49.83**	**129**	P	P	18 46 34.9	-0.5
	1.4nm,1.0s,baz=340,slow=7.3,SNR=5.0						
ILAR	**Eielson Array**	**50.93**	**329**	P	P	18 46 42.4	-0.8
	0.3nm,0.6s,baz=46,slow=6.5,SNR=2.7						
BBB	**Bella Bella**	**52.05**	**309**	LR	LR	19 07 39.1	
	comp=Z,71nm,18.5s,baz=140,slow=34						
DBIC	**Dimbokro**	**52.86**	**140**	P	P	18 46 58.7	+0.5
	2.8nm,0.9s,baz=324,slow=8.7,SNR=2.1						
DBIC				LR	LR	19 06 56.1	
	comp=Z,65nm,19.3s,baz=346,slow=33						
ASAR	**Alice Springs**	**149.30**	**19**	PKPbc	PKPbc	18 57 29.8	-1.5
	0.4nm,0.7s,baz=344,slow=2.9,SNR=3.7						

MEX 12 18:54:58.8±1.4,19°.54N×105°.15W,h15km,MD3.5,Near coast of Jalisco

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
R15V		**1.16**	**108**	*e*P	Pn	18 55 15.9	-4.6
R15V				*e*S	Sb	18 55 29.6	-5.8
EZ5V		**1.46**	**92**	*e*P	Pn	18 55 21.5	-3.4
EZ5V				*i* S	Sn	18 55 39.7	-4.1
MMIG	**Aquila**	**2.11**	**126**	*e*P	Pn	18 55 31.0	-2.6
MMIG				*e*S	Sn	18 55 55.7	-3.8

CSEM **12** *19:19:30.1±0.2,35°.69N×23°.82E,h10km,ML1.2,Error ellipse: s-maj=8.8km s-min=4.1km az=34.0*

ATH 12 19:19:30.0,35°.66N×23°.79E,h20km±2km,ML1.2/2,Error ellipse: s-maj=5.4km s-min=1.3km az=219.0,Crete

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
IMMV	**Iera Moni Meta**	**0.25**	**142**	P	Pb	19 19 34.8	-1.0
IMMV				S	Sb	19 19 39.0	-0.6
IMMV	**Iera Moni Meta**	**0.25**	**142**	P	Pb	19 19 34.8	-0.9
IMMV				S	Sb	19 19 39.0	-0.6
IMMV				AML	AML	19 19 40.9	
	comp=E,120μm,0.2s						
IMMV				AML	AML	19 19 41.6	
	comp=N,112μm,0.3s						
VAM	**Vamos**	**0.42**	**127**	P	Pb	19 19 38.8	+0.1
VAM				S	Sb	19 19 45.1	+0.5
VAM	**Vamos**	**0.42**	**127**	P	Pb	19 19 38.8	+0.1
VAM				S	Sb	19 19 45.1	+0.4
VAM				AML	AML	19 19 49.1	
	comp=E,77μm,0.3s						
VAM				AML	AML	19 19 50.1	
	comp=N,93μm,0.2s						
ANKY	**Antikythira Is**	**0.45**	**298**	P	Pg	19 19 39.0	-0.3
ANKY				S	Sg	19 19 43.8	-1.7
ANKY	**Antikythira Is**	**0.45**	**298**	P	Pg	19 19 39.0	-0.3
ANKY				S	Sg	19 19 43.8	-1.7
GVD	**Gavdhos**	**0.85**	**163**	P	Pn	19 19 47.3	+0.4
GVD	**Gavdhos**	**0.85**	**163**	P	Pn	19 19 47.3	+0.4
KYTH	**Kithira**	**0.85**	**315**	P	Pn	19 19 47.5	+0.6
IDI	**Anoyia**	**0.97**	**112**	P	Pg	19 19 49.2	+0.3
IDI	**Anoyia**	**0.97**	**112**	P	Pg	19 19 49.2	+0.4
LAST	**Lasithi**	**1.47**	**109**	P	Pb	19 19 56.5	-0.1
LAST	**Lasithi**	**1.47**	**109**	P	Pb	19 19 56.5	-0.1

ISCJB **12** *19:20:34.6±0.6,36°.84N±0°.03×26°.60E±0°.03,h5km±6km, Error ellipse: s-maj=4.7km s-min=4.2km az=4.7*

ISK **12** *19:20:34.4,36°.89N×26°.63E,h18km,MD2.6*

DDA **12** *19:20:35.2,36°.88N×26°.57E,h7km,Md2.8*

THE **12** *19:20:35.2,36°.89N×26°.58E,h10km±1km,ML2.2/3,Error ellipse: s-maj=1.6km s-min=0.5km az=46.0*

CSEM **12** *19:20:35.0±0.2,36°.88N×26°.60E,h15km,MD2.6,Error ellipse: s-maj=4.4km s-min=3.1km az=15.0*

ISC 12 19:20:35.0±1.0,36°.87N±0°.02×26°.60E±0°.02,h14km±8km, n34,σ0ᵍ59/60,Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
NIS1	**Nisyros Isl.**	**0.53**	**120**	*e*PG	**Pg**	**19 20 45.3**	**-0.2**
NIS1				*e*SG	**Sg**	**19 20 53.2**	**+0.6**
NIS1	**Nisyros Isl.**	**0.53**	**120**	P	**Pg**	**19 20 46.2**	**0.0**
NIS1				S	**Sb**	**19 20 54.5**	**+0.8**
NIS1	**Nisyros Isl.**	**0.53**	**120**	*e*Pg	**Pg**	**19 20 45.3**	**-0.2**
NIS1	**Nisyros Isl.**	**0.53**	**120**	P	**Pb**	**19 20 46.2**	**0.0**
NIS1				*e*Sg	**Sg**	**19 20 53.2**	**+0.6**
NIS1				S	**Sb**	**19 20 54.5**	**+0.8**
BODT	**Bodrum**	**0.60**	**71**	*e*PG	**Pg**	**19 20 46.0**	**-0.7**
BODT				*e*SG	**Sg**	**19 20 54.7**	**0.0**
BODT	**Bodrum**	**0.60**	**71**	P	**Pg**	**19 20 47.0**	**+0.3**
BODT				S	**Sb**	**19 20 56.0**	**+0.3**
BODT	**Bodrum**	**0.60**	**71**	*e*Pg	**Pg**	**19 20 46.0**	**-0.7**
BODT	**Bodrum**	**0.60**	**71**	P	**Pg**	**19 20 47.0**	**+0.3**
BODT				*e*Sg	**Sg**	**19 20 54.7**	**0.0**
BODT	**Bodrum**	**0.60**	**71**	S	**Sb**	**19 20 56.0**	**+0.3**
YKAV	**Yalikavak-Bodr**	**0.60**	**65**	*e*PG	**Pg**	**19 20 46.1**	**-0.6**
YKAV				*e*SG	**Sg**	**19 20 54.7**	**0.0**
YKAV	**Yalikavak-Bodr**	**0.60**	**65**	*e*Pg	**Pg**	**19 20 46.1**	**-0.6**
YKAV				*e*Sg	**Sg**	**19 20 54.7**	**0.0**
BDRM	**Kayabasi**	**0.70**	**74**	*i* P	**Pb**	**19 20 49.1**	**0.0**
BDRM				*i* S	**Sb**	**19 20 59.1**	**+0.5**
BDRM	**Kayabasi**	**0.70**	**74**	S	**Sb**	**19 20 59.1**	**+0.5**
DAT	**Datca**	**0.80**	**100**	*e*PG	**Pg**	**19 20 49.9**	**-0.5**
DAT				*e*SG	**Sg**	**19 21 01.2**	**+0.3**
DAT	**Datca**	**0.80**	**100**	*i* P	**Pn**	**19 20 51.6**	**-0.3**
DAT				*i* S	**Sb**	**19 21 02.3**	**+0.9**
DAT	**Datca**	**0.80**	**100**	*e*Pg	**Pg**	**19 20 49.9**	**-0.5**
DAT	**Datca**	**0.80**	**100**	P	**Pn**	**19 20 51.7**	**-0.3**
DAT				*e*Sg	**Sg**	**19 21 01.2**	**+0.3**
DAT				S	**Sb**	**19 21 02.3**	**+0.9**
SMG	**Samos**	**0.86**	**13**	P	**Pb**	**19 20 51.5**	**-0.2**
SMG				S	**Sb**	**19 21 03.4**	**+0.2**
SMG	**Samos**	**0.86**	**13**	P	**Pb**	**19 20 51.5**	**-0.2**
SMG				S	**Sb**	**19 21 03.4**	**+0.2**
APE	**Apeiranthos**	**0.88**	**283**	*e*PG	**Pg**	**19 20 52.3**	**+0.2**
APE				*e*SG	**Sn**	**19 21 05.4**	**-0.3**
APE	**Apeiranthos**	**0.88**	**283**	P	**Pb**	**19 20 51.3**	**-0.8**
APE				S	**Sg**	**19 21 04.0**	**+0.4**
APE	**Apeiranthos**	**0.88**	**283**	P	**Pb**	**19 20 51.3**	**-0.8**
APE	**Apeiranthos**	**0.88**	**283**	*e*Pg	**Pg**	**19 20 52.3**	**+0.2**
APE				S	**Sg**	**19 21 04.0**	**+0.4**
APE				*e*Sg	**Sn**	**19 21 05.4**	**-0.3**
GCAM	**G?zelcaml?**	**0.97**	**31**	*i* P	**Pg**	**19 20 53.7**	**-0.1**
GCAM				*i* S	**Sn**	**19 21 08.3**	**+0.4**
GCAM	**G?zelcaml?**	**0.97**	**31**	P	**Pg**	**19 20 53.7**	**-0.1**
GCAM				S	**Sn**	**19 21 08.3**	**+0.4**
MLSB	**Milas**	**1.03**	**65**	*e*PG	**Pb**	**19 20 53.8**	**-0.9**
MLSB	**Milas**	**1.03**	**65**	*e*Pg	**Pb**	**19 20 53.8**	**-0.9**
DGB	**˜zmir**	**1.20**	**11**	*i* P	**Pg**	**19 20 58.1**	**0.0**
DGB				*i* S	**Sg**	**19 21 15.9**	**+2.1**
ZEY	**˜zmir**	**1.37**	**357**	*i* P	**Pb**	**19 21 00.4**	**0.0**
ZEY				*i* S	**Sg**	**19 21 20.3**	**+1.1**
KARP	**Karpathos**	**1.39**	**161**	*e*PN	**Pn**	**19 20 59.7**	**-0.4**
KARP	**Karpathos**	**1.39**	**161**	P	**Pn**	**19 20 59.5**	**-0.6**
KARP				S	**Sn**	**19 21 18.8**	**+0.5**
KARP	**Karpathos**	**1.39**	**161**	*e*Pn	**Pn**	**19 20 59.7**	**-0.4**
KARP				S	**Sn**	**19 21 18.8**	**+0.5**
AYDB	**Zeytinkoy-Aydi**	**1.49**	**43**	*e*PN	**Pn**	**19 21 00.6**	**-0.9**
AYDB	**Zeytinkoy-Aydi**	**1.49**	**43**	*e*Pn	**Pn**	**19 21 00.6**	**-0.9**

ISCJB **12** *19:52:44.2±0.9,20°.58S±0°.09×176°.6W±0°.1,h250km, mb4.0/7,Error ellipse: s-maj=19.4km s-min=11.4km az=20.6*

IDC **12** *19:52:45.6±2.6,20°.59S×176°.63W,h247km±24km,mb3.8/6, mb1 3.9/9,mb1mx3.5/31,mbtmp4.5/9,Error ellipse: s-maj=23.9km s-min=17.6km az=143.0*

NEIC **12** *19:52:46.4±1.6,20°.54S×176°.53W,h261km±16km,mb4.5/3, Error ellipse: s-maj=22.2km s-min=13.6km az=143.0*

ISC 12 19:52:45.1±0.9,20°.7S±0°.1×176°.5W±0°.1,h250km,n21, σ0ᵍ94/21,mb3.8/7,3C,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**8.14**	**34**	P	**Pn**	**19 54 39.6**	**-0.8**
	5.5nm,0.3s,baz=209,slow=1.4,SNR=5.8						
AFI				S	S	19 56 02.4	-11
	8.6nm,0.3s,baz=49,slow=20,SNR=5.3						
DZM	**Mont Dzumac**	**15.94**	**262**	P	**Pn**	**19 56 15.7**	**-0.9**
	2.1nm,0.3s,baz=76,slow=23,SNR=15						
DZM	**Mont Dzumac**	**15.94**	**262**	*e*P	**Pn**	**19 56 18.2**	**+1.5**
	11nm,0.5s						
URZ	**Urewera**	**18.32**	**196**	P	**Pn**	**19 56 43.2**	**-1.1**
	4.4nm,0.3s,baz=262,slow=4.1,SNR=24						
URZ				S	**S**	**19 59 56.7**	**-0.4**
	2.0nm,0.3s,baz=68,slow=20,SNR=8.5						
CTA	**Charters Tower**	**34.87**	**264**	P	**P**	**19 59 13.6**	**+0.5**
	6.6nm,0.4s,baz=95,slow=12,SNR=14						
CTAO	**Charters Tower**	**34.87**	**264**	*e*P	**P**	**19 59 13.5**	**+0.4**
	36nm,0.4s						
STKA	**Stephens Creek**	**38.96**	**245**	P	**P**	**19 59 47.0**	**-0.3**
	1.6nm,0.4s,baz=91,slow=15,SNR=8.5						
JAY	**Jayapura**	**45.45**	**288**	P	**P**	**20 00 40.2**	**+0.3**
	3.7nm,0.5s,baz=88,slow=23,SNR=35						
ASAR	**Alice Springs**	**45.83**	**257**	P	**P**	**20 00 42.5**	**-0.3**
	2.5nm,0.6s,baz=96,slow=8.2,SNR=54						
ASAR				PcP	**PcP**	**20 02 15.6**	**-0.1**
	0.5nm,0.6s,baz=107,slow=3.9,SNR=4.6						
WRAB	**Tennant Creek**	**45.95**	**262**	*e*P	**P**	**20 00 43.3**	**-0.4**
	3.2nm,0.7s						
WRA	**Warramunga Arr**	**45.96**	**262**	P	**P**	**20 00 42.8**	**-0.9**
	1.4nm,0.3s,baz=93,slow=7.7,SNR=94						
SYO	**Syowa Base**	**86.81**	**192**	*e*X	P	20 05 07.8	+6.9
CMAR	**Chiang Mai Arr**	**91.52**	**289**	P	**P**	**20 05 23.0**	**-0.8**
	0.6nm,0.7s,baz=59,slow=3.5,SNR=3.3						
ARCES	**ARCESS Array B**	**129.39**	**350**	PKP	**PKPdf**	**20 11 23.6**	**+0.4**
	1.3nm,0.8s,baz=349,slow=1.8,SNR=2.4						
AKASG	**Malin Array Be**	**143.88**	**332**	PKP	PKPbc	20 11 48.1	-0.7
	0.7nm,0.4s,baz=42,slow=3.7,SNR=5.8						
BRTR	**Keskin Array B**	**148.03**	**313**	PKPbc	**PKPbc**	**20 12 01.4**	**0.0**
	0.6nm,0.5s,baz=159,slow=5.9,SNR=4.8						
CLL	**Collm**	**148.58**	**349**	*e*PKPbc	**PKPbc**	**20 12 02.0**	**-0.3**
PRU	**Pruhonice**	**149.51**	**346**	*e*PKP	**PKPbc**	**20 12 05.7**	**+1.1**
KHC	**Kasperske Hory**	**150.54**	**346**	*e*PKP	**PKPbc**	**20 12 08.1**	**+0.9**
GERES	**GERESS Array B**	**150.78**	**346**	PKPbc	**PKPbc**	**20 12 08.7**	**+0.8**
	1.2nm,0.8s,baz=27,slow=1.5,SNR=9.0						
TORD	**Torodi Ar. Bea**	**172.27**	**167**	PKPab	**PKPab**	**20 13 52.2**	**+2.3**
	0.1nm,0.6s,baz=189,slow=6.8,SNR=4.1						

IDC 12 19:57:27.7±1.5,28°.71S×176°.12W,h0km,mb3.9/3, mb1 4.1/3,mb1mx3.7/23,mbtmp3.9/3,MS2.7/2,Ms1 2.7/2, ms1mx2.6/28,Error ellipse: s-maj=61.2km s-min=26.1km az=163.0,Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**1.67**	**251**	Pn	Pg	19 58 00.3	+0.5
	156nm,0.3s,baz=357,slow=22,SNR=10						
RAO				Sn	Sg	19 58 21.5	0.0
	750nm,0.3s,baz=125,slow=22,SNR=10.0						
URZ	**Urewera**	**11.08**	**209**	Sn	Sn	20 01 58.2	-14
	4.7nm,0.3s,baz=286,slow=23,SNR=12						
URZ				LR	LR	20 03 41.3	
	comp=Z,50nm,20.3s,baz=19,slow=34						
PPT	**Papeete**	**26.74**	**71**	LR	LR	20 11 15.7	
	comp=Z,16nm,20.7s,baz=350,slow=31						
STKA	**Stephens Creek**	**36.49**	**254**	P	P	20 04 34.9	+0.1
	1.5nm,0.9s,baz=288,slow=20,SNR=3.5						
ASAR	**Alice Springs**	**44.87**	**264**	P	P	20 05 43.2	-1.0
	1.1nm,0.5s,baz=106,slow=7.5,SNR=23						
WRA	**Warramunga Arr**	**45.72**	**270**	P	P	20 05 49.8	-1.1
	0.6nm,0.4s,baz=110,slow=8.0,SNR=15						
FINES	**FINESS Array B**	**144.08**	**342**	PKP	PKPbc	20 17 03.2	+0.5
	2.3nm,0.9s,baz=28,slow=3.3,SNR=4.1						
NOA	**NORSAR Array B**	**147.29**	**353**	PKPbc	PKPbc	20 17 13.3	+0.6
	0.6nm,0.5s,baz=7.7,slow=3.6,SNR=3.0						
TORD	**Torodi Ar. Bea**	**164.39**	**172**	PKPab	PKPab	20 18 27.4	-0.7
	1.0nm,0.7s,baz=190,slow=3.6,SNR=5.8						

ISCJB **12** *20:03:52.5±0.5,25°.0S±0°.1×70°.4E±0°.1,h10km,mb4.2/22, MS3.6/10,Error ellipse: s-maj=19.6km s-min=14.4km az=40.0*

IDC **12** *20:03:52.2±0.7,24°.89S×70°.15E,h0km,mb3.9/11, mb1 4.0/11,mb1mx3.8/35,mbtmp3.9/11,MS3.6/10, Ms1 3.6/10,ms1mx3.4/29,Error ellipse: s-maj=24.3km s-min=20.6km az=78.0*

NEIC **12** *20:03:53.9±0.6,24°.93S×70°.22E,h10km,mb4.6/2,Error ellipse: s-maj=20.4km s-min=16.3km az=62.0*

ISC 12 20:03:54.0±0.7,25°.0S±0°.1×70°.3E±0°.2,h10km,n38, σ1ᵍ36/25,mb4.5/23,MS3.7/10,Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
H08S1	**Diego Carcia H**	**17.33**	**7**	T	T	20 25 37.8	
	baz=189,slow=76,SNR=25						
H08S2	**Diego Garcia H**	**17.33**	**7**	T	T	20 25 37.8	
	baz=189,slow=76,SNR=30						
H08S3	**Diego Garcia H**	**17.35**	**7**	T	T	20 25 39.9	
	baz=189,slow=76,SNR=13						
OPO	**Ambohidratompo**	**22.36**	**282**	LR	LR	20 15 03.1	
	comp=Z,168nm,21.7s,baz=34,slow=30						
H01W2	**Cape Leeuwin H**	**39.00**	**115**	T	T	20 53 12.3	
	baz=275						
H01W3	**Cape Leeuwin H**	**39.01**	**115**	T	T	20 53 05.6	
	baz=275						
H01W1	**Cape Leeuwin H**	**39.02**	**115**	T	T	20 53 22.1	
	baz=275						
BOSA	**Boshof**	**40.20**	**255**	LR	LR	20 25 17.8	
	comp=Z,105nm,18.2s,baz=96,slow=32						
MAW	**Mawson**	**42.92**	**184**	LR	LR	20 26 11.5	
	comp=Z,56nm,18.1s,baz=54,slow=31						
CMAR	**Chiang Mai Arr**	**51.38**	**36**	P	**P**	**20 12 57.4**	**-1.7**
	0.6nm,0.6s,baz=214,slow=12,SNR=2.7						
CMAR				LR	LR	20 30 30.5	
	comp=Z,60nm,21.1s,baz=204,slow=31						
ASAR	**Alice Springs**	**57.49**	**103**	P	**P**	**20 13 45.4**	**+1.6**
	0.6nm,0.7s,baz=254,slow=5.8,SNR=7.7						
WRA	**Warramunga Arr**	**58.93**	**99**	P	**P**	**20 13 55.8**	**+1.9**
	2.8nm,0.9s,baz=256,slow=6.9,SNR=9.5						
WRAB	**Tennant Creek**	**58.95**	**99**	*e*P	**P**	**20 13 53.5**	**-0.5**
	4.2nm,0.9s						
SNAA	**Sanae**	**61.24**	**200**	P	**P**	**20 14 09.5**	**+0.5**
	1.0nm,1.0s,baz=5.7,slow=10,SNR=3.1						
STKA	**Stephens Creek**	**62.09**	**114**	LR	LR	20 37 41.7	
	comp=Z,51nm,19.3s,baz=204,slow=33						
VNDA	**Vanda**	**66.17**	**166**	P	**P**	**20 14 39.8**	**-1.5**
	1.0nm,1.0s,baz=329,slow=12,SNR=5.9						
BRTR	**Keskin Array B**	**72.86**	**331**	P	**P**	**20 15 23.7**	**+0.5**
	0.7nm,0.8s,baz=161,slow=9.2,SNR=4.0						
ABKAR	**Akbulak array**	**74.44**	**353**	*e*P	**P**	**20 15 32.2**	**+0.2**
	6.6nm,1.1s						
KURK	**Kurchatov**	**75.69**	**5**	*e*P	**P**	**20 15 40.1**	**+0.9**
TORD	**Torodi Ar. Bea**	**76.83**	**291**	P	**P**	**20 15 45.8**	**-0.8**
	1.4nm,1.1s,baz=89,slow=2.9,SNR=4.6						
TORD				LR	LR	20 48 21.1	
	comp=Z,35nm,18.1s,baz=95,slow=35						
SONM	**Songino Array**	**79.38**	**24**	P	**P**	**20 15 59.5**	**-0.6**
	0.4nm,0.4s,baz=208,slow=2.8,SNR=4.6						
DBIC	**Dimbokro**	**79.47**	**282**	LR	LR	20 49 19.0	
	comp=Z,56nm,18.3s,baz=32,slow=34						
ZALV	**Zalesovo Beam**	**79.56**	**9**	P	**P**	**20 16 00.8**	**-0.1**
	2.0nm,0.8s,baz=224,slow=4.1,SNR=8.1						
KSAR	**Wonju Array Be**	**82.34**	**43**	P	**P**	**20 16 16.5**	**+0.5**
KSRS	**Korea Array**	**82.37**	**43**	P	**P**	**20 16 16.5**	**+0.4**
	0.6nm,1.0s,baz=257,slow=3.5,SNR=4.0						
KSRS				LR	LR	20 51 57.7	
	comp=Z,29nm,18.6s,baz=242,slow=35						
AKASG	**Malin Array Be**	**83.60**	**335**	P	**P**	**20 16 21.4**	**-0.9**
	0.6nm,0.5s,baz=140,slow=4.9,SNR=7.7						
ARSA	**Arzberg**	**87.15**	**326**	*i* P	**P**	**20 16 40.5**	**+0.4**
	4.8nm,1.4s						
OBKA	**Obir**	**87.16**	**325**	P	**P**	**20 16 41.9**	**+1.7**
	4.4nm,1.3s						
CONA	**Conrad Observa**	**87.44**	**327**	*i* P	**P**	**20 16 43.2**	**+1.6**
	3.8nm,1.1s						
KBA	**Koelnbrein

RUSC *i* 20 22 58.8
comp=Z,1μm,0.2s
PAMC Pamplona, Colo 1.37 53 *eP* **Pn 20 22 46.6 +0.6**
PAMC *eS* **Sn 20 23 05.9 +0.4**
NORC Norcasia 1.42 228 *eP* **Pn 20 22 44.6 -1.5**
NORC *eS* **Sn 20 23 03.4 -2.5**
ZARC Zaragoza, Cauc 1.43 313 *eP* **Pn 20 22 45.7 -0.6**
ZARC *eS* **Sn 20 23 05.1 -0.9**
ZARC *i* 20 23 08.2
comp=Z,5μm,0.3s
CBRI Barrientos, No 1.56 40 *eP* **Pn 20 22 48.6 +0.7**
CBRI *eS* **Sn 20 23 10.7 +1.7**
GUEC Guerrero, Nort 1.57 34 *eP* **Pn 20 22 48.7 +0.4**
ROSC El Rosal 1.74 197 P **Pn 20 22 51.2 +0.8**
comp=Z,78nm,0.3s,baz=261,slow=12,SNR=36
ROSC S **Sn 20 23 14.2 +1.0**
comp=Z,204nm,0.3s,baz=202,slow=23,SNR=15
ROSC El Rosal 1.74 197 *eP* **Pn 20 22 51.1 +0.7**
ROSC *eS* **Sn 20 23 12.4 -0.9**
ROSC *i* 20 23 20.1
comp=Z,1μm,0.2s
HELC Santa Helena 1.75 259 *eP* **Pn 20 22 49.4 -1.0**
HELC *eS* **Sn 20 23 11.9 -1.4**
HELC *i* 20 23 14.1
comp=Z,2μm,0.2s
OCAC Ocana 1.78 16 *eP* **Pn 20 22 51.2 +0.6**
OCAC *eS* **Sn 20 23 15.3 +1.5**
OCAC *i* 20 23 18.5
comp=Z,1μm,0.3s
YOPC Yopal, Colombi 1.79 130 *eP* **Pn 20 22 52.1 +1.3**
CHIC Chingaza 1.87 178 *eP* **Pn 20 22 51.8 -0.3**
CHIC *eS* **Sn 20 22 16.3 +0.1**
CHIC *i* 20 23 24.3
comp=Z,421nm,0.7s
CAPV Capacho 2.00 48⇓ *eP* **Pn 20 22 55.4 +2.0**
CAPV *eS* **Sn 20 23 20.7 +1.9**
GUYC Guyana, Colomb 2.03 231 *eP* **Pn 20 22 53.8 -0.3**
GUYC *eS* **Sn 20 23 17.8 -2.1**
GUYC *i* 20 23 25.1
comp=Z,4μm,0.5s
VILC Villavicencio, 2.39 177 *eP* **Pn 20 22 58.6 +0.2**
VILC *i* 20 23 38.7
comp=Z,501nm,0.4s
TOLC Tolima 2.44 218 *eP* **Pn 20 22 59.1 -0.1**
DBBC Dabeiba 2.44 282 *eP* **Pn 20 22 59.3 +0.3**
PRAC Prado 2.98 201 *eP* **Pn 20 23 05.6 -0.5**
VIGV El Vigia 3.34 46 *eP* **Pn 20 23 12.2 +1.4**
VIGV *eS* **Sn 20 23 51.7 +1.7**
SOCV Socops 3.41 59 *eP* **Pn 20 23 12.7 +1.0**
SOCV *eS* **Sn 20 23 51.7 +0.2**
CODC Agust`>n Codaz 3.42 6 *eP* **Pn 20 23 12.2 +0.4**
CODC *eS* **Sn 20 23 52.0 +0.3**
CODC *i* 20 24 01.3
comp=Z,481nm,0.2s
VIRV Villa del Rosa 4.20 19 *eP* **Pn 20 23 22.6 +0.3**
VIRV *eS* **Sn 20 24 10.6 +0.2**
ELOV Elorza 4.32 83 *eP* **Pn 20 23 24.5 +0.6**
QARV Quebrada Arrib 4.90 41 *eP* **Pn 20 23 33.7 +1.9**
QARV *eS* **Sn 20 24 26.5 -0.9**
CURV Curarigua 5.15 47 *eP* **Pn 20 23 35.9 +0.7**
SANV Sanarito 5.16 55 *eP* **Pn 20 23 35.9 +0.5**
SANV *eS* **Sn 20 24 32.2 -1.7**
DABV Dabajuro 5.38 35 *eP* **Pn 20 23 39.6 +1.3**
SIQV Siquisique 5.70 44 *eP* **Pn 20 23 42.8 +0.2**
SIQV *eS* **Sn 20 24 44.9 -1.9**
TEPV Terepaima 5.71 53 *eP* **Pn 20 23 43.3 +0.6**
BAUV El Baul 6.20 67 *eP* **Pn 20 23 48.8 -0.5**
MAPV Macapo 6.23 58 *eP* **Pn 20 23 50.5 +0.7**
MONV Montecano 6.60 35 *eP* **Pn 20 23 55.2 +0.5**
TURV Turiamo 7.08 56 *eP* **Pn 20 24 01.0 -0.2**
BIRV Birongo 8.43 62 *eP* **Pn 20 24 19.1 -0.5**
CUPV Cœpira 8.68 66 *eP* **Pn 20 24 21.9 -1.1**
PCRV Puerto La Cruz 9.77 68 P **Pn 20 24 38.9 +1.0**
comp=Z,1.7nm,0.3s,baz=274,slow=3.9,SNR=10.0
PCRV S **Sn 20 26 20.2 -5.6**
comp=Z,2.8nm,0.3s,baz=315,slow=16,SNR=4.6
JTS JuntasAbangare 11.65 290 P **Pn 20 25 04.7 +1.6**
comp=Z,0.8nm,0.3s,baz=348,slow=20,SNR=2.1
PTGA Pitinga 15.57 117 P **Pn 20 25 52.4 -1.4**
comp=Z,0.8nm,0.3s,baz=336,slow=20,SNR=3.9
LPAZ La Paz 23.34 166 P **P 20 27 18.2 -1.4**
comp=Z,1.0nm,0.5s,baz=331,slow=5.6,SNR=4.8
TXAR Lajitas Array 36.16 313 P **P 20 29 12.9 +0.6**
comp=Z,0.5nm,0.6s,baz=124,slow=9.8,SNR=9.0
SADO Sadowa 38.39 354 LR LR 20 45 09.3
comp=Z,31nm,20.0s,baz=104,slow=36
YKA Yellowknife Ar 63.32 340 P **P 20 32 37.4 +0.2**
comp=Z,2.0nm,0.4s,baz=134,slow=6.4,SNR=12
DBIC Dimbokro 68.44 85 P **P 20 33 10.4 -0.5**
comp=Z,3.7nm,1.0s,baz=211,slow=3.2,SNR=4.1
ESDC Sonseca Array 70.37 50 P **P 20 33 22.3 -0.2**
comp=Z,0.1nm,0.3s,baz=268,slow=3.9,SNR=2.9
INK Inuvik 73.09 340 P **P 20 33 36.8 -1.3**
comp=Z,1.3nm,0.5s,baz=135,slow=2.9,SNR=3.7
TORD Torodi Ar. Bea 74.46 78 P **P 20 33 46.3 -0.9**
comp=Z,0.3nm,0.4s,baz=290,slow=6.1,SNR=9.2
ILAR Eielson Array 76.95 335 P **P 20 34 00.4 0.0**
comp=Z,0.7nm,0.7s,baz=102,slow=4.5,SNR=7.3
NOA NORSAR Array B 81.93 29 P **P 20 34 28.7 +1.2**
comp=Z,0.6nm,0.6s,baz=269,slow=5.3,SNR=2.6
GERES GERESS Array B 83.50 42 P **P 20 34 36.9 +0.9**
comp=Z,0.6nm,0.6s,baz=260,slow=3.9,SNR=5.6
ARCES ARCESS Array B 87.19 20 P **P 20 34 54.3 +0.5**
comp=Z,2.7nm,1.0s,baz=302,slow=5.2,SNR=2.9
JOW Kunigami 140.55 328 PKP **PKPdf 20 41 36.2 -1.3**
comp=Z,20nm,0.5s,baz=185,slow=11,SNR=2.9
ASAR Alice Springs 148.38 234 PKPbc **PKPdf 20 41 53.7 +2.6**
comp=Z,2.3nm,0.6s,baz=119,slow=3.8,SNR=35
WRA Warramunga Arr 149.59 241 PKP **PKPdf 20 41 52.7 -0.5**
comp=Z,4.3nm,0.5s,baz=109,slow=2.5,SNR=6.0
WRA PKPbc **PKPbc 20 41 57.2 -0.6**
comp=Z,4.2nm,0.5s,baz=106,slow=2.9,SNR=53

*IDC **12** 20:28:41.9±4.0, 40.°93N×112.°83W, h0km, mb1 2.7/1, mb1mx2.7/38, mbtmp2.3/1, ML2.9/1, Error ellipse: s-maj=67.2km s-min=27.2km az=142.0*
*ISCJB **12** 20:28:44.7±0.8, 41.°12N±0.°07×112.°7W±0.°1, h0km, Error ellipse: s-maj=14.1km s-min=9.3km az=29.1*
*NEIC **12** 20:28:45.5±1.1, 41.°11N×112.°70W, h0km, ML2.0, Error ellipse: s-maj=19.5km s-min=12.3km az=114.0, Suspected Mining explosion.*
NEIC 63 km [39 miles] W of Ogden.
ISC 12 20:28:41.7±1.0, 41.°01N±0.°06×112.°65W±0.°06, h0km, n9, σ1s26/9, Utah

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
DUG	**Dugway, Tooele**	**0.82**	**189**	*e*Pg		**Pn**		**20 29 01.6**	**+0.9**
HWUT	**Hardware Ranch**	**1.01**	**54**	*e*Pn		**Pn**		**20 29 04.3**	**+0.9**
HLID	**Hailey**	**2.87**	**333**	*e*Pn		**Pn**		**20 29 29.7**	**+0.8**
PDAR	**Pinedale Array**	**2.90**	**52**	Pn		**Pb**		**20 29 33.1**	**-1.4**
	0.2nm,0.3s,baz=219,slow=13,SNR=2.9								
PDAR				Pg		**Pg**		**20 29 38.2**	**+0.9**
	1.1nm,0.3s,baz=227,slow=15,SNR=9.4								
PDAR				Lg		Lg		20 30 18.1	
	1.2nm,0.3s,baz=227,slow=24,SNR=7.9								
IMW	**Indian Meadow**	**3.15**	**23**	*e*Pn		**Pb**		**20 29 37.4**	**-1.4**
O20A	**White River Ci**	**3.47**	**103**	Pn		**Pb**		**20 29 43.0**	**-1.2**
R11A	**Troy Canyon, C**	**3.49**	**221**	*e*Pn		**Pb**		**20 29 43.5**	**-0.9**
R11A				*e*S		**Sg**		**20 30 33.3**	**-0.5**
I56US	**NEWPORT INFRAS**	**7.92**	**338**	*i*				21 15 50.0	
	baz=156,slow=311,SNR=2.0								
I10CA	**LAC DU BONNET**	**14.80**	**46**	*i*				21 57 10.0	
	baz=236,slow=327,SNR=0.6								

BJI 12 20:51:56.0, 46.°66N×118.°85E, h6km, ML3.7/6, Northeastern China

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
WMQ	**Urumqi**	**22.05**	**274**	*e*P		P		20 56 51.1	-0.2

*NEIC **12** 21:03:45.7±0.6, 14.°23N×93.°11W, h40km, mb3.8/2, MD4.0(MEX), After MEX.*
MEX 12 21:03:45.7±0.6, 14.°23N×93.°11W, h40km, MD4.0, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CCIG	**Comitan**	**2.25**	**25**	*i* P		Pn		21 04 19.0	-1.6
CCIG				*e*S		Sn		21 04 46.0	-1.2
CCIG	**Comitan**	**2.25**	**25**	*i* P		Pn		21 04 19.0	-1.6
CCIG				*e*S		Sn		21 04 46.0	-1.2
TGIG			**2.53**	**360**	*e*P		Pn		21 04 22.4	-2.0
TGIG					*e*S		Sn		21 04 52.4	-1.7
TGIG			**2.53**	**360**	*e*P		Pn		21 04 22.4	-2.0
TGIG					*e*S		Sn		21 04 52.4	-1.7
MNTX	**Cornudas Mount**	**20.70**	**329**	*e*P		P		21 08 22.2	-0.4
	1.8nm,0.7s								
121A	**Cookes Peak, D**	**22.61**	**326**	*e*P		P		21 08 42.9	-0.4
	5.1nm,0.7s								

IDC 12 21:09:38.3±11.0, 17.°11S×178.°73W, h529km±136km, mb3.1/6, mb1 3.3/6, mb1mx3.0/34, mbtmp4.0/6, Error ellipse: s-maj=83.2km s-min=44.7km az=161.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**33.28**	**259**	P		P		21 15 33.5	+1.2
	1.2nm,0.3s,baz=76,slow=8.3,SNR=1.6								
STKA	**Stephens Creek**	**38.75**	**240**	P		P		21 16 16.6	-0.7
	2.3nm,1.0s,baz=105,slow=12,SNR=2.5								
WRA	**Warramunga Arr**	**44.48**	**259**	P		P		21 17 02.7	-0.2
	1.1nm,0.5s,baz=95,slow=7.1,SNR=6.6								
ASAR	**Alice Springs**	**44.72**	**253**	P		P		21 17 04.3	-0.3
	4.2nm,0.5s,baz=87,slow=8.7,SNR=30								
ILAR	**Eielson Array**	**85.18**	**13**	P		P		21 21 17.1	-1.1
	0.2nm,0.4s,baz=241,slow=5.0,SNR=3.3								
TXAR	**Lajitas Array**	**85.83**	**58**	P		P		21 21 22.9	+0.5
	0.7nm,0.8s,baz=223,slow=5.8,SNR=8.2								
GERES	**GERESS Array B**	**146.76**	**345**	PKPbc		PKPbc		21 28 20.8	-0.3
	0.3nm,0.4s,baz=5.7,slow=3.9,SNR=3.3								

*ISCJB **12** 21:16:39.7±1.1, 6.°97N±0.°03×76.°76W±0.°03, h30km±9km, mb4.1/18, MS3.4/7, Error ellipse: s-maj=6.0km s-min=5.1km az=153.8*
*RSNC **12** 21:16:40.0±1.5, 6.°96N×76.°68W, h6km±10km, ML3.8*
*NEIC **12** 21:16:42.9±0.8, 6.°91N×76.°72W, h49km±9km, mb4.3/15, Error ellipse: s-maj=11.4km s-min=6.2km az=73.0*
*IDC **12** 21:16:45.2±2.2, 6.°93N×76.°84W, h64km±21km, mb3.3/6, mb1 3.7/8, mb1mx3.6/27, mbtmp3.7/8, MS3.5/13, Ms1 3.5/13, ms1mx3.4/22, Error ellipse: s-maj=29.6km s-min=14.8km az=37.0*
ISC 12 21:16:39.7±1.3, 6.°94N±0.°04×76.°70W±0.°04, h19km±4km, n53, σ1s59/57, mb4.3/18, MS3.4/7, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
DBBC	**Dabeiba**	**0.49**	**81**	*e*P		**Pg**		**21 16 49.4**	**-0.4**
SOLC	**Bahia Solano**	**1.00**	**225**	*e*P		**Pb**		**21 16 58.0**	**-0.3**
SOLC				*i*				21 17 17.0	
	comp=Z,737nm,0.6s								
HELC	**Santa Helena**	**1.38**	**122**	*e*P		**Pn**		**21 17 03.3**	**-1.0**
HELC				*e*S		**Sn**		**21 17 22.3**	**0.0**
HELC				*i*				21 17 28.9	
	comp=Z,3μm,0.6s								
HELC	**Santa Helena**	**1.38**	**122**	*e*Pn		**Pn**		**21 17 03.7**	**-0.6**
HELC				*e*Sn		**Sb**		**21 17 23.1**	**+0.5**
CAPC	**Capurgana**	**1.80**	**339**	*e*P		**Pn**		**21 17 08.8**	**-0.9**
CAPC				*e*S		**Sb**		**21 17 34.0**	**-0.3**
CAPC				*i*				21 17 38.7	
	comp=Z,886nm,0.4s								
ZARC	**Zaragoza, Cauc**	**1.91**	**73**	*e*P		**Pn**		**21 17 11.9**	**+0.7**
ZARC				*e*S		**Sn**		**21 17 36.1**	**+1.3**
ZARC				*i*				21 17 39.3	
	comp=Z,3μm,0.7s								
MOTC	**Monteria, Cord**	**2.10**	**29**	*e*P		**Pn**		**21 17 14.2**	**+0.4**
MOTC				*e*S		**Sn**		**21 17 39.9**	**+0.5**
MOTC				*i*				21 18 03.7	
	comp=Z,457nm,0.7s								
NORC	**Norcasia**	**2.28**	**127**	*e*P		**Pn**		**21 17 18.0**	**+1.7**
ROSC	**El Rosal**	**3.16**	**131**	P		**Pb**		**21 17 32.9**	**-2.6**
	comp=Z,38nm,0.3s,baz=350,slow=6.7,SNR=35								
ROSC				S		**Sb**		**21 18 13.1**	**-0.7**
	comp=Z,22nm,0.3s,baz=263,slow=22,SNR=8.5								
ROSC				LR		LR		21 19 02.0	
	comp=Z,859nm,18.7s,baz=260,slow=42								
ROSC	**El Rosal**	**3.16**	**131**	*e*Pn		**Pn**		**21 17 31.4**	**+2.7**
ROSC				*e*Sn		**Sn**		**21 18 06.8**	**+0.7**
SJCC	**San Jacinto, C**	**3.30**	**27**	*e*P		**Pn**		**21 17 31.0**	**+0.6**
SJCC				*e*S		**Sn**		**21 18 08.9**	**-0.3**
SJCC				*i*				21 18 13.1	
	comp=Z,105nm,0.7s								
PRAC	**Prado**	**3.68**	**150**	*e*Pn		**Pn**		**21 17 37.8**	**+2.1**
PRAC				*e*Sn		**Sn**		**21 18 16.9**	**-1.7**
RUSC	**La Rusia**	**3.75**	**106**	*e*Pn		**Pn**		**21 17 39.7**	**+2.8**
RUSC				*e*Sn		**Sn**		**21 18 25.8**	**+5.0**
SDV	**Santo Domingo**	**6.32**	**72**	*e*Pn		**Pn**		**21 18 14.5**	**+2.5**
SDV				*e*Sn		Sn		21 19 13.6	-10
OTAV	**Otavalo**	**6.88**	**195**	*e*Pn		**Pn**		**21 18 20.9**	**+0.9**
JTS	**JuntasAbangare**	**8.81**	**293**	P		**Pn**		**21 18 47.4**	**+1.3**
	comp=Z,0.5nm,0.3s,baz=137,slow=12,SNR=4.0								
JTS				LR		LR		21 22 19.3	
	comp=Z,262nm,21.5s,baz=170,slow=38								
MTDJ	**Mount Denham**	**11.25**	**356**	*e*Pn		**Pn**		**21 19 21.1**	**+1.5**
PCRV	**Puerto La Cruz**	**12.36**	**74**	P		**Pn**		**21 19 36.2**	**+1.5**
	comp=Z,1.1nm,0.3s,baz=316,slow=8.5,SNR=3.9								
PCRV				LR		LR		21 25 40.0	
	comp=Z,251nm,21.0s,baz=266,slow=43								
GTBY	**Guantanamo Bay**	**13.00**	**7**	*e*Pn		**Pn**		**21 19 46.2**	**+2.7**
SDDR	**Presa de Saban**	**13.08**	**23**	*e*Pn		**Pn**		**21 19 46.0**	**+1.4**
SDDR				*e*Sn		**Sn**		**21 22 09.6**	**0.0**
ATAH	**Atahualpa**	**14.08**	**187**	LR		LR		21 27 00.8	
	comp=Z,221nm,19.2s,baz=6.6,slow=44								
CELP	**Cerrillos**	**14.83**	**41**	*e*Pn		**Pn**		**21 20 04.9**	**-3.6**
PTGA	**Pitinga**	**18.36**	**114**	P		**P**		**21 20 53.1**	**-0.2**
	comp=Z,0.4nm,0.3s,baz=298,slow=13,SNR=4.9								
PTGA				LR		LR		21 28 31.6	
	comp=Z,332nm,18.6s,baz=294,slow=38								
PTGA	**Pitinga**	**18.36**	**114**	*e*P		**P**		**21 20 53.3**	**-0.1**
	comp=Z,34nm,1.8s								
NNA	**Nana**	**18.80**	**180**	LR		LR		21 29 38.8	
	comp=Z,116nm,21.4s,baz=350,slow=41								
CMIG	**Matias Romero**	**20.42**	**301**	LR		LR		21 30 25.3	
	comp=Z,138nm,18.6s,baz=114,slow=40								
SAML	**Samuel**	**20.75**	**139**	*e*P		**P**		**21 21 14.8**	**-4.7**
	comp=Z,9.3nm,0.8s								
LPAZ	**La Paz**	**24.59**	**160**	P		**P**		**21 21 59.8**	**+0.3**
	comp=Z,0.9nm,0.6s,baz=50,slow=7.9,SNR=3.5								
LPAZ	**La Paz**	**24.59**	**160**	*e*P		**P**		**21 21 57.5**	**-2.0**
	comp=Z,3.6nm,0.9s								
GOGA	**Godfrey**	**27.08**	**348**	*e*P		**P**		**21 22 19.8**	**-1.4**
	comp=Z,32nm,1.9s								
PB11	**IPOC Station P**	**27.43**	**165**	*e*P		**P**		**21 22 24.9**	**+0.3**
	comp=Z,61nm,2.0s								
SIV	**San Ignacio**	**27.54**	**146**	LR		LR		21 33 25.2	
	comp=Z,172nm,19.0s,baz=2.0,slow=36								
TKL	**Tuckaleechee C**	**29.31**	**348**	LR		LR		21 35 53.4	
	comp=Z,71nm,18.1s,baz=222,slow=99								
TXAR	**Lajitas Array**	**33.78**	**315**	P		**P**		**21 23 20.6**	**-0.1**
	comp=Z,0.2nm,0.6s,baz=133,slow=8.7,SNR=4.7								
CPUP	**Villa Florida**	**38.04**	**151**	LR		LR		21 41 06.5	
	comp=Z,57nm,19.8s,baz=324,slow=38								
ANMO	**Albuquerque**	**39.06**	**320**	*e*P		**P**		**21 24 05.8**	**+0.1**
	comp=Z,3.2nm,1.0s								
SDCO	**Great Sand Dun**	**40.29**	**324**	*e*P		**P**		**21 24 17.2**	**+1.1**
	comp=Z,3.3nm,1.0s								
WUAZ	**Wupatki**	**42.65**	**317**	*e*P		**P**		**21 24 34.6**	**-0.7**
	comp=Z,6.3nm,0.9s								
PDAR	**Pinedale Array**	**45.95**	**326**	P		**P**		**21 25 02.1**	**+0.4**
	comp=Z,0.6nm,0.7s,baz=111,slow=8.1,SNR=4.3								
PDAR				LR		LR		21 46 56.1	
	comp=Z,29nm,19.6s,baz=98,slow=40								
DUG	**Dugway, Tooele**	**46.25**	**321**	*e*P		**P**		**21 25 03.9**	**-0.1**
	comp=Z,3.6nm,0.9s								
HWUT	**Hardware Ranch**	**46.35**	**324**	*e*P		**P**		**21 25 04.7**	**-0.1**
	comp=Z,3.4nm,1.0s								
BGU	**Big Grassy Mou**	**46.81**	**322**	*e*P		**P**		**21 25 08.1**	**-0.4**
	comp=Z,4.7nm,1.1s								
REDW	**Red Top Meadow**	**47.05**	**326**	*e*P		**P**		**21 25 09.2**	**-1.2**
	comp=Z,7.6nm,1.1s								
SCHQ	**Schefferville**	**48.41**	**8**	LR		LR		21 46 47.9	
	comp=Z,46nm,18.6s,baz=56,slow=37								
HLID	**Hailey**	**49.20**	**324**	*e*P		**P**		**21 25 27.6**	**+0.7**
	comp=Z,2.1nm,0.4s								
MFID	**Camas Ranch**	**49.95**	**323**	*e*P		**P**		**21 25 32.0**	**-0.6**
	comp=Z,3.0nm,0.8s								
WVOR	**Wild Horse Val**	**51.14**	**321**	*e*P		**P**		**21 25 41.7**	**+0.1**
	comp=Z,6.3nm,1.0s								
ESDC	**Sonseca Array**	**72.32**	**51**	P		**P**		**21 28 04.8**	**+0.4**
	comp=Z,0.8nm,0.8s,baz=277,slow=6.3,SNR=5.8								
ES19	**SONSECA Array**	**72.37**	**51**	*e*P		**P**		**21 28 04.7**	**0.0**
TORD	**Torodi Ar. Bea**	**77.19**	**78**	P		**P**		**21 28 32.8**	**-0.3**
	comp=Z,0.3nm,0.5s,baz=280,slow=6.7,SNR=4.3								
TORD				LR		LR		22 00 43.6	
	comp=Z,32nm,21.3s,baz=10.0,slow=34								
GERES	**GERESS Array B**	**85.10**	**42**	P		**P**		**21 29 15.3**	**+0.8**
	comp=Z,0.5nm,0.7s,baz=274,slow=5.8,SNR=3.3								
ASAR	**Alice Springs**	**146.24**	**237**	PKPbc		**PKPdf**		**21 36 17.8**	**-1.0**
	comp=Z,2.0nm,0.9s,baz=122,slow=3.7,SNR=12								
WRA	**Warramunga Arr**	**147.24**	**244**	PKPbc		**PKPbc**		**21 36 22.4**	**-0.4**
	comp=Z,2.4nm,1.0s,baz=103,slow=3.9,SNR=5.1								

*CSEM **12** 21:35:02.9, 39.°19N×29.°98W, h10km, ML2.8*
PDA 12 21:35:02.9±0.7, 39.°19N×29.°98W, h10km, MD3.5, ML2.8, Error ellipse: s-maj=8.9km s-min=5.5km az=62.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PCED	**Cedros**	**1.14**	**119**	*e*S		**Sb**		21 35 33.0	-6.5
PCED				A		A		21 35 34.5	
	42nm,0.2s								
PCED	**Cedros**	**1.14**	**119**	*e*S		Sb		21 35 33.0	-6.5
CALA	**Caldeira**	**1.16**	**121**	*e*S		Sb		21 35 33.9	-6.4
CALA	**Caldeira**	**1.16**	**121**	*e*S		Sb		21 35 33.9	-6.4
HOR	**Horta**	**1.24**	**122**	*e*S		Sb		21 35 35.7	-6.7
HOR				A		A		21 35 36.3	
	123nm,0.1s								
HOR	**Horta**	**1.24**	**122**	*e*S		Sb		21 35 35.7	-6.7
PCAN	**Candelaria**	**1.37**	**121**	*e*P		Pn		21 35 23.3	-4.8
PCAN				*e*S		Sb		21 35 39.0	-7.2
PCAN				A		A		21 35 40.3	
	85nm,0.2s								
PCAN	**Candelaria**	**1.37**	**121**	*e*P		Pn		21 35 23.3	-4.8
PCAN				*e*S		Sb		21 35 39.0	-7.2
PICO	**Pico**	**1.39**	**119**	*e*P		Pn		21 35 23.5	-4.9
PICO				*e*S		Sb		21 35 39.3	-7.5
PICO				A		A		21 35 41.8	
	119nm,0.1s								
PICO	**Pico**	**1.39**	**119**	*e*P		Pn		21 35 23.5	-4.9
PICO				*e*S		Sb		21 35 39.3	-7.5
PGRA	**Graciosa**	**1.56**	**95**	*e*P		Pn		21 35 26.4	-4.3
PGRA				*e*S		Sn		21 35 43.2	-7.7
PGRA				A		A		21 35 44.5	
	62nm,0.3s								
PGRA	**Graciosa**	**1.56**	**95**	*e*P		Pn		21 35 26.4	-4.3
PGRA				*e*S		Sn		21 35 43.2	-7.7

*ISK **12** 21:47:08.7, 39.°16N×28.°98E, h5km, MD2.5*
*ISCJB **12** 21:47:09.3±0.4, 39.°16N±0.°03×28.°99E±0.°03, h4km±5km, Error ellipse: s-maj=4.5km s-min=4.2km az=22.6*
*CSEM **12** 21:47:09.3±0.1, 39.°15N×28.°98E, h8km, MD2.5, Error ellipse: s-maj=2.6km s-min=2.2km az=60.0*
*DDA **12** 21:47:09.1, 39.°13N×28.°98E, h7km, Md2.8*
ISC 12 21:47:09.3±0.9, 39.°15N±0.°02×28.°98E±0.°02, h6km±7km, n36, σ0s42/51, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SIMA	**Simav-Kutahya**	**0.07**	**179**	*e*PG		**Pg**		**21 47 10.9**	**-0.2**
SIMA				*e*SG		**Sg**		**21 47 12.5**	**+0.2**
SIMA	**Simav-Kutahya**	**0.07**	**179**	*e*Pg		**Pg**		**21 47 10.9**	**-0.2**
SIMA				*e*Sg		**Sg**		**21 47 12.5**	**+0.2**
DEMI	**Demirci**	**0.23**	**242**	*i* P		**Pg**		**21 47 14.3**	**+0.4**
DEMI				*i* S		**Sg**		**21 47 17.5**	**+0.4**
DEMI	**Demirci**	**0.23**	**242**	P		**Pg**		**21 47 14.3**	**+0.4**
DEMI				S		**Sg**		**21 47 17.5**	**+0.4**
GEDZ	**Gediz**	**0.35**	**108**	*e*PG		**Pg**		**21 47 16.3**	**+0.1**
GEDZ				*e*SG		**Sg**		**21 47 21.7**	**+0.9**
GEDZ	**Gediz**	**0.35**	**108**	*e*Pg		**Pg**		**21 47 16.3**	**+0.1**
GEDZ				*e*Sg		**Sg**		**21 47 21.7**	**+0.9**
TVSB	**Tavsanli**	**0.47**	**52**	*e*PG		**Pg**		**21 47 18.4**	**-0.1**
TVSB				*e*SG		**Sg**		**21 47 25.5**	**+0.8**
TVSB	**Tavsanli**	**0.47**	**52**	*e*Pg		**Pg**		**21 47 18.4**	**-0.1**
TVSB				*e*Sg		**Sg**		**21 47 25.5**	**+0.8**
KULA	**Kula-Manisa**	**0.69**	**201**	*e*PG		**Pg**		**21 47 22.3**	**-0.2**
KULA	**Kula-Manisa**	**0.69**	**201**	*e*Pg		**Pg**		**21 47 22.3**	**-0.2**
MANT	**Manisa**	**0.74**	**207**	*i* P		Pg		21 47 16.1	-7.4
ORLT	**Orhaneli**	**0.89**	**356**	*e*PG		**Pg**		**21 47 26.2**	**-0.3**
ORLT				*e*SG		**Sb**		**21 47 39.0**	**-0.5**
ORLT	**Orhaneli**	**0.89**	**356**	*e*Pg		**Pg**		**21 47 26.2**	**-0.3**
ORLT				*e*Sg		**Sb**		**21 47 39.0**	**-0.5**
KHL	**Karahalli**	**0.93**	**153**	*e*PG		**Pb**		**21 47 27.2**	**-0.7**
KHL				*e*SG		**Sb**		**21 47 40.7**	**+0.1**
KHL	**Karahalli**	**0.93**	**153**	*e*Pg		**Pb**		**21 47 27.2**	**-0.7**
KHL				*e*Sg		**Sb**		**21 47 40.7**	**+0.1**
BALB	**Balikesir**	**0.98**	**300**	*e*PG		**Pg**		**21 47 28.1**	**0.0**
BALB				*e*SG		**Sb**		**21 47 42.4**	**+0.5**
BALB	**Balikesir**	**0.98**	**300**	*e*Pg		**Pg**		**21 47 28.1**	**0.0**
BALB				*e*Sg		**Sb**		**21 47 42.4**	**+0.5**
IGD	**Bursa**	**1.12**	**9**	*i* P		**Pb**		**21 47 30.9**	**-0.2**
BALY	**Balya**	**1.21**	**299**	*i* P		**Pn**		**21 47 33.0**	**+0.2**
BALY				*i* S		**Sn**		**21 47 49.5**	**0.0**
BALY	**Balya**	**1.21**	**299

GOPC				*e*SG	**Sb**	**22 06 12.9**	**-0.5**
	comp=Z,14nm,0.3s							
PRU	**Pruhonice**	**1.89**	**212**	*e*PN	**Pn**	**22 05 47.5**	**-0.1**
PRU				*e*PG	**Pb**	**22 05 49.4**	**-0.1**
PRU				*e*SG	**Sb**	**22 06 13.2**	**-0.4**
	comp=Z,39nm,0.4s							
CLL	**Collm**	**1.95**	**262**	*e*Pn	**Pn**	**22 05 48.0**	**-0.4**
CLL				*e*Pg	**Pg**	**22 05 52.0**	**+0.5**
CLL				*e*		22 05 55.0		
CLL				*e*Sg	**Sg**	**22 06 17.0**	**+0.2**
	comp=Z,27nm,0.8s							
OKC	**Ostrava-Krasne**	**2.20**	**143**	*e*PG	**Pg**	**22 05 55.8**	**-0.4**
OKC				*e*SG	**Sb**	**22 06 22.8**	**+0.3**
	comp=Z,42nm,0.7s							
OKC	**Ostrava-Krasne**	**2.20**	**143**	Pg	**Pg**	**22 05 55.8**	**-0.4**
NKC	**Novy Kostel**	**2.68**	**241**	*e*PN	**Pn**	**22 05 59.1**	**+0.6**
NKC				*e*PG	**Pg**	**22 06 05.7**	**+0.3**
NKC				*e*SG	**Sg**	**22 06 40.9**	**+0.7**
	comp=Z,49nm,0.3s							
NKC	**Novy Kostel**	**2.68**	**241**	Pn	**Pn**	**22 05 59.1**	**+0.6**
OJC	**Ojcow**	**2.73**	**119**	*e*Pg	**Pg**	**22 06 06.2**	**-0.1**
OJC				*e*Sg	**Sg**	**22 06 41.5**	**-0.1**
OJC	**Ojcow**	**2.73**	**119**	*e*Pg	**Pg**	**22 06 06.2**	**-0.1**
OJC				*e*Sg	**Sg**	**22 06 41.5**	**-0.1**
OJC	**Ojcow**	**2.73**	**119**	*e*Pg	**Pg**	**22 06 06.2**	**-0.1**
OJC				*e*Sg	**Sg**	**22 06 41.5**	**-0.1**
KHC	**Kasperske Hory**	**2.95**	**214**	*e*PN	**Pn**	**22 06 02.4**	**+0.2**
KHC				*e*PG	**Pb**	**22 06 08.4**	**+0.9**
KHC				*e*SN	**Sn**	**22 06 38.3**	**-0.1**
KHC				*e*SG	**Sg**	**22 06 46.9**	**-1.9**
	comp=Z,12nm,0.3s							
SMOL	**Smolenice**	**3.21**	**164**	*e*Sg	**Sb**	**22 06 54.1**	**+2.5**
SMOL	**Smolenice**	**3.21**	**164**	*e*SG	**Sb**	**22 06 54.1**	**+2.5**
LANS	**Liptovska Anna**	**3.27**	**137**	*e*Pg	**Pg**	**22 06 16.1**	**-0.7**
LANS	**Liptovska Anna**	**3.27**	**137**	*e*PG	**Pg**	**22 06 16.1**	**-0.7**
LANS				*e*SG	**Sg**	**22 06 57.3**	**-1.9**
NIE	**Niedzica**	**3.47**	**128**	*e*P	**Pg**	**22 06 20.4**	**0.0**
NIE				*e*S	**Sg**	**22 07 05.3**	**0.0**
NIE	**Niedzica**	**3.47**	**128**	*e*P	**Pg**	**22 06 20.4**	**0.0**
NIE				*e*S	**Sg**	**22 07 05.3**	**0.0**
VYHS	**Vyhne**	**3.58**	**149**	*e*Sg	**Sg**	**22 07 08.1**	**-1.0**
VYHS	**Vyhne**	**3.58**	**149**	*e*SG	**Sg**	**22 07 08.1**	**-1.0**
BSD	**Bornholm Skovb**	**3.59**	**349**	*i* P	**Pn**	**22 06 11.8**	**+0.9**
BSD				*i* S	**Sn**	**22 06 53.0**	**-0.9**
BSD	**Bornholm Skovb**	**3.59**	**349**	*i* P	**Pn**	**22 06 11.8**	**+0.9**
BSD				*i* S	**Sn**	**22 06 53.0**	**-0.9**
CONA	**Conrad Observa**	**3.68**	**182**	Pn	**Pn**	**22 06 12.9**	**+0.6**
	comp=Z,0.7nm,0.2s							
CONA				Sg	**Sg**	**22 07 10.2**	**-2.1**
	comp=Z,13nm,0.4s							
MOA	**Molln**	**3.94**	**198**	Pn	**Pn**	**22 06 16.3**	**+0.5**
	comp=Z,2.2nm,0.2s							
MOA				Sg	**Sg**	**22 07 19.6**	**-1.0**
	comp=Z,2.9nm,0.2s							
STHS	**Stebnicka Huta**	**3.95**	**122**	*e*Pg	**Pg**	**22 06 30.3**	**+0.5**
STHS				*e*Sg	**Sg**	**22 07 21.7**	**+0.7**
STHS	**Stebnicka Huta**	**3.95**	**122**	*e*PG	**Pg**	**22 06 30.3**	**+0.5**
STHS				*e*SG	**Sg**	**22 07 21.7**	**+0.7**
STHS				*e*LG	Lg	22 07 37.6		
KECS	**Kecovo**	**4.22**	**136**	*e*Sg	**Sg**	**22 07 27.5**	**-2.0**
KECS	**Kecovo**	**4.22**	**136**	*e*SG	**Sg**	**22 07 27.5**	**-2.0**
KECS				*e*LG	Lg	22 07 32.8		
ARSA	**Arzberg**	**4.37**	**185**	Pn	**Pn**	**22 06 23.0**	**+1.3**
	comp=Z,0.3nm,0.3s							
ARSA				Sg	**Sg**	**22 07 35.6**	**+1.1**
	comp=Z,10nm,0.7s							
CRVS	**Cervenica-Dubn**	**4.38**	**126**	*e*Pg	**Pg**	**22 06 40.4**	**+2.4**
CRVS	**Cervenica-Dubn**	**4.38**	**126**	*e*PG	**Pg**	**22 06 40.4**	**+2.4**
BJUU	**Bjuv**	**4.83**	**339**	P	**Pn**	**22 06 28.1**	**+0.1**
BJUU				S	**Sn**	**22 07 22.1**	**-2.4**
BJUU	**Bjuv**	**4.83**	**339**	P	**Pn**	**22 06 28.1**	**+0.1**
BJUU				S	**Sn**	**22 07 22.1**	**-2.4**
DEL	**Delary**	**5.05**	**346**	P	**Pn**	**22 06 31.3**	**+0.4**
DEL				S	**Sn**	**22 07 27.4**	**-2.5**
DEL	**Delary**	**5.05**	**346**	P	**Pn**	**22 06 31.3**	**+0.4**
WTTA	**Wattenberg**	**5.22**	**215**	Sg	**Sg**	**22 08 02.9**	**+1.1**
	comp=Z,5.7nm,1.1s							

CSEM ***12*** *22:22:55.2, 13˚.69N×42˚.37E, h10km, ML3.8*
DHMR 12 22:22:55.2±1.3, 13˚.69N×42˚.37E, h10±19km, ML3.8, Ethiopia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
UDYN	**Al 'Udayn**	**1.57**	**80**	*i* P	Pb	22 23 24.5	0.0
UDYN				*i* S	Sg	22 23 46.4	+0.4
TRBA	**At Turbah**	**1.76**	**105**	*i* P	Pb	22 23 27.2	-0.4
TRBA				*i* S	Sb	22 23 50.7	+0.9
HAJJ	**Hajjah**	**2.33**	**31**	*i* P	Pn	22 23 34.9	+1.2
HAJJ				*i* S	Sb	22 24 07.7	+1.4
HAJJ				AML	AML	22 24 19.8	
	comp=Z,1μm,0.5s						
HAJJ	**Hajjah**	**2.33**	**31**	*i* P	Pn	22 23 34.9	+1.2
HAJJ				*i* S	Sb	22 24 07.7	+1.4
	comp=Z,521nm,0.5s						
BDHA	**Al Bayda'**	**3.12**	**84**	*i* P	Pn	22 23 47.3	+2.6
BDHA				*i* S	Sb	22 24 28.2	-0.9
BDHA				AML	AML	22 24 35.5	
	comp=N,308nm,0.5s						
BDHA	**Al Bayda'**	**3.12**	**84**	*i* P	Pn	22 23 47.3	+2.7
BDHA				*i* S	Sb	22 24 28.2	-0.9
	comp=N,154nm,0.5s						

CSEM ***12*** *22:23:40.0, 38˚.78N×30˚.15W, h10km, ML3.0*
PDA 12 22:23:40.0±0.6, 38˚.78N×30˚.15W, h10km, MD3.5, ML3.0, Error ellipse: s-maj=13.5km s-min=5.2km az=11.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PCED	**Cedros**	**1.14**	**97**	*e*P	Pb	22 23 57.1	-4.7
PCED				*e*S	Sb	22 24 10.3	-6.4
PCED				A	A	22 24 14.4	
	116nm,0.3s						
PCED	**Cedros**	**1.14**	**97**	*e*P	Pb	22 23 57.1	-4.7
PCED				*e*S	Sb	22 24 10.3	-6.4
CALA	**Caldeira**	**1.15**	**99**	*e*P	Pb	22 23 57.6	-4.4
CALA				*e*S	Sb	22 24 10.7	-6.3
CALA	**Caldeira**	**1.15**	**99**	*e*P	Pb	22 23 57.6	-4.4
CALA				*e*S	Sb	22 24 10.7	-6.3
HOR	**Horta**	**1.22**	**101**	*e*S	Sb	22 24 12.3	-6.5
HOR				A	A	22 24 13.9	
	181nm,0.2s						
HOR	**Horta**	**1.22**	**101**	*e*S	Sb	22 24 12.3	-6.5
PCAN	**Candelaria**	**1.34**	**103**	*e*S	Sb	22 24 15.1	-7.4
PCAN				A	A	22 24 16.6	
	163nm,0.3s						
PCAN	**Candelaria**	**1.34**	**103**	*e*S	Sb	22 24 15.1	-7.4
PICO	**Pico**	**1.38**	**101**	*e*P	Pn	22 24 00.6	-4.8
PICO				*e*S	Sb	22 24 16.3	-7.3
PICO				A	A	22 24 18.3	
	179nm,0.4s						
PICO	**Pico**	**1.38**	**101**	*e*P	Pn	22 24 00.6	-4.8
PICO				*e*S	Sb	22 24 16.3	-7.3
ROSA	**Rosais**	**1.49**	**92**	*e*P	Pn	22 24 02.5	-4.4
ROSA				*e*S	Sn	22 24 18.9	-7.5
ROSA				A	A	22 24 21.3	
	87nm,0.3s						
ROSA	**Rosais**	**1.49**	**92**	*e*P	Pn	22 24 02.5	-4.4
ROSA				*e*S	Sn	22 24 18.9	-7.5
PMAN	**Manadas**	**1.62**	**94**	*e*S	Sn	22 24 21.8	-7.7
PMAN				A	A	22 24 23.2	
	37nm,0.1s						
PMAN	**Manadas**	**1.62**	**94**	*e*S	Sn	22 24 21.8	-7.7
ADH	**Angra Heroismo**	**2.28**	**92**	*e*S	Sn	22 24 38.1	-7.8
ADH				A	A	22 24 39.9	
	22nm,0.3s						
ADH	**Angra Heroismo**	**2.28**	**92**	*e*S	Sn	22 24 38.1	-7.8

BJI ***12*** *22:44:25.2, 3˚.83S×144˚.89E, h33km, mb5.5/75, mB6.1/82, Ms5.8/90, Ms7 5.4/76*
IDC ***12*** *22:44:26.2±0.3, 3˚.65S×144˚.11E, h0km, mb5.3/32, mb1 5.3/35, mb1mx5.3/37, mbtmp5.3/35, ML4.7/3, MS5.4/18, Ms1 5.4/18, ms1mx5.4/21, Error ellipse: s-maj=12.0km s-min=8.5km az=75.0*
ISCJB ***12*** *22:44:27.8±0.8, 3˚.61S±0˚.02×144˚.15E±0˚.02, h21km±5km, mb5.7/242, MS5.7/484, Error ellipse: s-maj=3.6km s-min=3.0km az=32.2*

MOS ***12*** *22:44:27.4±1.2, 3˚.60S×144˚.08E, h16km, mb5.9/69, MS5.7/67, Error ellipse: s-maj=7.5km s-min=4.5km az=107.7*
NEIC ***12*** *22:44:28.1±0.1, 3˚.63S×144˚.18E, h14km, mb5.8/152, ME5.8, MS5.7/297, MW6.0, MW5.9, Error ellipse: s-maj=3.3km s-min=3.2km az=79.0 Best double couple: NP1:φs=77.00000°, δ26.00000°, λ56.00000°. NP2: φs=294.00000°, δ69.00000°, λ105.00000°. Principal axes: T 1.4800, Plg63.0000°, Azm228.0000°; N -0.1900, Plg14.0000°, Azm108.0000°; P -1.2900, Plg22.0000°, Azm12.0000°; Broadband fault plane solution: P waves. NP1:φs=65.00000°, δ54.00000°, λ31.00000°. NP2: φs=315.00000°, δ65.00000°, λ140.00000°. Principal axes: T Plg45.0000°, Azm275.0000°; N Plg0.0000°, Azm0.0000°; P Plg6.0000°, Azm12.0000°; Depth from synthetics of broadband displacement seismograms. Energy computed from BB mechanism.*
NEIC Felt at Wewak.
GCMT ***12*** *22:44:28.1±0.1, 3˚.48S×144˚.18E, h12km, MW5.9/137, Moment Tensor Solution. s137,c286; s132,c452; Duration: 2s2 Moment tensor: Scale 10¹⁸Nm; Mrr=0.79±.01; Mθθ=-0.81±.01; Mφφ=0.02±.01; Mrθ=-0.27±.01; Mrφ=0.33±.00; Mθφ=0.32±.01; Best double couple: M=0.95700×10¹⁸ NP1:φs=304.00000°, δ58.00000°, λ107.00000°. NP2:φs=94.00000°, δ35.00000°, λ65.00000°. Principal axes: T 0.9170, Plg71.0000°, Azm253.0000°; N 0.0800, Plg14.0000°, Azm114.0000°; P -0.9960, Plg12.0000°, Azm21.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*
DJA ***12*** *22:44:32.5±0.5, 4˚.S±4˚×14˚.4E±˚, h46km±5km, M5.7/30, mb5.7/30, mB6.1/28, MLv5.6/4, Mw(mB)5.7/28, Mwp6.0/6*
NEIC ***12*** *22:44:32.0±0.0, 3˚.38S×144˚.55E, h15km, Moment Tensor Solution. s32 Moment tensor: Scale 10¹⁷Nm; Mrr=5.98; Mθθ=-6.79; Mφφ=0.81; Mrθ=-5.72; Mφθ=0.64; Mφr=4.21; Best double couple: M=9.60000×10¹⁷ NP1:φs=297.00000°, δ70.00000°, λ108.00000°. NP2:φs=74.00000°, δ27.00000°, λ50.00000°. Principal axes: T 9.7500, Plg60.0000°, Azm233.0000°; N -0.3000, Plg16.0000°, Azm110.0000°; P -9.4400, Plg22.0000°, Azm13.0000°;*
ISC 12 22:44:30.8±0.3, 3˚.66S±0˚.03×144˚.24E±0˚.03, h31km±2km, h30km:pP-P, n1343, s1967/1278, mb5.8/255, MS5.7/487, 39C-35D, Near north coast of New Guinea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MANU	**Manus Island**	**3.51**	**63**	*e*Pn	**Pn**	**22 45 21.2**	**-2.0**
MANU				*e*Sn	Sn	22 45 50.0	-14
JAY	**Jayapura**	**3.71**	**288**	Pn	**Pn**	**22 45 23.3**	**-2.8**
	2.5nm,0.3s,baz=86,slow=23,SNR=37						
JAY				Sn	**Sn**	**22 46 08.3**	**-0.5**
	0.9nm,0.3s,baz=93,slow=24,SNR=1.8						
JAY	**Jayapura**	**3.71**	**288**	P	**Pn**	**22 45 23.4**	**-2.7**
GENI	**Genyem**	**4.20**	**284**	P	**Pn**	**22 45 30.3**	**-2.5**
SMPI	**Sarmi**	**5.77**	**287**	P	**Pn**	**22 45 53.0**	**-1.3**
	775nm,1.3s,14μm4.6nm						
PMG	**Port Moresby**	**6.41**	**153**	Pn	**Pn**	**22 46 05.5**	**+2.4**
	21nm,0.3s,baz=55,slow=1.8,SNR=33						
PMG				Sn	**Sn**	**22 47 19.0**	**+3.8**
	31nm,0.3s,baz=322,slow=22,SNR=1.3						
PMG				LR	LR	22 49 14.5	
	comp=Z,101μm,19.2s,baz=344,slow=44						
PMG	**Port Moresby**	**6.41**	**153**	*e*P	**Pn**	**22 46 05.3**	**+2.2**
PMG				pmax	pmax		
	comp=Z,2μm,1.0s						
PMG	**Port Moresby**	**6.41**	**153**	*e*Pn	**Pn**	**22 46 04.2**	**+1.1**
PMG				*e*Sn	**Sn**	**22 47 18.4**	**+3.2**
RABL	**Rabaul**	**7.92**	**94**	*e*Pn	**Pn**	**22 46 25.4**	**+1.5**
COEN	**Coen**	**10.29**	**186**	P	**Pn**	**22 46 58.9**	**+2.5**
	baz=10,SNR=32						
COEN	**Coen**	**10.29**	**186**	*e*Pn	**Pn**	**22 46 59.8**	**+3.3**
COEN				*e*Sn	**Sn**	**22 48 46.6**	**-4.2**
FAKI	**Fak Fak**	**12.00**	**273**	P	**Pn**	**22 47 19.3**	**-0.5**
	comp=Z,248nm,0.9s,comp=Z,4μmcomp=Z,20μm						
FAKI	**Fak Fak**	**12.00**	**273**	*e*Pn	**Pn**	**22 47 16.6**	**-3.3**
FAKI				*e*Sn	Sn	22 49 19.3	-13
SAUI	**Saumlaki**	**13.57**	**251**	*e*Pn	Pn	22 47 35.8	-5.6
MTSU	**Mount Surprise**	**14.39**	**180**	P	**Pn**	**22 47 54.9**	**+2.4**
	baz=14,SNR=11						
PALU	**Palau**	**14.64**	**318**	P	**Pn**	**22 47 58.2**	**+2.2**
	baz=15,SNR=44						
KDU	**Kakadu**	**14.70**	**232**	P	**Pn**	**22 47 55.5**	**-1.2**
	baz=15,SNR=26						
MSAI	**Masohi**	**15.29**	**271**	P	**Pn**	**22 47 57.6**	**-7.0**
MTN	**Manton Dam**	**15.85**	**234**	P	**Pn**	**22 48 10.4**	**-1.6**
	baz=16,SNR=29						
MTN	**Manton Dam**	**15.85**	**234**	*e*Pn	**Pn**	**22 48 10.3**	**-1.6**
	comp=Z,163nm,0.6s						
MTN				*e*Sn	Sn	22 50 50.4	-16
AAI	**Ambon**	**16.02**	**269**	P	**Pn**	**22 48 14.0**	**0.0**
CTA	**Charters Tower**	**16.45**	**173**	Pn	**P**	**22 48 20.9**	**-1.1**
	comp=Z,0.4nm,0.3s,baz=347,slow=11,SNR=7.1						
CTA				PcP	**PcP**	**22 53 12.2**	**+1.4**
	comp=Z,0.4nm,0.3s,baz=173,slow=2.3,SNR=4.1						
CTAO	**Charters Tower**	**16.45**	**173**	*e*P	**Pn**	**22 48 17.8**	**-1.7**
CTAO				pmax	pmax		
	comp=Z,205nm,1.2s						
CTAO	**Charters Tower**	**16.45**	**173**	*e*Pn	**Pn**	**22 48 17.8**	**-1.7**
	comp=Z,205nm,1.2s						
HNR	**Honiara**	**16.62**	**111**	Pn	**P**	**22 48 22.9**	**-1.0**
	comp=Z,8.1nm,0.3s,baz=191,slow=5.0,SNR=17						
HNR	**Honiara**	**16.62**	**111**	*e*P	**Pn**	**22 48 20.0**	**-1.7**
HNR	**Honiara**	**16.62**	**111**	*e*Pn	**P**	**22 48 22.8**	**-1.0**
	comp=Z,2μm,1.3s						
HNR				*e*Sn	Sn	22 51 14.2	-11
LBMI	**Labuha**	**16.99**	**280**	P	**Pn**	**22 48 25.4**	**-1.0**
	comp=Z,523nm,0.9s,comp=Z,12μm						
NLAI	**Namlea**	**17.12**	**271**	P	**Pn**	**22 48 27.8**	**-0.1**
GUMO	**Guam**	**17.14**	**2**	P	**P**	**22 48 29.5**	**-0.1**
	comp=Z,3.1nm,0.3s,baz=192,slow=4.2,SNR=11						
GUMO	**Guam**	**17.14**	**2**	*e*P	**P**	**22 48 29.9**	**+0.2**
GUMO				pmax	pmax		
	comp=Z,2μm,1.3s						
GUMO	**Guam**	**17.14**	**2**	*e*Pn	**P**	**22 48 29.4**	**-0.2**
	comp=Z,2μm,1.3s						
GUMO				*e*Sn	Sn	22 51 20.6	-18
QIS	**Mount Isa**	**17.40**	**195**	P	**P**	**22 48 33.6**	**+1.1**
	baz=17,SNR=16						
PATS	**Pohnpei**	**17.49**	**53**	P	**P**	**22 48 34.9**	**+1.4**
	baz=18,SNR=12						
PATS	**Pohnpei**	**17.49**	**53**	*e*Pn	**P**	**22 48 33.4**	**-0.1**
	comp=Z,951nm,1.2s						
SANI	**Sanana**	**18.30**	**275**	P	**P**	**22 48 40.2**	**-2.3**
WRAB	**Tennant Creek**	**18.84**	**210**	*i*P	**P**	**22 48 48.2**	**-0.2**
WRAB				pmax	pmax		
	comp=Z,340nm,1.0s						
WRAB				MLR	MLR		
	comp=Z,84μm,17.0s						
WRAB	**Tennant Creek**	**18.84**	**210**	*e*P	**P**	**22 48 48.1**	**-0.3**
	comp=Z,236nm,0.9s						
WB2	**Warramunga Arr**	**18.84**	**210**	*e*P	**P**	**22 48 47.9**	**-0.5**
WRA	**Warramunga Arr**	**18.85**	**210**	P	**P**	**22 48 48.4**	**-0.1**
	comp=Z,3.3nm,0.3s,baz=32,slow=12,SNR=40						
WRA				PcP	**PcP**	**22 53 15.9**	**+1.2**
	comp=Z,1.1nm,0.3s,baz=9.2,slow=1.3,SNR=8.5						
WRA				LR	LR	22 57 00.4	
	comp=Z,36μm,19.6s,baz=35,slow=40						
WRA	**Warramunga Arr**	**18.85**	**210**	P	**P**	**22 48 48.4**	**-0.1**
WRA				pmax	pmax		
	comp=Z,3.0nm,0.3s						
WRA				pmax	pmax		
	comp=Z,1.0nm,0.3s						
WRA				MLR	MLR		
	comp=Z,36μm,19.6s						
KNRA	**Kununurra**	**19.36**	**231**	P	**Pn**	**22 48 54.9**	**-0.4**
	baz=19,SNR=20						
SGSI	**Sangihe**	**20.07**	**291**	P	**P**	**22 49 02.6**	**+0.7**
SOEI	**Soe**	**20.73**	**252**	P	**P**	**22 49 08.1**	**-1.1**
	comp=Z,1μm,0.9s,comp=Z,23μm						
SOEI	**Soe**	**20.73**	**252**	*e*P	**P**	**22 49 09.7**	**+0.4**
	comp=Z,1μm,1.1s						
BATI	**Baumata**	**21.43**	**251**	P	**P**	**22 49 16.7**	**+0.1**
DAV	**Davao City (W)**	**21.46**	**300**	*i*P	**P**	**22 49 12.9**	**-4.0**
DAV	**Davao City (W)**	**21.46**	**300**	*e*P	**P**	**22 49 14.0**	**-2.9**
	comp=Z,318nm,0.8s						
DAV				LR	LR		
	comp=Z,9μm,18.0s						
KDI	**Kendari**	**21.58**	**268**	P	**P**	**22 49 19.5**	**+1.3**
LUWI	**Luwuk**	**21.61**	**276**	*e*P	**P**	**22 49 18.6**	**+0.1**
	comp=Z,1μm,0.9s						
BBSI	**Bau Bau**	**21.68**	**264**	P	**P**	**22 49 22.6**	**+3.3**
AS01	**Alice Springs**	**22.24**	**206**	*e*P	**P**	**22 49 24.4**	**-0.9**
AS31	**Alice Springs**	**22.26**	**206**	*e*P	**P**	**22 49 24.9**	**-0.6**
	comp=Z,174nm,1.4s						
AS31				*e*S	**S**	**22 53 23.1**	**-5.8**
AS31				LR	LR		
	comp=Z,1μm,19.0s						
ASAR	**Alice Springs**	**22.26**	**206**	P	**P**	**22 49 23.4**	**-2.0**
	comp=Z,24nm,0.7s,baz=33,slow=9.0,SNR=45						
ASAR				PcP	**PcP**	**22 53 22.4**	**+1.2**
	comp=Z,30nm,0.8s,baz=25,slow=2.2,SNR=10.0						
ASAR				S	**S**	**22 53 28.8**	**-0.1**
	comp=Z,20nm,1.0s,baz=24,slow=20,SNR=4.1						
ASAR				LR	LR	22 58 46.0	
	comp=Z,49μm,18.1s,baz=34,slow=39						
ASAR	**Alice Springs**	**22.26**	**206**	P	**P**	**22 49 23.5**	**-2.0**
ASAR						22 53 22.4	
ASAR				S	**S**	**22 53 28.8**	**-0.1**
ASAR				pmax	pmax		
	comp=Z,21nm,0.7s						
ASAR				smax	smax		
	comp=N,20nm,1.0s						
ASAR				MLR	MLR		
	comp=Z,49μm,18.1s						
MMRI	**Maumere**	**22.42**	**256**	P	**P**	**22 49 25.9**	**-1.4**
MMRI	**Maumere**	**22.42**	**256**	*e*P	**P**	**22 49 25.8**	**-1.5**
	comp=Z,345nm,1.0s						
MMRI				LR	LR		
	comp=Z,5μm,21.0s						
EIDS	**Eidsvold**	**22.57**	**164**	P	**P**	**22 49 30.4**	**+1.7**
	baz=23,SNR=17						
EIDS	**Eidsvold**	**22.57**	**164**	*e*P	**P**	**22 49 30.4**	**+1.7**
	comp=Z,283nm,1.1s						
MRSI	**Marisa**	**22.66**	**280**	P	**P**	**22 49 27.7**	**-2.1**
QLP	**Quilpie**	**22.80**	**180**	P	**P**	**22 49 33.2**	**+2.1**
	baz=23,SNR=18						
RMQ	**Roma**	**23.11**	**170**	P	**P**	**22 49 35.8**	**+1.5**
	baz=23,SNR=100						
FITZ	**Fitzroy Crossi**	**23.20**	**230**	P	**P**	**22 49 34.2**	**-1.1**
	comp=Z,99nm,0.8s,baz=54,slow=9.6,SNR=52						
FITZ				PcP	**PcP**	**22 53 25.1**	**+2.1**
	comp=Z,42nm,0.8s,baz=55,slow=2.8,SNR=3.5						
FITZ				LR	LR	22 58 49.7	
	comp=Z,18μm,18.6s,baz=54,slow=37						
FITZ	**Fitzroy Crossi**	**23.20**	**230**	P	**P**	**22 49 33.6**	**-1.7**
	baz=23,SNR=74						
FITZ	**Fitzroy Crossi**	**23.20**	**230**	*e*P	**P**	**22 49 34.0**	**-1.2**
	comp=Z,2μm,2.0s						
FITZ				PcP	**PcP**	**22 53 25.1**	**+2.1**
BSSI	**Bau Bau, Buton**	**23.79**	**263**	P	**P**	**22 49 39.7**	**-1.4**
	comp=Z,607nm,1.5s,comp=Z,15μm						
PLP	**Palo**	**24.17**	**308**	*i*P	**P**	**22 49 41.5**	**-3.1**
BASI	**Baing, Sumba**	**24.37**	**253**	P	**P**	**22 49 45.6**	**-0.8**
	comp=Z,2μm,1.4s,comp=Z,23μm						
TTSI	**Tana Toraja**	**24.39**	**271**	P	**P**	**22 49 46.6**	**0.0**
SPSI	**Sidrap Palu**	**24.42**	**268**	P	**P**	**22 49 46.1**	**-0.8**
KAPI	**Kappang**	**24.46**	**266**	*e*P	**P**	**22 49 46.5**	**-0.7**
	comp=Z,121nm,0.8s						
PCI	**Palu**	**24.54**	**276**	P	**P**	**22 49 49.1**	**+1.1**
RCP	**Roxas**	**26.19**	**306**	*i*P	**P**	**22 50 02.6**	**-0.4**
WRKA	**Warakurna**	**26.22**	**214**	P	**P**	**22 50 03.4**	**+0.2**
	baz=26,SNR=190						
KWAJ	**Kwajalein Atol**	**26.38**	**62**	*e*P	**P**	**22 50 05.7**	**+1.0**
KWAJ				pmax	pmax		
	comp=Z,445nm,1.1s						
KWAJ	**Kwajalein Atol**	**26.38**	**62**	*e*P	**P**	**22 50 05.7**	**+1.0**
	comp=Z,446nm,1.1s						
PLAI	**Plampang**	**26.80**	**258**	P	**P**	**22 50 05.6**	**-2.9**
MYLDM	**Lahad Datu**	**27.17**	**289**	*e*P	**P**	**22 50 11.8**	**0.0**
	comp=Z,629nm,1.2s						
ARMA	**Armidale**	**27.52**	**166**	P	**P**	**22 50 15.5**	**+0.6**
	baz=28,SNR=14						
ARMA	**Armidale**	**27.52**	**166**	*e*P	**P**	**22 50 14.2**	**-0.7**
	comp=Z,106nm,1.0s						
TWSI	**Taliwang, Sumb**	**27.66**	**258**	P	**P**	**22 50 13.1**	**-3.1**
CMSA	**Cobar Meteorol**	**27.77**	**177**	P	**P**	**22 50 18.0**	**+1.0**
	baz=28,SNR=26						
STKA	**Stephens Creek**	**28.18**	**185**	P	**P**	**22 50 20.1**	**-0.5**
	comp=Z,21nm,0.8s,baz=351,slow=9.1,SNR=23						
STKA				LR	LR	23 02 59.2	
	comp=Z,25μm,18.0s,baz=1.2,slow=40						
STKA	**Stephens Creek**	**28.18**	**185**	*e*P	**P**	**22 50 20.2**	**-0.5**
	comp=Z,15nm,1.1s						
DZM	**Mont Dzumac**	**28.27**	**132**	P	**P**	**22 50 21.3**	**-0.4**
	comp=Z,14nm,0.7s,baz=328,slow=22,SNR=9.2						
DZM				PcP	**PcP**	**22 53 37.2**	**+2.5**
	comp=Z,28nm,1.0s,baz=312,slow=2.6,SNR=6.1						
DZM	**Mont Dzumac**	**28.27**	**132**	*e*P	**P**	**22 50 23.0**	**+1.3**
	comp=Z,201nm,1.3s						
DZM				*e*S	**S**	**22 55 04.5**	**-1.6**
	comp=Z,4μm,25.7s						
DZM				*e*LR	LR	22 57 35.9	
	comp=Z,20μm,21.3s						
DZM	**Mont Dzumac**	**28.27**	**132**	*e*P	**P**	**22 50 20.7**	**-1.0**
	comp=Z,109nm,1.3s						
DZM				*e*PcP	**PcP**	**22 53 35.6**	**+0.9**
DZM				LR	LR		
	comp=Z,20μm,20.0s						
TGY	**Tagaytay City**	**29.08**	**308**	P	**P**	**22 50 28.4**	**-0.5**
	comp=Z,118nm,0.3s,baz=210,slow=1.0,SNR=13						
TARA	**Tarawa**	**29.09**	**81**	PFAKE		22 50 40.0

MEEK Meekatharra 33.53 225 P **P** **22 51 08.5 +0.6**
baz=34,SNR=18
TOO Toolangi 33.77 178 P **P** **22 51 12.6 +2.6**
baz=34,SNR=7.1
UGM Wanagama 33.80 261 PFAKE 22 51 20.0 +9.5
UGM LR LR
comp=Z,4µm,19.0s
SMRI Semarang 33.81 263 *e*P **P** **22 51 10.3 -0.3**
comp=Z,96nm,0.8s
JOW Kunigami 34.01 334 P **P** **22 51 12.2 +0.1**
comp=Z,35nm,0.8s,baz=148,slow=6.1,SNR=4.2
JOW LR LR 23 01 51.6
comp=Z,7µm,21.2s,baz=140,slow=31
KSM Kuching 34.30 278 *e*P **P** **22 51 13.4 -1.4**
comp=Z,95nm,1.1s
GIRL Giralia 34.65 234 P **P** **22 51 18.7 +1.0**
baz=35,SNR=7.5
KMBL Kambalda 34.69 215 P **P** **22 51 18.7 +0.8**
baz=35,SNR=23
TWG Pinlang 34.70 320 PFAKE 22 51 30.0 +12
TWG LR LR
comp=Z,15µm,19.0s
YOJ Yonaguni jima 34.75 325 *e*P **P** **22 51 17.1 -1.4**
YOJ pmax pmax
comp=Z,190nm,1.0s
YOJ MLR MLR
comp=Z,7µm,21.0s
YOJ Yonaguni jima 34.75 325 *e*P **P** **22 51 17.1 -1.4**
comp=Z,190nm,1.0s
YOJ LR LR
comp=Z,7µm,21.0s
YULB Yu-li 34.98 321 *e*P **P** **22 51 19.1 -1.4**
comp=Z,186nm,1.8s
YULB LR LR
comp=Z,5µm,19.0s
TPUB Ta-pu 35.33 320 *e*P **P** **22 51 22.2 -1.3**
comp=Z,51nm,1.0s
TPUB LR LR
comp=Z,5µm,18.0s
NACB Ninganchiao 35.37 323 *e*P **P** **22 51 24.5 +0.6**
comp=Z,277nm,1.5s
SSLB Suanglung 35.48 321 *e*P **P** **22 51 25.9 +1.0**
comp=Z,35nm,1.0s
SSLB LR LR
comp=Z,6µm,18.0s
YHNB Yeheng 35.87 323 *e*P **P** **22 51 29.2 +0.9**
comp=Z,176nm,1.1s
YHNB LR LR
comp=Z,6µm,21.0s
MSVF Nonsavu 35.95 115 *e*P **P** **22 51 30.2 +1.1**
MSVF pmax pmax
comp=Z,670nm,1.9s
MSVF Nonsavu 35.95 115 *e*P **P** **22 51 30.2 +1.1**
comp=Z,668nm,1.9s
MSVF LR LR
comp=Z,8µm,18.0s
TATO Taipei 36.03 323 *e*P **P** **22 51 29.7 +0.2**
comp=Z,310nm,1.0s
TATO LR LR
comp=Z,6µm,21.0s
TATO Taipei 36.03 323 P **P** **22 51 32.0 +2.5**
SNR=5.6
TATO P **P** **22 51 32.0 +2.5**
SNR=5.6
CISI Cisompet, Garu 36.45 262 *e*P **P** **22 51 30.4 -3.0**
comp=Z,323nm,0.8s
JHJ2 Mitsune 36.81 354 PFAKE 22 51 50.0 +14
JHJ2 LR LR
comp=Z,8µm,18.0s
MORW Morawa 36.82 224 P **P** **22 51 37.5 +1.2**
baz=37,SNR=12
JHJ Hachijo jima 2 36.82 354 LR LR 23 05 42.5
comp=Z,3µm,20.9s,baz=171,slow=35
KLBR Kellerberrin 37.32 219 P **P** **22 51 39.7 -0.8**
baz=37,SNR=26
BLDU Ballidu 37.34 221 P **P** **22 51 40.1 -0.6**
baz=37,SNR=22
QZH Quanzhou 37.80 320⇑*i*P **P** **22 51 44.3 -0.3**
QZH S **S** **22 57 29.4 -4.3**
QZH pmax pmax
comp=Z,200nm,0.9s
QZH pmax pmax
comp=Z,6µm,9.9s
QZH LR LR
comp=Z,7µm,15.8s
QZH LR LR
comp=Z,7µm,14.7s
QZH LR LR
comp=Z,7µm,23.1s
NWAO Narrogin (SRO) 38.55 218 P **P** **22 51 51.2 +0.4**
comp=Z,28nm,0.9s,baz=279,slow=7.9,SNR=9.5
NWAO PcP **PcP** **22 54 04.2 +1.0**
comp=Z,46nm,0.7s,baz=297,slow=5.2,SNR=5.7
NWAO Narrogin (SRO) 38.55 218 P **P** **22 51 52.2 +1.4**
baz=39,SNR=6.6
NWAO P **P** **22 51 52.2 +1.4**
baz=39,SNR=6.6
NWAO Narrogin (SRO) 38.55 218 *e*P **P** **22 51 49.9 -0.9**
NWAO 22 54 04.2
NWAO pmax pmax
comp=Z,70nm,1.0s
NWAO MLR MLR
comp=Z,27µm,18.0s
NWAO Narrogin (SRO) 38.55 218 *e*P **P** **22 51 49.9 -0.9**
comp=Z,70nm,1.0s
NWAO PcP **PcP** **22 54 04.2 +1.0**
NWAO LR LR
comp=Z,27µm,18.0s
JNU Nakatsue 38.70 342 P **P** **22 51 50.8 -1.3**
comp=Z,14nm,0.7s,baz=129,slow=2.9,SNR=17
JNU PcP **PcP** **22 54 04.8 +1.1**
comp=Z,12nm,0.8s,baz=153,slow=2.9,SNR=3.8
JNU Nakatsue 38.70 342 *e*P **P** **22 51 50.7 -1.4**
comp=Z,70nm,1.1s
JNU PcP **PcP** **22 54 04.8 +1.1**
MOO Moorlands 38.71 177 P **P** **22 51 53.8 +1.8**
baz=39,SNR=6.6
XMIS Christmas Isla 38.86 258 PFAKE 22 52 00.0 +6.3
XMIS LR LR
comp=Z,3µm,22.0s
HKC Hong Kong Obse 39.11 313⇑P **P** **22 51 59.0 +3.4**
TAU Tasmania Unive 39.18 176 PFAKE 22 52 10.0 +14
TAU LR LR
comp=Z,18µm,18.0s
INU Inuyama 39.39 351 *e*P **P** **22 51 57.1 -0.6**
comp=Z,63nm,1.4s
INU LR LR
comp=Z,6µm,20.0s
MCO Taipa Grande 39.45 312 P **P** **22 52 02.0 +3.5**
RKGY Rocky Gully 39.87 216 P **P** **22 52 02.8 +0.9**
baz=40,SNR=5.0
GZH Guangzhou 40.19 313 P **P** **22 52 04.5 -0.1**
GZH PP **PnPn** **22 53 41.6 +0.4**
GZH S **S** **22 58 16.1 +6.4**
GZH pmax pmax
comp=Z,6µm,8.1s
MJAR Matsushiro Arr 40.38 352 P **P** **22 52 04.8 -1.3**
comp=Z,6.8nm,0.8s,baz=174,slow=8.7,SNR=22
MJAR LR LR 23 08 53.0
comp=Z,1µm,19.6s,baz=160,slow=36
MAJO Matsushiro 40.38 352⇓*i*P **P** **22 52 05.4 -0.7**
MAJO pmax pmax
comp=Z,350nm,1.7s
MAJO MLR MLR
comp=Z,20µm,19.0s
MAJO Matsushiro 40.38 352 *e*P **P** **22 52 05.7 -0.3**
comp=Z,60nm,1.0s
MAJO LR LR
comp=Z,4µm,20.0s
MAT Matsushiro 40.38 352 P **P** **22 52 04.9 -1.2**
MAT S **S** **22 58 15.4 +3.1**
MJB9 Matsu-Tunnel 40.39 352 *e*P **P** **22 52 05.8 -0.3**
comp=Z,16nm,1.0s
MJB9 LR LR
comp=Z,1µm,20.0s
QIZ Qiongzhong 40.67 305 P **P** **22 52 10.4 +1.7**
QIZ pP **pP** **22 52 19.7 +1.9**
QIZ PP **PnPn** **22 53 47.8 +0.9**
QIZ S **S** **22 58 19.1 +2.1**
QIZ sS **sS** **22 58 33.9 +1.8**
QIZ SS **SS** **23 01 21.1 +2.9**
QIZ pmax pmax
comp=Z,83nm,1.9s
QIZ LR LR
comp=Z,2µm,18.7s
QIZ LR LR
comp=Z,3µm,20.5s

QIZ Qiongzhong 40.67 305 *e*P **P** **22 52 09.1 +0.4**
comp=Z,98nm,1.1s
QIZ LR LR
comp=Z,4µm,19.0s
MYKOM Kota Tinggi 40.73 277 *e*P **P** **22 52 07.6 -1.7**
comp=Z,34nm,1.0s
MYKOM LR LR
comp=Z,2µm,19.0s
SSE Sheshan 40.96 329⇑P **P** **22 52 11.2 +0.4**
SSE pP **pP** **22 52 19.3 -0.7**
SSE PP **PP** **22 53 45.6 -0.1**
SSE S **S** **22 58 22.6 +1.6**
SSE sS **sS** **22 58 38.7 +2.6**
SSE pmax pmax
comp=Z,18nm,0.8s
SSE pmax pmax
comp=Z,2µm,8.2s
SSE LR LR
comp=Z,2µm,17.0s
SSE LR LR
comp=Z,6µm,17.0s
SSE LR LR
comp=Z,3µm,20.3s
OUZ Omahuta 41.53 143 PFAKE 22 52 30.0 +14
OUZ LR LR
comp=Z,10µm,20.0s
NJ2 Nanjing 42.93 328 *e*P **P** **22 52 27.5 +0.6**
NJ2 pP **pP** **22 52 33.1 -3.1**
NJ2 PcP **PcP** **22 54 19.8 +2.5**
NJ2 S **S** **22 58 55.6 +5.5**
NJ2 sS **sS** **22 59 08.5 +3.2**
NJ2 SS **SS** **23 02 05.0 +2.4**
NJ2 pmax pmax
comp=Z,65nm,1.5s
NJ2 pmax pmax
comp=Z,2µm,5.3s
NJ2 LR LR
comp=Z,5µm,20.3s
NJ2 LR LR
comp=Z,5µm,21.9s
NJ2 LR LR
comp=Z,4µm,18.7s
BKNI Bangkinang 43.36 274 *e*P **P** **22 52 30.3 -0.4**
comp=Z,338nm,0.9s
KSRS Korea Array 43.63 341 P **P** **22 52 31.2 -1.2**
comp=Z,60nm,0.7s,baz=161,slow=9.1,SNR=125
KSRS PcP **PcP** **22 54 22.1 +2.6**
comp=Z,8.5nm,0.9s,baz=167,slow=3.9,SNR=5.5
KSRS PKiKP **PKiKP** **23 01 22.1 +0.3**
comp=Z,0.6nm,0.6s,baz=234,slow=0.6,SNR=4.7
KSRS LR LR 23 07 29.9
comp=Z,5µm,21.2s,baz=154,slow=32
KSRS Korea Array 43.63 341 P **P** **22 52 31.2 -1.2**
KSRS 22 54 22.2
KSRS pmax pmax
comp=Z,61nm,0.7s
KS15 Wonju Array Si 43.63 341 *e*P **P** **22 52 31.8 -0.7**
KSAR Wonju Array Be 43.63 341 P **P** **22 52 31.2 -1.3**
KSAR 22 54 22.2
KSAR Wonju Array Be 43.63 341 P **P** **22 52 31.2 -1.3**
KSAR PcP **PcP** **22 54 22.1 +2.6**
KSAR PKiKP **PKiKP** **23 01 22.1 +0.2**
KS01 Wonju Array Si 43.66 341 *e*P **P** **22 52 32.0 -0.7**
IPM Ipoh 43.93 280 *e*P **P** **22 52 32.9 -2.5**
comp=Z,41nm,1.1s
INCN Inchon 44.08 340 *e*P **P** **22 52 36.1 -0.1**
comp=Z,325nm,1.6s
WHN Wuhan 44.40 322⇓*i*P **P** **22 52 42.6 +3.8**
WHN pmax pmax
comp=Z,510nm,1.6s
WHN LR LR
comp=Z,8µm,16.3s
WHN LR LR
comp=Z,5µm,12.0s
WHN LR LR
comp=Z,7µm,16.5s
KULM Kulim 44.44 281 *e*P **P** **22 52 38.3 -1.1**
comp=Z,54nm,1.3s
KULM LR LR
comp=Z,2µm,19.0s
HIZ Hauiti 44.51 145 PFAKE 22 52 50.0 +10
HIZ LR LR
comp=Z,11µm,18.0s
AFI Afiamalu 44.56 106 P **P** **22 52 41.3 +0.9**
comp=Z,60nm,1.0s,baz=284,slow=16,SNR=4.7
AFI Afiamalu 44.56 106 *e*P **P** **22 52 40.8 +0.3**
AFI pmax pmax
comp=Z,174nm,1.1s
AFI Afiamalu 44.56 106 *e*P **P** **22 52 40.8 +0.3**
comp=Z,174nm,1.1s
CHBT CHBT 44.71 292 P **P** **22 52 42.6 +1.1**
comp=Z,256nm,1.8s
SKNT Sakolnakorn 44.73 299 P **P** **22 52 41.7 0.0**
comp=Z,110nm,0.8s,comp=Z,5µm
SKLT Songkhla 44.84 284 P **P** **22 52 43.5 +0.9**
comp=Z,93nm,1.2s,comp=Z,3µm
ERM Erimo 45.47 359⇑*i*P **P** **22 52 48.5 +1.4**
ERM pmax pmax
comp=Z,78nm,1.8s
ERM Erimo 45.47 359 *e*P **P** **22 52 47.4 +0.3**
comp=Z,83nm,1.1s
URZ Urewera 45.66 143 P **P** **22 52 49.9 +1.2**
comp=Z,3.7nm,0.4s,baz=307,slow=5.8,SNR=4.1
URZ PcP **PcP** **22 54 25.8 -0.8**
comp=Z,23nm,0.9s,baz=3.3,slow=4.9,SNR=3.6
URZ Urewera 45.66 143 P **P** **22 52 49.9 +1.2**
URZ PcP **PcP** **22 54 25.8 -0.8**
URZ LR LR
comp=Z,6µm,20.0s
PSI Prapat 45.74 277 P **P** **22 52 48.5 -1.5**
comp=Z,68nm,0.8s,baz=85,slow=4.2,SNR=50
PSI Prapat 45.74 277 *e*P **P** **22 52 48.2 -1.8**
PSI pmax pmax
comp=Z,210nm,1.1s
PSI Prapat 45.74 277 *e*P **P** **22 52 48.2 -1.8**
comp=Z,212nm,1.1s
THZ Tophouse 45.80 150 PFAKE 22 53 00.0 +10
THZ LR LR
comp=Z,6µm,19.0s
TRTT Trang 45.89 285 P **P** **22 52 51.8 +0.9**
comp=Z,235nm,0.8s,comp=Z,2µm
BKZ Black Stump Fm 45.90 145 *e*P **P** **22 52 49.7 -1.0**
comp=Z,152nm,1.2s
BKZ LR LR
comp=Z,8µm,20.0s
MXZ Matakaoa Point 45.94 142 PFAKE 22 53 00.0 +9.1
MXZ LR LR
comp=Z,9µm,18.0s
PATY Pattaya 46.12 292 P **P** **22 52 56.8 +4.1**
comp=Z,17nm,0.8s
NAYO Nakonayok 46.14 294 P **P** **22 52 55.0 +2.1**
comp=Z,124nm,0.7s,comp=Z,10µm
DCZ Deep Cove 46.22 158 *e*P **P** **22 52 53.6 +0.6**
comp=Z,103nm,1.1s
LTZ Lake Taylor 46.26 151 *e*P **P** **22 52 55.0 +1.5**
comp=Z,149nm,1.3s
RPZ Rata Peaks 46.41 153 P **P** **22 52 55.5 +0.9**
comp=Z,71nm,0.9s,baz=349,slow=4.4,SNR=12
RPZ Rata Peaks 46.41 153 *e*P **P** **22 52 55.7 +1.1**
comp=Z,128nm,0.9s
KRAB Krabi 46.45 285 P **P** **22 52 56.1 +0.8**
comp=Z,61nm,0.8s,comp=Z,808nm
MLZ Mavora Lakes 46.51 157 *e*P **P** **22 52 57.1 +1.8**
comp=Z,172nm,1.2s
LBZ Lake Benmore 46.56 154 *e*P **P** **22 52 55.4 -0.3**
comp=Z,105nm,1.1s
LBZ LR LR
comp=Z,6µm,20.0s
OXZ Oxford 46.56 152 *e*P **P** **22 52 56.6 +0.8**
OXZ LR LR
comp=Z,8µm,20.0s
SLVN Son La 46.66 304 *e*P **P** **22 52 57.7 +0.8**
comp=Z,98nm,0.9s
SLVN LR LR
comp=Z,3µm,19.0s
BFZ Birch Farm 46.78 146 *e*P **P** **22 52 58.5 +1.0**
comp=Z,201nm,1.2s
BFZ LR LR
comp=Z,14µm,18.0s
WHZ Wether Hill Ro 46.88 157 *e*P **P** **22 52 59.1 +0.9**
comp=Z,66nm,0.8s
TIA Tai'an 47.07 330⇑P **P** **22 52 59.2 -0.6**
TIA PP **PP** **22 54 47.7 -3.2**
TIA S **S** **22 59 55.7 +5.7**
TIA pmax pmax
comp=Z,120nm,1.0s
TIA pmax pmax
comp=Z,3µm,8.0s
TIA LR LR
comp=Z,5µm,19.0s
TIA LR LR
comp=Z,7µm,18.0s
TIA LR LR
comp=Z,5µm,21.0s
GYA Guiyang 47.08 312⇑*i*P **P** **22 53 00.6 +0.4**
GYA pP pP 22 53 11.2 +1.7
GYA PcP **PcP** **22 54 33.0 +1.0**
GYA PP **PP** **22 54 51.9 +0.6**
GYA ScP **ScP** **22 58 22.6 -1.2**
GYA S **S** **22 59 50.4 -0.3**
GYA sS sS 23 00 06.8 +0.8
GYA SS **SS** **23 03 11.2 -7.0**
GYA pmax pmax
comp=Z,60nm,0.8s
GYA pmax pmax
comp=Z,3µm,10.3s
GYA LR LR
comp=Z,4µm,18.9s
GYA LR LR
comp=Z,3µm,19.2s
GYA LR LR
comp=Z,2µm,19.0s
DL2 Dalian 47.22 336⇑*i*P **P** **22 53 00.5 -0.4**
DL2 PP **PP** **22 54 48.7 -3.6**
DL2 S **S** **22 59 50.3 -1.7**
DL2 pmax pmax
comp=Z,100nm,1.3s
DL2 pmax pmax
comp=Z,3µm,9.0s
DL2 LR LR
comp=Z,3µm,20.0s
DL2 LR LR
comp=Z,3µm,20.8s
DL2 LR LR
comp=Z,6µm,22.9s
PBKT Sadao Pong 47.24 296 P **P** **22 53 03.8 +2.3**
comp=Z,210nm,1.8s,comp=Z,3µm
PHET Kaeng Krachan 47.26 291 P **P** **22 53 03.0 +1.3**
comp=Z,43nm,0.8s,comp=Z,340nm
ENH Enshi 47.34 318 *e*P **P** **22 53 02.3 +0.1**
comp=Z,353nm,1.8s
ENH *e*PcP **PcP** **22 54 34.0 +1.2**
ENH LR LR
comp=Z,3µm,21.0s
YUK Yuzh-Kuril'sk 47.50 2⇓*i*P **P** **22 53 04.3 +1.3**
MSHR Mys Shultsa 47.52 347*c i*P **P** **22 53 02.5 -0.7**
ASAJ Asahikawa 47.58 358 *e*P **P** **22 53 03.3 -0.3**
comp=Z,194nm,1.2s
COCO West Island 47.65 257 *e*P **P** **22 53 01.2 -3.5**
COCO pmax pmax
comp=Z,289nm,1.0s
COCO West Island 47.65 257 *e*P **P** **22 53 01.2 -3.5**
comp=Z,289nm,1.0s
VLA Vladivostok 47.88 348⇓*e*P **P** **22 53 07.8 +1.8**
VLA pmax pmax
comp=Z,50nm,0.7s
VLA MLR MLR
comp=Z,2µm,16.0s
UTTA Uttaradit 48.04 298 P **P** **22 53 09.0 +1.3**
comp=Z,17nm,0.9s,comp=Z,168nm
LHMI Lhok Sumawe 48.06 280 *e*P **P** **22 53 07.2 -0.7**
comp=Z,144nm,0.9s
SRDT SRDT 48.17 293 P **P** **22 53 11.1 +2.4**
comp=Z,691nm,1.6s,comp=Z,6µm
NANT Nan 48.32 299 P **P** **22 53 11.3 +1.5**
comp=Z,25nm,1.1s,comp=Z,280nm
MIDW Midway 48.66 47 PFAKE 22 53 20.0 +7.8
MIDW LR LR
comp=Z,4µm,20.0s
KUR Kuril'sk 48.78 3*d i*P **P** **22 53 14.8 +1.9**
KUR *e* 22 54 38.2
KUR *e* 22 55 07.8
KUR *i*S **S** **23 00 16.4 +2.6**
KUR pmax pmax
comp=Z,570nm,1.4s
KUR pmax pmax
comp=E,102nm,1.5s
KUR pmax pmax
comp=N,288nm,1.6s
KUR pmax pmax
comp=Z,5µm,4.4s
KUR pmax pmax
comp=N,2µm,4.1s
KUR pmax pmax
comp=E,1µm,4.3s
KUR MLR MLR
comp=Z,1µm,13.0s
KUR MLR MLR
comp=N,862nm,21.0s
KUR MLR MLR
comp=E,292nm,13.0s
USRK Ussuriysk Ar. 48.89 348 P **P** **22 53 12.7 -1.1**
comp=E,25nm,0.6s,baz=173,slow=8.5,SNR=36
UMPA Umpang Tak 49.01 295 P **P** **22 53 16.8 +1.6**
comp=E,23nm,0.9s,comp=E,227nm
SNY Shenyang 49.02 340⇓P **P** **22 53 16.1 +1.3**
SNY S **S** **23 00 19.6 +2.3**
SNY pmax pmax
comp=E,110nm,2.5s
SNY pmax pmax
comp=E,3µm,8.8s
SNY LR LR
comp=E,5µm,14.9s
SNY LR LR
comp=E,4µm,15.3s
SNY LR LR
comp=E,7µm,35.6s
LAMP Lampang 49.15 298 P **P** **22 53 18.1 +1.9**
comp=E,30nm,1.0s,comp=E,274nm
KMI Kunming 49.40 308 P **P** **22 53 17.2 -1.1**
KMI pP pP 22 53 27.2 -0.4
KMI PP **PP** **22 55 15.5 +2.9**
KMI S **S** **23 00 20.7 -3.0**
KMI sS sS 23 00 38.6 -0.5
KMI SS **SS** **23 03 54.7 -1.2**
KMI pmax pmax
comp=E,62nm,1.5s
KMI pmax pmax
comp=E,3µm,9.7s
KMI LR LR
comp=E,3µm,19.9s
KMI LR LR
comp=E,640nm,12.5s
KMI LR LR
comp=E,2µm,20.1s
CM01 Chiang Mai Arr 49.70 298 *e*P **P** **22 53 20.5 +0.1**
CM31 Chiang Mai Arr 49.73 298 *e*P **P** **22 53 20.8 +0.1**
CMAR Chiang Mai Arr 49.73 298 P **P** **22 53 20.6 -0.1**
comp=E,57nm,0.8s,baz=121,slow=6.2,SNR=72
CMAR LR LR 23 17 17.5
comp=E,641nm,18.1s,baz=112,slow=40
CMAR PKPPKP **P'P'df** **23 24 15.6 -1.2**
comp=E,1.1nm,0.8s,baz=277,slow=3.1,SNR=5.5
CMAR Chiang Mai Arr 49.73 298 *i* P **P** **22 53 21.5 +0.8**
CMAR pmax pmax
comp=Z,59nm,0.8s
MDJ Mudanjiang 49.82 346 P **P** **22 53 20.4 -0.4**
MDJ pP pP 22 53 29.5 -0.7
MDJ sP sP 22 53 33.3 -0.6
MDJ PcP **PcP** **22 54 41.1 -0.2**
MDJ PP **PP** **22 55 14.9 -0.9**
MDJ ScP **ScP** **22 58 34.5 -0.3**
MDJ PcS **PcS** **22 58 37.8 -0.2**
MDJ S **S** **23 00 27.7 -0.7**
MDJ SS **SS** **23 04 01.8 +0.3**
MDJ pmax pmax
comp=Z,2µm,9.1s
MDJ LR LR
comp=Z,5µm,26.5s
MDJ LR LR
comp=Z,2µm,23.2s
MDJ LR LR
comp=Z,7µm,26.5s
MDJ Mudanjiang 49.82 346 *e*P **P** **22 53 19.3 -1.6**
comp=Z,44nm,1.0s
MDJ LR LR
comp=Z,3µm,20.0s
CMMT Chiang Mai 49.86 298 P **P** **22 53 22.8 +1.2**
comp=Z,167nm,1.1s,comp=Z,3µm
CHTO Chiang Mai 49.86 298 P **P** **22 53 22.8 +1.2**
comp=Z,479nm,1.5s,comp=Z,13µm
CHTO Chiang Mai 49.86 298 *e*P **P** **22 53 21.5 -0.2**

CHTO pmax pmax
comp=Z,110nm,1.1s
CHTO Chiang Mai 49.86 298 *e*P **P 22 53 21.5 -0.2**
comp=Z,112nm,1.1s
CHTO LR LR
comp=Z,2μm,19.0s
XAN Xi'an 50.14 321 P **P 22 53 22.9 -0.7**
XAN pP pP 22 53 32.0 -0.9
XAN sP sP 22 53 35.4 -1.2
XAN S **S 23 00 31.5 -2.0**
XAN pmax pmax
comp=Z,120nm,1.6s
XAN pmax pmax
comp=Z,2μm,7.3s
XAN LR LR
comp=Z,2μm,13.8s
XAN LR LR
comp=Z,2μm,11.5s
XAN LR LR
comp=Z,3μm,19.2s
CN2 Changchun 50.18 342 *e*P **P 22 53 23.7 +0.1**
CN2 *e*pP sP 22 53 34.9 -1.7
CN2 *e*S **S 23 00 31.5 -2.0**
CN2 pmax pmax
comp=Z,200nm,7.0s
CN2 LR LR
comp=Z,2μm,15.0s
CN2 LR LR
comp=Z,4μm,15.0s
CN2 LR LR
comp=Z,3μm,16.0s
YSS Yuzh-Sakhalins 50.41 359*c i*P **P 22 53 24.1 -1.2**
YSS *e**PP **pP 22 53 32.0 -2.6**
YSS *e* 22 55 20.0
YSS *e*S **S 23 00 34.3 -2.3**
YSS *e* 23 00 44.0
YSS *e*SS **SS 23 04 08.0 -2.9**
YSS pmax pmax
comp=Z,90nm,1.6s
YSS pmax pmax
comp=Z,3μm,5.4s
YSS MLR MLR
comp=Z,2μm,15.0s
YSS MLR MLR
comp=N,2μm,17.0s
YSS MLR MLR
comp=E,900nm,19.0s
YSS Yuzh-Sakhalins 50.41 359 *e*P **P 22 53 24.9 -0.3**
comp=E,100nm,1.0s
BJT Baijiatuau 50.53 332 *e*P **P 22 53 26.3 0.0**
BJT pmax pmax
comp=Z,470nm,1.9s
BJT MLR MLR
comp=Z,7μm,20.0s
BJT Baijiatuau 50.53 332 *e*P **P 22 53 26.3 0.0**
comp=Z,470nm,1.9s
BJT LR LR
comp=Z,7μm,20.0s
BJI Beijing 50.54 332 P **P 22 53 26.0 -0.4**
BJI S **S 23 00 40.7 +2.0**
BJI SS **SS 23 04 14.7 +1.4**
BJI pmax pmax
comp=Z,110nm,1.4s
BJI pmax pmax
comp=Z,3μm,7.8s
BJI LR LR
comp=Z,4μm,23.0s
BJI LR LR
comp=Z,7μm,17.9s
BJI LR LR
comp=Z,4μm,33.7s
TIY Taiyuan 50.65 327 *e*P **P 22 53 28.2 +0.8**
TIY pP **pP 22 53 35.1 -1.7**
TIY S **S 23 00 36.5 -4.0**
TIY sS **sS 23 00 59.5 +3.6**
TIY pmax pmax
comp=Z,2μm,7.0s
TIY LR LR
comp=Z,3μm,12.2s
TIY LR LR
comp=Z,3μm,14.0s
TIY LR LR
comp=Z,2μm,11.0s
CD2 Chengdu 51.68 315⇓ *i*P **P 22 53 35.6 +0.4**
CD2 pP pP 22 53 42.1 -2.5
CD2 sP sP 22 53 47.9 -0.4
CD2 PcP **PcP 22 54 50.1 +1.5**
CD2 S **S 23 00 56.2 +1.3**
CD2 ScS **ScS 23 03 17.6 -6.1**
CD2 SS **SS 23 04 34.4 +2.6**
CD2 pmax pmax
comp=Z,180nm,0.8s
CD2 pmax pmax
comp=Z,4μm,7.6s
CD2 LR LR
comp=Z,2μm,16.1s
CD2 LR LR
comp=Z,3μm,16.1s
HABR Khabarovsk 52.53 352 *e*P **P 22 53 39.2 -1.9**
HABR *e**PP **pP 22 53 49.3 -1.2**
HABR *e* 22 54 49.3
HABR *e* 22 55 38.6
HABR *e*PPP PPP 22 56 42.2
HABR *e*S **S 23 01 04.1 -1.7**
HABR *e**SS **sS 23 01 21.3 0.0**
HABR *e* 23 03 26.1
HABR *e*SS **SS 23 04 44.0 -0.4**
HABR *e*SSS SSS 23 06 30.5
HABR pmax pmax
comp=E,38nm,1.8s
HABR pmax pmax
comp=N,64nm,1.8s
HABR pmax pmax
comp=Z,167nm,1.8s
HABR MLR MLR
comp=Z,2μm,21.0s
HHC Hu-ho-hao-te 53.42 329 *e*P **P 22 53 48.3 +0.3**
HHC sP sP 22 54 03.3 +2.2
HHC S **S 23 01 17.4 -1.0**
HHC sS sS 23 01 34.8 +0.9
HHC SS **SS 23 04 58.2 -0.8**
HHC pmax pmax
comp=Z,61nm,1.3s
HHC pmax pmax
comp=Z,3μm,7.5s
HHC LR LR
comp=Z,2μm,14.1s
HHC LR LR
comp=Z,2μm,14.5s
HHC LR LR
comp=Z,3μm,16.0s
KLR Kul'dur 53.78 350*c i*P **P 22 53 49.0 -1.3**
BTO Baotou 54.04 328 *e*P **P 22 53 51.6 -0.9**
LZH Lanzhou 54.66 320 *e*P **P 22 53 57.5 +0.3**
LZH pP sP 22 54 08.7 -1.6
LZH sP pP 22 54 13.4 +6.8
LZH PcP **PcP 22 54 54.9 -5.0**
LZH PP **PP 22 55 59.0 -1.0**
LZH *e*S **S 23 01 32.7 -2.8**
LZH SS **SS 23 05 18.6 -0.2**
LZH pmax pmax
comp=Z,140nm,1.0s
LZH pmax pmax
comp=Z,510nm,5.6s
LZH LR LR
comp=Z,8μm,15.9s
LZH LR LR
comp=Z,8μm,17.2s
LZH LR LR
comp=Z,9μm,18.0s
SKR Severo-Kuril's 55.08 9 *e*P **P 22 54 00.1 +0.4**
SKR *e*S **S 23 01 41.8 +1.6**
SKR pmax pmax
comp=Z,2μm,5.9s
SKR pmax pmax
comp=Z,3μm,6.2s
SKR MLR MLR
comp=Z,2μm,15.0s
SKR MLR MLR
comp=Z,2μm,20.0s
IMP Imphal 56.44 303 *e*P **P 22 54 09.0 -1.1**
IMP *ex* x 22 55 07.0
HIA Hailar 56.84 341 *e*P **P 22 54 11.9 -0.5**
HIA pmax pmax
comp=Z,118nm,1.0s
HIA MLR MLR
comp=Z,6μm,22.0s
HIA Hailar 56.84 341 *e*P **P 22 54 11.9 -0.5**
comp=Z,118nm,1.0s
HIA LR LR
comp=Z,6μm,22.0s
PEA0 Petropavlovsk- 57.68 10 *e*P **P 22 54 18.4 +0.1**
PEA0 *e*PcP **PcP 22 55 10.3 -0.7**
PEA0B Petropavlovsk- 57.68 10 *e*P **P 22 54 18.5 +0.2**
comp=Z,307nm,1.2s
PEA0B *e*PcP **PcP 22 55 11.8 +0.8**
PEA0B LR LR
comp=Z,4μm,22.0s
PETK Petropavlovsk- 57.68 10 P **P 22 54 18.3 0.0**
comp=Z,34nm,0.6s,baz=167,slow=5.8,SNR=20
PETK PKP2bc 23 24 19.9
comp=Z,1.8nm,0.5s,baz=3.8,slow=6.7,SNR=4.0
PETK Petropavlovsk- 57.68 10 P **P 22 54 18.3 0.0**
PETK pmax pmax
comp=Z,32nm,0.6s
PET Petropavlovsk 57.76 10*c i*P **P 22 54 18.5 -0.3**
PET *e*S **S 23 02 11.7 -4.0**
PET *e*PS **PnS 23 02 27.2 -2.5**
PET *e*SS **SS 23 06 05.6 -1.2**
PET pmax pmax
comp=Z,2μm,10.9s
PET pmax pmax
comp=Z,3μm,12.1s
PET Petropavlovsk 57.76 10 PFAKE 22 54 30.0 +11
PET LR LR
comp=Z,2μm,21.0s
SHL Shillong 58.45 303 *e*P **P 22 54 24.0 -0.4**
SHL *ex* x 23 02 09.0
XMAS Kiritimati 58.56 85 PFAKE 22 54 40.0 +15
XMAS LR LR
comp=Z,7μm,19.0s
GTA Gaotai 59.20 321 *e*P **P 22 54 29.3 0.0**
GTA pP pP 22 54 39.9 +1.1
GTA sP sP 22 54 43.8 +1.3
GTA S **S 23 02 37.3 +2.0**
GTA sS sS 23 02 54.4 +3.5
GTA SS **SS 23 06 38.2 +8.0**
GTA pmax pmax
comp=Z,4μm,7.6s
GTA LR LR
comp=Z,2μm,17.8s
GTA LR LR
comp=Z,2μm,14.3s
GTA LR LR
comp=Z,2μm,19.0s
LSA Lhasa 60.65 307 P **P 22 54 40.1 +0.3**
LSA Lhasa 60.65 307 *e*P **P 22 54 39.9 +0.1**
LSA pmax pmax
comp=Z,116nm,1.4s
LSA MLR MLR
comp=Z,2μm,21.0s
LSA Lhasa 60.65 307 *e*P **P 22 54 39.9 +0.1**
comp=Z,116nm,1.4s
LSA LR LR
comp=Z,2μm,21.0s
ULN Ulaanbaatar 60.76 332*c i*P **P 22 54 40.3 +0.4**
ULN pmax pmax
comp=Z,193nm,2.5s
ULN MLR MLR
comp=Z,2μm,20.0s
ULN Ulaanbaatar 60.76 332 *e*P **P 22 54 40.2 +0.4**
comp=Z,243nm,1.6s
ULN *e*PcP **PcP 22 55 25.8 +2.2**
ULN LR LR
comp=Z,4μm,21.0s
ULN Ulaanbaatar 60.76 332 P **P 22 54 40.6 +0.7**
SNR=70
ULN P **P 22 54 40.6 +0.7**
SNR=70
SONM Songino Array 61.04 332 P **P 22 54 42.0 +0.2**
comp=Z,16nm,0.7s,baz=153,slow=6.7,SNR=48
SONM LR LR 23 19 37.8
comp=Z,4μm,20.8s,baz=140,slow=35
SONM PKPPKP **P'P'df 23 23 53.0 -4.7**
comp=Z,1.3nm,0.9s,baz=347,slow=3.3,SNR=3.6
SONM PKP2bc 23 24 08.6
comp=Z,18nm,1.1s,baz=308,slow=3.6,SNR=5.9
SONM Songino Array 61.04 332 P **P 22 54 42.0 +0.2**
SONM pmax pmax
comp=Z,16nm,0.7s
SONM MLR MLR
comp=Z,4μm,20.8s
SONA1 Songino Array 61.05 332 *e*P **P 22 54 41.9 +0.1**
CIT Chita 61.28 339 *e*P **P 22 54 43.7 +0.5**
CIT *e* 22 54 49.5
CIT pmax pmax
comp=Z,148nm,2.4s
CLNS Chul'man 62.31 348 *e*P **P 22 54 52.6 +2.6**
CLNS *e* 22 55 24.6
CLNS *e* 22 57 10.9
CLNS *e*PPP PPP 22 58 40.5
CLNS *e*S S 23 03 23.2 +9.0
CLNS *e* 23 04 37.1
CLNS *e*SSS SSS 23 10 01.3
CLNS pmax pmax
comp=Z,113nm,1.2s
CLNS pmax pmax
comp=N,90nm,1.3s
CLNS pmax pmax
comp=E,42nm,1.4s
CLNS pmax pmax
comp=E,9.0nm,1.4s
CLNS pmax pmax
comp=N,8.0nm,1.2s
CLNS pmax pmax
comp=Z,15nm,1.5s
CLNS smax smax
comp=N,316nm,10.5s
CLNS smax smax
comp=E,512nm,11.7s
TAPN Taplejung 62.58 303 *e*P **P 22 54 52.6 -0.1**
comp=E,247nm,0.9s
ODAN Odare 62.68 303 *e*P **P 22 54 53.2 -0.1**
comp=E,243nm,0.7s
BOK Bokaro 62.99 299 *e*P **P 22 54 54.7 -0.4**
BOK IAmb IAmb 22 55 06.8
comp=Z,54nm,0.7s
CHLP Challavanipeta 63.20 293 *e*P **P 22 54 56.7 +0.1**
CHLP IAmb IAmb 22 55 00.3
comp=Z,144nm,0.8s
CHLP *e*S **S 23 03 27.0 +0.5**
CHLP IVMs_BB IVMs_BB 23 24 09.2
comp=Z,479nm,9.8s
MA2 Magadan 63.25 4⇑ *e*P **P 22 54 55.6 -0.6**
RAMN Ramite 63.37 302 *e*P **P 22 54 57.8 -0.1**
comp=Z,229nm,0.8s
HPAH Hawaii Prepara 63.46 66 PFAKE 22 55 10.0 +12
HPAH LR LR
comp=Z,4μm,20.0s
UWE Uwekahuna 63.68 66 PFAKE 22 55 10.0 +10
UWE LR LR
comp=Z,4μm,18.0s
VIS Vishakhapatnam 63.69 292 *e*P **P 22 54 58.8 -1.0**
VIS *i* x x 23 03 44.9
JIRN Jiri 63.95 303 *e*P **P 22 55 02.3 +0.4**
comp=Z,998nm,0.8s
ZAK Zakamensk 64.29 332 *e*P **P 22 55 02.8 -0.5**
ZAK pmax pmax
comp=Z,137nm,1.2s
GUN Gumba 64.29 303 *e*P **P 22 55 04.5 +0.4**
comp=Z,420nm,0.8s
PALK Pallekele 64.33 280 P **P 22 55 04.3 +0.1**
comp=Z,18nm,0.8s,baz=116,slow=14,SNR=5.0
PALK Pallekele 64.33 280 P **P 22 55 04.3 +0.1**
PALK LR LR
comp=Z,2μm,21.0s
PKI Pulchoki 64.58 303 *e*P **P 22 55 06.0 0.0**
comp=Z,196nm,1.0s
PKIN Phulchoki 64.59 303 *e*P **P 22 55 06.1 +0.1**
comp=Z,183nm,0.7s
KKN Kakani 64.75 303 *e*P **P 22 55 06.7 -0.3**
comp=Z,408nm,0.8s
DMN Daman 64.84 303 *e*P **P 22 55 07.5 -0.1**
comp=Z,559nm,1.1s
TLY Talaya 65.03 333*c i*P **P 22 55 07.5 -0.5**
TLY *e*S **S 23 03 52.0 +3.9**
TLY *e*PS **PnS 23 04 15.0 +5.5**
TLY *e*SS **SS 23 07 57.7 -3.0**
TLY pmax pmax
comp=Z,127nm,1.4s
TLY MLR MLR
comp=Z,3μm,20.0s
TLY Talaya 65.03 333 *e*P **P 22 55 07.8 -0.2**
comp=Z,134nm,1.3s
TLY LR LR
comp=Z,3μm,20.0s
TLY Talaya 65.03 333 P **P 22 55 08.9 +0.9**
SNR=30
TLY P **P 22 55 08.9 +0.9**
SNR=30
IRK Irkutsk 65.14 334 *e*P **P 22 55 09.1 +0.3**
IRK pmax pmax
comp=Z,311nm,4.2s
PVM Polavaram 65.17 291 *e*P **P 22 55 08.7 -0.8**
PVM IAmb IAmb 22 55 12.5
comp=Z,75nm,0.9s
PVM *e*S **S 23 03 48.9 -2.1**
PVM IVMs_BB IVMs_BB 23 24 08.3
comp=Z,661nm,7.4s
GKN Gorkha 65.36 303 *e*P **P 22 55 10.4 -0.5**
comp=Z,316nm,0.7s
MDRS Chennai 65.66 286 *e*P **P 22 55 13.5 +0.7**
MDRS IAmb IAmb 22 55 16.9
comp=Z,2μm,3.2s
ATKA Atka Island 65.82 27 PFAKE 22 55 20.0 +7.0
ATKA LR LR
comp=Z,6μm,22.0s
BOD Bodaibo 65.93 343 *e*P **P 22 55 12.4 -1.3**
BOD pmax pmax
comp=Z,88nm,1.3s
KOLN Koldanda 66.16 302 *e*P **P 22 55 15.8 -0.3**
comp=Z,489nm,0.7s
PPT Papeete 66.20 107 P **P 22 55 18.8 +2.5**
comp=Z,80nm,0.8s,baz=77,slow=6.8,SNR=6.8
PPT LR LR 23 21 02.4
comp=Z,2μm,21.5s,baz=260,slow=33
PPT2 Papeete2 66.21 108 *e*P **P 22 55 18.1 +1.7**
comp=Z,231nm,1.4s
PPT2 Papeete2 66.21 108 *e*LQ LQ 23 12 32.3
comp=Z,5μm,30.8s
PPT2 *e*LR LR 23 15 11.7
comp=Z,4μm,22.5s
PAE Paea 66.21 108 *e*P **P 22 55 17.7 +1.4**
comp=Z,49nm,1.3s
MOY Mondy 66.22 332 *e*P **P 22 55 16.0 +0.1**
MOY pmax pmax
comp=Z,303nm,2.2s
SKHT Srikalahasti 66.29 287 *e*P **P 22 55 14.7 -2.1**
SKHT IAmb IAmb 22 55 19.3
comp=Z,74nm,0.9s
SKHT *e*S **S 23 04 08.7 +3.9**
SKHT IVMs_BB IVMs_BB 23 24 04.4
comp=Z,1μm,9.2s
TIAR Tiarei 66.42 107 *e*P **P 22 55 19.2 +1.5**
comp=Z,98nm,1.2s
ADKI Addanki 66.44 289 *e*P **P 22 55 17.4 -0.3**
ADKI IAmb IAmb 22 55 20.6
comp=Z,91nm,1.0s
ADKI *e*S **S 23 04 09.4 +3.0**
ADKI IVMs_BB IVMs_BB 23 24 03.5
comp=Z,845nm,11.1s
TVO Taravao 66.53 108 *e*P **P 22 55 20.0 +1.6**
comp=Z,128nm,1.5s
SEY Seymchan 66.69 4*c i*P **P 22 55 19.1 +0.6**
PYUN Piuthan 66.77 303 *e*P **P 22 55 19.6 -0.4**
comp=Z,686nm,0.8s
TBI Tubuai 66.82 114 *e*P **P 22 55 20.9 +0.8**
comp=Z,531nm,1.4s
TBI *e*S **S 23 04 08.8 -2.1**
comp=Z,522nm,23.2s
TBI *e*LQ LQ 23 12 40.6
comp=Z,3μm,31.1s
TBI *e*LR LR 23 15 27.7
comp=Z,2μm,23.2s
NJS Nagarjunasagar 67.20 290 *e*P **P 22 55 21.6 -1.0**
NJS IAmb IAmb 22 55 24.9
comp=Z,65nm,1.0s
NJS *e*S **S 23 04 13.3 -2.4**
NJS IVMs_BB IVMs_BB 23 30 45.9
comp=Z,526nm,10.7s
RCLA Racherla 67.32 288 *e*P **P 22 55 21.6 -1.8**
RCLA IAmb IAmb 22 55 29.8
comp=Z,32nm,1.0s
RCLA *e*S **S 23 04 15.2 -2.1**
RCLA IVMs_BB IVMs_BB 23 24 00.4
comp=Z,1μm,9.7s
SRLM Srisailam 67.50 289 *e*P **P 22 55 23.0 -1.6**
SRLM IAmb IAmb 22 55 24.1
comp=Z,213nm,1.1s
SRLM *e*S **S 23 04 21.7 +2.3**
SRLM IVMs_BB IVMs_BB 23 23 56.6
comp=Z,915nm,7.3s
RPR Rampur 67.68 292 *e*P **P 22 55 24.6 -1.0**
RPR IAmb IAmb 22 55 33.8
comp=Z,112nm,1.2s
RPR *e*S **S 23 04 19.3 -2.1**
RPR IVMs_BB IVMs_BB 23 23 58.5
comp=Z,618nm,12.3s
VAH Vaihoa 67.95 105 *e*P **P 22 55 28.5 +1.1**
comp=Z,254nm,1.4s
JBP Jabalpur 68.03 297 *e*P **P 22 55 28.3 +0.5**
HYB Hyderabad 68.07 290 *i*P **P 22 55 28.0 -0.2**
HYB *e*sP **pP 22 55 37.0 -0.8**
HYB *e*S **S 23 04 26.0 -0.3**
HYB Hyderabad 68.07 290 *e*P **P 22 55 27.6 -0.6**
HYB IAmb IAmb 22 55 30.3
comp=Z,58nm,0.5s
HYBB Hyderabad (bro 68.08 290 *e*P **P 22 55 26.9 -1.3**
HYBB IAmb IAmb 22 55 30.1
comp=Z,55nm,0.9s
HYBB *e*S **S 23 04 27.2 +0.9**
HYBB IVMs_BB IVMs_BB 23 23 60.0
comp=Z,756nm,5.3s
TRD Trivandrum 68.17 281 *e*P **P 22 55 28.6 -0.2**
NGP Nagpur 68.40 294 *e*P **P 22 55 29.3 -0.8**
NGP IAmb IAmb 22 55 33.0
comp=Z,44nm,0.4s
NGP *ex* x 23 04 10.6
SRSP Sriramsagar 68.57 292 *e*P **P 22 55 29.7 -1.5**
SRSP IAmb IAmb 22 55 39.0
comp=Z,105nm,1.0s
SRSP *e*S **S 23 04 35.3 +3.2**
NIKH Nikolski High 68.78 28 PFAKE 22 55 40.0 +8.2
NIKH LR LR
comp=Z,2μm,19.0s
URV Uravakonda 68.84 287 *e*P **P 22 55 32.6 -0.4**
URV IAmb IAmb 22 55 35.0
comp=Z,54nm,0.9s
URV *e*S **S 23 04 38.1 +2.6**
URV IVMs_BB IVMs_BB 23 23 52.5
comp=Z,720nm,10.3s
WMQ Urumqi 69.24 320 P **P 22 55 35.3 +0.3**
WMQ pP pP 22 55 46.0 +1.3
WMQ PP **PP 22 58 08.3 0.0**
WMQ S **S 23 04 39.0 -0.3**
WMQ sS sS 23 04 55.9 +0.7
WMQ pmax pmax
comp=Z,45nm,2.1s
WMQ pmax pmax
comp=Z,3μm,4.5s
WMQ LR LR
comp=Z,2μm,15.7s
WMQ LR LR
comp=Z,1μm,17.5s
KLRI Killari 70.03 291 *e*P **P 22 55 38.9 -1.5**
KLRI IAmb IAmb 22 55 42.0
comp=Z,182nm,1.6s
KLRI *e*S **S 23 04 49.8 +0.4**
KLRI IVMs_BB IVMs_BB 23 32 35.3
comp=Z,657nm,4.1s
BHPL Bhopal 70.34 296 *e*P **P 22 55 42.1 0.0**
BHPL IAmb IAmb 22 55 44.5
comp=Z,77nm,0.6s
UNV Unalaska Valle 70.43 28 PFAKE 22 55 50.0 +8.0
UNV LR LR
comp=Z,3μm,20.0s
SPIA Saint Paul Isl 70.87 24 PFAKE 22 56 00.0 +15
SPIA LR LR
comp=Z,6μm,21.0s
NDI New Delhi 71.82 302 *e*P **P 22 55 51.0 0.0**
MIR Mirnyy 72.05 199⇑ *i*P **P 22 55 52.0 +0.4**
MIR *e* 22 55 56.0
MIR *e*PS 23 00 24.0
MIR *i*S **S 23 05 14.0 +2.9**
MIR pmax pmax
comp=Z,10.0nm,2.0s
MIR smax smax

	comp=E,2µm,9.0s									
MIR					MLR	MLR				
	comp=E,9µm,18.0s									
GOA	**Goa**	**72.20**	**287**	*e*P		**P**	**22 55 53.1**	**-0.3**		
GOA				IAmb		IAmb	22 56 04.4			
	comp=E,169nm,1.5s									
SMLA	**Simla**	**72.50**	**304**	*e*P		**P**	**22 55 53.5**	**-1.4**		
ZSN	**Zaisan**	**72.63**	**322**	*i* P		**P**	**22 55 54.7**	**-0.8**		
	comp=Z,106nm,2.8s									
ZSN				*e*S		**S**	**23 05 18.7**	**+0.2**		
POO	**Poona**	**72.68**	**291**	*e*P		**P**	**22 55 55.5**	**-0.8**		
SDNR	**Sundarnagar**	**72.76**	**304**	*e*P		**P**	**22 55 57.0**	**+0.4**		
BILL	**Bilibino**	**73.18**	**8***d*	*i*P		**P**	**22 55 59.9**	**+1.6**		
BILL				*i* *PP		**pP**	**22 56 05.6**	**-2.4**		
BILL				*i*			22 56 15.7			
BILL				*e*			22 58 41.4			
BILL					pmax	pmax				
	comp=Z,58nm,1.5s									
BILL					MLR	MLR				
	comp=E,1µm,21.0s									
MK01	**Makanchi Array**	**73.94**	**321**	*e*P		**P**	**22 56 02.8**	**-0.4**		
MK31	**Makanchi Array**	**73.95**	**321**	*i* P		**P**	**22 56 03.2**	**-0.1**		
MK31					pmax	pmax				
	comp=E,114nm,1.2s									
MK31	**Makanchi Array**	**73.95**	**321**	*e*P		**P**	**22 56 03.9**	**+0.6**		
MKAR	**Makanchi Array**	**73.95**	**321**	*e*P		**P**	**22 56 03.9**	**+0.6**		
MKAR	**Makanchi Array**	**73.95**	**321**	*e*P		**P**	**22 56 03.9**	**+0.6**		
	comp=E,376nm,1.1s									
MKAR					LR	LR				
	comp=E,300nm,18.0s									
THN	**Thein Dam**	**74.03**	**305**	*e*P		**P**	**22 56 03.0**	**-1.0**		
MAKZ	**Makanchi**	**74.16**	**321**	*i* P		**P**	**22 56 03.8**	**-0.6**		
MAKZ					pmax	pmax				
	comp=E,118nm,1.4s									
MAKZ	**Makanchi**	**74.16**	**321**	*e*P		**P**	**22 56 03.9**	**-0.6**		
	comp=E,64nm,1.0s									
MAKZ					LR	LR				
	comp=E,1µm,20.0s									
SDPT	**Sand Point**	**74.18**	**29**	*e*P		**P**	**22 56 05.3**	**+1.0**		
	comp=E,442nm,1.4s									
VNDA	**Vanda**	**74.41**	**176**	P		**P**	**22 56 05.3**	**-0.1**		
	comp=E,35nm,0.7s,baz=326,slow=6.5,SNR=107									
VNDA					LR	LR	23 29 03.7			
	comp=E,3µm,18.4s,baz=344,slow=36									
VNDA	**Vanda**	**74.41**	**176**	*e*P		**P**	**22 56 05.1**	**-0.3**		
	comp=E,40nm,0.8s									
PDGK	**Podgornoye**	**74.50**	**317**	*i* P		**P**	**22 56 05.6**	**-1.1**		
PDGK					pmax	pmax				
	comp=E,73nm,1.1s									
UZB	**Uzynbulak**	**74.75**	**316**	*i* P		**P**	**22 56 05.6**	**-2.6**		
	comp=E,91nm,1.1s									
UZB				*e*S		**S**	**23 05 39.4**	**-3.5**		
UZB					LRM	MLR	23 31 28.8			
	comp=E,362nm,15.9s									
GAMB	**Gambell**	**74.82**	**19**	PFAKE			22 56 20.0	+12		
GAMB					LR	LR				
	comp=E,9µm,22.0s									
KPKS	**Kokpek**	**75.09**	**317**	*i* P		**P**	**22 56 07.3**	**-2.7**		
	comp=E,105nm,1.2s									
KPKS				*e*S		**S**	**23 05 43.3**	**-3.3**		
SBA	**Scott Base**	**75.10**	**175**	*e*P		**P**	**22 56 10.8**	**+1.5**		
SBA	**Scott Base**	**75.10**	**175**	*e*P		**P**	**22 56 10.8**	**+1.5**		
	comp=E,88nm,1.3s									
SBA					LR	LR				
	comp=E,4µm,20.0s									
SATY	**Saty**	**75.15**	**316**	*e*P		**P**	**22 56 07.8**	**-2.7**		
	comp=E,198nm,1.2s									
SATY				*e*S		**S**	**23 05 43.8**	**-3.5**		
ZHN	**Zhinishke**	**75.16**	**316**	*e*P		**P**	**22 56 07.8**	**-2.8**		
	comp=E,38nm,1.3s									
ZHN				*e*S		**S**	**23 05 43.7**	**-3.7**		
TAOE	**Nuku Hiva Isla**	**75.24**	**98**	*e*S		**S**	**23 05 45.8**	**-3.4**		
	comp=E,629nm,26.0s									
TAOE	**Nuku Hiva Isla**	**75.24**	**98**	*e*LQ		LQ	23 16 10.9			
	comp=E,4µm,25.3s									
TAOE				*e*LR		LR	23 19 31.0			
	comp=E,3µm,22.9s									
ZAA0	**Zalesovo Array**	**75.58**	**328**	*e*P		**P**	**22 56 11.8**	**-0.7**		
ZALV	**Zalesovo Beam**	**75.58**	**328**	P		**P**	**22 56 11.7**	**-0.8**		
	comp=E,43nm,0.8s,baz=111,slow=5.5,SNR=75									
ZALV					PKPPKP	**P'P'df**	**23 23 33.5**	**+0.3**		
	comp=E,1.5nm,0.6s,baz=316,slow=4.1,SNR=5.3									
ZALV					LR	LR	23 28 54.6			
	comp=E,2µm,21.6s,baz=80,slow=35									
KSH	**Kashi**	**75.78**	**312**‖	*i*P		**P**	**22 56 15.8**	**+1.7**		
KSH				pP		PcP	22 56 26.4	-0.3		
KSH				PcP		**sP**	**22 56 28.7**	**+1.2**		
KSH				PP		**PP**	**22 59 08.8**	**+4.4**		
KSH				S		**S**	**23 05 52.5**	**-1.8**		
KSH					pmax	pmax				
	comp=E,49nm,0.9s									
KSH					pmax	pmax				
	comp=E,1µm,4.3s									
KSH					LR	LR				
	comp=E,910nm,13.3s									
KSH					LR	LR				
	comp=E,620nm,11.4s									
KSH					LR	LR				
	comp=E,1µm,20.6s									
TIXI	**Tiksi**	**75.83**	**355**‖	*e*P		**P**	**22 56 13.5**	**-0.1**		
TIXI					pmax	pmax				
	comp=E,86nm,2.8s									
TIXI					MLR	MLR				
	comp=Z,925nm,18.0s									
TIXI	**Tiksi**	**75.83**	**355**	*e*P		**P**	**22 56 13.7**	**+0.1**		
	comp=E,47nm,1.3s									
TIXI					LR	LR				
	comp=E,1µm,22.0s									
AAA	**Alma-Ata**	**76.23**	**316**	*i* P		**P**	**22 56 15.5**	**-1.0**		
AAA				*i* S		S	23 06 14.4	+15		
AAA					pmax	pmax				
	comp=E,4µm,5.5s									
AAA					smax	smax				
	comp=E,2µm,7.4s									
AAA	**Alma-Ata**	**76.23**	**316**	*e*P		**P**	**22 56 13.9**	**-2.7**		
	comp=E,131nm,1.0s									
AAA				*e*S		**S**	**23 06 00.7**	**+1.6**		
AAA				LR		LR	23 30 34.1			
	comp=E,418nm,17.1s									
SEM	**Semipalatinsk**	**76.62**	**324**	*e*P		**P**	**22 56 16.3**	**-2.5**		
	comp=E,216nm,1.5s									
SEM					LR	LR	23 30 39.3			
	comp=E,609nm,22.2s									
KUU	**Kurty**	**76.84**	**317**	*i* P		**P**	**22 56 17.6**	**-2.4**		
	comp=E,18nm,0.9s									
KUU				*i* S		**S**	**23 06 02.8**	**-2.9**		
KUU					LR	LR	23 30 47.8			
	comp=E,359nm,15.4s									
TKM2	**Tokmak 2**	**77.06**	**315**	*i* P		**P**	**22 56 20.5**	**-0.9**		
TKM2					pmax	pmax				
	comp=E,69nm,0.8s									
BHJ	**Bhuj**	**77.35**	**295**	*e*P		**P**	**22 56 24.1**	**+0.9**		
KURK	**Kurchatov**	**77.70**	**324***c*	*i*P		**P**	**22 56 23.5**	**-1.1**		
KURK					pmax	pmax				
	comp=E,161nm,1.3s									
KURK					pmax	pmax				
	comp=E,681nm,2.5s									
KURK					MLR	MLR				
	comp=E,6µm,19.0s									
KURK	**Kurchatov**	**77.70**	**324**	*e*P		**P**	**22 56 24.1**	**-0.4**		
	comp=E,298nm,0.9s									
KURK					LR	LR				
	comp=E,2µm,20.0s									
KURK	**Kurchatov**	**77.70**	**324**	P		**P**	**22 56 24.2**	**-0.4**		
	SNR=69									
KURK					P	P	**22 56 24.2**	**-0.4**		
	SNR=69									
FRU	**Bishkek**	**77.72**	**315**‖	*i*P		**P**	**22 56 26.0**	**+1.1**		
FRU				*e*S		**S**	**23 06 20.0**	**+4.7**		
FRU					pmax	pmax				
	comp=E,550nm,2.8s									
KURBB	**Kurchatov Arra**	**77.72**	**324**	P		**P**	**22 56 24.8**	**+0.1**		
	comp=E,16nm,0.8s,baz=115,slow=4.7,SNR=54									
AAK	**Ala-Archa**	**77.75**	**315**	P		**P**	**22 56 25.5**	**+0.2**		
	comp=E,36nm,0.7s,baz=114,slow=5.8,SNR=68									
AAK	**Ala-Archa**	**77.75**	**315**	*i* P		**P**	**22 56 25.4**	**+0.2**		
AAK					pmax	pmax				
	comp=E,141nm,0.9s									
AAK	**Ala-Archa**	**77.75**	**315**	P		**P**	**22 56 25.3**	**+0.1**		
	SNR=41									
OHAK	**Old Harbor**	**78.59**	**29**	*e*P		**P**	**22 56 30.3**	**+0.9**		
	comp=E,157nm,1.2s									
MNAS	**Manas**	**79.12**	**314**	*i* P		**P**	**22 56 32.7**	**-0.1**		
MNAS					pmax	pmax				
	comp=Z,232nm,1.5s									
KDAK	**Kodiak Island**	**79.18**	**29**	*i* P		**P**	**22 56 34.7**	**+2.2**		
KDAK	**Kodiak Island**	**79.18**	**29**	PFAKE			22 56 40.0	+7.5		
KDAK					LR	LR				
	comp=Z,3µm,20.0s									
SVW2	**Sparrevohn**	**79.29**	**25**	*e*P		**P**	**22 56 34.2**	**+1.1**		
KBL	**Kabul**	**79.94**	**306**	*e*P		**P**	**22 56 36.7**	**-0.8**		
KBL					pmax	pmax				
	comp=E,50nm,1.0s									
KBL					MLR	MLR				
	comp=E,900nm,22.0s									
KBL	**Kabul**	**79.94**	**306**	*e*P		**P**	**22 56 36.7**	**-0.8**		
	comp=E,50nm,1.0s									
KBL					LR	LR				
	comp=E,900nm,22.0s									
RKT	**Rikitea**	**80.10**	**113**	*e*S		**S**	**23 06 39.5**	**-1.8**		
	comp=E,300nm,31.2s									
RKT	**Rikitea**	**80.10**	**113**	*e*LR		LR	23 21 37.0			
	comp=E,3µm,24.5s									
RSO	**Redoubt South**	**80.24**	**27**	*e*P		**P**	**22 56 40.0**	**+1.4**		
HOM	**Homer**	**80.41**	**28**	PFAKE			22 56 50.0	+11		
HOM					LR	LR				
	comp=E,4µm,21.0s									
CNPM	**China Poot**	**80.54**	**28**	*e*P		**P**	**22 56 40.7**	**+0.7**		
	comp=E,239nm,1.4s									
CNPM					LR	LR				
	comp=E,3µm,19.0s									
KK31	**Karatay Array**	**80.70**	**315**	*i* P		**P**	**22 56 40.8**	**-0.4**		
KK31					pmax	pmax				
	comp=E,50nm,1.0s									
KKAR	**Karatay Array**	**80.70**	**315**	*e*P		**P**	**22 56 41.2**	**0.0**		
KKAR					pmax	pmax				
	comp=E,915nm,1.5s									
KKAR	**Karatay Array**	**80.70**	**315**	*e*P		**P**	**22 56 41.2**	**0.0**		
	comp=E,915nm,1.5s									
BRLK	**Bradley Lake**	**80.80**	**28**	PFAKE			22 56 50.0	+8.7		
BRLK					LR	LR				
	comp=E,3µm,20.0s									
IUG	**Iuzhnay**	**80.82**	**314**	*i* P		**P**	**22 56 39.1**	**-2.8**		
	comp=E,251nm,0.9s									
IUG				*e*S		**S**	**23 06 44.6**	**-3.7**		
BRZS	**Berezniki**	**81.06**	**322**	*e*P		**P**	**22 56 40.7**	**-2.2**		
BRZS				*e*S		**S**	**23 06 47.4**	**-3.0**		
PPLA	**Purkeypile**	**81.54**	**24**	*e*P		**P**	**22 56 45.0**	**-0.3**		
	comp=E,122nm,1.4s									
PPLA					LR	LR				
	comp=E,3µm,21.0s									
SUA	**Susitna One**	**81.56**	**26**	*e*P		**P**	**22 56 44.2**	**-1.2**		
	comp=E,51nm,1.0s									
SUA					LR	LR				
	comp=E,4µm,22.0s									
CAST	**Castle Rocks**	**81.81**	**24**	*e*P		**P**	**22 56 46.3**	**-0.3**		
	comp=E,143nm,1.4s									
CAST					LR	LR				
	comp=E,4µm,20.0s									
RC01	**Rabbit Creek A**	**81.85**	**27**	*e*P		**P**	**22 56 46.6**	**-0.3**		
	comp=E,230nm,1.5s									
RC01					LR	LR				
	comp=E,2µm,22.0s									
NRIK	**Noril'sk**	**82.22**	**343**	P		**P**	**22 56 48.1**	**-0.5**		
	comp=Z,38nm,0.7s,baz=112,slow=5.2,SNR=34									
PMR	**Palmer**	**82.32**	**26**	*e*P		**P**	**22 56 48.8**	**-0.5**		
PMR					pmax	pmax				
	comp=E,111nm,1.3s									
PMR	**Palmer**	**82.32**	**26**	*e*P		**P**	**22 56 48.8**	**-0.5**		
	comp=E,111nm,1.3s									
PMR				*e*PP		**PP**	**22 59 51.4**	**-6.8**		
KTH	**Kantishna Hill**	**82.33**	**24**	*e*P		**P**	**22 56 48.7**	**-0.7**		
	comp=E,104nm,1.1s									
KTH					LR	LR				
	comp=E,4µm,22.0s									
TRF	**Thorofare Moun**	**82.55**	**24**	*e*P		**P**	**22 56 50.5**	**-0.2**		
	comp=E,137nm,1.6s									
TRF					LR	LR				
	comp=E,4µm,21.0s									
SML	**Sawmill**	**82.75**	**26**	*e*P		**P**	**22 56 51.3**	**-0.3**		
SML					pmax	pmax				
	comp=Z,298nm,1.5s									
SML					MLR	MLR				
	comp=E,2µm,21.0s									
SML	**Sawmill**	**82.75**	**26**	*e*P		**P**	**22 56 51.3**	**-0.3**		
	comp=Z,298nm,1.5s									
SML					LR	LR				
	comp=E,2µm,21.0s									
RND	**Reindeer**	**83.13**	**25**	*e*P		**P**	**22 56 52.1**	**-1.4**		
RND					pmax	pmax				
	comp=Z,125nm,1.0s									
RND					MLR	MLR				
	comp=E,5µm,22.0s									
RND	**Reindeer**	**83.13**	**25**	*e*P		**P**	**22 56 52.1**	**-1.4**		
	comp=E,125nm,1.0s									
RND					LR	LR				
	comp=E,5µm,22.0s									
SCM	**Sheep Creek Mo**	**83.20**	**26**	*e*P		**P**	**22 56 54.5**	**+0.5**		
SCM					pmax	pmax				
	comp=Z,275nm,1.5s									
SCM					MLR	MLR				
	comp=E,4µm,21.0s									
SCM	**Sheep Creek Mo**	**83.20**	**26**	*e*P		**P**	**22 56 54.5**	**+0.5**		
	comp=E,275nm,1.5s									
SCM					LR	LR				
	comp=E,4µm,21.0s									
FID	**Port Fidalgo**	**83.21**	**28**	*e*P		**P**	**22 56 53.5**	**-0.5**		
	comp=E,164nm,1.5s									
FID					LR	LR				
	comp=E,3µm,21.0s									
MCK	**McKinley**	**83.22**	**24**	*e*P		**P**	**22 56 53.3**	**-0.7**		
MCK					pmax	pmax				
	comp=E,164nm,1.1s									
MCK					MLR	MLR				
	comp=E,5µm,21.0s									
MCK	**McKinley**	**83.22**	**24**	*e*P		**P**	**22 56 53.3**	**-0.7**		
	comp=E,164nm,1.1s									
MCK					LR	LR				
	comp=E,5µm,21.0s									
BVAR	**Borovoye Array**	**83.27**	**324**	P		**P**	**22 56 54.4**	**0.0**		
	comp=E,109nm,0.7s,baz=109,slow=5.9,SNR=143									
BRVK	**Borovoye**	**83.34**	**324***c*	*i*P		**P**	**22 56 54.0**	**-0.8**		
BRVK					pmax	pmax				
	comp=Z,895nm,2.5s									
BRVK					MLR	MLR				
	comp=E,6µm,22.0s									
BRVK	**Borovoye**	**83.34**	**324**	*e*P		**P**	**22 56 54.2**	**-0.6**		
	comp=E,108nm,0.8s									
BRVK					LR	LR				
	comp=E,2µm,22.0s									
BRVK	**Borovoye**	**83.34**	**324**	P		**P**	**22 56 54.3**	**-0.5**		
	SNR=107									
BRVK					P	P	**22 56 54.3**	**-0.5**		
	SNR=107									
MAW	**Mawson**	**83.35**	**202**	P		**P**	**22 56 54.3**	**-0.2**		
	comp=E,37nm,0.8s,baz=88,slow=7.2,SNR=63									
MAW					LR	LR	23 30 23.0			
	comp=E,3µm,21.4s,baz=71,slow=33									
MAW	**Mawson**	**83.35**	**202**	P		**P**	**22 56 54.7**	**+0.2**		
	baz=83,SNR=19									
MAW	**Mawson**	**83.35**	**202**	*e*P		**P**	**22 56 54.0**	**-0.5**		
	comp=E,8.1nm,0.8s									
EYAK	**Cordova Ski Ar**	**83.48**	**28**	PFAKE			22 57 10.0	+15		
EYAK					LR	LR				
	comp=E,3µm,20.0s									
DHY	**Denali Highway**	**83.63**	**25**	*e*P		**P**	**22 56 55.5**	**-0.7**		
	comp=E,104nm,1.0s									
DHY					LR	LR				
	comp=E,4µm,20.0s									
DIV	**Divide**	**83.66**	**27**	*e*P		**P**	**22 56 56.2**	**-0.1**		
	comp=E,235nm,1.6s									
DIV				*e*PP		**PP**	**23 00 06.5**	**-2.8**		
DIV					LR	LR				
	comp=E,4µm,22.0s									
KLU	**Klutina**	**83.72**	**27**	PFAKE			22 57 10.0	+13		
KLU					LR	LR				
	comp=E,3µm,21.0s									
WRH	**Wood River Hil**	**83.84**	**24**	*e*P		**P**	**22 56 55.9**	**-1.2**		
	comp=E,160nm,1.2s									
WRH					LR	LR				
	comp=E,4µm,21.0s									
MDM	**Murphy Dome**	**83.97**	**23**	*e*P		**P**	**22 56 57.8**	**0.0**		
	comp=E,34nm,1.1s									
MDM					LR	LR				
	comp=E,5µm,22.0s									
CCB	**Clear Creek Bu**	**84.02**	**24**	*e*P		**P**	**22 56 56.0**	**-2.0**		
	comp=E,137nm,1.2s									
CCB					LR	LR				
	comp=E,4µm,21.0s									
COLA	**College**	**84.09**	**23**	*e*P		**P**	**22 56 57.5**	**-0.8**		
COLA					pmax	pmax				
	comp=E,74nm,1.0s									
COLA					MLR	MLR				
	comp=E,5µm,22.0s									
COLA	**College**	**84.09**	**23**	*e*P		**P**	**22 56 57.5**	**-0.8**		
	comp=E,74nm,1.0s									
COLA					LR	LR				
	comp=E,5µm,22.0s									
COLD	**Coldfoot**	**84.12**	**21**	*e*P		**P**	**22 56 58.2**	**-0.2**		
	comp=Z,129nm,1.4s									
COLD					LR	LR				
	comp=E,6µm,20.0s									
BMRM	**Bremner River**	**84.15**	**28**	*e*P		**P**	**22 56 58.9**	**+0.1**		
	comp=E,82nm,1.2s									
BMRM					LR	LR				
	comp=E,2µm,20.0s									
HARP	**HAARP**	**84.36**	**26**	*e*P		**P**	**22 57 00.4**	**+0.5**		
	comp=E,56nm,1.0s									
HARP					LR	LR				
	comp=E,6µm,22.0s									
PAX	**Paxson**	**84.41**	**26**	*e*P		**P**	**22 57 00.0**	**-0.1**		
PAX					pmax	pmax				
	comp=E,105nm,1.6s									
PAX					MLR	MLR				
	comp=E,4µm,21.0s									
PAX	**Paxson**	**84.41**	**26**	*e*P		**P**	**22 57 00.0**	**-0.1**		
	comp=E,105nm,1.6s									
PAX					LR	LR				
	comp=E,4µm,21.0s									
ILAR	**Eielson Array**	**84.44**	**24**	P		**P**	**22 56 57.4**	**-2.7**		
	comp=Z,13nm,0.6s,baz=254,slow=4.1,SNR=86									
ILAR					PP	**PP**	**23 00 19.9**	**+4.4**		
	comp=Z,9.6nm,1.2s,baz=241,slow=7.5,SNR=5.8									
ILAR					PKKPbc	**PKKPbc**	**23 15 13.1**	**-1.7**		
	comp=Z,1.8nm,0.8s,baz=7.4,slow=1.2,SNR=12									
ILAR					PKPPKP	**P'P'df**	**23 23 20.2**	**+3.4**		
	comp=Z,0.7nm,0.8s,baz=317,slow=0.3,SNR=4.9									
ILAR					LR	LR	23 29 56.2			
	comp=Z,3µm,21.6s,baz=262,slow=32									
ILB	**Eielson Array**	**84.44**	**24**	*e*P		**P**	**22 56 57.7**	**-2.5**		
ILB				*e*PP		**PP**	**23 00 14.6**	**-0.9**		
CRQM	**Cirque**	**84.77**	**28**	*e*P		**P**	**22 57 02.4**	**+0.3**		
	comp=E,85nm,1.2s									
CRQM					LR	LR				
	comp=E,3µm,22.0s									
TOLK	**Toolik Lake Re**	**84.91**	**20**	P		**P**	**22 57 03.6**	**+1.1**		
	baz=246									
MENT	**Mentasta**	**85.16**	**26**	*e*P		**P**	**22 57 03.3**	**-0.6**		
	comp=E,244nm,1.9s									
MENT				*e*PP		**PP**	**23 00 17.7**	**-3.8**		
DOT	**Dot Lake**	**85.23**	**25**	*e*P		**P**	**22 57 03.8**	**-0.4**		
	comp=E,526nm,1.4s									
DOT				*e*PP		**PP**	**23 00 19.0**	**-3.0**		
MRIV	**Mauritius Mete**	**85.70**	**250**	*e*P		**P**	**22 57 06.1**	**-1.3**		
FYU	**Fort Yukon**	**85.70**	**22**	*e*P		**P**	**22 57 07.2**	**+0.8**		
	comp=E,291nm,1.5s									
PCA	**Pinnacle**	**85.96**	**29**	PFAKE			22 57 20.0	+12		
PCA					LR	LR				
	comp=E,6µm,22.0s									
QSPA	**South Pole Qui**	**86.30**	**180**	*e*P		**P**	**22 57 08.1**	**-1.4**		
	comp=E,131nm,0.8s									
QSPA					LR	LR				
	comp=E,8µm,19.0s									
DHAK	**Deception Hill**	**86.74**	**30**	*e*P		**P**	**22 57 13.5**	**+1.8**		
	comp=E,83nm,1.2s									
DHAK					LR	LR				
	comp=E,2µm,21.0s									
EGAK	**Eagle**	**86.77**	**24**	*e*P		**P**	**22 57 12.0**	**+0.2**		
	comp=E,179nm,1.6s									
EGAK					LR	LR				
	comp=E,7µm,22.0s									
DAWY	**Dawson**	**87.33**	**25**	*e*P		**P**	**22 57 14.9**	**+0.3**		
	comp=E,259nm,1.6s									
DAWY					LR	LR				
	comp=E,6µm,22.0s									
WSAR	**Wadi Sarin**	**87.40**	**293**	P		**P**	**22 57 14.8**	**-0.9**		
	comp=Z,7.7nm,0.7s,baz=125,slow=3.4,SNR=5.1									
HYT	**Haines Junctio**	**87.46**	**29**	*e*P		**P**	**22 57 15.7**	**+0.4**		
	comp=Z,137nm,1.3s									
BIDO	**Bidbid**	**87.88**	**294**	P		**P**	**22 57 17.1**	**-0.9**		
	SNR=9.6									
BIDO				P		**P**	**22 57 17.1**	**-0.9**		
	SNR=9.6									
SKAG	**Skagway**	**88.26**	**30**	*e*P		**P**	**22 57 19.7**	**+0.7**		
	comp=E,171nm,1.4s									
MSEY	**Mahe Island**	**88.48**	**265**	PFAKE			22 57 30.0	+8.9		
MSEY					LR	LR				
	comp=E,1µm,20.0s									
WHY	**Whitehorse**	**88.69**	**29**	*e*P		**P**	**22 57 21.1**	**-0.1**		
	comp=E,131nm,1.7s									
WHY					LR	LR				
	comp=E,2µm,20.0s									
DIB	**Dawson Inlet,**	**88.87**	**37**	*e*P		**P**	**22 57 21.2**	**-0.8**		
	comp=E,55nm,1.2s									
DIB					LR	LR				
	comp=E,3µm,20.0s									
H02S1	**DAWSON INLET T**	**88.87**	**37**	T		T	00 35 38.0			
	SNR=12									
AB31	**Akbulak array**	**89.02**	**319**	*i* P		**P**	**22 57 20.3**	**-2.5**		
AB31					pmax	pmax				
	comp=E,28nm,0.7s									
ABKAR	**Akbulak array**	**89.02**	**319**	*e*P		**P**	**22 57 21.1**	**-1.7**		
	comp=E,278nm,0.7s									
ABKAR					LR	LR				
	comp=E,500nm,19.0s									
CRZF	**Crozet Islands**	**89.02**	**224**	PFAKE			22 57 30.0	+7.1		
CRZF					LR	LR				
	comp=E,3µm,21.0s									
GEYT	**Alibeck**	**89.17**	**308**	P		**P**	**22 57 22.9**	**-0.9**		
	comp=E,24nm,0.7s,baz=133,slow=1.9,SNR=55									
GEYT				PP		**PP**	**23 00 59.2**	**+4.8**		
	comp=E,8.8nm,1.1s,baz=116,slow=6.8,SNR=4.4									
GEYT					LR	LR	23 38 57.6			
	comp=E,800nm,21.6s,baz=45,slow=37									
WRAK	**Wrangell Islan**	**89.37**	**34**	*e*P		**P**	**22 57 24.1**	**-0.1**		
	comp=E,106nm,1.4s									
WRAK					LR	LR				
	comp=E,3µm,20.0s									
SVE	**Sverdlovsk**	**89.53**	**327**‖	*e*P		**P**	**22 57 23.8**	**-1.2**		
SVE				*e*			23 00 56.8			
SVE				*e*S		**SKSac**	**23 07 51.3**	**-1.8**		
SVE					pmax	p

KEBM Edson Butte 93.51 47 *e*P P 22 57 43.5 -0.5
comp=Z,83nm,1.5s
KEBM LR LR
comp=Z,3µm,20.0s
KBO Bosley Butte 93.57 48 *e*P P 22 57 44.5 +0.3
comp=Z,79nm,1.3s
KBO LR LR
comp=Z,2µm,21.0s
JCC Jacoby Creek, 93.67 49 PFAKE 22 58 00.0 +15
JCC LR LR
comp=Z,3µm,21.0s
KRMB Red Mountain 93.78 49 *e*P P 22 57 45.8 +0.5
comp=Z,58nm,1.4s
KRMB *e*PP PP 23 01 38.0 +7.1
KRMB LR LR
comp=Z,4µm,21.0s
KHMM Horse Mountain 93.90 49 *e*P P 22 57 45.9 0.0
comp=Z,71nm,1.4s
KHMM LR LR
comp=Z,4µm,21.0s
KMRM Mail Ridge 93.90 50 *e*P P 22 57 45.4 -0.4
comp=Z,59nm,1.4s
KMRM LR LR
comp=Z,3µm,18.0s
NLWA Neilton Lookou 93.95 43 *e*P P 22 57 47.1 +1.3
comp=Z,90nm,1.4s
NLWA LR LR
comp=Z,2µm,21.0s
KCPM Cahto Peak 93.99 51 *e*P P 22 57 46.4 +0.2
comp=Z,75nm,1.4s
L02D Cave Junction, 94.03 48 P P 22 57 46.9 +0.6
baz=269,SNR=6.9
E03A Lebam 94.14 44 PFAKE 22 58 00.0 +13
E03A LR LR
comp=Z,2µm,22.0s
I03D Drain, OR 94.25 47 P P 22 57 47.6 +0.4
baz=269
PGC Sidney 94.25 42 PFAKE 22 58 00.0 +13
PGC LR LR
comp=Z,2µm,20.0s
COR Corvallis 94.29 46 PFAKE 22 58 00.0 +13
COR LR LR
comp=Z,5µm,20.0s
G03D McMinnville, O 94.33 45 P P 22 57 48.4 +0.9
baz=269
HOPS Hopland Field 94.37 51 *e*P P 22 57 49.1 +1.2
comp=Z,50nm,1.5s
HOPS LR LR
comp=Z,3µm,20.0s
MCCM Marconi Confer 94.50 52 PFAKE 22 58 00.0 +12
MCCM LR LR
comp=Z,4µm,22.0s
HUMO Hull Mountain 94.52 48 *e*P P 22 57 48.8 +0.3
comp=Z,49nm,1.3s
HUMO LR LR
comp=Z,4µm,20.0s
F04D Rainier, OR 94.52 44 P P 22 57 49.3 +0.9
baz=270
M02C Callahan 94.58 49 P P 22 57 50.0 +1.2
baz=269,SNR=6.2
GDXM Geysers 94.58 52 PFAKE 22 58 00.0 +11
GDXM LR LR
comp=Z,4µm,20.0s
TUM Tumwater 94.60 43 PFAKE 22 58 00.0 +11
TUM LR LR
comp=Z,1µm,21.0s
N02D Trinity Center 94.68 49 P P 22 57 49.6 +0.2
baz=269
A04D Lummi Island 94.74 42 P P 22 57 48.9 -0.4
baz=270
WDC Whiskeytown Da 94.80 50 *e*P P 22 57 50.6 +0.8
WDC pmax pmax
comp=Z,69nm,1.7s
WDC MLR MLR
comp=Z,4µm,20.0s
WDC Whiskeytown Da 94.80 50 *e*P P 22 57 50.6 +0.8
comp=Z,68nm,1.7s
WDC LR LR
comp=Z,4µm,20.0s
I04A Tendick Farm, 94.93 47 P P 22 57 49.6 -0.7
baz=270,SNR=6.3
F04A Amboy 94.93 44 PFAKE 22 58 00.0 +10
F04A LR LR
comp=Z,2µm,21.0s
J04D Umpqua Nationa 95.14 47 P P 22 57 51.2 -0.4
baz=270
B05A Bryant 95.15 42 P P 22 57 51.6 +0.4
baz=270
D05A Enumclaw 95.22 43 *e*P P 22 57 51.9 +0.3
comp=Z,55nm,1.3s
D05A LR LR
comp=Z,1µm,20.0s
LLLB Lillooet 95.27 40 PFAKE 22 58 00.0 +8.2
LLLB LR LR
comp=Z,3µm,22.0s
M04C Macdoel 95.34 49 P P 22 57 52.8 +0.3
baz=270
LON Longmire 95.35 44 *e*P P 22 57 52.5 +0.2
LON pmax pmax
comp=Z,24nm,1.4s
LON Longmire 95.35 44 *e*P P 22 57 52.5 +0.2
comp=Z,24nm,1.4s
K04D Chiloquin, OR 95.40 48 P P 22 57 52.8 +0.2
baz=270
ABPO Ambohimpanom 95.44 251 PFAKE 22 58 00.0 +6.6
ABPO LR LR
comp=Z,1µm,19.0s
CBC Chamberlain 95.45 53 *e*P P 22 57 52.9 0.0
OPO Ambohidratompo 95.52 251 P P 22 57 53.0 -0.8
comp=Z,18nm,0.9s,baz=64,slow=3.5,SNR=14
B06A Marblemount 95.55 42 PFAKE 22 58 00.0 +7.0
B06A LR LR
comp=Z,2µm,20.0s
ORV Oroville 95.59 51 *e*P P 22 57 54.0 +0.5
ORV pmax pmax
comp=Z,21nm,1.4s
ORV MLR MLR
comp=Z,2µm,20.0s
ORV Oroville 95.59 51 *e*P P 22 57 54.0 +0.5
comp=Z,21nm,1.4s
ORV *e*PP PP 23 01 34.5 -10
ORV LR LR
comp=Z,2µm,20.0s
SAO San Andreas Ge 95.62 54 PFAKE 22 58 00.0 +6.3
SAO LR LR
comp=Z,5µm,20.0s
I05D Terrebonne, OR 95.70 46 P P 22 57 54.5 +0.6
baz=270
G05D Wamic, OR 95.71 45 P P 22 57 53.7 -0.2
baz=271
J05D Fort Rock, OR 95.78 47 P P 22 57 54.1 -0.4
baz=270,SNR=9.1
C06D Leavenworth 95.96 42 P P 22 57 55.0 0.0
baz=271
AFDM Forest Hills D 96.00 51 *e*P P 22 57 56.6 +1.2
comp=Z,30nm,1.3s
AFDM *e*PP PP 23 01 44.1 -4.1
AFDM LR LR
comp=Z,3µm,20.0s
K05A Summer Lake 96.04 48 *e*P P 22 57 55.8 +0.1
comp=Z,55nm,1.4s
K05A *e*PP PP 23 01 45.7 -2.8
K05A LR LR
comp=Z,3µm,21.0s
LTY Liberty 96.12 43 *e*P P 22 57 55.2 -0.5
comp=Z,45nm,1.5s
LTY *e*PP PP 23 01 46.6 -2.2
LTY LR LR
comp=Z,2µm,20.0s
PMPB Monarch Peak 96.14 54 PFAKE 22 58 10.0 +14
PMPB LR LR
comp=Z,5µm,22.0s
G06A Carlson Farm, 96.19 45 *e*P P 22 57 56.5 +0.3
comp=Z,22nm,1.4s
CMB Columbia Colle 96.47 52 *e*P P 22 57 57.0 -0.5
CMB pmax pmax
comp=Z,22nm,1.4s
CMB MLR MLR
comp=Z,5µm,22.0s
CMB Columbia Colle 96.47 52 *e*P P 22 57 57.0 -0.5
comp=Z,22nm,1.4s
CMB LR LR
comp=Z,5µm,22.0s
MOD Modoc Plateau 96.49 48 *e*P P 22 57 56.6 -1.1
comp=Z,31nm,1.4s
MOD LR LR
comp=Z,3µm,21.0s

PAGB Antelope Grade 96.59 55 *e*P P 22 57 58.5 +0.4
comp=Z,57nm,1.8s
PAGB *e*PP PP 23 01 45.2 -7.5
PAGB LR LR
comp=Z,4µm,21.0s
E07A Sunnyside 96.70 44 *e*P P 22 57 59.4 +1.1
comp=Z,70nm,1.6s
E07A *e*PP PP 23 01 54.3 +1.1
E07A LR LR
comp=Z,2µm,20.0s
SMMC Simmler 96.80 55 P P 22 57 59.3 +0.2
baz=270
HAWA Hanford 96.93 44 *e*P P 22 57 59.0 -0.3
comp=Z,35nm,1.2s
HAWA *e*PP PP 23 01 54.3 -0.7
HAWA LR LR
comp=Z,2µm,21.0s
PKM Mcpherson Peak 96.95 55 P P 22 57 59.8 -0.2
baz=270
B08A Colville Reser 96.99 42 *e*P P 22 57 59.8 +0.1
comp=Z,30nm,1.5s
B08A *e*PP PP 23 01 52.6 -2.9
B08A LR LR
comp=Z,2µm,20.0s
PNTR Pine Nut 97.07 51 PFAKE 22 58 10.0 +9.4
PNTR LR LR
comp=Z,4µm,22.0s
SNCC San Nicolas Is 97.20 57 P Pdif 22 58 01.3 +0.3
baz=270
WAKR Walker 97.21 52 *e*P P 22 57 58.7 -2.4
comp=Z,5.8nm,1.0s
WAKR LR LR
comp=Z,5µm,22.0s
PAHR Pah Rah Range 97.22 51 *e*P P 22 57 59.2 -1.9
comp=Z,28nm,1.9s
PAHR LR LR
comp=Z,2µm,20.0s
D08A Wollman Farm, 97.32 43 *e*P Pdif 22 58 01.3 +0.1
comp=Z,44nm,1.6s
D08A LR LR
comp=Z,2µm,21.0s
YERR Yerington 97.35 51 *e*P P 22 58 01.2 -0.6
comp=Z,20nm,1.5s
YERR LR LR
comp=Z,3µm,20.0s
MAK Makhachkala 97.41 313 *e*P P 22 57 52.1 -9.5
BLG Laguna Peak, P 97.58 56 P P 22 58 02.4 -0.2
baz=271
TVH3 East Aurora ar 97.70 52 PFAKE 22 58 10.0 +6.6
TVH3 LR LR
comp=Z,3µm,22.0s
WVOR Wild Horse Val 97.71 48 *e*P Pdif 22 58 03.5 +0.3
WVOR pmax pmax
comp=Z,34nm,1.4s
WVOR MLR MLR
comp=Z,3µm,20.0s
WVOR Wild Horse Val 97.71 48 *e*P Pdif 22 58 03.5 +0.2
comp=Z,34nm,1.4s
WVOR LR LR
comp=Z,3µm,20.0s
TVH1 TV Hill, Hawth 97.74 52 PFAKE 22 58 10.0 +6.3
TVH1 LR LR
comp=Z,5µm,22.0s
TVH2 Borealis Mine 97.75 52 PFAKE 22 58 10.0 +6.4
TVH2 LR LR
comp=Z,3µm,22.0s
ARVC Arvin 97.75 55 P P 22 58 02.9 -0.5
baz=271
OSI Osito Audit: C 97.85 56 PFAKE 22 58 20.0 +16
OSI LR LR
comp=Z,2µm,21.0s
E09A Wood Farm, Sta 97.88 44 *e*P P 22 58 01.8 -1.8
comp=Z,51nm,1.6s
E09A LR LR
comp=Z,3µm,21.0s
ISA Isabella, Lake 98.04 55 P P 22 58 04.3 -0.4
baz=271
ISA Isabella, Lake 98.04 55 PFAKE 22 58 20.0 +15
ISA LR LR
comp=Z,4µm,22.0s
PASC Pasadena Art C 98.31 56 PFAKE 22 58 20.0 +14
PASC LR LR
comp=Z,2µm,19.0s
CWC Cottonwood Cre 98.33 54 P P 22 58 05.7 -0.5
baz=272
YKA Yellowknife Ar 98.38 27 P P 22 58 04.3 -1.2
comp=Z,2.5nm,0.7s,baz=281,slow=4.5,SNR=7.1
YKA PP PP 23 02 07.6 +2.0
comp=Z,2.8nm,0.9s,baz=269,slow=7.6,SNR=4.4
YKA PKiKP PKiKP 23 02 36.0 -1.6
comp=Z,1.1nm,0.6s,baz=280,slow=1.3,SNR=3.0
YKA PKKPbc PKKPbc 23 14 36.8 -1.9
comp=Z,2.9nm,0.7s,baz=90,slow=2.8,SNR=6.0
YKA LR LR 23 40 25.5
comp=Z,267nm,20.2s,baz=0.0,slow=34
YKA Yellowknife Ar 98.38 27 *i* P Pdif 22 58 05.8 +0.3
YKA pmax pmax
comp=Z,3.0nm,0.6s
MWC Mount Wilson 98.41 56 PFAKE 22 58 20.0 +13
MWC LR LR
comp=Z,2µm,19.0s
EDW2 Edwards Air Fo 98.45 55 P P 22 58 06.4 -0.2
baz=272
NEW Newport 98.47 42 PFAKE 22 58 20.0 +14
NEW LR LR
comp=Z,3µm,20.0s
F10A Beach Ranch, E 98.55 44 *e*P Pdif 22 58 07.1 +0.2
comp=Z,67nm,1.9s
F10A *e*PP PP 23 02 06.2 -1.3
F10A LR LR
comp=Z,3µm,22.0s
BMO Blue Mountains 98.56 45 *e*P P 22 58 06.8 -0.1
BMO pmax pmax
comp=Z,43nm,1.3s
BMO MLR MLR
comp=Z,3µm,20.0s
BMO Blue Mountains 98.56 45 *e*P P 22 58 06.8 -0.1
comp=Z,43nm,1.3s
BMO LR LR
comp=Z,3µm,20.0s
GROC Groznyy 98.65 313 *e*P P 22 58 06.0 -1.2
GROC *e* 23 02 09.2
GROC pmax pmax
comp=Z,32nm,1.3s
DAC Darwin (Calif) 98.73 54 PFAKE 22 58 20.0 +12
DAC LR LR
comp=Z,6µm,22.0s
MPMC Manual Prospec 98.83 54 P P 22 58 07.2 -1.3
baz=272
BMN Battle Mountai 98.86 50 PFAKE 22 58 20.0 +12
BMN LR LR
comp=Z,2µm,20.0s
DGRG David-gareji 99.06 311 P Pdif 22 58 08.6 -0.6
DGRG David-gareji 99.06 311 P PP 23 02 12.6 +1.1
DGRG David-gareji 99.06 311 P Pdif 22 58 08.5 -0.6
FURC Furnace Creek, 99.31 54 P Pdif 22 58 10.0 -0.2
baz=272
NVL N'lazarevskaya 99.40 194 *e*P Pdif 22 58 12.7 +2.8
NVL *e* 23 02 19.7
NVL *e*S SKSac 23 08 48.2 +2.3
NVL *e*PS PS 23 11 14.6 +4.2
NVL *e*SS SS 23 16 31.9 +2.9
NVL *e*SSS SSS 23 20 21.4
NVL MLR MLR
comp=Z,10µm,24.0s
GSC Goldstone, Bar 99.41 55 P Pdif 22 58 10.6 -0.3
baz=272
GSC Goldstone, Bar 99.41 55 PFAKE 22 58 20.0 +9.1
GSC LR LR
comp=Z,3µm,21.0s
TBLG Delisi 99.52 312 P PP 23 02 11.2 -3.8
BAR Barrett 99.61 58 PFAKE 22 58 20.0 +8.2
BAR LR LR
comp=Z,2µm,21.0s
GNI Garni 99.61 310 PP PP 23 02 22.9 +7.0
comp=Z,28nm,1.4s,baz=167,slow=5.2,SNR=3.0
GNI Garni 99.61 310 *e*P Pdif 22 58 11.5 -0.3
GNI MLR MLR
comp=Z,2µm,22.0s
GNI Garni 99.61 310 PP PP 23 02 22.9 +7.0
GNI LR LR
comp=Z,600nm,20.0s
GUDG Gudauri 99.66 312 P Pdif 22 58 11.9 -0.2
GUDG Gudauri 99.66 312 P PP 23 02 12.1 -4.3
MFID Camas Ranch 99.72 47 *e*Pdif Pdif 22 58 12.8 +0.6
comp=Z,45nm,1.4s

MFID *e*PP PP 23 02 16.1 -0.5
MFID LR LR
comp=Z,4µm,20.0s
PFO Pinyon Flats O 99.76 57 P Pdif 22 58 11.9 -0.7
baz=272
PFO Pinyon Flats O 99.76 57 PFAKE 22 58 20.0 +7.5
PFO LR LR
comp=Z,2µm,20.0s
TPFO Pinon Flats 99.76 57 P Pdif 22 58 12.6 0.0
baz=272
TPNV Topopah Spring 99.79 53 P Pdif 22 58 12.4 -0.2
baz=273
TPNV Topopah Spring 99.79 53 PFAKE 22 58 20.0 +7.4
TPNV LR LR
comp=Z,4µm,20.0s
MONP Monument Peak, 99.81 57 P Pdif 22 58 12.1 -0.9
baz=272
SHOC Shoshone, Teco 99.81 54 P Pdif 22 58 12.3 -0.3
baz=273
ZEI Tsey 100.06 313 *e*P Pdif 22 58 11.2 -2.6
ZEI pmax pmax
comp=Z,46nm,1.0s
IKP In-Ko-Pah, Jac 100.08 58 P Pdif 22 58 13.3 -0.6
baz=272
TUQ Turquoise Moun 100.12 55 P Pdif 22 58 14.0 -0.1
baz=273
BELC Belle Mtn. Jos 100.12 56 P Pdif 22 58 13.2 -1.0
baz=272
HOPEN Hopen 100.14 348 *e*Pdif Pdif 22 58 13.7 +0.6
HOPEN *e*PP PP 23 02 19.4 +0.8
HOPEN *e*SS SS 23 16 44.2 +4.8
NCK Nalchik 100.23 313 *i* P Pdif 22 58 13.9 -0.4
NCK pmax pmax
comp=Z,10.0nm,0.9s
R11A Troy Canyon, C 100.24 52 P Pdif 22 58 13.8 -0.9
baz=274
R11A Troy Canyon, C 100.24 52 PFAKE 22 58 30.0 +15
R11A LR LR
comp=Z,5µm,22.0s
TMCR Tamitsa 100.31 335 *e*P Pdif 22 58 15.4 +1.3
TMCR pmax pmax
comp=Z,15nm,0.9s
SWSC Sam W. Stewart 100.33 57 P Pdif 22 58 14.5 -0.4
baz=272
KLMR Klimovskoe 100.33 331 *e*P Pdif 22 58 13.4 -0.9
KLMR *e* 23 02 20.2
KLMR *e*S SKSac 23 08 49.5 -1.3
KLMR *e*SS SS 23 16 41.6 -1.3
KLMR pmax pmax
comp=Z,60nm,1.3s
KLMR MLR MLR
comp=Z,759nm,18.0s
EDM Edmonton 100.34 37 PFAKE 22 58 30.0 +15
EDM LR LR
comp=Z,3µm,20.0s
GMRC Granite Mounta 100.37 55 P Pdif 22 58 14.6 -0.6
baz=273
BGD Bogdanovka 100.40 311 P PP 23 02 14.4 -7.5
ONI Oni 100.41 312 P Pdif 22 58 15.0 -0.2
ONI Oni 100.41 312 P PP 23 02 17.3 -4.5
ONI Oni 100.41 312 P Pdif 22 58 14.9 -0.2
AKH Akhalkalaki 100.47 311 P PP 23 02 17.9 -4.5
WALA Waterton Lakes 100.51 41 PFAKE 22 58 30.0 +14
WALA LR LR
comp=Z,2µm,20.0s
BC3 Big Chuckawall 100.59 57 P Pdif 22 58 16.0 -0.2
baz=273
LVZ Lovozero 100.68 339 *e*P Pdif 22 58 15.4 -0.3
LVZ pmax pmax
comp=Z,8.0nm,1.2s
LVZ Lovozero 100.68 339 PFAKE 22 58 30.0 +14
LVZ LR LR
comp=Z,2µm,20.0s
SHPR Sheep Range 100.68 54 PFAKE 22 58 30.0 +13
SHPR LR LR
comp=Z,5µm,21.0s
KBZ Khabaz 100.72 314 P Pdif 22 58 15.4 -0.9
comp=Z,2.4nm,0.7s,baz=87,slow=3.2,SNR=9.0
KBZ PP PP 23 02 22.4 -1.5
comp=Z,3.9nm,1.1s,baz=104,slow=12,SNR=3.6
HLID Hailey 100.73 47 P Pdif 22 58 16.1 -0.6
baz=275
HLID Hailey 100.73 47 *e*Pdif Pdif 22 58 18.4 +1.7
HLID *e*PP PP 23 02 23.1 -1.2
HLID LR LR
comp=Z,4µm,20.0s
MSO Missoula 100.74 43 PFAKE 22 58 30.0 +13
MSO LR LR
comp=Z,2µm,22.0s
IRM Iron Mountain 100.83 56 P Pdif 22 58 16.9 -0.3
baz=273
KVAR Kislovodsk Arr 100.84 314 P Pdif 22 58 17.4 +0.3
comp=Z,4.1nm,0.8s,baz=134,slow=3.0,SNR=4.0
KVAR PP PP 23 02 25.9 +0.8
comp=Z,5.3nm,0.9s,baz=117,slow=11,SNR=4.6
KIV Kislovodsk 100.85 314 *e*P Pdif 22 58 17.3 +0.2
KIV *e* 23 02 25.2
KIV *e* 23 08 53.6
KIV *e*SS SS 23 16 51.2 -0.1
KIV pmax pmax
comp=Z,8.0nm,1.0s
KIV Kislovodsk 100.85 314 PFAKE 22 58 30.0 +13
KIV LR LR
comp=Z,1µm,21.0s
SPA0 Spitsbergen Ar 100.85 350 *e*Pdif Pdif 22 58 18.0 +1.7
SPA0 *e*PS PS 23 11 27.3 +1.2
NEY Neytrino 100.89 313 *e*P Pdif 22 58 17.0 -0.4
NEY pmax pmax
comp=Z,1.0nm,0.7s
NEY MLR MLR
comp=Z,423nm,19.0s
KBS Kingsbay 101.07 352 *e*Pdif Pdif 22 58 17.7 +0.5
KBS *e*PP PP 23 02 26.9 +1.3
KBS *e*SS SS 23 16 56.4 +4.1
KBS Kingsbay 101.07 352 PFAKE 22 58 30.0 +13
KBS LR LR
comp=Z,2µm,21.0s
GLA Glamis 101.15 57 P Pdif 22 58 18.8 +0.2
baz=273
GLA Glamis 101.15 57 PFAKE 22 58 30.0 +11
GLA LR LR
comp=Z,2µm,18.0s
APA Apatity 101.23 339 *i* P Pdif 22 58 15.6 -2.5
APA *i* 23 02 24.0
APA *i* SS SS 23 16 57.0 +2.0
APA pmax pmax
comp=Z,7.0nm,0.8s
Y12C Blythe 101.36 56 PFAKE 22 58 30.0 +11
Y12C LR LR
comp=Z,2µm,19.0s
RES Resolute Bay 101.37 13 PFAKE 22 58 30.0 +11
RES LR LR
comp=Z,2µm,22.0s
PSUT Pine Spring 101.58 52 PFAKE 22 58 30.0 +9.4
PSUT LR LR
comp=Z,3µm,21.0s
PDMCI Parker Dam,Lak 101.65 56 P Pdif 22 58 20.8 0.0
baz=274
ARTV Artvin 101.67 311 PFAKE 22 58 30.0 +9.0
ARTV LR LR
comp=Z,500nm,19.0s
HSPB Hornsund (broa 101.71 350 *e*Pdif Pdif 22 58 21.0 +0.9
HSPB *e*PP PP 23 02 31.7 +1.3
HSPB IAMs_20 IAMs_20 23 40 36.0
comp=Z,2µm,21.9s
W13A Hualapai Mount 101.81 55 PFAKE 22 58 30.0 +8.3
W13A LR LR
comp=Z,2µm,21.0s
SNAA Sanae 101.83 190 P PP 23 02 31.0 -0.3
SNAA Sanae 101.83 190 PFAKE 22 58 30.0 +9.1
SNAA LR LR
comp=Z,7µm,20.0s
DLMT Dillon 101.84 45 PFAKE 22 58 30.0 +8.5
DLMT LR LR
comp=Z,3µm,22.0s
CCUT Cedar City 102.05 53 PFAKE 22 58 30.0 +7.2
CCUT LR LR
comp=Z,5µm,22.0s
113A Mohawk Valley, 102.05 57 PFAKE 22 58 30.0 +7.4
113A LR LR
comp=Z,1µm,19.0s
HVU Hansel Valley 102.11 48 *e*P Pdif 22 58 23.1 +0.3
HVU *e* 23 02 33.3
HVU MLR MLR
comp=Z,4µm,21.0s

HVU	**Hansel Valley**	**102.11**	**48**	*e*Pdif	**Pdif**	**22 58 23.1 +0.3**
HVU				*e*PP	**PP**	**23 02 33.3 -1.4**
HVU				LR	LR	
	comp=Z,4μm,21.0s					
LPSR	**Galich'ya Gora**	**102.18**	**323**	*e*P	**Pdif**	**22 58 21.7 -0.9**
LPSR				pmax	pmax	
	comp=Z,10.0nm,0.8s					
LCMT	**Little Creek M**	**102.18**	**53**	PFAKE		22 58 30.0 +6.7
LCMT				LR	LR	
	comp=Z,4μm,22.0s					
DUG	**Dugway, Tooele**	**102.24**	**50**	P	**Pdif**	**22 58 23.4 0.0**
	baz=276					
DUG	**Dugway, Tooele**	**102.24**	**50**	PFAKE		22 58 30.0 +6.6
DUG				LR	LR	
	comp=Z,2μm,21.0s					
SZCU	**Shurtz Canyon**	**102.26**	**52**	PFAKE		22 58 40.0 +16
SZCU				LR	LR	
	comp=Z,5μm,22.0s					
VSR	**Storozhevoye**	**102.27**	**322**	*e*P	**Pdif**	**22 58 21.9 -1.2**
VSR				*e*		23 02 31.6
VSR				pmax	pmax	
	comp=Z,10.0nm,0.7s					
VSR				MLR	MLR	
	comp=Z,2μm,21.0s					
MOS	**Moscow**	**102.34**	**326**	*e*P	**Pdif**	**22 58 22.9 -0.4**
MOS				*e*		23 02 34.7
MOS				*e*		23 10 03.7
MOS				pmax	pmax	
	comp=Z,44nm,1.3s					
MOS				MLR	MLR	
	comp=Z,2μm,22.0s					
MOS				MLR	MLR	
	comp=E,2μm,21.0s					
SPUT	**South Promonto**	**102.40**	**49**	PFAKE		22 58 40.0 +16
SPUT				LR	LR	
	comp=Z,3μm,22.0s					
BJO	**Bjornoya**	**102.42**	**347**	*e*SKSac	**SKSac**	**23 09 00.7 +0.4**
BOZ	**Bozeman (W)**	**102.48**	**44**	P	**Pdif**	**22 58 24.7 +0.3**
	baz=278					
BOZ	**Bozeman (W)**	**102.48**	**44**	PFAKE		22 58 40.0 +16
BOZ				LR	LR	
	comp=Z,3μm,21.0s					
KNB	**Kanab**	**102.52**	**53**	PFAKE		22 58 40.0 +15
KNB				LR	LR	
	comp=Z,3μm,21.0s					
KEV	**Kevo**	**102.61**	**342**	PFAKE		22 58 40.0 +16
KEV				LR	LR	
	comp=Z,3μm,22.0s					
Y14A	**Wickenburg**	**102.61**	**56**	PFAKE		22 58 40.0 +15
Y14A				LR	LR	
	comp=Z,8μm,18.0s					
TCRU	**Three Creeks R**	**102.67**	**51**	PFAKE		22 58 40.0 +14
TCRU				LR	LR	
	comp=Z,4μm,20.0s					
NLU	**North Lily Min**	**102.83**	**50**	PFAKE		22 58 40.0 +14
NLU				LR	LR	
	comp=Z,2μm,20.0s					
PKCU	**Pink Cliffs**	**102.89**	**53**	PFAKE		22 58 40.0 +13
PKCU				LR	LR	
	comp=Z,4μm,20.0s					
YHB	**Horse Butte**	**102.90**	**45**	PFAKE		22 58 40.0 +14
YHB				LR	LR	
	comp=Z,3μm,21.0s					
MTPU	**Mount Pierson**	**102.93**	**52**	PFAKE		22 58 40.0 +13
MTPU				LR	LR	
	comp=Z,5μm,20.0s					
U15A	**North Rim**	**103.00**	**54**	PFAKE		22 58 40.0 +13
U15A				LR	LR	
	comp=Z,4μm,20.0s					
HWUT	**Hardware Ranch**	**103.03**	**48**	PFAKE		22 58 40.0 +13
HWUT				LR	LR	
	comp=Z,4μm,21.0s					
SOC	**Sochi**	**103.03**	**314**	*e*P	**Pdif**	**22 58 24.5 -2.2**
SOC				*e*		23 02 37.3
SOC				pmax	pmax	
	comp=Z,25nm,1.0s					
OBN	**Obninsk**	**103.06**	**326**	*d* iP	**Pdif**	**22 58 26.5 0.0**
OBN				*i*		23 02 42.7
OBN				pmax	pmax	
	comp=Z,8.0nm,0.9s					
OBN	**Obninsk**	**103.06**	**326**	PFAKE		22 58 40.0 +14
OBN				LR	LR	
	comp=Z,2μm,20.0s					
YMR	**Madison River**	**103.07**	**45**	PFAKE		22 58 40.0 +13
YMR				LR	LR	
	comp=Z,2μm,20.0s					
YHH	**Holmes Hill**	**103.14**	**45**	PFAKE		22 58 40.0 +12
YHH				LR	LR	
	comp=Z,3μm,20.0s					
MPU	**Maple Canyon**	**103.16**	**50**	PFAKE		22 58 40.0 +12
MPU				LR	LR	
	comp=Z,2μm,21.0s					
ARCES	**ARCESS Array B**	**103.18**	**342**	Pdiff	**Pdif**	**22 58 26.4 -0.3**
	comp=Z,6.3nm,0.9s,baz=52,slow=7.9,SNR=8.2					
ARCES				PP	**PKiKP**	**23 02 47.8 +1.7**
	comp=Z,3.4nm,0.8s,baz=59,slow=7.7,SNR=5.3					
ARE0	**ARCESS Array S**	**103.18**	**342**	*e*Pdif	**Pdif**	**22 58 26.5 -0.3**
ARE0				*e*PP	**PP**	**23 02 42.2 +0.6**
ARE0				*e*SP	SP	23 11 47.8 +1.5
ARE0				*e*SS	**SS**	**23 17 24.5 +2.6**
ARE0	**ARCESS Array S**	**103.18**	**342**	PFAKE		22 58 40.0 +13
ARE0				LR	LR	
	comp=Z,4μm,22.0s					
YFT	**Old Faithful**	**103.19**	**45**	PFAKE		22 58 40.0 +12
YFT				LR	LR	
	comp=Z,4μm,19.0s					
JLU	**Jordanelle**	**103.23**	**49**	PFAKE		22 58 40.0 +12
JLU				LR	LR	
	comp=Z,2μm,20.0s					
HAMF	**Hammerfest**	**103.23**	**343**	*e*Pdif	**Pdif**	**22 58 29.5 +2.5**
HAMF				*e*PP	**PP**	**23 02 41.9 -0.1**
HAMF				*e*SKSac	**SKSac**	**23 09 04.1 -0.2**
HAMF				*e*SP	**SP**	**23 11 48.3 +1.6**
HAMF				*e*SS	**SS**	**23 17 24.9 +2.5**
VNA2	**Neumayer--Watz**	**103.23**	**189**	P	**PKiKP**	**23 02 48.3 +2.1**
	baz=139,slow=1.1					
TPAW	**Teton Pass**	**103.24**	**46**	PFAKE		22 58 40.0 +12
TPAW				LR	LR	
	comp=Z,4μm,20.0s					
YPP	**Pitchstone Pla**	**103.24**	**45**	PFAKE		22 58 40.0 +12
YPP				LR	LR	
	comp=Z,3μm,20.0s					
REDW	**Red Top Meadow**	**103.33**	**46**	PFAKE		22 58 40.0 +12
REDW				LR	LR	
	comp=Z,5μm,20.0s					
FLWY	**Flagg Ranch**	**103.34**	**46**	PFAKE		22 58 40.0 +12
FLWY				LR	LR	
	comp=Z,2μm,21.0s					
MOOW	**Moose Ponds**	**103.36**	**46**	PFAKE		22 58 40.0 +12
MOOW				LR	LR	
	comp=Z,3μm,21.0s					
H17A	**Grant Village**	**103.39**	**45**	PFAKE		22 58 40.0 +11
H17A				LR	LR	
	comp=Z,3μm,20.0s					
SNOW	**Snow King Moun**	**103.39**	**46**	PFAKE		22 58 40.0 +11
SNOW				LR	LR	
	comp=Z,4μm,20.0s					
EGMT	**Eagleton**	**103.39**	**42**	P	**Pdif**	**22 58 28.5 +0.2**
	baz=280					
EGMT	**Eagleton**	**103.39**	**42**	PFAKE		22 58 40.0 +12
EGMT				LR	LR	
	comp=Z,2μm,21.0s					
LOHW	**Long Hollow**	**103.47**	**46**	PFAKE		22 58 40.0 +11
LOHW				LR	LR	
	comp=Z,3μm,20.0s					
TMUT	**Trail Mountain**	**103.56**	**51**	PFAKE		22 58 40.0 +10
TMUT				LR	LR	
	comp=Z,1μm,18.0s					
VNA1	**Neumayer--Stat**	**103.61**	**189**	P	**PKiKP**	**23 02 50.8 +3.9**
SRIG	**Santa Rosalia**	**103.68**	**63**	PFAKE		22 58 40.0 +10
SRIG				LR	LR	
	comp=Z,2μm,19.0s					
WUAZ	**Wupatki**	**103.82**	**54**	P	**Pdif**	**22 58 30.3 -0.3**
	baz=276					
WUAZ	**Wupatki**	**103.82**	**54**	PFAKE		22 58 40.0 +9.4
WUAZ				LR	LR	
	comp=Z,3μm,22.0s					
X16A	**Lo Mia Camp, P**	**103.87**	**56**	PFAKE		22 58 40.0 +9.1
X16A				LR	LR	
	comp=Z,2μm,21.0s					
P17A	**Butcher Ranch,**	**103.90**	**50**	PFAKE		22 58 40.0 +9.1
P17A				LR	LR	
	comp=Z,1μm,20.0s					
SRU	**San Rafael Swe**	**104.11**	**51**	PFAKE		22 58 40.0 +8.1
SRU				LR	LR	
	comp=Z,2μm,22.0s					
KTK1	**Kautokeino**	**104.14**	**341**	*e*PP	PP	23 02 48.9 +0.1
RLMT	**Red Lodge**	**104.20**	**44**	P	**Pdif**	**22 58 31.3 -0.8**
	baz=279					
RLMT	**Red Lodge**	**104.20**	**44**	PFAKE		22 58 40.0 +7.9
RLMT				LR	LR	
	comp=Z,2μm,20.0s					
P18A	**Preston Nutter**	**104.26**	**50**	PFAKE		22 58 40.0 +7.3
P18A				LR	LR	
	comp=Z,2μm,20.0s					
BW06	**Boulder Array**	**104.35**	**47**	P	**Pdif**	**22 58 32.7 -0.2**
	baz=278					
BW06	**Boulder Array**	**104.35**	**47**	PFAKE		22 58 40.0 +7.1
BW06				LR	LR	
	comp=Z,3μm,20.0s					
PDAR	**Pinedale Array**	**104.35**	**47**	Pdiff	**Pdif**	**22 58 35.1 +2.2**
	comp=Z,2.9nm,1.0s,baz=222,slow=2.0,SNR=13					
PDAR				PP	**PP**	**23 02 52.9 +1.3**
	comp=Z,2.8nm,1.1s,baz=250,slow=4.4,SNR=7.3					
PDAR				PKKPbc	**PKKPbc**	**23 14 20.7 -0.4**
	comp=Z,0.4nm,0.5s,baz=87,slow=7.6,SNR=3.7					
TUC	**Tucson**	**104.60**	**58**	PFAKE		22 58 50.0 +16
TUC				LR	LR	
	comp=Z,2μm,20.0s					
HSIG		**104.71**	**61**	PFAKE		22 58 50.0 +15
HSIG				LR	LR	
	comp=Z,2μm,19.0s					
X18A	**Snowflake**	**105.08**	**55**	PFAKE		23 03 00.0
X18A				LR	LR	
	comp=Z,2μm,20.0s					
TRO	**Tromso**	**105.15**	**343**	*e*Pdif	**Pdif**	**22 58 35.5 0.0**
TRO				*e*PP	**PP**	**23 02 58.2 +2.0**
TRO				*e*SKSac	**SKSac**	**23 09 13.0 0.0**
TRO				*e*PS	**PS**	**23 12 14.2 +2.8**
TRO				*e*SS	**SS**	**23 17 50.6 +1.9**
W18A	**Petrified Fore**	**105.19**	**55**	PFAKE		23 03 00.0
W18A				LR	LR	
	comp=Z,2μm,22.0s					
O20A	**White River Ci**	**105.72**	**49**	PFAKE		23 03 00.0
O20A				LR	LR	
	comp=Z,2μm,22.0s					
FURI	**Furi**	**105.92**	**278**	PFAKE		23 03 00.0
FURI				LR	LR	
	comp=Z,800nm,22.0s					
MVCO	**Mesa Verde**	**105.93**	**52**	P	**PKiKP**	**23 02 51.8 -0.6**
	baz=278					
MVCO	**Mesa Verde**	**105.93**	**52**	PFAKE		23 03 00.0
MVCO				LR	LR	
	comp=Z,3μm,21.0s					
SLBS	**Sierra La Lagu**	**105.94**	**67**	PFAKE		23 03 00.0
SLBS				LR	LR	
	comp=Z,3μm,18.0s					
319A	**Douglas**	**105.96**	**59**	PFAKE		23 03 00.0
319A				LR	LR	
	comp=Z,2μm,20.0s					
LAO	**LASA Array**	**106.00**	**42**	P	**PKiKP**	**23 02 51.7 -0.4**
	baz=282					
LAO	**LASA Array**	**106.00**	**42**	PFAKE		23 03 00.0
LAO				LR	LR	
	comp=Z,2μm,19.0s					
RWWY	**Rawlins**	**106.24**	**48**	PFAKE		23 03 00.0
RWWY				LR	LR	
	comp=Z,90μm,22.0s					
FINES	**FINESS Array B**	**106.37**	**334**	Pdiff	**Pdif**	**22 58 41.0 -0.1**
	comp=Z,1.8nm,0.9s,baz=46,slow=8.0,SNR=2.7					
FINES				PP	**PKiKP**	**23 02 53.4 +1.2**
	comp=Z,3.4nm,0.7s,baz=101,slow=6.0,SNR=7.0					
FINES	**FINESS Array B**	**106.37**	**334**	P	**Pdif**	**22 58 41.0 -0.1**
FINES				pmax	pmax	
	comp=Z,2.0nm,0.9s					
FFC	**Flin Flon**	**106.56**	**34**	PFAKE		23 03 00.0
FFC				LR	LR	
	comp=Z,4μm,20.0s					
K22A	**Casper**	**106.58**	**47**	P	**PKiKP**	**23 02 52.8 -0.6**
	baz=281					
K22A	**Casper**	**106.58**	**47**	PFAKE		23 03 00.0
K22A				LR	LR	
	comp=Z,2μm,20.0s					
SIM	**Simferopol'**	**106.77**	**316**	*e*P	**Pdif**	**22 58 43.5 +0.2**
SIM				*e*		23 03 14.0
SIM				*e*PS	**PS**	**23 12 26.0 -3.2**
SIM				pmax	pmax	
	comp=Z,600nm,17.0s					
SMCO	**Snowmass**	**106.83**	**50**	PFAKE		23 03 10.0
SMCO				LR	LR	
	comp=Z,1μm,20.0s					
KMBO	**Kilima Mbogo**	**106.88**	**268**	PP	**PKiKP**	**23 02 56.6 +1.7**
	comp=Z,0.6nm,0.2s,baz=89,slow=11,SNR=3.3					
KMBO	**Kilima Mbogo**	**106.88**	**268**	PP	**PKiKP**	**23 02 56.6 +1.7**
KMBO				LR	LR	
	comp=Z,600nm,21.0s					
DGMT	**Dagmar**	**106.94**	**40**	PFAKE		23 03 10.0
DGMT				LR	LR	
	comp=Z,2μm,20.0s					
121A	**Cookes Peak, D**	**107.10**	**57**	P	**PKiKP**	**23 02 54.9 +0.2**
	baz=277					
S22A	**4UR Ranch, Cre**	**107.17**	**52**	P	**PKiKP**	**23 02 54.4 -0.4**
	baz=279					
S22A	**4UR Ranch, Cre**	**107.17**	**52**	PFAKE		23 03 10.0
S22A				LR	LR	
	comp=Z,6μm,21.0s					
N23A	**Red Feather La**	**107.32**	**48**	PFAKE		23 03 10.0
N23A				LR	LR	
	comp=Z,3μm,21.0s					
PHWY	**Pilot Hill**	**107.61**	**48**	PFAKE		23 03 10.0
PHWY				LR	LR	
	comp=Z,3μm,20.0s					
LOF	**Lofoten**	**107.61**	**343**	*e*Pdif	**Pdif**	**22 58 49.5 +3.0**
LOF				*e*PP	**PP**	**23 03 13.6 -0.8**
LOF				*e*SP	SP	23 12 34.2 +2.1
LOF				*e*SS	**SS**	**23 18 27.2 +5.1**
Y22D	**IRIS PASSCAL I**	**107.62**	**56**	PFAKE		23 03 10.0
Y22D				LR	LR	
	comp=Z,2μm,21.0s					
ISCO	**Idaho Springs**	**107.77**	**49**	P	**PKiKP**	**23 02 54.9 -1.0**
	baz=280					
ISCO	**Idaho Springs**	**107.77**	**49**	PFAKE		23 03 10.0
ISCO				LR	LR	
	comp=Z,2μm,20.0s					
ANMO	**Albuquerque**	**107.88**	**55**	P	**PKiKP**	**23 02 55.2 -0.9**
	baz=278					
ANMO	**Albuquerque**	**107.88**	**55**	PFAKE		23 03 10.0
ANMO				LR	LR	
	comp=Z,2μm,21.0s					
RSSD	**Black Hills**	**108.06**	**45**	PFAKE		23 03 10.0
RSSD				LR	LR	
	comp=Z,1μm,22.0s					
BRTR	**Keskin Array B**	**108.13**	**311**	Pdiff	**Pdif**	**22 58 48.0 -1.7**
	comp=Z,0.8nm,0.8s,baz=75,slow=5.2,SNR=4.7					
BRTR				PKiKP	**PKiKP**	**23 02 58.6 +2.3**
	comp=Z,1.5nm,0.9s,baz=0.0,slow=0.0,SNR=5.6					
BRTR				PP	**PP**	**23 03 18.3 -1.1**
	comp=Z,1.0nm,0.9s,baz=103,slow=5.6,SNR=3.6					
BRTR				PKKPbc	**PKKPbc**	**23 14 11.2 +2.0**
	comp=Z,0.6nm,0.8s,baz=3.4,slow=6.2,SNR=4.5					
BRTR	**Keskin Array B**	**108.13**	**311**	P	**Pdif**	**22 58 48.0 -1.7**
BRTR				pmax	pmax	
	comp=Z,1.0nm,0.8s					
SDCO	**Great Sand Dun**	**108.21**	**52**	P	**PKiKP**	**23 02 56.2 -0.6**
	baz=280					
SDCO	**Great Sand Dun**	**108.21**	**52**	PFAKE		23 03 10.0
SDCO				LR	LR	
	comp=Z,5μm,22.0s					
Q24A	**Divide**	**108.27**	**50**	PFAKE		23 03 10.0
Q24A				LR	LR	
	comp=Z,2μm,20.0s					
AKASG	**Malin Array Be**	**108.50**	**323**	Pdiff	**Pdif**	**22 58 48.8 -2.1**
	comp=Z,0.2nm,0.3s,baz=58,slow=4.9,SNR=4.2					
AKASG				PKiKP	**PKiKP**	**23 02 57.7 +1.2**
	comp=Z,0.6nm,0.4s,baz=61,slow=2.2,SNR=5.1					
AKASG				PP	**PP**	**23 03 22.9 +1.5**
	comp=Z,2.6nm,0.6s,baz=61,slow=6.3,SNR=6.4					
AKASG				PKKPbc	**PKKPbc**	**23 14 07.2 -1.0**
	comp=Z,2.3nm,0.7s,baz=264,slow=3.5,SNR=9.9					
AKBB	**Malin Array Si**	**108.50**	**323**	PFAKE		23 03 10.0
AKBB				LR	LR	
	comp=Z,2μm,20.0s					
MOR8	**Moi Rana**	**108.51**	**341**	*e*PP	PP	23 03 19.5 -1.4
MOR8				*e*SP	SP	23 12 41.0 -0.3
KIEV	**Kiev**	**108.51**	**323**⇑	*e*P	**Pdif**	**22 58 51.8 +1.0**
KIEV	**Kiev**	**108.51**	**323**	PFAKE		23 03 10.0
KIEV				LR	LR	
	comp=Z,2μm,20.0s					
PMSA	**Palmer Station**	**108.62**	**168**	PFAKE		23 03 10.0
PMSA				LR	LR	
	comp=Z,2μm,20.0s					
ANTO	**Ankara**	**108.74**	**311**	PFAKE		23 03 10.0
ANTO				LR	LR	
	comp=Z,600nm,22.0s					
STOK	**Stokkvaagen**	**108.87**	**341**	*e*PP	PP	23 03 23.7 +0.1
FCC	**Fort Churchill**	**109.09**	**28**	PFAKE		23 03 10.0
FCC				LR	LR	
	comp=Z,4μm,22.0s					
T25A	**Trinidad**	**109.17**	**52**	PFAKE		23 03 10.0
T25A				LR	LR	
	comp=Z,5μm,22.0s					
MNTX	**Cornudas Mount**	**109.23**	**58**	P	**PKiKP**	**23 02 58.4 -0.1**
	baz=278					
MNTX	**Cornudas Mount**	**109.23**	**58**	PFAKE		23 03 10.0
MNTX				LR	LR	
	comp=Z,2μm,21.0s					
HPIG		**109.55**	**63**	PFAKE		23 03 10.0
HPIG				LR	LR	
	comp=Z,2μm,20.0s					
KIS	**Kishinev**	**109.84**	**319**	*e*PP	PP	23 03 32.0 +0.7
KIS				*e*SKKS		23 09 28.0
KIS	**Kishinev**	**109.84**	**319**	*e*PS	PS	23 12 50.0 -11
KIS	**Kishinev**	**109.84**	**319**	*e*PPS	PPS	23 13 52.0
KIS				LRM	MLR	23 52 00.0
	comp=Z,1μm,22.0s					
MDND	**Maddock**	**110.07**	**40**	PFAKE		23 03 10.0
MDND				LR	LR	
	comp=Z,2μm,20.0s					
KSCO	**Kaye Shedlock'**	**110.19**	**50**	PFAKE		23 03 10.0
KSCO				LR	LR	
	comp=Z,3μm,22.0s					
OGNE	**Ogallala**	**110.21**	**48**	PFAKE		23 03 10.0
OGNE				LR	LR	
	comp=Z,2μm,22.0s					
BOLV	**Bolvadin**	**110.38**	**310**	PFAKE		23 03 10.0
BOLV				LR	LR	
	comp=Z,1μm,22.0s					
JMIC	**Jan Mayen**	**110.53**	**351**	*e*PP	PP	23 03 38.7 +3.4
CFR	**Carcaliu**	**110.82**	**317**⇑	*i*P	**PKiKP**	**23 03 02.4 +1.4**
CFR	**Carcaliu**	**110.82**	**317**⇓	*i*P	**PKKPbc**	**23 13 58.5 -2.1**
CFR	**Carcaliu**	**110.82**	**317**⇑	PKiKP	**PKiKP**	**23 03 02.4 +1.4**
TIRR	**Tirgusor**	**110.83**	**316**	PFAKE		23 03 10.0
TIRR				LR	LR	
	comp=Z,1μm,22.0s					
ISP	**Isparta**	**110.89**	**309**	PFAKE		23 03 10.0
ISP				LR	LR	
	comp=Z,900nm,22.0s					
TXAR	**Lajitas Array**	**111.01**	**60**	Pdiff	Pdif	22 59 22.0 +19
	comp=Z,1.1nm,1.1s,baz=235,slow=5.7,SNR=5.9					
TXAR				PKiKP	**PKiKP**	**23 03 02.6 +0.6**
	comp=Z,1.5nm,0.8s,baz=320,slow=0.9,SNR=13					
TXAR				PP	**PP**	**23 03 44.5 +3.9**
	comp=Z,3.6nm,1.1s,baz=256,slow=2.6,SNR=7.9					
TXAR				PKKPbc	**PKKPbc**	**23 14 00.9 +1.3**
	comp=Z,0.8nm,0.7s,baz=116,slow=6.1,SNR=8.5					
MSTX	**Muleshoe**	**111.05**	**55**	P	**PKiKP**	**23 03 01.8 -0.1**
	baz=280					
MSTX	**Muleshoe**	**111.05**	**55**	PFAKE		23 03 10.0
MSTX				LR	LR	
	comp=Z,2μm,19.0s					
PSN	**Preselentsi**	**111.20**	**316**	*e*P	**PP**	**23 03 40.0 -1.2**
ULM	**Lac du Bonnet**	**111.58**	**37**	PKiKP	**PKiKP**	**23 03 01.5 -0.8**
	comp=Z,2.8nm,0.7s,baz=341,slow=4.8,SNR=4.7					
PLOR	**Plostina**	**111.62**	**318**⇑	*i*P	**PKKPbc**	**23 13 58.0 -0.1**
AMTX	**Amarillo**	**111.76**	**54**	PFAKE		23 03 10.0
AMTX				LR	LR	
	comp=Z,2μm,22.0s					
PRD	**Provadia**	**111.88**	**315**	*e*P	**PP**	**23 03 48.0 +1.9**
ISR	**Istrita**	**111.91**	**317**⇑	*i*P	**PKKPbc**	**23 13 57.8 +0.7**
LVV	**L'vov**	**111.93**	**323**	*e*PKiKP		23 03 11.4
AKAS	**Kas**	**111.94**	**308**	PFAKE		23 03 10.0
AKAS				LR	LR	
	comp=Z,800nm,22.0s					
BURAR	**Bucovina Array**	**111.98**	**320**⇓	*i*P	**PKiKP**	**23 02 59.9 -3.4**
BURAR	**Bucovina Array**	**111.98**	**320**⇓	*i*P	**PKKPbc**	**23 13 57.3 +0.3**
BURAR	**Bucovina Array**	**111.98**	**320**⇓	PKiKP	**PKiKP**	**23 02 59.9 -3.4**
MLR	**Muntele Rosu**	**112.20**	**318**⇓	*i*P	**PKiKP**	**23 03 04.4 +0.6**
MLR	**Muntele Rosu**	**112.20**	**318**⇓	*i*P	**PKKPbc**	**23 13 54.6 -1.6**
MLR	**Muntele Rosu**	**112.20**	**318**⇓	PKiKP	**PKiKP**	**23 03 04.4 +0.6**
MLR	**Muntele Rosu**	**112.20**	**318**	PFAKE		23 03 20.0
MLR				LR	LR	
	comp=Z,2μm,22.0s					
AGMN	**Agassiz Nation**	**112.29**	**39**	PFAKE		23 03 20.0
AGMN				LR	LR	
	comp=Z,3μm,19.0s					
DOPR	**Dopca**	**112.41**	**319**⇑	*i*P	**PKiKP**	**23 03 05.6 +1.5**
CBKS	**Cedar Bluff**	**112.43**	**49**	PFAKE		23 03 20.0
CBKS				LR	LR	
	comp=Z,4μm,20.0s					
ZAIG	**Zacatecas**	**112.78**	**67**	PFAKE		23 03 20.0
ZAIG				LR	LR	
	comp=Z,2μm,19.0s					
NC602	**NORSAR Array S**	**112.81**	**337**	*e*SP	SP	23 13 23.4 +0.8
F33A	**5 Mile Ranch,**	**112.86**	**41**	P	**PKiKP**	**23 03 04.7 -0.2**
	baz=290					
DOMB	**Dombas**	**112.92**	**339**	*e*PP	PP	23 03 54.2 +1.4
DOMB				*e*SP	SP	23 13 22.8 -0.8
BGNE	**Belgrade**	**112.93**	**46**	PFAKE		23 03 20.0
BGNE				LR	LR	
	comp=Z,2μm,21.0s					
G33A	**Ortonville**	**112.97**	**42**	P	**PKiKP**	**23 03 04.2 -0.9**
	baz=289					
ARR	**Arges**	**113.11**	**318**⇓	*i*P	**PKiKP**	**23 03 06.7 +1.2**
ARR	**Arges**	**113.11**	**318**⇓	*i*P	**PKKPbc**	**23 13 53.8 +0.7**
BOSA	**Boshof**	**113.27**	**237**	PKiKP	**PKiKP**	**23 03 06.4 0.0**
	comp=Z,4.2nm,0.7s,baz=132,slow=4.6,SNR=8.5					
BOSA				PKKPbc	**PKKPbc**	**23 13 52.0 -0.1**
	comp=Z,2.5nm,0.8s,baz=336,slow=5.2,SNR=4.6					
PVL	**Pavlikeni**	**113.32**	**316**	*e*P	**PP**	**23 04 00.0 +3.6**
ECSD	**EROS Data Cent**	**113.32**	**44**	P	**PKiKP**	**23 03 05.1 -0.7**
	baz=288					
ECSD	**EROS Data Cent**	**113.32**	**44**	PFAKE		23 03 20.0
ECSD				LR	LR	
	comp=Z,3μm,20.0s					
UZH	**Uzhgorod**	**113.44**	**322**⇓	*i*PKiKP	**PKiKP**	**23 03 06.0 +0.1**
UZH				*e*PPP	PPP	23 06 27.4
UZH				*e*		23 09 52.2
UZH				*e*		23 13 29.0
UZH				MLR	MLR	
	comp=N,710nm,17.0s					
UZH				MLR	MLR	
	comp=E,560nm,17.0s					
H34A	**Spellman Lake,**	**113.59**	**42**	P	**PKiKP**	**23 03 05.8 -0.5**
	baz=290					
LOT	**Lotru**	**113.66**	**319**⇑	*i*P	**PKiKP**	**23 03 04.7 -1.9**
O33A	**Hebron**	**113.71**	**48**	P	**PKiKP**	**23 03 06.7 -0.1**
	baz=286					
STHS	**Stebnicka Huta**	**113.76**	**323**	*e*	**PKiKP**	**23 03 10.0 +3.5**
CRVS	**Cervenica-Dubn**	**113.84**	**323**	*e*	**PKiKP**	**23 03 09.1 +2.4**
DRGR		**113.87**	**320**⇑	*i*P	**PKiKP**	**23 03 08.7 +1.8**
DRGR		**113.87**	**320**⇓	*i*P	**PKKPbc**	**23 13 51.2 +0.6**
DRGR		**113.87**	**320**⇑	PKiKP	**PKiKP**	**23 03 08.7 +1.8**
ABTX	**Abilene, Hawle**	**113.87**	**56**	PFAKE		23 03 20.0
ABTX				LR	LR	
	comp=Z,2μm,19.0s					
LSZ	**Lusaka**	**113.98**	**252**	PFAKE		23 03 20.0
LSZ				LR	LR	
	comp=Z,1μm,21.0s					
WMOK	**Wichita Mounta**	**114.13**	**54**	P	PKPdf	23 03 07.1 -0.6
	baz=283					
WMOK	**Wichita Mounta**	**114.13**	**54**	PFAKE		23 03 20.0 +12
WMOK				LR	LR	
	comp=Z,2μm,22.0s					
JCT	**Junction City**	**114.14**	**58**	P	PKPdf	23 03 07.6 -0.3
	baz=281					
JCT	**Junction City**	**114.14**	**58**	PFAKE		23 03 20.0 +12
JCT				LR	LR	
	comp=Z,

baz=293
I35A Creekview Farm 114.40 43 P PKPdf 23 03 07.6 -0.3
baz=290
P34A Walnut Farm, R 114.42 48 P PKPdf 23 03 07.8 -0.3
baz=286
R34A Isabella, Hill 114.45 49 P PKPdf 23 03 07.7 -0.5
baz=286
Q34A Chapman 114.51 49 P PKPdf 23 03 07.5 -0.8
baz=286
E36A McGregor 114.59 40 P PKPdf 23 03 07.2 -1.0
baz=292
233A Rising Star 114.61 56 P PKPdf 23 03 08.0 -0.7
baz=282
FOO Floro 114.64 340 *e*PS PS 23 13 45.1 +1.2
F36A Milaca 114.66 41 P PKPdf 23 03 07.9 -0.4
baz=292
333A Richland Sprin 114.68 57 P PKPdf 23 03 08.1 -0.7
baz=281
433A Art 114.70 58 P PKPdf 23 03 08.3 -0.6
baz=281
KSU1 Kansas State U 114.71 48 P PKPdf 23 03 08.6 -0.1
baz=286
KSU1 Kansas State U 114.71 48 PFAKE 23 03 20.0 +11
KSU1 LR LR
comp=Z,2µm,21.0s
S34A Willow Spring 114.71 50 P PKPdf 23 03 08.2 -0.5
baz=286
G36A St. Michael 114.74 41 P PKPdf 23 03 08.2 -0.3
baz=291
633A Saathoff Ranch 114.86 59 P PKPdf 23 03 08.2 -1.0
baz=280
533A Kerrville 114.87 59 P PKPdf 23 03 08.4 -0.9
baz=281
833A Chaparral WMA, 114.87 61 P PKPdf 23 03 08.1 -1.1
baz=280
LANS Liptovska Anna 114.93 324 *e* PKPdf 23 03 11.7 +2.9
MMB Musomiste 114.96 315 *e*P **PP** **23 04 12.0 +3.9**
VTS Vitosha 115.00 316 *e*P **PP** **23 04 12.0 +3.5**
VTS Vitosha 115.00 316 PFAKE 23 03 20.0 +11
VTS LR LR
comp=Z,1µm,21.0s
BZS Buzias 115.01 319⇓ *i*P **PKPdf** **23 03 09.8 +0.8**
BZS Buzias 115.01 319⇓ *i*P **PKKPbc** **23 13 45.7 -0.8**
BZS Buzias 115.01 319 ⇓PKIKP **PKPdf** **23 03 09.8 +0.8**
J36A Seneca 1, Swea 115.02 43 P **PKPdf** **23 03 08.8 -0.3**
baz=290
P35A Duane Minner, 115.03 48 P **PKPdf** **23 03 08.4 -0.8**
baz=287
EYMN Ely 115.13 38 PFAKE 23 03 20.0 +11
EYMN LR LR
comp=Z,3µm,20.0s
PSZ Piszkesteto 115.19 322⇓ *i*P PKPdf 23 03 17.8 +8.4
PSZ Piszkesteto 115.19 322 PFAKE 23 03 20.0 +11
PSZ LR LR
comp=Z,2µm,20.0s
L36A Harm Buss Farm 115.20 45 P **PKPdf** **23 03 09.0 -0.5**
baz=289
Q35A Mercer Eighty, 115.21 49 P **PKPdf** **23 03 08.3 -1.3**
baz=287
234A Clairette 115.25 56 P **PKPdf** **23 03 09.8 -0.1**
baz=282
MDVR Moldovita 115.25 318⇑ *i*P **PKPdf** **23 03 07.7 -1.9**
334A Lometa 115.30 57 P **PKPdf** **23 03 09.7 -0.3**
baz=282
S35A Otter Creek Ra 115.32 50 P **PKPdf** **23 03 09.9 0.0**
baz=286
KKB Krupnik 115.33 315 *e*P **PP** **23 04 14.0 +3.4**
LNIG Linares 115.34 64 PFAKE 23 03 20.0 +10
LNIG LR LR
comp=Z,3µm,22.0s
U35A Pawnee 115.35 51 P **PKPdf** **23 03 09.8 -0.2**
baz=285
534A Blanco 115.36 59 P **PKPdf** **23 03 10.0 -0.1**
baz=281
SPMN Marine on St. 115.37 41 P **PKPdf** **23 03 09.7 0.0**
baz=292
SPMN Marine on St. 115.37 41 PFAKE 23 03 20.0 +10
SPMN LR LR
comp=Z,2µm,22.0s
BER Bergen 115.38 339 *e*SP SP 23 13 47.4 +1.5
434A Burnet 115.38 58 P **PKPdf** **23 03 10.1 -0.1**
baz=282
T35A Sooner Cattle 115.38 51 P **PKPdf** **23 03 09.0 -1.0**
baz=286
OKC Ostrava-Krasne 115.40 325 *e*PKP **PKPdf** **23 03 11.2 +1.6**
OKC *e*PP **PP** **23 04 14.5 +3.8**
OKC *e*PS **PKKPab** **23 13 48.5 -0.8**
OKC AMS AMS 23 54 10.0
comp=Z,2µm,19.1s
OKC Ostrava-Krasne 115.40 325 *e*PKIKP **PKPdf** **23 03 11.2 +1.6**
OKC *e* 23 04 14.5
OKC *e*PS **PKKPab** **23 13 48.5 -0.8**
OKC MLR MLR
comp=Z,2µm,19.1s
N36A Muff Farm, Cla 115.41 46 P **PKPdf** **23 03 09.4 -0.6**
baz=288
I37A Lemond, Waseca 115.42 42 P **PKPdf** **23 03 09.8 0.0**
baz=291
V35A Meyer Ranch, C 115.43 52 P **PKPdf** **23 03 09.9 -0.3**
baz=285
W35A Tecumseh 115.55 53 P **PKPdf** **23 03 10.2 -0.2**
baz=284
HOMB Homborsund 115.56 336 *e*PP PP 23 04 13.2 +1.8
J37A Redenius Farm, 115.56 43 P **PKPdf** **23 03 10.2 0.0**
baz=291
VYHS Vyhne 115.59 323 *e*PP PP 23 04 20.3 +8.1
Q36A Arnold C. Orve 115.61 48 P **PKPdf** **23 03 10.2 -0.1**
baz=287
BLS5 Blasjo 115.61 338 *e*PS PS 23 13 52.6 -0.5
RGN Rugen 115.61 331 PFAKE 23 03 20.0 +10
RGN LR LR
comp=Z,2µm,22.0s
E38A The Farm, Brul 115.64 39 P **PKPdf** **23 03 09.8 -0.4**
baz=294
K37A Belmond 115.69 44 P **PKPdf** **23 03 10.7 +0.3**
baz=290
Y35A Marietta 115.72 54 P **PKPdf** **23 03 10.5 -0.2**
baz=284
R36A Gordon, Harris 115.76 49 P **PKPdf** **23 03 10.7 0.0**
baz=287
MORC Moravsky Berou 115.78 325⇑ *i*P **PKPdf** **23 03 10.4 0.0**
MORC Moravsky Berou 115.78 325 *e*PKIKP **PKPdf** **23 03 09.1 -1.4**
MORC Moravsky Berou 115.78 325 *e*PKPdf **PKPdf** **23 03 09.1 -1.4**
WHTX Lake Whitney, 115.81 56 P **PKPdf** **23 03 10.0 -1.0**
baz=283
WHTX Lake Whitney, 115.81 56 PFAKE 23 03 20.0 +9.0
WHTX LR LR
comp=Z,2µm,20.0s
T36A Boggs Farm, Ca 115.83 50 P **PKPdf** **23 03 10.2 -0.6**
baz=286
M37A Trindle Farm, 115.86 45 P **PKPdf** **23 03 10.0 -0.8**
baz=290
S36A Lake Cedric, C 115.86 50 P **PKPdf** **23 03 10.3 -0.6**
baz=287
N37A Lee Faris, Mou 115.97 46 P **PKPdf** **23 03 10.9 -0.1**
baz=289
335A Moody 115.99 57 P **PKPdf** **23 03 11.2 -0.1**
baz=282
G38A Ridgeland 116.01 41 P **PKPdf** **23 03 10.5 -0.5**
baz=293
W36A Wetumka 116.07 53 P **PKPdf** **23 03 10.9 -0.5**
baz=285
KRLC Kraliky 116.07 325 *e*PKP **PKPdf** **23 03 12.6 +1.6**
KRLC *e*PP **PP** **23 04 19.1 +3.6**
KRLC Kraliky 116.07 325 *e*PKIKP **PKPdf** **23 03 12.6 +1.6**
KRLC *e* 23 04 19.1
635A Leesville 116.08 59 P **PKPdf** **23 03 11.2 -0.3**
baz=281
X36A Centrahoma 116.11 53 P **PKPdf** **23 03 11.5 0.0**
baz=285
V36A Jenks 116.12 52 P **PKPdf** **23 03 11.7 +0.2**
baz=286
I38A Scanlan Farm, 116.13 42 P **PKPdf** **23 03 10.9 -0.3**
baz=292
U36A Oologah 116.13 51 P **PKPdf** **23 03 11.7 +0.3**
baz=286
DPC Dobruska-Polom 116.20 326 *e*PKP **PKPdf** **23 03 11.8 +0.6**
DPC *e*PP **PP** **23 04 19.9 +3.5**
DPC *e*PKKP **PKKPbc** **23 13 42.7 +0.1**
DPC *e*PS **PS** **23 13 55.8 -3.1**
DPC AMS AMS 23 54 50.0
comp=Z,3µm,20.0s
DPC Dobruska-Polom 116.20 326 *e*PKIKP **PKPdf** **23 03 11.8 +0.6**
DPC *e* 23 04 19.9
DPC *e* 23 13 55.8
DPC MLR MLR
comp=Z,3µm,20.0s
TUL1 Leonard 116.21 52 P **PKPdf** **23 03 11.9 +0.2**
baz=286
TUL1 Leonard 116.21 52 PFAKE 23 03 20.0 +8.4
TUL1 LR LR
comp=Z,4µm,20.0s
UNM Universidad Na 116.27 70 PFAKE 23 03 20.0 +7.5
UNM LR LR
comp=Z,2µm,22.0s
R37A Teagarden Farm 116.27 49 P **PKPdf** **23 03 11.9 +0.3**
baz=287
SCIA State Center 116.29 45 PFAKE 23 03 20.0 +8.4
SCIA LR LR
comp=Z,2µm,21.0s
J38A Wedel Dairy, R 116.30 43 P **PKPdf** **23 03 11.5 -0.1**
baz=292
UPC Upice 116.30 326 *e*PP PP 23 04 17.9 +0.9
UPC *e*PS **PS** **23 13 57.8 -1.9**
UPC AMS AMS 23 54 20.0
comp=Z,2µm,19.5s
KVTX Kingsville 116.31 61 PFAKE 23 03 20.0 +8.0
KVTX LR LR
comp=Z,2µm,18.0s
F39A Loretta 116.32 40 P **PKPdf** **23 03 11.5 0.0**
baz=294
Y36A Durant 116.33 54 P **PKPdf** **23 03 11.4 -0.5**
baz=284
Z36A Blue Ridge 116.36 55 P **PKPdf** **23 03 11.7 -0.3**
baz=284
Q37A Longview Farm, 116.38 48 P **PKPdf** **23 03 11.3 -0.6**
baz=288
L38A Oak Wood Farm, 116.38 44 P **PKPdf** **23 03 11.9 +0.1**
baz=291
S37A Fort Scott 116.43 49 P **PKPdf** **23 03 11.6 -0.4**
baz=287
SKO Skopje 116.45 316 *i* P **PKPdf** **23 03 13.9 +2.0**
336A Riesel 116.45 57 P **PKPdf** **23 03 11.9 -0.3**
baz=283
M38A Pleasantville 116.47 45 P **PKPdf** **23 03 12.1 +0.1**
baz=290
T37A Cheneyville 18 116.55 50 P **PKPdf** **23 03 12.4 +0.1**
baz=287
H39A Augusta 116.58 41 P **PKPdf** **23 03 11.3 -0.7**
baz=293
236A Katherine and 116.58 56 P **PKPdf** **23 03 11.7 -0.7**
baz=283
U37A Salina 116.60 51 P **PKPdf** **23 03 12.6 +0.2**
baz=286
N38A Joes South For 116.65 46 P **PKPdf** **23 03 11.8 -0.6**
baz=290
636A Smothers Creek 116.67 59 P **PKPdf** **23 03 12.8 +0.1**
baz=282
W37B Quinton 116.70 52 P **PKPdf** **23 03 12.4 -0.2**
baz=286
O38A Galt 116.70 47 P **PKPdf** **23 03 12.1 -0.4**
baz=289
V37A Hulbert 116.72 51 P **PKPdf** **23 03 12.0 -0.6**
baz=286
I39A Houston 116.74 42 P **PKPdf** **23 03 12.0 -0.4**
baz=293
E40A Wakefield 116.74 39 P **PKPdf** **23 03 12.1 -0.3**
baz=295
736A Circle Diamond 116.77 59 P **PKPdf** **23 03 12.5 -0.3**
baz=281
AGG Agios Georgios 116.79 312 *e*PKIKP **PKPdf** **23 03 13.1 +0.4**
AGG MLR MLR
comp=Z,2µm,20.0s
AGG Agios Georgios 116.79 312 *e*PKPdf **PKPdf** **23 03 13.1 +0.4**
AGG LR LR
comp=Z,2µm,20.0s
J39A Decorah 116.81 43 P **PKPdf** **23 03 12.3 -0.2**
baz=292
P38A Dawn 116.82 47 P **PKPdf** **23 03 12.3 -0.4**
baz=289
Y37A Hugo 116.85 54 P **PKPdf** **23 03 12.3 -0.5**
baz=285
BIA Bitola 116.86 315 *i* P **PKPdf** **23 03 19.8 +7.0**
X37A Clayton 116.89 53 P **PKPdf** **23 03 12.7 -0.3**
baz=285
Q38A Cooks Store, C 116.97 48 P **PKPdf** **23 03 12.3 -0.7**
baz=289
TLIG Tlapa 117.00 72 PFAKE 23 03 30.0 +16
TLIG LR LR
comp=Z,3µm,20.0s
T38A Diamond 117.05 50 P **PKPdf** **23 03 13.0 -0.2**
baz=287
L39A Vinton 117.06 44 P **PKPdf** **23 03 12.5 -0.5**
baz=291
137A Heron Place, G 117.08 55 P **PKPdf** **23 03 13.0 -0.3**
baz=284
PVCC Panska Ves 117.09 327 *e*PKP **PKPdf** **23 03 13.7 +0.8**
PVCC *ep*PKP **pPKPdf** **23 03 20.3 -2.8**
PVCC *e*PP **PP** **23 04 24.4 +1.9**
PVCC AMS AMS 23 54 50.0
comp=Z,2µm,21.5s
PVCC Panska Ves 117.09 327 *e*PKIKP **PKPdf** **23 03 13.7 +0.8**
PVCC *e* 23 03 20.3
PVCC *e* 23 04 24.4
PVCC MLR MLR
comp=Z,2µm,21.5s
N39A Derby Farms, D 117.15 45 P **PKPdf** **23 03 12.9 -0.4**
baz=290
U38A Gravette 117.16 51 P **PKPdf** **23 03 12.8 -0.7**
baz=287
M39A Webster 117.17 45 P **PKPdf** **23 03 12.6 -0.7**
baz=291
H40A Chili 117.18 41 P **PKPdf** **23 03 12.6 -0.6**
baz=294
OHR Ohrid 117.20 315 *i* P **PKPdf** **23 03 15.4 +1.9**
BRG Berggiesshubel 117.26 327 *e*PKP **PKPdf** **23 03 13.6 +0.4**
BRG comp=Z,23nm,1.5s *i* 23 03 20.4
BRG comp=Z,27nm,1.3s *e*PP **PP** **23 04 24.5 +0.9**
BRG comp=Z,22nm,1.7s SP SP 23 14 09.0 +5.4
BRG SS **SS** **23 20 38.0 +7.0**
comp=N,2µm,26.6s
comp=E,789nm,20.5s
comp=Z,2µm,19.4s
BRG Berggiesshubel 117.26 327 *e*PKIKP **PKPdf** **23 03 13.6 +0.4**
BRG *i* 23 03 20.4
BRG *e* 23 04 24.5
BRG SP SP 23 14 09.0 +5.4
BRG SS **SS** **23 20 38.0 +7.0**
BRG pmax pmax
comp=Z,23nm,1.5s
BRG comp=Z,22nm,1.7s pmax pmax
BRG comp=N,2µm,26.6s MLR MLR
BRG comp=E,789nm,20.5s MLR MLR
BRG comp=Z,2µm,19.4s MLR MLR
GOPC GO Pecny, Ondr 117.28 326 *e*PKP **PKPdf** **23 03 14.1 +0.8**
GOPC *e*PP **PP** **23 04 27.4 +3.5**
GOPC *e*PS **PS** **23 14 09.9 +1.3**
GOPC AMS AMS 23 54 50.0
comp=Z,3µm,19.6s
GOPC GO Pecny, Ondr 117.28 326 *e*PKIKP **PKPdf** **23 03 14.1 +0.8**
GOPC *e* 23 04 27.4
GOPC *e*PS **PS** **23 14 09.9 +1.3**
GOPC MLR MLR
comp=Z,3µm,19.6s
X38A Whitesboro 117.30 53 P **PKPdf** **23 03 13.1 -0.7**
baz=286
V38A Canehill 117.30 51 P **PKPdf** **23 03 13.0 -0.8**
baz=287
O39A Kirksville 117.33 46 P **PKPdf** **23 03 12.6 -1.1**
baz=290
PRU Pruhonice 117.38 326 *e*PKP **PKPdf** **23 03 14.5 +1.1**
PRU *ep*PKP **pPKPdf** **23 03 19.7 -4.0**
PRU *e*PP **PP** **23 04 28.3 +3.8**
PRU *e*PS **PS** **23 14 08.1 -1.4**
PRU *e*SS SS 23 20 34.8 +2.1
PRU AMS AMS 23 54 50.0
comp=Z,2µm,18.0s
PRU Pruhonice 117.38 326 *e*PKIKP **PKPdf** **23 03 14.5 +1.1**
PRU *e* 23 03 19.7
PRU *e* 23 04 28.3
PRU *e*PS **PS** **23 14 08.1 -1.4**
PRU *e*SS SS 23 20 34.8 +2.1
PRU MLR MLR
comp=Z,2µm,18.0s
PRA Prague 117.40 326 *e*PP PP 23 04 29.3 +4.7
PRA *e*PS **PKKPdf** **23 14 03.7 -2.1**
PRA AMS AMS 23 55 00.0
comp=Z,2µm,22.5s
Q39A Willow Grove F 117.42 48 P **PKPdf** **23 03 13.1 -0.7**
baz=289
K40A Colesburg 117.44 43 P **PKPdf** **23 03 13.1 -0.6**
baz=292
P39B Salisbury 117.44 47 P **PKPdf** **23 03 12.9 -0.9**
baz=290
W38A Poteau 117.44 52 P **PKPdf** **23 03 13.5 -0.5**
baz=286
J40A Soldiers Grove 117.44 42 P **PKPdf** **23 03 12.8 -1.0**
baz=293
CLL Collm 117.53 328 *e*PKIKP **PKPdf** **23 03 13.0 -0.7**
CLL *i* 23 03 20.1
CLL *e* 23 04 30.0
CLL pmax pmax
comp=Z,14nm,1.0s
CLL MLR MLR
comp=Z,2µm,22.4s
CLL Collm 117.53 328 *e*PKiKP **PKPdf** **23 03 13.0 -0.7**
comp=Z,14nm,1.0s
CLL *i* pPKiKP **pPKPdf** **23 03 20.1 -3.8**
CLL *e*PP **PP** **23 04 30.0 +4.5**
CLL *e*PPP PPP 23 06 48.0
CLL *e*PS **PS** **23 14 10.0 -0.8**
CLL *e*PPS PPS 23 15 24.0
CLL *e*SS SS 23 20 30.0 -4.6
CLL *e*SSS SSS 23 25 06.0
CLL *e* 23 26 24.0
CLL *e* 23 32 12.0
CLL Collm 117.53 328 *e*PKPdf **PKPdf** **23 03 13.5 -0.1**
CLL LR LR
comp=Z,2µm,22.0s
Z38A Mt. Pleasant 117.54 54 P **PKPdf** **23 03 13.7 -0.5**
baz=285
HHAR Hobbs 117.55 51 PFAKE 23 03 30.0 +16
HHAR LR LR
comp=Z,3µm,22.0s
Y38A Idabel 117.57 53 P **PKPdf** **23 03 13.6 -0.7**
baz=285
S39A Bolivar 117.59 49 P **PKPdf** **23 03 13.5 -0.8**
baz=288
138A Matatall Enter 117.61 55 P **PKPdf** **23 03 13.9 -0.5**
baz=284
R39A Chumby, Stover 117.61 48 P **PKPdf** **23 03 13.3 -1.0**
baz=289
L40A Anamosa 117.62 44 P **PKPdf** **23 03 13.6 -0.6**
baz=292
CONA Conrad Observa 117.62 323 *i* PKiKP **PKiKP** **23 03 14.7 +0.6**
comp=Z,11nm,1.2s
M40A Post Highland 117.66 45 P **PKPdf** **23 03 13.7 -0.5**
baz=292
H41A Junction City 117.67 41 P **PKPdf** **23 03 13.6 -0.6**
baz=295
G41A Antigo 117.72 40 P **PKPdf** **23 03 14.0 -0.2**
baz=295
238A Jacksonville 117.74 56 P **PKPdf** **23 03 14.4 -0.3**
baz=284
I41A Arkdale 117.75 41 P **PKPdf** **23 03 14.1 -0.2**
baz=294
T39A Clever 117.76 50 P **PKPdf** **23 03 14.1 -0.5**
baz=288
TIR Tirane 117.77 315 PFAKE 23 03 30.0 +16
TIR LR LR
comp=Z,1µm,20.0s
PDG Podgorica 117.79 317⇑ *i*P **PKPdf** **23 03 15.2 +0.8**
N40A Mertquake, Sal 117.80 45 P **PKPdf** **23 03 13.6 -0.9**
baz=291
O40A La Belle 117.86 46 P **PKPdf** **23 03 13.7 -0.9**
baz=291
U39A Green Forest 117.87 51 P **PKPdf** **23 03 14.1 -0.7**
baz=288
V39A Pettigrew 117.90 51 P **PKPdf** **23 03 14.3 -0.6**
baz=287
X39A Fountain Ranch 117.91 53 P **PKPdf** **23 03 14.4 -0.5**
baz=286
J41A Loganville 117.94 42 P **PKPdf** **23 03 14.2 -0.6**
baz=294
P40A Paris 117.94 47 P **PKPdf** **23 03 14.4 -0.5**
baz=290
JFWS Jewell Farm 117.96 43 *e*PKIKP **PKPdf** **23 03 14.0 -0.8**
JFWS MLR MLR
comp=Z,3µm,22.0s
JFWS Jewell Farm 117.96 43 *e*PKPdf **PKPdf** **23 03 14.0 -0.8**
JFWS LR LR
comp=Z,3µm,22.0s
W39A Magazine 117.98 52 P **PKPdf** **23 03 15.2 +0.2**
baz=287
K41A Shullsburg 118.04 43 P **PKPdf** **23 03 14.4 -0.6**
baz=293
Y39A Lockesburg 118.08 53 P **PKPdf** **23 03 14.8 -0.5**
baz=286
Q40A Laux Farm, Aux 118.10 47 P **PKPdf** **23 03 14.4 -0.7**
baz=290
L41A Preston 118.11 44 P **PKPdf** **23 03 14.8 -0.3**
baz=293
ARSA Arzberg 118.14 323 *i* pPKPdf **PKPdf** **23 03 18.5 +3.4**
comp=Z,8.4nm,1.4s
ARSA *i* PKKPab **PKKPab** **23 13 39.6 +2.3**
comp=Z,4.2nm,1.2s
NATX Nacogdoches 118.18 56 PFAKE 23 03 30.0 +14
NATX LR LR
comp=Z,1µm,20.0s
R40A Maddies Statio 118.19 48 P **PKPdf** **23 03 15.2 -0.1**
baz=289
S40A Lebanon 118.24 49 P **PKPdf** **23 03 14.6 -0.9**
baz=289
439A Center Grove, 118.33 57 P **PKPdf** **23 03 14.8 -1.0**
baz=284
MIAR Mount Ida 118.33 53 P **PKPdf** **23 03 15.0 -0.7**
baz=286
MIAR Mount Ida 118.33 53 *e*PKIKP **PKPdf** **23 03 14.6 -1.1**
MIAR MLR MLR
comp=Z,3µm,22.0s
MIAR Mount Ida 118.33 53 *e*PKPdf **PKPdf** **23 03 14.6 -1.1**
MIAR LR LR
comp=Z,3µm,22.0s
M41A Milan 118.35 44 P **PKPdf** **23 03 15.2 -0.4**
baz=292
KHC Kasperske Hory 118.35 326 *e*PKP **PKPdf** **23 03 15.4 0.0**
KHC *ep*PKP **pPKPdf** **23 03 21.8 -3.8**
KHC *ex* x 23 03 29.2
KHC *e*PP **PP** **23 04 29.5 -1.9**
KHC *e*PKKP **PKKPab** **23 13 39.0 +2.6**
KHC *e*PS **PS** **23 14 19.2 +0.8**
KHC *e*SS SS 23 20 45.4 -0.1
KHC AMS AMS 23 55 30.0
comp=Z,3µm,19.2s
KHC Kasperske Hory 118.35 326 *e*PKIKP **PKPdf** **23 03 15.4 0.0**
KHC *e* 23 03 21.8
KHC *e* 23 04 29.5
KHC *e*PS **PS** **23 14 19.2 +0.8**
KHC *e*SS SS 23 20 45.4 -0.1
KHC MLR MLR
comp=Z,3µm,19.2s
KHC Kasperske Hory 118.35 326 *e*PKPdf **PKPdf** **23 03 15.6 +0.2**
KHC LR LR
comp=Z,1µm,20.0s
U40A Yellville 118.36 50 P **PKPdf** **23 03 15.3 -0.5**
baz=288
T40A Mansfield 118.37 49 P **PKPdf** **23 03 15.1 -0.7**
baz=289
NKC Novy Kostel 118.40 327 *e*PKP **PKPdf** **23 03 16.9 +1.5**
NKC *e*PP **PP** **23 04 35.0 +3.3**
NKC AMS AMS 23 55 30.0
comp=Z,2µm,20.6s
NKC Novy Kostel 118.40 327 *e*PKIKP **PKPdf** **23 03 16.9 +1.5**
NKC *e* 23 04 35.0
NKC MLR MLR
comp=Z,2µm,20.6s
GEC2 GERESS Array S 118.43 325 *e*PKIKP **PKPdf** **23 03 15.9 +0.2**
GEC2 *e* 23 04 34.0
GEC2 MLR MLR
comp=Z,3µm,21.0s
GEC2 GERESS Array S 118.43 325 *e*PKPdf **PKPdf** **23 03 15.9 +0.2**
GEC2 *e*PP **PP** **23 04 34.0 +2.1**
GEC2 LR LR
comp=Z,3µm,21.0s
GERES GERESS Array B 118.43 325 PKP **PKPdf** **23 03 15.0 -0.6**
comp=Z,3.9nm,0.6s,baz=63,slow=1.8,SNR=35
GERES PKKPbc **PKKPbc** **23 13 34.2 -0.5**
comp=Z,1.4nm,0.8s,baz=213,slow=4.6,SNR=9.8
GEA0 GERESS Array S 118.43 325 *e*PKPdf **PKPdf** **23 03 15.4 -0.2**
GEA0 *e*PP **PP** **23 04 34.6 +2.6**
W40A Ferguson Farm, 118.54 52 P **PKPdf** **23 03 15.4 -0.7**

	baz=287								
V40A	**Witts Springs**	**118.55**	**51**		P	**PKPdf**	**23 03 15.4**	**-0.8**
	baz=288								
O41A	**Passleys Farm,**	**118.57**	**46**		P	**PKPdf**	**23 03 15.4**	**-0.6**
	baz=291								
MOA	**Molln**	**118.60**	**324**	*i*	PKiKP	**PKiKP**	**23 03 16.6**	**+0.6**
	comp=Z,5.6nm,0.8s								
MOA				*i*	PKKPab	**PKKPbc**	**23 13 33.5**	**-0.4**
	comp=Z,2.2nm,0.6s								
P41A	**Barry, Barry**	**118.60**	**46**		P	**PKPdf**	**23 03 15.6**	**-0.5**
	baz=291								
PERS	**Pernice**	**118.67**	**322**	*i*	PKPdf	**PKPdf**	**23 03 16.6**	**+0.5**
SOKA	**Soboth**	**118.71**	**323**	*i*	PKiKP	**PKiKP**	**23 03 16.9**	**+0.7**
	comp=Z,14nm,1.1s								
Y40A	**Okolona**	**118.71**	**53**		P	**PKPdf**	**23 03 16.0**	**-0.5**
	baz=286								
Q41A	**Truxton**	**118.73**	**47**		P	**PKPdf**	**23 03 15.5**	**-0.9**
	baz=290								
LVIG	**Laguna Verde**	**118.81**	**70**		PFAKE		23 03 30.0	+13
LVIG					LR	LR			
	comp=Z,2µm,20.0s								
S41A	**Jillco Farms,**	**118.81**	**49**		P	**PKPdf**	**23 03 15.9**	**-0.7**
	baz=289								
Z40A	**Long Farm, Mag**	**118.82**	**54**		P	**PKPdf**	**23 03 15.8**	**-1.0**
	baz=286								
R41A	**Rosebud**	**118.85**	**48**		P	**PKPdf**	**23 03 16.4**	**-0.2**
	baz=290								
N42A	**Yates City**	**118.91**	**45**		P	**PKPdf**	**23 03 16.0**	**-0.7**
	baz=292								
WLAR	**White Oak Lake**	**118.94**	**53**	*e*	PKPdf	**PKPdf**	**23 03 16.5**	**-0.4**
WLAR					LR	LR			
	comp=Z,2µm,21.0s								
440A	**Kirbyville**	**119.01**	**57**		P	**PKPdf**	**23 03 16.3**	**-0.9**
	baz=284								
X301	**Greenbrier Sit**	**119.05**	**51**	*e*	PKPdf	**PKPdf**	**23 03 17.5**	**+0.4**
X301					LR	LR			
	comp=Z,2µm,21.0s								
V41A	**Mountainview**	**119.07**	**51**		P	**PKPdf**	**23 03 16.9**	**-0.3**
	baz=288								
OBKA	**Obir**	**119.08**	**323**	*i*	PKiKP	**PKiKP**	**23 03 17.5**	**+0.5**
	comp=Z,10nm,1.1s								
OBKA				*i*	PKKPab	**PKKPbc**	**23 13 31.9**	**-0.3**
	comp=Z,6.3nm,0.9s								
U41A	**Viola**	**119.08**	**50**		P	**PKPdf**	**23 03 16.3**	**-0.8**
	baz=289								
BOJS	**Bojanci**	**119.12**	**321**	*i*	PKPdf	**PKPdf**	**23 03 18.1**	**+1.1**
WHAR	**Wooly Hollow**	**119.12**	**51**	*e*	PKPdf	**PKPdf**	**23 03 14.3**	**-3.0**
WHAR					LR	LR			
	comp=Z,2µm,21.0s								
P42A	**Winchester**	**119.15**	**46**		P	**PKPdf**	**23 03 16.4**	**-0.7**
	baz=292								
X41A	**Kaden, Bauxite**	**119.18**	**52**		P	**PKPdf**	**23 03 16.5**	**-0.8**
	baz=287								
W41B	**Gary Mavity, V**	**119.19**	**51**		P	**PKPdf**	**23 03 16.9**	**-0.5**
	baz=288								
UALR	**University of**	**119.23**	**52**	*e*	PKPdf	**PKPdf**	**23 03 16.2**	**-1.3**
UALR					LR	LR			
	comp=Z,3µm,21.0s								
VISS	**Visnje**	**119.24**	**322**	*i*	PKPdf	**PKPdf**	**23 03 18.2**	**+1.0**
Y41A	**Eaglette Beard**	**119.28**	**53**		P	**PKPdf**	**23 03 17.3**	**-0.3**
	baz=287								
R42A	**Luebbering**	**119.28**	**48**		P	**PKPdf**	**23 03 16.7**	**-0.8**
	baz=290								
Z41A	**Richland Creek**	**119.30**	**54**		P	**PKPdf**	**23 03 16.4**	**-1.2**
	baz=286								
GRFO	**Grafenberg**	**119.36**	**327**		PFAKE		23 03 30.0	+13
GRFO					LR	LR			
	comp=Z,2µm,21.0s								
141A	**Papa Simpson,**	**119.40**	**54**		P	**PKPdf**	**23 03 17.5**	**-0.3**
	baz=286								
S42A	**Caledonia**	**119.46**	**48**		P	**PKPdf**	**23 03 17.4**	**-0.5**
	baz=290								
341A	**Kurthwood**	**119.52**	**56**		P	**PKPdf**	**23 03 16.9**	**-1.3**
	baz=285								
KBA	**Koelnbreinsper**	**119.52**	**324**	*i*	PKiKP	**PKiKP**	**23 03 18.3**	**+0.3**
	comp=Z,15nm,0.9s								
KBA				*i*	PKKPab	**PKKPab**	**23 13 33.4**	**+1.9**
	comp=Z,3.5nm,0.9s								
HDIL	**Hopedale**	**119.53**	**45**		P	**PKPdf**	**23 03 16.8**	**-1.0**
	baz=293								
HDIL	**Hopedale**	**119.53**	**45**	*e*	PKPdf	**PKPdf**	**23 03 16.9**	**-1.0**
HDIL					LR	LR			
	comp=Z,2µm,22.0s								
MYKA	**Terra Mystica**	**119.57**	**323**	*i*	PKiKP	**PKiKP**	**23 03 17.9**	**0.0**
	comp=Z,6.0nm,0.7s								
MYKA				*i*	PKKPab	**PKKPbc**	**23 13 30.6**	**+0.2**
	comp=Z,7.1nm,0.8s								
SLM	**Saint Louis**	**119.57**	**47**		PFAKE		23 03 30.0	+12
SLM					LR	LR			
	comp=Z,3µm,20.0s								
U42A	**Revenden**	**119.60**	**50**		P	**PKPdf**	**23 03 17.8**	**-0.3**
	baz=289								
O43A	**Sugar Creek Fa**	**119.62**	**45**		P	**PKPdf**	**23 03 17.2**	**-0.9**
	baz=293								
V42A	**Cord**	**119.66**	**51**		P	**PKPdf**	**23 03 17.7**	**-0.6**
	baz=289								
JAVS	**Javornik**	**119.67**	**322**	*i*	PKPdf	**PKPdf**	**23 03 19.1**	**+0.9**
P43A	**Skaggs, Pawnee**	**119.72**	**46**		P	**PKPdf**	**23 03 17.8**	**-0.5**
	baz=292								
X42A	**Stuttgart**	**119.86**	**52**		P	**PKPdf**	**23 03 18.6**	**-0.1**
	baz=288								
R43A	**Red Bud**	**119.92**	**47**		P	**PKPdf**	**23 03 18.2**	**-0.4**
	baz=291								
CCAR	**Cane Creek**	**119.94**	**53**		PFAKE		23 03 30.0	+11
CCAR					LR	LR			
	comp=Z,3µm,22.0s								
TRI	**Trieste**	**119.94**	**322**	*e*	PKIKP	**PKPdf**	**23 03 17.2**	**-1.3**
TRI					MLR	MLR			
	comp=Z,2µm,20.0s								
TRI	**Trieste**	**119.94**	**322**	*e*	PKPdf	**PKPdf**	**23 03 17.2**	**-1.3**
TRI				*e*	PP	PP	23 04 33.4	-9.0
TRI					LR	LR			
	comp=Z,2µm,20.0s								
Y42A	**Garnett, Star**	**119.95**	**53**		P	**PKPdf**	**23 03 17.9**	**-1.0**
	baz=287								
Z42A	**Norrel Spur, H**	**119.99**	**53**		P	**PKPdf**	**23 03 18.4**	**-0.5**
	baz=287								
S43A	**Fulton Ridge,**	**120.06**	**48**		P	**PKPdf**	**23 03 18.1**	**-0.9**
	baz=291								
PBMO	**Poplar Bluff**	**120.07**	**49**	*e*	PKPdf	**PKPdf**	**23 03 18.1**	**-0.9**
PBMO					LR	LR			
	comp=Z,5µm,21.0s								
T43A	**Greenville**	**120.08**	**49**		P	**PKPdf**	**23 03 18.3**	**-0.7**
	baz=290								
ABTA	**Abfaltersbach**	**120.18**	**324**	*i*	PKiKP	**PKiKP**	**23 03 19.6**	**+0.5**
	comp=Z,22nm,1.1s,SNR=9.3								
ABTA				*i*	PKKPab	**PKKPbc**	**23 13 27.4**	**-0.8**
	comp=Z,8.2nm,1.5s								
Q44A	**Meyer Farm, Va**	**120.36**	**46**		P	**PKPdf**	**23 03 19.3**	**-0.2**
	baz=292								
WATA	**Walderalm**	**120.43**	**325**	*i*	PKiKP	**PKiKP**	**23 03 20.5**	**+0.8**
	comp=Z,8.7nm,0.7s								
P44A	**Sand Creek, Wi**	**120.43**	**46**		P	**PKPdf**	**23 03 19.6**	**0.0**
	baz=293								
WTTA	**Wattenberg**	**120.43**	**324**	*i*	PKiKP	**PKiKP**	**23 03 20.3**	**+0.6**
	comp=Z,32nm,1.0s								
WTTA				*i*	PKKPab	**PKKPbc**	**23 13 27.3**	**-0.1**
	comp=Z,3.4nm,1.0s								
R44A	**Waltonville**	**120.56**	**47**		P	**PKPdf**	**23 03 19.7**	**-0.2**
	baz=292								
T44A	**Benton**	**120.60**	**49**		P	**PKPdf**	**23 03 19.5**	**-0.5**
	baz=291								
S44A	**Carbondale**	**120.63**	**48**		P	**PKPdf**	**23 03 19.9**	**-0.2**
	baz=291								
MOTA	**Moosalm**	**120.70**	**325**	*i*	PKiKP	**PKiKP**	**23 03 21.0**	**+0.8**
	comp=Z,17nm,0.7s,SNR=18								
MOTA				*i*	PKKPab	**PKKPab**	**23 13 25.0**	**-1.3**
PVMO	**Portageville**	**120.75**	**49**		PFAKE		23 03 30.0	+10
PVMO					LR	LR			
	comp=Z,5µm,20.0s								
RETA	**Reutte**	**120.82**	**325**	*i*	PKiKP	**PKiKP**	**23 03 21.1**	**+0.7**
	comp=Z,7.3nm,0.9s								
RETA				*i*	PKKPab	**PKKPbc**	**23 13 26.1**	**+0.3**
	comp=Z,11nm,1.8s								
TUIG	**Tuzandepetl**	**120.88**	**71**		PFAKE		23 03 30.0	+8.9
TUIG					LR	LR			
	comp=Z,3µm,22.0s								
STU	**Stuttgart**	**120.98**	**327**	*e*	PKIKP	**PKPdf**	**23 03 19.7**	**-0.7**
STU	**Stuttgart**	**120.98**	**327**	*e*	PKPdf	**PKPdf**	**23 03 19.7**	**-0.7**
MET	**Memphis--Engin**	**121.00**	**51**		PFAKE		23 03 30.0	+9.2
MET					LR	LR			
	comp=Z,2µm,20.0s								
U44B	**Burton Farm, H**	**121.04**	**49**		P	**PKPdf**	**23 03 20.8**	**-0.1**
	baz=290								
FETA	**Feichten**	**121.08**	**325**	*i*	PKiKP	**PKiKP**	**23 03 22.1**	**+1.1**
	comp=Z,15nm,0.9s,SNR=8.4								
FETA				*i*	PKKPbc	**PKKPab**	**23 13 22.1**	**-2.6**
	comp=Z,3.8nm,0.9s								
OLIL	**Olney**	**121.09**	**46**	*e*	PKPdf	**PKPdf**	**23 03 19.6**	**-1.3**
OLIL					LR	LR			
	comp=Z,2µm,20.0s								
CUC	**Castrocucco**	**121.14**	**315**	*e*	PKPdf	**PKPdf**	**23 03 18.7**	**-2.3**
SFIN	**Lafayette**	**121.14**	**44**		P	**PKPdf**	**23 03 21.0**	**0.0**
	baz=295								
SFIN	**Lafayette**	**121.14**	**44**	*e*	PKPdf	**PKPdf**	**23 03 20.0**	**-1.0**
SFIN				*e*	PP	**PP**	**23 04 47.1**	**-3.7**
SFIN					LR	LR			
	comp=Z,2µm,21.0s								
HALT	**Halls**	**121.19**	**50**		PFAKE		23 03 30.0	+8.8
HALT					LR	LR			
	comp=Z,4867µm,22.0s								
Z44A	**Pea Ridge, Bel**	**121.20**	**53**		P	**PKPdf**	**23 03 20.8**	**-0.5**
	baz=288								
244A	**Avery, Jackson**	**121.36**	**54**		P	**PKPdf**	**23 03 21.8**	**+0.2**
	baz=287								
DAVA	**Damuels**	**121.43**	**325**	*i*	PKiKP	**PKPdf**	**23 03 21.2**	**-0.4**
	comp=Z,13nm,0.7s								
DAVA				*i*	PKKPab	**PKKPab**	**23 13 23.4**	**+0.2**
	comp=Z,7.1nm,1.2s								
VBMS	**Vicksburg**	**121.45**	**54**		P	**PKPdf**	**23 03 22.3**	**+0.5**
	baz=287								
VBMS	**Vicksburg**	**121.45**	**54**		PFAKE		23 03 30.0	+8.2
VBMS					LR	LR			
	comp=Z,2µm,21.0s								
U45A	**Rockin P Farm,**	**121.48**	**49**		P	**PKPdf**	**23 03 21.9**	**+0.2**
	baz=291								
344A	**Westbrook Farm**	**121.49**	**55**		P	**PKPdf**	**23 03 22.0**	**+0.1**
	baz=287								
MEM	**Membach**	**121.54**	**330**		PKP	**PKPdf**	**23 03 21.4**	**0.0**
V45A	**Humboldt**	**121.54**	**50**		P	**PKPdf**	**23 03 21.1**	**-0.7**
	baz=290								
FUORN	**Ofenpass-Fuorn**	**121.57**	**324**	*e*	PKPdf	**PKPdf**	**23 03 22.4**	**+0.4**
FUORN					LR	LR			
	comp=Z,4µm,20.0s								
W45A	**Hickory Valley**	**121.57**	**51**		P	**PKPdf**	**23 03 21.9**	**-0.1**
	baz=290								
OXF	**Oxford**	**121.61**	**51**	*e*	PKIKP	**PKPdf**	**23 03 22.3**	**+0.3**
OXF					MLR	MLR			
	comp=Z,2µm,19.0s								
OXF	**Oxford**	**121.61**	**51**	*e*	PKPdf	**PKPdf**	**23 03 22.3**	**+0.3**
OXF					LR	LR			
	comp=Z,2µm,19.0s								
EFI	**East Falkland**	**121.69**	**164**		PFAKE		23 03 30.0	+8.3
EFI					LR	LR			
	comp=Z,2µm,22.0s								
USIN	**University of**	**121.70**	**47**		PFAKE		23 03 30.0	+7.9
USIN					LR	LR			
	comp=Z,3µm,20.0s								
BFO	**Black Forest**	**121.70**	**327**	*e*	PKIKP	**PKPdf**	**23 03 21.9**	**0.0**
BFO	**Black Forest**	**121.70**	**327**	*e*	PKPdf	**PKPdf**	**23 03 21.9**	**0.0**
Y45A	**Yeager Farm, C**	**121.72**	**52**		P	**PKPdf**	**23 03 21.5**	**-0.8**
	baz=289								
AQU	**L'Aquila**	**121.75**	**319**		PFAKE		23 03 30.0	+7.8
AQU					LR	LR			
	comp=Z,1µm,20.0s								
Z45A	**Winona**	**121.76**	**53**		P	**PKPdf**	**23 03 21.7**	**-0.6**
	baz=289								
CEL	**Celeste**	**121.77**	**313**	*e*	PKPdf	**PKPdf**	**23 03 21.2**	**-1.1**
CEL					LR	LR			
	comp=Z,900nm,20.0s								
145A	**Houston Renfro**	**121.81**	**54**		P	**PKPdf**	**23 03 21.9**	**-0.5**
	baz=288								
245A	**Little AP, Sta**	**122.01**	**54**		P	**PKPdf**	**23 03 22.5**	**-0.4**
	baz=288								
BCLA	**Clavier**	**122.01**	**330**		PKP	**PKPdf**	**23 03 22.6**	**+0.2**
BLO	**Bloomington**	**122.04**	**45**	*e*	PKIKP	**PKPdf**	**23 03 22.2**	**-0.5**
BLO					MLR	MLR			
	comp=Z,2µm,21.0s								
BLO	**Bloomington**	**122.04**	**45**	*e*	PKPdf	**PKPdf**	**23 03 22.2**	**-0.5**
BLO					LR	LR			
	comp=Z,2µm,21.0s								
WLF	**Walferdange**	**122.06**	**329**		PKP	**PKPdf**	**23 03 21.0**	**-1.4**
WLF					APKP	**PKiKP**	**23 03 24.6**	**+2.0**
WLF	**Walferdange**	**122.06**	**329**	*e*	PKIKP	**PKPdf**	**23 03 23.5**	**+1.0**
WLF					MLR	MLR			
	comp=Z,3µm,22.0s								
WLF	**Walferdange**	**122.06**	**329**	*e*	PKPdf	**PKPdf**	**23 03 23.5**	**+1.0**
WLF					LR	LR			
	comp=Z,3µm,22.0s								
345A	**Thompson Farm,**	**122.11**	**55**		P	**PKPdf**	**23 03 22.5**	**-0.6**
	baz=287								
TUE	**Stuetta**	**122.18**	**325**	*e*	PKPdf	**PKPdf**	**23 03 23.8**	**+0.8**
Y46A	**Houston**	**122.25**	**52**		P	**PKPdf**	**23 03 23.2**	**-0.1**
	baz=290								
WVT	**Waverly**	**122.26**	**49**		PFAKE		23 03 30.0	+6.8
WVT					LR	LR			
	comp=Z,6µm,21.0s								
HOPE	**Hope Point**	**122.27**	**179**		PFAKE		23 03 30.0	+7.3
HOPE					LR	LR			
	comp=Z,4µm,21.0s								
146A	**Union**	**122.50**	**53**		P	**PKPdf**	**23 03 23.2**	**-0.6**
	baz=289								
346A	**Big Creek Wild**	**122.55**	**55**		P	**PKPdf**	**23 03 23.0**	**-0.9**
	baz=288								
DOU	**Dourbes**	**122.57**	**330**		PKP	**PKPdf**	**23 03 24.8**	**+1.4**
WCI	**Wyandotte Cave**	**122.59**	**46**		PFAKE		23 03 40.0	+16
WCI					LR	LR			
	comp=Z,2µm,20.0s								
VLC	**Villacollemand**	**122.80**	**322**		PFAKE		23 03 40.0	+16
VLC					LR	LR			
	comp=Z,3µm,21.0s								
Y47A	**UCPARC, Winfie**	**123.03**	**52**		P	**PKPdf**	**23 03 23.5**	**-1.3**
	baz=290								
247A	**Quitman**	**123.04**	**54**		P	**PKPdf**	**23 03 24.5**	**-0.4**
	baz=289								
SCHQ	**Schefferville**	**123.11**	**21**		PKP	**PKPdf**	**23 03 24.6**	**+0.2**
	comp=Z,19nm,0.7s,baz=12,slow=4.1,SNR=16								
SCHQ	**Schefferville**	**123.11**	**21**	*e*	PKPdf	**PKPdf**	**23 03 24.8**	**+0.4**
147A	**Livingston**	**123.11**	**53**		P	**PKPdf**	**23 03 24.1**	**-0.8**
	baz=289								
VLDQ	**Val d'Or**	**123.12**	**32**	*e*	PKPdf	**PKPdf**	**23 03 22.9**	**-1.6**
VLDQ					LR	LR			
	comp=Z,4µm,21.0s								
CCIG	**Comitan**	**123.25**	**73**		PFAKE		23 03 40.0	+14
CCIG					LR	LR			
	comp=Z,2µm,21.0s								
347A	**Saraland**	**123.30**	**55**		P	**PKPdf**	**23 03 24.3**	**-1.1**
	baz=288								
447A	**Lucedale**	**123.39**	**55**		P	**PKPdf**	**23 03 25.2**	**-0.3**
	baz=288								
SENIN	**Lac Senin/Sane**	**123.41**	**326**	*e*	PKPdf	**PKPdf**	**23 03 26.6**	**+1.2**
Z48A	**Northport**	**123.44**	**52**		P	**PKPdf**	**23 03 25.0**	**-0.6**
	baz=290								
248A	**Dixon Mills**	**123.72**	**54**		P	**PKPdf**	**23 03 25.5**	**-0.6**
	baz=289								
SCIG	**Sabancuy**	**123.81**	**70**		PFAKE		23 03 40.0	+13
SCIG					LR	LR			
	comp=Z,2µm,21.0s								
348A	**Jackson**	**123.81**	**54**		P	**PKPdf**	**23 03 25.7**	**-0.6**
	baz=289								
CLTB	**Caltabellotta**	**123.98**	**314**	*e*	PKPdf	**PKPdf**	**23 03 25.6**	**-1.1**
LRAL	**Lakeview Retre**	**124.00**	**52**	*e*	PKPdf	**PKPdf**	**23 03 25.9**	**-0.7**
LRAL					LR	LR			
	comp=Z,2µm,19.0s								
ACSO	**Alum Creek Sta**	**124.03**	**43**	*e*	PKPdf	**PKPdf**	**23 03 25.6**	**-0.9**
ACSO				*e*	PP	**PP**	**23 05 04.4**	**-6.0**
ACSO					LR	LR			
	comp=Z,3µm,21.0s								
SWET	**Sewanee**	**124.04**	**49**	*e*	PKPdf	**PKPdf**	**23 03 26.7**	**-0.1**
SWET					LR	LR			
	comp=Z,1µm,20.0s								
SADO	**Sadowa**	**124.13**	**36**	*e*	PKPdf	**PKPdf**	**23 03 25.1**	**-1.5**
BNI	**Bardonecchia**	**124.53**	**325**	*e*	PKIKP	**PKPdf**	**23 03 27.5**	**0.0**
BNI	**Bardonecchia**	**124.53**	**325**	*e*	PKPdf	**PKPdf**	**23 03 27.5**	**0.0**
BRAL	**Brewton**	**124.58**	**54**		PFAKE		23 03 40.0	+12
BRAL					LR	LR			
	comp=Z,2µm,21.0s								
CPCT	**Cooper Cave**	**125.01**	**49**	*e*	PKPdf	**PKPdf**	**23 03 27.6**	**-1.0**
CPCT					LR	LR			
	comp=Z,4µm,20.0s								
ERPA	**Erie**	**125.05**	**39**		PFAKE		23 03 40.0	+12
ERPA					LR	LR			
	comp=Z,2µm,21.0s								
PLVO	**Plevna**	**125.18**	**35**	*e*	PKPdf	**PKPdf**	**23 03 27.8**	**-0.7**
ALLY	**Alegheny Colle**	**125.20**	**40**		PFAKE		23 03 40.0	+11
ALLY					LR	LR			
	comp=Z,4µm,21.0s								
TZTN	**Tazewell**	**125.27**	**47**	*e*	PKPdf	**PKPdf**	**23 03 29.7**	**+0.6**
TZTN					LR	LR			
	comp=Z,3µm,21.0s								
PAYG	**Puerto Ayora**	**125.33**	**93**		PFAKE		23 03 40.0	+10
PAYG					LR	LR			
	comp=Z,2µm,20.0s								
TKL	**Tuckaleechee C**	**125.48**	**48**	*e*	PKIKP	**PKPdf**	**23 03 29.1**	**-0.4**
TKL					MLR	MLR			
	comp=Z,4µm,22.0s								
TKL	**Tuckaleechee C**	**125.48**	**48**	*e*	PKPdf	**PKPdf**	**23 03 29.1**	**-0.4**
TKL					LR	LR			
	comp=Z,4µm,22.0s								
PLCA	**Paso Flores**	**125.57**	**148**		PKP	**PKPdf**	**23 03 30.1**	**+0.5**
	comp=Z,36nm,0.7s,baz=253,slow=2.2,SNR=72								
PLCA	**Paso Flores**	**125.57**	**148**	*e*	PKPdf	**PKPdf**	**23 03 29.9**	**+0.3**
M54A	**Oil Creek Stat**	**125.58**	**40**		P	**PKPdf**	**23 03 29.0**	**-0.5**
	baz=302								
SSB	**Saint Sauveur**	**125.61**	**326**	*e*	PKIKP	**PKPdf**	**23 03 29.8**	**+0.3**
SSB	**Saint Sauveur**	**125.61**	**326**	*e*	PKPdf	**PKPdf**	**23 03 29.8**	**+0.3**
N54A	**Moraine State**	**125.66**	**41**		P	**PKPdf**	**23 03 29.0**	**-0.6**
	baz=301								
VSL	**Villasalto**	**125.79**	**317**		PFAKE		23 03 40.0	+10
VSL					LR	LR			
	comp=Z,1µm,21.0s								
MMNY	**Mt. Morris Dam**	**126.02**	**38**	*e*	PKPdf	**PKPdf**	**23 03 28.8**	**-1.4**
TEIG	**Tepich**	**126.30**	**68**		PFAKE		23 03 40.0	+8.6
TEIG					LR	LR			
	comp=Z,2µm,19.0s								
MCWV	**Mont Chateau**	**126.42**	**42**		PFAKE		23 03 40.0	+8.9
MCWV					LR	LR			
	comp=Z,2µm,20.0s								
GOGA	**Godfrey**	**126.61**	**50**	*e*	PKIKP	**PKPdf**	**23 03 31.6**	**-0.1**
GOGA					MLR	MLR			
	comp=Z,2µm,21.0s								
GOGA	**Godfrey**	**126.61**	**50**	*e*	PKPdf	**PKPdf**	**23 03 31.6**	**-0.1**
GOGA					LR	LR			
	comp=Z,2µm,21.0s								
LONY	**Lake Ozonia**	**126.84**	**34**	*e*	PKPdf	**PKPdf**	**23 03 30.7**	**-1.1**
LONY					LR	LR			
	comp=Z,2µm,20.0s								
O56A	**Blue Knob Stat**	**126.94**	**41**		P	**PKPdf**	**23 03 32.0**	**-0.2**
	baz=302								
LMQ	**La Malbaie**	**127.11**	**29**	*e*	PKPdf	**PKPdf**	**23 03 32.9**	**+0.7**
LMQ					LR	LR			
	comp=Z,2µm,22.0s								
SSPA	**Standing Stone**	**127.18**	**40**	*e*	PKPdf	**PKPdf**	**23 03 32.1**	**-0.4**
SSPA					LR	LR			
	comp=Z,2µm,20.0s								
BLA	**Blacksburg**	**127.22**	**45**	*e*	PKIKP	**PKPdf**	**23 03 32.4**	**-0.4**
BLA				*e*			23 05 30.9	
BLA					MLR	MLR			
	comp=Z,2µm,22.0s								
BLA	**Blacksburg**	**127.22**	**45**	*e*	PKPdf	**PKPdf**	**23 03 32.4**	**-0.4**
BLA				*e*	PP	**PP**	**23 05 30.9**	**-0.8**
BLA					LR	LR			
	comp=Z,2µm,22.0s								
FRNY	**Flat Rock**	**127.25**	**33**	*e*	PKPdf	**PKPdf**	**23 03 31.5**	**-1.0**
FRNY					LR	LR			
	comp=Z,4µm,22.0s								
TIGA	**Tifton**	**127.27**	**53**		P	**PKPdf**	**23 03 32.9**	**0.0**
	baz=292								
TIGA	**Tifton**	**127.27**	**53**	*e*	PKPdf	**PKPdf**	**23 03 33.0**	**0.0**
TIGA					LR	LR			
	comp=Z,2µm,21.0s								
NCB	**Newcomb**	**127.45**	**34**	*e*	PKPdf	**PKPdf**	**23 03 33.2**	**+0.2**
BINY	**Binghamton**	**127.48**	**37**	*e*	PKPdf	**PKPdf**	**23 03 32.4**	**-0.7**
BINY					LR	LR			
	comp=Z,5µm,21.0s								
KMSC	**Kings Mountain**	**127.50**	**48**		P	**PKPdf**	**23 03 33.6**	**+0.2**
	baz=296								
KMSC	**Kings Mountain**	**127.50**	**48**	*e*	PP	PP	23 05 29.9	-3.7
KMSC					LR	LR			
	comp=Z,3µm,20.0s								
KEST	**Kesra**	**127.58**	**313**		PKP	**PKPdf**	**23 03 34.9**	**+1.3**
	comp=Z,9.4nm,0.9s,baz=207,slow=2.1,SNR=11								
KEST	**Kesra**	**127.58**	**313**	*e*	PKPdf	**PKPdf**	**23 03 34.2**	**+0.6**
KEST					LR	LR			
	comp=Z,1µm,20.0s								
JSC	**Jenkinsville**	**127.93**	**48**	*e*	PKIKP	**PKPdf**	**23 03 34.8**	**+0.7**
JSC					MLR	MLR			
	comp=Z,4µm,20.0s								
JSC	**Jenkinsville**	**127.93**	**48**	*e*	PKPdf	**PKPdf**	**23 03 34.8**	**+0.7**
JSC				*e*	PP	**PP**	**23 05 31.0**	**-5.5**
JSC					LR	LR			
	comp=Z,4µm,20.0s								
KSPA	**Keystone Colle**	**127.99**	**38**	*e*	PKPdf	**PKPdf**	**23 03 34.3**	**+0.2**
KSPA					LR	LR			
	comp=Z,5µm,21.0s								
MDV	**Middlebury**	**128.01**	**34**	*e*	PKPdf	**PKPdf**	**23 03 33.7**	**-0.3**
ACCN	**Adirondack Com**	**128.13**	**35**	*e*	PKPdf	**PKPdf**	**23 03 35.1**	**+0.9**
ACCN					LR	LR			
	comp=Z,2µm,21.0s								
TGUH	**Tegucigalpa,Un**	**128.17**	**75**	*e*	PKPdf	**PKPdf**	**23 03 35.3**	**+0.3**
TGUH					LR	LR			
	comp=Z,2µm,19.0s								
**N

CNNC	**Cliffs of the**	**129.96**	**46**	PFAKE		23 03 50.0	+12	
CNNC				LR	LR			
	comp=Z,4µm,22.0s							
WES	**Weston**	**130.09**	**34**	PFAKE		23 03 50.0	+12	
WES				LR	LR			
	comp=Z,5µm,22.0s							
SET	**Setif**	**130.17**	**316**	P	**PKPdf**	**23 03 41.0**	**+2.5**	
BCX	**Boston College**	**130.21**	**34**	PFAKE		23 03 50.0	+12	
BCX				LR	LR			
	comp=Z,5µm,22.0s							
DWPF	**Disney Wildern**	**130.22**	**56**	PFAKE		23 03 50.0	+11	
DWPF				LR	LR			
	comp=Z,2µm,20.0s							
BRYW	**Bryant College**	**130.27**	**35**	PFAKE		23 03 50.0	+12	
BRYW				LR	LR			
	comp=Z,5µm,22.0s							
GGN	**Saint George**	**130.53**	**29**	PFAKE		23 03 50.0	+11	
GGN				LR	LR			
	comp=Z,4µm,21.0s							
JTS	**JuntasAbangare**	**130.77**	**80**	PFAKE		23 03 50.0	+10	
JTS				LR	LR			
	comp=Z,2µm,18.0s							
LMN	**Caledonia Moun**	**130.93**	**27**	*e*PKPdf	**PKPdf**	**23 03 39.4**	**-0.1**	
LMN				LR	LR			
	comp=Z,4µm,21.0s							
DRLN	**Deer Lake**	**130.93**	**19**	PFAKE		23 03 50.0	+11	
DRLN				LR	LR			
	comp=Z,2µm,21.0s							
HDC	**Heredia**	**131.62**	**80**	PFAKE		23 03 50.0	+8.1	
HDC				LR	LR			
	comp=Z,1µm,19.0s							
TRQA	**Tornquist**	**131.90**	**152**	*e*PKPdf	**PKPdf**	**23 03 42.0**	**+0.3**	
TRQA				LR	LR			
	comp=Z,2µm,20.0s							
LCO	**Las Campanas**	**133.31**	**136**	*e*PKPdf	**PKPdf**	**23 03 45.0**	**+0.1**	
ES19	**SONSECA Array**	**133.97**	**326**	*e*PKPdf	**PKPdf**	**23 03 46.2**	**+0.7**	
PBRG	**Braganca**	**133.99**	**330**	*e*PKP	**PKPdf**	**23 03 48.2**	**+2.7**	
ESDC	**Sonseca Array**	**134.02**	**326**	PKP	**PKPdf**	**23 03 46.4**	**+0.8**	
	comp=Z,1.5nm,0.8s,baz=32,slow=2.1,SNR=9.5							
ESDC				PP	PP	23 06 23.5	+8.0	
	comp=Z,1.1nm,0.8s,baz=23,slow=7.1,SNR=4.8							
ESDC				SKKPbc	SKKPbc	23 16 16.5	-10	
	comp=Z,0.6nm,0.7s,baz=230,slow=5.7,SNR=3.5							
PAB	**San Pablo**	**134.33**	**326**	*e*PKIKP	**PKPdf**	**23 03 48.0**	**+1.7**	
PAB	**San Pablo**	**134.33**	**326**	*e*PKPdf	**PKPdf**	**23 03 48.0**	**+1.7**	
MVO	**Moncorvo**	**134.61**	**329**	*e*PKP	**PKPdf**	**23 03 49.4**	**+2.7**	
PCAB	**Cabril**	**134.70**	**331**	*e*PKP	**PKPdf**	**23 03 49.5**	**+2.7**	
POLO	**Lamas de Olo**	**134.84**	**330**	*e*PKP	**PKPdf**	**23 03 48.9**	**+1.7**	
PVRL	**Vila Real**	**134.87**	**330**	*e*PKP	**PKPdf**	**23 03 50.6**	**+3.4**	
PVIS	**Viseu**	**135.38**	**330**	*e*PKP	**PKPdf**	**23 03 51.6**	**+3.5**	
TAM	**Tamanrasset**	**135.77**	**299**	*e*PKIKP	**PKPdf**	**23 03 49.8**	**+0.3**	
TAM				*e*		23 06 23.1		
TAM				MLR	MLR			
	comp=Z,700nm,21.0s							
TAM	**Tamanrasset**	**135.77**	**299**	*e*PKPdf	**PKPdf**	**23 03 49.8**	**+0.3**	
TAM				*e*PP	**PP**	**23 06 23.1**	**-4.6**	
TAM				LR	LR			
	comp=Z,700nm,21.0s							
PCBR	**Castelo Branco**	**135.81**	**328**	*e*PKP	**PKPdf**	**23 03 50.8**	**+1.9**	
ATAH	**Atahualpa**	**136.12**	**104**	PKP	**PKPdf**	**23 03 51.2**	**+0.5**	
	comp=Z,11nm,0.7s,baz=143,slow=2.1,SNR=5.7							
PCAS	**Casmilo, Conde**	**136.18**	**329**	*e*PKP	**PKPdf**	**23 03 49.0**	**-0.6**	
NNA	**Nana**	**136.30**	**111**	PKP	**PKPdf**	**23 03 52.3**	**+1.7**	
	comp=Z,23nm,1.0s,baz=275,slow=6.1,SNR=4.6							
NNA	**Nana**	**136.30**	**111**	PKP	**PKPdf**	**23 03 52.3**	**+1.7**	
NNA				LR	LR			
	comp=Z,800nm,18.0s							
MTDJ	**Mount Denham**	**136.64**	**67**	PFAKE		23 04 00.0	+8.9	
MTDJ				LR	LR			
	comp=Z,900nm,20.0s							
OTAV	**Otavalo**	**137.20**	**94**	PFAKE		23 04 00.0	+7.2	
OTAV				LR	LR			
	comp=Z,1µm,20.0s							
CMBC	**Cumbal**	**137.88**	**93**	*e*P	**PKPdf**	**23 03 53.0**	**-1.1**	
CAPC	**Capurgana**	**138.37**	**81**	*e*P	**PKPdf**	**23 03 53.8**	**-0.5**	
GTBY	**Guantanamo Bay**	**138.38**	**64**	PFAKE		23 04 10.0	+16	
GTBY				LR	LR			
	comp=Z,1µm,22.0s							
LVC	**Limon Verde**	**138.41**	**130**	PKhKP	PKPpre	23 03 46.7		
	comp=Z,20nm,0.8s,baz=250,slow=6.9,SNR=2.3							
LVC	**Limon Verde**	**138.41**	**130**	PKPpre	PKPpre	23 03 46.7		
LVC				*e*PKPdf	**PKPdf**	**23 03 55.5**	**+0.9**	
PFVI	**Vila Bisbo**	**138.52**	**327**	PFAKE		23 04 10.0	+16	
PFVI				LR	LR			
	comp=Z,2µm,22.0s							
PB01	**IPOC Station P**	**138.82**	**128**	*e*PKPpre	PKPpre	23 03 45.9		
PB01				*e*PKPdf	**PKiKP**	**23 03 56.5**	**-0.8**	
PB11	**IPOC Station P**	**139.37**	**126**	*e*PKPpre	PKPpre	23 03 48.6		
PB11				*e*PKPdf	**PKiKP**	**23 03 57.6**	**-0.9**	
RTC	**Rabat Centre**	**139.57**	**322**	PFAKE		23 04 10.0	+14	
RTC				LR	LR			
	comp=Z,4µm,21.0s							
HELC	**Santa Helena**	**140.30**	**85**	*e*P	PKPpre	23 03 50.9		
HELC	**Santa Helena**	**140.30**	**85**	*e*PKPpre	PKPpre	23 03 49.0		
HELC				*e*PKPdf	**PKPdf**	**23 03 52.7**	**-5.6**	
HELC				LR	LR			
	comp=Z,2µm,18.0s							
SJCC	**San Jacinto, C**	**140.39**	**79**	*e*P	PKPpre	23 03 50.2		
BBSR	**BB Station**	**140.61**	**40**	PFAKE		23 04 10.0	+12	
BBSR				LR	LR			
	comp=Z,3µm,22.0s							
PRAC	**Prado**	**140.95**	**89**	*e*P	PKPpre	23 03 52.1		
PRAC	**Prado**	**140.95**	**89**	*e*PKPpre	PKPpre	23 03 51.6		
PRAC				LR	LR			
	comp=Z,1µm,19.0s							
NORC	**Norcasia**	**140.97**	**86**	*e*P	PKPpre	23 03 55.4		
ROSC	**El Rosal**	**141.53**	**87**	PKhKP	PKPpre	23 03 55.6		
	comp=Z,9.7nm,0.6s,baz=177,slow=6.9,SNR=6.5							
ROSC	**El Rosal**	**141.53**	**87**	*e*P	PKPpre	23 03 56.7		
TOC2	**Torodi Ar. Sit**	**141.79**	**287**	PFAKE		23 04 10.0	+9.5	
TOC2				LR	LR			
	comp=Z,1µm,21.0s							
TOC3	**Torodi Ar. Sit**	**141.80**	**287**	PFAKE		23 04 10.0	+9.5	
TOC3				LR	LR			
	comp=Z,1µm,21.0s							
TOB2	**Torodi Ar. Sit**	**141.81**	**287**	PFAKE		23 04 10.0	+9.5	
TOB2				LR	LR			
	comp=Z,1µm,21.0s							
TOC1	**Torodi Ar. Sit**	**141.81**	**287**	PFAKE		23 04 10.0	+9.5	
TOC1				LR	LR			
	comp=Z,1µm,20.0s							
TOB3	**Torodi Ar. Sit**	**141.81**	**287**	PFAKE		23 04 10.0	+9.5	
TOB3				LR	LR			
	comp=Z,1µm,20.0s							
TOA0	**Torodi Ar. Sit**	**141.82**	**287**	*e*PKPpre	PKPpre	23 03 53.6		
TOA0				*e*PKPpre	PKPpre	23 03 54.6		
TOA0				*e*PKPdf	**PKPdf**	**23 03 59.4**	**-1.2**	
TOA0				*e*PKPdf	**PKiKP**	**23 04 00.9**	**-2.5**	
TOA0				LR	LR			
	comp=Z,900nm,20.0s							
TOC4	**Torodi Ar. Sit**	**141.82**	**287**	PFAKE		23 04 10.0	+9.4	
TOC4				LR	LR			
	comp=Z,1µm,20.0s							
TORD	**Torodi Ar. Bea**	**141.82**	**287**	PKhKP	PKPpre	23 03 54.5		
	comp=Z,5.3nm,0.7s,baz=81,slow=3.5,SNR=24							
TORD				PP	**PP**	**23 07 08.8**	**+3.4**	
	comp=Z,5.5nm,0.9s,baz=44,slow=5.5,SNR=5.4							
TORD				SKKPbc	SKKPbc	23 15 55.4	-0.3	
	comp=Z,1.8nm,1.0s,baz=251,slow=3.7,SNR=3.2							
TOA1	**Torodi Ar. Sit**	**141.82**	**287**	PFAKE		23 04 10.0	+9.4	
TOA1				LR	LR			
	comp=Z,900nm,19.0s							
TOB4	**Torodi Ar. Sit**	**141.83**	**287**	PFAKE		23 04 10.0	+9.4	
TOB4				LR	LR			
	comp=Z,1µm,21.0s							
TOB5	**Torodi Ar. Sit**	**141.83**	**287**	PFAKE		23 04 10.0	+9.4	
TOB5				LR	LR			
	comp=Z,900nm,20.0s							
TOC7	**Torodi Ar. Sit**	**141.83**	**287**	PFAKE		23 04 10.0	+9.4	
TOC7				LR	LR			
	comp=Z,900nm,20.0s							
TOC5	**Torodi Ar. Sit**	**141.84**	**287**	PFAKE		23 04 10.0	+9.4	
TOC5				LR	LR			
	comp=Z,1µm,19.0s							
BRRC	**Barranca, Sant**	**142.07**	**83**	*e*P	PKPpre	23 03 54.6		
CODC	**Agust¨›n Codaz**	**142.09**	**79**	*e*P	PKPpre	23 03 55.0		
SDDR	**Presa de Saban**	**142.09**	**64**	*e*PKPpre	PKPpre	23 03 56.7		
SDDR				LR	LR			
	comp=Z,2µm,20.0s							
CHIC	**Chingaza**	**142.12**	**87**	*e*P	PKPpre	23 03 57.1		
LPAZ	**La Paz**	**142.36**	**123**	PKhKP	PKPpre	23 03 58.7		
	comp=Z,10nm,0.7s,baz=261,slow=2.6,SNR=43							
GIRC	**Giron, Santand**	**142.58**	**83**	*e*P	PKPpre	23 03 58.3		
BARC	**Barichara**	**142.62**	**84**	*e*P	PKPpre	23 03 56.2		
RUSC	**La Rusia**	**142.74**	**85**	*e*P	PKPpre	23 03 54.6		
RUSC	**La Rusia**	**142.74**	**85**	*e*PKPpre	PKPpre	23 03 58.2		
RUSC				LR	LR			
	comp=Z,500nm,22.0s							
CBRI	**Barrientos, No**	**142.94**	**82**	*e*P	**PKPdf**	**23 04 02.0**	**-0.8**	
PAMC	**Pamplona, Colo**	**143.06**	**83**	*e*P	PKPbc	23 04 00.8	+0.5	
CPUP	**Villa Florida**	**143.61**	**146**	PKP	PKPbc	23 04 01.0	+0.2	
	comp=Z,29nm,0.9s,baz=237,slow=3.4,SNR=23							
SDV	**Santo Domingo**	**144.96**	**80**	*e*PKPbc	PKPbc	23 04 05.9	+0.3	
SDV				LR	LR			
	comp=Z,900nm,20.0s							
PMPS	**Porto Santo**	**145.57**	**330**	*e*PKP	**PKPab**	**23 04 07.7**	**+0.7**	
IDE	**Isla Desecheo**	**145.69**	**62**	*e*PKPdf	**PKPdf**	**23 04 07.3**	**0.0**	
MPR	**Mayaguez**	**146.05**	**62**	PFAKE		23 04 20.0	+11	
MPR				LR	LR			
	comp=Z,1µm,20.0s							
PMAR	**Madeira**	**146.12**	**331**	*e*PKP	**PKPdf**	**23 04 08.2**	**+0.3**	
PMOZ	**Porto Moniz, M**	**146.18**	**331**	*e*PKP	**PKPab**	**23 04 10.1**	**+0.6**	
CELP	**Cerrillos**	**146.59**	**62**	*e*PKPdf	**PKPbc**	**23 04 09.6**	**-0.8**	
SJG	**San Juan**	**146.96**	**62**	PKPbc	**PKPbc**	**23 04 11.0**	**-0.3**	
	baz=55,slow=8.1							
SJG	**San Juan**	**146.96**	**62**	*e*PKP2	**PKPbc**	**23 04 11.1**	**-0.3**	
SJG				MLR	MLR			
	comp=Z,2µm,22.0s							
SJG	**San Juan**	**146.96**	**62**	*e*PKPbc	**PKPbc**	**23 04 11.1**	**-0.3**	
SJG				LR	LR			
	comp=Z,2µm,22.0s							
CBYP	**Canovanas**	**147.16**	**61**	*e*PKPbc	**PKPab**	**23 04 13.7**	**+0.1**	
HUMP	**Col San Antoni**	**147.21**	**62**	PFAKE		23 04 20.0	+6.2	
HUMP				LR	LR			
	comp=Z,2µm,22.0s							
STVI	**Saint Thomas**	**147.91**	**61**	*e*PKPbc	**PKPbc**	**23 04 13.9**	**-0.1**	
SIV	**San Ignacio**	**148.25**	**129**	PKPbc	**PKPbc**	**23 04 13.4**	**-1.6**	
	comp=Z,184nm,0.7s,baz=256,slow=4.1,SNR=107							
CDVI	**St. Croix**	**148.31**	**62**	*e*PKPdf	**PKPdf**	**23 04 09.1**	**-2.5**	
CDVI				*e*PKPbc	**PKPbc**	**23 04 13.6**	**-1.5**	
KIC	**Kosan Boka**	**148.99**	**276**	*e*PKP2	**PKPbc**	**23 04 16.3**	**-0.7**	
	comp=Z,230nm,1.2s							
DBIC	**Dimbokro**	**149.08**	**277**	PKPbc	**PKPbc**	**23 04 16.2**	**-0.9**	
	comp=Z,32nm,0.8s,baz=58,slow=2.6,SNR=38							
DBIC	**Dimbokro**	**149.08**	**277**	*e*PKPbc	**PKPbc**	**23 04 18.4**	**+1.2**	
TIC	**Toumodi**	**149.25**	**277**	*e*PKP2	**PKPbc**	**23 04 17.5**	**-0.1**	
LIC	**Lamto**	**149.28**	**276**	*e*PKP2	**PKPbc**	**23 04 17.6**	**-0.1**	
	comp=Z,294nm,1.1s							
SMRT	**St. Maarten**	**149.67**	**60**	*e*PKPbc	**PKPbc**	**23 04 18.6**	**+0.1**	
SMRT				LR	LR			
	comp=Z,2µm,21.0s							
SABA	**Saba**	**149.70**	**61**	PFAKE		23 04 30.0	+6.2	
SABA				LR	LR			
	comp=Z,2µm,20.0s							
SAML	**Samuel**	**149.93**	**115**	*e*PKPdf	**PKPdf**	**23 04 14.0**	**-0.4**	
SAML				*e*PKPbc	**PKiKP**	**23 04 20.6**	**+0.4**	
SAML				LR	LR			
	comp=Z,600nm,20.0s							
SEUS	**St. Eustatius**	**149.98**	**61**	PFAKE		23 04 30.0	+5.1	
SEUS				LR	LR			
	comp=Z,2µm,19.0s							
SPB	**Sao Paulo**	**150.62**	**158**	PFAKE		23 04 30.0	+2.7	
SPB				LR	LR			
	comp=Z,3µm,19.0s							
PCRV	**Puerto La Cruz**	**150.63**	**76**	PKPbc	**PKPbc**	**23 04 20.2**	**-0.7**	
	comp=Z,18nm,0.7s,baz=126,slow=1.7,SNR=7.7							
ANWB	**Willy Bob**	**150.94**	**59**	*e*PKPbc	**PKPbc**	**23 04 21.4**	**-0.1**	
ANWB				LR	LR			
	comp=Z,2µm,21.0s							
GDHS	**Morne Mazeau,**	**151.53**	**62**	*e*PKPbc	**PKPbc**	**23 04 22.7**	**-0.3**	
PHG	**Guadaloupe-2**	**151.74**	**62**	*e*P	**PKPbc**	**23 04 23.4**	**-0.1**	
FDF	**Fort de France**	**152.66**	**65**	PFAKE		23 04 30.0	+4.4	
FDF				LR	LR			
	comp=Z,1µm,20.0s							
BBGH	**Gun Hill**	**154.66**	**67**	PFAKE		23 04 30.0	+0.1	
BBGH				LR	LR			
	comp=Z,4µm,22.0s							
PTGA	**Pitinga**	**155.42**	**100**	PKP	**PKPdf**	**23 04 22.4**	**-0.1**	
	comp=Z,5.0nm,0.9s,baz=144,slow=0.9,SNR=7.6							
PTGA				PKPbc	PKPbc	23 04 30.8		
	comp=Z,7.1nm,0.7s,baz=216,slow=1.1,SNR=9.7							
PTGA				PKPab	**PKPab**	**23 04 48.8**	**+0.8**	
	comp=Z,48nm,0.8s,baz=248,slow=4.1,SNR=29							
PTGA	**Pitinga**	**155.42**	**100**	*e*PKPdf	**PKPdf**	**23 04 22.8**	**+0.3**	
PTGA				PKPbc	PKPbc	23 04 30.8		
PTGA				*e*PKPab	**PKPab**	**23 04 47.9**	**-0.1**	
PTGA				LR	LR			
	comp=Z,2µm,20.0s							

JMA 12 22:53:54.4±0.3, 36°.92N×144°.24E, h48km, M3.5, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JFK	**Kawauchi**	**2.73**	**280**	P	Pn	22 54 36.8	+1.1
JFK				S	Sn	22 55 08.7	+1.2
JIO	**Ouri**	**2.76**	**305**	P	Pn	22 54 37.6	+1.5
ONAJ	**Iwakimizuishiy**	**2.76**	**275**	P	Pn	22 54 37.8	+1.6
ONAJ				S	Sn	22 55 09.5	+1.2
JMM	**Marumori**	**2.90**	**290**	P	Pn	22 54 39.4	+1.3
JMK	**Ichinoseki**	**3.13**	**311**	P	Pn	22 54 42.5	+1.3
JFT	**Otama**	**3.17**	**282**	P	Pn	22 54 44.0	+2.2
JOM	**Ohasama**	**3.45**	**319**	P	Pn	22 54 47.2	+1.6
JOM				S	Sn	22 55 26.9	+1.7
JYK	**Kaneyama**	**3.66**	**304**	P	Pn	22 54 51.1	+2.6
JAG	**Ashikaga**	**3.88**	**264**	P	Pn	22 54 52.7	+1.2
JRY	**Ryogami san**	**4.40**	**260**	P	Pn	22 54 59.4	+0.8

SOME 12 22:53:58.8, 44°.97N×80°.38E, h15km
NNC 12 22:53:60.0±1.8, 44°.82N×80°.73E, h9km±10km, mb2.8, mpv2.1, Error ellipse: s-maj=23.5km s-min=2.7km az=118.0

ISC 12 22:53:56.7±1.2, 45°.01N±0°.03×80°.57E±0°.07, h13km±17km, n14, σ1§09/28, 5C-1D, Kazakhstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DJR	**Jarkent**	**0.88**	**220**	*e*P	**Pb**	**22 54 13.2**	**-0.6**
	2.9nm,0.1s						
DJR				*e*S	**Sb**	**22 54 23.6**	**-1.8**
	19nm,0.3s						
KAPS	**Kapalarasan**	**0.90**	**288**	*e*P	**Pb**	**22 54 13.3**	**-0.9**
	1.8nm,0.1s						
KAPS				*e*S	**Sb**	**22 54 23.9**	**-2.3**
	9.1nm,0.1s						
KTMS	**Ketmen**	**1.57**	**186**	*e*P	**Pg**	**22 54 26.7**	**-0.2**
	11nm,0.1s						
KTMS				*e*S	**Sg**	**22 54 46.6**	**-0.6**
	48nm,0.2s						
MNBS	**Baschi**	**1.81**	**240**	*e*P	**Pb**	**22 54 29.6**	**-0.1**
	3.2nm,0.1s						
MNBS				*e*S	**Sb**	**22 54 51.9**	**-0.3**
	17nm,0.1s						
PDGK	**Podgornoye**	**1.85**	**205**	⇑P	**Pb**	**22 54 30.5**	**0.0**
	1.7nm,0.6s						
PDGK				⇓S	**Sb**	**22 54 53.5**	**0.0**
	4.7nm,0.4s						
SHLS	**Shalkode**	**2.02**	**204**	*e*P	**Pb**	**22 54 31.9**	**-1.4**
	5.1nm,0.1s						
SHLS				*e*S	**Sn**	**22 54 55.6**	**-0.1**
	9.7nm,0.3s						
MAKZ	**Makanchi**	**2.05**	**28**	⇑Pn	**Pg**	**22 54 36.0**	**0.0**
	1.5nm,0.6s						
MAKZ				⇑Sn	**Sg**	**22 55 03.7**	**+1.1**
	2.5nm,0.5s						
KPKS	**Kokpek**	**2.05**	**222**	*e*P	**Pb**	**22 54 33.9**	**0.0**
	11nm,0.1s						
KPKS				*e*S	**Sb**	**22 54 59.2**	**-0.1**
	37nm,0.4s						
ARXS	**Arharly**	**2.11**	**249**	*e*P	**Pb**	**22 54 34.5**	**-0.4**
	1.5nm,0.2s						
ARXS				*e*S	**Sb**	**22 55 00.2**	**-0.9**
	7.2nm,0.0s						
MK31	**Makanchi Array**	**2.15**	**33**	⇑Pn	**Pg**	**22 54 37.5**	**-0.5**
	0.1nm,0.1s,baz=208,slow=16,SNR=30						
MK31				⇑Sn	**Sg**	**22 55 06.6**	**+0.7**
	0.8nm,0.2s,baz=210,slow=28,SNR=12						
UZB	**Uzynbulak**	**2.17**	**211**	*e*P	**Pb**	**22 54 36.0**	**+0.1**
	4.3nm,0.2s						
UZB				*e*S	**Sb**	**22 55 03.1**	**+0.4**
	20nm,0.3s						
CHKK	**Chushkaly**	**2.81**	**247**	*e*P	**Pb**	**22 54 47.6**	**+0.8**
	2.8nm,0.2s						
CHKK				*e*S	**Sb**	**22 55 22.7**	**+1.6**
	9.1nm,0.1s						
KOTS	**Kotyrbulak**	**3.06**	**236**	*e*P	**Pb**	**22 54 52.0**	**+1.0**
KOTS				*e*S	**Sb**	**22 55 30.2**	**+1.9**
TNSS	**Tian-Shan**	**3.27**	**234**	*e*P	**Pb**	**22 54 55.7**	**+0.9**
	1.5nm,0.6s						
TNSS				*e*S	**Sb**	**22 55 36.9**	**+2.1**
	3.1nm,0.2s						

IDC 12 23:02:38.1±0.5, 35°.66N×143°.46E, h0km, mb4.8/26, mb1 4.9/31, mb1mx4.8/37, mbtmp4.8/31, ML4.6/4, MS5.2/11, Ms1 5.2/11, ms1mx4.8/26, Error ellipse: s-maj=14.1km s-min=12.0km az=120.0
BJI 12 23:02:40.8, 35°.92N×143°.27E, h23km, mb4.8/68, mB5.4/43, Ms5.0/36, Ms7 4.8/36
JMA 12 23:02:41.7±0.1, 35°.86N×143°.23E, h95km±4km, M4.7
NEIC 12 23:02:41.8±1.2, 35°.69N×143°.33E, h20km±8km, mb5.0/133, Error ellipse: s-maj=4.2km s-min=2.6km az=150.0
NEIC Felt at Yachimata.
MOS 12 23:02:41.5±0.9, 36°.07N×143°.33E, h20km, mb5.1/80, MS5.2/10, Error ellipse: s-maj=6.7km s-min=4.5km az=110.0
ISCJB 12 23:02:42.3±0.1, 35°.84N±0°.03×143°.26E±0°.02, h33km, mb4.9/203, MS5.1/19, Error ellipse: s-maj=3.9km s-min=1.8km az=175.0

ISC 12 23:02:43.7±0.3, 35°.81N±0°.04×143°.39E±0°.04, h35km, n632, σ1§38/665, mb4.9/210, MS5.1/19, 22C-12D, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHOJ	**Chosi**	**2.06**	**268**	P	**Pn**	**23 03 13.6**	**-2.1**
CHOJ				S	**Sn**	**23 03 37.8**	**-2.4**
BSO1	**Boso 1**	**2.28**	**240**	*e*S	**Sn**	**23 03 43.3**	**-1.7**
BSO2	**Boso 2**	**2.40**	**245**	*e*S	**Sn**	**23 03 46.6**	**-1.5**
JHO	**Hitachi**	**2.41**	**290**	P	**Pn**	**23 03 18.0**	**-2.7**
JHO				S	**Sn**	**23 03 45.8**	**-3.2**
ONAJ	**Iwakimizuishiy**	**2.45**	**303**	P	**Pn**	**23 03 18.6**	**-2.6**
ONAJ				S	**Sn**	**23 03 46.6**	**-3.4**
JFT	**Otama**	**2.99**	**306**	P	**Pn**	**23 03 26.4**	**-2.1**
JFT				*e*S	**Sn**	**23 04 00.2**	**-2.9**
JAG	**Ashikaga**	**3.24**	**282**	P	**Pn**	**23 03 29.9**	**-2.1**
JAG				*e*S	**Sn**	**23 04 06.7**	**-2.7**
JOD2	**Odawara 2**	**3.55**	**262**	P	**Pn**	**23 03 33.8**	**-2.4**
JOD2				*e*S	**Sn**	**23 04 13.9**	**-3.1**
JMK	**Ichinoseki**	**3.58**	**332**	P	**Pn**	**23 03 34.4**	**-2.3**
JRY	**Ryogami san**	**3.65**	**275**	P	**Pn**	**23 03 35.4**	**-2.2**
JRY				*e*S	**Sn**	**23 04 16.1**	**-3.3**
JNS	**Sasagawa**	**3.83**	**303**	P	**Pn**	**23 03 38.2**	**-1.9**
JNS				S	**Sn**	**23 04 20.5**	**-3.4**
JYK	**Kaneyama**	**3.93**	**323**	P	**Pn**	**23 03 39.5**	**-2.0**
JYK				*e*S	**Sn**	**23 04 23.8**	**-2.6**
JYN	**Shimob**	**3.95**	**267**	P	**Pn**	**23 03 39.5**	**-2.4**
JYN				*e*S	**Sn**	**23 04 24.2**	**-2.9**
JHJ2	**Mitsune**	**3.99**	**229**	*e*Pn	**Pn**	**23 03 38.8**	**-3.6**
JHJ2				*e*S	**Sn**	**23 04 21.4**	**-6.5**
JHJ	**Hachijo jima 2**	**4.01**	**229**	Pn	**Pn**	**23 03 38.5**	**-4.1**
	318nm,0.3s,baz=97,slow=2.7,SNR=46						
JHJ				Sn	**Sn**	**23 04 21.9**	**-6.4**
	852nm,0.3s,baz=228,slow=23,SNR=13						
JOM	**Ohasama**	**4.02**	**336**	P	**Pn**	**23 03 40.3**	**-2.4**
MJAR	**Matsushiro Arr**	**4.25**	**281**	Pn	**Pn**	**23 03 45.4**	**-0.5**
	78nm,0.3s,baz=121,slow=8.9,SNR=210						
MJAR				Sn	**Sn**	**23 04 35.3**	**+1.0**
	26nm,0.3s,baz=32,slow=24,SNR=5.9						
MAJO	**Matsushiro**	**4.25**	**281**	*d*P	**Pn**	**23 03 45.0**	**-1.0**
MAJO	**Matsushiro**	**4.25**	**281**	*e*Pn	**Pn**	**23 03 45.1**	**-0.8**
MAT	**Matsushiro**	**4.25**	**281**	P	**Pn**	**23 03 44.7**	**-1.3**
MAT				*e*S	**Sn**	**23 04 31.2**	**-3.2**
MJB9	**Matsu-Tunnel**	**4.25**	**281**	*e*Pn	**Pn**	**23 03 45.3**	**-0.7**
INU	**Inuyama**	**5.21**	**267**	*e*Pn	**Pn**	**23 03 57.8**	**-1.3**
JIE	**Ise**	**5.65**	**257**	P	**Pn**	**23 04 03.1**	**-2.1**
JOT	**Ohata**	**5.86**	**343**	P	**Pn**	**23 04 06.4**	**-1.6**
TTO1	**TONANKAI O.B.S**	**5.86**	**250**	P	**Pn**	**23 04 06.1**	**-1.6**
ERM	**Erimo**	**6.20**	**358**	*c*e*P*	**Pn**	**23 04 09.2**	**-3.4**
ERM				pmax	pmax		
	comp=Z,117nm,1.2s						
ERM	**Erimo**	**6.20**	**358**	*e*Pn	**Pn**	**23 04 08.4**	**-4.2**
ERM				*e*S	Sn	23 05 08.2	-14
JKB	**Kayabe**	**6.34**	**344**	P	**Pn**	**23 04 12.9**	**-1.7**
JKB				*e*S	**Sn**	**23 05 24.7**	**-1.0**
ASAJ	**Asahikawa**	**8.32**	**356**	*e*Pn	**Pn**	**23 04 39.3**	**-2.4**
ASAJ				*e*S	**Sn**	**23 06 06.3**	**-8.1**
YUK	**Yuzh-Kuril'sk**	**8.43**	**12**	*i* P	**Pn**	**23 04 40.1**	**-3.

TPUB **Ta-pu** 23.33 244 eP P 23 07 47.9 -0.9
MA2 **Magadan** 24.26 9 P P 23 07 57.3 +0.1
comp=Z,17nm,0.7s,baz=196,slow=10,SNR=4.1
CLNS **Chul'man** 24.45 335 eP P 23 07 59.6 +0.5
CLNS pmax pmax
comp=Z,22nm,0.9s
CLNS pmax pmax
comp=N,22nm,1.4s
CLNS pmax pmax
comp=E,9.0nm,1.1s
WHN **Wuhan** 24.81 266 ⇑P P 23 08 03.0 +0.5
WHN pmax pmax
comp=E,160nm,1.3s
HHC **Hu-ho-hao-te** 25.38 291 eP P 23 08 08.8 +1.1
HHC pmax pmax
comp=E,24nm,0.9s
HHC pmax pmax
comp=E,860nm,7.4s
H11N2 **WAKE ISLAND Hy** 26.16 122 T T 23 35 38.0
baz=313,slow=75,SNR=167
H11N1 **WAKE ISLAND Hy** 26.16 122 T T 23 35 38.5
baz=313,slow=75,SNR=37
H11N3 **WAKE ISLAND Hy** 26.17 122 T T 23 35 39.2
baz=313,slow=75,SNR=30
CIT **Chita** 26.66 317 eP P 23 08 20.2 +1.1
CIT e 23 08 29.6
CIT e 23 09 12.3
CIT pmax pmax
comp=Z,88nm,1.4s
H11S1 **WAKE ISLAND Hy** 26.86 124 T T 23 36 22.6
baz=314,slow=75,SNR=118
H11S3 **WAKE ISLAND Hy** 26.86 124 T T 23 36 21.1
baz=314,slow=75,SNR=89
H11S2 **WAKE ISLAND Hy** 26.88 124 T T 23 36 24.9
baz=314,slow=75,SNR=98
SEY **Seymchan** 27.72 9 P P 23 08 29.4 +1.0
comp=Z,11nm,0.7s,baz=188,slow=5.7,SNR=17
XAN **Xi'an** 28.23 277 P P 23 08 33.0 -0.4
XAN pP pP 23 08 43.0 -0.4
XAN sP sP 23 08 47.5 -0.1
XAN pmax pmax
comp=Z,40nm,1.3s
ENH **Enshi** 28.86 269 eP P 23 08 38.7 -0.2
comp=Z,25nm,0.7s
ULN **Ulaanbaatar** 29.36 306c iP P 23 08 45.1 +1.7
ULN pmax pmax
comp=Z,34nm,1.3s
ULN **Ulaanbaatar** 29.36 306 eP P 23 08 44.5 +1.1
comp=Z,52nm,1.5s
ULN ePcP PcP 23 11 49.1 +0.1
BOD **Bodaibo** 29.41 328 eP P 23 08 43.4 -0.1
BOD pmax pmax
comp=Z,39nm,1.5s
TGY **Tagaytay City** 29.55 229 P P 23 08 44.6 -0.6
comp=Z,109nm,0.3s,baz=234,slow=2.1,SNR=3.1
SONA1 **Songino Array** 29.78 305 eP P 23 08 48.1 +1.0
SONM **Songino Array** 29.79 305 P P 23 08 48.5 +1.4
comp=Z,10nm,0.7s,baz=105,slow=8.3,SNR=37
SONM PcP PcP 23 11 50.0 0.0
comp=Z,2.3nm,0.5s,baz=117,slow=2.6,SNR=6.5
LZH **Lanzhou** 31.86 282 eP P 23 09 05.2 -0.4
LZH pP pP 23 09 11.9 -3.8
LZH sP sP 23 09 15.2 -4.7
LZH PcP PcP 23 11 58.1 +2.3
LZH eS S 23 14 13.2 -0.9
LZH sS sS 23 14 28.1 -2.6
LZH pmax pmax
comp=Z,29nm,1.2s
LZH pmax pmax
comp=Z,120nm,5.6s
LZH LR LR
comp=Z,2μm,13.9s
LZH LR LR
comp=Z,1μm,14.7s
LZH LR LR
comp=Z,4μm,15.4s
ZAK **Zakamensk** 32.27 309 eP P 23 09 09.3 +0.3
ZAK pmax pmax
comp=Z,10.0nm,1.1s
TLY **Talaya** 32.33 312 P P 23 09 10.5 +1.1
comp=Z,5.6nm,0.7s,baz=100,slow=9.6,SNR=5.8
TLY **Talaya** 32.33 312 eP P 23 09 11.3 +1.9
TLY pmax pmax
comp=Z,15nm,0.9s
GYA **Guiyang** 32.63 264 eP P 23 09 12.7 +0.3
GYA pP pP 23 09 21.0 -1.4
GYA PP PnPn 23 10 22.8 +2.1
GYA S S 23 14 26.2 +0.1
GYA SS SnSn 23 16 22.4 +0.1
GYA pmax pmax
comp=Z,20nm,0.8s
GYA pmax pmax
comp=Z,120nm,4.9s
GYA LR LR
comp=Z,530nm,17.4s
GYA LR LR
comp=Z,490nm,17.8s
GYA LR LR
comp=Z,510nm,17.6s
QIZ **Qiongzhong** 33.93 249 P P 23 09 24.7 +1.1
QIZ pmax pmax
comp=Z,35nm,1.5s
MOY **Mondy** 33.94 311 eP P 23 09 24.8 +1.3
MOY pmax pmax
comp=Z,30nm,2.4s
GTA **Gaotai** 34.45 289 eP P 23 09 29.1 +0.9
GTA pP pP 23 09 34.6 -3.7
GTA sP sP 23 09 38.0 -4.5
GTA PcP PcP 23 12 03.9 +1.0
GTA pmax pmax
comp=Z,16nm,1.1s
BILL **Bilibino** 34.78 15⇑eP P 23 09 30.2 -0.2
BILL e*PP pP 23 09 39.2 -1.3
BILL e 23 10 51.0
BILL eSSS SSS 23 17 33.9
BILL pmax pmax
comp=Z,26nm,1.8s
BILL MLR MLR
comp=Z,4μm,21.0s
KMI **Kunming** 36.39 264 P P 23 09 44.6 -0.4
KMI pP pP 23 09 52.4 -2.8
KMI sP sP 23 09 55.3 -4.1
KMI pmax pmax
comp=Z,15nm,1.0s
KMI LR LR
comp=Z,550nm,16.0s
KMI LR LR
comp=Z,740nm,16.0s
KMI LR LR
comp=Z,760nm,11.1s
TIXI **Tiksi** 36.70 352 P P 23 09 47.4 +0.6
comp=Z,7.0nm,0.6s,baz=159,slow=3.4,SNR=2.6
TIXI **Tiksi** 36.70 352⇑iP P 23 09 47.1 +0.3
TIXI pmax pmax
comp=Z,17nm,1.7s
MYLDM **Lahad Datu** 38.13 223 eP P 23 10 01.1 +1.5
comp=Z,38nm,1.1s
PBKT **Sadao Pong** 42.22 254 P P 23 10 35.9 +2.5
comp=Z,17nm,1.1s
CMMT **Chiang Mai** 42.57 259 P P 23 10 36.8 +0.5
comp=Z,13nm,1.7s
CHTO **Chiang Mai** 42.57 259 P P 23 10 36.8 +0.4
comp=Z,126nm,0.8s
CHTO **Chiang Mai** 42.57 259 eP P 23 10 36.2 -0.2
CHTO pmax pmax
comp=Z,11nm,1.0s
CHTO **Chiang Mai** 42.57 259 eP P 23 10 36.2 -0.2
comp=Z,11nm,1.0s
CMAR **Chiang Mai Arr** 42.76 258 P P 23 10 38.5 +0.6
comp=Z,3.0nm,0.6s,baz=48,slow=6.4,SNR=15
CMAR PcP PcP 23 12 29.8 +0.7
comp=Z,1.4nm,0.6s,baz=11,slow=2.6,SNR=6.2
CMAR **Chiang Mai Arr** 42.76 258ceP P 23 10 38.5 +0.6
CMAR pmax pmax
comp=Z,4.0nm,0.7s
CM01 **Chiang Mai Arr** 42.77 258 eP P 23 10 37.8 -0.2
WMQ **Urumqi** 42.81 298 P P 23 10 39.3 +1.2
WMQ pP pP 23 10 48.0 -0.4
WMQ S S 23 16 57.0 -3.0
WMQ pmax pmax
comp=Z,13nm,0.9s
WMQ pmax pmax
comp=Z,320nm,6.1s
WMQ LR LR
comp=Z,1μm,17.1s
WMQ LR LR
comp=Z,800nm,18.5s
WMQ LR LR
comp=Z,720nm,19.9s
TARA **Tarawa** 43.89 135 eP P 23 10 42.7 -4.3
ZAA0 **Zalesovo Array** 43.91 313 eP P 23 10 47.1 +0.4
ZALV **Zalesovo Beam** 43.91 313 P P 23 10 47.2 +0.4
comp=Z,32nm,0.5s,baz=96,slow=7.2,SNR=110
ZALV PcP PcP 23 12 32.2 -0.1
comp=Z,8.7nm,0.7s,baz=98,slow=3.0,SNR=6.9
LSA **Lhasa** 43.92 277 eP P 23 10 47.3 -0.4
LSA pmax pmax
comp=Z,9.0nm,0.8s
LSA **Lhasa** 43.92 277 eP P 23 10 47.3 -0.4
comp=Z,9.3nm,0.8s
NVS **Novosibirsk** 44.83 315 eP P 23 10 54.6 +0.5
NVS pmax pmax
comp=N,2.0nm,0.5s
NVS pmax pmax
comp=E,12nm,0.5s
NVS pmax pmax
comp=Z,17nm,0.5s
NRIK **Noril'sk** 45.04 335 P P 23 10 56.5 +1.0
comp=Z,5.6nm,0.5s,baz=109,slow=5.6,SNR=13
TT01 **Tatalina** 45.53 34 eP P 23 11 01.1 +1.6
SVW2 **Sparrevohn** 45.54 37 eP P 23 11 02.0 +2.3
comp=Z,27nm,0.9s
MK01 **Makanchi Array** 46.11 303 eP P 23 11 04.6 +0.2
MK31 **Makanchi Array** 46.12 303 eP P 23 11 04.9 +0.5
MK31 **Makanchi Array** 46.12 303 eP P 23 11 04.9 +0.5
MKAR **Makanchi Array** 46.12 303 eP P 23 11 04.9 +0.5
MKAR pmax pmax
comp=Z,59nm,1.1s
MKAR **Makanchi Array** 46.12 303 eP P 23 11 04.9 +0.5
comp=Z,59nm,1.1s
MAKZ **Makanchi** 46.33 304 eP P 23 11 06.7 +0.6
MAKZ pmax pmax
comp=Z,33nm,1.6s
MAKZ **Makanchi** 46.33 304 eP P 23 11 06.7 +0.6
comp=Z,33nm,1.6s
RSO **Redoubt South** 46.89 38 eP P 23 11 12.0 +1.5
KDAK **Kodiak Island** 46.96 41 eP P 23 11 10.9 +0.1
KDAK pmax pmax
comp=Z,123nm,0.6s
KDAK **Kodiak Island** 46.96 41 eP P 23 11 10.9 +0.1
comp=Z,123nm,0.6s
SPU **Mount Spurr** 47.26 37 eP P 23 11 14.8 +1.6
PPLA **Purkeypile** 47.27 34 eP P 23 11 15.6 +2.3
comp=Z,59nm,1.4s
CAST **Castle Rocks** 47.35 34 eP P 23 11 15.9 +2.1
comp=Z,11nm,0.8s
TAPN **Taplejung** 47.63 276 eP P 23 11 17.5 +0.7
comp=Z,15nm,0.5s
KTH **Kantishna Hill** 47.88 33 eP P 23 11 19.2 +1.2
comp=Z,16nm,1.0s
KURK **Kurchatov** 47.94 309ceP P 23 11 18.5 0.0
KURK pmax pmax
comp=Z,147nm,1.0s
KURK **Kurchatov** 47.94 309 eP P 23 11 18.4 0.0
comp=Z,42nm,0.9s
ODAN **Odare** 48.10 276 eP P 23 11 20.8 +0.4
comp=Z,33nm,0.9s
PMR **Palmer** 48.67 36 eP P 23 11 24.4 +0.4
PMR pmax pmax
comp=Z,29nm,0.9s
PMR **Palmer** 48.67 36 eP P 23 11 24.4 +0.4
comp=Z,29nm,0.9s
RAMN **Ramite** 48.70 276 eP P 23 11 25.6 +0.6
comp=Z,26nm,0.6s
JIRN **Jiri** 48.73 277 eP P 23 11 26.3 +0.9
comp=Z,186nm,0.7s
MCK **McKinley** 48.77 33 eP P 23 11 25.2 +0.4
MCK pmax pmax
comp=Z,15nm,1.0s
MCK **McKinley** 48.77 33 eP P 23 11 25.2 +0.4
comp=Z,16nm,1.0s
RND **Reindeer** 48.81 34 eP P 23 11 25.5 +0.4
RND pmax pmax
comp=Z,18nm,0.8s
RND **Reindeer** 48.81 34 eP P 23 11 25.5 +0.4
comp=Z,18nm,0.8s
TOLK **Toolik Lake Re** 48.84 27 P P 23 11 26.0 +0.7
baz=264
GUN **Gumba** 48.88 278 eP P 23 11 27.2 +0.7
comp=Z,56nm,0.9s
SML **Sawmill** 49.05 36 eP P 23 11 27.6 +0.7
SML pmax pmax
comp=Z,21nm,0.8s
SML **Sawmill** 49.05 36 eP P 23 11 27.6 +0.7
comp=Z,21nm,0.8s
MDM **Muhly Dome** 49.12 32 eP P 23 11 28.7 +1.3
comp=Z,29nm,0.8s
WRH **Wood River Hil** 49.16 32 eP P 23 11 28.8 +1.1
comp=Z,8.8nm,0.8s
CCB **Clear Creek Bu** 49.29 32 eP P 23 11 29.5 +0.8
comp=Z,10nm,1.1s
PKI **Pulchoki** 49.40 278 eP P 23 11 31.0 +0.5
PKIN **Phulchoki** 49.41 278 eP P 23 11 30.9 +0.5
KKN **Kakani** 49.41 278 eP P 23 11 31.0 +0.6
DHY **Denali Highway** 49.48 34 eP P 23 11 31.3 +0.9
comp=Z,12nm,1.0s
SCM **Sheep Creek Mo** 49.52 36 eP P 23 11 31.6 +1.0
SCM pmax pmax
comp=Z,139nm,1.8s
SCM **Sheep Creek Mo** 49.52 36 eP P 23 11 31.6 +1.0
comp=Z,139nm,1.8s
DMN **Daman** 49.62 278 eP P 23 11 32.4 +0.3
HDA **Harding Lake** 49.66 32 eP P 23 11 32.2 +0.7
comp=Z,29nm,0.9s
ILAR **Eielson Array** 49.69 32 P P 23 11 31.9 +0.2
comp=Z,17nm,0.8s,baz=262,slow=6.2,SNR=105
ILB **Eielson Array** 49.69 32 eP P 23 11 32.0 +0.2
IL1 **Eielson Array** 49.69 32 eP P 23 11 31.6 -0.2
MTN **Manton Dam** 49.76 196 eP P 23 11 31.8 -1.0
comp=Z,43nm,0.9s
GKN **Gorkha** 49.84 278 eP P 23 11 34.2 +0.6
comp=Z,43nm,0.7s
IPM **Ipoh** 49.91 241 eP P 23 11 33.6 -0.5
comp=Z,17nm,0.8s
FID **Port Fidalgo** 49.98 37 eP P 23 11 35.0 +1.0
comp=Z,54nm,1.4s
DIV **Divide** 50.30 37 eP P 23 11 37.5 +0.9
comp=Z,65nm,1.2s
PAX **Paxson** 50.34 34 eP P 23 11 37.5 +0.6
PAX e 23 12 56.1
PAX pmax pmax
comp=Z,9.0nm,0.9s
PAX **Paxson** 50.34 34 eP P 23 11 37.5 +0.6
comp=Z,8.8nm,0.9s
PAX ePcP PcP 23 12 56.1 +1.0
EYAK **Cordova Ski Ar** 50.35 37 eP P 23 11 38.7 +1.9
comp=Z,27nm,1.0s
FYU **Fort Yukon** 50.38 29 eP P 23 11 39.4 +2.5
comp=Z,70nm,1.4s
HARP **HAARP** 50.52 35 eP P 23 11 39.8 +1.7
KOLN **Koldanda** 50.77 279 eP P 23 11 41.4 +0.7
comp=Z,17nm,0.7s
BMRM **Bremner River** 50.88 37 eP P 23 11 41.8 +0.9
comp=Z,38nm,1.1s
DOT **Dot Lake** 50.95 33 eP P 23 11 41.3 0.0
comp=Z,37nm,0.7s
PYUN **Piuthan** 51.12 279 eP P 23 11 43.7 +0.3
comp=Z,60nm,0.9s
MENT **Mentasta** 51.15 34 eP P 23 11 43.9 +1.1
comp=Z,20nm,0.7s
CRQM **Cirque** 51.61 37 eP P 23 11 48.3 +1.8
comp=Z,84nm,1.4s
EGAK **Eagle** 52.14 32 eP P 23 11 50.7 +0.5
comp=Z,8.7nm,0.6s
FRU **Bishkek** 52.33 300 eP P 23 11 53.0 +1.0
FRU e 23 13 00.0
FRU e 23 13 56.0
FRU pmax pmax
comp=Z,65nm,2.3s
KSH **Kashi** 52.36 296⇓iP P 23 11 56.1 +3.7
KSH pP pP 23 12 04.1 +1.2
KSH PcP PcP 23 13 05.6 +2.5
KSH PP PP 23 13 55.9 +4.9
KSH ScP ScP 23 17 00.1 +2.6
KSH S S 23 19 19.3 +3.5
KSH sS sS 23 19 32.8 -0.3
KSH SS SS 23 22 56.3 +2.8
KSH pmax pmax
comp=Z,10.0nm,0.8s
KSH pmax pmax
comp=Z,150nm,8.4s
KSH LR LR
comp=Z,980nm,18.3s
KSH LR LR
comp=Z,950nm,14.6s
KSH LR LR
comp=Z,1μm,17.0s
AAK **Ala-Archa** 52.47 300⇑iP P 23 11 54.1 +0.9
AAK pmax pmax
comp=Z,29nm,2.1s
AAK **Ala-Archa** 52.47 300 eP P 23 11 52.9 -0.3
comp=Z,10.0nm,1.4s
BVAR **Borovoye Array** 52.57 313 LR LR 23 33 49.6
comp=Z,2μm,22.0s,baz=88,slow=36
PSI **Prapat** 52.57 242 eP P 23 11 54.3 +0.1
PSI pmax pmax
comp=Z,12nm,0.9s
PSI **Prapat** 52.57 242 eP P 23 11 54.3 +0.1
comp=Z,12nm,0.9s
BRVK **Borovoye** 52.62 313diP P 23 11 53.9 0.0
BRVK pmax pmax
comp=Z,35nm,0.9s
BRVK **Borovoye** 52.62 313 eP P 23 11 54.0 +0.1
comp=Z,13nm,0.8s
BRVK ePcP PcP 23 13 02.9 -0.7
DAWY **Dawson** 52.97 32 eP P 23 11 57.2 +0.8
comp=Z,18nm,1.3s
HYT **Haines Junctio** 54.34 36 eP P 23 12 08.8 +2.3
INK **Inuvik** 54.76 27 eP P 23 12 10.0 +0.7
INK pmax pmax
comp=Z,23nm,1.2s
INK **Inuvik** 54.76 27 eP P 23 12 10.0 +0.7
comp=Z,23nm,1.2s
KKAR **Karatay Array** 55.12 301 eP P 23 12 12.9 +0.5
KKAR pmax pmax
comp=Z,76nm,0.9s
KKAR **Karatay Array** 55.12 301 eP P 23 12 12.9 +0.5
comp=Z,76nm,0.9s
WHY **Whitehorse** 55.63 36 eP P 23 12 16.9 +1.0
comp=Z,16nm,0.8s
SKAG **Skagway** 55.69 38 eP P 23 12 18.0 +1.9
comp=Z,10.0nm,0.8s
WRAB **Tennant Creek** 56.09 190⇑iP P 23 12 18.3 -1.2
WRAB pmax pmax
comp=Z,149nm,1.2s
WRAB **Tennant Creek** 56.09 190 eP P 23 12 17.6 -1.9
comp=Z,48nm,1.0s
WRA **Warramunga Arr** 56.10 190 P P 23 12 17.9 -1.6
comp=Z,30nm,0.9s,baz=8.4,slow=7.5,SNR=66
WRA PcP PcP 23 13 17.8 +0.5
comp=Z,6.7nm,0.9s,baz=2.2,slow=4.6,SNR=5.2
FITZ **Fitzroy Crossi** 56.19 200 eP P 23 12 19.7 -0.5
SVE **Sverdlovsk** 57.11 320 eP P 23 12 26.9 +0.6
SVE pmax pmax
comp=Z,48nm,0.9s
SOKR **Solikamsk** 58.26 323c iP P 23 12 33.2 -1.1
SOKR pmax pmax
comp=Z,25nm,1.3s
ARU **Arti** 58.33 319d iP P 23 12 34.9 0.0
ARU *PP pP 23 12 44.6 -0.9
ARU 23 13 23.6
ARU S S 23 20 36.6 +1.9
ARU 23 22 20.9
ARU SS SS 23 24 34.8 +8.4
ARU pmax pmax
comp=Z,64nm,1.2s
ARU **Arti** 58.33 319 eP P 23 12 34.9 0.0
comp=Z,41nm,0.9s
DLBC **Dease Lake** 58.61 38 eP P 23 12 39.2 +2.2
comp=Z,14nm,1.1s
KBL **Kabul** 59.34 292 eP P 23 12 42.6 0.0
KBL pmax pmax
comp=Z,20nm,1.1s
KBL **Kabul** 59.34 292 eP P 23 12 42.6 0.0
comp=Z,20nm,1.1s
AS01 **Alice Springs** 59.82 190 eP P 23 12 44.2 -1.3
AS31 **Alice Springs** 59.83 190 eP P 23 12 44.6 -1.0
comp=Z,3.1nm,0.8s
ASAR **Alice Springs** 59.83 190 P P 23 12 44.4 -1.2
comp=Z,6.6nm,0.8s,baz=13,slow=6.2,SNR=48
ASAR PcP PcP 23 13 32.2 +0.3
comp=Z,2.8nm,0.7s,baz=6.2,slow=4.3,SNR=4.8
ABKAR **Akbulak array** 59.94 311 eP P 23 12 46.0 -0.2
comp=Z,123nm,0.6s
ABKAR ePP PP 23 15 02.7 +4.4
YKA **Yellowknife Ar** 64.06 30 P P 23 13 14.1 +0.5
comp=Z,5.7nm,0.8s,baz=300,slow=6.4,SNR=7.9
APA **Apatity** 64.45 336⇓iP P 23 13 14.2 -1.9
APA pmax pmax
comp=Z,9.0nm,0.8s
APA MLR MLR
comp=Z,2μm,22.0s
TMCR **Tamitsa** 64.58 332 eP P 23 13 17.2 +0.3
TMCR pmax pmax
comp=Z,39nm,1.1s
KLMR **Klimovskoe** 65.63 329 eP P 23 13 21.3 -2.5
KLMR pmax pmax
comp=Z,22nm,1.3s
ARA0 **ARCESS Array S** 65.69 340 eP P 23 13 24.8 +0.7
ARCES **ARCESS Array B** 65.69 340 P P 23 13 24.7 +0.6
comp=Z,7.6nm,0.7s,baz=57,slow=7.5,SNR=17
ARCES LR LR 23 45 30.9
comp=Z,3μm,21.9s,baz=66,slow=39
GEYT **Alibeck** 65.82 300 P P 23 13 26.2 +0.7
comp=Z,6.4nm,0.6s,baz=29,slow=3.4,SNR=23
NLWA **Neilton Lookou** 66.36 48 eP P 23 13 30.1 +1.3
comp=Z,20nm,1.0s
E03A **Lebam** 66.94 49 eP P 23 13 34.3 +1.8
comp=Z,22nm,0.9s
B05A **Bryant** 67.01 46 P P 23 13 33.3 +0.4
baz=298
DAG **Danmarks Havn** 67.12 356 iP P 23 13 33.2 +0.1
comp=Z,26nm,1.3s
DAG **Danmarks Havn** 67.12 356 iP P 23 13 33.2 +0.1
DAG pmax pmax
comp=Z,51nm,1.3s
G03D **McMinnville, O** 67.76 50 P P 23 13 38.2 +0.5
baz=299
FORT **Forrest** 67.78 194 eP P 23 13 37.4 -0.4
comp=Z,230nm,0.6s
LON **Longmire** 67.91 48 eP P 23 13 39.8 +1.1
LON pmax pmax
comp=Z,5.0nm,0.9s
LON **Longmire** 67.91 48 eP P 23 13 39.8 +1.1
comp=Z,4.6nm,0.9s
KEBM **Edson Butte** 68.22 52 eP P 23 13 42.7 +2.0
comp=Z,33nm,1.0s
LTY **Liberty** 68.34 47 eP P 23 13 42.3 +0.9
comp=Z,9.3nm,0.9s
B08A **Colville Reser** 68.57 45 eP P 23 13 43.4 +0.6
comp=Z,18nm,1.0s
G05D **Wamic, OR** 68.95 49 P P 23 13 45.8 +0.6
baz=300
I04A **Tendick Farm,** 68.99 51 P P 23 13 45.8 +0.3
baz=300,SNR=9.2
L02D **Cave Junction,** 69.04 53 P P 23 13 46.1 +0.3
baz=300
HUMO **Hull Mountain** 69.23 52 eP P 23 13 48.5 +1.5
comp=Z,9.3nm,1.4s
G06A **Carlson Farm,** 69.37 49 eP P 23 13 49.0 +1.2
comp=Z,9.9nm,1.0s
I05D **Terrebonne, OR** 69.39 50 P P 23 13 48.4 +0.4
baz=300
D08A **Wollman Farm,** 69.47 46 eP P 23 13 48.6 +0.3
comp=Z,12nm,0.9s
KHMM **Horse Mountain** 69.59 54 eP P 23 13 50.8 +1.4
comp=Z,18nm,1.1s
NEW **Newport** 69.89 45 P P 23 13 50.8 -0.2
baz=301,SNR=8.5
NEW **Newport** 69.89 45 eP P 23 13 51.4 +0.4
NEW pmax pmax
comp=Z,14nm,1.0s
NEW **Newport** 69.89 45 eP P 23 13 51.4 +0.4
comp=Z,14nm,1.0s
M02C **Callahan** 69.91 53 P P 23 13 50.5 -0.7
baz=300,SNR=6.8
J05D **Fort Rock, OR** 69.98 51 P P 23 13 51.3 -0.5
baz=301
OBN **Obninsk** 70.02 324 P P 23 13 52.2 +0.7
comp=Z,5.5nm,0.4s,baz=284,slow=22,SNR=4.5
OBN **Obninsk** 70.02 324⇓iP P 23 13 52.4 +0.9
OBN *PP pP 23 14 02.0 -0.4
OBN e 23 14 13.8
OBN 23 16 23.0
OBN S S 23 23 00.0 +0.6
OBN pmax pmax
comp=Z,38nm,2.5s
OBN MLR MLR
comp=Z,2μm,21.0s

E09A Wood Farm, Sta 70.21 47 *e*P P 23 13 54.1 +1.3
comp=Z,13nm,0.9s
N02D Trinity Center 70.21 53 P P 23 13 52.8 -0.4
baz=300,SNR=7.4
LPSR Galich'ya Gora 70.25 321 *e*P P 23 13 53.3 +0.3
LPSR pmax pmax
comp=Z,10.0nm,0.9s
KCPM Cahto Peak 70.29 55 *e*P P 23 13 55.3 +1.6
comp=Z,16nm,0.8s
M04C Macdoel 70.36 52 P P 23 13 54.5 +0.4
baz=301,SNR=6.7
K05A Summer Lake 70.48 51 *e*P P 23 13 56.4 +1.4
comp=Z,28nm,0.8s
WDC Whiskeytown Da 70.52 54 *e*P P 23 13 56.2 +1.3
WDC pmax pmax
comp=Z,10.0nm,1.0s
WDC Whiskeytown Da 70.52 54 *e*P P 23 13 56.2 +1.3
comp=Z,9.5nm,1.0s
FINES FINESS Array B 70.63 333 P P 23 13 55.6 +0.4
comp=Z,5.1nm,0.6s,baz=62,slow=6.3,SNR=23
FINES LR LR 23 47 44.4
comp=Z,3µm,21.0s,baz=59,slow=38
VSR Storozhevoye 70.89 320 *e*P P 23 13 56.6 -0.4
VSR pmax pmax
comp=Z,20nm,1.2s
F10A Beach Ranch, E 71.03 47 *e*P P 23 13 59.0 +0.9
comp=Z,6.1nm,0.9s
WALA Waterton Lakes 71.27 43 *e*P P 23 14 00.0 +0.6
comp=Z,60nm,1.9s
MOD Modoc Plateau 71.28 52 *e*P P 23 14 01.0 +1.2
comp=Z,8.9nm,0.8s
BMO Blue Mountains 71.58 48 *e*P P 23 14 02.0 +0.6
BMO pmax pmax
comp=Z,6.0nm,0.8s
BMO Blue Mountains 71.58 48 *e*P P 23 14 02.0 +0.6
comp=Z,6.3nm,0.8s
BLMT Blacktail Moun 71.59 44 *e*P P 23 14 02.8 +1.2
ORV Oroville 71.73 54 *e*P P 23 14 02.5 +0.2
ORV pmax pmax
comp=Z,7.0nm,0.9s
ORV Oroville 71.73 54 *e*P P 23 14 02.5 +0.2
comp=Z,6.9nm,0.9s
JTMT Jette 71.78 44 *e*P P 23 14 03.3 +0.8
YBMT Yellow Bay 71.87 44 *e*P P 23 14 04.2 +1.1
SUMG Summit 71.90 1 *i*P P 23 14 04.1 +0.8
comp=Z,17nm,0.7s
SUMG Summit 71.90 1 *e*P P 23 14 04.0 +0.8
SUMG pmax pmax
comp=Z,27nm,0.8s
SUMG Summit 71.90 1 *e*P P 23 14 04.0 +0.8
comp=Z,26nm,0.8s
WVOR Wild Horse Val 72.06 50 *e*P P 23 14 04.8 +0.5
WVOR pmax pmax
comp=Z,14nm,1.2s
WVOR Wild Horse Val 72.06 50 *e*P P 23 14 04.8 +0.5
comp=Z,14nm,1.2s
SWMT Swartz Lake 72.07 44 *e*P P 23 14 05.3 +1.0
AFDM Forest Hills D 72.40 54 *e*P P 23 14 07.6 +1.3
comp=Z,6.9nm,1.1s
MSO Missoula 72.48 45 P P 23 14 06.2 -0.5
baz=304
MSO Missoula 72.48 45 *e*P P 23 14 07.5 +0.7
comp=Z,11nm,1.0s
SLMT Seeley Lake 72.50 44 *e*P P 23 14 07.5 +0.5
ZEI Tsey 72.80 311 *e*P P 23 14 08.1 -0.8
ZEI pmax pmax
comp=Z,18nm,0.6s
KBZ Khabaz 72.90 312 P P 23 14 09.7 +0.5
comp=Z,16nm,0.8s,baz=75,slow=5.3,SNR=43
KBZ LR LR 23 48 00.1
comp=Z,735nm,20.7s,baz=52,slow=37
KIV Kislovodsk 72.91 312 *e*P P 23 14 10.1 +0.7
KIV pmax pmax
comp=Z,42nm,0.9s
KIV Kislovodsk 72.91 312 *e*P P 23 14 10.0 +0.7
comp=Z,35nm,0.8s
PAHR Pah Rah Range 73.04 53 *e*P P 23 14 11.2 +1.0
comp=Z,9.9nm,1.1s
PNTR Pine Nut 73.23 54 *e*P P 23 14 13.2 +1.7
comp=Z,10nm,0.8s
MFID Camas Ranch 73.26 48 *e*P P 23 14 11.9 +0.5
comp=Z,9.9nm,0.9s
CMB Columbia Colle 73.28 55 *e*P P 23 14 12.6 +1.1
CMB pmax pmax
comp=Z,9.0nm,0.9s
CMB Columbia Colle 73.28 55 *e*P P 23 14 12.6 +1.1
comp=Z,9.2nm,0.9s
SCO Scoresbysund 73.48 355 *i*P P 23 14 13.2 +1.1
comp=Z,8.2nm,1.0s
SCO Scoresbysund 73.48 355 *i*P P 23 14 13.2 +1.1
SCO pmax pmax
comp=Z,20nm,1.0s
YERR Yerington 73.52 54 *e*P P 23 14 14.4 +1.2
comp=Z,13nm,0.9s
WAKR Walker 73.65 54 *e*P P 23 14 15.3 +1.4
comp=Z,7.2nm,1.0s
GNI Garni 73.71 308 *ce*P P 23 14 16.1 +1.9
GNI pmax pmax
comp=Z,45nm,1.2s
GNI Garni 73.71 308 *e*P P 23 14 15.2 +1.0
comp=Z,17nm,1.1s
HRY Holter Researc 73.74 44 *e*P P 23 14 15.3 +1.1
AKH Akhalkalaki 73.81 310 ⇑*i*P P 23 14 16.7 +1.9
FFC Flin Flon 73.86 33 *e*P P 23 14 15.0 +0.3
FFC pmax pmax
comp=Z,13nm,1.1s
FFC Flin Flon 73.86 33 *e*P P 23 14 14.9 +0.3
comp=Z,13nm,1.1s
LRM Limekiln Ridge 73.90 45 *e*P P 23 14 16.4 +1.1
HLID Hailey 74.03 48 P P 23 14 16.0 0.0
baz=304
HLID Hailey 74.03 48 *e*P P 23 14 17.3 +1.2
comp=Z,5.8nm,0.9s
BMN Battle Mountai 74.04 52 *e*P P 23 14 17.1 +1.0
BMN pmax pmax
comp=Z,12nm,0.8s
BMN Battle Mountai 74.04 52 *e*P P 23 14 17.1 +1.0
comp=Z,12nm,0.8s
DLMT Dillon 74.08 45 *e*P P 23 14 17.3 +1.0
comp=Z,22nm,1.4s
TVH1 TV Hill, Hawth 74.12 54 *e*P P 23 14 18.1 +1.2
comp=Z,9.8nm,1.0s
EGMT Eagleton 74.13 42 P P 23 14 16.5 +0.1
baz=306,SNR=5.8
EGMT Eagleton 74.13 42 *e*P P 23 14 16.6 +0.2
comp=Z,24nm,1.1s
TVH3 East Aurora ar 74.14 54 *e*P P 23 14 18.2 +1.4
comp=Z,11nm,1.0s
TVH2 Borealis Mine 74.17 54 *e*P P 23 14 18.4 +1.3
comp=Z,5.8nm,0.9s
BOZ Bozeman (W) 74.50 45 P P 23 14 18.6 -0.2
baz=306
BOZ Bozeman (W) 74.50 45 *e*P P 23 14 19.1 +0.4
BOZ pmax pmax
comp=Z,11nm,1.0s
BOZ Bozeman (W) 74.50 45 *e*P P 23 14 19.1 +0.4
comp=Z,11nm,1.0s
PAGB Antelope Grade 74.61 57 *e*P P 23 14 20.9 +1.5
comp=Z,14nm,0.9s
ARTV Artvin 74.92 310 *e*P P 23 14 22.3 +1.0
comp=Z,7.3nm,0.9s
QLMT Earthquake Lak 75.06 45 *e*P P 23 14 23.4 +1.3
YHB Horse Butte 75.24 45 *e*P P 23 14 24.9 +1.8
comp=Z,12nm,0.9s
PKM Mcpherson Peak 75.37 58 P P 23 14 24.1 +0.1
baz=304
YHH Holmes Hill 75.42 45 *e*P P 23 14 25.5 +1.2
CWC Cottonwood Cre 75.69 55 P P 23 14 25.7 0.0
baz=304
SBC Santa Barbara 75.69 58 P P 23 14 25.8 +0.2
baz=304
YPP Pitchstone Pla 75.75 45 *e*P P 23 14 28.5 +2.4
comp=Z,6.3nm,0.9s
H17A Grant Village 75.81 45 P P 23 14 27.0 +0.6
baz=306
H17A Grant Village 75.81 45 *e*P P 23 14 29.1 +2.6
comp=Z,22nm,1.0s
NC204 NORSAR Array S 75.87 338 *e*P P 23 14 27.6 +1.5
IMW Indian Meadow 75.89 46 *e*P P 23 14 28.8 +1.8
comp=Z,13nm,0.8s
NB2 NORSAR Subarra 75.92 338 P P 23 14 26.5 +0.1
baz=38,slow=5.9
NB2 NORSAR Subarra 75.92 338 P P 23 14 26.5 +0.1
comp=Z,31nm,1.2s,baz=38,slow=5.9
NOA NORSAR Array B 75.92 338 P P 23 14 26.9 +0.4
comp=Z,6.2nm,0.7s,baz=39,slow=5.7,SNR=15
NOA LR LR 23 51 47.0
comp=Z,891nm,21.8s,baz=45,slow=39
HVU Hansel Valley 76.04 48 *e*P P 23 14 28.3 +0.6
HVU pmax pmax
comp=Z,10.0nm,0.7s
HVU Hansel Valley 76.04 48 *e*P P 23 14 28.3 +0.6
comp=Z,9.9nm,0.7s
MOOW Moose Ponds 76.10 46 *e*P P 23 14 29.4 +1.4
comp=Z,6.5nm,1.0s
DAC Darwin (Calif) 76.10 55 *e*P P 23 14 28.3 +0.1
DAC pmax pmax
comp=Z,9.0nm,1.0s
DAC Darwin (Calif) 76.10 55 *e*P P 23 14 28.3 +0.1
comp=Z,8.9nm,1.0s
RLMT Red Lodge 76.13 44 P P 23 14 28.1 -0.1
baz=307
TPAW Teton Pass 76.13 46 *e*P P 23 14 29.6 +1.3
comp=Z,12nm,0.8s
AKASG Malin Array Be 76.23 323 P P 23 14 28.2 -0.1
comp=Z,3.9nm,0.4s,baz=44,slow=6.0,SNR=23
AKASG LR LR 23 50 13.7
comp=Z,2µm,20.4s,baz=40,slow=37
KIEV Kiev 76.24 323 *e*P P 23 14 28.2 -0.2
KIEV pmax pmax
comp=Z,15nm,1.0s
KIEV Kiev 76.24 323 *e*P P 23 14 28.2 -0.2
comp=Z,15nm,1.0s
R11A Troy Canyon, C 76.25 53 P P 23 14 29.4 +0.4
baz=305
R11A Troy Canyon, C 76.25 53 *e*P P 23 14 29.4 +0.4
comp=Z,8.7nm,0.9s
LOHW Long Hollow 76.26 46 *e*P P 23 14 30.4 +1.4
comp=Z,6.6nm,1.0s
REDW Red Top Meadow 76.26 46 *e*P P 23 14 30.4 +1.5
comp=Z,9.2nm,1.0s
MPMC Manual Prospec 76.30 55 P P 23 14 28.8 -0.4
baz=304,SNR=9.2
BGU Big Grassy Mou 76.38 49 *e*P P 23 14 30.9 +1.3
comp=Z,7.6nm,0.9s
FURC Furnace Creek, 76.48 55 P P 23 14 30.4 +0.4
baz=305
LRMC Laurel Mtn Rad 76.49 56 P P 23 14 30.8 +0.5
baz=304
SPUT South Promonto 76.52 49 *e*P P 23 14 31.8 +1.4
comp=Z,6.5nm,0.9s
TPNV Topopah Spring 76.62 54 P P 23 14 31.1 +0.1
baz=305
TPNV Topopah Spring 76.62 54 *e*P P 23 14 31.8 +0.8
TPNV pmax pmax
comp=Z,11nm,0.8s
TPNV Topopah Spring 76.62 54 *e*P P 23 14 31.8 +0.8
comp=Z,11nm,0.8s
EDW2 Edwards Air Fo 76.62 57 P P 23 14 31.2 +0.2
baz=304
DGMT Dagmar 76.79 39 P P 23 14 31.6 0.0
baz=310
DGMT Dagmar 76.79 39 *e*P P 23 14 31.9 +0.3
comp=Z,20nm,1.0s
LAO LASA Array 76.85 42 P P 23 14 32.4 +0.3
baz=309
LAO LASA Array 76.85 42 *e*P P 23 14 32.5 +0.5
comp=Z,17nm,1.0s
HWUT Hardware Ranch 76.88 48 *e*P P 23 14 33.5 +1.1
comp=Z,20nm,1.1s
DUG Dugway, Tooele 76.94 50 P P 23 14 33.5 +0.8
baz=306
DUG Dugway, Tooele 76.94 50 *e*P P 23 14 33.6 +0.8
DUG pmax pmax
comp=Z,13nm,0.8s
DUG Dugway, Tooele 76.94 50 *e*P P 23 14 33.6 +0.8
comp=Z,13nm,0.8s
SFJD Kangerlussuaq 76.96 6 *i*P P 23 14 32.7 +0.6
comp=Z,14nm,0.7s
SFJD Kangerlussuaq 76.96 6 *i*P P 23 14 32.7 +0.6
SFJD pmax pmax
comp=Z,14nm,0.7s
GSC Goldstone, Bar 77.18 56 P P 23 14 34.5 +0.3
baz=305
GSC Goldstone, Bar 77.18 56 *e*P P 23 14 34.9 +0.8
GSC pmax pmax
comp=Z,9.0nm,1.1s
GSC Goldstone, Bar 77.18 56 *e*P P 23 14 34.9 +0.8
comp=Z,9.0nm,1.1s
SHOC Shoshone, Teco 77.20 55 P P 23 14 34.0 -0.1
baz=305
BFSC Mount Baldy Ra 77.21 57 P P 23 14 34.7 +0.4
baz=305
SIM Simferopol' 77.31 317 *d*iP P 23 14 35.6 +1.1
BW06 Boulder Array 77.38 46 P P 23 14 35.5 +0.2
baz=307
BW06 Boulder Array 77.38 46 *e*P P 23 14 35.2 -0.1
comp=Z,7.7nm,0.8s
PD31 Pinedale Array 77.38 46 *e*P P 23 14 35.7 +0.4
PDAR Pinedale Array 77.38 46 P P 23 14 35.6 +0.3
comp=Z,6.2nm,0.7s,baz=268,slow=2.2,SNR=28
NLU North Lily Min 77.54 50 *e*P P 23 14 37.5 +1.2
comp=Z,7.6nm,1.0s
JLU Jordanelle 77.54 49 *e*P P 23 14 37.6 +1.3
comp=Z,9.1nm,1.0s
SHPR Sheep Range 77.59 54 *e*P P 23 14 37.7 +1.2
comp=Z,11nm,1.2s
TUQ Turquoise Moun 77.70 55 P P 23 14 37.2 +0.1
baz=305,SNR=8.5
HEC Hector,Ludlow 77.77 56 P P 23 14 37.9 +0.4
baz=305
MARD Mardin 77.87 307 *e*P P 23 14 39.1 +1.2
comp=Z,37nm,0.7s
MURC Murrieta 77.89 57 P P 23 14 38.4 +0.4
baz=305
CCUT Cedar City 78.15 52 *e*P P 23 14 40.0 +0.3
comp=Z,7.8nm,0.9s
GMRC Granite Mounta 78.25 56 P P 23 14 40.4 +0.3
baz=305
MSU Marysvale 78.33 51 *e*P P 23 14 42.2 +1.5
MSU Marysvale 78.33 51 *e*P P 23 14 42.2 +1.5
PFO Pinyon Flats O 78.39 57 P P 23 14 41.0 +0.1
baz=305
TPFO Pinon Flats 78.39 57 P P 23 14 41.1 +0.1
baz=305
TMUT Trail Mountain 78.47 50 *e*P P 23 14 42.7 +1.2
comp=Z,14nm,0.4s
BELC Belle Mtn. Jos 78.47 56 P P 23 14 41.2 -0.3
baz=305
LCMT Little Creek M 78.54 53 *e*P P 23 14 43.1 +1.4
comp=Z,9.3nm,0.8s
KNB Kanab 78.81 52 *e*P P 23 14 44.7 +1.5
KNB pmax pmax
comp=Z,19nm,1.0s
KNB Kanab 78.81 52 *e*P P 23 14 44.7 +1.5
comp=Z,19nm,1.0s
MONP Monument Peak, 78.82 58 P P 23 14 43.4 -0.1
baz=305
IRM Iron Mountain 78.96 56 P P 23 14 44.1 +0.1
baz=306
SRU San Rafael Swe 79.01 50 *e*P P 23 14 43.5 -0.8
SRU pmax pmax
comp=Z,17nm,0.8s
SRU San Rafael Swe 79.01 50 *e*P P 23 14 43.5 -0.8
comp=Z,17nm,0.8s
BC3 Big Chuckawall 79.04 56 P P 23 14 44.5 0.0
baz=306
IKP In-Ko-Pah, Jac 79.18 58 P P 23 14 44.9 -0.3
baz=306
K22A Casper 79.21 45 P P 23 14 45.5 +0.2
baz=309
W13A Hualapai Mount 79.25 54 *e*P P 23 14 45.6 -0.1
LVV L'vov 79.30 325 *e*P P 23 14 47.5 +2.1
BEL Belsk 79.33 328 *e*P P 23 14 47.0 +1.4
BEL Belsk 79.33 328 *e*P P 23 14 47.0 +1.4
U15A North Rim 79.50 53 *e*P P 23 14 47.1 0.0
PDMCI Parker Dam,Lak 79.55 55 P P 23 14 47.6 +0.6
baz=306
Y12C Blythe 79.61 56 P P 23 14 48.0 +0.6
baz=306
ULM Lac du Bonnet 79.64 34 P P 23 14 47.9 +0.6
comp=Z,6.9nm,0.9s,baz=292,slow=8.4,SNR=3.2
RSSD Black Hills 79.67 43 P P 23 14 48.0 +0.1
baz=310
O20A White River Ci 79.77 48 P P 23 14 48.7 +0.3
baz=308
O20A White River Ci 79.77 48 *e*P P 23 14 49.4 +0.9
comp=Z,15nm,0.9s
GLA Glamis 79.82 57 P P 23 14 49.3 +0.6
baz=306
ILGA Ilgaz 79.97 314 *e*P P 23 14 51.5 +1.9
comp=Z,18nm,0.8s
KWP Kalwaria Pacla 80.04 325 *e*P P 23 14 51.0 +1.5
KWP Kalwaria Pacla 80.04 325 *e*P P 23 14 51.0 +1.5
BUR08 Bucovina Ar. S 80.24 323 *e*P P 23 14 51.2 +0.5
PV09 Paradox Valley 80.24 49 *e*P P 23 14 52.4 +1.2
BURAR Bucovina Array 80.25 323 ⇑*i*P P 23 14 50.8 0.0
BURAR Bucovina Array 80.25 323 ⇑P P 23 14 50.8 0.0
CFR Carcaliu 80.41 320 *i*P P 23 14 49.3 -2.2
CFR Carcaliu 80.41 320 ⇑P P 23 14 49.3 -2.2
PV05 Paradox Valley 80.52 50 *e*P P 23 14 53.9 +1.3
Y14A Wickenburg 80.52 55 *e*P P 23 14 53.3 +0.9
WUAZ Wupatki 80.64 53 P P 23 14 53.9 +0.7
baz=307
N23A Red Feather La 80.66 46 P P 23 14 53.8 +0.5
baz=310
N23A Red Feather La 80.66 46 *e*P P 23 14 54.8 +1.4
comp=Z,22nm,0.8s
PHWY Pilot Hill 80.68 45 *e*P P 23 14 54.2 +0.7
comp=Z,3.8nm,0.8s
113A Mohawk Valley, 80.71 56 *e*P P 23 14 54.4 +1.0
PV01 Paradox Valley 80.81 49 *e*P P 23 14 55.2 +1.0
comp=Z,947nm,0.8s
BR131 Keskin Array S 80.85 313 *e*P P 23 14 54.9 +0.6
BRTR Keskin Array B 80.85 313 P P 23 14 54.5 +0.3
comp=Z,9.8nm,0.9s,baz=92,slow=3.9,SNR=35
BRTR LR LR 23 54 35.7
comp=Z,516nm,21.8s,baz=54,slow=38
STHS Stebnicka Huta 80.87 326 *e*P P 23 14 54.2 +0.2
STHS pmax pmax
comp=Z,4.0nm,1.0s
STHS Stebnicka Huta 80.87 326 *e*P P 23 14 54.2 +0.2
OJC Ojcow 80.93 327 *e*P P 23 14 55.0 +0.7
OJC Ojcow 80.93 327 *e*P P 23 14 54.9 +0.6
OJC pmax pmax
comp=Z,27nm,1.3s
OJC Ojcow 80.93 327 *e*P P 23 14 54.9 +0.6
comp=Z,26nm,1.3s
UZH Uzhgorod 80.94 325 *e*P P 23 14 54.6 +0.3
UZH *e* 23 14 57.2
UZH *e* 23 15 03.8
CRVS Cervenica-Dubn 81.14 325 *e*P P 23 14 56.2 +0.8
CRVS Cervenica-Dubn 81.14 325 *e*P P 23 14 56.2 +0.8
ANTO Ankara 81.26 313 *e*P P 23 14 56.9 +0.6
ANTO pmax pmax
comp=Z,19nm,0.7s
ANTO Ankara 81.26 313 *e*P P 23 14 56.9 +0.6
comp=Z,19nm,0.7s
BR231 Keskin MP Arra 81.29 313 *e*P P 23 14 57.8 +1.3
NIE Niedzica 81.29 326 *e*P P 23 14 57.6 +1.4
NIE Niedzica 81.29 326 *e*P P 23 14 57.6 +1.4
DOPR Dopca 81.30 321 ⇑*i*P P 23 14 58.3 +2.0
MVCO Mesa Verde 81.43 50 P P 23 14 57.7 +0.2
baz=309
ISCO Idaho Springs 81.55 47 P P 23 14 58.9 +0.7
baz=310
ISCO Idaho Springs 81.55 47 *e*P P 23 14 59.4 +1.2
ISCO pmax pmax
comp=Z,4.0nm,0.8s
ISCO Idaho Springs 81.55 47 *e*P P 23 14 59.4 +1.2
comp=Z,4.1nm,0.8s
214A Organ Pipe Nat 81.84 57 P P 23 14 59.9 +0.5
baz=307
LANS Liptovska Anna 81.86 327 *e*P P 23 14 59.5 +0.2
LANS Liptovska Anna 81.86 327 *e*P P 23 14 59.5 +0.2
OKC Ostrava-Krasne 81.94 328 *e*P P 23 15 00.6 +1.0
OKC Ostrava-Krasne 81.94 328 *e*P P 23 15 00.6 +1.0
KSP Ksiaz 81.97 329 *e*P P 23 15 01.0 +1.2
KSP Ksiaz 81.97 329 *e*P P 23 15 01.0 +1.2
DRGR 82.05 323 ⇓*i*P P 23 15 00.8 +0.5
DRGR 82.05 323 ⇓P P 23 15 00.8 +0.5
ARR Arges 82.09 321 ⇑*i*P P 23 15 02.6 +2.0
S22A 4UR Ranch, Cre 82.13 49 P P 23 15 01.9 +0.7
baz=310
S22A 4UR Ranch, Cre 82.13 49 *e*P P 23 15 02.7 +1.5
SUSD Miller 82.17 40 P P 23 15 01.2 +0.2
baz=313
D34A Park Rapids 82.20 36 P P 23 15 01.2 +0.2
baz=316
MORC Moravsky Berou 82.24 328 ⇑*i*P P 23 15 00.6 -0.7
MORC Moravsky Berou 82.24 328 *e*P P 23 15 02.1 +0.8
MORC pmax pmax
comp=Z,24nm,1.1s
MORC Moravsky Berou 82.24 328 *e*P P 23 15 02.1 +0.8
comp=Z,24nm,1.1s
DPC Dobruska-Polom 82.33 329 *e*P P 23 15 02.9 +1.2
DPC Dobruska-Polom 82.33 329 *e*P P 23 15 02.9 +1.2
C35A Jirik Farms, M 82.33 35 P P 23 15 01.7 0.0
baz=316
F33A 5 Mile Ranch, 82.55 37 P P 23 15 02.9 0.0
baz=315
VYHS Vyhne 82.63 326 *e*P P 23 15 04.3 +1.0
VYHS pmax pmax
comp=Z,14nm,1.8s
VYHS Vyhne 82.63 326 *e*P P 23 15 04.2 +1.0
PVCC Panska Ves 82.92 330 *e*P P 23 15 06.0 +1.3
PVCC Panska Ves 82.92 330 *e*P P 23 15 06.0 +1.3
G33A Ortonville 82.94 38 P P 23 15 04.8 0.0
baz=315
SDCO Great Sand Dun 82.94 48 P P 23 15 05.5 +0.1
baz=310
CLL Collm 82.94 331 *i*P P 23 15 04.9 +0.1
CLL *e* 23 15 17.0
CLL pmax pmax
comp=Z,9.0nm,1.0s
CLL Collm 82.94 331 *i*P P 23 15 04.9 +0.1
comp=Z,9.0nm,1.0s
CLL *es*P **pP** 23 15 16.0 +0.2
CLL *e*PP **PP** 23 18 14.0 -0.8
CLL Collm 82.94 331 *e*P P 23 15 05.1 +0.3
TUC Tucson 82.99 55 P P 23 15 05.6 +0.1
baz=308
TUC Tucson 82.99 55 *e*P P 23 15 06.5 +1.0
TUC pmax pmax
comp=Z,7.0nm,1.1s
TUC Tucson 82.99 55 *e*P P 23 15 06.5 +1.0
comp=Z,6.6nm,1.1s
J31A Geddes 83.08 41 P P 23 15 05.8 +0.1
baz=314
F34A Alexandria 83.09 37 P P 23 15 05.5 -0.2
baz=316
D36A Goodland 83.09 35 P P 23 15 05.9 +0.2
baz=317
C37A Embarrass 83.14 34 P P 23 15 05.2 -0.7
baz=318
H33A Prehn Over Nor 83.14 39 P P 23 15 05.6 -0.5
baz=315
E36A McGregor 83.53 35 P P 23 15 07.8 -0.2
baz=317
C38A Sawbill Land. 83.56 34 P P 23 15 07.8 -0.3
baz=318
ECSD EROS Data Cent 83.88 39 P P 23 15 09.7 -0.1
baz=315
MDVR Moldovita 83.97 322 ⇑*i*P P 23 15 09.9 -0.4
T25A Trinidad 83.99 48 P P 23 15 10.4 -0.3
baz=311
T25A Trinidad 83.99 48 *e*P P 23 15 11.8 +1.0
LAZ Ladron 84.06 52 *e*P P 23 15 12.2 +1.1
CSS Mathiatis 84.07 309 *e*P P 23 15 11.3 +0.4
H35A Sunnyside Ranc 84.09 38 P P 23 15 11.0 +0.2
baz=316
ANMO Albuquerque 84.14 51 P P 23 15 11.9 +0.3
baz=310
ANMO Albuquerque 84.14 51 *ce*P P 23 15 13.0 +1.4
ANMO pmax pmax
comp=Z,14nm,1.2s
ANMO Albuquerque 84.14 51 *e*P P 23 15 13.0 +1.4
comp=Z,15nm,1.0s
E38A The Farm, Brul 84.26 35 P P 23 15 11.7 +0.1
baz=318
CONA Conrad Observa 84.37 328 *i*P P 23 15 12.9 +0.6
comp=Z,12nm,1.4s
KHC Kasperske Hory 84.41 330 *e*P P 23 15 13.1 +0.6
KHC Kasperske Hory 84.41 330 *e*P P 23 15 13.0 +0.6
KHC pmax pmax
comp=Z,6.0nm,1.3s
KHC Kasperske Hory 84.41 330 *e*P P 23 15 13.0 +0.6
comp=Z,5.5nm,1.3s
GEC2 GERESS Array S 84.58 329 *e*P P 23 15 14.1 +0.7
GEC2 GERESS Array S 84.58 329 *e*P P 23 15 14.1 +0.7
GERES GERESS Array B 84.58 329 P P 23 15 12.7 -0.6
comp=Z,0.7nm,0.5s,baz=39,slow=5.1,SNR=7.0
GERES LR LR 23 56 42.2
comp=Z,3µm,20.4s,baz=44,slow=38
GEA0 GERESS Array S 84.59 329 *e*P P 23 15 13.4 0.0
F38A Pierce - Schro 84.59 35 P P 23 15 13.4 +0.1
baz=318
H36A Jessenland, He 84.62 37 P P 23 15 13.8 +0.3
baz=317

SPMN	Marine on St. baz=317	84.69	36	P	P	23 15 13.9	+0.1
VTS	Vitosha	84.78	320	*e*P	P	23 15 14.9	+0.3
VTS	Vitosha	84.78	320	*e*P	P	23 15 14.8	+0.3
121A	Cookes Peak, D baz=310	84.83	53	P	P	23 15 15.8	+0.7
E39A	Mellen baz=319	84.89	34	P	P	23 15 14.9	0.0
GRFO	Grafenberg	84.92	331	*e*P	P	23 15 16.0	+1.1
GRFO	Grafenberg	84.92	331	*e*P	P	23 15 16.0	+1.1
ARSA	Arzberg comp=Z,5.8nm,1.6s	85.03	327	*i* P	P	23 15 16.0	+0.4
F39A	Loretta baz=319	85.07	35	P	P	23 15 15.9	+0.2
H37A	Dierke Farm, C baz=317	85.11	37	P	P	23 15 16.2	+0.2
MOA	Molln comp=Z,11nm,1.3s	85.12	328	*i* PcP	P	23 15 17.5	+1.5
E40A	Wakefield baz=319	85.14	34	P	P	23 15 16.0	-0.1
G38A	Ridgeland baz=318	85.19	36	P	P	23 15 16.2	-0.2
L34A	Svendsen Farm, baz=315	85.25	40	P	P	23 15 16.8	0.0
I37A	Lemond, Waseca baz=317	85.29	37	P	P	23 15 16.9	0.0
H38A	Maiden Rock baz=318	85.35	36	P	P	23 15 17.3	+0.2
G39A	Holcombe baz=318	85.42	35	P	P	23 15 17.1	-0.5
F40A	Park Falls baz=319	85.43	34	P	P	23 15 17.1	-0.5
E41A	Kenton baz=320	85.54	33	P	P	23 15 17.8	-0.3
PERS	Pernice	85.69	327	*e*P	P	23 15 19.1	+0.2
SOKA	Soboth comp=Z,13nm,1.7s	85.69	327	*i* P	P	23 15 19.0	+0.1
J37A	Redenius Farm, baz=317	85.73	38	P	P	23 15 18.9	-0.2
I38A	Scanlan Farm, baz=318	85.80	37	P	P	23 15 19.2	-0.2
H39A	Augusta baz=318	85.82	36	P	P	23 15 19.4	-0.1
G40A	Rib Lake baz=319	85.89	35	P	P	23 15 19.6	-0.2
SCHQ	Schefferville comp=Z,6.4nm,0.8s,baz=321,slow=6.9,SNR=4.9	86.06	17	P	P	23 15 19.9	-0.6
SCHQ				LR	LR	23 56 31.9	
	comp=Z,1µm,20.2s,baz=332,slow=38						
K37A	Belmond baz=317	86.08	38	P	P	23 15 20.4	-0.5
KBA	Koelnbreinsper comp=Z,5.2nm,1.6s	86.11	328	*i* sP	pP	23 15 31.1	-1.1
J38A	Wedel Dairy, R baz=318	86.26	37	P	P	23 15 20.7	-1.0
H40A	Chili baz=319	86.29	35	P	P	23 15 21.1	-0.7
I39A	Houston baz=318	86.32	36	P	P	23 15 21.6	-0.5
MYKA	Terra Mystica comp=Z,1.3nm,0.4s	86.33	328	*i* PcP	P	23 15 22.6	+0.5
M36A	Felix, Anita baz=316	86.44	40	P	P	23 15 22.5	-0.1
L37A	Phoenix Point, baz=317	86.49	39	P	P	23 15 22.7	-0.2
BCLA	Clavier	86.51	335	P	P	23 15 25.8	+3.0
J39A	Decorah baz=318	86.62	37	P	P	23 15 23.3	-0.2
H41A	Junction City baz=320	86.64	35	P	P	23 15 23.4	-0.1
JAVS	Javornik	86.72	327	*i* P	P	23 15 23.2	-0.9
ABTA	Abfaltersbach comp=Z,5.0nm,1.3s	86.72	329	*i* pP	pP	23 15 30.4	-4.7
MOTA	Moosalm comp=Z,3.1nm,0.9s	86.84	330	*i* PcP	P	23 15 25.2	+0.6
RETA	Reutte comp=Z,8.5nm,1.2s	86.86	330	*i* PcP	P	23 15 25.5	+0.8
L38A	Oak Wood Farm, baz=317	86.88	38	P	P	23 15 24.9	+0.1
PDG	Podgorica	86.91	322	⇓*i* P	P	23 15 24.5	-0.4
MNTX	Cornudas Mount baz=311	86.92	53	P	P	23 15 25.0	-0.2
I41A	Arkdale baz=319	86.96	35	P	P	23 15 24.5	-0.6
K39A	Oelwein baz=318	87.00	37	P	P	23 15 25.1	-0.2
J40A	Soldiers Grove baz=319	87.04	36	P	P	23 15 25.4	-0.1
AMTX	Amarillo baz=312	87.14	48	P	P	23 15 26.0	-0.3
BFO	Black Forest	87.14	332	*e*P	P	23 15 25.9	-0.1
BFO	Black Forest	87.14	332	*e*P	P	23 15 25.9	-0.1
P35A	Duane Minner, baz=316	87.17	42	P	P	23 15 25.3	-1.0
FETA	Feichten comp=Z,10nm,1.7s	87.25	330	*i* PcP	P	23 15 27.3	+0.6
N37A	Lee Faris, Mou baz=317	87.25	40	P	P	23 15 26.3	-0.4
M38A	Pleasantville baz=317	87.30	39	P	P	23 15 26.5	-0.3
K40A	Colesburg baz=319	87.37	37	P	P	23 15 27.0	-0.1
L39A	Vinton baz=318	87.38	38	P	P	23 15 27.1	-0.1
DAVA	Damuels comp=Z,9.0nm,1.2s	87.38	330	*i* P	P	23 15 25.3	-2.0
J41A	Loganville baz=319	87.42	36	P	P	23 15 27.6	+0.3
Q35A	Mercer Eighty, baz=316	87.64	42	P	P	23 15 28.4	-0.1
M39A	Webster baz=318	87.77	38	P	P	23 15 29.2	+0.1
L40A	Anamosa baz=318	87.81	37	P	P	23 15 29.1	-0.1
K41A	Shullsburg baz=319	87.85	37	P	P	23 15 29.2	-0.2
S34A	Willow Spring baz=315	87.87	44	P	P	23 15 29.9	+0.2
Q36A	Arnold C. Orve baz=316	87.88	42	P	P	23 15 29.4	-0.2
N39A	Derby Farms, D baz=318	88.05	39	P	P	23 15 30.4	0.0
M40A	Post Highland baz=318	88.16	38	P	P	23 15 30.5	-0.4
R36A	Gordon, Harris baz=316	88.32	42	P	P	23 15 31.7	0.0
S35A	Otter Creek Ra baz=316	88.33	43	P	P	23 15 31.8	0.0
P38A	Dawn baz=317	88.43	40	P	P	23 15 32.1	-0.1
N40A	Mertquake, Sal baz=318	88.51	38	P	P	23 15 32.3	-0.2
T35A	Sooner Cattle baz=315	88.76	44	P	P	23 15 34.1	+0.2
VLDQ	Val d'Or	88.84	26	*e*P	P	23 15 33.4	-0.6
O40A	La Belle baz=318	88.93	39	P	P	23 15 34.3	-0.2
WMOK	Wichita Mounta baz=314	88.98	47	P	P	23 15 34.7	-0.3
N41A	Harden Midland baz=319	89.01	38	P	P	23 15 34.7	-0.3
P40A	Paris baz=318	89.28	40	P	P	23 15 36.2	0.0
N42A	Yates City baz=319	89.33	38	P	P	23 15 35.8	-0.6
O41A	Passleys Farm, baz=319	89.44	39	P	P	23 15 36.8	-0.1
TX31	Lajitas Ar. Si	89.59	54	*e*P	P	23 15 38.3	+0.3
TXAR	Lajitas Array comp=Z,2.6nm,0.5s,baz=303,slow=2.9,SNR=45	89.59	54	P	P	23 15 38.2	+0.2
Q40A	Laux Farm, Aux baz=318	89.66	40	P	P	23 15 37.7	-0.4
P41A	Barry, Barry baz=319	89.68	39	P	P	23 15 38.0	-0.1
S38A	Stockton baz=317	89.69	42	P	P	23 15 37.2	-1.0
U37A	Salina baz=316	89.91	43	P	P	23 15 38.9	-0.4
T38A	Diamond baz=317	89.91	43	P	P	23 15 39.0	-0.3
S39A	Bolivar baz=317	89.96	42	P	P	23 15 38.8	-0.7
R40A	Maddies Statio baz=318	90.08	41	P	P	23 15 39.6	-0.4
P42A	Winchester baz=319	90.11	39	P	P	23 15 40.2	+0.1
Q41A	Truxton baz=319	90.13	39	P	P	23 15 40.1	-0.1
U38A	Gravette baz=317	90.29	43	P	P	23 15 41.3	+0.2
S40A	Lebanon baz=318	90.47	41	P	P	23 15 41.4	-0.4
P43A	Skaggs, Pawnee baz=320	90.48	38	P	P	23 15 41.4	-0.4
X36A	Centrahoma baz=316	90.52	45	P	P	23 15 42.1	0.0
R41A	Rosebud baz=318	90.54	40	P	P	23 15 42.3	+0.1
W37B	Quinton baz=316	90.64	45	P	P	23 15 42.2	-0.5
V38A	Canehill baz=317	90.70	43	P	P	23 15 42.4	-0.5
T40A	Mansfield baz=318	90.79	41	P	P	23 15 42.9	-0.4
U39A	Green Forest baz=317	90.83	43	P	P	23 15 43.3	-0.3
R42A	Luebbering baz=319	90.86	40	P	P	23 15 43.6	0.0
X37A	Clayton baz=316	91.07	45	P	P	23 15 44.5	-0.1
V39A	Pettigrew baz=317	91.14	43	P	P	23 15 44.8	-0.2
U40A	Yellville baz=318	91.19	42	P	P	23 15 44.8	-0.4
333A	Richland Sprin baz=314	91.22	49	P	P	23 15 45.4	0.0
S42A	Caledonia baz=319	91.24	40	P	P	23 15 45.0	-0.4
T41A	Mountain View baz=318	91.28	41	P	P	23 15 45.3	-0.3
JCT	Junction City baz=314	91.29	50	P	P	23 15 45.7	-0.2
Q44A	Meyer Farm, Va baz=320	91.30	38	P	P	23 15 45.9	+0.2
R43A	Red Bud baz=319	91.31	39	P	P	23 15 45.6	-0.2
433A	Art baz=314	91.55	50	P	P	23 15 46.3	-0.7
334A	Lometa baz=314	91.67	49	P	P	23 15 47.6	+0.1
WHTX	Lake Whitney, baz=315	91.69	48	P	P	23 15 47.7	+0.1
U41A	Viola baz=318	91.71	42	P	P	23 15 47.4	-0.2
R44A	Waltonville baz=320	91.77	39	P	P	23 15 48.1	+0.3
S43A	Fulton Ridge, baz=319	91.77	40	P	P	23 15 47.8	-0.1
X39A	Fountain Ranch baz=317	91.84	44	P	P	23 15 48.4	+0.1
V41A	Mountainview baz=318	92.00	42	P	P	23 15 48.4	-0.6
T43A	Greenville baz=319	92.03	40	P	P	23 15 48.9	-0.2
U42A	Revenden baz=318	92.07	41	P	P	23 15 49.0	-0.3
MIAR	Mount Ida baz=317	92.12	44	P	P	23 15 49.8	+0.2
MIAR	Mount Ida	92.12	44	*e*P	P	23 15 49.9	+0.3
MIAR	Mount Ida	92.12	44	*e*P	P	23 15 49.9	+0.3
236A	Katherine and baz=315	92.23	47	P	P	23 15 50.7	+0.6
Y39A	Lockesburg baz=317	92.27	45	P	P	23 15 50.5	+0.2
V42A	Cord baz=318	92.40	42	P	P	23 15 50.2	-0.5
W41B	Gary Mavity, V baz=318	92.40	43	P	P	23 15 50.3	-0.5
534A	Blanco baz=314	92.43	50	P	P	23 15 50.9	-0.2
N59A	State Game Lan baz=329	95.60	29	P	P	23 16 05.1	-0.4
KEST	Kesra comp=Z,834nm,18.5s,baz=346,slow=39	96.95	324	LR	LR	00 05 37.2	
ESDC	Sonseca Array comp=Z,1µm,20.7s,baz=65,slow=39	99.08	335	LR	LR	00 06 29.5	
TORD	Torodi Ar. Bea comp=Z,0.6nm,0.5s,baz=32,slow=1.5,SNR=15	119.32	316	PKP	PKPdf	23 21 29.0	-0.8
TORD				PKKPbc	PKKPbc	23 31 41.8	+0.6
	comp=Z,0.6nm,0.9s,baz=187,slow=1.7,SNR=4.5						
VNA2	Neumayer--Watz baz=9.9,slow=1.3	141.57	195	P	PKPpre	23 22 04.2	
LPAZ	La Paz comp=Z,8.5nm,0.7s,baz=334,slow=2.6,SNR=27	145.88	63	PKPbc	PKPbc	23 22 20.3	-0.3
LVC	Limon Verde	149.05	74	*e*PKPbc	PKPbc	23 22 29.6	+0.7
LCO	Las Campanas	150.54	86	*e*PKPbc	PKPbc	23 22 31.5	-0.8
PLCA	Paso Flores comp=Z,1.3nm,0.5s,baz=304,slow=1.4,SNR=4.5	153.01	111	PKPbc	PKPbc	23 22 37.1	-0.2

*ISCJB **12** 23:14:40.5±0.4, 37°38N±0°03×36°32E±0°04, h10km±5km, Error ellipse: s-maj=5.0km s-min=3.9km az=148.5*
*CSEM **12** 23:14:40.7±0.2, 37°39N×36°33E, h10km, ML2.7, Error ellipse: s-maj=4.5km s-min=4.0km az=97.0*
*DDA **12** 23:14:40.2, 37°35N×36°29E, h7km, Ml2.7*
*ISK **12** 23:14:40.0, 37°39N×36°32E, h7km, MD2.7*
ISC 12 23:14:40.8±0.9, 37°38N±0°02×36°33E±0°02, h14km±7km, n25, σ0°62/40, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ANDN	Andirin	0.20	3	*i* P	Pg	23 14 45.0	-0.4
ANDN				*i* S	Sg	23 14 49.2	+0.7
ANDN	Andirin	0.20	3	P	Pg	23 14 45.0	-0.4
ANDN				S	Sg	23 14 49.2	+0.7
KAMA	Osmaniye	0.33	126	*i* P	Pg	23 14 47.3	-0.3
KAMA				*i* S	Sg	23 14 52.5	+0.2
KOZT	Kozan	0.41	284	*e*PG	Pg	23 14 48.5	-0.6
KOZT				*e*SG	Sg	23 14 54.6	-0.1
KOZT	Kozan	0.41	284	*e*Pg	Pg	23 14 48.5	-0.6
KOZT				*e*Sg	Sg	23 14 54.6	-0.1
HCR	Kahramanmara¯	0.46	95	*i* P	Pb	23 14 50.1	-0.6
KMRS	Kahramanmaras	0.47	75	*e*PG	Pg	23 14 49.8	-0.3
KMRS				*e*SG	Sg	23 14 56.7	+0.3
KMRS	Kahramanmaras	0.47	75	*e*Pg	Pg	23 14 49.8	-0.3
KMRS				*e*Sg	Sg	23 14 56.7	+0.3
AKO	Adana	0.71	277	*i* P	Pg	23 14 53.5	-1.1
GAZ	Gaziantep	0.73	106	*e*PG	Pg	23 14 53.4	-0.8
GAZ				*e*SG	Sb	23 15 05.5	+0.2
GAZ	Gaziantep	0.73	106	*e*Pg	Pg	23 14 54.3	-0.8
GAZ				*e*Sg	Sb	23 15 05.5	+0.2
DRWC	Darouich SNR=92	0.81	160	*i* P	Pg	23 14 56.2	-0.3
DRWC				*e*S	Sg	23 15 06.0	-1.1
	27nm,0.2s,SNR=92						
TAHT	Tahtakopru-Hat	1.01	187	*e*PG	Pg	23 14 59.9	-0.4
TAHT				*e*SG	Sb	23 15 14.4	+1.2
TAHT	Tahtakopru-Hat	1.01	187	*e*Pg	Pg	23 14 59.9	-0.4
TAHT				*e*Sg	Sb	23 15 14.4	+1.2
SARI	SarD1z-Kayseri	1.02	4	*e*PG	Pg	23 14 59.6	-1.1
SARI				*e*SG	Sb	23 15 14.5	+0.7
KRTS	Karatas	1.11	224	*e*PN	Pb	23 15 01.7	-0.1
KRTS	Karatas	1.11	224	*e*Pn	Pb	23 15 01.7	-0.1
BTCH	Batrach SNR=91	1.35	176	*i* P	Pg	23 15 06.3	-0.4
BTCH				*e*S	Sb	23 15 21.8	-1.1
	19nm,0.5s,SNR=91						
YAYL	Yayladag	1.36	188	*e*PN	Pn	23 15 05.9	+0.5
YAYL	Yayladag	1.36	188	*e*Pn	Pn	23 15 05.9	+0.5
DARE	Darende-Malaty	1.50	37	*e*PN	Pb	23 15 08.1	-0.3
DARE	Darende-Malaty	1.50	37	*e*Pn	Pb	23 15 08.1	-0.3
BNN	Bunyan	1.52	346	*e*PN	Pn	23 15 08.1	+0.5
BNN	Bunyan	1.52	346	*e*Pn	Pn	23 15 08.1	+0.5
ARNB	Al Arnab SNR=57	1.55	191	*i* P	Pg	23 15 10.5	0.0
ARNB				*e*S	Sn	23 15 28.1	+0.2
	7.7nm,0.2s,SNR=58						

JMA 12 23:22:24.1±0.2, 38°86N×144°18E, h48km, M3.5, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MIYJ	Miyakonagasawa	1.97	292	P	Pn	23 22 55.8	+0.8
MIYJ				*e*S	Sn	23 23 19.4	+0.9
OFUJ	Ofunato	1.97	277	P	Pn	23 22 55.8	+0.8
JIO	Ouri	2.25	261	P	Pn	23 22 59.6	+0.7
JIO				S	Sn	23 23 25.4	0.0
JMK	Ichinoseki	2.31	273	P	Pn	23 23 01.1	+1.4
JOM	Ohasama	2.33	286	P	Pn	23 23 01.3	+1.4
JOM				*e*S	Sn	23 23 28.9	+1.6
JANG	Nango	2.55	307	P	Pn	23 23 03.7	+0.7
JANG				*e*S	Sn	23 23 33.3	+0.4
JYK	Kaneyama	2.98	272	P	Pn	23 23 11.0	+2.1
JYK				*e*S	Sn	23 23 45.0	+1.6
JFT	Otama	3.31	247	P	Pn	23 23 14.7	+1.3
JFT				S	Sn	23 23 52.3	+0.8
JNBK	Urakawa-nobuka	3.58	343	P	Pn	23 23 18.9	+1.8
JNBK				S	Sn	23 23 58.7	+0.5
JCH	Churui	3.80	351	P	Pn	23 23 20.7	+0.6
JCH				S	Sn	23 24 03.5	0.0
JKB	Kayabe	3.86	323	*e*S	Sn	23 24 05.7	+0.7
JAG	Ashikaga	4.47	239	P	Pn	23 23 29.8	+0.5
MAT	Matsushiro	5.27	246	P	Pn	23 23 41.7	+1.4
MAT				*e*S	Sn	23 24 36.7	-3.1

*ISCJB **12** 23:28:47.0±0.6, 40°34N±0°03×35°48E±0°05, h4km±7km, Error ellipse: s-maj=6.7km s-min=4.7km az=29.9*
*ISK **12** 23:28:46.4, 40°35N×35°47E, h12km, MD2.7*
*CSEM **12** 23:28:47.3±0.2, 40°32N×35°44E, h15km, MD2.8, Error ellipse: s-maj=4.1km s-min=3.2km az=129.0*
*DDA **12** 23:28:47.6, 40°31N×35°44E, h7km, Md2.8*
ISC 12 23:28:47.2±1.1, 40°33N±0°03×35°44E±0°03, h11km±12km, n29, σ0°50/39, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
COAL	Corum-Alaca	0.35	259	*i* P	Pg	23 28 54.6	+0.3
COAL				*i* S	Sb	23 29 00.7	-0.5
COAL	Corum-Alaca	0.35	259	P	Pg	23 28 54.6	+0.3
COAL				S	Sb	23 29 00.7	-0.5
CTAK	Corum_Osmancik	0.59	303	*i* P	Pg	23 28 59.2	+0.5
CTAK	Corum_Osmancik	0.59	303	P	Pg	23 28 59.2	+0.5
CORM	Corum	0.64	257	*e*PG	Pg	23 28 59.6	0.0
CORM				*e*SG	Sb	23 29 09.3	0.0
CORM	Corum	0.64	257	*e*Pg	Pg	23 28 59.6	0.0
CORM				*e*Sg	Sb	23 29 09.3	0.0
YOZ	Yozgat	0.69	188	*e*PG	Pg	23 29 00.7	0.0
YOZ				*e*SG	Sb	23 29 11.0	+0.1
YOZ	Yozgat	0.69	188	*e*Pg	Pg	23 29 00.6	0.0
YOZ				*e*Sg	Sb	23 29 11.0	+0.1
HAVZ	Havza	0.78	16	*i* P	Pb	23 29 03.0	+0.2
HAVZ				*i* S	Sb	23 29 14.4	+1.1
HAVZ	Havza	0.78	16	P	Pb	23 29 03.0	+0.2
HAVZ				S	Sb	23 29 14.4	+1.1
TOKA	Tokat	0.79	90	*i* P	Pg	23 29 02.7	+0.1
TOKA	Tokat	0.79	90	P	Pg	23 29 02.7	+0.1
KVT	Kavak	0.88	31	*e*PG	Pg	23 29 03.5	-0.8
KVT				*e*SG	Sg	23 29 15.5	-0.3
KVT	Kavak	0.88	31	*e*Pg	Pg	23 29 03.5	-0.8
KVT				*e*Sg	Sg	23 29 15.5	-0.3
CDAG	Cicekdag	1.08	230	*i* P	Pn	23 29 08.3	0.0
CDAG	Cicekdag	1.08	230	P	Pn	23 29 08.3	0.0
SAMS	Samsun-Alacam	1.18	28	*i* P	Pg	23 29 10.6	+0.7
SAMS	Samsun-Alacam	1.18	28	P	Pg	23 29 10.6	+0.7
BYBT	Boyabat	1.25	336	*e*PN	Pn	23 29 10.1	-0.5
BYBT	Boyabat	1.25	336	*e*Pn	Pn	23 29 10.1	-0.5
SVSK	Karacayir	1.26	108	*e*PN	Pn	23 29 10.3	-0.4
SVSK	Karacayir	1.26	108	*e*Pn	Pn	23 29 10.3	-0.4
TOS	Tosya	1.29	304	*e*PN	Pn	23 29 10.8	-0.5
TOS	Tosya	1.29	304	*e*Pn	Pn	23 29 10.8	-0.5
DIKM	Dikmen	1.33	354	*e*PN	Pn	23 29 11.1	-0.6
DIKM	Dikmen	1.33	354	*e*Pn	Pn	23 29 11.1	-0.6
BNN	Bunyan	1.50	168	*e*PN	Pn	23 29 14.0	-0.2
BNN	Bunyan	1.50	168	*e*Pn	Pn	23 29 14.0	-0.2
AVNS	Nevsehir-Avano	1.58	197	*i* P	Pg	23 29 18.4	+0.7

*KRNET **12** 23:39:43.6±0.1, 43°22N×74°77E, h28km, mb2.0*
*NNC **12** 23:39:43.4±0.7, 43°20N×74°82E, h4km±5km, mb2.5, mpv2.2, Error ellipse: s-maj=7.6km s-min=1.5km az=159.0*
*ISCJB **12** 23:39:44.5±0.5, 43°20N±0°02×74°77E±0°02, h12km±3km, Error ellipse: s-maj=4.4km s-min=2.8km az=159.0*
*SOME **12** 23:39:44.1, 43°22N×74°77E, h10km*
ISC 12 23:39:44.3±0.9, 43°20N±0°03×74°79E±0°02, h14km±7km, n33, σ0°61/62, 23C-19D, Central Kazakhstan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CHMS	Chumysh baz=184	0.20	188	⇓*i* P	Pg	23 39 49.3	+0.4
CHMS				⇓*i* S	Sb	23 39 53.1	-0.3
	baz=184						
USP	Ospenovka baz=284	0.22	289	⇑*i* P	Pg	23 39 49.2	-0.1
USP				⇑*i* S	Sg	23 39 52.8	+0.1
	baz=284						
FRU1	Bishkek baz=195	0.40	197	⇑*i* P	Pg	23 39 52.7	+0.2
KBK	Karagaybulak baz=167	0.55	168	⇓*i* P	Pg	23 39 55.3	+0.1
KBK				⇓*i* S	Sb	23 40 03.8	+0.1
	baz=167						
AAK	Ala-Archa baz=199	0.60	201	⇓*i* P	Pg	23 39 55.9	-0.2
AAK				⇓*i* S	Sb	23 40 04.6	-0.4
	baz=199						
AAK	Ala-Archa 1.3nm,0.2s	0.60	201	⇓P	Pg	23 39 56.0	-0.1
AAK				⇓S	Sb	23 40 04.7	-0.4
	18nm,0.3s						
TKM2	Tokmak 2 baz=116	0.65	115	⇓*i* P	Pg	23 39 56.1	-1.0
TKM2				⇓*i* S	Sg	23 40 05.5	-0.3
	baz=116						
TKM2	Tokmak 2 1.0nm,0.1s	0.65	115	⇑P	Pg	23 39 56.2	-1.0
TKM2				⇓S	Sg	23 40 05.5	-0.3
	18nm,0.2s						
DGS	Degeres 2.8nm,0.1s	0.72	86	*e*P	Pg	23 39 58.0	-0.5
DGS				*e*S	Sg	23 40 07.9	-0.1
	37nm,0.1s						
KST	Kastek 2.3nm,0.1s	0.87	100	*e*P	Pb	23 40 00.7	-0.6
KST				*e*S	Sb	23 40 12.6	-0.4
	37nm,0.2s						
EKS2	Erkin-Say baz=233	0.91	235	⇑*i* P	Pb	23 40 01.3	-0.7
EKS2				⇑*i* S	Sb	23 40 13.9	-0.2
	baz=233						
UCH	Uchtor baz=191	0.99	192	⇑*i* P	Pb	23 40 02.9	-0.6
UCH				⇑*i* S	Sb	23 40 16.2	-0.3
	baz=191						
BOOM	Boomskoye usch baz=130	1.10	129	⇑*i* P	Pb	23 40 04.5	-0.8
BOOM				⇑*i* S	Sb	23 40 19.5	0.0
	baz=130						
KZA	Kyzart baz=163	1.17	163	⇑*i* P	Pb	23 40 05.9	-0.6
KZA				⇑*i* S	Sg	23 40 22.3	+0.1
	baz=163						
MTBS	Maitube 4.4nm,0.1s	1.20	93	*e*P	Pb	23 40 07.2	+0.3
MTBS				*e*S	Sg	23 40 23.8	+0.5
	19nm,0.2s						
MRKS	Merke 2.4nm,0.2s	1.23	249	*e*P	Pn	23 40 06.5	-0.7
MRKS				*e*S	Sb	23 40 22.7	-0.5
	13nm,0.1s						
KUU	Kurty 6.1nm,0.1s	1.33	58	*e*P	Pn	23 40 08.0	-0.5
KUU				*e*S	Sn	23 40 25.2	-0.7
	18nm,0.2s						
AML	Almayashu baz=217	1.33	218	⇑*i* P	Pn	23 40 08.9	0.0
AML				⇑*i* S	Sb	23 40 26.3	-0.1
	baz=217						
IZV	Izvestkoviy 9.4nm,0.1s	1.35	96	*e*P	Pb	23 40 09.5	+0.1
IZV				*e*S	Sg	23 40 27.6	-0.2
	40nm,0.2s						
ULHL	Ulahol baz=132	1.43	131	⇑*i* P	Pn	23 40 10.1	0.0
ULHL				⇑*i* S	Sb	23 40 29.4	+0.4
	baz=132						
KTBS	Karatobe	1.47	69	*e*P	Pn	23 40 10.6	+0.1
KTBS				*e*S	Sn	23 40 29.5	0.0
TNSS	Tian-Shan 4.2nm,0.1s	1.59	95	*e*P	Pb	23 40 13.4	-0.3
TNSS				*e*S	Sb	23 40 34.4	+0.7
	40nm,0.1s						
KOTS	Kotyrbulak	1.70	88	*e*P	Pb	23 40 15.3	-0.2

KOTS				*e*S	**Sb**	**23 40 37.6**	**+0.9**
CHKK	**Chushkaly**	**1.73**	**67**	*e*P	**Pb**	**23 40 15.1**	**-0.8**
	5.3nm,0.2s						
CHKK				*e*S	**Sb**	**23 40 37.5**	**0.0**
	33nm,0.2s						
MNAS	**Manas**	**1.82**	**248**	⇓*i*P	**Pn**	**23 40 16.3**	**+0.9**
	baz=247						
MNAS				⇓*i*S	**Sn**	**23 40 38.5**	**+0.2**
	baz=247						
MNAS	**Manas**	**1.82**	**248**	⇓Pn	**Pb**	**23 40 16.6**	**-0.9**
	0.5nm,0.3s						
MNAS				⇑Sn	**Sb**	**23 40 40.6**	**+0.3**
	3.5nm,0.4s						
TOKL	**Toktogul**	**1.89**	**229**	⇑*i*P	**Pn**	**23 40 16.3**	**0.0**
	baz=228						
TOKL				⇑*i*S	**Sn**	**23 40 39.8**	**-0.2**
	baz=228						
NRN	**Naryn**	**1.98**	**153**	⇓*i*P	**Pn**	**23 40 18.6**	**+0.9**
	baz=153						
NRN				⇓*i*S	**Sn**	**23 40 43.3**	**+0.9**
	baz=153						
KDJ	**Kajisay**	**2.06**	**120**	⇑*i*P	**Pn**	**23 40 20.0**	**+1.3**
	baz=121						
KDJ				⇑*i*S	**Sb**	**23 40 45.8**	**-1.3**
	baz=121						
ARXS	**Arharly**	**2.43**	**64**	*e*P	**Pb**	**23 40 27.4**	**-0.4**
	1.4nm,0.2s						
ARXS				*e*S	**Sb**	**23 40 58.5**	**+0.9**
	4.9nm,0.1s						
PRZ	**Przheval'sk**	**2.75**	**104**	⇓*i*P	**Pn**	**23 40 29.3**	**+1.1**
	baz=104						
PRZ				⇓*i*S	**Sn**	**23 41 02.5**	**+1.2**
	baz=104						
KK31	**Karatay Array**	**3.13**	**270**	⇓Pg	**Pb**	**23 40 40.9**	**+1.1**
	0.5nm,0.4s,baz=98,slow=13,SNR=4.3						
KK31				⇑Lg	Lg	23 41 21.9	
	0.4nm,0.2s,baz=83,slow=28,SNR=8.5						
PDGK	**Podgornoye**	**3.44**	**86**	⇑Lg	Lg	23 41 29.5	
	2.7nm,0.7s						

IDC ***13*** *00:18:46.9±1.8, 12°.81S×165°.81E, h0km, mb4.0/5, mb1 4.2/6, mb1mx3.8/38, mbtmp3.9/6, ML3.3/1, MS3.8/1, Ms1 3.8/1, ms1mx2.9/33, Error ellipse: s-maj=46.6km s-min=28.4km az=115.0*

ISCJB ***13*** *00:18:47.9±1.2, 12°.9S±0°.1×165°.8E±0°.2, h20km, mb3.9/5, MS3.8/1, Error ellipse: s-maj=31.6km s-min=18.7km az=176.6*

ISC 13 00:18:50.0±1.3, 12°.9S±0°.1×165°.8E±0°.3, h20km, n6, σ0§63/6, mb4.1/5, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**9.19**	**176**		Pn	**Pn**		**00 21 01.6**	**0.0**
	0.3nm,0.3s,baz=90,slow=20,SNR=2.5								
WRA	**Warramunga Arr**	**30.98**	**253**		P	**P**		**00 25 05.6**	**-0.7**
	0.8nm,0.9s,baz=85,slow=10,SNR=3.6								
ASAR	**Alice Springs**	**32.10**	**246**		P	**P**		**00 25 16.2**	**+0.2**
	1.7nm,0.7s,baz=71,slow=9.5,SNR=16								
ASAR					LR	LR		00 37 47.0	
	comp=Z,169nm,18.6s,baz=133,slow=36								
USRK	**Ussuriysk Ar.**	**64.59**	**334**		P	**P**		**00 29 25.6**	**-0.2**
	1.3nm,0.8s,baz=123,slow=5.3,SNR=4.1								
CMAR	**Chiang Mai Arr**	**72.91**	**294**		P	**P**		**00 30 19.1**	**+0.7**
	1.0nm,0.3s,baz=125,slow=5.0,SNR=5.2								
ILAR	**Eielson Array**	**85.19**	**18**		P	**P**		**00 31 24.4**	**-0.1**
	0.4nm,0.6s,baz=238,slow=5.4,SNR=4.1								

IDC 13 00:24:12.3±7.5, 17°.06S×176°.28W, h0km, mb4.1/2, mb1 4.4/2, mb1mx3.7/31, mbtmp4.1/2, Error ellipse: s-maj=317.8km s-min=60.5km az=141.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**46.79**	**258**		P	P		00 32 43.8	-0.2
	0.9nm,0.5s,baz=95,slow=7.6,SNR=15								
ASAR	**Alice Springs**	**46.98**	**253**		P	P		00 32 45.5	0.0
	1.8nm,0.4s,baz=88,slow=8.1,SNR=26								
BRTR	**Keskin Array B**	**145.59**	**317**		PKPbc	PKPdf		00 43 52.3	-0.7
	0.2nm,0.5s,baz=83,slow=3.8,SNR=2.3								

IDC ***13*** *00:26:31.3±1.4, 53°.68N×163°.76W, h0km, mb4.1/14, mb1 4.2/15, mb1mx3.9/49, mbtmp4.1/15, ML3.4/1, Error ellipse: s-maj=36.5km s-min=20.0km az=159.0*

NEIC ***13*** *00:26:33.6±0.0, 53°.38N×163°.56W, h27km, mb4.0/7, ML3.5(AEIC), After AEIC.*

ISCJB ***13*** *00:26:34.1±0.8, 53°.39N±0°.06×163°.58W±0°.07, h40km±6km, mb4.1/19, Error ellipse: s-maj=11.0km s-min=5.2km az=155.6*

ISC 13 00:26:34.8±2.5, 53°.5N±0°.1×163°.67W±0°.05, h28km±14km, n59, σ1§16/60, mb4.3/19, Unimak Island region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
WESE	**West Dahl East**	**1.11**	**331**		P	**Pb**		**00 26 55.1**	**-0.2**
WESP	**Westdahl Peak**	**1.17**	**328**		P	**Pb**		**00 26 56.1**	**-0.2**
WESP					S	**Sb**		**00 27 12.2**	**+1.2**
WESN	**West Dahl Nort**	**1.19**	**333**		P	**Pb**		**00 26 56.5**	**-0.2**
SSLS	**Shishaldin Sou**	**1.22**	**351**		P	**Pb**		**00 26 56.7**	**-0.5**
SSLS					S	**Sb**		**00 27 15.2**	**+2.6**
WEBT	**Westdahl Beart**	**1.26**	**330**		P	**Pb**		**00 26 57.6**	**-0.2**
SSLW	**Shishaldin Wes**	**1.29**	**348**		P	**Pn**		**00 26 57.6**	**+0.6**
SSLN	**Shishaldin Nor**	**1.32**	**352**		P	**Pn**		**00 26 58.5**	**-0.4**
AKSA	**Akutan Strait**	**1.36**	**298**		P	**Pn**		**00 26 58.3**	**+0.4**
AKSA					S	**Sb**		**00 27 17.2**	**+0.8**
AKUT	**Akutan**	**1.40**	**298**		P	**Pn**		**00 26 59.0**	**+0.6**
AKUT					S	**Sb**		**00 27 17.7**	**+0.2**
AKLV	**Akutan Long Va**	**1.50**	**297**		P	**Pn**		**00 27 00.4**	**+0.5**
AKLV					S	**Sb**		**00 27 21.0**	**+0.3**
AKMO	**Akutan Morgan**	**1.51**	**294**		P	**Pn**		**00 27 00.5**	**+0.6**
AKGG	**Akutan Green G**	**1.54**	**298**		P	**Pn**		**00 27 01.1**	**+0.7**
AKRB	**Akutan Reef Bi**	**1.55**	**295**		P	**Pn**		**00 27 01.2**	**+0.6**
UNV	**Unalaska Valle**	**1.72**	**282**	*e*Pn		**Pn**		**00 27 02.6**	**-0.2**
UNV				*e*S		**Sn**		**00 27 20.2**	**-3.6**
DT1	**Dutton Round H**	**1.80**	**26**		P	**Pn**		**00 27 03.8**	**-0.1**
DTNA	**Dutton South F**	**1.84**	**26**		P	**Pn**		**00 27 04.7**	**+0.2**
MTBL	**Makushin Table**	**1.85**	**286**		P	**Pn**		**00 27 05.5**	**+0.9**
MSW	**Makushin Switc**	**1.90**	**284**		P	**Pn**		**00 27 06.0**	**+0.7**
DOL	**Dolgoi Island**	**1.95**	**32**		P	**Pn**		**00 27 06.6**	**+0.5**
MCIR	**Makushin Cirqu**	**1.96**	**284**		P	**Pn**		**00 27 07.0**	**+0.7**
HAG	**Hague Volcano**	**2.08**	**29**		P	**Pn**		**00 27 08.7**	**+0.8**
OKFG	**Magazine Ridge**	**2.54**	**269**		P	**Pn**		**00 27 13.9**	**-0.2**
OKTU	**Okmok Mt. Tuli**	**2.62**	**269**		P	**Pn**		**00 27 16.5**	**+1.2**
SDPT	**Sand Point**	**2.62**	**44**	*e*Pn		**Pn**		**00 27 15.3**	**+0.1**
SDPT					S	**Sn**		**00 27 47.8**	**+1.7**
OKCE	**Okmok Cone E**	**2.69**	**270**		P	**Pn**		**00 27 17.3**	**+1.1**
OKSO	**Okmok South**	**2.69**	**269**		P	**Pn**		**00 27 16.7**	**+0.5**
NIKH	**Nikolski High**	**3.16**	**262**		P	**Pn**		**00 27 22.7**	**0.0**
NIKH					S	**Sn**		**00 28 00.9**	**+1.5**
OHAK	**Old Harbor**	**6.99**	**54**	*e*Pn		**Pn**		**00 28 11.8**	**-3.3**
ILAR	**Eielson Array**	**14.13**	**30**		Pn	**Pn**		**00 29 49.8**	**-3.1**
	0.1nm,0.3s,baz=228,slow=12,SNR=2.9								
DAWY	**Dawson**	**16.31**	**40**	*e*Pn		**P**		**00 30 25.6**	**+1.3**
	3.3nm,0.6s								
INK	**Inuvik**	**20.52**	**32**		P	**P**		**00 31 08.7**	**-1.6**
	2.0nm,0.8s,baz=88,slow=31,SNR=4.8								
INK	**Inuvik**	**20.52**	**32**	*e*Pn		Pn		00 31 11.6	-1.1
	2.9nm,0.6s								
H11N2	**WAKE ISLAND Hy**	**40.61**	**225**		T	T		01 17 55.1	
	baz=26,slow=75,SNR=12								
H11N3	**WAKE ISLAND Hy**	**40.62**	**225**		T	T		01 17 50.0	
	baz=26,slow=75,SNR=5.7								
H11N1	**WAKE ISLAND Hy**	**40.63**	**225**		T	T		01 17 52.0	
	baz=26,slow=75,SNR=12								
H11S1	**WAKE ISLAND Hy**	**41.78**	**225**		T	T		01 19 18.6	
	baz=26,slow=76,SNR=29								
H11S2	**WAKE ISLAND Hy**	**41.79**	**225**		T	T		01 19 17.9	
	baz=26,slow=76,SNR=9.2								
H11S3	**WAKE ISLAND Hy**	**41.80**	**225**		T	T		01 19 18.7	
	baz=26,slow=76,SNR=22								
NRIK	**Noril'sk**	**47.03**	**333**		P	**P**		**00 35 01.6**	**-1.5**
	1.6nm,0.4s,baz=71,slow=5.5,SNR=4.0								
DAG	**Danmarks Havn**	**48.10**	**10**	*i*	P	**P**		**00 35 11.6**	**+0.3**
	3.7nm,0.8s								
KSRS	**Korea Array**	**48.66**	**280**		P	**P**		**00 35 17.1**	**+1.1**
	2.6nm,0.8s,baz=50,slow=7.4,SNR=16								
KSAR	**Wonju Array Be**	**48.69**	**280**		P	**P**		**00 35 17.1**	**+0.8**
TXAR	**Lajitas Array**	**49.33**	**94**		P	**P**		**00 35 22.1**	**+0.6**
	0.2nm,0.5s,baz=291,slow=5.5,SNR=4.5								
ULN	**Ulaanbaatar**	**53.27**	**303**	*e*P		**P**		**00 35 50.8**	**-0.1**
	2.2nm,0.8s								
SONM	**Songino Array**	**53.62**	**303**		P	**P**		**00 35 52.4**	**-1.0**
	3.6nm,0.8s,baz=38,slow=5.5,SNR=6.5								
ZALV	**Zalesovo Beam**	**58.84**	**320**		P	**P**		**00 36 29.0**	**-1.3**
	1.4nm,0.7s,baz=47,slow=6.5,SNR=6.9								
BRVK	**Borovoye**	**64.70**	**327**	*e*P		**P**		**00 37 10.5**	**+0.7**
	1.9nm,0.5s								
ARU	**Arti**	**65.09**	**336**	*e*P		**P**		**00 37 12.3**	**0.0**
	1.8nm,0.4s								
FINES	**FINESS Array B**	**65.13**	**355**		P	**P**		**00 37 11.5**	**-0.9**
	4.6nm,1.0s,baz=52,slow=7.5,SNR=5.3								
NB2	**NORSAR Subarra**	**65.72**	**3**		P	**P**		**00 37 16.9**	**+0.5**
	comp=Z,1.3nm,0.8s,baz=358,slow=6.9								
NOA	**NORSAR Array B**	**65.72**	**3**		P	**P**		**00 37 16.7**	**+0.3**
	comp=Z,2.7nm,0.9s,baz=357,slow=6.7,SNR=4.3								
ABKAR	**Akbulak array**	**71.18**	**331**	*e*P		**P**		**00 37 51.0**	**+0.4**
	comp=Z,0.3nm,0.5s								
KKAR	**Karatay Array**	**73.14**	**322**	*e*P		**P**		**00 38 03.0**	**+0.5**
	comp=Z,0.8nm,0.6s								
AKASG	**Malin Array Be**	**75.60**	**352**		P	**P**		**00 38 15.6**	**-1.0**
	comp=Z,1.6nm,0.5s,baz=8.2,slow=5.6,SNR=5.4								
GERES	**GERESS Array B**	**78.00**	**2**		P	**P**		**00 38 30.8**	**+0.6**
	comp=Z,0.6nm,0.7s,baz=8.9,slow=4.3,SNR=4.2								
CMAR	**Chiang Mai Arr**	**79.66**	**287**		P	**P**		**00 38 40.2**	**+0.5**
	comp=Z,1.2nm,0.6s,baz=16,slow=5.8,SNR=5.6								
KBZ	**Khabaz**	**80.49**	**341**		P	**P**		**00 38 45.7**	**+1.9**
	comp=Z,2.2nm,0.8s,baz=313,slow=6.1,SNR=6.3								
GEYT	**Ailbeck**	**82.02**	**328**		P	**P**		**00 38 52.5**	**+0.3**
	comp=Z,7.1nm,0.8s,baz=350,slow=4.5,SNR=5.1								
BRTR	**Keskin Array B**	**85.94**	**347**		P	**P**		**00 39 12.6**	**+0.3**
	comp=Z,1.7nm,0.9s,baz=72,slow=4.0,SNR=9.2								

FUNV ***13*** *00:39:26.9, 6°.63N×73°.14W, h154km, MW2.8*

ISCJB ***13*** *00:39:27.6±0.6, 6°.83N±0°.03×73°.07W±0°.04, h150km±5km, Error ellipse: s-maj=7.1km s-min=3.8km az=27.0*

RSNC ***13*** *00:39:29.1±0.5, 6°.81N×73°.07W, h144km±3km, ML2.5*

ISC 13 00:39:28.0±1.4, 6°.82N±0°.04×73°.06W±0°.05, h149km±8km, n21, σ0§51/39, 1C, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
BARC	**Barichara**	**0.26**	**207**	*i*	P	**Pn**		**00 39 48.5**	**-0.1**
BARC					*e*S	**Sn**		**00 40 03.5**	**-0.8**
BARC					*i*			00 40 04.5	
	comp=Z,82nm,0.3s								
GIRC	**Giron, Santand**	**0.29**	**333**		*e*P	**Pn**		**00 39 48.6**	**0.0**
GIRC					*e*S	**Sn**		**00 40 03.5**	**-0.8**
PAMC	**Pamplona, Colo**	**0.63**	**35**		*e*P	**Pn**		**00 39 51.3**	**+0.8**
PAMC					*e*S	**Sn**		**00 40 07.9**	**+0.1**
BRRC	**Barranca, Sant**	**0.70**	**294**	⇑	*i*P	**Pn**		**00 39 50.4**	**0.0**
BRRC					*e*S	**Sn**		**00 40 07.5**	**0.0**
BRRC					*i*			00 40 10.5	
	comp=Z,51nm,0.2s								
RUSC	**La Rusia**	**0.92**	**181**		*e*P	**Pn**		**00 39 52.5**	**-0.1**
RUSC					*e*S	**Sn**		**00 40 11.3**	**-0.1**
RUSC					*i*			00 40 12.2	
	comp=Z,36nm,0.3s								
CAPV	**Capacho**	**1.28**	**36**		*e*P	**Pn**		**00 39 56.5**	**+1.0**
CAPV					*e*S	**Sn**		**00 40 16.9**	**+0.4**
OCAC	**Ocana**	**1.43**	**350**		*e*P	**Pn**		**00 39 57.1**	**+0.2**
OCAC					*e*S	**Sn**		**00 40 19.2**	**0.0**
YOPC	**Yopal, Colombi**	**1.59**	**156**		*e*S	**Sn**		**00 40 22.2**	**+0.1**
ZARC	**Zaragoza, Cauc**	**1.90**	**291**		*e*P	**Pn**		**00 40 02.4**	**+0.4**
ZARC					*e*S	**Sn**		**00 40 27.7**	**-0.3**
ZARC					*i*			00 40 33.1	
	comp=Z,43nm,0.4s								
NORC	**Norcasia**	**2.19**	**235**		*e*P	**Pn**		**00 40 05.0**	**-0.3**
NORC					*e*S	**Sn**		**00 40 33.8**	**-0.3**
CHIC	**Chingaza**	**2.27**	**197**		*e*P	**Pn**		**00 40 06.9**	**+0.1**
CHIC					*e*S	**Sn**		**00 40 36.7**	**+0.1**
CHIC					*i*			00 40 43.4	
	comp=Z,18nm,0.5s								
ROSC	**El Rosal**	**2.33**	**212**		*e*P	**Pn**		**00 40 08.1**	**+0.6**
ROSC					*e*S	**Sn**		**00 40 37.7**	**0.0**
ROSC					*i*			00 40 42.6	
	comp=Z,26nm,0.6s								
HELC	**Santa Helena**	**2.53**	**256**		*e*P	**Pn**		**00 40 10.7**	**+0.9**
HELC					*e*S	**Sn**		**00 40 42.5**	**+0.6**
HELC					*i*			00 40 47.5	
	comp=Z,16nm,0.6s								
VIGV	**El Vigia**	**2.62**	**40**		*e*P	**Pn**		**00 40 11.2**	**+0.6**
VIGV					*e*S	**Sn**		**00 40 43.8**	**+0.3**
SOCV	**Socops**	**2.63**	**56**		*e*P	**Pn**		**00 40 11.3**	**+0.6**
SOCV					*e*S	**Sn**		**00 40 42.9**	**-0.7**
VILC	**Villavicencio,**	**2.76**	**193**		*e*P	**Pn**		**00 40 12.2**	**-0.3**
VILC					*e*S	**Sn**		**00 40 46.9**	**0.0**
VILC					*i*			00 40 53.9	
	comp=Z,13nm,0.5s								
CODC	**Agust´›n Codaz**	**3.12**	**353**		*e*P	**Pn**		**00 40 16.9**	**+0.1**
CODC					*e*S	**Sn**		**00 40 54.5**	**-0.1**
CODC					*i*			00 40 59.6	
	comp=Z,15nm,0.7s								
PRAC	**Prado**	**3.58**	**211**		*e*P	**Pn**		**00 40 23.2**	**+0.4**
PRAC					*e*S	**Sn**		**00 41 04.9**	**-0.5**
VIRV	**Villa del Rosa**	**3.72**	**10**		*e*P	**Pn**		**00 40 23.9**	**-0.7**
VIRV					*e*S	**Sn**		**00 41 08.2**	**-0.4**
CURV	**Curarigua**	**4.41**	**44**		*e*P	**Pn**		**00 40 33.8**	**0.0**
MONV	**Montecano**	**5.95**	**31**		*e*P	**Pn**		**00 40 52.9**	**-1.1**

IDC 13 00:41:10.1±1.5, 3°.63S×144°.14E, h0km, mb3.5/4, mb1 3.7/5, mb1mx3.6/25, mbtmp3.5/5, ML3.4/1, Error ellipse: s-maj=45.1km s-min=24.2km az=104.0, Near north coast of New Guinea

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
JAY	**Jayapura**	**3.60**	**288**		Pn	Pn		00 42 07.7	+0.4
	0.1nm,0.3s,baz=270,slow=20,SNR=2.3								
WRA	**Warramunga Arr**	**18.82**	**210**		P	Pn		00 45 32.5	+0.5
	0.1nm,0.3s,baz=29,slow=12,SNR=3.4								
ASAR	**Alice Springs**	**22.24**	**205**		P	P		00 46 08.1	-0.6
	0.3nm,0.4s,baz=29,slow=12,SNR=3.2								
KSRS	**Korea Array**	**43.57**	**341**		P	P		00 49 16.2	+0.3
	0.6nm,0.7s,baz=165,slow=9.9,SNR=4.2								
ZALV	**Zalesovo Beam**	**75.50**	**328**		P	P		00 52 56.1	-0.1
	0.4nm,0.4s,baz=108,slow=4.7,SNR=2.4								
ILAR	**Eielson Array**	**84.45**	**24**		P	P		00 53 44.2	-0.3
	0.6nm,0.9s,baz=251,slow=5.4,SNR=3.0								

IDC ***13*** *00:48:10.2±1.5, 3°.47S×144°.62E, h0km, mb3.6/5, mb1 3.7/6, mb1mx3.6/20, mbtmp3.6/6, ML2.8/2, Error ellipse: s-maj=43.4km s-min=20.9km az=110.0*

ISCJB ***13*** *00:48:12.8±1.2, 3°.5S±0°.1×144°.5E±0°.2, h26km, mb3.6/5, Error ellipse: s-maj=26.6km s-min=16.8km az=12.4*

ISC 13 00:48:14.6±1.4, 3°.5S±0°.2×144°.5E±0°.2, h26km, n7, σ1§26/7, mb3.7/5, Near north coast of New Guinea

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
JAY	**Jayapura**	**3.87**	**284**		Pn	**Pn**		**00 49 11.6**	**-0.9**
	0.1nm,0.3s,baz=90,slow=20,SNR=3.2								
WRA	**Warramunga Arr**	**19.11**	**210**		P	**P**		**00 52 34.9**	**-0.7**
	0.1nm,0.3s,baz=32,slow=11,SNR=3.2								
ASAR	**Alice Springs**	**22.51**	**206**		P	**P**		**00 53 12.2**	**-0.3**
	0.5nm,0.5s,baz=34,slow=8.3,SNR=3.3								
FITZ	**Fitzroy Crossi**	**23.47**	**230**		P	**P**		**00 53 24.1**	**+1.8**
	2.2nm,0.6s,baz=56,slow=7.3,SNR=4.1								
KSRS	**Korea Array**	**43.53**	**341**		P	**P**		**00 56 17.1**	**+1.0**
	0.9nm,0.8s,baz=162,slow=8.7,SNR=5.7								
ZALV	**Zalesovo Beam**	**75.55**	**328**		P	**P**		**00 59 56.9**	**+0.1**
	0.5nm,0.6s,baz=113,slow=6.2,SNR=2.2								
ILAR	**Eielson Array**	**84.19**	**24**		P	**P**		**01 00 42.5**	**-0.9**
	0.6nm,1.1s,baz=243,slow=6.0,SNR=2.9								

IDC ***13*** *00:48:18.7±1.0, 12°.33N×85°.87W, h0km, mb3.8/4, mb1 4.1/6, mb1mx3.8/31, mbtmp3.9/6, ML3.7/2, Error ellipse: s-maj=65.6km s-min=14.1km az=63.0*

NEIC ***13*** *00:48:23.7±0.9, 11°.30N×86°.79W, h57km±10km, mb4.2/13, Error ellipse: s-maj=18.0km s-min=7.5km az=223.0*

ISC 13 00:48:20.6±0.7, 11°.24N±0°.06×86°.83W±0°.07, h30km, n45, σ2§01/48, mb4.2/16, 1C-1D, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CRUN	**El Crucero**	**0.90**	**35**		*e*P	**Pb**		**00 48 39.4**	**+1.7**
COPN	**Copaltepe**	**0.96**	**14**	⇓	*i*P	**Pb**		**00 48 39.8**	**+1.2**
COPN					AML	AML		00 49 01.1	
	comp=Z,2μm,0.4s								
MASN	**Masaya**	**0.99**	**42**		*e*P	**Pb**		**00 48 40.3**	**+1.0**
MASN					*e*S	Sb		00 49 11.7	+20
XAVN	**Gruta Xavier**	**1.03**	**29**		*e*P	**Pb**		**00 48 40.6**	**+0.8**
XAVN					AML	AML		00 49 03.8	
	comp=Z,1μm,0.8s								
MGAN	**Managua**	**1.06**	**32**		*e*P	**Pb**		**00 48 41.6**	**+1.2**
APYN	**Apoyeque**	**1.09**	**26**		*e*P	**Pb**		**00 48 41.7**	**+0.8**
MOMN	**Momotombo**	**1.19**	**14**		*e*P	**Pb**		**00 48 42.6**	**0.0**
CONN	**Concepcion**	**1.22**	**75**		*e*P	**Pb**		**00 48 42.9**	**-0.3**
CNGN	**Cerro Negro**	**1.25**	**6**	⇑	*e*P	**Pb**		**00 48 43.7**	**0.0**
CNGN					AML	AML		00 49 08.5	
	comp=N,873nm,0.6s								
BOAB	**BOACO BROADBAN**	**1.65**	**43**		*e*P	**Pb**		**00 48 49.3**	**-1.2**
ACON	**Acoyapa**	**1.78**	**66**		*e*P	**Pn**		**00 48 50.7**	**+1.4**
ESTN	**Estel**	**1.90**	**14**		*e*P	**Pn**		**00 48 53.1**	**+2.0**
JTS	**JuntasAbangare**	**2.08**	**117**		Pn	**Pb**		**00 48 56.3**	**-1.3**
	comp=N,24nm,0.3s,baz=22,slow=6.6,SNR=52								
JTS					Lg	Lg		00 49 29.3	
	comp=N,21nm,0.3s,baz=29,slow=20,SNR=4.4								
JTS	**JuntasAbangare**	**2.08**	**117**	*e*Pn		**Pb**		**00 48 56.2**	**-1.3**
JTS				*e*Sn		**Sn**		**00 49 16.4**	**-1.9**
CNCH	**Conchagua**	**2.25**	**334**	*e*P		**Pn**		**00 48 57.0**	**+1.2**
CNCH				*e*S		**Sb**		**00 49 27.8**	**-0.1**
PACA	**Pacayal**	**2.65**	**327**	*e*P		**Pn**		**00 49 02.6**	**+1.2**
PACA				AML		AML		00 49 55.7	
TGUH	**Tegucigalpa,Un**	**2.83**	**351**	*e*Pn		**Pn**		**00 49 06.0**	**+2.2**
TGUH				*e*Sn		**Sn**		**00 49 28.8**	**-8.0**
TGUH	**Tegucigalpa,Un**	**2.83**	**351**	*e*P		**Pn**		**00 49 05.8**	**+2.0**
HDC	**Heredia**	**2.94**	**115**	*e*Pn		**Pn**		**00 49 07.8**	**+2.4**
LFRS	**El Faro**	**3.21**	**318**	*e*P		**Pn**		**00 49 09.4**	**+0.3**
RBDL	**Robledal**	**3.99**	**316**	*e*P		**Pn**		**00 49 20.9**	**+1.0**
IXG	**Ixpaco**	**4.58**	**310**	*e*P		**Pn**		**00 49 28.8**	**+0.8**
CMIG	**Matias Romero**	**9.73**	**308**		Pn	**Pn**		**00 50 40.5**	**+1.9**
	comp=N,0.6nm,0.3s,baz=134,slow=10,SNR=7.4								
TLIG	**Tlapa**	**12.98**	**300**	*e*Pn		**Pn**		**00 51 25.6**	**+2.4**
LNIG	**Linares**	**18.11**	**320**	*e*P		**P**		**00 52 31.3**	**+1.1**
	comp=N,26nm,1.2s								
LRAL	**Lakeview Retre**	**21.69**	**360**	*e*P		**P**		**00 53 08.9**	**-0.1**
	comp=N,5.7nm,0.9s								
GOGA	**Godfrey**	**22.28**	**7**	*e*P		**P**		**00 53 16.8**	**+1.5**
	comp=N,7.0nm,0.8s								
TXAR	**Lajitas Array**	**23.89**	**321**		P	**P**		**00 53 32.8**	**+1.0**
	comp=N,1.6nm,0.7s,baz=136,slow=10.0,SNR=32								
TX31	**Lajitas Ar. Si**	**23.89**	**321**	*e*P		**P**		**00 53 32.5**	**+0.7**
MIAR	**Mount Ida**	**24.00**	**346**	*e*P		**P**		**00 53 33.2**	**+0.5**
	comp=N,13nm,1.3s								
CPCT	**Cooper Cave**	**24.19**	**5**	*e*P		**P**		**00 53 33.6**	**-0.8**
	comp=N,4.7nm,0.7s								
ABTX	**Abilene, Hawle**	**24.33**	**333**	*e*P		**P**		**00 53 33.8**	**-2.0**
	comp=N,9.6nm,1.1s								
PBMO	**Poplar Bluff**	**25.63**	**353**	*e*P		**P**		**00 53 43.6**	**-3.9**
	comp=N,6.9nm,1.1s								
WMOK	**Wichita Mounta**	**25.80**	**337**	*e*P		**P**		**00 53 49.1**	**0.0**
	comp=N,17nm,1.3s								
MNTX	**Cornudas Mount**	**26.61**	**323**	*e*P		**P**		**00 53 56.8**	**+0.4**
	comp=N,11nm,1.6s								
SAML	**Samuel**	**30.91**	**130**	*e*P		**P**		**00 54 35.6**	**+0.7**
	comp=N,5.5nm,0.9s								
ECSD	**EROS Data Cent**	**33.46**	**347**	*e*P		**P**		**00 54 56.4**	**-0.6**
	comp=N,6.1nm,1.1s								
PV04	**Paradox Valley**	**33.47**	**328**	*e*P		**P**		**00 54 57.6**	**+0.3**
PDAR	**Pinedale Array**	**37.12**	**332**		P	**P**		**00 55 28.1**	**-0.6**
	comp=N,0.4nm,0

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
INK	**Inuvik**	**1.82**	**24**	Pn	Pn	01 10 00.1	-0.4
INK				Sn	Sn	01 10 23.1	+0.2
INK				Sg	Sb	01 10 26.1	+0.9
DAWY	**Dawson**	**3.07**	**213**	Pn	Pn	01 10 17.2	-0.5
DAWY				Sg	Sb	01 11 02.8	+1.6
CLVN	**Colville Lake**	**3.75**	**80**	Pn	Pn	01 10 26.7	-0.4
CLVN				Sn	Sn	01 11 09.0	-1.6
SMPN	**Simpson Lake**	**3.76**	**62**	Pn	Pn	01 10 26.6	-0.5
DOT	**Dot Lake**	**4.70**	**234**	Pn	Pn	01 10 38.4	-1.7
DOT				Pg	Pb	01 10 54.2	+2.2
DOT				Sg	Sb	01 11 53.5	+5.4
YUK1	**Sand Pete Hill**	**5.02**	**208**	Pn	Pn	01 10 44.4	-0.2
YUK1				Sg	Sb	01 12 06.0	+8.6
YUK3	**Moose Creek**	**5.36**	**206**	Pn	Pn	01 10 48.5	-0.8
YUK3				Sn	Sn	01 11 46.7	-3.7
YUK3				Sg	Sb	01 12 16.5	+9.3
YUK2	**White River**	**5.42**	**208**	Pn	Pn	01 10 48.5	-1.5
YUK2				Sn	Sn	01 11 47.9	-3.8
YUK2				Sg	Sb	01 12 17.3	+8.5
PAX	**Paxson**	**5.63**	**233**	Pn	Pn	01 10 51.9	-1.1
PAX				Sn	Sn	01 11 53.0	-3.9
YUK5	**Granite Creek**	**5.65**	**192**	Pn	Pn	01 10 53.2	0.0
YUK5				Sg	Sb	01 12 24.2	+8.7
YUK6	**Outpost Mounta**	**5.88**	**194**	Pn	Pn	01 10 56.5	0.0
YUK6				Sg	Sb	01 12 31.6	+9.4
HYT	**Haines Junctio**	**5.93**	**189**	Pn	Pn	01 10 56.2	-0.8
HYT				Sg	Sb	01 12 32.4	+8.9
WHY	**Whitehorse**	**6.04**	**177**	Pn	Pn	01 10 58.4	-0.2
WHY				Sg	Sb	01 12 37.7	+11
YUK7	**Dusty Glacier**	**6.27**	**192**	Sg	Sb	01 12 41.0	+7.7
PLBC	**Pleasant Camp**	**7.25**	**183**	Sg	Sb	01 13 14.0	+13
DLBC	**Dease Lake**	**8.64**	**160**	Sn	Sn	01 14 02.7	+52
YKR1	**Yellowknife Ar**	**9.77**	**106**	Pn	Pn	01 11 47.0	-2.5
YKR2	**Yellowknife Ar**	**9.79**	**106**	Pn	Pn	01 11 47.3	-2.5
YKR3	**Yellowknife Ar**	**9.80**	**106**	Pn	Pn	01 11 47.4	-2.6
YKR4	**Yellowknife Ar**	**9.82**	**105**	Pn	Pn	01 11 47.1	-3.1
YKB0	**Yellowknife Ar**	**9.83**	**105**	Pn	Pn	01 11 47.8	-2.6
YKR5	**Yellowknife Ar**	**9.84**	**105**	Pn	Pn	01 11 48.0	-2.4
YKB9	**Yellowknife Ar**	**9.85**	**105**	Pn	Pn	01 11 48.0	-2.5
YKW3	**Yellowknife Ar**	**9.86**	**105**	Pn	Pn	01 11 48.5	-2.2
YKW3				Sn	Sn	01 13 32.4	-8.1
YKB8	**Yellowknife Ar**	**9.86**	**105**	Pn	Pn	01 11 48.4	-2.3
YKR6	**Yellowknife Ar**	**9.86**	**105**	Pn	Pn	01 11 48.0	-2.8
YKB7	**Yellowknife Ar**	**9.87**	**105**	Pn	Pn	01 11 48.5	-2.4
YKR7	**Yellowknife Ar**	**9.88**	**105**	Pn	Pn	01 11 48.5	-2.5
YKB6	**Yellowknife Ar**	**9.88**	**105**	Pn	Pn	01 11 48.7	-2.4
YKR8	**Yellowknife Ar**	**9.90**	**105**	Pn	Pn	01 11 48.7	-2.6
YKB4	**Yellowknife Ar**	**9.91**	**105**	Pn	Pn	01 11 48.9	-2.5
YKR9	**Yellowknife Ar**	**9.92**	**105**	Pn	Pn	01 11 49.1	-2.4
YKB3	**Yellowknife Ar**	**9.92**	**105**	Pn	Pn	01 11 49.3	-2.3
YKB2	**Yellowknife Ar**	**9.94**	**106**	Pn	Pn	01 11 49.3	-2.4
YKB1	**Yellowknife Ar**	**9.95**	**106**	Pn	Pn	01 11 49.4	-2.5

IDC ***13*** *01:22:52.5±2.0, 36.°78N×140.°74E, h0km, mb4.0/3, mb1 3.9/6, mb1mx3.5/58, mbtmp3.8/6, ML3.3/3, Error ellipse: s-maj=40.2km s-min=23.8km az=46.0*

ISCJB ***13*** *01:22:53.3±0.8, 36.°66N±0.°03×140.°74E±0.°06, h13km±4km, mb3.9/3, Error ellipse: s-maj=8.2km s-min=4.8km az=18.8*

JMA ***13*** *01:22:54.7, 36.°71N×140.°63E, h7km±1km, M3.6*
Broadband fault plane solution: P waves. NP1: φs=134.00000°, δ63.00000°, λ-104.00000°. NP2: φs=342.00000°, δ30.00000°, λ-65.00000°. Principal axes: T Plg17.0000°, Azm234.0000°; N Plg12.0000°, Azm140.0000°; P Plg69.0000°, Azm15.0000°;

JMA Felt III J1.

ISC 13 01:22:54.0±1.2, 36.°73N±0.°04×140.°68E±0.°05, h8km±8km, n20, σ0°976/22, mb4.0/3, 5C-1D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHO	**Hitachi**	**0.15**	**217**	⇑P	**Pg**	**01 22 57.1**	**0.0**
JHO				S	**Sg**	**01 22 59.0**	**-0.3**
ONAJ	**Iwakimizuishiy**	**0.39**	**15**	⇑P	**Pb**	**01 23 02.8**	**-0.3**
ONAJ				S	**Sb**	**01 23 08.6**	**-0.7**
JYT	**Yasato**	**0.63**	**218**	⇑P	**Pg**	**01 23 06.2**	**0.0**
JSB	**Shiboa**	**0.65**	**292**	⇑P	**Pb**	**01 23 07.3**	**-0.4**
JSB				S	**Sb**	**01 23 16.0**	**-0.9**
JFK	**Kawauchi**	**0.66**	**14**	⇑P	**Pb**	**01 23 07.5**	**-0.2**
JFK				S	**Sb**	**01 23 16.6**	**-0.4**
JFT	**Otama**	**0.83**	**341**	⇓P	**Pb**	**01 23 10.6**	**-0.2**
JFT				S	**Sb**	**01 23 21.9**	**-0.2**
JFY	**Yanaizu**	**1.03**	**311**	P	**Pg**	**01 23 13.9**	**+0.1**
MJAR	**Matsushiro Arr**	**1.99**	**265**	Pn	**Pn**	**01 23 28.1**	**+0.1**
	21nm,0.3s,baz=83,slow=10,SNR=175						
MJAR				Sn	**Sn**	**01 23 53.9**	**+0.8**
	37nm,0.3s,baz=53,slow=27,SNR=14						
MAT	**Matsushiro**	**2.00**	**265**	P	**Pn**	**01 23 28.7**	**+0.7**
MAT				S	**Sb**	**01 23 55.1**	**-0.5**
JHJ	**Hachijo jima 2**	**3.67**	**192**	Pn	**Pn**	**01 23 52.4**	**+1.3**
	7.9nm,0.3s,baz=80,slow=6.1,SNR=4.2						
JHJ				Sn	**Sn**	**01 24 32.5**	**-2.1**
	12nm,0.3s,baz=65,slow=18,SNR=2.4						
KSRS	**Korea Array**	**10.22**	**278**	Pn	**Pn**	**01 25 21.9**	**+1.0**
	0.1nm,0.3s,baz=75,slow=13,SNR=2.4						
H11N2	**WAKE ISLAND Hy**	**28.51**	**119**	T	T	01 58 34.3	
	baz=312,slow=75,SNR=249						
H11N1	**WAKE ISLAND Hy**	**28.51**	**119**	T	T	01 58 35.0	
	baz=312,slow=75,SNR=232						
H11N3	**WAKE ISLAND Hy**	**28.52**	**119**	T	T	01 58 35.8	
	baz=312,slow=75,SNR=202						
H11S1	**WAKE ISLAND Hy**	**29.20**	**121**	T	T	01 59 27.2	
	baz=314,slow=75,SNR=726						
H11S3	**WAKE ISLAND Hy**	**29.20**	**121**	T	T	01 59 25.8	
	baz=314,slow=75,SNR=368						
H11S2	**WAKE ISLAND Hy**	**29.21**	**121**	T	T	01 59 27.8	
	baz=314,slow=75,SNR=402						
ZALV	**Zalesovo Beam**	**41.69**	**313**	P	**P**	**01 30 42.6**	**-0.3**
	1.4nm,0.5s,baz=80,slow=6.9,SNR=4.5						
WRA	**Warramunga Ar**	**56.68**	**187**	P	**P**	**01 32 37.6**	**-0.3**
	1.7nm,0.8s,baz=2.2,slow=7.4,SNR=7.8						
ASAR	**Alice Springs**	**60.41**	**187**	P	**P**	**01 33 04.0**	**+0.1**
	0.6nm,0.7s,baz=15,slow=9.9,SNR=4.5						

ISCJB ***13*** *01:33:59.9±0.6, 38.°90N±0.°04×142.°21E±0.°06, h52km±4km, mb4.3/23, Error ellipse: s-maj=8.6km s-min=4.4km az=32.7*

IDC ***13*** *01:34:00.7±2.5, 38.°93N×142.°43E, h45km±22km, mb3.8/10, mb1 3.9/15, mb1mx3.7/48, mbtmp4.0/15, ML3.3/5, Error ellipse: s-maj=26.8km s-min=16.4km az=80.0*

NIED ***13*** *01:34:00, 38.°90N×142.°00E, h35km, Mw4.1 Best double couple: M0 1.48000×10^15 NP1:φs194.00000°, δ28.00000°, λ85.00000°. NP2:φs21.00000°, δ62.00000°, λ93.00000°.*

NEIC ***13*** *01:34:01.3±0.6, 38.°93N×142.°37E, h53km±4km, mb4.6/7, Error ellipse: s-maj=7.1km s-min=4.5km az=113.0*

NEIC Recorded [2 JMA] in Iwate and Miyagi.

MOS ***13*** *01:34:02.0±1.0, 38.°92N×142.°12E, h71km, mb4.6/11, Error ellipse: s-maj=10.2km s-min=7.5km az=83.3*

JMA ***13*** *01:34:02.7±0.1, 38.°89N×141.°96E, h50km±1km, M3.9*

JMA Felt II J1.

ISC 13 01:34:01.5±0.8, 38.°86N±0.°05×142.°13E±0.°07, h52km±6km, n88, σ1°976/98, mb4.3/23, 6C-2D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OFUJ	**Ofunato**	**0.42**	**301**	P	**Pn**	**01 34 11.9**	**-0.1**
OFUJ				S	**Sn**	**01 34 18.2**	**-1.4**
JMK	**Ichinoseki**	**0.72**	**278**	P	**Pn**	**01 34 15.0**	**-0.5**
JMK				S	**Sn**	**01 34 23.7**	**-2.1**
JIO	**Ouri**	**0.74**	**237**	P	**Pn**	**01 34 15.5**	**-0.3**
JIO				S	**Sn**	**01 34 24.3**	**-1.9**
JOM	**Ohasama**	**0.89**	**313**	P	**Pn**	**01 34 17.6**	**-0.3**
JOM				S	**Sn**	**01 34 28.4**	**-1.5**
JOU	**Okura**	**1.25**	**247**	P	**Pn**	**01 34 22.2**	**-0.5**
JOU				*e*S	**Sn**	**01 34 37.1**	**-1.4**
JRG	**Rokugo**	**1.28**	**295**	P	**Pn**	**01 34 22.5**	**-0.6**
JYK	**Kaneyama**	**1.39**	**273**	P	**Pn**	**01 34 23.9**	**-0.6**
JMM	**Marumori**	**1.45**	**227**	P	**Pn**	**01 34 24.9**	**-0.4**
JMM				*e*S	**Sn**	**01 34 41.3**	**-1.9**
JANG	**Nango**	**1.58**	**343**	P	**Pn**	**01 34 27.3**	**+0.1**
ERM	**Erimo**	**3.25**	**14**	*i* P	**Pn**	**01 34 52.4**	**+2.5**
ERM	**Erimo**	**3.25**	**14**	*e*Pn	**Pn**	**01 34 47.9**	**-2.0**
ERM				*e*Sn	**Sn**	**01 35 23.6**	**-3.7**
MJA0	**Matsu Arr-Jizo**	**3.85**	**234**	*e*P	**Pn**	**01 35 00.5**	**+2.2**
MJA0				pmax	pmax		
	comp=Z,4.0nm,0.3s						
MJAR	**Matsushiro Arr**	**3.88**	**235**	P	**Pn**	**01 35 00.6**	**+2.0**
	comp=Z,4.4nm,0.3s,baz=36,slow=12,SNR=58						
MAJO	**Matsushiro**	**3.88**	**235**	*e*P	**Pn**	**01 35 00.8**	**+2.2**
MAJO	**Matsushiro**	**3.88**	**235**	*e*Pn	**Pn**	**01 35 00.8**	**+2.2**
MAT	**Matsushiro**	**3.88**	**235**	P	**Pn**	**01 35 00.7**	**+2.1**
MAT				S	**Sn**	**01 35 39.5**	**-3.4**
MJP9	**Matsu-Tunnel**	**3.88**	**235**	*e*Pn	**Pn**	**01 35 01.0**	**+2.3**
ASAJ	**Asahikawa**	**5.26**	**4**	*e*Pn	**Pn**	**01 35 17.0**	**-0.5**
YUK	**Yuzh-Kuril'sk**	**5.88**	**27**	*e*P	**Pn**	**01 35 27.7**	**+1.7**
YUK				*i* S	**Sn**	**01 36 30.1**	**-1.9**
JHJ	**Hachijo jima 2**	**6.04**	**199**	P	**Pn**	**01 35 28.7**	**+0.5**
	comp=Z,7.2nm,0.3s,baz=233,slow=20,SNR=4.0						
JHJ				S	**Sn**	**01 36 31.2**	**-4.8**
	comp=Z,12nm,0.3s,baz=239,slow=19,SNR=3.4						
KUR	**Kuril'sk**	**7.66**	**32**	*e*P	**Pn**	**01 35 51.9**	**+1.5**
KUR				*e*S	**Sn**	**01 37 15.2**	**-0.5**
KUR				smax	smax		
	comp=N,89nm,0.4s						
KUR				smax	smax		
	comp=E,108nm,0.4s						
YSS	**Yuzh-Sakhalins**	**8.10**	**3**	*e*P	**Pn**	**01 35 58.2**	**+1.8**
USRK	**Ussuriysk Ar.**	**9.29**	**308**	P	**Pn**	**01 36 14.4**	**+1.8**
	comp=E,0.6nm,0.3s,baz=117,slow=13,SNR=25						
KSRS	**Korea Array**	**11.28**	**267**	P	**Pn**	**01 36 43.0**	**+3.1**
	comp=E,0.1nm,0.3s,baz=81,slow=14,SNR=7.2						
KS15	**Wonju Array Si**	**11.31**	**267**	*e*Pn	**Pn**	**01 36 43.0**	**+2.7**
KSAR	**Wonju Array Be**	**11.31**	**267**	P	**Pn**	**01 36 43.0**	**+2.7**
KSAR	**Wonju Array Be**	**11.31**	**267**	P	**Pn**	**01 36 43.0**	**+2.7**
KLR	**Kul'dur**	**12.76**	**328**	P	**Pn**	**01 37 00.3**	**+0.3**
	comp=E,0.1nm,0.3s,baz=132,slow=14,SNR=3.4						
KLR	**Kul'dur**	**12.76**	**328**	⇑*i*P	**Pn**	**01 37 00.5**	**+0.4**
PET	**Petropavlovsk**	**18.17**	**33**	⇑*i*P	**Pn**	**01 38 11.0**	**+1.2**
SEY	**Seymchan**	**24.89**	**11**	⇓*i*P	**P**	**01 39 22.1**	**+3.0**
ULN	**Ulaanbaatar**	**26.85**	**301**	*c i*P	**P**	**01 39 38.5**	**+1.3**
ULN				pmax	pmax		
	comp=Z,4.0nm,2.0s						
H11N2	**WAKE ISLAND Hy**	**28.66**	**125**	T	T	02 10 21.2	
	baz=317,slow=76,SNR=2917						
H11N1	**WAKE ISLAND Hy**	**28.66**	**125**	T	T	02 10 21.7	
	baz=317,slow=76,SNR=2782						
H11N3	**WAKE ISLAND Hy**	**28.67**	**125**	T	T	02 10 22.5	
	baz=317,slow=76,SNR=3007						
H11S1	**WAKE ISLAND Hy**	**29.43**	**127**	T	T	02 11 15.4	
	baz=319,slow=76,SNR=427						
H11S3	**WAKE ISLAND Hy**	**29.43**	**127**	T	T	02 11 18.4	
	baz=319,slow=76,SNR=650						
H11S2	**WAKE ISLAND Hy**	**29.45**	**127**	T	T	02 11 16.7	
	baz=319,slow=76,SNR=392						
TIXI	**Tiksi**	**33.55**	**352**	*i* P	**P**	**01 40 34.2**	**-1.6**
TIXI				pmax	pmax		
	comp=Z,3.0nm,0.8s						
ZAA0	**Zalesovo Array**	**41.13**	**311**	*e*P	**P**	**01 41 41.0**	**+0.8**
ZAA1	**Zalesovo Array**	**41.13**	**311**	*e*P	**P**	**01 41 40.7**	**+0.5**
ZAA1				*e*PcP	**PcP**	**01 43 40.0**	**+1.3**
ZALV	**Zalesovo Beam**	**41.13**	**311**	P	**P**	**01 41 40.7**	**+0.5**
	comp=Z,3.6nm,0.7s,baz=91,slow=7.3,SNR=13						
ZALV				PcP	**PcP**	**01 43 40.0**	**+1.3**
	comp=Z,0.5nm,0.3s,baz=114,slow=3.5,SNR=2.8						
MK01	**Makanchi Array**	**43.65**	**301**	*e*P	**P**	**01 42 01.1**	**+0.3**
MK31	**Makanchi Array**	**43.65**	**301**	*e*P	**P**	**01 42 01.6**	**+0.7**
MK31	**Makanchi Array**	**43.65**	**301**	*e*P	**P**	**01 42 01.6**	**+0.7**
MKAR	**Makanchi Array**	**43.65**	**301**	*e*P	**P**	**01 42 01.6**	**+0.7**
MKAR				pmax	pmax		
	comp=Z,31nm,0.8s						
MKAR	**Makanchi Array**	**43.65**	**301**	*e*P	**P**	**01 42 01.6**	**+0.7**
	comp=Z,30nm,0.8s						
MAKZ	**Makanchi**	**43.86**	**301**	*e*P	**P**	**01 42 03.2**	**+0.7**
MAKZ				pmax	pmax		
	comp=Z,4.0nm,0.9s						
MAKZ	**Makanchi**	**43.86**	**301**	*e*P	**P**	**01 42 03.2**	**+0.7**
	comp=Z,4.4nm,0.9s						
KURK	**Kurchatov**	**45.27**	**307**	*c i*P	**P**	**01 42 13.9**	**+0.2**
KURK				pmax	pmax		
	comp=Z,33nm,0.9s						
KURK	**Kurchatov**	**45.27**	**307**	*e*P	**P**	**01 42 13.8**	**+0.2**
	comp=Z,8.8nm,0.9s						
ILAR	**Eielson Array**	**47.65**	**33**	P	**P**	**01 42 30.8**	**-1.3**
	comp=Z,0.6nm,0.6s,baz=260,slow=5.6,SNR=9.7						
ILAR	**Eielson Array**	**47.65**	**33**	*e*P	**P**	**01 42 34.7**	**+2.6**
ILAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
ILB	**Eielson Array**	**47.65**	**33**	*e*P	**P**	**01 42 30.8**	**-1.3**
BRVK	**Borovoye**	**49.83**	**311**	*i* P	**P**	**01 42 49.3**	**+0.3**
BRVK				pmax	pmax		
	comp=Z,10.0nm,1.1s						
AAK	**Ala-Archa**	**50.14**	**297**	⇑*i*P	**P**	**01 42 50.5**	**-1.2**
AAK				pmax	pmax		
	comp=Z,14nm,2.4s						
ARU	**Arti**	**55.38**	**318**	*c i*P	**P**	**01 43 30.3**	**+0.4**
ARU				*PP	**sP**	**01 43 48.4**	**-1.8**
ARU						01 45 31.0	
ARU				S	**S**	**01 51 11.2**	**+0.9**
ARU				SS	**SS**	**01 54 48.3**	**-6.5**
ARU				pmax	pmax		
	comp=Z,6.0nm,0.8s						
ARU	**Arti**	**55.38**	**318**	*e*P	**P**	**01 43 29.2**	**-0.8**
	comp=Z,4.0nm,0.8s						
ABKAR	**Akbulak array**	**57.21**	**309**	*e*P	**P**	**01 43 43.0**	**-0.1**
	comp=Z,2.6nm,0.6s						
AKTO	**Aktyubinsk**	**57.89**	**311**	P	**P**	**01 43 48.6**	**+0.8**
	comp=Z,1.9nm,0.7s,baz=73,slow=13,SNR=8.7						
WR1	**Warramunga Arr**	**58.95**	**189**	*e*P	**P**	**01 43 56.4**	**+0.9**
	comp=Z,34nm,1.6s						
WRA	**Warramunga Arr**	**58.95**	**189**	P	**P**	**01 43 56.4**	**+0.9**
	comp=Z,0.8nm,0.7s,baz=6.1,slow=7.1,SNR=12						
WRA	**Warramunga Arr**	**58.95**	**189**	*e*P	**P**	**01 43 57.3**	**+1.8**
WRA				pmax	pmax		
	comp=Z,1.0nm,0.7s						
AS31	**Alice Springs**	**62.67**	**188**	*e*P	**P**	**01 44 20.9**	**+0.2**
	comp=Z,3.0nm,1.4s						
ASAR	**Alice Springs**	**62.67**	**188**	P	**P**	**01 44 20.9**	**+0.2**
	comp=Z,0.5nm,0.6s,baz=10,slow=5.4,SNR=5.6						
ASAR	**Alice Springs**	**62.67**	**188**	*e*P	**P**	**01 44 22.7**	**+1.9**
ASAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
GEYT	**Alibek**	**63.46**	**298**	P	**P**	**01 44 26.2**	**+0.2**
	comp=Z,5.6nm,0.6s,baz=195,slow=11,SNR=3.7						
OBN	**Obninsk**	**66.98**	**323**	⇓*e*P	**P**	**01 44 47.9**	**-0.5**
OBN				pmax	pmax		
	comp=Z,4.0nm,0.8s						
FIA1	**FINESS Array S**	**67.46**	**332**	*e*P	**P**	**01 44 52.1**	**+0.8**
FIA0	**FINESS Array S**	**67.47**	**332**	*e*P	**P**	**01 44 51.5**	**+0.1**
FIA0	**FINESS Array S**	**67.47**	**332**	*e*P	**P**	**01 44 51.5**	**+0.1**
FINES	**FINESS Array B**	**67.47**	**332**	P	**P**	**01 44 51.5**	**+0.1**
	comp=Z,3.3nm,0.7s,baz=27,slow=8.8,SNR=6.6						
FINES	**FINESS Array B**	**67.47**	**332**	*e*P	**P**	**01 44 52.0**	**+0.6**
FINES				pmax	pmax		
	comp=Z,3.0nm,0.7s						
KIV	**Kislovodsk**	**70.14**	**311**	*e*P	**P**	**01 45 09.5**	**+1.0**
KIV				pmax	pmax		
	comp=Z,5.0nm,0.9s						
KBZ	**Khabaz**	**70.15**	**310**	P	**P**	**01 45 09.3**	**+0.9**
	comp=Z,2.1nm,0.9s,baz=3.5,slow=6.2,SNR=4.9						
BR101	**Keskin Array S**	**78.06**	**312**	*e*P	**P**	**01 45 55.6**	**+0.8**
BRTR	**Keskin Array B**	**78.06**	**312**	P	**P**	**01 45 55.6**	**+0.8**
	comp=Z,0.3nm,0.4s,baz=121,slow=3.1,SNR=5.8						
BRTR	**Keskin Array B**	**78.06**	**312**	*e*P	**P**	**01 45 55.2**	**+0.4**
BR231	**Keskin MP Arra**	**78.49**	**312**	*e*P	**P**	**01 45 56.4**	**-0.8**
DPC	**Dobruska-Polom**	**79.21**	**328**	*e*P	**P**	**01 45 58.2**	**-2.6**
DPC	**Dobruska-Polom**	**79.21**	**328**	*e*P	**P**	**01 45 58.2**	**-2.6**
CLL	**Collm**	**79.79**	**330**	*e*P	**P**	**01 46 04.0**	**+0.1**
CLL	**Collm**	**79.79**	**330**	*e*P	**P**	**01 46 04.0**	**+0.1**
KHC	**Kasperske Hory**	**81.28**	**329**	*e*P	**P**	**01 46 09.0**	**-3.0**
KHC	**Kasperske Hory**	**81.28**	**329**	*e*P	**P**	**01 46 09.0**	**-3.0**
LTX	**Lajitas**	**88.56**	**53**	*e*P	**P**	**01 46 47.0**	**-1.9**
LTX	**Lajitas**	**88.56**	**53**	*e*P	**P**	**01 46 47.0**	**-1.9**
TXAR	**Lajitas Array**	**88.56**	**53**	P	**P**	**01 46 47.0**	**-1.9**
	comp=Z,0.2nm,0.5s,baz=319,slow=4.0,SNR=6.4						

NEIC ***13*** *01:37:18.5±0.5, 36.°94N×104.°80W, h5km, ML3.5, MW3.5(SLM), Error ellipse: s-maj=7.5km s-min=7.2km az=111.0*

NEIC Felt at Eagle Nest. Also felt at Rocky Ford, Colorado.

ISC 13 01:37:16.6±1.1, 36.°97N±0.°02×104.°89W±0.°02, h4km±9km, n58, σ1°997/92, New Mexico

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
T25A	**Trinidad**	**0.42**	**66**	P	**Pg**	**01 37 24.5**	**-0.2**
	baz=240						
T25A				S	**Sg**	**01 37 30.6**	**+0.4**
T25A	**Trinidad**	**0.42**	**66**	*e*Pg	**Pg**	**01 37 24.7**	**0.0**
T25A				*e*Sg	**Sg**	**01 37 30.2**	**+0.1**
SDCO	**Great Sand Dun**	**0.91**	**328**	P	**Pg**	**01 37 34.5**	**+0.4**
	baz=148						
SDCO	**Great Sand Dun**	**0.91**	**328**	*e*Pg	**Pg**	**01 37 34.5**	**+0.4**
SDCO				*e*Sg	**Sg**	**01 37 47.4**	**+1.4**
S22A	**4UR Ranch, Cre**	**1.73**	**297**	Pb	**Pb**	**01 37 49.5**	**+0.4**
	baz=117						
S22A				S	**Sg**	**01 38 12.6**	**+0.5**
	baz=117						
S22A	**4UR Ranch, Cre**	**1.73**	**297**	*e*Pn	**Pb**	**01 37 49.5**	**+0.4**
S22A				*e*Sn	**Sg**	**01 38 12.4**	**+0.3**
Q24A	**Divide**	**2.00**	**354**	Pb	**Pb**	**01 37 54.4**	**+0.6**
	baz=174						
Q24A				S	**Sg**	**01 38 21.1**	**+0.3**
	baz=174						
Q24A	**Divide**	**2.00**	**354**	*e*Pn	**Pb**	**01 37 54.3**	**+0.6**
Q24A				*e*Sn	**Sb**	**01 38 18.8**	**-0.3**
ANMO	**Albuquerque**	**2.39**	**213**	P	**Pn**	**01 37 56.7**	**-0.1**
	baz=33						
ANMO				S	**Sn**	**01 38 27.7**	**+1.2**
	baz=33						
ANMO	**Albuquerque**	**2.39**	**213**	*e*Pn	**Pn**	**01 37 56.5**	**-0.2**
ANMO				*e*Sn	**Sn**	**01 38 26.8**	**+0.2**
KSCO	**Kaye Shedlock'**	**2.71**	**41**	Pb	**Pb**	**01 38 06.9**	**+1.1**
	baz=221						
KSCO				Sb	**Sb**	**01 38 41.2**	**+1.9**
	baz=221						
KSCO	**Kaye Shedlock'**	**2.71**	**41**	*e*Pn	**Pn**	**01 38 02.8**	**+1.7**
KSCO				*e*Sn	**Sn**	**01 38 35.6**	**+1.3**
SMCO	**Snowmass**	**2.75**	**324**	*e*Pn	**Pn**	**01 38 04.7**	**+2.8**
SMCO				*e*Sn	**Sb**	**01 38 39.2**	**-1.5**
ISCO	**Idaho Springs**	**2.88**	**349**	Pb	**Pb**	**01 38 10.4**	**+1.7**
	baz=168						
ISCO	**Idaho Springs**	**2.88**	**349**	*e*Pn	**Pb**	**01 38 06.8**	**-1.9**
ISCO				*e*Sn	**Sn**	**01 38 37.3**	**-1.6**
MVCO	**Mesa Verde**	**2.90**	**276**	Pb	**Pb**	**01 38 10.0**	**+1.0**
	baz=94						
MVCO				Sb	**Sb**	**01 38 47.4**	**+2.5**
	baz=94						
MVCO	**Mesa Verde**	**2.90**	**276**	*e*Pn	**Pb**	**01 38 07.9**	**-1.1**
MVCO				*e*Sn	**Sn**	**01 38 42.3**	**+3.1**
LPM	**Los Pinos Moun**	**3.01**	**209**	*e*Pn	**Pb**	**01 38 09.8**	**-1.1**
LPM				*e*Sn	**Sn**	**01 38 43.4**	**+1.5**
PV01	**Paradox Valley**	**3.15**	**293**	*e*Pn	**Pn**	**01 38 10.6**	**+3.4**
PV01				*e*Sn	**Sn**	**01 38 47.8**	**+2.4**
LAZ	**Ladron**	**3.15**	**216**	*e*Pn	**Pn**	**01 38 06.7**	**-0.5**
LAZ				*e*Sn	**Sb**	**01 38 49.7**	**-2.5**
BNM	**Barren Site**	**3.15**	**207**	*e*Pn	**Pn**	**01 38 10.7**	**+3.5**
BNM				*e*Sn	**Sn**	**01 38 48.2**	**+2.8**
Y22D	**IRIS PASSCAL I**	**3.33**	**210**	*e*Pn	**Pn**	**01 38 13.5**	**+3.8**
Y22D				*e*Sg	**Sb**	**01 39 00.9**	**+3.6**
AMTX	**Amarillo**	**3.33**	**128**	Sb	**Sb**	**01 38 57.0**	**-0.4**
	baz=309						
AMTX	**Amarillo**	**3.33**	**128**	*e*Pn	**Pn**	**01 38 10.6**	**+0.9**
AMTX				*e*Sn	**Sn**	**01 38 51.3**	**+1.5**
MSTX	**Muleshoe**	**3.46**	**149**	Pb	**Pb**	**01 38 17.5**	**-1.0**
	baz=331						
MSTX	**Muleshoe**	**3.46**	**149**	*e*Pn	**Pn**	**01 38 13.0**	**+1.6**
MSTX				*e*Sn	**Sn**	**01 38 53.9**	**+1.0**
PV05	**Paradox Valley**	**3.52**	**290**	*e*Pn	**Pn**	**01 38 15.9**	**+3.5**
PV05				*e*Sn	**Sn**	**01 38 56.1**	**+1.5**
PV09	**Paradox Valley**	**3.69**	**296**	*e*Pn	**Pn**	**01 38 18.6**	**+3.8**
PV09				*e*Sn	**Sn**	**01 38 59.1**	**+0.2**
N23A	**Red Feather La**	**4.00**	**348**	*e*Pn	**Pb**	**01 38 25.1**	**-2.8**
N23A				*e*Sn	**Sn**	**01 39 06.0**	**-0.5**
O20A	**White River Ci**	**

TWK	**Hsinying**	**0.14**	**275**	⇑*i*P	Pg	02 11 48.8	+0.6
	baz=275								
TWK				S	Sg	02 11 51.4	+1.0
	baz=275								
SGST	**Jiashian**	**0.18**	**198**	⇓*i*P	Pg	02 11 49.8	+1.0
	baz=195								
SGST				*i* S	Sg	02 11 53.0	+1.7
	baz=195								
ALS	**Alishan**	**0.29**	**30**	⇓*i*P	Pb	02 11 52.0	-0.8
	baz=32								
ALS				S	Sb	02 11 56.9	-1.0
	baz=32								
CHN3	**Shinhua**	**0.31**	**235**	*e*P	Pb	02 11 52.9	+0.1
	baz=245								
CHN3				*e*S	Sb	02 11 59.4	+1.3
	baz=245								
CHN2	**Minshiung**	**0.32**	**331**	*e*P	Pb	02 11 52.6	-0.3
	baz=332								
CHN2				*e*S	Sb	02 11 58.4	+0.2
	baz=332								
CHN5	**Tsauling**	**0.34**	**6**	⇓P	Pg	02 11 52.6	+0.7
	baz=6.0								
CHN5				S	Sb	02 11 58.7	-0.4
	baz=6.0								
ELDTW	**Lidau**	**0.35**	**101**	⇑*i*P	Pb	02 11 53.1	-0.5
	baz=92								
ELDTW				*i* S	Sb	02 11 58.4	-0.9
	baz=92								
CHN8	**Yiju**	**0.41**	**283**	*e*P	Pg	02 11 53.7	+0.7
	baz=285								
CHN8				*e*S	Sb	02 12 01.6	+0.7
	baz=285								
SCLT	**Jiali**	**0.42**	**259**	P	Pb	02 11 54.9	+0.2
	baz=260								
SCLT				*e*S	Sb	02 12 02.8	+1.6
	baz=260								
WGK	**Gukeng**	**0.43**	**350**	*e*P	Pb	02 11 54.8	-0.2
	baz=352								
WGK				*e*S	Sb	02 12 02.3	+0.7
	baz=352								
TAI1	**Yung-k'ang**	**0.44**	**241**	*e*P	Pb	02 11 55.7	+0.7
	baz=242								
TWM1	**Shoushan**	**0.47**	**205**	*e*P	Pb	02 11 56.8	+1.1
	baz=207								
WSF	**Szhu**	**0.54**	**315**	*e*P	Pb	02 11 56.4	-0.4
	baz=317								
WSF				*e*S	Sb	02 12 05.4	+0.7
	baz=317								
SGLT	**Jiouru**	**0.55**	**195**	*e*P	Pb	02 11 57.7	+0.8
	baz=197								
TWG	**Pinlang**	**0.59**	**137**	⇑*i*P	Pb	02 11 57.6	+0.1
	baz=126								
TWG				S	Sb	02 12 06.2	+0.2
	baz=126								
TWF1	**Yuli**	**0.61**	**81**	⇓*i*P	Pb	02 11 57.7	-0.3
	baz=80								
TWF1				*e*S	Sg	02 12 05.1	+0.2
	baz=80								
WNT	**Mingjian**	**0.62**	**4**	*e*P	Pb	02 11 58.4	+0.3
	baz=5.0								
WNT				*e*S	Sb	02 12 08.1	+1.0
	baz=5.0								
SMLT	**Sun Moon Lake**	**0.67**	**21**	⇓*i*P	Pb	02 11 59.0	0.0
	baz=21								
SMLT				S	Sb	02 12 09.9	+1.4
	baz=21								
WDT	**Danda**	**0.67**	**42**	⇓*i*P	Pb	02 11 58.9	-0.4
	baz=53								
TTN	**Taitung**	**0.68**	**137**	*e*P	Pb	02 11 59.4	+0.2
	baz=137								
CHKT	**Chengkung**	**0.68**	**103**	⇑P	Pb	02 12 00.1	+0.9
	baz=102								
CHKT				*e*S	Sn	02 12 10.5	-1.3
	baz=102								
WTCT	**Ta-ch'eng**	**0.69**	**331**	*e*P	Pb	02 11 58.9	-0.4
	baz=333								
WTCT				S	Sb	02 12 09.8	+0.7
	baz=333								
ECL	**Taimali**	**0.71**	**156**	*e*P	Pb	02 11 59.4	-0.3
	baz=140								
ECL				*e*S	Sb	02 12 09.9	+0.2
	baz=140								
SCZT	**Fangliau**	**0.88**	**181**	*e*P	Pb	02 12 02.6	+0.1
	baz=170								
SCZT				*e*S	Sn	02 12 16.9	+0.2
	baz=170								
EAST	**Anshuo**	**0.89**	**168**	⇑P	Pb	02 12 03.1	+0.3
	baz=167								
EAST				*e*S	Sn	02 12 16.2	-0.7
	baz=167								
TCU	**Taichung**	**0.89**	**2**	*e*P	Pb	02 12 02.9	+0.2
	baz=3.0								
TCU				*e*S	Sb	02 12 15.5	+0.7
	baz=3.0								
WDGT	**Dungji**	**0.90**	**271**	P	Pg	02 12 02.1	-0.3
	baz=272								
WDGT				*e*S	Sg	02 12 14.6	+0.4
	baz=272								
ESL	**Shilin**	**0.92**	**52**	P	Pb	02 12 03.0	-0.2
	baz=52								
ESL				S	Sn	02 12 16.6	-0.9
	baz=52								
TAW	**Tawu**	**0.92**	**165**	*e*P	Pb	02 12 03.8	+0.5
	baz=173								
TAW				*e*S	Sn	02 12 17.8	+0.1
	baz=173								
TWP	**Hsiaoliuchiu**	**0.94**	**196**	*e*P	Pn	02 12 06.2	+1.7
	baz=199								
PNG	**Penghu**	**1.05**	**288**	P	Pg	02 12 04.4	-0.8
	baz=289								
PNG				*e*S	Sg	02 12 18.9	+0.2
	baz=289								
WHF	**Hehuan Shan**	**1.05**	**33**	P	Pg	02 12 05.4	+0.1
	baz=33								
WHF				S	Sn	02 12 20.8	-0.7
	baz=33								
TWQ1	**Liyutan**	**1.09**	**6**	⇑*i*P	Pn	02 12 06.8	+0.1
	baz=7.0								
TWQ1				*e*S	Sn	02 12 22.6	+0.6
	baz=7.0								
TWT	**Tachien**	**1.11**	**26**	*e*P	Pg	02 12 05.9	-0.5
	baz=25								
TWT				*e*S	Sn	02 12 22.4	-0.2
	baz=25								
NSY	**Sanyi**	**1.16**	**5**	P	Pn	02 12 07.8	+0.2
	baz=6.0								
NSY				S	Sn	02 12 24.7	+1.0
	baz=6.0								
TWD	**Chiawan**	**1.20**	**47**	P	Pg	02 12 08.2	+0.1
	baz=46								
TWD				S	Sn	02 12 25.2	+0.7
	baz=46								
HEN	**Hengchun**	**1.25**	**176**	*e*P	Pg	02 12 09.6	+0.6
	baz=171								
TWK1	**Hengchun**	**1.31**	**173**	*e*P	Pg	02 12 11.5	+1.2
	baz=169								
NNS	**Nan Shan**	**1.36**	**29**	*e*P	Pb	02 12 10.8	0.0
	baz=30								
NNS				*e*S	Sg	02 12 29.7	+1.0
	baz=30								
TSEB	**Hengchuen, Pin**	**1.37**	**170**	*e*P	Pg	02 12 12.2	+0.9
	baz=193								
NSTT	**Nanjuang**	**1.41**	**13**	*e*P	Pn	02 12 11.0	0.0
	baz=14								
NSTT				S	Sg	02 12 31.2	+0.8
	baz=14								
NSK	**Sanguang**	**1.56**	**25**	P	Pb	02 12 13.7	-0.5
	baz=14								
NSK				*e*S	Sg	02 12 34.9	-0.4
	baz=14								
ENTT	**Nioudou**	**1.62**	**31**	P	Pb	02 12 15.0	-0.2
	baz=31								
ENTT				*e*S	Sg	02 12 38.8	+1.7
	baz=31								
TWE	**Neicheng**	**1.73**	**33**	*e*P	Pb	02 12 16.8	-0.4
	baz=32								
TWE				*e*S	Sg	02 12 40.5	-0.4
	baz=32								
TWC	**Suao**	**1.74**	**39**	P	Pb	02 12 17.7	+0.4
	baz=39								
TWC				*e*S	Sg	02 12 42.1	+1.0
	baz=39								
TWA	**Mucha**	**1.92**	**26**	*e*P	Pb	02 12 19.2	-1.1
	baz=9.0								
NWF	**Wu-fen Shan**	**2.09**	**30**	*e*P	Pb	02 12 22.1	-1.0
	baz=26								
TWB1	**Santiao Chiao**	**2.13**	**35**	*e*P	Pn	02 12 22.0	+1.0
	baz=20								
KNM	**Kinmen**	**2.33**	**300**	*e*P	Pb	02 12 25.5	-1.8
	baz=300								

CSEM ***13*** *02:19:58.1, 39.67N×29.62W, h10km, ML2.7*
PDA 13 02:19:58.1±0.9, 39.67N×29.62W, h10km, MD3.5, ML2.7, Error ellipse: s-maj=10.1km s-min=7.4km az=62.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CALA	**Caldeira**	**1.30**	**146**	*e*P	Pn	02 20 17.5	-5.0
CALA				*e*S	Sb	02 20 32.6	-7.0
CALA	**Caldeira**	**1.30**	**146**	*e*P	Pn	02 20 17.5	-5.0
CALA				*e*S	Sb	02 20 32.6	-7.0
HOR	**Horta**	**1.38**	**146**	*e*S	Sb	02 20 34.0	-7.7
HOR				A	A	02 20 35.2	
	100nm,0.2s						
HOR	**Horta**	**1.38**	**146**	*e*S	Sb	02 20 34.0	-7.7
PGRA	**Graciosa**	**1.43**	**116**	*e*S	Sn	02 20 35.2	-7.7
PGRA				A	A	02 20 38.3	
	27nm,0.4s						
PGRA	**Graciosa**	**1.43**	**116**	*e*S	Sn	02 20 35.2	-7.7
ROSA	**Rosais**	**1.44**	**131**	*e*S	Sn	02 20 35.9	-7.2
ROSA				A	A	02 20 36.3	
	41nm,0.4s						
ROSA	**Rosais**	**1.44**	**131**	*e*S	Sn	02 20 35.9	-7.2
PICO	**Pico**	**1.50**	**141**	*e*P	Pn	02 20 20.8	-4.3
PICO				*e*S	Sn	02 20 37.2	-7.5
PICO				A	A	02 20 39.0	
	69nm,0.1s						
PICO	**Pico**	**1.50**	**141**	*e*P	Pn	02 20 20.8	-4.3
PICO				*e*S	Sn	02 20 37.2	-7.5
PCAN	**Candelaria**	**1.50**	**143**	*e*P	Pn	02 20 20.5	-4.6
PCAN				*e*S	Sn	02 20 37.4	-7.3
PCAN				A	A	02 20 40.8	
	120nm,0.2s						
PCAN	**Candelaria**	**1.50**	**143**	*e*P	Pn	02 20 20.5	-4.6
PCAN				*e*S	Sn	02 20 37.4	-7.3

MEX 13 02:22:13.7±0.6, 18.45N×101.24W, h64km±9km, MD3.5, Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZIIG	**Zihuatanejo**	**0.86**	**194**	*e*P	Pn	02 22 28.6	-1.5
ZIIG				*i* S	Sn	02 22 40.8	-1.5
ARIG	**Puente Sto Nin**	**0.86**	**101**	*e*P	Pn	02 22 28.4	-1.9
ARIG				*e*S	Sn	02 22 40.6	-1.8
MOIG	**Morelia**	**1.23**	**2**	*i* P	Pn	02 22 33.5	-1.6
MOIG				*i* S	Sn	02 22 48.4	-2.7
MEIG	**Mezcala**	**1.62**	**108**	*e*P	Pn	02 22 39.1	-1.2
MEIG				*e*S	Sn	02 22 58.7	-1.6
PLIG	**Platanillo**	**1.65**	**92**	*i* P	Pn	02 22 39.7	-0.9
PLIG				*i* S	Sn	02 22 59.6	-1.3
CAIG	**El Cayaco**	**1.67**	**146**	*e*P	Pn	02 22 39.0	-1.8
CAIG				*e*S	Sn	02 22 58.6	-2.6
MMIG	**Aquila**	**2.01**	**266**	*i* P	Pn	02 22 44.5	-0.8
MMIG				*i* S	Sn	02 23 07.6	-1.7
YAIG	**Yautepec**	**2.10**	**78**	*i* P	Pn	02 22 46.2	-0.5
YAIG				*i* S	Sn	02 23 10.3	-1.7
TLIG	**Tlapa**	**2.69**	**109**	*i* P	Pn	02 22 54.4	-0.4
TLIG				*i* S	Sn	02 23 23.8	-2.5

TAP 13 02:44:10.1, 23.26N×120.64E, h8km, ML1.6, B, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WTP	**Ta-pu**	**0.03**	**243**	*i* P	Pg	02 44 12.0	+0.3
	baz=228						
WTP				*i* S	Sg	02 44 13.4	+0.6
	baz=228						
CHN1	**Nanshi**	**0.13**	**235**	P	Pg	02 44 13.5	+0.6
	baz=234						
CHN1				S	Sg	02 44 16.1	+1.2
	baz=234						
TWK	**Hsinying**	**0.14**	**273**	P	Pg	02 44 13.7	+0.5
	baz=271						
TWK				*e*S	Sg	02 44 16.3	+1.0
	baz=271						
STYT	**Tauyuan**	**0.14**	**132**	P	Pg	02 44 14.0	+0.8
	baz=130						
STYT				*e*S	Sg	02 44 17.0	+1.6
	baz=130						
SGST	**Jiashian**	**0.18**	**197**	*e*P	Pg	02 44 16.1	+2.2
	baz=194						
ALS	**Alishan**	**0.29**	**31**	P	Pb	02 44 16.9	-0.8
	baz=32						
CHN5	**Tsauling**	**0.34**	**6**	*e*P	Pb	02 44 17.9	-0.5
	baz=5.0						

TAP 13 02:44:14.9, 23.25N×120.64E, h8km, ML2.0, A, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WTP	**Ta-pu**	**0.03**	**257**	*i* P	Pg	02 44 16.8	+0.2
	baz=246						
WTP				*i* S	Sg	02 44 18.3	+0.5
	baz=246						
CHN1	**Nanshi**	**0.12**	**238**	P	Pg	02 44 18.4	+0.6
	baz=237						
CHN1				S	Sg	02 44 21.1	+1.3
	baz=237						
STYT	**Tauyuan**	**0.14**	**130**	*i* P	Pg	02 44 18.9	+0.9
	baz=128						
STYT				*i* S	Sg	02 44 21.8	+1.7
	baz=128						
TWK	**Hsinying**	**0.14**	**276**	*e*P	Pg	02 44 18.6	+0.5
	baz=275						
TWK				*e*S	Sg	02 44 21.1	+0.9
	baz=275						
SGST	**Jiashian**	**0.18**	**198**	*e*P	Pg	02 44 18.4	-0.2
	baz=195						
SGST				S	Sg	02 44 23.2	+2.1
	baz=195						
SGST	**Jiashian**	**0.18**	**198**	S	Pg	02 44 18.5	-0.1
	baz=194						
ALS	**Alishan**	**0.30**	**30**	*e*P	Pb	02 44 21.9	-0.8
	baz=31						
ALS				*e*S	Sb	02 44 26.9	-0.9
	baz=31						
ALS	**Alishan**	**0.30**	**30**	S	Pb	02 44 21.9	-0.8
	baz=32						
CHN5	**Tsauling**	**0.34**	**5**	*e*P	Pb	02 44 22.8	-0.6
	baz=5.0						
CHN5				*e*S	Sb	02 44 28.9	-0.1
	baz=5.0						
ELDTW	**Lidau**	**0.35**	**100**	*e*P	Pb	02 44 22.9	-0.6
	baz=100						
ELDTW				*e*S	Sb	02 44 28.4	-0.8
	baz=100						

ISCJB ***13*** *03:07:48.9±0.5, 0.16N±0.06×121.09E±0.04, h150km, mb3.9/9, Error ellipse: s-maj=7.9km s-min=5.2km az=171.5*
IDC ***13*** *03:07:52.0±3.0, 0.01S×120.81E, h173km±27km, mb3.6/9, mb1 3.8/10, mb1mx3.5/37, mbtmp4.1/10, Error ellipse: s-maj=44.9km s-min=11.7km az=71.0*
DJA ***13*** *03:07:53.4±0.4, 0.0°S±3.3°×12.1E±.°, h116km±6km, M4.6/7, mb4.7/3, MLv4.6/7*
ISC 13 03:07:49.7±0.6, 0.16N±0.07×121.07E±0.05, h150km, n23, σ1s45/29, mb3.8/9, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MRSI	**Marisa**	**0.93**	**70**	P	**Pn**	**03 08 14.1**	**+0.2**
MRSI				S	**Sn**	**03 08 31.5**	**-0.8**
PCI	**Palu**	**1.62**	**229**	P	**Pn**	**03 08 20.8**	**+0.2**
PCI				S	**Sn**	**03 08 43.5**	**-0.8**
GTOI	**Gorontalo**	**2.00**	**76**	P	**Pn**	**03 08 24.6**	**-0.2**
GTOI				S	**Sn**	**03 08 51.5**	**-0.2**
KMSI	**Cibinong**	**2.94**	**82**	P	**Pn**	**03 08 37.8**	**+1.5**
KMSI				S	**Sn**	**03 09 16.0**	**+3.7**
TTSI	**Tana Toraja**	**3.42**	**201**	P	**Pn**	**03 08 43.5**	**+1.0**
SPSI	**Sidrap Palu**	**4.30**	**198**	P	**Pn**	**03 08 54.3**	**+0.4**
KDI	**Kendari**	**4.37**	**159**	P	**Pn**	**03 08 55.7**	**+0.8**
SANI	**Sanana**	**5.38**	**114**	S	**Sn**	**03 10 09.3**	**-0.3**
MTKI	**Muara Teweh, K**	**6.27**	**260**	S	**Sn**	**03 10 33.4**	**+2.6**
NLAI	**Namlea**	**6.91**	**119**	S	**Sn**	**03 10 46.6**	**+0.5**
BBKI	**Banjar Baru**	**7.19**	**240**	P	**Pn**	**03 09 34.1**	**+1.7**
FITZ	**Fitzroy Crossi**	**18.70**	**166**	P	**P**	**03 11 57.0**	**+0.3**
	0.9nm,0.3s,baz=1.3,slow=7.0,SNR=23						
WRA	**Warramunga Arr**	**23.84**	**148**	P	**P**	**03 12 48.5**	**-0.7**
	18nm,0.6s,baz=324,slow=11,SNR=70						
ASAR	**Alice Springs**	**26.76**	**153**	P	**P**	**03 13 15.9**	**+0.2**
	3.2nm,0.7s,baz=331,slow=7.9,SNR=26						
ASAR				PcP	**PcP**	**03 16 34.1**	**-1.0**
	0.5nm,0.4s,baz=341,slow=2.0,SNR=6.0						
ASAR				ScP	**ScP**	**03 19 58.1**	**-3.3**
	0.5nm,0.7s,baz=346,slow=2.3,SNR=4.5						
STKA	**Stephens Creek**	**37.31**	**151**	P	**P**	**03 14 47.0**	**-0.6**
	4.9nm,0.7s,baz=309,slow=9.7,SNR=7.3						
KSRS	**Korea Array**	**37.65**	**9**	P	**P**	**03 14 51.6**	**+1.4**
	1.3nm,0.7s,baz=193,slow=9.4,SNR=8.9						
SONM	**Songino Array**	**49.17**	**347**	P	**P**	**03 16 23.9**	**+1.3**
	0.5nm,0.4s,baz=157,slow=9.6,SNR=2.3						
ZALV	**Zalesovo Beam**	**61.39**	**337**	P	**P**	**03 17 50.3**	**+0.6**
	0.6nm,0.3s,baz=142,slow=7.3,SNR=3.0						
VNDA	**Vanda**	**80.68**	**172**	P	**P**	**03 19 45.4**	**0.0**
	1.1nm,0.7s,baz=313,slow=5.3,SNR=9.4						
BRTR	**Keskin Array B**	**87.92**	**310**	P	**P**	**03 20 21.5**	**-1.5**
	0.7nm,0.8s,baz=145,slow=8.8,SNR=5.7						
AKASG	**Malin Array Be**	**91.05**	**321**	P	**P**	**03 20 35.1**	**-2.0**
	0.3nm,0.4s,baz=69,slow=5.5,SNR=2.3						
TORD	**Torodi Ar. Bea**	**118.50**	**285**	PKP	**PKPdf**	**03 26 19.2**	**-1.5**
	0.4nm,0.6s,baz=49,slow=2.9,SNR=4.2						
TXAR	**Lajitas Array**	**128.24**	**51**	PKP	**PKPdf**	**03 26 39.5**	**+0.4**
	0.2nm,0.7s,baz=329,slow=1.1,SNR=2.8						

WEL 13 03:35:53.2±0.9, 35.91S×178.39E, h33km, ML4.1/28, 2C-1D, Error ellipse: s-maj=9.3km s-min=6.6km az=90.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**1.65**	**182**	P*	Pn	03 36 18.3	-1.5
MXZ				AML	AML	03 36 51.2	
MXZ				AML	AML	03 36 53.2	
HAZ	**Te Kaha**	**1.90**	**195**	P*	Pn	03 36 23.0	-0.4
HAZ				AML	AML	03 36 56.6	
HAZ				AML	AML	03 36 56.6	
HAZ				AML	AML	03 36 57.6	
HAZ				AML	AML	03 36 57.6	
WMGZ	**Waiomatatini S**	**1.90**	**179**	PN	Pn	03 36 23.4	0.0
WMGZ				AML	AML	03 36 53.9	
WMGZ				AML	AML	03 36 54.7	
PKGZ	**Pakihiroa**	**1.99**	**187**	PN	Pn	03 36 24.4	-0.2
PKGZ				SN	Sn	03 36 47.7	-0.7
RUGZ	**Raukumara Rang**	**2.13**	**195**	P*	Pn	03 36 27.0	+0.4
PUZ	**Puketiti**	**2.16**	**183**	⇑PN	Pn	03 36 26.3	-0.6
PUZ				*e*SN	Sn	03 36 50.3	-2.2
PUZ				AML	AML	03 36 59.5	
TWGZ	**Tauwhareparae**	**2.28**	**188**	PN	Pn	03 36 28.8	+0.1
TWGZ				AML	AML	03 36 57.4	
TWGZ				AML	AML	03 36 57.4	
MWZ	**Matawai**	**2.51**	**196**	P*	Pn	03 36 32.2	+0.4
MWZ				AML	AML	03 37 14.2	
MWZ				AML	AML	03 37 22.0	
URZ	**Urewera**	**2.56**	**203**	⇓P*	Pn	03 36 32.8	+0.5
URZ				AML	AML	03 37 16.5	
URZ				AML	AML	03 37 16.6	
TKGZ	**Te Karaka**	**2.56**	**190**	⇑PN	Pn	03 36 32.0	-0.4
TKGZ				AML	AML	03 37 14.2	
TKGZ				AML	AML	03 37 17.2	
CNGZ	**Carnagh Statio**	**2.57**	**183**	PN	Pn	03 36 31.7	-0.8
RAGZ	**Rawiri**	**2.69**	**197**	*e*P*	Pn	03 36 34.2	-0.1
RAGZ				AML	AML	03 37 08.0	
RAGZ				AML	AML	03 37 18.6	
RIGZ	**Rimuhau**	**2.83**	**190**	PN	Pn	03 36 35.2	-1.0
RIGZ				AML	AML	03 37 12.2	
RIGZ				AML	AML	03 37 14.2	
MKAZ	**Moumakai**	**2.86**	**245**	AML	AML	03 36 37.7	
MKAZ				AML	AML	03 37 19.0	
RTZ	**Ruatahuna**	**2.92**	**202**	P*	Pn	03 36 37.6	+0.1
SNGZ	**Shannon Statio**	**2.98**	**196**	PN	Pn	03 36 37.3	-0.9
SNGZ				AML	AML	03 37 17.1	
SNGZ				AML	AML	03 37 20.8	
PRGZ	**Paritu Road**	**3.03**	**188**	PN	Pn	03 36 37.1	-1.8
PRGZ				AML	AML	03 37 13.6	
PRGZ				AML	AML	03 37 15.1	
ALRZ	**Allen Road**	**3.11**	**211**	P*	Pn	03 36 41.5	+1.5
KNZ	**Kokohu**	**3.15**	**190**	PN	Pn	03 36 38.6	-2.0
MHGZ	**Mahia Peninsul**	**3.26**	**187**	PN	Pn	03 36 40.3	-1.7
MHGZ				AML	AML	03 38 11.4	
WHHZ	**Waihua**	**3.29**	**196**	*e*PN	Pn	03 36 41.9	-0.5
WHHZ				AML	AML	03 37 47.6	
WHHZ				AML	AML	03 37 47.6	
NMHZ	**Naumai**	**3.42**	**201**	PN	Pn	03 36 44.3	0.0
NMHZ				AML	AML	03 37 41.8	
NMHZ				AML	AML	03 37 52.6	
ARHZ	**Aropaoanui**	**3.52**	**198**	PN	Pn	03 36 44.7	-0.9
ARHZ				AML	AML	03 37 45.0	
ARHZ				AML	AML	03 37 51.1	
BKZ	**Black Stump Fm**	**3.58**	**204**	P*	Pn	03 36 46.4	-0.1
BKZ				AML	AML	03 37 43.8	
BKZ				AML	AML	03 37 45.3	
BHHZ	**Black Hill Sta**	**4.02**	**207**	P*	Pn	03 36 52.6	+0.1
BHHZ				AML	AML	03 37 53.3	
BHHZ				AML	AML	03 37 53.4	
KRHZ	**Kereru**	**4.05**	**203**	AML	AML	03 37 57.4	
KRHZ				AML	AML	03 37 57.7	
KAHZ	**Kahuranaki**	**4.05**	**197**	PN	Pn	03 36 51.1	-1.9
MOVZ	**Moawhango**	**4.07**	**210**	P*	Pn	03 36 53.4	+0.3
MOVZ				AML	AML	03 37 58.4	
MRZ	**Mangatainoka R**	**5.23**	**204**	*e*PN	Pn	03 37 04.9	-4.2
MRZ				*e*SN	Sn	03 38 01.9	-6.4
MRZ				AML	AML	03 38 14.0	
HOWZ	**Holdsworth Sta**	**5.46**	**204**	PN	Pn	03 37 08.9	-3.4
OGWZ	**Otaki Gorge**	**5.51**	**206**	PN	Pn	03 37 10.2	-2.7
OGWZ				AML	AML	03 38 35.7	
OGWZ				AML	AML	03 38 38.4	
KIW	**Kapiti Island**	**5.64**	**208**	PN	Pn	03 37 11.3	-3.5
KIW				AML	AML	03 37 26.6	
MTW	**Mount Morrison**	**5.70**	**203**	PN	Pn	03 37 12.6	-3.0
CAW	**Cannon Point**	**5.80**	**206**	PN	Pn	03 37 14.4	-2.6
CAW				AML	AML	03 38 51.2	
DUWZ	**D'Urville Isla**	**6.01**	**214**	PN	Pn	03 37 19.9	+0.1
DUWZ				AML	AML	03 37 47.4	
DUWZ				AML	AML	03 40 26.4	
PLWZ	**Palliser**	**6.16**	**203**	PN	Pn	03 37 17.6	-4.2
TCW	**Tory Channel**	**6.19**	**210**	PN	Pn	03 37 19.6	-2.7
QRZ	**Quartz Range**	**6.73**	**221**	PN	Pn	03 37 29.7	+0.1
QRZ				AML	AML	03 39 22.8	
QRZ				AML	AML	03 39 55.2	
THZ	**Tophouse**	**7.24**	**215**	AML	AML	03 39 01.8	
INZ	**Inchbonnie**	**8.67**	**216**	PN	Pn	03 37 53.6	-2.7

MEX 13 03:38:45.8±0.7, 28.14N×112.56W, h5km, MD3.9, Gulf of California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SRIG	**Santa Rosalia**	**0.86**	**161**	*e*P	Pg	03 38 60.0	-2.4
SRIG				*e*S	Sg	03 39 12.9	-0.7
HSIG		**1.66**	**58**	*e*P	Pn	03 39 12.0	-3.7
HSIG				*e*S	Sn	03 39 32.8	-4.7
SPIG	**San Pedro Mart**	**3.85**	**320**	*i* P	Pn	03 39 44.0	-2.0
SPIG				*i* S	Sn	03 40 28.2	-3.5

ISCJB ***13*** *03:52:09.5±0.4, 7.65S±0.08×13.45W±0.06, h10km, mb4.3/31, MS3.7/7, Error ellipse: s-maj=12.8km s-min=4.4km az=146.6*
IDC ***13*** *03:52:10.1±0.8, 7.57S±13.34W, h0km, mb4.2/13, mb1 4.3/14, mb1mx4.0/36, mbtmp4.1/14, ML2.7/1, MS3.7/7, Ms1 3.6/7, ms1mx3.3/35

baz=85,slow=14
H10N3 ASCENSION HYDR 1.06 264 Pn **Pb** 03 52 29.9 -1.1
baz=85,slow=14
H10S1 ASCENSION HYDR 1.71 225 Pn **Pn** 03 52 40.4 +0.1
H10S1 T T 03 54 46.8
baz=44,slow=74,SNR=7833
H10S2 ASCENSION HYDR 1.71 224 Pn **Pn** 03 52 40.5 +0.1
H10S2 T T 03 54 57.9
baz=44,slow=74,SNR=9087
H10S3 ASCENSION HYDR 1.72 225 Pn **Pn** 03 52 40.6 +0.1
H10S3 T T 03 54 37.0
baz=44,slow=74,SNR=7977
LIC Lamto 16.20 31 *eP* **P** 03 56 01.3 -0.4
62nm,1.8s
KIC Kosan Boka 16.46 32 *eP* **P** 03 56 04.3 -0.3
14nm,0.8s
TIC Toumodi 16.56 31 *eP* **P** 03 56 05.2 -0.5
DBIC Dimbokro 16.66 31 Pn **Pn** 03 56 01.8 -2.6
0.0nm,0.3s,baz=214,slow=14,SNR=2.9
DBIC Dimbokro 16.66 31 *e*Pn **Pn** 03 56 01.8 -2.6
34nm,1.5s
RCBR Riachuelo 22.39 273 LR LR 04 04 00.7
comp=Z,79nm,18.8s,baz=83,slow=32
TOA0 Torodi Ar. Sit 25.61 36 *eP* **P** 03 57 40.1 -0.3
TORD Torodi Ar. Bea 25.61 36 P **P** 03 57 39.7 -0.7
4.6nm,0.8s,baz=217,slow=12,SNR=27
TOA1 Torodi Ar. Sit 25.61 36 *eP* **P** 03 57 39.7 -0.8
17nm,1.4s
BOSA Boshof 41.95 125 P **P** 04 00 03.6 +1.5
2.6nm,0.9s,baz=63,slow=6.8,SNR=3.0
BOSA LR LR 04 13 54.9
comp=Z,86nm,18.9s,baz=298,slow=31
MATP Matopo 42.46 112 P **P** 04 00 06.4 0.0
1.1nm,0.7s,baz=288,slow=3.2,SNR=2.5
PTGA Pitinga 46.89 276 P **P** 04 00 42.4 +0.7
1.7nm,0.8s,baz=113,slow=7.6,SNR=4.4
KEST Kesra 48.26 25 LR LR 04 21 46.3
comp=Z,95nm,18.4s,baz=262,slow=37
SAML Samuel 49.21 265 *eP* **P** 04 00 59.8 +0.1
2.3nm,0.9s
H05S1 Guadeloupe/Mar 51.91 295 T T 04 57 00.8
SNR=6.3
LPAZ La Paz 54.04 256 P **P** 04 01 38.8 +2.3
0.7nm,0.7s,baz=0.0,slow=9.1,SNR=3.5
DAVA Damuels 58.55 18 *eP* **P** 04 02 07.4 -0.2
9.4nm,0.8s
FETA Feichten 58.58 19 *eP* **P** 04 02 08.1 +0.3
7.9nm,1.2s
ABTA Abfaltersbach 58.94 21 *eP* **P** 04 02 11.4 +1.1
3.6nm,0.6s
MOTA Moosalm 58.99 19 *i* P **P** 04 02 11.2 +0.6
5.6nm,0.9s
RETA Reutte 59.00 19 *i* P **P** 04 02 10.4 -0.2
5.6nm,0.8s
WTTA Wattenberg 59.09 20 *eP* **P** 04 02 12.3 +0.9
8.3nm,1.0s
WATA Walderalm 59.14 20 *eP* **P** 04 02 11.5 -0.1
4.5nm,0.6s
MYKA Terra Mystica 59.24 21 *eP* **P** 04 02 14.5 +2.2
3.8nm,1.0s
OBKA Obir 59.48 22 *eP* **P** 04 02 16.5 +2.5
3.2nm,1.0s
KBA Koelnbreinsper 59.52 21 *eP* **P** 04 02 14.7 +0.4
4.5nm,1.4s
SOKA Soboth 59.80 22 *eP* **P** 04 02 16.9 +0.7
3.0nm,0.7s
PLCA Paso Flores 60.28 227 LR LR 04 25 30.7
comp=Z,104nm,21.2s,baz=128,slow=33
ARSA Arzberg 60.46 22 *eP* **P** 04 02 20.6 0.0
4.5nm,1.2s
MOA Molln 60.51 21 *eP* **P** 04 02 21.0 +0.1
2.5nm,0.7s
GEA0 GERESS Array S 61.15 20 *eP* **P** 04 02 25.5 +0.1
CONA Conrad Observa 61.15 22 *eP* **P** 04 02 26.0 +0.6
5.8nm,1.5s
GEC2 GERESS Array S 61.16 20 *eP* **P** 04 02 25.3 -0.1
4.5nm,0.9s
GERES GERESS Array B 61.16 20 P **P** 04 02 25.3 -0.1
2.0nm,0.7s,baz=195,slow=8.3,SNR=16
MLR Muntele Rosu 63.64 30 *eP* **P** 04 02 42.9 +0.7
9.3nm,1.2s
USHA Ushuaia 64.04 212 LR LR 04 24 53.7
comp=Z,150nm,21.4s,baz=74,slow=31
BR101 Keskin Array S 64.18 39 *eP* **P** 04 02 45.4 -0.5
BRTR Keskin Array B 64.18 39 P **P** 04 02 45.4 -0.5
0.7nm,0.6s,baz=212,slow=6.7,SNR=4.7
BRTR LR LR 04 32 14.0
comp=Z,37nm,19.4s,baz=290,slow=38
AKASG Malin Array Be 68.87 28 P **P** 04 03 15.1 -0.3
1.8nm,0.5s,baz=225,slow=6.7,SNR=9.0
AKBB Malin Array Si 68.87 28 *eP* **P** 04 03 15.1 -0.3
SYO Syowa Base 70.17 162⇑ *eX* **P** 04 03 20.0 -3.2
NB200 NORSAR Array S 71.23 12 *eP* **P** 04 03 30.2 +0.5
NOA NORSAR Array B 71.23 12 P **P** 04 03 30.2 +0.5
2.1nm,0.9s,baz=205,slow=8.3,SNR=3.3
KBZ Khabaz 72.16 39 P **P** 04 03 36.5 +0.8
2.3nm,0.9s,baz=140,slow=3.6,SNR=4.4
FIA0 FINESS Array S 75.50 18 *eP* **P** 04 03 55.6 +0.8
FINES FINESS Array B 75.50 18 P **P** 04 03 55.6 +0.8
4.5nm,0.5s,baz=222,slow=3.9,SNR=24
TRQ Mont Tremblant 76.33 321 *eP* **P** 04 04 01.6 +1.5
MAW Mawson 77.69 158 LR LR 04 31 28.3
comp=Z,26nm,19.6s,baz=240,slow=30
ARA0 ARCESS Array S 81.60 13 *eP* **P** 04 04 28.9 +0.5
ARCES ARCESS Array B 81.60 13 P **P** 04 04 28.9 +0.6
2.1nm,0.5s,baz=224,slow=5.1,SNR=6.0
WVT Waverly 82.10 308 *eP* **P** 04 04 32.8 +1.0
5.2nm,0.9s
LTX Lajitas 93.93 299 *eP* **P** 04 05 30.3 +1.0
TXAR Lajitas Array 93.93 299 P **P** 04 05 30.3 +1.0
0.9nm,0.8s,baz=117,slow=7.1,SNR=13

*CSEM **13** 03:55:48.0, 39.60N×29.75W, h10km, ML3.1*
PDA 13 03:55:48.0±0.6, 39.60N×29.75W, h10km, MD3.5, ML3.1, Error ellipse: s-maj=16.2km s-min=4.5km az=67.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CALA	**Caldeira**	**1.30**	**141**	*e*P	Pn	03 56 07.8	-4.5
CALA				*e*S	Sb	03 56 22.3	-7.2
CALA	**Caldeira**	**1.30**	**141**	*e*P	Pn	03 56 07.8	-4.5
CALA				*e*S	Sb	03 56 22.3	-7.2
HOR	**Horta**	**1.38**	**141**	*e*S	Sb	03 56 24.0	-7.6
HOR				A	A	03 56 25.7	
166nm,0.2s							
HOR	**Horta**	**1.38**	**141**	*e*S	Sb	03 56 24.0	-7.6
PCAN	**Candelaria**	**1.50**	**139**	*e*P	Pn	03 56 10.2	-4.8
PCAN				*e*S	Sn	03 56 27.3	-7.4
PCAN				A	A	03 56 28.9	
122nm,0.3s							
PCAN	**Candelaria**	**1.50**	**139**	*e*P	Pn	03 56 10.2	-4.8
PCAN				*e*S	Sn	03 56 27.3	-7.4
PICO	**Pico**	**1.51**	**136**	*e*P	Pn	03 56 10.7	-4.4
PICO				*e*S	Sn	03 56 27.6	-7.2
PICO				A	A	03 56 30.1	
110nm,0.2s							
PICO	**Pico**	**1.51**	**136**	*e*P	Pn	03 56 10.7	-4.4
PICO				*e*S	Sn	03 56 27.6	-7.2
ADH	**Angra Heroismo**	**2.17**	**115**	*e*P	Pn	03 56 19.6	-4.6
ADH	**Angra Heroismo**	**2.17**	**115**	*e*P	Pn	03 56 19.6	-4.6

*CSEM **13** 03:56:16.8±0.2, 46.48N×13.50E, h5km, ML0.5, Error ellipse: s-maj=5.9km s-min=3.3km az=94.0*
LJU 13 03:56:16.8, 46.48N×13.50E, h5km, ML0.5, 1C-2D, Austria

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LSR	**Lussari**	**0.02**	**110**⇑	*e*Pg	Pg	03 56 17.9	-0.1
LSR				*e*Sg	Sg	03 56 18.8	-0.2
LSR	**Lussari**	**0.02**	**110**	*e*Pg	Pg	03 56 18.0	-0.1
ACOM	**Acomizza, Ital**	**0.07**	**11**⇓	*e*Pg	Pg	03 56 18.8	+0.3
ACOM				*e*Sg	Sg	03 56 20.3	+0.5
ACOM	**Acomizza, Ital**	**0.07**	**11**	*e*Pg	Pg	03 56 18.8	+0.3
ACOM				*e*Sg	Sg	03 56 20.3	+0.5
ROBS	**Robic**	**0.24**	**178**	*i* Pg	Pg	03 56 21.3	-0.1
ROBS				*i* Sg	Sg	03 56 25.2	+0.6
comp=Z,3.0nm,0.1s							
ROBS	**Robic**	**0.24**	**178**	*i* Pg	Pg	03 56 21.3	-0.2
ROBS				*i* Sg	Sg	03 56 25.2	+0.6
comp=Z,3.0nm,0.1s							
VINO	**Villanova**	**0.27**	**213**⇓	*e*Pg	Pg	03 56 22.2	+0.2
VINO				*e*Sg	Sg	03 56 26.5	+0.8
VINO	**Villanova**	**0.27**	**213**	*e*Pg	Pg	03 56 22.2	+0.1
VINO				*e*Sg	Sg	03 56 26.5	+0.8
VOJS	**Vojsko**	**0.53**	**149**	*i* Pg	Pg	03 56 26.8	-0.1
VOJS				*i* Sg	Sb	03 56 35.3	-1.2
VOJS	**Vojsko**	**0.53**	**149**	*i* Pg	Pg	03 56 26.8	-0.1
VOJS				*i* Sg	Sb	03 56 35.3	-1.2

*ISK **13** 04:04:02.4, 37.68N×29.26E, h2km, MD2.8*
*ISCJB **13** 04:04:03.1±0.5, 37.69N±0.03×29.29E±0.04, h1km±6km, Error ellipse: s-maj=4.8km s-min=4.3km az=151.3*
*DDA **13** 04:04:03.3, 37.71N×29.25E, h10km, Md2.9*
*CSEM **13** 04:04:03.3±0.2, 37.70N×29.27E, h5km, MD2.9, Error ellipse: s-maj=4.2km s-min=3.6km az=77.0*
ISC 13 04:04:03.7±1.0, 37.72N±0.02×29.26E±0.02, h7km±8km, n41, σ1943/56, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DNZL	**Cakiroluk**	**0.17**	**261**	*i* P	**Pg**	**04 04 07.1**	**-0.1**
DNZL				*i* S	**Sg**	**04 04 09.9**	**+0.3**
DNZL	**Cakiroluk**	**0.17**	**261**	P	**Pg**	**04 04 07.1**	**-0.1**
DNZL				S	**Sg**	**04 04 09.9**	**+0.3**
DENT	**Denizli**	**0.18**	**281**	*e*PG	**Pg**	**04 04 07.1**	**-0.3**
DENT				*e*SG	**Sg**	**04 04 10.5**	**+0.6**
DENT	**Denizli**	**0.18**	**281**	*e*Pg	**Pg**	**04 04 07.1**	**-0.3**
DENT				*e*Sg	**Sg**	**04 04 10.5**	**+0.6**
GOLH	**Golhisar**	**0.54**	**153**	*i* P	**Pg**	**04 04 13.5**	**-0.6**
GOLH				*i* S	**Sb**	**04 04 22.2**	**-1.3**
GOLH	**Golhisar**	**0.54**	**153**	P	**Pg**	**04 04 13.5**	**-0.6**
GOLH				S	**Sb**	**04 04 22.2**	**-1.3**
KHL	**Karahalli**	**0.64**	**19**	*e*PG	**Pg**	**04 04 15.5**	**-0.5**
KHL				*e*SG	**Sb**	**04 04 26.7**	**+0.2**
KHL	**Karahalli**	**0.64**	**19**	*e*Pg	**Pg**	**04 04 15.5**	**-0.5**
KHL				*e*Sg	**Sb**	**04 04 26.7**	**+0.2**
KULA	**Kula-Manisa**	**0.92**	**330**	*e*PG	**Pb**	**04 04 21.6**	**-0.5**
KULA				*e*SG	**Sn**	**04 04 35.5**	**-1.3**
KULA	**Kula-Manisa**	**0.92**	**330**	*e*Pg	**Pb**	**04 04 21.6**	**-0.5**
KULA				*e*Sg	**Sn**	**04 04 35.5**	**-1.3**
TURN	**Turunc**	**0.99**	**212**	*i* P	**Pn**	**04 04 26.5**	**+2.5**
TURN				*i* S	**Sn**	**04 04 44.1**	**+5.9**
ISP	**Isparta**	**1.01**	**84**	*e*PG	**Pg**	**04 04 22.4**	**-0.5**
ISP	**Isparta**	**1.01**	**84**	*e*Pg	**Pg**	**04 04 22.5**	**-0.5**
DALY	**Dalyan (Mu¨la**	**1.02**	**208**	*e*PG	**Pg**	**04 04 22.2**	**-1.1**
DALY	**Dalyan (Mu¨la**	**1.02**	**208**	*i* P	**Pg**	**04 04 22.8**	**-0.5**
DALY				*i* S	**Sn**	**04 04 37.5**	**-1.4**
DALY	**Dalyan (Mu¨la**	**1.02**	**208**	*e*Pg	**Pg**	**04 04 22.2**	**-1.1**
DALY	**Dalyan (Mu¨la**	**1.02**	**208**	P	**Pg**	**04 04 22.8**	**-0.5**
DALY				S	**Sn**	**04 04 37.5**	**-1.4**
FETY	**Fethiye**	**1.09**	**187**	*e*PG	**Pg**	**04 04 23.3**	**-1.2**
FETY	**Fethiye**	**1.09**	**187**	P	**Pg**	**04 04 23.4**	**-1.2**
ELL	**Elmali**	**1.10**	**152**	*e*PG	**Pg**	**04 04 23.7**	**-1.1**
ELL	**Elmali**	**1.10**	**152**	*e*Pg	**Pg**	**04 04 23.7**	**-1.1**
AYDB	**Zeytinkoy-Aydi**	**1.11**	**282**	*e*PN	**Pg**	**04 04 24.5**	**-0.4**
AYDB	**Zeytinkoy-Aydi**	**1.11**	**282**	*e*Pn	**Pg**	**04 04 24.5**	**-0.4**
KORT	**Korkueli**	**1.13**	**129**	*e*PN	**Pb**	**04 04 24.5**	**-1.1**
KORT	**Korkueli**	**1.13**	**129**	*e*Pn	**Pb**	**04 04 24.5**	**-1.1**
SHUT	**Suhut-Afyon**	**1.32**	**50**	*e*PN	**Pg**	**04 04 28.9**	**0.0**
SHUT	**Suhut-Afyon**	**1.32**	**50**	*e*Pn	**Pg**	**04 04 28.9**	**0.0**
SIMA	**Simav-Kutahya**	**1.38**	**351**	*e*PN	**Pg**	**04 04 30.1**	**-0.1**
SIMA	**Simav-Kutahya**	**1.38**	**351**	*e*Pn	**Pg**	**04 04 30.1**	**-0.1**
SUTC	**Sutluce-Ispart**	**1.40**	**99**	*e*PN	**Pb**	**04 04 29.8**	**-0.5**
SUTC	**Sutluce-Ispart**	**1.40**	**99**	*e*Pn	**Pb**	**04 04 29.8**	**-0.5**
AKAS	**Kas**	**1.51**	**169**	*e*PN	**Pn**	**04 04 30.6**	**-0.6**
AKAS	**Kas**	**1.51**	**169**	*i* P	**Pg**	**04 04 32.9**	**+0.3**
AKAS				*i* S	**Sg**	**04 04 57.0**	**+4.8**
AKAS	**Kas**	**1.51**	**169**	*e*Pn	**Pn**	**04 04 30.6**	**-0.6**
AKAS	**Kas**	**1.51**	**169**	P	**Pg**	**04 04 32.9**	**+0.3**
BDRM	**Kayabasi**	**1.58**	**246**	*i* P	**Pb**	**04 04 32.1**	**-1.2**
BDRM				*i* S	**Sg**	**04 04 57.1**	**+2.5**
BDRM	**Kayabasi**	**1.58**	**246**	P	**Pb**	**04 04 32.1**	**-1.2**
DAT	**Datca**	**1.67**	**234**	*e*PN	**Pb**	**04 04 33.4**	**-1.4**
DAT	**Datca**	**1.67**	**234**	*e*Pn	**Pb**	**04 04 33.4**	**-1.4**
BODT	**Bodrum**	**1.68**	**248**	*e*PN	**Pb**	**04 04 33.5**	**-1.4**
BODT	**Bodrum**	**1.68**	**248**	*e*Pn	**Pb**	**04 04 33.6**	**-1.4**

GUC 13 04:21:43.3±0.4, 34.74S×71.84W, h42km±1km, ML3.6, 6C, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHPI	**Pichilemu**	**0.37**	**338**⇑	*i*P	Pn	04 21 52.1	-0.4
CHPI				*i* S	Sn	04 21 58.7	-0.3
NICH	**Los Niches**	**0.56**	**118**⇑	*i*P	Pn	04 21 54.5	-0.5
NICH				*i* S	Sn	04 22 02.9	-0.3
TALC	**Talca**	**0.68**	**166**⇑	*i*P	Pn	04 21 56.0	-0.5
TALC				*i* S	Sn	04 22 06.2	+0.3
ANTU	**Antumapu**	**1.53**	**41**	*i* P	Pn	04 22 08.5	+0.3
ANTU				*i* S	Sn	04 22 27.9	+1.0
ANTU				IAML		04 22 34.7	
comp=E,1μm,0.5s							
CLCH	**Cerro Calan**	**1.72**	**39**⇑	*i*P	Pn	04 22 11.2	+0.4
CLCH				*i* S	Sn	04 22 32.7	+1.2
CLCH				IAML		04 22 36.6	
comp=E,1μm,0.4s							
PEL	**Peldehue**	**1.85**	**31**⇑	*i*P	Pn	04 22 13.0	+0.3
PEL				*i* S	Sn	04 22 35.9	+0.9
PEL				IAML		04 22 42.5	
comp=N,742nm,0.4s							
ROCH	**El Roble**	**1.89**	**21**	*i* P	Pn	04 22 13.7	+0.4
ROCH				*i* S	Sn	04 22 37.4	+1.4
ROCH				IAML		04 22 44.3	
comp=N,860nm,0.3s							
FCH	**Farellones**	**1.90**	**43**⇑	*i*P	Pn	04 22 14.4	+0.8
FCH				*i* S	Sn	04 22 38.1	+1.6
FCH				IAML		04 22 43.8	
comp=N,965nm,0.2s							

*CSEM **13** 04:22:16.8±0.7, 51.41N×16.16E, h1km, ML2.8/4, Error ellipse: s-maj=10.0km s-min=5.2km az=11.0*
*PRU **13** 04:22:19.3, 51.34N×16.15E, h0km*
WAR 13 04:22:16.8, 51.44N×16.20E, h1km, Mw2.1, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.60**	**174**	*e*Pg	Pg	04 22 28.0	-0.2
KSP				*e*Sg	Sg	04 22 35.9	-0.1
KSP	**Ksiaz**	**0.60**	**174**	*e*Pg	Pg	04 22 28.0	-0.2
KSP				*e*Sg	Sg	04 22 35.9	0.0
KSP	**Ksiaz**	**0.60**	**174**	*e*Pg	Pg	04 22 28.0	-0.2
KSP				*e*Sg	Sg	04 22 35.9	0.0
UPC	**Upice**	**0.94**	**187**	*e*PG	Pg	04 22 34.8	+0.1
UPC				*e*SG	Sg	04 22 46.7	-0.2
comp=Z,18nm,0.3s							
UPC	**Upice**	**0.94**	**187**	Pg	Pg	04 22 34.8	+0.1
UPC				Sg	Sg	04 22 46.7	-0.2
18nm,0.3s							
DPC	**Dobruska-Polom**	**1.09**	**176**	*e*PG	Pg	04 22 37.0	-0.7
DPC				*e*SG	Sg	04 22 51.7	-0.1
comp=Z,5.7nm,0.3s							
DPC	**Dobruska-Polom**	**1.09**	**176**	Pg	Pg	04 22 37.0	-0.7
DPC				Sg	Sg	04 22 51.7	-0.1
5.7nm,0.3s							
PVCC	**Panska Ves**	**1.37**	**229**	*e*PG	Pn	04 22 43.1	0.0
PVCC				*e*SG	Sg	04 23 00.5	-0.3
comp=Z,33nm,0.5s							
PVCC	**Panska Ves**	**1.37**	**229**	Pg	Pn	04 22 43.1	0.0
PVCC				Sg	Sg	04 23 00.5	-0.3
33nm,0.5s							
KRLC	**Kraliky**	**1.41**	**164**	*e*PG	Pn	04 22 43.0	-0.7
KRLC				*e*SG	Sg	04 23 01.7	-0.4
KRLC	**Kraliky**	**1.41**	**164**	Pg	Pn	04 22 43.0	-0.7
KRLC				Sg	Sg	04 23 01.7	-0.4
BRG	**Berggiesshubel**	**1.53**	**249**	PG	Pg	04 22 46.0	-0.1
BRG				SG	Sn	04 23 05.6	-0.1
9.8nm,0.4s							
GOPC	**GO Pecny, Ondr**	**1.77**	**211**	*e*PG	Pb	04 22 49.7	-0.3
GOPC				*e*SG	Sb	04 23 12.5	-0.2
GOPC	**GO Pecny, Ondr**	**1.77**	**211**	Pg	Pb	04 22 49.7	-0.3
GOPC				Sg	Sb	04 23 12.5	-0.2
PRU	**Pruhonice**	**1.79**	**217**	*e*SG	Sb	04 23 12.8	-0.5
comp=Z,5.0nm,0.2s							
PRU	**Pruhonice**	**1.79**	**217**	Sg	Sb	04 23 12.8	-0.5
5.0nm,0.2s							
CLL	**Collm**	**2.00**	**268**	*e*Sg	Sg	04 23 21.0	-0.2
NKC	**Novy Kostel**	**2.66**	**245**	*e*SG	Sg	04 23 41.3	-1.0
NKC	**Novy Kostel**	**2.66**	**245**	Sg	Sg	04 23 41.3	-1.0
KHC	**Kasperske Hory**	**2.85**	**217**	*e*SG	Sb	04 23 45.3	+1.4
KHC	**Kasperske Hory**	**2.85**	**217**	Sg	Sb	04 23 45.3	+1.4

*CSEM **13** 04:28:11.8, 39.39N×29.87W, h5km, ML3.1*
PDA 13 04:28:11.8±0.3, 39.39N×29.87W, h5km, MD3.5, ML3.1, Error ellipse: s-maj=32.7km s-min=3.2km az=48.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CALA	**Caldeira**	**1.22**	**131**	*e*P	Pg	04 28 30.8	-4.4
CALA				*e*S	Sg	04 28 44.8	-6.2
CALA	**Caldeira**	**1.22**	**131**	*e*P	Pg	04 28 30.8	-4.4
CALA				*e*S	Sg	04 28 44.8	-6.2
HOR	**Horta**	**1.30**	**131**	*e*S	Sg	04 28 46.6	-6.9
HOR				A	A	04 28 48.9	
135nm,0.3s							
HOR	**Horta**	**1.30**	**131**	*e*S	Sg	04 28 46.6	-6.9
PCAN	**Candelaria**	**1.42**	**130**	*e*P	Pn	04 28 33.6	-4.7
PCAN				*e*S	Sb	04 28 49.8	-7.5
PCAN				A	A	04 28 53.0	
122nm,0.3s							
PCAN	**Candelaria**	**1.42**	**130**	*e*P	Pn	04 28 33.6	-4.7
PCAN				*e*S	Sb	04 28 49.8	-7.5
PICO	**Pico**	**1.44**	**128**	*e*P	Pn	04 28 33.6	-5.0
PICO				*e*S	Sb	04 28 50.3	-7.4
PICO				A	A	04 28 53.9	
118nm,0.4s							
PICO	**Pico**	**1.44**	**128**	*e*P	Pn	04 28 33.6	-5.0
PICO				*e*S	Sb	04 28 50.3	-7.4

*CSEM **13** 04:29:49.7, 39.38N×29.98W, h10km, ML3.0*
PDA 13 04:29:49.7±0.5, 39.38N×29.98W, h10km, MD3.6, ML3.0, Error ellipse: s-maj=55.0km s-min=4.6km az=45.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CALA	**Caldeira**	**1.27**	**128**	*e*P	Pn	04 30 08.9	-4.7
CALA				*e*S	Sb	04 30 23.5	-6.8
CALA	**Caldeira**	**1.27**	**128**	*e*P	Pn	04 30 08.9	-4.7
CALA				*e*S	Sb	04 30 23.5	-6.8
HOR	**Horta**	**1.35**	**129**	*e*S	Sb	04 30 24.9	-7.5
HOR				A	A	04 30 29.3	
61nm,0.2s							
HOR	**Horta**	**1.35**	**129**	*e*S	Sb	04 30 24.9	-7.5
PCAN	**Candelaria**	**1.48**	**128**	*e*P	Pn	04 30 11.8	-4.6
PCAN				*e*S	Sn	04 30 28.6	-7.2
PCAN				A	A	04 30 29.4	
93nm,0.2s							
PCAN	**Candelaria**	**1.48**	**128**	*e*P	Pn	04 30 11.8	-4.6
PCAN				*e*S	Sn	04 30 28.6	-7.2
PICO	**Pico**	**1.49**	**125**	*e*P	Pn	04 30 12.0	-4.7
PICO				*e*S	Sn	04 30 28.7	-7.5
PICO				A	A	04 30 32.3	
107nm,0.2s							
PICO	**Pico**	**1.49**	**125**	*e*P	Pn	04 30 12.0	-4.7
PICO				*e*S	Sn	04 30 28.7	-7.5

*ISCJB **13** 04:34:02.6±0.3, 58.32N±0.03×153.92W±0.05, h93km±4km, mb3.9/1, Error ellipse: s-maj=5.6km s-min=4.1km az=141.2*
*NEIC **13** 04:34:05.0±0.0, 58.31N×153.96W, h75km, MG3.3(AEIC), After AEIC.*
*IDC **13** 04:34:05.2±7.0, 58.53N×153.91W, h79km±67km, mb3.5/1, mb1 3.7/5, mb1mx3.3/55, mbtmp3.7/5, ML3.7/4, MS3.4/1, Ms1 3.4/1, ms1mx2.5/41, Error ellipse: s-maj=52.3km s-min=36.0km az=38.0*
ISC 13 04:34:04.1±1.0, 58.33N±0.04×153.95W±0.04, h82km±7km, n80, σ972/90, Kodiak Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAPH	**Katmai Pasha**	**0.34**	**322**	P	**Pn**	**04 34 16.6**	**-0.3**
KAPH				S	**Sn**	**04 34 26.4**	**+0.1**
KAWH	**Katmai**	**0.45**	**277**	P	**Pn**	**04 34 17.2**	**-0.5**
FOPK	**Fourpeaked Vol**	**0.50**	**30**	P	**Pn**	**04 34 17.7**	**-0.3**
FONW	**Fourpeaked Sta**	**0.51**	**2**	P	**Pn**	**04 34 18.0**	**-0.2**
KABR	**Katmai Barrier**	**0.58**	**250**	P	**Pn**	**04 34 18.1**	**-0.6**
KAKN	**Katmai Knife C**	**0.59**	**267**	P	**Pn**	**04 34 18.4**	**-0.5**
KAKN				S	**Sn**	**04 34 29.3**	**-0.5**
CDD	**Cape Douglas**	**0.62**	**15**	P	**Pn**	**04 34 19.1**	**0.0**
KABU	**Katmai Buttres**	**0.71**	**266**	P	**Pn**	**04 34 20.2**	**+0.2**
KABU				S	**Sn**	**04 34 32.5**	**+0.6**
KVTA	**Katmai Vly 10**	**0.71**	**275**	P	**Pn**	**04 34 19.7**	**-0.3**
KDAK	**Kodiak Island**	**0.91**	**127**	P	**Pn**	**04 34 22.1**	**0.0**
KDAK				S	**Sn**	**04 34 35.8**	**+0.2**
KELA	**Mount Kelaz**	**0.95**	**277**	P	**Pn**	**04 34 22.2**	**-0.5**
AUI	**Augustine Isla**	**1.04**	**15**	P	**Pn**	**04 34 24.6**	**+0.8**
AUI				S	**Sn**	**04 34 38.8**	**+0.4**
AUW	**Augustine West**	**1.07**	**13**	P	**Pn**	**04 34 24.6**	**+0.5**
OHAK	**Old Harbor**	**1.17**	**162**	P	**Pn**	**04 34 25.0**	**-0.2**
OHAK				S	**Sn**	**04 34 40.4**	**-0.6**
PLK2	**Peulik 2**	**1.39**	**247**	P	**Pn**	**04 34 28.1**	**+0.1**
PLK3	**Peulik 3**	**1.39**	**243**	P	**Pn**	**04 34 28.7**	**+0.7**
PLK3				S	**Sn**	**04 34 46.0**	**-0.2**
PLK4	**Peulik 4**	**1.46**	**242**	P	**Pn**	**04 34 29.0**	**0.0**
IVE	**Iliamna Volcan**	**1.76**	**15**	P	**Pn**	**04 34 33.1**	**+0.2**
ILW	**Iliamna West**	**1.79**	**13**	P	**Pn**	**04 34 33.6**	**+0.2**
HOM	**Homer**	**1.79**	**41**	P	**Pn**	**04 34 34.0**	**+0.8**
HOM				S	**Sn**	**04 34 56.5**	**+1.3**
ILIM	**Iliamna**	**1.83**	**16**	P	**Pn**	**04 34 34.7**	**+0.9**
CNPM	**China Poot**	**1.85**	**48**	P	**Pn**	**04 34 34.5**	**+0.5**
CNPM				S	**Sn**	**04 34 56.7**	**0.0**
BRLK	**Bradley Lake**	**2.14**	**46**	P	**Pn**	**04 34 37.6**	**-0.3**
BRLK				S	**Sn**	**04 35 02.1**	**-1.5**
RED	**Redoubt Volcan**	**2.18**	**16**	P	**Pn**	**04 34 38.8**	**+0.4**
RDWB	**Redoubt West**	**2.24**	**14**	P	**Pn**	**04 34 39.5**	**+0.2**
RDJH	**Redoubt Jeurge**	**2.34**	**14**	P	**Pn**	**04 34 40.9**	**+0.3**
SVW2	**Sparrevohn**	**2.90**	**344**	P	**Pn**	**04 34 47.7**	**-0.3**
SLKM	**Skilak Lake**	**2.90**	**39**	P	**Pn**	**04 34 47.8**	**-0.2**
CKL	**Chakachamna La**	**2.99**	**15**	P	**Pn**	**04 34 49.7**	**+0.4**
SPWE	**Spurr West**	**3.04**	**13**	P	**Pn**	**04 34 50.7**	**+0.7**
CHGN	**Chignik**	**3.16**	**232**	P	**Pn**	**04 34 52.0**	**+0.4**
STLK	**Strandline Lak**	**3.35**	**18**	P	**Pn**	**04 34 54.6**	**+0.4**
FIB	**Fire Island**

DHAK	**Deception Hill**	**8.23**	**78**	P	**Pn**	04 36 00.0	-0.5
DLBC	**Dease Lake**	**12.54**	**79**	P	**Pn**	04 37 01.0	+1.9
	0.9nm,0.3s,baz=259,slow=10,SNR=9.4						
INK	**Inuvik**	**13.49**	**34**	P	**Pn**	04 37 10.2	-1.4
	0.1nm,0.3s,baz=215,slow=15,SNR=4.9						
YKA	**Yellowknife Ar**	**19.64**	**61**	P	**P**	04 38 26.4	+0.7
	0.1nm,0.3s,baz=274,slow=9.7,SNR=6.4						
JHJ	**Hachijo jima 2**	**50.20**	**270**	LR	LR	05 02 40.4	
	comp=Z,42nm,21.3s,baz=244,slow=34						
SONM	**Songino Array**	**55.38**	**306**	P	**P**	04 43 29.8	+0.3
	0.9nm,0.7s,baz=45,slow=10,SNR=3.9						

IDC ***13*** *04:36:19.8±0.7,7.67S×130.23E,h0km,mb4.2/12, mb1 4.2/13,mb1mx4.1/31,mbtmp4.2/13,ML4.2/1,MS3.8/8, Ms1 3.8/8,ms1mx3.4/37,Error ellipse: s-maj=27.4km s-min=15.8km az=78.0*

ISCJB ***13*** *04:36:21.0±0.3,8.05S±0.03×130.19E±0.07,h33km, mb4.4/17,MS3.8/4,Error ellipse: s-maj=9.7km s-min=4.4km az=174.4*

NEIC ***13*** *04:36:25.2±0.5,7.94S×129.85E,h35km,mb4.4/6,Error ellipse: s-maj=13.3km s-min=10.3km az=90.0*

DJA ***13*** *04:36:25.9±0.3,8.S±3×13.0E±,h149km±7km,M4.8/6, mb4.7/6,mB5.1/3,MLv4.8/6,Mw(mB)4.5/3*

ISC 13 04:36:23.6±0.5, 8.03S±0.04×130.25E±0.07, h35km, n48, σ2°87/53, mb4.3/17, MS3.7/4, Tanimbar Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SAUI	**Saumlaki**	**1.04**	**88**	P	Pn	04 36 49.9	+8.2
SAUI				S	Sn	04 37 11.9	+17
SAUI	**Saumlaki**	**1.04**	**88**	*e*Pn	Pn	04 36 49.8	+8.1
SAUI				*e*Sn	Sn	04 37 05.5	+10
BNDI	**Bandanaira**	**3.50**	**354**	P	**Pn**	**04 37 18.4**	**+2.9**
AAI	**Ambon**	**4.77**	**335**	P	**Pn**	**04 37 34.8**	**+1.8**
AAI				S	**Sn**	**04 38 25.9**	**-1.2**
MTN	**Manton Dam**	**4.87**	**170**	*e*Pn	Pn	04 37 40.1	+5.8
MTN				*e*Sn	**Sn**	**04 38 33.8**	**+4.3**
FAKI	**Fak Fak**	**5.45**	**22**	P	**Pn**	**04 37 43.8**	**+1.4**
	260nm,0.6s,3µm						
FAKI				S	**Sn**	**04 38 43.7**	**-0.2**
	260nm,0.6s,3µm						
FAKI	**Fak Fak**	**5.45**	**22**	*e*Pn	**Pn**	**04 37 44.0**	**+1.6**
FAKI				*e*Sn	**Sn**	**04 38 38.7**	**-5.2**
NLAI	**Namlea**	**5.69**	**326**	P	**Pn**	**04 37 48.1**	**+2.4**
	150nm,0.6s,2µm						
BATI	**Baumata**	**6.85**	**251**	P	**Pn**	**04 38 04.0**	**+2.3**
FITZ	**Fitzroy Crossi**	**10.97**	**204**	Pn	**Pn**	**04 38 58.3**	**+0.1**
	1.9nm,0.3s,baz=35,slow=12,SNR=33						
FITZ				Sn	**Sn**	**04 40 56.3**	**-3.5**
	3.6nm,0.3s,baz=126,slow=13,SNR=3.8						
FITZ				LR	LR	04 43 53.0	
	comp=Z,192nm,18.1s,baz=22,slow=40						
FITZ	**Fitzroy Crossi**	**10.97**	**204**	*e*Pn	**Pn**	**04 38 57.9**	**-0.2**
FITZ				Sn	**Sn**	**04 40 56.3**	**-3.5**
PLAI	**Plampang**	**12.36**	**265**	P	**Pn**	**04 39 15.6**	**-1.6**
	58nm,0.8s						
WRAB	**Tennant Creek**	**12.49**	**162**	*e*Pn	**Pn**	**04 39 14.7**	**-4.2**
WRAB				*e*Sn	**Sn**	**04 41 32.7**	**-4.2**
WRA	**Warramunga Arr**	**12.49**	**162**	Pn	**Pn**	**04 39 19.2**	**+0.3**
	2.0nm,0.3s,baz=337,slow=13,SNR=52						
WRA				Sn	**Sn**	**04 41 34.7**	**-2.3**
	1.8nm,0.3s,baz=337,slow=23,SNR=9.7						
WRA				LR	LR	04 45 00.1	
	comp=Z,441nm,20.1s,baz=340,slow=40						
WB2	**Warramunga Arr**	**12.50**	**162**	*e*Pn	**Pn**	**04 39 19.8**	**+0.8**
WB2				*e*Sn	**Sn**	**04 41 29.3**	**-7.8**
COEN	**Coen**	**13.99**	**116**	*e*Pn	Pn	04 39 33.7	-5.7
COEN				*e*Sn	Sn	04 42 01.8	-12
AS31	**Alice Springs**	**15.94**	**168**	*e*Pn	**Pn**	**04 40 03.9**	**-1.5**
	7.8nm,0.9s						
ASAR	**Alice Springs**	**15.94**	**168**	Pn	**Pn**	**04 40 06.1**	**+0.7**
	1.2nm,0.3s,baz=354,slow=10,SNR=46						
ASAR				Sn	**Sn**	**04 42 58.9**	**-2.2**
	1.2nm,0.3s,baz=330,slow=14,SNR=5.3						
ASAR				LR	LR	04 47 04.8	
	comp=Z,369nm,18.8s,baz=344,slow=40						
AS01	**Alice Springs**	**15.95**	**168**	*e*Pn	**Pn**	**04 40 05.0**	**-0.5**
AS01				*e*Sn	**Sn**	**04 42 53.5**	**-7.8**
MBWA	**Marble Bar**	**16.54**	**217**	*e*Pn	**Pn**	**04 40 10.9**	**-2.0**
	43nm,1.4s						
PMG	**Port Moresby**	**16.77**	**96**	LR	LR	04 48 16.8	
	comp=Z,277nm,20.1s,baz=209,slow=43						
CTA	**Charters Tower**	**19.59**	**129**	P	**Pn**	**04 40 53.2**	**+2.7**
	0.5nm,0.3s,baz=316,slow=18,SNR=2.9						
FORT	**Forrest**	**22.73**	**185**	*e*P	**P**	**04 41 20.4**	**-2.2**
FORT				*e*pP	**sP**	**04 41 37.2**	**+0.8**
BBOO	**Buckleboo**	**25.25**	**168**	*e*P	**P**	**04 41 41.6**	**-4.8**
	36nm,1.3s						
STKA	**Stephens Creek**	**25.98**	**158**	P	**P**	**04 41 57.9**	**+4.8**
	3.9nm,0.7s,baz=324,slow=13,SNR=5.2						
STKA				LR	LR	04 53 34.8	
	comp=Z,380nm,19.0s,baz=335,slow=39						
STKA	**Stephens Creek**	**25.98**	**158**	P	**P**	**04 41 57.9**	**+4.8**
	3.3nm,0.9s						
NWAO	**Narrogin (SRO)**	**27.56**	**204**	LR	LR	04 54 40.9	
	comp=Z,193nm,19.5s,baz=320,slow=40						
PSI	**Prapat**	**33.04**	**288**	P	**P**	**04 42 57.8**	**+1.6**
	3.6nm,0.8s,baz=119,slow=19,SNR=1.9						
CMAR	**Chiang Mai Arr**	**40.58**	**311**	P	**P**	**04 43 59.6**	**-0.5**
	0.8nm,0.4s,baz=144,slow=5.0,SNR=4.4						
CMAR				LR	LR	05 02 21.6	
	comp=Z,95nm,18.2s,baz=154,slow=39						
MJAR	**Matsushiro Arr**	**44.96**	**9**	P	**P**	**04 44 33.9**	**-1.5**
	1.6nm,0.6s,baz=184,slow=9.4,SNR=4.9						
KSAR	**Wonju Array Be**	**45.28**	**357**	P	**P**	**04 44 36.5**	**-1.4**
KSRS	**Korea Array**	**45.29**	**357**	P	**P**	**04 44 36.5**	**-1.4**
	1.0nm,0.7s,baz=175,slow=9.1,SNR=8.1						
KLR	**Kul'dur**	**57.03**	**1**	P	**P**	**04 46 04.5**	**-1.3**
	0.5nm,0.5s,baz=267,slow=11,SNR=3.3						
AFI	**Afiamalu**	**57.10**	**101**	LR	LR	05 09 10.3	
	comp=Z,70nm,19.5s,baz=282,slow=34						
SONM	**Songino Array**	**59.49**	**342**	P	**P**	**04 46 22.4**	**-0.8**
	0.4nm,0.3s,baz=162,slow=6.4,SNR=5.0						
PETK	**Petropavlovsk-**	**65.22**	**18**	P	**P**	**04 47 00.8**	**-0.5**
	9.1nm,0.6s,baz=179,slow=4.6,SNR=11						
MK01	**Makanchi Array**	**69.19**	**327**	*e*P	**P**	**04 47 26.5**	**-0.2**
MK31	**Makanchi Array**	**69.21**	**327**	*e*P	**P**	**04 47 27.6**	**+0.7**
MKAR	**Makanchi Array**	**69.21**	**327**	*e*P	**P**	**04 47 27.6**	**+0.7**
	36nm,0.5s						
VNDA	**Vanda**	**71.41**	**173**	P	**P**	**04 47 43.5**	**+3.8**
	1.1nm,1.0s,baz=308,slow=3.6,SNR=4.6						
ZALV	**Zalesovo Beam**	**72.61**	**334**	P	**P**	**04 47 45.6**	**-1.6**
	2.7nm,0.5s,baz=129,slow=6.1,SNR=6.3						
SEY	**Seymchan**	**72.76**	**10**	P	**P**	**04 47 47.2**	**-0.8**
	7.0nm,0.7s,baz=319,slow=3.3,SNR=8.4						
KURK	**Kurchatov**	**73.52**	**329**	*e*P	**P**	**04 47 54.0**	**+1.3**
	5.5nm,1.1s						
MAW	**Mawson**	**74.09**	**202**	P	**P**	**04 47 58.0**	**+2.2**
	0.5nm,0.4s,baz=92,slow=14,SNR=2.6						
ABKAR	**Akbulak array**	**83.46**	**322**	*e*P	**P**	**04 48 48.8**	**+1.2**
	11nm,0.8s						
HDA	**Harding Lake**	**94.07**	**26**	*e*P	**P**	**04 49 35.7**	**-2.4**
	34nm,1.0s						
TXAR	**Lajitas Array**	**125.23**	**60**	PKP	**PKPdf**	**04 55 24.1**	**+2.7**
	0.1nm,0.6s,baz=160,slow=3.1,SNR=4.0						
TORD	**Torodi Ar, Bea**	**129.24**	**280**	PKP	**PKPdf**	**04 55 30.9**	**+1.6**
	0.4nm,0.7s,baz=63,slow=2.6,SNR=7.4						

ISK ***13*** *04:36:49.8,40.77N×30.73E,h19km,MD2.6*

ISCJB ***13*** *04:36:50.8±0.5,40.77N±0.03×30.70E±0.03,h12km±4km, Error ellipse: s-maj=5.4km s-min=3.7km az=13.0*

CSEM ***13*** *04:36:50.5±0.1,40.76N×30.72E,h15km,MD2.6,Error ellipse: s-maj=3.9km s-min=2.5km az=20.0*

DDA ***13*** *04:36:51.0,40.75N×30.71E,h7km,Md2.6*

ISC 13 04:36:50.6±0.8, 40.75N±0.03×30.72E±0.02, h16km±6km, n28, σ0°31/44, Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SAHE	**Sakarya_HENDEK**	**0.14**	**46**	*i* P	**Pb**	**04 36 54.7**	**-0.2**
SAHE				*i* S	**Sg**	**04 36 57.2**	**0.0**
SAHE	**Sakarya_HENDEK**	**0.14**	**46**	P	**Pb**	**04 36 54.7**	**-0.2**
SAHE				S	**Sg**	**04 36 57.2**	**0.0**
BTAS	**Taskesti**	**0.28**	**131**	*i* P	**Pg**	**04 36 56.8**	**+0.1**
BTAS				*i* S	**Sg**	**04 37 00.8**	**0.0**
BTAS	**Taskesti**	**0.28**	**131**	P	**Pg**	**04 36 56.8**	**+0.1**
BTAS				S	**Sg**	**04 37 00.8**	**0.0**
SPNC	**Sapanca-Adapaz**	**0.32**	**258**	*e*PG	**Pg**	**04 36 57.4**	**0.0**
SPNC				*e*SG	**Sb**	**04 37 02.8**	**-0.1**
SPNC	**Sapanca-Adapaz**	**0.32**	**258**	*e*Pg	**Pg**	**04 36 57.4**	**0.0**
GULT	**Gulveren**	**0.36**	**206**	*e*PG	**Pg**	**04 36 58.1**	**+0.1**
GULT				*e*SG	**Sb**	**04 37 04.0**	**0.0**
GULT	**Gulveren**	**0.36**	**206**	*e*Pg	**Pg**	**04 36 58.1**	**+0.1**
MDUB	**Mudurnu**	**0.46**	**128**	*e*PG	**Pg**	**04 36 59.7**	**-0.2**
MDUB				*e*SG	**Sb**	**04 37 06.8**	**-0.2**
MDUB	**Mudurnu**	**0.46**	**128**	*e*Pg	**Pg**	**04 36 59.7**	**-0.2**
MDUB				*e*Sg	**Sb**	**04 37 06.8**	**-0.2**
KAND	**Kocaeli-Kandir**	**0.53**	**310**	*i* P	**Pb**	**04 37 01.4**	**0.0**
KAND				*i* S	**Sb**	**04 37 08.9**	**+0.2**
KAND	**Kocaeli-Kandir**	**0.53**	**310**	P	**Pb**	**04 37 01.4**	**0.0**
KAND				S	**Sb**	**04 37 08.9**	**+0.2**
HRT	**Hereke**	**0.80**	**275**	*e*PG	**Pb**	**04 37 06.1**	**-0.1**
HRT				*e*SG	**Sb**	**04 37 17.8**	**+1.0**
HRT	**Hereke**	**0.80**	**275**	*e*Pg	**Pb**	**04 37 06.1**	**-0.1**
HRT				*e*Sg	**Sb**	**04 37 17.8**	**+1.0**
ADVT	**Abdulvahap**	**0.81**	**247**	*e*PG	**Pg**	**04 37 06.2**	**-0.3**
ADVT	**Abdulvahap**	**0.81**	**247**	*e*Pg	**Pg**	**04 37 06.2**	**-0.3**
BORA	**Eskisehir**	**0.90**	**193**	*i* P	**Pg**	**04 37 08.0**	**0.0**
BORA				*i* S	**Sn**	**04 37 21.5**	**+0.3**
BORA	**Eskisehir**	**0.90**	**193**	P	**Pg**	**04 37 08.0**	**0.0**
BORA				S	**Sn**	**04 37 21.5**	**+0.3**
SILT	**Sile**	**0.91**	**296**	*e*PG	**Pb**	**04 37 07.6**	**-0.3**
SILT	**Sile**	**0.91**	**296**	*e*Pg	**Pb**	**04 37 07.6**	**-0.3**
BCAM	**Yenicaga**	**1.02**	**86**	*i* P	**Pn**	**04 37 10.6**	**+0.2**
BCAM				*i* S	**Sn**	**04 37 24.6**	**+0.2**
BCAM	**Yenicaga**	**1.02**	**86**	P	**Pn**	**04 37 10.6**	**+0.2**
BCAM				S	**Sn**	**04 37 24.6**	**+0.2**
KLYT	**Kilyos**	**1.36**	**292**	*e*PN	**Pn**	**04 37 14.4**	**-0.5**
KLYT	**Kilyos**	**1.36**	**292**	*e*Pn	**Pn**	**04 37 14.4**	**-0.5**
ARMT	**Armutlu**	**1.43**	**263**	*e*PN	**Pn**	**04 37 15.5**	**-0.3**
ARMT	**Armutlu**	**1.43**	**263**	*e*Pn	**Pn**	**04 37 15.5**	**-0.3**
TVSB	**Tavsanli**	**1.62**	**217**	*e*PN	**Pn**	**04 37 18.5**	**-0.1**
TVSB	**Tavsanli**	**1.62**	**217**	*e*Pn	**Pn**	**04 37 18.5**	**-0.1**

IDC ***13*** *04:38:45.0±0.4,5.61N×77.56W,h0km,mb4.9/25, mb1 5.0/30,mb1mx5.0/36,mbtmp4.9/30,ML4.2/5,MS4.6/6, Ms1 4.6/6,ms1mx4.0/33,Error ellipse: s-maj=16.6km s-min=9.9km az=57.0*

MOS ***13*** *04:38:46.8±1.1,5.66N×77.54W,h18km,mb5.3/79,Error ellipse: s-maj=15.0km s-min=5.6km az=118.3*

CASC ***13*** *04:38:46.7±3.1,5.88N×77.71W,h1km±17km,ML4.7, mb5.1(NEIC)*

RSNC ***13*** *04:38:47.0±1.0,5.65N×77.77W,h20km±11km,ML4.2, Mw5.5*

NEIC ***13*** *04:38:48.7±1.3,5.60N×77.53W,h18km±8km,mb5.1/240, Error ellipse: s-maj=3.6km s-min=2.7km az=222.0*

GCMT ***13*** *04:38:48.7±0.2,5.77N×77.75W,h12km,MW5.2/106, Moment Tensor Solution. s60,c79; s106,c163; Duration: 1s0 Moment tensor: Scale 10^16Nm; Mrr4.09±.10; Mθθ-0.34±.09; Mϕϕ-3.75±.10; Mrθ-0.20±.28; Mθϕ-0.49±.08; Mϕr-7.37±.27; Best double couple: M=8.36600×10^16 NP1:ϕ182.00000°,δ76.00000°, λ88.00000°. NP2:ϕ13.00000°,δ14.00000°,λ100.00000°. Principal axes: T 8.5180, Plg59.0000°, Azm89.0000°; N -0.3090, Plg2.0000°, Azm183.0000°; P -8.2130, Plg31.0000°, Azm274.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

BJI ***13*** *04:38:49.4,5.60N×77.50W,h19km,mB5.4/14,Ms5.4/11, Ms7 5.0/11*

ISCJB ***13*** *04:38:49.5±0.1,5.77N±0.02×77.61W±0.02,h33km, mb5.0/295,MS4.9/5,Error ellipse: s-maj=3.3km s-min=2.0km az=31.3*

ISC 13 04:38:48.3±0.7, 5.67N±0.03×77.67W±0.03, h16km±4km, n889, σ1°39/922, mb5.1/295, MS4.8/6, 11C-4D, Near west coast of Colombia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SOLC	**Bahia Solano**	**0.61**	**25**	*i* P	**Pg**	**04 38 59.0**	**-1.3**
SOLC				*e*S	**Sb**	**04 39 09.2**	**+0.3**
SOLC				*i*		04 39 14.9	
	comp=Z,13µm,0.5s						
MALC	**Bahia Malaga**	**1.68**	**169**	*e*P	**Pn**	**04 39 15.5**	**-1.4**
MALC				*i*		04 39 37.2	
	comp=Z,1µm,0.6s						
DBBC	**Dabeiba**	**1.97**	**47**	*e*P	**Pn**	**04 39 19.9**	**-1.2**
HELC	**Santa Helena**	**2.19**	**76**	*i*P	**Pn**	**04 39 22.2**	**-2.1**
HELC				*e*S	**Sn**	**04 39 51.2**	**0.0**
HELC				*i*		04 40 00.5	
	comp=Z,2µm,0.7s						
HELC	**Santa Helena**	**2.19**	**76**	*e*Pn	**Pn**	**04 39 22.1**	**-2.2**
HELC				*e*Sn	**Sn**	**04 39 50.8**	**-0.5**
GUYC	**Guyana, Colomb**	**2.31**	**101**	*e*P	**Pn**	**04 39 24.3**	**-1.7**
GUYC				*e*S	**Sn**	**04 39 55.0**	**+0.6**
GUYC				*i*		04 40 07.4	
	comp=Z,2µm,0.6s						
TOLC	**Tolima**	**2.57**	**115**	*e*P	**Pn**	**04 39 28.7**	**-0.9**
NORC	**Norcasia**	**2.79**	**92**	*e*P	**Pn**	**04 39 31.3**	**-0.9**
UPD2	**Meteti**	**2.88**	**353**	*e*P	**Pn**	**04 39 31.8**	**-1.7**
UPD2				*e*S	**Sn**	**04 40 02.3**	**-5.6**
CAPC	**Capurgana**	**2.96**	**6**	*e*P	**Pn**	**04 39 32.7**	**-2.0**
CAPC				*i*		04 40 27.2	
	comp=Z,752nm,0.8s						
AZU	**Azuero**	**3.34**	**309**	*i*P	**Pn**	**04 39 37.2**	**-2.6**
AZU				*e*S	**Sn**	**04 40 15.0**	**-4.1**
PRAC	**Prado**	**3.38**	**125**	*e*P	**Pn**	**04 39 40.0**	**-0.4**
PRAC	**Prado**	**3.38**	**125**	*e*Pn	**Pn**	**04 39 39.6**	**-0.9**
PRAC				*e*Sn	**Sn**	**04 40 19.5**	**-0.8**
ROSC	**El Rosal**	**3.43**	**104**	Pn	**Pn**	**04 39 41.1**	**-0.3**
	comp=Z,44nm,0.3s,baz=21,slow=3.7,SNR=72						
ROSC				Pg	**Pb**	**04 39 45.9**	**-3.0**
	comp=Z,44nm,0.3s,baz=276,slow=10,SNR=74						
ROSC				LR	LR	04 41 07.4	
	comp=Z,9µm,18.2s,baz=220,slow=43						
ROSC	**El Rosal**	**3.43**	**104**	*e*P	**Pn**	**04 39 40.4**	**-1.1**
ROSC				*i*		04 40 14.3	
	comp=Z,521nm,1.3s						
ROSC	**El Rosal**	**3.43**	**104**	*e*Pn	**Pn**	**04 39 42.2**	**+0.8**
ROSC				*e*Sn	**Sn**	**04 40 20.8**	**-1.2**
MOTC	**Monteria, Cord**	**3.67**	**33**	*i*P	**Pn**	**04 39 43.3**	**-1.1**
MOTC				*i*		04 41 06.2	
	comp=Z,269nm,0.7s						
FLAM	**Flamenco Islan**	**3.72**	**330**	*e*P	**Pn**	**04 39 40.9**	**-4.2**
FLAM				*e*P	**Pn**	**04 39 41.9**	**-3.1**
FLAM				*e*S	**Sn**	**04 40 22.7**	**-5.9**
FLAM				*e*S	**Sn**	**04 40 25.8**	**-2.8**
PNME	**Penonome**	**3.85**	**317**	*i*P	**Pn**	**04 39 44.5**	**-2.3**
ZANG	**Zanguenga, Cho**	**3.93**	**326**	*e*P	**Pn**	**04 39 45.1**	**-2.9**
ZANG				*e*S	**Sn**	**04 40 33.8**	**+0.1**
ZANG				AML	AML	04 40 41.9	
	comp=N,3µm,0.4s						
TUMC	**Tumaco**	**3.96**	**196**	*e*Pn	**Pn**	**04 39 46.5**	**-1.9**
FRIJ	**El Hiral**	**4.08**	**330**	*i* P	**Pn**	**04 39 46.7**	**-3.3**
FRIJ				*e*P	**Pn**	**04 39 46.9**	**-3.1**
BRRC	**Barranca, Sant**	**4.18**	**70**	*e*P	**Pn**	**04 39 50.9**	**-0.5**
BRRC				*i*		04 41 07.2	
	comp=Z,543nm,0.9s						
RUSC	**La Rusia**	**4.57**	**87**	*e*P	**Pn**	**04 39 56.1**	**-1.1**
RUSC				*i*		04 41 20.7	
	comp=Z,348nm,0.9s						
RUSC	**La Rusia**	**4.57**	**87**	*e*Pn	**Pn**	**04 39 56.2**	**-0.9**
RUSC				*e*Sn	**Sn**	**04 40 45.2**	**-4.9**
GIRC	**Giron, Santand**	**4.66**	**72**	*e*P	**Pn**	**04 39 57.9**	**-0.3**
OTAV	**Otavalo**	**5.45**	**188**	*e*Pn	**Pn**	**04 40 08.6**	**-0.7**
OTAV				*e*Sn	**Sn**	**04 41 08.5**	**-3.4**
OTAV	**Otavalo**	**5.45**	**188**	*e*P	**Pn**	**04 40 11.6**	**+2.3**
TBS2		**5.84**	**302**	*e*P	**Pn**	**04 40 13.4**	**-1.1**
BRU2	**Volcan**	**5.87**	**302**	*e*P	**Pn**	**04 40 13.8**	**-1.1**
SDV	**Santo Domingo**	**7.67**	**65**	*e*Pn	**Pn**	**04 40 39.7**	**+0.1**
SDV	**Santo Domingo**	**7.67**	**65**	*e*P	**Pn**	**04 40 39.3**	**-0.3**
HDC	**Heredia**	**7.70**	**304**	*e*Pn	**Pn**	**04 40 40.4**	**+0.5**
URIC	**Uribia, Colomb**	**8.21**	**43**	*e*P	**Pn**	**04 40 45.5**	**-1.2**
JTS	**JuntasAbangare**	**8.55**	**303**	Pn	**Pn**	**04 40 52.7**	**+1.2**
	comp=Z,1.0nm,0.3s,baz=168,slow=11,SNR=32						
JTS				LR	LR	04 44 08.2	
	comp=Z,7µm,20.5s,baz=166,slow=37						
JTS	**JuntasAbangare**	**8.55**	**303**	*e*P	**Pn**	**04 40 52.5**	**+1.0**
JTS	**JuntasAbangare**	**8.55**	**303**	*e*Pn	**Pn**	**04 40 52.5**	**+1.0**
MTDJ	**Mount Denham**	**12.48**	**1**	*e*Pn	**Pn**	**04 41 45.0**	**-0.4**
TGUH	**Tegucigalpa,Un**	**12.61**	**312**	*e*Pn	**Pn**	**04 41 49.8**	**+2.7**
ATAH	**Atahualpa**	**12.74**	**183**	Pn	**Pn**	**04 41 53.6**	**+4.4**
	comp=Z,0.8nm,0.3s,baz=5.4,slow=6.7,SNR=16						
ATAH				LR	LR	04 47 45.8	
	comp=Z,4µm,21.1s,baz=6.1,slow=43						
PCRV	**Puerto La Cruz**	**13.66**	**70**	Pn	**Pn**	**04 42 00.6**	**-0.9**
	comp=Z,0.8nm,0.3s,baz=345,slow=16,SNR=4.7						
PCRV				LR	LR	04 48 27.6	
	comp=Z,2µm,18.8s,baz=280,slow=43						
LGNH	**LØogne**	**13.69**	**21**	*e*Pn	**Pn**	**04 42 01.6**	**-0.1**
PAYG	**Puerto Ayora**	**14.09**	**244**	*e*Pn	**Pn**	**04 42 07.5**	**+0.1**
GTBY	**Guantanamo Bay**	**14.39**	**10**	*e*Pn	**Pn**	**04 42 11.7**	**+0.3**
SDDR	**Presa de Saban**	**14.62**	**25**	*e*Pn	**Pn**	**04 42 14.9**	**+0.3**
SDD	**Santo Domingo**	**14.79**	**30**	*e*Pn	**Pn**	**04 42 15.7**	**-1.2**
IDE	**Isla Desecheo**	**16.09**	**37**	*e*Pn	**P**	**04 42 37.0**	**-0.2**
MPR	**Mayaguez**	**16.16**	**39**	*e*Pn	**Pn**	**04 42 32.5**	**-2.2**
	comp=Z,130nm,1.0s						
AGP	**Aguadilla**	**16.30**	**38**	*e*Pn	**P**	**04 42 44.8**	**+5.2**
	comp=Z,394nm,1.2s						
CELP	**Cerrillos**	**16.41**	**40**	*e*Pn	**P**	**04 42 40.6**	**-0.1**
SJG	**San Juan**	**16.72**	**41**	Pn	**Pn**	**04 42 41.4**	**-0.5**
	comp=Z,1.9nm,0.3s,baz=226,slow=19,SNR=7.6						
SJG	**San Juan**	**16.72**	**41**	*e*P	**Pn**	**04 42 41.4**	**-0.5**
SJG				pmax	pmax		
	comp=Z,32nm,1.0s						
SJG	**San Juan**	**16.72**	**41**	*e*Pn	**Pn**	**04 42 41.4**	**-0.5**
	comp=Z,32nm,1.0s						
HUMP	**Col San Antoni**	**16.94**	**42**	*e*Pn	**Pn**	**04 42 42.4**	**-2.3**
	comp=Z,122nm,1.0s						
CBYP	**Canovanas**	**17.02**	**42**	*e*Pn	**Pn**	**04 42 45.4**	**-0.5**
	comp=Z,194nm,1.2s						
GRGR	**Grenville**	**17.07**	**67**	*e*Pn	**Pn**	**04 42 46.2**	**-0.1**
	comp=Z,214nm,1.0s						
NNA	**Nana**	**17.56**	**177**	P	**Pn**	**04 42 51.7**	**-0.8**
	comp=Z,1.5nm,0.3s,baz=358,slow=9.6,SNR=13						
NNA				LR	LR	04 51 11.8	
	comp=Z,1µm,20.1s,baz=355,slow=43						
NNA	**Nana**	**17.56**	**177**	*i* P	**P**	**04 42 56.2**	**+2.7**
PTGA	**Pitinga**	**18.78**	**109**	P	**P**	**04 43 03.4**	**-3.7**
	comp=Z,0.7nm,0.3s,baz=295,slow=13,SNR=29						
PTGA	**Pitinga**	**18.78**	**109**	*e*P	**P**	**04 43 03.0**	**-4.0**
	comp=Z,52nm,1.0s						
SMRT	**St. Maarten**	**18.83**	**48**	*e*P	**P**	**04 43 06.8**	**-0.7**
	comp=Z,213nm,1.1s						
ANWB	**Willy Bob**	**19.58**	**51**	*e*P	**P**	**04 43 14.4**	**-1.2**
	comp=Z,65nm,0.8s						
CMIG	**Matias Romero**	**20.32**	**305**	P	**P**	**04 43 24.8**	**+1.0**
	comp=Z,13nm,0.8s,baz=100,slow=7.8,SNR=16						
SAML	**Samuel**	**20.48**	**135**	*e*P	**P**	**04 43 23.1**	**-2.5**
	comp=Z,304nm,1.2s						
TLIG	**Tlapa**	**23.61**	**302**	*e*P	**P**	**04 43 59.3**	**+0.5**
	comp=Z,228nm,2.0s						
LPAZ	**La Paz**	**23.77**	**157**	P	**P**	**04 43 58.3**	**-2.6**
	comp=Z,17nm,0.9s,baz=345,slow=8.6,SNR=45						
LPAZ	**La Paz**	**23.77**	**157**	*e*P	**P**	**04 43 58.1**	**-2.8**
LPAZ	**La Paz**	**23.77**	**157**	*e*P	**P**	**04 43 58.1**	**-2.8**
	comp=Z,45nm,1.2s						
PB13	**IPOC Station P**	**25.17**	**162**	*i*P	**P**	**04 44 13.2**	**-0.5**
PB12	**IPOC Station P**	**25.19**	**163**	*e*P	**P**	**04 44 12.7**	**-0.6**
MNMC	**Minye Minye**	**25.89**	**162**	*e*P	**P**	**04 44 20.1**	**+0.2**
PSGC	**Pisagua**	**26.18**	**164**	*e*P	**P**	**04 44 22.3**	**0.0**
TIGA	**Tifton**	**26.23**	**348**	P	**P**	**04 44 23.8**	**+1.3**
	baz=166						
TIGA	**Tifton**	**26.23**	**348**	*e*P	**P**	**04 44 24.3**	**+1.7**
	comp=Z,40nm,0.9s						
PB11	**IPOC Station P**	**26.47**	**163**	*e*P	**P**	**04 44 25.1**	**+0.1**
	comp=Z,92nm,1.0s						
HMBC	**Humberstone**	**26.89**	**164**	*e*P	**P**	**04 44 28.9**	**+0.1**
447A	**Lucedale**	**27.05**	**339**	P	**P**	**04 44 31.6**	**+1.7**
	baz=155						
SIV	**San Ignacio**	**27.07**	**143**	P	**P**	**04 44 27.7**	**-2.7**
	comp=Z,37nm,1.0s,baz=329,slow=9.9,SNR=63					

WHTX	Lake Whitney, comp=Z,70nm,1.7s	32.07	327	eP		P	04 45 15.2	+0.7
IP07	Quail comp=Z,10nm,1.0s	32.10	359	eP		P	04 45 15.9	+1.2
IP06	Yanceyville comp=Z,16nm,1.0s	32.12	360	eP		P	04 45 16.4	+1.6
U45A	Rockin P Farm, baz=159	32.19	343	P		P	04 45 15.3	-0.1
IP03	Louisa comp=Z,26nm,1.3s	32.21	359	eP		P	04 45 17.0	+1.4
V43A	Jonesboro baz=155	32.23	340	P		P	04 45 15.7	-0.1
CVRD	Centerville Ro comp=Z,54nm,1.7s	32.25	360	eP		P	04 45 17.5	+1.4
Y38A	Idabel baz=147	32.27	333	P		P	04 45 16.3	+0.1
IP04	Greensprings comp=Z,25nm,1.2s	32.28	359	eP		P	04 45 17.8	+1.6
MIAR	Mount Ida baz=149	32.29	335	P		P	04 45 16.3	-0.1
MIAR	Mount Ida	32.29	335	eP		P	04 45 16.3	-0.1
MIAR	comp=Z,25nm,1.5s			pmax		pmax		
MIAR	Mount Ida comp=Z,25nm,1.5s	32.29	335	eP		P	04 45 16.2	-0.1
JCT	Junction City baz=135	32.29	322	P		P	04 45 16.4	-0.1
JCT	Junction City	32.29	322	eP		P	04 45 19.0	+2.4
JCT				e			04 48 05.3	
JCT	comp=Z,51nm,1.8s			pmax		pmax		
JCT	Junction City comp=Z,51nm,1.8s	32.29	322	eP		P	04 45 19.0	+2.4
JCT				eP	cP	PcP	04 48 05.3	+0.7
W41B	Gary Mavity, V baz=152	32.30	337	P		P	04 45 16.7	+0.2
U44B	Burton Farm, H baz=158	32.35	342	P		P	04 45 17.0	+0.1
X301	Greenbrier Sit comp=Z,19nm,1.0s	32.41	337	eP		P	04 45 17.8	+0.3
WHAR	Wooly Hollow comp=Z,24nm,1.3s	32.42	337	eP		P	04 45 18.0	+0.5
333A	Richland Sprin baz=138	32.42	325	P		P	04 45 17.4	-0.2
234A	Clairette baz=140,SNR=6.5	32.45	326	P		P	04 45 17.6	-0.3
X39A	Fountain Ranch baz=148	32.49	334	P		P	04 45 18.3	+0.2
V42A	Cord baz=154,SNR=5.7	32.54	339	P		P	04 45 18.3	-0.3
Z36A	Blue Ridge baz=143	32.55	330	P		P	04 45 18.4	-0.2
W40A	Ferguson Farm, baz=151	32.64	336	P		P	04 45 19.9	+0.5
U43A	Rector baz=156	32.72	341	P		P	04 45 20.1	0.0
Y37A	Hugo baz=145	32.73	332	P		P	04 45 20.1	-0.1
V41A	Mountainview baz=153	32.80	338	P		P	04 45 20.5	-0.5
233A	Rising Star baz=138	32.89	325	P		P	04 45 21.6	-0.1
W39A	Magazine baz=149	32.93	335	P		P	04 45 22.0	-0.1
X38A	Whitesboro baz=147	32.94	333	P		P	04 45 22.2	+0.2
U42A	Revenden baz=154	32.98	340	P		P	04 45 22.4	0.0
V40A	Witts Springs baz=151,SNR=7.9	33.08	337	P		P	04 45 23.1	-0.2
PBMO	Poplar Bluff comp=Z,18nm,0.8s	33.10	341	eP		P	04 45 23.6	+0.1
X37A	Clayton baz=146	33.11	333	P		P	04 45 23.3	-0.3
W38A	Poteau baz=148	33.14	334	P		P	04 45 23.9	0.0
U41A	Viola baz=153	33.22	339	P		P	04 45 23.8	-0.7
T43A	Greenville baz=157,SNR=11	33.33	341	P		P	04 45 25.1	-0.4
WCI	Wyandotte Cave	33.35	348	eP		P	04 45 26.5	+0.8
WCI	comp=Z,26nm,0.8s			pmax		pmax		
WCI	Wyandotte Cave comp=Z,26nm,0.8s	33.35	348	eP		P	04 45 26.5	+0.8
Y35A	Marietta baz=143	33.35	330	P		P	04 45 25.5	-0.3
S45A	Carrier Mills baz=160	33.38	344	P		P	04 45 25.9	0.0
USIN	University of comp=Z,92nm,0.8s	33.41	346	eP		P	04 45 26.6	+0.4
V39A	Pettigrew baz=150	33.43	336	P		P	04 45 26.4	0.0
T42A	Van Buren baz=155,SNR=12	33.54	340	P		P	04 45 26.8	-0.5
X36A	Centrahoma baz=145	33.56	331	P		P	04 45 27.3	-0.2
U40A	Yellville baz=152	33.57	338	P		P	04 45 27.5	-0.1
S44A	Carbondale baz=159,SNR=6.3	33.58	343	P		P	04 45 27.3	-0.4
W37B	Quinton baz=147	33.60	333	P		P	04 45 27.6	-0.2
SDMD	Soldier's Deli comp=Z,9.4nm,1.1s	33.60	1	eP		P	04 45 29.3	+1.5
S43A	Fulton Ridge, baz=157	33.71	342	P		P	04 45 28.4	-0.4
X35A	Drake baz=144	33.72	330	P		P	04 45 28.4	-0.5
ABTX	Abilene, Hawle baz=138	33.76	325	P		P	04 45 28.9	-0.4
ABTX	Abilene, Hawle comp=Z,50nm,1.5s	33.76	325	eP		P	04 45 29.8	+0.5
V38A	Canehill baz=149	33.77	335	P		P	04 45 28.6	-0.7
T41A	Mountain View baz=154,SNR=8.2	33.79	339	P		P	04 45 29.0	-0.5
U39A	Green Forest baz=151	33.84	337	P		P	04 45 28.7	-1.2
HHAR	Hobbs comp=Z,18nm,1.0s	33.93	336	eP		P	04 45 30.6	-0.2
LTX	Lajitas	34.02	317	eP		P	04 45 32.3	+0.6
LTX				e			04 48 10.8	
LTX	Lajitas	34.02	317	eP		P	04 45 32.3	+0.6
LTX				eP	cP	PcP	04 48 10.8	+1.2
TXAR	Lajitas Array comp=Z,2.5nm,0.8s,baz=130,slow=8.5,SNR=10	34.02	317	P		P	04 45 32.3	+0.6
TXAR	comp=Z,3.8nm,0.9s,baz=138,slow=6.1,SNR=10			PcP		PcP	04 48 10.8	+1.2
TX31	Lajitas Ar. Si	34.02	317	eP		P	04 45 33.7	+2.0
HPIG	comp=Z,8.8nm,0.9s	34.04	312	eP		P	04 45 34.4	+2.3
R44A	Waltonville baz=159	34.05	344	P		P	04 45 31.7	-0.1
V37A	Hulbert baz=148	34.09	334	P		P	04 45 30.9	-1.2
S42A	Caledonia baz=156,SNR=5.1	34.12	341	P		P	04 45 31.7	-0.7
T40A	Mansfield baz=153,SNR=7.8	34.15	339	P		P	04 45 32.1	-0.6
MVL	Millersville comp=Z,21nm,1.1s	34.20	2	eP		P	04 45 34.8	+1.8
OLIL	Olney comp=Z,52nm,1.0s	34.25	345	eP		P	04 45 33.8	+0.3
OLIL				eP	cP	PcP	04 48 10.6	+0.8
U38A	Gravette baz=149	34.25	336	P		P	04 45 32.4	-1.1
S41A	Jillco Farms, baz=154,SNR=6.0	34.27	340	P		P	04 45 33.2	-0.5
W35A	Tecumseh baz=144	34.28	331	P		P	04 45 33.1	-0.6
BLO	Bloomington	34.30	348	eP		P	04 45 34.8	+0.9
BLO	comp=Z,62nm,0.9s			pmax		pmax		
BLO	Bloomington comp=Z,62nm,0.9s	34.30	348	eP		P	04 45 34.8	+0.9
R43A	Red Bud baz=158,SNR=7.9	34.32	343	P		P	04 45 34.0	-0.1
TUL1	Leonard baz=147,SNR=5.3	34.40	333	P		P	04 45 34.5	-0.4
TUL1	Leonard comp=Z,25nm,0.9s	34.40	333	eP		P	04 45 34.9	0.0
O56A	Blue Knob Stat baz=178,SNR=7.7	34.46	359	P		P	04 45 35.3	0.0
U37A	Salina baz=148	34.53	335	P		P	04 45 34.9	-1.0
S40A	Lebanon baz=153,SNR=17	34.54	339	P		P	04 45 35.3	-0.7
R42A	Luebbering baz=156,SNR=6.3	34.59	342	P		P	04 45 35.7	-0.7
Q44A	Meyer Farm, Va baz=160,SNR=6.3	34.65	344	P		P	04 45 36.1	-0.8
T38A	Diamond baz=150,SNR=6.9	34.73	336	P		P	04 45 36.8	-0.9
V35A	Meyer Ranch, C baz=145	34.76	332	P		P	04 45 36.7	-1.3
U36A	Oologah baz=147	34.78	334	P		P	04 45 37.9	-0.2
R41A	Rosebud baz=156,SNR=5.6	34.79	341	P		P	04 45 37.5	-0.7
SSPA	Standing Stone comp=Z,21nm,1.1s	34.82	360	eP		P	04 45 40.0	+1.7
LUPA	Lehigh Univers comp=Z,34nm,1.0s	34.84	3	eP		P	04 45 40.5	+1.9
Q43A	New Douglas baz=159,SNR=5.8	34.87	343	P		P	04 45 38.0	-0.8
WMOK	Wichita Mounta baz=141,SNR=11	34.90	329	P		P	04 45 38.8	-0.3
WMOK	Wichita Mounta	34.90	329	eP		P	04 45 39.3	+0.2
WMOK	comp=Z,24nm,1.4s			pmax		pmax		
WMOK	Wichita Mounta comp=Z,24nm,1.4s	34.90	329	eP		P	04 45 39.3	+0.2
S39A	Bolivar baz=152,SNR=7.6	34.92	338	P		P	04 45 38.6	-0.7
BRNJ	Basking Ridge comp=Z,49nm,1.4s	34.97	4	eP		P	04 45 41.5	+1.8
T37A	Cheneyville 18 baz=149,SNR=5.5	35.05	336	P		P	04 45 39.9	-0.6
P44A	Sand Creek, Wi baz=161	35.07	345	P		P	04 45 39.6	-0.9
R40A	Maddies Statio baz=154	35.08	340	P		P	04 45 39.6	-1.1
Q42A	Golden Eagle baz=157,SNR=5.2	35.09	342	P		P	04 45 40.4	-0.3
S38A	Stockton baz=151	35.09	337	P		P	04 45 40.1	-0.7
N59A	State Game Lan baz=183,SNR=7.4	35.14	2	P		P	04 45 41.7	+0.5
N54A	Moraine State baz=176	35.20	357	P		P	04 45 40.7	-1.0
Q41A	Truxton baz=156,SNR=7.7	35.34	342	P		P	04 45 42.3	-0.6
R39A	Chumby, Stover baz=153,SNR=6.9	35.37	339	P		P	04 45 42.2	-1.0
T36A	Boggs Farm, Ca baz=148,SNR=7.6	35.41	334	P		P	04 45 42.7	-0.7
P43A	Skaggs, Pawnee baz=159,SNR=6.1	35.47	344	P		P	04 45 43.5	-0.6
T35A	Sooner Cattle baz=146	35.56	334	P		P	04 45 43.9	-0.9
S37A	Fort Scott baz=150,SNR=6.6	35.57	336	P		P	04 45 43.9	-1.0
R38A	Fenwick Farm, baz=151,SNR=6.7	35.58	338	P		P	04 45 43.5	-1.5
SFIN	Lafayette baz=164	35.58	348	P		P	04 45 43.1	-1.8
SFIN	Lafayette comp=Z,19nm,1.0s	35.58	348	eP		P	04 45 44.8	-0.2
Q40A	Laux Farm, Aux baz=155,SNR=7.1	35.65	341	P		P	04 45 44.6	-1.0
P42A	Winchester baz=158,SNR=6.9	35.65	343	P		P	04 45 44.6	-0.9
M54A	Oil Creek Stat baz=176	35.73	357	P		P	04 45 45.5	-0.7
S36A	Lake Cedric, C baz=148	35.85	335	P		P	04 45 46.1	-1.1
SLBS	Sierra La Lagu comp=Z,38nm,1.2s	35.85	303	eP		P	04 45 51.4	+3.8
ALLY	Alegheny Colle comp=Z,36nm,0.9s	35.90	357	eP		P	04 45 49.1	+1.5
P41A	Barry, Barry baz=157,SNR=6.5	35.95	342	P		P	04 45 46.7	-1.4
T34A	McClaskey Farm baz=145	35.95	333	P		P	04 45 46.7	-1.5
Q39A	Willow Grove F baz=153	36.00	340	P		P	04 45 47.6	-1.0
R37A	Teagarden Farm baz=150	36.04	337	P		P	04 45 47.6	-1.4
S35A	Otter Creek Ra baz=147	36.12	335	P		P	04 45 48.5	-1.1
P40A	Paris baz=155,SNR=6.4	36.13	341	P		P	04 45 48.4	-1.2
O42A	Bath baz=159	36.15	344	P		P	04 45 48.9	-0.8
Q38A	Cooks Store, C baz=152,SNR=8.8	36.15	339	P		P	04 45 48.7	-1.2
HDIL	Hopedale baz=160	36.27	345	P		P	04 45 49.6	-1.2
O41A	Passleys Farm, baz=157	36.30	343	P		P	04 45 49.4	-1.7
P39B	Salisbury baz=154	36.32	340	P		P	04 45 49.5	-1.8
R36A	Gordon, Harris baz=149	36.32	336	P		P	04 45 50.5	-0.9
BINY	Binghamton comp=Z,42nm,1.1s	36.41	2	eP		P	04 45 53.7	+1.7
S34A	Willow Spring baz=146	36.48	334	P		P	04 45 51.7	-1.0
MSTX	Muleshoe baz=135,SNR=15	36.54	324	P		P	04 45 52.3	-1.0
MSTX	Muleshoe comp=Z,34nm,1.1s	36.54	324	eP		P	04 45 53.7	+0.3
AMTX	Amarillo baz=137	36.56	326	P		P	04 45 52.2	-1.4
AMTX	Amarillo comp=Z,58nm,1.8s	36.56	326	eP		P	04 45 55.3	+1.7
R35A	Emporia Munici baz=148	36.61	335	P		P	04 45 53.3	-0.5
O40A	La Belle baz=156,SNR=8.6	36.61	342	P		P	04 45 52.5	-1.2
MNTX	Cornudas Mount comp=Z,13nm,0.9s	36.65	318	eP		P	04 45 55.2	+0.9
P38A	Dawn baz=153	36.71	339	P		P	04 45 53.8	-0.8
N42A	Yates City baz=SNR=7.8	36.72	344	P		P	04 45 53.5	-1.2
MMNY	Mt. Morris Dam	36.91	360	eP		P	04 45 57.5	+1.3
BCX	Boston College comp=Z,111nm,1.1s	36.97	8	eP		P	04 45 58.3	+1.6
P37A	Lathrop baz=152	36.97	338	P		P	04 45 55.8	-1.1
Q35A	Mercer Eighty, baz=148	36.99	336	P		P	04 45 56.1	-1.0
WES	Weston	37.00	8	eP		P	04 45 58.4	+1.4
WES	comp=Z,96nm,1.4s			pmax		pmax		
WES	Weston comp=Z,96nm,1.4s	37.00	8	eP		P	04 45 58.4	+1.4
R34A	Isabella, Hill baz=146,SNR=6.4	37.04	334	P		P	04 45 56.8	-0.7
HRV	Adam Dziewonsk	37.08	7	eP		P	04 45 59.3	+1.5
HRV	comp=Z,20nm,1.0s			pmax		pmax		
HRV	Adam Dziewonsk comp=Z,20nm,1.0s	37.08	7	eP		P	04 45 59.3	+1.5
O38A	Galt baz=153	37.13	340	P		P	04 45 57.4	-0.9
N40A	Mertquake, Sal baz=157	37.22	342	P		P	04 45 58.1	-0.8
P36A	Good Intent, A baz=150	37.32	337	P		P	04 45 58.8	-1.0
M41A	Milan baz=158,SNR=5.3	37.37	344	P		P	04 45 58.6	-1.6
Q34A	Chapman baz=147,SNR=6.6	37.42	335	P		P	04 45 59.9	-0.8
CPUP	Villa Florida comp=Z,13nm,1.1s,baz=322,slow=8.5,SNR=9.9	37.42	149	P		P	04 45 57.1	-3.7
CPUP	comp=Z,5.2nm,1.0s,baz=71,slow=2.5,SNR=2.9			PcP		PcP	04 48 19.1	-0.4
N39A	Derby Farms, D baz=155,SNR=5.9	37.49	341	P		P	04 45 59.9	-1.3
P35A	Duane Minner, baz=149	37.56	336	P		P	04 46 00.8	-1.0
N38A	Joes South For baz=154	37.66	341	P		P	04 46 01.5	-1.1
M40A	Post Highland baz=157	37.67	343	P		P	04 46 01.7	-1.1
O36A	Bolckow baz=151	37.68	338	P		P	04 46 01.7	-1.1
ACCN	Adirondack Com comp=Z,21nm,1.3s	37.73	5	eP		P	04 46 04.6	+1.4
P34A	Walnut Farm, R baz=148,SNR=7.1	37.90	336	P		P	04 46 03.7	-1.0
M39A	Webster baz=156,SNR=7.0	37.94	342	P		P	04 46 03.5	-1.5
N37A	Lee Faris, Mou baz=152	37.96	339	P		P	04 46 04.2	-1.0
L41A	Preston baz=159,SNR=5.4	38.01	344	P		P	04 46 04.3	-1.3
FFD	Franklin Falls comp=Z,59nm,1.4s	38.02	7	eP		P	04 46 07.4	+1.7
L40A	Anamosa baz=158,SNR=5.9	38.20	344	P		P	04 46 06.0	-1.2
M38A	Pleasantville baz=154	38.20	341	P		P	04 46 06.4	-0.9
NCB	Newcomb comp=Z,0.3nm,1.0s	38.27	4	eP		P	04 46 09.1	+1.4
O34A	Beatrice baz=148	38.39	336	P		P	04 46 07.7	-1.2
K41A	Shullsburg baz=159	38.46	345	P		P	04 46 07.9	-1.5
L39A	Vinton baz=157	38.48	343	P		P	04 46 08.1	-1.5
M37A	Trindle Farm, baz=153	38.48	340	P		P	04 46 08.1	-1.5
N35A	Tabor baz=150	38.57	338	P		P	04 46 08.9	-1.4
CBKS	Cedar Bluff baz=143,SNR=6.2	38.58	332	P		P	04 46 10.0	-0.5
CBKS	Cedar Bluff	38.58	332	eP		P	04 46 11.4	+0.9
CBKS	comp=Z,20nm,0.8s			pmax		pmax		
CBKS	Cedar Bluff comp=Z,20nm,0.8s	38.58	332	eP		P	04 46 11.4	+0.9
O33A	Hebron baz=147	38.66	335	P		P	04 46 10.4	-0.8
JFWS	Jewell Farm	38.73	345	eP		P	04 46 10.8	-0.9
JFWS	comp=Z,26nm,1.0s			pmax		pmax		
JFWS	Jewell Farm comp=Z,26nm,1.0s	38.73	345	eP		P	04 46 10.8	-0.9
LBNH	Lisbon	38.75	7	eP		P	04 46 13.3	+1.5
LBNH	comp=Z,27nm,1.1s			pmax		pmax		
LBNH	Lisbon comp=Z,27nm,1.1s	38.75	7	eP		P	04 46 13.3	+1.5
K40A	Colesburg baz=158	38.77	344	P		P	04 46 10.7	-1.2
M36A	Felix, Anita baz=152	38.78	339	P		P	04 46 10.9	-1.3
L38A	Oak Wood Farm, baz=155,SNR=5.1	38.78	342	P		P	04 46 10.4	-1.7
N34A	Lincoln baz=149	38.87	337	P		P	04 46 11.4	-1.5
LONY	Lake Ozonia comp=Z,39nm,1.1s	38.89	4	eP		P	04 46 12.3	-0.7
SADO	Sadowa comp=Z,42nm,1.1s	38.97	358	eP		P	04 46 14.4	+0.8
K39A	Oelwein baz=157	38.98	343	P		P	04 46 12.3	-1.5
J41A	Loganville baz=160	39.09	346	P		P	04 46 13.2	-1.5
319A	Douglas comp=Z,78nm,1.5s	39.13	315	eP		P	04 46 18.1	+2.8
FRNY	Flat Rock comp=Z,40nm,1.3s	39.18	5	eP		P	04 46 16.6	+1.2
K38A	Parkersburg baz=156	39.19	342	P		P	04 46 14.5	-1.0
PLVO	Plevna comp=Z,37nm,1.0s	39.22	1	eP		P	04 46 16.9	+1.2
L36A	Harm Buss Farm baz=153	39.31	340	P		P	04 46 15.2	-1.3
J40A	Soldiers Grove baz=159,SNR=5.1	39.31	345	P		P	04 46 15.0	-1.5
ANMO	Albuquerque	39.43	321	d	iP	P	04 46 19.5	+1.6
ANMO	comp=Z,9.0nm,1.2s			pmax		pmax		
ANMO	Albuquerque comp=Z,15nm,1.1s	39.43	321	eP		P	04 46 19.4	+1.6
LAZ	Ladron	39.51	320	eP		P	04 46 14.5	-4.0
J39A	Decorah baz=158,SNR=7.5	39.51	344	P		P	04 46 16.6	-1.6
K37A	Belmond baz=154	39.56	341	P		P	04 46 17.4	-1.3
L35A	Bielow Farm, R baz=151	39.62	339	P		P	04 46 18.0	-1.2
K36A	Gilmore City baz=153	39.71	341	P		P	04 46 18.9	-1.0
J38A	Wedel Dairy, R baz=156	39.71	343	P		P	04 46 18.6	-1.3
I41A	Arkdale baz=161	39.71	346	P		P	04 46 18.9	-1.0
T25A	Trinidad baz=136,SNR=11	39.72	326	P		P	04 46 20.4	+0.1
T25A	Trinidad comp=Z,53nm,1.6s	39.72	326	eP		P	04 46 22.3	+2.0
I40A	Norwalk baz=160	39.74	345	P		P	04 46 19.1	-1.0
H41A	Junction City baz=161	40.19	347	P		P	04 46 22.6	-1.3
K34A	Le Mars baz=151	40.32	339	P		P	04 46 24.0	-0.9
I38A	Scanlan Farm, baz=157	40.33	344	P		P	04 46 23.9	-1.1
GGN	Saint George comp=Z,42nm,1.1s	40.42	12	eP		P	04 46 26.9	+1.3
TRQ	Mont Tremblant	40.49	3	eP		P	04 46 27.1	+0.7
J35A	Milford baz=152	40.61	340	P		P	04 46 26.4	-0.9
I37A	Lemond, Waseca baz=155	40.62	343	P		P	04 46 26.5	-0.9
H39A	Augusta baz=159	40.65	345	P		P	04 46 26.7	-0.9
G41A	Antigo baz=162	40.65	347	P		P	04 46 27.1	-0.5
TUC	Tucson	40.71	315	eP		P	04 46 30.7	+2.3
TUC	comp=Z,16nm,0.9s			pmax		pmax		
TUC	Tucson comp=Z,16nm,0.9s	40.71	315	eP		P	04 46 30.7	+2.3
SDCO	Great Sand Dun baz=135,SNR=23	40.76	325	P		P	04 46 29.6	+0.6
SDCO	Great Sand Dun comp=Z,47nm,1.6s	40.76	325	eP		P	04 46 30.4	+1.4
H38A	Maiden Rock baz=157	40.91	344	P		P	04 46 29.4	-0.4
G40A	Rib Lake baz=161	40.93	346	P		P	04 46 29.4	-0.5
K32A	Verdigre baz=148	41.00	337	P		P	04 46 29.5	-1.1
G39A	Holcombe baz=159,SNR=6.5	41.18	346	P		P	04 46 30.8	-1.3
G38A	Ridgeland baz=158,SNR=6.3	41.25	345	P		P	04 46 31.3	-1.3
K31A	O'Neill baz=147	41.28	336	P		P	04 46 32.4	-0.5
H36A	Jessenland, He baz=155	41.29	342	P		P	04 46 31.9	-1.0
X18A	Snowflake comp=Z,25nm,1.3s	41.41	318	eP		P	04 46 37.3	+3.0
ECSD	EROS Data Cent baz=151,SNR=8.2	41.42	339	P		P	04 46 32.2	-1.8
ECSD	EROS Data Cent comp=Z,24nm,1.4s	41.42	339	eP		P	04 46 32.8	-1.2
I34A	Hadley baz=152	41.43	340	P		P	04 46 33.4	-0.7
Q24A	Divide baz=136	41.43	327	P		P	04 46 33.4	-1.2
Q24A	Divide comp=Z,16nm,1.4s	41.43	327	eP		P	04 46 36.6	+2.0
S22A	4UR Ranch, Cre comp=Z,21nm,1.3s	41.52	324	eP		P	04 46 37.2	+1.9
F40A	Park Falls baz=161	41.53	347	P		P	04 46 34.1	-0.8
SPMN	Marine on St. baz=157	41.56	344	P		P	04 46 34.2	-0.9
SPMN	Marine on St. comp=Z,29nm,1.1s	41.56	344	eP		P	04 46 34.2	-0.9
J32A	Parkston baz=149	41.56	338	P		P	04 46 34.0	-1.2
LMN	Caledonia Moun comp=Z,39nm,1.2s	41.56	14	eP		P	04 46 36.0	+0.8
W18A	Petrified Fore comp=Z,66nm,1.4s	41.62	319	eP		P	04 46 36.5	+0.5
H35A	Sunnyside Ranc baz=154	41.68	342	P		P	04 46 35.1	-1.0
PQI	Presque Isle comp=Z,45nm,1.3s	41.69	10	eP		P	04 46 37.4	+1.3
H34A	Spellman Lake, baz=152	41.96	341	P		P	04 46 37.0	-1.4
F38A	Pierce - Schro baz=158	41.99	345	P		P	04 46 37.2	-1.4
MVCO	Mesa Verde	42.16	322	eP		P	04 46 42.5	+2.1

comp=Z,44nm,1.7s
LMQ La Malbaie 42.20 7 *e*P P 04 46 41.4 +1.1
ISCO Idaho Springs 42.28 328 P P 04 46 41.3 -0.2
baz=136,SNR=9.1
ISCO Idaho Springs 42.28 328 *e*P P 04 46 42.9 +1.4
ISCO pmax pmax
comp=Z,22nm,1.5s
ISCO Idaho Springs 42.28 328 *e*P P 04 46 42.9 +1.4
comp=Z,22nm,1.5s
VLDQ Val d'Or 42.29 0 *e*P P 04 46 42.2 +1.2
comp=Z,50nm,1.5s
H33A Prehn Over Nor 42.29 340 P P 04 46 39.7 -1.5
baz=151
F36A Milaca 42.34 344 P P 04 46 39.8 -1.7
baz=156,SNR=7.6
X16A Lo Mia Camp, P 42.35 317 *e*P P 04 46 44.5 +2.5
comp=Z,16nm,1.3s
H32A Carlson Farm, 42.38 339 P P 04 46 40.1 -1.8
baz=150,SNR=6.2
G34A Benson 42.42 341 P P 04 46 40.6 -1.5
baz=153
SMCO Snowmass 42.59 326 *e*P P 04 46 45.7 +1.6
comp=Z,18nm,1.5s
G33A Ortonville 42.64 340 P P 04 46 42.5 -1.4
baz=152
F35A Swanville 42.64 343 P P 04 46 42.5 -1.4
baz=155
H31A Wolsey 42.74 338 P P 04 46 43.7 -1.1
baz=148
F34A Alexandria 42.80 342 P P 04 46 44.3 -0.9
baz=154
PV01 Paradox Valley 42.80 323 *e*P P 04 46 48.2 +2.5
E36A McGregor 42.87 344 P P 04 46 44.9 -0.9
baz=157
SUSD Miller 42.89 338 P P 04 46 44.8 -1.2
baz=148
WUAZ Wupatki 42.94 318 P P 04 46 47.1 +0.4
baz=126,SNR=21
WUAZ Wupatki 42.94 318 *e*P P 04 46 49.0 +2.3
comp=Z,18nm,0.9s
G32A Webster 43.06 339 P P 04 46 45.8 -1.6
baz=150
PV05 Paradox Valley 43.08 323 *e*P P 04 46 49.2 +1.2
113A Mohawk Valley, 43.09 313 *e*P P 04 46 50.1 +2.4
comp=Z,44nm,1.5s
Y14A Wickenburg 43.16 315 *e*P P 04 46 50.7 +2.3
comp=Z,196nm,1.8s
F33A 5 Mile Ranch, 43.16 341 P P 04 46 47.1 -1.0
baz=152
E35A Pequot Lakes 43.23 343 P P 04 46 47.8 -0.9
baz=155
PV10 Paradox Valley 43.24 323 *e*P P 04 46 50.7 +1.5
D37A Cotton 43.24 345 P P 04 46 48.0 -0.8
baz=158
N23A Red Feather La 43.25 328 *e*P P 04 46 51.3 +2.0
comp=Z,16nm,1.3s
G31A Conde 43.28 339 P P 04 46 48.0 -1.2
baz=149
C39A Grand Marais 43.33 348 P P 04 46 48.9 -0.5
baz=162
PV09 Paradox Valley 43.38 323 *e*P P 04 46 54.9 +4.5
E34A Wadena 43.41 342 P P 04 46 49.6 -0.6
baz=154
D36A Goodland 43.45 345 P P 04 46 49.9 -0.6
baz=157
C37A Embarrass 43.72 346 P P 04 46 51.8 -0.8
baz=159
EYMN Ely 43.76 347 P P 04 46 52.1 -0.8
baz=160
EYMN Ely 43.76 347 *e*P P 04 46 52.7 -0.2
comp=Z,34nm,1.0s
C36A Pine Crest Far 43.91 345 P P 04 46 53.2 -0.9
baz=158
D34A Park Rapids 43.94 343 P P 04 46 52.2 -2.2
baz=154
O20A White River Ci 43.96 326 *e*P P 04 46 56.5 +1.6
comp=Z,14nm,1.0s
GLA Glamis 44.00 313 *e*P P 04 46 58.0 +2.8
GLA pmax pmax
comp=Z,41nm,1.4s
GLA Glamis 44.00 313 *e*P P 04 46 58.0 +2.8
comp=Z,41nm,1.4s
U15A North Rim 44.07 319 *e*P P 04 46 58.4 +2.4
comp=Z,26nm,1.2s
Y12C Blythe 44.14 314 *e*P P 04 46 59.1 +2.9
comp=Z,53nm,1.4s
C35A Jirik Farms, M 44.15 344 P P 04 46 55.3 -0.8
baz=156
D33A AnnSam, Waubun 44.18 342 P P 04 46 54.7 -1.7
baz=153,SNR=5.3
E31A Nome 44.33 340 P P 04 46 56.4 -1.1
baz=150
C34A RKJ Ranch, Bem 44.37 343 P P 04 46 56.4 -1.4
baz=155
W13A Hualapai Mount 44.40 316 *e*P P 04 47 01.1 +2.5
comp=Z,33nm,1.4s
MMU Miners Mountai 44.50 321 *e*P P 04 47 01.2 +1.9
SRU San Rafael Swe 44.60 323 *e*P P 04 47 01.6 +1.5
SRU pmax pmax
comp=Z,23nm,1.1s
SRU San Rafael Swe 44.60 323 *e*P P 04 47 01.6 +1.5
comp=Z,23nm,1.1s
B35A Bob, Littlefor 44.69 345 P P 04 46 59.2 -1.2
baz=157
D31A Mcclaflin, Tow 44.70 341 P P 04 46 58.9 -1.6
baz=151
RPN Rapa Nui 44.73 222 LR LR 05 00 38.8
comp=Z,434nm,21.1s,baz=50,slow=29
IKP In-Ko-Pah, Jac 44.75 312 P P 04 47 01.2 0.0
baz=118
RSSD Black Hills 44.75 333 P P 04 47 01.5 +0.3
baz=141
RSSD Black Hills 44.75 333 *e*P P 04 47 02.1 +0.9
RSSD pmax pmax
comp=Z,24nm,1.1s
RSSD Black Hills 44.75 333 *e*P P 04 47 02.1 +0.9
comp=Z,24nm,1.1s
KNB Kanab 44.76 319 *e*P P 04 47 03.7 +2.3
KNB pmax pmax
comp=Z,52nm,1.6s
KNB Kanab 44.76 319 *e*P P 04 47 03.7 +2.3
comp=Z,52nm,1.6s
K22A Casper 44.83 330 P P 04 47 01.5 -0.3
baz=137
K22A Casper 44.83 330 *e*P P 04 47 02.8 +1.0
comp=Z,7.3nm,0.9s
LCMT Little Creek M 45.03 319 *e*P P 04 47 05.8 +2.3
comp=Z,19nm,1.4s
B34A Aery, Baudette 45.05 344 P P 04 47 02.6 -0.7
baz=156
TMUT Trail Mountain 45.13 323 *e*P P 04 47 06.0 +1.6
comp=Z,34nm,1.7s
AGMN Agassiz Nation 45.23 343 P P 04 47 03.3 -1.3
baz=154,SNR=5.5
AGMN Agassiz Nation 45.23 343 *e*P P 04 47 03.8 -0.9
comp=Z,38nm,1.4s
LDFC Landfair 45.24 315 *e*P P 04 47 08.4 +3.3
comp=Z,26nm,1.1s
MSU Marysvale 45.24 321 *e*P P 04 47 07.1 +1.9
MSU Marysvale 45.24 321 *e*P P 04 47 07.1 +1.9
SZCU Shurtz Canyon 45.27 320 *e*P P 04 47 07.4 +1.9
comp=Z,30nm,1.5s
C31A Landman Farms, 45.35 341 P P 04 47 03.8 -1.8
baz=151
CCUT Cedar City 45.42 319 *e*P P 04 47 08.0 +1.3
comp=Z,17nm,1.4s
PFO Pinyon Flats O 45.47 313 P P 04 47 06.1 -0.8
baz=119
PFO Pinyon Flats O 45.47 313 *e*P P 04 47 09.6 +2.6
PFO pmax pmax
comp=Z,35nm,1.5s
PFO Pinyon Flats O 45.47 313 *e*P P 04 47 09.6 +2.6
comp=Z,35nm,1.5s
GMRC Granite Mounta 45.47 315 P P 04 47 06.2 -0.8
baz=121
B32A Ashes, Strandq 45.51 342 P P 04 47 05.7 -1.2
baz=153,SNR=6.9
A33A Warroad 45.67 344 P P 04 47 07.3 -0.8
baz=155
MPU Maple Canyon 45.84 323 *e*P P 04 47 11.4 +1.5
comp=Z,15nm,1.0s
B31A Greenbush Farm 45.88 342 P P 04 47 09.1 -0.7
baz=152
TRQA Tornquist 45.88 163 *e*P P 04 47 09.9 -0.1
comp=Z,45nm,1.5s
A32A Rocking H Ranc 45.97 343 P P 04 47 09.3 -1.2
baz=153
MDND Maddock 46.03 340 P P 04 47 10.0 -1.0
baz=149
MDND Maddock 46.03 340 *e*P P 04 47 10.5 -0.5
comp=Z,25nm,0.9s
SHPR Sheep Range 46.03 317 *e*P P 04 47 13.6 +2.2
comp=Z,28nm,1.5s
NLU North Lily Min 46.06 323 *e*P P 04 47 13.8 +2.1
comp=Z,22nm,1.4s
JLU Jordanelle 46.10 324 *e*P P 04 47 13.5 +1.5
comp=Z,18nm,1.2s
PD31 Pinedale Array 46.48 328 *e*P P 04 47 15.6 +0.6
PDAR Pinedale Array 46.48 328 P P 04 47 15.4 +0.4
comp=Z,6.4nm,1.1s,baz=120,slow=8.8,SNR=31
BW06 Boulder Array 46.48 328 P P 04 47 14.7 -0.3
baz=134,SNR=23
BW06 Boulder Array 46.48 328 *e*P P 04 47 15.6 +0.6
GSC Goldstone, Bar 46.55 315 P P 04 47 15.3 -0.1
baz=120
GSC Goldstone, Bar 46.55 315 *e*P P 04 47 17.7 +2.3
GSC pmax pmax
comp=Z,30nm,1.4s
GSC Goldstone, Bar 46.55 315 *e*P P 04 47 17.7 +2.3
comp=Z,30nm,1.4s
PLCA Paso Flores 46.63 173 P P 04 47 15.2 -0.8
comp=Z,23nm,1.0s,baz=12,slow=8.4,SNR=34
PLCA Paso Flores 46.63 173 *e*P P 04 47 16.3 +0.4
PLCA pmax pmax
comp=Z,33nm,1.0s
PLCA Paso Flores 46.63 173 *e*P P 04 47 16.3 +0.4
comp=Z,33nm,1.0s
DUG Dugway, Tooele 46.66 323 P P 04 47 16.9 +0.6
baz=128,SNR=22
DUG Dugway, Tooele 46.66 323 *e*P P 04 47 18.0 +1.7
DUG pmax pmax
comp=Z,18nm,1.0s
DUG Dugway, Tooele 46.66 323 *e*P P 04 47 18.0 +1.7
comp=Z,18nm,1.0s
HWUT Hardware Ranch 46.81 325 *e*P P 04 47 17.9 +0.4
comp=Z,22nm,1.5s
ULM Lac du Bonnet 46.99 344 P P 04 47 17.5 -1.0
comp=Z,12nm,1.0s,baz=151,slow=5.6,SNR=8.1
ULM Lac du Bonnet 46.99 344 *e*P P 04 47 17.5 -1.0
ULM pmax pmax
comp=Z,23nm,0.9s
ULM Lac du Bonnet 46.99 344 *e*P P 04 47 17.5 -1.0
comp=Z,23nm,0.9s
PASC Pasadena Art C 46.99 313 *e*P P 04 47 20.5 +1.7
TPNV Topopah Spring 47.01 317 P P 04 47 20.5 +1.4
baz=122
TPNV Topopah Spring 47.01 317 *e*P P 04 47 21.4 +2.3
TPNV pmax pmax
comp=Z,9.0nm,0.8s
TPNV Topopah Spring 47.01 317 *e*P P 04 47 21.4 +2.3
comp=Z,8.9nm,0.8s
SPUT South Promonto 47.13 324 *e*P P 04 47 21.3 +1.3
comp=Z,31nm,1.2s
FURC Furnace Creek, 47.18 316 P P 04 47 21.3 +1.2
baz=121
EDW2 Edwards Air Fo 47.19 314 P P 04 47 21.4 +1.0
baz=119
BGU Big Grassy Mou 47.24 323 *e*P P 04 47 22.1 +1.2
comp=Z,37nm,1.3s
LRMC Laurel Mtn Rad 47.26 314 P P 04 47 22.4 +1.4
baz=119
R11A Troy Canyon, C 47.32 319 P P 04 47 22.9 +1.3
baz=124
R11A Troy Canyon, C 47.32 319 *e*P P 04 47 23.1 +1.6
comp=Z,13nm,1.3s
MPMC Manual Prospec 47.40 315 P P 04 47 23.7 +1.5
baz=120
REDW Red Top Meadow 47.58 327 *e*P P 04 47 24.6 +1.0
comp=Z,39nm,1.0s
SNOW Snow King Moun 47.60 327 *e*P P 04 47 24.8 +1.1
comp=Z,24nm,1.1s
LOHW Long Hollow 47.62 328 *e*P P 04 47 24.7 +0.9
comp=Z,21nm,1.1s
HVU Hansel Valley 47.62 324 *e*P P 04 47 24.8 +1.0
HVU pmax pmax
comp=Z,10.0nm,1.0s
HVU Hansel Valley 47.62 324 *e*P P 04 47 24.8 +1.0
comp=Z,9.9nm,1.0s
TPAW Teton Pass 47.72 327 *e*P P 04 47 25.6 +0.9
comp=Z,24nm,1.1s
MOOW Moose Ponds 47.79 328 *e*P P 04 47 25.4 +0.3
comp=Z,13nm,0.9s
RLMT Red Lodge 47.98 330 P P 04 47 27.0 +0.4
baz=135,SNR=5.2
RLMT Red Lodge 47.98 330 *e*P P 04 47 27.2 +0.6
comp=Z,9.9nm,1.1s
FLWY Flagg Ranch 47.99 328 *e*P P 04 47 27.7 +1.1
comp=Z,48nm,1.5s
IMW Indian Meadow 47.99 328 *e*P P 04 47 27.3 +0.5
comp=Z,52nm,1.6s
CWC Cottonwood Cre 48.01 315 P P 04 47 27.4 +0.5
baz=120
H17A Grant Village 48.14 328 *e*P P 04 47 32.3 +4.4
comp=Z,7.0nm,1.2s
YPP Pitchstone Pla 48.17 328 *e*P P 04 47 30.2 +2.0
comp=Z,8.3nm,1.3s
DGMT Dagmar 48.26 337 P P 04 47 28.2 -0.2
baz=143
DGMT Dagmar 48.26 337 *e*P P 04 47 28.8 +0.4
comp=Z,25nm,0.9s
YFT Old Faithful 48.31 328 *e*P P 04 47 32.6 +3.4
comp=Z,16nm,1.2s
PKM Mcpherson Peak 48.52 313 P P 04 47 31.1 +0.3
baz=117
YHH Holmes Hill 48.55 329 *e*P P 04 47 33.0 +1.9
comp=Z,9.5nm,1.0s
GCMT Greycliff 48.66 330 *e*P P 04 47 32.4 +0.6
YHB Horse Butte 48.70 328 *e*P P 04 47 34.5 +2.3
comp=Z,10nm,1.1s
QLMT Earthquake Lak 48.88 328 *e*P P 04 47 35.5 +2.0
TVH2 Borealis Mine 49.45 317 *e*P P 04 47 41.2 +3.2
comp=Z,9.1nm,1.4s
TVH3 East Aurora ar 49.48 317 *e*P P 04 47 40.9 +2.6
comp=Z,11nm,1.3s
TVH1 TV Hill, Hawth 49.49 317 *e*P P 04 47 40.5 +1.9
comp=Z,35nm,1.8s
BOZ Bozeman (W) 49.51 329 P P 04 47 38.5 +0.3
baz=133,SNR=5.4
BOZ Bozeman (W) 49.51 329 *e*P P 04 47 39.3 +1.1
BOZ pmax pmax
comp=Z,20nm,1.3s
BOZ Bozeman (W) 49.51 329 *e*P P 04 47 39.3 +1.1
comp=Z,20nm,1.3s
BMN Battle Mountai 49.53 320 *e*P P 04 47 40.0 +1.5
BMN pmax pmax
comp=Z,23nm,1.2s
BMN Battle Mountai 49.53 320 *e*P P 04 47 40.0 +1.5
comp=Z,22nm,1.2s
MCMT McKenzie Canyo 49.63 327 *e*P P 04 47 41.0 +1.7
HLID Hailey 49.68 325 P P 04 47 39.4 -0.2
baz=129,SNR=14
HLID Hailey 49.68 325 *e*P P 04 47 40.3 +0.7
comp=Z,11nm,1.0s
SCHQ Schefferville 49.80 8 P P 04 47 38.7 -1.4
comp=Z,30nm,0.9s,baz=184,slow=5.3,SNR=18
SCHQ Schefferville 49.80 8 *e*P P 04 47 39.0 -1.0
comp=Z,33nm,0.9s
WAKR Walker 49.97 317 *e*P P 04 47 44.4 +2.4
comp=Z,28nm,1.4s
LRM Limekiln Ridge 50.08 329 *e*P P 04 47 43.8 +1.0
YERR Yerington 50.08 318 *e*P P 04 47 44.8 +2.0
comp=Z,40nm,1.5s
HRY Holter Researc 50.37 330 *e*P P 04 47 45.7 +1.0
PNTR Pine Nut 50.38 318 *e*P P 04 47 47.6 +2.6
comp=Z,24nm,1.4s
CMB Columbia Colle 50.39 316 *e*P P 04 47 46.8 +1.8
CMB pmax pmax
comp=Z,7.0nm,1.3s
CMB Columbia Colle 50.39 316 *e*P P 04 47 46.8 +1.8
comp=Z,6.7nm,1.3s
MFID Camas Ranch 50.40 324 *e*P P 04 47 46.0 +0.9
comp=Z,15nm,1.0s
PAHR Pah Rah Range 50.55 318 *e*P P 04 47 48.0 +1.7
comp=Z,36nm,1.5s
AFDM Forest Hills D 51.23 317 *e*P P 04 47 52.7 +1.4
comp=Z,11nm,1.3s
WVOR Wild Horse Val 51.52 322 *e*P P 04 47 54.2 +0.7
WVOR pmax pmax
comp=Z,70nm,1.3s
WVOR Wild Horse Val 51.52 322 *e*P P 04 47 54.2 +0.7
comp=Z,70nm,1.3s
MSO Missoula 51.52 329 P P 04 47 53.6 +0.2
baz=131,SNR=7.6
MSO Missoula 51.52 329 *e*P P 04 47 53.1 -0.3
comp=Z,12nm,1.3s
ORV Oroville 51.89 317 *e*P P 04 47 57.8 +1.7
ORV pmax pmax
comp=Z,54nm,1.4s
ORV Oroville 51.89 317 *e*P P 04 47 57.8 +1.7
comp=Z,54nm,1.4s
BMO Blue Mountains 52.12 325 *e*P P 04 47 57.7 -0.2
BMO pmax pmax
comp=Z,5.0nm,1.0s
BMO Blue Mountains 52.12 325 *e*P P 04 47 57.7 -0.2
comp=Z,5.4nm,1.0s
YBMT Yellow Bay 52.24 330 *e*P P 04 48 00.0 +1.2
MOD Modoc Plateau 52.28 320 *e*P P 04 47 59.6 +0.4
comp=Z,15nm,1.2s
JTMT Jette 52.30 329 *e*P P 04 48 00.4 +1.2
BLMT Blacktail Moun 52.52 330 *e*P P 04 48 02.1 +1.2
BSMT Bassoo Peak 52.63 329 *e*P P 04 48 02.8 +1.1
LTIM Timbered Crate 52.67 319 *e*P P 04 48 03.3 +1.2
F10A Beach Ranch, E 52.74 326 *e*P P 04 48 03.0 +0.5
comp=Z,14nm,1.1s
CHRN Cochrane 52.88 176 *e*P P 04 48 04.9 +1.6
comp=Z,16nm,1.0s
K05A Summer Lake 53.08 321 *e*P P 04 48 07.3 +2.1
comp=Z,27nm,1.4s
M04C Macdoel 53.20 319 P P 04 48 05.7 -0.3
baz=120,SNR=11
KCPM Cahto Peak 53.37 316 *e*P P 04 48 09.6 +2.3
comp=Z,26nm,1.2s
N02D Trinity Center 53.38 318 P P 04 48 06.8 -0.4
baz=119
E09A Wood Farm, Sta 53.58 326 *e*P P 04 48 08.7 +0.2
comp=Z,29nm,1.3s
J05D Fort Rock, OR 53.59 321 P P 04 48 09.0 +0.2
baz=122,SNR=12
M02C Callahan 53.68 319 P P 04 48 08.9 -0.5
baz=119
KMRM Mail Ridge 53.70 317 *e*P P 04 48 11.6 +2.0
comp=Z,35nm,1.1s
YBH Yreka Blue Hor 53.75 319 *e*P P 04 48 09.6 -0.4
YBH pmax pmax
comp=Z,9.0nm,1.2s
YBH Yreka Blue Hor 53.75 319 *e*P P 04 48 09.6 -0.4
comp=Z,8.8nm,1.2s
SACV Santiago Islan 53.86 76 *e*P P 04 48 10.2 -0.9
comp=Z,83nm,1.0s
KHMM Horse Mountain 54.02 318 *e*P P 04 48 13.4 +1.4
comp=Z,28nm,1.1s
NEW Newport 54.10 328 P P 04 48 12.7 +0.3
comp=Z,5.3nm,1.1s,baz=129,slow=4.8,SNR=5.3
NEW Newport 54.10 328 P P 04 48 12.2 -0.2
baz=129
NEW Newport 54.10 328 *e*P P 04 48 12.6 +0.3
NEW pmax pmax
comp=Z,19nm,1.5s
NEW Newport 54.10 328 *e*P P 04 48 12.6 +0.3
comp=Z,19nm,1.5s
J04D Umpqua Nationa 54.11 321 P P 04 48 13.8 +1.1
baz=121
JCC Jacoby Creek, 54.19 317 *e*P P 04 48 15.6 +2.6
comp=Z,70nm,1.5s
VTHM Trough 54.20 324 P P 04 48 14.5 +1.3
I05D Terrebonne, OR 54.21 322 P P 04 48 12.9 -0.3
baz=122,SNR=11
G06A Carlson Farm, 54.27 324 *e*P P 04 48 15.5 +1.8
comp=Z,57nm,1.4s
HAWA Hanford 54.28 325 *e*P P 04 48 14.3 +0.6
comp=Z,10nm,1.2s
D08A Wollman Farm, 54.33 326 *e*P P 04 48 14.9 +0.9
comp=Z,15nm,1.1s
HUMO Hull Mountain, 54.34 320 *e*P P 04 48 16.1 +1.9
comp=Z,11nm,1.4s
CROR Criterion Ridg 54.34 323 P P 04 48 15.9 +1.7
KRMB Red Mountain 54.44 318 *e*P P 04 48 16.7 +1.7
comp=Z,31nm,1.4s
L02D Cave Junction, 54.53 319 P P 04 48 15.3 -0.3
baz=119
I04A Tendick Farm, 54.59 321 P P 04 48 15.8 -0.2
baz=121,SNR=9.8
BPO Bald Peter 54.59 323 *e*P P 04 48 18.1 +1.9
IRO Indian Ridge 54.60 322 *e*P P 04 48 16.8 +0.6
G05D Wamic, OR 54.68 323 P P 04 48 18.1 +1.5
baz=123,SNR=11
KBO Bosley Butte 54.97 319 *e*P P 04 48 20.9 +2.0
comp=Z,81nm,1.2s
TDH Tom, Dick, Har 54.99 323 *e*P P 04 48 20.6 +1.6
I03D Drain, OR 55.12 321 P P 04 48 20.8 +1.0
baz=120,SNR=12
B08A Colville Reser 55.33 327 *e*P P 04 48 21.9 +0.6
comp=Z,15nm,1.1s
KEBM Edson Butte 55.35 319 *e*P P 04 48 23.9 +2.4
comp=Z,60nm,1.3s
LTY Liberty 55.42 326 *e*P P 04 48 22.9 +0.9
comp=Z,12nm,1.0s
COR Corvallis 55.54 322 *e*P P 04 48 24.3 +1.5
COR pmax pmax
comp=Z,39nm,1.2s
COR Corvallis 55.54 322 *e*P P 04 48 24.3 +1.5
comp=Z,39nm,1.2s
EDM Edmonton 55.64 335 *e*P P 04 48 22.6 -0.8
EDM pmax pmax
comp=Z,29nm,1.1s
EDM Edmonton 55.64 335 *e*P P 04 48 22.6 -0.8
comp=Z,29nm,1.1s
F04A Amboy 55.70 324 *e*P P 04 48 25.2 +1.2
comp=Z,11nm,0.9s
LON Longmire 55.79 325 *e*P P 04 48 25.2 +0.6
LON pmax pmax
comp=Z,11nm,0.9s
LON Longmire 55.79 325 *e*P P 04 48 25.2 +0.6
comp=Z,11nm,0.9s
G03D McMinnville, O 55.83 322 P P 04 48 26.0 +1.1
baz=121
OBSR Observation Ro 55.87 325 *e*P P 04 48 28.0 +2.5
D05A Enumclaw 56.13 325 *e*P P 04 48 28.0 +1.0
comp=Z,25nm,1.0s
KMOR Kings Mountain 56.19 323 *e*P P 04 48 29.3 +1.8
RPW Rockport 56.56 326 *e*P P 04 48 30.4 +0.3
E03A Lebam 56.70 324 *e*P P 04 48 32.4 +1.4
comp=Z,31nm,0.9s
B05A Bryant 56.78 326 P P 04 48 31.4 -0.2
baz=124
GO09 Cerro Castillo 56.90 176 *e*P P 04 48 34.7 +2.4
comp=Z,124nm,1.3s
NLWA Neilton Lookou 57.32 324 *e*P P 04 48 37.2 +1.7
comp=Z,37nm,1.2s
LLLB Lillooet 57.99 328 *e*P P 04 48 41.2 +1.0
comp=Z,17nm,1.1s
FRB Frobisher Bay 58.34 5 P P 04 48 41.8 -0.5
comp=Z,22nm,1.1s,baz=223,slow=6.9,SNR=4.5
BBB Bella Bella 62.13 328 P P 04 49 07.4 -1.0
comp=Z,8.4nm,1.0s,baz=128,slow=9.7,SNR=3.2
BBB Bella Bella 62.13 328 *e*P P 04 49 07.4 -1.0
comp=Z,32nm,1.3s
RKT Rikitea 62.83 241 *e*S S 04 57 41.8 -1.0
comp=Z,449nm,27.8s
RKT Rikitea 62.83 241 *e*LR LR 05 08 02.5
comp=Z,352nm,24.8s
YKA Yellowknife Ar 62.86 342 P P 04 49 12.2 -0.9
comp=Z,12nm,0.8s,baz=132,slow=6.7,SNR=33
YKB5 Yellowknife Ar 62.86 342 *e*P P 04 49 12.0 -1.1
SFJD Kangerlussuaq 63.99 11 P P 04 49 18.8 -1.7
comp=Z,12nm,0.9s,baz=183,slow=6.4,SNR=3.7
DLBC Dease Lake 66.23 333 P P 04 49 35.0 -0.4
comp=Z,11nm,0.9s,baz=156,slow=6.1,SNR=8.1
DLBC Dease Lake 66.23 333 *e*P P 04 49 36.6 +1.3
comp=Z,20nm,1.0s
PTEO Sao Teotonio 69.89 52 *e*P P 04 49 59.3 +0.6
comp=Z,78nm,1.4s
MORF Marmelete 69.92 52 *e*P P 04 49 58.7 -0.2
MORF Marmelete 69.92 52 *e*P P 04 49 59.7 +0.8
PNCL Nicolau / Gran 70.13 52 *e*P P 04 50 00.5 +0.3
comp=Z,55nm,1.6s
DHAK Deception Hill 70.33 331 *e*P P 04 50 03.1 +2.1
comp=Z,27nm,0.9s
MESJ Messejana 70.33 52 *e*P P 04 50 01.3 -0.1
MESJ Messejana 70.33 52 *e*P P 04 50 01.5 +0.1
PCVE Castro Verde 70.45 52 *e*P P 04 50 02.5 +0.4
PCAS Casmilo, Conde 70.46 50 *e*P P 04 50 02.4 +0.3
EVO Evora 70.59 51 *e*P P 04 50 03.0 0.0
HYT Haines Junctio 70.70 333 *e*P P 04 50 05.1 +1.8
comp=Z,12nm,1.1s
PGAV Gavieira, Arco 70.94 48 *e*P P 04 50 05.4 +0.2
comp=Z,89nm,1.7s
PESTR Estremoz 70.97 51 *e*P P 04 50 05.3 0.0
comp=Z,42nm,1.4s
SUMG Summit 70.98 12 *i* P P 04 50 04.6 -0.6
comp=Z,100nm,1.0s
SUMG Summit 70.98 12 *i* P P 04 50 04.6 -0.6

SUMG pmax pmax
comp=Z,100nm,1.0s
SUMG Summit 70.98 12 *e*P **P** 04 50 04.6 -0.6
comp=Z,86nm,0.9s
PVIS Viseu 71.02 49 *e*P **P** 04 50 05.9 +0.3
PCAB Cabril 71.08 48 *e*P **P** 04 50 07.3 +1.4
POLO Lamas de Olo 71.20 48 *e*P **P** 04 50 06.7 0.0
comp=Z,29nm,1.5s
PCBR Castelo Branco 71.20 50 *e*P **P** 04 50 06.9 +0.3
comp=Z,44nm,1.7s
PMRV Marv??o 71.20 50 *e*P **P** 04 50 06.2 -0.5
comp=Z,40nm,2.0s
PVRL Vila Real 71.24 48 *e*P **P** 04 50 06.8 -0.1
comp=Z,58nm,1.8s
PBAR Barrancos 71.30 52 *e*P **P** 04 50 07.0 -0.3
comp=Z,81nm,1.7s
MVO Moncorvo 71.73 49 *e*P **P** 04 50 09.9 0.0
comp=Z,38nm,1.9s
PBRG Braganca 72.04 48 *e*P **P** 04 50 11.9 +0.1
comp=Z,28nm,1.6s
TIC Toumodi 72.17 85 *e*P **P** 04 50 11.1 -1.9
LIC Lamto 72.19 85 *e*P **P** 04 50 10.9 -2.2
comp=Z,189nm,1.4s
DBIC Dimbokro 72.33 85 P **P** 04 50 12.9 -1.0
comp=Z,33nm,0.9s,baz=259,slow=6.3,SNR=34
DBIC Dimbokro 72.33 85 *e*P **P** 04 50 13.4 -0.5
DBIC pmax pmax
comp=Z,65nm,1.1s
DBIC Dimbokro 72.33 85 *e*P **P** 04 50 13.4 -0.5
comp=Z,65nm,1.1s
KIC Kosan Boka 72.47 85 *e*P **P** 04 50 12.4 -2.4
comp=Z,247nm,1.3s
INK Inuvik 72.62 341 P **P** 04 50 14.4 -0.1
comp=Z,12nm,1.1s,baz=96,slow=7.3,SNR=12
INK Inuvik 72.62 341 *e*P **P** 04 50 14.4 -0.1
INK pmax pmax
comp=Z,39nm,1.4s
INK Inuvik 72.62 341 *e*P **P** 04 50 14.4 -0.1
comp=Z,39nm,1.4s
DAWY Dawson 72.82 336 *e*P **P** 04 50 16.3 +0.4
comp=Z,10.0nm,1.0s
PAB San Pablo 73.56 51 *e*P **P** 04 50 20.7 -0.1
PAB pmax pmax
comp=Z,34nm,1.3s
PAB San Pablo 73.56 51 *e*P **P** 04 50 20.7 -0.1
comp=Z,34nm,1.3s
SCO Scoresbysund 73.69 17 *i* P **P** 04 50 20.4 -0.5
SCO Scoresbysund 73.69 17 *e*P **P** 04 50 20.4 -0.5
EGAK Eagle 73.80 336 *e*P **P** 04 50 22.3 +0.6
comp=Z,12nm,0.9s
ESDC Sonseca Array 73.86 50 P **P** 04 50 22.6 -0.1
comp=Z,12nm,1.0s,baz=269,slow=5.8,SNR=44
ESLA Sonseca Array 73.86 50 *e*P **P** 04 50 23.0 +0.3
comp=Z,32nm,1.2s
ES19 SONSECA Array 73.92 50 *e*P **P** 04 50 22.5 -0.5
BMRM Bremner River 73.99 332 *e*P **P** 04 50 24.3 +1.4
comp=Z,47nm,1.1s
DIV Divide 74.58 332 *e*P **P** 04 50 27.3 +0.9
comp=Z,27nm,1.2s
DOT Dot Lake 74.60 335 *e*P **P** 04 50 26.9 +0.5
comp=Z,94nm,0.9s
PPT2 Papeete2 74.62 250 *e*S **S** 05 00 00.4 -2.7
comp=Z,160nm,24.5s
PPT2 Papeete2 74.62 250 *e*LR LR 05 13 29.6
comp=Z,1µm,25.8s
KLU Klutina 74.75 332 *e*P **P** 04 50 28.3 +0.9
comp=Z,20nm,1.0s
PAX Paxson 74.99 334 *e*P **P** 04 50 29.4 +0.7
PAX pmax pmax
comp=Z,22nm,1.1s
PAX Paxson 74.99 334 *e*P **P** 04 50 29.4 +0.7
comp=Z,22nm,1.1s
SCM Sheep Creek Mo 75.49 333 *e*P **P** 04 50 32.4 +0.8
SCM pmax pmax
comp=Z,40nm,0.9s
SCM Sheep Creek Mo 75.49 333 *e*P **P** 04 50 32.4 +0.8
comp=Z,40nm,0.9s
TBI Tubuai 75.69 244 *e*S **S** 05 00 12.9 -1.8
comp=Z,135nm,29.8s
TBI Tubuai 75.69 244 *e*LR LR 05 13 59.3
comp=Z,345nm,26.0s
SML Sawmill 75.95 332 *e*P **P** 04 50 34.9 +0.7
SML pmax pmax
comp=Z,47nm,1.2s
SML Sawmill 75.95 332 *e*P **P** 04 50 34.9 +0.7
comp=Z,47nm,1.2s
FYU Fort Yukon 76.01 338 *e*P **P** 04 50 35.1 +0.7
comp=Z,35nm,1.3s
HDA Harding Lake 76.04 335 *e*P **P** 04 50 35.0 +0.4
comp=Z,34nm,1.0s
IL1 Eielson Array 76.12 336 *e*P **P** 04 50 34.7 -0.3
ILAR Eielson Array 76.12 336 P **P** 04 50 34.8 -0.2
comp=Z,6.5nm,0.9s,baz=108,slow=4.2,SNR=41
ILB Eielson Array 76.12 336 *e*P **P** 04 50 34.8 -0.2
PMR Palmer 76.26 332 *e*P **P** 04 50 36.3 +0.4
PMR pmax pmax
comp=Z,22nm,1.2s
PMR Palmer 76.26 332 *e*P **P** 04 50 36.3 +0.4
comp=Z,22nm,1.2s
CCB Clear Creek Bu 76.46 335 *e*P **P** 04 50 37.4 +0.5
comp=Z,7.6nm,1.0s
RND Reindeer 76.58 334 *e*P **P** 04 50 38.4 +0.6
RND pmax pmax
comp=Z,55nm,1.1s
RND Reindeer 76.58 334 *e*P **P** 04 50 38.4 +0.6
comp=Z,55nm,1.1s
MCK McKinley 76.70 334 *e*P **P** 04 50 39.1 +0.7
MCK pmax pmax
comp=Z,28nm,1.2s
MCK McKinley 76.70 334 *e*P **P** 04 50 39.0 +0.7
comp=Z,28nm,1.2s
MDM Murphy Dome 76.72 336 *e*P **P** 04 50 38.9 +0.4
comp=Z,22nm,1.1s
GRR Gorron 77.03 42 *e*P **P** 04 50 40.0 -0.5
GRR pmax pmax
comp=Z,37nm,1.1s
FLN La Foliniere 77.31 41 *e*P **P** 04 50 41.7 -0.4
FLN pmax pmax
comp=Z,62nm,1.4s
KTH Kantishna Hill 77.52 334 *e*P **P** 04 50 43.4 +0.3
comp=Z,16nm,1.0s
LDF La Druitiere 77.53 42 *e*P **P** 04 50 42.9 -0.5
LDF pmax pmax
comp=Z,81nm,1.3s
SPU Mount Spurr 77.55 331 *e*P **P** 04 50 43.6 +0.3
DAG Danmarks Havn 77.67 12 *i* P **P** 04 50 42.4 -1.2
comp=Z,18nm,1.1s
DAG Danmarks Havn 77.67 12 *i* P **P** 04 50 42.4 -1.2
DAG pmax pmax
comp=Z,22nm,1.1s
RSO Redoubt South 77.75 331 *e*P **P** 04 50 45.3 +0.7
PPLA Purkeypile 77.94 333 *e*P **P** 04 50 45.8 +0.3
comp=Z,27nm,1.1s
COLD Coldfoot 78.08 338 *e*P **P** 04 50 46.8 +0.8
comp=Z,20nm,1.1s
TOA1 Torodi Ar. Sit 78.39 78 *e*P **P** 04 50 47.7 -1.1
TOA0 Torodi Ar. Sit 78.40 78 *e*P **P** 04 50 47.8 -1.0
TORD Torodi Ar. Bea 78.40 78 P **P** 04 50 47.7 -1.1
comp=Z,12nm,0.9s,baz=284,slow=7.0,SNR=91
CAF Calviac 78.75 45 *e*P **P** 04 50 49.7 -0.5
CAF pmax pmax
comp=Z,40nm,1.2s
SVW2 Sparrevohn 79.22 331 *e*P **P** 04 50 52.1 -0.4
comp=Z,24nm,1.0s
SVW2 *e*pP **PcP** 04 51 02.0 +1.2
PYM Petit Puy Mans 79.46 45⅄ *e*P **P** 04 50 55.2 +1.0
AGO Saint Agoulin 79.56 44⅄ *e*P **P** 04 50 54.9 +0.3
LBL Lubilhac 79.60 45 *e*P **P** 04 50 56.1 +1.1
AVF Avril sur Loir 79.75 44 *e*P **P** 04 50 54.5 -1.1
AVF pmax pmax
comp=Z,34nm,1.2s
PLDF La Plantade 79.90 44⅄ *e*P **P** 04 50 57.3 +0.8
SSB Saint Sauveur 80.52 45 *e*P **P** 04 51 00.4 +0.6
SSB pmax pmax
comp=Z,22nm,1.1s
SSB Saint Sauveur 80.52 45 *e*P **P** 04 51 00.4 +0.6
comp=Z,22nm,1.1s
VIVF Saint-Julien-l 80.60 46 *e*P **P** 04 51 00.4 +0.1
VIVF pmax pmax
comp=Z,52nm,1.3s
DOU Dourbes 80.72 40 P **P** 04 51 01.0 +0.3
comp=Z,21nm,2.1s
GIVF Givet 80.86 40 *e*P **P** 04 51 01.1 -0.4
GIVF pmax pmax
comp=Z,64nm,1.3s
BCLA Clavier 81.18 40 P **P** 04 51 03.6 +0.4
comp=Z,26nm,1.8s
ORIF Oris-en-Rattie 81.46 46 *e*P **P** 04 51 05.0 0.0
ORIF pmax pmax
comp=Z,27nm,1.1s
TAM Tamanrasset 81.56 68 *e*P **P** 04 51 06.2 +0.2
TAM pmax pmax
comp=Z,30nm,1.3s
TAM Tamanrasset 81.56 68 *e*P **P** 04 51 06.2 +0.2
comp=Z,30nm,1.3s
THEF They Montfort 81.58 42⅄ *e*P **P** 04 51 05.1 -0.3
CABF La Chapelle 81.62 44 *e*P **P** 04 51 05.2 -0.6
CABF pmax pmax
comp=Z,71nm,1.5s
MEM Membach 81.64 40 P **P** 04 51 05.9 +0.3
WLF Walferdange 81.71 41 P **P** 04 51 06.7 +0.6
comp=Z,38nm,1.5s
WLF Walferdange 81.71 41 *e*P **P** 04 51 06.7 +0.7
WLF pmax pmax
comp=Z,67nm,1.2s
WLF Walferdange 81.71 41 *e*P **P** 04 51 06.7 +0.7
comp=Z,67nm,1.2s
BNI Bardonecchia 82.03 45 *e*P **P** 04 51 08.9 +0.9
BNI pmax pmax
comp=Z,31nm,1.2s
BNI Bardonecchia 82.03 45 *e*P **P** 04 51 08.9 +0.9
comp=Z,31nm,1.2s
LPL La Plagne 82.06 45 *e*P **P** 04 51 08.2 -0.1
LPL pmax pmax
comp=Z,20nm,1.1s
LPG La Plagne 82.08 45 *e*P **P** 04 51 08.5 0.0
LPG pmax pmax
comp=Z,40nm,1.3s
LOMF Lomont 82.13 43⅄ *e*P **P** 04 51 07.8 -0.6
HINF Hinteralfeld 82.15 43 *e*P **P** 04 51 07.3 -1.2
HINF pmax pmax
comp=Z,22nm,1.2s
MOF Molkenrain 82.34 43 *e*P **P** 04 51 08.8 -0.7
ECH Echery 82.36 42⅄ *e*P **P** 04 51 09.4 -0.1
SENIN Lac Senin/Sane 82.46 44 *e*P **P** 04 51 10.9 +0.6
comp=Z,29nm,1.3s
LANF Langenberg 82.79 41 *e*P **P** 04 51 11.6 -0.1
BFO Black Forest 83.14 42 *i* P **P** 04 51 13.3 -0.3
BFO Black Forest 83.14 42 *e*P **P** 04 51 13.3 -0.3
comp=Z,14nm,1.1s
TUE Stuetta 83.87 44 *e*P **P** 04 51 17.8 +0.2
comp=Z,23nm,1.0s
VSL Villasalto 84.15 51 *e*P **P** 04 51 19.2 +0.3
comp=Z,63nm,1.0s
DAVA Damuels 84.21 43 *e*P **P** 04 51 19.4 +0.2
comp=Z,28nm,1.0s,SNR=10
KEST Kesra 84.31 55 P **P** 04 51 19.9 0.0
comp=Z,17nm,1.1s,baz=217,slow=2.0,SNR=12
KEST Kesra 84.31 55 *e*P **P** 04 51 20.4 +0.5
comp=Z,27nm,1.1s
NBO02 NORSAR Array S 84.36 29 *e*P **P** 04 51 19.8 +0.2
FUORN Ofenpass-Fuorn 84.50 44 *e*P **P** 04 51 21.4 +0.6
comp=Z,20nm,1.1s
NB2 NORSAR Subarra 84.54 29 P **P** 04 51 20.6 +0.1
baz=270,slow=5.1
NB2 NORSAR Subarra 84.54 29 P **P** 04 51 20.5 0.0
NB2 NORSAR Subarra 84.54 29 P **P** 04 51 20.6 +0.1
comp=Z,20nm,1.0s,baz=270,slow=5.1
NB200 NORSAR Array S 84.54 29 *e*P **P** 04 51 20.6 +0.1
NOA NORSAR Array B 84.54 29 P **P** 04 51 20.6 +0.1
comp=Z,9.7nm,1.0s,baz=272,slow=4.9,SNR=11
VLC Villacollemand 84.70 46 *e*P **P** 04 51 20.8 -0.8
comp=Z,33nm,1.1s
FETA Feichten 84.80 43 *e*P **P** 04 51 22.5 +0.3
comp=Z,26nm,1.1s,SNR=11
RETA Reutte 84.80 43 *e*P **P** 04 51 22.6 +0.4
comp=Z,17nm,1.1s
GRFO Grafenberg 85.00 41 *e*P **P** 04 51 24.4 +1.4
GRFO pmax pmax
comp=Z,30nm,1.2s
GRFO Grafenberg 85.00 41 *e*P **P** 04 51 24.4 +1.4
comp=Z,30nm,1.2s
MOTA Moosalm 85.04 43 *e*P **P** 04 51 23.9 +0.4
comp=Z,4.6nm,0.8s
WATA Walderalm 85.36 43 *e*P **P** 04 51 25.6 +0.5
comp=Z,16nm,1.2s
WTTA Wattenberg 85.41 43 *e*P **P** 04 51 25.6 +0.3
comp=Z,8.7nm,0.8s
NKC Novy Kostel 85.76 40 *e*P **P** 04 51 27.5 +0.7
NKC Novy Kostel 85.76 40 *e*P **P** 04 51 27.5 +0.7
ABTA Abfaltersbach 86.04 44 *i* P **P** 04 51 28.3 -0.1
comp=Z,26nm,1.0s,SNR=11
CLL Collm 86.04 39 *i* P **P** 04 51 28.2 +0.1
CLL *e* 04 51 37.0
CLL *e*S **S** 05 02 05.0 +3.3
CLL pmax pmax
comp=Z,29nm,1.3s
CLL MLR MLR
comp=Z,500nm,21.6s
CLL Collm 86.04 39 *i* P **P** 04 51 28.2 +0.1
comp=Z,29nm,1.3s
CLL *e*sP **sP** 04 51 37.0 +1.5
CLL *e*S **S** 05 02 05.0 +3.3
CLL LmV 05 38 00.0
comp=Z,500nm,21.6s
CLL LmH 05 39 00.0
comp=N,300nm,18.7s
CLL LmH 05 39 00.0
comp=E,500nm,19.7s
CLL Collm 86.04 39 *e*P **P** 04 51 28.2 +0.1
comp=E,22nm,1.1s
KHC Kasperske Hory 86.57 41 *e*P **P** 04 51 31.5 +0.6
KHC *ex* x 04 51 40.3
KHC Kasperske Hory 86.57 41 *e*P **P** 04 51 31.2 +0.3
KHC pmax pmax
comp=Z,16nm,1.2s
KHC Kasperske Hory 86.57 41 *e*P **P** 04 51 31.2 +0.3
comp=Z,16nm,1.2s
KBA Koelnbreinsper 86.58 43 *e*P **P** 04 51 31.4 +0.3
comp=Z,33nm,1.5s,SNR=12
KBA Koelnbreinsper 86.58 43 P **P** 04 51 31.5 +0.3
BRG Berggiesshubel 86.66 39 *i* P **P** 04 51 31.6 +0.4
comp=Z,24nm,1.2s
BRG Berggiesshubel 86.66 39 S S 05 02 20.0 +12
BRG Berggiesshubel 86.66 39 *i* P **P** 04 51 31.6 +0.4
BRG pmax pmax
comp=Z,24nm,1.2s
GEC2 GERESS Array S 86.68 41 *e*P **P** 04 51 31.8 +0.3
GEC2 pmax pmax
comp=Z,25nm,1.1s
GEC2 GERESS Array S 86.68 41 *e*P **P** 04 51 31.8 +0.3
comp=Z,25nm,1.1s
GERES GERESS Array B 86.68 41 P **P** 04 51 31.8 +0.3
comp=Z,13nm,1.0s,baz=262,slow=3.9,SNR=36
GEA0 GERESS Array S 86.68 41 *e*P **P** 04 51 31.2 -0.3
MYKA Terra Mystica 86.82 44 *e*P **P** 04 51 32.4 +0.2
comp=Z,8.3nm,0.7s,SNR=7.1
PVCC Panska Ves 87.09 40 *e*P **P** 04 51 34.0 +0.7
PVCC Panska Ves 87.09 40 *e*P **P** 04 51 34.0 +0.7
PRU Pruhonice 87.12 40 *e*P **P** 04 51 34.3 +0.8
PRU Pruhonice 87.12 40 *e*P **P** 04 51 34.3 +0.8
MOA Molln 87.14 42 *e*P **P** 04 51 33.5 -0.1
comp=Z,30nm,1.7s,SNR=8.1
SKDS Skadanscina 87.17 45 *i* P **P** 04 51 33.7 -0.2
GOPC GO Pecny, Ondr 87.29 40 *e*P **P** 04 51 35.1 +0.8
GOPC GO Pecny, Ondr 87.29 40 *e*P **P** 04 51 35.1 +0.8
OBKA Obir 87.46 44 *e*P **P** 04 51 35.0 -0.3
comp=Z,5.9nm,0.8s
LJU Ljubljana 87.49 44 *i* P **P** 04 51 35.8 +0.5
SOKA Soboth 87.77 43 *e*P **P** 04 51 36.7 -0.1
comp=Z,12nm,1.2s
TREC Trest 87.80 41 *e*P **P** 04 51 37.5 +0.7
TREC Trest 87.80 41 *e*P **P** 04 51 37.5 +0.7
UPC Upice 88.01 40 *e*P **P** 04 51 38.6 +0.8
UPC *ex* x 04 51 48.1
UPC Upice 88.01 40 *e*P **P** 04 51 38.6 +0.8
UPC *e* 04 51 48.1
ARSA Arzberg 88.05 43 *e*P **P** 04 51 38.1 +0.1
comp=Z,18nm,1.5s,SNR=5.5
KSP Ksiaz 88.15 39 *e*P **P** 04 51 39.6 +1.3
KSP Ksiaz 88.15 39 *e*P **P** 04 51 39.7 +1.3
CONA Conrad Observa 88.20 42 *e*P **P** 04 51 38.9 +0.1
comp=Z,22nm,1.8s,SNR=6.2
DPC Dobruska-Polom 88.22 40 *e*P **P** 04 51 39.6 +0.8
DPC *ex* x 04 51 49.1
DPC Dobruska-Polom 88.22 40 *e*P **P** 04 51 39.6 +0.8
DPC *e* 04 51 49.1
KRLC Kraliky 88.55 40 *e*P **P** 04 51 41.1 +0.7
KRLC *ex* x 04 51 50.7
KRLC Kraliky 88.55 40 *e*P **P** 04 51 41.1 +0.7
KRLC *e* 04 51 50.7
MORC Moravsky Berou 89.08 40 *e*P **P** 04 51 44.0 +1.1
MORC pmax pmax
comp=Z,122nm,1.6s
MORC Moravsky Berou 89.08 40 *e*P **P** 04 51 44.0 +1.1
comp=Z,122nm,1.6s
ARA0 ARCESS Array S 89.31 20 *e*P **P** 04 51 43.0 -0.5
ARCES ARCESS Array B 89.31 20 P **P** 04 51 43.2 -0.3
comp=Z,7.3nm,0.9s,baz=287,slow=4.7,SNR=13
OKC Ostrava-Krasne 89.46 40 *e*P **P** 04 51 45.7 +1.1
OKC Ostrava-Krasne 89.46 40 *e*P **P** 04 51 45.7 +1.1
VYHS Vyhne 90.10 41 *e*P **P** 04 51 48.1 +0.5
VYHS pmax pmax
comp=Z,19nm,2.2s
VYHS Vyhne 90.10 41 *e*P **P** 04 51 48.1 +0.5
LANS Liptovska Anna 90.41 41 *e*P **P** 04 51 51.5 +2.4
LANS Liptovska Anna 90.41 41 *e*P **P** 04 51 51.5 +2.4
OJC Ojcow 90.45 40 *e*P **P** 04 51 50.6 +1.4
OJC Ojcow 90.45 40 *e*P **P** 04 51 50.5 +1.3
OJC pmax pmax
comp=Z,23nm,1.4s
OJC Ojcow 90.45 40 *e*P **P** 04 51 50.5 +1.3
comp=Z,23nm,1.4s
SNAA Sanae 90.61 162 *e*P **P** 04 51 49.3 -0.2
SNAA pmax pmax
comp=Z,29nm,1.7s
SNAA Sanae 90.61 162 *e*P **P** 04 51 49.3 -0.2
comp=Z,29nm,1.7s
BEL Belsk 90.79 38 *e*P **P** 04 51 51.8 +1.0
BEL Belsk 90.79 38 *e*P **P** 04 51 51.8 +1.1
NIE Niedzica 90.90 40 *e*P **P** 04 51 53.4 +2.0
NIE Niedzica 90.90 40 *e*P **P** 04 51 53.4 +2.0
KECS Kecovo 91.18 41 *e*P **P** 04 51 54.4 +1.7
KECS pmax pmax
comp=Z,9.0nm,2.0s
KECS Kecovo 91.18 41 *e*P **P** 04 51 54.4 +1.7
STHS Stebnicka Huta 91.51 40 *e*P **P** 04 51 56.3 +2.1
STHS pmax pmax
comp=Z,3.0nm,1.2s
STHS Stebnicka Huta 91.51 40 *e*P **P** 04 51 56.3 +2.1
FIA0 FINESS Array S 91.58 28 *e*P **P** 04 51 53.6 -0.6
FIA0 FINESS Array S 91.58 28 *e*P **P** 04 51 53.6 -0.6
FINES FINESS Array B 91.58 28 P **P** 04 51 53.6 -0.6
comp=Z,5.1nm,1.1s,baz=211,slow=11,SNR=6.1
CRVS Cervenica-Dubn 91.75 41 *e*P **P** 04 51 59.3 +4.0
CRVS Cervenica-Dubn 91.75 41 *e*P **P** 04 51 59.3 +4.0
SUW Suwalki 91.80 35 *e*P **P** 04 51 55.4 0.0
SUW Suwalki 91.80 35 *e*P **P** 04 51 55.4 +0.1
KWP Kalwaria Pacla 92.41 40 *e*P **P** 04 52 00.8 +2.4
KWP Kalwaria Pacla 92.41 40 *e*P **P** 04 52 00.8 +2.5
VTS Vitosha 94.16 47 *e*P **P** 04 52 07.6 +0.9
VTS pmax pmax
comp=Z,13nm,1.4s
VTS Vitosha 94.16 47 *e*P **P** 04 52 07.6 +0.9
comp=Z,13nm,1.4s
AGG Agios Georgios 94.19 50 *e*P **P** 04 52 08.0 +1.2
AGG pmax pmax
comp=Z,42nm,1.2s
AGG Agios Georgios 94.19 50 *e*P **P** 04 52 08.0 +1.2
comp=Z,42nm,1.2s
BILL Bilibino 94.22 340 *e*P **P** 04 52 05.7 -0.5
BILL pmax pmax
comp=Z,17nm,1.3s
MLR Muntele Rosu 95.45 43 *e*P **P** 04 52 12.8 +0.2
MLR pmax pmax
comp=Z,30nm,1.5s
MLR Muntele Rosu 95.45 43 *e*P **P** 04 52 12.8 +0.2
comp=Z,30nm,1.5s
QSPA South Pole Qui 95.68 180 *e*P **P** 04 52 14.1 +1.1
KIEV Kiev 96.20 38⅄ *i*P **P** 04 52 14.7 -0.9
KIEV pmax pmax
comp=Z,9.0nm,2.5s
KLMR Klimovskoe 97.88 26 *e*P **P** 04 52 20.0 -3.0
KLMR *e* 04 56 20.4
KLMR pmax pmax
comp=Z,11nm,1.2s
OBN Obninsk 98.88 32⅄ *e*P **P** 04 52 27.5 -0.1
OBN pmax pmax
comp=Z,9.0nm,1.1s
TIXI Tiksi 100.89 352 *i* P **Pdif** 04 52 34.1 -2.1
TIXI pmax pmax
comp=Z,7.0nm,0.9s
SYO Syowa Base 104.82 161⅄ *e*Pdiff **Pdif** 04 52 54.0 +0.3
H11S2 WAKE ISLAND Hyl 112.18 292 T T 06 59 46.6
baz=77,slow=75,SNR=3.7
H11S1 WAKE ISLAND Hyl 112.18 292 T T 06 59 47.5
baz=77,slow=75,SNR=5.8
H11S3 WAKE ISLAND Hyl 112.20 292 T T 06 59 49.0
baz=77,slow=75,SNR=6.2
ZAA1 Zalesovo Array 118.80 12 *e*PKPdf **PKPdf** 04 57 35.2 -0.6
ZAA0 Zalesovo Array 118.81 12 *e*PKPdf **PKPdf** 04 57 35.1 -0.7
ZALV Zalesovo Beam 118.81 12 PKP **PKPdf** 04 57 35.2 -0.6
comp=Z,0.8nm,0.4s,baz=279,slow=2.9,SNR=5.4
KLR Kul'dur 119.62 338 PKP **PKPdf** 04 57 37.6 0.0
comp=Z,0.4nm,0.2s,baz=15,slow=4.7,SNR=4.0
USRK Ussuriysk Ar. 123.63 335 PKP **PKPdf** 04 57 43.8 -1.6
comp=Z,3.2nm,0.8s,baz=15,slow=2.9,SNR=5.9
MK01 Makanchi Array 124.85 17 *e*PKPdf **PKPdf** 04 57 46.7 -1.0
MJAR Matsushiro Arr 126.25 324 PKP **PKPdf** 04 57 50.9 +0.2
comp=Z,2.5nm,0.9s,baz=83,slow=1.3,SNR=7.2
ULN Ulaanbaatar 126.53 356 *e*PKIKP **PKPdf** 04 57 51.2 +0.1
ULN Ulaanbaatar 126.53 356 *e*PKPdf **PKPdf** 04 57 51.1 +0.1
SONA1 Songino Array 126.59 357 *e*PKPdf **PKPdf** 04 57 50.6 -0.6
SONA0 Songino Array 126.61 357 *e*PKPdf **PKPdf** 04 57 51.1 -0.1
SONM Songino Array 126.61 357 PKP **PKPdf** 04 57 51.1 -0.1
comp=Z,3.5nm,0.9s,baz=350,slow=1.2,SNR=14
KSH Kashi 128.87 26 *e*PKP **PKPdf** 04 57 56.8 +1.0
KSH PP **PP** 05 00 08.8 +7.3
KSH PKS **PKSdf** 05 01 31.9 -0.5
KSH SKS **SKSdf** 05 05 03.9 -3.3
KSH SS **SS** 05 17 20.5 +1.4
KSH AMB AMB
comp=Z,120nm,4.4s
KSH LR LR
comp=Z,100nm,4.9s
KSH LR LR
comp=Z,92nm,5.9s
KSH LR LR
comp=Z,150nm,5.2s
WMQ Urumqi 129.00 14 PKP **PKPdf** 04 57 56.0 +0.2
WMQ PP **PP** 05 00 05.6 +3.7
WMQ LR LR
comp=Z,140nm,21.3s
WMQ LR LR
comp=Z,170nm,23.7s
EIDS Eidsvold 129.45 242 *e*PKPdf **PKPdf** 04 57 57.7 +0.7
KS01 Wonju Array Si 130.91 333 *e*PKPdf **PKPdf** 04 57 58.9 -0.6
KSRS Korea Array 130.91 333 PKP **PKPdf** 04 57 59.5 0.0
comp=Z,6.3nm,0.9s,baz=38,slow=1.3,SNR=34
KSRS SKPbc **SKPbc** 05 01 23.9 +0.8
comp=Z,1.0nm,0.8s,baz=30,slow=5.9,SNR=5.6
KS15 Wonju Array Si 130.94 333 *e*PKPdf **PKPdf** 04 57 59.5 -0.1
KS15 *e*SKPbc **SKPbc** 05 01 23.9 +0.6
KSAR Wonju Array Be 130.94 333 PKIKP **PKPdf** 04 57 59.5 -0.1
KSAR Wonju Array Be 130.94 333 PKP **PKPdf** 04 57 59.5 -0.1
BJI Beijing 132.76 346 PKP **PKPdf** 04 57 59.3 -3.6
BJI LR LR
comp=Z,170nm,21.2s
BJI LR LR
comp=Z,340nm,31.4s
BJI LR LR
comp=Z,180nm,32.3s
HHC Hu-ho-hao-te 132.94 350 *e*PKP **PKPdf** 04 58 00.9 -2.5
HHC PP **PP** 05 00 30.3 +2.9
HHC LR LR
comp=Z,210nm,17.4s
HHC LR LR
comp=Z,280nm,18.7s
HHC LR LR
comp=Z,200nm,16.2s
STKA Stephens Creek 135.00 230 PKP **PKPdf** 04 58 06.9 -0.4
comp=Z,2.4nm,0.7s,baz=27,slow=7.9,SNR=4.2
GTA Gaotai 135.09 3 *e*PKP **PKPdf** 04 58 07.3 -0.2
GTA sPKP 04 58 14.4
LZH Lanzhou 138.44 358 *e*PKP **PKPdf** 04 58 10.8 -3.1
LZH AMB AMB
comp=Z,160nm,5.3s
LZH LR LR
comp=Z,1µm,20.0s
WHN Wuhan 142.20 343 PKP **PKPdf** 04 58 16.6 -4.0
ASAR Alice Springs 144.74 236 PKP **PKPab** 04 58 23.1 -0.9
comp=Z,20nm,0.9s,baz=120,slow=4.1,SNR=87
FORT Forrest 145.24 221 *e*PKPbc **PKPbc** 04 58 24.9 -0.6
SSLB Suanglung 145.54 329 *e*PKPdf **PKPdf** 04 58 26.9 +0.2
WB2 Warramunga Arr 145.80 243 *e*PKPdf **PKPdf** 04 58 26.4 -0.8

WB2				ePKPdf	PKPbc	04 58 27.1	-0.5		
WRAB	**Tennant Creek**	**145.80**	**243**	ePKP2	**PKPdf**	**04 58 27.2**	**0.0**		
WRAB	**Tennant Creek**	**145.80**	**243**	ePKPdf	**PKPdf**	**04 58 27.2**	**0.0**		
WR1	**Warramunga Arr**	**145.81**	**243**	ePKPdf	**PKPdf**	**04 58 26.6**	**-0.5**		
WRA	**Warramunga Arr**	**145.81**	**243**	PKPbc	**PKPdf**	**04 58 26.6**	**-0.5**		
	comp=Z,14nm,1.0s,baz=104,slow=2.7,SNR=40								
TPUB	**Ta-pu**	**146.11**	**329**	ePKPdf	**PKPdf**	**04 58 28.1**	**+0.5**		
HYB	**Hyderabad**	**147.17**	**45**	*i* PKP	**PKPab**	**04 58 33.0**	**-0.3**		
GYA	**Guiyang**	**147.79**	**353**	*i* PKPbc	**PKPdf**	**04 58 30.0**	**-0.5**		
GYA				PKPab	**pPKPbc**	**04 58 36.4**	**-2.5**		
GYA				PP	**PP**	**05 02 02.6**	**+4.1**		
GYA				AMB	AMB				
	comp=Z,120nm,7.9s								
KMI	**Kunming**	**149.39**	**359**	PKPbc	**PKPdf**	**04 58 32.1**	**-1.2**		
KMI				AMB	AMB				
	comp=Z,170nm,5.1s								
MTN	**Manton Dam**	**150.72**	**254**	ePKPbc	**PKPbc**	**04 58 40.6**	**-0.2**		
SLVN	**Son La**	**153.12**	**357**	ePKPdf	**PKPdf**	**04 58 40.1**	**+1.2**		
CM31	**Chiang Mai Arr**	**155.80**	**8**	ePKPdf	**PKPdf**	**04 58 42.2**	**-0.3**		
CM31				ePKPab	**PKPab**	**04 59 07.0**	**-1.8**		
CM31				ePP	**PP**	**05 02 42.8**	**-1.3**		
CMAR	**Chiang Mai Arr**	**155.80**	**8**	PKP	**PKPdf**	**04 58 42.2**	**-0.3**		
	comp=Z,1.5nm,0.6s,baz=313,slow=2.6,SNR=9.0								
CMAR				PKPab	**PKPab**	**04 59 07.0**	**-1.8**		
	comp=Z,4.3nm,0.7s,baz=332,slow=5.0,SNR=10.0								
CMAR				PP	**PP**	**05 02 42.8**	**-1.3**		
	comp=Z,1.1nm,0.6s,baz=347,slow=6.6,SNR=4.1								
CM01	**Chiang Mai Arr**	**155.83**	**8**	ePKPdf	**PKPdf**	**04 58 42.5**	**-0.1**		
PSI	**Prapat**	**170.93**	**22**	ePKP2	**PKPab**	**05 00 14.9**	**-0.5**		
PSI	**Prapat**	**170.93**	**22**	ePKPab	**PKPab**	**05 00 14.9**	**-0.5**		

IDC ***13*** *04:49:32.6±0.4,5.65N×77.51W,h0km,mb5.0/24, mb1 5.1/29,mb1mx5.1/37,mbtmp5.0/29,ML4.6/5,MS4.8/29, Ms1 4.8/29,ms1mx4.8/34,Error ellipse: s-maj=16.5km s-min=10.1km az=58.0*

ISCJB ***13*** *04:49:32.7±1.0,5.75N±0.02×77.61W±0.02,h3km±6km, mb5.2/351,MS4.9/161,Error ellipse: s-maj=4.0km s-min=2.5km az=27.6*

MOS ***13*** *04:49:34.0±1.2,5.65N×77.31W,h21km,mb5.4/103, MS4.8/33,Error ellipse: s-maj=11.7km s-min=5.1km az=112.5*

NEIC ***13*** *04:49:35.0±0.1,5.62N×77.47W,h10km,mb5.2/298, MS4.9/129,MW5.7,Error ellipse: s-maj=4.0km s-min=3.0km az=224.0,Moment Tensor Solution. s32 Moment tensor: Scale 10^17^Nm; Mrr1.64; Mθθ0.60; Mφφ-2.24; Mrθ-0.72; Mθφ1.24; Mφr-2.99; Best double couple: Mo3.90000×10^17^ NP1:φs188.00000°,δ76.00000°, λ115.00000°. NP2:φs307.00000°,δ28.00000°,λ32.00000°. Principal axes: T 3.7500, Plg53.0000°, Azm128.0000°; N 0.2400, Plg24.0000°, Azm2.0000°; P -3.9900, Plg26.0000°, Azm259.0000°;*

NEIC Felt at Envigado and Medellin.

GCMT ***13*** *04:49:35.0±0.1,5.73N×77.66W,h13km,MW5.5/131, Moment Tensor Solution. s98,c141; s131,c298; Duration: 1s4 Moment tensor: Scale 10^17^Nm; Mrr1.50±.03; Mθθ-0.08±.02; Mφφ-1.43±.02; Mrθ-0.03±.05; Mθφ-0.01±.01; Mφr-2.00±.09; Best double couple: Mo2.47900×10^17^ NP1:φs181.00000°,δ72.00000°, λ90.00000°. NP2:φs360.00000°,δ18.00000°,λ89.00000°. Principal axes: T 2.5140, Plg63.0000°, Azm91.0000°; N -0.0790, Plg0.0000°, Azm1.0000°; P -2.4440, Plg27.0000°, Azm271.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*

RSNC ***13*** *04:49:35.0±1.1,5.65N×77.63W,h11km±16km,ML4.7, Mw5.9*

BJI ***13*** *04:49:36.7,5.60N×77.50W,h26km,mB5.6/25,Ms5.4/23, Ms7 5.2/24*

ISC 13 04:49:35.3±0.5,5.57N±0.03×77.48W±0.03,h15km±3km, n1216,σ1.952/1166,mb5.2/365,MS4.9/163,31C-13D,Near west coast of Colombia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SOLC	**Bahia Solano**	**0.66**	**6**	*e*P	**Pg**	**04 49 45.9**	**-2.3**
SOLC				*e*S	**Sg**	**04 49 55.1**	**-1.8**
SOLC				*i*		04 49 59.1	
	comp=Z,26μm,0.2s						
MALC	**Bahia Malaga**	**1.55**	**175**	*e*P	**Pn**	**04 50 03.0**	**+0.6**
MALC				*i*		04 50 32.1	
	comp=Z,5μm,0.8s						
DBBC	**Dabeiba**	**1.92**	**41**	*e*P	**Pn**	**04 50 06.9**	**-0.5**
HELC	**Santa Helena**	**2.04**	**72**	*e*P	**Pn**	**04 50 09.2**	**-0.2**
HELC				*e*S	**Sb**	**04 50 38.5**	**+0.9**
HELC				*i*		04 50 47.5	
	comp=Z,8μm,0.6s						
HELC	**Santa Helena**	**2.04**	**72**	*e*Pn	**Pn**	**04 50 09.0**	**-0.4**
HELC				*e*Sn	**Sn**	**04 50 34.8**	**0.0**
GUYC	**Guyana, Colomb**	**2.11**	**99**	*e*P	**Pb**	**04 50 12.4**	**-1.2**
GUYC				*i*		04 50 51.7	
	comp=Z,5μm,0.5s						
TOLC	**Tolima**	**2.37**	**114**	*e*P	**Pn**	**04 50 16.0**	**+2.1**
NORC	**Norcasia**	**2.60**	**90**	*e*P	**Pn**	**04 50 18.4**	**+1.6**
CAPC	**Capurgana**	**3.05**	**2**	*e*P	**Pn**	**04 50 21.1**	**-1.9**
CAPC				*i*		04 51 26.5	
	comp=Z,2μm,0.8s						
PRAC	**Prado**	**3.18**	**125**	*e*P	**Pn**	**04 50 27.2**	**+2.4**
PRAC	**Prado**	**3.18**	**125**	*e*Pn	**Pn**	**04 50 27.6**	**+2.8**
ROSC	**El Rosal**	**3.23**	**103**	Pn	**Pb**	**04 50 29.6**	**-3.0**
	comp=Z,24nm,0.3s,baz=270,slow=12,SNR=59						
ROSC				Pg	**Pg**	**04 50 33.5**	**-3.9**
	comp=Z,101nm,0.3s,baz=286,slow=6.8,SNR=57						
ROSC				LR	LR	04 51 55.3	
	comp=Z,31μm,19.7s,baz=210,slow=44						
ROSC	**El Rosal**	**3.23**	**103**	*e*P	**Pn**	**04 50 27.3**	**+1.4**
ROSC				*i*		04 50 44.0	
	comp=Z,3μm,0.6s						
ROSC	**El Rosal**	**3.23**	**103**	*e*Pn	**Pb**	**04 50 30.4**	**-2.2**
ROSC				*e*Sn	**Sb**	**04 51 09.5**	**-2.5**
ZARC	**Zaragoza, Cauc**	**3.23**	**54**	*e*P	**Pn**	**04 50 26.1**	**+0.6**
ZARC				*i*		04 51 27.3	
	comp=Z,3μm,0.7s						
MOTC	**Monteria, Cord**	**3.66**	**29**	*e*P	**Pn**	**04 50 30.3**	**-1.1**
TUMC	**Tumaco**	**3.92**	**198**	*e*Pn	**Pb**	**04 50 40.6**	**-3.6**
TUMC				*e*Sn	**Sg**	**04 51 38.7**	**-2.7**
BRRC	**Barranca, Sant**	**4.05**	**68**	*e*P	**Pn**	**04 50 37.7**	**+0.9**
RUSC	**La Rusia**	**4.39**	**86**	*e*P	**Pn**	**04 50 43.5**	**+1.7**
RUSC				*i*		04 52 11.1	
	comp=Z,1μm,1.0s						
RUSC	**La Rusia**	**4.39**	**86**	*e*Pn	**Pn**	**04 50 44.2**	**+2.3**
RUSC				*e*Sn	**Sb**	**04 51 40.2**	**-5.2**
OTAV	**Otavalo**	**5.38**	**190**	*e*Pn	**Pn**	**04 50 57.2**	**+1.6**
OTAV				*e*Sn	**Sn**	**04 51 57.0**	**-0.5**
SDV	**Santo Domingo**	**7.55**	**64**	*e*Pn	**Pn**	**04 51 26.9**	**+1.9**
SDV				*e*Sn	**Sn**	**04 52 50.1**	**-0.4**
HDC	**Heredia**	**7.91**	**304**	*e*Pn	**Pn**	**04 51 29.5**	**-0.4**
JTS	**JuntasAbangare**	**8.76**	**303**	Pn	**Pn**	**04 51 39.9**	**-1.7**
	comp=Z,2.9nm,0.3s,baz=169,slow=6.0,SNR=24						
JTS				LR	LR	04 54 57.6	
	comp=Z,22μm,20.8s,baz=166,slow=37						
JTS	**JuntasAbangare**	**8.76**	**303**	*e*Pn	**Pn**	**04 51 40.1**	**-1.4**
HOJ	**Hope**	**12.38**	**3**	*i* P	**Pn**	**04 52 30.5**	**-0.6**
STH	**Stony Hill**	**12.45**	**3**	*i* P	**Pn**	**04 52 31.9**	**-0.1**
GWJ	**Greenwich**	**12.45**	**3**	‖ *i*P	**Pn**	**04 52 33.4**	**+1.2**
MTDJ	**Mount Denham**	**12.58**	**360**	*e*Pn	**Pn**	**04 52 34.1**	**+0.2**
ATAH	**Atahualpa**	**12.65**	**184**	Pn	**Pn**	**04 52 38.7**	**+3.4**
	comp=Z,1.5nm,0.3s,baz=21,slow=8.5,SNR=11						
ATAH				LR	LR	04 58 34.1	
	comp=Z,15μm,21.0s,baz=8.1,slow=42						
BNJ	**Bonny Gate**	**12.68**	**2**	‖ *i*P	**Pn**	**04 52 35.6**	**+0.3**
BBJ	**Bamboo Saint A**	**12.74**	**1**	‖ *i*P	**Pn**	**04 52 35.8**	**-0.3**
TGUH	**Tegucigalpa,Un**	**12.81**	**312**	*e*Pn	**Pn**	**04 52 35.2**	**-1.8**
PCRV	**Puerto La Cruz**	**13.52**	**69**	Pn	**Pn**	**04 52 45.1**	**-1.6**
	comp=Z,3.1nm,0.3s,baz=239,slow=5.4,SNR=17						
PCRV				LR	LR	04 58 44.0	
	comp=Z,9μm,21.9s,baz=277,slow=41						
LGNH	**LØogne**	**13.71**	**20**	*e*Pn	**Pn**	**04 52 48.9**	**-0.4**
PAYG	**Puerto Ayora**	**14.21**	**245**	*e*Pn	**Pn**	**04 52 55.1**	**-1.1**
GTBY	**Guantanamo Bay**	**14.46**	**9**	*e*Pn	**Pn**	**04 52 59.1**	**-0.4**
SDDR	**Presa de Saban**	**14.63**	**24**	*e*Pn	**Pn**	**04 53 01.5**	**-0.5**
SDD	**Santo Domingo**	**14.79**	**29**	*e*Pn	**Pn**	**04 53 01.9**	**-2.1**
IDE	**Isla Desecheo**	**16.05**	**37**	*e*Pn	**Pn**	**04 53 17.6**	**-3.0**
MPR	**Mayaguez**	**16.12**	**38**	*e*Pn	**Pn**	**04 53 20.0**	**-1.5**
	comp=Z,210nm,1.0s						
AGP	**Aguadilla**	**16.27**	**37**	*e*Pn	**P**	**04 53 25.2**	**-1.2**
	comp=Z,383nm,1.2s						
CELP	**Cerrillos**	**16.37**	**40**	*e*Pn	**Pn**	**04 53 22.1**	**-2.5**
SJG	**San Juan**	**16.67**	**41**	Pn	**Pn**	**04 53 25.5**	**-3.0**
	comp=Z,2.3nm,0.3s,baz=223,slow=9.8,SNR=7.8						
SJG				LR	LR	05 01 30.6	
	comp=Z,4μm,18.5s,baz=215,slow=43						
HUMP	**Col San Antoni**	**16.89**	**41**	*e*Pn	**Pn**	**04 53 31.9**	**+0.7**
	comp=Z,227nm,1.1s						
GRGR	**Grenville**	**16.94**	**66**	*e*Pn	**Pn**	**04 53 31.1**	**-0.9**
	comp=Z,385nm,0.9s						
CBYP	**Canvanas**	**16.98**	**41**	*e*Pn	**Pn**	**04 53 28.6**	**-3.8**
	comp=Z,315nm,1.1s						
GRTK	**Grand Turk**	**17.00**	**21**	*e*Pn	**Pn**	**04 53 32.6**	**0.0**
	comp=Z,214nm,0.8s						
CDVI	**St. Croix**	**17.35**	**45**	*e*Pn	**P**	**04 53 40.5**	**+2.1**
	comp=Z,319nm,0.9s						
NNA	**Nana**	**17.45**	**178**	P	**P**	**04 53 39.7**	**+0.1**
	comp=Z,5.0nm,0.3s,baz=350,slow=11,SNR=23						
NNA				LR	LR	05 01 33.7	
	comp=Z,5μm,20.8s,baz=355,slow=41						
NNA	**Nana**	**17.45**	**178**	*e*Pn	**P**	**04 53 40.2**	**+0.7**
	comp=Z,296nm,1.5s						
STVI	**Saint Thomas**	**17.63**	**43**	*e*Pn	**P**	**04 53 43.5**	**+2.0**
	comp=Z,135nm,1.1s						
CCIG	**Comitan**	**17.88**	**308**	*e*P	**Pn**	**04 53 43.6**	**-0.3**
SABA	**Saba**	**18.36**	**48**	*e*P	**P**	**04 53 51.2**	**+1.6**
FDF	**Fort de France**	**18.46**	**59**	*e*P	**Pn**	**04 53 57.8**	**+6.9**
FDF	**Fort de France**	**18.46**	**59**	*e*P	**P**	**04 53 46.8**	**-3.9**
FDF				pmax	pmax		
	comp=Z,242nm,1.1s						
FDF	**Fort de France**	**18.46**	**59**	*e*P	**P**	**04 53 46.8**	**-3.9**
	comp=Z,242nm,1.1s						
SEUS	**St. Eustatius**	**18.48**	**49**	*e*P	**Pn**	**04 53 51.9**	**+0.9**
BAMF	**Morne Balai**	**18.50**	**59**	*e*P	Pn	04 53 59.5	+8.1
PTGA	**Pitinga**	**18.58**	**109**	P	**P**	**04 53 51.5**	**-0.5**
	comp=Z,2.4nm,0.3s,baz=295,slow=13,SNR=44						
PTGA				LR	LR	05 01 26.9	
	comp=Z,7μm,18.2s,baz=292,slow=38						
PTGA	**Pitinga**	**18.58**	**109**	*e*P	**P**	**04 53 50.9**	**-1.1**
	comp=Z,90nm,0.9s						
GDHS	**Morne Mazeau,**	**18.72**	**54**	*e*P	**Pn**	**04 53 57.3**	**+3.3**
	comp=Z,369nm,1.4s						
SMRT	**St. Maarten**	**18.76**	**47**	*e*P	**P**	**04 53 52.7**	**-1.3**
SMRT	**St. Maarten**	**18.76**	**47**	*e*P	**Pn**	**04 53 55.9**	**+1.5**
	comp=Z,197nm,0.9s						
ANWB	**Willy Bob**	**19.50**	**51**	*e*P	**P**	**04 54 00.4**	**-1.6**
ANWB	**Willy Bob**	**19.50**	**51**	*e*P	**P**	**04 54 01.1**	**-0.9**
ANWB	**Willy Bob**	**19.50**	**51**	*e*P	**P**	**04 54 01.8**	**-0.2**
	comp=Z,360nm,1.5s						
SAML	**Samuel**	**20.28**	**135**	*e*P	**P**	**04 54 09.8**	**-0.7**
	comp=Z,357nm,1.0s						
SAML				LR	LR		
	comp=Z,8μm,21.0s						
CMIG	**Matias Romero**	**20.52**	**305**	P	**P**	**04 54 11.4**	**-1.9**
	comp=Z,16nm,0.9s,baz=95,slow=9.2,SNR=12						
DWPF	**Disney Wildern**	**22.73**	**351**	*e*P	**P**	**04 54 37.7**	**+0.9**
	comp=Z,90nm,1.0s						
LPAZ	**La Paz**	**23.61**	**157**	P	**P**	**04 54 45.5**	**-1.0**
	comp=Z,40nm,0.7s,baz=333,slow=9.9,SNR=120						
LPAZ	**La Paz**	**23.61**	**157**	*e*P	**P**	**04 54 45.9**	**-0.7**
	comp=Z,46nm,0.7s						
TLIG	**Tlapa**	**23.81**	**302**	*e*P	**P**	**04 54 49.3**	**+1.3**
	comp=Z,146nm,1.6s						
PB11	**IPOC Station P**	**26.32**	**163**	*e*P	**P**	**04 55 12.4**	**+1.5**
	comp=Z,134nm,0.9s						
TIGA	**Tifton**	**26.36**	**348**	P	**P**	**04 55 11.6**	**+0.6**
	baz=166						
TIGA	**Tifton**	**26.36**	**348**	*e*P	**P**	**04 55 11.8**	**+0.9**
	comp=Z,98nm,1.1s						
SIV	**San Ignacio**	**26.89**	**143**	P	**P**	**04 55 15.7**	**-0.2**
	comp=Z,61nm,0.7s,baz=336,slow=11,SNR=50						
SIV				LR	LR	05 06 31.4	
	comp=Z,7μm,19.1s,baz=332,slow=38						
BRAL	**Brewton**	**27.00**	**342**	PFAKE		04 55 30.0	+13
BRAL				LR	LR		
	comp=Z,2μm,19.0s						
NHSC	**New Hope**	**27.51**	**355**	*e*P	**P**	**04 55 24.0**	**+2.7**
	comp=Z,128nm,1.4s						
NHSC				LR	LR		
	comp=Z,3μm,22.0s						
PB01	**IPOC Station P**	**27.59**	**164**	*e*P	**P**	**04 55 23.4**	**+1.2**
347A	**Saraland**	**27.71**	**339**	P	**P**	**04 55 23.5**	**+0.4**
	baz=156,SNR=8.0						
248A	**Dixon Mills**	**28.08**	**341**	P	**P**	**04 55 27.2**	**+0.8**
	baz=158						
345A	**Thompson Farm,**	**28.18**	**337**	P	**P**	**04 55 27.7**	**+0.4**
	baz=153						
GOGA	**Godfrey**	**28.25**	**349**	*e*P	**P**	**04 55 28.3**	**+0.4**
GOGA				pmax	pmax		
	comp=Z,19nm,0.9s						
GOGA				MLR	MLR		
	comp=Z,3μm,19.0s						
GOGA	**Godfrey**	**28.25**	**349**	*e*P	**P**	**04 55 28.3**	**+0.4**
	comp=Z,18nm,0.9s						
GOGA				LR	LR		
	comp=Z,3μm,19.0s						
247A	**Quitman**	**28.33**	**340**	P	**P**	**04 55 29.2**	**+0.6**
	baz=156						
LNIG	**Linares**	**28.53**	**315**	*e*P	P	04 55 35.7	+5.1
	comp=Z,27nm,1.4s						
LNIG				*e*PcP	**PcP**	**04 58 42.4**	**+0.3**
344A	**Westbrook Farm**	**28.59**	**336**	P	**P**	**04 55 31.1**	**+0.1**
	baz=152,SNR=10.0						
PB04	**IPOC Station P**	**28.65**	**166**	*e*P	**P**	**04 55 35.7**	**+4.0**
	comp=Z,67nm,0.7s						
LRAL	**Lakeview Retre**	**28.73**	**343**	*e*P	**P**	**04 55 31.8**	**-0.4**
	comp=Z,35nm,0.9s						
245A	**Little AP, Sta**	**28.77**	**338**	P	**P**	**04 55 33.1**	**+0.5**
	baz=154						
JSC	**Jenkinsville**	**28.78**	**353**	*e*P	**P**	**04 55 33.3**	**+0.7**
JSC				pmax	pmax		
	comp=Z,26nm,1.2s						
JSC	**Jenkinsville**	**28.78**	**353**	*e*P	**P**	**04 55 33.3**	**+0.7**
	comp=Z,26nm,1.2s						
147A	**Livingston**	**28.78**	**341**	P	**P**	**04 55 32.9**	**+0.2**
	baz=157						
Z47A	**Carrollton**	**29.20**	**342**	P	**P**	**04 55 36.5**	**+0.1**
	baz=158,SNR=12						
Z48A	**Northport**	**29.21**	**343**	P	**P**	**04 55 35.9**	**-0.5**
	baz=159,SNR=13						
BBSR	**BB Station**	**29.22**	**23**	PFAKE		04 55 50.0	+14
BBSR				LR	LR		
	comp=Z,1μm,20.0s						
KVTX	**Kingsville**	**29.23**	**321**	PFAKE		04 55 50.0	+13
KVTX				LR	LR		
	comp=Z,3μm,19.0s						
LVC	**Limon Verde**	**29.24**	**164**	P	**P**	**04 55 38.2**	**+1.1**
	comp=Z,41nm,1.1s,baz=13,slow=5.3,SNR=7.8						
LVC				LR	LR	05 09 11.7	
	comp=Z,14μm,19.2s,baz=309,slow=40						
LVC	**Limon Verde**	**29.24**	**164**	*e*P	**P**	**04 55 40.1**	**+2.9**
	comp=Z,252nm,2.0s						
243A	**Waterproof**	**29.27**	**335**	P	**P**	**04 55 37.4**	**+0.4**
	baz=150						
145A	**Houston Renfro**	**29.30**	**338**	P	**P**	**04 55 37.5**	**+0.3**
	baz=154						
034A	**Hebbronville**	**29.41**	**319**	P	**P**	**04 55 38.6**	**+0.4**
	baz=133						
Z46A	**Louisville**	**29.48**	**340**	P	**P**	**04 55 39.6**	**+0.7**
	baz=156						
CNNC	**Cliffs of the**	**29.53**	**359**	PFAKE		04 55 50.0	+11
CNNC				LR	LR		
	comp=Z,2μm,19.0s						
ZAIG	**Zacatecas**	**29.64**	**308**	*e*P	**P**	**04 55 42.4**	**+1.7**
	comp=Z,14nm,1.1s						
KMSC	**Kings Mountain**	**29.64**	**354**	P	**P**	**04 55 41.2**	**+1.0**
	baz=172						
KMSC	**Kings Mountain**	**29.64**	**354**	*e*P	**P**	**04 55 44.1**	**+3.8**
	comp=Z,16nm,1.3s						
934A	**Benavides**	**29.67**	**320**	P	**P**	**04 55 41.1**	**+0.5**
	baz=134						
637A	**Eagle Lake**	**29.68**	**325**	P	**P**	**04 55 41.0**	**+0.4**
	baz=140						
PB10	**IPOC Station P**	**29.69**	**167**	*e*pP	pP	04 55 51.9	+6.5
835A	**Beeville**	**29.72**	**322**	P	**P**	**04 55 40.4**	**-0.5**
	baz=136						
736A	**Circle Diamond**	**29.74**	**324**	P	**P**	**04 55 41.6**	**+0.4**
	baz=138						
Y47A	**UCPARC, Winfie**	**29.79**	**342**	P	**P**	**04 55 41.4**	**-0.1**
	baz=159,SNR=14						
834A	**Tilden**	**30.05**	**321**	P	**P**	**04 55 44.0**	**0.0**
	baz=134						
Y46A	**Houston**	**30.09**	**341**	P	**P**	**04 55 43.9**	**-0.3**
	baz=157,SNR=26						
Z44A	**Pea Ridge, Bel**	**30.09**	**338**	P	**P**	**04 55 44.0**	**-0.2**
	baz=154						
636A	**Smothers Creek**	**30.13**	**324**	P	**P**	**04 55 44.7**	**+0.1**
	baz=138						
537A	**Green Hill Far**	**30.16**	**326**	P	**P**	**04 55 45.4**	**+0.5**
	baz=140						
933A	**Laredo**	**30.17**	**319**	P	**P**	**04 55 45.1**	**+0.1**
	baz=133						
Y45A	**Yeager Farm, C**	**30.30**	**340**	P	**P**	**04 55 45.8**	**-0.3**
	baz=156,SNR=19						
CPCT	**Cooper Cave**	**30.43**	**349**	*e*P	**P**	**04 55 48.2**	**+0.9**
	comp=Z,16nm,1.0s						
635A	**Leesville**	**30.48**	**323**	P	**P**	**04 55 46.8**	**-0.9**
	baz=137						
TKL	**Tuckaleechee C**	**30.50**	**350**	*e*P	**P**	**04 55 48.4**	**+0.6**
TKL				pmax	pmax		
	comp=Z,13nm,1.0s						
TKL	**Tuckaleechee C**	**30.50**	**350**	*e*P	**P**	**04 55 48.4**	**+0.6**
	comp=Z,13nm,1.0s						
141A	**Papa Simpson,**	**30.51**	**334**	P	**P**	**04 55 47.5**	**-0.4**
	baz=149						
SWET	**Sewanee**	**30.52**	**346**	*e*P	**P**	**04 55 48.5**	**+0.4**
	comp=Z,28nm,1.0s						
NATX	**Nacogdoches**	**30.62**	**330**	P	**P**	**04 55 49.1**	**+0.1**
	baz=145						
NATX	**Nacogdoches**	**30.62**	**330**	PFAKE		04 56 00.0	+11
NATX				LR	LR		
	comp=Z,1μm,20.0s						
Y44A	**Strider, Charl**	**30.62**	**339**	P	**P**	**04 55 49.4**	**+0.5**
	baz=154						
338A	**Crockett**	**30.62**	**329**	P	**P**	**04 55 49.3**	**+0.4**
	baz=143						
Z42A	**Norrel Spur, H**	**30.68**	**336**	P	**P**	**04 55 49.2**	**-0.2**
	baz=151						
833A	**Chaparral WMA,**	**30.73**	**320**	P	**P**	**04 55 49.6**	**-0.4**
	baz=133						
X45A	**UM Field Stati**	**30.76**	**341**	P	**P**	**04 55 49.9**	**-0.3**
	baz=156						
535A	**Dale**	**30.83**	**324**	P	**P**	**04 55 51.0**	**+0.1**
	baz=138						
Y43A	**Makayla and Ka**	**30.84**	**338**	P	**P**	**04 55 51.2**	**+0.3**
	baz=153						
OXF	**Oxford**	**30.84**	**341**	*e*P	**P**	**04 55 51.3**	**+0.4**
OXF				pmax	pmax		
	comp=Z,33nm,1.1s						
OXF	**Oxford**	**30.84**	**341**	*e*P	**P**	**04 55 51.3**	**+0.4**
	comp=Z,33nm,1.1s						
Z41A	**Richland Creek**	**31.02**	**335**	P	**P**	**04 55 53.1**	**+0.6**
	baz=149						
832A	**Faith Ranch, C**	**31.07**	**319**	P	**P**	**04 55 53.1**	**+0.1**
	baz=132						
Y42A	**Garnett, Star**	**31.10**	**337**	P	**P**	**04 55 53.6**	**+0.4**
	baz=152						
CCAR	**Cane Creek**	**31.17**	**337**	*e*P	**P**	**04 55 54.3**	**+0.6**
	comp=Z,87nm,1.2s						
CCAR				*e*PcP	**PcP**	**04 58 50.2**	**+1.5**
139A	**Bunkhouse Ranc**	**31.25**	**332**	P	**P**	**04 55 54.9**	**+0.4**
	baz=146						
TZTN	**Tazewell**	**31.32**	**351**	*e*P	**P**	**04 55 55.8**	**+0.6**
	comp=Z,18nm,0.9s						
534A	**Blanco**	**31.36**	**323**	P	**P**	**04 55 55.4**	**-0.2**
	baz=137						
W45A	**Hickory Valley**	**31.36**	**341**	P	**P**	**04 55 54.5**	**-1.0**
	baz=157,SNR=16						
X43A	**Marvell**	**31.36**	**338**	P	**P**	**04 55 55.6**	**+0.2**
	baz=154						
633A	**Saathoff Ranch**	**31.38**	**322**	P	**P**	**04 55 55.6**	**-0.1**
	baz=135						
237A	**Washetta, Mont**	**31.39**	**329**	P	**P**	**04 55 55.9**	**+0.1**
	baz=143						
Y41A	**Eaglette Beard**	**31.48**	**335**	P	**P**	**04 55 56.9**	**+0.4**
	baz=150						
WLAR	**White Oak Lake**	**31.52**	**335**	*e*P	**P**	**04 55 57.2**	**+0.4**
	comp=Z,56nm,0.9s						
138A	**Matatall Enter**	**31.56**	**331**	P	**P**	**04 55 57.5**	**+0.3**
	baz=145						
BLA	**Blacksburg**	**31.61**	**356**	*e*P	**P**	**04 55 57.9**	**+0.3**
BLA				pmax	pmax		
	comp=Z,48nm,1.0s						
BLA				MLR	MLR		
	comp=Z,2μm,19.0s						
BLA	**Blacksburg**	**31.61**	**356**	*e*P	**P**	**04 55 57.9**	**+0.3**
	comp=Z,48nm,1.0s						
BLA				LR	LR		
	comp=Z,2μm,19.0s						
VWCC	**Virginia Weste**	**31.61**	**356**	*e*P	**P**	**04 55 58.7**	**+1.1**
335A	**Moody**	**31.69**	**326**	P	**P**	**04 55 59.4**	**+1.0**
	baz=140						
533A	**Kerrville**	**31.73**	**323**	P	**P**	**04 55 58.9**	**+0.1**
	baz=136						
236A	**Katherine and**	**31.76**	**328**	P	**P**	**04 55 59.2**	**+0.2**
	baz=142						
434A	**Burnet**	**31.82**	**325**	P	**P**	**04 55 59.8**	**+0.2**
	baz=138						
V45A	**Humboldt**	**31.83**	**342**	P	**P**	**04 55 58.9**	**-0.6**
	baz=158						
137A	**Heron Place, G**	**31.84**	**330**	P	**P**	**04 55 59.7**	**0.0**
	baz=144						
URVA	**University of**	**31.85**	**360**	*e*P	**P**	**04 56 00.4**	**+0.7**
WVT	**Waverly**	**31.86**	**344**	*e*P	**P**	**04 55 58.6**	**-1.3**
WVT				pmax	pmax		
	comp=Z,38nm,1.3s						
WVT	**Waverly**	**31.86**	**344**	*e*P	**P**

	comp=Z,23nm,1.0s								
WHAR				ePcP	PcP	04 58 53.1	+0.6		
333A	Richland Sprin		32.61	324	P	P	04 56 04.6	-1.9	
	baz=137,SNR=13								
234A	Clairette		32.63	326	P	P	04 56 05.3	-1.4	
	baz=139								
X39A	Fountain Ranch		32.66	334	P	P	04 56 05.2	-1.7	
	baz=148,SNR=7.0								
V42A	Cord		32.70	339	P	P	04 56 05.8	-1.4	
	baz=154,SNR=10								
Z36A	Blue Ridge		32.72	330	P	P	04 56 06.7	-0.8	
	baz=143								
W40A	Ferguson Farm,		32.80	336	P	P	04 56 06.2	-1.8	
	baz=150,SNR=6.5								
U43A	Rector		32.87	341	P	P	04 56 07.4	-1.3	
	baz=156,SNR=8.8								
Y37A	Hugo		32.90	332	P	P	04 56 08.0	-1.0	
	baz=145								
PARMO	Parma		32.93	342	eP	P	04 56 09.4	+0.2	
	comp=Z,138nm,0.9s								
V41A	Mountainview		32.96	338	P	P	04 56 07.4	-2.1	
	baz=152,SNR=11								
233A	Rising Star		33.07	325	P	P	04 56 09.3	-1.3	
	baz=138								
W39A	Magazine		33.10	335	P	P	04 56 09.4	-1.3	
	baz=149,SNR=6.3								
X38A	Whitesboro		33.10	333	P	P	04 56 09.6	-1.2	
	baz=147								
U42A	Revenden		33.13	339	P	P	04 56 08.6	-2.4	
	baz=154,SNR=10								
V40A	Witts Springs		33.24	337	P	P	04 56 10.7	-1.3	
	baz=151,SNR=14								
PBMO	Poplar Bluff		33.25	341	eP	P	04 56 11.1	-0.9	
	comp=Z,28nm,0.8s								
PBMO					ePcP	PcP	04 58 54.3	0.0	
T44A	Benton		33.27	342	P	P	04 56 11.3	-0.9	
	baz=158								
X37A	Clayton		33.28	332	P	P	04 56 11.5	-0.8	
	baz=146								
W38A	Poteau		33.30	334	P	P	04 56 11.3	-1.2	
	baz=148,SNR=7.7								
U41A	Viola		33.37	339	P	P	04 56 11.4	-1.7	
	baz=153,SNR=6.7								
T43A	Greenville		33.48	341	P	P	04 56 12.7	-1.3	
	baz=156,SNR=22								
WCI	Wyandotte Cave		33.48	347	eP	P	04 56 13.8	-0.3	
WCI					e		04 58 55.0		
WCI					pmax	pmax			
	comp=Z,47nm,0.8s								
WCI	Wyandotte Cave		33.48	347	eP	P	04 56 13.8	-0.3	
	comp=Z,47nm,0.8s								
WCI					ePcP	PcP	04 58 55.0	0.0	
S45A	Carrier Mills		33.52	344	P	P	04 56 13.0	-1.3	
	baz=160								
Y35A	Marietta		33.53	330	P	P	04 56 13.7	-0.8	
	baz=143								
USIN	University of		33.55	345	eP	P	04 56 14.1	-0.5	
	comp=Z,167nm,0.8s								
V39A	Pettigrew		33.59	336	P	P	04 56 13.8	-1.3	
	baz=150,SNR=10.0								
SDMD	Soldier's Deli		33.69	1	eP	P	04 56 17.3	+1.5	
	comp=Z,13nm,1.0s								
T42A	Van Buren		33.70	340	P	P	04 56 14.1	-1.8	
	baz=155,SNR=21								
X36A	Centrahoma		33.73	331	P	P	04 56 15.5	-0.7	
	baz=145								
S44A	Carbondale		33.73	343	P	P	04 56 14.5	-1.6	
	baz=159,SNR=8.5								
U40A	Yellville		33.73	337	P	P	04 56 14.4	-1.9	
	baz=152,SNR=16								
W37B	Quinton		33.77	333	P	P	04 56 15.3	-1.2	
	baz=147								
S43A	Fulton Ridge,		33.86	342	P	P	04 56 15.4	-1.9	
	baz=157,SNR=7.1								
X35A	Drake		33.89	330	P	P	04 56 16.4	-1.3	
	baz=144								
V38A	Canehill		33.93	335	P	P	04 56 15.9	-2.0	
	baz=149								
ABTX	Abilene, Hawle		33.94	325	P	P	04 56 15.8	-2.3	
	baz=138,SNR=8.6								
ABTX	Abilene, Hawle		33.94	325	eP	P	04 56 16.9	-1.2	
	comp=Z,50nm,1.2s								
T41A	Mountain View		33.94	339	P	P	04 56 15.8	-2.2	
	baz=154,SNR=13								
U39A	Green Forest		34.00	337	P	P	04 56 16.9	-1.6	
	baz=151								
HHAR	Hobbs		34.10	336	eP	P	04 56 18.3	-1.1	
	comp=Z,20nm,0.9s								
W36A	Wetumka		34.13	332	P	P	04 56 18.5	-1.2	
	baz=145								
R44A	Waltonville		34.20	344	P	P	04 56 18.4	-1.8	
	baz=159,SNR=11								
LTX	Lajitas		34.22	317	eP	P	04 56 19.9	-0.8	
LTX					e		04 58 58.1		
LTX	Lajitas		34.22	317	eP	P	04 56 19.9	-0.8	
LTX					ePcP	PcP	04 58 58.1	+0.7	
TXAR	Lajitas Array		34.22	317	P	P	04 56 19.9	-0.8	
	comp=Z,3.0nm,0.9s,baz=142,slow=9.4,SNR=21								
TXAR					PcP	PcP	04 58 58.1	+0.7	
	comp=Z,6.0nm,0.8s,baz=134,slow=5.7,SNR=10								
TXAR					LR	LR	05 12 19.8		
	comp=Z,862nm,19.4s,baz=0.0,slow=40								
TXAR	Lajitas Array		34.22	317	P	P	04 56 19.9	-0.8	
TXAR							04 58 58.1		
TXAR					pmax	pmax			
	comp=Z,7.0nm,0.9s								
TXAR					MLR	MLR			
	comp=Z,862nm,19.4s								
TX31	Lajitas Ar. Si		34.22	317	eP	P	04 56 20.7	+0.1	
TX31					ePcP	PcP	04 58 58.2	+0.9	
HPIG			34.24	311	eP	P	04 56 22.0	+1.0	
	comp=Z,22nm,0.9s								
V37A	Hulbert		34.26	334	P	P	04 56 19.5	-1.3	
	baz=148								
S42A	Caledonia		34.27	341	P	P	04 56 18.8	-2.0	
	baz=156,SNR=9.2								
MVL	Millersville		34.29	2	eP	P	04 56 22.4	+1.4	
	comp=Z,22nm,1.1s								
T40A	Mansfield		34.31	338	P	P	04 56 19.5	-1.7	
	baz=153,SNR=22								
OLIL	Olney		34.39	345	eP	P	04 56 21.0	-0.8	
	comp=Z,98nm,1.0s								
OLIL					ePcP	PcP	04 58 57.5	0.0	
U38A	Gravette		34.41	335	P	P	04 56 19.5	-2.7	
	baz=149,SNR=8.3								
S41A	Jillco Farms,		34.42	340	P	P	04 56 20.6	-1.6	
	baz=154								
BLO	Bloomington		34.44	348	eP	P	04 56 21.8	-0.5	
BLO					pmax	pmax			
	comp=Z,99nm,1.0s								
BLO	Bloomington		34.44	348	eP	P	04 56 21.8	-0.5	
	comp=Z,98nm,1.0s								
W35A	Tecumseh		34.45	331	P	P	04 56 21.0	-1.5	
	baz=144								
R43A	Red Bud		34.47	343	P	P	04 56 20.9	-1.6	
	baz=158,SNR=15								
T39A	Clever		34.52	337	P	P	04 56 21.3	-1.8	
	baz=151								
V36A	Jenks		34.54	333	P	P	04 56 21.8	-1.5	
	baz=146								
O56A	Blue Knob Stat		34.56	359	P	P	04 56 24.1	+0.7	
	baz=178								
TUL1	Leonard		34.57	333	P	P	04 56 21.7	-1.8	
	baz=147,SNR=8.3								
TUL1	Leonard		34.57	333	eP	P	04 56 22.6	-0.9	
	comp=Z,28nm,0.9s								
U37A	Salina		34.69	335	P	P	04 56 22.8	-1.8	
	baz=148								
S40A	Lebanon		34.70	339	P	P	04 56 22.6	-2.0	
	baz=153,SNR=25								
R42A	Luebbering		34.74	341	P	P	04 56 23.1	-1.8	
	baz=156,SNR=9.9								
Q44A	Meyer Farm, Va		34.79	344	P	P	04 56 23.2	-2.1	
	baz=160,SNR=12								
ACSO	Alum Creek Sta		34.86	353	eP	P	04 56 28.2	+2.3	
	comp=Z,80nm,1.8s								
ACSO					LR	LR			
	comp=Z,2µm,19.0s								
T38A	Diamond		34.89	336	P	P	04 56 23.7	-2.5	
	baz=150,SNR=16								
SSPA	Standing Stone		34.91	359	eP	P	04 56 27.6	+1.2	
	comp=Z,19nm,0.9s								
LUPA	Lehigh Univers		34.93	3	eP	P	04 56 28.1	+1.6	
	comp=Z,46nm,1.0s								
R41A	Rosebud		34.94	341	P	P	04 56 24.9	-1.8	
	baz=155,SNR=9.6								
U36A	Oologah		34.95	334	P	P	04 56 25.1	-1.7	
	baz=147,SNR=6.6								
LCO	Las Campanas		34.99	170	eP	P	04 56 29.3	+1.7	
LCO					ePcP	PcP	04 58 59.5	-0.3	
LCO					LR	LR			
	comp=Z,3µm,19.0s								
Q43A	New Douglas		35.02	343	P	P	04 56 25.8	-1.5	
	baz=158,SNR=8.4								
BRNJ	Basking Ridge		35.06	4	eP	P	04 56 28.7	+1.1	
	comp=Z,49nm,1.3s								
WMOK	Wichita Mounta		35.07	329	P	P	04 56 25.9	-2.0	
	baz=141,SNR=15								
WMOK	Wichita Mounta		35.07	329	eP	P	04 56 26.3	-1.6	
WMOK					pmax	pmax			
	comp=Z,36nm,1.2s								
WMOK					MLR	MLR			
	comp=Z,1µm,21.0s								
WMOK	Wichita Mounta		35.07	329	eP	P	04 56 26.3	-1.6	
	comp=Z,36nm,1.2s								
WMOK					LR	LR			
	comp=Z,1µm,21.0s								
S39A	Bolivar		35.08	338	P	P	04 56 25.9	-2.0	
	baz=152,SNR=14								
P44A	Sand Creek, Wi		35.22	345	P	P	04 56 27.4	-1.6	
	baz=161,SNR=12								
T37A	Cheneyville 18		35.22	335	P	P	04 56 27.3	-1.8	
	baz=149,SNR=9.0								
N59A	State Game Lan		35.23	2	P	P	04 56 29.3	+0.1	
	baz=183,SNR=11								
Q42A	Golden Eagle		35.23	342	P	P	04 56 27.7	-1.5	
	baz=157,SNR=8.3								
R40A	Maddies Statio		35.23	340	P	P	04 56 27.3	-1.9	
	baz=154,SNR=11								
S38A	Stockton		35.25	337	P	P	04 56 27.9	-1.5	
	baz=151								
N54A	Moraine State		35.31	357	P	P	04 56 29.7	-0.1	
	baz=176,SNR=7.6								
U35A	Pawnee		35.38	333	P	P	04 56 29.4	-1.1	
	baz=148,SNR=6.9								
PAL	Palisades		35.43	5	P	P	04 56 31.5	+0.8	
PAL					pmax	pmax			
	comp=Z,32nm,1.0s								
PAL	Palisades		35.43	5	eP	P	04 56 31.6	+0.8	
	comp=Z,32nm,1.0s								
ODNJ	Ogdensburg		35.45	4	eP	P	04 56 32.2	+1.1	
	comp=Z,6.9nm,0.9s								
Q41A	Truxton		35.49	341	P	P	04 56 29.7	-1.6	
	baz=156,SNR=13								
R39A	Chumby, Stover		35.53	339	P	P	04 56 29.9	-1.8	
	baz=153,SNR=14								
T36A	Boggs Farm, Ca		35.57	334	P	P	04 56 30.6	-1.6	
	baz=147,SNR=14								
P43A	Skaggs, Pawnee		35.62	344	P	P	04 56 30.9	-1.6	
	baz=159,SNR=8.7								
SFIN	Lafayette		35.72	347	eP	P	04 56 32.4	-0.9	
	comp=Z,53nm,1.4s								
S37A	Fort Scott		35.73	336	P	P	04 56 31.3	-2.1	
	baz=150,SNR=22								
T35A	Sooner Cattle		35.73	333	P	P	04 56 32.0	-1.5	
	baz=146								
R38A	Fenwick Farm,		35.74	338	P	P	04 56 31.3	-2.2	
	baz=151,SNR=12								
P42A	Winchester		35.80	343	P	P	04 56 32.7	-1.4	
	baz=158								
Q40A	Laux Farm, Aux		35.80	340	P	P	04 56 32.5	-1.6	
	baz=155,SNR=12								
M54A	Oil Creek Stat		35.84	357	P	P	04 56 34.2	-0.1	
	baz=176,SNR=8.0								
ALLY	Alegheny Colle		36.00	357	eP	P	04 56 36.8	+1.0	
	comp=Z,87nm,1.2s								
SLBS	Sierra La Lagu		36.06	303	eP	P	04 56 39.4	+2.8	
	comp=Z,74nm,0.9s								
P41A	Barry, Barry		36.10	342	P	P	04 56 34.8	-1.8	
	baz=157,SNR=15								
T34A	McClaskey Farm		36.12	333	P	P	04 56 35.1	-1.7	
	baz=145,SNR=7.2								
Q39A	Willow Grove F		36.16	339	P	P	04 56 35.7	-1.4	
	baz=153								
O43A	Sugar Creek Fa		36.16	345	P	P	04 56 35.2	-2.0	
	baz=160								
R37A	Teagarden Farm		36.20	337	P	P	04 56 35.0	-2.5	
	baz=150,SNR=11								
P40A	Paris		36.28	341	P	P	04 56 35.7	-2.4	
	baz=155,SNR=10								
S35A	Otter Creek Ra		36.28	334	P	P	04 56 36.7	-1.6	
	baz=147,SNR=8.7								
O42A	Bath		36.29	344	P	P	04 56 36.5	-1.7	
	baz=158,SNR=5.7								
Q38A	Cooks Store, C		36.31	339	P	P	04 56 36.3	-2.1	
	baz=152,SNR=13								
HDIL	Hopedale		36.41	345	P	P	04 56 36.9	-2.3	
	baz=160,SNR=10								
HDIL	Hopedale		36.41	345	eP	P	04 56 37.6	-1.6	
	comp=Z,48nm,0.8s								
HDIL					LR	LR			
	comp=Z,2µm,19.0s								
U32A	Winter Ranch,		36.47	330	P	P	04 56 38.1	-1.7	
	baz=142								
P39B	Salisbury		36.48	340	P	P	04 56 36.8	-3.0	
	baz=154,SNR=9.6								
R36A	Gordon, Harris		36.48	336	P	P	04 56 38.0	-1.9	
	baz=149								
BINY	Binghamton		36.50	2	eP	P	04 56 41.1	+1.1	
	comp=Z,62nm,1.2s								
BINY					ePcP	PcP	04 59 04.2	+0.5	
BINY					LR	LR			
	comp=Z,1µm,19.0s								
Q37A	Longview Farm,		36.55	338	P	P	04 56 38.6	-1.9	
	baz=151								
S34A	Willow Spring		36.65	333	P	P	04 56 38.9	-2.5	
	baz=146,SNR=9.9								
MSTX	Muleshoe		36.72	324	P	P	04 56 39.6	-2.6	
	baz=135,SNR=21								
MSTX	Muleshoe		36.72	324	eP	P	04 56 41.1	-1.0	
	comp=Z,58nm,1.0s								
AMTX	Amarillo		36.75	326	eP	P	04 56 43.3	+1.0	
	comp=Z,27nm,1.0s								
O40A	La Belle		36.76	341	P	P	04 56 40.1	-2.1	
	baz=156,SNR=12								
R35A	Emporia Munici		36.77	335	P	P	04 56 41.2	-1.2	
	baz=148								
QUA2	Belchertown		36.84	6	eP	P	04 56 43.8	+1.0	
	comp=Z,65nm,1.7s								
MNTX	Cornudas Mount		36.85	318	P	P	04 56 42.5	-0.6	
	baz=129								
MNTX	Cornudas Mount		36.85	318	eP	P	04 56 42.7	-0.4	
	comp=Z,22nm,1.0s								
MNTX					LR	LR			
	comp=Z,723nm,21.0s								
N42A	Yates City		36.87	344	P	P	04 56 40.8	-2.3	
	baz=159,SNR=16								
P38A	Dawn		36.87	339	P	P	04 56 41.1	-2.1	
	baz=153,SNR=7.5								
N41A	Harden Midland		36.98	343	P	P	04 56 41.8	-2.4	
	baz=158,SNR=5.8								
AAM	Ann Arbor		36.99	352	PFAKE		04 57 00.0	+16	
AAM					LR	LR			
	comp=Z,3µm,19.0s								
MMNY	Mt. Morris Dam		37.01	359	eP	P	04 56 45.1	+0.8	
Q36A	Arnold C. Orve		37.01	336	P	P	04 56 42.3	-2.1	
	baz=149								
BCX	Boston College		37.04	8	eP	P	04 56 45.9	+1.4	
	comp=Z,96nm,0.9s								
WES	Weston		37.07	8	eP	P	04 56 46.0	+1.2	
WES					pmax	pmax			
	comp=Z,74nm,1.3s								
WES	Weston		37.07	8	eP	P	04 56 46.0	+1.2	
	comp=Z,74nm,1.3s								
P37A	Lathrop		37.13	338	P	P	04 56 42.9	-2.5	
	baz=152,SNR=6.8								
HRV	Adam Dziewonsk		37.16	7	eP	P	04 56 46.1	+0.5	
HRV					pmax	pmax			
	comp=Z,31nm,1.0s								
HRV	Adam Dziewonsk		37.16	7	eP	P	04 56 46.1	+0.5	
	comp=Z,31nm,1.0s								
Q35A	Mercer Eighty,		37.16	336	P	P	04 56 43.9	-1.8	
	baz=148,SNR=11								
TRY	Troy		37.16	5	eP	P	04 56 47.5	+1.9	
	comp=Z,104nm,1.7s								
R34A	Isabella, Hill		37.20	334	P	P	04 56 43.8	-2.2	
	baz=146,SNR=11								
BUF	Buffalo		37.22	358	eP	P	04 56 47.2	+1.1	
CPUP	Villa Florida		37.25	149	P	P	04 56 44.8	-1.7	
	comp=Z,11nm,0.7s,baz=338,slow=9.0,SNR=15								
CPUP					LR	LR	05 11 42.0		
	comp=Z,2µm,18.9s,baz=327,slow=36								
CPUP	Villa Florida		37.25	149	P	P	04 56 44.8	-1.7	
CPUP					pmax	pmax			
	comp=Z,11nm,0.7s								
CPUP					MLR	MLR			
	comp=Z,2µm,19.0s								
CPUP	Villa Florida		37.25	149	eP	P	04 56 44.4	-2.1	
O38A	Galt		37.29	340	P	P	04 56 44.8	-1.9	
	baz=153,SNR=13								
N40A	Mertquake, Sal		37.36	342	P	P	04 56 45.8	-1.5	
	baz=156								
M42A	Sheffield		37.38	345	P	P	04 56 45.6	-1.8	
	baz=160								
P36A	Good Intent, A		37.48	337	P	P	04 56 46.4	-2.0	
	baz=150								
M41A	Milan		37.51	344	P	P	04 56 46.6	-2.0	
	baz=158,SNR=10								
O37A	Wolven Farm, M		37.57	339	P	P	04 56 47.1	-2.0	
	baz=152								
Q34A	Chapman		37.59	335	P	P	04 56 47.4	-1.9	
	baz=147,SNR=11								
KSU1	Kansas State U		37.60	335	P	P	04 56 47.7	-1.7	
	baz=148								
KSU1	Kansas State U		37.60	335	PFAKE		04 57 00.0	+11	
KSU1					LR	LR			
	comp=Z,1µm,19.0s								
N39A	Derby Farms, D		37.64	341	P	P	04 56 46.3	-3.4	
	baz=155,SNR=9.6								
P35A	Duane Minner,		37.72	336	P	P	04 56 48.4	-2.0	
	baz=149								
N38A	Joes South For		37.81	340	P	P	04 56 49.4	-1.7	
	baz=154								
ACCN	Adirondack Com		37.81	5	eP	P	04 56 51.5	+0.4	
	comp=Z,16nm,1.1s								
M40A	Post Highland		37.82	343	P	P	04 56 49.3	-1.9	
	baz=157								
O36A	Bolckow		37.84	338	P	P	04 56 49.6	-1.7	
	baz=151								
P34A	Walnut Farm, R		38.07	335	P	P	04 56 50.6	-2.8	
	baz=148,SNR=19								
M39A	Webster		38.09	342	P	P	04 56 51.2	-2.3	
	baz=156,SNR=10								
FFD	Franklin Falls		38.09	7	eP	P	04 56 54.9	+1.4	
	comp=Z,58nm,1.2s								
N37A	Lee Faris, Mou		38.11	339	P	P	04 56 51.7	-2.0	
	baz=152								
L41A	Preston		38.15	344	P	P	04 56 51.4	-2.6	
	baz=159,SNR=10								
HNH	Hanover		38.26	6	eP	P	04 56 56.1	+1.3	
	comp=Z,29nm,1.1s								
O35A	Humbolt		38.31	337	P	P	04 56 53.4	-2.0	
	baz=150								
L40A	Anamosa		38.34	343	P	P	04 56 53.4	-2.2	
	baz=158,SNR=8.0								
NCB	Newcomb		38.35	4	eP	P	04 56 56.4	+0.7	
	comp=Z,0.4nm,1.0s								
M38A	Pleasantville		38.36	341	P	P	04 56 53.2	-2.5	
	baz=154,SNR=8.0								
N36A	Muff Farm, Cla		38.43	338	P	P	04 56 54.5	-1.9	
	baz=151								
O34A	Beatrice		38.55	336	P	P	04 56 55.4	-2.0	
	baz=148								
K41A	Shullsburg		38.60	345	P	P	04 56 55.5	-2.2	
	baz=159								
L39A	Vinton		38.62	343	P	P	04 56 56.1	-1.9	
	baz=156								
M37A	Trindle Farm,		38.63	340	P	P	04 56 56.4	-1.7	
	baz=153								
N35A	Tabor		38.72	338	P	P	04 56 56.9	-2.0	
	baz=150								
CBKS	Cedar Bluff		38.75	332	P	P	04 56 57.1	-2.1	
	baz=143,SNR=10								
CBKS	Cedar Bluff		38.75	332	eP	P	04 56 58.8	-0.4	
CBKS					pmax	pmax			
	comp=Z,42nm,1.0s								
CBKS					MLR	MLR			
	comp=Z,770nm,20.0s								
CBKS	Cedar Bluff		38.75	332	eP	P	04 56 58.8	-0.4	
	comp=Z,42nm,1.0s								
CBKS					LR	LR			
	comp=Z,770nm,20.0s								
SCIA	State Center		38.80	341	eP	P	04 56 58.2	-1.3	
	comp=Z,42nm,0.8s								
SCIA					LR	LR			
	comp=Z,1µm,19.0s								
LBNH	Lisbon		38.82	6	eP	P	04 57 00.6	+1.0	
LBNH					pmax	pmax			
	comp=Z,33nm,1.0s								
LBNH	Lisbon		38.82	6	eP	P	04 57 00.6	+1.0	
	comp=Z,33nm,1.0s								
ROC1	El Roble		38.82	171	eP	P	04 57 02.6	+2.6	
	comp=Z,32nm,0.9s								
O33A	Hebron		38.83	335	P	P	04 56 57.4	-2.3	
	baz=147,SNR=11								
JFWS	Jewell Farm		38.87	345	eP	P	04 56 58.5	-1.5	
JFWS					pmax	pmax			
	comp=Z,177nm,1.8s								
JFWS					MLR	MLR			
	comp=Z,2µm,19.0s								
JFWS	Jewell Farm		38.87	345	eP	P	04 56 58.5	-1.5	
	comp=Z,178nm,1.8s								
JFWS					LR	LR			
	comp=Z,2µm,19.0s								
K40A	Colesburg		38.91	344	P	P	04 56 57.9	-2.5	
	baz=158,SNR=7.3								
L38A	Oak Wood Farm,		38.93	342	P	P	04 56 58.7	-1.9	
	baz=155,SNR=7.0								
M36A	Felix, Anita		38.94	339	P	P	04 56 59.0	-1.6	
	baz=152								
121A	Cookes Peak, D		38.97	317	P	P	04 57 01.8	+0.6	
	baz=127								
LONY	Lake Ozonia		38.98	3	eP	P	04 57 01.4	+0.5	
	comp=Z,26nm,0.8s								
LONY					LR	LR			
	comp=Z,1µm,22.0s								
N34A	Lincoln		39.03	337	P	P	04 56 59.7	-1.8	
	baz=149								
K39A	Oelwein		39.12	343	P	P	04 57 00.5	-1.6	
	baz=157								
BNM	Barren Site		39.21	320	eP	P	04 57 05.8	+2.5	
J41A	Loganville		39.23	346	P	P	04 57 01.1	-2.0	
	baz=160								
FRNY	Flat Rock		39.26	4	eP	P	04 57 03.9	+0.6	
	comp=Z,33nm,1.1s								
M35A	Neola		39.27	338	P	P	04 57 01.8	-1.6	
	baz=151								
PLVO	Plevna		39.32	0	eP	P	04 57 04.2	+0.5	
	comp=Z,47nm,1.0s								
319A	Douglas		39.33	315	eP	P	04 57 05.2	+1.0	
	comp=Z,58nm,1.2s								
K38A	Parkersburg		39.33	342	P	P	04 57 01.9	-2.0	
	baz=156								
WVL	Waterville		39.44	9	eP	P	04 57 06.5	+1.7	
	comp=Z,46nm,1.3s								
J40A	Soldiers Grove		39.45	345	P	P	04 57 01.8	-3.1	
	baz=159,SNR=8.6								
L36A	Harm Buss Farm		39.46	340	P	P	04 57 02.8	-2.2	
	baz=152,SNR=7.1								
SRIG	Santa Rosalia		39.51	307	eP	P	04 57 10.0	+4.5	
	comp=Z,24nm,0.9s								
ANMO	Albuquerque		39.62	321	P	P	04 57 06.9	+0.2	
	baz=131								
ANMO	Albuquerque		39.62	321	c iP	P	04 57 06.6	-0.1	
ANMO					pmax	pmax			
	comp=Z,13nm,1.0s								
ANMO	Albuquerque		39.62	321	eP	P	04 57 07.1	+0.4

baz=158
BGNE Belgrade 40.18 336 P P 04 57 09.2 -1.8
baz=147
BGNE Belgrade 40.18 336 eP P 04 57 10.1 -1.0
comp=Z,44nm,1.0s
J37A Redenius Farm, 40.18 342 P P 04 57 09.1 -1.8
baz=155
PKME Peaks-Kenny Pk 40.18 9 eP P 04 57 12.0 +1.1
comp=Z,22nm,1.1s
PKME LR LR
comp=Z,2µm,21.0s
K35A Storm Lake 40.20 340 P P 04 57 09.6 -1.6
baz=152
KSCO Kaye Shedlock' 40.32 329 eP P 04 57 13.2 +0.8
comp=Z,87nm,1.4s
H41A Junction City 40.33 347 P P 04 57 10.2 -2.0
baz=161
J36A Seneca 1, Swea 40.44 341 P P 04 57 11.0 -2.2
baz=154
GGN Saint George 40.47 12 eP P 04 57 14.6 +1.3
comp=Z,40nm,1.0s
K34A Le Mars 40.48 339 P P 04 57 11.0 -2.5
baz=151
I38A Scanlan Farm, 40.48 343 P P 04 57 10.9 -2.5
baz=157,SNR=12
H40A Chili 40.51 346 P P 04 57 11.9 -1.7
baz=160
TRQ Mont Tremblant 40.58 3 eP P 04 57 14.7 +0.4
GO05 HualaæØ 40.70 173 eP P 04 57 17.7 +2.3
comp=Z,29nm,0.7s
K33A Hardington 40.74 338 P P 04 57 14.6 -1.0
baz=149
J35A Milford 40.76 340 P P 04 57 14.0 -1.9
baz=152
I37A Lemond, Waseca 40.77 342 P P 04 57 14.2 -1.7
baz=155
G41A Antigo 40.78 347 P P 04 57 14.5 -1.5
baz=162
H39A Augusta 40.79 345 P P 04 57 14.0 -2.0
baz=159
TUC Tucson 40.91 315 P P 04 57 17.9 +0.6
baz=124
TUC Tucson 40.91 315 eP P 04 57 17.9 +0.6
TUC pmax pmax
comp=Z,23nm,0.8s
TUC MLR MLR
comp=Z,2µm,20.0s
TUC Tucson 40.91 315 eP P 04 57 17.9 +0.6
comp=Z,23nm,0.8s
TUC LR LR
comp=Z,2µm,20.0s
SDCO Great Sand Dun 40.95 325 P P 04 57 18.1 +0.3
baz=134
SDCO Great Sand Dun 40.95 325 eP P 04 57 17.9 +0.2
comp=Z,19nm,0.8s
SDCO LR LR
comp=Z,1µm,21.0s
J34A George 40.95 339 P P 04 57 15.5 -1.9
baz=151
I36A Fitzsimmons Fa 40.96 342 P P 04 57 15.5 -1.9
baz=154
H38A Maiden Rock 41.05 344 P P 04 57 16.0 -2.1
baz=157,SNR=6.4
G40A Rib Lake 41.07 346 P P 04 57 16.3 -2.0
baz=160
F42A Maple Grove Fa 41.09 349 P P 04 57 16.8 -1.7
baz=164
I35A Creekview Farm 41.12 341 P P 04 57 16.7 -2.1
baz=153
H37A Dierke Farm, C 41.14 343 P P 04 57 16.8 -2.1
baz=156
K32A Verdigre 41.16 337 P P 04 57 16.2 -2.9
baz=148,SNR=7.8
SPB Sao Paulo 41.23 136 PFAKE 04 57 30.0 +10
SPB LR LR
comp=Z,4µm,20.0s
F41A Three Lakes 41.27 348 P P 04 57 18.9 -1.0
baz=162
G39A Holcombe 41.32 345 P P 04 57 17.9 -2.5
baz=159,SNR=28
G38A Ridgeland 41.39 345 P P 04 57 18.3 -2.6
baz=158,SNR=10
H36A Jessenland, He 41.44 342 P P 04 57 19.0 -2.3
baz=155
K31A O'Neill 41.44 336 P P 04 57 19.1 -2.3
baz=147,SNR=9.9
OGNE Ogallala 41.52 332 eP P 04 57 25.8 +3.7
comp=Z,40nm,1.0s
OGNE LR LR
comp=Z,990nm,19.0s
ECSD EROS Data Cent 41.58 339 P P 04 57 19.5 -3.0
baz=151,SNR=9.8
ECSD EROS Data Cent 41.58 339 eP P 04 57 19.7 -2.8
comp=Z,58nm,1.8s
ECSD LR LR
comp=Z,1µm,19.0s
I34A Hadley 41.58 340 P P 04 57 20.9 -1.6
baz=152
X18A Snowflake 41.61 318 eP P 04 57 24.9 +1.8
comp=Z,27nm,0.9s
LMN Caledonia Moun 41.61 13 eP P 04 57 23.3 +0.5
comp=Z,26nm,0.9s
LMN epP sP 04 57 31.1 +1.7
Q24A Divide 41.61 327 P P 04 57 21.6 -1.7
baz=136
Q24A Divide 41.61 327 eP P 04 57 24.1 +0.8
comp=Z,22nm,1.4s
F40A Park Falls 41.67 347 P P 04 57 21.3 -1.9
baz=161
SPMN Marine on St. 41.70 344 P P 04 57 21.2 -2.3
baz=157
SPMN Marine on St. 41.70 344 eP P 04 57 21.9 -1.6
comp=Z,82nm,1.5s
S22A 4UR Ranch, Cre 41.71 324 P P 04 57 24.7 +0.6
baz=133
S22A 4UR Ranch, Cre 41.71 324 eP P 04 57 24.8 +0.8
comp=Z,12nm,0.8s
J32A Parkston 41.72 338 P P 04 57 21.3 -2.4
baz=149
PQI Presque Isle 41.76 10 eP P 04 57 24.6 +0.8
comp=Z,33nm,1.0s
H35A Sunnyside Ranc 41.83 341 P P 04 57 21.5 -3.1
baz=154
F39A Loretta 41.85 346 P P 04 57 22.2 -2.5
baz=160
J31A Geddes 41.99 337 P P 04 57 23.5 -2.4
baz=147
H34A Spellman Lake, 42.11 340 P P 04 57 24.4 -2.5
baz=152,SNR=6.3
F37A Hinrichs Farm, 42.11 344 P P 04 57 25.1 -1.8
baz=157
F38A Pierce - Schro 42.13 345 P P 04 57 25.1 -1.9
baz=158
214A Organ Pipe Nat 42.18 313 P P 04 57 28.4 +0.7
baz=121
LMQ La Malbaie 42.27 7 eP P 04 57 29.2 +1.1
MVCO Mesa Verde 42.35 322 P P 04 57 29.3 +0.1
baz=130
MVCO Mesa Verde 42.35 322 eP P 04 57 31.9 +2.7
comp=Z,66nm,1.8s
MVCO LR LR
comp=Z,774nm,20.0s
VLDQ Val d'Or 42.39 0 eP P 04 57 29.4 +0.4
comp=Z,20nm,0.8s
H33A Prehn Over Nor 42.45 340 P P 04 57 27.5 -2.1
baz=151
ISCO Idaho Springs 42.46 327 P P 04 57 30.3 +0.1
baz=136
ISCO Idaho Springs 42.46 327 eP P 04 57 30.7 +0.5
ISCO pmax pmax
comp=Z,51nm,1.6s
ISCO MLR MLR
comp=Z,930nm,21.0s
ISCO Idaho Springs 42.46 327 eP P 04 57 30.7 +0.5
comp=Z,51nm,1.6s
ISCO LR LR
comp=Z,930nm,21.0s
F36A Milaca 42.49 343 P P 04 57 27.2 -2.6
baz=156,SNR=15
H32A Carlson Farm, 42.54 339 P P 04 57 27.6 -2.8
baz=150,SNR=13
X16A Lo Mia Camp, P 42.54 317 eP P 04 57 33.3 +2.5
comp=Z,12nm,0.8s
G34A Benson 42.57 341 P P 04 57 28.8 -1.8
baz=153
E38A The Farm, Brul 42.65 346 P P 04 57 29.3 -1.9
baz=159
SMCO Snowmass 42.77 326 eP P 04 57 32.9 0.0
comp=Z,33nm,1.4s
F35A Swanville 42.79 342 P P 04 57 30.4 -1.9
baz=154
G33A Ortonville 42.79 340 P P 04 57 29.8 -2.6
baz=152,SNR=6.5
H31A Wolsey 42.90 338 P P 04 57 31.4 -1.9
baz=148
F34A Alexandria 42.94 342 P P 04 57 31.8 -1.8
baz=154
PV01 Paradox Valley 42.99 323 eP P 04 57 35.3 +0.9
E36A McGregor 43.01 344 P P 04 57 32.0 -2.1
baz=157,SNR=8.1
RCBR Riachuelo 43.03 105 PFAKE 04 57 50.0 +15
RCBR LR LR
comp=Z,5µm,21.0s
SUSD Miller 43.05 337 P P 04 57 32.5 -2.1
baz=148
WUAZ Wupatki 43.13 318 P P 04 57 36.1 +0.6
baz=126
WUAZ Wupatki 43.13 318 eP P 04 57 36.8 +1.3
comp=Z,36nm,0.9s
WUAZ LR LR
comp=Z,957nm,22.0s
G32A Webster 43.21 339 P P 04 57 33.3 -2.5
baz=150,SNR=10
PV05 Paradox Valley 43.27 323 eP P 04 57 36.8 +0.2
113A Mohawk Valley, 43.29 313 eP P 04 57 37.8 +1.2
comp=Z,59nm,1.6s
F33A 5 Mile Ranch, 43.31 341 P P 04 57 34.0 -2.6
baz=152,SNR=7.4
Y14A Wickenburg 43.36 315 eP P 04 57 38.1 +0.9
comp=Z,68nm,0.9s
E35A Pequot Lakes 43.37 343 P P 04 57 35.6 -1.4
baz=155
D37A Cotton 43.38 345 P P 04 57 34.6 -2.5
baz=158,SNR=6.0
N23A Red Feather La 43.43 328 P P 04 57 36.3 -1.6
baz=136
N23A Red Feather La 43.43 328 eP P 04 57 39.0 +1.1
comp=Z,17nm,1.0s
PV10 Paradox Valley 43.43 323 eP P 04 57 37.8 -0.1
G31A Conde 43.44 339 P P 04 57 35.9 -1.8
baz=149
C39A Grand Marais 43.47 348 P P 04 57 36.2 -1.6
baz=162,SNR=5.2
PHWY Pilot Hill 43.47 329 eP P 04 57 39.1 +0.8
comp=Z,28nm,1.5s
E34A Wadena 43.56 342 P P 04 57 36.9 -1.7
baz=154
D36A Goodland 43.59 344 P P 04 57 36.6 -2.3
baz=157,SNR=6.9
F32A Veblen 43.62 340 P P 04 57 37.5 -1.6
baz=151
C38A Sawbill Land. 43.63 347 P P 04 57 37.5 -1.6
baz=160
D35A Remer 43.75 344 P P 04 57 38.8 -1.3
baz=156
C37A Embarrass 43.85 346 P P 04 57 40.0 -0.9
baz=159
EYMN Ely 43.89 346 P P 04 57 39.7 -1.6
baz=160
EYMN Ely 43.89 346 eP P 04 57 39.6 -1.6
comp=Z,40nm,1.1s
EYMN LR LR
comp=Z,2µm,20.0s
C36A Pine Crest Far 44.05 345 P P 04 57 41.4 -1.0
baz=158
D34A Park Rapids 44.08 343 P P 04 57 40.1 -2.7
baz=154,SNR=7.3
O20A White River Ci 44.14 326 P P 04 57 42.6 -1.0
baz=133,SNR=15
O20A White River Ci 44.14 326 eP P 04 57 43.6 0.0
comp=Z,28nm,1.0s
GLA Glamis 44.20 313 eP P 04 57 45.0 +1.0
GLA pmax pmax
comp=Z,69nm,1.5s
GLA Glamis 44.20 313 eP P 04 57 45.0 +1.0
comp=Z,69nm,1.5s
E32A Braaten, Kindr 44.23 341 P P 04 57 42.8 -1.2
baz=152
U15A North Rim 44.27 319 eP P 04 57 46.0 +1.2
comp=Z,21nm,1.1s
C35A Jirik Farms, M 44.29 344 P P 04 57 42.8 -1.7
baz=156
D33A AnnSam, Waubun 44.33 342 P P 04 57 43.0 -1.7
baz=153
Y12C Blythe 44.34 314 P P 04 57 45.3 +0.3
baz=121,SNR=15
Y12C Blythe 44.34 314 eP P 04 57 46.4 +1.4
comp=Z,34nm,1.1s
E31A Nome 44.48 340 P P 04 57 43.2 -2.7
baz=150,SNR=9.1
C34A RKJ Ranch, Bem 44.51 343 P P 04 57 44.8 -1.4
baz=155
W13A Hualapai Mount 44.59 316 eP P 04 57 48.5 +1.2
comp=Z,29nm,1.2s
RWWY Rawlins 44.66 328 eP P 04 57 51.2 +3.4
comp=Z,7µm,1.1s
SRU San Rafael Swe 44.79 323 eP P 04 57 49.2 +0.4
SRU pmax pmax
comp=Z,28nm,0.9s
SRU San Rafael Swe 44.79 323 eP P 04 57 49.2 +0.4
comp=Z,28nm,0.9s
B35A Bob, Littlefor 44.83 345 P P 04 57 47.3 -1.4
baz=157
D31A Mcclaflin, Tow 44.85 340 P P 04 57 46.7 -2.2
baz=151
C33A Trail 44.86 343 P P 04 57 47.7 -1.3
baz=154
PKCU Pink Cliffs 44.87 320 eP P 04 57 51.5 +1.8
comp=Z,30nm,1.1s
RSSD Black Hills 44.92 333 P P 04 57 49.3 -0.4
baz=141
RSSD Black Hills 44.92 333 eP P 04 57 49.9 +0.1
RSSD pmax pmax
comp=Z,43nm,1.3s
RSSD Black Hills 44.92 333 eP P 04 57 49.9 +0.1
comp=Z,43nm,1.3s
IKP In-Ko-Pah, Jac 44.95 312 P P 04 57 49.8 -0.2
baz=118
KNB Kanab 44.95 319 eP P 04 57 51.4 +1.3
KNB pmax pmax
comp=Z,95nm,1.9s
KNB Kanab 44.95 319 eP P 04 57 51.4 +1.3
comp=Z,95nm,1.9s
BC3 Big Chuckawall 44.95 313 P P 04 57 49.1 -1.0
baz=120,SNR=13
P18A Preston Nutter 44.95 324 eP P 04 57 51.4 +1.2
comp=Z,13nm,0.9s
IRM Iron Mountain 44.99 314 P P 04 57 50.9 +0.6
baz=121
K22A Casper 45.00 330 P P 04 57 49.2 -1.2
baz=137,SNR=6.7
K22A Casper 45.00 330 eP P 04 57 50.5 0.0
comp=Z,14nm,0.9s
B34A Aery, Baudette 45.20 344 P P 04 57 49.5 -2.2
baz=156,SNR=8.8
LCMT Little Creek M 45.23 319 eP P 04 57 53.9 +1.6
comp=Z,20nm,1.2s
MONP Monument Peak, 45.29 312 P P 04 57 52.2 -0.8
baz=118
TMUT Trail Mountain 45.32 323 eP P 04 57 54.1 +1.0
comp=Z,11nm,0.8s
AGMN Agassiz Nation 45.37 343 P P 04 57 51.8 -1.2
baz=154
AGMN Agassiz Nation 45.37 343 eP P 04 57 51.5 -1.5
comp=Z,35nm,1.2s
AGMN LR LR
comp=Z,2µm,19.0s
MSU Marysvale 45.43 321 eP P 04 57 55.1 +1.2
MSU Marysvale 45.43 321 eP P 04 57 55.1 +1.2
LDFC Landfair 45.44 315 eP P 04 57 55.7 +1.8
comp=Z,30nm,1.0s
SZCU Shurtz Canyon 45.46 320 eP P 04 57 55.4 +1.1
comp=Z,22nm,1.1s
C31A Landman Farms, 45.50 341 P P 04 57 51.5 -2.6
baz=151,SNR=12
BELC Belle Mtn. Jos 45.52 314 P P 04 57 53.0 -1.6
baz=120,SNR=43
CCUT Cedar City 45.61 319 eP P 04 57 56.1 +0.7
comp=Z,15nm,1.2s
TPFO Pinon Flats 45.66 313 P P 04 57 55.3 -0.4
baz=119
B32A Ashes, Strandq 45.66 342 P P 04 57 53.1 -2.2
baz=153,SNR=11
PFO Pinyon Flats O 45.66 313 P P 04 57 55.9 +0.1
baz=119
PFO Pinyon Flats O 45.66 313 eP P 04 57 56.9 +1.1
PFO pmax pmax
comp=Z,24nm,1.3s
PFO MLR MLR
comp=Z,1µm,20.0s
PFO Pinyon Flats O 45.66 313 eP P 04 57 56.9 +1.1
comp=Z,24nm,1.3s
PFO LR LR
comp=Z,1µm,20.0s
GMRC Granite Mounta 45.67 315 P P 04 57 54.1 -1.7
baz=121,SNR=14
TRQA Tornquist 45.74 163 eP P 04 57 57.4 +1.4
comp=Z,32nm,0.9s
TRQA LR LR
comp=Z,3µm,19.0s
A33A Warroad 45.81 344 P P 04 57 54.8 -1.7
baz=155
MPU Maple Canyon 46.02 323 eP P 04 57 58.8 +0.2
comp=Z,26nm,1.0s
B31A Greenbush Farm 46.03 341 P P 04 57 56.6 -1.6
baz=152
A32A Rocking H Ranc 46.11 343 P P 04 57 57.3 -1.6
baz=153
HEC Hector,Ludlow 46.17 314 P P 04 58 00.0 +0.3
baz=120
MDND Maddock 46.18 339 P P 04 57 57.7 -1.8
baz=149
MDND Maddock 46.18 339 eP P 04 57 57.9 -1.6
comp=Z,37nm,0.9s
TUQ Turquoise Moun 46.19 315 P P 04 58 00.4 +0.5
baz=121
MURC Murrieta 46.20 312 P P 04 57 59.3 -0.6
baz=118
SHPR Sheep Range 46.23 317 eP P 04 58 01.0 +0.8
comp=Z,20nm,1.2s
NLU North Lily Min 46.25 323 eP P 04 58 01.1 +0.8
comp=Z,31nm,1.4s
JLU Jordanelle 46.29 324 eP P 04 58 01.3 +0.6
comp=Z,23nm,0.9s
PLCA Paso Flores 46.51 173 P P 04 58 03.8 +1.7
comp=Z,24nm,0.8s,baz=8.8,slow=8.7,SNR=56
PLCA LR LR 05 20 03.4
comp=Z,982nm,18.2s,baz=10,slow=39
PLCA Paso Flores 46.51 173 eP P 04 58 03.9 +1.7
comp=Z,28nm,0.8s
BW06 Boulder Array 46.66 327 P P 04 58 02.0 -1.6
baz=133,SNR=39
BW06 Boulder Array 46.66 327 eP P 04 58 03.3 -0.3
comp=Z,25nm,1.0s
BW06 LR LR
comp=Z,1µm,21.0s
PD31 Pinedale Array 46.66 327 eP P 04 58 03.6 +0.1
PDAR Pinedale Array 46.66 327 P P 04 58 03.2 -0.4
comp=Z,13nm,1.0s,baz=126,slow=7.5,SNR=41
PDAR LR LR 05 21 20.6
comp=Z,446nm,19.6s,baz=134,slow=41
SHOC Shoshone, Teco 46.67 316 P P 04 58 04.2 +0.7
baz=121
GSC Goldstone, Bar 46.74 315 P P 04 58 04.5 +0.3
baz=120
GSC Goldstone, Bar 46.74 315 eP P 04 58 05.3 +1.1
GSC pmax pmax
comp=Z,18nm,0.8s
GSC Goldstone, Bar 46.74 315 eP P 04 58 05.3 +1.1
comp=Z,18nm,0.8s
BFSC Mount Baldy Ra 46.84 313 P P 04 58 05.5 +0.5
baz=118
DUG Dugway, Tooele 46.84 323 P P 04 58 04.8 -0.1
baz=128,SNR=40
DUG Dugway, Tooele 46.84 323 eP P 04 58 05.3 +0.4
DUG pmax pmax
comp=Z,34nm,0.9s
DUG MLR MLR
comp=Z,815nm,20.0s
DUG Dugway, Tooele 46.84 323 eP P 04 58 05.3 +0.4
comp=Z,34nm,0.9s
DUG LR LR
comp=Z,815nm,20.0s
MCU Monte Cristo P 46.87 325 eP P 04 58 04.9 -0.4
FSU Fish Springs 46.91 322 eP P 04 58 06.5 +1.0
HWUT Hardware Ranch 47.00 325 eP P 04 58 05.8 -0.4
comp=Z,28nm,0.8s
HWUT LR LR
comp=Z,1µm,19.0s
MWC Mount Wilson 47.12 313 eP P 04 58 11.5 +4.2
MWC pmax pmax
comp=Z,29nm,1.4s
MWC Mount Wilson 47.12 313 eP P 04 58 11.5 +4.2
comp=Z,29nm,1.4s
ULM Lac du Bonnet 47.13 344 P P 04 58 04.7 -2.1
comp=Z,17nm,0.8s,baz=156,slow=7.8,SNR=18
ULM LR LR 05 19 43.7
comp=Z,1µm,18.1s,baz=152,slow=38
ULM Lac du Bonnet 47.13 344 P P 04 58 04.7 -2.1
ULM pmax pmax
comp=Z,17nm,0.8s
ULM MLR MLR
comp=Z,1µm,18.1s
ULM Lac du Bonnet 47.13 344 eP P 04 58 04.8 -2.1
comp=Z,29nm,0.9s
PASC Pasadena Art C 47.19 313 eP P 04 58 11.8 +4.2
comp=Z,38nm,1.4s
TPNV Topopah Spring 47.20 317 P P 04 58 06.9 -1.0
baz=122,SNR=17
TPNV Topopah Spring 47.20 317 eP P 04 58 08.5 +0.7
TPNV pmax pmax
comp=Z,14nm,0.8s
TPNV Topopah Spring 47.20 317 eP P 04 58 08.5 +0.7
comp=Z,14nm,0.8s
HDU Hyde Park 47.24 325 eP P 04 58 07.7 -0.4
SPUT South Promonto 47.32 324 eP P 04 58 08.7 0.0
comp=Z,39nm,1.1s
FURC Furnace Creek, 47.37 316 P P 04 58 09.7 +0.8
baz=121
EDW2 Edwards Air Fo 47.39 313 P P 04 58 08.0 -1.2
baz=119,SNR=16
BGU Big Grassy Mou 47.42 323 eP P 04 58 09.5 0.0
comp=Z,29nm,1.0s
LRMC Laurel Mtn Rad 47.45 314 P P 04 58 09.9 +0.1
baz=119
R11A Troy Canyon, C 47.51 319 P P 04 58 10.8 +0.6
baz=124
R11A Troy Canyon, C 47.51 319 eP P 04 58 11.2 +1.0
comp=Z,13nm,0.9s
MTUT Morton Thiokol 47.58 324 eP P 04 58 10.1 -0.5
MPMC Manual Prospec 47.60 315 P P 04 58 10.9 -0.1
baz=120
REDW Red Top Meadow 47.76 327 eP P 04 58 11.6 -0.6
comp=Z,50nm,0.9s
SNOW Snow King Moun 47.78 327 eP P 04 58 12.1 -0.2
comp=Z,41nm,0.9s
DAC Darwin (Calif) 47.78 315 eP P 04 58 13.0 +0.6
DAC pmax pmax
comp=Z,9.0nm,1.1s
DAC Darwin (Calif) 47.78 315 eP P 04 58 13.0 +0.6
comp=Z,9.4nm,1.1s
LOHW Long Hollow 47.80 328 eP P 04 58 12.1 -0.4
comp=Z,31nm,1.1s
HVU Hansel Valley 47.81 324 eP P 04 58 12.4 -0.1
HVU pmax pmax
comp=Z,18nm,0.8s
HVU Hansel Valley 47.81 324 eP P 04 58 12.4 -0.1
comp=Z,18nm,0.8s
LAO LASA Array 47.88 333 P P 04 58 12.5 -0.3
baz=140
LAO LASA Array 47.88 333 PFAKE 04 58 20.0 +7.2
LAO LR LR
comp=Z,991nm,20.0s
TPAW Teton Pass 47.90 327 eP P 04 58 12.8 -0.4
comp=Z,24nm,0.8s
MOOW Moose Ponds 47.97 328 eP P 04 58 13.2 -0.5
comp=Z,22nm,1.0s
GRAC Grapevine Rang 47.99 316 P P 04 58 14.2 +0.4
baz=121
ISA Isabella, Lake 48.11 314 P P 04 58 15.2 +0.4
baz=119
ISA Isabella, Lake 48.11 314 eP P 04 58 16.5 +1.7
ISA pmax pmax
comp=Z,15nm,1.0s
ISA Isabella, Lake 48.11 314 eP P 04 58 16.5 +1.7
comp=Z,15nm,1.0s
ARVC Arvin 48.11 313 P P 04 58 15.0 +0.3
baz=118
RLMT Red Lodge 48.16 330 P P 04 58 14.4 -0.8
baz=135,SNR=15
RLMT Red Lodge 48.16 330 eP P 04 58 14.9 -0.3
comp=Z,15nm,0.8s
RLMT LR LR
comp=Z,849nm,19.0s

FLWY **Flagg Ranch** 48.17 328 eP P 04 58 15.6 +0.3
comp=Z,33nm,1.3s
IMW **Indian Meadow** 48.17 328 eP P 04 58 14.8 -0.5
comp=Z,17nm,0.7s
CWC **Cottonwood Cre** 48.21 315 P P 04 58 15.5 -0.1
baz=120
H17A **Grant Village** 48.32 328 P P 04 58 16.8 +0.4
baz=133
H17A **Grant Village** 48.32 328 eP P 04 58 19.4 +2.9
comp=Z,16nm,1.3s
LKWY **Lake** 48.34 329 PFAKE 04 58 30.0 +13
LKWY LR LR
comp=Z,1µm,22.0s
YPP **Pitchstone Pla** 48.35 328 eP P 04 58 17.6 +0.8
comp=Z,12nm,1.1s
DGMT **Dagmar** 48.42 336 P P 04 58 15.8 -1.1
baz=143,SNR=10
DGMT **Dagmar** 48.42 336 eP P 04 58 16.5 -0.5
comp=Z,42nm,1.0s
DGMT LR LR
comp=Z,1µm,20.0s
YFT **Old Faithful** 48.49 328 eP P 04 58 19.5 +1.7
comp=Z,36nm,1.4s
MCID **Moose Creek** 48.50 328 eP P 04 58 18.0 +0.2
YMR **Madison River** 48.71 328 eP P 04 58 20.1 +0.7
comp=Z,24nm,1.0s
PKM **Mcpherson Peak** 48.72 313 P P 04 58 20.4 +0.7
baz=117
YHH **Holmes Hill** 48.73 329 eP P 04 58 20.7 +1.0
comp=Z,10nm,1.0s
GCMT **Greycliff** 48.83 330 eP P 04 58 20.1 -0.2
YHB **Horse Butte** 48.88 328 eP P 04 58 22.5 +1.7
comp=Z,16nm,1.1s
QLMT **Earthquake Lak** 49.06 328 eP P 04 58 23.2 +1.1
PAGB **Antelope Grade** 49.41 313 eP P 04 58 26.2 +1.4
comp=Z,24nm,1.0s
TVH2 **Borealis Mine** 49.64 317 eP P 04 58 28.2 +1.5
comp=Z,20nm,1.6s
TVH3 **East Aurora ar** 49.67 317 eP P 04 58 28.5 +1.6
comp=Z,9.8nm,1.1s
BOZ **Bozeman (W)** 49.68 329 P P 04 58 26.3 -0.5
baz=133,SNR=9.1
BOZ **Bozeman (W)** 49.68 329 eP P 04 58 27.0 +0.2
BOZ pmax pmax
comp=Z,20nm,0.9s
BOZ MLR MLR
comp=Z,698nm,20.0s
BOZ **Bozeman (W)** 49.68 329 eP P 04 58 27.0 +0.2
comp=Z,20nm,0.9s
BOZ LR LR
comp=Z,698nm,20.0s
TVH1 **TV Hill, Hawth** 49.69 317 eP P 04 58 28.6 +1.4
comp=Z,28nm,1.5s
BMN **Battle Mountai** 49.72 320 eP P 04 58 27.3 +0.1
BMN pmax pmax
comp=Z,25nm,0.9s
BMN **Battle Mountai** 49.72 320 eP P 04 58 27.3 +0.1
comp=Z,25nm,0.9s
MCMT **McKenzie Canyo** 49.81 327 eP P 04 58 28.7 +0.8
SCHQ **Schefferville** 49.87 8 P P 04 58 26.8 -1.1
comp=Z,44nm,0.8s,baz=198,slow=5.8,SNR=26
SCHQ LR LR 05 19 51.8
comp=Z,967nm,21.2s,baz=219,slow=36
SCHQ **Schefferville** 49.87 8 eP P 04 58 28.1 +0.2
comp=Z,56nm,0.9s
HLID **Hailey** 49.87 325 P P 04 58 27.4 -0.9
baz=129,SNR=36
HLID **Hailey** 49.87 325 eP P 04 58 27.8 -0.5
comp=Z,16nm,0.8s
HLID LR LR
comp=Z,946nm,22.0s
DLMT **Dillon** 50.03 328 eP P 04 58 30.4 +1.0
comp=Z,29nm,1.3s
WAKR **Walker** 50.17 317 eP P 04 58 31.9 +1.2
comp=Z,35nm,1.3s
LRM **Limekiln Ridge** 50.26 329 eP P 04 58 31.5 +0.2
YERR **Yerington** 50.28 318 eP P 04 58 32.3 +0.9
comp=Z,41nm,1.4s
EGMT **Eagleton** 50.48 332 P P 04 58 32.1 -0.6
baz=136
EGMT **Eagleton** 50.48 332 eP P 04 58 32.4 -0.3
comp=Z,31nm,1.4s
EGMT LR LR
comp=Z,713nm,20.0s
HRY **Holter Researc** 50.55 330 eP P 04 58 33.4 +0.1
PNTR **Pine Nut** 50.57 317 eP P 04 58 35.3 +1.6
comp=Z,13nm,0.8s
CMB **Columbia Colle** 50.59 316 eP P 04 58 34.0 +0.3
CMB pmax pmax
comp=Z,7.0nm,1.1s
CMB **Columbia Colle** 50.59 316 eP P 04 58 34.0 +0.3
comp=Z,6.9nm,1.1s
MFID **Camas Ranch** 50.59 324 eP P 04 58 33.6 -0.1
comp=Z,30nm,0.8s
PAHR **Pah Rah Range** 50.74 318 eP P 04 58 35.5 +0.6
comp=Z,20nm,1.2s
CHMT **Chamberlain Mo** 51.40 329 eP P 04 58 40.4 +0.6
AFDM **Forest Hills D** 51.43 317 eP P 04 58 40.8 +0.8
comp=Z,8.6nm,1.2s
MSO **Missoula** 51.70 329 P P 04 58 41.0 -1.0
baz=131,SNR=10
MSO **Missoula** 51.70 329 eP P 04 58 41.5 -0.5
comp=Z,20nm,1.4s
WVOR **Wild Horse Val** 51.71 322 eP P 04 58 41.5 -0.7
WVOR pmax pmax
comp=Z,47nm,1.0s
WVOR MLR MLR
comp=Z,731nm,19.0s
WVOR **Wild Horse Val** 51.71 322 eP P 04 58 41.5 -0.7
comp=Z,46nm,1.0s
WVOR LR LR
comp=Z,731nm,19.0s
ORV **Oroville** 52.08 317 eP P 04 58 45.1 +0.3
ORV pmax pmax
comp=Z,42nm,1.3s
ORV **Oroville** 52.08 317 eP P 04 58 45.1 +0.3
comp=Z,42nm,1.3s
SWMT **Swartz Lake** 52.18 329 eP P 04 58 46.0 +0.5
BMO **Blue Mountains** 52.30 325 eP P 04 58 45.4 -1.1
BMO pmax pmax
comp=Z,10.0nm,1.1s
BMO MLR MLR
comp=Z,612nm,20.0s
BMO **Blue Mountains** 52.30 325 eP P 04 58 45.4 -1.1
comp=Z,9.7nm,1.1s
BMO LR LR
comp=Z,612nm,20.0s
YBMT **Yellow Bay** 52.42 330 eP P 04 58 47.6 +0.3
MOD **Modoc Plateau** 52.47 320 eP P 04 58 48.7 +0.8
comp=Z,11nm,0.9s
JTMT **Jette** 52.48 329 eP P 04 58 48.3 +0.5
BLMT **Blacktail Moun** 52.70 330 eP P 04 58 50.0 +0.5
CHRN **Cochrane** 52.77 176 eP P 04 58 51.8 +2.2
comp=Z,14nm,1.0s
BSMT **Bassoo Peak** 52.81 329 eP P 04 58 50.5 +0.2
FFC **Flin Flon** 52.85 342 eP P 04 58 49.3 -0.9
FFC pmax pmax
comp=Z,42nm,1.4s
FFC MLR MLR
comp=Z,999nm,20.0s
FFC **Flin Flon** 52.85 342 eP P 04 58 49.3 -0.9
comp=Z,42nm,1.4s
FFC LR LR
comp=Z,999nm,20.0s
F10A **Beach Ranch, E** 52.93 326 eP P 04 58 50.4 -0.7
comp=Z,27nm,1.0s
K05A **Summer Lake** 53.27 321 eP P 04 58 54.4 +0.6
comp=Z,18nm,1.1s
WDC **Whiskeytown Da** 53.27 318 eP P 04 58 52.3 -1.3
WDC pmax pmax
comp=Z,8.0nm,1.0s
WDC **Whiskeytown Da** 53.27 318 eP P 04 58 52.3 -1.3
comp=Z,7.5nm,1.0s
M04C **Macdoel** 53.40 319 P P 04 58 54.0 -0.7
baz=120,SNR=21
KCPM **Cahto Peak** 53.57 316 eP P 04 58 57.2 +1.3
comp=Z,31nm,1.0s
N02D **Trinity Center** 53.57 318 P P 04 58 54.1 -1.7
baz=119
SACV **Santiago Islan** 53.71 76 eP P 04 58 57.7 +0.5
comp=Z,133nm,0.9s
SACV LR LR
comp=Z,885nm,19.0s
E09A **Wood Farm, Sta** 53.76 326 eP P 04 58 56.6 -0.5
comp=Z,35nm,1.0s
K04D **Chiloquin, OR** 53.77 320 P P 04 58 56.8 -0.5
baz=121,SNR=5.4

J05D **Fort Rock, OR** 53.78 321 P P 04 58 56.2 -1.2
baz=122,SNR=20
M02C **Callahan** 53.87 318 P P 04 58 56.8 -1.2
baz=119
KMRM **Mail Ridge** 53.90 317 eP P 04 58 58.9 +0.7
comp=Z,54nm,1.1s
YBH **Yreka Blue Hor** 53.94 319 eP P 04 58 56.9 -1.7
YBH pmax pmax
comp=Z,8.0nm,0.9s
YBH **Yreka Blue Hor** 53.94 319 eP P 04 58 56.9 -1.7
comp=Z,7.6nm,0.9s
KHMM **Horse Mountain** 54.21 318 eP P 04 59 01.2 +0.5
comp=Z,39nm,0.9s
NEW **Newport** 54.28 328 P P 04 58 59.6 -1.2
comp=Z,8.7nm,1.0s,baz=143,slow=8.3,SNR=7.2
NEW **Newport** 54.28 328 P P 04 59 00.4 -0.4
baz=129
NEW **Newport** 54.28 328 eP P 04 59 00.3 -0.6
NEW pmax pmax
comp=Z,18nm,1.2s
NEW MLR MLR
comp=Z,648nm,20.0s
NEW **Newport** 54.28 328 eP P 04 59 00.3 -0.6
comp=Z,18nm,1.2s
NEW LR LR
comp=Z,648nm,20.0s
J04D **Umpqua Nationa** 54.30 321 P P 04 59 00.0 -1.3
baz=121,SNR=34
VTHM **Trough** 54.38 324 P P 04 59 02.8 +1.0
JCC **Jacoby Creek,** 54.38 317 eP P 04 59 03.8 +2.1
comp=Z,45nm,1.1s
I05D **Terrebonne, OR** 54.40 322 P P 04 59 01.5 -0.4
baz=122,SNR=20
G06A **Carlson Farm,** 54.46 324 eP P 04 59 02.5 +0.2
comp=Z,43nm,1.2s
HAWA **Hanford** 54.47 325 eP P 04 59 01.6 -0.6
comp=Z,9.4nm,0.9s
HAWA LR LR
comp=Z,831nm,19.0s
D08A **Wollman Farm,** 54.51 326 eP P 04 59 02.4 -0.2
comp=Z,16nm,0.9s
HUMO **Hull Mountain** 54.53 320 eP P 04 59 01.5 -1.3
comp=Z,18nm,1.5s
CROR **Criterion Ridg** 54.53 323 P P 04 59 03.2 +0.4
SNIWA **Snively Ranch** 54.58 325 P P 04 59 02.1 -1.0
FCC **Fort Churchill** 54.59 349 eP P 04 59 01.9 -0.9
FCC pmax pmax
comp=Z,66nm,1.0s
FCC **Fort Churchill** 54.59 349 eP P 04 59 01.9 -0.9
comp=Z,66nm,1.0s
KRMB **Red Mountain** 54.63 318 eP P 04 59 04.1 +0.4
comp=Z,72nm,1.7s
L02D **Cave Junction,** 54.73 319 P P 04 59 02.8 -1.4
baz=118
E07A **Sunnyside** 54.75 325 eP P 04 59 03.8 -0.5
comp=Z,14nm,0.8s
I04A **Tendick Farm,** 54.77 321 P P 04 59 03.3 -1.3
baz=121,SNR=15
IRO **Indian Ridge** 54.78 322 P P 04 59 04.5 -0.3
G05D **Wamic, OR** 54.87 323 P P 04 59 05.1 -0.1
baz=123
KBO **Bosley Butte** 55.16 319 eP P 04 59 08.5 +1.1
comp=Z,78nm,1.0s
I03D **Drain, OR** 55.31 321 P P 04 59 07.2 -1.2
baz=120,SNR=21
WTV **Waterville** 55.46 326 P P 04 59 09.6 +0.1
B08A **Colville Reser** 55.51 327 eP P 04 59 09.2 -0.6
comp=Z,21nm,1.0s
KEBM **Edson Butte** 55.54 319 eP P 04 59 11.6 +1.4
comp=Z,62nm,1.1s
LTY **Liberty** 55.60 326 eP P 04 59 10.4 -0.1
comp=Z,19nm,0.8s
ETW **Entiat** 55.61 326 P P 04 59 10.8 +0.1
COR **Corvallis** 55.73 322 eP P 04 59 11.6 +0.2
COR pmax pmax
comp=Z,37nm,0.9s
COR **Corvallis** 55.73 322 eP P 04 59 11.6 +0.2
comp=Z,37nm,0.9s
EDM **Edmonton** 55.80 335 eP P 04 59 10.3 -1.5
EDM pmax pmax
comp=Z,31nm,0.9s
EDM **Edmonton** 55.80 335 eP P 04 59 10.3 -1.5
comp=Z,31nm,0.9s
F04A **Amboy** 55.89 323 eP P 04 59 12.4 -0.1
comp=Z,15nm,0.8s
LON **Longmire** 55.97 325 eP P 04 59 12.8 -0.4
LON pmax pmax
comp=Z,19nm,0.9s
LON **Longmire** 55.97 325 eP P 04 59 12.8 -0.4
comp=Z,19nm,0.9s
G03D **McMinnville, O** 56.02 322 P P 04 59 12.4 -1.0
baz=121,SNR=7.3
D05A **Enumclaw** 56.31 325 eP P 04 59 15.7 +0.2
comp=Z,35nm,0.9s
E03A **Lebam** 56.89 324 eP P 04 59 20.1 +0.6
comp=Z,54nm,0.8s
B05A **Brynt** 56.96 326 P P 04 59 18.9 -1.2
baz=124
CMLA **Cha da Macela** 56.98 48 iP P 04 59 17.1 -3.4
NLWA **Neilton Lookou** 57.50 324 eP P 04 59 24.6 +0.6
comp=Z,39nm,0.9s
NLWA LR LR
comp=Z,815nm,20.0s
OSD **Olympics--Snow** 57.63 325 P P 04 59 26.1 +1.0
LLLB **Lillooet** 58.17 328 eP P 04 59 28.9 +0.3
comp=Z,31nm,1.1s
FRB **Frobisher Bay** 58.42 5 P P 04 59 29.3 -0.7
comp=Z,20nm,0.7s,baz=205,slow=8.1,SNR=9.5
EFI **East Falkland** 59.40 166 PFAKE 04 59 50.0 +13
EFI LR LR
comp=Z,2µm,21.0s
BBB **Bella Bella** 62.31 327 LR LR 05 32 04.9
comp=Z,464nm,18.6s,baz=125,slow=41
BBB **Bella Bella** 62.31 327 eP P 04 59 58.3 +1.5
comp=Z,35nm,1.0s
RKT **Rikitea** 62.95 241 eLQ LQ 05 16 10.9
comp=Z,479nm,28.8s
RKT eLR LR 05 18 44.9
comp=Z,1µm,27.2s
YKA **Yellowknife Ar** 63.01 342 P P 04 59 59.5 -1.8
comp=Z,19nm,0.7s,baz=131,slow=6.7,SNR=57
YKA LR LR 05 30 08.4
comp=Z,80nm,18.5s,baz=180,slow=39
YKB5 **Yellowknife Ar** 63.01 342 eP P 04 59 58.5 -2.8
YKW3 **Yellowknife Ar** 63.06 342 eP P 05 00 00.0 -1.6
comp=Z,33nm,0.9s
SFJD **Kangerlussuaq** 64.05 11 P P 05 00 07.4 -0.7
comp=Z,13nm,0.7s,baz=215,slow=5.8,SNR=6.0
SFJD **Kangerlussuaq** 64.05 11 iP P 05 00 06.9 -1.2
comp=Z,13nm,0.8s
ASCN **Ascension** 64.37 101 PFAKE 05 00 20.0 +8.7
ASCN LR LR
comp=Z,2µm,19.0s
ILULI **Ilulissat** 65.89 10 iP P 05 00 19.2 -0.9
comp=Z,22nm,0.7s
ILULI **Ilulissat** 65.89 10 iP P 05 00 19.2 -0.9
ILULI pmax pmax
comp=Z,22nm,0.7s
DLBC **Dease Lake** 66.40 333 LR LR 05 34 08.3
comp=Z,732nm,18.2s,baz=108,slow=40
DLBC **Dease Lake** 66.40 333 eP P 05 00 23.5 -0.1
comp=Z,32nm,0.9s
WRAK **Wrangell Islan** 66.52 330 PFAKE 05 00 40.0 +16
WRAK LR LR
comp=Z,1µm,19.0s
HOPE **Hope Point** 68.75 156 PFAKE 05 00 50.0 +12
HOPE LR LR
comp=Z,1µm,21.0s
SKAG **Skagway** 69.30 332 eP P 05 00 41.0 -0.9
comp=Z,18nm,1.0s
WHY **Whitehorse** 69.63 334 eP P 05 00 44.4 +0.4
comp=Z,14nm,1.1s
RES **Resolute Bay** 69.80 355 LR LR 05 32 04.3
comp=Z,962nm,20.3s,baz=152,slow=37
PTEO **Sao Teotonio** 69.81 52 eP P 05 00 46.6 +1.2
comp=Z,98nm,1.4s
MORF **Marmelete** 69.83 52 eP P 05 00 45.8 +0.1
MORF AMb AMB 05 00 51.3
comp=Z,74nm,2.2s
MORF **Marmelete** 69.83 52 eP P 05 00 47.1 +1.5
comp=Z,71nm,1.2s
MORF **Marmelete** 69.83 52 eP P 05 00 45.7 +0.1
KULLO **Kullorsuaq** 69.96 6 iP P 05 00 44.4 -1.2
comp=Z,29nm,0.9s
KULLO **Kullorsuaq** 69.96 6 iP P 05 00 44.4 -1.2
KULLO pmax pmax
comp=Z,29nm,0.9s

PNCL **Nicolau / Gran** 70.05 52 eP P 05 00 48.0 +1.1
comp=Z,55nm,1.4s
MESJ **Messejana** 70.25 52 eP P 05 00 48.0 -0.1
MESJ AMb AMB 05 00 54.8
comp=Z,55nm,1.4s
MESJ **Messejana** 70.25 52 eP P 05 00 49.1 +1.0
comp=Z,56nm,1.7s
MESJ **Messejana** 70.25 52 eP P 05 00 48.0 -0.1
PCVE **Castro Verde** 70.36 52 eP P 05 00 50.0 +1.2
PCAS **Casmilo, Conde** 70.38 50 eP P 05 00 49.3 +0.4
comp=Z,85nm,2.0s
DHAK **Deception Hill** 70.50 331 eP P 05 00 50.5 +1.2
comp=Z,54nm,1.0s
EVO **Evora** 70.51 51 eP P 05 00 49.9 +0.2
PBEJ **Beja** 70.55 52 eP P 05 00 50.5 +0.5
RTC **Rabat Centre** 70.85 56 PFAKE 05 01 00.0 +8.1
RTC LR LR
comp=Z,3µm,19.0s
HYT **Haines Junctio** 70.87 333 eP P 05 00 52.7 +1.1
comp=Z,17nm,1.0s
PMSA **Palmer Station** 70.87 174 PFAKE 05 01 00.0 +8.8
PMSA LR LR
comp=Z,618nm,19.0s
PGAV **Gavieira, Arco** 70.87 48 eP P 05 00 52.6 +0.6
PESTR **Estremoz** 70.89 51 eP P 05 00 52.6 +0.6
comp=Z,62nm,1.2s
PVIS **Viseu** 70.94 49 eP P 05 00 52.6 +0.2
comp=Z,43nm,1.9s
PCAB **Cabril** 71.01 48 eP P 05 00 54.4 +1.7
comp=Z,46nm,1.8s
SUMG **Summit** 71.04 12 iP P 05 00 52.1 -0.7
comp=Z,89nm,0.8s
SUMG **Summit** 71.04 12 iP P 05 00 52.1 -0.7
SUMG pmax pmax
comp=Z,89nm,0.8s
SUMG **Summit** 71.04 12 eP P 05 00 52.1 -0.7
comp=Z,90nm,0.7s
PCBR **Castelo Branco** 71.12 50 eP P 05 00 54.1 +0.7
comp=Z,41nm,1.4s
POLO **Lamas de Olo** 71.12 48 eP P 05 00 53.8 +0.3
PMRV **Marv??o** 71.12 50 eP P 05 00 53.9 +0.4
comp=Z,30nm,1.4s
PVRL **Vila Real** 71.17 48 eP P 05 00 54.2 +0.5
comp=Z,54nm,1.5s
PBAR **Barrancos** 71.22 52 eP P 05 00 54.7 +0.7
comp=Z,62nm,1.4s
MVO **Moncorvo** 71.66 49 eP P 05 00 57.1 +0.4
comp=Z,51nm,2.2s
PCA **Pinnacle** 71.84 332 eP P 05 00 58.5 +1.0
comp=Z,28nm,0.8s
PBRG **Braganca** 71.97 48 eP P 05 00 59.1 +0.5
comp=Z,38nm,1.7s
TIC **Toumodi** 72.00 85 eP P 05 00 58.9 -0.3
LIC **Lamto** 72.02 85 eP P 05 00 59.1 -0.2
comp=Z,262nm,1.0s
DBIC **Dimbokro** 72.16 85 P P 05 01 00.0 -0.1
comp=Z,62nm,0.8s,baz=257,slow=7.0,SNR=77
DBIC LR LR 05 30 30.3
comp=Z,1µm,19.6s,baz=224,slow=34
DBIC **Dimbokro** 72.16 85 eP P 05 01 00.4 +0.3
DBIC pmax pmax
comp=Z,90nm,0.9s
DBIC **Dimbokro** 72.16 85 eP P 05 01 00.4 +0.3
comp=Z,90nm,0.9s
KIC **Kosan Boka** 72.30 85 eP P 05 01 00.9 0.0
comp=Z,179nm,0.8s
INK **Inuvik** 72.77 341 P P 05 01 01.6 -1.0
comp=Z,7.4nm,0.7s,baz=117,slow=6.9,SNR=24
INK **Inuvik** 72.77 341 eP P 05 01 01.7 -1.0
INK pmax pmax
comp=Z,46nm,1.5s
INK **Inuvik** 72.77 341 eP P 05 01 01.7 -1.0
comp=Z,46nm,1.5s
CRQM **Cirque** 73.41 332 eP P 05 01 07.5 +0.6
comp=Z,30nm,0.9s
PAB **San Pablo** 73.47 51 eP P 05 01 08.7 +1.1
PAB pmax pmax
comp=Z,69nm,1.5s
PAB MLR MLR
comp=Z,732nm,20.0s
PAB **San Pablo** 73.47 51 eP P 05 01 08.7 +1.1
comp=Z,69nm,1.5s
PAB LR LR
comp=Z,732nm,20.0s
SCO **Scoresbysund** 73.73 17 iP P 05 01 07.7 -0.6
comp=Z,17nm,0.9s
SCO **Scoresbysund** 73.73 17 iP P 05 01 07.7 -0.6
SCO pmax pmax
comp=Z,17nm,0.9s
ESDC **Sonseca Array** 73.78 50 P P 05 01 09.4 +0.1
comp=Z,16nm,0.9s,baz=267,slow=5.6,SNR=55
ESLA **Sonseca Array** 73.78 50 eP P 05 01 09.9 +0.6
comp=Z,46nm,1.3s
ES19 **SONSECA Array** 73.84 50 eP P 05 01 09.5 -0.2
EGAK **Eagle** 73.96 336 eP P 05 01 09.7 -0.2
comp=Z,20nm,0.9s
EGAK LR LR
comp=Z,731nm,19.0s
BMRM **Bremner River** 74.16 332 eP P 05 01 11.5 +0.4
comp=Z,44nm,0.9s
MENT **Mentasta** 74.38 334 eP P 05 01 13.1 +0.7
comp=Z,20nm,0.7s
DIV **Divide** 74.75 332 eP P 05 01 15.0 +0.5
comp=Z,35nm,1.0s
PPT **Papeete** 74.75 250 LR LR 05 26 29.0
comp=Z,658nm,20.7s,baz=80,slow=30
PPT2 **Papeete2** 74.76 250 eS S 05 10 47.0 -5.0
comp=Z,584nm,27.5s
PPT2 **Papeete2** 74.76 250 eLQ LQ 05 21 08.9
comp=Z,1µm,29.5s
PPT2 eLR LR 05 24 15.8
comp=Z,3µm,26.0s,baz=75
DOT **Dot Lake** 74.76 335 eP P 05 01 14.5 0.0
comp=Z,162nm,0.9s
HARP **HAARP** 74.85 333 eP P 05 01 15.9 +0.9
comp=Z,94nm,1.5s
PAX **Paxson** 75.15 334 eP P 05 01 16.7 -0.2
PAX pmax pmax
comp=Z,36nm,1.0s
PAX **Paxson** 75.15 334 eP P 05 01 16.7 -0.2
comp=Z,36nm,1.0s
QUIF **Quistinic** 75.38 42 eP P 05 01 19.4 +1.0
QUIF pmax pmax
comp=Z,129nm,1.5s
SCM **Sheep Creek Mo** 75.66 333 eP P 05 01 19.7 -0.1
SCM pmax pmax
comp=Z,76nm,0.9s
SCM **Sheep Creek Mo** 75.66 333 eP P 05 01 19.7 -0.1
comp=Z,76nm,0.9s
TBI **Tubuai** 75.82 244 eS S 05 10 58.2 -5.2
comp=Z,277nm,30.0s
TBI **Tubuai** 75.82 244 eLQ LQ 05 21 35.9
comp=Z,963nm,30.8s
TBI eLR LR 05 24 43.0
comp=Z,614nm,26.5s
DHY **Denali Highway** 76.02 334 eP P 05 01 22.5 +0.6
comp=Z,15nm,1.0s
SML **Sawmill** 76.12 332 eP P 05 01 22.5 +0.1
SML pmax pmax
comp=Z,48nm,1.0s
SML **Sawmill** 76.12 332 eP P 05 01 22.5 +0.1
comp=Z,48nm,1.0s
FYU **Fort Yukon** 76.17 338 eP P 05 01 22.3 -0.2
comp=Z,24nm,1.1s
OSSF **Osses** 76.17 47 eP P 05 01 23.0 0.0
ILAR **Eielson Array** 76.28 336 P P 05 01 22.1 -1.1
comp=Z,9.6nm,0.9s,baz=110,slow=4.2,SNR=69
ILAR LR LR 05 38 48.5
comp=Z,427nm,18.8s,baz=112,slow=39
ILB **Eielson Array** 76.28 336 eP P 05 01 22.2 -1.1
PMR **Palmer** 76.44 332 eP P 05 01 24.0 -0.1
PMR pmax pmax
comp=Z,32nm,1.2s
PMR **Palmer** 76.44 332 eP P 05 01 24.0 -0.1
comp=Z,32nm,1.2s
CCB **Clear Creek Bu** 76.62 335 eP P 05 01 24.0 -1.1
comp=Z,14nm,1.1s
ETSF **Etsaut** 76.65 47 eP P 05 01 26.2 +0.4
ETSF pmax pmax
comp=Z,42nm,1.4s
WRH **Wood River Hil** 76.70 335 eP P 05 01 25.0 -0.6
comp=Z,14nm,1.1s
COLA **College** 76.70 336 eP P 05 01 25.5 0.0
COLA pmax pmax
comp=Z,18nm,0.9s
COLA MLR MLR
comp=Z,636nm,20.0s

COLA College 76.70 336 *e*P P 05 01 25.5 0.0
comp=Z,18nm,0.9s
COLA LR LR
comp=Z,636nm,20.0s
RND Reindeer 76.75 334 *e*P P 05 01 25.8 -0.2
RND pmax pmax
comp=Z,52nm,0.9s
RND Reindeer 76.75 334 *e*P P 05 01 25.8 -0.2
comp=Z,52nm,0.9s
REYF Montagne du Re 76.79 47⇑ *e*P P 05 01 27.8 +1.2
MCK McKinley 76.87 334 *e*P P 05 01 26.4 -0.2
MCK pmax pmax
comp=Z,36nm,1.1s
MCK McKinley 76.87 334 *e*P P 05 01 26.4 -0.2
comp=Z,36nm,1.1s
BRLK Bradley Lake 76.88 330 *e*P P 05 01 26.6 -0.1
comp=Z,52nm,1.0s
MDM Murphy Dome 76.88 336 *e*P P 05 01 26.6 0.0
comp=Z,14nm,0.8s
GRR Gorron 76.98 42 *e*P P 05 01 27.2 -0.2
GRR pmax pmax
comp=Z,123nm,1.6s
VIEF Viey 77.08 47⇑ *e*P P 05 01 29.1 +0.8
LABF Labassere 77.13 47⇑ *e*P P 05 01 29.7 +1.2
SUA Susitna One 77.16 332 *e*P P 05 01 28.9 +0.6
comp=Z,31nm,0.8s
FLN La Foliniere 77.27 41 *e*P P 05 01 29.1 0.0
FLN pmax pmax
comp=Z,60nm,1.2s
RESF Ens 77.30 48⇑ *e*P P 05 01 30.8 +1.2
KDAK Kodiak Island 77.38 328 PFAKE 05 01 40.0 +11
KDAK LR LR
comp=Z,339nm,19.0s
TRF Thorofare Moun 77.39 334 *e*P P 05 01 29.8 +0.1
comp=Z,23nm,0.9s
KTH Kantishna Hill 77.69 334 *e*P P 05 01 31.1 -0.2
comp=Z,19nm,1.0s
SPU Mount Spurr 77.72 331 *e*P P 05 01 31.4 -0.1
DAG Danmarks Havn 77.73 12 *i*P P 05 01 29.4 -1.7
comp=Z,13nm,0.9s
DAG Danmarks Havn 77.73 12 *i*P P 05 01 29.4 -1.7
DAG pmax pmax
comp=Z,11nm,0.9s
SALF Salau 77.92 48⇑ *e*P P 05 01 33.7 +0.7
RSO Redoubt South 77.93 331 *e*P P 05 01 32.8 0.0
PPLA Purkeypile 78.11 333 *e*P P 05 01 33.5 -0.2
comp=Z,33nm,1.0s
CAST Castle Rocks 78.17 334 *e*P P 05 01 33.4 -0.4
comp=Z,23nm,1.0s
COLD Coldfoot 78.23 338 *e*P P 05 01 34.0 -0.1
comp=Z,18nm,0.9s
TOA1 Torodi Ar. Sit 78.23 78 *e*P P 05 01 34.9 -0.2
comp=Z,36nm,0.9s
TORD Torodi Ar. Bea 78.24 78 P P 05 01 34.9 -0.3
comp=Z,18nm,0.7s,baz=288,slow=5.5,SNR=126
TORD LR LR 05 37 52.6
comp=Z,821nm,18.5s,baz=260,slow=37
TOLK Toolik Lake Re 78.36 339 P P 05 01 34.1 -0.7
baz=105
VALF Valcebollere 78.51 48⇑ *e*P P 05 01 37.6 +1.2
CAF Calviac 78.69 45 *e*P P 05 01 37.1 0.0
CAF pmax pmax
comp=Z,27nm,1.0s
TCF Toulx Ste Croi 78.87 44 *e*P P 05 01 37.7 -0.4
TCF pmax pmax
comp=Z,40nm,1.3s
FILF Fillols 78.92 48⇑ *e*P P 05 01 38.4 -0.1
SJAF Saint Jean de 79.16 48⇑ *e*P P 05 01 40.6 +0.9
SVW2 Sparrevohn 79.40 331 *e*P P 05 01 38.7 -1.9
comp=Z,24nm,0.9s
PYM Petit Puy Mans 79.40 45⇑ *e*P P 05 01 41.8 +0.7
AGO Saint Agoulin 79.50 44⇑ *e*P P 05 01 42.7 +1.2
LBL Lubilhac 79.54 45⇑ *e*P P 05 01 42.7 +0.9
AVF Avril sur Loir 79.69 44 *e*P P 05 01 41.9 -0.6
AVF pmax pmax
comp=Z,36nm,1.3s
SSF Saint Saulge 79.81 43 *e*P P 05 01 42.6 -0.6
SSF pmax pmax
comp=Z,41nm,1.2s
PLDF La Plantade 79.84 44⇑ *e*P P 05 01 43.9 +0.5
TT01 Tatalina 79.85 333 *e*P P 05 01 42.2 -0.8
BAIF Baives 80.42 40 *e*P P 05 01 46.0 -0.4
BAIF pmax pmax
comp=Z,70nm,1.9s
SSB Saint Sauveur 80.46 45 *e*P P 05 01 47.0 +0.2
SSB pmax pmax
comp=Z,17nm,1.0s
SSB Saint Sauveur 80.46 45 *e*P P 05 01 47.0 +0.2
comp=Z,17nm,1.0s
VIVF Saint-Julien-l 80.54 46 *e*P P 05 01 47.7 +0.5
VIVF pmax pmax
comp=Z,70nm,1.3s
DOU Dourbes 80.67 40 P P 05 01 48.3 +0.6
comp=Z,21nm,1.9s
GIVF Givet 80.82 40 *e*P P 05 01 47.7 -0.8
GIVF pmax pmax
comp=Z,113nm,1.6s
CKHR Kef el Ahmar 81.09 55 P P 05 01 55.1 +4.6
BCLA Clavier 81.14 40 P P 05 01 51.0 +0.8
BEBN Eben Emael 81.39 40 P P 05 01 54.2 +2.7
TAM Tamanrasset 81.43 68 *e*P P 05 01 53.3 +0.7
TAM pmax pmax
comp=Z,29nm,1.1s
TAM MLR MLR
comp=Z,791nm,19.0s
TAM Tamanrasset 81.43 68 *e*P P 05 01 53.3 +0.7
comp=Z,29nm,1.1s
TAM LR LR
comp=Z,791nm,19.0s
THEF They Montfort 81.52 42⇑ *e*P P 05 01 52.7 +0.4
CABF La Chapelle 81.56 44 *e*P P 05 01 52.5 -0.2
CABF pmax pmax
comp=Z,80nm,1.6s
MEM Membach 81.59 40 P P 05 01 53.1 +0.5
WLF Walferdange 81.66 41 P P 05 01 54.3 +1.3
comp=Z,34nm,1.3s
WLF Walferdange 81.66 41 *e*P P 05 01 54.0 +1.0
WLF pmax pmax
comp=Z,43nm,0.9s
WLF MLR MLR
comp=Z,1μm,20.0s
WLF Walferdange 81.66 41 *e*P P 05 01 54.0 +1.0
comp=Z,43nm,0.9s
WLF LR LR
comp=Z,1μm,20.0s
CTEI Djebel Teioual 81.81 54 P P 05 01 57.1 +2.8
BNI Bardonecchia 81.96 45 *e*P P 05 01 55.8 +0.9
BNI pmax pmax
comp=Z,38nm,1.3s
BNI MLR MLR
comp=Z,734nm,22.0s
BNI Bardonecchia 81.96 45 *e*P P 05 01 55.8 +0.9
comp=Z,38nm,1.3s
BNI LR LR
comp=Z,734nm,22.0s
LPL La Plagne 82.00 45 *e*P P 05 01 55.6 +0.4
LPL pmax pmax
comp=Z,31nm,1.2s
LPG La Plagne 82.02 45 *e*P P 05 01 55.9 +0.5
LPG pmax pmax
comp=Z,41nm,1.2s
CKFL Kef-Lekhel 82.06 54 P P 05 01 58.8 +3.2
LOMF Lomont 82.08 43⇑ *e*P P 05 01 55.8 +0.4
HYA Hoyanger 82.09 29 *e*P P 05 01 55.8 +0.8
HYA IAmb IAmb 05 02 07.1
comp=Z,32nm,1.2s
HINF Hinteralfeld 82.10 43 *e*P P 05 01 54.7 -0.7
HINF pmax pmax
comp=Z,24nm,1.2s
BLS5 Blasjo 82.15 31 *e*P P 05 01 55.8 +0.4
CAEH 'Ain El Ouahch 82.16 54 P P 05 01 58.8 +2.9
ODD1 Odda 82.26 30 *e*P P 05 01 56.3 +0.3
MOF Molkenrain 82.29 43⇑ *e*P P 05 01 56.5 0.0
ECH Echery 82.31 42⇑ *e*P P 05 01 56.8 +0.3
SENIN Lac Senin/Sane 82.40 44 *e*P P 05 01 58.6 +1.3
comp=Z,36nm,1.3s
AKN Aaknes 82.53 28 *e*P P 05 01 57.6 +0.3
AKN IAmb IAmb 05 01 59.8
comp=Z,59nm,1.2s
AKN *e*SKSac **SKSac** 05 12 16.5 -1.3
CMAH Djebel Manchou 82.62 54 P P 05 02 01.2 +2.8
ABSA Djebel Ababsia 82.68 54 P P 05 02 01.6 +2.8
LANF Langenberg 82.74 41 *e*P P 05 01 59.1 +0.4
BFO Black Forest 83.09 42 *i*P P 05 02 01.3 +0.7
BFO Black Forest 83.09 42 *e*P P 05 02 00.2 -0.3
comp=Z,55nm,1.7s
BFO LR LR
comp=Z,487nm,19.0s
DOMB Dombas 83.50 28 *e*SKSac **S** 05 12 22.1 -1.3
STU Stuttgart 83.66 42 *e*P P 05 02 04.4 +0.9
STU pmax pmax
comp=Z,40nm,1.0s
STU Stuttgart 83.66 42 *e*P P 05 02 04.3 +0.9
comp=Z,40nm,1.0s
KONO Kongsberg 83.75 31 PFAKE 05 02 20.0 +16
KONO LR LR
comp=Z,1μm,20.0s
TUE Stuetta 83.81 44 *e*P P 05 02 04.8 +0.2
comp=Z,24nm,0.8s
TUE LR LR
comp=Z,653nm,20.0s
TBLU Trondheim 84.05 27 *e*P P 05 02 06.2 +1.1
VSL Villasalto 84.07 51 *e*P P 05 02 06.6 +0.8
comp=Z,74nm,0.9s
VSL LR LR
comp=Z,642nm,19.0s
DAVA Damuels 84.16 43 *e*P P 05 02 06.7 +0.5
comp=Z,34nm,0.9s,SNR=12
KEST Kesra 84.21 55 P P 05 02 06.8 +0.1
comp=Z,26nm,1.0s,baz=217,slow=2.4,SNR=16
KEST LR LR 05 37 19.1
comp=Z,350nm,18.5s,baz=180,slow=34
KEST Kesra 84.21 55 *e*P P 05 02 07.2 +0.6
comp=Z,37nm,1.0s
NC204 NORSAR Array S 84.31 29 *e*P P 05 02 07.5 +0.9
NBO02 NORSAR Array S 84.36 29 *e*P P 05 02 07.5 +0.7
FUORN Ofenpass-Fuorn 84.44 44 *e*P P 05 02 08.8 +1.0
comp=Z,37nm,1.1s
KBS Kingsbay 84.46 11 *e*P P 05 02 06.9 0.0
KBS IAmb IAmb 05 02 11.3
comp=Z,35nm,1.0s
KBS *e* 05 12 32.7
KBS IAMs_20 IAMs_20 05 45 31.1
comp=Z,854nm,18.3s
KBS Kingsbay 84.46 11 PFAKE 05 02 20.0 +13
KBS LR LR
comp=Z,807nm,22.0s
NB2 NORSAR Subarra 84.53 29 P P 05 02 08.0 +0.3
baz=271,slow=5.1
NB2 NORSAR Subarra 84.53 29 P P 05 02 08.0 +0.3
comp=Z,143nm,2.0s,baz=271,slow=5.1
NB200 NORSAR Array S 84.53 29 *e*P P 05 02 08.4 +0.7
NOA NORSAR Array B 84.53 29 P P 05 02 08.4 +0.7
comp=Z,10nm,0.9s,baz=272,slow=5.1,SNR=18
NOA LR LR 05 38 41.8
comp=Z,196nm,18.8s,baz=260,slow=35
NOA NORSAR Array B 84.53 29 P P 05 02 08.4 +0.7
NOA pmax pmax
comp=Z,11nm,0.9s
NOA MLR MLR
comp=Z,196nm,18.8s
VLC Villacollemand 84.63 46 *e*P P 05 02 08.5 0.0
comp=Z,39nm,1.2s
VLC LR LR
comp=Z,379nm,20.0s
NC602 NORSAR Array S 84.70 30 *e*P P 05 02 08.6 +0.1
NC602 IAmb IAmb 05 02 10.7
comp=Z,267nm,2.3s
FETA Feichten 84.75 43 *e*P P 05 02 09.8 +0.6
comp=Z,26nm,1.0s,SNR=11
RETA Reutte 84.75 43 *e*P P 05 02 09.8 +0.7
comp=Z,11nm,0.8s,SNR=5.1
MOTA Moosalm 84.99 43 *e*P P 05 02 11.0 +0.6
comp=Z,18nm,1.3s
STOK Stokkvaagen 85.14 24 *e*P P 05 02 11.1 +0.6
STOK IAmb IAmb 05 02 13.3
comp=Z,89nm,1.3s
KONS Konsvik 85.17 24 *e*P P 05 02 11.5 +0.8
KONS IAmb IAmb 05 02 29.8
comp=Z,26nm,1.1s
LOF Lofoten 85.25 22 *e*P P 05 02 11.2 +0.2
LOF IAmb IAmb 05 02 17.4
comp=Z,183nm,1.9s
LOF *e* 05 12 39.5
HSPB Hornsund (broa 85.29 13 *e*P P 05 02 11.9 +0.8
HSPB IAmb IAmb 05 02 14.3
comp=Z,106nm,1.4s
HSPB IAMs_20 IAMs_20 05 40 11.2
comp=Z,659nm,19.2s
SPA0 Spitsbergen Ar 85.38 12 *e*P P 05 02 12.0 +0.4
SPA0 *e* 05 12 41.2
SPA0 IAMs_20 IAMs_20 05 44 03.7
comp=Z,779nm,18.1s
NKC Novy Kostel 85.72 40 *e*P P 05 02 15.1 +1.3
NKC *e*S S 05 12 49.2 +3.2
NKC Novy Kostel 85.72 40 *e*P P 05 02 15.1 +1.3
NKC *e* 05 12 49.2
MOR8 Moi Rana 85.73 24 *e*P P 05 02 14.6 +1.1
MOR8 IAmb IAmb 05 02 16.4
comp=Z,50nm,1.2s
STEI Steigen 85.91 22 *e*P P 05 02 14.7 +0.4
STEI IAmb IAmb 05 02 16.2
comp=Z,48nm,1.3s
ABTA Abfaltersbach 85.98 44 *i*P P 05 02 15.6 +0.3
comp=Z,26nm,0.9s,SNR=15
CLL Collm 86.00 39⇓ *i*P P 05 02 16.3 +1.1
CLL *e* 05 02 22.0
CLL *e*S S 05 12 49.0 +0.4
CLL pmax pmax
comp=Z,53nm,1.5s
CLL Collm 86.00 39⇓ *i*P P 05 02 16.3 +1.1
comp=Z,53nm,1.5s
CLL *e*(sP) **sP** 05 02 22.0 0.0
CLL *e*S S 05 12 49.0 +0.4
CLL *e*PS PnS 05 13 44.0 -2.5
CLL *e*PPS PPS 05 14 09.0
CLL *e*SS SS 05 18 42.0 +16
CLL *e*SSS SSS 05 21 48.0
CLL LmV 05 50 00.0
comp=Z,400nm,18.0s
CLL Collm 86.00 39 *e*P P 05 02 16.2 +1.1
comp=Z,48nm,1.4s
KHC Kasperske Hory 86.53 41 *e*P P 05 02 18.4 +0.5
KHC *ex* x 05 02 32.4
KHC *e*S S 05 12 57.6 +3.6
KHC Kasperske Hory 86.53 41 *e*P P 05 02 18.4 +0.5
KHC *e* 05 12 57.6
KHC Kasperske Hory 86.53 41 *e*P P 05 02 17.7 -0.2
comp=Z,26nm,1.4s
KBA Koelnbreinsper 86.53 43 *e*P P 05 02 18.9 +0.8
comp=Z,27nm,0.9s,SNR=15
KBA Koelnbreinsper 86.53 43 *e*P P 05 02 19.1 +1.0
BRG Berggiesshubel 86.62 39 *i*P P 05 02 19.3 +1.1
comp=Z,40nm,1.5s
BRG Berggiesshubel 86.62 39 S S 05 12 56.0 +1.2
BRG Berggiesshubel 86.62 39 *i*P P 05 02 19.3 +1.1
BRG S S 05 12 56.0 +1.2
BRG pmax pmax
comp=Z,40nm,1.5s
GEC2 GERESS Array S 86.63 41 *e*P P 05 02 18.9 +0.4
GEC2 pmax pmax
comp=Z,27nm,1.1s
GEC2 GERESS Array S 86.63 41 *e*P P 05 02 18.9 +0.4
comp=Z,27nm,1.1s
GERES GERESS Array B 86.63 41 P P 05 02 19.5 +1.0
comp=Z,14nm,0.9s,baz=264,slow=4.0,SNR=46
GERES LR LR 05 37 29.1
comp=Z,248nm,19.2s,baz=276,slow=33
GEA0 GERESS Array S 86.63 41 *e*P P 05 02 18.3 -0.1
MYKA Terra Mystica 86.77 44 *e*P P 05 02 19.8 +0.6
comp=Z,16nm,0.7s,SNR=7.9
AQU L'Aquila 86.94 48 PFAKE 05 02 30.0 +10
AQU LR LR
comp=Z,371nm,20.0s
PVCC Panska Ves 87.05 40 *e*P P 05 02 21.4 +1.1
PVCC Panska Ves 87.05 40 *e*P P 05 02 21.4 +1.1
TRO Tromso 87.05 20 *e*P P 05 02 22.7 +2.8
TRO IAmb IAmb 05 02 24.5
comp=Z,53nm,1.0s
PRU Pruhonice 87.08 40 *e*P P 05 02 21.9 +1.4
PRU *e*S S 05 13 01.5 +2.3
PRU AMS AMS 05 36 30.0
comp=Z,800nm,24.0s
PRU Pruhonice 87.08 40 *e*P P 05 02 21.9 +1.4
PRU *e* 05 13 01.5
PRU MLR MLR
comp=Z,800nm,24.0s
MOA Molln 87.09 42 *e*P P 05 02 21.3 +0.7
comp=Z,37nm,1.4s,SNR=10
JAVS Javornik 87.12 44 *i*P P 05 02 21.1 +0.1
CLTB Caltabellotta 87.20 53 PFAKE 05 02 30.0 +8.5
CLTB LR LR
comp=Z,331nm,19.0s
GOPC GO Pecny, Ondr 87.24 40 *e*P P 05 02 23.9 +2.6
GOPC *ex* x 05 02 37.4
GOPC *e*S S 05 13 08.9 +8.0
GOPC GO Pecny, Ondr 87.24 40 *e*P P 05 02 23.9 +2.6
GOPC *e* 05 02 37.4
KNDS Knezji Dol 87.37 45 *i*P P 05 02 22.9 +0.8
OBKA Obir 87.40 44 *e*PcP PcP 05 02 23.8 -0.5
comp=Z,19nm,1.2s,SNR=5.4
LJU Ljubljana 87.43 44 *i*P P 05 02 23.2 +1.0
SOKA Soboth 87.72 44 *e*PcP P 05 02 24.4 +0.6
comp=Z,7.8nm,0.9s,SNR=9.5
TREC Trest 87.76 41 *e*P P 05 02 24.9 +1.1
TREC Trest 87.76 41 *e*P P 05 02 24.9 +1.1
UPC Upice 87.97 40 *e*P P 05 02 26.4 +1.6
UPC AMS AMS 05 37 10.0
comp=Z,700nm,20.1s
UPC Upice 87.97 40 *e*P P 05 02 26.4 +1.6
UPC MLR MLR
comp=Z,700nm,20.1s
ARSA Arzberg 87.99 43 *i*PcP P 05 02 25.8 +0.8
comp=Z,16nm,1.2s
KSP Ksiaz 88.11 39 *e*P P 05 02 27.1 +1.7
KSP Ksiaz 88.11 39 *e*P P 05 02 27.1 +1.7
CONA Conrad Observa 88.15 42 *e*P P 05 02 25.8 0.0
comp=Z,13nm,1.1s,SNR=8.6
DPC Dobruska-Polom 88.18 40 *e*P P 05 02 27.3 +1.4
DPC *ex* x 05 02 40.9
DPC Dobruska-Polom 88.18 40 *e*P P 05 02 27.3 +1.4
DPC *e* 05 02 40.9
VNA3 Neumayer Olymp 88.26 163 P P 05 02 25.2 -0.5
WDD Wied Dalam 88.40 54 PFAKE 05 02 40.0 +13
WDD LR LR
comp=Z,457nm,20.0s
VNA1 Neumayer--Stat 88.47 162 P P 05 02 27.5 +0.9
VRAC Vranov 88.48 41⇑ *i*P P 05 02 29.0 +1.8
VRAC Vranov 88.48 41⇑ P P 05 02 29.0 +1.8
KRLC Kraliky 88.51 40 *e*P P 05 02 28.8 +1.4
KRLC *ex* x 05 02 41.6
KRLC Kraliky 88.51 40 *e*P P 05 02 28.8 +1.4
KRLC *e* 05 02 41.6
SOP Sopron 88.64 42 P P 05 02 31.4 +3.4
KTK1 Kautokeino 88.67 21 *e*P P 05 02 27.4 -0.2
KTK1 IAmb IAmb 05 02 28.7
comp=Z,20nm,0.8s
VNA2 Neumayer--Watz 88.83 162 P P 05 02 28.4 +0.1
baz=311,slow=5.2
CUC Castrocucco 88.98 50 PFAKE 05 02 40.0 +10
CUC LR LR
comp=Z,332nm,20.0s
MORC Moravsky Berou 89.03 40⇓ *i*P P 05 02 31.4 +1.5
MORC Moravsky Berou 89.03 40 *e*P P 05 02 31.1 +1.2
MORC pmax pmax
comp=Z,210nm,1.8s
MORC Moravsky Berou 89.03 40 *e*P P 05 02 31.1 +1.2
comp=Z,210nm,1.8s
CEL Celeste 89.24 52 PFAKE 05 02 40.0 +8.9
CEL LR LR
comp=Z,353nm,20.0s
ARA0 ARCESS Array S 89.34 20 *e*P P 05 02 30.6 -0.2
ARCES ARCESS Array B 89.34 20 P P 05 02 30.5 -0.3
comp=Z,9.5nm,0.7s,baz=285,slow=4.6,SNR=22
ARCES LR LR 05 39 14.9
comp=Z,193nm,19.7s,baz=266,slow=33
ARE0 ARCESS Array S 89.34 20 *e*P P 05 02 31.1 +0.3
ARE0 IAmb IAmb 05 02 38.3
comp=Z,301nm,2.5s
ARE0 *e* 05 13 19.9
ARE0 ARCESS Array S 89.34 20 *e*P P 05 02 31.1 +0.3
comp=Z,83nm,1.7s
OKC Ostrava-Krasne 89.41 40 *e*P P 05 02 33.5 +1.9
OKC Ostrava-Krasne 89.41 40 *e*P P 05 02 33.5 +1.9
KEV Kevo 89.79 20 PFAKE 05 02 40.0 +7.1
KEV LR LR
comp=Z,336nm,21.0s
VYHS Vyhne 90.05 41 *e*P P 05 02 35.8 +1.2
VYHS pmax pmax
comp=Z,22nm,2.0s
VYHS Vyhne 90.05 41 *e*P P 05 02 35.8 +1.2
LANS Liptovska Anna 90.36 41 *e*P P 05 02 38.9 +2.8
LANS Liptovska Anna 90.36 41 *e*P P 05 02 38.9 +2.8
OJC Ojcow 90.41 40 *e*P P 05 02 37.7 +1.4
OJC Ojcow 90.41 40 *e*P P 05 02 37.6 +1.4
OJC pmax pmax
comp=Z,24nm,1.2s
OJC Ojcow 90.41 40 *e*P P 05 02 37.5 +1.3
comp=Z,24nm,1.2s
SNAA Sanae 90.46 162 P P 05 02 36.8 +0.7
SNAA Sanae 90.46 162 *e*P P 05 02 36.7 +0.7
SNAA pmax pmax
comp=Z,16nm,1.1s
SNAA Sanae 90.46 162 *e*P P 05 02 36.7 +0.7
comp=Z,16nm,1.1s
PSZ Piszkesteto 90.84 42 PFAKE 05 02 50.0 +12
PSZ LR LR
comp=Z,578nm,19.0s
NIE Niedzica 90.86 40 *e*P P 05 02 41.2 +2.8
NIE Niedzica 90.86 40 *e*P P 05 02 41.2 +2.8
KECS Kecovo 91.14 41 *e*P P 05 02 42.0 +2.3
KECS pmax pmax
comp=Z,5.0nm,1.4s
KECS Kecovo 91.14 41 *e*P P 05 02 42.0 +2.3
PDG Podgorica 91.24 47⇓ *i*P P 05 02 42.0 +1.8
STHS Stebnicka Huta 91.47 40 *e*P P 05 02 42.2 +1.0
STHS pmax pmax
comp=Z,4.0nm,1.0s
STHS Stebnicka Huta 91.47 40 *e*P P 05 02 42.1 +0.9
FIA0 FINESS Array S 91.58 28 *e*P P 05 02 41.2 -0.2
FIA0 FINESS Array S 91.58 28 *e*P P 05 02 41.2 -0.2
FINES FINESS Array B 91.58 28 P P 05 02 41.2 -0.2
comp=Z,4.5nm,0.7s,baz=259,slow=3.9,SNR=11
FINES LR LR 05 43 37.9
comp=Z,208nm,18.2s,baz=273,slow=36
CRVS Cervenica-Dubn 91.70 41 *e*P P 05 02 47.8 +5.5
CRVS Cervenica-Dubn 91.70 41 *e*P P 05 02 47.8 +5.5
TIR Tirane 91.86 48 PFAKE 05 02 50.0 +6.8
TIR LR LR
comp=Z,398nm,20.0s
UZH Uzhgorod 92.29 41 *e*P P 05 02 48.8 +3.8
UZH *e* 05 02 53.8
SIRR Siria 92.31 43⇓ *i*P P 05 02 45.1 -0.1
BZS Buzias 92.39 44⇓ *i*P P 05 02 46.8 +1.2
BZS Buzias 92.39 44 ⇓P P 05 02 46.8 +1.2
MDVR Moldovita 92.61 45⇓ *i*P P 05 02 47.3 +0.6
APA Apatity 92.70 21⇓ *i*P P 05 02 46.0 -0.5
APA pmax pmax
comp=Z,9.0nm,1.1s
LVZ Lovozero 93.02 21 PFAKE 05 03 00.0 +12
LVZ LR LR
comp=Z,417nm,20.0s
FNA Florina 93.08 49 P P 05 02 51.2 +2.3
VTS Vitosha 94.09 47⇑ *i*P P 05 02 54.2 +0.6
VTS Vitosha 94.09 47 *e*P P 05 02 54.4 +0.8
VTS pmax pmax
comp=Z,27nm,1.7s
VTS Vitosha 94.09 47 *e*P P 05 02 54.4 +0.8
comp=Z,27nm,1.7s
AGG Agios Georgios 94.11 50 *e*P P 05 02 55.4 +1.7
AGG pmax pmax
comp=Z,107nm,1.5s
AGG Agios Georgios 94.11 50 *e*P P 05 02 55.4 +1.7
comp=Z,107nm,1.5s
BUR08 Bucovina Ar. S 94.40 41 *e*pP pP 05 03 09.8 +10
BURAR Bucovina Array 94.42 41⇑ *i*P P 05 02 56.6 +1.6
BURAR Bucovina Array 94.42 41 ⇑P P 05 02 56.6 +1.6
ARR Arges 94.52 44⇓ *i*P P 05 02 55.7 +0.2
VOIR 94.80 44⇓ *i*P P 05 02 57.0 +0.3
VOIR 94.80 44 ⇓P P 05 02 57.1 +0.3
MLR Muntele Rosu 95.40 43⇑ *i*P P 05 03 00.4 +0.9
MLR Muntele Rosu 95.40 43 *e*P P 05 03 00.1 +0.6
MLR pmax pmax
comp=Z,20nm,1.1s
MLR Muntele Rosu 95.40 43 *e*P P 05 03 00.1 +0.6
comp=Z,20nm,1.1s
QSPA South Pole Qui 95.59 180 PFAKE 05 03 10.0 +10
QSPA LR LR
comp=Z,731nm,20.0s
PLOR Plostina 95.79 43⇑ *i*P P 05 03 01.8 +0.6
PLOR Plostina 95.79 43 ⇑P P 05 03 01.8 +0.6
KIEV Kiev 96.17 38 *i*P P 05 03 01.8 -0.9
KIEV pmax pmax
comp=Z,6.0nm,2.1s

KIEV	Kiev	96.17	38	PFAKE			05 03 10.0	+7.3	
KIEV				LR	LR				
	comp=Z,625nm,21.0s								
AKASG	Malin Array Be	96.17	38	LR	LR		05 48 40.6		
	comp=Z,320nm,18.6s,baz=295,slow=37								
SORM	Soroca	96.33	40⇑	*i*P	P		05 03 03.6	+0.1	
SORM	Soroca	96.33	40	⇑P	P		05 03 03.6	+0.1	
TSUM	Tsumeb	96.58	109	PFAKE			05 03 20.0	+15	
TSUM				LR	LR				
	comp=Z,984nm,20.0s								
SANT	Santorini	97.06	52	PFAKE			05 03 20.0	+13	
SANT				LR	LR				
	comp=Z,240nm,20.0s								
KLMR	Klimovskoe	97.88	26	*e*P	P		05 03 08.9	-1.3	
KLMR				pmax	pmax				
	comp=Z,16nm,1.5s								
OBN	Obninsk	98.87	32	*e*P	P		05 03 13.9	-0.9	
OBN				pmax	pmax				
	comp=Z,3.0nm,0.6s								
OBN	Obninsk	98.87	32	PFAKE			05 03 30.0	+15	
OBN				LR	LR				
	comp=Z,653nm,22.0s								
SUR	Sutherland	99.95	122	PFAKE			05 03 30.0	+10	
SUR				LR	LR				
	comp=Z,3μm,19.0s								
ISP	Isparta	100.65	50	PFAKE			05 03 30.0	+6.7	
ISP				LR	LR				
	comp=Z,295nm,20.0s								
SBA	Scott Base	100.71	191	PFAKE			05 03 30.0	+7.5	
SBA				LR	LR				
	comp=Z,471nm,21.0s								
TIXI	Tiksi	101.02	352	*i* P	Pdif		05 03 23.8	-0.2	
TIXI				pmax	pmax				
	comp=Z,9.0nm,1.2s								
TIXI	Tiksi	101.02	352	PFAKE			05 03 40.0	+16	
TIXI				LR	LR				
	comp=Z,588nm,19.0s								
ANTO	Ankara	101.77	48	PFAKE			05 03 40.0	+12	
ANTO				LR	LR				
	comp=Z,231nm,19.0s								
BRTR	Keskin Array B	102.43	47	*i* P	Pdif		05 03 33.0	+1.8	
BRTR				pmax	pmax				
	comp=Z,1.0nm,0.8s								
CSS	Mathiatis	103.62	52	PFAKE			05 03 50.0	+14	
CSS				LR	LR				
	comp=Z,64nm,22.0s								
SYO	Syowa Base	104.67	161⇑	*e*Pdiff	Pdif		05 03 42.2	+2.0	
PET	Petropavlovsk	104.96	329	PFAKE			05 03 50.0	+8.1	
PET				LR	LR				
	comp=Z,357nm,19.0s								
LSZ	Lusaka	106.54	104	PFAKE			05 08 10.0		
LSZ				LR	LR				
	comp=Z,1μm,21.0s								
KIV	Kislovodsk	107.13	41	PFAKE			05 08 10.0		
KIV				LR	LR				
	comp=Z,285nm,22.0s								
ARU	Arti	108.53	24	PFAKE			05 08 20.0		
ARU				LR	LR				
	comp=Z,394nm,19.0s								
YAK	Yakutsk	109.42	347	PFAKE			05 08 20.0		
YAK				LR	LR				
	comp=Z,134nm,21.0s								
GNI	Garni	110.17	44	PFAKE			05 08 20.0		
GNI				LR	LR				
	comp=Z,338nm,22.0s								
WAKE	Wake Island	112.24	293	PFAKE			05 08 20.0		
WAKE				LR	LR				
	comp=Z,649nm,19.0s								
H11S2	WAKE ISLAND Hyd	112.39	292	T	T		07 10 38.9		
	baz=77,slow=75,SNR=11								
H11S1	WAKE ISLAND Hyd	112.39	293	T	T		07 10 40.7		
	baz=77,slow=75,SNR=13								
H11S3	WAKE ISLAND Hyd	112.41	292	T	T		07 10 33.8		
	baz=77,slow=75,SNR=12								
KMBO	Kilima Mbogo	114.73	89	PFAKE			05 08 30.0	+13	
KMBO				LR	LR				
	comp=Z,778nm,19.0s								
BRVK	Borovoye	115.55	21	PFAKE			05 08 30.0	+13	
BRVK				LR	LR				
	comp=Z,291nm,19.0s								
DZM	Mont Dzumac	116.22	248	*e*PS	PS		05 18 59.3	-7.8	
	comp=Z,332nm,28.7s								
DZM	Mont Dzumac	116.22	248	*e*LR	LR		05 43 26.8		
	comp=Z,674nm,28.4s								
YSS	Yuzh-Sakhalins	116.76	330	PFAKE			05 08 30.0	+11	
YSS				LR	LR				
	comp=Z,145nm,20.0s								
ZAA1	Zalesovo Array	118.86	12	*e*PKPdf	PKPdf		05 08 21.9	-1.3	
ZALV	Zalesovo Beam	118.86	12	PKP	PKPdf		05 08 21.9	-1.3	
	comp=Z,1.5nm,0.5s,baz=251,slow=4.5,SNR=4.2								
ZALV	Zalesovo Beam	118.86	12	PKIKP	PKPdf		05 08 21.9	-1.3	
ZALV				pmax	pmax				
	comp=Z,1.0nm,0.4s								
ERM	Erimo	119.90	326	PFAKE			05 08 40.0	+15	
ERM				LR	LR				
	comp=Z,355nm,20.0s								
KURK	Kurchatov	120.27	17	PFAKE			05 08 40.0	+14	
KURK				LR	LR				
	comp=Z,713nm,19.0s								
TLY	Talaya	122.97	359	PFAKE			05 08 40.0	+8.8	
TLY				LR	LR				
	comp=Z,481nm,22.0s								
HNR	Honiara	122.98	262	PFAKE			05 08 40.0	+7.8	
HNR				LR	LR				
	comp=Z,434nm,20.0s								
HIA	Hailar	123.36	347	PFAKE			05 08 40.0	+8.0	
HIA				LR	LR				
	comp=Z,583nm,20.0s								
USRK	Ussuriysk Ar.	123.80	335	PKP	PKPdf		05 08 32.8	-0.2	
	comp=Z,5.5nm,0.8s,baz=24,slow=3.3,SNR=8.7								
MDJ	Mudanjiang	124.43	337	PKP	PKPdf		05 08 35.0	+0.8	
MDJ				sPKP			05 08 43.8		
MDJ				PP	PP		05 10 20.4	+1.3	
MDJ				PKS	PKSdf		05 12 10.4	-0.3	
MDJ				SKS	SKSdf		05 15 45.6	-0.1	
MDJ				AMB	AMB				
	comp=Z,95nm,11.2s								
MDJ				LR	LR				
	comp=Z,370nm,19.0s								
MDJ				LR	LR				
	comp=Z,210nm,19.0s								
MDJ				LR	LR				
	comp=Z,570nm,17.1s								
MDJ	Mudanjiang	124.43	337	PFAKE			05 08 50.0	+16	
MDJ				LR	LR				
	comp=Z,610nm,21.0s								
ABPO	Ambohimpanom	124.57	109	PFAKE			05 08 50.0	+15	
ABPO				LR	LR				
	comp=Z,470nm,19.0s								
MAKZ	Makanchi	124.76	17	*e*PKIKP	PKPdf		05 08 34.2	-0.6	
MAKZ	Makanchi	124.76	17	*e*PKPdf	PKPdf		05 08 34.2	-0.6	
MK31	Makanchi Array	124.86	17	*e*PKIKP	PKPdf		05 08 34.8	-0.2	
MK31	Makanchi Array	124.86	17	*e*PKPdf	PKPdf		05 08 34.8	-0.2	
MKAR	Makanchi Array	124.86	17	*e*PKIKP	PKPdf		05 08 34.8	-0.2	
MKAR	Makanchi Array	124.86	17	*e*PKPdf	PKPdf		05 08 34.8	-0.2	
MK01	Makanchi Array	124.89	17	*e*PKPdf	PKPdf		05 08 33.8	-1.2	
AAK	Ala-Archa	125.68	25	PFAKE			05 08 50.0	+13	
AAK				LR	LR				
	comp=Z,407nm,21.0s								
MJAR	Matsushiro Arr	126.43	324	PKP	PKPdf		05 08 37.2	-1.1	
	comp=Z,2.5nm,0.6s,baz=81,slow=1.4,SNR=9.0								
MJAR	Matsushiro Arr	126.43	324	PKIKP	PKPdf		05 08 37.2	-1.1	
MJAR				pmax	pmax				
	comp=Z,2.0nm,0.6s								
MAJO	Matsushiro	126.43	324	PFAKE			05 08 50.0	+12	
MAJO				LR	LR				
	comp=Z,281nm,21.0s								
ULN	Ulaanbaatar	126.64	356	PFAKE			05 08 50.0	+11	
ULN				LR	LR				
	comp=Z,386nm,19.0s								
SONA1	Songino Array	126.70	357	*e*PKPdf	PKPdf		05 08 38.1	-0.5	
SONA0	Songino Array	126.71	357	*e*PKPdf	PKPdf		05 08 37.7	-0.9	
SONM	Songino Array	126.71	357	PKP	PKPdf		05 08 37.7	-0.9	
	comp=Z,5.1nm,0.9s,baz=324,slow=1.3,SNR=16								
CAN	Canberra	128.02	229	PFAKE			05 08 50.0	+8.6	
CAN				LR	LR				
	comp=Z,522nm,20.0s								
KSH	Kashi	128.88	26	*e*PKP	PKPdf		05 08 43.8	+0.8	
KSH				sPKP			05 08 58.8		
KSH				PP	PP		05 10 55.8	+7.0	
KSH				PKS	PKSdf		05 12 18.8	-0.9	
KSH				SKS	SKSdf		05 15 50.8	-3.7	
KSH				SS	SS		05 28 07.8	+1.3	
KSH				AMB	AMB				
	comp=Z,160nm,5.1s								
KSH				LR	LR				
	comp=Z,150nm,6.4s								
KSH				LR	LR				
	comp=Z,120nm,5.2s								
KSH				LR	LR				
	comp=Z,300nm,22.6s								
WMQ	Urumqi	129.05	14	PKP	PKPdf		05 08 42.9	-0.2	
WMQ				sPKP			05 08 57.3		
WMQ				PP	PP		05 10 55.0	+5.5	
WMQ				SKKS			05 17 43.0		
WMQ				SS	SS		05 28 09.8	+2.0	
WMQ				AMB	AMB				
	comp=Z,34nm,11.5s								
WMQ				LR	LR				
	comp=Z,190nm,20.3s								
WMQ				LR	LR				
	comp=Z,310nm,20.3s								
WMQ				LR	LR				
	comp=Z,200nm,24.7s								
KS01	Wonju Array Si	131.07	333	*e*PKPdf	PKPdf		05 08 46.0	-1.0	
KSRS	Korea Array	131.08	333	PKP	PKPdf		05 08 46.9	-0.1	
	comp=Z,10nm,1.0s,baz=24,slow=1.5,SNR=34								
KSRS				SKPbc	SKPab		05 12 12.5	+1.1	
	comp=Z,3.3nm,1.0s,baz=41,slow=3.8,SNR=7.4								
KS15	Wonju Array Si	131.11	333	*e*SKPbc	SKPab		05 12 12.5	+0.9	
KSAR	Wonju Array Be	131.11	333	PKIKP	PKPdf		05 08 46.9	-0.2	
KSAR	Wonju Array Be	131.11	333	PKP	PKPdf		05 08 46.9	-0.2	
INCN	Inchon	131.63	334	PFAKE			05 09 00.0	+12	
INCN				LR	LR				
	comp=Z,38nm,19.0s								
BJI	Beijing	132.90	346	PKP	PKPdf		05 08 50.8	+0.4	
BJI				PP	PP		05 11 17.0	+2.7	
BJI				SS	SS		05 28 55.5	+0.7	
BJI				AMB	AMB				
	comp=Z,210nm,7.4s								
BJI				LR	LR				
	comp=Z,400nm,21.5s								
BJI				LR	LR				
	comp=Z,240nm,21.5s								
BJI				LR	LR				
	comp=Z,510nm,24.0s								
BJT	Baijiatuan	132.92	346	PFAKE			05 09 00.0	+10	
BJT				LR	LR				
	comp=Z,690nm,21.0s								
HHC	Hu-ho-hao-te	133.07	351	*e*PKP	PKPdf		05 08 48.3	-2.6	
HHC				PP	PP		05 11 17.8	+2.3	
HHC				SKKS			05 18 06.1		
HHC				SS	SS		05 28 54.3	-2.7	
HHC				AMB	AMB				
	comp=Z,70nm,6.2s								
HHC				LR	LR				
	comp=Z,480nm,14.9s								
HHC				LR	LR				
	comp=Z,350nm,14.9s								
HHC				LR	LR				
	comp=Z,560nm,19.9s								
MSEY	Mahe Island	133.15	91	PFAKE			05 09 00.0	+8.3	
MSEY				LR	LR				
	comp=Z,886nm,19.0s								
STKA	Stephens Creek	135.08	229	PKP	PKPdf		05 08 54.9	+0.2	
	comp=Z,3.5nm,0.7s,baz=143,slow=0.7,SNR=7.0								
CTAO	Charters Tower	135.14	247	PFAKE			05 09 10.0	+15	
CTAO				LR	LR				
	comp=Z,388nm,19.0s								
GTA	Gaotai	135.18	3	*e*PKP	PKPdf		05 08 55.5	+0.6	
GTA				sPKP			05 09 07.4		
PMG	Port Moresby	135.60	262	PFAKE			05 09 10.0	+14	
PMG				LR	LR				
	comp=Z,282nm,19.0s								
LZH	Lanzhou	138.54	358	*e*PKP	PKPdf		05 09 01.5	+0.2	
LZH				sPKP			05 09 14.8		
LZH				SKS	SKSdf		05 16 02.0	-10	
LZH				SKKS	SKKSac		05 18 40.8	-4.8	
LZH				SS	SS		05 30 02.3	-0.2	
LZH				AMB	AMB				
	comp=Z,200nm,5.7s								
LZH				LR	LR				
	comp=Z,650nm,18.7s								
LZH				LR	LR				
	comp=Z,150nm,19.4s								
LZH				LR	LR				
	comp=Z,620nm,19.9s								
KOLN	Koldanda	142.15	28	*e*P	PKPpre		05 09 02.1		
WHN	Wuhan	142.34	343	PKP	PKPdf		05 09 09.8	+1.7	
WHN				PP	PP		05 12 19.3	+6.1	
WHN				LR	LR				
	comp=Z,970nm,20.5s								
GKN	Gorkha	142.43	26	*e*P	PKPpre		05 09 03.3		
KKN	Kakani	142.89	26	*e*P	PKPpre		05 09 05.0		
DMN	Daman	142.97	26	*e*P	PKPpre		05 09 04.9		
GUN	Gumba	143.04	25	*e*P	PKPpre		05 09 05.4		
PKIN	Phulchoki	143.13	26	*e*P	PKPab		05 09 05.0	-0.3	
PKI	Pulchoki	143.14	26	*e*P	PKPab		05 09 05.0	-0.4	
LSA	Lhasa	143.27	17	PFAKE			05 09 20.0	+10	
LSA				LR	LR				
	comp=Z,385nm,20.0s								
JIRN	Jiri	143.39	25	*e*P	PKPab		05 09 06.2	-0.3	
ENH	Enshi	143.74	350	PFAKE			05 09 20.0	+9.4	
ENH				LR	LR				
	comp=Z,598nm,21.0s								
RAMN	Ramite	144.19	25	*e*P	PKPab		05 09 08.4	-1.0	
TAPN	Taplejung	144.28	23	*e*P	PKPab		05 09 09.3	-0.5	
ODAN	Odare	144.59	24	*e*P	PKPab		05 09 10.1	-0.8	
YHNB	Yeheng	144.78	329	PFAKE			05 09 20.0	+7.4	
YHNB				LR	LR				
	comp=Z,439nm,19.0s								
ASAR	Alice Springs	144.84	236	PKP	PKPab		05 09 11.0	-0.7	
	comp=Z,25nm,0.8s,baz=118,slow=3.9,SNR=120								
ASAR	Alice Springs	144.84	236	PKIKP	PKPab		05 09 11.0	-0.7	
ASAR				pmax	pmax				
	comp=Z,29nm,0.8s								
FORT	Forrest	145.29	221	*e*PKPbc	PKPbc		05 09 13.1	+0.2	
SSLB	Suanglung	145.72	329	*e*PKPdf	PKPdf		05 09 13.3	-0.9	
QZH	Quanzhou	145.87	333	*i* PKPbc	PKPab		05 09 15.5	+0.2	
QZH				*e*PP	PP		05 12 41.3	+6.6	
QZH				SS	SS		05 31 28.6	+0.5	
QZH				LR	LR				
	comp=Z,840nm,21.0s								
WB2	Warramunga Arr	145.92	242	*e*PKPdf	PKPdf		05 09 13.9	-0.6	
WB2				*e*PKPdf	PKPbc		05 09 14.8	-0.4	
WRAB	Tennant Creek	145.92	242	*e*PKP2	PKPbc		05 09 15.4	+0.2	
WRAB				MLR	MLR				
	comp=Z,590nm,21.0s								
WRAB	Tennant Creek	145.92	242	*e*PKPdf	PKPbc		05 09 15.4	+0.2	
WRAB				LR	LR				
	comp=Z,590nm,21.0s								
WR1	Warramunga Arr	145.93	242	*e*PKPdf	PKPdf		05 09 14.4	-0.2	
WRA	Warramunga Arr	145.93	242	PKPbc	PKPdf		05 09 14.4	-0.2	
	comp=Z,14nm,0.8s,baz=104,slow=2.4,SNR=51								
TPUB	Ta-pu	146.29	329	*e*PKPdf	PKPbc		05 09 16.2	-0.1	
HYB	Hyderabad	147.11	46	*i* PKP	PKPab		05 09 20.0	-0.3	
GYA	Guiyang	147.91	353	*i* PKPbc	PKPdf		05 09 18.0	+0.1	
GYA				PKPab	sPKPdf		05 09 24.3	-0.7	
GYA				PP	PP		05 12 50.5	+4.1	
GYA				SKKS			05 19 36.0		
GYA				AMB	AMB				
	comp=Z,190nm,8.6s								
GYA				LR	LR				
	comp=Z,210nm,20.8s								
GYA				LR	LR				
	comp=Z,240nm,22.4s								
GYA				LR	LR				
	comp=Z,190nm,21.3s								
KMI	Kunming	149.49	360	PKPbc	PKPdf		05 09 19.9	-0.8	
MTN	Manton Dam	150.87	254	*e*PKPbc	PKPbc		05 09 28.4	0.0	
DAV	Davao City (W)	153.78	298	PFAKE			05 09 40.0	+5.0	
DAV				LR	LR				
	comp=Z,205nm,19.0s								
FITZ	Fitzroy Crossi	154.21	239	*e*PKPbc	PKPbc		05 09 35.5	-0.3	
QIZ	Qiongzhong	154.51	344	PKPbc	PKPdf		05 09 28.8	+0.8	
QIZ				PP	PP		05 13 25.3	+1.0	
QIZ				SS	SS		05 33 04.4	+0.6	
QIZ				LR	LR				
	comp=Z,270nm,21.3s								
QIZ				LR	LR				
	comp=Z,400nm,21.0s								
QIZ	Qiongzhong	154.51	344	PFAKE			05 09 40.0	+3.6	
QIZ				LR	LR				
	comp=Z,405nm,20.0s								
CHTO	Chiang Mai	155.51	8	PFAKE			05 09 40.0	+11	
CHTO				LR	LR				
	comp=Z,387nm,19.0s								
CM31	Chiang Mai Arr	155.87	8	*e*PKPdf	PKPdf		05 09 30.6	+0.7	
CM31				*e*PKPab	PKPab		05 09 54.5	-1.9	
CMAR	Chiang Mai Arr	155.87	8	PKP	PKPdf		05 09 30.6	+0.7	
	comp=Z,2.4nm,0.8s,baz=304,slow=2.2,SNR=12								
CMAR				PKPab	PKPab		05 09 54.5	-1.9	
	comp=Z,6.3nm,0.8s,baz=333,slow=4.7,SNR=9.6								
CM01	Chiang Mai Arr	155.90	8	*e*PKPdf	PKPdf		05 09 29.7	-0.3	
MBWA	Marble Bar	157.22	226	PFAKE			05 09 40.0	+8.4	
MBWA				LR	LR				
	comp=Z,557nm,21.0s								
KKM	Kota Kinabalu	162.11	310	PFAKE			05 09 50.0	+13	
KKM				LR	LR				
	comp=Z,468nm,21.0s								
KAPI	Kappang	162.83	271	PFAKE			05 09 50.0	+12	
KAPI				LR	LR				
	comp=Z,374nm,22.0s								
KULM	Kulim	169.05	10	PFAKE			05 09 50.0	+6.9	
KULM				LR	LR				
	comp=Z,600nm,21.0s								
KSM	Kuching	169.54	312	PFAKE			05 09 50.0	+6.6	
KSM				LR	LR				
	comp=Z,461nm,20.0s								
PSI	Prapat	170.94	23	*e*PKP2	PKPab		05 11 02.0	-0.7	
PSI	Prapat	170.94	23	*e*PKPab	PKPab		05 11 02.0	-0.7	

IDC 13 05:03:43.9±11.0, 18°.16S×178°.00W, h612km±140km, mb3.0/4, mb1 3.3/4, mb1mx2.9/24, mbtmp3.9/4, Error ellipse: s-maj=119.2km s-min=49.0km az=160.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op	ISC		h m s	ISC
WRA	Warramunga Arr	44.97	260	P	P		05 11 06.4	-0.1
	1.2nm,0.4s,baz=98,slow=7.4,SNR=12							
ASAR	Alice Springs	45.09	254	P	P		05 11 07.5	0.0
	2.1nm,0.5s,baz=93,slow=7.6,SNR=7.4							
TXAR	Lajitas Array	85.81	57	P	P		05 15 20.6	+0.4
	0.3nm,0.8s,baz=222,slow=3.2,SNR=4.2							
ILAR	Eielson Array	86.04	13	P	P		05 15 20.0	-0.4
	0.2nm,0.4s,baz=221,slow=4.3,SNR=8.1							
GERES	GERESS Array B	147.95	345	PKPbc	PKPbc		05 22 21.0	-0.5
	0.3nm,0.2s,baz=15,slow=4.1,SNR=2.8							

IDC ***13*** *05:05:01.5±1.5, 27°.70N×57°.79E, h0km, mb3.8/4, mb1 3.9/4, mb1mx3.5/29, mbtmp3.8/4, MS3.6/1, Ms1 3.5/1, ms1mx2.9/38, Error ellipse: s-maj=52.0km s-min=31.4km az=30.0*

OMAN ***13*** *05:05:06.0±99.0, 27°.63N×58°.01E, h0km±8km, Error ellipse: s-maj=34.3km s-min=5.7km az=19.0*

TEH ***13*** *05:05:05.6, 27°.74N×58°.06E, h10km, ML3.6*

ISCJB ***13*** *05:05:07.0±0.5, 27°.61N±0°.03×57°.81E±0°.05, h10km, mb3.8/4, MS3.5/1, Error ellipse: s-maj=6.2km s-min=4.4km az=7.7*

CSEM ***13*** *05:05:08.1±0.3, 27°.63N×57°.84E, h10km, ML3.6, Error ellipse: s-maj=8.2km s-min=5.7km az=90.0*

THR ***13*** *05:05:08.7±0.5, 27°.59N×57°.79E, h40km±6km, ML3.5*

DSN ***13*** *05:05:11.8±2.5, 27°.13N×58°.06E, h15km, ML3.6/6, Error ellipse: s-maj=38.5km s-min=11.3km az=170.0*

ISC 13 05:05:05.3±0.8, 27°.67N±0°.04×57°.87E±0°.05, h10km, n58, σ2°.75/65, mb3.9/4, Southern Iran

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op	ISC		h m s	ISC
KHSK	Kohestak	1.17	219	*e*Pg	Pn		05 05 30.8	+3.1
KHSK	Kohestak	1.17	219	*e*Pg	Pn		05 05 30.8	+3.1
IBND	Bandar-abas	1.20	260	*e*Pg	Pg		05 05 32.6	+4.2
IBND				*e*AMB	AMB		05 05 33.7	
	comp=Z,65μm,0.1s							
IBND	Bandar-abas	1.20	260	*e*Pg	Pg		05 05 32.6	+4.2
BNDS	Bandar-Abbas	1.53	260	*e*Pg	Pg		05 05 35.5	+0.8
BNDS				*e*Sg	Sb		05 05 54.7	+1.2
BNDS				AML	AML		05 05 56.6	
	comp=E,841nm,0.2s							
BNDS	Bandar-Abbas	1.53	260	*e*Pg	Pg		05 05 35.5	+0.8
BNDS				*e*Sg	Sb		05 05 54.7	+1.2
CHMN	Cheshme madani	2.20	352	*e*Pn	Pb		05 05 45.7	+0.3
CHMN	Cheshme madani	2.20	352	*e*Pn	Pb		05 05 45.7	+0.3
NGRK	Negar Kerman	2.21	333	*e*Pn	Pb		05 05 45.6	+0.1
NGRK	Negar Kerman	2.21	333	*e*Pn	Pb		05 05 45.6	+0.1
TVBK	TV Kerman	2.50	337	*e*Pn	Pb		05 05 50.4	-0.2
TVBK	TV Kerman	2.50	337	*e*Pn	Pb		05 05 50.4	-0.2
KHGB	Koh Gabri	2.96	336	*e*Pn	Pn		05 05 56.3	+3.7
KHGB	Koh Gabri	2.96	336	*e*Pn	Pn		05 05 56.3	+3.7
UOSS	Minazif	3.10	209	P	Pn		05 05 55.0	+0.7
UOSS	Minazif	3.10	209	P	Pn		05 05 55.0	+0.7
CHBR	Chabahar	3.12	131	*e*Pn	Pn		05 05 57.0	+2.5
CHBR				AML	AML		05 06 32.8	
	comp=E,89nm,0.2s							
CHBR	Chabahar	3.12	131	*e*Pn	Pn		05 05 57.0	+2.5
ZHSF	Zahedan	3.20	52	*e*PN5	Pn		05 05 59.7	+3.8
ZHSF	Zahedan	3.20	52	*e*P	Pn		05 05 59.7	+3.8
HATD	Hatta, Dubai	3.23	209	*e*P	Pn		05 05 56.4	+0.3
	SNR=7.4							
HATD	Hatta, Dubai	3.23	209	P	Pn		05 05 56.4	+0.3
	SNR=7.4							
NAZ	Nazwa, Dubai	3.33	217	*i* P	Pn		05 06 00.6	+3.2
	SNR=12							
NAZ	Nazwa, Dubai	3.33	217	P	Pn		05 06 00.6	+3.2
	SNR=12							
NAZ	Nazwa, Dubai	3.33	217	Pn	Pn		05 06 01.0	+3.6
	SNR=12							
NAZ	Nazwa, Dubai	3.33	217	Pn	Pn		05 06 01.0	+3.6
	SNR=12							
NAZ	Nazwa, Dubai	3.33	217	P	Pn		05 06 01.0	+3.6
	SNR=12							
NAZ				P	Pn		05 06 01.0	+3.6
	SNR=13							
FAQ	Al Faqa, Dubai	3.56	216	*i* P	Pn		05 06 03.7	+3.1
	SNR=31							
FAQ	Al Faqa, Dubai	3.56	216	P	Pn		05 06 03.7	+3.1
	SNR=31							
FAQ				S	Sn		05 06 45.3	+2.5
FAQ	Al Faqa, Dubai	3.56	216	Pn	Pn		05 06 03.8	+3.2
	SNR=31							
FAQ	Al Faqa, Dubai	3.56	216	P	Pn		05 06 03.8	+3.2
	SNR=31							
FAQ				S	Sn		05 06 45.3	+2.5
HOQ	Hoqain	4.10	187	P	Pn		05 06 09.0	+0.9
	SNR=7.0							
HOQ	Hoqain	4.10	187	P	Pn		05 06 09.0	+0.9
	SNR=7.0							
GHIR	Ghir-Karzin	4.36	279	*e*Pn	Pn		05 06 13.7	+1.9
GHIR	Ghir-Karzin	4.36	279	*e*Pn	Pn		05 06 13.6	+1.9
IBAF	Baf

comp=Z,185nm,19.0s,baz=194,slow=41
BRTR Keskin Array B 23.39 307 P **P 05 10 11.8 -2.7**
comp=Z,0.8nm,0.5s,baz=122,slow=11,SNR=5.3
FINES FINESS Array B 39.88 337 P **P 05 12 35.9 -3.1**
comp=Z,3.0nm,0.9s,baz=146,slow=14,SNR=3.9
TORD Torodi Ar. Bea 54.17 266 P **P 05 14 28.2 -3.0**
comp=Z,1.2nm,0.5s,baz=63,slow=7.1,SNR=22
WRA Warramunga Arr 87.79 114 P **P 05 17 53.3 -1.8**
comp=Z,0.3nm,0.5s,baz=318,slow=4.2,SNR=4.7

*ISCJB **13** 05:11:40.8±0.3,23°.97N±0°.02×121°.82E±0°.02,h24km±3km, Error ellipse: s-maj=3.8km s-min=2.2km az=136.3*
*JMA **13** 05:11:40.6±0.1,23°.97N×121°.77E,h28km±1km,M3.0*
*TAP **13** 05:11:41.2,24°.01N×121°.72E,h32km,ML3.3,C*
ISC 13 05:11:41.2±0.9,23°.98N±0°.02×121°.77E±0°.03,h31km±5km, n43,σ0s80/84,Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
HWA	**Hwalien**	**0.15**	**268**	P		**P**	**Pn**	**05 11 47.4**	**+0.1**
	baz=250								
HWA				S			**Sn**	**05 11 51.6**	**+0.5**
	baz=250								
TWD	**Chiawan**	**0.18**	**302**	*i* P		**P**	**Pn**	**05 11 47.1**	**-0.7**
	baz=302								
TWD				S			**Sn**	**05 11 51.4**	**-0.6**
	baz=302								
ESL	**Shilin**	**0.35**	**241**	P			**Pb**	**05 11 49.2**	**-0.2**
	baz=239								
ESL				*e*S			**Sn**	**05 11 55.9**	**-0.1**
	baz=239								
ENA	**Nanau**	**0.45**	**357**	P			**Pb**	**05 11 50.4**	**-0.4**
	baz=3.0								
ENA				*e*S			**Sb**	**05 11 57.0**	**-0.3**
	baz=3.0								
WHF	**Hehuan Shan**	**0.49**	**290**	*i* P			**Pb**	**05 11 51.0**	**-0.7**
	baz=281								
WHF				S			**Sb**	**05 11 58.2**	**-0.8**
	baz=281								
NNS	**Nan Shan**	**0.58**	**322**	*i* P			**Pb**	**05 11 52.3**	**-0.7**
	baz=318								
NNS				S			**Sb**	**05 12 00.5**	**-0.7**
	baz=318								
TWT	**Tachien**	**0.60**	**297**	*e*P			**Pb**	**05 11 53.0**	**-0.4**
	baz=295								
TWT				*e*S			**Sn**	**05 12 02.1**	**-0.5**
	baz=295								
WDT	**Danda**	**0.62**	**249**	*e*P			**Pb**	**05 11 53.4**	**-0.4**
	baz=233								
WDT				*e*S			**Sb**	**05 12 02.2**	**-0.3**
	baz=233								
EHY	**Hungye**	**0.62**	**221**	P			**Pb**	**05 11 52.8**	**-0.9**
	baz=225								
EHY				*e*S			**Sn**	**05 12 02.4**	**-0.5**
	baz=225								
TWC	**Suao**	**0.63**	**7**	P			**Pn**	**05 11 53.6**	**-0.4**
	baz=16								
TWC				S			**Sb**	**05 12 02.1**	**-0.2**
	baz=16								
ENTT	**Nioudou**	**0.68**	**344**	P			**Pb**	**05 11 54.0**	**-0.6**
	baz=348								
ENTT				*e*S			**Sb**	**05 12 03.5**	**-0.3**
	baz=348								
TWE	**Neicheng**	**0.74**	**353**	P			**Pb**	**05 11 55.1**	**-0.5**
	baz=351								
TWE				*e*S			**Sb**	**05 12 04.9**	**-0.6**
	baz=351								
TWF1	**Yuli**	**0.76**	**215**	*e*P			**Pn**	**05 11 55.1**	**-0.7**
	baz=222								
TWF1				*e*S			**Sb**	**05 12 05.3**	**-0.6**
	baz=222								
NSK	**Sanguang**	**0.79**	**332**	P			**Pn**	**05 11 55.6**	**-0.6**
	baz=334								
NSK				S			**Sb**	**05 12 05.4**	**-1.4**
	baz=334								
SMLT	**Sun Moon Lake**	**0.80**	**263**	P			**Pn**	**05 11 56.1**	**-0.3**
	baz=256								
SMLT				*e*S			**Sn**	**05 12 06.7**	**-0.6**
	baz=256								
CHKT	**Chengkung**	**0.95**	**203**	P			**Pn**	**05 11 58.5**	**+0.1**
	baz=187								
CHKT				*e*S			**Sn**	**05 12 09.2**	**-1.7**
	baz=187								
NSTT	**Nanjuang**	**0.95**	**313**	*e*P			**Pb**	**05 11 58.9**	**-0.2**
	baz=314								
NSTT				*e*S			**Sb**	**05 12 11.3**	**-0.1**
	baz=314								
TWQ1	**Liyutan**	**0.98**	**292**	*e*P			**Pb**	**05 11 59.9**	**+0.3**
	baz=292								
TWQ1				*e*S			**Sb**	**05 12 13.8**	**+1.6**
	baz=292								
WNT	**Mingjian**	**1.00**	**264**	*e*P			**Pb**	**05 12 00.6**	**+0.8**
	baz=262								
WNT				*e*S			**Sb**	**05 12 13.4**	**+0.8**
	baz=262								
ALS	**Alishan**	**1.00**	**242**	P			**Pb**	**05 11 60.0**	**-0.1**
	baz=229								
ALS				S			**Sb**	**05 12 12.5**	**-0.6**
	baz=229								
TCU	**Taichung**	**1.01**	**280**	*e*P			**Pb**	**05 12 00.8**	**+0.7**
	baz=278								
TCU				*e*S			**Sb**	**05 12 14.4**	**+1.3**
	baz=278								
NSY	**Sanyi**	**1.01**	**295**	*e*P			**Pb**	**05 12 00.5**	**+0.3**
	baz=295								
NSY				*e*S			**Sb**	**05 12 14.2**	**+1.0**
	baz=295								
TWB1	**Santiao Chiao**	**1.04**	**11**	*e*P			**Pb**	**05 12 00.3**	**-0.3**
	baz=13								
TWB1				*e*S			**Sn**	**05 12 12.8**	**-0.4**
	baz=13								
ELDTW	**Lidau**	**1.05**	**221**	*e*P			**Pn**	**05 11 59.9**	**+0.1**
	baz=218								
ELDTW				*e*S			**Sb**	**05 12 14.1**	**-0.1**
	baz=218								
CHN5	**Tsauling**	**1.07**	**249**	P			**Pb**	**05 12 01.0**	**-0.1**
	baz=235								
CHN5				*e*S			**Sb**	**05 12 14.9**	**+0.1**
	baz=235								
NWF	**Wu-fen Shan**	**1.08**	**1**	*e*P			**Pb**	**05 12 01.1**	**-0.4**
	baz=351								
NWF				*e*S			**Sn**	**05 12 13.8**	**-0.5**
	baz=351								
STYT	**Tauyuan**	**1.23**	**229**	*e*P			**Pb**	**05 12 03.3**	**-0.6**
	baz=220								
STYT				*e*S			**Sb**	**05 12 18.7**	**-0.8**
	baz=220								
YOJ	**Yonaguni jima**	**1.23**	**67**	P			**Pn**	**05 12 02.4**	**+0.1**
YOJ				*e*S			**Sn**	**05 12 18.3**	**+0.4**
CHN2	**Minshiung**	**1.27**	**250**	*e*S			**Sb**	**05 12 23.4**	**+3.1**
	baz=247								
WTP	**Ta-pu**	**1.29**	**236**	*e*P			**Pb**	**05 12 04.8**	**+0.1**
	baz=233								
WTP				*e*S			**Sb**	**05 12 21.7**	**+0.7**
	baz=233								
TWG	**Pinlang**	**1.32**	**209**	*e*P			**Pn**	**05 12 03.7**	**+0.2**
	baz=207								
TWG				*e*S			**Sb**	**05 12 21.2**	**-0.7**
	baz=207								
TWK	**Hsinying**	**1.37**	**239**	*e*P			**Pb**	**05 12 05.8**	**-0.5**
	baz=226								
TWK				*e*S			**Sb**	**05 12 24.3**	**+0.9**
	baz=226								
CHN1	**Nanshi**	**1.39**	**235**	*e*P			**Pb**	**05 12 05.9**	**-0.6**
	baz=233								
CHN1				*e*S			**Sb**	**05 12 24.2**	**+0.4**
	baz=233								
SGST	**Jiashian**	**1.41**	**231**	*e*P			**Pb**	**05 12 06.0**	**-0.9**
	baz=228								
SGST				*e*S			**Sb**	**05 12 23.8**	**-0.7**
	baz=228								
WSF	**Szhu**	**1.46**	**257**	*e*P			**Pb**	**05 12 08.0**	**+0.4**
	baz=254								
WSF				*e*S			**Sb**	**05 12 27.1**	**+1.4**
	baz=254								
ECL	**Taimali**	**1.57**	**209**	*e*P			**Pn**	**05 12 06.4**	**-0.5**
	baz=195								
ECL				*e*S			**Sn**	**05 12 26.5**	**+0.4**
	baz=195								
EAST	**Anshuo**	**1.80**	**208**	*e*P			**Pn**	**05 12 11.4**	**+1.2**
	baz=197								
EAST				*e*S			**Sb**	**05 12 33.7**	**-2.0**
	baz=197								
IRIF	**Iriomote-Funau**	**1.83**	**79**	P			**Pn**	**05 12 11.3**	**+0.9**
JKRS	**Kuro-shima**	**2.06**	**82**	P			**Pn**	**05 12 14.8**	**+1.1**
JKRS				*e*S			**Sn**	**05 12 39.9**	**+1.5**
PNG	**Penghu**	**2.07**	**259**	*e*P			**Pn**	**05 12 14.9**	**+1.2**
	baz=257								
PNG				*e*S			**Sn**	**05 12 38.7**	**+0.2**
	baz=257								
JIJ	**Ishigaki jima**	**2.20**	**80**	P			**Pn**	**05 12 15.9**	**+0.3**
JIJ				*e*S			**Sn**	**05 12 41.3**	**-0.5**
JISG	**Ishigakijimahi**	**2.40**	**75**	P			**Pn**	**05 12 18.8**	**+0.5**
JISG				*e*S			**Sn**	**05 12 46.5**	**-0.1**
JTJ	**Tarama**	**2.76**	**76**	P			**Pn**	**05 12 24.0**	**+0.8**
JTJ				*e*S			**Sn**	**05 12 56.5**	**+1.0**

*CSEM **13** 05:23:29.9,39°.58N×29°.80W,h10km,ML2.8*
PDA 13 05:23:29.9±0.9,39°.58N×29°.80W,h10km,MD3.5,ML2.8, Error ellipse: s-maj=24.5km s-min=6.6km az=65.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CALA	**Caldeira**	**1.32**	**139**	*e*P			Pn	05 23 49.7	-4.7
CALA				*e*S			Sb	05 24 04.7	-7.0
CALA	**Caldeira**	**1.32**	**139**	*e*P			Pn	05 23 49.7	-4.7
CALA				*e*S			Sb	05 24 04.7	-7.0
HOR	**Horta**	**1.39**	**139**	*e*S			Sn	05 24 06.0	-7.8
HOR				A			A	05 24 10.0	
	84nm,0.3s								
HOR	**Horta**	**1.39**	**139**	*e*S			Sn	05 24 06.0	-7.8
PCAN	**Candelaria**	**1.52**	**137**	*e*P			Pn	05 23 52.2	-4.9
PCAN				*e*S			Sn	05 24 09.8	-7.1
PCAN				A			A	05 24 14.4	
	85nm,0.4s								
PCAN	**Candelaria**	**1.52**	**137**	*e*P			Pn	05 23 52.2	-4.9
PCAN				*e*S			Sn	05 24 09.8	-7.1
PICO	**Pico**	**1.52**	**135**	*e*P			Pn	05 23 53.0	-4.2
PICO				*e*S			Sn	05 24 09.6	-7.5
PICO				A			A	05 24 13.3	
	104nm,0.3s								
PICO	**Pico**	**1.52**	**135**	*e*P			Pn	05 23 53.0	-4.2
PICO				*e*S			Sn	05 24 09.6	-7.5
ADH	**Angra Heroismo**	**2.20**	**114**	*e*P			Pn	05 24 02.0	-4.5
ADH				A			A	05 24 21.4	
	7.7nm,0.2s								
ADH	**Angra Heroismo**	**2.20**	**114**	*e*P			Pn	05 24 02.0	-4.5

*IDC **13** 05:24:37.0±1.0,36°.90N×105°.06W,h0km,mb3.5/1, mb1 3.9/6,mb1mx3.6/42,mbtmp3.6/6,ML3.9/4,Error ellipse: s-maj=21.8km s-min=9.9km az=89.0*
*ISCJB **13** 05:24:38.5±0.3,36°.93N±0°.02×104°.74W±0°.03,h10km, mb3.5/1,Error ellipse: s-maj=3.4km s-min=3.2km az=38.8*
*NEIC **13** 05:24:39.6±0.3,36°.93N×104°.74W,h5km,ML4.0,Error ellipse: s-maj=4.1km s-min=3.8km az=58.0*
NEIC Felt [II] at Raton. Also felt at Cimarron, Eagle Nest, Maxwell, Miami and Ocate. Felt at Alamosa, Colorado City and Mosca, Colorado.
ISC 13 05:24:39.2±0.7,36°.96N±0°.03×104°.87W±0°.03,h10km,n78, σ2s04/83,New Mexico

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
T25A	**Trinidad**	**0.41**	**64**	P			**Pg**	**05 24 45.7**	**-1.6**
	baz=232								
T25A				S			**Sg**	**05 24 51.8**	**-0.8**
	baz=232								
T25A	**Trinidad**	**0.41**	**64**	*e*Pg			**Pg**	**05 24 46.0**	**-1.2**
SDCO	**Great Sand Dun**	**0.93**	**327**	P			**Pg**	**05 24 55.8**	**-1.3**
	baz=150								
SDCO	**Great Sand Dun**	**0.93**	**327**	*e*Pg			**Pg**	**05 24 55.8**	**-1.3**
SDCO				*e*Sg			**Sg**	**05 25 08.3**	**-0.9**
S22A	**4UR Ranch, Cre**	**1.75**	**297**	Pb			**Pn**	**05 25 10.7**	**+0.9**
	baz=119								
S22A	**4UR Ranch, Cre**	**1.75**	**297**	*e*Pn			**Pn**	**05 25 10.8**	**+0.9**
Q24A	**Divide**	**2.01**	**354**	Pb			**Pb**	**05 25 15.2**	**-0.8**
	baz=174								
Q24A				S			**Sb**	**05 25 42.3**	**+1.1**
	baz=174								
Q24A	**Divide**	**2.01**	**354**	*e*Pn			**Pb**	**05 25 15.4**	**-0.6**
ANMO	**Albuquerque**	**2.39**	**213**	Pn			**Pn**	**05 25 17.6**	**-1.0**
	28nm,0.3s,baz=65,slow=13,SNR=195								
ANMO				Lg			Lg	05 25 48.1	
	59nm,0.3s,baz=316,slow=23,SNR=18								
ANMO	**Albuquerque**	**2.39**	**213**	Pb			**Pn**	**05 25 17.9**	**-0.7**
	baz=34								
KSCO	**Kaye Shedlock'**	**2.70**	**40**	P			**Pn**	**05 25 24.2**	**+1.4**
	baz=220								
KSCO				Sb			**Sb**	**05 26 02.7**	**+1.6**
	baz=220								
KSCO	**Kaye Shedlock'**	**2.70**	**40**	*e*Pn			**Pn**	**05 25 24.3**	**+1.4**
SMCO	**Snowmass**	**2.77**	**324**	*e*Pn			**Pn**	**05 25 25.6**	**+1.7**
ISCO	**Idaho Springs**	**2.89**	**349**	P			**Pn**	**05 25 27.6**	**+2.0**
	baz=169								
ISCO	**Idaho Springs**	**2.89**	**349**	*e*Pn			**Pn**	**05 25 27.8**	**+2.2**
MVCO	**Mesa Verde**	**2.91**	**276**	P			**Pn**	**05 25 26.7**	**+0.9**
	baz=96								
MVCO	**Mesa Verde**	**2.91**	**276**	*e*Pn			**Pn**	**05 25 27.6**	**+1.8**
LPM	**Los Pinos Moun**	**3.01**	**209**	*e*Pn			**Pn**	**05 25 27.5**	**+0.4**
BNM	**Barren Site**	**3.15**	**208**	*e*Pn			**Pn**	**05 25 29.8**	**+0.6**
LAZ	**Ladron**	**3.15**	**217**	*e*Pn			**Pn**	**05 25 28.6**	**-0.5**
PV01	**Paradox Valley**	**3.17**	**293**	*e*Pn			**Pb**	**05 25 35.0**	**-0.7**
PV01				*e*Sg			**Sg**	**05 26 20.2**	**-0.7**
AMTX	**Amarillo**	**3.32**	**128**	*e*Pn			**Pn**	**05 25 30.6**	**-0.6**
Y22D	**IRIS PASSCAL I**	**3.33**	**211**	*e*Pn			**Pb**	**05 25 36.8**	**-1.8**
MSTX	**Muleshoe**	**3.44**	**150**	Sb			**Sb**	**05 26 21.5**	**-0.8**
	baz=330								
MSTX	**Muleshoe**	**3.44**	**150**	*e*Pn			**Pn**	**05 25 34.0**	**+1.0**
PV04	**Paradox Valley**	**3.51**	**295**	*e*Pn			**Pn**	**05 25 35.4**	**+1.5**
PV05	**Paradox Valley**	**3.54**	**290**	*e*Pn			**Pn**	**05 25 36.3**	**+1.8**
PV10	**Paradox Valley**	**3.60**	**294**	*e*Pn			**Pn**	**05 25 37.5**	**+2.3**
PV09	**Paradox Valley**	**3.71**	**296**	*e*Pn			**Pn**	**05 25 39.8**	**+2.9**
CPRX	**Cap Rock**	**4.01**	**168**	*e*Pn			**Pb**	**05 25 50.4**	**+0.4**
N23A	**Red Feather La**	**4.01**	**348**	*e*Pn			**Pn**	**05 25 43.9**	**+2.9**
O20A	**White River Ci**	**4.12**	**321**	*e*Pn			**Pn**	**05 25 45.0**	**+2.6**
W18A	**Petrified Fore**	**4.35**	**246**	*e*Pn			**Pn**	**05 25 49.0**	**+3.4**
PHWY	**Pilot Hill**	**4.36**	**354**	*e*Pn			**Pn**	**05 25 48.4**	**+2.7**
CBKS	**Cedar Bluff**	**4.46**	**64**	*e*Pn			**Pn**	**05 25 46.6**	**-0.2**
OGNE	**Ogallala**	**4.55**	**28**	*e*Pn			**Pn**	**05 25 49.9**	**+1.7**
X18A	**Snowflake**	**4.79**	**241**	*e*Pn			**Pn**	**05 25 54.5**	**+2.8**
SRU	**San Rafael Swe**	**4.95**	**297**	*e*Pn			**Pn**	**05 25 55.6**	**+1.8**
121A	**Cookes Peak, D**	**5.03**	**209**	*e*Pn			**Pn**	**05 25 54.3**	**-0.6**
RWWY	**Rawlins**	**5.06**	**340**	*e*Pn			**Pn**	**05 25 57.4**	**+2.1**
MNTX	**Cornudas Mount**	**5.27**	**185**	*e*Pn			**Pn**	**05 26 01.1**	**+3.1**
WMOK	**Wichita Mounta**	**5.42**	**112**	*e*Pn			**Pn**	**05 25 59.2**	**-0.9**
WUAZ	**Wupatki**	**5.45**	**257**	*e*Pn			**Pn**	**05 26 02.3**	**+1.6**
TMUT	**Trail Mountain**	**5.51**	**297**	*e*Pn			**Pn**	**05 26 03.7**	**+2.1**
K22A	**Casper**	**5.82**	**348**	*e*Pn			**Pn**	**05 26 07.9**	**+2.2**
MTPU	**Mount Pierson**	**5.92**	**283**	*e*Pn			**Pn**	**05 26 11.3**	**+4.1**
X16A	**Lo Mia Camp, P**	**5.92**	**247**	*e*Pn			**Pn**	**05 26 09.9**	**+2.8**
PKCU	**Pink Cliffs**	**5.96**	**277**	*e*Pn			**Pn**	**05 26 10.7**	**+3.0**
U15A	**North Rim**	**5.99**	**267**	*e*Pn			**Pn**	**05 26 09.6**	**+1.4**
MSU	**Marysvale**	**6.00**	**287**	*e*Pn			**Pn**	**05 26 11.3**	**+3.2**
ABTX	**Abilene, Hawle**	**6.10**	**134**	*e*Pn			**Pn**	**05 26 09.7**	**+0.2**
MPU	**Maple Canyon**	**6.12**	**302**	*e*Pn			**Pn**	**05 26 12.8**	**+3.0**
TCRU	**Three Creeks R**	**6.22**	**288**	*e*Pn			**Pn**	**05 26 15.2**	**+3.8**
JLU	**Jordanelle**	**6.29**	**307**	*e*Pn			**Pn**	**05 26 15.8**	**+3.5**
KNB	**Kanab**	**6.37**	**273**	*e*Pn			**Pn**	**05 26 14.2**	**+1.0**
NLU	**North Lily Min**	**6.39**	**300**	*e*Pn			**Pn**	**05 26 17.6**	**+3.9**
319A	**Douglas**	**6.67**	**215**	*e*Pn			**Pn**	**05 26 19.6**	**+2.3**
LCMT	**Little Creek M**	**6.71**	**273**	*e*Pn			Pn	05 26 23.1	+5.3
TUC	**Tucson**	**6.73**	**228**	*e*Pn			**Pn**	**05 26 23.0**	**+4.8**
CCUT	**Cedar City**	**6.80**	**277**	*e*Pn			**Pn**	**05 26 22.7**	**+3.5**
BW06	**Boulder Array**	**6.83**	**330**	*e*Pn			**Pn**	**05 26 20.9**	**+1.3**
PD31	**Pinedale Array**	**6.83**	**330**	*e*Pn			**Pn**	**05 26 21.1**	**+1.6**
PDAR	**Pinedale Array**	**6.83**	**330**	Pn			**Pn**	**05 26 20.2**	**+0.6**
	0.2nm,0.3s,baz=133,slow=14,SNR=6.3								
PDAR				Pg			**Pg**	**05 26 46.0**	**-3.8**
	1.7nm,0.3s,baz=150,slow=15,SNR=12								
BGNE	**Belgrade**	**6.85**	**48**	*e*Pn			**Pn**	**05 26 19.6**	**0.0**
KSU1	**Kansas State U**	**6.86**	**69**	*e*Pn			**Pn**	**05 26 18.7**	**-1.1**
HWUT	**Hardware Ranch**	**6.96**	**314**	*e*Pn			**Pn**	**05 26 24.0**	**+2.6**
DUG	**Dugway, Tooele**	**7.01**	**300**	*e*Pn			**Pn**	**05 26 25.8**	**+3.8**
RSSD	**Black Hills**	**7.18**	**5**	*e*Pn			**Pn**	**05 26 25.4**	**+1.0**
TUL1	**Leonard**	**7.39**	**95**	*e*Pn			**Pn**	**05 26 25.7**	**-1.4**
TX31	**Lajitas Ar. Si**	**7.67**	**172**	*e*Pn			**Pn**	**05 26 31.9**	**+0.8**
TXAR	**Lajitas Array**	**7.68**	**172**	Pn			**Pn**	**05 26 30.8**	**-0.4**
	0.6nm,0.3s,baz=0.5,slow=11,SNR=40								
TXAR				Pg			Pb	05 26 57.5	+5.0
	2.0nm,0.3s,baz=360,slow=16,SNR=18								
TXAR				Lg			Lg	05 28 32.6	
	3.9nm,0.3s,baz=0.5,slow=21,SNR=14								
JCT	**Junction City**	**7.72**	**145**	*e*Pn			**Pn**	**05 26 32.1**	**+0.4**
REDW	**Red Top Meadow**	**7.86**	**326**	*e*Pn			**Pn**	**05 26 36.4**	**+2.6**
ECSD	**EROS Data Cent**	**9.24**	**40**	*e*Pn			**Pn**	**05 26 50.9**	**-1.6**
MIAR	**Mount Ida**	**9.49**	**101**	*e*Pn			**Pn**	**05 26 54.8**	**-1.1**
ULM	**Lac du Bonnet**	**14.78**	**23**	Pn			**Pn**	**05 28 07.4**	**-0.7**
	0.3nm,0.3s,baz=205,slow=14,SNR=5.0								
ULM				Lg			Lg	05 32 30.5	
	0.4nm,0.3s,baz=303,slow=17,SNR=5.9								
TKL	**Tuckaleechee C**	**17.05**	**88**	P			**Pn**	**05 28 37.0**	**-0.7**
	0.3nm,0.3s,baz=270,slow=8.1,SNR=4.8								
TKL				Lg			Lg	05 33 33.5	
	0.3nm,0.3s,baz=9.2,slow=23,SNR=8.2								
ILAR	**Eielson Array**	**37.25**	**332**	P			**P**	**05 31 51.0**	**+0.4**
	0.7nm,0.9s,baz=136,slow=5.5,SNR=5.4								

*ISCJB **13** 05:45:50.5±0.8,33°.39N±0°.03×34°.61E±0°.04,h15km±3km, Error ellipse: s-maj=5.8km s-min=3.9km az=27.4*
*CSEM **13** 05:45:51.0±0.2,33°.44N×34°.59E,h20km,ML2.7,Error ellipse: s-maj=5.4km s-min=2.9km az=114.0*
*GII **13** 05:45:52.0±0.3,33°.31N×34°.60E,h10km,MD2.5/5*
*GRAL **13** 05:45:52.8±0.3,33°.41N×34°.67E,h30km±1km,MD2.7*
*NSSC **13** 05:45:52.6±1.4,33°.54N×34°.56E,h38km±999km,ML2.1*
ISC 13 05:45:50.7±1.3,33°.46N±0°.02×34°.59E±0°.04,h23km±13km, n50,σ0s81/87,Eastern Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
NAQL	**Naqoura**	**0.57**	**127**	*e*P			**Pb**	**05 46 02.2**	**+0.1**
NAQL	**Naqoura**	**0.57**	**127**	*e*P			**Pb**	**05 46 02.2**	**+0.1**
HNTI	**Hanita**	**0.62**	**128**	Pg			**Pb**	**05 46 03.3**	**+0.5**
HNTI				Sg			**Sb**	**05 46 11.0**	**-0.1**
HNTI	**Hanita**	**0.62**	**128**	Pg			**Pb**	**05 46 03.3**	**+0.5**
HNTI				Sg			**Sb**	**05 46 11.0**	**-0.1**
MMA0B	**Mount Meron ar**	**0.81**	**123**	Pg			**Pb**	**05 46 06.1**	**-0.1**
MMA0B				Sg			**Sb**	**05 46 16.5**	**-0.3**
MMC2	**Mount Meron ar**	**0.81**	**122**	Pg			**Pb**	**05 46 06.1**	**-0.1**
DQRL	**Deir Qamar**	**0.85**	**73**	*e*P			**Pn**	**05 46 07.3**	**0.0**
DQRL				*e*S			**Sb**	**05 46 17.9**	**+0.1**
DQRL	**Deir Qamar**	**0.85**	**73**	*e*P			**Pn**	**05 46 07.3**	**0.0**
DQRL				*e*S			**Sb**	**05 46 18.0**	**+0.1**
BLGI	**Bet Lehem HaGe**	**0.88**	**145**	Pg			**Pb**	**05 46 06.9**	**-0.4**
BLGI				Sg			**Sb**	**05 46 17.5**	**-1.2**
BLGI	**Bet Lehem HaGe**	**0.88**	**145**	Pg			**Pb**	**05 46 06.9**	**-0.4**
BLGI				Sg			**Sb**	**05 46 17.5**	**-1.2**
OFRI	**'Ofer**	**0.90**	**158**	Pg			**Pb**	**05 46 06.8**	**-0.9**
OFRI	**'Ofer**	**0.90**	**158**	Pg			**Pb**	**05 46 06.8**	**-0.9**
KSDI	**Kefar Szold**	**0.93**	**107**	Pg			**Pb**	**05 46 08.4**	**0.0**
KSDI				Sg			**Sb**	**05 46 20.6**	**+0.5**
RCY	**Rachaya**	**1.04**	**88**	*e*P			**Pn**	**05 46 09.8**	**-0.2**
RCY				*e*S			**Sb**	**05 46 22.2**	**-1.1**
KSHT	**Keshet**	**1.13**	**115**	Pg			**Pb**	**05 46 12.1**	**+0.6**
KSHT				Sg			**Sn**	**05 46 27.4**	**+1.5**
KSHT	**Keshet**	**1.13**	**115**	Pg			**Pb**	**05 46 12.1**	**+0.6**
KSHT				Sg			**Sn**	**05 46 27.4**	**+1.5**
MMLI	**Mount Malkishu**	**1.24**	**145**	Pg			**Pn**	**05 46 12.5**	**-0.1**
MMLI				Sg			**Sn**	**05 46 27.4**	**-1.2**
MMLI	**Mount Malkishu**	**1.24**	**145**	Pg			**Pn**	**05 46 12.5**	**-0.1**
MMLI				Sg			**Sn**	**05 46 27.4**	**-1.2**
SLTI	**Sal'it**	**1.28**	**163**	Pg			**Pn**	**05 46 12.7**	**-0.4**
SLTI	**Sal'it**	**1.28**	**163**	Pg			**Pn**	**05 46 12.7**	**-0.4**
HWQ	**Hawqa**	**1.39**	**54**	*e*P			**Pn**	**05 46 15.1**	**+0.3**
HWQ				*e*S			**Sn**	**05 46 31.6**	**-0.9**
HWQ	**Hawqa**	**1.39**	**54**	*e*P			**Pn**	**05 46 15.1**	**+0.3**
HWQ				*e*S			**Sn**	**05 46 31.6**	**-0.9**
TCHB	**Talchebab**	**1.40**	**124**	*e*P			**Pb**	**05 46 16.5**	**+0.3**
TCHB				*e*S			**Sn**	**05 46 33.1**	**+0.5**
TCHB					AML	AML		05 46 34.3	
	comp=N,202nm,0.3s								
TCHB					AML	AML		05 46 42.1	
	comp=E,94nm,0.4s								
TCHB	**Talchebab**	**1.40**	**124**	*e*P			**Pb**	**05 46 16.5**	**+0.3**
	SNR=91								
TCHB				*e*S			**Sn**	**05 46 33.1**	**+0.5**
	comp=E,94nm,0.4s,SNR=91								
HMDT	**Nahal Hemdat**	**1.44**	**147**	Pn			**Pn**	**05 46 15.7**	**+0.4**
HMDT				Sn			**Sn**	**05 46 33.6**	**+0.1**
HMDT	**

BRRC	**Barranca, Sant**	**0.69**	**294**	⇑*i*P	**Pn**	**05 51 20.2**	**+0.3**
BRRC				*e*S	**Sn**	**05 51 37.4**	**-0.6**
BRRC				*i*		05 51 41.5	
	comp=Z,147nm,0.5s						
RUSC	**La Rusia**	**0.93**	**181**	*i*P	**Pn**	**05 51 22.3**	**+0.1**
RUSC				*e*S	**Sn**	**05 51 41.1**	**-0.8**
RUSC				*i*		05 51 42.9	
	comp=Z,93nm,0.4s						
CAPV	**Capacho**	**1.28**	**36**	⇑*i*P	**Pn**	**05 51 26.3**	**+1.4**
CAPV				*e*S	**Sn**	**05 51 47.9**	**+1.1**
OCAC	**Ocana**	**1.43**	**350**	*e*P	**Pn**	**05 51 26.9**	**+0.6**
OCAC				*e*S	**Sn**	**05 51 49.0**	**-0.2**
OCAC				*i*		05 51 55.6	
	comp=Z,142nm,0.4s						
YOPC	**Yopal, Colombi**	**1.60**	**156**	*e*S	**Sn**	**05 51 52.2**	**0.0**
ZARC	**Zaragoza, Cauc**	**1.89**	**291**	*e*P	**Pn**	**05 51 31.0**	**-0.1**
ZARC				*e*S	**Sn**	**05 51 56.5**	**-1.0**
ZARC				*i*		05 52 02.3	
	comp=Z,102nm,0.3s						
NORC	**Norcasia**	**2.18**	**235**	*e*P	**Pn**	**05 51 34.2**	**-0.2**
NORC				*e*S	**Sn**	**05 52 02.8**	**-0.8**
CHIC	**Chingaza**	**2.28**	**197**	*e*P	**Pn**	**05 51 36.4**	**+0.5**
CHIC				*e*S	**Sn**	**05 52 05.8**	**-0.4**
CHIC				*i*		05 52 09.5	
	comp=Z,59nm,0.8s						
ROSC	**El Rosal**	**2.33**	**212**	*e*P	**Pn**	**05 51 37.4**	**+0.9**
ROSC				*e*S	**Sn**	**05 52 07.1**	**-0.2**
ROSC				*i*		05 52 16.3	
	comp=Z,153nm,0.7s						
HELC	**Santa Helena**	**2.52**	**256**	*e*P	**Pn**	**05 51 40.0**	**+1.3**
HELC				*e*S	**Sn**	**05 52 11.0**	**-0.3**
HELC				*i*		05 52 16.7	
	comp=Z,55nm,0.3s						
VIGV	**El Vigia**	**2.62**	**40**	⇑*i*P	**Pn**	**05 51 40.8**	**+1.2**
VIGV				*e*S	**Sn**	**05 52 13.2**	**+0.1**
SOCV	**Socops**	**2.63**	**56**	*e*P	**Pn**	**05 51 40.5**	**+0.8**
SOCV				*e*S	**Sn**	**05 52 12.2**	**-1.0**
VILC	**Villavicencio,**	**2.76**	**193**	*e*P	**Pn**	**05 51 42.0**	**+0.4**
VILC				*e*S	**Sn**	**05 52 16.1**	**-0.2**
VILC				*i*		05 52 26.0	
	comp=Z,46nm,0.4s						
GUYC	**Guyana, Colomb**	**2.80**	**236**	*e*S	**Sn**	**05 52 17.6**	**+0.1**
GUYC				*i*		05 52 24.4	
	comp=Z,67nm,0.5s						
CODC	**Agust´›n Codaz**	**3.11**	**353**	*e*P	**Pn**	**05 51 46.3**	**+0.6**
CODC				*e*S	**Sn**	**05 52 24.4**	**+0.5**
CODC				*i*		05 52 36.1	
	comp=Z,56nm,0.5s						
DBBC	**Dabeiba**	**3.12**	**274**	*e*P	**Pn**	**05 51 46.9**	**+1.0**
TOLC	**Tolima**	**3.15**	**225**	*e*P	**Pn**	**05 51 47.3**	**+0.8**
TOLC				*e*S	**Sn**	**05 52 25.2**	**-0.1**
ELOV	**Elorza**	**3.57**	**87**	*e*P	**Pn**	**05 51 52.4**	**+0.9**
PRAC	**Prado**	**3.58**	**210**	*e*P	**Pn**	**05 51 52.0**	**+0.3**
PRAC				*e*S	**Sn**	**05 52 34.3**	**-0.3**
VIRV	**Villa del Rosa**	**3.71**	**10**	⇑*i*P	**Pn**	**05 51 53.0**	**-0.3**
VIRV				*e*S	**Sn**	**05 52 35.8**	**-1.9**
CURV	**Curarigua**	**4.42**	**44**	*e*P	**Pn**	**05 52 03.2**	**+0.6**
DABV	**Dabajuro**	**4.73**	**30**	*e*P	**Pn**	**05 52 07.2**	**+0.6**
TEPV	**Terepaima**	**4.95**	**51**	*e*P	**Pn**	**05 52 09.4**	**-0.1**
BAUV	**El Baul**	**5.41**	**67**	*e*P	**Pn**	**05 52 14.8**	**-0.8**
MAPV	**Macapo**	**5.46**	**56**	*e*P	**Pn**	**05 52 15.9**	**-0.3**
MONV	**Montecano**	**5.95**	**31**	*e*P	**Pn**	**05 52 22.2**	**-0.4**
TURV	**Turiamo**	**6.30**	**55**	*e*P	**Pn**	**05 52 27.4**	**0.0**

IDC ***13*** *06:14:46.5±0.9, 32.72N×141.30E, h0km, mb3.7/5, mb1 3.9/7, mb1mx3.7/38, mbtmp3.6/7, ML3.3/2, MS3.6/1, Ms1 3.6/1, ms1mx2.8/32, Error ellipse: s-maj=25.0km s-min=19.9km az=53.0*
ISCJB ***13*** *06:14:50.4±0.8, 32.85N±0.05×141.25E±0.09, h41km, mb3.7/5, MS3.7/1, Error ellipse: s-maj=11.0km s-min=7.7km az=171.2*
JMA ***13*** *06:14:52.0±0.2, 32.94N×141.17E, h54km, M3.9*
ISC 13 06:14:52.0±1.0, 32.84N±0.08×141.21E±0.09, h41km, n19, σ1§17/22, mb3.8/5, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHJ2	**Mitsune**	**1.20**	**283**	P	**Pn**	**06 15 12.2**	**-0.1**
JHCJ	**Hachijojimakas**	**1.21**	**281**	P	**Pn**	**06 15 12.2**	**-0.2**
JHJ	**Hachijo jima 2**	**1.23**	**283**	Pn	**Pn**	**06 15 12.3**	**-0.4**
	1μm,0.3s,baz=65,slow=22,SNR=850						
JHJ				LR	LR	06 15 55.0	
	comp=Z,145nm,21.7s,baz=79,slow=52						
BSO1	**Boso 1**	**1.81**	**354**	P	**Pn**	**06 15 20.5**	**+0.3**
BSO1				S	**Sn**	**06 15 42.1**	**+0.4**
BSO3	**Boso 3**	**2.04**	**344**	P	**Pn**	**06 15 23.4**	**-0.1**
BSO3				S	**Sn**	**06 15 47.0**	**-0.6**
JIM2	**Oshima 3**	**2.38**	**322**	P	**Pn**	**06 15 28.1**	**-0.5**
JIZS	**Izushimoda**	**2.69**	**315**	P	**Pn**	**06 15 33.2**	**+0.4**
JIZS				S	**Sn**	**06 16 02.6**	**-1.6**
JOD2	**Odawara 2**	**2.99**	**324**	P	**Pn**	**06 15 36.7**	**-0.2**
TK02	**Tokai 2**	**3.09**	**292**	P	**Pn**	**06 15 39.6**	**+1.6**
MJAR	**Matsushiro Arr**	**4.44**	**327**	Pn	**Pn**	**06 15 56.6**	**-0.3**
	4.0nm,0.3s,baz=151,slow=12,SNR=24						
MAT	**Matsushiro**	**4.44**	**327**	P	**Pn**	**06 15 58.0**	**+1.2**
MAT				S	**Sn**	**06 16 45.7**	**-1.6**
KSRS	**Korea Array**	**11.80**	**297**	Pn	**Pn**	**06 17 40.0**	**+2.2**
	0.1nm,0.3s,baz=112,slow=15,SNR=3.6						
SONM	**Songino Array**	**30.17**	**310**	P	**P**	**06 20 58.8**	**+0.5**
	0.4nm,0.5s,baz=116,slow=9.9,SNR=3.5						
WRA	**Warramunga Arr**	**52.90**	**188**	P	**P**	**06 24 03.9**	**0.0**
	0.6nm,0.4s,baz=5.4,slow=7.6,SNR=9.8						
ILAR	**Eielson Array**	**53.15**	**31**	P	**P**	**06 24 04.8**	**-0.5**
	0.8nm,0.9s,baz=271,slow=6.7,SNR=7.2						
ASAR	**Alice Springs**	**56.62**	**188**	P	**P**	**06 24 29.3**	**-1.6**
	0.3nm,0.3s,baz=6.7,slow=8.8,SNR=3.8						
BRTR	**Keskin Array B**	**81.51**	**312**	LR	LR	07 05 36.4	
	comp=Z,33nm,18.8s,baz=360,slow=37						
TXAR	**Lajitas Array**	**92.81**	**52**	P	**P**	**06 28 02.5**	**+1.9**
	0.5nm,0.8s,baz=301,slow=2.6,SNR=6.3						
LPAZ	**La Paz**	**148.78**	**65**	PKPbc	**PKPab**	**06 34 38.1**	**-2.1**
	1.1nm,0.7s,baz=17,slow=10,SNR=6.2						

IDC 13 06:14:58.0±5.7, 30.60S×138.13E, h0km, mb1 3.3/2, mb1mx3.2/25, mbtmp3.0/2, ML2.7/2, Error ellipse: s-maj=119.3km s-min=17.7km az=39.0, South Australia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**3.23**	**114**	Pg	Pb	06 15 56.7	+0.4
	1.0nm,0.3s,baz=298,slow=16,SNR=4.2						
STKA				Lg	Lg	06 16 40.8	
	2.3nm,0.3s,baz=45,slow=21,SNR=7.0						
ASAR	**Alice Springs**	**7.86**	**330**	Pn	Pn	06 16 54.6	+1.0
	0.1nm,0.3s,baz=153,slow=12,SNR=4.5						
ASAR				Sn	Sn	06 18 22.6	-0.8
	0.1nm,0.3s,baz=158,slow=22,SNR=4.1						
WRA	**Warramunga Arr**	**11.15**	**341**	Pn	Pn	06 17 38.5	-0.2
	0.1nm,0.3s,baz=156,slow=11,SNR=3.2						

CSEM ***13*** *06:31:03.0, 39.44N×29.96W, h10km, MD3.6, ML2.8*
PDA 13 06:31:03.0±0.8, 39.44N×29.96W, h10km, MD3.6, ML2.8, Error ellipse: s-maj=75.4km s-min=7.0km az=48.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CALA	**Caldeira**	**1.30**	**131**	*e*P	Pn	06 31 22.2	-5.1
CALA				*e*S	Sb	06 31 37.2	-7.2
CALA	**Caldeira**	**1.30**	**131**	*e*P	Pn	06 31 22.2	-5.1
CALA				*e*S	Sb	06 31 37.2	-7.2
HOR	**Horta**	**1.38**	**131**	*e*S	Sb	06 31 39.2	-7.3
HOR				A	A	06 31 40.6	
	118nm,0.2s						
HOR	**Horta**	**1.38**	**131**	*e*S	Sb	06 31 39.2	-7.3
PCAN	**Candelaria**	**1.51**	**130**	*e*P	Pn	06 31 25.6	-4.5
PCAN				*e*S	Sn	06 31 42.3	-7.5
PCAN				A	A	06 31 43.9	
	67nm,0.3s						
PCAN	**Candelaria**	**1.51**	**130**	*e*P	Pn	06 31 25.6	-4.5
PCAN				*e*S	Sn	06 31 42.3	-7.5
PICO	**Pico**	**1.52**	**128**	*e*P	Pn	06 31 25.8	-4.5
PICO				*e*S	Sn	06 31 42.4	-7.7
PICO				A	A	06 31 46.0	
	61nm,0.3s						
PICO	**Pico**	**1.52**	**128**	*e*P	Pn	06 31 25.8	-4.5
PICO				*e*S	Sn	06 31 42.4	-7.7

CSEM ***13*** *06:35:03.1, 39.60N×29.84W, h10km, ML2.9*
PDA 13 06:35:03.1±0.4, 39.60N×29.84W, h10km, MD3.5, ML2.9, Error ellipse: s-maj=31.2km s-min=3.4km az=55.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CALA	**Caldeira**	**1.35**	**139**	*e*P	Pn	06 35 23.2	-4.8
CALA				*e*S	Sb	06 35 38.7	-7.1
CALA	**Caldeira**	**1.35**	**139**	*e*P	Pn	06 35 23.2	-4.8
CALA				*e*S	Sb	06 35 38.7	-7.1
HOR	**Horta**	**1.43**	**138**	*e*S	Sn	06 35 40.2	-7.6
HOR				A	A	06 35 41.9	
	78nm,0.1s						
HOR	**Horta**	**1.43**	**138**	*e*S	Sn	06 35 40.2	-7.6
PCAN	**Candelaria**	**1.55**	**137**	*e*P	Pn	06 35 26.2	-4.6
PCAN				*e*S	Sn	06 35 43.4	-7.5
PCAN				A	A	06 35 45.7	
	70nm,0.1s						
PCAN	**Candelaria**	**1.55**	**137**	*e*P	Pn	06 35 26.2	-4.6
PCAN				*e*S	Sn	06 35 43.4	-7.5
PICO	**Pico**	**1.55**	**134**	*e*P	Pn	06 35 26.2	-4.7
PICO				*e*S	Sn	06 35 43.5	-7.6
PICO				A	A	06 35 45.4	
	52nm,0.1s						
PICO	**Pico**	**1.55**	**134**	*e*P	Pn	06 35 26.2	-4.7
PICO				*e*S	Sn	06 35 43.5	-7.6

CSEM ***13*** *06:39:14.2, 39.56N×29.65W, h1km, ML2.7*
PDA 13 06:39:14.2±0.6, 39.56N×29.65W, h1km±5km, MD3.5, ML2.7, Error ellipse: s-maj=13.2km s-min=1.8km az=34.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H07N1	**FLORES T-PHASE**	**1.14**	**277**	*e*S	Sg	06 39 46.0	-4.9
CALA	**Caldeira**	**1.23**	**143**	*e*P	Pg	06 39 33.4	-4.3
CALA				*e*S	Sg	06 39 48.2	-5.3
CALA	**Caldeira**	**1.23**	**143**	*e*P	Pg	06 39 33.4	-4.3
CALA				*e*S	Sg	06 39 48.2	-5.3
HOR	**Horta**	**1.30**	**142**	*e*S	Sg	06 39 49.6	-6.4
HOR				A	A	06 39 51.4	
	153nm,0.1s						
HOR	**Horta**	**1.30**	**142**	*e*S	Sg	06 39 49.6	-6.4
ROSA	**Rosais**	**1.38**	**127**	*e*S	Sg	06 39 51.6	-6.9
ROSA				A	A	06 39 54.2	
	21nm,0.4s						
ROSA	**Rosais**	**1.38**	**127**	*e*S	Sg	06 39 51.6	-6.9
PCAN	**Candelaria**	**1.42**	**140**	*e*P	Pn	06 39 36.2	-4.9
PCAN				*e*S	Sg	06 39 53.0	-6.9
PCAN				A	A	06 39 54.3	
	70nm,0.2s						
PCAN	**Candelaria**	**1.42**	**140**	*e*P	Pn	06 39 36.2	-4.9
PCAN				*e*S	Sg	06 39 53.0	-6.9
PICO	**Pico**	**1.43**	**138**	*e*P	Pn	06 39 36.5	-4.7
PICO				*e*S	Sg	06 39 52.7	-7.3
PICO				A	A	06 39 55.8	
	78nm,0.2s						
PICO	**Pico**	**1.43**	**138**	*e*P	Pn	06 39 36.5	-4.7
PICO				*e*S	Sg	06 39 52.7	-7.3

CSEM ***13*** *06:57:01.3, 39.64N×29.70W, h10km, ML2.9*
PDA 13 06:57:01.3±0.9, 39.64N×29.70W, h10km, MD3.6, ML2.9, Error ellipse: s-maj=62.5km s-min=7.3km az=59.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCED	**Cedros**	**1.27**	**142**	*e*S	Sb	06 57 34.5	-7.1
PCED				A	A	06 57 36.8	
	69nm,0.3s						
PCED	**Cedros**	**1.27**	**142**	*e*S	Sb	06 57 34.5	-7.1
CALA	**Caldeira**	**1.31**	**143**	*e*P	Pn	06 57 20.6	-5.1
CALA				*e*S	Sb	06 57 36.2	-6.6
CALA	**Caldeira**	**1.31**	**143**	*e*P	Pn	06 57 20.6	-5.1
CALA				*e*S	Sb	06 57 36.2	-6.6
HOR	**Horta**	**1.38**	**143**	*e*S	Sb	06 57 37.4	-7.5
HOR				A	A	06 57 40.8	
	126nm,0.3s						
HOR	**Horta**	**1.38**	**143**	*e*S	Sb	06 57 37.4	-7.5
PCAN	**Candelaria**	**1.50**	**141**	*e*P	Pn	06 57 24.0	-4.3
PCAN				*e*S	Sn	06 57 40.5	-7.5
PCAN				A	A	06 57 42.8	
	85nm,0.3s						
PCAN	**Candelaria**	**1.50**	**141**	*e*P	Pn	06 57 24.0	-4.3
PCAN				*e*S	Sn	06 57 40.5	-7.5
PICO	**Pico**	**1.50**	**139**	*e*P	Pn	06 57 23.9	-4.5
PICO				*e*S	Sn	06 57 40.5	-7.6
PICO				A	A	06 57 43.0	
	76nm,0.3s						
PICO	**Pico**	**1.50**	**139**	*e*P	Pn	06 57 23.9	-4.5
PICO				*e*S	Sn	06 57 40.5	-7.6

ISCJB ***13*** *07:01:47.3±0.7, 11.16N±0.04×62.17W±0.05, h122km±8km, Error ellipse: s-maj=10.0km s-min=5.3km az=35.9*
FUNV ***13*** *07:01:48.2, 11.22N×62.09W, h118km, MW2.5*
TRN ***13*** *07:01:51.0, 11.23N×61.97W, h113km, MD3.2*
ISC 13 07:01:46.4±1.5, 11.14N±0.05×62.18W±0.05, h133km±11km, n16, σ1§67/25, 1C-1D, Windward Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUIV	**Guiria**	**0.49**	**185**	*e*P	**Pn**	**07 02 06.5**	**+0.6**
GUIV				*e*S	**Sn**	**07 02 19.5**	**-1.1**
TRN	**Trinidad (W)**	**0.90**	**123**	⇑*i*P	**Pn**	**07 02 10.8**	**+2.1**
TRN				*e*S	**Sn**	**07 02 25.3**	**-0.4**
GRGR	**Grenville**	**1.11**	**27**	*e*P	**Pn**	**07 02 10.5**	**-0.2**
GRGR				*e*S	**Sn**	**07 02 27.7**	**-1.5**
CRUV	**Carupano**	**1.14**	**246**	*e*P	**Pn**	**07 02 11.7**	**+0.7**
CRUV				*e*S	**Sn**	**07 02 29.1**	**-0.2**
GUNV	**Guanoco**	**1.23**	**218**	*e*P	**Pn**	**07 02 13.6**	**+1.7**
GUNV				*e*S	**Sn**	**07 02 31.6**	**+0.3**
TOSP	**Speyside**	**1.62**	**84**	*e*P	**Pn**	**07 02 16.1**	**0.0**
TOSP				*e*S	**Sn**	**07 02 36.2**	**-2.5**
FCV	**Fort Charlotte**	**2.20**	**24**	*e*P	**Pn**	**07 02 26.1**	**+3.0**
SVB	**Belmont**	**2.30**	**23**	*e*P	**Pn**	**07 02 27.0**	**+2.6**
SVB				*e*S	**Sn**	**07 02 51.6**	**-1.9**
SVV	**Soufriere Volc**	**2.36**	**23**	*e*P	**Pn**	**07 02 26.2**	**+1.2**
SSV	**Crater Summit**	**2.38**	**24**	*e*P	**Pn**	**07 02 27.2**	**+1.9**
SSV				*e*S	**Sn**	**07 02 53.9**	**-1.3**
ORIV	**Oritupano**	**2.39**	**211**	*e*P	**Pn**	**07 02 26.3**	**+0.8**
PCRV	**Puerto La Cruz**	**2.60**	**249**	*e*P	**Pn**	**07 02 29.3**	**+1.2**
RIOV	**Rio Grande**	**3.07**	**173**	*e*P	**Pn**	**07 02 35.9**	**+1.7**
CUPV	**Cœpira**	**3.71**	**253**	*e*P	**Pn**	**07 02 43.5**	**+1.0**
LUEV	**Luepa**	**5.31**	**172**	⇓*e*P	**Pn**	**07 03 04.2**	**+0.3**
BAUV	**El Baul**	**6.18**	**250**	*e*P	**Pn**	**07 03 15.9**	**+0.6**
BAUV				*e*S	**Sn**	**07 04 22.1**	**-2.7**

KRSC ***13*** *07:27:37.8±1.4, 52.91N×160.61E, h41km±12km, ML4.6*
ISCJB ***13*** *07:27:40.2±0.5, 52.91N±0.03×160.50E±0.06, h43km±5km, mb3.8/11, MS3.2/3, Error ellipse: s-maj=7.3km s-min=3.0km az=42.8*
MOS ***13*** *07:27:40.0±0.7, 52.90N×160.48E, h42km, mb4.3/8, Error ellipse: s-maj=7.6km s-min=4.6km az=89.0*
IDC ***13*** *07:27:45.5±1.9, 53.13N×160.08E, h79km±17km, mb3.6/12, mb1 3.8/12, mb1mx3.6/34, mbtmp3.9/12, MS3.3/3, Ms1 3.3/3, ms1mx2.9/35, Error ellipse: s-maj=25.0km s-min=14.0km az=142.0*
ISC 13 07:27:39.9±1.1, 52.91N±0.04×160.51E±0.04, h30km±7km, n102, σ1§32/134, mb3.9/11, MS3.0/3, 3C-2D, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPN	**Mys Shipunski**	**0.35**	**303**	PN	**Pb**	**07 27 48.2**	**+0.2**
SPN				S	**Sb**	**07 27 53.5**	**-0.1**
SPN	**Mys Shipunski**	**0.35**	**303**	*i* P	**Pb**	**07 27 48.2**	**+0.2**
SPN				*i* S	**Sb**	**07 27 53.5**	**-0.1**
NLC	**Nalytchevo**	**0.75**	**291**	PN	**Pn**	**07 27 53.6**	**-0.8**
NLC	**Nalytchevo**	**0.75**	**291**	*e*P	**Pn**	**07 27 53.6**	**-0.8**
SDLR	**Sedlovina**	**1.05**	**291**	PN	**Pn**	**07 27 58.4**	**-0.2**
SDLR	**Sedlovina**	**1.05**	**291**	*i* P	**Pn**	**07 27 58.4**	**-0.2**
UGLV	**Uglovaya**	**1.06**	**287**	PN	**Pn**	**07 27 58.8**	**0.0**
UGLR	**Uglovaya**	**1.06**	**287**	*e*P	**Pn**	**07 27 58.8**	**0.0**
DALK	**Dalny**	**1.07**	**277**	PN	**Pn**	**07 27 58.1**	**-0.6**
DALK				S	**Sn**	**07 28 11.7**	**-0.9**
DALK	**Dalny**	**1.07**	**277**	*e*P	**Pn**	**07 27 58.1**	**-0.6**
DALK				*e*S	**Sn**	**07 28 11.7**	**-0.9**
AVH	**Avacha**	**1.13**	**289**	PN	**Pn**	**07 27 59.8**	**+0.2**
AVH				S	**Sb**	**07 28 14.8**	**-0.3**
AVH	**Avacha**	**1.13**	**289**	*e*P	**Pn**	**07 27 59.8**	**+0.2**
AVH				*e*S	**Sb**	**07 28 14.8**	**-0.3**
PET	**Petropavlovsk**	**1.13**	**277**	κ *i*PN	**Pn**	**07 27 59.1**	**-0.5**
PET				*e*S	**Sn**	**07 28 14.5**	**+0.5**
PET				pmax	pmax		
	comp=Z,100nm,2.1s						
PET				pmax	pmax		
	comp=Z,2μm,1.2s						
PET				pmax	pmax		
	comp=Z,1μm,0.4s						
PET				smax	smax		
	comp=N,2μm,0.7s						
KRER	**Koryakskii**	**1.13**	**291**	PN	**Pn**	**07 27 59.9**	**+0.1**
KRER	**Koryakskii**	**1.13**	**291**	*i* P	**Pn**	**07 27 59.9**	**+0.1**
KOK	**Koryaka**	**1.19**	**290**	PN	**Pn**	**07 28 00.9**	**+0.3**
KOK	**Koryaka**	**1.19**	**290**	*e*P	**Pn**	**07 28 00.9**	**+0.3**
KRX	**Arik**	**1.21**	**293**	PN	**Pn**	**07 28 00.6**	**-0.2**
KRX				S	**Sn**	**07 28 15.7**	**-0.5**
KRX	**Arik**	**1.21**	**293**	*e*P	**Pn**	**07 28 00.6**	**-0.2**
KRX				*e*S	**Sn**	**07 28 15.7**	**-0.5**
KII	**Karymskiy**	**1.29**	**331**	PN	**Pn**	**07 28 02.0**	**0.0**
KII	**Karymskiy**	**1.29**	**331**	*e*P	**Pn**	**07 28 02.0**	**0.0**
RUS	**Russkaya**	**1.31**	**249**	PN	**Pn**	**07 28 02.2**	**+0.2**
RUS				S	**Sn**	**07 28 18.3**	**-0.1**
RUS	**Russkaya**	**1.31**	**249**	*i* P	**Pn**	**07 28 02.2**	**+0.2**
RUS				*i* S	**Sn**	**07 28 18.3**	**-0.1**
KRMR	**Karymshinskiy**	**1.45**	**268**	PN	**Pn**	**07 28 04.1**	**+0.2**
KRMR				S	**Sn**	**07 28 21.6**	**-0.2**
KRMR	**Karymshinskiy**	**1.45**	**268**	*i* P	**Pn**	**07 28 04.1**	**+0.2**
KRMR				*e*S	**Sn**	**07 28 21.6**	**-0.2**
MTVR	**Mutnovka**	**1.48**	**254**	PN	**Pn**	**07 28 05.1**	**+0.6**
MTVR				S	**Sn**	**07 28 23.2**	**+0.3**
MTVR	**Mutnovka**	**1.48**	**254**	*i* P	**Pn**	**07 28 05.1**	**+0.6**
MTVR				*i* S	**Sn**	**07 28 23.2**	**+0.3**
GRL	**Gorelyy**	**1.52**	**257**	PN	**Pn**	**07 28 06.0**	**+0.9**
GRL	**Gorelyy**	**1.52**	**257**	*e*P	**Pn**	**07 28 06.0**	**+0.9**
ASAK	**Asacha**	**1.68**	**253**	PN	**Pn**	**07 28 08.4**	**+1.2**
ASAK				S	**Sb**	**07 28 29.6**	**-1.2**
ASAK	**Asacha**	**1.68**	**253**	*i* P	**Pn**	**07 28 08.4**	**+1.2**
ASAK				*e*S	**Sb**	**07 28 29.6**	**-1.2**
PETK	**Petropavlovsk-**	**1.71**	**278**	P	**Pn**	**07 28 08.2**	**+0.6**
	comp=N,184nm,0.3s,baz=89,slow=19,SNR=909						
PETK				S	**Sn**	**07 28 28.6**	**+0.2**
	comp=N,153nm,0.3s,baz=196,slow=26,SNR=13						
PETK				LR	LR	07 28 49.5	
	comp=N,342nm,21.1s,baz=113,slow=44						
GNL	**Ganaly**	**1.73**	**298**	PN	**Pn**	**07 28 08.9**	**+0.9**
GNL				S	**Sn**	**07 28 30.0**	**+0.9**
GNL	**Ganaly**	**1.73**	**298**	*i* P	**Pn**	**07 28 08.9**	**+0.9**
GNL				*e*S	**Sn**	**07 28 30.0**	**+0.9**
MKZ	**Mys Kozlova**	**1.80**	**23**	PN	**Pn**	**07 28 08.1**	**-0.7**
MKZ				S	**Sn**	**07 28 28.6**	**-2.0**
MKZ	**Mys Kozlova**	**1.80**	**23**	*i* P	**Pn**	**07 28 08.1**	**-0.7**
MKZ				*i* S	**Sn**	**07 28 28.6**	**-2.0**
KDTR	**Khodutka, Kamc**	**1.85**	**235**	*i* P	**Pn**	**07 28 10.4**	**+0.9**
KDTR				*e*S	**Sn**	**07 28 32.9**	**+1.0**
KZV	**Kizimen**	**2.21**	**357**	PN	**Pn**	**07 28 15.3**	**+0.7**
KZV	**Kizimen**	**2.21**	**357**	*e*P	**Pn**	**07 28 15.3**	**+0.7**
TUMR	**Tumrok**	**2.39**	**355**	PN	**Pn**	**07 28 18.4**	**+1.4**
TUMR				S	**Sn**	**07 28 45.9**	**+0.6**
TUMR	**Tumrok**	**2.39**	**355**	*e*P	**Pn**	**07 28 18.4**	**+1.4**
TUMR				*e*S	**Sn**	**07 28 45.9**	**+0.6**
PAU	**Pauzhetka**	**2.70**	**239**	PN	**Pn**	**07 28 21.1**	**0.0**
PAU	**Pauzhetka**	**2.70**	**239**	*e*P	**Pn**	**07 28 21.1**	**0.0**
KMNR	**Kamenistaya**	**2.86**	**357**	PN	**Pn**	**07 28 25.2**	**+1.8**
KMNR				S	**Sn**	**07 28 58.6**	**+1.8**
KMNR	**Kamenistaya**	**2.86**	**357**	*e*P	**Pn**	**07 28 25.2**	**+1.8**
KMNR				*i* S	**Sn**	**07 28 58.6**	**+1.8**
BZMR	**Bezymyannaya**	**3.03**	**360**	PN	**Pn**	**07 28 27.6**	**+1.7**
BZMR	**Bezymyannaya**	**3.03**	**360**	*e*P	**Pn**	**07 28 27.6**	**+1.7**
KIRR	**Kirishev**	**3.05**	**358**	PN	**Pn**	**07 28 27.1**	**+0.9**
KIRR	**Kirishev**	**3.05**	**358**	*e*P	**Pn**	**07 28 27.1**	**+0.9**
KPT	**Kopyto**	**3.07**	**357**	PN	**Pn**	**07 28 28.5**	**+2.2**
KPT	**Kopyto**	**3.07**	**357**	*e*P	**Pn**	**07 28 28.5**	**+2.2**
ZLN	**Zelenaya**	**3.12**	**3**	PN	**Pn**	**07 28 29.2**	**+2.2**
ZLN				S	**Sn**	**07 29 05.3**	**+2.0**
ZLN	**Zelenaya**	**3.12**	**3**	*e*P	**Pn**	**07 28 29.2**	**+2.2**
ZLN				*e*S	**Sn**	**07 29 05.3**	**+2.0**
LGNR	**Loginova**	**3.18**	**2**	PN	**Pn**	**07 28 30.7**	**+2.6**
LGNR	**Loginova**	**3.18**	**2**	*e*P	**Pn**	**07 28 30.7**	**+2.6**
ESO	**Esso**	**3.20**	**341**	PN	**Pn**	**07 28 28.8**	**+0.7**
ESO	**Esso**	**3.20**	**341**	*e*P	**Pn**	**07 28 28.8**	**+0.7**
CIRR	**Tsirk**	**3.22**	**2**	PN	**Pn**	**07 28 30.6**	**+2.2**
CIRR				S	**Sn**	**07 29 07.7**	**+2.0**
CIRR	**Tsirk**	**3.22**	**2**	*e*P	**Pn**	**07 28 30.6**	**+2.2

DLBC	**Dease Lake**	**37.95**	**53**	P		**P**	**07 34 56.0**	**+1.7**	
	comp=Z,0.8nm,0.6s,baz=301,slow=9.5,SNR=4.3								
PDAR	**Pinedale Array**	**57.39**	**61**	P		**P**	**07 37 26.9**	**+1.5**	
	comp=Z,0.5nm,0.5s,baz=323,slow=4.8,SNR=5.2								
FINES	**FINESS Array B**	**60.39**	**337**	P		**P**	**07 37 44.0**	**-1.6**	
	comp=Z,2.4nm,0.9s,baz=82,slow=4.0,SNR=4.3								
FINES	**FINESS Array B**	**60.39**	**337**	*eP*		**P**	**07 37 45.8**	**+0.2**	
FINES				pmax	pmax				
	comp=Z,2.0nm,0.9s								
AKASG	**Malin Array Be**	**68.90**	**329**	P		**P**	**07 38 38.4**	**-2.9**	
	comp=Z,1.2nm,0.3s,baz=28,slow=6.7,SNR=7.3								
TXAR	**Lajitas Array**	**70.48**	**67**	P		**P**	**07 38 52.7**	**+1.2**	
	comp=Z,0.7nm,0.6s,baz=302,slow=4.5,SNR=12								
WRA	**Warramunga Arr**	**76.02**	**205**	P		**P**	**07 39 24.1**	**+0.1**	
	comp=Z,0.4nm,0.5s,baz=25,slow=6.5,SNR=6.4								
BRTR	**Keskin Array B**	**76.92**	**321**	P		**P**	**07 39 27.8**	**-1.4**	
	comp=Z,0.7nm,0.5s,baz=37,slow=2.9,SNR=3.8								
BRTR	**Keskin Array B**	**76.92**	**321**	*eP*		**P**	**07 39 28.5**	**-0.7**	
BRTR				pmax	pmax				
	comp=Z,1.0nm,0.5s								
ASAR	**Alice Springs**	**79.69**	**205**	P		**P**	**07 39 45.3**	**+0.9**	
	comp=Z,0.7nm,0.5s,baz=16,slow=5.0,SNR=13								
RAR	**Rarotonga**	**81.46**	**143**	LR		LR	08 09 57.6		
	comp=Z,66nm,21.2s,baz=106,slow=31								

CSEM ***13*** *07:32:41.0, 39.59N × 29.80W, h10 km, ML2.7*
PDA 13 07:32:41.0 ± 1.0, 39.59N × 29.80W, h10 km, MD3.5, ML2.7, Error ellipse: s-maj=26.5km s-min=9.1km az=52.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CALA	**Caldeira**	**1.32**	**139**	*eP*	Pn	07 33 00.4	-5.2
CALA				*eS*	Sb	07 33 16.0	-7.0
CALA	**Caldeira**	**1.32**	**139**	*eP*	Pn	07 33 00.4	-5.2
CALA				*eS*	Sb	07 33 16.0	-7.0
HOR	**Horta**	**1.40**	**139**	*eS*	Sn	07 33 17.2	-7.9
HOR				A	A	07 33 19.2	
	100nm,0.1s						
HOR	**Horta**	**1.40**	**139**	*eS*	Sn	07 33 17.2	-7.9
ROSA	**Rosais**	**1.49**	**125**	*eS*	Sn	07 33 19.7	-7.7
ROSA				A	A	07 33 23.4	
	16nm,0.1s						
ROSA	**Rosais**	**1.49**	**125**	*eS*	Sn	07 33 19.7	-7.7
PCAN	**Candelaria**	**1.52**	**137**	*eP*	Pn	07 33 03.9	-4.4
PCAN				*eS*	Sn	07 33 21.0	-7.1
PCAN				A	A	07 33 24.3	
	94nm,0.2s						
PCAN	**Candelaria**	**1.52**	**137**	*eP*	Pn	07 33 03.9	-4.4
PCAN				*eS*	Sn	07 33 21.0	-7.1
PICO	**Pico**	**1.53**	**135**	*eP*	Pn	07 33 04.0	-4.4
PICO				*eS*	Sn	07 33 20.6	-7.7
PICO				A	A	07 33 24.2	
	69nm,0.2s						
PICO	**Pico**	**1.53**	**135**	*eP*	Pn	07 33 04.0	-4.4
PICO				*eS*	Sn	07 33 20.6	-7.7

CSEM ***13*** *07:35:58.1, 39.61N × 29.71W, h10 km, ML3.0*
PDA 13 07:35:58.1 ± 0.9, 39.61N × 29.71W, h10 km, MD3.5, ML3.0, Error ellipse: s-maj=21.2km s-min=6.8km az=55.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PCED	**Cedros**	**1.25**	**141**	*eP*	Pn	07 36 16.6	-5.1
PCED				*eS*	Sb	07 36 30.9	-7.2
PCED				A	A	07 36 31.3	
	103nm,0.2s						
PCED	**Cedros**	**1.25**	**141**	*eP*	Pn	07 36 16.6	-5.1
PCED				*eS*	Sb	07 36 30.9	-7.2
CALA	**Caldeira**	**1.29**	**142**	*eP*	Pn	07 36 17.7	-4.6
CALA				*eS*	Sb	07 36 32.6	-6.6
CALA	**Caldeira**	**1.29**	**142**	*eP*	Pn	07 36 17.7	-4.6
CALA				*eS*	Sb	07 36 32.6	-6.6
HOR	**Horta**	**1.37**	**142**	*eS*	Sb	07 36 33.7	-7.6
HOR				A	A	07 36 35.6	
	294nm,0.2s						
HOR	**Horta**	**1.37**	**142**	*eS*	Sb	07 36 33.7	-7.6
ROSA	**Rosais**	**1.45**	**127**	*eS*	Sn	07 36 35.8	-7.6
ROSA				A	A	07 36 37.9	
	42nm,0.3s						
ROSA	**Rosais**	**1.45**	**127**	*eS*	Sn	07 36 35.8	-7.6
PCAN	**Candelaria**	**1.49**	**140**	*eP*	Pn	07 36 20.4	-4.5
PCAN				*eS*	Sn	07 36 37.1	-7.3
PCAN				A	A	07 36 39.3	
	168nm,0.1s						
PCAN	**Candelaria**	**1.49**	**140**	*eP*	Pn	07 36 20.4	-4.5
PCAN				*eS*	Sn	07 36 37.1	-7.3
PICO	**Pico**	**1.49**	**137**	*eP*	Pn	07 36 20.6	-4.4
PICO				*eS*	Sn	07 36 37.0	-7.6
PICO				A	A	07 36 39.9	
	178nm,0.2s						
PICO	**Pico**	**1.49**	**137**	*eP*	Pn	07 36 20.6	-4.4
PICO				*eS*	Sn	07 36 37.0	-7.6

ISCJB ***13*** *07:38:55.8±0.8, 36.49N±0.05 × 71.27E±0.09, h100km, Error ellipse: s-maj=11.0km s-min=5.4km az=158.3*
NNC ***13*** *07:39:00.0±2.1, 36.96N × 71.15E, h0km, mb4.5, mpv4.1, Error ellipse: s-maj=18.1km s-min=7.8km az=169.0*
ISC 13 07:38:56.6 ± 1.4, 36.45N ± 0.09 × 71.26E ± 0.08, h100 km, n12, σ 1 s 41/17, 4C-5D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DZET	**Dzherino**	**3.04**	**321**	⇓P	**Pn**	**07 39 43.5**	**+0.6**
	73nm,0.5s						
DZET				⇓S	**Sn**	**07 40 17.1**	**-1.7**
	63nm,0.3s						
KSH	**Kashi**	**4.82**	**49**	⇓*i*Pn	**Pn**	**07 40 07.8**	**+0.8**
KSH				pP		07 40 08.9	
KSH				Sn	**Sn**	**07 40 58.1**	**-3.5**
KSH				pmax	pmax		
	comp=Z,63nm,0.3s						
KSH				smax	smax		
	comp=N,150nm,0.4s						
KSH				smax	smax		
	comp=E,77nm,0.2s						
MNAS	**Manas**	**6.10**	**9**	⇑P	**Pn**	**07 40 25.3**	**+0.9**
	comp=E,3.9nm,0.3s						
MNAS				⇓S	**Sn**	**07 41 31.2**	**-1.7**
	comp=E,25nm,0.5s						
AAK	**Ala-Archa**	**6.66**	**21**	⇑P	**Pn**	**07 40 33.6**	**+1.6**
	comp=E,4.6nm,0.4s						
AAK				⇑S	**Sn**	**07 41 47.5**	**+1.0**
	comp=E,4.8nm,0.5s						
TKM2	**Tokmak 2**	**7.27**	**26**	⇑P	**Pn**	**07 40 41.5**	**+1.1**
	comp=E,18nm,0.8s						
TKM2				⇓S	**Sn**	**07 42 01.3**	**-0.1**
	comp=E,1.9nm,0.6s						
PYUN	**Piuthan**	**12.95**	**127**	*eP*	**Pn**	**07 41 56.7**	**-0.3**
GKN	**Gorkha**	**14.10**	**123**	*eP*	**Pn**	**07 42 13.2**	**+1.2**
	comp=E,20nm,0.4s						
DMN	**Daman**	**14.67**	**123**	*eP*	**Pn**	**07 42 19.7**	**+0.3**
	comp=E,6.1nm,0.3s						
PKIN	**Phulchoki**	**14.89**	**122**	*eP*	**Pn**	**07 42 21.8**	**-0.4**
PKI	**Pulchoki**	**14.90**	**122**	*eP*	**Pn**	**07 42 22.2**	**-0.2**
	comp=E,40nm,0.6s						
JIRN	**Jiri**	**15.38**	**121**	*eP*	**Pn**	**07 42 28.6**	**+0.1**
	comp=E,19nm,0.3s						
RAMN	**Ramite**	**16.11**	**122**	*eP*	**Pn**	**07 42 36.4**	**-1.1**
	comp=E,18nm,0.6s						

ISCJB ***13*** *07:48:18.9±0.5, 37.48N±0.04 × 72.27E±0.07, h150km, Error ellipse: s-maj=8.5km s-min=4.1km az=153.7*
NNC ***13*** *07:48:23.8±5.9, 37.98N × 72.10E, h0km, mb4.3, mpv3.9, Error ellipse: s-maj=57.1km s-min=18.5km az=153.0*
ISC 13 07:48:19.1 ± 0.9, 37.48N ± 0.06 × 72.25E ± 0.07, h150 km, n17, σ 1 s 77/24, 7C-3D, Tajikistan

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DZET	**Dzherino**	**3.01**	**297**	⇑P	**Pn**	**07 49 09.0**	**+2.3**
	72nm,0.3s						
DZET				⇓S	**Sn**	**07 49 43.8**	**+0.4**
	574nm,0.6s						
MNAS	**Manas**	**5.00**	**2**	⇑P	**Pn**	**07 49 34.5**	**+1.9**
	6.5nm,0.6s						
MNAS				⇑S	**Sn**	**07 50 28.5**	**-1.5**
	82nm,0.7s						
AAK	**Ala-Archa**	**5.43**	**18**	⇑P	**Pn**	**07 49 40.2**	**+1.9**
	9.9nm,0.6s						
AAK				⇓S	**Sn**	**07 50 40.4**	**+0.3**
	44nm,0.8s						
THN	**Thein Dam**	**5.78**	**150**	*eP*	**Pn**	**07 49 45.2**	**+2.3**
THN				*eS*	**Sn**	**07 50 48.8**	**+0.4**
TKM2	**Tokmak 2**	**6.01**	**24**	⇑P	**Pn**	**07 49 47.4**	**+1.4**
	3.6nm,0.5s						
TKM2				⇓S	**Sn**	**07 50 55.5**	**+1.5**
	8.5nm,0.8s						
SDNR	**Sundarnagar**	**7.12**	**145**	*eP*	**Pn**	**07 50 02.0**	**+1.1**
SDNR				*eS*	**Sn**	**07 51 17.0**	**-3.7**
PYUN	**Piuthan**	**12.99**	**133**	*eP*	**Pn**	**07 51 17.4**	**-1.0**
KOLN	**Koldanda**	**13.60**	**132**	*eP*	**Pn**	**07 51 25.8**	**-0.3**
GKN	**Gorkha**	**14.06**	**129**	*eP*	**Pn**	**07 51 31.7**	**-0.2**
DMN	**Daman**	**14.63**	**129**	*eP*	**Pn**	**07 51 39.3**	**+0.1**
PKIN	**Phulchoki**	**14.83**	**128**	*eP*	**Pn**	**07 51 41.9**	**+0.2**
PKI	**Pulchoki**	**14.84**	**128**	*eP*	**Pn**	**07 51 41.5**	**-0.4**
GUN	**Gumba**	**14.91**	**126**	*eP*	**Pn**	**07 51 42.6**	**-0.1**
JIRN	**Jiri**	**15.28**	**126**	*eP*	**Pn**	**07 51 47.8**	**+0.4**
RAMN	**Ramite**	**16.03**	**127**	*eP*	**Pn**	**07 51 56.9**	**+0.4**
AKTO	**Aktyubinsk**	**16.48**	**326**	⇑P	**Pn**	**07 52 01.0**	**-0.4**
	4.5nm,0.7s						
AKTO				⇑S	**S**	**07 54 59.4**	**-4.9**
	3.3nm,0.7s						
ODAN	**Odare**	**16.60**	**125**	*eP*	**Pn**	**07 52 04.0**	**+0.6**

ISCJB ***13*** *07:56:02.5±1.0, 11.44N±0.04 × 59.59W±0.07, h10km, Error ellipse: s-maj=10.2km s-min=5.4km az=22.7*
FUNV ***13*** *07:56:06.9, 11.34N × 59.44W, h98 km, MW2.8*
ISC 13 07:56:01.3 ± 1.9, 11.41N ± 0.05 × 59.4W ± 0.1, h10 km, n20, σ 1 s 76/28, North Atlantic Ocean

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TOSP	**Speyside**	**1.10**	**264**	*eP*	**Pg**	**07 56 24.3**	**+1.8**
GRGR	**Grenville**	**2.30**	**288**	*eP*	**Pn**	**07 56 40.2**	**+0.8**
GRGR				*eS*	**Sn**	**07 57 06.2**	**-1.6**
SVB	**Belmont**	**2.58**	**316**	*eP*	**Pn**	**07 56 43.5**	**+0.4**
SVB				*eS*	**Sn**	**07 57 13.6**	**-1.0**
MCLT	**Moule a Chique**	**2.73**	**327**	*eP*	**Pn**	**07 56 46.1**	**+0.9**
MCLT				*eS*	**Sn**	**07 57 16.7**	**-1.6**
GUIV	**Guiria**	**2.85**	**255**	*eP*	**Pn**	**07 56 49.1**	**+2.2**
GUIV				*eS*	**Sn**	**07 57 19.8**	**-1.6**
MVM	**Montagne Vaucl**	**3.44**	**335**	*eP*	**Pn**	**07 56 55.3**	**+0.2**
BIM	**Bigot**	**3.48**	**333**	*eP*	**Pn**	**07 56 56.6**	**+0.9**
BIM				*eS*	**Sn**	**07 57 33.6**	**-3.4**
TRMF	**Trois Ilets**	**3.49**	**333**	*eP*	**Pn**	**07 56 56.4**	**+0.7**
ZAM	**Aeronautique**	**3.51**	**334**	*eP*	**Pn**	**07 56 57.0**	**+1.0**
GUNV	**Guanoco**	**3.68**	**251**	*eP*	**Pn**	**07 57 00.6**	**+2.3**
GUNV				*eS*	**Sn**	**07 57 40.6**	**-1.1**
FDF	**Fort de France**	**3.71**	**333**	*eP*	**Pn**	**07 56 59.1**	**+0.4**
GBMF	**Grand Be**	**3.77**	**333**	*eP*	**Pn**	**07 57 01.2**	**+1.5**
BAMF	**Morne Balai**	**3.78**	**334**	*eP*	**Pn**	**07 57 00.9**	**+1.2**
CXM	**Morne La Croix**	**3.79**	**333**	*eP*	**Pn**	**07 57 02.1**	**+2.2**
PCM	**Pelee Case Pet**	**3.81**	**333**	*eP*	**Pn**	**07 57 00.5**	**+0.3**
CRUV	**Carupano**	**3.82**	**259**	*eP*	**Pn**	**07 57 01.0**	**+0.8**
CRUV				*eS*	**Sn**	**07 57 42.2**	**-3.0**
RIOV	**Rio Grande**	**4.07**	**216**	*eP*	**Pn**	**07 57 05.9**	**+2.1**
RIOV				*eS*	**Sn**	**07 57 47.8**	**-3.7**
PCRV	**Puerto La Cruz**	**5.27**	**257**	*eP*	**Pn**	**07 57 20.6**	**+0.4**
LUEV	**Luepa**	**5.89**	**200**	*eP*	**Pn**	**07 57 28.8**	**-0.1**
BAUV	**El Baul**	**8.83**	**255**	*eP*	**Pn**	**07 58 07.8**	**-1.4**

BJI ***13*** *07:56:06.1, 7.01S × 144.45E, h20km, mb4.9/64, mB5.2/54, Ms4.9/57, Ms7 4.8/56*
IDC ***13*** *07:56:06.7±0.5, 6.91S × 144.05E, h0km, mb4.8/17, mb1 4.9/20, mb1mx4.8/29, mbtmp4.8/20, ML2.7/2, MS4.6/21, Ms1 4.6/21, ms1mx4.5/23, Error ellipse: s-maj=21.7km s-min=11.6km az=81.0*
DJA ***13*** *07:56:09.6±0.3, 7.3S × 14.4E, h10km, M5.2/22, mb5.1/22, mB5.6/13, MLv5.5/4, Mw(mB)5.1/13*
MOS ***13*** *07:56:10.5±1.1, 6.94S × 143.85E, h33km, mb5.4/26, Error ellipse: s-maj=10.7km s-min=6.0km az=99.6*
ISCJB ***13*** *07:56:10.0±0.1, 6.95S±0.02 × 143.92E±0.03, h30km, mb5.2/124, MS4.7/35, Error ellipse: s-maj=4.1km s-min=3.1km az=3.0*
GCMT ***13*** *07:56:11.8±0.2, 7.09S × 143.80E, h12km, MW5.2/109, Moment Tensor Solution. s56,c74; s109,c161; Duration: 0 Moment tensor: Scale 10^16 Nm; Mrr 4.32±.11; Mθθ -4.66±.09; Mφφ 0.34±.11; Mrθ 4.66±.28; Mθφ 1.30±.09; Mφr -0.85±.34; Best double couple: Mo 6.63800 × 10^16 NP1: ϕs 287.00000°, δs 22.00000°, λs 95.00000°. Principal axes: T 6.3140, Plg 67.0000°, Azm 7.0000°; N 0.6520, Plg 2.0000°, Azm 102.0000°; P -6.9620, Plg 23.0000°, Azm 193.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
NEIC ***13*** *07:56:11.8±1.1, 6.89S × 143.92E, h31km±8km, mb5.3/91 Error ellipse: s-maj=4.0km s-min=3.4km az=75.0*
NEIC Felt at Kerema.
ISC 13 07:56:11.9 ± 0.3, 7.00S ± 0.03 × 143.95E ± 0.04, h30 km, n315, σ 1 s 76/354, mb5.2/124, MS4.7/37, 8C-11D, Near south coast of New Guinea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**3.98**	**127**	Pn	**Pn**	**07 57 08.7**	**-2.1**
	34nm,0.3s,baz=324,slow=9.8,SNR=34						
PMG				Sn	**Sn**	**07 57 54.0**	**-2.5**
	47nm,0.3s,baz=350,slow=22,SNR=12						
PMG				LR	LR	07 59 04.6	
	comp=Z,6μm,21.9s,baz=86,slow=45						
PMG	**Port Moresby**	**3.98**	**127**	*d*iP	**Pn**	**07 57 10.2**	**-0.6**
PMG				pmax	pmax		
	comp=Z,1μm,0.8s						
PMG	**Port Moresby**	**3.98**	**127**	*e*Pn	**Pn**	**07 57 10.3**	**-0.5**
PMG				eSn	**Sn**	**07 57 57.5**	**+1.1**
JAY	**Jayapura**	**5.51**	**324**	Pn	**Pn**	**07 57 29.7**	**-2.2**
	comp=Z,0.3nm,0.3s,baz=95,slow=23,SNR=9.5						
JAY				LR	LR	07 59 56.0	
	comp=Z,155nm,20.9s,baz=157,slow=42						
JAY	**Jayapura**	**5.51**	**324**	P	**Pn**	**07 57 31.0**	**-1.0**
	comp=Z,89nm,1.0s,comp=Z,2μmcomp=Z,1.7nm						
JAY				S	**Sb**	**07 58 47.6**	**-5.5**
	comp=Z,89nm,1.0s,comp=Z,2μmcomp=Z,1.7nm						
GENI	**Genyem**	**5.78**	**319**	P	Pn	07 57 42.7	+7.1
MANU	**Manus Island**	**5.99**	**35**	*e*Pn	**Pn**	**07 57 38.4**	**-0.2**
COEN	**Coen**	**6.95**	**186**	P	**Pn**	**07 57 52.3**	**+0.5**
	baz=7.0,SNR=14						
COEN	**Coen**	**6.95**	**186**	*e*Pn	**Pn**	**07 57 52.4**	**+0.5**
SMPI	**Sarmi**	**7.21**	**313**	P	**Pn**	**07 57 56.9**	**+1.5**
	comp=Z,137nm,1.7s,comp=Z,3μmcomp=Z,2.2nm						
RABL	**Rabaul**	**8.64**	**72**	*e*Pn	**Pn**	**07 58 15.9**	**+0.9**
MTSU	**Mount Surprise**	**11.07**	**178**	P	**Pn**	**07 58 49.2**	**+0.9**
	baz=11						
FAKI	**Fak Fak**	**12.34**	**289**	P	**Pn**	**07 59 03.5**	**-2.2**
	comp=Z,139nm,1.1s						
FAKI	**Fak Fak**	**12.34**	**289**	*e*Pn	**Pn**	**07 59 04.5**	**-1.2**
SAUI	**Saumlaki**	**12.58**	**265**	P	**Pn**	**07 59 06.5**	**-2.5**
	comp=Z,1μm,1.0s						
SAUI	**Saumlaki**	**12.58**	**265**	*e*Pn	**Pn**	**07 59 07.5**	**-1.5**
KDU	**Kakadu**	**12.64**	**243**	P	**Pn**	**07 59 06.5**	**-3.2**
	baz=12,SNR=7.5						
CTA	**Charters Tower**	**13.20**	**170**	Pn	**Pn**	**07 59 17.6**	**+0.2**
	comp=Z,1.7nm,0.3s,baz=178,slow=19,SNR=19						
CTA				Lg	Lg	08 03 26.9	
	comp=Z,0.5nm,0.3s,baz=252,slow=22,SNR=6.7						
CTA				LR	LR	08 04 21.0	
	comp=Z,4μm,21.4s,baz=356,slow=37						
CTAO	**Charters Tower**	**13.20**	**170**	*e*P	**Pn**	**07 59 19.0**	**+1.6**
CTAO	**Charters Tower**	**13.20**	**170**	*e*Pn	**Pn**	**07 59 19.0**	**+1.6**
MTN	**Manton Dam**	**13.89**	**244**	P	**Pn**	**07 59 23.2**	**-3.7**
	baz=14,SNR=9.9						
MTN	**Manton Dam**	**13.89**	**244**	*e*Pn	**Pn**	**07 59 23.2**	**-3.7**
QIS	**Mount Isa**	**14.12**	**197**	P	**Pn**	**07 59 29.2**	**-0.7**
	baz=14,SNR=6.8						
WRAB	**Tennant Creek**	**15.88**	**215**	⇑*e*P	**Pn**	**07 59 50.7**	**-2.6**
WRAB				pmax	pmax		
	comp=Z,47nm,1.0s						
WRAB	**Tennant Creek**	**15.88**	**215**	*e*Pn	**Pn**	**07 59 51.8**	**-1.6**
	comp=Z,53nm,1.0s						
WB2	**Warramunga Arr**	**15.88**	**215**	*e*Pn	**Pn**	**07 59 51.9**	**-1.6**
WR1	**Warramunga Arr**	**15.89**	**215**	*e*Pn	**Pn**	**07 59 50.5**	**-3.0**
	comp=Z,111nm,1.3s						
WR1				*e*Sn	**Sn**	**08 02 46.0**	**-2.8**
WRA	**Warramunga Arr**	**15.89**	**215**	Pn	**Pn**	**07 59 50.5**	**-3.0**
	comp=Z,0.9nm,0.3s,baz=35,slow=13,SNR=16						
WRA				Sn	**Sn**	**08 02 46.0**	**-2.8**
	comp=Z,0.7nm,0.3s,baz=26,slow=21,SNR=4.6						
WRA				Lg	Lg	08 04 35.4	
	comp=Z,2.2nm,0.3s,baz=33,slow=27,SNR=5.6						
WRA				LR	LR	08 06 21.2	
	comp=Z,5μm,20.4s,baz=35,slow=38						
WRA	**Warramunga Arr**	**15.89**	**215**	*i* P	**Pn**	**07 59 51.5**	**-2.0**
WRA				pmax	pmax		
	comp=Z,9.0nm,0.8s						
KNRA	**Kununurra**	**17.19**	**239**	P	**Pn**	**08 00 06.1**	**-4.0**
	baz=17,SNR=12						
SANI	**Sanana**	**18.56**	**285**	P	**Pn**	**08 00 27.5**	**+0.6**
AS01	**Alice Springs**	**19.15**	**209**	*e*P	**Pn**	**08 00 34.5**	**+0.5**
AS31	**Alice Springs**	**19.17**	**209**	*e*P	**Pn**	**08 00 33.9**	**-0.3**
	comp=Z,18nm,0.8s						
ASAR	**Alice Springs**	**19.18**	**209**	P	**P**	**08 00 33.6**	**+0.4**
	comp=Z,2.4nm,0.3s,baz=37,slow=9.1,SNR=265						
ASAR				S	**Sn**	**08 04 04.3**	**-4.2**
	comp=Z,0.4nm,0.3s,baz=21,slow=26,SNR=4.3						
ASAR				Lg	Lg	08 06 29.3	
	comp=Z,0.9nm,0.3s,baz=32,slow=33,SNR=7.1						
ASAR				LR	LR	08 08 02.4	
	comp=Z,3μm,20.9s,baz=36,slow=37						
QLP	**Quilpie**	**19.48**	**179**	P	**Pn**	**08 00 38.1**	**+0.3**
	baz=20,SNR=23						
EIDS	**Eidsvold**	**19.50**	**160**	P	**Pn**	**08 00 39.8**	**+1.8**
	baz=20,SNR=7.1						
EIDS	**Eidsvold**	**19.50**	**160**	*e*P	**Pn**	**08 00 39.0**	**+0.9**
	comp=Z,33nm,0.9s						
SOEI	**Soe**	**19.66**	**261**	P	**Pn**	**08 00 39.7**	**-0.6**
SOEI				S	**Sn**	**08 04 23.9**	**+3.4**
SOEI	**Soe**	**19.66**	**261**	*e*P	**P**	**08 00 39.2**	**+0.5**
	comp=Z,422nm,1.4s						
PATS	**Pohnpei**	**19.86**	**46**	*e*P	**P**	**08 00 40.2**	**-0.5**
	comp=Z,74nm,1.0s						
RMQ	**Roma**	**19.91**	**167**	P	**Pn**	**08 00 44.7**	**+1.7**
	baz=20,SNR=15						
GUMO	**Guam**	**20.48**	**3**	P	**P**	**08 00 44.9**	**-2.5**
	comp=Z,89nm,0.9s,baz=205,slow=15,SNR=5.4						
GUMO				LR	LR	08 08 06.3	
	comp=Z,954nm,18.8s,baz=186,slow=35						
GUMO	**Guam**	**20.48**	**3**	*e*P	**P**	**08 00 45.4**	**-2.0**
GUMO				pmax	pmax		
	comp=Z,149nm,1.0s						
GUMO	**Guam**	**20.48**	**3**	*e*P	**P**	**08 00 45.4**	**-2.0**
	comp=Z,149nm,1.0s						
FITZ	**Fitzroy Crossi**	**20.98**	**237**	P	**P**	**08 00 52.2**	**-0.7**
	comp=Z,44nm,0.9s,baz=60,slow=9.3,SNR=29						
FITZ				S	**S**	**08 04 40.5**	**-4.7**
	comp=Z,18nm,0.6s,baz=114,slow=13,SNR=3.7						
FITZ				Lg	Lg	08 07 08.8	
	comp=Z,56nm,0.9s,baz=135,slow=19,SNR=3.2						
FITZ				LR	LR	08 09 26.9	
	comp=Z,3μm,20.7s,baz=60,slow=38						
FITZ	**Fitzroy Crossi**	**20.98**	**237**	P	**P**	**08 00 52.4**	**-0.4**
	baz=21,SNR=21						
FITZ	**Fitzroy Crossi**	**20.98**	**237**	*e*P	**P**	**08 00 53.2**	**+0.4**
	comp=Z,82nm,1.0s						
FITZ				S	**S**	**08 04 40.5**	**-4.7**
FITZ				Lg	Lg	08 07 08.8	
MMRI	**Maumere**	**21.57**	**264**	P	**P**	**08 01 00.5**	**+1.2**
MMRI	**Maumere**	**21.57**	**264**	*e*P	**P**	**08 00 59.4**	**+0.2**
	comp=Z,110nm,0.8s						
LUWI	**Luwuk**	**21.93**	**285**	*e*P	**P**	**08 01 03.4**	**+0.3**
	comp=Z,224nm,1.1s						
GTOI	**Gorontalo**	**22.23**	**289**	P	**P**	**08 01 08.9**	**+2.6**
	comp=Z,133nm,0.9s,comp=Z,1μm						
MRSI	**Marisa**	**23.18**	**288**	P	**P**	**08 01 19.3**	**+3.0**
	comp=Z,80nm,1.0s,comp=Z,4μm						
WRKA	**Warakurna**	**23.36**	**218**	P	**P**	**08 01 17.7**	**-0.4**
	baz=23,SNR=114						
KAPI	**Kappang**	**24.14**	**273**	*e*P	**P**	**08 01 25.9**	**+0.3**
	comp=Z,108nm,1.4s						
SPSI	**Sidrap Palu**	**24.25**	**276**	P	**P**	**08 01 29.6**	**+3.0**
	comp=Z,47nm,1.2s,comp=Z,2μm						
TTSI	**Tana Toraja**	**24.35**	**278**	P	**P**	**08 01 31.1**	**+3.6**
	comp=Z,43nm,1.2s,comp=Z,1μm						
ARMA	**Armidale**	**24.39**	**164**	P	**P**	**08 01 30.6**	**+2.9**
	baz=25,SNR=7.0						
ARMA	**Armidale**	**24.39**	**164**	*e*P	**P**	**08 01 28.4**	**+0.6**
	comp=Z,41nm,1.3s						
PCI	**Palu**	**24.80**	**283**	P	**P**	**08 01 34.5**	**+3.0**
	comp=Z,142nm,1.1s,comp=Z,2μm						
STKA	**Stephens Creek**	**24.85**	**185**	P	**P**	**08 01 32.1**	**+0.4**
	comp=Z,6.4nm,0.8s,baz=337,slow=6.7,SNR=7.2						
STKA				LR	LR	08 11 44.0	
	comp=Z,4μm,20.0s,baz=358,slow=38						
STKA	**Stephens Creek**	**24.85**	**185**	P	**P**	**08 01 33.2**	**+1.4**
	baz=25,SNR=4.4						
STKA	**Stephens Creek**	**24.85**	**185**	*e*P	**P**	**08 01 32.6**	**+0.8**
STKA	**Stephens Creek**	**24.85**	**185**	*e*P	**P**	**08 01 32.6**	**+0.8**
	comp=Z,4.5nm,1.0s						
DZM	**Mont Dzumac**	**26.37**	**127**	LR	LR	08 12 17.0	
	comp=Z,526nm,18.7s,baz=318,slow=37						
DZM	**Mont Dzumac**	**26.37**	**127**	*e*LR	LR	08 08 25.9	
	comp=Z,2μm,27.2

IPM	**Ipoh**	**44.33**	**284**	*e*P	**P**	**08 04 19.6**	**-0.2**
	comp=Z,37nm,1.1s							
KULM	**Kulim**	**44.90**	**285**	*e*P	**P**	**08 04 23.7**	**-0.6**
	comp=Z,77nm,1.9s							
MNSI	**Mandailing Nat**	**44.94**	**278**	P	**P**	**08 04 24.1**	**-0.5**
NJ2	**Nanjing**	**45.62**	**330**	*e*P	**P**	**08 04 27.9**	**-1.8**
NJ2				pmax	pmax			
	comp=Z,9.0nm,0.5s							
PSI	**Prapat**	**45.98**	**281**	P	**P**	**08 04 32.5**	**-0.5**
	comp=Z,16nm,0.9s,baz=121,slow=5.7,SNR=8.5							
PSI	**Prapat**	**45.98**	**281**	*e*P	**P**	**08 04 32.2**	**-0.8**
PSI				pmax	pmax			
	comp=Z,29nm,1.1s							
PSI	**Prapat**	**45.98**	**281**	*e*P	**P**	**08 04 32.2**	**-0.8**
	comp=Z,29nm,1.1s							
SKNT	**Sakolnakorn**	**46.14**	**302**	P	**P**	**08 04 35.1**	**+1.1**
	comp=Z,22nm,2.5s							
NIUE	**Niue**	**46.37**	**110**	P	**P**	**08 04 37.4**	**+1.6**
	baz=47							
KSRS	**Korea Array**	**46.69**	**342**	P	**P**	**08 04 37.5**	**-0.5**
	comp=Z,14nm,1.0s,baz=160,slow=9.0,SNR=53							
KSRS				LR	LR	08 22 01.0		
	comp=Z,755nm,20.6s,baz=162,slow=33							
KS15	**Wonju Array Si**	**46.69**	**342**	*e*P	**P**	**08 04 37.9**	**-0.1**
KSAR	**Wonju Array Be**	**46.69**	**342**	P	**P**	**08 04 37.5**	**-0.5**
KSAR	**Wonju Array Be**	**46.69**	**342**	P	**P**	**08 04 37.5**	**-0.5**
KS01	**Wonju Array Si**	**46.72**	**342**	*e*P	**P**	**08 04 37.4**	**-0.9**
WHN	**Wuhan**	**46.89**	**324**	P	**P**	**08 04 41.4**	**+1.7**
WHN				S	**S**	**08 11 32.9**	**+4.1**
WHN				LR	LR			
	comp=Z,1μm,14.3s							
WHN				LR	LR			
	comp=Z,790nm,17.6s							
WHN				LR	LR			
	comp=Z,1μm,19.2s							
INCN	**Inchon**	**47.12**	**341**	*e*P	**P**	**08 04 40.0**	**-1.4**
	comp=Z,38nm,1.2s							
KCSI	**Kotacane, Aceh**	**47.26**	**281**	P	**P**	**08 04 40.7**	**-2.2**
SLVN	**Son La**	**48.34**	**307**	*e*P	**P**	**08 04 50.0**	**-1.3**
	comp=Z,24nm,1.5s							
MLSI	**Meulaboh, Aceh**	**48.76**	**282**	P	**P**	**08 04 52.8**	**-1.7**
GYA	**Guiyang**	**49.13**	**314**⇑	*i*P	**P**	**08 04 58.4**	**+1.1**
GYA				PcP	**PcP**	**08 06 21.6**	**+1.1**
GYA				ScP	**ScP**	**08 10 15.3**	**+1.5**
GYA				S	**S**	**08 12 02.8**	**+1.8**
GYA				SS	**SS**	**08 15 29.8**	**-2.8**
GYA				pmax	pmax			
	comp=Z,20nm,0.8s							
GYA				pmax	pmax			
	comp=Z,120nm,5.3s							
GYA				LR	LR			
	comp=Z,510nm,17.0s							
GYA				LR	LR			
	comp=Z,470nm,17.4s							
GYA				LR	LR			
	comp=Z,490nm,17.3s							
ENH	**Enshi**	**49.66**	**320**	*e*P	**P**	**08 05 00.0**	**-1.2**
	comp=Z,17nm,0.8s							
TIA	**Tai'an**	**49.82**	**331**	*e*P	**P**	**08 05 01.8**	**-0.4**
TIA				pmax	pmax			
	comp=Z,10.0nm,0.9s							
DL2	**Dalian**	**50.16**	**337**	P	**P**	**08 05 05.8**	**+1.1**
DL2				*e*S	**S**	**08 12 19.3**	**+4.7**
DL2				pmax	pmax			
	comp=Z,54nm,1.3s							
DL2				pmax	pmax			
	comp=Z,280nm,5.1s							
DL2				LR	LR			
	comp=Z,710nm,22.0s							
DL2				LR	LR			
	comp=Z,930nm,21.0s							
MSHR	**Mys Shultsa**	**50.70**	**348**‖	*e*P	**P**	**08 05 09.4**	**+0.7**
CM01	**Chiang Mai Arr**	**51.06**	**300**	*e*P	**P**	**08 05 11.8**	**-0.1**
CM31	**Chiang Mai Arr**	**51.09**	**300**	*e*P	**P**	**08 05 11.7**	**-0.4**
CMAR	**Chiang Mai Arr**	**51.09**	**300**	P	**P**	**08 05 12.7**	**+0.6**
	comp=Z,15nm,0.8s,baz=121,slow=5.7,SNR=51							
CMAR				LR	LR	08 26 15.9		
	comp=Z,245nm,21.3s,baz=124,slow=35							
CMMT	**Chiang Mai**	**51.24**	**301**	P	**P**	**08 05 14.1**	**+0.8**
	comp=Z,30nm,1.0s,comp=Z,542nm							
CHTO	**Chiang Mai**	**51.25**	**301**	P	**P**	**08 05 14.1**	**+0.8**
	comp=Z,132nm,1.1s							
CHTO	**Chiang Mai**	**51.25**	**301**	*e*P	**P**	**08 05 12.7**	**-0.6**
CHTO				pmax	pmax			
	comp=Z,23nm,0.9s							
CHTO	**Chiang Mai**	**51.25**	**301**	*e*P	**P**	**08 05 12.7**	**-0.6**
	comp=Z,23nm,0.9s							
KMI	**Kunming**	**51.26**	**310**	P	**P**	**08 05 15.3**	**+1.8**
KMI				pP	pP	08 05 20.0	-2.7
KMI				sP	sP	08 05 21.8	-4.4
KMI				PP	**PP**	**08 07 11.9**	**+1.2**
KMI				S	**S**	**08 12 32.9**	**+2.1**
KMI				SS	**SS**	**08 16 05.3**	**-1.5**
KMI				pmax	pmax			
	comp=Z,11nm,0.7s							
KMI				pmax	pmax			
	comp=Z,240nm,4.8s							
KMI				LR	LR			
	comp=Z,410nm,20.1s							
KMI				LR	LR			
	comp=Z,440nm,22.2s							
KMI				LR	LR			
	comp=Z,560nm,27.7s							
USRK	**Ussuriysk Ar.**	**52.10**	**349**	P	**P**	**08 05 18.5**	**-0.7**
	comp=Z,5.3nm,0.6s,baz=153,slow=7.9,SNR=15							
USRK				LR	LR	08 25 48.7		
	comp=Z,389nm,20.6s,baz=155,slow=34							
KUR	**Kuril'sk**	**52.12**	**4***d*	*i*P	**P**	**08 05 20.7**	**+1.5**
KUR				*e*		08 07 16.1		
KUR				*e*S	**S**	**08 12 45.4**	**+4.0**
KUR				MLR	MLR			
	comp=Z,254nm,15.0s							
XAN	**Xi'an**	**52.59**	**323**	P	**P**	**08 05 22.4**	**-0.7**
XAN				pP	pP	08 05 32.0	-0.3
XAN				sP	sP	08 05 36.5	+0.7
XAN				S	**S**	**08 12 52.5**	**+4.0**
XAN				sS	sS	08 13 02.8	-0.8
XAN				SS	**SS**	**08 16 22.3**	**-5.0**
XAN				pmax	pmax			
	comp=Z,22nm,1.6s							
XAN				pmax	pmax			
	comp=Z,94nm,5.8s							
XAN				LR	LR			
	comp=Z,470nm,16.8s							
XAN				LR	LR			
	comp=Z,450nm,22.4s							
XAN				LR	LR			
	comp=Z,800nm,22.5s							
MDJ	**Mudanjiang**	**52.99**	**347**	P	**P**	**08 05 25.8**	**+0.1**
MDJ				pP	pP	08 05 28.6	-6.3
MDJ				PcP	**PcP**	**08 06 34.5**	**+0.3**
MDJ				PP	**PP**	**08 07 25.5**	**-0.3**
MDJ				S	**S**	**08 12 55.6**	**+2.2**
MDJ				pmax	pmax			
	comp=Z,8.0nm,0.7s							
MDJ				pmax	pmax			
	comp=Z,120nm,5.7s							
MDJ				LR	LR			
	comp=Z,690nm,27.9s							
MDJ				LR	LR			
	comp=Z,320nm,21.9s							
MDJ				LR	LR			
	comp=Z,940nm,23.9s							
CN2	**Changchun**	**53.27**	**343**	*e*P	**P**	**08 05 27.8**	**0.0**
CN2				*e*pP	pP	08 05 34.8	-2.2
CN2				pmax	pmax			
	comp=Z,10.0nm,1.1s							
CN2				pmax	pmax			
	comp=Z,200nm,4.0s							
CN2				LR	LR			
	comp=Z,600nm,22.0s							
CN2				LR	LR			
	comp=Z,500nm,22.0s							
CN2				LR	LR			
	comp=Z,700nm,23.0s							
BJI	**Beijing**	**53.37**	**334**	P	**P**	**08 05 27.1**	**-1.5**
BJI				S	**S**	**08 13 02.8**	**+4.1**
BJI				SS	**SS**	**08 16 35.3**	**-3.9**
BJI				pmax	pmax			
	comp=Z,18nm,1.4s							
BJI				pmax	pmax			
	comp=Z,280nm,5.5s							
BJI				LR	LR			
	comp=Z,650nm,20.2s							
BJI				LR	LR			
	comp=Z,300nm,18.7s							
BJI				LR	LR			
	comp=Z,720nm,21.7s							
YSS	**Yuzh-Sakhalins**	**53.73**	**359**⇑	*e*P	**P**	**08 05 29.5**	**-1.6**
YSS				*e*S	**S**	**08 12 58.0**	**-5.4**
YSS				pmax	pmax			
	comp=Z,300nm,6.7s							
CD2	**Chengdu**	**53.85**	**317**	P	**P**	**08 05 32.6**	**+0.1**
CD2				pP	pP	08 05 38.1	-3.5
CD2				PcP	**PcP**	**08 06 34.4**	**-3.5**
CD2				PP	**PP**	**08 07 35.8**	**+1.9**
CD2				S	**S**	**08 13 07.8**	**+2.0**
CD2				SS	**SS**	**08 16 46.4**	**-1.0**
CD2				pmax	pmax			
	comp=Z,40nm,1.0s							
CD2				pmax	pmax			
	comp=Z,230nm,5.7s							
CD2				LR	LR			
	comp=Z,720nm,18.4s							
CD2				LR	LR			
	comp=Z,720nm,17.1s							
CD2				LR	LR			
	comp=Z,750nm,18.0s							
HHC	**Hu-ho-hao-te**	**56.15**	**331**	*e*P	**P**	**08 05 50.1**	**+1.1**
HHC				S	**S**	**08 13 40.6**	**+4.2**
HHC				pmax	pmax			
	comp=Z,50nm,1.1s							
HHC				pmax	pmax			
	comp=Z,210nm,6.3s							
HHC				LR	LR			
	comp=Z,410nm,17.4s							
HHC				LR	LR			
	comp=Z,1μm,16.2s							
HHC				LR	LR			
	comp=Z,560nm,16.9s							
KLR	**Kul'dur**	**57.01**	**350**‖	*e*P	**P**	**08 05 53.3**	**-1.4**
LZH	**Lanzhou**	**57.05**	**322**	*e*P	**P**	**08 05 56.5**	**+1.0**
LZH				pP	pP	08 06 00.5	-4.2
LZH				sP	sP	08 06 02.9	-5.4
LZH				*e*S	**S**	**08 13 49.8**	**+1.3**
LZH				sS	pS	08 13 58.1	-1.5
LZH				SS	**SS**	**08 17 37.0**	**-0.8**
LZH				pmax	pmax			
	comp=Z,28nm,1.0s							
LZH				pmax	pmax			
	comp=Z,160nm,4.4s							
LZH				LR	LR			
	comp=Z,510nm,15.6s							
LZH				LR	LR			
	comp=Z,680nm,16.0s							
LZH				LR	LR			
	comp=Z,720nm,16.2s							
PEA0	**Petropavlovsk-**	**61.01**	**9**	*e*P	**P**	**08 06 22.2**	**-0.2**
PETK	**Petropavlovsk-**	**61.01**	**9**	P	**P**	**08 06 22.4**	**-0.1**
	comp=Z,7.4nm,0.8s,baz=177,slow=6.3,SNR=5.3							
PETK				LR	LR	08 33 57.5		
	comp=Z,170nm,18.6s,baz=194,slow=37							
PEA1	**Petropavlovsk-**	**61.01**	**9**	*e*P	**P**	**08 06 22.4**	**-0.1**
PET	**Petropavlovsk**	**61.09**	**10**	*e*P	**P**	**08 06 20.1**	**-2.8**
PET				*e*S	**S**	**08 14 34.8**	**-5.1**
PET				*e*SS	**SS**	**08 18 40.2**	**-0.1**
PET				pmax	pmax			
	comp=Z,100nm,18.6s							
GTA	**Gaotai**	**61.62**	**322**	*e*P	**P**	**08 06 27.8**	**+0.8**
GTA				pP	pP	08 06 32.3	-4.0
GTA				sP	sP	08 06 35.4	-4.4
GTA				S	**S**	**08 14 54.3**	**+6.8**
GTA				sS	sS	08 15 02.8	0.0
GTA				SS	**SS**	**08 18 56.6**	**+7.2**
GTA				pmax	pmax			
	comp=Z,9.0nm,1.2s							
GTA				pmax	pmax			
	comp=Z,220nm,7.6s							
GTA				LR	LR			
	comp=Z,280nm,16.6s							
GTA				LR	LR			
	comp=Z,350nm,19.2s							
GTA				LR	LR			
	comp=Z,470nm,19.2s							
LSA	**Lhasa**	**62.45**	**309**	*e*P	**P**	**08 06 31.3**	**-1.9**
LSA				pmax	pmax			
	comp=Z,14nm,1.0s							
LSA	**Lhasa**	**62.45**	**309**	*e*P	**P**	**08 06 31.3**	**-1.9**
	comp=Z,14nm,1.0s							
KIP	**Kipapa**	**63.54**	**62**	*e*P	**P**	**08 06 40.7**	**+0.7**
KIP				pmax	pmax			
	comp=Z,256nm,1.9s							
KIP	**Kipapa**	**63.54**	**62**	*e*P	**P**	**08 06 40.7**	**+0.7**
	comp=Z,256nm,1.9s							
ULN	**Ulaanbaatar**	**63.58**	**333**	*ce*P	**P**	**08 06 39.8**	**-0.1**
ULN				pmax	pmax			
	comp=Z,32nm,2.5s							
ULN	**Ulaanbaatar**	**63.58**	**333**	*e*P	**P**	**08 06 38.5**	**-1.4**
	comp=Z,38nm,1.7s							
SONA0	**Songino Array**	**63.85**	**333**	*e*P	**P**	**08 06 41.7**	**-0.1**
	comp=Z,12nm,1.3s							
SONM	**Songino Array**	**63.85**	**333**	P	**P**	**08 06 41.7**	**-0.1**
	comp=Z,3.3nm,0.7s,baz=161,slow=6.1,SNR=11							
SONM				LR	LR	08 34 03.1		
	comp=Z,531nm,20.4s,baz=106,slow=36							
SONA1	**Songino Array**	**63.86**	**333**	*e*P	**P**	**08 06 40.5**	**-1.2**
TAPN	**Taplejung**	**64.19**	**305**	*e*P	**P**	**08 06 45.1**	**+0.5**
ODAN	**Odare**	**64.26**	**304**	*e*P	**P**	**08 06 45.2**	**+0.2**
RAMN	**Ramite**	**64.95**	**304**	*e*P	**P**	**08 06 49.9**	**+0.4**
	comp=Z,22nm,0.6s							
NPOC	**North of Pu'u**	**65.47**	**65**	*e*P	**P**	**08 06 53.0**	**+0.2**
	comp=Z,258nm,1.7s							
PPT2	**Papeete2**	**65.52**	**106**	*e*LR	LR	08 26 36.9		
	comp=Z,485nm,28.5s							
PPT	**Papeete**	**65.53**	**106**	LR	LR	08 32 09.5		
	comp=Z,148nm,20.1s,baz=280,slow=33							
JIRN	**Jiri**	**65.56**	**305**	*e*P	**P**	**08 06 54.2**	**+0.6**
TBI	**Tubuai**	**65.78**	**112**	*e*LQ	LQ	08 23 53.4		
	comp=Z,492nm,33.2s							
TBI				*e*LR	LR	08 26 40.3		
	comp=Z,301nm,31.2s							
GUN	**Gumba**	**65.91**	**305**	*e*P	**P**	**08 06 56.1**	**+0.3**
	comp=Z,96nm,1.0s							
PKI	**Pulchoki**	**66.16**	**304**	*e*P	**P**	**08 06 57.4**	**0.0**
PKIN	**Phulchoki**	**66.18**	**304**	*e*P	**P**	**08 06 57.4**	**0.0**
	comp=Z,14nm,0.8s							
KKN	**Kakani**	**66.35**	**304**	*e*P	**P**	**08 06 58.6**	**+0.1**
	comp=Z,56nm,1.0s							
DMN	**Daman**	**66.43**	**304**	*e*P	**P**	**08 06 59.4**	**+0.4**
	comp=Z,75nm,1.0s							
GKN	**Gorkha**	**66.96**	**304**	*e*P	**P**	**08 07 02.4**	**+0.1**
	comp=Z,42nm,0.9s							
ZAK	**Zakamensk**	**67.11**	**333**	*e*P	**P**	**08 07 02.7**	**0.0**
ZAK				pmax	pmax			
	comp=Z,18nm,1.2s							
KOLN	**Koldanda**	**67.73**	**304**	*e*P	**P**	**08 07 07.4**	**+0.2**
	comp=Z,36nm,0.8s							
TLY	**Talaya**	**67.88**	**334**	*e*P	**P**	**08 07 07.4**	**-0.1**
TLY				pmax	pmax			
	comp=Z,11nm,1.3s							
PYUN	**Piuthan**	**68.35**	**304**	*e*P	**P**	**08 07 11.0**	**-0.1**
	comp=Z,64nm,0.9s							
MIR	**Mirnyy**	**68.82**	**199**	*i*P	**P**	**08 07 14.5**	**+1.5**
MIR				pmax	pmax			
	comp=Z,6.0nm,1.1s							
BOD	**Bodaibo**	**69.02**	**343**	*e*P	**P**	**08 07 12.4**	**-2.0**
BOD				pmax	pmax			
	comp=Z,11nm,1.4s							
MOY	**Mondy**	**69.04**	**333**	*e*P	**P**	**08 07 15.7**	**+0.9**
MOY				pmax	pmax			
	comp=Z,57nm,3.1s							
SEY	**Seymchan**	**70.03**	**4**⇑	*e*P	**P**	**08 07 21.2**	**+0.7**
VNDA	**Vanda**	**71.11**	**176**	P	**P**	**08 07 27.0**	**0.0**
	comp=Z,5.2nm,1.1s,baz=322,slow=6.4,SNR=11							
VNDA				LR	LR	08 38 13.1		
	comp=Z,495nm,18.4s,baz=351,slow=36							
VNDA	**Vanda**	**71.11**	**176**	*e*P	**P**	**08 07 27.7**	**+0.7**
VNDA				pmax	pmax			
	comp=Z,11nm,1.4s							
VNDA	**Vanda**	**71.11**	**176**	*e*P	**P**	**08 07 27.7**	**+0.7**
	comp=Z,11nm,1.4s							
WMQ	**Urumqi**	**71.61**	**321**	P	**P**	**08 07 30.9**	**+0.3**
WMQ				pP	pP	08 07 35.3	-4.8
WMQ				sP	sP	08 07 39.6	-4.0
WMQ				pmax	pmax			
	comp=Z,20nm,0.7s							
WMQ				pmax	pmax			
	comp=Z,190nm,3.7s							
WMQ				LR	LR			
	comp=Z,190nm,21.7s							
WMQ				LR	LR			
	comp=Z,110nm,19.3s							
WMQ				LR	LR			
	comp=Z,190nm,19.3s							
SBA	**Scott Base**	**71.81**	**175**	*e*P	**P**	**08 07 32.1**	**+0.9**
SBA				pmax	pmax			
	comp=Z,21nm,1.5s							
SBA	**Scott Base**	**71.81**	**175**	*e*P	**P**	**08 07 32.1**	**+0.9**
	comp=Z,21nm,1.5s							
AKUT	**Akutan**	**74.02**	**28**	*e*P	**P**	**08 07 45.2**	**+0.6**
	comp=Z,419nm,1.9s							
MK01	**Makanchi Array**	**76.35**	**322**	*e*P	**P**	**08 07 58.2**	**0.0**
MK31	**Makanchi Array**	**76.36**	**322**	*e*P	**P**	**08 07 58.2**	**-0.1**
MK31	**Makanchi Array**	**76.36**	**322**	*e*P	**P**	**08 07 58.2**	**-0.1**
MKAR	**Makanchi Array**	**76.36**	**322**	*e*P	**P**	**08 07 58.2**	**-0.1**
MKAR				pmax	pmax			
	comp=Z,178nm,1.7s							
MKAR	**Makanchi Array**	**76.36**	**322**	*e*P	**P**	**08 07 58.2**	**-0.1**
	comp=Z,178nm,1.7s							
MAKZ	**Makanchi**	**76.56**	**321**	*e*P	**P**	**08 07 59.2**	**-0.3**
MAKZ				pmax	pmax			
	comp=Z,14nm,0.9s							
MAKZ	**Makanchi**	**76.56**	**321**	*e*P	**P**	**08 07 59.2**	**-0.3**
	comp=Z,14nm,0.9s							
SDPT	**Sand Point**	**77.22**	**29**	*e*P	**P**	**08 08 02.0**	**-0.9**
	comp=Z,221nm,1.7s							
KSH	**Kashi**	**77.81**	**313**	*e*P	**P**	**08 08 08.3**	**+1.5**
KSH				sP	pP	08 08 15.3	-1.0
KSH				PcP	**sP**	**08 08 18.3**	**-1.5**
KSH				PP	**PP**	**08 11 06.3**	**+3.6**
KSH				S	**S**	**08 17 58.8**	**+1.0**
KSH				SS	**SS**	**08 23 02.8**	**+4.0**
KSH				pmax	pmax			
	comp=Z,15nm,1.1s							
KSH				pmax	pmax			
	comp=Z,130nm,4.7s							
KSH				LR	LR			
	comp=Z,320nm,7.5s							
KSH				LR	LR			
	comp=Z,510nm,14.2s							
KSH				LR	LR			
	comp=Z,410nm,19.6s							
ZAA0	**Zalesovo Array**	**78.27**	**329**	*e*P	**P**	**08 08 08.0**	**-0.8**
ZALV	**Zalesovo Beam**	**78.27**	**329**	P	**P**	**08 08 07.5**	**-1.3**
	comp=Z,6.7nm,0.8s,baz=109,slow=5.3,SNR=16							
ZALV				LR	LR	08 42 22.4		
	comp=Z,575nm,20.9s,baz=72,slow=36							
ZAA1	**Zalesovo Array**	**78.27**	**329**	*e*P	**P**	**08 08 07.5**	**-1.3**
RKT	**Rikitea**	**79.10**	**112**	*e*LR	LR	08 32 53.6		
	comp=Z,244nm,30.5s							
TIXI	**Tiksi**	**79.12**	**355**⇑	*e*P	**P**	**08 08 14.2**	**+1.1**
TIXI				pmax	pmax			
	comp=Z,16nm,1.7s							
NVS	**Novosibirsk**	**79.51**	**329**	*e*P	**P**	**08 08 14.9**	**-0.7**
NVS				pmax	pmax			
	comp=N,11nm,1.1s							
NVS				pmax	pmax			
	comp=E,16nm,1.1s							
NVS				pmax	pmax			
	comp=Z,21nm,1.1s							
FRU	**Bishkek**	**79.88**	**316**	*e*P	**P**	**08 08 17.0**	**-1.0**
AAK	**Ala-Archa**	**79.90**	**315**‖	*e*P	**P**	**08 08 18.2**	**0.0**
AAK				pmax	pmax			
	comp=Z,15nm,0.8s							
AAK	**Ala-Archa**	**79.90**	**315**	*e*P	**P**	**08 08 18.4**	**+0.1**
	comp=Z,30nm,1.8s							
MAW	**Mawson**	**80.16**	**203**	P	**P**	**08 08 18.7**	**-0.2**
	comp=Z,5.4nm,0.9s,baz=74,slow=7.6,SNR=11							
MAW				LR	LR	08 42 18.2		
	comp=Z,253nm,18.2s,baz=62,slow=34							
MAW	**Mawson**	**80.16**	**203**	P	**P**	**08 08 19.5**	**+0.6**
	baz=80,SNR=6.8							
MAW	**Mawson**	**80.16**	**203**	*e*P	**P**	**08 08 19.5**	**+0.6**
MAW				pmax	pmax			
	comp=Z,2.0nm,1.1s							
MAW	**Mawson**	**80.16**	**203**	*e*P	**P**	**08 08 19.5**	**+0.6**
	comp=Z,2.3nm,1.1s							
KURK	**Kurchatov**	**80.22**	**324**⇓	*i*P	**P**	**08 08 19.1**	**-0.4**
KURK				pmax	pmax			
	comp=Z,64nm,1.2s							
KURK	**Kurchatov**	**80.22**	**324**	*e*P	**P**	**08 08 19.0**	**-0.4**
	comp=Z,37nm,1.6s							
OHAK	**Old Harbor**	**81.63**	**29**	*e*P	**P**	**08 08 26.8**	**-0.1**
	comp=Z,273nm,1.9s							
KDAK	**Kodiak Island**	**82.22**	**29**	*e*P	**P**	**08 08 29.7**	**-0.3**
KDAK				pmax	pmax			
	comp=Z,212nm,1.7s							
KDAK	**Kodiak Island**	**82.22**	**29**	*e*P	**P**	**08 08 29.6**	**-0.3**
	comp=Z,212nm,1.7s							
SVW2	**Sparrevohn**	**82.42**	**25**	*e*P	**P**	**08 08 31.4**	**+0.4**
	comp=Z,24nm,1.0s							
KKAR	**Karatay Array**	**82.83**	**315**	*e*P	**P**	**08 08 33.1**	**-0.5**
KKAR				pmax	pmax			
	comp=Z,36nm,0.9s							
KKAR	**Karatay Array**	**82.83**	**315**	*e*P	**P**	**08 08 33.1**	**-0.5**
	comp=Z,36nm,0.9s							
QSPA	**South Pole Qui**	**82.97**	**180**	*e*P	**P**	**08 08 34.0**	**0.0**
TT01	**Tatalina**	**83.14**	**24**	*e*P	**P**	**08 08 34.5**	**-0.3**
TTA	**Tatalina**	**83.16**	**24**	*e*P	**P**	**08 08 33.6**	**-1.3**
TTA				pmax	pmax			
	comp=Z,46nm,1.8s							
TTA	**Tatalina**	**83.16**	**24**	*e*P	**P**	**08 08 33.6**	**-1.3**
	comp=Z,46nm,1.8s							
CNPM	**China Poot**	**83.62**	**28**	*e*P	**P**	**08 08 36.9**	**-0.4**
	comp=Z,142nm,1.6s							
SUA	**Susitna One**	**84.67**	**26**	*e*P	**P**	**08 08 41.7**	**-1.0**
	comp=Z,87nm,1.7s							
PPLA	**Purkeypile**	**84.69**	**24**	*e*P	**P**	**08 08 41.5**	**-1.3**
	comp=Z,34nm,1.4s							
RC01	**Rabbit Creek A**	**84.95**	**27**	*e*P	**P**	**08 08 42.9**	**-1.1**
	comp=Z,69nm,1.5s							
CAST	**Castle Rocks**	**84.96**	**24**	*e*P	**P**	**08 08 43.3**	**-0.7**
	comp=Z,14nm,1.0s							
NRIK	**Noril'sk**	**85.31**	**343**	P	**P**	**08 08 45.1**	**-0.5**
	comp=Z,26nm,0.9s,baz=121,slow=4.5,SNR=28							
NRIK				LR	LR	08 45 45.3		
	comp=Z,562nm,20.3s,baz=106,slow=35							
PMR	**Palmer**	**85.43**	**26**	*e*P	**P**	**08 08 45.2**	**-1.1**
PMR				pmax	pmax			
	comp=Z,59nm,1.7s							
PMR	**Palmer**	**85.43**	**26**	*e*P	**P**	**08 08 45.1**	**-1.1**
	comp=Z,59nm,1.7s							
KTH	**Kantishna Hill**	**85.49**	**24**	*e*P	**P**	**08 08 45.3**	**-1.4**
	comp=Z,11nm,0.6s							
TRF	**Thorofare Moun**	**85.70**	**24**	*e*P	**P**	**08 08 46.5**	**-1.4**
	comp=Z,9.5nm,0.8s							
SML	**Sawmill**	**85.86**	**26**	*e*P	**P**	**08 08 48.2**	**-0.4**
SML				pmax	pmax			
	comp=Z,44nm,1.2s							
SML	**Sawmill**	**85.86**	**26**	*e*P	**P**	**08 08 48.2**	**-0.4**
	comp=Z,44nm,1.2s							
BRVK	**Borovoye**	**85.88**	**324**	*d i*P	**P**	**08 08 49.3**	**+0.6**
BRVK				pmax	pmax			
	comp=Z,38nm,1.0s							
BRVK	**Borovoye**	**85.88**	**324**	*e*P	**P**	**08 08 48.3**	**-0.5**
	comp=Z,52nm,1.7s							
RND	**Reindeer**	**86.27**	**25**	*e*P	**P**	**08 08 49.2**	**-1.4**
RND				pmax	pmax			
	comp=Z,28nm,0.8s							
RND	**Reindeer**	**86.27**	**25**	*e*P	**P**	**08 08 49.2**	**-1.4**
	comp=Z,28nm,0.8s							
FID	**Port Fidalgo**	**86.29**	**27**	*e*P	**P**	**08 08 50.0**	**-0.7**
	comp=Z,29nm,0.6s							
SCM	**Sheep Creek Mo**	**86.31**	**26**	*e*P	**P**	**08 08 50.0**	**-0.8**
SCM				pmax

	comp=Z,36nm,1.5s							
COLA	**College**	**87.25**	**23**	*e*P		**P**	**08 08 54.5**	**-0.7**
	comp=Z,36nm,1.5s							
COLD	**Coldfoot**	**87.33**	**21**	*e*P		**P**	**08 08 55.7**	**+0.2**
	comp=Z,7.4nm,1.0s							
PAX	**Paxson**	**87.53**	**26**	*e*P		**P**	**08 08 55.9**	**-0.9**
PAX				pmax		pmax		
	comp=Z,28nm,1.7s							
PAX	**Paxson**	**87.53**	**26**	*e*P		**P**	**08 08 55.9**	**-0.9**
	comp=Z,28nm,1.7s							
IL1	**Eielson Array**	**87.60**	**24**	*e*P		**P**	**08 08 55.2**	**-1.7**
ILAR	**Eielson Array**	**87.60**	**24**	P		**P**	**08 08 54.8**	**-2.1**
	comp=Z,6.8nm,0.9s,baz=253,slow=4.9,SNR=40							
ILAR				LR		LR	08 45 06.2	
	comp=Z,143nm,19.6s,baz=262,slow=34							
ILB	**Eielson Array**	**87.60**	**24**	*e*P		**P**	**08 08 55.0**	**-1.9**
CRQM	**Cirque**	**87.84**	**28**	*e*P		**P**	**08 08 58.2**	**-0.2**
	comp=Z,24nm,0.9s							
MENT	**Mentasta**	**88.27**	**26**	*e*P		**P**	**08 08 59.9**	**-0.3**
	comp=Z,8.8nm,0.7s							
DOT	**Dot Lake**	**88.36**	**25**	*e*P		**P**	**08 09 00.1**	**-0.5**
	comp=Z,34nm,1.0s							
SYO	**Syowa Base**	**88.61**	**200**‖	*e*P		**P**	**08 09 00.2**	**-1.5**
SYO	**Syowa Base**	**88.61**	**200**‖	*e*X		P	08 09 09.0	+7.3
FYU	**Fort Yukon**	**88.89**	**22**	*e*P		**P**	**08 09 03.4**	**+0.4**
	comp=Z,50nm,1.4s							
PCA	**Pinnacle**	**89.01**	**29**	*e*P		**P**	**08 09 02.9**	**-0.9**
	comp=Z,28nm,0.9s							
EGAK	**Eagle**	**89.92**	**24**	*e*P		**P**	**08 09 07.4**	**-0.5**
	comp=Z,48nm,1.9s							
DAWY	**Dawson**	**90.46**	**25**	*e*P		**P**	**08 09 10.2**	**-0.2**
	comp=Z,11nm,1.1s							
HYT	**Haines Junctio**	**90.52**	**29**	*e*P		**P**	**08 09 11.2**	**+0.3**
	comp=Z,11nm,1.2s							
GEYT	**Alibeck**	**90.98**	**308**	LR		LR	08 52 39.2	
	comp=Z,382nm,21.3s,baz=55,slow=37							
ABKAR	**Akbulak array**	**91.35**	**319**	*e*P		**P**	**08 09 13.7**	**-1.2**
	comp=Z,28nm,0.7s							
ARU	**Arti**	**93.23**	**326***c*	*i*P		**P**	**08 09 21.9**	**-1.5**
ARU							08 13 04.8	
ARU				S		**SKSac**	**08 19 55.0**	**-0.4**
ARU				SS		**SS**	**08 26 39.5**	**-4.9**
ARU				pmax		pmax		
	comp=Z,9.0nm,1.0s							
ARU				MLR		MLR		
	comp=Z,360nm,21.0s							
ARU	**Arti**	**93.23**	**326**	*e*P		**P**	**08 09 21.3**	**-2.1**
	comp=Z,9.9nm,1.1s							
NLWA	**Neilton Lookou**	**96.58**	**43**	*e*P		**P**	**08 09 38.9**	**-0.1**
	comp=Z,12nm,1.3s							
SNAA	**Sanae**	**98.50**	**190**‖	*e*P		Pdif	08 09 47.9	+0.6
E09A	**Wood Farm, Sta**	**100.48**	**44**	*e*Pdif		**Pdif**	**08 09 57.0**	**+0.6**
BMO	**Blue Mountains**	**101.10**	**46**	*e*P		**Pdif**	**08 09 59.5**	**+0.1**
BMO	**Blue Mountains**	**101.10**	**46**	*e*Pdif		**Pdif**	**08 09 59.5**	**+0.1**
GNI	**Garni**	**101.51**	**309**‖	*e*P		**Pdif**	**08 10 01.3**	**-0.1**
GNI				pmax		pmax		
	comp=Z,13nm,0.6s							
KIV	**Kislovodsk**	**102.93**	**313**	*e*P		**Pdif**	**08 10 06.2**	**-1.3**
KIV				pmax		pmax		
	comp=Z,4.0nm,0.9s							
AKASG	**Malin Array Be**	**110.95**	**322**	*i* PKIKP		**PKiKP**	**08 14 41.0**	**-1.2**
LTX	**Lajitas**	**112.90**	**61**	*e*PKIKP		**PKiKP**	**08 14 46.3**	**-0.5**
LTX	**Lajitas**	**112.90**	**61**	*e*PKiKP		**PKiKP**	**08 14 46.3**	**-0.5**
LTX				*e*PKKPbc		**PKKPab**	**08 25 39.9**	**-1.9**
TXAR	**Lajitas Array**	**112.90**	**61**	PKiKP		**PKiKP**	**08 14 46.3**	**-0.5**
	comp=Z,0.6nm,1.1s,baz=242,slow=1.9,SNR=3.5							
TXAR				PKKPbc		**PKKPab**	**08 25 39.9**	**-1.9**
	comp=Z,0.8nm,0.9s,baz=112,slow=5.6,SNR=8.1							
ECSD	**EROS Data Cent**	**115.92**	**45**	*e*PKPdf		**PKPdf**	**08 14 50.5**	**-1.6**
HOPE	**Hope Point**	**118.94**	**180**	*e*PKPdf		**PKPdf**	**08 14 57.1**	**-0.4**
BRG	**Berggiesshubel**	**119.87**	**326**	*e*(P)		**PKPdf**	**08 14 59.8**	**+0.4**
	comp=Z,4.5nm,0.7s							
BRG	**Berggiesshubel**	**119.87**	**326**	*e*PKIKP		**PKPdf**	**08 14 59.8**	**+0.4**
BRG				pmax		pmax		
	comp=Z,5.0nm,0.7s							
PRU	**Pruhonice**	**119.95**	**325**	AMS		AMS	09 08 30.0	
	comp=Z,700nm,22.3s							
CLL	**Collm**	**120.17**	**327**	*e*PKIKP		**PKPdf**	**08 15 04.0**	**+4.1**
CLL				MLR		MLR		
	comp=Z,500nm,19.3s							
CLL	**Collm**	**120.17**	**327**	*e*(PKPdf)		**PKPdf**	**08 15 04.0**	**+4.1**
CLL				Lm		MLR	09 10 00.0	
	comp=N,200nm,20.3s							
CLL				Lm		MLR	09 10 00.0	
	comp=E,300nm,19.8s							
CLL				Lm		MLR	09 10 00.0	
	comp=Z,500nm,19.3s							
MIAR	**Mount Ida**	**120.55**	**54**	*e*PKIKP		**PKPdf**	**08 15 00.3**	**-0.9**
MIAR	**Mount Ida**	**120.55**	**54**	*e*PKPdf		**PKPdf**	**08 15 00.3**	**-0.9**
GERES	**GERESS Array B**	**120.97**	**324**	PKP		**PKPdf**	**08 15 00.4**	**-1.3**
	comp=Z,0.6nm,0.2s,baz=45,slow=2.1,SNR=5.8							
PLCA	**Paso Flores**	**122.88**	**149**	PKP		**PKPdf**	**08 15 05.8**	**+0.1**
	comp=Z,2.5nm,0.9s,baz=297,slow=7.6,SNR=4.1							
BFO	**Black Forest**	**124.31**	**326**	*e*PKIKP		**PKPdf**	**08 15 07.4**	**-0.6**
BFO	**Black Forest**	**124.31**	**326**	*e*PKPdf		**PKPdf**	**08 15 07.4**	**-0.6**
BLO	**Bloomington**	**124.56**	**47**	*e*PKIKP		**PKPdf**	**08 15 08.2**	**-0.5**
BLO	**Bloomington**	**124.56**	**47**	*e*PKPdf		**PKPdf**	**08 15 08.2**	**-0.5**
PB10	**IPOC Station P**	**134.66**	**133**	*e*PKPdf		**PKPdf**	**08 15 27.7**	**-0.8**
PB11	**IPOC Station P**	**137.56**	**129**	*e*PKPdf		**PKPdf**	**08 15 35.2**	**+1.1**
LPAZ	**La Paz**	**140.71**	**126**	PKP		**PKPdf**	**08 15 40.5**	**0.0**
	comp=Z,3.8nm,1.1s,baz=11,slow=10,SNR=5.9							
LPAZ	**La Paz**	**140.71**	**126**	*e*PKIKP		**PKPdf**	**08 15 38.3**	**-2.2**
LPAZ	**La Paz**	**140.71**	**126**	*e*PKPdf		**PKPdf**	**08 15 38.2**	**-2.2**
CPUP	**Villa Florida**	**140.96**	**149**	PKP		**PKPdf**	**08 15 39.5**	**-0.4**
	comp=Z,5.4nm,1.1s,baz=215,slow=3.3,SNR=4.8							
CPUP	**Villa Florida**	**140.96**	**149**	*e*PKIKP		**PKPdf**	**08 15 39.4**	**-0.5**
CPUP	**Villa Florida**	**140.96**	**149**	*e*PKPdf		**PKPdf**	**08 15 39.4**	**-0.5**
TORD	**Torodi Ar. Bea**	**142.37**	**282**	PKhKP		PKPpre	08 15 38.1	
	comp=Z,1.9nm,1.0s,baz=64,slow=2.6,SNR=6.7							
TOA1	**Torodi Ar. Sit**	**142.37**	**282**	*e*PKPpre		PKPpre	08 15 38.1	
RUSC	**La Rusia**	**143.19**	**90**	*e*PKPpre		PKPpre	08 15 40.9	
SDV	**Santo Domingo**	**145.71**	**85**	*e*PKPdf		**PKPdf**	**08 15 47.8**	**-1.1**
SIV	**San Ignacio**	**146.30**	**133**	PKPbc		**PKPdf**	**08 15 48.9**	**-0.7**
	comp=Z,9.4nm,0.9s,baz=227,slow=5.4,SNR=13							
ROSA	**Rosais**	**147.64**	**349**	*e*PKPbc		**PKPbc**	**08 15 52.6**	**-1.3**
CMLA	**Cha da Macela**	**147.92**	**344**	*e*PKP2		**PKPdf**	**08 15 52.9**	**+1.2**
CMLA	**Cha da Macela**	**147.92**	**344**	*e*PKPbc		**PKPdf**	**08 15 52.9**	**+1.2**
SAML	**Samuel**	**148.66**	**120**	*e*PKPdf		**PKPdf**	**08 15 54.9**	**+1.3**
KIC	**Kosan Boka**	**148.90**	**271**	*e*P		**PKPbc**	**08 15 58.4**	**+0.5**
	comp=Z,38nm,1.0s							
DBIC	**Dimbokro**	**149.03**	**271**	PKP		**PKPdf**	**08 15 53.5**	**-0.6**
	comp=Z,2.7nm,0.9s,baz=315,slow=4.3,SNR=1.9							
DBIC				PKPbc		**PKiKP**	**08 15 59.0**	**-0.5**
	comp=Z,8.0nm,0.9s,baz=128,slow=4.6,SNR=4.7							
DBIC	**Dimbokro**	**149.03**	**271**	*e*PKIKP		**PKPdf**	**08 15 53.6**	**-0.6**
DBIC				*e*			08 15 59.7	
DBIC	**Dimbokro**	**149.03**	**271**	*e*PKPdf		**PKPdf**	**08 15 53.5**	**-0.6**
DBIC				*e*PKPbc		**PKiKP**	**08 15 59.6**	**+0.1**
LIC	**Lamto**	**149.18**	**270**	*e*P		**PKPbc**	**08 15 59.0**	**+0.4**
	comp=Z,63nm,1.2s							
TIC	**Toumodi**	**149.19**	**271**	*e*P		**PKPdf**	**08 15 56.2**	**+1.8**
ABVI	**Anegada Island**	**150.12**	**64**	*e*PKPbc		**PKPbc**	**08 15 58.3**	**-2.4**

*CSEM **13** 08:12:00.7, 39˚.37N×40˚.40E, h20km, MD2.5*

ISK 13 08:12:00.7, 39˚.37N×40˚.40E, h20km, MD2.5, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YEDI	**Yedisu-Bingol**	**0.13**	**58**	*e*PG	Pb	08 12 05.2	0.0
YEDI				*e*SG	Sb	08 12 08.4	+0.2
YEDI	**Yedisu-Bingol**	**0.13**	**58**	*e*Pg	Pb	08 12 05.2	0.0
YEDI				*e*Sg	Sb	08 12 08.4	+0.2
BNGB	**Bing˚‖**	**0.43**	**150**	*e*PG	Pb	08 12 10.0	+0.2
BNGB				*e*SG	Sb	08 12 16.8	+1.0
BINT	**Bingol**	**0.50**	**172**	*e*Pg	Pb	08 12 10.0	-0.8
BINT				*e*Sg	Sb	08 12 16.8	-0.9
ERZN	**Erzincan**	**0.57**	**293**	*e*PG	Pb	08 12 12.5	+0.3
ERZN				*e*SG	Sb	08 12 21.1	+1.2
EZC	**Erzincan**	**0.90**	**296**	*e*Pg	Pb	08 12 12.5	-5.2
EZC				*e*Sg	Sb	08 12 21.1	-8.2
PTK	**Pertek**	**0.92**	**239**	*e*PG	Pn	08 12 19.1	+0.4
PTK				*e*SG	Sn	08 12 32.2	+0.8
PTK	**Pertek**	**0.92**	**239**	*e*Pg	Pn	08 12 19.1	+0.4
PTK				*e*Sg	Sn	08 12 32.2	+0.8

*CSEM **13** 08:12:51.9±0.3, 39˚.44N×35˚.31E, h2km, MD2.6, Error ellipse: s-maj=8.3km s-min=5.0km az=19.0*
*ISK **13** 08:12:51.0, 39˚.44N×35˚.35E, h5km, MD2.6*
*ISCJB **13** 08:12:52.2±0.9, 39˚.45N±0˚.05×35˚.31E±0˚.04, h4km±7km, Error ellipse: s-maj=8.4km s-min=4.9km az=10.3*
*DDA **13** 08:12:52.1, 39˚.44N×35˚.28E, h7km, Md2.6*

ISC 13 08:12:52.4±1.4, 39˚.46N±0˚.05×35˚.31E±0˚.03, h5km±12km, n15, σ0°.79/27, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CUSAR	**Sarkisla-SIVAS**	**0.73**	**93**	*i* P	**Pg**	**08 13 05.9**	**-0.4**
CUSAR				*i* S	**Sb**	**08 13 18.4**	**+0.4**
CUSAR	**Sarkisla-SIVAS**	**0.73**	**93**	P	**Pg**	**08 13 05.9**	**-0.4**
CUSAR				S	**Sb**	**08 13 18.4**	**+0.4**
CDAG	**Cicekdag**	**0.74**	**283**	*i* P	**Pg**	**08 13 05.9**	**-0.7**
CDAG				*i* S	**Sb**	**08 13 17.2**	**-1.1**
CDAG	**Cicekdag**	**0.74**	**283**	P	**Pg**	**08 13 05.9**	**-0.7**
CDAG				S	**Sb**	**08 13 17.2**	**-1.1**
COAL	**Corum-Alaca**	**0.83**	**343**	*i* P	**Pg**	**08 13 07.1**	**-1.2**
COAL				*i* S	**Sb**	**08 13 20.6**	**-0.3**
COAL	**Corum-Alaca**	**0.83**	**343**	P	**Pg**	**08 13 07.1**	**-1.2**
COAL				S	**Sb**	**08 13 20.6**	**-0.3**
CORM	**Corum**	**0.89**	**324**	*e*PG	**Pg**	**08 13 09.7**	**+0.3**
CORM				*e*SG	**Sb**	**08 13 23.5**	**+0.9**
CORM	**Corum**	**0.89**	**324**	*e*Pg	**Pg**	**08 13 09.7**	**+0.3**
CORM				*e*Sg	**Sb**	**08 13 23.5**	**+0.9**
CTAK	**Corum_Osmancik**	**1.25**	**342**	*i* P	**Pg**	**08 13 16.1**	**-0.2**
CTAK	**Corum_Osmancik**	**1.25**	**342**	P	**Pg**	**08 13 16.1**	**-0.2**
SARI	**SarD1z-Kayseri**	**1.36**	**140**	*e*PN	**Pn**	**08 13 17.4**	**-0.8**
SVSK	**Karacayir**	**1.38**	**70**	*e*PN	**Pn**	**08 13 17.9**	**-0.4**
SVSK				*e*SN	**Sn**	**08 13 37.5**	**+0.5**
SVSK	**Karacayir**	**1.38**	**70**	*e*Pn	**Pn**	**08 13 17.9**	**-0.4**
SVSK				*e*Sn	**Sn**	**08 13 37.5**	**+0.5**
SERE	**Sereflikochisa**	**1.45**	**250**	*e*PN	**Pn**	**08 13 19.3**	**-0.1**
SERE				*e*SN	**Sg**	**08 13 40.2**	**+1.3**
SERE	**Sereflikochisa**	**1.45**	**250**	*e*Pn	**Pn**	**08 13 19.3**	**-0.1**
SERE				*e*Sn	**Sg**	**08 13 40.2**	**+1.3**

*IDC **13** 08:27:33.8±0.7, 6˚.86S×144˚.00E, h0km, mb4.6/14, mb1 4.7/17, mb1mx4.6/24, mbtmp4.6/17, ML3.0/3, MS4.2/21, Ms1 4.2/21, ms1mx4.1/32, Error ellipse: s-maj=26.3km s-min=12.9km az=87.0*
*BJI **13** 08:27:34.1, 6˚.63S×144˚.20E, h6km, mb4.8/48, mB5.1/33, Ms4.8/31, Ms7 4.5/32*
*NEIC **13** 08:27:36.0±1.9, 6˚.90S×143˚.85E, h11km±12km, mb5.2/62, Error ellipse: s-maj=5.0km s-min=4.2km az=95.0*
NEIC Felt at Kerema.
*GCMT **13** 08:27:36.0±0.3, 7˚.13S×143˚.79E, h12km±1km, MW5.0/77, Moment Tensor Solution. s24,c24; s77,c95; Duration: 0 Moment tensor: Scale 10^16 Nm; Mr=1.91±.15; Mθθ=-1.68±.10; Mϕϕ=0.22±.10; Mrθ=2.46±.38; Mθϕ=0.24±.07; Mϕr=-1.32±.38; Best double couple: M=3.32300×10^16 NP1:ϕs=15.00000°, δ=74.00000°, λ=97.00000°. NP2: ϕs=270.00000°, δ=18.00000°, λ=66.00000°. Principal axes: T 3.4760, Plg61.0000°, Azm35.0000°; N -0.3010, Plg7.0000°, Azm293.0000°; P -3.1710, Plg28.0000°, Azm199.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*ISCJB **13** 08:27:37.0±0.2, 6˚.95S±0˚.02×143˚.93E±0˚.03, h30km, mb5.0/87, MS4.2/23 Error ellipse: s-maj=4.5km s-min=3.4km az=3.0*
*MOS **13** 08:27:37.3±1.1, 6˚.89S×143˚.89E, h33km, mb5.2/20, Error ellipse: s-maj=11.4km s-min=6.6km az=103.8*
*DJA **13** 08:27:40.9±0.4, 7˚.5S±5˚×14˚.4E±˚, h42km±6km, M5.0/11, mb4.8/11, mB5.4/6, MLv5.3/4, Mw(mB)4.8/6*

ISC 13 08:27:39.1±0.3, 6˚.98S±0˚.04×143˚.94E±0˚.05, h30km, n218, σ1°71/225, mb5.0/87, MS4.2/23, 3C-7D, New Guinea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.99**	**127**	Pn	**Pn**	**08 28 38.0**	**-0.3**
	22nm,0.3s,baz=342,slow=4.8,SNR=40						
PMG				Sn	**Sn**	**08 29 21.9**	**-2.2**
	12nm,0.3s,baz=249,slow=23,SNR=14						
PMG				LR	LR	08 30 19.6	
	comp=Z,2μm,19.4s,baz=298,slow=41						
JAY	**Jayapura**	**5.48**	**324**	Pn	**Pn**	**08 28 57.4**	**-1.5**
	0.2nm,0.3s,baz=99,slow=22,SNR=6.1						
JAY				Lg	Lg	08 30 23.4	
	0.2nm,0.3s,baz=87,slow=23,SNR=6.2						
JAY				LR	LR	08 31 23.2	
	comp=Z,71nm,20.8s,baz=152,slow=42						
JAY	**Jayapura**	**5.48**	**324**	P	**Pn**	**08 29 00.3**	**+1.4**
GENI	**Genyem**	**5.76**	**319**	P	Pn	08 29 08.5	+5.9
MANU	**Manus Island**	**5.97**	**35**	*e*Pn	**Pn**	**08 29 04.8**	**-0.7**
COEN	**Coen**	**6.98**	**186**	P	**Pn**	**08 29 19.1**	**-0.2**
	baz=7.0,SNR=16						
COEN	**Coen**	**6.98**	**186**	*e*Pn	**Pn**	**08 29 19.8**	**+0.5**
SMPI	**Sarmi**	**7.20**	**313**	P	Pn	08 29 27.5	+5.2
	74nm,1.6s,1.2nm						
RABL	**Rabaul**	**8.64**	**72**	*e*Pn	**Pn**	**08 29 42.1**	**0.0**
FAKI	**Fak Fak**	**12.33**	**289**	*e*Pn	**Pn**	**08 30 31.0**	**-1.7**
SAUI	**Saumlaki**	**12.58**	**265**	*e*Pn	**Pn**	**08 30 34.3**	**-1.8**
KDU	**Kakadu**	**12.64**	**242**	P	**Pn**	**08 30 33.1**	**-3.9**
	baz=12,SNR=7.7						
CTA	**Charters Tower**	**13.22**	**170**	Pn	**Pn**	**08 30 45.2**	**+0.2**
	0.4nm,0.3s,baz=18,slow=16,SNR=3.0						
CTA				Lg	Lg	08 34 52.5	
	0.5nm,0.3s,baz=81,slow=23,SNR=3.8						
CTA				LR	LR	08 36 07.1	
	comp=Z,2μm,18.4s,baz=6.5,slow=38						
CTA	**Charters Tower**	**13.22**	**170**	P	**Pn**	**08 30 46.2**	**+1.2**
	baz=13						
MTN	**Manton Dam**	**13.90**	**244**	P	**Pn**	**08 30 50.8**	**-3.4**
	baz=14,SNR=7.5						
MTN	**Manton Dam**	**13.90**	**244**	*e*Pn	**Pn**	**08 30 50.8**	**-3.4**
QIS	**Mount Isa**	**14.14**	**197**	P	**Pn**	**08 30 55.8**	**-1.6**
	baz=14,SNR=5.8						
WRAB	**Tennant Creek**	**15.89**	**215**	*e*P	**Pn**	**08 31 18.6**	**-2.2**
WRAB				pmax	pmax		
	comp=Z,34nm,0.9s						
WRAB	**Tennant Creek**	**15.89**	**215**	*e*Pn	**Pn**	**08 31 18.6**	**-2.2**
	comp=Z,34nm,0.9s						
WB2	**Warramunga Arr**	**15.90**	**215**	*e*Pn	**Pn**	**08 31 18.1**	**-2.7**
	comp=Z,33nm,0.9s						
WR1	**Warramunga Arr**	**15.90**	**215**	*e*Pn	**Pn**	**08 31 17.5**	**-3.4**
	comp=Z,64nm,1.3s						
WR1				*e*Sn	**Sn**	**08 34 17.2**	**+0.7**
WR1				*e*		08 36 01.5	
WRA	**Warramunga Arr**	**15.90**	**215**	Pn	**Pn**	**08 31 17.5**	**-3.4**
	comp=Z,0.4nm,0.3s,baz=34,slow=12,SNR=22						
WRA				Sn	**Sn**	**08 34 17.2**	**+0.7**
	comp=Z,0.5nm,0.3s,baz=34,slow=24,SNR=4.3						
WRA				Lg	Lg	08 36 01.5	
	comp=Z,1.1nm,0.3s,baz=25,slow=26,SNR=5.8						
WRA				LR	LR	08 37 48.1	
	comp=Z,2μm,21.6s,baz=35,slow=38						
WRA	**Warramunga Arr**	**15.90**	**215**	*i* P	**Pn**	**08 31 18.2**	**-2.7**
WRA				pmax	pmax		
	comp=Z,6.0nm,0.7s						
HNR	**Honiara**	**16.02**	**100**	*e*P	**Pn**	**08 31 23.3**	**+0.8**
HNR				pmax	pmax		
	comp=Z,595nm,1.3s						
HNR	**Honiara**	**16.02**	**100**	*e*Pn	**Pn**	**08 31 23.3**	**+0.8**
	comp=Z,595nm,1.3s						
KNRA	**Kununurra**	**17.20**	**239**	P	**Pn**	**08 31 34.0**	**-3.3**
	baz=17,SNR=8.6						
AS01	**Alice Springs**	**19.17**	**209**	*e*P	**Pn**	**08 32 01.1**	**-0.4**
AS31	**Alice Springs**	**19.19**	**209**	*e*P	**P**	**08 32 00.8**	**+0.2**
	comp=Z,17nm,0.7s						
ASAR	**Alice Springs**	**19.19**	**209**	P	**P**	**08 32 00.7**	**0.0**
	comp=Z,2.4nm,0.3s,baz=38,slow=9.4,SNR=198						
ASAR				Lg	Lg	08 37 46.7	
	comp=Z,0.4nm,0.3s,baz=17,slow=29,SNR=4.5						
ASAR				LR	LR	08 39 59.5	
	comp=Z,2μm,21.0s,baz=38,slow=39						
QLP	**Quilpie**	**19.50**	**179**	P	**Pn**	**08 32 04.8**	**-0.5**
	baz=20,SNR=28						
EIDS	**Eidsvold**	**19.52**	**160**	P	**Pn**	**08 32 05.8**	**+0.3**
	baz=20,SNR=5.5						
EIDS	**Eidsvold**	**19.52**	**160**	*e*P	**Pn**	**08 32 06.9**	**+1.4**
	comp=Z,31nm,1.0s						
SOEI	**Soe**	**19.66**	**261**	P	**Pn**	**08 32 12.4**	**+4.9**
PATS	**Pohnpei**	**19.84**	**47**	*e*P	**P**	**08 32 07.8**	**+0.1**
	comp=Z,89nm,1.1s						
RMQ	**Roma**	**19.93**	**167**	P	**P**	**08 32 09.3**	**+0.6**
	baz=20,SNR=9.7						
GUMO	**Guam**	**20.45**	**3**	P	**P**	**08 32 11.3**	**-3.1**
	comp=Z,72nm,0.9s,baz=226,slow=10,SNR=4.6						
GUMO				LR	LR	08 39 23.6	
	comp=Z,441nm,20.4s,baz=184,slow=35						
FITZ	**Fitzroy Crossi**	**20.99**	**237**	P	**P**	**08 32 18.7**	**-1.5**
	comp=Z,33nm,0.9s,baz=43,slow=8.6,SNR=24						
FITZ				Lg	Lg	08 38 46.4	
	comp=Z,86nm,1.0s,baz=124,slow=22,SNR=3.6						
FITZ				LR	LR	08 41 02.7	
	comp=Z,1μm,19.4s,baz=59,slow=38						
FITZ	**Fitzroy Crossi**	**20.99**	**237**	P	**P**	**08 32 20.3**	**+0.1**
	baz=21,SNR=14						
FITZ	**Fitzroy Crossi**	**20.99**	**237**	*e*P	**P**	**08 32 19.7**	**-0.5**
	comp=Z,42nm,0.9s						
FITZ				*e*		08 38 46.4	
MMRI	**Maumere**	**21.57**	**264**	P	P	08 32 36.9	+10
GTOI	**Gorontalo**	**22.21**	**289**	P	**P**	**08 32 33.9**	**+0.5**
	comp=Z,72nm,1.1s,comp=Z,842nm						
WRKA	**Warakurna**	**23.38**	**218**	P	**P**	**08 32 44.2**	**-1.3**
	baz=23,SNR=96						
KAPI	**Kappang**	**24.14**	**273**	*e*P	**P**	**08 32 52.6**	**-0.1**
	comp=Z,56nm,1.1s						
SPSI	**Sidrap Palu**	**24.25**	**276**	P	**P**	**08 32 54.1**	**+0.3**
	comp=Z,31nm,1.4s,comp=Z,2μm						
TTSI	**Tana Toraja**	**24.34**	**278**	P	**P**	**08 32 55.8**	**+1.2**
	comp=Z,48nm,1.5s,comp=Z,2μm						
ARMA	**Armidale**	**24.41**	**164**	P	**P**	**08 32 57.3**	**+2.1**
	baz=24,SNR=4.9						
ARMA	**Armidale**	**24.41**	**164**	*e*P	**P**	**08 32 55.5**	**+0.4**
	comp=Z,42nm,1.3s						
CMSA	**Cobar Meteorol**	**24.49**	**176**	P	**P**	**08 32 55.6**	**-0.2**
	baz=25,SNR=8.6						
PCI	**Palu**	**24.79**	**283**	P	P	08 33 09.9	+11
STKA	**Stephens Creek**	**24.87**	**185**	P	**P**	**08 32 59.3**	**+0.1**
	comp=Z,5.6nm,0.7s,baz=354,slow=9.9,SNR=12						
STKA				LR	LR	08 43 21.5	
	comp=Z,1μm,20.4s,baz=0.2,slow=38						
STKA	**Stephens Creek**	**24.87**	**185**	P	**P**	**08 33 00.9**	**+1.7**
	baz=25,SNR=6.7						
STKA	**Stephens Creek**	**24.87**	**185**	*e*P	**P**	**08 33 00.0**	**+0.8**
STKA	**Stephens Creek**	**24.87**	**185**	*e*P	**P**	**08 33 00.0**	**+0.8**
	comp=Z,2.8nm,0.8s						
DZM	**Mont Dzumac**	**26.39**	**127**	*e*P	**P**	**08 33 14.8**	**+1.6**
	comp=Z,34nm,1.3s						
BBOO	**Buckleboo**	**26.73**	**195**	P	**P**	**08 33 16.3**	**+0.2**
	baz=27						
BBOO	**Buckleboo**	**26.73**	**195**	*e*P	**P**	**08 33 16.5**	**+0.4**
	comp=Z,28nm,0.9s						
HTT	**Hallett**	**26.73**	**189**	P	**P**	**08 33 15.9**	**-0.2**
	baz=27,SNR=5.6						
MGCD	**Mangrove Creek**	**26.94**	**167**	P	**P**	**08 33 18.3**	**+0.4**
	baz=27						
CAN	**Canberra**	**28.59**	**171**	P	**P**	**08 33 33.5**	**+0.8**
	baz=29						
CAN	**Canberra**	**28.59**	**171**	*e*P	**P**	**08 33 33.7**	**+1.0**
CAN				pmax	pmax		
	comp=Z,50nm,1.5s						
CAN	**Canberra**	**28.59**	**171**	*e*P	**P**	**08 33 33.7**	**+1.0**
	comp=Z,50nm,1.5s						
MEEK	**Meekatharra**	**31.03**	**228**	P	**P**	**08 33 54.1**	**-0.4**
	baz=31						
FUNA	**Funafuti**	**34.96**	**95**	*e*P	**P**	**08 34 28.4**	**-0.4**
	comp=Z,334nm,1.6s						
TAU	**Tasmania Unive**	**35.91**	**176**	*e*P	**P**	**08 34 36.6**	**0.0**
TAU				pmax	pmax		
	comp=Z,276nm,1.6s						
TAU	**Tasmania Unive**	**35.91**	**176**	*e*P	**P**	**08 34 36.6**	**0.0**
	comp=Z,276nm,1.6s						
CNJI	**Cibinong**	**36.52**	**267**	P	P	08 34 51.6	+9.3
QIZ	**Qiongzhong**	**42.40**	**308**	P	**P**	**08 35 30.5**	**-0.7**
QIZ				PP	**PP**	**08 37 10.9**	**+1.1**
QIZ				S	**S**	**08 41 50.5**	**-0.6**
QIZ				SS	**SS**	**08 44 57.3**	**-3.6**
QIZ				LR	LR		
	comp=Z,310nm,19.6s

	comp=Z,270nm,24.1s							
YSS	**Yuzh-Sakhalins**	**53.70**	**359**⇓	*e*P		**P**	**08 36 57.9**	**-0.3**
YSS				pmax	pmax			
	comp=Z,10.0nm,0.8s							
CD2	**Chengdu**	**53.84**	**317**	P		**P**	**08 36 59.6**	**+0.1**
CD2				sP		pP	08 37 06.3	-2.4
CD2				pmax	pmax			
	comp=Z,20nm,0.8s							
RAR	**Rarotonga**	**56.11**	**111**	LR		LR	08 59 01.4	
	comp=Z,103nm,21.3s,baz=296,slow=34							
HHC	**Hu-ho-hao-te**	**56.13**	**331**	*e*P		**P**	**08 37 17.3**	**+1.3**
HHC				PP		**PP**	**08 39 26.4**	**+5.0**
HHC				S		**S**	**08 45 07.3**	**+4.0**
HHC				sS		pS	08 45 13.3	-1.1
HHC				ScS		**ScS**	**08 47 02.3**	**-1.0**
HHC				pmax	pmax			
	comp=Z,22nm,1.6s							
HHC				pmax	pmax			
	comp=Z,130nm,4.5s							
HHC				LR		LR		
	comp=Z,230nm,12.4s							
HHC				LR		LR		
	comp=Z,200nm,13.7s							
HHC				LR		LR		
	comp=Z,200nm,17.4s							
KLR	**Kul'dur**	**56.98**	**350**⇓	*i* P		**P**	**08 37 19.8**	**-2.0**
LZH	**Lanzhou**	**57.02**	**322**	*e*P		**P**	**08 37 21.4**	**-1.2**
LZH				pP		pP	08 37 23.8	-8.0
LZH				*e*S		**S**	**08 45 15.0**	**-0.5**
LZH				sS		pS	08 45 25.0	-1.5
LZH				pmax	pmax			
	comp=Z,20nm,1.0s							
LZH				pmax	pmax			
	comp=Z,90nm,4.0s							
SHL	**Shillong**	**60.04**	**305**	*e*P		**P**	**08 37 45.0**	**+1.2**
PEA0	**Petropavlovsk-**	**60.99**	**9**	*e*P		**P**	**08 37 49.2**	**-0.3**
PETK	**Petropavlovsk-**	**60.99**	**9**	P		**P**	**08 37 48.3**	**-1.2**
	comp=Z,6.2nm,0.7s,baz=164,slow=5.9,SNR=6.0							
PETK				LR		LR	09 05 15.7	
	comp=Z,81nm,18.7s,baz=183,slow=37							
PEA1	**Petropavlovsk-**	**60.99**	**9**	*e*P		**P**	**08 37 48.3**	**-1.2**
KEKH	**Kekaha**	**62.24**	**61**	*e*P		**P**	**08 37 59.4**	**+0.8**
	comp=Z,179nm,1.3s							
KIP	**Kipapa**	**63.53**	**62**	*e*P		**P**	**08 38 07.2**	**+0.1**
KIP				pmax	pmax			
	comp=Z,179nm,1.6s							
KIP	**Kipapa**	**63.53**	**62**	*e*P		**P**	**08 38 07.2**	**+0.1**
	comp=Z,179nm,1.6s							
ULN	**Ulaanbaatar**	**63.55**	**333**⇓	*i* P		**P**	**08 38 07.3**	**+0.3**
ULN				pmax	pmax			
	comp=Z,9.0nm,1.2s							
ULN	**Ulaanbaatar**	**63.55**	**333**	*e*P		**P**	**08 38 06.2**	**-0.8**
	comp=Z,6.3nm,1.0s							
SONA0	**Songino Array**	**63.83**	**333**	*e*P		**P**	**08 38 08.5**	**-0.3**
	comp=Z,22nm,1.8s							
SONM	**Songino Array**	**63.83**	**333**	P		**P**	**08 38 08.5**	**-0.3**
	comp=Z,1.3nm,0.7s,baz=165,slow=6.2,SNR=4.8							
SONM				LR		LR	09 05 30.4	
	comp=Z,189nm,20.3s,baz=94,slow=36							
SONA1	**Songino Array**	**63.83**	**333**	*e*P		**P**	**08 38 09.0**	**+0.2**
GUN	**Gumba**	**65.89**	**305**	*e*P		**P**	**08 38 22.9**	**0.0**
KKN	**Kakani**	**66.33**	**304**	*e*P		**P**	**08 38 26.3**	**+0.7**
DMN	**Daman**	**66.41**	**304**	*e*P		**P**	**08 38 26.3**	**+0.2**
	comp=Z,40nm,1.0s							
GKN	**Gorkha**	**66.94**	**304**	*e*P		**P**	**08 38 29.1**	**-0.3**
ZAK	**Zakamensk**	**67.08**	**333**	*e*P		**P**	**08 38 28.6**	**-1.2**
ZAK				pmax	pmax			
	comp=Z,10.0nm,1.5s							
KOLN	**Koldanda**	**67.71**	**304**	*e*P		**P**	**08 38 34.2**	**-0.1**
	comp=Z,19nm,0.8s							
PYUN	**Piuthan**	**68.33**	**304**	*e*P		**P**	**08 38 37.8**	**-0.4**
	comp=Z,28nm,0.8s							
MIR	**Mirnyy**	**68.84**	**199**	*i* P		**P**	**08 38 41.0**	**+0.6**
MIR				pmax	pmax			
	comp=Z,5.0nm,1.7s							
BOD	**Bodaibo**	**69.00**	**343**	*e*P		P	08 38 36.5	-5.0
BOD				pmax	pmax			
	comp=Z,13nm,2.1s							
VNDA	**Vanda**	**71.14**	**176**	P		**P**	**08 38 54.4**	**0.0**
	comp=Z,1.6nm,0.8s,baz=330,slow=6.6,SNR=9.2							
VNDA	**Vanda**	**71.14**	**176**	*e*P		**P**	**08 38 55.0**	**+0.6**
VNDA				pmax	pmax			
	comp=Z,26nm,1.9s							
VNDA	**Vanda**	**71.14**	**176**	*e*P		**P**	**08 38 55.0**	**+0.6**
	comp=Z,26nm,1.9s							
WMQ	**Urumqi**	**71.58**	**321**	P		**P**	**08 38 58.3**	**+0.6**
WMQ				pP		pP	08 39 02.8	-4.4
WMQ				sP		sP	08 39 05.9	-4.8
WMQ				pmax	pmax			
	comp=Z,6.0nm,0.9s							
WMQ				pmax	pmax			
	comp=Z,170nm,4.5s							
WMQ				LR		LR		
	comp=Z,89nm,19.9s							
WMQ				LR		LR		
	comp=Z,110nm,23.7s							
WMQ				LR		LR		
	comp=Z,96nm,20.1s							
SBA	**Scott Base**	**71.83**	**175**	*e*P		**P**	**08 39 01.0**	**+2.5**
SBA				pmax	pmax			
	comp=Z,27nm,1.7s							
SBA	**Scott Base**	**71.83**	**175**	*e*P		**P**	**08 39 01.0**	**+2.5**
	comp=Z,27nm,1.7s							
AKUT	**Akutan**	**74.00**	**28**	*e*P		**P**	**08 39 12.8**	**+1.1**
	comp=Z,372nm,1.8s							
MK01	**Makanchi Array**	**76.33**	**321**	*e*P		**P**	**08 39 24.8**	**-0.5**
MK31	**Makanchi Array**	**76.34**	**322**	*e*P		**P**	**08 39 25.0**	**-0.4**
MK31	**Makanchi Array**	**76.34**	**322**	*e*P		**P**	**08 39 25.0**	**-0.4**
MKAR	**Makanchi Array**	**76.34**	**322**	*e*P		**P**	**08 39 25.0**	**-0.4**
MKAR				pmax	pmax			
	comp=Z,29nm,1.0s							
MKAR	**Makanchi Array**	**76.34**	**322**	*e*P		**P**	**08 39 25.0**	**-0.4**
	comp=Z,29nm,1.0s							
MAKZ	**Makanchi**	**76.54**	**321**	*e*P		**P**	**08 39 26.1**	**-0.5**
MAKZ				pmax	pmax			
	comp=Z,13nm,1.2s							
MAKZ	**Makanchi**	**76.54**	**321**	*e*P		**P**	**08 39 26.1**	**-0.5**
	comp=Z,13nm,1.2s							
SDPT	**Sand Point**	**77.21**	**29**	*e*P		**P**	**08 39 30.0**	**-0.1**
	comp=Z,200nm,1.7s							
KSH	**Kashi**	**77.79**	**313**	*e*P		**P**	**08 39 35.4**	**+1.5**
KSH				sP		pP	08 39 42.4	-1.0
KSH				PP		**PP**	**08 42 33.4**	**+3.6**
KSH				S		**S**	**08 49 26.8**	**+2.0**
KSH				sS		pS	08 49 34.8	-1.9
KSH				SS		**SS**	**08 54 30.8**	**+5.1**
KSH				pmax	pmax			
	comp=Z,18nm,1.7s							
KSH				pmax	pmax			
	comp=Z,120nm,6.3s							
KSH				LR		LR		
	comp=Z,100nm,5.2s							
KSH				LR		LR		
	comp=Z,140nm,5.3s							
KSH				LR		LR		
	comp=Z,270nm,6.8s							
ZAA0	**Zalesovo Array**	**78.24**	**329**	*e*P		**P**	**08 39 34.7**	**-1.1**
ZALV	**Zalesovo Beam**	**78.24**	**329**	P		**P**	**08 39 33.7**	**-2.2**
	comp=Z,4.1nm,0.8s,baz=108,slow=5.8,SNR=9.6							
ZALV				LR		LR	09 13 49.4	
	comp=Z,217nm,20.9s,baz=70,slow=36							
ZAA1	**Zalesovo Array**	**78.25**	**329**	*e*P		**P**	**08 39 33.7**	**-2.2**
NVS	**Novosibirsk**	**79.49**	**329**	*e*P		**P**	**08 39 41.7**	**-1.0**
NVS				pmax	pmax			
	comp=N,15nm,1.9s							
NVS				pmax	pmax			
	comp=E,21nm,1.9s							
NVS				pmax	pmax			
	comp=Z,34nm,1.9s							
FRU	**Bishkek**	**79.86**	**316**	*e*P		**P**	**08 39 45.0**	**-0.1**
AAK	**Ala-Archa**	**79.88**	**315**⇑	*e*P		**P**	**08 39 45.2**	**-0.1**
AAK				pmax	pmax			
	comp=Z,31nm,2.0s							
AAK	**Ala-Archa**	**79.88**	**315**	*e*P		**P**	**08 39 44.6**	**-0.8**
	comp=Z,4.6nm,0.9s							
MAW	**Mawson**	**80.18**	**203**	P		**P**	**08 39 46.4**	**+0.1**
	comp=Z,4.6nm,0.9s,baz=104,slow=6.4,SNR=6.0							
MAW				LR		LR	09 13 35.9	
	comp=Z,98nm,18.0s,baz=63,slow=34							
MAW	**Mawson**	**80.18**	**203**	P		**P**	**08 39 47.0**	**+0.8**
	baz=80							
MAW	**Mawson**	**80.18**	**203**	*e*P		**P**	**08 39 46.6**	**+0.3**
MAW				pmax	pmax			
	comp=Z,2.0nm,1.2s							
MAW	**Mawson**	**80.18**	**203**	*e*P		**P**	**08 39 46.6**	**+0.3**
	comp=Z,2.1nm,1.2s							
KURK	**Kurchatov**	**80.19**	**324**⇑	*i* P		**P**	**08 39 45.3**	**-1.3**
KURK				pmax	pmax			
	comp=Z,65nm,1.5s							
KURK	**Kurchatov**	**80.19**	**324**	*e*P		**P**	**08 39 45.8**	**-0.8**
	comp=Z,20nm,1.4s							
OHAK	**Old Harbor**	**81.62**	**29**	*e*P		**P**	**08 39 53.4**	**-0.6**
	comp=Z,150nm,1.7s							
KDAK	**Kodiak Island**	**82.21**	**29**	*e*P		**P**	**08 39 58.3**	**+1.2**
KDAK				pmax	pmax			
	comp=Z,145nm,1.5s							
KDAK	**Kodiak Island**	**82.21**	**29**	*e*P		**P**	**08 39 58.3**	**+1.2**
	comp=Z,145nm,1.5s							
SVW2	**Sparrevohn**	**82.41**	**25**	*e*P		**P**	**08 39 58.4**	**+0.2**
	comp=Z,63nm,1.8s							
KKAR	**Karatay Array**	**82.81**	**315**	*e*P		**P**	**08 40 00.4**	**-0.3**
KKAR				pmax	pmax			
	comp=Z,1.0nm,0.4s							
KKAR	**Karatay Array**	**82.81**	**315**	*e*P		**P**	**08 40 00.4**	**-0.3**
	comp=Z,0.6nm,0.4s							
QSPA	**South Pole Qui**	**83.00**	**180**	*e*P		**P**	**08 40 01.4**	**0.0**
TT01	**Tatalina**	**83.12**	**24**	*e*P		**P**	**08 40 01.5**	**-0.3**
CNPM	**China Poot**	**83.60**	**28**	*e*P		**P**	**08 40 05.5**	**+1.1**
	comp=Z,173nm,1.8s							
PPLA	**Purkeypile**	**84.67**	**24**	*e*P		**P**	**08 40 08.8**	**-1.1**
	comp=Z,46nm,1.6s							
RC01	**Rabbit Creek A**	**84.94**	**27**	*e*P		**P**	**08 40 10.0**	**-1.1**
	comp=Z,44nm,1.3s							
CAST	**Castle Rocks**	**84.94**	**24**	*e*P		**P**	**08 40 10.0**	**-1.1**
	comp=Z,10nm,0.9s							
NRIK	**Noril'sk**	**85.29**	**343**	P		**P**	**08 40 11.7**	**-1.0**
	comp=Z,16nm,0.9s,baz=126,slow=5.6,SNR=15							
NRIK				LR		LR	09 17 12.1	
	comp=Z,226nm,20.1s,baz=104,slow=35							
PMR	**Palmer**	**85.41**	**26**	*e*P		**P**	**08 40 11.8**	**-1.6**
PMR				pmax	pmax			
	comp=Z,10.0nm,0.9s							
PMR	**Palmer**	**85.41**	**26**	*e*P		**P**	**08 40 11.8**	**-1.6**
	comp=Z,9.8nm,0.9s							
KTH	**Kantishna Hill**	**85.47**	**24**	*e*P		**P**	**08 40 12.3**	**-1.5**
	comp=Z,10nm,0.9s							
TRF	**Thorofare Moun**	**85.68**	**24**	*e*P		**P**	**08 40 14.6**	**-0.4**
	comp=Z,54nm,1.9s							
SML	**Sawmill**	**85.84**	**26**	*e*P		**P**	**08 40 14.6**	**-1.1**
SML				pmax	pmax			
	comp=Z,16nm,0.9s							
SML	**Sawmill**	**85.84**	**26**	*e*P		**P**	**08 40 14.6**	**-1.1**
	comp=Z,16nm,0.9s							
BRVK	**Borovoye**	**85.85**	**324**⇓	*e*P		**P**	**08 40 15.6**	**-0.2**
BRVK				pmax	pmax			
	comp=Z,51nm,2.1s							
BRVK	**Borovoye**	**85.85**	**324**	*e*P		**P**	**08 40 14.6**	**-1.3**
	comp=Z,6.6nm,0.8s							
RND	**Reindeer**	**86.25**	**25**	*e*P		**P**	**08 40 16.8**	**-0.9**
RND	**Reindeer**	**86.25**	**25**	*e*P		**P**	**08 40 16.8**	**-0.9**
FID	**Port Fidalgo**	**86.27**	**27**	*e*P		**P**	**08 40 16.7**	**-1.1**
	comp=Z,40nm,1.4s							
SCM	**Sheep Creek Mo**	**86.29**	**26**	*e*P		**P**	**08 40 17.5**	**-0.5**
SCM				pmax	pmax			
	comp=Z,25nm,1.2s							
SCM	**Sheep Creek Mo**	**86.29**	**26**	*e*P		**P**	**08 40 17.5**	**-0.5**
	comp=Z,25nm,1.2s							
MCK	**McKinley**	**86.35**	**24**	*e*P		**P**	**08 40 16.8**	**-1.3**
MCK				pmax	pmax			
	comp=Z,15nm,0.9s							
MCK	**McKinley**	**86.35**	**24**	*e*P		**P**	**08 40 16.8**	**-1.3**
	comp=Z,15nm,0.9s							
DIV	**Divide**	**86.73**	**27**	*e*P		**P**	**08 40 19.8**	**-0.3**
	comp=Z,59nm,1.6s							
WRH	**Wood River Hil**	**86.98**	**24**	*e*P		**P**	**08 40 19.6**	**-1.5**
	comp=Z,31nm,1.6s							
CCB	**Clear Creek Bu**	**87.17**	**24**	*e*P		**P**	**08 40 20.3**	**-1.7**
	comp=Z,32nm,1.6s							
COLA	**College**	**87.23**	**23**	*e*P		**P**	**08 40 20.4**	**-1.9**
COLA				pmax	pmax			
	comp=Z,24nm,1.5s							
COLA	**College**	**87.23**	**23**	*e*P		**P**	**08 40 20.4**	**-1.9**
	comp=Z,24nm,1.5s							
COLD	**Coldfoot**	**87.31**	**21**	*e*P		**P**	**08 40 22.9**	**+0.2**
	comp=Z,17nm,1.4s							
IL1	**Eielson Array**	**87.58**	**24**	*e*P		**P**	**08 40 22.2**	**-1.8**
ILAR	**Eielson Array**	**87.58**	**24**	P		**P**	**08 40 21.9**	**-2.1**
	comp=Z,4.0nm,0.9s,baz=253,slow=5.1,SNR=30							
ILAR				LR		LR	09 16 43.4	
	comp=Z,76nm,18.8s,baz=244,slow=34							
ILB	**Eielson Array**	**87.58**	**24**	*e*P		**P**	**08 40 22.9**	**-1.1**
MENT	**Mentasta**	**88.25**	**26**	*e*P		**P**	**08 40 26.9**	**-0.5**
	comp=Z,6.3nm,0.7s							
DOT	**Dot Lake**	**88.34**	**25**	*e*P		**P**	**08 40 27.1**	**-0.7**
	comp=Z,46nm,1.3s							
SYO	**Syowa Base**	**88.63**	**200**⇑	*e*P		**P**	**08 40 28.6**	**-0.4**
FYU	**Fort Yukon**	**88.87**	**22**	*e*P		**P**	**08 40 29.4**	**-0.7**
	comp=Z,46nm,1.4s							
EGAK	**Eagle**	**89.90**	**24**	*e*P		**P**	**08 40 35.0**	**0.0**
	comp=Z,6.5nm,0.9s							
DAWY	**Dawson**	**90.44**	**25**	*e*P		**P**	**08 40 38.0**	**+0.4**
	comp=Z,13nm,1.4s							
GEYT	**Alibeck**	**90.96**	**308**	LR		LR	09 24 06.3	
	comp=Z,169nm,21.2s,baz=35,slow=37							
CRAG	**Craig**	**91.70**	**34**	*e*P		**P**	**08 40 43.5**	**0.0**
	comp=Z,74nm,1.7s							
AKTO	**Aktyubinsk**	**92.73**	**320**	LR		LR	09 22 04.3	
	comp=Z,62nm,21.7s,baz=92,slow=35							
ARU	**Arti**	**93.21**	**326**	*d i* P		**P**	**08 40 48.5**	**-2.0**
ARU							08 44 33.2	
ARU				S		**SKSac**	**08 51 20.0**	**-2.4**
ARU				SP		**SP**	**08 53 06.6**	**-1.0**
ARU				SS		**SS**	**08 58 18.3**	**+7.1**
ARU				pmax	pmax			
	comp=Z,18nm,2.5s							
KRMB	**Red Mountain**	**96.18**	**49**	*e*P		**P**	**08 41 03.9**	**-0.8**
	comp=Z,20nm,1.9s							
NCK	**Nalchik**	**102.27**	**313**⇓	*e*P		**Pdif**	**08 41 30.8**	**-0.9**
NCK				pmax	pmax			
	comp=Z,22nm,0.3s							
KIV	**Kislovodsk**	**102.91**	**313**	*e*P		**Pdif**	**08 41 31.0**	**-3.7**
KIV				pmax	pmax			
	comp=Z,5.0nm,1.0s							
ODNJ	**Ogdensburg**	**131.75**	**39**	*e*PKPdf		**PKPdf**	**08 46 50.9**	**+1.2**
EMMW	**East Machias**	**133.53**	**31**	*e*PKPdf		**PKPdf**	**08 46 53.2**	**+0.4**
TOA0	**Torodi Ar. Sit**	**142.36**	**282**	*e*PKPdf		**PKPdf**	**08 47 09.4**	**-0.5**
TORD	**Torodi Ar. Bea**	**142.36**	**282**	PKP		**PKPdf**	**08 47 09.2**	**-0.7**
	comp=Z,0.8nm,0.7s,baz=94,slow=3.5,SNR=5.7							
TOA1	**Torodi Ar. Sit**	**142.36**	**282**	*e*PKPdf		**PKPdf**	**08 47 09.2**	**-0.7**
RUSC	**La Rusia**	**143.20**	**89**	*e*PKPdf		**PKPdf**	**08 47 10.4**	**-1.7**
SAML	**Samuel**	**148.67**	**120**	*e*PKPdf		**PKPdf**	**08 47 21.1**	**+0.3**
KIC	**Kosan Boka**	**148.89**	**271**	*e*P		**PKPbc**	**08 47 26.4**	**+1.3**
	comp=Z,42nm,1.4s							
DBIC	**Dimbokro**	**149.02**	**271**	PKPbc		**PKPbc**	**08 47 26.2**	**+0.8**
	comp=Z,6.7nm,0.8s,baz=117,slow=7.7,SNR=5.5							
LIC	**Lamto**	**149.17**	**270**	*e*P		**PKPbc**	**08 47 24.0**	**-1.8**
	comp=Z,59nm,1.4s							
TIC	**Toumodi**	**149.18**	**271**	*e*P		**PKPbc**	**08 47 26.3**	**+0.4**
RCBR	**Riachuelo**	**167.28**	**181**	*e*PKPdf		**PKPdf**	**08 47 41.9**	**-1.5**

CSEM ***13*** *08:33:10.5, 39°.56N×29°.73W, h5km, ML3.0*
PDA 13 08:33:10.5±0.6, 39°.56N×29°.73W, h5km, MD3.6, ML3.0,
Error ellipse: s-maj=50.8km s-min=5.1km az=56.0,
Azores Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
PCED	**Cedros**	**1.23**	**139**	*e*P		Pg	08 33 29.5	-4.5
PCED				*e*S		Sg	08 33 43.5	-6.4
PCED				A		A	08 33 46.0	
	55nm,0.3s							
PCED	**Cedros**	**1.23**	**139**	*e*P		Pg	08 33 29.5	-4.5
PCED				*e*S		Sg	08 33 43.5	-6.4
CALA	**Caldeira**	**1.26**	**140**	*e*P		Pg	08 33 29.7	-5.0
CALA				*e*S		Sg	08 33 44.8	-6.2
CALA	**Caldeira**	**1.26**	**140**	*e*P		Pg	08 33 29.7	-5.0
CALA				*e*S		Sg	08 33 44.8	-6.2
PCAN	**Candelaria**	**1.46**	**138**	*e*P		Pn	08 33 32.5	-5.0
PCAN				*e*S		Sb	08 33 49.2	-7.8
PCAN				A		A	08 33 53.5	
	116nm,0.3s							
PCAN	**Candelaria**	**1.46**	**138**	*e*P		Pn	08 33 32.5	-5.0
PCAN				*e*S		Sb	08 33 49.2	-7.8
PICO	**Pico**	**1.47**	**136**	*e*P		Pn	08 33 33.0	-4.6
PICO				*e*S		Sb	08 33 49.4	-7.8
PICO				A		A	08 33 52.6	
	89nm,0.2s							
PICO	**Pico**	**1.47**	**136**	*e*P		Pn	08 33 33.0	-4.6
PICO				*e*S		Sb	08 33 49.4	-7.8

ISK ***13*** *08:33:22.8, 40°.03N×31°.64E, h25km, MD2.5*
CSEM ***13*** *08:33:23.8±0.3, 40°.00N×31°.64E, h23km±6km, MD2.5,*
Error ellipse: s-maj=7.2km s-min=5.5km az=43.0
DDA ***13*** *08:33:23.1, 39°.97N×31°.72E, h8km, Md2.6*
ISC 13 08:33:22.4±1.2, 39°.95N±0°.04×31°.67E±0°.03, h13km±10km,
n19, σ0s92/34, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
SVRH	**Sivrihisar-ESK**	**0.52**	**193**	*e*PG		Pn	**08 33 35.2**	**-0.4**
SVRH				*e*SG		Sn	**08 33 44.3**	**-0.1**
SVRH	**Sivrihisar-ESK**	**0.52**	**193**	*e*Pg		Pn	**08 33 35.2**	**-0.4**
SVRH				*e*Sg		Sn	**08 33 44.3**	**-0.1**
MDUB	**Mudurnu**	**0.63**	**325**	*e*PG		Pg	**08 33 34.6**	**-0.2**
MDUB				*e*SG		Sg	**08 33 43.2**	**0.0**
MDUB	**Mudurnu**	**0.63**	**325**	*e*Pg		Pg	**08 33 34.6**	**-0.2**
MDUB				*e*Sg		Sg	**08 33 43.2**	**0.0**
BTAS	**Taskesti**	**0.80**	**321**	*i* P		Pb	**08 33 37.9**	**-0.5**
BTAS				*i* S		Sn	**08 33 53.4**	**+1.9**
BTAS	**Taskesti**	**0.80**	**321**	P		Pb	**08 33 37.9**	**-0.5**
CMDR	**Camlidere-ANKA**	**0.82**	**48**	*i* P		Pn	08 33 45.6	+5.8
CMDR				*i* S		Sn	**08 33 53.4**	**+1.4**
LOD	**Lodumlu**	**0.84**	**94**	*e*PG		Pg	**08 33 39.8**	**+1.0**
LOD				*e*SG		Sn	**08 33 52.1**	**-0.3**
LOD	**Lodumlu**	**0.84**	**94**	*e*Pg		Pg	**08 33 39.8**	**+1.0**
LOD				*e*Sg		Sn	**08 33 52.1**	**-0.3**
BCAM	**Yenicaga**	**0.92**	**19**	*i* P		Pg	**08 33 40.5**	**+0.3**
BCAM				*i* S		Sn	**08 33 53.4**	**-0.9**
BCAM	**Yenicaga**	**0.92**	**19**	P		Pg	**08 33 40.5**	**+0.3**
BCAM				S		Sn	**08 33 53.4**	**-0.9**
BORA	**Eskisehir**	**0.94**	**266**	*i* P		Pn	**08 33 41.5**	**0.0**
BORA				*i* S		Sn	**08 33 56.6**	**+1.8**
BORA	**Eskisehir**	**0.94**	**266**	P		Pn	**08 33 41.5**	**0.0**
BORA				S		Sn	**08 33 56.6**	**+1.8**
GULT	**Gulveren**	**1.01**	**299**	*e*PG		Pb	**08 33 40.9**	**-0.9**
GULT				*e*SG		Sb	**08 33 54.1**	**-0.9**
GULT	**Gulveren**	**1.01**	**299**	*e*Pg		Pb	**08 33 40.9**	**-0.9**
GULT				*e*Sg		Sb	**08 33 54.2**	**-0.9**
SAHE	**Sakarya_HENDEK**	**1.10**	**326**	*i* P		Pg	**08 33 44.4**	**+0.8**
SAHE				*i* S		Sn	**08 33 59.9**	**+1.3**
SAHE	**Sakarya_HENDEK**	**1.10**	**326**	P		Pg	**08 33 44.3**	**+0.8**
SAHE				S		Sn	**08 33 59.9**	**+1.3**
AFSR	**Afˆar-Bala (A**	**1.19**	**115**	*e*PN		Pn	**08 33 45.3**	**+0.4**
AFSR	**Afˆar-Bala (A**	**1.19**	**115**	*e*Pn		Pn	**08 33 45.3**	**+0.4**

ISCJB ***13*** *08:50:29.1±0.8, 23°.94N±0°.03×122°.41E±0°.02, h7km±5km,*
Error ellipse: s-maj=4.6km s-min=2.7km az=166.5
JMA ***13*** *08:50:30.2±0.1, 23°.95N×122°.39E, h30km±4km, M2.5*
TAP ***13*** *08:50:31.1, 24°.01N×122°.38E, h28km±1km, ML2.9, D*
ISC 13 08:50:27.8±1.2, 23°.90N±0°.03×122°.41E±0°.02, h6km±10km,
n26, σ0s53/51, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
JYNG	**Yonagunijimaku**	**0.74**	**42**	P		Pb	**08 50 43.6**	**+0.5**
JYNG				S		Sb	**08 50 52.8**	**-0.6**
TWD	**Chiawan**	**0.76**	**284**	*e*P		Pb	**08 50 43.6**	**+0.1**
	baz=275							
TWD				*e*S		Sb	**08 50 54.4**	**+0.2**
	baz=275							
YOJ	**Yonaguni jima**	**0.78**	**45**	P		Pb	**08 50 44.6**	**+0.7**
YOJ				*e*S		Sb	**08 50 54.0**	**-0.8**
ENA	**Nanau**	**0.80**	**311**	*e*P		Pb	**08 50 44.7**	**+0.5**
	baz=314							
ENA				*e*S		Sb	**08 50 54.7**	**-0.6**
	baz=314							
TWC	**Suao**	**0.87**	**324**	P		Pb	**08 50 45.5**	**+0.2**
	baz=321							
TWC				S		Sg	**08 50 55.6**	**-0.2**
	baz=321							
TWE	**Neicheng**	**1.06**	**321**	*e*P		Pn	**08 50 48.9**	**-0.3**
	baz=317							
TWE				S		Sb	**08 51 03.1**	**+0.4**
	baz=317							
ENTT	**Nioudou**	**1.06**	**314**	*e*P		Pn	**08 50 49.9**	**+0.6**
	baz=295							
ENTT				*e*S		Sb	**08 51 03.1**	**+0.3**
	baz=295							
EHY	**Hungye**	**1.07**	**249**	*e*P		Pn	**08 50 49.6**	**+0.2**
	baz=242							
EHY				*e*S		Sb	**08 51 03.1**	**0.0**
	baz=242							
WHF	**Hehuan Shan**	**1.07**	**283**	P		Pb	**08 50 49.1**	**+0.1**
	baz=265							
WHF				S		Sg	**08 51 02.7**	**+0.4**
	baz=265							
NNS	**Nan Shan**	**1.08**	**300**	*e*P		Pn	**08 50 49.6**	**-0.1**
	baz=294							
NNS				S		Sb	**08 51 03.3**	**-0.3**
	baz=294							
TWF1	**Yuli**	**1.16**	**242**	P		Pn	**08 50 51.3**	**+0.8**
	baz=236							
TWF1				*e*S		Sb	**08 51 05.6**	**+0.1**
	baz=236							
TWB1	**Santiao Chiao**	**1.16**	**341**	*e*P		Pn	**08 50 51.0**	**+0.3**
	baz=356					

ellipse: s-maj=4.7km s-min=2.9km az=24.7
UPP ***13*** *08:59:57.8±3.4, 64°.76N×31°.23E, h0km, ML1.7, Suspected explosion*
KOLA ***13*** *08:59:58.9, 64°.68N×30°.78E, h0km*
HEL ***13*** *08:59:58.8±0.1, 64°.74N×30°.64E, h0km, ML2.4, Explosion*
CSEM ***13*** *09:00:00.7±0.6, 64°.86N×30°.29E, h1km, ML2.4, Error ellipse: s-maj=11.6km s-min=7.1km az=121.0, Mining explosion.*
BER ***13*** *09:00:00.6±4.2, 64°.82N×30°.39E, h0km, ML2.5(NAO), Suspected explosion*
IDC ***13*** *09:00:00.5±2.5, 64°.73N×30°.63E, h0km, mb1 3.2/3, mb1mx3.0/42, mbtmp3.1/3, ML2.8/3, Error ellipse: s-maj=37.7km s-min=9.3km az=102.0*
NAO ***13*** *09:00:01.2±1.3, 64°.85N×30°.32E, ML2.5*

ISC 13 09:00:00.2±1.0, 64°.86N±0°.03×30°.33E±0°.05, h0km, n49, σ1s75/78, Finland-Karelia border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KU6	**Riekki**	**1.19**	**351**	PG	**Pg**	**09 00 22.6**	**-0.3**
	baz=164						
KU6				SG	**Sn**	**09 00 39.9**	**-0.9**
KU6	**Riekki**	**1.19**	**351**	Pg	**Pg**	**09 00 22.5**	**-0.3**
KU6				Sg	**Sn**	**09 00 39.9**	**-0.9**
MSF	**Maaselka**	**1.19**	**333**	PG	**Pb**	**09 00 23.2**	**-0.3**
MSF				SG	**Sn**	**09 00 41.1**	**+0.2**
MSF	**Maaselka**	**1.19**	**333**	Pg	**Pb**	**09 00 23.2**	**-0.3**
OUL	**Oulu**	**1.90**	**279**	PG	**Pb**	**09 00 35.6**	**0.0**
OUL				SG	**Sg**	**09 01 01.4**	**+0.3**
OUL	**Oulu**	**1.90**	**279**	Pg	**Pb**	**09 00 35.6**	**0.0**
OUL				Sg	**Sg**	**09 01 01.4**	**+0.3**
JOF	**Joensuu**	**2.00**	**167**	PG	**Pn**	**09 00 32.2**	**-2.9**
	baz=352						
OUFX	**Oulainen**	**2.48**	**261**	PB	**Pb**	**09 00 43.3**	**-2.2**
OUFX				SG	**Sg**	**09 01 19.3**	**-0.3**
RNF	**Rovaniemi**	**2.50**	**317**	PG	**Pb**	**09 00 46.4**	**+0.4**
RNF				SG	**Sg**	**09 01 20.7**	**+0.2**
RNF	**Rovaniemi**	**2.50**	**317**	Pg	**Pb**	**09 00 46.3**	**+0.4**
RNF				Sg	**Sg**	**09 01 20.7**	**+0.2**
TOF	**Tornio**	**2.79**	**299**	PB	**Pb**	**09 00 48.8**	**-2.0**
TOF				SB	**Sb**	**09 01 27.2**	**+1.7**
SUF	**Sumiainen**	**2.84**	**223**	PB	**Pn**	**09 00 48.0**	**+1.4**
SUF				MSG		09 01 22.8	
	comp=Z,11nm,0.2s						
SUF				SG	**Sb**	**09 01 27.1**	**+0.2**
APA0	**Apatity Array**	**2.96**	**20**	Pn	**Pn**	**09 00 48.5**	**+0.2**
	baz=186,slow=12						
APA0				Lg	Lg	09 01 30.9	
	baz=184,slow=37						
APA0	**Apatity Array**	**2.96**	**20**	Pn	**Pn**	**09 00 48.5**	**+0.2**
	baz=186,slow=12						
APA0				Lg	Lg	09 01 30.9	
	baz=184,slow=37						
APA0	**Apatity Array**	**2.96**	**20**	P	**Pn**	**09 00 48.1**	**-0.3**
APA0				S	**Sn**	**09 01 24.9**	**+0.3**
APA0	**Apatity Array**	**2.96**	**20**	Pn	**Pn**	**09 00 48.5**	**+0.2**
	SNR=2.7						
APA0				Lg	Lg	09 01 31.0	
	SNR=8.3						
APA	**Apatity**	**2.99**	**23**	P	**Pn**	**09 00 48.4**	**-0.4**
APA				S	**Sn**	**09 01 25.4**	**+0.1**
KAF	**Kangasniemi**	**3.29**	**215**	PB	**Pn**	**09 00 54.2**	**+1.3**
KEF	**Keuruu**	**3.65**	**225**	PB	**Pn**	**09 00 59.2**	**+1.4**
VAF	**Ylistaro**	**3.84**	**245**	PB	**Pn**	**09 01 02.3**	**+1.9**
	baz=56						
VAF				SG	**Sg**	**09 02 02.1**	**-1.2**
BURU	**Burvik**	**3.85**	**270**	PN	**Pn**	**09 01 01.6**	**+1.1**
BURU				SG	**Sg**	**09 02 04.7**	**+0.9**
BURU	**Burvik**	**3.85**	**270**	Pn	**Pn**	**09 01 01.6**	**+1.1**
BURU				Sg	**Sg**	**09 02 04.7**	**+0.9**
FIA0	**FINESS Array S**	**3.93**	**211**	Pn	**Pn**	**09 01 01.9**	**+0.2**
	baz=31,slow=14						
FIA0				Pg	**Pb**	**09 01 10.5**	**+0.2**
	baz=12,slow=18						
FIA0				Lg	Lg	09 02 02.4	
	baz=25,slow=37						
FIA0				Rg	Rg	09 02 21.4	
	baz=30,slow=22						
FIA0	**FINESS Array S**	**3.93**	**211**	Pn	**Pn**	**09 01 01.9**	**+0.2**
	baz=31,slow=14						
FIA0				Pg	**Pb**	**09 01 10.5**	**+0.2**
	baz=12,slow=18						
FIA0				Lg	Lg	09 02 02.4	
	baz=25,slow=37						
FIA0				Rg	Rg	09 02 21.4	
	baz=30,slow=22						
FIA0	**FINESS Array S**	**3.93**	**211**	PN	**Pn**	**09 01 01.6**	**-0.1**
FIA0				SG	**Sb**	**09 02 01.5**	**+3.2**
FIA0	**FINESS Array S**	**3.93**	**211**	Pn	**Pn**	**09 01 01.6**	**-0.1**
FIA0				Lg	Lg	09 02 02.4	
	SNR=30						
FINES	**FINESS Array B**	**3.93**	**211**	Pn	**Pn**	**09 01 01.1**	**-0.6**
	comp=Z,0.3nm,0.3s,baz=33,slow=14,SNR=12						
FINES				Lg	Lg	09 02 01.9	
	comp=Z,2.0nm,0.3s,baz=29,slow=28,SNR=16						
HARU	**Harads**	**4.11**	**293**	P	**Pn**	**09 01 06.4**	**+2.3**
HARU	**Harads**	**4.11**	**293**	P	**Pn**	**09 01 06.4**	**+2.3**
MASU	**Masugnsbyn**	**4.27**	**311**	P	**Pn**	**09 01 08.6**	**+2.3**
MASU	**Masugnsbyn**	**4.27**	**311**	P	**Pn**	**09 01 08.6**	**+2.3**
UMAU	**Umeaa**	**4.31**	**261**	PN	**Pn**	**09 01 08.2**	**+1.3**
	baz=76						
UMAU				SG	**Sg**	**09 02 17.2**	**-1.2**
UMAU	**Umeaa**	**4.31**	**261**	Pn	**Pn**	**09 01 08.1**	**+1.3**
UMAU				Sg	**Sg**	**09 02 17.1**	**-1.2**
HEF	**Hetta**	**4.45**	**326**	PN	**Pn**	**09 01 10.5**	**+1.8**
HEF				SG	**Sg**	**09 02 19.6**	**-3.1**
HEF	**Hetta**	**4.45**	**326**	Pn	**Pn**	**09 01 10.5**	**+1.8**
VJF	**Virojoki**	**4.52**	**198**	SG	**Sb**	**09 02 18.8**	**+3.6**
LANU	**Lannavaara**	**4.63**	**317**	P	**Pn**	**09 01 12.2**	**+0.9**
LANU				S	**Sn**	**09 02 09.2**	**+3.5**
LANU	**Lannavaara**	**4.63**	**317**	P	**Pn**	**09 01 12.2**	**+0.9**
LANU				S	**Sn**	**09 02 09.2**	**+3.5**
ARA0	**ARCESS Array S**	**5.06**	**340**	Pn	**Pn**	**09 01 17.6**	**+0.4**
	baz=153,slow=14						
ARA0				Sn	**Sn**	**09 02 13.8**	**-2.4**
	baz=159,slow=28						
ARA0				Lg	Lg	09 02 35.9	
	baz=152,slow=37						
ARA0	**ARCESS Array S**	**5.06**	**340**	Pn	**Pn**	**09 01 17.6**	**+0.4**
	baz=153,slow=14						
ARA0				Sn	**Sn**	**09 02 13.8**	**-2.4**
	baz=159,slow=28						
ARA0				Lg	Lg	09 02 35.9	
	baz=152,slow=37						
ARA0	**ARCESS Array S**	**5.06**	**340**	Pn	**Pn**	**09 01 17.5**	**+0.4**
	SNR=106						
ARA0				Sn	**Sn**	**09 02 13.8**	**-2.4**
	SNR=0.3						
ARCES	**ARCESS Array B**	**5.06**	**340**	Pn	**Pn**	**09 01 17.6**	**+0.4**
	comp=Z,0.7nm,0.3s,baz=156,slow=13,SNR=26						
ARCES				Sn	**Sn**	**09 02 14.7**	**-1.5**
	comp=Z,0.6nm,0.3s,baz=159,slow=24,SNR=5.4						
ARCES				Lg	Lg	09 02 34.6	
	comp=Z,0.7nm,0.3s,baz=148,slow=33,SNR=6.8						
HFS	**Hagfors**	**9.02**	**246**	Pn	**Pn**	**09 02 10.5**	**-1.0**
	baz=48,slow=16						
HFS				Sn	**Sn**	**09 03 47.8**	**-5.9**
	baz=63,slow=28						
HFS				Lg	Lg	09 04 37.9	
	baz=56,slow=28						
HFS	**Hagfors**	**9.02**	**246**	Pn	**Pn**	**09 02 10.5**	**-1.0**
	baz=48,slow=16						
HFS				Sn	**Sn**	**09 03 47.8**	**-5.9**
	baz=63,slow=28						
HFS				Lg	Lg	09 04 37.9	
	baz=56,slow=28						
HFS	**Hagfors**	**9.02**	**246**	Pn	**Pn**	**09 02 10.5**	**-1.0**
	SNR=6.6						
NB2	**NORSAR Subarra**	**9.50**	**255**	Pn	**Pn**	**09 02 18.8**	**+0.8**
	baz=56,slow=14						
NB2	**NORSAR Subarra**	**9.50**	**255**	Pn	**Pn**	**09 02 18.8**	**+0.8**
	baz=56,slow=14						
NB2	**NORSAR Subarra**	**9.50**	**255**	Pn	**Pn**	**09 02 18.8**	**+0.8**
	SNR=4.4						
NOA	**NORSAR Array B**	**9.50**	**255**	Pn	**Pn**	**09 02 16.3**	**-1.7**
	comp=Z,0.2nm,0.3s,baz=62,slow=13,SNR=2.7						

ISCJB ***13*** *09:03:12.6±1.2, 11°.02N±0°.05×62°.16W±0°.05, h94km±11km, Error ellipse: s-maj=10.0km s-min=6.0km az=39.9*
FUNV ***13*** *09:03:13.0, 10°.98N×62°.09W, h97km, MW2.4*
TRN ***13*** *09:03:14.0, 11°.04N×62°.09W, h93km, MD3.0*

ISC 13 09:03:11.8±1.9, 10°.99N±0°.05×62°.16W±0°.06, h105km±14km, n9, σ1s23/18, 1C-1D, Near coast of Venezuela

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GUIV	**Guiria**	**0.34**	**191**	*eP*	**Pn**	**09 03 27.3**	**+0.1**
GUIV				*eS*	**Sn**	**09 03 37.7**	**-0.9**
TRN	**Trinidad (W)**	**0.81**	**114**	⇓*iP*	**Pn**	**09 03 32.0**	**+1.3**
TRN				*eS*	**Sn**	**09 03 44.6**	**-0.3**
CRUV	**Carupano**	**1.11**	**254**	*eP*	**Pn**	**09 03 34.1**	**+0.3**
CRUV				*eS*	**Sn**	**09 03 49.5**	**-0.8**
GUNV	**Guanoco**	**1.13**	**223**	*eP*	**Pn**	**09 03 35.1**	**+1.1**
GUNV				*eS*	**Sn**	**09 03 51.8**	**+1.1**
GRGR	**Grenville**	**1.24**	**23**	*eP*	**Pn**	**09 03 35.5**	**+0.2**
GRGR				*eS*	**Sn**	**09 03 52.6**	**-0.4**
GRW	**Mount Saint Ca**	**1.26**	**22**	⇑*iP*	**Pn**	**09 03 36.1**	**+0.5**
GRW				*eS*	**Sn**	**09 03 51.8**	**-1.9**
GRSS	**Sisters**	**1.41**	**22**	*eP*	**Pn**	**09 03 37.9**	**+0.6**
GRSS				*eS*	**Sn**	**09 03 56.5**	**-0.1**
TOSP	**Speyside**	**1.62**	**79**	*eP*	**Pn**	**09 03 41.2**	**+1.4**
TOSP				*eS*	**Sn**	**09 03 59.9**	**-1.1**
RIOV	**Rio Grande**	**2.92**	**173**	*eP*	**Pn**	**09 03 57.2**	**+0.6**
RIOV				*eS*	**Sn**	**09 04 28.5**	**-2.7**

IDC ***13*** *09:03:44.4±1.6, 8°.09S×117°.91E, h0km, mb4.2/5, mb1 4.2/7, mb1mx3.8/50, mbtmp4.1/7, ML3.9/2, Error ellipse: s-maj=83.7km s-min=17.5km az=62.0*
DJA ***13*** *09:03:46.1±0.4, 8°.5S×3°×11°.8E±°, h10km, M4.3/10, MLv4.3/10*
ISCJB ***13*** *09:03:47.6±0.6, 7°.92S±0°.06×118°.19E±0°.04, h33km, mb4.2/5, Error ellipse: s-maj=9.0km s-min=6.0km az=6.4*

ISC 13 09:03:49.6±0.8, 8°.03S±0°.07×118°.16E±0°.05, h35km, n16, σ2s29/21, mb4.2/5, Sumbawa region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PLAI	**Plampang**	**0.88**	**206**	P	**Pn**	**09 04 05.6**	**0.0**
PLAI				S	**Sn**	**09 04 19.0**	**+1.8**
TWSI	**Taliwang, Sumb**	**1.45**	**241**	P	**Pn**	**09 04 13.3**	**-0.1**
WSI	**Waingapu**	**2.67**	**128**	P	**Pn**	**09 04 30.6**	**+0.4**
WSI				S	**Sn**	**09 05 05.8**	**+4.5**
SRBI	**Singaraja**	**2.92**	**269**	P	**Pn**	**09 04 32.5**	**-1.1**
IGBI	**Denpasar**	**3.09**	**255**	P	**Pn**	**09 04 36.6**	**+0.7**
ABJI	**Asem Bagus**	**3.90**	**273**	P	**Pn**	**09 04 46.1**	**-1.0**
JAGI	**Jajag, Banyuwa**	**3.99**	**263**	P	**Pn**	**09 04 48.1**	**-0.3**
MMRI	**Maumere**	**4.08**	**99**	S	**Sn**	**09 05 36.4**	**+0.3**
BLJI	**Banyuglugur**	**4.53**	**273**	P	**Pn**	**09 04 55.2**	**-0.6**
FITZ	**Fitzroy Crossi**	**12.38**	**145**	Pn	**Pn**	**09 06 43.5**	**0.0**
	0.3nm,0.3s,baz=337,slow=13,SNR=4.3						
FITZ				Sn	**Sn**	**09 08 57.2**	**-3.0**
	0.4nm,0.3s,baz=189,slow=19,SNR=5.4						
WRA	**Warramunga Arr**	**19.64**	**129**	P	**P**	**09 08 15.1**	**-0.4**
	0.5nm,0.3s,baz=303,slow=13,SNR=26						
WRA				S	**S**	**09 11 48.1**	**-7.3**
	0.1nm,0.3s,baz=298,slow=22,SNR=3.4						
ASAR	**Alice Springs**	**21.67**	**138**	P	**P**	**09 08 38.6**	**+1.2**
	3.0nm,0.5s,baz=318,slow=10,SNR=34						
ASAR				PcP	**PcP**	**09 12 38.1**	**0.0**
	0.3nm,0.4s,baz=307,slow=1.5,SNR=5.5						
STKA	**Stephens Creek**	**32.23**	**141**	P	**P**	**09 10 16.1**	**+1.4**
	2.0nm,0.7s,baz=335,slow=5.1,SNR=6.2						
KSRS	**Korea Array**	**46.15**	**11**	P	**P**	**09 12 11.6**	**+0.8**
	2.9nm,0.9s,baz=189,slow=8.8,SNR=14						
SONM	**Songino Array**	**56.58**	**351**	P	**P**	**09 13 29.4**	**+0.5**
	2.8nm,0.7s,baz=181,slow=8.4,SNR=7.3						
ZALV	**Zalesovo Beam**	**67.84**	**339**	P	**P**	**09 14 43.8**	**-0.3**
	4.0nm,0.7s,baz=138,slow=5.1,SNR=11						

NIED ***13*** *09:10:00, 35°.20N×141°.30E, h17km, Mw4.4 Best double couple: M0=4.62000×10^15 NP1:φs=309.00000°, δ39.00000°, λ171.00000°. NP2:φs=46.00000°, δ85.00000°, λ51.00000°.*
BJI ***13*** *09:10:15.9, 35°.20N×141°.52E, h27km, mb4.7/45, mB4.9/37, Ms4.4/37, Ms7 4.2/34*
IDC ***13*** *09:10:16.6±0.6, 35°.26N×141°.07E, h0km, mb4.3/21, mb1 4.4/25, mb1mx4.2/52, mbtmp4.2/25, ML3.4/4, MS3.7/13, Ms1 3.7/13, ms1mx3.6/27, Error ellipse: s-maj=17.3km s-min=14.4km az=91.0*
ISCJB ***13*** *09:10:17.9±0.7, 35°.24N±0°.03×141°.32E±0°.04, h27km±4km, mb4.6/50, MS4.0/19, Error ellipse: s-maj=6.2km s-min=4.2km az=173.5*
JMA ***13*** *09:10:19.5±0.1, 35°.31N×141°.20E, h38km±1km, M4.5*
JMA Felt I J1.
MOS ***13*** *09:10:19.6±1.1, 35°.31N×141°.16E, h33km, mb4.7/23, Error ellipse: s-maj=11.8km s-min=6.7km az=125.9*
NEIC ***13*** *09:10:21.7±0.2, 35°.21N×141°.09E, h35km, mb4.8/15, Error ellipse: s-maj=5.4km s-min=4.8km az=67.0*
NEIC Recorded [1 JMA] in Chiba.

ISC 13 09:10:19.6±1.1, 35°.27N±0°.03×141°.24E±0°.04, h20km±5km, n136, σ1s75/150, mb4.6/50, MS4.0/19, 10C-5D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CHOJ	**Chosi**	**0.53**	**325**	⇓*P*	**Pg**	**09 10 29.8**	**-0.6**
CHOJ				*eS*	**Sb**	**09 10 37.5**	**0.0**
BSO1	**Boso 1**	**0.65**	**199**	⇓*P*	**Pg**	**09 10 32.3**	**-0.1**
BSO1				*eX*		09 10 41.5	
BSO2	**Boso 2**	**0.65**	**218**	P	**Pg**	**09 10 32.7**	**+0.2**
I30JP	**ISUMI INFRASON**	**0.76**	**273**	Pn	**Pb**	**09 10 33.8**	**-0.3**
	baz=99,slow=14,SNR=1.0						
KTR	**Katsuura**	**0.77**	**261**	⇑*P*	**Pb**	**09 10 33.7**	**-0.6**
KTR				S	**Sb**	**09 10 43.7**	**-0.5**
BSO4	**Boso 4**	**0.79**	**250**	⇑*P*	**Pb**	**09 10 34.3**	**-0.3**
BSO4				X		09 10 45.5	
JCN	**Nagara**	**0.86**	**280**	⇑*P*	**Pb**	**09 10 35.1**	**-0.8**
JYT	**Yasato**	**1.28**	**319**	⇑*P*	**Pn**	**09 10 40.9**	**-1.5**
JHJ2	**Mitsune**	**2.45**	**209**	*ePn*	**Pn**	**09 10 57.2**	**-1.3**
JHJ2				*eSn*	**Sn**	**09 11 23.8**	**-4.1**
JHJ	**Hachijo jima 2**	**2.46**	**210**	Pn	**Pn**	**09 10 58.4**	**-0.2**
	97nm,0.3s,baz=306,slow=21,SNR=41						
JHJ				Sn	**Sn**	**09 11 24.1**	**-3.9**
	307nm,0.3s,baz=250,slow=23,SNR=10.0						
MJAR	**Matsushiro Arr**	**2.77**	**298**	Pn	**Pn**	**09 11 02.1**	**-0.7**
	25nm,0.3s,baz=211,slow=9.0,SNR=119						
MJAR				LR	LR	09 12 06.7	
	comp=Z,597nm,18.6s,baz=120,slow=42						
MAJO	**Matsushiro**	**2.77**	**298**	*eP*	**Pn**	**09 11 03.0**	**+0.1**
MAJO				*e*		09 11 30.6	
MAJO	**Matsushiro**	**2.77**	**298**	*ePn*	**Pn**	**09 11 03.0**	**+0.1**
MAJO				*eSn*	**Sn**	**09 11 30.6**	**-5.2**
MAT	**Matsushiro**	**2.77**	**298**	P	**Pn**	**09 11 03.6**	**+0.7**
MAT				S	**Sn**	**09 11 37.0**	**+1.2**
MJB9	**Matsu-Tunnel**	**2.77**	**298**	*ePn*	**Pn**	**09 11 02.9**	**-0.1**
MJB9				*eSn*	**Sn**	**09 11 30.2**	**-5.6**
INU	**Inuyama**	**3.45**	**273**	*ePn*	**Pn**	**09 11 11.5**	**-0.8**
ERM	**Erimo**	**6.90**	**12**	*deP*	**Pn**	**09 11 59.2**	**-0.4**
ERM	**Erimo**	**6.90**	**12**	*ePn*	**Pn**	**09 11 58.9**	**-0.7**
ERM				*eSn*	**Sn**	**09 13 18.0**	**+0.5**
CBIJ	**Chichi jima**	**8.19**	**174**	*ePn*	**Pn**	**09 12 16.6**	**-0.7**
CBIJ				*eSn*	**Sn**	**09 13 48.2**	**-1.1**
JNU	**Nakatsue**	**8.85**	**259**	Pn	**Pn**	**09 12 25.4**	**-1.0**
	0.3nm,0.3s,baz=73,slow=5.0,SNR=2.9						
ASAJ	**Asahikawa**	**8.90**	**6**	*ePn*	**Pn**	**09 12 25.2**	**-1.8**
KSRS	**Korea Array**	**10.96**	**285**	Pn	**Pn**	**09 12 56.6**	**+1.4**
	0.4nm,0.3s,baz=94,slow=14,SNR=18						
KSRS				LR	LR	09 17 18.9	
	comp=Z,467nm,18.4s,baz=106,slow=39						
KS15	**Wonju Array Si**	**10.99**	**285**	*ePn*	**Pn**	**09 12 59.5**	**+3.9**
KSAR	**Wonju Array Be**	**10.99**	**285**	P	**Pn**	**09 12 56.7**	**+1.0**
KSAR	**Wonju Array Be**	**10.99**	**285**	Pn	**Pn**	**09 12 56.1**	**+1.0**
KUR	**Kurilʹsk**	**11.16**	**25**	P	**Pn**	**09 12 56.1**	**-1.9**
KUR				*eS*	**Sn**	**09 14 55.4**	**-6.7**
KUR				pmax	pmax		
	comp=Z,18nm,0.5s						
USRK	**Ussuriysk Ar.**	**11.40**	**324**	Pn	**Pn**	**09 13 00.7**	**-0.7**
	comp=Z,0.3nm,0.3s,baz=132,slow=13,SNR=9.2						
USRK				LR	LR	09 17 14.4	
	comp=Z,436nm,18.4s,baz=133,slow=37						
YSS	**Yuzh-Sakhalins**	**11.73**	**5**	⇑*eP*	**Pn**	**09 13 04.6**	**-1.2**
YSS				pmax	pmax		
	comp=Z,10.0nm,0.4s						
YSS				MLR	MLR		
	comp=Z,400nm,18.0s						
YSS	**Yuzh-Sakhalins**	**11.73**	**5**	*ePn*	**Pn**	**09 13 03.8**	**-1.9**
MDJ	**Mudanjiang**	**12.91**	**320**	P	**Pn**	**09 13 25.5**	**+3.6**
MDJ				S	**Sn**	**09 15 46.4**	**+1.4**
MDJ				pmax	pmax		
	comp=Z,6.0nm,0.8s						
MDJ				pmax	pmax		
	comp=Z,110nm,9.7s						
MDJ				LR	LR		
	comp=Z,180nm,17.6s						
MDJ				LR	LR		
	comp=Z,220nm,13.1s						
MDJ				LR	LR		
	comp=Z,410nm,14.8s						
CN2	**Changchun**	**14.85**	**310**	*eP*	**Pn**	**09 13 49.8**	**+1.4**
CN2				*eS*	**Sn**	**09 16 36.0**	**+3.7**
CN2				LR	LR		
	comp=Z,600nm,14.0s						
CN2				LR	LR		
	comp=Z,500nm,14.0s						
DL2	**Dalian**	**16.06**	**289**	P	**Pn**	**09 14 05.6**	**+1.3**
DL2				pmax	pmax		
	comp=Z,44nm,0.7s						
NJ2	**Nanjing**	**18.90**	**267**	*eP*	**Pn**	**09 14 39.8**	**+0.2**
NJ2				pmax	pmax		
	comp=Z,5.0nm,0.5s						
BJI	**Beijing**	**20.38**	**291**	P	**P**	**09 14 53.0**	**-2.0**
BJI				S	Sn	09 18 47.8	+1.6
BJI				pmax	pmax		
	comp=Z,20nm,0.8s						
BJI				pmax	pmax		
	comp=Z,130nm,5.8s						
BJI				LR	LR		
	comp=Z,220nm,21.1s						
BJI				LR	LR		
	comp=Z,120nm,24.1s						
BJT	**Baijiatuao**	**20.39**	**291**	*eP*	**P**	**09 14 53.6**	**-1.5**
BJT				pmax	pmax		
	comp=Z,20nm,0.9s						
BJT	**Baijiatuao**	**20.39**	**291**	*eP*	**P**	**09 14 53.6**	**-1.5**
	comp=Z,20nm,0.9s						
PETK	**Petropavlovsk-**	**21.30**	**28**	LR	LR	09 25 37.4	
	comp=Z,54nm,18.2s,baz=180,slow=43						
WHN	**Wuhan**	**23.03**	**266**	P	**P**	**09 15 25.4**	**+1.9**
WHN				S	**S**	**09 19 31.3**	**-1.9**
WHN				LR	LR		
	comp=Z,650nm,13.2s						
WHN				LR	LR		
	comp=Z,970nm,12.9s						
WHN				LR	LR		
	comp=Z,770nm,17.3s						
HHC	**Hu-ho-hao-te**	**23.95**	**292**	*eP*	**P**	**09 15 32.8**	**+0.1**
HHC				S	**S**	**09 19 42.4**	**-5.9**
HHC				pmax	pmax		
	comp=Z,16nm,0.8s						
HHC				pmax	pmax		
	comp=Z,140nm,5.1s						
HHC				LR	LR		
	comp=Z,210nm,11.9s						
HHC				LR	LR		
	comp=Z,1μm,12.5s						
HHC				LR	LR		
	comp=Z,190nm,12.9s						
MA2	**Magadan**	**25.11**	**11**	P	**P**	**09 15 43.3**	**+0.5**
	comp=Z,1nm,0.7s,baz=197,slow=6.1,SNR=4.7						
H11N2	**WAKE ISLAND Hy**	**27.41**	**118**	T	T	09 45 01.6	
	baz=310,slow=75,SNR=385						
H11N1	**WAKE ISLAND Hy**	**27.42**	**118**	T	T	09 45 07.9	
	baz=310,slow=75,SNR=342						
H11N3	**WAKE ISLAND Hy**	**27.43**	**118**	T	T	09 45 11.0	
	baz=310,slow=75,SNR=378						
H11S3	**WAKE ISLAND Hy**	**28.06**	**120**	T	T	09 45 42.8	
	baz=312,slow=76,SNR=1003						
H11S1	**WAKE ISLAND Hy**	**28.06**	**120**	T	T	09 45 43.0	
	baz=312,slow=76,SNR=1567						
H11S2	**WAKE ISLAND Hy**	**28.08**	**120**	T	T	09 45 56.4	
	baz=312,slow=76,SNR=890						
ULN	**Ulaanbaatar**	**28.27**	**307**	⇑*eP*	**P**	**09 16 11.2**	**-0.4**
ULN				pmax	pmax		
	comp=Z,2.0nm,0.7s						
SEY	**Seymchan**	**28.55**	**11**	P	**P**	**09 16 14.4**	**+0.7**
	comp=Z,3.2nm,0.8s,baz=210,slow=13,SNR=4.3						
SONA0	**Songino Array**	**28.69**	**307**	*eP*	**P**	**09 16 14.1**	**-1.2**
	comp=Z,3.8nm,0.9s						
SONM	**Songino Array**	**28.69**	**307**	P	**P**	**09 16 14.1**	**-1.2**
	comp=Z,1.7nm,0.5s,baz=107,slow=10,SNR=5.1						
SONM				LR	LR	09 28 07.7	
	comp=Z,166nm,18.5s,baz=83,slow=38						
BOD	**Bodaibo**	**28.96**	**330**	*eP*	**P**	**09 16 14.8**	**-2.7**
BOD				pmax	pmax		
	comp=Z,7.0nm,1.0s						
LZH	**Lanzhou**	**30.27**	**283**	*eP*	**P**	**09 16 29.3**	**-0.2**
LZH				pP	sP	09 16 36.8	-1.3
LZH				sP	pP	09 16 39.6	+4.0
LZH				PP	**PnPn**	**09 17 29.3**	**+1.9**
LZH				*eS*	**S**	**09 21 27.0**	**-1.4**
LZH				sS	sS	09 21 39.0	+0.6
LZH				SS	**SnSn**	**09 23 02.8**	**0.0**
LZH				pmax	pmax		
	comp=Z,28nm,1.0s						
LZH				pmax	pmax		
	comp=Z,170nm,4.4s						
LZH				LR	LR		
	comp=Z,1μm,16.3s						
LZH				LR	LR		
	comp=Z,1μm,15.1s						
LZH				LR	LR		
	comp=Z,1μm,17.4s						
GYA	**Guiyang**	**30.83**	**263**	P	**P**	**09 16 34.8**	**+0.3**
GYA				pP	sP	09 16 42.3	-0.7
GYA				PP	**PnPn**	**09 17 37.0**	**+2.2**
GYA				S	**S**	**09 21 36.5**	**-0.7**
GYA				sS	sS	09 21 49.6	+2.4
GYA				SS	**SnSn**	**09 23 19.0**	**+2.4**
GYA				pmax	pmax		
	comp=Z,20nm,0.8s						
GYA				pmax	pmax		
	comp=Z,120nm,5.2s						
GYA				LR	LR		
	comp=Z,510nm,17.5s						
GYA				LR	LR		
	comp=Z,470nm,17.0s						
GYA				LR	LR		
	comp=Z,490nm,17.3s						
CD2	**Chengdu**	**31.58**	**273**	P	**P**	**09 16 39.3**	**-1.7**
CD2				s

NRIK	**Noril'sk**	**44.81**	**336**	LR	LR	09 38 22.8	
	comp=Z,102nm,18.3s,baz=108,slow=38						
MK01	**Makanchi Array**	**44.95**	**304**	*e*P	**P**	**09 18 32.1**	**-1.1**
MK31	**Makanchi Array**	**44.95**	**304**	*e*P	**P**	**09 18 32.8**	**-0.5**
MK31	**Makanchi Array**	**44.95**	**304**	*e*P	**P**	**09 18 32.8**	**-0.5**
MKAR	**Makanchi Array**	**44.95**	**304**	*e*P	**P**	**09 18 32.7**	**-0.5**
MKAR				pmax	pmax		
	comp=Z,33nm,1.0s						
MKAR	**Makanchi Array**	**44.95**	**304**	*e*P	**P**	**09 18 32.7**	**-0.5**
	comp=Z,32nm,1.0s						
MAKZ	**Makanchi**	**45.17**	**304**	*e*P	**P**	**09 18 34.6**	**-0.3**
MAKZ				pmax	pmax		
	comp=Z,7.0nm,0.9s						
MAKZ	**Makanchi**	**45.17**	**304**	*e*P	**P**	**09 18 34.6**	**-0.3**
	comp=Z,7.1nm,0.9s						
KURK	**Kurchatov**	**46.92**	**309**	*ce*P	**P**	**09 18 47.9**	**-0.8**
KURK				pmax	pmax		
	comp=Z,57nm,0.8s						
KURK	**Kurchatov**	**46.92**	**309**	*e*P	**P**	**09 18 48.1**	**-0.6**
	comp=Z,16nm,0.8s						
KURBB	**Kurchatov Arra**	**46.99**	**309**	P	**P**	**09 18 48.5**	**-0.6**
	comp=Z,7.3nm,0.6s,baz=85,slow=7.8,SNR=35						
PDGK	**Podgornoye**	**47.49**	**299**	P	**P**	**09 18 53.1**	**-0.3**
PDGK				pmax	pmax		
	comp=Z,22nm,0.9s						
KSH	**Kashi**	**51.01**	**295**	*e*P	**P**	**09 19 23.1**	**+2.7**
KSH				pP	sP	09 19 31.1	+2.0
KSH				PcP	**PcP**	**09 20 39.0**	**+2.7**
KSH				PP	**PP**	**09 21 21.1**	**+4.3**
KSH				S	**S**	**09 26 37.9**	**+1.3**
KSH				SS	**SS**	**09 30 10.8**	**-0.6**
KSH				pmax	pmax		
	comp=Z,6.0nm,0.6s						
KSH				pmax	pmax		
	comp=Z,140nm,5.3s						
KSH				LR	LR		
	comp=Z,220nm,6.9s						
KSH				LR	LR		
	comp=Z,180nm,6.5s						
KSH				LR	LR		
	comp=Z,140nm,7.7s						
ILAR	**Eielson Array**	**51.06**	**32**	P	**P**	**09 19 20.4**	**+0.2**
	comp=Z,0.6nm,0.5s,baz=266,slow=5.8,SNR=10						
ILB	**Eielson Array**	**51.06**	**32**	*e*P	**P**	**09 19 21.6**	**+1.4**
AAK	**Ala-Archa**	**51.22**	**300**	P	**P**	**09 19 20.4**	**-1.5**
	comp=Z,3.5nm,0.6s,baz=130,slow=7.9,SNR=3.2						
AAK	**Ala-Archa**	**51.22**	**300**	⇓*i*P	**P**	**09 19 22.0**	**+0.1**
AAK				pmax	pmax		
	comp=Z,16nm,1.2s						
AAK	**Ala-Archa**	**51.22**	**300**	*e*P	**P**	**09 19 21.9**	**-0.1**
	comp=Z,8.0nm,1.2s						
BVAR	**Borovoye Array**	**51.67**	**313**	P	**P**	**09 19 23.9**	**-0.9**
	comp=Z,1.0nm,0.3s,baz=99,slow=9.2,SNR=7.7						
BRVK	**Borovoye**	**51.72**	**313**	⇑*e*P	**P**	**09 19 25.2**	**-0.1**
BRVK				pmax	pmax		
	comp=Z,14nm,1.1s						
BRVK	**Borovoye**	**51.72**	**313**	*e*P	**P**	**09 19 23.1**	**-2.2**
	comp=Z,27nm,2.0s						
MNAS	**Manas**	**52.67**	**300**	P	**P**	**09 19 32.9**	**+0.2**
MNAS				pmax	pmax		
	comp=Z,6.0nm,1.2s						
CISI	**Cisompet, Garu**	**52.99**	**223**	*e*P	P	09 19 29.9	-5.2
	comp=Z,84nm,0.6s						
KKAR	**Karatay Array**	**53.90**	**301**	*e*P	**P**	**09 19 41.5**	**-0.1**
KKAR				pmax	pmax		
	comp=Z,30nm,0.8s						
KKAR	**Karatay Array**	**53.90**	**301**	*e*P	**P**	**09 19 41.5**	**-0.1**
	comp=Z,30nm,0.8s						
WRAB	**Tennant Creek**	**55.29**	**188**	⇑*e*P	**P**	**09 19 51.4**	**-0.3**
WRAB				pmax	pmax		
	comp=Z,37nm,0.9s						
WRAB	**Tennant Creek**	**55.29**	**188**	*e*P	**P**	**09 19 50.8**	**-1.0**
	comp=Z,15nm,0.9s						
WB2	**Warramunga Arr**	**55.30**	**188**	*e*P	**P**	**09 19 51.4**	**-0.4**
WR1	**Warramunga Arr**	**55.30**	**188**	*e*P	**P**	**09 19 51.2**	**-0.6**
	comp=Z,12nm,0.7s						
WRA	**Warramunga Arr**	**55.30**	**188**	P	**P**	**09 19 51.2**	**-0.6**
	comp=Z,9.6nm,0.6s,baz=4.6,slow=7.6,SNR=35						
DZET	**Dzherino**	**56.50**	**297**	P	**P**	**09 19 59.8**	**-0.7**
DZET				pmax	pmax		
	comp=Z,14nm,0.6s						
ARU	**Arti**	**57.59**	**319**	P	**P**	**09 20 07.7**	**-0.1**
	comp=Z,6.7nm,0.2s,baz=113,slow=3.8,SNR=7.3						
ARU	**Arti**	**57.59**	**319**	*c*P	**P**	**09 20 07.6**	**-0.2**
ARU						09 22 09.9	
ARU				S	**S**	**09 28 05.9**	**+1.3**
ARU				SS	**SS**	**09 31 59.4**	**+5.2**
ARU				pmax	pmax		
	comp=Z,9.0nm,0.8s						
ARU	**Arti**	**57.59**	**319**	*e*P	**P**	**09 20 07.9**	**0.0**
	comp=Z,11nm,1.0s						
ABKAR	**Akbulak array**	**58.98**	**311**	*e*P	**P**	**09 20 17.2**	**-0.4**
	comp=Z,49nm,0.4s						
AS01	**Alice Springs**	**59.02**	**188**	*e*P	**P**	**09 20 17.6**	**-0.5**
AS31	**Alice Springs**	**59.02**	**188**	*e*P	**P**	**09 20 16.4**	**-1.7**
	comp=Z,2.1nm,0.9s						
ASAR	**Alice Springs**	**59.02**	**188**	P	**P**	**09 20 18.1**	**0.0**
	comp=Z,2.4nm,0.6s,baz=15,slow=9.2,SNR=20						
ASAR	**Alice Springs**	**59.02**	**188**	P	**P**	**09 20 18.1**	**0.0**
ASAR				pmax	pmax		
	comp=Z,3.0nm,0.6s						
AKTO	**Aktyubinsk**	**59.76**	**313**	P	**P**	**09 20 22.1**	**-0.9**
	comp=Z,2.1nm,0.6s,baz=96,slow=6.0,SNR=8.1						
APA	**Apatity**	**64.24**	**336**	⇓*i*P	**P**	**09 20 51.0**	**-1.8**
APA				pmax	pmax		
	comp=Z,7.0nm,1.0s						
APA				MLR	MLR		
	comp=Z,300nm,16.0s						
GEYT	**Alibeck**	**64.57**	**300**	LR	LR	09 51 01.2	
	comp=Z,92nm,18.8s,baz=65,slow=38						
STKA	**Stephens Creek**	**66.79**	**180**	LR	LR	09 49 33.7	
	comp=Z,48nm,19.9s,baz=27,slow=35						
OBN	**Obninsk**	**69.43**	**324**	*e*P	**P**	**09 21 25.9**	**-0.1**
OBN				pmax	pmax		
	comp=Z,9.0nm,0.5s						
FIA0	**FINESS Array S**	**70.31**	**332**	*e*P	**P**	**09 21 30.7**	**-0.6**
FIA0	**FINESS Array S**	**70.31**	**332**	*e*P	**P**	**09 21 30.7**	**-0.6**
FINES	**FINESS Array B**	**70.31**	**332**	P	**P**	**09 21 30.7**	**-0.6**
	comp=Z,0.8nm,0.4s,baz=59,slow=7.4,SNR=7.6						
KBZ	**Khabaz**	**71.95**	**311**	P	**P**	**09 21 41.2**	**-0.3**
	comp=Z,2.3nm,0.8s,baz=40,slow=3.3,SNR=4.9						
KBZ	**Khabaz**	**71.95**	**311**	P	**P**	**09 21 41.3**	**-0.3**
KBZ				pmax	pmax		
	comp=Z,3.0nm,0.9s						
KIV	**Kislovodsk**	**71.96**	**311**	*e*P	**P**	**09 21 42.0**	**+0.2**
KIV				pmax	pmax		
	comp=Z,9.0nm,1.0s						
AKASG	**Malin Array Be**	**75.61**	**323**	P	**P**	**09 22 02.5**	**-0.4**
	comp=Z,1.4nm,0.5s,baz=46,slow=6.2,SNR=5.1						
AKASG				LR	LR	09 58 23.1	
	comp=Z,132nm,18.4s,baz=280,slow=38						
NB2	**NORSAR Subarra**	**75.76**	**337**	P	**P**	**09 22 03.4**	**-0.3**
	comp=Z,4.2nm,0.9s,baz=41,slow=5.9						
NB200	**NORSAR Array S**	**75.76**	**337**	*e*P	**P**	**09 22 03.9**	**+0.2**
NOA	**NORSAR Array B**	**75.76**	**337**	P	**P**	**09 22 03.9**	**+0.2**
	comp=Z,2.1nm,0.8s,baz=40,slow=5.7,SNR=5.3						
PD31	**Pinedale Array**	**79.01**	**45**	*e*P	**P**	**09 22 24.0**	**+1.5**
PDAR	**Pinedale Array**	**79.01**	**45**	P	**P**	**09 22 24.0**	**+1.5**
	comp=Z,0.4nm,0.5s,baz=264,slow=1.6,SNR=5.6						
BR101	**Keskin Array S**	**79.92**	**312**	*e*P	**P**	**09 22 27.3**	**0.0**
BRTR	**Keskin Array B**	**79.92**	**312**	P	**P**	**09 22 27.3**	**0.0**
	comp=Z,0.5nm,0.5s,baz=145,slow=5.3,SNR=3.3						
LCMT	**Little Creek M**	**80.25**	**51**	*e*P	**P**	**09 22 32.0**	**+2.8**
	comp=Z,8.0nm,1.7s						
KNB	**Kanab**	**80.52**	**51**	*e*P	**P**	**09 22 34.7**	**+4.0**
KNB				pmax	pmax		
	comp=Z,6.0nm,1.2s						
KNB	**Kanab**	**80.52**	**51**	*e*P	**P**	**09 22 34.7**	**+4.0**
	comp=Z,5.8nm,1.2s						
ULM	**Lac du Bonnet**	**81.05**	**33**	LR	LR	10 04 44.6	
	comp=Z,48nm,18.1s,baz=84,slow=40						
CLL	**Collm**	**82.55**	**330**	*e*P	**P**	**09 22 41.0**	**+0.1**
CLL	**Collm**	**82.55**	**330**	*e*P	**P**	**09 22 41.0**	**+0.1**
X16A	**Lo Mia Camp, P**	**82.99**	**53**	*e*P	**P**	**09 22 42.5**	**-1.3**
GEC2	**GERESS Array S**	**84.13**	**328**	*e*P	**P**	**09 22 49.4**	**+0.1**
GEC2				pmax	pmax		
	comp=Z,22nm,1.9s						
GEC2	**GERESS Array S**	**84.13**	**328**	*e*P	**P**	**09 22 49.4**	**+0.1**
	comp=Z,22nm,1.9s						
GERES	**GERESS Array B**	**84.13**	**328**	P	**P**	**09 22 49.4**	**+0.1**
	comp=Z,0.4nm,0.3s,baz=27,slow=6.6,SNR=3.1						
SCHQ	**Schefferville**	**87.07**	**16**	LR	LR	10 06 47.9	
	comp=Z,80nm,18.9s,baz=60,slow=39						
LTX	**Lajitas**	**91.31**	**52**	*e*P	**P**	**09 23 25.5**	**+1.3**
LTX	**Lajitas**	**91.31**	**52**	*e*P	**P**	**09 23 25.5**	**+1.3**
TXAR	**Lajitas Array**	**91.31**	**52**	P	**P**	**09 23 25.5**	**+1.2**

	comp=Z,0.3nm,0.6s,baz=307,slow=3.2,SNR=5.4						
TOA1	**Torodi Ar. Sit**	**118.46**	**314**	*e*PKPdf	**PKPdf**	**09 29 06.1**	**-0.4**
TORD	**Torodi Ar. Bea**	**118.46**	**314**	PKP	**PKPdf**	**09 29 06.1**	**-0.4**
	comp=Z,0.2nm,0.5s,baz=349,slow=2.6,SNR=3.3						
LPAZ	**La Paz**	**147.68**	**62**	PKPbc	**PKPbc**	**09 30 04.6**	**+0.6**
	comp=Z,0.8nm,0.5s,baz=281,slow=5.6,SNR=4.4						

ISCJB ***13*** *09:23:34.5±0.6, 6.86N±0.04×73.11W±0.05, h158km±6km, Error ellipse: s-maj=10.0km s-min=4.4km az=37.1*
FUNV ***13*** *09:23:34.8, 6.76N×73.16W, h167km, MW2.8*
RSNC ***13*** *09:23:36.3±1.3, 6.82N×73.12W, h148km±7km, ML3.1*

ISC 13 09:23:34.5±1.4, 6.84N±0.04×73.10W±0.05, h158km±9km, n23, σ0.87/34, 1C-1D, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
BARC	**Barichara**	**0.26**	**198**	*i*	P		**Pn**	**09 23 56.1**	**-0.2**
BARC					*e*S		**Sn**	**09 24 11.5**	**-1.3**
BARC					*i*			09 24 13.8	
	comp=Z,307nm,0.3s								
PAMC	**Pamplona, Colo**	**0.64**	**39**	*e*P			**Pn**	**09 23 59.0**	**+0.8**
PAMC					*e*S		**Sn**	**09 24 16.0**	**-0.1**
BRRC	**Barranca, Sant**	**0.66**	**294**	⇑*i*	P		**Pn**	**09 23 57.9**	**+0.2**
BRRC					*i*			09 23 59.4	
	comp=Z,350nm,0.1s								
BRRC					*e*S		**Sn**	**09 24 15.4**	**0.0**
RUSC	**La Rusia**	**0.94**	**179**	⇓*i*	P		**Pn**	**09 23 60.0**	**-0.2**
RUSC					*i*			09 24 01.1	
	comp=Z,80nm,0.1s								
RUSC					*e*S		**Sn**	**09 24 18.9**	**-1.0**
CAPV	**Capacho**	**1.29**	**37**	*e*P			**Pn**	**09 24 04.1**	**+1.2**
CAPV					*e*S		**Sn**	**09 24 25.5**	**+0.9**
OCAC	**Ocana**	**1.41**	**351**	*e*P			**Pn**	**09 24 04.6**	**+0.6**
OCAC					*i*			09 24 32.6	
	comp=Z,88nm,0.5s								
YOPC	**Yopal, Colombi**	**1.62**	**155**	*e*P			**Pn**	**09 24 07.0**	**+0.8**
ZARC	**Zaragoza, Cauc**	**1.86**	**291**	*e*P			**Pn**	**09 24 08.2**	**-0.4**
ZARC					*i*			09 24 41.2	
	comp=Z,133nm,0.3s								
NORC	**Norcasia**	**2.16**	**234**	*e*P			**Pn**	**09 24 12.0**	**-0.1**
NORC					*e*S		**Sn**	**09 24 39.9**	**-1.2**
CHIC	**Chingaza**	**2.28**	**196**	*e*P			**Pn**	**09 24 14.1**	**+0.2**
CHIC					*e*S		**Sn**	**09 24 44.7**	**+0.5**
CHIC					*i*			09 24 52.9	
	comp=Z,55nm,0.5s								
ROSC	**El Rosal**	**2.32**	**211**	*e*P			**Pn**	**09 24 15.5**	**+1.1**
ROSC					*e*S		**Sn**	**09 24 45.6**	**+0.5**
ROSC					*i*			09 24 50.7	
	comp=Z,80nm,0.4s								
HELC	**Santa Helena**	**2.50**	**255**	*e*P			**Pn**	**09 24 16.9**	**+0.5**
HELC					*i*			09 24 53.3	
	comp=Z,47nm,0.8s								
VIGV	**El Vigia**	**2.63**	**41**	*e*P			**Pn**	**09 24 19.1**	**+1.3**
VIGV					*e*S		**Sn**	**09 24 51.5**	**+0.4**
SOCV	**Socops**	**2.65**	**57**	*e*P			**Pn**	**09 24 18.4**	**+0.5**
SOCV					*e*S		**Sn**	**09 24 51.1**	**-0.4**
VILC	**Villavicencio,**	**2.77**	**192**	*e*P			**Pn**	**09 24 19.5**	**-0.1**
VILC					*i*			09 24 57.7	
	comp=Z,33nm,0.4s								
GUYC	**Guyana, Colomb**	**2.78**	**235**	*e*P			**Pn**	**09 24 21.1**	**+1.1**
GUYC					*i*			09 25 05.8	
	comp=Z,86nm,0.4s								
DBBC	**Dabeiba**	**3.09**	**274**	*e*P			**Pn**	**09 24 24.3**	**+0.8**
TOLC	**Tolima**	**3.14**	**225**	*e*P			**Pn**	**09 24 25.5**	**+1.1**
PRAC	**Prado**	**3.57**	**210**	*e*P			**Pn**	**09 24 29.3**	**-0.3**
VIRV	**Villa del Rosa**	**3.71**	**11**	*e*P			**Pn**	**09 24 32.0**	**+0.7**
VIRV					*e*S		**Sn**	**09 25 13.1**	**-2.3**
CURV	**Curarigua**	**4.43**	**44**	*e*P			**Pn**	**09 24 40.8**	**+0.1**
BAUV	**El Baul**	**5.43**	**67**	*e*P			**Pn**	**09 24 53.1**	**-0.8**
MONV	**Montecano**	**5.95**	**31**	*e*P			**Pn**	**09 25 00.4**	**-0.3**

DDA ***13*** *09:26:09.1, 35.67N×36.57E, h7km, Md2.6*
ISCJB ***13*** *09:26:10.5±0.8, 35.66N±0.03×36.60E±0.05, h4km±6km, Error ellipse: s-maj=6.8km s-min=4.2km az=171.2*
CSEM ***13*** *09:26:10.9±0.4, 35.65N×36.58E, h2km, ML1.9, Error ellipse: s-maj=9.8km s-min=7.0km az=72.0*
NSSC ***13*** *09:26:11.6±0.9, 35.77N×36.57E, h31km±9km, ML1.9*
ISK ***13*** *09:26:14.7, 35.75N×36.30E, h16km, MD2.7*

ISC 13 09:26:10.8±1.1, 35.69N±0.03×36.56E±0.03, h14km±9km, n29, σ1.03/51, Jordan-Syria region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
BTCH	**Batrach**	**0.36**	**347**	*e*P			**Pb**	**09 26 18.8**	**-0.2**
BTCH					*e*S		**Sb**	**09 26 23.8**	**-0.7**
BTCH						AML	AML	09 26 28.2	
	comp=E,129nm,0.3s								
BTCH						AML	AML	09 26 30.8	
	comp=N,222nm,0.5s								
BTCH	**Batrach** SNR=132	**0.36**	**347**	*e*P			**Pb**	**09 26 18.8**	**-0.2**
BTCH					*e*S		**Sb**	**09 26 23.8**	**-0.7**
	comp=N,222nm,0.5s,SNR=131								
YAYL	**Yayladag**	**0.51**	**313**	*i*	P		**Pg**	**09 26 18.9**	**-1.8**
YAYL					*i*	S	**Sg**	**09 26 28.1**	**+0.5**
YAYL	**Yayladag**	**0.51**	**313**		P		**Pg**	**09 26 19.0**	**-1.8**
YAYL					S		**Sg**	**09 26 28.1**	**+0.5**
ARNB	**Al Arnab**	**0.51**	**290**	*e*P			**Pb**	**09 26 21.9**	**+0.4**
ARNB					*e*S		**Sb**	**09 26 29.1**	**+0.3**
ARNB						AML	AML	09 26 36.3	
	comp=N,42nm,0.2s								
ARNB						AML	AML	09 26 38.0	
	comp=E,55nm,0.3s								
ARNB	**Al Arnab** SNR=114	**0.51**	**290**	*e*P			**Pb**	**09 26 21.9**	**+0.4**
ARNB					*e*S		**Sb**	**09 26 29.1**	**+0.3**
	comp=E,55nm,0.3s,SNR=113								
TAHT	**Tahtakopru-Hat**	**0.75**	**336**	*e*PG			**Pn**	**09 26 27.6**	**+0.6**
TAHT					*e*SG		**Sn**	**09 26 37.0**	**-1.2**
TAHT	**Tahtakopru-Hat**	**0.75**	**336**	*e*Pg			**Pn**	**09 26 27.6**	**+0.6**
DRWC	**Darouich**	**0.94**	**5**	*e*P			**Pb**	**09 26 27.8**	**-1.1**
DRWC					*e*S		**Sb**	**09 26 38.6**	**-2.5**
DRWC						AML	AML	09 26 45.1	
	comp=E,35nm,0.7s								
DRWC						AML	AML	09 26 46.2	
	comp=N,68nm,0.4s								
DRWC	**Darouich** SNR=102	**0.94**	**5**	*e*P			**Pb**	**09 26 27.8**	**-1.1**
KUZU	**Kuzuini**	**1.16**	**21**	*i*	P		**Pb**	**09 26 32.2**	**-0.4**
KUZU				*i*	S		**Sn**	**09 26 49.0**	**+0.7**
KUZU	**Kuzuini**	**1.16**	**21**		P		**Pb**	**09 26 32.2**	**-0.4**
KUZU					S		**Sn**	**09 26 49.0**	**+0.7**
DORT	**Dortyol-Hatay**	**1.17**	**346**	*e*PN			**Pg**	**09 26 35.7**	**+2.3**
DORT				*e*SN			**Sg**	**09 26 51.0**	**+2.3**
DORT	**Dortyol-Hatay**	**1.17**	**346**	*e*Pn			**Pg**	**09 26 35.7**	**+2.3**
DORT				*e*Sn			**Sg**	**09 26 51.0**	**+2.3**
KRTS	**Karatas**	**1.30**	**313**	*e*PN			**Pg**	**09 26 36.2**	**+0.3**
KRTS				*e*SN			**Sg**	**09 26 51.8**	**0.0**
KRTS	**Karatas**	**1.30**	**313**	*e*Pn			**Pg**	**09 26 36.2**	**+0.3**
KRTS				*e*Sn			**Sn**	**09 26 51.8**	**0.0**
KAMA	**Osmaniye**	**1.50**	**3**	*i*	P		**Pn**	**09 26 37.9**	**+0.5**
KAMA				*i*	S		**Sg**	**09 26 58.2**	**-0.9**
ROOS	**tl_alroos**	**1.63**	**158**	*e*P			**Pb**	**09 26 40.7**	**0.0**
ROOS					*e*S		**Sn**	**09 26 59.6**	**-0.3**
ROOS						AML	AML	09 27 03.1	
	comp=E,28nm,0.5s								
ROOS						AML	AML	09 27 05.6	
	comp=N,14nm,0.7s								
ROOS	**tl_alroos** SNR=57	**1.63**	**158**	*e*P			**Pb**	**09 26 40.7**	**0.0**
ROOS					*e*S		**Sn**	**09 26 59.6**	**-0.3**
	comp=N,14nm,0.7s,SNR=58								
MARH	**Ras Al Marh**	**1.66**	**182**	*e*P			**Pb**	**09 26 41.0**	**-0.3**
MARH					*e*S		**Sn**	**09 27 00.6**	**-0.4**
MARH						AML	AML	09 27 10.7	
	comp=N,17nm,0.3s								
MARH						AML	AML	09 27 14.6	
	comp=E,12nm,0.4s								
MARH	**Ras Al Marh** SNR=57	**1.66**	**182**	*e*P			**Pb**	**09 26 41.0**	**-0.3**
MARH					*e*S		**Sn**	**09 27 00.6**	**-0.4**
	comp=E,12nm,0.4s,SNR=58								
HCB	**Kahramanmara¯**	**1.68**	**10**	*i*	P		**Pn**	**09 26 40.1**	**+0.4**
HCB				*i*	S		**Sn**	**09 27 00.5**	**-0.6**
KMRS	**Kahramanmaras**	**1.83**	**8**	*e*PN			**Pg**	**09 26 46.2**	**+0.3**
KMRS	**Kahramanmaras**	**1.83**	**8**	*e*Pn			**Pg**	**09 26 46.3**	**+0.3**
DED	**Mersin**	**1.91**	**312**	*i*	S		**Sg**	**09 27 12.9**	**+0.7**
SURC	**SANLIURFA_SURC**	**2.04**	**54**	*i*	P		**Pb**	**09 26 46.8**	**-0.9**
SURC				*i*	S		**Sb**	**09 27 12.9**	**0.0**
SURC	**SANLIURFA_SURC**	**2.04**	**54**		P		**Pb**	**09 26 46.8**	**-0.9**
SURC					S		**Sb**	**09 27 12.9**	**0.0**

GULE	**Gulek**	**2.15**	**318**	*i*	S	**Sg**	**09 27 18.5**	**-1.3**
GULE	**Gulek**	**2.15**	**318**		S	**Sg**	**09 27 18.5**	**-1.3**

MAN 13 09:49:11,12.41N×120.78E, h27km, mb4.1, ML2.9, MS2.6, 1D, Mindoro

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
BUSP	**Coron**	**0.70**	**235**	*e*P			Pn	09 49 25.5	+0.4
BUSP					*e*S		Sn	09 49 36.3	+1.2
LUBP	**Lubang**	**1.42**	**338**	*e*P			Pn	09 49 35.2	+0.2
LUBP					*e*S		Sb	09 49 54.4	-0.1
BOAC	**Boac**	**1.47**	**45**	*e*P			Pn	09 49 36.3	+0.6
BOAC					*e*S		Sn	09 49 54.8	+0.7
RCP	**Roxas**	**2.10**	**113**	⇓*e*P			Pn	09 49 46.1	+1.7

CSEM ***13*** *09:50:04.7, 39.51N×29.74W, h5km, ML3.2*

PDA 13 09:50:04.7±1.0, 39.51N×29.74W, h5km, MD3.5, ML3.2, Error ellipse: s-maj=23.9km s-min=7.8km az=52.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PCED	**Cedros**	**1.20**	**137**	*e*P			Pg	09 50 23.1	-4.5
PCED					*e*S		Sg	09 50 36.7	-6.5
PCED					A		A	09 50 37.5	
	164nm,0.2s								
PCED	**Cedros**	**1.20**	**137**	*e*P			Pg	09 50 23.1	-4.5
PCED					*e*S		Sg	09 50 36.7	-6.5
CALA	**Caldeira**	**1.23**	**139**		*e*S		Sg	09 50 38.2	-6.1
CALA	**Caldeira**	**1.23**	**139**		*e*S		Sg	09 50 38.2	-6.1
HOR	**Horta**	**1.31**	**138**	*e*P			Pn	09 50 24.9	-4.7
HOR					*e*S		Sg	09 50 39.4	-7.4
HOR					A		A	09 50 41.1	
	609nm,0.2s								
HOR	**Horta**	**1.31**	**138**	*e*P			Pn	09 50 24.9	-4.7
HOR					*e*S		Sg	09 50 39.4	-7.4
ROSA	**Rosais**	**1.41**	**124**	*e*S			Sb	09 50 42.1	-7.6
ROSA					A		A	09 50 44.5	
	49nm,0.3s								
ROSA	**Rosais**	**1.41**	**124**	*e*S			Sb	09 50 42.1	-7.6
PCAN	**Candelaria**	**1.43**	**137**	*e*P			Pn	09 50 26.5	-4.9
PCAN					*e*S		Sb	09 50 43.4	-7.0
PCAN					A		A	09 50 44.0	
	349nm,0.2s								
PCAN	**Candelaria**	**1.43**	**137**	*e*P			Pn	09 50 26.5	-4.9
PCAN					*e*S		Sb	09 50 43.4	-7.0
PICO	**Pico**	**1.44**	**134**	*e*P			Pn	09 50 26.8	-4.7
PICO					*e*S		Sb	09 50 43.5	-7.2
PICO					A		A	09 50 46.8	
	364nm,0.2s								
PICO	**Pico**	**1.44**	**134**	*e*P			Pn	09 50 26.8	-4.7
PICO					*e*S		Sb	09 50 43.5	-7.2

ISK ***13*** *09:51:40.8, 36.17N×37.06E, h8km, MD2.7*
DDA ***13*** *09:51:43.7, 36.25N×36.99E, h7km, Ml3.1*
ISCJB ***13*** *09:51:44.7±1.1, 36.32N±0.04×36.96E±0.06, h1km±11km, Error ellipse: s-maj=9.1km s-min=4.9km az=28.2*
CSEM ***13*** *09:51:44.0±0.5, 36.32N×37.03E, h8km, ML1.8, Error ellipse: s-maj=13.2km s-min=6.5km az=143.0*

ISC 13 09:51:44.0±1.2, 36.27N±0.04×36.96E±0.04, h10km±10km, n17, σ1.05/29, Jordan-Syria region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
DRWC	**Darouich** SNR=102	**0.42**	**326**	*e*P			**Pg**	**09 51 52.5**	**+0.1**
DRWC					*e*S		**Sg**	**09 51 57.8**	**-0.2**
	105nm,0.5s,SNR=99								
BTCH	**Batrach** SNR=97	**0.47**	**240**	*e*P			**Pn**	**09 51 56.3**	**-0.6**
BTCH					*e*S		**Sb**	**09 52 02.3**	**+0.9**
	87nm,0.4s,SNR=96								
KUZU	**Kuzuini**	**0.51**	**10**	*i*	P		**Pg**	**09 51 54.2**	**+0.2**
KUZU	**Kuzuini**	**0.51**	**10**		P		**Pg**	**09 51 54.2**	**+0.2**
TAHT	**Tahtakopru-Hat**	**0.64**	**280**	*e*PG			**Pg**	**09 51 55.4**	**-0.9**
TAHT				*e*SG			**Sg**	**09 52 05.7**	**+1.1**
YAYL	**Yayladag**	**0.73**	**251**	*e*PG			**Pg**	**09 51 56.3**	**-1.8**
YAYL				*e*SG			**Sg**	**09 52 07.6**	**-0.1**
YAYL	**Yayladag**	**0.73**	**251**	*i*	P		**Pg**	**09 51 58.0**	**-0.2**
YAYL				*i*	S		**S

baz=38
CHN5 *i* S **Sg** 10 44 40.0 -0.3
baz=38
ALS **Alishan** 0.18 71 ⇑*i*P **Pg** 10 44 38.3 +0.1
baz=77
ALS S **Sg** 10 44 41.9 +0.7
baz=77
WTP **Ta-pu** 0.21 181 ⇑*i*P **Pg** 10 44 38.5 0.0
baz=169
WTP S **Sg** 10 44 42.4 +0.9
baz=169
TWK **Hsinying** 0.22 213 ⇓*i*P **Pg** 10 44 38.6 -0.1
baz=204
TWK *i* S **Sg** 10 44 42.6 +0.7
baz=204
WGK **Gukeng** 0.24 348 *e*P **Pg** 10 44 38.8 -0.2
baz=352
WGK *e*S **Sg** 10 44 43.1 +0.7
baz=352
CHN1 **Nanshi** 0.28 197 P **Pb** 10 44 39.8 -1.1
baz=193
CHN1 *i* S **Sb** 10 44 45.0 -0.6
baz=193
STYT **Tauyuan** 0.32 156 ⇑*i*P **Pb** 10 44 40.7 -0.8
baz=153
STYT S **Sb** 10 44 46.5 -0.1
baz=153
SGST **Jiashian** 0.37 185 *e*P **Pb** 10 44 42.0 -0.4
baz=182
SGST *e*S **Sb** 10 44 48.5 +0.3
baz=182
CHN8 **Yiju** 0.39 254 *i* P **Pg** 10 44 41.6 0.0
baz=252
CHN8 S **Sb** 10 44 48.4 -0.3
baz=252
WSF **Szhu** 0.41 297 *i* P **Pg** 10 44 41.7 -0.4
baz=297
WSF S **Sg** 10 44 48.4 +0.9
baz=297
WNT **Mingjian** 0.43 8 ⇓P **Pg** 10 44 42.7 +0.3
baz=10.0
WNT *e*S **Sb** 10 44 49.6 -0.2
baz=10.0
CHN3 **Shinhua** 0.44 212 *e*P **Pb** 10 44 43.3 -0.3
baz=209
ELDTW **Lidau** 0.45 125 ⇑P **Pb** 10 44 43.4 -0.5
baz=120
ELDTW S **Sb** 10 44 50.9 +0.3
baz=120
SCLT **Jiali** 0.48 235 *e*P **Pg** 10 44 43.6 +0.2
baz=232
SCLT *e*S **Sb** 10 44 51.7 +0.5
baz=232
SMLT **Sun Moon Lake** 0.50 31 ⇓*i*P **Pb** 10 44 44.2 -0.6
baz=32
SMLT *e*S **Sb** 10 44 52.7 +0.7
baz=32
WTCT **Ta-ch'eng** 0.51 323 *e*P **Pg** 10 44 43.2 -0.8
baz=324
WTCT S **Sg** 10 44 51.5 +0.7
baz=324
TAI1 **Yung-k'ang** 0.55 221 *e*P **Pb** 10 44 45.6 +0.2
baz=232
TAI1 *e*S **Sb** 10 44 54.7 +1.6
baz=232
WDT **Danda** 0.56 57 ⇑*i*P **Pb** 10 44 45.5 -0.4
baz=70
WDT *e*S **Sb** 10 44 53.8 -0.2
baz=70
TWF1 **Yuli** 0.63 99 ⇑*i*P **Pb** 10 44 46.8 -0.1
baz=107
TWF1 *e*S **Sb** 10 44 56.1 +0.4
baz=107
EHY **Hungye** 0.65 85 P **Pb** 10 44 47.0 -0.2
baz=91
EHY *e*S **Sn** 10 44 58.4 -0.7
baz=91
TWM1 **Shoushan** 0.65 196 *e*P **Pn** 10 44 47.9 -1.1
baz=178
TCU **Taichung** 0.69 4 *e*P **Pg** 10 44 47.2 -0.2
baz=6.0
TWG **Pinlang** 0.76 146 *e*P **Pb** 10 44 49.0 0.0
baz=147
TWG S **Sn** 10 45 00.4 -1.3
baz=147
CHKT **Chengkung** 0.77 117 *e*P **Pn** 10 44 49.5 -1.1
baz=118
CHKT *e*S **Sn** 10 45 02.8 +0.7
baz=118
ESL **Shilin** 0.83 64 P **Pb** 10 44 50.3 0.0
baz=73
ESL *e*S **Sn** 10 45 02.8 -0.8
baz=73
WDGT **Dungji** 0.90 258 *e*P **Pg** 10 44 49.8 -1.5
baz=257
TWQ1 **Liyutan** 0.90 9 ⇓*i*P **Pg** 10 44 51.3 -0.1
baz=9.0
TWQ1 S **Sb** 10 45 04.5 +1.0
baz=9.0
ECL **Taimali** 0.91 160 *e*P **Pn** 10 44 51.8 -0.6
baz=147
ECL *e*S **Sn** 10 45 05.5 +0.1
baz=147
WHF **Hehuan Shan** 0.91 41 *e*P **Pb** 10 44 51.5 -0.4
baz=41
TWT **Tachien** 0.95 33 ⇑P **Pg** 10 44 51.4 -0.8
baz=32
NSY **Sanyi** 0.97 8 P **Pg** 10 44 52.5 -0.1
baz=7.0
NSY S **Sb** 10 45 06.7 +1.3
baz=7.0
PNG **Penghu** 0.98 277 *e*P **Pg** 10 44 51.0 -1.9
baz=276
HWA **Hwalien** 1.04 60 *e*P **Pn** 10 44 54.3 0.0
baz=61
SCZT **Fangliau** 1.08 180 *e*P **Pn** 10 44 54.9 +0.1
baz=170
SCZT *e*S **Sn** 10 45 10.9 +1.2
baz=170
EAST **Anshuo** 1.09 169 ⇓P **Pn** 10 44 55.0 0.0
baz=177
EAST *e*S **Sn** 10 45 10.8 +0.8
baz=177
TWD **Chiawan** 1.09 55 P **Pn** 10 44 54.7 -0.3
baz=55
TWD *e*S **Sn** 10 45 09.6 -0.4
baz=55
NNS **Nan Shan** 1.20 35 *e*P **Pb** 10 44 55.9 -0.8
baz=34
NNS *e*S **Sn** 10 45 14.2 +1.3
baz=34
NSTT **Nanjuang** 1.22 17 *e*P **Pn** 10 44 55.9 -1.0
baz=15
NSTT *e*S **Sg** 10 45 13.3 -0.1
baz=15
NSK **Sanguang** 1.39 29 P **Pn** 10 44 59.3 +0.1
baz=27
NSK *e*S **Sn** 10 45 18.2 +0.6
baz=27
ENA **Nanau** 1.41 46 *e*P **Pb** 10 45 00.1 -0.1
baz=47
ENTT **Nioudou** 1.47 36 *e*P **Pb** 10 45 00.7 -0.5
baz=35
TWK1 **Hengchun** 1.51 173 *e*P **Pg** 10 45 02.8 -0.2
baz=167
TWE **Neicheng** 1.59 37 *e*P **Pb** 10 45 02.6 -0.6
baz=36
TWE *e*S **Sg** 10 45 25.1 +0.1
baz=36
TWC **Suao** 1.61 44 *e*P **Pb** 10 45 03.4 -0.2
baz=43
TWC *e*S **Sg** 10 45 25.4 -0.3
baz=43
NWF **Wu-fen Shan** 1.93 33 *e*P **Pb** 10 45 08.0 -1.1
baz=31
NWF *e*S **Sb** 10 45 33.0 -0.2
baz=31
TWB1 **Santiao Chiao** 1.99 39 *e*P **Pn** 10 45 08.4 +1.0
baz=19
KNM **Kinmen** 2.22 296 *e*P **Pn** 10 45 10.7 +0.2
baz=293
JYNG **Yonagunijimaku** 2.35 65 P **Pb** 10 45 14.1 -2.1
JYNG *e*S **Sb** 10 45 44.6 -0.6
IRIF **Iriomote-Funau** 2.98 72 P **Pn** 10 45 22.5 +1.5
IRIF *e*S **Sb** 10 46 00.9 -2.4
JKRS **Kuro-shima** 3.20 75 P **Pn** 10 45 25.8 +1.8
JKRS *e*S **Sb** 10 46 05.9 -3.8
JIJ **Ishigaki jima** 3.35 74 P **Pn** 10 45 27.2 +1.1
JIJ S **Sn** 10 46 08.1 +2.3
JISG **Ishigakijimahi** 3.56 71 P **Pn** 10 45 29.9 +0.9
JISG *e*S **Sn** 10 46 13.2 +2.2
JTJ **Tarama** 3.92 72 S **Sn** 10 46 23.2 +3.4

ISCJB ***13*** *11:08:47.9±0.4, 37.°55N±0.°03×35.°70E±0.°03, h9km±4km, Error ellipse: s-maj=5.1km s-min=3.9km az=178.2*
ISK ***13*** *11:08:47.2, 37.°55N×35.°70E, h8km, MD2.9*
CSEM ***13*** *11:08:48.1±0.2, 37.°54N×35.°70E, h10km, MD2.9, Error ellipse: s-maj=4.0km s-min=3.3km az=3.0*
DDA ***13*** *11:08:48.0, 37.°54N×35.°71E, h7km, Ml2.9*
ISC 13 11:08:48.0±0.9, 37.°56N±0.°03×35.°71E±0.°02, h8km±8km, n42, σ0s62/53, Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KOZT	**Kozan**	0.12	129	PG	**Pg**	**11 08 50.7**	**0.0**
KOZT				*e*SG	**Sg**	**11 08 52.6**	**0.0**
KOZT	**Kozan**	0.12	129	*i* Pg	**Pg**	**11 08 50.7**	**0.0**
KOZT				*e*Sg	**Sg**	**11 08 52.6**	**0.0**
AKO	**Adana**	0.23	245	*i* P	**Pg**	**11 08 52.7**	**+0.2**
AKO				*i* S	**Sg**	**11 08 56.1**	**+0.4**
ANDN	**Andirin**	0.51	87	*i* P	**Pg**	**11 08 58.2**	**+0.3**
ANDN				*i* S	**Sb**	**11 09 06.9**	**0.0**
ANDN	**Andirin**	0.51	87	P	**Pg**	**11 08 58.2**	**+0.3**
ANDN				S	**Sb**	**11 09 06.9**	**0.0**
CEYT	**Ceyhan**	0.55	176	*e*PG	**Pg**	**11 08 58.1**	**-0.5**
CEYT				*e*SG	**Sg**	**11 09 06.2**	**+0.5**
CEYT	**Ceyhan**	0.55	176	*e*Pg	**Pg**	**11 08 58.1**	**-0.5**
CEYT				*e*Sg	**Sg**	**11 09 06.2**	**+0.5**
YAHY	**KAYSERI_Yahyal**	0.60	333	*i* P	**Pb**	**11 09 00.7**	**-0.2**
YAHY				*i* S	**Sb**	**11 09 09.0**	**-0.5**
YAHY	**KAYSERI_Yahyal**	0.60	333	P	**Pb**	**11 09 00.6**	**-0.2**
YAHY				S	**Sb**	**11 09 09.0**	**-0.5**
YURE	**YUREGIR**	0.73	185	*i* P	**Pb**	**11 09 03.6**	**+0.6**
YURE	**YUREGIR**	0.73	185	P	**Pb**	**11 09 03.6**	**+0.6**
GULE	**Gulek**	0.79	250	*i* P	Pg	11 08 53.6	-10
GULE				*i* S	**Sg**	**11 09 13.9**	**+0.5**
KAMA	**Osmaniye**	0.85	116	*i* P	**Pg**	**11 09 04.3**	**-0.1**
DED	**Mersin**	0.94	231	*i* P	**Pg**	**11 09 05.8**	**-0.2**
KMRS	**Kahramanmaras**	0.95	93	*e*PG	**Pg**	**11 09 05.9**	**-0.3**
KMRS				*e*SG	**Sb**	**11 09 19.5**	**0.0**
KMRS	**Kahramanmaras**	0.95	93	*e*Pg	**Pg**	**11 09 05.9**	**-0.3**
KMRS				*e*Sg	**Sb**	**11 09 19.5**	**0.0**
HCB	**Kahramanmara¯**	0.98	102	*i* P	**Pg**	**11 09 06.5**	**-0.3**
SARI	**SarD1z-Kayseri**	1.02	33	*e*PG	**Pg**	**11 09 07.2**	**-0.4**
KRTS	**Karatas**	1.02	195	*e*PG	**Pg**	**11 09 07.3**	**-0.2**
KRTS	**Karatas**	1.02	195	*e*Pg	**Pg**	**11 09 07.3**	**-0.2**
NIG	**Nigde**	1.03	303	*e*PG	**Pg**	**11 09 07.7**	**0.0**
NIG	**Nigde**	1.03	303	*e*Pg	**Pg**	**11 09 07.7**	**0.0**
MERS	**Mersin**	1.17	234	*e*PN	**Pg**	**11 09 09.3**	**-1.1**
MERS	**Mersin**	1.17	234	*e*Pn	**Pg**	**11 09 09.3**	**-1.1**
TAHT	**Tahtakopru-Hat**	1.24	162	*e*PN	**Pb**	**11 09 10.6**	**-1.1**
TAHT	**Tahtakopru-Hat**	1.24	162	*e*Pn	**Pb**	**11 09 10.6**	**-1.1**
KERG	**Konya-Eregli**	1.27	264	*i* P	**Pg**	**11 09 12.7**	**+0.4**
KERG	**Konya-Eregli**	1.27	264	P	**Pg**	**11 09 12.6**	**+0.4**
GZT	**Gaziantep**	1.49	97	*i* P	**Pg**	**11 09 18.6**	**+1.9**
KIZK	**Mersin**	1.65	230	*e*PN	**Pn**	**11 09 16.9**	**-0.3**
KIZK	**Mersin**	1.65	230	*i* P	**Pg**	**11 09 21.3**	**+1.7**
KIZK	**Mersin**	1.65	230	P	**Pg**	**11 09 21.3**	**+1.7**
DARE	**Darende-Malaty**	1.73	54	*e*PN	**Pn**	**11 09 18.7**	**+0.2**
DARE	**Darende-Malaty**	1.73	54	*e*Pn	**Pn**	**11 09 18.7**	**+0.2**
KEBE	**Keben-Mersin**	1.94	236	*e*PN	**Pn**	**11 09 21.5**	**+0.1**
KEBE	**Keben-Mersin**	1.94	236	*e*Pn	**Pn**	**11 09 21.5**	**+0.1**
IKL	**Isikli**	2.09	231	*e*PN	**Pn**	**11 09 23.2**	**-0.1**
IKL	**Isikli**	2.09	231	*e*Pn	**Pn**	**11 09 23.2**	**-0.1**
TEVE	**Tevekalti-Mers**	2.13	239	*e*PN	**Pn**	**11 09 23.6**	**-0.4**
TEVE	**Tevekalti-Mers**	2.13	239	*e*Pn	**Pn**	**11 09 23.6**	**-0.4**
HDMB	**Hadim**	2.64	258	*e*PN	**Pn**	**11 09 31.0**	**-0.1**
HDMB	**Hadim**	2.64	258	*e*Pn	**Pn**	**11 09 31.0**	**-0.1**

MEX 13 11:11:07.6±1.3, 15.°80N×92.°45W, h208km±11km, MD3.6, Mexico-Guatemala border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CCIG	**Comitan**	0.57	32	*e*P	Pn	11 11 33.7	-2.4
CCIG				*i* S	S	11 11 56.6	-1.8
TGIG		1.17	327	*e*P	Pn	11 11 38.8	-0.7
TGIG				*i* S	S	11 12 01.7	-2.5

NIED ***13*** *11:52:00, 38.°10N×144.°00E, h5km, Mw3.3 Best double couple: Mo1.17000×10^14 NP1:φs5.00000°, δ31.00000°, λ-111.00000°. NP2:φs209.00000°, δ61.00000°, λ-78.00000°.*
JMA 13 11:52:40.9±0.2, 38.°07N×144.°05E, h34km, M3.5, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
OFUJ	**Ofunato**	2.12	299	P	Pn	11 53 15.3	+1.4
OFUJ				*e*S	Sn	11 53 40.9	+1.8
JIO	**Ouri**	2.16	281	P	Pn	11 53 15.9	+1.4
JIO				*e*S	Sn	11 53 41.6	+1.6
MIYJ	**Miyakonagasawa**	2.30	312	*e*S	Sn	11 53 45.3	+1.7
JOU	**Okura**	2.68	277	P	Pn	11 53 24.2	+2.5
JOU				*e*S	Sn	11 53 55.4	+2.4
JRG	**Rokugo**	2.98	297	P	Pn	11 53 28.8	+3.0
JRG				*e*S	Sn	11 54 03.8	+3.5
JFT	**Otama**	2.99	261	*e*S	Sn	11 54 02.8	+2.2
JYK	**Kaneyama**	3.02	287	P	Pn	11 53 28.7	+2.4
JYK				*e*S	Sn	11 54 04.4	+3.2
JTM	**Tenmabayashi**	3.56	321	*e*S	Sn	11 54 15.1	+0.5
JCH	**Churui**	4.57	354	*e*S	Sn	11 54 36.4	-3.1
JRY	**Ryogami san**	4.60	245	P	Pn	11 53 48.9	+0.8
JRY				*e*S	Sn	11 54 39.4	-0.9
NEM2	**Nemuro 2**	5.44	13	P	Pn	11 53 57.1	-2.5
NEM2				*e*S	Sn	11 54 54.1	-6.9
JTKR	**Abashiri--Toko**	5.90	359	P	Pn	11 54 55.4	-0.4
JTKR				*e*S	Sn	11 55 08.0	-4.1

IDC ***13*** *12:14:56.8±1.5, 36.°68N×140.°64E, h0km, mb3.5/3, mb1 3.8/4, mb1mx3.4/39, mbtmp3.6/4, ML3.2/1, Error ellipse: s-maj=29.0km s-min=26.0km az=152.0*
ISCJB ***13*** *12:14:57.1±0.7, 36.°78N×0.°03×140.°66E±0.°05, h14km±4km, mb3.6/3, Error ellipse: s-maj=7.0km s-min=4.1km az=18.8*
JMA ***13*** *12:14:57.8, 36.°80N×140.°58E, h5km±1km, M3.4 Broadband fault plane solution: P waves. NP1: φs232.00000°, δ75.00000°, λ-96.00000°. NP2:φs76.00000°, δ16.00000°, λ-67.00000°. Principal axes: T Plg30.0000°, Azm327.0000°; N Plg6.0000°, Azm233.0000°; P Plg59.0000°, Azm133.0000°;*
JMA Felt I J1.
ISC 13 12:14:57.6±1.0, 36.°79N±0.°03×140.°59E±0.°04, h9km±7km, n14, σ0s73/25, mb3.6/3, 5C, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JHO	**Hitachi**	0.18	186	⇑P	**Pg**	**12 15 01.6**	**+0.2**
JHO				*S*	**Sg**	**12 15 04.5**	**+0.6**
ONAJ	**Iwakimizuishiy**	0.35	28	⇑P	**Pg**	**12 15 04.5**	**-0.1**
ONAJ				*S*	**Sg**	**12 15 09.5**	**+0.2**
JSB	**Shiboa**	0.57	288	⇑P	**Pg**	**12 15 09.1**	**+0.5**
JSB				*S*	**Sg**	**12 15 17.0**	**+0.9**
JFK	**Kawauchi**	0.62	21	⇑P	**Pg**	**12 15 09.1**	**-0.5**
JFK				*S*	**Sg**	**12 15 17.3**	**-0.4**
JYT	**Yasato**	0.65	210	P	**Pb**	**12 15 10.2**	**-0.9**
JYT				*S*	**Sb**	**12 15 19.8**	**-1.3**
JFT	**Otama**	0.76	344	⇑P	**Pg**	**12 15 11.9**	**-0.3**
JFT				*S*	**Sg**	**12 15 22.0**	**0.0**
JFY	**Yanaizu**	0.94	311	P	**Pg**	**12 15 15.0**	**-0.7**
JFY				*eS*	**Sg**	**12 15 27.3**	**-0.6**
JAG	**Ashikaga**	0.99	249	P	**Pg**	**12 15 15.8**	**-0.8**
JAG				S	**Sg**	**12 15 28.8**	**-0.6**
MJAR	**Matsushiro Arr**	1.93	263	Pn	**Pn**	**12 15 31.4**	**+0.7**
	11nm,0.3s,baz=86,slow=15,SNR=64						
MJAR				Sn	**Sn**	**12 15 56.1**	**+1.0**
	18nm,0.3s,baz=59,slow=17,SNR=13						
MAT	**Matsushiro**	1.93	263	P	**Pn**	**12 15 31.7**	**+1.0**
MAT				S	**Sb**	**12 15 57.3**	**0.0**
JHJ	**Hachijo jima 2**	3.72	191	Pn	**Pn**	**12 15 56.1**	**+0.9**
	4.8nm,0.3s,baz=148,slow=23,SNR=6.1						
JHJ				Sn	**Sn**	**12 16 38.8**	**-0.4**
	4.8nm,0.3s,baz=73,slow=19,SNR=4.0						
WRA **Warramunga Arr** 56.73 187 P **P** 12 24 41.1 -0.7
0.5nm,0.5s,baz=4.7,slow=7.4,SNR=9.4
ASAR **Alice Springs** 60.46 187 P **P** 12 25 07.3 -0.4
0.3nm,0.8s,baz=8.0,slow=8.0,SNR=3.1
TXAR **Lajitas Array** 90.79 52 P **P** 12 28 02.7 +1.1
0.2nm,0.6s,baz=313,slow=1.8,SNR=2.7

KRNET ***13*** *12:24:48.5±0.1, 39.°03N×72.°04E, mb3.1*
NNC ***13*** *12:24:49.7±5.6, 38.°96N×72.°29E, h0km, mb3.8, mpv3.5, Error ellipse: s-maj=56.1km s-min=19.4km az=139.0*
ISC 13 12:24:49.8±2.6, 39.°09N±0.°09×72.°01E±0.°08, h10km±15km, n13, σ2s40/24, 17C-6D, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BTK	**Batken**	1.34	317	⇑*i*P	**Pg**	**12 25 16.1**	**+0.6**
	baz=318						
BTK				⇑*i*S	**Sg**	**12 25 35.2**	**+2.3**
	baz=318						
ARSB	**Arslanbob**	2.35	18	⇑*e*P	**Pb**	**12 25 31.1**	**-1.3**
	baz=17						
ARSB				⇑*i*S	**Sb**	**12 26 03.5**	**+1.9**
	baz=17						
DZET	**Dzherino**	2.50	265	⇓Pn	**Pb**	**12 25 32.8**	**-2.0**
	25nm,0.6s						
DZET				⇓Sn	**Sg**	**12 26 09.9**	**-0.2**
	80nm,0.5s						
ARK	**Arkit**	2.71	359	⇑*e*P	**Pb**	**12 25 35.9**	**-2.5**
	baz=359						
ARK				⇑*e*S	**Sb**	**12 26 12.1**	**+0.4**
	baz=359						
TOKL	**Toktogul**	2.92	13	⇑*e*P	**Pn**	**12 25 38.3**	**+1.8**
	baz=12						
TOKL				⇑*e*S	**Sb**	**12 26 17.2**	**-0.7**
	baz=12						
AML	**Almayashu**	3.30	22	⇑*i*P	**Pn**	**12 25 42.8**	**+0.9**
	baz=21						
AML				⇑*i*S	**Sn**	**12 26 20.5**	**-0.9**
	baz=21						
MNAS	**Manas**	3.42	6	⇓*e*P	**Pn**	**12 25 45.5**	**+2.2**
	baz=6.0						
MNAS				⇓*e*S	**Sb**	**12 26 29.0**	**-3.2**
	baz=6.0						
MNAS	**Manas**	3.42	6	⇑Pn	**Pn**	**12 25 44.9**	**+1.6**
	2.8nm,0.3s						
MNAS				⇑Sn	**Sb**	**12 26 29.9**	**-2.3**
	6.1nm,0.6s						
EKS2	**Erkin-Say**	3.81	20	⇑*i*P	**Pn**	**12 25 49.9**	**+1.2**
	baz=20						
EKS2				⇑*i*S	**Sn**	**12 26 32.9**	**-0.8**
	baz=20						
AAK	**Ala-Archa**	4.01	27	⇓Pn	**Pb**	**12 25 57.1**	**-3.6**
	3.5nm,0.4s						
AAK				⇓Sn	**Sn**	**12 26 43.1**	**+4.4**
	11nm,0.7s						
KK31	**Karatay Array**	4.17	345	Pn	**Pn**	**12 25 55.9**	**+2.4**
	2.4nm,0.3s,baz=152,slow=12,SNR=59						
KK31				⇑Sn	**Sb**	**12 26 49.0**	**-4.7**
	1.7nm,0.3s,baz=153,slow=26						
AB31	**Akbulak array**	13.34	324	⇑P	**Pn**	**12 27 58.9**	**-0.2**
	0.6nm,0.5s,baz=0.0,slow=0.1,SNR=7.1						
AKTO	**Aktyubinsk**	15.05	323	⇑P	**Pn**	**12 28 24.2**	**+1.7**
	1.9nm,0.8s						

ISCJB ***13*** *12:27:11.9±0.4, 35.°65N±0.°02×121.°18W±0.°03, h11km±2km, Error ellipse: s-maj=4.5km s-min=2.1km az=141.1*
NEIC ***13*** *12:27:13.8±0.0, 35.°73N×121.°11W, h8km, MW3.6(BRK), After NCEDC.*
NEIC Felt [IV] at Bradley, [III] at Paso Robles and [II] at Atascadero, Cambria, Los Osos, San Luis Obispo and San Miguel. Also felt at Arroyo Grande, Cayucos, Morro Bay, Santa Margarita, Santa Maria and Santa Paula.
ISC 13 12:27:12.8±1.1, 35.°67N±0.°03×121.°18W±0.°03, h16km±8km, n164, σ1s39/192, Central California

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BLDC	**Black Mountain**	0.26	122	*e*Pg	**Pg**	**12 27 19.5**	**+1.0**
PAPM	**Alder Peak**	0.28	328	*e*Pg	**Pg**	**12 27 19.3**	**+0.3**
PCCM	**Crazy Canyon**	0.42	2	*e*Pg	**Pg**	**12 27 21.3**	**0.0**
EFD	**Emergency Oper**	0.51	133	*e*Pg	**Pg**	**12 27 23.9**	**+1.0**
DCD	**Diablo Creek**	0.53	149	*e*Pg	**Pg**	**12 27 24.7**	**+1.3**
WKR	**Work Ranch**	0.56	75	*e*Pg	**Pg**	**12 27 23.9**	**0.0**
PTV	**Peach Tree Val**	0.57	40	*e*Pg	**Pg**	**12 27 23.5**	**-0.6**
LRC	**Lone Oak Road**	0.58	11	*e*Pg	**Pg**	**12 27 23.8**	**-0.5**
PSTM	**Stockdale Moun**	0.60	65	*e*Pg	**Pg**	**12 27 23.7**	**-1.0**
PSMM	**Smith Mountain**	0.62	50	*e*Pg	**Pg**	**12 27 24.5**	**-0.5**
PMPB	**Monarch Peak**	0.62	29	*e*Pg	**Pg**	**12 27 24.6**	**-0.5**
BCWM	**Chews Ridge**	0.71	334	*e*Pg	**Pg**	**12 27 26.9**	**+0.2**
BSMM	**Soledad Missio**	0.74	344	*e*Pg	**Pg**	**12 27 27.1**	**-0.1**
SHG	**Shirttail Gulc**	0.74	355	*e*Pg	**Pg**	**12 27 26.7**	**-0.6**
PAGB	**Antelope Grade**	0.76	85	*e*Pg	**Pg**	**12 27 27.1**	**-0.5**
PAGB				*e*Sg	**Sb**	**12 27 37.4**	**-0.4**
LRV	**Little Rabbit**	0.76	10	*e*Pg	**Pg**	**12 27 27.3**	**-0.3**
PTRM	**Twissleman Ran**	0.79	91	*e*Pg	**Pg**	**12 27 27.6**	**-0.5**
BPIM	**Pinnacles**	0.82	1	*e*Pg	**Pg**	**12 27 28.0**	**-0.7**
SBT	**San Benito**	0.84	6	*e*Pg	**Pg**	**12 27 28.9**	**-0.3**
BPRM	**Ponciano Ridge**	0.86	329	*e*Pg	**Pg**	**12 27 29.6**	**+0.1**
JHC	**Johnson Canyon**	0.89	349	*e*Pg	**Pg**	**12 27 29.6**	**-0.5**
BPCNC	**Pine Canyon**	0.97	338	*e*Pg	**Pg**	**12 27 31.4**	**-0.2**
EMT	**Emmet**	0.99	4	*e*Pg	**Pg**	**12 27 31.7**	**-0.2**
EKH	**Elkhorn Ranch**	0.99	0	*e*Pn	**Pg**	**12 27 32.0**	**0.0**
SMMC	**Simmler**	1.03	110	P	**Pg**	**12 27 32.5**	**-0.2**
	baz=295,SNR=185						
SMMC				S	**Sg**	**12 27 44.9**	**-1.3**
	baz=295						
BSRM	**Salinas Radio**	1.03	345	*e*Pg	**Pg**	**12 27 32.4**	**-0.4**
BCGM	**Cienega Road**	1.04	353	*e*Pg	**Pg**	**12 27 32.3**	**-0.7**
BVYM	**Vineyard**	1.09	350	*e*Pg	**Pg**	**12 27 33.1**	**-0.8**
FRP	**Fremont Peak**	1.11	347	*e*Pg	**Pg**	**12 27 33.4**	**-0.9**
SAO	**San Andreas Ge**	1.11	349	*e*Pg	**Pg**	**12 27 33.1**	**-1.2**
SAO				*e*Sg	**Sb**	**12 27 49.0**	**+1.0**
CARC	**Carrizo Plain**	1.15	108	*e*Pn	**Pb**	**12 27 35.5**	**+1.2**
HSFM	**Saint Francis**	1.17	347	*e*Pg	**Pg**	**12 27 34.6**	**-0.8**
BRMM	**Rolling Bench**	1.20	14	*e*Pn	**Pn**	**12 27 35.9**	**+1.0**
CRGC	**Crocker Grade**	1.26	109	*e*Pg	**Pb**	**12 27 36.2**	**-0.1**
HCOM	**Corn Cob Canyo**	1.29	341	*e*Pg	**Pn**	**12 27 36.5**	**+0.4**
CSR	**Chase Ranch**	1.32	346	*e*Pg	**Pn**	**12 27 36.7**	**0.0**
FIGC	**Figueroa Mtn.**	1.35	134	*e*Pn	**Pn**	**12 27 37.6**	**+0.5**
PKM	**Mcpherson Peak**	1.36	125	P	**Pn**	**12 27 37.8**	**+0.5**
PKM	baz=309,SNR=134						
				S	**Sb**	**12 27 55.6**	**+0.3**
	baz=309						
SFJWR	**San Luis Fatjo**	1.38	0	*e*Pn	**Pn**	**12 27 38.2**	**+0.8**
HPCM	**Pacheco Lake**	1.39	357	*e*Pn	**Pn**	**12 27 38.1**	**+0.5**
SLD	**San Luis Dam**	1.40	359	*e*Pn	**Pn**	**12 27 38.5**	**+0.8**
PEV	**Pleasant Valle**	1.41	338	*e*Pn	**Pn**	**12 27 38.3**	**+0.5**
HSLM	**San Luis Dam**	1.41	3	*e*Pn	**Pn**	**12 27 38.3**	**+0.5**
HSPM	**Sheep**	1.47	349	*e*Pn	**Pn**	**12 27 39.2**	**+0.5**
JECB	**Eureka Canyon**	1.47	340	*e*Pn	**Pn**	**12 27 38.8**	**+0.2**
JUCM	**University of**	1.50	332	*e*Pn	**Pn**	**12 27 38.8**	**-0.3**
SYP	**Santa Ynez Pea**	1.51	139	*e*Pn	**Pn**	**12 27 40.3**	**+1.0**
JLAB	**Laurel Hill**	1.55	343	*e*Pn	**Pn**	**12 27 40.2**	**+0.5**
JSTM	**Santa Teresa H**	1.61	342	*e*Pn	**Pn**	**12 27 40.9**	**+0.3**
SOS	**Soda Springs**	1.61	338	*e*Pn	**Pn**	**12 27 40.6**	**-0.2**
JBNB	**Ben Lomond Mou**	1.65	332	*e*Pn	**Pn**	**12 27 41.0**	**-0.2**
JJOM	**Saint Joseph's**	1.66	337	*e*Pn	**Pn**	**12 27 41.3**	**-0.1**
SBC	**Santa Barbara**	1.72	135	P	**Pn**	**12 27 42.6**	**+0.6**
	baz=319,SNR=9.8						
JHUM	**Huhtala Lane,**	1.74	333	*e*Pn	**Pn**	**12 27 42.5**	**+0.2**
**SE

OSI	**Osito Audit: C**	**2.27**	**117**	*e*Pn		**Pn**	**12 27 50.9**	**+1.2**
BLG	**Laguna Peak, P**	**2.33**	**131**	P		**Pn**	**12 27 50.7**	**+0.1**
	baz=315							
BLG				S		**Sn**	**12 28 18.2**	**-0.8**
	baz=315							
BTPC	**Burnt Peak**	**2.35**	**114**	*e*Pn		**Pn**	**12 27 52.7**	**+1.7**
CMB	**Columbia Colle**	**2.44**	**15**	*e*Pn		**Pn**	**12 27 52.9**	**+0.8**
CMB				*e*Sn		**Sn**	**12 28 21.8**	**+0.1**
OAT	**Oat Mountain**	**2.49**	**121**	*e*Pn		**Pn**	**12 27 54.1**	**+1.4**
WWPM	**Walker Pass**	**2.52**	**88**	*e*Pn		**Pn**	**12 27 54.7**	**+1.6**
WCHM	**Chimney Peak**	**2.53**	**84**	*e*Pn		**Pn**	**12 27 54.5**	**+1.0**
LEOC	**Leona Valley**	**2.57**	**113**	*e*Pn		**Pn**	**12 27 55.6**	**+1.7**
IR2C	**Iron Canyon**	**2.61**	**119**	*e*Pn		**Pn**	**12 27 55.5**	**+1.0**
CWC	**Cottonwood Cre**	**2.62**	**72**	P		**Pn**	**12 27 55.9**	**+1.2**
	baz=255							
CWC				S		**Sn**	**12 28 27.0**	**+0.7**
	baz=255							
CCAC	**Calif City Air**	**2.63**	**100**	*e*Pn		**Pn**	**12 27 55.6**	**+0.9**
MLAC	**Mammoth, Mammo**	**2.71**	**43**	P		**Pn**	**12 27 58.0**	**+2.0**
	baz=224,SNR=122							
MLAC	**Mammoth, Mammo**	**2.71**	**43**	*e*Pn		**Pn**	**12 27 58.2**	**+2.2**
EDW2	**Edwards Air Fo**	**2.72**	**106**	P		**Pn**	**12 27 56.1**	**+0.2**
	baz=289,SNR=21							
EDW2				S		**Sn**	**12 28 27.7**	**-0.9**
	baz=289							
EDW2	**Edwards Air Fo**	**2.72**	**106**	*e*Pn		**Pn**	**12 27 57.4**	**+1.5**
DJJ	**Donna J Jenkin**	**2.73**	**124**	*e*Pn		**Pn**	**12 27 56.5**	**+0.5**
DECC	**Green Verdugo**	**2.73**	**120**	P		**Pn**	**12 27 56.8**	**+0.8**
	baz=304							
DECC	**Green Verdugo**	**2.73**	**120**	*e*Pn		**Pn**	**12 27 57.4**	**+1.4**
TIN	**Tinemaha, Big**	**2.75**	**59**	P		**Pn**	**12 27 58.5**	**+2.1**
	baz=241,SNR=19							
TIN				S		**Sn**	**12 28 31.5**	**+2.2**
	baz=241							
AASM	**Arroyo Seco**	**2.75**	**1**	*e*Pn		**Pn**	**12 27 57.4**	**+1.1**
SNCC	**San Nicolas Is**	**2.78**	**150**	S		**Sn**	**12 28 30.0**	**+0.2**
	baz=333							
SNCC	**San Nicolas Is**	**2.78**	**150**	*e*Pn		**Pn**	**12 27 57.4**	**+0.7**
SNCC				*e*Sn		**Sn**	**12 28 31.0**	**+1.1**
MCCM	**Marconi Confer**	**2.82**	**332**	*e*Pn		**Pn**	**12 27 57.0**	**-0.2**
LRMC	**Laurel Mtn Rad**	**2.85**	**93**	P		**Pn**	**12 27 57.9**	**0.0**
	baz=276							
LRMC				S		**Sn**	**12 28 30.5**	**-1.5**
	baz=276							
PASC	**Pasadena Art C**	**2.88**	**120**	*e*Pn		**Pn**	**12 27 58.6**	**+0.6**
PASC				*e*Sn		**Sn**	**12 28 33.7**	**+1.3**
CHFC	**Chilao Flat St**	**2.91**	**116**	*e*Pn		**Pn**	**12 27 59.8**	**+1.2**
MWC	**Mount Wilson**	**2.94**	**119**	*e*Pn		**Pn**	**12 27 59.7**	**+0.7**
MWC				*e*Sn		**Sn**	**12 28 35.4**	**+1.2**
DAC	**Darwin (Calif)**	**2.97**	**77**	*e*Pn		**Pn**	**12 27 59.9**	**+0.4**
DAC				*e*Sn		**Sn**	**12 28 35.9**	**+1.0**
HOLC	**Holcomb Ridge**	**2.99**	**113**	*e*Pn		**Pn**	**12 28 01.2**	**+1.5**
MPMC	**Manual Prospec**	**3.02**	**82**	P		**Pn**	**12 28 00.7**	**+0.5**
	baz=265							
WAKR	**Walker**	**3.15**	**26**	*e*Pn		**Pn**	**12 28 04.3**	**+2.3**
SSK	**Sunset Peak**	**3.21**	**116**	*e*Pn		**Pn**	**12 28 04.1**	**+1.3**
CIS	**Catalina Islan**	**3.21**	**134**	P		**Pn**	**12 28 02.4**	**-0.2**
	baz=317							
CIS				S		**Sn**	**12 28 39.3**	**-1.4**
	baz=317							
CIAC	**Catalina I. Ai**	**3.21**	**134**	*e*Pn		**Pn**	**12 28 03.4**	**+0.7**
BFSC	**Mount Baldy Ra**	**3.22**	**115**	P		**Pn**	**12 28 03.6**	**+0.7**
	baz=299,SNR=70							
BFSC	**Mount Baldy Ra**	**3.22**	**115**	*e*Pn		**Pn**	**12 28 04.0**	**+1.1**
AFDM	**Forest Hills D**	**3.27**	**3**	*e*Pn		**Pn**	**12 28 04.6**	**+1.1**
AFDM				*e*Sn		**Sn**	**12 28 44.6**	**+2.4**
TVH3	**East Aurora ar**	**3.28**	**34**	*e*Pn		**Pn**	**12 28 07.3**	**+3.6**
TVH2	**Borealis Mine**	**3.32**	**35**	*e*Pn		**Pn**	**12 28 08.4**	**+4.0**
GRAC	**Grapevine Rang**	**3.35**	**66**	P		**Pn**	**12 28 06.2**	**+1.7**
	baz=248							
GRAC				Sb		**Sb**	**12 28 52.7**	**+0.4**
	baz=248							
TVH1	**TV Hill, Hawth**	**3.38**	**34**	*e*Pn		**Pn**	**12 28 09.3**	**+4.0**
SCI	**San Clemente I**	**3.46**	**140**	P		**Pn**	**12 28 06.3**	**+0.3**
	baz=323,SNR=6.5							
FURC	**Furnace Creek,**	**3.58**	**76**	P		**Pn**	**12 28 07.6**	**-0.1**
	baz=259							
GSC	**Goldstone, Bar**	**3.59**	**95**	P		**Pn**	**12 28 07.4**	**-0.5**
	baz=278,SNR=19							
GSC				S		**Sn**	**12 28 49.2**	**-0.8**
	baz=278							
GSC	**Goldstone, Bar**	**3.59**	**95**	*e*Pn		**Pn**	**12 28 07.6**	**-0.3**
PNTR	**Pine Nut**	**3.63**	**20**	*e*Pn		**Pn**	**12 28 11.1**	**+2.5**
HOPS	**Hopland Field**	**3.64**	**336**	*e*Pn		**Pn**	**12 28 09.1**	**+0.5**
YERR	**Yerington**	**3.65**	**24**	*e*Pn		**Pn**	**12 28 11.7**	**+2.9**
MURC	**Murrieta**	**3.88**	**121**	P		**Pn**	**12 28 11.6**	**-0.3**
	baz=305,SNR=6.9							
MURC				S		**Sn**	**12 28 56.6**	**-0.5**
	baz=305							
ORV	**Oroville**	**3.88**	**356**	*e*Pn		**Pn**	**12 28 14.2**	**+2.3**
HMTC	**Hemet**	**3.96**	**118**	*e*Pn		**Pn**	**12 28 13.1**	**+0.2**
BACC	**Bachelor Mtn.**	**3.98**	**120**	*e*Pn		**Pn**	**12 28 13.8**	**+0.6**
DGR	**Domenigoni Val**	**3.98**	**119**	*e*Pn		**Pn**	**12 28 13.4**	**+0.2**
SHOC	**Shoshone, Teco**	**3.99**	**85**	P		**Pn**	**12 28 14.1**	**+0.8**
	baz=269							
HEC	**Hector,Ludlow**	**4.05**	**101**	P		**Pn**	**12 28 14.0**	**-0.2**
	baz=284							
TPNV	**Topopah Spring**	**4.18**	**71**	P		**Pn**	**12 28 17.5**	**+1.4**
	baz=254,SNR=32							
TPNV				Sb		**Sb**	**12 29 18.8**	**+2.5**
	baz=254							
TPNV	**Topopah Spring**	**4.18**	**71**	*e*Pn		**Pn**	**12 28 17.8**	**+1.8**
PAHR	**Pah Rah Range**	**4.27**	**19**	*e*Pn		**Pn**	**12 28 19.4**	**+2.1**
FRD	**Ford Ranch, An**	**4.35**	**119**	*e*Pn		**Pn**	**12 28 19.3**	**+0.9**
FRD				*e*Sg		**Sg**	**12 29 28.0**	**-4.6**
109C	**Camp Elliot, M**	**4.37**	**128**	P		**Pn**	**12 28 18.7**	**+0.2**
	baz=312							
109C				S		**Sn**	**12 29 07.5**	**-1.6**
	baz=312							
HWB	**Hans Werner Br**	**4.37**	**126**	*e*Pn		**Pn**	**12 28 18.7**	**+0.1**
HWB				*e*Sn		**Sn**	**12 29 07.5**	**-1.8**
PFO	**Pinyon Flats O**	**4.40**	**116**	P		**Pn**	**12 28 19.3**	**+0.2**
	baz=300,SNR=8.9							
PFO	**Pinyon Flats O**	**4.40**	**116**	*e*Pn		**Pn**	**12 28 20.2**	**+1.1**
DPP	**Dos Picos Cty**	**4.40**	**126**	*e*Pn		**Pn**	**12 28 19.4**	**+0.3**
DPP				*e*Sn		**Sn**	**12 29 09.2**	**-0.8**
TPFO	**Pinon Flats**	**4.41**	**117**	P		**Pn**	**12 28 18.7**	**-0.5**
	baz=300,SNR=13							
TPFO				S		**Sn**	**12 29 09.0**	**-1.2**
	baz=300							
BELC	**Belle Mtn. Jos**	**4.57**	**110**	P		**Pn**	**12 28 21.4**	**0.0**
	baz=294,SNR=18							
GMRC	**Granite Mounta**	**4.60**	**99**	P		**Pn**	**12 28 20.9**	**-1.0**
	baz=284							
GMRC				S		**Sn**	**12 29 13.3**	**-1.7**
	baz=284							
BAR	**Barrett**	**4.78**	**127**	*e*Pn		**Pn**	**12 28 24.4**	**+0.2**
MONP	**Monument Peak,**	**4.81**	**124**	P		**Pn**	**12 28 25.2**	**+0.3**
	baz=308							
MONP				S		**Sn**	**12 29 19.0**	**-1.4**
	baz=308							
SHPR	**Sheep Range**	**4.94**	**79**	*e*Pn		**Pn**	**12 28 28.6**	**+2.1**
LDFC	**Landfair**	**4.99**	**95**	*e*Pn		**Pn**	**12 28 26.1**	**-1.1**
BC3	**Big Chuckawall**	**5.13**	**111**	P		**Pn**	**12 28 29.1**	**0.0**
	baz=296							
IKP	**In-Ko-Pah, Jac**	**5.17**	**124**	P		**Pn**	**12 28 30.8**	**+1.2**
	baz=308							
IRM	**Iron Mountain**	**5.18**	**105**	P		**Pn**	**12 28 29.7**	**0.0**
	baz=290							
R11A	**Troy Canyon, C**	**5.21**	**58**	P		**Pn**	**12 28 32.2**	**+1.9**
	baz=241							
R11A	**Troy Canyon, C**	**5.21**	**58**	*e*Pn		**Pn**	**12 28 32.0**	**+1.7**
SWSC	**Sam W. Stewart**	**5.21**	**120**	*e*Pn		**Pn**	**12 28 29.0**	**-1.2**
SWSC				*e*Sn		**Sn**	**12 29 34.0**	**+4.1**
JCC	**Jacoby Creek,**	**5.61**	**337**	*e*Pn		**Pn**	**12 28 35.4**	**-0.1**
BMN	**Battle Mountai**	**5.69**	**32**	*e*Pg		**Pg**	**12 28 57.9**	**-3.7**
Y12C	**Blythe**	**5.80**	**107**	P		**Pn**	**12 28 38.2**	**-0.1**
	baz=292							
Y12C				S		**Sn**	**12 29 43.0**	**-1.5**
	baz=292							
Y12C	**Blythe**	**5.80**	**107**	*e*Pn		**Pn**	**12 28 38.5**	**+0.2**
M02C	**Callahan**	**5.86**	**348**	P		Pn	12 28 44.1	+5.0
	baz=166							
GLA	**Glamis**	**5.87**	**115**	*e*Pn		**Pn**	**12 28 40.7**	**+1.5**
PDMCI	**Parker Dam,Lak**	**5.93**	**101**	P		**Pn**	**12 28 41.6**	**+1.6**
	baz=286							
W13A	**Hualapai Mount**	**5.98**	**93**	*e*Pn		**Pn**	**12 28 41.7**	**+0.8**
M04C	**Macloel**	**6.12**	**355**	P		Pn	12 28 49.0	+6.2
	baz=174							
KRMB	**Red Mountain**	**6.22**	**341**	*e*Pn		**Pn**	**12 28 46.6**	**+2.5**
LCMT	**Little Creek M**	**6.54**	**76**	*e*Pn		**Pn**	**12 28 51.0**	**+2.5**
CCUT	**Cedar City**	**6.56**	**71**	*e*Pn		**Pn**	**12 28 49.2**	**+0.4**
L02D	**Cave Junction,**	**6.75**	**344**	P		**Pn**	**12 28 55.2**	**+4.0**
	baz=162							
HUMO	**Hull Mountain**	**7.06**	**349**	*e*Pn		**Pn**	**12 28 58.7**	**+3.2**
U15A	**North Rim**	**7.24**	**81**	*e*Pn		**Pn**	**12 29 02.3**	**+4.1**
J05D	**Fort Rock, OR**	**7.60**	**360**	P		Pn	12 29 09.3	+6.3
	baz=179							
DUG	**Dugway, Tooele**	**8.00**	**53**	*e*Pn		**Pn**	**12 29 08.5**	**-0.1**
I04A	**Tendick Farm,**	**8.17**	**354**	P		**Pn**	**12 29 15.4**	**+4.7**
	baz=172							
COR	**Corvallis**	**9.05**	**350**	*e*Pn		**Pn**	**12 29 20.3**	**-2.4**

ISK ***13*** *12:28:27.4, 40°.32N×37°.89E, h9km, MD2.7*
ISCJB ***13*** *12:28:28.7±0.5, 40°.40N±0°.03×37°.80E±0°.04, h12km±5km, Error ellipse: s-maj=5.3km s-min=3.7km az=42.7*
DDA ***13*** *12:28:28.8, 40°.38N×37°.75E, h7km, Md2.8*
CSEM ***13*** *12:28:28.5±0.2, 40°.37N×37°.82E, h10km, MD2.8, Error ellipse: s-maj=4.7km s-min=3.3km az=134.0*

ISC 13 12:28:28.6±1.0, 40°.38N±0°.02×37°.82E±0°.02, h11km±10km, n26, σ0.65/44, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SUSE	**Susehri**	**0.34**	**120**	*i*	P	**Pb**		**12 28 36.5**	**-0.2**
SUSE				*i*	S	**Sb**		**12 28 42.5**	**+0.3**
SUSE	**Susehri**	**0.34**	**120**		P	**Pb**		**12 28 36.5**	**-0.2**
SUSE					S	**Sb**		**12 28 42.5**	**+0.3**
RSDY	**Resadiye-TOKAT**	**0.38**	**273**	*e*	PG	**Pg**		**12 28 36.4**	**+0.3**
RSDY				*e*	SG	**Sb**		**12 28 43.0**	**-0.2**
RSDY	**Resadiye-TOKAT**	**0.38**	**273**	*e*	Pg	**Pg**		**12 28 36.4**	**+0.3**
RSDY				*e*	Sg	**Sb**		**12 28 43.0**	**-0.2**
CUZAR	**Zara_SIVAS**	**0.49**	**184**	*i*	P	**Pg**		**12 28 38.4**	**+0.2**
CUZAR				*i*	S	**Sb**		**12 28 46.4**	**-0.2**
CUZAR	**Zara_SIVAS**	**0.49**	**184**		P	**Pg**		**12 28 38.4**	**+0.2**
CUZAR					S	**Sb**		**12 28 46.4**	**-0.2**
ORDU	**Ordu-Boztepe**	**0.61**	**3**	*i*	P	**Pg**		**12 28 40.9**	**+0.4**
ORDU				*i*	S	**Sb**		**12 28 50.3**	**+0.3**
ORDU	**Ordu-Boztepe**	**0.61**	**3**		P	**Pg**		**12 28 40.9**	**+0.4**
ORDU					S	**Sb**		**12 28 50.3**	**+0.3**
GRSN	**GIRESUNGRSN**	**0.64**	**32**	*i*	P	**Pg**		**12 28 41.4**	**+0.3**
GRSN				*i*	S	**Sb**		**12 28 50.8**	**-0.1**
GRSN	**GIRESUNGRSN**	**0.64**	**32**		P	**Pg**		**12 28 41.4**	**+0.3**
GRSN					S	**Sb**		**12 28 50.8**	**-0.1**
SCER	**sogukcermik**	**0.74**	**226**	*i*	P	**Pg**		**12 28 42.5**	**-0.4**
SCER				*i*	S	**Sg**		**12 28 53.0**	**+0.4**
SCER	**sogukcermik**	**0.74**	**226**		P	**Pg**		**12 28 42.5**	**-0.4**
SCER					S	**Sg**		**12 28 53.0**	**+0.4**
SVSK	**Karacayir**	**0.78**	**234**	*e*	PG	**Pg**		**12 28 43.1**	**-0.5**
SVSK				*e*	SG	**Sb**		**12 28 54.6**	**-0.1**
SVSK	**Karacayir**	**0.78**	**234**	*e*	Pg	**Pg**		**12 28 43.1**	**-0.5**
SVSK				*e*	Sg	**Sb**		**12 28 54.6**	**-0.1**
ESPY	**Espiye-Giresun**	**0.88**	**52**	*e*	PG	**Pg**		**12 28 44.7**	**-0.8**
ESPY				*e*	SG	**Sg**		**12 28 57.2**	**+0.3**
ESPY	**Espiye-Giresun**	**0.88**	**52**	*e*	Pg	**Pg**		**12 28 44.7**	**-0.8**
ESPY				*e*	Sg	**Sg**		**12 28 57.2**	**+0.3**
TOKT	**Tokat**	**0.97**	**267**	*e*	PG	**Pg**		**12 28 46.6**	**-0.7**
TOKT	**Tokat**	**0.97**	**267**	*e*	Pg	**Pg**		**12 28 46.7**	**-0.7**
CUKAN	**kangal_SIVAS**	**1.09**	**194**	*i*	P	**Pb**		**12 28 48.9**	**-0.7**
CUKAN	**kangal_SIVAS**	**1.09**	**194**		P	**Pb**		**12 28 48.9**	**-0.7**
KEMA	**Kemaliye**	**1.22**	**155**	*i*	P	**Pg**		**12 28 52.0**	**-0.1**
KEMA				*i*	S	**Sn**		**12 29 10.8**	**+2.5**
KEMA	**Kemaliye**	**1.22**	**155**		P	**Pg**		**12 28 52.0**	**-0.1**
GUMT	**Gumushane**	**1.27**	**86**	*e*	PN	**Pn**		**12 28 51.3**	**-1.1**
GUMT	**Gumushane**	**1.27**	**86**	*e*	Pn	**Pn**		**12 28 51.3**	**-1.1**
CUSAR	**Sarkisla-SIVAS**	**1.54**	**232**	*i*	P	**Pn**		**12 28 55.9**	**-0.3**
CUSAR				*i*	S	**Sg**		**12 29 19.7**	**+1.4**
CUSAR	**Sarkisla-SIVAS**	**1.54**	**232**		P	**Pn**		**12 28 55.9**	**-0.3**

ISCJB ***13*** *12:30:07.3±0.6, 6°.82N±0°.03×73°.08W±0°.04, h158km±6km, Error ellipse: s-maj=7.2km s-min=4.2km az=29.6*
FUNV ***13*** *12:30:08.1, 6°.74N×73°.11W, h166km, MW2.5*
RSNC ***13*** *12:30:09.9±0.9, 6°.76N×73°.13W, h145km±5km, ML3.0*

ISC 13 12:30:06.8±1.4, 6°.81N±0°.04×73°.06W±0°.04, h164km±8km, n22, σ1.31/38, 2C-1D, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
BARC	**Barichara**	**0.25**	**209**	*i*	P	**Pn**		**12 30 29.3**	**0.0**
BARC					*e*S	**Sn**		**12 30 44.1**	**-2.3**
BARC					*i*			12 30 45.2	
	comp=Z,208nm,0.4s								
PAMC	**Pamplona, Colo**	**0.64**	**34**	*i*	P	**Pn**		**12 30 32.2**	**+1.1**
PAMC					*e*S	**Sn**		**12 30 49.6**	**-0.2**
BRRC	**Barranca, Sant**	**0.71**	**295**	⇑	*i*P	**Pn**		**12 30 31.3**	**+0.4**
BRRC					*i*			12 30 31.6	
	comp=Z,163nm,0.2s								
BRRC					*e*S	**Sn**		**12 30 48.3**	**-1.1**
RUSC	**La Rusia**	**0.91**	**181**	⇓	*i*P	**Pn**		**12 30 33.1**	**+0.2**
RUSC					*e*S	**Sn**		**12 30 51.1**	**-1.8**
RUSC					*i*			12 30 52.5	
	comp=Z,86nm,0.4s								
CAPV	**Capacho**	**1.28**	**35**	⇑	*e*P	**Pn**		**12 30 37.5**	**+1.8**
CAPV					*e*S	**Sn**		**12 30 58.5**	**+0.6**
OCAC	**Ocana**	**1.44**	**350**		*e*P	**Pn**		**12 30 38.1**	**+1.0**
OCAC					*e*S	**Sn**		**12 31 01.8**	**+1.2**
OCAC					*i*			12 31 04.7	
	comp=Z,161nm,0.3s								
YOPC	**Yopal, Colombi**	**1.58**	**156**		*e*P	**Pn**		**12 30 39.9**	**+1.5**
YOPC					*e*S	**Sn**		**12 31 02.9**	**+0.1**
ZARC	**Zaragoza, Cauc**	**1.91**	**291**		*e*P	**Pn**		**12 30 42.3**	**+0.5**
ZARC					*e*S	**Sn**		**12 31 07.8**	**-1.0**
ZARC					*i*			12 31 14.1	
	comp=Z,152nm,0.5s								
NORC	**Norcasia**	**2.18**	**236**		*e*P	**Pn**		**12 30 45.1**	**+0.1**
NORC					*e*S	**Sn**		**12 31 13.0**	**-1.5**
CHIC	**Chingaza**	**2.27**	**197**		*e*P	**Pn**		**12 30 47.0**	**+0.7**
CHIC					*e*S	**Sn**		**12 31 16.7**	**-0.2**
CHIC					*i*			12 31 26.4	
	comp=Z,31nm,0.4s								
HELC	**Santa Helena**	**2.53**	**256**		*e*P	**Pn**		**12 30 50.4**	**+1.1**
HELC					*i*			12 31 27.9	
	comp=Z,49nm,0.3s								
VIGV	**El Vigia**	**2.63**	**40**		*e*P	**Pn**		**12 30 52.0**	**+1.8**
VIGV					*e*S	**Sn**		**12 31 23.3**	**-0.6**
SOCV	**Socops**	**2.63**	**56**		*e*P	**Pn**		**12 30 51.8**	**+1.5**
SOCV					*e*S	**Sn**		**12 31 23.8**	**-0.2**
VILC	**Villavicencio,**	**2.75**	**193**		*e*S	**Sn**		**12 31 26.6**	**-0.2**
VILC					*i*			12 31 35.0	
	comp=Z,24nm,0.5s								
CODC	**Agust˙›n Codaz**	**3.13**	**353**		*e*P	**Pn**		**12 30 57.5**	**+1.1**
CODC					*i*			12 31 44.9	
	comp=Z,28nm,0.5s								
DBBC	**Dabeiba**	**3.13**	**274**		*e*P	**Pn**		**12 30 57.7**	**+1.1**
TOLC	**Tolima**	**3.15**	**226**		*e*P	**Pn**		**12 30 59.1**	**+2.0**
PRAC	**Prado**	**3.57**	**211**		*e*P	**Pn**		**12 31 02.9**	**+0.8**
PRAC					*e*S	**Sn**		**12 31 44.4**	**-0.6**
SJCC	**San Jacinto, C**	**3.71**	**326**		*e*P	**Pn**		**12 31 03.6**	**-0.3**
SJCC					*i*			12 31 49.8	
	comp=Z,40nm,0.5s								
VIRV	**Villa del Rosa**	**3.73**	**10**		*e*P	**Pn**		**12 31 04.4**	**+0.4**
VIRV					*e*S	**Sn**		**12 31 47.3**	**-1.3**
CURV	**Curarigua**	**4.42**	**44**		*e*P	**Pn**		**12 31 14.6**	**+1.5**
CURV					*e*S	**Sn**		**12 32 02.6**	**-2.1**
BAUV	**El Baul**	**5.41**	**67**		*e*P	**Pn**		**12 31 25.4**	**-0.5**
BAUV					*e*S	**Sn**		**12 32 24.4**	**-3.4**

SIGU ***13*** *12:39:28.0, 47°.62N×23°.72E, h2km, mb1.6*
BUC ***13*** *12:39:31.0±0.5, 47°.74N×23°.84E, h2km, MD2.5/2, Error ellipse: s-maj=7.3km s-min=1.7km az=349.0*

ISC 13 12:39:30.6±1.1, 47°.73N±0°.03×23°.87E±0°.03, h7km±10km, n18, σ1.78/31, 6C-6D, Romania

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
BMR	**Baia Mare**	**0.26**	**258**	⇑	*i*P	**Pg**		**12 39 35.7**	**+0.1**
BMR					*i* S	**Sg**		**12 39 39.5**	**+0.5**
BMR	**Baia Mare**	**0.26**	**258**	⇑	*i*P	**Pg**		**12 39 35.7**	**+0.1**
BMR					*i* S	**Sg**		**12 39 39.5**	**+0.5**
NSLU	**Nyzhne Selyshc**	**0.62**	**40**	*i*	Pg	**Pg**		**12 39 40.8**	**-1.6**
NSLU					Pgm			12 39 41.9	
NSLU				*i*	Sg	**Sg**		**12 39 50.2**	**-0.3**
NSLU					Sgm			12 39 50.7	
KORU	**Korolevo**	**0.65**	**311**	*i*	Pg	**Pg**		**12 39 41.4**	**-1.7**
KORU					Pgm			12 39 42.0	
KORU				*i*	Sg	**Sg**		**12 39 52.4**	**+0.8**
KORU					Sgm			12 39 52.6	
MEZ	**Mezhgor'ye**	**0.82**	**344**	*i*	Pg	**Pb**		**12 39 46.9**	**-0.3**
MEZ					Pgm			12 39 49.6	
MEZ				*i*	Sg	**Sn**		**12 40 00.2**	**-0.9**
MEZ					Sgm			12 40 00.8	
MEZ					Sgm			12 40 00.8	
BRIU	**Brid**	**0.83**	**317**	*i*	Pg	**Pg**		**12 39 46.2**	**-0.4**
BRIU					Pgm			12 39 46.5	
BRIU				*i*	Sg	**Sb**		**12 39 59.0**	**+0.2**
BRIU					Sgm			12 40 00.6	
BURAR	**Bucovina Array**	**0.92**	**96**	⇑	*i*P	**Pn**		**12 39 50.1**	**0.0**
BURAR	**Bucovina Array**	**0.92**	**96**	⇑	*i*P	**Pn**		**12 39 50.1**	**0.0**
BURAR				*i*	S	**Sn**		**12 40 04.0**	**+0.4**
BERU	**Beregovo**	**0.96**	**302**	*i*	Pg	**Pg**		**12 39 47.5**	**-1.5**
BERU				*i*	Sg	**Sg**		**12 40 02.2**	**+0.7**
CJR	**Cluj-Napoca**	**1.03**	**190**	⇓	*i*P	**Pn**		**12 39 52.0**	**+0.5**
CJR	**Cluj-Napoca**	**1.03**	**190**	⇓	*i*P	**Pn**		**12 39 52.0**	**+0.5**
CJR					*i* S	**Sn**		**12 40 08.7**	**+2.5**
DRGR		**1.22**	**220**	⇓	*i*P	**Pg**		**12 39 55.5**	**+1.5**
DRGR		**1.22**	**220**	⇓	*i*P	**Pg**		**12 39 55.5**	**+1.5**
DRGR					*i* S	**Sn**		**12 40 12.6**	**+1.6**
MORS	**Morshin**	**1.41**	**1**	*i*	Pn	**Pg**		**12 39 58.9**	**+1.4**
MORS				*i*	Sn	**Sg**		**12 40 22.1**	**+6.3**
VOIR		**2.43**	**160**	⇓	*i*P	**Pb**		**12 40 13.5**	**-1.2**
VOIR		**2.43**	**160**	⇓	*i*P	**Pb**		**12 40 13.5**	**-1.2**
BZS	**Buzias**	**2.62**	**217**	⇑	*i*P	**Pb**		**12 40 15.9**	**-1.9**
BZS					S	**Sb**		**12 40 48.0**	**-2.1**
BZS	**Buzias**	**2.62**	**217**	⇑	*i*P	**Pb**		**12 40 15.9**	**-1.9**
BZS					*i* S	**Sb**		**12 40 48.0**	**-2.1**

MEX 13 12:56:49.5±1.0, 18°.96N×101°.75W, h82km±10km, MD3.7, Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
URUA	**Uruapan**	**0.55**	**327**	*i*	P	Pn		12 57 02.3	-1.9
URUA					*e*S	Sn		12 57 13.3	-1.7
MOIG	**Morelia**	**0.89**	**37**	*i*	P	Pn		12 57 06.0	-1.8
MOIG				*i*	S	Sn		12 57 19.4	-1.9
ZIIG	**Zihuatanejo**	**1.37**	**168**	*i*	P	Pn		12 57 11.5	-1.8
ZIIG				*i*	S	Sn		12 57 30.1	-1.1
ARIG	**Puente Sto Nin**	**1.50**	**117**	*e*	P	Pn		12 57 13.9	-1.0
ARIG				*i*	S	Sn		12 57 32.3	-1.7
MMIG	**Aquila**	**1.65**	**246**	*i*	P	Pn		12 57 14.8	-2.0
MMIG				*e*	S	Sn		12 57 35.6	-1.9
EZSV		**1.82**	**287**	*i*	P	Pn		12 57 18.7	-0.7
R15V		**2.12**	**276**	*e*	P	Pn		12 57 22.3	-0.8
R15V				*i*	S	Sn		12 57 46.9	-1.8
PLIG	**Platanillo**	**2.21**	**104**	*e*	P	Pn		12 57 23.7	-0.6
MEIG	**Mezcala**	**2.27**	**117**	*i*	P	Pn		12 57 24.6	-0.5
MEIG				*i*	S	Sn		12 57 50.0	-2.5
CAIG	**El Cayaco**	**2.37**	**143**	*e*	P	Pn		12 57 27.0	+0.6
CAIG				*i*	S	Sn		12 57 53.9	-0.8

ISCJB ***13*** *12:59:46.8±0.3, 48°.73

BANO				SN	Sn	13 01 47.0	-0.5	
BANO				LG	Lg	13 02 02.8		
BANO				Trac		13 02 07.4		
	comp=Z,67nm,0.2s							
BRCO	**Bruce Peninsul**	**4.50**	**181**	SN	Sn	13 01 49.9	0.0	
BRCO				LG	Lg	13 02 06.3		
BRCO				Trac		13 02 12.7		
	comp=Z,177nm,0.2s							
NMSQ	**Nemaska Statio**	**4.53**	**47**	PN	Pn	13 00 58.7	+1.5	
NMSQ				SN	Sn	13 01 48.4	-2.1	
NMSQ				LG	Lg	13 02 10.6		
NMSQ				Trac		13 02 14.9		
	comp=Z,90nm,0.3s							
BWLO	**Walkerton**	**4.63**	**178**	PN	Pn	13 01 00.2	+1.6	
BWLO				SN	Sn	13 01 51.4	-1.8	
BWLO				LG	Lg	13 02 09.1		
BWLO				Trac		13 02 16.2		
	comp=Z,146nm,0.5s							
CHGQ	**Chibougamau**	**4.70**	**73**	PN	Pn	13 01 01.1	+1.5	
CHGQ				PG	Pb	13 01 14.2	+3.4	
CHGQ				SN	Sn	13 01 53.2	-1.7	
CHGQ				LG	Lg	13 02 12.6		
CHGQ				Trac		13 02 21.2		
	comp=Z,87nm,0.3s							
PLVO	**Plevna**	**4.72**	**140**	PN	Pn	13 01 01.1	+1.2	
PLVO				SN	Sn	13 01 53.6	-1.7	
PLVO				LG	Lg	13 02 12.9		
PLVO				Trac		13 02 13.8		
	comp=Z,86nm,0.4s							
BASO	**Ashfield**	**4.74**	**183**	PN	Pn	13 01 00.1	0.0	
BASO				SN	Sn	13 01 56.3	+0.6	
BASO				LG	Lg	13 02 13.7		
BASO				Trac		13 02 18.0		
	comp=Z,102nm,0.3s							
VABQ	**Val Des Bois**	**4.82**	**124**	PN	Pn	13 01 04.1	+2.8	
VABQ				SN	Sn	13 01 57.3	-0.5	
VABQ				LG	Lg	13 02 14.9		
VABQ				Trac		13 02 21.4		
	comp=Z,64nm,0.2s							
DELO	**Deloro Mine**	**4.94**	**147**	PN	Pn	13 01 03.1	+0.1	
DELO				SN	Sn	13 02 00.7	-0.1	
DELO				LG	Lg	13 02 19.2		
DELO				Trac		13 02 26.1		
	comp=Z,40nm,0.2s							
GAC	**Glen Almond**	**5.02**	**125**	PN	Pn	13 01 06.6	+2.6	
GAC				PG	Pb	13 01 19.2	+3.1	
GAC				SN	Sn	13 02 01.9	-0.8	
GAC				LG	Lg	13 02 23.7		
GAC				Trac		13 02 31.7		
	comp=Z,70nm,0.3s							
PKRO	**Pickering**	**5.03**	**161**	SN	Sn	13 02 01.9	-1.1	
PKRO				LG	Lg	13 02 21.0		
PKRO				Trac		13 02 33.9		
	comp=Z,229nm,0.3s							
ACTO	**Acton**	**5.21**	**170**	SN	Sn	13 02 07.3	-0.2	
ACTO				LG	Lg	13 02 27.3		
ACTO				Trac		13 02 36.6		
	comp=Z,110nm,0.3s							
WLVO	**Wesleyville**	**5.24**	**156**	PN	Pn	13 01 08.3	+1.4	
WLVO				SN	Sn	13 02 04.2	-3.8	
WLVO				LG	Lg	13 02 28.9		
WLVO				Trac		13 02 34.7		
	comp=Z,101nm,0.3s							
TRQ	**Mont Tremblant**	**5.25**	**116**	PN	Pn	13 01 08.2	+1.0	
TRQ				SN	Sn	13 02 06.3	-2.1	
TRQ				LG	Lg	13 02 31.4		
TRQ				Trac		13 02 35.6		
	comp=Z,42nm,0.2s							
TBO	**Thunder Bay**	**5.34**	**272**	PN	Pn	13 01 10.4	+1.9	
TBO				SN	Sn	13 02 09.2	-1.5	
TBO				LG	Lg	13 02 32.3		
TBO				Trac		13 02 34.9		
	comp=Z,33nm,0.3s							
ALFO	**Alfred**	**5.39**	**123**	PN	Pn	13 01 10.3	+1.2	
ALFO				SN	Sn	13 02 09.0	-2.8	
ALFO				SN	Sn	13 02 10.1	-1.8	
ALFO				LG	Lg	13 02 23.9		
ALFO				LG	Lg	13 02 32.2		
ALFO				Trac		13 02 37.5		
	comp=Z,42nm,0.3s							
WBO	**Williamsburg**	**5.60**	**130**	PN	Pn	13 01 12.3	+0.4	
WBO				SN	Sn	13 02 13.7	-3.1	
WBO				LG	Lg	13 02 37.5		
WBO				Trac		13 02 44.9		
	comp=Z,46nm,0.4s							
KGNO	**Kingston**	**5.62**	**142**	SN	Sn	13 02 14.7	-2.9	
KGNO				LG	Lg	13 02 38.2		
KGNO				Trac		13 02 46.2		
	comp=Z,31nm,0.2s							
PECO	**Prince Edward**	**5.67**	**146**	PN	Pn	13 01 13.9	+0.9	
PECO				SN	Sn	13 02 15.0	-3.8	
PECO				LG	Lg	13 02 40.7		
PECO				Trac		13 02 48.7		
	comp=Z,87nm,0.5s							
DPQ	**Saint Jean**	**6.14**	**106**	PN	Pn	13 01 19.4	0.0	
DPQ				SN	Sn	13 02 27.2	-3.0	
DPQ				LG	Lg	13 02 57.9		
DPQ				Trac		13 03 09.1		
	comp=Z,57nm,0.4s							
DAQ	**Lac Daran**	**6.78**	**93**	PN	Pn	13 01 27.7	-0.5	
DAQ				SN	Sn	13 02 42.5	-3.6	
DAQ				LG	Lg	13 03 16.0		
DAQ				Trac		13 03 26.2		
	comp=Z,25nm,0.3s							
SADQ	**Saint-Augustin**	**6.91**	**103**	LG	Lg	13 03 22.8		
SADQ				Trac		13 03 25.9		
	comp=Z,25nm,0.3s							
MOQ	**Mont Orford**	**7.09**	**116**	PN	Pn	13 01 32.9	+0.3	
MOQ				SN	Sn	13 02 51.1	-2.9	
MOQ				LG	Lg	13 03 27.8		
MOQ				Trac		13 03 30.3		
	comp=Z,28nm,0.3s							
SOLO	**Sioux Lookout**	**7.13**	**284**	PN	Pn	13 01 33.2	+0.2	
SOLO				SN	Sn	13 02 46.8	-7.8	
SOLO				LG	Lg	13 03 25.8		
SOLO				Trac		13 03 33.8		
	comp=Z,38nm,0.4s							
ULM	**Lac du Bonnet**	**9.58**	**285**	Pn	Pn	13 02 05.6	-1.0	
	2.5nm,0.3s,baz=90,slow=14,SNR=20							
ULM				Sn	Sn	13 03 45.8	-9.1	
	0.9nm,0.3s,baz=140,slow=19,SNR=3.0							
ULM				Lg	Lg	13 04 43.2		
	3.7nm,0.3s,baz=186,slow=20,SNR=6.5							
SCHQ	**Schefferville**	**10.85**	**50**	Pn	Pn	13 02 20.8	-3.1	
	0.6nm,0.3s,baz=245,slow=17,SNR=2.2							
SCHQ				Sn	Sn	13 04 18.9	-7.1	
	1.3nm,0.3s,baz=90,slow=6.9,SNR=3.8							
SCHQ				Lg	Lg	13 05 24.4		
	4.7nm,0.3s,baz=154,slow=19,SNR=6.8							
TKL	**Tuckaleechee C**	**13.20**	**189**	Lg	Lg	13 06 36.1		
	0.5nm,0.3s,baz=96,slow=21,SNR=3.8							
PDAR	**Pinedale Array**	**20.50**	**264**	P	P	13 04 28.9	+1.6	
	0.7nm,0.7s,baz=60,slow=12,SNR=6.6							
YKA	**Yellowknife Ar**	**22.95**	**319**	P	P	13 04 54.8	+1.8	
	0.3nm,0.4s,baz=110,slow=9.6,SNR=5.6							
TXAR	**Lajitas Array**	**25.84**	**230**	P	P	13 05 21.6	+1.0	
	0.3nm,0.7s,baz=41,slow=8.4,SNR=4.5							
TXAR				Lg	Lg	13 13 26.1		
	0.1nm,0.3s,baz=5.7,slow=26,SNR=3.1							
ILAR	**Eielson Array**	**37.38**	**320**	P	P	13 07 01.2	-0.3	
	0.2nm,0.6s,baz=80,slow=8.7,SNR=3.2							

NIED ***13*** *13:04:00,39°.90N×142°.30E,h44km,Mw3.9 Best double couple: M₀7.38000×10¹⁴ NP1:φ₉₀.196.00000°,δ15.00000°, λ89.00000°. NP2:φ₉₀17.00000°,δ75.00000°,λ90.00000°.*

ISCJB ***13*** *13:04:25.8±0.9,39°.93N±0°.04×142°.3E±0°.1,h50km±7km, mb3.7/6,MS3.0/1,Error ellipse: s-maj=13.7km s-min=6.0km az=12.4*

JMA ***13*** *13:04:26.4±0.1,39°.94N×142°.32E,h43km±1km,M3.7*

IDC ***13*** *13:04:31.2±3.5,39°.87N×142°.26E,h87km±31km,mb3.4/6, mb1 3.5/9,mb1mx3.4/39,mbtmp3.7/9,MS2.8/4,Ms1 2.8/4, ms1mx2.7/15,Error ellipse: s-maj=34.1km s-min=19.7km az=90.0*

ISC 13 13:04:26.6±1.3,39°.91N±0°.04×142°.33E±0°.09,h43km±11km, n29,σ1°51/29,mb3.7/6,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JTH	**Tanohata**	**0.36**	**275**	P	**Pn**	**13 04 35.5**	**-0.2**
JTH				S	**Sn**	**13 04 42.0**	**-0.2**
MIYJ	**Miyakonagasawa**	**0.51**	**230**	P	**Pn**	**13 04 37.5**	**-0.1**
MIYJ				S	**Sn**	**13 04 45.2**	**-0.2**
JKZ	**Kuzumaki**	**0.77**	**276**	P	**Pn**	**13 04 41.1**	**0.0**
JKZ				S	**Sn**	**13 04 51.3**	**-0.3**
JANG	**Nango**	**0.78**	**307**	P	**Pn**	**13 04 40.2**	**-1.0**
JOM	**Ohasama**	**0.91**	**242**	P	**Pn**	**13 04 43.0**	**+0.1**
JOM				*e*S	**Sn**	**13 04 55.0**	**+0.1**
OFUJ	**Ofunato**	**0.97**	**212**	P	**Pn**	**13 04 43.9**	**+0.1**
JMK	**Ichinoseki**	**1.28**	**222**	P	**Pn**	**13 04 48.5**	**+0.5**
JMK				*e*S	**Sn**	**13 05 04.5**	**+0.5**
JTM	**Tenmabayashi**	**1.30**	**313**	P	**Pn**	**13 04 48.0**	**-0.3**
JTM				*e*S	**Sn**	**13 05 04.0**	**-0.6**
JAH	**Hinai**	**1.33**	**283**	P	**Pn**	**13 04 48.8**	**+0.1**
JRO	**Rokugo**	**1.40**	**249**	P	**Pn**	**13 04 50.7**	**+1.0**
ASAJ	**Asahikawa**	**4.21**	**3**	P	**Pn**	**13 05 28.5**	**+0.2**
ASAJ				S	**Sn**	**13 06 17.7**	**+1.5**
	1.1nm,0.3s,baz=273,slow=34,SNR=2.2						
MAT	**Matsushiro**	**4.67**	**225**	P	**Pn**	**13 05 37.5**	**+2.9**
MAT				S	**Sn**	**13 06 29.4**	**+1.9**
MJAR	**Matsushiro Arr**	**4.67**	**225**	P	**Pn**	**13 05 37.5**	**+2.9**
	1.9nm,0.3s,baz=32,slow=13,SNR=35						
MJAR				LR	LR	13 07 42.5	
	comp=Z,79nm,21.1s,baz=35,slow=42						
JHJ	**Hachijo jima 2**	**7.08**	**198**	S	**Sn**	**13 07 22.8**	**-3.9**
	3.3nm,0.3s,baz=331,slow=24,SNR=3.0						
USRK	**Ussurisk Ar.**	**8.81**	**303**	P	**Pn**	**13 06 35.0**	**+3.8**
	0.3nm,0.3s,baz=123,slow=14,SNR=8.9						
USRK				LR	LR	13 09 38.4	
	comp=Z,45nm,18.0s,baz=138,slow=35						
KSRS	**Korea Array**	**11.52**	**262**	P	Pn	13 07 14.0	+5.5
	0.1nm,0.3s,baz=68,slow=14,SNR=4.4						
KSRS				LR	LR	13 10 32.1	
	comp=Z,38nm,18.2s,baz=61,slow=31						
SONM	**Songino Array**	**26.90**	**299**	LR	LR	13 20 56.4	
	comp=Z,38nm,18.1s,baz=24,slow=37						
H11N2	**WAKE ISLAND Hy 29.14**	**126**		T	T	13 41 08.9	
	baz=319,slow=75,SNR=529						
H11N1	**WAKE ISLAND Hy 29.15**	**126**		T	T	13 41 09.7	
	baz=319,slow=75,SNR=428						
H11N3	**WAKE ISLAND Hy 29.16**	**126**		T	T	13 41 10.2	
	baz=319,slow=75,SNR=423						
H11S1	**WAKE ISLAND Hy 29.95**	**128**		T	T	13 42 11.3	
	baz=320,slow=76,SNR=60						
H11S3	**WAKE ISLAND Hy 29.95**	**128**		T	T	13 42 16.9	
	baz=320,slow=76,SNR=39						
H11S2	**WAKE ISLAND Hy 29.96**	**128**		T	T	13 42 12.7	
	baz=320,slow=76,SNR=37						
ZALV	**Zalesovo Beam**	**40.57**	**310**	P	**P**	**13 12 01.1**	**-0.5**
	0.9nm,0.4s,baz=99,slow=7.4,SNR=3.4						
CMAR	**Chiang Mai Arr**	**42.97**	**253**	P	**P**	**13 12 21.6**	**0.0**
	0.7nm,0.8s,baz=43,slow=8.0,SNR=3.6						
ILAR	**Eielson Array**	**46.70**	**34**	P	**P**	**13 12 51.5**	**+0.7**
	0.2nm,0.5s,baz=266,slow=6.1,SNR=4.8						
WRA	**Warramunga Arr**	**60.00**	**189**	P	**P**	**13 14 28.0**	**-0.8**
	1.1nm,0.7s,baz=5.3,slow=6.8,SNR=10						
ASAR	**Alice Springs**	**63.73**	**189**	P	**P**	**13 14 53.8**	**0.0**
	0.4nm,0.7s,baz=4.5,slow=4.6,SNR=7.2						
AKASG	**Malin Array Be**	**72.47**	**322**	P	**P**	**13 15 47.8**	**-0.6**
	0.8nm,0.4s,baz=45,slow=6.5,SNR=4.0						

ISCJB ***13*** *13:06:38.9±0.5,37°.20N±0°.03×30°.47E±0°.06,h11km±6km, Error ellipse: s-maj=8.4km s-min=4.6km az=28.7*

CSEM ***13*** *13:06:38.8±0.1,37°.19N×30°.47E,h12km, MD2.7,Error ellipse: s-maj=4.2km s-min=2.6km az=124.0*

ISK ***13*** *13:06:38.4,37°.19N×30°.46E,h12km, MD2.7*

DDA ***13*** *13:06:41.2,37°.06N×30°.34E,h6km,Md2.7*

ISC 13 13:06:39.0±1.1,37°.20N±0°.03×30°.47E±0°.04,h3km±11km, n22,σ1°49/31,Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KORT	**Korkueli**	**0.22**	**206**	*e*PG	**Pg**	**13 06 43.1**	**-0.2**
KORT				*e*SG	**Sg**	**13 06 47.1**	**+0.8**
KORT	**Korkueli**	**0.22**	**206**	*i* P	**Pg**	**13 06 43.0**	**-0.4**
KORT	**Korkueli**	**0.22**	**206**	*e*Pg	**Pg**	**13 06 43.1**	**-0.2**
KORT				*e*Sg	**Sg**	**13 06 47.1**	**+0.8**
BCK	**Bucak**	**0.27**	**20**	*e*PG	**Pg**	**13 06 44.8**	**+0.4**
BCK				*e*SG	**Sg**	**13 06 49.4**	**+1.5**
BCK	**Bucak**	**0.27**	**20**	*e*Pg	**Pg**	**13 06 44.8**	**+0.4**
BCK				*e*Sg	**Sg**	**13 06 49.4**	**+1.5**
ANTB	**Antalya**	**0.34**	**154**	*e*PG	**Pg**	**13 06 45.6**	**+0.2**
ANTB				*e*SG	**Sg**	**13 06 50.7**	**+0.9**
ANTB	**Antalya**	**0.34**	**154**	*e*Pg	**Pg**	**13 06 45.6**	**+0.2**
ANTB				*e*Sg	**Sg**	**13 06 50.7**	**+0.9**
SUTC	**Sutluce-Ispart**	**0.50**	**57**	*e*PG	**Pg**	**13 06 48.9**	**+0.3**
SUTC				*e*SG	**Sb**	**13 06 56.7**	**-1.7**
SUTC	**Sutluce-Ispart**	**0.50**	**57**	*e*Pg	**Pg**	**13 06 48.9**	**+0.3**
SUTC				*e*Sg	**Sb**	**13 06 56.7**	**-1.7**
ISP	**Isparta**	**0.62**	**4**	*e*PG	**Pg**	**13 06 50.6**	**-0.3**
ISP	**Isparta**	**0.62**	**4**	*e*Pg	**Pg**	**13 06 50.6**	**-0.3**
ELL	**Elmali**	**0.64**	**225**	*e*PG	**Pg**	**13 06 51.2**	**-0.1**
ELL	**Elmali**	**0.64**	**225**	*e*Pg	**Pg**	**13 06 51.2**	**-0.1**
GOLH	**Golhisar**	**0.73**	**273**	*i* P	**Pb**	**13 06 53.8**	**-0.6**
GOLH	**Golhisar**	**0.73**	**273**	P	**Pb**	**13 06 53.8**	**-0.6**
AKAS	**Kas**	**1.19**	**216**	*e*PN	**Pn**	**13 07 01.2**	**-1.6**
AKAS	**Kas**	**1.19**	**216**	*i* P	**Pn**	**13 07 01.2**	**-1.6**
AKAS				*i* S	**Sn**	**13 07 25.1**	**+5.6**
AKAS	**Kas**	**1.19**	**216**	P	**Pn**	**13 07 01.2**	**-1.6**
HDMB	**Hadim**	**1.63**	**98**	*e*PN	**Pn**	**13 07 07.2**	**-1.7**
HDMB	**Hadim**	**1.63**	**98**	*e*Pn	**Pn**	**13 07 07.2**	**-1.7**
KONT	**Konya--Tatoy**	**1.67**	**63**	*e*PN	**Pn**	**13 07 08.6**	**-0.7**
KONT	**Konya--Tatoy**	**1.67**	**63**	*e*Pn	**Pn**	**13 07 08.6**	**-0.7**

ISCJB ***13*** *13:13:07.7±0.5,50°.22N±0°.04×19°.20E±0°.03,h0km, Error ellipse: s-maj=5.4km s-min=2.4km az=17.5*

CSEM ***13*** *13:13:09.0±0.4,50°.21N×19°.25E,h2km,ML3.1/8,Error ellipse: s-maj=8.2km s-min=3.8km az=14.0*

IPEC ***13*** *13:13:09.3±0.2,50°.27N×19°.29E,h0km,ML2.2/3,Error ellipse: s-maj=2.8km s-min=1.1km az=170.0*

PRU ***13*** *13:13:10.0,50°.27N×19°.21E,h0km*

WAR ***13*** *13:13:10.3,50°.18N×19°.36E,h1km,Mw2.4*

ISC 13 13:13:09.2±0.8,50°.15N±0°.04×19°.25E±0°.02,h0km,n37, σ0s86/62,Poland

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OJC	**Ojcow**	**0.36**	**78**	*e*Pg	**Pg**	**13 13 15.7**	**-0.4**
OJC				*e*Sg	**Sg**	**13 13 20.0**	**-0.8**
OJC	**Ojcow**	**0.36**	**78**	*e*Pg	**Pg**	**13 13 15.7**	**-0.4**
OJC				*e*Sg	**Sg**	**13 13 20.0**	**-0.8**
OJC	**Ojcow**	**0.36**	**78**	*e*Pg	**Pg**	**13 13 15.7**	**-0.4**
OJC				*e*Sg	**Sg**	**13 13 20.0**	**-0.8**
OKC	**Ostrava-Krasne**	**0.77**	**247**	*e*PG	**Pb**	**13 13 25.9**	**+0.4**
OKC				*e*SG	**Sb**	**13 13 37.2**	**+0.7**
	comp=Z,30nm,0.3s						
OKC	**Ostrava-Krasne**	**0.77**	**247**	Pg	**Pb**	**13 13 25.9**	**+0.4**
OKC				Sg	**Sb**	**13 13 37.2**	**+0.7**
	30nm,0.3s						
NIE	**Niedzica**	**1.00**	**136**	*e*Pg	**Pb**	**13 13 29.5**	**+0.1**
NIE				*e*Sg	**Sb**	**13 13 43.1**	**0.0**
NIE	**Niedzica**	**1.00**	**136**	*e*Pg	**Pb**	**13 13 29.5**	**+0.1**
NIE				*e*Sg	**Sb**	**13 13 43.1**	**0.0**
NIE	**Niedzica**	**1.00**	**136**	*e*Pg	**Pb**	**13 13 29.5**	**+0.1**
NIE				*e*Sg	**Sb**	**13 13 43.1**	**0.0**
LANS	**Liptovska Anna**	**1.01**	**172**	*e*Pg	**Pb**	**13 13 29.7**	**+0.2**
LANS				*e*Sg	**Sb**	**13 13 43.9**	**+0.6**
LANS	**Liptovska Anna**	**1.01**	**172**	*e*PG	**Pb**	**13 13 29.7**	**+0.2**
LANS				*e*SG	**Sb**	**13 13 43.9**	**+0.6**
MORC	**Moravsky Berou**	**1.16**	**252**	*e*Pg	**Pn**	**13 13 32.6**	**-0.1**
MORC				*e*Sg	**Sb**	**13 13 47.8**	**+0.1**
	32nm,0.3s						
STHS	**Stebnicka Huta**	**1.49**	**119**	*e*Pg	**Pb**	**13 13 38.2**	**+0.5**
STHS				*e*Sn	**Sn**	**13 13 58.8**	**+1.5**
STHS	**Stebnicka Huta**	**1.49**	**119**	*e*PG	**Pb**	**13 13 38.2**	**+0.5**
STHS				*e*SN	**Sn**	**13 13 58.8**	**+1.5**
STHS				*e*LG	Lg	13 14 00.4	
KRLC	**Kraliky**	**1.59**	**268**	*e*PG	**Pn**	**13 13 38.9**	**+0.3**
KRLC				*e*SG	**Sn**	**13 13 59.3**	**-0.5**
KRLC	**Kraliky**	**1.59**	**268**	Pg	**Pn**	**13 13 38.9**	**+0.3**
KRLC				Sg	**Sn**	**13 13 59.3**	**-0.5**
VYHS	**Vyhne**	**1.68**	**189**	*e*Pg	**Pn**	**13 13 40.0**	**+0.2**
VYHS				*e*Sn	**Sn**	**13 14 02.0**	**0.0**
VYHS	**Vyhne**	**1.68**	**189**	*e*PG	**Pn**	**13 13 40.0**	**+0.2**
VYHS				*e*SN	**Sn**	**13 14 02.0**	**0.0**
VYHS				*e*LG	Lg	13 14 05.8	
KECS	**Kecovo**	**1.85**	**154**	*e*Sn	**Sn**	**13 14 05.3**	**-1.0**
KECS	**Kecovo**	**1.85**	**154**	*e*SN	**Sn**	**13 14 05.3**	**-1.0**
KECS				*e*LG	Lg	13 14 11.8	
DPC	**Dobruska-Polom**	**1.89**	**277**	*e*PG	**Pn**	**13 13 43.1**	**+0.4**
DPC				*e*SG	**Sb**	**13 14 08.6**	**-0.1**
	comp=Z,34nm,0.5s						
DPC	**Dobruska-Polom**	**1.89**	**277**	Pg	**Pn**	**13 13 43.1**	**+0.4**
DPC				Sg	**Sb**	**13 14 08.6**	**-0.1**
	34nm,0.5s						
VRAC	**Vranov**	**1.92**	**245**	*e*Pn	**Pb**	**13 13 44.3**	**-0.7**
VRAC				*e*Sg	**Sg**	**13 14 11.8**	**+1.1**
	16nm,0.5s						
KSP	**Ksiaz**	**2.01**	**291**	*e*Pg	**Pg**	**13 13 47.7**	**0.0**
KSP				*e*Sg	**Sg**	**13 14 14.5**	**+0.8**
KSP	**Ksiaz**	**2.01**	**291**	*e*Pg	**Pg**	**13 13 47.7**	**0.0**
KSP				*e*Sg	**Sg**	**13 14 14.5**	**+0.8**
KSP	**Ksiaz**	**2.01**	**291**	*e*Pg	**Pg**	**13 13 47.7**	**0.0**
KSP				*e*Sg	**Sg**	**13 14 14.5**	**+0.8**
UPC	**Upice**	**2.10**	**281**	*e*SG	**Sg**	**13 14 16.6**	**-0.1**
UPC	**Upice**	**2.10**	**281**	Sg	**Sg**	**13 14 16.6**	**-0.1**
KRUC	**Moravsky**	**2.15**	**241**	*e*Pn	**Pn**	**13 13 47.5**	**+1.2**
KRUC				*e*Sg	**Sg**	**13 14 19.4**	**+1.2**
	15nm,0.5s						
GOPC	**GO Pecny, Ondr**	**2.88**	**267**	*e*SG	**Sg**	**13 14 40.1**	**-1.7**
	comp=Z,9.9nm,0.4s						
GOPC	**GO Pecny, Ondr**	**2.88**	**267**	Sg	**Sg**	**13 14 40.1**	**-1.7**
	9.9nm,0.4s						
PVCC	**Panska Ves**	**3.02**	**279**	*e*SG	**Sg**	**13 14 45.5**	**-0.7**
	comp=Z,15nm,0.3s						
PVCC	**Panska Ves**	**3.02**	**279**	Sg	**Sg**	**13 14 45.5**	**-0.7**
	15nm,0.3s						
PRU	**Pruhonice**	**3.04**	**269**	*e*SG	**Sg**	**13 14 44.7**	**-1.9**
	comp=Z,9.2nm,0.4s						
PRU	**Pruhonice**	**3.04**	**269**	Sg	**Sg**	**13 14 44.7**	**-1.9**
	9.2nm,0.4s						
BRG	**Berggiesshubel**	**3.46**	**284**	PG	**Pg**	**13 14 15.7**	**+0.2**
BRG				SG	**Sg**	**13 15 00.2**	**-0.2**
	7.0nm,0.4s						
KHC	**Kasperske Hory**	**3.82**	**257**	*e*SG	**Sg**	**13 15 09.6**	**-2.3**
	comp=Z,6.3nm,0.4s						
KHC	**Kasperske Hory**	**3.82**	**257**	Sg	**Sg**	**13 15 09.6**	**-2.3**
	6.3nm,0.4s						

ISCJB ***13*** *13:13:38.9±0.8,6°.85N±0°.04×73°.11W±0°.05,h156km±7km, Error ellipse: s-maj=9.3km s-min=4.7km az=34.2*

FUNV ***13*** *13:13:39.0,6°.75N×73°.12W,h169km,MW2.5*

RSNC ***13*** *13:13:40.9±1.1,6°.80N×73°.12W,h146km±7km,ML2.6*

ISC 13 13:13:38.9±1.5,6°.83N±0°.05×73°.09W±0°.05,h157km±9km, n15,σ0s86/28,Northern Colombia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BARC	**Barichara**	**0.25**	**201**	*i* P	**Pn**	**13 14 00.5**	**0.0**
BARC				*e*S	**Sn**	**13 14 15.2**	**-1.7**
BARC				*i*		13 14 17.2	
	comp=Z,77nm,0.3s						
PAMC	**Pamplona, Colo**	**0.64**	**37**	*e*P	**Pn**	**13 14 03.4**	**+1.0**
PAMC				*e*S	**Sn**	**13 14 20.3**	**-0.1**
BRRC	**Barranca, Sant**	**0.68**	**294**	*e*P	**Pn**	**13 14 02.4**	**+0.4**
BRRC				*e*S	**Sn**	**13 14 19.8**	**+0.1**
BRRC				*i*		13 14 24.1	
	comp=Z,86nm,0.1s						
RUSC	**La Rusia**	**0.93**	**179**	*e*P	**Pn**	**13 14 04.3**	**-0.1**
RUSC				*e*S	**Sn**	**13 14 23.3**	**-0.6**
RUSC				*i*		13 14 24.5	
	comp=Z,52nm,0.5s						
CAPV	**Capacho**	**1.29**	**37**	*e*P	**Pn**	**13 14 08.3**	**+1.1**
CAPV				*e*S	**Sn**	**13 14 30.1**	**+1.1**
OCAC	**Ocana**	**1.42**	**351**	*e*P	**Pn**	**13 14 09.5**	**+1.1**
OCAC				*e*S	**Sn**	**13 14 30.8**	**-0.3**
OCAC				*i*		13 14 36.0	
	comp=Z,61nm,0.5s						
ZARC	**Zaragoza, Cauc**	**1.87**	**291**	*e*P	**Pn**	**13 14 13.2**	**+0.1**
ZARC				*e*S	**Sn**	**13 14 38.5**	**-0.8**
ZARC				*i*		13 14 46.0	
	comp=Z,42nm,0.3s						
NORC	**Norcasia**	**2.17**	**235**	*e*P	**Pn**	**13 14 16.7**	**+0.2**
NORC				*e*S	**Sn**	**13 14 44.4**	**-1.1**
CHIC	**Chingaza**	**2.27**	**196**	*e*P	**Pn**	**13 14 18.5**	**+0.4**
CHIC				*e*S	**Sn**	**13 14 48.1**	**-0.2**
CHIC				*i*		13 14 53.8	
	comp=Z,24nm,0.6s						
HELC	**Santa Helena**	**2.50**	**256**	*e*P	**Pn**	**13 14 22.4**	**+1.6**
HELC				*i*		13 14 59.3	
	comp=Z,25nm,0.4s						
VIGV	**El Vigia**	**2.63**	**40**	*e*P	**Pn**	**13 14 22.9**	**+0.8**
VIGV				*e*S	**Sn**	**13 14 54.6**	**-0.9**
SOCV	**Socops**	**2.65**	**57**	*e*P	**Pn**	**13 14 22.8**	**+0.6**
SOCV				*e*S	**Sn**	**13 14 54.9**	**-0.8**
PRAC	**Prado**	**3.57**	**210**	*e*P	**Pn**	**13 14 34.4**	**+0.4**
PRAC				*e*S	**Sn**	**13 15 17.1**	**+0.4**
VIRV	**Villa del Rosa**	**3.71**	**10**	*e*P	**Pn**	**13 14 35.3**	**-0.4**
VIRV				*e*S	**Sn**	**13 15 18.4**	**-1.5**
CURV	**Curarigua**	**4.43**	**44**	*

IDC 13 13:43:20.8±3.0, 16.12S×173.31W, h0km, mb3.7/4, mb1 3.9/5, mb1mx3.7/41, mbtmp3.6/5, ML3.3/1, MS3.4/1, Ms1 3.4/1, ms1mx2.8/28, Error ellipse: s-maj=146.7km s-min=23.5km az=143.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**2.65**	**34**	Pn	Pn	13 44 03.1	-1.7
	6.0nm,0.3s,baz=206,slow=4.2,SNR=23						
AFI				Sn	Sn	13 44 31.9	-5.8
	38nm,0.3s,baz=269,slow=23,SNR=15						
HNR	**Honiara**	**26.89**	**281**	LR	LR	13 58 16.1	
	comp=Z,80nm,19.2s,baz=128,slow=33						
WRA	**Warramunga Arr**	**49.77**	**257**	P	P	13 52 15.6	+0.1
	0.8nm,0.9s,baz=97,slow=6.7,SNR=2.2						
ASAR	**Alice Springs**	**49.97**	**252**	P	P	13 52 15.9	-1.2
	0.9nm,0.8s,baz=93,slow=8.1,SNR=6.5						
PDAR	**Pinedale Array**	**82.74**	**42**	P	P	13 55 47.4	+0.4
	0.2nm,0.3s,baz=224,slow=2.5,SNR=5.4						
ILAR	**Eielson Array**	**83.13**	**11**	P	P	13 55 48.1	0.0
	0.3nm,0.6s,baz=227,slow=6.4,SNR=9.6						
BRTR	**Keskin Array B**	**146.76**	**320**	PKPbc	PKPbc	14 03 05.8	+0.5
	1.2nm,0.8s,baz=70,slow=1.7,SNR=6.5						

*IDC **13** 13:46:09.5±0.8, 0.39S×125.29E, h0km, mb4.0/9, mb1 4.1/10, mb1mx3.9/46, mbtmp4.0/10, ML3.8/1, MS3.4/4, Ms1 3.4/4, ms1mx2.9/43, Error ellipse: s-maj=58.6km s-min=14.8km az=74.0*

*ISCJB **13** 13:46:14.5±0.5, 0.41S±0.06×125.47E±0.05, h57km, mb3.9/9, MS3.3/4, Error ellipse: s-maj=9.1km s-min=6.4km az=13.9*

*DJA **13** 13:46:14.4±0.4, 0.3S±3°×12.6E±°, h137km±8km, M4.3/12, mB4.8/2, mb4.5/5, MLv4.2/12, Mw(mB)4.1/2*

ISC 13 13:46:16.8±0.7, 0.35S±0.06×125.53E±0.06, h57km, n25, σ2§94/24, mb4.0/9, MS3.4/4, Southern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SANI	**Sanana**	**1.75**	**165**	P	Pn	13 46 46.9	+2.0
SANI				S	Sn	13 47 11.9	+5.8
KMSI	**Cibinong**	**1.80**	**301**	P	Pn	13 46 47.3	+1.8
LBMI	**Labuha**	**1.99**	**98**	P	Pn	13 46 48.5	+0.4
LBMI				S	Sn	13 47 09.8	-2.2
NLAI	**Namlea**	**3.27**	**151**	P	Sn	13 47 40.0	-3.3
MRSI	**Marisa**	**3.68**	**283**	P	Pn	13 47 09.9	-1.4
AAI	**Ambon**	**4.25**	**141**	P	Pn	13 47 17.9	-1.2
MSAI	**Masohi**	**4.51**	**131**	P	Pn	13 47 21.6	-1.1
KDI	**Kendari**	**4.62**	**219**	P	Pn	13 47 22.6	-1.5
PCI	**Palu**	**5.72**	**264**	P	Pn	13 47 36.8	-2.5
TTSI	**Tana Toraja**	**6.31**	**245**	P	Pn	13 47 44.5	-2.8
	28nm,0.6s,0.2nm						
SPSI	**Sidrap Palu**	**6.79**	**238**	P	Pn	13 47 52.9	-0.9
FITZ	**Fitzroy Crossi**	**17.64**	**180**	P	Pn	13 50 18.1	-0.6
	0.2nm,0.3s,baz=12,slow=10.0,SNR=6.6						
WRA	**Warramunga Arr**	**21.30**	**157**	P	P	13 50 57.8	-1.1
	3.4nm,0.5s,baz=337,slow=11,SNR=24						
PMG	**Port Moresby**	**23.33**	**113**	LR	LR	14 02 01.2	
	comp=Z,142nm,20.4s,baz=249,slow=40						
ASAR	**Alice Springs**	**24.56**	**161**	P	P	13 51 32.1	+0.6
	5.6nm,1.0s,baz=336,slow=8.4,SNR=17						
CMAR	**Chiang Mai Arr**	**32.12**	**307**	LR	LR	14 06 35.4	
	comp=Z,35nm,20.1s,baz=95,slow=38						
STKA	**Stephens Creek**	**34.84**	**156**	P	P	13 53 02.7	+0.1
	2.9nm,0.8s,baz=325,slow=7.2,SNR=6.2						
STKA				LR	LR	14 07 41.8	
	comp=Z,87nm,20.0s,baz=8.2,slow=37						
KSRS	**Korea Array**	**37.68**	**3**	P	P	13 53 27.0	+0.4
	1.8nm,0.9s,baz=179,slow=9.2,SNR=12						
USRK	**Ussuriysk Ar.**	**44.73**	**7**	P	P	13 54 24.7	+0.3
	1.1nm,0.5s,baz=180,slow=7.2,SNR=3.2						
SONM	**Songino Array**	**50.80**	**343**	P	P	13 55 13.3	+1.7
	0.9nm,0.6s,baz=158,slow=6.6,SNR=3.4						
YAK	**Yakutsk**	**62.30**	**2**	LR	LR	14 23 01.0	
	comp=Z,26nm,20.9s,baz=170,slow=36						
ZALV	**Zalesovo Beam**	**63.70**	**335**	P	P	13 56 41.1	-1.1
	0.7nm,0.5s,baz=122,slow=7.0,SNR=3.0						
KURBB	**Kurchatov Arra**	**64.55**	**329**	P	P	13 56 46.8	-1.1
	0.3nm,0.4s,baz=128,slow=5.9,SNR=6.2						
BVAR	**Borovoye Array**	**70.10**	**328**	P	P	13 57 23.4	+0.4
	0.6nm,0.3s,baz=116,slow=6.6,SNR=3.7						
TORD	**Torodi Ar. Bea**	**122.94**	**285**	PKP	PKPdf	14 05 08.8	+1.0
	0.5nm,0.6s,baz=94,slow=0.7,SNR=3.6						

*ISCJB **13** 13:48:01.6±0.7, 32.1N±0.1×85.3E±0.1, h33km, mb3.5/8, MS2.7/1, Error ellipse: s-maj=21.8km s-min=11.2km az=140.2*

*IDC **13** 13:48:07.0±7.3, 32.16N×85.55E, h68km±67km, mb3.2/8, mb1 3.6/10, mb1mx3.3/50, mbtmp3.7/10, ML3.6/2, MS2.9/1, Ms1 2.9/1, ms1mx2.4/26, Error ellipse: s-maj=35.1km s-min=18.2km az=46.0*

ISC 13 13:48:04.2±0.8, 32.2N±0.1×85.4E±0.1, h35km, n14, σ1§35/13, mb3.5/8, Xizang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LSA	**Lhasa**	**5.56**	**115**	P	Pn	13 49 26.3	+1.4
LSA				pmax	pmax		
	comp=Z,7.0nm,0.8s						
SHL	**Shillong**	**8.73**	**137**	*e*SG	Pn	13 50 10.0	+1.8
SHL				*e*P	Sn	13 51 46.0	+0.5
WMQ	**Urumqi**	**11.75**	**8**	*e*P	Pn	13 50 55.4	+6.0
WMQ				smax	smax		
	comp=N,3.0nm,0.5s						
WMQ				smax	smax		
	comp=E,6.0nm,0.5s						
CMAR	**Chiang Mai Arr**	**18.35**	**135**	P	P	13 52 14.4	-1.4
	comp=E,0.2nm,0.3s,baz=325,slow=12,SNR=8.8						
KURBB	**Kurchatov Arra**	**19.10**	**347**	P	P	13 52 23.9	+0.2
	comp=E,0.1nm,0.3s,baz=164,slow=11,SNR=6.3						
ZALV	**Zalesovo Beam**	**21.75**	**359**	P	P	13 52 52.9	+0.5
	comp=E,1.5nm,0.7s,baz=183,slow=9.6,SNR=7.1						
SONM	**Songino Array**	**22.33**	**40**	P	P	13 52 59.2	+0.3
	comp=E,1.0nm,0.8s,baz=214,slow=12,SNR=3.0						
WSAR	**Wadi Sarin**	**25.23**	**256**	LR	LR	14 04 38.2	
	comp=E,24nm,18.9s,baz=98,slow=39						
AKASG	**Malin Array Be**	**44.80**	**311**	P	P	13 56 15.2	+0.8
	comp=E,0.2nm,0.3s,baz=80,slow=7.4,SNR=3.4						
GERES	**GERESS Array B**	**54.95**	**310**	P	P	13 57 33.1	+1.4
	comp=E,0.3nm,0.2s,baz=11,slow=5.5,SNR=2.9						
WRA	**Warramunga Arr**	**69.89**	**131**	P	P	13 59 10.4	-1.4
	comp=E,0.5nm,0.7s,baz=325,slow=6.3,SNR=6.6						
ASAR	**Alice Springs**	**72.36**	**134**	P	P	13 59 25.0	-1.7
	comp=E,0.3nm,0.6s,baz=316,slow=5.7,SNR=5.6						
ILAR	**Eielson Array**	**75.13**	**21**	P	P	13 59 41.0	-1.4
	comp=E,0.2nm,0.6s,baz=307,slow=3.3,SNR=3.8						
TORD	**Torodi Ar. Bea**	**77.82**	**278**	P	P	13 59 57.7	-0.7
	comp=E,0.3nm,0.6s,baz=43,slow=4.8,SNR=2.8						

*ISCJB **13** 14:09:55.3±1.4, 38.38N±0.04×142.27E±0.08, h25km±7km, mb3.7/3, Error ellipse: s-maj=10.7km s-min=6.2km az=178.0*

*IDC **13** 14:09:56.1±2.0, 37.99N×142.80E, h0km, mb3.6/3, mb1 3.7/5, mb1mx3.4/41, mbtmp3.6/5, ML3.0/2, Error ellipse: s-maj=39.5km s-min=30.4km az=77.0*

*JMA **13** 14:09:57.0±0.1, 38.47N×142.21E, h27km±1km, M3.4*

ISC 13 14:09:56.4±2.0, 38.42N±0.04×142.2E±0.1, h22km±14km, n20, σ1§14/24, mb3.8/3, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIO	**Ouri**	**0.63**	**274**	P	Pn	14 10 10.0	0.0
JIO				S	Sn	14 10 18.6	-0.7
OFUJ	**Ofunato**	**0.76**	**330**	P	Pn	14 10 11.0	-0.8
OFUJ				S	Sn	14 10 21.0	-1.6
JMK	**Ichinoseki**	**0.90**	**306**	P	Pn	14 10 13.8	+0.1
JMK				S	Sn	14 10 25.7	-0.4
JOU	**Okura**	**1.17**	**268**	P	Pb	14 10 18.6	+0.7
JOU				S	Sb	14 10 34.5	+1.9
JMM	**Marumori**	**1.20**	**243**	P	Pn	14 10 18.3	+0.4
JMM				S	Sb	14 10 34.1	+0.5
JOM	**Ohasama**	**1.25**	**328**	P	Pn	14 10 18.7	+0.2
JOM				S	Sn	14 10 34.5	-0.1
JFK	**Kawauchi**	**1.46**	**224**	P	Pn	14 10 21.3	-0.1
JFK				S	Sn	14 10 39.2	-0.6
JYK	**Kaneyama**	**1.49**	**290**	P	Pb	14 10 23.1	-0.2
JYK				*e*S	Sb	14 10 42.3	+0.5
JRG	**Rokugo**	**1.54**	**310**	P	Pb	14 10 23.9	-0.2
JRG				*e*S	Sb	14 10 44.0	+0.9
MJAR	**Matsushiro Arr**	**3.65**	**240**	Pn	Pb	14 10 56.7	-3.5
	0.4nm,0.3s,baz=81,slow=17,SNR=4.5						
MJAR				Sn	Sb	14 11 44.4	+0.3
	0.5nm,0.3s,baz=80,slow=21,SNR=3.0						
JHJ	**Hachijo jima 2**	**5.63**	**201**	Pn	Pn	14 11 20.3	+1.6
	3.3nm,0.3s,baz=290,slow=23,SNR=4.2						
JHJ				Sn	Sn	14 12 22.0	-0.6
	2.1nm,0.3s,baz=242,slow=23,SNR=2.7						
H11N2	**WAKE ISLAND Hy**	**28.39**	**124**	T	T	14 45 40.4	
	baz=317,slow=75,SNR=28						
H11N1	**WAKE ISLAND Hy**	**28.40**	**124**	T	T	14 45 43.4	
	baz=317,slow=75,SNR=27						
H11N3	**WAKE ISLAND Hy**	**28.41**	**124**	T	T	14 45 41.7	
	baz=317,slow=75,SNR=30						
H11S1	**WAKE ISLAND Hy**	**29.16**	**126**	T	T	14 46 35.5	
	baz=318,slow=76,SNR=8.1						
H11S3	**WAKE ISLAND Hy**	**29.16**	**126**	T	T	14 46 35.9	
	baz=318,slow=76,SNR=11						
H11S2	**WAKE ISLAND Hy**	**29.18**	**126**	T	T	14 46 44.2	
	baz=318,slow=76,SNR=9.5						
KURBB	**Kurchatov Arra**	**45.62**	**307**	P	P	14 18 23.4	+8.6
	0.4nm,0.3s,baz=81,slow=8.0,SNR=4.3						
WRA	**Warramunga Arr**	**58.51**	**189**	P	P	14 19 51.4	+0.4
	0.8nm,0.9s,baz=6.5,slow=6.8,SNR=6.4						
ASAR	**Alice Springs**	**62.24**	**189**	P	P	14 20 17.1	+0.7
	0.3nm,0.6s,baz=6.6,slow=5.4,SNR=5.0						

DJA 13 14:10:02.9±0.7, 0°S±4°×12°4E±°, h13km±6km, M3.7/7, MLv3.7/7, Southern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMSI	**Cibinong**	**0.73**	**357**	P	Pg	14 10 16.2	-0.9
KMSI				S	Sb	14 10 28.6	+1.2
MRSI	**Marisa**	**2.17**	**287**	P	Pn	14 10 37.6	-1.2
MRSI				S	Sn	14 11 05.0	-0.6
SANI	**Sanana**	**2.72**	**134**	P	Pn	14 10 46.3	0.0
KDI	**Kendari**	**4.02**	**200**	P	Pn	14 11 02.7	-1.6
SGSI	**Sangihe**	**4.11**	**22**	P	Pn	14 11 05.1	-0.3
PCI	**Palu**	**4.25**	**260**	P	Pn	14 11 06.2	-1.2
TTSI	**Tana Toraja**	**5.08**	**236**	P	Pn	14 11 22.9	+4.0

*NIED **13** 14:14:00, 38.90N×142.40E, h29km, Mw4.6 Best double couple: M0 9.50000×10^15 NP1:φs338.00000°, δ10.00000°, λ-100.00000°. NP2:φs168.00000°, δ80.00000°, λ-88.00000°.*

*ISCJB **13** 14:14:30.7±0.4, 38.86N±0.03×142.36E±0.03, h42km±3km, mb4.7/116, MS4.1/39, Error ellipse: s-maj=4.6km s-min=3.5km az=141.0*

*JMA **13** 14:14:30.2±0.1, 38.94N×142.41E, h35km±2km, M4.7*

JMA Felt III J1.

*MOS **13** 14:14:30.2±0.9, 39.03N×142.40E, h34km, mb4.8/45, Error ellipse: s-maj=7.7km s-min=6.4km az=101.8*

*BJI **13** 14:14:31.5, 38.83N×142.37E, h61km, mb4.8/59, mB4.9/42, Ms4.3/49, Ms7 4.2/48*

*IDC **13** 14:14:33.4±2.1, 38.86N×142.37E, h50km±19km, mb4.1/27, mb1 4.3/33, mb1mx4.2/56, mbtmp4.4/33, ML4.5/4, MS3.9/30, Ms1 3.9/30, ms1mx3.8/48, Error ellipse: s-maj=14.0km s-min=10.8km az=100.0*

*NEIC **13** 14:14:34.1±0.6, 38.79N×142.32E, h61km±6km, mb4.7/60, Error ellipse: s-maj=5.7km s-min=3.9km az=141.0*

NEIC Felt at Ichinoseki. Recorded [3 JMA] in Iwate and Miyagi.

ISC 13 14:14:32.1±0.6, 38.88N±0.04×142.43E±0.04, h44km±4km, n249, σ1§64/269, mb4.7/116, MS4.1/39, 7C-6D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OFUJ	**Ofunato**	**0.62**	**289**	P	Pn	14 14 42.3	-2.3
OFUJ				*e*S	Sn	14 14 50.6	-3.0
MIYJ	**Miyakonagasawa**	**0.84**	**326**	P	Pn	14 14 44.7	-2.8
MIYJ				*e*S	Sn	14 14 54.8	-4.0
JMK	**Ichinoseki**	**0.95**	**275**	P	Pn	14 14 47.3	-1.6
JMK				*e*S	Sn	14 14 59.2	-2.1
JIO	**Ouri**	**0.95**	**244**	P	Pn	14 14 47.0	-1.9
JIO				*e*S	Sn	14 14 58.5	-2.8
JOM	**Ohasama**	**1.06**	**304**	P	Pn	14 14 48.7	-1.8
JOM				*e*S	Sn	14 15 02.0	-2.2
JTH	**Tanohata**	**1.14**	**338**	P	Pn	14 14 49.1	-2.5
JOU	**Okura**	**1.48**	**250**	P	Pn	14 14 54.9	-1.3
JOU				*e*S	Sn	14 15 13.7	-0.6
JRG	**Rokugo**	**1.49**	**291**	P	Pn	14 14 55.2	-1.1
JRG				*e*S	Sn	14 15 14.7	+0.1
JYK	**Kaneyama**	**1.62**	**272**	P	Pn	14 14 57.0	-1.1
JMM	**Marumori**	**1.64**	**232**	P	Pn	14 14 56.8	-1.6
JMM				*e*S	Sn	14 15 18.1	-0.1
JANG	**Nango**	**1.65**	**335**	P	Pn	14 14 56.7	-1.9
JANG				*e*S	Sn	14 15 17.6	-1.0
MAJO	**Matsushiro**	**4.08**	**236**	*c* *i*P	Pn	14 15 32.9	+0.9
MAJO	**Matsushiro**	**4.08**	**236**	*e*Pn	Pn	14 15 32.4	+0.5
MAT	**Matsushiro**	**4.08**	**236**	P	Pn	14 15 33.0	+1.0
MAT				S	Sn	14 16 15.4	-3.1
MJAR	**Matsushiro Arr**	**4.08**	**236**	P	Pn	14 15 32.8	+0.8
	54nm,0.3s,baz=32,slow=14,SNR=245						
MJAR				LR	LR	14 17 20.5	
	comp=Z,4μm,18.6s,baz=45,slow=42						
MJB9	**Matsu-Tunnel**	**4.08**	**236**	*e*Pn	Pn	14 15 32.7	+0.7
ASAJ	**Asahikawa**	**5.23**	**1**	*e*Pn	Pn	14 15 47.2	-0.5
INU	**Inuyama**	**5.58**	**232**	*e*Pn	Pn	14 15 53.2	+0.7
YUK	**Yuzh-Kuril'sk**	**5.76**	**25**	*e*P	Pn	14 15 52.2	-2.7
JHJ2	**Mitsune**	**6.13**	**201**	*e*Pn	Pn	14 15 58.6	-1.5
JHJ	**Hachijo jima 2**	**6.14**	**201**	P	Pn	14 15 59.3	-0.9
	36nm,0.3s,baz=75,slow=20,SNR=38						
JHJ				S	Sn	14 17 06.0	-3.0
	68nm,0.3s,baz=59,slow=19,SNR=3.5						
JHJ				LR	LR	14 18 44.7	
	comp=Z,1μm,21.3s,baz=98,slow=41						
KUR	**Kuril'sk**	**7.53**	**31**	*c* *i*P	Pn	14 16 16.9	-2.2
KUR				*e*S	Sn	14 17 38.1	-5.0
KUR				pmax	pmax		
	comp=Z,72nm,0.4s						
KUR				pmax	pmax		
	comp=N,42nm,0.2s						
KUR				pmax	pmax		
	comp=E,36nm,0.2s						
KUR				smax	smax		
	comp=N,151nm,0.4s						
KUR				smax	smax		
	comp=E,63nm,0.6s						
KUR				MLR	MLR		
	comp=Z,589nm,12.0s						
YSS	**Yuzh-Sakhalins**	**8.07**	**2**	*e*P	Pn	14 16 26.0	-0.6
YSS				*e*S	Sn	14 17 53.1	-3.4
YSS				pmax	pmax		
	comp=Z,30nm,0.9s						
YSS				pmax	pmax		
	comp=N,30nm,1.0s						
YSS				pmax	pmax		
	comp=Z,100nm,3.2s						
YSS				MLR	MLR		
	comp=Z,700nm,19.0s						
YSS				MLR	MLR		
	comp=E,500nm,15.0s						
YSS	**Yuzh-Sakhalins**	**8.07**	**2**	*e*Pn	Pn	14 16 25.3	-1.3
VLA	**Vladivostok**	**9.03**	**301**	*d* *i*P	Pn	14 16 42.6	+2.9
MSHR	**Mys Shultsa**	**9.32**	**297**	*c*e*P	Pn	14 16 44.3	+0.5
USRK	**Ussuriysk Ar.**	**9.46**	**308**	P	Pn	14 16 46.5	+0.9
	comp=E,1.7nm,0.3s,baz=117,slow=14,SNR=48						
USRK				LR	LR	14 20 16.8	
	comp=E,1μm,18.4s,baz=118,slow=36						
HABR	**Khabarovsk**	**10.97**	**333**	*e*P	Pn	14 17 03.6	-2.7
HABR				*e*S	Sn	14 19 05.8	-1.7
HABR				pmax	pmax		
	comp=Z,8.0nm,1.3s						
HABR				MLR	MLR		
	comp=Z,261nm,13.0s						
JNU	**Nakatsue**	**10.98**	**242**	P	Pn	14 17 07.5	+0.9
	comp=Z,2.1nm,0.3s,baz=63,slow=5.1,SNR=23						
JNU				LR	LR	14 21 41.8	
	comp=Z,6.5nm,19.1s,baz=18,slow=39						
JNU	**Nakatsue**	**10.98**	**242**	*e*Pn	Pn	14 17 07.3	+0.7
MDJ	**Mudanjiang**	**11.17**	**305**	P	Pn	14 17 11.3	+2.3
MDJ				S	Sn	14 19 15.4	+3.0
MDJ				PcP	PcP	14 23 03.3	+0.6
MDJ				ScP	ScP	14 26 31.6	-0.1
MDJ				PcS	PcS	14 26 37.1	+0.7
MDJ				ScS	ScS	14 30 07.3	+0.4
MDJ				pmax	pmax		
	comp=Z,27nm,1.1s						
MDJ				pmax	pmax		
	comp=Z,79nm,4.3s						
MDJ				LR	LR		
	comp=Z,280nm,18.6s						
MDJ				LR	LR		
	comp=Z,560nm,16.5s						
MDJ				LR	LR		
	comp=Z,880nm,18.6s						
MDJ	**Mudanjiang**	**11.17**	**305**	*e*Pn	Pn	14 17 10.5	+1.5
KSRS	**Korea Array**	**11.51**	**267**	P	Pn	14 17 16.4	+2.7
	comp=Z,2.0nm,0.3s,baz=76,slow=14,SNR=37						
KSRS				LR	LR	14 21 18.5	
	comp=Z,770nm,19.9s,baz=67,slow=35						
KS01	**Wonju Array Si**	**11.53**	**268**	*e*Pn	Pn	14 17 15.4	+1.4
KS15	**Wonju Array Si**	**11.54**	**267**	*e*Pn	Pn	14 17 16.4	+2.2
KSAR	**Wonju Array Be**	**11.54**	**267**	P	Pn	14 17 16.5	+2.3
KSAR	**Wonju Array Be**	**11.54**	**267**	P	Pn	14 17 16.4	+2.3
CBIJ	**Chichi jima**	**11.76**	**181**	*e*Pn	Pn	14 17 13.5	-3.6
CN2	**Changchun**	**13.67**	**296**	*e*P	Pn	14 17 44.5	+1.3
CN2				*es*P	sP	14 18 03.4	
CN2				*e*S	Sn	14 20 14.8	+1.3
CN2				LR	LR		
	comp=Z,200nm,16.0s						
CN2				LR	LR		
	comp=Z,300nm,16.0s						
CN2				LR	LR		
	comp=Z,500nm,16.0s						
JOW	**Kunigami**	**16.88**	**229**	LR	LR	14 24 53.1	
	comp=Z,182nm,21.1s,baz=322,slow=37						
PETK	**Petropavlovsk-**	**17.69**	**31**	P	P	14 18 38.0	+2.5
	comp=Z,0.2nm,0.3s,baz=199,slow=12,SNR=3.8						
PETK				LR	LR	14 26 26.4	
	comp=Z,322nm,18.4s,baz=203,slow=40						
TIA	**Tai'an**	**20.22**	**270**	*e*P	P	14 19 02.1	-1.3
TIA				pmax	pmax		
	comp=Z,20nm,1.2s						
TIA				pmax	pmax		
	comp=Z,190nm,3.0s						
TIA				LR	LR		
	comp=Z,160nm,11.7s						
TIA				LR	LR		
	comp=Z,480nm,15.0s						
TIA				LR	LR		
	comp=Z,510nm,14.0s						
BJI	**Beijing**	**20.29**	**282**	P	P	14 19 02.1	-1.9
BJI				pP	pP	14 19 12.8	-1.7
BJI				pmax	pmax		
	comp=Z,18nm,1.6s						
BJI				LR	LR		
	comp=Z,180nm,12.3s						
BJI				LR	LR		
	comp=Z,540nm,15.6s						
MA2	**Magadan**	**21.38**	**12**	P	P	14 19 16.0	+0.3
	comp=Z,37nm,0.8s,baz=191,slow=10,SNR=20						
MA2	**Magadan**	**21.38**	**12**	P	P	14 19 16.0	+0.3
MA2				pmax	pmax		
	comp=Z,37nm,0.8s						
YHNB	**Yeheng**	**22.75**	**238**	*e*P	P	14 19 28.0	-2.7
	comp=Z,255nm,2.0s						
NACB	**Ninganchiao**	**22.95**	**236**	*e*P	P	14 19 29.4	-3.3
	comp=Z,126nm,1.9s						
SSLB	**Suanglung**	**23.64**	**237**	*e*P	P	14 19 36.6	-2.8
	comp=Z,39nm,1.4s						
HHC	**Hu-ho-hao-te**	**23.71**	**285**	*e*P	P	14 19 39.8	-0.3
HHC				PP	PnPn	14 20 11.9	+3.1
HHC				S	S	14 23 48.1	-4.1
HHC				pmax	pmax		
	comp=Z,11nm,0.8s						
HHC				pmax	pmax		
	comp=Z,110nm,3.9s						
HHC				LR	LR		
	comp=Z,400nm,12.0s						
HHC				LR	LR		
	comp=Z,560nm,11.5s						
HHC				LR	LR		
	comp=Z,630nm,12.4s						
CIT	**Chita**	**23.96**	**313**	*e*P	P	14 19 36.3	-5.9
CIT				*e*		14 19 52.3	
CIT				*e*		14 20 18.8	
CIT				pmax	pmax		
	comp=Z,71nm,1.2s						
TPUB	**Ta-pu**	**24.19**	**236**	*e*P	P	14 19 42.6	-1.9
	comp=Z,63nm,1.4s						
TWG	**Pinlang**	**24.25**	**235**	*e*P	P	14 19 42.9	-2.1
	comp=Z,416nm,1.7s						
WHN	**Wuhan**	**24.46**	**259**	⇓P	P	14 19 46.5	-0.4
WHN				S	S	14 24 05.1	+1.0
WHN				LR	LR		
	comp=Z,620nm,9.4s						
WHN				LR	LR		
	comp=Z,1μm,13.0s						
WHN				LR	LR		
	comp=Z,1μm,16.0s						
SEY	**Seymchan**	**24.83**	**11**	P	P	14 19 50.7	+0.8
	comp=Z,4.7nm,0.6s,baz=193,slow=11,SNR=15						
BOD	**Bodaibo**	**26.44**	**325**	*e*P	P	14 20 01.4	-3.1
BOD				pmax	pmax		
	comp=Z,13nm,1.3s						
XAN	**Xi'an**	**27.29**	**270**	P	P	14 20 11.3	-1.2
XAN				pP	pP	14 20 22.0	-2.1
XAN				sS	sS	14 25 12.1	+3.6
XAN				pmax	pmax		
	comp=Z,21nm,0.7s						
XAN				pmax	pmax		
	comp=Z,91nm,4.6s						
XAN				LR	LR		
	comp=Z,240nm,11.8s						
XAN				LR	LR		
	comp=Z,380nm,16.3s						
XAN				LR	LR		
	comp=Z,470nm,17.2s						
SONA1	**Songino Array**	**27.47**	**301**	*e*P	P	14 20 13.8	-0.4
SONM	**Songino Array**	**27.48**	**301**	P	P	14 20 14.2	0.0
	comp=Z,1.5nm,0.4s,baz=101,slow=7.7,SNR=11						
SONM				LR	LR	14 31 37.3	
	comp=Z,324nm,18.6s,baz=82,slow=37						
SONM	**Songino Array**	**27.48**	**301**	P	P	14 20 14.2	0.0
SONM				pmax	pmax		
	comp=Z,1.0nm,0.4s						
SONM				MLR	MLR		
	comp=Z,324nm,18.6s						
ENH	**Enshi**	**28.33**	**262**	*e*P	P	14 20 20.8	-1.0
	comp=Z,97nm,1.4s						
H11N2	**WAKE ISLAND Hy**	**28.48**	**125**	T	T	14 50 47.1	
	baz=318,slow=75,SNR=4191						
H11N1	**WAKE ISLAND Hy**	**28.48**	**125**	T	T	14 50 47.8	
	baz=318,slow=75,SNR=3040						
H11N3	**WAKE ISLAND Hy**	**28.49**	**125**	T	T	14 50 48.5	
	baz=318,slow=75,SNR=5255						
H11S1	**WAKE ISLAND Hy**	**29.26**	**127**	T	T	14 51 45.7	
	baz=319,slow=76,SNR=1177						
H11S3	**WAKE ISLAND Hy**	**29.26**	**127**	T	T	14 51 50.6	
	baz=319,slow=76,SNR=1477

comp=Z,440nm,17.2s
GYA LR LR
comp=Z,420nm,17.8s
CD2 Chengdu 32.51 268⇓ *i*P **P 14 20 57.9 -0.8**
CD2 pP pP 14 21 11.4 +0.9
CD2 sP sP 14 21 19.9 +4.2
CD2 PP **PP 14 22 11.5 -1.2**
CD2 S **S 14 26 04.3 -6.6**
CD2 SS **SnSn 14 28 07.5 +0.3**
CD2 pmax pmax
comp=Z,30nm,0.9s
CD2 pmax pmax
comp=Z,130nm,7.6s
CD2 LR LR
comp=Z,530nm,16.1s
CD2 LR LR
comp=Z,410nm,17.1s
GTA Gaotai 32.83 285 *e*P **P 14 21 01.4 -0.2**
GTA pP pP 14 21 15.5 +2.2
GTA sP sP 14 21 23.6 +5.1
GTA S **S 14 26 12.9 -3.0**
GTA sS sS 14 26 40.0 +4.5
GTA SS **SnSn 14 28 14.5 -0.4**
GTA pmax pmax
comp=Z,8.0nm,1.1s
GTA pmax pmax
comp=Z,88nm,6.2s
GTA LR LR
comp=Z,280nm,19.7s
GTA LR LR
comp=Z,520nm,16.9s
GTA LR LR
comp=Z,670nm,17.3s
QIZ Qiongzhong 34.44 244 P **P 14 21 15.8 +0.3**
QIZ pP **sP 14 21 30.0 -2.5**
QIZ sP **pP 14 21 34.6 +7.3**
QIZ S **S 14 26 40.0 -0.8**
QIZ sS **sS 14 27 02.6 +2.1**
QIZ pmax pmax
comp=Z,6.0nm,1.2s
QIZ LR LR
comp=Z,270nm,17.0s
QIZ LR LR
comp=Z,320nm,15.5s
QIZ LR LR
comp=Z,490nm,15.6s
KMI Kunming 36.06 260 P **P 14 21 30.3 +0.6**
KMI pmax pmax
comp=Z,27nm,0.7s
KMI pmax pmax
comp=Z,150nm,4.2s
KMI LR LR
comp=Z,350nm,19.0s
KMI LR LR
comp=Z,410nm,19.4s
KMI LR LR
comp=Z,420nm,18.7s
SLVN Son La 37.31 253 *e*P **P 14 21 39.7 -0.5**
MYLDM Lahad Datu 39.95 219 *e*P **P 14 22 01.2 -1.1**
comp=Z,17nm,1.2s
WMQ Urumqi 40.75 295 P **P 14 22 09.9 +1.1**
WMQ pP pP 14 22 21.9 +1.1
WMQ sP sP 14 22 31.9 +6.0
WMQ pmax pmax
comp=Z,31nm,0.9s
WMQ pmax pmax
comp=Z,91nm,3.7s
WMQ LR LR
comp=Z,54nm,18.5s
WMQ LR LR
comp=Z,110nm,20.7s
WMQ LR LR
comp=Z,120nm,27.7s
ZAA0 Zalesovo Array 41.29 311 *e*P **P 14 22 12.8 -0.2**
ZALV Zalesovo Beam 41.29 311 P **P 14 22 12.9 0.0**
comp=Z,3.8nm,0.4s,baz=88,slow=7.8,SNR=20
ZALV LR LR 14 39 58.1
comp=Z,275nm,19.4s,baz=70,slow=37
ZALV Zalesovo Beam 41.29 311 P **P 14 22 13.0 0.0**
ZALV pmax pmax
comp=Z,4.0nm,0.4s
ZALV MLR MLR
comp=Z,275nm,19.4s
NRIK Noril'sk 41.94 334 LR LR 14 40 32.2
comp=Z,283nm,20.2s,baz=112,slow=37
NVS Novosibirsk 42.17 312 *e*P **P 14 22 20.5 +0.4**
NVS *e*S **S 14 28 35.8 -1.0**
NVS pmax pmax
comp=Z,3.0nm,0.4s
NVS pmax pmax
comp=N,1.0nm,0.4s
NVS pmax pmax
comp=E,2.0nm,0.4s
NVS smax smax
comp=N,2.0nm,0.6s
NVS smax smax
comp=E,2.0nm,0.5s
CHTO Chiang Mai 42.54 255 *e*P **P 14 22 23.3 -0.3**
CHTO pmax pmax
comp=Z,6.0nm,0.8s
CHTO Chiang Mai 42.54 255 *e*P **P 14 22 23.2 -0.3**
comp=Z,5.8nm,0.8s
CMAR Chiang Mai Arr 42.76 254 P **P 14 22 25.5 +0.1**
comp=Z,1.3nm,0.4s,baz=40,slow=8.5,SNR=6.7
CMAR LR LR 14 42 08.6
comp=Z,111nm,18.8s,baz=70,slow=39
CMAR Chiang Mai Arr 42.76 254 *i*P **P 14 22 27.5 +2.1**
CMAR pmax pmax
comp=Z,2.0nm,0.6s
LSA Lhasa 42.87 274 *e*P **P 14 22 27.0 +0.3**
LSA pmax pmax
comp=Z,40nm,1.8s
LSA Lhasa 42.87 274 *e*P **P 14 22 27.0 +0.3**
comp=Z,40nm,1.8s
MK01 Makanchi Array 43.84 301 *e*P **P 14 22 33.5 -0.4**
MK31 Makanchi Array 43.84 301 *i*P **P 14 22 33.8 -0.1**
MK31 pmax pmax
comp=Z,7.0nm,0.6s
MK31 Makanchi Array 43.84 301 *e*P **P 14 22 33.5 -0.3**
MKAR Makanchi Array 43.84 301 *e*P **P 14 22 33.7 -0.2**
MKAR pmax pmax
comp=Z,62nm,0.6s
MKAR Makanchi Array 43.84 301 *e*P **P 14 22 33.7 -0.2**
comp=Z,62nm,0.6s
MAKZ Makanchi 44.05 301 *e*P **P 14 22 35.4 -0.1**
MAKZ pmax pmax
comp=Z,33nm,1.4s
MAKZ Makanchi 44.05 301 *e*P **P 14 22 35.4 -0.1**
comp=Z,33nm,1.4s
CAST Castle Rocks 45.25 35 *e*P **P 14 22 46.2 +1.4**
comp=Z,16nm,1.2s
KURK Kurchatov 45.45 307 P **P 14 22 47.1 +0.6**
KURK pmax pmax
comp=Z,14nm,0.5s
KURK Kurchatov 45.45 307 P **P 14 22 47.0 +0.6**
KURBB Kurchatov Arra 45.52 307 P **P 14 22 47.0 0.0**
comp=Z,14nm,0.5s,baz=81,slow=8.2,SNR=78
KTH Kantishna Hill 45.77 35 *e*P **P 14 22 50.4 +1.4**
comp=Z,36nm,1.2s
COLD Coldfoot 46.15 30 *e*P **P 14 22 53.2 +1.4**
comp=Z,7.4nm,1.2s
TAPN Taplejung 46.63 273 *e*P **P 14 22 57.0 +0.5**
comp=Z,12nm,0.4s
PDGK Podgornoye 46.64 297 P **P 14 22 55.4 -0.8**
PDGK pmax pmax
comp=Z,17nm,1.4s
MCK McKinley 46.66 35 *e*P **P 14 22 56.7 +0.8**
MCK pmax pmax
comp=Z,71nm,2.0s
MCK McKinley 46.66 35 *e*P **P 14 22 56.7 +0.8**
comp=Z,71nm,2.0s
RND Reindeer 46.70 35 *e*P **P 14 22 56.6 +0.3**
RND pmax pmax
comp=Z,31nm,1.4s
RND Reindeer 46.70 35 *e*P **P 14 22 56.6 +0.3**
comp=Z,31nm,1.4s
MDM Murphy Dome 46.93 33 *e*P **P 14 22 59.3 +1.3**
comp=Z,28nm,1.1s
ODAN Odare 47.12 272 *e*P **P 14 23 00.8 +0.5**
comp=Z,17nm,0.5s
CCB Clear Creek Bu 47.12 33 *e*P **P 14 22 60.0 +0.5**
comp=Z,4.7nm,0.8s
DHY Denali Highway 47.39 36 *e*P **P 14 23 02.2 +0.4**
comp=Z,19nm,1.2s
KSM Kuching 47.41 226 *e*P **P 14 23 03.3 +1.0**
comp=Z,16nm,1.2s

HDA Harding Lake 47.50 34 *e*P **P 14 23 02.8 +0.4**
comp=Z,28nm,1.3s
IL1 Eielson Array 47.51 33 *e*P **P 14 23 02.5 0.0**
ILAR Eielson Array 47.51 33 P **P 14 23 03.2 +0.8**
comp=Z,6.0nm,0.7s,baz=265,slow=6.0,SNR=63
ILAR LR LR 14 44 26.1
comp=Z,80nm,20.0s,baz=285,slow=38
ILB Eielson Array 47.51 33 *e*P **P 14 23 02.9 +0.4**
JIRN Jiri 47.67 274 *e*P **P 14 23 05.5 +0.8**
comp=Z,33nm,0.5s
RAMN Ramite 47.69 273 *e*P **P 14 23 04.8 +0.1**
comp=Z,30nm,0.4s
GUN Gumba 47.79 275 *e*P **P 14 23 06.1 +0.5**
comp=Z,49nm,0.5s
FYU Fort Yukon 48.11 31 *e*P **P 14 23 09.0 +1.9**
comp=Z,32nm,1.2s
KKN Kakani 48.31 275 *e*P **P 14 23 10.0 +0.5**
comp=Z,27nm,0.4s
PKI Pulchoki 48.32 274 *e*P **P 14 23 09.8 +0.1**
comp=Z,17nm,0.5s
PKIN Phulchoki 48.33 274 *e*P **P 14 23 09.9 +0.3**
comp=Z,10nm,0.4s
GKN Gorkha 48.71 275 *e*P **P 14 23 12.5 0.0**
comp=Z,18nm,0.4s
TKM2 Tokmak 2 49.48 297 P **P 14 23 18.2 0.0**
TKM2 pmax pmax
comp=Z,14nm,0.9s
KOLN Koldanda 49.63 276 *e*P **P 14 23 20.2 +0.6**
comp=Z,16nm,0.4s
BVA0 Borovoye Array 49.94 311 P **P 14 23 21.2 -0.1**
BVA0 pmax pmax
comp=Z,7.0nm,1.0s
BVAR Borovoye Array 49.94 311 P **P 14 23 21.4 +0.1**
comp=Z,2.0nm,0.3s,baz=76,slow=8.3,SNR=18
PYUN Piuthan 49.95 276 *e*P **P 14 23 22.2 +0.2**
comp=Z,31nm,0.5s
EGAK Eagle 49.95 33 *e*P **P 14 23 21.7 +0.4**
comp=Z,12nm,1.4s
AAK Ala-Archa 50.34 297 P **P 14 23 24.8 +0.1**
comp=Z,2.1nm,0.4s,baz=99,slow=5.9,SNR=3.6
KSH Kashi 50.41 293 *e*P **P 14 23 28.3 +3.1**
KSH pP sP 14 23 43.1 +0.6
KSH sP pP 14 23 50.1 +13
KSH PP **PP 14 25 25.1 +4.3**
KSH S **S 14 30 35.6 +0.1**
KSH sS sS 14 31 02.6 +6.7
KSH SS **SS 14 34 07.5 -1.8**
KSH pmax pmax
comp=Z,8.0nm,1.4s
KSH pmax pmax
comp=Z,88nm,6.7s
KSH LR LR
comp=Z,94nm,5.8s
KSH LR LR
comp=Z,87nm,5.1s
KSH LR LR
comp=Z,140nm,5.1s
IPM Ipoh 50.79 238 *e*P **P 14 23 26.9 -1.3**
comp=Z,8.9nm,0.7s
MNAS Manas 51.77 298 P **P 14 23 35.2 -0.2**
MNAS pmax pmax
comp=Z,16nm,1.2s
INK Inuvik 52.38 28 P **P 14 23 40.3 +0.9**
comp=Z,5.0nm,0.5s,baz=280,slow=6.0,SNR=20
INK Inuvik 52.38 28 *e*P **P 14 23 39.8 +0.5**
comp=Z,16nm,1.2s
KK31 Karatay Array 52.91 299 *i*P **P 14 23 43.1 -0.6**
KK31 pmax pmax
comp=Z,9.0nm,1.1s
KKAR Karatay Array 52.91 299 *e*P **P 14 23 43.3 -0.4**
KKAR pmax pmax
comp=Z,50nm,0.9s
KKAR Karatay Array 52.91 299 *e*P **P 14 23 43.3 -0.4**
comp=Z,50nm,0.9s
SVE Sverdlovsk 54.31 318⇓ *e*P **P 14 23 55.0 +1.3**
SVE pmax pmax
comp=Z,15nm,1.1s
SVE MLR MLR
comp=Z,389nm,16.0s
ARU Arti 55.52 318 P **P 14 24 02.8 +0.4**
comp=Z,3.1nm,0.4s,baz=76,slow=6.4,SNR=8.4
ARU Arti 55.52 318 *d*/*i*P **P 14 24 02.5 +0.1**
ARU 14 25 00.7
ARU 14 26 06.1
ARU S **S 14 31 46.9 +2.5**
ARU SS **SS 14 35 32.8 +3.7**
ARU pmax pmax
comp=Z,14nm,1.2s
ARU MLR MLR
comp=Z,285nm,16.0s
AB31 Akbulak array 57.38 310 P **P 14 24 15.5 -0.3**
AB31 pmax pmax
comp=Z,5.0nm,0.6s
ABKAR Akbulak array 57.38 310 *e*P **P 14 24 15.4 -0.3**
comp=Z,75nm,0.6s
AKTO Aktyubinsk 58.05 311 P **P 14 24 20.8 +0.3**
comp=Z,4.3nm,0.9s,baz=76,slow=12,SNR=6.9
FITZ Fitzroy Crossi 58.83 199 P **P 14 24 26.7 +0.6**
comp=Z,3.4nm,0.9s,baz=23,slow=9.7,SNR=9.1
WB2 Warramunga Arr 59.00 189 *e*P **P 14 24 25.8 -1.6**
WRA Warramunga Arr 59.00 189 P **P 14 24 27.1 -0.3**
comp=Z,6.7nm,0.5s,baz=7,slow=7.1,SNR=176
YKA Yellowknife Ar 61.81 31 P **P 14 24 46.7 +0.7**
comp=Z,1.6nm,0.5s,baz=297,slow=5.9,SNR=8.0
ARCES ARCESS Array B 62.55 339 LR LR 14 56 26.5
comp=Z,61nm,18.4s,baz=261,slow=40
AS01 Alice Springs 62.72 189 *e*P **P 14 24 52.6 0.0**
AS31 Alice Springs 62.73 189 *e*P **P 14 24 52.7 +0.1**
comp=Z,1.6nm,0.5s
ASAR Alice Springs 62.73 189 P **P 14 24 53.0 +0.3**
comp=Z,2.2nm,0.5s,baz=14,slow=11,SNR=95
ASAR LR LR 14 49 59.1
comp=Z,53nm,21.3s,baz=3.0,slow=34
ASAR Alice Springs 62.73 189 P **P 14 24 53.0 +0.3**
ASAR pmax pmax
comp=Z,2.0nm,0.5s
GEYT Alibeck 63.65 299 P **P 14 24 58.9 +0.1**
comp=Z,7.4nm,0.8s,baz=0.0,slow=2.2,SNR=5.5
GEYT LR LR 14 54 25.2
comp=Z,95nm,19.6s,baz=115,slow=38
DZM Mont Dzumac 64.67 155 LR LR 14 49 59.7
comp=Z,76nm,20.7s,baz=26,slow=33
DZM Mont Dzumac 64.67 155 *e*LR LR 14 44 19.4
comp=Z,110nm,21.9s
NLWA Neilton Lookou 64.88 48 *e*P **P 14 25 09.6 +2.8**
comp=Z,15nm,1.1s
LTY Liberty 66.81 47 *e*P **P 14 25 19.7 +0.5**
comp=Z,7.5nm,1.2s
B08A Colville Reser 66.97 46 *e*P **P 14 25 20.9 +0.8**
comp=Z,14nm,1.4s
OBN Obninsk 67.10 323 *e*P **P 14 25 22.1 +1.4**
OBN pmax pmax
comp=Z,20nm,1.5s
FINES FINESS Array B 67.56 332 P **P 14 25 23.7 +0.2**
comp=Z,2.2nm,0.6s,baz=22,slow=13,SNR=5.9
FINES LR LR 14 56 50.3
comp=Z,117nm,18.6s,baz=346,slow=38
FINES FINESS Array B 67.56 332 P **P 14 25 23.7 +0.2**
FINES pmax pmax
comp=Z,4.0nm,0.9s
FINES MLR MLR
comp=Z,117nm,18.7s
NEW Newport 68.25 45 *e*P **P 14 25 28.9 +0.7**
NEW pmax pmax
comp=Z,18nm,1.9s
NEW Newport 68.25 45 *e*P **P 14 25 28.9 +0.7**
comp=Z,18nm,1.9s
YBH Yreka Blue Hor 68.59 53 *e*P **P 14 25 31.8 +1.3**
YBH pmax pmax
comp=Z,3.0nm,1.0s
YBH Yreka Blue Hor 68.59 53 *e*P **P 14 25 31.8 +1.3**
comp=Z,2.6nm,1.0s
E09A Wood Farm, Sta 68.66 47 *e*P **P 14 25 31.7 +1.0**
comp=Z,9.1nm,1.2s
K05A Summer Lake 69.16 52 *e*P **P 14 25 34.6 +0.4**
comp=Z,16nm,1.1s
VSU Vasula 69.27 330⇓ *e*P **P 14 25 34.0 -0.3**
VSU pmax pmax
comp=Z,113nm,1.7s
BMO Blue Mountains 70.09 48 *e*P **P 14 25 40.2 +0.4**
BMO pmax pmax
comp=Z,3.0nm,1.1s
BMO Blue Mountains 70.09 48 *e*P **P 14 25 40.2 +0.4**
comp=Z,3.3nm,1.1s
ZEI Tsey 70.25 309 *e*P **P 14 25 40.1 -0.8**
ZEI pmax pmax
comp=Z,11nm,0.6s

KVAR Kislovodsk Arr 70.30 311 P **P 14 25 41.9 +0.9**
comp=Z,7.6nm,0.7s,baz=323,slow=5.1,SNR=7.8
KVAR LR LR 15 01 40.6
comp=Z,80nm,18.5s,baz=358,slow=40
KIV Kislovodsk 70.31 311 *e*P **P 14 25 42.0 +1.0**
KIV pmax pmax
comp=Z,24nm,1.1s
KIV MLR MLR
comp=Z,81nm,17.0s
KBZ Khabaz 70.31 311 P **P 14 25 41.8 +0.9**
comp=Z,1.5nm,0.7s,baz=42,slow=8.1,SNR=5.2
KBZ LR LR 14 58 03.2
comp=Z,84nm,18.5s,baz=52,slow=37
KBZ Khabaz 70.31 311 P **P 14 25 41.8 +0.9**
KBZ pmax pmax
comp=Z,3.0nm,0.9s
KBZ MLR MLR
comp=Z,84nm,18.5s
STKA Stephens Creek 70.40 181 P **P 14 25 42.3 +0.9**
comp=Z,1.3nm,0.7s,baz=321,slow=6.5,SNR=2.0
ORV Oroville 70.57 55 *e*P **P 14 25 42.9 +0.3**
ORV pmax pmax
comp=Z,3.0nm,0.8s
ORV Oroville 70.57 55 *e*P **P 14 25 42.9 +0.3**
comp=Z,2.7nm,0.8s
NEY Neytrino 70.69 310 *e*P **P 14 25 42.8 -0.7**
NEY pmax pmax
comp=Z,1.0nm,1.0s
WVOR Wild Horse Val 70.70 51 *e*P **P 14 25 44.5 +1.0**
WVOR pmax pmax
comp=Z,6.0nm,1.3s
WVOR Wild Horse Val 70.70 51 *e*P **P 14 25 44.5 +1.0**
comp=Z,6.1nm,1.3s
GNI Garni 71.25 307 LR LR 15 00 09.7
comp=Z,102nm,18.7s,baz=89,slow=38
PAHR Pah Rah Range 71.82 53 *e*P **P 14 25 50.6 +0.2**
comp=Z,4.4nm,0.9s
YERR Yerington 72.33 54 *e*P **P 14 25 53.8 +0.3**
comp=Z,6.9nm,1.1s
DLMT Dillon 72.47 46 *e*P **P 14 25 54.9 +0.7**
comp=Z,9.5nm,1.4s
HLID Hailey 72.53 48 *e*P **P 14 25 54.8 +0.2**
comp=Z,14nm,1.8s
NB2 NORSAR Subarra 72.79 337 P **P 14 25 55.3 -0.4**
comp=Z,1.5nm,0.6s,baz=36,slow=6.2
NOA NORSAR Array B 72.79 337 P **P 14 25 56.5 +0.8**
comp=Z,0.9nm,0.5s,baz=30,slow=2.7,SNR=3.7
NOA LR LR 15 01 58.2
comp=Z,99nm,19.8s,baz=265,slow=39
ANN Anapa 72.83 314 *e*P P 14 26 00.9 +4.8
ANN pmax pmax
comp=Z,36nm,1.1s
BOZ Bozeman (W) 72.86 45 *e*P **P 14 25 57.9 +1.4**
BOZ pmax pmax
comp=Z,11nm,1.6s
BOZ Bozeman (W) 72.86 45 *e*P **P 14 25 57.9 +1.4**
comp=Z,11nm,1.6s
AKASG Malin Array Be 73.33 322 P **P 14 25 59.0 +0.1**
comp=Z,2.3nm,0.4s,baz=44,slow=6.6,SNR=5.4
AKASG LR LR 15 00 52.7
comp=Z,57nm,18.6s,baz=335,slow=38
AKASG Malin Array Be 73.33 322 P **P 14 25 59.0 +0.1**
AKASG pmax pmax
comp=Z,1.0nm,0.4s
AKASG MLR MLR
comp=Z,57nm,18.6s
KIEV Kiev 73.34 322⇑ *e*P **P 14 25 59.8 +0.8**
KIEV pmax pmax
comp=Z,7.0nm,1.2s
H17A Grant Village 74.20 45 *e*P **P 14 26 07.8 +3.3**
comp=Z,17nm,1.5s
IMW Indian Meadow 74.31 46 *e*P **P 14 26 06.5 +1.3**
comp=Z,19nm,1.8s
MOOW Moose Ponds 74.51 46 *e*P **P 14 26 07.4 +1.1**
comp=Z,13nm,1.5s
R11A Troy Canyon, C 75.00 53 *e*P **P 14 26 10.0 +0.8**
comp=Z,7.4nm,1.3s
HWUT Hardware Ranch 75.39 48 *e*P **P 14 26 12.0 +0.6**
comp=Z,16nm,1.5s
TPNV Topopah Spring 75.44 54 *e*P **P 14 26 12.2 +0.5**
TPNV pmax pmax
comp=Z,11nm,1.4s
TPNV Topopah Spring 75.44 54 *e*P **P 14 26 12.2 +0.5**
comp=Z,11nm,1.4s
DUG Dugway, Tooele 75.55 50 *e*P **P 14 26 12.8 +0.6**
DUG pmax pmax
comp=Z,5.0nm,0.8s
DUG Dugway, Tooele 75.55 50 *e*P **P 14 26 12.8 +0.6**
comp=Z,4.5nm,0.8s
SNCC San Nicolas Is 75.55 59 *e*P **P 14 26 15.3 +3.2**
DJJ Donna J Jenkin 75.74 58 *e*P **P 14 26 13.1 -0.1**
BW06 Boulder Array 75.81 46 *e*P **P 14 26 14.2 +0.4**
PD31 Pinedale Array 75.81 46 *e*P **P 14 26 14.1 +0.3**
PDAR Pinedale Array 75.81 46 P **P 14 26 14.4 +0.6**
comp=Z,1.0nm,0.5s,baz=289,slow=2.8,SNR=9.7
IMU Iron Mountain 76.32 51 *e*P **P 14 26 18.8 +2.1**
SHPR Sheep Range 76.40 54 *e*P **P 14 26 18.0 +0.8**
comp=Z,5.2nm,1.2s
MSU Marysvale 76.99 51 *e*P **P 14 26 21.6 +1.1**
MSU Marysvale 76.99 51 *e*P **P 14 26 21.6 +1.1**
LCMT Little Creek M 77.28 53 *e*P **P 14 26 22.8 +0.6**
comp=Z,7.0nm,1.2s
K22A Casper 77.57 45 *e*P **P 14 26 25.4 +1.7**
comp=Z,17nm,1.5s
SRU San Rafael Swe 77.60 50 *e*P **P 14 26 24.1 +0.2**
SRU pmax pmax
comp=Z,14nm,1.3s
SRU San Rafael Swe 77.60 50 *e*P **P 14 26 24.1 +0.2**
comp=Z,14nm,1.3s
BRTR Keskin Array B 78.23 312 P **P 14 26 27.9 +0.6**
comp=Z,0.7nm,0.4s,baz=98,slow=4.7,SNR=4.4
BRTR LR LR 15 05 44.3
comp=Z,32nm,19.0s,baz=22,slow=39
U15A North Rim 78.25 53 *e*P **P 14 26 28.6 +0.9**
comp=Z,15nm,1.5s
MLR Muntele Rosu 78.49 320 LR LR 15 04 01.4
comp=Z,40nm,19.0s,baz=43,slow=38
BR231 Keskin MP Arra 78.65 312 *e*P **P 14 26 28.5 -1.1**
PV10 Paradox Valley 78.96 49 *e*P **P 14 26 32.8 +1.3**
PV05 Paradox Valley 79.12 50 *e*P **P 14 26 33.5 +1.2**
Y14A Wickenburg 79.39 55 *e*P **P 14 26 34.2 +0.6**
comp=Z,16nm,1.0s
WUAZ Wupatki 79.40 53 *e*P **P 14 26 34.9 +1.1**
comp=Z,5.2nm,1.0s
VRAC Vranov 80.00 327 LR LR 15 04 54.4
comp=Z,150nm,19.1s,baz=24,slow=38
X16A Lo Mia Camp, P 80.07 54 *e*P **P 14 26 38.9 +1.4**
comp=Z,4.5nm,1.1s
SDCO Great Sand Dun 81.45 48 *e*P **P 14 26 46.2 +1.2**
comp=Z,6.9nm,1.4s
MMAI Mount Meron Ar 81.55 306 LR LR 15 06 24.7
comp=Z,60nm,19.7s,baz=350,slow=38
GERES GERESS Array B 81.56 329 P **P 14 26 45.9 +0.8**
comp=Z,0.3nm,0.4s,baz=28,slow=4.4,SNR=3.2
GERES LR LR 15 05 41.1
comp=Z,168nm,18.6s,baz=347,slow=38
ANMO Albuquerque 82.79 51 *c*/*e*P **P 14 26 53.8 +1.9**
ANMO pmax pmax
comp=Z,5.0nm,1.7s
ANMO Albuquerque 82.79 51 *e*P **P 14 26 53.0 +1.1**
comp=Z,3.0nm,1.0s
SCHQ Schefferville 83.34 17 LR LR 15 06 57.8
comp=Z,60nm,19.2s,baz=308,slow=38
319A Douglas 83.43 55 *e*P **P 14 26 55.7 +0.5**
comp=Z,5.7nm,0.8s
PPT Papeete 84.75 117 LR LR 14 55 17.9
comp=Z,91nm,21.7s,baz=322,slow=29
PPT2 Papeete2 84.77 117 *e*LR LR 14 53 42.3
comp=Z,192nm,24.0s
PPT2 Papeete2 84.77 117 *e*T T 16 00 35.7
comp=Z,12nm,0.3s
TIAR Tiarei 84.91 117 *e*T T 16 00 45.3
comp=Z,4.3nm,0.3s
MON Monaco 88.25 329 *e*P **P 14 27 20.5 +1.9**
TX31 Lajitas Ar. Si 88.36 53 *e*P **P 14 27 20.1 +0.5**
TXAR Lajitas Array 88.36 53 P **P 14 27 20.2 +0.7**
comp=Z,0.7nm,0.5s,baz=295,slow=3.3,SNR=19
TXAR LR LR 15 02 02.1
comp=Z,49nm,20.9s,baz=0.0,slow=32
TBI Tubuai 88.79 121 *e*T T 16 05 26.2
comp=Z,36nm,0.3s
BCX Boston College 93.59 24 *e*P **P 14 27 46.6 +3.2**
RKT Rikitea 98.71 113 *e*LR LR 14 59 57.5
comp=Z,146nm,24.0s
SNAA Sanae 142.75 197 P **PKPdf 14 33 55.0 -4.4**
VNA2 Neumayer--Watz 144.31 196 P PKPbc 14 34 01.0 +0.5
baz=135,slow=3.3

VNA1	Neumayer--Stat	144.71	196	P		PKPab	14 33 60.0	-1.7
LPAZ	La Paz	145.06	58	PKPbc		PKPab	14 34 05.4	+0.1
	comp=Z,1.4nm,0.5s,baz=31,slow=2.7,SNR=12							
LPAZ	La Paz	145.06	58	*e*PKPbc		PKPbc	14 34 04.7	-0.6

ISCJB ***13*** *14:24:27.3±0.4,4.°87S±0.°04×144.°23E±0.°07, h98km, mb4.1/17, Error ellipse: s-maj=9.9km s-min=6.2km az=170.1*
IDC ***13*** *14:24:29.5±2.3,4.°85S×144.°29E, h104km±22km, mb3.8/11, mb1 3.9/13,mb1mx3.7/33,mbtmp4.2/13,MS3.0/2, Ms1 3.0/2,ms1mx2.6/30,Error ellipse: s-maj=26.1km s-min=16.3km az=86.0*
NEIC ***13*** *14:24:30.6±0.8,4.°85S×144.°12E, h116km±9km, mb4.1/5, Error ellipse: s-maj=11.4km s-min=7.4km az=114.0*

ISC 13 14:24:29.1±0.5,4.°87S±0.°06×144.°19E±0.°08, h98km, n44, σ1°32/45, mb4.1/17, Near north coast of New Guinea

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
JAY	**Jayapura**	**4.20**	**304**	P		**Pn**	**14 25 32.7**	**+1.7**
	0.2nm,0.3s,baz=90,slow=20,SNR=11							
JAY				S		Sn	14 26 28.5	+9.5
	0.3nm,0.3s,baz=268,slow=23,SNR=4.0							
MANU	**Manus Island**	**4.24**	**49**	*e*Pn		**Pn**	**14 25 33.0**	**+1.5**
PMG	**Port Moresby**	**5.38**	**147**	P		**Pn**	**14 25 48.1**	**+1.1**
	3.9nm,0.3s,baz=330,slow=16,SNR=9.0							
PMG				S		**Sn**	**14 26 45.5**	**-2.2**
	2.5nm,0.3s,baz=315,slow=19,SNR=3.3							
PMG				LR		LR	14 27 57.3	
	comp=Z,54nm,21.1s,baz=78,slow=39							
PMG	**Port Moresby**	**5.38**	**147**	*e*Pn		**Pn**	**14 25 49.0**	**+1.9**
PMG				S		**Sn**	**14 26 45.5**	**-2.2**
RABL	**Rabaul**	**7.97**	**85**	*e*Pn		**Pn**	**14 26 26.2**	**+3.8**
COEN	**Coen**	**9.08**	**186**	*e*Pn		**Pn**	**14 26 39.8**	**+2.4**
MTN	**Manton Dam**	**15.13**	**238**	*e*Pn		**Pn**	**14 27 57.0**	**-0.8**
	19nm,0.8s							
WB2	**Warramunga Arr**	**17.78**	**212**	*e*P		**P**	**14 28 29.7**	**-0.2**
	24nm,1.5s							
WRA	**Warramunga Arr**	**17.79**	**212**	P		**P**	**14 28 29.3**	**-0.6**
	0.6nm,0.3s,baz=31,slow=13,SNR=16							
WRA				PcP		**PcP**	**14 33 03.0**	**+0.2**
	0.1nm,0.3s,baz=27,slow=2.0,SNR=4.4							
AS01	**Alice Springs**	**21.13**	**207**	*e*P		**P**	**14 29 07.5**	**+1.2**
AS31	**Alice Springs**	**21.15**	**207**	*e*P		**P**	**14 29 07.1**	**+0.6**
	2.1nm,0.8s							
ASAR	**Alice Springs**	**21.16**	**207**	P		**P**	**14 29 06.2**	**-0.3**
	0.8nm,0.7s,baz=31,slow=13,SNR=13							
FITZ	**Fitzroy Crossi**	**22.40**	**233**	P		**P**	**14 29 17.4**	**-2.3**
	5.5nm,1.0s,baz=39,slow=8.6,SNR=8.5							
YULB	**Yu-li**	**35.90**	**322**	P		P	14 31 14.7	-5.4
MJAR	**Matsushiro Arr**	**41.58**	**353**	P		**P**	**14 32 05.7**	**-1.6**
	0.5nm,0.5s,baz=180,slow=5.9,SNR=4.2							
KSRS	**Korea Array**	**44.76**	**342**	P		**P**	**14 32 32.0**	**-0.8**
	1.6nm,0.6s,baz=156,slow=8.7,SNR=14							
KSAR	**Wonju Array Be**	**44.76**	**341**	P		**P**	**14 32 32.0**	**-0.9**
KS01	**Wonju Array Si**	**44.79**	**342**	*e*P		**P**	**14 32 29.9**	**-3.2**
CMAR	**Chiang Mai Arr**	**50.26**	**299**	P		**P**	**14 33 16.8**	**+1.0**
	4.0nm,0.7s,baz=120,slow=5.8,SNR=26							
HHC	**Hu-ho-hao-te**	**54.44**	**330**	*e*P		**P**	**14 33 46.6**	**+0.1**
HHC					pmax	pmax		
	comp=Z,17nm,1.2s							
HHC					pmax	pmax		
	comp=Z,82nm,6.7s							
PETK	**Petropavlovsk-**	**58.88**	**9**	P		**P**	**14 34 17.5**	**-0.1**
	comp=Z,3.6nm,0.5s,baz=173,slow=7.3,SNR=11							
SONM	**Songino Array**	**62.09**	**332**	P		**P**	**14 34 40.1**	**+0.4**
	comp=Z,1.0nm,0.6s,baz=154,slow=7.5,SNR=3.6							
TAPN	**Taplejung**	**63.20**	**304**	*e*P		**P**	**14 34 48.4**	**+0.7**
ODAN	**Odare**	**63.29**	**303**	*e*P		**P**	**14 34 48.8**	**+0.6**
RAMN	**Ramite**	**63.98**	**303**	*e*P		**P**	**14 34 53.2**	**+0.4**
JIRN	**Jiri**	**64.57**	**304**	*e*P		**P**	**14 34 57.2**	**+0.4**
GUN	**Gumba**	**64.92**	**304**	*e*P		**P**	**14 34 59.7**	**+0.7**
	comp=Z,28nm,0.6s							
PKI	**Pulchoki**	**65.19**	**303**	*e*P		**P**	**14 35 00.9**	**+0.1**
PKIN	**Phulchoki**	**65.20**	**303**	*e*P		**P**	**14 35 01.0**	**+0.2**
KKN	**Kakani**	**65.38**	**303**	*e*P		**P**	**14 35 02.3**	**+0.5**
	comp=Z,26nm,0.7s							
DMN	**Daman**	**65.46**	**303**	*e*P		**P**	**14 35 03.1**	**+0.7**
	comp=Z,48nm,0.9s							
GKN	**Gorkha**	**65.98**	**303**	*e*P		**P**	**14 35 06.1**	**+0.5**
	comp=Z,26nm,0.6s							
KOLN	**Koldanda**	**66.77**	**303**	*e*P		**P**	**14 35 11.0**	**+0.3**
	comp=Z,18nm,0.7s							
PYUN	**Piuthan**	**67.39**	**303**	*e*P		**P**	**14 35 14.7**	**+0.1**
WMQ	**Urumqi**	**70.13**	**320**	*e*P		**P**	**14 35 29.8**	**-1.4**
WMQ					pmax	pmax		
	comp=Z,13nm,0.7s							
ZALV	**Zalesovo Beam**	**76.59**	**328**	P		**P**	**14 36 08.1**	**-0.6**
	comp=Z,6.3nm,0.7s,baz=118,slow=4.9,SNR=22							
ZALV				LR		LR	15 11 34.0	
	comp=Z,27nm,18.3s,baz=252,slow=37							
AAK	**Ala-Archa**	**76.57**	**315**	P		**P**	**14 36 20.8**	**+0.5**
	comp=Z,2.5nm,0.7s,baz=165,slow=6.9,SNR=6.1							
KKAR	**Karatay Array**	**81.51**	**315**	*e*P		**P**	**14 36 35.9**	**0.0**
	comp=Z,0.7nm,0.3s							
MAW	**Mawson**	**82.21**	**202**	P		**P**	**14 36 39.5**	**+0.4**
	comp=Z,1.3nm,0.6s,baz=26,slow=5.7,SNR=3.3							
RC01	**Rabbit Creek A**	**82.95**	**27**	*e*P		**P**	**14 36 42.4**	**-0.7**
NRIK	**Noril'sk**	**83.36**	**343**	P		**P**	**14 36 45.1**	**+0.2**
	comp=Z,3.1nm,0.5s,baz=115,slow=4.1,SNR=5.0							
ILAR	**Eielson Array**	**85.56**	**24**	P		**P**	**14 36 54.9**	**-1.3**
	comp=Z,0.9nm,0.7s,baz=244,slow=5.3,SNR=9.1							
ABKAR	**Akbulak array**	**89.91**	**319**	*e*P		**P**	**14 37 16.0**	**-1.3**
	comp=Z,1.2nm,0.5s							
TORD	**Torodi Ar. Bea**	**142.10**	**285**	PKhKP		PKPpre	14 43 45.2	
	comp=Z,0.4nm,0.9s,baz=40,slow=1.7,SNR=3.2							

IDC ***13*** *14:34:11.2±1.7,51.°66N×174.°99W, h0km, mb3.6/4, mb1 4.0/6,mb1mx3.6/39,mbtmp3.7/6,ML3.5/2,MS3.2/1, Ms1 3.2/1,ms1mx2.5/35,Error ellipse: s-maj=64.3km s-min=21.4km az=174.0*
ISCJB ***13*** *14:34:12.6±0.8,51.°12N±0.°10×175.°01W±0.°09, h33km, mb3.9/6, Error ellipse: s-maj=14.8km s-min=6.5km az=158.6*
NEIC ***13*** *14:34:13.4±0.0,51.°16N×174.°91W, h20km, mb3.9/2, ML3.8(AEIC), After AEIC.*

ISC 13 14:34:15.0±1.1,51.°2N±0.°1×175.°07W±0.°08, h35km, n23, σ1°53/22, mb3.8/6, Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
ATKA	**Atka Island**	**1.14**	**28**	P		**Pn**	**14 34 33.5**	**-1.0**
ATKA				S		**Sn**	**14 34 49.1**	**+0.3**
NIKH	**Nikolski High**	**4.22**	**63**	P		**Pn**	**14 35 15.9**	**-0.9**
NIKH				S		**Sn**	**14 36 06.0**	**+1.2**
OKFG	**Magazine Ridge**	**4.92**	**60**	P		**Pn**	**14 35 25.6**	**-0.7**
OKFG				S		**Sn**	**14 36 22.7**	**+0.8**
MSW	**Makushin Switc**	**5.74**	**59**	P		**Pn**	**14 35 37.4**	**-0.2**
MSW				S		**Sn**	**14 36 44.6**	**+2.5**
UNV	**Unalaska Valle**	**5.86**	**60**	P		**Pn**	**14 35 39.1**	**-0.2**
UNV				S		**Sn**	**14 36 47.3**	**+2.2**
SPIA	**Saint Paul Isl**	**6.62**	**23**	P		**Pn**	**14 35 50.7**	**+1.0**
SDPT	**Sand Point**	**9.67**	**59**	P		**Pn**	**14 36 32.5**	**+1.0**
PETK	**Petropavlovsk-**	**16.79**	**287**	Pn		**Pn**	**14 38 07.1**	**0.0**
	0.1nm,0.3s,baz=108,slow=15,SNR=5.4							
PETK				LR		LR	14 44 03.1	
	comp=Z,80nm,20.1s,baz=102,slow=35							
ILAR	**Eielson Array**	**19.95**	**36**	P		**P**	**14 38 41.0**	**-2.7**
	0.2nm,0.3s,baz=224,slow=9.9,SNR=16							
COLD	**Coldfoot**	**20.25**	**28**	*e*Pn		**P**	**14 38 46.9**	**0.0**
	3.9nm,1.0s							
EGAK	**Eagle**	**22.17**	**39**	*e*P		**P**	**14 39 06.5**	**-1.1**
	7.5nm,1.0s							
DLBC	**Dease Lake**	**26.50**	**57**	P		**P**	**14 39 46.5**	**-2.4**
	1.7nm,0.5s,baz=232,slow=14,SNR=6.1							
DLBC	**Dease Lake**	**26.50**	**57**	*e*P		**P**	**14 39 45.8**	**-3.0**
H11N2	**WAKE ISLAND Hy**	**34.47**	**211**	T		T	15 17 57.5	
	baz=18,slow=76,SNR=5.5							
H11N3	**WAKE ISLAND Hy**	**34.48**	**211**	T		T	15 17 55.1	
	baz=18,slow=76,SNR=5.8							
H11N1	**WAKE ISLAND Hy**	**34.49**	**211**	T		T	15 17 57.8	
	baz=18,slow=76,SNR=4.7							
H11S1	**WAKE ISLAND Hy**	**35.68**	**211**	T		T	15 20 28.6	
	baz=18							
H11S2	**WAKE ISLAND Hy**	**35.70**	**211**	T		T	15 20 28.0	
	baz=18							
H11S3	**WAKE ISLAND Hy**	**35.70**	**211**	T		T	15 20 21.7	
	baz=18							
KSRS	**Korea Array**	**41.99**	**274**	P		**P**	**14 42 04.1**	**+1.6**
	1.5nm,1.1s,baz=50,slow=7.8,SNR=5.8							
PDAR	**Pinedale Array**	**44.12**	**74**	P		**P**	**14 42 20.5**	**+0.5**
	0.5nm,0.7s,baz=328,slow=3.8,SNR=4.5							
TXAR	**Lajitas Array**	**56.35**	**84**	P		**P**	**14 43 53.2**	**+0.7**
	0.3nm,0.8s,baz=308,slow=4.5,SNR=2.9							
GEYT	**Alibeck**	**79.77**	**320**	P		**P**	**14 46 18.9**	**-0.4**
	13nm,0.8s,baz=28,slow=6.7,SNR=4.3							

BYKL ***13*** *14:56:06.7±0.2,55.°50N×110.°46E*
MOS ***13*** *14:56:07.1±1.9,55.°52N×110.°51E, h10km, mb4.3/1, Error ellipse: s-maj=21.2km s-min=11.8km az=59.3*

ISC 13 14:56:06.1±0.7,55.°51N±0.°02×110.°54E±0.°02, h10km, n39, σ3°26/85, 7C-2D, Lake Baykal region

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
KMO	**Kumora**	**0.53**	**45**	↓*i*Pg		**Pb**	**14 56 16.8**	**-0.7**
KMO				*e*Sg		**Sb**	**14 56 24.1**	**-1.1**
KMO					Pmax			
	216nm,0.4s							
KMO					Smax			
	2µm,1.1s							
KMO	**Kumora**	**0.53**	**45**	*e*PG		**Pb**	**14 56 16.8**	**-0.7**
KMO				*e*			14 56 24.3	
KMO					pmax	pmax		
	comp=Z,204nm,0.5s							
KMO					smax	smax		
	comp=N,2µm,1.0s							
NIZ	**Nizh Angarsk**	**0.62**	**295**	*e*Pg		**Pg**	**14 56 17.6**	**-0.6**
NIZ				*e*Pb		**Pb**	**14 56 19.8**	**+0.7**
NIZ				*e*Sg		**Sg**	**14 56 25.4**	**-1.0**
NIZ					max			
	comp=N,111nm,0.4s							
NIZ					Smax			
	comp=N,475nm,0.3s							
NIZ	**Nizh Angarsk**	**0.62**	**295**	*e*PG		**Pg**	**14 56 17.7**	**-0.5**
NIZ				*e*			14 56 26.2	
NIZ					pmax	pmax		
	comp=Z,27nm,0.5s							
NIZ					smax	smax		
	comp=N,643nm,0.9s							
YLYR	**Ulyunkhan**	**0.73**	**150**	↑*i*Pg		**Pg**	**14 56 20.0**	**-0.2**
YLYR				*e*Sg		**Sg**	**14 56 30.1**	**+0.4**
YLYR				*e*Sb		**Sn**	**14 56 35.1**	**+1.4**
YLYR					Pmax			
	comp=N,33nm,0.2s							
YLYR					max			
	comp=N,177nm,0.1s							
YOA	**Uoyan**	**0.91**	**47**	*e*Pg		**Pb**	**14 56 24.3**	**+0.3**
YOA				*e*Sg		**Sn**	**14 56 37.6**	**-0.6**
YOA				*e*Sb		**Sb**	**14 56 41.0**	**+4.7**
YOA					Pmax			
	comp=N,191nm,0.5s							
YOA					max			
	comp=N,2µm,1.5s							
YOA	**Uoyan**	**0.91**	**47**	↑*i*PG		**Pg**	**14 56 22.6**	**-1.1**
YOA				*i*			14 56 37.6	
YOA					pmax	pmax		
	comp=Z,204nm,0.4s							
YOA					smax	smax		
	comp=N,2µm,0.9s							
UKT	**Uakit**	**1.76**	**89**	↓*i*Pg		**Pb**	**14 56 38.9**	**+0.4**
	comp=N,13nm,0.7s							
UKT				↑*i*Pg		**Pb**	**14 56 38.9**	**+0.4**
	comp=N,72nm,0.7s							
UKT				↑*i*Pg		**Pb**	**14 56 38.9**	**+0.4**
	comp=N,60nm,0.7s							
UKT				*e*			14 56 44.6	
UKT				*e*Sg		**Sg**	**14 57 03.2**	**+0.7**
UKT					Pmax			
	comp=N,160nm,1.4s							
UKT					Smax			
	comp=N,341nm,1.1s							
UKT	**Uakit**	**1.76**	**89**	↑*i*PN		**Pb**	**14 56 38.7**	**+0.2**
UKT				*e*			14 57 02.1	
UKT					pmax	pmax		
	comp=Z,162nm,1.0s							
UKT					smax	smax		
	comp=N,247nm,1.0s							
SVKR	**Severomuysk**	**1.81**	**69**	Pg		**Pg**	**14 56 40.2**	**-0.6**
SVKR				*e*			14 56 46.4	
SVKR				*e*Sg		**Sg**	**14 57 03.7**	**-0.5**
SVKR					max			
	comp=N,163nm,0.3s							
SVKR					Smax			
	comp=N,2µm,0.9s							
SYVR	**Suvo**	**1.88**	**190**	*e*Pg		**Pb**	**14 56 40.3**	**-0.3**
SYVR				*e*Sg		**Sb**	**14 57 04.9**	**+0.7**
SYVR					Pmax			
	comp=N,57nm,1.1s							
SYVR					Smax			
	comp=N,351nm,1.4s							
SYVR	**Suvo**	**1.88**	**190**	*e*PN		**Pb**	**14 56 40.5**	**-0.1**
SYVR				*e*			14 57 06.2	
SYVR					pmax	pmax		
	comp=Z,58nm,1.1s							
SYVR					smax	smax		
	comp=E,355nm,1.4s							
MXMB	**Maximikha**	**2.49**	**206**	*e*Pg		**Pb**	**14 56 50.3**	**-0.5**
MXMB				*e*Sg		**Sb**	**14 57 23.4**	**+1.9**
OGRR	**Ongureny**	**2.54**	**224**	*e*Pn		**Pn**	**14 56 49.1**	**+1.8**
OGRR				*e*Pg		**Pb**	**14 56 51.5**	**-0.2**
OGRR				*e*			14 56 54.3	
OGRR				*e*Sg		**Sb**	**14 57 24.4**	**+1.4**
OGRR					max			
	comp=E,22nm,0.5s							
OGRR					Smax			
	comp=E,172nm,1.0s							
BOD	**Bodaibo**	**3.00**	**38**	*e*Pg		**Pb**	**14 57 00.5**	**+0.9**
BOD				*e*			14 57 37.0	
BOD				*i* Sg		**Sg**	**14 57 40.1**	**-2.3**
BOD					Pmax			
	comp=E,15nm,0.3s							
BOD					Smax			
	comp=E,138nm,1.0s							
BOD	**Bodaibo**	**3.00**	**38**	*e*PN		**Pn**	**14 56 55.7**	**+2.0**
BOD				*e*			14 56 59.5	
BOD				*e*			14 57 39.5	
BOD					pmax	pmax		
	comp=Z,15nm,0.5s							
BOD					smax	smax		
	comp=E,138nm,1.0s							
NLYR	**Nelyaty**	**3.06**	**69**	↑*i*Pn		**Pn**	**14 56 56.5**	**+2.0**
NLYR				*e*			14 57 00.3	
NLYR				*e*Pg		**Pg**	**14 57 02.5**	**-2.2**
NLYR				*e*			14 57 05.5	
NLYR				*e*Sg		**Sg**	**14 57 42.8**	**-1.5**
NLYR					max			
	comp=E,43nm,0.8s							
NLYR					Smax			
	comp=E,273nm,1.1s							
KELR	**Kotokel**	**3.11**	**209**	Pg		**Pb**	**14 57 01.7**	**+0.2**
KELR				*e*Sg		**Sb**	**14 57 42.1**	**+2.6**
KELR				*e*			14 57 51.6	
TRG	**Tyrgan**	**3.70**	**224**	*e*		**Pb**	**14 57 12.0**	**+0.5**
TRG				*e*Sg		**Sb**	**14 58 00.6**	**+4.2**
TRG					Pmax			
	comp=E,7.0nm,0.6s							
TRG					Smax			
	comp=E,86nm,1.0s							
TRTB	**Turuntaevo**	**3.71**	**209**	*e*Pn		**Pn**	**14 57 04.2**	**+0.7**
TRTB				*e*Pg		**Pb**	**14 57 13.5**	**+1.8**
TRTB				*e*Sg		**Sg**	**14 58 01.5**	**-3.7**
TRTB					Pmax			
	comp=E,13nm,1.4s							
TRTB					Smax			
	comp=E,66nm,1.3s							
CIT	**Chita**	**3.93**	**152**	*e*		**Sn**	**14 57 59.6**	**+7.0**
CIT				*e*Sg		**Sg**	**14 58 07.7**	**-4.4**
CIT					Smax			
	comp=E,55nm,0.3s							
UUDB	**Ulan-Yde**	**4.03**	**206**	*e*Pn		**Pn**	**14 57 09.0**	**+1.1**
UUDB				*e*Pg		**Pb**	**14 57 18.8**	**+1.6**
UUDB				*e*Sg		**Sg**	**14 58 10.8**	**-4.7**
UUDB				*e*			14 58 18.9	
UUDB					Pmax			
	comp=E,5.0nm,0.4s							
UUDB					max			
	comp=E,150nm,1.9s							
HRMR	**Khuramsha**	**4.44**	**210**	*e*		Pn	14 57 18.5	+5.0
HRMR				*e*Pg		**Pb**	**14 57 25.5**	**+1.4**
HRMR				*e*Sg		**Sg**	**14 58 23.8**	**-4.7**
HRMR					Pmax			
	comp=E,16nm,0.6s							
HRMR					Smax			
	comp=E,158nm,1.0s							
CRS	**Chara**	**4.54**	**69**	*e*		**Pg**	**14 57 30.0**	**-2.9**
CRS				*e*Sg		**Sg**	**14 58 28.4**	**-3.2**
CRS					Smax			
	comp=E,202nm,1.6s							
BGT	**Bolshoye Golou**	**4.62**	**223**	*e*		Pb	14 57 21.9	-5.2
BGT				*e*			14 58 22.4	
BGT				*e*Sg		**Sb**	**14 58 27.4**	**+4.6**
IRK	**Irkutsk**	**4.95**	**231**	*e*Sg		**Sb**	**14 58 38.3**	**+6.1**
IRK					Smax			
	comp=E,196nm,1.0s							
LSTR	**Listvyanka**	**4.98**	**225**	*e*		**Sn**	**14 58 22.4**	**+3.9**
LSTR				*e*Sg		**Sb**	**14 58 38.4**	**+5.2**
LSTR				*e*			14 58 49.9	
IVK	**Ivanovka**	**5.20**	**227**	*e*		**Pb**	**14 57 32.9**	**-4.2**
IVK				*e*			14 58 25.9	
IVK				*e*Sg		**Sg**	**14 58 47.0**	**-6.0**
IVK					Smax			
	comp=E,74nm,1.6s							
TUP	**Tupik**	**5.53**	**97**	*e*Pn		**Pn**	**14 57 30.0**	**+1.5**
TUP				*e*			14 57 33.6	
TUP				*e*Pg		**Pg**	**14 57 47.4**	**-4.6**
TUP				*e*Sg		**Sg**	**14 58 59.8**	**-3.8**
TUP				*e*			14 59 07.7	
TUP					max			
	comp=E,5.0nm,0.8s							
TUP					max			
	comp=E,98nm,1.2s							
TUP	**Tupik**	**5.53**	**97**	*e*PN		**Pn**	**14 57 30.0**	**+1.5**
TUP				*e*			14 57 46.6	
TUP				*e*S		**Sn**	**14 58 31.3**	**-0.8**
TUP				*e*			14 58 58.5	
TUP					pmax	pmax		
	comp=Z,9.0nm,0.7s							
TUP					smax	smax		
	comp=N,96nm,1.2s							
TLY	**Talaya**	**5.62**	**230**	*e*		Pb	14 57 37.8	-6.4
TLY				*e*Sg		**Sb**	**14 58 58.7**	**+7.1**
TLY				*e*			14 59 05.4	
TLY					max			
	comp=N,8.0nm,0.8s							
TLY					max			
	comp=N,59nm,1.1s							
KPC	**Khapcheranga**	**5.92**	**168**	*e*		**Pn**	**14 57 34.0**	**+0.1**
KPC				*e*Pg		**Pb**	**14 57 53.4**	**+4.0**
KPC				*e*Sn		**Sn**	**14 58 39.7**	**-2.1**
KPC				*e*Sg		**Sg**	**14 59 10.3**	**-5.9**
KPC					Pmax			
	comp=N,2.0nm,0.6s							
KPC					Smax			
	comp=N,60nm,1.5s							
ARS	**Arshan**	**6.01**	**237**	*e*Pn		**Pn**	**14 57 34.3**	**-0.8**
ARS				Pg		**Pb**	**14 57 54.4**	**+3.5**
ARS				*e*Sn		**Sn**	**14 58 42.3**	**-1.7**
ARS				*e*Sg		**Sg**	**14 59 12.6**	**-6.4**
ARS				*e*			14 59 24.2	
ARS					Pmax			
	comp=N,12nm,0.6s							
ARS					max			
	comp=N,163nm,0.9s							
ARS	**Arshan**	**6.01**	**237**	*e*PN		**Pn**	**14 57 36.1**	**+1.0**
ARS				*e*			14 57 57.9	
ARS				*e*S		**Sn**	**14 58 44.4**	**+0.4**
ARS				*e*			14 59 13.0	
ARS					pmax	pmax		
	comp=Z,12nm,0.4s							
ARS					smax	smax		
	comp=E,162nm,0.8s							
ZAK	**Zakamensk**	**6.75**	**223**	*e*		**Pg**	**14 58 13.7**	**-1.6**
ZAK				*e*			14 59 09.4	
ZAK				*e*Sg		**Sg**	**14 59 34.3**	**-8.4**
ZAK					Smax			
	comp=E,39nm,1.1s							
MOY	**Mondy**	**6.86**	**240**	*e*Pn		**Pn**	**14 57 48.6**	**+1.8**
MOY				Pg		**Pb**	**14 58 09.9**	**+4.5**
MOY				*e*			14 58 39.4	
MOY				*e*Sn		**Sn**	**14 59 02.0**	**-3.0**
MOY				*e*Sg		**Sg**	**14 59 38.0**	**-8.2**
MOY					max			
	comp=E,11nm,0.9s							
MOY					Smax			
	comp=E,51nm,1.3s							
MOY	**Mondy**	**6.86**	**240**	*e*PN		**Pn**	**14 57 47.8**	**+1.0**
MOY				*e*			14 58 10.7	
MOY				*e*			14 59 40.8	
MOY					pmax	pmax		
	comp=Z,5.0nm,0.3s							
MOY					smax	smax		
	comp=N,51nm,1.4s							
ORL	**Orlik**	**6.99**	**249**	↑*i*Pn		**Pn**	**14 57 50.1**	**+1.6**
ORL				Pg		**Pb**	**14 58 12.1**	**+4.6**
ORL				*e*			14 59 09.4	
ORL				*e*			14 59 32.2	
ORL				*e*Sg		**Sg**	**14 59 41.5**	**-8.7**
ORL					max			
	comp=N,18nm,1.5s							
ORL					Smax			
	comp=N,74nm,1.6s							
ORL	**Orlik**	**6.99**	**249**	*e*PN		**Pn**	**14 57 48.9**	**+0.4**
ORL				*e*			14 58 11.3	
ORL				*e*S		**Sn**	**14 59 08.3**	**+0.3**
ORL				*e*			14 59 42.5	
ORL					pmax	pmax		
	comp=Z,18nm,1.4s							
ORL					smax	smax		
	comp=N,74nm,1.4s							

ISCJB ***13*** *15:09:28.0±0.5,39.°39N±0.°02×20.°21E±0.°05, h21km±4km, Error ellipse: s-maj=6.4km s-min=3.8km az=173.3*
CSEM ***13*** *15:09:27.5±0.2,39.°39N×20.°23E, h15km, ML2.0, Error ellipse: s-maj=4.9km s-min=3.1km az=73.0*
ATH ***13*** *15:09:27.0,39.°37N×20.°24E, h26km, ML2.0/17, Error ellipse: s-maj=1.7km s-min=0.8km az=267.0*
THE ***13*** *15:09:27.7,39.°36N×20.°22E, h16km, ML2.3/5, Error ellipse: s-maj=1.2km s-min=0.6km az=281.0*

ISC 13 15:09:27.0±0.9,39.°39N±0.°02×20.°14E±0.°03, h24km±6km, n53, σ0°99/89, Greece-Albania border region

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
IGT	**Igoumenitsa**	**0.20**	**47**	P		**Pb**	**15 09 32.4**	**-0.2**
IGT				S		**Sb**	**15 09 36.3**	**-0.1**
IGT	**Igoumenitsa**	**0.20**	**47**	P		**Pb**	**15 09 32.2**	**-0.4**
IGT				S		**Sb**	**15 09 36.3**	**-0.1**
IGT	**Igoumenitsa**	**0.20**	**47**	P		**Pb**	**15 09 32.2**	**-0.4**
IGT				AML	AML		15 09 37.3	
	comp=N,1356µm,0.1s							
IGT				S		**Sb**	**15 09 37.6**	**+1.1**
IGT				AML	AML		15 09 38.1	
	comp=E,954µm,0.2s							
SGD	**Sagiada**	**0.23**	**19**	P		**Pb**	**15 09 33.2**	**+0.2**
SGD				S		**Sb**	**15 09 37.2**	**+0.2**
SGD	**Sag

LKD2					AML	AML	15 09 53.0	
	comp=E,594μm,0.2s							
LKD2					AML	AML	15 09 54.1	
	comp=N,314μm,0.2s							
DSL	**Palaion Diesel**	**0.79**	**109**	P	**Pb**	**15 09 41.4**	**-0.7**	
DSL	**Palaion Diesel**	**0.79**	**109**	P	**Pb**	**15 09 41.7**	**-0.4**	
DSL	**Palaion Diesel**	**0.79**	**109**	P	**Pb**	**15 09 41.7**	**-0.4**	
PENT	**Pentalofos**	**1.11**	**44**	P	**Pb**	**15 09 47.6**	**0.0**	
PENT				S	**Sn**	**15 10 03.3**	**+1.4**	
PENT	**Pentalofos**	**1.11**	**44**	P	**Pb**	**15 09 47.6**	**0.0**	
PENT				S	**Sn**	**15 10 02.5**	**+0.6**	
PENT	**Pentalofos**	**1.11**	**44**	P	**Pb**	**15 09 47.3**	**+0.1**	
PENT				S	**Sn**	**15 10 02.5**	**+0.6**	
PENT				AML	AML	15 10 04.0		
	comp=N,105μm,0.4s							
PENT				AML	AML	15 10 05.7		
	comp=E,123μm,0.2s							
PDO	**Prodromos**	**1.14**	**134**	P	**Pn**	**15 09 46.7**	**-0.8**	
PDO	**Prodromos**	**1.14**	**134**	P	**Pn**	**15 09 46.7**	**-0.8**	
PDO				S	**Sn**	**15 10 01.2**	**-1.1**	
PDO	**Prodromos**	**1.14**	**134**	P	**Pn**	**15 09 45.7**	**-1.8**	
PDO				S	**Sn**	**15 10 01.2**	**-1.1**	
PDO				AML	AML	15 10 05.2		
	comp=E,308μm,0.4s							
PDO				AML	AML	15 10 07.8		
	comp=Z,124μm,0.3s							
NEST	**Nestorio**	**1.24**	**34**	P	**Pb**	**15 09 50.0**	**+0.2**	
NEST	**Nestorio**	**1.24**	**34**	P	**Pb**	**15 09 50.0**	**+0.2**	
NEST				S	**Sb**	**15 10 08.5**	**+3.1**	
NEST				AML	AML	15 10 09.9		
	comp=E,107μm,0.6s							
NEST				AML	AML	15 10 12.3		
	comp=N,101μm,0.4s							
VLS	**Valsamata**	**1.27**	**164**	P	**Pb**	**15 09 51.8**	**+1.6**	
VLS				S	**Sb**	**15 10 07.5**	**+1.5**	
VLS	**Valsamata**	**1.27**	**164**	P	**Pb**	**15 09 51.8**	**+1.6**	
VLS				S	**Sb**	**15 10 07.5**	**+1.5**	
VLS				AML	AML	15 10 09.2		
	comp=E,169μm,0.2s							
VLS				AML	AML	15 10 11.8		
	comp=N,180μm,0.2s							
PVO	**Paravola**	**1.33**	**125**	P	**Pb**	**15 09 51.6**	**+0.3**	
PVO				S	**Sb**	**15 10 08.8**	**+0.9**	
PVO	**Paravola**	**1.33**	**125**	P	**Pb**	**15 09 51.6**	**+0.3**	
PVO				S	**Sb**	**15 10 08.8**	**+0.9**	
PVO				AML	AML	15 10 10.1		
	comp=N,187μm,0.6s							
PVO				AML	AML	15 10 10.3		
	comp=E,169μm,0.4s							
KFL	**Anninata**	**1.38**	**158**	P	**Pb**	**15 09 51.7**	**-0.4**	
KFL	**Anninata**	**1.38**	**158**	P	**Pb**	**15 09 51.6**	**-0.4**	
KFL				S	**Sb**	**15 10 11.4**	**+2.1**	
EVR	**Evrytania**	**1.38**	**110**	P	**Pn**	**15 09 50.4**	**-0.5**	
EVR	**Evrytania**	**1.38**	**110**	P	**Pn**	**15 09 50.4**	**-0.5**	
EVR				AML	AML	15 10 14.2		
	comp=E,60μm,0.3s							
EVR				AML	AML	15 10 14.2		
	comp=N,63μm,0.3s							
THL	**Klokotos Trika**	**1.46**	**83**	P	**Pn**	**15 09 51.9**	**0.0**	
THL	**Klokotos Trika**	**1.46**	**83**	P	**Pn**	**15 09 51.9**	**0.0**	
THL				S	**Sn**	**15 10 10.4**	**+0.1**	
THL	**Klokotos Trika**	**1.46**	**83**	P	**Pn**	**15 09 51.1**	**-0.9**	
THL				S	**Sn**	**15 10 10.4**	**+0.1**	
THL				AML	AML	15 10 15.5		
	comp=N,56μm,0.4s							
THL				AML	AML	15 10 15.8		
	comp=E,67μm,0.4s							
KZN	**Kozani**	**1.55**	**54**	P	**Pb**	**15 09 54.2**	**-0.9**	
KZN	**Kozani**	**1.55**	**54**	P	**Pb**	**15 09 54.2**	**-0.9**	
KZN				S	**Sb**	**15 10 14.1**	**-0.3**	
KZN	**Kozani**	**1.55**	**54**	P	**Pb**	**15 09 55.8**	**+0.6**	
KZN				S	**Sb**	**15 10 14.1**	**-0.3**	
KZN				AML	AML	15 10 17.8		
	comp=N,87μm,0.5s							
KZN				AML	AML	15 10 18.6		
	comp=E,82μm,0.5s							
FNA	**Florina**	**1.68**	**34**	P	**Pn**	**15 09 55.9**	**+0.9**	
FNA				S	**Sn**	**15 10 16.6**	**+0.7**	
FNA	**Florina**	**1.68**	**34**	P	**Pn**	**15 09 55.9**	**+0.9**	
FNA				S	**Sn**	**15 10 16.6**	**+0.7**	
FNA	**Florina**	**1.68**	**34**	P	**Pb**	**15 09 58.8**	**+1.5**	
FNA				S	**Sb**	**15 10 18.6**	**+0.5**	
FNA				AML	AML	15 10 22.2		
	comp=E,144μm,0.3s							
FNA				AML	AML	15 10 22.7		
	comp=N,118μm,0.7s							
AGG	**Agios Georgios**	**1.74**	**102**	P	**Pn**	**15 09 56.2**	**+0.4**	
AGG	**Agios Georgios**	**1.74**	**102**	P	**Pn**	**15 09 56.2**	**+0.4**	
AGG				S	**Sn**	**15 10 17.7**	**+0.4**	
AGG	**Agios Georgios**	**1.74**	**102**	P	**Pn**	**15 09 55.7**	**-0.1**	
AGG				S	**Sn**	**15 10 17.7**	**+0.4**	
AGG				AML	AML	15 10 22.2		
	comp=N,261μm,0.5s							
AGG				AML	AML	15 10 25.1		
	comp=E,174μm,0.6s							
LAKA	**Lakka**	**1.84**	**128**	P	**Pn**	**15 09 56.1**	**-1.1**	
LAKA	**Lakka**	**1.84**	**128**	P	**Pn**	**15 09 56.1**	**-1.1**	
LAKA				AML	AML	15 10 29.4		
	comp=N,26μm,0.4s							
LAKA				AML	AML	15 10 33.5		
	comp=E,28μm,0.5s							
KALE	**Kalithea**	**1.85**	**122**	P	**Pn**	**15 09 58.6**	**+1.2**	
KALE	**Kalithea**	**1.85**	**122**	P	**Pn**	**15 09 58.6**	**+1.2**	
KALE				AML	AML	15 10 27.8		
	comp=E,44μm,0.4s							
KALE				AML	AML	15 10 32.6		
	comp=N,55μm,0.6s							
KLV	**Kalavryta, Ach**	**2.07**	**130**	P	**Pn**	**15 10 01.2**	**+0.8**	
KLV	**Kalavryta, Ach**	**2.07**	**130**	P	**Pn**	**15 10 01.2**	**+0.8**	
KLV				AML	AML	15 10 33.2		
	comp=E,19μm,0.9s							
KLV				AML	AML	15 10 41.7		
	comp=N,20μm,0.8s							
NVLJ	**Novalja**	**6.49**	**324**	*e*Pn	**Pn**	**15 10 58.9**	**-2.0**	
NVLJ				Sn	**Sn**	**15 12 10.1**	**-4.1**	

DDA 13 15:10:53.9, 39.86N×27.93E, h7km, Md2.6, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BALY	**Balya**	**0.27**	**244**	*i* P	Pg	15 10 59.5	+0.3
BALY				*i* S	Sb	15 11 20.8	+15
IGD	**Bursa**	**1.05**	**67**	*i* P	Pg	15 11 13.9	-0.3
MANT	**Manisa**	**1.45**	**160**	*i* P	Pb	15 11 21.5	+0.1
MANT				*i* S	Sb	15 11 33.3	-6.8
URLA	**Izmir**	**1.82**	**215**	*i* P	Pg	15 11 28.3	-0.5
URLA				*i* S	Sn	15 11 45.4	-3.6
ZEY	**˙zmir**	**1.96**	**215**	*i* P	Pb	15 11 30.6	+0.6
ZEY				*i* S	Sn	15 11 48.3	-4.1

MAN 13 15:31:24, 10.17N×122.06E, h8km, mb4.6, ML3.5, MS3.4, 1C-3D, Panay

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUIM	**Jordan**	**0.69**	**49**	*e*P	Pg	15 31 37.8	+0.5
GUIM				*e*S	Sn	15 31 49.8	-1.2
SNPH	**Sibulan**	**1.42**	**125**	*i* P	Pn	15 31 49.3	-0.9
SNPH				*i* S	Sg	15 32 10.4	+0.6
RCP	**Roxas**	**1.54**	**26**	*e*P	Pb	15 31 52.5	-0.3
RCP				*e*S	Sg	15 32 13.4	-0.1
TBP	**Tagbilaran**	**1.84**	**105**	*i* P	Pn	15 31 55.8	-0.2
LLP	**Lapu-Lapu**	**1.89**	**85**	*e*P	Pn	15 31 56.3	-0.2
LLP				*i* S	Sn	15 32 20.4	-0.2
BUSP	**Coron**	**2.58**	**315**	*e*P	Pn	15 32 05.9	-0.2
BUSP				*e*S	Sn	15 32 35.1	-2.5
PAGZ	**Pagadian**	**2.65**	**150**	*e*P	Pn	15 32 08.9	+1.8
PAGZ				*e*S	Sb	15 32 45.2	+0.7

*CSEM **13** 15:48:54.1, 39.08N×36.16E, h8km, MD2.6*

DDA 13 15:48:54.1, 39.08N×36.16E, h8km, Md2.6, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CUSAR	**Sarkisla-SIVAS**	**0.34**	**12**	*i* P	Pg	15 49 00.5	-0.4
CUSAR				*i* S	Sg	15 49 05.4	0.0
CUSAR	**Sarkisla-SIVAS**	**0.34**	**12**	P	Pg	15 49 00.4	-0.5
CUSAR				S	Sg	15 49 05.4	0.0
CUALT	**Altinyayla-SIV**	**0.51**	**68**	*i* P	Pg	15 49 02.7	-1.2
CUALT				*i* S	Sb	15 49 12.3	-0.7
CUALT	**Altinyayla-SIV**	**0.51**	**68**	P	Pg	15 49 02.7	-1.2
CUALT				S	Sb	15 49 12.3	-0.7
CUKAN	**kangal_SIVAS**	**1.04**	**77**	*i* P	Pg	15 49 13.6	-0.6
CUKAN				*i* S	Sn	15 49 30.3	+0.2
CUKAN	**kangal_SIVAS**	**1.04**	**77**	P	Pg	15 49 13.6	-0.6
CUKAN				S	Sn	15 49 30.3	+0.1
COAL	**Corum-Alaca**	**1.48**	**323**	*i* P	Pg	15 49 22.5	+0.1
COAL				*i* S	Sg	15 49 44.4	+2.8
COAL	**Corum-Alaca**	**1.48**	**323**	P	Pg	15 49 22.5	+0.1
COAL				S	Sg	15 49 44.4	+2.8
CDAG	**Cicekdag**	**1.48**	**292**	*i* P	Pn	15 49 21.6	+0.4
CDAG				*i* S	Sg	15 49 46.9	+5.1
CDAG	**Cicekdag**	**1.48**	**292**	P	Pn	15 49 21.6	+0.4
CDAG				S	Sg	15 49 46.9	+5.1
KEMA	**Kemaliye**	**1.83**	**83**	*i* P	Pb	15 49 28.2	+0.3
KEMA				*i* S	Sg	15 49 54.8	+2.0
KEMA	**Kemaliye**	**1.83**	**83**	P	Pb	15 49 28.2	+0.4
KEMA				S	Sg	15 49 54.8	+2.0

*CSEM **13** 16:05:36.3, 43.68N×12.17E, h7km, MD2.3/22*

ROM 13 16:05:36.3±0.1, 43.68N×12.17E, h7km±1km, Md2.3/22, Ml2.0/18, Error ellipse: s-maj=1.2km s-min=0.9km az=54.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PARC	**Parchiule**	**0.06**	**120**	Pg	Pg	16 05 38.3	+0.3
PARC				Sg	Sg	16 05 39.9	+0.7
	436nm,0.2s						
PARC	**Parchiule**	**0.06**	**120**	Pg	Pg	16 05 38.3	+0.3
PARC				Sg	Sg	16 05 39.9	+0.7
	436nm,0.2s						
CPGN	**Carpegna, Ital**	**0.16**	**41**	Pg	Pg	16 05 40.6	+0.8
CPGN				Sg	Sg	16 05 44.3	+2.2
	743nm,0.7s						
CPGN	**Carpegna, Ital**	**0.16**	**41**	Pg	Pg	16 05 40.6	+0.8
CPGN				Sg	Sg	16 05 44.3	+2.2
	743nm,0.7s						
CRE	**Caprese Michel**	**0.17**	**250**	Pg	Pg	16 05 40.2	+0.4
CRE				Sg	Sg	16 05 43.6	+1.4
	260nm,0.3s						
CRE	**Caprese Michel**	**0.17**	**250**	Pg	Pg	16 05 40.2	+0.4
CRE				Sg	Sg	16 05 43.6	+1.4
	260nm,0.3s						
BADI	**Badiali**	**0.17**	**163**	Pg	Pg	16 05 40.6	+0.7
BADI				Sg	Sg	16 05 44.1	+1.8
	228nm,0.3s						
BADI	**Badiali**	**0.17**	**163**	Pg	Pg	16 05 40.6	+0.7
BADI				Sg	Sg	16 05 44.1	+1.8
	228nm,0.3s						
T0502	**Localit˙ San**	**0.23**	**354**	Pg	Pg	16 05 41.3	+0.5
T0502				Sg	Sg	16 05 45.5	+1.6
	226nm,0.3s						
ATMC	**Monte Cedrone**	**0.23**	**176**	Pg	Pg	16 05 41.4	+0.5
ATMC				Sg	Sg	16 05 45.6	+1.6
	137nm,0.3s						
ATMC	**Monte Cedrone**	**0.23**	**176**	Pg	Pg	16 05 41.4	+0.5
ATMC				Sg	Sg	16 05 45.6	+1.6
	137nm,0.3s						
ATPC	**Poggio Castell**	**0.28**	**133**	Pg	Pg	16 05 42.7	+0.8
ATPC				Sg	Sb	16 05 47.8	-0.9
	233nm,0.4s						
ATPC	**Poggio Castell**	**0.28**	**133**	Pg	Pg	16 05 42.7	+0.8
ATPC				Sg	Sb	16 05 47.8	-0.9
	233nm,0.4s						
PIEI	**Pieia**	**0.30**	**118**	Pg	Pg	16 05 42.7	+0.5
PIEI				Sg	Sg	16 05 47.6	+1.4
	106nm,0.2s						
PIEI	**Pieia**	**0.30**	**118**	Pg	Pg	16 05 42.7	+0.5
PIEI				Sg	Sg	16 05 47.6	+1.4
	106nm,0.2s						
SFI	**Santa Sofia**	**0.33**	**314**	Pg	Pg	16 05 43.3	+0.6
SFI				Sg	Sg	16 05 48.4	+1.3
	76nm,0.4s						
SFI	**Santa Sofia**	**0.33**	**314**	Pg	Pg	16 05 43.3	+0.6
SFI				Sg	Sg	16 05 48.4	+1.3
	76nm,0.4s						
ATVO	**AVT- Monte Val**	**0.34**	**150**	Pg	Pg	16 05 43.7	+0.7
ATVO				Sg	Sb	16 05 49.8	-0.5
	169nm,0.7s						
ATVO	**AVT- Monte Val**	**0.34**	**150**	Pg	Pg	16 05 43.7	+0.7
ATVO				Sg	Sb	16 05 49.8	-0.5
	169nm,0.7s						
MPAG	**Monte Paganucc**	**0.43**	**96**	Pg	Pg	16 05 44.9	+0.2
MPAG				Sg	Sb	16 05 52.0	-0.9
	72nm,0.3s						
MPAG	**Monte Paganucc**	**0.43**	**96**	Pg	Pg	16 05 44.9	+0.2
MPAG				Sg	Sb	16 05 52.0	-0.9
	72nm,0.3s						
FRON	**Frontone**	**0.43**	**111**	Pg	Pg	16 05 45.2	+0.5
FRON				Sg	Sb	16 05 52.6	-0.4
	82nm,0.3s						
FRON	**Frontone**	**0.43**	**111**	Pg	Pg	16 05 45.2	+0.5
FRON				Sg	Sb	16 05 52.6	-0.4
	82nm,0.3s						
FSSB	**Fossombrone**	**0.44**	**88**	Pg	Pg	16 05 45.1	+0.3
FSSB				Sg	Sb	16 05 52.6	-0.6
	144nm,0.3s						
FSSB	**Fossombrone**	**0.44**	**88**	Pg	Pg	16 05 45.1	+0.3
FSSB				Sg	Sb	16 05 52.6	-0.6
	144nm,0.3s						
MURB	**Monte Urbino**	**0.49**	**148**	Pg	Pb	16 05 47.4	+0.2
MURB				Sg	Sb	16 05 54.7	+0.1
	120nm,0.3s						
MURB	**Monte Urbino**	**0.49**	**148**	Pg	Pb	16 05 47.4	+0.2
MURB				Sg	Sb	16 05 54.7	+0.1
	120nm,0.3s						
ATTE	**AVT- Monte Tez**	**0.50**	**164**	Pg	Pg	16 05 46.1	+0.2
ATTE				Sg	Sg	16 05 53.5	+1.1
ATTE	**AVT- Monte Tez**	**0.50**	**164**	Pg	Pg	16 05 46.1	+0.2
ATTE				Sg	Sg	16 05 53.5	+1.1
SSFR	**Montelago di S**	**0.51**	**118**	Pg	Pg	16 05 46.5	+0.4
SSFR				Sg	Sb	16 05 54.6	-0.5
	273nm,0.2s						
SSFR	**Montelago di S**	**0.51**	**118**	Pg	Pg	16 05 46.5	+0.4
SSFR				Sg	Sb	16 05 54.6	-0.5
	273nm,0.2s						
VMG	**Vicchio**	**0.54**	**302**	Pg	Pb	16 05 48.0	0.0
VMG				Sg	Sb	16 05 56.1	+0.1
VMG	**Vicchio**	**0.54**	**302**	Pg	Pb	16 05 48.0	0.0
VMG				Sg	Sb	16 05 56.1	+0.1
ARVD	**Arcevia**	**0.59**	**107**	Pg	Pb	16 05 48.3	-0.6
ARVD				Sg	Sb	16 05 57.9	+0.5
ARVD	**Arcevia**	**0.59**	**107**	Pg	Pb	16 05 48.3	-0.6
ARVD				Sg	Sb	16 05 57.9	+0.5
ATCC	**AVT- Casa Cast**	**0.60**	**145**	Pg	Pb	16 05 48.8	-0.3
	52nm,0.4s						
ATCC	**AVT- Casa Cast**	**0.60**	**145**	Pg	Pb	16 05 48.8	-0.3
	52nm,0.4s						
SNTG	**Esanatoglia**	**0.70**	**127**	Pg	Pb	16 05 50.5	-0.3
SNTG				Sg	Sb	16 06 01.1	+0.4
SNTG	**Esanatoglia**	**0.70**	**127**	Pg	Pb	16 05 50.5	-0.3
SNTG				Sg	Sb	16 06 01.1	+0.4
FROS	**Frosini**	**0.88**	**238**	Pg	Pb	16 05 53.5	-0.3
	44nm,0.9s						
FROS	**Frosini**	**0.88**	**238**	Pg	Pb	16 05 53.5	-0.3
	44nm,0.9s						
TRIF	**Trifonti**	**1.08**	**239**	Pg	Pb	16 05 57.4	0.0
	16nm,0.8s						
TRIF	**Trifonti**	**1.08**	**239**	Pg	Pb	16 05 57.4	0.0
	16nm,0.8s						
SASS	**Sassa**	**1.16**	**249**	Pg	Pg	16 05 58.3	-0.2
	28nm,0.1s						
SASS	**Sassa**	**1.16**	**249**	Pg	Pg	16 05 58.3	-0.2
	28nm,0.1s						

IDC 13 16:18:59.4±3.5, 3.86S×151.44E, h0km, mb3.2/2, mb1 3.5/2, mb1mx3.2/21, mbtmp3.2/2, Error ellipse: s-maj=157.1km s-min=44.8km az=118.0, New Ireland region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.10**	**225**	P	P	16 24 07.4	+0.3
	0.5nm,0.6s,baz=50,slow=10,SNR=7.6						
ASAR	**Alice Springs**	**25.97**	**219**	P	P	16 24 33.7	-0.3
	0.1nm,0.3s,baz=61,slow=8.2,SNR=3.1						
TORD	**Torodi Ar. Bea**	**148.72**	**289**	PKPbc	PKPbc	16 38 49.2	-0.6
	0.7nm,0.5s,baz=89,slow=2.5,SNR=7.0						

*ISCJB **13** 16:19:25.1±0.5, 34.25N±0.01×23.77E±0.01, h7km±3km, mb5.0/159, MS4.8/55, Error ellipse: s-maj=2.5km s-min=1.8km az=28.3*

*ATH **13** 16:19:25.1, 34.19N×23.51E, h10km±2km, ML4.7/13, Error ellipse: s-maj=3.4km s-min=1.2km az=13.0*

*PDG **13** 16:19:26.7±0.2, 34.33N×23.63E, h19km±6km, ML4.9/10, Error ellipse: s-maj=7.9km s-min=3.2km az=90.0*

*CSEM **13** 16:19:26.8±0.1, 34.24N×23.71E, h10km, mb5.1/86, Ms4.7, Error ellipse: s-maj=3.5km s-min=2.2km az=30.0*

*BJI **13** 16:19:27.0, 34.54N×23.36E, h26km, mb5.0/60, mB5.1/45, Ms5.0/49, Ms7 4.7/49*

*IDC **13** 16:19:29.4±1.7, 34.46N×23.71E, h20km±10km, mb4.7/31, mb1 4.7/42, mb1mx4.7/48, mbtmp4.7/42, ML4.0/8, MS4.8/34, Ms1 4.8/34, ms1mx4.7/45, Error ellipse: s-maj=10.8km s-min=8.9km az=145.0*

*HLW **13** 16:19:30.8, 34.51N×24.01E, h31km±18km, Md4.5, Ml4.5*

*MOS **13** 16:19:30.7±1.3, 34.46N×23.77E, h42km, mb5.1/62, MS4.8/46, Error ellipse: s-maj=4.6km s-min=2.5km az=91.2*

*NEIC **13** 16:19:31.9±0.5, 34.41N×23.72E, h41km±3km, mb5.0/84, Error ellipse: s-maj=5.4km s-min=2.9km az=188.0*

*GCMT **13** 16:19:31.9±0.2, 34.36N×23.65E, h18km, MW5.2/113, Moment Tensor Solution. s72,c102; s113,c192; Duration: 1s0 Moment tensor: Scale 10^17^Nm; Mrr=0.18±.01; Mθθ=0.46±.01; Mφφ=0.64±.01; Mrθ=0.20±.03; Mθφ=0.41±.01; Mφr=0.37±.04; Best double couple: M=0.81900×10^17^ NP1:φs=337.00000°, δ81.00000°, λ=146.00000°. NP2:φs=241.00000°, δ57.00000°, λ=11.00000°. Principal axes: T 0.8650, Plg16.0000°, Azm105.0000°; N -0.0920, Plg55.0000°, Azm350.0000°; P -0.7730, Plg30.0000°, Azm204.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

*GII **13** 16:19:33.5±0.0, 34.24N×24.54E, h1km, mb4.3/4, MD4.1/4*

*NIC **13** 16:19:33.3±0.3, 34.48N×24.19E, h25km, mb5.3, ML4.9*

*THE **13** 16:19:34.1, 34.67N×23.80E, h11km±1km, ML4.6/8, Error ellipse: s-maj=2.5km s-min=1.0km az=14.0*

*DDA **13** 16:20:03.8, 36.49N×25.95E, h5km, Ml4.5*

ISC 13 16:19:29.6±0.5, 34.33N±0.03×23.73E±0.02, h23km±2km, n1311, σ1.89/1452, mb5.0/159, MS4.8/60, 53C-25D, Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GVD	**Gavdhos**	**0.59**	**30**	P	**Pb**	**16 19 40.0**	**-1.3**
GVD				S	**Sb**	**16 19 45.6**	**-3.7**
GVD	**Gavdhos**	**0.59**	**30**	P	**Pb**	**16 19 40.0**	**-1.3**
GVD				S	**Sn**	**16 19 52.0**	**+0.5**
GVD	**Gavdhos**	**0.59**	**30**	P	**Pb**	**16 19 40.6**	**-0.8**
GVD				S	**Sn**	**16 19 52.0**	**+0.5**
GVD				AML	AML	16 20 01.0	
GVD				AML	AML	16 20 01.0	
GVD	**Gavdhos**	**0.59**	**30**	P	**Pb**	**16 19 40.0**	**-1.3**
GVD				S	**Sb**	**16 19 45.6**	**-3.7**
SIVA	**Sivas**	**1.13**	**52**	P	**Pb**	**16 19 51.4**	**+1.0**
SIVA				S	**Sb**	**16 20 04.5**	**-0.1**
SIVA	**Sivas**	**1.13**	**52**	P	**Pb**	**16 19 51.4**	**+1.0**
SIVA				S	**Sb**	**16 20 04.5**	**-0.1**
SIVA	**Sivas**	**1.13**	**52**	P	**Pb**	**16 19 52.1**	**+1.7**
SIVA				S	**Sn**	**16 20 10.4**	**+5.6**
SIVA				AML	AML	16 20 16.3	
SIVA				AML	AML	16 20 20.6	
SIVA	**Sivas**	**1.13**	**52**	P	**Pb**	**16 19 51.4**	**+1.0**
VAM	**Vamos**	**1.15**	**20**	P	**Pn**	**16 19 49.4**	**-0.9**
VAM				S	**Sn**	**16 20 01.3**	**-4.0**
VAM	**Vamos**	**1.15**	**20**	P	**Pn**	**16 19 49.4**	**-0.9**
VAM	**Vamos**	**1.15**	**20**	P	**Pn**	**16 19 49.4**	**-0.9**
VAM				S	**Sb**	**16 20 07.2**	**+2.0**
VAM	**Vamos**	**1.15**	**20**	P	**Pn**	**16 19 47.1**	**-3.1**
VAM				S	**Sb**	**16 20 07.2**	**+2.0**
VAM				AML	AML	16 20 24.2	
	comp=E,95358μm,1.1s						
VAM				AML	AML	16 20 34.0	
	comp=N,63735μm,0.8s						
VAM	**Vamos**	**1.15**	**20**	P	**Pn**	**16 19 49.4**	**-0.9**
IMMV	**Iera Moni Meta**	**1.15**	**10**	P	**Pn**	**16 19 48.9**	**-1.4**
IMMV				S	**Sn**	**16 20 00.6**	**-4.8**
IMMV	**Iera Moni Meta**	**1.15**	**10**	P	**Pn**	**16 19 48.9**	**-1.4**
IMMV				S	**Sn**	**16 20 00.6**	**-4.8**
IMMV	**Iera Moni Meta**	**1.15**	**10**	P	**Pn**	**16 19 46.9**	**-3.4**
IMMV				AML	AML	16 20 17.1	
IMMV				AML	AML	16 20 25.5	
	comp=N,81544μm,0.8s						
IDI	**Anoyia**	**1.35**	**45**	Pg	**Pn**	**16 19 53.3**	**+0.1**
	comp=N,54nm,0.3s,baz=235,slow=16,SNR=173						
IDI				Lg	Lg	16 20 16.8	
	comp=N,189nm,0.3s,baz=217,slow=20,SNR=11						
IDI	**Anoyia**	**1.35**	**45**	P	**Pb**	**16 19 54.2**	**-0.1**
IDI				S	**Sn**	**16 20 08.9**	**-1.6**
IDI	**Anoyia**	**1.35**	**45**	P	**Pb**	**16 19 54.2**	**-0.1**
IDI	**Anoyia**	**1.35**	**45**	*e*Pn	**Pb**	**16 19 54.5**	**+0.2**
IDI				S	**Sn**	**16 20 08.9**	**-1.6**
IDI				Lg	Lg	16 20 16.8	
IDI	**Anoyia**	**1.35**	**45**	P	**Pb**	**16 19 54.4**	**0.0**
IDI				S	**Sb**	**16 20 18.0**	**+6.7**
IDI				AML	AML	16 20 26.7	
	comp=E,20090μm,0.8s						
IDI				AML	AML	16 20 35.8	
	comp=N,21265μm,1.0s						
IDI	**Anoyia**	**1.35**	**45**	*e*Pn	**Pb**	**16 19 54.5**	**+0.2**
IDI				Lg	Lg	16 20 16.8	
IACM	**Heraklion**	**1.48**	**48**	P	**Pb**	**16 19 58.0**	**+1.7**
IACM				S	**Sb**	**16 20 19.6**	**+5.0**
IACM	**Heraklion**	**1.48**	**48**	P	**Pb**	**16 19 58.0**	**+1.7**
IACM				S	**Sb**	**16 20 19.6**	**+5.0**
IACM				AML	AML	16 20 44.9	
IACM				AML	AML	16 20 45.0	
ANKY	**Antikythira Is**	**1.58**	**347**	P	**Pn**	**16 19 56.8**	**+0.6**
ANKY				S	**Sn**	**16 20 15.2**	**-0.7**
ANKY	**Antikythira Is**	**1.58**	**347**	P	**Pn**	**16 19 56.8**	**+0.6**
ANKY				S	**Sn**	**16 20 15.2**	**-0.7**
ANKY	**Antikythira Is**	**1.58**	**347**	P	**Pn**	**16 19 57.1**	**+0.9**
ANKY	**Antikythira Is**	**1.58**	**347**	P	**Pn**	**16 19 56.8**	**+0.6**
ANKY				S	**Sn**	**16 20 15.2**	**-0.7**
LAST	**Lasithi**	**1.67**	**59**	P	**Pb**	**16 19 59.3**	**-0.4**
LAST				S	**Sn**	**16 20 18.8**	**+0.6**
LAST	**Lasithi**	**1.67**	**59**	P	**Pb**	**16 19 59.2**	**-0.4**
LAST				S	**Sn**	**16 20 18.8**	**+0.6**
LAST	**Lasithi**	**1.67**	**59**	P	**P

comp=E,9406µm,0.8s
SANT AML AML 16 21 08.9
comp=N,7589µm,1.0s
SANT Santorini 2.48 34 *e*Pn **Pn 16 20 08.4 -0.3**
THR3 Thira Island, 2.49 33 P **Pn 16 20 08.7 0.0**
THR3 Thira Island, 2.49 33 P **Pn 16 20 08.7 0.0**
THR3 Thira Island, 2.49 33 P **Pn 16 20 08.7 0.0**
SAP2K Karterados 2.51 34 P **Pn 16 20 10.1 +1.1**
THR7 Fira-Santorini 2.51 33 P **Pn 16 20 11.3 +2.3**
THR7 Fira-Santorini 2.51 33 P **Pn 16 20 11.3 +2.3**
THR8 Santorini-Mono 2.52 34 P **Pn 16 20 09.5 +0.3**
THR8 Santorini-Mono 2.52 34 P **Pn 16 20 09.5 +0.3**
PYL PYLOS 3.03 328 P **Pn 16 20 18.5 +2.3**
PYL PYLOS 3.03 328 P **Pn 16 20 18.5 +2.3**
PYL PYLOS 3.03 328 P **Pn 16 20 19.2 +3.0**
PYL PYLOS 3.03 328 P **Pn 16 20 18.5 +2.3**
KARP Karpathos 3.07 66 *e*P **Pn 16 20 17.8 +1.0**
KARP Karpathos 3.07 66 P **Pn 16 20 19.0 +2.2**
KARP Karpathos 3.07 66 P **Pn 16 20 18.1 +1.3**
KARP Karpathos 3.07 66 *e*Pn **Pn 16 20 18.5 +1.7**
KARP Karpathos 3.07 66 P **Pn 16 20 18.1 +1.3**
KARP Karpathos 3.07 66 *e*Pn **Pn 16 20 18.5 +1.7**
SLUM Salum 3.09 156 P **Pn 16 20 16.9 -0.1**
baz=161
SLUM AMP 16 20 00.0
comp=N,3080µm,0.9s,logA/T=6.5,baz=161
SLUM S **Sn 16 20 52.3 -0.9**
baz=161
SLUM Salum 3.09 156 P **Pn 16 20 16.9 -0.1**
APE Apeiranthos 3.10 28 *e*P **Pn 16 20 18.4 +1.2**
APE Apeiranthos 3.10 28 P **Pn 16 20 17.7 +0.5**
APE Apeiranthos 3.10 28 ⇑ *i*P **Pn 16 20 17.5 +0.3**
APE Apeiranthos 3.10 28 P **Pn 16 20 17.7 +0.5**
APE Apeiranthos 3.10 28 P **Pn 16 20 17.7 +0.5**
APE Apeiranthos 3.10 28 P **Pn 16 20 13.9 -3.3**
APE AML AML 16 21 21.4
comp=N,3676µm,2.3s
APE AML AML 16 21 23.2
comp=E,4134µm,1.0s
APE Apeiranthos 3.10 28 P **Pn 16 20 17.7 +0.5**
DID Didima 3.20 353 P **Pn 16 20 18.2 -0.3**
DID Didima 3.20 353 P **Pn 16 20 18.2 -0.3**
DID Didima 3.20 353 P **Pn 16 20 17.1 -1.4**
DID Didima 3.20 353 P **Pn 16 20 18.2 -0.3**
ITM Ithomi 3.20 333 P **Pn 16 20 21.2 +2.6**
ITM Ithomi 3.20 333 P **Pn 16 20 21.2 +2.6**
ITM Ithomi 3.20 333 P **Pb 16 20 23.1 -2.7**
ITM Ithomi 3.20 333 P **Pn 16 20 21.2 +2.6**
VLX Vlachokerasia 3.23 341 P **Pn 16 20 20.8 +1.8**
VLX Vlachokerasia 3.23 341 P **Pn 16 20 20.8 +1.8**
VLX Vlachokerasia 3.23 341 P **Pn 16 20 22.4 +3.4**
VLX Vlachokerasia 3.23 341 P **Pn 16 20 20.8 +1.8**
TRIP Tripoli 3.41 340 P **Pb 16 20 30.8 +1.5**
VLY Voula,Athens 3.52 1 P **Pn 16 20 22.6 -0.3**
VLY Voula,Athens 3.52 1 P **Pn 16 20 22.6 -0.3**
VLY Voula,Athens 3.52 1 P **Pn 16 20 20.5 -2.4**
VLY Voula,Athens 3.52 1 P **Pn 16 20 22.6 -0.3**
NISR Nisiros 3.59 50 P **Pn 16 20 23.3 -0.6**
NISR Nisiros 3.59 50 P **Pn 16 20 23.3 -0.6**
AMT Artemida-Makis 3.59 333 P **Pn 16 20 24.9 +0.9**
AMT Artemida-Makis 3.59 333 P **Pn 16 20 24.9 +0.9**
AMT Artemida-Makis 3.59 333 P **Pn 16 20 27.6 +3.6**
NIS1 Nisyros Isl. 3.62 50 *e*P **Pn 16 20 26.1 +1.8**
NIS1 Nisyros Isl. 3.62 50 P **Pn 16 20 26.3 +2.0**
NIS1 Nisyros Isl. 3.62 50 P **Pn 16 20 25.4 +1.1**
NIS1 Nisyros Isl. 3.62 50 P **Pn 16 20 25.4 +1.1**
NIS1 Nisyros Isl. 3.62 50 P **Pn 16 20 26.3 +2.0**
ATHU Athens Univers 3.63 1 P **Pn 16 20 23.1 -1.4**
ATHU Athens Univers 3.63 1 P **Pn 16 20 23.1 -1.4**
ATHU Athens Univers 3.63 1 P **Pn 16 20 21.0 -3.5**
ATHU AML AML 16 21 45.4
comp=E,1069µm,1.3s
ATHU AML AML 16 21 55.1
comp=N,1580µm,1.9s
ATHU Athens Univers 3.63 1 P **Pn 16 20 23.1 -1.4**
ATH Athens Observa 3.64 360 P **Pn 16 20 25.1 +0.6**
ATH Athens Observa 3.64 360 P **Pn 16 20 25.1 +0.6**
ATH Athens Observa 3.64 360 P **Pn 16 20 22.6 -1.9**
LOUT Loutraki 3.70 351 P **Pn 16 20 27.6 +2.1**
LOUT Loutraki 3.70 351 P **Pn 16 20 27.6 +2.1**
LOUT Loutraki 3.70 351 P **Pb 16 20 30.4 -4.0**
PTL Penteli 3.72 2 P **Pn 16 20 24.9 -0.7**
PTL Penteli 3.72 2 P **Pn 16 20 24.9 -0.7**
PTL Penteli 3.72 2 P **Pn 16 20 22.8 -2.8**
PTL Penteli 3.72 2 P **Pn 16 20 24.9 -0.7**
LTK Loutraki 3.74 351 P **Pn 16 20 26.0 0.0**
LTK Loutraki 3.74 351 P **Pn 16 20 26.0 0.0**
LTK Loutraki 3.74 351 P **Pn 16 20 24.4 -1.6**
LTK Loutraki 3.74 351 P **Pn 16 20 26.0 0.0**
KARY Karystos 3.74 9 P **Pn 16 20 25.8 -0.2**
KARY Karystos 3.74 9 P **Pn 16 20 25.8 -0.2**
KARY Karystos 3.74 9 P **Pn 16 20 24.7 -1.2**
THAL Thalero 3.80 347 P **Pn 16 20 28.3 +1.5**
THAL Thalero 3.80 347 P **Pn 16 20 28.3 +1.5**
THAL Thalero 3.80 347 P **Pn 16 20 31.0 +4.2**
VILL Villia 3.84 355 P **Pn 16 20 27.0 -0.4**
VILL Villia 3.84 355 P **Pn 16 20 27.0 -0.4**
VIL2 Platees 3.90 355 P **Pn 16 20 25.4 -2.7**
VIL2 AML AML 16 22 07.8
comp=E,2440µm,1.7s
VIL2 AML AML 16 22 11.7
comp=N,3796µm,1.3s
KLV Kalavryta, Ach 3.92 341 P **Pn 16 20 29.3 +0.7**
KLV Kalavryta, Ach 3.92 341 P **Pn 16 20 29.2 +0.7**
KLV Kalavryta, Ach 3.92 341 P **Pn 16 20 29.2 +0.7**
KLV Kalavryta, Ach 3.92 341 P **Pn 16 20 29.3 +0.7**
DAT Datca 3.95 52 *e*P **Pn 16 20 30.1 +1.2**
DAT Datca 3.95 52 *i*P **Pn 16 20 29.6 +0.7**
DAT Datca 3.95 52 P **Pn 16 20 29.6 +0.7**
DRO Drossia 3.97 336 P **Pn 16 20 33.3 +4.2**
DRO Drossia 3.97 336 P **Pn 16 20 33.3 +4.2**
BODT Bodrum 3.99 46 *e*P **Pn 16 20 30.0 +0.5**
BODT Bodrum 3.99 46 P **Pn 16 20 30.2 +0.8**
BODT Bodrum 3.99 46 P **Pn 16 20 30.2 +0.8**
BODT Bodrum 3.99 46 P **Pn 16 20 30.2 +0.8**
DATC Datca-Mugla 4.02 52 *e*P **Pn 16 20 31.7 +1.9**
DATC Datca-Mugla 4.02 52 *e*P **Pn 16 20 31.7 +1.9**
TRAZ Trapeza 4.03 343 P **Pn 16 20 30.2 +0.3**
TRAZ Trapeza 4.03 343 P **Pn 16 20 30.2 +0.3**
ARG Arkhangelos 4.06 61 P **Pn 16 20 31.9 +1.5**
ARG Arkhangelos 4.06 61 P **Pn 16 20 31.9 +1.5**
ARG Arkhangelos 4.06 61 P **Pn 16 20 29.8 -0.6**
ARG Arkhangelos 4.06 61 P **Pn 16 20 29.8 -0.6**
ARG AML AML 16 21 20.3
comp=E,3103µm,1.1s
ARG AML AML 16 21 39.3
comp=N,2123µm,1.2s
ARG Arkhangelos 4.06 61 P **Pn 16 20 31.9 +1.5**
BDRM Kayabasi 4.08 47 *i*P **Pn 16 20 32.0 +1.5**
BDRM Kayabasi 4.08 47 P **Pn 16 20 32.0 +1.5**
EREA Eretria 4.09 2 P **Pn 16 20 31.7 +0.9**
EREA Eretria 4.09 2 P **Pn 16 20 31.7 +0.9**
EREA Eretria 4.09 2 P **Pn 16 20 29.8 -1.0**
RLS Riolos of Patr 4.15 334 P **Pn 16 20 33.5 +2.0**
RLS Riolos of Patr 4.15 334 P **Pn 16 20 33.5 +2.0**
RLS Riolos of Patr 4.15 334 P **Pn 16 20 35.3 +3.7**
RLS Riolos of Patr 4.15 334 P **Pn 16 20 33.5 +2.0**
LAKA Lakka 4.15 341 P **Pn 16 20 33.0 +1.4**
LAKA Lakka 4.15 341 P **Pn 16 20 33.0 +1.4**
LAKA Lakka 4.15 341 P **Pn 16 20 33.4 +1.8**
LAKA Lakka 4.15 341 P **Pn 16 20 33.0 +1.4**
MATC Matruh 4.19 134 P **Pn 16 20 30.6 -1.5**
baz=138
DSF Desfina 4.19 347 P **Pn 16 20 33.6 +1.4**
DSF Desfina 4.19 347 P **Pn 16 20 31.3 -0.9**
DSF Desfina 4.19 347 P **Pn 16 20 31.3 -0.9**
DSF Desfina 4.19 347 P **Pn 16 20 33.6 +1.4**
TRIZ Trizonia 4.25 342 P **Pn 16 20 35.1 +2.2**
TRIZ Trizonia 4.25 342 P **Pn 16 20 35.1 +2.2**
KALE Kalithea 4.25 343 P **Pn 16 20 33.4 +0.3**
KALE Kalithea 4.25 343 P **Pn 16 20 32.8 -0.2**
KALE Kalithea 4.25 343 P **Pn 16 20 32.9 -0.2**
KALE Kalithea 4.25 343 P **Pn 16 20 33.4 +0.3**
HMAT Matruh 4.29 138 P **Pn 16 20 30.6 -3.0**
AXS Araxos 4.30 334 P **Pn 16 20 36.2 +2.5**
AXS Araxos 4.30 334 P **Pn 16 20 34.5 +0.8**
AXS Araxos 4.30 334 P **Pn 16 20 34.5 +0.8**
GCAM G?zelcaml? 4.41 39 *i*P **Pn 16 20 34.2 -0.8**
GCAM G?zelcaml? 4.41 39 P **Pn 16 20 34.2 -0.8**
MLSB Milas 4.43 47 *e*P **Pn 16 20 37.0 +1.6**
MLSB Milas 4.43 47 *e*P **Pn 16 20 37.0 +1.6**

KFL Anninata 4.46 329 P **Pn 16 20 36.1 +0.3**
KFL Anninata 4.46 329 P **Pn 16 20 36.1 +0.3**
KFL Anninata 4.46 329 P **Pn 16 20 37.8 +2.0**
CHOS Chios island 4.47 24 P **Pn 16 20 35.3 -0.7**
CHOS Chios island 4.47 24 P **Pn 16 20 35.3 -0.7**
CHOS Chios island 4.47 24 P **Pn 16 20 35.3 -0.7**
DGB ˙zmir 4.51 34 *i*P **Pn 16 20 38.8 +2.3**
DGB ˙zmir 4.51 34 *i*P **Pn 16 20 37.6 +1.2**
SMIA Simia 4.56 355 P **Pn 16 20 36.4 -0.8**
SMIA Simia 4.56 355 P **Pn 16 20 36.5 -0.8**
SMIA Simia 4.56 355 P **Pn 16 20 36.5 -0.8**
VLS Valsamata 4.60 327 P **Pn 16 20 38.5 +0.7**
VLS Valsamata 4.60 327 P **Pn 16 20 38.5 +0.7**
VLS Valsamata 4.60 327 P **Pn 16 20 37.2 -0.6**
VLS Valsamata 4.60 327 P **Pn 16 20 37.2 -0.6**
VLS Valsamata 4.60 327 P **Pn 16 20 38.5 +0.7**
PVO Paravola 4.63 338 P **Pn 16 20 40.4 +2.2**
PVO Paravola 4.63 338 P **Pn 16 20 40.4 +2.2**
PVO Paravola 4.63 338 P **Pn 16 20 41.6 +3.4**
URLA Izmir 4.64 29 *e*P **Pn 16 20 40.7 +2.3**
URLA Izmir 4.64 29 *i*P **Pn 16 20 40.5 +2.1**
URLA Izmir 4.64 29 P **Pn 16 20 40.5 +2.1**
DALY Dalyan (Mu˘la 4.72 57 *e*P **Pn 16 20 41.0 +1.6**
DALY Dalyan (Mu˘la 4.72 57 *i*P **Pn 16 20 41.0 +1.6**
DALY Dalyan (Mu˘la 4.72 57 P **Pn 16 20 41.0 +1.6**
PDO Prodromos 4.73 335 P **Pn 16 20 41.8 +2.3**
PDO Prodromos 4.73 335 P **Pn 16 20 41.8 +2.3**
PDO Prodromos 4.73 335 P **Pn 16 20 43.4 +3.9**
AGG Agios Georgios 4.82 347 *e*P **Pn 16 20 42.4 +1.6**
AGG Agios Georgios 4.82 347 P **Pn 16 20 42.7 +1.9**
AGG Agios Georgios 4.82 347 *e*P **Pn 16 20 41.2 +0.4**
AGG Agios Georgios 4.82 347 P **Pn 16 20 40.5 -0.3**
AGG Agios Georgios 4.82 347 *e*Pn **Pn 16 20 41.2 +0.4**
AGG Agios Georgios 4.82 347 P **Pn 16 20 40.5 -0.3**
AGG Agios Georgios 4.82 347 *e*Pn **Pn 16 20 41.2 +0.4**
EVR Evrytania 4.83 342 P **Pn 16 20 43.3 +2.2**
EVR Evrytania 4.83 342 P **Pn 16 20 43.3 +2.2**
EVR Evrytania 4.83 342 P **Pn 16 20 43.9 +2.8**
EVR Evrytania 4.83 342 P **Pn 16 20 43.3 +2.2**
SKIA Skiathos 4.83 358 P **Pn 16 20 43.4 +2.4**
SKIA Skiathos 4.83 358 P **Pn 16 20 43.4 +2.4**
SKIA Skiathos 4.83 358 P **Pn 16 20 38.7 -2.3**
AOS Alonnisos 4.84 1 *e*P **Pn 16 20 43.6 +2.7**
AOS Alonnisos 4.84 1 P **Pn 16 20 41.7 +0.7**
AOS Alonnisos 4.84 1 P **Pn 16 20 41.7 +0.7**
AOS Alonnisos 4.84 1 P **Pn 16 20 41.7 +0.7**
AYDB Zeytinkoy-Aydi 4.94 42 *e*P **Pn 16 20 44.4 +1.9**
AYDB Zeytinkoy-Aydi 4.94 42 *e*P **Pn 16 20 44.4 +1.9**
FETY Fethiye 4.94 61 *e*P **Pn 16 20 43.4 +0.9**
FETY Fethiye 4.94 61 P **Pn 16 20 43.1 +0.7**
FETY Fethiye 4.94 61 P **Pn 16 20 43.1 +0.7**
FETY Fethiye 4.94 61 P **Pn 16 20 43.1 +0.7**
NEO Neokhori 4.99 355 P **Pn 16 20 42.5 -0.6**
NEO Neokhori 4.99 355 P **Pn 16 20 42.5 -0.6**
NEO Neokhori 4.99 355 P **Pn 16 20 42.5 -0.6**
XOR Xorichti 5.05 355 P **Pn 16 20 43.3 -0.6**
XOR Xorichti 5.05 355 P **Pn 16 20 43.3 -0.6**
XOR Xorichti 5.05 355 P **Pn 16 20 43.3 -0.6**
LKD2 Lefkada island 5.09 332 P **Pn 16 20 45.6 +1.0**
LKD2 Lefkada island 5.09 332 P **Pn 16 20 45.6 +1.0**
LKD2 Lefkada island 5.09 332 P **Pn 16 20 45.6 +1.0**
FYTO Fytoko, Volos 5.11 353 P **Pn 16 20 46.2 +1.4**
FYTO Fytoko, Volos 5.11 353 P **Pn 16 20 45.2 +0.4**
FYTO Fytoko, Volos 5.11 353 P **Pn 16 20 45.2 +0.4**
FYTO Fytoko, Volos 5.11 353 P **Pn 16 20 46.2 +1.4**
KSL Kastellorizon 5.12 68 P **Pn 16 20 44.8 -0.2**
KSL Kastellorizon 5.12 68 P **Pn 16 20 41.6 -3.3**
KSL AML AML 16 21 48.2
comp=E,2459µm,0.8s
KSL AML AML 16 21 49.5
comp=N,1597µm,1.0s
KSL Kastellorizon 5.12 68 P **Pn 16 20 44.8 -0.2**
SIGR SIGRI 5.17 19 *e*P **Pn 16 20 48.7 +3.2**
SIGR SIGRI 5.17 19 *e*P **Pn 16 20 48.7 +3.2**
AKAS Kas 5.17 67 *e*P **Pn 16 20 46.3 +0.6**
AKAS Kas 5.17 67 *i*P **Pn 16 20 45.2 -0.5**
AKAS *i*S **Sn 16 21 40.0 -4.7**
AKAS Kas 5.17 67 *i*P **Pn 16 20 45.7 0.0**
AKAS *i*S **Sn 16 21 43.7 -1.0**
AKAS Kas 5.17 67 P **Pn 16 20 45.2 -0.5**
AKAS Kas 5.17 67 *e*Pn **Pn 16 20 45.2 -0.2**
AKAS S **Sn 16 21 43.7 -1.0**
AKAS Kas 5.17 67 *e*Pn **Pn 16 20 45.5 -0.2**
DSL Palaion Diasel 5.24 337 P **Pn 16 20 48.0 +1.4**
DSL Palaion Diasel 5.24 337 P **Pn 16 20 45.7 -0.9**
DSL Palaion Diasel 5.24 337 P **Pn 16 20 45.7 -0.9**
DSL Palaion Diasel 5.24 337 P **Pn 16 20 48.0 +1.4**
SWA2 5.28 163 P **Pn 16 20 47.2 +0.2**
baz=166
SWA2 S **Sn 16 21 45.6 -1.6**
baz=166
SWA2 5.28 163 P **Pn 16 20 47.2 +0.2**
SWA2 S **Sn 16 21 45.6 -1.6**
PRK Paraskevi 5.32 22 P **Pn 16 20 49.1 +1.5**
PRK Paraskevi 5.32 22 P **Pn 16 20 49.1 +1.5**
PRK Paraskevi 5.32 22 P **Pn 16 20 49.1 +1.5**
PRK Paraskevi 5.32 22 P **Pn 16 20 49.1 +1.5**
THL Klokotos Trika 5.41 346 P **Pn 16 20 50.5 +1.7**
THL Klokotos Trika 5.41 346 P **Pn 16 20 50.5 +1.7**
DNZL Cakiroluk 5.46 51 *i*P **Pn 16 20 52.5 +2.8**
DNZL Cakiroluk 5.46 51 *i*P **Pn 16 20 51.5 +1.7**
DENT Denizli 5.49 50 *e*P **Pn 16 20 52.4 +2.4**
GOLH Golhisar 5.56 57 *i*P **Pn 16 20 51.8 +0.7**
GOLH Golhisar 5.56 57 *i*P **Pn 16 20 52.9 +1.9**
GOLH Golhisar 5.56 57 P **Pn 16 20 51.8 +0.7**
ELL Elmali 5.59 63 *e*P **Pn 16 20 53.2 +1.8**
PAIG Paliouri 5.59 360 P **Pn 16 20 52.7 +1.4**
PAIG Paliouri 5.59 360 P **Pn 16 20 52.7 +1.4**
PAIG Paliouri 5.59 360 P **Pn 16 20 52.7 +1.4**
PAIG Paliouri 5.59 360 P **Pn 16 20 52.7 +1.4**
LIA Limnos Island 5.68 11 P **Pn 16 20 49.2 -3.3**
MANT Manisa 5.70 42 *e*Pn **Pn** 16 20 48.0 -5.0
MANT Manisa 5.70 42 *e*Pn **Pn** 16 20 48.0 -5.0
KULA Kula-Manisa 5.77 42 *e*P **Pn 16 20 55.4 +1.4**
KULA Kula-Manisa 5.77 42 P **Pn 16 20 55.3 +1.4**
KULA Kula-Manisa 5.77 42 P **Pn 16 20 55.3 +1.4**
KULA Kula-Manisa 5.77 42 P **Pn 16 20 55.3 +1.4**
JAN Janina 5.80 337 P **Pn 16 20 55.1 +0.9**
JAN Janina 5.80 337 P **Pn 16 20 55.1 +0.9**
JAN Janina 5.80 337 P **Pn 16 20 53.8 -0.4**
JAN Janina 5.80 337 P **Pn 16 20 53.8 -0.4**
JAN Janina 5.80 337 P **Pn 16 20 55.1 +0.9**
BOZC Bozcaada 5.81 18 *i*P **Pn** 16 20 59.1 +4.7
IGT Igoumenitsa 5.86 333 P **Pn 16 20 55.5 +0.4**
IGT Igoumenitsa 5.86 333 P **Pn 16 20 55.5 +0.4**
IGT Igoumenitsa 5.86 333 P **Pn 16 20 55.5 +0.4**
IGT Igoumenitsa 5.86 333 P **Pn 16 20 55.5 +0.4**
SGD Sagiada 5.97 333 P **Pn 16 20 56.6 0.0**
SGD Sagiada 5.97 333 P **Pn 16 20 56.6 0.0**
KORT Korkueli 6.01 62 *e*P **Pn 16 20 58.9 +1.6**
PLG Polygyros 6.04 358 P **Pn 16 20 56.4 -1.2**
PLG Polygyros 6.04 358 P **Pn 16 20 56.4 -1.2**
PLG Polygyros 6.04 358 P **Pn 16 20 56.4 -1.2**
PLG Polygyros 6.04 358 P **Pn 16 20 56.4 -1.2**
GADA Gvkgeada 6.10 16 *e*P **Pn 16 21 00.2 +1.9**
KHL Karahalli 6.15 48 *e*P **Pn 16 21 00.2 +1.1**
KZN Kozani 6.17 346 P **Pn 16 20 59.2 -0.2**
KZN Kozani 6.17 346 P **Pn 16 20 59.2 -0.2**
KZN Kozani 6.17 346 P **Pn 16 20 59.2 -0.2**
KZN Kozani 6.17 346 P **Pn 16 20 58.0 -1.4**
KZN Kozani 6.17 346 P **Pn 16 20 59.2 -0.2**
DEMI Demirci 6.18 39 *i*P **Pn 16 21 00.2 +0.7**
DEMI Demirci 6.18 39 *i*P **Pn 16 20 58.0 -1.6**
DEMI Demirci 6.18 39 P **Pn 16 21 00.2 +0.7**
ANTB Antalya 6.20 64 *e*P **Pn 16 21 01.0 +1.4**
PENT Pentalofos 6.21 341 P **Pn 16 21 01.0 +1.0**
PENT Pentalofos 6.21 341 P **Pn 16 21 01.0 +1.0**
PENT Pentalofos 6.21 341 P **Pn 16 20 58.9 -1.1**
KEK Kerkira 6.23 331 P **Pn 16 21 01.0 +0.9**
KEK Kerkira 6.23 331 P **Pn 16 20 59.4 -0.7**
KEK Kerkira 6.23 331 P **Pn 16 20 59.4 -0.7**
KEK Kerkira 6.23 331 P **Pn 16 21 01.0 +0.9**
BALY Balya 6.24 29 *i*P **Pn 16 21 03.9 +3.7**
HORT Hortiatis 6.28 356 *e*P **Pn 16 21 02.4 +1.5**
HORT Hortiatis 6.28 356 P **Pn 16 21 02.7 +1.8**
HORT Hortiatis 6.28 356 P **Pn 16 21 02.7 +1.8**
HORT Hortiatis 6.28 356 P **Pn 16 21 02.7 +1.8**
SIMA Simav-Kutahya 6.35 40 *e*P **Pn 16 21 04.0 +2.1**
BCK Bucak 6.39 59 *e*P **Pn 16 21 03.4 +1.0**
NEST Nestorio 6.44 341 P **Pn 16 21 04.8 +1.7**

NEST Nestorio 6.44 341 P **Pn 16 21 04.8 +1.7**
SOH Sokhos 6.49 357 P **Pn 16 21 04.8 +1.0**
SOH pmax pmax
comp=Z,113nm,1.1s
SOH Sokhos 6.49 357 P **Pn 16 21 04.8 +1.0**
comp=Z,113nm,1.1s
ISP Isparta 6.51 56 *e*P **Pn 16 21 05.4 +1.2**
ISP Isparta 6.51 56 ⇑ *i*P **Pn 16 21 05.5 +1.4**
ISP Isparta 6.51 56 Pn **Pn 16 21 03.8 -0.3**
ISP Isparta 6.51 56 ⇓ *e*P **Pn 16 21 05.7 +1.6**
ISP Isparta 6.51 56 Pn **Pn 16 21 03.8 -0.3**
ISP Isparta 6.51 56 *e*P **Pn 16 21 05.7 +1.6**
ISP Isparta 6.51 56 *e*Pn **Pn 16 21 04.3 +0.2**
GEDZ Gediz 6.56 42 *e*P **Pn 16 21 06.6 +1.9**
KNL Bal˘kesir 6.66 26 *i*P **Pn** 16 21 00.2 -5.8
ENEZ Enez 6.68 16 *e*P **Pn 16 21 08.4 +2.1**
SUTC Sutluce-Ispart 6.69 60 *e*P **Pn 16 21 07.7 +1.2**
ERIK Erikli-Kesan 6.71 18 *e*P **Pn 16 21 08.8 +2.1**
FNA Florina 6.71 345 *e*P **Pn 16 21 07.9 +1.1**
FNA Florina 6.71 345 P **Pn 16 21 07.6 +0.8**
FNA Florina 6.71 345 P **Pn 16 21 06.5 -0.3**
FNA pmax pmax
comp=Z,129nm,0.7s
FNA Florina 6.71 345 P **Pn 16 21 06.5 -0.3**
comp=Z,129nm,0.7s
FNA Florina 6.71 345 P **Pn 16 21 07.6 +0.8**
BAGO Egridir - ISPA 6.78 55 *i*P **Pn 16 21 08.3 +0.5**
BAGO Egridir - ISPA 6.78 55 *i*P **Pn 16 21 07.0 -0.8**
KNT Kendrikon 6.86 355 *e*P **Pn 16 21 09.9 +1.2**
TVSB Tavsanli 6.87 40 *e*P **Pn 16 21 10.9 +1.8**
SHUT Suhut-Afyon 6.93 51 *e*P **Pn 16 21 11.2 +1.3**
BIA Bitola 6.95 345 *i*Pn **Pn 16 21 11.1 +1.1**
NVR Nevrokopi 7.01 1 P **Pn 16 21 12.3 +1.4**
NVR Nevrokopi 7.01 1 P **Pn 16 21 12.3 +1.4**
NVR Nevrokopi 7.01 1 P **Pn 16 21 12.3 +1.4**
VAY Valandovo 7.04 353 *i*Pn **Pn 16 21 12.2 +0.9**
AKMC Akamas 7.12 82 P **Pn 16 21 10.1 -2.3**
AKMC Akamas 7.12 82 P **Pn 16 21 10.1 -2.3**
baz=267
PPCY Paphos 7.13 83 P **Pn 16 21 10.2 -2.3**
PPCY Paphos 7.13 83 P **Pn 16 21 10.2 -2.3**
baz=268
OHR Ohrid 7.16 342 *i*Pn **Pn 16 21 13.6 +0.7**
MMB Musomiste 7.25 360 P **Pn 16 21 12.9 -1.3**
BOLV Bolvadin 7.28 51 *i*P **Pn 16 21 14.8 +0.1**
BOLV Bolvadin 7.28 51 *i*P **Pn 16 21 16.0 +1.4**
BOLV Bolvadin 7.28 51 *e*Pn **Pn 16 21 13.5 -1.2**
BOLV Bolvadin 7.28 51 P **Pn 16 21 14.8 +0.1**
BOLV Bolvadin 7.28 51 *e*Pn **Pn 16 21 13.5 -1.2**
ALFC Alefka 7.35 81 P **Pn 16 21 12.8 -2.8**
ALFC Alefka 7.35 81 P **Pn 16 21 12.8 -2.8**
baz=266
ALFC S **Sn 16 22 31.8 -6.5**
IGD Bursa 7.36 35 *i*P **Pn 16 21 16.0 +0.4**
RZN Rozhen 7.39 6 P **Pn 16 21 19.7 +3.5**
CEL Celeste 7.44 304 *e*Pn **Pn 16 21 14.5 -2.4**
CEL Celeste 7.44 304 *e*Pn **Pn 16 21 14.5 -2.4**
KKB Krupnik 7.54 356 P **Pn 16 21 19.7 +1.5**
SZAC Souni 7.57 84 P **Pn 16 21 16.6 -1.9**
SZAC Souni 7.57 84 P **Pn 16 21 16.6 -1.9**
baz=270
TIR Tirane 7.65 338 ⇑ *i*P **Pn 16 21 19.1 -0.5**
TIR Tirane 7.65 338 *e*P **Pn 16 21 17.6 -2.0**
TIR Tirane 7.65 338 *e*P **Pn 16 21 17.6 -2.0**
TIR Tirane 7.65 338 *e*Pn **Pn 16 21 17.6 -2.0**
WDD Wied Dalam 7.70 284 *e*Pn **Pn 16 21 15.7 -4.5**
WDD Wied Dalam 7.70 284 *e*Pn **Pn 16 21 15.7 -4.5**
BORA Eskisehir 7.72 42 *i*P **Pn 16 21 22.3 +1.6**
BORA Eskisehir 7.72 42 *i*P **Pn 16 21 21.7 +1.0**
BORA Eskisehir 7.72 42 P **Pn 16 21 22.3 +1.6**
KMER Konya-Meram 7.79 61 *i*P **Pn** 16 21 33.0 +11
PLD Plovdiv 7.80 5 P **Pn** 16 21 26.8 +5.1
ERMK Ermenek 7.84 70 *i*P **Pn 16 21 23.1 +0.7**
SKO Skopje 7.84 347 *i*Pn **Pn 16 21 21.5 -0.8**
MAMC Mammari 7.86 81 P **Pn 16 21 20.9 -1.6**
MAMC Mammari 7.86 81 P **Pn 16 21 20.9 -1.6**
baz=267
KONT Konya--Tatoy 7.86 60 *i*P **Pn 16 21 21.7 -0.9**
CSS Mathiatis 7.94 83 Pn **Pn 16 21 21.2 -2.4**
CSS Mathiatis 7.94 83 *e*Pn **Pn 16 21 19.5 -4.2**
CSS Mathiatis 7.94 83 P **Pn 16 21 21.3 -2.4**
CSS Mathiatis 7.94 83 *e*Pn **Pn 16 21 19.4 -4.2**
CSS Mathiatis 7.94 83 P **Pn 16 21 21.3 -2.4**
baz=268
CSS S **Sn 16 22 46.5 -6.3**
KDHN Kadinhani 7.95 56 *i*P **Pn 16 21 25.1 +1.2**
HSAF As Saff 8.14 123 P **Pn 16 21 24.0 -2.4**
baz=125
HSAF As Saff 8.14 123 P **Pn 16 21 24.0 -2.4**
KOT Kottamia 8.15 120 P **Pn 16 21 23.9 -2.7**
baz=122
KOT Kottamia 8.15 120 P **Pn 16 21 23.9 -2.7**
VAE Valguarnera 8.19 295 Pn **Pn 16 21 27.9 +0.8**
comp=Z,5.2nm,0.3s,baz=77,slow=14,SNR=25
VAE Sn **Sn 16 23 00.3 +1.5**
comp=Z,12nm,0.3s,baz=315,slow=23,SNR=3.1
PGB Panagyurishte 8.22 2 P **Pn 16 21 30.5 +3.0**
VTS Vitosha 8.26 357 ⇑ *i*P **Pn 16 21 28.2 0.0**
VTS Vitosha 8.26 357 *e*P **Pn 16 21 27.9 -0.3**
VTS Vitosha 8.26 357 P **Pn 16 21 29.3 +1.1**
VTS Vitosha 8.26 357 *e*P **Pn 16 21 27.9 -0.3**
VTS Vitosha 8.26 357 *e*Pn **Pn 16 21 27.9 -0.3**
GLL Jalalah 8.27 123 P **Pn 16 21 26.1 -2.1**
baz=124
GLL Jalalah 8.27 123 P **Pn 16 21 26.1 -2.1**
HHAG Hagoal 8.33 119 P **Pn 16 21 26.6 -2.4**
baz=121
HHAG Hagoal 8.33 119 P **Pn 16 21 26.6 -2.4**
ULC Ulcinj 8.40 336 ⇑ *i*Pn **Pn 16 21 29.2 -0.8**
ULC *e*Sn **Sn 16 23 00.6 -3.5**
ULC Ulcinj 8.40 336 ⇑ *i*Pn **Pn 16 21 29.2 -0.8**
CUC Castrocucco 8.48 314 *e*Pn **Pn 16 21 29.6 -1.4**
CUC Castrocucco 8.48 314 *e*Pn **Pn 16 21 29.6 -1.4**
DRME Dracevica, Mon 8.62 337 ⇓ *i*Pn **Pn 16 21 32.2 -0.7**
DRME *e*Sn **Sn 16 23 05.9 -3.5**
DRME Dracevica, Mon 8.62 337 ⇓ *i*Pn **Pn 16 21 32.2 -0.7**
PVY Plav 8.77 341 ⇓ *i*Pn **Pn 16 21 34.2 -0.9**
PVY *e*Sn **Sn 16 23 09.2 -4.0**
PVY Plav 8.77 341 ⇓ *i*Pn **Pn 16 21 34.2 -0.9**
KIZK Mersin 8.77 73 *i*P **Pn 16 21 35.8 +0.7**
PDG Podgorica 8.82 338 ⇓ *i*P **Pn 16 21 34.0 -1.6**
PDG Podgorica 8.82 338 ⇑ *i*Pn **Pn 16 21 35.3 -0.3**
TTG Podgorica 8.82 338 ⇑ *i*Pn **Pn 16 21 35.3 -0.3**
TTG *e*Sn **Sn 16 23 10.6 -3.6**
BUM Brajici-Budva 8.82 336 ⇑ *i*Pn **Pn 16 21 34.5 -1.2**
BUM *e*Sn **Sn 16 23 10.5 -3.9**
BUM Brajici-Budva 8.82 336 ⇑ *i*Pn **Pn 16 21 34.5 -1.2**
SUZ Suez 8.92 118 P **Pn 16 21 34.9 -2.3**
baz=119
SUZ Suez 8.92 118 P **Pn 16 21 34.9 -2.3**
MPEP Malo Peshtene 9.02 0 P **Pn** 16 21 43.9 +5.5
CEME Cevo 9.03 337 ⇓ *i*Pn **Pn 16 21 37.7 -0.9**
CEME *e*Sn **Sn 16 23 15.8 -3.8**
CEME Cevo 9.03 337 ⇓ *i*Pn **Pn 16 21 37.7 -0.9**
ZAF Zafarana 9.03 121 P **Pn 16 21

NKY eSn Sn 16 23 21.3 -3.7
NKY Niksic 9.25 338 ⇃ iPn Pn 16 21 41.1 -0.5
BCAM Yenicaga 9.26 43 i P Pn 16 21 45.6 +3.9
BCAM Yenicaga 9.26 43 i P Pn 16 21 44.3 +2.5
CMDR Camlidere-ANKA 9.29 46 i P Pn 16 21 43.1 +0.9
CMDR Camlidere-ANKA 9.29 46 i P Pn 16 21 43.1 +0.9
CMDR Camlidere-ANKA 9.29 46 P Pn 16 21 43.1 +0.9
PRD Provadia 9.31 17 P Pn 16 21 44.7 +2.3
DED Mersin 9.39 71 i P Pn 16 21 42.7 -0.8
DED Mersin 9.39 71 i P Pn 16 21 40.6 -2.8
GULE Gulek 9.45 69 i P Pn 16 21 45.0 +0.5
GULE Gulek 9.45 69 P Pn 16 21 45.0 +0.5
BRY Bratogost 9.47 336 ⇂ iPn Pn 16 21 43.9 -0.9
BRY eSn Sn 16 23 26.8 -4.3
BRY Bratogost 9.47 336 ⇂ iPn Pn 16 21 43.9 -0.9
OFRI 'Ofer 9.56 97 Pn Pn 16 21 43.2 -2.6
OFRI 'Ofer 9.56 97 Pn Pn 16 21 43.2 -2.6
BR131 Keskin Array S 9.58 53 ePn Pn 16 21 46.8 +0.6
BR131 Keskin Array S 9.58 53 ePn Pn 16 21 46.8 +0.6
BRTR Keskin Array B 9.58 53 Pn Pn 16 21 47.2 +1.0
comp=Z,1.0nm,0.3s,baz=223,slow=12,SNR=51
BRTR Sn Sn 16 23 32.1 -1.1
baz=251,slow=23,SNR=1.8
BRTR LR LR 16 26 22.2
comp=Z,7μm,19.3s,baz=231,slow=43
BRTR ScP ScP 16 31 33.5 +0.8
comp=Z,0.1nm,0.3s,baz=187,slow=2.7,SNR=7.1
PLE Pljevlja 9.60 341 ⇃ iPn Pn 16 21 46.1 -0.4
PLE eSn Sn 16 23 30.0 -3.8
PLE Pljevlja 9.60 341 ⇃ iPn Pn 16 21 46.1 -0.4
KZIT Kziot 9.62 108 Pn Pn 16 21 44.2 -2.5
KZIT Kziot 9.62 108 Pn Pn 16 21 44.2 -2.5
UPM Unac-Piva 9.63 338 ⇑ iPn Pn 16 21 45.8 -1.1
UPM eSn Sn 16 23 29.9 -4.5
UPM Unac-Piva 9.63 338 ⇑ iPn Pn 16 21 45.8 -1.1
SLTI Sal'it 9.70 99 Pn Pn 16 21 44.3 -3.4
SLTI Sn Sn 16 23 28.8 -7.1
SLTI Sal'it 9.70 99 Pn Pn 16 21 44.3 -3.4
HNKL Nakhl 9.73 114 P Pn 16 21 45.5 -2.8
baz=115
HNKL S Sn 16 23 28.0 -8.9
baz=115
HNKL Nakhl 9.73 114 P Pn 16 21 45.5 -2.8
AMAZ Amatzia 9.81 103 Pn Pn 16 21 46.8 -2.5
AMAZ Amatzia 9.81 103 Pn Pn 16 21 46.8 -2.5
MMA0B Mount Meron ar 9.82 94 Pn Pn 16 21 47.0 -2.5
MMA0B Mount Meron ar 9.82 94 Pn Pn 16 21 47.0 -2.5
MMAI Mount Meron Ar 9.82 94 Pn Pn 16 21 46.0 -3.5
comp=Z,14nm,0.3s,baz=269,slow=12,SNR=33
MMAI Sn Sn 16 23 34.1 -4.9
comp=Z,16nm,0.3s,baz=264,slow=26,SNR=10.0
MMAI LR LR 16 27 53.9
comp=Z,3μm,18.5s,baz=280,slow=51
MMLI Mount Malkishu 9.96 98 Pn Pn 16 21 48.1 -3.2
MMLI Mount Malkishu 9.96 98 Pn Pn 16 21 48.1 -3.2
PSN Preselentsi 9.96 19 P Pn 16 21 50.4 -0.9
AKO Adana 10.01 68 i P Pn 16 21 52.2 +0.2
CDAG Cicekdag 10.02 55 i P Pn 16 21 52.2 0.0
CDAG Cicekdag 10.02 55 P Pn 16 21 52.2 0.0
YTIR Yattir 10.03 104 Pn Pn 16 21 50.4 -1.9
YTIR Yattir 10.03 104 Pn Pn 16 21 50.4 -1.9
HMDT Nahal Hemdat 10.09 99 Pn Pn 16 21 49.9 -3.2
HMDT Sn Sn 16 23 38.3 -7.3
HMDT Nahal Hemdat 10.09 99 Pn Pn 16 21 49.9 -3.2
RCY Rachaya 10.10 91 eP Pn 16 21 49.8 -3.6
HWQ Hawqa 10.11 87 eP Pn 16 21 51.0 -2.5
ARNB Al Arnab 10.15 78 eP Pn 16 21 52.1 -1.9
ARNB Al Arnab 10.15 78 eP Pn 16 21 52.1 -1.9
SNR=46
KSHT Keshet 10.16 94 Pn Pn 16 21 51.8 -2.3
KSHT Keshet 10.16 94 Pn Pn 16 21 51.8 -2.3
DSI Dead Sea 10.17 102 Pn Pn 16 21 51.1 -3.1
DSI Sn Sn 16 23 40.1 -7.4
DSI Dead Sea 10.17 102 Pn Pn 16 21 51.1 -3.1
BRBR Barbar 10.20 92 eP Pn 16 21 51.9 -3.0
BRBR Barbar 10.20 92 eP Pn 16 21 51.9 -3.0
SNR=46
MZDA Masada 10.24 104 Pn Pn 16 21 52.6 -2.5
MZDA Masada 10.24 104 Pn Pn 16 21 52.6 -2.5
PRNI Paran 10.33 109 Pn Pn 16 21 54.1 -2.3
PRNI Paran 10.33 109 Pn Pn 16 21 54.1 -2.3
TCHB Talchebab 10.35 96 eP Pn 16 21 52.8 -4.0
TCHB Talchebab 10.35 96 eP Pn 16 21 52.8 -4.0
SNR=46
ILGA Ilgaz 10.37 47 ePn Pn 16 21 57.9 +0.7
ILGA Ilgaz 10.37 47 ePn Pn 16 21 57.9 +0.7
ZFRI Zfri 10.38 108 Pn Pn 16 21 54.9 -2.2
ZFRI Zfri 10.38 108 Pn Pn 16 21 54.9 -2.2
HRFI Mount Harif 10.49 111 Pn Pn 16 21 56.5 -2.2
HRFI Mount Harif 10.49 111 Pn Pn 16 21 56.5 -2.2
FKH Fakeheh 10.49 87 eP Pn 16 21 56.5 -2.2
MBRI Mt Berech 10.51 112 Pn Pn 16 21 57.0 -1.9
MBRI Mt Berech 10.51 112 Pn Pn 16 21 57.0 -1.9
MDVR Moldovita 10.56 352 ⇂ iP Pn 16 21 58.8 -0.7
BTCH Batrach 10.56 77 eP Pn 16 21 51.7 -7.9
MARH Ras Al Marh 10.57 88 eP Pn 16 21 54.4 -5.6
EIL Elat 10.60 113 Pn Pn 16 21 57.0 -3.1
comp=Z,2.3nm,0.3s,baz=307,slow=10,SNR=19
EIL Sn Sn 16 23 50.7 -7.3
comp=Z,6.1nm,0.3s,baz=330,slow=7.4,SNR=4.1
EIL Elat 10.60 113 Pn Pn 16 21 56.8 -3.3
TOTH TOTAH 10.61 92 eP Pn 16 21 58.3 -2.0
TOTH TOTAH 10.61 92 eP Pn 16 21 58.3 -2.0
SNR=46
HBST Basata 10.66 116 P Pn 16 21 58.6 -2.3
baz=117
HBST Basata 10.66 116 P Pn 16 21 58.6 -2.3
NUB 10.69 117 P Pn 16 21 59.5 -1.9
baz=118
ANDN Andirin 10.73 69 i P Pn 16 22 00.7 -1.3
ANDN Andirin 10.73 69 P Pn 16 22 00.7 -1.3
COAL Corum-Alaca 10.74 53 i P Pn 16 22 03.5 +1.4
COAL Corum-Alaca 10.74 53 P Pn 16 22 03.5 +1.4
TIRR Tirgusor 10.74 18 ⇃ iP Pn 16 22 03.5 +1.5
TIRR Tirgusor 10.74 18 eP Pn 16 22 03.0 +1.0
TIRR Tirgusor 10.74 18 eP Pn 16 22 03.0 +1.0
TIRR Tirgusor 10.74 18 ePn Pn 16 22 03.0 +1.0
TLB Topalu 10.77 17 ⇃ iP Pn 16 22 03.2 +0.8
DRWC Darouich 10.80 74 eP Pn 16 21 58.7 -4.2
HDHB Dhahab 10.84 118 P Pn 16 22 01.4 -2.0
baz=119
HDHB Dhahab 10.84 118 P Pn 16 22 01.4 -2.0
SALA Sala 10.97 95 eP Pn 16 22 03.0 -2.4
SALA Sala 10.97 95 eP Pn 16 22 03.0 -2.4
SNR=45
ISR Istrita 10.99 11 ⇑ iP Pn 16 22 06.5 +1.0
ARR Arges 11.05 3 ⇃ iP Pn 16 22 03.5 -2.8
LOT Lotru 11.11 0 ⇑ iP Pn 16 22 07.2 +0.1
RABH Abou Rabah 11.14 86 eP Pn 16 22 08.2 +0.6
RABH Abou Rabah 11.14 86 eP Pn 16 22 08.1 +0.6
SNR=45
VOIR 11.14 5 ⇑ iP Pn 16 22 09.0 +1.4
VOIR 11.14 5 P Pn 16 22 10.1 +2.5
VOIR 11.14 5 ⇑ iP Pn 16 22 09.0 +1.4
ROOS tl_alroos 11.23 87 eP Pn 16 22 07.4 -1.3
ROOS tl_alroos 11.23 87 eP Pn 16 22 07.4 -1.3
SNR=45
ASF Jabal al Asfar 11.23 97 Pn Pn 16 22 06.1 -2.7
comp=Z,2.0nm,0.3s,baz=233,slow=9.4,SNR=29
ASF Sn Sn 16 24 11.9 -1.8
comp=Z,1.4nm,0.3s,baz=289,slow=18,SNR=3.1
ASF LR LR 16 28 59.4
comp=Z,2μm,18.3s,baz=238,slow=51
MLR Muntele Rosu 11.28 8 Pn Pn 16 22 09.8 +0.3
comp=Z,0.1nm,0.3s,baz=181,slow=10.0,SNR=6.5
MLR LR LR 16 27 16.1
comp=Z,1μm,18.8s,baz=190,slow=42
MLR Muntele Rosu 11.28 8 ⇑ iP Pn 16 22 11.8 +2.3
MLR Muntele Rosu 11.28 8 P Pn 16 22 09.8 +0.3
MLR MLR MLR
comp=Z,1μm,18.8s
MLR Muntele Rosu 11.28 8 ePn Pn 16 22 09.4 -0.1
MLR Muntele Rosu 11.28 8 P Pn 16 22 09.8 +0.3
comp=Z,1μm,18.8s
MLR Muntele Rosu 11.28 8 ePn Pn 16 22 09.4 -0.1
CFR Carcaliu 11.35 16 ⇑ iP Pn 16 22 11.3 +1.0
BZS Buzias 11.39 352 ⇑ iP Pn 16 22 08.3 -2.6
AQU L'Aquila 11.39 318 eP Pn 16 22 07.4 -3.6
AQU L'Aquila 11.39 318 eP Pn 16 22 07.4 -3.6
AQU L'Aquila 11.39 318 ePn Pn 16 22 07.4 -3.6
DEV Deva 11.56 357 ⇑ iP Pn 16 22 14.9 +1.7
BLY Banja Luka 11.56 336 ePn Pn 16 22 11.4 -1.8

GZT Gaziantep 11.63 71 i P Pn 16 22 14.3 0.0
DOPR Dopca 11.70 6 ⇑ iP Pn 16 22 17.5 +2.4
PLOR Plostina 11.72 10 ⇃ iP Pn 16 22 18.8 +3.3
KEST Kesra 11.88 281 Pn Pn 16 22 17.0 -0.6
comp=Z,0.5nm,0.3s,baz=86,slow=14,SNR=11
KEST Kesra 11.88 281 ePn Pn 16 22 16.2 -1.4
KEST Kesra 11.88 281 ePn Pn 16 22 16.2 -1.4
UDBI Udbina 11.90 331 ePn Pn 16 22 17.0 -0.8
UDBI Sn Sn 16 24 23.4 -6.5
UDBI Udbina 11.90 331 ePn Pn 16 22 17.0 -0.8
SIRR Siria 12.03 353 ⇑ iP Pn 16 22 19.1 -0.5
CUKAN kangal_SIVAS 12.08 62 i P Pn 16 22 17.0 -3.5
NVLJ Novalja 12.29 329 ePn Pn 16 22 21.6 -1.6
NVLJ Sn Sn 16 24 30.9 -8.5
NVLJ Novalja 12.29 329 ePn Pn 16 22 21.5 -1.6
TESR Tescani 12.37 9 ⇑ iP Pn 16 22 26.6 +2.3
DRGR 12.48 357 ⇑ iP Pn 16 22 27.2 +1.4
VSL Villasalto 12.59 298 ePn Pn 16 22 26.7 -0.5
VSL Villasalto 12.59 298 ePn Pn 16 22 26.7 -0.5
OZLJ Ozalj 12.92 333 ePn Pn 16 22 30.1 -1.7
OZLJ Ozalj 12.92 333 ePn Pn 16 22 30.0 -1.7
HADB 13.01 131 P Pn 16 22 31.9 -1.2
baz=132
HADB 13.01 131 P Pn 16 22 31.9 -1.2
BEHE Becsehely 13.23 339 ePn Pn 16 22 33.4 -2.6
KIS Kishinev 13.23 15 eP Pn 16 22 37.0 +1.0
KIS Kishinev 13.23 15 ePP P 16 22 46.0 +0.3
KIS eS Sn 16 25 06.0 +3.7
KIS eLR LR 16 27 16.0
comp=Z,8μm,14.0s
KIS Kishinev 13.23 15 eP Pn 16 22 37.0 +1.0
KIS eS Sn 16 25 06.0 +3.7
KIS MLR MLR
comp=Z,8μm,14.0s
KIS MLR MLR
comp=Z,6μm,15.0s
KIS Kishinev 13.23 15 eP Pn 16 22 37.0 +1.0
SIM Simferopol' 13.28 34 P P 16 22 43.6 -2.6
SIM pmax pmax
comp=Z,21nm,1.3s
SIM pmax pmax
comp=Z,240nm,13.0s
SIM MLR MLR
comp=Z,3μm,16.0s
BURAR Bucovina Array 13.32 4 ⇃ iP Pn 16 22 38.6 +1.2
BURAR Bucovina Array 13.32 4 P Pn 16 22 38.5 +1.2
BUR08 Bucovina Ar. S 13.35 4 ePn Pn 16 22 37.9 +0.2
BUR08 Bucovina Ar. S 13.35 4 ePn Pn 16 22 37.9 +0.2
LJU Ljubljana 13.64 332 ePn Pn 16 22 40.4 -1.2
LJU Ljubljana 13.64 332 ePn Pn 16 22 39.4 -2.2
CSKK Cs˙‡kako 13.66 344 eP Pn 16 22 39.1 -2.7
CSKK Cs˙‡kako 13.66 344 ePn Pn 16 22 39.1 -2.7
TRI Trieste 13.68 329 eP Pn 16 22 42.2 +0.1
TRI Trieste 13.68 329 eP Pn 16 22 42.2 +0.1
TRI Trieste 13.68 329 ePn Pn 16 22 42.2 +0.1
PSZ Piszkesteto 13.88 349 ⇑ iP Pn 16 22 45.9 +1.0
PSZ Piszkesteto 13.88 349 eP Pn 16 22 42.2 -2.7
PSZ Piszkesteto 13.88 349 ePn Pn 16 22 42.2 -2.7
PSZ Piszkesteto 13.88 349 eP Pn 16 22 43.1 -1.8
PSZ Piszkesteto 13.88 349 ePn Pn 16 22 43.1 -1.8
PSZ Piszkesteto 13.88 349 ePn Pn 16 22 42.2 -2.7
HAGS Hagol 13.94 132 P Pn 16 22 45.4 -0.5
baz=133
SOKA Soboth 13.99 334 i Pn Pn 16 22 46.3 -0.1
comp=Z,44nm,1.1s,SNR=15
SOKA Soboth 13.99 334 Pn Pn 16 22 46.3 -0.1
comp=Z,44nm,1.1s,SNR=15
OBKA Obir 14.02 333 i Pn Pn 16 22 47.4 +0.5
comp=Z,44nm,0.8s
OBKA i Sn Sn 16 25 19.2 -2.5
comp=Z,17nm,1.1s
OBKA Obir 14.02 333 Pn Pn 16 22 47.4 +0.5
comp=Z,44nm,0.8s
MARD Mardin 14.15 73 ePn Pn 16 22 46.4 -2.4
MARD Mardin 14.15 73 ePn Pn 16 22 46.4 -2.4
SORM Soroca 14.22 13 ⇑ iP Pn 16 22 49.2 -0.3
VLC Villacollemand 14.24 318 ePn Pn 16 22 50.0 +0.2
VLC Villacollemand 14.24 318 ePn Pn 16 22 50.0 +0.2
ARSA Arzberg 14.32 337 i Pn Pn 16 22 49.5 -1.3
comp=Z,5.5nm,0.5s
ARSA Arzberg 14.32 337 Pn Pn 16 22 49.5 -1.3
comp=Z,5.5nm,0.5s
UZH Uzhgorod 14.33 356 eP Pn 16 22 54.4 +3.4
UZH eS Sn 16 25 36.4 +7.2
UZH MLR MLR
comp=N,6μm,14.0s
UZH MLR MLR
comp=E,4μm,14.0s
UZH MLR MLR
comp=Z,3μm,14.0s
KECS Kecovo 14.35 351 eP Pn 16 22 50.0 -1.3
KECS Kecovo 14.35 351 ePn Pn 16 22 50.0 -1.3
KECS Kecovo 14.35 351 ePN Pn 16 22 50.0 -1.3
SOP Sopron 14.39 340 ePn Pn 16 22 54.5 +2.7
MYKA Terra Mystica 14.47 331 i Pn Pn 16 22 53.9 +0.9
comp=Z,27nm,0.9s
MYKA i Sn Sn 16 25 35.6 +2.9
comp=Z,9.6nm,0.7s
MYKA Terra Mystica 14.47 331 Pn Pn 16 22 53.9 +0.9
comp=Z,27nm,0.9s
MYKA Sn Sn 16 25 35.6 +2.9
comp=Z,9.6nm,0.7s
KOPT Kop Dagi 14.52 62 ePn Pn 16 22 54.7 +0.8
KOPT Kop Dagi 14.52 62 ePn Pn 16 22 54.6 +0.8
VYHS Vyhne 14.62 347 eP Pn 16 22 53.2 -1.7
VYHS Vyhne 14.62 347 ePn Pn 16 22 53.2 -1.7
VYHS Vyhne 14.62 347 ePN Pn 16 22 53.2 -1.7
BTMN Batman 14.62 71 i P Pn 16 22 55.4 +0.3
CRVS Cervenica-Dubn 14.66 354 eP Pn 16 22 56.7 +1.2
CRVS Cervenica-Dubn 14.66 354 ePn Pn 16 22 56.7 +1.2
CRVS Cervenica-Dubn 14.66 354 ePN Pn 16 22 56.7 +1.2
CONA Conrad Observa 14.81 339 i Pn Pn 16 22 57.4 -0.3
comp=Z,34nm,1.1s
CONA Conrad Observa 14.81 339 Pn Pn 16 22 57.4 -0.3
comp=Z,34nm,1.1s
ANN Anapa 14.85 41 eP Pn 16 22 56.2 -1.8
ANN eS Sn 16 25 43.6 +1.9
ANN pmax pmax
comp=Z,29nm,1.1s
SMOL Smolenice 14.93 344 eP P 16 23 04.5 -0.1
SMOL Smolenice 14.93 344 eP P 16 23 04.5 -0.1
SMOL Smolenice 14.93 344 eP P 16 23 04.5 -0.1
KBA Koelnbreinsper 14.96 331 i Pn Pn 16 22 59.1 -0.6
comp=Z,74nm,0.8s,SNR=11
KBA Koelnbreinsper 14.96 331 Pn Pn 16 22 59.1 -0.6
comp=Z,74nm,0.8s,SNR=11
ABTA Abfaltersbach 15.03 329 i Pn Pn 16 23 00.0 -0.6
comp=Z,53nm,0.8s,SNR=8.1
ABTA i Sn Sn 16 25 42.9 -3.5
comp=Z,13nm,0.9s
ABTA Abfaltersbach 15.03 329 Pn Pn 16 23 00.0 -0.6
comp=Z,53nm,0.8s,SNR=8.1
LANS Liptovska Anna 15.14 349 eP P 16 23 09.1 +2.1
LANS Liptovska Anna 15.14 349 eP P 16 23 09.1 +2.1
LANS Liptovska Anna 15.14 349 eP P 16 23 09.1 +2.1
STHS Stebnicka Huta 15.19 354 eP P 16 23 06.9 -0.6
STHS Stebnicka Huta 15.19 354 eP P 16 23 06.9 -0.6
STHS Stebnicka Huta 15.19 354 eP P 16 23 06.9 -0.6
MOA Molln 15.26 335 i Pn Pn 16 23 02.4 -1.1
comp=Z,90nm,0.9s,SNR=8.1
MOA Molln 15.26 335 Pn Pn 16 23 02.4 -1.1
comp=Z,90nm,0.9s,SNR=8.1
NIE Niedzica 15.29 351 eP Pn 16 23 05.2 +1.2
NIE Niedzica 15.29 351 eP Pn 16 23 05.2 +1.2
KWP Kalwaria Pacla 15.31 357 eP P 16 23 07.0 -1.8
KWP Kalwaria Pacla 15.31 357 eP P 16 23 07.0 -1.8
KWP Kalwaria Pacla 15.31 357 eP P 16 23 07.0 -1.8
SOC Sochi 15.47 49 eP Pn 16 23 04.9 -1.4
SOC e 16 25 53.1
SOC MLR MLR
comp=Z,3μm,14.0s
LVV L'vov 15.48 1 eP P 16 23 12.0 +1.3
LVV MLR MLR
comp=Z,3μm,12.0s
LVV L'vov 15.48 1 eP P 16 23 12.0 +1.3
comp=Z,3μm,12.0s
WTTA Wattenberg 15.81 328 i Pn Pn 16 23 10.6 -0.3
comp=Z,42nm,0.9s
WTTA i Sn Sn 16 26 02.1 -3.3
comp=Z,4.9nm,0.5s
WTTA Wattenberg 15.81 328 Pn Pn 16 23 10.6 -0.3
comp=Z,42nm,0.9s
VRAC Vranov 15.87 343 Pn Pn 16 23 11.7 +0.2
comp=Z,4.2nm,0.3s,baz=161,slow=13,SNR=17

VRAC LR LR 16 31 29.2
comp=Z,7μm,18.8s,baz=169,slow=46
VRAC Vranov 15.87 343 ⇑ iP Pn 16 23 12.0 +0.5
DAGI Agillar 15.88 60 i P Pn 16 23 12.3 +0.6
WATA Walderalm 15.89 328 i Pn Pn 16 23 12.0 +0.1
comp=Z,53nm,0.9s,SNR=13
WATA i Sn Sn 16 26 07.4 0.0
comp=Z,5.0nm,0.6s
WATA Walderalm 15.89 328 Pn Pn 16 23 12.0 +0.1
comp=Z,53nm,0.9s,SNR=13
WATA Sn Sn 16 26 07.4 0.0
comp=Z,5.0nm,0.6s
ARTV Artvin 15.93 59 ePn Pn 16 23 11.4 -1.0
comp=Z,58nm,1.4s
ARTV Artvin 15.93 59 ePn Pn 16 23 11.4 -1.0
comp=Z,58nm,1.4s
FUORN Ofenpass-Fuorn 15.96 324 ePn Pn 16 23 14.1 +1.2
comp=Z,78nm,1.0s
FUORN Ofenpass-Fuorn 15.96 324 ePn Pn 16 23 14.1 +1.2
comp=Z,78nm,1.0s
FETA Feichten 16.04 326 i Pn Pn 16 23 13.7 0.0
comp=Z,82nm,1.0s,SNR=9.8
FETA i Sn Sn 16 26 09.2 -1.7
comp=Z,5.4nm,0.7s
FETA Feichten 16.04 326 Pn Pn 16 23 13.7 0.0
comp=Z,82nm,1.0s,SNR=9.8
OKC Ostrava-Krasne 16.04 347 eP Pn 16 23 15.4 +1.9
OKC AMS AMS 16 30 40.0
comp=Z,8μm,13.6s
OKC ePCS PcS 16 31 43.4 -1.3
OKC Ostrava-Krasne 16.04 347 eP Pn 16 23 15.4 +1.9
OKC MLR MLR
comp=Z,8μm,13.6s
OKC Ostrava-Krasne 16.04 347 eP Pn 16 23 15.4 +1.9
comp=Z,8μm,13.6s
MORC Moravsky Berou 16.10 345 ⇑ iP Pn 16 23 14.8 +0.4
MORC Moravsky Berou 16.10 345 eP Pn 16 23 15.5 +1.1
MORC pmax pmax
comp=Z,255nm,0.9s
MORC Moravsky Berou 16.10 345 ePn Pn 16 23 13.3 -1.1
MORC Moravsky Berou 16.10 345 eP Pn 16 23 15.5 +1.1
comp=Z,255nm,0.9s
MORC Moravsky Berou 16.10 345 ePn Pn 16 23 15.5 +1.1
comp=Z,255nm,0.9s
MOTA Moosalm 16.11 328 i Pn Pn 16 23 14.9 +0.3
comp=Z,24nm,0.7s,SNR=16
MOTA i Sn Sn 16 26 08.6 -4.0
comp=Z,5.0nm,0.5s
MOTA Moosalm 16.11 328 Pn Pn 16 23 14.9 +0.3
comp=Z,24nm,0.7s,SNR=16
OJC Ojcow 16.14 351 eP Pn 16 23 16.3 +1.4
OJC Ojcow 16.14 351 eP Pn 16 23 14.0 -0.9
OJC pmax pmax
comp=Z,34nm,1.2s
OJC Ojcow 16.14 351 ePn Pn 16 23 14.0 -0.9
comp=Z,34nm,1.2s
OJC Ojcow 16.14 351 eP Pn 16 23 16.3 +1.4
OJC Ojcow 16.14 351 ePn Pn 16 23 14.0 -0.9
comp=Z,34nm,1.2s
DAVOX Davos/Dischmat 16.26 324 Pn Pn 16 23 15.6 -1.0
comp=Z,0.6nm,0.3s,baz=154,slow=15,SNR=12
DAVOX LR LR 16 31 32.5
comp=Z,4μm,18.4s,baz=116,slow=45
GEA0 GERESS Array S 16.30 336 ePn Pn 16 23 15.6 -1.4
GEA0 GERESS Array S 16.30 336 ePn Pn 16 23 15.6 -1.4
GEC2 GERESS Array S 16.31 336 eP Pn 16 23 15.7 -1.4
GEC2 pmax pmax
comp=Z,98nm,1.1s
GEC2 GERESS Array S 16.31 336 ePn Pn 16 23 15.7 -1.4
comp=Z,98nm,1.1s
GEC2 GERESS Array S 16.31 336 ePn Pn 16 23 15.7 -1.4
comp=Z,98nm,1.1s
GERES GERESS Array B 16.31 336 Pn Pn 16 23 16.3 -0.8
comp=Z,0.8nm,0.3s,baz=153,slow=13,SNR=24
GERES LR LR 16 31 41.9
comp=Z,5μm,19.4s,baz=145,slow=45
GERES ScP ScP 16 31 43.0 0.0
comp=Z,0.1nm,0.3s,baz=170,slow=2.3,SNR=17
TUE Stuetta 16.31 322 ePn Pn 16 23 16.7 -0.6
comp=Z,52nm,0.9s
TUE eSn Sn 16 26 10.1 -7.6
TUE Stuetta 16.31 322 ePn Pn 16 23 16.7 -0.6
comp=Z,52nm,0.9s
TUE eSn Sn 16 26 10.1 -7.6
RETA Reutte 16.37 327 i pP P 16 23 20.9 +0.3
comp=Z,24nm,1.0s
HAKT HAKKARI 16.50 73 i P Pn 16 23 21.3 +1.5
HAKT HAKKARI 16.50 73 P Pn 16 23 21.3 +1.5
KRLC Kraliky 16.55 344 eP P 16 23 22.3 -0.2
KRLC Kraliky 16.55 344 eP P 16 23 22.3 -0.2
KRLC Kraliky 16.55 344 eP P 16 23 22.3 -0.2
KHC Kasperske Hory 16.59 336 eP Pn 16 23 19.8 -0.9
KHC AMS AMS 16 31 20.0
comp=Z,6μm,14.9s
KHC ePCS PcS 16 31 44.0 -2.0
KHC Kasperske Hory 16.59 336 eP Pn 16 23 20.4 -0.3
KHC pmax pmax
comp=Z,51nm,0.9s
KHC Kasperske Hory 16.59 336 eP Pn 16 23 20.4 -0.3
comp=Z,51nm,0.9s
KHC Kasperske Hory 16.59 336 ePn Pn 16 23 20.4 -0.3
comp=Z,51nm,0.9s
DAVA Damuels 16.62 325 i P P 16 23 22.8 -0.7
comp=Z,51nm,0.9s,SNR=13
DAVA Damuels 16.62 325 P P 16 23 22.8 -0.7
comp=Z,51nm,0.9s,SNR=13
AK11 Malin Array Si 16.82 12 ePn Pn 16 23 22.3 -1.2
AK11 Malin Array Si 16.82 12 ePn Pn 16 23 22.3 -1.2
KIEV Kiev 16.84 12 eP Pn 16 23 20.5 -3.3
KIEV eS Sn 16 26 34.8 +4.7
KIEV pmax pmax
comp=Z,49nm,0.8s
KIEV Kiev 16.84 12 ePn Pn 16 23 20.5 -3.3
comp=Z,49nm,0.8s
KIEV eS Sn 16 26 34.8 +4.7
KIEV Kiev 16.84 12 ePn Pn 16 23 20.4 -3.3
comp=Z,49nm,0.8s
KIEV eS Sn 16 26 34.8 +4.7
AKASG Malin Array Be 16.85 12 Pn Pn 16 23 21.8 -2.0
comp=Z,7.5nm,0.3s,baz=205,slow=11,SNR=22
AKASG Sn Sn 16 26 31.3 +1.0
comp=Z,0.1nm,0.3s,baz=199,slow=22,SNR=5.4
AKASG ScP ScP 16 31 43.4 -0.4
comp=Z,0.6nm,0.3s,baz=221,slow=1.7,SNR=8.5
AKBB Malin Array Si 16.85 12 eP Pn 16 23 21.3 -2.6
AKBB eS Sn 16 26 35.4 +5.1
AKBB pmax pmax
comp=Z,50nm,0.8s
AKBB Malin Array Si 16.85 12 ePn Pn 16 23 21.3 -2.6
comp=Z,50nm,0.8s
AKBB eS Sn 16 26 35.4 +5.1
AKBB Malin Array Si 16.85 12 ePn Pn 16 23 21.3 -2.6
comp=Z,50nm,0.8s
AKBB eS Sn 16 26 35.4 +5.1
BNI Bardonecchia 16.90 314 eP Pn 16 23 23.4 -1.4
BNI pmax pmax
comp=Z,42nm,1.1s
BNI Bardonecchia 16.90 314 eP Pn 16 23 23.4 -1.4
comp=Z,42nm,1.1s
BNI Bardonecchia 16.90 314 ePn Pn 16 23 23.4 -1.4
comp=Z,42nm,1.1s
DPC Dobruska-Polom 16.91 344 AMS AMS 16 31 30.0
comp=Z,7μm,14.0s
DPC ePCS 16 31 45.5
GOPC GO Pecny, Ondr 16.91 340 eP Pn 16 23 24.2 -0.5
GOPC AMS AMS 16 31 30.0
comp=Z,6μm,12.4s
GOPC GO Pecny, Ondr 16.91 340 eP Pn 16 23 24.2 -0.5
GOPC MLR MLR
comp=Z,6μm,12.4s
GOPC GO Pecny, Ondr 16.91 340 eP Pn 16 23 24.2 -0.5
comp=Z,6μm,12.4s
PRU Pruhonice 17.05 339 eP Pn 16 23 25.5 -0.8
PRU AMS AMS 16 31 30.0
comp=Z,6μm,11.9s
PRU ePCS PcS 16 31 45.5 -1.2
PRU Pruhonice 17.05 339 eP Pn 16 23 25.5 -0.8
PRU MLR MLR
comp=Z,6μm,11.9s
PRU Pruhonice 17.05 339 eP Pn 16 23 25.5 -0.8
comp=Z,6μm,11.9s
EMHD Djebel Mahouad 17.07 282 P P 16 23 34.1 +5.6
LPG La Plagne 17.11 316 eP Pn 16 23 27.8 +0.3
LPG pmax pmax
comp=Z,28nm,1.1s
LPG La Plagne 17.11 316 eP Pn 16 23 27.8 +0.3

comp=Z,28nm,1.1s
AKH Akhalkalaki 17.11 60 P **Pn 16 23 28.2 +0.7**
AKH Akhalkalaki 17.11 60 P **Pn 16 23 28.2 +0.7**
AKH Akhalkalaki 17.11 60 P **Pn 16 23 28.2 +0.7**
UPC Upice 17.13 343 *e*P **Pn 16 23 27.1 -0.3**
UPC AMS AMS 16 31 40.0
comp=Z,7µm,14.9s
UPC Upice 17.13 343 *e*P **Pn 16 23 27.1 -0.3**
UPC MLR MLR
comp=Z,7µm,14.9s
UPC Upice 17.13 343 *e*P **Pn 16 23 27.1 -0.3**
comp=Z,7µm,14.9s
LPL La Plagne 17.13 316 *e*P **Pn 16 23 27.9 +0.2**
LPL pmax pmax
comp=Z,42nm,1.6s
LPL La Plagne 17.13 316 *e*P **Pn 16 23 27.9 +0.2**
comp=Z,42nm,1.6s
BGD Bogdanovka 17.15 60 P **Pn 16 23 28.4 +0.6**
PRA Prague 17.15 339 *e*P **P 16 23 28.9 -0.3**
PRA AMS AMS 16 31 30.0
comp=Z,6µm,11.9s
PRA Prague 17.15 339 *e*P **P 16 23 28.9 -0.3**
PRA MLR MLR
comp=Z,6µm,11.9s
PRA Prague 17.15 339 *e*P **P 16 23 28.9 -0.3**
comp=Z,6µm,11.9s
NEY Neytrino 17.25 53 *d e*P **Pn 16 23 30.2 +1.0**
NEY Neytrino 17.25 53 *e*P **Pn 16 23 30.2 +1.0**
ORIF Oris-en-Rattie 17.31 313 *e*P **P 16 23 32.8 +1.7**
SENIN Lac Senin/Sane 17.32 319 *e*Pn **Pn 16 23 28.5 -1.5**
comp=Z,24nm,0.7s
SENIN Lac Senin/Sane 17.32 319 *e*Pn **Pn 16 23 28.5 -1.5**
comp=Z,24nm,0.7s
KSP Ksiaz 17.37 344 *e*P **Pn 16 23 31.2 +0.8**
KSP *e*S **S 16 26 54.3 +3.1**
KSP Ksiaz 17.37 344 *e*P **Pn 16 23 31.2 +0.8**
KSP Ksiaz 17.37 344 *e*P **Pn 16 23 31.2 +0.8**
KSP *e*S **S 16 26 54.3 +3.1**
ONI Oni 17.49 56 P **Pn 16 23 32.1 +0.1**
ONI Oni 17.49 56 P **Pn 16 23 32.1 +0.1**
ONI Oni 17.49 56 P **Pn 16 23 32.1 +0.1**
PVCC Panska Ves 17.52 340 *e*P **Pn 16 23 33.0 +0.7**
PVCC AMS AMS 16 32 00.0
comp=Z,5µm,12.0s
PVCC Panska Ves 17.52 340 *e*P **Pn 16 23 33.0 +0.7**
PVCC MLR MLR
comp=Z,5µm,12.0s
PVCC Panska Ves 17.52 340 *e*P **Pn 16 23 33.0 +0.7**
comp=Z,5µm,12.0s
KIV Kislovodsk 17.54 51 *i* P **Pn 16 23 33.1 +0.5**
SNR=9.6
KIV Kislovodsk 17.54 51 *e*P **Pn 16 23 32.6 -0.1**
KIV *e*S **Sn 16 26 48.1 +0.9**
KIV pmax pmax
comp=Z,37nm,1.1s
KIV MLR MLR
comp=Z,2µm,14.0s
KIV Kislovodsk 17.54 51 *e*Pn **Pn 16 23 32.5 -0.1**
comp=Z,125nm,1.2s
KIV Kislovodsk 17.54 51 P **Pn 16 23 33.1 +0.5**
SNR=9.6
KIV Kislovodsk 17.54 51 *e*Pn **Pn 16 23 32.5 -0.1**
comp=Z,125nm,1.2s
KVAR Kislovodsk Arr 17.54 51 P **P 16 23 33.7 0.0**
baz=239,slow=17,SNR=16
KVAR LR LR 16 32 19.7
comp=Z,3µm,19.0s,baz=232,slow=44
KBZ Khabaz 17.57 52 P **Pn 16 23 33.6 +0.7**
comp=Z,0.5nm,0.3s,baz=242,slow=8.7,SNR=29
KBZ LR LR 16 32 23.0
comp=Z,4µm,18.6s,baz=252,slow=44
BEL Belsk 17.63 354 *e*P **P 16 23 37.4 +3.0**
BEL Belsk 17.63 354 *e*P **P 16 23 37.4 +3.0**
GNI Garni 17.70 65 P **Pn 16 23 34.8 +0.1**
comp=Z,1.1nm,0.3s,baz=259,slow=16,SNR=7.3
GNI LR LR 16 31 57.1
comp=Z,5µm,18.1s,baz=266,slow=42
GNI Garni 17.70 65 P **Pn 16 23 34.6 -0.1**
GNI Garni 17.70 65 Pn **Pn 16 23 35.0 +0.3**
comp=Z,341nm,1.2s
GNI Garni 17.70 65 Pn **Pn 16 23 35.0 +0.3**
comp=Z,341nm,1.2s
SPAK Spaichingen-Ko 17.73 325 *e*P **Pn 16 23 35.2 +0.3**
ZEI Tsey 17.87 56 *e*P **Pn 16 23 33.8 -3.0**
ZEI pmax pmax
comp=Z,49nm,0.6s
GRF Grafenberg Arr 17.91 333 P **P 16 23 41.1 +3.5**
GRF pmax pmax
comp=Z,204nm,1.2s
GRFO Grafenberg 17.91 333 *e*P **Pn 16 23 37.5 +0.4**
GRFO pmax pmax
comp=Z,189nm,1.1s
GRFO Grafenberg 17.91 333 *e*P **Pn 16 23 37.5 +0.4**
comp=Z,189nm,1.1s
GRFO Grafenberg 17.91 333 *e*Pn **Pn 16 23 37.5 +0.4**
comp=Z,189nm,1.1s
NKC Novy Kostel 17.92 336 *e*P **Pn 16 23 37.1 -0.1**
NKC AMS AMS 16 32 00.0
comp=Z,7µm,13.2s
NKC Novy Kostel 17.92 336 *e*P **Pn 16 23 37.1 -0.1**
NKC MLR MLR
comp=Z,7µm,13.2s
NKC Novy Kostel 17.92 336 *e*P **Pn 16 23 37.1 -0.1**
comp=Z,7µm,13.2s
NCK Nalchik 17.93 53⇑ *e*P **P 16 23 40.5 +2.6**
FELD Feldberg im Sc 17.94 324 *e*P **Pn 16 23 37.6 0.0**
BRG Berggiesshubel 18.01 340 *i* P **Pn 16 23 38.4 +0.1**
comp=Z,20nm,0.7s
BRG *i* 16 23 44.6
comp=Z,66nm,1.3s
BRG S **Sn 16 26 51.0 -7.4**
BRG SS **S 16 27 03.0 -1.1**
BRG SCP **ScP 16 31 47.2 +0.9**
comp=Z,7.9nm,1.1s
comp=N,4µm,12.7s
comp=E,7µm,15.6s
comp=Z,6µm,11.6s
BRG Berggiesshubel 18.01 340 *i* P **Pn 16 23 38.4 +0.1**
BRG S **Sn 16 26 51.0 -7.4**
BRG pmax pmax
comp=Z,20nm,0.7s
BRG MLR MLR
comp=N,4µm,12.7s
BRG MLR MLR
comp=E,7µm,15.6s
BRG MLR MLR
comp=Z,6µm,11.6s
BRG Berggiesshubel 18.01 340 *i* P **Pn 16 23 38.4 +0.1**
comp=Z,20nm,0.7s
VIVF Saint-Julien-l 18.02 311 *e*P **Pn 16 23 37.1 -1.4**
VIVF pmax pmax
comp=Z,31nm,1.2s
VIVF Saint-Julien-l 18.02 311 *e*P **Pn 16 23 37.1 -1.4**
comp=Z,31nm,1.2s
STU Stuttgart 18.03 328 *e*P **P 16 23 39.2 +0.4**
STU pmax pmax
comp=Z,49nm,1.0s
STU Stuttgart 18.03 328 *e*P **P 16 23 39.2 +0.4**
comp=Z,49nm,1.0s
STU Stuttgart 18.03 328 *e*Pn **P 16 23 39.2 +0.4**
comp=Z,49nm,1.0s
NAX Nakhchivan 18.09 68 P **Pn 16 23 38.0 -1.5**
NAX Nakhchivan 18.09 68 P **Pn 16 23 38.0 -1.5**
BFO Black Forest 18.10 325 *e*P **Pn 16 23 38.7 -0.8**
BFO Black Forest 18.10 325 *e*P **Pn 16 23 38.7 -0.8**
BFO Black Forest 18.10 325 *e*Pn **Pn 16 23 38.7 -0.8**
TBLG Delisi 18.10 60 P **Pn 16 23 38.7 -0.9**
TBLG Delisi 18.10 60 P **Pn 16 23 38.6 -0.9**
TBLG Delisi 18.10 60 P **Pn 16 23 38.6 -0.9**
CABF La Chapelle 18.14 318 *e*P **Pn 16 23 38.2 -1.8**
CABF pmax pmax
comp=Z,18nm,0.8s
CABF La Chapelle 18.14 318 *e*P **Pn 16 23 38.2 -1.8**
comp=Z,18nm,0.8s
LOMF Lomont 18.19 321 *e*P **Pn 16 23 39.7 -0.9**
LOMF Lomont 18.19 321 *e*P **Pn 16 23 39.7 -0.9**
EBNR Beni Rached 18.22 283 P P 16 23 48.5 +7.4
GOF Gofitskoye 18.28 48⇑ *e*P **Pn 16 23 41.6 0.0**
GOF pmax pmax
comp=Z,107nm,0.9s
SSB Saint Sauveur 18.31 312 *e*P **Pn 16 23 40.1 -2.0**
SSB pmax pmax
comp=Z,17nm,0.9s
SSB Saint Sauveur 18.31 312 *e*P **Pn 16 23 40.1 -2.0**
comp=Z,17nm,0.9s
SSB Saint Sauveur 18.31 312 *e*Pn **Pn 16 23 40.1 -2.0**
comp=Z,17nm,0.9s
MOF Molkenrain 18.36 322 *e*P **P 16 23 42.5 -0.1**
MOF Molkenrain 18.36 322 *e*P **P 16 23 42.5 -0.1**
ETRT Tiaret 18.44 280 P **Pn 16 23 44.0 +0.2**
ETRT Tiaret 18.44 280 P **Pn 16 23 44.0 +0.2**
HINF Hinteralfeld 18.48 322 *e*P **P 16 23 43.0 -0.9**
HINF pmax pmax
comp=Z,74nm,1.3s
HINF Hinteralfeld 18.48 322 *e*P **P 16 23 43.0 -0.9**
comp=Z,74nm,1.3s
MOX Moxa 18.55 335 P **Pn 16 23 47.0 +2.1**
MOX pmax pmax
comp=Z,45nm,0.8s
EANR 'Ain N'Sour 18.57 281 P **Pn 16 23 46.5 +1.1**
ECH Echery 18.59 323 *e*P **Pn 16 23 46.2 +0.8**
ECH Echery 18.59 323 *e*P **Pn 16 23 46.2 +0.8**
CLL Collm 18.67 339 *e*P **P 16 23 46.0 +0.1**
CLL pmax pmax
comp=Z,79nm,0.9s
CLL Collm 18.67 339 *e*P **P 16 23 46.0 +0.1**
comp=Z,79nm,0.9s
CLL Collm 18.67 339 *e*P **P 16 23 46.0 +0.1**
CLL *i* Pmax 16 23 49.0
comp=Z,79nm,0.9s
CLL *i* 16 23 51.6
CLL *e*(PP) 16 24 02.0
CLL *e*S **Sn 16 27 12.0 -2.4**
CLL LmH 16 31 00.0
comp=N,4µm,21.2s
CLL LmH 16 31 00.0
comp=E,7µm,18.0s
CLL *e*PcS **PcS 16 31 49.0 -1.1**
CLL Lmax 16 32 00.0
CLL LmV 16 33 00.0
comp=Z,4µm,19.9s
CLL Collm 18.67 339 *e*P **P 16 23 42.3 -3.6**
comp=Z,78nm,1.0s
LBL Lubilhac 19.09 311 *e*P **Pn 16 23 53.8 +2.3**
THEF They Montfort 19.19 322 *e*P **Pn 16 23 52.9 +0.3**
THEF They Montfort 19.19 322 *e*P **Pn 16 23 52.9 +0.3**
PLDF La Plantade 19.21 313 *e*P **Pn 16 23 54.5 +1.4**
GKP Gorka Klasztor 19.49 348 *e*P **Pn 16 23 57.0 +0.8**
GKP Gorka Klasztor 19.49 348 *e*P **Pn 16 23 57.0 +0.8**
GKP Gorka Klasztor 19.49 348 *e*P **Pn 16 23 57.0 +0.8**
MNGR Mingechevir, A 19.58 64 P **P 16 23 54.5 -1.4**
MNGR Mingechevir, A 19.58 64 P **P 16 23 54.5 -1.4**
TAM Tamanrasset 19.66 239 *e*P **P 16 23 57.5 +0.4**
TAM pmax pmax
comp=Z,58nm,1.1s
TAM Tamanrasset 19.66 239 *e*P **P 16 23 57.5 +0.4**
comp=Z,58nm,1.1s
TAM Tamanrasset 19.66 239 *e*P **P 16 23 57.5 +0.4**
comp=Z,58nm,1.1s
SUW Suwalki 19.69 359 *e*P **P 16 23 54.3 -2.7**
SUW *e*S **Sn 16 27 45.0 +6.3**
SUW Suwalki 19.69 359 P **P 16 23 57.2 +0.2**
SUW Suwalki 19.69 359 P **P 16 23 57.2 +0.2**
CAF Calviac 19.70 309 *e*P **Pn 16 24 00.1 +1.2**
CAF pmax pmax
comp=Z,15nm,0.8s
SEKA Sheki 19.75 63 P **P 16 23 56.4 -1.5**
SEKA Sheki 19.75 63 P **P 16 23 56.4 -1.5**
AVF Avril sur Loir 19.80 315 *e*P **Pn 16 24 00.2 +0.3**
AVF pmax pmax
comp=Z,15nm,0.9s
WLF Walferdange 20.06 325 P Pn 16 24 03.3 +0.3
comp=Z,110nm,1.6s
WLF Walferdange 20.06 325 *e*P **P 16 24 01.9 +0.8**
WLF pmax pmax
comp=Z,163nm,1.2s
WLF Walferdange 20.06 325 *e*P **P 16 24 01.9 +0.8**
comp=Z,163nm,1.2s
WLF Walferdange 20.06 325 *e*P **P 16 24 01.9 +0.8**
comp=Z,163nm,1.2s
VSR Storozhevoye 20.26 29 *e*P **P 16 24 02.0 -1.3**
VSR *e* 16 24 17.9
VSR *e*S **S 16 27 44.3 -5.1**
VSR pmax pmax
comp=Z,30nm,1.1s
VSR smax smax
comp=N,680nm,3.9s
VSR MLR MLR
comp=Z,3µm,15.0s
VSR Storozhevoye 20.26 29 *e*P **P 16 24 02.0 -1.3**
comp=Z,30nm,1.1s
MICGM Minsk 20.38 7 *e*P **P 16 24 01.0 -3.6**
MICGM *e*PP **PnPn 16 24 32.0 +10**
MICGM *e*PPP PPP 16 24 49.0
MICGM *e*S S 16 27 40.0 -12
MICGM *e*LR LR 16 31 34.0
MICGM LRM MLR 16 33 15.0
comp=Z,3.3nm,12.0s
MNK Minsk 20.38 7 *e*P **P 16 24 01.0 -3.6**
MNK *e* 16 24 32.0
MNK *e*S S 16 27 40.0 -12
MNK MLR MLR
comp=Z,3µm,12.0s
MAK Makhachkala 20.42 58 *e*P **P 16 24 05.3 +0.2**
MAK *e* 16 24 23.7
MAK *e*PPP PPP 16 24 30.4
MAK *e*S Sn 16 27 55.5 -1.3
MAK *e*SS **SnSn 16 28 16.2 +4.8**
MAK MLR MLR
comp=Z,12µm,18.0s
MAK Makhachkala 20.42 58 *e*P **P 16 24 05.3 +0.2**
MAK *e*S Sn 16 27 55.5 -1.3
comp=Z,12µm,18.0s
KLNR Kaliningrad 20.43 354⇑ *e*P **P 16 24 03.9 -1.1**
KLNR Kaliningrad 20.43 354 *e*P **P 16 24 03.9 -1.1**
LKRN Lenkeran, Azer 20.58 70 P **P 16 24 05.5 -1.3**
LKRN Lenkeran, Azer 20.58 70 P **P 16 24 05.5 -1.3**
NACGM Naroch 20.68 5 *e*P **P 16 24 06.0 -1.8**
NACGM PM 16 24 11.0
comp=Z,0.7nm,0.8s
NACGM *e*PPP PPP 16 24 38.0
NACGM *e*S S 16 27 41.0 -17
NACGM *e*SS **SnSn 16 28 16.0 -1.7**
NACGM *e*LQ LQ 16 30 14.0
NACGM *e*LR LR 16 32 18.0
NACGM LRM MLR 16 33 32.0
comp=N,4.1nm,14.0s
NACGM LRM MLR 16 33 35.0
comp=Z,8.9nm,14.0s
MEM Membach 20.79 327 P **P 16 24 09.8 +0.8**
comp=Z,31nm,0.9s
HGN Heimansgroeve 20.93 327 *e*P Pn 16 24 14.5 +1.4
comp=Z,70nm,0.8s
HGN *e*S Sn 16 28 11.7 +2.9
HGN *e*L L 16 35 33.9
comp=Z,2µm,18.9s
BCLA Clavier 20.98 326 P Pn 16 24 13.8 +0.1
comp=Z,37nm,1.7s
GIVF Givet 20.99 324 *e*P **P 16 24 10.5 -0.7**
GIVF pmax pmax
comp=Z,58nm,0.8s
GIVF Givet 20.99 324 *e*P **P 16 24 10.5 -0.7**
comp=Z,58nm,0.8s
BEBN Eben Emael 21.07 327 P **P 16 24 15.4 +3.4**
comp=Z,30nm,1.6s
IDID Didziasalis 21.09 5 *e*P **P 16 24 10.0 -2.2**
IDID IAmb IAmb 16 24 14.8
comp=Z,26nm,0.7s
IDID Didziasalis 21.09 5 *e*P **P 16 24 10.0 -2.2**
SNR=34
IIGN Ignalina 21.09 4 *e*P **P 16 24 10.0 -2.3**
IIGN IAmb IAmb 16 24 13.4
comp=Z,37nm,0.8s
IIGN Ignalina 21.09 4 *e*P **P 16 24 10.0 -2.3**
SNR=34
DOU Dourbes 21.10 324 P **P 16 24 12.1 -0.2**
comp=Z,48nm,0.8s
LPSR Galich'ya Gora 21.26 26 *e*P **P 16 24 13.8 -0.2**
LPSR *e*S **S 16 28 04.3 -4.8**
LPSR pmax pmax
comp=Z,20nm,0.6s
LPSR smax smax
comp=E,130nm,1.5s
LPSR Galich'ya Gora 21.26 26 *e*P **P 16 24 13.8 -0.2**
comp=E,20nm,0.6s
BAIF Baives 21.26 324 *e*P **P 16 24 14.1 0.0**
BAIF pmax pmax
comp=Z,27nm,0.6s
BAIF Baives 21.26 324 *e*P **P 16 24 14.1 0.0**
comp=Z,27nm,0.6s
ISAL Salakas 21.31 4 *e*P **P 16 24 12.0 -2.6**
ISAL IAmb IAmb 16 24 16.1
comp=Z,22nm,0.8s
ISAL Salakas 21.31 4 *e*P **P 16 24 12.0 -2.6**
SNR=34
WTSB Winterswijk 21.43 330 *e*P **P 16 24 18.7 +2.8**
comp=Z,46nm,0.6s
IZAR Zarasai 21.49 4 *e*P **P 16 24 14.2 -2.3**
IZAR IAmb IAmb 16 24 16.8
comp=Z,11nm,0.8s
IZAR Zarasai 21.49 4 *e*P **P 16 24 14.2 -2.3**
SNR=34
SNF Seneffe 21.52 325 P **P 16 24 18.2 +1.3**
BSD Bornholm Skovb 21.67 346 *i* P **P 16 24 19.0 +0.6**
comp=Z,101nm,1.1s
BSD Bornholm Skovb 21.67 346 *e*P **P 16 24 19.0 +0.6**
BSD pmax pmax
comp=Z,100nm,1.1s
BSD Bornholm Skovb 21.67 346 *e*P **P 16 24 19.0 +0.6**
comp=Z,100nm,1.1s
OBN Obninsk 22.63 19 P **P 16 24 28.0 -0.6**
comp=Z,26nm,0.4s,baz=119,slow=5.6,SNR=13
OBN LR LR 16 33 54.8
comp=Z,3µm,19.9s,baz=214,slow=38
OBN Obninsk 22.63 19⇑ *e*P **P 16 24 29.5 +0.8**
OBN *e* 16 24 57.1
OBN *e*S **S 16 28 34.3 -0.8**
OBN *e*SS **SnSn 16 29 11.9 +6.7**
OBN pmax pmax
comp=Z,99nm,1.2s
OBN MLR MLR
comp=Z,3µm,15.0s
OBN Obninsk 22.63 19 *e*P **P 16 24 25.3 -3.4**
OBN Obninsk 22.63 19 *e*P **P 16 24 25.3 -3.4**
ES19 SONSECA Array 22.66 292 *e*P **P 16 24 26.5 -2.8**
ES19 SONSECA Array 22.66 292 *e*P **P 16 24 26.5 -2.8**
ESDC Sonseca Array 22.70 292 P **P 16 24 29.1 -0.7**
comp=Z,8.5nm,0.8s,baz=96,slow=10,SNR=17
ESDC ScP **ScP 16 31 58.5 +0.7**
comp=Z,0.2nm,0.3s,baz=76,slow=2.4,SNR=5.4
ESDC LR LR 16 35 18.8
comp=Z,757nm,19.1s,baz=95,slow=42
ESLA Sonseca Array 22.70 292 *e*P **P 16 24 28.4 -1.4**
comp=Z,26nm,1.0s
ESLA Sonseca Array 22.70 292 *e*P **P 16 24 28.4 -1.4**
comp=Z,26nm,1.0s
PAB San Pablo 22.99 291 *e*P **P 16 24 31.2 -1.6**
PAB pmax pmax
comp=Z,63nm,1.4s
PAB San Pablo 22.99 291 *e*P **P 16 24 31.2 -1.6**
comp=Z,63nm,1.4s
PAB San Pablo 22.99 291 *e*P **P 16 24 31.2 -1.6**
comp=Z,63nm,1.4s
FLN La Foliniere 23.03 316 *e*P **P 16 24 32.3 -0.6**
FLN pmax pmax
comp=Z,38nm,0.7s
MOS Moscow 23.47 20 *e*P **P 16 24 33.7 -3.6**
MOS *e* 16 25 01.9
MOS *i* S **S 16 28 44.6 -4.7**
MOS *e* 16 35 44.0
MOS pmax pmax
comp=Z,154nm,0.9s
MOS pmax pmax
comp=Z,200nm,1.1s
MOS MLR MLR
comp=E,2µm,16.0s
MOS MLR MLR
comp=Z,3µm,16.0s
MOS MLR MLR
comp=N,3µm,15.0s
MDT Midelt 23.64 274 P **P 16 24 39.5 +0.2**
comp=N,14nm,1.1s,baz=84,slow=10,SNR=15
MDT LR LR 16 36 35.2
comp=N,2µm,18.1s,baz=76,slow=44
VSU Vasula 24.23 4⇑ *i* P **P 16 24 44.4 0.0**
VSU pmax pmax
comp=Z,145nm,1.2s
VSU MLR MLR
comp=Z,6µm,16.0s
QUIF Quistinic 24.24 312 *e*P **P 16 24 44.2 -0.5**
QUIF pmax pmax
comp=Z,47nm,0.7s
PBRG Braganca 25.03 296 *e*P **P 16 24 52.5 +0.5**
comp=Z,79nm,1.6s
PBAR Barrancos 25.05 288 *e*P **P 16 24 55.2 +3.1**
comp=Z,121nm,1.7s
PBAR *e*S S 16 29 29.5 +14
MVO Moncorvo 25.17 295 *e*P **P 16 24 53.3 0.0**
comp=Z,104nm,1.3s
MVO *e*S S 16 29 28.3 +11
PMRV Marv??o 25.34 291 *e*P **P 16 24 57.4 +2.7**
comp=Z,56nm,1.5s
PMRV *e*S S 16 29 32.3 +13
PCBR Castelo Branco 25.42 292 *e*P **P 16 24 57.9 +2.5**
comp=Z,38nm,1.2s
PESTR Estremoz 25.48 289 *e*P **P 16 24 58.3 +2.3**
comp=Z,48nm,1.1s
PVAQ Vaqueiros 25.61 286 *e*P **P 16 24 59.1 +1.9**
comp=Z,82nm,1.8s
PVRL Vila Real 25.70 295 *e*P **P 16 25 01.1 +3.0**
comp=Z,48nm,1.5s
PBEJ Beja 25.70 287 *e*P **P 16 24 59.2 +1.1**
comp=Z,48nm,1.7s
PVIS Viseu 25.79 294 *e*P **P 16 25 00.3 +1.4**
comp=Z,57nm,2.0s
EVO Evora 25.81 289 *e*P **P 16 25 01.7 +2.7**
comp=Z,59nm,1.7s
PUL Pulkovo 25.82 8⇑ *e*P **P 16 25 01.0 +2.2**
PUL pmax pmax
comp=Z,575nm,1.2s
PUL MLR MLR
comp=Z,1µm,16.0s
PCVE Castro Verde 25.85 287 *e*P **P 16 25 01.5 +2.1**
comp=Z,67nm,1.3s
PCAB Cabril 25.98 296 *e*P **P 16 25 04.1 +3.5**
comp=Z,82nm,1.8s
MESJ Messejana 25.99 287 *e*P **P 16 25 00.4 -0.2**
MESJ AMS AMS 16 38 54.4
comp=N,902nm,18.5s
MESJ Messejana 25.99 287 *e*P **P 16 25 04.4 +3.8**
comp=N,46nm,1.7s
PGAV Gavieira, Arco 26.18 296 *e*P **P 16 25 07.5 +5.0**
PNCL Nicolau / Gran 26.22 288 *e*P **P 16 25 05.7 +2.9**
FINES FINESS Array B 27.18 2 P **P 16 25 09.9 -1.2**
comp=N,5.9nm,0.5s,baz=163,slow=10,SNR=29
FINES LR LR 16 37 01.0
comp=N,4µm,21.3s,baz=186,slow=39
FINES FINESS Array B 27.18 2 *i* P **P 16 25 10.1 -1.0**
FINES pmax pmax
comp=Z,6.0nm,0.5s
FIA1 FINESS Array S 27.18 2 *e*P **P 16 25 09.7 -1.4**
FIA1 FINESS Array S 27.18 2 *e*P **P 16 25 09.7 -1.4**
NC602 NORSAR Array S 27.58 347 *e*P **P 16 25 12.5 -2.2**
NC602 NORSAR Array S 27.58 347 *e*P **P 16 25 12.5 -2.2**
NAO01 NORSAR Array S 27.80 347 *e*P **P 16 25 14.6 -2.1**
NAO01 NORSAR Array S 27.80 347 *e*P **P 16 25 14.6 -2.1**
NC405 NORSAR Array S 27.90 348 *e*P **P 16 25 15.7 -1.9**
NC405 NORSAR Array S 27.90 348 *e*P **P 16 25 15.7 -1.9**
GEYT Alibeck 27.91 73 P **P 16 25 17.6 -0.5**
comp=Z,6.8nm,0.6s,baz=282,slow=7.8,SNR=13
NB201 NORSAR Array S 27.92 347 *e*P **P 16 25 15.6 -2.2**
NB201 NORSAR Array S 27.92 347 *e*P **P 16 25 15.6 -2.2**
NB2 NORSAR Subarra 27.92 347 P **P 16 25 16.3 -1.6**
comp=Z,8.4nm,0.8s,SNR=1.3
NB2 NORSAR Subarra 27.92 347 P **P 16 25 16.3 -1.6**
comp=Z,8.4nm,0.8s,baz=156,slow=9.3
NOA NORSAR Array B 27.92 347 P **P 16 25 16.2 -1.6**
comp=Z,9.8nm,0.6s,baz=156,slow=8.8,SNR=24
NOA LR LR 16 37 40.7
comp=Z,2µm,21.0s,baz=175,slow=39
NBO00 NORSAR Array S 28.00 347 *e*P **P 16 25 16.5 -2.0**
NBO00 NORSAR Array S 28.00 347 *e*P **P 16 25 16.4 -2.0**
NBO02 NORSAR Array S 28.00 347 *e*P **P 16 25 16.8 -1.7**
NBO02 NORSAR Array S 28.00 347 *e*P **P 16 25 16.8 -1.7**
EKA Eskdalemuir Ar 28.06 327 P **P 16 25 19.2 +0.1**
comp=Z,36nm,0.7s,baz=125,slow=8.0,SNR=36
NC303 NORSAR Array S 28.07 347 *e*P **P 16 25 16.9 -2.2**
NC303 NORSAR Array S 28.07 347 *e*P **P 16 25 16.9 -2.2**
ESK Eskdalemuir 28.07 327 *e*P **P 16 25 20.8 +1.6**
ESK pmax pmax
comp=Z,61nm,0.9s
ESK Eskdalemuir 28.07 327 *e*P **P 16 25 20.8 +1.6**
comp=Z,61nm,0.9s
ESK Eskdalemuir 28.07 327 *e*P **P 16 25 20.8 +1.6**
comp=Z,61nm,0.9s

NC204	NORSAR Array S	28.23	347	*e*P		P		16 25 19.0	-1.6
NC204	NORSAR Array S	28.23	347	*e*P		P		16 25 19.0	-1.6
KLMR	Klimovskoe	28.44	16	*e*P		P		16 25 19.8	-2.6
KLMR				*e*S		S		16 30 07.2	-0.9
KLMR					pmax	pmax			
	comp=Z,21nm,0.8s								
KLMR					MLR	MLR			
	comp=Z,875nm,11.0s								
ATD	Arta Tunnel	28.62	138		LR	LR		16 37 02.0	
	comp=Z,1μm,20.6s,baz=336,slow=37								
TOA0	Torodi Ar. Sit	29.05	229	*e*P		P		16 25 28.2	-0.1
	comp=Z,68nm,1.4s								
TOA0	Torodi Ar. Sit	29.05	229	*e*P		P		16 25 28.2	-0.1
	comp=Z,68nm,1.4s								
TOA0				*e*PcP		PcP		16 28 37.3	+1.0
TORD	Torodi Ar. Bea	29.05	229	P		P		16 25 28.2	-0.1
	comp=Z,18nm,0.7s,baz=36,slow=8.6,SNR=80								
TORD				PcP		PcP		16 28 37.2	+0.9
	comp=Z,3.1nm,1.0s,baz=74,slow=2.8,SNR=4.9								
TORD				LR		LR		16 39 29.9	
	comp=Z,2μm,18.3s,baz=25,slow=41								
NAZ	Nazwa, Dubai	29.17	100	*i* P		P		16 25 30.7	+1.4
	SNR=6.5								
FAQ	Al Faqa, Dubai	29.22	100	P		P		16 25 29.8	+0.1
BANOM	Banah	29.29	98	P		P		16 25 30.4	0.0
HATD	Hatta, Dubai	29.62	100	*i* P		P		16 25 34.3	+1.0
	SNR=8.7								
ASHO	Ashiyiah	29.63	100	*i* P		P		16 25 33.9	+0.5
	SNR=7.8								
UOSS	Minazif	29.63	100	*e*P		P		16 25 33.4	0.0
	comp=Z,32nm,1.1s								
UOSS	Minazif	29.63	100	*e*P		P		16 25 33.4	0.0
	comp=Z,32nm,1.1s								
AKTO	Aktyubinsk	29.68	47	P		P		16 25 32.8	-0.7
	comp=Z,17nm,0.6s,baz=254,slow=9.0,SNR=50								
AKTO	Aktyubinsk	29.68	47	P		P		16 25 32.7	-0.8
AKTO					pmax	pmax			
	comp=Z,17nm,0.6s								
AB31	Akbulak array	30.51	50	*e*P		P		16 25 40.2	-0.7
AB31					pmax	pmax			
	comp=Z,10.0nm,0.8s								
AB31	Akbulak array	30.51	50	*e*P		P		16 25 40.2	-0.7
	comp=Z,10.0nm,0.8s								
ABKAR	Akbulak array	30.51	50	*e*P		P		16 25 40.1	-0.8
	comp=Z,87nm,0.8s								
ABKAR	Akbulak array	30.51	50	*e*P		P		16 25 40.1	-0.8
	comp=Z,87nm,0.8s								
TMCR	Tamitsa	31.14	12	*e*P		P		16 25 51.7	+5.5
ARU	Arti	32.42	36	*d* iP		P		16 25 57.3	-0.3
ARU								16 27 03.9	
ARU					PPP	PPP		16 27 14.2	
ARU								16 28 43.2	
ARU					S	S		16 31 12.5	+1.9
ARU					SS	SnSn		16 32 59.6	-4.4
ARU					pmax	pmax			
	comp=Z,64nm,1.7s								
ARU					MLR	MLR			
	comp=Z,1μm,16.0s								
ARU	Arti	32.42	36	*i* P		P		16 25 57.3	-0.3
	comp=Z,64nm,1.7s								
SOKR	Solikamsk	33.27	30	*c* iP		P		16 26 04.2	-0.7
SOKR				S		S		16 31 26.2	+2.5
SOKR				SS		SnSn		16 33 27.1	+2.6
SOKR					pmax	pmax			
	comp=Z,36nm,0.9s								
SOKR					MLR	MLR			
	comp=Z,2μm,19.0s								
SVE	Sverdlovsk	33.62	37	⇓*e*P		P		16 26 07.0	-1.1
SVE				*e*S		S		16 31 31.2	+1.9
SVE					pmax	pmax			
	comp=Z,58nm,0.8s								
SVE					MLR	MLR			
	comp=Z,1μm,14.0s								
SVE	Sverdlovsk	33.62	37	*e*P		P		16 26 07.0	-1.1
	comp=Z,58nm,0.8s								
APA	Apatity	33.75	7	⇑*i*P		P		16 26 08.3	-0.8
APA				*i* S		S		16 31 26.0	-5.1
APA					pmax	pmax			
	comp=Z,14nm,0.7s								
APA					MLR	MLR			
	comp=Z,2μm,13.0s								
APA	Apatity	33.75	7	*i* P		P		16 26 08.3	-0.8
	comp=Z,14nm,0.7s								
LVZ	Lovozero	34.20	7	⇓*e*P		P		16 26 12.3	-0.7
LVZ					pmax	pmax			
	comp=Z,13nm,0.7s								
LVZ					MLR	MLR			
	comp=Z,1μm,13.0s								
LVZ	Lovozero	34.20	7	*e*P		P		16 26 12.3	-0.7
	comp=Z,1μm,13.0s								
ARA0	ARCESS Array S	35.27	1	*e*P		P		16 26 19.5	-2.8
ARCES	ARCESS Array B	35.27	1	P		P		16 26 19.8	-2.5
	comp=Z,11nm,0.7s,baz=180,slow=7.9,SNR=24								
ARCES				PcP		PcP		16 28 52.6	+0.3
	comp=Z,1.7nm,0.5s,baz=160,slow=2.9,SNR=4.1								
ARCES				LR		LR		16 42 02.8	
	comp=Z,4μm,20.2s,baz=187,slow=38								
KK31	Karatay Array	37.13	62	*i* P		P		16 26 39.0	+0.5
KK31					pmax	pmax			
	comp=Z,19nm,0.6s								
KK31	Karatay Array	37.13	62	*i* P		P		16 26 39.0	+0.5
	comp=Z,19nm,0.6s								
KKAR	Karatay Array	37.13	62	*e*P		P		16 26 38.8	+0.3
KKAR					pmax	pmax			
	comp=Z,321nm,0.6s								
KKAR	Karatay Array	37.13	62	*e*P		P		16 26 38.8	+0.3
	comp=Z,321nm,0.6s								
KKAR	Karatay Array	37.13	62	*e*P		P		16 26 38.8	+0.3
	comp=Z,321nm,0.6s								
KBL	Kabul	37.13	76	*e*P		P		16 26 38.0	-0.8
KBL					pmax	pmax			
	comp=Z,10.0nm,1.1s								
KBL	Kabul	37.13	76	*e*P		P		16 26 38.0	-0.8
	comp=Z,9.8nm,1.1s								
KBL	Kabul	37.13	76	*e*P		P		16 26 38.0	-0.8
	comp=Z,9.8nm,1.1s								
KMBO	Kilima Mbogo	37.48	157	P		P		16 26 43.7	+1.8
	comp=Z,2.8nm,0.7s,baz=340,slow=8.2,SNR=6.7								
KMBO				PcP		PcP		16 29 02.3	+2.1
	comp=Z,3.2nm,0.8s,baz=254,slow=5.2,SNR=5.4								
KMBO	Kilima Mbogo	37.48	157	*i* P		P		16 26 46.5	+4.6
KMBO					pmax	pmax			
	comp=Z,3.0nm,0.7s								
KMBO	Kilima Mbogo	37.48	157	*e*P		P		16 26 42.9	+1.0
	comp=Z,8.5nm,1.3s								
KMBO	Kilima Mbogo	37.48	157	*e*P		P		16 26 42.9	+1.0
	comp=Z,8.5nm,1.3s								
KMBO				PcP		PcP		16 29 02.3	+2.1
BRVK	Borovoye	37.72	46	*e*P		P		16 26 42.6	-0.7
BRVK					pmax	pmax			
	comp=Z,16nm,0.9s								
BRVK	Borovoye	37.72	46	*e*P		P		16 26 42.6	-0.7
	comp=Z,16nm,0.9s								
BRVK	Borovoye	37.72	46	*e*P		P		16 26 42.6	-0.7
	comp=Z,16nm,0.9s								
DBIC	Dimbokro	38.13	230	P		P		16 26 46.5	-0.6
	comp=Z,70nm,1.1s,baz=21,slow=10.0,SNR=26								
DBIC				PcP		PcP		16 29 02.5	+0.7
	comp=Z,6.2nm,0.6s,baz=24,slow=4.1,SNR=3.6								
DBIC				LR		LR		16 43 49.1	
	comp=Z,1μm,20.7s,baz=12,slow=38								
DBIC	Dimbokro	38.13	230	*e*P		P		16 26 46.1	-1.0
	comp=Z,83nm,1.1s								
DBIC	Dimbokro	38.13	230	*e*P		P		16 26 46.1	-1.0
	comp=Z,83nm,1.1s								
DBIC				PcP		PcP		16 29 02.5	+0.7
TIC	Toumodi	38.25	231	*e*P		P		16 26 48.2	0.0
KIC	Kosan Boka	38.29	230	*e*P		P		16 26 48.7	+0.2
	comp=Z,157nm,1.0s								
LIC	Lamto	38.58	230	*e*P		P		16 26 51.1	+0.2
	comp=Z,221nm,1.0s								
AAK	Ala-Archa	40.09	63	P		P		16 27 04.4	+0.9
	comp=Z,14nm,0.6s,baz=241,slow=8.9,SNR=28								
AAK	Ala-Archa	40.09	63	*c* iP		P		16 27 04.8	+1.3
AAK					pmax	pmax			
	comp=Z,92nm,1.6s								
AAK	Ala-Archa	40.09	63	*e*P		P		16 27 04.7	+1.3
	comp=Z,18nm,0.8s								
AAK	Ala-Archa	40.09	63	*e*P		P		16 27 04.7	+1.3
	comp=Z,18nm,0.8s								
FRU	Bishkek	40.16	62	⇑*e*P		P		16 27 04.0	+0.1
FRU				*e*				16 28 34.0	
FRU				*e*S		S		16 33 12.0	+2.8
FRU					pmax	pmax			
	comp=Z,170nm,2.0s								
FRU					smax	smax			
	comp=E,120nm,2.8s								
FRU					MLR	MLR			
	comp=E,1μm,16.0s								
FRU	Bishkek	40.16	62	*e*P		P		16 27 04.0	+0.1
	comp=E,170nm,2.0s								
BORG	Borgarnes	40.73	332	P		P		16 27 09.7	+1.5
	comp=E,13nm,0.7s,baz=89,slow=8.6,SNR=3.7								
BORG	Borgarnes	40.73	332	P		P		16 27 09.7	+1.5
BORG					pmax	pmax			
	comp=Z,19nm,0.9s								
BORG	Borgarnes	40.73	332	P		P		16 27 09.7	+1.5
	comp=Z,19nm,0.9s								
TKM2	Tokmak 2	40.87	62	P		P		16 27 10.3	+0.3
TKM2					pmax	pmax			
	comp=Z,15nm,0.6s								
TKM2	Tokmak 2	40.87	62	P		P		16 27 10.3	+0.3
	comp=Z,15nm,0.6s								
BBTS	Babate	41.20	252	P		P		16 27 14.3	+1.6
	comp=Z,64nm,0.9s,baz=63,slow=7.3,SNR=10								
KSH	Kashi	41.61	67	P		P		16 27 15.0	-1.0
KSH				pP		pP		16 27 22.8	-0.2
KSH				sP		sP		16 27 26.1	+0.3
KSH				PP		PP		16 28 54.1	+1.9
KSH				S		S		16 33 27.3	-3.8
KSH				sS		pS		16 33 39.3	+0.2
KSH				SS		SS		16 36 26.6	-10
KSH					pmax	pmax			
	comp=Z,13nm,0.8s								
KSH					pmax	pmax			
	comp=Z,58nm,2.7s								
KSH					LR	LR			
	comp=Z,560nm,16.0s								
KSH					LR	LR			
	comp=Z,240nm,8.8s								
KSH					LR	LR			
	comp=Z,640nm,19.5s								
KURBB	Kurchatov Arra	42.56	50	P		P		16 27 22.8	-0.7
	comp=Z,18nm,0.7s,baz=278,slow=8.6,SNR=124								
KURBB				PP		PP		16 28 59.5	-2.6
	comp=Z,2.0nm,0.6s,baz=273,slow=11,SNR=2.4								
KURK	Kurchatov	42.62	50	*c* iP		P		16 27 23.9	0.0
KURK					pmax	pmax			
	comp=Z,39nm,0.7s								
KURK					MLR	MLR			
	comp=Z,4μm,21.0s								
KURK	Kurchatov	42.62	50	*i* P		P		16 27 23.9	0.0
	comp=Z,4μm,21.0s								
KURK	Kurchatov	42.62	50	*e*P		P		16 27 22.9	-1.1
	comp=Z,21nm,0.8s								
KURK				PP		PP		16 28 59.5	-3.2
THN	Thein Dam	43.06	77	*e*P		P		16 27 27.6	-0.2
PDGK	Podgornoye	43.65	61	P		P		16 27 32.8	+0.2
PDGK					pmax	pmax			
	comp=Z,15nm,0.6s								
PDGK	Podgornoye	43.65	61	P		P		16 27 32.8	+0.2
	comp=Z,15nm,0.6s								
SCO	Scoresbysund	43.70	340	*i* P		P		16 27 32.8	+0.4
	comp=Z,28nm,0.9s								
SCO	Scoresbysund	43.70	340	*i* P		P		16 27 32.8	+0.4
SCO					pmax	pmax			
	comp=Z,28nm,0.9s								
SCO	Scoresbysund	43.70	340	*i* P		P		16 27 32.8	+0.4
	comp=Z,28nm,0.9s								
SPITS	Spitsbergen Ar	44.07	358	P		P		16 27 34.7	-0.6
	comp=Z,9.7nm,0.7s,baz=166,slow=7.7,SNR=9.1								
SPITS	Spitsbergen Ar	44.07	358	P		P		16 27 34.7	-0.6
SPITS					pmax	pmax			
	comp=Z,9.0nm,0.6s								
SPITS	Spitsbergen Ar	44.07	358	P		P		16 27 34.7	-0.6
	comp=Z,9.0nm,0.6s								
SDNR	Sundarnagar	44.36	78	*e*P		P		16 27 37.0	-1.3
MAKZ	Makanchi	45.00	56	*e*P		P		16 27 43.2	0.0
MAKZ					pmax	pmax			
	comp=Z,11nm,0.7s								
MAKZ	Makanchi	45.00	56	*e*P		P		16 27 43.2	0.0
	comp=Z,11nm,0.7s								
MAKZ	Makanchi	45.00	56	*e*P		P		16 27 43.2	0.0
	comp=Z,11nm,0.7s								
MK31	Makanchi Array	45.22	56	P		P		16 27 44.8	-0.1
MK31					pmax	pmax			
	comp=Z,13nm,0.5s								
MK31	Makanchi Array	45.22	56	*e*P		P		16 27 44.6	-0.3
MK31	Makanchi Array	45.22	56	*e*P		P		16 27 44.6	-0.3
MKAR	Makanchi Array	45.22	56	*e*P		P		16 27 44.5	-0.4
MKAR					pmax	pmax			
	comp=Z,181nm,0.6s								
MKAR	Makanchi Array	45.22	56	*e*P		P		16 27 44.5	-0.4
	comp=Z,180nm,0.6s								
MKAR	Makanchi Array	45.22	56	*e*P		P		16 27 44.5	-0.4
	comp=Z,180nm,0.6s								
MK01	Makanchi Array	45.23	56	*e*P		P		16 27 44.9	-0.1
MK01				*e*S		S		16 34 24.2	+0.5
MK01	Makanchi Array	45.23	56	*e*P		P		16 27 44.9	-0.1
MK01				*e*S		S		16 34 24.2	+0.5
NVS	Novosibirsk	45.51	44	⇑*i*P		P		16 27 48.1	+1.1
NVS				*e*				16 29 34.6	
NVS				*e*S		S		16 34 27.0	-0.4
NVS				*e*				16 37 45.0	
NVS					pmax	pmax			
	comp=Z,24nm,0.6s								
NVS					pmax	pmax			
	comp=N,6.0nm,0.5s								
NVS					pmax	pmax			
	comp=E,11nm,0.7s								
NVS					smax	smax			
	comp=N,6.0nm,0.7s								
NVS					smax	smax			
	comp=E,4.0nm,0.7s								
NVS	Novosibirsk	45.51	44	*i* P		P		16 27 48.1	+1.1
	comp=E,6.0nm,0.5s								
ZAA0	Zalesovo Array	46.43	46	*e*P		P		16 27 53.4	-0.9
ZAA0	Zalesovo Array	46.43	46	*e*P		P		16 27 53.4	-0.9
ZALV	Zalesovo Beam	46.43	46	P		P		16 27 53.1	-1.2
	comp=E,14nm,0.4s,baz=267,slow=9.0,SNR=31								
ZALV				LR		LR		16 50 34.2	
	comp=E,577nm,19.5s,baz=250,slow=40								
DAG	Danmarks Havn	46.60	348	*i* P		P		16 27 54.7	-0.7
	comp=E,6.4nm,0.7s								
DAG	Danmarks Havn	46.60	348	*i* P		P		16 27 54.7	-0.7
DAG					pmax	pmax			
	comp=Z,4.0nm,0.7s								
NRIK	Noril'sk	49.13	25	P		P		16 28 14.7	-0.4
	comp=Z,6.4nm,0.7s,baz=262,slow=7.2,SNR=11								
SUMG	Summit	49.34	339	*i* P		P		16 28 18.0	+0.9
	comp=Z,18nm,0.8s								
SUMG	Summit	49.34	339	*i* P		P		16 28 18.0	+0.9
SUMG					pmax	pmax			
	comp=Z,18nm,0.8s								
SUMG	Summit	49.34	339	*e*P		P		16 28 16.4	-0.7
	comp=Z,18nm,0.8s								
SUMG	Summit	49.34	339	*e*P		P		16 28 16.4	-0.7
	comp=Z,18nm,0.8s								
WMQ	Urumqi	49.44	59	P		P		16 28 18.8	+0.9
WMQ				pP		pP		16 28 26.1	+1.1
WMQ				S		S		16 35 23.3	-0.5
WMQ				SS		SS		16 38 50.9	-4.6
WMQ					pmax	pmax			
	comp=Z,14nm,0.7s								
WMQ					pmax	pmax			
	comp=Z,100nm,3.7s								
WMQ					LR	LR			
	comp=Z,940nm,26.5s								
WMQ					LR	LR			
	comp=Z,640nm,26.5s								
WMQ					LR	LR			
	comp=Z,810nm,23.7s								
LSZ	Lusaka	49.51	174	P		P		16 28 19.8	+1.2
	comp=Z,4.9nm,0.8s,baz=8.2,slow=7.9,SNR=8.4								
LSZ				PcP		PcP		16 29 42.1	+1.7
	comp=Z,3.4nm,0.7s,baz=21,slow=4.2,SNR=3.4								
LSZ	Lusaka	49.51	174	*e*P		P		16 28 19.3	+0.7
	comp=Z,6.3nm,0.9s								
LSZ	Lusaka	49.51	174	*e*P		P		16 28 19.3	+0.7
	comp=Z,6.3nm,0.9s								
LSZ				PcP		PcP		16 29 42.1	+1.7
PYUN	Piuthan	50.45	80	*e*P		P		16 28 26.0	0.0
	comp=Z,182nm,0.6s								
KOLN	Koldanda	51.08	80	*e*P		P		16 28 30.2	-0.5
	comp=Z,46nm,0.7s								
HYB	Hyderabad	51.52	95	*i* P		P		16 28 34.0	+0.1
GKN	Gorkha	51.83	79	*e*P		P		16 28 35.8	-0.5
	comp=Z,118nm,0.7s								
DMN	Daman	52.37	80	*e*P		P		16 28 40.1	-0.3
	comp=Z,134nm,0.7s								
KKN	Kakani	52.44	79	*e*P		P		16 28 40.4	-0.4
	comp=Z,104nm,0.6s								
PKIN	Phulchoki	52.62	80	*e*P		P		16 28 41.6	-0.6
	comp=Z,71nm,0.7s								
PKI	Pulchoki	52.63	80	*e*P		P		16 28 41.8	-0.6
	comp=Z,98nm,0.7s								
GUN	Gumba	52.88	79	*e*P		P		16 28 43.8	-0.5
	comp=Z,133nm,0.7s								
JIRN	Jiri	53.23	79	*e*P		P		16 28 46.4	-0.5
	comp=Z,127nm,0.7s								
RAMN	Ramite	53.85	80	*e*P		P		16 28 49.9	-1.4
	comp=Z,33nm,0.6s								
ODAN	Odare	54.53	79	*e*P		P		16 28 54.5	-1.7
	comp=Z,24nm,0.7s								
TAPN	Taplejung	54.59	79	*e*P		P		16 28 56.0	-0.7
LSA	Lhasa	56.41	75	P		P		16 29 10.4	+0.4
LSA					pmax	pmax			
	comp=Z,5.0nm,0.6s								
LSA	Lhasa	56.41	75	*e*P		P		16 29 10.5	+0.4
LSA	Lhasa	56.41	75	*e*P		P		16 29 10.5	+0.4
LSA	Lhasa	56.41	75	*e*P		P		16 29 10.5	+0.4
TLY	Talaya	58.03	46	*e*P		P		16 29 28.6	+8.0
TLY				*e*S		S		16 37 28.3	+8.5
TLY					pmax	pmax			
	comp=Z,8.0nm,0.6s								
TLY					MLR	MLR			
	comp=Z,341nm,15.0s								
LBTB	Lobatse	59.04	178	*e*P		P		16 29 29.1	+1.2
LBTB	Lobatse	59.04	178	*e*P		P		16 29 29.1	+1.2
LBTB	Lobatse	59.04	178	*e*P		P		16 29 29.1	+1.2
GTA	Gaotai	59.40	61	*e*P		P		16 29 31.1	+0.7
GTA				pP		pP		16 29 38.3	+0.6
GTA				sP		sP		16 29 41.9	+1.5
GTA				S		S		16 37 35.1	-3.1
GTA				sS		pS		16 37 48.6	+1.7
GTA				SS		SS		16 41 31.3	-1.5
GTA					pmax	pmax			
	comp=Z,11nm,0.8s								
GTA					pmax	pmax			
	comp=Z,69nm,5.7s								
GTA					LR	LR			
	comp=Z,310nm,19.5s								
GTA					LR	LR			
	comp=Z,290nm,20.9s								
GTA					LR	LR			
	comp=Z,490nm,17.1s								
SONM	Songino Array	60.92	50	P		P		16 29 40.4	-0.4
	comp=Z,3.7nm,0.6s,baz=287,slow=8.1,SNR=16								
SONA1	Songino Array	60.92	50	*e*P		P		16 29 40.2	-0.6
SONA1	Songino Array	60.92	50	*e*P		P		16 29 40.2	-0.6
BOD	Bodaibo	61.83	37	*e*P		P		16 29 44.4	-2.1
BOD					pmax	pmax			
	comp=Z,11nm,0.9s								
TIXI	Tiksi	62.36	20	⇓*e*P		P		16 29 52.9	+3.1
TIXI					pmax	pmax			
	comp=Z,8.0nm,0.8s								
TIXI					MLR	MLR			
	comp=Z,2μm,16.0s								
BOSA	Boshof	62.62	178	P		P		16 29 53.1	+0.9
	comp=Z,4.1nm,0.6s,baz=347,slow=6.8,SNR=9.7								
BOSA					LR	LR		16 59 19.1	
	comp=Z,2μm,18.4s,baz=359,slow=38								
SCHQ	Schefferville	63.05	320	P		P		16 29 54.6	-0.2
	comp=Z,14nm,0.7s,baz=68,slow=7.9,SNR=10								
SCHQ					LR	LR		16 56 31.7	
	comp=Z,751nm,21.6s,baz=74,slow=35								
SCHQ	Schefferville	63.05	320	*e*P		P		16 29 53.9	-0.9
	comp=Z,20nm,0.8s								
SCHQ	Schefferville	63.05	320	*e*P		P		16 29 53.9	-0.9
	comp=Z,20nm,0.8s								
LZH	Lanzhou	63.62	63	*e*P		P		16 29 59.6	+0.5
LZH				pP		pP		16 30 05.4	-1.0
LZH				sP		sP		16 30 08.3	-0.8
LZH				PP		PP		16 32 22.6	+3.7
LZH				*e*S		S		16 38 32.1	+0.1
LZH				sS		sS		16 38 46.1	+2.1
LZH				SS		SS		16 42 41.5	+2.3
LZH					pmax	pmax			
	comp=Z,82nm,1.5s								
LZH					pmax	pmax			
	comp=Z,200nm,4.7s								
LZH					LR	LR			
	comp=Z,1μm,14.7s								
LZH					LR	LR			
	comp=Z,1μm,13.4s								
LZH					LR	LR			
	comp=Z,2μm,16.2s								
LMN	Caledonia Moun	65.40	310	*e*P		P		16 30 10.2	-0.1
	comp=Z,13nm,0.9s								
LMN	Caledonia Moun	65.40	310	*e*P		P		16 30 10.2	-0.1
	comp=Z,13nm,0.9s								
CD2	Chengdu	65.79	68	P		P		16 30 13.3	+0.2
CD2				sP		pP		16 30 21.6	+1.1
CD2				S		S		16 38 57.0	-1.6
CD2				SS		SS		16 43 11.8	-1.1
CD2					pmax	pmax			
	comp=Z,50nm,1.0s								
CD2					pmax	pmax			
	comp=Z,90nm,6.6s								
CD2					LR	LR			
	comp=Z,4μm,20.9s								
CD2					LR	LR			
	comp=Z,420nm,25.6s								
HHC	Hu-ho-hao-te	67.08	55	*e*P		P		16 30 22.3	+1.0
HHC				S		S		16 39 13.5	-0.6
HHC				ScS		SKSac		16 40 13.8	-3.6
HHC					pmax	pmax			
	comp=Z,19nm,1.2s								
HHC					pmax	pmax			
	comp=Z,81nm,6.8s								
HHC					LR	LR			
	comp=Z,560nm,16.5s								
HHC					LR	LR			
	comp=Z,410nm,17.3s								
HHC					LR	LR			
	comp=Z,360nm,17.8s								
YAK	Yakutsk	67.18	29	*i* P		P		16 30 23.4	+2.0
YAK					pmax	pmax			
	comp=Z,2.0nm,1.2s								
YAK	Yakutsk	67.18	29	*e*P		P		16 30 20.2	-1.2
	comp=Z,1.6nm,1.0s								
YAK	Yakutsk	67.18	29	*e*P		P		16 30 20.2	-1.2
	comp=Z,1.6nm,1.0s								
KMI	Kunming	67.67	74	P		P		16 30 26.4	+1.0
KMI					pmax	pmax			
	comp=Z,17nm,0.7s								
KMI					pmax	pmax			
	comp=Z,140nm,4.0s								
KMI					LR	LR			
	comp=Z,280nm,16.6s								
KMI					LR	LR			
	comp=Z,280nm,18.4s								
KMI					LR	LR			
	comp=Z,460nm,23.2s								
CHTO	Chiang Mai	67.67	82	*e*P		P	

comp=Z,20nm,0.8s
GYA pmax pmax
comp=Z,120nm,5.2s
GYA LR LR
comp=Z,490nm,19.6s
GYA LR LR
comp=Z,480nm,20.2s
GYA LR LR
comp=Z,450nm,19.8s
SLVN Son La 70.45 77 *e*P **P 16 30 41.0 -1.5**
comp=Z,6.8nm,0.6s
SLVN Son La 70.45 77 *e*P **P 16 30 41.0 -1.5**
comp=Z,6.8nm,0.6s
ENH Enshi 70.46 66 *e*P **P 16 30 42.5 0.0**
ENH Enshi 70.46 66 *e*P **P 16 30 42.5 0.0**
BJI Beijing 70.58 54 P **P 16 30 43.9 +1.0**
BJI S **S 16 39 53.6 -1.6**
BJI SS **SS 16 44 25.3 -0.9**
BJI pmax pmax
comp=Z,15nm,1.0s
BJI pmax pmax
comp=Z,110nm,5.0s
BJI LR LR
comp=Z,840nm,18.7s
BJI LR LR
comp=Z,510nm,19.7s
BJI LR LR
comp=Z,880nm,20.7s
WHN Wuhan 73.97 64 *e*P **P 16 31 07.0 +3.6**
WHN S **S 16 40 42.3 +7.8**
WHN LR LR
comp=Z,840nm,20.9s
BILL Bilibino 74.16 14↓ *e*P **P 16 31 05.6 +1.8**
BILL *e* 16 31 14.4
BILL *e* 16 31 19.6
BILL *e* 16 33 49.9
BILL pmax pmax
comp=Z,26nm,2.0s
BILL MLR MLR
comp=Z,701nm,23.0s
CN2 Changchun 74.61 47 *e*P **P 16 31 03.9 -3.0**
CN2 *es*P pP 16 31 15.1 +0.8
CN2 *e*S **SKiKP 16 40 35.3 +4.1**
CN2 *e*SS **SS 16 45 24.0 -3.6**
CN2 pmax pmax
comp=Z,10.0nm,0.7s
CN2 pmax pmax
comp=Z,200nm,4.0s
CN2 LR LR
comp=Z,300nm,18.0s
CN2 LR LR
comp=Z,500nm,18.0s
CN2 LR LR
comp=Z,500nm,18.0s
SEY Seymchan 74.77 22↓ *i*P **P 16 31 08.5 +1.1**
SADO Sadowa 74.77 314 LR LR 17 05 53.5
comp=Z,378nm,18.1s,baz=74,slow=37
PSI Prapat 76.20 96 LR LR 17 11 48.0
comp=Z,337nm,18.5s,slow=41
PSI Prapat 76.20 96 *e*P **P 16 31 14.9 -1.7**
PSI pmax pmax
comp=Z,13nm,0.8s
PSI Prapat 76.20 96 *e*P **P 16 31 14.9 -1.7**
comp=Z,13nm,0.8s
KULM Kulim 76.24 93 *e*P **P 16 31 16.1 -0.6**
comp=Z,56nm,1.6s
KULM Kulim 76.24 93 *e*P **P 16 31 16.1 -0.6**
comp=Z,56nm,1.6s
INK Inuvik 76.27 351 *e*P **P 16 31 15.2 -0.7**
INK pmax pmax
comp=Z,9.0nm,0.9s
INK Inuvik 76.27 351 *e*P **P 16 31 15.2 -0.7**
comp=Z,9.3nm,0.9s
INK Inuvik 76.27 351 *e*P **P 16 31 15.2 -0.7**
comp=Z,9.3nm,0.9s
QIZ Qiongzhong 76.41 76 P **P 16 31 18.9 +1.3**
QIZ pP **pP 16 31 24.3 -0.7**
QIZ sP **sP 16 31 26.5 -1.3**
QIZ PP **PP 16 34 07.8 -1.4**
QIZ S **S 16 40 59.8 -2.1**
QIZ sS **sS 16 41 15.3 +1.2**
QIZ SS **SS 16 45 56.3 0.0**
QIZ pmax pmax
comp=Z,12nm,1.8s
QIZ LR LR
comp=Z,300nm,23.5s
QIZ LR LR
comp=Z,300nm,22.0s
QIZ LR LR
comp=Z,220nm,25.9s
MDJ Mudanjiang 76.62 45 P **P 16 31 17.8 -0.6**
MDJ pP pP 16 31 24.5 -1.3
MDJ sP sP 16 31 26.8 -1.8
MDJ PP **PP 16 34 08.9 -1.4**
MDJ S **S 16 41 03.9 +0.4**
MDJ sS sS 16 41 15.3 -0.4
MDJ ScS **SKKSac 16 41 29.9 +0.6**
MDJ pmax pmax
comp=Z,5.0nm,0.8s
MDJ pmax pmax
comp=Z,47nm,5.8s
MDJ LR LR
comp=Z,420nm,25.2s
MDJ LR LR
comp=Z,500nm,23.0s
MDJ LR LR
comp=Z,690nm,16.1s
MA2 Magadan 76.73 25↓ *e*P **P 16 31 19.7 +1.0**
TOLK Toolik Lake Re 77.22 357 P **P 16 31 20.3 -1.1**
baz=5.7
YKA Yellowknife Ar 77.87 342 P **P 16 31 24.3 -0.7**
comp=Z,2.5nm,0.8s,baz=33,slow=5.7,SNR=8.5
YKA LR LR 17 08 27.8
comp=Z,52nm,19.0s,baz=0.0,slow=38
YKA Yellowknife Ar 77.87 342 *i* P **P 16 31 25.0 0.0**
YKA pmax pmax
comp=Z,3.0nm,0.9s
USRK Ussuriysk Ar. 78.26 44 P **P 16 31 26.8 -0.8**
comp=Z,16nm,0.6s,baz=293,slow=4.6,SNR=65
USRK LR LR 17 10 37.2
comp=Z,287nm,20.6s,baz=302,slow=39
COLD Coldfoot 78.66 358 *e*P **P 16 31 28.9 -0.5**
comp=Z,25nm,1.3s
COLD Coldfoot 78.66 358 *e*P **P 16 31 28.9 -0.5**
comp=Z,25nm,1.3s
SSE Sheshan 78.68 60 P **P 16 31 31.0 +0.9**
SSE S **S 16 41 27.3 +1.2**
SSE pmax pmax
comp=Z,47nm,0.7s
SSE pmax pmax
comp=Z,85nm,4.4s
SSE LR LR
comp=Z,370nm,28.1s
SSE LR LR
comp=Z,91nm,28.3s
SSE LR LR
comp=Z,250nm,26.3s
VLA Vladivostok 78.84 45↑ *e*P **P 16 31 31.2 +0.4**
VLA pmax pmax
comp=Z,10.0nm,0.7s
FYU Fort Yukon 79.07 356 *e*P **P 16 31 32.0 +0.4**
comp=Z,44nm,1.3s
FYU Fort Yukon 79.07 356 *e*P **P 16 31 32.0 +0.4**
comp=Z,44nm,1.3s
KS01 Wonju Array Si 79.69 52 *e*P **P 16 31 34.6 -0.9**
KS01 Wonju Array Si 79.69 52 *e*P **P 16 31 34.6 -0.9**
KS15 Wonju Array Si 79.70 52 *e*P **P 16 31 35.0 -0.6**
KS15 Wonju Array Si 79.70 52 *e*P **P 16 31 35.0 -0.6**
KSAR Wonju Array Be 79.70 52 P **P 16 31 35.4 -0.2**
KSAR Wonju Array Be 79.70 52 P **P 16 31 35.3 -0.2**
KSAR Wonju Array Be 79.70 52 P **P 16 31 35.4 -0.2**
KSRS Korea Array 79.72 52 P **P 16 31 35.4 -0.3**
comp=Z,10nm,0.6s,baz=309,slow=4.7,SNR=107
KSRS LR LR 17 11 56.8
comp=Z,700nm,18.1s,baz=308,slow=40
FFC Flin Flon 79.80 331 *e*P **P 16 31 37.5 +1.7**
FFC pmax pmax
comp=Z,13nm,0.8s
FFC Flin Flon 79.80 331 *e*P **P 16 31 37.5 +1.7**
comp=Z,12nm,0.8s
FFC Flin Flon 79.80 331 *e*P **P 16 31 37.5 +1.7**
comp=Z,12nm,0.8s
E40A Wakefield 79.86 320 P **P 16 31 36.7 +0.4**
baz=50
F41A Three Lakes 79.88 319 P **P 16 31 36.4 -0.1**
baz=51
CELP Cerrillos 80.28 285 *e*P **P 16 31 38.8 -0.2**
CELP Cerrillos 80.28 285 *e*P **P 16 31 38.8 -0.2**
F40A Park Falls 80.31 320 P **P 16 31 38.2 -0.6**
baz=50
ULM Lac du Bonnet 80.33 326 P **P 16 31 38.4 -0.3**
comp=Z,5.0nm,0.7s,baz=35,slow=5.2,SNR=4.3
ULM LR LR 17 08 30.7
comp=Z,707nm,20.7s,baz=30,slow=37
EGAK Eagle 80.51 353 *e*P **P 16 31 38.9 -0.6**
comp=Z,11nm,1.0s
EGAK Eagle 80.51 353 *e*P **P 16 31 38.9 -0.6**
comp=Z,11nm,1.0s
F39A Loretta 80.74 320 P **P 16 31 39.9 -1.2**
baz=50
IDE Isla Desecheo 80.82 286 *e*P **P 16 31 43.9 +2.0**
IL1 Eielson Array 80.95 356 *e*P **P 16 31 41.3 -0.5**
IL1 Eielson Array 80.95 356 *e*P **P 16 31 41.3 -0.5**
ILAR Eielson Array 80.95 356 P **P 16 31 41.5 -0.4**
comp=Z,3.2nm,0.7s,baz=355,slow=3.5,SNR=24
ILAR PKKPbc **PKKPbc 16 50 18.9 -0.7**
comp=Z,1.0nm,0.9s,baz=214,slow=3.1,SNR=5.7
ILAR LR LR 17 10 13.9
comp=Z,423nm,20.3s,baz=14,slow=38
ILB Eielson Array 80.95 356 *e*P **P 16 31 41.1 -0.7**
ILB Eielson Array 80.95 356 *e*P **P 16 31 41.1 -0.7**
DAWY Dawson 81.03 353 *e*P **P 16 31 42.5 +0.2**
comp=Z,20nm,1.1s
DAWY Dawson 81.03 353 *e*P **P 16 31 42.5 +0.2**
comp=Z,20nm,1.1s
CCB Clear Creek Bu 81.13 356 *e*P **P 16 31 42.1 -0.6**
comp=Z,7.6nm,0.8s
CCB Clear Creek Bu 81.13 356 *e*P **P 16 31 42.1 -0.6**
comp=Z,7.6nm,0.8s
G39A Holcombe 81.28 320 P **P 16 31 42.9 -1.1**
baz=49
WRH Wood River Hil 81.32 356 *e*P **P 16 31 43.2 -0.6**
comp=Z,17nm,0.7s
WRH Wood River Hil 81.32 356 *e*P **P 16 31 43.2 -0.6**
comp=Z,17nm,0.7s
DOT Dot Lake 81.87 355 *e*P **P 16 31 46.7 -0.1**
comp=Z,29nm,0.8s
DOT Dot Lake 81.87 355 *e*P **P 16 31 46.7 -0.1**
comp=Z,29nm,0.8s
MCK McKinley 82.10 357 *e*P **P 16 31 48.3 +0.4**
MCK pmax pmax
comp=Z,33nm,1.3s
MCK McKinley 82.10 357 *e*P **P 16 31 48.3 +0.4**
comp=Z,33nm,1.3s
MCK McKinley 82.10 357 *e*P **P 16 31 48.3 +0.4**
comp=Z,33nm,1.3s
F36A Milaca 82.14 321 P **P 16 31 47.8 -0.7**
baz=48
YSS Yuzh-Sakhalins 82.31 37↑ *i*P **P 16 31 49.3 0.0**
YSS *e**SP **sP 16 32 01.4 +1.9**
YSS *e*S **S 16 42 04.1 +0.5**
YSS pmax pmax
comp=Z,1μm,4.0s
YSS pmax pmax
comp=Z,30nm,0.8s
YSS MLR MLR
comp=Z,300nm,18.0s
YSS MLR MLR
comp=N,600nm,17.0s
YSS Yuzh-Sakhalins 82.31 37 *e*P **P 16 31 48.5 -0.8**
comp=N,23nm,0.7s
YSS Yuzh-Sakhalins 82.31 37 *e*P **P 16 31 48.5 -0.8**
comp=N,23nm,0.7s
KTH Kantishna Hill 82.36 358 *e*P **P 16 31 48.2 -1.1**
comp=N,14nm,1.0s
KTH Kantishna Hill 82.36 358 *e*P **P 16 31 48.2 -1.1**
comp=N,14nm,1.0s
RND Reindeer 82.42 357 *e*P **P 16 31 47.7 -2.0**
RND pmax pmax
comp=Z,13nm,0.8s
RND Reindeer 82.42 357 *e*P **P 16 31 47.7 -2.0**
comp=Z,13nm,0.8s
RND Reindeer 82.42 357 *e*P **P 16 31 47.7 -2.0**
comp=Z,13nm,0.8s
CAST Castle Rocks 82.53 358 *e*P **P 16 31 48.6 -1.6**
comp=Z,13nm,1.0s
CAST Castle Rocks 82.53 358 *e*P **P 16 31 48.6 -1.6**
comp=Z,13nm,1.0s
DHY Denali Highway 82.67 356 *e*P **P 16 31 50.6 -0.5**
comp=Z,25nm,0.7s
DHY Denali Highway 82.67 356 *e*P **P 16 31 50.6 -0.5**
comp=Z,25nm,0.7s
PPLA Purkeypile 83.06 358 *e*P **P 16 31 52.8 -0.3**
comp=Z,38nm,1.2s
PPLA Purkeypile 83.06 358 *e*P **P 16 31 52.8 -0.3**
comp=Z,38nm,1.2s
L40A Anamosa 83.41 317 P **P 16 31 55.0 -0.2**
baz=49
SDDR Presa de Saban 83.51 288 *e*P **P 16 31 58.2 +2.1**
comp=Z,9.5nm,0.5s
CPCT Cooper Cave 83.54 309 *e*P **P 16 31 55.6 -0.3**
comp=Z,5.4nm,1.0s
CPCT Cooper Cave 83.54 309 *e*P **P 16 31 55.6 -0.3**
comp=Z,5.4nm,1.0s
HYT Haines Junctio 83.95 351 *e*P **P 16 31 58.4 +0.7**
comp=Z,11nm,0.8s
HYT Haines Junctio 83.95 351 *e*P **P 16 31 58.4 +0.7**
comp=Z,11nm,0.8s
SML Sawmill 83.99 356 *e*P **P 16 31 58.0 +0.2**
SML pmax pmax
comp=Z,19nm,0.8s
SML Sawmill 83.99 356 *e*P **P 16 31 58.0 +0.2**
comp=Z,19nm,0.8s
SML Sawmill 83.99 356 *e*P **P 16 31 58.0 +0.2**
comp=Z,19nm,0.8s
GOGA Godfrey 84.09 307 *e*P **P 16 31 59.0 +0.2**
GOGA pmax pmax
comp=Z,24nm,1.6s
GOGA Godfrey 84.09 307 *e*P **P 16 31 59.0 +0.2**
comp=Z,24nm,1.6s
GOGA Godfrey 84.09 307 *e*P **P 16 31 59.0 +0.2**
comp=Z,24nm,1.6s
ASAJ Asahikawa 84.17 39 *e*P **P 16 31 59.2 +0.2**
comp=Z,9.7nm,0.8s
ASAJ Asahikawa 84.17 39 *e*P **P 16 31 59.2 +0.2**
comp=Z,9.7nm,0.8s
PETK Petropavlovsk- 84.18 26 LR LR 17 14 39.9
comp=Z,322nm,18.3s,baz=323,slow=39
JNU Nakatsue 84.23 54 *e*P **P 16 31 59.4 -0.1**
comp=Z,15nm,0.9s
JNU Nakatsue 84.23 54 *e*P **P 16 31 59.4 -0.1**
comp=Z,15nm,0.9s
J36A Seneca 1, Swea 84.28 320 P **P 16 31 59.5 -0.1**
baz=47
SUA Susitna One 84.44 357 *e*P **P 16 32 00.2 0.0**
comp=Z,30nm,0.8s
SUA Susitna One 84.44 357 *e*P **P 16 32 00.1 0.0**
comp=Z,30nm,0.8s
RC01 Rabbit Creek A 84.78 357 *e*P **P 16 32 01.4 -0.3**
RC01 Rabbit Creek A 84.78 357 *e*P **P 16 32 01.4 -0.3**
SVW2 Sparrevohn 84.92 360 *e*P **P 16 32 02.8 +0.3**
comp=Z,13nm,0.9s
SVW2 Sparrevohn 84.92 360 *e*P **P 16 32 02.8 +0.3**
comp=Z,13nm,0.9s
EDM Edmonton 85.18 336 *e*P **P 16 32 03.0 -0.9**
EDM pmax pmax
comp=Z,15nm,0.6s
EDM Edmonton 85.18 336 *e*P **P 16 32 03.0 -0.9**
comp=Z,15nm,0.6s
EDM Edmonton 85.18 336 *e*P **P 16 32 03.0 -0.9**
comp=Z,15nm,0.6s
PTGA Pitinga 85.19 266 *e*P **P 16 32 06.0 +1.4**
comp=Z,14nm,1.1s
PTGA Pitinga 85.19 266 *e*P **P 16 32 06.0 +1.4**
comp=Z,14nm,1.1s
ECSD EROS Data Cent 85.20 321 P **P 16 32 03.5 -0.8**
baz=46
ECSD EROS Data Cent 85.20 321 *e*P **P 16 32 03.8 -0.4**
comp=Z,13nm,0.8s
ECSD EROS Data Cent 85.20 321 *e*P **P 16 32 03.9 -0.4**
comp=Z,13nm,0.8s
S43A Fulton Ridge, 85.67 313 P **P 16 32 07.2 +0.5**
baz=49
S42A Caledonia 85.98 314 P **P 16 32 08.6 +0.4**
baz=49
R41A Rosebud 85.98 314 P **P 16 32 08.6 +0.4**
baz=48
T43A Greenville 86.12 313 P **P 16 32 08.9 +0.1**
baz=49
PBMO Poplar Bluff 86.41 313 *e*P **P 16 32 13.2 +2.9**
comp=Z,9.2nm,0.7s
Q39A Willow Grove F 86.41 316 P **P 16 32 10.4 +0.1**
baz=48
R40A Maddies Statio 86.51 315 P **P 16 32 10.5 -0.2**
baz=48
T42A Van Buren 86.64 313 P **P 16 32 12.3 +0.9**
baz=49
LRAL Lakeview Retre 86.64 308 *e*P **P 16 32 11.7 +0.2**
comp=Z,36nm,1.1s
LRAL Lakeview Retre 86.64 308 *e*P **P 16 32 11.7 +0.2**
comp=Z,36nm,1.1s
S41A Jillco Farms, 86.66 314 P **P 16 32 12.5 +0.9**
baz=48
MAJO Matsushiro 86.75 47↑ *e*P **P 16 32 13.1 +1.1**
MAJO pmax pmax
comp=Z,81nm,1.6s
MAT Matsushiro 86.75 47 P **P 16 32 12.0 0.0**
MAT S **S 16 42 52.2 +3.8**
MJAR Matsushiro Arr 86.76 47 P **P 16 32 12.2 +0.2**
comp=Z,5.6nm,0.9s,baz=304,slow=5.3,SNR=12
Q38A Cooks Store, C 86.84 316 P **P 16 32 13.4 +1.0**
baz=47
R39A Chumby, Stover 86.94 315 P **P 16 32 13.6 +0.7**
baz=48
T41A Mountain View 87.03 314 P **P 16 32 14.0 +0.6**
baz=48
S40A Lebanon 87.11 314 P **P 16 32 13.7 0.0**
baz=48
U42A Revenden 87.18 313 P **P 16 32 13.6 -0.5**
baz=48
Y46A Houston 87.30 310 P **P 16 32 14.0 -0.7**
baz=50
SBUM Sibu 87.39 89 *e*P **P 16 32 16.0 +0.6**
comp=Z,10.0nm,1.1s
SBUM Sibu 87.39 89 *e*P **P 16 32 16.1 +0.6**
comp=Z,10.0nm,1.1s
T40A Mansfield 87.42 314 P **P 16 32 15.7 +0.5**
baz=48
R38A Fenwick Farm, 87.53 316 P **P 16 32 15.4 -0.3**
baz=47
LAO LASA Array 87.63 328 *e*P **P 16 32 15.2 -1.0**
comp=Z,22nm,0.9s
LAO LASA Array 87.63 328 *e*P **P 16 32 15.2 -1.0**
comp=Z,22nm,0.9s
147A Livingston 87.70 308 P **P 16 32 17.3 +0.7**
baz=50
Y45A Yeager Farm, C 87.75 310 P **P 16 32 17.0 +0.2**
baz=49
EGMT Eagleton 88.07 331 P **P 16 32 18.8 +0.6**
baz=37
EGMT Eagleton 88.07 331 *e*P **P 16 32 19.1 +0.9**
comp=Z,16nm,0.9s
EGMT Eagleton 88.07 331 *e*P **P 16 32 19.1 +0.9**
comp=Z,16nm,0.9s
SPB Sao Paulo 88.75 240 *e*P **P 16 32 22.0 +0.4**
comp=Z,24nm,1.0s
SPB Sao Paulo 88.75 240 *e*P **P 16 32 22.0 +0.4**
comp=Z,24nm,1.0s
OHAK Old Harbor 88.77 358 *e*P **P 16 32 21.9 +0.7**
comp=Z,109nm,1.5s
OHAK Old Harbor 88.77 358 *e*P **P 16 32 21.9 +0.7**
comp=Z,109nm,1.5s
MIAR Mount Ida 89.80 313 *e*P **P 16 32 27.3 +0.8**
MIAR pmax pmax
comp=Z,5.0nm,0.4s
MIAR Mount Ida 89.80 313 *e*P **P 16 32 27.3 +0.8**
comp=Z,4.7nm,0.4s
MIAR Mount Ida 89.80 313 *e*P **P 16 32 27.3 +0.8**
comp=Z,4.7nm,0.4s
SWMT Swartz Lake 90.14 333 *e*P **P 16 32 25.5 -2.5**
SWMT Swartz Lake 90.14 333 *e*P **P 16 32 25.5 -2.5**
NEW Newport 90.64 335 *e*P **P 16 32 31.0 +0.7**
NEW pmax pmax
comp=Z,10.0nm,1.1s
NEW Newport 90.64 335 *e*P **P 16 32 31.0 +0.7**
comp=Z,10nm,1.1s
NEW Newport 90.64 335 *e*P **P 16 32 31.0 +0.7**
comp=Z,10nm,1.1s
BOZ Bozeman (W) 90.79 330 *e*P **P 16 32 32.3 +1.2**
BOZ pmax pmax
comp=Z,5.0nm,1.0s
BOZ Bozeman (W) 90.79 330 *e*P **P 16 32 32.3 +1.2**
comp=Z,4.5nm,1.0s
BOZ Bozeman (W) 90.79 330 *e*P **P 16 32 32.3 +1.2**
comp=Z,4.5nm,1.0s
K22A Casper 90.89 326 *e*P **P 16 32 31.0 -0.7**
comp=Z,9.5nm,0.8s
K22A Casper 90.89 326 *e*P **P 16 32 31.1 -0.7**
comp=Z,9.5nm,0.8s
PHWY Pilot Hill 91.43 324 *e*P **P 16 32 33.9 -0.5**
comp=Z,10.0nm,1.0s
PHWY Pilot Hill 91.43 324 *e*P **P 16 32 33.9 -0.5**
comp=Z,10.0nm,1.0s
N23A Red Feather La 91.97 324 *e*P **P 16 32 37.1 +0.2**
comp=Z,19nm,1.6s
N23A Red Feather La 91.97 324 *e*P **P 16 32 37.1 +0.2**
comp=Z,19nm,1.6s
PDAR Pinedale Array 92.18 328 P **P 16 32 37.3 -0.5**
comp=Z,0.4nm,0.7s,baz=55,slow=7.8,SNR=4.1
PDAR LR LR 17 16 28.4
comp=Z,647nm,19.5s,baz=30,slow=37
BMO Blue Mountains 93.62 333 *e*P **P 16 32 43.7 -0.5**
BMO pmax pmax
comp=Z,3.0nm,0.8s
BMO Blue Mountains 93.62 333 *e*P **P 16 32 43.7 -0.5**
comp=Z,2.7nm,0.8s
BMO Blue Mountains 93.62 333 *e*P **P 16 32 43.7 -0.5**
comp=Z,2.7nm,0.8s
HWUT Hardware Ranch 94.00 328 *e*P **P 16 32 46.6 +0.5**
HWUT Hardware Ranch 94.00 328 *e*P **P 16 32 46.6 +0.5**
MFID Camas Ranch 94.28 332 *e*P **P 16 32 47.2 0.0**
comp=Z,5.3nm,1.0s
MFID Camas Ranch 94.28 332 *e*P **P 16 32 47.2 0.0**
comp=Z,5.3nm,1.0s
PV01 Paradox Valley 95.39 324 *e*P **P 16 32 52.7 +0.1**
PV01 Paradox Valley 95.39 324 *e*P **P 16 32 52.7 +0.1**
CPUP Villa Florida 97.60 243 LR LR 17 17 41.1
comp=Z,629nm,20.3s,baz=59,slow=36
TXAR Lajitas Array 99.51 315 P **Pdif 16 33 10.1 -1.1**
comp=Z,0.7nm,1.0s,baz=39,slow=4.8,SNR=4.4
TXAR PKKPbc **PKKPbc 16 49 33.0 +0.4**
comp=Z,0.4nm,0.8s,baz=206,slow=5.4,SNR=4.2
TXAR LR LR 17 17 54.1
comp=Z,262nm,21.2s,baz=0.0,slow=35
WRA Warramunga Arr 117.67 96 PKP **PKPdf 16 38 13.2 -1.1**
comp=Z,0.9nm,0.4s,baz=319,slow=1.6,SNR=32
ASAR Alice Springs 119.06 100 PKP **PKPdf 16 38 16.5 -0.4**
comp=Z,1.3nm,0.6s,baz=31,slow=1.3,SNR=26
AS01 Alice Springs 119.10 100 *e*PKIKP **PKPdf 16 38 16.0 -1.0**
AS01 Alice Springs 119.10 100 *e*PKPdf **PKPdf 16 38 16.0 -1.0**
STKA Stephens Creek 128.62 106 PKP **PKPdf 16 38 35.2 +0.3**
comp=Z,1.8nm,0.7s,baz=326,slow=7.9,SNR=4.3
DZM Mont Dzumac 145.13 79 *e*LR LR 17 26 20.6
comp=Z,385nm,24.4s
RKT Rikitea 158.28 295 *e*LR LR 17 33 02.5
comp=Z,215nm,25.2s
PPT2 Papeete2 162.29 339 *e*LR LR 17 34 46.5
comp=Z,408nm,23.2s
TBI Tubuai 167.54 330 *e*LR LR 17 37 09.5
comp=Z,285nm,27.5s

DJA 13 16:43:28.4±0.8, 8°S±5°×10°E±°, h31km±10km, M3.7/14, MLv3.7/14, Jawa

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CISI	**Cisompet, Garu**	**0.72**	**45**	P	Pb	16 43 42.8	+0.2
CISI				S	Sn	16 43 53.5	+0.9
CNJI	**Cibinong**	**0.78**	**347**	P	Pb	16 43 43.4	0.0
CNJI				S	Sn	16 43 54.8	+1.0
CMJI	**Cimerak**	**1.17**	**76**	P	Pn	16 43 48.8	+0.1
CMJI				S	Sn	16 44 03.9	+0.3
LEM	**Lembang**	**1.27**	**14**	P	Pb	16 43 58.9	+7.0
LEM				S	Sb	16 44 15.9	+7.8
KPJI	**Karang Pucung**	**1.77**	**66**	P	Pn	16 43 57.3	+0.3
UGM	**Wonagama**	**3.20**	**87**	P	Pn	16 44 16.4	-0.2
WOJI	**Wonogiri, Jawa**	**3.60**	**87**	P	Pn	16 44 22.5	+0.5
KASI	**Kota Agung**	**3.76**	**312**	P	Pn	16 44 24.1	-0.2
PCJI	**Pacitan**	**3.84**	**92**	P	Pn	16 44 25.6	+0.2
NGJI	**Ngawi**	**4.18**	**81**	P	Pn	16 44 30.1	0.0
KLSI		**4.22**	**323**	P	Pn	16 44 30.6	0.0
LWLI	**Liwa**	**4.42**	**313**	P	Pn	16 44 33.8	+0.3
PWJI	**Pagerwojo**	**4.46**	**90**	P	Pn	16 44 34.1	+0.2
TBJI	**Tambak Boyo**	**4.68**	**75**	P	Pn	16 44 37.1	+0.2

*ISK **13** 17:07:24.1, 39°.21N×28°.94E, h15km, MD2.3*
*CSEM **13** 17:07:25.3±0.3, 39°.19N×28°.97E, h15km, MD2.3, Error*

ellipse: s-maj=9.8km s-min=6.5km az=131.0
*ISCJB **13** 17:07:26.4±0.6, 39°.14N±0°.05×29°.04E±0°.05, h10km±6km, Error ellipse: s-maj=8.9km s-min=5.2km az=148.2*
*DDA **13** 17:07:26.1, 39°.06N×29°.10E, h7km, Md2.6*

ISC 13 17:07:25.5±0.9, 39°.14N±0°.04×28°.98E±0°.04, h18km±5km, n16, σ1§77/27, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIMA	**Simav-Kutahya**	**0.05**	**174**	*e*PG	**Pg**	**17 07 28.9**	**+0.1**
SIMA				*e*SG	**Sg**	**17 07 30.6**	**-0.5**
SIMA	**Simav-Kutahya**	**0.05**	**174**	*e*Pg	**Pg**	**17 07 28.9**	**+0.1**
SIMA				*e*Sg	**Sg**	**17 07 30.6**	**-0.5**
DEMI	**Demirci**	**0.22**	**245**	*i* P	**Pb**	**17 07 32.5**	**+1.4**
DEMI				*i* S	**Sb**	**17 07 36.4**	**+1.6**
DEMI	**Demirci**	**0.22**	**245**	P	**Pb**	**17 07 32.5**	**+1.4**
DEMI				S	**Sb**	**17 07 36.4**	**+1.6**
GEDZ	**Gediz**	**0.35**	**105**	*e*PG	**Pg**	**17 07 32.6**	**-0.3**
GEDZ				*e*SG	**Sg**	**17 07 38.7**	**+0.8**
GEDZ	**Gediz**	**0.35**	**105**	*e*Pg	**Pg**	**17 07 32.6**	**-0.3**
GEDZ				*e*Sg	**Sg**	**17 07 38.7**	**+0.8**
TVSB	**Tavsanli**	**0.49**	**50**	*e*PG	**Pg**	**17 07 34.1**	**-1.3**
TVSB				*e*SG	**Sg**	**17 07 40.9**	**-1.2**
TVSB	**Tavsanli**	**0.49**	**50**	*e*Pg	**Pg**	**17 07 34.1**	**-1.3**
TVSB				*e*Sg	**Sg**	**17 07 40.9**	**-1.2**
KULA	**Kula-Manisa**	**0.67**	**202**	*e*PG	**Pg**	**17 07 38.6**	**-0.1**
KULA				*e*SG	**Sb**	**17 07 49.2**	**+1.6**
KULA	**Kula-Manisa**	**0.67**	**202**	*e*Pg	**Pg**	**17 07 38.6**	**-0.1**
KULA				*e*Sg	**Sb**	**17 07 49.2**	**+1.6**
MANT	**Manisa**	**0.72**	**207**	*i* P	Pg	17 07 33.4	-6.3
MANT				*i* S	**Sg**	**17 07 42.9**	**-6.4**
IGD	**Bursa**	**1.14**	**9**	*i* P	**Pg**	**17 07 48.5**	**+0.9**
IGD				*i* S	**Sn**	**17 08 03.1**	**+1.3**
KCTX	**Karacabey (Bur**	**1.23**	**337**	*e*PN	**Pn**	**17 07 46.2**	**-1.6**
KCTX	**Karacabey (Bur**	**1.23**	**337**	*e*Pn	**Pn**	**17 07 46.2**	**-1.6**
BORA	**Eskisehir**	**1.36**	**57**	*i* P	**Pg**	**17 07 51.2**	**-0.6**
BORA	**Eskisehir**	**1.36**	**57**	P	**Pg**	**17 07 51.2**	**-0.6**

IDC 13 18:01:55.1±3.7, 51°.61N×175°.65W, h0km, mb3.8/1, mb1 4.0/3, mb1mx3.4/46, mbtmp3.7/3, ML3.7/2, Error ellipse: s-maj=96.5km s-min=41.8km az=179.0, Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PETK	**Petropavlovsk-**	**16.32**	**286**	Pn	Pn	18 05 45.4	+0.1
	0.8nm,0.3s,baz=91,slow=16,SNR=15						
ILAR	**Eielson Array**	**19.85**	**37**	P	P	18 06 27.1	-0.1
	0.1nm,0.3s,baz=232,slow=9.3,SNR=6.0						
H11N2	**WAKE ISLAND Hy**	**34.64**	**210**	T	T	18 45 17.7	
	baz=18,slow=76,SNR=8.9						
H11N3	**WAKE ISLAND Hy**	**34.65**	**210**	T	T	18 45 21.7	
	baz=18,slow=76,SNR=7.5						
H11N1	**WAKE ISLAND Hy**	**34.66**	**210**	T	T	18 45 19.1	
	baz=18,slow=76,SNR=6.2						
H11S1	**WAKE ISLAND Hy**	**35.85**	**209**	T	T	18 46 48.9	
	baz=19,slow=74						
H11S2	**WAKE ISLAND Hy**	**35.87**	**209**	T	T	18 46 50.5	
	baz=19,slow=74						
H11S3	**WAKE ISLAND Hy**	**35.87**	**209**	T	T	18 46 50.3	
	baz=19						
PDAR	**Pinedale Array**	**44.36**	**74**	P	P	18 10 07.0	-0.1
	0.5nm,0.3s,baz=305,slow=3.2,SNR=3.8						

*NIED **13** 18:05:00, 33°.10N×137°.20E, h23km, Mw3.4 Best double couple: M₀1.33000×10¹⁴ NP1:ϕs131.00000°, δ37.00000°, λ144.00000°. NP2:ϕs251.00000°, δ69.00000°, λ59.00000°.*

JMA 13 18:05:54.2±0.1, 33°.09N×137°.19E, h58km±1km, M3.7, 1C-11D, Near south coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TTO1	**TONANKAI O.B.S**	**0.63**	**328**	⇓P	Pn	18 06 07.5	+0.3
TTO1				X		18 06 16.7	
TTO2	**TONANKAI O.B.S**	**0.66**	**348**	⇓P	Pn	18 06 07.9	+0.4
TTO2				X		18 06 17.8	
TK01	**Tokai 1**	**0.75**	**26**	P	Pn	18 06 08.8	+0.1
TK01				X		18 06 18.9	
TTO3	**TONANKAI O.B.S**	**0.79**	**13**	⇓P	Pn	18 06 09.8	+0.5
TTO3				X		18 06 20.8	
TTO4	**TONANKAI O.B.S**	**0.96**	**18**	⇓P	Pn	18 06 11.9	+0.5
TTO4				S	Sn	18 06 23.8	-0.3
TK02	**Tokai 2**	**0.98**	**29**	⇓P	Pn	18 06 12.0	+0.3
TK02				S	Sn	18 06 24.7	+0.1
TTO5	**TONANKAI O.B.S**	**1.24**	**21**	⇓P	Pn	18 06 15.5	+0.3
TK03	**Tokai 3**	**1.25**	**31**	P	Pn	18 06 16.1	+0.7
TK03				S	Sn	18 06 31.8	+0.6
JIE	**Ise**	**1.36**	**343**	⇓P	Pn	18 06 17.4	+0.5
JKN2	**Miekihoku**	**1.38**	**327**	⇓P	Pn	18 06 17.4	+0.2
TK04	**Tokai 4**	**1.41**	**24**	P	Pn	18 06 18.5	+0.9
JAA	**Atsumi**	**1.54**	**359**	⇓P	Pn	18 06 19.7	+0.4
JWM	**Minabe**	**1.71**	**297**	⇑P	Pn	18 06 22.7	+1.0
JWM				*e*S	Sn	18 06 43.5	+1.0
TSUJ	**Tsu 2**	**1.74**	**339**	⇓P	Pn	18 06 23.5	+1.4
TSUJ				S	Sn	18 06 44.1	+1.0
JWY	**Kouya**	**1.74**	**311**	P	Pn	18 06 23.3	+1.1
JHE	**Heguri**	**2.00**	**322**	⇓P	Pn	18 06 26.6	+1.0
MAT	**Matsushiro**	**3.54**	**13**	P	Pn	18 06 48.9	+2.1
MAT				S	Sn	18 07 28.4	+1.0

*NIED **13** 18:07:00, 37°.10N×140°.60E, h17km, Mw3.3 Best double couple: M₀1.15000×10¹⁴ NP1:ϕs152.00000°, δ57.00000°, λ13.00000°. NP2:ϕs55.00000°, δ79.00000°, λ146.00000°.*
*IDC **13** 18:07:34.0±2.1, 36°.83N×140°.82E, h0km, mb3.5/3, mb1 3.6/6, mb1mx3.4/45, mbtmp3.4/6, ML2.5/3, Error ellipse: s-maj=44.8km s-min=24.0km az=43.0*
*ISCJB **13** 18:07:34.9±0.5, 37°.11N±0°.03×140°.61E±0°.04, h7km±5km, mb3.5/3, Error ellipse: s-maj=6.2km s-min=4.5km az=34.0*
*JMA **13** 18:07:34.8, 37°.10N×140°.60E, h12km±1km, M3.6 Broadband fault plane solution: P waves. NP1: ϕs240.00000°, δ77.00000°, λ-124.00000°. NP2: ϕs131.00000°, δ37.00000°, λ-23.00000°. Principal axes: T Plg24.0000°, Azm356.0000°; N Plg33.0000°, Azm249.0000°; P Plg47.0000°, Azm114.0000°;*
JMA Felt II J1.

ISC 13 18:07:35.0±1.1, 37°.07N±0°.04×140°.62E±0°.03, h4km±10km, n20, σ1§83/23, mb3.6/3, 4C-2D, Eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ONAJ	**Iwakimizuishiy**	**0.14**	**77**	P	**Pg**	**18 07 38.5**	**+0.6**
ONAJ				S	**Sg**	**18 07 41.2**	**+1.4**
JFK	**Kawauchi**	**0.36**	**34**	⇑P	**Pg**	**18 07 41.6**	**-0.3**
JFK				*e*S	**Sg**	**18 07 46.3**	**-0.4**
JHO	**Hitachi**	**0.46**	**185**	⇑P	**Pb**	**18 07 44.1**	**-1.5**
JHO				*e*S	**Sb**	**18 07 50.6**	**-2.2**
JFT	**Otama**	**0.50**	**333**	⇑P	**Pg**	**18 07 44.1**	**-0.6**
JFT				*e*S	**Sg**	**18 07 50.6**	**-0.6**
JSB	**Shiboa**	**0.57**	**260**	⇓P	**Pg**	**18 07 46.3**	**+0.3**
JSB				*e*S	**Sg**	**18 07 54.1**	**+0.7**
JFY	**Yanaizu**	**0.81**	**295**	⇓P	**Pg**	**18 07 49.7**	**-0.8**
JFY				S	**Sg**	**18 07 59.7**	**-1.3**
JMM	**Marumori**	**0.81**	**10**	⇑P	**Pg**	**18 07 49.1**	**-1.4**
JMM				*e*S	**Sg**	**18 07 59.8**	**-1.2**
MJAR	**Matsushiro Arr**	**2.01**	**256**	Pn	**Pn**	**18 08 10.3**	**+0.7**
	6.8nm,0.3s,baz=82,slow=16,SNR=17						
MJAR				Sn	**Sn**	**18 08 36.3**	**+1.1**
	7.0nm,0.3s,baz=98,slow=16,SNR=6.2						
MAT	**Matsushiro**	**2.01**	**256**	P	**Pb**	**18 08 11.0**	**-1.1**
MAT				S	**Sn**	**18 08 35.6**	**+0.4**
USRK	**Ussuriysk Ar.**	**9.68**	**320**	Pn	**Pn**	**18 09 58.6**	**+3.7**
	0.1nm,0.3s,baz=118,slow=18,SNR=5.2						
KSRS	**Korea Array**	**10.13**	**276**	Pn	**Pn**	**18 10 05.7**	**+4.6**
	0.1nm,0.3s,baz=89,slow=14,SNR=3.1						
SONM	**Songino Array**	**27.24**	**304**	P	**P**	**18 13 21.5**	**+1.3**
	0.5nm,0.6s,baz=96,slow=10,SNR=2.1						
H11N2	**WAKE ISLAND Hy**	**28.71**	**120**	T	T	18 43 22.7	
	baz=313,slow=75,SNR=52						
H11N1	**WAKE ISLAND Hy**	**28.72**	**120**	T	T	18 43 26.6	
	baz=313,slow=75,SNR=43						
H11N3	**WAKE ISLAND Hy**	**28.73**	**120**	T	T	18 43 24.1	
	baz=313,slow=75,SNR=30						
H11S1	**WAKE ISLAND Hy**	**29.41**	**122**	T	T	18 44 16.4	
	baz=314,slow=76,SNR=62						
H11S3	**WAKE ISLAND Hy**	**29.41**	**122**	T	T	18 44 18.4	
	baz=314,slow=76,SNR=54						
H11S2	**WAKE ISLAND Hy**	**29.43**	**122**	T	T	18 44 18.4	
	baz=314,slow=76,SNR=41						
WRA	**Warramunga Arr**	**57.01**	**187**	P	**P**	**18 17 19.1**	**-2.8**
	0.6nm,0.8s,baz=3.9,slow=7.1,SNR=7.6						
ASAR	**Alice Springs**	**60.74**	**187**	P	**P**	**18 17 46.8**	**-1.0**
	0.4nm,0.8s,baz=8.0,slow=8.0,SNR=4.3						

*ISK **13** 18:16:28.3, 39°.23N×29°.02E, h5km, MD2.1*
*ISCJB **13** 18:16:29.2±0.8, 39°.20N±0°.08×29°.07E±0°.09, h9km, Error ellipse: s-maj=15.0km s-min=4.8km az=142.0*
*CSEM **13** 18:16:29.0±0.2, 39°.21N×29°.05E, h10km, MD2.1, Error ellipse: s-maj=7.5km s-min=3.3km az=143.0*
*DDA **13** 18:16:34.1, 38°.93N×28°.72E, h7km, Md2.5*

ISC 13 18:16:27.5±1.3, 39°.25N±0°.07×28°.96E±0°.07, h9km, n9, σ2§39/15, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIMA	**Simav-Kutahya**	**0.17**	**175**	*e*PG	**Pg**	**18 16 32.0**	**+0.9**
SIMA				*e*SG	**Sg**	**18 16 34.4**	**+0.8**
SIMA	**Simav-Kutahya**	**0.17**	**175**	*e*Pg	**Pg**	**18 16 32.0**	**+0.9**
SIMA				*e*Sg	**Sg**	**18 16 34.4**	**+0.8**
DEMI	**Demirci**	**0.28**	**223**	*i* P	**Pb**	**18 16 35.8**	**+1.0**
DEMI				*i* S	**Sb**	**18 16 40.3**	**+0.6**
DEMI	**Demirci**	**0.28**	**223**	P	**Pb**	**18 16 35.8**	**+1.0**
DEMI				S	**Sb**	**18 16 40.3**	**+0.6**
GEDZ	**Gediz**	**0.41**	**121**	*e*PG	**Pg**	**18 16 35.9**	**+0.5**
GEDZ	**Gediz**	**0.41**	**121**	*e*Pg	**Pg**	**18 16 35.9**	**+0.5**
TVSB	**Tavsanli**	**0.43**	**63**	*e*PG	**Pg**	**18 16 36.7**	**+0.8**
TVSB				*e*SG	**Sb**	**18 16 43.0**	**-1.0**
TVSB	**Tavsanli**	**0.43**	**63**	*e*Pg	**Pg**	**18 16 36.7**	**+0.8**
TVSB				*e*Sg	**Sb**	**18 16 43.0**	**-1.0**
MANT	**Manisa**	**0.82**	**203**	*i* P	Pg	18 16 36.6	-6.8
MANT				*i* S	**Sg**	**18 16 46.4**	**-7.7**

MAN 13 18:33:21, 8°.81N×126°.30E, h24km, mb3.8, ML2.5, MS2.1, 2C, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BIPH	**Bislig**	**0.62**	**174**	⇑*e*P	Pb	18 33 32.9	-0.3
BIPH				*e*S	Sb	18 33 41.7	+0.1
SCPH	**Surigao**	**1.25**	**321**	*e*P	Pn	18 33 43.2	+0.1
SCPH				*e*S	Sb	18 33 59.9	+0.1
CGP	**Cagayan de Oro**	**1.62**	**258**	⇑*e*P	Pb	18 33 49.4	-0.8
CGP				*e*S	Sn	18 34 09.1	+0.9
MATI	**Mati**	**1.85**	**181**	*e*P	Pn	18 33 52.4	+1.1
MATI				*e*S	Sn	18 34 15.1	+1.3

*ISCJB **13** 18:35:12.3±0.5, 36°.68N±0°.04×71°.26E±0°.06, h100km, mb3.5/5, Error ellipse: s-maj=7.1km s-min=4.0km az=148.4*
*IDC **13** 18:35:13.0±3.8, 36°.27N×71°.43E, h141km±34km, mb3.2/5, mb1 3.3/11, mb1mx3.1/59, mbtmp3.7/11, MS3.0/1, Ms1 3.0/1, ms1mx2.3/30, Error ellipse: s-maj=29.0km s-min=20.1km az=19.0*
*NNC **13** 18:35:25.1±2.3, 37°.29N×71°.26E, h184km±37km, mb2.8, mpv3.8, Error ellipse: s-maj=23.0km s-min=17.8km az=24.0*

ISC 13 18:35:13.5±0.7, 36°.66N±0°.06×71°.15E±0°.06, h100km, n29, σ2§35/35, mb3.4/5, 7C-3D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THN	**Thein Dam**	**5.66**	**137**	*e*P	**Pn**	**18 36 38.0**	**+2.9**
THN				*e*S	**Sn**	**18 37 39.6**	**+0.9**
MNAS	**Manas**	**5.91**	**10**	⇑P	**Pn**	**18 36 42.5**	**+3.8**
	5.3nm,0.4s						
MNAS				⇑S	**Sn**	**18 37 45.0**	**-0.1**
	33nm,0.4s						
KK31	**Karatay Array**	**6.45**	**356**	P	**Pn**	**18 36 49.9**	**+4.0**
	3.0nm,0.2s,baz=177,slow=14,SNR=140						
KK31				⇓S	**Sn**	**18 37 58.4**	**+0.4**
	8.4nm,0.5s,baz=181,slow=30,SNR=5.0						
AAK	**Ala-Archa**	**6.50**	**22**	P	**Pn**	**18 36 50.2**	**+3.4**
	2.7nm,0.3s,baz=183,slow=9.7,SNR=8.1						
AAK				S	**Sn**	**18 37 58.2**	**-1.4**
	1.1nm,0.3s,baz=168,slow=15,SNR=13						
AAK	**Ala-Archa**	**6.50**	**22**	⇓P	**Pn**	**18 36 50.6**	**+3.9**
	1.6nm,0.2s						
AAK				⇑S	**Sn**	**18 37 58.8**	**-0.7**
	15nm,0.6s						
TKM2	**Tokmak 2**	**7.13**	**27**	⇑P	**Pn**	**18 36 59.4**	**+4.1**
	4.9nm,0.5s						
TKM2				⇑S	**Sn**	**18 38 13.7**	**-1.1**
	4.6nm,0.8s						
GEYT	**Alibeck**	**10.46**	**281**	P	**Pn**	**18 37 43.3**	**+2.9**
	0.4nm,0.3s,baz=100,slow=11,SNR=5.7						
GEYT				S	**Sn**	**18 39 36.7**	**+1.2**
	0.2nm,0.3s,baz=40,slow=14,SNR=2.7						
KOLN	**Koldanda**	**13.76**	**127**	*e*P	**Pn**	**18 38 22.7**	**-1.9**
	7.3nm,0.4s						
GKN	**Gorkha**	**14.29**	**123**	*e*P	**Pn**	**18 38 30.0**	**-1.3**
	11nm,0.3s						
DMN	**Daman**	**14.86**	**123**	*e*P	**Pn**	**18 38 37.6**	**-1.1**
	9.4nm,0.4s						
KKN	**Kakani**	**14.86**	**122**	*e*P	**Pn**	**18 38 37.0**	**-1.7**
	10nm,0.5s						
KURBB	**Kurchatov Arra**	**14.93**	**19**	P	**P**	**18 38 41.3**	**-1.0**
	0.0nm,0.3s,baz=206,slow=10,SNR=5.8						
AB31	**Akbulak array**	**15.00**	**331**	⇑P	**P**	**18 38 42.4**	**-0.7**
	0.5nm,0.3s,baz=148,slow=13,SNR=24						
AB31				⇑S	**Sn**	**18 41 20.7**	**-4.8**
	0.8nm,0.5s,baz=152,slow=23,SNR=6.4						
PKIN	**Phulchoki**	**15.08**	**123**	*e*P	**Pn**	**18 38 40.5**	**-1.0**
PKI	**Pulchoki**	**15.09**	**123**	*e*P	**Pn**	**18 38 40.1**	**-1.6**
JIRN	**Jiri**	**15.57**	**121**	*e*P	**Pn**	**18 38 46.3**	**-1.4**
	30nm,0.4s						
RAMN	**Ramite**	**16.30**	**122**	*e*P	**Pn**	**18 38 54.4**	**-2.3**
	7.7nm,0.4s						
BVAR	**Borovoye Array**	**16.37**	**358**	P	**P**	**18 38 58.7**	**+0.5**
	0.3nm,0.3s,baz=160,slow=9.9,SNR=6.9						
AKTO	**Aktyubinsk**	**16.70**	**330**	P	**P**	**18 39 03.1**	**+1.3**
	0.7nm,0.3s,baz=132,slow=7.8,SNR=10						
AKTO				S	**Sn**	**18 42 03.4**	**-3.0**
	0.1nm,0.3s,baz=288,slow=20,SNR=3.0						
AKTO	**Aktyubinsk**	**16.70**	**330**	⇓P	**P**	**18 39 03.2**	**+1.4**
	2.0nm,0.6s						
TAPN	**Taplejung**	**16.82**	**119**	*e*P	**Pn**	**18 39 01.8**	**-1.4**
	5.9nm,0.3s						
ODAN	**Odare**	**16.90**	**121**	*e*P	**Pn**	**18 39 02.7**	**-1.4**
	8.3nm,0.5s						
ZALV	**Zalesovo Beam**	**19.72**	**24**	P	**P**	**18 39 33.8**	**-1.1**
	0.2nm,0.3s,baz=238,slow=4.9,SNR=3.8						
GNI	**Garni**	**20.95**	**288**	LR	LR	18 50 39.6	
	comp=Z,37nm,18.6s,baz=320,slow=44						
FINES	**FINESS Array B**	**37.42**	**326**	P	**P**	**18 42 15.9**	**-0.6**
	1.7nm,0.8s,baz=116,slow=9.4,SNR=2.8						
NOA	**NORSAR Array B**	**44.32**	**323**	P	**P**	**18 43 11.8**	**-1.4**
	0.6nm,0.5s,baz=97,slow=7.6,SNR=2.5						
TORD	**Torodi Ar. Bea**	**65.80**	**269**	P	**P**	**18 45 44.8**	**-3.8**
	0.2nm,0.4s,baz=51,slow=6.3,SNR=4.5						
WRA	**Warramunga Arr**	**81.98**	**122**	P	P	18 47 14.0	-8.4
	0.5nm,0.8s,baz=328,slow=4.9,SNR=4.2						
ASAR	**Alice Springs**	**84.25**	**125**	P	P	18 47 28.4	-5.8
	0.2nm,0.9s,baz=304,slow=5.1,SNR=5.5						

*ROM **13** 18:35:22.9±0.1, 45°.84N×12°.11E, h2km, Ml3.6/40, Error ellipse: s-maj=1.3km s-min=0.9km az=124.0*
*ISCJB **13** 18:35:22.1±0.2, 45°.851N±0°.010×12°.03E±0°.01, h8km±1km, Error ellipse: s-maj=1.7km s-min=1.3km az=160.4*
*STR **13** 18:35:23.5±0.3, 45°.78N×12°.21E, h10km, Ml3.7, Error ellipse: s-maj=0.0km s-min=0.0km az=0.0*
*GEN **13** 18:35:23.9, 45°.88N×12°.09E, h3km, ML3.5*
*NEIC **13** 18:35:23.0±0.0, 45°.88N×12°.09E, h3km, ML3.5(ROM), After ROM.*
NEIC Felt at Feltre and Pederobba.
*CSEM **13** 18:35:23.2±0.1, 45°.85N×12°.07E, h5km, ML4.0/46, Error ellipse: s-maj=1.8km s-min=1.4km az=160.0*
*LDG **13** 18:35:23.7±0.1, 45°.78N×12°.23E, h2km, Md3.4/4, Ml3.6/27, Error ellipse: s-maj=1.6km s-min=1.3km az=5.0*
*IASPEI **13** 18:35:23.8±0.8, 45°.89N±0°.02×12°.05E±0°.02, h12km±4km, Error ellipse: s-maj=3.5km s-min=2.0km az=161.8, GT5 selection from ISC bulletin GT5 identified by Bond¨jr and McLaughlin (2009) selection criteria Bond¨jr and McLaughlin, A new ground truth data set for seismic studies, Seism. Res. Let., 80, 465-472, 2009*

*BNS **13** 18:35:24.7±0.7, 45°.85N×12°.19E, h5km, ML3.4*
*BGR **13** 18:35:26.4±0.4, 45°.92N×12°.13E, h10km, ML3.8/17, Error ellipse: s-maj=7.8km s-min=4.4km az=11.0*
*PRU **13** 18:35:27.0, 45°.93N×12°.23E, h2km*

ISC 13 18:35:23.7±0.7, 45°.88N±0°.01×12°.04E±0°.01, h14km±4km, n384, σ1§32/595, 18C-10D, Northern Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MTLO	**Montello**	**0.08**	**150**	⇑*i*Pg	**Pg**	**18 35 26.5**	**0.0**
MTLO				*i* Sg	**Sg**	**18 35 28.7**	**+0.2**
MTLO	**Montello**	**0.08**	**150**	*i* Pg	**Pg**	**18 35 26.5**	**0.0**
MTLO				*i* Sg	**Sg**	**18 35 28.7**	**+0.2**
VARN	**Col Varnada, M**	**0.12**	**21**	⇓*e*Pg	**Pg**	**18 35 26.6**	**-0.6**
VARN				*e*Sg	**Sg**	**18 35 28.8**	**-0.7**
VARN	**Col Varnada, M**	**0.12**	**21**	*e*Pg	**Pg**	**18 35 26.6**	**-0.6**
VARN				*e*Sg	**Sg**	**18 35 28.8**	**-0.7**
CGRP	**Cima Grappa**	**0.17**	**270**	Pg	**Pg**	**18 35 27.7**	**-0.2**
CGRP				Sg	**Sg**	**18 35 30.8**	**+0.1**
	7µm,0.3s						
CGRP	**Cima Grappa**	**0.17**	**270**	⇑*e*Pg	**Pg**	**18 35 27.7**	**-0.2**
CGRP				*e*Sg	**Sg**	**18 35 30.8**	**+0.1**
CGRP	**Cima Grappa**	**0.17**	**270**	Pg	**Pg**	**18 35 27.7**	**-0.2**
CGRP				Sg	**Sg**	**18 35 30.8**	**+0.1**
	7µm,0.3s						
CAE	**Caneva**	**0.30**	**65**	⇓*e*Pg	**Pg**	**18 35 29.4**	**-0.6**
CAE	**Caneva**	**0.30**	**65**	*e*Pg	**Pg**	**18 35 29.4**	**-0.6**
AGOR	**Agordo**	**0.40**	**1**	Pg	**Pg**	**18 35 30.8**	**-1.0**
AGOR				Sg	**Sg**	**18 35 37.8**	**+0.5**
	2µm,0.4s						
AGOR	**Agordo**	**0.40**	**1**	⇓*e*Pg	**Pg**	**18 35 30.8**	**-1.0**
AGOR				*e*Sg	**Sg**	**18 35 37.6**	**+0.3**
MLNI	**Malnisio**	**0.48**	**55**	⇓*e*Pg	**Pg**	**18 35 32.1**	**-1.0**
MLNI	**Malnisio**	**0.48**	**55**	*e*Pg	**Pg**	**18 35 32.2**	**-1.0**
CIMO	**Cimolais**	**0.51**	**33**	⇓*e*Pg	**Pg**	**18 35 32.2**	**-1.6**
CIMO				*e*Sg	**Sg**	**18 35 40.9**	**+0.2**
CIMO	**Cimolais**	**0.51**	**33**	*e*Pg	**Pg**	**18 35 32.2**	**-1.6**
CIMO				*e*Sg	**Sg**	**18 35 40.9**	**+0.2**
PANI	**Panarotta**	**0.52**	**289**	⇓*e*Pg	**Pg**	**18 35 34.2**	**+0.2**
PANI				*e*Sg	**Sg**	**18 35 41.3**	**+0.3**
DDS	**Dosso del Somm**	**0.60**	**270**	⇑*e*Pg	**Pg**	**18 35 35.4**	**0.0**
DDS				*e*Sg	**Sg**	**18 35 43.6**	**+0.3**
DDS	**Dosso del Somm**	**0.60**	**270**	*e*Pg	**Pg**	**18 35 35.4**	**0.0**
DDS				*e*Sg	**Sg**	**18 35 43.6**	**+0.3**
STAL	**STALIGIAL**	**0.60**	**51**	Pg	**Pg**	**18 35 35.2**	**-0.3**
STAL				Sg	**Sb**	**18 35 45.1**	**+0.6**
	4µm,0.3s						
STAL	**STALIGIAL**	**0.60**	**51**	Pg	**Pg**	**18 35 35.2**	**-0.3**
STAL				Sg	**Sb**	**18 35 45.1**	**+0.6**
	4µm,0.3s						
MARN	**Marana (Italy)**	**0.63**	**248**	⇑*e*Pg	**Pg**	**18 35 36.0**	**0.0**
MARN	**Marana (Italy)**	**0.63**	**248**	*e*Pg	**Pg**	**18 35 36.0**	**0.0**
ROVR	**Rover¨¤ Verone**	**0.72**	**251**	Pg	**Pg**	**18 35 38.0**	**+0.3**
	4µm,0.2s						
ROVR	**Rover¨¤ Verone**	**0.72**	**251**	Pg	**Pg**	**18 35 38.0**	**+0.3**
	4µm,0.2s						
CSMI	**Casera Mimoias**	**0.76**	**34**	⇑*e*Pg	**Pg**	**18 35 37.6**	**-0.9**
CSMI				*e*Sg	**Sb**	**18 35 49.6**	**+0.4**
CSMI	**Casera Mimoias**	**0.76**	**34**	*e*Pg	**Pg**	**18 35 37.6**	**-0.9**
CSMI				*e*Sg	**Sb**	**18 35 49.6**	**+0.4**
FUSE	**Fusea**	**0.85**	**51**	*e*Pg	**Pg**	**18 35 39.6**	**-0.7**
FUSE	**Fusea**	**0.85**	**51**	*e*Pg	**Pg**	**18 35 39.6**	**-0.7**
OZOL	**Ozolo**	**0.86**	**308**	⇑*e*Pg	**Pg**	**18 35 40.4**	**-0.1**
OZOL	**Ozolo**	**0.86**	**308**	*e*Pg	**Pg**	**18 35 40.4**	**-0.1**
FVI	**Forni Avoltri**	**0.88**	**35**	Pg	**Pb**	**18 35 41.1**	**+0.2**
FVI				Sg	**Sn**	**18 35 53.5**	**-1.0**
	1µm,0.4s						
FVI	**Forni Avoltri**	**0.88**	**35**	Pg	**Pb**	**18 35 41.1**	**+0.2**
FVI				Sg	**Sn**	**18 35 53.5**	**-1.0**
	1µm,0.4s						
ABTA	**Abfaltersbach**	**0.93**	**20**	*e*Pg	**Pb**	**18 35 41.0**	**-0.7**
	273nm,0.3s,SNR=380						
ABTA				*i* Sg	**Sg**	**18 35 54.2**	**+0.4**
	506nm,0.5s						
ABTA	**Abfaltersbach**	**0.93**	**20**	Pg	**Pb**	**18 35 41.0**	**-0.7**
	273nm,0.3s,SNR=380						
ABTA				Sg	**Sg**	**18 35 54.2**	**+0.4**
	506nm,0.5s						
ZOU	**Zoufplan**	**0.94**	**43**	⇓*e*Pg	**Pb**	**18 35 41.7**	**-0.2**
VINO	**Villanova**	**0.94**	**66**	⇑*e*Pg	**Pb**	**18 35 41.3**	**-0.6**
VINO	**Villanova**	**0.94**	**66**	*e*Pg	**Pb**	**18 35 41.3**	**-0.6**
MAGA	**Magasa**	**0.99**	**264**	Pg	**Pb**	**18 35 43.3**	**+0.5**
MAGA				Sg	**Sn**	**18 35 57.6**	**+0.3**
	3µm,0.4s						
MAGA	**Magasa**	**0.99**	**264**	Pg	**Pb**	**18 35 43.3**	**+0.5**
MAGA				Sg	**Sn**	**18 35 57.6**

WTTA *i* Sg **Sg** **18 36 10.4 +1.1**
comp=Z,878nm,0.3s
WTTA Wattenberg 1.41 349 Pg **Pg** **18 35 50.9 0.0**
comp=Z,464nm,0.3s
WTTA Wattenberg 1.41 349 Pg **Pg** **18 35 50.9 0.0**
comp=Z,464nm,0.3s
WTTA Sg **Sg** **18 36 10.4 +1.1**
comp=Z,878nm,0.3s
GORS Gorjuse 1.43 71 *i* Pn **Pn** **18 35 49.4 +0.1**
GORS *e*Sn **Sg** **18 36 09.6 -0.1**
comp=Z,179nm,0.2s
GORS Gorjuse 1.43 71 *i* Pn **Pn** **18 35 49.4 +0.1**
GORS *e*Sn **Sg** **18 36 09.6 -0.1**
comp=Z,179nm,0.2s
NOVE Novellara 1.43 221 Pg **Pb** **18 35 50.2 +0.1**
NOVE Sg **Sg** **18 36 10.2 +0.5**
comp=Z,5µm,0.4s
NOVE Novellara 1.43 221 Pg **Pb** **18 35 50.2 +0.1**
NOVE Sg **Sg** **18 36 10.2 +0.5**
comp=Z,5µm,0.4s
FUORN Ofenpass-Fuorn 1.44 302 *e*Pn **Pb** **18 35 50.9 +0.4**
FUORN Ofenpass-Fuorn 1.44 302 *e*Pn **Pb** **18 35 50.9 +0.4**
FETA Feichten 1.46 322 *e*Pg **Pb** **18 35 50.9 +0.1**
comp=Z,18nm,0.1s,SNR=325
FETA *i* Sn **Sb** **18 36 10.4 +1.1**
comp=Z,326nm,0.3s
FETA Feichten 1.46 322 Pg **Pb** **18 35 50.9 +0.1**
comp=Z,18nm,0.1s,SNR=325
FETA Sg **Sb** **18 36 10.4 +1.1**
comp=Z,326nm,0.3s
WATA Walderalm 1.49 348 *e*Pg **Pb** **18 35 51.6 +0.3**
comp=Z,226nm,0.2s,SNR=219
WATA *i* Sg **Sg** **18 36 12.4 +0.6**
comp=Z,390nm,0.5s
WATA Walderalm 1.49 348 Pg **Pb** **18 35 51.6 +0.3**
comp=Z,226nm,0.2s,SNR=219
WATA Sg **Sg** **18 36 12.4 +0.6**
comp=Z,390nm,0.5s
KBA Koelnbreinsper 1.50 36 *e*Pn **Pb** **18 35 51.6 +0.2**
comp=Z,217nm,0.3s,SNR=611
KBA *i* Sg **Sg** **18 36 12.4 +0.3**
comp=Z,413nm,0.3s
KBA Koelnbreinsper 1.50 36 *e*Pn **Pb** **18 35 51.5 0.0**
KBA *e*Sg **Sg** **18 36 12.9 +0.8**
KBA Koelnbreinsper 1.50 36 Pn **Pb** **18 35 51.5 0.0**
KBA Sg **Sg** **18 36 12.9 +0.8**
IMOL Imola, Italy 1.54 188 Pg **Pb** **18 35 52.3 +0.4**
IMOL Sg **Sg** **18 36 12.5 -0.6**
IMOL Imola, Italy 1.54 188 Pg **Pb** **18 35 52.3 +0.4**
IMOL Sg **Sg** **18 36 12.5 -0.6**
CRNS Crni Vrh 1.56 82 *e*Pn **Pn** **18 35 51.1 0.0**
CRNS *e*Sn **Sg** **18 36 13.4 -0.6**
comp=Z,182nm,0.2s
CRNS Crni Vrh 1.56 82 *e*Pn **Pn** **18 35 51.1 0.0**
CRNS *e*Sn **Sg** **18 36 13.4 -0.6**
comp=Z,182nm,0.2s
MOTA Moosalm 1.60 337 *e*Pn **Pn** **18 35 52.8 +1.0**
comp=Z,157nm,0.2s,SNR=288
MOTA *i* Sg **Sg** **18 36 16.4 +1.1**
comp=Z,427nm,0.3s
MOTA Moosalm 1.60 337 Pn **Pn** **18 35 52.8 +1.0**
comp=Z,157nm,0.2s,SNR=288
MOTA Sg **Sg** **18 36 16.4 +1.1**
comp=Z,427nm,0.3s
PRMA PARMA 1.65 228 Pg **Pb** **18 35 54.3 +0.4**
PRMA Sg **Sg** **18 36 17.1 +0.2**
comp=Z,1µm,0.7s
PRMA PARMA 1.65 228 Pg **Pb** **18 35 54.3 +0.4**
PRMA Sg **Sg** **18 36 17.1 +0.2**
comp=Z,1µm,0.7s
CEY Cerknica 1.68 94 ⇑ *i* Pn **Pn** **18 35 52.6 -0.1**
ZCCA Zocca 1.70 207 Pg **Pb** **18 35 55.2 +0.3**
ZCCA Zocca 1.70 207 Pg **Pb** **18 35 55.2 +0.3**
LJU Ljubljana 1.74 84 *e*Pn **Pb** **18 35 54.6 -0.9**
LJU *e*Sn **Sb** **18 36 17.5 +0.3**
LJU Ljubljana 1.74 84 *e*Pn **Pb** **18 35 54.8 -0.7**
DAVOX Davos/Dischmat 1.75 302 Pg **Pb** **18 35 56.6 +0.9**
DAVOX Davos/Dischmat 1.75 302 Pg **Pb** **18 35 56.6 +0.9**
RETA Reutte 1.83 332 *i* Pg **Pb** **18 35 58.1 +1.0**
comp=Z,57nm,0.1s
RETA *e*Sg **Sg** **18 36 23.8 +1.1**
comp=Z,299nm,0.4s
RETA Reutte 1.83 332 Pg **Pb** **18 35 58.1 +1.0**
comp=Z,57nm,0.1s
RETA Sn **Sg** **18 36 23.8 +1.1**
comp=Z,299nm,0.4s
OBKA Obir 1.85 69 *e*Pn **Pn** **18 35 55.9 +0.7**
comp=Z,17nm,0.2s,SNR=34
OBKA *e*Sn **Sb** **18 36 21.0 +0.5**
comp=Z,246nm,0.4s
OBKA Obir 1.85 69 *e*Pn **Pn** **18 35 55.9 +0.7**
OBKA *e*Pg **Pg** **18 35 59.6 +0.4**
OBKA *e*Sg **Sg** **18 36 23.8 +0.5**
OBKA Obir 1.85 69 Pn **Pn** **18 35 55.9 +0.7**
OBKA Obir 1.85 69 Pg **Pg** **18 35 59.6 +0.4**
OBKA Sn **Sb** **18 36 21.0 +0.5**
comp=Z,246nm,0.4s
OBKA Sg **Sg** **18 36 23.8 +0.5**
SEI Scarperia 1.89 195 Pg **Pn** **18 35 56.2 +0.6**
SEI Sg **Sb** **18 36 20.6 -0.9**
RJOB Jochberg 1.93 15 *e*Pn **Pb** **18 35 58.5 -0.2**
RJOB *e*Sg **Sg** **18 36 26.8 +1.0**
RJOB Jochberg 1.93 15 Pn **Pb** **18 35 58.5 -0.2**
RJOB Sg **Sg** **18 36 26.8 +1.0**
OBER Oberstdorf 1.94 322 *e*Pn **Pb** **18 35 59.2 +0.2**
OBER *e*Sg **Sg** **18 36 26.4 +0.1**
OBER Oberstdorf 1.94 322 Pn **Pb** **18 35 59.2 +0.2**
OBER Sg **Sg** **18 36 26.4 +0.1**
VMG Vicchio 1.95 191 Pg **Pn** **18 35 57.4 +1.0**
TUE Stuetta 1.96 289 Pg **Pb** **18 35 59.7 +0.3**
comp=Z,166nm,0.4s
TUE Stuetta 1.96 289 *e*Pn **Pb** **18 35 59.2 -0.2**
TUE Stuetta 1.96 289 Pg **Pb** **18 35 59.7 +0.3**
comp=Z,166nm,0.4s
TUE Stuetta 1.96 289 *e*Pn **Pb** **18 35 59.2 -0.2**
GRAM Graiana 1.97 226 P **Pb** **18 35 58.7 -0.7**
SFI Santa Sofia 1.98 184 Pg **Pn** **18 35 56.9 0.0**
SFI Sg **Sn** **18 36 22.6 +1.1**
comp=Z,297nm,0.4s
T0502 Localit' San 1.98 178 Pg **Pn** **18 35 57.3 +0.4**
T0502 Sg **Sb** **18 36 24.0 -0.1**
comp=Z,1313µm,41.0s
PTF Prato 2.04 200 *e*P **Pn** **18 35 58.0 +0.3**
PTF Prato 2.04 200 *e*P **Pn** **18 35 58.0 +0.3**
POPM Popiglio 2.05 207 P **Pn** **18 35 58.6 +0.8**
DAVA Damuels 2.05 314 Pn **Pb** **18 36 00.4 -0.4**
comp=Z,29nm,0.1s,SNR=107
DAVA *i* Sg **Sg** **18 36 29.6 0.0**
comp=Z,336nm,0.4s
DAVA Damuels 2.05 314 *e*Pn **Pb** **18 36 00.8 0.0**
DAVA *e*Sg **Sg** **18 36 29.1 -0.5**
DAVA Damuels 2.05 314 Pn **Pb** **18 36 00.8 0.0**
DAVA Sg **Sg** **18 36 29.1 -0.5**
SARO Sassorosso 2.06 215 P **Pn** **18 35 58.7 +0.7**
VLC Villacollemand 2.08 215 *e*Pn **Pn** **18 35 59.3 +1.0**
VLC Villacollemand 2.08 215 *e*Pn **Pn** **18 35 59.3 +1.0**
CPGN Carpegna, Ital 2.09 174 Pg **Pn** **18 35 58.8 +0.3**
comp=Z,4568µm,61.0s
SOKA Soboth 2.22 68 *e*Pn **Pn** **18 36 00.9 +0.6**
comp=Z,1.8nm,0.2s,SNR=16
SOKA *i* Sn **Sb** **18 36 31.9 +0.7**
comp=Z,62nm,0.3s
SOKA Soboth 2.22 68 Pn **Pn** **18 36 00.9 +0.6**
comp=Z,1.8nm,0.2s,SNR=16
SOKA Sn **Sb** **18 36 31.9 +0.7**
comp=Z,62nm,0.3s
PARC Parchiule 2.23 176 Pg **Pn** **18 36 00.5 +0.1**
comp=Z,143nm,0.5s
FSSB Fossombrone 2.25 166 Pg **Pn** **18 36 00.6 0.0**
comp=Z,528nm,0.4s
MAIM Mastiano 2.25 210 P **Pn** **18 36 01.4 +0.8**
MAIM S **Sn** **18 36 27.5 -0.7**
CRE Caprese Michel 2.26 182 Pg **Pn** **18 36 01.5 +0.7**
comp=Z,150nm,0.5s
MPAG Monte Paganucc 2.31 167 Pg **Pn** **18 36 01.4 0.0**
comp=Z,212nm,0.4s
SC2M Scurtabo 2.31 231 P **Pn** **18 36 02.8 +1.4**
SC2M S **Sn** **18 36 29.0 -0.6**
FUR Furstenfeldbru 2.35 347 *e*Pn **Pb** **18 36 04.6 -1.2**
FUR *e*Sg **Sg** **18 36 38.2 -0.9**
FUR Furstenfeldbru 2.35 347 Pn **Pb** **18 36 04.6 -1.2**
FUR Sg **Sg** **18 36 38.2 -0.9**
PIEI Pieia 2.37 171 Pg **Pn** **18 36 02.2 0.0**
PIEI Sg **Sn** **18 36 31.9 +0.8**
comp=Z,202nm,0.2s

BADI Badiali 2.37 176 Pg **Pn** **18 36 03.3 +1.0**
comp=Z,171nm,0.4s
CRES Cresnjev 2.39 90 ⇑ *i* Pn **Pn** **18 36 02.5 0.0**
NVLJ Novalja 2.39 122 *i* Pn **Pn** **18 36 02.9 +0.3**
NVLJ Sn **Sn** **18 36 31.3 -0.3**
NVLJ Novalja 2.39 122 *i* Pn **Pn** **18 36 02.8 +0.3**
NVLJ Sn **Sn** **18 36 31.3 -0.3**
FRON Frontone 2.41 168 Pg **Pn** **18 36 02.9 +0.1**
FRON Sg **Sn** **18 36 32.6 +0.4**
comp=Z,206nm,0.6s
OZLJ Ozalj 2.41 95 *e*Pn **Pn** **18 36 03.4 +0.7**
OZLJ Sn **Sn** **18 36 32.8 +0.7**
OZLJ Ozalj 2.41 95 *e*Pn **Pn** **18 36 03.4 +0.7**
OZLJ Sn **Sn** **18 36 32.8 +0.7**
ATPC Poggio Castell 2.42 173 Pg **Pn** **18 36 03.1 +0.2**
comp=Z,230nm,0.5s
ATMC Monte Cedrone 2.44 177 Pg **Pn** **18 36 03.8 +0.7**
comp=Z,277nm,0.8s
MOA Molln 2.49 37 *e*Pn **Pn** **18 36 05.5 +1.6**
comp=Z,13nm,0.2s,SNR=56
MOA Sn **Sb** **18 36 37.0 -1.9**
comp=Z,210nm,0.4s
MOA Molln 2.49 37 *e*Pn **Pn** **18 36 05.5 +1.6**
MOA *e*Sg **Sb** **18 36 40.9 +2.0**
MOA Molln 2.49 37 Pn **Pn** **18 36 05.5 +1.6**
MOA Sn **Sb** **18 36 37.0 -1.9**
comp=Z,210nm,0.4s
MOA Sg **Sb** **18 36 40.9 +2.0**
SSFR Montelago di S 2.50 168 Pg **Pn** **18 36 04.0 0.0**
comp=Z,351nm,0.3s
ATVO AVT- Monte Val 2.51 174 Pg **Pn** **18 36 04.9 +0.7**
comp=Z,196nm,0.4s
AOI Ancona 2.58 154 Pg **Pn** **18 36 05.5 +0.4**
comp=Z,245nm,0.7s
MURB Monte Urbino 2.64 172 Pg **Pn** **18 36 07.0 +1.0**
comp=Z,323nm,0.3s
ATTE AVT- Monte Tez 2.69 175 Pg **Pn** **18 36 06.5 -0.2**
comp=Z,161nm,0.9s
SNTG Esanatoglia 2.70 166 Pg **Pn** **18 36 06.8 0.0**
comp=Z,132nm,0.5s
ATCC AVT- Casa Cast 2.73 171 Pg **Pn** **18 36 07.9 +0.7**
comp=Z,233nm,0.5s
FROS Frosini 2.74 194 Pg **Pn** **18 36 07.8 +0.4**
comp=Z,111nm,0.7s
ARSA Arzberg 2.77 59 *e*Pn **Pn** **18 36 08.1 +0.5**
comp=Z,2.5nm,0.3s,SNR=9.9
ARSA Sg **Sb** **18 36 48.2 +1.5**
comp=Z,17nm,0.7s
ARSA Arzberg 2.77 59 *e*Pn **Pn** **18 36 08.2 +0.5**
ARSA *e*Sg **Sg** **18 36 49.3 -3.2**
ARSA Arzberg 2.77 59 Pn **Pn** **18 36 08.2 +0.5**
ARSA Sg **Sb** **18 36 48.2 +1.5**
comp=Z,17nm,0.7s
PCP Piancastagn 2.81 243 P **Pn** **18 36 10.1 +1.8**
PCP S **Sn** **18 36 42.8 +0.8**
TRIF Trifonti 2.88 197 Pg **Pn** **18 36 09.4 +0.1**
comp=Z,42nm,0.6s
SATI Passo dei Sala 2.92 271 P **Pn** **18 36 09.5 -0.5**
SATI S **Sn** **18 36 43.3 -1.7**
CESI CESI - Serrava 2.94 168 Pg **Pn** **18 36 10.4 +0.3**
comp=Z,52nm,0.6s
UDBI Udbina 2.96 116 *i* Pn **Pn** **18 36 11.1 +0.7**
UDBI Sn **Sn** **18 36 46.0 +0.3**
UDBI Udbina 2.96 116 *i* Pn **Pn** **18 36 11.1 +0.7**
UDBI Sn **Sn** **18 36 46.0 +0.3**
SPAK Spaichingen-Ko 3.15 316 P **Pn** **18 36 14.9 +1.9**
GEA0 GERESS Array S 3.17 20 *e*Pn **Pn** **18 36 13.7 +0.5**
GEA0 GERESS Array S 3.17 20 *e*Pn **Pn** **18 36 13.7 +0.5**
GEC2 GERESS Array S 3.17 20 *e*Pn **Pn** **18 36 14.0 +0.7**
GEC2 *e*Pg **Pg** **18 36 23.4 -1.2**
GEC2 *e*Sn **Sn** **18 36 53.2 +2.1**
GEC2 *e*Sg **Sg** **18 37 05.5 -0.2**
GEC2 GERESS Array S 3.17 20 Pn **Pn** **18 36 14.0 +0.7**
GEC2 GERESS Array S 3.17 20 *e*Pn **Pn** **18 36 13.9 +0.5**
WET Wettzell 3.31 10 *e*Pn **Pn** **18 36 16.0 +0.7**
WET *e*Pg **Pg** **18 36 26.1 -1.1**
WET *e*Sn **Sn** **18 36 56.6 +2.2**
WET *e*Sg **Sg** **18 37 09.7 -0.4**
WET Wettzell 3.31 10 Pn **Pn** **18 36 16.0 +0.7**
CONA Conrad Observa 3.33 51 *i* Pn **Pn** **18 36 16.0 +0.6**
comp=Z,1.8nm,0.2s,SNR=14
CONA Sg **Sg** **18 37 12.5 +2.0**
comp=Z,19nm,0.4s
CONA Conrad Observa 3.33 51 Pn **Pn** **18 36 16.0 +0.6**
comp=Z,1.8nm,0.2s,SNR=14
CONA Sg **Sg** **18 37 12.5 +2.0**
comp=Z,19nm,0.4s
RORO Rocca Rossa 3.33 239 P **Pn** **18 36 15.8 +0.4**
SENIN Lac Senin/Sane 3.33 280 *e*Pn **Pn** **18 36 18.0 +2.4**
SENIN Lac Senin/Sane 3.33 280 *e*Pn **Pn** **18 36 18.0 +2.4**
BEHE Becsehely 3.34 78 *ex* **Pg** **18 36 27.3 -0.4**
BEHE ⇑ *ex* **Sg** **18 37 13.1 +2.1**
FELD Feldberg im Sc 3.41 307 P **Pn** **18 36 17.3 +1.6**
KHC Kasperske Hory 3.42 17 *e*PN **Pn** **18 36 17.4 +0.8**
KHC *e*PG **Pg** **18 36 27.5 -1.6**
KHC *e*SN **Sn** **18 36 56.7 -0.3**
KHC *e*SG **Sg** **18 37 12.2 -1.2**
comp=Z,116nm,0.8s
KHC Kasperske Hory 3.42 17 Pn **Pn** **18 36 17.4 +0.8**
KHC Kasperske Hory 3.42 17 *e*Pn **Pn** **18 36 17.3 +0.7**
RSP Reno Superiore 3.44 259 P **Pn** **18 36 15.4 -1.6**
STU Stuttgart 3.48 327 *e*Pn **Pn** **18 36 16.3 -1.2**
STU Sn **Sn** **18 37 01.0 +2.5**
STU Sg **Sg** **18 37 16.7 +1.2**
STU Stuttgart 3.48 327 *e*Pn **Pn** **18 36 16.3 -1.2**
BHB Bricherasio 3.52 255 P **Pn** **18 36 16.8 -1.3**
BFO Black Forest 3.53 315 *e*Pn **Pn** **18 36 19.6 +1.4**
BFO *e*Sn **Sn** **18 37 00.0 +0.4**
BFO *e*Sg **Sg** **18 37 16.4 -0.5**
BFO Black Forest 3.53 315 *e*Pn **Pn** **18 36 19.3 +1.2**
BFO Sn **Sn** **18 37 00.0 +0.4**
BFO Sg **Sg** **18 37 16.4 -0.5**
BFO Black Forest 3.53 315 *e*Pn **Pn** **18 36 19.3 +1.2**
IMI Imperia 3.54 238 P **Pn** **18 36 18.6 +0.2**
IMI S **Sn** **18 36 56.7 -3.5**
SOP Sopron 3.59 58 ⇑ *e*Pn **Pn** **18 36 19.1 +0.1**
SOP Sopron 3.59 58 ⇑ *e*Pn **Pn** **18 36 19.1 +0.1**
AQU L'Aquila 3.66 164 *e*Pn **Pn** **18 36 20.3 +0.3**
AQU L'Aquila 3.66 164 *e*Pn **Pn** **18 36 20.3 +0.3**
ENR Entracque 3.67 245 P **Pn** **18 36 20.2 +0.1**
NEGI Seborga 3.69 238 P **Pn** **18 36 21.0 +0.6**
STV Sant Anna di V 3.72 246 P **Pn** **18 36 20.5 -0.3**
LPG La Plagne 3.73 266 *e*Pn **Pn** **18 36 22.5 +1.4**
SNR=1.0
LPG *e*Sn **Sn** **18 37 05.4 +0.4**
comp=Z,33nm,0.4s
LPG La Plagne 3.73 266 *e*Pn **Pn** **18 36 22.5 +1.4**
SNR=1.0
LPG Sn **Sn** **18 37 05.4 +0.4**
comp=Z,17nm,0.4s
LPL La Plagne 3.74 266 *e*Pn **Pn** **18 36 21.9 +0.7**
SNR=1.0
LPL La Plagne 3.74 266 *e*P **Pn** **18 36 25.5 +4.3**
LPL La Plagne 3.74 266 *e*Pg **Pg** **18 36 34.4 -0.9**
LPL *e*Sn **Sn** **18 37 05.8 +0.7**
comp=Z,32nm,0.4s
LPL La Plagne 3.74 266 *e*Pn **Pn** **18 36 21.9 +0.7**
SNR=1.0
LPL La Plagne 3.74 266 *e*P **Pn** **18 36 25.5 +4.3**
LPL La Plagne 3.74 266 *e*Pg **Pg** **18 36 34.4 -0.9**
LPL *e*Sn **Sn** **18 37 05.8 +0.7**
comp=Z,16nm,0.4s
PZZ Stroppo 3.74 250 P **Pn** **18 36 20.2 -1.0**
OG22 Abries 3.75 255 P **Pn** **18 36 22.1 +0.8**
OG22 S **Sb** **18 37 11.4 -3.7**
OG22 Abries 3.75 255 P **Pn** **18 36 22.1 +0.8**
BLY Banja Luka 3.80 105 *e*Pn **Pn** **18 36 22.3 +0.4**
BLY Banja Luka 3.80 105 *e*Pn **Pn** **18 36 22.3 +0.4**
RRL Rocca Remolon 3.82 257 P **Pn** **18 36 21.7 -0.7**
SBF Sospel 3.84 240 *e*Pn **Pn** **18 36 23.5 +1.0**
SNR=1.0
SBF *e*Sn **Sn** **18 37 06.9 -0.7**
comp=Z,59nm,0.3s,SNR=1.0
SBF Sospel 3.84 240 *e*Pn **Pn** **18 36 23.5 +1.0**
SNR=1.0
SBF *e*Sn **Sn** **18 37 06.9 -0.7**
comp=Z,29nm,0.3s,SNR=1.0
GRFO Grafenberg 3.85 352 *e*Pn **Pn** **18 36 26.5 +3.9**
GRFO Grafenberg 3.85 352 *e*Pn **Pn** **18 36 26.5 +3.9**
GRFO *e*Pg **Pg** **18 36 35.4 -2.1**
GRA1 Grafenberg Arr 3.85 352 Pn **Pn** **18 36 25.6 +3.0**
GRA1 Grafenberg Arr 3.85 352 Pg **Pg** **18 36 35.6 -1.9**
GRA1 Sg **Sg** **18 37 26.1 -1.3**

GRF Grafenberg Arr 3.85 352 *e*Pn **Pn** **18 36 25.6 +3.0**
GRF *e*Pg **Pg** **18 36 35.6 -1.9**
GRF *e*Sg **Sg** **18 37 26.1 -1.3**
BNI Bardonecchia 3.86 260 *e*Pn **Pn** **18 36 23.2 +0.3**
BNI Bardonecchia 3.86 260 *e*Pn **Pn** **18 36 23.2 +0.3**
MBDF Montbardon 3.89 255 *e*Pn **Pn** **18 36 23.3 0.0**
SNR=1.0
MBDF *e*Sn **Sn** **18 37 07.6 -1.3**
comp=Z,13nm,0.3s,SNR=1.0
MBDF Montbardon 3.89 255 *e*Pn **Pn** **18 36 23.3 0.0**
SNR=1.0
MBDF *e*Sn **Sn** **18 37 07.6 -1.3**
comp=Z,6.6nm,0.3s,SNR=1.0
MOF Molkenrain 3.90 302 P **Pn** **18 36 25.8 +2.5**
MOF S **Sb** **18 37 16.5 -3.0**
MOF Molkenrain 3.90 302 P **Pn** **18 36 25.8 +2.5**
PGF Pioggiola 3.98 214 *e*Pn **Pn** **18 36 23.9 -0.6**
SNR=1.0
PGF *e*Sn **Sn** **18 37 09.5 -1.6**
comp=Z,40nm,0.3s
PGF Pioggiola 3.98 214 *e*Pn **Pn** **18 36 23.9 -0.6**
SNR=1.0
PGF *e*Sn **Sn** **18 37 09.5 -1.6**
comp=Z,20nm,0.3s
HINF Hinteralfeld 4.05 300 *e*Pn **Pn** **18 36 27.2 +1.8**
SNR=1.0
HINF *e*Sn **Sn** **18 37 13.8 +1.1**
comp=Z,42nm,0.3s,SNR=1.0
HINF Hinteralfeld 4.05 300 *e*Pn **Pn** **18 36 27.2 +1.8**
SNR=1.0
HINF *e*Sn **Sn** **18 37 13.8 +1.1**
comp=Z,21nm,0.3s,SNR=1.0
ECH Echery 4.08 307 P **Pn** **18 36 28.2 +2.5**
ECH S **Sb** **18 37 20.8 -3.6**
ECH Echery 4.08 307 P **Pn** **18 36 28.2 +2.5**
MANZ Manzenberg 4.11 1 *e*Pn **Pn** **18 36 26.6 +0.5**
MANZ *e*Sn **Sn** **18 37 14.0 0.0**
MANZ *e*Sg **Sg** **18 37 36.8 +1.2**
MANZ Manzenberg 4.11 1 Pn **Pn** **18 36 26.6 +0.5**
MANZ Sn **Sn** **18 37 14.0 0.0**
MANZ Sg **Sg** **18 37 36.8 +1.2**
CDF Champ du Feu 4.12 310 *e*Pn **Pn** **18 36 27.4 +1.0**
SNR=1.0
CDF *e*Sg **Sg** **18 37 37.2 +1.2**
comp=Z,50nm,0.5s,SNR=1.0
CDF Champ du Feu 4.12 310 *e*Pn **Pn** **18 36 27.4 +1.0**
SNR=1.0
CDF *e*Sg **Sg** **18 37 37.2 +1.2**
comp=Z,25nm,0.5s,SNR=1.0
CABF La Chapelle 4.20 282 *e*Pn **Pn** **18 36 28.9 +1.5**
SNR=1.0
CABF *e*Sn **Sn** **18 37 16.8 +0.6**
CABF comp=Z,16nm,0.4s,SNR=1.0 *e*Sg **Sg** **18 37 38.7 +0.3**
comp=Z,52nm,0.7s
CABF La Chapelle 4.20 282 *e*Pn **Pn** **18 36 28.9 +1.5**
SNR=1.0
CABF *e*Sn **Sn** **18 37 16.8 +0.6**
comp=Z,8.0nm,0.4s,SNR=1.0
CABF *e*Sg **Sg** **18 37 38.7 +0.3**
comp=Z,26nm,0.7s
LANF Langenberg 4.23 319 P **Pn** **18 36 30.4 +2.6**
LANF Langenberg 4.23 319 P **Pn** **18 36 30.4 +2.6**
NKC Novy Kostel 4.37 3 *e*PN **Pn** **18 36 30.2 +0.6**
NKC *e*PG **Pg** **18 36 46.5 -0.8**
NKC *e*SN **Sn** **18 37 19.8 -0.5**
NKC *e*SG **Sg** **18 37 42.8 -1.0**
comp=Z,61nm,0.3s
NKC Novy Kostel 4.37 3 Pn **Pn** **18 36 30.2 +0.6**
NKC Novy Kostel 4.37 3 Pg **Pg** **18 36 46.5 -0.8**
NKC Sn **Sn** **18 37 19.8 -0.5**
NKC Sg **Sg** **18 37 42.8 -1.0**
comp=Z,61nm,0.3s
GOPC GO Pecny, Ondr 4.44 24 *e*PN **Pn** **18 36 31.8 +1.1**
GOPC *e*PG **Pb** **18 36 45.1 +3.6**
GOPC *e*SG **Sg** **18 37 43.9 -2.3**
comp=Z,47nm,0.4s
GOPC GO Pecny, Ondr 4.44 24 Pn **Pn** **18 36 31.8 +1.1**
GOPC GO Pecny, Ondr 4.44 24 Pg **Pb** **18 36 45.1 +3.6**
GOPC Sg **Sg** **18 37 43.9 -2.3**
comp=Z,47nm,0.4s
HAU Haudompre 4.44 301 *e*Pn **Pn** **18 36 33.0 +2.3**
SNR=1.0
HAU *e*Sn **Sn** **18 37 22.6 +0.4**
comp=Z,61nm,0.4s,SNR=1.0
HAU Haudompre 4.44 301 *e*Pn **Pn** **18 36 33.0 +2.3**
SNR=1.0
HAU *e*Sn **Sn** **18 37 22.6 +0.4**
comp=Z,31nm,0.4s,SNR=1.0
PRU Pruhonice 4.44 21 *e*PN **Pn** **18 36 31.4 +0.7**
PRU *e*PG **Pg** **18 36 45.5 -3.2**
PRU *e*SG **Sg** **18 37 43.6 -2.6**
comp=Z,65nm,0.6s
PRU Pruhonice 4.44 21 Pn **Pn** **18 36 31.4 +0.7**
ORIF Oris-en-Rattie 4.45 260 *e*Pn **Pn** **18 36 33.0 +2.2**
SNR=1.0
ORIF *e*Sn **Sn** **18 37 21.5 -0.9**
comp=Z,28nm,0.4s,SNR=1.0
ORIF Oris-en-Rattie 4.45 260 *e*Pn **Pn** **18 36 33.0 +2.2**
SNR=1.0
ORIF *e*Sn **Sn** **18 37 21.5 -0.9**
comp=Z,14nm,0.4s,SNR=1.0
GRN Grenoble 4.47 264 P **Pn** **18 36 32.7 +1.6**
GRN Grenoble 4.47 264 P **Pn** **18 36 32.7 +1.6**
FRF La Foret Royal 4.49 241 *e*Pn **Pn** **18 36 31.0 -0.3**
SNR=1.0
FRF *e*Sn **Sn** **18 37 24.1 +0.7**
comp=Z,15nm,0.2s,SNR=1.0
FRF La Foret Royal 4.49 241 *e*Pn **Pn** **18 36 31.0 -0.3**
SNR=1.0
FRF *e*Sn **Sn** **18 37 24.1 +0.7**
comp=Z,7.6nm,0.2s,SNR=1.0
PRA Prague 4.49 20 *e*PN **Pn** **18 36 32.5 +1.2**
PRA *e*PG **Pg** **18 36 46.1 -3.6**
PRA *e*SG **Sg** **18 37 46.8 -1.0**
PRA Prague 4.49 20 Pn **Pn** **18 36 32.5 +1.2**
SMOL Smolenice 4.52 52 *e*Pn **Pn** **18 36 31.4 -0.4**
SMOL *e*Sg **Sg** **18 37 50.6 +1.9**
SMOL Smolenice 4.52 52 *e*PN **Pn** **18 36 31.4 -0.4**
SMOL *e*SG **Sg** **18 37 50.6 +1.9**
VRAC Vranov 4.61 40 *e*Pn **Pn** **18 36 34.4 +1.4**
VRAC Vranov 4.61 40 *e*Pg **Pg** **18 36 49.2 -2.7**
LMR La Mourre 4.70 239 *e*Pn **Pn** **18 36 34.6 +0.4**
SNR=1.0
LMR La Mourre 4.70 239 *e*P **Pn** **18 36 38.6 +4.4**
LMR *e*Sn **Sn** **18 37 26.7 -1.8**
comp=Z,17nm,0.3s,SNR=1.0
LMR La Mourre 4.70 239 *e*Pn **Pn** **18 36 34.6 +0.4**
SNR=1.0
LMR La Mourre 4.70 239 *e*P **Pn** **18 36 38.6 +4.4**
LMR *e*Sn **Sn** **18 37 26.7 -1.8**
comp=Z,8.4nm,0.3s,SNR=1.0
THEF They Montfort 4.76 302 P **Pn** **18 36 37.1 +2.1**
THEF S **Sb** **18 37 38.5 -5.5**
THEF They Montfort 4.76 302 P **Pn** **18 36 37.1 +2.1**
MOX Moxa 4.78 357 *e*Pn **Pn** **18 36 36.1 +0.8**
MOX *e*Pg **Pg** **18 36 55.1 -0.1**
MOX *e*Sn **Sn** **18 37 29.9 -0.6**
MOX *e*Sg **Sg** **18 37 59.7 +2.7**
MOX Moxa 4.78 357 Pn **Pn** **18 36 36.1 +0.8**
PVCC Panska Ves 4.95 19 *e*SG **Sg** **18 38 01.5 -1.0**
comp=Z,130nm,0.9s
PVCC Panska Ves 4.95 19 Sg **Sg** **18 38 01.5 -1.0**
comp=Z,130nm,0.9s
TNS Taunus Mts 4.97 332 *e*Pn **Pn** **18 36 39.6 +1.6**
TNS *e*Sn **Sn** **18 37 36.6 +1.4**
TNS *e*Sg **Sg** **18 38 04.8 +1.7**
TNS Taunus Mts 4.97 332 Pn **Pn** **18 36 39.6 +1.6**
TNS Sn **Sn** **18 37 36.6 +1.4**
TNS Sg **Sg** **18 38 04.8 +1.7**
SMRF Simiane la Rot 4.97 250 *e*Pn **Pn** **18 36 39.3 +1.3**
SNR=1.0
SMRF *e*Sn **Sn** **18 37 34.2 -1.1**
comp=Z,11nm,0.3s,SNR=1.0
SMRF Simiane la Rot 4.97 250 *e*Pn **Pn** **18 36 39.3 +1.3**
SNR=1.0
SMRF *e*Sn **Sn** **18 37 34.2 -1.1**
comp=Z,5.5nm,0.3s,SNR=1.0
MS1 Monte Sant'Ang 5.04 145 *e*Pn **Pn** **18 36 37.4 -1.5**
PAGF Fort de Pagny 5.07 304 *e*Pn **Pn** **18 36 41.8 +2.5**
baz=123
PAGF *e*Sg **Sg** **18 38 07.5 +1.2**
comp=Z,15nm,0.8s
PAGF Fort de Pagny 5.07 304 *e*Pn **Pn** **18 36 41.8 +2.5**
PAGF *e*Sg **Sg** **18 38 07.5 +1.2**

	comp=Z,7.4nm,0.8s								
RUP	**Ruppelstein**		**5.09**	**321**		P	**Pn**	**18 36 41.9**	**+2.3**
BRG	**Berggiesshubel**		**5.16**	**14**		PN	**Pn**	**18 36 41.5**	**+1.0**
BRG						PG	**Pg**	**18 36 60.0**	**-2.4**
BRG					*i*			18 37 47.8	
BRG	**Berggiesshubel**		**5.16**	**14**		SG	**Sg**	**18 38 11.8**	**+2.7**
	comp=Z,60nm,1.1s								
VIVF	**Saint-Julien-l**		**5.29**	**261**		*e*Pn	**Pn**	**18 36 42.9**	**+0.5**
	SNR=1.0								
VIVF						*e*Sn	**Sn**	**18 37 42.5**	**-0.7**
	comp=Z,7.2nm,0.3s,SNR=1.0								
VIVF	**Saint-Julien-l**		**5.29**	**261**		*e*Pn	**Pn**	**18 36 42.9**	**+0.5**
	SNR=1.0								
VIVF						*e*Sn	**Sn**	**18 37 42.5**	**-0.7**
	comp=Z,3.6nm,0.3s,SNR=1.0								
SSB	**Saint Sauveur**		**5.30**	**266**		*e*Pn	**Pn**	**18 36 43.3**	**+0.8**
SSB	**Saint Sauveur**		**5.30**	**266**		*e*Pn	**Pn**	**18 36 43.3**	**+0.8**
DPC	**Dobruska-Polom**		**5.31**	**31**		*e*SG	**Sg**	**18 38 10.6**	**-3.5**
	comp=Z,53nm,0.6s								
DPC	**Dobruska-Polom**		**5.31**	**31**		Sg	**Sg**	**18 38 10.6**	**-3.5**
	comp=Z,53nm,0.6s								
VYHS	**Vyhne**		**5.32**	**58**		*e*Pn	**Pn**	**18 36 41.7**	**-1.0**
VYHS						*e*Sg	**Sg**	**18 38 16.6**	**+2.2**
VYHS	**Vyhne**		**5.32**	**58**		*e*PN	**Pn**	**18 36 41.7**	**-1.0**
VYHS						*e*SG	**Sg**	**18 38 16.6**	**+2.2**
SFTF	**Sexfontaines**		**5.32**	**298**		*e*Pn	**Pn**	**18 36 45.2**	**+2.4**
	baz=126								
SFTF	**Sexfontaines**		**5.32**	**298**		*e*Pn	**Pn**	**18 36 45.2**	**+2.4**
UPC	**Upice**		**5.34**	**28**		*e*SG	**Sg**	**18 38 13.0**	**-1.9**
	comp=Z,76nm,0.8s								
UPC	**Upice**		**5.34**	**28**		Sg	**Sg**	**18 38 13.0**	**-1.9**
	comp=Z,76nm,0.8s								
BGG	**Burgeitz**		**5.36**	**326**		*e*Pn	**Pn**	**18 36 45.4**	**+2.2**
BGG	**Burgeitz**		**5.36**	**326**		Pn	**Pn**	**18 36 45.4**	**+2.2**
MORC	**Moravsky Berou**		**5.38**	**42**		*e*Pn	**Pn**	**18 36 44.2**	**+0.6**
MORC	**Moravsky Berou**		**5.38**	**42**		*e*Pn	**Pn**	**18 36 44.1**	**+0.6**
MEZF	**Maizieres J'vi**		**5.44**	**301**		*e*Pn	**Pn**	**18 36 47.2**	**+2.9**
	baz=127								
MEZF						*e*Sn	**Sn**	**18 37 45.3**	**-1.4**
	comp=Z,11nm,0.4s,SNR=1.0								
MEZF						*e*Sg	**Sg**	**18 38 18.6**	**+0.4**
	comp=Z,32nm,0.6s								
MEZF	**Maizieres J'vi**		**5.44**	**301**		*e*Pn	**Pn**	**18 36 47.2**	**+2.9**
MEZF						*e*Sg	**Sg**	**18 38 18.6**	**+0.4**
	comp=Z,16nm,0.6s								
TEKS	**Tekeris**		**5.46**	**101**		*e*Pn	**Pn**	**18 36 45.3**	**+0.7**
CLL	**Collm**		**5.47**	**6**		*e*Pn	**Pn**	**18 36 45.0**	**+0.2**
CLL	**Collm**		**5.47**	**6**		*e*Pn	**Pn**	**18 36 45.0**	**+0.2**
CLL						*e*Pg	**Pg**	**18 37 06.0**	**-2.4**
CLL						*e*Sg	**Sg**	**18 38 18.0**	**-1.2**
	comp=Z,54nm,0.8s								
CLL	**Collm**		**5.47**	**6**		*e*Pn	**Pn**	**18 36 45.0**	**+0.2**
WLF	**Walferdange**		**5.49**	**316**		*e*Pn	**Pn**	**18 36 47.2**	**+2.2**
WLF						*e*Sn	**Sn**	**18 37 47.8**	**-0.1**
WLF						*e*Sg	**Sg**	**18 38 18.5**	**-1.2**
WLF	**Walferdange**		**5.49**	**316**		Pn	**Pn**	**18 36 47.2**	**+2.2**
WLF						Sn	**Sn**	**18 37 47.8**	**-0.1**
WLF						Sg	**Sg**	**18 38 18.5**	**-1.2**
WLF	**Walferdange**		**5.49**	**316**		*e*Pn	**Pn**	**18 36 48.3**	**+3.3**
FGSL	**Fruska Gora**		**5.51**	**95**		*e*Pn	**Pn**	**18 36 48.0**	**+2.7**
TREB	**Trebinje**		**5.52**	**123**		*e*Pn	**Pn**	**18 36 45.8**	**+0.3**
BRY	**Bratogost**		**5.53**	**120**		*e*Pn	**Pn**	**18 36 46.3**	**+0.6**
UPM	**Unac-Piva**		**5.59**	**116**		*e*Pn	**Pn**	**18 36 48.7**	**+2.1**
CDT	**Castel del Mon**		**5.70**	**146**		*e*Pn	**Pn**	**18 36 46.4**	**-1.6**
SMF	**Signal de Mont**		**5.74**	**281**		*e*Pn	**Pn**	**18 36 49.6**	**+1.1**
	SNR=1.0								
SMF						*e*Sn	**Sn**	**18 37 53.6**	**-0.5**
	comp=Z,16nm,0.3s,SNR=1.0								
SMF	**Signal de Mont**		**5.74**	**281**		*e*Pn	**Pn**	**18 36 49.6**	**+1.1**
	SNR=1.0								
SMF						*e*Sn	**Sn**	**18 37 53.6**	**-0.5**
	comp=Z,8.0nm,0.3s,SNR=1.0								
PSZ	**Piszkesteto**		**5.75**	**66**		*e*Pn	**Pn**	**18 36 48.0**	**-0.8**
PSZ	**Piszkesteto**		**5.75**	**66**		*e*Pn	**Pn**	**18 36 48.0**	**-0.8**
HCY	**Herceg Novi**		**5.77**	**124**		*e*Pn	**Pn**	**18 36 48.2**	**-0.7**
LOR	**Lormes**		**5.81**	**287**		*e*Pn	**Pn**	**18 36 50.6**	**+1.1**
	baz=109,SNR=1.0								
LOR						*e*Sn	**Sn**	**18 37 53.7**	**-2.2**
	comp=Z,16nm,0.2s,SNR=1.0								
LOR	**Lormes**		**5.81**	**287**		*e*Pn	**Pn**	**18 36 50.6**	**+1.1**
	SNR=1.0								
PLDF	**La Plantade**		**5.88**	**274**		P	**Pn**	**18 36 52.2**	**+1.8**
PLDF	**La Plantade**		**5.88**	**274**		P	**Pn**	**18 36 52.2**	**+1.8**
DIVS	**Divibare**		**5.91**	**105**		*e*Pn	**Pn**	**18 36 52.7**	**+1.7**
BAI	**Bari**		**5.93**	**142**		*e*Pn	**Pn**	**18 36 49.6**	**-1.5**
HOBG	**Hohbusch**		**5.99**	**330**		*e*Pn	**Pn**	**18 36 54.4**	**+2.5**
HOBG	**Hohbusch**		**5.99**	**330**		Pn	**Pn**	**18 36 54.4**	**+2.5**
SSF	**Saint Saulge**		**6.01**	**284**		*e*Pn	**Pn**	**18 36 53.2**	**+0.9**
	SNR=1.0								
SSF						*e*Sn	**Sn**	**18 38 00.8**	**-0.1**
	comp=Z,7.3nm,0.3s,SNR=1.0								
SSF	**Saint Saulge**		**6.01**	**284**		*e*Pn	**Pn**	**18 36 53.2**	**+0.9**
	SNR=1.0								
SSF						*e*Sn	**Sn**	**18 38 00.8**	**-0.1**
	comp=Z,3.7nm,0.3s,SNR=1.0								
SG1	**Sgolgore (BA)**		**6.07**	**145**		*e*Pn	**Pn**	**18 36 51.5**	**-1.5**
LASF	**Ste Croix**		**6.08**	**256**		*e*Pn	**Pn**	**18 36 53.4**	**+0.2**
	SNR=1.0								
LASF						*e*Sn	**Sn**	**18 38 00.3**	**-2.3**
	comp=Z,16nm,0.5s,SNR=1.0								
LASF	**Ste Croix**		**6.08**	**256**		*e*Pn	**Pn**	**18 36 53.4**	**+0.2**
	SNR=1.0								
AVF	**Avril sur Loir**		**6.08**	**282**		*e*Pn	**Pn**	**18 36 54.4**	**+1.2**
	SNR=1.0								
AVF	**Avril sur Loir**		**6.08**	**282**		*e*Pn	**Pn**	**18 36 54.4**	**+1.2**
	SNR=1.0								
KLL	**Kalltalsperre**		**6.11**	**323**		*e*Pn	**Pn**	**18 36 55.6**	**+2.0**
KLL	**Kalltalsperre**		**6.11**	**323**		Pn	**Pn**	**18 36 55.6**	**+2.0**
DREG	**Dreilaegerbach**		**6.16**	**323**		*e*Pn	**Pn**	**18 36 56.6**	**+2.4**
DREG	**Dreilaegerbach**		**6.16**	**323**		Pn	**Pn**	**18 36 56.6**	**+2.4**
LBL	**Lubilhac**		**6.21**	**267**		P	**Pn**	**18 36 56.3**	**+1.3**
LBL	**Lubilhac**		**6.21**	**267**		P	**Pn**	**18 36 56.3**	**+1.3**
AGO	**Saint Agoulin**		**6.21**	**275**		P	**Pn**	**18 36 57.0**	**+2.0**
AGO	**Saint Agoulin**		**6.21**	**275**		P	**Pn**	**18 36 57.0**	**+2.0**
IVAS	**Ivanjica**		**6.22**	**109**		*e*Pn	**Pn**	**18 36 56.5**	**+1.3**
PDG	**Podgorica**		**6.23**	**121**		*e*Pn	**Pn**	**18 36 55.6**	**+0.4**
PYM	**Petit Puy Mans**		**6.32**	**272**		P	**Pn**	**18 36 58.4**	**+1.9**
PYM	**Petit Puy Mans**		**6.32**	**272**		P	**Pn**	**18 36 58.4**	**+1.9**
KECS	**Kecovo**		**6.32**	**63**		*e*Pn	**Pn**	**18 36 56.5**	**+0.1**
KECS	**Kecovo**		**6.32**	**63**		*e*PN	**Pn**	**18 36 56.5**	**+0.1**
DRME	**Dracevica, Mon**		**6.33**	**123**		*e*Pn	**Pn**	**18 36 57.0**	**+0.3**
BGF	**Bois d'Agland**		**6.42**	**279**		*e*Pn	**Pn**	**18 36 59.1**	**+1.3**
	SNR=1.0								
BGF						*e*Sn	**Sn**	**18 38 10.2**	**-0.6**
	comp=Z,30nm,0.3s,SNR=1.0								
BGF	**Bois d'Agland**		**6.42**	**279**		*e*Pn	**Pn**	**18 36 59.1**	**+1.3**
	SNR=1.0								
BGF						*e*Sn	**Sn**	**18 38 10.2**	**-0.6**
	comp=Z,15nm,0.3s,SNR=1.0								
GIVF	**Givet**		**6.43**	**314**		*e*Pn	**Pn**	**18 37 01.1**	**+3.2**
	SNR=1.0								
GIVF	**Givet**		**6.43**	**314**		*e*Pn	**Pn**	**18 37 01.1**	**+3.2**
	SNR=1.0								
MASS	**Massafra**		**6.43**	**143**		*e*Pn	**Pn**	**18 36 56.4**	**-1.6**
HYF	**Humbligny**		**6.63**	**285**		*e*Pn	**Pn**	**18 37 02.3**	**+1.6**
HYF						*e*Sn	**Sn**	**18 38 15.8**	**-0.3**
HYF	**Humbligny**		**6.63**	**285**		*e*Pn	**Pn**	**18 37 02.3**	**+1.6**
HYF						*e*Sn	**Sn**	**18 38 15.8**	**-0.3**
BAIF	**Baives**		**6.72**	**311**		*e*Pn	**Pn**	**18 37 05.1**	**+3.2**
	SNR=1.0								
BAIF	**Baives**		**6.72**	**311**		*e*Pn	**Pn**	**18 37 05.1**	**+3.2**
	SNR=1.0								
TCF	**Toulx Ste Croi**		**6.85**	**277**		*e*Pn	**Pn**	**18 37 04.8**	**+1.0**
	SNR=1.0								
TCF						*e*Sn	**Sn**	**18 38 18.8**	**-2.8**
	comp=Z,8.7nm,0.4s,SNR=1.0								
TCF	**Toulx Ste Croi**		**6.85**	**277**		*e*Pn	**Pn**	**18 37 04.8**	**+1.0**
	SNR=1.0								
SELS	**Selova**		**7.01**	**109**		*e*Pn	**Pn**	**18 37 04.4**	**-1.6**
CAF	**Calviac**		**7.09**	**266**		*e*Pn	**Pn**	**18 37 07.6**	**+0.5**
	SNR=1.0								
CAF	**Calviac**		**7.09**	**266**		*e*Pn	**Pn**	**18 37 07.6**	**+0.5**
	SNR=1.0								
RJF	**Les Rejaudoux**		**7.41**	**269**		*e*Pn	**Pn**	**18 37 12.5**	**+1.1**
	SNR=1.0								
RJF						*e*Sn	**Sn**	**18 38 34.4**	**-0.8**
	comp=Z,2.7nm,0.4s,SNR=1.0								
RJF	**Les Rejaudoux**		**7.41**	**269**		*e*Pn	**Pn**	**18 37 12.5**	**+1.1**
	SNR=1.0								
RJF						*e*Sn	**Sn**	**18 38 34.4**	**-0.8**
	comp=Z,1.4nm,0.4s,SNR=1.0								
MTLF	**Montolieu**		**7.46**	**254**		*e*Pn	**Pn**	**18 37 12.8**	**+0.7**
	SNR=1.0								
MTLF						*e*Sn	**Sn**	**18 38 33.9**	**-2.5**
	comp=Z,2.1nm,0.3s,SNR=1.0								
MTLF	**Montolieu**		**7.46**	**254**		*e*Pn	**Pn**	**18 37 12.8**	**+0.7**
	SNR=1.0								
ZAGS	**Zajecar**		**7.53**	**102**		*e*Pn	**Pn**	**18 37 14.3**	**+1.2**
MFF	**Saint Martin d**		**8.48**	**279**		*e*Pn	**Pn**	**18 37 27.4**	**+1.3**
	SNR=1.0								
MFF	**Saint Martin d**		**8.48**	**279**		*e*Pn	**Pn**	**18 37 27.4**	**+1.3**
	SNR=1.0								
LDF	**La Druitiere**		**8.71**	**293**		*e*Pn	**Pn**	**18 37 30.7**	**+1.5**
	SNR=1.0								
LDF	**La Druitiere**		**8.71**	**293**		*e*Pn	**Pn**	**18 37 30.7**	**+1.5**
	SNR=1.0								
FLN	**La Foliniere**		**8.98**	**293**		*e*Pn	**Pn**	**18 37 35.0**	**+2.0**
	baz=105								
FLN	**La Foliniere**		**8.98**	**293**		*e*Pn	**Pn**	**18 37 35.0**	**+2.0**
GRR	**Gorron**		**9.14**	**291**		*e*Pn	**Pn**	**18 37 35.8**	**+0.6**
GRR	**Gorron**		**9.14**	**291**		*e*Pn	**Pn**	**18 37 35.8**	**+0.6**
AGG	**Agios Georgios**		**10.23**	**128**		*e*Pn	**Pn**	**18 37 49.6**	**-0.5**
AGG	**Agios Georgios**		**10.23**	**128**		*e*Pn	**Pn**	**18 37 49.6**	**-0.5**
QUIF	**Quistinic**		**10.61**	**287**		*e*P	Pn	18 38 01.9	+6.7

*ISCJB **13** 18:42:30.2±0.4, 45°.85N±0'.02×12°.06E±0'.02, h3km±3km,*
Error ellipse: s-maj=4.0km s-min=2.5km az=6.1
*CSEM **13** 18:42:30.9±0.1, 45°.87N×12°.05E, h10km, Md2.6/18, Error*
ellipse: s-maj=3.2km s-min=1.8km az=2.0
*ROM **13** 18:42:31.2±0.2, 45°.90N×12°.06E, h3km, Md2.5/8, Ml1.9/5,*
Error ellipse: s-maj=4.6km s-min=1.1km az=163.0

ISC 13 18:42:31.1±1.0, 45°.86N±0'.03×12°.08E±0'.02, h6km±7km, n73, σ0s40/117, 2D, Northern Italy

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
VARN	**Col Varnada, M**	**0.14**	**8**		*e*Pg	**Pg**		**18 42 33.9**	**-0.1**
VARN					*e*Sg	**Sg**		**18 42 36.0**	**0.0**
VARN	**Col Varnada, M**	**0.14**	**8**		*e*Pg	**Pg**		**18 42 33.9**	**-0.1**
VARN					*e*Sg	**Sg**		**18 42 36.0**	**0.0**
CGRP	**Cima Grappa**	**0.20**	**277**		Pg	**Pg**		**18 42 34.9**	**-0.1**
CGRP					Sg	**Sg**		**18 42 38.1**	**+0.4**
CGRP	**Cima Grappa**	**0.20**	**277**		*e*Pg	**Pg**		**18 42 35.0**	**-0.1**
CGRP					*e*Sg	**Sg**		**18 42 38.1**	**+0.4**
CGRP	**Cima Grappa**	**0.20**	**277**		Pg	**Pg**		**18 42 34.9**	**-0.1**
CGRP					Sg	**Sg**		**18 42 38.1**	**+0.4**
AGOR	**Agordo**	**0.43**	**357**		*e*Pg	**Pg**		**18 42 38.6**	**-0.8**
AGOR					*e*Sg	**Sg**		**18 42 45.4**	**+0.4**
PANI	**Panarotta**	**0.55**	**291**		*e*Pg	**Pg**		**18 42 41.5**	**-0.3**
STAL	**STALIGIAL**	**0.60**	**47**		Pg	**Pg**		**18 42 43.2**	**+0.6**
STAL					Sg	**Sb**		**18 42 52.1**	**-0.6**
STAL	**STALIGIAL**	**0.60**	**47**		Pg	**Pg**		**18 42 43.2**	**+0.6**
STAL					Sg	**Sb**		**18 42 52.1**	**-0.6**
DDS	**Dosso del Somm**	**0.62**	**273**		*e*Pg	**Pg**		**18 42 43.0**	**-0.1**
DDS	**Dosso del Somm**	**0.62**	**273**		*e*Pg	**Pg**		**18 42 43.0**	**-0.1**
MARN	**Marana (Italy)**	**0.65**	**251**		*e*Pg	**Pg**		**18 42 43.7**	**+0.2**
MARN	**Marana (Italy)**	**0.65**	**251**		*e*Pg	**Pg**		**18 42 43.7**	**+0.2**
FVI	**Forni Avoltri**	**0.89**	**33**		Pg	**Pg**		**18 42 48.3**	**+0.2**
FVI					Sg	**Sb**		**18 43 00.8**	**-0.3**
FVI	**Forni Avoltri**	**0.89**	**33**		Pg	**Pg**		**18 42 48.3**	**+0.2**
FVI					Sg	**Sb**		**18 43 00.8**	**-0.3**
OZOL	**Ozolo**	**0.90**	**308**		*e*Pg	**Pg**		**18 42 48.2**	**-0.2**
OZOL	**Ozolo**	**0.90**	**308**		*e*Pg	**Pg**		**18 42 48.2**	**-0.2**
VINO	**Villanova**	**0.93**	**64**		*e*Pg	**Pg**		**18 42 48.6**	**-0.3**
VINO	**Villanova**	**0.93**	**64**		*e*Pg	**Pg**		**18 42 48.6**	**-0.3**
ZOU	**Zoufplan**	**0.94**	**41**		*e*Pg	**Pg**		**18 42 49.0**	**-0.2**
ABTA	**Abfaltersbach**	**0.94**	**19**		*e*Pg	**Pg**		**18 42 49.0**	**-0.2**
	1.9nm,0.2s,SNR=9.8								
ABTA					*i* Sg	**Sb**		**18 43 02.3**	**-0.4**
	2.6nm,0.3s								
ABTA	**Abfaltersbach**	**0.94**	**19**		Pg	**Pg**		**18 42 49.0**	**-0.2**
	1.9nm,0.2s,SNR=9.8								
ABTA					Sg	**Sb**		**18 43 02.3**	**-0.4**
	2.6nm,0.3s								
MAGA	**Magasa**	**1.02**	**266**		Pg	**Pn**		**18 42 51.6**	**-0.4**
	38nm,0.2s								
MAGA	**Magasa**	**1.02**	**266**		Pg	**Pn**		**18 42 51.6**	**-0.4**
	38nm,0.2s								
RNI	**Roncone**	**1.02**	**278**		*e*Pg	**Pg**		**18 42 51.0**	**+0.3**
PTCC	**Patocco-Chiusa**	**1.04**	**58**		Pg	**Pb**		**18 42 51.6**	**0.0**
PTCC					Sg	**Sb**		**18 43 06.2**	**+0.7**
	11nm,0.3s								
PTCC	**Patocco-Chiusa**	**1.04**	**58**		Pg	**Pb**		**18 42 51.6**	**0.0**
PTCC					Sg	**Sb**		**18 43 06.2**	**+0.7**
	11nm,0.3s								
SABO	**M.te Sabotino**	**1.07**	**83**		Pg	**Pb**		**18 42 52.3**	**+0.3**
SABO					Sg	**Sn**		**18 43 08.1**	**+0.3**
	33nm,0.3s								
SABO	**M.te Sabotino**	**1.07**	**83**		*e*Pg	**Pb**		**18 42 52.2**	**+0.2**
SABO	**M.te Sabotino**	**1.07**	**83**		Pg	**Pb**		**18 42 52.3**	**+0.3**
SABO					Sg	**Sn**		**18 43 08.1**	**+0.3**
	33nm,0.3s								
CARE	**Lago del Cares**	**1.12**	**301**		*e*Pg	**Pg**		**18 42 52.6**	**+0.1**
CARE	**Lago del Cares**	**1.12**	**301**		*e*Pg	**Pg**		**18 42 52.6**	**+0.1**
DRE	**Drenchia**	**1.14**	**73**		*e*Pg	**Pg**		**18 42 52.9**	**0.0**
DRE	**Drenchia**	**1.14**	**73**		*e*Pg	**Pg**		**18 42 52.9**	**0.0**
ACOM	**Acomizza, Ital**	**1.22**	**55**		Pg	**Pn**		**18 42 54.7**	**-0.1**
ACOM					Sg	**Sn**		**18 43 11.9**	**+0.3**
	33nm,0.8s								
ACOM	**Acomizza, Ital**	**1.22**	**55**		*e*Pg	**Pg**		**18 42 54.3**	**-0.1**
ACOM	**Acomizza, Ital**	**1.22**	**55**		Pg	**Pn**		**18 42 54.7**	**-0.1**
ACOM					Sg	**Sn**		**18 43 11.9**	**+0.3**
	33nm,0.8s								
VOJS	**Vojsko**	**1.27**	**81**		*i* Pg	**Pn**		**18 42 55.0**	**-0.5**
VOJS					*i* Sg	**Sn**		**18 43 12.7**	**-0.2**
	comp=Z,5.0nm,0.1s								
VOJS	**Vojsko**	**1.27**	**81**		*i* Pg	**Pn**		**18 42 55.0**	**-0.5**
VOJS					*i* Sg	**Sn**		**18 43 12.7**	**-0.2**
	comp=Z,4.0nm,0.1s								
MYKA	**Terra Mystica**	**1.33**	**54**		*i* Pg	**Pb**		**18 42 56.5**	**-0.1**
	comp=Z,1.8nm,0.1s								
MYKA					*e*Sn	**Sn**		**18 43 15.3**	**+0.9**
	comp=Z,3.3nm,0.2s,SNR=4.9								
MYKA	**Terra Mystica**	**1.33**	**54**		Pg	**Pb**		**18 42 56.5**	**-0.1**
	comp=Z,1.8nm,0.1s								
MYKA					Sg	**Sn**		**18 43 15.3**	**+0.9**
	comp=Z,3.3nm,0.2s,SNR=4.9								
BRMO	**Bormio**	**1.34**	**298**		Pg	**Pb**		**18 42 56.5**	**-0.1**
	comp=Z,11nm,0.2s								
BRMO	**Bormio**	**1.34**	**298**		Pg	**Pb**		**18 42 56.5**	**-0.1**
	comp=Z,11nm,0.2s								
JAVS	**Javornik**	**1.39**	**88**		*i* Pg	**Pn**		**18 42 56.5**	**-0.6**
JAVS					*i* Sg	**Sg**		**18 43 16.3**	**+0.6**
	comp=Z,4.0nm,0.1s								
JAVS	**Javornik**	**1.39**	**88**		*i* Pg	**Pn**		**18 42 56.5**	**-0.6**
JAVS					*i* Sg	**Sg**		**18 43 16.3**	**+0.6**
	comp=Z,4.0nm,0.1s								
WTTA	**Wattenberg**	**1.44**	**348**		*e*Pg	**Pg**		**18 42 59.2**	**+0.4**
	comp=Z,3.5nm,0.2s,SNR=5.3								
WTTA					*e*Sn	**Sg**		**18 43 17.9**	**+0.5**
	comp=Z,4.8nm,0.3s,SNR=4.8								
WTTA	**Wattenberg**	**1.44**	**348**		Pg	**Pg**		**18 42 59.2**	**+0.4**
	comp=Z,3.5nm,0.2s,SNR=5.3								
WTTA					Sg	**Sg**		**18 43 17.9**	**+0.5**
	comp=Z,4.8nm,0.3s,SNR=4.8								
FETA	**Feichten**	**1.49**	**322**		*e*Pg	**Pn**		**18 42 58.8**	**+0.2**
	comp=Z,0.6nm,0.1s,SNR=5.4								
FETA					*e*Sn	**Sn**		**18 43 18.2**	**-0.2**
	comp=Z,2.0nm,0.2s,SNR=4.2								
FETA	**Feichten**	**1.49**	**322**		Pg	**Pn**		**18 42 58.8**	**+0.2**
	comp=Z,0.6nm,0.1s,SNR=5.4								
FETA					Sg	**Sn**		**18 43 18.2**	**-0.2**
	comp=Z,2.0nm,0.2s,SNR=4.2								
KBA	**Koelnbreinsper**	**1.50**	**35**		*e*Pg	**Pb**		**18 42 59.2**	**-0.3**
	comp=Z,1.4nm,0.1s,SNR=12								
KBA					*i* Sg	**Sg**		**18 43 20.5**	**+1.0**
	comp=Z,5.6nm,0.2s								
KBA	**Koelnbreinsper**	**1.50**	**35**		Pg	**Pb**		**18 42 59.2**	**-0.3**
	comp=Z,1.4nm,0.1s,SNR=12								
KBA					Sg	**Sg**		**18 43 20.5**	**+1.0**
	comp=Z,5.6nm,0.2s								
WATA	**Walderalm**	**1.52**	**347**		*e*Pg	**Pb**		**18 42 59.7**	**-0.1**
	comp=Z,3.6nm,0.2s,SNR=6.7								
WATA					*i* Sg	**Sg**		**18 43 19.9**	**-0.1**
	comp=Z,4.8nm,0.3s								
WATA	**Walderalm**	**1.52**	**347**		Pg	**Pb**		**18 42 59.7**	**-0.1**
	comp=Z,3.6nm,0.2s,SNR=6.7								
WATA					Sg	**Sg**		**18 43 19.9**	**-0.1**
	comp=Z,4.8nm,0.3s								
CRNS	**Crni Vrh**	**1.54**	**81**		*i* Pn	**Pn**		**18 42 58.8**	**-0.3**
CRNS					*i* Sn	**Sg**		**18 43 20.7**	**+0.1**
	comp=Z,5.0nm,0.1s								
CRNS	**Crni Vrh**	**1.54**	**81**		*i* Pn	**Pn**		**18 42 58.8**	**-0.3**
CRNS					*i* Sn	**Sg**		**18 43 20.7**	**+0.1**
	comp=Z,5.0nm,0.1s								
MOTA	**Moosalm**	**1.63**	**336**		*i* Pg	**Pb**		**18 43 01.3**	**-0.4**
	comp=Z,1.2nm,0.2s								
MOTA					*i* Sg	**Sg**		**18 43 23.7**	**+0.1**
	comp=Z,1.7nm,0.2s								
MOTA	**Moosalm**	**1.63**	**336**		Pg	**Pb**		**18 43 01.3**	**-0.4**
	comp=Z,1.2nm,0.2s								
MOTA					Sg	**Sg**		**18 43 23.7**	**+0.1**
	comp=Z,1.7nm,0.2s								
KNDS	**Knezji Dol**	**1.65**	**101**		*i* Pn	**Pn**		**18 43 00.5**	**-0.1**
KNDS					*i* Sn	**Sb**		**18 43 22.7**	**-0.2**
	comp=Z,5.0nm,0.2s								
KNDS	**Knezji Dol**	**1.65**	**101**		*i* Pn	**Pn**		**18 43 00.5**	**-0.1**
KNDS					*i* Sn	**Sb**		**18 43 22.7**	**-0.2**
	comp=Z,5.0nm,0.2s								
OBKA	**Obir**	**1.84**	**68**		*i* Pg	**Pb**		**18 43 05.5**	**+0.3**
	comp=Z,0.3nm,0.2s								
OBKA					*i* Sg	**Sg**		**18 43 30.5**	**+0.3**
	comp=Z,3.2nm,0.3s								
OBKA	**Obir**	**1.84**	**68**		Pg	**Pb**		**18 43 05.5**	**+0.3**
	comp=Z,0.3nm,0.2s								
OBKA					Sg	**Sg**		**18 43 30.5**	**+0.3**
	comp=Z,3.2nm,0.3s								
RETA	**Reutte**	**1.87**	**331**		*i* Sg	**Sg**		**18 43 31.4**	**+0.3**
	comp=Z,2.8nm,0.2s								
RETA	**Reutte**	**1.87**	**331**		Sg	**Sg**		**18 43 31.4**	**+0.3**
	comp=Z,2.8nm,0.2s								
DAVA	**Damuels**	**2.08**	**314**		*i* Pg	**Pb**		**18 43 09.4**	**0.0**
	comp=Z,0.6nm,0.2s								
DAVA					*i* Sg	**Sb**		**18 43 35.6**	**+0.1**
	comp=Z,2.2nm,0.3s								
DAVA	**Damuels**	**2.08**	**314**		Pg	**Pb**		**18 43 09.4**	**0.0**
	comp=Z,0.6nm,0.2s								
DAVA					Sg	**Sb**		**18 43 35.6**	**+0.1**
	comp=Z,2.2nm,0.3s								
SOKA	**Soboth**	**2.21**	**67**		*i* Sg	**Sg**		**18 43 40.6

CARE	Lago del Cares	1.82	12	ePn	Pn	18 44 36.2	+0.4		
OZOL	Ozolo	1.87	19	ePn	Pn	18 44 36.6	+0.3		
OZOL	Ozolo	1.87	19	ePn	Pn	18 44 36.6	+0.3		
BADI	Badiali	1.88	126	Pg	Pb	18 44 38.5	-0.4		
	16µm,19.0s								
ATMC	Monte Cedrone	1.89	128	Pg	Pn	18 44 37.9	+1.4		
	58nm,0.8s								
CELB	S.Piero in Cam	1.90	179	Pg	Pn	18 44 37.0	+0.4		
CELB				Sg	Sb	18 45 02.2	-0.3		
	16nm,0.2s								
TUE	Stuetta	1.92	343	Pg	Pb	18 44 38.5	-1.2		
	52nm,0.6s								
APPI	Appiano	1.98	22	Pg	Pn	18 44 38.0	+0.1		
	129nm,0.3s								
KOSI	Kohlern	2.01	25	Pg	Pn	18 44 38.5	+0.2		
	128nm,0.9s								
ATPC	Poggio Castell	2.02	124	Pg	Pn	18 44 39.7	+1.4		
	49nm,0.8s								
ATVO	AVT- Monte Val	2.05	127	Pg	Pn	18 44 39.5	+0.8		
SBF	Sospel	2.11	249	ePn	Pb	18 44 41.1	-1.7		
	SNR=1.0								
SBF				eSn	Sn	18 45 06.2	+0.9		
	25nm,0.3s,SNR=1.0								
SBF				eSg	Sg	18 45 12.9	-0.1		
	51nm,0.3s,SNR=1.0								
SBF	Sospel	2.11	249	ePn	Pb	18 44 41.1	-1.7		
	SNR=1.0								
SBF				eSn	Sn	18 45 06.2	+0.9		
	12nm,0.3s,SNR=1.0								
SBF				eSg	Sg	18 45 12.9	-0.1		
	26nm,0.3s,SNR=1.0								
FSSB	Fossombrone	2.11	116	Pg	Pn	18 44 40.7	+1.2		
ATTE	AVT- Monte Tez	2.14	132	Pg	Pn	18 44 41.3	+1.3		
	50nm,1.1s								
MURB	Monte Urbino	2.19	128	Pg	Pn	18 44 42.3	+1.6		
	59nm,0.3s								
SSFR	Montelago di S	2.24	122	Pg	Pn	18 44 43.8	+2.4		
	33nm,0.4s								
PGF	Pioggiola	2.26	202	ePn	Pn	18 44 42.1	+0.5		
	SNR=1.0								
PGF				eSn	Sn	18 45 09.2	+0.2		
	10.0nm,0.3s,SNR=1.0								
PGF	Pioggiola	2.26	202	ePn	Pn	18 44 42.1	+0.5		
	SNR=1.0								
PGF				eSn	Sn	18 45 09.2	+0.2		
	5.0nm,0.3s,SNR=1.0								
FETA	Feichten	2.41	9	Pn	Pn	18 44 44.8	+1.0		
	0.8nm,0.2s								
FETA				Sg	Sb	18 45 19.9	+2.4		
	3.2nm,0.4s								
FETA	Feichten	2.41	9	Pn	Pn	18 44 44.8	+1.0		
	0.8nm,0.2s								
FETA				Sg	Sb	18 45 19.9	+2.4		
	3.2nm,0.4s								
MBDF	Montbardon	2.42	273	eP	Pb	18 44 47.8	-0.4		
	SNR=1.0								
MBDF				eSn	Sn	18 45 13.7	+0.6		
	16nm,0.4s,SNR=1.0								
MBDF	Montbardon	2.42	273	eP	Pb	18 44 47.8	-0.4		
	SNR=1.0								
MBDF				eSn	Sn	18 45 13.7	+0.6		
	7.8nm,0.4s,SNR=1.0								
LPG	La Plagne	2.56	291	ePn	Pb	18 44 48.1	-2.6		
	SNR=1.0								
LPG				eSn	Sn	18 45 16.9	+0.1		
	21nm,0.6s,SNR=1.0								
LPG	La Plagne	2.56	291	ePn	Pb	18 44 48.1	-2.6		
	SNR=1.0								
LPG				eSn	Sn	18 45 16.9	+0.1		
	11nm,0.6s,SNR=1.0								
LPL	La Plagne	2.58	291	ePn	Pn	18 44 47.8	+1.6		
	SNR=1.0								
LPL				eSn	Sn	18 45 18.0	+0.8		
	20nm,0.4s,SNR=1.0								
LPL	La Plagne	2.58	291	ePn	Pn	18 44 47.8	+1.6		
	SNR=1.0								
LPL				eSn	Sn	18 45 18.0	+0.8		
	10nm,0.4s,SNR=1.0								
DAVA	Damuels	2.65	356	Pn	Pn	18 44 49.4	+2.3		
	19nm,0.4s,SNR=8.8								
DAVA				Sn	Sb	18 45 22.3	-2.2		
	11nm,0.3s								
DAVA	Damuels	2.65	356	Pn	Pn	18 44 49.4	+2.3		
	19nm,0.4s,SNR=8.8								
DAVA				Sn	Sb	18 45 22.3	-2.2		
	11nm,0.3s								
ABTA	Abfaltersbach	2.67	37	Sn	Sn	18 45 21.4	+2.1		
	6.2nm,0.3s								
ABTA	Abfaltersbach	2.67	37	Sn	Sn	18 45 21.4	+2.1		
	6.2nm,0.3s								
FRF	La Foret Royal	2.75	248	ePn	Pn	18 44 49.7	+1.4		
	SNR=1.0								
FRF				eSn	Sn	18 45 20.1	-1.0		
	21nm,0.4s,SNR=1.0								
FRF	La Foret Royal	2.75	248	ePn	Pn	18 44 49.7	+1.4		
	SNR=1.0								
FRF				eSn	Sn	18 45 20.1	-1.0		
	11nm,0.4s,SNR=1.0								
MOTA	Moosalm	2.78	13	Pn	Pn	18 44 51.1	+2.2		
	4.6nm,0.2s,SNR=11								
MOTA				Sn	Sn	18 45 24.4	+2.4		
	3.5nm,0.2s								
MOTA	Moosalm	2.78	13	Pn	Pn	18 44 51.1	+2.2		
	4.6nm,0.2s,SNR=11								
MOTA				Sn	Sn	18 45 24.4	+2.4		
	3.5nm,0.2s								
WTTA	Wattenberg	2.82	21	ePn	Pn	18 44 51.6	+2.2		
	7.0nm,0.2s								
WTTA				Sn	Sn	18 45 25.3	+2.3		
	83nm,0.0s								
WTTA	Wattenberg	2.82	21	Pn	Pn	18 44 51.6	+2.2		
	7.0nm,0.2s								
WTTA				Sn	Sn	18 45 25.3	+2.3		
	83nm,0.0s								
WATA	Walderalm	2.87	20	ePn	Pn	18 44 52.3	+2.2		
	3.5nm,0.1s,SNR=6.3								
WATA				Sn	Sn	18 45 27.6	+3.4		
	5.7nm,0.2s								
WATA	Walderalm	2.87	20	Pn	Pn	18 44 52.3	+2.2		
	3.5nm,0.1s,SNR=6.3								
WATA				Sn	Sn	18 45 27.6	+3.4		
	5.7nm,0.2s								
RETA	Reutte	2.88	8	ePn	Pn	18 44 51.4	+1.3		
	0.1nm,0.1s								
RETA				Sn	Sb	18 45 28.3	-2.5		
	4µm,0.0s								
RETA	Reutte	2.88	8	Pn	Pn	18 44 51.4	+1.3		
	0.1nm,0.1s								
RETA				Sn	Sb	18 45 28.3	-2.5		
	4µm,0.0s								
LMR	La Mourre	2.94	245	ePn	Pn	18 44 52.1	+1.2		
	SNR=1.0								
LMR	La Mourre	2.94	245	eP	Pb	18 44 54.5	-2.5		
LMR				eSn	Sn	18 45 25.3	-0.5		
	16nm,0.3s,SNR=1.0								
LMR	La Mourre	2.94	245	ePn	Pn	18 44 52.1	+1.2		
	SNR=1.0								
LMR	La Mourre	2.94	245	eP	Pb	18 44 54.5	-2.5		
LMR				eSn	Sn	18 45 25.3	-0.5		
	7.8nm,0.3s,SNR=1.0								
JAVS	Javornik	3.03	64	i Pn	Pn	18 44 50.6	-1.6		
JAVS				eSn	Sn	18 45 25.9	-2.0		
	comp=Z,5.0nm,0.1s								
JAVS	Javornik	3.03	64	i Pn	Pn	18 44 50.6	-1.6		
JAVS				eSn	Sn	18 45 26.0	-2.0		
	comp=Z,5.0nm,0.1s								
ORIF	Oris-en-Rattie	3.06	277	eP	Pb	18 44 57.5	-1.6		
	SNR=1.0								
ORIF				eSn	Sn	18 45 28.7	-0.2		
	comp=Z,24nm,0.6s,SNR=1.0								
ORIF	Oris-en-Rattie	3.06	277	eP	Pb	18 44 57.5	-1.6		
	SNR=1.0								
ORIF				eSn	Sn	18 45 28.7	-0.2		
	comp=Z,12nm,0.6s,SNR=1.0								
KNDS	Knezji Dol	3.12	72	i Pn	Pn	18 44 51.8	-1.6		
KNDS				eSn	Sn	18 45 26.8	-3.4		
	comp=Z,7.0nm,0.2s								
KNDS	Knezji Dol	3.12	72	i Pn	Pn	18 44 51.8	-1.6		
KNDS				eSn	Sn	18 45 26.8	-3.4		
	comp=Z,7.0nm,0.2s								
MYKA	Terra Mystica	3.15	50	eSg	Sg	18 45 45.9	-0.3		
	comp=Z,8.4nm,0.4s								
MYKA	Terra Mystica	3.15	50	Sg	Sg	18 45 45.9	-0.3		
	comp=Z,8.4nm,0.4s								
SMRF	Simiane la Rot	3.36	260	ePn	Pn	18 44 57.4	+0.7		
	SNR=1.0								
SMRF	Simiane la Rot	3.36	260	eP	Pn	18 45 00.0	+3.3		
SMRF				eSn	Sn	18 45 36.3	+0.2		
	comp=Z,3.5nm,0.5s								
NVLJ	Novalja	3.37	90	ePn	Pn	18 44 55.5	-1.2		
NVLJ				Sn	Sn	18 45 32.0	-4.1		
NVLJ	Novalja	3.37	90	ePn	Pn	18 44 55.5	-1.2		
NVLJ				Sn	Sn	18 45 32.0	-4.1		
CABF	La Chapelle	3.47	306	ePn	Pn	18 45 00.3	+2.0		
	SNR=1.0								
CABF	La Chapelle	3.47	306	ePn	Pn	18 45 00.3	+2.0		
	SNR=1.0								
OBKA	Obir	3.60	57	i Sn	Sn	18 45 43.0	+0.8		
	comp=Z,8.7nm,0.3s								
OBKA	Obir	3.60	57	Sn	Sn	18 45 43.0	+0.8		
	comp=Z,8.7nm,0.3s								
OZLJ	Ozalj	3.88	74	i Pn	Pn	18 45 02.8	-1.0		
OZLJ				Sn	Sn	18 45 45.9	-3.0		
OZLJ	Ozalj	3.88	74	i Pn	Pn	18 45 02.7	-1.0		
OZLJ				Sn	Sn	18 45 45.8	-3.0		
VIVF	Saint-Julien-l	3.92	275	ePn	Pn	18 45 05.8	+1.5		
	SNR=1.0								
VIVF	Saint-Julien-l	3.92	275	eP	Pn	18 45 07.9	+3.6		
VIVF				eSn	Sn	18 45 50.3	+0.5		
VIVF	Saint-Julien-l	3.92	275	ePn	Pn	18 45 05.8	+1.5		
	SNR=1.0								
VIVF	Saint-Julien-l	3.92	275	eP	Pn	18 45 07.9	+3.6		
VIVF				eSn	Sn	18 45 50.3	+0.5		
HINF	Hinteralfeld	3.92	325	ePn	Pn	18 45 05.3	+0.9		
	SNR=1.0								
HINF				eSn	Sn	18 45 50.3	+0.4		
	SNR=1.0								
HINF				eSg	Sg	18 46 10.6	-0.3		
	comp=Z,8.6nm,0.5s,SNR=1.0								
HINF	Hinteralfeld	3.92	325	ePn	Pn	18 45 05.3	+0.9		
	SNR=1.0								
HINF				eSn	Sn	18 45 50.3	+0.4		
	SNR=1.0								
HINF				eSg	Sg	18 46 10.6	-0.3		
	comp=Z,4.3nm,0.5s,SNR=1.0								
UDBI	Udbina	4.00	90	i Pn	Pn	18 45 06.4	+0.8		
UDBI				Sn	Sn	18 45 49.2	-2.9		
UDBI	Udbina	4.00	90	i Pn	Pn	18 45 06.3	+0.8		
UDBI				Sn	Sn	18 45 49.1	-2.9		
CDF	Champ du Feu	4.26	333	ePn	Pn	18 45 09.8	+0.6		
	SNR=1.0								
CDF				eSn	Sn	18 45 58.3	-0.2		
CDF				eSg	Sg	18 46 21.3	-0.7		
	comp=Z,8.1nm,0.5s,SNR=1.0								
CDF	Champ du Feu	4.26	333	ePn	Pn	18 45 09.8	+0.6		
	SNR=1.0								
CDF				eSn	Sn	18 45 58.3	-0.2		
CDF				eSg	Sg	18 46 21.3	-0.7		
	comp=Z,4.1nm,0.5s,SNR=1.0								
HAU	Haudompre	4.28	323	ePn	Pn	18 45 10.3	+1.0		
	SNR=1.0								
HAU				eSn	Sn	18 45 58.5	-0.2		
	comp=Z,12nm,0.4s								
HAU	Haudompre	4.28	323	ePn	Pn	18 45 10.3	+1.0		
	SNR=1.0								
HAU				eSn	Sn	18 45 58.5	-0.2		
	comp=Z,5.8nm,0.4s								
MOA	Molln	4.29	40	i Pn	Pn	18 45 09.8	+0.3		
	comp=Z,0.8nm,0.1s								
MOA				eSn	Sn	18 45 59.9	+0.9		
	comp=Z,2.3nm,0.3s								
MOA	Molln	4.29	40	Pn	Pn	18 45 09.8	+0.3		
	comp=Z,0.8nm,0.1s								
MOA				Sn	Sn	18 45 59.9	+0.9		
	comp=Z,2.3nm,0.3s								
LASF	Ste Croix	4.56	265	ePn	Pn	18 45 15.9	+2.8		
	SNR=1.0								
LASF	Ste Croix	4.56	265	ePn	Pn	18 45 15.9	+2.8		
	SNR=1.0								
SMF	Signal de Mont	4.86	297	ePn	Pn	18 45 18.6	+1.3		
	SNR=1.0								
SMF				eSn	Sn	18 46 11.4	-1.8		
	comp=Z,4.3nm,0.3s								
SMF	Signal de Mont	4.86	297	ePn	Pn	18 45 18.6	+1.3		
	SNR=1.0								
KHC	Kasperske Hory	5.07	26	ePN	Pn	18 45 19.5	-0.6		
KHC				eSN	Sn	18 46 15.5	-2.6		
KHC	Kasperske Hory	5.07	26	Pn	Pn	18 45 19.5	-0.6		
KHC				Sn	Sn	18 46 15.5	-2.6		
LOR	Lormes	5.12	303	eSn	Sn	18 46 20.2	+0.7		
	SNR=1.0								
LOR				eSg	Sg	18 46 48.3	-1.1		
	comp=Z,6.4nm,0.4s,SNR=1.0								
LOR	Lormes	5.12	303	eSn	Sn	18 46 20.2	+0.7		
	SNR=1.0								
LOR				eSg	Sg	18 46 48.3	-1.1		
	comp=Z,3.2nm,0.4s,SNR=1.0								
BGF	Bois d'Agland	5.48	293	ePn	Pn	18 45 27.9	+2.1		
	SNR=1.0								
BGF	Bois d'Agland	5.48	293	ePn	Pn	18 45 27.9	+2.1		
	SNR=1.0								
TCF	Toulx Ste Croi	5.83	289	eSn	Sn	18 46 37.2	+0.2		
	comp=Z,4.2nm,0.6s,SNR=1.0								
TCF	Toulx Ste Croi	5.83	289	eSn	Sn	18 46 37.2	+0.2		
	comp=Z,2.1nm,0.6s,SNR=1.0								

CSEM ***13*** *18:45:59.5±0.1, 45°.84N×12°.04E, h2km, ML3.8/25, Error ellipse: s-maj=2.6km s-min=1.9km az=151.0*
ROM ***13*** *18:46:00.3±0.2, 45°.86N×12°.03E, h9km±1km, Ml3.2/24, Error ellipse: s-maj=1.5km s-min=1.4km az=164.0*
GEN ***13*** *18:46:00.9, 45°.91N×12°.05E, h7km, ML3.2*
LDG ***13*** *18:46:00.4±0.1, 45°.87N×12°.17E, h2km, Md3.2/2, Ml3.3/7, Error ellipse: s-maj=4.1km s-min=2.4km az=159.0*
PRU ***13*** *18:46:02.0, 45°.94N×12°.09E, h2km*
BGR ***13*** *18:46:03.8±0.4, 45°.98N×12°.10E, h10km, ML3.3/14, Error ellipse: s-maj=6.7km s-min=3.3km az=8.0*

ISC 13 18:45:59.7±0.8, 45°.86N±0°.02×12°.07E±0°.01, h15km±4km, n200, σ1°44/323, 3D, Northern Italy

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
VARN	Col Varnada, M	0.13	10	‖	ePg	Pg		18 46 03.1	-0.4
VARN					eSg	Sg		18 46 05.4	-0.6
VARN	Col Varnada, M	0.13	10		ePg	Pg		18 46 03.1	-0.4
VARN					eSg	Sg		18 46 05.4	-0.6
CGRP	Cima Grappa	0.19	275		Pg	Pg		18 46 04.2	-0.2
CGRP					Sg	Sg		18 46 07.5	0.0
CGRP	Cima Grappa	0.19	275	‖	ePg	Pg		18 46 04.2	-0.2
CGRP					eSg	Sg		18 46 07.5	0.0
CGRP	Cima Grappa	0.19	275		Pg	Pg		18 46 04.2	-0.2
CGRP					Sg	Sg		18 46 07.5	0.0
AGOR	Agordo	0.42	358		Pg	Pg		18 46 07.4	-0.8
AGOR					Sg	Sb		18 46 14.7	-0.4
	852nm,0.4s								
PANI	Panarotta	0.55	290	‖	ePg	Pg		18 46 10.7	+0.1
PANI					eSg	Sg		18 46 18.6	+0.6
STAL	STALIGIAL	0.60	48		Pg	Pb		18 46 11.8	-0.1
STAL					Sg	Sb		18 46 21.5	+1.3
	2µm,0.3s								
STAL	STALIGIAL	0.60	48		Pg	Pb		18 46 11.8	-0.1
STAL					Sg	Sb		18 46 21.5	+1.3
	2µm,0.3s								
DDS	Dosso del Somm	0.62	272		ePg	Pg		18 46 12.2	+0.3
DDS	Dosso del Somm	0.62	272		ePg	Pg		18 46 12.2	+0.3
MARN	Marana (Italy)	0.64	250		ePg	Pg		18 46 12.6	+0.3
MARN	Marana (Italy)	0.64	250		ePg	Pg		18 46 12.6	+0.3
KOSI	Kohlern	0.77	322		Pg	Pg		18 46 14.8	0.0
KOSI					Sg	Sg		18 46 24.9	0.0
	902nm,0.7s								
KOSI	Kohlern	0.77	322		Pg	Pg		18 46 14.8	0.0
KOSI					Sg	Sg		18 46 24.9	0.0
	902nm,0.7s								
APPI	Appiano	0.85	317		Pg	Pg		18 46 16.3	0.0
APPI					Sg	Sg		18 46 27.3	-0.2
	881nm,0.2s								
APPI	Appiano	0.85	317		Pg	Pg		18 46 16.3	0.0
APPI					Sg	Sg		18 46 27.3	-0.2
	881nm,0.2s								
FVI	Forni Avoltri	0.88	34		Pg	Pb		18 46 17.2	+0.4
FVI					Sg	Sn		18 46 30.1	-0.2
	632nm,0.6s								
FVI	Forni Avoltri	0.88	34		Pg	Pb		18 46 17.2	+0.4
FVI					Sg	Sn		18 46 30.1	-0.2
	632nm,0.6s								
OZOL	Ozolo	0.89	308		ePg	Pg		18 46 17.1	0.0
OZOL	Ozolo	0.89	308		ePg	Pg		18 46 17.1	0.0

ZOU	Zoufplan	0.94	42	ePg	Pn	18 46 18.3	-0.2		
ABTA	Abfaltersbach	0.94	19	ePg	Pb	18 46 18.2	+0.5		
	102nm,0.3s								
ABTA				eSg	Sn	18 46 31.7	+0.1		
	46nm,0.2s								
ABTA	Abfaltersbach	0.94	19	Pg	Pb	18 46 18.2	+0.5		
	102nm,0.3s								
ABTA				Sg	Sn	18 46 31.7	+0.1		
	46nm,0.2s								
MAGA	Magasa	1.01	266	Pg	Pg	18 46 19.7	+0.4		
MAGA				Sg	Sg	18 46 33.2	+0.6		
	1µm,0.4s								
MAGA	Magasa	1.01	266	Pg	Pg	18 46 19.7	+0.4		
MAGA				Sg	Sg	18 46 33.2	+0.6		
	1µm,0.4s								
RNI	Roncone	1.02	277	ePg	Pg	18 46 19.6	+0.1		
PTCC	Patocco-Chiusa	1.04	58	Pg	Pn	18 46 20.5	+0.6		
PTCC				Sg	Sn	18 46 35.0	+0.8		
	295nm,0.8s								
PTCC	Patocco-Chiusa	1.04	58	Pg	Pn	18 46 20.5	+0.6		
PTCC				Sg	Sn	18 46 35.0	+0.8		
	295nm,0.8s								
SABO	M.te Sabotino	1.07	83	Pg	Pn	18 46 21.3	+1.0		
SABO				Sg	Sn	18 46 37.3	+2.4		
	680nm,0.8s								
SABO	M.te Sabotino	1.07	83	ePg	Pn	18 46 21.6	+1.3		
SABO	M.te Sabotino	1.07	83	Pg	Pn	18 46 21.3	+1.0		
SABO				Sg	Sn	18 46 37.3	+2.4		
	680nm,0.8s								
CARE	Lago del Cares	1.11	301	ePg	Pg	18 46 21.1	-0.1		
CARE	Lago del Cares	1.11	301	ePg	Pg	18 46 21.1	-0.1		
TRI	Trieste	1.20	97	ePg	Pn	18 46 22.9	+1.0		
TRI	Trieste	1.20	97	ePg	Pn	18 46 22.9	+1.0		
ACOM	Acomizza, Ital	1.21	55	Pg	Pn	18 46 23.8	+1.4		
ACOM				Sg	Sn	18 46 40.8	+2.2		
	568nm,0.5s								
ACOM	Acomizza, Ital	1.21	55	ePg	Pn	18 46 23.8	+1.4		
ACOM	Acomizza, Ital	1.21	55	Pg	Pn	18 46 23.8	+1.4		
ACOM				Sg	Sn	18 46 40.8	+2.2		
	568nm,0.5s								
BRMO	Bormio	1.33	298	Pg	Pb	18 46 25.2	+0.7		
BRMO				Sg	Sb	18 46 41.8	+0.5		
	325nm,0.5s								
BRMO	Bormio	1.33	298	Pg	Pb	18 46 25.2	+0.7		
BRMO				Sg	Sb	18 46 41.8	+0.5		
	325nm,0.5s								
MYKA	Terra Mystica	1.33	54	ePg	Pg	18 46 25.6	+0.2		
	40nm,0.2s,SNR=20								
MYKA				eSg	Sn	18 46 43.5	+2.1		
	110nm,0.3s								
MYKA	Terra Mystica	1.33	54	Pg	Pg	18 46 25.6	+0.2		
	40nm,0.2s,SNR=20								
MYKA				Sg	Sn	18 46 43.5	+2.1		
	110nm,0.3s								
JAVS	Javornik	1.39	88	ePg	Pg	18 46 25.7	-0.8		
JAVS				eSg	Sg	18 46 45.5	+0.8		
	comp=Z,63nm,0.2s								
JAVS	Javornik	1.39	88	ePg	Pg	18 46 25.7	-0.8		
JAVS				eSg	Sg	18 46 45.5	+0.8		
	comp=Z,63nm,0.2s								
NOVE	Novellara	1.43	222	Pg	Pb	18 46 26.7	+0.6		
	comp=Z,2µm,0.3s								
NOVE	Novellara	1.43	222	Pg	Pb	18 46 26.7	+0.6		
	comp=Z,2µm,0.3s								
WTTA	Wattenberg	1.43	348	Pg	Pg	18 46 27.4	+0.1		
	comp=Z,63nm,0.2s,SNR=39								
WTTA				Sg	Sg	18 46 46.9	+0.8		
	comp=Z,350nm,0.3s								
WTTA	Wattenberg	1.43	348	ePn	Pg	18 46 27.5	+0.1		
WTTA				eSg	Sg	18 46 47.1	+1.1		
WTTA	Wattenberg	1.43	348	Pg	Pg	18 46 27.4	+0.1		
	comp=Z,63nm,0.2s,SNR=39								
WTTA				Sg	Sg	18 46 47.1	+1.1		
FETA	Feichten	1.48	322	Pg	Pb	18 46 27.7	+0.6		
	comp=Z,43nm,0.3s,SNR=26								
FETA				Sn	Sn	18 46 46.4	+1.2		
	comp=Z,109nm,0.3s								
FETA	Feichten	1.48	322	Pg	Pb	18 46 27.7	+0.6		
	comp=Z,43nm,0.3s,SNR=26								
FETA				Sg	Sn	18 46 46.4	+1.2		
	comp=Z,109nm,0.3s								
KBA	Koelnbreinsper	1.50	35	ePg	Pg	18 46 28.4	-0.2		
	comp=Z,96nm,0.3s,SNR=21								
KBA				eSg	Sg	18 46 48.9	+0.7		
	comp=Z,163nm,0.3s								
KBA	Koelnbreinsper	1.50	35	ePn	Pg	18 46 28.5	-0.2		
KBA				eSg	Sg	18 46 49.1	+0.9		
KBA	Koelnbreinsper	1.50	35	Pn	Pg	18 46 28.5	-0.2		
KBA				Sg	Sg	18 46 49.1	+0.9		
WATA	Walderalm	1.51	347	ePg	Pg	18 46 28.7	-0.1		
	comp=Z,79nm,0.2s,SNR=52								
WATA				eSg	Sg	18 46 49.1	+0.6		
	comp=Z,55nm,0.2s								
WATA	Walderalm	1.51	347	Pg	Pg	18 46 28.7	-0.1		
	comp=Z,79nm,0.2s,SNR=52								
WATA				Sg	Sg	18 46 49.1	+0.6		
	comp=Z,55nm,0.2s								
MOTA	Moosalm	1.63	336	ePg	Pb	18 46 30.2	+0.7		
	comp=Z,60nm,0.2s,SNR=34								
MOTA				eSg	Sg	18 46 52.4	+0.2		
	comp=Z,148nm,0.3s								
MOTA	Moosalm	1.63	336	Pg	Pb	18 46 30.2	+0.7		
	comp=Z,60nm,0.2s,SNR=34								
MOTA				Sg	Sg	18 46 52.4	+0.2		
	comp=Z,148nm,0.3s								
KNDS	Knezji Dol	1.65	101	ePn	Pb	18 46 29.7	-0.2		
KNDS				eSn	Sg	18 46 52.2	-0.8		
	comp=Z,180nm,0.4s								
KNDS	Knezji Dol	1.65	101	ePn	Pb	18 46 29.7	-0.2		
KNDS				eSn	Sg	18 46 52.2	-0.8		
	comp

PARC	**Parchiule**	**2.22**	**177**	Pg	**Pn**	**18 46 37.9**	**+1.9**
FSSB	**Fossombrone**	**2.23**	**167**	Pg	**Pn**	**18 46 37.2**	**+1.1**
	comp=Z,166nm,0.5s						
CRE	**Caprese Michel**	**2.24**	**182**	Pg	**Pn**	**18 46 38.0**	**+1.6**
	comp=Z,58nm,0.4s						
MPAG	**Monte Paganucc**	**2.29**	**167**	Pg	**Pn**	**18 46 38.1**	**+1.1**
	comp=Z,77nm,0.5s						
PIEI	**Pieia**	**2.35**	**172**	Pg	**Pn**	**18 46 38.8**	**+1.0**
PIEI				Sg	**Sn**	**18 47 08.1**	**+1.7**
	comp=Z,58nm,0.2s						
BADI	**Badiali**	**2.36**	**177**	Pg	**Pn**	**18 46 40.0**	**+2.1**
	comp=Z,67nm,0.5s						
FUR	**Furstenfeldbru**	**2.37**	**347**	*e*Pg	**Pg**	**18 46 44.4**	**-0.7**
FUR				*e*Sg	**Sg**	**18 47 14.8**	**-1.0**
FUR	**Furstenfeldbru**	**2.37**	**347**	Pg	**Pg**	**18 46 44.4**	**-0.7**
FUR				Sg	**Sg**	**18 47 14.8**	**-1.0**
NVLJ	**Novalja**	**2.37**	**122**	*i* Pn	**Pn**	**18 46 39.4**	**+1.4**
NVLJ				Sn	**Sn**	**18 47 08.0**	**+1.2**
NVLJ	**Novalja**	**2.37**	**122**	*i* Pn	**Pn**	**18 46 39.3**	**+1.4**
NVLJ				Sn	**Sn**	**18 47 07.9**	**+1.2**
FRON	**Frontone**	**2.39**	**169**	Pg	**Pn**	**18 46 39.4**	**+1.0**
	comp=Z,98nm,0.9s						
OZLJ	**Ozalj**	**2.39**	**95**	*e*Pn	**Pb**	**18 46 41.9**	**-0.5**
OZLJ				Sn	**Sb**	**18 47 12.4**	**+0.7**
OZLJ	**Ozalj**	**2.39**	**95**	*e*Pn	**Pb**	**18 46 41.9**	**-0.5**
OZLJ				Sn	**Sb**	**18 47 12.4**	**+0.7**
ATMC	**Monte Cedrone**	**2.42**	**178**	Pg	**Pn**	**18 46 40.4**	**+1.6**
	comp=Z,48nm,0.4s						
ARVD	**Arcevia**	**2.44**	**165**	Pg	**Pn**	**18 46 40.6**	**+1.5**
	comp=Z,41nm,0.5s						
SSFR	**Montelago di S**	**2.48**	**168**	Pg	**Pn**	**18 46 40.7**	**+1.1**
	comp=Z,84nm,0.2s						
ATVO	**AVT- Monte Val**	**2.49**	**174**	Pg	**Pn**	**18 46 41.4**	**+1.6**
	comp=Z,70nm,0.6s						
MOA	**Mollη**	**2.49**	**36**	*e*Pg	**Pb**	**18 46 42.2**	**-2.0**
	comp=Z,2.8nm,0.1s						
MOA				Sg	**Sg**	**18 47 17.6**	**-2.3**
	comp=Z,88nm,0.4s						
MOA	**Mollη**	**2.49**	**36**	*e*Pn	**Pb**	**18 46 42.5**	**-1.7**
MOA				*e*Sg	**Sg**	**18 47 18.9**	**-1.0**
MOA	**Mollη**	**2.49**	**36**	Pn	**Pb**	**18 46 42.5**	**-1.7**
MOA				Sg	**Sg**	**18 47 18.9**	**-1.0**
MURB	**Monte Urbino**	**2.62**	**173**	Pg	**Pn**	**18 46 43.4**	**+1.8**
	comp=Z,116nm,0.3s						
ARSA	**Arzberg**	**2.76**	**59**	Sg	**Sb**	**18 47 24.4**	**+2.1**
	comp=Z,12nm,0.4s						
ARSA	**Arzberg**	**2.76**	**59**	*e*Pn	**Pn**	**18 46 46.1**	**+2.7**
ARSA				*e*Sg	**Sg**	**18 47 27.1**	**-1.2**
ARSA	**Arzberg**	**2.76**	**59**	Pn	**Pn**	**18 46 46.1**	**+2.7**
ARSA				Sg	**Sg**	**18 47 27.1**	**-1.2**
PCP	**Piancastagn**	**2.82**	**243**	P	**Pn**	**18 46 46.8**	**+2.5**
SATI	**Passo dei Sala**	**2.94**	**272**	P	**Pn**	**18 46 46.1**	**-0.1**
GEC2	**GERESS Array S**	**3.18**	**20**	*e*Pn	**Pn**	**18 46 51.4**	**+2.0**
GEC2				*e*Pg	**Pg**	**18 46 59.8**	**-0.9**
GEC2				*e*Sg	**Sg**	**18 47 41.9**	**-0.1**
GEC2	**GERESS Array S**	**3.18**	**20**	Pn	**Pn**	**18 46 51.3**	**+2.0**
CONA	**Conrad Observa**	**3.32**	**50**	Pn	**Pn**	**18 46 52.8**	**+1.6**
	comp=Z,0.5nm,0.1s						
CONA				Sg	**Sg**	**18 47 42.1**	**-4.2**
	comp=Z,8.0nm,0.5s						
CONA	**Conrad Observa**	**3.32**	**50**	Pn	**Pn**	**18 46 52.8**	**+1.6**
	comp=Z,0.5nm,0.1s						
WET	**Wettzell**	**3.33**	**9**	*e*Pn	**Pn**	**18 46 53.0**	**+1.7**
WET				*e*Pg	**Pg**	**18 47 02.6**	**-0.9**
WET				*e*Sn	**Sn**	**18 47 32.5**	**+2.0**
WET				*e*Sg	**Sg**	**18 47 47.1**	**+0.5**
WET	**Wettzell**	**3.33**	**9**	Pn	**Pn**	**18 46 53.0**	**+1.7**
RORO	**Rocca Rossa**	**3.34**	**240**	P	**Pn**	**18 46 50.7**	**-0.6**
KHC	**Kasperske Hory**	**3.43**	**17**	*e*PN	**Pn**	**18 46 55.0**	**+2.4**
KHC				*e*PG	**Pg**	**18 47 03.5**	**-1.9**
KHC				*e*SN	**Sn**	**18 47 34.6**	**+1.7**
KHC				*e*SG	**Sg**	**18 47 48.8**	**-0.9**
	comp=Z,26nm,0.5s						
KHC	**Kasperske Hory**	**3.43**	**17**	Pn	**Pn**	**18 46 55.0**	**+2.4**
RSP	**Reno Superiore**	**3.45**	**260**	P	**Pn**	**18 46 52.1**	**-1.0**
STU	**Stuttgart**	**3.51**	**327**	*e*Pg	**Pg**	**18 47 06.7**	**-0.2**
STU				*e*Sg	**Sg**	**18 47 53.3**	**+1.0**
STU	**Stuttgart**	**3.51**	**327**	Pg	**Pg**	**18 47 06.7**	**-0.2**
STU				Sg	**Sg**	**18 47 53.3**	**+1.0**
BHB	**Bricherasio**	**3.54**	**255**	P	**Pn**	**18 46 53.3**	**-0.9**
BFO	**Black Forest**	**3.55**	**315**	*e*Pn	**Pn**	**18 46 56.2**	**+1.8**
BFO				*e*Sn	**Sn**	**18 47 36.9**	**+0.8**
BFO				*e*Sg	**Sg**	**18 47 53.9**	**+0.1**
BFO	**Black Forest**	**3.55**	**315**	Pn	**Pn**	**18 46 56.2**	**+1.8**
BFO				Sn	**Sn**	**18 47 36.9**	**+0.8**
BFO				Sg	**Sg**	**18 47 53.9**	**+0.1**
IMI	**Imperia**	**3.55**	**238**	P	**Pn**	**18 46 54.1**	**-0.3**
ENR	**Entracque**	**3.68**	**245**	P	**Pn**	**18 46 56.7**	**+0.6**
NEGI	**Seborga**	**3.70**	**239**	P	**Pn**	**18 46 56.7**	**+0.3**
LPG	**La Plagne**	**3.75**	**266**	*e*Pn	**Pn**	**18 46 58.8**	**+1.6**
LPG	**La Plagne**	**3.75**	**266**	*e*Pn	**Pn**	**18 46 58.8**	**+1.6**
LPL	**La Plagne**	**3.76**	**267**	*e*Pn	**Pn**	**18 46 58.7**	**+1.4**
LPL	**La Plagne**	**3.76**	**267**	*e*Pn	**Pn**	**18 46 58.7**	**+1.4**
SBF	**Sospel**	**3.85**	**240**	*e*Pn	**Pn**	**18 47 00.1**	**+1.6**
SBF				*e*Sn	**Sn**	**18 47 43.5**	**-0.1**
	comp=Z,25nm,0.3s						
SBF	**Sospel**	**3.85**	**240**	*e*Pn	**Pn**	**18 47 00.1**	**+1.6**
SBF				*e*Sn	**Sn**	**18 47 43.5**	**-0.1**
	comp=Z,13nm,0.3s						
GRA1	**Grafenberg Arr**	**3.87**	**352**	Pg	**Pg**	**18 47 13.0**	**-0.9**
GRA1				Sg	**Sg**	**18 48 02.6**	**-1.5**
GRF	**Grafenberg Arr**	**3.87**	**352**	*e*Pg	**Pg**	**18 47 13.0**	**-0.9**
GRF				*e*Sg	**Sg**	**18 48 02.6**	**-1.5**
MBDF	**Montbardon**	**3.91**	**255**	*e*Pn	**Pn**	**18 46 59.6**	**+0.3**
MBDF				*e*Sn	**Sn**	**18 47 43.1**	**-1.9**
	comp=Z,5.0nm,0.2s						
MBDF				*e*S	**Sb**	**18 47 50.1**	**-5.5**
MBDF	**Montbardon**	**3.91**	**255**	*e*Pn	**Pn**	**18 46 59.6**	**+0.3**
MBDF				*e*Sn	**Sn**	**18 47 43.1**	**-1.9**
	comp=Z,2.5nm,0.2s						
MBDF				*e*S	**Sb**	**18 47 50.1**	**-5.5**
PGF	**Pioggiola**	**3.98**	**215**	*e*Pn	**Pn**	**18 47 01.0**	**+0.7**
PGF				*e*Sn	**Sn**	**18 47 45.9**	**-0.9**
	comp=Z,13nm,0.3s						
PGF	**Pioggiola**	**3.98**	**215**	*e*Pn	**Pn**	**18 47 01.0**	**+0.7**
PGF				*e*Sn	**Sn**	**18 47 45.9**	**-0.9**
	comp=Z,6.4nm,0.3s						
HINF	**Hinteralfeld**	**4.08**	**301**	*e*Pn	**Pn**	**18 47 03.8**	**+2.2**
HINF				*e*Sn	**Sn**	**18 47 49.5**	**+0.4**
	comp=Z,16nm,0.4s						
HINF	**Hinteralfeld**	**4.08**	**301**	*e*Pn	**Pn**	**18 47 03.8**	**+2.2**
HINF				*e*Sn	**Sn**	**18 47 49.5**	**+0.4**
	comp=Z,8.0nm,0.4s						
MANZ	**Manzenberg**	**4.13**	**0**	*e*Pn	**Pn**	**18 47 03.6**	**+1.4**
MANZ				*e*Sn	**Sn**	**18 47 49.0**	**-1.2**
MANZ	**Manzenberg**	**4.13**	**0**	Pn	**Pn**	**18 47 03.6**	**+1.4**
MANZ				Sn	**Sn**	**18 47 49.0**	**-1.2**
CDF	**Champ du Feu**	**4.15**	**310**	*e*Pn	**Pn**	**18 47 04.2**	**+1.6**
CDF	**Champ du Feu**	**4.15**	**310**	*e*Pn	**Pn**	**18 47 04.2**	**+1.6**
CABF	**La Chapelle**	**4.22**	**282**	*e*Pn	**Pn**	**18 47 06.0**	**+2.5**
CABF	**La Chapelle**	**4.22**	**282**	*e*Pn	**Pn**	**18 47 06.0**	**+2.5**
NKC	**Novy Kostel**	**4.38**	**3**	*e*PN	**Pn**	**18 47 08.0**	**+2.3**
NKC	**Novy Kostel**	**4.38**	**3**	Pn	**Pn**	**18 47 08.0**	**+2.3**
GOPC	**GO Pecny, Ondr**	**4.45**	**23**	*e*PN	**Pn**	**18 47 09.4**	**+2.8**
GOPC				*e*PG	**Pg**	**18 47 21.6**	**-3.3**
GOPC				*e*SG	**Sg**	**18 48 20.2**	**-2.2**
	comp=Z,16nm,0.5s						
GOPC	**GO Pecny, Ondr**	**4.45**	**23**	Pn	**Pn**	**18 47 09.4**	**+2.8**
PRU	**Pruhonice**	**4.45**	**21**	*e*PG	**Pg**	**18 47 21.3**	**-3.6**
PRU				*e*SG	**Sg**	**18 48 20.5**	**-2.0**
	comp=Z,22nm,0.6s						
PRU	**Pruhonice**	**4.45**	**21**	Pg	**Pg**	**18 47 21.3**	**-3.6**
PRU				Sg	**Sg**	**18 48 20.5**	**-2.0**
	comp=Z,22nm,0.6s						
ORIF	**Oris-en-Rattie**	**4.46**	**260**	*e*Pn	**Pn**	**18 47 09.6**	**+2.7**
ORIF	**Oris-en-Rattie**	**4.46**	**260**	*e*Pn	**Pn**	**18 47 09.6**	**+2.7**
HAU	**Haudompre**	**4.47**	**301**	*e*Pn	**Pn**	**18 47 09.1**	**+2.2**
HAU				*e*Sn	**Sn**	**18 47 58.6**	**0.0**
HAU	**Haudompre**	**4.47**	**301**	*e*Pn	**Pn**	**18 47 09.1**	**+2.2**
HAU				*e*Sn	**Sn**	**18 47 58.6**	**0.0**
FRF	**La Foret Royal**	**4.50**	**241**	*e*Pn	**Pn**	**18 47 08.3**	**+1.0**
FRF	**La Foret Royal**	**4.50**	**241**	*e*Pn	**Pn**	**18 47 08.3**	**+1.0**
LMR	**La Mourre**	**4.71**	**239**	*e*Pn	**Pn**	**18 47 11.1**	**+0.9**
LMR				*e*Sn	**Sn**	**18 48 03.6**	**-0.9**
	comp=Z,6.4nm,0.3s						
LMR	**La Mourre**	**4.71**	**239**	*e*Pn	**Pn**	**18 47 11.1**	**+0.9**
LMR				*e*Sn	**Sn**	**18 48 03.6**	**-0.9**
	comp=Z,3.2nm,0.3s						
MOX	**Moxa**	**4.79**	**357**	*e*Pn	**Pn**	**18 47 13.6**	**+2.2**
MOX				*e*Sn	**Sn**	**18 48 06.3**	**-0.3**
MOX	**Moxa**	**4.79**	**357**	Pn	**Pn**	**18 47 13.6**	**+2.2**
MOX				Sn	**Sn**	**18 48 06.3**	**-0.3**
PVCC	**Panska Ves**	**4.96**	**19**	*e*SG	**Sg**	**18 48 36.6**	**-2.2**
	comp=Z,44nm,0.9s						
PVCC	**Panska Ves**	**4.96**	**19**	Sg	**Sg**	**18 48 36.6**	**-2.2**
	comp=Z,44nm,0.9s						
SMRF	**Simiane la Rot**	**4.98**	**250**	*e*Pn	**Pn**	**18 47 15.3**	**+1.3**
SMRF	**Simiane la Rot**	**4.98**	**250**	*e*P	**Pn**	**18 47 16.6**	**+2.6**
SMRF	**Simiane la Rot**	**4.98**	**250**	*e*Pn	**Pn**	**18 47 15.3**	**+1.3**
SMRF	**Simiane la Rot**	**4.98**	**250**	*e*P	**Pn**	**18 47 16.6**	**+2.6**
TNS	**Taunus Mts**	**4.99**	**332**	*e*Pn	**Pn**	**18 47 17.0**	**+2.9**
TNS	**Taunus Mts**	**4.99**	**332**	Pn	**Pn**	**18 47 17.0**	**+2.9**
PAGF	**Fort de Pagny**	**5.09**	**304**	*e*Pn	**Pn**	**18 47 18.7**	**+3.2**
PAGF	**Fort de Pagny**	**5.09**	**304**	*e*Pn	**Pn**	**18 47 18.7**	**+3.2**
BRG	**Berggiesshubel**	**5.17**	**13**	PN	**Pn**	18 47 23.2	+6.7
BRG				PG	**Pg**	**18 47 37.2**	**-1.5**
BRG				SG	**Sg**	**18 48 41.5**	**-4.0**
	comp=Z,20nm,1.2s						
VIVF	**Saint-Julien-l**	**5.31**	**262**	*e*Pn	**Pn**	**18 47 19.3**	**+0.8**
VIVF				*e*Sn	**Sn**	**18 48 18.7**	**-0.7**
VIVF	**Saint-Julien-l**	**5.31**	**262**	*e*Pn	**Pn**	**18 47 19.3**	**+0.8**
VIVF				*e*Sn	**Sn**	**18 48 18.7**	**-0.7**
VYHS	**Vyhne**	**5.31**	**58**	*e*Sg	**Sg**	**18 48 50.9**	**+0.8**
VYHS	**Vyhne**	**5.31**	**58**	*e*SG	**Sg**	**18 48 50.9**	**+0.8**
DPC	**Dobruska-Polom**	**5.32**	**31**	*e*SG	**Sg**	**18 48 47.8**	**-2.5**
	comp=Z,14nm,0.6s						
DPC	**Dobruska-Polom**	**5.32**	**31**	Sg	**Sg**	**18 48 47.8**	**-2.5**
	comp=Z,14nm,0.6s						
UPC	**Upice**	**5.34**	**28**	*e*SG	**Sg**	**18 48 48.0**	**-3.1**
	comp=Z,28nm,0.8s						
UPC	**Upice**	**5.34**	**28**	Sg	**Sg**	**18 48 48.0**	**-3.1**
	comp=Z,28nm,0.8s						
CLL	**Collm**	**5.48**	**6**	*e*Pn	**Pn**	**18 47 23.0**	**+2.2**
CLL				*e*Pg	**Pg**	**18 47 43.0**	**-1.7**
CLL				*e*Sn	Sn	18 48 10.0	-14
CLL				*e*Sg	**Sg**	**18 48 54.0**	**-1.6**
	comp=Z,17nm,0.8s						
SMF	**Signal de Mont**	**5.76**	**281**	*e*Pn	**Pn**	**18 47 26.1**	**+1.4**
SMF				*e*Sn	**Sn**	**18 48 31.4**	**+0.9**
	comp=Z,4.9nm,0.2s						
SMF	**Signal de Mont**	**5.76**	**281**	*e*Pn	**Pn**	**18 47 26.1**	**+1.4**
SMF				*e*Sn	**Sn**	**18 48 31.4**	**+0.9**
	comp=Z,2.5nm,0.2s						
LOR	**Lormes**	**5.83**	**287**	*e*Pn	**Pn**	**18 47 27.0**	**+1.3**
LOR				*e*Sn	**Sn**	**18 48 31.6**	**-0.7**
LOR	**Lormes**	**5.83**	**287**	*e*Pn	**Pn**	**18 47 27.0**	**+1.3**
LASF	**Ste Croix**	**6.09**	**256**	*e*Pn	**Pn**	**18 47 29.9**	**+0.6**
LASF				*e*Sn	**Sn**	**18 48 36.3**	**-2.4**
	comp=Z,5.0nm,0.3s						
LASF	**Ste Croix**	**6.09**	**256**	*e*Pn	**Pn**	**18 47 29.9**	**+0.6**
AVF	**Avril sur Loir**	**6.11**	**282**	*e*Pn	**Pn**	**18 47 30.8**	**+1.4**
AVF	**Avril sur Loir**	**6.11**	**282**	*e*Pn	**Pn**	**18 47 30.8**	**+1.4**
BGF	**Bois d'Agland**	**6.44**	**280**	*e*Pn	**Pn**	**18 47 35.3**	**+1.3**
BGF				*e*Sn	**Sn**	**18 48 47.1**	**0.0**
BGF	**Bois d'Agland**	**6.44**	**280**	*e*Pn	**Pn**	**18 47 35.3**	**+1.3**
BGF				*e*Sn	**Sn**	**18 48 47.1**	**0.0**
HYF	**Humbligny**	**6.65**	**286**	*e*Pn	**Pn**	**18 47 38.5**	**+1.6**
HYF	**Humbligny**	**6.65**	**286**	*e*Pn	**Pn**	**18 47 38.5**	**+1.6**
TCF	**Toulx Ste Croi**	**6.87**	**277**	*e*Pn	**Pn**	**18 47 41.3**	**+1.4**
TCF				*e*Sn	**Sn**	**18 48 56.2**	**-1.7**
TCF	**Toulx Ste Croi**	**6.87**	**277**	*e*Pn	**Pn**	**18 47 41.3**	**+1.4**
MTLF	**Montolieu**	**7.47**	**254**	*e*Pn	**Pn**	**18 47 49.1**	**+1.0**
MTLF	**Montolieu**	**7.47**	**254**	*e*Pn	**Pn**	**18 47 49.1**	**+1.0**

KRSC 13 18:54:20.1±1.6, 51°.36N×158°.02E, h96km±15km, ML3.8,
Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
KDTR	**Khodutka, Kamc**	**0.45**	**5**	*i* P	**Pn**	Pn	18 54 36.6	+1.6
KDTR				*e*S		Sn	18 54 46.3	+0.2
ASAK	**Asacha**	**1.02**	**356**	*e*P	**Pn**	Pn	18 54 42.3	+1.8
ASAK				*e*S		Sn	18 54 56.9	+1.1
RUS	**Russkaya**	**1.11**	**16**	*e*P	**Pn**	Pn	18 54 43.1	+1.7
RUS				*e*S		Sn	18 54 58.0	+0.5
MTVR	**Mutnovka**	**1.12**	**5**	*e*P	**Pn**	Pn	18 54 43.7	+2.0
MTVR				*e*S		Sn	18 54 59.2	+1.2
SKR	**Severo-Kuril's**	**1.38**	**241**	*e*P	**Pn**	Pn	18 54 46.1	+1.5
SKR				*e*S		Sn	18 55 03.4	+0.3
KRMR	**Karymshinskiy**	**1.47**	**3**	*e*P	**Pn**	Pn	18 54 47.6	+1.9
KRMR				*e*S		Sn	18 55 07.1	+2.0
APC	**Apacha**	**1.65**	**342**	*e*P	**Pn**	Pn	18 54 49.0	+1.1
APC				*e*S		Sn	18 55 09.1	0.0
DALK	**Dalny**	**1.73**	**15**	*e*P	**Pn**	Pn	18 54 51.4	+2.4
DALK				*e*S		Sn	18 55 13.1	+2.2
AVH	**Avacha**	**1.96**	**13**	*e*P	**Pn**	Pn	18 54 54.4	+2.5
SDLR	**Sedlovina**	**1.99**	**15**	*e*P	**Pn**	Pn	18 54 55.1	+2.7
KRER	**Koryakskii**	**1.99**	**13**	*e*P	**Pn**	Pn	18 54 55.4	+2.8
KRX	**Arik**	**2.04**	**11**	*e*P	**Pn**	Pn	18 54 55.9	+2.8
SPN	**Mys Shipunski**	**2.13**	**35**	*e*P	**Pn**	Pn	18 54 57.5	+3.4
SPN				*e*S		Sn	18 55 23.1	+2.9
GNSI	**Ganaly**	**2.33**	**359**	*e*P	**Pn**	Pn	18 54 59.3	+2.4
MKZ	**Mys Kozlova**	**3.91**	**34**	*e*P	**Pn**	Pn	18 55 20.2	+2.4
MKZ				*e*S		Sn	18 56 03.9	+1.3
BKI	**Bering**	**6.13**	**48**	*e*S		Sn	18 56 53.3	-3.2

*ISCJB **13** 19:14:56.1±0.7, 1°.20N±0°.04×97°.10E±0°.08, h25km, mb3.9/6, Error ellipse: s-maj=11.8km s-min=4.2km az=158.1*
*DJA **13** 19:14:58.0±1.0, 1°.N±2°×9°.7E±°, h28km±8km, M4.1/18, mB4.9/1, mb4.2/10, MLv4.0/18, Mw(mB)4.1/1*
*IDC **13** 19:14:59.7±9.8, 1°.20N×97°.17E, h36km±71km, mb3.7/6, mb1 3.8/8, mb1mx3.5/45, mbtmpb3.8/8, ML3.6/2, MS2.8/1, Ms1 3.0/1, ms1mx2.6/30, Error ellipse: s-maj=74.7km s-min=20.5km az=62.0*

ISC 13 19:14:57.6±0.9, 1°.21N±0°.05×97°.17E±0°.09, h25km, n33,
σ1s65/32, mb3.9/6, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
PBSI	**Pulau Batu**	**1.67**	**139**	P	**Pb**		**19 15 26.1**	**-1.7**
TPTI		**2.04**	**0**	P	**Pn**		**19 15 29.1**	**-1.3**
TPTI				S	Sb		19 16 06.6	+7.7
PSI	**Prapat**	**2.36**	**48**	Pn	**Pn**		**19 15 35.6**	**+0.7**
	5.5nm,0.3s,baz=309,slow=8.2,SNR=14							
PSI				Lg	Lg		19 16 16.9	
	5.4nm,0.3s,baz=174,slow=15,SNR=4.0							
KCSI	**Kotacane, Aceh**	**2.37**	**15**	P	**Pn**		**19 15 35.4**	**+0.4**
KCSI				S	**Sb**		**19 16 12.1**	**+3.4**
MNSI	**Mandailing Nat**	**2.44**	**100**	P	**Pb**		**19 15 37.8**	**-3.1**
TSI	**Tuntungan**	**2.67**	**31**	P	**Pn**		**19 15 39.6**	**+0.5**
TSI				S	**Sn**		**19 16 10.8**	**+0.2**
MLSI	**Meulaboh, Aceh**	**3.13**	**346**	P	**Pn**		**19 15 45.1**	**-0.4**
MLSI				S	**Sn**		**19 16 21.7**	**-0.4**
SISI	**Saibi**	**3.17**	**143**	P	**Pn**		**19 15 47.1**	**+1.2**
PPI	**Padang Panjang**	**3.62**	**117**	P	**Pn**		**19 15 53.5**	**+1.3**
PDSI	**Padang**	**3.91**	**123**	P	**Pn**		**19 15 57.5**	**+1.4**
BKNI	**Bangkinang**	**3.97**	**103**	P	**Pn**		**19 15 59.1**	**+2.2**
LHMI	**Lhok Sumawe**	**4.00**	**357**	P	**Pn**		**19 15 57.1**	**-0.3**
LHMI				S	**Sn**		**19 16 44.8**	**+1.3**
SDSI	**Sungai Dareh**	**4.76**	**117**	P	**Pn**		**19 16 09.3**	**+1.5**
PPSI	**Pulau Pagai**	**4.86**	**144**	P	**Pn**		**19 16 10.3**	**+1.1**
MASI	**Maura Aman, Be**	**6.66**	**130**	P	**Pn**		**19 16 35.0**	**+1.0**
TPRI	**Tanjung Pinang**	**7.36**	**92**	P	**Pn**		**19 16 45.0**	**+1.4**
DSRI	**Dabo**	**7.59**	**103**	P	**Pn**		**19 16 48.2**	**+1.4**
MNAI	**Manna**	**8.00**	**134**	P	**Pn**		**19 16 53.0**	**+0.6**
MDSI	**Maura Dua**	**9.00**	**129**	P	**Pn**		**19 17 07.0**	**+0.9**
LWLI	**Liwa**	**9.25**	**132**	P	**Pn**		**19 17 10.6**	**+0.9**
CMAR	**Chiang Mai Arr**	**17.23**	**6**	P	**P**		**19 18 56.5**	**-1.6**
	0.2nm,0.3s,baz=198,slow=11,SNR=5.0							
CMAR				S	**Sn**		**19 22 02.8**	**-5.1**
	0.6nm,0.3s,baz=164,slow=24,SNR=9.1							
CMAR				LR	LR		19 25 58.2	
	comp=Z,32nm,21.2s,baz=275,slow=38							
H08S2	**Diego Garcia H**	**26.14**	**250**	T	T		19 47 28.0	
	baz=71,slow=76,SNR=774							
H08S3	**Diego Garcia H**	**26.14**	**250**	T	T		19 47 24.6	
	baz=71,slow=76,SNR=942							
H08S1	**Diego Carcia H**	**26.16**	**250**	T	T		19 47 29.3	
	baz=71,slow=76,SNR=1066							
H01W3	**Cape Leeuwin H**	**39.26**	**158**	T	T		20 04 11.7	
	baz=333,slow=76,SNR=6.4							
H01W2	**Cape Leeuwin H**	**39.28**	**158**	T	T		20 04 09.8	
	baz=333,slow=76,SNR=5.6							
H01W1	**Cape Leeuwin H**	**39.28**	**158**	T	T		20 04 06.3	
	baz=333,slow=76,SNR=4.5							
WRA	**Warramunga Arr**	**42.06**	**122**	P	**P**		**19 22 47.9**	**+0.1**
	0.4nm,0.5s,baz=302,slow=9.1,SNR=9.5							
ASAR	**Alice Springs**	**43.42**	**127**	P	**P**		**19 22 59.4**	**+0.6**
	0.3nm,0.4s,baz=299,slow=7.6,SNR=10							
KSRS	**Korea Array**	**45.86**	**35**	P	**P**		**19 23 17.9**	**0.0**
	1.5nm,0.8s,baz=220,slow=9.1,SNR=12							
SONM	**Songino Array**	**47.13**	**8**	P	**P**		**19 23 28.8**	**+0.9**
	0.7nm,0.6s,baz=185,slow=10,SNR=4.0							
ZALV	**Zalesovo Beam**	**53.55**	**351**	P	**P**		**19 24 16.6**	**+0.4**
	2.1nm,0.6s,baz=175,slow=7.0,SNR=8.9							
NOA	**NORSAR Array B**	**86.98**	**331**	P	**P**		**19 27 41.2**	**+0.5**
	3.7nm,1.1s,baz=89,slow=5.0,SNR=2.4							

*IDC **13** 19:17:22.9±1.6, 55°.29N×164°.05E, h0km, mb3.8/3, mb1 4.1/4, mb1mx3.6/41, mbtmp3.7/4, ML2.1/1, Error ellipse: s-maj=109.3km s-min=24.7km az=148.0*
*KRSC **13** 19:17:32.5±1.0, 56°.03N×161°.03E, h186km±8km, ML4.2*
*ISCJB **13** 19:17:33.5±0.5, 56°.04N±0°.04×160°.86E±0°.09, h184km±3km, mb3.6/3, Error ellipse: s-maj=9.6km s-min=5.8km az=33.3*
*MOS **13** 19:17:33.3±0.7, 56°.08N×160°.80E, h181km, mb4.0/2, Error ellipse: s-maj=24.4km s-min=7.3km az=76.1*

ISC 13 19:17:34.6±0.9, 56°.04N±0°.04×160°.83E±0°.05, h180km±5km,
n58, σ0s84/84, mb3.7/3, Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
ZLN	**Zelenaya**	**0.02**	**217**	PN	**Pn**		**19 17 58.4**	**0.0**
ZLN				S	**Sn**		**19 18 18.3**	**+1.7**
ZLN	**Zelenaya**	**0.02**	**217**	*e*P	**Pn**		**19 17 58.4**	**0.0**
ZLN				*e*S	**Sn**		**19 18 18.3**	**+1.7**
LGNR	**Loginova**	**0.09**	**302**	PN	**Pn**		**19 17 58.5**	**-0.1**
LGNR	**Loginova**	**0.09**	**302**	*e*P	**Pn**		**19 17 58.5**	**-0.1**
CIRR	**Tsirk**	**0.09**	**331**	PN	**Pn**		**19 17 58.0**	**-0.5**
CIRR				S	**Sn**		**19 18 17.5**	**+0.6**
CIRR	**Tsirk**	**0.09**	**331**	*e*P	**Pn**		**19 17 58.0**	**-0.5**
CIRR				*e*S	**Sn**		**19 18 17.5**	**+0.6**
BZMR	**Bezymyannaya**	**0.21**	**242**	PN	**Pn**		**19 17 58.2**	**-0.5**
BZMR				S	**Sn**		**19 18 18.0**	**+0.9**
BZMR	**Bezymyannaya**	**0.21**	**242**	*e*P	**Pn**		**19 17 58.2**	**-0.5**
BZMR				*e*S	**Sn**		**19 18 18.0**	**+0.9**
KRSR	**Krestovskiy**	**0.23**	**321**	PN	**Pn**		**19 17 57.7**	**-0.9**
KRSR				S	**Sn**		**19 18 16.4**	**-0.8**
KRSR	**Krestovskiy**	**0.23**	**321**	*e*P	**Pn**		**19 17 57.7**	**-0.9**
KRSR				*e*S	**Sn**		**19 18 16.4**	**-0.8**
KIRR	**Kirishev**	**0.28**	**253**	PN	**Pn**		**

δ42.00000°,λ-122.00000°. Principal axes: T Plg7.0000°, Azm82.0000°; N Plg21.0000°, Azm175.0000°; P Plg68.0000°, Azm334.0000°;
JMA Felt III J1.
NEIC **13** 19:21:22.3±2.5, 36°.74N×140°.52E, h37km±21km, mb4.7/2 Error ellipse: s-maj=23.5km s-min=13.5km az=73.0
NEIC Recorded [3 JMA] in Ibaraki.

ISC 13 19:21:17.2±1.4, 36°.76N±0°.06×140°.64E±0°.06, h2km±10km, n31, σ0s83/30, mb3.9/13, 4C-1D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JHO	**Hitachi**	**0.16**	**202**	⇑P	**Pg**	**19 21 20.4**	**+0.1**
JHO				S	**Sg**	**19 21 21.8**	**-0.6**
ONAJ	**Iwakimizuishiy**	**0.36**	**20**	⇑P	**Pb**	**19 21 27.0**	**+0.6**
ONAJ				S	**Sb**	**19 21 33.2**	**+0.6**
JSB	**Shiboa**	**0.62**	**290**	⇑P	**Pb**	**19 21 31.3**	**+0.6**
JSB				S	**Sb**	**19 21 40.1**	**+0.3**
JFK	**Kawauchi**	**0.63**	**17**	P	**Pb**	**19 21 31.8**	**+0.8**
JFK				S	**Sb**	**19 21 41.5**	**+1.2**
JYT	**Yasato**	**0.64**	**214**	⇑P	**Pg**	**19 21 29.3**	**-0.2**
JYT				S	**Sg**	**19 21 37.3**	**-0.6**
JFT	**Otama**	**0.79**	**342**	⇓P	**Pn**	**19 21 35.0**	**-0.4**
JFT				S	**Sn**	**19 21 46.6**	**-1.3**
MJAR	**Matsushiro Arr**	**1.97**	**264**	Pn	**Pn**	**19 21 52.1**	**+0.5**
	39nm,0.3s,baz=82,slow=12,SNR=268						
MJAR				Sn	**Sn**	**19 22 17.6**	**+0.7**
	67nm,0.3s,baz=197,slow=21,SNR=17						
MJAR				LR	LR	19 22 52.3	
	comp=Z,125nm,18.4s,baz=105,slow=49						
MAJO	**Matsushiro**	**1.97**	**264**	*e*Pn	**Pn**	**19 21 51.7**	**+0.1**
MAT	**Matsushiro**	**1.97**	**264**	P	**Pn**	**19 21 52.3**	**+0.7**
MAT				S	**Sn**	**19 22 17.9**	**+1.0**
USRK	**Ussuriysk Ar.**	**9.93**	**321**	Pn	Pn	19 23 48.0	+7.1
	0.2nm,0.3s,baz=118,slow=12,SNR=5.4						
KSRS	**Korea Array**	**10.19**	**278**	Pn	Pn	19 23 52.6	+8.3
	0.1nm,0.3s,baz=91,slow=14,SNR=4.5						
KSAR	**Wonju Array Be**	**10.22**	**278**	Pn	Pn	19 23 52.6	+7.8
SONM	**Songino Array**	**27.43**	**305**	P	**P**	**19 27 04.4**	**0.0**
	0.8nm,0.6s,baz=104,slow=12,SNR=3.7						
H11N2	**WAKE ISLAND Hy**	**28.55**	**119**	T	T	19 56 58.2	
	baz=312,slow=75,SNR=833						
H11N1	**WAKE ISLAND Hy**	**28.55**	**119**	T	T	19 56 58.8	
	baz=312,slow=75,SNR=617						
H11N3	**WAKE ISLAND Hy**	**28.56**	**119**	T	T	19 56 59.6	
	baz=312,slow=75,SNR=715						
H11S1	**WAKE ISLAND Hy**	**29.24**	**121**	T	T	19 57 48.6	
	baz=314,slow=76,SNR=1421						
H11S3	**WAKE ISLAND Hy**	**29.24**	**121**	T	T	19 57 48.8	
	baz=314,slow=76,SNR=729						
H11S2	**WAKE ISLAND Hy**	**29.25**	**121**	T	T	19 57 50.0	
	baz=314,slow=76,SNR=689						
ZALV	**Zalesovo Beam**	**41.64**	**313**	P	**P**	**19 29 06.3**	**-0.3**
	1.9nm,0.5s,baz=94,slow=7.3,SNR=8.9						
KURK	**Kurchatov**	**45.62**	**308**	*e*P	**P**	**19 29 38.1**	**-0.6**
	16nm,1.0s						
ILAR	**Eielson Array**	**50.05**	**32**	P	**P**	**19 30 12.4**	**-0.6**
	0.2nm,0.5s,baz=295,slow=6.5,SNR=4.1						
BRVK	**Borovoye**	**50.36**	**312**	*e*P	**P**	**19 30 14.3**	**-1.0**
	2.7nm,0.6s						
WRA	**Warramunga Arr**	**56.71**	**187**	P	**P**	**19 31 01.0**	**-1.3**
	1.3nm,0.8s,baz=3.7,slow=7.3,SNR=19						
ASAR	**Alice Springs**	**60.44**	**187**	P	**P**	**19 31 27.0**	**-1.3**
	0.6nm,0.8s,baz=15,slow=15,SNR=7.2						
GEYT	**Alibeck**	**63.43**	**299**	P	**P**	**19 31 48.6**	**+0.2**
	0.6nm,0.5s,baz=60,slow=8.5,SNR=2.6						
STKA	**Stephens Creek**	**68.29**	**179**	P	**P**	**19 32 20.9**	**+1.4**
	1.6nm,0.9s,baz=343,slow=10,SNR=3.0						
KBZ	**Khabaz**	**70.61**	**310**	P	**P**	**19 32 33.2**	**-0.7**
	0.4nm,0.4s,baz=41,slow=11,SNR=2.0						
NOA	**NORSAR Array B**	**74.20**	**337**	P	**P**	**19 32 54.9**	**-0.2**
	0.6nm,0.5s,baz=40,slow=5.8,SNR=2.3						
GERES	**GERESS Array B**	**82.61**	**328**	P	**P**	**19 33 41.9**	**-0.1**
	0.2nm,0.4s,baz=38,slow=10,SNR=3.4						
TXAR	**Lajitas Array**	**90.78**	**52**	P	**P**	**19 34 23.6**	**+1.4**
	0.1nm,0.5s,baz=310,slow=5.6,SNR=2.5						

CSEM **13** 19:43:32.1, 39°.51N×29°.73W, h10km, ML2.8
PDA 13 19:43:32.1±1.1, 39°.51N×29°.73W, h10km, MD3.6, ML2.8, Error ellipse: s-maj=18.6km s-min=8.1km az=55.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PCED	**Cedros**	**1.19**	**137**	*e*S	Sb	19 44 03.6	-6.6
PCED				A	A	19 44 09.9	
	95nm,0.4s						
PCED	**Cedros**	**1.19**	**137**	*e*S	Sb	19 44 03.6	-6.6
CALA	**Caldeira**	**1.23**	**139**	*e*P	Pn	19 43 50.9	-4.5
CALA				*e*S	Sb	19 44 04.7	-6.6
CALA	**Caldeira**	**1.23**	**139**	*e*P	Pn	19 43 50.9	-4.5
CALA				*e*S	Sb	19 44 04.7	-6.6
HOR	**Horta**	**1.30**	**139**	*e*S	Sb	19 44 06.0	-7.4
HOR				A	A	19 44 09.3	
	170nm,0.3s						
HOR	**Horta**	**1.30**	**139**	*e*S	Sb	19 44 06.0	-7.4
ROSA	**Rosais**	**1.40**	**124**	*e*P	Pn	19 43 53.4	-4.3
ROSA				*e*S	Sn	19 44 08.6	-7.7
ROSA				A	A	19 44 10.9	
	18nm,0.2s						
ROSA	**Rosais**	**1.40**	**124**	*e*P	Pn	19 43 53.4	-4.3
ROSA				*e*S	Sn	19 44 08.6	-7.7
PCAN	**Candelaria**	**1.43**	**137**	*e*P	Pn	19 43 53.1	-5.0
PCAN				*e*S	Sn	19 44 09.8	-7.1
PCAN				A	A	19 44 12.5	
	138nm,0.3s						
PCAN	**Candelaria**	**1.43**	**137**	*e*P	Pn	19 43 53.1	-5.0
PCAN				*e*S	Sn	19 44 09.8	-7.1
PICO	**Pico**	**1.43**	**134**	*e*P	Pn	19 43 53.4	-4.8
PICO				*e*S	Sn	19 44 09.9	-7.2
PICO				A	A	19 44 13.5	
	164nm,0.3s						
PICO	**Pico**	**1.43**	**134**	*e*P	Pn	19 43 53.4	-4.8
PICO				*e*S	Sn	19 44 09.9	-7.2
PMAN	**Manadas**	**1.55**	**124**	*e*S	Sn	19 44 12.2	-7.7
PMAN				A	A	19 44 16.6	
	26nm,0.3s						
PMAN	**Manadas**	**1.55**	**124**	*e*S	Sn	19 44 12.2	-7.7

IDC **13** 19:59:15.9±1.2, 51°.37N×176°.08W, h0km, mb4.0/13, mb1 4.1/13, mb1mx3.8/59, mbtmp4.0/13, MS2.8/3, Ms1 2.8/3, ms1mx2.5/39, Error ellipse: s-maj=42.0km s-min=17.8km az=179.0
ISCJB **13** 19:59:20.3±0.4, 51°.13N±0°.07×175°.98W±0°.05, h47km, mb4.5/30, MS2.7/2, Error ellipse: s-maj=10.6km s-min=3.9km az=163.6
NEIC **13** 19:59:23.0±0.7, 51°.21N×175°.96W, h55km±5km, mb4.4/33, ML3.9(AEIC), Error ellipse: s-maj=11.7km s-min=5.1km az=173.0

ISC 13 19:59:22.1±0.8, 51°.1N±0°.1×175°.91W±0°.06, h47km, n88, σ1s43/86, mb4.4/30, Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ATKA	**Atka Island**	**1.55**	**43**	P	**Pn**	**19 59 45.0**	**-2.3**
ATKA				S	**Sn**	**20 00 06.3**	**+0.1**
KOKL	**Mount Kliuchef**	**1.64**	**40**	P	**Pn**	**19 59 47.6**	**-1.0**
KOKL				S	**Sn**	**20 00 09.5**	**+1.1**
KOFP	**Korovin Flat P**	**1.65**	**43**	P	**Pn**	**19 59 47.6**	**-1.0**
KOWE	**Korovin West**	**1.65**	**38**	P	**Pn**	**19 59 47.6**	**-1.0**
KOSE	**Korovin Southe**	**1.72**	**42**	P	**Pn**	**19 59 49.6**	**0.0**
KONE	**Korovin Northe**	**1.73**	**40**	P	**Pn**	**19 59 49.2**	**-0.4**
NIKH	**Nikolski High**	**4.75**	**64**	P	**Pn**	**20 00 31.0**	**-0.1**
NIKH				S	**Sn**	**20 01 26.6**	**+1.7**
OKWE	**Okmok W'ng Wal**	**5.29**	**60**	P	**Pn**	**20 00 38.9**	**+0.4**
OKCE	**Okmok Cone E**	**5.31**	**61**	P	**Pn**	**20 00 39.4**	**+0.6**
OKTU	**Okmok Mt. Tuli**	**5.36**	**61**	P	**Pn**	**20 00 39.8**	**+0.3**
MREP	**Makushin Rep't**	**6.24**	**60**	P	**Pn**	**20 00 52.2**	**+0.7**
MSW	**Makushin Switc**	**6.26**	**59**	P	**Pn**	**20 00 51.9**	**+0.1**
UNV	**Unalaska Valle**	**6.38**	**61**	P	**Pn**	**20 00 53.8**	**+0.3**
UNV				S	**Sn**	**20 02 06.8**	**+1.8**
SMY	**Shemya**	**6.40**	**289**	P	**Pn**	**20 00 54.5**	**+0.7**
SPIA	**Saint Paul Isl**	**6.96**	**26**	P	**Pn**	**20 01 03.2**	**+1.9**
TT01	**Tatalina**	**15.97**	**34**	*e*Pn	**P**	**20 03 05.0**	**-1.1**
CNPM	**China Poot**	**16.31**	**49**	*e*Pn	**Pn**	**20 03 05.5**	**-2.2**
	168nm,1.8s						
PEA0	**Petropavlovsk-**	**16.31**	**287**	*e*Pn	**Pn**	**20 03 08.3**	**+0.6**
PEA0B	**Petropavlovsk-**	**16.31**	**287**	*e*Pn	**Pn**	**20 03 08.5**	**+0.8**
	89nm,1.6s						
PETK	**Petropavlovsk-**	**16.31**	**287**	Pn	**Pn**	**20 03 07.8**	**+0.1**
	1.6nm,0.3s,baz=96,slow=16,SNR=23						
PETK				LR	LR	20 09 29.0	
	comp=Z,47nm,19.6s,baz=94,slow=38						
BRLK	**Bradley Lake**	**16.56**	**49**	*e*Pn	**Pn**	**20 03 10.8**	**0.0**
	155nm,1.8s						
SUA	**Susitna One**	**17.30**	**43**	*e*Pn	**Pn**	**20 03 17.6**	**-2.4**
	30nm,1.1s						
PPLA	**Purkeypile**	**17.39**	**38**	*e*Pn	**P**	**20 03 23.0**	**+1.0**
	80nm,2.0s						
RC01	**Rabbit Creek A**	**17.59**	**45**	*e*Pn	**Pn**	**20 03 20.7**	**-2.8**
	49nm,1.4s						
CAST	**Castle Rocks**	**17.72**	**37**	*e*Pn	**P**	**20 03 25.1**	**-0.4**
	6.8nm,0.9s						
KTH	**Kantishna Hill**	**18.23**	**37**	*e*P	**P**	**20 03 29.6**	**-1.6**
	24nm,0.8s						
SCM	**Sheep Creek Mo**	**18.94**	**44**	*e*P	**P**	**20 03 38.3**	**-0.6**
	33nm,1.2s						
RND	**Reindeer**	**18.96**	**39**	*e*P	**P**	**20 03 37.9**	**-1.3**
	7.8nm,0.8s						
FID	**Port Fidalgo**	**18.96**	**48**	*e*P	**P**	**20 03 37.8**	**-1.3**
	72nm,1.4s						
MCK	**McKinley**	**19.09**	**38**	*e*P	**P**	**20 03 40.3**	**-0.2**
	12nm,1.1s						
KLU	**Klutina**	**19.45**	**46**	*e*P	**P**	**20 03 43.8**	**-0.8**
	19nm,1.3s						
WRH	**Wood River Hil**	**19.77**	**37**	*e*P	**P**	**20 03 46.2**	**-1.7**
	22nm,1.7s						
CCB	**Clear Creek Bu**	**19.96**	**36**	*e*P	**P**	**20 03 47.8**	**-2.2**
	7.6nm,1.0s						
MDM	**Murphy Dome**	**19.97**	**35**	*e*P	**P**	**20 03 49.8**	**-0.3**
	6.9nm,0.9s						
HARP	**HAARP**	**20.10**	**44**	*e*P	**Pn**	**20 03 52.8**	**-0.8**
	153nm,1.9s						
PAX	**Paxson**	**20.17**	**42**	*e*P	Pn	20 03 54.0	-0.6
	41nm,2.0s						
HDA	**Harding Lake**	**20.18**	**38**	*e*P	**P**	**20 03 52.8**	**+0.4**
	7.7nm,0.6s						
IL1	**Eielson Array**	**20.37**	**37**	*e*P	**P**	**20 03 54.3**	**-0.1**
ILAR	**Eielson Array**	**20.37**	**37**	P	**P**	**20 03 50.6**	**-3.8**
	0.5nm,0.4s,baz=239,slow=9.8,SNR=7.2						
ILB	**Eielson Array**	**20.37**	**37**	*e*P	**P**	**20 03 53.3**	**-1.1**
MA2	**Magadan**	**20.58**	**307**	LR	LR	20 10 44.2	
	comp=Z,33nm,19.4s,baz=102,slow=34						
COLD	**Coldfoot**	**20.61**	**29**	*e*P	**P**	**20 03 56.7**	**-0.4**
	6.5nm,1.2s						
DOT	**Dot Lake**	**21.01**	**41**	*e*P	**P**	**20 04 00.8**	**-0.5**
	17nm,0.7s						
YKU2	**Yakutat**	**22.04**	**53**	*e*P	**P**	**20 04 13.7**	**+1.4**
	2μm,1.1s						
EGAK	**Eagle**	**22.61**	**39**	*e*P	**P**	**20 04 17.5**	**-0.9**
DHAK	**Deception Hill**	**22.75**	**55**	*e*P	**P**	**20 04 19.8**	**-0.2**
	150nm,1.2s						
INK	**Inuvik**	**26.68**	**34**	*e*P	**P**	**20 04 56.7**	**+0.5**
	6.6nm,1.3s						
H11N2	**WAKE ISLAND Hy**	**34.10**	**210**	T	T	20 42 41.1	
	baz=18,slow=76,SNR=80						
H11N3	**WAKE ISLAND Hy**	**34.11**	**210**	T	T	20 42 42.3	
	baz=18,slow=76,SNR=75						
H11N1	**WAKE ISLAND Hy**	**34.12**	**210**	T	T	20 42 42.7	
	baz=18,slow=76,SNR=85						
USRK	**Ussuriysk Ar.**	**35.14**	**280**	P	**P**	**20 06 10.4**	**-0.5**
	2.0nm,0.8s,baz=63,slow=9.5,SNR=3.6						
H11S1	**WAKE ISLAND Hy**	**35.31**	**209**	T	T	20 44 12.3	
	baz=18,slow=76,SNR=25						
H11S2	**WAKE ISLAND Hy**	**35.32**	**209**	T	T	20 44 13.5	
	baz=18,slow=76,SNR=15						
H11S3	**WAKE ISLAND Hy**	**35.32**	**209**	T	T	20 44 13.6	
	baz=18,slow=76,SNR=14						
B08A	**Colville Reser**	**35.92**	**72**	*e*P	**P**	**20 06 18.4**	**+0.8**
	3.7nm,1.1s						
BSMT	**Bassoo Peak**	**38.86**	**70**	*e*P	**P**	**20 06 43.3**	**+0.5**
JCHM	**Cahill Ridge**	**39.77**	**89**	*e*pP	pP	20 07 05.4	+2.7
CHMT	**Chamberlain Mo**	**40.22**	**71**	*e*P	**P**	**20 06 54.4**	**+0.2**
KSRS	**Korea Array**	**41.46**	**27**	P	**P**	**20 07 02.7**	**-1.5**
	1.1nm,0.8s,baz=52,slow=8.5,SNR=9.0						
KSRS				LR	LR	20 27 26.9	
	comp=Z,8.1nm,18.0s,baz=80,slow=41						
KSAR	**Wonju Array Be**	**41.49**	**273**	P	**P**	**20 07 02.7**	**-1.7**
TVH3	**East Aurora ar**	**41.50**	**85**	*e*P	**P**	**20 07 04.4**	**-0.4**
	3.5nm,0.7s						
MCMT	**McKenzie Canyo**	**41.54**	**73**	*e*P	**P**	**20 07 05.0**	**0.0**
EGMT	**Eagleton**	**41.73**	**67**	*e*P	**P**	**20 07 06.8**	**+0.5**
	13nm,1.5s						
BOZ	**Bozeman (W)**	**41.87**	**71**	*e*P	**P**	**20 07 07.6**	**+0.1**
	1.9nm,0.8s						
GCMT	**Greycliff**	**42.93**	**70**	*e*P	**P**	**20 07 16.5**	**+0.3**
RLMT	**Red Lodge**	**43.53**	**71**	*e*P	**P**	**20 07 22.2**	**+1.1**
	4.7nm,1.0s						
BW06	**Boulder Array**	**44.66**	**74**	*e*P	**P**	**20 07 30.9**	**+0.7**
PD31	**Pinedale Array**	**44.66**	**74**	*e*P	**P**	**20 07 31.4**	**+1.2**
PDAR	**Pinedale Array**	**44.66**	**74**	P	**P**	**20 07 31.2**	**+1.0**
	1.6nm,0.8s,baz=299,slow=4.2,SNR=9.4						
SONM	**Songino Array**	**48.40**	**298**	P	**P**	**20 07 58.3**	**-1.0**
	1.2nm,1.1s,baz=70,slow=9.3,SNR=2.4						
X16A	**Lo Mia Ramp, P**	**48.60**	**84**	*e*P	**P**	**20 08 01.6**	**+0.5**
	18nm,1.0s						
X18A	**Snowflake**	**49.46**	**83**	*e*P	**P**	**20 08 08.6**	**+0.9**
	84nm,1.4s						
HHC	**Hu-ho-hao-te**	**49.51**	**288**	*e*P	**P**	**20 08 08.8**	**+0.9**
HHC				pmax	pmax		
	comp=Z,12nm,1.2s						
HHC				pmax	pmax		
	comp=Z,84nm,6.2s						
ANMO	**Albuquerque**	**51.37**	**80**	*e*P	**P**	**20 08 19.3**	**-2.7**
	comp=Z,5.6nm,1.0s						
TXAR	**Lajitas Array**	**56.90**	**83**	P	**P**	**20 09 02.7**	**+0.4**
	comp=Z,0.2nm,0.6s,baz=300,slow=11,SNR=2.7						
TXAR				PcP	**PcP**	**20 09 58.5**	**+1.2**
	comp=Z,0.4nm,0.7s,baz=316,slow=3.8,SNR=2.3						
KURK	**Kurchatov**	**60.53**	**315**	*e*P	**P**	**20 09 24.9**	**-2.2**
	comp=Z,4.9nm,0.6s						
KURBB	**Kurchatov Arra**	**60.63**	**315**	P	**P**	**20 09 26.6**	**-1.1**
	comp=Z,3.1nm,0.5s,baz=43,slow=6.7,SNR=26						
WMQ	**Urumqi**	**61.02**	**305**	P	**P**	**20 09 32.3**	**+1.7**
WMQ				pmax	pmax		
	comp=Z,7.0nm,0.7s						
BVAR	**Borovoye Array**	**62.27**	**321**	P	**P**	**20 09 37.3**	**-1.5**
	comp=Z,1.6nm,0.5s,baz=58,slow=6.2,SNR=18						
NOA	**NORSAR Array B**	**68.09**	**356**	P	**P**	**20 10 15.0**	**-1.4**
	comp=Z,1.4nm,0.8s,baz=5.8,slow=6.2,SNR=2.9						
AAK	**Ala-Archa**	**68.43**	**312**	P	**P**	**20 10 18.4**	**-0.6**
	comp=Z,3.6nm,0.5s,baz=130,slow=4.0,SNR=9.6						
AKTO	**Aktyubinsk**	**68.96**	**326**	P	**P**	**20 10 20.4**	**-1.6**
	comp=Z,1.6nm,0.8s,baz=41,slow=7.0,SNR=4.2						
ABKAR	**Akbulak array**	**69.26**	**325**	*e*P	**P**	**20 10 23.4**	**-0.4**
	comp=Z,9.2nm,0.8s						
KKAR	**Karatay Array**	**69.91**	**314**	*e*P	**P**	**20 10 26.6**	**-1.4**
	comp=Z,39nm,0.6s						
KSH	**Kashi**	**70.12**	**309**	P	**P**	**20 10 32.3**	**+2.8**
KSH				pP	pP	20 10 45.3	+2.3
KSH				PcP	**PcP**	**20 10 54.1**	**+2.8**
KSH				PP	**PP**	**20 13 10.1**	**+5.6**
KSH				S	**S**	**20 19 37.8**	**+0.8**
KSH				sS	sS	20 19 59.9	+0.3
KSH	**Kashi**	**70.12**	**309**	SS	SS	20 24 09.6	+3.1
KSH				pmax	pmax		
	comp=Z,10.0nm,1.1s						
KSH				pmax	pmax		
	comp=Z,43nm,5.8s						
KSH				LR	LR		
	comp=N,76nm,6.1s						
KSH				LR	LR		
	comp=E,60nm,5.1s						
KSH				LR	LR		
	comp=Z,140nm,5.3s						
CMAR	**Chiang Mai Arr**	**72.85**	**278**	P	**P**	**20 10 44.8**	**-1.3**
	comp=Z,1.0nm,0.8s,baz=24,slow=5.9,SNR=4.1						
BRTR	**Keskin Array B**	**85.94**	**338**	P	**P**	**20 11 56.2**	**-1.0**
	comp=Z,1.5nm,0.8s,baz=39,slow=3.8,SNR=7.8						

IDC **13** 20:03:17.6±0.8, 3°.66N×126°.19E, h0km, mb3.8/8, mb1 3.9/8, mb1mx3.7/47, mbtmp3.8/8, ML4.5/1, MS2.8/2, Ms1 2.9/2, ms1mx2.5/28, Error ellipse: s-maj=57.1km s-min=15.0km az=72.0
ISCJB **13** 20:03:21.7±0.5, 3°.77N±0°.05×126°.68E±0°.05, h45km, mb3.9/10, MS2.6/2, Error ellipse: s-maj=7.5km s-min=6.4km az=39.0
NEIC **13** 20:03:22.6±0.5, 3°.72N×126°.45E, h35km, mb4.5/2, Error ellipse: s-maj=29.7km s-min=7.6km az=76.0
DJA **13** 20:03:24.8±1.4, 4°.N±8°.×12°.7E±°, h37km±32km, M4.4/6, mB5.7/1, mb4.4/2, MLv4.4/6, Mw(mB)5.2/1
ISC 13 20:03:23.7±0.7, 3.77N±0°.07×126.65E±0°.06, h45km, n23, σ1s08/24, mb3.9/10, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SGSI	**Sangihe**	**1.12**	**266**	P	**Pn**	**20 03 42.8**	**-0.1**
SGSI				S	**Sn**	**20 03 58.2**	**+1.0**
KMSI	**Cibinong**	**4.14**	**220**	P	**Pn**	**20 04 23.7**	**-0.7**
LBMI	**Labuha**	**4.46**	**169**	P	**Pn**	**20 04 28.4**	**-0.4**
GTOI	**Gorontalo**	**4.78**	**230**	P	**Pn**	**20 04 34.1**	**+0.8**
GTOI				S	**Sn**	**20 05 26.8**	**-0.7**
MRSI	**Marisa**	**5.73**	**235**	P	**Pn**	**20 04 48.9**	**+2.7**
SANI	**Sanana**	**5.82**	**187**	P	**Pn**	**20 04 47.2**	**-0.3**
SIJI	**Sorong**	**6.52**	**135**	Pn	**Pn**	**20 04 60.0**	**+2.8**
	8.4nm,0.3s,baz=0.0,slow=13,SNR=1.1						
SIJI				Sn	**Sn**	**20 06 10.9**	**+0.6**
	26nm,0.3s,baz=360,slow=19,SNR=1.7						
GUMO	**Guam**	**20.47**	**60**	LR	LR	20 14 59.2	
	comp=Z,30nm,20.7s,baz=238,slow=34						
FITZ	**Fitzroy Crossi**	**21.75**	**183**	P	**P**	**20 08 10.7**	**-0.8**
	1.3nm,0.4s,baz=12,slow=7.8,SNR=14						
WRAB	**Tennant Creek**	**24.74**	**162**	*e*P	**P**	**20 08 41.1**	**0.0**
	3.8nm,0.7s						
WRA	**Warramunga Arr**	**24.75**	**162**	P	**P**	**20 08 40.4**	**-0.8**
	2.5nm,0.5s,baz=339,slow=10,SNR=19						
MBWA	**Marble Bar**	**25.68**	**195**	*e*P	**P**	**20 08 49.6**	**-0.1**
	31nm,0.9s						
ASAR	**Alice Springs**	**28.17**	**166**	P	**P**	**20 09 11.9**	**-0.2**
	0.2nm,0.3s,baz=338,slow=8.6,SNR=16						
CMAR	**Chiang Mai Arr**	**30.78**	**300**	LR	LR	20 21 40.8	
	comp=Z,12nm,18.2s,baz=215,slow=36						
KSAR	**Wonju Array Be**	**33.53**	**2**	P	**P**	**20 10 00.1**	**+1.0**
KSRS	**Korea Array**	**33.55**	**2**	P	**P**	**20 10 00.1**	**+0.9**
	0.7nm,0.5s,baz=182,slow=9.8,SNR=7.0						
STKA	**Stephens Creek**	**38.20**	**159**	P	**P**	**20 10 39.5**	**+0.4**
	1.9nm,0.7s,baz=327,slow=8.7,SNR=7.4						
SONM	**Songino Array**	**47.23**	**341**	P	**P**	**20 11 52.4**	**0.0**
	0.5nm,0.5s,baz=168,slow=8.3,SNR=2.4						
KURBB	**Kurchatov Arra**	**61.66**	**327**	P	**P**	**20 13 36.2**	**-0.7**
	0.8nm,0.4s,baz=126,slow=4.7,SNR=7.5						
KURK	**Kurchatov**	**61.66**	**328**	P	**P**	**20 13 36.2**	**-0.8**
KKAR	**Karatay Array**	**63.15**	**317**	P	**P**	**20 13 45.9**	**-1.2**
BVAR	**Borovoye Array**	**67.24**	**327**	P	**P**	**20 14 12.9**	**-0.5**
	0.4nm,0.5s,baz=138,slow=7.1,SNR=3.7						
TORD	**Torodi Ar. Bea**	**122.83**	**288**	PKP	**PKPdf**	**20 22 15.7**	**-0.2**
	0.4nm,0.9s,baz=64,slow=3.4,SNR=1.8						

ISK **13** 20:07:03.4, 37°.54N×35°.68E, h6km, MD2.6
ISCJB **13** 20:07:04.1±0.4, 37°.54N±0°.03×35°.69E±0°.03, h8km±4km, Error ellipse: s-maj=4.6km s-min=3.7km az=167.4
CSEM **13** 20:07:04.0±0.3, 37°.53N×35°.69E, h10km, MD2.6, Error ellipse: s-maj=6.0km s-min=5.4km az=25.0
DDA **13** 20:07:04.1, 37°.54N×35°.70E, h7km, Md2.7

ISC 13 20:07:03.9±0.9, 37°.54N±0°.02×35°.68E±0°.02, h8km±7km, n27, σ0s67/45, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KOZT	**Kozan**	**0.14**	**117**	*e*PG	**Pg**	**20 07 06.3**	**-0.6**
KOZT				*e*SG	**Sg**	**20 07 08.8**	**-0.1**
KOZT	**Kozan**	**0.14**	**117**	*e*Pg	**Pg**	**20 07 06.3**	**-0.6**
KOZT				*e*Sg	**Sg**	**20 07 08.8**	**-0.1**
AKO	**Adana**	**0.20**	**246**	*i* P	**Pg**	**20 07 08.6**	**+0.6**
AKO				*i* S	**Sg**	**20 07 11.8**	**+1.1**
ANDN	**Andirin**	**0.53**	**86**	*i* P	**Pg**	**20 07 13.9**	**-0.3**
ANDN				*i* S	**Sg**	**20 07 21.9**	**+0.6**
ANDN	**Andirin**	**0.53**	**86**	P	**Pg**	**20 07 13.9**	**-0.3**
ANDN				S	**Sg**	**20 07 21.9**	**+0.6**
CEYT	**Ceyhan**	**0.54**	**174**	*e*PG	**Pg**	**20 07 14.1**	**-0.2**
CEYT				*e*SG	**Sb**	**20 07 22.7**	**-0.7**
CEYT	**Ceyhan**	**0.54**	**174**	*e*Pg	**Pg**	**20 07 14.1**	**-0.2**
CEYT				*e*Sg	**Sb**	**20 07 22.7**	**-0.7**
YAHY	**KAYSERI_Yahyal**	**0.60**	**336**	*i* P	**Pb**	**20 07 16.6**	**-0.2**
YAHY				*i* S	**Sb**	**20 07 25.0**	**-0.6**
YAHY	**KAYSERI_Yahyal**	**0.60**	**336**	P	**Pb**	**20 07 16.6**	**-0.2**
YAHY				S	**Sb**	**20 07 25.0**	**-0.6**
YURE	**YUREGIR**	**0.72**	**183**	*i* P	**Pb**	**20 07 19.1**	**+0.4**
YURE	**YUREGIR**	**0.72**	**183**	P	**Pb**	**20 07 19.0**	**+0.4**
GULE	**Gulek**	**0.76**	**250**	*i* P	**Pg**	**20 07 16.8**	**-1.8**
GULE				*i* S	**Sb**	**20 07 30.2**	**+0.1**
GULE	**Gulek**	**0.76**	**250**	P	**Pg**	**20

SPIG				*e*S		**Sn**	20 18 44.0	+0.9
SPIG	**San Pedro Mart**	**1.09**	**194**	*e*P		**Pb**	20 18 29.4	+0.1
SPIG				*i* S		**Sn**	20 18 43.1	-0.1
SPIG	**San Pedro Mart**	**1.09**	**194**	*e*P		**Pb**	20 18 29.4	+0.1
SPIG				*i* S		**Sn**	20 18 43.1	-0.1
SPX	**San Pedro Mart**	**1.10**	**194⇑**	*e*P		**Pb**	20 18 29.5	+0.2
SPX				*e*S		**Sn**	20 18 44.9	+1.8
SPX	**San Pedro Mart**	**1.10**	**194**	*e*P		**Pb**	20 18 29.6	+0.2
SPX				*i* S		**Sb**	20 18 42.8	-0.5
ZAX	**El Zacaton**	**1.12**	**238⇑**	*e*P		**Pb**	20 18 29.8	+0.1
ZAX				*e*S		**Sn**	20 18 44.9	+1.3
ZAX				*e*			20 18 47.5	
ZAX				IAML			20 18 47.5	
	comp=E,4μm,0.8s							
CBKC	**Canebrake**	**1.22**	**311**	*e*Pg		**Pb**	20 18 30.5	-0.7
CBX	**Cerro Bola**	**1.30**	**279⇓**	*e*P		**Pb**	20 18 32.2	-0.4
CBX				*e*S		**Sb**	20 18 49.1	+0.1
CBX				⇓*e*			20 18 51.0	
CBX				IAML			20 18 51.0	
	comp=N,5μm,0.4s							
CBX	**Cerro Bola**	**1.30**	**279**	*i* P		**Pb**	20 18 32.1	-0.5
CBX				*e*S		**Sb**	20 18 47.6	-1.3
CBX	**Cerro Bola**	**1.30**	**279**	*i* P		**Pb**	20 18 32.1	-0.5
CBX				*e*S		**Sb**	20 18 47.6	-1.3
ECNX	**Esteban Cantu**	**1.31**	**250⇑**	*e*P		**Pb**	20 18 32.8	-0.1
MONP	**Monument Peak,**	**1.33**	**306**	P		**Pb**	20 18 32.1	-1.0
	baz=126,SNR=411							
MONP				S		**Sb**	20 18 49.9	+0.1
	baz=126							
TJIG	**Tijuana**	**1.33**	**284**	*e*P		**Pb**	20 18 32.5	-0.7
TJIG	**Tijuana**	**1.33**	**284**	*e*P		**Pb**	20 18 32.2	-0.9
TJIG				*e*S		**Sb**	20 18 48.2	-1.6
113A	**Mohawk Valley,**	**1.34**	**60**	*e*Pn		**Pb**	20 18 32.5	-0.7
113A				*e*Sn		**Sn**	20 18 48.9	+0.1
FRK	**Frink**	**1.35**	**342**	*e*Pn		**Pn**	20 18 31.3	-0.6
PBX	**Punta Banda**	**1.39**	**255**	*e*P		**Pb**	20 18 33.6	-0.5
BAR	**Barrett**	**1.41**	**294⇓**	*e*P		**Pb**	20 18 33.5	-0.9
BAR	**Barrett**	**1.41**	**294**	*e*Pn		**Pb**	20 18 33.5	-0.9
BAR				*e*Sn		**Sb**	20 18 52.1	+0.2
Y12C	**Blythe**	**1.72**	**18**	P		**Pn**	20 18 37.3	+0.4
	baz=199,SNR=24							
Y12C				Sb		**Sb**	20 19 02.4	+1.5
	baz=199							
Y12C	**Blythe**	**1.72**	**18**	*e*Pn		**Pn**	20 18 37.4	+0.4
109C	**Camp Elliot, M**	**1.82**	**296**	P		**Pb**	20 18 39.5	-2.0
	baz=115,SNR=68							
109C				S		**Sb**	20 19 02.2	-1.7
	baz=115							
CPE	**Camp Elliot**	**1.82**	**296**	*e*Pn		**Pb**	20 18 42.8	+1.3
FRD	**Ford Ranch, An**	**1.84**	**319**	*e*Pn		**Pn**	20 18 39.1	+0.3
FRD				*e*Sn		**Sb**	20 19 06.7	+2.1
TPFO	**Pinon Flats**	**1.85**	**324**	P		**Pn**	20 18 38.9	0.0
	baz=144,SNR=58							
TPFO				Sb		**Sb**	20 19 07.1	+2.3
	baz=144							
PFO	**Pinyon Flats O**	**1.86**	**324**	P		**Pn**	20 18 39.1	+0.1
	baz=144,SNR=49							
PFO				Sb		**Sb**	20 19 07.6	+2.5
	baz=144							
PFO	**Pinyon Flats O**	**1.86**	**324**	*e*Pn		**Pn**	20 18 39.0	-0.1
214A	**Organ Pipe Nat**	**1.99**	**94**	P		**Pn**	20 18 41.3	+0.5
	baz=275,SNR=53							
BELC	**Belle Mtn. Jos**	**2.01**	**340**	P		**Pn**	20 18 41.3	+0.1
	baz=160,SNR=23							
IRM	**Iron Mountain**	**2.04**	**0**	P		**Pn**	20 18 41.7	+0.3
	baz=181,SNR=41							
BACC	**Bachelor Mtn.**	**2.18**	**314**	*e*Sn		**Sb**	20 19 16.7	+2.4
HMTC	**Hemet**	**2.23**	**316**	*e*Pn		**Pn**	20 18 44.7	+0.7
HMTC				*e*Sn		**Sb**	20 19 18.0	+2.3
MURC	**Murrieta**	**2.27**	**311**	P		**Pn**	20 18 45.1	+0.4
	baz=131,SNR=16							
MURC				Sb		**Sb**	20 19 19.2	+2.3
	baz=131							
PDMCI	**Parker Dam,Lak**	**2.34**	**21**	Sb		**Sb**	20 19 21.5	+2.6
	baz=202							
Y14A	**Wickenburg**	**2.56**	**44**	*e*Pn		**Pn**	20 18 50.3	+1.6
BBRC	**Big Bear Solar**	**2.61**	**326**	Sb		**Sb**	20 19 30.9	+4.2
	baz=145							
CLTC	**Calectric**	**2.69**	**318**	*e*Sn		**Sb**	20 19 24.6	-4.1
GMRC	**Granite Mounta**	**2.70**	**351**	P		**Pn**	20 18 51.1	+0.5
	baz=171,SNR=15							
LDFC	**Landfair**	**2.96**	**1**	*e*Pn		**Pb**	20 19 00.5	-0.4
BFSC	**Mount Baldy Ra**	**2.99**	**316**	P		**Pn**	20 18 55.5	+0.9
	baz=135							
BFSC				Sb		**Sb**	20 19 41.0	+3.5
	baz=135							
SCI	**San Clemente I**	**3.00**	**288**	Sb		**Sb**	20 19 40.0	+2.4
	baz=106							
CIS	**Catalina Islan**	**3.04**	**296**	P		**Pn**	20 18 55.8	+0.7
	baz=114							
CIS				Sb		**Sb**	20 19 41.0	+2.2
	baz=114							
FMP	**Fort Macarthur**	**3.09**	**302**	Sb		**Sb**	20 19 42.8	+2.6
	baz=120							
W13A	**Hualapai Mount**	**3.16**	**19**	*e*Pn		**Pn**	20 18 58.7	+1.7
MWC	**Mount Wilson**	**3.22**	**312**	*e*Pn		**Pb**	20 19 06.7	+1.3
PASC	**Pasadena Art C**	**3.27**	**310**	*e*Pn		**Pb**	20 19 06.7	+0.5
TUQ	**Turquoise Moun**	**3.38**	**349**	P		**Pn**	20 19 00.7	+0.8
	baz=169							
DECC	**Green Verdugo**	**3.42**	**310**	Sb		**Sb**	20 19 53.2	+3.4
	baz=128							
GSC	**Goldstone, Bar**	**3.47**	**337**	*e*Pn		**Pb**	20 19 09.3	-0.2
TUC	**Tucson**	**3.71**	**86**	*e*Pn		**Pn**	20 19 04.5	+0.1
SNCC	**San Nicolas Is**	**3.86**	**288**	*e*Pn		**Pn**	20 19 09.7	+3.3
X16A	**Lo Mia Camp, P**	**3.87**	**52**	*e*Pn		**Pn**	20 19 08.9	+2.2
BSC	**Santa Cruz Isl**	**4.21**	**298**	P		**Pn**	20 19 13.1	+1.9
	baz=116							
CLC	**China Lake**	**4.22**	**332**	*e*Sn		**Sn**	20 20 02.9	+3.1
ARVC	**Arvin**	**4.30**	**315**	Sb		**Sb**	20 20 20.0	+4.9
	baz=134							
ABL	**Mount Abel**	**4.36**	**310**	*e*Pn		Pb	20 19 18.1	-6.8
SHPR	**Sheep Range**	**4.38**	**360**	*e*Pn		**Pn**	20 19 16.0	+2.3
SHPR				*e*Pg		Pb	20 19 34.6	+9.4
SBC	**Santa Barbara**	**4.47**	**303**	P		**Pn**	20 19 14.8	0.0
	baz=120							
ISA	**Isabella, Lake**	**4.49**	**323**	*e*Pn		**Pn**	20 19 17.6	+2.4
ISA				*e*Pg		Pb	20 19 33.0	+6.0
DAC	**Darwin (Calif)**	**4.62**	**335**	*e*Pn		Pn	20 19 21.7	+4.6
WUAZ	**Wupatki**	**4.63**	**42**	*e*Pn		**Pn**	20 19 20.9	+3.7
SYP	**Santa Ynez Pea**	**4.70**	**302**	*e*Pn		**Pn**	20 19 16.0	-2.2
HSIG		**4.76**	**129**	*e*Pn		**Pn**	20 19 20.8	+2.1
TPNV	**Topopah Spring**	**4.91**	**350**	*e*Pn		**Pn**	20 19 22.8	+1.8
U15A	**North Rim**	**4.91**	**28**	*e*Pn		**Pn**	20 19 24.4	+3.2
CRGC	**Crocker Grade**	**4.93**	**311**	*e*Pn		Pn	20 19 25.4	+4.1
X18A	**Snowflake**	**4.98**	**60**	*e*Pn		**Pn**	20 19 24.4	+2.4
319A	**Douglas**	**5.05**	**97**	*e*Pn		**Pn**	20 19 25.4	+2.5
LCMT	**Little Creek M**	**5.14**	**17**	*e*Pn		**Pn**	20 19 26.7	+2.6
KNB	**Kanab**	**5.26**	**21**	*e*Pn		**Pn**	20 19 28.9	+3.1
W18A	**Petrified Fore**	**5.42**	**55**	P		**Pn**	20 19 31.3	+3.2
	baz=238							
W18A	**Petrified Fore**	**5.42**	**55**	*e*Pn		**Pn**	20 19 31.3	+3.2
PAGB	**Antelope Grade**	**5.57**	**312**	*e*Pn		Pn	20 19 34.3	+4.4
CCUT	**Cedar City**	**5.62**	**15**	*e*Pn		**Pn**	20 19 33.3	+2.4
SZCU	**Shurtz Canyon**	**5.73**	**17**	*e*Pn		**Pn**	20 19 35.5	+3.2
PKCU	**Pink Cliffs**	**5.81**	**23**	*e*Pn		**Pn**	20 19 35.8	+2.2
R11A	**Troy Canyon, C**	**6.23**	**357**	P		**Pn**	20 19 41.8	+2.6
	baz=177							
R11A	**Troy Canyon, C**	**6.23**	**357**	*e*Pg		Pb	20 20 05.8	+9.1
121A	**Cookes Peak, D**	**6.25**	**84**	P		**Pn**	20 19 40.6	+1.1
	baz=268							
TVH1	**TV Hill, Hawth**	**6.99**	**336**	*e*Pg		Pb	20 20 24.2	+15
BNM	**Barren Site**	**7.43**	**72**	*e*Pn		**Pn**	20 19 59.2	+3.5
JBNB	**Ben Lomond Mou**	**7.64**	**313**	*e*Pn		**Pn**	20 19 57.2	-1.1
PV10	**Paradox Valley**	**8.00**	**37**	*e*Pg		Pb	20 20 40.6	+14
MNTX	**Cornudas Mount**	**8.32**	**90**	*e*Pn		**Pn**	20 20 10.1	+2.4
CPRX	**Cap Rock**	**9.57**	**81**	*e*Sn		**Sn**	20 22 10.0	-1.6
LOHW	**Long Hollow**	**12.03**	**16**	*e*Sn		**Sn**	20 23 05.0	-7.0
YHB	**Horse Butte**	**12.99**	**13**	*e*Sn		**Sn**	20 23 30.6	-5.0
ALVY	**Alvey**	**13.38**	**335**	*e*Sn		**Sn**	20 23 44.6	0.0
G06A	**Carlson Farm,**	**13.78**	**344**	*e*Sn		**Sn**	20 23 46.5	-8.0
RSSD	**Black Hills**	**14.82**	**33**	*e*Sn		**Sn**	20 24 16.1	-4.1
WLAR	**White Oak Lake**	**18.57**	**79**	*e*Sn		**Sn**	20 25 44.6	-6.4
CPCT	**Cooper Cave**	**25.62**	**74**	*e*P		**P**	20 23 37.4	+1.3
RAGM	**Ragged Mountai**	**34.32**	**334**	*e*P		**P**	20 24 54.4	+1.5
EGAK	**Eagle**	**36.41**	**342**	*e*P		**P**	20 25 14.3	+3.6

*IDC **13** 20:22:27.3±5.6,23°.38N×93°.64E,h0km,mb3.3/2, mb1 3.6/3,mb1mx3.3/38,mbtmp3.3/3,ML3.6/1,MS3.6/1, Ms1 3.6/1,ms1mx2.7/18,Error ellipse: s-maj=112.6km s-min=99.7km az=34.0*
*ISCJB **13** 20:22:48.2±1.2,22°.5N±0°.1×93°.9E±0°.2,h150km,mb3.2/2, Error ellipse: s-maj=30.0km s-min=10.4km az=156.0*
ISC 13 20:22:47.5±1.3,22°.4N±0°.1×94°.0E±0°.2,h150km,n6, σ4s06/7,Myanmar

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
IMP	**Imphal**	**2.42**	**358**	*e*P		**Pn**	**Pn**	**20 23 27.5**	**-0.1**
IMP				*e*S		**Sn**	**Sn**	**20 23 57.5**	**-1.1**
SHL	**Shillong**	**3.71**	**328**	*e*PN		**Pn**	**Pn**	**20 23 45.0**	**+0.9**
SHL				*e*SN		**Sn**	**Sn**	**20 24 24.0**	**-4.1**
CMAR	**Chiang Mai Arr**	**6.05**	**130**	Pn		**Pn**	**Pn**	**20 24 10.9**	**-4.1**
	0.3nm,0.3s,baz=308,slow=13,SNR=13								
YAK	**Yakutsk**	**46.47**	**22**	LR		LR		20 51 22.9	
	comp=Z,66nm,21.2s,baz=1.0,slow=38								
WRA	**Warramunga Arr**	**57.63**	**134**	P		**P**		**20 32 25.9**	**+3.7**
	0.5nm,0.9s,baz=326,slow=7.4,SNR=8.5								
ASAR	**Alice Springs**	**60.01**	**137**	P		**P**		**20 32 42.7**	**+4.1**
	0.2nm,0.7s,baz=323,slow=7.0,SNR=1.2								

*IDC **13** 20:47:02.6±4.2,35°.29N×72°.03E,h0km,mb3.5/2, mb1 3.9/3,mb1mx3.4/38,mbtmp3.9/3,ML3.5/1,Error ellipse: s-maj=107.4km s-min=37.7km az=143.0*
*ISCJB **13** 20:47:18.0±0.6,36°.37N±0°.04×71°.43E±0°.08,h119km, mb3.3/1,Error ellipse: s-maj=9.2km s-min=4.4km az=158.5*
*NNC **13** 20:47:25.6±2.2,36°.77N×71°.22E,h130km±40km,mb3.5, mpv4.2,Error ellipse: s-maj=19.5km s-min=18.1km az=111.0*
ISC 13 20:47:18.6±0.8,36°.35N±0°.07×71°.29E±0°.07,h119km,n18, σ2s09/25,3C-6D,Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
THN	**Thein Dam**	**5.35**	**136**	*e*P		**Pn**	**Pn**	**20 48 37.8**	**+1.6**
THN				*e*S		**Sn**	**Sn**	**20 49 34.2**	**-2.5**
MNAS	**Manas**	**6.20**	**8**	⇓P		**Pn**	**Pn**	**20 48 49.8**	**+2.0**
	19nm,0.7s								
MNAS				⇑S		**Sn**	**Sn**	**20 49 55.6**	**-1.8**
	9.6nm,0.5s								
AAK	**Ala-Archa**	**6.75**	**21**	⇓P		**Pn**	**Pn**	**20 48 56.9**	**+1.7**
	11nm,0.8s								
AAK				⇓S		**Sn**	**Sn**	**20 50 09.8**	**-0.9**
	4.5nm,0.6s								
KK31	**Karatay Array**	**6.77**	**355**	P		**Pn**	**Pn**	**20 48 57.1**	**+1.8**
	17nm,0.3s,baz=182,slow=12,SNR=219								
KK31				⇓S		**Sn**	**Sn**	**20 50 09.8**	**-1.2**
	2.5nm,0.4s,baz=179,slow=18,SNR=5.5								
TKM2	**Tokmak 2**	**7.35**	**26**	⇓P		**Pn**	**Pn**	**20 49 05.5**	**+2.1**
	7.3nm,0.6s								
TKM2				⇑S		**Sn**	**Sn**	**20 50 24.4**	**-1.1**
	2.2nm,0.7s								
GEYT	**Alibeck**	**10.64**	**282**	Pn		**Pn**	**Pn**	**20 49 47.9**	**+0.2**
	0.3nm,0.3s,baz=99,slow=7.4,SNR=3.1								
GEYT				Sn		**Sn**	**Sn**	**20 51 41.8**	**-3.0**
	1.2nm,0.3s,baz=115,slow=21,SNR=4.8								
PYUN	**Piuthan**	**12.87**	**126**	*e*P		**Pn**	**Pn**	**20 50 16.6**	**-0.7**
	10nm,0.4s								
PYUN				*e*S		Sn		20 52 28.1	-11
KOLN	**Koldanda**	**13.48**	**126**	*e*P		**Pn**	**Pn**	**20 50 24.5**	**-0.8**
	2.8nm,0.3s								
GKN	**Gorkha**	**14.03**	**123**	*e*P		**Pn**	**Pn**	**20 50 30.9**	**-1.3**
	12nm,0.5s								
GKN				*e*S		Sn		20 52 53.6	-13
DMN	**Daman**	**14.60**	**123**	*e*P		**Pn**	**Pn**	**20 50 38.1**	**-1.5**
KKN	**Kakani**	**14.60**	**122**	*e*P		**Pn**	**Pn**	**20 50 37.9**	**-1.7**
PKIN	**Phulchoki**	**14.81**	**122**	*e*P		**Pn**	**Pn**	**20 50 40.8**	**-1.6**
	5.7nm,0.5s								
JIRN	**Jiri**	**15.31**	**120**	*e*P		**Pn**	**Pn**	**20 50 47.4**	**-1.3**
	10.0nm,0.3s								
AB31	**Akbulak array**	**15.33**	**331**	P		**Pn**	**Pn**	**20 50 49.1**	**+0.8**
	2.0nm,0.5s,baz=146,slow=11,SNR=104								
AB31				⇓S		**Sn**	**Sn**	**20 53 32.6**	**-5.3**
	0.9nm,0.5s,baz=157,slow=23,SNR=5.8								
RAMN	**Ramite**	**16.04**	**121**	*e*P		**Pn**	**Pn**	**20 50 56.6**	**-1.0**
	7.2nm,0.4s								
AKTO	**Aktyubinsk**	**17.03**	**330**	⇑P		**Pn**	**Pn**	**20 51 12.4**	**+3.1**
	4.7nm,0.8s								
ZALV	**Zalesovo Beam**	**19.95**	**24**	P		**Pn**	**Pn**	**20 51 44.2**	**+0.3**
	1.2nm,0.4s,baz=205,slow=12,SNR=5.9								
TORD	**Torodi Ar. Bea**	**65.95**	**269**	P		**P**	**P**	**20 57 54.7**	**+2.4**
	0.2nm,0.4s,baz=55,slow=5.3,SNR=4.9								

*IDC **13** 20:48:48.3±1.8,18°.00S×178°.18W,h525km±21km, mb3.5/16,mb1 3.7/18,mb1mx3.7/26,mbtmp4.4/18,Error ellipse: s-maj=16.6km s-min=12.6km az=123.0*
*ISCJB **13** 20:48:52.0±0.5,18°.08S±0°.10×178°.4W±0°.1,h579km, mb4.0/15,Error ellipse: s-maj=14.2km s-min=11.7km az=135.7*
ISC 13 20:48:53.0±0.5,17°.96S±0°.10×178°.4W±0°.1,h579km,n70, σ1s17/72,mb3.8/15,13C-5D,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**7.52**	**59**	P		**P**	**P**	**20 50 39.6**	**-7.7**
	3.6nm,0.3s,baz=3.6,slow=19,SNR=3.6								
AFI				S		S	S	20 52 05.6	-15
	1.9nm,0.3s,baz=233,slow=20,SNR=2.8								
DZM	**Mont Dzumac**	**14.84**	**252**	P		**P**	**P**	**20 51 58.9**	**-1.5**
	0.8nm,0.3s,baz=101,slow=18,SNR=7.7								
URZ	**Urewera**	**20.60**	**190**	P		**P**	**P**	**20 52 49.3**	**-3.7**
	8.0nm,0.5s,baz=51,slow=2.6,SNR=7.7								
URZ				S		**S**	**S**	**20 56 11.8**	**+5.0**
	10nm,0.8s,baz=178,slow=22,SNR=6.7								
RPZ	**Rata Peaks**	**27.18**	**197**	P		**P**	**P**	**20 53 50.2**	**-1.1**
	4.9nm,0.4s,baz=34,slow=7.3,SNR=3.0								
CTA	**Charters Tower**	**33.46**	**261**	P		**P**	**P**	**20 54 45.3**	**-0.2**
	4.2nm,0.5s,baz=90,slow=14,SNR=8.0								
STKA	**Stephens Creek**	**38.63**	**241**	P		**P**	**P**	**20 55 28.4**	**+0.6**
	1.5nm,0.5s,baz=86,slow=9.8,SNR=16								
WRA	**Warramunga Ar**	**44.65**	**260**	P		**P**	**P**	**20 56 14.8**	**-0.6**
	4.6nm,0.4s,baz=94,slow=6.8,SNR=175								
WRA				PcP		**PcP**	**PcP**	**20 57 46.3**	**+0.9**
	0.6nm,0.5s,baz=96,slow=3.3,SNR=3.6								
WRA				S		**S**	**S**	**21 02 09.7**	**-0.9**
	0.7nm,0.8s,baz=92,slow=14,SNR=4.9								
ASAR	**Alice Springs**	**44.80**	**254**	P		**P**	**P**	**20 56 16.7**	**+0.1**
	35nm,0.6s,baz=88,slow=8.3,SNR=732								
ASAR				PcP		**PcP**	**PcP**	**20 57 46.6**	**+0.7**
	1.0nm,0.7s,baz=100,slow=3.9,SNR=4.1								
ASAR				S		**S**	**S**	**21 02 13.4**	**+0.8**
	3.3nm,0.9s,baz=85,slow=16,SNR=18								
VNDA	**Vanda**	**60.39**	**185**	P		**P**	**P**	**20 58 06.9**	**+0.3**
	0.7nm,0.6s,baz=350,slow=6.9,SNR=5.5								
MJAR	**Matsushiro Arr**	**67.97**	**323**	P		**P**	**P**	**20 58 55.0**	**-0.2**
	3.9nm,0.5s,baz=157,slow=5.8,SNR=16								
PETK	**Petropavlovsk-**	**73.74**	**345**	P		**P**	**P**	**20 59 28.8**	**+0.2**
	7.1nm,0.7s,baz=128,slow=6.7,SNR=5.3								
KSRS	**Korea Array**	**74.76**	**318**	P		**P**	**P**	**20 59 36.3**	**+1.6**
	1.0nm,0.5s,baz=135,slow=5.9,SNR=8.9								
USRK	**Ussuriysk Ar.**	**76.68**	**326**	P		**P**	**P**	**20 59 46.9**	**+1.8**
	1.6nm,0.5s,baz=110,slow=5.4,SNR=6.8								
ILAR	**Eielson Array**	**85.93**	**13**	P		**P**	**P**	**21 00 30.3**	**-1.8**
	1.6nm,0.9s,baz=224,slow=5.5,SNR=9.9								
TXAR	**Lajitas Array**	**86.00**	**58**	P		**P**	**P**	**21 00 34.7**	**+1.3**
	0.9nm,0.6s,baz=211,slow=6.0,SNR=4.0								
PDAR	**Pinedale Array**	**87.37**	**43**	P		**P**	**P**	**21 00 39.2**	**-0.4**
	0.9nm,0.6s,baz=215,slow=3.7,SNR=11								
CMAR	**Chiang Mai Arr**	**88.93**	**290**	P		**P**	**P**	**21 00 47.5**	**+0.4**
	0.5nm,0.5s,baz=122,slow=2.6,SNR=4.9								
SNAA	**Sanae**	**90.54**	**179**	P		**P**	**P**	**21 00 52.2**	**-1.5**
VNA3	**Neumayer Olymp**	**90.68**	**176**	P		**P**	**P**	**21 00 54.4**	**+0.2**
VNA2	**Neumayer--Watz**	**91.12**	**177**	P		**P**	**P**	**21 00 56.9**	**+0.6**
	baz=186,slow=4.1								
SONM	**Songino Array**	**93.61**	**319**	P		**P**	**P**	**21 01 10.1**	**+1.9**
	0.4nm,0.5s,baz=113,slow=3.3,SNR=2.6								
ARCES	**ARCESS Array B**	**126.37**	**350**	PKP		**PKPdf**	**PKPdf**	**21 06 50.1**	**+0.1**
	2.0nm,0.7s,baz=48,slow=1.8,SNR=3.9								
FINES	**FINESS Array B**	**133.25**	**344**	PKP		**PKPdf**	**PKPdf**	**21 07 01.8**	**-1.5**
	4.5nm,1.0s,baz=70,slow=6.3,SNR=7.5								
NOA	**NORSAR Array B**	**136.43**	**353**	PKP		**PKPdf**	**PKPdf**	**21 07 09.9**	**+0.6**
	0.9nm,0.8s,baz=14,slow=4.0,SNR=2.6								
KBZ	**Khabaz**	**136.86**	**316**	PKP		**PKPdf**	**PKPdf**	**21 07 09.1**	**-1.5**
	0.4nm,0.5s,baz=63,slow=2.7,SNR=3.6								
AKASG	**Malin Array Be**	**140.62**	**332**	PKhKP		PKPpre		21 07 10.9	
	0.9nm,0.5s,baz=45,slow=4.4,SNR=4.3								
SORM	**Soroca**	**142.85**	**330**	⇑P		**PKPdf**	**PKPdf**	**21 07 18.8**	**-2.4**
LEOM	**Leova**	**144.06**	**328**	⇑*i*P		**PKPdf**	**PKPdf**	**21 07 23.5**	**+0.2**
TLCR		**144.63**	**326**	⇑*i*P		**PKPab**	**PKPdf**	**21 07 25.7**	**+0.3**
BURAR	**Bucovina Array**	**144.68**	**332**	⇑*i*P		**PKPab**	**PKPdf**	**21 07 26.3**	**+0.6**
TESR	**Tescani**	**144.82**	**330**	⇓*i*P		**PKPab**	**PKPdf**	**21 07 26.3**	**+0.1**
BRTR	**Keskin Array B**	**144.84**	**315**	PKPbc		PKPbc		21 07 26.2	+0.4
	3.0nm,0.6s,baz=142,slow=2.8,SNR=20								
CFR	**Carcaliu**	**145.00**	**327**	⇑*i*P		**PKPab**		**21 07 26.9**	**+0.1**
PLOR	**Plostina**	**145.29**	**329**	⇓*i*P		**PKPab**		**21 07 28.1**	**0.0**
TLB	**Topalu**	**145.44**	**326**	⇑*i*P		**PKPbc**		**21 07 27.0**	**-0.2**
CLL	**Collm**	**145.52**	**347**	*i* PKP		**PKPbc**		**21 07 27.6**	**+0.4**
	comp=Z,10.0nm,0.6s								
UPC	**Upice**	**145.55**	**344**	*e*PKP		**PKPab**		**21 07 28.3**	**-0.6**
DPC	**Dobruska-Polom**	**145.61**	**343**	*e*PKP		**PKPab**		**21 07 28.6**	**-0.6**
BRG	**Berggiesshubel**	**145.73**	**346**	*i* P		**PKPbc**		**21 07 28.3**	**+0.5**
	comp=Z,9.1nm,0.8s								
KRLC	**Kraliky**	**145.73**	**343**	*e*PKP		**PKPab**		**21 07 28.8**	**-0.8**
MORC	**Moravsky Berou**	**145.77**	**342**	⇑*i*P		**PKPbc**		**21 07 28.0**	**0.0**
MLR	**Muntele Rosu**	**145.89**	**329**	⇑*i*P		**PKPbc**		**21 07 29.1**	**+0.5**
PVCC	**Panska Ves**	**145.90**	**345**	*e*PKP		**PKPab**		**21 07 29.5**	**-0.7**
VOIR		**146.37**	**330**	⇓*i*P		**PKPbc**		**21 07 30.6**	**+0.7**
DRGR		**146.40**	**333**	⇑*i*P		**PKPbc**		**21 07 31.1**	**+1.2**
PRU	**Pruhonice**	**146.41**	**345**	*e*PKP		**PKPbc**		**21 07 30.5**	**+0.8**
GOPC	**GO Pecny, Ondr**	**146.41**	**345**	*e*PKP		**PKPbc**		**21 07 30.8**	**+1.0**
ARR	**Arges**	**146.62**	**330**	⇓*i*P		**PKPbc**		**21 07 31.2**	**+0.7**
HUMR	**Humele**	**147.06**	**329**	⇑*i*P		**PKPbc**		**21 07 31.2**	**-0.4**
SIRR	**Siria**	**147.26**	**334**	⇑*i*P		**PKPbc**		**21 07 32.1**	**0.0**
KHC	**Kasperske Hory**	**147.44**	**345**	*e*PKP		**PKPbc**		**21 07 33.5**	**+1.0**
KHC				*ex*		x		21 07 38.2	
GERES	**GERESS Array B**	**147.67**	**345**	PKPbc		**PKPbc**		**21 07 33.9**	**+0.7**
	comp=Z,5.3nm,0.5s,baz=25,slow=3.3,SNR=60								
BZS	**Buzias**	**147.79**	**333**	⇓*i*P		**PKPbc**		**21 07 34.2**	**+0.7**
CONA	**Conrad Observa**	**147.92**	**342**	*i* PKPbc		**PKPbc**		**21 07 34.8**	**+0.9**
	comp=Z,6.5nm,0.7s								
MDVR	**Moldovita**	**148.41**	**332**	⇑*i*P		**PKPbc**		**21 07 36.1**	**+1.0**
MOA	**Molln**	**148.45**	**344**	*i* PKPbc		**PKPbc**		**21 07 36.5**	**+1.4**
	comp=Z,9.5nm,1.2s								
ARSA	**Arzberg**	**148.63**	**342**	*i* PKPbc		**PKPbc**		**21 07 36.4**	**+0.8**
	comp=Z,3.7nm

PTF					Sg		Sb		21 07 13.1	+2.4	
PTF	**Prato**	**0.86**	**138**		Pg		Pg		21 06 59.8	0.0	
PTF					Sg		Sb		21 07 13.1	+2.4	
MAGA	**Magasa**	**1.19**	**12**		Pg		Pb		21 07 04.1	-1.1	
MAGA					Sg		Sg		21 07 21.2	-0.5	
	109nm,0.5s										
SBF	**Sospel**	**2.17**	**251**	*e*Pn			Pn		21 07 18.7	+0.4	
SBF				*e*Sn			Sn		21 07 45.1	+0.3	
	6.0nm,0.3s										
FETA	**Feichten**	**2.43**	**7**	Pn			Pn		21 07 23.1	+1.1	
FETA				Sn			Sb		21 07 54.5	-1.6	
	229nm,0.0s										
MBDF	**Montbardon**	**2.50**	**274**	*e*Pn			Pn		21 07 23.5	+0.6	
MBDF	**Montbardon**	**2.50**	**274**	*e*Pn			Pn		21 07 23.5	+0.6	
ABTA	**Abfaltersbach**	**2.65**	**35**	Pn			Pn		21 07 25.5	+0.6	
	0.1nm,0.1s										
ABTA				Sn			Sn		21 07 59.2	+2.5	
	0.1nm,0.1s										
LPL	**La Plagne**	**2.67**	**291**	*e*Pg			Pg		21 07 32.6	-1.6	
LPL				*e*Sn			Sn		21 07 57.2	-0.1	
	3.8nm,0.3s										
DAVA	**Damuels**	**2.69**	**354**	Pn			Pn		21 07 26.9	+1.3	
	6.1nm,0.5s										
DAVA				Sn			Sn		21 07 59.7	+1.9	
	0.9nm,0.1s										
MOTA	**Moosalm**	**2.80**	**12**	Pn			Pn		21 07 28.4	+1.4	
	1.6nm,0.3s										
MOTA				Sn			Sb		21 08 04.1	-2.4	
	2.4nm,0.5s										
FRF	**La Foret Royal**	**2.82**	**249**	*e*Pn			Pn		21 07 27.4	+0.3	
FRF				*e*Sn			Sn		21 08 01.4	+0.8	
	3.9nm,0.4s										
WTTA	**Wattenberg**	**2.82**	**19**	Pn			Pn		21 07 28.5	+1.2	
	0.1nm,0.0s										
WTTA				Sn			Sn		21 08 04.6	+3.6	
	739nm,0.0s										
WATA	**Walderalm**	**2.88**	**18**	Pn			Pn		21 07 29.1	+1.1	
	1.3nm,0.2s										
WATA				Sn			Sn		21 08 05.4	+3.1	
	0.6nm,0.2s										
RETA	**Reutte**	**2.90**	**7**	Pn			Pn		21 07 29.3	+1.0	
	0.3nm,0.2s										
RETA				Sn			Sn		21 08 04.6	+1.8	
	0.1nm,0.1s										
LMR	**La Mourre**	**3.00**	**246**	*e*Pn			Pn		21 07 29.6	0.0	
LMR				*e*Sn			Sn		21 08 03.9	-1.3	
	3.8nm,0.3s										
ORIF	**Oris-en-Rattie**	**3.15**	**277**	*e*Pn			Pn		21 07 31.9	+0.2	
ORIF				*e*Sn			Sn		21 08 08.6	-0.3	
	3.0nm,0.4s										
ORIF	**Oris-en-Rattie**	**3.15**	**277**	*e*Pn			Pn		21 07 31.9	+0.2	
ORIF				*e*Sn			Sn		21 08 08.6	-0.3	
	1.5nm,0.4s										
NVLJ	**Novalja**	**3.29**	**89**	*e*Pn			Pn		21 07 32.4	-1.2	
NVLJ				Sn			Sn		21 08 09.8	-2.3	
NVLJ	**Novalja**	**3.29**	**89**	*e*Pn			Pn		21 07 32.3	-1.2	
NVLJ				Sn			Sn		21 08 09.8	-2.3	
SMRF	**Simiane la Rot**	**3.43**	**261**	*e*Pn			Pn		21 07 37.5	+1.9	
UDBI	**Udbina**	**3.92**	**89**	*e*Pn			Pn		21 07 41.3	-1.2	
UDBI				Sn			Sn		21 08 25.5	-2.6	
UDBI	**Udbina**	**3.92**	**89**	*e*Pn			Pn		21 07 41.2	-1.2	
UDBI				Sn			Sn		21 08 25.4	-2.6	
CDF	**Champ du Feu**	**4.33**	**333**	*e*Pn			Pn		21 07 47.0	-1.0	
CDF	**Champ du Feu**	**4.33**	**333**	*e*Pn			Pn		21 07 47.0	-1.0	

NEIC ***13*** *21:18:15.0±0.0, 37°.26S×73°.91W, h32km, mb4.7/38, ML5.1(GUC), After GUC.*

NEIC Felt [IV] at Angol, Arauco, Concepcion, Hualqui, Padre Las Casas, Penco, Puerto Saavedra, Renaico, San Pedro de la Paz, San Rosendo, Talcahuano, Temuco, Tolten and Tome; [III] at Coronel, Ercilla, La Laja, Lebu, Los Angeles and Pucon; [II] at Cabrero and Cobquecura. Also felt at Chiguayante.

GUC ***13*** *21:18:15.7±0.8, 37°.26S×73°.91W, h32km±5km, ML5.1*

ISCJB ***13*** *21:18:17.7±0.2, 37°.30S±0°.02×73°.53W±0°.05, h33km, mb4.7/44, MS4.1/11, Error ellipse: s-maj=5.6km s-min=3.1km az=16.5*

BJI ***13*** *21:18:19.2, 37°.20S×73°.40W, h28km, mB5.1/5, Ms5.4/2, Ms7 5.3/2*

IDC ***13*** *21:18:20.1±3.4, 37°.32S×73°.54W, h40km±27km, mb4.3/9, mb1 4.5/12, mb1mx4.3/23, mbtmp4.6/12, ML4.7/3, MS4.1/13, Ms1 4.1/13, ms1mx3.9/19, Error ellipse: s-maj=25.3km s-min=16.2km az=81.0*

ISC 13 21:18:18.5±1.4, 37°.29S±0°.04×73°.66W±0°.08, h31km±9km, n160, σ1s61/167, mb4.6/44, MS4.1/11, 4C-2D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID		Time		Res
				Op		ISC	h m s		ISC
CCSP	**San Pedro de C**	**0.63**	**45**	*e*P		**Pb**	**21 19 29.3**		**-1.7**
CCSP				*e*S		**Sb**	**21 18 39.0**		**-0.6**
CCSP				IAML			21 18 41.5		
	comp=N,102μm,0.4s								
COCH	**Cobquecura**	**1.35**	**32**	*e*P		**Pn**	**21 18 39.8**		**-1.4**
COCH				*e*S		**Sn**	**21 18 57.9**		**-0.2**
CCHI	**Chillan**	**1.44**	**62**	*i*P		**Pn**	**21 18 42.8**		**+0.2**
CCHI				*e*S		**Sb**	**21 19 02.6**		**-0.2**
CCHI				IAML			21 19 09.3		
	comp=E,45μm,0.3s								
PSCH	**Puerto Saavedr**	**1.52**	**172**	*e*P		**Pn**	**21 18 41.0**		**-2.6**
PSCH				*e*S		**Sn**	**21 19 01.8**		**-0.6**
TALC	**Talca**	**2.50**	**42**	*e*P		**Pn**	**21 18 58.0**		**+1.0**
VLCH	**Valdivia**	**2.54**	**173**	*e*P		**Pn**	**21 18 55.0**		**-2.5**
GO05	**HualaæØ**	**2.67**	**32**	*e*P		**Pn**	**21 18 58.4**		**-1.1**
GO05				*e*S		**Sn**	**21 19 30.9**		**+0.1**
GO05				IAML			21 19 51.8		
	comp=E,8μm,0.7s								
GO05	**HualaæØ**	**2.67**	**32**	*e*Pn		**Pn**	**21 18 59.0**		**-0.4**
GO05				*e*Sn		**Sn**	**21 19 30.4**		**-0.3**
NICH	**Los Niches**	**3.01**	**42**	*e*P		**Pn**	**21 19 04.0**		**-0.1**
PLCA	**Paso Flores**	**4.21**	**146**	Pn		**Pn**	**21 19 20.6**		**0.0**
	comp=E,7.5nm,0.3s,baz=348,slow=12,SNR=170								
PLCA				Lg		Lg	21 20 22.7		
	comp=E,23nm,0.3s,baz=352,slow=19,SNR=3.2								
PLCA	**Paso Flores**	**4.21**	**146**	*e*P		**Pn**	**21 19 20.5**		**-0.1**
PLCA				*e*S		**Sb**	**21 20 22.1**		**-0.1**
RCDM	**Rinconada Maip**	**4.45**	**32**	*e*P		**Pn**	**21 19 22.6**		**-1.3**
PEL	**Peldehue**	**4.80**	**31**	*e*P		**Pn**	**21 19 27.6**		**-1.2**
ROC1	**El Roble**	**4.82**	**28**	*e*P		**Pn**	**21 19 27.2**		**-2.0**
ROC1	**El Roble**	**4.82**	**28**	*e*Pn		**Pn**	**21 19 28.2**		**-1.0**
ROC1				*e*Sn		**Sn**	**21 20 26.6**		**+2.5**
FCH	**Farellones**	**4.82**	**36**	*e*P		**Pn**	**21 19 28.8**		**-0.5**
ROCH	**El Roble**	**4.82**	**28**	*e*P		**Pn**	**21 19 27.9**		**-1.4**
AAGR	**Agrelo**	**5.77**	**45**	*e*P		**Pn**	**21 19 43.8**		**+1.7**
ARCO	**CERRO ARCO**	**5.89**	**43**	*e*P		**Pn**	**21 19 44.8**		**+1.0**
ARCO				IAML			21 20 11.1		
	comp=Z,136nm,0.4s								
ASAL	**Salagasta**	**6.14**	**42**	*e*P		**Pn**	**21 19 47.9**		**+0.7**
AUSP	**Uspallata**	**6.16**	**36**	*e*P		**Pn**	**21 19 47.5**		**-0.1**
RTLS	**Leoncito**	**6.55**	**35**	*e*P		**Pn**	**21 19 52.5**		**-0.5**
RTCV	**Cerro Valdivia**	**6.87**	**39**	*e*P		**Pn**	**21 19 56.6**		**-0.5**
RTLL	**Cerro Villicun**	**7.33**	**37**	*e*P		**Pn**	**21 20 03.5**		**0.0**
RTLL				*e*Pn		**Pn**	**21 20 03.5**		**0.0**
AMOG	**MOGNA**	**7.65**	**36**	*e*P		**Pn**	**21 20 06.6**		**-1.3**
ACCO	**Cerro Coronel**	**7.70**	**31**	*e*P		**Pn**	**21 20 06.8**		**-2.0**
ACCO				*e*S		**Sn**	**21 21 42.6**		**+7.5**
AROD	**Rodeo**	**7.91**	**27**	*e*P		**Pn**	**21 20 08.3**		**-3.4**
AVFE	**Valle Fertil**	**8.38**	**40**	*e*P		**Pn**	**21 20 17.5**		**-0.5**
AVFE				IAML			21 20 40.2		
	comp=Z,21nm,0.3s								
LCO	**Las Campanas**	**8.62**	**18**	*e*Pn		**Pn**	**21 20 19.4**		**-2.0**
LCO				*e*S		**Sn**	**21 21 57.8**		**+0.1**
AGUA	**GUANDACOL**	**8.90**	**31**	*e*P		**Pn**	**21 20 21.9**		**-3.2**
AGUA				*e*S		**Sn**	**21 22 08.6**		**+4.3**
APLL	**PUNTA DE LOS L**	**9.08**	**43**	*e*S		Sn	21 22 18.6		+10
TRQA	**Tornquist**	**9.30**	**98**	*e*Pn		**Pn**	**21 20 30.7**		**+0.2**
TRQA				*e*S		Sn	21 22 26.6		+13
ACLC	**CERRO LA CRUZ**	**9.64**	**38**	*e*P		**Pn**	**21 20 33.6**		**-1.7**
VCA	**Vinchina**	**9.68**	**30**	*e*P		**Pn**	**21 21 31.9**		**-3.9**
VCA				IAML			21 21 07.9		
	comp=Z,55nm,0.4s								
CHRN	**Cochrane**	**9.99**	**176**	*e*Pn		**Pn**	**21 20 40.0**		**+0.2**
PB10	**IPOC Station P**	**13.99**	**12**	*e*Pn		**Pn**	**21 21 30.3**		**-4.3**
PB01	**IPOC Station P**	**16.59**	**14**	*e*Pn		**Pn**	**21 22 07.5**		**-1.4**
	comp=Z,51nm,0.9s								
CPUP	**Villa Florida**	**17.64**	**56**	P		**Pn**	**21 22 20.8**		**-1.1**
	comp=Z,0.5nm,0.3s,baz=235,slow=9.9,SNR=13								
CPUP				Lg		Lg	21 27 36.1		
	comp=Z,0.1nm,0.3s,baz=239,slow=15,SNR=1.7								
CPUP				LR		LR	21 29 44.1		
	comp=Z,659nm,21.6s,baz=234,slow=39								
PB11	**IPOC Station P**	**17.81**	**12**	*e*Pn		**Pn**	**21 22 23.7**		**-0.5**
	comp=Z,83nm,0.9s								
USHA	**Ushuaia**	**17.91**	**170**	P		**P**	**21 22 25.6**		**+0.1**
	comp=Z,8.7nm,0.3s,baz=346,slow=5.2,SNR=5.1								
USHA				LR		LR	21 30 20.2		
	comp=Z,3μm,18.2s,baz=276,slow=40								
EFI	**East Falkland**	**18.13**	**147**	*e*Pn		**P**	**21 22 27.9**		**+0.1**
	comp=Z,43nm,0.8s								
LPAZ	**La Paz**	**21.48**	**15**	P		**P**	**21 23 06.7**		**+1.4**
	comp=Z,11nm,0.7s,baz=187,slow=7.6,SNR=23								
LPAZ	**La Paz**	**21.48**	**15**	*e*P		**P**	**21 23 06.8**		**+1.4**
	comp=Z,15nm,0.8s								
SIV	**San Ignacio**	**23.96**	**31**	P		**P**	**21 23 30.3**		**+0.1**
	comp=Z,16nm,0.8s,baz=224,slow=10,SNR=37								
SIV				LR		LR	21 34 38.4		
	comp=Z,391nm,19.2s,baz=200,slow=41								
NNA	**Nana**	**25.35**	**353**	P		**P**	**21 23 43.2**		**+0.3**
	comp=Z,6.2nm,0.5s,baz=157,slow=13,SNR=3.8								
NNA				LR		LR	21 31 31.3		
	comp=Z,128nm,18.3s,baz=172,slow=31								
NNA	**Nana**	**25.35**	**353**	P		**P**	**21 23 43.2**		**+0.3**
	comp=Z,37nm,1.4s								
SPB	**Sao Paulo**	**26.31**	**66**	*e*P		**P**	**21 23 50.6**		**-0.9**
	comp=Z,40nm,0.6s								
PMSA	**Palmer Station**	**28.11**	**171**	LR		LR	21 36 05.3		
	comp=Z,279nm,18.0s,baz=348,slow=38								
PMSA	**Palmer Station**	**28.11**	**171**	*e*P		**P**	**21 24 11.4**		**+4.2**
	comp=Z,20nm,1.1s								
SAML	**Samuel**	**29.77**	**21**	*e*P		**P**	**21 24 21.9**		**-0.5**
	comp=Z,18nm,1.5s								
OTAV	**Otavalo**	**37.60**	**352**	*e*P		**P**	**21 25 32.3**		**+1.4**
	comp=Z,9.1nm,1.0s								
PTGA	**Pitinga**	**38.51**	**22**	*e*P		**P**	**21 25 37.5**		**-0.7**
	comp=Z,6.9nm,0.7s								
GUYC	**Guyana, Colomb**	**42.32**	**357**	*e*P		**P**	**21 26 11.4**		**+1.3**
NORC	**Norcasia**	**42.64**	**358**	*e*P		P	21 26 05.1		-7.2
RUSC	**La Rusia**	**42.96**	**1**	*e*P		**P**	**21 26 14.7**		**-0.6**
RUSC	**La Rusia**	**42.96**	**1**	*e*P		**P**	**21 26 16.2**		**+0.8**
	comp=Z,5.8nm,0.8s								
HELC	**Santa Helena**	**43.29**	**357**	*e*P		**P**	**21 26 18.8**		**+1.0**
	comp=Z,29nm,0.8s								
ZARC	**Zaragoza, Cauc**	**44.56**	**358**	*e*P		**P**	**21 26 28.0**		**+0.3**
RCBR	**Riachuelo**	**46.52**	**57**	P		**P**	**21 26 44.1**		**+0.8**
	comp=Z,14nm,0.9s								
VNA3	**Neumayer Olymp**	**46.85**	**157**	P		**P**	**21 26 45.5**		**+0.4**
VNA1	**Neumayer--Stat**	**47.20**	**156**	P		**P**	**21 26 49.3**		**+1.5**
VNA2	**Neumayer--Watz**	**47.53**	**156**	P		**P**	**21 26 51.0**		**+0.5**
	baz=174,slow=8.8								
SNAA	**Sanae**	**49.07**	**157**	P		**P**	**21 27 02.9**		**+0.4**
SNAA	**Sanae**	**49.07**	**157**	*e*P		**P**	**21 27 02.1**		**-0.3**
	comp=Z,22nm,1.1s								
GRGR	**Grenville**	**50.44**	**15**	*e*P		**P**	**21 27 11.5**		**-1.8**
	comp=Z,56nm,0.9s								
QSPA	**South Pole Qui**	**52.95**	**180**	*e*P		**P**	**21 27 31.8**		**0.0**
	comp=Z,51nm,0.9s								
RKT	**Rikitea**	**53.98**	**267**	*e*T		T	22 25 36.0		
	comp=Z,3.5nm,0.2s								
SYO	**Syowa Base**	**63.30**	**158**	‖*e*X		**P**	**21 28 42.0**		**-1.9**
TBI	**Tubuai**	**65.32**	**259**	*e*LR		LR	21 48 37.3		
	comp=Z,190nm,31.8s								
TIAR	**Tiarei**	**68.34**	**264**	*e*T		T	22 43 45.0		
	comp=Z,6.2nm,0.2s								
PPT2	**Papeete2**	**68.51**	**264**	*e*LR		LR	21 50 04.4		
	comp=Z,152nm,23.6s								
PPT	**Papeete**	**68.52**	**264**	LR		LR	21 50 53.3		
	comp=Z,114nm,19.4s,baz=316,slow=28								
MAW	**Mawson**	**70.40**	**164**	P		**P**	**21 29 29.4**		**+0.3**
	comp=Z,4.0nm,0.6s,baz=217,slow=8.3,SNR=12								
MAW				LR		LR	22 02 10.9		
	comp=Z,103nm,18.1s,baz=241,slow=37								
MAW	**Mawson**	**70.40**	**164**	*e*P		**P**	**21 29 29.5**		**+0.5**
Z48A	**Northport**	**71.49**	**348**	P		**P**	**21 29 36.2**		**+0.3**
	baz=169								
434A	**Burnet**	**71.56**	**338**	P		**P**	**21 29 37.2**		**+0.7**
	baz=160								
JCT	**Junction City**	**71.72**	**336**	*e*P		**P**	**21 29 38.2**		**+0.7**
	comp=Z,20nm,1.4s								
433A	**Art**	**71.75**	**337**	P		**P**	**21 29 38.1**		**+0.4**
	baz=159								
TX31	**Lajitas Ar. Si**	**72.00**	**333**	*e*P		**P**	**21 29 40.6**		**+1.3**
TXAR	**Lajitas Array**	**72.00**	**333**	P		**P**	**21 29 40.2**		**+1.0**
	comp=Z,1.7nm,0.7s,baz=156,slow=8.6,SNR=22								
TXAR				LR		LR	21 55 57.5		
	comp=Z,95nm,19.0s,baz=0.0,slow=31								
334A	**Lometa**	**72.03**	**338**	P		**P**	**21 29 40.0**		**+0.7**
	baz=160								
Y47A	**UCPARC, Winfie**	**72.05**	**348**	P		**P**	**21 29 39.7**		**+0.3**
	baz=168								
233A	**Rising Star**	**72.87**	**338**	P		**P**	**21 29 44.8**		**+0.4**
	baz=159								
V41A	**Mountainview**	**74.70**	**344**	P		**P**	**21 29 54.7**		**-0.2**
	baz=165								
MNTX	**Cornudas Mount**	**74.76**	**332**	P		**P**	**21 29 55.5**		**+0.1**
	baz=154								
MNTX	**Cornudas Mount**	**74.76**	**332**	*e*P		**P**	**21 29 55.5**		**+0.1**
	comp=Z,2.3nm,0.8s								
U42A	**Revenden**	**75.06**	**345**	P		**P**	**21 29 56.8**		**-0.2**
	baz=166								
U39A	**Green Forest**	**75.57**	**344**	P		**P**	**21 29 59.7**		**-0.3**
	baz=164								
V36A	**Jenks**	**75.59**	**341**	P		**P**	**21 29 60.0**		**-0.1**
	baz=162								
S43A	**Fulton Ridge,**	**76.02**	**347**	P		**P**	**21 30 02.2**		**-0.3**
	baz=167								
R41A	**Rosebud**	**76.97**	**346**	P		**P**	**21 30 07.5**		**-0.3**
	baz=166								
LIC	**Lamto**	**77.06**	**72**	*e*P		**P**	**21 30 09.3**		**+0.3**
	comp=Z,32nm,0.5s								
R39A	**Chumby, Stover**	**77.33**	**344**	P		**P**	**21 30 09.4**		**-0.5**
	baz=164								
TIC	**Toumodi**	**77.34**	**71**	*e*P		**P**	**21 30 10.8**		**+0.3**
KIC	**Kosan Boka**	**77.37**	**72**	*e*P		**P**	**21 30 11.1**		**+0.4**
	comp=Z,50nm,0.8s								
DBIC	**Dimbokro**	**77.48**	**72**	P		**P**	**21 30 11.8**		**+0.5**
	comp=Z,11nm,0.6s,baz=196,slow=6.8,SNR=27								
DBIC				LR		LR	22 02 19.6		
	comp=Z,108nm,18.3s,baz=242,slow=34								
DBIC	**Dimbokro**	**77.48**	**72**	*e*P		**P**	**21 30 11.8**		**+0.5**
	comp=Z,14nm,0.7s								
Q40A	**Laux Farm, Aux**	**77.78**	**345**	P		**P**	**21 30 12.6**		**+0.3**
	baz=165								
ANMO	**Albuquerque**	**78.07**	**333**	P		**P**	**21 30 15.6**		**+1.3**
	baz=154								
ANMO	**Albuquerque**	**78.07**	**333**	*e*P		**P**	**21 30 12.9**		**-1.4**
	comp=Z,7.6nm,1.3s								
P40A	**Paris**	**78.29**	**346**	P		**P**	**21 30 15.2**		**0.0**
	baz=165								
T25A	**Trinidad**	**79.33**	**335**	P		**P**	**21 30 22.7**		**+1.5**
	baz=156								
T25A	**Trinidad**	**79.33**	**335**	*e*P		**P**	**21 30 23.2**		**+2.0**
	comp=Z,9.4nm,0.9s								
N39A	**Derby Farms, D**	**79.68**	**346**	P		**P**	**21 30 22.7**		**0.0**
	baz=165								
BOSA	**Boshof**	**79.71**	**118**	P		**P**	**21 30 23.3**		**-0.4**
	comp=Z,6.1nm,0.8s,baz=232,slow=4.2,SNR=11								
BOSA				LR		LR	22 05 40.1		
	comp=Z,56nm,18.0s,baz=246,slow=36								
BOSA	**Boshof**	**79.71**	**118**	*e*P		**P**	**21 30 23.9**		**+0.3**
SDCO	**Great Sand Dun**	**80.25**	**335**	P		**P**	**21 30 27.2**		**+0.9**
	baz=155								
SDCO	**Great Sand Dun**	**80.25**	**335**	*e*P		**P**	**21 30 27.8**		**+1.5**
	comp=Z,5.7nm,1.4s								
S22A	**4UR Ranch, Cre**	**80.71**	**334**	*e*P		**P**	**21 30 30.7**		**+1.9**
	comp=Z,2.9nm,0.9s								
U15A	**North Rim**	**81.61**	**329**	*e*P		**P**	**21 30 35.5**		**+2.0**
	comp=Z,3.3nm,0.9s								
PV10	**Paradox Valley**	**82.06**	**333**	*e*P		**P**	**21 30 37.3**		**+1.5**
KNB	**Kanab**	**82.34**	**329**	*e*P		**P**	**21 30 39.5**		**+2.3**
	comp=Z,6.3nm,1.0s								
CCUT	**Cedar City**	**83.01**	**329**	*e*P		**P**	**21 30 42.4**		**+1.6**
	comp=Z,4.3nm,1.1s								
SRU	**San Rafael Swe**	**83.25**	**332**	*e*P		**P**	**21 30 43.7**		**+1.7**
	comp=Z,3.7nm,0.8s								
ECSD	**EROS Data Cent**	**83.29**	**343**	P		**P**	**21 30 41.7**		**-0.2**
	baz=162								
ECSD	**EROS Data Cent**	**83.29**	**343**	*e*P		**P**	**21 30 38.9**		**-2.9**
	comp=Z,10.0nm,0.9s								
MSU	**Marysvale**	**83.37**	**331**	*e*P		**P**	**21 30 45.0**		**+2.4**
TMUT	**Trail Mountain**	**83.67**	**332**	*e*P		**P**	**21 30 46.1**		**+1.8**
	comp=Z,4.3nm,0.9s								
DAC	**Darwin (Calif)**	**83.76**	**326**	*e*P		**P**	**21 30 46.9**		**+2.3**
	comp=Z,3.1nm,0.9s								
R11A	**Troy Canyon, C**	**84.61**	**328**	P		**P**	**21 30 50.5**		**+1.6**
	baz=148								
R11A	**Troy Canyon, C**	**84.61**	**328**	*e*P		**P**	**21 30 51.1**		**+2.2**
	comp=Z,3.1nm,1.0s								
DUG	**Dugway, Tooele**	**85.07**	**331**	*e*P		**P**	**21 30 52.9**		**+1.7**
	comp=Z,4.7nm,1.2s								
HWUT	**Hardware Ranch**	**85.82**	**332**	*e*P		**P**	**21 30 56.0**		**+1.1**
	comp=Z,7.2nm,1.0s								
SPUT	**South Promonto**	**85.89**	**332**	*e*P		**P**	**21 30 57.0**		**+1.8**
	comp=Z,6.5nm,1.0s								
PDAR	**Pinedale Array**	**86.12**	**334**	P		**P**	**21 30 56.9**		**+0.5**
	comp=Z,1.3nm,0.8s,baz=145,slow=5.4,SNR=8.9								
PDAR				LR		LR	22 05 24.3		
	comp=Z,109nm,18.3s,baz=110,slow=33								
HVU	**Hansel Valley**	**86.42**	**332**	*e*P		**P**	**21 30 59.0**		**+1.2**
	comp=Z,3.3nm,1.0s								
TOA0	**Torodi Ar. Sit**	**86.56**	**71**	*e*P		**P**	**21 30 58.6**		**-0.3**
TORD	**Torodi Ar. Bea**	**86.56**	**71**	P		**P**	**21 30 58.6**		**-0.3**
	comp=Z,3.9nm,0.9s,baz=220,slow=5.5,SNR=36								
TORD				LR		LR	22 09 21.0		
	comp=Z,130nm,18.1s,baz=190,slow=35								
TPAW	**Teton Pass**	**87.24**	**334**	*e*P		**P**	**21 31 03.0**		**+1.1**
	comp=Z,4.7nm,0.9s								
FLWY	**Flagg Ranch**	**87.67**	**334**	*e*P		**P**	**21 31 05.4**		**+1.5**
	comp=Z,4.0nm,0.8s								
PAF	**Port-aux-Franc**	**87.99**	**157**	*e*P		P	21 31 10.4		+5.1
	comp=Z,505nm,1.4s								
YHH	**Holmes Hill**	**88.34**	**334**	*e*P		**P**	**21 31 09.1**		**+1.9**
	comp=Z,3.5nm,1.0s								
ESDC	**Sonseca Array**	**99.79**	**47**	LR		LR	22 17 02.9		
	comp=Z,74nm,18.4s,baz=210,slow=35								
GERES	**GERESS Array B**	**115.38**	**47**	PKP		**PKPdf**	**21 36 54.7**		**-2.0**
	comp=Z,0.4nm,0.6s,baz=237,slow=3.4,SNR=4.9								
WRA	**Warramunga Arr**	**117.25**	**210**	PKP		**PKPdf**	**21 37 00.3**		**-0.9**
	comp=Z,1.1nm,1.0s,baz=168,slow=1.6,SNR=5.9								
VYHS	**Vyhne**	**118.27**	**49**	*e*PKP		**PKPdf**	**21 37 02.2**		**+0.1**
BR231	**Keskin MP Arra**	**123.97**	**63**	*e*PKPdf		**PKPdf**	**21 37 14.3**		**+0.8**
BR131	**Keskin Array S**	**124.54**	**63**	*e*PKPdf		**PKPdf**	**21 37 15.0**		**+0.3**
BRTR	**Keskin Array B**	**124.54**	**63**	PKP		**PKPdf**	**21 37 14.9**		**+0.3**
	comp=Z,2.1nm,0.6s,baz=198,slow=3.9,SNR=14								
AKASG	**Malin Array Be**	**125.36**	**49**	PKP		**PKPdf**	**21 37 14.6**		**-1.1**
	comp=Z,0.7nm,0.5s,baz=254,slow=2.4,SNR=3.5								
GEYT	**Alibeck**	**142.14**	**74**	PKhKP		PKPpre	21 37 42.8		
	comp=Z,1.8nm,0.6s,baz=318,slow=2.0,SNR=6.4								
ARU	**Arti**	**143.07**	**43**	PKhKP		PKPpre	21 37 44.2		
	comp=Z,1.9nm,0.4s,baz=272,slow=5.9,SNR=7.0								
AKTO	**Aktyubinsk**	**143.41**	**53**	PKhKP		PKPpre	21 37 45.2		
	comp=Z,1.5nm,0.6s,baz=321,slow=4.9,SNR=6.3								
ABKAR	**Akbulak array**	**144.70**	**55**	*e*PKPdf		PKPbc	21 37 50.9		+0.4
BRVK	**Borovoye**	**150.48**	**46**	*e*PKPbc		**PKPbc**	**21 38 07.3**		**+0.9**
BVAR	**Borovoye Array**	**150.55**	**46**	PKP		**PKPdf**	**21 38 02.0**		**+0.8**
	comp=Z,0.5nm,0.6s,baz=284,slow=2.4,SNR=3.8								
BVAR				PKPbc		**PKiKP**	**21 38 07.4**		**+0.1**
	comp=Z,7.0nm,0.7s,baz=304,slow=3.4,SNR=44					

	1.8nm,0.2s								
DGS					*e*S		Sg	21 39 23.5	+0.1
	14nm,0.3s								
KK31	**Karatay Array**	**1.98**	**281**		Pn		Pg	21 38 57.3	-1.0
	0.3nm,0.2s,baz=98,slow=15,SNR=10								
KK31				⇑	Sn		Sg	21 39 23.7	-0.3
	4.3nm,0.5s,baz=104,slow=28,SNR=15								
BOOM	**Boomskoye usch**	**2.06**	**97**	⇑	*e*P		Pb	21 38 56.3	-1.0
	baz=97								
BOOM				⇑	*e*S		Sb	21 39 24.3	+1.5
	baz=97								
ULHL	**Ulahol**	**2.33**	**102**	⇑	*i*P		Pb	21 39 00.9	-1.0
	baz=102								
ULHL				⇑	*i*S		Sb	21 39 29.9	-0.6
	baz=102								
IUG	**Iuzhnay**	**2.41**	**256**		*e*P		Pg	21 39 06.0	-0.4
	3.1nm,0.5s								
IUG					*e*S		Sg	21 39 37.5	-0.1
	5.7nm,0.3s								
NRN	**Naryn**	**2.49**	**121**	⇑	*e*P		Pb	21 39 03.6	-1.2
	baz=122								
NRN				⇑	*e*S		Sb	21 39 35.7	+0.4
	baz=122								
IZV	**Izvestkoviy**	**2.54**	**83**		*e*P		Pg	21 39 08.0	-0.9
	1.6nm,0.3s								
IZV					*e*S		Sg	21 39 41.1	-0.8
	9.6nm,0.2s								
TNSS	**Tian-Shan**	**2.79**	**83**		*e*P		Pg	21 39 12.6	-1.0
	0.4nm,0.1s								
TNSS					*e*S		Sg	21 39 48.5	-1.3
	4.7nm,0.5s								
KOTS	**Kotyrbulak**	**2.93**	**80**		*e*P		Pg	21 39 15.8	-0.5
KOTS					*e*S		Sg	21 39 55.0	+0.8

DJA 13 21:54:16.4±0.5,3°S±3°×12°9E±°,h11km±4km,M4.0/12, mB5.6/1,mb4.3/11,MLv4.0/12,Mw(mB)5.1/1,Seram

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MSAI	**Masohi**	**0.39**	**214**	P	Pg	21 54 24.3	+0.1
MSAI				S	Sb	21 54 31.8	+0.4
AAI	**Ambon**	**1.16**	**235**	P	Pg	21 54 39.6	+0.8
LBMI	**Labuha**	**2.88**	**325**	P	Pn	21 55 02.7	+0.4
FAKI	**Fak Fak**	**3.10**	**88**	P	Pn	21 55 05.3	0.0
SANI	**Sanana**	**3.30**	**287**	P	Pn	21 55 08.5	+0.4
SAUI	**Saumlaki**	**5.37**	**157**	P	Pn	21 55 36.7	+0.1
KDI	**Kendari**	**6.58**	**262**	P	Pn	21 55 51.3	-1.9
BBSI	**Bau Bau**	**7.00**	**249**	P	Pn	21 55 58.4	-0.6
GTOI	**Gorontalo**	**7.13**	**301**	P	Pn	21 56 02.3	+1.6
SGSI	**Sangihe**	**7.58**	**331**	P	Pn	21 56 06.8	-0.1
MRSI	**Marisa**	**8.00**	**296**	P	Pn	21 56 12.9	+0.2
SOEI	**Soe**	**8.26**	**216**	P	Pn	21 56 16.9	+0.5
MMRI	**Maumere**	**8.85**	**231**	P	Pn	21 56 24.6	+0.2
BATI	**Baumata**	**8.98**	**217**	P	Pn	21 56 26.2	0.0
BSSI	**Bau Bau, Buton**	**9.17**	**250**	P	Pn	21 56 28.1	-0.7
BKSI	**Bulukumba**	**9.29**	**255**	P	Pn	21 56 30.1	-0.3

VIE ***13*** *22:01:47.9±0.4, 44°.73N×10°.31E, h5km±3km, mb2.0/5, ML2.1/13, Error ellipse: s-maj=5.0km s-min=1.8km az=97.0*
CSEM ***13*** *22:01:49.8±0.1, 44°.68N×10°.32E, h15km, ML2.2/15, Error ellipse: s-maj=3.9km s-min=2.7km az=120.0*
ROM ***13*** *22:01:49.8±0.2, 44°.63N×10°.09E, h11km, Md2.2/6, Ml2.6/4, Error ellipse: s-maj=3.4km s-min=1.5km az=93.0*
ISCJB ***13*** *22:01:50.7±0.3, 44°.64N±0°.02×10°.25E±0°.03, h25km±3km, Error ellipse: s-maj=4.0km s-min=2.8km az=139.4*
GEN ***13*** *22:01:50.6, 44°.65N×10°.26E, h24km, ML2.1*
LDG ***13*** *22:01:51.5±0.1, 44°.61N×10°.25E, h2km, Md2.7/3, Ml2.3/9, Error ellipse: s-maj=2.3km s-min=1.8km az=45.0*

ISC 13 22:01:50.6±0.9,44°.62N±0°.02×10°.28E±0°.02,h17km±3km, n69,σ1s22/117,1C,Northern Italy

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PRMA	**PARMA**	**0.14**	**10**	P*g*	**Pg**	**22 01 54.7**	**+0.1**
PRMA				S*g*	**Sb**	**22 01 59.1**	**+1.5**
	1µm,0.5s						
PRMA	**PARMA**	**0.14**	**10**	P*g*	**Pg**	**22 01 54.7**	**+0.1**
GRAM	**Graiana**	**0.20**	**229**	P	**Pg**	**22 01 55.5**	**0.0**
GRAM				S	**Sg**	**22 01 59.5**	**+0.7**
NOVE	**Novellara**	**0.36**	**61**	P*g*	**Pg**	**22 01 58.9**	**+0.9**
NOVE				S*g*	**Sb**	**22 02 06.1**	**+2.3**
	334nm,0.3s						
NOVE	**Novellara**	**0.36**	**61**	P*g*	**Pg**	**22 01 58.9**	**+0.9**
CODM	**Codolo**	**0.39**	**233**	P	**Pg**	**22 01 58.5**	**0.0**
SARO	**Sassorosso**	**0.45**	**169**	P	**Pg**	**22 01 59.7**	**0.0**
VLC	**Villacollemand**	**0.47**	**171**	P*g*	**Pg**	**22 02 00.4**	**+0.3**
VLC				S*g*	**Sb**	**22 02 07.9**	**+0.8**
VLC	**Villacollemand**	**0.47**	**171**	P*g*	**Pg**	**22 02 00.4**	**+0.3**
VLC				S*g*	**Sb**	**22 02 07.9**	**+0.8**
SC2M	**Scurtabo**	**0.58**	**248**	P	**Pg**	**22 01 01.7**	**-0.3**
SC2M				S	**Sb**	**22 02 11.1**	**+0.9**
POPM	**Popiglio**	**0.67**	**149**	P	**Pg**	**22 02 04.0**	**+0.2**
POPM				S	**Sb**	**22 02 13.8**	**+0.9**
MAIM	**Mastiano**	**0.72**	**168**	P	**Pb**	**22 02 04.3**	**-0.4**
MAIM				S	**Sb**	**22 02 14.2**	**-0.2**
PTF	**Prato**	**0.87**	**139**	P*g*	**Pb**	**22 02 07.6**	**+0.3**
PTF				S*g*	**Sn**	**22 02 21.3**	**+0.9**
PTF	**Prato**	**0.87**	**139**	P*g*	**Pb**	**22 02 07.6**	**+0.3**
PTF				S*g*	**Sn**	**22 02 21.3**	**+0.9**
MAGA	**Magasa**	**1.18**	**12**	P*g*	**Pn**	**22 02 11.9**	**-0.5**
MAGA				S*g*	**Sb**	**22 02 28.2**	**+0.6**
	152nm,0.4s						
MAGA	**Magasa**	**1.18**	**12**	P*g*	**Pn**	**22 02 11.9**	**-0.5**
MAGA				S*g*	**Sb**	**22 02 28.2**	**+0.6**
	152nm,0.4s						
MARN	**Marana (Italy)**	**1.21**	**33**	⇑*eP*g	**Pn**	**22 02 12.0**	**-0.7**
MARN				*e*S*g*	**Sb**	**22 02 29.3**	**+0.9**
MARN	**Marana (Italy)**	**1.21**	**33**	*eP*g	**Pn**	**22 02 12.0**	**-0.7**
MARN				*e*S*g*	**Sb**	**22 02 29.3**	**+0.9**
TEOL	**Teolo**	**1.23**	**53**	*eP*g	**Pn**	**22 02 12.6**	**-0.4**
TEOL				*e*S*g*	**Sn**	**22 02 30.5**	**+1.3**
TEOL	**Teolo**	**1.23**	**53**	*eP*g	**Pn**	**22 02 12.6**	**-0.4**
TEOL				*e*S*g*	**Sn**	**22 02 30.5**	**+1.3**
RNI	**Roncone**	**1.38**	**10**	*eP*g	**Pn**	**22 02 14.8**	**-0.4**
RNI				*e*S*g*	**Sn**	**22 02 34.0**	**+0.8**
RNI	**Roncone**	**1.38**	**10**	*eP*g	**Pn**	**22 02 14.8**	**-0.4**
RNI				*e*S*g*	**Sn**	**22 02 34.0**	**+0.8**
DDS	**Dosso del Somm**	**1.41**	**27**	*eP*g	**Pn**	**22 02 15.0**	**-0.7**
DDS				*e*S*g*	**Sn**	**22 02 34.9**	**+1.0**
DDS	**Dosso del Somm**	**1.41**	**27**	*eP*g	**Pn**	**22 02 15.0**	**-0.7**
DDS				*e*S*g*	**Sn**	**22 02 34.9**	**+1.0**
PANI	**Panarotta**	**1.61**	**27**	*eP*g	**Pn**	**22 02 17.9**	**-0.5**
PANI	**Panarotta**	**1.61**	**27**	*eP*g	**Pn**	**22 02 17.9**	**-0.5**
CGRP	**Cima Grappa**	**1.65**	**40**	*eP*g	**Pn**	**22 02 18.6**	**-0.4**
CGRP	**Cima Grappa**	**1.65**	**40**	*eP*g	**Pn**	**22 02 18.6**	**-0.4**
VARN	**Col Varnada, M**	**1.88**	**43**	*eP*n	**Pn**	**22 02 20.9**	**-1.1**
VARN	**Col Varnada, M**	**1.88**	**43**	*eP*n	**Pn**	**22 02 20.9**	**-1.1**
SBF	**Sospel**	**2.18**	**251**	*eP*n	**Pn**	**22 02 26.6**	**+0.5**
SBF				*e*S*n*	**Sn**	**22 02 52.4**	**-0.4**
	8.8nm,0.3s						
SBF	**Sospel**	**2.18**	**251**	*eP*n	**Pn**	**22 02 26.6**	**+0.5**
SBF				*e*S*n*	**Sn**	**22 02 52.4**	**-0.4**
	4.4nm,0.3s						
ABSI	**Aberstueckl**	**2.23**	**19**	P*g*	**Pn**	**22 02 27.6**	**+0.7**
	28nm,0.9s						
CIMO	**Cimolais**	**2.27**	**41**	*eP*n	**Pn**	**22 02 26.7**	**-0.6**
CIMO	**Cimolais**	**2.27**	**41**	*eP*n	**Pn**	**22 02 26.7**	**-0.6**
PGF	**Pioggiola**	**2.27**	**205**	*eP*n	**Pn**	**22 02 28.1**	**+0.7**
PGF				*e*S*n*	**Sn**	**22 02 54.8**	**-0.3**
	1.7nm,0.3s						
PGF	**Pioggiola**	**2.27**	**205**	*eP*n	**Pn**	**22 02 28.1**	**+0.7**
PGF				*e*S*n*	**Sn**	**22 02 54.8**	**-0.3**
	0.9nm,0.3s						
FETA	**Feichten**	**2.42**	**7**	P*g*	**Pn**	**22 02 31.5**	**+2.0**
	0.1nm,0.1s						
FETA				S*g*	**Sb**	**22 03 05.6**	**+2.3**
	0.4nm,0.1s						
MBDF	**Montbardon**	**2.50**	**274**	*eP*	**Pn**	**22 02 33.7**	**+3.0**
MBDF				*e*S*n*	**Sn**	**22 03 00.6**	**-0.3**
	3.4nm,0.3s						
MBDF	**Montbardon**	**2.50**	**274**	*eP*	**Pn**	**22 02 33.7**	**+3.0**
MBDF				*e*S*n*	**Sn**	**22 03 00.6**	**-0.3**
	1.7nm,0.3s						
ABTA	**Abfaltersbach**	**2.64**	**36**	P*n*	**Pn**	**22 02 29.6**	**-2.8**
ABTA				S*g*	**Sg**	**22 03 15.9**	**+0.6**
	0.4nm,0.1s						
LPG	**La Plagne**	**2.65**	**291**	*eP*g	**Pg**	**22 02 40.6**	**-0.8**
LPG				*e*S*n*	**Sn**	**22 03 04.5**	**-0.1**
	2.5nm,0.4s						
LPG	**La Plagne**	**2.65**	**291**	*eP*g	**Pg**	**22 02 40.6**	**-0.8**
LPG				*e*S*n*	**Sn**	**22 03 04.5**	**-0.1**
	1.2nm,0.4s						
LPL	**La Plagne**	**2.67**	**291**	*eP*	**Pb**	**22 02 36.6**	**-1.4**
LPL				*e*S*n*	**Sn**	**22 03 04.7**	**-0.3**
	3.4nm,0.4s						
LPL	**La Plagne**	**2.67**	**291**	*eP*	**Pb**	**22 02 36.6**	**-1.4**
LPL				*e*S*n*	**Sn**	**22 03 04.7**	**-0.3**
	1.7nm,0.4s						
DAVA	**Damuels**	**2.68**	**354**	P*n*	**Pn**	**22 02 33.9**	**+0.8**
	3.1nm,0.4s						
DAVA				S*n*	**Sn**	**22 03 04.0**	**-1.2**
	1.3nm,0.3s						
ZOU	**Zoufplan**	**2.70**	**43**	*e*P*n*	**Pn**	**22 02 33.3**	**-0.2**
MOTA	**Moosalm**	**2.78**	**12**	P*n*	**Pn**	**22 02 34.8**	**+0.3**
	0.5nm,0.3s						
MOTA				S*g*	**Sb**	**22 03 16.3**	**+2.6**
	0.1nm,0.1s						
WTTA	**Wattenberg**	**2.81**	**19**	P*n*	**Pn**	**22 02 32.9**	**-1.9**
	0.1nm,0.1s						
WTTA				S*g*	**Sb**	**22 03 16.9**	**+2.5**
FRF	**La Foret Royal**	**2.83**	**249**	*e*P*n*	**Pn**	**22 02 35.3**	**+0.4**
FRF				*e*S*n*	**Sn**	**22 03 09.2**	**+0.6**
	3.3nm,0.3s						
FRF	**La Foret Royal**	**2.83**	**249**	*e*P*n*	**Pn**	**22 02 35.3**	**+0.4**
FRF				*e*S*n*	**Sn**	**22 03 09.2**	**+0.6**
	1.6nm,0.3s						
WATA	**Walderalm**	**2.86**	**18**	P*n*	**Pn**	**22 02 34.4**	**-1.1**
	0.3nm,0.1s						
WATA				S*g*	**Sb**	**22 03 19.0**	**+3.0**
	0.5nm,0.2s						
VOJS	**Vojsko**	**2.91**	**60**	*i* P*n*	**Pn**	**22 02 35.3**	**-0.8**
VOJS	**Vojsko**	**2.91**	**60**	P*n*	**Pn**	**22 02 35.3**	**-0.8**
LMR	**La Mourre**	**3.01**	**246**	*e*P*n*	**Pn**	**22 02 37.4**	**-0.1**
LMR				*e*S*n*	**Sn**	**22 03 12.1**	**-1.0**
	1.9nm,0.3s						
LMR	**La Mourre**	**3.01**	**246**	*e*P*n*	**Pn**	**22 02 37.4**	**-0.1**
LMR				*e*S*n*	**Sn**	**22 03 12.1**	**-1.0**
	0.9nm,0.3s						
MYKA	**Terra Mystica**	**3.10**	**48**	S*n*	**Sn**	**22 03 12.7**	**-2.7**
	715nm,0.0s						
ORIF	**Oris-en-Rattie**	**3.15**	**277**	*e*P*n*	**Pn**	**22 02 40.3**	**+0.9**
ORIF				*e*S*n*	**Sn**	**22 03 16.1**	**-0.6**
	2.5nm,0.5s						
ORIF	**Oris-en-Rattie**	**3.15**	**277**	*e*P*n*	**Pn**	**22 02 40.3**	**+0.9**
ORIF				*e*S*n*	**Sn**	**22 03 16.1**	**-0.6**
	1.2nm,0.5s						
NVLJ	**Novalja**	**3.28**	**89**	*e*P*n*	**Pn**	**22 02 41.3**	**+0.1**
NVLJ				S*n*	**Sn**	**22 03 17.2**	**-2.5**
NVLJ	**Novalja**	**3.28**	**89**	*e*P*n*	**Pn**	**22 02 41.2**	**+0.1**
NVLJ				S*n*	**Sn**	**22 03 17.2**	**-2.5**
SMRF	**Simiane la Rot**	**3.44**	**261**	*e*P	**Pn**	**22 02 46.7**	**+3.3**
SMRF	**Simiane la Rot**	**3.44**	**261**	*e*P	**Pn**	**22 02 46.7**	**+3.3**
OBKA	**Obir**	**3.54**	**56**	P*g*	**Pb**	**22 02 54.0**	**+1.2**
	0.1nm,0.1s						
OBKA				S*g*	**Sg**	**22 03 42.6**	**-1.7**
	2.2nm,0.5s						
SOKA	**Soboth**	**3.92**	**57**	P*n*	**Pn**	**22 02 47.4**	**-2.6**
SOKA				S*n*	**Sn**	**22 03 35.9**	**+0.3**
	0.1nm,0.0s						
CDF	**Champ du Feu**	**4.32**	**332**	*e*P*n*	**Pn**	**22 02 54.9**	**-0.6**
CDF	**Champ du Feu**	**4.32**	**332**	*e*P*n*	**Pn**	**22 02 54.9**	**-0.6**
HAU	**Haudompre**	**4.34**	**323**	*e*P*n*	**Pn**	**22 02 55.4**	**-0.4**
HAU				*e*S*n*	**Sn**	**22 03 44.6**	**-1.4**
	1.7nm,0.3s						
HAU	**Haudompre**	**4.34**	**323**	*e*P*n*	**Pn**	**22 02 55.4**	**-0.4**
HAU				*e*S*n*	**Sn**	**22 03 44.6**	**-1.4**
	0.9nm,0.3s						

DJA 13 22:03:05.0±1.0,3°S±8°×14°0E±°,h97km±12km,M3.8/5, mb4.4/2,MLv3.5/5,Near north coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GENI	**Genyem**	**0.46**	**77**	P	Pn	22 03 20.6	+0.4
GENI				S	Sn	22 03 34.4	+2.9
JAY	**Jayapura**	**1.00**	**79**	P	Pn	22 03 25.8	+0.6
SMPI	**Sarmi**	**1.23**	**305**	P	Pn	22 03 28.5	+0.7
WAMI	**Wamena**	**1.55**	**221**	P	Pn	22 03 32.6	+0.9
FAKI	**Fak Fak**	**7.46**	**268**	P	Pn	22 04 50.9	-0.4

BJI ***13*** *22:09:36.5, 26°.72N×127°.73E, h99km, mb4.5/41, mB4.6/25*
ISCJB ***13*** *22:09:41.4±0.2, 26°.95N±0°.03×127°.32E±0°.03, h107km±2km, mb4.6/63, Error ellipse: s-maj=6.5km s-min=2.8km az=143.1*
NEIC ***13*** *22:09:42.5±0.5, 26°.96N×127°.26E, h104km±4km, mb4.8/37, Error ellipse: s-maj=8.0km s-min=5.0km az=143.0*
NEIC Felt [II] at Chatan, Okinawa. Also felt at Gushikawa, Urasoe and Yomitan. Recorded [2 JMA] on Kume-jima.
IDC ***13*** *22:09:42.7±0.8, 27°.05N×127°.31E, h102km±7km, mb4.3/18, mb1 4.4/19, mb1mx4.3/29, mbtmp4.5/19, MS3.6/3, Ms1 3.7/3, ms1mx3.0/39, Error ellipse: s-maj=19.5km s-min=11.1km az=70.0*
JMA ***13*** *22:09:43.0±0.2, 27°.02N×127°.28E, h93km±3km, M4.1*
JMA Felt II J1.

ISC 13 22:09:42.3±0.5,26°.95N±0°.04×127°.32E±0°.04,h104km±4km, n183,σ1s58/229,mb4.6/74,11C-2D,Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JAGN	**Aguni-jima**	**0.36**	**191**	P	**Pn**	**22 09 57.8**	**+0.2**
JAGN				S	**Sn**	**22 10 08.7**	**-0.4**
JIH	**Iheya**	**0.58**	**81**	P	**Pn**	**22 09 59.5**	**+0.4**
JIH				S	**Sn**	**22 10 11.3**	**-0.4**
JNTH	**Nagotoyohara**	**0.76**	**124**	P	**Pn**	**22 10 01.3**	**+0.7**
JNTH				S	**Sn**	**22 10 14.6**	**+0.3**
JKE	**Kume jima 2**	**0.78**	**218**	P	**Pn**	**22 10 01.0**	**+0.2**
JKE				S	**Sn**	**22 10 14.2**	**-0.5**
JOW	**Kunigami**	**0.86**	**97**	P	**Pn**	**22 10 02.1**	**+0.5**
JOW				S	**Sn**	**22 10 15.8**	**-0.3**
JOW	**Kunigami**	**0.86**	**97**	*e*P*n*	**Pn**	**22 10 02.1**	**+0.5**
JOW				*e*S*n*	**Sn**	**22 10 11.6**	**-4.5**
JJT2	**Tamagusuku 2**	**0.89**	**154**	P	**Pn**	**22 10 03.3**	**+1.4**
JJT2				*e*S	**Sn**	**22 10 18.3**	**+1.8**
JOKE	**Okinoerabujima**	**1.19**	**69**	P	**Pn**	**22 10 05.4**	**+0.3**
JOKE				S	**Sn**	**22 10 21.4**	**-0.9**
JTK	**Tokunoshima**	**1.68**	**60**	P	**Pn**	**22 10 11.0**	**+0.1**
JTK				S	**Sn**	**22 10 31.3**	**-1.4**
JAMN	**Amaminishikomi**	**2.09**	**51**	P	**Pn**	**22 10 15.9**	**-0.3**
JAMN				S	**Sn**	**22 10 40.2**	**-1.9**
JAM	**Amami Oshima**	**2.50**	**54**	P	**Pn**	**22 10 21.4**	**-0.1**
JAM				*e*S	**Sn**	**22 10 49.4**	**-2.2**
JZK	**Kikaishima**	**2.72**	**59**	P	**Pn**	**22 10 24.7**	**+0.3**
JZK				S	**Sn**	**22 10 57.2**	**+0.4**
JIKM	**Ikemajima**	**2.74**	**223**	P	**Pn**	**22 10 25.4**	**+0.7**
JIKM				*e*S	**Sn**	**22 10 57.7**	**+0.3**
JTAJ	**Takarajima**	**2.76**	**37**	P	**Pn**	**22 10 25.3**	**+0.4**
JTAJ				*e*S	**Sn**	**22 10 57.5**	**-0.2**
JOGS	**Gusukube**	**2.78**	**219**	P	**Pn**	**22 10 26.4**	**+1.2**
JMJ	**Miyako jima 2**	**2.80**	**221**	P	**Pn**	**22 10 26.9**	**+1.5**
JMJ				*e*S	**Sn**	**22 10 58.3**	**-0.4**
JIRB	**Irabujima**	**2.86**	**223**	P	**Pn**	**22 10 26.0**	**-0.3**
JIRB				*e*S	**Sn**	**22 10 59.1**	**-1.0**
JTJ	**Tarama**	**3.29**	**226**	P	**Pn**	**22 10 31.6**	**-0.4**
JISG	**Ishigakijimahi**	**3.59**	**230**	P	**Pn**	**22 10 35.3**	**-0.7**
JMZ	**Minamidaito 2**	**3.67**	**107**	P	**Pn**	**22 10 36.2**	**-0.9**
JMZ				S	**Sn**	**22 11 14.2**	**-5.4**
JIJ	**Ishigaki jima**	**3.85**	**229**	P	**Pn**	**22 10 38.2**	**-1.3**
JKRS	**Kuro-shima**	**4.03**	**229**	P	**Pn**	**22 10 41.2**	**-0.7**
IRIF	**Iriomote-Funau**	**4.15**	**232**	P	**Pn**	**22 10 42.9**	**-0.7**
YOJ	**Yonaguni jima**	**4.61**	**238**	P	**Pn**	**22 10 49.8**	**+0.1**
YOJ	**Yonaguni jima**	**4.61**	**238**	*e*P*n*	**Pn**	**22 10 49.3**	**-0.4**
YOJ				*e*S*n*	**Sn**	**22 11 44.1**	**+1.9**
JYNG	**Yonagunijimaku**	**4.66**	**239**	P	**Pn**	**22 10 50.6**	**+0.1**
TATO	**Taipei**	**5.60**	**251**	*e*P*n*	**Pn**	**22 11 05.6**	**+2.4**
YHNB	**Yeheng**	**5.82**	**248**	*e*P*n*	**Pn**	**22 11 08.0**	**+1.8**
YHNB				*e*S*n*	**Sn**	**22 12 15.8**	**+4.2**
NACB	**Ninganchiao**	**5.86**	**243**	*e*P*n*	**Pn**	**22 11 05.8**	**-1.0**
NACB				*e*S*n*	**Sn**	**22 12 07.7**	**-4.8**
YULB	**Yu-li**	**6.50**	**238**	*e*P*n*	**Pn**	**22 11 12.7**	**-2.7**
SSLB	**Suanglung**	**6.56**	**243**	*e*P*n*	**Pn**	**22 11 14.7**	**-1.5**
SSLB				*e*S*n*	**Sn**	**22 12 24.6**	**-5.0**
JNU	**Nakatsue**	**6.88**	**26**	*e*P*n*	**Pn**	**22 11 21.8**	**+1.1**
JNU				*e*S*n*	**Sn**	**22 12 32.6**	**-4.9**
TWG	**Pinlang**	**7.00**	**235**	*e*P*n*	**Pn**	**22 11 19.1**	**-3.1**
TWG				*e*S*n*	**Sn**	**22 12 35.1**	**-5.2**
TPUB	**Ta-pu**	**7.07**	**241**	*e*P*n*	**Pn**	**22 11 22.2**	**-0.9**
TPUB				*e*S*n*	**Sn**	**22 12 40.0**	**-2.0**
NJ2	**Nanjing**	**8.96**	**307**	*e*P	**Pn**	**22 11 50.3**	**+1.5**
NJ2				P*max*	P*max*		
	comp=Z,14nm,0.5s						
KSAR	**Wonju Array Be**	**10.48**	**2**	P	**Pn**	**22 12 10.9**	**+1.6**
KSRS	**Korea Array**	**10.49**	**3**	P	**Pn**	**22 12 10.9**	**+1.4**
	0.2nm,0.3s,baz=184,slow=14,SNR=34						
KSRS				LR	LR	22 16 23.4	
	comp=Z,19nm,19.6s,baz=199,slow=39						
INU	**Inuyama**	**11.79**	**42**	*e*P*n*	**Pn**	**22 12 26.6**	**-0.4**
WHN	**Wuhan**	**11.93**	**291**	P	**P**	**22 12 37.4**	**0.0**
DL2	**Dalian**	**12.85**	**340**	P	**P**	**22 12 49.9**	**+2.2**
DL2				P*max*	P*max*		
	comp=Z,52nm,0.8s						
MJAR	**Matsushiro Arr**	**13.31**	**41**	P	**Pn**	**22 12 48.5**	**+1.4**
	comp=Z,0.5nm,0.3s,baz=220,slow=7.7,SNR=3.3						
BJT	**Baijiatuau**	**16.00**	**327**	*e*P*n*	**P**	**22 13 24.6**	**+1.9**
ENH	**Enshi**	**16.01**	**286**	*e*P*n*	**P**	**22 13 22.9**	**-0.1**
	comp=Z,5.0nm,0.5s						
BJI	**Beijing**	**16.01**	**327**	P	**P**	**22 13 22.9**	**+0.1**
BJI				P*max*	P*max*		
	comp=Z,13nm,1.3s						
BJI				P*max*	P*max*		
	comp=Z,110nm,4.2s						
XAN	**Xi'an**	**17.35**	**298**	P	**Pn**	**22 13 38.6**	**+0.7**
XAN				P*max*	P*max*		
	comp=Z,120nm,12.6s						
GYA	**Guiyang**	**18.46**	**273**	P	**Pn**	**22 13 51.6**	**+0.1**
GYA				P*P*	P*P*	22 14 04.8	-4.7
GYA				S*P*	S*P*	22 14 20.0	-2.6
GYA				S	**S**	**22 17 11.3**	**-4.4**
GYA				P*max*	P*max*		
	comp=Z,20nm,0.7s						
HHC	**Hu-ho-hao-te**	**19.02**	**321**	*e*P	**P**	**22 13 56.6**	**+0.5**
HHC				P*P*	P*P*	22 14 10.6	-4.9
HHC				S	**Sn**	**22 17 29.6**	**-1.6**
HHC				P*max*	P*max*		
	comp=Z,19nm,0.7s						
HHC				P*max*	P*max*		
	comp=Z,85nm,4.1s						
CD2	**Chengdu**	**20.99**	**286**	P	**P**	**22 14 16.8**	**-0.6**
CD2				P*P*	P*P*	22 14 33.6	-3.5
CD2				P*P*	**PnPn**	**22 14 43.6**	**+1.7**
CD2				S	**S**	**22 17 57.8**	**-7.6**
CD2				P*max*	P*max*		
	comp=Z,20nm,0.8s						
CD2				LR	LR		
	comp=Z,120nm,12.0s						
CD2				LR	LR		
	comp=Z,110nm,10.4s						
LZH	**Lanzhou**	**21.95**	**300**	*e*P	**P**	**22 14 28.1**	**+0.4**
LZH				P*P*	P*P*	22 14 48.6	+1.0
LZH				P*P*	**PnPn**	**22 14 54.0**	**-1.0**
LZH				S*P*	S*P*	22 14 59.3	-1.3
LZH				*e*S	**S**	**22 18 18.3**	**-5.5**
LZH				P*max*	P*max*		
	comp=Z,28nm,1.2s						
LZH				P*max*	P*max*		
	comp=Z,87nm,4.6s						
KMI	**Kunming**	**22.15**	**271**	P	**P**	**22 14 30.1**	**+0.1**
KMI				P*max*	P*max*		
	comp=Z,10.0nm,0.6s						
KMI				P*max*	P*max*		
	comp=Z,140nm,5.0s						
GTA	**Gaotai**	**26.05**	**305**	*e*P	**P**	**22 15 04.9**	**-1.2**
GTA				P*P*	P*P*	22 15 26.0	-2.9
GTA				S*P*	S*P*	22 15 38.4	-2.7
GTA				S	**S**	**22 19 27.9**	**-1.7**
GTA				S*S*	S*S*	22 20 05.8	-3.9
GTA				P*max*	P*max*		
	comp=Z,7.0nm,1.0s						
GTA				P*max*	P*max*		
	comp=Z,61nm,8.3s						
GTA				LR	LR		
	comp=Z,110nm,12.6s						
GTA				LR	LR		
	comp=Z,180nm,16.4s						
GTA				LR	LR		
	comp=Z,76nm,16.2s						
ULN	**Ulaanbaatar**	**26.22**	**328**	*e*P	**P**	**22 15 07.2**	**-0.4**
	comp=Z,14nm,1.2s						
SONM	**Songino Array**	**26.51**	**327**	P	**P**	**22 15 09.7**	**-0.4**
	comp=Z,11nm,0.5s,baz=142,slow=9.4,SNR=36						
SONM				P*P*	**pP**	**22 15 33.9**	**+0.9**
	comp=Z,5.5nm,1.0s,baz=137,slow=8.4,SNR=3.4						
SONA1	**Songino Array**	**26.52**	**327**	*e*P	**P**	**22 15 09.7**	**-0.5**
CHTO	**Ch

comp=Z,1.0nm,0.7s,baz=3.1,slow=12,SNR=2.8
AS01 Alice Springs 50.72 172 *eP* **P 22 18 31.3 -0.3**
ABKAR Akbulak array 55.56 313 *eP* **P 22 19 05.5 -1.4**
comp=Z,38nm,0.6s
ARU Arti 56.33 322 *eP* **P 22 19 11.8 -0.3**
comp=Z,7.4nm,1.3s
ARU *ePcP* **PcP 22 20 08.0 -0.3**
GEYT Alibeck 58.23 300 P **P 22 19 26.9 +0.9**
comp=Z,4.4nm,0.6s,baz=58,slow=4.5,SNR=12
STKA Stephens Creek 60.06 166 P **P 22 19 39.8 +1.4**
comp=Z,3.2nm,0.5s,baz=344,slow=7.7,SNR=11
PPLA Purkeypile 62.08 31 *eP* **P 22 19 53.2 +1.3**
COLD Coldfoot 62.57 26 *eP* **P 22 19 54.7 -0.2**
comp=Z,4.2nm,0.7s
MDM Murphy Dome 63.60 28 *eP* **P 22 20 02.0 +0.2**
comp=Z,24nm,0.8s
WRH Wood River Hil 63.73 29 *eP* **P 22 20 02.9 +0.3**
comp=Z,6.9nm,0.9s
IL1 Eielson Array 64.20 28 *eP* **P 22 20 03.6 -2.1**
ILAR Eielson Array 64.20 28 P **P 22 20 05.8 +0.1**
comp=Z,1.2nm,0.8s,baz=274,slow=6.5,SNR=15
HDA Harding Lake 64.22 29 *eP* **P 22 20 05.9 0.0**
comp=Z,91nm,1.7s
DOT Dot Lake 65.61 29 *eP* **P 22 20 14.1 -0.8**
comp=Z,19nm,1.0s
EGAK Eagle 66.60 28 *eP* **P 22 20 21.2 0.0**
comp=Z,3.6nm,0.8s
KBZ Khabaz 68.08 309 P **P 22 20 31.7 +0.9**
comp=Z,18nm,0.8s,baz=100,slow=4.1,SNR=46
KIV Kislovodsk 68.16 309 *eP* **P 22 20 31.8 +0.4**
comp=Z,65nm,1.5s
INK Inuvik 68.56 23 *eP* **P 22 20 34.6 +1.3**
comp=Z,13nm,0.9s
ARCES ARCESS Array B 69.04 338 P **P 22 20 36.0 -0.5**
comp=Z,2.9nm,0.8s,baz=69,slow=7.8,SNR=3.7
MARD Mardin 71.64 303 *eP* **P 22 20 53.5 +0.5**
comp=Z,15nm,0.7s
FINES FINESS Array B 71.84 330 P **P 22 20 52.8 -0.7**
comp=Z,3.6nm,0.3s,baz=55,slow=5.8,SNR=51
DAG Danmarks Havn 74.44 352 *iP* **P 22 21 08.1 -0.5**
comp=Z,8.8nm,0.8s
AKASG Malin Array Be 74.46 319 P **P 22 21 08.7 -0.4**
comp=Z,6.0nm,0.5s,baz=57,slow=6.5,SNR=18
AKBB Malin Array Si 74.46 319 *eP* **P 22 21 07.9 -1.3**
comp=Z,7.4nm,0.6s
KIEV Kiev 74.47 319 *eP* **P 22 21 07.9 -1.3**
comp=Z,7.2nm,0.7s
AK11 Malin Array Si 74.50 319 *eP* **P 22 21 08.8 -0.5**
ILGA Ilgaz 75.38 309 *eP* **P 22 21 14.4 -0.5**
comp=Z,6.9nm,0.8s
BR131 Keskin Array S 75.95 308 *eP* **P 22 21 18.6 +0.5**
BRTR Keskin Array B 75.95 307 P **P 22 21 18.3 +0.2**
comp=Z,14nm,0.8s,baz=107,slow=4.7,SNR=68
SORM Soroca 76.03 317↑ *iP* **P 22 21 17.7 -0.5**
BR231 Keskin MP Arra 76.52 308 *eP* **P 22 21 18.8 -2.5**
LEOM Leova 76.79 315↑ *iP* **P 22 21 22.7 +0.2**
TLB Topalu 77.73 314↑ *iP* **P 22 21 28.2 +0.4**
TESR Tescani 77.77 316↑ *iP* **P 22 21 28.3 +0.3**
NC405 NORSAR Array S 78.07 333 *eP* **P 22 21 29.3 -0.1**
CSS Mathiatis 78.11 303 *eP* **P 22 21 30.2 +0.1**
comp=Z,5.7nm,0.6s
BUR08 Bucovina Ar. S 78.15 318 *eP* **P 22 21 30.7 +0.5**
BURAR Bucovina Array 78.16 317↑ *iP* **P 22 21 30.8 +0.6**
YKA Yellowknife Ar 78.22 25 P **P 22 21 30.9 +0.8**
comp=Z,2.7nm,0.6s,baz=300,slow=5.8,SNR=5.6
NB2 NORSAR Subarra 78.31 333 P **P 22 21 30.0 -0.8**
comp=Z,4.4nm,0.5s,baz=53,slow=5.6
NOA NORSAR Array B 78.31 333 P **P 22 21 30.3 -0.5**
comp=Z,4.6nm,0.6s,baz=52,slow=5.6,SNR=15
NOA LR LR 23 02 31.6
comp=Z,48nm,20.1s,baz=300,slow=40
MLR Muntele Rosu 78.67 315↑ *iP* **P 22 21 34.1 +1.0**
MLR Muntele Rosu 78.67 315 *eP* **P 22 21 33.2 0.0**
comp=Z,7.0nm,1.0s
KWP Kalwaria Pacla 78.70 320 *eP* **P 22 21 33.9 +0.8**
STHS Stebnicka Huta 79.64 320 *eP* **P 22 21 38.6 +0.4**
CRVS Cervenica-Dubn 79.76 320 *eP* **P 22 21 42.7 +3.8**
OJC Ojcow 80.05 322 *eP* **P 22 21 41.2 +0.8**
OJC Ojcow 80.05 322 *eP* **P 22 21 40.6 +0.2**
comp=Z,8.2nm,0.6s
NIE Niedzica 80.17 321 *eP* **P 22 21 42.2 +1.1**
SUMG Summit 80.27 356 *iP* **P 22 21 42.6 +1.0**
comp=Z,21nm,0.8s
SUMG Summit 80.27 356 *eP* **P 22 21 42.7 +1.1**
comp=Z,21nm,0.8s
SCO Scoresbysund 80.41 350 *iP* **P 22 21 37.4 -4.5**
comp=Z,45nm,1.2s
KECS Kecovo 80.53 320 *eP* **P 22 21 43.3 +0.3**
LANS Liptovska Anna 80.78 321 *eP* **P 22 21 46.1 +1.7**
SIRR Siria 80.94 317↓ *iP* **P 22 21 45.6 +0.4**
OKC Ostrava-Krasne 81.16 322 *eP* **P 22 21 48.9 +2.6**
BZS Buzias 81.29 317↑ *iP* **P 22 21 47.2 -0.1**
VYHS Vyhne 81.47 320 *eP* **P 22 21 48.7 +0.7**
MDVR Moldovita 81.64 316↑ *iP* **P 22 21 49.3 +0.3**
VTS Vitosha 81.77 314↑ *iP* **P 22 21 50.9 +1.0**
VTS Vitosha 81.77 314 *eP* **P 22 21 50.5 +0.6**
comp=Z,9.3nm,0.7s
DPC Dobruska-Polom 81.88 323 *eP* **P 22 21 51.0 +0.8**
UPC Upice 81.97 323 *eP* **P 22 21 51.4 +0.8**
VRAC Vranov 82.30 322 LR LR 23 03 31.4
comp=Z,72nm,18.6s,baz=351,slow=39
VRAC Vranov 82.30 322↑ *iP* **P 22 21 53.0 +0.7**
PVCC Panska Ves 82.72 324 *eP* **P 22 21 55.5 +1.0**
BRG Berggiesshubel 82.86 324 *iP* **P 22 21 55.4 +0.2**
comp=Z,3.7nm,0.7s
PRU Pruhonice 83.04 323 *eP* **P 22 21 56.8 +0.7**
CLL Collm 83.10 325↓ *iP* **P 22 21 56.7 +0.3**
comp=Z,8.0nm,0.6s
CLL Collm 83.10 325 *eP* **P 22 21 56.2 -0.2**
comp=Z,11nm,1.0s
CONA Conrad Observa 83.46 321 *i* PcP **P 22 21 59.2 +0.7**
comp=Z,4.2nm,0.5s
NKC Novy Kostel 84.01 324 *eP* **P 22 22 01.8 +0.7**
ARSA Arzberg 84.02 321 *iP* **P 22 22 00.7 -0.6**
comp=Z,0.8nm,0.4s
KHC Kasperske Hory 84.04 323 *eP* **P 22 22 02.0 +0.7**
KHC *ePCP* **PcP 22 22 05.4 +0.3**
KHC Kasperske Hory 84.04 323 *eP* **P 22 22 02.1 +0.8**
comp=Z,1.6nm,0.8s
AGG Agios Georgios 84.10 311 *eP* **P 22 22 00.2 -1.6**
comp=Z,26nm,0.8s
GEC2 GERESS Array S 84.14 323 *eP* **P 22 22 01.5 -0.4**
comp=Z,6.8nm,0.8s
GERES GERESS Array B 84.14 323 P **P 22 22 02.4 +0.4**
comp=Z,4.6nm,0.7s,baz=52,slow=5.0,SNR=38
GEA0 GERESS Array S 84.14 323 *eP* **P 22 22 02.1 +0.2**
PDG Podgorica 84.37 315↑ *iP* **P 22 22 03.3 +0.2**
MOA Molln 84.39 321 *i* PcP **P 22 22 04.1 +1.0**
comp=Z,1.7nm,0.6s
SOKA Soboth 84.62 320 *i* PcP **P 22 22 04.7 +0.4**
comp=Z,2.5nm,0.6s
GRFO Grafenberg 84.97 324 *eP* **P 22 22 06.2 +0.2**
comp=Z,22nm,1.1s
OBKA Obir 84.99 320 *i* PcP **P 22 22 06.9 +0.7**
comp=Z,1.7nm,0.4s
KBA Koelnbreinsper 85.35 321 *i* PcP **P 22 22 08.3 +0.2**
comp=Z,5.1nm,0.5s
MYKA Terra Mystica 85.44 321 *iP* **P 22 22 08.3 -0.1**
comp=Z,2.3nm,0.4s
ABTA Abfaltersbach 86.00 321 *i* PcP **P 22 22 11.1 -0.2**
comp=Z,6.3nm,0.6s
WATA Walderalm 86.18 322 *i* PcP **P 22 22 12.7 +0.5**
comp=Z,4.0nm,0.5s
WTTA Wattenberg 86.19 322 *i* PcP **P 22 22 12.8 +0.6**
comp=Z,2.7nm,0.3s
MOTA Moosalm 86.43 322 *i* PcP **P 22 22 13.4 0.0**
comp=Z,3.3nm,0.5s
RETA Reutte 86.53 323 *i* PcP **P 22 22 14.4 +0.6**
comp=Z,2.8nm,0.6s
FETA Feichten 86.83 322 *i* PcP **P 22 22 15.6 +0.2**
comp=Z,1.8nm,0.6s
DAVA Damuels 87.13 323 *i* PcP **P 22 22 17.0 +0.1**
comp=Z,7.4nm,0.6s
FUORN Ofenpass-Fuorn 87.32 322 *eP* **P 22 22 18.5 +0.6**
comp=Z,6.7nm,0.7s
WLF Walferdange 87.57 326 P **P 22 22 18.1 -0.5**
TUE Stuetta 87.92 322 *eP* **P 22 22 20.8 +0.1**
comp=Z,6.6nm,0.7s
AQU L'Aquila 88.04 317 *eP* **P 22 22 22.0 +0.9**
comp=Z,13nm,0.9s
CEL Celeste 88.78 313 *eP* **P 22 22 25.2 +0.5**
comp=Z,15nm,0.7s
PDAR Pinedale Array 93.11 38 P **P 22 22 45.3 +0.4**
comp=Z,0.2nm,0.4s,baz=324,slow=5.6,SNR=3.7
ESDC Sonseca Array 99.67 324 P **Pdif 22 23 14.4 0.0**
comp=Z,0.9nm,0.7s,baz=37,slow=4.0,SNR=4.9

TORD Torodi Ar. Bea 113.87 300 PKiKP **PKiKP 22 28 09.3 -0.3**
comp=Z,0.1nm,0.3s,baz=31,slow=2.9,SNR=8.9

MEX 13 22:11:48.6±0.5, 16.53N×98.66W, h20km±8km, MD3.6,
Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.53**	**105**	*eP*	Pb	22 11 57.1	-2.1
PNIG				*eS*	Sb	22 12 04.6	-1.8
TLIG	**Tlapa**	**1.03**	**5**	*eP*	Pb	22 12 04.4	-3.4
TLIG				*iS*	Sb	22 12 17.2	-3.8
ACX	**Acapulco**	**1.20**	**286**	*eP*	Pb	22 12 11.3	+0.7
ACX				*eS*	Sn	22 12 26.5	+0.4
ACP2	**Acapulco**	**1.23**	**286**	*eP*	Pn	22 12 08.1	-2.6
ACP2				*eS*	Sb	22 12 22.2	-4.4
CAIG	**El Cayaco**	**1.63**	**289**	*eP*	Pn	22 12 12.6	-3.5
CAIG				*eS*	Sn	22 12 31.8	-4.7
MEIG	**Mezcala**	**1.67**	**327**	*eP*	Pn	22 12 14.1	-2.7
MEIG				*iS*	Sn	22 12 33.0	-4.6
YAIG	**Yautepec**	**2.35**	**350**	*eP*	Pn	22 12 24.3	-1.9
YAIG				*eS*	Sn	22 12 51.5	-3.1
ARIG	**Puente Sto Nin**	**2.37**	**317**	*eP*	Pn	22 12 24.5	-2.0
ARIG				*eS*	Sn	22 12 51.5	-3.5

DDA 13 22:17:28.4, 36.04N×27.04E, h7km, Md2.7
ATH 13 22:17:30.0, 36.18N×27.02E, h15km±3km, ML2.2/3, Error ellipse: s-maj=3.6km s-min=1.2km az=99.0
CSEM 13 22:17:31.0±0.2, 36.16N×27.06E, h10km, ML2.2, Error ellipse: s-maj=7.4km s-min=4.3km az=126.0
ISC 13 22:17:29.7±1.1, 36.18N±0.03×27.09E±0.03, h15km±9km,
n22, σ1°40/36, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIS1	**Nisyros Isl.**	**0.42**	**9**	P	**Pg**	**22 17 37.6**	**-0.7**
NIS1	**Nisyros Isl.**	**0.42**	**9**	P	**Pg**	**22 17 37.6**	**-0.7**
KARP	**Karpathos**	**0.64**	**175**	P	**Pb**	**22 17 42.6**	**+0.1**
KARP				S	**Sb**	**22 17 51.1**	**-0.1**
KARP	**Karpathos**	**0.64**	**175**	P	**Pb**	**22 17 42.6**	**+0.1**
KARP				S	**Sb**	**22 17 51.1**	**-0.1**
DAT	**Datca**	**0.67**	**35**	*iP*	**Pn**	**22 17 44.8**	**0.0**
DAT				*iS*	**Sn**	**22 17 56.1**	**+1.0**
DAT	**Datca**	**0.67**	**35**	P	**Pn**	**22 17 44.8**	**0.0**
DAT				S	**Sn**	**22 17 56.1**	**+1.0**
ARG	**Arkhangelos**	**0.84**	**87**	P	**Pn**	**22 17 47.4**	**+0.5**
ARG				S	**Sn**	**22 17 59.0**	**+0.1**
ARG	**Arkhangelos**	**0.84**	**87**	P	**Pn**	**22 17 47.4**	**+0.5**
ARG				S	**Sn**	**22 17 59.0**	**+0.1**
ARG				AML	AML	22 18 01.1	
	comp=N,473μm,0.5s						
ARG				AML	AML	22 18 01.7	
	comp=E,609μm,0.5s						
BDRM	**Kayabasi**	**0.93**	**18**	*iP*	**Pn**	**22 17 49.0**	**+0.8**
BDRM				*iS*	**Sn**	**22 18 03.6**	**+2.4**
BDRM	**Kayabasi**	**0.93**	**18**	P	**Pn**	**22 17 49.0**	**+0.8**
BDRM				S	**Sn**	**22 18 03.7**	**+2.4**
ZKR	**Zakros**	**1.28**	**214**	P	**Pg**	**22 17 55.2**	**+0.8**
ZKR				S	**Sg**	**22 18 10.8**	**-0.3**
ZKR	**Zakros**	**1.28**	**214**	P	**Pg**	**22 17 55.2**	**+0.8**
ZKR				S	**Sg**	**22 18 10.8**	**-0.3**
ZKR				AML	AML	22 18 15.0	
	comp=N,51μm,0.4s						
ZKR				AML	AML	22 18 17.6	
	comp=E,124μm,0.6s						
TURN	**Turunc**	**1.40**	**60**	*iP*	**Pn**	**22 17 51.6**	**-3.0**
TURN				*iS*	**Sn**	**22 18 07.9**	**-4.9**
NPS	**Neapolis**	**1.51**	**233**	P	**Pb**	**22 17 57.7**	**+0.2**
NPS				S	**Sb**	**22 18 16.0**	**-0.5**
NPS	**Neapolis**	**1.51**	**233**	P	**Pb**	**22 17 57.7**	**+0.2**
NPS				S	**Sb**	**22 18 16.0**	**-0.5**
NPS				AML	AML	22 18 22.0	
	comp=E,114μm,0.3s						
NPS				AML	AML	22 18 27.5	
	comp=N,108μm,0.5s						
APE	**Apeiranthos**	**1.54**	**306**	P	**Pg**	**22 17 59.2**	**-0.1**
APE	**Apeiranthos**	**1.54**	**306**	P	**Pg**	**22 17 59.2**	**-0.1**
LAST	**Lasithi**	**1.66**	**233**	P	**Pb**	**22 18 00.0**	**-0.1**
LAST	**Lasithi**	**1.66**	**233**	P	**Pb**	**22 18 00.0**	**-0.1**
FETY	**Fethiye**	**1.67**	**74**	P	**Pg**	**22 18 01.6**	**-0.2**
FETY				S	**Sg**	**22 18 26.2**	**+2.8**
IDI	**Anoyia**	**2.00**	**244**	P	**Pb**	**22 18 04.6**	**-1.3**
IDI	**Anoyia**	**2.00**	**244**	P	**Pb**	**22 18 04.6**	**-1.3**

GUC 13 22:19:11.7±0.4, 32.63S×71.65W, h33km±10km, ML4.2
NEIC 13 22:19:11.0±0.0, 32.63S×71.65W, h33km, mb4.6/2, ML4.2(GUC), After GUC.
NEIC Felt [III] at Concon and [II] at Limache, Puchuncavi and Vina del Mar.
SJA 13 22:19:12.8±0.9, 32.66S×71.58W, h4km±15km, ML4.3, MW4.3
IDC 13 22:19:13.2±3.8, 32.71S×71.71W, h39km±32km, mb3.9/6, mb1 4.0/10, mb1mx3.8/24, mbtmp4.0/10, ML4.3/4, MS3.5/11, Ms1 3.5/11, ms1mx3.4/19, Error ellipse: s-maj=33.2km s-min=18.5km az=91.0
ISC 13 22:19:08.3±1.5, 32.67S±0.03×71.80W±0.05, h6km±9km,
n57, σ1°66/65, mb4.4/8, MS3.7/8, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ROC1	**El Roble**	**0.73**	**115**	*iP*	**Pn**	**22 19 24.7**	**-0.7**
ROC1				*iS*	**Sb**	**22 19 34.3**	**+0.4**
ROCH	**El Roble**	**0.73**	**115**	*eP*	**Pn**	**22 19 24.6**	**-0.8**
ROCH				*eS*	**Sb**	**22 19 34.1**	**+0.2**
PEL	**Peldehue**	**1.05**	**117**	*eP*	**Pn**	**22 19 29.2**	**-0.5**
PEL				*eS*	**Sb**	**22 19 42.5**	**-0.5**
PEL				IAML		22 19 45.6	
	comp=E,14μm,0.3s						
CLCH	**Cerro Calan**	**1.28**	**125**	*eP*	**Pg**	**22 19 33.2**	**+0.2**
CLCH				*eS*	**Sn**	**22 19 49.5**	**-0.9**
CLCH				IAML		22 19 52.4	
	comp=N,9μm,0.4s						
ANTU	**Antumapu**	**1.33**	**133**	*eP*	**Pg**	**22 19 34.0**	**+0.2**
ANTU				*eS*	**Sg**	**22 19 50.8**	**-0.2**
ANTU				IAML		22 19 55.9	
	comp=N,10μm,0.6s						
FSR	**Penalolen**	**1.34**	**128**	*eP*	**Pg**	**22 19 33.9**	**-0.1**
FSR				*eS*	**Sn**	**22 19 51.0**	**-0.8**
FCH	**Farellones**	**1.43**	**118**	*eP*	**Pg**	**22 19 35.7**	**0.0**
FCH				*eS*	**Sb**	**22 19 53.8**	**-0.3**
SJCH	**San Jose de Ma**	**1.55**	**129**	*eP*	**Pg**	**22 19 37.5**	**-0.6**
SJCH				*eS*	**Sb**	**22 19 57.3**	**-0.2**
AUSP	**Uspallata**	**2.09**	**78**	*eP*	**Pg**	**22 19 48.6**	**+0.3**
AUSP				*eS*	**Sg**	**22 20 15.6**	**+0.2**
RTLS	**Leoncito**	**2.29**	**68**	*eP*	**Pg**	**22 19 51.6**	**-0.6**
RTLS				IAML		22 20 02.1	
	comp=Z,728nm,0.3s						
RTLS				*eS*	**Sg**	**22 20 22.6**	**+0.7**
ARCO	**CERRO ARCO**	**2.42**	**95**	*eP*	**Pg**	**22 19 53.7**	**-1.0**
ARCO				*iS*	**Sg**	**22 20 25.8**	**-0.3**
ARCO				IAML		22 20 33.2	
	comp=Z,1μm,0.6s						
ASAL	**Salagasta**	**2.50**	**89**	*eP*	**Pg**	**22 19 55.4**	**-0.9**
ASAL				*eS*	**Sb**	**22 20 25.4**	**+0.6**
AAGR	**Agrelo**	**2.53**	**100**	*eP*	**Pb**	**22 19 55.0**	**+0.8**
RTCV	**Cerro Valdivia**	**2.87**	**75**	*eP*	**Pb**	**22 19 59.9**	**-0.1**
RTCV				*eS*	**Sg**	**22 20 42.9**	**+2.2**
SJA	**San Juan**	**2.97**	**68**	IAML		22 20 56.9	
	comp=Z,714nm,0.5s						
ACCO	**Cerro Coronel**	**3.12**	**49**	*eP*	**Pb**	**22 20 03.3**	**-1.1**
ACCO				*iS*	**Sg**	**22 20 46.6**	**-1.9**
ACCO				IAML		22 20 51.5	
	comp=Z,912nm,0.4s						
RTLL	**Cerro Villicun**	**3.12**	**66**	*eP*	**Pb**	**22 20 03.8**	**-0.5**
RTLL				*iS*	**Sg**	**22 20 49.2**	**+0.6**
RTLL				IAML		22 20 51.0	
	comp=Z,922nm,0.4s						
AROD	**Rodeo**	**3.19**	**39**	*eP*	**Pb**	**22 20 04.2**	**-1.4**
AROD				*eS*	**Sb**	**22 20 44.5**	**-0.2**
AMOG	**MOGNA**	**3.30**	**59**	*eP*	**Pb**	**22 20 04.9**	**-2.4**
LCO	**Las Campanas**	**3.76**	**15**	*eP*	**Pb**	**22 20 14.3**	**-1.0**
LCO				*eS*	**Sb**	**22 21 02.2**	**+0.8**
LCO	**Las Campanas**	**3.76**	**15**	*ePn*	**Pn**	**22 20 09.6**	**+2.5**
LCO				*eS*	**Sb**	**22 21 02.1**	**+0.8**
ACAN	**Cantantal**	**3.92**	**85**	*eP*	**Pn**	**22 20 12.7**	**+3.7**
ACAN				*eS*	**Sb**	**22 21 05.8**	**+0.4**
AVFE	**Valle Fertil**	**4.21**	**63**	*eP*	Pb	22 20 17.3	-5.5
AVFE				*eS*	**Sb**	**22 21 13.9**	**0.0**
AVFE				IAML		22 21 20.0	
	comp=Z,330nm,0.6s						
AGUA	**GUANDACOL**	**4.25**	**43**	*eP*	**Pb**	**22 20 18.9**	**-4.6**
ACHE	**Chepes**	**4.62**	**72**	*eP*	**Pn**	**22 20 22.6**	**+3.9**
ACHE				*eS*	**Sb**	**22 21 19.4**	**-6.3**
VCA	**Vinchina**	**4.99**	**39**	*eP*	Pn	22 20 28.3	+4.4
VCA				IAML		22 21 47.3	
	comp=Z,721nm,0.6s						
APLL	**PUNTA DE LOS L**	**5.04**	**65**	*eP*	**Pn**	**22 20 28.1**	**+3.6**
APLL				*eS*	**Sn**	**22 21 24.6**	**+1.6**
ACLC	**CERRO LA CRUZ**	**5.27**	**53**	*eP*	**Pn**	**22 20 31.4**	**+3.7**
TCA	**Tanti**	**6.26**	**80**	IAML		22 22 16.6	
	comp=Z,152nm,0.6s						
PLCA	**Paso Flores**	**8.11**	**173**	Pn	**Pn**	**22 21 07.1**	**+0.4**
	comp=Z,1.4nm,0.3s,baz=0.3,slow=11,SNR=35						
PLCA				Sn	**Sn**	**22 22 39.8**	**+1.1**
	baz=48,slow=16,SNR=1.8						
PLCA				LR	LR	22 24 21.2	
	comp=Z,207nm,18.4s,baz=350,slow=38						
AHML	**Horco Molle**	**8.12**	**45**	IAML		22 23 27.4	
	comp=Z,37nm,0.6s						
FSA	**Cafayete**	**8.27**	**39**	IAML		22 23 01.4	
	comp=Z,15nm,0.7s						
TRQA	**Tornquist**	**9.65**	**127**	*ePn*	**Pn**	**22 21 28.9**	**+1.1**
	comp=Z,30nm,1.3s						
TRQA				*eS*	Sn	22 23 57.8	+41
LVC	**Limon Verde**	**10.34**	**15**	*ePn*	**Pn**	**22 21 39.5**	**+2.0**
LVC				*eS*	Sn	22 23 45.7	+12
CPUP	**Villa Florida**	**14.09**	**67**	Pn	**Pn**	**22 22 30.0**	**+1.5**
	comp=Z,0.3nm,0.3s,baz=207,slow=12,SNR=3.4						
CPUP				Sn	**Sn**	**22 25 04.1**	**-1.0**
	comp=Z,0.1nm,0.3s,baz=252,slow=20,SNR=2.5						
CPUP				LR	LR	22 28 38.8	
	comp=Z,126nm,20.6s,baz=248,slow=40						
LPAZ	**La Paz**	**16.64**	**12**	Pn	**P**	**22 23 05.0**	**-0.4**
	comp=Z,0.3nm,0.3s,baz=181,slow=9.3,SNR=5.8						
SIV	**San Ignacio**	**19.24**	**33**	P	**Pn**	**22 23 34.7**	**+0.3**
	comp=Z,0.4nm,0.3s,baz=240,slow=11,SNR=4.0						
SIV				LR	LR	22 32 28.8	
	comp=Z,174nm,19.4s,baz=246,slow=41						
NNA	**Nana**	**21.10**	**346**	LR	LR	22 30 50.5	
	comp=Z,73nm,19.6s,baz=173,slow=33						
SAML	**Samuel**	**24.91**	**21**	*eP*	**P**	**22 24 32.3**	**+0.1**
	comp=Z,5.6nm,1.1s						
PMSA	**Palmer Station**	**32.49**	**174**	LR	LR	22 38 34.1	
	comp=Z,112nm,19.2s,baz=10.0,slow=36						
ROSC	**El Rosal**	**37.38**	**356**	LR	LR	22 41 04.0	
	comp=Z,45nm,18.4s,baz=255,slow=35						
SNAA	**Sanae**	**52.74**	**158**	P	**P**	**22 28 22.9**	**-0.7**
	comp=Z,1.7nm,0.7s,baz=277,slow=7.5,SNR=11						
SNAA	**Sanae**	**52.74**	**158**	*eP*	**P**	**22 28 22.6**	**-1.0**
	comp=Z,85nm,0.7s						
QSPA	**South Pole Qui**	**57.57**	**180**	*eP*	**P**	**22 28 58.5**	**-0.1**
	comp=Z,18nm,1.0s						
TXAR	**Lajitas Array**	**68.68**	**330**	P	**P**	**22 30 12.9**	**+0.2**
	comp=Z,0.4nm,1.0s,baz=154,slow=4.9,SNR=2.7						
TXAR				LR	LR	22 54 37.0	
	comp=Z,41nm,19.5s,baz=0.0,slow=31						
MAW	**Mawson**	**74.40**	**164**	P	**P**	**22 30 46.6**	**0.0**
	comp=Z,1.5nm,0.5s,baz=337,slow=2.8,SNR=4.8						
MAW				LR	LR	23 06 01.8	
	comp=Z,34nm,19.2s,baz=241,slow=38						
DBIC	**Dimbokro**	**74.56**	**71**	P	**P**	**22 30 46.5**	**-1.9**
	comp=Z,3.4nm,0.7s,baz=244,slow=6.3,SNR=3.9						
DBIC				LR	LR	23 00 53.8	
	comp=Z,43nm,19.6s,baz=266,slow=34						
BOSA	**Boshof**	**80.51**	**118**	P	**P**	**22 31 21.6**	**-0.2**
	comp=Z,2.0nm,0.7s,baz=207,slow=4.2,SNR=5.4						
BOSA				LR	LR	23 04 45.8	
	comp=Z,38nm,18.1s,baz=234,slow=34						
TORD	**Torodi Ar. Bea**	**83.57**	**70**	P	**P**	**22 31 37.7**	**0.0**
	comp=Z,2.4nm,0.8s,baz=238,slow=3.1,SNR=18						
RPZ	**Rata Peaks**	**84.79**	**220**	LR	LR	23 00 50.3	
	comp=Z,64nm,19.8s,baz=3.0,slow=29						
H11S2	**WAKE ISLAND Hyl**	**25.98**	**270**	T	T	00 57 10.1	
	baz=118,slow=75,SNR=106						
H11S1	**WAKE ISLAND Hyl**	**26.00**	**270**	T	T	00 57 13.5	
	baz=118,slow=75,SNR=193						
H11S3	**WAKE ISLAND Hyl**	**26.00**	**270**	T	T	00 57 09.3	
	baz=118,slow=75,SNR=113						
H11N3	**WAKE ISLAND Hyl**	**26.36**	**271**	T	T	00 57 37.9	
	baz=117,slow=76,SNR=24						
H11N1	**WAKE ISLAND Hyl**	**26.38**	**271**	T	T	00 57 37.1	
	baz=117,slow=76,SNR=21						
H11N2	**WAKE ISLAND Hyl**	**26.38**	**271**	T	T	00 57 36.0	
	baz=117,slow=76,SNR=47						
ZALV	**Zalesovo Beam**	**152.99**	**31**	PKPbc	**PKPbc**	**22 39 06.2**	**+0.2**
	comp=Z,3.6nm,0.6s,baz=306,slow=2.9,SNR=18						

CSEM 13 22:31:42.7, 39.61N×29.74W, h10km, ML2.6
PDA 13 22:31:42.7±0.7, 39.61N×29.74W, h10km, MD3.5, ML2.6,
Error ellipse: s-maj=17.0km s-min=5.9km az=54.0,
Azores Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CALA	**Caldeira**	**1.30**	**142**	*eP*	Pn	22 32 02.4	-4.6
CALA				*eS*	Sb	22 32 16.7	-7.4
CALA	**Caldeira**	**1.30**	**142**	*eP*	Pn	22 32 02.4	-4.6
CALA				*eS*	Sb	22 32 16.7	-7.4
HOR	**Horta**	**1.38**	**141**	*eS*	Sb	22 32 19.0	-7.3
HOR				A	A	22 32 20.1	
	107nm,0.1s						
HOR	**Horta**	**1.38**	**141**	*eS*	Sb	22 32 19.0	-7.3
ROSA	**Rosais**	**1.46**	**127**	*eS*	Sn	22 32 20.7	-7.6
ROSA				A	A	22 32 20.9	
	24nm,0.2s						
ROSA	**Rosais**	**1.46**	**127**	*eS*	Sn	22 32 20.7	-7.6
PCAN	**Candelaria**	**1.50**	**139**	*eP*	Pn	22 32 04.9	-4.8
PCAN				*eS*	Sn	22 32 21.9	-7.4
PCAN				A	A	22 32 24.6	
	70nm,0.1s						
PCAN	**Candelaria**	**1.50**	**139**	*eP*	Pn	22 32 04.9	-4.8
PCAN				*eS*	Sn	22 32 21.9	-7.4
PICO	**Pico**	**1.50**	**137**	*eP*	Pn	22 32 05.2	-4.6
PICO				*eS*	Sn	22 32 22.0	-7.5
PICO				A	A	22 32 22.9	
	68nm,0.2s						
PICO	**Pico**	**1.50**	**137**	*eP*	Pn	22 32 05.2	-4.6
PICO				*eS*	Sn	22 32 22.0	-7.5

CSEM 13 22:40:49.3, 39.56N×29.76W, h10km, ML2.6
**PDA 13 22:40:49.3±1.2, 39.56N×29.76W, h10km, MD3.6, ML2.

ISC 13 22:43:49.4±0.7, 28°35S±0.10×179°0W±0.1, h300km, n20, σ2.39/21, mb3.8/5, 1C, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**1.33**	**133**	P	**Pn**	**22 44 33.5**	**+2.1**
	84nm,0.3s,baz=90,slow=20,SNR=5.2						
RAO				S	**S**	**22 45 09.3**	**+4.5**
	152nm,0.3s,baz=66,slow=19,SNR=4.2						
URZ	**Urewera**	**10.40**	**197**	P	**Pn**	**22 46 13.1**	**+0.9**
	3.0nm,0.3s,baz=273,slow=5.5,SNR=42						
URZ				S	**S**	**22 48 06.6**	**-2.5**
	3.5nm,0.3s,baz=241,slow=24,SNR=13						
AFI	**Afiamalu**	**15.87**	**27**	P	**P**	**22 47 13.0**	**-3.1**
	5.7nm,0.3s,baz=208,slow=0.8,SNR=5.9						
CTA	**Charters Tower**	**32.62**	**277**	P	**P**	**22 49 55.9**	**+2.0**
	3.2nm,0.4s,baz=102,slow=12,SNR=5.9						
ASAR	**Alice Springs**	**42.35**	**265**	P	**P**	**22 51 15.8**	**+0.9**
	1.7nm,0.6s,baz=96,slow=7.4,SNR=14						
WRA	**Warramunga Arr**	**43.15**	**271**	P	**P**	**22 51 21.9**	**+0.5**
	2.6nm,0.4s,baz=110,slow=7.7,SNR=29						
VNDA	**Vanda**	**50.05**	**185**	P	**P**	**22 52 13.7**	**+0.1**
	0.7nm,0.6s,baz=6.8,slow=9.3,SNR=5.3						
MAW	**Mawson**	**73.91**	**201**	P	**P**	**22 54 50.9**	**-0.5**
	1.4nm,0.6s,baz=134,slow=9.8,SNR=5.5						
SYO	**Syowa Base**	**78.91**	**193**	*eP*	**P**	**22 55 16.7**	**-2.6**
SNAA	**Sanae**	**80.22**	**179**	P	**P**	**22 55 24.9**	**-1.6**
VNA3	**Neumayer Olymp**	**80.41**	**177**	P	**P**	**22 55 25.6**	**-1.8**
VNA2	**Neumayer--Watz**	**80.83**	**177**	P	**P**	**22 55 28.4**	**-1.2**
	baz=182,slow=4.3						
VNA1	**Neumayer--Stat**	**81.06**	**177**	P	**P**	**22 55 29.6**	**-1.2**
KURBB	**Kurchatov Arra**	**119.02**	**315**	PKhKP	PKPpre	23 01 56.8	
	0.2nm,0.2s,baz=96,slow=1.9,SNR=5.1						
BVAR	**Borovoye Array**	**124.30**	**317**	PKP	**PKPdf**	**23 02 08.3**	**-3.9**
	0.5nm,0.5s,baz=85,slow=3.0,SNR=3.4						
AKASG	**Malin Array Be**	**149.12**	**324**	PKPbc	**PKPdf**	**23 02 59.5**	**+2.1**
	1.5nm,0.5s,baz=50,slow=2.9,SNR=4.8						
MMAI	**Mount Meron Ar**	**150.11**	**288**	PKPbc	**PKPbc**	**23 03 04.6**	**-0.4**
	3.9nm,0.7s,baz=74,slow=7.5,SNR=11						
EIL	**Elat**	**150.31**	**281**	PKPbc	**PKPbc**	**23 03 04.4**	**-1.2**
	2.6nm,0.6s,baz=355,slow=11,SNR=4.9						
BRTR	**Keskin Array B**	**150.80**	**301**	PKPbc	**PKPdf**	**23 03 04.6**	**+3.9**
	0.6nm,0.6s,baz=132,slow=5.2,SNR=4.2						
TORD	**Torodi Ar. Bea**	**164.86**	**183**	PKPab	**PKPab**	**23 04 14.1**	**-1.8**
	1.0nm,0.7s,baz=149,slow=1.8,SNR=9.5						

IDC 13 22:44:34.7±7.4, 21°70S×169°69E, h71km±50km, mb3.8/3, mb1 4.0/4, mb1mx3.6/31, mbtmp4.1/4, ML4.2/1, MS3.1/2, Ms1 3.1/2, ms1mx2.7/25, Error ellipse: s-maj=78.6km s-min=47.2km az=151.0, Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**3.03**	**262**	P	Pn	22 45 21.0	+0.6
	31nm,0.3s,baz=84,slow=11,SNR=512						
DZM				LR	LR	22 45 55.3	
	comp=Z,114nm,21.0s,baz=30,slow=27						
DZM				S	Sn	22 45 56.0	+0.3
	49nm,0.3s,baz=158,slow=23,SNR=12						
STKA	**Stephens Creek**	**26.97**	**242**	P	P	22 50 08.5	-1.4
	1.6nm,0.7s,baz=95,slow=1.1,SNR=7.1						
ASAR	**Alice Springs**	**33.02**	**260**	P	P	22 51 04.8	+1.3
	1.6nm,0.6s,baz=82,slow=8.8,SNR=12						
WRA	**Warramunga Arr**	**33.04**	**267**	P	P	22 51 03.8	+0.1
	0.7nm,0.3s,baz=97,slow=8.0,SNR=9.8						
PMSA	**Palmer Station**	**84.47**	**160**	LR	LR	23 32 06.0	
	comp=Z,28nm,19.3s,baz=126,slow=34						
GERES	**GERESS Array B**	**146.84**	**331**	PKPbc	PKPdf	23 04 07.8	+0.8
	0.3nm,0.5s,baz=4.2,slow=4.0,SNR=3.3						

IDC 13 22:49:36.1±9.3, 7°64S×128°03E, h144km±92km, mb3.5/4, mb1 3.6/7, mb1mx3.3/44, mbtmp4.0/7, Error ellipse: s-maj=106.9km s-min=27.5km az=53.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**10.65**	**192**	P	Pn	22 52 05.4	+0.5
	1.6nm,0.3s,baz=12,slow=13,SNR=74						
FITZ				S	Sn	22 53 59.1	-3.6
	1.0nm,0.3s,baz=103,slow=19,SNR=5.8						
WRA	**Warramunga Arr**	**13.67**	**154**	P	Pn	22 52 42.3	-1.8
	0.8nm,0.3s,baz=322,slow=13,SNR=18						
WRA				S	Sn	22 55 04.5	-11
	1.6nm,0.3s,baz=333,slow=22,SNR=9.3						
ASAR	**Alice Springs**	**16.90**	**161**	P	Pn	22 53 25.6	+1.4
	0.4nm,0.3s,baz=338,slow=11,SNR=15						
ASAR				S	S	22 56 21.1	-12
	0.2nm,0.3s,baz=324,slow=22,SNR=3.4						
STKA	**Stephens Creek**	**27.23**	**154**	P	P	22 55 06.3	-0.3
	0.9nm,0.5s,baz=320,slow=16,SNR=3.6						
ZALV	**Zalesovo Beam**	**71.31**	**335**	P	P	23 00 39.3	-0.4
	1.2nm,0.8s,baz=120,slow=6.0,SNR=4.4						
KURBB	**Kurchatov Arra**	**72.05**	**329**	P	P	23 00 44.8	+0.5
	1.7nm,0.7s,baz=130,slow=5.0,SNR=27						
BVAR	**Borovoye Array**	**77.57**	**329**	P	P	23 01 15.4	-0.6
	0.4nm,0.5s,baz=122,slow=11,SNR=3.8						

*CSEM **13** 23:01:58.7, 39°56N×29°72W, h10km, ML2.7*
PDA 13 23:01:58.7±1.0, 39°56N×29°72W, h10km, MD3.6, ML2.7, Error ellipse: s-maj=23.5km s-min=8.3km az=54.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PCED	**Cedros**	**1.22**	**139**	*eS*	Sb	23 02 30.9	-6.7
PCED				A	A	23 02 31.7	
	47nm,0.3s						
PCED	**Cedros**	**1.22**	**139**	*eS*	Sb	23 02 30.9	-6.7
CALA	**Caldeira**	**1.26**	**141**	*eP*	Pn	23 02 18.4	-4.0
CALA				*eS*	Sb	23 02 31.9	-6.9
CALA	**Caldeira**	**1.26**	**141**	*eP*	Pn	23 02 18.4	-4.0
CALA				*eS*	Sb	23 02 31.9	-6.9
HOR	**Horta**	**1.33**	**140**	*eS*	Sb	23 02 33.8	-7.1
HOR				A	A	23 02 35.4	
	121nm,0.2s						
HOR	**Horta**	**1.33**	**140**	*eS*	Sb	23 02 33.8	-7.1
ROSA	**Rosais**	**1.42**	**126**	*eS*	Sn	23 02 35.8	-7.5
ROSA				A	A	23 02 38.2	
	9.4nm,0.1s						
ROSA	**Rosais**	**1.42**	**126**	*eS*	Sn	23 02 35.8	-7.5
PCAN	**Candelaria**	**1.46**	**138**	*eP*	Pn	23 02 20.1	-5.0
PCAN				*eS*	Sn	23 02 36.6	-7.6
PCAN				A	A	23 02 38.3	
	72nm,0.2s						
PCAN	**Candelaria**	**1.46**	**138**	*eP*	Pn	23 02 20.1	-5.0
PCAN				*eS*	Sn	23 02 36.6	-7.6
PICO	**Pico**	**1.46**	**136**	*eP*	Pn	23 02 20.3	-4.9
PICO				*eS*	Sn	23 02 37.0	-7.4
PICO				A	A	23 02 39.6	
	92nm,0.3s						
PICO	**Pico**	**1.46**	**136**	*eP*	Pn	23 02 20.3	-4.9
PICO				*eS*	Sn	23 02 37.0	-7.4

*IDC **13** 23:18:25.9±1.0, 24°25S×179°92E, h507km±9km, mb3.8/19, mb1 4.0/19, mb1mx3.8/37, mbtmp4.6/19, Error ellipse: s-maj=13.4km s-min=10.2km az=41.0*
*ISCJB **13** 23:18:26.5±0.2, 24°34S±0.04×179°76E±0.04, h517km, mb4.4/77, Error ellipse: s-maj=6.4km s-min=4.8km az=143.5*
*NEIC **13** 23:18:27.5±0.5, 24°32S×179°77E, h521km±5km, mb4.5/61, Error ellipse: s-maj=6.3km s-min=4.4km az=158.0*
ISC 13 23:18:26.9±0.3, 24°37S±0.06×179°90E±0.07, h517km, n226, σ0.86/249, mb4.4/77, 21C-3D, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**5.24**	**159**	P	**P**	**23 19 57.5**	**+0.7**
	180nm,0.3s,baz=109,slow=7.1,SNR=7.5						
RAO				S	**S**	**23 21 09.9**	**-0.5**
	70nm,0.3s,baz=270,slow=20,SNR=2.4						
RAO	**Raoul Island**	**5.24**	**159**	*eP*	**P**	**23 19 57.2**	**+0.3**
RAO				S	**S**	**23 21 09.9**	**-0.5**
MSVF	**Nonsavu**	**6.82**	**345**	*eP*	**P**	**23 20 11.2**	**-0.9**
DZM	**Mont Dzumac**	**12.58**	**278**	P	**P**	**23 21 13.3**	**+1.6**
	2.7nm,0.3s,baz=89,slow=14,SNR=23						
DZM	**Mont Dzumac**	**12.58**	**278**	*eP*	**P**	**23 21 12.1**	**+0.4**
	67nm,0.9s						
URZ	**Urewera**	**14.05**	**189**	P	**P**	**23 21 23.3**	**-3.4**
	7.5nm,0.3s,baz=348,slow=1.5,SNR=29						
URZ				S	**S**	**23 23 54.4**	**-0.6**
	3.1nm,0.3s,baz=199,slow=23,SNR=16						
URZ	**Urewera**	**14.05**	**189**	*eP*	**P**	**23 21 26.5**	**-0.2**
URZ				S	**S**	**23 23 54.4**	**-0.6**
EIDS	**Eidsvold**	**26.15**	**262**	*eP*	**P**	**23 23 20.5**	**+0.8**
	49nm,1.6s						
TARA	**Tarawa**	**26.45**	**344**	*eP*	**P**	**23 23 21.1**	**-1.2**
	3.7nm,0.6s						
CTA	**Charters Tower**	**31.39**	**271**	P	**P**	**23 24 06.0**	**+0.7**
	40nm,0.4s,baz=93,slow=11,SNR=104						
CTAO	**Charters Tower**	**31.39**	**271**	*eP*	**P**	**23 24 06.0**	**+0.7**
	48nm,0.5s						
STKA	**Stephens Creek**	**34.47**	**249**	P	**P**	**23 24 31.2**	**-0.1**
	3.5nm,0.5s,baz=95,slow=10,SNR=15						
PMG	**Port Moresby**	**34.56**	**290**	P	**P**	**23 24 32.3**	**0.0**
	29nm,0.6s,baz=114,slow=7.5,SNR=7.6						
PMG	**Port Moresby**	**34.56**	**290**	*eP*	**P**	**23 24 31.9**	**-0.4**
	39nm,0.8s						
COEN	**Coen**	**36.10**	**280**	*eP*	**P**	**23 24 45.4**	**+0.3**
	9.3nm,0.4s						
BBOO	**Buckleboo**	**39.18**	**247**	*eP*	**P**	**23 25 09.4**	**-0.7**
	8.0nm,0.3s						
AS01	**Alice Springs**	**41.83**	**261**	*eP*	**P**	**23 25 31.0**	**-0.4**
AS01				*ePcP*	**PcP**	**23 27 14.4**	**-1.0**
ASAR	**Alice Springs**	**41.87**	**261**	P	**P**	**23 25 31.6**	**-0.2**
	4.9nm,0.4s,baz=93,slow=7.6,SNR=75						
ASAR				PcP	**PcP**	**23 27 14.3**	**-1.3**
	2.4nm,0.8s,baz=88,slow=6.5,SNR=5.9						
ASAR				ScP	**ScP**	**23 30 18.0**	**+1.4**
	4.0nm,1.0s,baz=120,slow=4.4,SNR=9.9						
WRAB	**Tennant Creek**	**42.28**	**267**	*eP*	**P**	**23 25 33.9**	**-1.0**
	13nm,0.5s						
WRA	**Warramunga Arr**	**42.29**	**267**	P	**P**	**23 25 34.3**	**-0.7**
	8.9nm,0.3s,baz=98,slow=8.3,SNR=230						
WRA				ScP	**ScP**	**23 30 19.9**	**+1.6**
	13nm,1.1s,baz=102,slow=4.2,SNR=15						
JAY	**Jayapura**	**43.62**	**294**	P	**P**	**23 25 45.0**	**-0.6**
	1.7nm,0.6s,baz=279,slow=24,SNR=11						
FORT	**Forrest**	**46.07**	**250**	*eP*	**P**	**23 26 02.7**	**-1.4**
	230nm,0.7s						
FAKI	**Fak Fak**	**50.63**	**287**	*eP*	**P**	**23 26 37.8**	**-0.6**
FITZ	**Fitzroy Crossi**	**50.70**	**266**	P	**P**	**23 26 38.3**	**-0.6**
	6.8nm,0.5s,baz=75,slow=4.7,SNR=32						
FITZ	**Fitzroy Crossi**	**50.70**	**266**	*eP*	**P**	**23 26 38.5**	**-0.3**
	19nm,1.0s						
SBA	**Scott Base**	**53.91**	**183**	*eP*	**P**	**23 27 03.6**	**+2.7**
	15nm,0.8s						
VNDA	**Vanda**	**53.91**	**185**	P	**P**	**23 27 02.4**	**+1.5**
	1.4nm,0.5s,baz=356,slow=5.7,SNR=7.3						
VNDA				PcP	**PcP**	**23 27 58.5**	**+0.3**
	2.3nm,0.7s,baz=351,slow=3.1,SNR=6.7						
VNDA				ScP	**ScP**	**23 31 05.7**	**-0.8**
	0.7nm,0.6s,baz=11,slow=5.2,SNR=3.8						
VNDA	**Vanda**	**53.91**	**185**	*eP*	**P**	**23 27 02.8**	**+1.8**
	2.9nm,0.8s						
VNDA				PcP	**PcP**	**23 27 58.5**	**+0.3**
VNDA				ScP	**ScP**	**23 31 05.7**	**-0.8**
SOEI	**Soe**	**54.80**	**275**	*eP*	**P**	**23 27 09.2**	**+0.8**
MBWA	**Marble Bar**	**55.20**	**260**	*eP*	**P**	**23 27 10.1**	**-0.9**
QSPA	**South Pole Qui**	**65.72**	**180**	*eP*	**P**	**23 28 20.7**	**+0.7**
	170nm,1.1s						
KKM	**Koro Kinabalu**	**68.95**	**287**	*eP*	**P**	**23 28 40.3**	**-0.3**
	5.5nm,0.5s						
MJAR	**Matsushiro Arr**	**72.23**	**326**	P	**P**	**23 28 59.0**	**-0.4**
	2.9nm,0.8s,baz=155,slow=5.7,SNR=8.4						
MAJO	**Matsushiro**	**72.23**	**326**	*eP*	**P**	**23 28 59.1**	**-0.3**
	3.3nm,0.5s						
MAW	**Mawson**	**77.28**	**200**	P	**P**	**23 29 28.1**	**+0.9**
	7.6nm,0.6s,baz=144,slow=6.2,SNR=26						
MAW	**Mawson**	**77.28**	**200**	*eP*	**P**	**23 29 28.5**	**+1.2**
	1.8nm,0.6s						
PMSA	**Palmer Station**	**78.52**	**157**	P	**P**	**23 29 34.7**	**+0.7**
	11nm,0.9s,baz=251,slow=3.9,SNR=5.2						
KSRS	**Korea Array**	**78.55**	**320**	P	**P**	**23 29 34.4**	**-0.1**
	1.3nm,0.7s,baz=135,slow=5.4,SNR=6.4						
KSAR	**Wonju Array Be**	**78.56**	**320**	P	**P**	**23 29 34.4**	**-0.2**
USRK	**Ussuriysk Ar.**	**81.11**	**327**	P	**P**	**23 29 47.0**	**-0.8**
	1.1nm,0.4s,baz=107,slow=7.7,SNR=5.5						
IPM	**Ipoh**	**81.75**	**279**	*eP*	**P**	**23 29 51.6**	**-0.3**
	7.6nm,0.6s						
SYO	**Syowa Base**	**82.54**	**193**	*eP*	**P**	**23 29 53.4**	**-1.4**
MURC	**Murrieta**	**83.07**	**48**	P	**P**	**23 29 58.6**	**+0.5**
	baz=235						
SLBS	**Sierra La Lagu**	**83.11**	**60**	*eP*	**P**	**23 29 59.9**	**+1.3**
	16nm,0.7s						
BFSC	**Mount Baldy Ra**	**83.12**	**48**	P	**P**	**23 29 59.0**	**+0.5**
	baz=234						
MONP	**Monument Peak,**	**83.19**	**49**	P	**P**	**23 29 59.8**	**+0.8**
	baz=235,SNR=6.3						
IKP	**In-Ko-Pah, Jac**	**83.28**	**50**	P	**P**	**23 30 00.1**	**+0.9**
	baz=236,SNR=5.7						
KHMM	**Horse Mountain**	**83.36**	**39**	*eP*	**P**	**23 30 01.1**	**+1.6**
	7.7nm,0.9s						
ISA	**Isabella, Lake**	**83.41**	**46**	P	**P**	**23 30 00.5**	**+0.7**
	baz=234						
ISA	**Isabella, Lake**	**83.41**	**46**	*eP*	**P**	**23 30 00.6**	**+0.7**
	11nm,0.8s						
CMB	**Columbia Colle**	**83.60**	**43**	*eP*	**P**	**23 30 00.8**	**+0.2**
	57nm,1.1s						
KRMB	**Red Mountain**	**83.68**	**39**	*eP*	**P**	**23 30 02.7**	**+1.6**
	7.5nm,0.9s						
AFDM	**Forest Hills D**	**83.80**	**42**	*eP*	**P**	**23 30 02.5**	**+0.8**
	7.7nm,0.9s						
LRMC	**Laurel Mtn Rad**	**83.82**	**47**	P	**P**	**23 30 02.7**	**+0.8**
	baz=234						
ORV	**Oroville**	**83.85**	**42**	*eP*	**P**	**23 30 02.3**	**+0.5**
	9.1nm,1.0s						
WDC	**Whiskeytown Da**	**83.87**	**40**	*eP*	**P**	**23 30 02.9**	**+1.0**
	9.5nm,1.0s						
N02D	**Trinity Center**	**84.02**	**40**	P	**P**	**23 30 03.8**	**+1.1**
	baz=231,SNR=6.8						
BELC	**Belle Mtn. Jos**	**84.11**	**49**	P	**P**	**23 30 04.1**	**+0.7**
	baz=236,SNR=9.0						
CWC	**Cottonwood Cre**	**84.12**	**46**	P	**P**	**23 30 03.6**	**+0.1**
	baz=234						
M02C	**Callahan**	**84.20**	**39**	P	**P**	**23 30 04.9**	**+1.3**
	baz=230,SNR=8.0						
SNAA	**Sanae**	**84.20**	**179**	P	**P**	**23 30 02.8**	**-0.4**
SNAA	**Sanae**	**84.20**	**179**	P	**P**	**23 30 02.9**	**-0.3**
	4.2nm,0.6s,baz=206,slow=7.8,SNR=41						
SNAA	**Sanae**	**84.20**	**179**	*eP*	**P**	**23 30 03.0**	**-0.2**
L02D	**Cave Junction,**	**84.26**	**39**	P	**P**	**23 30 04.7**	**+0.9**
	baz=230						
MPMC	**Manual Prospec**	**84.29**	**46**	P	**P**	**23 30 04.6**	**+0.3**
	baz=234,SNR=5.7						
GSC	**Goldstone, Bar**	**84.31**	**47**	P	**P**	**23 30 04.7**	**+0.4**
	baz=235						
HEC	**Hector,Ludlow**	**84.35**	**48**	P	**P**	**23 30 04.9**	**+0.3**
	baz=235,SNR=7.3						
GLA	**Glamis**	**84.39**	**50**	P	**P**	**23 30 05.8**	**+1.1**
	baz=236						
VNA3	**Neumayer Olymp**	**84.42**	**177**	P	**P**	**23 30 03.5**	**-0.7**
WAKR	**Walker**	**84.48**	**43**	*eP*	**P**	**23 30 06.3**	**+1.1**
	7.0nm,0.9s						
PNTR	**Pine Nut**	**84.73**	**43**	*eP*	**P**	**23 30 07.5**	**+1.0**
	11nm,1.0s						
GMRC	**Granite Mounta**	**84.78**	**48**	P	**P**	**23 30 07.3**	**+0.6**
	baz=236,SNR=5.3						
IRM	**Iron Mountain**	**84.79**	**49**	P	**P**	**23 30 07.7**	**+1.0**
	baz=236,SNR=7.0						
VNA2	**Neumayer--Watz**	**84.83**	**178**	P	**P**	**23 30 06.3**	**+0.1**
	baz=184,slow=3.7						
YERR	**Yerington**	**84.89**	**43**	*eP*	**P**	**23 30 07.9**	**+0.7**
	7.5nm,1.1s						
GRAC	**Grapevine Rang**	**84.91**	**46**	P	**P**	**23 30 08.0**	**+0.8**
	baz=234						
HUMO	**Hull Mountain**	**84.92**	**39**	*eP*	**P**	**23 30 07.8**	**+0.8**
	12nm,1.3s						
TUQ	**Turquoise Moun**	**84.97**	**48**	P	**P**	**23 30 08.0**	**+0.4**
	baz=236,SNR=5.5						
Y12C	**Blythe**	**84.99**	**50**	P	**P**	**23 30 08.2**	**+0.7**
	baz=236						
Y12C	**Blythe**	**84.99**	**50**	*eP*	**P**	**23 30 08.9**	**+1.4**
	10nm,1.0s						
SHOC	**Shoshone, Teco**	**85.00**	**47**	P	**P**	**23 30 08.1**	**+0.5**
	baz=235						
M04C	**Macdoel**	**85.04**	**40**	P	**P**	**23 30 08.4**	**+0.7**
	baz=231						
HSIG		**85.05**	**55**	*eP*	**P**	**23 30 09.0**	**+1.1**
	14nm,0.8s						
VNA1	**Neumayer--Stat**	**85.07**	**177**	P	**P**	**23 30 07.5**	**+0.1**
214A	**Organ Pipe Nat**	**85.23**	**52**	P	**P**	**23 30 09.0**	**+0.2**
	baz=238						
PAHR	**Pah Rah Range**	**85.23**	**42**	*eP*	**P**	**23 30 09.5**	**+0.7**
	4.1nm,1.0s						
I03D	**Drain, OR**	**85.40**	**37**	P	**P**	**23 30 09.9**	**+0.7**
	baz=230,SNR=6.1						
PDMCI	**Parker Dam,Lak**	**85.56**	**49**	P	**P**	**23 30 11.1**	**+0.8**
	baz=237						
TPNV	**Topopah Spring**	**85.62**	**46**	P	**P**	**23 30 11.2**	**+0.5**
	baz=235,SNR=6.4						
TPNV	**Topopah Spring**	**85.62**	**46**	*eP*	**P**	**23 30 11.6**	**+0.8**
	5.5nm,0.8s						
J04D	**Umpqua Nationa**	**85.80**	**38**	P	**P**	**23 30 12.6**	**+1.1**
	baz=231						
I04A	**Tendick Farm,**	**85.98**	**38**	P	**P**	**23 30 12.5**	**+0.3**
	baz=231						
MOD	**Modoc Plateau**	**86.01**	**40**	*eP*	**P**	**23 30 12.6**	**+0.1**
	4.3nm,0.8s						
K05A	**Summer Lake**	**86.18**	**39**	*eP*	**P**	**23 30 14.1**	**+0.8**
	11nm,1.0s						
J05D	**Fort Rock, OR**	**86.33**	**39**	P	**P**	**23 30 14.8**	**+0.8**
	baz=232,SNR=9.0						
G03D	**McMinnville, O**	**86.42**	**36**	P	**P**	**23 30 15.5**	**+1.4**
	baz=230						
R11A	**Troy Canyon, C**	**86.84**	**45**	P	**P**	**23 30 16.9**	**+0.3**
	baz=236						
TUC	**Tucson**	**86.87**	**53**	P	**P**	**23 30 18.0**	**+1.3**
	baz=239						
TUC	**Tucson**	**86.87**	**53**	*eP*	**P**	**23 30 18.5**	**+1.8**
	14nm,0.9s						
GYA	**Guiyang**	**86.91**	**301**	*eP*	**P**	**23 30 18.9**	**+1.9**
GYA				pP	pP	23 32 11.3	+0.4
GYA				sP	sP	23 33 02.0	-1.4
GYA				PP	**PP**	**23 33 52.8**	**+3.1**
GYA				SKS	**SKSac**	**23 39 54.6**	**-0.4**
GYA				S	**S**	**23 40 14.3**	**+2.0**
GYA				pmax	pmax		
	comp=Z,10.0nm,1.0s						
I05D	**Terrebonne, OR**	**86.92**	**38**	P	**P**	**23 30 17.4**	**+0.8**
	baz=231						
BMN	**Battle Mountai**	**87.00**	**43**	*eP*	**P**	**23 30 17.9**	**+0.7**
	comp=Z,8.2nm,1.1s						
WVOR	**Wild Horse Val**	**87.32**	**41**	*eP*	**P**	**23 30 19.6**	**+0.9**
	comp=Z,12nm,1.2s						
G05D	**Wamic, OR**	**87.50**	**37**	P	**P**	**23 30 19.9**	**+0.6**
	baz=231						
X16A	**Lo Mia Camp, P**	**87.50**	**50**	*eP*	**P**	**23 30 21.2**	**+1.4**
	comp=Z,8.1nm,1.1s						
LCMT	**Little Creek M**	**87.65**	**47**	*eP*	**P**	**23 30 21.4**	**+1.1**
	comp=Z,4.9nm,0.9s						
KNB	**Kanab**	**87.94**	**48**	*eP*	**P**	**23 30 23.0**	**+1.3**
	comp=Z,17nm,1.5s						
U15A	**North Rim**	**87.98**	**48**	*eP*	**P**	**23 30 23.1**	**+1.0**
PLCA	**Paso Flores**	**88.00**	**134**	P	**P**	**23 30 22.0**	**0.0**
	comp=Z,1.8nm,0.8s,baz=249,slow=8.6,SNR=5.8						
PLCA	**Paso Flores**	**88.00**	**134**	*eP*	**P**	**23 30 23.1**	**+1.1**
	comp=Z,20nm,1.5s						
SZCU	**Shurtz Canyon**	**88.07**	**47**	*eP*	**P**	**23 30 23.7**	**+1.3**
	comp=Z,4.6nm,0.9s						
HPIG		**88.07**	**59**	*eP*	**P**	**23 30 22.7**	**+0.1**
	comp=Z,9.1nm,0.8s						
WUAZ	**Wupatki**	**88.13**	**50**	P	**P**	**23 30 23.3**	**+0.7**
	baz=238						
WUAZ	**Wupatki**	**88.13**	**50**	*eP*	**P**	**23 30 23.4**	**+0.7**
	comp=Z,6.7nm,1.1s						
LON	**Longmire**	**88.18**	**36**	*eP*	**P**	**23 30 22.9**	**+0.4**
	comp=Z,4.1nm,0.8s						
D05A	**Enumclaw**	**88.36**	**35**	*eP*	**P**	**23 30 24.8**	**+1.6**
	comp=Z,22nm,1.1s						
PKCU	**Pink Cliffs**	**88.51**	**47**	*eP*	**P**	**23 30 26.6**	**+2.0**
	comp=Z,6.9nm,0.4s						
X18A	**Snowflake**	**88.61**	**51**	*eP*	**P**	**23 30 25.4**	**+0.5**
A04D	**Lummi Island**	**88.97**	**34**	P	**P**	**23 30 27.1**	**+1.2**
	baz=230						
B05A	**Bryant**	**88.99**	**35**	P	**P**	**23 30 26.8**	**+0.7**
	baz=231						
W18A	**Petrified Fore**	**89.07**	**51**	P	**P**	**23 30 27.8**	**+0.7**
	baz=239						
MSU	**Marysvale**	**89.17**	**47**	*eP*	**P**	**23 30 28.9**	**+1.4**
MFID	**Camas Ranch**	**89.57**	**41**	*eP*	**P**	**23 30 29.5**	**+0.4**
	comp=Z,10nm,0.9s						
CMAR	**Chiang Mai Arr**	**89.60**	**290**	P	**P**	**23 30 29.3**	**-0.3**
	comp=Z,0.8nm,0.5s,baz=131,slow=4.0,SNR=4.0						
DUG	**Dugway, Tooele**	**89.66**	**45**	P	**P**	**23 30 30.3**	**+0.7**
	baz=237						
TMUT	**Trail Mountain**	**90.22**	**46**	*eP*	**P**	**23 30 33.8**	**+1.4**
	comp=Z,14nm,0.8s						
F10A	**Beach Ranch, E**	**90.23**	**38**	*eP*	**P**	**23 30 32.2**	**+0.2**
	comp=Z,4.9nm,0.8s						
SPUT	**South Promonto**	**90.49**	**44**	*eP*	**P**	**23 30 34.2**	**+0.8**
	comp=Z,8.2nm,0.9s						
HLID	**Hailey**	**90.50**	**41**	P	**P**	**23 30 34.0**	**+0.6**
	baz=236						
HLID	**Hailey**	**90.50**	**41**	*eP*	**P**	**23 30 34.4**	**+0.9**
	comp=Z,3.9nm,1.0s	

GEYT				SKPbc	SKPbc	23 39 10.5	+1.4		
	comp=Z,2.6nm,0.7s,baz=256,slow=0.6,SNR=9.2								
LSZ	**Lusaka**	**131.88**	**218**	PKP	**PKPdf**	**23 36 42.4**	**+0.2**		
	comp=Z,2.4nm,0.6s,baz=145,slow=3.0,SNR=8.4								
LSZ				SKPbc	**SKPab**	**23 39 21.3**	**+0.1**		
	comp=Z,1.5nm,0.7s,baz=24,slow=0.6,SNR=4.3								
LSZ	**Lusaka**	**131.88**	**218**	*e*PKPdf	**PKPdf**	**23 36 43.3**	**+1.1**		
LSZ				SKPbc	**SKPab**	**23 39 21.3**	**+0.1**		
ARCES	**ARCESS Array B**	**132.32**	**348**	PKP	**PKPdf**	**23 36 40.5**	**-0.8**		
	comp=Z,2.2nm,0.5s,baz=48,slow=1.8,SNR=6.3								
ARCES				SKPbc	**SKPbc**	**23 39 19.6**	**0.0**		
	comp=Z,6.4nm,0.9s,baz=23,slow=6.6,SNR=5.4								
FINES	**FINESS Array B**	**138.86**	**341**	PKhKP	PKPpre	23 36 43.9			
	comp=Z,5.3nm,0.9s,baz=62,slow=3.3,SNR=9.4								
FINES				SKPbc	**SKPbc**	**23 39 39.9**	**+0.2**		
	comp=Z,9.2nm,0.8s,baz=44,slow=3.3,SNR=12								
NB2	**NORSAR Subarra**	**142.53**	**351**	PKPdf	PKPpre	23 36 56.0			
	baz=31,slow=1.9								
NB2	**NORSAR Subarra**	**142.53**	**351**	PKPdf	PKPpre	23 36 56.0			
	comp=Z,8.7nm,1.4s,baz=31,slow=1.9								
NOA	**NORSAR Array B**	**142.53**	**351**	PKhKP	PKPpre	23 36 56.8			
	comp=Z,2.6nm,0.9s,baz=16,slow=4.9,SNR=3.5								
AKASG	**Malin Array Be**	**145.31**	**327**	PKPbc	**PKPdf**	**23 37 04.2**	**-1.1**		
	comp=Z,3.2nm,0.5s,baz=45,slow=3.9,SNR=18								
AKASG				pPKPbc	pPKPab	23 39 03.8	-1.4		
	comp=Z,1.3nm,0.7s,baz=39,slow=4.5,SNR=1.5								
AKASG				SKPbc	**SKiKP**	**23 39 56.3**	**-0.1**		
	comp=Z,3.7nm,0.7s,baz=34,slow=2.9,SNR=7.0								
KIEV	**Kiev**	**145.32**	**327**	*e*PKPbc	**PKPdf**	**23 37 05.5**	**+0.2**		
SORM	**Soroca**	**147.32**	**324**↑	*i*P	**PKPbc**	**23 37 11.6**	**-0.4**		
BRTR	**Keskin Array B**	**147.78**	**307**	PKPbc	**PKPbc**	**23 37 13.2**	**-0.5**		
	comp=Z,2.5nm,0.6s,baz=141,slow=4.7,SNR=17								
BRTR				pPKPbc	**pPKPdf**	**23 39 10.7**	**-1.7**		
	comp=Z,0.7nm,0.7s,baz=116,slow=3.4,SNR=3.0								
MMAI	**Mount Meron Ar**	**147.81**	**294**	PKPbc	**PKPbc**	**23 37 14.6**	**+0.7**		
	comp=Z,8.7nm,0.6s,baz=69,slow=4.7,SNR=39								
ANTO	**Ankara**	**148.35**	**307**	*e*PKPbc	**PKPbc**	**23 37 14.8**	**-0.3**		
EIL	**Elat**	**148.41**	**287**	PKPbc	**PKPbc**	**23 37 15.2**	**-0.2**		
	comp=Z,5.8nm,0.7s,baz=308,slow=9.5,SNR=6.8								
CFR	**Carcaliu**	**149.13**	**319**↓	*i*P	**PKPbc**	**23 37 16.8**	**+0.2**		
KWP	**Kalwaria Pacla**	**149.13**	**331**	*e*PKP	**PKPbc**	**23 37 16.7**	**+0.2**		
CSS	**Mathiatis**	**149.22**	**298**	*e*PKPbc	**PKPbc**	**23 37 16.8**	**-0.4**		
TESR	**Tescani**	**149.22**	**323**↑	*i*P	**PKPbc**	**23 37 16.8**	**-0.1**		
TIRR	**Tirgusor**	**149.34**	**318**↑	*i*P	**PKPbc**	**23 37 17.0**	**-0.2**		
TLB	**Topalu**	**149.50**	**318**↑	*i*P	**PKPbc**	**23 37 17.9**	**+0.4**		
PLOR	**Plostina**	**149.61**	**322**↑	*i*P	**PKPbc**	**23 37 17.4**	**-0.5**		
OJC	**Ojcow**	**149.92**	**334**	*e*PKP	**PKPbc**	**23 37 18.4**	**0.0**		
STHS	**Stebnicka Huta**	**149.93**	**332**	*e*PKP	**PKPbc**	**23 37 19.2**	**+0.7**		
CRVS	**Cervenica-Dubn**	**150.22**	**331**	*e*PKP	**PKPbc**	**23 37 21.4**	**+2.2**		
MLR	**Muntele Rosu**	**150.22**	**322**↑	*i*P	**PKPbc**	**23 37 18.8**	**-0.6**		
DOPR	**Dopca**	**150.25**	**323**↑	*i*P	**PKPbc**	**23 37 19.9**	**+0.6**		
NIE	**Niedzica**	**150.33**	**333**	*e*PKP	**PKPbc**	**23 37 20.1**	**+0.7**		
SECR		**150.42**	**321**↓	*i*P	**PKPbc**	**23 37 20.0**	**+0.3**		
KSP	**Ksiaz**	**150.69**	**339**	*e*PKP	**PKPbc**	**23 37 20.5**	**+0.4**		
VOIR		**150.76**	**322**↑	*i*P	**PKPbc**	**23 37 20.4**	**-0.2**		
OKC	**Ostrava-Krasne**	**150.86**	**335**↑	*e*PKP	**PKPbc**	**23 37 20.9**	**+0.3**		
LANS	**Liptovska Anna**	**150.89**	**333**	*e*PKP	**PKPbc**	**23 37 21.5**	**+0.8**		
ARR	**Arges**	**151.03**	**322**↑	*i*P	**PKPbc**	**23 37 21.4**	**+0.2**		
UPC	**Upice**	**151.07**	**339**↑	*e*PKP	**PKPbc**	**23 37 21.4**	**+0.4**		
DPC	**Dobruska-Polom**	**151.10**	**338**↑	*e*PKP	**PKPbc**	**23 37 21.5**	**+0.3**		
KRLC	**Kraliky**	**151.17**	**337**↑	*e*PKP	**PKPbc**	**23 37 21.5**	**+0.2**		
CLL	**Collm**	**151.27**	**343**↑	*i*PKPbc	**PKPbc**	**23 37 21.3**	**-0.1**		
	comp=Z,17nm,0.7s								
CLL				*e*pPKPbc	**pPKPbc**	**23 39 22.0**	**-0.8**		
CLL				*i*		23 39 26.2			
HUMR	**Humele**	**151.34**	**321**↓	*i*P	**PKPbc**	**23 37 21.5**	**-0.3**		
BRG	**Berggiesshubel**	**151.40**	**341**	*i* P	**PKPbc**	**23 37 21.8**	**0.0**		
	comp=Z,12nm,0.6s								
BRG				*i* pP	**pPKPab**	**23 39 26.9**	**-2.0**		
	comp=Z,7.6nm,1.1s								
PVCC	**Panska Ves**	**151.51**	**340**↑	*e*PKP	**PKPbc**	**23 37 22.6**	**+0.6**		
VYHS	**Vyhne**	**151.66**	**333**	*e*PKP	**PKPbc**	**23 37 22.5**	**+0.1**		
PRU	**Pruhonice**	**151.99**	**340**↑	*e*PKP	**PKPbc**	**23 37 23.3**	**+0.2**		
SIRR	**Siria**	**152.01**	**327**↑	*i*P	**PKPbc**	**23 37 23.3**	**0.0**		
BZS	**Buzias**	**152.49**	**326**↑	*i*P	**PKPbc**	**23 37 24.1**	**-0.2**		
KHC	**Kasperske Hory**	**153.05**	**340**↑	*e*PKP	**PKPbc**	**23 37 25.5**	**0.0**		
KHC				*e*PKPAB	**PKPab**	**23 37 39.8**	**+0.3**		
GERES	**GERESS Array B**	**153.26**	**340**	PKP	**PKPdf**	**23 37 17.8**	**-0.2**		
	comp=Z,0.5nm,0.8s,baz=258,slow=4.6,SNR=2.5								
GERES				PKPbc	**PKPbc**	**23 37 25.2**	**-0.8**		
	comp=Z,1.1nm,0.8s,baz=29,slow=2.2,SNR=7.3								
VTS	**Vitosha**	**153.53**	**319**↑	*i*P	**PKPbc**	**23 37 27.2**	**+0.3**		
CEL	**Celeste**	**160.59**	**319**	*e*PKPdf	**PKPdf**	**23 37 27.4**	**-0.2**		
LIC	**Lamto**	**161.35**	**165**	*e*P	**PKPab**	**23 38 16.5**	**+0.3**		
	comp=Z,65nm,1.6s								
KIC	**Kosan Boka**	**161.55**	**165**	*e*P	**PKPab**	**23 38 17.6**	**+0.5**		
	comp=Z,16nm,0.9s								
TIC	**Toumodi**	**161.76**	**164**	*e*P	**PKPab**	**23 38 18.4**	**+0.4**		
ESDC	**Sonseca Array**	**164.39**	**11**	PKPab	**PKPab**	**23 38 28.6**	**-0.6**		
	comp=Z,0.8nm,0.7s,baz=339,slow=3.8,SNR=4.3								
TORD	**Torodi Ar. Bea**	**168.71**	**189**	PKP	**PKPdf**	**23 37 33.9**	**-1.1**		
	comp=Z,2.3nm,1.0s,baz=355,slow=0.5,SNR=10								
TORD				PKPab	**PKPab**	**23 38 48.5**	**-0.1**		
	comp=Z,3.6nm,0.8s,baz=190,slow=3.8,SNR=17								

TEH ***13*** *23:21:49.9, 26°.59N×54°.35E, h18km, ML3.1*
DSN ***13*** *23:21:53.9±1.2, 27°.15N×54°.53E, h24km, ML3.4/7, Error ellipse: s-maj=16.8km s-min=6.2km az=10.0*
ISCJB ***13*** *23:21:54.3±0.6, 26°.85N±0°.07×54°.4E±0°.1, h18km, mb3.8/4, MS3.3/1, Error ellipse: s-maj=19.1km s-min=5.5km az=151.1*
CSEM ***13*** *23:21:55.2±0.3, 26°.87N×54°.48E, h10km, ML3.4, Error ellipse: s-maj=22.3km s-min=4.9km az=64.0*
IDC ***13*** *23:22:00.3±4.2, 26°.69N×54°.77E, h96km±56km, mb3.5/4, mb1 3.5/5, mb1mx3.1/51, mbtmp3.7/5, ML2.9/1, MS3.0/2, Ms1 3.0/2, ms1mx2.4/33, Error ellipse: s-maj=34.7km s-min=28.6km az=172.0*

ISC 13 23:21:54.1±0.8, 26.78N±0.09×54.5E±0.1, h18km, n28, σ1§42/28, mb3.8/4, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BANOM	**Banah**	**1.81**	**118**	*e*P	**Pn**	**23 22 26.3**	**+1.8**
	SNR=12						
BANOM	**Banah**	**1.81**	**118**	P	**Pn**	**23 22 26.3**	**+1.8**
	SNR=12						
NAZ	**Nazwa, Dubai**	**2.06**	**150**	*e*P	**Pb**	**23 22 31.3**	**+0.3**
	SNR=18						
NAZ	**Nazwa, Dubai**	**2.06**	**150**	P	**Pb**	**23 22 31.3**	**+0.3**
	SNR=18						
FAQ	**Al Faqa, Dubai**	**2.25**	**154**	P	**Pb**	**23 22 34.5**	**+0.4**
FAQ	**Al Faqa, Dubai**	**2.25**	**154**	P	**Pb**	**23 22 34.5**	**+0.4**
UOSS	**Minazif**	**2.38**	**140**	P	**Pn**	**23 22 34.8**	**+2.6**
HATD	**Hatta, Dubai**	**2.43**	**143**	*e*P	**Pb**	**23 22 36.1**	**-1.2**
	SNR=8.6						
HATD	**Hatta, Dubai**	**2.43**	**143**	P	**Pb**	**23 22 36.1**	**-1.2**
	SNR=8.6						
ASHO	**Ashiyiah**	**2.51**	**146**	*e*P	**Pb**	**23 22 38.0**	**-0.6**
	SNR=14						
ASHO	**Ashiyiah**	**2.51**	**146**	P	**Pb**	**23 22 38.0**	**-0.6**
	SNR=14						
ISRV	**Sarvestan**	**2.87**	**335**	*e*Pn	**Pn**	**23 22 40.0**	**+0.7**
ISRV				*e*Sg	**Sg**	**23 23 29.4**	**+2.8**
ISRV				*e*AMB	AMB	23 23 39.4	
	comp=Z,1μm,0.5s						
ISRV	**Sarvestan**	**2.87**	**335**	*e*Pn	**Pn**	**23 22 40.0**	**+0.7**
IMEH	**Mehriz**	**4.60**	**1**	*e*AMB	AMB	23 23 14.4	
	comp=Z,128nm,0.1s						
IMEH				*e*Pn	**Pn**	**23 23 04.7**	**+1.8**
IBAF	**Bafgh**	**4.88**	**11**	*e*AMB	AMB	23 23 10.6	
	comp=Z,246nm,0.1s						
IBAF				*e*Pn	**Pn**	**23 23 08.3**	**+1.5**
WSAR	**Wadi Sarin**	**5.13**	**132**	P	**Pn**	**23 23 12.6**	**+2.5**
	comp=Z,0.4nm,0.3s,baz=328,slow=8.8,SNR=11						
WSAR				S	**Sn**	**23 24 07.6**	**-1.4**
	comp=Z,0.7nm,0.3s,baz=142,slow=17,SNR=2.6						
IRAM	**Ramesheh**	**5.35**	**340**	*e*Pn	**Pn**	**23 23 13.7**	**+0.5**
IRAM				*e*AMB	AMB	23 24 20.0	
	comp=Z,104nm,0.2s						
IRAM	**Ramesheh**	**5.35**	**340**	*e*Pn	**Pn**	**23 23 13.7**	**+0.5**
IZEF	**Zefreh**	**6.39**	**343**	*e*Pn	**Pn**	**23 23 28.1**	**+0.6**
IZEF				*e*AMB	AMB	23 24 43.9	
	comp=Z,35nm,0.1s						
IZEF	**Zefreh**	**6.39**	**343**	*e*Pn	**Pn**	**23 23 28.1**	**+0.6**
IPIR	**Pirpir**	**6.67**	**333**	*e*Pn	**Pn**	**23 23 31.7**	**+0.2**
IPIR				*e*AMB	AMB	23 24 47.4	
	comp=Z,118nm,0.2s						
IPIR	**Pirpir**	**6.67**	**333**	*e*Pn	**Pn**	**23 23 31.7**	**+0.2**
GEYT	**Ailbeck**	**11.53**	**14**	LR	LR	23 30 07.1	
	comp=Z,47nm,18.3s,baz=235,slow=42						
BRTR	**Keskin Array B**	**21.65**	**312**	P	**P**	**23 26 45.0**	**+1.3**
	comp=Z,0.8nm,0.7s,baz=141,slow=12,SNR=4.9						
ZALV	**Zalesovo Beam**	**35.15**	**31**	P	**P**	**23 28 44.0**	**-2.5**
	comp=Z,0.4nm,0.2s,baz=234,slow=10,SNR=2.6						
FINES	**FINESS Array B**	**39.58**	**339**	P	**P**	**23 29 23.4**	**-0.5**
	comp=Z,7.5nm,1.0s,baz=146,slow=10,SNR=5.6						
TORD	**Torodi Ar. Bea**	**51.13**	**265**	P	**P**	**23 30 55.3**	**-0.9**
	comp=Z,0.8nm,0.8s,baz=65,slow=7.0,SNR=4.6						
PETK	**Petropavlovsk-**	**76.44**	**37**	LR	LR	00 10 15.6	
	comp=Z,14nm,19.0s,baz=243,slow=38						

CSEM ***13*** *23:28:17.2, 39°.48N×29°.84W, h10km, ML2.7*
PDA 13 23:28:17.2±0.9, 39.48N×29.84W, h10km, MD3.6, ML2.7, Error ellipse: s-maj=19.9km s-min=6.8km az=53.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PCED	**Cedros**	**1.23**	**133**	*e*S	Sb	23 28 49.4	-6.9
PCED				A	A	23 28 52.0	
	56nm,0.3s						
PCED	**Cedros**	**1.23**	**133**	*e*S	Sb	23 28 49.4	-6.9
CALA	**Caldeira**	**1.26**	**135**	*e*P	Pn	23 28 36.6	-4.3
CALA				*e*S	Sb	23 28 50.6	-6.7
CALA	**Caldeira**	**1.26**	**135**	*e*P	Pn	23 28 36.6	-4.3
CALA				*e*S	Sb	23 28 50.6	-6.7
HOR	**Horta**	**1.34**	**135**	*e*S	Sb	23 28 52.5	-7.0
HOR				A	A	23 28 53.9	
	115nm,0.2s						
HOR	**Horta**	**1.34**	**135**	*e*S	Sb	23 28 52.5	-7.0
ROSA	**Rosais**	**1.45**	**121**	*e*P	Pn	23 28 39.2	-4.3
ROSA				*e*S	Sn	23 28 55.0	-7.7
ROSA				A	A	23 28 55.9	
	8.7nm,0.1s						
ROSA	**Rosais**	**1.45**	**121**	*e*P	Pn	23 28 39.2	-4.3
ROSA				*e*S	Sn	23 28 55.0	-7.7
PCAN	**Candelaria**	**1.46**	**133**	*e*P	Pn	23 28 38.7	-4.9
PCAN				*e*S	Sn	23 28 55.4	-7.4
PCAN				A	A	23 28 56.6	
	89nm,0.2s						
PCAN	**Candelaria**	**1.46**	**133**	*e*P	Pn	23 28 38.7	-4.9
PCAN				*e*S	Sn	23 28 55.4	-7.4
PICO	**Pico**	**1.47**	**131**	*e*P	Pn	23 28 38.8	-5.0
PICO				*e*S	Sn	23 28 55.6	-7.5
PICO				A	A	23 28 56.8	
	61nm,0.2s						
PICO	**Pico**	**1.47**	**131**	*e*P	Pn	23 28 38.8	-5.0
PICO				*e*S	Sn	23 28 55.6	-7.5

DDA 13 23:34:40.5, 36.99N×28.01E, h7km, Md2.5, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DAT	**Datca**	**0.44**	**233**	*i* P	Pg	23 34 47.9	-1.0
DAT				*i* S	Sb	23 35 00.1	+2.7
BDRM	**Kayabasi**	**0.46**	**279**	*i* P	Pb	23 34 51.1	+0.2
BDRM				*i* S	Sb	23 35 00.1	+2.2
TURN	**Turunc**	**0.49**	**104**	*i* P	Pg	23 34 46.7	-3.2
TURN				*i* S	Sg	23 34 51.2	-5.1

DJA ***13*** *23:40:53.6±0.6, 2°.S±4°×10°.0E±°, h177km±8km, M4.3/19, mb4.2/6, MLv4.3/19*
IDC ***13*** *23:40:55.4±0.9, 1°.53S×99°.52E, h0km, mb4.1/9, mb1 4.2/11, mb1mx3.9/45, mbtmp4.0/11, ML3.7/2, MS3.4/6, Ms1 3.4/6, ms1mx3.1/32, Error ellipse: s-maj=34.5km s-min=17.6km az=57.0*
ISCJB ***13*** *23:40:58.7±0.5, 1°.42S±0°.06×99°.66E±0°.05, h30km, mb4.2/14, MS3.5/4, Error ellipse: s-maj=8.6km s-min=6.2km az=28.0*
NEIC ***13*** *23:41:00.8±1.4, 1°.60S×99°.45E, h38km±10km, mb4.3/7, Error ellipse: s-maj=17.7km s-min=7.1km az=58.0*

ISC 13 23:41:00.2±0.6, 1°.48S±0°.05×99°.55E±0°.04, h30km, n52, σ1§32/40, mb4.2/14, MS3.5/4, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SISI	**Saibi**	**0.49**	**288**	P	**Pb**	**23 41 10.4**	**0.0**
SISI				S	**Sn**	**23 41 19.4**	**+0.8**
PDSI	**Padang**	**1.07**	**58**	P	**Pb**	**23 41 20.1**	**-0.1**
PPI	**Padang Panjang**	**1.32**	**40**	P	**Pb**	**23 41 24.0**	**-0.4**
PPSI	**Pulau Pagai**	**1.35**	**160**	P	**Pn**	**23 41 22.0**	**-1.1**
PPSI				S	**Sb**	**23 41 44.0**	**+2.1**
PBSI	**Pulau Batu**	**1.90**	**318**	P	**Pb**	**23 41 32.8**	**-1.5**
SDSI	**Sungai Dareh**	**1.96**	**74**	P	**Pn**	**23 41 29.7**	**-1.6**
MNSI	**Mandailing Nat**	**2.26**	**1**	P	**Pn**	**23 41 35.8**	**+0.2**
BKNI	**Bangkinang**	**2.33**	**40**	P	**Pn**	**23 41 34.1**	**-2.5**
BKNI	**Bangkinang**	**2.33**	**40**	*e*Pn	**Pb**	**23 41 39.5**	**-2.1**
RGRI	**Rengat**	**3.00**	**68**	P	Pn	23 41 39.3	-6.5
MASI	**Maura Aman, Be**	**3.15**	**122**	P	Pn	23 41 39.4	-8.5
KSI	**Kapahiang**	**3.73**	**125**	P	Pn	23 41 46.5	-9.3
PSI	**Prapat**	**4.30**	**352**	Pn	**Pn**	**23 42 02.5**	**-1.2**
	1.0nm,0.3s,baz=194,slow=14,SNR=5.4						
PSI				Lg	Lg	23 43 13.9	
	1.9nm,0.3s,baz=186,slow=19,SNR=1.9						
PSI				LR	LR	23 44 01.8	
	comp=Z,274nm,21.2s,baz=172,slow=44						
MNAI	**Manna**	**4.44**	**130**	P	Pn	23 41 55.4	-10
MNAI	**Manna**	**4.44**	**130**	*e*Pn	**Pn**	**23 42 05.7**	**+0.1**
TSI	**Tuntungan**	**5.05**	**349**	P	**Pn**	**23 42 12.3**	**-1.6**
DSRI	**Dabo**	**5.12**	**79**	P	Pn	23 42 05.5	-9.5
TPTI		**5.27**	**333**	P	**Pn**	**23 42 15.5**	**-1.5**
MDSI	**Maura Dua**	**5.50**	**123**	P	Pn	23 42 09.0	-11
TPRI	**Tanjung Pinang**	**5.52**	**64**	P	Pn	23 42 11.4	-9.0
LWLI	**Liwa**	**5.71**	**128**	P	Pn	23 42 12.0	-11
IPM	**Ipoh**	**6.10**	**14**	*e*Pn	**Pn**	**23 42 32.4**	**+3.9**
	21nm,0.6s						
KULM	**Kulim**	**6.81**	**9**	*e*Pn	**Pn**	**23 42 41.1**	**+2.9**
	18nm,0.8s						
KKM	**Kota Kinabalu**	**18.24**	**66**	*e*P	**Pn**	**23 45 13.0**	**+1.6**
	14nm,1.0s						
CMAR	**Chiang Mai Arr**	**19.82**	**358**	P	**P**	**23 45 28.0**	**-0.6**
	0.3nm,0.3s,baz=212,slow=31,SNR=6.2						
CMAR				LR	LR	23 53 50.7	
	comp=Z,86nm,20.4s,baz=175,slow=39						
CHTO	**Chiang Mai**	**20.18**	**358**	*e*P	**P**	**23 45 32.7**	**+0.2**
	2.5nm,0.8s						
PALK	**Pallekele**	**20.72**	**295**	LR	LR	23 52 39.4	
	comp=Z,99nm,18.1s,baz=116,slow=34						
H08S2	**Diego Garcia H**	**27.64**	**256**	T	T	00 15 11.9	
	baz=80,slow=75						
H08S3	**Diego Garcia H**	**27.65**	**256**	T	T	00 15 11.7	
	baz=80,slow=75						
H08S1	**Diego Garcia H**	**27.66**	**256**	T	T	00 15 15.0	
	baz=80,slow=75						
H01W3	**Cape Leeuwin H**	**35.91**	**159**	T	T	00 25 44.0	
	baz=335,slow=76,SNR=9.2						
H01W2	**Cape Leeuwin H**	**35.92**	**159**	T	T	00 25 45.0	
	baz=335,slow=76,SNR=8.3						
H01W1	**Cape Leeuwin H**	**35.92**	**159**	T	T	00 25 44.0	
	baz=335,slow=76,SNR=7.3						
WRA	**Warramunga Arr**	**38.64**	**121**	P	**P**	**23 48 20.4**	**-0.9**
	0.9nm,0.7s,baz=302,slow=9.0,SNR=4.8						
WRA				PcP	**PcP**	**23 50 32.7**	**-0.5**
	0.4nm,0.6s,baz=307,slow=2.7,SNR=3.3						
WRAB	**Tennant Creek**	**38.65**	**121**	*e*P	**P**	**23 48 21.2**	**-0.2**
	5.2nm,0.9s						
ASAR	**Alice Springs**	**39.92**	**126**	P	**P**	**23 48 31.9**	**-0.1**
	0.7nm,0.5s,baz=307,slow=8.3,SNR=8.5						
ASAR				PcP	**PcP**	**23 50 38.0**	**+0.7**
	0.3nm,0.4s,baz=316,slow=2.6,SNR=3.0						
KSAR	**Wonju Array Be**	**46.78**	**31**	P	**P**	**23 49 26.4**	**-0.6**
KSRS	**Korea Array**	**46.81**	**31**	P	**P**	**23 49 26.4**	**-0.9**
	0.9nm,0.6s,baz=226,slow=6.5,SNR=6.8						
KSRS				LR	LR	00 12 24.6	
	comp=Z,20nm,18.2s,baz=205,slow=40						
SONM	**Songino Array**	**49.48**	**6**	P	**P**	**23 49 47.4**	**-0.5**
	1.0nm,0.6s,baz=190,slow=8.2,SNR=5.6						
ULN	**Ulaanbaatar**	**49.58**	**7**	*e*P	**P**	**23 49 50.0**	**+1.3**
	1.3nm,0.6s						
USRK	**Ussuriysk Ar.**	**53.91**	**29**	P	**P**	**23 50 20.7**	**-0.2**
	1.2nm,0.5s,baz=224,slow=6.0,SNR=4.9						
KURK	**Kurchatov**	**54.99**	**344**	*e*P	**P**	**23 50 28.6**	**0.0**
	26nm,1.0s						
ZALV	**Zalesovo Beam**	**56.58**	**350**	P	**P**	**23 50 41.6**	**+1.7**
	2.1nm,0.5s,baz=175,slow=8.8,SNR=11						
BRVK	**Borovoye**	**59.61**	**340**	*e*P	**P**	**23 51 01.7**	**+0.5**
	2.7nm,0.5s						
ABKAR	**Akbulak array**	**60.97**	**331**	*e*P	**P**	**23 51 11.0**	**+0.4**
	2.6nm,0.9s						
KBZ	**Khabaz**	**67.62**	**319**	P	**P**	**23 51 54.3**	**0.0**
	1.9nm,0.7s,baz=90,slow=4.6,SNR=7.4						
KBZ				LR	LR	00 25 23.5	
	comp=Z,46nm,18.3s,baz=322,slow=39						
MAW	**Mawson**	**70.67**	**194**	LR	LR	00 16 06.8	
	comp=Z,52nm,18.4s,baz=66,slow=30						
BRTR	**Keskin Array B**	**72.64**	**312**	P	**P**	**23 52 24.9**	**-0.5**
	0.7nm,0.7s,baz=126,slow=7.3,SNR=5.4						
FINES	**FINESS Array B**	**83.45**	**332**	P	**P**	**23 53 24.1**	**-0.5**
	11nm,1.2s,baz=98,slow=2.8,SNR=3.2						
CPUP	**Villa Florida**	**144.46**	**217**	PKP	**PKPdf**	**00 00 33.4**	**-1.1**
	3.6nm,0.8s,baz=62,slow=4.4,SNR=6.6						
TXAR	**Lajitas Array**	**144.56**	**36**	PKP	**PKPdf**	**00 00 34.8**	**+0.1**
	0.8nm,0.4s,baz=205,slow=0.5,SNR=37						
JCT	**Junction City**	**145.81**	**31**	*e*PKPbc	**PKPab**	**00 00 38.0**	**+0.4**

ISCJB ***13*** *23:51:40.8±0.4, 13°.07N±0°.07×87°.80W±0°.06, h146km±4km, mb3.9/6, Error ellipse: s-maj=13.7km s-min=3.5km az=40.3*
IDC ***13*** *23:51:41.4±2.0, 13°.24N×87°.67W, h152km±30km, mb3.5/5, mb1 3.7/7, mb1mx3.4/38, mbtmp4.0/7, Error ellipse: s-maj=53.4km s-min=23.3km az=36.0*
CASC ***13*** *23:51:42.1±2.3, 12°.89N×87°.90W, h126km±13km, MD4.3, ML3.8*

ISC 14 23:51:40.5±0.8, 13°.10N±0°.08×87°.84W±0°.06, h142km±6km, n40, σ1§53/56, mb4.0/6, 2C-1D, Honduras

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CNCH	**Conchagua**	**0.17**	**2**	*e*P	**Pn**	**23 52 00.1**	**+0.2**
CNCH				*e*S	**Sn**	**23 52 16.1**	**+1.3**
PACA	**Pacayal**	**0.60**	**308**	*e*P	**Pn**	**23 52 02.6**	**+0.9**
CAHU	**Cacacuatique**	**0.76**	**332**↑	*e*P	**Pn**	**23 52 03.9**	**+1.0**
CAHU				*e*S	**Sn**	**23 52 21.4**	**+1.6**
TGUH	**Tegucigalpa,Un**	**1.10**	**30**↓	*i*P	**Pn**	**23 52 06.8**	**+1.4**
CNGN	**Cerro Negro**	**1.26**	**118**	*e*P	**Pn**	**23 52 07.0**	**0.0**
CNGN				*e*S	**Sn**	**23 52 27.9**	**+0.6**
CNGN				AML	AML	23 52 37.6	
	comp=N,2μm,0.2s						
LFRS	**El Faro**	**1.30**	**294**↑	*i*P	**Pn**	**23 52 08.4**	**+0.9**
LBRS	**Las Brisas**	**1.33**	**299**	*e*P	**Pn**	**23 52 09.3**	**+1.5**
MOMN	**Momotombo**	**1.44**	**118**	*e*P	**Pn**	**23 52 09.0**	**+0.1**
SNET	**Serv Nac Est T**	**1.48**	**293**	*e*P	**Pn**	**23 52 10.3**	**+1.0**
SNET				AML	AML	23 52 36.4	
	comp=Z,982nm,0.2s						
COPN	**Copaltepe**	**1.52**	**127**	*e*P	**Pn**	**23 52 09.8**	**+0.1**
BOQS	**Boqueron**	**1.54**	**294**	*e*P	**Pn**	**23 52 12.2**	**+2.1**
SBLS	**San Blas**	**1.88**	**293**	*e*P	**Pn**	**23 52 15.6**	**+1.5**
MTO3	**Montecristo**	**1.96**	**311**	*e*P	**Pn**	**23 52 16.4**	**+1.5**
RBDL	**Robledal**	**2.06**	**299**	*e*P	**Pn**	**23 52 17.8**	**+1.8**
BOAB	**BOACO BROADBAN**	**2.22**	**107**	*e*P	**Pn**	**23 52 18.6**	**+0.9**
BOAB				*e*S	**Sn**	**23 52 47.2**	**+0.8**
CONN	**Concepcion**	**2.65**	**125**	*e*P	**Pn**

*IDC **14** 00:47:19.8±1.5, 14°.19S×66°.23E, h0km, mb4.0/8, mb1 4.2/8, mb1mx3.8/42, mbtmp4.0/8, MS3.4/4, Ms1 3.4/4, ms1mx3.0/38, Error ellipse: s-maj=63.2km s-min=21.7km az=39.0*

*ISCJB **14** 00:47:20.3±1.4, 14°.2S±0°.3×66°.3E±0°.3, h15km, mb4.1/11, MS3.3/4, Error ellipse: s-maj=51.1km s-min=17.2km az=44.0*

*NEIC **14** 00:47:21.0±0.5, 14°.24S×66°.18E, h10km, mb4.1/2, Error ellipse: s-maj=24.5km s-min=10.5km az=40.0*

ISC 14 00:47:22.0±1.5, 14°.2S±0°.3×66°.2E±0°.3, h15km, n35, σ0$51/22, mb4.2/11, MS3.3/4, Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
H08S1	**Diego Garcia H**	**8.98**	**44**	T	T	00 59 06.0	
	baz=218						
H08S2	**Diego Garcia H**	**8.99**	**44**	T	T	00 59 01.6	
	baz=218						
H08S3	**Diego Garcia H**	**9.00**	**44**	T	T	00 58 51.8	
	baz=218						
H08N3	**Diego Garcia H**	**9.13**	**32**	T	T	00 59 34.7	
	baz=211,slow=76,SNR=1044						
H08N1	**Diego Garcia H**	**9.16**	**32**	T	T	00 59 25.4	
	baz=211,slow=76,SNR=816						
H08N2	**Diego Garcia H**	**9.16**	**32**	T	T	00 59 36.3	
	baz=211,slow=76,SNR=924						
PALK	**Pallekele**	**25.75**	**35**	LR	LR	01 01 05.5	
	comp=Z,101nm,19.4s,baz=296,slow=32						
KMBO	**Kilima Mbogo**	**31.43**	**292**	LR	LR	01 05 20.5	
	comp=Z,41nm,18.5s,baz=93,slow=34						
BOSA	**Boshof**	**40.51**	**242**	LR	LR	01 08 36.8	
	comp=Z,70nm,19.4s,baz=24,slow=32						
CMAR	**Chiang Mai Arr**	**45.78**	**46**	LR	LR	01 12 26.9	
	comp=Z,28nm,20.5s,baz=209,slow=33						
H01W3	**Cape Leeuwin H**	**47.70**	**124**	T	T	01 47 00.6	
	baz=283,slow=75,SNR=50						
H01W2	**Cape Leeuwin H**	**47.70**	**124**	T	T	01 47 03.1	
	baz=283,slow=75,SNR=49						
H01W1	**Cape Leeuwin H**	**47.72**	**124**	T	T	01 47 02.0	
	baz=283,slow=75,SNR=53						
FITZ	**Fitzroy Crossi**	**57.02**	**102**	P	**P**	**00 57 07.9**	**+0.2**
	2.3nm,0.8s,baz=293,slow=7.7,SNR=2.8						
BRTR	**Keskin Array B**	**61.64**	**332**	P	**P**	**00 57 39.6**	**+0.2**
	0.4nm,0.6s,baz=132,slow=2.1,SNR=3.0						
ABKAR	**Akbulak array**	**63.43**	**355**	*e*P	**P**	**00 57 50.6**	**-0.3**
	0.3nm,0.6s						
ASAR	**Alice Springs**	**64.23**	**110**	P	**P**	**00 57 56.7**	**-0.3**
	1.6nm,0.8s,baz=269,slow=6.2,SNR=12						
WRA	**Warramunga Arr**	**65.02**	**106**	P	**P**	**00 58 02.2**	**+0.1**
	2.8nm,0.9s,baz=274,slow=5.8,SNR=9.8						
WRAB	**Tennant Creek**	**65.03**	**106**	*e*P	**P**	**00 58 01.4**	**-0.7**
	2.7nm,0.7s						
KURK	**Kurchatov**	**65.56**	**9**	*e*P	**P**	**00 58 04.8**	**-0.1**
	8.0nm,0.5s						
ZALV	**Zalesovo Beam**	**69.73**	**12**	P	**P**	**00 58 30.6**	**-0.6**
	0.9nm,0.7s,baz=197,slow=4.6,SNR=4.6						
SONM	**Songino Array**	**71.42**	**27**	P	**P**	**00 58 41.6**	**-0.1**
	0.8nm,0.4s,baz=210,slow=7.8,SNR=4.2						
ESDC	**Sonseca Array**	**84.33**	**313**	P	**P**	**00 59 54.0**	**+0.3**
	1.1nm,0.8s,baz=102,slow=4.5,SNR=5.0						
ESDC	**Sonseca Array**	**84.33**	**313**	P	**P**	**00 59 54.0**	**+0.3**
MJAR	**Matsushiro Arr**	**84.46**	**50**	P	**P**	**00 59 55.5**	**+1.1**
	0.4nm,0.3s,baz=252,slow=5.3,SNR=4.4						
NEW	**Newport**	**145.94**	**4**	PKPbc	**PKPab**	**01 07 01.5**	**-0.1**
	4.7nm,0.8s,baz=2.1,slow=4.9,SNR=9.3						
BOZ	**Bozeman (W)**	**148.67**	**357**	*e*PKPbc	**PKPbc**	**01 07 07.9**	**-1.1**
RSSD	**Black Hills**	**149.05**	**346**	*e*PKPbc	**PKPbc**	**01 07 09.7**	**-0.4**
MOOW	**Moose Ponds**	**150.45**	**356**	*e*PKPbc	**PKPbc**	**01 07 13.8**	**+0.2**
LOHW	**Long Hollow**	**150.58**	**355**	*e*PKPbc	**PKPbc**	**01 07 14.2**	**+0.4**
HUMO	**Hull Mountain**	**150.63**	**14**	*e*PKPbc	**PKPbc**	**01 07 13.9**	**+0.1**
TPAW	**Teton Pass**	**150.72**	**356**	*e*PKPbc	**PKPbc**	**01 07 14.6**	**+0.3**
BW06	**Boulder Array**	**151.32**	**353**	*e*PKPbc	**PKPbc**	**01 07 15.1**	**-0.6**
PDAR	**Pinedale Array**	**151.32**	**353**	PKPbc	**PKPbc**	**01 07 15.2**	**-0.4**
	1.3nm,0.5s,baz=52,slow=1.5,SNR=9.0						
HWUT	**Hardware Ranch**	**152.64**	**356**	*e*PKPbc	**PKPbc**	**01 07 18.3**	**-0.3**

NEIC 14 00:50:55.0±0.0, 33°.60N×86°.57W, h11km, MD2.5(CERI), After CERI., Alabama

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LRAL	**Lakeview Retre**	**0.67**	**213**	*e*Pg	Pg	00 51 07.5	-0.4
LRAL				*e*Sg	Sg	00 51 16.3	-0.4
Z48A	**Northport**	**0.86**	**255**	P	Pb	00 51 11.7	-0.2
	baz=71						
Z48A				S	Sb	00 51 23.7	+0.3
	baz=71						
Y47A	**UCPARC, Winfie**	**1.11**	**286**	S	Sn	00 51 31.5	-0.3
	baz=103						
Z47A	**Carrollton**	**1.32**	**253**	P	Pn	00 51 19.5	+0.2
	baz=69						
Z47A				S	Sg	00 51 37.5	0.0
	baz=69						
147A	**Livingston**	**1.70**	**238**	P	Pb	00 51 25.6	-0.7
	baz=55						
147A				S	Sg	00 51 48.9	-0.8
	baz=55						
248A	**Dixon Mills**	**1.80**	**214**	S	Sg	00 51 52.2	-0.5
	baz=32						
Z46A	**Louisville**	**2.03**	**259**	Sb	Sg	00 51 59.6	-0.6
	baz=76						
146A	**Union**	**2.30**	**246**	Sb	Sg	00 52 07.6	-1.4
	baz=63						
247A	**Quitman**	**2.31**	**229**	Sb	Sg	00 52 08.0	-1.2
	baz=46						
OXF	**Oxford**	**2.53**	**292**	*e*Pn	Pn	00 51 35.6	-0.4
OXF				*e*Pg	Pb	00 51 41.5	+1.1
OXF				*e*Sn	Sn	00 52 05.9	-0.9
OXF				*e*Sg	Sb	00 52 12.9	+1.4
GOGA	**Godfrey**	**2.60**	**93**	*e*Pn	Pn	00 51 37.2	+0.3
GOGA				*e*Pg	Pg	00 51 43.5	-1.2
GOGA				*e*Sg	Sb	00 52 11.5	-1.9
TIGA	**Tifton**	**3.31**	**130**	*e*Pn	Pn	00 51 46.5	-0.3
TIGA				*e*Sg	Sb	00 52 35.5	+1.5

DJA 14 00:52:25.0±1.4, 9°S±4°×107°E±°, h20km±14km, M3.8/14, MLv3.8/14, Jawa

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CMJI	**Cimerak**	**1.20**	**309**	P	Pb	00 52 46.9	-0.1
CMJI				S	Sb	00 53 01.5	-0.5
KPJI	**Karang Pucung**	**1.29**	**340**	P	Pb	00 52 48.5	-0.1
KPJI				S	Sb	00 53 05.4	+0.7
UGM	**Wanagama**	**1.30**	**61**	P	Pn	00 52 47.8	-0.2
UGM				S	Sn	00 53 04.1	-0.7
WOJI	**Wonogiri, Jawa**	**1.68**	**65**	P	Pn	00 52 52.2	-1.1
PCJI	**Pacitan**	**1.81**	**79**	P	Pn	00 52 55.9	+0.8
PCJI				S	Sn	00 53 16.9	-0.6
SMRI	**Semarang**	**1.82**	**35**	P	Pn	00 52 55.2	-0.1
CISI	**Cisompet, Garu**	**1.84**	**302**	P	Pn	00 52 55.4	-0.1
NGJI	**Ngawi**	**2.37**	**60**	P	Pn	00 53 03.0	+0.2
LEM	**Lembang**	**2.45**	**314**	P	Pn	00 53 03.9	-0.1
PWJI	**Pagerwojo**	**2.46**	**78**	P	Pn	00 53 04.5	+0.6
CNJI	**Cibinong**	**2.55**	**299**	P	Pn	00 53 05.1	-0.1
CNJI				S	Sn	00 53 34.6	-1.1
TBJI	**Tambak Boyo**	**2.99**	**55**	P	Pn	00 53 11.4	+0.1
GMJI	**Gumukmas**	**4.03**	**86**	P	Pn	00 53 26.2	+0.6
JAGI	**Jajag, Banyuwa**	**4.72**	**89**	P	Pn	00 53 35.2	+0.1

IDC 14 00:55:27.8±4.2, 15°.72S×173°.24W, h0km, mb4.1/3, mb1 4.2/3, mb1mx3.7/41, mbtmp4.1/3, MS3.4/1, Ms1 3.4/1, ms1mx2.7/36, Error ellipse: s-maj=204.5km s-min=68.1km az=146.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**44.01**	**240**	P	P	01 03 38.0	+0.7
	0.7nm,0.4s,baz=85,slow=11,SNR=3.4						
WRA	**Warramunga Arr**	**49.92**	**257**	P	P	01 04 23.1	-0.6
	0.3nm,0.4s,baz=97,slow=7.5,SNR=9.1						
ASAR	**Alice Springs**	**50.16**	**252**	P	P	01 04 25.4	-0.2
	5.2nm,0.5s,baz=88,slow=8.1,SNR=52						
GUMO	**Guam**	**50.64**	**303**	LR	LR	01 23 58.1	
	comp=Z,37nm,19.5s,baz=5.0,slow=34						
NOA	**NORSAR Array B**	**134.63**	**357**	PKP	PKPdf	01 14 47.5	-0.4
	1.2nm,0.8s,baz=346,slow=2.1,SNR=2.9						

MEX 14 01:06:26.1±0.6, 14°.13N×92°.03W, h15km, MD4.0, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CCIG	**Comitan**	**2.14**	**357**	*e*P	Pn	01 06 59.0	-2.4
CCIG				*e*S	Sn	01 07 24.2	-3.6
TGIG		**2.83**	**338**	*e*P	Pn	01 07 08.6	-2.3
TGIG				*e*S	Sn	01 07 41.1	-3.6
HUIG	**Huatulco**	**4.26**	**293**	*i* P	Pn	01 07 28.3	-2.2
HUIG				*i* S	Sn	01 08 16.8	-3.2
VHO	**Vista Hermosa**	**5.39**	**303**	*e*P	Pn	01 07 50.5	+4.3

*NIED **14** 01:09:00, 39°.90N×143°.50E, h14km, Mw4.3 Best double couple: M0 3.22000×10^15 NP1:φ=196.00000°, δ=28.00000°, λ=83.00000°. NP2:φ=25.00000°, δ=62.00000°, λ=94.00000°.*

*ISCJB **14** 01:09:12.2±0.5, 39°.85N±0°.03×143°.69E±0°.06, h6km, mb4.2/22, MS3.8/6, Error ellipse: s-maj=7.7km s-min=3.8km az=28.0*

*JMA **14** 01:09:15.1±0.2, 39°.93N×143°.54E, h22km±5km, M4.3*

*NEIC **14** 01:09:16.9±2.5, 39°.81N×143°.59E, h25km±18km, mb4.5/5, Error ellipse: s-maj=13.3km s-min=7.3km az=108.0*

*IDC **14** 01:09:20.5±2.6, 39°.79N×143°.50E, h53km±23km, mb3.9/17, mb1 4.1/21, mb1mx3.9/47, mbtmp4.2/21, ML3.6/4, MS3.6/11, Ms1 3.6/11, ms1mx3.3/35, Error ellipse: s-maj=21.4km s-min=14.5km az=91.0*

ISC 14 01:09:13.6±0.6, 39.84N±0°.05×143°.70E±0°.07, h6km, n66, σ1$80/64, mb4.3/22, MS3.8/6, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JTH	**Tanohata**	**1.42**	**275**	P	**Pn**	**01 09 37.8**	**-2.1**
MIYJ	**Miyakonagasawa**	**1.47**	**260**	P	**Pn**	**01 09 39.4**	**-1.3**
JANG	**Nango**	**1.76**	**288**	P	**Pn**	**01 09 42.7**	**-1.9**
JOM	**Ohasama**	**1.89**	**260**	P	**Pn**	**01 09 46.0**	**-0.5**
JMK	**Ichinoseki**	**2.12**	**246**	P	**Pn**	**01 09 48.7**	**-0.8**
JMK				*e*S	**Sn**	**01 10 13.5**	**-2.6**
ERM	**Erimo**	**2.21**	**349**	*e*Pn	**Pn**	**01 09 50.4**	**-0.4**
JEM	**Erimo**	**2.21**	**349**	P	**Pn**	**01 09 50.0**	**-0.9**
JTM	**Tenmabayashi**	**2.22**	**296**	P	**Pn**	**01 09 50.1**	**-0.9**
JAH	**Hinai**	**2.38**	**279**	P	**Pn**	**01 09 52.7**	**-0.5**
JRG	**Rokugo**	**2.41**	**260**	P	**Pn**	**01 09 53.1**	**-0.5**
JOT	**Ohata**	**2.54**	**308**	P	**Pn**	**01 09 54.2**	**-1.2**
JNBK	**Urakawa-nobuka**	**2.54**	**344**	P	**Pn**	**01 09 55.3**	**-0.1**
JYK	**Kaneyama**	**2.75**	**252**	P	**Pn**	**01 09 57.9**	**-0.3**
JOU	**Okura**	**2.78**	**239**	P	**Pn**	**01 09 58.3**	**-0.4**
JCH	**Churui**	**2.79**	**355**	P	**Pn**	**01 09 58.1**	**-0.7**
JCH				*e*S	**Sn**	**01 10 29.7**	**-3.0**
JKB	**Kayabe**	**2.88**	**316**	P	**Pn**	**01 09 59.3**	**-0.7**
JKB				*e*S	**Sn**	**01 10 31.3**	**-3.6**
JAK	**Akkeshi**	**3.24**	**13**	P	**Pn**	**01 10 04.3**	**-0.7**
JAK				*e*S	**Sn**	**01 10 41.9**	**-2.1**
JFT	**Otama**	**3.50**	**230**	P	**Pn**	**01 10 08.3**	**-0.4**
ASAJ	**Asahikawa**	**4.35**	**349**	P	**Pn**	**01 10 20.6**	**+0.3**
	64nm,0.3s,baz=90,slow=33,SNR=2.6						
ASAJ				S	**Sn**	**01 11 14.0**	**+2.6**
	80nm,0.3s,baz=90,slow=20,SNR=9.5						
MAJO	**Matsushiro**	**5.43**	**234**	*e*Pn	**Pn**	**01 10 35.9**	**+0.7**
	55nm,0.7s						
MAT	**Matsushiro**	**5.43**	**234**	P	**Pn**	**01 10 36.2**	**+1.0**
MAT				*e*S	**Sn**	**01 11 41.2**	**+3.1**
MJAR	**Matsushiro Arr**	**5.43**	**234**	P	**Pn**	**01 10 36.2**	**+1.0**
	3.8nm,0.3s,baz=42,slow=12,SNR=38						
MJAR				LR	LR	01 12 41.6	
	comp=Z,197nm,20.5s,baz=65,slow=38						
JHJ2	**Mitsune**	**7.40**	**206**	Pn	**Pn**	**01 11 01.0**	**-1.2**
JHJ	**Hachijo jima 2**	**7.41**	**206**	P	**Pn**	**01 11 04.5**	**+2.2**
	14nm,0.3s,baz=24,slow=20,SNR=5.1						
JHJ				S	**Sn**	**01 12 18.0**	**-8.6**
	26nm,0.3s,baz=24,slow=19,SNR=6.9						
JHJ				LR	LR	01 13 48.9	
	comp=Z,142nm,21.9s,baz=102,slow=37						
USRK	**Ussuriysk Ar.**	**9.74**	**300**	P	**Pn**	**01 11 36.9**	**+2.7**
	0.6nm,0.3s,baz=93,slow=15,SNR=26						
USRK				LR	LR	01 15 18.2	
	comp=Z,300nm,18.1s,baz=103,slow=37						
KSRS	**Korea Array**	**12.56**	**264**	P	**Pn**	**01 12 15.5**	**+2.7**
	0.3nm,0.3s,baz=82,slow=13,SNR=10						
KSRS				LR	LR	01 16 42.6	
	comp=Z,316nm,18.1s,baz=67,slow=36						
KSAR	**Wonju Array Be**	**12.60**	**264**	P	**Pn**	**01 12 15.5**	**+2.2**
PETK	**Petropavlovsk-**	**16.36**	**31**	LR	LR	01 18 54.6	
	comp=Z,87nm,20.2s,baz=205,slow=35						
MA2	**Magadan**	**20.26**	**10**	P	**P**	**01 13 51.4**	**+1.9**
	8.0nm,0.5s,baz=185,slow=11,SNR=6.6						
SEY	**Seymchan**	**23.71**	**10**	P	**P**	**01 14 28.2**	**+2.2**
	4.5nm,0.5s,baz=175,slow=4.3,SNR=12						
ULN	**Ulaanbaatar**	**27.41**	**299**	*e*P	**P**	**01 14 59.1**	**-0.9**
	14nm,1.3s						
SONM	**Songino Array**	**27.85**	**299**	P	**P**	**01 15 04.2**	**+0.2**
	4.3nm,0.7s,baz=86,slow=8.3,SNR=15						
H11N2	**WAKE ISLAND Hy**	**28.26**	**128**	T	T	01 46 13.9	
	baz=318,slow=75,SNR=105						
H11N1	**WAKE ISLAND Hy**	**28.27**	**128**	T	T	01 46 05.7	
	baz=318,slow=75,SNR=75						
H11N3	**WAKE ISLAND Hy**	**28.28**	**128**	T	T	01 46 07.4	
	baz=318,slow=75,SNR=88						
H11S1	**WAKE ISLAND Hy**	**29.09**	**130**	T	T	01 46 38.5	
	baz=322,slow=76,SNR=17						
H11S3	**WAKE ISLAND Hy**	**29.09**	**130**	T	T	01 46 38.2	
	baz=322,slow=76,SNR=16						
H11S2	**WAKE ISLAND Hy**	**29.10**	**130**	T	T	01 46 32.8	
	baz=322,slow=76,SNR=17						
ENH	**Enshi**	**29.44**	**262**	*e*P	**P**	**01 15 16.9**	**-1.2**
ZALV	**Zalesovo Beam**	**41.42**	**310**	P	**P**	**01 17 00.6**	**-0.1**
	4.9nm,0.8s,baz=82,slow=7.8,SNR=17						
ZALV				PcP	**PcP**	**01 18 58.1**	**-0.4**
	1.1nm,0.6s,baz=93,slow=3.2,SNR=3.8						
ZALV				LR	LR	01 34 57.6	
	comp=Z,84nm,19.3s,baz=246,slow=37						
NRIK	**Noril'sk**	**41.52**	**334**	P	**P**	**01 17 01.3**	**+0.1**
	1.8nm,0.4s,baz=108,slow=3.2,SNR=2.7						
CMAR	**Chiang Mai Arr**	**43.96**	**254**	LR	LR	01 37 49.1	
	comp=Z,60nm,18.1s,baz=115,slow=39						
KURK	**Kurchatov**	**45.67**	**306**	*e*P	**P**	**01 17 34.6**	**-0.3**
	110nm,1.0s						
AAK	**Ala-Archa**	**50.78**	**297**	LR	LR	01 40 48.7	
	comp=Z,87nm,18.6s,baz=53,slow=37						
INK	**Inuvik**	**51.07**	**28**	P	**P**	**01 18 17.4**	**+1.0**
	1.9nm,0.8s,baz=287,slow=13,SNR=4.7						
INK	**Inuvik**	**51.07**	**28**	*e*P	**P**	**01 18 17.8**	**+1.4**
KKAR	**Karatay Array**	**53.30**	**299**	*e*P	**P**	**01 18 32.5**	**-0.9**
	1.0nm,0.4s						
KKAR				*e*PP	**PP**	**01 20 34.0**	**+0.7**
ABKAR	**Akbulak array**	**57.53**	**309**	*e*P	**P**	**01 19 03.0**	**-0.7**
	2.8nm,0.6s						
WRAB	**Tennant Creek**	**60.10**	**190**	*e*P	**P**	**01 19 19.9**	**-1.9**
	4.9nm,1.0s						
WRA	**Warramunga Arr**	**60.11**	**190**	P	**P**	**01 19 21.4**	**-0.4**
	1.5nm,0.6s,baz=7.9,slow=6.9,SNR=13						
ARCES	**ARCESS Array B**	**62.01**	**339**	LR	LR	01 51 30.7	
	comp=Z,68nm,18.7s,baz=252,slow=41						
ASAR	**Alice Springs**	**63.83**	**190**	P	**P**	**01 19 47.0**	**+0.2**
	0.9nm,0.6s,baz=7.9,slow=5.8,SNR=10						
GEYT	**Alibeck**	**64.06**	**299**	P	**P**	**01 19 47.7**	**-0.6**
	5.6nm,0.6s,baz=358,slow=4.6,SNR=5.7						
FINES	**FINESS Array B**	**67.17**	**332**	P	**P**	**01 20 07.9**	**-0.1**
	3.0nm,0.8s,baz=38,slow=7.2,SNR=6.0						
KIV	**Kislovodsk**	**70.42**	**311**	*e*P	**P**	**01 20 28.5**	**-0.2**
	10nm,0.9s						
KBZ	**Khabaz**	**70.43**	**311**	P	**P**	**01 20 29.4**	**+0.8**
	3.9nm,0.8s,baz=32,slow=1.7,SNR=11						
NB2	**NORSAR Subarra**	**72.28**	**338**	P	**P**	**01 20 39.2**	**-0.4**
	comp=Z,1.0nm,0.6s,baz=35,slow=6.2						
NOA	**NORSAR Array B**	**72.28**	**338**	P	**P**	**01 20 39.4**	**-0.2**
	comp=Z,2.6nm,0.8s,baz=35,slow=6.0,SNR=4.2						
NOA				LR	LR	01 59 24.8	
	comp=Z,49nm,18.1s,baz=335,slow=42						
AKASG	**Malin Array Be**	**73.17**	**323**	P	**P**	**01 20 44.7**	**-0.2**
	comp=Z,1.7nm,0.7s,baz=46,slow=5.3,SNR=4.8						
PDAR	**Pinedale Array**	**74.43**	**47**	P	**P**	**01 20 55.1**	**+2.2**
	comp=Z,0.3nm,0.6s,baz=331,slow=5.2,SNR=2.9						
BRTR	**Keskin Array B**	**78.32**	**312**	P	**P**	**01 21 15.2**	**+0.3**
	comp=Z,0.5nm,0.6s,baz=23,slow=3.2,SNR=3.7						
CLL	**Collm**	**79.54**	**331**	*e*P	**P**	**01 21 21.0**	**-0.1**
GERES	**GERESS Array B**	**81.25**	**329**	P	**P**	**01 21 30.8**	**+0.3**
	comp=Z,0.1nm,0.3s,baz=45,slow=6.4,SNR=5.6						
GERES				LR	LR	02 00 46.9	
	comp=Z,85nm,18.5s,baz=342,slow=38						
TXAR	**Lajitas Array**	**87.00**	**54**	P	**P**	**01 22 01.5**	**+1.3**
	comp=Z,0.6nm,0.9s,baz=298,slow=5.8,SNR=4.5						
SNAA	**Sanae**	**143.95**	**197**	P	PKPab	01 28 45.4	-0.7
VNA2	**Neumayer--Watz**	**145.51**	**196**	P	**PKPdf**	**01 28 51.8**	**+0.4**
	baz=100,slow=2.4						

IDC 14 01:18:18.2±1.6, 23°.00S×178°.14W, h0km, mb3.5/3, mb1 3.8/3, mb1mx3.6/35, mbtmp3.5/3, Error ellipse: s-maj=78.6km s-min=36.1km az=172.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ASAR	**Alice Springs**	**43.87**	**259**	P	P	01 26 28.2	+1.6
	0.4nm,0.5s,baz=87,slow=8.6,SNR=5.0						
WRA	**Warramunga Arr**	**44.18**	**265**	P	P	01 26 27.6	-1.6
	0.3nm,0.4s,baz=98,slow=6.5,SNR=5.5						
TXAR	**Lajitas Array**	**88.51**	**57**	P	P	01 31 13.7	+0.7
	0.1nm,0.3s,baz=219,slow=8.1,SNR=2.9						
TORD	**Torodi Ar. Bea**	**170.20**	**179**	PKPab	PKPab	01 39 43.0	-1.3
	0.4nm,0.7s,baz=188,slow=2.2,SNR=6.2						

JMA 14 01:30:14.3±0.2, 37°.31N×141°.78E, h41km±3km, M3.5, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JFK	**Kawauchi**	**0.72**	**275**	P	Pn	01 30 28.3	+0.2
JFK				S	Sn	01 30 37.6	-0.3
ONAJ	**Iwakimizuishiy**	**0.81**	**255**	P	Pn	01 30 29.6	+0.3
ONAJ				S	Sn	01 30 40.1	-0.1
JMM	**Marumori**	**0.96**	**306**	P	Pn	01 30 31.5	+0.2
JMM				S	Sn	01 30 43.6	-0.2
JFT	**Otama**	**1.17**	**281**	P	Pn	01 30 35.5	+1.3
JFT				*e*S	Sn	01 30 50.1	+1.2
JIO	**Ouri**	**1.19**	**344**	P	Pn	01 30 34.3	-0.2
JIO				S	Sn	01 30 47.9	-1.6
JHO	**Hitachi**	**1.20**	**235**	P	Pn	01 30 34.7	+0.2
JHO				*e*S	Sn	01 30 49.1	-0.5
JOU	**Okura**	**1.38**	**320**	P	Pn	01 30 37.8	+0.8
JOU				S	Sn	01 30 55.0	+1.0
JMK	**Ichinoseki**	**1.70**	**345**	P	Pn	01 30 41.9	+0.5
JMK				*e*S	Sn	01 31 01.9	0.0
JYK	**Kaneyama**	**1.96**	**326**	P	Pn	01 30 45.9	+0.9
MAT	**Matsushiro**	**2.96**	**256**	P	Pn	01 31 02.4	+3.6
MAT				S	Sn	01 31 36.9	+3.7

*NIED **14** 01:30:00, 23°.00N×124°.20E, h5km, Mw4.0 Best double couple: M0 1.07000×10^15 NP1:φ=296.00000°, δ=42.00000°, λ=-72.00000°. NP2:φ=93.00000°, δ=50.00000°, λ=-106.00000°.*

*IDC **14** 01:30:16.3±0.8, 22°.89N×124°.16E, h0km, mb4.2/9, mb1 4.3/11, mb1mx4.0/41, mbtmp4.2/11, ML4.0/2, MS3.0/3, Ms1 3.0/3, ms1mx2.7/31, Error ellipse: s-maj=34.9km s-min=16.6km az=75.0*

*NEIC **14** 01:30:17.6±0.5, 22°.87N×124°.09E, h10km, mb4.4/3, Error ellipse: s-maj=8.9km s-min=7.4km az=209.0*

*JMA **14** 01:30:20.3±0.3, 22°.99N×124°.16E, h40km, M4.0*

ISC 14 01:30:16.6±2.0, 22°.92N±0°.06×124°.17E±0°.04, h7km±11km, n41, σ1$81/57, mb4.1/12, Southeast of Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HATJ	**Hateruma jima**	**1.19**	**344**	P	**Pg**	**01 30 39.8**	**+0.4**
HATJ				S	**Sg**	**01 30 54.2**	**-0.6**
JKRS	**Kuro-shima**	**1.32**	**354**	P	**Pn**	**01 30 42.4**	**+0.8**
JKRS				*e*S	**Sg**	**01 30 58.6**	**-0.7**
JIJ	**Ishigaki jima**	**1.44**	**359**	P	**Pn**	**01 30 43.3**	**+0.1**
JIJ				S	**Sb**	**01 31 00.1**	**-2.3**
IRIF	**Iriomote-Funau**	**1.47**	**344**	P	**Pn**	**01 30 44.3**	**+0.7**
IRIF				S	**Sn**	**01 31 01.8**	**-1.3**
JISG	**Ishigakijimahi**	**1.67**	**4**	P	**Pn**	**01 30 46.3**	**0.0**
JISG				S	**Sn**	**01 31 06.2**	**-1.8**
JTJ	**Tarama**	**1.79**	**16**	P	**Pn**	**01 30 48.5**	**+0.6**
JTJ				S	**Sn**	**01 31 09.9**	**-1.0**
YOJ	**Yonaguni jima**	**1.87**	**326**	P	**Pn**	**01 30 50.0**	**+0.9**
YOJ				S	**Sn**	**01 31 11.1**	**-1.9**
YOJ	**Yonaguni jima**	**1.87**	**326**	*e*Pn	**Pn**	**01 30 50.2**	**+1.1**
YOJ				Sn	**Sn**	**01 31 12.1**	**-0.8**
JYNG	**Yonagunijimaku**	**1.90**	**324**	P	**Pn**	**01 30 50.4**	**+1.0**
JYNG				S	**Sn**	**01 31 12.0**	**-1.6**
JIRB	**Irabujima**	**2.12**	**26**	P	**Pn**	**01 30 53.4**	**+1.0**
JIRB				S	**Sn**	**01 31 17.4**	**-1.6**
JMJ	**Miyako jima 2**	**2.15**	**28**	*e*S	**Sn**	**01 31 19.9**	**0.0**
JOGS	**Gusukube**	**2.16**	**31**	P	**Pb**	**01 30 55.2**	**-0.8**
JOGS				*e*S	**Sn**	**01 31 19.8**	**-0.3**
JIKM	**Ikemajima**	**2.23**	**26**	P	**Pn**	**01 30 55.7**	**+1.7**
JIKM		

ISC 14 01:39:02.1±1.0, 38.52N±0.03×39.38E±0.04, h24km±7km, n20, σ1§26/27, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SVRC	**Sivrice-ELAZIG**	**0.15**	**201**	*e*PG	**Pb**	**01 39 06.9**	**-0.4**
SVRC				*e*SG	**Sb**	**01 39 12.2**	**+1.4**
SVRC	**Sivrice-ELAZIG**	**0.15**	**201**	*e*Pg	**Pb**	**01 39 06.9**	**-0.4**
SVRC				*e*Sg	**Sb**	**01 39 12.2**	**+1.4**
ELZG	**Elazig**	**0.31**	**266**	*i* P	**Pn**	**01 39 10.7**	**-0.6**
ELZG				*i* S	**Sn**	**01 39 16.7**	**-0.4**
ELZG	**Elazig**	**0.31**	**266**	P	**Pn**	**01 39 10.6**	**-0.6**
ELZG				S	**Sn**	**01 39 16.7**	**-0.4**
PTK	**Pertek**	**0.37**	**2**	*e*PG	**Pb**	**01 39 08.9**	**-1.4**
PTK				*e*SG	**Sb**	**01 39 15.6**	**-0.2**
PTK	**Pertek**	**0.37**	**2**	*e*Pg	**Pb**	**01 39 08.9**	**-1.4**
PTK				*e*Sg	**Sb**	**01 39 15.6**	**-0.2**
TNCL	**Tunceli-Merkez**	**0.61**	**12**	*i* P	**Pb**	**01 39 14.1**	**0.0**
TNCL				*i* S	**Sn**	**01 39 23.6**	**-0.9**
TNCL	**Tunceli-Merkez**	**0.61**	**12**	P	**Pb**	**01 39 14.1**	**0.0**
TNCL				S	**Sn**	**01 39 23.6**	**-0.9**
KEMA	**Kemaliye**	**1.01**	**318**	*i* P	**Pb**	**01 39 21.7**	**+0.7**
KEMA				*i* S	**Sn**	**01 39 38.7**	**+4.2**
KEMA	**Kemaliye**	**1.01**	**318**	P	**Pb**	**01 39 21.7**	**+0.7**
URFA	**Urfa**	**1.17**	**202**	*e*PN	**Pn**	**01 39 21.1**	**-1.9**
URFA	**Urfa**	**1.17**	**202**	*e*Pn	**Pn**	**01 39 21.1**	**-1.9**
YEDI	**Yedisu-Bingol**	**1.29**	**45**	*e*PN	**Pn**	**01 39 24.8**	**0.0**
YEDI	**Yedisu-Bingol**	**1.29**	**45**	*e*Pn	**Pn**	**01 39 24.8**	**0.0**
MAZI	**Mazidag**	**1.36**	**141**	*e*PN	**Pn**	**01 39 26.0**	**+0.4**
MAZI	**Mazidag**	**1.36**	**141**	*e*Pn	**Pn**	**01 39 26.0**	**+0.4**
SVAN	**Silvan-Diyarba**	**1.48**	**104**	*e*PN	**Pb**	**01 39 28.9**	**0.0**
SVAN	**Silvan-Diyarba**	**1.48**	**104**	*e*Pn	**Pb**	**01 39 28.9**	**0.0**
CUKAN	**kangal_SIVAS**	**1.69**	**299**	*i* P	Pn	01 39 24.5	-5.8
CUKAN	**kangal_SIVAS**	**1.69**	**299**	P	Pn	01 39 24.5	-5.7

GUC 14 01:50:11.3±0.6, 35.32S×72.07W, h44km±1km, ML3.8, 3C-3D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GO05	**HualaæØ**	**0.33**	**20**	⇑*i*P	Pn	01 50 20.0	-0.3
GO05				*i* S	Sn	01 50 26.3	-0.3
GO05				IAML		01 50 26.9	
	comp=E,11µm,0.1s						
TALC	**Talca**	**0.36**	**102**	⇓*i*P	Pn	01 50 20.2	-0.3
TALC				*i* S	Sn	01 50 26.8	-0.3
NICH	**Los Niches**	**0.76**	**65**	⇓*i*P	Pn	01 50 25.4	-0.2
NICH				*i* S	Sn	01 50 36.1	+0.2
CHPI	**Pichilemu**	**0.93**	**3**	⇓*i*P	Pn	01 50 27.8	-0.2
CHPI				*i* S	Sn	01 50 40.2	+0.1
ANTU	**Antumapu**	**2.12**	**35**	IAML		01 51 22.8	
	comp=N,958nm,0.6s						
CLCH	**Cerro Calan**	**2.30**	**34**	⇑*i*P	Pn	01 50 47.1	+0.2
CLCH				*i* S	Sn	01 51 14.4	+0.4
CLCH				IAML		01 51 31.2	
	comp=E,996nm,0.4s						
PEL	**Peldehue**	**2.46**	**28**	⇑*i*P	Pn	01 50 49.2	+0.3
PEL				*i* S	Sn	01 51 19.0	+1.2
PEL				IAML		01 51 29.6	
	comp=N,447nm,0.4s						
FCH	**Farellones**	**2.48**	**37**	IAML		01 51 29.5	
	comp=N,612nm,0.2s						
ROCH	**El Roble**	**2.50**	**21**	IAML		01 51 33.8	
	comp=N,546nm,0.3s						

NNC 14 02:05:59.0±5.7, 36.72N×70.65E, h199km±101km, mb2.8, mpv3.7, 4C-6D, Error ellipse: s-maj=56.4km s-min=38.6km az=34.0, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MNAS	**Manas**	**5.94**	**13**	⇑P	Pn	02 07 25.5	+0.1
	1.9nm,0.4s						
MNAS				⇓S	Sn	02 08 33.8	-0.1
	4.6nm,0.4s						
KK31	**Karatay Array**	**6.38**	**359**	⇑P	Pn	02 07 31.0	0.0
	1.9nm,0.3s,baz=183,slow=8.2,SNR=68						
KK31				⇓S	Sn	02 08 44.6	+0.5
	1.2nm,0.3s,baz=193,slow=24,SNR=7.2						
AAK	**Ala-Archa**	**6.61**	**25**	⇓P	Pn	02 07 34.2	0.0
	5.7nm,0.3s						
AAK				⇓S	Sn	02 08 53.2	+3.5
	1.6nm,0.4s						
TKM2	**Tokmak 2**	**7.27**	**30**	⇓P	Pn	02 07 41.8	-1.0
	1.7nm,0.4s						
TKM2				⇑S	Sn	02 09 03.5	-1.7
	2.1nm,1.0s						
AB31	**Akbulak array**	**14.76**	**331**	⇑P	P	02 09 20.7	+1.7
	1.4nm,0.6s,baz=157,slow=12,SNR=26						
AB31				⇓S	S	02 12 00.4	-1.6
	0.4nm,0.5s,baz=156,slow=23,SNR=5.8						

IDC 14 02:38:51.2±17.0, 22.23N×144.58E, h166km±137km, mb3.4/5, mb1 3.5/5, mb1mx3.1/48, mbtmp3.9/5, MS3.0/1, Ms1 3.0/1, ms1mx2.3/26, Error ellipse: s-maj=193.9km s-min=17.5km az=79.0, Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JOW	**Kunigami**	**15.53**	**290**	LR	LR	02 47 47.0	
	comp=Z,69nm,21.8s,baz=162,slow=34						
KSRS	**Korea Array**	**20.90**	**320**	P	P	02 43 20.6	+0.1
	1.5nm,0.6s,baz=144,slow=9.2,SNR=6.4						
WRA	**Warramunga Arr**	**43.09**	**194**	P	P	02 46 34.9	-0.2
	0.4nm,0.5s,baz=14,slow=9.0,SNR=7.7						
ASAR	**Alice Springs**	**46.78**	**193**	P	P	02 47 04.2	0.0
	0.4nm,0.8s,baz=14,slow=9.5,SNR=3.9						
BVAR	**Borovoye Array**	**63.12**	**319**	P	P	02 49 01.3	+0.3
	1.8nm,0.3s,baz=98,slow=8.2,SNR=14						
FINES	**FINESS Array B**	**83.26**	**335**	P	P	02 50 58.5	-0.4
	3.3nm,0.9s,baz=73,slow=4.8,SNR=6.5						

ISCJB 14 02:45:43.3±1.1, 15.2N±0.1×146.3E±0.2, h58km, mb3.9/7, Error ellipse: s-maj=31.2km s-min=9.6km az=29.9
IDC 14 02:45:44.6±3.9, 15.22N×146.26E, h52km±38km, mb3.6/7, mb1 3.8/8, mb1mx3.4/50, mbtmp3.9/8, ML3.9/1, Error ellipse: s-maj=31.0km s-min=25.4km az=119.0
ISC 14 02:45:45.3±1.1, 15.2N±0.1×146.3E±0.2, h58km, n15, σ0§96/10, mb3.9/7, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GUMO	**Guam**	**2.13**	**220**	P	**Pn**	**02 46 19.1**	**+0.7**
	39nm,0.3s,baz=129,slow=4.4,SNR=8.6						
GUMO				S	**Sn**	**02 46 42.7**	**-1.1**
	123nm,0.3s,baz=39,slow=23,SNR=24						
H11S3	**WAKE ISLAND Hy 19.80**	**78**		T	T	03 11 33.5	
	baz=263,slow=75,SNR=53						
H11S1	**WAKE ISLAND Hy 19.81**	**78**		T	T	03 11 31.8	
	baz=263,slow=75,SNR=24						
H11S2	**WAKE ISLAND Hy 19.81**	**78**		T	T	03 11 34.1	
	baz=263,slow=75,SNR=34						
H11N1	**WAKE ISLAND Hy 20.16**	**74**		T	T	03 11 59.4	
	baz=260,slow=75,SNR=22						
H11N2	**WAKE ISLAND Hy 20.16**	**74**		T	T	03 11 53.6	
	baz=260,slow=75,SNR=13						
H11N3	**WAKE ISLAND Hy 20.17**	**74**		T	T	03 12 02.9	
	baz=260,slow=75,SNR=21						
WRA	**Warramunga Arr**	**36.87**	**199**	P	**P**	**02 52 48.6**	**+0.2**
	0.5nm,0.7s,baz=19,slow=8.8,SNR=5.7						
CMAR	**Chiang Mai Arr**	**45.32**	**281**	P	**P**	**02 53 58.0**	**+0.1**
	1.0nm,0.4s,baz=81,slow=5.7,SNR=3.8						
SONM	**Songino Array**	**46.21**	**323**	P	**P**	**02 54 05.1**	**+0.5**
	0.5nm,0.6s,baz=116,slow=9.8,SNR=2.5						
ILAR	**Eielson Array**	**66.51**	**25**	P	**P**	**02 56 29.4**	**+0.8**
	0.5nm,0.4s,baz=252,slow=5.6,SNR=11						
BVAR	**Borovoye Array**	**69.50**	**321**	P	**P**	**02 56 47.7**	**+0.1**
	1.9nm,0.5s,baz=102,slow=7.9,SNR=12						
INK	**Inuvik**	**72.33**	**23**	P	**P**	**02 57 02.6**	**-1.9**
	1.2nm,0.9s,baz=248,slow=5.4,SNR=6.0						
AKTO	**Aktyubinsk**	**77.32**	**319**	P	**P**	**02 57 33.1**	**-0.6**
	0.5nm,0.3s,baz=90,slow=4.0,SNR=3.4						
PLCA	**Paso Flores**	**139.19**	**136**	PKP	**PKPdf**	**03 05 06.3**	**+0.2**
	1.8nm,0.9s,baz=270,slow=3.0,SNR=4.4						

SCB 14 02:59:48.1±0.9, 17.33S×73.14W, h45km, Ml3.9/1, Error ellipse: s-maj=22.7km s-min=10.1km az=112.0
GUC 14 03:00:05.0±0.3, 17.96S×72.00W, h26km±5km, ML3.9
IDC 14 03:00:24.0±3.6, 16.93S×70.57W, h171km±24km, mb2.9/2, mb1 3.3/5, mb1mx3.1/32, mbtmp3.6/5, MS2.5/3, Ms1 2.5/3, ms1mx2.5/9, Error ellipse: s-maj=58.3km s-min=30.2km az=23.0

ISC 14 03:00:07.5±1.3, 17.81S±0.06×71.93W±0.09, h33km, n30, σ1§74/29, 7C-2D, Near coast of Peru

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PB12	**IPOC Station P**	**1.72**	**118**	⇑*i*P	**Pn**	**03 00 34.4**	**-0.8**
PSGC	**Pisagua**	**2.46**	**136**	⇑*i*P	**Pn**	**03 00 45.0**	**-0.5**
PSGC				*i* S	**Sn**	**03 01 15.6**	**+1.1**
PSGC				IAML		03 01 18.2	
	comp=N,247nm,0.4s						
MNMC	**Minye Minye**	**2.57**	**121**	⇑*i*P	**Pn**	**03 00 47.2**	**0.0**
MNMC				IAML		03 01 45.4	
	comp=E,775nm,0.7s						
PB11	**IPOC Station P**	**2.90**	**132**	⇑*i*P	**Pn**	**03 00 51.2**	**-0.3**
PB11				*i* S	**Sn**	**03 01 26.4**	**+1.1**
HMBC	**Humberstone**	**3.12**	**142**	⇑*i*P	**Pn**	**03 00 54.3**	**-0.2**
HMBC				*i* S	**Sn**	**03 01 31.0**	**+0.3**
HMBC				IAML		03 01 35.9	
	comp=N,704nm,0.5s						
BBOD	**La Paz, Gloria**	**3.39**	**70**	*e*Pn	**Pn**	**03 00 58.5**	**-0.1**
PB08	**IPOC Station P**	**3.50**	**132**	⇑*i*P	**Pn**	**03 00 59.9**	**-0.1**
PB08				*i* S	**Sn**	**03 01 43.1**	**+2.6**
PB08				IAML		03 01 47.9	
	comp=N,234nm,0.3s						
BBOJ	**La Paz, Jacaqu**	**3.67**	**77**	⇑*i*Pn	**Pn**	**03 01 02.8**	**+0.4**
BBOE	**La Paz, Chanca**	**3.90**	**76**	*e*Pn	**Pn**	**03 01 06.3**	**+0.7**
LPAZ	**La Paz**	**3.94**	**68**	P	**Pn**	**03 01 05.8**	**-0.5**
	comp=N,1.2nm,0.3s,baz=255,slow=9.0,SNR=41						
LPAZ				LR	LR	03 02 25.4	
	comp=N,44nm,18.2s,baz=226,slow=50						
LPAZ	**La Paz**	**3.94**	**68**	*e*Pn	**Pn**	**03 01 05.7**	**-0.5**
BBOB	**La Paz, Bander**	**4.00**	**66**	*e*Pn	**Pn**	**03 01 06.0**	**-0.9**
BBOB				*e*Sn	**Sb**	**03 02 02.6**	**-3.0**
	comp=N,91nm,0.7s						
PB07	**IPOC Station P**	**4.34**	**154**	⇓*i*P	**Pn**	**03 01 10.6**	**-0.7**
PB09	**IPOC Station P**	**4.70**	**148**	*e*P	**Pn**	**03 01 16.4**	**+0.1**
PB09				*i* S	**Sn**	**03 02 10.4**	**+0.6**
PB04	**IPOC Station P**	**4.80**	**160**	⇓*i*P	**Pn**	**03 01 16.1**	**-1.6**
PB04				*i* S	**Sn**	**03 02 10.6**	**-1.6**
ANCH	**Antofagasta**	**6.01**	**167**	*e*P	**Pn**	**03 01 32.1**	**-2.1**
ANCH				*i* S	**Sn**	**03 02 38.7**	**-3.1**
MOCB	**Mochara**	**6.85**	**121**	*e*Pn	**Pn**	**03 01 49.7**	**+3.6**
SIV	**San Ignacio**	**10.55**	**82**	P	**Pn**	**03 02 32.4**	**-4.1**
	comp=N,0.4nm,0.3s,baz=275,slow=11,SNR=3.6						
SIV				LR	LR	03 06 54.4	
	comp=N,30nm,20.7s,baz=35,slow=43						
SIV	**San Ignacio**	**10.55**	**82**	*e*P	**Pn**	**03 02 34.9**	**-1.6**
ATAH	**Atahualpa**	**12.35**	**328**	LR	LR	03 07 58.1	
	comp=N,53nm,19.9s,baz=144,slow=37						
PTGA	**Pitinga**	**20.65**	**36**	P	P	03 04 34.7	-10
	comp=N,1.8nm,0.3s,baz=209,slow=15,SNR=10						
TXAR	**Lajitas Array**	**56.00**	**326**	P	**P**	**03 09 45.3**	**+2.2**
	comp=N,0.2nm,0.7s,baz=147,slow=5.2,SNR=2.8						
TORD	**Torodi Ar. Bea**	**78.88**	**72**	P	P	03 12 01.3	-6.7
	comp=N,0.3nm,0.5s,baz=249,slow=5.8,SNR=5.6						
H11N3	**WAKE ISLAND Hy 24.50**	**282**		T	T	05 35 38.5	
	baz=98,slow=74,SNR=8.8						
H11S2	**WAKE ISLAND Hy 24.50**	**280**		T	T	05 35 40.1	
	baz=99,slow=75,SNR=49						
H11S1	**WAKE ISLAND Hy 24.51**	**281**		T	T	05 35 40.1	
	baz=99,slow=75,SNR=30						
H11N2	**WAKE ISLAND Hy 24.51**	**282**		T	T	05 35 38.5	
	baz=98,slow=74,SNR=11						
H11N1	**WAKE ISLAND Hy 24.52**	**282**		T	T	05 35 41.2	
	baz=98,slow=74,SNR=7.0						
H11S3	**WAKE ISLAND Hy 24.52**	**280**		T	T	05 35 40.1	
	baz=99,slow=75,SNR=24						
SONM	**Songino Array**	**150.03**	**2**	PKPbc	**PKPdf**	**03 19 50.1**	**+0.2**
	comp=N,0.4nm,0.7s,baz=307,slow=5.2,SNR=4.9						

IDC 14 03:22:21.1±1.0, 35.70N×143.42E, h0km, mb3.5/5, mb1 3.8/7, mb1mx3.5/47, mbtmp3.6/7, ML3.6/2, Error ellipse: s-maj=26.3km s-min=21.4km az=124.0
ISCJB 14 03:22:24.1±0.7, 35.76N±0.06×143.36E±0.06, h33km, mb3.5/5, Error ellipse: s-maj=8.2km s-min=6.4km az=15.1
JMA 14 03:22:25.2±0.3, 35.82N×143.26E, h95km, M3.1
ISC 14 03:22:25.9±1.0, 35.75N±0.06×143.38E±0.08, h35km, n25, σ1§34/27, mb3.7/5, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CHOJ	**Chosi**	**2.05**	**270**	P	**Pn**	**03 22 57.8**	**-0.1**
CHOJ				S	**Sn**	**03 23 22.0**	**-0.2**
BSO1	**Boso 1**	**2.25**	**242**	P	**Pn**	**03 22 59.8**	**-0.3**
JHO	**Hitachi**	**2.43**	**292**	P	**Pn**	**03 23 02.0**	**-1.1**
ONAJ	**Iwakimizuishiy**	**2.48**	**304**	P	**Pn**	**03 23 02.7**	**-1.2**
ONAJ				S	**Sn**	**03 23 31.4**	**-1.6**
JFT	**Otama**	**3.02**	**307**	P	**Pn**	**03 23 11.3**	**+0.1**
JFT				S	**Sn**	**03 23 45.4**	**-0.7**
JAG	**Ashikaga**	**3.25**	**283**	P	**Pn**	**03 23 14.0**	**-0.4**
JAG				eS	**Sn**	**03 23 51.0**	**-0.8**
JOD2	**Odawara 2**	**3.53**	**263**	P	**Pn**	**03 23 18.0**	**-0.3**
JOD2				S	**Sn**	**03 23 57.6**	**-1.2**
JMK	**Ichinoseki**	**3.63**	**332**	P	**Pn**	**03 23 18.4**	**-1.2**
JRY	**Ryogami san**	**3.65**	**276**	P	**Pn**	**03 23 20.0**	**+0.2**
JHJ	**Hachijo jima 2**	**3.96**	**230**	Pn	**Pn**	**03 23 23.1**	**-1.1**
	10nm,0.3s,baz=93,slow=22,SNR=6.2						
JHJ				Sn	**Sn**	**03 24 05.8**	**-3.6**
	38nm,0.3s,baz=86,slow=21,SNR=8.5						
JYK	**Kaneyama**	**3.98**	**324**	P	**Pn**	**03 23 23.4**	**-0.9**
JOM	**Ohasama**	**4.07**	**337**	S	**Sn**	**03 24 09.3**	**-2.8**
MJAR	**Matsushiro Arr**	**4.26**	**282**	Pn	**Pn**	**03 23 27.1**	**-1.1**
	3.4nm,0.3s,baz=97,slow=12,SNR=40						
MJAR				Sn	**Sn**	**03 24 18.3**	**+1.5**
	0.6nm,0.3s,baz=28,slow=25,SNR=4.2						
MAT	**Matsushiro**	**4.26**	**282**	P	**Pn**	**03 23 30.0**	**+1.7**
MAT				S	**Sn**	**03 24 17.0**	**+0.2**
H11N2	**WAKE ISLAND Hy 26.13**	**121**		T	T	03 55 02.1	
	baz=312,slow=75,SNR=7.8						
H11N1	**WAKE ISLAND Hy 26.13**	**121**		T	T	03 55 06.3	
	baz=312,slow=75,SNR=7.6						
H11N3	**WAKE ISLAND Hy 26.14**	**121**		T	T	03 55 05.0	
	baz=312,slow=75,SNR=4.9						
H11S1	**WAKE ISLAND Hy 26.83**	**124**		T	T	03 56 02.0	
	baz=314,slow=76,SNR=5.7						
H11S3	**WAKE ISLAND Hy 26.83**	**124**		T	T	03 56 00.3	
	baz=314,slow=76,SNR=5.5						
H11S2	**WAKE ISLAND Hy 26.84**	**124**		T	T	03 56 00.3	
	baz=314,slow=76,SNR=3.8						
ZALV	**Zalesovo Beam**	**43.95**	**313**	P	**P**	**03 30 30.1**	**+0.9**
	0.5nm,0.4s,baz=95,slow=10,SNR=2.8						
ILAR	**Eielson Array**	**49.74**	**32**	P	**P**	**03 31 16.1**	**+1.8**
	0.4nm,0.9s,baz=255,slow=7.3,SNR=3.4						
WRA	**Warramunga Arr**	**56.04**	**190**	P	**P**	**03 32 01.2**	**-0.1**
	0.7nm,0.7s,baz=8.8,slow=7.4,SNR=5.1						
ASAR	**Alice Springs**	**59.77**	**190**	P	**P**	**03 32 28.1**	**+0.7**
	0.5nm,0.8s,baz=6.2,slow=10,SNR=4.5						
PDAR	**Pinedale Array**	**77.43**	**46**	P	**P**	**03 34 17.4**	**-0.4**
	0.1nm,0.4s,baz=352,slow=5.6,SNR=2.9						

ATH 14 03:29:56.8, 37.20N×22.07E, h13km±1km, ML3.2/34, Error ellipse: s-maj=1.2km s-min=0.6km az=343.0
CSEM 14 03:29:57.6±0.2, 37.22N×22.07E, h2km, ML3.4, Error ellipse: s-maj=4.8km s-min=3.3km az=52.0
THE 14 03:29:57.0, 37.20N×22.03E, h0km±1km, ML3.4/13, Error ellipse: s-maj=1.5km s-min=0.6km az=223.0
IDC 14 03:30:02.3±2.0, 37.02N×22.00E, h47km±24km, mb3.4/2, mb1 3.4/7, mb1mx3.2/39, mbtmp3.4/7, ML2.9/5, Error ellipse: s-maj=22.6km s-min=17.5km az=31.0
ISC 14 03:29:56.8±1.0, 37.20N±0.01×22.05E±0.01, h4km±8km, n203, σ1§39/268, Southern Greece

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ITM	**Ithomi**	**0.10**	**259**	P	**Pg**	**03 29 58.5**	**-0.3**
ITM				S	**Sg**	**03 29 59.5**	**-0.7**
ITM	**Ithomi**	**0.10**	**259**	P	**Pg**	**03 29 58.5**	**-0.3**
ITM				S	**Sg**	**03 29 59.5**	**-0.7**
VLX	**Vlachokerasia**	**0.32**	**57**	P	**Pg**	**03 30 03.1**	**+0.2**
VLX				S	**Sg**	**03 30 08.2**	**+1.2**
VLX	**Vlachokerasia**	**0.32**	**57**	P	**Pg**	**03 30 03.4**	**+0.5**
VLX				S	**Sg**	**03 30 08.2**	**+1.2**
VLX	**Vlachokerasia**	**0.32**	**57**	P	**Pg**	**03 30 03.4**	**+0.5**
VLX				S	**Sg**	**03 30 08.3**	**+1.2**
VLX				AML	AML	03 30 12.6	
	comp=E,18535µm,0.5s						
VLX				AML	AML	03 30 14.1	
	comp=N,15019µm,0.8s						
TRIP	**Tripoli**	**0.37**	**28**	P	**Pg**	**03 30 04.3**	**+0.3**
TRIP				S	**Sg**	**03 30 09.3**	**+0.4**
TRIP	**Tripoli**	**0.37**	**28**	P	**Pg**	**03 30 04.3**	**+0.3**
TRIP				S	**Sg**	**03 30 09.3**	**+0.4**
TRIP				AML	AML	03 30 10.9	
	comp=E,6033µm,1.1s						
TRIP				AML	AML	03 30 13.1	
	comp=N,10871µm,0.6s						
PYL	**PYLOS**	**0.39**	**219**	P	**Pg**	**03 30 03.8**	**-0.5**
PYL				S	**Sg**	**03 30 10.8**	**+1.5**
PYL	**PYLOS**	**0.39**	**219**	P	**Pg**	**03 30 03.8**	**-0.5**
PYL				S	**Sg**	**03 30 09.8**	**+0.5**
PYL	**PYLOS**	**0.39**	**219**	P	**Pg**	**03 30 02.9**	**-1.4**
PYL				S	**Sg**	**03 30 11.4**	**+2.1**
PYL				AML	AML	03 30 11.9	
	comp=N,12322µm,0.3s						
PYL				AML	AML	03 30 12.2	
	comp=E,24687µm,0.5s						
AMT	**Artemida-Makis**	**0.43**	**321**	P	**Pg**	**03 30 04.8**	**-0.3**
AMT				S	**Sg**	**03 30 10.8**	**+0.1**
AMT	**Artemida-Makis**	**0.43**	**321**	P	**Pg**	**03 30 04.8**	**-0.3**
AMT				S	**Sg**	**03 30 10.8**	**+0.1**
AMT	**Artemida-Makis**	**0.43**	**321**	P	**Pg**	**03 30 04.2**	**-0.9**
AMT				S	**Sg**	**03 30 10.2**	**-0.5**
AMT				AML	AML	03 30 20.2	
	comp=E,23245µm,0.8s						
AMT				AML	AML	03 30 21.6	
	comp=N,26224µm,0.8s						
DRO	**Drossia**	**0.80**	**340**	P	**Pg**	**03 30 11.9**	**-0.2**
DRO				S	**Sg**	**03 30 23.4**	**+0.9**
DRO	**Drossia**	**0.80**	**340**	P	**Pg**	**03 30 12.0**	**-0.2**
DRO				S	**Sg**	**03 30 23.4**	**+0.9**
DRO	**Drossia**	**0.80**	**340**	P	**Pg**	**03 30 11.5**	**-0.6**
DRO				S	**Sb**	**03 30 25.0**	**+0.5**
DRO				AML	AML	03 30 32.2	
	comp=N,4670µm,0.4s						
DRO				AML	AML	03 30 32.9	
	comp=E,6569µm,0.4s						
KLV	**Kalavryta, Ach**	**0.85**	**5**	P	**Pg**	**03 30 12.2**	**-0.9**
KLV				S	**Sb**	**03 30 25.9**	**0.0**
KLV	**Kalavryta, Ach**	**0.85**	**5**	P	**Pg**	**03 30 12.2**	**-0.9**
KLV				S	**Sg**	**03 30 23.4**	**-0.7**
KLV	**Kalavryta, Ach**	**0.85**	**5**	P	**Pg**	**03 30 11.6**	**-1.5**
KLV				S	**Sg**	**03 30 23.4**	**-0.7**
KLV				AML	AML	03 30 29.2	
	comp=E,1808µm,0.5s						
KLV				AML	AML	03 30 30.5	
	comp=N,1552µm,1.0s						
VLI	**Veliai**	**0.86**	**124**	P	**Pg**	**03 30 13.3**	**+0.1**
VLI				S	**Sb**	**03 30 26.5**	**+0.4**
VLI	**Veliai**	**0.86**	**124**	P	**Pg**	**03 30 13.3**	**+0.1**
VLI				S	**Sg**	**03 30 25.1**	**+0.7**
VLI	**Veliai**	**0.86**	**124**	P	**Pg**	**03 30 13.6**	**+0.3**
VLI				S	**Sg**	**03 30 23.1**	**-1.2**
VLI				AML	AML	03 30 30.9	
	comp=E,11752µm,0.6s						
VLI				AML	AML	03 30 33.0	
	comp=N,4823µm,0.5s						
THAL	**Thalero**	**0.97**	**30**	P	**Pb**	**03 30 15.4**	**-0.8**
THAL	**Thalero**	**0.97**	**30**	P	**Pb**	**03 30 15.4**	**-0.8**
THAL	**Thalero**	**0.97**	**30**	P	**Pb**	**03 30 15.8**	**-0.4**
THAL				AML	AML	03 30 41.6	
	comp=N,5568µm,0.5s						
THAL				AML	AML	03 30 43.3	
	comp=E,5163µm,0.6s						
RLS	**Riolos of Patr**	**0.97**	**332**	P	**Pb**	**03 30 15.4**	**-0.9**
RLS				S	**Sg**	**03 30 29.5**	**+1.4**
RLS	**Riolos of Patr**	**0.97**	**332**	P	**Pb**	**03 30 15.4**	**-0.9**
RLS				S	**Sb**	**03 30 28.2**	**-1.3**
RLS	**Riolos of Patr**	**0.97**	**332**	P	**Pb**	**03 30 13.9**	**-2.3**
RLS				S	**Sb**	**03 30 28.2**	**-1.3**
RLS				AML	AML	03 30 32.9	
	comp=N,2205µm,0.6s						
RLS				AML	AML	03 30 34.3	
	comp=E,1980µm,0.5s						
TRAZ	**Trapeza**	**0.98**	**8**	P	**Pb**	**03 30 14.0**	**-2.4**
TRAZ				S	**Sg**	**03 30 27.7**	**-0.5**
TRAZ	**Trapeza**	**0.98**	**8**	P	**Pb**	**03 30 14.0**	**-2.4**
TRAZ				S	**Sg**	**03 30 27.7**	**-0.5**
TRAZ				AML	AML	03 30 32.7	
	comp=E,3897µm,0.6s						
TRAZ				AML	AML	03 30 34.2	
	comp=N,5798µm,0.6s						
VTN	**Vitineika**	**0.99**	**317**	P	**Pb**	**03 30 16.7**	**+0.1**
VTN	**Vitineika**	**0.99**	**317**	P	**Pb**	**03 30 16.7**	**+0.1**
DID	**Didima**	**0.99**	**72**	P	**Pb**	**03 30 15.5**	**-1.1**
DID	**Didima**	**0.99**	**72**	P	**Pb**	**03 30 15.5**	**-1.1**
DID				S	**Sg**	**03 30 29.1**	**+0.3**
DID	**Didima**	**0.99**	**72**	P	**Pb**	**03 30 15.5**	**-1.1**
DID				S	**Sg**	**03 30 29.1**	**+0.3**
DID				AML	AML	03 30 34.5	
	comp=E,2466µm,0.4s						
DID				AML	AML

comp=N,2785μm,0.8s
VIL2 AML AML 03 30 52.5
comp=E,1320μm,1.5s
PVO Paravola 1.48 344 P **Pb** **03 30 24.7 -0.1**
PVO S **Sn** **03 30 42.4 -1.6**
PVO Paravola 1.48 344 P **Pb** **03 30 24.7 -0.1**
PVO S **Sn** **03 30 42.4 -1.6**
PVO AML AML 03 30 55.9
comp=N,1000μm,0.5s
PVO AML AML 03 30 57.7
comp=E,1153μm,0.7s
VLS Valsamata 1.52 311 P **Pn** **03 30 24.1 -0.7**
VLS Valsamata 1.52 311 P **Pn** **03 30 24.1 -0.7**
VLS Valsamata 1.52 311 P **Pn** **03 30 22.6 -2.2**
VLS S **Sg** **03 30 49.9 +4.4**
VLS AML AML 03 30 55.5
comp=N,1103μm,0.5s
VLS AML AML 03 30 56.7
comp=E,581μm,0.6s
ATH Athens Observa 1.53 59 P **Pg** **03 30 26.4 +0.2**
ATH S **Sg** **03 30 48.1 +2.0**
ATH Athens Observa 1.53 59 P **Pg** **03 30 26.4 +0.2**
ATH S **Sg** **03 30 48.1 +2.0**
ATH AML AML 03 30 53.2
comp=N,1771μm,1.1s
ATH AML AML 03 30 53.4
comp=E,2754μm,1.4s
VLY Voula,Athens 1.53 64 P **Pn** **03 30 24.9 -0.1**
VLY S **Sg** **03 30 46.2 +0.1**
VLY Voula,Athens 1.53 64 P **Pn** **03 30 24.9 -0.1**
VLY S **Sg** **03 30 46.2 +0.1**
VLY Voula,Athens 1.53 64 P **Pn** **03 30 24.6 -0.4**
VLY S **Sg** **03 30 47.3 +1.2**
VLY AML AML 03 30 51.0
comp=E,1438μm,0.5s
VLY AML AML 03 30 52.0
comp=N,1240μm,1.1s
PDO Prodromos 1.56 334 P **Pb** **03 30 25.8 -0.4**
PDO Prodromos 1.56 334 P **Pn** **03 30 25.5 +0.2**
PDO S **Sg** **03 30 49.6 +2.8**
PDO Prodromos 1.56 334 P **Pn** **03 30 25.5 +0.2**
PDO S **Sg** **03 30 49.6 +2.8**
ATHU Athens Univers 1.58 60 P **Pn** **03 30 23.9 -1.7**
ATHU S **Sb** **03 30 46.3 -0.6**
ATHU Athens Univers 1.58 60 P **Pn** **03 30 23.9 -1.7**
ATHU S **Sb** **03 30 46.4 -0.6**
ATHU AML AML 03 30 52.2
comp=N,684μm,1.3s
ATHU AML AML 03 30 55.3
comp=E,600μm,0.8s
LKR Lokris 1.63 27 P **Pn** **03 30 26.6 +0.3**
LKR Lokris 1.63 27 P **Pn** **03 30 26.6 +0.3**
LKR S **Sg** **03 30 50.0 +0.7**
LKR Lokris 1.63 27 P **Pn** **03 30 26.6 +0.3**
LKR S **Sg** **03 30 50.0 +0.7**
LKR AML AML 03 30 55.2
comp=N,919μm,1.0s
LKR AML AML 03 30 58.3
comp=E,1075μm,0.6s
ANKY Antikythira Is 1.67 142 P **Pg** **03 30 29.0 +0.2**
ANKY Antikythira Is 1.67 142 P **Pg** **03 30 29.0 +0.2**
ANKY AML AML 03 31 01.7
comp=N,2127μm,0.9s
ANKY AML AML 03 31 05.4
comp=E,2070μm,1.2s
PTL Penteli 1.67 59 P **Pn** **03 30 27.0 0.0**
PTL Penteli 1.67 59 P **Pn** **03 30 26.9 0.0**
PTL AML AML 03 30 56.0
comp=E,1377μm,1.3s
PTL AML AML 03 31 01.7
comp=N,1426μm,1.1s
EVR Evrytania 1.73 354 P **Pb** **03 30 29.5 +0.4**
EVR S **Sb** **03 30 50.5 -0.8**
EVR Evrytania 1.73 354 P **Pb** **03 30 29.6 +0.4**
EVR S **Sb** **03 30 50.5 -0.8**
EVR AML AML 03 31 02.9
comp=N,1188μm,1.7s
EVR AML AML 03 31 08.8
comp=E,914μm,1.2s
AGG Agios Georgios 1.83 7 *e*PN **Pb** **03 30 31.5 +0.5**
AGG Agios Georgios 1.83 7 P **Pn** **03 30 29.8 +0.6**
AGG Agios Georgios 1.83 7 P **Pn** **03 30 29.8 +0.6**
AGG Agios Georgios 1.83 7 *e*Pn **Pb** **03 30 31.5 +0.5**
AGG Agios Georgios 1.83 7 P **Pn** **03 30 29.3 +0.1**
AGG AML AML 03 31 04.0
comp=E,1623μm,0.9s
AGG AML AML 03 31 09.8
comp=N,1312μm,0.5s
SMIA Simia 1.91 28 P **Pb** **03 30 31.1 -1.1**
SMIA Simia 1.91 28 P **Pb** **03 30 31.1 -1.1**
EREA Eretria 1.93 50 P **Pn** **03 30 30.7 +0.3**
EREA Eretria 1.93 50 P **Pn** **03 30 30.7 +0.3**
EREA Eretria 1.93 50 P **Pn** **03 30 30.1 -0.3**
EREA AML AML 03 31 02.9
comp=E,726μm,1.0s
EREA AML AML 03 31 04.2
comp=N,738μm,1.0s
LKD2 Lefkada island 1.93 326 P **Pb** **03 30 33.4 +0.8**
LKD2 S **Sb** **03 30 56.3 -0.8**
LKD2 Lefkada island 1.93 326 P **Pb** **03 30 33.4 +0.8**
LKD2 S **Sb** **03 30 56.3 -0.8**
LKD2 AML AML 03 31 16.7
comp=N,1266μm,1.0s
LKD2 AML AML 03 31 21.8
comp=E,1015μm,1.2s
MHLO Agia Marina, M 1.95 104 P **Pb** **03 30 31.9 -1.0**
MHLO Agia Marina, M 1.95 104 P **Pb** **03 30 31.9 -1.0**
MHLO Agia Marina, M 1.95 104 P **Pb** **03 30 33.3 +0.4**
KARY Karystos 2.07 66 P **Pn** **03 30 32.8 +0.4**
KARY S **Sb** **03 30 59.7 -1.4**
KARY Karystos 2.07 66 P **Pn** **03 30 32.8 +0.4**
KARY S **Sb** **03 30 59.7 -1.4**
KARY Karystos 2.07 66 P **Pn** **03 30 32.3 -0.1**
DSL Palaion Diasel 2.07 339 P **Pb** **03 30 35.9 +0.9**
DSL Palaion Diasel 2.07 339 P **Pb** **03 30 35.9 +0.9**
DSL AML AML 03 31 16.8
comp=E,755μm,1.0s
DSL AML AML 03 31 31.0
comp=N,804μm,1.0s
SKIA Skiathos 2.26 29 P **Pn** **03 30 34.9 -0.1**
SKIA Skiathos 2.26 29 P **Pn** **03 30 34.9 -0.1**
SKIA AML AML 03 31 11.0
comp=N,397μm,0.7s
SKIA AML AML 03 31 12.8
comp=E,382μm,0.7s
NEO Neokhori 2.30 23 P **Pn** **03 30 35.8 +0.3**
NEO Neokhori 2.30 23 P **Pn** **03 30 35.8 +0.3**
IMMV Iera Moni Meta 2.33 137 P **Pn** **03 30 36.6 +0.6**
IMMV Iera Moni Meta 2.33 137 P **Pn** **03 30 36.6 +0.6**
XOR Xorichti 2.34 22 P **Pn** **03 30 37.1 +1.0**
XOR Xorichti 2.34 22 P **Pn** **03 30 37.1 +1.0**
XOR AML AML 03 31 15.6
comp=E,353μm,0.9s
XOR AML AML 03 31 18.6
comp=N,590μm,0.6s
THL Klokotos Trika 2.36 359 P **Pn** **03 30 37.2 +0.8**
THL Klokotos Trika 2.36 359 P **Pn** **03 30 37.2 +0.8**
THL Klokotos Trika 2.36 359 P **Pn** **03 30 37.2 +0.8**
AOS Alonnisos 2.44 36 *e*PN **Pn** **03 30 37.0 -0.5**
AOS Alonnisos 2.44 36 P **Pn** **03 30 37.7 +0.2**
AOS Alonnisos 2.44 36 *e*Pn **Pn** **03 30 37.0 -0.5**
AOS Alonnisos 2.44 36 P **Pn** **03 30 37.7 +0.2**
AOS Alonnisos 2.44 36 P **Pn** **03 30 37.0 -0.5**
AOS AML AML 03 31 14.8
comp=E,312μm,0.6s
AOS AML AML 03 31 20.2
comp=N,383μm,0.8s
VAM Vamos 2.49 135 P **Pb** **03 30 40.7 -1.5**
VAM Vamos 2.49 135 P **Pb** **03 30 40.6 -1.5**
JAN Janina 2.63 339 P **Pn** **03 30 41.5 +1.4**
JAN Janina 2.63 339 P **Pn** **03 30 41.5 +1.4**
IGT Igoumenitsa 2.69 330 P **Pb** **03 30 43.7 -1.9**
IGT Igoumenitsa 2.69 330 P **Pb** **03 30 43.7 -1.9**
APE Apeiranthos 2.79 92 *e*PN **Pn** **03 30 40.1 -2.1**
APE Apeiranthos 2.79 92 *e*Pn **Pn** **03 30 40.1 -2.1**
APE Apeiranthos 2.79 92 P **Pn** **03 30 41.7 -0.6**
APE Apeiranthos 2.79 92 P **Pn** **03 30 41.7 -0.6**
SGD Sagiada 2.80 330 P **Pb** **03 30 45.2 -2.2**
SGD Sagiada 2.80 330 P **Pb** **03 30 45.2 -2.2**
SAP1 Santorini-Akro 2.81 106 P **Pn** **03 30 43.7 +1.1**
SAP1 Santorini-Akro 2.81 106 P **Pn** **03 30 43.6 +1.1**
SANT Santorini 2.86 106 P **Pb** **03 30 46.7 -1.7**
SANT Santorini 2.86 106 P **Pb** **03 30 46.7 -1.7**

GVD Gavdhos 2.88 144 P **Pb** **03 30 46.1 -2.6**
GVD Gavdhos 2.88 144 P **Pb** **03 30 46.1 -2.6**
LIT Litokhoron 2.92 7 P **Pb** **03 30 46.8 -2.6**
LIT Litokhoron 2.92 7 P **Pb** **03 30 46.8 -2.6**
IDI Anoyia 2.98 129 P **Pn** **03 30 46.5 +1.5**
comp=N,0.5nm,0.3s,baz=300,slow=16,SNR=1.6
IDI S **Sn** **03 31 20.2 -1.1**
comp=N,3.5nm,0.3s,baz=90,slow=20,SNR=2.6
IDI Anoyia 2.98 129 P **Pn** **03 30 44.5 -0.5**
IDI Anoyia 2.98 129 P **Pn** **03 30 44.5 -0.5**
PAIG Paliouri 3.01 25 P **Pn** **03 30 44.8 -0.5**
PAIG Paliouri 3.01 25 P **Pn** **03 30 44.8 -0.5**
KEK Kerkira 3.07 326 P **Pn** **03 30 46.8 +0.7**
KEK Kerkira 3.07 326 P **Pn** **03 30 46.8 +0.7**
PENT Pentalofos 3.08 347 P **Pb** **03 30 51.5 -0.7**
PENT Pentalofos 3.08 347 P **Pb** **03 30 51.5 -0.7**
SIVA Sivas 3.12 133 P **Pn** **03 30 49.0 +2.2**
SIVA Sivas 3.12 133 P **Pn** **03 30 49.0 +2.2**
NEST Nestorio 3.31 347 P **Pb** **03 30 54.4 -1.7**
NEST Nestorio 3.31 347 P **Pb** **03 30 54.4 -1.7**
CHOS Chios island 3.39 68 *e*PN **Pn** **03 30 49.3 -1.3**
CHOS Chios island 3.39 68 *e*Pn **Pn** **03 30 49.3 -1.3**
CHOS Chios island 3.39 68 P **Pn** **03 30 50.1 -0.5**
CHOS Chios island 3.39 68 P **Pn** **03 30 50.1 -0.5**
LAST Lasithi 3.44 125 P **Pn** **03 30 54.1 +2.8**
LAST Lasithi 3.44 125 P **Pn** **03 30 54.1 +2.8**
OUR Ouranopolis 3.48 25 *e*PN **Pn** **03 30 53.0 +1.3**
OUR Ouranopolis 3.48 25 P **Pn** **03 30 52.0 +0.3**
OUR Ouranopolis 3.48 25 *e*Pn **Pn** **03 30 53.0 +1.3**
OUR Ouranopolis 3.48 25 P **Pn** **03 30 52.0 +0.3**
HORT Hortiatis 3.49 13 *e*PN **Pn** **03 30 53.3 +1.3**
HORT Hortiatis 3.49 13 *e*Pn **Pn** **03 30 53.3 +1.3**
HORT Hortiatis 3.49 13 P **Pn** **03 30 54.0 +2.0**
HORT Hortiatis 3.49 13 P **Pn** **03 30 54.0 +2.0**
SIGR SIGRI 3.61 55 *e*PN **Pn** **03 30 53.0 -0.5**
SIGR SIGRI 3.61 55 *e*Pn **Pn** **03 30 53.0 -0.5**
FNA Florina 3.62 352 *e*PN **Pb** **03 30 58.1 -3.3**
FNA Florina 3.62 352 P **Pn** **03 30 57.3 +3.6**
FNA Florina 3.62 352 *e*Pn **Pb** **03 30 58.1 -3.3**
FNA Florina 3.62 352 P **Pn** **03 30 57.3 +3.6**
URLA Izmir 3.78 71 *e*PN **Pn** **03 30 56.9 +1.0**
URLA Izmir 3.78 71 *e*Pn **Pn** **03 30 56.9 +1.0**
SMG Samos 3.84 81 P **Pn** **03 30 57.2 +0.4**
SMG Samos 3.84 81 P **Pn** **03 30 57.2 +0.4**
BIA Bitola 3.86 352 *i* Pn **Pb** **03 31 01.4 -4.1**
BIA Bitola 3.86 352 *i* Pn **Pb** **03 31 01.3 -4.1**
KNT Kendrikon 4.01 9 *e*PN **Pn** **03 31 01.2 +2.1**
KNT Kendrikon 4.01 9 P **Pn** **03 31 01.1 +2.1**
KNT Kendrikon 4.01 9 P **Pn** **03 31 01.1 +2.1**
OHR Ohrid 4.03 346 *i* Pn **Pb** **03 31 08.2 -0.2**
GADA Gvkgeada 4.24 44 *e*PN **Pn** **03 31 02.5 +0.3**
GADA Gvkgeada 4.24 44 *e*Pn **Pn** **03 31 02.5 +0.3**
NVR Nevrokopi 4.38 18 P **Pn** **03 31 06.2 +2.1**
NVR Nevrokopi 4.38 18 P **Pn** **03 31 06.2 +2.1**
KARP Karpathos 4.44 110 P **Pn** **03 31 07.8 +2.8**
KARP Karpathos 4.44 110 P **Pn** **03 31 07.8 +2.8**
ALN Alexandroupoli 4.83 39 *e*PN **Pn** **03 31 09.1 -1.2**
ALN Alexandroupoli 4.83 39 *e*Pn **Pn** **03 31 09.1 -1.2**
ALN Alexandroupoli 4.83 39 P **Pn** **03 31 13.7 +3.4**
ALN Alexandroupoli 4.83 39 P **Pn** **03 31 13.7 +3.4**
MLR Muntele Rosu 8.79 18 P Pn 03 32 09.6 +4.9
comp=N,0.0nm,0.3s,baz=194,slow=16,SNR=2.9
BRTR Keskin Array B 9.43 71 P **Pn** **03 32 16.9 +3.2**
comp=N,0.1nm,0.3s,baz=260,slow=12,SNR=5.6
KEST Kesra 10.34 266 P **Pn** **03 32 26.4 +0.5**
comp=N,0.1nm,0.3s,baz=48,slow=16,SNR=3.1
MMAI Mount Meron Ar 11.70 107 P **Pn** **03 32 47.6 +2.9**
comp=N,0.5nm,0.3s,baz=297,slow=13,SNR=2.4
TORD Torodi Ar. Bea 30.08 223 P **P** **03 36 06.3 -1.1**
comp=N,0.5nm,0.7s,baz=27,slow=8.9,SNR=4.0
SONM Songino Array 60.14 51 P **P** **03 40 05.8 +0.2**
comp=N,0.5nm,0.6s,baz=316,slow=6.0,SNR=3.4

MAN 14 03:29:59,12.69N×123.19E,h5km,mb4.5,ML3.3,MS3.2, 2C,Luzon

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AUQP	**San Andres**	**0.80**	**321**	*e*P	Pb	03 30 15.4	-0.1
AUQP				*e*S	Sn	03 30 32.9	+3.6
RCP	**Roxas**	**1.21**	**201**↑	*e*P	Pg	03 30 21.9	-0.2
PVCP	**Virac**	**1.30**	**46**	*e*P	Pn	03 30 23.5	-0.4
PVCP				*e*S	Sn	03 30 43.2	+1.6
GQP	**Guinayangan**	**1.41**	**329**↑	*e*P	Pn	03 30 25.2	-0.1
GQP				*e*S	Sg	03 30 44.9	+0.6
BOAC	**Boac**	**1.52**	**300**	*e*P	Pg	03 30 28.7	+0.6
BOAC				*e*S	Sg	03 30 50.1	+2.3

TIR **14** *03:35:18.8,36.85N×22.57E,h7km,ML4.9*
NEIC **14** *03:35:27.6±0.0,37.19N×22.05E,h10km,mb5.0/86, ML4.5(THE),ML4.5(ATH),After ATH.*
NEIC Felt [IV] at Kalamata. Also felt at Athens, Megalopoli and Patrai.
ATH **14** *03:35:27.6,37.19N×22.05E,h10km±1km,ML4.5/10,Error ellipse: s-maj=1.6km s-min=0.7km az=260.0*
ISCJB **14** *03:35:27.8±0.3,37.20N±0.01×21.96E±0.01,h8km±1km, mb4.8/120,MS4.0/36,Error ellipse: s-maj=1.9km s-min=1.6km az=16.3*
CSEM **14** *03:35:27.8±0.1,37.18N×22.03E,h2km,mb4.9/80,ML4.1/7, Error ellipse: s-maj=2.4km s-min=1.8km az=33.0*
BJI **14** *03:35:28.8,37.20N×22.00E,h22km,mb4.7/21,mB4.9/17, Ms4.7/10,Ms7 4.5/10*
THE **14** *03:35:28.4,37.20N×22.05E,h0km±1km,ML4.5/22,Error ellipse: s-maj=1.5km s-min=0.6km az=235.0*
PDG **14** *03:35:28.2±0.6,37.21N×22.02E,h6km,ML4.5/11,Error ellipse: s-maj=0.7km s-min=0.7km az=0.0*
MOS **14** *03:35:29.6±1.4,37.24N×22.03E,h22km,mb5.1/38,Error ellipse: s-maj=4.9km s-min=2.9km az=84.6*
IDC **14** *03:35:30.1±4.5,37.20N×22.08E,h21km±29km,mb4.2/23, mb1 4.2/34,mb1mx4.2/47,mbtmp4.2/34,ML3.7/11, MS3.9/42,Ms1 3.9/42,ms1mx3.8/51,Error ellipse: s-maj=11.8km s-min=10.7km az=163.0*
HLW **14** *03:35:30.1,37.39N×22.21E,h33km±19km,Md4.3,Ml4.2*
DDA **14** *03:35:56.1,37.76N×24.43E,h35km,Ml3.7*
ISC 14 03:35:28.6±0.7,37.20N±0.01×22.05E±0.01,h10km±4km, n1178,σ1851/1308,mb5.0/120,MS4.0/36,57C-21D, Southern Greece

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ITM	**Ithomi**	**0.10**	**260**	P	**Pg**	**03 35 29.5**	**-1.7**
ITM				S	**Pg**	**03 35 31.9**	**+0.7**
ITM	**Ithomi**	**0.10**	**260**	P	**Pg**	**03 35 29.5**	**-1.7**
ITM				S	**Sg**	**03 35 31.3**	**-1.8**
ITM	**Ithomi**	**0.10**	**260**	*e*Pg	**Pg**	**03 35 31.9**	**+0.7**
ITM	**Ithomi**	**0.10**	**260**	P	**Pg**	**03 35 29.1**	**-2.1**
ITM				S	**Sg**	**03 35 31.3**	**-1.8**
ITM				AML	AML	03 35 33.2	
ITM				AML	AML	03 35 33.4	
ITM	**Ithomi**	**0.10**	**260**	*e*Pg	**Pg**	**03 35 31.9**	**+0.7**
VLX	**Vlachokerasia**	**0.32**	**56**	P	**Pg**	**03 35 34.3**	**-0.7**
VLX				S	**Sg**	**03 35 39.3**	**+0.1**
VLX	**Vlachokerasia**	**0.32**	**56**	P	**Pg**	**03 35 34.3**	**-0.7**
VLX				S	**Sg**	**03 35 39.1**	**-0.1**
VLX	**Vlachokerasia**	**0.32**	**56**	P	**Pg**	**03 35 34.6**	**-0.4**
VLX				S	**Sg**	**03 35 39.1**	**-0.1**
VLX				AML	AML	03 35 44.1	
VLX				AML	AML	03 35 45.2	
VLX	**Vlachokerasia**	**0.32**	**56**	*e*Pg	**Pg**	**03 35 34.3**	**-0.7**
VLX				*e*Sg	**Sg**	**03 35 39.3**	**+0.1**
TRIP	**Tripoli**	**0.38**	**28**	P	**Pg**	**03 35 35.4**	**-0.7**
TRIP				S	**Sb**	**03 35 42.3**	**-1.0**
PYL	**PYLOS**	**0.39**	**219**	P	**Pg**	**03 35 35.0**	**-1.2**
PYL				S	**Sg**	**03 35 42.2**	**+0.8**
PYL	**PYLOS**	**0.39**	**219**	P	**Pg**	**03 35 34.8**	**-1.5**
PYL				S	**Sg**	**03 35 40.4**	**-0.9**
PYL	**PYLOS**	**0.39**	**219**	P	**Pg**	**03 35 34.8**	**-1.5**
PYL				S	**Sg**	**03 35 40.4**	**-0.9**
PYL				AML	AML	03 35 49.3	
	comp=E,62795μm,0.7s						
PYL				AML	AML	03 35 49.6	
	comp=N,71673μm,0.8s						
PYL	**PYLOS**	**0.39**	**219**	*e*Pg	**Pg**	**03 35 35.0**	**-1.2**
PYL				*e*Sg	**Sg**	**03 35 42.2**	**+0.8**
AMT	**Artemida-Makis**	**0.43**	**321**	P	**Pg**	**03 35 35.8**	**-1.3**
AMT				S	**Sg**	**03 35 42.9**	**+0.1**

AMT Artemida-Makis 0.43 321 P **Pg** **03 35 35.8 -1.3**
AMT S **Sg** **03 35 42.9 +0.1**
AMT Artemida-Makis 0.43 321 P **Pg** **03 35 36.5 -0.6**
AMT S **Sg** **03 35 42.9 +0.1**
AMT AML AML 03 35 45.3
AMT AML AML 03 35 45.9
DRO Drossia 0.80 341 P **Pg** **03 35 43.7 -0.4**
DRO S **Sb** **03 35 55.7 +0.2**
DRO Drossia 0.80 341 P **Pg** **03 35 43.3 -0.8**
DRO S **Sb** **03 35 55.5 -0.1**
DRO Drossia 0.80 341 P **Pg** **03 35 43.3 -0.8**
DRO S **Sb** **03 35 55.5 -0.1**
DRO AML AML 03 35 58.7
DRO AML AML 03 36 01.8
comp=E,81915μm,0.4s
KLV Kalavryta, Ach 0.85 5 P **Pg** **03 35 43.6 -1.4**
KLV S **Sb** **03 35 57.5 +0.5**
KLV Kalavryta, Ach 0.85 5 P **Pg** **03 35 43.6 -1.4**
KLV S **Sg** **03 35 56.5 +0.4**
KLV Kalavryta, Ach 0.85 5 P **Pg** **03 35 43.6 -1.4**
KLV S **Sg** **03 35 56.5 +0.4**
KLV AML AML 03 36 01.3
comp=E,32911μm,0.5s
KLV AML AML 03 36 02.8
comp=N,34212μm,0.8s
KLV Kalavryta, Ach 0.85 5 *e*Pg **Pg** **03 35 43.6 -1.4**
KLV *e*Sn **Sb** **03 35 57.5 +0.5**
VLI Veliai 0.86 124 P **Pg** **03 35 44.3 -0.8**
VLI Veliai 0.86 124 P **Pg** **03 35 44.3 -0.8**
VLI S **Sg** **03 35 55.2 -1.0**
VLI Veliai 0.86 124 P **Pg** **03 35 44.7 -0.4**
VLI S **Sg** **03 35 55.2 -1.0**
VLI AML AML 03 36 03.0
comp=E,35949μm,0.5s
VLI AML AML 03 36 04.3
comp=N,29182μm,0.9s
VLI Veliai 0.86 124 *e*Pg **Pg** **03 35 44.3 -0.8**
THAL Thalero 0.97 30 P **Pg** **03 35 45.8 -1.5**
THAL Thalero 0.97 30 P **Pg** **03 35 45.8 -1.5**
THAL Thalero 0.97 30 P **Pg** **03 35 45.8 -1.5**
RLS Riolos of Patr 0.98 332 P **Pg** **03 35 46.8 -0.6**
RLS S **Sn** **03 36 02.0 -0.2**
RLS Riolos of Patr 0.98 332 P **Pg** **03 35 46.5 -0.9**
RLS S **Sg** **03 36 00.2 +0.1**
RLS Riolos of Patr 0.98 332 P **Pg** **03 35 46.2 -1.2**
RLS S **Sg** **03 36 00.2 +0.1**
RLS AML AML 03 36 05.0
comp=N,51975μm,0.4s
RLS AML AML 03 36 05.6
comp=E,44549μm,0.4s
RLS Riolos of Patr 0.98 332 *e*Pg **Pg** **03 35 46.8 -0.6**
TRAZ Trapeza 0.98 8 P **Pg** **03 35 45.8 -1.7**
TRAZ S **Sg** **03 36 00.2 0.0**
TRAZ Trapeza 0.98 8 P **Pg** **03 35 45.2 -1.7**
TRAZ S **Sg** **03 36 00.2 0.0**
TRAZ AML AML 03 36 04.2
comp=E,97865μm,0.7s
TRAZ AML AML 03 36 06.4
VTN Vitineika 0.99 317 P **Pn** **03 35 48.4 -0.2**
VTN Vitineika 0.99 317 P **Pn** **03 35 48.4 -0.2**
DID Didima 1.00 72 P **Pg** **03 35 46.7 -1.0**
DID S **Sn** **03 36 02.4 -0.4**
DID Didima 1.00 72 P **Pg** **03 35 46.8 -1.0**
DID S **Sb** **03 36 01.8 +0.7**
DID Didima 1.00 72 P **Pg** **03 35 46.8 -1.0**
DID Didima 1.00 72 *e*Pg **Pg** **03 35 46.7 -1.0**
LAKA Lakka 1.04 357 P **Pg** **03 35 47.2 -1.5**
LAKA S **Sg** **03 36 02.3 0.0**
LAKA Lakka 1.04 357 P **Pg** **03 35 47.2 -1.5**
LAKA S **Sg** **03 36 02.2 0.0**
LAKA Lakka 1.04 357 *e*Pg **Pg** **03 35 47.2 -1.5**
LOUT Loutraki 1.08 43 P **Pg** **03 35 48.1 -1.3**
LOUT S **Sn** **03 36 04.3 -0.5**
LOUT Loutraki 1.08 43 P **Pg** **03 35 48.1 -1.3**
LOUT S **Sn** **03 36 04.3 -0.5**
LTK Loutraki 1.10 41 P **Pb** **03 35 48.3 -1.4**
LTK S **Sn** **03 36 05.2 -0.2**
LTK Loutraki 1.10 41 P **Pb** **03 35 48.3 -1.4**
LTK S **Sn** **03 36 05.2 -0.2**
LTK Loutraki 1.10 41 P **Pb** **03 35 48.1 -1.7**
LTK Loutraki 1.10 41 *e*Pg **Pb** **03 35 48.3 -1.4**
UPR University Cam 1.10 349 P **Pn** **03 35 50.1 0.0**
UPR University Cam 1.10 349 P **Pn** **03 35 50.1 0.0**
AXS Araxos 1.13 332 P **Pb** **03 35 49.1 -1.1**
AXS S **Sn** **03 36 07.1 +1.0**
AXS Araxos 1.13 332 P **Pb** **03 35 49.1 -1.1**
AXS S **Sn** **03 36 07.1 +1.0**
AXS Araxos 1.13 332 P **Pb** **03 35 48.0 -2.3**
TRIZ Trizonia 1.17 1 P **Pb** **03 35 48.7 -2.1**
TRIZ Trizonia 1.17 1 P **Pb** **03 35 48.7 -2.1**
KALE Kalithea 1.20 3 P **Pb** **03 35 49.8 -1.6**
KALE S **Sn** **03 36 08.9 +1.2**
KALE Kalithea 1.20 3 P **Pb** **03 35 49.8 -1.6**
KALE S **Sn** **03 36 07.6 -0.1**
KALE Kalithea 1.20 3 P **Pb** **03 35 49.5 -1.8**
KALE S **Sn** **03 36 07.6 -0.1**
KALE AML AML 03 36 12.2
comp=E,36859μm,0.7s
KALE AML AML 03 36 12.6
comp=N,38916μm,0.6s
KALE Kalithea 1.20 3 *e*Pg **Pb** **03 35 49.8 -1.6**
KYTH Kithira 1.23 139 P **Pn** **03 35 51.4 -0.4**
KYTH Kithira 1.23 139 P **Pg** **03 35 52.1 -0.1**
KYTH Kithira 1.23 139 *e*Pg **Pn** **03 35 51.4 -0.4**
DSF Desfina 1.27 17 P **Pn** **03 35 51.9 -0.6**
DSF Desfina 1.27 17 P **Pn** **03 35 51.9 -0.6**
DSF Desfina 1.27 17 P **Pn** **03 35 51.3 -1.2**
DSF Desfina 1.27 17 *e*Pn **Pn** **03 35 51.9 -0.6**
KFL Anninata 1.35 313 P **Pn** **03 35 53.4 -0.1**
KFL Anninata 1.35 313 P **Pn** **03 35 53.1 -0.5**
KFL Anninata 1.35 313 P **Pn** **03 35 53.1 -0.5**
VILL Villia 1.39 46 P **Pn** **03 35 54.0 -0.1**
VILL S **Sg** **03 36 13.5 +0.1**
VILL Villia 1.39 46 P **Pn** **03 35 54.0 -0.1**
VILL S **Sg** **03 36 13.5 +0.1**
VIL2 Platees 1.40 43 P **Pn** **03 35 53.7 -0.5**
PVO Paravola 1.48 344 P **Pn** **03 35 55.7 -0.4**
PVO Paravola 1.48 344 P **Pb** **03 35 55.7 -0.4**
PVO Paravola 1.48 344 P **Pb** **03 35 56.1 0.0**
VLS Valsamata 1.52 311 P **Pn** **03 35 54.9 -0.9**
VLS Valsamata 1.52 311 P **Pn** **03 35 54.9 -0.9**
ATH Athens Observa 1.54 59 P **Pn** **03 35 56.0 0.0**
ATH S **Sg** **03 36 18.5 +0.5**
ATH Athens Observa 1.54 59 *e*P **Pn** **03 35 56.0 0.0**
ATH *e* 03 36 18.5
ATH Athens Observa 1.54 59 P **Pn** **03 35 56.4 +0.4**
ATH S **Sg** **03 36 18.5 +0.5**
ATH Athens Observa 1.54 59 P **Pn** **03 35 56.4 +0.4**
ATH Athens Observa 1.54 59 *e*Pn **Pn** **03 35 56.0 0.0**
ATH *e*Sn **Sg** **03 36 18.5 +0.5**
VLY Voula,Athens 1.54 64 P **Pn** **03 35 56.0 0.0**
VLY Voula,Athens 1.54 64 P **Pn** **03 35 56.0 0.0**
VLY Voula,Athens 1.54 64 P **Pn** **03 35 55.8 -0.2**
VLY Voula,Athens 1.54 64 *e*Pn **Pn** **03 35 56.0 0.0**
PDO Prodromos 1.56 334 P **Pb** **03 35 57.1 -0.4**
PDO Prodromos 1.56 334 P **Pb** **03 35 57.1 -0.4**
ATHU Athens Univers 1.58 60 P **Pn** **03 35 55.9 -0.7**
ATHU Athens Univers 1.58 60 P **Pn** **03 35 55.9 -0.7**
ATHU Athens Univers 1.58 60 P **Pn** **03 35 55.3 -1.3**
ATHU Athens Univers 1.58 60 *e*Pn **Pn** **03 35 55.9 -0.7**
LKR Lokris 1.64 27 P **Pn** **03 35 57.5 +0.1**
LKR S **Sb** **03 36 19.9 +0.4**
LKR Lokris 1.64 27 P **Pn** **03 35 57.6 +0.1**
LKR S **Sb** **03 36 19.9 +0.4**
LKR Lokris 1.64 27 P **Pn** **03 35 57.6 +0.2**
LKR Lokris 1.64 27 *e*Pn **Pn** **03 35 57.5 +0.2**
LKR *e*Sn **Sb** **03 36 19.9 +0.4**
ANKY Antikythira Is 1.67 142 P **Pb** **03 35 58.9 -0.4**
ANKY S **Sg** **03 36 22.1 -0.1**
ANKY Antikythira Is 1.67 142 P **Pb** **03 35 58.9 -0.4**
ANKY S **Sg** **03 36 22.1 -0.1**
ANKY Antikythira Is 1.67 142 P **Pg** **03 36 00.3 -0.3**
ANKY Antikythira Is 1.67 142 *e*Pn **Pb** **03 35 58.9 -0.4**
ANKY *e*Sn **Sg** **03 36 22.1 -0.1**
PTL Penteli 1.67 59 P **Pn** **03 35 58.4 +0.4**
PTL S **Sg** **03 36 22.0 -0.4**
PTL Penteli 1.67 59 P **Pn** **03 35 58.4 +0.4**
PTL S **Sg** **03 36 22.0 -0.4**
PTL Penteli 1.67 59 P **Pn** **03 35 57.6 -0.4**
PTL Penteli 1.67 59 *e*Pn **Pn** **03 35 58.4 +0.4**

PTL				eSn	Sg	03 36 22.0	-0.4			
EVR	**Evrytania**	**1.73**	**354**	P	Pn	03 35 59.6	+0.8			
EVR	**Evrytania**	**1.73**	**354**	P	Pn	03 35 59.6	+0.8			
EVR	**Evrytania**	**1.73**	**354**	P	Pb	03 35 59.8	-0.7			
EVR	**Evrytania**	**1.73**	**354**	ePn	Pn	03 35 59.6	+0.8			
AGG	**Agios Georgios**	**1.84**	**7**	ePN	Pb	03 36 01.5	-0.8			
AGG	**Agios Georgios**	**1.84**	**7**	P	Pn	03 36 01.2	+1.0			
AGG				S	Sn	03 36 24.4	+0.9			
AGG	**Agios Georgios**	**1.84**	**7**	eP	Pn	03 36 01.2	+1.0			
AGG				e		03 36 24.2				
AGG	**Agios Georgios**	**1.84**	**7**	P	Pn	03 36 01.2	+1.0			
AGG	**Agios Georgios**	**1.84**	**7**	ePn	Pb	03 36 01.5	-0.8			
AGG				S	Sn	03 36 24.4	+0.9			
AGG	**Agios Georgios**	**1.84**	**7**	ePn	Pn	03 36 01.2	+1.0			
AGG				eSn	Sn	03 36 24.2	+0.7			
SMIA	**Simia**	**1.91**	**28**	P	Pn	03 36 02.1	+0.8			
SMIA	**Simia**	**1.91**	**28**	P	Pn	03 36 02.1	+0.8			
LKD2	**Lefkada island**	**1.93**	**326**	P	Pb	03 36 03.7	-0.2			
LKD2				S	Sb	03 36 28.6	+0.5			
LKD2	**Lefkada island**	**1.93**	**326**	P	Pb	03 36 03.7	-0.2			
LKD2				S	Sb	03 36 28.6	+0.5			
LKD2	**Lefkada island**	**1.93**	**326**	ePn	Pb	03 36 03.7	-0.2			
LKD2				eSn	Sb	03 36 28.6	+0.5			
SERI	**Serifos**	**1.95**	**90**	P	Pn	03 36 01.7	0.0			
SERI	**Serifos**	**1.95**	**90**	P	Pn	03 36 01.7	0.0			
MHLO	**Agia Marina, M**	**1.95**	**104**	P	Pn	03 36 02.9	+1.2			
MHLO				S	Sb	03 36 28.8	+0.2			
MHLO	**Agia Marina, M**	**1.95**	**104**	P	Pn	03 36 02.5	+0.7			
MHLO				S	Sb	03 36 28.8	+0.2			
MHLO	**Agia Marina, M**	**1.95**	**104**	P	Pn	03 36 02.5	+0.7			
KARY	**Karystos**	**2.07**	**66**	P	Pn	03 36 03.6	+0.2			
KARY				S	Sb	03 36 30.7	-1.4			
KARY	**Karystos**	**2.07**	**66**	P	Pn	03 36 03.6	+0.2			
KARY				S	Sb	03 36 30.7	-1.4			
KARY	**Karystos**	**2.07**	**66**	P	Pn	03 36 03.7	+0.3			
SKIA	**Skiathos**	**2.26**	**29**	P	Pn	03 36 06.9	+0.9			
SKIA				S	Sn	03 36 35.7	+1.7			
SKIA	**Skiathos**	**2.26**	**29**	P	Pn	03 36 06.9	+0.9			
SKIA				S	Sn	03 36 35.7	+1.7			
SKIA	**Skiathos**	**2.26**	**29**	P	Pn	03 36 05.8	-0.3			
NEO	**Neokhori**	**2.30**	**23**	P	Pn	03 36 07.4	+0.8			
NEO	**Neokhori**	**2.30**	**23**	P	Pn	03 36 06.8	+0.2			
NEO	**Neokhori**	**2.30**	**23**	P	Pn	03 36 06.8	+0.2			
NEO	**Neokhori**	**2.30**	**23**	ePn	Pn	03 36 07.4	+0.8			
FYTO	**Fytoko, Volos**	**2.32**	**17**	P	Pn	03 36 08.0	+1.2			
FYTO	**Fytoko, Volos**	**2.32**	**17**	P	Pn	03 36 08.0	+1.2			
FYTO	**Fytoko, Volos**	**2.32**	**17**	ePn	Pn	03 36 08.0	+1.2			
IMMV	**Iera Moni Meta**	**2.33**	**137**	P	Pb	03 36 10.4	-0.2			
XOR	**Xorichti**	**2.35**	**22**	P	Pn	03 36 07.8	+0.6			
XOR	**Xorichti**	**2.35**	**22**	P	Pn	03 36 07.8	+0.6			
XOR	**Xorichti**	**2.35**	**22**	ePn	Pn	03 36 07.8	+0.6			
THL	**Klokotos Trika**	**2.37**	**359**	P	Pn	03 36 08.7	+1.3			
THL	**Klokotos Trika**	**2.37**	**359**	P	Pn	03 36 08.4	+1.0			
THL	**Klokotos Trika**	**2.37**	**359**	P	Pn	03 36 08.4	+1.0			
AOS	**Alonnisos**	**2.44**	**36**	ePN	Pn	03 36 10.2	+1.7			
AOS	**Alonnisos**	**2.44**	**36**	P	Pn	03 36 08.4	-0.1			
AOS				S	Sb	03 36 40.6	-2.1			
AOS	**Alonnisos**	**2.44**	**36**	P	Pn	03 36 08.4	-0.1			
AOS	**Alonnisos**	**2.44**	**36**	ePn	Pn	03 36 10.2	+1.7			
AOS				S	Sb	03 36 40.6	-2.1			
AOS	**Alonnisos**	**2.44**	**36**	ePn	Pn	03 36 08.4	-0.1			
AOS				eSn	Sb	03 36 40.6	-2.1			
VAM	**Vamos**	**2.49**	**135**	P	Pb	03 36 12.0	-1.4			
VAM	**Vamos**	**2.49**	**135**	P	Pb	03 36 12.0	-1.4			
VAM	**Vamos**	**2.49**	**135**	P	Pb	03 36 11.7	-1.7			
JAN	**Janina**	**2.63**	**339**	P	Pb	03 36 15.1	-0.7			
IGT	**Igoumenitsa**	**2.69**	**330**	P	Pn	03 36 13.2	+1.2			
IGT	**Igoumenitsa**	**2.69**	**330**	eP	Pn	03 36 13.2	+1.2			
IGT	**Igoumenitsa**	**2.69**	**330**	P	Pn	03 36 13.2	+1.2			
IGT	**Igoumenitsa**	**2.69**	**330**	ePn	Pn	03 36 13.2	+1.2			
APE	**Apeiranthos**	**2.79**	**92**	ePN	Pn	03 36 14.0	+0.7			
APE	**Apeiranthos**	**2.79**	**92**	P	Pn	03 36 13.9	+0.7			
APE				S	Sn	03 36 48.8	+1.9			
APE	**Apeiranthos**	**2.79**	**92**	⇑iP	Pn	03 36 14.1	+0.8			
APE	**Apeiranthos**	**2.79**	**92**	ceP	Pn	03 36 13.9	+0.7			
APE	**Apeiranthos**	**2.79**	**92**	P	Pn	03 36 13.3	0.0			
APE	**Apeiranthos**	**2.79**	**92**	ePn	Pn	03 36 14.0	+0.7			
APE				S	Sn	03 36 48.8	+1.9			
APE	**Apeiranthos**	**2.79**	**92**	P	Pn	03 36 13.3	0.0			
APE	**Apeiranthos**	**2.79**	**92**	ePn	Pn	03 36 13.9	+0.7			
APE				eSn	Sn	03 36 48.8	+1.9			
SANT	**Santorini**	**2.86**	**106**	ePn	Pn	03 36 16.5	+2.2			
SANT	**Santorini**	**2.86**	**106**	ePn	Pn	03 36 16.5	+2.2			
GVD	**Gavdhos**	**2.88**	**144**	P	Pb	03 36 18.0	-2.0			
IDI	**Anoyia**	**2.98**	**129**	Pn	Pn	03 36 17.4	+1.4			
	comp=N,4.1nm,0.3s,baz=320,slow=16,SNR=36									
IDI				Sn	Sb	03 36 58.2	-0.1			
	comp=N,22nm,0.3s,baz=282,slow=5.9,SNR=5.4									
IDI				LR	LR	03 37 48.5				
	comp=N,2µm,18.0s,baz=320,slow=47									
IDI	**Anoyia**	**2.98**	**129**	P	Pn	03 36 16.7	+0.7			
IDI	**Anoyia**	**2.98**	**129**	P	Pn	03 36 16.7	+0.7			
IDI	**Anoyia**	**2.98**	**129**	P	Pn	03 36 17.2	+1.2			
IDI	**Anoyia**	**2.98**	**129**	ePn	Pn	03 36 16.7	+0.7			
IDI				eSn	Sb	03 36 58.2	-0.1			
PAIG	**Paliouri**	**3.01**	**25**	P	Pn	03 36 16.5	+0.2			
PAIG	**Paliouri**	**3.01**	**25**	eP	Pn	03 36 16.5	+0.2			
PAIG	**Paliouri**	**3.01**	**25**	P	Pn	03 36 16.5	+0.2			
PAIG	**Paliouri**	**3.01**	**25**	ePn	Pn	03 36 16.5	+0.2			
KEK	**Kerkira**	**3.07**	**326**	P	Pn	03 36 18.7	+1.6			
KEK	**Kerkira**	**3.07**	**326**	P	Pn	03 36 18.7	+1.6			
PENT	**Pentalofos**	**3.08**	**347**	P	Pb	03 36 22.3	-1.2			
KZN	**Kozani**	**3.11**	**356**	P	Pb	03 36 21.2	-2.8			
PLG	**Polygyros**	**3.36**	**19**	P	Pn	03 36 21.3	+0.2			
PLG	**Polygyros**	**3.36**	**19**	eP	Pn	03 36 21.3	+0.2			
PLG	**Polygyros**	**3.36**	**19**	P	Pn	03 36 21.3	+0.2			
PLG	**Polygyros**	**3.36**	**19**	P	Pn	03 36 23.2	+2.1			
PLG	**Polygyros**	**3.36**	**19**	ePn	Pn	03 36 21.3	+0.2			
CHOS	**Chios island**	**3.39**	**68**	ePN	Pn	03 36 22.3	+0.7			
CHOS	**Chios island**	**3.39**	**68**	P	Pn	03 36 22.0	+0.4			
CHOS	**Chios island**	**3.39**	**68**	P	Pn	03 36 22.0	+0.4			
CHOS	**Chios island**	**3.39**	**68**	ePn	Pn	03 36 22.3	+0.7			
CHOS	**Chios island**	**3.39**	**68**	ePn	Pn	03 36 22.0	+0.4			
LAST	**Lasithi**	**3.44**	**125**	P	Pn	03 36 23.9	+1.6			
LAST	**Lasithi**	**3.44**	**125**	P	Pn	03 36 23.9	+1.6			
LAST	**Lasithi**	**3.44**	**125**	P	Pn	03 36 23.9	+1.6			
LAST	**Lasithi**	**3.44**	**125**	ePn	Pn	03 36 23.9	+1.6			
OUR	**Ouranopolis**	**3.48**	**25**	ePN	Pn	03 36 25.0	+2.3			
OUR	**Ouranopolis**	**3.48**	**25**	P	Pn	03 36 23.3	+0.6			
OUR	**Ouranopolis**	**3.48**	**25**	eP	Pn	03 36 23.3	+0.6			
OUR	**Ouranopolis**	**3.48**	**25**	P	Pn	03 36 23.3	+0.6			
OUR	**Ouranopolis**	**3.48**	**25**	ePn	Pn	03 36 25.0	+2.3			
OUR	**Ouranopolis**	**3.48**	**25**	ePn	Pn	03 36 23.3	+0.6			
HORT	**Hortiatis**	**3.49**	**13**	ePN	Pn	03 36 26.1	+3.1			
HORT	**Hortiatis**	**3.49**	**13**	ePn	Pn	03 36 26.1	+3.1			
THE	**Thessaloniki**	**3.50**	**11**	P	Pn	03 36 26.0	+2.9			
THE	**Thessaloniki**	**3.50**	**11**	P	Pn	03 36 26.0	+2.9			
SIGR	**SIGRI**	**3.61**	**55**	ePN	Pn	03 36 26.1	+1.5			
SIGR	**SIGRI**	**3.61**	**55**	ePn	Pn	03 36 26.1	+1.5			
FNA	**Florina**	**3.62**	**352**	ePN	Pn	03 36 28.2	+3.5			
FNA	**Florina**	**3.62**	**352**	P	Pn	03 36 26.9	+2.1			
FNA				S	Sn	03 37 08.6	+1.0			
FNA	**Florina**	**3.62**	**352**	P	Pn	03 36 26.9	+2.1			
FNA	**Florina**	**3.62**	**352**	ePn	Pn	03 36 28.2	+3.5			
FNA				S	Sn	03 37 08.6	+1.0			
LIA	**Limnos Island**	**3.65**	**41**	P	Pn	03 36 24.3	-0.7			
LIA	**Limnos Island**	**3.65**	**41**	P	Pn	03 36 24.3	-0.7			
ZEY	**˜zmir**	**3.68**	**72**	*i* P	Pn	03 36 26.3	+0.7			
SOH	**Sokhos**	**3.76**	**15**	P	Pn	03 36 28.1	+1.4			
SOH	**Sokhos**	**3.76**	**15**	eP	Pn	03 36 28.1	+1.4			
SOH	**Sokhos**	**3.76**	**15**	P	Pn	03 36 28.1	+1.4			
SOH	**Sokhos**	**3.76**	**15**	ePn	Pn	03 36 28.1	+1.4			
URLA	**Izmir**	**3.79**	**71**	ePN	Pn	03 36 28.3	+1.3			
URLA	**Izmir**	**3.79**	**71**	*i* P	Pn	03 36 28.1	+1.1			
URLA	**Izmir**	**3.79**	**71**	P	Pn	03 36 28.1	+1.1			
SMG	**Samos**	**3.84**	**81**	P	Pn	03 36 28.7	+0.9			
SMG	**Samos**	**3.84**	**81**	P	Pn	03 36 28.7	+0.9			
SMG	**Samos**	**3.84**	**81**	ePn	Pn	03 36 28.7	+0.9			
BIA	**Bitola**	**3.86**	**352**	⇑iPn	Pn	03 36 31.5	+3.5			
BIA	**Bitola**	**3.86**	**352**	⇑iPn	Pn	03 36 31.5	+3.5			
DGB	**˜zmir**	**3.93**	**76**	*i* P	Pn	03 36 29.5	+0.6			
KNT	**Kendrikon**	**4.01**	**9**	ePN	Pn	03 36 32.3	+2.2			
KNT	**Kendrikon**	**4.01**	**9**	P	Pn	03 36 31.8	+1.7			
KNT	**Kendrikon**	**4.01**	**9**	eP	Pn	03 36 31.8	+1.7			
KNT	**Kendrikon**	**4.01**	**9**	P	Pn	03 36 31.8	+1.7			
KNT	**Kendrikon**	**4.01**	**9**	ePn	Pn	03 36 32.3	+2.2			
KNT	**Kendrikon**	**4.01**	**9**	ePn	Pn	03 36 31.8	+1.7			
OHR	**Ohrid**	**4.03**	**346**	⇑iPn	Pn	03 36 33.0	+2.6			
OHR	**Ohrid**	**4.03**	**346**	⇑iPn	Pn	03 36 32.9	+2.6			
SRS	**Serrai**	**4.09**	**17**	P	Pn	03 36 33.0	+1.8			
SRS	**Serrai**	**4.09**	**17**	eP	Pn	03 36 33.0	+1.8			
SRS	**Serrai**	**4.09**	**17**	P	Pn	03 36 33.0	+1.8			
SRS	**Serrai**	**4.09**	**17**	ePn	Pn	03 36 33.0	+1.8			
BOZC	**Bozcaada**	**4.10**	**49**	ePN	Pn	03 36 32.6	+1.3			
BOZC	**Bozcaada**	**4.10**	**49**	*i* P	Pn	03 36 30.9	-0.4			
BOZC	**Bozcaada**	**4.10**	**49**	ePn	Pn	03 36 32.6	+1.3			
VAY	**Valandovo**	**4.14**	**5**	⇑iPn	Pn	03 36 35.3	+3.5			
VAY	**Valandovo**	**4.14**	**5**	⇑iPn	Pn	03 36 35.3	+3.5			
NIS1	**Nisyros Isl.**	**4.15**	**97**	ePN	Pn	03 36 36.3	+4.3			
NIS1	**Nisyros Isl.**	**4.15**	**97**	ePn	Pn	03 36 36.3	+4.3			
GCAM	**G?zelcaml?**	**4.16**	**81**	*i* P	Pn	03 36 33.4	+1.4			
GCAM	**G?zelcaml?**	**4.16**	**81**	P	Pn	03 36 33.4	+1.4			
BODT	**Bodrum**	**4.21**	**90**	ePN	Pn	03 36 34.5	+1.7			
BODT	**Bodrum**	**4.21**	**90**	ePn	Pn	03 36 34.5	+1.7			
AYVA	**Ayvalik**	**4.22**	**59**	*i* P	Pn	03 36 34.9	+1.9			
AYVA	**Ayvalik**	**4.22**	**59**	P	Pn	03 36 34.8	+1.9			
GADA	**Gvkgeada**	**4.24**	**44**	ePN	Pn	03 36 34.0	+0.7			
GADA	**Gvkgeada**	**4.24**	**44**	ePn	Pn	03 36 34.0	+0.7			
KAVA	**Kavala**	**4.25**	**26**	P	Pn	03 36 34.3	+0.9			
KAVA	**Kavala**	**4.25**	**26**	P	Pn	03 36 34.3	+0.9			
KAVA	**Kavala**	**4.25**	**26**	ePn	Pn	03 36 34.3	+0.9			
SMTH	**Samothraki Isl**	**4.25**	**39**	P	Pn	03 36 33.2	-0.2			
SMTH	**Samothraki Isl**	**4.25**	**39**	P	Pn	03 36 33.2	-0.2			
SMTH	**Samothraki Isl**	**4.25**	**39**	ePn	Pn	03 36 33.2	-0.2			
EZN	**Ezine**	**4.26**	**51**	ePN	Pn	03 36 34.8	+1.3			
EZN	**Ezine**	**4.26**	**51**	ePn	Pn	03 36 34.8	+1.3			
DKL	**Dikili**	**4.26**	**62**	ePN	Pn	03 36 35.0	+1.5			
DKL	**Dikili**	**4.26**	**62**	ePn	Pn	03 36 35.0	+1.5			
BDRM	**Kayabasi**	**4.31**	**90**	*i* P	Pn	03 36 35.5	+1.3			
BDRM	**Kayabasi**	**4.31**	**90**	P	Pn	03 36 35.5	+1.3			
KARP	**Karpathos**	**4.44**	**110**	ePN	Pn	03 36 37.8	+1.8			
KARP	**Karpathos**	**4.44**	**110**	eP	Pn	03 36 39.3	+2.8			
KARP	**Karpathos**	**4.44**	**110**	ePn	Pn	03 36 37.8	+1.8			
KARP				eSn	Sn	03 37 26.5	-1.3			
KARP	**Karpathos**	**4.44**	**110**	ePn	Pn	03 36 37.8	+1.8			
KARP				eSn	Sn	03 37 26.5	-1.3			
DAT	**Datca**	**4.45**	**94**	ePN	Pn	03 36 38.3	+2.1			
DAT	**Datca**	**4.45**	**94**	*i* P	Pn	03 36 38.5	+2.2			
DAT	**Datca**	**4.45**	**94**	ePn	Pn	03 36 38.3	+2.1			
TIR	**Tirane**	**4.48**	**338**	*i* PN	Pn	03 36 32.4	-4.1			
TIR	**Tirane**	**4.48**	**338**	⇓iP	Pn	03 36 38.7	+2.2			
TIR	**Tirane**	**4.48**	**338**	eP	Pn	03 36 39.3	+2.8			
TIR	**Tirane**	**4.48**	**338**	*i* Pn	Pn	03 36 32.4	-4.1			
TIR	**Tirane**	**4.48**	**338**	⇓iP	Pn	03 36 38.7	+2.2			
TIR	**Tirane**	**4.48**	**338**	ePn	Pn	03 36 39.3	+2.8			
MLSB	**Milas**	**4.57**	**87**	ePN	Pn	03 36 39.9	+2.1			
MLSB	**Milas**	**4.57**	**87**	ePn	Pn	03 36 39.9	+2.1			
MMB	**Musomiste**	**4.58**	**16**	P	Pn	03 36 40.8	+2.9			
AYDB	**Zeytinkoy-Aydi**	**4.70**	**79**	ePN	Pn	03 36 40.7	+1.0			
AYDB	**Zeytinkoy-Aydi**	**4.70**	**79**	ePn	Pn	03 36 40.7	+1.0			
KKB	**Krupnik**	**4.73**	**9**	P	Pn	03 36 43.5	+3.5			
ENEZ	**Enez**	**4.77**	**41**	ePN	Pn	03 36 42.3	+1.9			
ENEZ	**Enez**	**4.77**	**41**	ePn	Pn	03 36 42.3	+1.9			
SKO	**Skopje**	**4.79**	**355**	⇑iPn	Pn	03 36 43.3	+2.5			
SKO	**Skopje**	**4.79**	**355**	⇑iPn	Pn	03 36 43.3	+2.5			
ALN	**Alexandroupoli**	**4.83**	**39**	ePN	Pn	03 36 42.2	+1.0			
ALN	**Alexandroupoli**	**4.83**	**39**	P	Pn	03 36 42.0	+0.7			
ALN	**Alexandroupoli**	**4.83**	**39**	eP	Pn	03 36 42.0	+0.7			
ALN	**Alexandroupoli**	**4.83**	**39**	P	Pn	03 36 42.0	+0.7			
ALN	**Alexandroupoli**	**4.83**	**39**	ePn	Pn	03 36 42.3	+1.0			
ALN	**Alexandroupoli**	**4.83**	**39**	ePn	Pn	03 36 42.0	+0.7			
LPK	**Lapseki**	**4.86**	**48**	ePN	Pn	03 36 43.6	+1.9			
LPK	**Lapseki**	**4.86**	**48**	ePn	Pn	03 36 43.6	+1.9			
ERIK	**Erikli-Kesan**	**4.91**	**44**	ePN	Pn	03 36 43.9	+1.5			
ERIK	**Erikli-Kesan**	**4.91**	**44**	ePn	Pn	03 36 43.9	+1.5			
RZN	**Rozhen**	**4.94**	**24**	P	Pn	03 36 45.5	+2.5			
CGL1	**Ceglie Messapi**	**4.96**	**315**	ePn	Pn	03 36 43.8	+0.7			
TAR1	**Taranto**	**4.99**	**313**	ePn	Pn	03 36 44.9	+0.4			
CEL	**Celeste**	**4.99**	**284**	ePN	Pn	03 36 44.0	+0.4			
CEL	**Celeste**	**4.99**	**284**	ePn	Pn	03 36 44.0	+0.4			
BALY	**Balya**	**5.06**	**58**	*i* P	Pn	03 36 47.7	+3.2			
BALY	**Balya**	**5.06**	**58**	P	Pn	03 36 47.7	+3.2			
MASS	**Massafra**	**5.14**	**313**	ePn	Pn	03 36 45.8	+0.3			
FASA	**Fasano**	**5.14**	**316**	*i* Pn	Pn	03 36 46.3	+0.7			
KDZ	**Kurdzhali**	**5.16**	**29**	P	Pn	03 36 47.3	+1.5			
BALB	**Balikesir**	**5.19**	**60**	ePN	Pn	03 36 48.1	+2.0			
BALB	**Balikesir**	**5.19**	**60**	ePn	Pn	03 36 48.2	+2.0			
KRBG	**Karabiga-Canak**	**5.20**	**50**	ePN	Pn	03 36 47.9	+1.6			
KRBG	**Karabiga-Canak**	**5.20**	**50**	ePn	Pn	03 36 47.9	+1.6			
ULC	**Ulcinj**	**5.23**	**336**	⇓iPn	Pn	03 36 47.4	+0.6			
ULC				eSn	Sn	03 37 48.6	+1.4			
ULC	**Ulcinj**	**5.23**	**336**	⇓iPn	Pn	03 36 47.4	+0.6			
ULC				eSn	Sn	03 37 48.6	+1.4			
TURN	**Turunc**	**5.25**	**92**	*i* P	Pn	03 36 49.2	+2.1			
TURN	**Turunc**	**5.25**	**92**	P	Pn	03 36 49.2	+2.1			
KNL	**Bal˜¬kesir**	**5.27**	**53**	*i* P	Pn	03 36 48.0	+1.7			
DALY	**Dalyan (Mu˜la**	**5.30**	**92**	ePN	Pn	03 36 51.1	+3.3			
DALY	**Dalyan (Mu˜la**	**5.30**	**92**	ePn	Pn	03 36 51.1	+3.3			
PLD	**Plovdiv**	**5.31**	**22**	P	Pn	03 36 52.7	+4.8			
KULA	**Kula-Manisa**	**5.39**	**74**	ePN	Pn	03 36 51.5	+2.3			
DRME	**Dracevica, Mon**	**5.45**	**337**	⇑iPn	Pn	03 36 50.8	+0.9			
DRME				eSn	Sn	03 37 53.8	+1.2			
DRME	**Dracevica, Mon**	**5.45**	**337**	⇑iPn	Pn	03 36 50.8	+0.9			
DRME				eSn	Sn	03 37 53.8	+1.2			
VTS	**Vitosha**	**5.46**	**9**	⇑iP	Pn	03 36 54.3	+4.2			
VTS	**Vitosha**	**5.46**	**9**	eP	Pn	03 36 52.8	+2.6			
VTS	**Vitosha**	**5.46**	**9**	P	Pn	03 36 53.7	+3.6			
VTS	**Vitosha**	**5.46**	**9**	eP	Pn	03 36 52.8	+2.6			
VTS	**Vitosha**	**5.46**	**9**	ePn	Pn	03 36 52.8	+2.6			
MRMT	**Marmara Adasi**	**5.50**	**50**	ePN	Pn	03 36 52.0	+1.3			
EDC	**Edincik**	**5.53**	**54**	ePN	Pn	03 36 53.0	+2.2			
DIM	**Dimitrovgrad**	**5.54**	**29**	P	Pn	03 36 55.6	+4.5			
DEMI	**Demirci**	**5.57**	**69**	*i* P	Pn	03 36 54.7	+2.6			
DNZL	**Cakiroluk**	**5.59**	**83**	*i* P	Pn	03 36 55.0	+3.1			
PGB	**Panagyurishte**	**5.59**	**16**	P	Pn	03 36 56.5	+4.7			
CUC	**Castrocucco**	**5.62**	**302**	ePn	Pn	03 36 54.1	+1.8			
CUC				eSn	Sn	03 37 57.2	+0.3			
CUC	**Castrocucco**	**5.62**	**302**	ePn	Pn	03 36 54.1	+1.8			
CUC				eSn	Sn	03 37 57.2	+0.3			
PVY	**Plav**	**5.63**	**344**	⇓iPn	Pn	03 36 54.1	+1.7			
PVY				eSn	Sn	03 37 58.2	+1.1			
PVY	**Plav**	**5.63**	**344**	⇓iPn	Pn	03 36 54.1	+1.7			
PVY				eSn	Sn	03 37 58.2	+1.1			
BUM	**Brajici-Budva**	**5.65**	**335**	⇑iPn	Pn	03 36 54.1	+1.5			
BUM				eSn	Sn	03 37 58.4	+0.9			
BUM	**Brajici-Budva**	**5.65**	**335**	⇑iPn	Pn	03 36 54.1	+1.5			
BUM				eSn	Sn	03 37 58.4	+0.9			
PDG	**Podgorica**	**5.65**	**339**	⇑iP	Pn	03 36 53.4	+0.8			
PDG	**Podgorica**	**5.65**	**339**	⇓iPn	Pn	03 36 53.3	+0.7			
PDG				eSn	Sn	03 37 58.9	+1.4			
TTG	**Podgorica**	**5.65**	**339**	⇓iPn	Pn	03 36 53.3	+0.7			
TTG				eSn	Sn	03 37 58.9	+1.4			
FETY	**Fethiye**	**5.66**	**94**	ePN	Pn	03 36 56.9	+4.1			
SIMA	**Simav-Kutahya**	**5.78**	**69**	ePN	Pn	03 36 56.5	+2.1			
KCTX	**Karacabey (Bur**	**5.81**	**56**	ePN	Pn	03 36 56.3	+1.5			
CEME	**Cevo**	**5.86**	**337**	⇑iPn	Pn	03 36 56.0	+0.5			
CEME				eSn	Sn	03 38 04.1	+1.3			
CEME	**Cevo**	**5.86**	**337**	⇑iPn	Pn	03 36 56.0	+0.5			
CEME				eSn	Sn	03 38 04.1	+1.3			
EDRB	**Edirne**	**5.89**	**37**	ePN	Pn	03 36 58.7	+2.8			
SBT3	**Marmara-Eregli**	**5.90**	**50**	ePN	Pn	03 36 58.0	+2.1			
BEY	**Berane**	**5.91**	**344**	⇓iPn	Pn	03 36 57.8	+1.6			
BEY				eSn	Sn	03 38 05.0	+1.1			
IVA	**Berane**	**5.91**	**344**	⇓iPn	Pn	03 36 57.8	+1.6			
IVA				eSn	Sn	03 38 05.0	+1.1			
HCY	**Herceg Novi**	**5.92**	**334**	⇑iPn	Pn	03 36 57.1	+0.9			
HCY				eSn	Sn	03 38 05.5	+1.5			
HCY	**Herceg Novi**	**5.92**	**334**	⇑iPn	Pn	03 36 57.1	+0.9			
HCY				eSn	Sn	03 38 05.5	+1.5			
GOLH	**Golhisar**	**6.00**	**87**	*i* P	Pn	03 37 04.8	+7.3			
NKME	**Niksic**	**6.05**	**338**	⇑iPn	Pn	03 36 59.1	+1.0			
NKME				eSn	Sn	03 38 08.3	+0.9			
NKME	**Niksic**	**6.05**	**338**	⇑iPn	Pn	03 36 59.1	+1.0			
NKME				eSn	Sn	03 38 08.3	+0.9			
NKY	**Niksic**	**6.08**	**338**	⇑iPn	Pn	03 36 59.4	+0.8			
NKY				eSn	Sn	03 38 09.4	+1.2			
NKY	**Niksic**	**6.08**	**338**	⇑iPn	Pn	03 36 59.4	+0.8			
NKY				eSn	Sn	03 38 09.4	+1.2			
VAE	**Valguarnera**	**6.09**	**275**	Pn	Pn	03 37 00.1	+1.4			
	comp=N,2.2nm,0.3s,baz=174,slow=5.0,SNR=11									
VAE				Sn	Sn	03 38 12.4	+4.0			
	comp=N,4.1nm,0.3s,baz=216,slow=8.4,SNR=4.0									
VAE				LR	LR	03 39 44.7				
	comp=N,458nm,21.0s,baz=80,slow=41									
AKAS	**Kas**	**6.15**	**97**	*i* P	Pn	03 37 03.5	+3.9			
AKAS	**Kas**	**6.15**	**97**

KIS **Kishinev** 11.00 25 *e*P **Pn** 03 38 05.0 -1.0
KIS *e*S **Sn** 03 40 07.0 -2.0
KIS MLR MLR
comp=Z,800nm,14.0s
KIS MLR MLR
comp=Z,800nm,14.0s
KIS MLR MLR
comp=N,1μm,15.0s
KIS Kishinev 11.00 25 *e*P **Pn** 03 38 05.0 -1.0
GLL Jalalah 11.08 130 P **Pn** 03 38 05.8 -1.3
baz=131
GLL Jalalah 11.08 130 P **Pn** 03 38 05.8 -1.3
ARSA Arzberg 11.15 336 *e*Pn **Pn** 03 38 08.0 +0.1
comp=N,1.8nm,0.6s
ARSA Arzberg 11.15 336 Pn **Pn** 03 38 08.0 +0.1
comp=N,1.8nm,0.6s
KECS Kecovo 11.34 355 *e*P **Pn** 03 38 11.9 +1.4
KECS Kecovo 11.34 355 *e*P **Pn** 03 38 11.9 +1.4
KECS Kecovo 11.34 355 *e*PN **Pn** 03 38 11.9 +1.4
UZH Uzhgorod 11.43 1 *e*P **Pn** 03 38 15.3 +3.5
UZH *e*S **Sn** 03 40 24.2 +4.7
UZH MLR MLR
comp=N,900nm,10.0s
UZH MLR MLR
comp=E,1μm,10.0s
UZH MLR MLR
comp=Z,600nm,10.0s
RSH 11.50 119 P **Pn** 03 38 11.5 -1.3
baz=120
RSH 11.50 119 P **Pn** 03 38 11.5 -1.3
VYHS Vyhne 11.53 349 *e*P **Pn** 03 38 13.0 -0.2
VYHS Vyhne 11.53 349 *e*P **Pn** 03 38 13.0 -0.2
VYHS Vyhne 11.53 349 *e*PN **Pn** 03 38 13.0 -0.2
SUZ Suez 11.60 126 P **Pn** 03 38 12.8 -1.4
baz=127
SUZ Suez 11.60 126 P **Pn** 03 38 12.9 -1.4
CONA Conrad Observa 11.65 339 *e*Pn **Pn** 03 38 13.9 -1.0
comp=Z,0.3nm,0.3s,SNR=5.9
CONA *e*Sn **Sn** 03 40 27.0 +2.0
comp=Z,3.8nm,0.9s
CONA Conrad Observa 11.65 339 Pn **Pn** 03 38 13.9 -1.0
comp=Z,0.3nm,0.3s,SNR=5.9
CONA Sn **Sn** 03 40 27.0 +2.0
comp=Z,3.8nm,0.9s
MMAI Mount Meron Ar 11.70 107 Pn **Pn** 03 38 15.3 -0.4
comp=Z,2.7nm,0.3s,baz=313,slow=11,SNR=5.5
MMAI Sn **Sn** 03 40 22.5 -3.9
comp=Z,1.5nm,0.3s,baz=317,slow=16,SNR=3.6
MMAI LR LR 03 44 14.0
comp=Z,280nm,18.9s,baz=270,slow=45
CRVS Cervenica-Dubn 11.71 358 *e*P Pn 03 38 21.5 +5.9
CRVS Cervenica-Dubn 11.71 358 *e*PN Pn 03 38 21.5 +5.9
KBA Koelnbreinsper 11.79 330 *e*Pn **Pn** 03 38 16.8 -0.1
comp=Z,1.5nm,0.4s
KBA *e*Sn **Sn** 03 40 31.4 +2.8
comp=Z,1.8nm,0.6s
KBA Koelnbreinsper 11.79 330 P **Pn** 03 38 18.0 +1.1
KBA pmax pmax
comp=Z,16nm,1.2s
KBA Koelnbreinsper 11.79 330 Pn **Pn** 03 38 16.8 -0.1
comp=Z,1.5nm,0.4s
KBA Koelnbreinsper 11.79 330 P **Pn** 03 38 18.0 +1.1
comp=Z,16nm,1.2s
KBA Sn **Sn** 03 40 31.4 +2.8
comp=Z,1.8nm,0.6s
ABTA Abfaltersbach 11.88 326 *e*Pn **Pn** 03 38 18.1 0.0
comp=Z,1.4nm,0.4s
ABTA *e*Sn **Sn** 03 40 32.4 +1.7
comp=Z,9.5nm,0.8s
ABTA Abfaltersbach 11.88 326 Pn **Pn** 03 38 18.1 0.0
comp=Z,1.4nm,0.4s
ABTA Sn **Sn** 03 40 32.4 +1.7
comp=Z,9.5nm,0.8s
SIM Simferopol' 11.95 46 *e*P **Pn** 03 38 23.2 +4.3
SIM pmax pmax
comp=Z,50nm,1.4s
SIM MLR MLR
comp=Z,490nm,16.8s
MOA Molln 12.09 334 *e*Pn **Pn** 03 38 20.7 -0.1
comp=Z,1.5nm,0.3s
MOA *e*Sn **Sn** 03 40 39.7 +4.1
comp=Z,3.0nm,0.5s
MOA Molln 12.09 334 Pn **Pn** 03 38 20.7 -0.1
comp=Z,1.5nm,0.3s
LANS Liptovska Anna 12.10 352 *e*P **Pn** 03 38 25.6 +4.7
LANS Liptovska Anna 12.10 352 *e*PN **Pn** 03 38 25.6 +4.7
STHS Stebnicka Huta 12.23 358 *e*P **P** 03 38 32.1 -3.2
STHS Stebnicka Huta 12.23 358 *e*PN **P** 03 38 32.1 -3.2
HNKL Nakhl 12.30 123 P **Pn** 03 38 22.5 -1.4
baz=123
HNKL Nakhl 12.30 123 P **Pn** 03 38 22.5 -1.4
WTTA Wattenberg 12.67 326 *e*Sn **Sn** 03 40 52.1 +2.1
comp=Z,6.0nm,0.6s
WTTA Wattenberg 12.67 326 Sn **Sn** 03 40 52.1 +2.1
comp=Z,6.0nm,0.6s
GRB Gharib 12.68 132 P **Pn** 03 38 27.9 -1.1
baz=132
GRB Gharib 12.68 132 P **Pn** 03 38 27.9 -1.1
LVV L'vov 12.70 6 *e*P **P** 03 38 41.1 +0.7
LVV MLR MLR
comp=Z,400nm,12.0s
VRAC Vranov 12.74 344 Pn **Pn** 03 38 27.7 -2.0
comp=Z,0.2nm,0.3s,baz=157,slow=14,SNR=7.1
VRAC LR LR 03 45 07.9
comp=Z,773nm,18.5s,baz=177,slow=45
FUORN Ofenpass-Fuorn 12.86 321 *e*Pn **Pn** 03 38 33.8 +2.2
FUORN *e*Sn **Sn** 03 40 55.6 +0.8
FUORN Ofenpass-Fuorn 12.86 321 *e*Pn **Pn** 03 38 33.8 +2.2
FUORN *e*Sn **Sn** 03 40 55.6 +0.8
FETA Feichten 12.91 323 Pn **Pn** 03 38 34.4 +2.2
comp=Z,2.9nm,0.9s
FETA Feichten 12.91 323 Pn **Pn** 03 38 34.4 +2.2
comp=Z,2.9nm,0.9s
OKC Ostrava-Krasne 12.95 349 *e*P **Pn** 03 38 32.5 0.0
OKC *ex* x 03 38 43.8
OKC Ostrava-Krasne 12.95 349 *e*P **Pn** 03 38 32.5 0.0
OKC Ostrava-Krasne 12.95 349 *e*P **Pn** 03 38 32.5 0.0
MOTA Moosalm 12.97 325 *e*Pn **Pn** 03 38 33.5 +0.5
comp=Z,4.9nm,0.5s
MOTA Moosalm 12.97 325 Pn **Pn** 03 38 33.5 +0.5
comp=Z,4.9nm,0.5s
MORC Moravsky Berou 12.99 347 *e*P **Pn** 03 38 33.6 +0.4
MORC Moravsky Berou 12.99 347 *e*P **Pn** 03 38 33.6 +0.4
MORC Moravsky Berou 12.99 347 *e*Pn **Pn** 03 38 33.6 +0.4
TREC Trest 13.00 341 *e*P **Pn** 03 38 32.8 -0.4
TREC *ex* x 03 38 45.0
TREC AMS AMS 03 44 00.0
comp=Z,1μm,10.9s
TREC Trest 13.00 341 *e*P **Pn** 03 38 32.8 -0.4
TREC MLR MLR
comp=Z,1μm,10.9s
TREC Trest 13.00 341 *e*P **Pn** 03 38 32.8 -0.4
comp=Z,1μm,10.9s
EIL Elat 13.12 121 Pn **Pn** 03 38 33.6 -1.4
comp=Z,0.6nm,0.3s,baz=337,slow=15,SNR=6.5
EIL Sn Sn 03 40 51.5 -10
comp=Z,0.4nm,0.3s,baz=300,slow=10,SNR=4.6
EIL LR LR 03 45 51.1
comp=Z,221nm,20.9s,baz=282,slow=47
GEA0 GERESS Array S 13.13 335 *e*Pn **Pn** 03 38 35.3 +0.2
GEA0 GERESS Array S 13.13 335 *e*Pn **Pn** 03 38 35.3 +0.2
GEC2 GERESS Array S 13.14 335 *e*P **Pn** 03 38 34.7 -0.5
GEC2 *e* 03 41 00.4
GEC2 GERESS Array S 13.14 335 *e*P **Pn** 03 38 34.7 -0.5
GEC2 *e*S **Sn** 03 41 00.4 -0.9
GEC2 GERESS Array S 13.14 335 *e*Pn **Pn** 03 38 34.6 -0.5
GEC2 *e*Sn **Sn** 03 41 00.4 -0.9
GERES GERESS Array B 13.14 335 Pn **Pn** 03 38 37.4 +2.2
comp=Z,0.2nm,0.3s,baz=154,slow=13,SNR=10.0
GERES Sn **Sn** 03 41 00.4 -0.9
comp=Z,0.2nm,0.3s,baz=168,slow=24,SNR=3.2
GERES LR LR 03 44 47.7
comp=Z,489nm,20.6s,baz=148,slow=42
DAVOX Davos/Dischmat 13.16 320 Pn **Pn** 03 38 37.0 +1.4
comp=Z,0.2nm,0.3s,baz=156,slow=20,SNR=3.1
DAVOX Sn **Sn** 03 41 00.7 -1.5
comp=Z,0.4nm,0.3s,baz=309,slow=10.0,SNR=4.6
DAVOX LR LR 03 44 17.0
comp=Z,720nm,21.4s,baz=118,slow=40
HDK1 Dakhla 13.20 150 P **Pn** 03 38 35.9 -0.2
baz=150
HDK1 Dakhla 13.20 150 P **Pn** 03 38 35.9 -0.2
ASF Jabal al Asfar 13.20 108 Pn **Pn** 03 38 37.0 +0.8
comp=Z,0.4nm,0.3s,baz=299,slow=18,SNR=3.3
ASF LR LR 03 45 13.1
comp=Z,194nm,19.7s,baz=226,slow=44

RETA Reutte 13.23 325 Pn **Pn** 03 38 36.8 +0.4
comp=Z,0.4nm,0.3s
RETA *e*Sn **Sn** 03 41 02.5 -1.1
comp=Z,0.8nm,0.4s
RETA Reutte 13.23 325 Pn **Pn** 03 38 36.8 +0.4
comp=Z,0.4nm,0.3s
RETA Sn **Sn** 03 41 02.5 -1.1
comp=Z,0.8nm,0.4s
TUE Stuetta 13.23 318 *e*Pn **Pn** 03 38 37.7 +1.0
TUE Stuetta 13.23 318 *e*Pn **Pn** 03 38 37.6 +1.0
TUE *e*Sn **Sn** 03 41 00.3 -3.7
KRLC Kraliky 13.42 345 *e*P **Pn** 03 38 40.8 +1.8
KRLC Kraliky 13.42 345 *e*P **Pn** 03 38 40.8 +1.8
KRLC Kraliky 13.42 345 *e*P **Pn** 03 38 40.8 +1.8
KHC Kasperske Hory 13.42 335 *e*P **Pn** 03 38 40.9 +1.8
KHC *ex* x 03 38 49.9
KHC *ex* x 03 39 02.5
KHC AMS AMS 03 44 50.0
comp=Z,1μm,15.2s
KHC Kasperske Hory 13.42 335 *e*P **Pn** 03 38 40.9 +1.8
KHC MLR MLR
comp=Z,1μm,15.2s
KHC Kasperske Hory 13.42 335 *e*Pn **Pn** 03 38 40.8 +1.8
KHC Kasperske Hory 13.42 335 *e*Pn **Pn** 03 38 40.9 +1.8
DAVA Damuels 13.51 322 *e*Pn **Pn** 03 38 44.1 +3.7
comp=Z,2.1nm,0.5s
DAVA *e*Sn **Sn** 03 41 10.5 0.0
comp=Z,2.2nm,0.5s
GOPC GO Pecny, Ondr 13.75 340 *e*P **Pn** 03 38 42.6 -0.9
GOPC *ex* x 03 38 53.7
GOPC AMS AMS 03 44 30.0
comp=Z,900nm,14.4s
GOPC GO Pecny, Ondr 13.75 340 *e*P **Pn** 03 38 42.6 -0.9
GOPC MLR MLR
comp=Z,900nm,14.4s
GOPC GO Pecny, Ondr 13.75 340 *e*P **Pn** 03 38 42.6 -0.9
comp=Z,900nm,14.4s
DPC Dobruska-Polom 13.78 344 *e*P **Pn** 03 38 44.0 +0.1
DPC *ex* x 03 38 53.0
DPC AMS AMS 03 45 20.0
comp=Z,700nm,15.1s
DPC Dobruska-Polom 13.78 344 *e*P **Pn** 03 38 44.0 +0.1
DPC MLR MLR
comp=Z,700nm,15.1s
DPC Dobruska-Polom 13.78 344 *e*P **Pn** 03 38 44.0 +0.1
comp=Z,700nm,15.1s
ANN Anapa 13.87 52 *e*P **Pn** 03 38 47.3 +2.2
ANN pmax pmax
comp=Z,35nm,1.0s
ANN Anapa 13.87 52 *e*P **Pn** 03 38 47.3 +2.2
comp=Z,35nm,1.0s
PRU Pruhonice 13.88 339 *e*P **P** 03 38 52.4 -1.2
PRU *ex* x 03 39 03.3
PRU AMS AMS 03 44 40.0
comp=Z,1μm,9.9s
PRU Pruhonice 13.88 339 *e*P **P** 03 38 52.4 -1.2
PRU MLR MLR
comp=Z,1μm,9.9s
UPC Upice 13.99 344 *e*P **Pn** 03 38 47.7 +0.9
UPC AMS AMS 03 44 50.0
comp=Z,900nm,15.0s
UPC Upice 13.99 344 *e*P **Pn** 03 38 47.7 +0.9
UPC MLR MLR
comp=Z,900nm,15.0s
UPC Upice 13.99 344 *e*P **Pn** 03 38 47.7 +0.9
comp=Z,900nm,15.0s
SENIN Lac Senin/Sane 14.30 314 *e*Pn **Pn** 03 38 49.3 -1.9
SENIN Lac Senin/Sane 14.30 314 *e*Pn **Pn** 03 38 49.3 -1.9
SENIN *e*Sn **Sn** 03 41 26.1 -3.8
PVCC Panska Ves 14.37 340 AMS AMS 03 45 00.0
comp=Z,1μm,14.9s
AK11 Malin Array Si 14.41 18 *e*Pn **Pn** 03 38 51.8 -0.7
AK11 Malin Array Si 14.41 18 *e*Pn **Pn** 03 38 51.8 -0.7
KIEV Kiev 14.44 19 *d i*P **Pn** 03 38 53.2 +0.4
KIEV Kiev 14.44 19 *e*Pn **Pn** 03 38 53.3 +0.4
KIEV Kiev 14.44 19 *e*Pn **Pn** 03 38 53.3 +0.4
AKASG Malin Array Be 14.45 19 Pn **Pn** 03 38 52.3 -0.7
comp=Z,0.7nm,0.3s,baz=208,slow=12,SNR=9.2
AKASG LR LR 03 45 48.6
comp=Z,360nm,20.0s,baz=205,slow=43
AKBB Malin Array Si 14.45 19 *e*P **Pn** 03 38 53.3 +0.3
AKBB Malin Array Si 14.45 19 *e*Pn **Pn** 03 38 53.3 +0.3
AKBB Malin Array Si 14.45 19 *e*Pn **Pn** 03 38 53.3 +0.3
GRA1 Grafenberg Arr 14.74 331 P **P** 03 39 05.5 +2.4
comp=Z,55nm,1.6s
GRF Grafenberg Arr 14.74 331 P **P** 03 39 05.5 +2.4
GRF pmax pmax
comp=Z,55nm,1.6s
GRFO Grafenberg 14.74 331 *e*P **P** 03 39 01.0 -2.1
GRFO Grafenberg 14.74 331 *e*P **P** 03 39 01.0 -2.1
GRFO Grafenberg 14.74 331 *e*Pn **P** 03 39 01.0 -2.1
NKC Novy Kostel 14.75 335 AMS AMS 03 45 40.0
comp=Z,1μm,15.6s
BRG Berggiesshubel 14.85 340 *e*P **Pn** 03 39 00.9 +2.4
comp=Z,13nm,1.5s
BRG Berggiesshubel 14.85 340 *e*P **Pn** 03 39 00.9 +2.4
BRG pmax pmax
comp=Z,13nm,1.5s
BRG MLR MLR
comp=N,705nm,12.5s
BRG MLR MLR
comp=E,731nm,18.1s
BRG MLR MLR
comp=Z,993nm,10.4s
BFO Black Forest 14.98 322 *i*P **Pn** 03 39 02.1 +1.8
BFO Black Forest 14.98 322 *e*Pn **Pn** 03 39 01.3 +1.0
BFO Black Forest 14.98 322 *e*Pn **Pn** 03 39 01.3 +1.0
LOMF Lomont 15.14 317 *e*P **P** 03 39 08.7 +1.1
LOMF Lomont 15.14 317 *e*P **P** 03 39 08.7 +1.1
MOF Molkenrain 15.28 319 *e*P **Pn** 03 39 06.6 +2.3
MOX Moxa 15.38 334 P **P** 03 39 12.5 +2.3
MOX pmax pmax
comp=Z,14nm,1.8s
MOX Moxa 15.38 334 P **P** 03 39 12.5 +2.3
comp=Z,14nm,1.8s
HINF Hinteralfeld 15.40 318 *e*P **P** 03 39 10.1 -0.5
HINF pmax pmax
comp=Z,20nm,1.2s
HINF Hinteralfeld 15.40 318 *e*P **P** 03 39 10.1 -0.5
comp=Z,20nm,1.2s
ECH Echery 15.50 320 *e*P **Pn** 03 39 06.6 -0.5
CLL Collm 15.51 338 *i*P **P** 03 39 11.8 +0.2
CLL pmax pmax
comp=Z,111nm,1.7s
CLL MLR MLR
comp=Z,700nm,19.7s
CLL Collm 15.51 338 *i*P **P** 03 39 11.8 +0.2
comp=Z,700nm,19.7s
CLL Collm 15.51 338 *e*Pn **P** 03 39 12.3 +0.7
comp=Z,98nm,1.6s
ARTV Artvin 15.91 69 *e*Pn **P** 03 39 16.5 0.0
comp=Z,30nm,1.4s
LBL Lubilhac 16.24 305 *e*P **Pn** 03 39 16.3 -0.5
PLDF La Plantade 16.31 308 *e*P **Pn** 03 39 17.7 0.0
RUP Ruppelstein 16.53 324 *e*P **P** 03 39 23.4 +0.3
NNAL NNAL 16.60 144 P **P** 03 39 23.0 -0.9
baz=144
NNAL NNAL 16.60 144 P **P** 03 39 23.0 -0.9
PYM Petit Puy Mans 16.60 307 *e*P **Pn** 03 39 21.1 -0.3
MABD Mabed 16.72 145 P **P** 03 39 24.4 -0.8
SUW Suwalki 16.84 2 P **P** 03 39 26.5 +0.2
SUW pmax pmax
comp=Z,813nm,1.1s
SUW Suwalki 16.84 2 P **P** 03 39 26.5 +0.2
comp=Z,813nm,1.1s
NEY Neytrino 16.89 63 *e*P **P** 03 39 29.0 +1.8
NEY Neytrino 16.89 63 *e*P **P** 03 39 29.0 +1.8
CAF Calviac 16.91 303 *e*P **P** 03 39 28.7 +1.5
CAF pmax pmax
comp=Z,132nm,2.5s
CAF Calviac 16.91 303 *e*P **P** 03 39 28.7 +1.5
comp=Z,132nm,2.5s
WLF Walferdange 16.94 322 *e*P **P** 03 39 29.2 +1.6
WLF pmax pmax
comp=Z,82nm,1.6s
WLF Walferdange 16.94 322 *e*P **P** 03 39 29.2 +1.6
comp=Z,82nm,1.6s
WLF Walferdange 16.94 322 *e*Pn **P** 03 39 29.2 +1.6
comp=Z,82nm,1.6s
KIV Kislovodsk 17.05 60 *e*P **P** 03 39 29.2 +0.3
KIV *e*S **Sn** 03 42 39.8 +3.2
KIV pmax pmax
comp=Z,17nm,1.1s
KIV MLR MLR
comp=Z,176nm,13.0s

KIV Kislovodsk 17.05 60 *e*P **P** 03 39 29.2 +0.3
comp=Z,17nm,1.1s
KIV Kislovodsk 17.05 60 *e*Pn **P** 03 39 29.8 +0.9
comp=Z,47nm,1.6s
KIV Kislovodsk 17.05 60 *e*Pn **P** 03 39 29.8 +0.9
comp=Z,47nm,1.6s
KVAR Kislovodsk Arr 17.05 60 P **P** 03 39 29.8 +0.8
baz=82,slow=16,SNR=7.0
KVAR LR LR 03 47 17.6
comp=Z,321nm,20.0s,baz=228,slow=42
AKH Akhalkalaki 17.11 69 P **P** 03 39 30.5 +0.8
AKH Akhalkalaki 17.11 69 P **P** 03 39 30.4 +0.7
AKH Akhalkalaki 17.11 69 P **P** 03 39 30.4 +0.7
KBZ Khabaz 17.13 61 P **P** 03 39 31.9 +2.2
comp=Z,0.3nm,0.3s,baz=259,slow=4.5,SNR=12
KBZ LR LR 03 47 41.2
comp=Z,513nm,19.0s,baz=264,slow=43
ONI Oni 17.27 65 P **P** 03 39 32.8 +1.5
ONI Oni 17.27 65 P **P** 03 39 32.8 +1.5
ONI Oni 17.27 65 P **P** 03 39 32.8 +1.5
NCK Nalchik 17.57 62 *e*P **P** 03 39 39.2 +4.7
NCK pmax pmax
comp=Z,18nm,0.5s
ZEI Tsey 17.63 65 *e*P **Pn** 03 39 33.2 -1.3
ZEI pmax pmax
comp=Z,79nm,1.5s
MNK Minsk 17.77 11 *e*P **P** 03 39 37.0 +0.4
MNK Minsk 17.77 11 *e*P **P** 03 39 37.0 +0.4
GNI Garni 17.96 74 P **P** 03 39 41.7 +2.7
comp=Z,0.9nm,0.3s,baz=237,slow=3.3,SNR=10
GNI LR LR 03 47 18.4
comp=Z,992nm,18.1s,baz=272,slow=40
GNI Garni 17.96 74 *c i*P **P** 03 39 41.2 +2.2
GNI pmax pmax
comp=Z,194nm,2.5s
GNI Garni 17.96 74 *i*P **P** 03 39 41.2 +2.2
comp=Z,194nm,2.5s
GNI Garni 17.96 74 *e*Pn **P** 03 39 41.3 +2.2
comp=Z,83nm,1.6s
GUDG Gudauri 17.99 66 P **P** 03 39 42.3 +2.9
TBLG Delisi 18.08 68 P **P** 03 39 41.6 +1.4
TBLG Delisi 18.08 68 P **P** 03 39 41.6 +1.4
TBLG Delisi 18.08 68 P **P** 03 39 41.6 +1.4
DGRG David-gareji 18.52 70 P **Pn** 03 39 47.9 +2.7
DGRG David-gareji 18.52 70 P **Pn** 03 39 47.9 +2.6
DGRG David-gareji 18.52 70 P **Pn** 03 39 47.9 +2.6
VSR Storozhevoye 18.56 36 *e*P **Pn** 03 39 45.5 -0.1
VSR pmax pmax
comp=Z,10.0nm,1.1s
VSR Storozhevoye 18.56 36 *e*P **Pn** 03 39 45.5 -0.1
comp=Z,10.0nm,1.1s
GANJ Ganja 19.18 72 P **Pn** 03 39 52.9 -0.3
GANJ Ganja 19.18 72 P **Pn** 03 39 52.9 -0.3
LPSR Galich'ya Gora 19.42 32 *e*P **P** 03 39 54.8 0.0
LPSR pmax pmax
comp=Z,10.0nm,0.8s
LPSR Galich'ya Gora 19.42 32 *e*P **P** 03 39 54.8 0.0
comp=Z,10.0nm,0.8s
MNGR Mingechevir, A 19.77 72 P **P** 03 39 59.2 +0.5
MNGR Mingechevir, A 19.77 72 P **P** 03 39 59.2 +0.5
SEKA Sheki 19.87 71 P **P** 03 40 00.4 +0.5
SEKA Sheki 19.87 71 P **P** 03 40 00.4 +0.5
FLN La Foliniere 20.05 312 *e*P **P** 03 40 01.8 +0.1
FLN pmax pmax
comp=Z,69nm,1.3s
FLN La Foliniere 20.05 312 *e*P **P** 03 40 01.8 +0.1
comp=Z,69nm,1.3s
GRR Gorron 20.11 311 *e*P Pn 03 40 03.7 -0.5
GRR pmax pmax
comp=Z,68nm,1.6s
GRR Gorron 20.11 311 *e*P Pn 03 40 03.7 -0.5
comp=Z,68nm,1.6s
TAM Tamanrasset 20.23 229 *e*P **P** 03 40 04.6 +0.6
TAM pmax pmax
comp=Z,15nm,1.4s
TAM Tamanrasset 20.23 229 *e*P **P** 03 40 04.6 +0.6
comp=Z,16nm,1.4s
TAM Tamanrasset 20.23 229 *e*P **P** 03 40 04.6 +0.6
comp=Z,16nm,1.4s
MAK Makhachkala 20.27 66 *e*P Pn 03 40 06.8 +0.7
MAK *e*S Sn 03 43 53.2 -1.2
MAK pmax pmax
comp=Z,606nm,0.9s
MAK MLR MLR
comp=Z,3μm,12.0s
MAK Makhachkala 20.27 66 *e*P Pn 03 40 06.8 +0.7
comp=Z,606nm,0.9s
MAK *e*S Sn 03 43 53.2 -1.2
comp=Z,3μm,12.0s
ES19 SONSECA Array 20.45 285 *e*P **P** 03 40 06.7 +0.4
ES19 SONSECA Array 20.45 285 *e*P **P** 03 40 06.7 +0.4
OBN Obninsk 20.48 24 P **P** 03 40 06.4 +0.1
comp=Z,13nm,0.3s,baz=165,slow=21,SNR=9.2
OBN LR LR 03 48 31.8
comp=Z,337nm,19.8s,baz=248,slow=38
OBN Obninsk 20.48 24 *c i*P Pn 03 40 08.2 -0.2
OBN *e* 03 40 23.0
OBN *e*S Sn 03 43 57.8 -1.2
OBN *e*SS **PcP** **03 44 17.8 +0.1**
OBN pmax pmax
comp=Z,101nm,1.7s
OBN MLR MLR
comp=Z,267nm,16.0s
OBN Obninsk 20.48 24 *e*P Pn 03 40 07.5 -0.9
comp=Z,243nm,1.9s
OBN *e*S Sn 03 43 57.8 -1.2
OBN Obninsk 20.48 24 *e*PcP **PcP** **03 44 17.8 +0.1**
comp=Z,267nm,16.0s
OBN Obninsk 20.48 24 *e*P Pn 03 40 07.5 -0.9
comp=Z,243nm,1.9s
ESDC Sonseca Array 20.50 285 P **P** 03 40 07.3 +0.5
comp=Z,4.4nm,0.7s,baz=84,slow=13,SNR=21
ESLA Sonseca Array 20.50 285 *e*P **P** 03 40 06.0 -0.8
comp=Z,75nm,1.6s
ESLA Sonseca Array 20.50 285 *e*P **P** 03 40 06.0 -0.8
comp=Z,75nm,1.6s
PAB San Pablo 20.81 285 *e*P **P** 03 40 10.8 +0.7
PAB pmax pmax
comp=Z,52nm,1.6s
PAB San Pablo 20.81 285 *e*P **P** 03 40 10.8 +0.7
comp=Z,52nm,1.6s
PAB San Pablo 20.81 285 *e*P **P** 03 40 10.8 +0.7
comp=Z,52nm,1.6s
MOS Moscow 21.34 25 *e*P **P** 03 40 15.3 -0.2
MOS *e* 03 40 22.2
MOS *e*S **S** **03 44 09.5 -2.7**
MOS pmax pmax
comp=Z,108nm,1.2s
MOS Moscow 21.34 25 *e*P **P** 03 40 15.3 -0.2
comp=Z,108nm,1.2s
QUIF Quistinic 21.35 308 *e*P **P** 03 40 15.4 -0.3
QUIF pmax pmax
comp=Z,119nm,1.6s
QUIF Quistinic 21.35 308 *e*P **P** 03 40 15.4 -0.3
comp=Z,119nm,1.6s
VSU Vasula 21.50 7 *c i*P **P** 03 40 17.6 +0.4
VSU pmax pmax
comp=Z,59nm,0.7s
VSU MLR MLR
comp=Z,2μm,19.0s
VSU Vasula 21.50 7 *i*P **P** 03 40 17.6 +0.4
comp=Z,2μm,19.0s
ROSF Rostrenen 21.57 309 *e*P **P** 03 40 17.8 -0.3
ROSF pmax pmax
comp=Z,220nm,1.8s
ROSF Rostrenen 21.57 309 *e*P **P** 03 40 17.8 -0.3
comp=Z,220nm,1.8s
MDT Midelt 22.24 267 P **P** 03 40 24.9 -0.7
comp=Z,4.2nm,0.8s,baz=83,slow=12,SNR=9.8
MDT LR LR 03 50 28.5
comp=Z,174nm,21.9s,baz=74,slow=40
PBRG Braganca 22.63 291 *e*P **P** 03 40 29.9 +0.2
MVO Moncorvo 22.84 289 *e*P **P** 03 40 31.3 -0.5
HFS Hagfors 23.57 350 LR LR 03 51 47.1
comp=Z,300nm,18.2s,baz=168,slow=41
PVAQ Vaqueiros 23.64 280 *e*P **P** 03 40 39.3 -0.6
PVAQ Vaqueiros 23.64 280 *e*P **P** 03 40 39.3 -0.6
PBDV Barranco-do-Ve 23.83 279 *e*P **P** 03 40 42.1 +0.3
PBDV Barranco-do-Ve 23.83 279 *e*P **P** 03 40 42.1 +0.3
MORF Marmelete 24.39 280 *e*P **P** 03 40 42.8 -4.2
FIA0 FINESS Array S 24.40 5 *e*P **P** 03 40 45.3 -1.5
FIA0 *e* 03 44 25.5
FIA0 FINESS Array S 24.40 5 *e*P **P** 03 40 45.3 -1.5
FIA0 FINESS Array S 24.40 5 *e*PcP **PcP** **03 44 25.5 -0.1**
FIA0 FINESS Array S 24.40 5 *e*P **P** 03 40 45.3 -1.5

FIA0 *e*PcP **PcP** 03 44 25.5 -0.1
FINES FINESS Array B 24.40 5 P **P** 03 40 45.3 -1.5
comp=Z,4.7nm,0.6s,baz=175,slow=9.2,SNR=19
FINES PcP **PcP** 03 44 25.5 -0.1
comp=Z,2.8nm,0.8s,baz=245,slow=3.6,SNR=3.7
FINES LR LR 03 51 19.1
comp=Z,542nm,20.4s,baz=198,slow=39
FINES FINESS Array B 24.40 5 P **P** 03 40 45.3 -1.5
FINES 03 44 25.5
FINES pmax pmax
comp=Z,7.0nm,0.7s
FINES MLR MLR
comp=Z,542nm,20.4s
FINES FINESS Array B 24.40 5 P **P** 03 40 45.3 -1.5
comp=Z,7.0nm,0.7s
FIA1 FINESS Array S 24.40 5 *e*P **P** 03 40 45.5 -1.3
comp=Z,92nm,1.7s
FIA1 FINESS Array S 24.40 5 *e*P **P** 03 40 45.5 -1.3
comp=Z,92nm,1.7s
NC602 NORSAR Array S 24.49 348 *e*P **P** 03 40 47.9 +0.3
NC602 NORSAR Array S 24.49 348 *e*P **P** 03 40 47.9 +0.3
NAO01 NORSAR Array S 24.70 347 *e*P **P** 03 40 48.9 -0.7
NAO01 NORSAR Array S 24.70 347 *e*P **P** 03 40 48.9 -0.7
NC405 NORSAR Array S 24.81 348 *e*P **P** 03 40 50.1 -0.5
NC405 NORSAR Array S 24.81 348 *e*P **P** 03 40 50.1 -0.5
NB201 NORSAR Array S 24.82 348 *e*P **P** 03 40 50.3 -0.4
NB201 NORSAR Array S 24.82 348 *e*P **P** 03 40 50.4 -0.4
NB2 NORSAR Subarra 24.83 347 P **P** 03 40 49.0 -1.8
NB2 pmax pmax
comp=Z,3.0nm,0.7s
NB2 NORSAR Subarra 24.83 347 P **P** 03 40 50.3 -0.4
comp=Z,13nm,1.0s,SNR=6.8
NB2 NORSAR Subarra 24.83 347 P **P** 03 40 50.3 -0.4
comp=Z,13nm,1.0s,baz=159,slow=9.3
NB200 NORSAR Array S 24.83 347 *e*P **P** 03 40 50.3 -0.4
NB200 NORSAR Array S 24.83 347 *e*P **P** 03 40 50.3 -0.4
NOA NORSAR Array B 24.83 347 P **P** 03 40 50.3 -0.4
comp=Z,4.7nm,0.7s,baz=156,slow=8.8,SNR=14
NOA LR LR 03 51 45.4
comp=Z,208nm,20.4s,baz=165,slow=39
EKA Eskdalemuir Ar 24.93 325 P **P** 03 40 51.8 +0.2
comp=Z,6.1nm,0.6s,baz=126,slow=9.4,SNR=11
EKA Eskdalemuir Ar 24.93 325 P **P** 03 40 51.8 +0.2
EKA pmax pmax
comp=Z,9.0nm,0.8s
EKA Eskdalemuir Ar 24.93 325 P **P** 03 40 51.8 +0.2
comp=Z,9.0nm,0.8s
NC204 NORSAR Array S 25.13 347 *e*P **P** 03 40 53.1 -0.4
NC204 NORSAR Array S 25.13 347 *e*P **P** 03 40 53.1 -0.4
KLMR Klimovskoe 26.13 19 *e*P **P** 03 41 01.4 -1.1
KLMR *e* 03 44 28.6
KLMR pmax pmax
comp=Z,59nm,1.2s
KLMR Klimovskoe 26.13 19 *e*P **P** 03 41 01.4 -1.1
comp=Z,59nm,1.2s
KLMR Klimovskoe 26.13 19 *e*PcP **PcP** 03 44 28.6 -0.9
GEYT Alibeck 28.49 77 LR LR 03 56 09.1
comp=Z,93nm,18.7s,baz=285,slow=44
AKTK Aktyubinsk 28.83 51 P **P** 03 41 26.7 -0.1
comp=Z,1.0nm,0.4s
AKTO Aktyubinsk 28.83 51 P **P** 03 41 26.7 -0.1
comp=Z,0.7nm,0.4s,baz=280,slow=18,SNR=2.9
ABKAR Akbulak array 29.82 54 *e*P **P** 03 41 35.8 +0.3
comp=Z,13nm,0.6s
ABKAR Akbulak array 29.82 54 *e*P **P** 03 41 35.9 +0.3
comp=Z,13nm,0.6s
TOA1 Torodi Ar. Sit 30.07 223 *e*P **P** 03 41 37.7 -0.5
comp=Z,24nm,1.8s
TOA1 Torodi Ar. Sit 30.07 223 *e*P **P** 03 41 37.7 -0.5
comp=Z,24nm,1.8s
TOA0 Torodi Ar. Sit 30.08 223 *e*P **P** 03 41 37.8 -0.4
TOA0 Torodi Ar. Sit 30.08 223 *e*P **P** 03 41 37.8 -0.4
TORD Torodi Ar. Bea 30.08 223 P **P** 03 41 37.7 -0.5
comp=Z,1.8nm,0.6s,baz=33,slow=8.7,SNR=28
TORD LR LR 03 54 55.1
comp=Z,432nm,19.4s,baz=25,slow=39
ARU Arti 31.01 40*d i*P **P** 03 41 44.8 -1.2
ARU 03 42 42.8
ARU S **S** 03 46 48.8 -1.8
ARU SS **SnSn** 03 48 29.3 -1.6
ARU pmax pmax
comp=Z,8.0nm,1.2s
ARU Arti 31.01 40 *i* P **P** 03 41 44.8 -1.2
comp=Z,8.0nm,1.2s
SOKR Solikamsk 31.57 34⇑ *i*P **P** 03 41 48.7 -2.1
SOKR pmax pmax
comp=Z,12nm,0.9s
SOKR MLR MLR
comp=Z,198nm,17.0s
ARA0 ARCESS Array S 32.45 2 *e*P **P** 03 41 58.2 -0.4
ARA0 ARCESS Array S 32.45 2 *e*P **P** 03 41 58.2 -0.4
ARCES ARCESS Array B 32.45 2 P **P** 03 41 58.2 -0.4
comp=Z,5.6nm,0.7s,baz=182,slow=7.9,SNR=14
ARCES LR LR 03 56 09.2
comp=Z,374nm,18.5s,baz=205,slow=38
ARE0 ARCESS Array S 32.45 2 *e*P **P** 03 41 58.0 -0.6
comp=Z,110nm,2.0s
ARE0 ARCESS Array S 32.45 2 *e*P **P** 03 41 58.0 -0.6
comp=Z,110nm,2.0s
BRVK Borovoye 36.78 49*ce*P **P** 03 42 36.3 +0.2
BRVK pmax pmax
comp=Z,11nm,1.1s
BRVK MLR MLR
comp=Z,286nm,17.0s
BRVK Borovoye 36.78 49 *e*P **P** 03 42 36.3 +0.2
comp=Z,286nm,17.0s
KKAR Karatay Array 37.09 65 *e*P **P** 03 42 39.5 +0.5
KKAR pmax pmax
comp=Z,17nm,0.6s
KKAR Karatay Array 37.09 65 *e*P **P** 03 42 39.5 +0.5
comp=Z,17nm,0.6s
KKAR Karatay Array 37.09 65 *e*P **P** 03 42 39.5 +0.5
comp=Z,17nm,0.6s
DBIC Dimbokro 39.03 226 P **P** 03 42 55.1 -0.5
comp=Z,3.6nm,0.7s,baz=10,slow=13,SNR=6.8
DBIC LR LR 03 59 58.5
comp=Z,192nm,19.6s,baz=5.0,slow=38
DBIC Dimbokro 39.03 226 *e*P **P** 03 42 55.1 -0.5
comp=Z,29nm,1.4s
DBIC Dimbokro 39.03 226 *e*P **P** 03 42 55.1 -0.5
comp=Z,29nm,1.4s
TIC Toumodi 39.15 226 *e*P **P** 03 42 56.8 +0.3
KIC Kosan Boka 39.22 225 *e*P **P** 03 42 57.1 0.0
comp=Z,47nm,1.4s
LIC Lamto 39.49 225 *e*P **P** 03 42 59.4 0.0
comp=Z,85nm,1.4s
AAK Ala-Archa 40.06 65 P **P** 03 43 03.4 -0.7
comp=Z,1.4nm,0.4s,baz=288,slow=6.4,SNR=2.5
AAK Ala-Archa 40.06 65⇑ *e*P **P** 03 43 04.4 +0.3
AAK pmax pmax
comp=Z,5.0nm,1.0s
AAK Ala-Archa 40.06 65 *e*P **P** 03 43 04.4 +0.3
comp=Z,5.0nm,1.0s
FRU Bishkek 40.11 65 *e*P **P** 03 43 06.0 +1.6
FRU pmax pmax
comp=Z,20nm,1.6s
FRU Bishkek 40.11 65 *e*P **P** 03 43 06.0 +1.6
comp=Z,20nm,1.6s
KMBO Kilima Mbogo 40.65 156 LR LR 04 02 07.1
comp=Z,52nm,21.9s,baz=88,slow=39
KSH Kashi 41.82 70 *e*P **P** 03 43 20.3 +1.7
KSH sP sP 03 43 29.4 +6.3
KSH PP **PnPn** 03 45 00.3 +0.1
KSH S **S** 03 49 35.1 -1.2
KSH sS sS 03 49 45.1 +3.6
KSH SS **SS** 03 52 34.3 -7.8
KSH pmax pmax
comp=Z,4.0nm,0.9s
KSH pmax pmax
comp=Z,72nm,5.2s
KSH LR LR
comp=Z,170nm,5.2s
KSH LR LR
comp=Z,110nm,4.9s
KSH LR LR
comp=Z,130nm,5.6s
KURK Kurchatov 41.90 53⇑ *e*P **P** 03 43 18.5 -0.4
KURK pmax pmax
comp=Z,26nm,1.4s
KURK MLR MLR
comp=Z,637nm,18.0s
KURK Kurchatov 41.90 53 *e*P **P** 03 43 18.5 -0.4
comp=Z,15nm,1.4s
KURK Kurchatov 41.90 53 *e*P **P** 03 43 18.5 -0.4
comp=Z,15nm,1.4s
MK31 Makanchi Array 44.79 58 *e*P **P** 03 43 41.8 -0.6
MK31 Makanchi Array 44.79 58 *e*P **P** 03 43 41.8 -0.6
MKAR Makanchi Array 44.79 58 *e*P **P** 03 43 41.8 -0.6
MKAR pmax pmax
comp=Z,18nm,0.6s
MKAR Makanchi Array 44.79 58 *e*P **P** 03 43 41.8 -0.6
comp=Z,18nm,0.6s
MKAR Makanchi Array 44.79 58 *e*P **P** 03 43 41.8 -0.6
comp=Z,18nm,0.6s
MK01 Makanchi Array 44.80 58 *e*P **P** 03 43 41.8 -0.7
MK01 Makanchi Array 44.80 58 *e*P **P** 03 43 41.8 -0.7
ZAA0 Zalesovo Array 45.45 48 *e*P **P** 03 43 46.8 -0.7
ZAA0 Zalesovo Array 45.45 48 *e*P **P** 03 43 46.8 -0.7
ZAA1 Zalesovo Array 45.45 48 *e*P **P** 03 43 46.6 -0.9
ZAA1 Zalesovo Array 45.45 48 *e*P **P** 03 43 46.6 -0.9
ZALV Zalesovo Beam 45.45 48 P **P** 03 43 46.6 -0.9
comp=Z,2.7nm,0.4s,baz=270,slow=9.5,SNR=10
ZALV LR LR 04 04 45.7
comp=Z,89nm,19.1s,baz=239,slow=39
NRIK Noril'sk 47.13 26 P **P** 03 44 01.2 +0.7
comp=Z,2.1nm,0.3s,baz=73,slow=7.9,SNR=4.2
NRIK LR LR 04 07 36.9
comp=Z,158nm,18.2s,baz=278,slow=41
LSZ Lusaka 52.51 173 *e*P **P** 03 44 42.0 -0.1
LSZ pmax pmax
comp=Z,35nm,1.9s
LSZ Lusaka 52.51 173 *e*P **P** 03 44 42.0 -0.1
comp=Z,34nm,1.9s
LSZ Lusaka 52.51 173 *e*P **P** 03 44 42.0 -0.1
comp=Z,34nm,1.9s
TLY Talaya 57.06 47 *e*P P 03 45 07.4 -7.3
TLY pmax pmax
comp=Z,9.0nm,0.7s
TLY MLR MLR
comp=Z,134nm,18.0s
ZAK Zakamensk 57.29 49 *e*P P 03 45 10.9 -5.5
ZAK pmax pmax
comp=Z,3.0nm,1.7s
SCHQ Schefferville 60.00 318 LR LR 04 10 20.2
comp=Z,116nm,21.9s,baz=46,slow=35
SONA0 Songino Array 60.14 51 *e*P **P** 03 45 36.3 0.0
comp=Z,22nm,1.8s
SONA0 Songino Array 60.14 51 *e*P **P** 03 45 36.3 0.0
comp=Z,22nm,1.8s
SONA1 Songino Array 60.14 51 *e*P **P** 03 45 35.8 -0.5
SONA1 Songino Array 60.14 51 *e*P **P** 03 45 35.8 -0.5
SONM Songino Array 60.14 51 P **P** 03 45 36.3 0.0
comp=Z,1.3nm,0.8s,baz=293,slow=7.6,SNR=6.2
SONM LR LR 04 14 32.4
comp=Z,138nm,20.4s,baz=7.5,slow=39
BOD Bodaibo 60.40 38 *e*P **P** 03 45 36.2 -1.5
BOD pmax pmax
comp=Z,7.0nm,1.4s
BOD Bodaibo 60.40 38 *e*P **P** 03 45 36.2 -1.5
comp=Z,7.0nm,1.4s
ULN Ulaanbaatar 60.54 50⇑ *e*P **P** 03 45 39.4 +0.3
ULN pmax pmax
comp=Z,6.0nm,1.7s
ULN MLR MLR
comp=Z,103nm,21.0s
ULN Ulaanbaatar 60.54 50 *e*P **P** 03 45 39.4 +0.3
comp=Z,103nm,21.0s
LZH Lanzhou 63.56 64 *e*P **P** 03 46 02.9 +3.3
LZH pP sP 03 46 09.0 +4.9
LZH sP pP 03 46 11.6 +8.8
LZH PP **PP** 03 48 24.4 +5.4
LZH *e*S **S** 03 54 33.3 0.0
LZH sS sS 03 54 42.1 +3.4
LZH SS **SS** 03 58 40.8 +0.7
LZH pmax pmax
comp=Z,16nm,1.1s
LZH pmax pmax
comp=Z,59nm,4.6s
LZH LR LR
comp=Z,1μm,14.1s
LZH LR LR
comp=Z,1μm,14.2s
LZH LR LR
comp=Z,1μm,17.6s
BOSA Boshof 65.53 177 P **P** 03 46 13.2 +0.9
comp=Z,1.9nm,0.5s,baz=0.2,slow=6.9,SNR=8.1
BOSA LR LR 04 16 35.4
comp=Z,115nm,18.5s,baz=13,slow=38
HHC Hu-ho-hao-te 66.59 56 *e*P **P** 03 46 21.0 +1.9
HHC S **S** 03 55 05.6 -4.7
HHC pmax pmax
comp=Z,20nm,1.3s
HHC pmax pmax
comp=Z,56nm,6.5s
HHC LR LR
comp=Z,140nm,16.2s
HHC LR LR
comp=Z,180nm,16.2s
HHC LR LR
comp=Z,180nm,16.5s
KMI Kunming 68.21 74 P **P** 03 46 32.3 +2.6
KMI pmax pmax
comp=Z,10.0nm,0.5s
KMI pmax pmax
comp=Z,130nm,3.9s
CM31 Chiang Mai Arr 68.82 82 *e*P **P** 03 46 32.5 -0.9
CM31 Chiang Mai Arr 68.82 82 *e*P **P** 03 46 32.5 -0.9
CMAR Chiang Mai Arr 68.82 82 P **P** 03 46 32.5 -0.9
comp=Z,1.0nm,0.3s,baz=308,slow=7.4,SNR=6.0
CMAR LR LR 04 22 16.3
comp=Z,70nm,18.4s,baz=302,slow=41
CMAR Chiang Mai Arr 68.82 82 *i* P **P** 03 46 34.0 +0.6
CMAR pmax pmax
comp=Z,1.0nm,0.4s
CMAR Chiang Mai Arr 68.82 82 *i* P **P** 03 46 34.0 +0.6
comp=Z,1.0nm,0.4s
GYA Guiyang 70.49 71 *e*P **P** 03 46 46.3 +2.6
GYA pmax pmax
comp=Z,10.0nm,1.0s
N59A State Game Lan 71.92 308 P **P** 03 46 51.7 -0.3
baz=56
SEY Seymchan 72.61 21⇓ *e*P **P** 03 46 56.8 +1.1
SEY Seymchan 72.61 21 *e*P **P** 03 46 56.8 +1.1
INK Inuvik 73.23 351 *e*P **P** 03 46 59.6 +0.3
INK pmax pmax
comp=Z,14nm,1.4s
INK Inuvik 73.23 351 *e*P **P** 03 46 59.6 +0.3
comp=Z,14nm,1.4s
INK Inuvik 73.23 351 *e*P **P** 03 46 59.6 +0.3
comp=Z,14nm,1.4s
CN2 Changchun 73.67 47 *e*P P 03 46 55.1 -7.2
M54A Oil Creek Stat 74.00 310 P **P** 03 47 04.2 -0.2
baz=54
O56A Blue Knob Stat 74.04 309 P **P** 03 47 04.6 -0.1
baz=55
TOLK Toolik Lake Re 74.29 357 P **P** 03 47 05.9 +0.3
baz=6.9
N54A Moraine State 74.52 310 P **P** 03 47 08.0 +0.6
baz=54
YKA Yellowknife Ar 74.72 341 P **P** 03 47 08.6 +0.5
comp=Z,1.8nm,0.7s,baz=27,slow=5.6,SNR=3.8
YKA LR LR 04 21 36.7
comp=Z,15nm,19.0s,baz=0.0,slow=37
YKB5 Yellowknife Ar 74.72 341 *e*P **P** 03 47 08.6 +0.5
YKB5 Yellowknife Ar 74.72 341 *e*P **P** 03 47 08.6 +0.5
IP01 Cuckoo 74.96 306 *e*P **P** 03 47 10.4 +0.5
comp=Z,13nm,1.3s
IP01 Cuckoo 74.96 306 *e*P **P** 03 47 10.4 +0.5
comp=Z,13nm,1.3s
D41A Chassel 75.69 319 P **P** 03 47 14.2 +0.2
baz=50
COLD Coldfoot 75.73 357 *e*P **P** 03 47 14.2 +0.3
comp=Z,10nm,1.3s
COLD Coldfoot 75.73 357 *e*P **P** 03 47 14.2 +0.3
comp=Z,10nm,1.3s
FYU Fort Yukon 76.10 355 *e*P **P** 03 47 18.3 +2.3
comp=Z,75nm,1.7s
FYU Fort Yukon 76.10 355 *e*P **P** 03 47 18.3 +2.3
comp=Z,75nm,1.7s
NJ2 Nanjing 76.26 60 *e*P **P** 03 47 19.1 +1.6
NJ2 pmax pmax
comp=Z,10.0nm,0.9s
E40A Wakefield 76.79 319 P **P** 03 47 20.4 +0.1
baz=49
F41A Three Lakes 76.83 318 P **P** 03 47 23.3 +2.8
baz=50
USRK Ussuriysk Ar. 77.15 44 P **P** 03 47 20.5 -1.9
comp=Z,1.7nm,0.6s,baz=329,slow=6.7,SNR=5.5
ULM Lac du Bonnet 77.20 324 LR LR 04 22 37.2
comp=Z,97nm,19.4s,baz=53,slow=37
C36A Pine Crest Far 77.44 321 P **P** 03 47 23.6 -0.3
baz=48
B34A Aery, Baudette 77.83 323 P **P** 03 47 26.9 +0.8
baz=47
H41A Junction City 77.85 317 P **P** 03 47 27.0 +0.8
baz=49
A33A Warroad 77.88 323 P **P** 03 47 27.1 +0.8
baz=46
ILAR Eielson Array 77.99 355 P **P** 03 47 26.7 0.0
comp=Z,0.8nm,0.6s,baz=9.6,slow=4.5,SNR=4.2
ILAR LR LR 04 23 07.6
comp=Z,44nm,21.9s,baz=348,slow=37
ILB Eielson Array 77.99 355 *e*P **P** 03 47 26.7 0.0
ILB Eielson Array 77.99 355 *e*P **P** 03 47 26.7 0.0
DAWY Dawson 78.01 352 *e*P **P** 03 47 28.1 +1.3
comp=Z,19nm,1.4s
DAWY Dawson 78.01 352 *e*P **P** 03 47 28.1 +1.3
comp=Z,19nm,1.4s
G39A Holcombe 78.22 318 P **P** 03 47 28.8 +0.4
baz=48
WRH Wood River Hil 78.37 356 *e*P **P** 03 47 29.8 +1.1
comp=Z,29nm,1.7s
WRH Wood River Hil 78.37 356 *e*P **P** 03 47 29.8 +1.1
comp=Z,29nm,1.7s
AGMN Agassiz Nation 78.55 323 P **P** 03 47 30.6 +0.6
baz=46
G38A Ridgeland 78.66 319 P **P** 03 47 31.4 +0.7
baz=48
H39A Augusta 78.69 318 P **P** 03 47 31.7 +0.8
baz=48
B32A Ashes, Strandq 78.81 323 P **P** 03 47 31.9 +0.4
baz=46
KMSC Kings Mountain 78.84 306 P **P** 03 47 32.9 +1.0
baz=52
I40A Norwalk 78.85 317 P **P** 03 47 31.9 +0.1
baz=49
DOT Dot Lake 78.89 354 *e*P **P** 03 47 33.1 +1.4
comp=Z,27nm,1.2s
DOT Dot Lake 78.89 354 *e*P **P** 03 47 33.1 +1.4
comp=Z,27nm,1.2s
KS01 Wonju Array Si 78.97 51 *e*P **P** 03 47 31.6 -1.0
KS01 Wonju Array Si 78.97 51 *e*P **P** 03 47 31.6 -1.0
KS15 Wonju Array Si 78.99 51 *e*P **P** 03 47 32.2 -0.4
KS15 Wonju Array Si 78.99 51 *e*P **P** 03 47 32.2 -0.4
KSAR Wonju Array Be 78.99 51 P **P** 03 47 32.3 -0.4
KSAR Wonju Array Be 78.99 51 P **P** 03 47 32.3 -0.4
KSAR Wonju Array Be 78.99 51 P **P** 03 47 32.2 -0.4
KSRS Korea Array 79.01 51 P **P** 03 47 32.2 -0.5
comp=Z,1.7nm,0.5s,baz=310,slow=4.8,SNR=12
KSRS LR LR 04 28 09.9
comp=Z,87nm,18.2s,baz=310,slow=40
F36A Milaca 79.06 320 P **P** 03 47 33.5 +0.6
baz=47
SPMN Marine on St. 79.12 319 P **P** 03 47 34.0 +0.8
baz=48
MCK McKinley 79.15 356 *e*P **P** 03 47 33.9 +0.8
MCK pmax pmax
comp=Z,32nm,1.4s
MCK McKinley 79.15 356 *e*P **P** 03 47 33.9 +0.8
comp=Z,32nm,1.4s
MCK McKinley 79.15 356 *e*P **P** 03 47 33.9 +0.8
comp=Z,32nm,1.4s
H38A Maiden Rock 79.22 319 P **P** 03 47 34.1 +0.3
baz=48
E34A Wadena 79.45 321 P **P** 03 47 35.6 +0.5
baz=46
K41A Shullsburg 79.52 316 P **P** 03 47 36.0 +0.5
baz=49
BLO Bloomington 79.57 311 *e*P **P** 03 47 37.3 +1.5
BLO pmax pmax
comp=Z,12nm,0.6s
BLO Bloomington 79.57 311 *e*P **P** 03 47 37.3 +1.5
comp=Z,12nm,0.6s
BLO Bloomington 79.57 311 *e*P **P** 03 47 37.3 +1.5
comp=Z,12nm,0.6s
CAST Castle Rocks 79.61 357 *e*P **P** 03 47 36.9 +1.2
comp=Z,20nm,1.4s
CAST Castle Rocks 79.61 357 *e*P **P** 03 47 36.9 +1.2
comp=Z,20nm,1.4s
I38A Scanlan Farm, 79.67 318 P **P** 03 47 36.7 +0.4
baz=48
C31A Landman Farms, 79.80 324 P **P** 03 47 37.0 +0.1
baz=45
J39A Decorah 79.81 317 P **P** 03 47 37.5 +0.4
baz=48
L41A Preston 79.98 316 P **P** 03 47 38.6 +0.6
baz=48
TKL Tuckaleechee C 80.09 307 LR LR 04 21 34.4
comp=Z,40nm,20.2s,slow=34
TKL Tuckaleechee C 80.09 307 *e*P **P** 03 47 40.2 +1.5
TKL pmax pmax
comp=Z,20nm,1.6s
TKL Tuckaleechee C 80.09 307 *e*P **P** 03 47 40.2 +1.5
comp=Z,20nm,1.6s
TKL Tuckaleechee C 80.09 307 *e*P **P** 03 47 40.2 +1.5
comp=Z,20nm,1.6s
H36A Jessenland, He 80.15 319 P **P** 03 47 39.2 +0.4
baz=47
TTA Tatalina 80.20 359 *e*P **P** 03 47 40.4 +1.5
TTA pmax pmax
comp=Z,37nm,1.8s
TTA Tatalina 80.20 359 *e*P **P** 03 47 40.4 +1.5
comp=Z,37nm,1.8s
TTA Tatalina 80.20 359 *e*P **P** 03 47 40.4 +1.5
comp=Z,37nm,1.8s
J38A Wedel Dairy, R 80.23 318 P **P** 03 47 39.5 +0.2
baz=47
I37A Lemond, Waseca 80.26 319 P **P** 03 47 40.2 +0.7
baz=47
H35A Sunnyside Ranc 80.53 320 P **P** 03 47 42.2 +1.3
baz=46
N42A Yates City 80.55 315 P **P** 03 47 41.6 +0.6
baz=48
G34A Benson 80.57 321 P **P** 03 47 41.6 +0.6
baz=46
P44A Sand Creek, Wi 80.62 313 P **P** 03 47 41.8 +0.3
baz=49
CPCT Cooper Cave 80.70 308 *e*P **P** 03 47 43.7 +1.7
comp=Z,11nm,1.4s
CPCT Cooper Cave 80.70 308 *e*P **P** 03 47 43.7 +1.7
comp=Z,11nm,1.4s
L39A Vinton 80.78 317 P **P** 03 47 42.5 +0.2
baz=48
J37A Redenius Farm, 80.82 318 P **P** 03 47 42.7 +0.2
baz=47
K38A Parkersburg 80.85 317 P **P** 03 47 42.6 -0.1
baz=47
M40A Post Highland 81.00 316 P **P** 03 47 43.5 +0.1
baz=48
G33A Ortonville 81.00 321 P **P** 03 47 43.2 -0.2
baz=45
H34A Spellman Lake, 81.04 320 P **P** 03 47 43.7 0.0
baz=46
J36A Seneca 1, Swea 81.22 319 P **P** 03 47 45.4 +0.7
baz=46
K37A Belmond 81.23 318 P **P** 03 47 44.8 0.0
baz=47
L38A Oak Wood Farm, 81.30 317 P **P** 03 47 45.4 +0.4
baz=47
GOGA Godfrey 81.30 305 *e*P **P** 03 47 46.9 +1.7
GOGA pmax pmax
comp=Z,21nm,1.6s
GOGA Godfrey 81.30 305 *e*P **P** 03 47 46.9 +1.7
comp=Z,20nm,1.6s
GOGA Godfrey 81.30 305 *e*P **P** 03 47 46.9 +1.7
comp=Z,20nm,1.6s
M39A Webster 81.31 316 P **P** 03 47 45.5 +0.4
baz=47
P42A Winchester 81.55 314 P **P** 03 47 46.9 +0.5
baz=48
Q43A New Douglas 81.60 313 P **P** 03 47 46.9 +0.2
baz=48
R44A Waltonville 81.69 312 P **P** 03 47 47.7 +0.5
baz=49
L37A Phoenix Point, 81.74 317 P **P** 03 47 47.5 +0.2
baz=46
K36A Gilmore City 81.76 318 P **P** 03 47 47.8 +0.3
baz=46
N39A Derby Farms, D 81.90 316 P **P** 03 47 48.2 -0.1
baz=47
M38A Pleasantville 81.92 317 P **P** 03 47 48.7 +0.3
baz=47
H32A Carlson Farm, 81.99 321 P **P** 03 47 49.4 +0.7
baz=44
EDM Edmonton 82.00 335 *e*P **P** 03 47 49.7 +1.1
EDM pmax pmax
comp=Z,45nm,1.7s
EDM Edmonton 82.00 335 *e*P **P** 03 47 49.7 +1.1
comp=Z,45nm,1.7s

EDM	**Edmonton** comp=Z,45nm,1.7s	82.00 335	*e*P	P	03 47 49.7	+1.1
O40A	**La Belle** baz=47	82.06 315	P	P	03 47 49.5	+0.4
J34A	**George** baz=45	82.10 319	P	P	03 47 49.6	+0.3
ECSD	**EROS Data Cent** baz=45	82.12 320	P	P	03 47 49.5	+0.1
ECSD	**EROS Data Cent** comp=Z,38nm,1.9s	82.12 320	*e*P	P	03 47 50.8	+1.4
ECSD	**EROS Data Cent** comp=Z,38nm,1.9s	82.12 320	*e*P	P	03 47 50.8	+1.4
S44A	**Carbondale** baz=49	82.16 312	P	P	03 47 50.5	+0.8
R43A	**Red Bud** baz=48	82.18 313	P	P	03 47 50.3	+0.6
PETK	**Petropavlovsk-** comp=Z,96nm,18.3s,baz=310,slow=40	82.18 25	LR	LR	04 30 11.2	
DGMT	**Dagmar** baz=40	82.23 327	P	P	03 47 50.8	+0.9
M37A	**Trindle Farm,** baz=46	82.40 317	P	P	03 47 51.6	+0.7
Q41A	**Truxton** baz=48	82.48 314	P	P	03 47 52.1	+0.8
P40A	**Paris** baz=47	82.56 315	P	P	03 47 52.5	+0.8
L35A	**Bielow Farm, R** baz=45	82.71 318	P	P	03 47 53.2	+0.7
S43A	**Fulton Ridge,** baz=48	82.73 312	P	P	03 47 53.1	+0.5
M36A	**Felix, Anita** baz=46	82.77 317	P	P	03 47 53.1	+0.3
SUSD	**Miller** baz=44	82.80 322	P	P	03 47 53.3	+0.4
N37A	**Lee Faris, Mou** baz=46	82.93 317	P	P	03 47 54.4	+0.8
Q40A	**Laux Farm, Aux** baz=47	82.94 314	P	P	03 47 54.1	+0.4
P39B	**Salisbury** baz=47	82.99 315	P	P	03 47 54.9	+1.0
R41A	**Rosebud** baz=48	83.01 313	P	P	03 47 54.7	+0.6
S42A	**Caledonia** baz=48	83.02 313	P	P	03 47 54.9	+0.8
T43A	**Greenville** baz=48	83.18 312	P	P	03 47 55.8	+0.8
L34A	**Svendsen Farm,** baz=45	83.25 319	P	P	03 47 55.8	+0.5
P38A	**Dawn** baz=46	83.33 315	P	P	03 47 56.7	+0.9
Q39A	**Willow Grove F** baz=47	83.42 315	P	P	03 47 57.1	+0.9
R40A	**Maddies Statio** baz=47	83.53 314	P	P	03 47 57.7	+1.0
T42A	**Van Buren** baz=48	83.69 312	P	P	03 47 58.0	+0.3
S41A	**Jillco Farms,** baz=47,SNR=7.7	83.70 313	P	P	03 47 58.6	+0.9
Y47A	**UCPARC, Winfie** baz=49	83.79 308	P	P	03 47 58.6	+0.4
P37A	**Lathrop** baz=46	83.81 316	P	P	03 47 59.4	+1.1
LRAL	**Lakeview Retre** comp=Z,8.3nm,1.0s	83.82 307	*e*P	P	03 47 59.6	+1.3
LRAL	**Lakeview Retre** comp=Z,8.3nm,1.0s	83.82 307	*e*P	P	03 47 59.6	+1.3
Q38A	**Cooks Store, C** baz=46	83.84 315	P	P	03 47 59.5	+1.1
Z48A	**Northport** baz=49	83.95 308	P	P	03 47 59.8	+0.8
R39A	**Chumby, Stover** baz=46,SNR=6.9	83.95 314	P	P	03 48 00.3	+1.3
PTGA	**Pitinga** comp=Z,30nm,19.0s,baz=61,slow=36	84.07 265	LR	LR	04 25 52.4	
L32A	**Elgin** baz=44	84.07 320	P	P	03 48 00.2	+0.7
T41A	**Mountain View** baz=47,SNR=6.9	84.08 313	P	P	03 48 00.4	+0.8
N34A	**Lincoln** baz=45	84.11 318	P	P	03 47 59.9	+0.1
S40A	**Lebanon** baz=47,SNR=6.0	84.13 313	P	P	03 48 01.1	+1.2
U42A	**Revenden** baz=47	84.24 312	P	P	03 48 01.6	+1.2
P36A	**Good Intent, A** baz=45	84.27 316	P	P	03 48 01.2	+0.7
Q37A	**Longview Farm,** baz=46	84.37 315	P	P	03 48 01.8	+0.8
X45A	**UM Field Stati** baz=48	84.41 309	P	P	03 48 01.9	+0.6
Y46A	**Houston** baz=48	84.43 309	P	P	03 48 01.9	+0.4
T40A	**Mansfield** baz=47	84.45 313	P	P	03 48 02.5	+0.9
LAO	**LASA Array** baz=39	84.48 327	P	P	03 48 02.4	+0.8
LAO	**LASA Array** comp=Z,72nm,1.8s	84.48 327	*e*P	P	03 48 03.8	+2.2
LAO	**LASA Array** comp=Z,72nm,1.8s	84.48 327	*e*P	P	03 48 03.9	+2.2
R38A	**Fenwick Farm,** baz=46	84.54 315	P	P	03 48 02.7	+0.7
S39A	**Bolivar** baz=46	84.55 314	P	P	03 48 02.9	+0.9
BGNE	**Belgrade** baz=44	84.58 319	P	P	03 48 02.6	+0.5
BGNE	**Belgrade** comp=Z,194nm,1.8s	84.58 319	*e*P	P	03 48 03.4	+1.3
BGNE	**Belgrade** comp=Z,194nm,1.8s	84.58 319	*e*P	P	03 48 03.4	+1.3
U41A	**Viola** baz=47	84.65 312	P	P	03 48 03.2	+0.7
O34A	**Beatrice** baz=45	84.68 318	P	P	03 48 03.0	+0.4
V42A	**Cord** baz=47,SNR=5.0	84.70 311	P	P	03 48 03.2	+0.5
P35A	**Duane Minner,** baz=45	84.78 317	P	P	03 48 03.5	+0.4
Q36A	**Arnold C. Orve** baz=45	84.87 316	P	P	03 48 04.3	+0.7
EGMT	**Eagleton** baz=37,SNR=12	84.90 330	P	P	03 48 04.3	+0.6
EGMT	**Eagleton** comp=Z,107nm,1.6s	84.90 330	*e*P	P	03 48 05.7	+2.0
EGMT	**Eagleton** comp=Z,107nm,1.6s	84.90 330	*e*P	P	03 48 05.7	+2.0
248A	**Dixon Mills** baz=49	84.90 307	P	P	03 48 04.6	+0.8
S38A	**Stockton** baz=46	84.92 314	P	P	03 48 04.2	+0.3
Z46A	**Louisville** baz=48	84.94 308	P	P	03 48 04.7	+0.6
R37A	**Teagarden Farm** baz=46	84.97 315	P	P	03 48 04.4	+0.3
T39A	**Clever** baz=46	85.03 313	P	P	03 48 05.0	+0.5
V41A	**Mountainview** baz=47,SNR=5.8	85.17 312	P	P	03 48 06.0	+0.8
U40A	**Yellville** baz=46	85.19 313	P	P	03 48 05.8	+0.5
P34A	**Walnut Farm, R** baz=44	85.20 317	P	P	03 48 05.9	+0.6
O33A	**Hebron** baz=44	85.23 318	P	P	03 48 05.9	+0.5
Q35A	**Mercer Eighty,** baz=45	85.26 316	P	P	03 48 06.1	+0.5
R36A	**Gordon, Harris** baz=45	85.34 316	P	P	03 48 06.3	+0.3
S37A	**Fort Scott** baz=46	85.36 315	P	P	03 48 06.6	+0.5
RSSD	**Black Hills** baz=40	85.47 324	P	P	03 48 07.3	+0.4
U39A	**Green Forest** baz=46,SNR=5.3	85.54 313	P	P	03 48 07.7	+0.7
V40A	**Witts Springs** baz=46	85.55 312	P	P	03 48 07.8	+0.7
T38A	**Diamond** baz=46	85.56 314	P	P	03 48 08.0	+0.9
WHAR	**Wooly Hollow** comp=Z,42nm,1.7s	85.58 312	*e*P	P	03 48 08.4	+1.2
WHAR	**Wooly Hollow** comp=Z,42nm,1.7s	85.58 312	*e*P	P	03 48 08.4	+1.2
W41B	**Gary Mavity, V** baz=47	85.64 312	P	P	03 48 08.7	+1.2
WALA	**Waterton Lakes** comp=Z,48nm,1.9s	85.65 333	*e*P	P	03 48 08.0	+0.5
WALA	**Waterton Lakes** comp=Z,48nm,1.9s	85.65 333	*e*P	P	03 48 08.0	+0.5
X301	**Greenbrier Sit** comp=Z,10nm,1.2s	85.69 312	*e*P	P	03 48 08.6	+0.9
X301	**Greenbrier Sit** comp=Z,10nm,1.2s	85.69 312	*e*P	P	03 48 08.6	+0.9
MJAR	**Matsushiro Arr** comp=Z,4.7nm,1.0s,baz=311,slow=5.1,SNR=12	85.79 46	P	P	03 48 07.5	-0.8
S36A	**Lake Cedric, C** baz=45,SNR=6.0	85.81 315	P	P	03 48 09.1	+0.8
T37A	**Cheneyville 18** baz=45,SNR=14	85.85 314	P	P	03 48 09.5	+0.9
347A	**Saraland** baz=48	85.87 307	P	P	03 48 09.5	+0.8
HHAR	**Hobbs** comp=Z,22nm,1.5s	85.88 313	*e*P	P	03 48 10.0	+1.3
HHAR	**Hobbs** comp=Z,22nm,1.5s	85.88 313	*e*P	P	03 48 10.0	+1.3
V39A	**Pettigrew** baz=46	86.01 313	P	P	03 48 10.1	+0.7
U38A	**Gravette** baz=46	86.02 314	P	P	03 48 10.3	+0.9
S35A	**Otter Creek Ra** baz=45	86.25 316	P	P	03 48 11.5	+1.0
Y42A	**Garnett, Star** baz=47	86.27 310	P	P	03 48 11.6	+1.0
R34A	**Isabella, Hill** baz=44	86.32 317	P	P	03 48 11.6	+0.7
447A	**Lucedale** baz=48	86.34 306	P	P	03 48 12.1	+1.0
V38A	**Canehill** baz=46	86.44 313	P	P	03 48 12.2	+0.7
T36A	**Boggs Farm, Ca** baz=45	86.44 315	P	P	03 48 12.8	+1.3
X40A	**Basin Creek Fa** baz=46	86.46 311	P	P	03 48 12.5	+1.0
U37A	**Salina** baz=45	86.47 314	P	P	03 48 12.3	+0.7
346A	**Big Creek Wild** baz=48	86.47 307	P	P	03 48 13.1	+1.4
W39A	**Magazine** baz=46	86.54 312	P	P	03 48 12.9	+1.0
GCMT	**Greycliff**	86.66 328	*e*P	P	03 48 14.2	+1.6
GCMT	**Greycliff**	86.66 328	*e*P	P	03 48 14.2	+1.6
S34A	**Willow Spring** baz=44	86.68 316	P	P	03 48 13.5	+0.9
Y41A	**Eaglette Beard** baz=46	86.74 311	P	P	03 48 13.9	+1.0
HRY	**Holter Researc**	86.79 330	*e*P	P	03 48 14.6	+1.5
HRY	**Holter Researc**	86.79 330	*e*P	P	03 48 14.7	+1.5
244A	**Avery, Jackson** baz=47	86.80 308	P	P	03 48 14.8	+1.5
U36A	**Oologah** baz=45	86.83 314	P	P	03 48 14.1	+0.8
MIAR	**Mount Ida** baz=46	86.86 312	P	P	03 48 15.1	+1.5
MIAR	**Mount Ida**	86.86 312	*e*P	P	03 48 15.6	+2.0
MIAR	comp=Z,27nm,1.5s		pmax	pmax		
MIAR	**Mount Ida** comp=Z,26nm,1.5s	86.86 312	*e*P	P	03 48 15.6	+2.0
MIAR	**Mount Ida** comp=Z,26nm,1.5s	86.86 312	*e*P	P	03 48 15.6	+2.0
JTMT	**Jette**	86.88 332	*e*P	P	03 48 15.4	+1.8
JTMT	**Jette**	86.88 332	*e*P	P	03 48 15.4	+1.8
T35A	**Sooner Cattle** baz=44,SNR=6.5	86.90 315	P	P	03 48 14.8	+1.1
SWMT	**Swartz Lake**	86.97 332	*e*P	P	03 48 15.6	+1.6
SWMT	**Swartz Lake**	86.97 332	*e*P	P	03 48 15.6	+1.6
BSMT	**Bassoo Peak**	86.98 333	*e*P	P	03 48 15.7	+1.5
BSMT	**Bassoo Peak**	86.98 333	*e*P	P	03 48 15.7	+1.5
SLMT	**Seeley Lake**	87.00 331	*e*P	P	03 48 15.4	+1.1
SLMT	**Seeley Lake**	87.00 331	*e*P	P	03 48 15.4	+1.1
RLMT	**Red Lodge** baz=37,SNR=8.1	87.03 328	P	P	03 48 15.6	+1.2
RLMT	**Red Lodge** comp=Z,18nm,1.4s	87.03 328	*e*P	P	03 48 16.1	+1.7
RLMT	**Red Lodge** comp=Z,18nm,1.4s	87.03 328	*e*P	P	03 48 16.1	+1.7
Y40A	**Okolona** baz=46	87.05 311	P	P	03 48 15.7	+1.2
W38A	**Poteau** baz=46	87.06 313	P	P	03 48 15.8	+1.3
CHMT	**Chamberlain Mo**	87.18 331	*e*P	P	03 48 15.7	+0.5
CHMT	**Chamberlain Mo**	87.18 331	*e*P	P	03 48 15.7	+0.5
TUL1	**Leonard** baz=45	87.20 314	P	P	03 48 15.6	+0.4
TUL1	**Leonard** comp=Z,30nm,1.5s	87.20 314	*e*P	P	03 48 16.8	+1.6
TUL1	**Leonard** comp=Z,30nm,1.5s	87.20 314	*e*P	P	03 48 16.8	+1.6
T34A	**McClaskey Farm** baz=44,SNR=5.0	87.20 316	P	P	03 48 16.5	+1.3
X39A	**Fountain Ranch** baz=46	87.21 312	P	P	03 48 16.0	+0.8
V36A	**Jenks** baz=45	87.38 314	P	P	03 48 16.8	+0.8
U35A	**Pawnee** baz=44	87.41 315	P	P	03 48 17.3	+1.1
NEW	**Newport** baz=31	87.47 334	P	P	03 48 16.8	+0.6
NEW	**Newport**	87.47 334	*e*P	P	03 48 16.9	+0.6
NEW	comp=Z,36nm,1.6s		pmax	pmax		
NEW	**Newport** comp=Z,36nm,1.6s	87.47 334	*e*P	P	03 48 16.9	+0.6
NEW	**Newport** comp=Z,36nm,1.6s	87.47 334	*e*P	P	03 48 16.9	+0.6
MSO	**Missoula** baz=34	87.52 331	P	P	03 48 17.4	+0.7
MSO	**Missoula** comp=Z,6.3nm,1.0s	87.52 331	*e*P	P	03 48 17.1	+0.4
MSO	**Missoula** comp=Z,6.3nm,1.0s	87.52 331	*e*P	P	03 48 17.1	+0.4
X38A	**Whitesboro** baz=45,SNR=6.3	87.52 313	P	P	03 48 17.8	+1.0
W37B	**Quinton** baz=45	87.54 313	P	P	03 48 17.5	+0.7
BOZ	**Bozeman (W)** baz=35,SNR=10.0	87.62 329	P	P	03 48 17.9	+0.7
BOZ	**Bozeman (W)**	87.62 329	*e*P	P	03 48 19.1	+1.9
BOZ	comp=Z,16nm,1.5s		pmax	pmax		
BOZ	**Bozeman (W)** comp=Z,16nm,1.5s	87.62 329	*e*P	P	03 48 19.1	+1.9
BOZ	**Bozeman (W)** comp=Z,16nm,1.5s	87.62 329	*e*P	P	03 48 19.1	+1.9
K22A	**Casper** baz=39	87.76 325	P	P	03 48 18.6	+0.6
K22A	**Casper** comp=Z,29nm,1.5s	87.76 325	*e*P	P	03 48 18.0	0.0
K22A	**Casper** comp=Z,29nm,1.5s	87.76 325	*e*P	P	03 48 18.0	0.0
X37A	**Clayton** baz=45	87.89 313	P	P	03 48 19.6	+1.0
V35A	**Meyer Ranch, C** baz=44	87.91 315	P	P	03 48 19.4	+0.8
YHH	**Holmes Hill** comp=Z,4.9nm,1.1s	87.96 329	*e*P	P	03 48 21.1	+2.0
YHH	**Holmes Hill** comp=Z,4.9nm,1.1s	87.96 329	*e*P	P	03 48 21.1	+2.0
YHB	**Horse Butte** comp=Z,30nm,1.8s	88.13 329	*e*P	P	03 48 20.2	+0.4
YHB	**Horse Butte** comp=Z,30nm,1.8s	88.13 329	*e*P	P	03 48 20.2	+0.4
B08A	**Colville Reser** comp=Z,11nm,1.5s	88.14 335	*e*P	P	03 48 19.5	0.0
B08A	**Colville Reser** comp=Z,11nm,1.5s	88.14 335	*e*P	P	03 48 19.4	0.0
H17A	**Grant Village** comp=Z,6.7nm,0.9s	88.16 328	*e*P	P	03 48 23.3	+3.3
DLMT	**Dillon** comp=Z,13nm,1.4s	88.20 330	*e*P	P	03 48 21.8	+1.8
DLMT	**Dillon** comp=Z,13nm,1.4s	88.20 330	*e*P	P	03 48 21.8	+1.8
PHWY	**Pilot Hill** comp=Z,26nm,1.6s	88.31 323	*e*P	P	03 48 22.2	+1.4
PHWY	**Pilot Hill** comp=Z,26nm,1.6s	88.31 323	*e*P	P	03 48 22.2	+1.4
YPP	**Pitchstone Pla** comp=Z,19nm,1.5s	88.36 328	*e*P	P	03 48 24.2	+3.2
W35A	**Tecumseh** baz=44	88.36 314	P	P	03 48 21.9	+1.1
FLWY	**Flagg Ranch** comp=Z,31nm,1.8s	88.47 328	*e*P	P	03 48 24.0	+2.6
FLWY	**Flagg Ranch** comp=Z,31nm,1.8s	88.47 328	*e*P	P	03 48 24.0	+2.6
X36A	**Centrahoma** baz=44	88.48 313	P	P	03 48 22.1	+0.8
KSCO	**Kaye Shedlock'** baz=41	88.66 320	P	P	03 48 22.9	+0.7
IMW	**Indian Meadow** comp=Z,9.7nm,1.1s	88.72 328	*e*P	P	03 48 24.1	+1.4
IMW	**Indian Meadow** comp=Z,9.7nm,1.1s	88.72 328	*e*P	P	03 48 24.1	+1.4
MOOW	**Moose Ponds** comp=Z,12nm,1.6s	88.76 328	*e*P	P	03 48 23.9	+1.1
MOOW	**Moose Ponds** comp=Z,12nm,1.6s	88.76 328	*e*P	P	03 48 23.9	+1.1
LOHW	**Long Hollow** comp=Z,12nm,1.5s	88.81 328	*e*P	P	03 48 24.0	+1.0
LOHW	**Long Hollow** comp=Z,12nm,1.5s	88.81 328	*e*P	P	03 48 24.0	+1.0
N23A	**Red Feather La** baz=39,SNR=8.0	88.86 323	P	P	03 48 23.8	+0.5
N23A	**Red Feather La** comp=Z,13nm,1.1s	88.86 323	*e*P	P	03 48 24.0	+0.7
N23A	**Red Feather La** comp=Z,13nm,1.1s	88.86 323	*e*P	P	03 48 24.1	+0.7
X35A	**Drake** baz=44	88.96 314	P	P	03 48 24.1	+0.5
BW06	**Boulder Array** baz=37,SNR=7.0	89.04 327	P	P	03 48 24.2	+0.1
BW06	**Boulder Array**	89.04 327	*e*P	P	03 48 24.7	+0.6
BW06	**Boulder Array**	89.04 327	*e*P	P	03 48 24.7	+0.6
PD31	**Pinedale Array**	89.04 327	*e*P	P	03 48 24.8	+0.7
PD31	**Pinedale Array**	89.04 327	*e*P	P	03 48 24.8	+0.7
PDAR	**Pinedale Array** comp=Z,2.6nm,0.9s,baz=46,slow=4.7,SNR=12	89.04 327	P	P	03 48 24.0	-0.1
PDAR	comp=Z,114nm,19.1s,baz=42,slow=37		LR	LR	04 30 48.0	
PDAR	**Pinedale Array**	89.04 327	P	P	03 48 24.0	-0.1
TPAW	**Teton Pass** comp=Z,26nm,1.7s	89.06 328	*e*P	P	03 48 25.4	+1.2
TPAW	**Teton Pass** comp=Z,26nm,1.7s	89.06 328	*e*P	P	03 48 25.4	+1.2
B05A	**Bryant** baz=28	89.12 337	P	P	03 48 24.1	+0.1
REDW	**Red Top Meadow** comp=Z,22nm,1.7s	89.12 328	*e*P	P	03 48 26.1	+1.6
REDW	**Red Top Meadow** comp=Z,22nm,1.7s	89.12 328	*e*P	P	03 48 26.1	+1.6
E09A	**Wood Farm, Sta** comp=Z,14nm,1.5s	89.33 334	*e*P	P	03 48 26.2	+1.2
E09A	**Wood Farm, Sta** comp=Z,14nm,1.5s	89.33 334	*e*P	P	03 48 26.2	+1.2
Z36A	**Blue Ridge** baz=44	89.45 313	P	P	03 48 26.2	+0.3
F10A	**Beach Ranch, E** comp=Z,20nm,1.8s	89.46 333	*e*P	P	03 48 26.7	+0.8
F10A	**Beach Ranch, E** comp=Z,20nm,1.8s	89.46 333	*e*P	P	03 48 26.7	+0.8
ISCO	**Idaho Springs** baz=39	89.55 322	P	P	03 48 26.6	-0.1
ISCO	**Idaho Springs**	89.55 322	*e*P	P	03 48 28.0	+1.4
ISCO	comp=Z,11nm,1.5s		pmax	pmax		
ISCO	**Idaho Springs** comp=Z,11nm,1.5s	89.55 322	*e*P	P	03 48 28.0	+1.4
ISCO	**Idaho Springs** comp=Z,11nm,1.5s	89.55 322	*e*P	P	03 48 28.0	+1.4
WMOK	**Wichita Mounta** baz=43	89.75 315	P	P	03 48 28.1	+0.8
WMOK	**Wichita Mounta**	89.75 315	*e*P	P	03 48 29.2	+1.9
WMOK	comp=Z,7.0nm,1.0s		pmax	pmax		
WMOK	**Wichita Mounta** comp=Z,6.8nm,1.0s	89.75 315	*e*P	P	03 48 29.2	+1.9
WMOK	**Wichita Mounta** comp=Z,6.8nm,1.0s	89.75 315	*e*P	P	03 48 29.2	+1.9
HAWA	**Hanford** comp=Z,17nm,1.6s	89.92 335	*e*P	P	03 48 29.7	+1.9
HLID	**Hailey** baz=33	90.42 330	P	P	03 48 30.9	+0.4
HLID	**Hailey** comp=Z,5.9nm,1.5s	90.42 330	*e*P	P	03 48 31.0	+0.4
BMO	**Blue Mountains**	90.45 332	*e*P	P	03 48 30.4	-0.1
BMO	comp=Z,16nm,1.6s		pmax	pmax		
BMO	**Blue Mountains** comp=Z,16nm,1.6s	90.45 332	*e*P	P	03 48 30.4	-0.1
O20A	**White River Ci** baz=37,SNR=5.3	90.54 324	P	P	03 48 31.5	+0.4
O20A	**White River Ci** comp=Z,30nm,1.6s	90.54 324	*e*P	P	03 48 32.1	+0.9
SMCO	**Snowmass** comp=Z,7.4nm,1.5s	90.69 323	*e*P	P	03 48 32.5	+0.4
HWUT	**Hardware Ranch** comp=Z,47nm,1.7s	90.85 327	*e*P	P	03 48 32.9	+0.3
SDCO	**Great Sand Dun** baz=39	91.08 321	P	P	03 48 34.6	+0.8
SDCO	**Great Sand Dun** comp=Z,5.8nm,1.4s	91.08 321	*e*P	P	03 48 34.5	+0.7
MFID	**Camas Ranch** comp=Z,11nm,1.3s	91.11 331	*e*P	P	03 48 34.6	+1.1
HVU	**Hansel Valley**	91.23 328	*e*P	P	03 48 35.5	+1.2
HVU	comp=Z,19nm,1.6s		pmax	pmax		
HVU	**Hansel Valley** comp=Z,18nm,1.6s	91.23 328	*e*P	P	03 48 35.5	+1.2
SPUT	**South Promonto** comp=Z,7.7nm,1.6s	91.48 327	*e*P	P	03 48 37.5	+2.0
JLU	**Jordanelle** comp=Z,22nm,1.6s	91.62 326	*e*P	P	03 48 37.5	+1.3
S22A	**4UR Ranch, Cre** baz=38	91.74 322	P	P	03 48 37.1	+0.2
S22A	**4UR Ranch, Cre** comp=Z,6.5nm,1.4s	91.74 322	*e*P	P	03 48 38.3	+1.4
ABTX	**Abilene, Hawle** baz=43	91.78 314	P	P	03 48 37.2	+0.4
ABTX	**Abilene, Hawle** comp=Z,19nm,1.5s	91.78 314	*e*P	P	03 48 39.3	+2.5
233A	**Rising Star** baz=43	91.79 313	P	P	03 48 37.7	+0.8
334A	**Lometa** baz=44	91.90 312	P	P	03 48 38.0	+0.7
BGU	**Big Grassy Mou** comp=Z,14nm,1.4s	92.04 328	*e*P	P	03 48 39.4	+1.4
G03D	**McMinnville, O** baz=27	92.20 336	P	P	03 48 38.8	+0.4
PV09	**Paradox Valley**	92.26 324	*e*P	P	03 48 40.6	+1.3
PV01	**Paradox Valley**	92.28 323	*e*P	P	03 48 40.4	+1.1
PV10	**Paradox Valley**	92.31 324	*e*P	P	03 48 41.0	+1.5
333A	**Richland Sprin** baz=43	92.34 313	P	P	03 48 40.5	+1.1
SRU	**San Rafael Swe**	92.41 325	*e*P	P	03 48 40.6	+0.8
SRU	comp=Z,7.0nm,1.1s		pmax	pmax		
SRU	**San Rafael Swe** comp=Z,7.3nm,1.1s	92.41 325	*e*P	P	03 48 40.6	+0.8
NLU	**North Lily Min** comp=Z,9.4nm,1.6s	92.42 326	*e*P	P	03 48 41.0	+1.1
DUG	**Dugway, Tooele** baz=34	92.55 327	P	P	03 48 40.4	+0.1
DUG	**Dugway, Tooele**	92.55 327	*e*P	P	03 48 41.7	+1.3
DUG	comp=Z,5.0nm,1.0s		pmax	pmax		
DUG	**Dugway, Tooele** comp=Z,4.7nm,1.0s	92.55 327	*e*P	P	03 48 41.7	+1.3
WVOR	**Wild Horse Val**	93.02 332	*e*P	P	03 48 44.0	+1.5
WVOR	comp=Z,14nm,1.8s		pmax	pmax		
WVOR	**Wild Horse Val** comp=Z,14nm,1.8s	93.02 332	*e*P	P	03 48 44.0	+1.5
I04A	**Tendick Farm,** baz=28	93.17 335	P	P	03 48 43.7	+0.7
J05D	**Fort Rock, OR** baz=28	93.22 334	P	P	03 48 44.2	+0.8
I03D	**Drain, OR** baz=27	93.57 336	P	P	03 48 45.7	+1.0
MSU	**Marysvale**	93.65 326	*e*P	P	03 48 46.5	+0.9
MSU	**Marysvale**	93.65 326	*e*P	P	03 48 46.5	+0.9
ANMO	**Albuquerque** baz=39	93.74 320	P	P	03 48 46.1	+0.1
R11A	**Troy Canyon, C** baz=33	95.28 328	P	P	03 48 53.4	+0.5
MNTX	**Cornudas Mount** baz=40	95.68 317	P	P	03 48 55.4	+0.7
YERR	**Yerington** comp=Z,8.3nm,1.4s	96.23 331	*e*P	P	03 48 59.8	+2.4
LTX	**Lajitas**	96.53 314	*e*P	P	03 48 59.5	+0.8
LTX	**Lajitas**	96.53 314	*e*P	P	03 48 59.5	+0.8
TXAR	**Lajitas Array** comp=Z,0.6nm,1.0s,baz=92,slow=3.1,SNR=4.9	96.53 314	P	P	03 48 59.5	+0.8
TXAR	comp=Z,38nm,18.8s,baz=0.0,slow=37		LR	LR	04 34 34.3	

CPUP	**Villa Florida**	**97.67**	**243**	LR	LR	04 32 32.3	
	comp=Z,188nm,21.9s,baz=54,slow=35						
LPAZ	**La Paz**	**99.80**	**257**	LR	LR	04 34 42.3	
	comp=Z,52nm,21.9s,baz=50,slow=36						
WRA	**Warramunga Arr**	**119.28**	**94**	PKP	**PKPdf**	**03 54 18.8**	**+0.4**
	comp=Z,0.2nm,0.4s,baz=326,slow=1.9,SNR=4.7						
WR1	**Warramunga Arr**	**119.28**	**94**	*e*PKPdf	**PKPdf**	**03 54 18.8**	**+0.4**
AS31	**Alice Springs**	**120.85**	**98**	*e*PKPdf	**PKPdf**	**03 54 21.0**	**-0.4**
ASAR	**Alice Springs**	**120.85**	**98**	PKP	**PKPdf**	**03 54 21.0**	**-0.4**
	comp=Z,0.3nm,0.4s,baz=288,slow=1.7,SNR=3.7						
ASAR	**Alice Springs**	**120.85**	**98**	PKIKP	**PKPdf**	**03 54 21.0**	**-0.4**

MAN 14 04:08:48,13°.54N×122°.69E,h39km,mb4.5,ML3.4,MS3.2, 2C,Luzon

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AUQP	**San Andres**	**0.21**	**184**	*e*P	Pn	04 08 57.1	+1.0
AUQP				*e*S	Sn	04 09 04.1	+1.4
GQP	**Guinayangan**	**0.43**	**327**	*i*P	Pn	04 09 00.2	+2.4
GQP				*i*S	Sn	04 09 08.3	+3.6
BOAC	**Boac**	**0.83**	**265**	*e*P	Pn	04 09 08.7	+5.6
BOAC				*e*S	Sn	04 09 23.7	+10
PVCP	**Virac**	**1.43**	**88**	*e*P	Pn	04 09 13.1	+1.7
PVCP				*e*S	Sn	04 09 30.6	+1.8
RCP	**Roxas**	**1.97**	**178**	*e*P	Pn	04 09 23.6	+4.7

*ISCJB **14** 04:13:42.3±0.6, 10°.37N±0°.03×73°.54W±0°.03, h96km±8km, Error ellipse: s-maj=6.6km s-min=3.7km az=142.3*
*FUNV **14** 04:13:42.3, 10°.40N×73°.62W, h16km, MW2.8*
*RSNC **14** 04:13:43.8±0.3, 10°.37N×73°.54W, h86km±3km, ML2.5*
ISC 14 04:13:43.0±1.4, 10°.38N±0°.05×73°.56W±0°.04, h91km±11km, n22,σ0°.69/42,1C-2D,Northern Colombia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CODC	**Agust˜›n Codaz**	**0.46**	**166**	*i*P	**Pn**	**04 13 57.3**	**-0.2**
CODC				*i*		04 13 57.4	
	comp=Z,156nm,0.1s						
CODC				*e*S	**Sn**	**04 14 07.8**	**-0.6**
VIRV	**Villa del Rosa**	**1.14**	**84**	*e*P	**Pn**	**04 14 04.9**	**+0.6**
VIRV				*e*S	**Sn**	**04 14 20.9**	**+0.4**
SJCC	**San Jacinto, C**	**1.67**	**253**	*e*P	**Pn**	**04 14 11.3**	**+0.3**
SJCC				*e*S	**Sn**	**04 14 32.5**	**+0.3**
SJCC				*i*		04 14 41.1	
	comp=Z,21nm,0.5s						
URIC	**Uribia, Colomb**	**2.02**	**49**	*i*P	**Pn**	**04 14 15.6**	**+0.1**
URIC				*e*S	**Sn**	**04 14 40.0**	**-0.3**
URIC				*i*		04 14 45.4	
	comp=Z,29nm,0.3s						
MOTC	**Monteria, Cord**	**2.62**	**233**	*e*P	**Pn**	**04 14 23.7**	**+0.2**
MOTC				*e*S	**Sn**	**04 14 54.4**	**-0.1**
MOTC				*i*		04 15 13.7	
	comp=Z,4.9nm,0.2s						
VIGV	**El Vigia**	**2.65**	**125**	*e*P	**Pn**	**04 14 24.8**	**+1.0**
VIGV				*e*S	**Sn**	**04 14 55.7**	**+0.4**
CAPV	**Capacho**	**2.78**	**154**	*e*P	**Pn**	**04 14 25.9**	**+0.1**
CAPV				*e*S	**Sn**	**04 14 59.1**	**+0.3**
DABV	**Dabajuro**	**2.92**	**79**	*e*P	**Pn**	**04 14 28.5**	**+1.1**
DABV				*e*S	**Sn**	**04 15 02.1**	**+0.3**
QARV	**Quebrada Arrib**	**2.99**	**93**	*e*P	**Pn**	**04 14 29.1**	**+0.7**
QARV				*e*S	**Sn**	**04 15 04.0**	**+0.5**
PAMC	**Pamplona, Colo**	**3.14**	**164**	*e*P	**Pn**	**04 14 31.3**	**+0.5**
PAMC				*e*S	**Sn**	**04 15 07.6**	**-0.1**
ZARC	**Zaragoza, Cauc**	**3.15**	**204**	*e*P	**Pn**	**04 14 30.7**	**+0.2**
ZARC				*e*S	**Sn**	**04 15 06.7**	**-0.5**
ZARC				*i*		04 15 13.4	
	comp=Z,34nm,0.7s						
BRRC	**Barranca, Sant**	**3.26**	**183**	*i*P	**Pn**	**04 14 32.0**	**0.0**
BRRC				*e*S	**Sn**	**04 15 09.2**	**-0.6**
BRRC				*i*		04 15 18.0	
	comp=Z,15nm,0.1s						
GIRC	**Giron, Santand**	**3.30**	**174**	*e*P	**Pn**	**04 14 32.4**	**-0.3**
GIRC				*e*S	**Sn**	**04 15 10.7**	**-0.4**
SOCV	**Socops**	**3.38**	**128**	*e*P	**Pn**	**04 14 34.0**	**+0.3**
SOCV				*e*S	**Sn**	**04 15 13.0**	**0.0**
CURV	**Curarigua**	**3.56**	**96**	*e*P	**Pn**	**04 14 36.8**	**+0.7**
SIQV	**Siquisique**	**3.69**	**86**	*e*P	**Pn**	**04 14 38.1**	**+0.2**
SIQV				*e*S	**Sn**	**04 15 19.4**	**-1.1**
BARC	**Barichara**	**3.78**	**174**	*e*P	**Pn**	**04 14 39.5**	**+0.1**
BARC				*e*S	**Sn**	**04 15 22.5**	**-0.4**
BARC				*i*		04 15 28.4	
	comp=Z,21nm,0.5s						
MONV	**Montecano**	**3.85**	**66**	*e*P	**Pn**	**04 14 39.9**	**-0.1**
MONV				*e*S	**Sn**	**04 15 23.6**	**-0.6**
SANV	**Sanarito**	**4.05**	**102**	*e*P	**Pn**	**04 14 44.2**	**+1.3**
SANV				*e*S	**Sn**	**04 15 28.6**	**-0.8**
RUSC	**La Rusia**	**4.48**	**174**	*e*P	**Pn**	**04 14 49.7**	**+0.6**
RUSC				*e*S	**Sn**	**04 15 40.7**	**+0.4**
RUSC				*i*		04 16 05.7	
	comp=Z,4.7nm,0.6s						
HELC	**Santa Helena**	**4.60**	**205**	*e*P	**Pn**	**04 14 50.9**	**+0.4**
HELC				*i*		04 15 56.3	
	comp=Z,8.9nm,0.7s						
BAUV	**El Baul**	**5.62**	**104**	*e*P	**Pn**	**04 15 03.7**	**-0.4**
BAUV				*e*S	**Sn**	**04 16 04.7**	**-2.6**

DJA 14 04:22:47.3±0.3,1°.S±3°×99°.9E±°,h10km,M3.9/9,MLv3.9/9, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SISI	**Saibi**	**0.34**	**279**	P	Pg	04 22 54.7	+0.5
SISI				S	Sb	04 23 01.7	+0.6
PDSI	**Padang**	**1.13**	**66**	P	Pb	04 23 07.2	-1.8
PDSI				S	Sb	04 23 23.0	-0.8
PPI	**Padang Panjang**	**1.33**	**47**	P	Pn	04 23 10.5	-1.5
PPI				S	Sb	04 23 29.0	-0.5
PPSI	**Pulau Pagai**	**1.49**	**157**	P	Pn	04 23 13.3	-0.9
PPSI				S	Sn	04 23 32.4	-1.3
PBSI	**Pulau Batu**	**1.75**	**319**	P	Pn	04 23 15.9	-1.8
SDSI	**Sungai Dareh**	**2.05**	**77**	P	Pb	04 23 24.6	0.0
SDSI				S	Sb	04 23 49.5	-0.6
MNSI	**Mandailing Nat**	**2.17**	**4**	P	Pn	04 23 23.9	+0.4
MNSI				S	Sg	04 23 58.2	+1.2
BKNI	**Bangkinang**	**2.34**	**44**	P	Pn	04 23 25.8	0.0
MASI	**Maura Aman, Be**	**3.31**	**122**	P	Pn	04 23 39.2	0.0

MEX 14 04:34:43.2±0.6,14°.08N×93°.28W,h20km±81km,MD3.8, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CCIG	**Comitan**	**2.45**	**26**	*e*P	Pn	04 35 20.6	-1.7
CCIG				*e*S	Sn	04 35 49.0	-2.8
TGIG		**2.69**	**3**	*e*P	Pn	04 35 23.1	-2.4
TGIG				*e*S	Sn	04 35 53.6	-3.9

*CSEM **14** 04:46:28.7±0.3, 37°.73N×36°.29E, h10km, MD2.6, Error ellipse: s-maj=9.2km s-min=6.3km az=132.0*
*ISK **14** 04:46:30.4, 37°.51N×36°.31E, h5km, MD2.7*
*DDA **14** 04:46:30.1, 37°.49N×36°.31E, h7km, Md2.6*
ISC 14 04:46:30.3±0.9, 37°.51N±0°.04×36°.29E±0°.03, h8km±7km, n17,σ0°.59/26,Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ANDN	**Andirin**	**0.09**	**31**	*i*P	**Pg**	**04 46 32.5**	**-0.1**
ANDN				*i*S	**Sg**	**04 46 34.4**	**+0.2**
ANDN	**Andirin**	**0.09**	**31**	P	**Pg**	**04 46 32.5**	**-0.1**
ANDN				S	**Sg**	**04 46 34.4**	**+0.2**
KOZT	**Kozan**	**0.37**	**266**	*e*PG	**Pb**	**04 46 38.5**	**-0.6**
KOZT				*e*SG	**Sb**	**04 46 44.5**	**-0.6**
KOZT	**Kozan**	**0.37**	**266**	*e*Pg	**Pb**	**04 46 38.5**	**-0.6**
KOZT				*e*Sg	**Sb**	**04 46 44.5**	**-0.6**
KAMA	**Osmaniye**	**0.44**	**137**	*i*P	**Pg**	**04 46 38.8**	**-0.1**
KAMA				*i*S	**Sg**	**04 46 44.8**	**+0.2**
KMRS	**Kahramanmaras**	**0.48**	**90**	*e*PG	**Pg**	**04 46 40.0**	**+0.3**
KMRS				*e*SG	**Sb**	**04 46 46.9**	**-1.5**
KMRS	**Kahramanmaras**	**0.48**	**90**	*e*Pg	**Pg**	**04 46 40.0**	**+0.3**
KMRS				*e*Sg	**Sb**	**04 46 46.9**	**-1.5**
HCB	**Kahramanmara¯**	**0.52**	**108**	*i*P	**Pg**	**04 46 40.5**	**+0.2**
HCB				*i*S	**Sg**	**04 46 47.2**	**+0.1**
CEYT	**Ceyhan**	**0.66**	**221**	*e*PG	**Pb**	**04 46 44.1**	**+0.1**
CEYT	**Ceyhan**	**0.66**	**221**	*e*Pg	**Pb**	**04 46 44.1**	**+0.1**
AKO	**Adana**	**0.67**	**266**	*i*P	**Pg**	**04 46 43.3**	**0.0**
AKO				*i*S	**Sb**	**04 46 53.5**	**-0.3**
SARI	**SarD1z-Kayseri**	**0.91**	**6**	*e*PG	**Pb**	**04 46 48.1**	**-0.3**
SARI				*e*SG	**Sb**	**04 47 01.2**	**+0.5**
KUZU	**Kuzuini**	**0.96**	**139**	*i*P	Pg	04 46 42.1	-6.7
KUZU	**Kuzuini**	**0.96**	**139**	P	Pg	04 46 42.1	-6.7
GZT	**Gaziantep**	**1.02**	**98**	*i*P	**Pn**	**04 46 51.6**	**+0.5**
GZT				*i*S	**Sn**	**04 47 06.3**	**+0.5**
TAHT	**Tahtakopru-Hat**	**1.13**	**184**	*e*PN	**Pn**	**04 46 52.9**	**+0.4**
TAHT	**Tahtakopru-Hat**	**1.13**	**184**	*e*Pn	**Pn**	**04 46 52.9**	**+0.4**

IDC 14 04:47:15.1±14.0, 3°.74S×144°.24E, h162km±141km, mb3.2/4,mb1 3.4/5,mb1mx3.2/25,mbtmp3.6/5,ML3.3/1, MS3.3/1,Ms1 3.3/1,ms1mx2.6/12,Error ellipse: s-maj=64.9km s-min=32.1km az=92.0,Near north coast of New Guinea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**18.77**	**210**	P	P	04 51 21.2	-0.8
	0.1nm,0.3s,baz=33,slow=11,SNR=4.5						
ASAR	**Alice Springs**	**22.18**	**206**	P	P	04 51 58.5	+0.3
	0.6nm,0.5s,baz=36,slow=8.1,SNR=6.8						
FITZ	**Fitzroy Crossi**	**23.14**	**231**	P	P	04 52 07.2	+0.1
	1.5nm,0.8s,baz=58,slow=12,SNR=3.1						
FITZ				LR	LR	05 02 15.9	
	comp=Z,76nm,20.2s,baz=122,slow=39						
KSRS	**Korea Array**	**43.71**	**341**	P	P	04 55 03.5	-0.5
	1.5nm,0.7s,baz=162,slow=9.2,SNR=6.4						
ILAR	**Eielson Array**	**84.52**	**24**	P	P	04 59 29.9	+0.4
	0.7nm,0.8s,baz=270,slow=4.5,SNR=3.5						

MEX 14 05:18:07.4±0.6,14°.14N×93°.30W,h20km±97km,MD3.8, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CCIG	**Comitan**	**2.41**	**28**	*e*P	Pn	05 18 43.6	-2.3
CCIG				*e*S	Sn	05 19 12.3	-2.7
TGIG		**2.63**	**4**	*e*P	Pn	05 18 46.6	-2.2
TGIG				*e*S	Sn	05 19 16.8	-3.5

*JMA **14** 05:26:51.8, 36°.81N×140°.55E, h7km±1km, M2.5*
*IDC **14** 05:26:57.0±2.8, 36°.70N×140°.29E, h0km, mb3.7/2, mb1 3.9/3, mb1mx3.4/32, mbtmp3.7/3, ML2.1/1, Error ellipse: s-maj=51.3km s-min=16.1km az=162.0*
ISC 14 05:26:51.7±1.3, 36°.82N±0°.04×140°.53E±0°.09, h4km±20km, n17,σ0°.36/11,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JHO	**Hitachi**	**0.21**	**171**	P	**Pg**	**05 26 55.9**	**+0.1**
ONAJ	**Iwakimizuishiy**	**0.36**	**37**	P	**Pg**	**05 26 58.7**	**+0.1**
JSB	**Shiboa**	**0.51**	**287**	P	**Pb**	**05 27 02.7**	**-0.6**
JFK	**Kawauchi**	**0.61**	**27**	P	**Pg**	**05 27 03.5**	**0.0**
JFK				S	**Sg**	**05 27 11.3**	**-0.2**
JYT	**Yasato**	**0.65**	**205**	P	**Pg**	**05 27 04.1**	**0.0**
JFT	**Otama**	**0.72**	**348**	P	**Pg**	**05 27 05.0**	**+0.1**
JFT				S	**Sg**	**05 27 15.2**	**-0.4**
MJAR	**Matsushiro Arr**	**1.89**	**262**	Pg	**Pn**	**05 27 25.2**	**+0.5**
	1.6nm,0.3s,baz=80,slow=17,SNR=5.8						
MJAR				Lg	Lg	05 27 50.7	
	2.0nm,0.3s,baz=106,slow=40,SNR=7.0						
MAT	**Matsushiro**	**1.89**	**262**	P	**Pn**	**05 27 25.0**	**+0.3**
MAT				S	**Sb**	**05 27 50.5**	**-0.1**
USRK	**Ussuriysk Ar.**	**9.83**	**321**	Pn	Pn	05 29 19.9	+6.2
	0.2nm,0.3s,baz=121,slow=16,SNR=6.1						
H11N2	**WAKE ISLAND Hy**	**28.65**	**119**	T	T	06 03 23.3	
	baz=318,slow=75,SNR=353						
H11N1	**WAKE ISLAND Hy**	**28.66**	**119**	T	T	06 03 25.1	
	baz=318,slow=75,SNR=598						
H11N3	**WAKE ISLAND Hy**	**28.67**	**119**	T	T	06 03 25.8	
	baz=318,slow=75,SNR=300						
H11S1	**WAKE ISLAND Hy**	**29.34**	**121**	T	T	06 04 22.0	
	baz=319,slow=76,SNR=25						
H11S3	**WAKE ISLAND Hy**	**29.34**	**121**	T	T	06 04 20.3	
	baz=319,slow=76,SNR=46						
H11S2	**WAKE ISLAND Hy**	**29.36**	**121**	T	T	06 04 23.4	
	baz=319,slow=76,SNR=34						
ZALV	**Zalesovo Beam**	**41.54**	**313**	P	P	05 34 45.5	+5.6
	1.0nm,0.4s,baz=92,slow=8.9,SNR=4.1						
ILAR	**Eielson Array**	**50.06**	**32**	P	P	05 35 54.6	+7.5
	0.3nm,0.7s,baz=278,slow=7.0,SNR=4.4						

MEX 14 05:48:31.5±0.7,14°.14N×93°.29W,h20km±999km,MD3.7, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CCIG	**Comitan**	**2.41**	**27**	*e*P	Pn	05 49 07.9	-2.0
CCIG				*e*S	Sn	05 49 36.3	-2.7
TGIG		**2.63**	**4**	*e*P	Pn	05 49 10.6	-2.4
TGIG				*e*S	Sn	05 49 40.5	-3.9

*ISCJB **14** 05:54:11.6±0.8, 31°.68S±0°.04×69°.36W±0°.05, h117km±7km, Error ellipse: s-maj=8.7km s-min=4.0km az=41.4*
*SJA **14** 05:54:11.8±1.0, 31°.69S×69°.35W, h108km±4km, ML3.0, MW3.4*
*GUC **14** 05:54:11.4±0.3, 31°.58S×69°.71W, h118km±23km, ML3.0*
ISC 14 05:54:12.2±1.5, 31°.68S±0°.05×69°.37W±0°.05, h112km±10km, n22,σ0°.71/38,1C-2D,San Juan Province

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RTLS	**Leoncito**	**0.13**	**153**	*i*P	**Pn**	**05 54 27.9**	**-0.3**
RTLS				IAML		05 54 28.0	
	comp=Z,2μm,0.2s						
RTLS				*e*S	**Sn**	**05 54 39.8**	**-0.4**
AUSP	**Uspallata**	**0.54**	**182**	*i*P	**Pn**	**05 54 29.8**	**-0.2**
AUSP				*i*S	**Sn**	**05 54 43.2**	**-0.2**
SJA	**San Juan**	**0.70**	**78**	*e*P	**Pn**	**05 54 30.9**	**-0.1**
SJA				*i*S	**Sn**	**05 54 44.9**	**-0.1**
SJA				IAML		05 54 46.8	
	comp=Z,459nm,0.2s						
RTCV	**Cerro Valdivia**	**0.73**	**104**	*i*P	**Pn**	**05 54 31.0**	**-0.1**
RTCV				*e*S	**Sn**	**05 54 45.2**	**-0.2**
RTLL	**Cerro Villicun**	**0.84**	**65**	*e*P	**Pn**	**05 54 32.9**	**+0.8**
RTLL				*e*S	**Sn**	**05 54 48.2**	**+1.1**
RTLL				IAML		05 54 50.1	
	comp=Z,260nm,0.2s						
ASAL	**Salagasta**	**1.01**	**154**	*e*P	**Pn**	**05 54 33.9**	**+0.1**
ASAL				*i*S	**Sn**	**05 54 51.0**	**+0.8**
AMOG	**MOGNA**	**1.05**	**45**	*e*P	**Pn**	**05 54 34.2**	**0.0**
AMOG				*e*S	**Sn**	**05 54 50.3**	**-0.6**
ARCO	**CERRO ARCO**	**1.21**	**162**	*e*P	**Pn**	**05 54 36.4**	**+0.3**
ARCO				*i*S	**Sn**	**05 54 54.6**	**+0.5**
ARCO				IAML		05 54 56.5	
	comp=Z,285nm,0.4s						
AAGR	**Agrelo**	**1.47**	**162**	*e*P	**Pn**	**05 54 38.8**	**-0.1**
AAGR				*e*S	**Sn**	**05 54 59.4**	**+0.1**
FCH	**Farellones**	**1.82**	**205**	*e*P	**Pn**	**05 54 43.9**	**+0.5**
FCH				*i*S	**Sn**	**05 55 08.7**	**+1.6**
FCH				IAML		05 55 09.4	
	comp=E,208nm,0.4s						
PEL	**Peldehue**	**1.83**	**217**	*i*P	**Pn**	**05 54 42.7**	**-0.6**
PEL				*e*S	**Sn**	**05 55 06.6**	**-0.4**
PEL				IAML		05 55 08.0	
	comp=E,200nm,0.6s						
ROCH	**El Roble**	**1.90**	**227**	*i*P	**Pn**	**05 54 43.4**	**-0.9**
ROCH				*i*S	**Sn**	**05 55 07.6**	**-1.0**
ROCH				IAML		05 55 13.0	
	comp=N,129nm,0.3s						
ROC1	**El Roble**	**1.90**	**227**	*e*P	**Pn**	**05 54 43.4**	**-0.9**
ROC1				*e*S	**Sn**	**05 55 08.2**	**-0.6**
AVFE	**Valle Fertil**	**1.93**	**59**	*e*P	**Pn**	**05 54 44.4**	**-0.2**
AVFE				*i*S	**Sn**	**05 55 08.0**	**-1.1**
AVFE				IAML		05 55 12.7	
	comp=Z,30nm,0.2s						
ACAN	**Cantantal**	**1.94**	**108**	*i*P	**Pn**	**05 54 44.5**	**-0.2**
ACAN				*i*S	**Sn**	**05 55 08.8**	**-0.6**
CLCH	**Cerro Calan**	**1.97**	**210**	*i*P	**Pn**	**05 54 45.0**	**-0.1**
CLCH				*i*S	**Sn**	**05 55 10.5**	**+0.3**
FSR	**Penalolen**	**2.04**	**208**	*e*P	**Pn**	**05 54 47.0**	**+1.0**
FSR				*e*S	**Sn**	**05 55 13.2**	**+1.5**
ANTU	**Antumapu**	**2.16**	**209**	*e*S	**Sn**	**05 55 14.3**	**-0.1**
AGUA	**GUANDACOL**	**2.31**	**19**	*e*P	**Pn**	**05 54 50.1**	**+0.6**
AGUA				*e*S	**Sn**	**05 55 19.0**	**+1.0**
VCA	**Vinchina**	**3.10**	**19**	IAML		05 55 39.9	
	comp=Z,50nm,0.2s						
VCA				IAML		05 55 39.9	
	comp=Z,51nm,0.2s						
MRA	**San Martin**	**3.19**	**104**	*i*P	**Pn**	**05 55 00.1**	**-0.7**
MRA				*e*S	Sn	05 55 31.0	-7.3
MRA				IAML		05 55 38.6	
	comp=Z,40nm,0.5s						
TCA	**Tanti**	**4.09**	**86**	IAML		05 55 59.9	
	comp=Z,11nm,0.6s						

IDC 14 06:01:46.2±1.2, 0°.17S×126°.16E, h0km, mb3.6/5, mb1 3.8/5,mb1mx3.5/52,mbtmp3.7/5,Error ellipse: s-maj=132.1km s-min=20.9km az=68.0,Southern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**21.22**	**158**	P	P	06 06 34.4	+0.5
	0.5nm,0.4s,baz=336,slow=10,SNR=6.7						
ASAR	**Alice Springs**	**24.54**	**163**	P	P	06 07 07.3	-0.5
	0.5nm,0.4s,baz=351,slow=14,SNR=5.6						
SONM	**Songino Array**	**50.81**	**343**	P	P	06 10 48.4	-0.2
	0.5nm,0.5s,baz=148,slow=8.5,SNR=2.7						
KURBB	**Kurchatov Arra**	**64.72**	**329**	P	P	06 12 26.6	+0.4
	1.4nm,0.6s,baz=132,slow=6.2,SNR=14						
BVAR	**Borovoye Array**	**70.28**	**328**	P	P	06 13 01.2	-0.2
	0.9nm,0.7s,baz=122,slow=5.4,SNR=3.3						

IDC 14 06:13:14.6±4.4, 19°.01S×175°.84W, h0km, mb4.4/3, mb1 4.6/3,mb1mx3.8/30,mbtmp4.4/3,Error ellipse: s-maj=191.7km s-min=51.6km az=142.0,Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**40.27**	**243**	P	P	06 20 54.0	+0.5
	1.4nm,0.3s,baz=84,slow=12,SNR=3.5						
WRA	**Warramunga Arr**	**46.84**	**260**	P	P	06 21 46.1	-0.6
	4.1nm,0.5s,baz=97,slow=8.1,SNR=96						
ASAR	**Alice Springs**	**46.85**	**255**	P	P	06 21 46.7	-0.1
	5.3nm,0.7s,baz=93,slow=7.6,SNR=47						
AKASG	**Malin Array Be**	**142.64**	**334**	PKP	PKPdf	06 32 47.7	-1.9
	0.8nm,0.5s,baz=50,slow=3.6,SNR=4.9						
BRTR	**Keskin Array B**	**147.28**	**315**	PKPbc	PKPbc	06 32 60.0	-0.5
	0.6nm,0.5s,baz=139,slow=3.3,SNR=2.9						

WEL 14 06:14:04.9±0.1, 39°.73S×176°.97E, h46km±1km, ML3.6/46, 18C-5D,Error ellipse: s-maj=1.2km s-min=0.7km az=90.0,North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KAHZ	**Kahuranaki**	**0.10**	**226**	PN	Pn	06 14 12.3	0.0
KAHZ				SN	Sn	06 14 18.4	+0.9
KAHZ				AML	AML	06 14 22.0	
CKHZ	**Cape Kidnapper**	**0.11**	**52**	PN	Pn	06 14 12.3	+0.1
CKHZ				SN	Sn	06 14 17.9	+0.5
CKHZ				AML	AML	06 14 19.2	
PXZ	**Pawanui**	**0.32**	**195**	PN	Pn	06 14 14.2	+0.3
PXZ				SN	Sn	06 14 19.7	-0.4
PXZ				AML	AML	06 14 22.0	
PXZ				AML	AML	06 14 22.0	
PXZ				AML	AML	06 14 22.5	
MCHZ	**McNeill Hill**	**0.35**	**323**	PN	Pn	06 14 13.6	-0.6
MCHZ				SN	Sn	06 14 20.3	-0.4
MCHZ				AML	AML	06 14 20.5	
ARHZ	**Aropaoanui**	**0.46**	**3**	PN	Pn	06 14 15.4	-0.1
ARHZ				AML	AML	06 14 24.1	
ARHZ				AML	AML	06 14 24.4	
KRHZ	**Kereru**	**0.47**	**280**	PN	Pn	06 14 14.5	-1.0
KRHZ				AML	AML	06 14 22.4	
KRHZ				AML	AML	06 14 22.5	
KWHZ	**Kaweka Forest**	**0.52**	**305**	PN	Pn	06 14 15.1	-1.1
KWHZ				SN	Sn	06 14 22.7	-1.5
KWHZ				AML	AML	06 14 23.9	
WPHZ	**Waipukurau**	**0.53**	**230**	PN	Pn	06 14 16.4	+0.1
WPHZ				AML	AML	06 14 26.4	
WPHZ				AML	AML	06 14 29.6	
PRHZ	**Porangahau**	**0.60**	**205**	PN	Pn	06 14 17.5	+0.3
PRHZ				AML	AML	06 14 30.4	
PRHZ				AML	AML	06 14 32.7	
PNHZ	**Pukenui**	**0.62**	**252**	PN	Pn	06 14 16.9	-0.6
PNHZ				AML	AML	06 14 26.8	
PNHZ				AML	AML	06 14 26.8	
NMHZ	**Naumai**	**0.64**	**349**	PN	Pn	06 14 17.5	-0.3
NMHZ				AML	AML	06 14 27.5	
NMHZ				AML	AML	06 14 28.7	
BKZ	**Black Stump Fm**	**0.67**	**326**	PN	Pn	06 14 17.3	-0.8
BKZ				AML	AML	06 14 26.9	
BKZ				AML	AML	06 14 27.0	
WHHZ	**Waihua**	**0.68**	**18**	PN	Pn	06 14 18.2	-0.1
WHHZ				AML	AML	06 14 30.4	
WHHZ				AML	AML	06 14 31.3	
BHHZ	**Black Hill Sta**	**0.74**	**288**	PN	Pn	06 14 18.2	-0.9
BHHZ				AML	AML	06 14 27.8	
BHHZ				AML	AML	06 14 27.8	
ANWZ	**Angora Road**	**0.82**	**207**	PN	Pn	06 14 20.2	0.0
ANWZ				AML	AML	06 14 33.9	
ANWZ				AML	AML	06 14 34.0	
DVHZ	**Dannevirke**	**0.84**	**227**	PN	Pn	06 14 20.1	-0.3
DVHZ				AML	AML	06 14 32.8	
DVHZ				AML	AML	06 14 33.1	
TSZ	**Takapari Road**	**0.84**	**246**	PN	Pn	06 14 19.8	-0.6
TSZ				AML	AML	06 14 31.5	
TSZ				AML	AML	06 14 31.8	
KNZ	**Kokohu**	**0.89**	**38**	PN	Pn	06 14 20.7	-0.3
KNZ				AML	AML	06 14 21.0	
KNZ				AML	AML	06 14 34.7	
MHGZ	**Mahia Peninsul**	**0.93**	**52**	PN	Pn	06 14 21.7	+0.2
MHGZ				AML	AML	06 14 37.1	
MHGZ				AML	AML	06 14 37.1	
**SNG

WAZ	**Wanganui**	**1.53**	**268**	PN	Pn	06 14 30.7	+0.9
CNGZ	**Carnagh Statio**	**1.57**	**38**	PN	Pn	06 14 29.9	-0.4
HOWZ	**Holdsworth Sta**	**1.61**	**223**	PN	Pn	06 14 29.9	-1.0
HOWZ				AML	AML	06 14 50.4	
HOWZ				AML	AML	06 14 50.8	
TWGZ	**Tauwhareparae**	**1.74**	**27**	PN	Pn	06 14 32.0	-0.6
TWGZ				AML	AML	06 14 56.1	
TWGZ				AML	AML	06 14 56.5	
OGWZ	**Otaki Gorge**	**1.75**	**231**	PN	Pn	06 14 31.7	-1.2
OGWZ				AML	AML	06 14 54.2	
OGWZ				AML	AML	06 14 54.3	
MTW	**Mount Morrison**	**1.82**	**218**	PN	Pn	06 14 32.2	-1.5
MTW				AML	AML	06 14 55.7	
MTW				AML	AML	06 14 55.7	
RUGZ	**Raukumara Rang**	**1.84**	**18**	PN	Pn	06 14 33.5	-0.7
PUZ	**Puketiti**	**1.93**	**32**	⇓P	Pn	06 14 34.1	-1.3
PUZ				AML	AML	06 14 58.8	
PUZ				AML	AML	06 15 00.8	
TRWZ	**Traveller**	**1.94**	**210**	AML	AML	06 15 19.4	
KIW	**Kapiti Island**	**1.94**	**234**	PN	Pn	06 14 34.4	-1.0
KIW				AML	AML	06 15 00.3	
CAW	**Cannon Point**	**2.00**	**226**	PN	Pn	06 14 34.7	-1.5
CAW				AML	AML	06 15 01.4	
CAW				AML	AML	06 15 01.5	
PAWZ	**Paruwai Farm**	**2.03**	**215**	PN	Pn	06 14 35.2	-1.5
PAWZ				SN	Sn	06 14 59.2	-1.6
PAWZ				AML	AML	06 15 00.8	
HAZ	**Te Kaha**	**2.07**	**18**	PN	Pn	06 14 35.9	-1.2
HAZ				AML	AML	06 15 04.3	
HAZ				AML	AML	06 15 04.3	
HAZ				AML	AML	06 15 05.1	
HAZ				AML	AML	06 15 05.7	
MSWZ	**Moikau Station**	**2.14**	**217**	PN	Pn	06 14 36.2	-1.9
MSWZ				AML	AML	06 14 38.2	
MSWZ				AML	AML	06 15 02.4	
WMGZ	**Waiomatatini S**	**2.21**	**31**	PN	Pn	06 14 38.0	-1.1
WMGZ				AML	AML	06 15 05.6	
WMGZ				AML	AML	06 15 05.7	
PLWZ	**Palliser**	**2.26**	**215**	PN	Pn	06 14 37.8	-2.0
PLWZ				AML	AML	06 15 05.7	
PLWZ				AML	AML	06 15 06.0	
TCW	**Tory Channel**	**2.53**	**233**	PN	Pn	06 14 41.7	-1.8
TCW				AML	AML	06 15 12.6	
TCW				AML	AML	06 15 13.9	
DUWZ	**D'Urville Isla**	**2.57**	**244**	PN	Pn	06 14 42.4	-1.6
TUWZ	**Tuamarina**	**2.86**	**233**	PN	Pn	06 14 45.4	-2.6
TUWZ				AML	AML	06 15 19.6	
BSWZ	**Blackbirch Sta**	**3.08**	**229**	PN	Pn	06 14 48.6	-2.4
NNZ	**Nelson**	**3.12**	**240**	PN	Pn	06 14 49.9	-1.7
QRZ	**Quartz Range**	**3.57**	**251**	PN	Pn	06 14 55.8	-2.0
THZ	**Tophouse**	**3.70**	**235**	PN	Pn	06 14 57.1	-2.5
KHZ	**Kahutara**	**3.73**	**223**	*e*PN	Pn	06 14 56.8	-3.2
DSZ	**Denniston Nort**	**4.41**	**241**	PN	Pn	06 15 06.8	-2.5
LTZ	**Lake Taylor**	**4.67**	**228**	PN	Pn	06 15 09.6	-3.3
MQZ	**McQueen's Vall**	**5.12**	**218**	*e*PN	Pn	06 15 15.2	-3.8
INZ	**Inchbonnie**	**5.13**	**232**	PN	Pn	06 15 15.5	-3.6
OXZ	**Oxford**	**5.16**	**224**	*e*PN	Pn	06 15 15.4	-4.2
FOZ	**Fox Glacier**	**6.57**	**232**	*e*PN	Pn	06 15 34.6	-4.3
LBZ	**Lake Benmore**	**6.87**	**225**	*e*PN	Pn	06 15 39.7	-3.3
ODZ	**Otahua Downs**	**7.08**	**219**	*e*PN	Pn	06 15 42.3	-3.6
JCZ	**Jackson Bay**	**7.49**	**232**	PN	Pn	06 15 47.0	-4.7

IDC 14 06:29:19.9±3.8, 10°.33S×159°.47E, h0km, mb3.6/3, mb1 3.9/3, mb1mx3.6/17, mbtmp3.6/3, Error ellipse: s-maj=223.0km s-min=30.4km az=137.0, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**1.01**	**28**	*i* P		Pg 06 29 30.0	-9.3
HNR				*i* S		Sg 06 29 42.0	-10
WRA	**Warramunga Arr**	**26.04**	**246**	P		P 06 34 55.7	+0.6
	0.2nm,0.6s,baz=73,slow=9.7,SNR=4.5						
ASAR	**Alice Springs**	**27.75**	**238**	P		P 06 35 10.0	-0.5
	0.2nm,0.3s,baz=62,slow=10,SNR=3.2						
ILAR	**Eielson Array**	**84.30**	**20**	P		P 06 41 56.4	0.0
	0.9nm,0.6s,baz=246,slow=5.3,SNR=12						

*ISCJB **14** 06:37:19.8±0.6, 10°.66N±0°.04×62°.50W±0°.03, h91km±7km, Error ellipse: s-maj=7.1km s-min=4.6km az=143.3*
*TRN **14** 06:37:21.0, 10°.78N×62°.44W, h12km, MD3.5*
*FUNV **14** 06:37:21.5, 10°.63N×62°.42W, h82km, MW3.0*

ISC 14 06:37:20.1±1.3, 10°.65N±0°.04×62°.50W±0°.04, h93km±9km, n18, σ1§15/30, 3C, Near coast of Venezuela

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GUIV	**Guiria**	**0.28**	**91**	⇑*i*P		**P 06 37 33.4**	**-0.3**
GUIV				*e*S		**Sn 06 37 42.0**	**-1.9**
GUNV	**Guanoco**	**0.65**	**222**	⇑*i*P		**Pn 06 37 37.8**	**+1.4**
GUNV				*e*S		**Sn 06 37 49.4**	**+0.9**
CRUV	**Carupano**	**0.72**	**272**	⇑*i*P		**Pn 06 37 37.4**	**+0.3**
CRUV				*e*S		**Sn 06 37 49.1**	**-0.6**
BUAY	**Buenos Aires**	**0.97**	**124**	*e*P		**Pn 06 37 41.2**	**+1.6**
BUAY				*e*S		**Sn 06 37 53.8**	**-0.5**
TRN	**Trinidad (W)**	**1.08**	**90**	*e*P		**Pn 06 37 41.3**	**+0.3**
TRN				*e*S		**Sn 06 37 55.0**	**-1.6**
TPP	**Pointe-a-Pierr**	**1.09**	**108**	*e*P		**Pn 06 37 42.4**	**+1.4**
TPP				*e*S		**Sn 06 37 57.7**	**+1.0**
GRGR	**Grenville**	**1.69**	**29**	*e*P		**Pn 06 37 48.0**	**-0.4**
GRGR				*e*S		**Sn 06 38 09.7**	**-0.3**
ORIV	**Oritupano**	**1.81**	**210**	*e*P		**Pn 06 37 49.9**	**-0.1**
ORIV				*e*S		**Sn 06 38 11.8**	**-0.8**
TOSP	**Speyside**	**2.04**	**71**	*e*P		**Pn 06 37 53.7**	**+0.8**
PCRV	**Puerto La Cruz**	**2.15**	**258**	*e*P		**Pn 06 37 55.8**	**+1.4**
RIOV	**Rio Grande**	**2.65**	**165**	*e*P		**Pn 06 38 01.2**	**+0.1**
FCV	**Fort Charlotte**	**2.78**	**26**	*e*P		**Pn 06 38 03.4**	**+0.6**
FCV				*e*S		**Sn 06 38 35.4**	**-0.2**
PRGV	**PARIAGUAN**	**2.83**	**229**	*e*P		**Pn 06 38 04.2**	**+0.8**
SVB	**Belmont**	**2.88**	**25**	*e*P		**Pn 06 38 05.1**	**+0.9**
SVB				*e*S		**Sn 06 38 37.6**	**-0.4**
CUPV	**Cœpira**	**3.28**	**260**	*e*P		**Pn 06 38 11.2**	**+1.6**
CUPV				*e*S		**Sn 06 38 47.6**	**-0.2**
MERV	**Las Mercedes**	**3.99**	**250**	*e*P		**Pn 06 38 20.2**	**+1.2**
LUEV	**Luepa**	**4.89**	**168**	*e*P		**Pn 06 38 31.1**	**-0.3**
BAUV	**El Baul**	**5.71**	**253**	*e*P		**Pn 06 38 42.7**	**+0.2**
BAUV				*e*S		**Sn 06 39 43.7**	**-3.1**

*BJI **14** 07:03:51.0, 32°.29S×71°.73W, h29km, mB5.6/37, Ms5.8/30, Ms7 5.7/39*
*NEIC **14** 07:03:51.0±0.0, 32°.70S×71°.80W, h37km, mb5.4/230, ME5.9, MS5.5/299, MW5.7, MW5.8, ML5.6(GUC), Moment Tensor Solution. s67 Moment tensor: Scale 10¹⁷Nm; Mrr3.53; Mθθ-0.69; Mϕϕ-2.85; Mrθ-0.95; Mθϕ-1.01; Mϕr-3.74; Best double couple: M₀5.10000×10¹⁷ NP1: ϕs196.00000°, δ69.00000°, λ87.00000°. NP2: ϕp26.00000°, δ21.00000°, λ99.00000°. Principal axes: T 5.2900, Plg65.0000°, Azm101.0000°; N -0.3200, Plg3.0000°, Azm197.0000°; P -4.9800, Plg24.0000°, Azm289.0000°; Broadband fault plane solution: P waves. NP1: ϕs355.00000°, δ20.00000°, λ90.00000°. NP2: ϕs175.00000°, δ70.00000°, λ90.00000°. Principal axes: T Plg65.0000°, Azm85.0000°; N Plg0.0000°, Azm0.0000°; P Plg25.0000°, Azm265.0000°; Depth from synthetics of broadband displacement seismograms. Energy computed from BB mechanism. After GUC.*
NEIC Felt [VI] at Valparaiso and Vina del Mar; [V] at Melipilla; [IV] at Colina, Coquimbo, La Serena, Puente Alto, Quillota, Quilpue, Salamanca, San Antonio, San Bernardo, San Felipe, Santiago, Talagante, Tiltil and Villa Alemana. Felt widely in central Chile from Coquimbo to Talca. Also felt at Mendoza and San Martin, Argentina.
*NEIC **14** 07:03:51.0±0.0, 32°.93S×71°.73W, h19km, Moment Tensor Solution. s10 Moment tensor: Scale 10¹⁷Nm; Mrr3.92; Mθθ0.56; Mϕϕ-4.49; Mrθ0.20; Mθϕ-0.65; Mϕr-3.69; Best double couple: M₀5.70000×10¹⁷ NP1: ϕs180.00000°, δ66.00000°, λ83.00000°. NP2: ϕs16.00000°, δ25.00000°, λ105.00000°. Principal axes: T 5.3500, Plg68.0000°, Azm76.0000°; N 0.5700, Plg6.0000°, Azm182.0000°; P -5.9200, Plg20.0000°, Azm275.0000°;*
*GUC **14** 07:03:51.2±0.7, 32°.70S×71°.80W, h37km±4km, ML5.6*
*GCMT **14** 07:03:51.0±0.1, 32°.80S×71°.88W, h26km, MW5.9/126, Moment Tensor Solution. s126,c243; s120,c333;*

Duration: 2≥1 Moment tensor: Scale 10¹⁷Nm; Mrr3.82±.05; Mθθ0.45±.04; Mϕϕ-4.26±.04; Mrθ-0.60±.08; Mθϕ-0.20±.03; Mϕr-6.39±.15; Best double couple: M₀7.58600×10¹⁷ NP1: ϕs185.00000°, δ74.00000°, λ92.00000°. NP2: ϕs359.00000°, δ16.00000°, λ84.00000°. Principal axes: T 7.3670, Plg61.0000°, Azm97.0000°; N 0.4450, Plg2.0000°, Azm5.0000°; P -7.8060, Plg29.0000°, Azm274.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.
*IDC **14** 07:03:52.2±4.9, 32°.73S×71°.65W, h28km±33km, mb4.9/23, mb1 5.0/27, mb1mx4.9/32, mbtmp5.0/27, ML5.2/4, MS5.5/22, Ms1 5.5/22, ms1mx5.4/27 Error ellipse: s-maj=16.7km s-min=11.2km az=69.0*
*SJA **14** 07:03:52.4±0.8, 32°.68S×71°.65W, h5km, ML5.6, MW5.5*
*ISCJB **14** 07:03:53.5±0.5, 32°.61S±0°.02×71°.58W±0°.04, h49km±4km, mb5.3/242, MS5.5/411, Error ellipse: s-maj=6.1km s-min=3.7km az=169.8*
*MOS **14** 07:03:53.1±1.1, 32°.57S×71°.51W, h41km, mb5.4/62, MS5.5/18, Error ellipse: s-maj=13.9km s-min=6.5km az=103.9*

ISC 14 07:03:53.7±0.7, 32°.73S±0°.03×71°.67W±0°.04, h40km±6km, n1275, σ1§28/1108, mb5.3/242, MS5.5/416, 12C-14D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ROC1	**El Roble**	**0.60**	**115**	*e*P		**P 07 04 05.2**	**-0.9**
ROC1				*e*S		**Sn 07 04 14.8**	**0.0**
ROC1	**El Roble**	**0.60**	**115**	*e*Pg		**Pn 07 04 05.2**	**-0.9**
ROC1				*e*Sg		**Sn 07 04 14.8**	**0.0**
ROCH	**El Roble**	**0.60**	**114**	⇓*i*P		**Pn 07 04 05.0**	**-1.0**
ROCH				*i* S		**Sn 07 04 15.1**	**+0.3**
PEL	**Peldehue**	**0.92**	**117**	⇓*i*P		**Pn 07 04 10.2**	**-0.1**
PEL				*i* S		**Sn 07 04 24.4**	**+2.0**
PEL				IAML		07 04 26.9	
	comp=N,206μm,0.5s						
PEL	**Peldehue**	**0.92**	**117**	P		**Pn 07 04 09.6**	**-0.7**
TACH	**Talagante**	**1.11**	**147**	⇑*i*P		**Pn 07 04 12.2**	**-0.2**
CLCH	**Cerro Calan**	**1.16**	**125**	⇓*i*P		**Pn 07 04 13.7**	**+0.2**
CLCH				*i* S		**Sn 07 04 30.6**	**+2.4**
CLCH				IAML		07 04 38.0	
	comp=E,167μm,0.7s						
ANTU	**Antumapu**	**1.21**	**134**	*e*P		**Pn 07 04 14.4**	**+0.2**
ANTU				*i* S		**Sn 07 04 32.1**	**+2.8**
ANTU				IAML		07 04 35.6	
	comp=N,166μm,0.6s						
FSR	**Penalolen**	**1.21**	**128**	⇓*i*P		**Pn 07 04 14.7**	**+0.5**
FCH	**Farellones**	**1.30**	**118**	⇓*i*P		**Pn 07 04 16.2**	**+0.5**
FCH				*i* S		**Sn 07 04 35.3**	**+3.2**
FCH				IAML		07 04 38.6	
	comp=N,128μm,0.6s						
SJCH	**San Jose de Ma**	**1.43**	**130**	*e*P		**Pn 07 04 17.8**	**+0.5**
SJCH				*i* S		**Sn 07 04 38.3**	**+3.4**
YECH	**El Yeso**	**1.62**	**126**	⇓*i*P		**Pn 07 04 21.6**	**+1.5**
YECH				*i* S		**Sn 07 04 42.9**	**+2.9**
YECH				IAML		07 04 56.5	
	comp=N,69μm,0.6s						
AUSP	**Uspallata**	**1.99**	**76**	*i* P		**Pn 07 04 28.9**	**+3.7**
RTLS	**Leoncito**	**2.21**	**66**	*e*P		**Pn 07 04 32.1**	**+4.0**
RTLS				*i* S		Sn 07 05 04.7	+10
RTLS				IAML		07 05 08.2	
	comp=Z,20μm,0.8s						
GO05	**HualaæØ**	**2.29**	**185**	*e*Pn		**Pn 07 04 27.4**	**-1.5**
NICH	**Los Niches**	**2.30**	**171**	*e*P		**Pn 07 04 29.2**	**+0.1**
NICH				*i* S		**Sn 07 04 58.1**	**+1.9**
ARCO	**CERRO ARCO**	**2.31**	**94**	*e*P		Pn 07 04 34.2	+4.8
ARCO				*e*S		**Sn 07 05 04.4**	**+7.8**
ARCO				IAML		07 05 15.1	
	comp=Z,13μm,0.6s						
ASAL	**Salagasta**	**2.39**	**88**	*e*P		Pn 07 04 35.1	+4.7
AAGR	**Agrelo**	**2.41**	**99**	*e*P		Pn 07 04 35.4	+4.6
TLL	**Tololo Astrono**	**2.66**	**16**	*i* P		**Pn 07 04 34.3**	**+0.1**
TLL				*i* S		**Sn 07 05 07.3**	**+2.0**
TLL				IAML		07 05 23.6	
	comp=N,84μm,0.6s						
TALC	**Talca**	**2.67**	**179**	⇓*i*P		**Pn 07 04 33.3**	**-0.8**
RTCV	**Cerro Valdivia**	**2.78**	**73**	*e*P		**Pn 07 04 39.7**	**+3.9**
RTLL	**Cerro Villicun**	**3.05**	**64**	*e*P		Pn 07 04 44.2	+4.7
RTLL				IAML		07 05 34.1	
	comp=Z,16μm,0.4s						
AMOG	**MOGNA**	**3.24**	**57**	*e*P		**Pn 07 04 45.2**	**+3.2**
COCH	**Cobquecura**	**3.52**	**195**	IAML		07 05 50.1	
	comp=E,15μm,0.4s						
LCO	**Las Campanas**	**3.80**	**13**	⇑*i*P		**Pn 07 04 49.3**	**-0.6**
LCO				*i* S		**Sn 07 05 33.8**	**+0.3**
LCO	**Las Campanas**	**3.80**	**13**	*e*P		**Pn 07 04 49.7**	**-0.2**
LCO				*e*S		**Sn 07 05 40.2**	**+6.7**
LCO				IAML		07 05 54.2	
	comp=Z,10μm,0.4s						
LCO	**Las Campanas**	**3.80**	**13**	*e*Pn		**Pn 07 04 49.5**	**-0.5**
CCHI	**Chillan**	**3.88**	**185**	⇑*i*P		**Pn 07 04 50.5**	**-0.3**
AVFE	**Valle Fertil**	**4.14**	**61**	*e*P		**Pn 07 04 58.1**	**+3.7**
AVFE				*e*S		Sn 07 05 54.8	+13
AVFE				IAML		07 06 05.5	
	comp=Z,7μm,0.7s						
VCA	**Vinchina**	**4.97**	**38**	*e*P		**Pn 07 05 08.2**	**+2.2**
VCA				IAML		07 06 26.8	
	comp=Z,17μm,0.5s						
CPCH	**Copiapo**	**5.47**	**12**	⇓*i*P		**Pn 07 05 11.6**	**-1.1**
SUCO	**SUCO**	**5.73**	**98**	IAML		07 06 34.1	
	comp=Z,2μm,0.5s						
TCA	**Tanti**	**6.16**	**79**	*e*P		**Pn 07 05 23.1**	**+0.8**
TCA				*i* S		**Sn 07 06 37.6**	**+6.1**
TCA				IAML		07 07 00.3	
	comp=Z,3μm,0.5s						
PLCA	**Paso Flores**	**8.04**	**174**	Pn		**Pn 07 05 46.7**	**-1.3**
	comp=Z,19nm,0.3s,baz=356,slow=11,SNR=307						
PLCA				Lg		Lg 07 07 59.9	
	baz=286,slow=20,SNR=1.9						
PLCA				LR		LR 07 08 53.5	
	comp=Z,28μm,19.4s,baz=12,slow=38						
PLCA	**Paso Flores**	**8.04**	**174**	*e*P		**Pn 07 05 47.4**	**-0.6**
PLCA	**Paso Flores**	**8.04**	**174**	*e*Pn		**Pn 07 05 47.5**	**-0.6**
PLCA				Lg		Lg 07 07 59.9	
PB10	**IPOC Station P**	**9.23**	**6**	*e*Pn		**Pn 07 06 01.6**	**-2.7**
TRQA	**Tornquist**	**9.53**	**127**	*e*Pn		**Pn 07 06 08.7**	**+0.4**
LVC	**Limon Verde**	**10.37**	**14**	*e*Pn		**Pn 07 06 17.1**	**-3.1**
PB04	**IPOC Station P**	**10.44**	**8**	*e*Pn		**Pn 07 06 16.9**	**-4.1**
PB01	**IPOC Station P**	**11.80**	**10**	*e*Pn		Pn 07 06 34.3	-5.3
CPUP	**Villa Florida**	**14.01**	**67**	Pn		**Pn 07 07 09.0**	**-0.6**
	comp=Z,1.9nm,0.3s,baz=232,slow=9.4,SNR=18						
CPUP				Sn		**Sn 07 09 42.7**	**-1.0**
	comp=Z,4.0nm,0.3s,baz=268,slow=12,SNR=5.2						
CPUP				Lg		Lg 07 11 12.6	
	comp=Z,3.2nm,0.3s,baz=321,slow=19,SNR=3.0						
CPUP				LR		LR 07 12 53.3	
	comp=Z,28μm,21.6s,baz=248,slow=39						
CPUP	**Villa Florida**	**14.01**	**67**	*e*Pn		**Pn 07 07 06.4**	**-3.2**
CPUP				Sn		**Sn 07 09 42.7**	**-1.0**
CPUP				Lg		Lg 07 11 12.6	
LPAZ	**La Paz**	**16.68**	**12**	Pn		**Pn 07 07 44.5**	**-0.6**
	comp=Z,3.2nm,0.3s,baz=184,slow=7.7,SNR=125						
LPAZ				Sn		**S 07 10 55.3**	**-4.3**
	baz=197,slow=17,SNR=2.0						
LPAZ	**La Paz**	**16.68**	**12**	*e*Pn		**Pn 07 07 44.6**	**-0.4**
	comp=Z,98nm,0.9s						
LPAZ				Sn		**S 07 10 55.3**	**-4.3**
GO09	**Cerro Castillo**	**18.54**	**181**	*e*P		**Pn 07 08 08.5**	**+1.3**
	comp=Z,322nm,1.4s						
SIV	**San Ignacio**	**19.23**	**32**	P		**P 07 08 13.0**	**-1.6**
	comp=Z,2.0nm,0.3s,baz=232,slow=12,SNR=83						
SIV				LR		LR 07 16 59.5	
	comp=Z,28μm,19.0s,baz=227,slow=41						
GO10	**Punta Arenas**	**20.42**	**179**	*e*P		**P 07 08 27.9**	**+0.6**
	comp=Z,197nm,1.0s						
GO10				LR		LR	
	comp=Z,26μm,20.0s						
NNA	**Nana**	**21.18**	**346**	P		**P 07 08 35.8**	**+0.1**
	comp=Z,16nm,0.7s,baz=187,slow=8.4,SNR=16						
NNA				LR		LR 07 15 31.2	
	comp=Z,9μm,18.2s,baz=178,slow=33						
NNA	**Nana**	**21.18**	**346**	*e*P		**P 07 08 35.7**	**-0.1**
NNA				pmax		pmax	
	comp=Z,144nm,1.2s						
NNA	**Nana**	**21.18**	**346**	*e*P		**P 07 08 35.7**	**-0.1**
	comp=Z,144nm,1.2s						
EFI	**East Falkland**	**21.38**	**156**	*d*iP		**P 07 08 37.7**	**+0.1**
EFI				pmax		pmax	
	comp=Z,146nm,0.8s						
EFI	**East Falkland**	**21.38**	**156**	*e*P		**P 07 08 37.6**	**0.0**
	comp=Z,146nm,0.7s						
EFI				LR		LR	
	comp=Z,21μm,20.0s						
USHA	**Ushuaia**	**22.22**	**175**	P		**P 07 08 46.5**	**0.0**
	comp=Z,226nm,0.8s,baz=340,slow=9.0,SNR=17						
USHA				LR		LR 07 17 39.1	
	comp=Z,45μm,20.8s,baz=343,slow=37						
SPB	**Sao Paulo**	**23.18**	**73**	*e*P		**P 07 08 55.6**	**-1.3**
	comp=Z,227nm,1.0s						
SPB				LR		LR	
	comp=Z,38μm,21.0s						
SAML	**Samuel**	**24.93**	**20**	*e*P		**P 07 09 12.9**	**-0.3**
	comp=Z,126nm,1.1s						
SAML				LR		LR	
	comp=Z,2μm,22.0s						
ATAH	**Atahualpa**	**26.22**	**345**	P		**P 07 09 26.1**	**+0.8**
	comp=Z,3.1nm,0.6s,baz=169,slow=13,SNR=6.3						
ATAH				LR		LR 07 18 16.6	
	comp=Z,8μm,18.8s,baz=185,slow=33						
PMSA	**Palmer Station**	**32.42**	**174**	PFAKE		07 10 30.0	+11
PMSA				LR		LR	
	comp=Z,14μm,21.0s						
HOPE	**Hope Point**	**32.88**	**142**	*e*P		**P 07 10 21.3**	**-2.2**
	comp=Z,140nm,0.9s						
HOPE				LR		LR	
	comp=Z,10μm,20.0s						
RPN	**Rapa Nui**	**33.00**	**270**	LR		LR 07 20 12.5	
	comp=Z,11μm,18.2s,baz=128,slow=30						
OTAV	**Otavalo**	**33.41**	**348**	*e*P		**P 07 10 31.1**	**+2.0**
	comp=Z,113nm,1.9s						
OTAV				LR		LR	
	comp=Z,4μm,21.0s						
PTGA	**Pitinga**	**33.68**	**21**	*e*P		**P 07 10 30.3**	**-0.6**
	comp=Z,78nm,1.0s						
PTGA				LR		LR	
	comp=Z,6μm,19.0s						
FLOC	**Florencia**	**34.33**	**353**	*e*P		**P 07 10 37.1**	**+0.5**
PRAC	**Prado**	**36.37**	**355**	*e*P		**P 07 10 55.3**	**+1.2**
PRAC	**Prado**	**36.37**	**355**	*e*P		**P 07 10 55.5**	**+1.3**
	comp=Z,118nm,1.2s						
PRAC				LR		LR	
	comp=Z,4μm,18.0s						
PAYG	**Puerto Ayora**	**36.39**	**327**	PFAKE		07 11 00.0	+5.7
PAYG				LR		LR	
	comp=Z,8μm,20.0s						
VILC	**Villavicencio,**	**36.69**	**357**	*e*P		**P 07 10 58.6**	**+1.6**
CHIC	**Chingaza**	**37.20**	**357**	*e*P		**P 07 11 02.3**	**+0.6**
ROSC	**El Rosal**	**37.45**	**356**	P		**P 07 11 05.8**	**+2.1**
	comp=Z,43nm,0.7s,baz=163,slow=4.7,SNR=27						
ROSC	**El Rosal**	**37.45**	**356**	*e*P		**P 07 11 04.6**	**+0.9**
ROSC	**El Rosal**	**37.45**	**356**	*e*P		**P 07 11 03.6**	**0.0**
	comp=Z,34nm,0.7s						
ROSC				LR		LR	
	comp=Z,3μm,20.0s						
NORC	**Norcasia**	**38.20**	**355**	*e*P		**P 07 11 11.0**	**+1.3**
RUSC	**La Rusia**	**38.43**	**358**	*e*P		**P 07 11 12.8**	**+0.7**
RUSC	**La Rusia**	**38.43**	**358**	*e*P		**P 07 11 12.6**	**+0.4**
	comp=Z,112nm,1.1s						
RUSC				LR		LR	
	comp=Z,3μm,21.0s						
HELC	**Santa Helena**	**38.88**	**354**	*e*P		**P 07 11 16.0**	**+0.3**
HELC	**Santa Helena**	**38.88**	**354**	*e*P		**P 07 11 16.4**	**+0.7**
	comp=Z,149nm,1.0s						
HELC				LR		LR	
	comp=Z,16μm,22.0s						
BARC	**Barichara**	**39.13**	**358**	*e*P		**P 07 11 16.2**	**-1.4**
BRRC	**Barranca, Sant**	**39.66**	**357**	*e*P		**P 07 11 17.9**	**-4.0**
PAMC	**Pamplona, Colo**	**39.85**	**358**	*e*P		**P 07 11 24.3**	**+0.3**
ZARC	**Zaragoza, Cauc**	**40.11**	**355**	*e*P		**P 07 11 24.9**	**-0.6**
OCAC	**Ocana**	**40.77**	**357**	*e*P		**P 07 11 29.6**	**-1.6**
SDV	**Santo Domingo**	**41.39**	**2**	*e*P		**P 07 11 36.2**	**-0.1**
	comp=Z,62nm,0.9s						
SDV				LR		LR	
	comp=Z,6μm,19.0s						
MOTC	**Monteria, Cord**	**41.45**	**354**	*e*P		**P 07 11 35.5**	**-1.1**
SJCC	**San Jacinto, C**	**42.52**	**355**	*e*P		**P 07 11 44.8**	**-0.6**
RCBR	**Riachuelo**	**42.72**	**59**	*e*P		**P 07 11 46.3**	**-0.8**
	comp=Z,87nm,1.4s						
RCBR				LR		LR	
	comp=Z,31μm,18.0s						
TPP	**Pointe-a-Pierr**	**43.90**	**15**	*e*		**P 07 11 56.9**	**+0.5**
HDC	**Heredia**	**44.12**	**342**	PFAKE		07 12 10.0	+12
HDC				LR		LR	
	comp=Z,2μm,21.0s						
URIC	**Uribia, Colomb**	**44.18**	**360**	*e*P		**P 07 11 55.7**	**-3.0**
JTS	**JuntasAbangare**	**44.62**	**341**	LR		LR 07 26 52.0	
	comp=Z,2μm,20.1s,baz=213,slow=31						
TOSP	**Speyside**	**45.05**	**16**	*e*		**P 07 12 05.8**	**+0.2**
GRGR	**Grenville**	**45.62**	**14**	*e*		**P 07 12 06.4**	**-3.8**
GRGR	**Grenville**	**45.62**	**14**	*e*P		**P 07 12 09.9**	**-0.3**
	comp=Z,209nm,1.0s						
GRGR				LR		LR	
	comp=Z,4μm,19.0s						
FCV	**Fort Charlotte**	**46.70**	**14**	*e*		**P 07 12 19.1**	**+0.4**
SVB	**Belmont**	**46.81**	**14**	*e*		**P 07 12 17.9**	**-1.6**
SVB	**Belmont**	**46.81**	**14**	*e*P		**P 07 12 18.7**	**-0.8**
	comp=Z,76nm,0.7s						
SVV	**Soufriere Volc**	**46.86**	**14**	*e*		**P 07 12 20.3**	**+0.4**
BBSP	**Saint Philip**	**47.04**	**16**	*e*		**P 07 12 24.2**	**+2.9**
MCLT	**Moule a Chique**	**47.30**	**14**	*e*		**P 07 12 21.0**	**-2.3**
TRIS	**Tristan da Cun**	**48.19**	**113**	PFAKE		07 12 40.0	+10
TRIS				LR		LR	
	comp=Z,7μm,21.0s						
FDF	**Fort de France**	**48.25**	**14**	*e*P		**P 07 12 29.4**	**-1.3**
**F

CCIG	**Comitan**	**52.52**	**335**	*e*P	**P**	**07 13 04.4**	**+1.2**
	comp=Z,74nm,1.6s						
CCIG				LR	LR		
	comp=Z,5µm,21.0s						
SNAA	**Sanae**	**52.65**	**158**	P	**P**	**07 13 04.0**	**+0.6**
SNAA	**Sanae**	**52.65**	**158**	*e*P	**P**	**07 13 03.6**	**+0.2**
SNAA				pmax	pmax		
	comp=Z,50nm,0.9s						
SNAA	**Sanae**	**52.65**	**158**	*e*P	**P**	**07 13 03.6**	**+0.2**
	comp=Z,50nm,0.9s						
SNAA				LR	LR		
	comp=Z,6µm,20.0s						
GRTK	**Grand Turk**	**53.94**	**1**	*e*P	**P**	**07 13 11.3**	**-2.0**
	comp=Z,123nm,1.0s						
GRTK				LR	LR		
	comp=Z,3µm,19.0s						
SCIG	**Sabancuy**	**54.69**	**337**	PFAKE		07 13 30.0	+11
SCIG				LR	LR		
	comp=Z,2µm,20.0s						
TUIG	**Tuzandepetl**	**54.97**	**333**	PFAKE		07 13 30.0	+9.1
TUIG				LR	LR		
	comp=Z,6µm,20.0s						
TEIG	**Tepich**	**55.00**	**341**	PFAKE		07 13 30.0	+9.0
TEIG				LR	LR		
	comp=Z,2µm,22.0s						
RKT	**Rikitea**	**56.04**	**263**	*e*S	**S**	**07 21 15.7**	**+1.2**
	comp=Z,2µm,28.0s						
RKT				*e*SS	**SS**	**07 25 01.5**	**+0.5**
	comp=Z,1µm,30.8s						
RKT				*e*LQ	LQ	07 27 33.8	
	comp=Z,1µm,29.8s						
RKT				*e*LR	LR	07 29 51.8	
	comp=Z,6µm,25.2s,baz=121						
TLIG	**Tlapa**	**56.24**	**329**	*e*P	**P**	**07 13 30.2**	**0.0**
	comp=Z,94nm,1.7s						
TLIG				LR	LR		
	comp=Z,7µm,20.0s						
LVIG	**Laguna Verde**	**57.28**	**332**	PFAKE		07 13 50.0	+13
LVIG				LR	LR		
	comp=Z,2µm,21.0s						
NVL	**N'lazarevskaya**	**57.37**	**157**	*e*P	**P**	**07 13 39.5**	**+2.1**
NVL				*e*S	**S**	**07 21 30.0**	**-0.8**
QSPA	**South Pole Qui**	**57.51**	**180**	*e*P	**P**	**07 13 39.4**	**+0.8**
UNM	**Universidad Na**	**58.07**	**329**	PFAKE		07 13 50.0	+6.8
UNM				LR	LR		
	comp=Z,8µm,20.0s						
ASCN	**Ascension**	**58.35**	**78**	PFAKE		07 14 00.0	+15
ASCN				LR	LR		
	comp=Z,5µm,20.0s						
DWPF	**Disney Wildern**	**61.21**	**350**	PFAKE		07 14 10.0	+5.6
DWPF				LR	LR		
	comp=Z,1µm,20.0s						
SHEL	**Horse Pasture**	**61.45**	**91**	PFAKE		07 14 20.0	+14
SHEL				LR	LR		
	comp=Z,4µm,20.0s						
ZAIG	**Zacatecas**	**62.58**	**328**	*e*P	**P**	**07 14 15.1**	**+1.0**
	comp=Z,23nm,1.4s						
ZAIG				LR	LR		
	comp=Z,5µm,21.0s						
LNIG	**Linares**	**63.14**	**332**	*e*P	**P**	**07 14 18.3**	**+0.9**
	comp=Z,43nm,1.5s						
035Z	**Hargill**	**64.00**	**334**	P	**P**	**07 14 24.3**	**+1.3**
	baz=156						
646A	**Port Sulphur**	**64.32**	**342**	P	**P**	**07 14 26.8**	**+1.8**
	baz=163						
SBA	**Scott Base**	**64.38**	**192**	*e*P	**P**	**07 14 26.7**	**+1.8**
SBA				pmax	pmax		
	comp=Z,73nm,1.7s						
SBA	**Scott Base**	**64.38**	**192**	*e*P	**P**	**07 14 26.7**	**+1.8**
	comp=Z,73nm,1.7s						
645A	**Chauvin**	**64.40**	**342**	P	**P**	**07 14 27.3**	**+1.7**
	baz=162						
035A	**Encino**	**64.45**	**334**	P	**P**	**07 14 27.3**	**+1.3**
	baz=156						
034A	**Hebbronville**	**64.78**	**333**	P	**P**	**07 14 29.8**	**+1.7**
	baz=155						
TIGA	**Tifton**	**64.81**	**349**	P	**P**	**07 14 27.9**	**-0.3**
	baz=169						
TIGA	**Tifton**	**64.81**	**349**	*e*P	**P**	**07 14 27.8**	**-0.4**
	comp=Z,40nm,1.1s						
TIGA				LR	LR		
	comp=Z,2µm,21.0s						
546A	**Slidell**	**64.91**	**343**	P	**P**	**07 14 30.2**	**+1.3**
	baz=163						
BBSR	**BB Station**	**65.08**	**7**	PFAKE		07 14 40.0	+10
BBSR				LR	LR		
	comp=Z,1µm,22.0s						
448A	**Bay Minette**	**65.14**	**345**	P	**P**	**07 14 31.2**	**+0.8**
	baz=165						
544A	**White Castle**	**65.17**	**341**	P	**P**	**07 14 32.4**	**+1.9**
	baz=162						
447A	**Lucedale**	**65.19**	**344**	P	**P**	**07 14 31.9**	**+1.2**
	baz=164						
934A	**Benavides**	**65.20**	**334**	P	**P**	**07 14 31.9**	**+1.1**
	baz=155						
738A	**Farr-Stevens R**	**65.33**	**337**	P	**P**	**07 14 32.7**	**+1.0**
	baz=158						
446A	**Poplarville**	**65.36**	**343**	P	**P**	**07 14 32.6**	**+0.8**
	baz=164						
VNDA	**Vanda**	**65.41**	**191**	P	**P**	**07 14 30.6**	**-1.0**
	comp=Z,11nm,1.2s,baz=138,slow=6.3,SNR=11						
VNDA				LR	LR	07 38 06.1	
	comp=Z,1µm,21.8s,baz=136,slow=31						
VNDA	**Vanda**	**65.41**	**191**	*e*P	**P**	**07 14 32.9**	**+1.2**
	comp=Z,29nm,1.4s						
933A	**Laredo**	**65.50**	**333**	P	**P**	**07 14 33.7**	**+0.9**
	baz=155,SNR=5.8						
737A	**Port Lavaca**	**65.52**	**336**	P	**P**	**07 14 34.8**	**+1.9**
	baz=157						
445A	**Amite**	**65.54**	**342**	P	**P**	**07 14 34.0**	**+1.0**
	baz=163						
835A	**Beeville**	**65.57**	**335**	P	**P**	**07 14 34.6**	**+1.4**
	baz=156						
348A	**Jackson**	**65.62**	**345**	P	**P**	**07 14 34.1**	**+0.7**
	baz=165						
444A	**Pine Grove**	**65.63**	**342**	P	**P**	**07 14 34.7**	**+1.2**
	baz=163						
834A	**Tilden**	**65.69**	**334**	P	**P**	**07 14 34.3**	**+0.3**
	baz=156,SNR=14						
541A	**Lake Charles**	**65.69**	**340**	P	**P**	**07 14 34.4**	**+0.5**
	baz=160						
347A	**Saraland**	**65.75**	**344**	P	**P**	**07 14 35.1**	**+0.8**
	baz=165,SNR=5.3						
638A	**Rosharon**	**65.80**	**337**	P	**P**	**07 14 36.2**	**+1.6**
	baz=158						
736A	**Circle Diamond**	**65.91**	**336**	P	**P**	**07 14 37.3**	**+1.9**
	baz=157,SNR=9.0						
346A	**Big Creek Wild**	**65.95**	**343**	P	**P**	**07 14 36.3**	**+0.7**
	baz=164,SNR=9.4						
443A	**Delano Plantat**	**65.96**	**341**	P	**P**	**07 14 36.5**	**+0.9**
	baz=162						
NHSC	**New Hope**	**65.97**	**352**	*e*P	**P**	**07 14 36.4**	**+0.7**
	comp=Z,103nm,1.3s						
NHSC				LR	LR		
	comp=Z,2µm,19.0s						
345A	**Thompson Farm,**	**66.02**	**343**	P	**P**	**07 14 36.6**	**+0.5**
	baz=163						
SACV	**Santiago Islan**	**66.02**	**52**	*e*P	**P**	**07 14 36.0**	**-0.4**
	comp=Z,73nm,0.9s						
SACV				LR	LR		
	comp=Z,2µm,22.0s						
735A	**Kenedy**	**66.08**	**335**	P	**P**	**07 14 37.1**	**+0.6**
	baz=156						
637A	**Eagle Lake**	**66.11**	**337**	P	**P**	**07 14 37.6**	**+0.9**
	baz=158						
833A	**Chaparral WMA,**	**66.18**	**333**	P	**P**	**07 14 38.0**	**+0.8**
	baz=155						
539A	**Cross D Ranch,**	**66.20**	**338**	P	**P**	**07 14 38.1**	**+0.8**
	baz=159						
248A	**Dixon Mills**	**66.24**	**345**	P	**P**	**07 14 37.8**	**+0.4**
	baz=165,SNR=5.5						
344A	**Westbrook Farm**	**66.33**	**342**	P	**P**	**07 14 38.6**	**+0.5**
	baz=163						
441A	**DeRidder**	**66.34**	**340**	P	**P**	**07 14 39.1**	**+1.0**
	baz=160						
734A	**La Parita Cree**	**66.34**	**334**	P	**P**	**07 14 38.9**	**+0.7**
	baz=156						
832A	**Faith Ranch, C**	**66.37**	**333**	P	**P**	**07 14 38.8**	**+0.4**
	baz=154,SNR=13						
247A	**Quitman**	**66.39**	**344**	P	**P**	**07 14 38.9**	**+0.5**
	baz=165						
636A	**Smothers Creek**	**66.39**	**336**	P	**P**	**07 14 38.5**	**0.0**
	baz=157,SNR=10						
343A	**Vidalia**	**66.40**	**341**	P	**P**	**07 14 38.9**	**+0.4**
	baz=162						
246A	**Jackson Lee, B**	**66.47**	**344**	P	**P**	**07 14 39.4**	**+0.4**
	baz=164						
733A	**Divot King Ran**	**66.50**	**334**	P	**P**	**07 14 39.7**	**+0.5**
	baz=155						
538A	**Harpers Horsep**	**66.55**	**338**	P	**P**	**07 14 40.3**	**+0.8**
	baz=158						
635A	**Leesville**	**66.56**	**335**	P	**P**	**07 14 39.8**	**+0.3**
	baz=156						
440A	**Kirbyville**	**66.56**	**339**	P	**P**	**07 14 39.8**	**+0.2**
	baz=160						
245A	**Little AP, Sta**	**66.67**	**343**	P	**P**	**07 14 40.8**	**+0.6**
	baz=164,SNR=11						
342A	**Flagon Creek P**	**66.68**	**341**	P	**P**	**07 14 40.8**	**+0.5**
	baz=161						
537A	**Green Hill Far**	**66.69**	**337**	P	**P**	**07 14 41.3**	**+0.9**
	baz=158						
GOGA	**Godfrey**	**66.72**	**349**	*e*P	**P**	**07 14 40.2**	**-0.3**
GOGA				pmax	pmax		
	comp=Z,16nm,0.9s						
GOGA	**Godfrey**	**66.72**	**349**	*e*P	**P**	**07 14 40.2**	**-0.3**
	comp=Z,16nm,0.9s						
634A	**China Grove, S**	**66.75**	**335**	P	**P**	**07 14 41.1**	**+0.2**
	baz=156						
439A	**Center Grove,**	**66.85**	**338**	P	**P**	**07 14 41.6**	**+0.2**
	baz=159,SNR=7.4						
244A	**Avery, Jackson**	**66.88**	**342**	P	**P**	**07 14 41.8**	**+0.3**
	baz=163,SNR=12						
341A	**Kurthwood**	**66.88**	**340**	P	**P**	**07 14 42.3**	**+0.8**
	baz=161,SNR=6.9						
147A	**Livingston**	**66.91**	**345**	P	**P**	**07 14 41.8**	**+0.1**
	baz=165						
243A	**Waterproof**	**66.93**	**342**	P	**P**	**07 14 42.4**	**+0.6**
	baz=162						
SYO	**Syowa Base**	**66.93**	**159**	⇓ *i*P	**P**	**07 14 40.0**	**-1.5**
536A	**Bastrop**	**66.94**	**336**	P	**P**	**07 14 42.4**	**+0.4**
	baz=157						
SLBS	**Sierra La Lagu**	**66.94**	**322**	*e*P	**P**	**07 14 45.0**	**+2.7**
	comp=Z,58nm,1.4s						
LRAL	**Lakeview Retre**	**66.99**	**346**	*e*P	**P**	**07 14 42.0**	**-0.2**
	comp=Z,23nm,1.2s						
VBMS	**Vicksburg**	**67.00**	**343**	P	**P**	**07 14 42.9**	**+0.6**
	baz=163						
VBMS	**Vicksburg**	**67.00**	**343**	*e*P	**P**	**07 14 43.3**	**+0.9**
	comp=Z,62nm,0.9s						
438A	**Sam Houston St**	**67.03**	**338**	P	**P**	**07 14 43.4**	**+0.8**
	baz=158						
146A	**Union**	**67.05**	**344**	P	**P**	**07 14 43.2**	**+0.6**
	baz=164,SNR=6.1						
535A	**Dale**	**67.07**	**336**	P	**P**	**07 14 43.0**	**+0.2**
	baz=157,SNR=5.3						
633A	**Saathoff Ranch**	**67.13**	**334**	P	**P**	**07 14 43.8**	**+0.6**
	baz=155						
340A	**Bronson**	**67.17**	**339**	P	**P**	**07 14 44.1**	**+0.8**
	baz=160						
TAOE	**Nuku Hiva Isla**	**67.18**	**274**	*e*S	**S**	**07 23 35.7**	**-0.4**
	comp=Z,2µm,24.9s						
TAOE	**Nuku Hiva Isla**	**67.18**	**274**	*e*LR	LR	07 35 01.6	
	comp=Z,7µm,22.9s,baz=133						
145A	**Houston Renfro**	**67.23**	**343**	P	**P**	**07 14 44.6**	**+0.8**
	baz=164,SNR=6.4						
JSC	**Jenkinsville**	**67.26**	**351**	*e*P	**P**	**07 14 43.3**	**-0.6**
JSC				pmax	pmax		
	comp=Z,27nm,1.1s						
JSC	**Jenkinsville**	**67.26**	**351**	*e*P	**P**	**07 14 43.3**	**-0.6**
	comp=Z,27nm,1.2s						
JSC				LR	LR		
	comp=Z,2µm,22.0s						
242A	**Grayson**	**67.28**	**341**	P	**P**	**07 14 44.9**	**+0.8**
	baz=162						
339A	**Huntington**	**67.29**	**339**	P	**P**	**07 14 44.8**	**+0.6**
	baz=159,SNR=5.5						
437A	**Phantom Ranch,**	**67.32**	**337**	P	**P**	**07 14 44.8**	**+0.5**
	baz=158						
Z47A	**Carrollton**	**67.37**	**345**	P	**P**	**07 14 44.5**	**-0.1**
	baz=165,SNR=16						
144A	**Alexander Plac**	**67.37**	**343**	P	**P**	**07 14 45.5**	**+0.8**
	baz=163						
534A	**Blanco**	**67.39**	**335**	P	**P**	**07 14 45.4**	**+0.6**
	baz=156						
Z48A	**Northport**	**67.44**	**346**	P	**P**	**07 14 44.4**	**-0.6**
	baz=166,SNR=13						
241A	**Mo Tay, Goldon**	**67.46**	**341**	P	**P**	**07 14 46.2**	**+1.0**
	baz=161						
436A	**Wall Ranch, Ga**	**67.48**	**337**	P	**P**	**07 14 45.7**	**+0.3**
	baz=157						
338A	**Crockett**	**67.55**	**338**	P	**P**	**07 14 46.0**	**+0.2**
	baz=159						
Z46A	**Louisville**	**67.56**	**344**	P	**P**	**07 14 46.4**	**+0.6**
	baz=164,SNR=9.0						
HPIG		**67.58**	**327**	*e*P	**P**	**07 14 47.1**	**+0.7**
	comp=Z,85nm,1.7s						
533A	**Kerrville**	**67.63**	**334**	P	**P**	**07 14 46.7**	**+0.3**
	baz=155						
142A	**Monroe**	**67.69**	**342**	P	**P**	**07 14 47.1**	**+0.4**
	baz=162						
337A	**Centerville**	**67.69**	**338**	P	**P**	**07 14 48.0**	**+1.3**
	baz=158						
143A	**Socs Landing,**	**67.69**	**342**	P	**P**	**07 14 47.1**	**+0.5**
	baz=162,SNR=9.2						
240A	**Hunter Patters**	**67.72**	**340**	P	**P**	**07 14 47.3**	**+0.5**
	baz=160						
NATX	**Nacogdoches**	**67.72**	**339**	P	**P**	**07 14 47.6**	**+0.7**
	baz=159						
NATX	**Nacogdoches**	**67.72**	**339**	*e*P	**P**	**07 14 48.0**	**+1.1**
	comp=Z,43nm,1.0s						
NATX				LR	LR		
	comp=Z,1µm,21.0s						
435B	**Jarrell**	**67.76**	**336**	P	**P**	**07 14 47.5**	**+0.3**
	baz=157						
CNNC	**Cliffs of the**	**67.86**	**355**	*e*P	**P**	**07 14 48.3**	**+0.7**
	comp=Z,47nm,0.9s						
CNNC				LR	LR		
	comp=Z,1µm,22.0s						
239A	**Gary**	**67.90**	**339**	P	**P**	**07 14 48.4**	**+0.4**
	baz=160						
Z45A	**Winona**	**67.90**	**344**	P	**P**	**07 14 48.6**	**+0.6**
	baz=164						
TBI	**Tubuai**	**67.92**	**256**	*e*S	**S**	**07 23 46.0**	**+1.4**
	comp=Z,2µm,28.2s						
TBI	**Tubuai**	**67.92**	**256**	*e*LR	LR	07 35 24.7	
	comp=Z,13µm,25.2s,baz=107						
Z44A	**Pea Ridge, Bel**	**67.99**	**343**	P	**P**	**07 14 49.1**	**+0.6**
	baz=163						
141A	**Papa Simpson,**	**68.00**	**341**	P	**P**	**07 14 49.0**	**+0.4**
	baz=161						
Y47A	**UCPARC, Winfie**	**68.00**	**346**	P	**P**	**07 14 48.4**	**-0.2**
	baz=166,SNR=45						
434A	**Burnet**	**68.03**	**335**	P	**P**	**07 14 49.0**	**+0.1**
	baz=156,SNR=8.7						
336A	**Riesel**	**68.07**	**337**	P	**P**	**07 14 49.3**	**+0.2**
	baz=157,SNR=7.2						
238A	**Jacksonville**	**68.09**	**339**	P	**P**	**07 14 50.3**	**+1.1**
	baz=159						
KMSC	**Kings Mountain**	**68.12**	**351**	P	**P**	**07 14 49.4**	**+0.1**
	baz=171						
Z43A	**Armstrong Fami**	**68.13**	**342**	P	**P**	**07 14 49.8**	**+0.3**
	baz=162						
335A	**Moody**	**68.17**	**336**	P	**P**	**07 14 50.3**	**+0.6**
	baz=157						
Y46A	**Houston**	**68.20**	**345**	P	**P**	**07 14 49.5**	**-0.4**
	baz=165,SNR=17						
140A	**Cam and Jess,**	**68.22**	**340**	P	**P**	**07 14 50.4**	**+0.4**
	baz=160						
433A	**Art**	**68.27**	**335**	P	**P**	**07 14 50.1**	**-0.3**
	baz=156,SNR=18						
JCT	**Junction City**	**68.28**	**334**	P	**P**	**07 14 50.9**	**+0.4**
	baz=155,SNR=13						
JCT	**Junction City**	**68.28**	**334**	*e*P	**P**	**07 14 51.3**	**+0.8**
JCT				pmax	pmax		
	comp=Z,61nm,1.1s						
JCT	**Junction City**	**68.28**	**334**	*e*P	**P**	**07 14 51.3**	**+0.8**
	comp=Z,61nm,1.1s						
JCT				LR	LR		
	comp=Z,800nm,21.0s						
237A	**Washetta, Mont**	**68.30**	**338**	P	**P**	**07 14 51.2**	**+0.7**
	baz=158						
Y45A	**Yeager Farm, C**	**68.34**	**344**	P	**P**	**07 14 51.2**	**+0.5**
	baz=164,SNR=7.4						
Z42A	**Norrel Spur, H**	**68.38**	**342**	P	**P**	**07 14 51.0**	**+0.1**
	baz=162						
334A	**Lometa**	**68.49**	**336**	P	**P**	**07 14 52.0**	**+0.3**
	baz=156,SNR=8.7						
139A	**Bunkhouse Ranc**	**68.50**	**340**	P	**P**	**07 14 52.4**	**+0.7**
	baz=160						
236A	**Katherine and**	**68.53**	**337**	P	**P**	**07 14 52.3**	**+0.4**
	baz=158						
Z41A	**Richland Creek**	**68.59**	**341**	P	**P**	**07 14 53.1**	**+0.8**
	baz=161						
Y44A	**Strider, Charl**	**68.59**	**344**	P	**P**	**07 14 52.5**	**+0.2**
	baz=163						
138A	**Matatall Enter**	**68.69**	**339**	P	**P**	**07 14 53.6**	**+0.6**
	baz=159						
Y43A	**Makayla and Ka**	**68.72**	**343**	P	**P**	**07 14 53.7**	**+0.6**
	baz=163						
333A	**Richland Sprin**	**68.75**	**335**	P	**P**	**07 14 53.6**	**+0.2**
	baz=156,SNR=11						
Z40A	**Long Farm, Mag**	**68.75**	**341**	P	**P**	**07 14 53.9**	**+0.6**
	baz=161						
TX31	**Lajitas Ar. Si**	**68.78**	**330**	*e*P	**P**	**07 14 53.8**	**0.0**
TX31				*e*P	**P**	**07 14 54.5**	**+0.7**
TXAR	**Lajitas Array**	**68.78**	**330**	P	**P**	**07 14 54.0**	**+0.2**
	comp=Z,2.8nm,0.5s,baz=153,slow=6.7,SNR=48						
TXAR				LR	LR	07 40 42.1	
	comp=Z,4µm,18.7s,baz=0.0,slow=32						
TXAR				PKP2bc		07 43 07.0	
	comp=Z,0.2nm,0.8s,baz=347,slow=3.9,SNR=3.7						
TXAR	**Lajitas Array**	**68.78**	**330**	P	**P**	**07 14 54.0**	**+0.2**
TXAR				pmax	pmax		
	comp=Z,3.0nm,0.5s						
WHTX	**Lake Whitney,**	**68.83**	**337**	P	**P**	**07 14 54.1**	**+0.3**
	baz=157						
WHTX	**Lake Whitney,**	**68.83**	**337**	*e*P	**P**	**07 14 54.7**	**+0.9**
	comp=Z,33nm,0.8s						
WHTX				LR	LR		
	comp=Z,1µm,21.0s						
137A	**Heron Place, G**	**68.84**	**338**	P	**P**	**07 14 54.3**	**+0.4**
	baz=158						
X45A	**UM Field Stati**	**68.84**	**344**	P	**P**	**07 14 53.2**	**-0.6**
	baz=164,SNR=12						
Y42A	**Garnett, Star**	**68.87**	**342**	P	**P**	**07 14 54.3**	**+0.3**
	baz=162						
CPCT	**Cooper Cave**	**68.88**	**349**	*e*P	**P**	**07 14 53.8**	**-0.3**
	comp=Z,18nm,0.9s						
CPCT				LR	LR		
	comp=Z,1µm,20.0s						
SWET	**Sewanee**	**68.90**	**348**	*e*P	**P**	**07 14 54.1**	**-0.2**
	comp=Z,15nm,0.9s						
SWET				LR	LR		
	comp=Z,500nm,20.0s						
OXF	**Oxford**	**68.93**	**344**	*e*P	**P**	**07 14 54.4**	**0.0**
OXF				pmax	pmax		
	comp=Z,140nm,1.1s						
OXF	**Oxford**	**68.93**	**344**	*e*P	**P**	**07 14 54.4**	**0.0**
	comp=Z,140nm,1.1s						
Z39A	**Irene McRaven,**	**68.96**	**340**	P	**P**	**07 14 55.2**	**+0.5**
	baz=160						
136A	**Ennis**	**68.97**	**338**	P	**P**	**07 14 55.0**	**+0.4**
	baz=158						
TKL	**Tuckaleechee C**	**68.97**	**349**	P	**P**	**07 14 54.1**	**-0.5**
	comp=Z,13nm,0.7s,baz=160,slow=6.8,SNR=28						
TKL	**Tuckaleechee C**	**68.97**	**349**	*e*P	**P**	**07 14 54.3**	**-0.3**
TKL				pmax	pmax		
	comp=Z,23nm,0.8s						
TKL				MLR	MLR		
	comp=Z,2µm,21.0s						
TKL	**Tuckaleechee C**	**68.97**	**349**	*e*P	**P**	**07 14 54.3**	**-0.3**
	comp=Z,23nm,0.8s						
TKL				LR	LR		
	comp=Z,2µm,21.0s						
234A	**Clairette**	**69.07**	**336**	P	**P**	**07 14 55.2**	**-0.1**
	baz=156,SNR=15						
WLAR	**White Oak Lake**	**69.08**	**341**	*e*P	**P**	**07 14 56.5**	**+1.2**
	comp=Z,117nm,1.5s						
WLAR				LR	LR		
	comp=Z,800nm,22.0s						
X44A	**Crenshaw**	**69.09**	**344**	P	**P**	**07 14 55.3**	**-0.1**
	baz=164						
Y41A	**Eaglette Beard**	**69.12**	**341**	P	**P**	**07 14 55.9**	**+0.3**
	baz=161,SNR=5.6						
Z38A	**Mt. Pleasant**	**69.21**	**339**	P	**P**	**07 14 56.7**	**+0.6**
	baz=159						
X43A	**Marvell**	**69.29**	**343**	P	**P**	**07 14 56.7**	**+0.1**
	baz=163						
233A	**Rising Star**	**69.34**	**335**	P	**P**	**07 14 57.0**	**-0.1**
	baz=156,SNR=12						
Z37A	**Pogue Cattle C**	**69.35**	**339**	P	**P**	**07 14 57.5**	**+0.5**
	baz=159						
Y40A	**Okolona**	**69.43**	**341**	P	**P**	**07 14 57.7**	**+0.2**
	baz=161						
W45A	**Hickory Valley**	**69.50**	**345**	P	**P**	**07 14 57.8**	**-0.1**
	baz=164,SNR=8.6						
X42A	**Stuttgart**	**69.50**	**342**	P	**P**	**07 14 57.9**	**0.0**
	baz=162						
Y39A	**Lockesburg**	**69.59**	**340**	P	**P**	**07 14 58.5**	**+0.1**
	baz=160						
W44A	**Shelby Farms P**	**69.63**	**344**	P	**P**	**07 14 58.1**	**-0.6**
	baz=164						
Z36A	**Blue Ridge**	**69.67**	**338**	P	**P**	**07 14 59.4**	**+0.4**
	baz=158,SNR=12						
X41A	**Kaden, Bauxite**	**69.68**	**342**	P	**P**	**07 14 58.7**	**-0.3**
	baz=162						
X40A	**Basin Creek Fa**	**69.76**	**341**	P	**P**	**07 14 59.5**	**0.0**
	baz=161						
Y38A	**Idabel**	**69.76**	**340**	P	**P**	**07 14 59.6**	**+0.1**
	baz=160						
W43A	**Forest City**	**69.79**	**343**	P	**P**	**07 14 59.2**	**-0.5**
	baz=163						
TZTN	**Tazewell**	**69.80**	**350**	*e*P	**P**	**07 14 59.2**	**-0.5**
	comp=Z,110nm,2.0s						
TZTN				LR	LR		
	comp=Z,2µm,20.0s						
UALR	**University of**	**69.90**	**342**	*e*P	**P**	**07 15 00.7**	**+0.3**
	comp=Z,78nm,1.8s						
V45A	**Humboldt**	**70.01**	**345**	P	**P**	**07 15 00.3**	**-0.7**
	baz=165,SNR=8.8						
MIAR	**Mount Ida**	**70.01**	**341**	P	**P**	**07 15 00.8**	**-0.3**
	baz=161,SNR=11						
MIAR	**Mount Ida**	**70.01**	**341**	*e*P	**P**	**07 15 01.0**	**-0.1**
MIAR				pmax	pmax		
	comp=Z,45nm,1.4s						
MIAR	**Mount Ida**	**70.01**	**341**	*e*P	**P**	**07 15 01.0**	**-0.1**
	comp=Z,45nm,1.4s						
VWCC	**Virginia Weste**	**70.04**	**353**	*e*P	**P**	**07 15 01.8**	**+0.5**
BLA	**Blacksburg**	**70.06**	**353**	*e*P	**P**	**07 15 01.4**	**+0.1**
BLA				pmax	pmax		
	comp=Z,71nm,1.6s						
BLA				MLR	MLR		
	comp=Z,1µm,20.0s						
BLA	**Blacksburg**	**70.06**	**353**	*e*P	**P**	**07 15 01.4**	**+0.1**
	comp=Z,71nm,1.6s						
BLA				LR	LR		
	comp=Z,1µm,20.0s						
Y37A	**Hugo**	**70.08**	**339**	P	**P**	**07 15 01.6**	**+0.2**
	baz=159						
X39A	**Fountain Ranch**	**70.13**	**340**	P	**P**	**07 15 01.5**	**-0.3**
	baz=160,SNR=9.7						
URVA	**University of**	**70.15**	**355**	*e*P	**P**	**07 15 02.5**	**+0.7**
WVT	**Waverly**	**70.15**	**346**	*e*P	**P**	**07 15 01.5**	**-0.4**
WVT				pmax	pmax		
	comp=Z,100nm,1.0s						
WVT	**Waverly**	**70.15**	**346**	*e*P	**P**	**07 15 01.5**	**-0.4**
	comp=Z,102nm,1.0s						
WVT				LR	LR		
	comp=Z,2µm,22.0s						
ABTX	**Abilene, Hawle**	**70.16**	**335**	P	**P**	**07 15 02.2**	**+0.1**
	baz=155,SNR=6.7						
ABTX	**Abilene, Hawle**	**70.16**	**335**	*e*P	**P**	**07 15 02.8**	**+0.7**
	comp=Z,55nm,1.1s						
ABTX				LR	LR		
	comp=Z,1µm,21.0s						
W42A	**Bald Knob**	**70.16**	**343**	P	**P**	**07 15 02.2**	**+0.3**
	baz=162						
Y36A	**Durant**	**70.21**	**338**	P	**P**	**07 15 02.5**	**+0.3**
	baz=158						
VAH	**Vaihoa**	**70.25**	**264**	*e*P	**P**	**

U45A Rockin P Farm, 70.56 345 P P 07 15 04.3 -0.1
baz=165,SNR=11
X37A Clayton 70.57 339 P P 07 15 04.7 +0.2
baz=159
UTMT University of 70.57 345 eP P 07 15 05.0 +0.6
comp=Z,217nm,1.1s
GLAT Glass 70.59 345 eP P 07 15 05.3 +0.8
V42A Cord 70.64 343 P P 07 15 04.0 -0.9
baz=163
U44B Burton Farm, H 70.67 345 P P 07 15 05.2 +0.2
baz=164,SNR=6.7
W39A Magazine 70.68 341 P P 07 15 05.1 0.0
baz=160,SNR=35
PAE Paea 70.70 261 eP P 07 15 09.0 +3.2
comp=Z,15nm,1.1s
PPT2 Papeete2 70.73 261 eP P 07 15 08.5 +2.4
comp=Z,91nm,1.2s
PPT2 eS S 07 24 18.1 +0.1
comp=Z,3μm,24.5s
PPT2 Papeete2 70.73 261 eLR LR 07 36 30.9
comp=Z,5μm,25.8s,baz=115
PPT Papeete 70.74 261 P P 07 15 07.0 +0.9
comp=Z,25nm,0.8s,baz=305,slow=3.9,SNR=4.8
PPT LR LR 07 38 05.5
comp=Z,2μm,19.3s,baz=144,slow=29
PPT Papeete 70.74 261 P P 07 15 07.0 +0.9
PPT pmax pmax
comp=Z,25nm,0.8s
CBN Corbin Frederi 70.77 355 eP P 07 15 06.1 +0.5
comp=Z,56nm,1.3s
CBN LR LR
comp=Z,1μm,19.0s
W38A Poteau 70.77 340 P P 07 15 06.0 +0.3
baz=160
V41A Mountainview 70.81 342 P P 07 15 05.5 -0.4
baz=162,SNR=16
X36A Centrahoma 70.85 339 P P 07 15 05.0 -1.2
baz=158,SNR=7.5
X35A Drake 70.88 338 P P 07 15 05.9 -0.5
baz=158
U44A Portageville 70.91 345 P P 07 15 06.5 0.0
baz=164
U43A Rector 70.94 344 P P 07 15 06.5 -0.2
baz=164
V40A Witts Springs 71.00 342 P P 07 15 06.7 -0.5
baz=161,SNR=7.7
SRIG Santa Rosalia 71.10 322 PFAKE 07 15 20.0 +12
SRIG LR LR
comp=Z,1μm,20.0s
W37B Quinton 71.10 340 P P 07 15 07.7 0.0
baz=159,SNR=9.4
U42A Revenden 71.12 343 P P 07 15 06.9 -0.8
baz=163,SNR=13
V39A Pettigrew 71.25 341 P P 07 15 08.4 -0.2
baz=161,SNR=18
U41A Viola 71.28 343 P P 07 15 08.4 -0.4
baz=162,SNR=7.4
PBMO Poplar Bluff 71.34 344 eP P 07 15 08.9 -0.1
comp=Z,25nm,0.8s
W36A Wetumka 71.34 339 P P 07 15 08.4 -0.7
baz=158
T44A Benton 71.44 345 P P 07 15 08.9 -0.8
baz=164,SNR=7.0
V38A Canehill 71.48 341 P P 07 15 09.2 -0.8
baz=160,SNR=7.9
U40A Yellville 71.53 342 P P 07 15 09.6 -0.7
baz=161,SNR=25
W35A Tecumseh 71.55 338 P P 07 15 09.7 -0.7
baz=158
MNTX Cornudas Mount 71.56 330 P P 07 15 09.6 -1.0
baz=151,SNR=26
MNTX Cornudas Mount 71.56 330 eP P 07 15 09.8 -0.8
comp=Z,21nm,1.0s
MNTX LR LR
comp=Z,5μm,20.0s
T43A Greenville 71.59 344 P P 07 15 09.9 -0.7
baz=164,SNR=13
V37A Hulbert 71.71 340 P P 07 15 11.1 -0.3
baz=160,SNR=7.2
U39A Green Forest 71.72 342 P P 07 15 11.0 -0.4
baz=161,SNR=22
T42A Van Buren 71.73 344 P P 07 15 10.7 -0.7
baz=163
HHAR Hobbs 71.75 341 eP P 07 15 11.8 +0.2
comp=Z,22nm,0.8s
HHAR LR LR
comp=Z,700nm,20.0s
WMOK Wichita Mounta 71.78 337 P P 07 15 11.7 -0.2
baz=156,SNR=9.1
WMOK Wichita Mounta 71.78 337 eP P 07 15 11.9 0.0
WMOK pmax pmax
comp=Z,28nm,1.3s
WMOK Wichita Mounta 71.78 337 eP P 07 15 11.9 0.0
comp=Z,28nm,1.4s
WMOK LR LR
comp=Z,900nm,21.0s
S45A Carrier Mills 71.80 346 P P 07 15 11.8 -0.1
baz=165
HSIG 71.84 324 PFAKE 07 15 20.0 +7.7
HSIG LR LR
comp=Z,2μm,19.0s
V36A Jenks 71.85 339 P P 07 15 11.5 -0.7
baz=159,SNR=9.0
USIN University of 71.89 347 eP P 07 15 12.1 -0.3
comp=Z,62nm,1.0s
WCI Wyandotte Cave 71.90 348 eP P 07 15 11.9 -0.6
WCI pmax pmax
comp=Z,22nm,0.8s
WCI Wyandotte Cave 71.90 348 eP P 07 15 11.9 -0.6
comp=Z,22nm,0.8s
WCI LR LR
comp=Z,2μm,22.0s
T41A Mountain View 71.91 343 P P 07 15 12.3 -0.3
baz=162,SNR=12
TUL1 Leonard 71.92 340 P P 07 15 12.1 -0.6
baz=159,SNR=8.1
TUL1 Leonard 71.92 340 eP P 07 15 12.8 +0.1
comp=Z,26nm,0.8s
TUL1 LR LR
comp=Z,1μm,22.0s
SDMD Soldier's Deli 71.93 356 eP P 07 15 13.2 +0.6
comp=Z,23nm,1.1s
SDMD LR LR
comp=Z,800nm,20.0s
S44A Carbondale 71.95 345 P P 07 15 12.5 -0.3
baz=165,SNR=12
S43A Fulton Ridge, 72.02 345 P P 07 15 12.3 -0.8
baz=164,SNR=25
U38A Gravette 72.02 341 P P 07 15 12.8 -0.4
baz=160
V35A Meyer Ranch, C 72.10 339 P P 07 15 13.3 -0.5
baz=158
U37A Salina 72.19 340 P P 07 15 13.8 -0.4
baz=160,SNR=7.9
T40A Mansfield 72.19 343 P P 07 15 14.0 -0.3
baz=162,SNR=6.5
T39A Clever 72.29 342 P P 07 15 14.5 -0.4
baz=161,SNR=14
U36A Oologah 72.35 340 P P 07 15 14.7 -0.5
baz=159
S42A Caledonia 72.37 344 P P 07 15 14.4 -0.9
baz=163,SNR=12
PSUB Penn St. - Bra 72.38 357 eP P 07 15 16.3 +1.1
comp=Z,54nm,1.4s
PSUB LR LR
comp=Z,1μm,20.0s
S41A Jillco Farms, 72.42 343 P P 07 15 15.1 -0.5
baz=162,SNR=21
MCWV Mont Chateau 72.42 353 eP P 07 15 15.6 0.0
comp=Z,24nm,1.3s
MCWV LR LR
comp=Z,700nm,21.0s
R44A Waltonville 72.45 346 P P 07 15 15.4 -0.3
baz=165
MVL Millersville 72.49 356 eP P 07 15 17.2 +1.2
comp=Z,77nm,1.6s
MSTX Muleshoe 72.51 333 P P 07 15 16.4 0.0
baz=153,SNR=17
MSTX Muleshoe 72.51 333 eP P 07 15 16.3 -0.1
comp=Z,53nm,0.9s
MSTX LR LR
comp=Z,2μm,20.0s
T38A Diamond 72.55 341 P P 07 15 16.2 -0.2
baz=160,SNR=17
S40A Lebanon 72.61 343 P P 07 15 16.6 -0.1
baz=162,SNR=18
U35A Pawnee 72.63 339 P P 07 15 16.8 -0.1
baz=158,SNR=13

R43A Red Bud 72.66 345 P P 07 15 16.3 -0.7
baz=164,SNR=7.0
OLIL Olney 72.72 347 eP P 07 15 16.8 -0.5
comp=Z,40nm,1.1s
T37A Cheneyville 18 72.80 341 P P 07 15 17.2 -0.7
baz=160,SNR=7.2
BLO Bloomington 72.85 348 eP P 07 15 17.7 -0.4
BLO pmax pmax
comp=Z,29nm,0.8s
BLO Bloomington 72.85 348 eP P 07 15 17.7 -0.4
comp=Z,29nm,0.8s
BLO LR LR
comp=Z,2μm,20.0s
R42A Luebbering 72.86 344 P P 07 15 17.8 -0.3
baz=163,SNR=8.0
S39A Bolivar 72.91 342 P P 07 15 18.0 -0.5
baz=161,SNR=19
O56A Blue Knob Stat 72.91 354 P P 07 15 18.3 -0.2
baz=174,SNR=6.3
AMTX Amarillo 72.92 335 P P 07 15 18.8 +0.1
baz=154
AMTX Amarillo 72.92 335 eP P 07 15 19.4 +0.6
comp=Z,40nm,1.1s
AMTX LR LR
comp=Z,1μm,20.0s
319A Douglas 73.00 327 eP P 07 15 20.3 +1.0
comp=Z,58nm,1.3s
319A LR LR
comp=Z,2μm,21.0s
S38A Stockton 73.00 342 P P 07 15 18.4 -0.6
baz=161,SNR=33
R41A Rosebud 73.01 344 P P 07 15 18.7 -0.3
baz=163,SNR=17
T36A Boggs Farm, Ca 73.02 340 P P 07 15 19.0 -0.2
baz=159,SNR=7.8
Q44A Meyer Farm, Va 73.07 346 P P 07 15 18.5 -0.9
baz=165
T35A Sooner Cattle 73.07 339 P P 07 15 19.3 -0.2
baz=158,SNR=9.0
SLM Saint Louis 73.07 345 eP P 07 15 19.6 +0.2
SLM pmax pmax
comp=Z,34nm,0.7s
SLM Saint Louis 73.07 345 eP P 07 15 19.6 +0.2
comp=Z,34nm,0.7s
BRNJ Basking Ridge 73.09 358 eP P 07 15 20.3 +0.8
comp=Z,151nm,1.8s
BRNJ LR LR
comp=Z,2μm,20.0s
R40A Maddies Statio 73.21 343 P P 07 15 19.7 -0.6
baz=162,SNR=35
SSPA Standing Stone 73.22 355 eP P 07 15 20.9 +0.7
comp=Z,33nm,1.0s
SSPA LR LR
comp=Z,1μm,19.0s
Q43A New Douglas 73.25 345 P P 07 15 19.8 -0.7
baz=164,SNR=11
121A Cookes Peak, D 73.31 329 P P 07 15 22.0 +0.8
baz=149,SNR=20
121A Cookes Peak, D 73.31 329 eP P 07 15 18.5 -2.7
comp=Z,41nm,0.9s
ACSO Alum Creek Sta 73.35 351 eP P 07 15 21.0 0.0
comp=Z,54nm,0.6s
ACSO LR LR
comp=Z,1μm,19.0s
U32A Winter Ranch, 73.35 337 P P 07 15 21.1 0.0
baz=156,SNR=9.1
T34A McClaskey Farm 73.37 339 P P 07 15 21.4 +0.2
baz=158,SNR=9.0
S37A Fort Scott 73.38 341 P P 07 15 20.7 -0.5
baz=160,SNR=7.0
N59A State Game Lan 73.38 357 P P 07 15 21.9 +0.7
baz=176,SNR=12
PAL Palisades 73.40 358 PFAKE 07 15 30.0 +8.8
PAL LR LR
comp=Z,2μm,20.0s
Q42A Golden Eagle 73.40 345 P P 07 15 20.9 -0.4
baz=164,SNR=21
R39A Chumby, Stover 73.42 343 P P 07 15 21.0 -0.5
baz=162,SNR=18
ODNJ Ogdensburg 73.50 358 eP P 07 15 22.6 +0.8
comp=Z,28nm,1.1s
ODNJ LR LR
comp=Z,1μm,21.0s
R38A Fenwick Farm, 73.53 342 P P 07 15 21.3 -0.9
baz=161,SNR=8.0
P44A Sand Creek, Wi 73.53 346 P P 07 15 21.2 -0.9
baz=165
S36A Lake Cedric, C 73.55 340 P P 07 15 22.0 -0.3
baz=159,SNR=14
Q41A Truxton 73.60 344 P P 07 15 22.3 -0.2
baz=163,SNR=22
YLE Yale 73.69 359 eP P 07 15 23.8 +0.9
comp=Z,63nm,1.0s
YLE LR LR
comp=Z,2μm,22.0s
S35A Otter Creek Ra 73.72 340 P P 07 15 22.9 -0.4
baz=159,SNR=10
N54A Moraine State 73.72 353 P P 07 15 22.7 -0.5
baz=173,SNR=9.0
Q40A Laux Farm, Aux 73.83 344 P P 07 15 23.7 -0.2
baz=162,SNR=14
P43A Skaggs, Pawnee 73.88 346 P P 07 15 23.2 -0.9
baz=165,SNR=10
R37A Teagarden Farm 73.89 341 P P 07 15 23.4 -0.9
baz=160,SNR=8.7
S34A Willow Spring 73.97 339 P P 07 15 24.2 -0.6
baz=158
P42A Winchester 74.00 345 P P 07 15 24.2 -0.7
baz=164,SNR=11
KSPA Keystone Colle 74.02 357 PFAKE 07 15 30.0 +5.1
KSPA LR LR
comp=Z,1μm,19.0s
R36A Gordon, Harris 74.09 341 P P 07 15 25.0 -0.4
baz=159
Q39A Willow Grove F 74.10 343 P P 07 15 24.6 -0.8
baz=162
SFIN Lafayette 74.13 348 P P 07 15 24.8 -0.8
baz=167
SFIN Lafayette 74.13 348 eP P 07 15 24.8 -0.8
comp=Z,104nm,2.0s
SFIN LR LR
comp=Z,2μm,21.0s
Q38A Cooks Store, C 74.18 342 P P 07 15 25.5 -0.5
baz=161,SNR=15
BNM Barren Site 74.20 330 eP P 07 15 27.5 +1.0
M54A Oil Creek Stat 74.24 354 P P 07 15 26.1 -0.1
baz=173
P41A Barry, Barry 74.25 345 P P 07 15 25.2 -1.1
baz=163,SNR=6.1
Y22D IRIS PASSCAL I 74.26 330 P P 07 15 27.7 +1.0
baz=150
Y22D IRIS PASSCAL I 74.26 330 PFAKE 07 15 40.0 +13
Y22D LR LR
comp=Z,4μm,19.0s
BRYW Bryant College 74.28 0 eP P 07 15 27.7 +1.3
comp=Z,103nm,1.3s
BRYW LR LR
comp=Z,3μm,22.0s
R35A Emporia Munici 74.28 340 P P 07 15 26.4 -0.2
baz=159,SNR=7.2
MAW Mawson 74.31 164 P P 07 15 26.9 +0.5
comp=Z,23nm,0.7s,baz=210,slow=7.2,SNR=42
MAW LR LR 07 50 34.0
comp=Z,7μm,18.9s,baz=227,slow=38
MAW Mawson 74.31 164 eP P 07 15 27.1 +0.6
comp=Z,17nm,1.3s
Q37A Longview Farm, 74.32 342 P P 07 15 26.1 -0.6
baz=160
P40A Paris 74.34 344 P P 07 15 26.4 -0.5
baz=162,SNR=31
LPM Los Pinos Moun 74.34 330 eP P 07 15 28.3 +1.0
ALLY Alegheny Colle 74.42 353 PFAKE 07 15 40.0 +13
ALLY LR LR
comp=Z,2μm,22.0s
O43A Sugar Creek Fa 74.46 346 P P 07 15 26.9 -0.7
baz=165,SNR=9.5
P39B Salisbury 74.47 343 P P 07 15 26.9 -0.7
baz=162,SNR=6.3
DBIC Dimbokro 74.48 71 P P 07 15 28.6 +0.3
comp=Z,30nm,0.8s,baz=212,slow=5.7,SNR=22
DBIC LR LR 07 48 34.3
comp=Z,3μm,18.0s,baz=214,slow=36
DBIC Dimbokro 74.48 71 eP P 07 15 28.7 +0.5
comp=Z,57nm,1.0s
TUC Tucson 74.48 326 P P 07 15 27.9 0.0
baz=147
TUC Tucson 74.48 326 eP P 07 15 29.1 +1.1
TUC pmax pmax
comp=Z,27nm,1.3s
TUC Tucson 74.48 326 eP P 07 15 29.1 +1.1
comp=Z,27nm,1.4s
TUC LR LR
comp=Z,2μm,21.0s
O42A Bath 74.53 345 P P 07 15 27.1 -0.8
baz=164,SNR=6.1
R34A Isabella, Hill 74.57 339 P P 07 15 28.2 -0.1
baz=158,SNR=5.5
O41A Passleys Farm, 74.63 345 P P 07 15 27.9 -0.6
baz=163,SNR=19
LAZ Ladron 74.63 330 eP P 07 15 30.2 +1.2
QUA2 Belchertown 74.64 359 eP P 07 15 28.8 +0.3
comp=Z,40nm,1.0s
QUA2 LR LR
comp=Z,2μm,22.0s
BINY Binghamton 74.67 357 eP P 07 15 28.6 0.0
comp=Z,24nm,1.0s
BINY LR LR
comp=Z,2μm,21.0s
Q36A Arnold C. Orve 74.67 341 P P 07 15 27.8 -1.0
baz=160
BCX Boston College 74.70 0 PFAKE 07 15 40.0 +11
BCX LR LR
comp=Z,2μm,22.0s
HDIL Hopedale 74.72 346 P P 07 15 28.2 -0.8
baz=165,SNR=21
HDIL Hopedale 74.72 346 eP P 07 15 28.9 -0.1
comp=Z,47nm,0.4s
HDIL LR LR
comp=Z,1μm,20.0s
Q35A Mercer Eighty, 74.74 340 P P 07 15 28.5 -0.7
baz=159
WES Weston 74.75 0 PFAKE 07 15 40.0 +11
WES LR LR
comp=Z,3μm,22.0s
P38A Dawn 74.79 343 P P 07 15 29.0 -0.5
baz=161,SNR=17
ANMO Albuquerque 74.82 331 P P 07 15 30.9 +0.9
comp=Z,9.4nm,1.1s,baz=158,slow=7.5,SNR=16
ANMO Albuquerque 74.82 331 eP P 07 15 30.7 +0.7
baz=150
ANMO Albuquerque 74.82 331 eP P 07 15 30.7 +0.7
ANMO pmax pmax
comp=Z,16nm,1.2s
ANMO Albuquerque 74.82 331 eP P 07 15 30.9 +0.9
comp=Z,25nm,1.1s
ANMO LR LR
comp=Z,4μm,20.0s
O40A La Belle 74.86 344 P P 07 15 29.0 -0.8
baz=163,SNR=17
HRV Adam Dziewonsk 74.87 0 eP P 07 15 29.6 -0.2
HRV pmax pmax
comp=Z,31nm,0.9s
HRV Adam Dziewonsk 74.87 0 eP P 07 15 29.6 -0.2
comp=Z,31nm,0.9s
HRV LR LR
comp=Z,2μm,22.0s
ERPA Erie 74.87 354 PFAKE 07 15 40.0 +10
ERPA LR LR
comp=Z,1μm,19.0s
P37A Lathrop 74.96 342 P P 07 15 29.6 -0.9
baz=160
Q34A Chapman 75.05 340 P P 07 15 30.8 -0.2
baz=158
TRY Troy 75.11 358 eP P 07 15 32.4 +1.2
comp=Z,69nm,0.9s
TRY LR LR
comp=Z,3μm,22.0s
KSU1 Kansas State U 75.12 340 P P 07 15 31.0 -0.4
baz=159
KSU1 Kansas State U 75.12 340 eP P 07 15 31.6 +0.2
comp=Z,16nm,0.7s
N42A Yates City 75.13 346 P P 07 15 30.7 -0.7
baz=164,SNR=6.1
O39A Kirksville 75.14 344 P P 07 15 30.8 -0.7
baz=162,SNR=10
214A Organ Pipe Nat 75.16 325 P P 07 15 32.0 +0.2
baz=145
214A Organ Pipe Nat 75.16 325 eP P 07 15 30.9 -0.9
comp=Z,159nm,1.3s
SUR Sutherland 75.17 119 eP P 07 15 34.3 +1.9
comp=Z,37nm,0.8s
SUR LR LR
comp=Z,4μm,20.0s
N41A Harden Midland 75.19 345 P P 07 15 30.8 -0.9
baz=164,SNR=14
P36A Good Intent, A 75.22 341 P P 07 15 31.2 -0.8
baz=160
O38A Galt 75.24 343 P P 07 15 31.5 -0.6
baz=161
MMNY Mt. Morris Dam 75.31 355 eP P 07 15 32.6 +0.2
P35A Duane Minner, 75.36 341 P P 07 15 31.8 -0.9
baz=159,SNR=5.9
O37A Wolven Farm, M 75.45 342 P P 07 15 32.5 -0.7
baz=161,SNR=11
AAM Ann Arbor 75.47 351 PFAKE 07 15 40.0 +6.7
AAM LR LR
comp=Z,2μm,22.0s
N40A Mertquake, Sal 75.52 345 P P 07 15 33.1 -0.6
baz=163
BUF Buffalo 75.57 355 eP P 07 15 33.9 0.0
P34A Walnut Farm, R 75.60 340 P P 07 15 33.7 -0.4
baz=158,SNR=6.2
O36A Bolckow 75.64 342 P P 07 15 33.3 -1.0
baz=160,SNR=5.4
M42A Sheffield 75.68 346 P P 07 15 33.8 -0.7
baz=164
N39A Derby Farms, D 75.72 344 P P 07 15 34.0 -0.8
baz=162,SNR=16
M41A Milan 75.76 345 P P 07 15 34.2 -0.8
baz=164,SNR=7.6
ACCN Adirondack Com 75.77 358 eP P 07 15 35.5 +0.5
comp=Z,32nm,1.1s
CBKS Cedar Bluff 75.81 338 P P 07 15 35.5 +0.1
baz=156,SNR=6.4
CBKS Cedar Bluff 75.81 338 eP P 07 15 36.0 +0.6
CBKS pmax pmax
comp=Z,36nm,0.9s
CBKS Cedar Bluff 75.81 338 eP P 07 15 36.0 +0.6
comp=Z,36nm,0.8s
CBKS LR LR
comp=Z,700nm,21.0s
N38A Joes South For 75.82 343 P P 07 15 34.6 -0.7
baz=162,SNR=5.7
FFD Franklin Falls 75.83 0 eP P 07 15 36.8 +1.5
comp=Z,49nm,0.8s
FFD LR LR
comp=Z,3μm,22.0s
T25A Trinidad 75.93 334 P P 07 15 37.3 +0.9
baz=152,SNR=38
T25A Trinidad 75.93 334 eP P 07 15 37.4 +0.9
comp=Z,62nm,1.1s
T25A LR LR
comp=Z,2μm,20.0s
X18A Snowflake 75.96 328 eP P 07 15 38.2 +1.6
comp=Z,28nm,1.3s
X18A LR LR
comp=Z,3μm,22.0s
M40A Post Highland 76.00 345 P P 07 15 35.1 -1.3
baz=163,SNR=6.1
O35A Humboldt 76.02 341 P P 07 15 35.3 -1.1
baz=159
N37A Lee Faris, Mou 76.03 343 P P 07 15 36.1 -0.5
baz=161,SNR=12
HNH Hanover 76.07 360 eP P 07 15 38.2 +1.6
comp=Z,68nm,1.3s
HNH LR LR
comp=Z,2μm,21.0s
O34A Beatrice 76.15 340 P P 07 15 36.9 -0.4
baz=159,SNR=15
M39A Webster 76.22 344 P P 07 15 37.0 -0.6
baz=162
113A Mohawk Valley, 76.29 324 PFAKE 07 15 50.0 +12
113A LR LR
comp=Z,2μm,18.0s
O33A Hebron 76.31 340 P P 07 15 38.2 +0.1
baz=158
W18A Petrified Fore 76.36 329 P P 07 15 39.6 +0.8
baz=148,SNR=6.1
W18A Petrified Fore 76.36 329 eP P 07 15 40.0 +1.3
comp=Z,88nm,1.3s
W18A LR LR
comp=Z,3μm,21.0s
NCB Newcomb 76.37 358 eP P 07 15 39.0 +0.6
comp=Z,0.3nm,1.1s
MDV Middlebury 76.37 359 eP P 07 15 38.9 +0.6
M38A Pleasantville 76.40 344 P P 07 15 37.8 -0.8

baz=162,SNR=22
L41A Preston 76.42 346 P P 07 15 38.0 -0.8
baz=164,SNR=16
N35A Tabor 76.50 342 P P 07 15 38.3 -0.9
baz=160,SNR=11
X16A Lo Mia Camp, P 76.54 327 eP P 07 15 41.2 +1.3
comp=Z,41nm,1.0s
X16A LR LR
comp=Z,2µm,19.0s
L40A Anamosa 76.57 345 P P 07 15 38.8 -0.8
baz=163,SNR=21
M37A Trindle Farm, 76.60 343 P P 07 15 39.7 -0.1
baz=161,SNR=24
LBNH Lisbon 76.60 360 eP P 07 15 41.0 +1.3
LBNH pmax pmax
comp=Z,27nm,1.0s
LBNH Lisbon 76.60 360 eP P 07 15 41.0 +1.3
comp=Z,27nm,1.0s
LBNH LR LR
comp=Z,2µm,22.0s
N34A Lincoln 76.71 341 P P 07 15 39.8 -0.6
baz=159,SNR=6.1
L39A Vinton 76.80 345 P P 07 15 39.8 -1.1
baz=163,SNR=6.1
M36A Felix, Anita 76.83 342 P P 07 15 40.5 -0.6
baz=160,SNR=14
SCIA State Center 76.87 344 eP P 07 15 41.6 +0.3
comp=Z,113nm,1.6s
SCIA LR LR
comp=Z,900nm,21.0s
Y14A Wickenburg 76.87 326 eP P 07 15 42.5 +1.0
comp=Z,131nm,1.3s
Y14A LR LR
comp=Z,5µm,19.0s
SDCO Great Sand Dun 76.88 333 P P 07 15 42.4 +0.6
baz=151,SNR=29
SDCO Great Sand Dun 76.88 333 eP P 07 15 42.5 +0.7
comp=Z,28nm,1.2s
SDCO LR LR
comp=Z,2µm,19.0s
N33A J Bar K, Exete 76.88 340 P P 07 15 41.0 -0.4
baz=158,SNR=5.7
K41A Shullsburg 76.89 346 P P 07 15 40.7 -0.7
baz=164,SNR=14
WVL Waterville 76.95 1 eP P 07 15 42.7 +1.1
comp=Z,114nm,1.5s
WVL LR LR
comp=Z,2µm,22.0s
KSCO Kaye Shedlock' 76.95 336 P P 07 15 41.8 -0.2
baz=154
KSCO Kaye Shedlock' 76.95 336 eP P 07 15 43.1 +1.2
comp=Z,67nm,1.4s
LONY Lake Ozonia 77.03 358 eP P 07 15 42.3 +0.2
comp=Z,27nm,1.0s
LONY LR LR
comp=Z,1µm,21.0s
L38A Oak Wood Farm, 77.03 344 P P 07 15 41.6 -0.6
baz=162,SNR=7.5
GLA Glamis 77.04 324 P P 07 15 42.3 -0.2
baz=144
GLA Glamis 77.04 324 eP P 07 15 43.8 +1.3
GLA pmax pmax
comp=Z,42nm,1.3s
GLA MLR MLR
comp=Z,3µm,18.0s
GLA Glamis 77.04 324 eP P 07 15 43.8 +1.3
comp=Z,42nm,1.3s
GLA LR LR
comp=Z,3µm,18.0s
M35A Neola 77.08 342 P P 07 15 41.3 -1.1
baz=160
K40A Colesburg 77.16 345 P P 07 15 41.7 -1.2
baz=163,SNR=16
JFWS Jewell Farm 77.18 346 eP P 07 15 43.2 +0.2
JFWS pmax pmax
comp=Z,180nm,1.7s
JFWS Jewell Farm 77.18 346 eP P 07 15 43.2 +0.2
comp=Z,176nm,1.8s
JFWS LR LR
comp=Z,2µm,22.0s
L37A Phoenix Point, 77.20 343 P P 07 15 42.4 -0.7
baz=161,SNR=6.1
FRNY Flat Rock 77.21 359 eP P 07 15 43.5 +0.4
comp=Z,47nm,1.4s
FRNY LR LR
comp=Z,2µm,22.0s
RAR Rarotonga 77.32 253 LR LR 07 41 32.2
comp=Z,2µm,19.6s,baz=124,slow=29
K39A Oelwein 77.33 345 P P 07 15 42.8 -1.1
baz=163,SNR=5.7
IKP In-Ko-Pah, Jac 77.36 323 P P 07 15 44.3 -0.1
baz=143
S22A 4UR Ranch, Cre 77.39 332 P P 07 15 45.1 +0.4
baz=150
S22A 4UR Ranch, Cre 77.39 332 eP P 07 15 45.6 +0.9
comp=Z,57nm,1.7s
S22A LR LR
comp=Z,2µm,22.0s
L36A Harm Buss Farm 77.41 343 P P 07 15 43.7 -0.6
baz=160,SNR=13
WUAZ Wupatki 77.42 328 P P 07 15 45.3 +0.5
baz=147,SNR=19
WUAZ Wupatki 77.42 328 eP P 07 15 45.6 +0.9
comp=Z,40nm,1.1s
WUAZ LR LR
comp=Z,2µm,19.0s
SADO Sadowa 77.43 355 P P 07 15 43.9 -0.4
comp=Z,18nm,0.7s,baz=201,slow=6.0,SNR=16
SADO Sadowa 77.43 355 eP P 07 15 44.1 -0.2
comp=Z,29nm,0.9s
SADO LR LR
comp=Z,2µm,21.0s
SWSC Sam W. Stewart 77.44 323 P P 07 15 44.2 -0.5
baz=143
Y12C Blythe 77.45 325 P P 07 15 45.7 +0.9
baz=144,SNR=6.8
Y12C Blythe 77.45 325 eP P 07 15 46.4 +1.7
comp=Z,34nm,1.1s
Y12C LR LR
comp=Z,2µm,20.0s
K38A Parkersburg 77.47 344 P P 07 15 43.8 -0.8
baz=162,SNR=5.2
PLVO Plevna 77.56 356 eP P 07 15 45.8 +0.7
comp=Z,21nm,1.1s
PLVO LR LR
comp=Z,2µm,19.0s
J41A Loganville 77.57 346 P P 07 15 44.7 -0.4
baz=164,SNR=11
M33A Taylor Creek F 77.58 341 P P 07 15 44.8 -0.5
baz=158
GGN Saint George 77.60 3 eP P 07 15 46.7 +1.4
comp=Z,30nm,0.8s
GGN LR LR
comp=Z,2µm,22.0s
MVCO Mesa Verde 77.61 331 P P 07 15 46.5 +0.7
baz=149,SNR=15
MVCO Mesa Verde 77.61 331 eP P 07 15 46.7 +0.8
comp=Z,54nm,1.3s
MVCO LR LR
comp=Z,5µm,18.0s
L35A Bielow Farm, R 77.64 342 P P 07 15 45.2 -0.4
baz=160,SNR=14
PKME Peaks-Kenny Pk 77.65 2 eP P 07 15 46.9 +1.3
comp=Z,25nm,0.9s
PKME LR LR
comp=Z,2µm,21.0s
BAR Barrett 77.68 322 eP P 07 15 47.7 +1.6
comp=Z,35nm,1.3s
BAR LR LR
comp=Z,2µm,20.0s
BGNE Belgrade 77.70 340 P P 07 15 46.1 +0.1
baz=158
BGNE Belgrade 77.70 340 eP P 07 15 46.4 +0.4
comp=Z,140nm,1.4s
BGNE LR LR
comp=Z,800nm,21.0s
PDMCI Parker Dam,Lak 77.71 325 P P 07 15 47.4 +1.2
baz=145
MONP Monument Peak, 77.72 323 P P 07 15 47.3 +0.8
baz=143
L34A Svendsen Farm, 77.73 341 P P 07 15 45.6 -0.5
baz=159,SNR=10.0
J40A Soldiers Grove 77.74 346 P P 07 15 45.5 -0.7
baz=164,SNR=32
K37A Belmond 77.78 344 P P 07 15 45.4 -1.0
baz=161,SNR=6.5
Q24A Divide 77.81 334 P P 07 15 47.7 +0.7
baz=152,SNR=16
Q24A Divide 77.81 334 eP P 07 15 48.0 +0.9
comp=Z,30nm,0.9s
Q24A LR LR
comp=Z,2µm,18.0s
K36A Gilmore City 77.86 343 P P 07 15 46.2 -0.6
baz=161,SNR=12
J39A Decorah 77.89 345 P P 07 15 46.0 -0.9
baz=162,SNR=12
J38A Wedel Dairy, R 78.04 345 P P 07 15 47.6 -0.2
baz=162
109C Camp Elliot, M 78.06 322 P P 07 15 49.0 +0.8
baz=142
IRM Iron Mountain 78.08 324 P P 07 15 49.4 +1.1
baz=144,SNR=12
K35A Storm Lake 78.13 342 P P 07 15 48.1 -0.2
baz=160
L33A Hoskins 78.16 341 P P 07 15 47.9 -0.5
baz=158
I40A Norwalk 78.19 346 P P 07 15 47.8 -0.8
baz=164,SNR=8.7
I41A Arkdale 78.20 347 P P 07 15 48.0 -0.7
baz=165,SNR=6.4
L32A Elgin 78.21 340 P P 07 15 48.5 -0.3
baz=158
W13A Hualapai Mount 78.24 326 eP P 07 15 51.0 +1.6
comp=Z,58nm,1.7s
J37A Redenius Farm, 78.28 344 P P 07 15 48.6 -0.5
baz=161
TPFO Pinon Flats 78.30 323 P P 07 15 50.9 +1.3
baz=143,SNR=8.0
PFO Pinyon Flats O 78.30 323 P P 07 15 50.8 +1.1
comp=Z,8.2nm,1.0s,baz=113,slow=2.9,SNR=12
PFO Pinyon Flats O 78.30 323 P P 07 15 51.0 +1.3
baz=143,SNR=7.7
PFO Pinyon Flats O 78.30 323 eP P 07 15 50.9 +1.3
comp=Z,52nm,1.3s
PFO LR LR
comp=Z,3µm,20.0s
NEE2 Needles Airpor 78.32 325 P P 07 15 49.9 +0.3
baz=144
K34A Le Mars 78.32 342 P P 07 15 49.1 -0.3
baz=159,SNR=6.3
I39A Houston 78.34 345 P P 07 15 48.8 -0.7
baz=163,SNR=10.0
BELC Belle Mtn. Jos 78.38 324 P P 07 15 51.2 +1.1
baz=143,SNR=7.8
PV01 Paradox Valley 78.43 331 eP P 07 15 51.2 +0.9
LMN Caledonia Moun 78.46 5 eP P 07 15 50.3 +0.3
comp=Z,70nm,1.4s
LMN LR LR
comp=Z,2µm,21.0s
J36A Seneca 1, Swea 78.48 343 P P 07 15 49.8 -0.5
baz=161,SNR=12
OGNE Ogallala 78.48 337 P P 07 15 50.8 +0.4
baz=154
OGNE Ogallala 78.48 337 eP P 07 15 51.3 +0.9
comp=Z,42nm,1.4s
K33A Hardington 78.49 341 P P 07 15 50.2 -0.2
baz=159
U15A North Rim 78.59 328 eP P 07 15 52.5 +1.2
comp=Z,30nm,1.1s
U15A LR LR
comp=Z,2µm,20.0s
PV05 Paradox Valley 78.59 331 eP P 07 15 52.4 +1.1
TRQ Mont Tremblant 78.62 358 eP P 07 15 50.9 -0.1
MURC Murrieta 78.67 323 P P 07 15 52.6 +1.0
baz=142,SNR=6.3
SMCO Snowmass 78.69 333 eP P 07 15 52.9 +0.9
comp=Z,48nm,1.0s
SMCO LR LR
comp=Z,2µm,18.0s
I38A Scanlan Farm, 78.69 345 P P 07 15 50.8 -0.6
baz=162,SNR=13
H41A Junction City 78.70 347 P P 07 15 51.0 -0.4
baz=165
ISCO Idaho Springs 78.72 334 P P 07 15 52.7 +0.7
baz=152,SNR=11
ISCO Idaho Springs 78.72 334 eP P 07 15 53.2 +1.2
ISCO pmax pmax
comp=Z,17nm,1.0s
ISCO Idaho Springs 78.72 334 eP P 07 15 53.2 +1.2
comp=Z,17nm,0.9s
ISCO LR LR
comp=Z,2µm,20.0s
J35A Milford 78.73 343 P P 07 15 51.0 -0.6
baz=160
PV04 Paradox Valley 78.78 331 eP P 07 15 51.3 -0.9
LDFC Landfair 78.81 325 eP P 07 15 54.4 +2.0
comp=Z,64nm,1.5s
LDFC LR LR
comp=Z,2µm,19.0s
K32A Verdigre 78.81 341 P P 07 15 51.8 -0.3
baz=158
PV10 Paradox Valley 78.82 331 eP P 07 15 53.3 +0.8
GMRC Granite Mounta 78.84 324 P P 07 15 53.3 +0.7
baz=144
J34A George 78.85 342 P P 07 15 52.0 -0.3
baz=160,SNR=5.6
H40A Chili 78.85 346 P P 07 15 51.8 -0.4
baz=164
SCI San Clemente I 78.89 321 P P 07 15 52.1 -0.6
baz=141
I37A Lemond, Waseca 78.91 344 P P 07 15 52.1 -0.5
baz=162,SNR=6.6
PV09 Paradox Valley 78.97 331 eP P 07 15 54.7 +1.3
K31A O'Neill 79.00 340 P P 07 15 52.8 -0.3
baz=157,SNR=8.3
BBRC Big Bear Solar 79.05 323 P P 07 15 52.6 -1.3
baz=143
I36A Fitzsimmons Fa 79.06 344 P P 07 15 52.4 -1.0
baz=161,SNR=7.1
H39A Augusta 79.08 346 P P 07 15 53.6 +0.1
baz=163
PQI Presque Isle 79.10 3 eP P 07 15 54.3 +0.8
comp=Z,36nm,1.0s
PQI LR LR
comp=Z,2µm,22.0s
I35A Creekview Farm 79.14 343 P P 07 15 53.3 -0.5
baz=160,SNR=12
J33A Davis 79.14 341 P P 07 15 53.0 -0.9
baz=159,SNR=7.5
CIS Calina Islan 79.15 322 P P 07 15 54.8 +0.6
baz=142
G41A Antigo 79.19 347 P P 07 15 53.5 -0.6
baz=165
HEC Hector,Ludlow 79.21 324 P P 07 15 55.3 +0.8
baz=143
TSUM Tsumeb 79.26 106 P P 07 15 56.4 +1.1
comp=Z,31nm,0.9s,baz=243,slow=22,SNR=30
H38A Maiden Rock 79.29 345 P P 07 15 53.9 -0.7
baz=163
H37A Dierke Farm, C 79.34 345 P P 07 15 54.2 -0.7
baz=162
BFSC Mount Baldy Ra 79.41 323 P P 07 15 56.1 +0.4
baz=142,SNR=5.9
J32A Parkston 79.43 341 P P 07 15 55.0 -0.4
baz=158,SNR=8.1
G40A Rib Lake 79.43 347 P P 07 15 55.0 -0.4
baz=164
ECSD EROS Data Cent 79.44 342 P P 07 15 55.2 -0.3
baz=159,SNR=47
ECSD EROS Data Cent 79.44 342 eP P 07 15 55.5 0.0
comp=Z,30nm,0.8s
ECSD LR LR
comp=Z,900nm,19.0s
PKCU Pink Cliffs 79.44 328 eP P 07 15 57.6 +1.6
comp=Z,80nm,1.7s
TUQ Turquoise Moun 79.49 325 P P 07 15 57.2 +1.1
baz=143,SNR=21
LCMT Little Creek M 79.50 327 eP P 07 15 57.5 +1.3
comp=Z,33nm,1.3s
I34A Hadley 79.53 343 P P 07 15 55.9 0.0
baz=160
F42A Maple Grove Fa 79.53 348 P P 07 15 56.0 +0.1
baz=166
H36A Jessenland, He 79.56 344 P P 07 15 56.2 0.0
baz=161,SNR=11
MWC Mount Wilson 79.60 322 eP P 07 15 58.4 +1.6
MWC pmax pmax
comp=Z,68nm,1.5s
MWC Mount Wilson 79.60 322 eP P 07 15 58.4 +1.6
comp=Z,68nm,1.5s
MWC LR LR
comp=Z,2µm,20.0s
J31A Geddes 79.61 340 P P 07 15 56.1 -0.3
baz=157,SNR=8.6
SNCC San Nicolas Is 79.61 321 P P 07 15 57.3 +0.6
baz=141
PASC Pasadena Art C 79.63 322 eP P 07 15 58.5 +1.8
comp=Z,40nm,1.3s
PASC LR LR
comp=Z,2µm,22.0s
G39A Holcombe 79.64 346 P P 07 15 56.2 -0.3
baz=164
G38A Ridgeland 79.67 346 P P 07 15 56.5 -0.2
baz=163,SNR=5.7
F41A Three Lakes 79.68 348 P P 07 15 57.2 +0.4
baz=165
DECC Green Verdugo 79.77 322 P P 07 15 58.1 +0.5
baz=142
I33A Coleman 79.78 342 P P 07 15 57.4 +0.1
baz=159
N23A Red Feather La 79.80 334 P P 07 15 58.6 +0.7
baz=151,SNR=9.5
N23A Red Feather La 79.80 334 eP P 07 15 59.1 +1.2
comp=Z,76nm,1.7s
N23A LR LR
comp=Z,2µm,20.0s
GSC Goldstone, Bar 79.82 324 P P 07 15 58.7 +0.9
baz=143,SNR=8.8
GSC Goldstone, Bar 79.82 324 eP P 07 15 59.1 +1.3
GSC pmax pmax
comp=Z,20nm,1.1s
GSC Goldstone, Bar 79.82 324 eP P 07 15 59.1 +1.3
comp=Z,20nm,1.1s
H35A Sunnyside Ranc 79.89 343 P P 07 15 57.2 -0.7
baz=160,SNR=40
SZCU Shurtz Canyon 79.91 328 eP P 07 16 00.1 +1.7
comp=Z,28nm,1.1s
LMQ La Malbaie 79.92 1 PFAKE 07 16 10.0 +12
LMQ LR LR
comp=Z,1µm,22.0s
SPMN Marine on St. 79.93 345 P P 07 15 57.2 -0.8
baz=162,SNR=14
SPMN Marine on St. 79.93 345 eP P 07 15 57.7 -0.3
comp=Z,25nm,0.4s
SPMN LR LR
comp=Z,1µm,21.0s
I32A Karley and Nic 79.94 341 P P 07 15 57.8 -0.4
baz=158
PHWY Pilot Hill 79.98 335 eP P 07 15 59.4 +0.6
comp=Z,42nm,1.4s
PHWY LR LR
comp=Z,1µm,21.0s
SHPR Sheep Range 79.98 326 eP P 07 16 00.1 +1.3
comp=Z,50nm,1.5s
SHPR LR LR
comp=Z,2µm,20.0s
CCUT Cedar City 80.00 328 eP P 07 15 59.4 +0.5
comp=Z,53nm,1.4s
O20A White River Ci 80.01 332 P P 07 15 58.8 -0.1
baz=150,SNR=12
O20A White River Ci 80.01 332 eP P 07 15 59.5 +0.6
comp=Z,66nm,1.5s
O20A LR LR
comp=Z,3µm,21.0s
SHOC Shoshone, Teco 80.03 325 P P 07 15 57.4 -1.5
baz=143
BLG Laguna Peak, P 80.03 322 P P 07 15 59.0 0.0
baz=141
F40A Park Falls 80.04 347 P P 07 15 58.5 -0.2
baz=164,SNR=5.2
SRU San Rafael Swe 80.06 330 PFAKE 07 16 10.0 +11
SRU LR LR
comp=Z,3µm,19.0s
H34A Spellman Lake, 80.09 343 P P 07 15 58.5 -0.5
baz=160,SNR=14
G36A St. Michael 80.15 344 P P 07 15 58.7 -0.6
baz=161
F39A Loretta 80.19 346 P P 07 15 59.4 -0.1
baz=164,SNR=5.6
I31A Royce, Wessing 80.23 341 P P 07 15 59.7 -0.1
baz=157
BSC Santa Cruz Isl 80.25 321 P P 07 15 59.6 -0.5
baz=141
MSU Marysvale 80.27 329 eP P 07 16 01.4 +1.0
MSU Marysvale 80.27 329 eP P 07 16 01.4 +1.0
G35A Watkins 80.30 344 P P 07 15 59.6 -0.5
baz=161
H33A Prehn Over Nor 80.35 342 P P 07 16 00.0 -0.4
baz=159,SNR=13
E41A Kenton 80.36 348 P P 07 16 00.1 -0.3
baz=165
F37A Hinrichs Farm, 80.36 345 P P 07 15 59.7 -0.7
baz=162,SNR=11
H32A Carlson Farm, 80.37 342 P P 07 15 59.7 -0.8
baz=158,SNR=5.4
P18A Preston Nutter 80.38 331 PFAKE 07 16 10.0 +8.9
P18A LR LR
comp=Z,4µm,20.0s
BOSA Boshof 80.38 118 *i* P P 07 16 02.0 +0.7
BOSA Boshof 80.38 118 P P 07 16 01.7 +0.4
comp=Z,26nm,0.7s,baz=238,slow=4.4,SNR=56
BOSA LR LR 07 49 28.0
comp=Z,6µm,18.4s,baz=228,slow=34
BOSA Boshof 80.38 118 eP P 07 16 01.6 +0.2
comp=Z,45nm,1.0s
LRMC Laurel Mtn Rad 80.40 323 P P 07 16 01.3 +0.3
baz=142
F38A Pierce - Schro 80.43 346 P P 07 16 00.1 -0.7
baz=163,SNR=15
TCRU Three Creeks R 80.46 329 PFAKE 07 16 10.0 +8.5
TCRU LR LR
comp=Z,3µm,22.0s
TMUT Trail Mountain 80.50 330 eP P 07 16 03.0 +1.2
comp=Z,19nm,1.0s
TMUT LR LR
comp=Z,3µm,19.0s
E40A Wakefield 80.51 347 P P 07 16 01.1 -0.1
baz=165
E39A Mellen 80.57 347 P P 07 16 01.3 -0.2
baz=164
SGU Sterling 80.59 330 eP P 07 16 03.5 +1.3
G34A Benson 80.60 343 P P 07 16 00.8 -0.9
baz=160,SNR=6.0
H31A Wolsey 80.63 341 P P 07 16 01.2 -0.7
baz=158,SNR=9.5
SBC Santa Barbara 80.63 321 P P 07 16 01.3 -0.8
baz=141
VLDQ Val d'Or 80.64 356 eP P 07 16 02.4 +0.6
comp=Z,40nm,1.0s
VLDQ LR LR
comp=Z,2µm,18.0s
F36A Milaca 80.69 345 P P 07 16 01.2 -1.0
baz=162,SNR=16
ARVC Arvin 80.70 322 P P 07 16 01.6 -0.9
baz=141
SUSD Miller 80.73 341 P P 07 16 01.9 -0.6
baz=157
G33A Ortonville 80.75 343 P P 07 16 01.9 -0.6
baz=159
MPMC Manual Prospec 80.76 324 P P 07 16 03.9 +0.9
baz=142,SNR=6.1
FURC Furnace Creek, 80.77 325 P P 07 16 03.5 +0.7
baz=143
TPNV Topopah Spring 80.86 325 P P 07 16 04.7 +1.2
baz=143,SNR=19
TPNV Topopah Spring 80.86 325 eP P 07 16 04.9 +1.4
TPNV pmax pmax
comp=Z,35nm,1.1s
TPNV Topopah Spring 80.86 325 eP P 07 16 04.8 +1.4
comp=Z,35nm,1.1s
TPNV LR LR
comp=Z,3µm,18.0s
D41A Chassel 80.87 348 P P 07 16 03.0 0.0
baz=166
F35A Swanville 80.92 344 P P 07 16 02.9 -0.5
baz=161
ISA Isabella, Lake 80.94 323 P P 07 16 04.5 +0.6
baz=142
ISA Isabella, Lake 80.94 323 eP P 07 16 05.7 +1.9
ISA pmax pmax
comp=Z,25nm,1.1s
ISA Isabella, Lake 80.94 323 eP P 07 16 05.7 +1.9
comp=Z,25nm,1.1s
ISA LR LR
comp=Z,2µm,20.0s
RWWY Rawlins 80.96 334 PFAKE 07 16 10.0 +6.0
RWWY LR LR
comp=Z,33µm,22.0s
DAC Darwin (Calif) 80.98 324 PFAKE 07 16 10.0 +5.8
DAC LR LR
comp=Z,2µm,21.0s
E38A The Farm, Brul 80.98 346 P P 07 16 03.3 -0.4
baz=163
PSUT Pine Spring 81.03 328 PFAKE 07 16 10.0 +5.6

PSUT LR LR
comp=Z,2µm,18.0s
F34A Alexandria 81.03 344 P P 07 16 03.9 -0.1
baz=160
G32A Webster 81.08 342 P P 07 16 03.2 -1.2
baz=158
E37A Wrenshall 81.12 346 P P 07 16 04.1 -0.3
baz=163
G31A Conde 81.25 341 P P 07 16 04.1 -1.0
baz=158
E36A McGregor 81.25 345 P P 07 16 04.6 -0.6
baz=162,SNR=19
MPU Maple Canyon 81.28 330 eP P 07 16 06.8 +1.0
comp=Z,24nm,1.2s
MPU LR LR
comp=Z,4µm,20.0s
CWC Cottonwood Cre 81.35 324 P P 07 16 04.8 -1.3
baz=142
VES Vestal, Richgr 81.39 323 P P 07 16 06.3 +0.2
baz=141
NLU North Lily Min 81.42 330 eP P 07 16 07.7 +1.2
comp=Z,26nm,1.3s
NLU LR LR
comp=Z,4µm,20.0s
GRAC Grapevine Rang 81.44 325 P P 07 16 07.8 +1.3
baz=143,SNR=6.6
SMMC Simmler 81.45 322 P P 07 16 06.9 +0.4
baz=141
K22A Casper 81.54 335 P P 07 16 07.4 +0.3
baz=151,SNR=11
K22A Casper 81.54 335 eP P 07 16 07.7 +0.7
comp=Z,47nm,1.3s
K22A LR LR
comp=Z,1µm,21.0s
E35A Pequot Lakes 81.55 344 P P 07 16 06.1 -0.6
baz=161
F32A Veblen 81.56 342 P P 07 16 06.4 -0.4
baz=159
R11A Troy Canyon, C 81.67 327 P P 07 16 09.0 +1.2
baz=144,SNR=29
R11A Troy Canyon, C 81.67 327 eP P 07 16 08.8 +1.0
comp=Z,44nm,1.5s
R11A LR LR
comp=Z,2µm,18.0s
E34A Wadena 81.68 344 P P 07 16 06.9 -0.5
baz=160
D37A Cotton 81.69 346 P P 07 16 06.6 -0.8
baz=163,SNR=5.8
JLU Jordanelle 81.70 331 eP P 07 16 08.9 +0.9
comp=Z,18nm,1.2s
JLU LR LR
comp=Z,3µm,19.0s
F31A Hecla 81.84 342 P P 07 16 08.0 -0.3
baz=158,SNR=6.4
D36A Goodland 81.86 345 P P 07 16 07.9 -0.5
baz=162
E33A Westby DABS, E 81.87 343 P P 07 16 07.9 -0.5
baz=160
C39A Grand Marais 81.87 348 P P 07 16 07.7 -0.7
baz=164
PAGB Antelope Grade 81.90 322 eP P 07 16 11.1 +2.2
comp=Z,41nm,1.2s
PAGB LR LR
comp=Z,2µm,19.0s
TIN Tinemaha, Big 81.91 324 P P 07 16 08.8 -0.1
baz=142
DUG Dugway, Tooele 81.94 329 P P 07 16 09.5 +0.4
baz=146,SNR=14
DUG Dugway, Tooele 81.94 329 eP P 07 16 09.7 +0.6
DUG pmax pmax
comp=Z,28nm,1.1s
DUG Dugway, Tooele 81.94 329 eP P 07 16 09.7 +0.6
comp=Z,28nm,1.1s
DUG LR LR
comp=Z,3µm,22.0s
D35A Remer 81.96 345 P P 07 16 08.4 -0.5
baz=161,SNR=15
RSSD Black Hills 81.98 337 P P 07 16 08.5 -0.9
baz=153
RSSD Black Hills 81.98 337 eP P 07 16 10.1 +0.7
RSSD pmax pmax
comp=Z,21nm,1.0s
RSSD Black Hills 81.98 337 eP P 07 16 10.1 +0.7
comp=Z,21nm,0.9s
RSSD LR LR
comp=Z,1µm,20.0s
C38A Sawbill Land. 81.99 347 P P 07 16 08.1 -1.0
baz=164
C37A Embarrass 82.18 346 P P 07 16 09.6 -0.5
baz=163
E32A Braaten, Kindr 82.22 343 P P 07 16 09.7 -0.5
baz=159
D34A Park Rapids 82.22 344 P P 07 16 09.8 -0.5
baz=160
EYMN Ely 82.25 347 P P 07 16 09.8 -0.6
baz=163
EYMN Ely 82.25 347 eP P 07 16 10.4 0.0
comp=Z,70nm,1.5s
C36A Pine Crest Far 82.34 346 P P 07 16 10.4 -0.5
baz=162
E31A Nome 82.39 342 P P 07 16 11.0 -0.2
baz=158,SNR=8.4
D33A AnnSam, Waubun 82.43 344 P P 07 16 10.6 -0.8
baz=160
C35A Jirik Farms, M 82.53 345 P P 07 16 11.1 -0.7
baz=161,SNR=9.2
PMPB Monarch Peak 82.56 322 PFAKE 07 16 20.0 +7.6
PMPB LR LR
comp=Z,2µm,20.0s
DRLN Deer Lake 82.59 9 eP P 07 16 12.9 +0.8
comp=Z,42nm,1.0s
DRLN LR LR
comp=Z,2µm,20.0s
HWUT Hardware Ranch 82.59 331 eP P 07 16 12.5 0.0
comp=Z,82nm,1.6s
HWUT LR LR
comp=Z,5µm,20.0s
BGU Big Grassy Mou 82.63 330 eP P 07 16 13.4 +0.6
comp=Z,30nm,1.3s
MLAC Mammoth, Mammo 82.66 324 P P 07 16 13.4 +0.3
baz=142,SNR=6.2
C34A RKJ Ranch, Bem 82.69 344 P P 07 16 12.4 -0.3
baz=161
SPUT South Promonto 82.70 330 eP P 07 16 13.8 +0.6
comp=Z,34nm,1.1s
SPUT LR LR
comp=Z,2µm,20.0s
D32A Dogwood Acres, 82.71 343 P P 07 16 12.4 -0.4
baz=159
PD31 Pinedale Array 82.77 333 eP P 07 16 13.7 +0.1
PDAR Pinedale Array 82.77 333 P P 07 16 14.1 +0.6
comp=Z,1.3nm,0.5s,baz=136,slow=5.8,SNR=19
PDAR PKKP **PKKPbc 07 34 36.6 -2.3**
comp=Z,0.7nm,0.6s,baz=211,slow=0.4,SNR=9.2
PDAR LR LR 07 49 32.6
comp=Z,3µm,19.9s,baz=153,slow=33
BW06 Boulder Array 82.77 333 P P 07 16 13.2 -0.3
baz=149,SNR=12
BW06 Boulder Array 82.77 333 eP P 07 16 13.2 -0.3
BW06 eP P 07 16 13.6 +0.1
BW06 LR LR
comp=Z,4µm,21.0s
D31A Mcclaflin, Tow 82.81 342 P P 07 16 13.4 +0.1
baz=158
C33A Trail 82.99 344 P P 07 16 13.2 -1.0
baz=160
B35A Bob, Littlefor 83.10 345 P P 07 16 14.1 -0.7
baz=162,SNR=7.9
TVH2 Borealis Mine 83.20 325 eP P 07 16 16.9 +1.0
comp=Z,13nm,1.1s
TVH2 LR LR
comp=Z,1µm,20.0s
TVH3 East Aurora ar 83.22 325 eP P 07 16 17.4 +1.4
comp=Z,17nm,1.2s
TVH3 LR LR
comp=Z,2µm,20.0s
HVU Hansel Valley 83.23 330 eP P 07 16 15.9 +0.1
HVU pmax pmax
comp=Z,16nm,0.9s
HVU MLR MLR
comp=Z,2µm,20.0s
HVU Hansel Valley 83.23 330 eP P 07 16 15.9 +0.1
comp=Z,16nm,0.9s
HVU LR LR
comp=Z,2µm,20.0s
C32A Crookston 83.23 343 P P 07 16 15.1 -0.4
baz=159
TVH1 TV Hill, Hawth 83.27 325 eP P 07 16 17.8 +1.4
comp=Z,24nm,1.2s
TVH1 LR LR
comp=Z,2µm,20.0s
SAO San Andreas Ge 83.31 322 PFAKE 07 16 20.0 +3.8
SAO LR LR
comp=Z,2µm,20.0s
B34A Aery, Baudette 83.42 345 P P 07 16 16.3 -0.1
baz=161
B33A Robert and Kas 83.43 344 P P 07 16 15.9 -0.6
baz=160
TOC5 Torodi Ar. Sit 83.45 70 PFAKE 07 16 30.0 +13
TOC5 LR LR
comp=Z,6µm,22.0s
TOB4 Torodi Ar. Sit 83.47 70 PFAKE 07 16 30.0 +13
TOB4 LR LR
comp=Z,5µm,22.0s
TOC4 Torodi Ar. Sit 83.47 70 PFAKE 07 16 30.0 +13
TOC4 LR LR
comp=Z,4µm,22.0s
TOB5 Torodi Ar. Sit 83.47 70 PFAKE 07 16 30.0 +12
TOB5 LR LR
comp=Z,5µm,22.0s
TOC7 Torodi Ar. Sit 83.48 70 PFAKE 07 16 30.0 +12
TOC7 LR LR
comp=Z,5µm,22.0s
TOA0 Torodi Ar. Sit 83.48 70 eP P 07 16 17.6 0.0
TOA0 eP P 07 16 17.8 +0.2
TOA0 LR LR
comp=Z,5µm,22.0s
TORD Torodi Ar. Bea 83.48 70 P P 07 16 17.6 +0.1
comp=Z,39nm,0.9s,baz=250,slow=4.4,SNR=156
TORD LR LR 07 53 34.3
comp=Z,3µm,18.0s,baz=215,slow=36
TOB3 Torodi Ar. Sit 83.48 70 PFAKE 07 16 30.0 +12
TOB3 LR LR
comp=Z,5µm,22.0s
TOB2 Torodi Ar. Sit 83.50 70 PFAKE 07 16 30.0 +12
TOB2 LR LR
comp=Z,5µm,22.0s
TOC3 Torodi Ar. Sit 83.50 70 PFAKE 07 16 30.0 +12
TOC3 LR LR
comp=Z,5µm,22.0s
C31A Landman Farms, 83.50 343 P P 07 16 16.2 -0.7
baz=158,SNR=13
TOC1 Torodi Ar. Sit 83.50 70 PFAKE 07 16 30.0 +12
TOC1 LR LR
comp=Z,6µm,22.0s
TOC2 Torodi Ar. Sit 83.51 70 PFAKE 07 16 30.0 +12
TOC2 LR LR
comp=Z,4µm,21.0s
AGMN Agassiz Nation 83.52 344 P P 07 16 16.3 -0.6
baz=160,SNR=9.2
AGMN Agassiz Nation 83.52 344 eP P 07 16 17.0 0.0
comp=Z,20nm,0.9s
AGMN LR LR
comp=Z,1µm,22.0s
WAKR Walker 83.64 324 eP P 07 16 19.9 +1.9
comp=Z,37nm,1.4s
WAKR LR LR
comp=Z,3µm,20.0s
CMB Columbia Colle 83.74 323 eP P 07 16 19.8 +1.4
CMB pmax pmax
comp=Z,8.0nm,0.9s
CMB MLR MLR
comp=Z,1µm,20.0s
CMB Columbia Colle 83.74 323 eP P 07 16 19.8 +1.4
comp=Z,8.3nm,0.9s
CMB LR LR
comp=Z,1µm,20.0s
B32A Ashes, Strandq 83.77 344 P P 07 16 17.7 -0.5
baz=159,SNR=22
REDW Red Top Meadow 83.78 332 eP P 07 16 19.1 +0.4
comp=Z,35nm,1.4s
REDW LR LR
comp=Z,2µm,21.0s
SNOW Snow King Moun 83.83 332 PFAKE 07 16 30.0 +11
SNOW LR LR
comp=Z,3µm,21.0s
LOHW Long Hollow 83.89 333 eP P 07 16 19.6 +0.4
comp=Z,8.3nm,0.9s
LOHW LR LR
comp=Z,4µm,20.0s
YERR Yerington 83.91 325 eP P 07 16 20.7 +1.3
comp=Z,36nm,1.3s
YERR LR LR
comp=Z,3µm,20.0s
TPAW Teton Pass 83.93 332 eP P 07 16 19.4 -0.1
comp=Z,14nm,1.0s
TPAW LR LR
comp=Z,2µm,21.0s
A33A Warroad 84.01 345 P P 07 16 18.7 -0.8
baz=160,SNR=7.4
MDND Maddock 84.04 342 P P 07 16 19.9 +0.3
baz=157,SNR=12
MDND Maddock 84.04 342 eP P 07 16 19.7 +0.1
comp=Z,58nm,0.8s
MDND LR LR
comp=Z,1µm,20.0s
MOOW Moose Ponds 84.06 333 eP P 07 16 20.4 +0.2
comp=Z,13nm,1.3s
MOOW LR LR
comp=Z,4µm,20.0s
B31A Greenbush Farm 84.06 343 P P 07 16 18.9 -0.8
baz=158,SNR=6.3
BMN Battle Mountai 84.09 327 eP P 07 16 21.0 +0.7
BMN pmax pmax
comp=Z,8.0nm,1.1s
BMN Battle Mountai 84.09 327 eP P 07 16 21.0 +0.7
comp=Z,8.2nm,1.1s
BMN LR LR
comp=Z,3µm,18.0s
PNTR Pine Nut 84.17 324 eP P 07 16 22.0 +1.2
comp=Z,23nm,0.9s
PNTR LR LR
comp=Z,3µm,20.0s
A32A Rocking H Ranc 84.25 344 P P 07 16 20.2 -0.4
baz=159
IMW Indian Meadow 84.26 333 eP P 07 16 21.5 +0.2
comp=Z,33nm,1.4s
IMW LR LR
comp=Z,3µm,21.0s
FLWY Flagg Ranch 84.33 333 eP P 07 16 21.9 +0.5
comp=Z,54nm,1.4s
A31A Linda, St. Vin 84.43 343 P P 07 16 21.3 -0.3
baz=159
YPP Pitchstone Pla 84.53 333 eP P 07 16 25.5 +2.9
comp=Z,28nm,1.5s
YPP LR LR
comp=Z,4µm,20.0s
PAHR Pah Rah Range 84.54 325 eP P 07 16 24.0 +1.5
comp=Z,40nm,1.4s
PAHR LR LR
comp=Z,2µm,20.0s
H17A Grant Village 84.55 333 P P 07 16 23.1 +0.5
baz=148
H17A Grant Village 84.55 333 eP P 07 16 24.3 +1.7
comp=Z,23nm,1.5s
H17A LR LR
comp=Z,5µm,20.0s
BKZ Black Stump Fm 84.57 226 PFAKE 07 16 30.0 +7.1
BKZ LR LR
comp=Z,6µm,20.0s
LKWY Lake 84.62 333 PFAKE 07 16 30.0 +7.0
LKWY LR LR
comp=Z,3µm,21.0s
RLMT Red Lodge 84.68 334 P P 07 16 23.4 +0.2
baz=149,SNR=14
RLMT Red Lodge 84.68 334 eP P 07 16 23.7 +0.5
comp=Z,49nm,1.6s
RLMT LR LR
comp=Z,2µm,18.0s
YFT Old Faithful 84.69 333 eP P 07 16 24.9 +1.6
comp=Z,17nm,1.0s
YFT LR LR
comp=Z,5µm,20.0s
AFDM Forest Hills D 84.74 324 eP P 07 16 24.3 +0.9
comp=Z,29nm,1.5s
AFDM LR LR
comp=Z,2µm,20.0s
URZ Urewera 84.75 227 LR LR 07 45 21.8
comp=Z,3µm,20.8s,baz=170,slow=29
URZ Urewera 84.75 227 PFAKE 07 16 30.0 +6.3
URZ LR LR
comp=Z,4µm,20.0s
RPZ Rata Peaks 84.81 220 LR LR 07 46 32.9
comp=Z,3µm,19.6s,baz=155,slow=30
YNR Norris Junctio 84.86 333 PFAKE 07 16 30.0 +5.8
YNR LR LR
comp=Z,3µm,20.0s
YMR Madison River 84.93 333 eP P 07 16 25.7 +1.3
comp=Z,52nm,1.2s
YMR LR LR
comp=Z,2µm,20.0s
LAO LASA Array 84.97 337 P P 07 16 24.4 0.0
baz=152
LAO LASA Array 84.97 337 eP P 07 16 25.0 +0.6
comp=Z,16nm,0.8s
LAO LR LR
comp=Z,1µm,19.0s
YHH Holmes Hill 84.98 333 eP P 07 16 25.9 +1.0
comp=Z,26nm,1.1s
YHB Horse Butte 85.08 333 eP P 07 16 26.3 +1.1
comp=Z,16nm,1.2s
MCCM Marconi Confer 85.10 322 PFAKE 07 16 30.0 +4.8
MCCM LR LR
comp=Z,2µm,20.0s
QLMT Earthquake Lak 85.24 333 eP P 07 16 27.4 +1.4
ULM Lac du Bonnet 85.36 345 P P 07 16 25.4 -0.7
comp=Z,16nm,0.9s,baz=143,slow=1.7,SNR=10
ULM Lac du Bonnet 85.36 345 eP P 07 16 25.9 -0.3
comp=Z,72nm,1.6s
ULM LR LR
comp=Z,1µm,20.0s
HLID Hailey 85.39 330 P P 07 16 26.9 +0.2
baz=145,SNR=23
HLID Hailey 85.39 330 eP P 07 16 27.4 +0.6
comp=Z,16nm,1.1s
HLID LR LR
comp=Z,2µm,22.0s
GCMT Greycliff 85.39 334 eP P 07 16 27.1 +0.4
ORV Oroville 85.47 324 eP P 07 16 28.6 +1.6
ORV pmax pmax
comp=Z,49nm,1.4s
ORV Oroville 85.47 324 eP P 07 16 28.6 +1.6
comp=Z,49nm,1.4s
ORV LR LR
comp=Z,2µm,21.0s
MCMT McKenzie Canyo 85.79 332 eP P 07 16 29.7 +0.9
HOPS Hopland Field 85.84 322 PFAKE 07 16 40.0 +11
HOPS LR LR
comp=Z,2µm,22.0s
MFID Camas Ranch 85.86 329 eP P 07 16 28.3 -0.7
comp=Z,28nm,1.3s
DGMT Dagmar 85.91 339 P P 07 16 29.2 +0.2
baz=153,SNR=12
DGMT Dagmar 85.91 339 eP P 07 16 29.4 +0.4
comp=Z,57nm,1.1s
DGMT LR LR
comp=Z,800nm,18.0s
BOZ Bozeman (W) 85.96 333 P P 07 16 29.4 -0.2
baz=147,SNR=8.7
BOZ Bozeman (W) 85.96 333 eP P 07 16 29.9 +0.4
BOZ pmax pmax
comp=Z,6.0nm,0.9s
BOZ Bozeman (W) 85.96 333 eP P 07 16 29.9 +0.4
comp=Z,5.9nm,0.9s
BOZ LR LR
comp=Z,2µm,20.0s
HIZ Hauiti 85.97 226 PFAKE 07 16 40.0 +10
HIZ LR LR
comp=Z,4µm,20.0s
DLMT Dillon 86.14 332 eP P 07 16 31.3 +0.9
comp=Z,27nm,1.3s
DLMT LR LR
comp=Z,3µm,20.0s
WVOR Wild Horse Val 86.33 327 eP P 07 16 32.3 +0.9
WVOR pmax pmax
comp=Z,16nm,1.1s
WVOR Wild Horse Val 86.33 327 eP P 07 16 32.3 +0.9
comp=Z,16nm,1.1s
WVOR LR LR
comp=Z,2µm,19.0s
LRM Limekiln Ridge 86.46 333 eP P 07 16 32.6 +0.5
MOD Modoc Plateau 86.69 326 eP P 07 16 34.0 +0.8
comp=Z,76nm,1.9s
MOD LR LR
comp=Z,2µm,20.0s
WDC Whiskeytown Da 86.76 324 eP P 07 16 33.2 -0.2
WDC pmax pmax
comp=Z,36nm,1.5s
WDC Whiskeytown Da 86.76 324 eP P 07 16 33.2 -0.2
comp=Z,36nm,1.5s
WDC LR LR
comp=Z,1µm,20.0s
HRY Holter Researc 86.97 334 eP P 07 16 35.3 +0.9
KMRM Mail Ridge 87.08 323 eP P 07 16 36.9 +1.8
comp=Z,65nm,1.3s
N02D Trinity Center 87.14 324 P P 07 16 35.3 -0.1
baz=139
MATP Matopo 87.30 112 i P P 07 16 37.6 +0.8
MATP Matopo 87.30 112 P P 07 16 37.3 +0.5
comp=Z,16nm,0.7s,baz=237,slow=3.5,SNR=36
SCHQ Schefferville 87.30 3 P P 07 16 34.9 -0.7
comp=Z,27nm,1.1s,baz=170,slow=2.6,SNR=7.0
SCHQ LR LR 07 55 16.4
comp=Z,1µm,21.8s,baz=156,slow=35
SCHQ Schefferville 87.30 3 eP P 07 16 35.6 0.0
comp=Z,84nm,1.4s
M04C Macdoel 87.33 325 P P 07 16 36.2 -0.1
baz=140,SNR=8.5
EGMT Eagleton 87.33 336 P P 07 16 36.1 0.0
baz=149
EGMT Eagleton 87.33 336 eP P 07 16 36.1 0.0
comp=Z,32nm,1.3s
EGMT LR LR
comp=Z,1µm,20.0s
M02C Callahan 87.53 324 P P 07 16 37.9 +0.7
baz=139
BLWY Bulawayo 87.54 112 i P P 07 16 38.8 +0.8
KHMM Horse Mountain 87.58 323 eP P 07 16 39.3 +1.7
comp=Z,28nm,1.0s
KHMM LR LR
comp=Z,2µm,19.0s
K05A Summer Lake 87.60 326 eP P 07 16 39.1 +1.4
comp=Z,50nm,1.1s
BMO Blue Mountains 87.65 329 eP P 07 16 37.8 +0.1
BMO pmax pmax
comp=Z,30nm,1.5s
BMO MLR MLR
comp=Z,3µm,20.0s
BMO Blue Mountains 87.65 329 eP P 07 16 37.8 +0.1
comp=Z,30nm,1.5s
BMO LR LR
comp=Z,3µm,20.0s
CHMT Chamberlain Mo 87.68 333 eP P 07 16 38.6 +0.6
YBH Yreka Blue Hor 87.72 324 eP P 07 16 38.1 0.0
YBH pmax pmax
comp=Z,7.0nm,0.9s
YBH Yreka Blue Hor 87.72 324 eP P 07 16 38.1 0.0
comp=Z,7.2nm,0.8s
YBH LR LR
comp=Z,1µm,21.0s
MSO Missoula 87.88 332 P P 07 16 39.4 +0.6
baz=146
MSO Missoula 87.88 332 eP P 07 16 40.0 +1.3
comp=Z,10nm,1.0s
MSO LR LR
comp=Z,3µm,19.0s
K04D Chiloquin, OR 87.93 325 P P 07 16 39.9 +0.8
baz=140
SLMT Seeley Lake 88.05 333 eP P 07 16 39.8 +0.2
KRMB Red Mountain 88.15 324 eP P 07 16 41.2 +1.0
KTRM Thompson Ridge 88.18 324 P P 07 16 41.9 +1.5
J05D Fort Rock, OR 88.19 326 P P 07 16 41.0 +0.6
baz=140,SNR=11
SWMT Swartz Lake 88.46 333 eP P 07 16 42.1 +0.6
L02D Cave Junction, 88.48 324 P P 07 16 42.4 +0.9
baz=139
HUMO Hull Mountain 88.50 325 eP P 07 16 43.1 +1.4
comp=Z,12nm,1.2s
HUMO LR LR
comp=Z,2µm,22.0s
F10A Beach Ranch, E 88.51 330 eP P 07 16 42.1 +0.3
comp=Z,30nm,1.4s
F10A LR LR
comp=Z,1µm,18.0s
J04D Umpqua Nationa 88.57 326 P P 07 16 42.4 +0.2
baz=140
OUZ Omahuta 88.85 228 PFAKE 07 16 50.0 +6.3
OUZ LR LR
comp=Z,2µm,18.0s
BLMT Blacktail Moun 89.01 333 eP P 07 16 45.2 +1.0
BSMT Bassoo Peak 89.05 333 eP P 07 16 44.9 +0.6
I05D Terrebonne, OR 89.05 327 P P 07 16 45.0 +0.8

baz=140,SNR=7.6
I04A Tendick Farm, 89.13 326 P **P** 07 16 45.2 +0.5
baz=139
E09A Wood Farm, Sta 89.33 330 *e*P **P** 07 16 45.5 +0.1
comp=Z,27nm,1.8s
E09A LR LR
comp=Z,2µm,18.0s
KEBM Edson Butte 89.37 324 PFAKE 07 16 50.0 +4.2
KEBM LR LR
comp=Z,2µm,20.0s
CROR Criterion Ridg 89.38 327 P **P** **07 16 46.4 +0.6**
G06A Carlson Farm, 89.42 328 *e*P **P** **07 16 47.2 +1.3**
comp=Z,70nm,1.9s
G06A LR LR
comp=Z,2µm,20.0s
I03D Drain, OR 89.50 325 P **P** **07 16 47.1 +0.8**
baz=139
WALA Waterton Lakes 89.70 334 *e*P **P** **07 16 47.8 +0.4**
comp=Z,51nm,1.5s
WALA LR LR
comp=Z,3µm,19.0s
G05D Wamic, OR 89.73 327 P **P** **07 16 48.2 +0.8**
baz=140
HAWA Hanford 89.83 329 *e*P **P** **07 16 48.8 +1.0**
comp=Z,63nm,1.8s
HAWA LR LR
comp=Z,3µm,21.0s
LSZ Lusaka 89.90 108 P **P** **07 16 50.5 +1.4**
comp=Z,26nm,1.1s,baz=223,slow=5.7,SNR=20
LSZ Lusaka 89.90 108 *e*P **P** **07 16 49.9 +0.7**
LSZ pmax pmax
comp=Z,78nm,1.4s
LSZ MLR MLR
comp=Z,8µm,20.0s
LSZ Lusaka 89.90 108 *e*P **P** **07 16 49.9 +0.7**
comp=Z,78nm,1.4s
LSZ LR LR
comp=Z,8µm,20.0s
RTC Rabat Centre 90.07 49 PFAKE 07 17 00.0 +11
RTC LR LR
comp=Z,15µm,18.0s
D08A Wollman Farm, 90.09 330 *e*P **P** **07 16 49.6 +0.7**
comp=Z,6.8nm,0.6s
D08A LR LR
comp=Z,2µm,20.0s
NEW Newport 90.30 332 P **P** **07 16 49.1 -0.9**
comp=Z,2.3nm,0.6s,baz=117,slow=5.3,SNR=9.9
NEW Newport 90.30 332 P **P** **07 16 49.7 -0.4**
baz=143,SNR=5.9
NEW Newport 90.30 332 *e*P **P** **07 16 49.6 -0.4**
comp=Z,26nm,1.6s
NEW LR LR
comp=Z,2µm,19.0s
G03D McMinnville, O 90.60 326 P **P** **07 16 51.3 -0.1**
baz=139
F04A Amboy 90.75 327 *e*P **P** **07 16 52.7 +0.6**
comp=Z,11nm,0.6s
MDT Midelt 90.77 51 P **P** **07 16 53.5 +0.8**
comp=Z,5.1nm,1.0s,baz=208,slow=4.4,SNR=7.0
AFI Afiamalu 90.87 253 LR LR 07 49 04.4
comp=Z,3µm,18.4s,baz=124,slow=30
AFI Afiamalu 90.87 253 PFAKE 07 17 00.0 +6.4
AFI LR LR
comp=Z,4µm,18.0s
PFVI Vila Bisbo 90.91 45 PFAKE 07 17 00.0 +6.9
PFVI LR LR
comp=Z,4µm,19.0s
FFC Flin Flon 90.93 343 PFAKE 07 17 00.0 +7.3
FFC LR LR
comp=Z,1µm,20.0s
LTY Liberty 90.99 329 *e*P **P** **07 16 53.5 +0.3**
comp=Z,24nm,1.4s
LTY LR LR
comp=Z,3µm,18.0s
WTV Waterville 91.03 330 P **P** **07 16 53.8 +0.4**
LON Longmire 91.10 328 *e*P **P** **07 16 53.9 +0.1**
LON pmax pmax
comp=Z,5.0nm,0.8s
LON Longmire 91.10 328 *e*P **P** **07 16 53.9 +0.1**
comp=Z,5.3nm,0.8s
ETW Entiat 91.11 329 P **P** **07 16 54.3 +0.3**
MORF Marmelete 91.13 45 *e*P **P** **07 16 51.8 -2.4**
MORF AMS AMS 07 56 57.0
comp=Z,3µm,18.7s
MORF Marmelete 91.13 45 *e*P **P** **07 16 51.7 -2.4**
F04D Rainier, OR 91.14 327 P **P** **07 16 54.3 +0.4**
baz=139
B08A Colville Reser 91.28 330 *e*P **P** **07 16 54.7 +0.1**
comp=Z,6.7nm,1.0s
D05A Enumclaw 91.52 328 *e*P **P** **07 16 56.5 +0.8**
comp=Z,18nm,1.1s
D05A LR LR
comp=Z,2µm,20.0s
C06D Leavenworth 91.60 329 P **P** **07 16 56.4 +0.4**
baz=140
E03A Lebam 91.74 327 PFAKE 07 17 10.0 +13
E03A LR LR
comp=Z,2µm,18.0s
MESJ Messejana 91.74 45 *e*P **P** **07 16 54.4 -2.5**
MESJ AMS AMS 07 57 43.9
comp=Z,4µm,22.9s
MESJ Messejana 91.74 45 *e*P **P** **07 16 54.4 -2.5**
LIS Lisbon 91.77 44 *e*P **P** **07 16 54.5 -2.5**
LIS AMS AMS 07 56 49.9
comp=Z,3µm,21.2s
LIS Lisbon 91.77 44 *e*P **P** **07 16 54.5 -2.5**
TAM Tamanrasset 91.99 64 *e*P **P** **07 16 59.3 +0.7**
TAM pmax pmax
comp=Z,22nm,1.3s
TAM Tamanrasset 91.99 64 *e*P **P** **07 16 59.3 +0.7**
comp=Z,22nm,1.3s
TAM LR LR
comp=Z,6µm,20.0s
B05A Bryant 92.38 329 P **P** **07 16 59.4 -0.2**
baz=140
NLWA Neilton Lookou 92.51 327 PFAKE 07 17 10.0 +10
NLWA LR LR
comp=Z,2µm,21.0s
EDM Edmonton 92.95 336 *e*P **P** **07 17 01.0 -1.2**
EDM Edmonton 92.95 336 *e*P **P** **07 17 00.9 -1.2**
comp=Z,24nm,1.1s
EDM LR LR
comp=Z,1µm,22.0s
A04D Lummi Island 92.99 329 P **P** **07 17 02.5 +0.2**
baz=139
FCC Fort Churchill 93.05 349 PFAKE 07 17 10.0 +7.6
FCC LR LR
comp=Z,1µm,20.0s
PGC Sidney 93.27 329 PFAKE 07 17 10.0 +6.4
PGC LR LR
comp=Z,2µm,20.0s
LLLB Lillooet 94.07 331 PFAKE 07 17 20.0 +13
LLLB LR LR
comp=Z,2µm,21.0s
JCUZ Jacuzzi 94.97 290 PFAKE 07 17 20.0 +7.7
JCUZ LR LR
comp=Z,3µm,22.0s
SBLHI Steaming Bluff 95.12 290 PFAKE 07 17 20.0 +6.9
SBLHI LR LR
comp=Z,4µm,21.0s
UWB Uwekahuna B 95.13 290 PFAKE 07 17 20.0 +6.9
UWB LR LR
comp=Z,3µm,19.0s
PAB San Pablo 95.16 46 PFAKE 07 17 20.0 +7.3
PAB LR LR
comp=Z,2µm,21.0s
ESDC Sonseca Array 95.47 46 P **P** **07 17 13.8 -0.3**
comp=Z,0.6nm,0.4s,baz=254,slow=3.7,SNR=9.2
ESDC LR LR 07 59 51.5
comp=Z,2µm,19.3s,baz=225,slow=35
ES19 SONSECA Array 95.53 46 *e*P **P** **07 17 14.6 +0.2**
LHI Lord Howe Isla 100.12 222 PFAKE 07 17 40.0 +4.6
LHI LR LR
comp=Z,2µm,20.0s
YKA Yellowknife Ar 100.96 341 P **Pdif** **07 17 36.4 -1.7**
comp=Z,1.2nm,0.5s,baz=143,slow=5.5,SNR=3.5
YKW3 Yellowknife Ar 101.01 341 PFAKE 07 17 50.0 +12
YKW3 LR LR
comp=Z,2µm,22.0s
DYA Yadsworthy 102.09 37 PFAKE 07 17 50.0 +6.6
DYA LR LR
comp=Z,3µm,21.0s
ABPO Ambohimpanom 102.18 122 PFAKE 07 17 50.0 +5.0
ABPO LR LR
comp=Z,2µm,19.0s
DZM Mont Dzumac 102.24 234 *e*Pdif **Pdif** **07 17 44.4 -0.7**
comp=Z,124nm,24.1s

DZM Mont Dzumac 102.24 234 *e*PP PP 07 21 52.5 -4.5
comp=Z,143nm,27.4s
DZM *e*SKSac **SKSac** **07 28 24.6 +2.6**
comp=Z,775nm,31.9s
DZM *e*SS **SS** **07 36 30.0 -0.9**
comp=Z,2µm,26.4s
DZM Mont Dzumac 102.24 234 *e*LQ LQ 07 46 57.6
comp=Z,1µm,33.3s
DZM *e*LR LR 07 51 21.3
comp=Z,4µm,21.6s
DZM Mont Dzumac 102.24 234 PFAKE 07 17 50.0 +4.9
DZM LR LR
comp=Z,3µm,20.0s
DLBC Dease Lake 103.01 333 PFAKE 07 18 00.0 +13
DLBC LR LR
comp=Z,2µm,21.0s
SSB Saint Sauveur 103.84 45 PFAKE 07 18 00.0 +8.6
SSB LR LR
comp=Z,3µm,21.0s
VSL Villasalto 103.85 52 PFAKE 07 18 00.0 +8.4
VSL LR LR
comp=Z,2µm,22.0s
BNI Bardonecchia 105.00 46 PFAKE 07 22 20.0
BNI LR LR
comp=Z,2µm,19.0s
KMBO Kilima Mbogo 105.23 101 PFAKE 07 22 20.0
KMBO LR LR
comp=Z,4µm,18.0s
WDD Wied Dalam 105.55 57 PFAKE 07 22 20.0
WDD LR LR
comp=Z,4µm,21.0s
SKAG Skagway 105.76 332 PFAKE 07 22 20.0
SKAG LR LR
comp=Z,1µm,21.0s
SENIN Lac Senin/Sane 106.05 45 PFAKE 07 22 20.0
SENIN LR LR
comp=Z,3µm,20.0s
WHY Whitehorse 106.33 333 PFAKE 07 22 20.0
WHY LR LR
comp=Z,2µm,22.0s
VLC Villacollemand 106.84 48 PFAKE 07 22 20.0
VLC LR LR
comp=Z,1µm,18.0s
WLF Walferdange 107.06 42 PFAKE 07 22 20.0
WLF LR LR
comp=Z,5µm,20.0s
TUE Stuetta 107.33 46 PFAKE 07 22 30.0
TUE LR LR
comp=Z,2µm,20.0s
HYT Haines Junctio 107.46 332 PFAKE 07 22 20.0
HYT LR LR
comp=Z,1µm,22.0s
SUMG Summit 107.49 10 PFAKE 07 22 20.0
SUMG LR LR
comp=Z,2µm,20.0s
BFO Black Forest 107.64 44 PFAKE 07 22 30.0
BFO LR LR
comp=Z,2µm,20.0s
CEL Celeste 107.67 56 PFAKE 07 22 30.0
CEL LR LR
comp=Z,3µm,20.0s
AQU L'Aquila 107.91 51 PFAKE 07 22 30.0
AQU LR LR
comp=Z,2µm,20.0s
FUORN Ofenpass-Fuorn 107.95 46 PFAKE 07 22 30.0
FUORN LR LR
comp=Z,3µm,20.0s
RES Resolute Bay 108.23 354 PFAKE 07 22 30.0
RES LR LR
comp=Z,2µm,20.0s
STU Stuttgart 108.36 43 PFAKE 07 22 30.0
STU LR LR
comp=Z,2µm,22.0s
CUC Castrocucco 108.42 54 PFAKE 07 22 30.0
CUC LR LR
comp=Z,2µm,18.0s
TRI Trieste 109.68 48 PFAKE 07 22 30.0
TRI LR LR
comp=Z,2µm,18.0s
CRQM Cirque 109.71 330 PFAKE 07 22 30.0
CRQM LR LR
comp=Z,1µm,21.0s
GRFO Grafenberg 109.96 43 PFAKE 07 22 30.0
GRFO LR LR
comp=Z,2µm,20.0s
DAWY Dawson 110.05 334 PFAKE 07 22 30.0
DAWY LR LR
comp=Z,2µm,18.0s
RAGM Ragged Mountai 110.16 330 PFAKE 07 22 30.0
RAGM LR LR
comp=Z,1µm,19.0s
BMRM Bremner River 110.43 330 PFAKE 07 22 30.0
BMRM LR LR
comp=Z,1µm,21.0s
INK Inuvik 110.59 340 PFAKE 07 22 30.0
INK LR LR
comp=Z,3µm,22.0s
EYAK Cordova Ski Ar 110.70 329 PFAKE 07 22 30.0
EYAK LR LR
comp=Z,1µm,20.0s
NKC Novy Kostel 110.91 43 AMS AMS 08 07 30.0
comp=Z,2µm,18.7s
GEC2 GERESS Array S 111.04 45 PFAKE 07 22 30.0
GEC2 LR LR
comp=Z,2µm,22.0s
EGAK Eagle 111.08 335 PFAKE 07 22 30.0
EGAK LR LR
comp=Z,1µm,18.0s
MENT Mentasta 111.08 332 PFAKE 07 22 30.0
MENT LR LR
comp=Z,1µm,20.0s
KHC Kasperske Hory 111.09 45 *e*PP PP 07 22 59.1 -3.2
KHC *e*PS PS 07 32 36.4 +2.8
KHC AMS AMS 08 13 30.0
comp=Z,2µm,19.0s
KHC Kasperske Hory 111.09 45 PFAKE 07 22 30.0
KHC LR LR
comp=Z,800nm,18.0s
FID Port Fidalgo 111.12 329 PFAKE 07 22 30.0
FID LR LR
comp=Z,1µm,20.0s
KLU Klutina 111.25 330 PFAKE 07 22 30.0
KLU LR LR
comp=Z,1µm,22.0s
CLL Collm 111.70 42 *e*PP PP 07 23 06.0 -0.5
CLL *e*Sdif Sdif 07 30 55.0 +12
CLL *e*PS PS 07 32 37.0 -2.0
CLL *e* 07 32 59.0
CLL *e*PPS PPS 07 33 56.0
CLL *e*SS SS 07 38 42.0 +2.5
CLL *e*SSS SSS 07 42 54.0
CLL *e*SSSS 07 46 24.0
CLL LmH 08 09 00.0
comp=N,1µm,19.5s
CLL LmH 08 09 00.0
comp=E,3µm,19.5s
CLL LmH 08 09 00.0
comp=Z,4µm,19.1s
CLL LmV 08 10 00.0
comp=Z,4µm,18.6s
CLL Collm 111.70 42 PFAKE 07 22 30.0
CLL LR LR
comp=Z,4µm,19.0s
TIR Tirane 111.78 54 PFAKE 07 22 30.0
TIR LR LR
comp=Z,2µm,20.0s
PAX Paxson 111.79 332 PFAKE 07 22 30.0
PAX LR LR
comp=Z,1µm,22.0s
FURI Furi 111.85 93 PFAKE 07 22 30.0
FURI LR LR
comp=Z,4µm,20.0s
TARA Tarawa 111.98 257 PFAKE 07 22 30.0
TARA LR LR
comp=Z,3µm,19.0s
PRA Prague 111.99 44 AMS AMS 08 06 50.0
comp=Z,2µm,20.6s
SCM Sheep Creek Mo 112.00 330 PFAKE 07 22 30.0
SCM LR LR
comp=Z,1µm,22.0s
PRU Pruhonice 112.02 44 *e*PP PP 07 23 00.4 -8.5
PRU *e*PS PS 07 32 44.9 +2.9
PRU AMS AMS 08 07 00.0
comp=Z,2µm,22.2s
BRG Berggiesshubel 112.05 43 PDIFF **Pdif** **07 18 38.0 +10**

BRG *e*PP PP 07 23 19.2 +10
comp=Z,5.1nm,1.1s
BRG SDIFF 07 31 00.0
BRG PS **PS** **07 32 47.0 +4.8**
BRG SS SS 07 38 48.0 +3.7
comp=N,1µm,17.4s
comp=E,1µm,14.8s
comp=Z,1µm,15.2s
BRG Berggiesshubel 112.05 43 P **Pdif** **07 18 38.0 +10**
BRG SS SS 07 38 48.0 +3.7
BRG pmax pmax
comp=Z,5.0nm,1.1s
BRG MLR MLR
comp=N,1µm,17.4s
BRG MLR MLR
comp=E,1µm,14.8s
BRG MLR MLR
comp=Z,1µm,15.2s
GOPC GO Pecny, Ondr 112.14 44 *e*PP PP 07 23 07.5 -2.2
GOPC *e*PS PS 07 32 42.0 -1.1
GOPC AMS AMS 08 11 00.0
comp=Z,2µm,22.6s
PVCC Panska Ves 112.27 43 AMS AMS 08 10 30.0
comp=Z,2µm,21.8s
TREC Trest 112.29 45 AMS AMS 08 13 40.0
comp=Z,2µm,17.7s
FOO Floro 112.33 30 *e*SS SS 07 38 53.4 +6.0
HOMB Homborsund 112.38 34 IAMs_20 IAMs_20 08 05 53.9
comp=Z,2µm,20.3s
SML Sawmill 112.41 330 PFAKE 07 22 30.0
SML LR LR
comp=Z,1µm,22.0s
AGG Agios Georgios 112.53 57 PFAKE 07 22 40.0
AGG LR LR
comp=Z,13µm,19.0s
DHY Denali Highway 112.60 331 PFAKE 07 22 30.0
DHY LR LR
comp=Z,900nm,20.0s
PMR Palmer 112.65 330 PFAKE 07 22 30.0
PMR LR LR
comp=Z,800nm,21.0s
RC01 Rabbit Creek A 112.68 329 PFAKE 07 22 30.0
RC01 LR LR
comp=Z,1µm,20.0s
IDI Anoyia 112.84 62 PFAKE 07 22 40.0
IDI LR LR
comp=Z,2µm,18.0s
HDA Harding Lake 113.06 333 PFAKE 07 22 30.0
HDA LR LR
comp=Z,2µm,21.0s
UPC Upice 113.10 44 *e*PS PS 07 32 51.2 -0.7
UPC AMS AMS 08 14 20.0
comp=Z,2µm,17.5s
ILAR Eielson Array 113.20 333 PKKPbc PKKPbc 07 33 11.1 -2.2
comp=Z,0.6nm,0.7s,baz=265,slow=3.2,SNR=4.2
DPC Dobruska-Polom 113.22 44 AMS AMS 08 08 30.0
comp=Z,1µm,20.5s
RGN Rugen 113.23 39 PFAKE 07 22 40.0
RGN LR LR
comp=Z,3µm,20.0s
SUA Susitna One 113.28 329 PFAKE 07 22 40.0
SUA LR LR
comp=Z,900nm,18.0s
RND Reindeer 113.35 331 PFAKE 07 22 40.0
RND LR LR
comp=Z,1µm,21.0s
FYU Fort Yukon 113.44 335 PFAKE 07 22 40.0
FYU LR LR
comp=Z,2µm,19.0s
WRH Wood River Hil 113.53 333 PFAKE 07 22 40.0
WRH LR LR
comp=Z,1µm,21.0s
MCK McKinley 113.53 332 PFAKE 07 22 40.0
MCK LR LR
comp=Z,999nm,20.0s
COLA College 113.62 333 PFAKE 07 22 40.0
COLA LR LR
comp=Z,1µm,19.0s
SANT Santorini 113.71 61 PFAKE 07 22 40.0
SANT LR LR
comp=Z,2µm,20.0s
MDM Murphy Dome 113.80 333 PFAKE 07 22 40.0
MDM LR LR
comp=Z,1µm,20.0s
VYHS Vyhne 114.00 47 *e* **PKiKP** **07 22 28.0 0.0**
OKC Ostrava-Krasne 114.10 45 AMS AMS 08 08 40.0
comp=Z,1µm,20.2s
KTH Kantishna Hill 114.25 331 PFAKE 07 22 40.0 +12
KTH LR LR
comp=Z,800nm,19.0s
PSZ Piszkesteto 114.43 48 PFAKE 07 22 40.0 +11
PSZ LR LR
comp=Z,2µm,20.0s
PPLA Purkeypile 114.50 330 PFAKE 07 22 40.0 +11
PPLA LR LR
comp=Z,900nm,19.0s
VTS Vitosha 114.56 54 PFAKE 07 22 40.0 +11
VTS LR LR
comp=Z,2µm,20.0s
KARP Karpathos 114.64 62 PFAKE 07 22 40.0 +10
KARP LR LR
comp=Z,900nm,20.0s
CAST Castle Rocks 114.67 331 PFAKE 07 22 40.0 +11
CAST LR LR
comp=Z,900nm,20.0s
NC602 NORSAR Array S 114.81 33 *e*PS PS 07 33 08.2 +1.0
CHGN Chignik 114.84 322 PFAKE 07 22 40.0 +11
CHGN LR LR
comp=Z,2µm,19.0s
SVW2 Sparrevohn 115.27 328 PFAKE 07 22 40.0 +10
SVW2 LR LR
comp=Z,1µm,19.0s
HNR Honiara 115.39 239 PFAKE 07 22 40.0 +8.3
HNR LR LR
comp=Z,700nm,21.0s
COLD Coldfoot 115.49 335 PFAKE 07 22 40.0 +10
COLD LR LR
comp=Z,1µm,22.0s
TOLK Toolik Lake Re 115.85 337 P **PKPdf** **07 22 31.6 +0.6**
baz=114
MIDW Midway 117.03 288 PFAKE 07 22 40.0 +5.6
MIDW LR LR
comp=Z,2µm,21.0s
MLR Muntele Rosu 117.45 52⇓ *i*P **PKPdf** **07 22 35.3 +0.4**
MLR Muntele Rosu 117.45 52 PFAKE 07 22 40.0 +5.1
MLR LR LR
comp=Z,2µm,20.0s
MSEY Mahe Island 117.63 116 PFAKE 07 22 50.0 +14
MSEY LR LR
comp=Z,3µm,20.0s
MOR8 Moi Rana 117.93 27 IAMs_20 IAMs_20 08 08 59.0
comp=Z,1µm,21.1s
ISP Isparta 118.00 61 PFAKE 07 22 50.0 +14
ISP LR LR
comp=Z,3µm,21.0s
LOF Lofoten 118.20 25 *e*PP PP 07 23 52.9 +1.1
LOF *e*PS PS 07 33 38.4 +0.7
LOF IAMs_20 IAMs_20 08 10 23.9
comp=Z,1µm,19.0s
UNV Unalaska Valle 118.39 318 PFAKE 07 22 50.0 +14
UNV LR LR
comp=Z,1µm,19.0s
TIRR Tirgusor 118.76 54⇑ *i*P **PKPdf** **07 22 37.5 +0.3**
TIRR Tirgusor 118.76 54 PFAKE 07 22 50.0 +13
TIRR LR LR
comp=Z,2µm,21.0s
CFR Carcaliu 118.81 53⇑ *i*P **PKPdf** **07 22 37.1 -0.2**
ASAR Alice Springs 118.84 207 PKP **PKPdf** **07 22 37.0 -1.3**
comp=Z,0.5nm,0.4s,baz=141,slow=1.8,SNR=9.2
ASAR PKKPbc **PKKPbc** **07 32 53.0 +0.1**
comp=Z,1.4nm,0.9s,baz=345,slow=3.7,SNR=8.7
ASAR Alice Springs 118.84 207 PKIKP **PKPdf** **07 22 37.0 -1.3**
ASAR pmax pmax
comp=Z,1.0nm,0.4s
ASAR pmax pmax
comp=Z,1.0nm,0.9s
CSS Mathiatis 119.08 65 PFAKE 07 22 50.0 +12
CSS LR LR
comp=Z,500nm,20.0s
KIS Kishinev 119.82 51 *e*PP PP 07 24 38.0 +34
KIS Kishinev 119.82 51 *e*PKS 07 26 40.0
KIS *e*SKS **SKSdf** **07 29 40.0 -7.8**
KIS *e*SKKS SKKSac 07 31 22.0 +22
KIS Kishinev 119.82 51 *e*PS PS 07 33 30.0 -23
KIS Kishinev 119.82 51 *e*PPS PPS 07 34 17.0

KIS eLR LR 08 07 02.0
comp=Z,2µm,20.0s
BR231 Keskin MP Arra 120.34 60 *e*PKPdf **PKPdf 07 22 41.5 +0.9**
ANTO Ankara 120.37 60 PFAKE 07 22 50.0 +9.4
ANTO LR LR
comp=Z,2µm,20.0s
KWAJ Kwajalein Atol 120.49 260 PFAKE 07 22 50.0 +8.5
KWAJ LR LR
comp=Z,2µm,20.0s
KBS Kingsbay 120.65 13 *e*PP PP 07 24 09.6 +1.1
KBS *e*SS SS 07 40 41.2 +6.0
KBS IAMs_20 IAMs_20 08 12 22.8
comp=Z,1µm,20.6s
BR131 Keskin Array S 120.94 60 *e*PKPdf **PKPdf 07 22 42.0 +0.2**
BRTR Keskin Array B 120.94 60 PKP **PKPdf 07 22 40.1 -1.6**
comp=Z,2.8nm,0.8s,baz=190,slow=3.8,SNR=12
AK11 Malin Array Si 121.06 47 *e*PKPdf **PKPdf 07 22 40.5 -0.9**
KIEV Kiev 121.09 47 *e*PKIKP **PKPdf 07 22 40.7 -0.8**
KIEV MLR MLR
comp=Z,1µm,20.0s
KIEV Kiev 121.09 47 *e*PKPdf **PKPdf 07 22 40.7 -0.8**
KIEV LR LR
comp=Z,1µm,20.0s
AKASG Malin Array Be 121.10 47 PKP **PKPdf 07 22 39.8 -1.7**
comp=Z,5.0nm,0.8s,baz=270,slow=2.6,SNR=8.8
AKASG Malin Array Be 121.10 47 PKIKP **PKPdf 07 22 39.8 -1.7**
AKASG pmax pmax
comp=Z,3.0nm,0.7s
AKBB Malin Array Si 121.10 47 *e*PKIKP **PKPdf 07 22 40.8 -0.7**
AKBB MLR MLR
comp=Z,1µm,18.0s
AKBB Malin Array Si 121.10 47 *e*PKPdf **PKPdf 07 22 40.8 -0.7**
AKBB LR LR
comp=Z,1µm,18.0s
SPA0 Spitsbergen Ar 121.37 14 IAMs_20 IAMs_20 08 17 02.9
comp=Z,2µm,20.9s
ILGA Ilgaz 121.41 59 *e*PKPdf **PKPdf 07 22 43.0 +0.2**
FINES FINESS Array B 121.77 34 PKP **PKPdf 07 22 41.5 -1.0**
comp=Z,5.0nm,0.9s,baz=315,slow=0.3,SNR=5.1
WB2 Warramunga Arr 122.02 209 *e*PKPdf **PKPdf 07 22 43.7 -0.7**
WRA Warramunga Arr 122.02 209 PKP **PKPdf 07 22 43.8 -0.6**
comp=Z,2.3nm,0.7s,baz=154,slow=1.8,SNR=27
WRA PKKPbc **PKKPbc 07 32 40.6 -0.3**
comp=Z,1.0nm,0.7s,baz=341,slow=4.3,SNR=12
WRAB Tennant Creek 122.03 209 *e*PKIKP **PKPdf 07 22 45.7 +1.3**
WRAB Tennant Creek 122.03 209 *e*PKPdf **PKPdf 07 22 45.7 +1.3**
ARCES ARCESS Array B 122.73 25 PKP **PKPdf 07 22 43.5 -0.7**
comp=Z,2.6nm,0.8s,baz=352,slow=4.9,SNR=3.9
ARE0 ARCESS Array S 122.73 25 *e*SS SS 07 41 07.8 +5.6
ARE0 IAMs_20 IAMs_20 08 10 46.4
comp=Z,2µm,18.2s
ARE0 ARCESS Array S 122.73 25 PFAKE 07 22 50.0 +5.9
ARE0 LR LR
comp=Z,2µm,22.0s
KEV Kevo 123.28 24 PFAKE 07 22 50.0 +4.9
KEV LR LR
comp=Z,2µm,21.0s
PMG Port Moresby 124.10 228 PFAKE 07 23 00.0 +12
PMG LR LR
comp=Z,2µm,20.0s
RABL Rabaul 124.57 237 PFAKE 07 23 00.0 +11
RABL LR LR
comp=Z,1µm,22.0s
ANN Anapa 125.04 55 *i* PKIKP **PKPdf 07 22 49.4 +0.1**
ANN *e* 07 24 37.9
ANN pmax pmax
comp=Z,44nm,1.2s
APA Apatity 125.52 27⇓ *i*PKIKP **PKPdf 07 22 49.0 -0.5**
APA MLR MLR
comp=Z,1µm,21.0s
H11S2 WAKE ISLAND Hyl 126.09 270 T T 09 41 48.7
baz=118,slow=74,SNR=2621
H11S1 WAKE ISLAND Hyl 126.11 270 T T 09 41 49.6
baz=118,slow=74,SNR=2844
H11S3 WAKE ISLAND Hyl 126.11 270 T T 09 41 50.0
baz=118,slow=74,SNR=2826
OBN Obninsk 126.29 43 *i* PKIKP **PKPdf 07 22 51.5 +0.2**
OBN *e* 07 24 46.2
OBN *e*SS SS 07 42 02.8 +15
OBN pmax pmax
comp=Z,12nm,0.4s
OBN MLR MLR
comp=Z,1µm,18.0s
OBN Obninsk 126.29 43 PFAKE 07 23 00.0 +8.7
OBN LR LR
comp=Z,2µm,19.0s
SOC Sochi 126.37 57 *i* P **Pdif 07 19 28.7 -2.9**
SOC *i* 07 22 50.5
SOC *e* 07 29 54.8
SOC *e*PS **PS 07 34 50.2 -1.1**
SOC *e*SSS SSS 07 46 24.9
SOC pmax pmax
comp=Z,25nm,1.0s
H11N3 WAKE ISLAND Hyl 126.47 271 T T 09 42 17.6
baz=116,slow=75,SNR=187
H11N1 WAKE ISLAND Hyl 126.49 271 T T 09 42 17.1
baz=116,slow=75,SNR=138
H11N2 WAKE ISLAND Hyl 126.49 271 T T 09 42 25.7
baz=116,slow=75,SNR=668
PATS Pohnpei 127.00 252 PFAKE 07 23 00.0 +6.0
PATS LR LR
comp=Z,2µm,19.0s
ARTV Artvin 127.42 61 *e*PKPdf **PKPdf 07 22 54.9 +0.7**
KLMR Klimovskoe 128.19 36 *e*PKIKP **PKPdf 07 22 53.7 -1.1**
KLMR *e* 07 25 02.6
KLMR pmax pmax
comp=Z,35nm,1.2s
NEY Neytrino 128.44 58 *e*PKIKP **PKPdf 07 22 57.1 +1.0**
KIV Kislovodsk 128.55 57 *i* PKIKP **PKPdf 07 22 56.9 +0.7**
KIV *e* 07 25 00.6
KIV *e*PS **PS 07 35 09.4 -1.2**
KIV *e*SS SS 07 42 17.8 +1.1
KIV pmax pmax
comp=Z,18nm,1.1s
KIV Kislovodsk 128.55 57 PFAKE 07 23 10.0 +14
KIV LR LR
comp=Z,900nm,20.0s
KBZ Khabaz 128.66 58 PKP **PKPdf 07 22 56.4 +0.2**
comp=Z,6.4nm,0.9s,baz=213,slow=2.3,SNR=11
ZEI Tsey 129.19 59 *i* PKIKP **PKPdf 07 22 54.9 -2.7**
ZEI pmax pmax
comp=Z,14nm,0.6s
GNI Garni 129.26 62 *e*PKIKP **PKPdf 07 22 57.6 -0.1**
GNI Garni 129.26 62 PFAKE 07 23 10.0 +12
GNI LR LR
comp=Z,2µm,21.0s
MANU Manus Island 129.44 235 PFAKE 07 23 10.0 +11
MANU LR LR
comp=Z,1µm,19.0s
BILL Bilibino 131.82 335⇑ *i*PKIKP **PKPdf 07 23 02.1 +0.6**
BILL pmax pmax
comp=Z,29nm,1.3s
MAK Makhachkala 131.83 59 *i* PKIKP **PKPdf 07 23 01.0 -1.3**
MAK *i* 07 25 21.5
MAK *e*PPP PPP 07 28 13.0
UOSS Minazif 134.06 86 PFAKE 07 23 20.0 +13
UOSS LR LR
comp=Z,4µm,22.0s
SOEI Soe 135.10 203 PFAKE 07 23 20.0 +10
SOEI LR LR
comp=Z,3µm,22.0s
MMRI Maumere 136.78 200 PFAKE 07 23 20.0 +7.5
MMRI LR LR
comp=Z,800nm,19.0s
SOKR Solikamsk 136.88 36*d* PKIKP **PKPdf 07 23 10.1 -1.0**
SOKR pmax pmax
comp=Z,19nm,1.1s
FAKI Fak Fak 137.93 217 PFAKE 07 23 20.0 +5.4
FAKI LR LR
comp=Z,900nm,18.0s
ARU Arti 138.57 40 *i* PKIKP **PKPdf 07 23 15.1 +0.7**
ARU 07 26 01.9
ARU MLR MLR
comp=Z,2µm,20.0s
ARU Arti 138.57 40 *e*PKPdf **PKPdf 07 23 14.7 +0.3**
ARU LR LR
comp=Z,2µm,19.0s
JAGI Jajag, Banyuwa 138.66 189 PFAKE 07 23 30.0 +14
JAGI LR LR
comp=Z,1µm,19.0s
PET Petropavlovsk 138.93 315 *e*PKHKP PKPpre 07 23 06.2
PET *e* 07 26 10.1
PET pmax pmax
comp=Z,200nm,15.1s
PET pmax pmax
comp=Z,200nm,14.4s
PET Petropavlovsk 138.93 315 PFAKE 07 23 20.0 +4.8
PET LR LR
comp=Z,700nm,20.0s
SEY Seymchan 139.08 331*c* *i*PKIKP **PKPdf 07 23 16.9 +1.7**
GEYT Alibeck 139.10 68 PKP **PKPdf 07 23 16.1 0.0**
comp=Z,4.4nm,0.5s,baz=265,slow=5.5,SNR=6.1
AKTO Aktyubinsk 139.28 49 PKHKP PKPpre 07 23 05.7
AKTO pmax pmax
comp=Z,10.0nm,1.0s
PETK Petropavlovsk- 139.48 315 PKP **PKPdf 07 23 15.8 -0.5**
comp=Z,6.2nm,1.1s,baz=106,slow=9.4,SNR=3.8
TIXI Tiksi 139.50 350 *e*PKIKP **PKPdf 07 23 14.8 -0.9**
TIXI pmax pmax
comp=Z,38nm,3.8s
TIXI Tiksi 139.50 350 PFAKE 07 23 30.0 +14
TIXI LR LR
comp=Z,500nm,19.0s
CISI Cisompet, Garu 139.94 179 PFAKE 07 23 30.0 +12
CISI LR LR
comp=Z,1µm,22.0s
AB31 Akbulak array 140.64 51 PKHKP PKPpre 07 23 10.8
AB31 pmax pmax
comp=Z,12nm,0.8s
ABKAR Akbulak array 140.64 51 *e*P **PKPdf 07 23 19.4 +0.9**
ABKAR LR LR
comp=Z,500nm,19.0s
KAPI Kappang 140.93 198 PFAKE 07 23 30.0 +10
KAPI LR LR
comp=Z,1µm,19.0s
NRIK Noril'sk 141.51 12 PKP **PKPdf 07 23 18.6 -0.7**
comp=Z,0.7nm,0.3s,baz=109,slow=4.0,SNR=3.9
PALK Pallekele 143.95 129*c* *i*PKIKP PKPbc 07 23 24.4 +1.1
PALK Pallekele 143.95 129 PFAKE 07 23 40.0 +15
PALK LR LR
comp=Z,2µm,21.0s
BRVK Borovoye 146.06 42*c* *i*PKP2 **PKPbc 07 23 28.8 0.0**
BRVK pmax pmax
comp=Z,264nm,1.7s
BRVK Borovoye 146.06 42 *e*PKPdf **PKPbc 07 23 28.9 +0.1**
BRVK LR LR
comp=Z,2µm,20.0s
BVA0 Borovoye Array 146.13 42 *i* PKP2 **PKPbc 07 23 28.8 -0.2**
BVA0 pmax pmax
comp=Z,42nm,0.8s
URV Uravakonda 146.69 115 *e*PKPab **PKPbc 07 23 31.4 -0.4**
BKNI Bangkinang 147.05 167 PFAKE 07 23 40.0 +5.7
BKNI LR LR
comp=Z,1µm,19.0s
GSI Gunungsitoli 147.14 160 PFAKE 07 23 40.0 +5.3
GSI LR LR
comp=Z,2µm,21.0s
KUR Kuril'sk 147.15 304 *i* PKIKP **PKPdf 07 23 29.4 -0.5**
KUR *i* 07 23 39.8
KUR *i* 07 27 04.9
KUR *i* SS SS 07 45 51.1 -5.5
KUR pmax pmax
comp=Z,1µm,5.3s
KBL Kabul 147.37 76 *e*PKP2 **PKPdf 07 23 31.8 +0.8**
KBL MLR MLR
comp=Z,1µm,21.0s
KBL Kabul 147.37 76 *e*PKPdf **PKPdf 07 23 31.8 +0.8**
KBL LR LR
comp=Z,1µm,21.0s
SKHT Srikalahasti 147.78 119 *e*PKPab **PKPbc 07 23 35.1 +0.3**
KLRI Killari 147.98 109 *e*PKiKP **PKPbc 07 23 34.9 -0.4**
RCLA Racherla 148.30 116 *e*PKPbc **PKPdf 07 23 34.4 +1.7**
SRLM Srisailam 148.64 115 *e*PKiKP **PKPbc 07 23 37.0 0.0**
KK31 Karatay Array 148.65 60 *i* PKP2 **PKPbc 07 23 35.3 -1.0**
KK31 pmax pmax
comp=Z,28nm,1.1s
KKAR Karatay Array 148.65 60 *e*PKP2 **PKPbc 07 23 36.3 0.0**
KKAR Karatay Array 148.65 60 *e*PKPbc **PKPbc 07 23 36.3 0.0**
KSM Kuching 148.86 184 *e*PKPbc **PKPbc 07 23 37.5 -0.2**
KSM LR LR
comp=Z,600nm,20.0s
MYKOM Kota Tinggi 148.94 171 *e*PKPbc **PKPbc 07 23 37.9 0.0**
MYKOM LR LR
comp=Z,2µm,20.0s
PSI Prapat 148.95 162 PFAKE 07 23 40.0 +2.0
PSI LR LR
comp=Z,3µm,20.0s
TYV Tymovskoe 149.03 316 *e*PKIKP **PKPdf 07 23 32.7 -0.1**
TYV pmax pmax
comp=Z,1µm,14.1s
NKL Nikolayevsk 149.14 321 *e*PKP2 **PKPbc 07 23 36.0 -1.1**
NKL pmax pmax
comp=N,30nm,1.0s
NKL pmax pmax
comp=Z,43nm,1.0s
NKL pmax pmax
comp=Z,8µm,4.0s
HYB Hyderabad 149.15 112 *i* PKP **PKPbc 07 23 38.0 -0.3**
HYBB Hyderabad (bro 149.15 112 *e*PKiKP **PKPbc 07 23 38.2 -0.1**
NJS Nagarjunasagar 149.23 115 *e*PKiKP **PKPbc 07 23 38.0 -0.4**
ADKI Addanki 149.30 116 *e*PKiKP **PKPbc 07 23 38.9 +0.2**
SBUM Sibu 149.66 188 *e*PKPbc **PKPbc 07 23 40.1 +0.4**
SBUM LR LR
comp=Z,2µm,22.0s
SRSP Sriramsagar 149.83 110 *e*PKiKP **PKPbc 07 23 39.6 -0.3**
MNAS Manas 150.18 61 PKHKP PKPpre 07 23 34.9
MNAS pmax pmax
comp=Z,50nm,1.1s
YSS Yuzh-Sakhalins 150.26 309 *i* PKIKP **PKPdf 07 23 37.3 +2.4**
YSS *e*SSS SSS 07 47 14.0
YSS pmax pmax
comp=Z,400nm,4.0s
YSS Yuzh-Sakhalins 150.26 309 PFAKE 07 23 40.0 -0.1
YSS LR LR
comp=Z,400nm,21.0s
RPR Rampur 150.54 111 *e*PKiKP **PKPbc 07 23 40.3 -1.3**
ERM Erimo 150.98 299*c* *i*PKIKP **PKPbc 07 23 44.0 +2.1**
ERM pmax pmax
comp=Z,44nm,1.7s
ERM Erimo 150.98 299 PFAKE 07 23 50.0 +0.4
ERM LR LR
comp=Z,1µm,21.0s
MYLDM Lahad Datu 151.00 201 *e*P **PKPbc 07 23 42.9 +0.1**
MYLDM LR LR
comp=Z,2µm,21.0s
ASAJ Asahikawa 151.05 303 *e*PKPbc **PKPbc 07 23 41.8 -0.3**
IPM Ipoh 151.08 165 *e*PKPbc **PKPbc 07 23 42.2 -0.9**
IPM LR LR
comp=Z,2µm,20.0s
PVM Polavaram 151.41 116 *e*PKiKP **PKPbc 07 23 43.6 -0.1**
AAK Ala-Archa 151.61 60 PKIKP **PKPdf 07 23 40.2 +2.8**
AAK pmax pmax
comp=Z,56nm,0.9s
AAK Ala-Archa 151.61 60 *e*PKPdf **PKPdf 07 23 38.7 +1.4**
AAK LR LR
comp=Z,1µm,20.0s
FRU Bishkek 151.67 59⇑ *i*PKIKP **PKPbc 07 23 44.5 +0.9**
FRU *i* 07 23 52.5
FRU pmax pmax
comp=Z,140nm,1.9s
NVS Novosibirsk 151.70 31⇓ *i*PKIKP **PKPbc 07 23 44.0 +0.8**
NVS *e* 07 27 27.5
NVS pmax pmax
comp=N,7.0nm,1.0s
NVS pmax pmax
comp=Z,75nm,1.0s
NVS pmax pmax
comp=E,7.0nm,0.5s
KURK Kurchatov 151.73 42 *e*PKIKP **PKPdf 07 23 38.1 +1.0**
KURK MLR MLR
comp=Z,2µm,20.0s
KURK Kurchatov 151.73 42 *e*PKPbc **PKPdf 07 23 38.1 +1.0**
KURK *e* 07 23 44.1
KURK LR LR
comp=Z,2µm,20.0s
KULM Kulim 151.78 164 *e*PKPbc **PKPbc 07 23 44.5 -0.2**
KULM LR LR
comp=Z,1µm,20.0s
KKM Kota Kinabalu 152.46 197 PFAKE 07 23 50.0 +3.7
KKM LR LR
comp=Z,900nm,21.0s
ZAA0 Zalesovo Array 152.98 31 *e*PKPdf **PKPdf 07 23 38.3 -0.5**
ZAA0 *e*PKPdf **PKPdf 07 23 38.8 0.0**
ZALV Zalesovo Beam 152.98 31 PKP **PKPdf 07 23 38.9 +0.1**
comp=Z,6.0nm,0.9s,baz=285,slow=2.9,SNR=11
ZALV PKPbc **PKPbc 07 23 46.1 0.0**
comp=Z,44nm,0.7s,baz=293,slow=3.4,SNR=66
KSH Kashi 153.09 66 PKPbc **PKPdf 07 23 36.4 -3.2**
KSH pPKP PKiKP 07 23 47.5 +0.3
KSH sPKP 07 23 50.4
KSH PKS **PKSdf 07 27 09.4 -4.7**
KSH PP **PP 07 27 31.4 -1.3**
KSH SKS **SKSdf 07 30 38.8 -4.8**
KSH SKKS **SKKSac 07 34 15.3 -4.1**
KSH SS **SS 07 46 57.6 -5.9**
KSH AMB AMB
comp=Z,740nm,5.5s
KSH LR LR
comp=Z,970nm,18.3s
KSH LR LR
comp=Z,370nm,12.7s
KSH LR LR
comp=Z,1µm,20.7s
CLNS Chul'man 153.32 340 *e*PKIKP **PKPbc 07 23 43.8 -3.0**
CLNS pmax pmax
comp=Z,18nm,1.1s
CLNS pmax pmax
comp=N,8.0nm,1.0s
CLNS pmax pmax
comp=E,5.0nm,0.8s
CHLP Challavanipeta 154.01 117 *e*PKPdf **PKPdf 07 23 41.3 -0.1**
BOD Bodaibo 154.61 353 *e*PKIKP **PKPbc 07 23 47.9 -1.6**
BOD *e* 07 24 00.9
BOD pmax pmax
comp=Z,26nm,1.0s
PDGK Podgornoye 155.05 57 PKIKP PKPdf 07 23 52.5 +10
PDGK pmax pmax
comp=Z,61nm,1.1s
MJAR Matsushiro Arr 155.18 287 PKP **PKPdf 07 23 42.1 -0.4**
comp=Z,0.8nm,0.3s,baz=315,slow=2.1,SNR=4.3
MAJO Matsushiro 155.18 287 PFAKE 07 23 50.0 +7.5
MAJO LR LR
comp=Z,900nm,20.0s
MJB9 Matsu-Tunnel 155.18 287 PFAKE 07 23 50.0 +7.5
MJB9 LR LR
comp=Z,200nm,20.0s
MAKZ Makanchi 155.48 47 PKIKP **PKPdf 07 23 42.3 -0.3**
MAKZ pmax pmax
comp=Z,23nm,1.1s
MAKZ Makanchi 155.48 47 *e*PKPdf **PKPdf 07 23 42.6 0.0**
MAKZ LR LR
comp=Z,2µm,20.0s
MK31 Makanchi Array 155.68 47 *i* PKIKP **PKPdf 07 23 42.7 -0.1**
MK31 pmax pmax
comp=Z,7.0nm,0.6s
MK31 Makanchi Array 155.68 47 *e*PKPdf **PKPdf 07 23 42.8 -0.1**
MKAR Makanchi Array 155.68 47 *e*PKIKP **PKPdf 07 23 42.8 -0.1**
MKAR MLR MLR
comp=Z,400nm,21.0s
MKAR Makanchi Array 155.68 47 *e*PKPdf **PKPdf 07 23 42.8 -0.1**
MKAR LR LR
comp=Z,400nm,21.0s
MK01 Makanchi Array 155.70 47 *e*PKPdf **PKPdf 07 23 42.4 -0.5**
INU Inuyama 156.12 284 PFAKE 07 23 50.0 +6.2
INU LR LR
comp=Z,1µm,22.0s
USRK Ussuriysk Ar. 158.30 309 PKPab **PKPab 07 24 21.2 +0.6**
comp=Z,1.1nm,0.5s,baz=87,slow=9.5,SNR=3.3
DLV T Lat 159.31 180 PFAKE 07 24 00.0 +11
DLV LR LR
comp=Z,1µm,20.0s
MDJ Mudanjiang 159.66 312 PFAKE 07 24 00.0 +12
MDJ LR LR
comp=Z,1µm,19.0s
WMQ Urumqi 160.43 50 PKP **PKPdf 07 23 49.1 +0.3**
WMQ sPKP 07 24 03.5
WMQ PKPab **PKPab 07 24 31.1 +1.1**
WMQ PP **PP 07 28 15.5 +2.9**
WMQ SKS **SKSdf 07 30 50.8 0.0**
WMQ SKKS **SKKSac 07 35 00.3 +2.5**
WMQ SS **SS 07 48 22.8 +1.6**
WMQ AMB AMB
comp=Z,410nm,5.9s
WMQ LR LR
comp=Z,1µm,21.5s
ZAK Zakamensk 161.97 10 *e*PKP2 **PKPab 07 24 35.4 -1.1**
ZAK pmax pmax
comp=Z,6.0nm,1.8s
CN2 Changchun 162.63 314 *e*PKP **PKPdf 07 23 49.0 -2.0**
CN2 *e*PP **PP 07 28 25.8 +1.6**
CN2 SKKS 07 35 07.9
CN2 AMB AMB
comp=Z,300nm,10.0s
CN2 LR LR
comp=Z,400nm,17.0s
CN2 LR LR
comp=Z,700nm,17.0s
CN2 LR LR
comp=Z,700nm,22.0s
KSRS Korea Array 163.29 292 PKP **PKPdf 07 23 50.4 -1.4**
comp=Z,3.2nm,1.0s,baz=160,slow=1.7,SNR=10.0
KSRS PKPab **PKPab 07 24 43.3 +0.6**
comp=Z,1.5nm,0.8s,baz=103,slow=1.9,SNR=2.9
KS01 Wonju Array Si 163.31 292 *e*PKPdf **PKPdf 07 23 51.2 -0.7**
KSAR Wonju Array Be 163.33 292 PKIKP **PKPdf 07 23 50.4 -1.5**
KSAR 07 24 43.3
KSAR Wonju Array Be 163.33 292 PKP **PKPdf 07 23 50.4 -1.5**
KSAR PKPab **PKPab 07 24 43.3 +0.4**
CM01 Chiang Mai Arr 163.45 147 *e*PKPdf **PKPdf 07 23 52.5 0.0**
CMAR Chiang Mai Arr 163.47 147 PKP **PKPdf 07 23 52.1 -0.4**
comp=Z,1.4nm,0.8s,baz=194,slow=2.0,SNR=6.2
CMAR PKPab **PKPab 07 24 42.8 -1.0**
comp=Z,2.2nm,0.8s,baz=220,slow=4.0,SNR=6.1
SHL Shillong 163.96 112 *e*P **PKPdf 07 23 54.0 +0.9**
SONA1 Songino Array 164.83 5 *e*P **PKPdf 07 23 54.3 +1.1**
SONM Songino Array 164.84 5 PKP **PKPdf 07 23 53.9 +0.8**
comp=Z,0.8nm,0.5s,baz=202,slow=3.2,SNR=4.0
SONM PKPab **PKPab 07 24 49.5 +0.4**
comp=Z,4.6nm,0.9s,baz=344,slow=5.1,SNR=9.6
ULN Ulaanbaatar 164.85 3 *e*PKIKP **PKPdf 07 23 53.3 +0.2**
ULN Ulaanbaatar 164.85 3 *e*P **PKPdf 07 23 53.3 +0.2**
QIZ Qiongzhong 166.29 186 PKP **PKPdf 07 23 53.9 -1.1**
QIZ PP **PP 07 28 41.6 -0.8**
QIZ SS SS 07 49 25.0 +5.4
QIZ LR LR
comp=Z,820nm,19.0s
QIZ LR LR
comp=Z,440nm,22.9s
QIZ LR LR
comp=Z,1µm,19.8s
DL2 Dalian 167.58 303 PKP **PKPdf 07 23 54.3 -1.1**
DL2 PKPab **PKPab 07 25 03.0 +1.5**
DL2 AMB AMB
comp=Z,420nm,6.9s
DL2 LR LR
comp=Z,590nm,15.9s
DL2 LR LR
comp=Z,1µm,17.8s
DL2 LR LR
comp=Z,2µm,19.4s
QZH Quanzhou 168.13 232 *i* PKP **PKPdf 07 23 55.5 -0.7**
QZH PKPab **PKPab 07 25 06.6 +2.3**
QZH PP **PP 07 28 59.9 +6.9**
QZH SS SS 07 49 41.6 +1.3
QZH LR LR
comp=Z,2µm,23.9s
GZH Guangzhou 169.43 206 PKP **PKPdf 07 23 59.3 +2.3**
GZH PP **PP 07 28 57.5 -1.2**
BJI Beijing 170.35 321 PKP **PKPdf 07 23 55.3 -1.8**
GTA Gaotai 170.41 44 *e*PKP **PKPdf 07 23 57.8 +0.5**
GTA PKPab **PKPab 07 25 15.1 +0.9**
GTA PP **PP 07 29 06.5 +2.1**
GTA SKS **SKSdf 07 30 58.6 +0.9**
GTA AMB AMB
comp=Z,350nm,9.0s
GTA LR LR
comp=Z,270nm,20.9s
GTA LR LR
comp=Z,180nm,21.9s
GTA LR LR
comp=Z,320nm,25.4s
KMI Kunming 170.98 146 PKP **PKPdf 07 23 57.8 -0.4**
NJ2 Nanjing 171.08 268 *e*PKP **PKPdf 07 24 00.3 +2.6**
HHC Hu-ho-hao-te 171.49 343 *e*PKP **PKPdf 07 23 58.1 +0.3**
HHC PP **PP 07 29 09.1 +0.1**
HHC SKKS 07 35 56.4
HHC SS SS 07 50 03.8 -8.2
HHC AMB AMB
comp=Z,300nm,10.1s
HHC LR LR
comp=Z,620nm,22.8s
HHC LR LR
comp=Z,800nm,22.0s
HHC LR LR
comp=Z,1µm,21.5s

TIA	**Tai'an**	**171.95**	**298**	*e*PKP	**PKPdf**	07 23 58.3	+0.2
GYA	**Guiyang**	**173.59**	**166**	PKP	**PKPdf**	07 23 58.3	-0.9
GYA				PKPab	**PKPab**	07 25 30.0	+1.6
GYA				PKS	**PKSdf**	07 27 29.4	-2.2
GYA				PP	**PP**	07 29 22.6	+3.4
GYA				SKKS		07 36 06.0	
GYA				SS	SS	07 50 32.4	0.0
GYA				AMB	AMB		
	comp=Z,160nm,8.4s						
GYA				LR	LR		
	comp=Z,190nm,24.6s						
GYA				LR	LR		
	comp=Z,180nm,25.2s						
WHN	**Wuhan**	**174.43**	**249**	PKP	**PKPdf**	07 23 59.4	+0.2
WHN				PP	**PP**	07 29 29.6	+4.8
WHN				SKKS		07 36 11.8	
LZH	**Lanzhou**	**175.00**	**47**	*e*PKP	**PKPdf**	07 24 01.3	+1.9
LZH				pPKP	pPKPdf	07 24 07.3	-4.9
LZH				sPKP		07 24 10.9	
LZH				PP	**PP**	07 29 32.1	+5.0
LZH				SKS	**SKSdf**	07 31 00.1	+0.7
LZH				SKKS	**SKKSac**	07 36 11.6	+1.1
LZH				AMB	AMB		
	comp=Z,250nm,5.0s						
LZH				LR	LR		
	comp=Z,2μm,20.9s						
CD2	**Chengdu**	**175.70**	**114**	*e*PKP	**PKPdf**	07 24 00.3	+0.7
CD2				PKPab	**PKPab**	07 25 37.4	-0.5
CD2				PKS	**PKSdf**	07 27 28.3	-3.6
CD2				PP	**PP**	07 29 29.8	-1.1
CD2				SKKS		07 36 14.3	
CD2				SS	SS	07 50 52.8	-2.6
CD2				LR	LR		
	comp=Z,2μm,19.0s						

ISCJB ***14*** *07:10:04.9±0.4,22°.30N±0°.02×121°.16E±0°.02,h3km±4km, Error ellipse: s-maj=3.9km s-min=3.6km az=7.5*
TAP ***14*** *07:10:05.5,22°.33N×121°.02E,h11km,ML4.0,B*
JMA ***14*** *07:10:10.0±0.1,22°.70N×121°.27E,h9km±2km,M3.8*

ISC 14 07:10:04.4±1.2,22°28N±0°.03×121°.13E±0°.03,h7km±9km, n61,σ0s87/97,4C-7D,Taiwan region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
TAW	**Tawu**	**0.23**	**290**	⇑	*i*P		**Pg**	**07 10 09.2**	**+0.2**
	baz=291								
TAW					*i* S		**Sg**	**07 10 11.6**	**-0.4**
	baz=291								
EAST	**Anshuo**	**0.28**	**292**	⇑	*i*P		**Pg**	**07 10 10.1**	**+0.1**
	baz=287								
ECL	**Taimali**	**0.35**	**333**		*i* P		**Pg**	**07 10 11.7**	**+0.3**
	baz=344								
TSEB	**Hengchuen, Pin**	**0.43**	**209**		P		**Pn**	**07 10 15.6**	**-1.4**
	baz=182								
TSEB					S		**Sb**	**07 10 23.4**	**+2.3**
	baz=182								
TWK1	**Hengchun**	**0.45**	**222**		P		**Pb**	**07 10 14.9**	**+0.2**
	baz=204								
TWK1					S		**Sb**	**07 10 22.1**	**+0.5**
	baz=204								
HEN	**Hengchun**	**0.45**	**233**	⇓	P		**Pb**	**07 10 14.8**	**+0.1**
	baz=216								
HEN					*e*S		**Sb**	**07 10 21.3**	**-0.4**
	baz=216								
LAY	**Lan-yu**	**0.46**	**121**		P		**Pn**	**07 10 16.3**	**-1.2**
	baz=105								
TTN	**Taitung**	**0.47**	**2**		*e*P		**Pb**	**07 10 15.7**	**+0.6**
	baz=1.0								
SCZT	**Fangliau**	**0.48**	**281**	⇑	P		**Pg**	**07 10 13.8**	**+0.1**
	baz=276								
SCZT					S		**Sg**	**07 10 19.5**	**-0.4**
	baz=276								
TWG	**Pinlang**	**0.54**	**355**	⇓	*i*P		**Pg**	**07 10 15.3**	**+0.4**
	baz=9.0								
TWG					*e*S		**Sb**	**07 10 23.6**	**-0.7**
	baz=9.0								
TWP	**Hsiaoliuchiu**	**0.71**	**275**		*e*P		**Pn**	**07 10 20.7**	**-0.2**
	baz=279								
SGLT	**Jiouru**	**0.73**	**307**		*e*P		**Pb**	**07 10 19.5**	**-0.1**
	baz=309								
SGLT					*e*S		**Sb**	**07 10 29.8**	**0.0**
	baz=309								
KAU	**Kaohsiung**	**0.81**	**291**		*e*P		**Pn**	**07 10 23.1**	**+0.8**
	baz=290								
CHKT	**Chengkung**	**0.84**	**15**		*e*P		**Pg**	**07 10 20.5**	**-0.2**
	baz=26								
CHKT					*e*S		**Sg**	**07 10 31.4**	**-0.3**
	baz=26								
TWM1	**Shoushan**	**0.85**	**310**		*e*P		**Pn**	**07 10 22.0**	**-0.8**
	baz=321								
TWM1					*e*S		**Sn**	**07 10 34.2**	**-1.3**
	baz=321								
ELDTW	**Lidau**	**0.91**	**354**		*e*P		**Pg**	**07 10 21.0**	**-1.0**
	baz=14								
SGST	**Jiashian**	**0.94**	**328**	⇑	*i*P		**Pb**	**07 10 23.1**	**0.0**
	baz=337								
SGST					*e*S		**Sg**	**07 10 34.7**	**-0.1**
	baz=337								
STYT	**Tauyuan**	**0.94**	**339**	⇓	P		**Pg**	**07 10 22.6**	**0.0**
	baz=350								
STYT					*e*S		**Sg**	**07 10 35.0**	**+0.2**
	baz=350								
CHN1	**Nanshi**	**1.06**	**329**		*e*P		**Pn**	**07 10 25.8**	**+0.1**
	baz=336								
CHN1					*e*S		**Sn**	**07 10 40.6**	**-0.1**
	baz=336								
CHN3	**Shinhua**	**1.06**	**319**		*e*P		**Pn**	**07 10 26.2**	**+0.5**
	baz=337								
CHN3					*e*S		**Sn**	**07 10 42.3**	**+1.6**
	baz=337								
WTP	**Ta-pu**	**1.07**	**334**	⇓	P		**Pn**	**07 10 25.7**	**-0.3**
	baz=342								
WTP					*e*S		**Sn**	**07 10 40.9**	**-0.2**
	baz=342								
TWF1	**Yuli**	**1.08**	**8**		*e*P		**Pg**	**07 10 24.2**	**-1.0**
	baz=17								
TWF1					*e*S		**Sg**	**07 10 38.3**	**-0.9**
	baz=17								
TAI1	**Yung-k'ang**	**1.12**	**313**		*e*P		**Pb**	**07 10 25.6**	**-0.5**
	baz=316								
TWK	**Hsinying**	**1.15**	**329**	⇓	P		**Pn**	**07 10 27.0**	**0.0**
	baz=335								
TWK					S		**Sn**	**07 10 43.2**	**+0.3**
	baz=335								
EHY	**Hungye**	**1.23**	**8**		*e*P		**Pb**	**07 10 28.4**	**+0.3**
	baz=16								
SCLT	**Jiali**	**1.24**	**316**		*e*P		**Pg**	**07 10 28.4**	**+0.2**
	baz=321								
SCLT					*e*S		**Sn**	**07 10 45.7**	**+0.6**
	baz=321								
ALS	**Alishan**	**1.26**	**346**		*e*P		**Pn**	**07 10 28.3**	**-0.4**
	baz=5.0								
ALS					*e*S		**Sn**	**07 10 46.6**	**+0.5**
	baz=5.0								
CHN8	**Yiju**	**1.36**	**322**		*e*P		**Pb**	**07 10 30.1**	**0.0**
	baz=328								
CHN8					*e*S		**Sg**	**07 10 49.4**	**+1.3**
	baz=328								
CHN5	**Tsauling**	**1.37**	**343**	⇓	P		**Pb**	**07 10 30.7**	**+0.2**
	baz=2.0								
CHN5					*e*S		**Sg**	**07 10 50.9**	**+2.2**
	baz=2.0								
CHN2	**Minshiung**	**1.38**	**334**		*e*P		**Pb**	**07 10 30.7**	**+0.1**
	baz=342								
CHN2					*e*S		**Sn**	**07 10 48.7**	**0.0**
	baz=342								
WDT	**Danda**	**1.47**	**0**		*e*P		**Pn**	**07 10 30.4**	**-1.2**
	baz=17								
WGK	**Gukeng**	**1.49**	**340**		*e*P		**Pb**	**07 10 32.5**	**0.0**
	baz=348								
WGK					*e*S		**Sg**	**07 10 53.2**	**+0.7**
	baz=348								
ESL	**Shilin**	**1.55**	**10**		*e*P		**Pn**	**07 10 32.5**	**0.0**
	baz=18								
WSF	**Szhu**	**1.59**	**329**		*e*P		**Pn**	**07 10 33.0**	**0.0**
	baz=336								
WSF					*e*S		**Sb**	**07 10 54.5**	**+0.1**
	baz=336								
SMLT	**Sun Moon Lake**	**1.61**	**353**		*e*P		**Pb**	**07 10 34.8**	**+0.2**
	baz=17								
SMLT					*e*S		**Sg**	**07 10 57.0**	**+0.8**
	baz=17								
TYC	**Yuchr**	**1.64**	**351**	⇓	P		**Pb**	**07 10 35.0**	**+0.1**
	baz=17								
TYC					*e*S		**Sg**	**07 10 56.7**	**-0.3**
	baz=17								
WDGT	**Dungji**	**1.67**	**306**		*e*P		**Pb**	**07 10 34.7**	**-0.8**
	baz=309								
WDGT					*e*S		**Sn**	**07 10 55.3**	**-0.4**
	baz=309								
TWD	**Chiawan**	**1.84**	**13**		*e*P		**Pn**	**07 10 36.1**	**-0.4**
	baz=22								
TWD					*e*S		**Sn**	**07 10 58.4**	**-1.7**
	baz=22								
WHF	**Hehuan Shan**	**1.86**	**4**		*e*P		**Pn**	**07 10 38.0**	**+0.9**
	baz=28								
WHF					*e*S		**Sb**	**07 11 02.3**	**-0.4**
	baz=28								
TCU	**Taichung**	**1.90**	**348**		*e*P		**Pb**	**07 10 38.6**	**-0.9**
	baz=355								
PNG	**Penghu**	**1.93**	**312**		*e*P		**Pn**	**07 10 36.7**	**-1.1**
	baz=317								
PNG					*e*S		**Sn**	**07 11 00.5**	**-1.7**
	baz=317								
TWT	**Tachien**	**1.96**	**1**		*e*P		**Pb**	**07 10 39.7**	**-1.0**
	baz=17								
TWT					*e*S		**Sb**	**07 11 06.1**	**+0.6**
	baz=17								
TWQ1	**Liyutan**	**2.08**	**351**		*e*P		**Pb**	**07 10 41.4**	**-1.2**
TWQ1					*e*S		**Sb**	**07 11 07.9**	**-0.8**
NSY	**Sanyi**	**2.15**	**351**		*e*P		**Pb**	**07 10 42.9**	**-0.9**
	baz=15								
NSY					*e*S		**Sb**	**07 11 10.0**	**-0.7**
	baz=15								
NNS	**Nan Shan**	**2.16**	**6**		*e*P		**Pb**	**07 10 43.1**	**-0.9**
	baz=28								
NNS					*e*S		**Sn**	**07 11 09.2**	**+1.0**
	baz=28								
ENA	**Nanau**	**2.21**	**15**		*e*P		**Pn**	**07 10 42.3**	**+0.7**
	baz=35								
NSTT	**Nanjuang**	**2.34**	**357**		*e*P		**Pn**	**07 10 44.6**	**+1.2**
	baz=7.0								
NSTT					*e*S		**Sn**	**07 11 13.8**	**+1.4**
	baz=7.0								
ENTT	**Nioudou**	**2.38**	**10**		*e*P		**Pn**	**07 10 45.0**	**+1.1**
	baz=29								
NSK	**Sanguang**	**2.40**	**5**		*e*P		**Pb**	**07 10 46.7**	**-1.2**
	baz=31								
NSK					*e*S		**Sn**	**07 11 15.3**	**+1.5**
	baz=31								
TWC	**Suao**	**2.41**	**16**		*e*P		**Pn**	**07 10 44.6**	**+0.3**
	baz=24								
TWC					*e*S		**Sn**	**07 11 14.0**	**-0.1**
	baz=24								
TWE	**Neicheng**	**2.48**	**11**		*e*P		**Pb**	**07 10 47.4**	**-1.9**
	baz=30								
JYNG	**Yonagunijimaku**	**2.73**	**37**		P		**Pn**	**07 10 48.5**	**-0.2**
YOJ	**Yonaguni jima**	**2.78**	**38**		*e*P		**Pn**	**07 10 50.1**	**+0.8**
	baz=45								
YOJ	**Yonaguni jima**	**2.78**	**38**		P		**Pn**	**07 10 49.8**	**+0.5**
NWF	**Wu-fen Shan**	**2.84**	**12**		*e*P		**Pn**	**07 10 52.1**	**+1.8**
	baz=28								
IRIF	**Iriomote-Funau**	**3.15**	**49**		P		**Pn**	**07 10 55.9**	**+1.5**
KNM	**Kinmen**	**3.26**	**311**		*e*P		**Pn**	**07 10 55.2**	**-0.8**
	baz=316								
JKRS	**Kuro-shima**	**3.29**	**53**		P		**Pn**	**07 10 58.0**	**+1.6**
JIJ	**Ishigaki jima**	**3.46**	**53**		P		**Pn**	**07 10 59.9**	**+1.1**
JISG	**Ishigakijimahi**	**3.72**	**51**		P		**Pn**	**07 11 02.3**	**0.0**
JTJ	**Tarama**	**4.04**	**54**		P		**Pn**	**07 11 07.4**	**+0.7**

IDC ***14*** *07:16:58.7±0.8,32°.61S×71°.71W,h0km,mb4.3/8, mb1 4.4/12,mb1mx4.2/28,mbtmp4.2/12,ML3.9/4, Error ellipse: s-maj=29.8km s-min=18.6km az=82.0*
ISCJB ***14*** *07:16:59.7±1.6,32°.82S±0°.05×72°.10W±0°.04,h14km±10km, mb4.4/9,Error ellipse: s-maj=8.2km s-min=5.4km az=21.4*
NEIC ***14*** *07:17:04.0±0.0,32°.63S×71°.66W,h32km,ML4.1(GUC), After GUC.*
NEIC Felt [III] at Zapallar and [II] at Concon, Villa Alemana and Vina del Mar.
SJA ***14*** *07:17:04.6±0.8,32°.61S×71°.59W,h5km,ML4.3,MW4.3*
GUC ***14*** *07:17:04.1±0.5,32°.63S×71°.66W,h32km±16km,ML4.1*

ISC 14 07:17:01.5±1.6,32°64S±0°.04×71°.75W±0°.06,h17km±9km, n52,σ1s14/56,mb4.6/9,2C-4D,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
ROC1	**El Roble**	**0.71**	**119**		*i*P		**Pn**	**07 17 17.0**	**0.0**
ROC1					*i* S		**Sn**	**07 17 26.8**	**-0.8**
ROCH	**El Roble**	**0.71**	**118**	⇓	*i*P		**Pn**	**07 17 16.9**	**0.0**
ROCH					*i* S		**Sn**	**07 17 26.9**	**-0.7**
ROCH					IAML			07 17 27.6	
	comp=N,14μm,0.4s								
PEL	**Peldehue**	**1.03**	**120**	⇓	*i*P		**Pg**	**07 17 22.0**	**+0.5**
PEL					*i* S		**Sn**	**07 17 36.0**	**+0.7**
PEL					IAML			07 17 38.3	
	comp=E,9μm,0.2s								
CLCH	**Cerro Calan**	**1.27**	**127**	⇓	*i*P		**Pg**	**07 17 25.6**	**-0.5**
CLCH					*i* S		**Sg**	**07 17 41.7**	**-1.0**
CLCH					IAML			07 17 46.7	
	comp=E,7μm,0.6s								
ANTU	**Antumapu**	**1.32**	**135**	⇑	*i*P		**Pb**	**07 17 26.4**	**+0.4**
ANTU					*i* S		**Sg**	**07 17 43.5**	**-0.8**
ANTU					IAML			07 17 45.7	
	comp=E,6μm,0.5s								
FSR	**Penalolen**	**1.33**	**129**	⇑	*i*P		**Pg**	**07 17 26.6**	**-0.6**
FSR					*i* S		**Sg**	**07 17 44.0**	**-0.5**
FCH	**Farellones**	**1.41**	**120**	⇓	*i*P		**Pg**	**07 17 28.1**	**-0.7**
FCH					*i* S		**Sg**	**07 17 46.7**	**-0.5**
FCH					IAML			07 17 47.5	
	comp=N,6μm,0.2s								
AUSP	**Uspallata**	**2.04**	**79**		*e*P		**Pg**	**07 17 40.0**	**-0.8**
AUSP					*e*S		**Sg**	**07 18 09.7**	**+2.3**
RTLS	**Leoncito**	**2.24**	**69**		*i* P		**Pg**	**07 17 43.5**	**-1.1**
RTLS					*i* S		**Sg**	**07 18 18.1**	**+4.3**
RTLS					IAML			07 18 23.8	
	comp=Z,801nm,0.5s								
ARCO	**CERRO ARCO**	**2.38**	**96**		*e*P		**Pb**	**07 17 45.5**	**+1.3**
ARCO					IAML			07 17 55.9	
	comp=Z,1μm,0.5s								
ARCO					*i* S		**Sg**	**07 18 17.6**	**-0.7**
ASAL	**Salagasta**	**2.46**	**90**		*e*P		**Pg**	**07 17 47.3**	**-1.5**
ASAL					*e*S		**Sg**	**07 18 20.6**	**-0.2**
AAGR	**Agrelo**	**2.50**	**101**		*e*P		**Pb**	**07 17 47.2**	**+1.1**
AAGR					*e*S		**Sg**	**07 18 22.1**	**+0.1**
RTCV	**Cerro Valdivia**	**2.83**	**75**		*e*P		**Pb**	**07 17 51.4**	**-0.2**
RTCV					*e*S		**Sg**	**07 18 31.0**	**-1.5**
SJA	**San Juan**	**2.93**	**69**		IAML			07 18 47.9	
	comp=Z,468nm,0.6s								
RTLL	**Cerro Villicun**	**3.08**	**66**		IAML			07 18 46.7	
	comp=Z,557nm,0.4s								
AMOG	**MOGNA**	**3.25**	**59**		*e*P		**Pb**	**07 17 57.0**	**-1.9**
LCO	**Las Campanas**	**3.73**	**14**		IAML			07 19 07.9	
	comp=E,1μm,0.5s								
LCO	**Las Campanas**	**3.73**	**14**		*e*Pn		**Pn**	**07 18 00.1**	**+1.5**
LCO					*e*Sn		**Sn**	**07 18 41.8**	**-0.4**
AVFE	**Valle Fertil**	**4.16**	**63**		IAML			07 19 12.8	
	comp=Z,178nm,0.3s								
VCA	**Vinchina**	**4.95**	**39**		IAML			07 19 36.3	
	comp=Z,597nm,0.7s								
MRA	**San Martin**	**5.10**	**89**		IAML			07 19 30.8	
	comp=Z,212nm,0.7s								
TCA	**Tanti**	**6.22**	**80**		IAML			07 20 07.9	
	comp=Z,96nm,0.5s								
PLCA	**Paso Flores**	**8.14**	**174**		Pn		**Pn**	**07 18 59.0**	**+0.1**
	comp=Z,0.9nm,0.3s,baz=354,slow=11,SNR=18								
PLCA					Lg		Lg	07 21 05.2	
	baz=294,slow=19,SNR=1.5								
TRQA	**Tornquist**	**9.64**	**127**		*e*Pn		**Pn**	**07 19 22.0**	**+2.5**
LVC	**Limon Verde**	**10.30**	**15**		*e*Pn		**Pn**	**07 19 30.8**	**+1.8**
CPUP	**Villa Florida**	**14.04**	**67**		Pn		**Pn**	**07 20 19.0**	**-0.7**
	comp=Z,0.1nm,0.3s,baz=0.0,slow=19,SNR=1.8								
CPUP					Sn		**Sn**	**07 22 54.4**	**-0.8**
	comp=Z,0.1nm,0.3s,baz=299,slow=17,SNR=4.1								
CPUP					Lg		Lg	07 24 17.0	
	comp=Z,0.3nm,0.3s,baz=351,slow=20,SNR=2.7								
LPAZ	**La Paz**	**16.61**	**12**		Pn		**Pn**	**07 20 54.4**	**+0.2**
	comp=Z,0.2nm,0.3s,baz=196,slow=7.2,SNR=8.6								
SIV	**San Ignacio**	**19.20**	**33**		P		**P**	**07 21 24.2**	**-0.4**
	comp=Z,0.3nm,0.3s,baz=240,slow=20,SNR=4.0								
VNA3	**Neumayer Olymp**	**50.53**	**158**		P		**P**	**07 25 58.9**	**+0.4**
VNA1	**Neumayer--Stat**	**50.83**	**157**		P		**P**	**07 26 02.4**	**+1.7**
VNA2	**Neumayer--Watz**	**51.17**	**158**		P		**P**	**07 26 03.7**	**+0.4**
	baz=289,slow=7.1								
SNAA	**Sanae**	**52.76**	**158**		P		**P**	**07 26 15.1**	**-0.1**
SNAA	**Sanae**	**52.76**	**158**		P		**P**	**07 26 15.7**	**+0.5**
	comp=Z,2.9nm,0.9s,baz=269,slow=7.2,SNR=13								
SNAA	**Sanae**	**52.76**	**158**		*e*P		**P**	**07 26 15.0**	**-0.1**
	comp=Z,132nm,0.8s								
SNAA					P		**P**	**07 26 15.7**	**+0.5**
QSPA	**South Pole Qui**	**57.59**	**180**		*e*P		**P**	**07 26 51.0**	**+0.7**
	comp=Z,16nm,0.8s								
TXAR	**Lajitas Array**	**68.67**	**330**		P		**P**	**07 28 05.2**	**+1.2**
	comp=Z,0.3nm,0.6s,baz=153,slow=8.1,SNR=6.1								
TKL	**Tuckaleechee C**	**68.87**	**350**		P		**P**	**07 28 03.2**	**-1.9**
	comp=Z,2.4nm,0.6s,baz=179,slow=8.5,SNR=5.2								
MAW	**Mawson**	**74.41**	**164**		P		**P**	**07 28 38.1**	**0.0**
	comp=Z,2.1nm,0.7s,baz=260,slow=7.2,SNR=5.2								
DBIC	**Dimbokro**	**74.52**	**71**		P		**P**	**07 28 39.0**	**-0.6**
	comp=Z,4.7nm,0.8s,baz=264,slow=3.9,SNR=3.8								
BOSA	**Boshof**	**80.49**	**118**		P		**P**	**07 29 12.6**	**-0.5**
	comp=Z,3.8nm,0.9s,baz=182,slow=10,SNR=5.1								
TORD	**Torodi Ar. Bea**	**83.52**	**70**		P		**P**	**07 29 28.9**	**+0.1**
	comp=Z,3.7nm,0.8s,baz=253,slow=4.4,SNR=16								
ULM	**Lac du Bonnet**	**85.25**	**345**		P		**P**	**07 29 37.5**	**+0.7**
	comp=Z,2.6nm,0.7s,baz=66,slow=6.2,SNR=3.1								
WRA	**Warramunga Arr**	**122.06**	**209**		PKP		**PKPdf**	**07 35 54.4**	**-1.4**
	comp=Z,0.7nm,1.0s,baz=250,slow=3.1,SNR=4.8								
H11S2	**WAKE ISLAND Hyl**	**26.02**	**270**		T		T	09 54 57.7	
	baz=117,slow=74,SNR=108								
H11S1	**WAKE ISLAND Hyl**	**26.03**	**270**		T		T	09 54 58.7	
	baz=117,slow=74,SNR=126								
H11S3	**WAKE ISLAND Hyl**	**26.04**	**270**		T		T	09 54 59.1	
	baz=117,slow=76,SNR=110								
H11N3	**WAKE ISLAND Hyl**	**26.40**	**271**		T		T	09 55 28.6	
	baz=117,slow=76,SNR=26								
H11N1	**WAKE ISLAND Hyl**	**26.41**	**271**		T		T	09 55 28.7	
	baz=117,slow=76,SNR=5.5								
H11N2	**WAKE ISLAND Hyl**	**26.42**	**271**		T		T	09 55 28.1	
	baz=117,slow=76,SNR=39								
KKAR	**Karatay Array**	**148.67**	**60**		*e*PKPbc		**PKPbc**	**07 36 47.5**	**-0.1**
AAK	**Ala-Archa**	**151.63**	**60**		*e*PKPdf		**PKPdf**	**07 36 48.5**	**-0.2**
AAK					*e*PKPbc		**PKPbc**	**07 36 55.1**	**+0.1**
ZALV	**Zalesovo Beam**	**152.94**	**31**		PKPbc		**PKPbc**	**07 36 57.3**	**0.0**
	comp=Z,5.1nm,0.6s,baz=297,slow=3.5,SNR=15								

GUC 14 07:31:28.7±0.4,17°.76S×69°.55W,h161km±2km,ML3.7, 4C-3D,Peru-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
PB13	**IPOC Station P**	**0.57**	**176**	⇑	*i*P		Pn	07 31 53.6	+1.2
PB13					*e*S		Sn	07 32 12.2	+1.5
PB13					IAML			07 32 14.3	
	comp=E,3μm,0.6s								
PB12	**IPOC Station P**	**1.13**	**221**	⇑	*i*P		Pn	07 31 56.2	+0.5
PB12					*i* S		Sn	07 32 17.2	+0.7
PB12					IAML			07 32 18.5	
	comp=E,3μm,0.3s								
MNMC	**Minye Minye**	**1.36**	**182**	⇑	*i*P		Pn	07 31 59.6	+1.5
MNMC					*e*S		Sn	07 32 22.6	+1.9
MNMC					IAML			07 32 27.9	
	comp=N,519nm,0.3s								
PSGC	**Pisagua**	**1.90**	**197**	⇑	*i*P		Pn	07 32 04.7	+1.1
PSGC					*e*S		Sn	07 32 31.7	+1.2
PSGC					IAML			07 32 32.8	
	comp=N,367nm,0.3s								
PB08	**IPOC Station P**	**2.40**	**171**	⇓	*i*P		Pn	07 32 11.0	+1.5
PB08					*e*S		Sn	07 32 43.1	+2.0
HMBC	**Humberstone**	**2.52**	**187**		*i* P		Pn	07 32 11.8	+1.1
HMBC					*i* S		Sn	07 32 44.9	+1.5
HMBC					IAML			07 32 50.6	
	comp=N,151nm,0.3s								
PB01	**IPOC Station P**	**3.26**	**179**	⇓	*i*P		Pn	07 32 20.9	+1.0
PB01					*i* S		Sn	07 33 00.6	+0.9
PB07	**IPOC Station P**	**3.96**	**185**		*i* P		Pn	07 32 30.4	+1.6
PB07					*e*S		Sn	07 33 15.4	-0.3
PB06	**IPOC Station P**	**4.92**	**180**	⇓	*i*P		Pn	07 32 42.1	+0.8
PB06					*i* S		Sn	07 33 40.0	+1.8

GUC ***14*** *07:37:14.6±0.6,32°.61S×71°.69W,h20km±14km,ML3.1*
SJA ***14*** *07:37:15.9±0.8,32°.61S×71°.52W,h10km±10km,ML2.8, MW3.4*

ISC 14 07:37:12.0±3.3,32°.57S±0°.06×71°.7W±0°.2,h4km±18km,n14, σ0s65/20,6D,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
ROC1	**El Roble**	**0.72**	**124**		*e*P		**Pb**	**07 37 28.0**	**+0.8**
ROC1					*e*S		**Sb**	**07 37 37.6**	**-0.1**
ROCH	**El Roble**	**0.72**	**123**	⇓	*i*P		**Pb**	**07 37 28.0**	**+0.7**
ROCH					*i* S		**Sb**	**07 37 37.6**	**0.0**
ROCH					IAML			07 37 38.3	
	comp=N,1μm,0.3s								
PEL	**Peldehue**	**1.05**	**123**	⇓	*i*P		**Pb**	**07 37 33.0**	**+0.3**
PEL					*i* S		**Sb**	**07 37 46.5**	**-0.2**
PEL					IAML			07 37 52.5	
	comp=E,932nm,0.7s								
RCDM	**Rinconada Maip**	**1.20**	**140**	⇓	*i*P		**Pg**	**07 37 34.6**	**-0.3**
RCDM					*i* S		**Sb**	**07 37 50.6**	**-0.4**
CLCH	**Cerro Calan**	**1.29**	**130**	⇓	*i*P		**Pg**	**07 37 36.6**	**-0.2**
CLCH					*i* S		**Sb**	**07 37 53.2**	**-0.7**
CLCH					IAML			07 38 00.0	
	comp=E,1μm,0.7s								
ANTU	**Antumapu**	**1.35**	**137**		*i* S		**Sb**	**07 37 55.0**	**-0.6**
ANTU					IAML			07 38 00.2	
	comp=E,781nm,0.9s								
FCH	**Farellones**	**1.42**	**122**	⇓	*i*P		**Pn**	**07 37 39.1**	**+0.2**
FCH			

comp=N,773nm,0.3s

SJCH	**San Jose de Ma**	**1.76**	**125**	⇑*i*P		**Pb**	**07 43 55.6**	**+0.6**
SJCH				*i* S		**Sb**	**07 44 15.5**	**-1.2**
AUSP	**Uspallata**	**2.32**	**80**	*e*P		**Pb**	**07 44 05.9**	**+1.3**
AUSP				*e*S		**Sb**	**07 44 34.2**	**+1.3**
RTLS	**Leoncito**	**2.51**	**71**	*e*P		**Pb**	**07 44 09.3**	**+1.5**
ARCO	**CERRO ARCO**	**2.66**	**95**	*e*P		**Pb**	**07 44 11.3**	**+0.9**
ARCO				IAML			07 44 54.1	

comp=Z,79nm,0.4s

ASAL	**Salagasta**	**2.74**	**90**	*e*P		**Pb**	**07 44 12.5**	**+0.9**
RTCV	**Cerro Valdivia**	**3.10**	**76**	*e*P		**Pb**	**07 44 17.2**	**-0.6**
AMOG	**MOGNA**	**3.50**	**62**	*e*P		**Pb**	**07 44 23.1**	**-1.4**

IDC 14 07:44:41.7±1.9, 5°.61S×147°.71E, h198km±20km, mb3.5/3, mb1 3.7/5, mb1mx3.4/25, mbtmp4.0/5, Error ellipse: s-maj=50.9km s-min=13.9km az=119.0, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**3.81**	**188**	P	Pn	07 45 42.6	+1.4

11nm,0.3s,baz=339,slow=5.3,SNR=15

PMG				S	Sn	07 46 27.6	-0.3

4.5nm,0.3s,baz=24,slow=14,SNR=7.4

WRA	**Warramunga Arr**	**19.29**	**221**	P		P	07 48 51.5	-0.2

1.1nm,0.3s,baz=48,slow=12,SNR=48

WRA				S		S	07 52 22.7	+3.2

0.0nm,0.3s,baz=41,slow=17,SNR=3.7

ASAR	**Alice Springs**	**22.34**	**215**	P		P	07 49 24.0	+0.6

1.8nm,0.7s,baz=53,slow=7.7,SNR=16

ASAR				S		S	07 53 13.4	-0.7

0.4nm,0.6s,baz=34,slow=17,SNR=3.7

FITZ	**Fitzroy Crossi**	**24.87**	**238**	P		P	07 49 45.2	-1.2

5.5nm,0.5s,baz=49,slow=10,SNR=27

ILAR	**Eielson Array**	**84.85**	**23**	P		P	07 56 54.1	+0.4

0.3nm,0.5s,baz=255,slow=5.6,SNR=4.8

TORD	**Torodi Ar. Bea**	**145.68**	**285**	PKPbc		PKPdf	08 03 57.5	0.0

0.5nm,0.6s,baz=72,slow=3.3,SNR=7.7

GUC 14 07:48:19.6±0.7, 32°.76S×71°.79W, h31km±18km, ML3.0
SJA 14 07:48:20.3±1.1, 32°.63S×71°.59W, h10km±13km, ML2.7, MW3.1

ISC 14 07:48:18.3±3.2, 32°.92S±0°.10×71°.9W±0°.1, h7km±12km, n11, σ0°.84/16, 4D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ROC1	**El Roble**	**0.76**	**95**	*e*P	**Pg**	**07 48 33.4**	**+0.5**
ROC1				*e*S	**Sg**	**07 48 43.2**	**+0.4**
ROCH	**El Roble**	**0.76**	**94**	IAML		07 48 46.1	

comp=N,924nm,0.3s

PEL	**Peldehue**	**1.05**	**103**	⇓*i*P	**Pg**	**07 48 38.4**	**-0.1**
PEL				*i* S	**Sb**	**07 48 52.9**	**-0.1**
PEL				IAML		07 48 54.8	

comp=E,2μm,0.2s

CLCH	**Cerro Calan**	**1.25**	**113**	⇓*i*P	**Pb**	**07 48 42.0**	**-0.2**
CLCH				*i* S	**Sn**	**07 48 59.5**	**+0.2**
ANTU	**Antumapu**	**1.25**	**122**	⇓*i*P	**Pg**	**07 48 42.9**	**+0.5**
ANTU				*i* S	**Sn**	**07 48 59.9**	**+0.5**
ANTU				IAML		07 49 02.4	

comp=N,451nm,0.4s

FCH	**Farellones**	**1.42**	**107**	⇓*i*P	**Pn**	**07 48 44.4**	**-0.4**
FCH				*i* S	**Sb**	**07 49 03.2**	**-0.5**
FCH				IAML		07 49 04.0	

comp=N,482nm,0.3s

AUSP	**Uspallata**	**2.24**	**73**	*e*P	**Pn**	**07 48 56.6**	**+0.5**
AUSP				*e*S	**Sn**	**07 49 24.8**	**+0.6**
ARCO	**CERRO ARCO**	**2.51**	**89**	*e*P	**Pb**	**07 49 02.4**	**-1.4**
ARCO				IAML		07 49 37.0	

comp=Z,43nm,0.5s

AAGR	**Agrelo**	**2.60**	**94**	*e*P	**Pb**	**07 49 03.7**	**-1.6**
ASAL	**Salagasta**	**2.61**	**84**	*e*P	**Pn**	**07 49 02.4**	**+1.4**
AMOG	**MOGNA**	**3.52**	**57**	*e*P	**Pn**	**07 49 13.7**	**+0.3**

MEX 14 07:52:42.4±0.7, 14°.61N×92°.93W, h16km±50km, MD3.5, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CCIG	**Comitan**	**1.83**	**24**	*e*P	Pn	07 53 10.8	-2.5
CCIG				*e*S	Sn	07 53 31.4	-4.9
TGIG		**2.16**	**355**	*e*P	Pn	07 53 13.7	-4.2
TGIG				*e*S	Sn	07 53 38.9	-5.5

IDC 14 08:01:57.6±14.0, 17°.88S×168°.78E, h0km, mb3.9/4, mb1 4.0/5, mb1mx3.7/36, mbtmp3.9/5, ML3.6/1, Error ellipse: s-maj=233.9km s-min=57.3km az=72.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**4.71**	**207**	Pn	Pn	08 03 08.2	-1.9

2.7nm,0.3s,baz=113,slow=5.2,SNR=30

DZM				Sn	Sn	08 03 51.9	-14

4.0nm,0.3s,baz=100,slow=23,SNR=7.6

CTA	**Charters Tower**	**21.41**	**260**	P	P	08 06 47.1	-0.2

4.1nm,0.7s,baz=77,slow=16,SNR=3.5

STKA	**Stephens Creek**	**28.23**	**235**	P	P	08 07 54.1	+1.7

2.6nm,1.0s,baz=63,slow=12,SNR=3.4

WRA	**Warramunga Arr**	**32.61**	**261**	P	P	08 08 30.3	-1.1

0.7nm,1.1s,baz=92,slow=6.8,SNR=4.8

ASAR	**Alice Springs**	**33.06**	**254**	P	P	08 08 35.1	-0.1

1.1nm,0.6s,baz=82,slow=8.6,SNR=21

SJA 14 08:07:52.7±0.7, 33°.10S×71°.79W, h5km, ML3.3, MW3.5
GUC 14 08:07:53.2±0.5, 32°.72S×71°.81W, h42km±6km, ML3.7, 1C-4D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ROC1	**El Roble**	**0.71**	**111**	*e*P	Pn	08 08 06.8	-0.4
ROC1				*e*S	Sn	08 08 16.5	-0.6
ROCH	**El Roble**	**0.72**	**111**	IAML		08 08 18.0	

comp=N,3μm,0.2s

PEL	**Peldehue**	**1.04**	**114**	⇓*i*P	Pn	08 08 11.9	+0.6
PEL				*i* S	Sn	08 08 26.2	+1.6
PEL				IAML		08 08 28.0	

comp=E,5μm,0.3s

RCDM	**Rinconada Maip**	**1.14**	**133**	⇑*i*P	Pn	08 08 13.2	+0.5
CLCH	**Cerro Calan**	**1.26**	**123**	⇓*i*P	Pn	08 08 15.4	+1.0
CLCH				*i* S	Sn	08 08 32.5	+2.2
CLCH				IAML		08 08 36.2	

comp=E,3μm,0.6s

ANTU	**Antumapu**	**1.30**	**131**	*e*P	Pn	08 08 16.7	+1.8
ANTU				*i* S	Sn	08 08 33.4	+2.2
ANTU				IAML		08 08 36.2	

comp=E,2μm,0.7s

FSR	**Penalolen**	**1.32**	**125**	⇓*i*P	Pn	08 08 16.4	+1.3
FSR				*i* S	Sn	08 08 34.2	+2.7
FCH	**Farellones**	**1.41**	**116**	⇓*i*P	Pn	08 08 17.9	+1.2
FCH				*i* S	Sn	08 08 36.8	+2.5
FCH				IAML		08 08 37.5	

comp=E,2μm,0.2s

SJCH	**San Jose de Ma**	**1.53**	**127**	*i* S	Sn	08 08 39.8	+3.0
ARCO	**CERRO ARCO**	**2.43**	**94**	*e*P	Pn	08 08 35.5	+5.0
ARCO				IAML		08 09 17.0	

comp=Z,164nm,0.4s

ASAL	**Salagasta**	**2.51**	**88**	*e*P	Pn	08 08 36.9	+5.3
ASAL				*e*S	Sn	08 09 10.7	+10

IDC 14 08:09:18.2±0.7, 18°.28S×167°.57E, h0km, mb4.3/15, mb1 4.5/16, mb1mx4.2/40, mbtmp4.3/16, ML4.0/1, MS3.9/5, Ms1 3.9/5, ms1mx3.6/36, Error ellipse: s-maj=22.9km s-min=16.2km az=102.0
ISCJB 14 08:09:20.7±0.2, 18°.32S±0°.06×167°.56E±0°.06, h25km, mb4.8/55, MS4.6/6, Error ellipse: s-maj=9.6km s-min=6.5km az=141.2
BJI 14 08:09:22.7, 18°.72S×167°.75E, h44km, mb4.9/29, mB5.2/20, Ms5.3/13, Ms7 5.1/13
NEIC 14 08:09:26.3±1.3, 18°.25S×167°.51E, h60km±11km, mb4.9/39, Error ellipse: s-maj=9.4km s-min=5.3km az=154.0

ISC 14 08:09:22.5±0.4, 18°.40S±0°.06×167°.50E±0°.08, h25km, n90, σ1°.86/90, mb4.8/55, MS4.7/6, 1D, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**3.79**	**195**	Pn	**Pn**	**08 10 18.0**	**-1.3**

11nm,0.3s,baz=313,slow=22,SNR=42

DZM				Sn	**Sn**	**08 10 59.0**	**-4.2**

27nm,0.3s,baz=316,slow=22,SNR=22

DZM				LR	LR	08 11 05.9		

comp=Z,668nm,18.6s,baz=30,slow=28

DZM	**Mont Dzumac**	**3.79**	**195**	*e*Pn	**Pn**	**08 10 17.6**	**-1.8**
DZM				*e*Sn	**Sn**	**08 10 59.9**	**-3.3**
MSVF	**Nonsavu**	**10.06**	**88**	*e*Pn	**Pn**	**08 11 48.1**	**+2.5**
HNR	**Honiara**	**11.54**	**320**	LR	LR	08 15 12.2	

comp=Z,409nm,19.4s,baz=153,slow=31

ARMA	**Armidale**	**18.74**	**227**	*e*P	**Pn**	**08 13 44.1**	**+3.9**

40nm,1.5s

CTA	**Charters Tower**	**20.13**	**262**	P	**P**	**08 13 54.1**	**-0.8**

38nm,0.8s,baz=84,slow=12,SNR=31

CTAO	**Charters Tower**	**20.13**	**262**	*e*P	Pn	08 13 57.7	+0.8

44nm,0.8s

URZ	**Urewera**	**21.49**	**159**	P	**P**	**08 14 10.6**	**+1.2**

14nm,0.9s,baz=321,slow=15,SNR=3.4

URZ	**Urewera**	**21.49**	**159**	*e*P	**P**	**08 14 11.9**	**+2.5**

75nm,1.1s

CAN	**Canberra**	**23.52**	**221**	*e*P	**P**	**08 14 32.8**	**+2.0**

34nm,1.1s

STKA	**Stephens Creek**	**26.93**	**235**	P	**P**	**08 15 03.6**	**+1.6**

16nm,0.8s,baz=65,slow=8.3,SNR=28

STKA	**Stephens Creek**	**26.93**	**235**	*e*P	**P**	**08 15 03.6**	**+1.6**

5.8nm,0.9s

RAR	**Rarotonga**	**30.89**	**101**	LR	LR	08 26 11.0		

comp=Z,156nm,18.1s,baz=282,slow=33

WB2	**Warramunga Arr**	**31.32**	**262**	*e*P	**P**	**08 15 40.2**	**-0.9**
WRA	**Warramunga Arr**	**31.33**	**262**	P	**P**	**08 15 40.8**	**-0.4**

2.9nm,0.8s,baz=82,slow=5.9,SNR=27

BBOO	**Buckleboo**	**31.64**	**237**	*e*P	**P**	**08 15 44.9**	**+1.2**

18nm,1.0s

ASAR	**Alice Springs**	**31.75**	**255**	P	**P**	**08 15 44.7**	**-0.2**

11nm,0.8s,baz=82,slow=8.8,SNR=117

FORT	**Forrest**	**37.73**	**243**	*e*P	**P**	**08 16 35.7**	**-0.8**
FORT				*e*pP	**pP**	**08 16 45.6**	**+1.6**
FITZ	**Fitzroy Crossi**	**39.69**	**264**	*e*P	**P**	**08 16 53.7**	**+0.7**

44nm,0.9s

PPT	**Papeete**	**40.77**	**96**	LR	LR	08 30 35.5		

comp=Z,193nm,18.3s,baz=278,slow=31

MBWA	**Marble Bar**	**44.91**	**258**	*e*P	**P**	**08 17 35.6**	**+0.1**

21nm,1.0s

VNDA	**Vanda**	**59.22**	**181**	P	**P**	**08 19 21.6**	**+0.4**

1.1nm,0.8s,baz=32,slow=7.3,SNR=2.1

SBA	**Scott Base**	**59.49**	**180**	*e*P	**P**	**08 19 23.8**	**+0.8**

17nm,1.2s

MJAR	**Matsushiro Arr**	**61.26**	**333**	P	**P**	**08 19 34.1**	**-1.6**

1.2nm,0.8s,baz=179,slow=6.1,SNR=2.8

USRK	**Ussuriysk Ar.**	**70.25**	**334**	P	**P**	**08 20 33.2**	**-0.2**

1.4nm,0.7s,baz=209,slow=8.3,SNR=3.0

QSPA	**South Pole Qui**	**71.65**	**180**	*e*P	**P**	**08 20 42.3**	**+0.4**
PETK	**Petropavlovsk-**	**71.71**	**354**	P	**P**	**08 20 42.2**	**0.0**

4.9nm,0.9s,baz=141,slow=5.0,SNR=4.2

CN2	**Changchun**	**72.90**	**330**	*e*P	**P**	**08 20 51.5**	**+2.1**
CN2				pmax	pmax		

comp=Z,10.0nm,0.6s

GYA	**Guiyang**	**73.99**	**305**	*e*P	**P**	**08 20 58.3**	**+1.9**
GYA				pmax	pmax		

comp=Z,10.0nm,1.0s

KMI	**Kunming**	**76.44**	**302**	P	**P**	**08 21 12.1**	**+1.4**
KMI				pmax	pmax		

comp=Z,14nm,0.5s

KMI				pmax	pmax		

comp=Z,140nm,4.3s

CMAR	**Chiang Mai Arr**	**76.66**	**295**	P	**P**	**08 21 12.4**	**+0.7**

0.9nm,0.4s,baz=136,slow=3.8,SNR=4.4

CD2	**Chengdu**	**78.42**	**308**	*e*P	**P**	**08 21 22.3**	**+0.8**
CD2				pmax	pmax		

comp=Z,10.0nm,0.8s

HHC	**Hu-ho-hao-te**	**78.52**	**320**	*e*P	**P**	**08 21 22.1**	**+0.3**
HHC				pmax	pmax		

comp=Z,27nm,1.4s

HHC				pmax	pmax		

comp=Z,80nm,5.0s

MAW	**Mawson**	**78.59**	**202**	P	**P**	**08 21 22.5**	**+0.9**

1.9nm,0.8s,baz=93,slow=8.8,SNR=4.0

MAW	**Mawson**	**78.59**	**202**	*e*P	**P**	**08 21 22.8**	**+1.2**

2.4nm,1.1s

LZH	**Lanzhou**	**80.95**	**313**	*e*P	**P**	**08 21 37.4**	**+2.2**
LZH				pP	sP	08 21 51.6	+5.4
LZH				sP	pP	08 21 56.8	+13
LZH				*e*S	**S**	**08 31 44.3**	**+1.4**
LZH				sS	ScS	08 32 05.3	+3.9
LZH				SS	**SS**	**08 36 57.3**	**-0.5**
LZH				pmax	pmax		

comp=Z,21nm,1.2s

LZH				pmax	pmax		

comp=Z,140nm,4.5s

LZH				LR	LR		

comp=N,340nm,15.0s

LZH				LR	LR		

comp=E,520nm,14.3s

LZH				LR	LR		

comp=Z,640nm,18.9s

SEY	**Seymchan**	**81.93**	**353**	P	**P**	**08 21 39.5**	**-0.1**

2.9nm,0.7s,baz=156,slow=16,SNR=5.8

SYO	**Syowa Base**	**85.27**	**197**	⇓*e*X	P	08 21 50.0	-6.8
SONM	**Songino Array**	**85.57**	**324**	P	**P**	**08 21 58.4**	**-0.3**

1.2nm,0.9s,baz=161,slow=6.3,SNR=3.5

TTA	**Tatlina**	**85.97**	**16**	*e*P	P	08 21 55.3	-5.0

45nm,2.0s

WDC	**Whiskeytown Da**	**87.45**	**46**	*e*P	**P**	**08 22 06.7**	**-1.2**

5.6nm,0.9s

ORV	**Oroville**	**87.71**	**47**	*e*P	**P**	**08 22 08.0**	**-1.2**

5.0nm,0.9s

AFDM	**Forest Hills D**	**87.81**	**48**	*e*P	**P**	**08 22 08.2**	**-1.6**

7.5nm,0.9s

CMB	**Columbia Colle**	**87.83**	**49**	*e*P	**P**	**08 22 08.7**	**-1.2**

7.4nm,0.8s

YBH	**Yreka Blue Hor**	**87.85**	**45**	*e*P	**P**	**08 22 08.4**	**-1.6**

2.8nm,0.9s

HUMO	**Hull Mountain**	**88.09**	**44**	*e*P	**P**	**08 22 09.7**	**-1.3**

4.6nm,1.0s

WAKR	**Walker**	**88.71**	**49**	*e*P	**P**	**08 22 12.7**	**-1.6**

16nm,1.3s

PAX	**Paxson**	**89.05**	**20**	*e*P	**P**	**08 22 15.5**	**+0.4**

14nm,0.5s

YERR	**Yerington**	**89.05**	**48**	*e*P	**P**	**08 22 14.4**	**-1.4**

6.4nm,1.2s

TVH2	**Borealis Mine**	**89.14**	**49**	*e*P	**P**	**08 22 14.8**	**-1.5**

12nm,1.9s

TVH1	**TV Hill, Hawth**	**89.17**	**49**	*e*P	**P**	**08 22 15.0**	**-1.7**

9.7nm,1.4s

PAHR	**Pah Rah Range**	**89.25**	**48**	*e*P	**P**	**08 22 15.4**	**-1.3**

5.8nm,1.0s

K05A	**Summer Lake**	**89.50**	**44**	*e*P	**P**	**08 22 17.2**	**-0.7**

62nm,1.9s

MOD	**Moc Plateau**	**89.54**	**45**	*e*P	**P**	**08 22 16.7**	**-1.4**

4.1nm,0.8s

MDM	**Murphy Dome**	**89.69**	**17**	*e*P	**P**	**08 22 16.1**	**-1.9**

8.4nm,1.2s

SNAA	**Sanae**	**89.92**	**183**	P	**P**	**08 22 19.0**	**-0.3**
SNAA	**Sanae**	**89.92**	**183**	*e*P	**P**	**08 22 19.2**	**0.0**

19nm,1.4s

IL1	**Eielson Array**	**89.93**	**18**	*e*P	**P**	**08 22 16.7**	**-2.4**
ILAR	**Eielson Array**	**89.93**	**18**	P	**P**	**08 22 16.9**	**-2.2**

1.6nm,0.7s,baz=236,slow=5.3,SNR=20

ILB	**Eielson Array**	**89.93**	**18**	*e*P	**P**	**08 22 17.1**	**-2.0**
TPNV	**Topopah Spring**	**90.40**	**51**	*e*P	**P**	**08 22 21.1**	**-1.1**

6.6nm,1.1s

LDFC	**Landfair**	**90.54**	**53**	*e*P	**P**	**08 22 21.9**	**-0.9**

10nm,1.1s

VNA3	**Neumayer Olymp**	**90.57**	**181**	P	**P**	**08 22 22.3**	**+0.1**
D05A	**Enumclaw**	**90.77**	**40**	*e*P	**P**	**08 22 23.0**	**-0.4**

19nm,1.2s

VNA2	**Neumayer--Watz**	**90.84**	**182**	P	**P**	**08 22 23.6**	**+0.2**

baz=158,slow=3.8

WVOR	**Wild Horse Val**	**90.89**	**45**	*e*P	**P**	**08 22 22.5**	**-1.7**

11nm,1.3s

WVOR				*e*pP	**pP**	**08 22 31.4**	**-1.0**
COLD	**Coldfoot**	**90.89**	**15**	*e*P	**P**	**08 22 24.1**	**+0.6**

5.2nm,1.2s

SHPR	**Sheep Range**	**91.04**	**52**	*e*P	**P**	**08 22 24.4**	**-0.8**

8.6nm,1.5s

BMN	**Battle Mountai**	**91.06**	**48**	*e*P	**P**	**08 22 24.3**	**-0.8**

4.2nm,0.8s

VNA1	**Neumayer--Stat**	**91.14**	**181**	P	**P**	**08 22 27.6**	**+2.8**
W13A	**Hualapai Mount**	**91.48**	**54**	*e*P	**P**	**08 22 26.1**	**-1.3**

5.2nm,1.1s

HAWA	**Hanford**	**91.94**	**41**	*e*P	**P**	**08 22 28.1**	**-0.7**

9.1nm,1.2s

DLBC	**Dease Lake**	**92.06**	**28**	LR	LR	09 00 50.4		

comp=Z,189nm,18.1s,baz=321,slow=34

CCUT	**Cedar City**	**92.76**	**51**	*e*P	**P**	**08 22 31.6**	**-1.6**

5.8nm,1.4s

X16A	**Lo Mia Camp, P**	**93.13**	**55**	*e*P	**P**	**08 22 34.4**	**-0.5**

4.7nm,1.1s

U15A	**North Rim**	**93.17**	**53**	*e*P	**P**	**08 22 34.0**	**-1.2**

4.0nm,0.8s

WMQ	**Urumqi**	**95.44**	**314**	P	**P**	**08 22 45.0**	**-0.1**
WMQ				pP	sP	08 22 58.3	+2.1
WMQ				sP	pP	08 23 03.3	+10
WMQ				pmax	pmax		

comp=Z,9.0nm,0.7s

WMQ				pmax	pmax		

comp=Z,79nm,4.9s

WMQ				LR	LR		

comp=N,2μm,20.1s

WMQ				LR	LR		

comp=E,1μm,19.3s

WMQ				LR	LR		

comp=Z,1μm,19.1s

MCU	**Monte Cristo P**	**95.46**	**48**	*e*P	**P**	**08 22 43.5**	**-2.2**
TXAR	**Lajitas Array**	**97.82**	**62**	P	**P**	**08 22 54.2**	**-2.1**

0.5nm,1.1s,baz=220,slow=4.9,SNR=3.5

KSH	**Kashi**	**102.62**	**308**	*e*P	**Pdif**	**08 23 16.1**	**-1.4**
KSH				PP	**PP**	**08 27 33.3**	**+2.1**
KSH				S	**Sdif**	**08 34 50.8**	**-10**
KSH				LR	LR		

comp=N,110nm,6.9s

KSH				LR	LR		

comp=E,120nm,6.3s

KSH				LR	LR		

comp=Z,200nm,16.5s

AKASG	**Malin Array Be**	**133.85**	**324**	PKP	**PKPdf**	**08 28 35.4**	**-1.8**

0.3nm,0.3s,baz=58,slow=1.3,SNR=2.9

CONA	**Conrad Observa**	**142.57**	**328**	*i* PKPdf	**PKPdf**	**08 28 51.2**	**-2.3**

3.9nm,0.7s

GERES	**GERESS Array B**	**142.97**	**331**	PKP	**PKPdf**	**08 28 53.4**	**-0.8**

0.4nm,0.2s,baz=19,slow=3.3,SNR=4.2

MOA	**Molln**	**143.41**	**329**	*i* pPKPdf	PKPdf	08 29 09.0	+14

5.3nm,1.2s

KBA	**Koelnbreinsper**	**144.40**	**329**	*i* pPKPdf	PKPdf	08 29 11.2	+14

5.6nm,0.9s

ABTA	**Abfaltersbach**	**145.03**	**330**	*i* PKPdf	**PKPbc**	**08 28 56.5**	**-0.7**

9.0nm,0.8s

MOTA	**Moosalm**	**145.26**	**331**	*i* PKPdf	**PKPdf**	**08 28 58.0**	**-0.2**

3.0nm,0.5s

FETA	**Feichten**	**145.67**	**331**	*i* PKiKP	**PKPab**	**08 28 59.5**	**-0.2**

12nm,1.0s

DAVA	**Damuels**	**145.85**

KURK ⇓Lg Lg 08 15 22.5
25nm,1.2s

GUC 14 08:15:52.9±0.5, 32.71S×71.70W, h10km±3km, ML2.9
SJA 14 08:15:53.4±0.8, 32.61S×71.56W, h10km±10km, ML2.6, MW2.9
ISC 14 08:15:51.3±3.1, 32.75S±0.08×71.8W±0.1, h3km±16km, n14, σ0.79/22, 1C-3D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ROC1	**El Roble**	**0.69**	**109**	*eP*	**Pb**	**08 16 06.1**	**0.0**
ROC1				*eS*	**Sb**	**08 16 15.9**	**-0.2**
ROCH	**El Roble**	**0.69**	**109**	⇓*iP*	**Pb**	**08 16 06.1**	**0.0**
ROCH				*i* S	**Sb**	**08 16 15.9**	**-0.2**
ROCH				IAML		08 16 16.9	
	comp=N,1μm,0.3s						
PEL	**Peldehue**	**1.01**	**113**	⇓*iP*	**Pg**	**08 16 11.2**	**+0.5**
PEL				*i* S	**Sb**	**08 16 25.1**	**0.0**
PEL				IAML		08 16 26.9	
	comp=N,610nm,0.2s						
RCDM	**Rinconada Maip**	**1.11**	**132**	*eP*	**Pg**	**08 16 12.8**	**+0.3**
CLCH	**Cerro Calan**	**1.23**	**122**	⇓*iP*	**Pg**	**08 16 14.8**	**-0.2**
CLCH				*i* S	**Sg**	**08 16 31.4**	**+0.5**
CLCH				IAML		08 16 35.0	
	comp=N,362nm,0.4s						
ANTU	**Antumapu**	**1.27**	**130**	⇑*iP*	**Pg**	**08 16 15.8**	**+0.2**
ANTU				*eS*	**Sb**	**08 16 33.3**	**+0.7**
ANTU				IAML		08 16 35.0	
	comp=N,378nm,0.3s						
FSR	**Penalolen**	**1.28**	**125**	*eP*	**Pg**	**08 16 15.8**	**-0.1**
FSR				*i* S	**Sb**	**08 16 33.5**	**+0.4**
FCH	**Farellones**	**1.39**	**115**	*eP*	**Pn**	**08 16 16.8**	**-1.0**
FCH				*i* S	**Sg**	**08 16 35.8**	**-0.1**
FCH				IAML		08 16 36.0	
	comp=N,713nm,0.2s						
AUSP	**Uspallata**	**2.10**	**76**	*eP*	**Pb**	**08 16 29.4**	**-0.8**
AUSP				*eS*	**Sb**	**08 16 56.7**	**+0.1**
RTLS	**Leoncito**	**2.31**	**67**	*eP*	**Pb**	**08 16 32.6**	**-1.2**
ARCO	**CERRO ARCO**	**2.41**	**93**	*eP*	**Pb**	**08 16 34.8**	**-0.6**
ARCO				IAML		08 16 35.9	
	comp=Z,38nm,0.4s						
ASAL	**Salagasta**	**2.50**	**87**	*eP*	**Pb**	**08 16 35.7**	**-1.1**
AAGR	**Agrelo**	**2.51**	**98**	*eP*	**Pb**	**08 16 35.9**	**-1.2**
RTCV	**Cerro Valdivia**	**2.89**	**73**	*eP*	**Pn**	**08 16 40.1**	**+1.9**

ISCJB 14 08:20:13.9±0.7, 8.30N±0.05×121.53E±0.04, h33km, mb3.6/4, Error ellipse: s-maj=7.1km s-min=5.2km az=33.7
IDC 14 08:20:14.5±5.7, 8.38N×123.01E, h0km, mb3.7/4, mb1 3.9/4, mb1mx3.5/46, mbtmp3.7/4, Error ellipse: s-maj=338.8km s-min=27.6km az=86.0
ISC 14 08:20:15.3±1.0, 8.28N±0.07×121.52E±0.05, h35km, n15, σ1.35/23, mb3.5/4, 4C-1D, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PAGZ	**Pagadian**	**1.89**	**103**	*eP*	**Pn**	**08 20 44.5**	**-0.7**
PAGZ				*eS*	**Sn**	**08 21 05.5**	**-2.3**
SNPH	**Sibulan**	**2.00**	**58**	⇑*iP*	**Pn**	**08 20 46.0**	**-0.7**
SNPH				*i* S	**Sn**	**08 21 10.5**	**0.0**
GUIM	**Jordan**	**2.56**	**24**	*eP*	**Pn**	**08 20 55.0**	**+0.6**
GUIM				*eS*	**Sn**	**08 21 23.0**	**-1.3**
TBP	**Tagbilaran**	**2.70**	**59**	⇓*iP*	**Pn**	**08 20 56.4**	**0.0**
TBP				*i* S	**Sn**	**08 21 28.1**	**+0.2**
PPR	**Puerto Princes**	**3.13**	**299**	⇑*eP*	**Sn**	**08 21 38.1**	**-0.4**
CGP	**Cagayan de Oro**	**3.14**	**87**	*eS*	**Sn**	**08 21 38.0**	**-0.7**
LLP	**Lapu-Lapu**	**3.15**	**50**	⇑*eP*	**Sn**	**08 21 02.3**	**-0.2**
LLP				*eS*	**Sn**	**08 21 37.1**	**-1.8**
RCP	**Roxas**	**3.48**	**20**	⇑*eP*	**Pn**	**08 21 08.8**	**+1.8**
RCP				*eS*	**Sn**	**08 21 46.8**	**-0.2**
ENPP	**El Nido**	**3.57**	**325**	*eP*	**Pn**	**08 21 08.8**	**+0.5**
ENPP				*eS*	**Sn**	**08 21 48.3**	**-0.9**
BUSP	**Coron**	**3.92**	**341**	*eP*	**Pn**	**08 21 12.5**	**-0.6**
BUSP				*eS*	**Sn**	**08 21 57.1**	**-1.0**
LUBP	**Lubang**	**5.56**	**347**	*eP*	**Pn**	**08 21 31.9**	**-3.8**
WRA	**Warramunga Arr**	**30.75**	**156**	P	**P**	**08 26 27.4**	**-0.2**
	0.7nm,0.7s,baz=337,slow=9.4,SNR=5.0						
ASAR	**Alice Springs**	**33.98**	**159**	P	**P**	**08 26 56.7**	**+0.9**
	0.3nm,0.5s,baz=339,slow=7.1,SNR=6.4						
ILAR	**Eielson Array**	**83.25**	**26**	P	**P**	**08 32 39.2**	**+1.1**
	0.3nm,0.7s,baz=260,slow=4.7,SNR=3.9						
INK	**Inuvik**	**87.83**	**21**	P	**P**	**08 33 02.1**	**+1.4**
	1.0nm,0.8s,baz=280,slow=6.1,SNR=4.4						

IDC 14 08:25:21.6±3.4, 32.53S×72.40W, h0km, mb3.8/2, mb1 3.9/5, mb1mx3.6/29, mbtmp3.7/5, ML4.1/3, MS4.1/1, Ms1 4.1/1, ms1mx3.2/28, Error ellipse: s-maj=101.3km s-min=29.7km az=101.0
SJA 14 08:25:27.9±1.1, 32.63S×71.64W, h10km±73km, ML3.9, MW3.9
GUC 14 08:25:28.2±0.6, 32.75S×71.71W, h22km±8km, ML4.0
ISC 14 08:25:26.6±2.0, 32.77S±0.06×71.90W±0.08, h16km±11km, n23, σ1.41/30, 2C-2D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ROC1	**El Roble**	**0.77**	**106**	*eP*	**Pg**	**08 25 41.8**	**+0.2**
ROC1				*eS*	**Sg**	**08 25 51.9**	**0.0**
ROCH	**El Roble**	**0.77**	**106**	*eP*	**Pg**	**08 25 41.6**	**-0.1**
ROCH				*i* S	**Sg**	**08 25 51.5**	**-0.4**
ROCH				AML	AML	08 25 52.9	
	comp=N,12μm,0.5s						
PEL	**Peldehue**	**1.09**	**111**	*eP*	**Pb**	**08 25 46.4**	**-0.6**
PEL				*i* S	**Sb**	**08 26 00.5**	**-0.6**
PEL				AML	AML	08 26 02.8	
	comp=E,11μm,0.4s						
RCDM	**Rinconada Maip**	**1.16**	**128**	*eP*	**Pb**	**08 25 48.0**	**-0.4**
RCDM				*eS*	**Sb**	**08 26 03.0**	**-0.3**
TACH	**Talagante**	**1.20**	**138**	⇑*iP*	**Pn**	**08 25 49.0**	**+0.3**
CLCH	**Cerro Calan**	**1.30**	**119**	⇓*iP*	**Pn**	**08 25 50.4**	**+0.2**
CLCH				*i* S	**Sb**	**08 26 07.2**	**-0.1**
CLCH				AML	AML	08 26 11.8	
	comp=E,7μm,0.6s						
ANTU	**Antumapu**	**1.33**	**127**	*eP*	**Pn**	**08 25 51.0**	**+0.4**
ANTU				AML	AML	08 26 10.7	
	comp=N,5μm,0.4s						
FSR	**Penalolen**	**1.35**	**122**	*eP*	**Pg**	**08 25 52.5**	**-0.1**
FSR				*i* S	**Sg**	**08 26 09.6**	**-0.6**
FCH	**Farellones**	**1.46**	**113**	⇓*iP*	**Pn**	**08 25 52.9**	**+0.2**
FCH				*i* S	**Sn**	**08 26 11.3**	**-0.3**
FCH				AML	AML	08 26 11.8	
	comp=N,5μm,0.3s						
CHCH	**Chadas Ángostu**	**1.56**	**138**	*eP*	**Pb**	**08 25 55.3**	**+0.2**
YECH	**El Yeso**	**1.77**	**121**	*eP*	**Pb**	**08 25 58.1**	**-0.6**
AUSP	**Uspallata**	**2.19**	**76**	*eP*	**Pb**	**08 26 05.1**	**-0.9**
AUSP				*eS*	**Sb**	**08 26 33.3**	**+0.2**
GO05	**HualaæØ**	**2.24**	**181**	⇑*eP*	**Pn**	**08 26 03.6**	**+0.6**
ARCO	**CERRO ARCO**	**2.50**	**92**	*eP*	**Pb**	**08 26 10.7**	**-0.5**
ARCO				IAML		08 26 12.1	
	comp=Z,627nm,0.4s						
RTLL	**Cerro Villicun**	**3.24**	**65**	*eP*	**Pn**	**08 26 20.6**	**+3.7**
AMOG	**MOGNA**	**3.42**	**59**	*eP*	**Pn**	**08 26 21.8**	**+2.4**
AGUA	**GUANDACOL**	**4.38**	**43**	*eP*	**Pn**	**08 26 35.6**	**+3.0**
PLCA	**Paso Flores**	**8.02**	**173**	Pn	**Pn**	**08 27 24.4**	**+1.9**
	comp=Z,0.7nm,0.3s,baz=354,slow=13,SNR=28						
CPUP	**Villa Florida**	**14.20**	**67**	Pn	**Pn**	**08 28 49.5**	**+2.3**
	comp=Z,0.3nm,0.3s,baz=235,slow=14,SNR=4.3						
LPAZ	**La Paz**	**16.76**	**13**	Pn	**Pn**	**08 29 18.6**	**-2.7**
	comp=Z,0.1nm,0.3s,baz=175,slow=7.9,SNR=6.9						
RCBR	**Riachuelo**	**42.90**	**59**	LR	LR	08 52 33.5	
	comp=Z,220nm,19.6s,baz=358,slow=38						
SNAA	**Sanae**	**52.68**	**158**	P	**P**	**08 34 40.2**	**+0.4**
	comp=Z,0.4nm,0.5s,baz=268,slow=8.5						
TORD	**Torodi Ar. Bea**	**83.68**	**70**	P	**P**	**08 37 53.4**	**-1.5**
	comp=Z,1.5nm,0.8s,baz=248,slow=3.4,SNR=7.2						

CSEM 14 08:28:42.2, 37.21N×22.01E, h8km, ML2.0/13
ATH 14 08:28:42.2, 37.21N×22.01E, h8km±3km, ML2.0/13, Error ellipse: s-maj=3.6km s-min=0.8km az=236.0, Southern Greece

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ITM	**Ithomi**	**0.07**	**246**	P	Pg	08 28 43.7	-0.5
ITM				S	Sg	08 28 46.8	+1.2
ITM	**Ithomi**	**0.07**	**246**	P	Pg	08 28 43.5	-0.7
ITM				AML	AML	08 28 46.4	
	comp=E,5063μm,0.4s						
ITM				S	Sg	08 28 46.8	+1.2
ITM				AML	AML	08 28 49.0	
	comp=N,6296μm,0.3s						
ITM	**Ithomi**	**0.07**	**246**	P	Pg	08 28 43.7	-0.5
ITM				AML	AML	08 28 46.4	
	comp=E,5063μm,0.4s						
ITM				S	Sg	08 28 46.8	+1.2
ITM				AML	AML	08 28 49.0	
	comp=N,6296μm,0.3s						
VLX	**Vlachokerasia**	**0.33**	**61**	P	Pg	08 28 47.9	-0.9
VLX				S	Sg	08 28 53.3	+0.1
VLX	**Vlachokerasia**	**0.33**	**61**	P	Pg	08 28 48.3	-0.5
VLX				S	Sg	08 28 52.4	-0.8
VLX				AML	AML	08 28 55.6	
	comp=N,717μm,0.6s						
VLX				AML	AML	08 28 58.1	
	comp=E,991μm,0.6s						
VLX	**Vlachokerasia**	**0.33**	**61**	P	Pg	08 28 47.9	-0.9
VLX				S	Sg	08 28 53.3	+0.1
VLX				AML	AML	08 28 59.7	
	comp=E,1111μm,1.0s						
VLX				AML	AML	08 29 02.6	
	comp=N,909μm,0.9s						
TRIP	**Tripoli**	**0.38**	**33**	P	Pg	08 28 49.3	-0.3
TRIP				S	Sg	08 28 55.5	+0.9
TRIP	**Tripoli**	**0.38**	**33**	P	Pg	08 28 49.6	0.0
TRIP				S	Sg	08 28 55.8	+1.2
TRIP				AML	AML	08 28 56.5	
	comp=E,477μm,0.4s						
TRIP				AML	AML	08 28 59.0	
	comp=N,654μm,1.2s						
TRIP	**Tripoli**	**0.38**	**33**	P	Pg	08 28 49.4	-0.2
TRIP				S	Sg	08 28 55.5	+0.9
TRIP				AML	AML	08 28 56.7	
	comp=E,477μm,0.4s						
TRIP				AML	AML	08 28 59.0	
	comp=N,654μm,1.2s						
PYL	**PYLOS**	**0.38**	**215**	P	Pg	08 28 49.2	-0.4
PYL				S	Sg	08 28 55.4	+0.7
PYL	**PYLOS**	**0.38**	**215**	P	Pg	08 28 49.4	-0.2
PYL				S	Sb	08 28 56.7	-0.6
PYL				AML	AML	08 28 59.7	
	comp=N,569μm,0.8s						
PYL				AML	AML	08 29 01.7	
	comp=E,614μm,0.5s						
PYL	**PYLOS**	**0.38**	**215**	P	Pg	08 28 49.2	-0.4
PYL				S	Sg	08 28 55.4	+0.8
PYL				AML	AML	08 28 57.6	
	comp=N,576μm,0.3s						
PYL				AML	AML	08 28 57.9	
	comp=E,548μm,0.3s						
AMT	**Artemida-Makis**	**0.40**	**323**	P	Pg	08 28 49.9	-0.2
AMT				S	Sg	08 28 56.6	+1.2
AMT	**Artemida-Makis**	**0.40**	**323**	P	Pg	08 28 48.8	-1.3
AMT				S	Sb	08 28 56.9	-1.1
AMT				AML	AML	08 28 59.9	
	comp=N,1476μm,0.4s						
AMT				AML	AML	08 29 00.7	
	comp=E,1493μm,0.3s						
AMT	**Artemida-Makis**	**0.40**	**323**	P	Pg	08 28 49.9	-0.1
AMT				S	Sg	08 28 56.6	+1.2
AMT				AML	AML	08 28 59.7	
	comp=N,1476μm,0.4s						
AMT				AML	AML	08 29 00.7	
	comp=E,1493μm,0.3s						
KLV	**Kalavryta, Ach**	**0.84**	**7**	P	Pg	08 28 58.2	-0.1
KLV				S	Sb	08 29 10.7	+0.1
KLV	**Kalavryta, Ach**	**0.84**	**7**	P	Pg	08 28 57.3	-1.1
KLV	**Kalavryta, Ach**	**0.84**	**7**	P	Pg	08 28 58.2	-0.1
KLV				S	Sb	08 29 10.7	+0.1
KLV				AML	AML	08 29 12.0	
	comp=E,114μm,0.3s						
KLV				AML	AML	08 29 13.8	
	comp=N,146μm,0.5s						
VLI	**Veliai**	**0.89**	**123**	P	Pg	08 28 58.0	-1.2
VLI				S	Sb	08 29 12.2	+0.3
VLI	**Veliai**	**0.89**	**123**	P	Pg	08 28 58.3	-1.0
VLI	**Veliai**	**0.89**	**123**	P	Pg	08 28 58.0	-1.3
VLI				S	Sb	08 29 12.2	+0.3
VLI				AML	AML	08 29 15.6	
	comp=E,145μm,0.7s						
VLI				AML	AML	08 29 16.3	
	comp=N,186μm,0.7s						
TRAZ	**Trapeza**	**0.97**	**9**	P	Pg	08 28 59.9	-0.9
TRAZ	**Trapeza**	**0.97**	**9**	P	Pg	08 28 59.1	-1.7
TRAZ	**Trapeza**	**0.97**	**9**	P	Pg	08 28 59.9	-0.9
TRAZ				AML	AML	08 29 20.0	
	comp=N,329μm,0.3s						
TRAZ				AML	AML	08 29 20.5	
	comp=E,276μm,0.4s						
THAL	**Thalero**	**0.97**	**32**	P	Pg	08 28 59.2	-1.7
THAL	**Thalero**	**0.97**	**32**	P	Pg	08 28 59.2	-1.6
DID	**Didima**	**1.02**	**73**	P	Pb	08 29 02.0	-0.1
DID				S	Sn	08 29 16.6	-0.8
DID	**Didima**	**1.02**	**73**	P	Pb	08 29 02.1	0.0
DID	**Didima**	**1.02**	**73**	P	Pb	08 29 02.0	-0.1
DID				S	Sn	08 29 16.6	-0.7
DID				AML	AML	08 29 18.5	
	comp=E,154μm,0.4s						
DID				AML	AML	08 29 20.6	
	comp=N,123μm,0.4s						
LAKA	**Lakka**	**1.03**	**358**	P	Pg	08 29 01.6	-0.3
LAKA				S	Sb	08 29 16.5	+0.5
LAKA	**Lakka**	**1.03**	**358**	P	Pg	08 29 00.1	-1.9
LAKA				S	Sb	08 29 16.4	+0.4
LAKA	**Lakka**	**1.03**	**358**	P	Pg	08 29 01.6	-0.3
LAKA				S	Sb	08 29 16.4	+0.5
LAKA				AML	AML	08 29 18.8	
	comp=E,70μm,0.4s						
LAKA				AML	AML	08 29 18.9	
	comp=N,81μm,0.6s						
AXS	**Araxos**	**1.11**	**333**	P	Pn	08 29 04.0	0.0
AXS	**Araxos**	**1.11**	**333**	P	Pn	08 29 04.0	0.0
LTK	**Loutraki**	**1.11**	**43**	P	Pg	08 29 02.6	-0.9
LTK				S	Sb	08 29 18.5	+0.2
LTK	**Loutraki**	**1.11**	**43**	P	Pg	08 29 03.0	-0.6
LTK	**Loutraki**	**1.11**	**43**	P	Pg	08 29 02.6	-0.9
LTK				S	Sb	08 29 18.4	+0.1
LTK				AML	AML	08 29 25.8	
	comp=E,142μm,0.9s						
LTK				AML	AML	08 29 27.4	
	comp=N,131μm,0.5s						
TRIZ	**Trizonia**	**1.15**	**2**	P	Pg	08 29 02.8	-1.5
TRIZ	**Trizonia**	**1.15**	**2**	P	Pg	08 29 02.8	-1.5
KALE	**Kalithea**	**1.18**	**5**	P	Pg	08 29 03.3	-1.6
KALE	**Kalithea**	**1.18**	**5**	P	Pg	08 29 03.3	-1.6
KYTH	**Kithira**	**1.26**	**138**	P	Pg	08 29 06.5	+0.3
KYTH				AML	AML	08 29 36.5	
	comp=N,122μm,0.9s						
KYTH				AML	AML	08 29 37.1	
	comp=E,119μm,0.5s						
DSF	**Desfina**	**1.27**	**19**	P	Pn	08 29 06.2	-0.1
DSF	**Desfina**	**1.27**	**19**	P	Pn	08 29 06.2	-0.1
DSF				AML	AML	08 29 30.2	
	comp=N,40μm,0.4s						
DSF				AML	AML	08 29 32.6	
	comp=E,79μm,0.5s						
KFL	**Anninata**	**1.32**	**313**	P	Pg	08 29 07.9	+0.3
KFL	**Anninata**	**1.32**	**313**	P	Pg	08 29 07.9	+0.3
VILL	**Villia**	**1.40**	**47**	P	Pb	08 29 08.9	+0.2
VIL2	**Platees**	**1.41**	**44**	P	Pb	08 29 08.9	+0.1
PDO	**Prodromos**	**1.53**	**335**	P	Pg	08 29 11.4	-0.2
PDO	**Prodromos**	**1.53**	**335**	P	Pg	08 29 11.4	-0.2
ANKY	**Antikythira Is**	**1.69**	**142**	P	Pg	08 29 14.7	0.0
ANKY	**Antikythira Is**	**1.69**	**142**	P	Pg	08 29 14.7	0.0

SJA 14 08:32:43.8±1.4, 32.76S×71.76W, h10km±39km, ML3.5, MW3.8
GUC 14 08:32:44.1±0.3, 32.73S×71.75W, h16km±4km, ML3.8
IDC 14 08:33:02.4±4.9, 23.25S×70.43W, h0km, mb4.0/1, mb1 3.5/2, mb1mx3.3/29, mbtmp3.5/2, ML2.9/1, Error ellipse: s-maj=152.8km s-min=63.9km az=91.0
ISC 14 08:32:42.9±2.4, 32.81S±0.08×71.91W±0.10, h13km±12km, n14, σ0.91/24, 1D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ROC1	**El Roble**	**0.77**	**103**	*eP*	**Pb**	**08 32 58.4**	**+0.2**
ROC1				*eS*	**Sb**	**08 33 08.5**	**-0.1**
ROCH	**El Roble**	**0.77**	**102**	*eP*	**Pb**	**08 32 58.0**	**-0.2**
ROCH				*eS*	**Sb**	**08 33 08.7**	**0.0**
PEL	**Peldehue**	**1.08**	**108**	*eP*	**Pb**	**08 33 03.1**	**-0.3**
PEL				*eS*	**Sb**	**08 33 17.6**	**+0.2**
PEL				IAML		08 33 20.9	
	comp=E,6μm,0.7s						
RCDM	**Rinconada Maip**	**1.14**	**127**	*eP*	**Pg**	**08 33 04.5**	**-0.4**
RCDM				*eS*	**Sn**	**08 33 20.2**	**0.0**
CLCH	**Cerro Calan**	**1.29**	**117**	*eP*	**Pb**	**08 33 06.9**	**-0.1**
CLCH				*eS*	**Sg**	**08 33 24.3**	**-0.1**
CLCH				IAML		08 33 30.4	
	comp=E,4μm,0.7s						
ANTU	**Antumapu**	**1.31**	**126**	*eP*	**Pg**	**08 33 07.5**	**-0.5**
ANTU				*eS*	**Sg**	**08 33 25.6**	**+0.5**
ANTU				IAML		08 33 29.1	
	comp=E,3μm,0.4s						
FSR	**Penalolen**	**1.33**	**120**	*eP*	**Pg**	**08 33 08.6**	**+0.1**
FSR				*eS*	**Sg**	**08 33 26.8**	**+0.8**
FCH	**Farellones**	**1.45**	**111**	*eP*	**Pb**	**08 33 09.5**	**-0.4**
FCH				*eS*	**Sg**	**08 33 28.8**	**-0.9**
AUSP	**Uspallata**	**2.21**	**75**	*eP*	**Pb**	**08 33 22.4**	**-0.4**
AUSP				⇓*eS*	**Sg**	**08 33 52.8**	**-1.0**
ARCO	**CERRO ARCO**	**2.50**	**92**	*eP*	**Pb**	**08 33 27.4**	**-0.4**
ARCO				IAML		08 34 11.2	
	comp=Z,263nm,0.7s						
ASAL	**Salagasta**	**2.60**	**86**	*eP*	**Pb**	**08 33 28.7**	**-0.7**
ASAL				*eS*	**Sb**	**08 34 00.7**	**-0.5**
AMOG	**MOGNA**	**3.45**	**58**	*eP*	**Pn**	**08 33 39.4**	**+3.1**
TORD	**Torodi Ar. Bea**	**83.70**	**70**	P	**P**	**08 45 10.2**	**-1.5**
	comp=Z,1.1nm,0.8s,baz=246,slow=4.8,SNR=5.1						
ZALV	**Zalesovo Beam**	**153.16**	**31**	PKP	**PKPbc**	**08 52 39.3**	**-0.5**
	comp=Z,1.0nm,0.4s,baz=318,slow=3.5,SNR=4.7						

GUC 14 08:45:35.5±0.3, 32.78S×71.71W, h16km±3km, ML3.6, 3C, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ROCH	**El Roble**	**0.62**	**108**	*iP*	Pb	08 45 48.6	+0.5
ROCH				*i* S	Sn	08 45 58.6	-1.0
ROCH				IAML		08 45 59.4	
	comp=N,6μm,0.4s						
PEL	**Peldehue**	**0.93**	**113**	⇑*iP*	Pg	08 45 53.6	0.0
PEL				*i* S	Sn	08 46 07.5	+0.3
PEL				IAML		08 46 08.5	
	comp=N,3μm,0.6s						
RCDM	**Rinconada Maip**	**1.03**	**133**	*i* P	Pn	08 45 55.3	-0.1
RCDM				*i* S	Sn	08 46 10.3	+0.7
CLCH	**Cerro Calan**	**1.16**	**122**	⇑*iP*	Pb	08 45 57.4	+0.1
CLCH				*i* S	Sg	08 46 14.2	+1.1
CLCH				IAML		08 46 18.2	
	comp=E,3μm,0.6s						
ANTU	**Antumapu**	**1.20**	**131**	*i* P	Pb	08 45 58.0	+0.1
ANTU				*i* S	Sg	08 46 15.2	+0.9
ANTU				IAML		08 46 20.8	
	comp=N,2μm,0.4s						
FCH	**Farellones**	**1.31**	**115**	⇑*iP*	Pn	08 45 59.7	+0.2
FCH				*i* S	Sg	08 46 18.6	+0.7
FCH				IAML		08 46 18.9	
	comp=N,3μm,0.2s						

ISCJB 14 08:48:34.8±0.5, 6.82N±0.03×73.04W±0.04, h160km±5km, Error ellipse: s-maj=6.5km s-min=3.5km az=34.5
FUNV 14 08:48:35.9, 6.78N×73.10W, h169km, MW2.9
RSNC 14 08:48:36.8±0.5, 6.80N×73.07W, h151km±3km, ML3.0
ISC 14 08:48:35.1±1.3, 6.82N±0.04×73.04W±0.04, h160km±8km, n31, σ0.74/49, 3C-1D, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BARC	**Barichara**	**0.26**	**212**	*i* P	**Pn**	**08 48 57.0**	**-0.1**
BARC				*i*		08 48 57.4	
	comp=Z,166nm,0.4s						
BARC				*eS*	**Sn**	**08 49 12.4**	**-1.4**
PAMC	**Pamplona, Colo**	**0.62**	**33**	*i* P	**Pn**	**08 48 59.8**	**+1.0**
PAMC				*eS*	**Sn**	**08 49 17.0**	**0.0**
BRRC	**Barranca, Sant**	**0.73**	**294**	⇓*iP*	**Pn**	**08 48 58.9**	**+0.1**
BRRC				*i*		08 49 00.5	
	comp=Z,223nm,0.1s						
BRRC				*eS*	**Sn**	**08 49 16.2**	**-0.8**
RUSC	**La Rusia**	**0.92**	**183**	*i* P	**Pn**	**08 49 00.8**	**0.0**
RUSC				*i*		08 49 02.5	
	comp=Z,73nm,0.5s						
RUSC				*eS*	**Sn**	**08 49 19.5**	**-1.0**
CAPV	**Capacho**	**1.27**	**35**	⇑*iP*	**Pn**	**08 49 04.9**	**+1.4**
CAPV				*eS*	**Sn**	**08 49 25.8**	**+0.5**
OCAC	**Ocana**	**1.44**	**349**	*eP*	**Pn**	**08 49 05.6**	**+0.6**
OCAC				*eS*	**Sn**	**08 49 28.1**	**0.0**
OCAC				*i*		08 49 33.4	
	comp=Z,110nm,0.3s						
YOPC	**Yopal, Colombi**	**1.58**	**157**	*eS*	**Sn**	**08 49 30.7**	**+0.2**
ZARC	**Zaragoza, Cauc**	**1.93**	**291**	*eP*	**Pn**	**08 49 10.2**	**+0.2**
ZARC				*eS*	**Sn**	**08 49 36.2**	**-0.7**
ZARC				*i*		08 49 41.5	
	comp=Z,154nm,0.5s						
NORC	**Norcasia**	**2.20**	**236**	*eP*	**Pn**	**08 49 13.1**	**-0.1**
NORC				*eS*	**Sn**	**08 49 42.3**	**-0.4**
CHIC	**Chingaza**	**2.28**	**198**	*eP*	**Pn**	**08 49 14.8**	**+0.3**
CHIC				*eS*	**Sn**	**08 49 44.4**	**-0.5**
CHIC				*i*		08 49 48.5	
	comp=Z,41nm,0.4s						
ROSC	**El Rosal**	**2.34**	**213**	*eP*	**Pn**	**08 49 15.9**	**+0.7**
ROSC				*eS*	**Sn**	**08 49 46.0**	**-0.1**
ROSC				*i*		08 49 54.7	
	comp=Z,99nm,0.5s						
HELC	**Santa Helena**	**2.55**	**256**	*eP*	**Pn**	**08 49 18.1**	**+0.4**
HELC				*eS*	**Sn**	**08 49 51.0**	**+0.4**
HELC				*i*		08 49 55.7	
	comp=Z,45nm,0.3s						
VIGV	**El Vigia**	**2.61**	**39**	⇑*eP*	**Pn**	**08 49 19.1**	**+1.1**
VIGV				*eS*	**Sn**	**08 49 51.2**	**-0.2**
SOCV	**Socops**	**2.61**	**56**	⇑*eP*	**Pn**	**08 49 18.9**	**+0.9**
SOCV				*eS*	**Sn**	**08 49 50.9**	**-0.5**
VILC	**Villavicencio,**	**2.76**	**194**	*eP*	**Pn**	**08 49 20.5**	**+0.4**
VILC				*eS*	**Sn**	**08 49 54.6**	**-0.4**
VILC				*i*		08 49 58.8	
	comp=Z,23nm,0.3s						
CODC	**Agust`

n17,σ1°19/28, mb4.0/3, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PB01	**IPOC Station P**	**0.78**	**273**	*e*P	**Pn**	**08 56 47.0**	**+0.1**
PB01				*e*S	**Sn**	**08 57 01.6**	**-0.3**
PB01				IAML		08 57 04.7	
	comp=E,4μm,0.1s						
PB09	**IPOC Station P**	**0.89**	**217**	*e*P	**Pn**	**08 56 48.7**	**+0.6**
PB09				*e*S	**Sn**	**08 57 05.0**	**+1.0**
PB09				IAML		08 57 06.1	
	comp=N,11μm,0.7s						
PB08	**IPOC Station P**	**1.05**	**334**	*e*P	**Pn**	**08 56 50.7**	**+0.8**
PB08				*e*S	**Sn**	**08 57 07.8**	**+0.8**
PB02	**IPOC Station P**	**1.18**	**258**	*e*P	**Pn**	**08 56 51.2**	**+0.3**
PB02				*e*S	**Sn**	**08 57 09.1**	**+0.2**
PB02				IAML		08 57 10.9	
	comp=E,7μm,0.6s						
PB07	**IPOC Station P**	**1.31**	**241**	*e*P	**Pn**	**08 56 52.5**	**+0.1**
PB07				*e*S	**Sn**	**08 57 11.7**	**+0.1**
PB07				IAML		08 57 13.6	
	comp=E,3μm,0.5s						
HMBC	**Humberstone**	**1.40**	**305**	*e*P	**Pn**	**08 56 53.5**	**+0.2**
HMBC				*e*S	**Sn**	**08 57 13.4**	**+0.1**
HMBC				IAML		08 57 14.4	
	comp=N,6μm,0.8s						
PB11	**IPOC Station P**	**1.62**	**324**	*e*P	**Pn**	**08 56 56.1**	**+0.2**
PB11				*e*S	**Sn**	**08 57 18.5**	**+0.7**
PB06	**IPOC Station P**	**1.82**	**208**	*e*P	**Pn**	**08 56 58.7**	**+0.3**
PB06				*e*S	**Sn**	**08 57 22.4**	**+0.1**
PB04	**IPOC Station P**	**1.86**	**228**	*e*P	**Pn**	**08 56 58.7**	**-0.1**
PB04				*e*S	**Sn**	**08 57 23.1**	**0.0**
PSGC	**Pisagua**	**2.02**	**317**	*e*P	**Pn**	**08 57 00.6**	**-0.2**
PSGC				*e*S	**Sn**	**08 57 26.2**	**-0.4**
LPAZ	**La Paz**	**4.80**	**6**	P	**Pn**	**08 57 39.1**	**+1.3**
	comp=N,3.3nm,0.3s,baz=180,slow=6.8,SNR=131						
LPAZ				S	**Sn**	**08 58 35.6**	**+2.8**
	comp=N,0.3nm,0.3s,baz=211,slow=4.1,SNR=3.6						
SIV	**San Ignacio**	**8.80**	**56**	P	**Pn**	**08 58 27.5**	**-3.9**
	comp=N,11nm,0.3s,baz=257,slow=11,SNR=124						
PLCA	**Paso Flores**	**19.65**	**184**	P	**P**	**09 00 47.0**	**+0.4**
	comp=N,0.2nm,0.3s,baz=19,slow=11,SNR=8.8						
PTGA	**Pitinga**	**21.94**	**24**	P	**P**	**09 01 09.4**	**-1.9**
	comp=N,2.3nm,0.3s,baz=280,slow=22,SNR=9.9						
SNAA	**Sanae**	**62.59**	**161**	P	**P**	**09 06 39.4**	**+1.0**
	comp=N,1.4nm,0.7s,baz=269,slow=8.6,SNR=11						
TORD	**Torodi Ar. Bea**	**77.00**	**70**	P	**P**	**09 08 07.0**	**-0.4**
	comp=N,1.2nm,0.6s,baz=255,slow=5.2,SNR=15						
ASAR	**Alice Springs**	**130.39**	**208**	PKP	**PKPdf**	**09 15 24.8**	**+0.4**
	comp=N,0.4nm,0.9s,baz=141,slow=1.5,SNR=4.2						

*SOME **14** 08:58:28.9,44.′77N×82.′20E,h10km*
*ISCJB **14** 08:58:32.6±1.6,44.′66N±0.′08×82.′3E±0.′1,h33km, Error ellipse: s-maj=16.5km s-min=7.0km az=33.6*

ISC 14 08:58:34.1±2.1, 44.′67N±0.′09×82.′3E±0.′1, h35km, n5, σ1°37/9, 1C-3D, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DJR	**Jarkent**	**1.80**	**260**	*e*P	**Pn**	**08 59 01.4**	**-1.3**
	2.8nm,0.1s						
DJR				*e*S	**Sn**	**08 59 24.4**	**+0.1**
	2.3nm,0.2s						
KTMS	**Ketmen**	**1.84**	**229**	*e*P	**Pn**	**08 59 03.0**	**-0.3**
	4.0nm,0.1s						
KTMS				*e*S	**Sn**	**08 59 26.8**	**+1.4**
	13nm,0.4s						
MK31	**Makanchi Array**	**2.12**	**1**	⇓Pn	**Pn**	**08 59 06.2**	**-0.9**
	1.8nm,0.3s,baz=179,slow=14,SNR=38						
MK31				⇓Sn	**Sn**	**08 59 34.2**	**+2.0**
	0.8nm,0.3s,baz=185,slow=26,SNR=12						
MAKZ	**Makanchi**	**2.14**	**355**	⇑Pn	**Pn**	**08 59 06.2**	**-1.2**
	1.0nm,0.3s						
MAKZ				⇓Lg	Lg	08 59 34.3	
	2.2nm,0.4s						
KAPS	**Kapalarasan**	**2.15**	**288**	*e*P	**Pn**	**08 59 06.9**	**-0.6**
	1.8nm,0.1s						
KAPS				*e*S	**Sn**	**08 59 34.0**	**+1.1**
	3.6nm,0.3s						

MEX 14 09:01:06.5±0.5, 14.′13N×92.′72W, h15km, MD3.5, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CCIG	**Comitan**	**2.21**	**15**	*e*P	Pn	09 01 39.8	-3.0
CCIG				*e*S	Sn	09 02 05.9	-4.2
TGIG		**2.66**	**352**	*e*P	Pn	09 01 46.3	-2.6
TGIG				*e*S	Sn	09 02 17.6	-3.4

*SJA **14** 09:12:57.4±0.9,32.′68S×71.′74W,h10km±29km,ML3.3, MW3.7*
*GUC **14** 09:12:58.7±0.5,32.′66S×71.′65W,h32km±4km,ML3.6*

ISC 14 09:12:57.6±3.2, 32.′93S±0.′10×71.′9W±0.′1, h9km±12km, n12, σ1°17/20, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ROC1	**El Roble**	**0.72**	**94**	*e*P	**Pg**	**09 13 12.2**	**+0.6**
ROC1				*e*S	**Sb**	**09 13 22.7**	**+0.2**
ROCH	**El Roble**	**0.72**	**93**	*e*P	**Pg**	**09 13 12.1**	**+0.5**
ROCH				*e*S	**Sg**	**09 13 22.0**	**+1.0**
ROCH				IAML		09 13 23.4	
	comp=N,3μm,0.2s						
PEL	**Peldehue**	**1.01**	**102**	*e*P	**Pg**	**09 13 16.6**	**-0.5**
PEL				*e*S	**Sg**	**09 13 30.5**	**+0.2**
PEL				IAML		09 13 33.5	
	comp=E,5μm,0.3s						
CLCH	**Cerro Calan**	**1.21**	**113**	*e*P	**Pn**	**09 13 20.8**	**0.0**
CLCH				*e*S	**Sb**	**09 13 37.5**	**+1.1**
CLCH				IAML		09 13 41.8	
	comp=E,2μm,0.7s						
ANTU	**Antumapu**	**1.21**	**122**	*e*P	**Pn**	**09 13 21.5**	**+0.6**
ANTU				*e*S	**Sn**	**09 13 38.5**	**+1.1**
FCH	**Farellones**	**1.38**	**107**	*e*P	**Pn**	**09 13 23.2**	**-0.1**
FCH				*e*S	**Sn**	**09 13 42.0**	**+0.1**
AUSP	**Uspallata**	**2.21**	**72**	*e*P	**Pn**	**09 13 35.5**	**+0.7**
RTLS	**Leoncito**	**2.45**	**63**	*e*P	**Pn**	**09 13 39.1**	**+1.0**
ARCO	**CERRO ARCO**	**2.47**	**89**	*e*P	**Pb**	**09 13 40.6**	**-1.7**
ARCO				*e*S	**Sb**	**09 14 12.4**	**-0.5**
ARCO				IAML		09 14 22.6	
	comp=Z,160nm,0.4s						
ASAL	**Salagasta**	**2.58**	**83**	*e*P	**Pb**	**09 13 42.0**	**-2.0**
ASAL				*e*S	**Sb**	**09 14 14.1**	**-1.8**
RTCV	**Cerro Valdivia**	**3.01**	**70**	*e*P	**Pn**	**09 13 46.6**	**+1.1**
ACAN	**Cantantal**	**4.00**	**82**	*e*P	**Pn**	**09 14 01.2**	**+2.1**

*MAN **14** 09:24:33,4.′47N×126.′46E,h33km,mb5.1,ML4.1,MS4.2*
*DJA **14** 09:24:35.4±0.6,5.′N±5.′×12.′6E±.′,h10km,M4.4/2,mB5.0/1, mb4.4/2,Mw(mB)4.4/1*
*IDC **14** 09:24:36.4±3.0,4.′66N×126.′26E,h39km±26km,mb4.4/24, mb1 4.4/24,mb1mx4.2/50,mbtmp4.6/24,MS3.6/11, Ms1 3.6/11,ms1mx3.4/29,Error ellipse: s-maj=25.5km s-min=10.9km az=78.0*
*ISCJB **14** 09:24:36.4±0.5,4.′63N±0.′02×126.′37E±0.′04,h54km±5km, mb4.7/68,MS3.7/12,Error ellipse: s-maj=7.2km s-min=3.8km az=172.6*
*NEIC **14** 09:24:40.4±0.7,4.′66N×126.′36E,h75km±7km,mb4.8/32, Error ellipse: s-maj=6.8km s-min=4.3km az=71.0*
*BJI **14** 09:24:41.0,4.′98N×126.′30E,h71km,mb4.8/33,mB5.0/22, Ms4.4/11,Ms7 4.1/11*

ISC 14 09:24:37.5±0.6, 4.′66N±0.′04×126.′30E±0.′06, h48km±5km, n124, σ1°95/139, mb4.8/68, MS3.8/13, 4C-2D, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SGSI	**Sangihe**	**1.24**	**219**	P	**Pn**	**09 24 58.5**	**0.0**
SGSI				S	**Sn**	**09 25 13.9**	**-0.2**
GSPH	**General Santos**	**1.96**	**316**	⇓*i*P	**Pn**	**09 25 06.7**	**-1.7**
GSPH				*i* S	**Sn**	**09 25 30.6**	**-1.2**
MATI	**Mati**	**2.27**	**359**	*e*P	**Pn**	**09 25 11.5**	**-1.1**
MATI				*e*S	Sn	09 25 52.0	+13
DAV	**Davao City (W)**	**2.50**	**343**	*e*Pn	**Pn**	**09 25 18.6**	**+2.8**
DAV				*e*Sn	**Sn**	**09 25 46.6**	**+1.6**
DMPH	**Davao City--Mi**	**2.53**	**342**	⇑*e*P	**Pn**	**09 25 19.7**	**+3.5**
DMPH				*e*S	**Sn**	**09 25 41.5**	**-4.3**
KCP	**Kidapawan**	**2.63**	**333**	⇑*i*P	**Pn**	**09 25 17.9**	**+0.3**
KCP				*i* S	**Sn**	**09 25 51.8**	**+3.5**
CTBH	**Cotabato--PC H**	**3.26**	**321**	⇑*e*P	**Pn**	**09 25 26.7**	**+0.5**
CTBH				*i* S	**Sn**	**09 25 55.8**	**-8.1**
CGP	**Cagayan de Oro**	**4.09**	**337**	⇓*e*P	**Pn**	**09 25 39.0**	**+1.3**
CGP				*e*S	Sn	09 26 33.6	+9.3
PAGZ	**Pagadian**	**4.30**	**318**	*e*P	**Pn**	**09 25 41.4**	**+0.9**
KMSI	**Cibinong**	**4.68**	**210**	P	**Pn**	**09 25 45.5**	**-0.1**
SCPH	**Surigao**	**5.15**	**351**	*e*P	**Pn**	**09 25 53.4**	**+1.3**
MRSI	**Marisa**	**6.02**	**226**	P	**Pn**	**09 26 05.3**	**+1.2**
SANI	**Sanana**	**6.67**	**183**	P	**Pn**	**09 26 12.2**	**-0.9**
RCP	**Roxas**	**7.71**	**333**	⇑*e*P	**Pn**	**09 26 29.0**	**+1.8**
MYLDM	**Lahad Datu**	**7.79**	**274**	*e*Pn	**Pn**	**09 26 31.4**	**+2.9**
MSAI	**Masohi**	**8.38**	**162**	P	**Pn**	**09 26 33.7**	**-2.7**
PCI	**Palu**	**8.51**	**230**	P	**Pn**	**09 26 38.6**	**+0.4**
AAI	**Ambon**	**8.51**	**167**	P	**Pn**	**09 26 37.4**	**-0.8**
KDI	**Kendari**	**9.32**	**203**	P	**Pn**	**09 26 50.3**	**+0.9**
FAKI	**Fak Fak**	**9.59**	**142**	P	**Pn**	**09 26 51.8**	**-1.3**
FAKI	**Fak Fak**	**9.59**	**142**	*e*Pn	**Pn**	**09 26 54.3**	**+1.2**
TTSI	**Tana Toraja**	**10.03**	**220**	P	**Pn**	**09 27 00.1**	**+1.0**
	18nm,0.9s						
KKM	**Kota Kinabalu**	**10.14**	**278**	*e*Pn	**Pn**	**09 27 03.8**	**+3.1**
TGY	**Tagaytay City**	**10.77**	**331**	LR	LR	09 32 29.4	
	comp=Z,169nm,18.3s,baz=194,slow=44						
KAPI	**Kappang**	**11.63**	**214**	*e*Pn	Pn	09 27 24.5	+3.6
SAUI	**Saumlaki**	**13.51**	**158**	*e*Pn	**Pn**	**09 27 49.2**	**+2.5**
MMRI	**Maumere**	**13.82**	**197**	*e*Pn	**P**	**09 27 53.8**	**-4.3**
SBUM	**Sibu**	**14.23**	**262**	*e*Pn	**P**	**09 27 59.8**	**-2.8**
SOEI	**Soe**	**14.46**	**188**	*e*Pn	**P**	**09 28 03.4**	**-1.9**
JAY	**Jayapura**	**16.06**	**116**	LR	LR	09 34 07.1	
	comp=Z,9.7nm,19.4s,baz=256,slow=36						
KSM	**Kuching**	**16.28**	**259**	*e*P	**P**	**09 28 26.6**	**+1.1**
	33nm,1.2s						
MTN	**Manton Dam**	**18.04**	**165**	*e*P	**P**	**09 28 44.7**	**-0.2**
	138nm,2.0s						
DLV	**T Lat**	**19.05**	**293**	*e*P	**Pn**	**09 28 58.8**	**+1.5**
	48nm,1.3s						
GUMO	**Guam**	**20.35**	**63**	LR	LR	09 36 10.8	
	comp=Z,83nm,21.6s,baz=236,slow=34						
TATO	**Taipei**	**20.72**	**348**	*e*P	Pn	09 29 16.5	-0.3
	372nm,1.8s						
QIZ	**Qiongzhong**	**21.49**	**313**	P	**P**	**09 29 23.9**	**+1.4**
QIZ				pP	**sP**	**09 29 38.5**	**-1.2**
QIZ				sP	pP	09 29 45.4	+12
QIZ				pmax	pmax		
	comp=Z,11nm,1.1s						
CISI	**Cisompet, Garu**	**22.08**	**237**	*e*P	**P**	**09 29 29.4**	**+0.5**
	139nm,1.7s						
FITZ	**Fitzroy Crossi**	**22.63**	**182**	P	**P**	**09 29 34.2**	**-0.4**
	12nm,0.9s,baz=8.9,slow=8.1,SNR=15						
FITZ				LR	LR	09 39 16.8	
	comp=Z,98nm,18.3s,baz=18,slow=39						
FITZ	**Fitzroy Crossi**	**22.63**	**182**	*e*P	**P**	**09 29 35.2**	**+0.6**
	31nm,0.9s						
COEN	**Coen**	**24.95**	**138**	*e*P	**P**	**09 29 56.2**	**-0.5**
	18nm,1.0s						
PMG	**Port Moresby**	**25.05**	**124**	LR	LR	09 39 56.3	
	comp=Z,310nm,19.6s,baz=268,slow=37						
SKNT	**Sakolnakorn**	**25.07**	**301**	P	**P**	**09 30 02.9**	**+5.1**
	18nm,0.8s						
KULM	**Kulim**	**25.56**	**272**	*e*P	**P**	**09 30 03.9**	**+1.6**
	19nm,1.2s						
BKNI	**Bangkinang**	**25.60**	**261**	*e*P	**P**	**09 30 03.5**	**+0.9**
	50nm,0.5s						
WRAB	**Tennant Creek**	**25.69**	**162**	*e*P	**P**	**09 30 03.9**	**+0.5**
	26nm,1.0s						
WRA	**Warramunga Arr**	**25.70**	**162**	P	**P**	**09 30 02.7**	**-0.7**
	13nm,0.9s,baz=343,slow=10,SNR=38						
WB2	**Warramunga Arr**	**25.70**	**162**	*e*P	**P**	**09 30 02.7**	**-0.7**
MBWA	**Marble Bar**	**26.46**	**194**	*e*P	**P**	**09 30 11.0**	**+0.7**
	83nm,2.0s						
SLVN	**Son La**	**27.33**	**309**	*e*P	**P**	**09 30 17.9**	**-0.3**
	2.8nm,0.9s						
PBKT	**Sadao Pong**	**27.52**	**297**	P	**P**	**09 30 22.7**	**+2.8**
	19nm,0.9s						
JNU	**Nakatsue**	**28.64**	**8**	*e*P	**P**	**09 30 29.4**	**-0.3**
	7.1nm,0.9s						
GYA	**Guiyang**	**28.68**	**321**	*e*P	**P**	**09 30 32.0**	**+1.7**
GYA				pmax	pmax		
	comp=Z,10.0nm,0.8s						
AS31	**Alice Springs**	**29.11**	**166**	*e*P	**P**	**09 30 33.9**	**-0.2**
	1.4nm,0.8s						
ASAR	**Alice Springs**	**29.12**	**166**	P	**P**	**09 30 33.7**	**-0.4**
	2.0nm,0.6s,baz=343,slow=7.0,SNR=41						
ASAR				PcP	**PcP**	**09 33 40.6**	**-0.6**
	1.2nm,0.7s,baz=357,slow=2.3,SNR=6.8						
ASAR				LR	LR	09 42 28.9	
	comp=Z,100nm,18.2s,baz=349,slow=37						
AS01	**Alice Springs**	**29.13**	**165**	*e*P	**P**	**09 30 30.1**	**-4.1**
LHMI	**Lhok Sumawe**	**29.25**	**272**	*e*P	**P**	**09 30 36.5**	**+1.1**
	105nm,1.1s						
CMAR	**Chiang Mai Arr**	**30.04**	**299**	P	**P**	**09 30 42.6**	**+0.3**
	2.3nm,0.7s,baz=118,slow=6.7,SNR=7.1						
CMAR				ScP	**ScP**	**09 37 23.1**	**+1.0**
	0.8nm,0.4s,baz=184,slow=2.1,SNR=6.2						
CMAR				LR	LR	09 42 27.6	
	comp=Z,68nm,21.4s,baz=115,slow=36						
KMI	**Kunming**	**30.43**	**314**	P	**P**	**09 30 49.3**	**+3.4**
KMI				pmax	pmax		
	comp=Z,15nm,0.5s						
KMI				pmax	pmax		
	comp=Z,110nm,4.7s						
KSAR	**Wonju Array Be**	**32.66**	**2**	P	**P**	**09 31 06.0**	**+0.9**
KSAR				PcP	**PcP**	**09 33 50.0**	**-0.3**
KSRS	**Korea Array**	**32.67**	**2**	P	**P**	**09 31 06.0**	**+0.8**
	6.6nm,1.0s,baz=180,slow=10,SNR=14						
KSRS				PcP	**PcP**	**09 33 50.0**	**-0.3**
	1.0nm,0.5s,baz=172,slow=2.3,SNR=5.1						
KS01	**Wonju Array Si**	**32.69**	**2**	*e*P	**P**	**09 31 05.9**	**+0.5**
BJT	**Baijiatuao**	**36.37**	**347**	*e*P	**P**	**09 31 36.3**	**-0.9**
	8.1nm,0.6s						
BJI	**Beijing**	**36.39**	**347**	P	**P**	**09 31 37.0**	**-0.3**
BJI				pmax	pmax		
	comp=Z,20nm,0.8s						
BJI				pmax	pmax		
	comp=Z,41nm,3.4s						
LZH	**Lanzhou**	**37.49**	**329**	*e*P	**P**	**09 31 48.4**	**+1.4**
LZH				pP	sP	09 32 05.9	+0.6
LZH				sP	pP	09 32 13.8	+14
LZH				PP	**PnPn**	**09 33 19.5**	**+5.1**
LZH				*e*S	**S**	**09 37 31.0**	**-1.7**
LZH				sS	sS	09 38 00.3	+6.3
LZH				SS	**SnSn**	**09 40 04.3**	**-9.4**
LZH				pmax	pmax		
	comp=Z,26nm,1.1s						
LZH				pmax	pmax		
	comp=Z,97nm,4.9s						
LZH				LR	LR		
	comp=N,1μm,15.1s						
LZH				LR	LR		
	comp=E,1μm,15.8s						
LZH				LR	LR		
	comp=Z,1μm,16.8s						
NWAO	**Narrogin (SRO)**	**38.36**	**192**	P	**P**	**09 31 54.0**	**-0.1**
	5.6nm,0.5s,baz=261,slow=7.8,SNR=3.8						
HHC	**Hu-ho-hao-te**	**38.39**	**342**	*e*P	**P**	**09 31 56.3**	**+1.9**
HHC				pmax	pmax		
	comp=Z,14nm,1.2s						
HHC				pmax	pmax		
	comp=Z,130nm,5.8s						
CN2	**Changchun**	**38.99**	**359**	*e*P	**P**	**09 32 00.0**	**+0.8**
CN2				pmax	pmax		
	comp=Z,10.0nm,0.6s						
SHL	**Shillong**	**38.99**	**306**	*e*P	**P**	**09 32 00.0**	**+0.3**
STKA	**Stephens Creek**	**39.15**	**159**	P	**P**	**09 32 00.7**	**-0.1**
	6.2nm,0.9s,baz=337,slow=9.2,SNR=12						
STKA	**Stephens Creek**	**39.15**	**159**	*e*P	**P**	**09 31 59.8**	**-0.9**
	2.1nm,0.9s						
USRK	**Ussuriysk Ar.**	**39.69**	**6**	P	**P**	**09 32 05.6**	**+0.5**
	4.7nm,0.7s,baz=193,slow=8.6,SNR=11						
GTA	**Gaotai**	**42.08**	**329**	*e*P	**P**	**09 32 26.1**	**+1.0**
GTA				pP	sP	09 32 41.1	-2.4
GTA				sP	pP	09 32 48.3	+10
GTA				pmax	pmax		
	comp=Z,6.0nm,0.6s						
HIA	**Hailar**	**44.79**	**354**	*e*P	**P**	**09 32 47.5**	**+0.9**
	14nm,1.0s						
ULN	**Ulaanbaatar**	**46.11**	**342**	*e*P	**P**	**09 32 56.4**	**-0.8**
	5.6nm,0.9s						
SONM	**Songino Array**	**46.28**	**341**	P	**P**	**09 32 59.1**	**+0.5**
	2.0nm,0.6s,baz=140,slow=9.4,SNR=3.6						
SONM				PcP	**PcP**	**09 34 33.9**	**+0.6**
	4.2nm,0.8s,baz=150,slow=3.9,SNR=6.8						
SONA1	**Songino Array**	**46.29**	**342**	*e*P	**P**	**09 33 01.3**	**+2.6**
SONA1				*e*PcP	**PcP**	**09 34 34.2**	**+0.9**
TLY	**Talaya**	**50.52**	**342**	P	**P**	**09 33 31.5**	**+0.6**
	4.1nm,0.7s,baz=94,slow=8.6,SNR=4.0						
WMQ	**Urumqi**	**51.72**	**325**	P	**P**	**09 33 42.0**	**+1.8**
WMQ				pP	sP	09 33 59.4	+0.5
WMQ				sP	pP	09 34 07.4	+14
WMQ				pmax	pmax		
	comp=Z,21nm,0.6s						
WMQ				pmax	pmax		
	comp=Z,190nm,5.7s						
WMQ				LR	LR		
	comp=N,130nm,31.5s						
WMQ				LR	LR		
	comp=E,130nm,27.5s						
WMQ				LR	LR		
	comp=Z,100nm,22.3s						
PEA0	**Petropavlovsk-**	**54.73**	**23**	*e*P	**P**	**09 34 02.1**	**0.0**
PEA0B	**Petropavlovsk-**	**54.73**	**23**	*e*P	**P**	**09 34 02.4**	**+0.3**
	29nm,1.1s						
PETK	**Petropavlovsk-**	**54.73**	**23**	P	**P**	**09 34 02.3**	**+0.2**
	5.0nm,0.8s,baz=199,slow=3.1,SNR=5.9						
MK01	**Makanchi Array**	**56.53**	**325**	*e*P	**P**	**09 34 14.8**	**-0.3**
MK01				*e*PcP	**PcP**	**09 35 11.5**	**+0.1**
KSH	**Kashi**	**57.09**	**315**	*e*P	**P**	**09 34 20.6**	**+1.2**
KSH				sP	sP	09 34 48.1	+10
KSH				PP	**PP**	**09 36 30.4**	**+3.8**
KSH				S	**S**	**09 42 06.8**	**-4.3**
KSH				sS	sS	09 42 39.9	+6.5
KSH				SS	**SS**	**09 45 58.8**	**-1.8**
KSH				pmax	pmax		
	comp=Z,4.0nm,1.0s						
KSH				pmax	pmax		
	comp=Z,110nm,5.2s						
KSH				LR	LR		
	comp=N,150nm,6.3s						
KSH				LR	LR		
	comp=E,140nm,10.2s						
KSH				LR	LR		
	comp=Z,120nm,6.3s						
ZALV	**Zalesovo Beam**	**59.57**	**333**	P	**P**	**09 34 35.1**	**-1.1**
	1.7nm,0.5s,baz=140,slow=7.5,SNR=3.4						
ZALV				LR	LR	10 00 49.0	
	comp=Z,51nm,20.6s,baz=235,slow=36						
KURBB	**Kurchatov Arra**	**60.73**	**327**	P	**P**	**09 34 43.4**	**-0.8**
	5.8nm,0.8s,baz=124,slow=6.1,SNR=17						
KURK	**Kurchatov**	**60.73**	**327**	*e*P	**P**	**09 34 43.6**	**-0.7**
	7.2nm,0.7s						
SEY	**Seymchan**	**61.23**	**13**	P	**P**	**09 34 47.0**	**-0.3**
	4.7nm,0.9s,baz=238,slow=7.4,SNR=6.4						
KKAR	**Karatay Array**	**62.27**	**317**	*e*P	**P**	**09 34 52.6**	**-2.1**
	0.6nm,0.3s						
BVAR	**Borovoye Array**	**66.31**	**327**	P	**P**	**09 35 19.9**	**-1.1**
	4.0nm,0.8s,baz=126,slow=7.5,SNR=14						
BRVK	**Borovoye**	**66.38**	**327**	*e*P	**P**	**09 35 20.6**	**-0.9**
	8.6nm,0.9s						
NRIK	**Noril'sk**	**69.43**	**346**	P	**P**	**09 35 39.6**	**-0.7**
	11nm,0.9s,baz=130,slow=5.7,SNR=6.9						
NRIK				LR	LR	10 08 26.3	
	comp=Z,69nm,19.0s,baz=100,slow=38						
GEYT	**Alibeck**	**69.98**	**309**	P	**P**	**09 35 44.2**	**-0.2**
	4.4nm,0.4s,baz=238,slow=2.8,SNR=3.6						
GEYT				LR	LR	10 11 29.6	
	comp=Z,48nm,18.7s,baz=350,slow=40						
ARU	**Arti**	**73.93**	**328**	P	**P**	**09 36 06.1**	**-1.5**
	2.7nm,0.3s,baz=63,slow=5.9,SNR=3.9						
CAST	**Castle Rocks**	**82.10**	**27**	*e*P	**P**	**09 36 53.5**	**+0.7**
	11nm,0.7s						
KTH	**Kantishna Hill**	**82.63**	**27**	*e*P	**P**	**09 36 57.1**	**+1.4**
	45nm,1.6s						
TRF	**Thorofare Moun**	**82.90**	**27**	*e*P	**P**	**09 36 57.2**	**0.0**
	13nm,0.9s						
RC01	**Rabbit Creek A**	**83.02**	**29**	*e*P	**P**	**09 36 57.1**	**-0.6**
	34nm,1.2s						
COLD	**Coldfoot**	**83.20**	**23**	*e*P	**P**	**09 36 59.9**	**+1.4**
	12nm,1.1s						
COLD				*e*pP	**sP**	**09 37 15.8**	**-2.0**
MCK	**McKinley**	**83.52**	**26**	*e*P	**P**	**09 36 59.7**	**-0.5**
	13nm,0.8s						
RND	**Reindeer**	**83.55**	**27**	*e*P	**P**	**09 37 00.1**	**-0.3**
	12nm,1.0s						
SML	**Sawmill**	**83.72**	**28**	*e*P	**P**	**09 37 01.0**	**-0.3**
	21nm,0.9s						
MDM	**Murphy Dome**	**83.88**	**25**	*e*P	**P**	**09 37 02.3**	**+0.3**
	7.0nm,1.0s						
WRH	**Wood River Hil**	**83.92**	**26**	*e*P	**P**	**09 37 01.5**	**-0.7**
	14nm,1.1s						
CCB	**Clear Creek Bu**	**84.05**	**26**	*e*P	**P**	**09 37 02.4**	**-0.5**
	22nm,1.4s						
SCM	**Sheep Creek Mo**	**84.20**	**28**	*e*P	**P**	**09 37 03.7**	**-0.1**
	26nm,1.1s						
IL1	**Eielson Array**	**84.45**	**25**	*e*P	**P**	**09 37 03.1**	**-1.8**
ILAR	**Eielson Array**	**84.45**	**25**	P	**P**	**09 37 03.1**	**-1.8**
	2.6nm,0.9s,baz=234,slow=5.4,SNR=18						
ILB	**Eielson Array**	**84.45**	**25**	*e*P	**P**	**09 37 04.9**	**0.0**
DIV	**Divide**	**84.94**	**29**	*e*P	**P**	**09 37 08.1**	**+0.5**
	17nm,0.7s						
FYU	**Fort Yukon**	**85.14**	**24**	*e*P	**P**	**09 37 10.3**	**+2.0**
	41nm,1.4s						
BRTR	**Keskin Array B**	**89.10**	**310**	P	**P**	**09 37 27.2**	**-1.0**
	0.8nm,0.7s,baz=108,slow=4.0,SNR=4.5						
ARA0	**ARCESS Array S**	**89.43**	**340**	*e*P	**P**	**09 37 28.4**	**-0.6**
ARCES	**ARCESS Array B**	**89.43**	**340**	P	**P**	**09 37 28.2**	**-0.8**
	9.7nm,0.8s,baz=64,slow=8.5,SNR=15						
ARCES				LR	LR	10 21 12.0	
	comp=Z,33nm,19.2s,baz=

*DDA **14** 10:04:52.9, 36°46N×28°66E, h7km, Md3.0*
*ATH **14** 10:04:52.5, 36°49N×28°68E, h19km≈3km, ML1.8/1, Error ellipse: s-maj=4.9km s-min=2.4km az=181.0*
*CSEM **14** 10:04:53.0±0.2, 36°45N×28°68E, h2km, MD3.1, Error ellipse: s-maj=4.4km s-min=3.0km az=178.0*
ISC 14 10:04:52.8±1.2, **36°46N**±0°03×**28°67E**±0°02, **h4**km±13km, **n66**, σ0**974**/75, **Dodecanese Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DALY	**Dalyan (Mu¨la**	**0.36**	**358**	*e*P*g*	**Pg**	**10 04 59.6**	**-0.1**
DALY				e*S*g	**Sb**	**10 05 06.7**	**-1.1**
DALY	**Dalyan (Mu¨la**	**0.36**	**358**	*i* P	**Pg**	**10 04 59.8**	**+0.1**
DALY				*i* S	**Sg**	**10 05 04.6**	**+0.2**
DALY	**Dalyan (Mu¨la**	**0.36**	**358**	*e*P*g*	**Pg**	**10 04 59.6**	**-0.1**
DALY	**Dalyan (Mu¨la**	**0.36**	**358**	P	**Pg**	**10 04 59.8**	**+0.1**
DALY				S	**Sg**	**10 05 04.6**	**+0.2**
DALY				e*S*g	**Sb**	**10 05 06.7**	**-1.1**
FETY	**Fethiye**	**0.38**	**62**	*e*P*G*	**Pg**	**10 04 59.6**	**-0.5**
FETY				e*S*G	**Sb**	**10 05 07.3**	**-1.0**
FETY	**Fethiye**	**0.38**	**62**	*e*P*g*	**Pg**	**10 04 59.6**	**-0.5**
FETY	**Fethiye**	**0.38**	**62**	P	**Pg**	**10 04 59.9**	**-0.2**
TURN	**Turunc**	**0.42**	**352**	*i* P	**Pg**	**10 05 01.5**	**+0.7**
TURN				*i* S	**Sb**	**10 05 08.3**	**-1.2**
TURN	**Turunc**	**0.42**	**352**	P	**Pg**	**10 05 01.5**	**+0.7**
TURN				S	**Sb**	**10 05 08.3**	**-1.2**
MRSB	**Marmaris-Mugla**	**0.46**	**304**	*e*P*G*	**Pb**	**10 05 02.8**	**-0.7**
MRSB	**Marmaris-Mugla**	**0.46**	**304**	*e*P*g*	**Pb**	**10 05 02.8**	**-0.7**
ARG	**Arkhangelos**	**0.50**	**241**	P	**Pg**	**10 05 01.3**	**-1.1**
ARG				S	**Sb**	**10 05 11.9**	**0.0**
ARG	**Arkhangelos**	**0.50**	**241**	P	**Pg**	**10 05 01.3**	**-1.1**
ARG				S	**Sb**	**10 05 11.9**	**0.0**
ARG				AML	AML	10 05 12.7	
	comp=E,333μm,0.3s						
ARG				AML	AML	10 05 16.9	
	comp=N,180μm,0.2s						
AKAS	**Kas**	**0.79**	**106**	*e*P*G*	**Pg**	**10 05 07.9**	**0.0**
AKAS	**Kas**	**0.79**	**106**	*i* P	**Pg**	**10 05 07.6**	**-0.3**
AKAS	**Kas**	**0.79**	**106**	P	**Pg**	**10 05 07.6**	**-0.3**
AKAS	**Kas**	**0.79**	**106**	*e*P*g*	**Pg**	**10 05 07.9**	**0.0**
KSL	**Kastellorizon**	**0.80**	**112**	P	**Pg**	**10 05 08.3**	**+0.1**
DAT	**Datca**	**0.92**	**287**	*e*P*G*	**Pg**	**10 05 10.8**	**+0.3**
DAT	**Datca**	**0.92**	**287**	*i* P	**Pb**	**10 05 11.4**	**+1.0**
DAT	**Datca**	**0.92**	**287**	*e*P*g*	**Pg**	**10 05 10.8**	**+0.3**
DAT	**Datca**	**0.92**	**287**	P	**Pb**	**10 05 11.4**	**0.0**
ELL	**Elmali**	**1.04**	**73**	*e*P*G*	**Pg**	**10 05 12.4**	**-0.2**
ELL	**Elmali**	**1.04**	**73**	*e*P*g*	**Pg**	**10 05 12.5**	**-0.2**
MLSB	**Milas**	**1.10**	**320**	*e*P*N*	**Pb**	**10 05 14.6**	**+0.2**
MLSB	**Milas**	**1.10**	**320**	*e*P*n*	**Pb**	**10 05 14.6**	**+0.2**
BDRM	**Kayabasi**	**1.16**	**302**	*i* P	**Pg**	**10 05 14.9**	**-0.1**
BDRM	**Kayabasi**	**1.16**	**302**	P	**Pg**	**10 05 14.9**	**-0.1**
NIS1	**Nisyros Isl.**	**1.21**	**277**	*e*P*N*	**Pn**	**10 05 17.1**	**+0.5**
NIS1	**Nisyros Isl.**	**1.21**	**277**	P	**Pn**	**10 05 16.9**	**+0.3**
NIS1	**Nisyros Isl.**	**1.21**	**277**	*e*P*n*	**Pn**	**10 05 17.1**	**+0.5**
NIS1	**Nisyros Isl.**	**1.21**	**277**	P	**Pn**	**10 05 16.9**	**+0.3**
BODT	**Bodrum**	**1.25**	**299**	*e*P*N*	**Pn**	**10 05 17.3**	**+0.2**
BODT	**Bodrum**	**1.25**	**299**	*e*P*n*	**Pn**	**10 05 17.3**	**+0.2**
DNZL	**Cakiroluk**	**1.26**	**14**	*i* P	**Pn**	**10 05 17.5**	**0.0**
DNZL	**Cakiroluk**	**1.26**	**14**	P	**Pn**	**10 05 17.5**	**0.0**
DENT	**Denizli**	**1.32**	**13**	*e*P*N*	**Pn**	**10 05 17.9**	**-0.3**
DENT	**Denizli**	**1.32**	**13**	*e*P*n*	**Pn**	**10 05 17.9**	**-0.3**
KORT	**Korkueli**	**1.45**	**68**	*e*P*N*	**Pg**	**10 05 22.0**	**+1.3**
KORT	**Korkueli**	**1.45**	**68**	*i* P	**Pg**	**10 05 21.6**	**+0.9**
KORT	**Korkueli**	**1.45**	**68**	P	**Pg**	**10 05 21.6**	**+0.9**
KORT	**Korkueli**	**1.45**	**68**	*e*P*n*	**Pg**	**10 05 22.0**	**+1.3**
KARP	**Karpathos**	**1.53**	**234**	*e*P*N*	**Pg**	**10 05 22.2**	**+0.1**
KARP	**Karpathos**	**1.53**	**234**	P	**Pb**	**10 05 21.3**	**-0.4**
KARP	**Karpathos**	**1.53**	**234**	*e*P*n*	**Pg**	**10 05 22.2**	**+0.1**
KARP	**Karpathos**	**1.53**	**234**	P	**Pb**	**10 05 21.3**	**-0.4**
AYDB	**Zeytinkoy-Aydi**	**1.61**	**337**	*e*P*N*	**Pn**	**10 05 22.6**	**+0.4**
AYDB	**Zeytinkoy-Aydi**	**1.61**	**337**	*e*P*n*	**Pn**	**10 05 22.6**	**+0.4**
ANTB	**Antalya**	**1.65**	**74**	*e*P*N*	**Pn**	**10 05 22.6**	**0.0**
ANTB	**Antalya**	**1.65**	**74**	*e*P*n*	**Pn**	**10 05 22.6**	**0.0**
BCK	**Bucak**	**1.83**	**56**	*e*P*N*	**Pn**	**10 05 25.0**	**-0.2**
BCK	**Bucak**	**1.83**	**56**	*e*P*n*	**Pn**	**10 05 25.0**	**-0.2**
SMG	**Samos**	**1.93**	**311**	P	**Pn**	**10 05 24.9**	**-1.5**
SMG	**Samos**	**1.93**	**311**	P	**Pn**	**10 05 24.9**	**-1.5**
KULA	**Kula-Manisa**	**2.05**	**360**	*e*P*N*	**Pn**	**10 05 28.8**	**+0.6**
KULA	**Kula-Manisa**	**2.05**	**360**	*e*P*n*	**Pn**	**10 05 28.8**	**+0.6**
SUTC	**Sutluce-Ispart**	**2.12**	**61**	*e*P*N*	**Pn**	**10 05 30.3**	**+1.0**
SUTC	**Sutluce-Ispart**	**2.12**	**61**	*e*P*n*	**Pn**	**10 05 30.3**	**+1.0**
ZKR	**Zakros**	**2.41**	**237**	P	**Pn**	**10 05 34.6**	**+1.6**
ZKR	**Zakros**	**2.41**	**237**	P	**Pn**	**10 05 34.6**	**+1.6**
AKS	**Akhisar**	**2.51**	**345**	*e*P*N*	**Pn**	**10 05 35.1**	**+0.7**
AKS	**Akhisar**	**2.51**	**345**	*e*P*n*	**Pn**	**10 05 35.1**	**+0.7**
URLA	**Izmir**	**2.52**	**320**	*e*P*N*	**Pn**	**10 05 36.0**	**+1.5**
URLA	**Izmir**	**2.52**	**320**	*e*P*n*	**Pn**	**10 05 36.1**	**+1.5**
CHOS	**Chios island**	**2.83**	**314**	P	**Pn**	**10 05 40.0**	**+1.0**
CHOS	**Chios island**	**2.83**	**314**	P	**Pn**	**10 05 40.0**	**+1.0**

*SJA **14** 10:08:41.1±1.1, 32°16S×71°30W, h10km≈8km, ML2.6, MW2.9*
*GUC **14** 10:08:43.1±0.3, 32°39S×71°45W, h47km≈7km, ML2.9*
ISC 14 10:08:44.8±2.4, **32°34S**±0°06×**71°4W**±0°1, **h27**km±14km, **n12**, σ1**§09**/20, **Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ROCH	**El Roble**	**0.69**	**156**	*e*P	**Pb**	**10 08 58.1**	**-0.4**
ROCH				e*S*	**Sb**	**10 09 09.5**	**+1.7**
ROCH				IAML		10 09 10.2	
	comp=N,808nm,0.5s						
ROC1	**El Roble**	**0.70**	**156**	*e*P	**Pb**	**10 08 58.2**	**-0.3**
PEL	**Peldehue**	**0.98**	**145**	*e*P	**Pn**	**10 09 02.0**	**-0.9**
PEL				e*S*	**Sb**	**10 09 16.2**	**+0.4**
PEL				IAML		10 09 17.0	
	comp=E,745nm,0.2s						
CLCH	**Cerro Calan**	**1.26**	**147**	*e*P	**Pn**	**10 09 05.9**	**-0.8**
CLCH				e*S*	**Sn**	**10 09 23.4**	**+0.6**
CLCH				IAML		10 09 24.8	
	comp=N,310nm,0.7s						
FCH	**Farellones**	**1.33**	**138**	*e*P	**Pn**	**10 09 07.2**	**-0.7**
FCH				e*S*	**Sn**	**10 09 26.0**	**+1.0**
FCH				IAML		10 09 26.6	
	comp=E,343nm,0.2s						
ANTU	**Antumapu**	**1.37**	**154**	*e*S	**Sn**	**10 09 25.8**	**+0.3**
AUSP	**Uspallata**	**1.67**	**87**	*e*P	**Pb**	**10 09 13.8**	**-1.2**
AUSP				e*S*	**Sb**	**10 09 36.9**	**+1.2**
RTLS	**Leoncito**	**1.83**	**73**	*e*P	**Pn**	**10 09 15.3**	**+0.7**
RTLS				e*S*	**Sb**	**10 09 40.3**	**+0.1**
ARCO	**CERRO ARCO**	**2.10**	**104**	*e*P	**Pb**	**10 09 21.2**	**-1.2**
ARCO				e*S*	**Sb**	**10 09 49.7**	**+1.6**
ARCO				IAML		10 09 55.1	
	comp=Z,40nm,0.5s						
ASAL	**Salagasta**	**2.14**	**97**	*e*P	**Pb**	**10 09 20.9**	**-2.1**
ASAL				e*S*	**Sb**	**10 09 49.9**	**+0.8**
AMOG	**MOGNA**	**2.81**	**61**	*e*P	**Pn**	**10 09 28.3**	**+0.3**
AGUA	**GUANDACOL**	**3.76**	**42**	*e*P	**Pn**	**10 09 41.5**	**+0.4**

*IDC **14** 10:14:48.9±4.7, 46°47N×149°59E, h163km≈44km, mb3.2/5, mb1 3.4/6, mb1mx3.1/36, mbtmp3.6/6, Error ellipse: s-maj=43.5km s-min=20.1km az=107.0*
*SKHL **14** 10:14:52.5±0.6, 44°85N×151°14E, h34km, mb3.9/3*
ISC 14 10:14:47.2±1.4, **45°6N**±0°2×**151°1E**±0°2, **h150**km, **n15**, σ2**§40**/9, **mb3.2**/5, **Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KUR	**Kuril'sk**	**2.32**	**263**	*e*P	**Pn**	**10 15 28.9**	**+2.8**
KUR				AMB	AMB	10 15 31.1	
	10.0nm,0.5s						
KUR				AMB	AMB	10 15 31.1	
	30nm,0.5s						
KUR				e*S*	**Sn**	**10 15 56.0**	**0.0**
KUR				A	A	10 15 58.7	
	160nm,0.4s						
KUR				A	A	10 15 58.7	
	80nm,0.4s						
SHO	**Shikotan**	**3.50**	**243**	*i* P	**Pn**	**10 15 41.9**	**+1.0**
SHO				AMB	AMB	10 15 48.1	
	10.0nm,0.3s						
SHO				e*S*	**Sn**	**10 16 19.5**	**-3.0**
SHO				A	A	10 16 22.7	
	60nm,0.5s						
SHO				A	A	10 16 22.7	
	110nm,0.5s						
YUK	**Yuzh-Kuril'sk**	**4.05**	**250**	*i* P	**Pn**	**10 15 49.8**	**+1.8**
YUK				AMB	AMB	10 15 50.8	
	20nm,0.4s						
YUK				*i* S	**Sn**	**10 16 32.5**	**-2.7**
YUK				A	A	10 16 43.2	
	70nm,0.7s						
PETK	**Petropavlovsk-**	**8.69**	**27**	P	**Pn**	**10 16 47.8**	**-1.7**
	0.1nm,0.3s,baz=218,slow=12,SNR=4.3						
H11N2	**WAKE ISLAND Hy**	**28.87**	**148**	T	T	10 52 02.6	
	baz=336,slow=75,SNR=20						
H11N1	**WAKE ISLAND Hy**	**28.88**	**148**	T	T	10 52 04.9	
	baz=336,slow=75,SNR=13						
H11N3	**WAKE ISLAND Hy**	**28.88**	**148**	T	T	10 52 07.9	
	baz=336,slow=75,SNR=16						
H11S1	**WAKE ISLAND Hy**	**29.92**	**149**	T	T	10 53 24.8	
	baz=337,slow=76,SNR=19						
H11S3	**WAKE ISLAND Hy**	**29.92**	**149**	T	T	10 53 19.4	
	baz=337,slow=76,SNR=18						
H11S2	**WAKE ISLAND Hy**	**29.93**	**149**	T	T	10 53 26.2	
	baz=337,slow=76,SNR=18						
INK	**Inuvik**	**43.39**	**32**	P	**P**	**10 22 33.5**	**-0.7**
	0.6nm,0.7s,baz=293,slow=6.4,SNR=10						
FINES	**FINESS Array B**	**64.52**	**334**	P	P	10 24 59.0	-8.4
	6.1nm,1.0s,baz=40,slow=9.9,SNR=6.3						
WRA	**Warramunga Arr**	**66.95**	**197**	P	P	10 25 26.9	+3.4
	0.3nm,0.8s,baz=8.9,slow=6.5,SNR=2.6						
ASAR	**Alice Springs**	**70.65**	**197**	P	P	10 25 50.8	+4.5
	0.2nm,0.5s,baz=8.7,slow=6.3,SNR=6.6						
TXAR	**Lajitas Array**	**79.28**	**59**	P	**P**	**10 26 37.7**	**+1.6**
	0.2nm,0.6s,baz=305,slow=5.6,SNR=3.5						

*ISK **14** 10:16:43.8, 39°46N×30°07E, h7km, ML2.4*
*DDA **14** 10:16:44.6, 39°46N×30°13E, h9km, Md2.7*
*CSEM **14** 10:16:44.3±0.1, 39°45N×30°08E, h5km, ML2.4, Error ellipse: s-maj=3.4km s-min=3.2km az=160.0*
ISC 14 10:16:44.4±1.1, **39°46N**±0°02×**30°08E**±0°02, **h4**km±11km, **n36**, σ0**§45**/50, **Turkey**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TVSB	**Tavsanli**	**0.48**	**269**	*e*P*G*	**Pg**	**10 16 53.5**	**-0.1**
TVSB				e*S*G	**Sg**	**10 17 00.4**	**+0.6**
TVSB	**Tavsanli**	**0.48**	**269**	*e*P*g*	**Pg**	**10 16 53.5**	**-0.1**
TVSB				e*S*g	**Sg**	**10 17 00.4**	**+0.6**
BORA	**Eskisehir**	**0.51**	**35**	*i* P	**Pg**	**10 16 53.6**	**-0.6**
BORA				*i* S	**Sg**	**10 17 01.5**	**+0.7**
BORA	**Eskisehir**	**0.51**	**35**	P	**Pg**	**10 16 53.6**	**-0.6**
BORA				S	**Sg**	**10 17 01.5**	**+0.7**
ESKT	**Eskisehir**	**0.60**	**84**	*e*P*G*	**Pg**	**10 16 55.8**	**-0.1**
ESKT	**Eskisehir**	**0.60**	**84**	*i* P	**Pg**	**10 16 56.1**	**+0.2**
ESKT	**Eskisehir**	**0.60**	**84**	*e*P*g*	**Pg**	**10 16 55.8**	**-0.1**
SEYT	**Eskypehyr**	**0.60**	**84**	P	**Pg**	**10 16 56.1**	**+0.2**
SIMA	**Simav-Kutahya**	**0.93**	**246**	*e*P*G*	**Pg**	**10 17 02.1**	**-0.2**
SIMA	**Simav-Kutahya**	**0.93**	**246**	*e*P*g*	**Pg**	**10 17 02.1**	**-0.2**
SHUT	**Suhut-Afyon**	**0.98**	**158**	*e*P*G*	**Pg**	**10 17 03.0**	**-0.2**
SHUT				e*S*G	**Sb**	**10 17 17.0**	**-0.3**
SHUT	**Suhut-Afyon**	**0.98**	**158**	*e*P*g*	**Pg**	**10 17 03.0**	**-0.2**
SHUT				e*S*g	**Sb**	**10 17 17.0**	**-0.3**
ADVT	**Abdulvahap**	**1.00**	**345**	*e*P*G*	**Pg**	**10 17 03.6**	**0.0**
ADVT	**Abdulvahap**	**1.00**	**345**	*e*P*g*	**Pg**	**10 17 03.6**	**0.0**
BOLV	**Bolvadin**	**1.01**	**137**	*i* P	**Pg**	**10 17 03.4**	**-0.3**
BOLV				*i* S	**Sb**	**10 17 17.8**	**-0.3**
BOLV	**Bolvadin**	**1.01**	**137**	P	**Pg**	**10 17 03.4**	**-0.3**
BOLV				S	**Sb**	**10 17 17.8**	**-0.3**
GULT	**Gulveren**	**1.02**	**19**	*e*P*G*	**Pb**	**10 17 04.5**	**-0.2**
GULT	**Gulveren**	**1.02**	**19**	*e*P*g*	**Pb**	**10 17 04.5**	**-0.2**
IGD	**Bursa**	**1.05**	**320**	*i* P	**Pb**	**10 17 04.8**	**-0.2**
IGD				*i* S	**Sn**	**10 17 21.2**	**+0.3**
SVRH	**Sivrihisar-ESK**	**1.12**	**90**	*e*P*N*	**Pg**	**10 17 05.8**	**0.0**
SVRH	**Sivrihisar-ESK**	**1.12**	**90**	*e*P*n*	**Pg**	**10 17 05.8**	**0.0**
DEMI	**Demirci**	**1.14**	**249**	*i* P	**Pb**	**10 17 06.5**	**-0.2**
DEMI				*i* S	**Sn**	**10 17 24.4**	**+1.1**
DEMI	**Demirci**	**1.14**	**249**	P	**Pb**	**10 17 06.5**	**-0.2**
DEMI				S	**Sn**	**10 17 24.4**	**+1.1**
MDUB	**Mudurnu**	**1.32**	**40**	*e*P*N*	**Pn**	**10 17 09.6**	**-0.2**
MDUB	**Mudurnu**	**1.32**	**40**	*e*P*n*	**Pn**	**10 17 09.6**	**-0.2**
HRT	**Hereke**	**1.39**	**347**	*e*P*N*	**Pn**	**10 17 10.2**	**-0.5**
HRT	**Hereke**	**1.39**	**347**	*e*P*n*	**Pn**	**10 17 10.2**	**-0.5**
ARMT	**Armutlu**	**1.45**	**320**	*e*P*N*	**Pn**	**10 17 10.6**	**-0.7**
ARMT	**Armutlu**	**1.45**	**320**	*e*P*n*	**Pn**	**10 17 10.6**	**-0.7**
KULA	**Kula-Manisa**	**1.46**	**230**	*e*P*N*	**Pn**	**10 17 11.2**	**-0.4**
KULA	**Kula-Manisa**	**1.46**	**230**	*e*P*n*	**Pn**	**10 17 11.2**	**-0.4**
SBT5	**Esenkoy-Cinarc**	**1.49**	**322**	*e*P*N*	**Pn**	**10 17 11.4**	**-0.4**
SBT5	**Esenkoy-Cinarc**	**1.49**	**322**	*e*P*n*	**Pn**	**10 17 11.4**	**-0.4**
SAHE	**Sakarya_HENDEK**	**1.51**	**23**	*i* P	**Pg**	**10 17 13.6**	**+0.3**
SAHE				*i* S	**Sg**	**10 17 33.9**	**+1.0**
KAND	**Kocaeli-Kandir**	**1.63**	**3**	*i* P	**Pg**	**10 17 15.5**	**-0.2**
KAND				*i* S	**Sg**	**10 17 36.9**	**+0.1**
KAND	**Kocaeli-Kandir**	**1.63**	**3**	P	**Pg**	**10 17 15.5**	**-0.2**
KAND				S	**Sg**	**10 17 36.9**	**+0.1**

*GUC **14** 10:20:26.4±0.3, 32°78S×71°79W, h17km≈3km, ML2.9*
*SJA **14** 10:20:28.9±0.6, 32°66S×71°50W, h10km≈15km, ML2.6, MW3.0*
ISC 14 10:20:24.1±3.5, **32°6S**±0°1×**71°9W**±0°2, **h10**km±14km, **n10**, σ0**§44**/17, **1D**, **Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ROC1	**El Roble**	**0.78**	**115**	*e*P	**Pb**	**10 20 40.2**	**+0.3**
ROC1				e*S*	**Sg**	**10 20 48.9**	**-0.6**
ROCH	**El Roble**	**0.78**	**115**	*i* P	**Pb**	**10 20 40.5**	**+0.5**
ROCH				*i* S	**Sb**	**10 20 51.4**	**+0.7**
PEL	**Peldehue**	**1.10**	**117**	*e*P	**Pg**	**10 20 45.6**	**+0.3**
PEL				*i* S	**Sg**	**10 20 59.9**	**+0.2**
PEL				IAML		10 21 03.8	
	comp=E,945nm,0.3s						
RCDM	**Rinconada Maip**	**1.22**	**134**	*i* P	**Pn**	**10 20 47.1**	**-0.2**
RCDM				*i* S	**Sb**	**10 21 02.5**	**-0.6**
CLCH	**Cerro Calan**	**1.34**	**125**	⇓P	**Pn**	**10 20 49.2**	**+0.2**
CLCH				*i* S	**Sb**	**10 21 06.6**	**0.0**
CLCH				IAML		10 21 11.8	
	comp=N,354nm,0.4s						
ANTU	**Antumapu**	**1.38**	**132**	*i* P	**Pn**	**10 20 49.6**	**+0.1**
ANTU				*i* S	**Sn**	**10 21 07.4**	**-0.4**
ANTU				IAML		10 21 13.0	
	comp=E,392nm,0.3s						
FCH	**Farellones**	**1.48**	**118**	*i* P	**Pb**	**10 20 51.9**	**-0.1**
FCH				*i* S	**Sg**	**10 21 11.8**	**-0.1**
FCH				IAML		10 21 12.2	
	comp=N,387nm,0.2s						
AUSP	**Uspallata**	**2.13**	**79**	*e*P	**Pg**	**10 21 04.5**	**-0.4**
ARCO	**CERRO ARCO**	**2.47**	**95**	*e*P	**Pb**	**10 21 09.4**	**+0.7**
ARCO				IAML		10 21 11.5	
	comp=Z,41nm,0.3s						
ASAL	**Salagasta**	**2.55**	**90**	*e*P	**Pb**	**10 21 10.1**	**+0.1**

*BJI **14** 10:37:01.2, 0°70N×100°00E, h186km, mb4.7/28, mB4.7/18*
*NEIC **14** 10:37:02.9±0.4, 0°75N×100°12E, h193km≈3km, mb4.7/18, Error ellipse: s-maj=6.2km s-min=3.7km az=49.0*
*ISCJB **14** 10:37:02.0±0.2, 0°79N±0°02×100°07E±0°03, h194km≈2km, mb4.6/72, Error ellipse: s-maj=4.9km s-min=3.0km az=148.5*
*DJA **14** 10:37:02.4±0.3, 1°N±2°×10°0E±°, h195km≈5km, M4.8/21, mb4.8/6, mB5.1/5, MLv4.9/21, Mw(mB)4.4/5*
*IDC **14** 10:37:03.1±0.8, 0°91N×100°25E, h192km≈7km, mb4.3/33, mb1 4.4/33, mb1mx4.1/56, mbtmp4.8/33, Error ellipse: s-maj=14.3km s-min=7.4km az=45.0*
*KLM **14** 10:37:03.2, 0°81N×99°99E, h169km, mb4.8*
ISC 14 10:37:02.8±0.5, **0.77N**±0°04×**100°05E**±0°04, **h191**km±4km, **n196**, σ1**§26**/225, **mb4.7**/80, **15C-8D**, **Northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MNSI	**Mandailing Nat**	**0.47**	**273**	P	**Pn**	**10 37 29.1**	**+0.3**
MNSI				S	**Sn**	**10 37 48.1**	**-0.7**
BKNI	**Bangkinang**	**1.08**	**114**	P	**Pn**	**10 37 32.7**	**+0.4**
BKNI	**Bangkinang**	**1.08**	**114**	*e*P*n*	**Pn**	**10 37 32.5**	**+0.2**
PPI	**Padang Panjang**	**1.27**	**164**	P	**Pn**	**10 37 34.5**	**+0.7**
PPI				S	**Sn**	**10 37 58.9**	**+1.0**
PDSI	**Padang**	**1.72**	**166**	P	**Pn**	**10 37 38.3**	**+0.3**
PDSI				S	**Sn**	**10 38 05.6**	**+0.2**
PBSI	**Pulau Batu**	**1.95**	**245**	P	**Pn**	**10 37 41.5**	**+1.3**
PBSI				S	**Sn**	**10 38 09.5**	**+0.3**
SDSI	**Sungai Dareh**	**2.18**	**141**	P	**Pn**	**10 37 43.5**	**+0.8**
SISI	**Saibi**	**2.30**	**205**	P	**Pn**	**10 37 44.2**	**+0.3**
SISI				S	**Sn**	**10 38 15.5**	**-0.5**
RGRI	**Rengat**	**2.54**	**116**	P	**Pn**	**10 37 48.1**	**+1.4**
FRIM	**Kepong**	**2.91**	**33**	⇑P	**Pn**	**10 37 50.1**	**-0.9**
TSI	**Tuntungan**	**3.09**	**331**	P	**Pn**	**10 37 53.6**	**+0.5**
TSI				S	**Sn**	**10 38 31.5**	**-1.0**
PPSI	**Pulau Pagai**	**3.51**	**181**	P	**Pn**	**10 37 57.8**	**-0.5**
PPSI				S	**Sn**	**10 38 40.2**	**-1.6**
KCSI	**Kotacane, Aceh**	**3.56**	**320**	P	**Pn**	**10 37 58.7**	**-0.1**
KCSI				S	**Sn**	**10 38 39.1**	**-3.6**
IPM	**Ipoh**	**3.81**	**15**	*e*P*n*	**Pn**	**10 38 02.1**	**+0.2**
IPM				e*S*n	**Sn**	**10 38 47.9**	**-0.5**
IPM	**Ipoh**	**3.81**	**15**	⇓P	**Pn**	**10 38 02.4**	**+0.4**
MYKOM	**Kota Tinggi**	**3.93**	**75**	*e*P*n*	**Pn**	**10 38 03.5**	**0.0**
MYKOM	**Kota Tinggi**	**3.93**	**75**	⇑P	**Pn**	**10 38 03.7**	**+0.2**
JMBI	**JAMBI**	**4.32**	**124**	P	**Pn**	**10 38 08.5**	**+0.2**
MASI	**Maura Aman, Be**	**4.46**	**151**	P	**Pn**	**10 38 10.2**	**-0.1**
MASI				S	**Sn**	**10 39 05.2**	**+1.9**
TPRI	**Tanjung Pinang**	**4.48**	**88**	P	**Pn**	**10 38 10.9**	**+0.5**
KULM	**Kulim**	**4.53**	**8**	*e*P*n*	**Pn**	**10 38 10.4**	**-0.6**
KULM	**Kulim**	**4.53**	**8**	⇓P	**Pn**	**10 38 10.7**	**-0.4**
DSRI	**Dabo**	**4.70**	**105**	P	**Pn**	**10 38 13.7**	**+0.5**
MLSI	**Meulaboh, Aceh**	**5.03**	**314**	P	**Pn**	**10 38 17.0**	**-0.5**
MLSI				S	**Sn**	**10 39 11.4**	**-4.8**
KSI	**Kapahiang**	**5.08**	**150**	P	**Pn**	**10 38 18.0**	**-0.1**
KSI				S	**Sn**	**10 39 18.1**	**+0.6**
LHMI	**Lhok Sumawe**	**5.40**	**325**	P	**Pn**	**10 38 22.2**	**-0.1**
LHMI				S	**Sn**	**10 39 22.7**	**-2.2**
LHMI	**Lhok Sumawe**	**5.40**	**325**	*e*P*n*	**Pn**	**10 38 22.0**	**-0.3**
KTGM	**Kuala Trenggan**	**5.47**	**34**	⇓P	**Pn**	**10 38 22.3**	**-0.8**
MNAI	**Manna**	**5.87**	**150**	*e*P*n*	**Pn**	**10 38 27.1**	**-1.3**
MNAI				e*S*n	**Sn**	**10 39 34.4**	**-1.5**
SKLT	**Songkhla**	**6.38**	**5**	P	**Pn**	**10 38 33.7**	**-1.3**
	292nm,1.0s,2μm						
MDSI	**Maura Dua**	**6.66**	**142**	P	**Pn**	**10 38 38.0**	**-0.6**
LWLI	**Liwa**	**7.01**	**145**	P	**Pn**	**10 38 45.3**	**+2.0**
LWLI				S	**Sn**	**10 40 03.3**	**+0.4**
TRTT	**Trang**	**7.03**	**357**	P	**Pn**	**10 38 41.7**	**-1.7**
	122nm,0.8s,0.4nm						
KLSI		**7.16**	**139**	P	**Pn**	**10 38 45.0**	**-0.2**
KASI	**Kota Agung**	**7.67**	**145**	P	**Pn**	**10 38 49.3**	**-2.6**
KSM	**Kuching**	**10.28**	**86**	*e*P*n*	**Pn**	**10 39 25.7**	**-0.2**
CISI	**Cisompet, Garu**	**11.33**	**137**	*e*P*n*	**Pn**	**10 39 38.6**	**-1.0**
CISI				e*S*n	**Sn**	**10 41 40.3**	**-5.6**
STKI	**Sintang**	**11.45**	**93**	P	**Pn**	**10 39 43.9**	**+2.9**
SBUM	**Sibu**	**12.28**	**82**	*e*P*n*	**Pn**	**10 39 53.3**	**+1.7**
SBUM	**Sibu**	**12.28**	**82**	⇑P	**Pn**	**10 39 53.6**	**+2.0**
XMIS	**Christmas Isla**	**12.49**	**154**	*e*P*n*	**Pn**	**10 39 52.0**	**-2.3**
SMRI	**Semarang**	**12.96**	**127**	*e*P*n*	**Pn**	**10 39 59.3**	**-0.9**
COCO	**West Island**	**13.27**	**194**	*e*P*n*	**Pn**	**10 40 02.2**	**-1.8**
UGM	**Wanagama**	**13.55**	**130**	*e*P*n*	**Pn**	**10 40 06.5**	**-1.1**
DLV	**T Lat**	**13.90**	**37**	*e*P*n*	**Pn**	**10 40 11.8**	**-0.3**
MTKI	**Muara Teweh, K**	**14.94**	**97**	P	**P**	**10 40 28.8**	**+3.0**
PBKT	**Sadao Pong**	**15.72**	**3**	P	**Pn**	**10 40 34.0**	**-0.3**
	12nm,0.7s

KSH				sS	sS	10 52 23.4	-4.0	
KSH				pmax	pmax			
	comp=Z,14nm,0.5s							
KSH				pmax	pmax			
	comp=Z,95nm,4.6s							
KSH				LR	LR			
	comp=N,170nm,6.0s							
KSH				LR	LR			
	comp=E,140nm,4.8s							
KSH				LR	LR			
	comp=Z,110nm,7.7s							
KSAR	**Wonju Array Be**	**44.61**	**32**	P	**P**	**10 44 54.9**	**-1.3**	
KSRS	**Korea Array**	**44.64**	**32**	P	**P**	**10 44 54.9**	**-1.5**	
	2.8nm,0.7s,baz=222,slow=8.4,SNR=11							
WSAR	**Wadi Sarin**	**45.98**	**302**	P	**P**	**10 45 08.3**	**+1.1**	
	5.0nm,0.6s,baz=146,slow=5.2,SNR=7.9							
SONM	**Songino Array**	**47.20**	**6**	P	**P**	**10 45 15.5**	**-0.9**	
	1.5nm,0.4s,baz=193,slow=9.9,SNR=5.1							
SONM				ScP	**ScP**	**10 50 18.2**	**-2.3**	
	2.0nm,0.7s,baz=220,slow=3.9,SNR=4.5							
AAK	**Ala-Archa**	**47.57**	**334**	P	**P**	**10 45 19.4**	**0.0**	
	2.1nm,0.3s,baz=166,slow=6.9,SNR=8.3							
AAK				ScP	**ScP**	**10 50 21.5**	**-0.8**	
	5.2nm,0.7s,baz=172,slow=2.6,SNR=10							
AAK	**Ala-Archa**	**47.57**	**334**	*eP*	**P**	**10 45 19.1**	**-0.3**	
	15nm,1.4s							
AAK				ScP	**ScP**	**10 50 21.5**	**-0.8**	
MK01	**Makanchi Array**	**48.37**	**344**	*eP*	**P**	**10 45 25.4**	**+0.2**	
MK31	**Makanchi Array**	**48.39**	**344**	*eP*	**P**	**10 45 25.6**	**+0.2**	
MKAR	**Makanchi Array**	**48.39**	**344**	*eP*	**P**	**10 45 25.6**	**+0.2**	
	225nm,0.3s							
CN2	**Changchun**	**48.45**	**25**	*eP*	**P**	**10 45 27.0**	**+1.1**	
MAKZ	**Makanchi**	**48.49**	**343**	*eP*	**P**	**10 45 26.2**	**0.0**	
	19nm,0.9s							
KKAR	**Karatay Array**	**49.74**	**332**	*eP*	**P**	**10 45 36.1**	**+0.4**	
	76nm,0.4s							
CTA	**Charters Tower**	**49.77**	**117**	P	**P**	**10 45 37.5**	**+1.1**	
	14nm,0.9s,baz=310,slow=11,SNR=11							
STKA	**Stephens Creek**	**50.98**	**133**	P	**P**	**10 45 45.0**	**-0.2**	
	5.2nm,0.6s,baz=312,slow=6.9,SNR=18							
STKA	**Stephens Creek**	**50.98**	**133**	*eP*	**P**	**10 45 44.5**	**-0.7**	
	1.2nm,0.6s							
USRK	**Ussuriysk Ar.**	**51.71**	**29**	P	**P**	**10 45 49.2**	**-1.2**	
	2.8nm,0.7s,baz=285,slow=5.6,SNR=5.8							
KURK	**Kurchatov**	**52.98**	**343**	*eP*	**P**	**10 45 59.7**	**0.0**	
	14nm,0.8s							
GEYT	**Alibeck**	**53.38**	**319**	P	**P**	**10 46 03.3**	**+0.4**	
	12nm,0.7s,baz=131,slow=8.1,SNR=17							
ZAA0	**Zalesovo Array**	**54.47**	**349**	*eP*	**P**	**10 46 09.8**	**-0.5**	
ZALV	**Zalesovo Beam**	**54.47**	**349**	P	**P**	**10 46 09.9**	**-0.4**	
	9.8nm,0.3s,baz=182,slow=6.6,SNR=31							
ZALV				pP	**pP**	**10 46 53.8**	**+0.2**	
	2.4nm,0.3s,baz=170,slow=5.8,SNR=2.0							
BVAR	**Borovoye Array**	**57.62**	**339**	P	**P**	**10 46 32.3**	**-0.5**	
	18nm,0.5s,baz=143,slow=9.5,SNR=78							
BVAR				pP	**pP**	**10 47 15.7**	**-0.7**	
	2.3nm,0.5s,baz=143,slow=10,SNR=2.1							
BVAR				ScP	**ScP**	**10 51 04.4**	**-1.0**	
	0.4nm,0.4s,baz=121,slow=5.6,SNR=4.0							
BRVK	**Borovoye**	**57.68**	**339**	*eP*	**P**	**10 46 32.8**	**-0.3**	
	20nm,0.4s							
ABKAR	**Akbulak array**	**59.26**	**331**	*eP*	**P**	**10 46 43.8**	**-0.3**	
	199nm,0.6s							
AKTO	**Aktyubinsk**	**60.97**	**331**	P	**P**	**10 46 55.2**	**-0.6**	
	2.6nm,0.3s,baz=123,slow=8.4,SNR=21							
AKTO				ScP	**ScP**	**10 51 19.9**	**-0.4**	
	1.7nm,0.7s,baz=142,slow=4.6,SNR=5.7							
KMBO	**Kilima Mbogo**	**62.82**	**268**	P	**P**	**10 47 10.9**	**+1.8**	
	3.7nm,0.5s,baz=70,slow=9.3,SNR=9.9							
ARU	**Arti**	**64.71**	**336**	P	**P**	**10 47 19.7**	**-0.5**	
	8.8nm,0.2s,baz=72,slow=2.1,SNR=6.8							
ARU	**Arti**	**64.71**	**336**	*eP*	**P**	**10 47 19.8**	**-0.5**	
	15nm,1.0s							
MARD	**Mardin**	**65.45**	**311**	*eP*	**P**	**10 47 26.8**	**+1.2**	
	23nm,0.8s							
ARTV	**Artvin**	**65.96**	**315**	*eP*	**P**	**10 47 32.3**	**+3.3**	
	21nm,0.3s							
KBZ	**Khabaz**	**66.27**	**318**	P	**P**	**10 47 31.0**	**+0.5**	
	14nm,0.8s,baz=123,slow=5.1,SNR=32							
KVAR	**Kislovodsk Arr**	**66.50**	**318**	P	**P**	**10 47 32.1**	**0.0**	
	12nm,0.8s,baz=196,slow=4.0,SNR=6.8							
ASF	**Jabal al Asfar**	**67.04**	**305**	P	**P**	**10 47 36.4**	**+0.6**	
	1.4nm,0.4s,baz=72,slow=5.7,SNR=3.8							
EIL	**Elat**	**68.10**	**302**	P	**P**	**10 47 43.0**	**+0.6**	
	6.5nm,0.7s,baz=22,slow=4.1,SNR=5.4							
MMAI	**Mount Meron Ar**	**68.47**	**305**	P	**P**	**10 47 45.6**	**+0.9**	
	1.1nm,0.3s,baz=90,slow=8.3,SNR=6.7							
BR131	**Keskin Array S**	**71.51**	**312**	*eP*	**P**	**10 48 03.0**	**-0.2**	
BRTR	**Keskin Array B**	**71.51**	**312**	P	**P**	**10 48 03.0**	**-0.2**	
	11nm,0.7s,baz=129,slow=7.1,SNR=57							
ILGA	**Ilgaz**	**71.80**	**313**	*eP*	**P**	**10 48 05.8**	**+0.8**	
	22nm,1.0s							
BR231	**Keskin MP Arra**	**72.18**	**312**	*eP*	**P**	**10 48 03.7**	**-3.4**	
OBN	**Obninsk**	**74.49**	**328**	P	**P**	**10 48 19.6**	**-0.4**	
	22nm,0.4s,baz=246,slow=10.5,SNR=6.0							
TIRR	**Tirgusor**	**76.41**	**316**	⇑*iP*	**P**	**10 48 31.8**	**+0.5**	
TIRR	**Tirgusor**	**76.41**	**316**	*eP*	**P**	**10 48 31.8**	**+0.5**	
	14nm,0.9s							
TLB	**Topalu**	**76.70**	**316**	⇑*iP*	**P**	**10 48 33.5**	**+0.6**	
KIS	**Kishinev**	**76.70**	**318**	*eP*	**P**	**10 48 32.0**	**-0.9**	
BOSA	**Boshof**	**77.05**	**241**	P	**P**	**10 48 36.5**	**+1.2**	
	2.3nm,0.6s,baz=107,slow=5.2,SNR=6.5							
SORM	**Soroca**	**77.27**	**319**	⇓*iP*	**P**	**10 48 36.3**	**+0.3**	
AKASG	**Malin Array Be**	**77.34**	**322**	P	**P**	**10 48 36.0**	**-0.3**	
	16nm,0.8s,baz=84,slow=5.0,SNR=26							
AKBB	**Malin Array Si**	**77.34**	**322**	*eP*	**P**	**10 48 36.1**	**-0.2**	
	14nm,0.8s							
KIEV	**Kiev**	**77.35**	**322**	*eP*	**P**	**10 48 36.0**	**-0.3**	
	14nm,0.8s							
AK11	**Malin Array Si**	**77.37**	**322**	*eP*	**P**	**10 48 36.3**	**-0.2**	
IDI	**Anoyia**	**77.45**	**306**	P	**P**	**10 48 38.4**	**+1.0**	
	9.5nm,0.4s,baz=89,slow=8.3,SNR=11							
PLOR	**Plostina**	**77.92**	**317**	⇓*iP*	**P**	**10 48 41.0**	**+1.3**	
TESR	**Tescani**	**78.06**	**317**	⇑*iP*	**P**	**10 48 41.6**	**+1.2**	
MLR	**Muntele Rosu**	**78.34**	**316**	P	**P**	**10 48 43.4**	**+1.2**	
	4.8nm,1.1s,baz=89,slow=2.6,SNR=16							
MLR	**Muntele Rosu**	**78.34**	**316**	⇑*iP*	**P**	**10 48 43.5**	**+1.4**	
MLR	**Muntele Rosu**	**78.34**	**316**	*eP*	**P**	**10 48 43.0**	**+0.8**	
	26nm,1.1s							
PRAR	**RASCA**	**78.51**	**318**	⇓*iP*	**P**	**10 48 44.1**	**+1.2**	
DOPR	**Dopca**	**78.81**	**317**	⇑*iP*	**P**	**10 48 46.2**	**+1.6**	
ARR	**Arges**	**79.22**	**316**	⇑*iP*	**P**	**10 48 47.5**	**+0.6**	
BURAR	**Bucovina Array**	**79.23**	**318**	⇑*iP*	**P**	**10 48 48.8**	**+1.9**	
BUR08	**Bucovina Ar. S**	**79.25**	**318**	*eP*	**P**	**10 48 48.5**	**+1.4**	
VTS	**Vitosha**	**79.80**	**313**	⇓*iP*	**P**	**10 48 50.7**	**+0.5**	
VTS	**Vitosha**	**79.80**	**313**	*eP*	**P**	**10 48 50.5**	**+0.3**	
	10nm,1.0s							
DRGR		**80.77**	**317**	⇑*iP*	**P**	**10 48 56.6**	**+1.4**	
BZS	**Buzias**	**81.36**	**316**	⇑*iP*	**P**	**10 48 59.2**	**+1.0**	
SIRR	**Siria**	**81.42**	**317**	⇑*iP*	**P**	**10 48 59.8**	**+1.3**	
SUW	**Suwalki**	**81.67**	**324**	*eP*	**P**	**10 48 59.9**	**+0.3**	
FINES	**FINESS Array B**	**81.70**	**332**	P	**P**	**10 49 00.1**	**+0.5**	
	10nm,0.5s,baz=105,slow=5.5,SNR=90							
CRVS	**Cervenica-Dubn**	**81.92**	**319**	*e*	P	10 49 08.1	+7.0	
STHS	**Stebnicka Huta**	**82.13**	**320**	*eP*	**P**	**10 49 04.0**	**+1.8**	
KECS	**Kecovo**	**82.50**	**319**	*eP*	**P**	**10 49 05.0**	**+0.9**	
PDG	**Podgorica**	**82.68**	**313**	⇑*iP*	**P**	**10 49 05.7**	**+0.6**	
OJC	**Ojcow**	**83.16**	**320**	*eP*	**P**	**10 49 08.5**	**+1.0**	
VYHS	**Vyhne**	**83.59**	**319**	*eP*	**P**	**10 49 10.5**	**+0.8**	
ARCES	**ARCESS Array B**	**83.90**	**340**	P	**P**	**10 49 11.1**	**+0.2**	
	2.9nm,0.4s,baz=104,slow=4.2,SNR=16							
MORC	**Moravsky Berou**	**84.56**	**320**	⇑*iP*	**P**	**10 49 15.8**	**+1.2**	
MORC	**Moravsky Berou**	**84.56**	**320**	*eP*	**P**	**10 49 15.6**	**+1.0**	
CUC	**Castrocucco**	**85.08**	**310**	*eP*	**P**	**10 49 17.9**	**+0.5**	
	4.3nm,1.2s							
CONA	**Conrad Observa**	**85.53**	**318**	*iP*	**P**	**10 49 19.5**	**0.0**	
	4.4nm,1.2s							
ARSA	**Arzberg**	**85.71**	**317**	*iP*	**P**	**10 49 21.5**	**+1.2**	
	7.6nm,1.2s							
SOKA	**Soboth**	**86.01**	**317**	*i* PcP	**P**	**10 49 23.4**	**+1.5**	
	10nm,1.0s							
OBKA	**Obir**	**86.34**	**316**	*i* PcP	**P**	**10 49 24.9**	**+1.3**	
	5.8nm,1.1s							
MOA	**Molln**	**86.59**	**318**	*iP*	**P**	**10 49 25.2**	**+0.6**	
	3.1nm,0.6s							
BRG	**Berggiesshubel**	**86.94**	**321**	*eP*	**P**	**10 49 27.6**	**+1.4**	
	15nm,1.3s							
MYKA	**Terra Mystica**	**86.97**	**316**	*iP*	**P**	**10 49 27.1**	**+0.5**	
	2.2nm,0.5s							
GEA0	**GERESS Array S**	**87.01**	**319**	*eP*	**P**	**10 49 27.6**	**+0.8**	
GEC2	**GERESS Array S**	**87.01**	**319**	*eP*	**P**	**10 49 28.1**	**+1.4**	
GERES	**GERESS Array B**	**87.01**	**319**	P	**P**	**10 49 27.6**	**+0.9**	
	2.3nm,0.7s,baz=72,slow=4.3,SNR=16							
KBA	**Koelnbreinsper**	**87.19**	**317**	*i* PcP	**P**	**10 49 29.3**	**+1.6**	
	5.1nm,1.1s							
CLL	**Collm**	**87.55**	**321**	*eP*	**P**	**10 49 30.0**	**+0.9**	
	comp=Z,12nm,1.1s							
ABTA	**Abfaltersbach**	**87.75**	**317**	*i* P	**P**	**10 49 30.2**	**-0.1**	
	comp=Z,0.4nm,0.3s							
WTTA	**Wattenberg**	**88.36**	**317**	*i* PcP	**P**	**10 49 33.8**	**+0.5**	
	comp=Z,2.6nm,0.4s							
WATA	**Walderalm**	**88.40**	**317**	*i* P	**P**	**10 49 33.4**	**0.0**	
	comp=Z,3.9nm,0.6s							
MOTA	**Moosalm**	**88.72**	**317**	*i* PcP	**P**	**10 49 36.1**	**+1.2**	
	comp=Z,6.0nm,0.8s							
RETA	**Reutte**	**88.95**	**317**	*i* PcP	**P**	**10 49 36.5**	**+0.6**	
	comp=Z,15nm,1.6s							
FETA	**Feichten**	**88.97**	**317**	*i* PcP	**P**	**10 49 36.7**	**+0.6**	
	comp=Z,7.1nm,1.4s							
FUORN	**Ofenpass-Fuorn**	**89.30**	**316**	*eP*	**P**	**10 49 39.3**	**+1.5**	
DAVA	**Damuels**	**89.55**	**317**	*i* PcP	**P**	**10 49 39.6**	**+0.8**	
	comp=Z,15nm,1.2s							
DAVOX	**Davos/Dischmat**	**89.56**	**317**	P	**P**	**10 49 40.2**	**+1.3**	
	comp=Z,8.8nm,0.5s,baz=146,slow=2.9,SNR=19							
KEST	**Kesra**	**90.13**	**306**	P	**P**	**10 49 43.0**	**+1.4**	
	comp=Z,9.3nm,0.8s,baz=354,slow=2.5,SNR=11							
KEST	**Kesra**	**90.13**	**306**	*eP*	**P**	**10 49 43.9**	**+2.2**	
PFO	**Pinyon Flats O**	**131.55**	**42**	SKPbc	**SKPbc**	**10 58 59.2**	**-1.8**	
	comp=Z,2.1nm,0.6s,baz=298,slow=3.8,SNR=6.3							
ANMO	**Albuquerque**	**136.67**	**32**	SKPbc	**SKPbc**	**10 59 15.7**	**-2.2**	
	comp=Z,4.3nm,1.0s,baz=232,slow=3.6,SNR=12							
PLCA	**Paso Flores**	**139.32**	**191**	SKPbc	**SKPbc**	**10 59 24.6**	**-0.5**	
	comp=Z,2.9nm,0.8s,baz=250,slow=3.5,SNR=6.8							
TXAR	**Lajitas Array**	**142.45**	**35**	PKhKP	PKPpre	10 56 09.7		
	comp=Z,0.3nm,0.6s,baz=353,slow=0.4,SNR=10							
TXAR				SKPbc	**SKPbc**	**10 59 31.8**	**-1.7**	
	comp=Z,0.8nm,0.5s,baz=211,slow=1.1,SNR=19							
GOGA	**Godfrey**	**145.84**	**5**	*e*PKPbc	**PKPbc**	**10 56 19.8**	**-0.4**	

IDC 14 10:39:26.2±1.7, 50.13S×112.28E, h0km, mb4.1/4, mb1 4.4/4, mb1mx3.9/30, mbtmp4.1/4, MS3.6/6, Ms1 3.5/6, ms1mx3.3/21, Error ellipse: s-maj=79.8km s-min=22.4km az=113.0, Southeast Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H01W2	**Cape Leeuwin H**	**15.28**	**6**	T	T	10 58 54.4	
	baz=183,slow=74,SNR=169						
H01W1	**Cape Leeuwin H**	**15.29**	**6**	T	T	10 58 54.8	
	baz=183,slow=74,SNR=217						
H01W3	**Cape Leeuwin H**	**15.30**	**6**	T	T	10 58 53.9	
	baz=183,slow=74,SNR=201						
MAW	**Mawson**	**29.84**	**216**	LR	LR	10 55 23.5	
	comp=Z,51nm,21.6s,baz=74,slow=32						
ASAR	**Alice Springs**	**31.34**	**41**	P	P	10 45 47.8	-0.6
	1.3nm,1.0s,baz=211,slow=10,SNR=5.6						
VNDA	**Vanda**	**33.09**	**162**	P	P	10 46 02.8	-0.3
	4.1nm,0.7s,baz=287,slow=8.6,SNR=14						
VNDA				LR	LR	10 58 31.3	
	comp=Z,131nm,19.2s,baz=310,slow=35						
FITZ	**Fitzroy Crossi**	**33.70**	**23**	LR	LR	10 58 03.3	
	comp=Z,107nm,20.0s,slow=33						
WRA	**Warramunga Arr**	**34.85**	**38**	P	P	10 46 19.0	0.0
	3.2nm,0.9s,baz=205,slow=8.1,SNR=6.0						
SNAA	**Sanae**	**50.24**	**202**	P	P	10 48 23.2	-0.3
	3.3nm,0.9s,baz=136,slow=8.1,SNR=14						
GUMO	**Guam**	**69.60**	**34**	LR	LR	11 19 07.8	
	comp=Z,17nm,21.9s,baz=202,slow=34						
PLCA	**Paso Flores**	**89.48**	**178**	LR	LR	11 32 52.2	
	comp=Z,36nm,18.6s,baz=320,slow=36						
GEYT	**Alibeck**	**99.82**	**319**	LR	LR	11 33 26.7	
	comp=Z,45nm,20.1s,baz=320,slow=32						
TXAR	**Lajitas Array**	**145.89**	**114**	PKPbc	PKPab	10 59 08.0	+0.1
	1.2nm,1.1s,baz=198,slow=5.7,SNR=8.0						
PDAR	**Pinedale Array**	**150.56**	**88**	PKPbc	PKPbc	10 59 18.9	-0.7
	1.1nm,1.0s,baz=242,slow=3.2,SNR=5.7						

SJA 14 10:41:25.4±1.1, 32.61S×71.80W, h10km±35km, ML3.4, MW3.7
GUC 14 10:41:25.9±0.5, 32.66S×71.79W, h32km±8km, ML3.7
ISC 14 10:41:24.5±3.0, 32.79S±0.07×71.9W±0.1, h6km±14km, n15, σ1s30/24, 1C-5D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ROC1	**El Roble**	**0.79**	**104**	*eP*	**Pb**	**10 41 40.9**	**0.0**
ROCH	**El Roble**	**0.80**	**104**	⇓*iP*	**Pb**	**10 41 40.8**	**-0.2**
ROCH				*i* S	**Sg**	**10 41 51.1**	**+0.8**
ROCH				IAML		10 41 55.1	
	comp=E,3μm,0.4s						
PEL	**Peldehue**	**1.11**	**109**	⇓*iP*	**Pb**	**10 41 45.9**	**-0.2**
PEL				*i* S	**Sg**	**10 42 00.3**	**+0.1**
PEL				IAML		10 42 02.0	
	comp=E,5μm,0.3s						
RCDM	**Rinconada Maip**	**1.18**	**127**	⇑*iP*	**Pg**	**10 41 47.2**	**+0.1**
RCDM				*i* S	**Sg**	**10 42 02.0**	**-0.3**
CLCH	**Cerro Calan**	**1.32**	**118**	⇓*iP*	**Pn**	**10 41 49.4**	**-0.2**
CLCH				*eS*	**Sb**	**10 42 07.1**	**+0.1**
CLCH				IAML		10 42 10.3	
	comp=E,4μm,0.7s						
ANTU	**Antumapu**	**1.34**	**126**	*eP*	**Pn**	**10 41 50.0**	**0.0**
ANTU				*eS*	**Sb**	**10 42 08.2**	**+0.6**
ANTU				IAML		10 42 11.5	
	comp=E,2μm,0.5s						
FCH	**Farellones**	**1.48**	**112**	⇓*iP*	**Pn**	**10 41 51.9**	**-0.2**
FCH				*i* S	**Sn**	**10 42 11.2**	**-0.8**
FCH				IAML		10 42 12.2	
	comp=E,2μm,0.3s						
AUSP	**Uspallata**	**2.22**	**76**	*eP*	**Pb**	**10 42 04.2**	**-1.2**
AUSP				*eS*	**Sb**	**10 42 33.6**	**+0.4**
RTLS	**Leoncito**	**2.44**	**67**	*eP*	**Pb**	**10 42 07.1**	**-1.9**
ARCO	**CERRO ARCO**	**2.53**	**92**	*eP*	**Pb**	**10 42 09.8**	**-0.6**
ARCO				*eS*	**Sb**	**10 42 42.0**	**+0.1**
ARCO				IAML		10 42 51.3	
	comp=Z,196nm,0.5s						
ASAL	**Salagasta**	**2.62**	**87**	*eP*	**Pb**	**10 42 10.7**	**-1.3**
ASAL				*eS*	**Sb**	**10 42 43.3**	**-1.1**
AAGR	**Agrelo**	**2.63**	**97**	*eP*	**Pb**	**10 42 11.1**	**-1.0**
RTCV	**Cerro Valdivia**	**3.01**	**73**	⇓*eP*	**Pb**	**10 42 15.9**	**-2.8**
AMOG	**MOGNA**	**3.46**	**299**	*eP*	**Pn**	**10 42 21.0**	**+2.8**
ACAN	**Cantantal**	**4.04**	**84**	*eP*	**Pn**	**10 42 30.2**	**+3.2**

JMA 14 10:48:43.0±0.2, 37.18N×141.68E, h30km±2km, M3.4
IDC 14 10:48:43.0±1.9, 37.06N×141.68E, h0km, mb3.7/2, mb1 3.9/3, mb1mx3.4/42, mbtmp3.9/3, ML3.1/2, MS3.7/1, Ms1 3.7/1, ms1mx2.4/47, Error ellipse: s-maj=36.8km s-min=23.4km az=129.0
ISC 14 10:48:44.5±2.1, 37.20N±0.05×141.57E±0.10, h27km±14km, n21, σ1s26/23, Near coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JFK	**Kawauchi**	**0.58**	**287**	P	**Pb**	**10 48 55.5**	**-0.6**
JFK				S	**Sb**	**10 49 04.4**	**+0.4**
ONAJ	**Iwakimizuishiy**	**0.62**	**261**	P	**Pb**	**10 48 56.5**	**-0.4**
ONAJ				S	**Sb**	**10 49 06.1**	**+0.8**
JMM	**Marumori**	**0.91**	**317**	P	**Pn**	**10 49 00.7**	**-0.7**
JMM				S	**Sn**	**10 49 13.8**	**+0.2**
JHO	**Hitachi**	**0.99**	**234**	P	**Pn**	**10 49 01.4**	**-1.2**
JHO				S	**Sn**	**10 49 15.3**	**-0.5**
JFT	**Otama**	**1.03**	**288**	P	**Pb**	**10 49 03.4**	**-0.3**
JFT				S	**Sb**	**10 49 18.0**	**+1.1**
JIO	**Ouri**	**1.26**	**352**	P	**Pn**	**10 49 05.9**	**-0.4**
JOU	**Okura**	**1.37**	**329**	P	**Pb**	**10 49 08.6**	**-0.8**
JOU				S	**Sb**	**10 49 27.5**	**+1.0**
JFY	**Yanaizu**	**1.50**	**278**	P	**Pb**	**10 49 10.7**	**-1.0**
JFY				S	**Sb**	**10 49 31.7**	**+1.4**
JYS	**Shirataka**	**1.57**	**311**	P	**Pb**	**10 49 12.1**	**-0.7**
JYS				S	**Sb**	**10 49 33.9**	**+1.6**
MJAR	**Matsushiro Arr**	**2.77**	**257**	Pn	**Pn**	**10 49 28.7**	**+1.6**
	1.1nm,0.3s,baz=79,slow=16,SNR=9.7						
MJAR				Sn	**Sb**	**10 50 04.8**	**-2.2**
	1.7nm,0.3s,baz=81,slow=18,SNR=6.9						
MAT	**Matsushiro**	**2.77**	**257**	P	**Pn**	**10 49 29.1**	**+2.0**
MAT				*eS*	**Sb**	**10 50 04.9**	**-2.1**
JHJ	**Hachijo jima 2**	**4.33**	**200**	Pn	**Pn**	**10 49 49.7**	**+1.3**
	6.7nm,0.3s,baz=70,slow=22,SNR=5.1						
JHJ				Sn	**Sn**	**10 50 38.6**	**+0.6**
	5.0nm,0.3s,baz=66,slow=20,SNR=3.4						
H11N2	**WAKE ISLAND Hy 28.13**	**121**		T	T	11 23 58.0	
	baz=314,slow=75,SNR=52						
H11N1	**WAKE ISLAND Hy 28.14**	**121**		T	T	11 23 58.8	
	baz=314,slow=75,SNR=67						
H11N3	**WAKE ISLAND Hy 28.14**	**121**		T	T	11 23 59.5	
	baz=314,slow=75,SNR=49						
H11S1	**WAKE ISLAND Hy 28.85**	**123**		T	T	11 24 51.7	
	baz=316,slow=76,SNR=55						
H11S3	**WAKE ISLAND Hy 28.85**	**123**		T	T	11 24 50.7	
	baz=316,slow=76,SNR=37						
H11S2	**WAKE ISLAND Hy 28.86**	**123**		T	T	11 24 52.5	
	baz=316,slow=76,SNR=49						
ZALV	**Zalesovo Beam**	**41.89**	**312**	P	P	10 56 36.3	+4.1
	1.3nm,0.4s,baz=94,slow=12,SNR=3.3						
PMG	**Port Moresby**	**46.66**	**172**	LR	LR	11 17 05.5	
	comp=Z,89nm,20.6s,baz=194,slow=37						
ILAR	**Eielson Array**	**49.29**	**32**	P	P	10 57 33.5	+2.9
	0.4nm,0.8s,baz=280,slow=8.4,SNR=4.9						

NIED 14 10:58:00.36.70N×141.40E, h29km, Mw3.7 Best double couple: M0 3.60000×10^14 NP1:φs294.00000°, δ24.00000°, λ-179.00000°. NP2:φs204.00000°, δ90.00000°, λ-66.00000°.
IDC 14 10:58:43.7±1.2, 36.44N×141.78E, h0km, mb3.6/4, mb1 3.8/8, mb1mx3.5/43, mbtmp3.7/8, ML3.2/4, MS3.3/4, Ms1 3.3/4, ms1mx2.8/43, Error ellipse: s-maj=26.9km s-min=20.6km az=90.0
JMA 14 10:58:47.4±0.2, 36.71N×141.42E, h51km±2km, M3.7
JMA Felt I J1.
ISC 14 10:58:44.7±2.1, 36.67N±0.05×141.60E±0.08, h6km±12km, n24, σ1s72/23, mb3.5/4, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ONAJ	**Iwakimizuishiy**	**0.78**	**304**	P	**Pg**	**10 59 00.2**	**+0.6**
ONAJ				S	**Sg**	**10 59 09.7**	**0.0**
JHO	**Hitachi**	**0.83**	**266**	P	**Pg**	**10 59 00.8**	**+0.1**
JHO				S	**Sg**	**10 59 10.7**	**-0.8**
JFK	**Kawauchi**	**0.91**	**320**	P	**Pg**	**10 59 02.0**	**-0.2**
JFK				S	**Sg**	**10 59 13.0**	**-1.0**
JFT	**Otama**	**1.32**	**310**	P	**Pn**	**10 59 09.1**	**-0.7**
JMM	**Marumori**	**1.36**	**332**	P	**Pn**	**10 59 08.6**	**-1.6**
JMM				S	**Sb**	**10 59 24.8**	**-3.4**
JFY	**Yanaizu**	**1.69**	**296**	P	**Pn**	**10 59 14.2**	**-0.6**
JAG	**Ashikaga**	**1.75**	**263**	P	**Pn**	**10 59 14.3**	**-1.3**
MJAR	**Matsushiro Arr**	**2.73**	**268**	Pn	**Pn**	**10 59 29.1**	**-0.1**
	12nm,0.3s,baz=108,slow=11,SNR=108						
MJAR				Sn	**Sn**	**11 00 02.9**	**+0.3**
	11nm,0.3s,baz=84,slow=15,SNR=11						
MJAR				LR	LR	11 00 41.1	
	comp=Z,82nm,20.2s,baz=100,slow=41						
MAT	**Matsushiro**	**2.74**	**268**	P	**Pn**	**10 59 29.4**	**+0.2**
MAT				S	**Sn**	**11 00 01.7**	**-0.9**
JHJ	**Hachijo jima 2**	**3.84**	**203**	Pn	**Pn**	**10 59 44.0**	**-0.4**
	17nm,0.3s,baz=261,slow=22,SNR=21						
JHJ				Sn	**Sn**	**11 00 28.4**	**-1.4**
	37nm,0.3s,baz=257,slow=22,SNR=7.4						
USRK	**Ussuriysk Ar.**	**10.50**	**319**	Pn	**Pn**	**11 01 18.7**	**+3.1**
	0.2nm,0.3s,baz=135,slow=15,SNR=5.1						
KSRS	**Korea Array**	**10.96**	**278**	Pn	**Pn**	**11 01 25.2**	**+3.1**
	0.1nm,0.3s,baz=90,slow=13,SNR=6.3						
KSRS				LR	LR	11 05 19.7	
	comp=Z,45nm,19.1s,baz=131,slow=36						
H11N2	**WAKE ISLAND Hy 27.83**	**120**		T	T	11 33 53.7	
	baz=313,slow=75,SNR=53						
H11N1	**WAKE ISLAND Hy 27.84**	**120**		T	T	11 33 56.3	
	baz=313,slow=75,SNR=57						
H11N3	**WAKE IS

baz=327
CHN1 eS Sn 11 06 02.4 -0.1
baz=327
CHN3 Shinhua 1.00 318 eP Pn 11 05 48.0 0.0
baz=316
CHN3 eS Sn 11 06 06.0 +3.6
baz=316
WTP Ta-pu 1.02 335 eP Pb 11 05 47.3 -0.2
baz=333
WTP eS Sn 11 06 03.7 +0.9
baz=333
TWF1 Yuli 1.04 11 eP Pb 11 05 47.1 -0.8
baz=10.0
TWK Hsinying 1.09 330 eP Pb 11 05 48.1 -0.6
baz=328
TWK eS Sn 11 06 04.2 -0.4
baz=328
EHY Hungye 1.20 10 P Pn 11 05 50.1 -0.6
baz=9.0
ALS Alishan 1.21 348 eP Pg 11 05 51.3 +0.6
baz=346
ALS eS Sg 11 06 08.3 +1.9
baz=346
CHN5 Tsauling 1.32 343 P Pb 11 05 52.6 -0.1
baz=342
CHN2 Minshiung 1.33 335 eP Pg 11 05 53.5 +0.5
baz=333
WDT Danda 1.43 2 eP Pg 11 05 55.4 +0.5
baz=1.0
WDT eS Sg 11 06 18.5 +5.1
baz=1.0
ESL Shilin 1.52 12 eP Pb 11 05 56.0 0.0
baz=11
SMLT Sun Moon Lake 1.56 354 eP Pn 11 05 55.7 -0.1
baz=353
SMLT eS Sg 11 06 19.1 +1.4
baz=353
TYC Yuchr 1.59 352 P Pb 11 05 56.6 -0.6
baz=351
TYC eS Sg 11 06 19.7 +1.2
baz=351
TWT Tachien 1.92 2 eP Pb 11 06 02.2 -0.8
baz=1.0
NNS Nan Shan 2.12 7 eP Pb 11 06 06.3 0.0
baz=6.0
NNS eS Sb 11 06 31.6 -1.4
baz=6.0
ENTT Nioudou 2.35 11 eP Pn 11 06 06.3 -0.2
baz=10.0
NSK Sanguang 2.35 6 eP Pn 11 06 06.9 +0.3
baz=5.0
NSK eS Sn 11 06 36.8 +0.9
baz=5.0
JYNG Yonagunijimaku 2.72 38 P Pn 11 06 09.9 -1.7
JYNG eS Sn 11 06 43.0 -1.8
JKRS Kuro-shima 3.29 54 P Pn 11 06 19.5 0.0
JIJ Ishigaki jima 3.46 54 P Pn 11 06 21.5 -0.4
JISG Ishigakijimahi 3.72 52 P Pn 11 06 24.0 -1.3

IDC 14 11:11:38.8±1.3, 30.78S×179.76W, h345km±15km, mb3.3/4, mb1 3.4/5, mb1mx3.2/27, mbtmp4.0/5, Error ellipse: s-maj=33.3km s-min=17.9km az=132.0, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**2.21**	**47**	P	Pn	11 12 31.1	-0.2
	166nm,0.3s,baz=99,slow=11,SNR=14						
RAO				S	S	11 13 08.0	-5.3
	124nm,0.3s,baz=49,slow=19,SNR=4.1						
URZ	**Urewera**	**7.89**	**198**	P	Pn	11 13 32.3	+0.8
	1.5nm,0.3s,baz=269,slow=5.1,SNR=27						
URZ				S	S	11 15 02.9	-0.4
	6.0nm,0.3s,baz=260,slow=21,SNR=17						
STKA	**Stephens Creek**	**32.91**	**258**	P	P	11 17 42.2	+0.3
	1.7nm,0.8s,baz=96,slow=7.8,SNR=5.3						
ASAR	**Alice Springs**	**41.57**	**268**	P	P	11 18 54.0	-0.1
	0.6nm,0.6s,baz=102,slow=7.0,SNR=14						
WRA	**Warramunga Arr**	**42.60**	**274**	P	P	11 19 02.0	-0.3
	3.5nm,0.6s,baz=111,slow=7.6,SNR=31						
PETK	**Petropavlovsk-**	**85.81**	**347**	P	P	11 23 39.1	-0.4
	1.3nm,0.6s,baz=120,slow=8.5,SNR=3.1						
FINES	**FINESS Array B**	**144.96**	**339**	PKP	PKPdf	11 30 32.9	-1.5
	4.9nm,0.5s,baz=47,slow=3.5,SNR=15						
NOA	**NORSAR Array B**	**148.87**	**350**	PKPbc	PKPbc	11 30 46.9	+1.5
	1.6nm,0.7s,baz=23,slow=2.6,SNR=4.0						
MMAI	**Mount Meron Ar**	**150.14**	**284**	PKPbc	PKPbc	11 30 48.9	-0.5
	1.5nm,0.5s,baz=54,slow=4.2,SNR=4.3						
BRTR	**Keskin Array B**	**151.43**	**297**	PKPbc	PKPbc	11 30 50.8	-1.5
	0.8nm,0.5s,baz=118,slow=4.1,SNR=3.6						

*SJA **14** 11:19:08.3±1.4, 32.66S×71.69W, h10km±62km, ML3.6, MW3.7*
*GUC **14** 11:19:09.3±0.3, 32.78S×71.73W, h14km±4km, ML3.7*
ISC 14 11:19:06.3±3.1, 32.54S±0.05×71.7W±0.1, h12km±12km, n13, σ0979/21, 1C-4D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ROC1	**El Roble**	**0.74**	**126**	*e*P	**Pn**	**11 19 22.8**	**-0.1**
ROC1				*e*S	**Sb**	**11 19 32.6**	**+0.9**
ROCH	**El Roble**	**0.75**	**125**	⇓*i*P	**Pn**	**11 19 22.8**	**-0.2**
ROCH				*e*S	**Sn**	**11 19 32.9**	**-1.4**
ROCH				IAML		11 19 35.4	
	comp=N,6μm,0.4s						
PEL	**Peldehue**	**1.07**	**124**	⇓*i*P	**Pn**	**11 19 27.7**	**+0.5**
PEL				*e*S	**Sn**	**11 19 42.0**	**0.0**
PEL				IAML		11 19 44.3	
	comp=E,7μm,0.2s						
RCDM	**Rinconada Maip**	**1.23**	**141**	⇑*i*P	**Pn**	**11 19 29.4**	**+0.1**
RCDM				*i* S	**Sb**	**11 19 44.6**	**-0.6**
CLCH	**Cerro Calan**	**1.32**	**131**	⇓*i*P	**Pb**	**11 19 31.6**	**+0.5**
CLCH				*i* S	**Sg**	**11 19 48.7**	**-0.2**
CLCH				IAML		11 19 52.3	
	comp=N,3μm,0.4s						
ANTU	**Antumapu**	**1.38**	**138**	*e*P	**Pb**	**11 19 32.4**	**+0.3**
ANTU				*e*S	**Sn**	**11 19 49.6**	**-0.1**
ANTU				IAML		11 19 53.9	
	comp=E,3μm,1.1s						
FCH	**Farellones**	**1.45**	**123**	⇓*i*P	**Pg**	**11 19 34.0**	**-0.1**
FCH				*i* S	**Sg**	**11 19 52.9**	**0.0**
AUSP	**Uspallata**	**2.01**	**82**	*e*P	**Pg**	**11 19 46.1**	**+1.1**
ARCO	**CERRO ARCO**	**2.38**	**98**	*e*P	**Pg**	**11 19 51.4**	**-0.6**
ARCO				IAML		11 20 04.1	
	comp=Z,251nm,0.4s						
ASAL	**Salagasta**	**2.45**	**92**	*e*P	**Pg**	**11 19 52.4**	**-0.9**
AAGR	**Agrelo**	**2.51**	**103**	*e*P	**Pb**	**11 19 52.6**	**+1.2**
ACCO	**Cerro Coronel**	**3.00**	**50**	*e*P	**Pb**	**11 20 00.8**	**+0.9**
ACCO				*e*S	**Sg**	**11 20 41.4**	**-1.3**
ACCO				IAML		11 20 51.0	
	comp=Z,208nm,0.6s						
ACDV	**Cuesta del Vie**	**3.25**	**44**	*e*P	**Pb**	**11 20 04.3**	**+0.1**

*BJI **14** 11:26:14.9, 36.54N×70.27E, h216km, mb4.5/35, mB4.6/26*
*ISCJB **14** 11:26:15.6±0.3, 36.53N±0.02×70.42E±0.04, h217km±3km, mb4.3/55, Error ellipse: s-maj=4.6km s-min=3.3km az=169.7*
*MOS **14** 11:26:15.8±0.8, 36.50N×70.47E, h218km, mb4.3/28, Error ellipse: s-maj=10.3km s-min=5.4km az=79.5*
*NEIC **14** 11:26:17.2±0.2, 36.47N×70.41E, mb4.5/22, Error ellipse: s-maj=5.8km s-min=5.5km az=97.0*
*IDC **14** 11:26:17.1±0.8, 36.39N×70.44E, h222km±7km, mb4.0/25, mb1 4.1/30, mb1mx3.8/61, mbtmp4.6/30, Error ellipse: s-maj=10.8km s-min=8.2km az=160.0*
*NNC **14** 11:26:20.9±2.6, 36.91N×70.41E, h212km±18km, mb4.1, mpv5.2, Error ellipse: s-maj=25.1km s-min=14.3km az=161.0*
ISC 14 11:26:16.5±0.5, 36.48N±0.04×70.47E±0.04, h210km±5km, h211km; pP-P, n163, σ1.62/193, mb4.4/58, 9C-19D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBL	**Kabul**	**2.26**	**211**	*e*PN	**Pn**	**11 26 59.8**	**+1.1**
KBL				*e*S	**S**	**11 27 31.7**	**+0.5**
KBL	**Kabul**	**2.26**	**211**	*e*Pn	**Pn**	**11 26 59.8**	**+1.1**
KBL				*e*S	**S**	**11 27 31.7**	**+0.5**
DZET	**Dzherino**	**2.66**	**331**	⇓P	**Pn**	**11 27 03.1**	**+0.2**
	213nm,0.3s						
DZET				⇑S	**S**	**11 27 36.9**	**-2.0**
	2μm,0.5s						

DZET	**Dzherino**	**2.66**	**331**	PN	**Pn**	**11 27 03.0**	**+0.2**
DZET				S	**S**	**11 27 36.8**	**-2.0**
DZET				pmax	pmax		
	comp=Z,213nm,0.3s						
DZET				smax	smax		
	comp=N,2μm,0.5s						
CEP	**Cherat**	**2.91**	**156**	P	**Pn**	**11 27 07.8**	**+2.0**
CEP				S	**S**	**11 27 45.0**	**+1.1**
THW	**Thamme Wali**	**3.83**	**164**	⇓P	**Pn**	**11 27 17.9**	**+1.2**
SARP	**Sargodha**	**4.91**	**157**	P	**Pn**	**11 27 30.8**	**+0.8**
KSH	**Kashi**	**5.30**	**54**	⇓*i*P	**Pn**	**11 27 31.1**	**-3.9**
KSH				S	S	11 28 26.1	-11
KSH				pmax	pmax		
	comp=N,170nm,0.4s						
KSH				smax	smax		
	comp=N,830nm,0.5s						
KSH				smax	smax		
	comp=N,820nm,0.5s						
MNAS	**Manas**	**6.20**	**14**	⇓P	**Pn**	**11 27 45.8**	**-0.7**
	comp=N,175nm,0.7s						
MNAS				⇓S	**S**	**11 28 53.5**	**-4.3**
	comp=N,248nm,0.6s						
MNAS	**Manas**	**6.20**	**14**	PN	**Pn**	**11 27 45.8**	**-0.7**
MNAS				pmax	pmax		
	comp=Z,175nm,0.7s						
DHRM	**DHARAMSHALA**	**6.41**	**130**	*e*P	**Pn**	**11 27 50.1**	**+0.6**
DHRM				*e*S	**S**	**11 29 01.9**	**-1.1**
KK31	**Karatay Array**	**6.61**	**0**	⇑P	**Pn**	**11 27 51.5**	**-0.2**
	comp=Z,28nm,0.3s,baz=178,slow=12,SNR=978						
KK31				⇑S	**S**	**11 29 01.1**	**-6.2**
	comp=Z,184nm,0.8s,baz=188,slow=21,SNR=4.2						
KK31	**Karatay Array**	**6.61**	**0**	*i* PN	**Pn**	**11 27 51.1**	**-0.6**
KK31				pmax	pmax		
	comp=Z,28nm,0.3s						
KKAR	**Karatay Array**	**6.61**	**0**	*e*PN	**Pn**	**11 27 51.5**	**-0.2**
KKAR	**Karatay Array**	**6.61**	**0**	*e*Pn	**Pn**	**11 27 51.5**	**-0.2**
AAK	**Ala-Archa**	**6.89**	**26**	P	**Pn**	**11 27 55.8**	**+0.4**
	comp=Z,71nm,0.3s,baz=168,slow=5.4,SNR=178						
AAK	**Ala-Archa**	**6.89**	**26**	⇓P	**Pn**	**11 27 55.7**	**+0.3**
	comp=Z,136nm,0.6s						
AAK				⇑S	**S**	**11 29 12.2**	**-1.7**
	comp=Z,248nm,0.6s						
AAK	**Ala-Archa**	**6.89**	**26**	PN	**Pn**	**11 27 55.7**	**+0.3**
AAK				S	**S**	**11 29 12.2**	**-1.7**
AAK				pmax	pmax		
	comp=Z,136nm,0.6s						
AAK				smax	smax		
	comp=N,248nm,0.6s						
BHK	**Bhakra**	**7.07**	**134**	*e*P	**Pn**	**11 27 56.8**	**-1.0**
BHK				*e*S	**S**	**11 29 13.2**	**-5.0**
FRU	**Bishkek**	**7.10**	**26**	⇓*i*PN	**Pn**	**11 27 58.8**	**+0.7**
FRU				*i* S	**S**	**11 29 18.0**	**-0.8**
FRU				pmax	pmax		
	comp=Z,145nm,1.5s						
FRU				smax	smax		
	comp=E,765nm,1.9s						
SDNR	**Sundarnagar**	**7.34**	**131**	*e*P	**Pn**	**11 28 01.0**	**-0.3**
SDNR				*e*S	**S**	**11 29 18.6**	**-6.0**
TKM2	**Tokmak 2**	**7.55**	**30**	⇑P	**Pn**	**11 28 03.8**	**-0.1**
	comp=E,184nm,0.8s						
TKM2				⇓S	**S**	**11 29 26.5**	**-3.1**
	comp=E,142nm,0.9s						
SMLA	**Simla**	**7.72**	**132**	*e*P	**Pn**	**11 28 06.2**	**0.0**
SMLA				*e*S	**S**	**11 29 30.0**	**-3.5**
SMLA				IAML		11 29 31.2	
	comp=N,485nm,1.0s						
SMLA				IAML		11 29 32.0	
	comp=E,346nm,0.7s						
KNDC	**Almaty**	**8.38**	**35**	⇓P	**Pn**	**11 28 15.3**	**+0.7**
	comp=E,266nm,0.8s						
KNDC				⇓S	**S**	**11 29 45.1**	**-3.9**
	comp=E,130nm,1.1s						
DDI	**Dehra Dun**	**8.83**	**132**	*e*P	**Pn**	**11 28 21.4**	**+0.8**
DDI				*ex*	**S**	**11 29 55.8**	**-4.2**
DDI				IAML		11 29 59.5	
	comp=N,383nm,0.5s						
DDI				IAML		11 29 59.6	
	comp=E,427nm,0.5s						
NDI	**New Delhi**	**9.64**	**142**	*e*P	**Pn**	**11 28 30.0**	**-1.0**
NDI				*e*S	**S**	**11 30 12.0**	**-7.1**
PDGK	**Podgornoye**	**9.73**	**43**	⇓P	**Pn**	**11 28 31.1**	**-1.0**
	comp=E,29nm,0.9s						
PDGK				⇓S	**S**	**11 30 18.2**	**-3.1**
	comp=E,21nm,0.7s						
PDGK	**Podgornoye**	**9.73**	**43**	P	**Pn**	**11 28 31.1**	**-1.0**
PDGK				S	**S**	**11 30 18.2**	**-3.1**
PDGK				pmax	pmax		
	comp=Z,29nm,0.9s						
PDGK				smax	smax		
	comp=N,21nm,0.7s						
GEYT	**Alibeck**	**9.96**	**282**	P	**Pn**	**11 28 33.8**	**-1.3**
	comp=N,0.6nm,0.3s,baz=115,slow=10,SNR=5.7						
BHJ	**Bhuj**	**13.20**	**183**	*e*P	**P**	**11 29 18.0**	**-0.9**
BHJ				IAmb	IAmb	11 29 18.9	
	comp=Z,196nm,1.0s						
MAKZ	**Makanchi**	**13.42**	**36**	*e*P	**Pn**	**11 29 18.4**	**-0.3**
MAKZ	**Makanchi**	**13.42**	**36**	*e*Pn	**Pn**	**11 29 18.4**	**-0.3**
PYUN	**Piuthan**	**13.48**	**125**	*e*P	**Pn**	**11 29 18.8**	**-1.1**
	comp=E,88nm,0.4s						
MK01	**Makanchi Array**	**13.55**	**37**	*e*Pn	**Pn**	**11 29 19.6**	**-0.7**
MK31	**Makanchi Array**	**13.56**	**37**	P	**Pn**	**11 29 19.9**	**-0.6**
MK31				pmax	pmax		
	comp=Z,6.0nm,0.5s						
MK31	**Makanchi Array**	**13.56**	**37**	*e*Pn	**Pn**	**11 29 20.3**	**-0.2**
MKAR	**Makanchi Array**	**13.56**	**37**	*e*P	**Pn**	**11 29 20.3**	**-0.2**
MKAR	**Makanchi Array**	**13.56**	**37**	*e*Pn	**Pn**	**11 29 20.3**	**-0.2**
KOLN	**Koldanda**	**14.11**	**124**	*e*P	**Pn**	**11 29 27.3**	**-0.3**
	comp=Z,25nm,0.3s						
BHPL	**Bhopal**	**14.51**	**154**	*e*P	**P**	**11 29 33.9**	**+0.5**
BHPL				IAmb	IAmb	11 29 37.0	
	comp=Z,19nm,0.7s						
GKN	**Gorkha**	**14.66**	**121**	*e*P	**P**	**11 29 35.2**	**0.0**
	comp=Z,47nm,0.3s						
AB31	**Akbulak array**	**14.89**	**332**	⇓P	**Pn**	**11 29 35.2**	**-1.6**
	comp=Z,26nm,0.6s,baz=145,slow=12,SNR=297						
AB31				⇑S	**S**	**11 32 20.6**	**-0.9**
	comp=Z,10nm,0.7s						
AB31	**Akbulak array**	**14.89**	**332**	*i* P	**Pn**	**11 29 35.4**	**-1.4**
AB31				S	**S**	**11 32 20.1**	**-1.4**
AB31				pmax	pmax		
	comp=Z,26nm,0.6s						
AB31				smax	smax		
	comp=N,10.0nm,0.7s						
ABKAR	**Akbulak array**	**14.89**	**332**	*e*Pn	**Pn**	**11 29 35.5**	**-1.3**
WMQ	**Urumqi**	**15.06**	**56**	P	**Pn**	**11 29 39.8**	**+0.5**
WMQ				sP	sP	11 30 34.9	-4.9
WMQ				pmax	pmax		
	comp=N,20nm,0.7s						
WMQ				pmax	pmax		
	comp=N,170nm,4.1s						
DMN	**Daman**	**15.23**	**121**	*e*P	**P**	**11 29 41.8**	**+0.2**
	comp=N,59nm,0.5s						
KKN	**Kakani**	**15.24**	**120**	*e*P	**Pn**	**11 29 41.5**	**+0.1**
	comp=N,100nm,0.5s						
KURBB	**Kurchatov Arra**	**15.28**	**20**	P	**Pn**	**11 29 40.1**	**-1.3**
	comp=N,1.0nm,0.3s,baz=211,slow=11,SNR=85						
KURK	**Kurchatov**	**15.39**	**20**	*de*P	**Pn**	**11 29 41.4**	**-1.4**
KURK				pmax	pmax		
	comp=Z,117nm,1.2s						
KURK	**Kurchatov**	**15.39**	**20**	*e*P	**Pn**	**11 29 41.6**	**-1.1**
	comp=Z,22nm,0.9s						
PKIN	**Phulchoki**	**15.45**	**121**	*e*P	**Pn**	**11 29 45.2**	**+1.1**
	comp=Z,126nm,0.5s						
PKI	**Pulchoki**	**15.46**	**121**	*e*P	**Pn**	**11 29 45.2**	**+0.9**
	comp=Z,57nm,0.5s						
GUN	**Gumba**	**15.58**	**119**	*e*P	**Pn**	**11 29 47.3**	**+1.6**
	comp=Z,72nm,0.4s						
JBP	**Jabalpur**	**15.62**	**146**	⇑*i*P	**Pn**	**11 29 45.9**	**+0.1**
JBP				*ex*	**S**	**11 32 35.1**	**-3.6**
JIRN	**Jiri**	**15.95**	**119**	*e*P	**Pn**	**11 29 51.4**	**+1.2**
BVAR	**Borovoye Array**	**16.54**	**360**	P	**Pn**	**11 29 56.1**	**-0.5**
	comp=Z,12nm,0.3s,baz=164,slow=12,SNR=71						
BRVK	**Borovoye**	**16.57**	**360**	*de*P	**Pn**	**11 29 56.5**	**-0.4**
BRVK				pmax	pmax		
	comp=Z,197nm,1.2s						
BRVK	**Borovoye**	**16.57**	**360**	*e*P	**Pn**	**11 29 56.7**	**-0.3**
	comp=Z,46nm,0.6s						
AKTO	**Aktyubinsk**	**16.58**	**331**	P	**Pn**	**11 29 56.7**	**-0.4**
	comp=Z,6.7nm,0.3s,baz=143,slow=9.9,SNR=103						
AKTO	**Aktyubinsk**	**16.58**	**331**	⇑P	**P**	**11 29 56.1**	**+0.2**
	comp=Z,74nm,1.1s						
AKTO				⇓S	**S**	**11 32 57.1**	**-1.4**
	comp=Z,28nm,1.3s						
AKTO	**Aktyubinsk**	**16.58**	**331**	P	**P**	**11 29 56.1**	**+0.2**
AKTO				S	**S**	**11 32 57.1**	**-1.4**

AKTO				pmax	pmax		
	comp=Z,74nm,1.2s						
AKTO				smax	smax		
	comp=N,28nm,1.3s						
RAMN	**Ramite**	**16.68**	**120**	*e*P	**Pn**	**11 29 58.9**	**+0.2**
	comp=N,86nm,0.5s						
WSAR	**Wadi Sarin**	**16.70**	**221**	P	**P**	**11 29 57.4**	**-0.2**
	comp=N,0.5nm,0.3s,baz=79,slow=4.8,SNR=8.7						
TAPN	**Taplejung**	**17.22**	**117**	*e*P	**Pn**	**11 30 05.7**	**+0.5**
	comp=N,55nm,0.5s						
ODAN	**Odare**	**17.29**	**119**	*e*P	**Pn**	**11 30 06.4**	**+0.5**
	comp=N,57nm,0.5s						
POO	**Poona**	**18.13**	**170**	*e*P	**P**	**11 30 14.1**	**+0.8**
BOK	**Bokaro**	**18.35**	**129**	*e*P	**Pn**	**11 30 17.6**	**-0.6**
LSA	**Lhasa**	**18.59**	**105**	P	**Pn**	**11 30 21.8**	**+0.4**
LSA				pmax	pmax		
	comp=N,26nm,0.8s						
LSA	**Lhasa**	**18.59**	**105**	*e*P	**Pn**	**11 30 21.8**	**+0.4**
LSA				pmax	pmax		
	comp=Z,19nm,0.6s						
LSA	**Lhasa**	**18.59**	**105**	*e*P	**Pn**	**11 30 21.8**	**+0.4**
	comp=Z,19nm,0.6s						
ZAA0	**Zalesovo Array**	**20.11**	**25**	*e*P	**P**	**11 30 34.1**	**0.0**
ZAA0				*e*S	**S**	**11 34 09.6**	**+1.6**
ZALV	**Zalesovo Beam**	**20.11**	**25**	P	**P**	**11 30 34.1**	**+0.1**
	comp=Z,12nm,0.3s,baz=218,slow=12,SNR=37						
ZALV	**Zalesovo Beam**	**20.11**	**25**	P	**P**	**11 30 34.2**	**+0.1**
ZALV				pmax	pmax		
	comp=Z,11nm,0.3s						
HYB	**Hyderabad**	**20.30**	**157**	*i* P	**P**	**11 30 39.0**	**+2.5**
SHL	**Shillong**	**21.29**	**115**	*e*P	**P**	**11 30 47.5**	**+0.5**
SVE	**Sverdlovsk**	**21.40**	**345**	*e*P	**P**	**11 30 48.0**	**+0.4**
SVE				pmax	pmax		
	comp=Z,20nm,0.8s						
ARU	**Arti**	**21.51**	**342**	P	**P**	**11 30 49.2**	**+0.5**
	comp=Z,18nm,0.5s,baz=155,slow=4.7,SNR=27						
ARU	**Arti**	**21.51**	**342**	*d* iP	**P**	**11 30 49.0**	**+0.3**
ARU				PPP	PPP	11 31 19.3	
ARU				S	**S**	**11 34 35.1**	**+2.2**
ARU				pmax	pmax		
	comp=Z,38nm,1.2s						
ARU	**Arti**	**21.51**	**342**	*e*P	**P**	**11 30 49.2**	**+0.5**
	comp=Z,23nm,0.6s						
KBZ	**Khabaz**	**22.23**	**298**	pP	pP	11 31 33.3	+1.3
	comp=Z,2.2nm,0.6s,baz=72,slow=6.4,SNR=2.8						
KIV	**Kislovodsk**	**22.41**	**298**	*e*P	**P**	**11 30 57.3**	**-0.4**
KIV				pmax	pmax		
	comp=Z,5.0nm,1.0s						
GTA	**Gaotai**	**23.28**	**74**	*e*P	**P**	**11 31 07.0**	**+1.4**
GTA				pP	PP	11 31 54.0	-9.1
GTA				pmax	pmax		
	comp=Z,12nm,1.0s						
LZH	**Lanzhou**	**26.84**	**81**	*e*P	**P**	**11 31 40.3**	**+2.6**
LZH				pP	pP	11 32 20.8	+1.0
LZH				sP	PP	11 32 42.4	-0.2
LZH				*e*S	**S**	**11 36 02.0**	**+3.6**
LZH				sS	sS	11 37 12.0	-2.0
LZH				SS	SS	11 37 33.3	-27
LZH				pmax	pmax		
	comp=Z,19nm,1.2s						
LZH				pmax	pmax		
	comp=Z,100nm,4.9s						
TLY	**Talaya**	**27.96**	**47**	P	**P**	**11 31 48.0**	**+0.7**
	comp=Z,5.3nm,0.4s,baz=222,slow=8.9,SNR=10						
SONM	**Songino Array**	**28.70**	**55**	P	**P**	**11 31 54.6**	**+0.6**
	comp=Z,5.0nm,0.6s,baz=259,slow=11,SNR=13						
SONA1	**Songino Array**	**28.71**	**55**	*e*P	**P**	**11 31 55.0**	**+0.9**
ILGA	**Ilgaz**	**28.87**	**290**	*e*P	**P**	**11 31 54.0**	**-1.8**
	comp=Z,102nm,0.6s						
BRTR	**Keskin Array B**	**29.03**	**288**	pP	pP	11 32 38.7	-0.8
	comp=Z,0.9nm,0.8s,baz=100,slow=8.2,SNR=2.2						
ULN	**Ulaanbaatar**	**29.14**	**56**	*e*P	**P**	**11 31 59.3**	**+1.3**
ULN				pmax	pmax		
	comp=Z,4.0nm,0.6s						
ULN	**Ulaanbaatar**	**29.14**	**56**	*e*P	**P**	**11 31 58.4**	**+0.4**
	comp=Z,5.2nm,0.7s						
KMI	**Kunming**	**29.81**	**103**	P	**P**	**11 32 05.3**	**+1.1**
KMI				pmax	pmax		
	comp=Z,15nm,0.9s						
KMI				pmax	pmax		
	comp=Z,130nm,4.0s						
CHTO	**Chiang Mai**	**30.59**	**117**	*e*P	**P**	**11 32 12.0**	**+1.1**
CHTO				pmax	pmax		
	comp=Z,5.0nm,0.6s						
CHTO	**Chiang Mai**	**30.59**	**117**	*e*P	**P**	**11 32 12.0**	**+1.1**
	comp=Z,5.0nm,0.6s						
HHC	**Hu-ho-hao-te**	**32.17**	**69**	*e*P	**P**	**11 32 23.8**	**-0.8**
HHC				pmax	pmax		
	comp=Z,24nm,0.9s						
HHC				pmax	pmax		
	comp=Z,120nm,4.4s						
GYA	**Guiyang**	**32.29**	**98**	*e*P	**P**	**11 32 25.8**	**0.0**
GYA				pmax	pmax		
	comp=Z,10.0nm,0.9s						
AKASG	**Malin Array Be**	**32.62**	**309**	P	**P**	**11 32 28.1**	**-0.2**
	comp=Z,0.6nm,0.4s,baz=84,slow=8.1,SNR=5.2						
SLVN	**Son La**	**32.74**	**108**	*e*P	**P**	**11 32 29.9**	**+0.2**
	comp=Z,6.6nm,0.7s						
MLR	**Muntele Rosu**	**34.41**	**299**	P	**P**	**11 32 45.5**	**+1.6**
	comp=Z,0.4nm,0.7s,baz=87,slow=1.9,SNR=4.1						
BOD	**Bodaibo**	**35.63**	**39**	*e*P	**P**	**11 32 54.6**	**+0.6**
BOD				pmax	pmax		
	comp=Z,6.0nm,1.1s						
WHN	**Wuhan**	**36.82**	**86**	P	**P**	**11 33 08.5**	**+4.1**
FINES	**FINESS Array B**	**37.26**	**326**	P	**P**	**11 33 08.1**	**+0.4**
	comp=Z,2.3nm,0.6s,baz=122,slow=7.9,SNR=10						
HIA	**Hailar**	**37.65**	**54**	*e*P	**P**	**11 33 14.3**	**+3.1**
HIA				pmax	pmax		
	comp=Z,6.0nm,1.0s						
HIA	**Hailar**	**37.65**	**54**	*e*P	**P**	**11 33 14.2**	**+3.0**
	comp=Z,5.6nm,1.0s						
ARCES	**ARCESS Array B**	**40.99**	**338**	P	**P**	**11 33 39.1**	**+0.6**
	comp=Z,3.6nm,0.7s,baz=116,slow=8.2,SNR=8.1						
CN2	**Changchun**	**42.00**	**62**	*e*P	**P**	**11 33 48.6**	**+1.6**
IPM	**Ipoh**	**42.45**	**131**	*e*P	**P**	**11 33 51.1**	**+0.1**
	comp=Z,20nm,0.5s						
NB2	**NORSAR Subarra**	**44.13**	**323**	P	**P**	**11 34 03.2**	**-0.7**
	comp=Z,2.1nm,0.5s,baz=98,slow=7.9						
NOA	**NORSAR Array B**	**44.13**	**323**	P	**P**	**11 34 03.6**	**-0.3**
	comp=Z,3.9nm,0.7s,baz=97,slow=7.7,SNR=9.1						
NOA				pP	**pP**	**11 34 50.9**	**+2.0**
	comp=Z,2.4nm,0.7s,baz=96,slow=8.1,SNR=2.7						
KSAR	**Wonju Array Be**	**45.27**	**71**	P	**P**	**11 34 13.3**	**+0.2**
KSAR	**Wonju Array Be**	**45.27**	**71**	P	**P**	**11 34 13.3**	**+0.2**
KSRS	**Korea Array**	**45.29**	**71**	P	**P**	**11 34 13.3**	**0.0**
	comp=Z,2.6nm,0.7s,baz=275,slow=6.8,SNR=15						
KSRS	**Korea Array**	**45.29**	**71**	P	**P**	**11 34 13.3**	**0.0**
KSRS				pmax	pmax		
	comp=Z,2.0nm,0.5s						
TIXI	**Tiksi**	**45.95**	**22**	P	**P**	**11 34 18.4**	**+0.4**
	comp=Z,8.5nm,0.3s,baz=271,slow=4.0,SNR=16						
TIXI	**Tiksi**	**45.

TOA0	**Torodi Ar. Sit**	**65.29**	**268**	*e*P		**P**	**11 36 34.1**	**-2.1**
TOA0				*e*pP		**pP**	**11 37 26.4**	**+1.6**
TORD	**Torodi Ar. Bea**	**65.29**	**268**	P		**P**	**11 36 34.2**	**-2.0**
	comp=Z,2.8nm,0.4s,baz=49,slow=6.0,SNR=33							
TORD				pP		**pP**	**11 37 26.1**	**+1.3**
	comp=Z,1.4nm,0.7s,baz=48,slow=5.7,SNR=2.8							
COLD	**Coldfoot**	**72.10**	**15**	*e*P		**P**	**11 37 18.1**	**+0.6**
	comp=Z,6.1nm,1.1s							
COLD				*e*pP		**pP**	**11 38 08.3**	**+1.4**
INK	**Inuvik**	**73.99**	**9**	P		**P**	**11 37 27.8**	**-0.6**
	comp=Z,5.4nm,1.0s,baz=345,slow=6.1,SNR=13							
INK	**Inuvik**	**73.99**	**9**	*e*P		**P**	**11 37 29.1**	**+0.7**
INK				pmax	pmax			
	comp=Z,21nm,1.6s							
INK	**Inuvik**	**73.99**	**9**	*e*P		**P**	**11 37 29.1**	**+0.7**
	comp=Z,21nm,1.6s							
DBIC	**Dimbokro**	**74.27**	**267**	P		**P**	**11 37 29.8**	**-1.1**
	comp=Z,2.7nm,0.5s,baz=13,slow=8.2,SNR=7.9							
KIC	**Kosan Boka**	**74.36**	**266**	*e*P		**P**	**11 37 29.5**	**-1.9**
	comp=Z,95nm,1.7s							
TIC	**Toumodi**	**74.41**	**267**	*e*P		P	11 37 26.3	-5.5
COLA	**College**	**74.61**	**16**	*e*P		**P**	**11 37 33.1**	**+1.1**
COLA				pmax	pmax			
	comp=Z,10.0nm,0.8s							
COLA	**College**	**74.61**	**16**	*e*P		**P**	**11 37 33.1**	**+1.1**
	comp=Z,10.0nm,0.8s							
LIC	**Lamto**	**74.67**	**266**	*e*P		**P**	**11 37 31.2**	**-2.0**
	comp=Z,63nm,1.5s							
IL1	**Eielson Array**	**74.91**	**16**	*e*P		**P**	**11 37 32.9**	**-0.9**
IL1				*e*pP		**pP**	**11 38 24.8**	**+1.1**
ILAR	**Eielson Array**	**74.91**	**16**	P		**P**	**11 37 33.4**	**-0.5**
	comp=Z,3.1nm,1.0s,baz=321,slow=4.9,SNR=22							
ILAR				pP		**pP**	**11 38 26.7**	**+3.0**
	comp=Z,1.1nm,0.9s,baz=319,slow=4.0,SNR=4.7							
KTH	**Kantishna Hill**	**75.01**	**18**	*e*P		**P**	**11 37 33.9**	**-0.6**
	comp=Z,26nm,1.4s							
DHY	**Denali Highway**	**76.27**	**17**	*e*P		**P**	**11 37 42.1**	**+0.4**
	comp=Z,5.8nm,0.8s							
PAX	**Paxson**	**76.79**	**16**	*e*P		**P**	**11 37 44.6**	**0.0**
PAX				pmax	pmax			
	comp=Z,7.0nm,0.9s							
PAX	**Paxson**	**76.79**	**16**	*e*P		**P**	**11 37 44.6**	**0.0**
	comp=Z,6.5nm,0.9s							
HARP	**HAARP**	**77.36**	**16**	*e*P		**P**	**11 37 48.9**	**+1.3**
	comp=Z,58nm,1.4s							
BOSA	**Boshof**	**77.46**	**220**	P		**P**	**11 37 48.3**	**-0.4**
	comp=Z,4.9nm,0.6s,baz=20,slow=3.7,SNR=17							
KDAK	**Kodiak Island**	**79.37**	**22**	*ce*P		**P**	**11 37 59.1**	**+0.4**
YKA	**Yellowknife Ar**	**81.28**	**2**	P		**P**	**11 38 08.8**	**0.0**
	comp=Z,3.7nm,0.6s,baz=349,slow=5.3,SNR=5.9							
YKA	**Yellowknife Ar**	**81.28**	**2**	P		**P**	**11 38 08.8**	**0.0**
YKA				pmax	pmax			
	comp=Z,3.0nm,0.6s							
WRA	**Warramunga Arr**	**82.35**	**122**	P		**P**	**11 38 13.3**	**-1.7**
	comp=Z,5.6nm,0.5s,baz=324,slow=5.0,SNR=64							
WRAB	**Tennant Creek**	**82.35**	**122**	*de*P		**P**	**11 38 13.6**	**-1.4**
WRAB				pmax	pmax			
	comp=Z,30nm,1.0s							
WRAB	**Tennant Creek**	**82.35**	**122**	*e*P		**P**	**11 38 13.4**	**-1.6**
	comp=Z,14nm,1.0s							
WB2	**Warramunga Arr**	**82.36**	**122**	*e*P		**P**	**11 38 13.4**	**-1.6**
SUR	**Sutherland**	**82.77**	**221**	P		**P**	**11 38 16.6**	**-0.5**
	comp=Z,0.7nm,1.1s,baz=50,slow=4.5,SNR=5.6							
AS31	**Alice Springs**	**84.60**	**125**	*e*P		**P**	**11 38 25.1**	**-1.3**
	comp=Z,2.9nm,0.6s							
ASAR	**Alice Springs**	**84.60**	**125**	P		**P**	**11 38 24.9**	**-1.5**
	comp=Z,5.9nm,0.5s,baz=310,slow=4.9,SNR=101							
AS01	**Alice Springs**	**84.63**	**125**	*e*P		**P**	**11 38 24.9**	**-1.6**
FORT	**Forrest**	**85.97**	**133**	*e*P		**P**	**11 38 31.8**	**-1.1**
	comp=Z,188nm,0.7s							
STKA	**Stephens Creek**	**95.13**	**126**	P		**P**	**11 39 14.7**	**-1.0**
	comp=Z,0.9nm,0.5s,baz=319,slow=6.9,SNR=4.0							
PLCA	**Paso Flores**	**149.42**	**250**	PKPbc		**PKPbc**	**11 45 39.5**	**-0.9**
	comp=Z,2.4nm,0.6s,baz=138,slow=3.8,SNR=6.1							

NIED ***14*** *11:27:00,29.˚80N×141.˚80E,h50km,Mw3.8 Best double couple: M₀6.26000×10¹⁴ NP1:φs165.00000°,δ28.00000°, λ-6.00000°. NP2:φs260.00000°,δ87.00000°, λ-118.00000°.*
JMA ***14*** *11:27:55.8±0.1,29.˚77N×141.˚81E,h50km,M4.2*
NEIC ***14*** *11:27:56.0±0.8,29.˚42N×140.˚86E,h50km±8km,mb4.1/4, Error ellipse: s-maj=21.1km s-min=6.3km az=73.0*
IDC ***14*** *11:27:56.1±3.2,29.˚44N×140.˚86E,h52km±28km,mb3.8/10, mb1 3.9/13,mb1mx3.6/62,mbtmp4.0/13,ML3.4/3,Error ellipse: s-maj=48.5km s-min=17.6km az=78.0*
ISC 14 11:27:55.8±0.7,29.62N±0.06×141.3E±0.2,h50km,n26, σ1s93/33,mb4.0/11,Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**2.64**	**163**	P	**Pn**	**11 28 37.7**	**+1.8**
CBIJ				*e*S	**Sn**	**11 29 08.5**	**+1.8**
CBIJ	**Chichi jima**	**2.64**	**163**	*e*Pn	**Pn**	**11 28 34.8**	**-1.1**
CBIJ				*e*Sn	**Sn**	**11 29 05.3**	**-1.4**
JHJ2	**Mitsune**	**3.70**	**340**	*e*Pn	**Pn**	**11 28 52.7**	**+2.3**
JHJ2				*e*Sn	**Sn**	**11 29 32.0**	**-0.8**
JHJ	**Hachijo jima 2**	**3.72**	**340**	P	**Pn**	**11 28 50.8**	**+0.1**
	20nm,0.3s,baz=87,slow=20,SNR=15						
JHJ				S	**Sn**	**11 29 31.0**	**-2.2**
	23nm,0.3s,baz=68,slow=19,SNR=4.8						
BSO1	**Boso 1**	**5.02**	**357**	P	**Pn**	**11 29 09.3**	**+1.2**
BSO1				S	**Sn**	**11 30 05.3**	**+0.7**
BSO3	**Boso 3**	**5.21**	**353**	P	**Pn**	**11 29 12.4**	**+1.5**
BSO4	**Boso 4**	**5.41**	**352**	P	**Pn**	**11 29 15.5**	**+1.6**
JOD2	**Odawara 2**	**5.92**	**348**	P	**Pn**	**11 29 23.7**	**+2.7**
JHU	**Hanno**	**6.44**	**345**	P	**Pn**	**11 29 30.7**	**+2.7**
MJAR	**Matsushiro Arr**	**7.37**	**340**	P	**Pn**	**11 29 42.3**	**+1.5**
	1.6nm,0.3s,baz=169,slow=6.5,SNR=18						
MAJO	**Matsushiro**	**7.37**	**340**	*e*Pn	**Pn**	**11 29 41.7**	**+0.9**
	4.8nm,0.3s						
MAJO				*e*Sn	**Sn**	**11 31 03.1**	**0.0**
JMK	**Ichinoseki**	**9.31**	**360**	P	**Pn**	**11 30 07.6**	**+0.3**
JMK				S	**Sn**	**11 31 44.1**	**-6.4**
USRK	**Ussuriysk Ar.**	**16.32**	**336**	P	**Pn**	**11 31 43.5**	**+2.0**
	0.2nm,0.3s,baz=150,slow=7.9,SNR=4.6						
YSS	**Yuzh-Sakhalins**	**17.34**	**3**	*e*P	**P**	**11 31 57.3**	**+2.4**
	16nm,1.1s						
MDJ	**Mudanjiang**	**17.61**	**331**	P	**Pn**	**11 31 56.8**	**-0.7**
	3.1nm,0.4s						
SONM	**Songino Array**	**32.38**	**314**	P	**P**	**11 34 19.2**	**-1.5**
	0.4nm,0.3s,baz=116,slow=16,SNR=2.7						
WRAB	**Tennant Creek**	**49.72**	**189**	*e*P	**P**	**11 36 42.3**	**-0.8**
	4.2nm,0.9s						
WRA	**Warramunga Arr**	**49.73**	**189**	P	**P**	**11 36 40.9**	**-2.3**
	0.8nm,0.5s,baz=5.9,slow=7.7,SNR=15						
ASAR	**Alice Springs**	**53.46**	**188**	P	**P**	**11 37 09.8**	**-1.3**
	0.3nm,0.5s,baz=1.7,slow=5.0,SNR=12						
BVAR	**Borovoye Array**	**55.67**	**316**	P	**P**	**11 37 25.4**	**-1.4**
	1.2nm,0.5s,baz=104,slow=6.8,SNR=4.0						
ARU	**Arti**	**61.96**	**321**	P	**P**	**11 38 09.9**	**-0.4**
	6.2nm,0.6s,baz=20,slow=3.1,SNR=4.2						
FINES	**FINESS Array B**	**75.34**	**333**	P	**P**	**11 39 33.6**	**0.0**
	1.9nm,0.4s,baz=72,slow=6.2,SNR=11						
KBZ	**Khabaz**	**75.73**	**312**	P	**P**	**11 39 36.4**	**+0.3**
	0.9nm,0.4s,baz=71,slow=5.2,SNR=3.8						
NOA	**NORSAR Array B**	**80.98**	**338**	P	**P**	**11 40 05.0**	**+0.1**
	1.0nm,0.7s,baz=62,slow=4.6,SNR=3.6						
BRTR	**Keskin Array B**	**83.72**	**312**	P	**P**	**11 40 19.1**	**-0.6**
	1.7nm,0.9s,baz=116,slow=5.6,SNR=5.7						
TXAR	**Lajitas Array**	**94.71**	**53**	P	**P**	**11 41 14.1**	**+1.9**
	0.2nm,0.6s,baz=320,slow=2.2,SNR=4.5						

ISCJB ***14*** *11:35:38.1±1.0,36.˚24N±0.˚03×37.˚34E±0.˚03,h3km±7km, Error ellipse: s-maj=5.1km s-min=4.5km az=35.6*
CSEM ***14*** *11:35:39.5±0.3,36.˚26N×37.˚28E,h10km,MD2.7, Error ellipse: s-maj=8.1km s-min=6.7km az=162.0*
DDA ***14*** *11:35:39.2,36.˚32N×37.˚30E,h7km,Md2.7*
NSSC ***14*** *11:35:39.6±1.4,36.˚09N×37.˚49E,h0km±5km,MD1.5,ML1.9*
ISC 14 11:35:38.9±1.2,36.26N±0.03×37.32E±0.02,h5km±10km, n21,σ1s24/40,Jordan-Syria region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SLMH	**Al Salmeh**	**0.50**	**95**	*e*P	**Pg**	**11 35 46.9**	**-1.5**
SLMH				*e*S	**Sg**	**11 35 52.9**	**-2.0**
SLMH				AML	AML	11 36 48.2	
	comp=Z,619nm,0.6s						
KUZU	**Kuzuini**	**0.55**	**339**	*i* P	**Pg**	**11 35 49.1**	**-0.4**
KUZU	**Kuzuini**	**0.55**	**339**	P	**Pg**	**11 35 49.1**	**-0.4**
YAYL	**Yayladag**	**1.00**	**258**	*i* P	**Pg**	**11 35 57.5**	**-0.6**
YAYL				*i* S	**Sb**	**11 36 12.6**	**+0.2**
YAYL	**Yayladag**	**1.00**	**258**	P	**Pg**	**11 35 57.5**	**-0.6**
YAYL				S	**Sb**	**11 36 12.6**	**+0.2**
KAMA	**Osmaniye**	**1.06**	**331**	*i* P	**Pg**	**11 35 58.7**	**-0.6**
KAMA				*i* S	**Sg**	**11 36 12.7**	**-0.4**
HCB	**Kahramanmara¯**	**1.13**	**343**	*i* P	**Pg**	**11 36 00.6**	**0.0**
HCB				*i* S	**Sg**	**11 36 15.4**	**0.0**
ARNB	**Al Arnab**	**1.16**	**250**	*e*P	**Pn**	**11 36 02.9**	**+1.0**
ARNB				*e*S	**Sn**	**11 36 20.5**	**+2.4**
ARNB				AML	AML	11 36 23.2	
	comp=E,58nm,0.3s						
ARNB				AML	AML	11 36 28.6	
	comp=N,32nm,0.4s						
ARNB	**Al Arnab**	**1.16**	**250**	*e*P	**Pn**	**11 36 02.8**	**+1.0**
	SNR=57						
ARNB				*e*S	**Sn**	**11 36 20.5**	**+2.4**
	comp=N,32nm,0.4s,SNR=49						
SURC	**SANLIURFA_SURC**	**1.21**	**59**	*i* P	**Pb**	**11 36 02.5**	**+0.1**
SURC				*i* S	**Sb**	**11 36 18.3**	**-0.1**
SURC	**SANLIURFA_SURC**	**1.21**	**59**	P	**Pb**	**11 36 02.5**	**+0.1**
SURC				S	**Sb**	**11 36 18.3**	**-0.1**
KSRV	**Kasrt alli**	**1.42**	**106**	*e*P	**Pg**	**11 36 07.7**	**+1.5**
KSRV				*e*S	**Sg**	**11 36 26.8**	**+2.2**
KSRV				AML	AML	11 36 30.4	
	comp=E,25nm,0.3s						
KSRV				AML	AML	11 36 33.1	
	comp=N,31nm,0.4s						
KSRV	**Kasrt alli**	**1.42**	**106**	*e*P	**Pg**	**11 36 07.7**	**+1.5**
	SNR=57						
KSRV				*e*S	**Sg**	**11 36 26.8**	**+2.2**
	comp=N,31nm,0.4s,SNR=49						
ANDN	**Andirin**	**1.53**	**330**	*i* P	**Pn**	**11 36 07.4**	**+0.4**
ANDN				*i* S	**Sn**	**11 36 26.4**	**-0.9**
ANDN	**Andirin**	**1.53**	**330**	P	**Pn**	**11 36 07.4**	**+0.4**
ANDN				S	**Sn**	**11 36 26.5**	**-0.9**
ROOS	**tl_alroos**	**2.08**	**181**	*e*P	**Pn**	**11 36 13.5**	**-1.1**
ROOS				*e*S	**Sn**	**11 36 38.6**	**-2.3**
ROOS				AML	AML	11 37 03.2	
	comp=N,24nm,0.5s						
ROOS				AML	AML	11 37 08.8	
	comp=E,11nm,0.4s						
ROOS	**tl_alroos**	**2.08**	**181**	*e*P	**Pn**	**11 36 13.5**	**-1.1**
	SNR=45						
ROOS				*e*S	**Sn**	**11 36 38.6**	**-2.3**
	comp=E,11nm,0.4s,SNR=40						
SFNV	**Sufian**	**2.26**	**85**	*e*P	**Pn**	**11 36 17.7**	**+0.7**
SFNV				*e*S	**Sn**	**11 36 44.2**	**-1.1**
SFNV				AML	AML	11 37 12.1	
	comp=Z,9.2nm,0.4s						
SFNV	**Sufian**	**2.26**	**85**	*e*P	**Pn**	**11 36 17.7**	**+0.7**
	SNR=45						
SFNV				*e*S	**Sn**	**11 36 44.2**	**-1.1**
	comp=Z,9.2nm,0.4s,SNR=40						
MARH	**Ras Al Marh**	**2.33**	**197**	*e*P	**Pn**	**11 36 17.8**	**-0.3**
MARH				*e*S	**Sn**	**11 36 46.8**	**-0.5**
MARH				AML	AML	11 37 08.9	
	comp=N,8.4nm,0.4s						
MARH				AML	AML	11 37 10.3	
	comp=E,14nm,0.5s						
MARH	**Ras Al Marh**	**2.33**	**197**	*e*P	**Pn**	**11 36 17.8**	**-0.3**
	SNR=45						
MARH				*e*S	**Sn**	**11 36 46.8**	**-0.5**
	comp=E,14nm,0.5s,SNR=40						

IDC 14 11:37:09.9±2.2,20.39S×178.64W,h574km±22km, mb3.1/6,mb1 3.5/7,mb1mx3.1/29,mbtmp4.1/7,Error ellipse: s-maj=54.7km s-min=13.3km az=152.0,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**9.19**	**47**	P	P	11 39 19.0	-1.3
	4.3nm,0.3s,baz=64,slow=4.0,SNR=7.4						
AFI				S	S	11 41 05.4	-1.8
	2.3nm,0.3s,baz=173,slow=20,SNR=3.6						
ASAR	**Alice Springs**	**43.96**	**257**	P	P	11 44 28.0	+0.7
	3.0nm,0.8s,baz=90,slow=7.5,SNR=40						
ASAR				PcP	PcP	11 45 60.0	-0.4
	0.6nm,0.6s,baz=99,slow=4.1,SNR=6.8						
ASAR				S	S	11 50 16.8	-1.5
	1.4nm,1.0s,baz=95,slow=15,SNR=7.5						
WRA	**Warramunga Arr**	**44.02**	**262**	P	P	11 44 27.6	-0.2
	1.1nm,0.4s,baz=98,slow=8.0,SNR=29						
PETK	**Petropavlovsk-**	**76.01**	**346**	P	P	11 47 59.6	+1.0
	1.5nm,0.7s,baz=128,slow=4.7,SNR=3.1						
TXAR	**Lajitas Array**	**87.50**	**58**	P	P	11 48 58.2	+0.5
	0.6nm,0.8s,baz=211,slow=4.4,SNR=6.9						
ILAR	**Eielson Array**	**88.34**	**13**	P	P	11 49 00.1	-0.5
	0.8nm,0.9s,baz=224,slow=5.2,SNR=6.3						
PDAR	**Pinedale Array**	**89.29**	**43**	P	P	11 49 05.9	0.0
	0.6nm,0.6s,baz=208,slow=4.4,SNR=7.7						
AKASG	**Malin Array Be**	**142.62**	**331**	PKhKP	PKPpre	11 55 33.9	
	2.5nm,0.4s,baz=46,slow=4.4,SNR=10						
BRTR	**Keskin Array B**	**146.32**	**312**	PKPbc	PKPdf	11 55 46.1	+1.1
	1.1nm,0.6s,baz=87,slow=2.6,SNR=6.0						
GERES	**GERESS Array B**	**149.93**	**344**	PKPbc	PKPbc	11 55 55.1	-1.0
	0.6nm,0.5s,baz=93,slow=2.7,SNR=5.1						

SJA ***14*** *11:48:16.4±0.7,32.˚42S×71.˚81W,h10km±29km,ML2.5, MW2.9*
GUC ***14*** *11:48:18.4±0.5,32.˚51S×71.˚58W,h22km±8km,ML2.8*
ISC 14 11:48:15.8±3.9,32.9S±0.1×71.9W±0.1,h3km±19km,n11, σ0s85/17,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ROCH	**El Roble**	**0.75**	**99**	*e*P	**Pb**	**11 48 31.6**	**0.0**
ROCH				*e*S	**Sb**	**11 48 41.6**	**-0.7**
ROCH				IAML		11 48 43.9	
	comp=N,757nm,0.4s						
PEL	**Peldehue**	**1.05**	**106**	*e*P	**Pb**	**11 48 36.5**	**-0.1**
PEL				*e*S	**Sg**	**11 48 49.6**	**+0.1**
PEL				IAML		11 48 53.1	
	comp=E,738nm,0.2s						
CLCH	**Cerro Calan**	**1.25**	**116**	*e*P	**Pb**	**11 48 40.2**	**+0.1**
CLCH				*e*S	**Sn**	**11 48 57.4**	**-0.5**
CLCH				IAML		11 49 04.5	
	comp=E,306nm,0.3s						
FCH	**Farellones**	**1.42**	**110**	*e*P	**Pn**	**11 48 42.7**	**-0.1**
FCH				*e*S	**Sg**	**11 49 01.5**	**0.0**
AUSP	**Uspallata**	**2.20**	**74**	*e*P	**Pn**	**11 48 54.8**	**+1.3**
AUSP				*e*S	**Sb**	**11 49 24.3**	**0.0**
RTLS	**Leoncito**	**2.43**	**65**	*e*P	**Pn**	**11 48 57.6**	**+0.9**
RTLS				IAML		11 49 42.1	
	comp=Z,18nm,0.4s						
ARCO	**CERRO ARCO**	**2.49**	**91**	*e*P	**Pb**	**11 49 00.9**	**-0.4**
ARCO				IAML		11 49 08.8	
	comp=Z,25nm,0.2s						
ASAL	**Salagasta**	**2.59**	**85**	*e*P	**Pb**	**11 49 01.6**	**-1.3**
ASAL				*e*S	**Sb**	**11 49 34.9**	**-0.2**
RTCV	**Cerro Valdivia**	**3.00**	**72**	*e*P	**Pn**	**11 49 06.0**	**+1.7**
AROD	**Rodeo**	**3.38**	**38**	*e*P	**Pn**	**11 49 09.2**	**-0.6**
AVFE	**Valle Fertil**	**4.36**	**61**	*e*P	**Pn**	**11 49 24.2**	**+1.1**
AVFE				IAML		11 50 25.7	
	comp=Z,9.0nm,0.4s						

DDA 14 11:49:13.9,39.06N×27.60E,h3km,Md2.7,Suspected Mining explosion.,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MANT	**Manisa**	**0.94**	**127**	*i* P	Pg	11 49 27.5	-4.5
MANT				*i* S	Sg	11 49 41.8	-2.4
URLA	**Izmir**	**1.05**	**229**	*i* P	Pg	11 49 34.0	-0.1
URLA				*i* S	Sb	11 49 48.9	0.0
ZEY	**¯zmir**	**1.19**	**227**	*i* P	Pg	11 49 36.9	+0.1
ZEY				*i* S	Sn	11 49 54.6	+0.6

GUC ***14*** *12:09:03.5±0.4,32.˚50S×71.˚65W,h50km±7km,ML2.9*
SJA ***14*** *12:09:04.5±0.7,32.˚63S×71.˚57W,h10km±18km,ML2.4, MW3.0*
ISC 14 12:09:02.5±3.8,32.7S±0.2×71.8W±0.2,h14km±15km,n8, σ0s46/13,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ROC1	**El Roble**	**0.73**	**116**	*e*P	**Pg**	**12 09 17.3**	**+0.4**
ROC1				*e*S	**Sg**	**12 09 27.0**	**+0.5**
PEL	**Peldehue**	**1.05**	**118**	*e*P	**Pg**	**12 09 22.2**	**-0.8**
PEL				*e*S	**Sg**	**12 09 36.6**	**-0.1**
PEL				IAML		12 09 38.6	
	comp=E,537nm,0.2s						
CLCH	**Cerro Calan**	**1.29**	**125**	*e*P	**Pn**	**12 09 26.1**	**-0.1**
CLCH				*e*S	**Sb**	**12 09 43.0**	**-0.2**
CLCH				IAML		12 09 48.5	
	comp=N,315nm,0.3s						
ANTU	**Antumapu**	**1.34**	**133**	*e*P	**Pn**	**12 09 27.0**	**+0.2**
ANTU				*e*S	**Sb**	**12 09 45.0**	**+0.7**
FCH	**Farellones**	**1.43**	**118**	*e*P	**Pn**	**12 09 28.4**	**0.0**
FCH				*e*S	**Sb**	**12 09 47.2**	**-0.2**
AUSP	**Uspallata**	**2.08**	**79**	*e*P	**Pb**	**12 09 40.7**	**+0.4**
ARCO	**CERRO ARCO**	**2.42**	**95**	*e*P	**Pb**	**12 09 45.8**	**-0.2**
ARCO				IAML		12 09 47.2	
	comp=Z,25nm,0.3s						
ASAL	**Salagasta**	**2.50**	**89**	*e*P	**Pb**	**12 09 46.9**	**-0.4**

IDC ***14*** *12:10:06.7±1.4,36.˚55N×82.˚46E,h0km,mb3.8/3, mb1 3.9/7,mb1mx3.6/37,mbtmp3.8/7,ML3.2/4,MS3.0/5, Ms1 3.0/5,ms1mx2.7/39,Error ellipse: s-maj=42.2km s-min=17.9km az=55.0*
BJI ***14*** *12:10:07.0,36.˚31N×82.˚44E,h5km,ML4.1/8*
ISC 14 12:10:07.8±1.4,36.6N±0.2×82.4E±0.1,h10km,n14, σ2s37/10,2C-2D,Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSH	**Kashi**	**5.84**	**302**	*e*Pn	**Pb**	**12 11 45.5**	**-4.4**
KSH				Sn	**Sb**	**12 13 02.1**	**+2.1**
KSH				smax	smax		
	comp=N,120nm,0.7s						
KSH				smax	smax		
	comp=E,110nm,0.7s						
WMQ	**Urumqi**	**8.27**	**28**	P	Pn	12 12 14.8	+6.9
WMQ				S	Sn	12 13 52.3	+11
WMQ				smax	smax		
	comp=E,44nm,1.1s						
WMQ				smax	smax		
	comp=E,41nm,0.9s						
AAK	**Ala-Archa**	**8.57**	**317**	Pn	**Pn**	**12 12 15.0**	**+2.9**
	comp=E,0.3nm,0.3s,baz=202,slow=19,SNR=2.0						
AAK				Pg	Pg	12 12 42.7	-9.1
	comp=E,0.3nm,0.3s,baz=28,slow=14,SNR=4.0						
AAK				Lg	Lg	12 14 44.5	
	comp=E,0.8nm,0.3s,baz=299,slow=11,SNR=5.8						
AAK				LR	LR	12 16 28.4	
	comp=E,37nm,18.1s,baz=142,slow=44						
MK31	**Makanchi Array**	**10.19**	**360**	⇓Pn	**Pn**	**12 12 35.5**	**+1.4**
	comp=E,0.5nm,0.3s,baz=184,slow=12,SNR=25						
MK31				⇑Lg	Lg	12 14 29.9	
	comp=E,3.7nm,0.6s,baz=184,slow=24,SNR=6.1						
MAKZ	**Makanchi**	**10.20**	**358**	⇑Pn	**Pn**	**12 12 35.4**	**+1.1**
	comp=E,2.7nm,0.5s						
MAKZ				⇓Lg	Lg	12 14 28.9	
	comp=E,4.0nm,0.6s						
KURBB	**Kurchatov Arra**	**14.29**	**350**	Pn	**Pn**	**12 13 28.6**	**-1.5**
	comp=E,0.0nm,0.3s,baz=172,slow=12,SNR=3.0						
KURBB				Lg	Lg	12 17 55.2	
	baz=164,slow=28,SNR=4.1						
ZALV	**Zalesovo Beam**	**17.43**	**5**	Pn	**Pn**	**12 14 09.6**	**-1.3**
	comp=E,0.5nm,0.3s,baz=200,slow=12,SNR=12						
ZALV				LR	LR	12 21 57.2	
	comp=E,36nm,18.2s,baz=78,slow=41						
BVAR	**Borovoye Array**	**18.45**	**337**	P	**Pn**	**12 14 23.8**	**+0.3**
	comp=E,0.1nm,0.3s,baz=141,slow=10,SNR=5.2						
GEYT	**Alibeck**	**19.36**	**281**	LR	LR	12 23 25.6	
	comp=E,73nm,18.6s,baz=320,slow=41						
SONM	**Songino Array**	**20.93**	**50**	P	Pn	12 14 52.0	-1.3
	comp=E,4.9nm,0.7s,baz=242,slow=11,SNR=16						
TLY	**Talaya**	**21.33**	**38**	LR	LR	12 24 27.4	
	comp=E,43nm,18.6s,baz=236,slow=40						
MA2	**Magadan**	**48.55**	**39**	LR	LR	12 42 25.2	
	comp=E,30nm,18.6s,baz=353,slow=40						
WRA	**Warramunga Arr**	**74.61**	**130**	P	**P**	**12 21 47.6**	**+0.2**
	comp=E,0.5nm,0.9s,baz=325,slow=5.7,SNR=8.5						
ASAR	**Alice Springs**	**77.16**	**133**	P	**P**	**12 22 02.0**	**+0.1**
	comp=E,0.8nm,1.0s,baz=318,slow=5.4,SNR=7.9						

ISCJB ***14*** *12:25:40.6±0.6,38.˚44N±0.˚04×39.˚65E±0.˚05,h3km±10km, Error ellipse: s-maj=6.4km s-min=6.2km az=37.9*
CSEM ***14*** *12:25:40.2±0.2,38.˚42N×39.˚62E,h8km,MD3.0, Error ellipse: s-maj=5.5km s-min=3.9km az=42.0*
DDA ***14*** *12:25:40.4,38.˚41N×39.˚65E,h7km,Ml2.9*
ISK ***14*** *12:25:40.2,38.˚47N×39.˚61E,h16km,MD3.0*
ISC 14 12:25:40.7±0.9,38.43N±0.03×39.63E±0.03,h12km±9km, n20,σ0s65/31,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SVRC	**Sivrice-ELAZID**	**0.26**	**258**	PG	**Pg**	**12 25 45.7**	**-0.5**
SVRC				*e*SG	**Sg**	**12 25 50.9**	**+1.0**
SVRC	**Sivrice-ELAZID**	**0.26**	**258**	*i* Pg	**Pg**	**12 25 45.7**	**-0.5**
SVRC				*e*Sg	**Sg**	**12 25 50.9**	**+1.0**
PTK	**Pertek**	**0.49**	**338**	*e*PG	**Pg**	**12 25 50.1**	**-0.4**
PTK				*e*SG	**Sg**	**12 25

PB06					*e*S	S	12 43 13.2	+1.9
PB06					IAML		12 43 15.1	
	comp=N,582nm,0.1s							
PB09	**IPOC Station P**	**2.46**	**324**	*e*P	Pn		12 42 45.9	+1.9
PB09				*e*S	S		12 43 22.5	+3.6
PB09				IAML			12 43 27.1	
	comp=E,440nm,0.6s							
PB10	**IPOC Station P**	**2.65**	**276**	*e*P	Pn		12 42 47.2	+1.4
PB10				*e*S	S		12 43 24.4	+2.2
PB10				IAML			12 43 25.7	
	comp=N,212nm,0.2s							
PB04	**IPOC Station P**	**2.70**	**302**	*e*P	Pn		12 42 48.7	+2.1
PB04				*e*S	S		12 43 26.1	+2.5
PB04				IAML			12 43 27.7	
	comp=N,267nm,0.3s							
PB07	**IPOC Station P**	**2.90**	**315**	*e*P	Pn		12 42 50.7	+1.9
PB07				*e*S	S		12 43 29.8	+2.3
PB07				IAML			12 43 31.8	
	comp=E,311nm,0.5s							
PB01	**IPOC Station P**	**3.21**	**328**	*e*P	Pn		12 42 54.4	+2.1
PB01				*e*S	S		12 43 36.6	+2.7
PB01				IAML			12 43 37.3	
	comp=E,152nm,0.2s							

MEX 14 12:46:32.3±0.8, 14°.97N×92°.25W, h147km±6km, MD3.5, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CCIG	**Comitan**	**1.31**	**5**	*i* P	Pn	12 46 59.2	-0.7
CCIG				*i* S	Sn	12 47 18.3	-2.7
TGIG		**1.99**	**335**	*i* P	Pn	12 47 05.8	-1.3
TGIG				*i* S	Sn	12 47 32.0	-2.0

*ISCJB **14** 12:47:44.3±0.7, 41°.58N±0°.04×36°.07E±0°.04, h0km, Error ellipse: s-maj=5.7km s-min=3.7km az=32.7*
*CSEM **14** 12:47:44.7±0.3, 41°.55N×36°.05E, h5km, ML2.6, Error ellipse: s-maj=6.7km s-min=4.9km az=27.0*
*ISK **14** 12:47:44.1, 41°.53N×36°.04E, h13km, MD2.4*
*DDA **14** 12:47:46.6, 41°.34N×36°.19E, h10km, Ml2.6, Suspected Mining explosion.*

ISC 14 12:47:42.2±1.0, 41°.67N±0°.05×36°.07E±0°.03, h0km, n19, σ0s67/35, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SAMS	**Samsun-Alacam**	**0.32**	**164**	*i* P	**Pg**	**12 47 49.3**	**+0.9**
SAMS				*i* S	**Sg**	**12 47 53.7**	**+1.1**
SAMS	**Samsun-Alacam**	**0.32**	**164**	P	**Pg**	**12 47 49.3**	**+0.9**
SAMS				S	**Sg**	**12 47 53.7**	**+1.1**
KVT	**Kavak**	**0.59**	**182**	*e*PG	**Sg**	**12 47 53.5**	**-0.1**
KVT				*e*SG	**Sg**	**12 48 00.5**	**-0.7**
KVT	**Kavak**	**0.59**	**182**	*e*Pg	**Pg**	**12 47 53.5**	**-0.1**
KVT				*e*Sg	**Sg**	**12 48 00.5**	**-0.7**
DIKM	**Dikmen**	**0.61**	**268**	*e*PG	**Pb**	**12 47 56.2**	**+0.5**
DIKM				*e*SG	**Sb**	**12 48 05.1**	**+0.2**
HAVZ	**Havza**	**0.65**	**204**	*i* P	**Pg**	**12 47 54.6**	**-0.2**
HAVZ				*i* S	**Sg**	**12 48 03.0**	**-0.2**
HAVZ	**Havza**	**0.65**	**204**	P	**Pg**	**12 47 54.6**	**-0.2**
HAVZ				S	**Sg**	**12 48 03.0**	**-0.2**
SNOP	**Sinop**	**0.73**	**299**	*e*PG	**Pn**	**12 47 59.8**	**0.0**
SNOP				*e*SG	**Sn**	**12 48 11.3**	**-0.4**
SNOP	**Sinop**	**0.73**	**299**	*e*Pg	**Pn**	**12 47 59.8**	**0.0**
SNOP				*e*Sg	**Sn**	**12 48 11.3**	**-0.4**
CTAK	**Corum_Osmancik**	**1.41**	**224**	*i* P	**Pb**	**12 48 09.7**	**+0.2**
CTAK				*i* S	**Sn**	**12 48 29.6**	**+1.0**
CTAK	**Corum_Osmancik**	**1.41**	**224**	P	**Pb**	**12 48 09.7**	**+0.2**
ORDU	**Ordu-Boztepe**	**1.51**	**116**	*i* P	**Pb**	**12 48 10.8**	**-0.3**
ORDU				*i* S	**Sn**	**12 48 32.1**	**+1.2**
ORDU	**Ordu-Boztepe**	**1.51**	**116**	P	**Pb**	**12 48 10.8**	**-0.3**
ORDU				S	**Sn**	**12 48 32.2**	**+1.2**
COAL	**Corum-Alaca**	**1.64**	**210**	*i* P	**Pn**	**12 48 12.7**	**+0.3**
COAL				*i* S	**Sn**	**12 48 34.2**	**0.0**
COAL	**Corum-Alaca**	**1.64**	**210**	P	**Pn**	**12 48 12.7**	**+0.3**
COAL				S	**Sn**	**12 48 34.2**	**0.0**
CORM	**Corum**	**1.85**	**217**	*e*PN	**Pn**	**12 48 14.5**	**-0.8**
CORM	**Corum**	**1.85**	**217**	*e*Pn	**Pn**	**12 48 14.5**	**-0.8**
SUSE	**Susehri**	**2.18**	**131**	*i* P	**Pb**	**12 48 21.8**	**-0.8**
SUSE				*i* S	**Sb**	**12 48 49.4**	**-0.8**
SUSE	**Susehri**	**2.18**	**131**	P	**Pb**	**12 48 21.8**	**-0.8**
SUSE				S	**Sb**	**12 48 49.4**	**-0.8**

*BJI **14** 12:47:46.7, 36°.35N×82°.43E, h5km, ML3.7/7*
*SOME **14** 12:48:17.5, 42°.33N×81°.07E, h0km*

ISC 14 12:48:17.4±1.4, 42°.41N±0°.07×81°.07E±0°.06, h10km, n8, σ2s65/10, 4C, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHLS	**Shalkode**	**1.40**	**303**	*e*P	**Pn**	**12 48 40.6**	**-2.4**
	4.9nm,0.2s						
SHLS				*e*S	**Sn**	**12 48 57.2**	**-4.4**
	11nm,0.2s						
UZB	**Uzynbulak**	**1.68**	**297**	*e*P	**Pb**	**12 48 49.7**	**+1.4**
	1.7nm,0.2s						
UZB				*e*S	**Sg**	**12 49 12.7**	**+1.5**
	6.4nm,0.2s						
KPKS	**Kokpek**	**2.04**	**302**	*e*P	**Pb**	**12 48 55.9**	**+1.3**
	10nm,0.3s						
KPKS				*e*S	**Sg**	**12 49 23.5**	**+0.5**
	14nm,0.6s						
DJR	**Jarkent**	**2.13**	**335**	*e*P	**Pg**	**12 48 59.1**	**+0.8**
	1.0nm,0.3s						
DJR				*e*S	**Sg**	**12 49 29.2**	**+3.2**
	5.6nm,0.3s						
MAKZ	**Makanchi**	**4.45**	**8**	⇑Pn	Pg	12 50 14.7	+32
	1.3nm,0.5s						
MAKZ				⇑Lg	Lg	12 52 05.7	
	1.7nm,0.5s						
MK31	**Makanchi Array**	**4.47**	**11**	⇑Pn	Pg	12 50 14.1	+31
	0.5nm,0.3s,baz=182,slow=14,SNR=14						
MK31				⇑Lg	Lg	12 52 07.5	
	0.8nm,0.5s,baz=184,slow=25,SNR=6.6						
KSH	**Kashi**	**4.82**	**235**	*e*Pg	Pb	12 49 35.8	-6.1
KSH				Sg	**Sg**	**12 50 54.6**	**+2.5**
KSH				smax	smax		
	comp=N,39nm,0.6s						
KSH				smax	smax		
	comp=E,51nm,0.8s						
WMQ	**Urumqi**	**5.05**	**72**	P	**Pg**	**12 49 54.4**	**+0.3**
WMQ				smax	smax		
	comp=N,9.0nm,0.7s						
WMQ				smax	smax		
	comp=E,6.0nm,0.5s						

*ISK **14** 12:51:30.9, 39°.87N×35°.17E, h9km, MD2.8*
*ISCJB **14** 12:51:31.5±0.6, 39°.81N±0°.03×35°.11E±0°.04, h2km±6km, Error ellipse: s-maj=6.0km s-min=4.4km az=136.7*
*DDA **14** 12:51:31.1, 39°.80N×35°.07E, h7km, Ml3.0*
*CSEM **14** 12:51:31.2±0.2, 39°.84N×35°.14E, h5km, MD2.8, Error ellipse: s-maj=5.0km s-min=3.7km az=49.0*

ISC 14 12:51:31.3±1.0, 39°.86N±0°.02×35°.12E±0°.03, h9km±8km, n29, σ1s11/47, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YOZ	**Yozgat**	**0.27**	**145**	PG	**Pg**	**12 51 36.6**	**-0.1**
YOZ				*e*SG	**Sg**	**12 51 40.9**	**+0.5**
YOZ	**Yozgat**	**0.27**	**145**	*i* Pg	**Pg**	**12 51 36.6**	**-0.1**
YOZ				*e*Sg	**Sg**	**12 51 40.9**	**+0.5**
COAL	**Corum-Alaca**	**0.41**	**346**	*i* P	**Pg**	**12 51 39.8**	**+0.5**
COAL				*i* S	**Sb**	**12 51 47.5**	**+0.4**
COAL	**Corum-Alaca**	**0.41**	**346**	P	**Pg**	**12 51 39.8**	**+0.5**
COAL				S	**Sb**	**12 51 47.5**	**+0.4**
CORM	**Corum**	**0.49**	**310**	*e*PG	**Pg**	**12 51 41.4**	**+0.5**
CORM				*e*SG	**Sg**	**12 51 49.0**	**+1.7**
CORM	**Corum**	**0.49**	**310**	*e*Pg	**Pg**	**12 51 41.4**	**+0.5**
CORM				*e*Sg	**Sg**	**12 51 49.0**	**+1.7**
CDAG	**Cicekdag**	**0.62**	**248**	*i* P	**Pg**	**12 51 42.3**	**-1.0**
CDAG				*i* S	**Sg**	**12 51 50.5**	**-1.0**
CDAG	**Cicekdag**	**0.62**	**248**	P	**Pg**	**12 51 42.3**	**-1.0**
CDAG				S	**Sg**	**12 51 50.5**	**-1.0**
CTAK	**Corum_Osmancik**	**0.83**	**342**	*i* P	**Pg**	**12 51 43.4**	**-3.8**
CTAK				*i* S	**Sn**	**12 52 02.8**	**+1.1**
CTAK	**Corum_Osmancik**	**0.83**	**342**	P	**Pg**	**12 51 43.4**	**-3.8**
CTAK				S	**Sn**	**12 52 02.8**	**+1.1**
CUSAR	**Sarkisla-SIVAS**	**0.97**	**117**	*i* P	**Pg**	**12 51 49.1**	**-0.9**
CUSAR				*i* S	**Sn**	**12 52 06.4**	**+1.1**
CUSAR	**Sarkisla-SIVAS**	**0.97**	**117**	P	**Pg**	**12 51 49.1**	**-0.9**
CUSAR				S	**Sn**	**12 52 06.4**	**+1.1**
AVNS	**Nevsehir-Avano**	**1.07**	**191**	*i* P	**Pg**	**12 51 50.8**	**-1.1**
AVNS				*i* S	**Sb**	**12 52 06.4**	**+0.2**
AVNS	**Nevsehir-Avano**	**1.07**	**191**	P	**Pg**	**12 51 50.8**	**-1.1**
AVNS				S	**Sb**	**12 52 06.4**	**+0.2**
BNN	**Bunyan**	**1.15**	**150**	*e*PN	**Pb**	**12 51 53.2**	**-0.2**
BNN				*e*SN	**Sn**	**12 52 09.6**	**-0.1**
BNN	**Bunyan**	**1.15**	**150**	*e*Pn	**Pb**	**12 51 53.2**	**-0.2**
BNN				*e*Sn	**Sn**	**12 52 09.6**	**-0.1**
KVT	**Kavak**	**1.41**	**30**	*e*PN	**Pn**	**12 51 56.9**	**-0.3**
KVT	**Kavak**	**1.41**	**30**	*e*Pn	**Pn**	**12 51 56.9**	**-0.3**
SERE	**Serefiikochisa**	**1.51**	**233**	*e*PN	**Pb**	**12 51 59.3**	**-0.2**
SERE	**Serefiikochisa**	**1.51**	**233**	*e*Pn	**Pb**	**12 51 59.3**	**-0.2**
AFSR	**Afˇar-Bala (A**	**1.63**	**256**	*e*PN	**Pb**	**12 52 01.1**	**-0.4**
AFSR	**Afˇar-Bala (A**	**1.63**	**256**	*e*Pn	**Pb**	**12 52 01.2**	**-0.4**
SARI	**SarD1z-Kayseri**	**1.77**	**145**	*e*PN	**Pn**	**12 52 02.4**	**+0.2**
KULU	**Kulu**	**1.83**	**244**	*e*PN	**Pb**	**12 52 04.2**	**-0.8**
KULU	**Kulu**	**1.83**	**244**	*e*Pn	**Pb**	**12 52 04.2**	**-0.8**
KKUL	**Konya-Kulu**	**1.84**	**249**	*i* P	**Pn**	**12 52 03.7**	**+0.6**
KKUL				*i* S	**Sg**	**12 52 30.4**	**+0.1**
KKUL	**Konya-Kulu**	**1.84**	**249**	P	**Pn**	**12 52 03.7**	**+0.6**
KKUL				S	**Sg**	**12 52 30.4**	**+0.1**
SULT	**Sultanhani-AKS**	**2.08**	**217**	*e*PN	**Pn**	**12 52 07.2**	**+0.9**
SULT	**Sultanhani-AKS**	**2.08**	**217**	*e*Pn	**Pn**	**12 52 07.2**	**+0.9**

*IDC **14** 13:02:23.3±1.1, 51°.99N×171°.15W, h0km, mb3.7/5, mb1 4.0/6, mb1mx3.6/41, mbtmp3.7/6, ML2.7/1, Error ellipse: s-maj=45.4km s-min=22.3km az=161.0*
*ISCJB **14** 13:02:28.1±0.9, 52°.1N±0°.1×171°.14W±0°.09, h42km, mb3.6/5, Error ellipse: s-maj=22.2km s-min=4.6km az=162.7*
*NEIC **14** 13:02:28.4±0.0, 52°.20N×171°.17W, h26km, ML3.1(AEIC), After AEIC.*

ISC 14 13:02:29.3±1.1, 52°.1N±0°.2×171°.16W±0°.07, h42km, n17, σ1s12/21, mb3.8/5, Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIKH	**Nikolski High**	**1.67**	**57**	P	**Pn**	**13 02 54.6**	**-1.4**
NIKH				S	**Sn**	**13 03 13.4**	**-2.7**
KOSE	**Korovin Southe**	**1.80**	**279**	P	**Pn**	**13 02 58.3**	**+0.5**
KOFP	**Korovin Flat P**	**1.82**	**277**	P	**Pn**	**13 02 59.2**	**+1.1**
ATKA	**Atka Island**	**1.87**	**275**	P	**Pn**	**13 02 58.2**	**-0.6**
ATKA				S	**Sn**	**13 03 20.4**	**-0.8**
OKSO	**Okmok South**	**2.23**	**54**	P	**Pn**	**13 03 04.2**	**+0.5**
OKSO				S	**Sn**	**13 03 30.5**	**+0.6**
OKWE	**Okmok W'ng Wal**	**2.25**	**51**	P	**Pn**	**13 03 04.5**	**+0.4**
OKAK	**Okmok**	**2.27**	**48**	P	**Pn**	**13 03 03.6**	**-0.6**
OKTU	**Okmok Mt. Tuli**	**2.30**	**54**	P	**Pn**	**13 03 05.7**	**+1.0**
MSOM	**Makushin Julie**	**3.08**	**54**	P	**Pn**	**13 03 16.5**	**+1.1**
MSW	**Makushin Switc**	**3.22**	**54**	P	**Pn**	**13 03 20.0**	**+2.7**
UNV	**Unalaska Valle**	**3.32**	**56**	P	**Pn**	**13 03 19.0**	**+0.3**
UNV				S	**Sn**	**13 03 56.7**	**-0.2**
PETK	**Petropavlovsk-**	**18.87**	**285**	P	**Pn**	**13 06 46.6**	**-0.1**
	0.1nm,0.3s,baz=82,slow=12,SNR=3.6						
INK	**Inuvik**	**24.19**	**34**	P	**P**	**13 07 41.4**	**0.0**
	0.6nm,0.4s,baz=259,slow=7.4,SNR=9.0						
YKA	**Yellowknife Ar**	**31.26**	**48**	P	**P**	**13 08 44.9**	**+0.3**
	2.6nm,0.8s,baz=276,slow=6.2,SNR=3.0						
TXAR	**Lajitas Array**	**53.86**	**87**	P	**P**	**13 11 48.2**	**+0.1**
	0.1nm,0.5s,baz=316,slow=6.3,SNR=2.6						
CMAR	**Chiang Mai Arr**	**75.60**	**281**	P	**P**	**13 14 09.7**	**-0.1**
	0.7nm,0.6s,baz=26,slow=7.0,SNR=5.1						
ASAR	**Alice Springs**	**89.37**	**229**	P	**P**	**13 15 21.2**	**0.0**
	0.4nm,0.6s,baz=24,slow=4.7,SNR=11						

*CSEM **14** 13:05:30.8±0.1, 44°.66N×10°.29E, h15km, ML2.5/7, Error ellipse: s-maj=3.7km s-min=2.4km az=112.0*
*ROM **14** 13:05:30.7±0.3, 44°.63N×10°.17E, h23km±3km, Md2.5/7, Ml2.7/5, Error ellipse: s-maj=5.8km s-min=2.2km az=91.0*
*ISCJB **14** 13:05:31.8±0.3, 44°.62N±0°.02×10°.22E±0°.03, h24km±3km, Error ellipse: s-maj=4.2km s-min=2.8km az=35.4*
*GEN **14** 13:05:31.5, 44°.65N×10°.24E, h23km, ML2.2*
*LDG **14** 13:05:31.5±0.1, 44°.65N×10°.28E, h2km, Ml2.6/5, Error ellipse: s-maj=2.2km s-min=1.7km az=61.0*

ISC 14 13:05:31.6±0.9, 44°.63N±0°.02×10°.27E±0°.02, h18km±4km, n52, σ0s96/87, 2C, Northern Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PRMA	**PARMA**	**0.14**	**14**	Pg	**Pg**	**13 05 35.6**	**0.0**
PRMA				Sg	**Sg**	**13 05 39.9**	**+1.5**
	1µm,0.6s						
PRMA	**PARMA**	**0.14**	**14**	Pg	**Pg**	**13 05 35.6**	**0.0**
GRAM	**Graiana**	**0.20**	**226**	P	**Pb**	**13 05 36.3**	**-0.2**
GRAM				S	**Sg**	**13 05 40.3**	**+0.4**
NOVE	**Novellara**	**0.36**	**62**	Pg	**Pg**	**13 05 39.2**	**+0.1**
NOVE				Sg	**Sb**	**13 05 46.4**	**+1.6**
NOVE	**Novellara**	**0.36**	**62**	Pg	**Pg**	**13 05 39.2**	**+0.1**
CODM	**Codolo**	**0.38**	**231**	P	**Pg**	**13 05 39.5**	**0.0**
CODM				S	**Sg**	**13 05 45.5**	**+0.6**
SARO	**Sassorosso**	**0.46**	**168**	P	**Pg**	**13 05 40.3**	**-0.6**
SARO				S	**Sg**	**13 05 47.6**	**+0.5**
VLC	**Villacollemand**	**0.48**	**170**	Pg	**Pg**	**13 05 40.9**	**-0.3**
VLC				Sg	**Sg**	**13 05 47.8**	**0.0**
	228nm,0.5s						
VLC	**Villacollemand**	**0.48**	**170**	Pg	**Pg**	**13 05 40.9**	**-0.3**
VLC				Sg	**Sg**	**13 05 47.8**	**0.0**
	228nm,0.5s						
SC2M	**Scurtabo**	**0.57**	**247**	P	**Pb**	**13 05 42.6**	**-0.4**
SC2M				S	**Sb**	**13 05 51.9**	**+1.1**
POPM	**Popiglio**	**0.68**	**149**	P	**Pb**	**13 05 44.9**	**-0.1**
POPM				S	**Sg**	**13 05 55.1**	**+1.0**
MAIM	**Mastiano**	**0.73**	**167**	P	**Pb**	**13 05 45.4**	**-0.4**
MAIM				S	**Sb**	**13 05 55.7**	**+0.2**
PTF	**Prato**	**0.89**	**139**	Pg	**Pb**	**13 05 48.3**	**-0.1**
PTF				Sg	**Sg**	**13 06 01.4**	**+0.9**
PTF	**Prato**	**0.89**	**139**	Pg	**Pb**	**13 05 48.3**	**-0.1**
PTF				Sg	**Sg**	**13 06 01.4**	**+0.9**
BALD	**Monte Baldo**	**1.12**	**20**	⇑*e*Pg	**Pn**	**13 05 52.4**	**-0.2**
BALD				*e*Sg	**Sn**	**13 06 08.4**	**+0.7**
BALD	**Monte Baldo**	**1.12**	**20**	*e*Pg	**Pn**	**13 05 52.4**	**-0.2**
BALD				*e*Sg	**Sn**	**13 06 08.4**	**+0.7**
MAGA	**Magasa**	**1.17**	**12**	Pg	**Pn**	**13 05 52.7**	**-0.5**
MAGA				Sg	**Sn**	**13 06 09.3**	**+0.5**
	232nm,0.4s						
MAGA	**Magasa**	**1.17**	**12**	Pg	**Pn**	**13 05 52.7**	**-0.5**
MAGA				Sg	**Sn**	**13 06 09.3**	**+0.5**
	232nm,0.4s						
MARN	**Marana (Italy)**	**1.21**	**33**	⇑*e*Pg	**Pn**	**13 05 53.0**	**-0.6**
MARN				*e*Sg	**Sn**	**13 06 10.1**	**+0.5**
MARN	**Marana (Italy)**	**1.21**	**33**	*e*Pg	**Pn**	**13 05 53.0**	**-0.6**
MARN				*e*Sg	**Sn**	**13 06 10.1**	**+0.5**
TEOL	**Teolo**	**1.23**	**53**	Pg	**Pn**	**13 05 53.4**	**-0.6**
TEOL				Sg	**Sn**	**13 06 11.2**	**+1.0**
	215nm,0.4s						
TEOL	**Teolo**	**1.23**	**53**	Pg	**Pn**	**13 05 53.4**	**-0.6**
TEOL				Sg	**Sn**	**13 06 11.2**	**+1.0**
	215nm,0.4s						
SASS	**Sassa**	**1.41**	**167**	Pg	**Pn**	**13 05 56.8**	**+0.5**
	26nm,1.0s						
SASS	**Sassa**	**1.41**	**167**	Pg	**Pn**	**13 05 56.8**	**+0.5**
	26nm,1.0s						
DDS	**Dosso del Somm**	**1.41**	**27**	*e*Pg	**Pn**	**13 05 55.9**	**-0.6**
DDS				*e*Sg	**Sb**	**13 06 15.7**	**+0.5**
DDS	**Dosso del Somm**	**1.41**	**27**	*e*Pg	**Pn**	**13 05 55.9**	**-0.6**
DDS				*e*Sg	**Sb**	**13 06 15.7**	**+0.5**
PANI	**Panarotta**	**1.61**	**28**	*e*Pg	**Pn**	**13 05 58.8**	**-0.4**
PANI				*e*Sg	**Sb**	**13 06 21.5**	**+0.6**
CGRP	**Cima Grappa**	**1.65**	**40**	Pg	**Pn**	**13 05 59.4**	**-0.5**
OZOL	**Ozolo**	**1.86**	**17**	*e*Pn	**Pn**	**13 06 02.6**	**0.0**
OZOL	**Ozolo**	**1.86**	**17**	*e*Pn	**Pn**	**13 06 02.7**	**0.0**
SBF	**Sospel**	**2.17**	**250**	*e*Pn	**Pn**	**13 06 07.1**	**+0.2**
SBF				*e*Sn	**Sn**	**13 06 33.1**	**-0.3**
	9.5nm,0.3s						
SBF	**Sospel**	**2.17**	**250**	*e*Pn	**Pn**	**13 06 07.1**	**+0.2**
SBF				*e*Sn	**Sn**	**13 06 33.1**	**-0.3**
	4.8nm,0.3s						
PGF	**Pioggiola**	**2.28**	**204**	*e*Pn	**Pn**	**13 06 08.8**	**+0.4**
PGF				*e*Sn	**Sn**	**13 06 35.2**	**-0.8**
	2.2nm,0.2s						
PGF	**Pioggiola**	**2.28**	**204**	*e*Pn	**Pn**	**13 06 08.8**	**+0.4**
PGF				*e*Sn	**Sn**	**13 06 35.2**	**-0.8**
	1.1nm,0.2s						
FETA	**Feichten**	**2.41**	**8**	Pn	**Pb**	**13 06 13.0**	**-1.5**
	1.9nm,0.5s						
FETA				Sg	**Sb**	**13 06 46.4**	**+2.4**
	1.0nm,0.2s						
MBDF	**Montbardon**	**2.50**	**273**	*e*Pn	**Pn**	**13 06 11.6**	**+0.2**
MBDF	**Montbardon**	**2.50**	**273**	*e*P	**Pb**	**13 06 14.3**	**-1.6**
MBDF				*e*Sn	**Sn**	**13 06 40.4**	**-1.1**
	7.9nm,0.7s						
MBDF	**Montbardon**	**2.50**	**273**	*e*Pn	**Pn**	**13 06 11.6**	**+0.2**
MBDF	**Montbardon**	**2.50**	**273**	*e*P	**Pb**	**13 06 14.3**	**-1.6**
MBDF				*e*Sn	**Sn**	**13 06 40.4**	**-1.1**
	4.0nm,0.7s						
FRF	**La Foret Royal**	**2.82**	**249**	*e*Pn	**Pn**	**13 06 16.3**	**+0.6**
FRF				*e*Sn	**Sn**	**13 06 49.1**	**-0.1**
	6.8nm,0.4s						
FRF	**La Foret Royal**	**2.82**	**249**	*e*Pn	**Pn**	**13 06 16.3**	**+0.6**
FRF				*e*Sn	**Sn**	**13 06 49.1**	**-0.1**
	3.4nm,0.4s						
LMR	**La Mourre**	**3.01**	**246**	*e*Pn	**Pn**	**13 06 18.0**	**-0.3**
LMR				*e*Sn	**Sn**	**13 06 53.2**	**-0.6**
	6.5nm,0.4s						
LMR	**La Mourre**	**3.01**	**246**	*e*Pn	**Pn**	**13 06 18.0**	**-0.3**
LMR				*e*Sn	**Sn**	**13 06 53.2**	**-0.6**
	3.2nm,0.4s						
ORIF	**Oris-en-Rattie**	**3.14**	**277**	*e*P	**Pn**	**13 06 23.4**	**+3.2**
ORIF	**Oris-en-Rattie**	**3.14**	**277**	*e*P	**Pn**	**13 06 23.4**	**+3.2**
OZLJ	**Ozalj**	**3.81**	**73**	Sn	**Sn**	**13 07 11.6**	**-2.0**
OZLJ	**Ozalj**	**3.81**	**73**	Sn	**Sn**	**13 07 11.6**	**-2.0**
HINF	**Hinteralfeld**	**3.97**	**325**	*e*Pn	**Pn**	**13 06 31.1**	**-0.5**
HINF	**Hinteralfeld**	**3.97**	**325**	*e*Pn	**Pn**	**13 06 31.1**	**-0.5**
HAU	**Haudompre**	**4.33**	**323**	*e*Pn	**Pn**	**13 06 36.5**	**0.0**
HAU	**Haudompre**	**4.33**	**323**	*e*Pn	**Pn**	**13 06 36.5**	**0.0**

SOME 14 13:09:20.9, 44°.75N×82°.17E, h10km, 3C-2D, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DJR	**Jarkent**	**1.75**	**257**	⇑*i* P	Pb	13 09 53.7	+0.6
	3.9nm,0.2s						
DJR				⇓*i* S	Sg	13 10 17.2	0.0
	5.0nm,0.2s						
KTMS	**Ketmen**	**1.85**	**226**	*e*P	Pb	13 09 54.4	-0.4
	2.2nm,0.1s						
KTMS				*e*S	Sb	13 10 18.7	+0.7
	9.7nm,0.4s						
MK31	**Makanchi Array**	**2.05**	**2**	⇑Pn	Pg	13 09 59.3	-0.8
	2.1nm,0.3s,baz=181,slow=14,SNR=99						
MK31				Sn	Sg	13 10 26.5	-0.1
	1.1nm,0.4s,baz=186,slow=28,SNR=9.0						
KAPS	**Kapalarasan**	**2.06**	**286**	*e*P	Pb	13 09 58.9	+0.4
	0.9nm,0.1s						
KAPS				*e*S	Sg	13 10 25.7	-1.5
	4.7nm,0.3s						
MAKZ	**Makanchi**	**2.06**	**356**	⇓Pn	Pb	13 09 58.3	-0.1
	2.0nm,0.5s						
MAKZ				⇑Sn	Sb	13 10 25.6	+1.4
	2.8nm,0.5s						
SHLS	**Shalkode**	**2.52**	**232**	*e*P	Pn	13 10 02.6	+0.6
	6.6nm,0.2s						
SHLS				*e*S	Sn	13 10 32.4	-0.5
	8.9nm,0.3s						
MNBS	**Baschi**	**2.78**	**257**	*e*P	Pb	13 10 10.4	-0.3
	1.3nm,0.2s						
MNBS				*e*S	Sb	13 10 46.2	+1.3
	12nm,0.3s						

*JMA **14** 13:19:30.8±0.1, 24°.75N×122°.45E, h122km±2km, M2.3*
*ISCJB **14** 13:19:31.5±0.7, 24°.79N±0°.06×122°.50E±0°.02, h116km±6km, Error ellipse: s-maj=9.6km s-min=3.0km az=171.5*
*TAP **14** 13:19:31.3, 24°.80N×122°.52E, h117km±1km, ML3.7, D*

ISC 14 13:19:32.0±1.7, 24°.79N±0°.08×122°.50E±0°.03, h115km±10km, n35, σ0s46/60, 3D, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TWB1	**Santiao Chiao**	**0.51**	**295**	⇓P	**Pn**	**13 19 49.5**	**+0.1**
	baz=293						
JYNG	**Yonagunijimaku**	**0.53**	**130**	P	**Pn**	**13 19 49.4**	**-0.1**
JYNG				S	**Sn**	**13 20 03.4**	**+0.7**
YOJ	**Yonaguni jima**	**0.57**	**125**	P	**Pn**	**13 19 49.6**	**-0.2**
YOJ				S	**Sn**	**13 20 03.7**	**+0.5**
TWC	**Suao**	**0.62**	**253**	P	**Pn**	**13 19 49.8**	**-0.3**
	baz=252						
TWC				*e*S	**Sn**	**13 20 03.9**	**+0.2**
	baz=252						
NWF	**Wu-fen Shan**	**0.70**	**293**	P	**Pn**	**13 19 50.9**	**0.0**
	baz=292						
TWE	**Neicheng**	**0.76**	**265**	*i* P	**Pn**	**13 19 51.1**	**-0.1**
	baz=264						
TWE				*e*S	**Sn**	**13 20 05.9**	**+0.1**
	baz=264						
ENA	**Nanau**	**0.78**	**242**	*i* P	**Pn**	**13 19 51.4**	**0.0**
	baz=242						
ENA				S	**Sn**	**13 20 06.3**	**+0.2**
	baz=242						
ENTT	**Nioudou**	**0.86**	**260**	P	**Pn**	**13 19 52.3**	**+

STYT	**Tauyuan**	**2.27**	**225**	*eP*	**Pn**	**13 20 08.8**	**+0.1**
	baz=224						
STYT				*eS*	**Sn**	**13 20 37.6**	**+0.8**
	baz=224						
WTP	**Ta-pu**	**2.31**	**229**	*eP*	**Pn**	**13 20 09.9**	**+0.7**
	baz=228						
WTP				*eS*	**Sn**	**13 20 37.0**	**-0.7**
	baz=228						
TWK	**Hsinying**	**2.38**	**231**	*eS*	**Sn**	**13 20 38.8**	**-0.5**
	baz=230						
CHN1	**Nanshi**	**2.41**	**229**	*eP*	**Pn**	**13 20 10.7**	**+0.2**
	baz=228						
CHN1				*eS*	**Sn**	**13 20 39.5**	**-0.4**
	baz=228						
JIRB	**Irabujima**	**2.43**	**89**	*eS*	**Sn**	**13 20 40.2**	**-0.2**
JIKM	**Ikemajima**	**2.50**	**86**	*eS*	**Sn**	**13 20 42.5**	**+0.5**

DDA ***14*** *13:28:53.5, 40˚.93N×30˚.35E, h7km, Ml2.6*
ISCJB ***14*** *13:28:54.5±0.5, 40˚.91N±0˚.03×30˚.36E±0˚.03, h6km±4km, Error ellipse: s-maj=5.2km s-min=3.5km az=23.4*
CSEM ***14*** *13:28:54.5±0.1, 40˚.91N×30˚.38E, h10km, ML2.6, Error ellipse: s-maj=3.3km s-min=1.9km az=24.0*
ISK ***14*** *13:28:54.0, 40˚.91N×30˚.38E, h8km, ML2.2*
ISC 14 13:28:54.7±0.9, 40˚.90N±0˚.03×30˚.38E±0˚.02, h14km±6km, n41, o0%67/58, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SPNC	**Sapanca-Adapaz**	**0.22**	**194**	*e*PG	**Pg**	**13 28 59.1**	**-0.4**
SPNC				*e*SG	**Sg**	**13 29 02.9**	**+0.2**
SPNC	**Sapanca-Adapaz**	**0.22**	**194**	*e*Pg	**Pg**	**13 28 59.1**	**-0.4**
SPNC				*e*Sg	**Sg**	**13 29 02.9**	**+0.2**
KAND	**Kocaeli-Kandir**	**0.24**	**324**	*i* P	**Pg**	**13 28 59.7**	**-0.2**
KAND				*i* S	**Sg**	**13 29 04.0**	**+0.6**
KAND	**Kocaeli-Kandir**	**0.24**	**324**	P	**Pg**	**13 28 59.7**	**-0.2**
KAND				S	**Sg**	**13 29 04.0**	**+0.6**
SAHE	**Sakarya_HENDEK**	**0.36**	**97**	*i* P	**Pg**	**13 29 01.4**	**-0.5**
SAHE				*i* S	**Sb**	**13 29 07.6**	**-0.9**
SAHE	**Sakarya_HENDEK**	**0.36**	**97**	P	**Pg**	**13 29 01.5**	**-0.5**
SAHE				S	**Sb**	**13 29 07.6**	**-0.9**
GULT	**Gulveren**	**0.48**	**167**	*e*PG	**Pg**	**13 29 04.1**	**0.0**
GULT				*e*SG	**Sb**	**13 29 11.3**	**-0.5**
GULT	**Gulveren**	**0.48**	**167**	*e*Pg	**Pg**	**13 29 04.1**	**0.0**
GULT				*e*Sg	**Sb**	**13 29 11.3**	**-0.5**
HRT	**Hereke**	**0.55**	**262**	*e*PG	**Pg**	**13 29 05.0**	**-0.4**
HRT				*e*SG	**Sb**	**13 29 13.1**	**-0.7**
HRT	**Hereke**	**0.55**	**262**	*e*Pg	**Pg**	**13 29 05.0**	**-0.4**
HRT				*e*Sg	**Sb**	**13 29 13.1**	**-0.7**
BTAS	**Taskesti**	**0.57**	**125**	*i* P	**Pg**	**13 29 04.9**	**-1.0**
BTAS				*i* S	**Sb**	**13 29 14.0**	**-0.6**
BTAS	**Taskesti**	**0.57**	**125**	P	**Pg**	**13 29 04.9**	**-1.0**
BTAS				S	**Sb**	**13 29 14.0**	**-0.6**
SILT	**Sile**	**0.61**	**295**	*e*PG	**Pg**	**13 29 06.2**	**-0.5**
SILT	**Sile**	**0.61**	**295**	*e*Pg	**Pg**	**13 29 06.2**	**-0.5**
ADVT	**Abdulvahap**	**0.67**	**227**	*e*PG	**Pg**	**13 29 07.4**	**-0.4**
ADVT	**Abdulvahap**	**0.67**	**227**	*e*Pg	**Pg**	**13 29 07.4**	**-0.4**
MDUB	**Mudurnu**	**0.75**	**124**	*e*PG	**Pb**	**13 29 09.5**	**-0.2**
MDUB	**Mudurnu**	**0.75**	**124**	*e*Pg	**Pb**	**13 29 09.5**	**-0.2**
ISK	**Istanbul-Kandi**	**1.01**	**280**	*e*PG	**Pn**	**13 29 14.1**	**-0.4**
ISK	**Istanbul-Kandi**	**1.01**	**280**	*e*Pg	**Pn**	**13 29 14.1**	**-0.4**
BORA	**Eskisehir**	**1.02**	**177**	*i* P	**Pg**	**13 29 13.6**	**-0.7**
BORA				*i* S	**Sn**	**13 29 29.4**	**+0.6**
BORA	**Eskisehir**	**1.02**	**177**	P	**Pg**	**13 29 13.6**	**-0.7**
BORA				S	**Sn**	**13 29 29.4**	**+0.6**
KLYT	**Kilyos**	**1.07**	**290**	*e*PG	**Pg**	**13 29 14.4**	**-0.9**
KLYT	**Kilyos**	**1.07**	**290**	*e*Pg	**Pg**	**13 29 14.5**	**-0.9**
IGD	**Bursa**	**1.10**	**235**	*i* P	**Pg**	**13 29 14.5**	**-1.4**
IGD				*i* S	**Sb**	**13 29 30.1**	**+0.4**
SBT5	**Esenkoy-Cinarc**	**1.17**	**257**	*e*PN	**Pn**	**13 29 16.9**	**+0.3**
SBT5	**Esenkoy-Cinarc**	**1.17**	**257**	*e*Pn	**Pn**	**13 29 16.9**	**+0.3**
ARMT	**Armutlu**	**1.20**	**254**	*e*PN	**Pb**	**13 29 17.0**	**-0.2**
ARMT	**Armutlu**	**1.20**	**254**	*e*Pn	**Pb**	**13 29 17.0**	**-0.2**
BCAM	**Yenicaga**	**1.28**	**93**	*i* P	**Pg**	**13 29 18.8**	**-0.6**
BCAM				*i* S	**Sn**	**13 29 36.9**	**+1.5**
BCAM	**Yenicaga**	**1.28**	**93**	P	**Pg**	**13 29 18.8**	**-0.6**
BCAM				S	**Sn**	**13 29 36.9**	**+1.5**
SBT2	**Guzelce-Avcila**	**1.42**	**270**	*e*PN	**Pb**	**13 29 20.4**	**-0.4**
SBT2	**Guzelce-Avcila**	**1.42**	**270**	*e*Pn	**Pb**	**13 29 20.4**	**-0.4**
ESKT	**Eskisehir**	**1.42**	**165**	*e*PN	**Pn**	**13 29 20.6**	**+0.3**
ESKT	**Eskisehir**	**1.42**	**165**	*e*Pn	**Pn**	**13 29 20.6**	**+0.3**
CTKS	**Kestanelik-??a**	**1.46**	**284**	*e*PN	**Pb**	**13 29 21.0**	**-0.5**
CTKS	**Kestanelik-??a**	**1.46**	**284**	*e*Pn	**Pb**	**13 29 21.0**	**-0.5**
TVSB	**Tavsanli**	**1.61**	**206**	*e*PN	**Pn**	**13 29 23.6**	**+0.8**
TVSB	**Tavsanli**	**1.61**	**206**	*e*Pn	**Pn**	**13 29 23.6**	**+0.8**
SBT3	**Marmara-Eregli**	**1.82**	**270**	*e*PN	**Pn**	**13 29 26.4**	**+0.9**
SBT3	**Marmara-Eregli**	**1.82**	**270**	*e*Pn	**Pn**	**13 29 26.4**	**+0.9**

IDC ***14*** *13:36:32.2±0.3, 35˚.03S×178˚.87W, h0km, mb5.2/26, mb1 5.2/28, mb1mx5.2/29, mbtmp5.2/28, ML5.3/2, MS5.2/21, Ms1 5.3/21, ms1mx5.2/24, Error ellipse: s-maj=14.1km s-min=11.6km az=173.0*
MOS ***14*** *13:36:33.3±1.1, 34˚.95S×178˚.95W, h10km, mb5.7/59, MS5.4/38, Error ellipse: s-maj=10.0km s-min=8.2km az=99.8*
NEIC ***14*** *13:36:34.1±0.1, 35˚.11S×178˚.99W, h13km, mb5.6/127, MS5.6/296, Error ellipse: s-maj=5.2km s-min=3.2km az=161.0, Depth from synthetics of broadband displacement seismograms.*
GCMT ***14*** *13:36:34.1±0.1, 35˚.09S×178˚.60W, h12km, MW5.7/127, Moment Tensor Solution. s108,c206; s127,c358; Duration: 16? Moment tensor: Scale 1017Nm; Mrr-3.31±.04; Mθθ-0.21±.04; Mϕϕ3.52±.04; Mrθ-0.40±.11; Mθϕ3.10±.03; Mϕr1.09±.10; Best double couple: Mo4.56900×1017 NP1:ϕs187.00000˚, δ55.00000˚, λ-122.00000˚. NP2:ϕs54.00000˚, δ46.00000˚, λ-53.00000˚. Principal axes: T 5.3390, Plg5.0000˚, Azm299.0000˚; N -1.5390, Plg26.0000˚, Azm206.0000˚; P -3.8000, Plg64.0000˚, Azm39.0000˚; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*
ISCJB ***14*** *13:36:36.2±1.0, 35˚.20S±0˚.03×179˚.00W±0˚.03, h33km±6km, mb5.5/186, MS5.6/434 Error ellipse: s-maj=5.8km s-min=3.5km az=161.9*
BJI ***14*** *13:36:37.6, 35˚.25S×179˚.15W, h41km, mb5.3/29, mB5.7/45, Ms5.4/46, Ms7 5.2/45*
ISC 14 13:36:36.1±0.5, 35˚.07S±0˚.04×178˚.88W±0˚.04, h26km±2km, h26km:pP-P,n1314,o1%81/1067, mb5.6/174, MS5.6/442, 32C-23D, East of North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MXZ	**Matakaoa Point**	**3.37**	**222**	*e*Pn	**Pn**	**13 37 26.0**	**-0.9**
MXZ	**Matakaoa Point**	**3.37**	**222**	PN	**Pn**	**13 37 25.9**	**-1.1**
MXZ				SN	**Sn**	**13 38 06.5**	**+0.4**
WMGZ	**Waiomatatini S**	**3.50**	**218**	PN	**Pn**	**13 37 27.4**	**-1.4**
WMGZ				SN	**Sn**	**13 38 11.3**	**+1.9**
PKGZ	**Pakihiroa**	**3.73**	**220**	PN	**Pn**	**13 37 31.1**	**-1.0**
PUZ	**Puketiti**	**3.78**	**217**	PN	**Pn**	**13 37 31.0**	**-1.6**
PUZ				SN	**Sn**	**13 38 17.2**	**+0.9**
HAZ	**Te Kaha**	**3.80**	**224**	PN	**Pn**	**13 37 32.0**	**-0.8**
TWGZ	**Tauwhareparae**	**4.00**	**218**	PN	**Pn**	**13 37 34.8**	**-0.9**
RUGZ	**Raukumara Rang**	**4.00**	**223**	PN	**Pn**	**13 37 35.4**	**-0.4**
WIZ	**White Island**	**4.01**	**231**	PN	**Pn**	**13 37 35.3**	**-0.5**
CNGZ	**Carnagh Static**	**4.13**	**214**	PN	**Pn**	**13 37 36.4**	**-1.1**
TKGZ	**Te Karaka**	**4.26**	**217**	PN	**Pn**	**13 37 38.4**	**-0.9**
WHRZ	**Whale Island**	**4.34**	**229**	PN	**Pn**	**13 37 40.8**	**+0.4**
MWZ	**Matawai**	**4.35**	**220**	PN	**Pn**	**13 37 39.2**	**-1.4**
MWZ				SN	**Sn**	**13 38 30.0**	**-0.4**
RIGZ	**Rimuhau**	**4.52**	**216**	*e*PN	**Pn**	**13 37 41.1**	**-1.7**
URZ	**Urewera**	**4.53**	**224**	Pn	**Pn**	**13 37 42.2**	**-0.7**
	456nm,0.3s,baz=278,slow=2.4,SNR=1022						
URZ				Sn	**Sn**	**13 38 34.3**	**-0.4**
	900nm,0.3s,baz=162,slow=22,SNR=16						
URZ	**Urewera**	**4.53**	**224**	PN	**Pn**	**13 37 41.6**	**-1.3**
URZ				SN	**Sn**	**13 38 34.6**	**-0.1**
RAGZ	**Rawiri**	**4.53**	**220**	*e*PN	**Pn**	**13 37 42.0**	**-1.0**
OPRZ	**Ohinepanea**	**4.60**	**232**	*e*PN	**Pn**	**13 37 43.0**	**-0.9**
MARZ	**Manawahe**	**4.61**	**230**	*e*PN	**Pn**	**13 37 44.1**	**0.0**
PRGZ	**Paritu Road**	**4.63**	**213**	PN	**Pn**	**13 37 42.5**	**-1.9**
EDRZ	**Edgecumbe**	**4.65**	**228**	PN	**Pn**	**13 37 44.5**	**-0.1**
EDRZ				SN	**Sn**	**13 38 38.4**	**+0.7**
KUZ	**Kuaotunu**	**4.69**	**248**	PN	**Pn**	**13 37 45.5**	**+0.4**
TGRZ	**Tauranga**	**4.73**	**234**	PN	**Pn**	**13 37 45.4**	**-0.3**
GRZ	**Great Barrier**	**4.76**	**254**	PN	**Pn**	**13 37 46.6**	**+0.6**
SNGZ	**Shannon Statio**	**4.78**	**218**	*e*PN	**Pn**	**13 37 45.2**	**-1.3**
KNZ	**Kokohu**	**4.81**	**214**	PN	**Pn**	**13 37 44.4**	**-2.4**
MHGZ	**Mahia Peninsul**	**4.81**	**211**	PN	**Pn**	**13 37 44.8**	**-2.1**
RTZ	**Ruatahuna**	**4.85**	**222**	*e*PN	**Pn**	**13 37 46.7**	**-0.8**
TARZ	**Mount Tarawera**	**4.87**	**228**	PN	**Pn**	**13 37 48.3**	**+0.6**
MUGZ	**Murupara**	**4.87**	**224**	*e*PN	**Pn**	**13 37 46.2**	**-1.5**
OMRZ	**Omania**	**4.87**	**230**	*e*PN	**Pn**	**13 37 48.1**	**+0.4**
KARZ	**Kaharoa**	**4.90**	**232**	PN	**Pn**	**13 37 47.7**	**-0.4**
RRRZ	**Republican Roa**	**4.93**	**227**	*e*PN	**Pn**	**13 37 47.9**	**-0.6**
HLRZ	**Highlands Stat**	**4.97**	**229**	PN	**Pn**	**13 37 49.6**	**+0.5**
UTU	**Utuhina**	**5.03**	**231**	PN	**Pn**	**13 37 50.6**	**+0.7**
WHHZ	**Waihua**	**5.06**	**217**	PN	**Pn**	**13 37 48.9**	**-1.3**
HSRZ	**Hossack Road**	**5.08**	**229**	PN	**Pn**	**13 37 50.7**	**+0.2**
HRRZ	**Handcock Road**	**5.10**	**228**	PN	**Pn**	**13 37 51.0**	**+0.1**
PRRZ	**Plateau Road**	**5.11**	**227**	PN	**Pn**	**13 37 50.1**	**-0.8**
WIAZ	**Waiheke Island**	**5.15**	**249**	PN	**Pn**	**13 37 52.4**	**+0.9**
ALRZ	**Allen Road**	**5.18**	**226**	PN	**Pn**	**13 37 51.6**	**-0.3**
GRRZ	**Galatos Road**	**5.18**	**229**	PN	**Pn**	**13 37 52.6**	**+0.6**
MKAZ	**Moumakai**	**5.23**	**245**	PN	**Pn**	**13 37 53.1**	**+0.5**
TOZ	**Tahuroa Road**	**5.25**	**238**	PN	**Pn**	**13 37 52.5**	**-0.3**
WPRZ	**Whakapapataran**	**5.26**	**228**	PN	**Pn**	**13 37 53.2**	**+0.2**
NMHZ	**Naumai**	**5.29**	**219**	PN	**Pn**	**13 37 52.5**	**-1.1**
MRHZ	**Matea Rd**	**5.32**	**224**	PN	**Pn**	**13 37 53.7**	**-0.1**
ARHZ	**Aropaoanui**	**5.32**	**217**	PN	**Pn**	**13 37 52.2**	**-1.7**
ABAZ	**Army Bay**	**5.33**	**252**	PN	**Pn**	**13 37 55.2**	**+1.3**
ETAZ	**East Tamaki Re**	**5.36**	**248**	PN	**Pn**	**13 37 55.4**	**+1.1**
KBAZ	**Karaka Road Bo**	**5.43**	**246**	PN	**Pn**	**13 37 56.8**	**+1.5**
KUTZ	**Kaahu Road**	**5.45**	**230**	PN	**Pn**	**13 37 55.7**	**+0.1**
EPAZ	**Eden Park BICE**	**5.47**	**249**	PN	**Pn**	**13 37 57.6**	**+1.7**
HBAZ	**Herne Bay Bore**	**5.48**	**249**	PN	**Pn**	**13 37 57.6**	**+1.7**
BKZ	**Black Stump Fm**	**5.51**	**221**	*e*Pn	**Pn**	**13 37 55.6**	**-0.9**
BKZ	**Black Stump Fm**	**5.51**	**221**	*e*PN	**Pn**	**13 37 54.8**	**-1.7**
RVAZ	**Riverhead Bore**	**5.57**	**228**	PN	**Pn**	**13 37 58.8**	**+1.5**
WCZ	**Waipu Caves**	**5.59**	**259**	⇑PN	**Pn**	**13 37 59.1**	**+1.5**
CKHZ	**Cape Kidnapper**	**5.60**	**214**	PN	**Pn**	**13 37 54.9**	**-2.7**
AWAZ	**Awhitu Peninsu**	**5.61**	**247**	PN	**Pn**	**13 37 59.5**	**+1.8**
MCHZ	**McNeill Hill**	**5.61**	**218**	PN	**Pn**	**13 37 56.2**	**-1.7**
WTAZ	**Waiatarua**	**5.62**	**249**	PN	**Pn**	**13 38 00.3**	**+2.3**
WATZ	**Wairara**	**5.64**	**228**	PN	**Pn**	**13 37 57.9**	**-0.3**
RATZ	**Rangitukua**	**5.71**	**227**	PN	**Pn**	**13 37 58.9**	**-0.4**
KWHZ	**Kaweka Forest**	**5.74**	**219**	PN	**Pn**	**13 37 58.3**	**-1.3**
KAHZ	**Kahuranaki**	**5.80**	**214**	*e*PN	**Pn**	**13 37 57.3**	**-3.1**
RAO	**Raoul Island**	**5.86**	**8**	Pn	Pn	13 37 55.4	-5.9
	283nm,0.3s,baz=161,slow=9.5,SNR=15						
RAO				Sn	**Sn**	**13 39 00.8**	**-6.8**
	678nm,0.3s,baz=278,slow=23,SNR=9.3						
KRHZ	**Kereru**	**5.93**	**218**	PN	**Pn**	**13 38 00.1**	**-2.1**
OTVZ	**Oturere**	**5.97**	**225**	*e*PN	**Pn**	**13 38 02.2**	**-0.7**
BHHZ	**Black Hill Sta**	**5.97**	**221**	*e*PN	**Pn**	**13 38 02.1**	**-0.8**
WTVZ	**West Tongariro**	**5.98**	**226**	*e*PN	**Pn**	**13 38 02.6**	**-0.4**
PXZ	**Pawanui**	**5.99**	**213**	*e*PN	**Pn**	**13 37 59.6**	**-3.4**
NGZ	**Ngauruhoe**	**6.02**	**225**	PN	**Pn**	**13 38 02.5**	**-1.0**
TWVZ	**Taurewa**	**6.05**	**227**	PN	**Pn**	**13 38 03.3**	**-0.6**
HIZ	**Hauiti**	**6.09**	**234**	*e*Pn	**Pn**	**13 38 04.4**	**0.0**
HIZ	**Hauiti**	**6.09**	**234**	PN	**Pn**	**13 38 05.0**	**+0.7**
MOVZ	**Moawhango**	**6.09**	**223**	*e*PN	**Pn**	**13 38 02.2**	**-2.2**
WHVZ	**Whangaehu Hut**	**6.09**	**225**	*e*PN	**Pn**	**13 38 02.6**	**-2.1**
FWVZ	**Far West T-bar**	**6.10**	**225**	PN	**Pn**	**13 38 03.7**	**-1.0**
DRZ	**Dome Shelter**	**6.10**	**225**	PN	**Pn**	**13 38 04.9**	**0.0**
WNVZ	**Wahianoa**	**6.12**	**224**	*e*PN	**Pn**	**13 38 03.3**	**-1.6**
TRVZ	**Turoa**	**6.13**	**225**	PN	**Pn**	**13 38 04.8**	**-0.3**
OUZ	**Omahuta**	**6.16**	**266**	*e*Pn	**Pn**	**13 38 06.5**	**+1.1**
OUZ	**Omahuta**	**6.16**	**266**	PN	**Pn**	**13 38 06.5**	**+1.1**
WPUZ	**Waipukurau**	**6.21**	**215**	PN	**Pn**	**13 38 03.3**	**-2.8**
PNHZ	**Pukenui**	**6.22**	**218**	PN	**Pn**	**13 38 03.6**	**-2.6**
PKVZ	**Pokaka**	**6.24**	**226**	*e*PN	**Pn**	**13 38 05.6**	**-0.9**
PRHZ	**Porangahau**	**6.29**	**213**	*e*PN	**Pn**	**13 38 04.3**	**-2.8**
TSZ	**Takapari Road**	**6.45**	**218**	*e*PN	**Pn**	**13 38 05.0**	**-4.3**
VRZ	**Vera Road**	**6.50**	**230**	*e*PN	**Pn**	**13 38 09.6**	**-0.4**
ANWZ	**Angora Road**	**6.51**	**213**	PN	**Pn**	**13 38 07.4**	**-2.8**
DVHZ	**Dannevirke**	**6.53**	**215**	PN	**Pn**	**13 38 08.3**	**-2.1**
WAZ	**Wanganui**	**6.76**	**224**	*e*PN	**Pn**	**13 38 12.2**	**-1.4**
POWZ	**Post Office Ro**	**6.79**	**217**	*e*PN	**Pn**	**13 38 11.6**	**-2.4**
BFZ	**Birch Farm**	**6.80**	**213**	*e*Pn	**Pn**	**13 38 09.7**	**-4.4**
BFZ	**Birch Farm**	**6.80**	**213**	*e*PN	**Pn**	**13 38 09.4**	**-4.7**
LREZ	**Lake Rotokare**	**6.92**	**229**	*e*PN	**Pn**	**13 38 13.4**	**-2.4**
PREZ	**Palmer Road**	**7.00**	**230**	*e*PN	**Pn**	**13 38 18.4**	**+1.5**
TIWZ	**Tintock**	**7.04**	**214**	*e*PN	**Pn**	**13 38 13.2**	**-4.2**
KHEZ	**Kahui Hut**	**7.06**	**231**	*e*PN	**Pn**	**13 38 20.8**	**+3.0**
MRZ	**Mangatainoka R**	**7.09**	**216**	*e*PN	**Pn**	**13 38 13.6**	**-4.5**
TMWZ	**Te Maipa**	**7.30**	**213**	*e*PN	**Pn**	**13 38 16.3**	**-4.7**
HOWZ	**Holdsworth Sta**	**7.31**	**216**	*e*PN	**Pn**	**13 38 17.7**	**-4.4**
OGWZ	**Otaki Gorge**	**7.41**	**218**	*e*PN	**Pn**	**13 38 17.9**	**-4.6**
MTW	**Mount Morrison**	**7.52**	**214**	*e*PN	Pn	13 38 19.1	-4.9
KIW	**Kapiti Island**	**7.58**	**218**	*e*PN	**Pn**	**13 38 21.7**	**-3.1**
TRWZ	**Traveller**	**7.62**	**212**	*e*PN	Pn	13 38 20.1	-5.4
CAW	**Cannon Point**	**7.68**	**217**	*e*PN	Pn	13 38 21.4	-4.9
PAWZ	**Paruwai Farm**	**7.73**	**214**	*e*PN	Pn	13 38 21.9	-5.0
MSWZ	**Moikau Station**	**7.84**	**214**	*e*PN	Pn	13 38 23.1	-5.3
PLWZ	**Palliser**	**7.96**	**214**	*e*PN	Pn	13 38 24.7	-5.3
WEL	**Wellington**	**7.96**	**217**	*e*PN	**Pn**	**13 38 26.3**	**-3.8**
BHW	**Baring Head**	**8.01**	**216**	*e*PN	**Pn**	**13 38 27.1**	**-3.6**
SNZO	**South Karori**	**8.02**	**217**	*e*Pn	**Pn**	**13 38 26.1**	**-4.7**
TCW	**Tory Channel**	**8.16**	**219**	*e*PN	**Pn**	**13 38 28.0**	**-4.7**
TUWZ	**Tuamarina**	**8.49**	**219**	*e*PN	**Pn**	**13 38 32.5**	**-4.8**
NNZ	**Nelson**	**8.65**	**223**	*e*PN	Pn	13 38 34.1	-5.4
NNZ				SN	**Sn**	**13 40 10.2**	**-5.9**
BSWZ	**Blackbirch Sta**	**8.73**	**218**	*e*PN	Pn	13 38 35.6	-5.1
CTZ	**Chatham Island**	**8.83**	**169**	*e*PN	**Pn**	**13 38 38.6**	**-3.3**
QRZ	**Quartz Range**	**8.89**	**227**	SN	**Sn**	**13 40 15.6**	**-6.7**
THZ	**Tophouse**	**9.28**	**222**	*e*Pn	Pn	13 38 43.3	-4.9
THZ	**Tophouse**	**9.28**	**222**	*e*PN	Pn	13 38 42.6	-5.6
KHZ	**Kahutara**	**9.42**	**217**	*e*Pn	**Pn**	**13 38 45.3**	**-4.7**
KHZ	**Kahutara**	**9.42**	**217**	*e*PN	Pn	13 38 45.0	-5.0
KHZ				SN	Sn	13 40 25.3	-10
DSZ	**Denniston Nort**	**9.88**	**225**	*e*PN	Pn	13 38 50.9	-5.6
LTZ	**Lake Taylor**	**10.33**	**219**	*e*Pn	**Pn**	**13 38 58.0**	**-4.5**
INZ	**Inchbonnie**	**10.73**	**222**	*e*PN	Pn	13 39 01.6	-6.4
CRLZ	**Canterbury Las**	**10.74**	**215**	*e*Pn	Pn	13 39 02.9	-5.2
CRLZ	**Canterbury Las**	**10.74**	**215**	PN	Pn	13 39 01.6	-6.5
MQZ	**McQueen's Vall**	**10.82**	**215**	*e*Pn	Pn	13 39 03.7	-5.6
MQZ	**McQueen's Vall**	**10.82**	**215**	*e*PN	Pn	13 39 02.8	-6.4
OXZ	**Oxford**	**10.84**	**218**	*e*Pn	Pn	13 39 03.3	-6.2
OXZ	**Oxford**	**10.84**	**218**	PN	Pn	13 39 03.5	-6.0
WVZ	**Waitaha Valley**	**11.35**	**222**	*e*PN	**Pn**	**13 39 12.5**	**-3.9**
RPZ	**Rata Peaks**	**11.62**	**219**	Pn	Pn	13 39 15.2	-5.0
	13nm,0.3s,baz=158,slow=5.4,SNR=42						
RPZ				Sn	Sn	13 41 17.3	-12
	51nm,0.3s,baz=352,slow=18,SNR=24						
RPZ	**Rata Peaks**	**11.62**	**219**	*e*PN	Pn	13 39 14.6	-5.5
FOZ	**Fox Glacier**	**12.16**	**223**	*e*Pn	**Pn**	**13 39 22.9**	**-4.6**
FOZ	**Fox Glacier**	**12.16**	**223**	*e*PN	Pn	13 39 21.8	-5.6
LBZ	**Lake Benmore**	**12.53**	**219**	*e*Pn	**Pn**	**13 39 27.9**	**-4.7**
LBZ	**Lake Benmore**	**12.53**	**219**	*e*PN	Pn	13 39 27.3	-5.4
ODZ	**Otahua Downs**	**12.78**	**216**	*e*Pn	Pn	13 39 30.4	-5.5
ODZ	**Otahua Downs**	**12.78**	**216**	*e*PN	Pn	13 39 29.8	-6.2
JCZ	**Jackson Bay**	**13.08**	**223**	PN	Pn	13 39 34.9	-5.2
WKZ	**Wanaka**	**13.44**	**220**	*e*Pn	**Pn**	**13 39 40.9**	**-4.2**
WKZ	**Wanaka**	**13.44**	**220**	*e*PN	Pn	13 39 39.9	-5.2
EAZ	**Earnscleugh**	**13.57**	**218**	PN	Pn	13 39 41.5	-5.3
TUZ	**Tuapeka**	**13.93**	**215**	*e*PN	Pn	13 39 46.5	-5.1
MLZ	**Mavora Lakes**	**14.28**	**220**	*e*Pn	**Pn**	**13 39 51.8**	**-4.7**
WHZ	**Wether Hill Ro**	**14.72**	**219**	*e*Pn	Pn	13 39 57.2	-5.2
WHZ	**Wether Hill Ro**	**14.72**	**219**	PN	Pn	13 39 57.2	-5.2
DCZ	**Deep Cove**	**14.86**	**221**	*e*Pn	Pn	13 39 59.3	-5.0
PYZ	**Puysegur Point**	**15.56**	**220**	*e*Pn	**Pn**	**13 40 08.9**	**-4.7**
	320nm,1.2s						
MSVF	**Nonsavu**	**17.48**	**350**	*e*P	**Pn**	**13 40 35.8**	**-2.4**
MSVF				pmax	pmax		
	comp=Z,160nm,0.9s						
MSVF	**Nonsavu**	**17.48**	**350**	*e*Pn	**Pn**	**13 40 35.8**	**-2.4**
	comp=Z,160nm,0.9s						
DZM	**Mont Dzumac**	**18.24**	**311**	P	**Pn**	**13 40 46.6**	**-0.9**
	comp=Z,3.5nm,0.3s,baz=137,slow=12,SNR=28						
DZM				S	**S**	**13 44 14.0**	**-1.2**
	comp=Z,0.1nm,0.3s,baz=217,slow=17,SNR=1.4						
DZM				LR	LR	13 46 42.4	
	comp=Z,21μm,21.9s,baz=135,slow=34						
DZM	**Mont Dzumac**	**18.24**	**311**	*e*P	**P**	**13 40 49.3**	**+1.7**
	comp=Z,922nm,1.5s						
DZM				*e*LQ	LQ	13 44 17.2	
	comp=Z,18μm,29.2s						
DZM				*e*LR	LR	13 45 02.2	
	comp=Z,52μm,26.6s						
DZM	**Mont Dzumac**	**18.24**	**311**	*e*Pn	**Pn**	**13 40 46.7**	**-0.9**
	comp=Z,616nm,1.3s						
DZM				S	**S**	**13 44 14.0**	**-1.2**
RAR	**Rarotonga**	**21.73**	**56**	P	**P**	**13 41 23.1**	**-2.3**
	comp=Z,98nm,0.9s,baz=220,slow=5.0,SNR=17						
RAR				LR	LR	13 49 55.0	
	comp=Z,8μm,18.1s,baz=224,slow=37						
RAR	**Rarotonga**	**21.73**	**56**	*e*P	**P**	**13 41 23.4**	**-2.0**
RAR				pmax	pmax		
	comp=Z,880nm,1.5s						
RAR	**Rarotonga**	**21.73**	**56**	*e*P	**P**	**13 41 23.4**	**-2.0**
	comp=Z,878nm,1.5s						
AFI	**Afiamalu**	**22.02**	**19**	P	**P**	**13 41 27.6**	**-1.1**
	comp=Z,284nm,1.0s,baz=301,slow=3.2,SNR=20						
AFI				S	**S**	**13 45 21.3**	**-9.2**
	comp=Z,57nm,0.8s,baz=110,slow=17,SNR=4.6						
AFI	**Afiamalu**	**22.02**	**19**	*e*P	**P**	**13 41 28.0**	**-0.7**
	comp=Z,279nm,0.9s						
AFI				S	**S**	**13 45 21.3**	**-9.2**
MGCD	**Mangrove Creek**	**24.87**	**266**	P	**P**	**13 41 56.7**	**+0.1**
	baz=25,SNR=8.0						
ARMA	**Armidale**	**25.19**	**272**	P	**P**	**13 42 00.9**	**+1.3**
	baz=25,SNR=23						
ARMA	**Armidale**	**25.19**	**272**	*e*P	**P**	**13 42 00.4**	**+0.7**
	comp=Z,541nm,1.9s						
ARMA				LR	LR		
	comp=Z,12μm,21.0s						
CNB	**Canberra Magne**	**25.90**	**260**	P	**P**	**13 42 07.9**	**+1.9**
	baz=26,SNR=9.4						
CAN	**Canberra**	**26.19**	**260**	*e*P	**P**	**13 42 07.7**	**-1.0**
CAN				pmax	pmax		
	comp=Z,203nm,1.7s						
CAN				MLR	MLR	

AS31	**Alice Springs**	**42.34 272**	*e*P		**P**		**13 44 27.4**	**-0.7**	
	comp=Z,35nm,0.8s								
AS31			LR		LR				
	comp=Z,200nm,20.0s								
ASAR	**Alice Springs**	**42.34 272**	P		**P**		**13 44 27.6**	**-0.5**	
	comp=Z,57nm,0.5s,baz=113,slow=7.8,SNR=131								
ASAR			ScP		**ScP**		**13 50 13.3**	**+3.0**	
	comp=Z,1.2nm,0.6s,baz=110,slow=4.0,SNR=3.4								
ASAR			S		**S**		**13 50 42.7**	**-5.1**	
	comp=Z,6.7nm,0.9s,baz=115,slow=14,SNR=8.8								
ASAR			PKiKP		**PKiKP**		**13 53 26.1**	**-0.6**	
	comp=Z,0.5nm,0.6s,baz=103,slow=1.3,SNR=4.3								
ASAR			LR		LR		14 00 59.5		
	comp=Z,10μm,20.6s,baz=124,slow=35								
ASAR	**Alice Springs**	**42.34 272**	P		**P**		**13 44 27.6**	**-0.5**	
ASAR			S		**S**		**13 50 42.7**	**-5.1**	
ASAR			pmax		pmax				
	comp=Z,56nm,0.5s								
ASAR			smax		smax				
	comp=N,7.0nm,0.9s								
PTCN	**Pitcairn Islan**	**43.02 90**	PFAKE				13 44 50.0	+16	
PTCN			LR		LR				
	comp=Z,6μm,18.0s								
SBA	**Scott Base**	**43.34 184**	*e*P		**P**		**13 44 38.3**	**+2.9**	
SBA			pmax		pmax				
	comp=Z,30nm,0.8s								
SBA			MLR		MLR				
	comp=Z,4μm,18.0s								
SBA	**Scott Base**	**43.34 184**	*e*P		**P**		**13 44 38.3**	**+2.9**	
	comp=Z,30nm,0.8s								
SBA			LR		LR				
	comp=Z,4μm,18.0s								
VNDA	**Vanda**	**43.39 186**	P		**P**		**13 44 37.5**	**+1.7**	
	comp=Z,2.6nm,0.7s,baz=14,slow=7.7,SNR=9.4								
VNDA			LR		LR		14 00 58.5		
	comp=Z,3μm,18.1s,baz=36,slow=34								
VNDA	**Vanda**	**43.39 186**	*e*P		**P**		**13 44 37.3**	**+1.5**	
	comp=Z,43nm,1.7s								
WR0	**Warramunga Arr**	**43.58 278**	PFAKE				13 44 50.0	+12	
WR0			LR		LR				
	comp=Z,9μm,18.0s								
WR9	**Warramunga Arr**	**43.60 278**	PFAKE				13 44 50.0	+12	
WR9			LR		LR				
	comp=Z,9μm,18.0s								
WR8	**Warramunga Arr**	**43.61 278**	PFAKE				13 44 50.0	+12	
WR8			LR		LR				
	comp=Z,9μm,18.0s								
WR7	**Warramunga Arr**	**43.63 278**	PFAKE				13 44 50.0	+11	
WR7			LR		LR				
	comp=Z,10μm,18.0s								
WR6	**Warramunga Arr**	**43.65 278**	PFAKE				13 44 50.0	+11	
WR6			LR		LR				
	comp=Z,10μm,18.0s								
WR5	**Warramunga Arr**	**43.67 278**	PFAKE				13 44 50.0	+11	
WR5			LR		LR				
	comp=Z,10μm,18.0s								
WR4	**Warramunga Arr**	**43.69 278**	PFAKE				13 44 50.0	+11	
WR4			LR		LR				
	comp=Z,8μm,18.0s								
WR3	**Warramunga Arr**	**43.71 278**	PFAKE				13 44 50.0	+11	
WR3			LR		LR				
	comp=Z,9μm,18.0s								
WC3	**Warramunga Arr**	**43.71 278**	PFAKE				13 44 50.0	+11	
WC3			LR		LR				
	comp=Z,10μm,18.0s								
WR2	**Warramunga Arr**	**43.73 278**	PFAKE				13 44 50.0	+11	
WR2			LR		LR				
	comp=Z,9μm,18.0s								
WC2	**Warramunga Arr**	**43.73 278**	PFAKE				13 44 50.0	+11	
WC2			LR		LR				
	comp=Z,10μm,18.0s								
WC4	**Warramunga Arr**	**43.74 277**	PFAKE				13 44 50.0	+11	
WC4			LR		LR				
	comp=Z,10μm,18.0s								
WB2	**Warramunga Arr**	**43.74 278**	P		**P**		**13 44 38.7**	**-0.8**	
	baz=44								
WB2	**Warramunga Arr**	**43.74 278**	*e*P		**P**		**13 44 37.9**	**-1.5**	
WB2			LR		LR				
	comp=Z,11μm,18.0s								
WRAB	**Tennant Creek**	**43.74 278**	*c*eP		**P**		**13 44 38.7**	**-0.8**	
WRAB			pmax		pmax				
	comp=Z,470nm,1.7s								
WRAB	**Tennant Creek**	**43.74 278**	*e*P		**P**		**13 44 38.2**	**-1.3**	
	comp=Z,81nm,0.6s								
WRAB			LR		LR				
	comp=Z,11μm,18.0s								
WB3	**Warramunga Arr**	**43.74 278**	PFAKE				13 44 50.0	+11	
WB3			LR		LR				
	comp=Z,9μm,18.0s								
WR1	**Warramunga Arr**	**43.75 278**	PFAKE				13 44 50.0	+10	
WR1			LR		LR				
	comp=Z,10μm,19.0s								
WRA	**Warramunga Arr**	**43.75 278**	P		**P**		**13 44 38.6**	**-0.9**	
	comp=Z,43nm,0.5s,baz=118,slow=7.6,SNR=459								
WRA			ScP		**ScP**		**13 50 19.7**	**+3.7**	
	comp=Z,12nm,1.2s,baz=118,slow=4.1,SNR=7.3								
WRA			S		**S**		**13 51 04.2**	**-4.3**	
	comp=Z,6.0nm,1.0s,baz=114,slow=13,SNR=5.9								
WRA			PKiKP		**PKiKP**		**13 53 27.1**	**-0.9**	
	comp=Z,1.0nm,0.7s,baz=105,slow=6.0,SNR=6.0								
WRA			ScS		**ScS**		**13 54 35.9**	**-1.5**	
	comp=Z,2.9nm,1.2s,baz=112,slow=4.4,SNR=8.3								
WRA			LR		LR		14 02 42.7		
	comp=Z,5μm,18.3s,baz=125,slow=36								
WRA	**Warramunga Arr**	**43.75 278**	P		**P**		**13 44 38.6**	**-0.9**	
WRA			S		**S**		**13 51 04.2**	**-4.3**	
WRA			pmax		pmax				
	comp=Z,45nm,0.5s								
WRA			smax		smax				
	comp=N,6.0nm,1.0s								
WB4	**Warramunga Arr**	**43.75 278**	PFAKE				13 44 50.0	+10	
WB4			LR		LR				
	comp=Z,9μm,18.0s								
WC1	**Warramunga Arr**	**43.76 278**	PFAKE				13 44 50.0	+10	
WC1			LR		LR				
	comp=Z,7μm,18.0s								
WB5	**Warramunga Arr**	**43.76 278**	PFAKE				13 44 50.0	+10	
WB5			LR		LR				
	comp=Z,9μm,18.0s								
WB6	**Warramunga Arr**	**43.77 278**	PFAKE				13 44 50.0	+10	
WB6			LR		LR				
	comp=Z,9μm,18.0s								
WB8	**Warramunga Arr**	**43.78 278**	PFAKE				13 44 50.0	+10	
WB8			LR		LR				
	comp=Z,9μm,18.0s								
WB9	**Warramunga Arr**	**43.79 278**	PFAKE				13 44 50.0	+10	
WB9			LR		LR				
	comp=Z,20μm,18.0s								
WB0	**Warramunga Arr**	**43.79 278**	PFAKE				13 44 50.0	+10	
WB0			LR		LR				
	comp=Z,9μm,18.0s								
FORT	**Forrest**	**44.31 260**	P		**P**		**13 44 43.0**	**-0.9**	
	baz=44,SNR=66								
FORT	**Forrest**	**44.31 260**	*e*P		**P**		**13 44 42.5**	**-1.4**	
	comp=Z,1μm,0.6s								
FORT			LR		LR				
	comp=Z,59μm,20.0s								
MANU	**Manus Island**	**45.43 309**	PFAKE				13 45 00.0	+7.1	
MANU			LR		LR				
	comp=Z,3μm,19.0s								
WRKA	**Warakurna**	**46.34 267**	P		**P**		**13 44 58.6**	**-1.5**	
	baz=46,SNR=30								
PATS	**Pohnpei**	**46.91 328**	PFAKE				13 45 20.0	+16	
PATS			LR		LR				
	comp=Z,2μm,19.0s								
KMBL	**Kambalda**	**49.07 257**	P		**P**		**13 45 20.5**	**-0.6**	
	baz=49,SNR=8.1								
KDU	**Kakadu**	**49.18 285**	P		**P**		**13 45 21.1**	**-1.1**	
	baz=49,SNR=4.7								
JAY	**Jayapura**	**49.54 302**	P		**P**		**13 45 24.6**	**-0.3**	
	comp=Z,4.0nm,0.9s,baz=268,slow=23,SNR=8.9								
JAY			S		**S**		**13 52 29.1**	**-2.4**	
	comp=Z,1.4nm,0.8s,baz=282,slow=23,SNR=2.5								
JAY			LR		LR		14 04 40.2		
	comp=Z,96nm,21.4s,baz=18,slow=34								
MTN	**Manton Dam**	**50.15 283**	P		**P**		**13 45 28.6**	**-1.0**	
	baz=50,SNR=8.5								
MTN	**Manton Dam**	**50.15 283**	*e*P		**P**		**13 45 28.2**	**-1.4**	
	comp=Z,160nm,1.4s								
MTN			LR		LR				
	comp=Z,4μm,19.0s								
KNRA	**Kununurra**	**50.49 279**	P		**P**		**13 45 31.7**	**-0.5**	
	baz=50,SNR=4.5								
FITZ	**Fitzroy Crossi**	**51.77 274**	P		**P**		**13 45 41.4**	**-0.3**	
	comp=Z,14nm,0.5s,baz=145,slow=5.3,SNR=61								
FITZ			S		**S**		**13 52 59.5**	**-2.8**	
	comp=Z,2.5nm,0.8s,baz=132,slow=23,SNR=4.0								
FITZ	**Fitzroy Crossi**	**51.77 274**	P		**P**		**13 45 40.8**	**-1.0**	
	baz=52,SNR=38								
FITZ	**Fitzroy Crossi**	**51.77 274**	*e*P		**P**		**13 45 40.6**	**-1.1**	
FITZ			S		**S**		**13 52 59.5**	**-2.8**	
FITZ			LR		LR				
	comp=Z,8μm,19.0s								
NWAO	**Narrogin (SRO)**	**52.18 253**	P		**P**		**13 45 43.4**	**-1.3**	
	comp=Z,24nm,0.6s,baz=352,slow=6.2,SNR=23								
NWAO			S		**S**		**13 53 03.2**	**-4.5**	
	comp=Z,6.7nm,1.0s,baz=245,slow=16,SNR=2.9								
NWAO			LR		LR		14 06 13.8		
	comp=Z,3μm,21.5s,baz=344,slow=34								
NWAO	**Narrogin (SRO)**	**52.18 253**	P		**P**		**13 45 44.1**	**-0.6**	
	baz=52,SNR=14								
NWAO			P		**P**		**13 45 44.1**	**-0.6**	
	baz=52,SNR=14								
NWAO	**Narrogin (SRO)**	**52.18 253**	*e*P		**P**		**13 45 42.2**	**-2.5**	
	comp=Z,34nm,0.8s								
NWAO			S		**S**		**13 53 03.2**	**-4.5**	
KLBR	**Kellerberrin**	**52.27 255**	P		**P**		**13 45 44.0**	**-1.3**	
	baz=52,SNR=7.6								
SAUI	**Saumlaki**	**52.91 288**	PFAKE				13 46 00.0	+10	
SAUI			LR		LR				
	comp=Z,8μm,19.0s								
BLDU	**Ballidu**	**53.47 255**	P		**P**		**13 45 53.5**	**-0.7**	
	baz=54,SNR=14								
MEEK	**Meekatharra**	**53.56 261**	P		**P**		**13 45 53.2**	**-1.7**	
	baz=54,SNR=31								
MORW	**Morawa**	**54.62 257**	P		**P**		**13 46 01.5**	**-1.0**	
	baz=55,SNR=13								
MBWA	**Marble Bar**	**55.12 267**	*e*P		**P**		**13 46 04.2**	**-2.1**	
	comp=Z,51nm,1.0s								
MBWA			*e*S		**S**		**13 53 46.3**	**-1.4**	
MBWA			LR		LR				
	comp=Z,6μm,18.0s								
MBWA	**Marble Bar**	**55.12 267**	P		**P**		**13 46 05.6**	**-0.7**	
	SNR=7.0								
FAKI	**Fak Fak**	**55.40 294**	*e*P		**P**		**13 46 06.8**	**-1.6**	
	comp=Z,151nm,1.5s								
FAKI			LR		LR				
	comp=Z,2μm,20.0s								
WAKE	**Wake Island**	**55.77 343**	PFAKE				13 46 20.0	+9.2	
WAKE			LR		LR				
	comp=Z,2μm,20.0s								
SOEI	**Soe**	**57.42 282**	P		**P**		**13 46 24.4**	**+1.5**	
	comp=Z,224nm,1.2s,comp=Z,3μm								
SOEI	**Soe**	**57.42 282**	*e*P		**P**		**13 46 22.7**	**-0.2**	
	comp=Z,249nm,1.1s								
SOEI			LR		LR				
	comp=Z,7μm,18.0s								
UWE	**Uwekahuna**	**58.64 26**	*e*P		**P**		**13 46 31.7**	**+0.5**	
	comp=Z,344nm,1.4s								
POHA	**Pohakuloa**	**58.86 26**	*e*P		**P**		**13 46 33.5**	**+0.6**	
	comp=Z,263nm,1.4s								
GIRL	**Giralia**	**58.91 263**	P		**P**		**13 46 32.9**	**-0.1**	
	baz=59,SNR=9.2								
RPN	**Rapa Nui**	**59.01 103**	PFAKE				13 46 50.0	+16	
RPN			LR		LR				
	comp=Z,7μm,18.0s								
HPAH	**Hawaii Prepara**	**59.06 26**	*e*P		**P**		**13 46 35.0**	**+1.0**	
	comp=Z,157nm,1.1s								
GUMO	**Guam**	**59.36 318**	P		**P**		**13 46 36.7**	**+0.6**	
GUMO			pmax		pmax				
	comp=Z,272nm,1.4s								
GUMO	**Guam**	**59.36 318**	P		**P**		**13 46 36.7**	**+0.6**	
	comp=Z,272nm,1.4s								
MMRI	**Maumere**	**59.70 281**	P		**P**		**13 46 38.0**	**-0.7**	
	comp=Z,275nm,1.4s,comp=Z,5μm								
MMRI	**Maumere**	**59.70 281**	*e*P		**P**		**13 46 37.5**	**-1.1**	
	comp=Z,967nm,1.7s								
MMRI			LR		LR				
	comp=Z,4μm,19.0s								
SANI	**Sanana**	**60.73 290**	P		**P**		**13 46 43.6**	**-2.1**	
	comp=Z,157nm,1.4s,comp=Z,3μm								
MIDW	**Midway**	**62.96 1**	PFAKE				13 47 10.0	+10	
MIDW			LR		LR				
	comp=Z,3μm,20.0s								
PLAI	**Plampang**	**63.20 278**	P		**P**		**13 47 00.8**	**-1.5**	
	comp=Z,98nm,1.0s,comp=Z,2μm								
KAPI	**Kappang**	**63.82 283**	*e*P		**P**		**13 47 05.6**	**-0.8**	
	comp=Z,63nm,1.1s								
KAPI			LR		LR				
	comp=Z,3μm,21.0s								
TWSI	**Taliwang, Sumb**	**63.97 278**	P		**P**		**13 47 05.7**	**-1.7**	
	comp=Z,61nm,0.9s								
SPSI	**Sidrap Palu**	**64.43 284**	P		**P**		**13 47 08.9**	**-1.5**	
	comp=Z,46nm,1.0s,comp=Z,1μm								
TTSI	**Tana Toraja**	**64.94 285**	P		**P**		**13 47 11.2**	**-2.6**	
	comp=Z,42nm,1.4s,comp=Z,982nm								
IGBI	**Denpasar**	**65.34 277**	P		**P**		**13 47 13.5**	**-2.9**	
	comp=Z,94nm,0.6s,comp=Z,2μm								
MRSI	**Marisa**	**65.45 289**	P		**P**		**13 47 15.5**	**-1.5**	
	comp=Z,19nm,1.2s,comp=Z,3μm								
SRBI	**Singaraja**	**65.70 277**	P		**P**		**13 47 18.8**	**+0.1**	
	comp=Z,90nm,1.1s,comp=Z,2μm								
PCI	**Palu**	**66.23 287**	P		**P**		**13 47 23.1**	**+1.0**	
	comp=Z,201nm,1.3s,comp=Z,3μm								
JAGI	**Jajag, Banyuwa**	**66.35 276**	P		**P**		**13 47 20.6**	**-2.3**	
	comp=Z,80nm,1.2s,comp=Z,2μm								
JAGI	**Jajag, Banyuwa**	**66.35 276**	PFAKE				13 47 30.0	+7.1	
JAGI			LR		LR				
	comp=Z,4μm,20.0s								
DAV	**Davao City (W)**	**67.00 297**	⇑*i*P		P		13 47 34.0	+7.0	
DAV	**Davao City (W)**	**67.00 297**	PFAKE				13 47 40.0	+13	
DAV			LR		LR				
	comp=Z,2μm,21.0s								
GMJI	**Gumukmas**	**67.03 276**	P		**P**		**13 47 25.8**	**-1.4**	
	comp=Z,101nm,1.2s								
KMMI	**Kalianget**	**67.30 278**	P		**P**		**13 47 30.6**	**+1.7**	
	comp=Z,62nm,1.5s								
MAW	**Mawson**	**67.69 201**	P		**P**		**13 47 30.9**	**+0.4**	
	comp=Z,23nm,1.2s,baz=120,slow=8.7,SNR=25								
MAW			LR		LR		14 15 58.8		
	comp=Z,4μm,19.7s,baz=120,slow=35								
MAW	**Mawson**	**67.69 201**	P		**P**		**13 47 32.6**	**+2.0**	
	baz=68,SNR=11								
MAW	**Mawson**	**67.69 201**	*e*P		**P**		**13 47 30.9**	**+0.4**	
	comp=Z,17nm,1.5s								
PMSA	**Palmer Station**	**68.33 155**	PFAKE				13 47 50.0	+15	
PMSA			LR		LR				
	comp=Z,2μm,18.0s								
PWJI	**Pagerwojo**	**68.52 275**	P		**P**		**13 47 34.7**	**-1.9**	
	comp=Z,39nm,0.9s								
PCJI	**Pacitan**	**68.93 275**	P		**P**		**13 47 39.4**	**+0.2**	
	comp=Z,156nm,0.7s								
WOJI	**Wonogiri, Jawa**	**69.34 275**	P		**P**		**13 47 40.8**	**-0.9**	
	comp=Z,83nm,1.3s,comp=Z,4μm								
UGM	**Wanagama**	**69.62 275**	P		**P**		**13 47 43.8**	**+0.3**	
	comp=Z,92nm,1.3s								
UGM	**Wanagama**	**69.62 275**	PFAKE				13 47 50.0	+6.5	
UGM			LR		LR				
	comp=Z,4μm,19.0s								
SMRI	**Semarang**	**70.18 275**	PFAKE				13 48 00.0	+13	
SMRI			LR		LR				
	comp=Z,4μm,19.0s								
TSM	**Tawau**	**70.99 290**	⇑P		**P**		**13 47 51.5**	**-0.3**	
MYLDM	**Lahad Datu**	**71.07 291**	⇑P		**P**		**13 47 53.2**	**+1.0**	
KPJI	**Karang Pucung**	**71.25 274**	P		**P**		**13 47 52.1**	**-1.3**	
	comp=Z,60nm,1.2s								
CISI	**Cisompet, Garu**	**72.04 273**	P		**P**		**13 47 56.8**	**-1.4**	
	comp=Z,124nm,1.0s,comp=Z,2μm								
CISI	**Cisompet, Garu**	**72.04 273**	*e*P		**P**		**13 47 56.4**	**-1.8**	
	comp=Z,82nm,0.8s								
CISI			LR		LR				
	comp=Z,3μm,22.0s								
XMIS	**Christmas Isla**	**72.19 270**	PFAKE				13 48 10.0	+11	
XMIS			LR		LR				
	comp=Z,5μm,19.0s								
GO10	**Punta Arenas**	**72.22 143**	*e*P		**P**		**13 47 59.5**	**+0.8**	
	comp=Z,134nm,1.0s								
GO10			LR		LR				
	comp=Z,9μm,18.0s								
SYO	**Syowa Base**	**72.41 194**	⇑*e*P		**P**		**13 47 58.4**	**-1.1**	
SYO	**Syowa Base**	**72.41 194**	⇓*i*pP		**P**		**13 47 59.4**	**-0.1**	
SYO	**Syowa Base**	**72.41 194**	⇓*i*PcP		**PcP**		**13 48 14.8**	**-2.4**	
LEM	**Lembang**	**72.61 274**	P		P		13 48 08.0	+6.2	
GO09	**Cerro Castillo**	**72.64 141**	*e*P		**P**		**13 48 01.4**	**+0.1**	
	comp=Z,154nm,1.4s								
CNJI	**Cibinong**	**72.74 273**	P		P		13 47 52.0	-10	
KKM	**Kota Kinabalu**	**73.37 290**	*e*P		**P**		**13 48 04.8**	**-1.3**	
	comp=Z,276nm,1.8s								
KDM	**Kudat**	**73.44 291**	⇓P		**P**		**13 48 07.2**	**+0.7**	
SNAA	**Sanae**	**73.52 179**	P		**P**		**13 48 06.6**	**+0.4**	
SNAA	**Sanae**	**73.52 179**	*e*P		**P**		**13 48 06.2**	**+0.1**	
SNAA			pmax		pmax				
	comp=Z,56nm,1.0s								
SNAA			MLR		MLR				
	comp=Z,2μm,19.0s								
SNAA	**Sanae**	**73.52 179**	*e*P		**P**		**13 48 06.2**	**+0.1**	
	comp=Z,56nm,1.0s								
SNAA			LR		LR				
	comp=Z,2μm,19.0s								
VNA3	**Neumayer Olymp**	**73.70 176**	P		**P**		**13 48 07.3**	**+0.1**	
VNA2	**Neumayer--Watz**	**74.13 177**	P		**P**		**13 48 09.8**	**+0.2**	
	baz=177,slow=5.2								
NVL	**N'lazarevskaya**	**74.18 184**	*e*P		**P**		**13 48 11.6**	**+1.7**	
NVL			*e*				13 48 26.9		
NVL			*e*S		**S**		**13 57 41.4**	**+0.2**	
NVL			*e*SS		**SS**		**14 02 26.4**	**+0.8**	
NVL			MLR		MLR				
	comp=Z,3μm,23.0s								
SBUM	**Sibu**	**74.29 284**	*e*P		**P**		**13 48 10.2**	**-1.2**	
	comp=Z,64nm,1.3s								
SBUM			LR		LR				
	comp=Z,2μm,18.0s								
VNA1	**Neumayer--Stat**	**74.36 177**	P		**P**		**13 48 11.6**	**+0.7**	
CHRN	**Cochrane**	**74.81 137**	PFAKE				13 48 30.0	+16	
CHRN			LR		LR				
	comp=Z,100nm,19.0s								
KSM	**Kuching**	**75.23 282**	*e*P		**P**		**13 48 15.3**	**-1.6**	
	comp=Z,42nm,1.0s								
KSM			LR		LR				
	comp=Z,2μm,18.0s								
KASI	**Kota Agung**	**75.90 273**	P		**P**		**13 48 19.1**	**-1.6**	
	comp=Z,55nm,1.1s,comp=Z,1μm								
KLSI		**76.18 274**	P		**P**		**13 48 20.4**	**-2.0**	
	comp=Z,42nm,1.2s,comp=Z,3μm								
LWLI	**Liwa**	**76.54 273**	P		**P**		**13 48 28.2**	**+3.6**	
MDSI	**Maura Dua**	**76.75 274**	P		**P**		**13 48 23.2**	**-2.4**	
	comp=Z,42nm,1.1s,comp=Z,926nm								
MNAI	**Manna**	**77.82 273**	PFAKE				13 48 40.0	+8.4	
MNAI			LR		LR				
	comp=Z,3μm,20.0s								
KSI	**Kapahiang**	**78.52 274**	P		**P**		**13 48 33.6**	**-1.9**	
MASI	**Maura Aman, Be**	**79.10 274**	P		**P**		**13 48 37.3**	**-1.4**	
	comp=Z,200nm,1.0s								
EFI	**East Falkland**	**79.29 147**	*i* P		**P**		**13 48 38.8**	**-0.2**	
EFI			pmax		pmax				
	comp=Z,68nm,1.0s								
EFI	**East Falkland**	**79.29 147**	*e*P		**P**		**13 48 39.2**	**+0.1**	
	comp=Z,159nm,1.4s								
EFI			LR		LR				
	comp=Z,2μm,18.0s								
PLCA	**Paso Flores**	**79.88 133**	P		**P**		**13 48 42.9**	**+0.3**	
	comp=Z,14nm,0.6s,baz=266,slow=5.0,SNR=9.6								
PLCA			LR		LR		14 18 26.1		
	comp=Z,3μm,18.0s,baz=264,slow=32								
MYKOM	**Kota Tinggi**	**80.62 279**	*e*P		**P**		**13 48 45.9**	**-1.0**	
	comp=Z,25nm,1.0s								
MYKOM			LR		LR				
	comp=Z,3μm,19.0s								
MYKOM	**Kota Tinggi**	**80.62 279**	⇓P		**P**		**13 48 46.3**	**-0.6**	
YOJ	**Yonaguni jima**	**80.83 308**	PFAKE				13 49 00.0	+12	
YOJ			LR		LR				
	comp=Z,1μm,20.0s								
KGM	**Kluang**	**81.18 279**	⇑P		**P**		**13 48 49.6**	**-0.3**	
YULB	**Yu-li**	**81.20 307**	PFAKE				13 49 00.0	+10	
YULB			LR		LR				
	comp=Z,1μm,22.0s								
INU	**Inuyama**	**81.25 325**	PFAKE				13 49 00.0	+10	
INU			LR		LR				
	comp=Z,1μm,21.0s								
NACB	**Ninganchiao**	**81.55 307**	PFAKE				13 49 00.0	+8.5	
NACB			LR		LR				
	comp=Z,800nm,20.0s								
TPUB	**Ta-pu**	**81.58 306**	PFAKE				13 49 00.0	+8.3	
TPUB			LR		LR				
	comp=Z,1μm,20.0s								
MJAR	**Matsushiro Arr**	**81.68 326**	P		**P**		**13 48 51.1**	**-0.9**	
	comp=Z,3.2nm,0.8s,baz=161,slow=5.4,SNR=8.6								
MJAR			LR		LR		14 24 57.9		
	comp=Z,286nm,18.8s,baz=135,slow=36								
MJAR	**Matsushiro Arr**	**81.68 326**	P		**P**		**13 48 51.1**	**-0.9**	
MJAR			pmax		pmax				
	comp=Z,5.0nm,1.0s								
MJAR			MLR		MLR				
	comp=Z,286nm,18.8s								
MAJO	**Matsushiro**	**81.68 326**	*e*P		**P**		**13 48 51.1**	**-0.8**	
MAJO			pmax		pmax				
	comp=Z,26nm,1.0s								
MAJO	**Matsushiro**	**81.68 326**	*e*P		**P**		**13 48 51.1**	**-0.8**	
	comp=Z,13nm,0.9s								
MAJO			LR		LR				
	comp=Z,1μm,22.0s								
MAT	**Matsushiro**	**81.68 326**	P		**P**		**13 48 49.9**	**-2.0**	
MAT			S		**S**		**13 58 59.8**	**-3.0**	
MJB9	**Matsu-Tunnel**	**81.68 326**	*e*P		**P**		**13 48 51.4**	**-0.6**	
	comp=Z,3.3nm,0.9s								
MJB9			LR		LR				
	comp=Z,300nm,22.0s								
SSLB	**Suanglung**	**81.70 307**	PFAKE				13 49 00.0	+7.7	
SSLB			LR		LR				
	comp=Z,1μm,20.0s								
YHNB	**Yeheng**	**82.03 307**	PFAKE				13 49 10.0	+16	
YHNB			LR		LR				
	comp=Z,1μm,21.0s								
BKNI	**Bangkinang**	**82.06 276**	PFAKE				13 49 10.0	+15	
BKNI			LR		LR				
	comp=Z,3μm,21.0s								
TATO	**Taipei**	**82.17 308**	PFAKE				13 49 10.0	+15	
TATO			LR		LR				
	comp=Z,1μm,20.0s								
GO05	**HualaæØ**	**82.51 128**	PFAKE				13 49 10.0	+13	
GO05			LR		LR				
	comp=Z,4μm,18.0s								
DLV	**T Lat**	**82.99 290**	*e*P		**P**		**13 48 59.3**	**-0.2**	

TRQA LR LR
comp=Z,26nm,0.8s
LCO Las Campanas 87.03 124 *e*P **P 13 49 18.3 -1.5**
LCO LR LR
comp=Z,45nm,1.3s
comp=Z,3µm,19.0s
KSRS Korea Array 87.44 320 P **P 13 49 21.6 +0.7**
KSRS PP **PP 13 52 46.5 +0.3**
comp=Z,5.2nm,0.6s,baz=139,slow=5.6,SNR=12
KSRS S **SKSac 13 59 50.6 +3.8**
comp=Z,2.9nm,1.0s,baz=144,slow=7.8,SNR=5.2
KSRS LR LR 14 24 18.2
comp=Z,0.6nm,0.9s,baz=119,slow=29,SNR=3.1
KSAR Wonju Array Be 87.45 320 P **P 13 49 21.7 +0.6**
KSAR 13 52 46.5
KSAR S **SKSac 13 59 50.6 +3.7**
comp=Z,296nm,21.5s,baz=134,slow=33
KSAR Wonju Array Be 87.45 320 P **P 13 49 21.6 +0.6**
KSAR PP **PP 13 52 46.5 +0.1**
KSAR S **SKSac 13 59 50.6 +3.7**
KS01 Wonju Array Si 87.47 320 *e*P **P 13 49 20.9 -0.2**
TRTT Trang 87.50 281 P **P 13 49 22.3 +0.4**
comp=Z,54nm,1.4s
LPIG La Paz 87.62 58 P **P 13 49 23.3 +1.2**
comp=Z,33nm,0.3s,baz=154,slow=2.2,SNR=7.2
SMY Shemya 87.65 356 PFAKE 13 49 30.0 +8.4
SMY LR LR
comp=Z,2µm,20.0s
SNCC San Nicolas Is 87.81 46 P **P 13 49 24.2 +1.3**
baz=225
SNCC San Nicolas Is 87.81 46 PFAKE 13 49 30.0 +7.1
SNCC LR LR
comp=Z,3µm,19.0s
INCN Inchon 88.14 320 PFAKE 13 49 40.0 +16
INCN LR LR
comp=Z,700nm,21.0s
SKR Severo-Kuril's 88.19 344 *e*P **P 13 49 24.2 0.0**
SKR *e* 13 49 30.7
SKR *e*S **SKSac 13 59 47.0 -3.6**
SKR *e*PS **ScS 14 00 12.6 0.0**
SKR *e*SSS SSS 14 09 37.0
SKR pmax pmax
comp=Z,400nm,3.3s
SKR MLR MLR
comp=Z,1µm,17.0s
SCI San Clemente I 88.20 47 P **P 13 49 25.9 +1.1**
baz=225
LHMI Lhok Sumawe 88.21 278 PFAKE 13 49 40.0 +15
LHMI LR LR
comp=Z,4µm,19.0s
BSC Santa Cruz Isl 88.28 46 P **P 13 49 26.3 +1.2**
baz=225
SRIG Santa Rosalia 88.38 55 PFAKE 13 49 40.0 +14
SRIG LR LR
comp=Z,2µm,18.0s
PAYG Puerto Ayora 88.47 90 *e*P **P 13 49 26.2 -0.3**
comp=Z,44nm,1.2s
PAYG LR LR
comp=Z,3µm,18.0s
SBC Santa Barbara 88.54 45 P **P 13 49 27.5 +1.2**
baz=225
CIS Catalina Islan 88.58 47 P **P 13 49 28.0 +1.4**
baz=225
YSS Yuzh-Sakhalins 88.63 335 ⇑*i*P **P 13 49 28.3 +1.9**
YSS *e*S **SKSac 13 59 53.1 -0.4**
YSS pmax pmax
comp=Z,30nm,0.8s
YSS pmax pmax
comp=Z,400nm,2.7s
YSS smax smax
comp=N,800nm,7.4s
YSS MLR MLR
comp=Z,300nm,16.6s
YSS MLR MLR
comp=N,600nm,17.6s
YSS MLR MLR
comp=E,500nm,15.0s
YSS Yuzh-Sakhalins 88.63 335 *e*P **P 13 49 27.3 +0.9**
comp=E,38nm,1.0s
YSS LR LR
comp=Z,500nm,22.0s
BLG Laguna Peak, P 88.69 46 P **P 13 49 28.3 +1.3**
baz=225
NJ2 Nanjing 88.73 311 *e*P **P 13 49 27.8 +0.5**
NJ2 pmax pmax
comp=Z,22nm,0.9s
PKM Mcpherson Peak 88.80 45 P **P 13 49 29.6 +1.8**
baz=225
FMP Fort Macarthur 88.87 47 P **P 13 49 29.4 +1.5**
baz=226
SMMC Simmler 89.00 44 P **P 13 49 30.6 +2.0**
baz=224
109C Camp Elliot, M 89.01 48 P **P 13 49 30.1 +1.5**
baz=226
BAR Barrett 89.13 48 *e*P **P 13 49 30.3 +1.1**
comp=Z,169nm,1.8s
BAR LR LR
comp=Z,2µm,18.0s
PAGB Antelope Grade 89.15 44 *e*P **P 13 49 29.9 +0.7**
comp=Z,138nm,1.5s
PAGB LR LR
comp=Z,2µm,20.0s
PMPB Monarch Peak 89.18 43 *e*P **P 13 49 30.4 +1.0**
comp=Z,309nm,1.9s
PMPB LR LR
comp=Z,3µm,18.0s
UNV Unalaska Valle 89.20 7 PFAKE 13 49 40.0 +11
UNV LR LR
comp=Z,1µm,20.0s
SAO San Andreas Ge 89.22 43 *e*P **P 13 49 30.4 +0.9**
SAO pmax pmax
comp=Z,50nm,1.3s
SAO MLR MLR
comp=Z,3µm,18.0s
SAO San Andreas Ge 89.22 43 *e*P **P 13 49 30.4 +0.9**
comp=Z,50nm,1.3s
SAO LR LR
comp=Z,3µm,18.0s
DECC Green Verdugo 89.22 46 P **P 13 49 30.9 +1.3**
baz=226
PASC Pasadena Art C 89.25 46 *e*P **P 13 49 30.8 +1.1**
comp=Z,65nm,1.4s
PASC LR LR
comp=Z,3µm,18.0s
MWC Mount Wilson 89.36 46 *e*P **P 13 49 31.5 +1.0**
MWC pmax pmax
comp=Z,215nm,1.8s
MWC MLR MLR
comp=Z,3µm,18.0s
MWC Mount Wilson 89.36 46 *e*P **P 13 49 31.5 +1.0**
comp=Z,215nm,1.8s
MWC LR LR
comp=Z,3µm,18.0s
MONP Monument Peak, 89.43 48 P **P 13 49 32.4 +1.5**
baz=227,SNR=30
MCCM Marconi Confer 89.44 41 PFAKE 13 49 40.0 +10
MCCM LR LR
comp=Z,3µm,19.0s
MURC Murrieta 89.45 47 P **P 13 49 32.6 +1.9**
baz=226,SNR=10
IKP In-Ko-Pah, Jac 89.46 49 P **P 13 49 32.6 +1.8**
baz=227,SNR=16
SKNT Sakolnakorn 89.50 291 P **P 13 49 31.7 +0.5**
comp=Z,56nm,1.5s
ARVC Arvin 89.54 45 P **P 13 49 32.4 +1.4**
baz=225
BFSC Mount Baldy Ra 89.61 47 P **P 13 49 32.9 +1.3**
baz=226,SNR=18
MSHR Mys Shultsa 89.76 326 *ce*P **P 13 49 33.5 +1.7**
SWSC Sam W. Stewart 89.85 49 P **P 13 49 34.4 +1.9**
baz=227,SNR=10
VLA Vladivostok 89.85 326⇑*e*P **P 13 49 33.5 +1.3**
VLA pmax pmax
comp=Z,32nm,2.8s
PET Petropavlovsk 89.88 347 *e*P **P 13 49 32.9 +0.8**
PET *e* 14 00 00.6
PET *e*S **S 14 00 23.5 +1.1**
PET *e*SS **SS 14 06 28.7 +7.4**
PET *e*SSS SSS 14 09 52.3
PET pmax pmax
comp=Z,400nm,3.6s
PET pmax pmax
comp=Z,200nm,4.5s
PET pmax pmax
comp=Z,74nm,0.9s
PET Petropavlovsk 89.88 347 *e*P **P 13 49 32.5 +0.4**
comp=Z,54nm,0.8s
PET LR LR
comp=Z,900nm,18.0s
VES Vestal, Richgr 89.90 45 P **P 13 49 33.8 +1.2**
baz=225
TPFO Pinon Flats 89.90 48 P **P 13 49 34.5 +1.6**
baz=226,SNR=19
PFO Pinyon Flats O 89.90 48 P **P 13 49 33.6 +0.7**
comp=Z,14nm,1.1s,baz=237,slow=4.8,SNR=36
PFO Pinyon Flats O 89.90 48 P **P 13 49 34.7 +1.8**
baz=226,SNR=16
PFO Pinyon Flats O 89.90 48 *e*P **P 13 49 34.1 +1.2**
PFO pmax pmax
comp=Z,144nm,1.8s
PFO MLR MLR
comp=Z,3µm,19.0s
PFO Pinyon Flats O 89.90 48 *e*P **P 13 49 34.1 +1.2**
comp=Z,144nm,1.8s
PFO LR LR
comp=Z,3µm,19.0s
HOPS Hopland Field 89.96 40 PFAKE 13 49 40.0 +7.1
HOPS LR LR
comp=Z,4µm,19.0s
GDXM Geysers 89.97 40 PFAKE 13 49 40.0 +7.0
GDXM LR LR
comp=Z,5µm,19.0s
BBRC Big Bear Solar 90.07 47 P **P 13 49 35.4 +1.6**
baz=226
ISA Isabella, Lake 90.12 45 P **P 13 49 35.5 +1.7**
baz=225,SNR=10
ISA Isabella, Lake 90.12 45 *e*P **P 13 49 35.0 +1.2**
ISA pmax pmax
comp=Z,71nm,1.4s
ISA MLR MLR
comp=Z,3µm,18.0s
ISA Isabella, Lake 90.12 45 *e*P **P 13 49 35.0 +1.2**
comp=Z,71nm,1.4s
ISA LR LR
comp=Z,3µm,18.0s
RCTC Rector, Farmer 90.13 44 P **P 13 49 34.9 +1.2**
baz=225
PEA0 Petropavlovsk- 90.15 346 *e*P **P 13 49 34.2 +0.8**
PEA0B Petropavlovsk- 90.15 346 *e*P **P 13 49 34.3 +0.9**
comp=Z,246nm,1.1s
PEA0B LR LR
comp=Z,900nm,19.0s
PETK Petropavlovsk- 90.15 346 P **P 13 49 34.2 +0.8**
comp=Z,43nm,0.8s,baz=124,slow=6.4,SNR=42
PETK LR LR 14 24 53.2
comp=Z,554nm,21.7s,baz=158,slow=32
KCPM Cahto Peak 90.20 39 PFAKE 13 49 50.0 +16
KCPM LR LR
comp=Z,3µm,20.0s
HSIG 90.35 54 *e*P **P 13 49 35.6 +0.7**
HSIG LR LR
comp=Z,2µm,18.0s
RRX Edison Barstow 90.45 46 P **P 13 49 36.9 +1.6**
baz=226
BELC Belle Mtn. Jos 90.45 48 P **P 13 49 37.3 +1.9**
baz=227,SNR=35
LRMC Laurel Mtn Rad 90.46 46 P **P 13 49 36.9 +1.4**
baz=226,SNR=27
GLA Glamis 90.52 49 P **P 13 49 37.7 +1.9**
baz=227,SNR=10
GLA Glamis 90.52 49 *e*P **P 13 49 37.2 +1.5**
GLA pmax pmax
comp=Z,89nm,1.4s
GLA MLR MLR
comp=Z,2µm,18.0s
GLA Glamis 90.52 49 *e*P **P 13 49 37.2 +1.5**
comp=Z,89nm,1.4s
GLA LR LR
comp=Z,2µm,18.0s
KMRM Mail Ridge 90.53 39 PFAKE 13 49 50.0 +14
KMRM LR LR
comp=Z,3µm,18.0s
PB10 IPOC Station P 90.56 119 PFAKE 13 49 50.0 +14
PB10 LR LR
comp=Z,4µm,19.0s
WHN Wuhan 90.58 308 P **P 13 49 38.8 +2.9**
WHN LR LR
comp=Z,1µm,13.1s
WHN LR LR
comp=Z,2µm,21.7s
WHN LR LR
comp=Z,7µm,38.3s
USRK Ussuriysk Ar. 90.65 327 P **P 13 49 36.8 +0.8**
comp=Z,2.8nm,0.6s,baz=124,slow=3.4,SNR=9.8
USRK LR LR 14 27 14.0
comp=Z,238nm,19.0s,baz=125,slow=34
CMB Columbia Colle 90.72 42 *e*P **P 13 49 36.5 0.0**
CMB pmax pmax
comp=Z,40nm,1.3s
CMB MLR MLR
comp=Z,2µm,18.0s
CMB Columbia Colle 90.72 42 *e*P **P 13 49 36.5 0.0**
comp=Z,40nm,1.3s
CMB LR LR
comp=Z,2µm,18.0s
JCC Jacoby Creek, 90.81 38 PFAKE 13 49 50.0 +13
JCC LR LR
comp=Z,3µm,18.0s
HEC Hector,Ludlow 90.81 47 P **P 13 49 38.7 +1.6**
baz=227,SNR=30
GSC Goldstone, Bar 90.85 46 P **P 13 49 38.6 +1.4**
baz=226,SNR=22
GSC Goldstone, Bar 90.85 46 *e*P **P 13 49 38.3 +1.0**
GSC pmax pmax
comp=Z,53nm,1.3s
GSC MLR MLR
comp=Z,4µm,18.0s
GSC Goldstone, Bar 90.85 46 *e*P **P 13 49 38.3 +1.0**
comp=Z,53nm,1.3s
GSC LR LR
comp=Z,4µm,18.0s
CWC Cottonwood Cre 90.89 45 P **P 13 49 38.8 +1.3**
baz=226
MPMC Manual Prospec 90.97 45 P **P 13 49 39.3 +1.4**
baz=226,SNR=24
113A Mohawk Valley, 90.99 50 *e*P **P 13 49 39.1 +1.3**
comp=Z,63nm,1.4s
113A LR LR
comp=Z,2µm,18.0s
KHMM Horse Mountain 91.00 38 *e*P **P 13 49 39.0 +1.2**
comp=Z,37nm,1.2s
KHMM LR LR
comp=Z,3µm,20.0s
AFDM Forest Hills D 91.05 41 *e*P **P 13 49 38.6 +0.6**
comp=Z,38nm,1.4s
AFDM LR LR
comp=Z,3µm,19.0s
214A Organ Pipe Nat 91.06 51 P **P 13 49 40.0 +1.8**
baz=228
214A Organ Pipe Nat 91.06 51 *e*P **P 13 49 39.0 +0.7**
comp=Z,1µm,2.0s
DAC Darwin (Calif) 91.06 45 *e*P **P 13 49 39.3 +0.9**
DAC pmax pmax
comp=Z,48nm,1.8s
DAC MLR MLR
comp=Z,3µm,19.0s
DAC Darwin (Calif) 91.06 45 *e*P **P 13 49 39.3 +0.9**
comp=Z,48nm,1.8s
DAC LR LR
comp=Z,3µm,19.0s
IRM Iron Mountain 91.07 48 P **P 13 49 40.4 +2.1**
baz=227,SNR=48
Y12C Blythe 91.18 49 P **P 13 49 40.8 +2.1**
baz=228,SNR=10
Y12C Blythe 91.18 49 *e*P **P 13 49 40.3 +1.6**
comp=Z,55nm,1.3s
Y12C LR LR
comp=Z,2µm,18.0s
GMRC Granite Mounta 91.19 47 P **P 13 49 40.9 +2.0**
baz=227,SNR=21
ORV Oroville 91.20 41 *e*P **P 13 49 39.3 +0.6**
ORV pmax pmax
comp=Z,50nm,1.7s
ORV MLR MLR
comp=Z,2µm,18.0s
ORV Oroville 91.20 41 *e*P **P 13 49 39.3 +0.6**
comp=Z,50nm,1.7s
ORV LR LR
comp=Z,2µm,18.0s
TIN Tinemaha, Big 91.24 44 P **P 13 49 40.1 +1.0**
baz=226
MLAC Mammoth, Mammo 91.30 43 P **P 13 49 40.8 +1.3**
baz=225
KRMB Red Mountain 91.39 38 *e*P **P 13 49 40.5 +0.8**
comp=Z,170nm,1.8s
KRMB LR LR
comp=Z,3µm,18.0s
WDC Whiskeytown Da 91.40 39 *e*P **P 13 49 40.4 +0.9**
WDC pmax pmax
comp=Z,178nm,2.0s
WDC MLR MLR
comp=Z,2µm,20.0s
WDC Whiskeytown Da 91.40 39 *e*P **P 13 49 40.4 +0.9**
comp=Z,178nm,2.0s
WDC LR LR
comp=Z,2µm,20.0s
TUQ Turquoise Moun 91.47 47 P **P 13 49 41.9 +1.7**
baz=227
WAKR Walker 91.58 43 *e*P **P 13 49 41.0 +0.4**
comp=Z,36nm,1.3s
WAKR LR LR
comp=Z,2µm,18.0s
PBKT Sadao Pong 91.58 289 P **P 13 49 41.6 +0.7**
comp=Z,29nm,1.4s,comp=Z,1µm
SHOC Shoshone, Teco 91.58 46 P **P 13 49 41.9 +1.4**
baz=227
PB04 IPOC Station P 91.59 119 PFAKE 13 49 50.0 +8.7
PB04 LR LR
comp=Z,3µm,20.0s
N02D Trinity Center 91.60 39 P **P 13 49 42.2 +1.6**
baz=223,SNR=14
FURC Furnace Creek, 91.62 45 P **P 13 49 42.3 +1.7**
baz=226
GRAC Grapevine Rang 91.69 45 P **P 13 49 42.6 +1.6**
baz=226,SNR=15
LDFC Landfair 91.72 47 *e*P **P 13 49 43.0 +1.7**
comp=Z,98nm,1.3s
LDFC LR LR
comp=Z,2µm,18.0s
KBO Bosley Butte 91.74 37 PFAKE 13 49 50.0 +8.8
KBO LR LR
comp=Z,4µm,18.0s
PDMCI Parker Dam,Lak 91.78 49 P **P 13 49 43.5 +2.0**
baz=228,SNR=10
NEE2 Needles Airpor 91.80 48 P **P 13 49 43.4 +1.9**
baz=228
TVH3 East Aurora ar 91.81 43 *e*P **P 13 49 42.1 +0.3**
comp=Z,15nm,1.2s
TVH3 LR LR
comp=Z,1µm,19.0s
M02C Callahan 91.83 39 P **P 13 49 43.4 +1.7**
baz=223,SNR=12
TVH2 Borealis Mine 91.86 43 *e*P **P 13 49 42.7 +0.6**
comp=Z,13nm,1.3s
TVH2 LR LR
comp=Z,2µm,18.0s
DL2 Dalian 91.88 318 P **P 13 49 43.8 +2.0**
DL2 PP **PP 13 53 19.5 -2.2**
DL2 SKS **SKSac 14 00 13.5 +0.7**
DL2 S **ScS 14 00 43.9 0.0**
DL2 pmax pmax
comp=Z,63nm,1.2s
DL2 pmax pmax
comp=Z,260nm,5.5s
DL2 LR LR
comp=Z,710nm,17.8s
DL2 LR LR
comp=Z,490nm,14.2s
PNTR Pine Nut 91.90 42 *e*P **P 13 49 43.2 +1.0**
comp=Z,29nm,1.0s
PNTR LR LR
comp=Z,3µm,19.0s
TVH1 TV Hill, Hawth 91.92 43 *e*P **P 13 49 42.6 +0.2**
comp=Z,20nm,1.3s
TVH1 LR LR
comp=Z,2µm,18.0s
KTRM Thompson Ridge 91.94 38 P **P 13 49 44.0 +1.8**
L02D Cave Junction, 92.01 38 P **P 13 49 44.3 +1.9**
baz=222
YERR Yerington 92.02 42 *e*P **P 13 49 43.1 +0.3**
comp=Z,20nm,1.2s
YERR LR LR
comp=Z,2µm,18.0s
MDJ Mudanjiang 92.06 326 P **P 13 49 44.3 +1.8**
MDJ PP **PP 13 53 21.3 -1.7**
MDJ pmax pmax
comp=Z,10.0nm,1.2s
MDJ pmax pmax
comp=Z,160nm,6.0s
MDJ LR LR
comp=Z,570nm,35.9s
MDJ LR LR
comp=Z,440nm,35.9s
MDJ LR LR
comp=Z,870nm,26.1s
YBH Yreka Blue Hor 92.15 38 *e*P **P 13 49 43.8 +0.7**
YBH pmax pmax
comp=Z,26nm,1.4s
YBH MLR MLR
comp=Z,2µm,22.0s
YBH Yreka Blue Hor 92.15 38 *e*P **P 13 49 43.8 +0.7**
comp=Z,26nm,1.4s
YBH LR LR
comp=Z,2µm,22.0s
SLVN Son La 92.16 295 PFAKE 13 49 50.0 +6.4
SLVN LR LR
comp=Z,700nm,20.0s
KEBM Edson Butte 92.18 37 *e*P **P 13 49 44.5 +1.4**
comp=Z,62nm,1.1s
KEBM LR LR
comp=Z,3µm,18.0s
Y14A Wickenburg 92.25 49 *e*P **P 13 49 45.0 +1.2**
comp=Z,119nm,1.1s
Y14A LR LR
comp=Z,10µm,18.0s
TLIG Tlapa 92.29 70 *e*P **P 13 49 45.3 +1.0**
TLIG LR LR
comp=Z,2µm,18.0s
LVC Limon Verde 92.31 120 *e*P **P 13 49 46.1 +1.3**
comp=Z,69nm,1.3s
LVC LR LR
comp=Z,4µm,18.0s
TPNV Topopah Spring 92.31 45 P **P 13 49 45.5 +1.4**
baz=227,SNR=13
TPNV Topopah Spring 92.31 45 *e*P **P 13 49 45.2 +1.1**
TPNV pmax pmax
comp=Z,26nm,1.3s
TPNV MLR MLR
comp=Z,3µm,18.0s
TPNV Topopah Spring 92.31 45 *e*P **P 13 49 45.2 +1.1**
comp=Z,26nm,1.3s
TPNV LR LR
comp=Z,3µm,18.0s
ZAIG Zacatecas 92.35 64 *e*P **P 13 49 46.5 +1.7**
comp=Z,72nm,1.7s
ZAIG LR LR
comp=Z,4µm,18.0s
PAHR Pah Rah Range 92.45 42 *e*P **P 13 49 45.2 +0.5**
comp=Z,30nm,1.3s
PAHR LR LR
comp=Z,3µm,18.0s
TUC Tucson 92.59 52 P **P 13 49 47.5 +2.1**
baz=230
TUC Tucson 92.59 52 *e*P **P 13 49 46.6 +1.2**
TUC pmax pmax
comp=Z,67nm,1.4s
TUC MLR MLR
comp=Z,1µm,19.0s
TUC Tucson 92.59 52 *e*P **P 13 49 46.6 +1.2**
comp=Z,67nm,1.4s
TUC LR LR
comp=Z,1µm,19.0s
TIA Tai'an 92.61 313 ⇑P **P 13 49 48.1 +2.8**
TIA PP **PP 13 53 25.9 -1.6**
TIA SKS **SKSac 14 00 14.1 -3.0**
TIA pmax pmax
comp=Z,20nm,1.4s
TIA pmax pmax
comp=Z,40nm,5.1s
TIA LR LR
comp=Z,700nm,16.9s
TIA LR LR
comp=Z,620nm,18.2s
TIA LR LR
comp=Z,890nm,17.8s
M04C Macdoel 92.64 39 P **P 13 49 46.3 +0.9**
baz=224,SNR=7.2
SHPR Sheep Range 92.65 46 *e*P **P 13 49 46.8 +1.1**
comp=Z,29nm,1.6s
SHPR LR LR
comp=Z,3µm,18.0s

HPIG 92.65 59 eP P 13 49 46.3 +0.3
HPIG LR LR
comp=Z,3µm,19.0s
HUMO Hull Mountain 92.67 38 eP P 13 49 46.6 +1.2
comp=Z,128nm,1.8s
HUMO LR LR
comp=Z,2µm,20.0s
CHGN Chignik 92.67 11 PFAKE 13 50 00.0 +15
CHGN LR LR
comp=Z,2µm,20.0s
HABR Khabarovsk 92.77 331 eP P 13 49 46.8 +1.2
HABR e*PP pP 13 49 52.9 -1.1
HABR e 13 53 28.8
HABR ePPP PPP 13 55 28.6
HABR eS SKSac 14 00 18.7 +1.5
HABR e 14 00 52.8
HABR eSS SS 14 07 06.7 +3.7
HABR eSSS SSS 14 10 46.4
HABR MLR MLR
comp=Z,488nm,18.0s
NNA Nana 92.83 107 PFAKE 13 50 00.0 +13
NNA LR LR
comp=Z,5µm,19.0s
UNM Universidad Na 92.85 68 PFAKE 13 50 00.0 +13
UNM LR LR
comp=Z,2µm,18.0s
PB01 IPOC Station P 92.88 118 eP P 13 49 46.8 -0.4
comp=Z,24nm,0.8s
PB01 LR LR
comp=Z,2µm,21.0s
SNY Shenyang 92.92 321 ⇓P P 13 49 51.5 +5.0
SNY SKS SKSac 14 00 13.3 -5.1
SNY S ScS 14 00 54.3 +1.9
SNY pmax pmax
comp=Z,10.0nm,0.4s
SNY pmax pmax
comp=Z,200nm,9.6s
SNY LR LR
comp=Z,550nm,17.9s
SNY LR LR
comp=Z,210nm,18.0s
SNY LR LR
comp=Z,690nm,17.7s
319A Douglas 92.97 53 eP P 13 49 48.6 +1.4
comp=Z,55nm,1.5s
319A LR LR
comp=Z,2µm,18.0s
GYA Guiyang 93.23 300⇑ iP P 13 49 48.0 -0.5
GYA pP sP 13 50 02.4 +2.5
GYA PP PP 13 53 36.3 +3.6
GYA SKS SKSac 14 00 19.8 -1.4
GYA S S 14 00 51.5 -2.8
GYA sS sS 14 01 11.0 +2.7
GYA pmax pmax
comp=Z,20nm,0.8s
GYA pmax pmax
comp=Z,130nm,6.3s
I03D Drain, OR 93.27 37 P P 13 49 49.4 +1.3
baz=223,SNR=7.9
K04D Chiloquin, OR 93.29 38 P P 13 49 49.5 +1.1
baz=224
CN2 Changchun 93.42 323 eP P 13 49 49.1 +0.3
CN2 epP sP 13 50 02.8 +2.6
CN2 PP PP 13 53 37.9 +4.2
CN2 SKS SKSac 14 00 17.8 -3.3
CN2 eS S 14 00 50.0 -4.8
CN2 pmax pmax
comp=Z,10.0nm,0.6s
CN2 pmax pmax
comp=Z,200nm,5.0s
CN2 LR LR
comp=Z,400nm,23.0s
CN2 LR LR
comp=Z,500nm,23.0s
CN2 LR LR
comp=Z,600nm,24.0s
MOD Modoc Plateau 93.52 40 eP P 13 49 49.6 +0.1
comp=Z,14nm,0.9s
MOD LR LR
comp=Z,2µm,18.0s
X16A Lo Mia Camp, P 93.54 50 eP P 13 49 50.4 +0.6
comp=Z,27nm,1.1s
X16A LR LR
comp=Z,2µm,18.0s
J04D Umpqua Nationa 93.56 38 P P 13 49 50.7 +1.0
baz=223,SNR=5.7
PB11 IPOC Station P 93.56 117 eP P 13 49 50.0 -0.4
comp=Z,76nm,1.2s
PB11 LR LR
comp=Z,2µm,20.0s
ENH Enshi 93.63 305 eP P 13 49 49.7 -0.5
comp=Z,58nm,1.4s
R11A Troy Canyon, C 93.65 45 P P 13 49 51.3 +1.1
baz=227
R11A Troy Canyon, C 93.65 45 eP P 13 49 50.3 0.0
comp=Z,4.7nm,1.2s
R11A LR LR
comp=Z,2µm,18.0s
K05A Summer Lake 93.80 39 eP P 13 49 51.0 +0.1
comp=Z,39nm,1.1s
K05A LR LR
comp=Z,3µm,18.0s
I04A Tendick Farm, 93.81 37 P P 13 49 51.3 +0.7
baz=223,SNR=13
COR Corvallis 93.95 36 PFAKE 13 50 00.0 +8.8
COR LR LR
comp=Z,4µm,18.0s
J05D Fort Rock, OR 94.03 38 P P 13 49 52.9 +1.1
baz=224,SNR=12
LCMT Little Creek M 94.13 47 eP P 13 49 53.4 +0.9
comp=Z,7.6nm,1.2s
LCMT LR LR
comp=Z,2µm,18.0s
BMN Battle Mountai 94.15 42 PFAKE 13 50 00.0 +7.5
BMN LR LR
comp=Z,2µm,18.0s
CM01 Chiang Mai Arr 94.21 289 eP P 13 49 52.1 -1.0
CM31 Chiang Mai Arr 94.24 289 eP P 13 49 55.6 +2.4
CMAR Chiang Mai Arr 94.24 289 P P 13 49 53.4 +0.2
comp=Z,6.1nm,0.8s,baz=138,slow=3.0,SNR=15
CMAR PP PP 13 53 40.4 -0.1
comp=Z,2.9nm,0.9s,baz=136,slow=5.6,SNR=7.5
CMAR LR LR 14 35 28.1
comp=Z,328nm,19.6s,baz=166,slow=38
CMAR Chiang Mai Arr 94.24 289 P P 13 49 53.4 +0.2
CMAR 13 53 40.4
CMAR pmax pmax
comp=Z,3.0nm,0.9s
CMAR pmax pmax
comp=Z,3.0nm,0.9s
CMAR MLR MLR
comp=Z,328nm,19.6s
WUAZ Wupatki 94.29 49 P P 13 49 55.0 +1.7
baz=229
WUAZ Wupatki 94.29 49 eP P 13 49 54.2 +0.9
comp=Z,25nm,1.3s
WUAZ LR LR
comp=Z,2µm,18.0s
U15A North Rim 94.32 48 eP P 13 49 54.5 +0.9
comp=Z,63nm,1.7s
U15A LR LR
comp=Z,1µm,18.0s
CCUT Cedar City 94.42 47 eP P 13 49 54.1 +0.3
comp=Z,7.4nm,1.1s
CCUT LR LR
comp=Z,3µm,18.0s
G03D McMinnville, O 94.43 36 P P 13 49 54.8 +1.4
baz=223
CMMT Chiang Mai 94.44 290 P P 13 49 56.6 +2.5
comp=Z,12nm,1.2s,comp=Z,489nm
CHTO Chiang Mai 94.45 290 P P 13 49 56.6 +2.5
comp=Z,60nm,0.9s,comp=Z,2µm
CHTO Chiang Mai 94.45 290 eP P 13 49 54.0 -0.2
CHTO pmax pmax
comp=Z,9.0nm,0.9s
CHTO MLR MLR
comp=Z,1µm,18.0s
CHTO Chiang Mai 94.45 290 eP P 13 49 54.0 -0.2
comp=Z,9.3nm,0.9s
CHTO LR LR
comp=Z,1µm,18.0s
OHAK Old Harbor 94.45 14 PFAKE 13 50 00.0 +6.9
OHAK LR LR
comp=Z,3µm,19.0s
X18A Snowflake 94.55 51 eP P 13 49 55.3 +0.9
comp=Z,46nm,1.7s
X18A LR LR
comp=Z,2µm,18.0s
SZCU Shurtz Canyon 94.61 47 eP P 13 49 55.9 +1.2
comp=Z,19nm,1.5s
121A Cookes Peak, D 94.69 53 P P 13 49 56.8 +1.6
baz=231
I05D Terrebonne, OR 94.73 37 P P 13 49 55.9 +1.0
baz=224
WVOR Wild Horse Val 94.77 40 eP P 13 49 56.0 +0.8
WVOR pmax pmax
comp=Z,30nm,1.4s
WVOR Wild Horse Val 94.77 40 eP P 13 49 56.0 +0.8
comp=Z,30nm,1.4s
WVOR LR LR
comp=Z,2µm,19.0s
PSUT Pine Spring 94.78 46 PFAKE 13 50 10.0 +15
PSUT LR LR
comp=Z,2µm,18.0s
PKCU Pink Cliffs 94.97 47 eP P 13 49 56.5 0.0
comp=Z,76nm,1.9s
PKCU LR LR
comp=Z,2µm,18.0s
W18A Petrified Fore 95.06 50 P P 13 49 58.3 +1.5
baz=230
W18A Petrified Fore 95.06 50 eP P 13 49 57.8 +1.0
comp=Z,44nm,1.6s
W18A LR LR
comp=Z,2µm,20.0s
KDAK Kodiak Island 95.11 14 PFAKE 13 50 10.0 +14
KDAK LR LR
comp=Z,2µm,19.0s
F04D Rainier, OR 95.19 35 P P 13 49 58.6 +1.8
baz=223
KMI Kunming 95.26 297 P P 13 49 59.1 +1.1
KMI pP sP 13 50 11.3 +1.9
KMI sP pP 13 50 16.4 +10
KMI PP PP 13 53 51.3 +2.6
KMI S S 14 01 08.6 -3.7
KMI sS sS 14 01 29.3 +3.0
KMI SS SS 14 07 40.3 +0.3
KMI pmax pmax
comp=Z,23nm,0.6s
KMI pmax pmax
comp=Z,210nm,4.8s
KMI LR LR
comp=Z,570nm,20.8s
KMI LR LR
comp=Z,710nm,27.3s
KMI LR LR
comp=Z,1µm,44.2s
E03A Lebam 95.27 35 eP P 13 49 58.5 +1.4
comp=Z,27nm,1.1s
E03A LR LR
comp=Z,3µm,18.0s
F04A Amboy 95.36 36 PFAKE 13 50 10.0 +12
F04A LR LR
comp=Z,2µm,19.0s
CROR Criterion Ridg 95.37 37 P P 13 49 58.6 +0.8
VFP Flag Point 95.38 37 P P 13 49 58.7 +0.7
G05D Wamic, OR 95.39 37 P P 13 49 58.9 +1.1
baz=224
MTPU Mount Pierson 95.44 47 PFAKE 13 50 10.0 +11
MTPU LR LR
comp=Z,2µm,18.0s
TX31 Lajitas Ar. Si 95.51 58 eP P 13 49 59.7 +0.8
TXAR Lajitas Array 95.51 58 P P 13 49 59.7 +0.8
comp=Z,1.9nm,0.8s,baz=208,slow=7.9,SNR=28
TXAR LR LR 14 28 07.4
comp=Z,2µm,18.0s,baz=0.0,slow=32
TCRU Three Creeks R 95.66 46 PFAKE 13 50 10.0 +10
TCRU LR LR
comp=Z,2µm,19.0s
G06A Carlson Farm, 95.73 37 eP P 13 49 59.4 0.0
comp=Z,47nm,1.4s
G06A LR LR
comp=Z,2µm,21.0s
BJI Beijing 95.73 316 P P 13 49 59.4 -0.1
BJI PP PP 13 53 51.1 -0.7
BJI SKS SKSac 14 00 35.3 +1.6
BJI S ScS 14 01 16.9 +1.0
BJI SS SS 14 07 47.8 +2.1
BJI pmax pmax
comp=Z,5.0nm,0.9s
BJI pmax pmax
comp=Z,200nm,7.2s
BJI LR LR
comp=Z,650nm,22.7s
BJI LR LR
comp=Z,520nm,21.1s
BJI LR LR
comp=Z,1µm,39.0s
NLWA Neilton Lookou 95.75 34 PFAKE 13 50 10.0 +11
NLWA LR LR
comp=Z,3µm,18.0s
MSU Marysvale 95.75 46 eP P 13 50 02.3 +2.3
MSU Marysvale 95.75 46 eP P 13 50 02.3 +2.3
MNTX Cornudas Mount 95.77 55 P P 13 50 00.8 +0.9
baz=232
MNTX Cornudas Mount 95.77 55 eP P 13 50 00.2 +0.3
comp=Z,29nm,2.0s
MNTX LR LR
comp=Z,2µm,18.0s
TUM Tumwater 95.92 35 PFAKE 13 50 10.0 +10
TUM LR LR
comp=Z,1µm,19.0s
Y22D IRIS PASSCAL I 96.21 53 P P 13 50 03.6 +1.6
baz=232
Y22D IRIS PASSCAL I 96.21 53 PFAKE 13 50 10.0 +8.0
Y22D LR LR
comp=Z,2µm,18.0s
LON Longmire 96.24 35 eP P 13 50 02.3 +0.5
LON pmax pmax
comp=Z,10.0nm,1.4s
LON Longmire 96.24 35 eP P 13 50 02.2 +0.5
comp=Z,9.5nm,1.4s
LAZ Ladron 96.27 52 eP P 13 50 02.7 +0.3
XAN Xi'an 96.34 307 P P 13 50 06.9 +4.4
XAN pP sP 13 50 16.3 +2.4
XAN sP pP 13 50 21.0 +10
XAN SKS SKSac 14 00 37.3 -0.1
XAN S S 14 01 18.9 -2.0
XAN SS SS 14 07 50.4 -4.3
XAN pmax pmax
comp=Z,7.0nm,1.2s
XAN pmax pmax
comp=Z,130nm,9.3s
XAN LR LR
comp=Z,380nm,20.7s
XAN LR LR
comp=Z,760nm,28.9s
XAN LR LR
comp=Z,2µm,39.3s
BNM Barren Site 96.45 53 eP P 13 50 03.4 +0.1
D05A Enumclaw 96.47 35 eP P 13 50 04.6 +1.9
comp=Z,24nm,0.9s
D05A LR LR
comp=Z,1µm,19.0s
DUG Dugway, Tooele 96.48 45 P P 13 50 04.0 +0.9
baz=229
DUG Dugway, Tooele 96.48 45 PFAKE 13 50 10.0 +6.9
DUG LR LR
comp=Z,3µm,18.0s
DIB Dawson Inlet, 96.70 26 PFAKE 13 50 20.0 +16
DIB LR LR
comp=Z,2µm,19.0s
NLU North Lily Min 96.75 45 PFAKE 13 50 20.0 +16
NLU LR LR
comp=Z,4µm,18.0s
BGU Big Grassy Mou 96.83 44 eP P 13 50 05.3 +0.6
comp=Z,15nm,1.8s
BGU LR LR
comp=Z,2µm,18.0s
TMUT Trail Mountain 96.84 46 eP P 13 50 05.5 +0.5
comp=Z,14nm,1.6s
TMUT LR LR
comp=Z,2µm,18.0s
PGC Sidney 96.86 33 eP P 13 50 05.2 +0.8
comp=Z,11nm,0.9s
PGC LR LR
comp=Z,1µm,20.0s
LPAZ La Paz 96.87 115 P P 13 50 05.4 -0.7
comp=Z,6.4nm,0.8s,baz=221,slow=2.2,SNR=23
LPAZ LR LR 14 26 54.5
comp=Z,751nm,18.8s,baz=197,slow=31
LPAZ La Paz 96.87 115 eP P 13 50 05.2 -1.0
comp=Z,12nm,0.9s
CNPM China Poot 97.00 14 PFAKE 13 50 20.0 +15
CNPM LR LR
comp=Z,2µm,20.0s
ANMO Albuquerque 97.05 52 P Pdif 13 50 06.7 +0.7
baz=232
ANMO Albuquerque 97.05 52 ceP Pdif 13 50 06.7 +0.7
ANMO pmax pmax
comp=Z,19nm,2.5s
ANMO Albuquerque 97.05 52 eP Pdif 13 50 06.4 +0.4
comp=Z,32nm,1.9s
ANMO LR LR
comp=Z,2µm,20.0s
E07A Sunnyside 97.05 37 eP Pdif 13 50 06.2 +0.7
comp=Z,15nm,0.9s
HAWA Hanford 97.09 37 eP Pdif 13 50 06.3 +0.7
comp=Z,66nm,1.9s
HAWA LR LR
comp=Z,3µm,18.0s
SRU San Rafael Swe 97.12 47 eP Pdif 13 50 06.7 +0.5
SRU pmax pmax
comp=Z,15nm,1.6s
SRU MLR MLR
comp=Z,2µm,19.0s
SRU San Rafael Swe 97.12 47 eP Pdif 13 50 06.7 +0.5
comp=Z,15nm,1.6s
SRU LR LR
comp=Z,2µm,19.0s
BMO Blue Mountains 97.14 39 eP Pdif 13 50 06.2 +0.2
BMO pmax pmax
comp=Z,12nm,0.3s
BMO MLR MLR
comp=Z,3µm,19.0s
BMO Blue Mountains 97.14 39 eP Pdif 13 50 06.2 +0.2
comp=Z,12nm,0.3s
BMO LR LR
comp=Z,3µm,19.0s
LTY Liberty 97.15 36 eP Pdif 13 50 06.1 +0.2
comp=Z,9.3nm,0.6s
LTY LR LR
comp=Z,2µm,18.0s
MVCO Mesa Verde 97.16 49 P Pdif 13 50 07.5 +1.0
baz=231
MVCO Mesa Verde 97.16 49 PFAKE 13 50 20.0 +14
MVCO LR LR
comp=Z,2µm,18.0s
B05A Bryant 97.20 34 P Pdif 13 50 07.2 +1.2
baz=224
A04D Lummi Island 97.25 34 P Pdif 13 50 07.5 +1.3
baz=223
BRLK Bradley Lake 97.28 14 PFAKE 13 50 20.0 +14
BRLK LR LR
comp=Z,2µm,19.0s
SPUT South Promonto 97.42 44 PFAKE 13 50 20.0 +13
SPUT LR LR
comp=Z,2µm,18.0s
832A Faith Ranch, C 97.50 61 P Pdif 13 50 08.2 +0.3
baz=234
C06D Leavenworth 97.52 35 P Pdif 13 50 08.4 +0.9
baz=224
JLU Jordanelle 97.53 45 PFAKE 13 50 20.0 +12
JLU LR LR
comp=Z,3µm,19.0s
HVU Hansel Valley 97.54 44 eP Pdif 13 50 08.4 +0.5
HVU pmax pmax
comp=Z,49nm,1.9s
HVU MLR MLR
comp=Z,2µm,18.0s
HVU Hansel Valley 97.54 44 eP Pdif 13 50 08.4 +0.4
comp=Z,49nm,1.9s
HVU LR LR
comp=Z,2µm,18.0s
BBB Bella Bella 97.55 29 PFAKE 13 50 20.0 +13
BBB LR LR
comp=Z,2µm,18.0s
ETW Entiat 97.56 36 P Pdif 13 50 08.7 +0.8
933A Laredo 97.61 62 P Pdif 13 50 09.4 +1.0
baz=234
P18A Preston Nutter 97.62 47 PFAKE 13 50 20.0 +11
P18A LR LR
comp=Z,2µm,18.0s
CPUP Villa Florida 97.64 130 P P 13 50 08.0 -0.6
comp=Z,5.6nm,0.8s,baz=256,slow=4.4,SNR=12
CPUP LR LR 14 30 09.9
comp=Z,3µm,18.0s,baz=232,slow=33
B06A Marblemount 97.67 34 PFAKE 13 50 20.0 +12
B06A LR LR
comp=Z,2µm,18.0s
PV01 Paradox Valley 97.69 49 eP Pdif 13 50 09.0 +0.1
SVW2 Sparrevohn 97.70 11 PFAKE 13 50 20.0 +12
SVW2 LR LR
comp=Z,1µm,18.0s
034A Hebbronville 97.72 62 P Pdif 13 50 10.4 +1.5
baz=234
HLID Hailey 97.81 41 P Pdif 13 50 10.2 +1.0
baz=228
HLID Hailey 97.81 41 eP Pdif 13 50 09.1 0.0
comp=Z,24nm,1.9s
HLID LR LR
comp=Z,1µm,19.0s
035Z Hargill 97.83 63 P Pdif 13 50 10.3 +0.9
baz=235
D08A Wollman Farm, 97.86 37 eP Pdif 13 50 09.4 +0.4
comp=Z,14nm,1.0s
D08A LR LR
comp=Z,4µm,18.0s
E09A Wood Farm, Sta 97.86 37 eP Pdif 13 50 09.3 +0.3
comp=Z,20nm,1.4s
E09A LR LR
comp=Z,2µm,18.0s
833A Chaparral WMA, 97.94 61 P Pdif 13 50 10.2 +0.4
baz=234
CD2 Chengdu 97.94 302 eP Pdif 13 50 13.8 +4.0
CD2 PP PP 13 54 15.3 +6.2
CD2 SKS SKSac 14 00 43.8 -2.0
CD2 S ScS 14 01 36.0 +1.1
CD2 SS SS 14 08 16.6 -0.8
CD2 pmax pmax
comp=Z,230nm,7.6s
CD2 LR LR
comp=Z,620nm,25.6s
CD2 LR LR
comp=Z,1µm,35.1s
F10A Beach Ranch, E 97.95 38 eP Pdif 13 50 09.7 +0.1
comp=Z,15nm,1.3s
F10A LR LR
comp=Z,1µm,18.0s
035A Encino 98.07 63 Pdiff Pdif 13 50 10.7 +0.3
baz=235
HWUT Hardware Ranch 98.12 44 PFAKE 13 50 20.0 +9.4
HWUT LR LR
comp=Z,3µm,18.0s
934A Benavides 98.15 62 Pdiff Pdif 13 50 10.8 0.0
baz=235
733A Divot King Ran 98.23 61 Pdiff P 13 50 10.3 -0.8
baz=234
CRAG Craig 98.30 24 PFAKE 13 50 20.0 +9.3
CRAG LR LR
comp=Z,2µm,18.0s
834A Tilden 98.43 62 Pdiff Pdif 13 50 12.7 +0.7
baz=235
S22A 4UR Ranch, Cre 98.53 50 Pdiff Pdif 13 50 13.3 +0.7
baz=232
S22A 4UR Ranch, Cre 98.53 50 eP Pdif 13 50 13.6 +1.0
comp=Z,7.4nm,1.4s
S22A LR LR
comp=Z,2µm,18.0s
B08A Colville Reser 98.57 36 PFAKE 13 50 20.0 +7.8
B08A LR LR
comp=Z,2µm,18.0s
KVTX Kingsville 98.57 62 PFAKE 13 50 20.0 +7.3
KVTX LR LR
comp=Z,4µm,18.0s
OTAV Otavalo 98.68 96 PFAKE 13 50 30.0 +16
OTAV LR LR
comp=Z,1µm,19.0s
RC01 Rabbit Creek A 98.73 14 PFAKE 13 50 20.0 +7.5
RC01 LR LR
comp=Z,1µm,20.0s
633A Saathoff Ranch 98.75 60 Pdiff Pdif 13 50 14.1 +0.7
baz=235
734A La Parita Cree 98.84 61 Pdiff Pdif 13 50 14.5 +0.7
baz=235
SUA Susitna One 98.88 13 PFAKE 13 50 20.0 +6.7
SUA LR LR
comp=Z,2µm,19.0s
MSTX Muleshoe 98.89 55 Pdiff Pdif 13 50 14.4 +0.4
baz=234

MSTX	**Muleshoe**	**98.89**	**55**	*e*P	Pdif	13 50 14.4	+0.3
	comp=Z,6.9nm,0.6s						
MSTX				LR	LR		
	comp=Z,2µm,19.0s						
JCT	**Junction City**	**98.89**	**59**	Pdiff	Pdif	13 50 14.4	+0.3
	baz=234						
JCT	**Junction City**	**98.89**	**59**	PFAKE		13 50 30.0	+16
JCT				LR	LR		
	comp=Z,2µm,18.0s						
HHC	**Hu-ho-hao-te**	**98.94**	**314**	*e*P	Pdif	13 50 15.3	+1.2
HHC				PP	**PP**	**13 54 20.3**	**+3.7**
HHC				SKS	**SKSac**	**14 00 53.5**	**+3.0**
HHC				S	**ScS**	**14 01 43.9**	**+1.0**
HHC				pmax	pmax		
	comp=Z,16nm,1.5s						
HHC				pmax	pmax		
	comp=Z,140nm,7.9s						
HHC				LR	LR		
	comp=Z,590nm,20.2s						
HHC				LR	LR		
	comp=Z,530nm,18.8s						
HHC				LR	LR		
	comp=Z,850nm,17.7s						
LLLB	**Lillooet**	**98.99**	**33**	PFAKE		13 50 30.0	+16
LLLB				LR	LR		
	comp=Z,2µm,19.0s						
835A	**Beeville**	**99.04**	**62**	Pdiff	**Pdif**	**13 50 15.2**	**+0.5**
	baz=235						
EYAK	**Cordova Ski Ar**	**99.08**	**16**	PFAKE		13 50 30.0	+16
EYAK				LR	LR		
	comp=Z,2µm,19.0s						
FID	**Port Fidalgo**	**99.10**	**15**	PFAKE		13 50 30.0	+16
FID				LR	LR		
	comp=Z,2µm,19.0s						
O20A	**White River Ci**	**99.14**	**47**	Pdiff	**Pdif**	**13 50 15.9**	**+0.8**
	baz=232						
O20A	**White River Ci**	**99.14**	**47**	PFAKE		13 50 30.0	+15
O20A				LR	LR		
	comp=Z,1µm,18.0s						
RAGM	**Ragged Mountai**	**99.18**	**16**	PFAKE		13 50 30.0	+15
RAGM				LR	LR		
	comp=Z,3µm,19.0s						
533A	**Kerrville**	**99.20**	**60**	Pdiff	**Pdif**	**13 50 15.7**	**+0.3**
	baz=235						
TGUH	**Tegucigalpa,Un**	**99.23**	**79**	PFAKE		13 50 30.0	+14
TGUH				LR	LR		
	comp=Z,2µm,18.0s						
PMR	**Palmer**	**99.31**	**14**	PFAKE		13 50 30.0	+15
PMR				LR	LR		
	comp=Z,1µm,20.0s						
SMCO	**Snowmass**	**99.32**	**48**	PFAKE		13 50 30.0	+14
SMCO				LR	LR		
	comp=Z,2µm,18.0s						
WRAK	**Wrangell Islan**	**99.32**	**24**	PFAKE		13 50 30.0	+15
WRAK				LR	LR		
	comp=Z,2µm,18.0s						
SDCO	**Great Sand Dun**	**99.36**	**50**	Pdiff	**Pdif**	**13 50 17.3**	**+0.9**
	baz=233						
SDCO	**Great Sand Dun**	**99.36**	**50**	*e*P	**Pdif**	**13 50 17.0**	**+0.7**
	comp=Z,23nm,1.9s						
SDCO				LR	LR		
	comp=Z,1µm,18.0s						
735A	**Kenedy**	**99.38**	**61**	Pdiff	**Pdif**	**13 50 17.1**	**+0.8**
	baz=235						
HDC	**Heredia**	**99.55**	**84**	PFAKE		13 50 30.0	+13
HDC				LR	LR		
	comp=Z,3µm,18.0s						
433A	**Art**	**99.55**	**59**	Pdiff	**Pdif**	**13 50 16.9**	**-0.1**
	baz=235						
NEW	**Newport**	**99.57**	**37**	PFAKE		13 50 30.0	+13
NEW				LR	LR		
	comp=Z,4µm,18.0s						
534A	**Blanco**	**99.57**	**60**	Pdiff	**Pdif**	**13 50 16.6**	**-0.5**
	baz=235						
DIV	**Divide**	**99.59**	**16**	PFAKE		13 50 30.0	+14
DIV				LR	LR		
	comp=Z,2µm,20.0s						
REDW	**Red Top Meadow**	**99.64**	**43**	*e*Pdif	**Pdif**	**13 50 18.3**	**+1.0**
	comp=Z,15nm,1.5s						
REDW				LR	LR		
	comp=Z,2µm,18.0s						
SML	**Sawmill**	**99.67**	**14**	PFAKE		13 50 30.0	+13
SML				LR	LR		
	comp=Z,2µm,19.0s						
TPAW	**Teton Pass**	**99.67**	**43**	*e*Pdif	**Pdif**	**13 50 18.2**	**+0.7**
TPAW				LR	LR		
	comp=Z,2µm,18.0s						
T25A	**Trinidad**	**99.69**	**51**	Pdiff	**Pdif**	**13 50 18.4**	**+0.7**
	baz=233						
T25A	**Trinidad**	**99.69**	**51**	PFAKE		13 50 30.0	+12
T25A				LR	LR		
	comp=Z,1µm,19.0s						
635A	**Leesville**	**99.71**	**61**	Pdiff	**Pdif**	**13 50 18.5**	**+0.8**
	baz=235						
BMRM	**Bremner River**	**99.71**	**16**	PFAKE		13 50 30.0	+13
BMRM				LR	LR		
	comp=Z,2µm,18.0s						
DHAK	**Deception Hill**	**99.71**	**20**	PFAKE		13 50 30.0	+13
DHAK				LR	LR		
	comp=Z,2µm,19.0s						
SNOW	**Snow King Moun**	**99.76**	**43**	PFAKE		13 50 30.0	+12
SNOW				LR	LR		
	comp=Z,2µm,18.0s						
CRQM	**Cirque**	**99.87**	**17**	PFAKE		13 50 30.0	+12
CRQM				LR	LR		
	comp=Z,2µm,20.0s						
KLU	**Klutina**	**99.89**	**15**	PFAKE		13 50 30.0	+12
KLU				LR	LR		
	comp=Z,2µm,19.0s						
SCM	**Sheep Creek Mo**	**99.89**	**15**	PFAKE		13 50 30.0	+12
SCM				LR	LR		
	comp=Z,1µm,19.0s						
IMW	**Indian Meadow**	**99.94**	**43**	PFAKE		13 50 30.0	+11
IMW				LR	LR		
	comp=Z,2µm,19.0s						
LOHW	**Long Hollow**	**99.94**	**43**	PFAKE		13 50 30.0	+11
LOHW				LR	LR		
	comp=Z,2µm,18.0s						
MOOW	**Moose Ponds**	**99.95**	**43**	PFAKE		13 50 30.0	+11
MOOW				LR	LR		
	comp=Z,2µm,18.0s						
333A	**Richland Sprin**	**99.95**	**59**	Pdiff	**Pdif**	**13 50 19.1**	**+0.3**
	baz=235						
PPLA	**Purkeypile**	**99.95**	**12**	PFAKE		13 50 30.0	+12
PPLA				LR	LR		
	comp=Z,2µm,19.0s						
DLMT	**Dillon**	**99.97**	**41**	PFAKE		13 50 30.0	+11
DLMT				LR	LR		
	comp=Z,1µm,18.0s						
736A	**Circle Diamond**	**99.97**	**62**	Pdiff	**Pdif**	**13 50 19.1**	**+0.3**
	baz=235						
BW06	**Boulder Array**	**100.00**	**44**	Pdiff	**Pdif**	**13 50 19.6**	**+0.6**
	baz=231						
BW06	**Boulder Array**	**100.00**	**44**	PFAKE		13 50 30.0	+11
BW06				LR	LR		
	comp=Z,2µm,18.0s						
PDAR	**Pinedale Array**	**100.00**	**44**	P	**Pdif**	**13 50 18.6**	**-0.3**
	comp=Z,0.4nm,0.4s,baz=180,slow=4.0,SNR=3.7						
PDAR				PP	**PP**	**13 54 24.7**	**-0.2**
	comp=Z,0.4nm,0.3s,baz=225,slow=7.5,SNR=5.3						
PDAR				PKKPbc	**PKKPbc**	**14 06 38.1**	**-0.3**
	comp=Z,0.4nm,0.6s,baz=61,slow=4.2,SNR=4.2						
PDAR				LR	LR	14 31 02.5	
	comp=Z,1µm,18.5s,baz=238,slow=33						
AMTX	**Amarillo**	**100.15**	**55**	Pdiff	**Pdif**	**13 50 20.3**	**+0.6**
	baz=234						
AMTX	**Amarillo**	**100.15**	**55**	PFAKE		13 50 30.0	+10
AMTX				LR	LR		
	comp=Z,1µm,19.0s						
434A	**Burnet**	**100.16**	**60**	Pdiff	**Pdif**	**13 50 19.9**	**+0.1**
	baz=235						
MSO	**Missoula**	**100.21**	**39**	Pdiff	**Pdif**	**13 50 20.4**	**+0.7**
	baz=229						
MSO	**Missoula**	**100.21**	**39**	PFAKE		13 50 30.0	+10
MSO				LR	LR		
	comp=Z,3µm,18.0s						
535A	**Dale**	**100.22**	**61**	Pdiff	**Pdif**	**13 50 20.6**	**+0.7**
	baz=235						
ABTX	**Abilene, Hawle**	**100.23**	**57**	Pdiff	**Pdif**	**13 50 20.6**	**+0.6**
	baz=235						
ABTX	**Abilene, Hawle**	**100.23**	**57**	PFAKE		13 50 30.0	+10
ABTX				LR	LR		
	comp=Z,3µm,18.0s						
YPP	**Pitchstone Pla**	**100.25**	**43**	PFAKE		13 50 30.0	+10
YPP				LR	LR		
	comp=Z,2µm,19.0s						
636A	**Smothers Creek**	**100.28**	**61**	Pdiff	**Pdif**	**13 50 21.4**	**+1.2**
	baz=236						
Q24A	**Divide**	**100.32**	**50**	Pdiff	**Pdif**	**13 50 21.3**	**+0.7**
	baz=233						
Q24A	**Divide**	**100.32**	**50**	PFAKE		13 50 30.0	+9.4
Q24A				LR	LR		
	comp=Z,2µm,19.0s						
YFT	**Old Faithful**	**100.34**	**42**	PFAKE		13 50 30.0	+10
YFT				LR	LR		
	comp=Z,3µm,19.0s						
233A	**Rising Star**	**100.41**	**58**	Pdiff	**Pdif**	**13 50 21.2**	**+0.4**
	baz=235						
YMR	**Madison River**	**100.41**	**42**	PFAKE		13 50 30.0	+9.3
YMR				LR	LR		
	comp=Z,1µm,18.0s						
H17A	**Grant Village**	**100.45**	**43**	PFAKE		13 50 30.0	+9.0
H17A				LR	LR		
	comp=Z,2µm,19.0s						
CAST	**Castle Rocks**	**100.46**	**12**	PFAKE		13 50 30.0	+10
CAST				LR	LR		
	comp=Z,2µm,20.0s						
334A	**Lometa**	**100.48**	**59**	Pdiff	**Pdif**	**13 50 21.0**	**-0.1**
	baz=235						
ISCO	**Idaho Springs**	**100.53**	**49**	Pdiff	**Pdif**	**13 50 22.4**	**+0.9**
	baz=233						
ISCO	**Idaho Springs**	**100.53**	**49**	PFAKE		13 50 30.0	+8.5
ISCO				LR	LR		
	comp=Z,2µm,18.0s						
YHH	**Holmes Hill**	**100.55**	**42**	PFAKE		13 50 30.0	+8.6
YHH				LR	LR		
	comp=Z,1µm,19.0s						
YNR	**Norris Junctio**	**100.60**	**42**	PFAKE		13 50 30.0	+8.4
YNR				LR	LR		
	comp=Z,1µm,18.0s						
536A	**Bastrop**	**100.60**	**61**	Pdiff	**Pdif**	**13 50 22.3**	**+0.6**
	baz=236						
435B	**Jarrell**	**100.63**	**60**	Pdiff	**Pdif**	**13 50 22.3**	**+0.6**
	baz=236						
BOZ	**Bozeman (W)**	**100.64**	**41**	Pdiff	**Pdif**	**13 50 22.7**	**+1.1**
	baz=230						
BOZ	**Bozeman (W)**	**100.64**	**41**	PFAKE		13 50 30.0	+8.4
BOZ				LR	LR		
	comp=Z,1µm,20.0s						
LKWY	**Lake**	**100.66**	**43**	PFAKE		13 50 30.0	+8.1
LKWY				LR	LR		
	comp=Z,3µm,18.0s						
RWWY	**Rawlins**	**100.71**	**46**	PFAKE		13 50 30.0	+7.8
RWWY				LR	LR		
	comp=Z,120µm,19.0s						
637A	**Eagle Lake**	**100.77**	**62**	Pdiff	**Pdif**	**13 50 23.2**	**+0.8**
	baz=236						
KTH	**Kantishna Hill**	**100.78**	**12**	PFAKE		13 50 30.0	+8.3
KTH				LR	LR		
	comp=Z,2µm,20.0s						
TRF	**Thorofare Moun**	**100.80**	**13**	PFAKE		13 50 30.0	+8.1
TRF				LR	LR		
	comp=Z,2µm,20.0s						
SKAG	**Skagway**	**100.85**	**21**	PFAKE		13 50 30.0	+8.0
SKAG				LR	LR		
	comp=Z,1µm,19.0s						
LZH	**Lanzhou**	**100.90**	**306**	*e*P	**Pdif**	**13 50 23.5**	**+0.5**
LZH				pP	sP	13 50 38.1	+3.5
LZH				sP	sPdif	13 50 42.4	+7.9
LZH				PP	**PP**	**13 54 30.8**	**-0.9**
LZH				SKS	**SKSac**	**14 01 01.5**	**+1.0**
LZH				*e*S	**Sdif**	**14 01 54.8**	**-4.8**
LZH				sS	sS	14 02 15.0	+1.3
LZH				SS	**SS**	**14 08 51.0**	**-7.9**
LZH				pmax	pmax		
	comp=Z,27nm,1.0s						
LZH				pmax	pmax		
	comp=Z,180nm,5.1s						
LZH				LR	LR		
	comp=Z,1µm,14.1s						
LZH				LR	LR		
	comp=Z,2µm,17.2s						
LZH				LR	LR		
	comp=Z,2µm,17.4s						
234A	**Clairette**	**100.93**	**59**	Pdiff	**Pdif**	**13 50 23.2**	**+0.1**
	baz=235						
N23A	**Red Feather La**	**100.99**	**48**	Pdiff	**Pdif**	**13 50 23.6**	**+0.2**
	baz=233						
N23A	**Red Feather La**	**100.99**	**48**	PFAKE		13 50 40.0	+17
N23A				LR	LR		
	comp=Z,1µm,18.0s						
DHY	**Denali Highway**	**101.01**	**14**	PFAKE		13 50 30.0	+7.2
DHY				LR	LR		
	comp=Z,1µm,20.0s						
RND	**Reindeer**	**101.02**	**13**	PFAKE		13 50 30.0	+7.2
RND				LR	LR		
	comp=Z,2µm,18.0s						
MCK	**McKinley**	**101.30**	**13**	PFAKE		13 50 40.0	+16
MCK				LR	LR		
	comp=Z,2µm,19.0s						
PAX	**Paxson**	**101.30**	**15**	PFAKE		13 50 40.0	+16
PAX				LR	LR		
	comp=Z,1µm,19.0s						
WHTX	**Lake Whitney,**	**101.40**	**59**	Pdiff	**Pdif**	**13 50 25.4**	**+0.2**
	baz=236						
WHTX	**Lake Whitney,**	**101.40**	**59**	PFAKE		13 50 40.0	+15
WHTX				LR	LR		
	comp=Z,3µm,18.0s						
PHWY	**Pilot Hill**	**101.53**	**47**	PFAKE		13 50 40.0	+14
PHWY				LR	LR		
	comp=Z,1µm,18.0s						
RLMT	**Red Lodge**	**101.64**	**43**	Pdiff	**Pdif**	**13 50 27.1**	**+1.0**
	baz=232						
RLMT	**Red Lodge**	**101.64**	**43**	PFAKE		13 50 40.0	+14
RLMT				LR	LR		
	comp=Z,2µm,18.0s						
MENT	**Mentasta**	**101.65**	**16**	PFAKE		13 50 40.0	+14
MENT				LR	LR		
	comp=Z,2µm,19.0s						
WALA	**Waterton Lakes**	**101.69**	**37**	PFAKE		13 50 40.0	+14
WALA				LR	LR		
	comp=Z,2µm,18.0s						
DLBC	**Dease Lake**	**101.69**	**24**	PFAKE		13 50 40.0	+14
DLBC				LR	LR		
	comp=Z,2µm,18.0s						
K22A	**Casper**	**101.70**	**46**	Pdiff	**Pdif**	**13 50 27.0**	**+0.6**
	baz=233						
K22A	**Casper**	**101.70**	**46**	PFAKE		13 50 40.0	+14
K22A				LR	LR		
	comp=Z,3µm,18.0s						
TEIG	**Tepich**	**101.81**	**74**	PFAKE		13 50 40.0	+13
TEIG				LR	LR		
	comp=Z,2µm,18.0s						
KSCO	**Kaye Shedlock'**	**101.93**	**51**	Pdiff	**Pdif**	**13 50 28.3**	**+0.8**
	baz=234						
KSCO	**Kaye Shedlock'**	**101.93**	**51**	PFAKE		13 50 40.0	+12
KSCO				LR	LR		
	comp=Z,1µm,18.0s						
WHY	**Whitehorse**	**101.96**	**20**	PFAKE		13 50 40.0	+13
WHY				LR	LR		
	comp=Z,1µm,18.0s						
WMOK	**Wichita Mounta**	**102.03**	**56**	Pdiff	**Pdif**	**13 50 27.6**	**-0.3**
	baz=236						
WMOK	**Wichita Mounta**	**102.03**	**56**	PFAKE		13 50 40.0	+12
WMOK				LR	LR		
	comp=Z,4µm,18.0s						
WRH	**Wood River Hil**	**102.13**	**13**	PFAKE		13 50 40.0	+12
WRH				LR	LR		
	comp=Z,2µm,19.0s						
337A	**Centerville**	**102.14**	**60**	Pdiff	**Pdif**	**13 50 28.6**	**+0.2**
	baz=236						
DOT	**Dot Lake**	**102.20**	**15**	PFAKE		13 50 40.0	+12
DOT				LR	LR		
	comp=Z,4µm,21.0s						
HDA	**Harding Lake**	**102.29**	**14**	PFAKE		13 50 40.0	+12
HDA				LR	LR		
	comp=Z,1µm,19.0s						
136A	**Ennis**	**102.32**	**59**	Pdiff	**Pdif**	**13 50 29.7**	**+0.5**
	baz=236						
CCB	**Clear Creek Bu**	**102.34**	**13**	*e*Pdif	**Pdif**	**13 50 28.3**	**-0.2**
CCB				LR	LR		
	comp=Z,2µm,18.0s						
COLA	**College**	**102.54**	**13**	*i* P	**Pdif**	**13 50 30.1**	**+0.8**
COLA				pmax	pmax		
	comp=Z,2.0nm,1.0s						
COLA	**College**	**102.54**	**13**	PFAKE		13 50 40.0	+11
COLA				LR	LR		
	comp=Z,2µm,19.0s						
237A	**Washetta, Mont**	**102.57**	**60**	Pdiff	**Pdif**	**13 50 30.9**	**+0.5**
	baz=236						
ILAR	**Eielson Array**	**102.63**	**13**	P	**Pdif**	**13 50 30.3**	**+0.5**
	comp=Z,0.5nm,0.6s,baz=228,slow=6.0,SNR=9.3						
439A	**Center Grove,**	**102.65**	**61**	Pdiff	**Pdif**	**13 50 30.5**	**-0.2**
	baz=237						
PALK	**Pallekele**	**102.65**	**270**	PFAKE		13 50 40.0	+8.8
PALK				LR	LR		
	comp=Z,3µm,20.0s						
Y35A	**Marietta**	**102.76**	**58**	Pdiff	**Pdif**	**13 50 32.0**	**+0.8**
	baz=236						
137A	**Heron Place, G**	**102.93**	**59**	Pdiff	**Pdif**	**13 50 32.3**	**+0.4**
	baz=237						
238A	**Jacksonville**	**103.06**	**60**	Pdiff	**Pdif**	**13 50 33.0**	**+0.5**
	baz=237						
X35A	**Drake**	**103.08**	**57**	Pdiff	**Pdif**	**13 50 32.5**	**-0.1**
	baz=236						
339A	**Huntington**	**103.10**	**61**	Pdiff	**Pdif**	**13 50 33.1**	**+0.4**
	baz=237						
EGMT	**Eagleton**	**103.17**	**40**	PFAKE		13 50 40.0	+7.3
EGMT				LR	LR		
	comp=Z,2µm,18.0s						
OGNE	**Ogallala**	**103.42**	**49**	PFAKE		13 50 50.0	+16
OGNE				LR	LR		
	comp=Z,2µm,18.0s						
PRAC	**Prado**	**103.58**	**95**	PFAKE		13 50 50.0	+15
PRAC				LR	LR		
	comp=Z,2µm,19.0s						
DAWY	**Dawson**	**103.61**	**17**	PFAKE		13 50 50.0	+16
DAWY				LR	LR		
	comp=Z,1µm,22.0s						
CBKS	**Cedar Bluff**	**103.67**	**52**	PFAKE		13 50 50.0	+15
CBKS				LR	LR		
	comp=Z,2µm,18.0s						
EGAK	**Eagle**	**103.82**	**16**	PFAKE		13 50 50.0	+15
EGAK				LR	LR		
	comp=Z,1µm,19.0s						
RSSD	**Black Hills**	**104.03**	**46**	PFAKE		13 50 50.0	+13
RSSD				LR	LR		
	comp=Z,2µm,18.0s						
LAO	**LASA Array**	**104.28**	**43**	PFAKE		13 50 50.0	+12
LAO				LR	LR		
	comp=Z,1µm,18.0s						
COLD	**Coldfoot**	**104.28**	**11**	PFAKE		13 50 50.0	+13
COLD				LR	LR		
	comp=Z,1µm,19.0s						
HELC	**Santa Helena**	**104.46**	**93**	PFAKE		13 50 50.0	+10
HELC				LR	LR		
	comp=Z,2µm,21.0s						
V36A	**Jenks**	**104.54**	**56**	PKiKP	**Pdif**	**13 50 37.9**	**-1.1**
	baz=237						
W37B	**Quinton**	**104.54**	**57**	PKiKP	**Pdif**	**13 50 40.1**	**+1.0**
	baz=237						
FYU	**Fort Yukon**	**104.55**	**13**	PFAKE		13 50 50.0	+12
FYU				LR	LR		
	comp=Z,1µm,19.0s						
EDM	**Edmonton**	**104.64**	**34**	PFAKE		13 50 50.0	+11
EDM				LR	LR		
	comp=Z,1µm,18.0s						
ROSC	**El Rosal**	**104.68**	**94**	PFAKE		13 50 50.0	+9.3
ROSC				LR	LR		
	comp=Z,1µm,18.0s						
X38A	**Whitesboro**	**104.71**	**58**	PKiKP	**PKiKP**	**13 54 54.4**	**-0.8**
	baz=237						
TUL1	**Leonard**	**104.71**	**56**	PKiKP	**PKiKP**	**13 54 55.6**	**+0.3**
	baz=237						
TUL1	**Leonard**	**104.71**	**56**	PFAKE		13 50 50.0	+10
TUL1				LR	LR		
	comp=Z,4µm,18.0s						
T35A	**Sooner Cattle**	**104.76**	**55**	PKiKP	**PKiKP**	**13 54 56.3**	**+0.9**
	baz=237						
S34A	**Willow Spring**	**104.79**	**54**	PKiKP	**PKiKP**	**13 54 55.9**	**+0.5**
	baz=237						
Y39A	**Lockesburg**	**104.83**	**59**	PKiKP	**PKiKP**	**13 54 55.7**	**+0.2**
	baz=238						
141A	**Papa Simpson,**	**104.96**	**61**	PKiKP	**PKiKP**	**13 54 55.9**	**+0.1**
	baz=238						
U36A	**Oologah**	**105.01**	**56**	PKiKP	**PKiKP**	**13 54 55.4**	**-0.4**
	baz=237						
R34A	**Isabella, Hill**	**105.02**	**54**	PKiKP	**PKiKP**	**13 54 57.0**	**+1.2**
	baz=237						
X39A	**Fountain Ranch**	**105.12**	**58**	PKiKP	**PKiKP**	**13 54 55.9**	**-0.1**
	baz=238						
W38A	**Poteau**	**105.14**	**58**	PKiKP	**PKiKP**	**13 54 56.0**	**-0.1**
	baz=238						
V37A	**Hulbert**	**105.14**	**57**	PKiKP	**PKiKP**	**13 54 56.0**	**0.0**
	baz=238						
SAML	**Samuel**	**105.25**	**113**	PFAKE		13 55 10.0	
SAML				LR	LR		
	comp=Z,1µm,18.0s						
T36A	**Boggs Farm, Ca**	**105.27**	**55**	PKiKP	**PKiKP**	**13 54 57.0**	**+0.7**
	baz=238						
S35A	**Otter Creek Ra**	**105.31**	**55**	PKiKP	**PKiKP**	**13 54 57.9**	**+1.6**
	baz=237						
Z41A	**Richland Creek**	**105.38**	**60**	PKiKP	**PKiKP**	**13 54 58.7**	**+2.1**
	baz=238						
WLAR	**White Oak Lake**	**105.39**	**60**	PFAKE		13 55 10.0	
WLAR				LR	LR		
	comp=Z,4µm,18.0s						
U37A	**Salina**	**105.44**	**56**	PKiKP	**PKiKP**	**13 54 58.2**	**+1.6**
	baz=238						
Y40A	**Okolona**	**105.44**	**59**	PKiKP	**PKiKP**	**13 54 58.1**	**+1.5**
	baz=238						
MIAR	**Mount Ida**	**105.51**	**59**	PKiKP	**PKiKP**	**13 54 57.6**	**+0.8**
	baz=238						
MIAR	**Mount Ida**	**105.51**	**59**	PFAKE		13 55 10.0	
MIAR				LR	LR		
	comp=Z,2µm,18.0s						
Q34A	**Chapman**	**105.56**	**53**	PKiKP	**PKiKP**	**13 54 56.6**	**-0.1**
	baz=237						
V38A	**Canehill**	**105.63**	**57**	PKiKP	**PKiKP**	**13 54 57.6**	**+0.7**
	baz=238						
TOLK	**Toolik Lake Re**	**105.68**	**11**	PKiKP	**PKiKP**	**13 54 58.6**	**+2.5**
	baz=205						
SPB	**Sao Paulo**	**105.69**	**134**	PFAKE		13 55 10.0	
SPB				LR	LR		
	comp=Z,2µm,18.0s						
W39A	**Magazine**	**105.71**	**58**	PKiKP	**PKiKP**	**13 54 58.0**	**+0.9**
	baz=238						
R35A	**Emporia Munici**	**105.73**	**54**	PKiKP	**PKiKP**	**13 54 57.8**	**+0.8**
	baz=238						
ULN	**Ulaanbaatar**	**105.74**	**318**	PFAKE		13 55 10.0	
ULN				LR	LR		
	comp=Z,600nm,21.0s						
O33A	**Hebron**	**105.76**	**52**	PKiKP	**PKiKP**	**13 54 57.2**	**+0.2**
	baz=237						
S36A	**Lake Cedric, C**	**105.81**	**55**	PKiKP	**PKiKP**	**13 54 57.3**	**0.0**
	baz=238						
445A	**Amite**	**105.84**	**63**	PKiKP	**PKiKP**	**13 54 57.3**	**-0.2**
	baz=238						
KSU1	**Kansas State U**	**105.87**	**53**	PKiKP	**PKiKP**	**13 54 57.9**	**+0.6**
	baz=238						
KSU1	**Kansas State U**	**105.87**	**53**	PFAKE		13 55 10.0	
KSU1				LR	LR		
	comp=Z,1µm,18.0s						
344A	**Westbrook Farm**	**105.92**	**63**	PKiKP	**PKiKP**	**13 54 56.7**	**-1.0**
	baz=238						
T37A	**Cheneyville 18**	**105.95**	**56**	PKiKP	**PKiKP**	**13 54 58.6**	**+1.1**
	baz=238						
U38A	**Gravette**	**105.95**	**57**	PKiKP	**PKiKP**	**13 54 58.2**	**+0.7**
	baz=238						
P34A	**Walnut Farm, R**	**105.97**	**53**	PKiKP	**PKiKP**	**13 54 57.9**	**+0.4**
	baz=238						
CHLP	**Challavanipeta**	**106.03**	**282**	*e*Pdif	**Pdif**	**13 50 45.6**	**-0.4**
CHLP				*e*PP	**PP**	**13 55 09.7**	**-0.4**
CHLP				*e*SKSac	**SKSac**	**14 01 25.1**	**+0.5**
CHLP				IVMs_BB	IVMs_BB	14 31 60.0	
	comp=Z,450nm,26.1s						
BGNE	**Belgrade**	**106.11**	**51**	PFAKE		13 55 10.0	
BGNE				LR	LR		
	comp=Z,1µm,18.0s						
Q35A	**Mercer Eighty,**	**106.12**	**54**	PKiKP	**PKiKP**	**13 54 59.0**	**+1.2**
	baz=238						
V39A	**Pettigrew**	**106.15**	**57**	PKiKP	**PKiKP**	**13 54 57.1**	**-0.9**
	baz=238						
HHAR	**Hobbs**	**106.18**	**57**	PFAKE		13 55 10.0	
HHAR				LR	LR		
	comp=Z,4µm,18.0s						
R36A	**Gordon, Harris**	**106.19**	**54**	PKiKP	**PKiKP**	**13 54 57.6**	**-0.3**
	baz=238						
W40A	**Ferguson Farm,**	**106.21**	**58**	PKiKP	**PKiKP**	**13 54 58.0**	**-0.1**
	baz=238						
244A	**Avery, Jackson**	**106.27**	**62**	PKiKP	**PKiKP**	**13 54 56.5**	**-1.8**
	baz=238						
RUSC	**La Rusia**	**106.29**	**94**	PFAKE		13 55 10.0	
RUSC				L

O34A	**Beatrice**	**106.39**	**52**	PKiKP	**PKiKP**	**13 54 58.4**	**+0.2**
	baz=238							
Y42A	**Garnett, Star**	**106.41**	**60**	PKiKP	**PKiKP**	**13 54 58.6**	**+0.2**
	baz=238							
DGMT	**Dagmar**	**106.43**	**42**	PKiKP	**PKiKP**	**13 54 58.1**	**0.0**
	baz=236							
DGMT	**Dagmar**	**106.43**	**42**	PFAKE		13 55 10.0		
DGMT				LR	LR			
	comp=Z,2μm,18.0s							
CCAR	**Cane Creek**	**106.46**	**60**	PFAKE		13 55 10.0		
CCAR				LR	LR			
	comp=Z,3μm,18.0s							
VBMS	**Vicksburg**	**106.48**	**62**	PFAKE		13 55 10.0		
VBMS				LR	LR			
	comp=Z,1μm,19.0s							
UALR	**University of**	**106.50**	**59**	PFAKE		13 55 10.0		
UALR				LR	LR			
	comp=Z,2μm,18.0s							
U39A	**Green Forest**	**106.54**	**57**	PKiKP	**PKiKP**	**13 54 58.7**	**0.0**
	baz=238							
446A	**Poplarville**	**106.58**	**64**	PKiKP	**PKiKP**	**13 54 58.9**	**0.0**
	baz=239							
R37A	**Teagarden Farm**	**106.64**	**55**	PKiKP	**PKiKP**	**13 54 58.9**	**+0.1**
	baz=238							
V40A	**Witts Springs**	**106.70**	**58**	PKiKP	**PKiKP**	**13 54 59.8**	**+0.8**
	baz=239							
X301	**Greenbrier Sit**	**106.70**	**59**	PFAKE		13 55 10.0		
X301				LR	LR			
	comp=Z,2μm,19.0s							
J31A	**Geddes**	**106.76**	**49**	PKiKP	**PKiKP**	**13 54 59.1**	**+0.3**
	baz=238							
W41B	**Gary Mavity, V**	**106.77**	**59**	PKiKP	**PKiKP**	**13 54 60.0**	**+0.9**
	baz=239							
WHAR	**Wooly Hollow**	**106.81**	**59**	PFAKE		13 55 10.0		
WHAR				LR	LR			
	comp=Z,2μm,20.0s							
M33A	**Taylor Creek F**	**106.81**	**51**	PKiKP	**PKiKP**	**13 55 00.1**	**+1.1**
	baz=238							
245A	**Little AP, Sta**	**106.83**	**63**	PKiKP	**PKiKP**	**13 55 00.7**	**+1.4**
	baz=239							
S38A	**Stockton**	**106.90**	**56**	PKiKP	**PKiKP**	**13 55 00.2**	**+1.0**
	baz=239							
U40A	**Yellville**	**106.96**	**57**	PKiKP	**PKiKP**	**13 54 59.4**	**-0.1**
	baz=239							
SKHT	**Srikalahasti**	**107.02**	**275**	*e*Pdif	**Pdif**	**13 50 50.3**	**-0.2**
SKHT				*e*PP	**PP**	**13 55 14.7**	**-2.6**
SKHT				*e*SKSac	**SKSac**	**14 01 34.4**	**+5.2**
SKHT				IVMs_BB	IVMs_BB	14 34 33.4		
	comp=Z,549nm,5.8s							
P36A	**Good Intent, A**	**107.07**	**53**	PKiKP	**PKiKP**	**13 54 60.0**	**+0.5**
	baz=238							
V41A	**Mountainview**	**107.15**	**58**	PKiKP	**PKiKP**	**13 54 58.6**	**-1.2**
	baz=239							
R38A	**Fenwick Farm,**	**107.19**	**55**	PKiKP	**PKiKP**	**13 54 58.3**	**-1.5**
	baz=239							
PVM	**Polavaram**	**107.33**	**279**	*e*Pdif	**Pdif**	**13 50 51.3**	**-0.5**
PVM				*e*PP	**PP**	**13 55 20.0**	**+0.4**
PVM				*e*SKSac	**SKSac**	**14 01 31.0**	**+0.5**
PVM				IVMs_BB	IVMs_BB	14 38 51.2		
	comp=Z,349nm,15.1s							
T40A	**Mansfield**	**107.60**	**57**	PKiKP	**PKiKP**	**13 54 59.0**	**-1.6**
	baz=239							
U41A	**Viola**	**107.60**	**58**	PKiKP	**PKiKP**	**13 54 58.7**	**-1.9**
	baz=239							
P37A	**Lathrop**	**107.62**	**54**	PKiKP	**PKiKP**	**13 55 00.2**	**-0.3**
	baz=239							
146A	**Union**	**107.75**	**62**	PKiKP	**PKiKP**	**13 55 01.5**	**+0.6**
	baz=239							
Q38A	**Cooks Store, C**	**107.78**	**55**	PKiKP	**PKiKP**	**13 54 57.5**	**-3.3**
	baz=239							
R39A	**Chumby, Stover**	**107.84**	**56**	PKiKP	**PKiKP**	**13 54 58.0**	**-3.0**
	baz=239							
S40A	**Lebanon**	**107.84**	**56**	PKiKP	**PKiKP**	**13 54 58.0**	**-3.0**
	baz=239							
X44A	**Crenshaw**	**107.91**	**60**	PKiKP	**PKiKP**	**13 54 59.2**	**-2.0**
	baz=239							
ADKI	**Addanki**	**107.93**	**277**	*e*PP	PP	13 55 23.3	-0.6
ADKI				*e*SKSac	**SKSac**	**14 01 34.1**	**+1.0**
ADKI				IVMs_BB	IVMs_BB	14 36 28.3		
	comp=Z,680nm,26.2s							
348A	**Jackson**	**107.98**	**64**	PKiKP	**PKiKP**	**13 54 59.0**	**-2.5**
	baz=239							
Y45A	**Yeager Farm, C**	**108.02**	**61**	PKiKP	**PKiKP**	**13 55 00.9**	**-0.5**
	baz=240							
T41A	**Mountain View**	**108.07**	**57**	PKiKP	**PKiKP**	**13 55 02.2**	**+0.7**
	baz=239							
U42A	**Revenden**	**108.08**	**58**	PKiKP	**PKiKP**	**13 55 02.6**	**+1.1**
	baz=240							
L35A	**Bielow Farm, R**	**108.14**	**51**	PKiKP	**PKiKP**	**13 55 00.1**	**-1.4**
	baz=239							
P38A	**Dawn**	**108.18**	**54**	PKiKP	**PKiKP**	**13 54 59.8**	**-1.8**
	baz=239							
Q39A	**Willow Grove F**	**108.26**	**55**	PKiKP	**PKiKP**	**13 55 00.7**	**-1.1**
	baz=239							
ECSD	**EROS Data Cent**	**108.30**	**49**	PFAKE		13 55 10.0		
ECSD				LR	LR			
	comp=Z,2μm,19.0s							
R40A	**Maddies Statio**	**108.35**	**56**	PKiKP	**PKiKP**	**13 54 59.9**	**-2.0**
	baz=240							
MET	**Memphis--Engin**	**108.38**	**60**	PFAKE		13 55 10.0		
MET				LR	LR			
	comp=Z,4μm,18.0s							
OXF	**Oxford**	**108.44**	**61**	PFAKE		13 55 10.0		
OXF				LR	LR			
	comp=Z,2μm,19.0s							
INK	**Inuvik**	**108.47**	**16**	PFAKE		13 55 10.0		
INK				LR	LR			
	comp=Z,1μm,20.0s							
O38A	**Galt**	**108.47**	**54**	PKiKP	**PKiKP**	**13 55 02.3**	**+0.2**
	baz=240							
BRAL	**Brewton**	**108.49**	**65**	PFAKE		13 55 10.0		
BRAL				LR	LR			
	comp=Z,1μm,18.0s							
T42A	**Van Buren**	**108.52**	**57**	PKiKP	**PKiKP**	**13 55 01.5**	**-0.7**
	baz=240							
RCLA	**Racherla**	**108.55**	**276**	*e*PP	PP	13 55 29.2	+0.7
RCLA				*e*SKSac	**SKSac**	**14 01 38.7**	**+2.9**
RCLA				IVMs_BB	IVMs_BB	14 43 59.2		
	comp=Z,694nm,5.0s							
MDND	**Maddock**	**108.66**	**44**	PKiKP	**PKiKP**	**13 55 01.5**	**-0.8**
	baz=238							
MDND	**Maddock**	**108.66**	**44**	PFAKE		13 55 10.0		
MDND				LR	LR			
	comp=Z,2μm,19.0s							
L36A	**Harm Buss Farm**	**108.70**	**51**	PKiKP	**PKiKP**	**13 55 01.1**	**-1.3**
	baz=239							
H33A	**Prehn Over Nor**	**108.71**	**48**	PKiKP	**PKiKP**	**13 55 01.6**	**-0.9**
	baz=239							
M37A	**Trindle Farm,**	**108.74**	**52**	PKiKP	**PKiKP**	**13 55 03.2**	**+0.7**
	baz=240							
Z47A	**Carrollton**	**108.75**	**62**	PKiKP	**PKiKP**	**13 55 01.9**	**-0.9**
	baz=240							
NJS	**Nagarjunasagar**	**108.84**	**277**	*e*Pdif	**Pdif**	**13 50 56.5**	**-2.1**
NJS				*e*PP	**PP**	**13 55 31.2**	**+0.6**
NJS				*e*SKSac	**SKSac**	**14 01 36.8**	**-0.2**
NJS				IVMs_BB	IVMs_BB	14 36 10.4		
	comp=Z,564nm,4.2s							
PBMO	**Poplar Bluff**	**108.86**	**58**	PFAKE		13 55 10.0		
PBMO				LR	LR			
	comp=Z,3μm,19.0s							
SRLM	**Srisailam**	**108.94**	**277**	*e*Pdif	**Pdif**	**13 50 59.5**	**+0.4**
SRLM				*e*PP	**PP**	**13 55 31.8**	**+0.4**
SRLM				*e*SKSac	**SKSac**	**14 01 42.2**	**+4.6**
SRLM				IVMs_BB	IVMs_BB	14 39 57.2		
	comp=Z,857nm,17.7s							
R41A	**Rosebud**	**108.96**	**56**	PKiKP	**PKiKP**	**13 55 03.6**	**+0.5**
	baz=240							
K36A	**Gilmore City**	**109.11**	**51**	PKiKP	**PKiKP**	**13 55 03.5**	**+0.3**
	baz=240							
O39A	**Kirksville**	**109.15**	**54**	PKiKP	**PKiKP**	**13 55 03.0**	**-0.4**
	baz=240							
PVMO	**Portageville**	**109.19**	**59**	PFAKE		13 55 20.0		
PVMO				LR	LR			
	comp=Z,3μm,19.0s							
HALT	**Halls**	**109.19**	**59**	PFAKE		13 55 20.0		
HALT				LR	LR			
	comp=Z,1571μm,18.0s							
Z48A	**Northport**	**109.21**	**62**	PKiKP	**PKiKP**	**13 55 01.7**	**-2.0**
	baz=240							
H34A	**Spellman Lake,**	**109.30**	**49**	PKiKP	**PKiKP**	**13 55 02.7**	**-0.8**
	baz=240							
MTDJ	**Mount Denham**	**109.34**	**81**	PFAKE		13 55 20.0		
MTDJ				LR	LR			
	comp=Z,4μm,18.0s							
Q41A	**Truxton**	**109.39**	**56**	PKiKP	**PKiKP**	**13 55 02.9**	**-0.9**
	baz=240							
LRAL	**Lakeview Retre**	**109.45**	**63**	PFAKE		13 55 20.0		
LRAL				LR	LR			
	comp=Z,1μm,20.0s							
N39A	**Derby Farms, D**	**109.49**	**53**	PKiKP	**PKiKP**	**13 55 03.0**	**-1.0**
	baz=240							
S43A	**Fulton Ridge,**	**109.50**	**57**	PKiKP	**PKiKP**	**13 55 03.4**	**-0.7**
	baz=240							
O40A	**La Belle**	**109.53**	**54**	PKiKP	**PKiKP**	**13 55 03.1**	**-1.0**
	baz=240							
SCIA	**State Center**	**109.53**	**52**	PFAKE		13 55 20.0		
SCIA				LR	LR			
	comp=Z,2μm,18.0s							
URV	**Uravakonda**	**109.66**	**275**	*e*Pdif	**Pdif**	**13 51 00.8**	**-1.5**
URV				*e*PP	**PP**	**13 55 40.2**	**+3.5**
URV				IVMs_BB	IVMs_BB	14 38 43.9		
	comp=Z,664nm,4.8s							
TLY	**Talaya**	**109.69**	**320**	PFAKE		13 55 20.0		
TLY				LR	LR			
	comp=Z,700nm,20.0s							
L38A	**Oak Wood Farm,**	**109.82**	**52**	PKiKP	**PKiKP**	**13 55 03.6**	**-0.9**
	baz=240							
P41A	**Barry, Barry**	**109.86**	**55**	PKiKP	**PKiKP**	**13 55 04.1**	**-0.7**
	baz=241							
SLM	**Saint Louis**	**109.91**	**56**	PFAKE		13 55 20.0		
SLM				LR	LR			
	comp=Z,3μm,18.0s							
HYBB	**Hyderabad (bro**	**109.91**	**278**	*e*Pdif	**Pdif**	**13 51 01.4**	**-1.9**
HYBB				*e*PP	**PP**	**13 55 34.2**	**-4.2**
HYBB				*e*SKSac	**SKSac**	**14 01 44.3**	**+2.8**
HYBB				IVMs_BB	IVMs_BB	14 40 37.5		
	comp=Z,546nm,10.3s							
SDV	**Santo Domingo**	**109.97**	**93**	PFAKE		13 55 20.0		
SDV				LR	LR			
	comp=Z,2μm,19.0s							
J37A	**Redenius Farm,**	**110.01**	**51**	PKiKP	**PKiKP**	**13 55 04.7**	**-0.2**
	baz=240							
RPR	**Rampur**	**110.06**	**279**	*e*Pdif	**Pdif**	**13 51 02.5**	**-1.5**
RPR				*e*PP	**PP**	**13 55 40.6**	**+1.1**
RPR				*e*SKSac	**SKSac**	**14 01 45.4**	**+3.4**
RPR				IVMs_BB	IVMs_BB	14 38 17.2		
	comp=Z,615nm,5.1s							
N40A	**Mertquake, Sal**	**110.10**	**54**	PKiKP	**PKiKP**	**13 55 04.6**	**-0.5**
	baz=241							
S44A	**Carbondale**	**110.12**	**58**	PKiKP	**PKiKP**	**13 55 04.2**	**-1.1**
	baz=241							
O41A	**Passleys Farm,**	**110.19**	**55**	PKiKP	**PKiKP**	**13 55 03.9**	**-1.4**
	baz=241							
WVT	**Waverly**	**110.36**	**60**	PFAKE		13 55 20.0		
WVT				LR	LR			
	comp=Z,2μm,18.0s							
Q43A	**New Douglas**	**110.42**	**56**	PKiKP	**PKiKP**	**13 55 05.1**	**-0.7**
	baz=241							
N41A	**Harden Midland**	**110.50**	**54**	PKiKP	**PKiKP**	**13 55 05.9**	**0.0**
	baz=241							
R44A	**Waltonville**	**110.51**	**57**	PKiKP	**PKiKP**	**13 55 04.9**	**-1.1**
	baz=241							
S45A	**Carrier Mills**	**110.58**	**58**	PKiKP	**PKiKP**	**13 55 06.4**	**+0.3**
	baz=241							
F35A	**Swanville**	**110.63**	**48**	PKiKP	**PKiKP**	**13 55 06.4**	**+0.4**
	baz=241							
ABPO	**Ambohimpanom**	**110.66**	**227**	PFAKE		13 55 20.0		
ABPO				LR	LR			
	comp=Z,1μm,18.0s							
SRSP	**Sriramsagar**	**110.86**	**279**	*e*Pdif	**Pdif**	**13 51 08.0**	**+0.4**
SRSP				*e*PP	**PP**	**13 55 44.7**	**-0.6**
SRSP				IVMs_BB	IVMs_BB	14 40 33.4		
	comp=Z,509nm,4.3s							
L40A	**Anamosa**	**110.91**	**53**	PKiKP	**PKiKP**	**13 55 05.7**	**-0.9**
	baz=241							
FFC	**Flin Flon**	**110.98**	**37**	PFAKE		13 55 20.0		
FFC				LR	LR			
	comp=Z,2μm,18.0s							
I38A	**Scanlan Farm,**	**111.14**	**51**	PKiKP	**PKiKP**	**13 55 06.9**	**-0.2**
	baz=241							
TIGA	**Tifton**	**111.20**	**66**	PFAKE		13 55 20.0		
TIGA				LR	LR			
	comp=Z,2μm,20.0s							
DWPF	**Disney Wildern**	**111.23**	**70**	PFAKE		13 55 20.0		
DWPF				LR	LR			
	comp=Z,700nm,20.0s							
SWET	**Sewanee**	**111.28**	**61**	PFAKE		13 55 20.0		
SWET				LR	LR			
	comp=Z,700nm,19.0s							
USIN	**University of**	**111.36**	**58**	PFAKE		13 55 20.0		
USIN				LR	LR			
	comp=Z,3μm,18.0s							
P44A	**Sand Creek, Wi**	**111.41**	**56**	PKiKP	**PKiKP**	**13 55 06.6**	**-1.0**
	baz=242							
SPMN	**Marine on St.**	**111.41**	**49**	PFAKE		13 55 20.0		
SPMN				LR	LR			
	comp=Z,2μm,18.0s							
OLIL	**Olney**	**111.42**	**57**	PFAKE		13 55 20.0		
OLIL				LR	LR			
	comp=Z,3μm,18.0s							
HDIL	**Hopedale**	**111.47**	**55**	PKiKP	**PKiKP**	**13 55 07.1**	**-0.6**
	baz=242							
HDIL	**Hopedale**	**111.47**	**55**	PFAKE		13 55 20.0		
HDIL				LR	LR			
	comp=Z,2μm,18.0s							
I39A	**Houston**	**111.57**	**51**	PKiKP	**PKiKP**	**13 55 07.3**	**-0.5**
	baz=242							
KLRI	**Killari**	**111.84**	**277**	*e*Pdif	**Pdif**	**13 51 11.6**	**-0.3**
KLRI				*e*PP	**PP**	**13 55 51.6**	**-0.7**
KLRI				*e*SKSac	**SKSac**	**14 01 51.3**	**+1.8**
KLRI				IVMs_BB	IVMs_BB	14 41 11.1		
	comp=Z,674nm,5.3s							
JFWS	**Jewell Farm**	**111.94**	**52**	PFAKE		13 55 20.0		
JFWS				LR	LR			
	comp=Z,2μm,18.0s							
G38A	**Ridgeland**	**111.98**	**50**	PKiKP	**PKiKP**	**13 55 07.3**	**-1.2**
	baz=242							
ULM	**Lac du Bonnet**	**111.99**	**43**	PFAKE		13 55 20.0		
ULM				LR	LR			
	comp=Z,2μm,18.0s							
D36A	**Goodland**	**112.11**	**47**	PKiKP	**PKiKP**	**13 55 07.6**	**-1.2**
	baz=242							
GTBY	**Guantanamo Bay**	**112.18**	**81**	PFAKE		13 55 20.0		
GTBY				LR	LR			
	comp=Z,2μm,18.0s							
GOGA	**Godfrey**	**112.22**	**64**	PFAKE		13 55 20.0		
GOGA				LR	LR			
	comp=Z,1μm,19.0s							
B35A	**Bob, Littlefor**	**112.33**	**46**	PKiKP	**PKiKP**	**13 55 08.8**	**-0.3**
	baz=242							
CPCT	**Cooper Cave**	**112.41**	**62**	PFAKE		13 55 20.0		
CPCT				LR	LR			
	comp=Z,1μm,19.0s							
WCI	**Wyandotte Cave**	**112.44**	**58**	PFAKE		13 55 20.0		
WCI				LR	LR			
	comp=Z,3μm,18.0s							
TIXI	**Tiksi**	**112.55**	**344**	PFAKE		13 55 20.0		
TIXI				LR	LR			
	comp=Z,800nm,19.0s							
BLO	**Bloomington**	**112.71**	**57**	PFAKE		13 55 20.0		
BLO				LR	LR			
	comp=Z,3μm,18.0s							
SFIN	**Lafayette**	**112.87**	**56**	PFAKE		13 55 20.0		
SFIN				LR	LR			
	comp=Z,4μm,18.0s							
PTGA	**Pitinga**	**112.91**	**108**	PFAKE		13 55 20.0		
PTGA				LR	LR			
	comp=Z,2μm,18.0s							
TKL	**Tuckaleechee C**	**113.04**	**62**	PFAKE		13 55 20.0		
TKL				LR	LR			
	comp=Z,2μm,19.0s							
EYMN	**Ely**	**113.47**	**47**	PFAKE		13 55 20.0		
EYMN				LR	LR			
	comp=Z,2μm,19.0s							
TZTN	**Tazewell**	**113.61**	**61**	PFAKE		13 55 20.0		
TZTN				LR	LR			
	comp=Z,3μm,18.0s							
JSC	**Jenkinsville**	**114.25**	**64**	PFAKE		13 55 30.0	+17	
JSC				LR	LR			
	comp=Z,2μm,18.0s							
NHSC	**New Hope**	**114.53**	**66**	PFAKE		13 55 30.0	+16	
NHSC				LR	LR			
	comp=Z,1μm,19.0s							
KMSC	**Kings Mountain**	**114.59**	**63**	PFAKE		13 55 30.0	+16	
KMSC				LR	LR			
	comp=Z,900nm,18.0s							
SDDR	**Presa de Saban**	**114.81**	**84**	PFAKE		13 55 30.0	+15	
SDDR				LR	LR			
	comp=Z,1μm,18.0s							
MSEY	**Mahe Island**	**115.47**	**244**	PFAKE		13 55 30.0	+14	
MSEY				LR	LR			
	comp=Z,2μm,18.0s							
WMQ	**Urumqi**	**115.47**	**307**	PKP	**PKPdf**	**13 55 16.8**	**+1.4**	
WMQ				PP	**PP**	**13 56 23.5**	**+5.7**	
WMQ				SKKS		14 03 14.1		
WMQ				SS	**SS**	**14 12 17.8**	**+2.3**	
WMQ				AMB	AMB			
	comp=Z,200nm,3.7s							
WMQ				LR	LR			
	comp=Z,440nm,22.1s							
WMQ				LR	LR			
	comp=Z,450nm,29.5s							
WMQ				LR	LR			
	comp=Z,860nm,28.1s							
ACSO	**Alum Creek Sta**	**115.63**	**58**	PFAKE		13 55 30.0	+14	
ACSO				LR	LR			
	comp=Z,3μm,18.0s							
AAM	**Ann Arbor**	**116.04**	**55**	PFAKE		13 55 30.0	+14	
AAM				LR	LR			
	comp=Z,3μm,18.0s							
BLA	**Blacksburg**	**116.16**	**62**	PFAKE		13 55 30.0	+13	
BLA				LR	LR			
	comp=Z,2μm,18.0s							
GRTK	**Grand Turk**	**116.19**	**81**	PFAKE		13 55 30.0	+13	
GRTK				LR	LR			
	comp=Z,1μm,18.0s							
FCC	**Fort Churchill**	**116.71**	**36**	PFAKE		13 55 30.0	+13	
FCC				LR	LR			
	comp=Z,2μm,19.0s							
CNNC	**Cliffs of the**	**117.17**	**65**	PFAKE		13 55 30.0	+11	
CNNC				LR	LR			
	comp=Z,1μm,19.0s							
MCWV	**Mont Chateau**	**117.58**	**59**	PFAKE		13 55 30.0	+11	
MCWV				LR	LR			
	comp=Z,1μm,18.0s							
MPR	**Mayaguez**	**117.81**	**87**	PFAKE		13 55 30.0	+10	
MPR				LR	LR			
	comp=Z,1μm,19.0s							
M54A	**Oil Creek Stat**	**118.45**	**57**	PKiKP	**PKiKP**	**13 55 23.3**	**+2.1**	
	baz=247							
ERPA	**Erie**	**118.46**	**57**	PFAKE		13 55 30.0	+8.9	
ERPA				LR	LR			
	comp=Z,3μm,18.0s							
SJG	**San Juan**	**118.57**	**87**	PFAKE		13 55 30.0	+8.0	
SJG				LR	LR			
	comp=Z,1μm,19.0s							
CBN	**Corbin Frederi**	**118.77**	**62**	PFAKE		13 55 30.0	+8.2	
CBN				LR	LR			
	comp=Z,2μm,18.0s							
CBYP	**Canovanas**	**118.89**	**87**	PFAKE		13 55 30.0	+7.3	
CBYP				LR	LR			
	comp=Z,2μm,19.0s							
GRGR	**Grenville**	**119.11**	**96**	PFAKE		13 55 30.0	+6.9	
GRGR				LR	LR			
	comp=Z,900nm,18.0s							
SSPA	**Standing Stone**	**119.35**	**59**	PFAKE		13 55 30.0	+7.2	
SSPA				LR	LR			
	comp=Z,2μm,18.0s							
SDMD	**Soldier's Deli**	**119.62**	**61**	PFAKE		13 55 40.0	+17	
SDMD				LR	LR			
	comp=Z,500nm,18.0s							
STVI	**Saint Thomas**	**119.67**	**88**	PFAKE		13 55 40.0	+16	
STVI				LR	LR			
	comp=Z,1μm,21.0s							
SADO	**Sadowa**	**120.02**	**54**	PFAKE		13 55 40.0	+16	
SADO				LR	LR			
	comp=Z,2μm,18.0s							
MK01	**Makanchi Array**	**120.12**	**308**	*e*PKPdf	**PKPdf**	**13 55 22.9**	**-1.3**	
MK31	**Makanchi Array**	**120.14**	**308**	*i* PKIKP	**PKPdf**	**13 55 23.2**	**-1.0**	
MK31				pmax	pmax			
	comp=Z,12nm,0.9s							
MK31	**Makanchi Array**	**120.14**	**308**	*e*PKPdf	**PKPdf**	**13 55 23.1**	**-1.2**	
MKAR	**Makanchi Array**	**120.14**	**308**	*e*PKIKP	**PKPdf**	**13 55 23.2**	**-1.0**	
MKAR	**Makanchi Array**	**120.14**	**308**	*e*PKPdf	**PKPdf**	**13 55 23.2**	**-1.0**	
MAKZ	**Makanchi**	**120.35**	**308**	PKIKP	**PKPdf**	**13 55 22.4**	**-2.2**	
MAKZ				pmax	pmax			
	comp=Z,13nm,0.9s							
MAKZ	**Makanchi**	**120.35**	**308**	*e*PKPdf	**PKPdf**	**13 55 23.7**	**-0.9**	
MAKZ				LR	LR			
	comp=Z,700nm,20.0s							
SABA	**Saba**	**120.70**	**89**	PFAKE		13 55 40.0	+14	
SABA				LR	LR			
	comp=Z,2μm,19.0s							
PSUB	**Penn St. - Bra**	**120.81**	**61**	PFAKE		13 55 40.0	+14	
PSUB				LR	LR			
	comp=Z,1μm,18.0s							
SEUS	**St. Eustatius**	**120.85**	**90**	PFAKE		13 55 40.0	+14	
SEUS				LR	LR			
	comp=Z,1μm,21.0s							
FDF	**Fort de France**	**120.92**	**93**	PFAKE		13 55 40.0	+13	
FDF				LR	LR			
	comp=Z,2μm,18.0s							
ZAA0	**Zalesovo Array**	**120.97**	**317**	*e*PKPdf	**PKPdf**	**13 55 24.6**	**-0.9**	
ZALV	**Zalesovo Beam**	**120.97**	**317**	PKP	**PKPdf**	**13 55 25.1**	**-0.4**	
	comp=Z,8.1nm,0.7s,baz=156,slow=1.8,SNR=29							
SMRT	**St. Maarten**	**121.06**	**89**	PFAKE		13 55 40.0	+13	
SMRT				LR	LR			
	comp=Z,2μm,19.0s							
KSPA	**Keystone Colle**	**121.18**	**59**	PFAKE		13 55 40.0	+14	
KSPA				LR	LR			
	comp=Z,2μm,19.0s							
BINY	**Binghamton**	**121.25**	**58**	PFAKE		13 55 40.0	+14	
BINY				LR	LR			
	comp=Z,3μm,18.0s							
BRNJ	**Basking Ridge**	**121.71**	**60**	PFAKE		13 55 40.0	+13	
BRNJ				LR	LR			
	comp=Z,2μm,18.0s							
ODNJ	**Ogdensburg**	**121.83**	**60**	PFAKE		13 55 40.0	+12	
ODNJ				LR	LR			
	comp=Z,2μm,18.0s							
KSH	**Kashi**	**121.89**	**298**	PKP	**PKPdf**	**13 55 29.8**	**+1.8**	
KSH				PP	**PP**	**13 57 09.0**	**+6.6**	
KSH				PKS	**PKSdf**	**13 59 06.0**	**+1.3**	
KSH				SKS	**SKSdf**	**14 02 37.3**	**-1.0**	
KSH				SKKS	**SKKSac**	**14 03 57.8**	**-1.7**	
KSH				AMB	AMB			
	comp=Z,180nm,5.3s							
KSH				LR	LR			
	comp=Z,120nm,4.3s							
KSH				LR	LR			
	comp=Z,120nm,5.8s							
KSH				LR	LR			
	comp=Z,530nm,25.5s							
ANWB	**Willy Bob**	**121.92**	**90**	PFAKE		13 55 40.0	+12	
ANWB				LR	LR			
	comp=Z,900nm,18.0s							
NVS	**Novosibirsk**	**122.12**	**317**	*i* PKIKP	**PKPdf**	**13 55 26.8**	**-0.9**	
NVS				*e*		13 57 09.9		
NVS				pmax	pmax			
	comp=Z,28nm,1.7s							
NVS				pmax	pmax			
	comp=N,11nm,1.6s							
NVS				pmax	pmax			
	comp=E,15nm,1.4s							
VLDQ	**Val d'Or**	**122.24**	**51**	PFAKE		13 55 40.0	+12	
VLDQ				LR	LR			
	comp=Z,2μm,20.0s							
PAL	**Palisades**	**122.30**	**60**	PFAKE		13 55 40.0	+12	
PAL				LR	LR			
	comp=Z,2μm,18.0s							

FRU	**Bishkek**	**123.98**	**302**	*i* PKIKP	**PKPdf**	13 55 30.0	**-1.7**
FRU				*e*		14 02 34.0	
FRU				pmax	pmax		
	comp=Z,50nm,1.8s						
FRU				MLR	MLR		
	comp=E,800nm,24.0s						
AAK	**Ala-Archa**	**124.00**	**301**	PKIKP	**PKPdf**	13 55 31.4	**-0.5**
AAK				pmax	pmax		
	comp=Z,10.0nm,0.7s						
AAK	**Ala-Archa**	**124.00**	**301**	*e*PKPdf	**PKPdf**	13 55 31.4	**-0.5**
AAK				LR	LR		
	comp=Z,900nm,21.0s						
AAK	**Ala-Archa**	**124.00**	**301**	P	**PKPdf**	13 55 32.8	**+0.9**
	SNR=9.5						
BRYW	**Bryant College**	**124.28**	**60**	PFAKE		13 55 40.0	+7.7
BRYW				LR	LR		
	comp=Z,4μm,18.0s						
HNH	**Hanover**	**124.31**	**57**	PFAKE		13 55 40.0	+7.7
HNH				LR	LR		
	comp=Z,4μm,19.0s						
HRV	**Adam Dziewonsk**	**124.45**	**59**	PFAKE		13 55 40.0	+7.4
HRV				LR	LR		
	comp=Z,3μm,19.0s						
WES	**Weston**	**124.58**	**59**	PFAKE		13 55 40.0	+7.2
WES				LR	LR		
	comp=Z,4μm,18.0s						
FFD	**Franklin Falls**	**124.68**	**58**	PFAKE		13 55 40.0	+7.0
FFD				LR	LR		
	comp=Z,6μm,18.0s						
LBNH	**Lisbon**	**124.72**	**57**	PFAKE		13 55 40.0	+6.9
LBNH				LR	LR		
	comp=Z,2μm,18.0s						
KBL	**Kabul**	**125.26**	**290**	*e*PKIKP	**PKPdf**	13 55 34.8	**+0.1**
KBL				MLR	MLR		
	comp=Z,700nm,21.0s						
KBL	**Kabul**	**125.26**	**290**	*e*PKPdf	**PKPdf**	13 55 34.8	**+0.1**
KBL				LR	LR		
	comp=Z,700nm,21.0s						
MNAS	**Manas**	**125.35**	**301**	PKIKP	**PKPdf**	13 55 34.1	**-0.4**
MNAS				pmax	pmax		
	comp=Z,20nm,1.1s						
WVL	**Waterville**	**126.38**	**57**	PFAKE		13 55 50.0	+14
WVL				LR	LR		
	comp=Z,4μm,21.0s						
RCBR	**Riachuelo**	**126.43**	**132**	PFAKE		13 55 50.0	+13
RCBR				LR	LR		
	comp=Z,1μm,18.0s						
LMQ	**La Malbaie**	**126.70**	**53**	*e*PKPdf	**PKPdf**	13 55 36.0	**-0.7**
PKME	**Peaks-Kenny Pk**	**126.81**	**56**	*e*PKPdf	**PKPdf**	13 55 36.7	**-0.3**
KK31	**Karatay Array**	**126.93**	**301**	*i* PKIKP	**PKPdf**	13 55 37.3	**-0.1**
KK31				pmax	pmax		
	comp=Z,21nm,1.0s						
KKAR	**Karatay Array**	**126.93**	**301**	*e*PKIKP	**PKPdf**	13 55 36.9	**-0.4**
KKAR	**Karatay Array**	**126.93**	**301**	*e*PKPdf	**PKPdf**	13 55 36.9	**-0.4**
PQI	**Presque Isle**	**128.02**	**55**	*e*PKPdf	**PKPdf**	13 55 38.9	**-0.4**
BRVK	**Borovoye**	**129.21**	**313**	PKIKP	**PKPdf**	13 55 38.9	**-2.4**
BRVK				pmax	pmax		
	comp=Z,43nm,1.5s						
BRVK	**Borovoye**	**129.21**	**313**	*e*PKPdf	**PKPdf**	13 55 40.7	**-0.6**
BRVK	**Borovoye**	**129.21**	**313**	P	**PKPdf**	13 55 42.1	**+0.7**
	SNR=16						
LMN	**Caledonia Moun**	**130.01**	**56**	*e*PKPdf	**PKPdf**	13 55 42.6	**-0.5**
KMBO	**Kilima Mbogo**	**130.63**	**231**	PKP	**PKPdf**	13 55 47.2	**+1.5**
	comp=Z,6.1nm,1.0s,baz=166,slow=3.9,SNR=12						
KMBO				SKPbc	**SKPab**	13 59 11.3	**+3.6**
	comp=Z,8.4nm,1.2s,baz=148,slow=5.4,SNR=6.3						
KMBO	**Kilima Mbogo**	**130.63**	**231**	P	**PKPdf**	13 55 45.8	**+0.2**
	SNR=7.7						
GEYT	**Alibeck**	**134.70**	**291**	PKP	**PKPdf**	13 55 52.6	**+0.3**
	comp=Z,6.2nm,0.7s,baz=204,slow=3.3,SNR=9.1						
GEYT				SKPbc	**SKPab**	13 59 23.7	**-0.5**
	comp=Z,55nm,1.3s,baz=100,slow=1.8,SNR=14						
SVE	**Sverdlovsk**	**134.96**	**318**	*e*PKIKP	**PKPdf**	13 55 52.6	**+0.5**
SVE				pmax	pmax		
	comp=Z,29nm,1.1s						
AB31	**Akbulak array**	**135.26**	**307**	*i* PKIKP	**PKPdf**	13 55 52.6	**-0.3**
AB31				pmax	pmax		
	comp=Z,13nm,1.1s						
KBS	**Kingsbay**	**135.81**	**357**	IAMs_20	IAMs_20	14 49 45.2	
	comp=Z,1μm,21.6s						
ARU	**Arti**	**136.12**	**318**	PKP	**PKPdf**	13 55 52.9	**-1.3**
	comp=Z,18nm,0.7s,baz=101,slow=1.8,SNR=13						
ARU				SKPbc	**SKPbc**	13 59 27.0	**+2.6**
	comp=Z,8.9nm,0.8s,baz=241,slow=5.2,SNR=6.6						
ARU	**Arti**	**136.12**	**318**	*i* PKIKP	**PKPdf**	13 55 54.2	**0.0**
ARU						13 58 33.0	
ARU				SS	SS	14 16 28.5	-4.8
ARU	**Arti**	**136.12**	**318**	*e*PKPpre	PKPpre	13 55 48.1	
ARU				SKPbc	**SKPbc**	13 59 27.0	**+2.6**
SPA0	**Spitsbergen Ar**	**136.29**	**355**	*e*PKPdf	**PKPdf**	13 55 55.6	**+1.6**
SPITS	**Spitsbergen Ar**	**136.29**	**355**	PKP	**PKPdf**	13 55 53.4	**-0.6**
	comp=Z,16nm,0.8s,baz=119,slow=16,SNR=3.7						
SOKR	**Solikamsk**	**136.70**	**322**	⇑*i* PKIKP	**PKPdf**	13 55 56.8	**+1.6**
SOKR				SS	SS	14 16 42.6	+2.8
SOKR				pmax	pmax		
	comp=Z,33nm,1.1s						
DAG	**Danmarks Havn**	**137.26**	**7**	*i* P	**PKPdf**	13 55 54.8	**-1.0**
	comp=Z,10.0nm,0.9s						
DAG	**Danmarks Havn**	**137.26**	**7**	*e*PKIKP	**PKPdf**	13 55 54.8	**-1.0**
DAG				pmax	pmax		
	comp=Z,8.0nm,0.9s						
SUMG	**Summit**	**137.38**	**16**	*i* P	**PKPdf**	13 55 54.5	**-2.2**
SUMG	**Summit**	**137.38**	**16**	*e*PKIKP	**PKPdf**	13 55 54.5	**-2.2**
HSPB	**Hornsund (broa**	**137.47**	**355**	IAMs_20	IAMs_20	14 47 47.1	
	comp=Z,1μm,21.2s						
HAMF	**Hammerfest**	**142.36**	**348**	*e*SS	SS	14 17 48.1	+2.8
APA	**Apatity**	**142.59**	**340**	⇓*i* PKHKP	PKPpre	13 56 01.3	
APA				pmax	pmax		
	comp=Z,7.0nm,1.0s						
ARA0	**ARCESS Array S**	**142.96**	**346**	*e*PKPpre	PKPpre	13 56 02.2	
ARCES	**ARCESS Array B**	**142.96**	**346**	PKP	**PKPdf**	13 56 06.2	**-0.1**
	comp=Z,9.2nm,0.9s,baz=14,slow=5.4,SNR=8.0						
ARE0	**ARCESS Array S**	**142.96**	**346**	*e*PKPdf	**PKPdf**	13 56 08.2	**+1.8**
ARE0				*e*		14 17 49.9	
TMCR	**Tamitsa**	**143.28**	**334**	*e*PKIKP	**PKPdf**	13 56 12.9	**+5.9**
TMCR				pmax	pmax		
	comp=Z,44nm,1.5s						
KTK1	**Kautokeino**	**143.84**	**347**	*e*PKPdf	**PKPdf**	13 56 09.2	**+1.3**
TRO	**Tromso**	**144.02**	**349**	*e*PKPdf	**PKPdf**	13 56 09.2	**+1.0**
KLMR	**Klimovskoe**	**144.44**	**328**	*e*PKIKP	**PKPdf**	13 56 08.6	**-0.5**
GROC	**Groznyy**	**144.75**	**297**	*e*PKIKP	PKPbc	13 56 09.7	+0.4
GROC				pmax	pmax		
	comp=Z,259nm,1.4s						
DGRG	**David-gareji**	**144.97**	**294**	P	**PKPdf**	13 56 10.7	**-0.1**
DGRG	**David-gareji**	**144.97**	**294**	PKIKP	**PKPdf**	13 56 10.7	**-0.1**
GNI	**Garni**	**145.34**	**292**	PKPbc	**PKPab**	13 56 11.9	**+0.3**
	comp=Z,44nm,1.0s,baz=184,slow=5.7,SNR=17						
GNI	**Garni**	**145.34**	**292**	P	**PKPab**	13 56 12.4	**+0.7**
	SNR=29						
TBLG	**Delisi**	**145.47**	**294**	P	**PKPab**	13 56 12.2	**+0.3**
TBLG	**Delisi**	**145.47**	**294**	PKIKP	**PKPab**	13 56 12.2	**+0.3**
DUS	**Dusheti**	**145.51**	**295**	P	**PKPab**	13 56 14.1	**+2.0**
DUS	**Dusheti**	**145.51**	**295**	PKIKP	**PKPab**	13 56 14.1	**+2.0**
STEI	**Steigen**	**146.12**	**350**	*e*PKPdf	**PKPbc**	13 56 13.0	**+0.2**
ZEI	**Tsey**	**146.13**	**296**	*i* PKIKP	**PKPdf**	13 56 12.4	**-0.5**
ZEI				pmax	pmax		
	comp=Z,488nm,1.5s						
LOF	**Lofoten**	**146.15**	**352**	*e*PKPdf	**PKPab**	13 56 13.4	**-0.2**
BGD	**Bogdanovka**	**146.29**	**293**	P	**PKPbc**	13 56 14.8	**+0.3**
NCK	**Nalchik**	**146.36**	**297**	*d i* PKP2	**PKPab**	13 56 15.2	**0.0**
AKH	**Akhalkalaki**	**146.38**	**294**	⇓*i* P	**PKPab**	13 56 15.7	**+0.1**
AKH	**Akhalkalaki**	**146.38**	**294**	PKP2	**PKPbc**	13 56 14.6	**-0.1**
ONI	**Oni**	**146.46**	**296**	P	**PKPbc**	13 56 14.6	**-0.1**
ONI	**Oni**	**146.46**	**296**	PKP2	**PKPbc**	13 56 14.9	**+0.2**
GOF	**Gofitskoye**	**146.73**	**300**	⇑*e*PKP2	**PKPab**	13 56 16.4	**-0.2**
GOF				pmax	pmax		
	comp=Z,108nm,0.9s						
KBZ	**Khabaz**	**146.87**	**298**	PKPbc	**PKPbc**	13 56 15.9	**+0.1**
	comp=Z,31nm,0.8s,baz=123,slow=3.5,SNR=53						
NEY	**Neytrino**	**147.00**	**297**	*d i* PKP2	**PKPab**	13 56 18.9	**+1.0**
KVAR	**Kislovodsk Arr**	**147.01**	**298**	PKPbc	**PKPbc**	13 56 15.7	**-0.7**
	comp=Z,32nm,0.9s,baz=298,slow=2.9,SNR=11						
KIV	**Kislovodsk**	**147.02**	**298**	*i* PKIKP	**PKPdf**	13 56 15.1	**+0.9**
KIV				*e*		13 59 49.2	
KIV				*e*SS	SS	14 18 38.7	-2.4
KIV				pmax	pmax		
	comp=Z,46nm,1.1s						
KIV	**Kislovodsk**	**147.02**	**298**	*e*PKPbc	**PKPbc**	13 56 16.3	**-0.1**
KIV	**Kislovodsk**	**147.02**	**298**	P	**PKPdf**	13 56 15.2	**+0.9**
	SNR=25						
BORG	**Borgarnes**	**147.34**	**18**	PKPbc	**PKPbc**	13 56 16.6	**+0.2**
	comp=Z,19nm,0.9s,baz=270,slow=4.2,SNR=6.2						
BORG	**Borgarnes**	**147.34**	**18**	*e*PKPbc	**PKPbc**	13 56 17.2	**+0.9**
ARTV	**Artvin**	**147.54**	**293**	*e*PKPbc	**PKPbc**	13 56 19.0	**+0.9**
MOS	**Moscow**	**147.63**	**321**	*e*PKIKP	**PKPdf**	13 56 14.6	**-0.1**
MOS				pmax	pmax		
	comp=Z,202nm,1.6s						
KONS	**Konsvik**	**147.75**	**351**	*e*PKPbc	**PKPbc**	13 56 18.0	**+0.5**
KONS				*ep*PKPbc	**pPKPbc**	13 56 25.3	**-0.7**
MOR8	**Moi Rana**	**147.88**	**350**	*e*PKPdf	**PKPdf**	13 56 16.4	**+1.5**
STOK	**Stokkvaagen**	**147.92**	**351**	*e*PKPbc	**PKPbc**	13 56 19.0	**+1.1**
LPSR	**Galich'ya Gora**	**148.05**	**315**	*e*PKP2	**PKPbc**	13 56 18.8	**+0.1**
LPSR				pmax	pmax		
	comp=Z,100nm,1.2s						
MARD	**Mardin**	**148.07**	**286**	*e*PKPbc	**PKPbc**	13 56 19.9	**+0.4**
VORR	**Voronezh**	**148.16**	**313**	*e*PKIKP	**PKPdf**	13 56 17.0	**+1.3**
VORR				pmax	pmax		
	comp=Z,400nm,1.6s						
VSR	**Storozhevoye**	**148.32**	**312**	*e*PKP2	**PKPbc**	13 56 19.5	**+0.1**
VSR				pmax	pmax		
	comp=Z,110nm,1.4s						
OBN	**Obninsk**	**148.44**	**320**	*c i* PKIKP	**PKPdf**	13 56 16.9	**+0.9**
OBN				pmax	pmax		
	comp=Z,40nm,1.0s						
OBN	**Obninsk**	**148.44**	**320**	*e*PKPbc	**PKPbc**	13 56 18.2	**-1.3**
SFNV	**Sufian**	**148.47**	**284**	*e*P	**PKPbc**	13 56 20.9	**+0.5**
SOC	**Sochi**	**149.18**	**298**	*i* PKP2	**PKPbc**	13 56 23.0	**+1.1**
SOC				*e*		13 59 52.5	
SOC				*e*PPP	PPP	14 03 11.0	
SOC				*e*SSS	SSS	14 24 39.3	
SOC				pmax	pmax		
	comp=Z,80nm,1.0s						
FIA1	**FINESS Array S**	**149.20**	**337**	*e*PKPbc	**PKPbc**	13 56 21.4	**0.0**
FINES	**FINESS Array B**	**149.20**	**337**	PKPbc	**PKPbc**	13 56 21.4	**0.0**
	comp=Z,54nm,0.7s,baz=61,slow=2.9,SNR=91						
KSRV	**Kasrt alli**	**149.26**	**283**	*e*P	**PKPdf**	13 56 20.0	**+2.0**
JHLN	**Al Jahlan**	**149.68**	**282**	*e*P	**PKPab**	13 56 26.6	**-2.1**
SLMH	**Al Salmeh**	**150.18**	**283**	*e*P	**PKPbc**	13 56 24.6	**0.0**
ROOS	**tl_alroos**	**150.32**	**279**	*e*P	**PKPbc**	13 56 27.1	**+2.0**
SALA	**Sala**	**150.44**	**276**	*e*P	**PKPdf**	13 56 21.2	**+0.9**
RAKH	**Abou Rabah**	**150.44**	**279**	*e*P	**PKPdf**	13 56 21.3	**+1.2**
ANN	**Anapa**	**150.72**	**300**	*i* PKIKP	**PKPbc**	13 56 25.0	**-0.6**
ANN				pmax	pmax		
	comp=Z,171nm,1.2s						
LIC	**Lamto**	**150.74**	**167**	*e*PKP1	**PKPbc**	13 56 27.5	**+0.9**
	comp=Z,306nm,0.7s						
TOTH	**TOTAH**	**150.84**	**277**	*e*P	**PKPbc**	13 56 27.4	**+1.0**
KIC	**Kosan Boka**	**150.92**	**168**	*e*PKP1	**PKPbc**	13 56 28.0	**+1.0**
	comp=Z,228nm,0.9s						
MARH	**Ras Al Marh**	**150.94**	**278**	*e*P	**PKPbc**	13 56 24.9	**-2.0**
QASN	**Qassioun**	**151.00**	**277**	*e*P	**PKPbc**	13 56 24.5	**-2.3**
TCHB	**Talchebab**	**151.05**	**275**	*e*P	**PKPbc**	13 56 24.8	**-2.0**
VSU	**Vasula**	**151.09**	**332**	*c i* PKIKP	**PKPbc**	13 56 26.7	**+0.7**
VSU				pmax	pmax		
	comp=Z,641nm,1.7s						
TIC	**Toumodi**	**151.15**	**167**	*e*PKP1	**PKPbc**	13 56 28.4	**+0.8**
DBIC	**Dimbokro**	**151.21**	**168**	PKP	**PKPdf**	13 56 22.0	**+0.3**
	comp=Z,3.3nm,0.6s,baz=179,slow=4.8,SNR=7.1						
DBIC				PKPbc	**PKiKP**	13 56 27.9	**-0.3**
	comp=Z,36nm,0.6s,baz=181,slow=2.4,SNR=47						
DBIC	**Dimbokro**	**151.21**	**168**	PKIKP	**PKPdf**	13 56 22.0	**+0.3**
DBIC						13 56 28.0	
DBIC				pmax	pmax		
	comp=Z,7.0nm,0.7s						
DBIC	**Dimbokro**	**151.21**	**168**	*e*PKPdf	**PKPdf**	13 56 23.5	**+1.8**
DBIC				*e*PKPbc	PKPbc	13 56 27.3	**-0.4**
DRWC	**Darouich**	**151.24**	**284**	*e*P	**PKPbc**	13 56 29.4	**+2.2**
BRBR	**Barbar**	**151.24**	**277**	*e*P	**PKPdf**	13 56 22.5	**+1.0**
BTCH	**Batrach**	**151.32**	**282**	*e*P	**PKPbc**	13 56 28.5	**+1.1**
ARNB	**Al Arnab**	**151.69**	**282**	*e*P	**PKPbc**	13 56 29.6	**+1.3**
MOL	**Molde**	**152.18**	**354**	*e*PKPbc	**PKPbc**	13 56 30.2	**+1.8**
MOL				*ep*PKPbc	**pPKPbc**	13 56 37.5	**+0.5**
DOMB	**Dombas**	**152.54**	**352**	*e*PKPbc	**PKPbc**	13 56 30.7	**+1.4**
AKN	**Aaknes**	**152.62**	**354**	*e*PKPbc	**PKPbc**	13 56 30.9	**+1.4**
AKN				*e*		14 09 00.2	
NC303	**NORSAR Array S**	**153.02**	**349**	*e*PKPbc	**PKPbc**	13 56 30.1	**-0.2**
SIM	**Simferopol'**	**153.03**	**301**	*e*PKIKP	**PKPbc**	13 56 30.1	**-0.8**
SIM				pmax	pmax		
	comp=Z,20nm,1.3s						
IZAR	**Zarasai**	**153.08**	**328**	*e*P	**PKPbc**	13 56 32.0	**+1.4**
IZAR				IAmb	IAmb	13 56 45.2	
	comp=Z,25nm,1.0s						
MICGM	**Minsk**	**153.10**	**325**	⇓*e*P	**PKPbc**	13 56 31.0	**+0.3**
MICGM				PM		13 56 33.0	
	comp=Z,0.3nm,2.0s						
MNK	**Minsk**	**153.10**	**325**	⇓*e*PKIKP	**PKPbc**	13 56 31.0	**+0.3**
MNK				pmax	pmax		
	comp=Z,270nm,2.0s						
IDID	**Didziasalis**	**153.14**	**327**	*e*P	**PKPbc**	13 56 31.9	**+1.1**
NB2	**NORSAR Subarra**	**153.22**	**349**	PKP	**PKPbc**	13 56 31.1	**+0.3**
	baz=17,slow=2.6						
NB2	**NORSAR Subarra**	**153.22**	**349**	PKP	**PKPbc**	13 56 31.1	**+0.3**
	comp=Z,55nm,1.4s,baz=17,slow=2.6						
NOA	**NORSAR Array B**	**153.22**	**349**	PKPbc	**PKPbc**	13 56 31.1	**+0.3**
	comp=Z,5.0nm,0.8s,baz=15,slow=4.6,SNR=15						
ISAL	**Salakas**	**153.25**	**328**	*e*P	**PKPbc**	13 56 32.2	**+1.2**
ISAL				IAmb	IAmb	13 56 45.6	
	comp=Z,19nm,1.1s						
NBO02	**NORSAR Array S**	**153.26**	**349**	*e*PKPbc	**PKPbc**	13 56 30.0	**-0.9**
NBO00	**NORSAR Array S**	**153.29**	**350**	*e*PKPbc	**PKPbc**	13 56 31.4	**+0.5**
FOO	**Floro**	**153.34**	**356**	*e*PKPbc	**PKPbc**	13 56 32.7	**+1.8**
FOO				*ep*PKPbc	**pPKPbc**	13 56 39.8	**+0.3**
IIGN	**Ignalina**	**153.35**	**327**	*e*P	**PKPbc**	13 56 32.0	**+0.8**
IIGN				IAmb	IAmb	13 56 46.3	
	comp=Z,30nm,1.0s						
NACGM	**Naroch**	**153.37**	**326**	*e*	**PKPbc**	13 56 32.0	**+0.7**
NC602	**NORSAR Array S**	**153.45**	**349**	*e*PKPbc	**PKPbc**	13 56 31.9	**+0.6**
NC602				*e*SS	SS	14 19 53.8	+3.7
CSS	**Mathiatis**	**153.68**	**279**	*e*PKPbc	**PKPbc**	13 56 32.9	**+0.2**
BR131	**Keskin Array S**	**153.83**	**290**	*e*PKPdf	**PKPdf**	13 56 23.4	**-1.6**
BRTR	**Keskin Array B**	**153.83**	**290**	PKP	**PKPdf**	13 56 24.9	**-0.2**
	comp=Z,1.9nm,0.9s,baz=96,slow=2.5,SNR=12						
BRTR				PKPbc	**PKiKP**	13 56 33.0	**0.0**
	comp=Z,15nm,1.0s,baz=144,slow=3.7,SNR=24						
AKASG	**Malin Array Be**	**154.36**	**316**	PKP	**PKPdf**	13 56 24.7	**-0.5**
	comp=Z,3.6nm,0.9s,baz=56,slow=1.2,SNR=9.7						
AKASG				PKPbc	**pPKPdf**	13 56 34.1	**+0.3**
	comp=Z,6.3nm,0.7s,baz=60,slow=1.9,SNR=14						
AKASG	**Malin Array Be**	**154.36**	**316**	PKIKP	**PKPdf**	13 56 24.7	**-0.5**
AKASG				pmax	pmax		
	comp=Z,3.0nm,0.8s						
KIEV	**Kiev**	**154.37**	**316**	*e*PKIKP	**PKPdf**	13 56 25.2	**0.0**
KIEV	**Kiev**	**154.37**	**316**	*e*PKPdf	**PKPdf**	13 56 25.2	**0.0**
AK11	**Malin Array Si**	**154.40**	**316**	*e*PKPdf	**PKPdf**	13 56 24.1	**-1.2**
ANTO	**Ankara**	**154.48**	**290**	P	**PKPdf**	13 56 26.3	**+0.4**
	SNR=19						
BR231	**Keskin MP Arra**	**154.50**	**290**	*e*PKPdf	**PKPdf**	13 56 23.9	**-2.0**
KONO	**Kongsberg**	**154.79**	**350**	*e*SS	SS	14 20 09.6	+5.0
KIS	**Kishinev**	**156.08**	**308**	*e*PKP	**PKPdf**	13 56 32.0	**+4.3**
KIS	**Kishinev**	**156.08**	**308**	*e*PKS	PKSdf	14 00 10.0	+8.5
KIS	**Kishinev**	**156.08**	**308**	*e*PP	PP	14 00 20.0	-13
KIS	**Kishinev**	**156.08**	**308**	*e*PPS	PPS	14 12 04.0	
KIS				LRM	MLR	15 29 00.0	
	comp=Z,500nm,19.0s						
KIS	**Kishinev**	**156.08**	**308**	*e*PKIKP	**PKPdf**	13 56 32.0	**+4.3**
KIS				*e*PPP	PPP	14 04 05.0	
CFR	**Carcaliu**	**157.10**	**304**	⇑*i*P	**PKPdf**	13 56 30.4	**+1.4**
CFR	**Carcaliu**	**157.10**	**304**	⇑PKIKP	**PKPdf**	13 56 30.4	**+1.4**
TIRR	**Tirgusor**	**157.11**	**302**	⇓*i*P	PKPdf	13 56 41.0	+12
TIRR	**Tirgusor**	**157.11**	**302**	⇑PKIKP	PKPdf	13 56 41.0	+12
TLB	**Topalu**	**157.33**	**303**	⇑*i*P	PKPdf	13 56 43.4	+14
TLB	**Topalu**	**157.33**	**303**	⇑PKIKP	PKPdf	13 56 43.4	+14
LVV	**L'vov**	**157.69**	**318**	*e*PKIKP	**PKPdf**	13 56 36.2	**+6.5**
PLOR	**Plostina**	**157.88**	**307**	⇓*i*P	PKPdf	13 56 38.8	+8.7
PLOR	**Plostina**	**157.88**	**307**	⇓PKIKP	PKPdf	13 56 38.8	+8.7
BURAR	**Bucovina Array**	**158.09**	**312**	⇓*i*P	PKPdf	13 56 40.1	+10
BURAR	**Bucovina Array**	**158.09**	**312**	⇓PKIKP	PKPdf	13 56 40.1	+10
TOA0	**Torodi Ar. Sit**	**158.17**	**182**	*e*PKPdf	**PKPdf**	13 56 30.4	**-0.9**
TORD	**Torodi Ar. Bea**	**158.17**	**182**	PKP	**PKPdf**	13 56 31.3	**0.0**
	comp=Z,3.8nm,0.9s,baz=246,slow=0.4,SNR=16						
TORD				PKPab	**PKPab**	13 57 05.5	**+0.6**
	comp=Z,16nm,0.7s,baz=166,slow=3.1,SNR=15						
MLR	**Muntele Rosu**	**158.47**	**306**	⇓*i*P	**PKPdf**	13 56 34.9	**+4.0**
MLR	**Muntele Rosu**	**158.47**	**306**	*e*PKIKP	**PKPdf**	13 56 31.5	**+0.5**
MLR	**Muntele Rosu**	**158.47**	**306**	*e*P	**PKPdf**	13 56 31.5	**+0.5**
VOIR		**159.08**	**307**	⇓*i*P	**PKPdf**	13 56 33.4	**+1.8**
VOIR		**159.08**	**307**	⇓PKIKP	**PKPdf**	13 56 33.4	**+1.8**
UZH	**Uzhgorod**	**159.30**	**317**	*i* PKIKP	**PKPdf**	13 56 32.4	**+0.8**
UZH				*i*		13 56 37.6	
UZH				*e*		13 57 07.6	
STHS	**Stebnicka Huta**	**159.41**	**320**	*e*PKIKP	**PKPdf**	13 56 34.9	**+3.1**
STHS	**Stebnicka Huta**	**159.41**	**320**	*e*PKP	**PKPdf**	13 56 34.9	**+3.1**
STHS				*e*		13 56 55.4	
STHS				*e*		13 57 10.7	
EKA	**Eskdalemuir Ar**	**159.52**	**7**	PKPab	**PKPab**	13 57 09.5	**-0.3**
	comp=Z,1.2nm,0.4s,baz=313,slow=3.4,SNR=5.0						
CRVS	**Cervenica-Dubn**	**159.60**	**319**	*e*PKIKP	**PKPdf**	13 56 37.1	**+5.1**
CRVS				*e*		13 57 17.6	
OJC	**Ojcow**	**159.64**	**324**	*e*PKP	**PKPdf**	13 56 32.4	**+0.4**
OJC	**Ojcow**	**159.64**	**324**	*e*PKIKP	**PKPdf**	13 56 32.4	**+0.4**
NIE	**Niedzica**	**159.90**	**321**	*e*PKP	**PKPdf**	13 56 33.3	**+0.9**
NIE	**Niedzica**	**159.90**	**321**	*e*PKIKP	**PKPdf**	13 56 33.3	**+0.9**
DRGR		**159.99**	**312**	⇓*i*P	**PKPdf**	13 56 35.8	**+3.2**
DRGR		**159.99**	**312**	⇓PKIKP	**PKPdf**	13 56 35.8	**+3.2**
KECS	**Kecovo**	**160.37**	**319**	*e*PKP2	**PKPab**	13 57 15.2	**+1.4**
KECS	**Kecovo**	**160.37**	**319**	*e*PKP	**PKPab**	13 57 15.2	**+1.4**
OKC	**Ostrava-Krasne**	**160.69**	**325**	AMS	AMS	15 23 50.0	
	comp=Z,1μm,19.5s						
KSP	**Ksiaz**	**160.78**	**330**	*e*PKP	**PKPdf**	13 56 34.2	**+1.0**
KSP	**Ksiaz**	**160.78**	**330**	*e*PKIKP	**PKPdf**	13 56 34.2	**+1.0**
SIRR	**Siria**	**160.88**	**312**	⇑*i*P	**PKPdf**	13 56 34.7	**+1.2**
PSZ	**Piszkesteto**	**161.02**	**318**	⇑*i*P	**PKPdf**	13 56 33.2	**-0.5**
PSZ	**Piszkesteto**	**161.02**	**318**	⇑PKIKP	**PKPdf**	13 56 33.2	**-0.5**
PSZ	**Piszkesteto**	**161.02**	**318**	⇑*e*PKPdf	**PKPdf**	13 56 33.9	**+0.2**
PSZ	**Piszkesteto**	**161.02**	**318**	*e*PKPdf	**PKPdf**	13 56 33.2	**-0.5**
DPC	**Dobruska-Polom**	**161.14**	**329**	*e*PKPDF	**PKPdf**	13 56 33.9	**+0.2**
DPC				*ex*	x	13 56 47.2	
DPC				*ep*PKP	**pPKPab**	13 57 23.0	**-2.6**
DPC				AMS	AMS	15 31 00.0	
	comp=Z,700nm,20.6s						
DPC	**Dobruska-Polom**	**161.14**	**329**	*e*PKIKP	**PKPdf**	13 56 33.9	**+0.2**
DPC				MLR	MLR		
	comp=Z,700nm,20.6s						
KRLC	**Kraliky**	**161.14**	**327**	*e*PKPDF	**PKPdf**	13 56 33.1	**-0.6**
KRLC				*ex*	x	13 56 46.2	
KRLC				*ep*PKP	**pPKPab**	13 57 22.8	**-2.8**
KRLC	**Kraliky**	**161.14**	**327**	*e*PKIKP	**PKPdf**	13 56 33.1	**-0.6**
UPC	**Upice**	**161.15**	**329**	*e*PKPDF	**PKPdf**	13 56 34.0	**+0.3**
UPC				AMS	AM

BFO	**Black Forest**	**165.71**	**340**	*e*PKPab	**PKPab**	**13 57 38.8**	**+1.6**
FETA	**Feichten**	**166.05**	**332**	*i* PKPdf	**PKPdf**	**13 56 38.5**	**0.0**
	comp=Z,1.1nm,1.5s							
FUORN	**Ofenpass-Fuorn**	**166.56**	**332**	*e*PKPab	**PKPab**	**13 57 42.4**	**+1.1**
DAVOX	**Davos/Dischmat**	**166.57**	**333**	PKP	**PKPab**	**13 56 38.9**	**-0.1**
	comp=Z,1.6nm,0.5s,baz=85,slow=1.8,SNR=5.9							
DAVOX				PKPab	**PKPab**	**13 57 40.6**	**-0.6**
	comp=Z,3.8nm,0.6s,baz=26,slow=12,SNR=2.3							
TAM	**Tamanrasset**	**167.17**	**199**	*e*PKIKP	**PKPdf**	**13 56 41.7**	**+1.5**
TAM	**Tamanrasset**	**167.17**	**199**	*e*PKPdf	**PKPdf**	**13 56 41.7**	**+1.5**
SENIN	**Lac Senin/Sane**	**167.79**	**339**	*e*PKPab	**PKPab**	**13 57 47.6**	**+0.9**
BNI	**Bardonecchia**	**169.16**	**339**	*e*PKIKP	**PKPdf**	**13 56 40.3**	**-0.5**
BNI	**Bardonecchia**	**169.16**	**339**	*e*PKPdf	**PKPdf**	**13 56 40.3**	**-0.5**
PGAV	**Gavieira, Arco**	**169.93**	**44**	*e*PKPdf	**PKPdf**	**13 56 44.0**	**+2.7**
POLO	**Lamas de Olo**	**170.58**	**45**	*e*PKPdf	**PKPdf**	**13 56 44.7**	**+3.0**
PMAFR	**Mafra**	**170.82**	**62**	*e*PKPdf	**PKPdf**	**13 56 44.7**	**+2.9**
PCAS	**Casmilo, Conde**	**170.89**	**54**	*e*PKPdf	**PKPdf**	**13 56 45.9**	**+4.1**
PMST	**Lisbon--Monsan**	**170.98**	**63**	*e*PKPdf	**PKPdf**	**13 56 46.4**	**+4.6**
LIS	**Lisbon**	**171.01**	**63**	*e*P	**PKPdf**	**13 56 41.6**	**-0.3**
LIS				*e*PP	**PP**	**14 01 52.0**	**-0.1**
LIS				AMS	AMS	15 26 44.5	
	comp=E,1μm,16.3s							
LIS	**Lisbon**	**171.01**	**63**	*e*PKIKP	**PKPdf**	**13 56 41.5**	**-0.3**
LIS				*e*		14 01 51.9	
MVO	**Moncorvo**	**171.16**	**44**	*e*PKPab	**PKPab**	**13 58 02.0**	**+0.3**
PNCL	**Nicolau / Gran**	**171.67**	**66**	*e*PKPdf	**PKPdf**	**13 56 45.0**	**+2.8**
PTEO	**Sao Teotonio**	**171.68**	**70**	*e*PKPdf	**PKPdf**	**13 56 46.0**	**+3.8**
MORF	**Marmelete**	**171.79**	**71**	*e*P	**PKPdf**	**13 56 42.5**	**+0.1**
MORF				*e*PP	**PP**	**14 01 55.9**	**-0.3**
MORF				AMS	AMS	15 14 44.9	
	comp=Z,2μm,19.0s							
MORF	**Marmelete**	**171.79**	**71**	*e*PKPdf	**PKPdf**	**13 56 42.4**	**+0.1**
MORF	**Marmelete**	**171.79**	**71**	*e*PKIKP	**PKPdf**	**13 56 42.4**	**+0.1**
MORF				*e*		14 01 55.8	
EVO	**Evora**	**171.90**	**62**	*e*PKPdf	**PKPdf**	**13 56 45.9**	**+3.6**
EVO	**Evora**	**171.90**	**62**	*e*PKPab	**PKPab**	**13 58 04.7**	**-0.3**
PMRV	**Marv??o**	**171.94**	**55**	*e*PKPdf	**PKPdf**	**13 56 44.7**	**+2.4**
MESJ	**Messejana**	**171.99**	**67**	*e*P	**PKPdf**	**13 56 42.1**	**-0.3**
MESJ				*e*PP	**PP**	**14 01 56.8**	**-0.2**
MESJ				AMS	AMS	15 11 01.3	
	comp=Z,2μm,19.8s							
MESJ	**Messejana**	**171.99**	**67**	*e*PKPdf	**PKPdf**	**13 56 47.8**	**+5.4**
MESJ	**Messejana**	**171.99**	**67**	*e*PKPab	**PKPab**	**13 58 05.5**	**+0.1**
MESJ	**Messejana**	**171.99**	**67**	*e*PKIKP	**PKPdf**	**13 56 42.0**	**-0.3**
MESJ				*e*		14 01 56.7	
PESTR	**Estremoz**	**172.07**	**59**	*e*PKPdf	**PKPdf**	**13 56 46.7**	**+4.3**
PESTR	**Estremoz**	**172.07**	**59**	*e*PKPab	**PKPab**	**13 58 05.4**	**-0.4**
VSL	**Villasalto**	**172.07**	**306**	*e*PKPdf	**PKPdf**	**13 56 42.5**	**+0.1**
PCVE	**Castro Verde**	**172.18**	**68**	*e*PKPdf	**PKPdf**	**13 56 48.0**	**+5.5**
PBDV	**Barranco-do-Ve**	**172.37**	**71**	*e*PKPdf	**PKPdf**	**13 56 45.9**	**+3.3**
PBAR	**Barrancos**	**172.75**	**62**	*e*PKPdf	**PKPdf**	**13 56 45.7**	**+3.0**
PBAR	**Barrancos**	**172.75**	**62**	*e*PKPab	**PKPab**	**13 58 08.8**	**0.0**
KEST	**Kesra**	**173.25**	**278**	PKP	**PKPdf**	**13 56 43.7**	**+0.6**
	comp=Z,4.6nm,1.0s,baz=178,slow=3.9,SNR=5.0							
KEST				PKPab	**PKPab**	**13 58 11.1**	**-0.1**
	comp=Z,21nm,1.1s,baz=262,slow=1.2,SNR=5.1							
KEST	**Kesra**	**173.25**	**278**	PKP	**PKPdf**	**13 56 43.7**	**+0.6**
KEST				*e*PKPab	**PKPab**	**13 58 11.6**	**+0.3**
ESDC	**Sonseca Array**	**173.88**	**40**	PKP	**PKPdf**	**13 56 43.6**	**+0.5**
	comp=Z,2.9nm,0.9s,baz=342,slow=2.3,SNR=9.5							
ESDC				PKPab	**PKPab**	**13 58 12.7**	**-1.0**
	comp=Z,0.2nm,0.3s,baz=135,slow=38,SNR=2.7							
ES19	**SONSECA Array**	**173.89**	**39**	*e*PKPdf	**PKPdf**	**13 56 43.6**	**+0.5**

LJU 14 13:39:56.4, 46°.39N×15°.07E, h0km Rockburst, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PERS	**Pernice**	**0.25**	**7**	*e*Pg	Pg	13 40 01.4	+0.2
PDKS	**Podkum**	**0.33**	**189**	*e*Pg	Pg	13 40 02.7	-0.1

*NIED **14** 13:42:00, 45°.50N×150°.80E, h44km, Mw3.7 Best double couple: M₀3.74000×10¹⁴ NP1:φ₀223.00000°, δ69.00000°, λ174.00000°. NP2:φ₀316.00000°, δ84.00000°, λ22.00000°.*
*JMA **14** 13:42:39.2±0.8, 45°.48N×150°.85E, h30km, M3.9*

SKHL 14 13:42:38.9±0.7, 44°.87N×151°.00E, h25km, mb4.4/3, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**2.25**	**280**	*e*P	Pn	13 43 14.3	-0.2
KUR				AMB	AMB	13 43 16.3	
	10.0nm,0.4s						
KUR				AMB	AMB	13 43 16.3	
	40nm,0.4s						
KUR				*i* S	Sn	13 43 40.3	-1.1
KUR				A	A	13 43 44.3	
	110nm,0.2s						
KUR				A	A	13 43 44.3	
	40nm,0.2s						
SHO	**Shikotan**	**3.15**	**253**	*e*P	Pn	13 43 26.4	-0.5
SHO				AMB	AMB	13 43 28.0	
	100nm,0.6s						
SHO				*e*S	Sn	13 44 05.4	+1.7
SHO				A	A	13 44 09.3	
	290nm,0.6s						
SHO				A	A	13 44 09.3	
	370nm,0.6s						
YUK	**Yuzh-Kuril'sk**	**3.77**	**259**	*i* P	Pn	13 43 36.9	+1.5
YUK				AMB	AMB	13 43 40.6	
	20nm,0.3s						
YUK				AMB	AMB	13 43 40.6	
	50nm,0.3s						
YUK				*i* S	Sn	13 44 20.9	+1.9
YUK				A	A	13 44 24.6	
	20nm,0.2s						
YUK				A	A	13 44 24.6	
	50nm,0.2s						
NEM2	**Nemuro 2**	**4.07**	**250**	P	Pn	13 43 40.6	+1.0
NEM2				*e*S	Sn	13 44 26.1	-0.3
JRA	**Rausu**	**4.31**	**260**	P	Pn	13 43 45.1	+2.2
JNK	**Nakash**	**4.69**	**256**	P	Pn	13 43 50.0	+1.9
JAK	**Akkeshi**	**4.92**	**250**	P	Pn	13 43 52.1	+0.9
JTKR	**Abashiri--Toko**	**5.16**	**262**	P	Pn	13 43 56.7	+2.2
JAR	**Ashorobuto**	**5.44**	**256**	P	Pn	13 44 01.1	+2.7
JAR				*e*S	Sn	13 45 01.7	+1.6
JMP	**Maruseppu**	**5.54**	**264**	P	Pn	13 44 02.4	+2.7
JOB	**Onbets**	**5.54**	**252**	P	Pn	13 44 01.6	+1.9
JCH	**Churui**	**5.97**	**251**	P	Pn	13 44 07.4	+1.7
JCH				*e*S	Sn	13 45 12.5	-0.8
JNBK	**Urakawa-nobuka**	**6.53**	**250**	P	Pn	13 44 14.1	+0.9
JNBK				*e*S	Sn	13 45 25.9	-0.9
JBT2	**Biratori 2**	**6.59**	**255**	P	Pn	13 44 15.4	+1.3
JKB	**Kayabe**	**7.85**	**251**	P	Pn	13 44 32.4	+1.0
JANG	**Nango**	**8.31**	**241**	P	Pn	13 44 37.4	-0.4
JANG				*e*S	Sn	13 46 05.3	-5.5
JOSM	**Okushiri--Mats**	**8.83**	**256**	P	Pn	13 44 46.5	+1.6

TAP 14 13:48:38.5, 22°.32N×121°.06E, h5km, ML3.5, 4C-1D, C, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TAW	**Tawu**	**0.16**	**282**	⇑*i* P	Pg	13 48 42.8	+1.1
TAW	baz=282			*i* S	Sg	13 48 45.1	+1.3
	baz=282						
EAST	**Anshuo**	**0.21**	**287**	⇑*i* P	Pg	13 48 43.6	+1.0
EAST	baz=286			*i* S	Sg	13 48 47.0	+1.7
	baz=286						
ECL	**Taimali**	**0.29**	**340**	⇑*i* P	Pg	13 48 45.2	+1.0
ECL	baz=341			*i* S	Sb	13 48 50.3	-1.1
	baz=341						
SCZT	**Fangliau**	**0.41**	**277**	⇑*i* P	Pg	13 48 47.3	+0.8
SCZT	baz=276			*e*S	Sg	13 48 52.6	+0.7
	baz=276						
TTN	**Taitung**	**0.43**	**11**	*e*P	Pb	13 48 49.1	+0.3
HEN	**Hengchun**	**0.44**	**223**	*e*P	Pb	13 48 48.6	-0.1
HEN	baz=222			*e*S	Sb	13 48 55.4	-0.2
	baz=222						
TWK1	**Hengchun**	**0.45**	**212**	P	Pb	13 48 48.7	-0.3
TWK1	baz=211			*e*S	Sb	13 48 55.6	-0.3
	baz=211						
TSEB	**Hengchuen, Pin**	**0.45**	**200**	*e*P	Pb	13 48 49.4	+0.4
	baz=204						
TSEB				*e*S	Sb	13 48 56.4	+0.5
	baz=204						
TWG	**Pinlang**	**0.49**	**1**	⇓*i* P	Pg	13 48 48.8	+0.7
	baz=1.0						
TWG				*e*S	Sb	13 48 57.4	+0.1
	baz=1.0						
TWG	**Pinlang**	**0.49**	**1**	*e*P	Pg	13 48 48.4	+0.3
	3μm,0.5s						
TWG				LR	LR		
	comp=Z,4μm,20.0s						
LAY	**Lan-yu**	**0.54**	**122**	P	Pb	13 48 50.1	-0.3
	baz=121						
TWP	**Hsiaoliuchiu**	**0.65**	**272**	*e*P	Pn	13 48 54.7	+0.3
	baz=272						
SGLT	**Jiouru**	**0.66**	**307**	*e*P	Pb	13 48 52.4	-0.2
	baz=307						
SGLT				*e*S	Sb	13 49 03.5	+1.4
	baz=307						
KAU	**Kaohsiung**	**0.74**	**289**	*e*P	Pn	13 48 55.9	+0.3
	baz=289						
TWM1	**Shoushan**	**0.77**	**310**	*e*P	Pb	13 48 54.7	+0.2
	baz=310						
CHKT	**Chengkung**	**0.82**	**20**	*e*P	Pb	13 48 54.9	-0.5
	baz=20						
ELDTW	**Liuqu**	**0.86**	**357**	*e*P	Pb	13 48 56.1	0.0
	baz=357						
SGST	**Jiashian**	**0.87**	**330**	P	Pb	13 48 56.6	+0.3
	baz=329						
SGST				S	Sb	13 49 09.3	+1.0
	baz=329						
STYT	**Tauyuan**	**0.88**	**341**	P	Pb	13 48 56.2	-0.2
	baz=341						
STYT				*e*S	Sb	13 49 09.2	+0.7
	baz=341						
CHN3	**Shinhua**	**0.99**	**319**	*e*P	Pn	13 49 00.4	+1.4
	baz=319						
CHN1	**Nanshi**	**0.99**	**330**	*e*P	Pn	13 48 59.6	+0.5
	baz=330						
WTP	**Ta-pu**	**1.01**	**336**	P	Pn	13 48 59.4	-0.1
	baz=336						
TWF1	**Yuli**	**1.05**	**12**	*e*P	Pb	13 48 59.5	+0.3
	baz=12						
TWK	**Hsinying**	**1.08**	**331**	*e*P	Pn	13 49 00.7	+0.3
	baz=331						
TWK				*e*S	Sn	13 49 15.3	-0.5
	baz=331						
EHY	**Hungye**	**1.20**	**12**	*e*P	Pn	13 49 02.9	+0.9
	baz=11						
ALS	**Alishan**	**1.20**	**349**	*e*P	Pn	13 49 02.3	-0.1
	baz=349						
ALS				*e*S	Sn	13 49 19.1	-0.2
	baz=349						
CHN5	**Tsauling**	**1.31**	**345**	*e*P	Pb	13 49 04.5	+0.7
	baz=344						
CHN5				*e*S	Sn	13 49 22.8	+1.1
	baz=344						
WGK	**Gukeng**	**1.43**	**341**	*e*P	Pg	13 49 06.2	+0.1
	baz=341						
SMLT	**Sun Moon Lake**	**1.56**	**355**	*e*P	Pb	13 49 08.0	0.0
	baz=354						
TYC	**Yuchr**	**1.58**	**353**	*e*P	Pg	13 49 08.7	-0.2
	baz=353						
TYC				*e*S	Sg	13 49 29.5	0.0
	baz=353						
WNT	**Mingjian**	**1.58**	**347**	*e*P	Pb	13 49 08.6	+0.2
	baz=347						
TWT	**Tachien**	**1.92**	**3**	*e*P	Pn	13 49 12.5	+0.4
	baz=2.0						
TWQ1	**Liyutan**	**2.03**	**353**	*e*P	Pb	13 49 15.2	-0.8
	baz=352						
NNS	**Nan Shan**	**2.13**	**8**	*e*P	Pb	13 49 17.8	+0.2
	baz=7.0						
ENA	**Nanau**	**2.19**	**16**	*e*P	Pb	13 49 17.4	-1.2
	baz=16						
ENTT	**Nioudou**	**2.35**	**11**	*e*P	Pn	13 49 18.4	+0.5
	baz=11						
NSK	**Sanguang**	**2.36**	**7**	*e*P	Pn	13 49 18.7	+0.7
	baz=6.0						

*IDC **14** 13:51:34.5±1.2, 35°.22S×178°.24W, h0km, mb4.3/5, mb1 4.5/7, mb1mx4.1/29, mbtmp4.4/7, ML4.4/2, Error ellipse: s-maj=37.6km s-min=26.8km az=9.0*
*NEIC **14** 13:51:36.2±1.1, 35°.3S±0°.1×178°.2W±0°.1, h10km, mb4.3/2, Error ellipse: s-maj=21.8km s-min=16.8km az=130.0*

ISC 14 13:51:36.2±1.1, 35°.3S±0°.1×178°.2W±0°.1, h10km, n45, σ1§64/50, mb4.4/7, East of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**3.59**	**230**	PN	**Pn**	**13 52 32.9**	**+1.0**
PKGZ	**Pakihiroa**	**3.94**	**228**	PN	**Pn**	**13 52 38.7**	**+1.9**
PKGZ	**Pakihiroa**	**3.94**	**228**	SN	**Sn**	**13 53 21.9**	**-1.1**
HAZ	**Te Kaha**	**4.04**	**232**	PN	**Pn**	**13 52 40.5**	**+2.4**
HAZ				SN	**Sn**	**13 53 27.3**	**+1.8**
HAZ	**Te Kaha**	**4.04**	**232**	SN	**Sn**	**13 53 26.9**	**+1.5**
TWGZ	**Tauwhareparae**	**4.18**	**226**	PN	**Pn**	**13 52 42.7**	**+2.6**
TWGZ				SN	**Sn**	**13 53 30.1**	**+1.0**
RUGZ	**Raukumara Rang**	**4.23**	**230**	PN	**Pn**	**13 52 43.2**	**+2.4**
RUGZ	**Raukumara Rang**	**4.23**	**230**	SN	**Sn**	**13 53 30.6**	**+0.2**
CNGZ	**Carnagh Statio**	**4.27**	**221**	*e*PN	**Pn**	**13 52 43.9**	**+2.6**
TKGZ	**Te Karaka**	**4.44**	**224**	*e*PN	**Pn**	**13 52 46.1**	**+2.5**
TKGZ	**Te Karaka**	**4.44**	**224**	SN	**Sn**	**13 53 35.3**	**+0.1**
MWZ	**Matawai**	**4.56**	**227**	PN	**Pn**	**13 52 47.4**	**+2.2**
MWZ	**Matawai**	**4.56**	**227**	SN	**Sn**	**13 53 36.8**	**-1.4**
RIGZ	**Rimuhau**	**4.67**	**222**	*e*PN	**Pn**	**13 52 48.9**	**+2.1**
RIGZ	**Rimuhau**	**4.67**	**222**	SN	**Sn**	**13 53 41.3**	**+0.2**
RAGZ	**Rawiri**	**4.73**	**227**	PN	**Pn**	**13 52 49.6**	**+2.0**
RAGZ	**Rawiri**	**4.73**	**227**	SN	**Sn**	**13 53 41.4**	**-1.1**
URZ	**Urewera**	**4.77**	**231**	Pn	**Pn**	**13 52 49.4**	**+1.3**
	28nm,0.3s,baz=8.3,slow=2.4,SNR=16						
URZ				Sn	**Sn**	**13 53 42.2**	**-1.1**
	18nm,0.3s,baz=123,slow=22,SNR=5.8						
MHGZ	**Mahia Peninsul**	**4.92**	**218**	PN	**Pn**	**13 52 49.9**	**-0.3**
KNZ	**Kokohu**	**4.95**	**220**	*e*PN	**Pn**	**13 52 51.8**	**+1.3**
KNZ	**Kokohu**	**4.95**	**220**	SN	**Sn**	**13 53 47.4**	**-0.3**
SNGZ	**Shannon Statio**	**4.96**	**225**	PN	**Pn**	**13 52 53.0**	**+2.2**
RTZ	**Ruatahuna**	**5.07**	**228**	PN	**Pn**	**13 52 54.1**	**+1.8**
MUGZ	**Murupara**	**5.11**	**230**	PN	**Pn**	**13 52 53.6**	**+0.8**
MUGZ				SN	**Sn**	**13 53 49.4**	**-2.5**
MUGZ	**Murupara**	**5.11**	**230**	SN	**Sn**	**13 53 49.5**	**-2.4**
NMHZ	**Naumai**	**5.48**	**225**	PN	**Pn**	**13 53 00.1**	**+2.1**
ARHZ	**Aropaoanui**	**5.49**	**223**	PN	**Pn**	**13 53 00.3**	**+2.3**
ARHZ	**Aropaoanui**	**5.49**	**223**	SN	**Sn**	**13 54 00.4**	**-0.8**
BKZ	**Black Stump Fm**	**5.71**	**226**	PN	**Pn**	**13 53 03.2**	**+2.1**
BKZ				SN	**Sn**	**13 54 03.0**	**-3.7**
KAHZ	**Kahuranaki**	**5.93**	**220**	PN	**Pn**	**13 53 04.3**	**+0.1**
MRZ	**Mangatainoka R**	**7.25**	**221**	PN	**Pn**	**13 53 23.0**	**+0.9**
CTZ	**Chatham Island**	**8.50**	**172**	PN	**Pn**	13 53 46.7	+7.4
RPZ	**Rata Peaks**	**11.78**	**221**	PN	**Pn**	**13 54 24.2**	**-0.1**
	1.2nm,0.3s,baz=173,slow=4.3,SNR=5.2						
RPZ				Sn	Sn	13 56 24.3	-12
	1.2nm,0.3s,baz=351,slow=19,SNR=4.7						
EIDS	**Eidsvold**	**28.20**	**282**	*e*P	**P**	**13 57 28.8**	**-0.3**
	2.3nm,0.5s						
STKA	**Stephens Creek**	**33.50**	**264**	P	**P**	**13 58 16.2**	**+0.4**
	0.7nm,0.6s,baz=107,slow=18,SNR=2.3						
CTA	**Charters Tower**	**34.72**	**286**	P	**P**	**13 58 26.5**	**+0.1**
	8.1nm,1.0s,baz=111,slow=15,SNR=3.8						
ASAR	**Alice Springs**	**42.90**	**272**	P	**P**	**13 59 34.1**	**-1.0**
	6.3nm,0.7s,baz=114,slow=7.4,SNR=25						
WRAB	**Tennant Creek**	**44.32**	**277**	*e*P	**P**	**13 59 45.2**	**-1.4**
	3.8nm,0.6s						
WRA	**Warramunga Arr**	**44.33**	**277**	P	**P**	**13 59 45.1**	**-1.5**
	4.6nm,0.5s,baz=118,slow=7.8,SNR=19						
FITZ	**Fitzroy Crossi**	**52.34**	**274**	P	**P**	**14 00 47.9**	**-0.5**
	3.8nm,1.0s,baz=125,slow=5.3,SNR=4.0						
FITZ	**Fitzroy Crossi**	**52.34**	**274**	*e*P	**P**	**14 00 48.2**	**-0.2**
FINES	**FINESS Array B**	**149.64**	**337**	PKPbc	**PKPbc**	**14 11 24.2**	**-1.0**
	5.0nm,1.0s,baz=56,slow=5.2,SNR=2.8						
DBIC	**Dimbokro**	**150.84**	**166**	PKPbc	**PKPbc**	**14 11 28.6**	**-0.9**
	3.6nm,1.0s,baz=162,slow=6.4,SNR=1.8						
BRTR	**Keskin Array B**	**154.43**	**289**	PKPbc	**PKPbc**	**14 11 38.0**	**+1.0**
	0.4nm,0.6s,baz=141,slow=4.8,SNR=2.7						
TORD	**Torodi Ar. Bea**	**157.93**	**180**	PKP	**PKPdf**	**14 11 35.6**	**+1.9**
	0.2nm,0.5s,baz=213,slow=3.2,SNR=3.0						
TORD				PKPab	**PKPab**	**14 12 06.1**	**-0.5**
	0.2nm,0.5s,baz=143,slow=4.0,SNR=2.6						

MEX 14 13:53:11.1±0.5, 15°.42N×93°.26W, h80km±15km, MD3.6, Near coast of Chiapas

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

TGIG		**1.36**	**5**	*e*P	Pn	13 53 32.8	-1.9
TGIG				*e*S	Sn	13 53 51.1	-1.3
CCIG	**Comitan**	**1.38**	**51**	*e*P	Pn	13 53 33.9	-1.1
CCIG				*i* S	Sn	13 53 50.6	-2.5

*SJA **14** 14:01:38.7±1.1, 32°.87S×71°.80W, h27km±21km, ML3.2, MW3.5*
*GUC **14** 14:01:39.1±0.5, 32°.56S×71°.59W, h12km±2km, ML3.2*

ISC 14 14:01:35.0±3.1, 32°.79S±0°.08×72°.0W±0°.1, h9km±16km, n17, σ1§12/25, 1D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ROC1	**El Roble**	**0.81**	**103**	*i* P	**Pn**	**14 01 52.6**	**-0.2**
ROC1				*i* S	**Sb**	**14 02 02.7**	**+0.3**
ROCH	**El Roble**	**0.81**	**103**	⇓*i* P	**Pn**	**14 01 52.5**	**-0.3**
ROCH				*e*S	**Sb**	**14 02 02.0**	**-0.4**
ROCH				IAML		14 02 03.5	
	comp=N,2μm,0.3s						
PEL	**Peldehue**	**1.12**	**109**	*e*P	**Pn**	**14 01 57.2**	**+0.3**
PEL				*e*S	**Sb**	**14 02 11.2**	**0.0**
PEL				IAML		14 02 14.6	
	comp=E,2μm,0.2s						
CLCH	**Cerro Calan**	**1.33**	**117**	*e*P	**Pg**	**14 02 01.3**	**+0.7**
CLCH				*e*S	**Sg**	**14 02 18.3**	**+0.5**
CLCH				IAML		14 02 22.1	
	comp=N,1μm,0.5s						
FSR	**Penalolen**	**1.37**	**120**	*e*P	**Pn**	**14 01 58.8**	**-1.7**
FSR				*e*S	**Sg**	**14 02 20.0**	**+0.8**
FCH	**Farellones**	**1.49**	**111**	*e*P	**Pg**	**14 02 03.6**	**0.0**
FCH				*e*S	**Sg**	**14 02 22.5**	**-0.5**
FCH				IAML		14 02 23.4	
	comp=N,597nm,0.2s						
AUSP	**Uspallata**	**2.24**	**76**	*i* P	**Pb**	**14 02 15.3**	**-0.4**
AUSP				*e*S	**Sb**	**14 02 43.0**	**-0.7**
RTLS	**Leoncito**	**2.45**	**67**	*i* P	**Pb**	**14 02 18.6**	**-0.9**
RTLS				IAML		14 02 28.6	
	comp=Z,51nm,0.6s						
RTLS				*e*S	**Sb**	**14 02 49.2**	**-0.7**
ARCO	**CERRO ARCO**	**2.54**	**92**	*i* P	**Pb**	**14 02 21.8**	**+1.0**
ARCO				IAML		14 02 22.1	
	comp=Z,67nm,0.2s						
ARCO				*e*S	**Sg**	**14 02 55.0**	**-1.6**
ASAL	**Salagasta**	**2.63**	**86**	*i* P	**Pb**	**14 02 22.7**	**+0.3**
ASAL				*i* S	**Sb**	**14 02 57.2**	**+2.3**
RTCV	**Cerro Valdivia**	**3.03**	**73**	*e*P	**Pb**	**14 02 27.4**	**-1.7**
RTCV				*e*S	**Sb**	**14 03 07.0**	**+0.7**
RTLL	**Cerro Villicun**	**3.29**	**65**	*e*P	**Pb**	**14 02 32.2**	**-1.3**
RTLL				*e*S	**Sb**	**14 03 13.9**	**+0.2**
ACCO	**Cerro Coronel**	**3.30**	**49**	IAML		14 03 27.9	
	comp=Z,53nm,0.4s						
AMOG	**MOGNA**	**3.47**	**59**	*e*P	**Pn**	**14 02 31.5**	**+2.2**
AVFE	**Valle Fertil**	**4.38**	**62**	IAML		14 03 46.6	
	comp=Z,26nm,0.3s						
VCA	**Vinchina**	**5.17**	**40**	IAML		14 04 11.9	
	comp=Z,63nm,0.7s						
TCA	**Tanti**	**6.41**	**79**	IAML		14 04 33.2	
	comp=Z,7.1nm,0.5s						

*IDC **14** 14:02:39.4±3.4, 35°.11S×178°.91W, h0km, mb3.8/2, mb1 4.1/3, mb1mx3.7/23, mbtmp3.8/3, ML3.5/1, Error ellipse: s-maj=82.1km s-min=37.6km az=128.0*

ISC 14 14:02:39.3±2.0, 35°.3S±0°.1×178°.6W±0°.2, h10km, n23, σ1§18/33, East of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**3.40**	**227**	*e*PN	**Pn**	**14 03 33.0**	**+0.6**
MXZ				SN	**Sn**	**14 04 13.3**	**+0.4**
WMGZ	**Waiomatatini S**	**3.52**	**223**	*e*PN	**Pn**	**14 03 35.1**	**+1.1**
PKGZ	**Pakihiroa**	**3.75**	**225**	PN	**Pn**	**14 03 38.9**	**+1.6**
PKGZ				SN	**Sn**	**14 04 21.7**	**0.0**
PUZ	**Puketiti**	**3.78**	**222**	PN	**Pn**	**14 03 38.8**	**+1.0**
PUZ				SN	**Sn**	**14 04 22.2**	**-0.1**
HAZ	**Te Kaha**	**3.84**	**229**	PN	**Pn**	**14 03 40.6**	**+2.1**
HAZ				SN	**Sn**	**14 04 25.0**	**+1.2**
TWGZ	**Tauwhareparae**	**4.01**	**223**	PN	**Pn**	**14 03 42.9**	**+2.0**
TWGZ				SN	**Sn**	**14 04 28.1**	**+0.2**
RUGZ	**Raukumara Rang**	**4.04**	**227**	*e*PN	**Pn**	**14 03 43.5**	**+2.1**
CNGZ	**Carnagh Statio**	**4.12**	**218**	*e*PN	**Pn**	**14 03 42.9**	**+0.7**
TKGZ	**Te Karaka**	**4.27**	**221**	PN	**Pn**	**14 03 45.6**	**+1.2**
TKGZ				SN	**Sn**	**14 04 34.1**	**-0.1**
MWZ	**Matawai**	**4.38**	**225**	*e*PN	**Pn**	**14 03 46.6**	**+0.7**
MWZ				SN	**Sn**	**14 04 35.9**	**-1.0**
RIGZ	**Rimuhau**	**4.51**	**220**	*e*PN	**Pn**	**14 03 48.4**	**+0.6**
RAGZ	**Rawiri**	**4.55**	**224**	*e*PN	**Pn**	**14 03 49.3**	**+1.0**
URZ	**Urewera**	**4.57**	**228**	Pn	**Pn**	**14 03 49.1**	**+0.6**
	2.4nm,0.3s,baz=80,slow=1.5,SNR=5.1

VCA				*i* S		Sn	14 41 38.3	-0.9	
VCA				IAML			14 41 44.6		
	comp=Z,211nm,0.5s								
FSA	**Cafayete**	**1.91**	**11**	*e*P		Pn	14 41 14.6	+1.3	
FSA				*e*S		Sn	14 41 41.2	-0.6	
AGUA	**GUANDACOL**	**2.38**	**231**	*e*P		Pn	14 41 19.1	+0.8	
AGUA				*i* S		Sn	14 41 50.8	0.0	
APLL	**PUNTA DE LOS L**	**2.40**	**183**	*e*P		Pn	14 41 19.7	+1.2	
APLL				*e*S		Sn	14 41 50.4	-0.9	
AVFE	**Valle Fertil**	**2.82**	**199**	*e*P		Pn	14 41 23.9	+0.5	
AVFE				*e*S		Sn	14 41 58.5	-1.5	
AVFE				IAML			14 41 59.5		
	comp=Z,62nm,0.3s								
ACDV	**Cuesta del Vie**	**3.23**	**227**	*e*P		Pn	14 41 29.5	+1.0	
ACDV				*i* S		Sn	14 42 09.0	-0.1	
AMOG	**MOGNA**	**3.47**	**212**	*e*P		Pn	14 41 31.6	+0.4	
AMOG				*e*S		Sn	14 42 13.2	-0.8	
AROD	**Rodeo**	**3.47**	**231**	*i* P		Pn	14 41 32.6	+1.0	
AROD				*e*S		Sn	14 42 14.2	-0.3	
ACCO	**Cerro Coronel**	**3.49**	**222**	*i* P		Pn	14 41 32.4	+0.5	
ACCO				IAML			14 41 32.6		
	comp=Z,182nm,0.3s								
ACCO				*i* S		Sn	14 42 14.5	-0.6	
RTLL	**Cerro Villicun**	**3.79**	**208**	IAML			14 42 24.6		
	comp=Z,65nm,0.6s								
RTCV	**Cerro Valdivia**	**4.29**	**205**	*e*P		Pn	14 41 42.1	+0.5	
RTCV				*i* S		Sn	14 42 31.4	-1.2	
ACAN	**Cantantal**	**4.33**	**189**	*e*P		Pn	14 41 42.8	+0.8	
ACAN				*e*S		Sn	14 42 31.7	-1.8	
RTLS	**Leoncito**	**4.56**	**213**	*e*P		Pn	14 41 46.0	+0.7	
RTLS				IAML			14 41 47.4		
	comp=Z,38nm,0.3s								
RTLS				*e*S		Sn	14 42 36.8	-2.5	
AUSP	**Uspallata**	**4.96**	**211**	*e*P		Pn	14 41 51.0	+0.7	
ASAL	**Salagasta**	**5.05**	**204**	*e*P		Pn	14 41 52.3	+0.9	
ASAL				*e*S		Sn	14 42 48.4	-1.9	

IDC ***14*** *14:44:48.7±2.4,33°.80N×117°.21W,h0km,mb3.6/1, mb1 3.5/4,mb1mx3.3/47,mbtmp3.1/4,ML3.0/3,Error ellipse: s-maj=40.8km s-min=10.8km az=34.0*

ISCJB ***14*** *14:44:49.4±0.4,33°.95N±0°.01×117°.08W±0°.02,h10km±3km, mb3.7/1,Error ellipse: s-maj=2.5km s-min=2.1km az=29.5*

NEIC ***14*** *14:44:51.0±0.0,33°.95N×117°.08W,h17km,ML4.1(PAS), After PAS.*

NEIC Felt [IV] at Angelus Oaks, Forest Falls and Riverside and [III] in the Banning-Long Beach-Temecula area. Felt throughout the Los Angeles-Palm Desert area and as far south as San Diego.

ISC 14 14:44:50.4±1.0,33°.94N±0°.02×117°.08W±0°.02,h9km±8km, n97,σ1s48/132,Southern California

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
MURC	**Murrieta**	**0.35**	**196**	P		**Pg**	**14 44 58.1**	**+0.8**
	baz=16,SNR=1000							
MURC				S		**Sg**	**14 45 03.4**	**+1.4**
	baz=16							
BBRC	**Big Bear Solar**	**0.35**	**22**	P		**Pg**	**14 44 57.6**	**+0.1**
	baz=202,SNR=406							
BBRC				S		**Sg**	**14 45 02.4**	**+0.2**
	baz=202							
BFSC	**Mount Baldy Ra**	**0.56**	**302**	P		**Pg**	**14 45 01.3**	**-0.2**
	baz=121,SNR=1000							
BFSC				S		**Sg**	**14 45 08.8**	**-0.1**
	baz=121							
PFO	**Pinyon Flats O**	**0.61**	**122**	Pg		**Pg**	**14 45 02.1**	**-0.2**
	432nm,0.3s,baz=308,slow=17,SNR=9102							
PFO				Lg		Lg	14 45 10.8	
	1μm,0.3s,baz=204,slow=20,SNR=103							
PFO	**Pinyon Flats O**	**0.61**	**122**	P		**Pg**	**14 45 02.4**	**+0.1**
	baz=303,SNR=1000							
PFO				S		**Sg**	**14 45 10.4**	**+0.1**
	baz=303							
PFO	**Pinyon Flats O**	**0.61**	**122**	*e*Pg		**Pg**	**14 45 02.4**	**+0.1**
PFO				*e*Sg		**Sg**	**14 45 10.1**	**-0.2**
TPFO	**Pinon Flats**	**0.62**	**122**	P		**Pg**	**14 45 02.5**	**+0.1**
	baz=303,SNR=1000							
TPFO				S		**Sg**	**14 45 11.0**	**+0.4**
	baz=303							
I57US	**PINON FLAT INF**	**0.62**	**122**	Pg		**Pg**	**14 45 02.4**	**0.0**
	baz=300,slow=32							
I57US				Lg		Lg	14 45 10.8	
	baz=302,slow=32,SNR=1.0							
MWC	**Mount Wilson**	**0.86**	**290**	*e*Pg		**Pg**	**14 45 06.3**	**-0.7**
MWC				*e*Sg		**Sg**	**14 45 18.0**	**-0.2**
BELC	**Belle Mtn. Jos**	**0.90**	**86**	P		**Pg**	**14 45 07.4**	**-0.4**
	baz=267,SNR=1000							
BELC				S		**Sg**	**14 45 19.2**	**-0.4**
	baz=267							
RRX	**Edison Barstow**	**0.94**	**4**	P		**Pg**	**14 45 07.9**	**-0.6**
	baz=184,SNR=70							
RRX				S		**Sg**	**14 45 20.5**	**-0.2**
	baz=184							
PASC	**Pasadena Art C**	**0.94**	**285**	*e*Pg		**Pg**	**14 45 07.5**	**-1.2**
PASC				*e*Sg		**Sg**	**14 45 19.9**	**-1.1**
FMP	**Fort Macarthur**	**1.03**	**258**	P		**Pg**	**14 45 09.6**	**-0.7**
	baz=77,SNR=20							
FMP				S		**Sg**	**14 45 23.3**	**-0.4**
	baz=77							
109C	**Camp Elliot, M**	**1.04**	**181**	P		**Pg**	**14 45 09.5**	**-1.0**
	baz=1.4,SNR=106							
109C				S		**Sg**	**14 45 23.3**	**-0.8**
	baz=1.4							
HEC	**Hector,Ludlow**	**1.08**	**35**	P		**Pg**	**14 45 10.3**	**-1.0**
	baz=215,SNR=315							
HEC				S		**Sg**	**14 45 24.7**	**-0.7**
	baz=215							
DECC	**Green Verdugo**	**1.09**	**287**	P		**Pg**	**14 45 10.3**	**-1.0**
	baz=106,SNR=166							
DECC				S		**Sg**	**14 45 24.9**	**-0.6**
	baz=106							
MONP	**Monument Peak,**	**1.18**	**152**	P		**Pb**	**14 45 12.5**	**-0.7**
	baz=333,SNR=710							
MONP				S		**Sb**	**14 45 28.0**	**-0.6**
	baz=333							
CIS	**Catalina Islan**	**1.23**	**245**	P		**Pn**	**14 45 12.0**	**-1.9**
	baz=64,SNR=126							
CIS				S		**Sb**	**14 45 29.6**	**-0.4**
	baz=64							
BAR	**Barrett**	**1.30**	**165**	*e*Pn		**Pn**	**14 45 13.3**	**-1.5**
BAR				*e*Sg		**Sb**	**14 45 30.4**	**-1.4**
GSC	**Goldstone, Bar**	**1.38**	**9**	P		**Pn**	**14 45 14.9**	**-1.1**
	baz=189,SNR=530							
GSC				Sb		**Sb**	**14 45 33.9**	**-0.4**
	baz=189							
GSC	**Goldstone, Bar**	**1.38**	**9**	*e*Pn		**Pn**	**14 45 14.7**	**-1.3**
GSC				*e*Sn		**Sb**	**14 45 33.0**	**-1.3**
GMRC	**Granite Mounta**	**1.45**	**54**	P		**Pn**	**14 45 15.3**	**-1.7**
	baz=235,SNR=378							
GMRC				Sb		**Sn**	**14 45 35.6**	**-0.6**
	baz=235							
SWSC	**Sam W. Stewart**	**1.46**	**132**	P		**Pn**	**14 45 15.0**	**-2.0**
	baz=314,SNR=125							
SWSC				Sb		**Sn**	**14 45 36.5**	**+0.2**
	baz=314							
IKP	**In-Ko-Pah, Jac**	**1.52**	**147**	P		**Pn**	**14 45 16.7**	**-1.2**
	baz=328,SNR=292							
IKP				Sb		**Sn**	**14 45 38.3**	**+0.5**
	baz=328							
SCI	**San Clemente I**	**1.55**	**232**	P		**Pn**	**14 45 17.3**	**-0.9**
	baz=52,SNR=39							
SCI				S		**Sn**	**14 45 37.3**	**-1.3**
	baz=52							
LRMC	**Laurel Mtn Rad**	**1.62**	**342**	P		**Pn**	**14 45 18.2**	**-1.1**
	baz=162,SNR=467							
IRM	**Iron Mountain**	**1.62**	**82**	P		**Pn**	**14 45 17.4**	**-1.9**
	baz=263,SNR=901							
BLG	**Laguna Peak, P**	**1.66**	**276**	P		**Pn**	**14 45 17.9**	**-1.8**
	baz=95,SNR=40							
BLG				S		**Sn**	**14 45 40.1**	**-1.0**
	baz=95							
CBX	**Cerro Bola**	**1.66**	**168**	P		**Pn**	**14 45 19.6**	**-0.2**
CBX				S		**Sn**	**14 45 41.6**	**+0.3**
TUQ	**Turquoise Moun**	**1.77**	**32**	P		**Pn**	**14 45 19.8**	**-1.7**
	baz=213,SNR=240							
TUQ				Sb		**Sb**	**14 45 45.4**	**-0.3**
	baz=213							
ARVC	**Arvin**	**1.87**	**310**	P		**Pn**	**14 45 21.4**	**-1.3**
	baz=129,SNR=39							
ARVC				Sb		**Sb**	**14 45 48.5**	**+0.3**
	baz=129							
LDFC	**Landfair**	**1.99**	**54**	*e*Pn		**Pn**	**14 45 23.5**	**-0.9**
SHOC	**Shoshone, Teco**	**2.07**	**18**	P		**Pn**	**14 45 24.3**	**-1.1**
	baz=199,SNR=835							
ISA	**Isabella, Lake**	**2.07**	**327**	P		**Pn**	**14 45 24.4**	**-1.0**
	baz=146,SNR=171							
ISA	**Isabella, Lake**	**2.07**	**327**	*e*Pn		**Pn**	**14 45 24.2**	**-1.2**
ISA				*e*Sn		**Sb**	**14 45 54.8**	**+0.7**
GLA	**Glamis**	**2.08**	**114**	P		**Pn**	**14 45 23.9**	**-1.7**
	baz=296,SNR=77							
GLA	**Glamis**	**2.08**	**114**	*e*Pn		**Pn**	**14 45 23.7**	**-1.9**
GLA				*e*Sn		**Sb**	**14 45 54.8**	**+0.4**
BSC	**Santa Cruz Isl**	**2.12**	**272**	P		**Pn**	**14 45 24.2**	**-2.0**
	baz=91,SNR=30							
Y12C	**Blythe**	**2.14**	**94**	P		**Pn**	**14 45 24.3**	**-2.0**
	baz=276,SNR=58							
Y12C	**Blythe**	**2.14**	**94**	*e*Pn		**Pn**	**14 45 24.3**	**-2.0**
MPMC	**Manual Prospec**	**2.14**	**351**	P		**Pn**	**14 45 25.4**	**-1.2**
	baz=171,SNR=305							
SNCC	**San Nicolas Is**	**2.15**	**252**	P		**Pn**	**14 45 24.9**	**-1.6**
	baz=70,SNR=5.5							
SNCC	**San Nicolas Is**	**2.15**	**252**	*e*Pn		**Pn**	**14 45 24.7**	**-1.8**
SNCC				*e*Sn		**Sn**	**14 45 54.5**	**+1.2**
NEE2	**Needles Airpor**	**2.20**	**67**	P		**Pn**	**14 45 25.5**	**-1.7**
	baz=249,SNR=39							
SBC	**Santa Barbara**	**2.24**	**284**	P		**Pn**	**14 45 26.8**	**-0.9**
	baz=102,SNR=8.2							
DAC	**Darwin (Calif)**	**2.37**	**350**	*e*Pn		**Pn**	**14 45 28.7**	**-1.0**
PKM	**Mcpherson Peak**	**2.45**	**294**	P		**Pn**	**14 45 29.9**	**-0.9**
	baz=112							
PDMCI	**Parker Dam,Lak**	**2.47**	**81**	P		**Pn**	**14 45 29.8**	**-1.1**
	baz=262,SNR=45							
VES	**Vestal, Richgr**	**2.51**	**320**	P		**Pn**	**14 45 30.6**	**-0.9**
	baz=138,SNR=16							
CWC	**Cottonwood Cre**	**2.63**	**342**	P		**Pn**	**14 45 32.4**	**-0.8**
	baz=162							
SMMC	**Simmler**	**2.77**	**301**	P		**Pn**	**14 45 34.2**	**-0.8**
	baz=119,SNR=6.1							
RCTC	**Rector, Farmer**	**2.95**	**324**	P		**Pn**	**14 45 37.0**	**-0.6**
	baz=142,SNR=6.5							
SHPR	**Sheep Range**	**3.01**	**31**	*e*Pn		**Pn**	**14 45 37.7**	**-0.8**
113A	**Mohawk Valley,**	**3.01**	**112**	*e*Pn		**Pn**	**14 45 35.5**	**-2.8**
113A				S		**Sb**	**14 46 23.3**	**+2.2**
GRAC	**Grapevine Rang**	**3.06**	**356**	P		**Pn**	**14 45 38.9**	**-0.2**
	baz=176,SNR=47							
TPNV	**Topopah Spring**	**3.08**	**13**	P		**Pn**	**14 45 39.0**	**-0.5**
	baz=193,SNR=34							
TPNV				Sb		**Sg**	**14 46 26.5**	**-3.0**
	baz=193							
TPNV	**Topopah Spring**	**3.08**	**13**	*e*Pn		**Pn**	**14 45 39.0**	**-0.5**
PAGB	**Antelope Grade**	**3.16**	**305**	*e*Pn		**Pn**	**14 45 38.8**	**-1.7**
SPIG	**San Pedro Mart**	**3.19**	**154**	P		**Pb**	**14 45 48.2**	**+0.7**
SPIG				S		**Sb**	**14 46 28.0**	**+1.4**
SPX	**San Pedro Mart**	**3.19**	**154**	P		**Pn**	**14 45 44.5**	**+3.4**
SPX				S		**Sb**	**14 46 23.8**	**-2.8**
TIN	**Tinemaha, Big**	**3.25**	**344**	P		**Pn**	**14 45 41.5**	**-0.2**
	baz=163,SNR=13							
Y14A	**Wickenburg**	**3.39**	**89**	*e*Pn		**Pn**	**14 45 42.1**	**-1.5**
PMPB	**Monarch Peak**	**3.80**	**308**	*e*Pn		**Pn**	**14 45 48.0**	**-1.3**
LCMT	**Little Creek M**	**4.38**	**45**	*e*Pn		**Pn**	**14 45 57.1**	**-0.3**
SAO	**San Andreas Ge**	**4.55**	**310**	*e*Pn		**Pn**	**14 45 57.4**	**-2.0**
R11A	**Troy Canyon, C**	**4.57**	**15**	*e*Pn		**Pn**	**14 45 59.9**	**0.0**
TVH3	**East Aurora ar**	**4.63**	**343**	*e*Pn		**Pn**	**14 46 01.5**	**+0.7**
TVH2	**Borealis Mine**	**4.63**	**343**	*e*Pn		**Pn**	**14 46 00.5**	**-0.4**
U15A	**North Rim**	**4.64**	**56**	*e*Pn		**Pn**	**14 46 00.8**	**-0.3**
X16A	**Lo Mia Camp, P**	**4.70**	**83**	*e*Pn		**Pn**	**14 46 00.9**	**-0.9**
CCUT	**Cedar City**	**4.71**	**39**	*e*Pn		**Pn**	**14 46 01.1**	**-0.7**
TVH1	**TV Hill, Hawth**	**4.71**	**344**	*e*Pn		**Pn**	**14 46 01.9**	**-0.1**
SZCU	**Shurtz Canyon**	**4.89**	**41**	*e*Pn		**Pn**	**14 46 04.1**	**-0.3**
CMB	**Columbia Colle**	**4.89**	**328**	*e*Pn		**Pn**	**14 46 03.4**	**-0.8**
WAKR	**Walker**	**4.94**	**338**	*e*Pn		**Pn**	**14 46 04.3**	**-0.7**
WUAZ	**Wupatki**	**4.96**	**70**	*e*Pn		**Pn**	**14 46 05.7**	**+0.4**
PKCU	**Pink Cliffs**	**5.23**	**47**	*e*Pn		**Pn**	**14 46 09.2**	**0.0**
PSUT	**Pine Spring**	**5.28**	**29**	*e*Pn		**Pn**	**14 46 10.4**	**+0.7**
YERR	**Yerington**	**5.33**	**342**	*e*Pn		**Pn**	**14 46 09.9**	**-0.5**
PNTR	**Pine Nut**	**5.53**	**339**	*e*Pn		**Pn**	**14 46 13.3**	**+0.2**
TUC	**Tucson**	**5.53**	**105**	*e*Pn		**Pn**	**14 46 10.4**	**-2.6**
AFDM	**Forest Hills D**	**5.90**	**329**	*e*Pn		**Pn**	**14 46 16.9**	**-1.2**
X18A	**Snowflake**	**5.94**	**82**	*e*Pn		**Pn**	**14 46 16.8**	**-2.0**
MSU	**Marysvale**	**6.05**	**40**	*e*Pn		**Pn**	**14 46 22.2**	**+1.9**
PAHR	**Pah Rah Range**	**6.05**	**343**	*e*Pn		**Pn**	**14 46 21.4**	**+1.2**
BMN	**Battle Mountai**	**6.48**	**359**	*e*Pn		**Pn**	**14 46 26.6**	**+0.4**
ORV	**Oroville**	**6.63**	**329**	*e*Pn		**Pn**	**14 46 28.2**	**0.0**
ORV				*e*Sg		**Sb**	**14 48 14.0**	**+8.7**
319A	**Douglas**	**7.06**	**109**	*e*Pn		**Pn**	**14 46 33.2**	**-0.8**
TMUT	**Trail Mountain**	**7.13**	**40**	*e*Pn		**Pn**	**14 46 32.1**	**-3.2**
MVCO	**Mesa Verde**	**7.72**	**63**	Pn		**Pn**	**14 46 44.0**	**+0.8**
	19nm,0.8s							
121A	**Cookes Peak, D**	**7.91**	**98**	*e*Pn		**Pn**	**14 46 45.8**	**-0.1**
	7.4nm,0.7s							
PV04	**Paradox Valley**	**7.97**	**54**	*e*Pn		**Pn**	**14 46 48.0**	**+1.4**
PV01	**Paradox Valley**	**8.07**	**56**	*e*Pn		**Pn**	**14 46 47.8**	**-0.2**
ANMO	**Albuquerque**	**8.83**	**80**	Pn		**Pn**	**14 47 00.1**	**+1.6**
	0.1nm,0.3s,baz=108,slow=20,SNR=2.1							
ANMO				Pg		Pg	14 47 31.9	-7.6
	0.2nm,0.3s,baz=271,slow=12,SNR=7.1							
ANMO				Lg		Lg	14 49 26.1	
	0.1nm,0.3s,baz=177,slow=21,SNR=5.6							
PDAR	**Pinedale Array**	**10.61**	**32**	Pn		**Pn**	**14 47 27.2**	**+4.3**
	0.0nm,0.3s,baz=288,slow=13,SNR=2.6							
TXAR	**Lajitas Array**	**12.32**	**108**	Pn		**Pn**	**14 47 47.4**	**+1.2**
	0.0nm,0.3s,baz=301,slow=30,SNR=2.6							
TXAR				Lg		Lg	14 51 12.6	
	0.0nm,0.3s,baz=153,slow=7.6,SNR=9.6							
ILAR	**Eielson Array**	**35.78**	**339**	P		**P**	**14 51 50.0**	**+0.5**

ISCJB ***14*** *14:52:44.0±0.4,17°.49S±0°.03×69°.66W±0°.06,h150km±3km, mb4.5/18,Error ellipse: s-maj=10.1km s-min=4.8km az=21.1*

SCB ***14*** *14:52:44.1±0.7,17°.11S×69°.44W,h154km±3km,Ml4.4/1, Error ellipse: s-maj=21.3km s-min=9.1km az=106.0*

NEIC ***14*** *14:52:45.8±0.8,17°.44S×69°.43W,h147km±6km,mb4.9/5, Error ellipse: s-maj=9.9km s-min=6.9km az=89.0*

GUC ***14*** *14:52:45.6±0.4,17°.75S×70°.01W,h165km±3km,ML4.2*

IDC ***14*** *14:52:46.6±1.2,17°.38S×69°.45W,h154km±10km,mb4.3/11, mb1 4.4/13,mb1mx4.2/31,mbtmp4.7/13,MS3.9/1, Ms1 4.0/1,ms1mx3.2/29,Error ellipse: s-maj=16.6km s-min=12.5km az=76.0*

ISC 14 14:52:43.8±0.7,17°.43S±0°.04×69°.68W±0°.05,h134km±6km, n49,σ1s93/64,mb4.5/18,8C-1D,Peru-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
BBOD	**La Paz, Gloria**	**1.30**	**53**	*i*Pn		**Pn**	**14 53 12.8**	**+2.1**
PB12	**IPOC Station P**	**1.33**	**208**	*e*P		**Pn**	**14 53 11.5**	**+1.1**
PB12				*e*S		**Sn**	**14 53 31.8**	**+1.0**
BBOJ	**La Paz, Jacaqu**	**1.49**	**73**	*i*Pn		**Pn**	**14 53 15.3**	**+2.6**
MNMC	**Minye Minye**	**1.69**	**177**	*e*P		**Pn**	**14 53 16.7**	**+2.0**
MNMC				*e*S		**Sn**	**14 53 40.2**	**+1.9**
MNMC				IAML			14 53 44.1	
	comp=N,3μm,0.1s							
BBOE	**La Paz, Chanca**	**1.73**	**69**	*i*Pn		**Pn**	**14 53 18.2**	**+2.8**
LPAZ	**La Paz**	**1.87**	**53**	P		**Pn**	**14 53 19.2**	**+2.1**
	comp=N,413nm,0.3s,baz=240,slow=7.9,SNR=4942							
LPAZ				S		**Sn**	**14 53 43.9**	**+1.5**
	comp=N,52nm,0.3s,baz=110,slow=19,SNR=7.8							
LPAZ				LR		LR	14 54 12.6	
	comp=N,448nm,21.0s,baz=165,slow=52							
LPAZ	**La Paz**	**1.87**	**53**	*e*P		**Pn**	**14 53 19.1**	**+2.1**
LPAZ				*e*S		**Sn**	**14 53 43.0**	**+0.6**
LPAZ	**La Paz**	**1.87**	**53**	*i*Pn		**Pn**	**14 53 19.1**	**+2.0**
LPAZ				*e*Sn		**Sn**	**14 53 44.8**	**+2.4**
	comp=N,2μm,0.8s							
BBOB	**La Paz, Bander**	**1.96**	**49**	*i*Pn		**Pn**	**14 53 20.2**	**+2.1**
BBOB				*i*Sn		**Sn**	**14 53 45.9**	**+1.7**
PSGC	**Pisagua**	**2.19**	**191**	*e*P		**Pn**	**14 53 21.1**	**+0.6**
PSGC				*e*S		**Sn**	**14 53 47.9**	**-0.8**
PSGC				IAML			14 53 49.6	
	comp=E,759nm,0.2s							
PB11	**IPOC Station P**	**2.32**	**179**	*e*P		**Pn**	**14 53 23.3**	**+1.3**
PB11				*e*S		**Sn**	**14 53 52.1**	**+0.6**
PB08	**IPOC Station P**	**2.74**	**170**	*e*P		**Pn**	**14 53 29.6**	**+2.0**
PB08				*e*S		**Sn**	**14 54 02.9**	**+1.6**
PB08				IAML			14 54 04.9	
	comp=N,1μm,0.8s							
HMBC	**Humberstone**	**2.84**	**184**	*e*P		**Pn**	**14 53 29.3**	**+0.6**
HMBC				*e*S		**Sn**	**14 54 02.0**	**-1.2**
HMBC				IAML			14 54 10.2	
	comp=N,1μm,0.3s							
PB01	**IPOC Station P**	**3.60**	**177**	*e*P		**Pn**	**14 53 39.0**	**+0.6**
PB01				*e*S		**Sn**	**14 54 19.0**	**-1.8**
PB02	**IPOC Station P**	**3.87**	**183**	*e*P		**Pn**	**14 53 42.5**	**+0.4**
PB02				*e*S		**Sn**	**14 54 25.0**	**-2.3**
LVC	**Limon Verde**	**5.20**	**172**	*e*Pn		**Pn**	**14 54 01.0**	**+0.9**
	comp=N,164nm,0.6s							
MOCB	**Mochara**	**5.38**	**136**	*i*P		**Pn**	**14 54 05.5**	**+3.0**
SIV	**San Ignacio**	**8.37**	**81**	P		**Pn**	**14 54 40.3**	**-2.0**
	comp=N,63nm,0.3s,baz=276,slow=10,SNR=178							
SIV				S		**Sn**	**14 56 08.2**	**-7.1**
	comp=N,1.5nm,0.3s,baz=3.2,slow=14,SNR=6.0							
SIV	**San Ignacio**	**8.37**	**81**	*i*P		**Pn**	**14 54 39.8**	**-2.5**
NNA	**Nana**	**8.79**	**307**	P		**Pn**	**14 54 47.7**	**-0.3**
	comp=N,16nm,0.3s,baz=144,slow=10.0,SNR=19							
NNA				S		**Sn**	**14 56 21.3**	**-4.3**
	comp=N,6.6nm,0.3s,baz=195,slow=20,SNR=3.9							
NNA	**Nana**	**8.79**	**307**	*e*Pn		**Pn**	**14 54 47.4**	**-0.6**
	comp=N,94nm,0.4s							
NNA				S		**Sn**	**14 56 21.3**	**-4.3**
	comp=N,13nm,0.5s							
SAML	**Samuel**	**10.54**	**38**	*e*Pn		**Pn**	**14 55 08.6**	**-2.8**
	comp=N,0.2nm,0.3s,baz=314,slow=12,SNR=4.0							
CPUP	**Villa Florida**	**14.47**	**130**	P		**Pn**	**14 56 00.8**	**-1.6**
	comp=N,0.2nm,0.3s,baz=314,slow=12,SNR=4.0							
TRQA	**Tornquist**	**21.63**	**163**	*e*P		**P**	**14 57 23.6**	**+0.2**
SPB	**Sao Paulo**	**21.71**	**110**	*e*P		**P**	**14 57 22.1**	**-2.2**
	comp=N,16nm,0.8s							
PLCA	**Paso Flores**	**23.23**	**182**	P		**P**	**14 57 40.1**	**+1.0**
	comp=N,17nm,0.8s,baz=25,slow=11,SNR=30							
RCBR	**Riachuelo**	**34.97**	**75**	P		**P**	**14 59 22.6**	**-0.8**
	comp=N,5.3nm,0.5s,baz=213,slow=4.7,SNR=5.5							
USHA	**Ushuaia**	**37.34**	**179**	P		**P**	**14 59 43.8**	**+0.7**
	comp=N,35nm,0.6s,baz=326,slow=7.3,SNR=4.2							
CMIG	**Matias Romero**	**42.34**	**323**	P		**P**	**15 00 26.3**	**+1.5**
	comp=N,1.0nm,0.3s,baz=34,slow=11,SNR=3.2							
TXAR	**Lajitas Array**	**56.90**	**324**	P		**P**	**15 02 15.8**	**+0.7**
	comp=N,0.2nm,0.4s,baz=149,slow=9.7,SNR=7.0							
LIC	**Lamto**	**68.02**	**76**	*e*P		**P**	**15 03 28.0**	**-1.2**
	comp=N,55nm,0.4s							
TIC	**Toumodi**	**68.18**	**75**	*e*P		**P**	**15 03 29.0**	**-1.3**
KIC	**Kosan Boka**	**68.33**	**76**	*e*P		**P**	**15 03 30.3**	**-0.9**
	comp=N,142nm,0.6s							
DBIC	**Dimbokro**	**68.34**	**75**	P		**P**	**15 03 30.4**	**-0.9**
	comp=N,57nm,0.5s,baz=229,slow=6.2,SNR=122							
PDAR	**Pinedale Array**	**70.24**	**330**	P		**P**	**15 03 43.6**	**+1.0**
	comp=N,0.3nm,0.5s,baz=116,slow=7.1,SNR=3.1							
ULM	**Lac du Bonnet**	**71.24**	**343**	P		**P**	**15 03 48.0**	**-0.2**
	comp=N,5.2nm,0.5s,baz=151,slow=6.8,SNR=13							
TORD	**Torodi Ar. Bea**	**76.72**	**72**	P		**P**	**15 04 19.8**	**-1.0**
	comp=N,30nm,0.7s,baz=254,slow=5.5,SNR=135							
SYO	**Syowa Base**	**80.55**	**160**	*e*P		**P**	**15 04 41.8**	**+1.0**
VNDA	**Vanda**	**80.71**	**190**	P		**P**	**15 04 43.4**	**+1.8**
	comp=N,2.4nm,0.8s,baz=146,slow=4.3,SNR=6.1							
VNDA				LR		LR	15 36 22.4	
	comp=N,63nm,18.3s,baz=152,slow=32							
PAB	**San Pablo**	**83.15**	**45**	*e*P		**P**	**15 04 55.0**	**0.0**
	comp=N,6.0nm,0.6s							
ESDC	**Sonseca Array**	**83.47**	**45**	P		**P**	**15 04 56.7**	**0.0**
	comp=N,2.5nm,0.6s,baz=254,slow=5.8,SNR=13							
YKA	**Yellowknife Ar**	**87.13**	**341**	P		**P**	**15 05 14.9**	**+0.8**
	comp=N,1.7nm,0.4s,baz=134,slow=4.8,SNR=9.5							
MAW	**Mawson**	**88.42**	**164**	P		**P**	**15 05 21.7**	**+1.3**
	comp=N,2.8nm,0.6s,baz=205,slow=7.7,SNR=11							
GERES	**GERESS Array B**	**98.67**	**42**	P		**P**	**15 06 07.3**	**-0.5**
	comp=N,0.6nm,0.5s,baz=244,slow=4.3,SNR=3.4							
ASAR	**Alice Springs**	**133.11**	**210**	PKP		**PKPdf**	**15 11 44.4**	**0.0**
	comp=N,0.5nm,0.6s,baz=131,slow=2.1,SNR=8.1							
WRA	**Warramunga Arr**	**136.00**	**213**	PKP		**PKPdf**	**15 11 50.8**	**

YSS	Yuzh-Sakhalins	9.20	4	*e*Pn		Pn	14 58 44.8	-0.9
	comp=Z,22nm,0.8s							
VLA	Vladivostok	9.28	308	*d* iP		Pn	14 58 49.4	+2.6
MSHR	Mys Shultsa	9.48	304	*d* iP		Pn	14 58 49.9	+0.3
USRK	Ussuriysk Ar.	9.83	314	P		Pn	14 58 55.6	+1.3
	comp=Z,3.8nm,0.3s,baz=118,slow=14,SNR=61							
USRK				LR		LR	15 02 34.3	
	comp=Z,260nm,18.2s,baz=88,slow=36							
JNU	Nakatsue	10.07	246	*e*Pn		Pn	14 59 00.1	+2.3
	comp=Z,7.1nm,0.7s							
CBIJ	Chichi jima	10.65	178	Pn		Pn	14 59 05.0	-0.6
KSRS	Korea Array	11.05	273	P		Pn	14 59 13.5	+2.5
	comp=Z,0.9nm,0.3s,baz=82,slow=14,SNR=43							
KSRS				LR		LR	15 03 02.1	
	comp=Z,445nm,20.9s,baz=128,slow=35							
KSAR	Wonju Array Be	11.08	273	P		Pn	14 59 13.5	+2.0
KSAR	Wonju Array Be	11.08	273	P		Pn	14 59 13.5	+2.0
MDJ	Mudanjiang	11.48	310	P		Pn	14 59 21.3	+4.4
MDJ				pmax	pmax			
	comp=Z,21nm,0.6s							
MDJ				pmax	pmax			
	comp=Z,160nm,7.4s							
MDJ	Mudanjiang	11.48	310	*e*Pn		Pn	14 59 20.8	+3.9
	comp=Z,43nm,1.0s							
HABR	Khabarovsk	11.79	337	*e*P		Pn	14 59 19.0	-2.0
HABR				*e*S		Sn	15 01 29.8	-1.1
HABR				pmax	pmax			
	comp=N,17nm,2.0s							
HABR				pmax	pmax			
	comp=Z,41nm,2.0s							
HABR				pmax	pmax			
	comp=E,5.0nm,1.0s							
HABR				MLR	MLR			
	comp=Z,154nm,15.0s							
PETK	Petropavlovsk-	18.88	31	P		Pn	15 00 54.4	+1.9
	comp=Z,0.1nm,0.3s,baz=221,slow=11,SNR=4.0							
PETK				LR		LR	15 07 20.3	
	comp=Z,200nm,20.0s,baz=249,slow=34							
TIA	Tai'an	19.80	273	⇑P		P	15 01 01.1	-0.6
TIA				pmax	pmax			
	comp=Z,10.0nm,0.9s							
MA2	Magadan	22.56	12	P		P	15 01 30.7	-0.5
	comp=Z,7.2nm,0.8s,baz=139,slow=20,SNR=3.1							
MA2				LR		LR	15 11 32.0	
	comp=Z,230nm,18.1s,baz=222,slow=40							
SEY	Seymchan	26.00	11	P		P	15 02 04.5	+1.2
	comp=Z,4.9nm,0.7s,baz=208,slow=9.6,SNR=9.4							
XAN	Xi'an	26.85	272	P		P	15 02 10.4	-0.9
XAN				pmax	pmax			
	comp=Z,29nm,0.6s							
XAN				pmax	pmax			
	comp=Z,160nm,3.9s							
BOD	Bodaibo	27.10	327	*e*P		P	15 02 12.8	-0.4
BOD				pmax	pmax			
	comp=Z,11nm,1.5s							
ULN	Ulaanbaatar	27.23	303	*ce*P		P	15 02 15.7	+0.9
ULN				pmax	pmax			
	comp=Z,15nm,1.7s							
ULN	Ulaanbaatar	27.23	303	*e*P		P	15 02 14.0	-0.8
	comp=Z,4.2nm,0.6s							
SONM	Songino Array	27.67	303	P		P	15 02 19.0	+0.4
	comp=Z,4.7nm,0.7s,baz=99,slow=8.6,SNR=14							
SONM	Songino Array	27.67	303	P		P	15 02 19.0	+0.4
SONM				pmax	pmax			
	comp=Z,5.0nm,0.7s							
ENH	Enshi	27.74	264	*e*P		P	15 02 18.4	-1.0
	comp=Z,64nm,0.8s							
H11N2	WAKE ISLAND Hy	28.24	123	T		T	15 32 48.6	
	baz=315,slow=75,SNR=1281							
H11N1	WAKE ISLAND Hy	28.25	123	T		T	15 32 46.6	
	baz=315,slow=75,SNR=1344							
H11N3	WAKE ISLAND Hy	28.26	123	T		T	15 32 42.9	
	baz=315,slow=75,SNR=1508							
H11S1	WAKE ISLAND Hy	28.98	125	T		T	15 33 33.5	
	baz=317,slow=76,SNR=1260							
H11S3	WAKE ISLAND Hy	28.98	125	T		T	15 33 33.6	
	baz=317,slow=76,SNR=1587							
H11S2	WAKE ISLAND Hy	29.00	125	T		T	15 33 46.3	
	baz=317,slow=76,SNR=1192							
ZAK	Zakamensk	30.09	307	*e*P		P	15 02 39.6	-0.4
ZAK				pmax	pmax			
	comp=Z,4.0nm,1.3s							
TLY	Talaya	30.12	310	LR		LR	15 15 09.3	
	comp=Z,321nm,18.6s,baz=66,slow=37							
TLY	Talaya	30.12	310	*i* P		P	15 02 40.9	+0.7
TLY				pmax	pmax			
	comp=Z,2.0nm,0.9s							
GTA	Gaotai	32.68	286	*e*P		P	15 03 04.3	+1.3
GTA				pmax	pmax			
	comp=Z,5.0nm,0.8s							
TIXI	Tiksi	34.60	353	P		P	15 03 19.0	-0.1
	comp=Z,1.9nm,0.5s,baz=179,slow=6.4,SNR=3.1							
ZALV	Zalesovo Beam	41.68	312	P		P	15 04 18.9	+0.1
	comp=Z,5.6nm,0.7s,baz=89,slow=7.0,SNR=14							
ZALV				PcP		PcP	15 06 14.2	-0.4
	comp=Z,2.5nm,0.7s,baz=95,slow=2.4,SNR=3.9							
CHTO	Chiang Mai	41.81	255	*e*P		P	15 04 20.4	0.0
CHTO	Chiang Mai	41.81	255	*e*P		P	15 04 20.4	0.0
CMAR	Chiang Mai Arr	42.02	255	P		P	15 04 21.7	-0.3
	comp=Z,1.6nm,0.7s,baz=43,slow=6.5,SNR=10							
CMAR				LR		LR	15 24 57.0	
	comp=Z,56nm,18.9s,baz=305,slow=41							
CMAR	Chiang Mai Arr	42.02	255	*i* P		P	15 04 22.2	+0.2
CMAR				pmax	pmax			
	comp=Z,2.0nm,0.7s							
LSA	Lhasa	42.49	275	*e*P		P	15 04 26.7	+0.4
LSA				pmax	pmax			
	comp=Z,8.0nm,0.8s							
LSA	Lhasa	42.49	275	*e*P		P	15 04 26.7	+0.4
	comp=Z,8.5nm,0.8s							
NVS	Novosibirsk	42.58	313	*e*P		P	15 04 23.8	-2.4
NVS				pmax	pmax			
	comp=Z,10.0nm,1.0s							
NVS				pmax	pmax			
	comp=E,10.0nm,1.3s							
NRIK	Noril'sk	42.74	335	P		P	15 04 26.9	-0.5
	comp=E,2.2nm,0.5s,baz=94,slow=7.8,SNR=4.6							
MK31	Makanchi Array	44.02	302	*i* P		P	15 04 36.9	-1.1
MK31				pmax	pmax			
	comp=Z,9.0nm,1.0s							
KURK	Kurchatov	45.75	308	*de*P		P	15 04 51.4	-0.2
KURK				pmax	pmax			
	comp=Z,50nm,1.0s							
KURK	Kurchatov	45.75	308	*e*P		P	15 04 50.5	-1.0
	comp=Z,157nm,0.7s							
KURBB	Kurchatov Arra	45.82	307	P		P	15 04 51.7	-0.4
	comp=Z,16nm,0.7s,baz=83,slow=8.0,SNR=50							
TAPN	Taplejung	46.24	274	*e*P		P	15 04 55.1	-1.0
	comp=Z,24nm,0.9s							
KSM	Kuching	46.31	226	*e*P		P	15 04 55.6	-0.8
	comp=Z,11nm,0.9s							
KDAK	Kodiak Island	46.32	42	*ce*P		P	15 04 57.4	+1.5
ODAN	Odare	46.71	273	*e*P		P	15 04 59.4	-0.4
	comp=Z,23nm,0.8s							
PDGK	Podgornoye	46.74	297	P		P	15 04 59.1	-0.5
PDGK				pmax	pmax			
	comp=Z,13nm,0.7s							
JIRN	Jiri	47.30	275	*e*P		P	15 05 04.3	-0.2
RAMN	Ramite	47.30	274	*e*P		P	15 05 03.9	-0.4
	comp=Z,33nm,0.7s							
GUN	Gumba	47.43	275	*e*P		P	15 05 04.8	-0.6
	comp=Z,95nm,0.9s							
PKI	Pulchoki	47.95	275	*e*P		P	15 05 08.9	-0.6
	comp=Z,12nm,0.6s							
KKN	Kakani	47.96	275	*e*P		P	15 05 09.0	-0.4
	comp=Z,35nm,0.7s							
PKIN	Phulchoki	47.96	275	*e*P		P	15 05 09.0	-0.5
	comp=Z,14nm,0.6s							
DMN	Daman	48.17	275	*e*P		P	15 05 10.8	-0.3
	comp=Z,16nm,0.7s							
GKN	Gorkha	48.37	276	*e*P		P	15 05 12.0	-0.5
	comp=Z,62nm,0.8s							
ILAR	Eielson Array	48.69	33	P		P	15 05 15.4	+1.2
	comp=Z,2.3nm,0.6s,baz=262,slow=5.9,SNR=33							
KOLN	Koldanda	49.29	276	*e*P		P	15 05 19.4	-0.2
	comp=Z,18nm,0.7s							
PYUN	Piuthan	49.62	277	*e*P		P	15 05 21.8	-0.3
	comp=Z,69nm,0.9s							
DOT	Dot Lake	50.00	34	*e*P		P	15 05 25.1	+0.8
	comp=Z,13nm,0.7s							
BVA0	Borovoye Array	50.33	312	*i* P		P	15 05 25.4	-1.6
BVA0				pmax	pmax			
	comp=Z,3.0nm,0.8s							
BVAR	Borovoye Array	50.33	312	P		P	15 05 26.9	0.0
	comp=Z,4.0nm,0.8s,baz=80,slow=8.1,SNR=13							
BVAR				PcP		PcP	15 06 45.0	0.0
	comp=Z,2.6nm,0.6s,baz=95,slow=3.1,SNR=5.2							
BVAR	Borovoye Array	50.33	312	P		P	15 06 45.0	0.0
BVAR				pmax	pmax			
	comp=Z,1.0nm,0.4s							
BRVK	Borovoye	50.39	312	*ce*P		P	15 05 27.8	+0.5
BRVK				pmax	pmax			
	comp=Z,14nm,1.0s							
BRVK	Borovoye	50.39	312	*e*P		P	15 05 26.7	-0.7
	comp=Z,16nm,0.9s							
KSH	Kashi	50.42	294	P		P	15 05 32.1	+4.1
KSH				PcP		PcP	15 06 49.3	+3.6
KSH				PP		PP	15 07 31.1	+7.3
KSH				S		S	15 12 36.1	-1.5
KSH				SS		SS	15 16 09.3	-2.3
KSH				pmax	pmax			
	comp=Z,6.0nm,0.6s							
KSH				pmax	pmax			
	comp=Z,83nm,3.7s							
KSH				LR	LR			
	comp=Z,290nm,8.4s							
KSH				LR	LR			
	comp=Z,290nm,12.7s							
KSH				LR	LR			
	comp=Z,190nm,13.9s							
AAK	Ala-Archa	50.45	298	P		P	15 05 27.3	-0.9
	comp=Z,4.7nm,0.7s,baz=109,slow=6.8,SNR=9.5							
AAK	Ala-Archa	50.45	298	*e*P		P	15 05 28.0	-0.1
AAK				pmax	pmax			
	comp=Z,11nm,0.8s							
AAK	Ala-Archa	50.45	298	*e*P		P	15 05 27.0	-1.1
	comp=Z,2.8nm,0.4s							
MNAS	Manas	51.88	298	P		P	15 05 39.1	+0.2
MNAS				pmax	pmax			
	comp=Z,12nm,0.8s							
KK31	Karatay Array	53.06	300	*i* P		P	15 05 46.1	-1.3
KK31				pmax	pmax			
	comp=Z,1.0nm,0.4s							
KKAR	Karatay Array	53.06	300	*e*P		P	15 05 46.7	-0.7
KKAR				pmax	pmax			
	comp=Z,2.0nm,0.4s							
KKAR	Karatay Array	53.06	300	*e*P		P	15 05 46.7	-0.7
	comp=Z,2.0nm,0.4s							
INK	Inuvik	53.58	27	P		P	15 05 52.4	+1.6
	comp=Z,3.8nm,0.5s,baz=306,slow=5.5,SNR=12							
SVE	Sverdlovsk	54.83	318	⇑*i*P		P	15 06 00.7	+0.6
SVE				pmax	pmax			
	comp=Z,17nm,0.9s							
ARU	Arti	56.04	318	*c* iP		P	15 06 08.5	-0.3
ARU				*PP		pP	15 06 23.4	+0.1
ARU							15 08 09.4	
ARU				S		S	15 13 55.1	+2.0
ARU				SS		SS	15 17 35.2	-4.0
ARU				pmax	pmax			
	comp=Z,29nm,1.7s							
ARU	Arti	56.04	318	*e*P		P	15 06 08.3	-0.5
	comp=Z,18nm,1.0s							
AB31	Akbulak array	57.73	310	*i* P		P	15 06 20.1	-0.8
AB31				pmax	pmax			
	comp=Z,5.0nm,0.7s							
ABKAR	Akbulak array	57.73	310	*e*P		P	15 06 20.0	-0.8
	comp=Z,4.3nm,0.6s							
WRAB	Tennant Creek	57.83	188	*ce*P		P	15 06 21.5	-0.3
WRAB				pmax	pmax			
	comp=Z,41nm,0.8s							
WRAB	Tennant Creek	57.83	188	*e*P		P	15 06 21.2	-0.6
	comp=Z,11nm,0.8s							
WRA	Warramunga Arr	57.84	188	P		P	15 06 21.3	-0.5
	comp=Z,23nm,0.7s,baz=5.6,slow=7.0,SNR=219							
WRA				PcP		PcP	15 07 13.8	-0.1
	comp=Z,3.8nm,0.6s,baz=0.9,slow=4.1,SNR=6.2							
WRA	Warramunga Arr	57.84	188	*i* P		P	15 06 21.2	-0.7
WRA				pmax	pmax			
	comp=Z,24nm,0.7s							
AKTO	Aktyubinsk	58.44	312	LR		LR	15 31 33.8	
	comp=Z,334nm,18.4s,slow=36							
AKTO	Aktyubinsk	58.44	312	P		P	15 06 23.6	-2.2
AKTO				pmax	pmax			
	comp=Z,10.0nm,1.2s							
ASAR	Alice Springs	61.56	188	P		P	15 06 47.3	-0.2
	comp=Z,7.2nm,0.8s,baz=12,slow=6.5,SNR=80							
MBWA	Marble Bar	62.20	203	*e*P		P	15 06 51.3	-0.4
	comp=Z,64nm,1.0s							
YKA	Yellowknife Ar	63.00	30	P		P	15 06 57.0	+0.4
	comp=Z,5.0nm,0.9s,baz=303,slow=6.7,SNR=4.0							
YKA	Yellowknife Ar	63.00	30	P		P	15 06 57.0	+0.4
YKA				pmax	pmax			
	comp=Z,5.0nm,0.9s							
KLMR	Klimovskoe	63.32	328	*e*P		P	15 06 56.4	-2.3
KLMR				pmax	pmax			
	comp=Z,11nm,1.5s							
GEYT	Alibeck	63.78	299	P		P	15 07 01.6	-0.6
	comp=Z,3.8nm,0.5s,baz=343,slow=3.1,SNR=5.1							
DAG	Danmarks Havn	65.07	355	*i* P		P	15 07 09.6	-0.4
	comp=Z,5.1nm,0.8s							
DAG				*i*			15 07 25.3	
DAG	Danmarks Havn	65.07	355	*i* P		P	15 07 09.6	-0.4
DAG				*i*			15 07 25.3	
DAG				pmax	pmax			
	comp=Z,4.0nm,0.8s							
COCO	West Island	65.18	230	*i* P		P	15 07 01.3	-10
OBN	Obninsk	67.71	323	*e*P		P	15 07 26.0	-1.2
OBN				*e*			15 09 56.0	
OBN				pmax	pmax			
	comp=Z,6.0nm,0.9s							
FINES	FINESS Array B	68.32	332	P		P	15 07 30.6	-0.3
	comp=Z,6.4nm,0.7s,baz=67,slow=5.0,SNR=9.9							
STKA	Stephens Creek	69.29	180	P		P	15 07 37.1	-0.1
	comp=Z,2.0nm,0.6s,baz=345,slow=6.7,SNR=7.5							
SUMG	Summit	69.95	0	*i* P		P	15 07 41.6	+0.3
	comp=Z,8.6nm,1.0s							
SUMG				*i*			15 07 57.3	
SUMG	Summit	69.95	0	*e*P		P	15 07 41.6	+0.3
SUMG				*i*			15 07 57.3	
SUMG				pmax	pmax			
	comp=Z,9.0nm,1.0s							
ZEI	Tsey	70.60	309	*e*P		P	15 07 43.1	-2.5
ZEI				pmax	pmax			
	comp=Z,12nm,0.8s							
KBZ	Khabaz	70.68	311	P		P	15 07 46.0	+0.2
	comp=Z,5.8nm,0.7s,baz=19,slow=3.2,SNR=16							
KBZ	Khabaz	70.68	311	P		P	15 07 46.0	+0.2
KBZ				pmax	pmax			
	comp=Z,6.0nm,0.7s							
KIV	Kislovodsk	70.68	311	*e*P		P	15 07 46.2	+0.3
KIV				pmax	pmax			
	comp=Z,21nm,1.1s							
EGMT	Eagleton	73.49	42	*e*P		P	15 08 02.6	0.0
	comp=Z,17nm,1.0s							
NB2	NORSAR Subarra	73.64	337	P		P	15 08 03.0	-0.2
NB2				pmax	pmax			
	comp=Z,3.0nm,0.7s							
NB2	NORSAR Subarra	73.64	337	P		P	15 08 03.1	-0.2
	comp=Z,3.2nm,0.7s,baz=38,slow=5.9							
NOA	NORSAR Array B	73.64	337	P		P	15 08 03.1	-0.2
	comp=Z,5.3nm,0.8s,baz=38,slow=5.8,SNR=11							
BMN	Battle Mountai	73.78	51	*e*P		P	15 08 06.0	+1.4
BMN	Battle Mountai	73.78	51	*e*P		P	15 08 06.0	+1.4
AKASG	Malin Array Be	73.92	322	P		P	15 08 04.6	-0.4
	comp=Z,3.7nm,0.5s,baz=45,slow=6.0,SNR=8.4							
BOZ	Bozeman (W)	73.97	44	*e*P		P	15 08 06.2	+0.6
BOZ				pmax	pmax			
	comp=Z,8.0nm,0.9s							
BOZ	Bozeman (W)	73.97	44	*e*P		P	15 08 06.2	+0.6
	comp=Z,8.0nm,0.9s							
IMW	Indian Meadow	75.41	46	*e*P		P	15 08 16.1	+1.9
	comp=Z,7.2nm,0.8s							
DUG	Dugway, Tooele	76.61	49	*e*P		P	15 08 21.9	+1.1
DUG				pmax	pmax			
	comp=Z,3.0nm,0.5s							
DUG	Dugway, Tooele	76.61	49	*e*P		P	15 08 21.9	+1.1
	comp=Z,2.5nm,0.5s							
BW06	Boulder Array	76.91	46	P		P	15 08 23.3	+0.7
	comp=Z,4.4nm,1.1s							
PDAR	Pinedale Array	76.91	46	P		P	15 08 23.7	+1.1
	comp=Z,3.1nm,0.6s,baz=268,slow=2.0,SNR=31							
BURAR	Bucovina Array	77.95	322	⇑*i*P		P	15 08 28.6	+0.5
BURAR	Bucovina Array	77.95	322	⇑P		P	15 08 28.6	+0.5
TESR	Tescani	77.99	320	⇑*i*P		P	15 08 28.5	+0.3
PLOR	Plostina	78.44	320	⇑*i*P		P	15 08 31.3	+0.5
PLOR	Plostina	78.44	320	⇑P		P	15 08 31.3	+0.5
TLB	Topalu	78.57	318	⇓*i*P		P	15 08 32.2	+0.8
TLB	Topalu	78.57	318	⇓P		P	15 08 32.2	+0.8
BRTR	Keskin Array B	78.62	312	P		P	15 08 31.9	-0.2
	comp=Z,1.8nm,0.6s,baz=94,slow=3.7,SNR=9.8							
ULM	Lac du Bonnet	78.70	34	P		P	15 08 32.3	+0.2
	comp=Z,4.4nm,0.8s,baz=336,slow=6.7,SNR=3.1							
CRVS	Cervenica-Dubn	78.82	325	*e*P		P	15 08 37.7	+4.9
CRVS	Cervenica-Dubn	78.82	325	*e*P		P	15 08 37.7	+4.9
DOPR	Dopca	79.00	320	⇑*i*P		P	15 08 35.7	+1.9
MLR	Muntele Rosu	79.05	320	⇓*i*P		P	15 08 34.2	0.0
MLR	Muntele Rosu	79.05	320	⇓P		P	15 08 34.2	0.0
VOIR		79.54	320	⇑*i*P		P	15 08 37.9	+1.0
VOIR		79.54	320	⇑P		P	15 08 37.9	+1.0
LANS	Liptovska Anna	79.55	326	*e*P		P	15 08 38.1	+1.3
LANS	Liptovska Anna	79.55	326	*e*P		P	15 08 38.1	+1.3
DRGR		79.74	322	⇓*i*P		P	15 08 38.3	+0.4
DRGR		79.74	322	⇓P		P	15 08 38.3	+0.4
ARR	Arges	79.80	320	⇓*i*P		P	15 08 39.1	+0.9
MORC	Moravsky Berou	79.93	327	⇑*i*P		P	15 08 39.3	+0.4
MORC	Moravsky Berou	79.93	327	⇑P		P	15 08 39.3	+0.4
PSZ	Piszkesteto	80.26	325	⇑*i*P		P	15 08 42.0	+1.3
PSZ	Piszkesteto	80.26	325	⇑P		P	15 08 42.0	+1.3
VYHS	Vyhne	80.31	326	*e*P		P	15 08 41.2	+0.3
VYHS	Vyhne	80.31	326	*e*P		P	15 08 41.2	+0.3
WUAZ	Wupatki	80.44	52	*e*P		P	15 08 43.0	+1.0
	comp=Z,2.1nm,0.6s							
PV01	Paradox Valley	80.47	49	*e*P		P	15 08 43.4	+1.2
	comp=Z,934nm,1.3s							
BRG	Berggiesshubel	80.59	330	*e*P		P	15 08 42.5	+0.2
	comp=Z,3.7nm,0.6s							
BRG	Berggiesshubel	80.59	330	*e*P		P	15 08 42.5	+0.2
BRG				pmax	pmax			
	comp=Z,4.0nm,0.6s							
CLL	Collm	80.63	330	⇑*i*P		P	15 08 42.4	-0.1
CLL				pmax	pmax			
	comp=Z,11nm,1.0s							
CLL	Collm	80.63	330	⇑*i*P		P	15 08 42.4	-0.1
	comp=Z,11nm,1.0s							
CLL				LmV			16 58 00.0	
	comp=Z,200nm,21.3s							
VRAC	Vranov	80.69	327	⇓*i*P		P	15 08 43.7	+0.8
VRAC	Vranov	80.69	327	⇓P		P	15 08 43.7	+0.8
CONA	Conrad Observa	82.05	327	*i* P		P	15 08 50.8	+0.5
	comp=Z,4.5nm,0.8s							
KHC	Kasperske Hory	82.09	329	*e*P		P	15 08 50.0	-0.4
KHC				*ex*		x	15 09 23.0	
KHC	Kasperske Hory	82.09	329	*e*P		P	15 08 50.0	-0.4
GERES	GERESS Array B	82.27	328	P		P	15 08 51.2	-0.1
	comp=Z,2.2nm,0.6s,baz=31,slow=5.5,SNR=13							
VTS	Vitosha	82.48	319	⇑*i*P		P	15 08 53.3	+0.6
VTS	Vitosha	82.48	319	⇑P		P	15 08 53.3	+0.6
MOA	Molln	82.80	327	P		P	15 08 54.4	+0.3
	comp=Z,7.8nm,1.8s							
PERS	Pernice	83.37	326	*i* P		P	15 08 57.1	0.0
SOKA	Soboth	83.37	326	*i* P		P	15 08 57.3	+0.2
	comp=Z,5.6nm,0.7s							
ANMO	Albuquerque	83.85	50	P		P	15 09 01.9	+1.9
	comp=Z,4.6nm,1.0s,baz=325,slow=6.0,SNR=7.3							
ANMO	Albuquerque	83.85	50	*ce*P		P	15 09 00.7	+0.8
ANMO				pmax	pmax			
	comp=Z,9.0nm,1.2s							
VISS	Visnje	84.13	326	*i* P		P	15 09 00.6	-0.3
BOJS	Bojanci	84.18	325	*i* P		P	15 09 00.9	-0.2
JAVS	Javornik	84.41	326	*i* P		P	15 09 01.5	-1.0
ABTA	Abfaltersbach	84.41	328	*i* P		P	15 09 02.1	-0.3
	comp=Z,2.1nm,0.7s							
RETA	Reutte	84.55	329	*i* PcP		P	15 09 03.3	+0.2
	comp=Z,6.8nm,0.8s							
PDG	Podgorica	84.61	321	⇑*i*P		P	15 09 02.7	-0.6
PPT	Papeete	84.66	117	LR		LR	15 37 52.8	
	comp=Z,56nm,21.9s,baz=308,slow=29							
BFO	Black Forest	84.83	331	*ce*P		P	15 09 05.1	+0.7
FETA	Feichten	84.93	329	*i* PcP		P	15 09 05.1	-0.1
	comp=Z,7.9nm,1.0s							
DAVA	Damuels	85.07	329	*i* PcP		P	15 09 05.9	+0.1
	comp=Z,8.8nm,0.8s							
TXAR	Lajitas Array	89.40	53	P		P	15 09 28.1	+1.1
	comp=Z,2.0nm,0.5s,baz=300,slow=2.9,SNR=34							
MIAR	Mount Ida	91.54	43	*e*P		P	15 09 37.5	+0.8
MIAR				pmax	pmax			
	comp=Z,10.0nm,1.1s							
MIAR	Mount Ida	91.54	43	*e*P		P	15 09 37.5	+0.8
	comp=Z,10nm,1.1s							
TORD	Torodi Ar. Bea	117.05	316	PKP		PKPdf	15 15 13.5	-1.7
	comp=Z,0.7nm,0.8s,baz=27,slow=3.5,SNR=4.2							
MAW	Mawson	120.35	206	PKP		PKPdf	15 15 18.2	-1.6
	comp=Z,1.7nm,0.8s,baz=330,slow=4.5,SNR=4.8							
LPAZ	La Paz	146.02	59	PKPbc		PKPab	15 16 11.2	-0.2
	comp=Z,9.1nm,0.9s,baz=354,slow=5.2,SNR=18							
SIV	San Ignacio	150.34	49	PKPbc		PKPbc	15 16 22.1	+0.6
	comp=Z,5.3nm,0.8s,baz=281,slow=3.0,SNR=5.9							

ISCJB ***14*** *15:02:31.7±0.6,22.°73S±0.°08×179.°42W±0.°10,h579km, mb3.9/7, Error ellipse: s-maj=13.1km s-min=8.5km az=37.5*

IDC ***14*** *15:02:33.0±1.6,22.°45S×179.°47W,h579km±26km, mb3.3/7, mb1 3.5/9,mb1mx3.2/33,mbtmp4.4/9, Error ellipse: s-maj=24.4km s-min=15.2km az=17.0*

ISC 14 15:02:32.4±0.8, 22.°5S±0.°1×179.°4W±0.°1, h579km, n19, σ1s85/22, mb3.8/7, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	Afiamalu	11.22	42	P	P	15 05 03.0	-0.4
	7.1nm,0.3s,baz=212,slow=15,SNR=15						
AFI				S	S	15 07 06.8	-0.6
	1.3nm,0.3s,baz=162,slow=17,SNR=3.2

CLCH					*e*S		**Sg**	**15 09 38.3**	**0.0**
CLCH					IAML			15 09 44.2	
	comp=E,8μm,0.5s								
ANTU	**Antumapu**	**1.41**	**128**		*e*P		**Pg**	**15 09 21.5**	**+0.4**
ANTU					*e*S		**Sg**	**15 09 39.6**	**+0.3**
ANTU					IAML			15 09 43.2	
	comp=E,10μm,0.4s								
FCH	**Farellones**	**1.53**	**115**		*e*P		**Pg**	**15 09 23.1**	**-0.3**
FCH					*e*S		**Sb**	**15 09 42.0**	**-1.6**
AUSP	**Uspallata**	**2.22**	**78**		*e*P		**Pg**	**15 09 36.0**	**-0.7**
AUSP					*e*S		**Sg**	**15 10 05.1**	**-0.3**
RTLS	**Leoncito**	**2.42**	**69**		*e*P		**Pb**	**15 09 39.6**	**+0.9**
RTLS					*e*S		**Sb**	**15 10 10.6**	**+1.3**
ARCO	**CERRO ARCO**	**2.55**	**94**		*e*P		**Pb**	**15 09 41.2**	**+0.4**
ARCO					IAML			15 09 47.9	
	comp=Z,1μm,0.4s								
ASAL	**Salagasta**	**2.63**	**88**		*e*P		**Pb**	**15 09 42.7**	**+0.5**
ASAL					*e*S		**Sb**	**15 10 14.4**	**-0.7**
AAGR	**Agrelo**	**2.66**	**99**		*e*P		**Pb**	**15 09 42.5**	**-0.1**
TLL	**Tololo Astrono**	**2.71**	**22**		*e*P		**Pn**	**15 09 41.0**	**+1.9**
RTCV	**Cerro Valdivia**	**3.01**	**75**		*e*P		**Pb**	**15 09 47.9**	**-0.7**
ACCO	**Cerro Coronel**	**3.24**	**50**		*e*P		**Pb**	**15 09 51.8**	**-0.9**
ACCO					IAML			15 10 43.2	
	comp=Z,1μm,0.5s								
RTLL	**Cerro Vilicun**	**3.25**	**66**		*e*P		**Pb**	**15 09 51.6**	**-1.2**
AMOG	**MOGNA**	**3.43**	**60**		*e*P		**Pb**	**15 09 53.5**	**-2.3**
ACDV	**Cuesta del Vie**	**3.49**	**45**		*e*P		**Pb**	**15 09 54.5**	**-2.5**
LCO	**Las Campanas**	**3.83**	**17**		*e*Pn		**Pn**	**15 09 55.0**	**+0.4**
PLCA	**Paso Flores**	**8.10**	**172**		Pn		**Pn**	**15 10 53.9**	**+0.9**
	comp=Z,1.8nm,0.3s,baz=359,slow=12,SNR=2.9								
PLCA					Sn		Sb	15 12 44.7	-7.5
	comp=Z,0.1nm,0.3s,baz=260,slow=23,SNR=1.8								
TRQA	**Tornquist**	**9.74**	**126**		*e*Pn		**Pn**	**15 11 15.8**	**+0.3**
	comp=Z,31nm,1.1s								
LVC	**Limon Verde**	**10.40**	**16**		Pn		**Pn**	**15 11 26.3**	**+1.3**
CPUP	**Villa Florida**	**14.22**	**67**		Pn		**Pn**	**15 12 19.1**	**+2.3**
	comp=Z,0.4nm,0.3s,baz=234,slow=14,SNR=4.7								
CPUP					Sn		**Sn**	**15 14 58.5**	**+3.2**
	comp=Z,0.1nm,0.3s,baz=308,slow=19,SNR=3.8								
LPAZ	**La Paz**	**16.70**	**13**		Pn		**P**	**15 12 51.3**	**-1.4**
	comp=Z,0.2nm,0.3s,baz=194,slow=8.3,SNR=7.2								
SIV	**San Ignacio**	**19.34**	**33**		P		**Pn**	**15 13 21.7**	**-0.5**
	comp=Z,0.3nm,0.3s,baz=203,slow=12,SNR=4.2								
SAML	**Samuel**	**24.99**	**21**		*e*P		**P**	**15 14 19.6**	**0.0**
	comp=Z,3.8nm,0.9s								
SNAA	**Sanae**	**52.76**	**158**		P		**P**	**15 18 10.2**	**-0.3**
	comp=Z,1.6nm,0.8s,baz=264,slow=7.6,SNR=6.5								
TXAR	**Lajitas Array**	**68.64**	**330**		P		**P**	**15 20 00.3**	**+1.1**
	comp=Z,0.1nm,0.5s,baz=128,slow=7.3,SNR=3.1								
MAW	**Mawson**	**74.40**	**164**		P		**P**	**15 20 33.3**	**-0.1**
	comp=Z,1.4nm,0.5s,baz=220,slow=6.2,SNR=8.5								
TSUM	**Tsumeb**	**79.50**	**106**		P		**P**	**15 21 03.0**	**-0.2**
	comp=Z,3.2nm,0.8s,baz=239,slow=6.7,SNR=5.4								
BOSA	**Boshof**	**80.61**	**118**		P		**P**	**15 21 08.8**	**-0.2**
	comp=Z,4.5nm,0.9s,baz=249,slow=6.8,SNR=5.0								
TORD	**Torodi Ar. Bea**	**83.70**	**70**		P		**P**	**15 21 24.7**	**-0.5**
	comp=Z,2.6nm,0.8s,baz=252,slow=4.5,SNR=16								
WRA	**Warramunga Arr**	**121.93**	**209**		PKP		**PKPdf**	**15 27 50.0**	**-1.1**
	comp=Z,0.4nm,0.6s,baz=155,slow=1.6,SNR=4.8								
H11S2	**WAKE ISLAND Hy**	**125.85**	**270**		T		T	17 47 05.5	
	baz=118,slow=75,SNR=105								
H11S1	**WAKE ISLAND Hy**	**125.87**	**270**		T		T	17 46 55.5	
	baz=118,slow=75,SNR=113								
H11S3	**WAKE ISLAND Hy**	**125.87**	**270**		T		T	17 46 56.9	
	baz=118,slow=75,SNR=117								
H11N3	**WAKE ISLAND Hy**	**126.23**	**271**		T		T	17 47 21.6	
	baz=117,slow=75,SNR=14								
H11N1	**WAKE ISLAND Hy**	**126.25**	**271**		T		T	17 47 23.1	
	baz=117,slow=75,SNR=10								
H11N2	**WAKE ISLAND Hy**	**126.25**	**271**		T		T	17 47 31.3	
	baz=117,slow=75,SNR=42								
BRVK	**Borovoye**	**146.20**	**42**		*e*PKPbc		**PKPab**	**15 28 36.2**	**-0.4**
BVAR	**Borovoye Array**	**146.27**	**42**		PKPbc		**PKPab**	**15 28 35.8**	**-1.1**
	comp=Z,2.9nm,0.6s,baz=305,slow=2.8,SNR=11								
KKAR	**Karatay Array**	**148.84**	**60**		*e*PKPbc		**PKPbc**	**15 28 43.2**	**-0.3**
AAK	**Ala-Archa**	**151.81**	**60**		PKPbc		**PKPbc**	**15 28 51.0**	**+0.2**
	comp=Z,4.7nm,0.7s,baz=194,slow=1.6,SNR=13								
AAK	**Ala-Archa**	**151.81**	**60**		*e*PKPbc		**PKPbc**	**15 28 51.4**	**+0.6**
KURK	**Kurchatov**	**151.87**	**41**		*e*PKPbc		**PKPbc**	**15 28 50.0**	**-0.4**
ZALV	**Zalesovo Beam**	**153.08**	**31**		PKPbc		**PKPbc**	**15 28 52.8**	**-0.3**
	comp=Z,4.4nm,0.7s,baz=292,slow=3.1,SNR=19								

*NSSC **14** 15:20:13.1±0.6,33.°63N×35.°64E, h0km±4km, MD1.4, ML1.4*
*ISCJB **14** 15:20:15.5±0.7,33.°71N±0.°05×35.°64E±0.°05, h25km±5km, Error ellipse: s-maj=8.4km s-min=7.2km az=-9.2*
*CSEM **14** 15:20:15.0±0.5,33.°63N×35.°77E, h5km, ML2.7, Error ellipse: s-maj=12.3km s-min=9.6km az=65.0*
*GRAL **14** 15:20:17.5±0.3,33.°79N×35.°79E, h0km±65km, MD2.7*
ISC 14 15:20:16.5±1.1,33.°65N±0.°03×35.°80E±0.°05, h14km±9km, n16, σ2s°00/26, Jordan-Syria region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RCY	**Rachaya**	**0.15**	**170**	*e*P	Pg	15 20 22.7	+2.2
RCY				*e*S	**Sg**	**15 20 26.7**	**+3.5**
RCY	**Rachaya**	**0.15**	**170**	*e*P	Pg	15 20 22.7	+2.2
RCY				*e*S	**Sg**	**15 20 26.7**	**+3.5**
DQRL	**Deir Qamar**	**0.20**	**287**	*e*P	**Pg**	**15 20 21.1**	**-0.1**
DQRL				*e*S	**Sg**	**15 20 23.7**	**-0.6**
DQRL	**Deir Qamar**	**0.20**	**287**	*e*P	**Pg**	**15 20 21.1**	**-0.1**
DQRL				*e*S	**Sg**	**15 20 23.7**	**-0.6**
BRBR	**Barbar**	**0.27**	**152**	*e*P	**Pg**	**15 20 19.5**	**-2.8**
BRBR				*e*S	**Sg**	**15 20 25.7**	**-0.6**
BRBR				AML	AML	15 20 30.3	
	comp=E,32nm,0.5s						
BRBR				AML	AML	15 20 30.5	
	comp=N,41nm,0.5s						
BRBR	**Barbar** SNR=93	**0.27**	**152**	*e*P	**Pg**	**15 20 19.5**	**-2.8**
BRBR				*e*S	**Sg**	**15 20 25.7**	**-0.6**
	comp=N,41nm,0.5s,SNR=59						
BHL	**Bhannes**	**0.28**	**334**	*e*P	**Pg**	**15 20 20.3**	**-2.3**
BHL	**Bhannes**	**0.28**	**334**	*e*P	**Pg**	**15 20 20.3**	**-2.3**
HWQ	**Hawqa**	**0.64**	**11**	*e*P	**Pg**	**15 20 26.6**	**-2.5**
HWQ	**Hawqa**	**0.64**	**11**	*e*P	**Pg**	**15 20 26.6**	**-2.5**
MARH	**Ras Al Marh**	**0.68**	**56**	*e*P	**Pg**	**15 20 29.4**	**-0.5**
MARH				*e*S	**Sb**	**15 20 40.2**	**+0.5**
MARH				AML	AML	15 20 45.4	
	comp=E,40nm,0.3s						
MARH				AML	AML	15 20 49.1	
	comp=N,45nm,0.5s						
MARH	**Ras Al Marh** SNR=75	**0.68**	**56**	*e*P	**Pg**	**15 20 29.4**	**-0.5**
MARH				*e*S	**Sb**	**15 20 40.2**	**+0.5**
	comp=N,45nm,0.5s,SNR=59						
SALA	**Sala**	**1.22**	**140**	*e*P	**Pg**	**15 20 37.7**	**-2.3**
SALA				*e*S	**Sb**	**15 20 55.8**	**+0.7**
SALA				AML	AML	15 21 01.8	
	comp=N,7.3nm,0.4s						
SALA				AML	AML	15 21 08.7	
	comp=E,0.8nm,0.4s						
SALA	**Sala** SNR=57	**1.22**	**140**	*e*P	**Pg**	**15 20 37.7**	**-2.3**
SALA				*e*S	**Sb**	**15 20 55.8**	**+0.7**
	comp=E,0.8nm,0.4s,SNR=49						
ROOS	**tl_alroos**	**1.34**	**67**	*e*P	**Pg**	**15 20 40.9**	**-1.5**
ROOS				*e*S	**Sn**	**15 21 00.4**	**+1.8**
ROOS				AML	AML	15 21 07.8	
	comp=N,14nm,0.4s						
ROOS				AML	AML	15 21 09.6	
	comp=E,7.5nm,0.6s						
ROOS	**tl_alroos** SNR=57	**1.34**	**67**	*e*P	**Pg**	**15 20 40.9**	**-1.5**
ROOS				*e*S	**Sn**	**15 21 00.4**	**+1.8**
	comp=E,7.5nm,0.6s,SNR=49						

*ISCJB **14** 15:21:15.3±1.5,36.°98N±0.°04×141.°63E±0.°07, h7km±8km, mb3.7/3, MS3.6/2, Error ellipse: s-maj=9.0km s-min=6.2km az=178.6*
*IDC **14** 15:21:15.9±1.3,37.°00N×141.°67E, h0km, mb3.6/3, mb1 3.8/5, mb1mx3.4/51, mbtmp3.6/5, ML3.2/2, MS3.3/3, Ms1 3.3/3, ms1mx2.9/44, Error ellipse: s-maj=34.8km s-min=22.1km az=126.0*
*JMA **14** 15:21:17.7±0.1,36.°97N×141.°52E, h32km±1km, M3.4*
ISC 14 15:21:16.2±1.9,37.°02N±0.°04×141.°50E±0.°06, h3km±13km, n22, σ0s°74/22, mb3.8/3, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ONAJ	**Iwakimizuishiy**	**0.56**	**278**	P	**Pb**	**15 21 29.2**	**+0.4**
ONAJ				S	**Sb**	**15 21 37.6**	**+0.3**
JFK	**Kawauchi**	**0.60**	**305**	P	**Pb**	**15 21 30.0**	**+0.6**
JFK				S	**Sb**	**15 21 39.1**	**+0.7**
JHO	**Hitachi**	**0.85**	**241**	P	**Pb**	**15 21 33.0**	**-0.6**
JMM	**Marumori**	**1.01**	**327**	P	**Pb**	**15 21 36.6**	**+0.2**
JMM				*e*S	**Sb**	**15 21 50.2**	**+0.1**
JFT	**Otama**	**1.05**	**298**	P	**Pn**	**15 21 37.6**	**-0.3**
JFT				S	**Sn**	**15 21 52.3**	**-0.8**
JIO	**Ouri**	**1.43**	**355**	P	**Pb**	**15 21 43.3**	**-0.3**
JIO				S	**Sg**	**15 22 01.8**	**-0.5**
JFY	**Yanaizu**	**1.48**	**286**	P	**Pg**	**15 21 44.3**	**-0.3**
JOU	**Okura**	**1.50**	**334**	P	**Pg**	**15 21 45.0**	**+0.2**
MJAR	**Matsushiro Arr**	**2.68**	**261**	Pn	**Pn**	**15 22 01.2**	**+0.9**
	2.9nm,0.3s,baz=89,slow=15,SNR=33						
MJAR				Sn	**Sb**	**15 22 39.2**	**+1.0**
	4.2nm,0.3s,baz=78,slow=14,SNR=4.9						
MJAR				LR	LR	15 23 14.1	
	comp=Z,161nm,18.4s,baz=130,slow=42						
MAT	**Matsushiro**	**2.69**	**261**	P	**Pn**	**15 22 01.1**	**+0.8**
MAT				*e*S	**Sb**	**15 22 36.2**	**-2.1**
JHJ	**Hachijo jima 2**	**4.14**	**200**	Pn	**Pn**	**15 22 21.1**	**+0.7**
	6.4nm,0.3s,baz=355,slow=13,SNR=11						
JHJ				Sn	**Sn**	**15 23 09.1**	**-0.2**
	2.8nm,0.3s,baz=233,slow=20,SNR=2.8						
H11N2	**WAKE ISLAND Hy**	**28.08**	**121**	T	T	15 56 31.6	
	baz=314,slow=75,SNR=256						
H11N1	**WAKE ISLAND Hy**	**28.09**	**121**	T	T	15 56 31.7	
	baz=314,slow=75,SNR=329						
H11N3	**WAKE ISLAND Hy**	**28.10**	**121**	T	T	15 56 33.0	
	baz=314,slow=75,SNR=341						
H11S1	**WAKE ISLAND Hy**	**28.80**	**123**	T	T	15 57 27.3	
	baz=315,slow=75,SNR=101						
H11S3	**WAKE ISLAND Hy**	**28.80**	**123**	T	T	15 57 28.3	
	baz=315,slow=75,SNR=78						
H11S2	**WAKE ISLAND Hy**	**28.81**	**123**	T	T	15 57 24.9	
	baz=315,slow=75,SNR=74						
TGY	**Tagaytay City**	**29.28**	**224**	LR	LR	15 39 19.4	
	comp=Z,46nm,19.3s,baz=156,slow=37						
ILAR	**Eielson Array**	**49.47**	**32**	P	**P**	**15 30 07.0**	**-0.4**
	0.3nm,0.7s,baz=274,slow=5.8,SNR=4.8						
WRA	**Warramunga Arr**	**57.06**	**188**	P	**P**	**15 31 03.7**	**+0.1**
	0.8nm,0.7s,baz=5.1,slow=7.3,SNR=9.4						
ASAR	**Alice Springs**	**60.79**	**188**	P	**P**	**15 31 29.8**	**+0.2**
	0.6nm,0.8s,baz=4.8,slow=5.3,SNR=6.2						
JMIC	**Jan Mayen**	**70.17**	**350**	LR	LR	16 07 13.1	
	comp=Z,86nm,18.1s,baz=60,slow=39						

*IDC **14** 15:29:50.9±1.2,31.°38N×49.°83E, h0km, mb3.8/10, mb1 3.9/15, mb1mx3.7/55, mbtmp3.8/15, ML3.6/5, Error ellipse: s-maj=26.3km s-min=17.9km az=7.0*
*ISCJB **14** 15:29:50.4±0.6,31.°14N±0.°06×49.°69E±0.°05, h10km, mb3.8/10, Error ellipse: s-maj=8.6km s-min=5.0km az=27.1*
*ISN **14** 15:29:54.1±4.5,31.°41N×49.°67E, h15km±27km, ML3.7*
*THR **14** 15:29:55.4±0.4,31.°41N×49.°91E, h18km±3km, ML3.7*
*CSEM **14** 15:29:55.8±0.3,31.°44N×49.°86E, h10km, ML3.7, Error ellipse: s-maj=7.4km s-min=3.9km az=32.0*
*TEH **14** 15:29:55.8,31.°42N×49.°84E, h7km, ML3.7*
ISC 14 15:29:52.4±0.7,31.°27N±0.°05×49.°78E±0.°04, h10km, n62, σ2s°04/68, mb3.8/10, Western Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHGR	**Shooshtar-Gavs**	**1.18**	**315**	*e*Pg	**Pg**	**15 30 17.2**	**+2.2**
SHGR				*e*Sg	**Sn**	**15 30 33.1**	**+2.0**
SHGR				AML	AML	15 30 35.8	
	comp=E,2μm,0.5s						
SHGR				AML	AML	15 30 35.8	
	comp=N,2μm,0.4s						
SHGR	**Shooshtar-Gavs**	**1.18**	**315**	*e*Pg	**Pg**	**15 30 17.2**	**+2.2**
SHGR				*e*Sg	**Sn**	**15 30 33.1**	**+2.0**
IPIR	**Pirpir**	**1.69**	**34**	*e*Pn	**Pn**	**15 30 21.9**	**-0.4**
IPIR				*e*Sg	**Sn**	**15 30 44.3**	**+0.1**
IPIR				*e*AMB	AMB	15 30 46.5	
	comp=E,14μm,0.2s						
IPIR	**Pirpir**	**1.69**	**34**	*e*Pn	**Pn**	**15 30 21.9**	**-0.4**
IPIR				*e*Sg	**Sn**	**15 30 44.3**	**+0.1**
IGAR	**Gharneh**	**2.23**	**59**	*e*Pn	**Pn**	**15 30 31.0**	**+1.4**
IGAR				*e*AMB	AMB	15 30 35.2	
	comp=Z,4μm,0.2s						
IRAM	**Ramesheh**	**2.28**	**76**	*e*Pn	**Pn**	**15 30 32.6**	**+2.2**
IRAM				*e*AMB	AMB	15 30 40.5	
	comp=Z,3μm,0.2s						
IRAM	**Ramesheh**	**2.28**	**76**	*e*Pn	**Pn**	**15 30 32.6**	**+2.2**
KHMZ	**Khomeyn**	**2.46**	**3**	*e*Pn	**Pn**	**15 30 34.8**	**+1.9**
KHMZ				AML	AML	15 31 08.9	
	comp=N,188nm,0.4s						
KHMZ				AML	AML	15 31 09.4	
	comp=E,298nm,0.5s						
KHMZ	**Khomeyn**	**2.46**	**3**	*e*Pn	**Pn**	**15 30 34.8**	**+1.9**
IKLH	**Kolahrood**	**2.54**	**36**	*e*Pn	**Pn**	**15 30 35.6**	**+1.6**
IKLH				*e*AMB	AMB	15 31 20.3	
	comp=Z,4μm,0.3s						
IKLH	**Kolahrood**	**2.54**	**36**	*e*Pn	**Pn**	**15 30 35.6**	**+1.6**
IZEF	**Zefreh**	**2.70**	**53**	*e*Pn	**Pn**	**15 30 38.2**	**+2.1**
IZEF				*e*AMB	AMB	15 30 42.6	
	comp=Z,1μm,0.2s						
IZEF	**Zefreh**	**2.70**	**53**	*e*Pn	**Pn**	**15 30 38.2**	**+2.1**
QAM	**Ghamsar**	**2.85**	**29**	*e*Pn	**Pn**	**15 30 40.2**	**+2.1**
QAM				*e*AMB	AMB	15 31 26.5	
	comp=Z,5μm,0.3s						
NASN	**Na'in**	**2.99**	**59**	*e*Pn	**Pn**	**15 30 42.0**	**+1.9**
NASN				*e*Sg	**Sb**	**15 31 24.0**	**+1.4**
NASN	**Na'in**	**2.99**	**59**	*e*Pn	**Pn**	**15 30 42.0**	**+1.9**
NSR	**Nassriya** SNR=9.0	**3.13**	**266**	*e*Pg	**Pn**	**15 30 44.0**	**+2.2**
IPAR	**Pars**	**3.16**	**116**	*e*Pn	**Pn**	**15 30 46.5**	**+4.0**
IPAR	**Pars**	**3.16**	**116**	*e*Pn	**Pn**	**15 30 46.5**	**+4.0**
ASAO	**Ashtian**	**3.27**	**4**	*e*Pn	**Pn**	**15 30 46.1**	**+2.1**
ASAO	**Ashtian**	**3.27**	**4**	*e*Pn	**Pn**	**15 30 46.1**	**+2.1**
GHVR	**GHOM**	**3.44**	**21**	*e*Pn	**Pn**	**15 30 47.8**	**+1.7**
GHVR	**GHOM**	**3.44**	**21**	*e*Pn	**Pn**	**15 30 47.8**	**+1.7**
ISRV	**Sarvestan**	**3.44**	**122**	*e*Pn	**Pn**	**15 30 50.3**	**+3.9**
ISRV				*e*AMB	AMB	15 32 12.3	
	comp=Z,2μm,0.4s						
ISRV	**Sarvestan**	**3.44**	**122**	*e*Pn	**Pn**	**15 30 50.3**	**+3.9**
IKOM	**Komasi**	**3.47**	**327**	*e*Pn	**Pn**	**15 30 48.9**	**+2.3**
IKOM	**Komasi**	**3.47**	**327**	*e*Pn	**Pn**	**15 30 48.9**	**+2.3**
IRAZ	**Razeghan**	**4.12**	**2**	*e*Pn	**Pn**	**15 30 56.9**	**+1.3**
IRAZ				*e*AMB	AMB	15 32 05.3	
	comp=Z,1μm,0.4s						
IRAZ	**Razeghan**	**4.12**	**2**	*e*Pn	**Pn**	**15 30 56.9**	**+1.3**
IMEH	**Mehriz**	**4.13**	**87**	*e*Pn	**Pn**	**15 30 58.1**	**+2.2**
IMEH				*e*AMB	AMB	15 31 12.1	
	comp=Z,430nm,0.2s						
IMEH	**Mehriz**	**4.13**	**87**	*e*Pn	**Pn**	**15 30 58.1**	**+2.2**
SNGE	**Sanandaj**	**4.32**	**332**	AML	AML	15 31 53.8	
	comp=E,68nm,0.5s						
ILIN	**Lien**	**4.34**	**328**	*e*Pn	**Pn**	**15 31 00.0**	**+1.4**
ILIN				*e*AMB	AMB	15 31 51.9	
	comp=Z,2μm,0.2s						
ILIN	**Lien**	**4.34**	**328**	*e*Pn	**Pn**	**15 31 00.0**	**+1.4**
IDHR	**Dehrash**	**4.45**	**321**	*e*Sn	**Sn**	**15 31 51.7**	**-0.4**
IDHR	**Dehrash**	**4.45**	**321**	*e*Sn	**Sn**	**15 31 51.7**	**-0.4**
IMHD	**Mahdasht**	**4.46**	**9**	*e*Pn	**Pn**	**15 31 01.1**	**+0.9**
IMHD	**Mahdasht**	**4.46**	**9**	*e*Pn	**Pn**	**15 31 01.1**	**+0.9**
IDMV	**Damavand**	**4.69**	**23**	*e*Pn	**Pn**	**15 31 04.1**	**+0.6**
IDMV				*e*AMB	AMB	15 32 40.6	
	comp=Z,503nm,0.4s						
IDMV	**Damavand**	**4.69**	**23**	*e*Pn	**Pn**	**15 31 04.1**	**+0.6**
IAFJ	**Afjeh**	**4.84**	**19**	*e*AMB	AMB	15 31 13.3	
	comp=Z,543nm,0.1s						
IAFJ				*e*Pn	**Pn**	**15 31 06.2**	**+0.5**
IBAF	**Bafgh**	**4.96**	**85**	*e*Pn	**Pn**	**15 31 09.2**	**+2.2**
IBAF	**Bafgh**	**4.96**	**85**	*e*Pn	**Pn**	**15 31 09.2**	**+2.2**
IFIR	**Firoozkooh**	**5.01**	**29**	*e*Pn	**Pn**	**15 31 08.7**	**+0.8**
IFIR	**Firoozkooh**	**5.01**	**29**	*e*Pn	**Pn**	**15 31 08.7**	**+0.8**
IANJ	**Anjilo**	**5.42**	**38**	*e*Pn	**Pn**	**15 31 14.8**	**+1.2**
IANJ				*e*AMB	AMB	15 32 18.1	
	comp=Z,242nm,0.3s						
IANJ	**Anjilo**	**5.42**	**38**	*e*Pn	**Pn**	**15 31 14.8**	**+1.2**
GEYT	**Alibeck**	**9.55**	**44**	Pn	**Pn**	**15 32 10.4**	**+0.4**
	comp=Z,0.7nm,0.3s,baz=219,slow=12,SNR=6.6						
ASF	**Jaki al Asfar**	**11.01**	**278**	Pn	**Pn**	**15 32 29.9**	**-0.2**
	comp=Z,0.4nm,0.3s,baz=34,slow=11,SNR=3.2						
ASF				Sn	**Sn**	**15 34 26.9**	**-6.5**
	comp=Z,0.3nm,0.3s,baz=258,slow=20,SNR=2.7						
WSAR	**Wadi Sarin**	**11.22**	**133**	Pn	**Pn**	**15 32 34.0**	**+1.1**
	comp=Z,0.4nm,0.3s,baz=328,slow=13,SNR=7.6						
WSAR				Sn	**Sn**	**15 34 34.8**	**-3.6**
	comp=Z,0.3nm,0.3s,baz=209,slow=19,SNR=3.7						
BRTR	**Keskin Array B**	**15.60**	**307**	Pn	**Pn**	**15 33 36.3**	**+3.8**
	comp=Z,0.1nm,0.3s,baz=126,slow=13,SNR=2.6						
AKTO	**Aktyubinsk**	**20.11**	**15**	P	**P**	**15 34 25.0**	**-1.2**
	comp=Z,0.4nm,0.3s,baz=198,slow=9.2,SNR=7.0						
AKASG	**Malin Array Be**	**24.70**	**328**	P	**P**	**15 35 12.8**	**-0.7**
	comp=Z,0.5nm,0.4s,baz=132,slow=8.3,SNR=3.2						
BVAR	**Borovoye Array**	**26.39**	**29**	P	**P**	**15 35 27.8**	**-1.0**
	comp=Z,1.0nm,0.6s,baz=210,slow=8.3,SNR=7.6						
KURBB	**Kurchatov Arra**	**28.79**	**40**	P	**P**	**15 35 49.9**	**-0.4**
	comp=Z,0.4nm,0.3s,baz=243,slow=9.8,SNR=4.8						
ZALV	**Zalesovo Beam**	**33.79**	**38**	P	**P**	**15 36 33.1**	**-1.2**
	comp=Z,0.6nm,0.4s,baz=254,slow=9.9,SNR=3.2						
FINES	**FINESS Array B**	**33.93**	**340**	P	**P**	**15 36 34.6**	**-0.7**
	comp=Z,4.8nm,0.9s,baz=148,slow=8.2,SNR=8.2						
NOA	**NORSAR Array B**	**39.00**	**331**	P	**P**	**15 37 17.6**	**-1.2**
	comp=Z,1.3nm,0.8s,baz=120,slow=7.4,SNR=3.2						
CMAR	**Chiang Mai Arr**	**46.05**	**94**	P	**P**	**15 38 16.0**	**-0.6**
	comp=Z,0.4nm,0.3s,baz=295,slow=7.4,SNR=4.1						
TORD	**Torodi Ar. Bea**	**47.63**	**259**	P	**P**	**15 38 29.9**	**+0.9**
	comp=Z,0.7nm,0.8s,baz=52,slow=8.3,SNR=3.6						
KSRS	**Korea Array**	**63.07**	**61**	P	**P**	**15 40 19.2**	**-0.8**
	comp=Z,1.2nm,0.5s,baz=283,slow=6.5,SNR=7.3						
ILAR	**Eielson Array**	**83.39**	**7**	P	**P**	**15 42 18.9**	**-0.6**
	comp=Z,0.3nm,0.6s,baz=333,slow=3.5,SNR=3.8						

*IDC **14** 15:54:49.4±4.4,6.°10S×103.°79E, h17km±27km, mb4.8/35, mb1 4.8/35, mb1mx4.7/49, mbtmp4.9/35, MS4.5/30, Ms1 4.5/30, ms1mx4.4/45, Error ellipse: s-maj=16.5km s-min=10.2km az=55.0*
*KLM **14** 15:54:51.6,6.°45S×103.°49E, h76km, mb5.3*
*ISCJB **14** 15:54:51.9±0.4,6.°20S±0.°03×103.°71E±0.°03, h56km±3km, mb5.1/109, MS4.6/50, Error ellipse: s-maj=6.0km s-min=3.0km az=135.8*
*DJA **14** 15:54:51.5±0.3,6.°S±2.°×10.°4E±.°, h41km±3km, M5.2/15, mb5.1/15, mB5.4/7, MLv5.5/5, Mw(mB)4.9/7*
*BJI **14** 15:54:51.7,6.°20S×103.°60E, h44km, mb5.2/72, mB5.2/50, Ms5.0/70, Ms7 4.8/66*
*NEIC **14** 15:54:53.0±0.6,6.°14S×103.°71E, h50km±4km, mb5.3/45, Error ellipse: s-maj=7.7km s-min=3.7km az=46.0*
NEIC Felt [II] at Krui.
*MOS **14** 15:54:53.1±1.4,5.°93S×103.°88E, h56km, mb5.5/53, MS4.6/19, Error ellipse: s-maj=9.2km s-min=4.8km az=112.5*
*GCMT **14** 15:54:53.0±0.2,6.°52S×103.°51E, h37km, MW5.2/86, Moment Tensor Solution. s72,c107; s86,c130; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}5.09±.18; $M_{\theta\theta}$-4.10±.11; $M_{\phi\phi}$-0.99±.15; $M_{r\theta}$3.75±.16; $M_{\theta\phi}$2.72±.09; $M_{\phi r}$-2.60±.18; Best double couple: M_{o}7.05900×10^{16} NP1:ϕs123.00000°, δ65.00000°, λ93.00000°. NP2: ϕs296.00000°, δ25.00000°, λ84.00000°. Principal axes: T 6.7730, Plg70.0000°, Azm39.0000°; N 0.5680, Plg3.0000°, Azm302.0000°; P -7.3450, Plg20.0000°, Azm211.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
ISC 14 15:54:52.0±0.6,6.°21S±0.°04×103.°56E±0.°05, h42km±4km, n652, σ1s°54/668, mb5.2/109, MS4.7/52, 51C-13D, Southwest of Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KASI	**Kota Agung**	**1.15**	**54**	P	**Pn**	**15 55 11.1**	**-0.6**
LWLI	**Liwa**	**1.28**	**23**	P	**Pn**	**15 55 14.4**	**+0.8**
LWLI				S	**Sn**	**15 55 33.1**	**+3.5**
MDSI	**Maura Dua**	**1.82**	**20**	P	**

comp=Z,379nm,0.7s
BASI Baing, Sumba 17.30 104 P P 15 58 51.9 +0.3
KKM Kota Kinabalu 17.54 46 eP n Pn 15 58 52.6 -1.0
comp=Z,76nm,1.3s
KKM Kota Kinabalu 17.54 46 ⇑P P 15 58 54.1 -0.2
TSM Tawau 17.69 54 ⇓P Pn 15 58 55.3 -0.1
MMRI Maumere 18.68 99 P P 15 59 02.8 -4.0
MMRI Maumere 18.68 99 eP P 15 59 02.5 -4.2
comp=Z,245nm,0.5s
MYLDM Lahad Datu 18.72 53 eP P 15 59 07.2 0.0
comp=Z,452nm,1.7s
MYLDM Lahad Datu 18.72 53 ⇑P P 15 59 06.1 -1.1
CHBT CHBT 18.88 356 P Pn 15 59 14.0 +4.2
GIRL Giralia 19.31 149 P P 15 59 13.0 -0.6
baz=19,SNR=11
MRSI Marisa 19.51 71 P P 15 59 15.2 -0.7
BATI Baumata 20.29 103 P P 15 59 23.3 -1.1
comp=Z,288nm,0.5s
BATI Baumata 20.29 103 P P 15 59 24.6 +0.2
GTOI Gorontalo 20.57 71 P P 15 59 26.2 -1.2
SOEI Soe 20.80 101 P P 15 59 28.8 -1.3
SOEI Soe 20.80 101 eP P 15 59 28.3 -1.8
comp=Z,668nm,0.7s
MBWA Marble Bar 21.59 135 eP P 15 59 38.0 -0.3
comp=Z,28nm,0.9s
PBKT Sadao Pong 22.78 354 P P 15 59 51.0 0.0
comp=Z,20nm,0.8s,comp=Z,1μm
SKNT Sakolnakorn 23.04 1 P P 16 00 00.6 +6.9
FITZ Fitzroy Crossi 24.57 121 P P 16 00 07.2 -1.0
comp=Z,32nm,0.7s,baz=305,slow=6.1,SNR=48
FITZ S S 16 04 37.9 +11
comp=Z,3.9nm,0.7s,baz=354,slow=18,SNR=2.5
FITZ LR LR 16 11 06.3
comp=Z,1μm,18.3s,baz=312,slow=40
FITZ Fitzroy Crossi 24.57 121 P P 16 00 07.4 -0.8
baz=25,SNR=32
FITZ Fitzroy Crossi 24.57 121 eP P 16 00 06.8 -1.3
comp=Z,29nm,0.7s
FITZ S S 16 04 37.9 +11
MEEK Meekatharra 24.87 146 P P 16 00 10.5 -0.4
baz=25,SNR=4.0
CM01 Chiang Mai Arr 24.89 350 eP P 16 00 09.9 -1.1
CM31 Chiang Mai Arr 24.93 350 eP P 16 00 10.9 -0.5
CMAR Chiang Mai Arr 24.93 350 P P 16 00 11.1 -0.3
comp=Z,18nm,0.7s,baz=182,slow=8.7,SNR=72
CMAR PcP **PcP 16 03 48.1 +1.7**
comp=Z,2.8nm,0.5s,baz=200,slow=3.6,SNR=8.0
CMAR ScP **ScP 16 07 24.9 +2.7**
comp=Z,1.0nm,0.9s,baz=192,slow=3.1,SNR=6.1
CMAR LR LR 16 11 28.0
comp=Z,1μm,18.8s,baz=180,slow=40
CMMT Chiang Mai 25.27 350 P P 16 00 13.8 -0.7
comp=Z,33nm,1.1s
CHTO Chiang Mai 25.28 350 P P 16 00 13.9 -0.7
comp=Z,145nm,1.1s
CHTO Chiang Mai 25.28 350 eP P 16 00 13.6 -1.0
CHTO pmax pmax
comp=Z,79nm,1.5s
CHTO Chiang Mai 25.28 350 eP P 16 00 13.6 -1.0
comp=Z,79nm,1.5s
CHTO Chiang Mai 25.28 350 P P 16 00 13.9 -0.7
SNR=9.4
CHTO P P 16 00 13.9 -0.7
SNR=9.4
QIZ Qiongzhong 25.83 14 P P 16 00 19.9 +0.3
QIZ sP **sP 16 00 37.0 +1.0**
QIZ S **S 16 04 52.0 +5.6**
QIZ pmax pmax
comp=Z,180nm,11.9s
QIZ LR LR
comp=Z,2μm,18.5s
QIZ LR LR
comp=Z,3μm,19.1s
KNRA Kununurra 26.44 113 P P 16 00 23.9 -1.3
baz=26,SNR=18
PALK Pallekele 26.45 300 LR LR 16 10 39.8
comp=Z,1μm,19.2s,baz=116,slow=36
TGY Tagaytay City 26.54 40 LR LR 16 13 13.7
comp=Z,705nm,18.4s,baz=240,slow=42
SLVN Son La 27.37 1 eP P 16 00 33.1 -0.5
comp=Z,11nm,1.0s
MTN Manton Dam 27.96 106 P P 16 00 39.1 +0.2
baz=28,SNR=6.7
MTN Manton Dam 27.96 106 eP P 16 00 36.2 -2.7
comp=Z,56nm,0.6s
KLBR Kellerberrin 28.54 154 P P 16 00 44.4 +0.7
baz=29,SNR=5.3
KDU Kakadu 29.22 105 P P 16 00 47.9 -2.1
baz=29,SNR=5.9
NWAO Narrogin (SRO) 29.48 156 LR LR 16 11 09.0
comp=Z,2μm,21.4s,baz=196,slow=33
H01W3 Cape Leeuwin H 30.16 163 T T 16 32 15.1
baz=340,slow=76,SNR=196
H01W2 Cape Leeuwin H 30.17 163 T T 16 32 16.1
baz=340,slow=76,SNR=157
H01W1 Cape Leeuwin H 30.17 163 T T 16 32 16.3
baz=340,slow=76,SNR=145
WRKA Warakurna 30.19 131 P P 16 00 58.2 -0.5
baz=30,SNR=12
KMBL Kambalda 30.35 148 P P 16 01 00.1 +0.3
baz=30,SNR=5.2
H08S2 Diego Garcia H 30.87 266 T T 16 33 21.7
baz=89,slow=75,SNR=55
H08S3 Diego Garcia H 30.88 266 T T 16 33 13.1
baz=89,slow=75,SNR=25
H08S1 Diego Carcia H 30.89 266 T T 16 33 13.9
baz=89,slow=75,SNR=84
KMI Kunming 31.15 359 P P 16 01 10.8 +3.6
KMI pP sP 16 01 22.6 -1.2
KMI sP pP 16 01 27.8 +9.1
KMI PP **PP 16 02 15.5 -2.7**
KMI S **S 16 06 13.1 +2.6**
KMI sS sS 16 06 34.5 +4.8
KMI pmax pmax
comp=Z,14nm,0.7s
KMI pmax pmax
comp=Z,240nm,8.5s
KMI LR LR
comp=Z,2μm,18.7s
KMI LR LR
comp=Z,1μm,18.4s
KMI LR LR
comp=Z,2μm,18.4s
GYA Guiyang 32.61 5⇓*i*P P 16 01 23.3 +3.4
GYA pP sP 16 01 35.4 -1.1
GYA PP **PP 16 02 33.0 -1.3**
GYA sS sS 16 06 57.8 +5.5
GYA ScP **ScP 16 07 47.3 +1.0**
GYA SS **SnSn 16 08 36.0 +5.5**
GYA ScS **ScS 16 11 44.6 -1.5**
GYA pmax pmax
comp=Z,50nm,0.9s
GYA pmax pmax
comp=Z,140nm,5.0s
GYA LR LR
comp=Z,790nm,17.6s
GYA LR LR
comp=Z,720nm,17.2s
GYA LR LR
comp=Z,750nm,17.8s
WRA Warramunga Arr 32.86 117 P P 16 01 21.2 -0.9
comp=Z,6.9nm,0.6s,baz=303,slow=9.1,SNR=91
WRA PcP **PcP 16 04 06.4 +0.1**
comp=Z,1.3nm,0.5s,baz=307,slow=1.9,SNR=3.3
WRA LR LR 16 16 00.8
comp=Z,990nm,20.6s,baz=280,slow=39
WRAB Tennant Creek 32.87 117 *ce*P P 16 01 21.8 -0.4
WRAB pmax pmax
comp=Z,57nm,1.2s
WRAB Tennant Creek 32.87 117 *e*P P 16 01 20.8 -1.3
comp=Z,30nm,0.7s
WB2 Warramunga Arr 32.87 117 eP P 16 01 21.1 -1.1
AS31 Alice Springs 33.94 124 eP P 16 01 30.6 -1.0
comp=Z,7.1nm,0.6s
ASAR Alice Springs 33.94 124 P P 16 01 30.9 -0.6
comp=Z,6.4nm,0.7s,baz=291,slow=7.4,SNR=75
ASAR PcP **PcP 16 04 10.7 +1.4**
comp=Z,1.2nm,0.7s,baz=295,slow=4.8,SNR=2.6
ASAR LR LR 16 16 20.0
comp=Z,1μm,20.4s,baz=298,slow=38
AS01 Alice Springs 33.98 124 eP P 16 01 30.9 -1.0
QZH Quanzhou 34.25 25 eP P 16 01 36.0 +2.0
QZH *e*S **S 16 06 57.3 -0.9**
QZH LR LR
comp=Z,3μm,17.7s
QZH LR LR
comp=Z,3μm,20.5s
QZH LR LR
comp=Z,3μm,17.7s
ODAN Odare 36.41 335 *e*P P 16 01 54.0 +1.1
comp=Z,111nm,0.6s
ENH Enshi 36.71 9 *e*P P 16 01 54.8 -0.4
comp=Z,25nm,0.6s
TAPN Taplejung 36.72 336 eP P 16 01 56.9 +1.3
RAMN Ramite 36.83 334 eP P 16 01 57.7 +1.2
comp=Z,100nm,0.4s
CD2 Chengdu 36.91 0⇓*i*P P 16 01 56.9 0.0
CD2 pP pP 16 02 09.5 +1.0
CD2 PP **PnPn 16 03 24.9 +2.9**
CD2 S **S 16 07 36.3 -2.7**
CD2 SS **SnSn 16 10 13.5 -0.8**
CD2 ScS **ScS 16 12 07.8 -1.0**
CD2 pmax pmax
comp=Z,30nm,1.0s
CD2 pmax pmax
comp=Z,180nm,11.4s
CD2 LR LR
comp=Z,2μm,15.2s
CD2 LR LR
comp=Z,2μm,16.1s
CD2 LR LR
comp=Z,2μm,16.1s
JIRN Jiri 37.62 334 eP P 16 02 04.5 +1.1
comp=Z,145nm,0.5s
LSA Lhasa 37.64 342 P P 16 02 04.3 +0.7
LSA pmax pmax
comp=Z,35nm,1.2s
LSA Lhasa 37.64 342 eP P 16 02 03.8 +0.2
LSA pmax pmax
comp=Z,51nm,1.0s
LSA Lhasa 37.64 342 eP P 16 02 03.8 +0.2
comp=Z,51nm,1.0s
QIS Mount Isa 37.74 116 P P 16 02 03.7 -0.4
baz=38,SNR=11
PKI Pulchoki 37.89 333 eP P 16 02 06.4 +0.8
comp=Z,31nm,0.3s
PKIN Phulchoki 37.90 333 eP P 16 02 06.9 +1.3
comp=Z,29nm,0.4s
GUN Gumba 37.98 334 eP P 16 02 07.5 +1.2
comp=Z,251nm,0.4s
WHN Wuhan 37.98 15 P P 16 02 06.0 +0.2
WHN LR LR
comp=Z,1μm,12.8s
WHN LR LR
comp=Z,3μm,19.8s
WHN LR LR
comp=Z,3μm,21.2s
DMN Daman 38.06 333 eP P 16 02 07.8 +0.9
comp=Z,44nm,0.3s
KKN Kakani 38.14 333 eP P 16 02 08.3 +0.8
comp=Z,88nm,0.4s
GKN Gorkha 38.61 333 eP P 16 02 12.5 +1.1
comp=Z,135nm,0.3s
KOLN Koldanda 38.90 331 eP P 16 02 15.2 +1.3
comp=Z,43nm,0.3s
PYUN Piuthan 39.47 331 eP P 16 02 19.8 +1.1
comp=Z,86nm,0.4s
COEN Coen 39.71 104 P P 16 02 19.9 -0.7
baz=40,SNR=7.4
COEN Coen 39.71 104 eP P 16 02 18.9 -1.7
comp=Z,26nm,0.7s
BBOO Buckleboo 40.17 135 P P 16 02 24.4 +0.1
baz=40,SNR=9.8
XAN Xi'an 40.35 7 P P 16 02 24.8 -0.9
XAN pP pP 16 02 34.5 -2.9
XAN pmax pmax
comp=Z,30nm,0.6s
XAN pmax pmax
comp=Z,160nm,3.2s
XAN LR LR
comp=Z,530nm,17.3s
XAN LR LR
comp=Z,610nm,14.9s
XAN LR LR
comp=Z,1μm,17.2s
JOW Kunigami 40.64 35 P P 16 02 27.3 -0.9
comp=Z,21nm,0.6s,baz=248,slow=11,SNR=3.9
NJ2 Nanjing 40.74 20 eP P 16 02 28.8 -0.1
NJ2 S **S 16 08 40.6 +4.0**
NJ2 pmax pmax
comp=Z,20nm,0.5s
NJ2 pmax pmax
comp=Z,320nm,4.8s
NJ2 LR LR
comp=Z,820nm,16.0s
NJ2 LR LR
comp=Z,690nm,16.6s
NJ2 LR LR
comp=Z,1μm,16.6s
MTSU Mount Surprise 41.46 110 P P 16 02 35.0 -0.1
baz=42,SNR=32
LZH Lanzhou 42.07 0 eP P 16 02 41.3 +1.3
LZH pP pP 16 02 52.5 +0.7
LZH sP sP 16 02 56.9 +0.1
LZH PcP **PcP 16 04 34.0 -0.3**
LZH *e*S **S 16 08 56.0 -0.6**
LZH SS **SS 16 11 57.0 -8.3**
LZH pmax pmax
comp=Z,62nm,1.1s
LZH pmax pmax
comp=Z,180nm,4.2s
LZH LR LR
comp=Z,1μm,13.8s
LZH LR LR
comp=Z,640nm,14.6s
LZH LR LR
comp=Z,2μm,17.0s
HTT Hallett 42.53 134 P P 16 02 44.1 +0.4
baz=43,SNR=4.5
PMG Port Moresby 43.29 97 *de*P P 16 02 49.3 -0.7
PMG pmax pmax
comp=Z,471nm,0.9s
PMG Port Moresby 43.29 97 eP P 16 02 48.6 -1.4
comp=Z,93nm,0.6s
QLP Quilpie 43.69 122 P P 16 02 53.3 +0.1
baz=44,SNR=11
STKA Stephens Creek 43.72 131 P P 16 02 53.1 -0.2
comp=Z,13nm,0.6s,baz=306,slow=7.5,SNR=55
STKA LR LR 16 21 48.0
comp=Z,619nm,20.4s,baz=301,slow=37
STKA Stephens Creek 43.72 131 P P 16 02 53.5 +0.2
baz=44,SNR=32
STKA Stephens Creek 43.72 131 eP P 16 02 52.0 -1.3
comp=Z,10nm,0.8s
TIA Tai'an 44.07 16 ⇑P P 16 02 55.3 -0.7
TIA S **S 16 09 27.6 +2.0**
TIA pmax pmax
comp=Z,30nm,0.7s
TIA LR LR
comp=Z,770nm,19.8s
TIA LR LR
comp=Z,900nm,15.0s
TIA LR LR
comp=Z,830nm,21.3s
SDNR Sundarnagar 45.29 327 eP P 16 03 06.6 +0.8
GUMO Guam 45.48 64 P P 16 03 04.2 -3.4
comp=Z,33nm,0.4s,baz=351,slow=3.2,SNR=11
GTA Gaotai 45.52 356 P P 16 03 08.3 +0.7
GTA pP pP 16 03 20.5 +1.0
GTA sP sP 16 03 25.8 +1.3
GTA S **S 16 09 47.6 +0.8**
GTA sS sS 16 10 08.3 +1.8
GTA SS **ScS 16 13 03.1 +2.4**
GTA pmax pmax
comp=Z,35nm,1.4s
GTA pmax pmax
comp=Z,250nm,8.1s
GTA LR LR
comp=Z,930nm,21.1s
GTA LR LR
comp=Z,870nm,19.2s
GTA LR LR
comp=Z,1μm,22.3s
CMSA Cobar Meteorol 46.73 128 P P 16 03 17.7 +0.6
baz=47,SNR=8.7
JNU Nakatsue 46.93 32 P P 16 03 18.0 -0.6
comp=Z,18nm,0.7s,baz=292,slow=1.5,SNR=15
JNU Nakatsue 46.93 32 eP P 16 03 18.1 -0.6
comp=Z,31nm,0.9s
HHC Hu-ho-hao-te 47.40 8 eP P 16 03 22.9 +0.6
HHC pmax pmax
comp=Z,42nm,1.3s
HHC pmax pmax
comp=Z,280nm,6.0s
BJT Baijiatuau 47.44 13 eP P 16 03 21.8 -0.7
BJT pmax pmax
comp=Z,43nm,0.7s
BJT Baijiatuau 47.44 13 eP P 16 03 21.8 -0.7
comp=Z,43nm,0.7s
BJI Beijing 47.47 13 P P 16 03 22.6 0.0
BJI pmax pmax
comp=Z,51nm,0.8s
BJI pmax pmax
comp=Z,390nm,4.4s
BJI LR LR
comp=Z,680nm,24.6s
BJI LR LR
comp=Z,710nm,17.6s
BJI LR LR
comp=Z,1μm,25.5s
KS15 Wonju Array Si 49.00 26 eP P 16 03 34.5 0.0
KSAR Wonju Array Be 49.00 26 P P 16 03 34.6 0.0
KSAR Wonju Array Be 49.00 26 P P 16 03 34.5 0.0
KSRS Korea Array 49.03 26 P P 16 03 34.5 -0.2
comp=Z,14nm,0.6s,baz=221,slow=7.5,SNR=76
KSRS Korea Array 49.03 26 P P 16 03 34.6 -0.2
KSRS pmax pmax
comp=Z,14nm,0.6s
KS01 Wonju Array Si 49.03 26 eP P 16 03 34.2 -0.6
ARMA Armidale 51.09 124 P P 16 03 49.0 -1.8
baz=51,SNR=4.9
SNY Shenyang 51.19 19 ⇑P P 16 03 49.5 -1.5
SNY pmax pmax
comp=Z,35nm,1.7s
SNY pmax pmax
comp=Z,260nm,2.9s
SNY LR LR
comp=Z,630nm,20.2s
SNY LR LR
comp=Z,740nm,21.0s
SNY LR LR
comp=Z,1μm,18.8s
WMQ Urumqi 51.82 345 P P 16 03 57.3 +1.4
WMQ pP sP 16 04 10.5 -2.4
WMQ sP pP 16 04 14.6 +6.7
WMQ pmax pmax
comp=Z,90nm,1.7s
WMQ pmax pmax
comp=Z,470nm,3.6s
WMQ LR LR
comp=Z,640nm,16.1s
WMQ LR LR
comp=Z,440nm,20.1s
WMQ LR LR
comp=Z,370nm,20.5s
INU Inuyama 51.96 35 eP P 16 03 54.4 -2.6
comp=Z,13nm,0.6s
KBL Kabul 52.00 324 eP P 16 03 56.5 -1.1
KBL pmax pmax
comp=Z,49nm,1.8s
KBL Kabul 52.00 324 eP P 16 03 56.5 -1.1
comp=Z,49nm,1.8s
KSH Kashi 52.15 333⇑*i*P P 16 03 57.8 -0.7
KSH pP pP 16 04 10.8 +0.2
KSH sP sP 16 04 15.8 +0.3
KSH PP **PP 16 05 57.8 +0.5**
KSH S **S 16 11 15.1 -5.0**
KSH sS sS 16 11 37.4 -2.8
KSH SS **SS 16 14 51.4 -6.7**
KSH pmax pmax
comp=Z,19nm,0.9s
KSH LR LR
comp=Z,340nm,13.5s
KSH LR LR
comp=Z,150nm,5.8s
KSH LR LR
comp=Z,460nm,24.2s
WSAR Wadi Sarin 52.75 305 P P 16 04 05.2 +2.2
comp=Z,2.2nm,0.6s,baz=177,slow=5.6,SNR=7.6
MAJO Matsushiro 53.49 35*c i*P P 16 04 05.9 -2.4
MAJO pmax pmax
comp=Z,30nm,0.9s
MAJO Matsushiro 53.49 35 eP P 16 04 05.2 -3.1
comp=Z,29nm,1.3s
MAT Matsushiro 53.49 35 P P 16 04 05.6 -2.7
MAT *e*S S 16 11 52.8 +15
MJAR Matsushiro Arr 53.49 35 P P 16 04 06.1 -2.1
comp=Z,6.1nm,0.6s,baz=214,slow=7.1,SNR=23
MJAR LR LR 16 28 07.6
comp=Z,133nm,19.8s,baz=210,slow=38
MJB9 Matsu-Tunnel 53.49 35 eP P 16 04 05.3 -3.0
comp=Z,7.0nm,1.2s
CN2 Changchun 53.57 20⇑*i*P P 16 04 08.0 -0.7
CN2 *e*pP pP 16 04 20.8 0.0
CN2 *e*S **S 16 11 37.6 -1.3**
CN2 pmax pmax
comp=Z,60nm,1.3s
CN2 pmax pmax
comp=Z,200nm,3.0s
CN2 LR LR
comp=Z,400nm,17.0s
CN2 LR LR
comp=Z,700nm,17.0s
CN2 LR LR
comp=Z,800nm,19.0s
SONM Songino Array 53.87 2 P P 16 04 11.7 +0.7
comp=Z,22nm,0.6s,baz=183,slow=8.6,SNR=90
SONM PcP **PcP 16 05 17.0 +0.8**
comp=Z,2.9nm,0.4s,baz=186,slow=4.6,SNR=2.8
SONM LR LR 16 30 33.6
comp=Z,1μm,18.2s,baz=180,slow=40
ULN Ulaanbaatar 53.93 3*ce*P P 16 04 12.0 +0.6
ULN pmax pmax
comp=Z,72nm,1.7s
ULN Ulaanbaatar 53.93 3 eP P 16 04 11.0 -0.4
comp=Z,154nm,1.8s
ULN Ulaanbaatar 53.93 3 P P 16 04 12.1 +0.7
SNR=26
ULN P P 16 04 12.1 +0.7
SNR=26
MSHR Mys Shultsa 54.66 25*ce*P P 16 04 16.3 -0.4
AAK Ala-Archa 55.34 334 P P 16 04 22.6 +0.8
comp=Z,4.6nm,0.5s,baz=153,slow=5.8,SNR=13
AAK LR LR 16 30 43.7
comp=Z,515nm,21.2s,baz=134,slow=39
AAK Ala-Archa 55.34 334*c i*P P 16 04 22.4 +0.6
AAK pmax pmax
comp=Z,59nm,1.8s
AAK Ala-Archa 55.34 334 eP P 16 04 22.1 +0.3
comp=Z,81nm,1.7s
AAK Ala-Archa 55.34 334 P P 16 04 22.8 +1.0
SNR=18
AAK P P 16 04 22.8 +1.0
SNR=18
VLA Vladivostok 55.41 25*c i*P P 16 04 21.3 -0.8
VLA pmax pmax
comp=Z,24nm,0.9s
FRU Bishkek 55.44 334 eP P 16 04 22.0 -0.4
FRU *e* 16 04 34.0
FRU pmax pmax
comp=Z,95nm,2.1s
HATD Hatta, Dubai 55.51 306 P P 16 04 24.9 +1.7
MDJ Mudanjiang 55.75 22 P P 16 04 23.9 -0.5
MDJ pmax pmax
comp=Z,11nm,0.8s
MDJ pmax pmax
comp=Z,88nm,6.8s
MDJ Mudanjiang 55.75 22 eP P 16 04 24.0 -0.5
comp=Z,58nm,1.8s
FAQ Al Faqa, Dubai 55.91 305 *i* P P 16 04 28.3 +2.3
SNR=5.7
MK01 Makanchi Array 56.02 343 eP P 16 04 26.2 -0.3
MK31 Makanchi Array 56.05 343 eP P 16 04 26.2 -0.4
MK31 pmax pmax
comp=Z,18nm,0.7s
MK31 Makanchi Array 56.05 343 eP P 16 04 26.3 -0.4
MKAR Makanchi Array 56.05 343 eP P 16 04 26.4 -0.2
MKAR pmax pmax
comp=Z,127nm,0.6s
MKAR Makanchi Array 56.05 343 eP P 16 04 26.4 -0.2
comp=Z,127nm,0.6s
MNAS Manas 56.10 333 P P 16 04 27.4 +0.1
MNAS pmax pmax
comp=Z,115nm,1.4s
MAKZ Makanchi 56.15 342 eP P 16 04 27.0 -0.4
MAKZ pmax pmax
comp=Z,47nm,1.3s
MAKZ Makanchi 56.15 342 eP P 16 04 27.0 -0.4
comp=Z,47nm,1.3s

USRK **Ussuriysk Ar.** 56.34 24 P P 16 04 28.7 0.0
comp=Z,48nm,0.6s,baz=209,slow=5.4,SNR=112
ZAK **Zakamensk** 56.36 360 eP P 16 04 28.4 -0.5
ZAK pmax pmax
comp=Z,14nm,1.9s
HIA **Hailar** 57.02 13 eP P 16 04 33.0 -0.5
HIA pmax pmax
comp=Z,42nm,1.3s
HIA **Hailar** 57.02 13 eP P 16 04 33.0 -0.5
comp=Z,42nm,1.3s
KK31 **Karatay Array** 57.51 332 eP P 16 04 36.8 -0.2
KK31 pmax pmax
comp=Z,6.0nm,0.7s
KKAR **Karatay Array** 57.51 332 eP P 16 04 36.4 -0.6
KKAR pmax pmax
comp=Z,92nm,1.1s
KKAR **Karatay Array** 57.51 332 eP P 16 04 36.4 -0.6
comp=Z,92nm,1.1s
TLY **Talaya** 57.66 0 P P 16 04 39.5 +1.6
comp=Z,10nm,0.6s,baz=197,slow=7.7,SNR=6.3
TLY LR LR 16 33 10.3
comp=Z,743nm,18.3s,baz=162,slow=40
TLY **Talaya** 57.66 0 *i* P P 16 04 39.0 +1.1
TLY pmax pmax
comp=Z,27nm,0.9s
TLY **Talaya** 57.66 0 eP P 16 04 37.8 -0.2
comp=Z,18nm,0.7s
TLY **Talaya** 57.66 0 P P 16 04 39.1 +1.1
SNR=8.2
TLY P P 16 04 39.1 +1.1
SNR=8.2
MOY **Mondy** 57.69 358 eP P 16 04 39.8 +1.5
MOY pmax pmax
comp=Z,72nm,2.5s
IRK **Irkutsk** 58.23 1 eP P 16 04 41.7 -0.2
IRK pmax pmax
comp=Z,88nm,2.7s
KURK **Kurchatov** 60.65 342 *ce*P P 16 04 58.6 0.0
KURK pmax pmax
comp=Z,149nm,1.2s
KURK **Kurchatov** 60.65 342 eP P 16 04 58.3 -0.3
comp=Z,137nm,1.5s
KURK **Kurchatov** 60.65 342 P P 16 04 58.7 +0.1
SNR=30
KURK P P 16 04 58.7 +0.1
SNR=30
GEYT **Alibeck** 60.93 320 P P 16 05 02.0 +1.1
comp=Z,2.5nm,0.4s,baz=143,slow=5.2,SNR=10
GEYT LR LR 16 34 24.2
comp=Z,290nm,20.3s,baz=120,slow=39
HABR **Khabarovsk** 61.05 23 *ce*P P 16 04 58.7 -2.7
HABR *e**SP **pP** 16 05 12.9 -0.8
HABR *e* 16 05 41.5
HABR *e* 16 07 13.2
HABR *e*PPP PPP 16 08 37.9
HABR *e*S **S** 16 13 15.6 -1.6
HABR *e**SS **pS** 16 13 32.6 +0.8
HABR *e* 16 14 47.3
HABR *e*SS **SS** 16 17 16.4 -1.2
HABR pmax pmax
comp=N,14nm,1.9s
HABR pmax pmax
comp=Z,39nm,1.9s
HABR pmax pmax
comp=E,24nm,1.9s
HABR MLR MLR
comp=Z,231nm,19.0s
ASAJ **Asahikawa** 61.20 31 eP P 16 05 01.3 -1.2
comp=Z,22nm,0.7s
ZAA0 **Zalesovo Array** 61.97 348 eP P 16 05 07.2 -0.3
ZALV **Zalesovo Beam** 61.97 348 P P 16 05 07.6 +0.1
comp=Z,42nm,0.4s,baz=158,slow=5.8,SNR=174
ZALV LR LR 16 34 54.2
comp=Z,1µm,19.8s,baz=232,slow=39
NVS **Novosibirsk** 63.15 347⇑ *i*P P 16 05 16.0 +0.7
NVS *i* S **S** 16 13 42.0 -1.4
NVS pmax pmax
comp=N,42nm,1.6s
NVS pmax pmax
comp=E,33nm,1.6s
NVS pmax pmax
comp=Z,67nm,1.6s
NVS smax smax
comp=N,17nm,1.8s
NVS smax smax
comp=E,20nm,1.8s
YSS **Yuzh-Sakhalins** 63.28 29⇑ *i*P P 16 05 15.3 -1.1
YSS *e* 16 05 27.5
YSS *e*S **S** 16 13 47.0 +1.7
YSS pmax pmax
comp=Z,30nm,0.6s
YSS pmax pmax
comp=Z,130nm,4.2s
YSS MLR MLR
comp=Z,180nm,16.0s
YSS MLR MLR
comp=N,230nm,19.0s
YSS MLR MLR
comp=E,290nm,15.0s
YSS **Yuzh-Sakhalins** 63.28 29 eP P 16 05 15.0 -1.4
comp=E,33nm,0.9s
BOD **Bodaibo** 64.37 6 eP P 16 05 23.1 -0.2
BOD pmax pmax
comp=Z,44nm,1.7s
KUR **Kuril'sk** 64.74 33⇓ *i*P P 16 05 25.5 -0.5
BVAR **Borovoye Array** 65.35 339 P P 16 05 29.9 +0.1
comp=Z,12nm,0.4s,baz=143,slow=8.5,SNR=7.2
BVAR LR LR 16 37 53.4
comp=Z,400nm,20.7s,baz=102,slow=40
BRVK **Borovoye** 65.42 339 *ce*P P 16 05 30.3 +0.1
BRVK pmax pmax
comp=Z,124nm,2.5s
BRVK **Borovoye** 65.42 339 eP P 16 05 30.0 -0.2
comp=Z,68nm,1.5s
KMBO **Kilima Mbogo** 66.33 271 LR LR 16 30 09.1
comp=Z,583nm,20.1s,baz=95,slow=32
AB31 **Akbulak array** 67.02 331 P P 16 05 40.4 -0.2
AB31 pmax pmax
comp=Z,77nm,1.1s
ABKAR **Akbulak array** 67.02 331 eP P 16 05 40.9 +0.3
comp=Z,461nm,1.0s
MAW **Mawson** 67.16 196 P P 16 05 42.9 +1.7
comp=Z,1.9nm,0.6s,baz=113,slow=4.0,SNR=9.4
MAW LR LR 16 30 50.4
comp=Z,1µm,18.1s,baz=58,slow=32
MAW **Mawson** 67.16 196 eP P 16 05 42.6 +1.4
comp=Z,1.3nm,1.0s
LKRN **Lenkeran, Azer** 67.56 316 P P 16 05 43.2 -1.0
RPZ **Rata Peaks** 69.52 134 P P 16 05 56.7 +0.3
comp=Z,6.2nm,0.6s,baz=272,slow=4.9,SNR=6.0
SEKA **Sheki** 69.82 318 P P 16 05 57.3 -1.1
NAX **Nakhchivan** 70.05 315 P P 16 05 58.6 -1.3
GANJ **Ganja** 70.14 317 P P 16 05 59.2 -1.1
GNI **Garni** 71.00 316 P P 16 06 07.2 +1.5
GNI **Garni** 71.00 316 *c* *i*P P 16 06 07.1 +1.4
GNI pmax pmax
comp=Z,21nm,1.1s
DGRG **David-gareji** 71.15 318 P P 16 06 08.7 +2.2
DGRG **David-gareji** 71.15 318 P P 16 06 08.7 +2.2
TBLG **Delisi** 71.70 318 P P 16 06 11.4 +1.7
TBLG **Delisi** 71.70 318 P P 16 06 11.4 +1.7
SVE **Sverdlovsk** 71.91 337 *d* *i*P P 16 06 11.6 +1.0
SVE pmax pmax
comp=Z,73nm,1.3s
SKR **Severo-Kuril's** 72.44 32 eP P 16 06 07.7 -6.2
SKR eS SKiKP 16 16 08.8 +23
SKR pmax pmax
comp=Z,400nm,2.7s
SKR pmax pmax
comp=Z,40nm,1.0s
SKR MLR MLR
comp=Z,200nm,19.0s
SKR MLR MLR
comp=Z,300nm,17.0s
ARU **Arti** 72.47 336 P P 16 06 14.6 +0.6
comp=Z,11nm,0.4s,baz=135,slow=4.2,SNR=25
ARU **Arti** 72.47 336 *c* *i*P P 16 06 14.5 +0.5
ARU 16 08 51.5
ARU PPP PPP 16 10 38.0
ARU S **S** 16 15 39.2 +4.4
ARU SS **SS** 16 20 11.7 -2.6
ARU pmax pmax
comp=Z,45nm,1.2s
ARU **Arti** 72.47 336 eP P 16 06 14.4 +0.4
comp=Z,54nm,1.1s
MARD **Mardin** 72.68 312 eP P 16 06 16.4 +0.5
comp=Z,22nm,0.7s
ZEI **Tsey** 72.72 318 eP P 16 06 17.0 +0.9
ZEI pmax pmax
comp=Z,37nm,0.6s
ONI **Oni** 72.94 318 P P 16 06 19.1 +2.0
ONI **Oni** 72.94 318 P P 16 06 19.1 +2.0
URZ **Urewera** 73.27 128 LR LR 16 41 09.0
comp=Z,626nm,18.9s,baz=356,slow=38
ARTV **Artvin** 73.38 316 eP P 16 06 20.8 +0.8
comp=Z,5.5nm,1.0s
NEY **Neytrino** 73.70 318 eP P 16 06 23.4 +1.6
NEY pmax pmax
comp=Z,4.0nm,1.2s
KBZ **Khabaz** 73.79 319 P P 16 06 23.5 +1.5
comp=Z,9.8nm,0.8s,baz=107,slow=5.5,SNR=19
KBZ LR LR 16 45 00.1
comp=Z,66nm,18.3s,baz=108,slow=41
KIV **Kislovodsk** 74.03 319 P P 16 06 24.7 +1.2
KIV **Kislovodsk** 74.03 319 eP P 16 06 24.6 +1.0
KIV eS S 16 15 55.2 +1.9
KIV pmax pmax
comp=Z,15nm,1.0s
KIV **Kislovodsk** 74.03 319 P P 16 06 24.8 +1.2
SNR=5.2
GOF **Gofitskoye** 74.28 320⇑ eP P 16 06 27.0 +2.1
PETK **Petropavlovsk-** 74.61 30 P P 16 06 25.7 -1.0
comp=Z,2.6nm,0.6s,baz=225,slow=5.9,SNR=9.7
PETK LR LR 16 40 45.4
comp=Z,122nm,19.4s,baz=247,slow=37
PET **Petropavlovsk** 75.04 31 eP P 16 06 27.1 -2.0
PET pmax pmax
comp=Z,30nm,1.3s
PET MLR MLR
comp=Z,200nm,20.0s
PET **Petropavlovsk** 75.04 31 eP P 16 06 27.6 -1.5
comp=Z,21nm,0.6s
SYO **Syowa Base** 75.08 200⇑ ePcP PcP 16 06 45.8 +3.2
SOKR **Solikamsk** 75.29 337⇓ *i*P P 16 06 29.6 -0.8
SOKR pmax pmax
comp=Z,36nm,1.1s
SOKR MLR MLR
comp=Z,660nm,23.0s
MA2 **Magadan** 75.45 23 P P 16 06 31.4 0.0
comp=Z,7.5nm,0.6s,baz=252,slow=3.2
MA2 **Magadan** 75.45 23⇑ eP P 16 06 32.0 +0.7
NRIK **Noril'sk** 76.19 354 P P 16 06 35.1 -0.3
comp=Z,10nm,0.3s,baz=167,slow=4.4,SNR=32
NRIK LR LR 16 43 12.8
comp=Z,698nm,21.1s,baz=150,slow=38
BOSA **Boshof** 76.80 312 LR LR 16 35 31.5
comp=Z,409nm,19.1s,baz=74,slow=32
VNDA **Vanda** 77.38 169 P P 16 06 43.2 +1.2
comp=Z,1.6nm,0.9s,baz=327,slow=4.7,SNR=4.4
VNDA LR LR 16 36 27.1
comp=Z,519nm,18.4s,baz=296,slow=32
SEY **Seymchan** 78.23 21 P P 16 06 46.9 -0.1
comp=Z,4.8nm,0.6s,baz=240,slow=7.0,SNR=3.7
BR131 **Keskin Array S** 78.76 312 eP P 16 06 50.5 -0.1
BRTR **Keskin Array B** 78.76 312 P P 16 06 51.8 +1.2
comp=Z,4.4nm,0.7s,baz=138,slow=6.1,SNR=21
BRTR LR LR 16 44 36.6
comp=Z,217nm,18.9s,baz=103,slow=38
BRTR **Keskin Array B** 78.76 312 *i* P P 16 06 51.5 +0.9
BRTR pmax pmax
comp=Z,4.0nm,0.7s
VSR **Storozhevoye** 79.24 325 eP P 16 06 52.9 +0.2
VSR pmax pmax
comp=Z,60nm,1.6s
BR231 **Keskin MP Arra** 79.43 312 eP P 16 06 51.4 -2.8
TIXI **Tiksi** 79.47 8 P P 16 06 52.7 -0.8
comp=Z,5.6nm,0.6s,baz=204,slow=2.9,SNR=7.9
TIXI **Tiksi** 79.47 8 *ce*P P 16 06 52.3 -1.2
TIXI pmax pmax
comp=Z,31nm,2.5s
TIXI **Tiksi** 79.47 8 eP P 16 06 51.2 -2.3
comp=Z,29nm,1.2s
LPSR **Galich'ya Gora** 79.94 326 eP P 16 06 56.8 +0.3
LPSR pmax pmax
comp=Z,30nm,1.5s
MOS **Moscow** 81.91 329 eP P 16 07 04.7 -2.2
MOS *e* 16 07 21.1
MOS pmax pmax
comp=Z,56nm,1.1s
OBN **Obninsk** 82.22 328 P P 16 07 10.0 +1.5
comp=Z,16nm,0.5s,baz=98,slow=7.1,SNR=5.0
OBN **Obninsk** 82.22 328 *ce*P P 16 07 08.4 -0.2
OBN *i* 16 07 24.0
OBN *e* 16 10 18.5
OBN *e*S **S** 16 17 19.4 -1.2
OBN pmax pmax
comp=Z,77nm,1.7s
OBN **Obninsk** 82.22 328 eP P 16 07 07.6 -0.9
comp=Z,119nm,1.6s
KLMR **Klimovskoe** 83.14 334 eP P 16 07 11.2 -2.1
KLMR pmax pmax
comp=Z,55nm,1.5s
TIRR **Tirgusor** 83.83 316⇑ *i*P P 16 07 20.5 +3.4
TIRR **Tirgusor** 83.83 316 ⇑P P 16 07 20.5 +3.4
CFR **Carcaliu** 84.20 317⇑ *i*P P 16 07 21.3 +2.3
CFR **Carcaliu** 84.20 317 ⇑P P 16 07 21.3 +2.3
SORM **Soroca** 84.82 319⇑ *i*P P 16 07 24.1 +2.0
SORM **Soroca** 84.82 319 ⇑P P 16 07 24.1 +2.0
AKASG **Malin Array Be** 84.96 322 P P 16 07 23.4 +0.7
comp=Z,5.3nm,0.5s,baz=88,slow=4.6,SNR=20
AKASG LR LR 16 50 33.6
comp=Z,121nm,20.3s,baz=75,slow=39
AKASG **Malin Array Be** 84.96 322 *i* P P 16 07 20.7 -2.0
AKASG pmax pmax
comp=Z,5.0nm,0.5s
AKBB **Malin Array Si** 84.96 322 eP P 16 07 22.5 -0.2
AKBB pmax pmax
comp=Z,12nm,0.6s
AKBB **Malin Array Si** 84.96 322 eP P 16 07 22.5 -0.2
comp=Z,12nm,0.6s
KIEV **Kiev** 84.97 322 eP P 16 07 23.9 +1.1
KIEV pmax pmax
comp=Z,8.0nm,0.9s
KIEV **Kiev** 84.97 322 eP P 16 07 22.7 -0.1
comp=Z,12nm,0.6s
AK11 **Malin Array Si** 84.99 322 eP P 16 07 21.9 -0.9
TMCR **Tamitsa** 85.19 336 eP P 16 07 25.1 +1.6
PLOR **Plostina** 85.38 317⇑ *i*P P 16 07 27.8 +2.8
PLOR **Plostina** 85.38 317 ⇑P P 16 07 27.8 +2.8
TESR **Tescani** 85.54 318⇓ *i*P P 16 07 28.3 +2.5
MLR **Muntele Rosu** 85.78 316⇑ *i*P P 16 07 29.0 +1.9
MLR **Muntele Rosu** 85.78 316 eP P 16 07 27.3 +0.2
MLR pmax pmax
comp=Z,56nm,1.4s
MLR **Muntele Rosu** 85.78 316 eP P 16 07 27.3 +0.2
comp=Z,56nm,1.4s
BILL **Bilibino** 85.88 20 eP P 16 07 26.3 -0.6
BILL pmax pmax
comp=Z,3.0nm,0.8s
BILL MLR MLR
comp=Z,310nm,20.0s
DOPR **Dopca** 86.26 317⇓ *i*P P 16 07 31.9 +2.5
VOIR 86.38 316⇑ *i*P P 16 07 31.8 +1.8
VOIR 86.38 316 ⇑P P 16 07 31.8 +1.8
ARR **Arges** 86.65 316⇑ *i*P P 16 07 32.6 +1.2
BURAR **Bucovina Array** 86.74 318⇑ *i*P P 16 07 34.5 +2.7
BURAR **Bucovina Array** 86.74 318 ⇑P P 16 07 34.5 +2.7
BUR08 **Bucovina Ar. S** 86.76 318 eP P 16 07 33.4 +1.5
VTS **Vitosha** 87.10 313⇑ *i*P P 16 07 35.5 +1.8
VTS **Vitosha** 87.10 313 eP P 16 07 33.7 0.0
VTS pmax pmax
comp=Z,35nm,1.8s
VTS **Vitosha** 87.10 313 eP P 16 07 33.7 0.0
comp=Z,34nm,1.8s
LOT **Lotru** 87.26 316⇑ *i*P P 16 07 37.3 +2.9
DEV **Deva** 87.94 316⇑ *i*P P 16 07 40.9 +3.4
DEV **Deva** 87.94 316 ⇑P P 16 07 40.9 +3.4
LVV **L'vov** 87.98 320 eP P 16 07 39.8 +2.2
BZS **Buzias** 88.78 316⇑ *i*P P 16 07 43.2 +1.7
BZS **Buzias** 88.78 316 ⇑P P 16 07 43.2 +1.7
SIRR **Siria** 88.87 317⇓ *i*P P 16 07 40.0 -1.9
UZH **Uzhgorod** 88.87 319 eP P 16 07 43.6 +1.8
UZH *i* 16 08 06.6
SNAA **Sanae** 89.25 198 P P 16 07 45.8 +2.6
SNAA **Sanae** 89.25 198 eP P 16 07 45.7 +2.4
SNAA pmax pmax
comp=Z,83nm,1.0s
SNAA **Sanae** 89.25 198 eP P 16 07 44.2 +0.9
comp=Z,16nm,1.5s
CRVS **Cervenica-Dubn** 89.46 319 eP P 16 07 51.4 +6.8
CRVS **Cervenica-Dubn** 89.46 319 eP P 16 07 51.3 +6.7
FINES **FINESS Array B** 89.47 332 P P 16 07 45.2 +1.0
comp=Z,4.0nm,0.5s,baz=112,slow=6.5,SNR=38
FINES LR LR 16 54 59.2
comp=Z,120nm,18.6s,baz=92,slow=40
FINES **FINESS Array B** 89.47 332 *i* P P 16 07 46.0 +1.7
FINES pmax pmax
comp=Z,4.0nm,0.5s
STHS **Stebnicka Huta** 89.69 320 eP P 16 07 48.3 +2.6
STHS pmax pmax
comp=Z,6.0nm,0.7s
STHS **Stebnicka Huta** 89.69 320 eP P 16 07 48.3 +2.6
PDG **Podgorica** 89.95 313⇓ *i*P P 16 07 49.0 +2.0
VNA2 **Neumayer--Watz** 90.89 198 P P 16 07 48.0 -2.9
baz=89,slow=4.1
VYHS **Vyhne** 91.11 319 eP P 16 07 54.9 +2.6
VYHS **Vyhne** 91.11 319 eP P 16 07 54.9 +2.6
VNA1 **Neumayer--Stat** 91.26 198 P P 16 07 50.1 -2.5
VNA3 **Neumayer Olymp** 91.44 197 P P 16 07 53.3 -0.2
ARCES **ARCESS Array B** 91.61 340 P P 16 07 54.9 +0.7
comp=Z,1.1nm,0.3s,baz=96,slow=7.4,SNR=7.4
ARCES LR LR 16 54 02.9
comp=Z,440nm,21.6s,baz=106,slow=39
KRLC **Kraliky** 92.65 320 eP P 16 08 01.9 +2.5
KRLC **Kraliky** 92.65 320 eP P 16 08 01.9 +2.5
DPC **Dobruska-Polom** 92.97 320 eP P 16 08 03.5 +2.6
DPC *ex* x 16 08 09.8
DPC **Dobruska-Polom** 92.97 320 eP P 16 08 03.5 +2.6
BOJS **Bojanci** 93.19 315 *i* P P 16 08 04.0 +2.0
PERS **Pernice** 93.40 316 *i* P P 16 08 05.5 +2.5
VISS **Visnje** 93.51 316 *i* P P 16 08 05.5 +2.1
GEA0 **GERESS Array S** 94.53 318 eP P 16 08 08.2 0.0
GERES **GERESS Array B** 94.53 318 P P 16 08 09.3 +1.1
comp=Z,0.6nm,0.6s,baz=76,slow=5.6,SNR=5.4
GERES LR LR 16 59 02.1
comp=Z,85nm,18.0s,baz=89,slow=41
KHC **Kasperske Hory** 94.64 319 eP P 16 08 11.3 +2.7
KHC **Kasperske Hory** 94.64 319 eP P 16 08 11.3 +2.7
SPITS **Spitsbergen Ar** 95.45 348 P P 16 08 11.2 -0.5
comp=Z,19nm,1.1s,baz=118,slow=8.5,SNR=4.1
NOA **NORSAR Array B** 96.53 331 LR LR 16 58 11.1
comp=Z,83nm,18.2s,baz=85,slow=39
KEST **Kesra** 97.00 305 LR LR 16 56 00.1
comp=Z,96nm,19.4s,baz=352,slow=38
TOLK **Tolik Lake Re** 101.87 21 P Pdif 16 08 42.2 +1.5
baz=283
TBI **Tubuai** 102.97 116 eLR LR 16 42 45.8
comp=Z,278nm,24.8s
PPT2 **Papeete2** 104.05 110 eLR LR 16 43 17.5
comp=Z,310nm,24.0s
TAOE **Nuku Hiva Isla** 114.76 103 eLR LR 16 48 15.1
comp=Z,222nm,23.7s
RKT **Rikitea** 115.84 119 eLR LR 16 48 39.0
comp=Z,364nm,27.2s
A04D **Lummi Island** 122.39 35 P PKPdf 16 13 43.5 +0.9
baz=302
G03D **McMinnville, O** 123.84 38 P PKPdf 16 13 45.6 0.0
baz=299
EDM **Edmonton** 124.32 26 *e*PKIKP PKPdf 16 13 47.0 +0.6
EDM **Edmonton** 124.32 26 *e*PKPdf PKPdf 16 13 47.0 +0.6
B08A **Colville Reser** 124.46 33 *e*PKPdf PKPdf 16 13 46.6 -0.1
I03D **Drain, OR** 124.51 40 P PKPdf 16 13 48.1 +1.2
baz=298
G05D **Wamic, OR** 125.01 37 P PKPdf 16 13 48.0 +0.1
baz=301
L02D **Cave Junction,** 125.06 42 P PKPdf 16 13 48.8 +0.7
baz=297
I04A **Tendick Farm,** 125.06 40 P PKPdf 16 13 48.9 +0.8
baz=299
D08A **Wollman Farm,** 125.43 35 *e*PKPdf PKPdf 16 13 49.1 +0.5
J04D **Umpqua Nationa** 125.52 40 P PKPdf 16 13 50.1 +0.9
baz=299
M02C **Callahan** 125.91 42 P PKPdf 16 13 51.3 +1.4
baz=297
J05D **Fort Rock, OR** 126.06 40 P PKPdf 16 13 51.2 +1.0
baz=300
N02D **Trinity Center** 126.20 43 P PKPdf 16 13 51.6 +1.2
baz=297
M04C **Macdoel** 126.40 41 P PKPdf 16 13 51.9 +1.1
baz=298
MSO **Missoula** 128.29 32 P PKPdf 16 13 55.4 +1.1
baz=310
EGMT **Eagleton** 129.59 29 P PKPdf 16 13 58.2 +1.5
baz=315
HLID **Hailey** 130.05 36 P PKPdf 16 13 59.1 +1.3
baz=307
HLID **Hailey** 130.05 36 *e*PKPdf PKPdf 16 14 00.4 +2.6
BOZ **Bozeman (W)** 130.31 32 P PKPdf 16 13 58.7 +0.5
baz=311
BOZ **Bozeman (W)** 130.31 32 *e*PKIKP PKPdf 16 13 58.3 +0.1
BOZ **Bozeman (W)** 130.31 32 *e*PKPdf PKPdf 16 13 58.3 +0.1
SCHQ **Schefferville** 130.90 353 PKP PKPdf 16 14 00.2 +1.4
comp=Z,5.3nm,0.6s,baz=343,slow=0.6,SNR=5.7
PKM **Mcpherson Peak** 130.94 48 P PKPdf 16 13 59.3 -0.5
baz=295
GCMT **Greycliff** 131.19 31 *e*PKPdf PKPdf 16 14 00.5 +0.6
YHH **Holmes Hill** 131.26 32 *e*PKPdf PKPdf 16 14 01.3 +1.1
CWC **Cottonwood Cre** 131.50 46 P PKPdf 16 14 01.3 +0.6
baz=298
MOOW **Moose Ponds** 132.00 33 *e*PKPdf PKPdf 16 14 01.1 -0.5
HVU **Hansel Valley** 132.09 37 *e*PKIKP PKPdf 16 14 03.0 +1.3
HVU **Hansel Valley** 132.09 37 *e*PKPdf PKPdf 16 14 03.0 +1.3
MPMC **Manual Prospec** 132.10 46 P PKPdf 16 14 02.4 +0.5
baz=298
R11A **Troy Canyon, C** 132.27 42 P PKPdf 16 14 02.5 +0.3
baz=302
R11A **Troy Canyon, C** 132.27 42 *e*PKPdf PKPdf 16 14 03.1 +1.0
EDW2 **Edwards Air Fo** 132.28 47 P PKPdf 16 14 02.5 +0.4
baz=297
CIS **Catalina Islan** 132.62 49 P PKPdf 16 14 02.9 +0.2
baz=295
HWUT **Hardware Ranch** 132.91 36 *e*PKPdf PKPdf 16 14 03.1 -0.2
GSC **Goldstone, Bar** 132.95 46 P PKPdf 16 14 04.4 +1.0
baz=298
PLCA **Paso Flores** 132.98 186 PKP PKPdf 16 14 04.4 +1.1
comp=Z,1.2nm,0.9s,baz=62,slow=2.1,SNR=3.2
ULM **Lac du Bonnet** 133.18 17 PKP PKPdf 16 14 04.4 +1.1
comp=Z,6.3nm,0.7s,baz=333,slow=2.3,SNR=4.8
BW06 **Boulder Array** 133.30 34 *e*PKPdf PKPdf 16 14 02.9 -1.2
PDAR **Pinedale Array** 133.30 34 PKP PKPdf 16 14 04.3 +0.3
comp=Z,0.6nm,0.6s,baz=110,slow=1.7,SNR=7.9
PFO **Pinyon Flats O** 133.99 48 P PKPdf 16 14 06.0 +0.5
baz=297
TPFO **Pinon Flats** 134.00 48 P PKPdf 16 14 05.7 +0.2
baz=297
A32A **Rocking H Ranc** 134.17 18 P PKPdf 16 14 06.6 +1.4
baz=332
A33A **Warroad** 134.49 17 P PKPdf 16 14 05.9 +0.2
baz=333
RSSD **Black Hills** 135.16 28 P PKPdf 16 14 08.2 +0.7
baz=319
O20A **White River Ci** 135.79 35 *e*PKPdf PKPdf 16 14 07.5 -1.3
N23A **Red Feather La** 136.55 33 P PKPdf 16 14 10.8 +0.5
baz=315
WUAZ **Wupatki** 136.64 43 P PKPdf 16 14 11.2 +0.8
baz=304
F36A **Milaca** 137.81 18 P PKPdf 16 14 12.7 +0.6
baz=334
S22A **4UR Ranch, Cre** 138.19 37 P PKPdf 16 14 13.6 +0.3
baz=311
F39A **Loretta** 138.50 15 P PKPdf 16 14 14.4 +1.1
baz=338
ECSD **EROS Data Cent** 138.63 22 P PKPdf 16 14 14.0 +0.4
baz=329
K32A **Verdigre** 139.00 24 P PKPdf 16 14 15.1 +0.7
baz=326
G40A **Rib Lake** 139.29 15 P PKPdf 16 14 15.6 +0.8
baz=339
I37A **Lemond, Waseca** 139.51 19 P PKPdf 16 14 16.1 +0.9
baz=333
L32A **Elgin** 139.53 25 P PKPdf 16 14 16.2 +0.8
baz=326
P38A **Dawn** 143.34 22 P PKPbc 16 14 19.4 +0.1
baz=331
Q38A **Cooks Store, C** 143.88 23 P PKPbc 16 14 20.8 -0.2
baz=330
HDIL **Hopedale** 143.91 17 P PKPab 16 14 20.5 +0.2
baz=338
R37A **Teagarden Farm** 143.95 25 P PKPab 16 14 20.0 -0.5
baz=328,SNR=6.6
T34A **McClaskey Farm** 143.95 29 P PKPbc 16 14 21.0 -0.2
baz=323
P40A **Paris** 143.96 21 P PKPbc 16 14 21.4 +0.3
baz=333
Q39A **Willow Grove F** 144.05 22 P PKPbc 16 14 21.4 0.0
baz=331
S36A **Lake Cedric, C** 144.11 26 P PKPab 16 14 21.3 +0.1

	baz=326							
P41A	Barry, Barry	144.17	19	P		PKPbc	16 14 22.5	+0.7
	baz=334							
T35A	Sooner Cattle	144.35	28	P		PKPab	16 14 21.9	-0.2
	baz=324,SNR=7.3							
S37A	Fort Scott	144.41	25	P		PKPab	16 14 21.9	-0.4
	baz=327,SNR=14							
Q40A	Laux Fm, Aux	144.43	21	P		PKPab	16 14 22.0	-0.3
	baz=332,SNR=14							
R38A	Fenwick Farm,	144.44	24	P		PKPab	16 14 21.6	-0.8
	baz=329,SNR=9.2							
T36A	Boggs Farm, Ca	144.53	27	P		PKPbc	16 14 22.9	-0.1
	baz=325,SNR=14							
SFIN	Lafayette	144.66	14	P		PKPab	16 14 22.3	-0.8
	baz=341							
SFIN	Lafayette	144.66	14	*e*PKPdf		PKPbc	16 14 23.3	0.0
R39A	Chumby, Stover	144.67	23	P		PKPab	16 14 22.8	-0.5
	baz=330,SNR=20							
P43A	Skaggs, Pawnee	144.69	18	P		PKPab	16 14 22.7	-0.6
	baz=337							
U35A	Pawnee	144.69	29	P		PKPab	16 14 23.2	-0.2
	baz=323,SNR=5.8							
M54A	Oil Creek Stat	144.73	4	P		PKPab	16 14 23.1	-0.3
	baz=354							
Q41A	Truxton	144.76	20	P		PKPab	16 14 23.1	-0.5
	baz=334,SNR=6.9							
KSPA	Keystone Colle	144.79	359	*e*PKPdf		PKPab	16 14 22.8	-0.8
T37A	Cheneyville 18	144.91	26	P		PKPab	16 14 23.8	-0.4
	baz=327,SNR=15							
S38A	Stockton	144.91	24	P		PKPab	16 14 23.3	-0.9
	baz=329,SNR=28							
WMOK	Wichita Mounta	144.91	33	P		PKPab	16 14 23.6	-0.7
	baz=319							
R40A	Maddies Statio	144.98	22	P		PKPab	16 14 23.9	-0.4
	baz=332,SNR=45							
Q42A	Golden Eagle	145.03	19	P		PKPbc	16 14 24.1	-0.4
	baz=335,SNR=5.8							
S39A	Bolivar	145.10	24	P		PKPbc	16 14 24.2	-0.6
	baz=330,SNR=27							
P44A	Sand Creek, Wi	145.11	17	P		PKPbc	16 14 24.6	-0.2
	baz=338							
V35A	Meyer Ranch, C	145.12	30	P		PKPbc	16 14 24.5	-0.5
	baz=323,SNR=5.5							
U36A	Oologah	145.14	28	P		PKPbc	16 14 24.7	-0.3
	baz=325,SNR=6.1							
ODNJ	Ogdensburg	145.24	358	*e*PKPbc		PKPbc	16 14 24.8	-0.3
N54A	Moraine State	145.25	5	P		PKPbc	16 14 25.0	-0.2
	baz=354							
T38A	Diamond	145.25	25	P		PKPbc	16 14 25.0	-0.4
	baz=328,SNR=31							
Q43A	New Douglas	145.28	18	P		PKPbc	16 14 24.9	-0.4
	baz=336							
PAL	Palisades	145.28	357	*e*PKIKP		PKPbc	16 14 24.8	-0.4
PAL	Palisades	145.28	357	*e*PKPbc		PKPbc	16 14 24.8	-0.4
R41A	Rosebud	145.30	21	P		PKPbc	16 14 25.1	-0.3
	baz=333,SNR=24							
U37A	Salina	145.42	27	P		PKPbc	16 14 25.6	-0.3
	baz=326,SNR=11							
N59A	State Game Lan	145.43	359	P		PKPbc	16 14 25.5	-0.3
	baz=0.9							
S40A	Lebanon	145.50	23	P		PKPdf	16 14 25.6	-0.4
	baz=331,SNR=23							
TUL1	Leonard	145.51	28	P		PKPdf	16 14 26.2	+0.1
	baz=324							
TUL1	Leonard	145.51	28	*e*PKPdf		PKPab	16 14 26.6	+0.2
TX31	Lajitas Ar. Si	145.51	45	*e*PKPdf		PKPab	16 14 27.1	+0.3
R42A	Luebbering	145.52	20	P		PKPdf	16 14 25.7	-0.3
	baz=334,SNR=15							
TXAR	Lajitas Array	145.52	45	PKPbc		PKPab	16 14 27.3	+0.5
	comp=Z,20nm,0.7s,baz=289,slow=1.3,SNR=202							
Q44A	Meyer Farm, Va	145.52	17	P		PKPdf	16 14 25.6	-0.4
	baz=337							
V36A	Jenks	145.54	29	P		PKPdf	16 14 26.0	-0.1
	baz=324							
W35A	Tecumseh	145.59	30	P		PKPdf	16 14 26.0	-0.2
	baz=322							
ACSO	Alum Creek Sta	145.62	9	*e*PKPdf		PKPdf	16 14 26.3	+0.1
T39A	Clever	145.65	24	P		PKPdf	16 14 26.2	-0.1
	baz=329,SNR=38							
SSPA	Standing Stone	145.70	2	*e*PKPdf		PKPdf	16 14 26.4	+0.2
U38A	Gravette	145.71	26	P		PKPdf	16 14 26.4	-0.1
	baz=327,SNR=9.8							
S41A	Jillco Farms,	145.79	22	P		PKPbc	16 14 26.9	-0.1
	baz=332							
R43A	Red Bud	145.81	19	P		PKPdf	16 14 26.7	+0.2
	baz=336,SNR=14							
V37A	Hulbert	145.84	28	P		PKPdf	16 14 26.6	0.0
	baz=325,SNR=9.8							
T40A	Mansfield	145.88	23	P		PKPdf	16 14 26.9	+0.2
	baz=330,SNR=14							
W36A	Wetumka	145.92	30	P		PKPdf	16 14 27.0	+0.2
	baz=323							
BLO	Bloomington	145.94	14	*e*PKP2		PKPdf	16 14 27.1	+0.4
BLO	Bloomington	145.94	14	*e*PKPdf		PKPdf	16 14 27.1	+0.4
OLIL	Olney	145.94	16	*e*PKPdf		PKPdf	16 14 26.8	+0.1
ABTX	Abilene, Hawle	145.97	36	P		PKPdf	16 14 27.3	+0.3
	baz=316							
ABTX	Abilene, Hawle	145.97	36	*e*PKPdf		PKPdf	16 14 27.4	+0.3
S42A	Caledonia	145.97	21	P		PKPdf	16 14 27.1	+0.3
	baz=334,SNR=26							
O56A	Blue Knob Stat	146.03	3	P		PKPdf	16 14 27.2	+0.2
	baz=356							
HHAR	Hobbs	146.04	26	*e*PKPdf		PKPdf	16 14 27.4	+0.4
R44A	Waltonville	146.10	18	P		PKPdf	16 14 27.3	+0.3
	baz=337,SNR=9.0							
X35A	Drake	146.13	31	P		PKPdf	16 14 26.8	-0.4
	baz=321							
U39A	Green Forest	146.15	25	P		PKPdf	16 14 27.6	+0.4
	baz=328,SNR=19							
V38A	Canehill	146.19	27	P		PKPdf	16 14 27.6	+0.3
	baz=326,SNR=9.1							
T41A	Mountain View	146.27	22	P		PKPdf	16 14 27.9	+0.5
	baz=332,SNR=24							
W37B	Quinton	146.31	29	P		PKPdf	16 14 28.1	+0.6
	baz=324,SNR=8.3							
MVL	Millersville	146.36	360	*e*PKPdf		PKPbc	16 14 28.3	-0.3
S43A	Fulton Ridge,	146.40	20	P		PKPdf	16 14 28.1	+0.5
	baz=335,SNR=5.2							
PSUB	Penn St. - Bra	146.42	359	*e*PKPdf		PKPdf	16 14 28.1	+0.6
U40A	Yellville	146.44	24	P		PKPdf	16 14 28.4	+0.7
	baz=329,SNR=25							
Y35A	Marietta	146.47	32	P		PKPdf	16 14 28.4	+0.6
	baz=321							
T42A	Van Buren	146.53	22	P		PKPbc	16 14 28.7	-0.5
	baz=333							
V39A	Pettigrew	146.54	26	P		PKPdf	16 14 28.5	+0.5
	baz=326,SNR=16							
S44A	Carbondale	146.56	19	P		PKPbc	16 14 28.9	-0.4
	baz=336							
T43A	Greenville	146.77	20	P		PKPbc	16 14 29.2	-0.7
	baz=334,SNR=8.9							
X37A	Clayton	146.78	29	P		PKPbc	16 14 29.8	-0.2
	baz=324							
U41A	Viola	146.82	23	P		PKPbc	16 14 29.7	-0.4
	baz=331,SNR=26							
233A	Rising Star	146.84	36	P		PKPdf	16 14 29.4	+0.9
	baz=316							
Y36A	Durant	146.87	31	P		PKPbc	16 14 29.9	-0.4
	baz=322							
WCI	Wyandotte Cave	146.89	14	*e*PKP2		PKPbc	16 14 29.7	-0.6
WCI	Wyandotte Cave	146.89	14	*e*PKPbc		PKPbc	16 14 29.7	-0.6
V40A	Witts Springs	146.92	25	P		PKPbc	16 14 29.7	-0.7
	baz=329,SNR=13							
X38A	Whitesboro	146.97	28	P		PKPbc	16 14 29.7	-0.9
	baz=325							
U42A	Revenden	147.07	22	P		PKPbc	16 14 30.2	-0.6
	baz=332,SNR=21							
Y37A	Hugo	147.15	30	P		PKPbc	16 14 30.2	-0.9
	baz=323							
V41A	Mountainview	147.21	24	P		PKPdf	16 14 30.1	+1.1
	baz=330							
333A	Richland Sprin	147.28	37	P		PKPbc	16 14 30.8	-0.8
	baz=315							
Z36A	Blue Ridge	147.28	32	P		PKPbc	16 14 31.1	-0.4
	baz=321							
W40A	Ferguson Farm,	147.34	26	P		PKPbc	16 14 30.8	-0.7
	baz=328							
JCT	Junction City	147.37	39	P		PKPbc	16 14 30.9	-1.0
	baz=313							
JCT	Junction City	147.37	39	*e*PKP2		PKPdf	16 14 30.6	+1.1
JCT	Junction City	147.37	39	*e*PKPdf		PKPdf	16 14 30.6	+1.1
X39A	Fountain Ranch	147.44	28	P		PKPbc	16 14 31.3	-0.7
	baz=326							
V42A	Cord	147.50	23	P		PKPbc	16 14 31.1	-0.9
	baz=331							
X301	Greenbrier Sit	147.58	25	*e*PKPbc		PKPbc	16 14 32.4	+0.1
WHAR	Wooly Hollow	147.58	25	*e*PKPbc		PKPbc	16 14 31.5	-0.8
433A	Art	147.62	38	P		PKPbc	16 14 32.0	-0.6
	baz=314							
MIAR	Mount Ida	147.66	27	P		PKPbc	16 14 32.1	-0.4
	baz=327							
MIAR	Mount Ida	147.66	27	*e*PKP2		PKPbc	16 14 32.4	-0.1
MIAR	Mount Ida	147.66	27	*e*PKPbc		PKPbc	16 14 32.4	-0.1
WHTX	Lake Whitney,	147.70	35	P		PKPbc	16 14 32.6	-0.1
	baz=318							
WHTX	Lake Whitney,	147.70	35	*e*PKPbc		PKPbc	16 14 33.2	+0.6
W41B	Gary Mavity, V	147.70	25	P		PKPbc	16 14 31.8	-0.8
	baz=329							
334A	Lometa	147.73	37	P		PKPbc	16 14 32.1	-0.7
	baz=316							
U44B	Burton Farm, H	147.76	20	P		PKPbc	16 14 32.1	-0.6
	baz=335							
Z37A	Pogue Cattle C	147.76	31	P		PKPbc	16 14 32.4	-0.4
	baz=322							
136A	Ennis	147.85	33	P		PKPbc	16 14 32.6	-0.5
	baz=320							
Y39A	Lockesburg	147.92	28	P		PKPbc	16 14 32.9	-0.3
	baz=325							
U45A	Rockin P Farm,	147.94	19	P		PKPbc	16 14 32.4	-0.8
	baz=336							
UALR	University of	148.00	25	*e*PKPbc		PKPbc	16 14 31.9	-1.5
434A	Burnet	148.08	37	P		PKPbc	16 14 33.7	-0.1
	baz=316							
533A	Kerrville	148.13	39	P		PKPbc	16 14 33.3	-0.7
	baz=314							
137A	Heron Place, G	148.16	32	P		PKPbc	16 14 33.3	-0.6
	baz=321							
236A	Katherine and	148.21	34	P		PKPbc	16 14 33.8	-0.3
	baz=320							
335A	Moody	148.24	36	P		PKPbc	16 14 33.8	-0.3
	baz=317							
Y40A	Okolona	148.24	27	P		PKPbc	16 14 33.7	-0.4
	baz=327							
WVT	Waverly	148.44	18	*e*PKP2		PKPbc	16 14 34.2	-0.3
WVT	Waverly	148.44	18	*e*PKPbc		PKPbc	16 14 34.1	-0.3
Z39A	Irene McRaven,	148.45	29	P		PKPbc	16 14 34.9	+0.3
	baz=325							
633A	Saathoff Ranch	148.46	40	P		PKPbc	16 14 34.6	-0.2
	baz=313							
138A	Matatall Enter	148.46	31	P		PKPbc	16 14 34.5	-0.1
	baz=322							
336A	Riesel	148.49	35	P		PKPbc	16 14 35.0	+0.2
	baz=318							
534A	Blanco	148.51	39	P		PKPbc	16 14 34.6	-0.3
	baz=314							
435B	Jarrell	148.51	36	P		PKPbc	16 14 34.6	-0.2
	baz=317							
237A	Washetta, Mont	148.60	33	P		PKPbc	16 14 34.9	-0.2
	baz=321							
JSRW	J. Sargeant Re	148.63	2	*e*PKPbc		PKPbc	16 14 35.0	0.0
Y41A	Eaglette Beard	148.65	26	P		PKPbc	16 14 35.5	+0.3
	baz=328							
832A	Faith Ranch, C	148.71	43	P		PKPbc	16 14 35.6	+0.1
	baz=310							
URVA	University of	148.76	2	*e*PKPbc		PKPbc	16 14 35.4	+0.1
Z40A	Long Farm, Mag	148.81	28	P		PKPbc	16 14 35.7	+0.2
	baz=326							
W45A	Hickory Valley	148.89	20	P		PKPbc	16 14 35.8	+0.1
	baz=335							
238A	Jacksonville	148.96	32	P		PKPbc	16 14 36.1	+0.1
	baz=322							
436A	Wall Ranch, Ga	148.98	36	P		PKPbc	16 14 36.3	+0.2
	baz=318							
Y42A	Garnett, Star	149.04	25	P		PKPbc	16 14 36.5	+0.3
	baz=329							
833A	Chaparral WMA,	149.07	42	P		PKPbc	16 14 37.2	+0.8
	baz=311							
337A	Centerville	149.08	34	P		PKPbc	16 14 36.8	+0.5
	baz=320							
Z41A	Richland Creek	149.09	27	P		PKPbc	16 14 36.7	+0.4
	baz=327							
TZTN	Tazewell	149.11	11	*e*PKPdf		PKPdf	16 14 33.7	+1.6
X44A	Crenshaw	149.12	22	P		PKPbc	16 14 36.8	+0.5
	baz=333							
140A	Cam and Jess,	149.23	29	P		PKPbc	16 14 36.8	+0.1
	baz=325							
734A	La Parita Cree	149.27	40	P		PKPbc	16 14 36.6	-0.2
	baz=313							
239A	Gary	149.29	31	P		PKPbc	16 14 37.4	+0.6
	baz=323							
437A	Phantom Ranch,	149.31	35	P		PKPbc	16 14 37.4	+0.5
	baz=319							
338A	Crockett	149.37	33	P		PKPbc	16 14 37.5	+0.5
	baz=321							
OXF	Oxford	149.39	21	*e*PKP2		PKPbc	16 14 36.1	-0.8
OXF	Oxford	149.39	21	*e*PKPbc		PKPbc	16 14 36.1	-0.8
635A	Leesville	149.39	39	P		PKPbc	16 14 37.8	+0.7
	baz=315							
NATX	Nacogdoches	149.40	32	P		PKPbc	16 14 37.5	+0.5
	baz=322							
Z42A	Norrel Spur, H	149.45	26	P		PKPbc	16 14 38.0	+0.8
	baz=328							
X45A	UM Field Stati	149.47	21	P		PKPbc	16 14 37.1	0.0
	baz=334							
Y44A	Strider, Charl	149.58	23	P		PKPbc	16 14 37.8	+0.4
	baz=332							
141A	Papa Simpson,	149.58	28	P		PKPbc	16 14 38.1	+0.6
	baz=326							
933A	Laredo	149.61	43	P		PKPbc	16 14 38.8	+1.0
	baz=310							
438A	Sam Houston St	149.74	34	P		PKPbc	16 14 38.8	+0.9
	baz=320							
834A	Tilden	149.76	41	P		PKPbc	16 14 39.1	+1.1
	baz=312							
636A	Smothers Creek	149.76	38	P		PKPbc	16 14 39.2	+1.2
	baz=316							
537A	Green Hill Far	149.77	36	P		PKPbc	16 14 39.4	+1.3
	baz=318							
339A	Huntington	149.79	32	P		PKPbc	16 14 38.2	+0.1
	baz=322							
SWET	Sewanee	149.83	16	*e*PKPbc		PKPbc	16 14 37.1	-1.0
Y45A	Yeager Farm, C	149.92	22	P		PKPbc	16 14 38.5	+0.2
	baz=333							
TKL	Tuckaleechee C	149.92	12	*e*PKP2		PKPbc	16 14 38.1	-0.2
TKL	Tuckaleechee C	149.92	12	*e*PKPbc		PKPbc	16 14 38.0	-0.2
CPCT	Cooper Cave	149.96	13	*e*PKPbc		PKPbc	16 14 38.3	-0.1
340A	Bronson	150.06	31	P		PKPbc	16 14 39.2	+0.5
	baz=323							
835A	Beeville	150.12	40	P		PKPbc	16 14 38.4	-0.5
	baz=313							
934A	Benavides	150.12	42	P		PKPbc	16 14 39.3	+0.4
	baz=311							
736A	Circle Diamond	150.13	38	P		PKPbc	16 14 38.8	-0.1
	baz=315							
Y46A	Houston	150.15	21	P		PKPbc	16 14 38.6	-0.3
	baz=334							
143A	Socs Landing,	150.18	26	P		PKPbc	16 14 39.4	+0.4
	baz=329							
637A	Eagle Lake	150.23	37	P		PKPbc	16 14 39.9	+0.7
	baz=317							
Z45A	Winona	150.30	23	P		PKPbc	16 14 39.4	+0.2
	baz=332							
034A	Hebbronville	150.37	43	P		PKPbc	16 14 39.3	-0.2
	baz=310							
Y47A	UCPARC, Winfie	150.48	20	P		PKPbc	16 14 39.1	-0.6
	baz=336							
440A	Kirbyville	150.56	32	P		PKPbc	16 14 40.2	+0.3
	baz=322							
737A	Port Lavaca	150.65	38	P		PKPbc	16 14 39.8	-0.4
	baz=316							
144A	Alexander Plac	150.66	25	P		PKPbc	16 14 39.6	-0.5
	baz=330							
Z46A	Louisville	150.74	22	P		PKPbc	16 14 40.4	+0.1
	baz=334							
KMSC	Kings Mountain	150.85	8	*e*PKPbc		PKPbc	16 14 39.9	-0.6
145A	Houston Renfro	150.88	24	P		PKPbc	16 14 40.5	-0.2
	baz=331							
441A	DeRidder	150.96	31	P		PKPbc	16 14 39.7	-1.1
	baz=324							
Z47A	Carrollton	151.05	20	P		PKPbc	16 14 40.5	-0.5
	baz=335							
244A	Avery, Jackson	151.06	26	P		PKPbc	16 14 40.9	-0.2
	baz=330							
Z48A	Northport	151.06	19	P		PKPbc	16 14 40.7	-0.3
	baz=336							
LNIG	Linares	151.15	47	*e*PKPbc		PKPbc	16 14 40.8	-0.8
146A	Union	151.19	22	P		PKPbc	16 14 41.1	-0.3
	baz=333							
245A	Little AP, Sta	151.40	24	P		PKPbc	16 14 42.0	+0.2
	baz=331							
147A	Livingston	151.45	21	P		PKPbc	16 14 41.7	-0.2
	baz=335							
344A	Westbrook Farm	151.54	26	P		PKPbc	16 14 42.3	+0.2
	baz=329							
LRAL	Lakeview Retre	151.56	19	*e*PKPbc		PKPbc	16 14 41.7	-0.4
JSC	Jenkinsville	151.71	8	*e*PKIKP		PKPbc	16 14 42.2	-0.3
JSC	Jenkinsville	151.71	8	*e*PKPbc		PKPbc	16 14 42.2	-0.3
247A	Quitman	151.88	22	P		PKPbc	16 14 43.2	+0.3
	baz=334							
346A	Big Creek Wild	152.13	24	P		PKPbc	16 14 43.6	+0.1
	baz=331							
GOGA	Godfrey	152.16	13	*e*PKIKP		PKPbc	16 14 43.7	+0.2
GOGA	Godfrey	152.16	13	*e*PKPbc		PKPbc	16 14 43.7	+0.2
248A	Dixon Mills	152.16	21	P		PKPbc	16 14 44.0	+0.4
	baz=335							
348A	Jackson	152.72	22	P		PKPbc	16 14 44.9	0.0
	baz=334							

SKO **14** *16:12:45.6,40.˚63N×20.˚76E,h2km,M2.1,ML2.5*
CSEM **14** *16:12:45.7±0.2,40.˚70N×20.˚80E,h2km,ML2.7,Error ellipse: s-maj=4.8km s-min=3.4km az=76.0*
ATH **14** *16:12:45.5,40.˚69N×20.˚80E,h19km±2km,ML2.4/7,Error ellipse: s-maj=2.6km s-min=1.0km az=134.0*
THE **14** *16:12:45.9,40.˚68N×20.˚81E,h0km±1km,ML2.7/7,Error ellipse: s-maj=1.9km s-min=0.6km az=325.0*
ISCJB **14** *16:12:45.2±0.5,40.˚71N±0.˚02×20.˚77E±0.˚04,h2km±5km, Error ellipse: s-maj=4.9km s-min=3.3km az=156.7*
BEO **14** *16:12:47.0±0.9,40.˚79N×21.˚00E,h0km,M2.2/5*

ISC 14 16:12:45.8±1.0, 40.˚70N±0.˚02×20.˚82E±0.˚02, h6km±9km, n67, σ0°82/96, 2C-2D, Greece-Albania border region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
NEST	Nestorio	0.34	148	P		Pg	16 12 52.2	-0.1
NEST				S		Sg	16 12 57.5	+0.8
NEST	Nestorio	0.34	148	P		Pg	16 12 52.2	-0.1
NEST				S		Sg	16 12 57.2	+0.5
NEST	Nestorio	0.34	148	P		Pg	16 12 51.9	-0.4
NEST				S		Sg	16 12 57.2	+0.5
NEST				AML		AML	16 12 58.5	
	comp=N,2604μm,0.2s							
NEST				AML		AML	16 12 58.9	
	comp=E,2549μm,0.3s							
OHR	Ohrid	0.41	358⇑	*i*Pg		Pg	16 12 54.0	+0.3
OHR				*i* Sg		Sb	16 13 01.2	-1.0
OHR				*e*Lg		Lg	16 13 01.4	
	comp=E,222nm,0.3s							
OHR				*e*Lg		Lg	16 13 02.8	
	comp=N,162nm,0.3s							
OHR	Ohrid	0.41	358⇑	*i*Pg		Pg	16 12 54.0	+0.3
OHR				*i* Sg		Sb	16 13 01.1	-1.0
OHR				*e*Lg		Lg	16 13 01.4	
	comp=N,222nm,0.3s							
FNA	Florina	0.43	79	P		Pg	16 12 54.4	+0.3
FNA				S		Sb	16 13 01.3	-1.4
FNA	Florina	0.43	79	P		Pg	16 12 54.4	+0.3
FNA				S		Sb	16 13 01.3	-1.4
FNA	Florina	0.43	79	P		Pg	16 12 54.4	+0.3
FNA				S		Sb	16 13 01.9	-0.8
FNA				AML		AML	16 13 03.8	
	comp=N,4427μm,0.2s							
FNA				AML		AML	16 13 04.9	
	comp=E,4780μm,0.2s							
BIA	Bitola	0.50	50⇓	*i*Pg		Pg	16 12 56.2	+0.7
BIA				*i* Sg		Sb	16 13 04.1	-0.6
BIA				*e*Lg		Lg	16 13 06.0	
	comp=E,175nm,0.2s							
BIA				*e*Lg		Lg	16 13 06.1	
	comp=N,160nm,0.2s							
BIA	Bitola	0.50	50⇓	*i*Pg		Pg	16 12 56.1	+0.7
BIA				*i* Sg		Sb	16 13 04.0	-0.6
BIA				*e*Lg		Lg	16 13 06.0	
	comp=N,175nm,0.2s							
PENT	Pentalofos	0.56	154	P		Pg	16 12 56.2	-0.4
PENT				S		Sg	16 13 04.3	+0.4
PENT	Pentalofos	0.56	154	P		Pg	16 12 56.2	-0.4
PENT				S		Sg	16 13 04.3	+0.4
PENT	Pentalofos	0.56	154	P		Pg	16 12 56.1	-0.4
PENT				S		Sg	16 13 04.5	+0.6
PENT				AML		AML	16 13 06.2	
	comp=N,1120μm,0.2s							
PENT				AML		AML	16 13 06.8	
	comp=E,657μm,0.2s							
KZN	Kozani	0.83	118	P		Pg	16 13 01.4	-0.2
KZN				S		Sb	16 13 13.5	-0.5
KZN	Kozani	0.83	118	P		Pg	16 13 01.4	-0.2
KZN				S		Sb	16 13 13.5	-0.5
KZN	Kozani	0.83	118	P		Pg	16 13 01.2	-0.4
KZN				S		Sb	16 13 14.5	+0.5
KZN				AML		AML	16 13 19.1	
	comp=E,838μm,0.5s							
KZN				AML		AML	16 13 19.9	
	comp=N,623μm,0.2s							
TIR	Tirane	0.97	312	*e*Pg		Pb	16 13 04.8	-0.2
TIR				*e*Sg		Sn	16 13 21.0	+0.9
TIR	Tirane	0.97	312	*e*Pg		Pb	16 13 04.8	-0.2
TIR				*e*Sg		Sn	16 13 21.0	+0.9
KTI	Kastanea	1.04	107	P		Pg	16 13 05.5	-0.1
KTI	Kastanea	1.04	107	P		Pg	16 13 05.5	-0.1
JAN	Janina	1.04	179	P		Pb	16 13 06.2	-0.1
JAN	Janina	1.04	179	P		Pb	16 13 06.2	-0.1
SGD	Sagiada	1.18	203	P		Pg	16 13 07.1	-1.2
SGD	Sagiada	1.18	203	P		Pg	16 13 07.5	-0.8
SGD	Sagiada	1.18	203	P		Pg	16 13 07.5	-0.8
IGT	Igoumenitsa	1.23	198	P		Pg	16 13 09.0	-0.2
IGT	Igoumenitsa	1.23	198	P		Pg	16 13 09.0	-0.2
IGT	Igoumenitsa	1.23	198	P		Pn	16 13 10.8	+1.3
KEK	Kerkira	1.26	219	P		Pn	16 13 09.3	-0.6
KEK				S		Sn	16 13 27.4	+0.2
KEK	Kerkira	1.26	219	P		Pn	16 13 09.3	-0.6
KEK				S		Sg	16 13 25.9	-0.3
KEK	Kerkira	1.26	219	P		Pg	16 13 10.1	+0.3
KEK				S		Sg	16 13 25.9	-0.3
KEK				AML		AML	16 13 35.2	
	comp=E,178μm,0.4

ZAGS	**Zajecar**	**3.28**	**18**	*e*Pn	**Pn**	**16 13 38.3**	**+0.5**
BBLS	**Lazići**	**3.33**	**342**	*e*Pn	**Pn**	**16 13 40.8**	**+2.3**
BBLS	**Lazići**	**3.33**	**342**	*e*Pn	**Pn**	**16 13 40.8**	**+2.3**
KUBS	**Kucevo**	**3.76**	**9**	*e*Pn	**Pn**	**16 13 43.8**	**-0.6**
KUBS	**Kucevo**	**3.76**	**9**	*e*Pn	**Pn**	**16 13 43.8**	**-0.6**

MOS ***14*** *16:26:15.3±1.6,52°.26N×105°.89E,h10km,mb4.3/1,Error ellipse: s-maj=21.3km s-min=11.1km az=50.7*

BYKL ***14*** *16:26:15.4±0.2,52°.25N×105°.91E,h21km±4km*

ISC 14 16:26:15.0±1.0,**52°.27N**±0°.02×**105°.93E**±0°.02,**h9**km±9km,
n39,σ1°**88**/84,**12C-4D,Lake Baykal region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
STDB	**Stepnoy Dvoret**	**0.29**	**111**	⇑*i*Pg	**Pb**	**16 26 22.7**	**+0.3**
STDB				*e*Sg	**Sb**	**16 26 28.2**	**+0.9**
STDB				Pmax			
	916nm,0.2s						
STDB				Smax			
	4μm,0.3s						
BGT	**Bolshoye Golou**	**0.39**	**235**	⇑*i*Pg	**Pg**	**16 26 23.2**	**+0.5**
BGT				*e*		16 26 25.5	
BGT				*e*Sg	**Sg**	**16 26 28.6**	**+0.7**
BGT				Pmax			
	270nm,0.2s						
BGT				Smax			
	2μm,0.3s						
BGT	**Bolshoye Golou**	**0.39**	**235**	⇑*i*Pg	**Pg**	**16 26 23.2**	**+0.5**
BGT				*e*		16 26 28.5	
BGT				pmax	pmax		
	comp=Z,267nm,0.2s						
BGT				smax	smax		
	comp=E,2μm,0.3s						
KAB	**Kabansk**	**0.50**	**116**	*e*Pg	**Pg**	**16 26 25.5**	**+0.8**
KAB				*e*Pb	**Pn**	**16 26 28.2**	**-0.1**
KAB				*e*Sg	**Sb**	**16 26 33.0**	**-0.4**
KAB				Pmax			
	comp=E,742nm,0.2s						
KAB				Smax			
	comp=E,4μm,0.5s						
KAB	**Kabansk**	**0.50**	**116**	⇑*i*PG	**Pg**	**16 26 25.5**	**+0.8**
KAB				*e*		16 26 33.0	
KAB				pmax	pmax		
	comp=Z,730nm,0.2s						
KAB				smax	smax		
	comp=N,4μm,0.5s						
TRG	**Tyrgan**	**0.55**	**28**	⇓*i*Pg	**Pg**	**16 26 26.4**	**+0.7**
TRG				*e*Sg	**Sg**	**16 26 34.5**	**+1.6**
TRG				Pmax			
	comp=N,141nm,0.1s						
TRG				Smax			
	comp=N,2μm,0.1s						
TRG	**Tyrgan**	**0.55**	**28**	*e*PG	**Pg**	**16 26 26.4**	**+0.7**
TRG				*e*		16 26 34.4	
TRG				pmax	pmax		
	comp=Z,177nm,0.1s						
TRG				smax	smax		
	comp=E,2μm,0.1s						
LSTR	**Listvyanka**	**0.79**	**239**	⇑*i*Pg	**Pg**	**16 26 29.9**	**-0.3**
LSTR				*e*Pb	**Pn**	**16 26 32.2**	**-0.1**
LSTR				*e*Sg	**Sg**	**16 26 39.8**	**-0.6**
LSTR				*e*Sb	**Sn**	**16 26 44.4**	**+0.2**
LSTR				Pmax			
	comp=E,93nm,0.2s						
LSTR				Smax			
	comp=E,363nm,0.4s						
LSTR	**Listvyanka**	**0.79**	**239**	⇑*i*PG	**Pg**	**16 26 29.9**	**-0.3**
LSTR				*e*		16 26 39.8	
LSTR				pmax	pmax		
	comp=Z,97nm,0.1s						
LSTR				smax	smax		
	comp=N,335nm,0.3s						
ZRHB	**Zarechye**	**0.80**	**69**	*e*Pg	**Pg**	**16 26 30.8**	**+0.4**
ZRHB				*e*Sg	**Sg**	**16 26 41.9**	**+1.1**
ZRHB				Smax			
	comp=N,1μm,0.4s						
HRMR	**Khuramsha**	**0.91**	**135**	⇓*i*Pg	**Pg**	**16 26 30.7**	**-1.7**
	comp=N,445nm,0.4s						
HRMR				⇑*i*Pg	**Pg**	**16 26 30.7**	**-1.7**
	comp=N,257nm,0.4s						
HRMR				⇑*i*Pg	**Pg**	**16 26 30.7**	**-1.7**
	comp=N,764nm,0.4s						
HRMR				*e*Sg	**Sg**	**16 26 42.8**	**-1.4**
HRMR				Pmax			
	comp=N,445nm,0.3s						
HRMR				Smax			
	comp=N,4μm,0.4s						
IRK	**Irkutsk**	**1.02**	**269**	*e*Pg	**Pg**	**16 26 34.6**	**+0.1**
IRK				*e*Sg	**Sg**	**16 26 47.9**	**+0.1**
IRK				*e*Sb	**Sn**	**16 26 50.4**	**+0.5**
IRK				Pmax			
	comp=N,430nm,0.1s						
IRK				max			
	comp=N,2μm,0.3s						
IRK	**Irkutsk**	**1.02**	**269**	*e*PG	**Pg**	**16 26 34.4**	**-0.1**
IRK				*e*		16 26 47.6	
IRK				pmax	pmax		
	comp=Z,428nm,0.2s						
IRK				smax	smax		
	comp=E,2μm,0.4s						
TRTB	**Turuntaevo**	**1.05**	**92**	⇓*i*Pg	**Pg**	**16 26 35.2**	**+0.1**
TRTB				*e*Pb	**Pn**	**16 26 36.3**	**+0.4**
TRTB				*e*Sg	**Sg**	**16 26 49.3**	**+0.6**
TRTB				*e*Sb	**Sn**	**16 26 51.9**	**+1.3**
TRTB				Pmax			
	comp=E,180nm,0.3s						
TRTB				max			
	comp=E,405nm,0.3s						
IVK	**Ivanovka**	**1.05**	**244**	*i* Pg	**Pg**	**16 26 34.5**	**-0.6**
IVK				*e*Pb	**Pn**	**16 26 36.1**	**+0.2**
IVK				*i* Sg	**Sg**	**16 26 47.7**	**-1.0**
IVK				*e*Sb	**Sn**	**16 26 50.6**	**0.0**
IVK				max			
	comp=E,1μm,0.3s						
UUDB	**Ulan-Yde**	**1.15**	**110**	⇓*i*Pg	**Pb**	**16 26 36.6**	**-0.4**
	comp=E,181nm,0.5s						
UUDB				⇑*i*Pg	**Pb**	**16 26 36.6**	**-0.4**
	comp=E,194nm,0.5s						
UUDB				⇑*i*Pg	**Pb**	**16 26 36.6**	**-0.4**
	comp=E,406nm,0.5s						
UUDB				*e*Sg	**Sb**	**16 26 52.0**	**0.0**
UUDB				*e*Sb	**Sn**	**16 26 53.7**	**+0.6**
UUDB				Pmax			
	comp=E,609nm,0.5s						
UUDB				Smax			
	comp=E,245nm,0.2s						
KELR	**Kotokel**	**1.40**	**69**	*e*Pg	**Pn**	**16 26 41.0**	**+0.3**
KELR				*e*Sg	**Sn**	**16 26 59.9**	**+0.5**
TLY	**Talaya**	**1.53**	**248**	*e*Pg	**Pn**	**16 26 42.9**	**+0.4**
TLY				*i* Sg	**Sb**	**16 27 02.6**	**-0.5**
TLY				Pmax			
	comp=E,56nm,0.3s						
TLY				Smax			
	comp=E,508nm,0.3s						
TLY	**Talaya**	**1.53**	**248**	*c* iPG	**Pn**	**16 26 42.8**	**+0.3**
TLY				*e*		16 27 02.3	
TLY				pmax	pmax		
	comp=Z,42nm,0.3s						
OGRR	**Ongureny**	**1.70**	**36**	*e*Pg	**Pb**	**16 26 46.5**	**0.0**
OGRR				*e*		16 26 48.0	
OGRR				*e*Sg	**Sb**	**16 27 09.2**	**+1.2**
OGRR				max			
	comp=Z,23nm,0.4s						
OGRR				Smax			
	comp=Z,277nm,0.2s						
OGRR	**Ongureny**	**1.70**	**36**	*e*PN	**Pb**	**16 26 46.4**	**0.0**
OGRR				*e*		16 27 09.1	
OGRR				pmax	pmax		
	comp=Z,17nm,0.1s						
OGRR				smax	smax		
	comp=E,278nm,0.4s						
MXMB	**Maximikha**	**1.98**	**59**	*e*Pg	**Pb**	**16 26 50.6**	**-0.5**
MXMB				*e*		16 27 07.5	
MXMB				*e*Sg	**Sg**	**16 27 18.6**	**+0.1**
ARS	**Arshan**	**2.19**	**262**	*e*Pn	**Pn**	**16 26 53.3**	**+1.7**
ARS				⇑*i*Pg	**Pb**	**16 26 54.1**	**-0.8**
ARS				*i* Sg	**Sb**	**16 27 22.0**	**-0.1**
ARS				Pmax			
	comp=E,93nm,0.2s						
ARS				Smax			
	comp=E,838nm,0.5s						
ARS	**Arshan**	**2.19**	**262**	*e*PN	**Pb**	**16 26 54.0**	**-0.8**
ARS				*e*		16 27 21.9	
ARS				pmax	pmax		
	comp=Z,93nm,0.2s						
ARS				smax	smax		
	comp=E,819nm,0.3s						
ZAK	**Zakamensk**	**2.52**	**222**	*e*Pn	**Pn**	**16 26 57.3**	**+1.1**
ZAK				*e*Pg	**Pb**	**16 27 00.6**	**+0.2**
ZAK				*e*Sg	**Sb**	**16 27 33.0**	**+1.4**
ZAK				Pmax			
	comp=E,8.0nm,0.2s						
ZAK				Smax			
	comp=E,119nm,0.4s						
SYVR	**Suvo**	**2.83**	**59**	*e*Pn	**Pn**	**16 27 00.8**	**+0.5**
SYVR				*e*Pg	**Pb**	**16 27 06.3**	**+0.7**
SYVR				*e*Sn	**Sn**	**16 27 34.1**	**-0.4**
SYVR				*e*Sg	**Sb**	**16 27 43.7**	**+3.4**
SYVR				Pmax			
	comp=E,13nm,0.3s						
SYVR				Smax			
	comp=E,51nm,0.6s						
MOY	**Mondy**	**3.11**	**261**	*e*	**Pb**	**16 27 08.0**	**-2.5**
MOY				*e*		16 27 09.9	
MOY				*e*		16 27 45.2	
MOY				*e*Sg	**Sb**	**16 27 49.7**	**+1.1**
MOY				*e*		16 27 57.9	
MOY				max			
	comp=E,19nm,0.3s						
MOY				max			
	comp=E,148nm,0.6s						
ORL	**Orlik**	**3.76**	**276**	*e*Pn	**Pn**	**16 27 14.6**	**+1.4**
ORL				*e*Pg	**Pb**	**16 27 22.9**	**+1.4**
ORL				*e*Sg	**Sg**	**16 28 11.7**	**-3.8**
ORL				Pmax			
	comp=E,19nm,0.5s						
ORL				Smax			
	comp=E,45nm,0.8s						
NIZ	**Nizh Angarsk**	**4.10**	**30**	*e*Pn	**Pn**	**16 27 19.1**	**+1.2**
NIZ				Pg	**Pb**	**16 27 28.5**	**+1.1**
NIZ				*e*		16 28 10.5	
NIZ				*e*Sg	**Sg**	**16 28 23.7**	**-3.0**
NIZ				Pmax			
	comp=E,4.0nm,0.3s						
NIZ				Smax			
	comp=E,69nm,0.6s						
NIZ	**Nizh Angarsk**	**4.10**	**30**	*e*PN	**Pn**	**16 27 19.1**	**+1.2**
NIZ				*e*		16 27 29.9	
NIZ				*e*		16 28 23.7	
NIZ				pmax	pmax		
	comp=Z,6.0nm,0.9s						
NIZ				smax	smax		
	comp=N,69nm,0.6s						
ULN	**Ulaanbaatar**	**4.47**	**170**	Pg	**Pb**	**16 27 34.6**	**+0.8**
ULN				*e*		16 28 29.8	
ULN				*e*Sg	**Sb**	**16 28 32.7**	**+4.9**
CIT	**Chita**	**4.70**	**90**	*e*Sg	**Sg**	**16 28 41.4**	**-4.5**
CIT				Smax			
	comp=N,57nm,0.2s						
KMO	**Kumora**	**4.77**	**39**	*e*Pn	**Pn**	**16 27 27.2**	**+0.2**
KMO				Pg	**Pb**	**16 27 40.4**	**+1.7**
KMO				*e*Sg	**Sg**	**16 28 43.5**	**-4.4**
KMO				Pmax			
	comp=N,5.0nm,0.3s						
KMO				Smax			
	comp=N,47nm,1.6s						
KPC	**Khapcheranga**	**4.82**	**120**	*e*Pn	**Pn**	**16 27 26.4**	**-1.3**
KPC				*e*		16 27 33.9	
KPC				*e*Pg	**Pb**	**16 27 41.2**	**+1.6**
KPC				*e*Sg	**Sb**	**16 28 43.7**	**+6.0**
KPC				*e*		16 28 46.7	
KPC				Pmax			
	comp=N,5.0nm,0.5s						
KPC				max			
	comp=N,44nm,1.1s						
UKT	**Uakit**	**5.58**	**52**	*e*	**Sn**	**16 28 39.3**	**-3.1**
UKT				*e*Sg	**Sg**	**16 29 08.0**	**-5.9**
UKT				Smax			
	comp=N,14nm,1.6s						
NLYR	**Nelyaty**	**7.10**	**50**	*e*	Pg	16 28 39.2	+8.4
NLYR				*e*Sg	**Sg**	**16 29 56.4**	**-6.3**
NLYR				Smax			
	comp=N,23nm,1.4s						
BOD	**Bodaibo**	**7.24**	**37**	*e*Sg	Sg	16 29 58.5	-8.5
TUP	**Tupik**	**8.66**	**70**	*e*	**Pn**	**16 28 18.7**	**-1.7**
TUP				*e*		16 29 36.1	
TUP				*e*Sg	Sg	16 30 44.7	-8.1
TUP				Smax			
	comp=N,28nm,1.0s						
TUP	**Tupik**	**8.66**	**70**	*e*PN	**Pn**	**16 28 19.5**	**-0.9**
TUP				*e*		16 28 50.0	
TUP				*e*		16 30 45.0	
TUP				pmax	pmax		
	comp=Z,1.0nm,0.3s						
TUP				smax	smax		
	comp=N,28nm,1.0s						

CSEM ***14*** *16:26:40.5,39°.59N×29°.77W,h10km,ML3.0*

PDA 14 16:26:40.5±0.8,**39°.59N×29°.77W,h10**km,**MD3.7,ML3.0,**
Error ellipse: s-maj=19.2km s-min=6.5km az=60.0,
Azores Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PCED	**Cedros**	**1.27**	**139**	*e*S	Sb	16 27 13.5	-7.4
PCED				A	A	16 27 14.2	
	84nm,0.1s						
PCED	**Cedros**	**1.27**	**139**	*e*S	Sb	16 27 13.5	-7.4
CALA	**Caldeira**	**1.30**	**140**	*e*S	Sb	16 27 15.0	-7.0
CALA	**Caldeira**	**1.30**	**140**	*e*S	Sb	16 27 15.0	-7.0
HOR	**Horta**	**1.38**	**140**	*e*S	Sb	16 27 16.6	-7.5
HOR				A	A	16 27 19.6	
	197nm,0.2s						
HOR	**Horta**	**1.38**	**140**	*e*S	Sb	16 27 16.6	-7.5
ROSA	**Rosais**	**1.47**	**126**	*e*P	Pn	16 27 02.1	-5.0
ROSA				*e*S	Sn	16 27 18.9	-7.5
ROSA				A	A	16 27 20.9	
	27nm,0.3s						
ROSA	**Rosais**	**1.47**	**126**	*e*P	Pn	16 27 02.1	-5.0
ROSA				*e*S	Sn	16 27 18.9	-7.5
PCAN	**Candelaria**	**1.50**	**138**	*e*P	Pn	16 27 03.0	-4.5
PCAN				*e*S	Sn	16 27 19.9	-7.3
PCAN				A	A	16 27 24.0	
	164nm,0.2s						
PCAN	**Candelaria**	**1.50**	**138**	*e*P	Pn	16 27 03.0	-4.5
PCAN				*e*S	Sn	16 27 19.9	-7.3
PICO	**Pico**	**1.51**	**136**	*e*P	Pn	16 27 03.1	-4.6
PICO				*e*S	Sn	16 27 19.9	-7.5
PICO				A	A	16 27 23.9	
	130nm,0.2s						
PICO	**Pico**	**1.51**	**136**	*e*P	Pn	16 27 03.1	-4.6
PICO				*e*S	Sn	16 27 19.9	-7.5

IDC ***14*** *16:36:58.9±1.0,29°.39S×176°.02W,h0km,mb4.3/5, mb1 4.6/6,mb1mx4.2/22,mbtmp4.4/6,ML4.5/1,MS3.7/2, Ms1 3.7/2,ms1mx3.1/23,Error ellipse: s-maj=37.9km s-min=20.1km az=168.0*

NEIC ***14*** *16:37:05.4±2.4,29°.45S×176°.13W,h46km±19km,mb4.5/1, Error ellipse: s-maj=21.1km s-min=11.5km az=94.0*

ISC 14 16:37:01.9±0.8,**29°.57S**±0°.10×**176°.1W**±0°.1,**h21**km,**n46,**
σ**2°40**/41,**mb4.4/6,Kermadec Islands region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**1.65**	**281**	Pn	**Pb**	**16 37 30.8**	**-0.8**
	327nm,0.3s,baz=101,slow=16,SNR=15						
RAO				Sn	Sb	16 37 52.4	+0.5
	364nm,0.3s,baz=193,slow=23,SNR=6.9						
RAO	**Raoul Island**	**1.65**	**281**	*e*P	Pb	16 37 31.2	-0.3
RAO				Sn	Sb	16 37 52.4	+0.5
MXZ	**Matakaoa Point**	**9.25**	**209**	PN	**Pn**	**16 39 11.6**	**-2.3**
WMGZ	**Waiomatatini S**	**9.42**	**208**	PN	**Pn**	**16 39 13.8**	**-2.5**
PKGZ	**Pakihiroa**	**9.62**	**209**	PN	**Pn**	**16 39 16.8**	**-2.4**
HAZ	**Te Kaha**	**9.64**	**211**	PN	**Pn**	**16 39 18.4**	**-0.9**
PUZ	**Puketiti**	**9.70**	**208**	PN	**Pn**	**16 39 16.7**	**-3.5**
RUGZ	**Raukumara Rang**	**9.86**	**210**	PN	**Pn**	**16 39 21.3**	**-1.1**
TWGZ	**Tauwhareparae**	**9.90**	**208**	PN	**Pn**	**16 39 20.8**	**-2.3**
CNGZ	**Carnagh Station**	**10.08**	**207**	PN	**Pn**	**16 39 22.0**	**-3.3**
TKGZ	**Te Karaka**	**10.18**	**208**	PN	**Pn**	**16 39 24.2**	**-2.6**
MWZ	**Matawai**	**10.23**	**210**	PN	**Pn**	**16 39 24.7**	**-2.7**
URZ	**Urewera**	**10.35**	**211**	Sn	**Sn**	**16 41 28.1**	**+3.6**
	2.3nm,0.3s,baz=131,slow=20,SNR=1.8						
URZ	**Urewera**	**10.35**	**211**	PN	**Pn**	**16 39 27.6**	**-1.5**
RAGZ	**Rawiri**	**10.41**	**210**	PN	**Pn**	**16 39 27.9**	**-2.1**
RIGZ	**Rimuhau**	**10.44**	**208**	*e*PN	**Pn**	**16 39 26.9**	**-3.6**
MUGZ	**Murupara**	**10.68**	**212**	PN	**Pn**	**16 39 31.9**	**-1.8**
SNGZ	**Shannon Statio**	**10.68**	**209**	*e*PN	**Pn**	**16 39 31.2**	**-2.5**
RTZ	**Ruatahuna**	**10.70**	**211**	PN	**Pn**	**16 39 32.3**	**-1.7**
KNZ	**Kokohu**	**10.75**	**207**	*e*PN	**Pn**	**16 39 30.2**	**-4.4**
MHGZ	**Mahia Peninsul**	**10.77**	**206**	PN	**Pn**	**16 39 30.7**	**-4.2**
BKZ	**Black Stump Fm**	**11.37**	**211**	*e*PN	**Pn**	**16 39 40.6**	**-2.5**
MCHZ	**McNeill Hill**	**11.51**	**209**	*e*PN	**Pn**	**16 39 42.3**	**-2.7**
KAHZ	**Kahuranaki**	**11.73**	**208**	PN	Pn	16 39 43.2	-4.8
PXZ	**Pawanui**	**11.94**	**207**	PN	Pn	16 39 45.5	-5.3
TSZ	**Takapari Road**	**12.34**	**210**	PN	**Pn**	**16 39 52.7**	**-3.6**
MRZ	**Mangatainoka R**	**13.00**	**209**	PN	**Pn**	**16 40 01.3**	**-4.0**
THZ	**Tophouse**	**15.09**	**213**	*e*PN	**Pn**	**16 40 33.3**	**-0.6**
KHZ	**Kahutara**	**15.31**	**210**	*e*PN	**Pn**	**16 40 35.8**	**-0.9**
DZM	**Mont Dzumac**	**17.42**	**291**	LR	LR	16 45 46.0	
	comp=Z,184nm,19.3s,baz=174,slow=30						
RPZ	**Rata Peaks**	**17.46**	**213**	P	**P**	**16 41 05.2**	**0.0**
	1.5nm,0.3s,baz=61,slow=13,SNR=7.5						
STKA	**Stephens Creek**	**36.31**	**255**	P	**P**	**16 44 05.9**	**+1.8**
	4.0nm,0.7s,baz=96,slow=9.9,SNR=10						
ASAR	**Alice Springs**	**44.84**	**265**	P	**P**	**16 45 14.7**	**-0.1**
	3.0nm,0.5s,baz=102,slow=7.0,SNR=62						
ASAR					LR	LR	17 02 44.4
	comp=Z,138nm,19.1s,baz=152,slow=34						
WRAB	**Tennant Creek**	**45.75**	**270**	*e*P	**P**	**16 45 21.5**	**-0.6**
	7.3nm,1.0s						
WRA	**Warramunga Arr**	**45.76**	**270**	P	**P**	**16 45 21.5**	**-0.6**
	2.4nm,0.5s,baz=109,slow=8.0,SNR=27						
SNAA	**Sanae**	**78.92**	**178**	P	**P**	**16 49 02.9**	**-0.6**
VNA3	**Neumayer Olymp**	**79.01**	**176**	P	**P**	**16 49 07.1**	**+3.3**
VNA2	**Neumayer--Watz**	**79.46**	**176**	P	**P**	**16 49 09.6**	**+3.3**
	baz=147,slow=2.1						
VNA1	**Neumayer--Stat**	**79.68**	**176**	P	**P**	**16 49 06.2**	**-1.2**
PETK	**Petropavlovsk-**	**85.45**	**344**	P	**P**	**16 49 36.6**	**-0.9**
	2.7nm,0.9s,baz=122,slow=5.6,SNR=5.3						
TXAR	**Lajitas Array**	**90.53**	**56**	P	**P**	**16 50 02.8**	**+0.2**
	1.3nm,1.1s,baz=209,slow=7.2,SNR=6.4						
FINES	**FINESS Array B**	**144.92**	**342**	PKP	PKPbc	16 56 35.8	-0.2
	3.2nm,0.9s,baz=60,slow=3.4,SNR=6.3						
NB2	**NORSAR Subarra**	**148.16**	**353**	PKP	**PKPbc**	**16 56 45.8**	**+0.3**
	comp=Z,1.6nm,0.6s,baz=9.6,slow=2.9						
NOA	**NORSAR Array B**	**148.16**	**353**	PKPbc	**PKPbc**	**16 56 45.3**	**-0.3**
	comp=Z,2.5nm,1.1s,baz=11,slow=4.5,SNR=3.9						
AKASG	**Malin Array Be**	**151.62**	**325**	PKPbc	**PKPbc**	**16 56 54.7**	**+0.5**
	comp=Z,0.4nm,0.4s,baz=44,slow=2.5,SNR=9.6						
TORD	**Torodi Ar. Bea**	**163.52**	**172**	PKPab	**PKPab**	**16 57 56.1**	**+1.2**
	comp=Z,0.4nm,0.6s,baz=181,slow=4.9,SNR=5.1						

IDC ***14*** *16:42:24.2±2.1,38°.43N×21°.71E,h0km,mb3.7/2, mb1 3.6/3,mb1mx3.4/27,mbtmp3.6/3,ML3.3/1,Error ellipse: s-maj=107.6km s-min=28.8km az=144.0*

ISCJB ***14*** *16:42:25.8±0.3,38°.32N±0°.01×21°.77E±0°.02,h7km±2km, mb3.6/2,Error ellipse: s-maj=2.4km s-min=2.0km az=22.2*

ATH ***14*** *16:42:25.4,38°.31N×21°.77E,h19km±1km,ML3.2/22,Error ellipse: s-maj=1.1km s-min=0.6km az=200.0*

IASPEI ***14*** *16:42:25.7±0.8,38°.32N±0°.02×21°.76E±0°.01,h9km±5km, Error ellipse: s-maj=2.2km s-min=2.0km az=6.1,GT5 selection from ISC bulletin GT5 identified by Bond˜ji and McLaughlin (2009) selection criteria Bond˜ji and McLaughlin, A new ground truth data set for seismic studies, Seism. Res. Let., 80, 465-472, 2009*

CSEM ***14*** *16:42:26.0±0.1,38°.31N×21°.78E,h5km,ML3.2,Error ellipse: s-maj=2.4km s-min=2.1km az=38.0*

THE ***14*** *16:42:26.1,38°.32N×21°.78E,h5km,ML3.2/27,Error ellipse: s-maj=0.7km s-min=0.4km az=236.0*

ISC 14 16:42:25.7±0.8,**38°.32N**±0°.01×**21°.76E**±0°.01,**h8**km±4km,
n154,σ0°**69**/249,**1C,Greece**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
UPR	**University Cam**	**0.04**	**154**	P	**Pg**	**16 42 27.4**	**0.0**
UPR				S	**Sg**	**16 42 28.3**	**-0.2**
UPR	**University Cam**	**0.04**	**154**	P	**Pg**	**16 42 27.4**	**0.0**
UPR				S	**Sg**	**16 42 28.3**	**-0.2**
UPR	**University Cam**	**0.04**	**154**	P	**Pg**	**16 42 26.2**	**-1.1**
LAKA	**Lakka**	**0.19**	**115**	P	**Pg**	**16 42 29.8**	**+0.2**
LAKA				S	**Sg**	**16 42 32.6**	**+0.4**
LAKA	**Lakka**	**0.19**	**115**	P	**Pg**	**16 42 29.6**	**0.0**
LAKA				S	**Sg**	**16 42 32.6**	**+0.4**
TRIZ	**Trizonia**	**0.25**	**80**	P	**Pg**	**16 42 31.0**	**+0.4**
TRIZ				S	**Sg**	**16 42 34.6**	**+0.6**
TRIZ	**Trizonia**	**0.25**	**80**	P	**Pg**	**16 42 31.0**	**+0.4**
TRIZ				S	**Sg**	**16 42 35.1**	**+1.1**
KALE	**Kalithea**	**0.30**	**77**	P	**Pg**	**16 42 32.0**	**+0.2**
KALE				S	**Sg**	**16 42 36.2**	**+0.4**
KALE	**Kalithea**	**0.30**	**77**	P	**Pg**	**16 42 32.0**	**+0.2**
KALE				S	**Sg**	**16 42 36.2**	**+0.4**
KALE	**Kalithea**	**0.30**	**77**	P	**Pg**	**16 42 32.1**	**+0.4**
KALE				S	**Sg**	**16 42 36.9**	**+1.1**
KALE				AML	AML	16 42 37.6	
	comp=E,16436μm,0.2s						
KALE				AML	AML	16 42 39.1	
	comp=N,18458μm,0.2s						
AXS	**Araxos**	**0.33**	**248**	P	**Pg**	**16 42 32.3**	**+0.1**
AXS				S	**Sg**	**16 42 37.5**	**+0.9**
AXS	**Araxos**	**0.33**	**248**	P	**Pg**	**16 42 32.3**	**+0.1**
AXS				S	**Sg**	**16 42 37.3**	**+0.7**
AXS	**Araxos**	**0.33**	**248**	P	**Pg**	**16 42 32.1**	**-0.1**
AXS				S	**Sg**	**16 42 37.7**	**+1.1**
PVO	**Paravola**	**0.35**	**328**	P	**Pg**	**16 42 32.6**	**0.0**
PVO				S	**Sg**	**16 42 38.7**	**+1.5**
PVO	**Paravola**	**0.35**	**328**	P	**Pg**	**16 42 32.7**	**+0.1**
PVO				S	**Sg**	**16 42 38.7**	**+1.5**
PVO	**Paravola**	**0.35**	**328**	P	**Pg**	**16 42 32.7**	**+0.1**
PVO				S	**Sb**	**16 42 39.9**	**0.0**
PVO				AML	AML	16 42 39.9	
	comp=E,17758μm,0.2s						
PVO				AML	AML	16 42 40.1	
	comp=N,10757μm,0.2s						
RLS	**Riolos of Patr**	**0.35**	**222**	P	**Pg**	**16 42 32.9**	**+0.3**
RLS				S	**Sg**	**16 42 38.1**	**+0.8**
RLS	**Riolos of Patr**	**0.35**	**222**	P	**Pg**	**16 42 32.9**	**+0.3**
RLS				S	**Sg**	**16 42 38.1**	**+0.8**
RLS	**Riolos of Patr**	**0.35**	**222**	P	**Pg**	**16 42 32.9**	**+0.3**
RLS				S	**Sb**	**16 42 39.1**	**-0.8**
RLS				AML	AML	16 42 39.6	
	comp=E,9197μm,0.3s						
RLS				AML	AML	16 42 40.6	
	comp=N,6868μm,0.2s						
DRO	**Drossia**	**0.37**	**187**	P	**Pg**	**16 42 33.0**	**0.0**
DRO				S	**Sg**	**16 42 38.8**	**+0.9**
DRO	**Drossia**	**0.37**	**187**	P	**Pg**	**16 42 33.2**	**+0.2**
DRO				S	**Sg**	**16 42 38.8**	**+0.9**
DRO	**Drossia**	**0.37**	**187**	P	**Pg**	**16 42 33.2**	**+0.2**
DRO				S	**Sb**	**16 42 39.7**	**-0.8**
DRO				AML	AML	16 42 39.7	
	comp=E,22906μm,0.4s						
DRO				AML	AML	16 42 46.7	
	comp=N,11601μm,0.4s

EVR					AML	AML	16 42 48.7	
	comp=E,4212µm,0.5s							
EVR					AML	AML	16 42 52.4	
	comp=N,3843µm,0.6s							
DSF	**Desfina**	**0.61**	**81**	P	**Pg**		**16 42 36.7**	**-0.7**
DSF				S	**Sg**		**16 42 46.0**	**+0.6**
DSF	**Desfina**	**0.61**	**81**	P	**Pg**		**16 42 36.8**	**-0.7**
DSF				S	**Sg**		**16 42 45.2**	**-0.2**
DSF	**Desfina**	**0.61**	**81**	P	**Pg**		**16 42 36.6**	**-0.7**
DSF				S	**Sg**		**16 42 45.2**	**-0.2**
DSF				AML	AML		16 42 49.6	
	comp=E,5730µm,0.2s							
DSF				AML	AML		16 42 52.6	
	comp=N,4327µm,0.2s							
VTN	**Vitineika**	**0.61**	**229**	P	**Pb**		**16 42 38.5**	**-0.1**
VTN	**Vitineika**	**0.61**	**229**	P	**Pb**		**16 42 38.5**	**-0.1**
THAL	**Thalero**	**0.76**	**112**	P	**Pg**		**16 42 40.0**	**-0.4**
THAL				S	**Sb**		**16 42 51.6**	**-0.1**
THAL	**Thalero**	**0.76**	**112**	P	**Pg**		**16 42 40.2**	**-0.2**
THAL				S	**Sg**		**16 42 50.9**	**+0.6**
THAL	**Thalero**	**0.76**	**112**	P	**Pg**		**16 42 40.2**	**-0.2**
THAL				S	**Sg**		**16 42 50.9**	**+0.6**
THAL				AML	AML		16 42 54.8	
	comp=N,6229µm,0.2s							
THAL				AML	AML		16 42 55.1	
	comp=E,8655µm,0.5s							
AMT	**Artemida-Makis**	**0.79**	**183**	P	**Pg**		**16 42 41.3**	**+0.4**
AMT				S	**Sb**		**16 42 52.9**	**+0.4**
AMT	**Artemida-Makis**	**0.79**	**183**	P	**Pg**		**16 42 41.0**	**+0.1**
AMT				S	**Sb**		**16 42 52.3**	**-0.2**
AMT	**Artemida-Makis**	**0.79**	**183**	P	**Pb**		**16 42 42.1**	**+0.5**
AMT				S	**Sb**		**16 42 52.3**	**-0.2**
AMT				AML	AML		16 42 58.4	
	comp=E,5599µm,0.5s							
AMT				AML	AML		16 42 58.4	
	comp=N,5585µm,0.4s							
KFL	**Anninata**	**0.80**	**255**	P	**Pg**		**16 42 40.8**	**-0.2**
KFL				S	**Sb**		**16 42 52.8**	**+0.1**
KFL	**Anninata**	**0.80**	**255**	P	**Pg**		**16 42 41.3**	**+0.3**
KFL				S	**Sb**		**16 42 52.8**	**+0.1**
KFL	**Anninata**	**0.80**	**255**	P	**Pg**		**16 42 41.3**	**+0.3**
AGG	**Agios Georgios**	**0.83**	**32**	P	**Pg**		**16 42 40.9**	**-0.8**
AGG				S	**Sb**		**16 42 53.5**	**-0.2**
AGG	**Agios Georgios**	**0.83**	**32**	P	**Pg**		**16 42 40.9**	**-0.8**
AGG				S	**Sb**		**16 42 53.5**	**-0.2**
AGG	**Agios Georgios**	**0.83**	**32**	P	**Pg**		**16 42 40.4**	**-1.3**
AGG				S	**Sb**		**16 42 54.9**	**+1.2**
AGG				AML	AML		16 42 55.4	
	comp=E,4081µm,0.7s							
AGG				AML	AML		16 43 00.8	
	comp=N,3220µm,0.3s							
TRIP	**Tripoli**	**0.89**	**153**	P	**Pg**		**16 42 42.2**	**-0.6**
TRIP	**Tripoli**	**0.89**	**153**	P	**Pg**		**16 42 42.2**	**-0.6**
VLS	**Valsamata**	**0.94**	**262**	P	**Pg**		**16 42 42.9**	**-0.8**
VLS				S	**Sb**		**16 42 57.5**	**+0.8**
VLS	**Valsamata**	**0.94**	**262**	P	**Pg**		**16 42 42.9**	**-0.8**
VLS				S	**Sb**		**16 42 56.7**	**0.0**
VLS	**Valsamata**	**0.94**	**262**	P	**Pg**		**16 42 42.4**	**-1.3**
VLS				S	**Sb**		**16 42 56.7**	**0.0**
VLS				AML	AML		16 42 58.7	
	comp=N,4037µm,0.5s							
VLS				AML	AML		16 42 59.2	
	comp=E,2059µm,0.2s							
DSL	**Palaion Diasel**	**0.96**	**327**	P	**Pg**		**16 42 43.9**	**-0.4**
DSL				S	**Sn**		**16 42 59.1**	**-0.4**
DSL	**Palaion Diasel**	**0.96**	**327**	P	**Pg**		**16 42 43.9**	**-0.4**
DSL				S	**Sn**		**16 42 59.1**	**-0.4**
DSL	**Palaion Diasel**	**0.96**	**327**	P	**Pg**		**16 42 43.1**	**-1.2**
DSL				S	**Sn**		**16 42 59.1**	**-0.4**
DSL				AML	AML		16 43 02.7	
	comp=N,1880µm,0.3s							
DSL				AML	AML		16 43 07.2	
	comp=E,2310µm,0.3s							
LKD2	**Lefkada island**	**0.98**	**299**	P	**Pg**		**16 42 44.0**	**-0.6**
LKD2				S	**Sn**		**16 42 59.6**	**-0.4**
LKD2	**Lefkada island**	**0.98**	**299**	P	**Pg**		**16 42 44.2**	**-0.6**
LKD2				S	**Sn**		**16 42 59.6**	**-0.4**
LKD2	**Lefkada island**	**0.98**	**299**	P	**Pg**		**16 42 43.7**	**-1.0**
LKD2				S	**Sn**		**16 43 00.2**	**+0.3**
LKD2				AML	AML		16 43 08.0	
	comp=E,2846µm,0.4s							
LKD2				AML	AML		16 43 09.3	
	comp=N,3406µm,0.5s							
LTK	**Loutraki**	**0.99**	**107**	P	**Pg**		**16 42 44.8**	**0.0**
LTK				S	**Sb**		**16 42 59.3**	**+0.9**
LTK	**Loutraki**	**0.99**	**107**	P	**Pg**		**16 42 44.8**	**0.0**
LTK				S	**Sg**		**16 42 57.4**	**-0.3**
LTK	**Loutraki**	**0.99**	**107**	P	**Pn**		**16 42 45.8**	**-0.2**
LTK				S	**Sg**		**16 42 57.4**	**-0.3**
LTK				AML	AML		16 43 01.1	
	comp=E,2773µm,0.6s							
LTK				AML	AML		16 43 02.1	
	comp=N,1863µm,0.4s							
LOUT	**Loutraki**	**1.01**	**109**	P	**Pn**		**16 42 46.3**	**+0.1**
LOUT				S	**Sg**		**16 42 58.1**	**-0.2**
LOUT	**Loutraki**	**1.01**	**109**	P	**Pn**		**16 42 46.3**	**+0.1**
LOUT				S	**Sg**		**16 42 58.1**	**-0.2**
LKR	**Lokris**	**1.02**	**71**	P	**Pg**		**16 42 44.6**	**-0.8**
LKR				S	**Sb**		**16 42 59.6**	**+0.3**
LKR	**Lokris**	**1.02**	**71**	P	**Pg**		**16 42 44.6**	**-0.8**
LKR				S	**Sb**		**16 42 59.6**	**+0.3**
LKR	**Lokris**	**1.02**	**71**	P	**Pg**		**16 42 43.9**	**-1.5**
LKR				S	**Sn**		**16 43 00.7**	**-0.2**
LKR				AML	AML		16 43 05.1	
	comp=N,2167µm,0.2s							
LKR				AML	AML		16 43 06.5	
	comp=E,1823µm,0.2s							
VLX	**Vlachokerasia**	**1.07**	**153**	P	**Pg**		**16 42 45.2**	**-1.0**
VLX				S	**Sn**		**16 43 02.1**	**0.0**
VLX	**Vlachokerasia**	**1.07**	**153**	P	**Pg**		**16 42 45.2**	**-1.0**
VLX				S	**Sn**		**16 43 02.1**	**0.0**
VLX	**Vlachokerasia**	**1.07**	**153**	P	**Pg**		**16 42 45.2**	**-1.0**
VLX				AML	AML		16 43 07.5	
	comp=N,2030µm,0.4s							
VLX				AML	AML		16 43 08.7	
	comp=E,2022µm,0.3s							
ITM	**Ithomi**	**1.15**	**173**	P	**Pg**		**16 42 47.2**	**-0.5**
ITM				S	**Sn**		**16 43 03.8**	**-0.1**
ITM	**Ithomi**	**1.15**	**173**	P	**Pg**		**16 42 47.5**	**-0.2**
ITM				S	**Sg**		**16 43 01.4**	**-1.2**
ITM	**Ithomi**	**1.15**	**173**	P	**Pg**		**16 42 47.5**	**-0.2**
ITM				S	**Sg**		**16 43 01.4**	**-1.2**
ITM				AML	AML		16 43 07.8	
	comp=N,1228µm,0.5s							
ITM				AML	AML		16 43 11.3	
	comp=E,1227µm,0.5s							
VIL2	**Platees**	**1.19**	**95**	P	**Pn**		**16 42 50.3**	**+1.6**
VIL2				S	**Sn**		**16 43 07.0**	**+2.0**
VIL2				AML	AML		16 43 09.9	
	comp=E,1943µm,0.3s							
VIL2				AML	AML		16 43 10.6	
	comp=N,3166µm,0.5s							
VILL	**Villia**	**1.23**	**97**	P	**Pb**		**16 42 49.3**	**+0.1**
VILL				S	**Sn**		**16 43 06.5**	**+0.5**
VILL	**Villia**	**1.23**	**97**	P	**Pb**		**16 42 49.3**	**+0.1**
VILL				S	**Sn**		**16 43 06.5**	**+0.5**
THL	**Klokotos Trika**	**1.26**	**9**	P	**Pn**		**16 42 49.5**	**0.0**
THL				S	**Sn**		**16 43 07.4**	**+0.8**
THL	**Klokotos Trika**	**1.26**	**9**	P	**Pn**		**16 42 49.5**	**0.0**
THL				S	**Sg**		**16 43 06.5**	**+0.3**
THL	**Klokotos Trika**	**1.26**	**9**	P	**Pg**		**16 42 50.2**	**+0.3**
THL				S	**Sg**		**16 43 06.5**	**+0.3**
THL				AML	AML		16 43 10.6	
	comp=N,789µm,0.5s							
THL				AML	AML		16 43 12.6	
	comp=E,706µm,0.5s							
SMIA	**Simia**	**1.26**	**63**	P	**Pn**		**16 42 49.5**	**-0.2**
SMIA	**Simia**	**1.26**	**63**	P	**Pn**		**16 42 49.5**	**-0.2**
DID	**Didima**	**1.42**	**124**	P	**Pn**		**16 42 51.9**	**+0.1**
DID				S	**Sg**		**16 43 11.3**	**-0.1**
DID	**Didima**	**1.42**	**124**	P	**Pn**		**16 42 52.0**	**+0.1**
DID				S	**Sg**		**16 43 11.3**	**-0.1**
DID	**Didima**	**1.42**	**124**	P	**Pn**		**16 42 52.0**	**+0.2**
FYTO	**Fytoko, Volos**	**1.42**	**40**	P	**Pb**		**16 42 52.5**	**+0.1**
FYTO	**Fytoko, Volos**	**1.42**	**40**	P	**Pb**		**16 42 52.5**	**+0.1**
PYL	**PYLOS**	**1.42**	**181**	P	**Pn**		**16 42 51.7**	**-0.1**
PYL				S	**Sg**		**16 43 12.6**	**+1.1**
PYL	**PYLOS**	**1.42**	**181**	P	**Pn**		**16 42 51.7**	**-0.1**
PYL				S	**Sg**		**16 43 12.6**	**+1.1**
PYL	**PYLOS**	**1.42**	**181**	P	**Pn**		**16 42 51.7**	**-0.1**
NEO	**Neokhori**	**1.51**	**49**	P	**Pn**		**16 42 53.1**	**+0.1**
NEO				S	**Sb**		**16 43 13.5**	**+0.3**
NEO	**Neokhori**	**1.51**	**49**	P	**Pn**		**16 42 53.3**	**+0.3**
XOR	**Xorichti**	**1.53**	**46**	P	**Pn**		**16 42 52.8**	**-0.5**
XOR				S	**Sb**		**16 43 14.0**	**+0.2**
XOR	**Xorichti**	**1.53**	**46**	P	**Pn**		**16 42 53.0**	**-0.3**
XOR				S	**Sb**		**16 43 14.0**	**+0.2**
XOR	**Xorichti**	**1.53**	**46**	P	**Pn**		**16 42 53.0**	**-0.3**
SKIA	**Skiathos**	**1.58**	**57**	P	**Pn**		**16 42 53.9**	**-0.1**
SKIA	**Skiathos**	**1.58**	**57**	P	**Pn**		**16 42 53.9**	**-0.1**
SKIA	**Skiathos**	**1.58**	**57**	P	**Pn**		**16 42 53.4**	**-0.5**
ATH	**Athens Observa**	**1.58**	**102**	P	**Pb**		**16 42 55.3**	**+0.2**
ATH	**Athens Observa**	**1.58**	**102**	P	**Pb**		**16 42 55.4**	**+0.2**
ATH				AML	AML		16 43 19.6	
	comp=N,770µm,0.5s							
ATH				AML	AML		16 43 21.0	
	comp=E,1267µm,0.5s							
ATHU	**Athens Univers**	**1.63**	**102**	P	**Pn**		**16 42 54.4**	**-0.3**
ATHU				S	**Sn**		**16 43 16.0**	**+0.1**
ATHU	**Athens Univers**	**1.63**	**102**	P	**Pn**		**16 42 54.4**	**-0.3**
ATHU				S	**Sn**		**16 43 16.0**	**+0.1**
ATHU	**Athens Univers**	**1.63**	**102**	P	**Pn**		**16 42 54.2**	**-0.5**
ATHU				S	**Sn**		**16 43 14.9**	**-0.9**
ATHU				AML	AML		16 43 19.6	
	comp=E,202µm,0.3s							
ATHU				AML	AML		16 43 21.9	
	comp=N,416µm,0.4s							
VLY	**Voula,Athens**	**1.67**	**106**	P	**Pn**		**16 42 55.3**	**+0.1**
VLY				S	**Sn**		**16 43 17.0**	**+0.2**
VLY	**Voula,Athens**	**1.67**	**106**	P	**Pn**		**16 42 55.3**	**+0.1**
VLY				S	**Sn**		**16 43 17.0**	**+0.2**
VLY	**Voula,Athens**	**1.67**	**106**	P	**Pn**		**16 42 54.4**	**-0.9**
PTL	**Penteli**	**1.68**	**99**	P	**Pn**		**16 42 54.8**	**-0.6**
PTL	**Penteli**	**1.68**	**99**	P	**Pn**		**16 42 56.0**	**+0.6**
PTL	**Penteli**	**1.68**	**99**	P	**Pn**		**16 42 56.0**	**+0.6**
EREA	**Eretria**	**1.71**	**86**	P	**Pn**		**16 42 56.3**	**+0.5**
EREA				S	**Sb**		**16 43 19.4**	**+0.4**
EREA	**Eretria**	**1.71**	**86**	P	**Pn**		**16 42 56.3**	**+0.5**
EREA				S	**Sb**		**16 43 19.4**	**+0.4**
EREA	**Eretria**	**1.71**	**86**	P	**Pn**		**16 42 56.3**	**+0.5**
SGD	**Sagiada**	**1.76**	**318**	P	**Pn**		**16 42 57.1**	**+0.7**
SGD	**Sagiada**	**1.76**	**318**	P	**Pn**		**16 42 57.1**	**+0.7**
SGD	**Sagiada**	**1.76**	**318**	P	**Pg**		**16 42 50.0**	**+0.6**
VLI	**Veliai**	**1.85**	**149**	P	**Pn**		**16 42 57.2**	**-0.5**
VLI				S	**Sb**		**16 43 22.6**	**-0.5**
VLI	**Veliai**	**1.85**	**149**	P	**Pn**		**16 42 58.6**	**+0.9**
VLI				S	**Sb**		**16 43 22.6**	**-0.5**
VLI	**Veliai**	**1.85**	**149**	P	**Pn**		**16 42 58.6**	**+0.9**
AOS	**Alonnisos**	**1.86**	**62**	P	**Pn**		**16 42 57.4**	**-0.4**
AOS				S	**Sn**		**16 43 21.2**	**-0.3**
AOS	**Alonnisos**	**1.86**	**62**	P	**Pn**		**16 42 57.4**	**-0.4**
AOS				S	**Sn**		**16 43 21.2**	**-0.3**
AOS	**Alonnisos**	**1.86**	**62**	P	**Pn**		**16 42 56.8**	**-1.1**
PENT	**Pentalofos**	**1.93**	**346**	P	**Pg**		**16 43 02.3**	**-0.5**
PENT	**Pentalofos**	**1.93**	**346**	P	**Pg**		**16 43 02.3**	**-0.5**
KEK	**Kerkira**	**2.07**	**313**	P	**Pn**		**16 43 00.8**	**+0.1**
KEK	**Kerkira**	**2.07**	**313**	P	**Pn**		**16 43 00.8**	**+0.1**
KEK	**Kerkira**	**2.07**	**313**	P	**Pb**		**16 43 03.3**	**-0.2**
KARY	**Karystos**	**2.13**	**97**	P	**Pn**		**16 43 02.6**	**+1.1**
KARY	**Karystos**	**2.13**	**97**	P	**Pn**		**16 43 02.6**	**+1.1**
NEST	**Nestorio**	**2.16**	**345**	P	**Pb**		**16 43 05.6**	**+0.4**
NEST	**Nestorio**	**2.16**	**345**	P	**Pb**		**16 43 05.6**	**+0.4**
PAIG	**Paliouri**	**2.19**	**42**	P	**Pn**		**16 43 02.0**	**-0.4**
PAIG	**Paliouri**	**2.19**	**42**	P	**Pn**		**16 43 02.0**	**-0.4**
PLG	**Polygyros**	**2.43**	**32**	P	**Pn**		**16 43 05.3**	**-0.4**
PLG	**Polygyros**	**2.43**	**32**	P	**Pn**		**16 43 05.3**	**-0.4**
FNA	**Florina**	**2.48**	**353**	P	**Pb**		**16 43 09.0**	**-1.5**
FNA	**Florina**	**2.48**	**353**	P	**Pb**		**16 43 09.0**	**-1.5**
BIA	**Bitola**	**2.72**	**353**	*i* Pn	**Pb**		**16 43 13.7**	**-0.9**
BIA	**Bitola**	**2.72**	**353**	*i* Pn	**Pb**		**16 43 13.6**	**-0.9**
KNT	**Kendrikon**	**2.97**	**17**	P	**Pn**		**16 43 14.6**	**+1.5**
KNT	**Kendrikon**	**2.97**	**17**	P	**Pn**		**16 43 14.6**	**+1.5**
APE	**Apeiranthos**	**3.24**	**112**	P	**Pn**		**16 43 16.5**	**-0.3**
APE	**Apeiranthos**	**3.24**	**112**	P	**Pn**		**16 43 16.5**	**-0.3**
BARS	**Barje**	**4.49**	**0**	*i* Pn	**Pn**		**16 43 36.6**	**+2.6**
BOVS	**Bovan**	**5.31**	**360**	*e*Pn	**Pn**		**16 43 47.3**	**+2.1**
IVAS	**Ivanjica**	**5.39**	**347**	*e*Pn	**Pn**		**16 43 47.5**	**+1.1**
ZAGS	**Zajecar**	**5.50**	**4**	*e*Pn	**Pn**		**16 43 47.5**	**+0.3**
BBLS	**Lazići**	**5.82**	**343**	*e*Pn	**Pn**		**16 43 53.5**	**+1.2**
UDBI	**Udbina**	**7.66**	**326**	*e*Pn	**Pn**		**16 44 18.8**	**+1.1**
UDBI					Sn	**Sn**	**16 45 43.0**	**-1.6**
NVLJ	**Novalja**	**8.10**	**323**	*e*Pn	**Pn**		**16 44 24.5**	**+0.9**
NVLJ					Sn	**Sn**	**16 45 53.5**	**-1.8**
BRTR	**Keskin Array B**	**9.35**	**78**	Pn	**Pn**		**16 44 43.5**	**+2.7**
	comp=N,0.3nm,0.3s,baz=261,slow=12,SNR=7.1							
TORD	**Torodi Ar. Bea**	**30.77**	**221**	P	**P**		**16 48 41.9**	**+0.2**
	comp=N,0.2nm,0.5s,baz=31,slow=8.8,SNR=3.5							
ZALV	**Zalesovo Beam**	**44.87**	**48**	P	**P**		**16 50 39.5**	**-0.7**
	comp=N,0.8nm,0.4s,baz=285,slow=7.4,SNR=3.7							

*DDA **14** 16:53:27.7, 39°.63N×30°.79E, h7km, Md2.5*
*ISCJB **14** 16:53:29.3±0.6, 39°.53N±0°.04×30°.54E±0°.04, h7km±8km, Error ellipse: s-maj=7.0km s-min=4.9km az=26.2*
*CSEM **14** 16:53:29.3±0.3, 39°.53N×30°.55E, h8km, MD2.5, Error ellipse: s-maj=6.1km s-min=4.6km az=41.0*
*ISK **14** 16:53:29.0, 39°.49N×30°.55E, h4km, MD2.6*

ISC 14 16:53:29.1±1.0, 39°.55N±0°.04×30°.54E±0°.03, h9km±8km, n18, σ0s51/32, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ESKT	**Eskisehir**	**0.24**	**96**	*e*PG	**Pg**	**16 53 33.6**	**-0.5**
ESKT				*e*SG	**Sg**	**16 53 38.4**	**+0.9**
ESKT	**Eskisehir**	**0.24**	**96**	*i* P	**Pg**	**16 53 34.0**	**-0.1**
ESKT				*i* S	**Sg**	**16 53 38.1**	**+0.6**
ESKT	**Eskisehir**	**0.24**	**96**	*e*Pg	**Pg**	**16 53 33.6**	**-0.5**
ESKT				*e*Sg	**Sg**	**16 53 38.4**	**+0.9**
SEYT	**Eskypehyr**	**0.24**	**96**	P	**Pg**	**16 53 34.0**	**-0.1**
SEYT				S	**Sg**	**16 53 38.1**	**+0.6**
BORA	**Eskisehir**	**0.34**	**349**	*i* P	**Pg**	**16 53 35.1**	**-0.7**
BORA				*i* S	**Sg**	**16 53 40.3**	**-0.1**
BORA	**Eskisehir**	**0.34**	**349**	P	**Pg**	**16 53 35.2**	**-0.7**
BORA				S	**Sg**	**16 53 40.3**	**-0.1**
SVRH	**Sivrihisar-ESK**	**0.77**	**97**	*e*PG	**Pb**	**16 53 44.4**	**-0.3**
SVRH				*e*SG	**Sb**	**16 53 55.3**	**0.0**
SVRH	**Sivrihisar-ESK**	**0.77**	**97**	*e*Pg	**Pb**	**16 53 44.4**	**-0.3**
SVRH				*e*Sg	**Sb**	**16 53 55.3**	**0.0**
TVSB	**Tavsanli**	**0.84**	**264**	*e*PG	**Pb**	**16 53 45.8**	**0.0**
TVSB				*e*SG	**Sb**	**16 53 57.9**	**+0.7**
TVSB	**Tavsanli**	**0.84**	**264**	*e*Pg	**Pb**	**16 53 45.8**	**0.0**
TVSB				*e*Sg	**Sb**	**16 53 57.9**	**+0.7**
GULT	**Gulveren**	**0.89**	**359**	*e*PG	**Pn**	**16 53 47.8**	**0.0**
GULT				*e*SG	**Sn**	**16 54 01.1**	**+0.3**
GULT	**Gulveren**	**0.89**	**359**	*e*Pg	**Pn**	**16 53 47.8**	**0.0**
GULT				*e*Sg	**Sn**	**16 54 01.1**	**+0.3**
BOLV	**Bolvadin**	**0.89**	**158**	*i* P	**Pb**	**16 53 46.2**	**-0.5**
BOLV				*i* S	**Sb**	**16 53 58.2**	**-0.5**
BOLV	**Bolvadin**	**0.89**	**158**	P	**Pb**	**16 53 46.2**	**-0.5**
BOLV				S	**Sb**	**16 53 58.2**	**-0.5**
MDUB	**Mudurnu**	**1.05**	**29**	*e*PN	**Pn**	**16 53 50.7**	**+0.5**
MDUB	**Mudurnu**	**1.05**	**29**	*e*Pn	**Pn**	**16 53 50.7**	**+0.5**
KIZT	**Kizilcal**	**1.24**	**122**	*e*PN	**Pg**	**16 53 52.4**	**-0.5**
KIZT	**Kizilcal**	**1.24**	**122**	*e*Pn	**Pg**	**16 53 52.4**	**-0.5**

IDC 14 17:02:43.1±26.0, 21°.93S×173°.05W, h0km, mb4.5/4, mb1 4.6/4, mb1mx3.9/30, mbtmp4.5/4, Error ellipse: s-maj=482.3km s-min=142.8km az=76.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CTA	**Charters Tower**	**37.96**	**265**	P	P	17 10 03.4	+0.5
	12nm,0.3s,baz=93,slow=9.1,SNR=41						
STKA	**Stephens Creek**	**41.39**	**246**	P	P	17 10 29.7	-1.6
	2.5nm,0.6s,baz=84,slow=9.7,SNR=10						
ASAR	**Alice Springs**	**48.70**	**257**	P	P	17 11 29.6	0.0
	3.4nm,1.0s,baz=88,slow=7.2,SNR=62						
WRA	**Warramunga Arr**	**48.98**	**262**	P	P	17 11 32.3	+0.5
	1.4nm,0.3s,baz=96,slow=8.2,SNR=136						

*IDC **14** 17:06:03.1±1.0, 3°.56S×80°.87W, h0km, mb3.6/6, mb1 4.0/9, mb1mx3.9/32, mbtmp3.8/9, ML4.2/3, MS3.0/2, Ms1 3.0/2, ms1mx2.8/21, Error ellipse: s-maj=44.8km s-min=17.4km az=48.0*
*ISCJB **14** 17:06:07.0±0.7, 3°.68S±0°.07×81°.0W±0°.1, h38km, mb3.9/10, Error ellipse: s-maj=18.2km s-min=6.3km az=154.8*
*NEIC **14** 17:06:09.9±1.5, 3°.75S×80°.92W, h56km±14km, mb4.3/4, Error ellipse: s-maj=17.6km s-min=10.3km az=72.0*

ISC 14 17:06:08.2±0.7, 3°.65S±0°.08×81°.0W±0°.1, h38km, n22, σ1s61/24, mb3.9/10, Near coast of northern Peru

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ATAH	**Atahualpa**	**4.33**	**143**	Pn	**Pn**	**17 07 12.8**	**+0.8**
	16nm,0.3s,baz=2.7,slow=7.2,SNR=12						
ATAH				Sn	**Sn**	**17 08 02.3**	**+0.9**
	13nm,0.3s,baz=12,slow=6.7,SNR=4.9						
ATAH				LR	LR	17 09 21.0	
	comp=Z,305nm,19.4s,baz=322,slow=46						
OTAV	**Otavalo**	**4.64**	**34**	*e*P	**Pn**	**17 07 17.1**	**+0.9**
NNA	**Nana**	**9.25**	**154**	Pn	**Pn**	**17 08 18.9**	**-0.3**
	2.1nm,0.3s,baz=342,slow=9.6,SNR=2.8						
NNA				Sn	**Sn**	**17 10 03.4**	**+1.3**
	0.8nm,0.3s,baz=193,slow=14,SNR=2.6						
NNA	**Nana**	**9.25**	**154**	*e*P	**Pn**	**17 08 18.6**	**-0.7**
NNA				Pn	Pn	17 08 18.9	-0.3
NNA				Sn	**Sn**	**17 10 03.4**	**+1.3**
JTS	**JuntasAbangare**	**14.40**	**344**	Pn	Pn	17 09 19.8	-10
	2.8nm,0.3s,baz=17,slow=11,SNR=8.0						
JTS				LR	LR	17 12 45.0	
	comp=Z,37nm,21.1s,baz=243,slow=28						
LPAZ	**La Paz**	**17.83**	**136**	P	**Pn**	**17 10 13.6**	**-0.6**
	0.4nm,0.3s,baz=322,slow=4.9,SNR=7.8						
SAML	**Samuel**	**18.48**	**107**	*e*P	**P**	**17 10 18.8**	**-2.4**
	5.4nm,0.9s						
PTGA	**Pitinga**	**21.23**	**83**	P	**P**	**17 10 49.3**	**-1.8**
	4.7nm,0.8s,baz=268,slow=8.8,SNR=9.8						
PCRV	**Puerto La Cruz**	**21.32**	**50**	P	**P**	**17 10 55.3**	**+3.1**
	10nm,0.6s,baz=338,slow=4.6,SNR=3.7						
SIV	**San Ignacio**	**23.12**	**123**	P	**P**	**17 11 11.2**	**-0.1**
	1.2nm,0.5s,baz=307,slow=9.7,SNR=4.1						
LRAL	**Lakeview Retre**	**36.93**	**352**	*e*P	**P**	**17 13 14.0**	**+0.4**
	2.1nm,0.5s						
TXAR	**Lajitas Array**	**39.35**	**328**	P	**P**	**17 13 36.2**	**+2.0**
	0.4nm,0.8s,baz=146,slow=12,SNR=4.4						
SSPA	**Standing Stone**	**44.17**	**3**	*e*P	**P**	**17 14 09.1**	**-4.3**
	30nm,0.7s						
PDAR	**Pinedale Array**	**52.93**	**334**	P	**P**	**17 15 21.9**	**+0.8**
	1.1nm,0.8s,baz=124,slow=8.0,SNR=9.5						
HWUT	**Hardware Ranch**	**52.94**	**331**	*e*P	**P**	**17 15 22.1**	**+1.1**
	1.9nm,0.7s						
ILAR	**Eielson Array**	**83.25**	**337**	P	**P**	**17 18 31.1**	**+0.6**
	0.2nm,0.5s,baz=96,slow=6.4,SNR=4.0						
TORD	**Torodi Ar. Bea**	**83.74**	**76**	P	**P**	**17 18 33.6**	**-0.5**
	0.2nm,0.5s,baz=277,slow=4.6,SNR=2.8						
ZALV	**Zalesovo Beam**	**128.54**	**11**	PKP	**PKPdf**	**17 25 09.8**	**-1.3**
	0.9nm,0.7s,baz=318,slow=2.0,SNR=6.2						
ASAR	**Alice Springs**	**136.47**	**230**	PKP	**PKPdf**	**17 25 26.0**	**-1.1**
	0.3nm,0.7s,baz=114,slow=3.4,SNR=4.5						
KSRS	**Korea Array**	**137.17**	**326**	PKP	**PKPdf**	**17 25 28.3**	**+0.4**
	0.5nm,0.5s,baz=18,slow=2.7,SNR=3.7						
KSAR	**Wonju Array Be**	**137.20**	**326**	PKP	**PKPdf**	**17 25 28.3**	**+0.4**
WRA	**Warramunga Arr**	**138.10**	**235**	PKP	**PKPdf**	**17 25 29.0**	**-1.1**
	0.3nm,0.5s,baz=128,slow=1.7,SNR=5.8						

*NIED **14** 17:41:00, 39°.50N×142°.70E, h41km, Mw3.6 Best double couple: M0 2.89000×10^14 NP1:φs171.00000°, δ17.00000°, λ57.00000°. NP2:φs26.00000°, δ76.00000°, λ99.00000°.*
*ISCJB **14** 17:41:56.6±1.8, 39°.42N±0°.05×142°.7E±0°.1, h17km±11km, mb3.5/4, Error ellipse: s-maj=14.8km s-min=7.7km az=9.8*
*JMA **14** 17:41:58.3±0.1, 39°.45N×142°.66E, h33km±1km, M3.5*
*IDC **14** 17:41:59.4±2.0, 39°.72N×141°.96E, h0km, mb3.6/4, mb1 3.7/5, mb1mx3.4/32, mbtmp3.6/5, ML3.2/1, MS2.2/2, Ms1 2.2/2, ms1mx2.0/37, Error ellipse: s-maj=57.4km s-min=26.9km az=78.0*

**ISC 14 17:41:56.8±2.2, 39°.50N±0°.05×142°

CGA2	**Cerro Gallo 2**	**1.62**	**93**	*e*P		Pn	17 51 07.5	-0.8
CGA2				*e*S		Sn	17 51 29.1	+0.6
QCR1	**Quepos**	**2.03**	**109**	*e*P		Pn	17 51 14.9	+1.2
ACON	**Acoyapa**	**2.07**	**26**	*e*P		Pn	17 51 14.3	+0.1
COPN	**Copaltepe**	**2.12**	**347**	*e*P		Pn	17 51 14.8	-0.2
COPN					AML	AML	17 51 32.2	
	comp=Z,203nm,0.7s							
URSC	**Urasca**	**2.31**	**96**↓	*e*P		Pn	17 51 18.5	+0.7
MOMN	**Momotombo**	**2.33**	**350**	*e*P		Pn	17 51 17.9	0.0
BOAB	**BOACO BROADBAN**	**2.37**	**11**	*e*P		Pn	17 51 18.5	0.0
BUS	**Buena Vista**	**2.38**	**103**↓	*e*P		Pn	17 51 18.9	-0.1
CNGN	**Cerro Negro**	**2.45**	**346**		AML	AML	17 51 50.2	
	comp=E,65nm,0.3s							

JMA **14** *17:53:09.2±0.3,32.34N×138.06E,h436km,M3.2*
IDC **14** *17:53:13.3±0.8,32.50N×137.90E,h398km±17km,mb3.0/2, mb1 3.1/4,mb1mx2.6/34,mbtmp3.7/4,Error ellipse: s-maj=38.7km s-min=20.7km az=55.0*
ISCJB **14** *17:53:14.4±0.8,32.39N±0.09×137.97E±0.10,h376km, mb3.3/2,Error ellipse: s-maj=14.2km s-min=9.3km az=141.6*
ISC 14 17:53:14.1±1.1,**32.41N**±0.09×**137.92E**±0.08,**h376**km,**n21,** σ1§**70/28, Southeast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TTO2	**TONANKAI O.B.S**	**1.51**	**331**	P	**Pn**	**17 54 07.0**	**+2.6**
TK02	**Tokai 2**	**1.53**	**355**	P	**Pn**	**17 54 07.0**	**+2.4**
TTO1	**TONANKAI O.B.S**	**1.54**	**322**	P	**Pn**	**17 54 06.9**	**+2.4**
TTO4	**TONANKAI O.B.S**	**1.62**	**349**	P	**Pn**	**17 54 07.5**	**+2.5**
JHJ	**Hachijo jima 2**	**1.72**	**65**	P	**Pn**	**17 54 07.4**	**+1.4**
	10nm,0.3s,baz=32,slow=22,SNR=21						
JHJ				S	**S**	**17 54 51.5**	**+3.6**
	10.0nm,0.3s,baz=327,slow=23,SNR=6.8						
JHJ2	**Mitsune**	**1.75**	**66**	P	**Pn**	**17 54 07.6**	**+1.5**
JWZ	**Kozaga**	**2.16**	**302**	P	**Pn**	**17 54 09.7**	**+0.9**
JIE	**Ise**	**2.22**	**333**	P	**Pn**	**17 54 10.6**	**+1.4**
JWY	**Kouya**	**2.65**	**313**	P	**Pn**	**17 54 13.8**	**+1.3**
JOD2	**Odawara 2**	**3.00**	**19**	P	**Pn**	**17 54 16.2**	**+0.8**
JOD2				S	**S**	**17 55 08.0**	**+3.1**
BSO1	**Boso 1**	**3.40**	**48**	P	**Pn**	**17 54 17.6**	**-0.6**
BSO1				S	**S**	**17 55 09.8**	**-0.3**
JWT	**Wachi**	**3.54**	**324**	P	**Pn**	**17 54 21.2**	**+1.0**
JMN	**Monobe**	**3.63**	**292**	P	**Pn**	**17 54 21.9**	**+0.8**
JRY	**Ryogami san**	**3.69**	**13**	P	**Pn**	**17 54 22.4**	**+0.9**
JRY				*e*S	**S**	**17 55 17.1**	**+1.0**
MJAR	**Matsushiro Arr**	**4.12**	**3**	P	**Pn**	**17 54 25.8**	**0.0**
	3.0nm,0.3s,baz=179,slow=6.5,SNR=17						
MJAR				S	**S**	**17 55 24.2**	**+0.3**
	baz=116,slow=16,SNR=1.5						
MAT	**Matsushiro**	**4.12**	**3**	P	**Pn**	**17 54 26.0**	**+0.2**
MAT				*e*S	**S**	**17 55 22.4**	**-1.5**
MAT	**Matsushiro**	**4.12**	**3**	P	**Pn**	**17 54 26.2**	**+0.4**
MAT				S	**S**	**17 55 23.9**	**0.0**
JAG	**Ashikaga**	**4.20**	**17**	P	**Pn**	**17 54 25.8**	**-0.7**
JNU	**Nakatsue**	**5.97**	**279**	P	**Pn**	**17 54 45.8**	**+0.3**
	0.4nm,0.3s,baz=175,slow=2.1,SNR=6.5						
WRA	**Warramunga Arr**	**52.17**	**184**	P	**P**	**18 01 45.4**	**-2.3**
	0.9nm,0.3s,baz=0.3,slow=7.7,SNR=41						
ASAR	**Alice Springs**	**55.90**	**184**	P	**P**	**18 02 12.3**	**-2.1**
	0.4nm,0.5s,baz=16,slow=10,SNR=14						

BJI **14** *18:10:04.3,53.10N×173.00E,h10km,mb5.7/54,mB5.8/67, Ms6.1/92,Ms7 5.8/86*
IDC **14** *18:10:05.7±0.4,53.02N×173.03E,h0km,mb5.1/25, mb1 5.2/27,mb1mx5.1/33,mbtmp5.1/27,ML4.7/2,MS5.5/32, Ms1 5.5/32,ms1mx5.4/39,Error ellipse: s-maj=13.9km s-min=10.2km az=158.0*
ISCJB **14** *18:10:05.9±0.5,53.04N±0.02×173.02E±0.01,h9km±3km, mb5.8/315,MS5.6/237,Error ellipse: s-maj=3.6km s-min=1.5km az=1.8*
KRSC **14** *18:10:06.7±2.0,53.01N×172.98E,h58km±23km,ML6.0*
NEIC **14** *18:10:07.0±0.0,53.04N×173.02E,h13km Best double couple: NP1:φs185.00000°,δ85.00000°,λ35.00000°. NP2:φs92.00000°,δ55.00000°,λ174.00000°. Principal axes: T 1.1900, Plg27.0000°, Azm54.0000°; N 0.0700, Plg54.0000°, Azm191.0000°; P -1.2600, Plg20.0000°, Azm313.0000°;*
GCMT **14** *18:10:09.0±0.1,53.07N×172.97E,h13km,MW6.0/141, Moment Tensor Solution. s136,c301; s141,c505; Duration: 2s5 Moment tensor: Scale 10¹⁸Nm; Mrr0.05±.01; Mθθ-0.17±.01; Mφφ0.11±.01; Mrθ-0.00±.02; Mθφ-1.20±.01; Mφr-0.74±.04; Best double couple: M0 1.41800×10¹⁸ NP1:φs184.00000°,δ88.00000°, λ32.00000°. NP2:φs93.00000°,δ58.00000°,λ178.00000°. Principal axes: T 1.4200, Plg23.0000°, Azm53.0000°; N -0.0030, Plg58.0000°, Azm187.0000°; P -1.4160, Plg20.0000°, Azm314.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*
NEIC **14** *18:10:09.0±0.1,53.11N×172.98E,h15km,mb6.1/201, ME6.2,MS5.7/161,MW6.0,MW6.0,MW6.0,ML5.8(AEIC) Error ellipse: s-maj=3.5km s-min=1.9km az=170.0, Moment Tensor Solution. s10 Moment tensor: Scale 10¹⁸Nm; Mrr0.12; Mθθ-0.29; Mφφ0.16; Mrθ0.04; Mθφ-1.11; Mφr-0.37; Best double couple: M0 1.20000×10¹⁸ NP1: φs95.00000°,δ72.00000°,λ174.00000°. NP2: φs187.00000°,δ85.00000°,λ18.00000°. Principal axes: T 1.1700, Plg17.0000°, Azm52.0000°; N 0.0600, Plg71.0000°, Azm203.0000°; P -1.2300, Plg9.0000°, Azm320.0000°; Broadband fault plane solution: P waves. NP1:φs93.00000°,δ70.00000°,λ175.00000°. NP2: φs185.00000°,δ85.00000°,λ20.00000°. Principal axes: T Plg18.0000°, Azm51.0000°; N Plg0.0000°, Azm0.0000°; P Plg10.0000°, Azm317.0000°; Depth from synthetics of broadband displacement seismograms. Energy computed from BB mechanism.*
NEIC Felt strongly on Shemya.
MOS **14** *18:10:11.7±1.3,53.05N×172.83E,h55km,mb5.7/92, MS5.6/85 Error ellipse: s-maj=4.9km s-min=3.7km az=122.7*
NEIC **14** *18:10:31.7±0.0,53.55N×172.96E,h20km,Moment Tensor Solution. s54 Moment tensor: Scale 10¹⁸Nm; Mrr0.25; Mθθ-0.21; Mφφ-0.04; Mrθ-0.13; Mθφ-1.19; Mφr0.46; Best double couple: M0 1.30000×10¹⁸ NP1:φs270.00000°, δ68.00000°,λ169.00000°. NP2:φs4.00000°,δ80.00000°, λ23.00000°. Principal axes: T 1.2500, Plg23.0000°, Azm229.0000°; N 0.1000, Plg65.0000°, Azm27.0000°; P -1.3400, Plg8.0000°, Azm136.0000°;*
ISC 14 18:10:09.6±0.4,**52.97N**±0.03×**172.95E**±0.02,**h19**km±1km, **h20**km:**pP-P,n1640,**σ1§**78**/1895,**mb5.9**/357,**MS5.7**/248, **62C-88D,Near Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SMY	**Shemya**	**0.74**	**108**	P	**Pb**	**18 10 21.7**	**-2.1**
SMY				S	**Sg**	**18 10 31.6**	**-2.3**
SMY	**Shemya**	**0.74**	**108**	*e*P	**Pb**	**18 10 21.7**	**-2.1**
SMY				*e*S	**Sg**	**18 10 31.6**	**-2.3**
SMY	**Shemya**	**0.74**	**108**	*e*P	**Pb**	**18 10 21.6**	**-2.2**
BKI	**Bering**	**4.68**	**301**	P	**Pn**	**18 11 17.1**	**-1.9**
BKI				S	**Sn**	**18 12 09.7**	**-3.0**
BKI	**Bering**	**4.68**	**301**	*e*P	**Pn**	**18 11 17.1**	**-1.9**
BKI				*e*S	**Sn**	**18 12 09.7**	**-3.0**
KBG	**Krutoberegovo**	**6.80**	**303**	P	**Pn**	**18 11 49.1**	**+1.0**
KBG				S	**Sn**	**18 13 08.0**	**+3.1**
KBG	**Krutoberegovo**	**6.80**	**303**	*e*P	**Pn**	**18 11 49.1**	**+1.0**
KBG				S	**Sn**	**18 13 08.0**	**+3.1**
MKZ	**Mys Kozlova**	**6.84**	**288**	P	**Pn**	**18 11 47.2**	**-1.5**
MKZ				S	**Sn**	**18 13 02.7**	**-3.2**
MKZ	**Mys Kozlova**	**6.84**	**288**	*e*P	**Pn**	**18 11 47.2**	**-1.5**
MKZ				*e*S	**Sn**	**18 13 02.7**	**-3.2**
SMKR	**Semkarok**	**7.56**	**303**	P	**Pn**	**18 12 00.5**	**+1.8**
SMKR				S	**Sn**	**18 13 25.5**	**+1.8**
SMKR	**Semkarok**	**7.56**	**303**	*e*P	**Pn**	**18 12 00.5**	**+1.8**
SMKR				*e*S	**Sn**	**18 13 25.5**	**+1.8**
ZLN	**Zelenaya**	**7.70**	**298**	P	**Pn**	**18 12 02.3**	**+1.7**
ZLN	**Zelenaya**	**7.70**	**298**	*e*P	**Pn**	**18 12 02.3**	**+1.7**
TUMD	**Tumrok D**	**7.71**	**292**	*e*P	**Pn**	**18 12 02.0**	**+1.3**
TUMD				*e*S	**Sn**	**18 13 27.8**	**+0.4**
SRKR	**Sorokina**	**7.74**	**303**	P	**Pn**	**18 12 01.0**	**-0.1**
SRKR	**Sorokina**	**7.74**	**303**	*e*P	**Pn**	**18 12 01.0**	**-0.1**
CIRR	**Tsirk**	**7.76**	**299**	P	**Pn**	**18 12 04.0**	**+2.5**
CIRR	**Tsirk**	**7.76**	**299**	*e*P	**Pn**	**18 12 04.0**	**+2.5**
LGNR	**Loginova**	**7.78**	**298**	P	**Pn**	**18 12 02.9**	**+1.0**
LGNR	**Loginova**	**7.78**	**298**	*e*P	**Pn**	**18 12 02.9**	**+1.0**
SPN	**Mys Shipunski**	**7.80**	**276**	P	**Pn**	**18 12 00.6**	**-1.2**
SPN				S	**Sn**	**18 13 23.9**	**-5.5**
SPN	**Mys Shipunski**	**7.80**	**276**	*e*P	**Pn**	**18 12 00.6**	**-1.2**
SPN				*e*S	**Sn**	**18 13 23.9**	**-5.5**
KOWE	**Korovin West**	**7.81**	**89**	P	**Pn**	**18 12 01.1**	**-1.0**
BZMR	**Bezymyannaya**	**7.84**	**297**	P	**Pn**	**18 12 03.5**	**+0.9**
BZMR				S	**Sn**	**18 13 28.0**	**-2.9**
BZMR	**Bezymyannaya**	**7.84**	**297**	*e*P	**Pn**	**18 12 03.5**	**+0.9**
BZMR				*e*S	**Sn**	**18 13 28.0**	**-2.9**
KOKL	**Mount Kliuchef**	**7.85**	**90**	P	**Pn**	**18 12 01.2**	**-1.4**
KOKL				S	**Sn**	**18 13 27.8**	**-3.1**
ATKA	**Atka Island**	**7.87**	**90**	P	**Pn**	**18 11 59.6**	**-3.2**
ATKA				S	**Sn**	**18 13 24.9**	**-6.3**
TUMR	**Tumrok**	**7.87**	**292**	P	**Pn**	**18 12 04.3**	**+1.3**
TUMR				S	**Sn**	**18 13 30.2**	**-1.3**
TUMR	**Tumrok**	**7.87**	**292**	*e*P	**Pn**	**18 12 04.3**	**+1.3**
TUMR				*e*S	**Sn**	**18 13 30.2**	**-1.3**
KLY	**Klyuchi**	**7.88**	**300**	P	**Pn**	**18 12 02.5**	**-0.4**
KLY				S	**Sn**	**18 13 27.3**	**-4.2**
KLY	**Klyuchi**	**7.88**	**300**	*e*P	**Pn**	**18 12 02.5**	**-0.4**
KLY				*e*S	**Sn**	**18 13 27.3**	**-4.2**
KRSR	**Krestovskiy**	**7.89**	**299**	P	**Pn**	**18 12 04.1**	**+0.8**
KRSR	**Krestovskiy**	**7.89**	**299**	*e*P	**Pn**	**18 12 04.1**	**+0.8**
KOFP	**Korovin Flat P**	**7.92**	**90**	P	**Pn**	**18 12 02.5**	**-1.1**
KIRR	**Kirishev**	**7.93**	**297**	P	**Pn**	**18 12 04.7**	**+0.9**
KIRR	**Kirishev**	**7.93**	**297**	*e*P	**Pn**	**18 12 04.7**	**+0.9**
KMNR	**Kamenistaya**	**7.93**	**296**	P	**Pn**	**18 12 05.0**	**+1.2**
KMNR	**Kamenistaya**	**7.93**	**296**	*e*P	**Pn**	**18 12 05.0**	**+1.2**
KPT	**Kopyto**	**8.00**	**297**	P	**Pn**	**18 12 05.6**	**+0.9**
KPT	**Kopyto**	**8.00**	**297**	*e*P	**Pn**	**18 12 05.6**	**+0.9**
KII	**Karymskiy**	**8.12**	**283**	P	**Pn**	**18 12 05.5**	**-0.9**
KII	**Karymskiy**	**8.12**	**283**	*e*P	**Pn**	**18 12 05.5**	**-0.9**
NLC	**Nalytchevo**	**8.20**	**277**	*e*S	**Sn**	**18 13 34.8**	**-4.5**
OSSR	**Ossora**	**8.37**	**323**	P	**Pn**	**18 12 09.7**	**+0.1**
OSSR				S	**Sn**	**18 13 42.8**	**-0.6**
OSSR	**Ossora**	**8.37**	**323**	*e*P	**Pn**	**18 12 09.7**	**+0.1**
OSSR				*e*S	**Sn**	**18 13 42.8**	**-0.6**
TILK	**Tilichiki**	**8.37**	**336**	P	**Pn**	**18 12 06.9**	**-2.8**
TILK				S	**Sn**	**18 13 36.3**	**-7.2**
TILK	**Tilichiki**	**8.37**	**336**	*e*P	**Pn**	**18 12 06.9**	**-2.8**
TILK				*e*S	**Sn**	**18 13 36.3**	**-7.2**
SDLR	**Sedlovina**	**8.47**	**278**	P	**Pn**	**18 12 10.8**	**-0.4**
SDLR				S	**Sn**	**18 13 42.5**	**-3.6**
SDLR	**Sedlovina**	**8.47**	**278**	*e*P	**Pn**	**18 12 10.8**	**-0.4**
SDLR				*e*S	**Sn**	**18 13 42.5**	**-3.6**
UGLR	**Uglovaya**	**8.51**	**277**	P	**Pn**	**18 12 12.6**	**+0.9**
UGLR				S	**Sn**	**18 13 45.0**	**-2.1**
UGLR	**Uglovaya**	**8.51**	**277**	*e*P	**Pn**	**18 12 12.6**	**+0.9**
UGLR				*e*S	**Sn**	**18 13 45.0**	**-2.1**
KRER	**Koryakskii**	**8.55**	**278**	P	**Pn**	**18 12 11.9**	**-0.4**
KRER				S	**Sn**	**18 13 45.7**	**-2.5**
KRER	**Koryakskii**	**8.55**	**278**	*e*P	**Pn**	**18 12 11.9**	**-0.4**
KRER				*e*S	**Sn**	**18 13 45.7**	**-2.5**
AVH	**Avacha**	**8.56**	**278**	P	**Pn**	**18 12 11.8**	**-0.5**
AVH				S	**Sn**	**18 13 44.7**	**-3.5**
AVH	**Avacha**	**8.56**	**278**	*e*P	**Pn**	**18 12 11.8**	**-0.5**
AVH				*e*S	**Sn**	**18 13 44.7**	**-3.5**
DALK	**Dalny**	**8.56**	**276**	P	**Pn**	**18 12 12.5**	**+0.1**
DALK				S	**Sn**	**18 13 42.9**	**-5.4**
DALK	**Dalny**	**8.56**	**276**	*e*P	**Pn**	**18 12 12.5**	**+0.1**
DALK				*e*S	**Sn**	**18 13 42.9**	**-5.4**
KRX	**Arik**	**8.60**	**278**	P	**Pn**	**18 12 12.5**	**-0.5**
KRX				S	**Sn**	**18 13 43.9**	**-5.6**
KRX	**Arik**	**8.60**	**278**	*e*P	**Pn**	**18 12 12.5**	**-0.5**
KRX				*e*S	**Sn**	**18 13 43.9**	**-5.6**
KOK	**Koryaka**	**8.62**	**278**	P	**Pn**	**18 12 15.2**	**+2.0**
KOK				S	**Sn**	**18 13 48.4**	**-1.3**
KOK	**Koryaka**	**8.62**	**278**	*e*P	**Pn**	**18 12 15.2**	**+2.0**
KOK				*e*S	**Sn**	**18 13 48.4**	**-1.3**
PET	**Petropavlovsk**	**8.63**	**276**	*i*P	**Pn**	**18 12 12.4**	**-0.8**
PET				*e*S	**Sn**	**18 13 43.6**	**-6.2**
PET				pmax	pmax		
	comp=Z,595nm,1.3s						
PET				MLR	MLR		
	comp=Z,48μm,20.0s						
PET				MLR	MLR		
	comp=Z,45μm,15.0s						
PET	**Petropavlovsk**	**8.63**	**276**	P	**Pn**	**18 12 12.9**	**-0.3**
PET				S	**Sn**	**18 13 45.9**	**-3.9**
RUS	**Russkaya**	**8.79**	**272**	P	**Pn**	**18 12 15.1**	**-0.3**
RUS				S	**Sn**	**18 13 48.6**	**-5.1**
RUS	**Russkaya**	**8.79**	**272**	*e*P	**Pn**	**18 12 15.1**	**-0.3**
RUS				*e*P	**Pn**	**18 12 15.4**	**0.0**
RUS				*e*S	**Sn**	**18 13 48.2**	**-5.5**
RUS				*e*S	**Sn**	**18 13 48.6**	**-5.1**
ESO	**Esso**	**8.81**	**295**	P	**Pn**	**18 12 15.2**	**-0.6**
ESO	**Esso**	**8.81**	**295**	*e*P	**Pn**	**18 12 15.2**	**-0.6**
MTVR	**Mutnovka**	**8.98**	**273**	P	**Pn**	**18 12 19.1**	**+0.9**
MTVR				S	**Sn**	**18 13 53.2**	**-5.5**
MTVR	**Mutnovka**	**8.98**	**273**	*e*P	**Pn**	**18 12 19.1**	**+0.9**
MTVR				*e*S	**Sn**	**18 13 53.2**	**-5.5**
GNL	**Ganaly**	**9.01**	**281**	P	**Pn**	**18 12 18.6**	**0.0**
GNL				S	**Sn**	**18 13 53.1**	**-6.4**
GNL	**Ganaly**	**9.01**	**281**	*e*P	**Pn**	**18 12 18.6**	**0.0**
GNL				*e*S	**Sn**	**18 13 53.1**	**-6.4**
ASAK	**Asacha**	**9.16**	**272**	P	**Pn**	**18 12 21.4**	**+0.7**
ASAK				S	**Sn**	**18 13 57.6**	**-5.6**
ASAK	**Asacha**	**9.16**	**272**	*e*P	**Pn**	**18 12 21.4**	**+0.7**
ASAK				*e*S	**Sn**	**18 13 57.6**	**-5.6**
KDTR	**Khodutka, Kamc**	**9.17**	**269**	*e*P	**Pn**	**18 12 19.9**	**-0.7**
KDTR				*e*S	**Sn**	**18 13 55.5**	**-7.7**
PEA0	**Petropavlovsk-**	**9.19**	**277**	*e*Pn	**Pn**	**18 12 21.0**	**0.0**
PEA0B	**Petropavlovsk-**	**9.19**	**277**	*e*Pn	**Pn**	**18 12 21.4**	**+0.4**
PETK	**Petropavlovsk-**	**9.19**	**277**	Pn	**Pn**	**18 12 21.0**	**+0.1**
	comp=Z,18nm,0.3s,baz=84,slow=18,SNR=126						
PETK				Sn	**Sn**	**18 14 00.0**	**-3.7**
	comp=Z,51nm,0.3s,baz=58,slow=29,SNR=8.7						
PETK				LR	LR	18 15 47.1	
	comp=Z,36μm,21.9s,baz=96,slow=37						
APC	**Apacha**	**9.54**	**276**	P	**Pn**	**18 12 26.5**	**+0.9**
APC				S	**Sn**	**18 14 08.7**	**-3.4**
APC	**Apacha**	**9.54**	**276**	*e*P	**Pn**	**18 12 26.5**	**+0.9**
APC				*e*S	**Sn**	**18 14 08.7**	**-3.4**
PAU	**Pauzhetka**	**10.02**	**268**	P	**Pn**	**18 12 30.7**	**-1.6**
PAU				S	**Sn**	**18 14 18.3**	**-5.7**
PAU	**Pauzhetka**	**10.02**	**268**	*e*P	**Pn**	**18 12 30.7**	**-1.6**
PAU				*e*S	**Sn**	**18 14 18.3**	**-5.7**
KMSK	**Kamenskaya**	**10.18**	**342**	P	**Pn**	**18 12 34.0**	**-0.4**
KMSK				S	**Sn**	**18 14 20.7**	**-7.1**
KMSK	**Kamenskaya**	**10.18**	**342**	*e*P	**Pn**	**18 12 34.0**	**-0.4**
KMSK				*e*S	**Sn**	**18 14 20.7**	**-7.1**
SPIA	**Saint Paul Isl**	**10.51**	**60**	P	**Pn**	**18 12 38.3**	**-0.7**
SKR	**Severo-Kuril's**	**10.67**	**264**	P	**Pn**	**18 12 40.7**	**-0.4**
SKR				S	**Sn**	**18 14 32.5**	**-7.4**
SKR	**Severo-Kuril's**	**10.67**	**264**	*e*P	**Pn**	**18 12 40.7**	**-0.4**
SKR				*e*S	**Sn**	**18 14 32.5**	**-7.4**
NIKH	**Nikolski High**	**10.98**	**83**	P	**Pn**	**18 12 45.6**	**+0.2**
UNV	**Unalaska Valle**	**12.29**	**78**	*e*Pn	**Pn**	**18 13 02.0**	**-1.3**
AKUT	**Akutan**	**12.70**	**76**	*e*Pn	**Pn**	**18 13 07.8**	**-1.1**
GAMB	**Gambell**	**13.45**	**30**	*e*Pn	**Pn**	**18 13 18.3**	**-0.8**
MA2	**Magadan**	**13.94**	**307**	Pn	**Pn**	**18 13 25.5**	**-0.3**
	comp=Z,0.4nm,0.3s,baz=100,slow=11,SNR=4.0						
MA2				LR	LR	18 19 03.8	
	comp=Z,8μm,20.2s,baz=114,slow=39						
SEY	**Seymchan**	**14.72**	**321**	Pn	**Pn**	**18 13 36.2**	**-0.2**
	comp=Z,1.1nm,0.3s,baz=142,slow=12,SNR=20						
SEY				LR	LR	18 19 46.5	
	comp=Z,13μm,18.0s,baz=122,slow=40						
BILL	**Bilibino**	**15.46**	**351**	*c i*P	**P**	**18 13 49.4**	**-1.2**
BILL				*e*S	**Sn**	**18 16 35.4**	**-1.2**
BILL				pmax	pmax		
	comp=Z,522nm,2.5s						
BILL				MLR	MLR		
	comp=Z,21μm,16.0s						
SDPT	**Sand Point**	**15.71**	**71**	*e*Pn	**Pn**	**18 13 48.2**	**-1.4**
	comp=Z,3μm,1.4s						
CHGN	**Chignik**	**16.85**	**67**	*e*Pn	**Pn**	**18 14 03.2**	**-0.8**
	comp=Z,3μm,1.0s						
KUR	**Kuril'sk**	**18.09**	**255**	*d i*P	**P**	**18 14 19.9**	**+0.1**
KUR				*e*S	**Sn**	**18 17 35.0**	**-5.6**
KUR				pmax	pmax		
	comp=Z,11μm,5.4s						
KUR				pmax	pmax		
	comp=N,6μm,5.2s						
KUR				pmax	pmax		
	comp=E,9μm,6.2s						
KUR				pmax	pmax		
	comp=Z,363nm,1.0s						
KUR				pmax	pmax		
	comp=E,152nm,0.7s						
KUR				pmax	pmax		
	comp=N,102nm,0.8s						
KUR				smax	smax		
	comp=E,11μm,10.5s						
KUR				smax	smax		
	comp=N,10μm,8.9s						
KUR				MLR	MLR		
	comp=Z,15μm,15.0s						
KUR				MLR	MLR		
	comp=N,5μm,16.0s						
KUR				MLR	MLR		
	comp=E,13μm,15.0s						
TYV	**Tymovskoe**	**18.74**	**276**	*e*P	**Pn**	**18 14 27.7**	**+0.3**
TYV				pmax	pmax		
	comp=Z,8μm,9.3s						
TYV				MLR	MLR		
	comp=Z,19μm,19.0s						
SVW2	**Sparrevohn**	**18.80**	**52**	*e*P	**P**	**18 14 27.8**	**+0.3**
	comp=Z,922nm,1.1s						
TT01	**Tatalina**	**19.04**	**46**	*e*P	**Pn**	**18 14 31.1**	**+0.1**
TTA	**Tatalina**	**19.05**	**46**	*e*P	**P**	**18 14 30.7**	**+0.3**
TTA				pmax	pmax		
	comp=Z,1μm,1.2s						
TTA	**Tatalina**	**19.05**	**46**	*e*P	**P**	**18 14 30.7**	**+0.3**
	comp=Z,1μm,1.3s						
NKL	**Nikolayevsk**	**19.31**	**284**	*i*P	**Pn**	**18 14 36.0**	**+1.7**
NKL				pmax	pmax		
	comp=E,17μm,12.0s						
NKL				pmax	pmax		
	comp=Z,15μm,12.0s						
NKL				pmax	pmax		
	comp=N,430nm,1.8s						
NKL				pmax	pmax		
	comp=E,780nm,1.8s						
NKL				pmax	pmax		
	comp=Z,2μm,1.8s						
OHAK	**Old Harbor**	**19.65**	**64**	*e*P	**P**	**18 14 34.7**	**-2.2**
	comp=Z,5μm,1.4s						
YUK	**Yuzh-Kuril'sk**	**19.95**	**254**	*i*P	**Pn**	**18 14 41.8**	**-0.1**
KDAK	**Kodiak Island**	**20.02**	**62**	*e*P	**P**	**18 14 39.1**	**-1.8**
KDAK				pmax	pmax		
	comp=Z,2μm,1.1s						
KDAK	**Kodiak Island**	**20.02**	**62**	*e*P	**P**	**18 14 39.1**	**-1.8**
	comp=Z,2μm,1.1s						
RSO	**Redoubt South**	**20.07**	**54**	*e*P	**P**	**18 14 41.9**	**+0.3**
YSS	**Yuzh-Sakhalins**	**20.24**	**265**↑	*i*P	Pn	18 14 45.2	-0.1
YSS				pmax	pmax		
	comp=Z,270nm,1.0s						
YSS				pmax	pmax		
	comp=N,110nm,1.1s						
YSS				pmax	pmax		
	comp=Z,4μm,6.0s						
YSS				MLR	MLR		
	comp=Z,5μm,13.0s						
YSS				MLR	MLR		
	comp=N,4μm,14.0s						
YSS				MLR	MLR		
	comp=E,7μm,13.0s						
YSS	**Yuzh-Sakhalins**	**20.24**	**265**	*e*P	**P**	**18 14 44.2**	**+0.9**
	comp=E,563nm,1.2s						
YSS				LR	LR		
	comp=Z,6μm,19.0s						
SPU	**Mount Spurr**	**20.50**	**53**	*e*P	**P**	**18 14 46.7**	**+0.6**
HOM	**Homer**	**20.55**	**57**	*e*P	**P**	**18 14 46.2**	**-0.4**
	comp=Z,10μm,1.0s						
PPLA	**Purkeypile**	**20.74**	**48**	*e*P	**P**	**18 14 49.5**	**+0.8**
	comp=Z,1μm,0.7s						
CNPM	**China Poot**	**20.75**	**57**	*e*P	**P**	**18 14 48.2**	**-0.7**
	comp=Z,8μm,1.2s						
CAST	**Castle Rocks**	**20.90**	**46**	*e*P	**P**	**18 14 50.8**	**+0.4**
	comp=Z,4μm,1.9s						
BRLK	**Bradley Lake**	**20.94**	**57**	*e*P	**P**	**18 14 50.0**	**-0.9**
	comp=Z,4μm,1.5s						
SUA	**Susitna One**	**21.16**	**52**	*e*P	**P**	**18 14 53.2**	**-0.1**
	comp=Z,7μm,1.6s						
KTH	**Kantishna Hill**	**21.44**	**46**	*e*P	**P**	**18 14 56.6**	**+0.3**
	comp=Z,4μm,1.4s						
RC01	**Rabbit Creek A**	**21.60**	**53**	*e*P	**P**	**18 14 56.5**	**-1.4**
	comp=Z,1μm,1.0s						
TRF	**Thorofare Moun**	**21.70**	**47**	*e*P	**P**	**18 14 59.3**	**+0.2**
	comp=Z,7μm,1.6s						
ASAJ	**Asahikawa**	**21.82**	**258**	*e*P	**P**	**18 15 00.7**	**+0.3**
	comp=Z,234nm,0.9s						
PMR	**Palmer**	**21.94**	**52**	*e*P	**P**	**18 14 58.8**	**-2.7**
PMR				pmax	pmax		
	comp=Z,2μm,1.4s						
PMR	**Palmer**	**21.94**	**52**	*e*P	**P**	**18 14 58.8**	**-2.7**
	comp=Z,1μm,1.4s						
RND	**Reindeer**	**22.32**	**47**	*e*P	**P**	**18 15 04.1**	**-1.6**
RND				pmax	pmax		
	comp=Z,4μm,1.8s						
RND	**Reindeer**	**22.32**	**47**	*e*P	**P**	**18 15 04.1**	**-1.6**
	comp=Z,4μm,1.9s						
SML	**Sawmill**	**22.34**	**51**	*e*P	**P**	**18 15 04.5**	**-1.4**
SML	**Sawmill**	**22.34**	**51**	*e*P	**P**	**18 15 04.5**	**-1.4**

HABR e 18 19 03.0
HABR eS **S** **18 19 42.3 +0.5**
HABR eSS **SnSn** **18 20 25.2 +1.2**
HABR e 18 26 28.9
HABR pmax pmax
comp=N,86nm,1.5s
HABR pmax pmax
comp=E,291nm,1.5s
HABR pmax pmax
comp=Z,472nm,1.5s
HABR pmax pmax
comp=Z,2µm,2.5s
HABR MLR MLR
comp=Z,10µm,18.0s
FYU Fort Yukon 24.47 40 eP **P** **18 15 26.5 -0.4**
comp=Z,4µm,1.8s
DOT Dot Lake 24.48 47 eP **P** **18 15 26.1 -1.0**
comp=Z,5µm,1.4s
YAK Yakutsk 24.50 309 PFAKE 18 15 40.0 +13
YAK LR LR
comp=Z,21nm,21.0s
MENT Mentasta 24.58 49 eP **P** **18 15 27.2 -0.8**
comp=Z,1µm,1.1s
MIDW Midway 25.75 160 eP **P** **18 15 39.7 +1.0**
comp=Z,158nm,0.9s
MIDW LR LR
comp=Z,11µm,19.0s
EGAK Eagle 25.85 45 eP **P** **18 15 38.2 -1.2**
comp=Z,3µm,1.5s
EGAK LR LR
comp=Z,17µm,19.0s
DAWY Dawson 26.57 47 eP **P** **18 15 45.4 -0.6**
comp=Z,3µm,1.5s
TIXI Tiksi 26.75 331 P **P** **18 15 45.1 -2.3**
comp=Z,13nm,0.7s,baz=118,slow=13,SNR=18
TIXI PcP **PcP** **18 19 09.5 -0.4**
comp=Z,6.1nm,0.5s,baz=103,slow=14,SNR=3.4
TIXI ScP **ScP** **18 22 47.8 -0.8**
comp=Z,16nm,0.8s,baz=127,slow=3.1,SNR=11
TIXI LR LR 18 26 45.8
comp=Z,12µm,19.2s,baz=86,slow=37
TIXI Tiksi 26.75 331 *ce*P **P** **18 15 46.6 -0.8**
TIXI pmax pmax
comp=Z,124nm,2.5s
TIXI MLR MLR
comp=Z,12µm,16.0s
TIXI Tiksi 26.75 331 eP **P** **18 15 46.4 -1.0**
comp=Z,115nm,1.1s
TIXI PcP **PcP** **18 19 09.5 -0.4**
TIXI ScP **ScP** **18 22 47.8 -0.8**
DHAK Deception Hill 27.43 58 eP **P** **18 15 53.3 -0.4**
comp=Z,577nm,1.1s
CLNS Chul'man 27.44 297 eP **P** **18 15 52.6 -1.3**
CLNS e 18 16 35.9
CLNS e 18 19 05.3
CLNS eS **S** **18 20 31.9 -1.2**
CLNS eSS **SnSn** **18 21 45.3 +2.4**
CLNS pmax pmax
comp=Z,102nm,1.4s
CLNS pmax pmax
comp=E,77nm,1.3s
CLNS pmax pmax
comp=N,40nm,1.2s
CLNS pmax pmax
comp=E,117nm,1.4s
CLNS pmax pmax
comp=Z,138nm,1.5s
CLNS pmax pmax
comp=N,30nm,1.2s
CLNS smax smax
comp=N,2µm,16.4s
CLNS smax smax
comp=E,11µm,15.7s
CLNS MLR MLR
comp=N,9µm,13.0s
CLNS MLR MLR
comp=E,6µm,16.0s
CLNS MLR MLR
comp=Z,8µm,15.0s
HYT Haines Junctio 27.57 54 eP **P** **18 15 54.7 -0.3**
comp=Z,437nm,0.9s
USRK Ussuriysk Ar. 28.14 269 P **P** **18 15 59.1 -1.0**
comp=Z,12nm,0.7s,baz=57,slow=7.0,SNR=25
USRK PcP **PcP** **18 19 13.6 -0.2**
comp=Z,7.1nm,0.8s,baz=119,slow=1.8,SNR=4.2
USRK ScP **ScP** **18 22 53.9 +0.6**
comp=Z,2.7nm,0.6s,baz=39,slow=3.7,SNR=8.2
USRK LR LR 18 26 47.5
comp=Z,10µm,20.9s,baz=55,slow=36
VLA Vladivostok 28.80 267 *d*iP **P** **18 16 05.7 -0.3**
VLA pmax pmax
comp=Z,67nm,1.7s
SKAG Skagway 28.83 56 eP **P** **18 16 06.2 0.0**
comp=Z,402nm,1.3s
WHY Whitehorse 28.86 54 eP **P** **18 16 06.3 -0.3**
comp=Z,273nm,1.6s
INK Inuvik 29.20 38 P **P** **18 16 09.1 -0.2**
comp=Z,293nm,1.2s,baz=265,slow=11,SNR=170
INK PcP **PcP** **18 19 15.7 -0.2**
comp=Z,11nm,0.6s,baz=235,slow=0.7,SNR=4.8
INK ScP **ScP** **18 22 53.3 -2.9**
comp=Z,5.8nm,0.9s,baz=112,slow=5.4,SNR=4.0
INK LR LR 18 29 52.5
comp=Z,9µm,19.8s,baz=256,slow=41
INK Inuvik 29.20 38 eP **P** **18 16 09.0 -0.4**
comp=Z,1µm,1.5s
INK PcP **PcP** **18 19 15.7 -0.2**
INK ScP **ScP** **18 22 53.3 -2.9**
MAJO Matsushiro 29.27 250 *d*iP **P** **18 16 11.6 +1.3**
MAJO pmax pmax
comp=Z,296nm,1.5s
MAJO Matsushiro 29.27 250 eP **P** **18 16 11.8 +1.6**
comp=Z,356nm,1.5s
MAJO LR LR
comp=Z,11µm,21.0s
MAT Matsushiro 29.27 250 P **P** **18 16 10.7 +0.4**
MAT S S 18 21 12.0 +10
MJAR Matsushiro Arr 29.27 250 P **P** **18 16 11.4 +1.2**
comp=Z,7.4nm,0.8s,baz=319,slow=27,SNR=5.3
MJAR ScP **ScP** **18 22 55.9 -1.2**
comp=Z,1.6nm,0.8s,baz=53,slow=1.7,SNR=5.6
MJAR LR LR 18 26 59.5
comp=Z,7µm,21.9s,baz=55,slow=35
MDJ Mudanjiang 29.37 271 P **P** **18 16 10.1 -1.0**
MDJ S **S** **18 20 59.8 -3.7**
MDJ pmax pmax
comp=Z,890nm,11.9s
MDJ LR LR
comp=Z,18µm,28.4s
MDJ LR LR
comp=Z,9µm,30.4s
MDJ LR LR
comp=Z,12µm,28.4s
MDJ Mudanjiang 29.37 271 eP **P** **18 16 09.5 -1.6**
comp=Z,28nm,0.9s
MDJ LR LR
comp=Z,13µm,19.0s
MSHR Mys Shultsa 29.55 266 *de*P **P** **18 16 13.6 +0.9**
INU Inuyama 30.79 250 eP **P** **18 16 27.8 +4.1**
comp=Z,149nm,1.6s
JHJ Hachijo jima 2 30.91 243 P **P** **18 16 26.1 +1.2**
baz=66,slow=20
JHJ LR LR 18 29 03.3
comp=Z,5µm,18.2s,baz=52,slow=37
CRAG Craig 30.97 63 eP **P** **18 16 25.7 +0.6**
comp=Z,1µm,1.4s
WRAK Wrangell Islan 31.10 61 PFAKE 18 16 40.0 +14
WRAK LR LR
comp=Z,25µm,19.0s
DLBC Dease Lake 31.74 57 ScP **ScP** **18 23 05.9 +1.1**
comp=Z,17nm,1.1s,baz=360,slow=6.3,SNR=5.6
DLBC LR LR 18 29 41.3
comp=Z,13µm,20.0s,baz=274,slow=37
DLBC Dease Lake 31.74 57 eP **P** **18 16 33.0 +1.0**
comp=Z,1µm,1.4s
DLBC ScP **ScP** **18 23 05.9 +1.1**
H02N1 VAN INLET T-PH 32.05 67 P **P** **18 16 35.7 +0.9**
DIB Dawson Inlet, 32.11 67 eP **P** **18 16 35.6 +0.5**
comp=Z,401nm,1.1s
H02S1 DAWSON INLET T 32.11 67 P **P** **18 16 35.6 +0.5**
CN2 Changchun 32.31 273 eP **P** **18 16 36.0 -1.1**
CN2 pmax pmax
comp=Z,200nm,7.0s
CN2 LR LR
comp=Z,8µm,17.0s
CN2 LR LR
comp=Z,11µm,17.0s
CN2 LR LR
comp=Z,15µm,19.0s
BOD Bodaibo 32.89 302 eP **P** **18 16 40.4 -1.6**
BOD pmax pmax
comp=Z,195nm,1.3s
HIA Hailar 32.96 285 eP **P** **18 16 42.0 -0.8**
HIA pmax pmax
comp=Z,61nm,1.1s
HIA MLR MLR
comp=Z,17µm,19.0s
HIA Hailar 32.96 285 eP **P** **18 16 42.0 -0.8**
comp=Z,61nm,1.1s
HIA LR LR
comp=Z,17µm,19.0s
H11N2 WAKE ISLAND Hy 33.51 190 T T 18 52 09.1
baz=6.1,slow=76,SNR=3852
H11N3 WAKE ISLAND Hy 33.52 190 T T 18 52 09.4
baz=6.1,slow=76,SNR=5464
H11N1 WAKE ISLAND Hy 33.52 190 T T 18 52 14.9
baz=6.1,slow=76
WAKE Wake Island 33.97 191 PFAKE 18 17 00.0 +8.3
WAKE LR LR
comp=Z,5µm,19.0s
SNY Shenyang 34.57 271 ⇓P **P** **18 16 56.4 -0.3**
SNY PP **PnPn** **18 18 13.1 +1.0**
SNY S **S** **18 22 20.1 -4.4**
SNY SS **SnSn** **18 24 31.6 -4.8**
SNY pmax pmax
comp=Z,1µm,13.3s
SNY LR LR
comp=Z,15µm,16.8s
SNY LR LR
comp=Z,9µm,15.4s
SNY LR LR
comp=Z,14µm,18.1s
KSRS Korea Array 34.67 262 P **P** **18 16 59.1 +1.5**
comp=Z,48nm,0.9s,baz=52,slow=8.3,SNR=134
KSRS PcP **PcP** **18 19 31.6 +0.3**
comp=Z,8.8nm,1.1s,baz=53,slow=4.7,SNR=3.2
KSRS ScP **ScP** **18 23 15.8 +0.5**
comp=Z,3.9nm,1.2s,baz=46,slow=3.5,SNR=4.5
KSRS LR LR 18 32 39.6
comp=Z,6µm,18.1s,baz=56,slow=39
KS01 Wonju Array Si 34.67 262 eP **P** **18 16 58.6 +1.0**
KS15 Wonju Array Si 34.70 262 eP **P** **18 16 59.5 +1.6**
KSAR Wonju Array Be 34.70 262 P **P** **18 16 59.1 +1.2**
KSAR 18 19 31.6
KSAR Wonju Array Be 34.70 262 P **P** **18 16 59.1 +1.2**
KSAR PcP **PcP** **18 19 31.6 +0.1**
KSAR ScP **ScP** **18 23 15.8 +0.4**
H11S1 WAKE ISLAND Hy 34.73 190 T T 18 53 40.1
baz=6.1,slow=76
H11S3 WAKE ISLAND Hy 34.75 190 T T 18 53 41.2
baz=6.1,slow=76
H11S2 WAKE ISLAND Hy 34.75 190 T T 18 53 41.4
baz=6.1,slow=76
BBB Bella Bella 34.95 67 eP **P** **18 17 00.7 +0.8**
comp=Z,1µm,1.3s
CIT Chita 35.27 293 eP **P** **18 17 02.4 -0.4**
CIT e 18 17 12.8
CIT e 18 17 23.2
CIT e 18 18 18.2
CIT eS **S** **18 22 34.6 -0.8**
CIT pmax pmax
comp=Z,423nm,1.3s
INCN Inchon 35.42 263 eP **P** **18 17 05.7 +1.5**
comp=Z,196nm,1.2s
INCN LR LR
comp=Z,50nm,22.0s
JNU Nakatsue 35.92 253 eP **P** **18 17 09.0 +0.5**
comp=Z,64nm,1.0s
PHC Port Hardy 35.99 69 P **P** **18 17 08.9 +0.1**
KEKH Kekaha 37.34 135 eP **P** **18 17 23.0 +2.4**
comp=Z,232nm,1.1s
YKA Yellowknife Ar 37.81 46 P **P** **18 17 24.1 -0.1**
comp=Z,99nm,0.9s,baz=289,slow=8.3,SNR=63
YKA ScP **ScP** **18 23 26.7 +0.3**
comp=Z,8.9nm,1.0s,baz=304,slow=3.5,SNR=4.3
YKA LR LR 18 35 05.0
comp=Z,2µm,19.0s,baz=0.0,slow=40
OZB Mount Ozzard 37.93 71 P **P** **18 17 25.8 +0.4**
OPA Opana 38.34 133 eP **P** **18 17 31.9 +2.9**
OPA pmax pmax
comp=Z,840nm,1.4s
OPA Opana 38.34 133 eP **P** **18 17 31.9 +2.9**
comp=Z,842nm,1.4s
KIP Kipapa 38.57 133 eP **P** **18 17 32.3 +1.3**
KIP MLR MLR
comp=Z,9µm,19.0s
KIP Kipapa 38.57 133 eP **P** **18 17 32.3 +1.3**
comp=Z,7µm,1.5s
KIP LR LR
comp=Z,9µm,19.0s
HON Honolulu 38.66 134 eP **P** **18 17 35.0 +3.3**
HON Honolulu 38.66 134 eP **P** **18 17 35.0 +3.3**
JOHN Johnston Islan 38.69 153 PFAKE 18 17 40.0 +8.0
JOHN LR LR
comp=Z,580nm,19.0s
LLLB Lillooet 39.14 66 eP **P** **18 17 35.8 +0.2**
comp=Z,1µm,1.7s
PGC Sidney 39.25 70 eP **P** **18 17 36.5 0.0**
comp=Z,2µm,2.0s
A04D Lummi Island 39.64 69 P **P** **18 17 40.2 +0.6**
baz=302,SNR=47
A04D S **S** **18 23 41.6 +0.2**
baz=302
NLWA Neilton Lookou 39.67 72 eP **P** **18 17 40.4 +0.3**
comp=Z,813nm,1.2s
NLWA LR LR
comp=Z,8µm,19.0s
HLK Haleakala 39.93 132 eP **P** **18 17 45.2 +2.5**
comp=Z,296nm,1.0s
MBW Mount Baker 40.06 69 P **P** **18 17 43.1 -0.3**
BJI Beijing 40.12 275 P **P** **18 17 44.0 +0.3**
BJI PP **PP** **18 19 16.3 +0.4**
BJI S **S** **18 23 46.0 -2.9**
BJI pmax pmax
comp=Z,1µm,9.2s
BJI LR LR
comp=Z,18µm,24.5s
BJI LR LR
comp=Z,9µm,26.4s
BJI LR LR
comp=Z,13µm,22.5s
BJT Baijiatuau 40.13 275 PFAKE 18 18 00.0 +16
BJT LR LR
comp=Z,17µm,20.0s
B05A Bryant 40.22 70 P **P** **18 17 44.8 +0.3**
baz=302,SNR=94
B05A Bryant 40.22 70 P **P** **18 17 44.5 0.0**
IRK Irkutsk 40.25 298 eP **P** **18 17 43.6 -1.1**
IRK eS **S** **18 23 51.9 +1.2**
IRK pmax pmax
comp=Z,216nm,2.8s
E03A Lebam 40.31 73 eP **P** **18 17 45.8 +0.6**
NRIK Noril'sk 40.38 327 P **P** **18 17 44.5 -1.1**
comp=Z,6.8nm,0.6s,baz=80,slow=6.8,SNR=18
NRIK LR LR 18 36 09.0
comp=Z,7µm,18.7s,baz=72,slow=39
RES Resolute Bay 40.39 24 eP **P** **18 17 46.1 +0.5**
RES pmax pmax
comp=Z,240nm,1.4s
RES Resolute Bay 40.39 24 eP **P** **18 17 46.1 +0.5**
comp=Z,235nm,1.4s
B06A Marblemount 40.43 69 P **P** **18 17 46.0 -0.3**
SP2 Seward Park 2 40.51 71 P **P** **18 17 48.0 +1.1**
HPAH Hawaii Prepara 40.82 132 eP **P** **18 17 52.3 +2.5**
comp=Z,521nm,1.2s
KMOR Kings Mountain 40.85 74 P **P** **18 17 49.9 0.0**
D05A Enumclaw 40.86 71 eP **P** **18 17 50.4 +0.6**
comp=Z,1µm,1.3s
TLY Talaya 40.86 297 ScP **ScP** **18 23 37.9 -0.6**
comp=Z,3.3nm,0.5s,baz=90,slow=4.0,SNR=3.8
TLY Talaya 40.86 297 *d*iP **P** **18 17 49.4 -0.4**
TLY *e* 18 19 31.4
TLY eS **S** **18 23 56.4 -3.5**
TLY eSS **SS** **18 26 52.9 -8.1**
TLY *e* 18 27 49.9
TLY pmax pmax
comp=Z,63nm,1.1s
TLY MLR MLR
comp=Z,13µm,17.0s
TLY Talaya 40.86 297 eP **P** **18 17 49.0 -0.8**
comp=Z,72nm,1.2s
TLY ScP **ScP** **18 23 37.9 -0.6**
TLY LR LR
comp=Z,18µm,19.0s
TLY Talaya 40.86 297 P **P** **18 17 49.7 -0.1**
SNR=10
TLY P **P** **18 17 49.7 -0.1**
SNR=10
F04D Rainier, OR 40.88 73 P **P** **18 17 50.3 +0.3**
baz=304,SNR=13
ULN Ulaanbaatar 40.97 290 *de*P **P** **18 17 50.9 0.0**
ULN pmax pmax
comp=Z,132nm,1.2s
ULN Ulaanbaatar 40.97 290 eP **P** **18 17 50.7 -0.2**
comp=Z,168nm,1.4s
ULN LR LR
comp=Z,13µm,20.0s
ULN Ulaanbaatar 40.97 290 P **P** **18 17 50.9 0.0**
SNR=64
ULN P **P** **18 17 50.9 0.0**
SNR=64
C06D Leavenworth 41.08 69 P **P** **18 17 51.7 0.0**
baz=303,SNR=16
POHA Pohakuloa 41.13 132 eP **P** **18 17 54.7 +2.2**
comp=Z,446nm,1.1s
POHA LR LR
comp=Z,6µm,19.0s
RCS Mount Rainier- 41.18 71 P **P** **18 17 53.1 +0.2**
LON Longmire 41.20 71 eP **P** **18 17 52.2 -0.5**
LON pmax pmax
comp=Z,180nm,1.1s
LON Longmire 41.20 71 P **P** **18 17 52.4 -0.4**
G03D McMinnville, O 41.22 74 P **P** **18 17 53.1 +0.3**
baz=305,SNR=22
MLOA Mauna Loa Obse 41.30 132 eP **P** **18 17 57.0 +2.7**
comp=Z,662nm,1.3s
F04A Amboy 41.31 73 P **P** **18 17 53.4 -0.1**
SONM Songino Array 41.36 291 P **P** **18 17 53.7 -0.4**
comp=Z,28nm,0.8s,baz=58,slow=9.8,SNR=131
SONM ScP **ScP** **18 23 40.0 -0.6**
comp=Z,22nm,1.1s,baz=89,slow=1.2,SNR=14
SONM LR LR 18 36 09.3
comp=Z,10µm,19.9s,baz=57,slow=38
SONM Songino Array 41.36 291 P **P** **18 17 53.7 -0.4**
SONM pmax pmax
comp=Z,27nm,0.8s
SONM MLR MLR
comp=Z,10µm,19.9s
UWE Uwekahuna 41.53 131 eP **P** **18 17 58.9 +3.1**
comp=Z,774nm,1.4s
COR Corvallis 41.56 75 eP **P** **18 17 55.9 +0.3**
COR pmax pmax
comp=Z,570nm,1.0s
COR Corvallis 41.56 75 eP **P** **18 17 55.9 +0.3**
comp=Z,573nm,1.0s
LTY Liberty 41.57 70 P **P** **18 17 55.3 -0.5**
ZAK Zakamensk 41.73 296 eP **P** **18 17 56.0 -1.0**
ZAK pmax pmax
comp=Z,59nm,1.5s
B08A Colville Reser 41.73 68 P **P** **18 17 56.6 -0.4**
KEBM Edson Butte 41.96 78 eP **P** **18 17 59.9 +1.0**
comp=Z,483nm,1.0s
TIA Tai'an 42.00 269 ⇓P **P** **18 17 59.5 +0.2**
TIA S **S** **18 24 10.0 -7.0**
TIA pmax pmax
comp=Z,180nm,1.0s
TIA LR LR
comp=Z,11µm,19.4s
TIA LR LR
comp=Z,10µm,21.8s
TIA LR LR
comp=Z,11µm,24.8s
TDH Tom, Dick, Har 42.04 73 P **P** **18 17 59.3 -0.4**
I03D Drain, OR 42.05 76 P **P** **18 17 59.8 +0.2**
baz=306,SNR=90
JOW Kunigami 42.11 250 eP **P** **18 18 01.6 +1.3**
comp=Z,365nm,1.2s
TRW Toppenish Ridg 42.19 71 P **P** **18 18 00.5 -0.2**
MOY Mondy 42.29 298 eP **P** **18 18 01.0 -0.6**
MOY pmax pmax
comp=Z,174nm,3.4s
G05D Wamic, OR 42.34 73 P **P** **18 18 01.9 -0.1**
baz=305,SNR=143
HHC Hu-ho-hao-te 42.39 279 eP **P** **18 18 02.8 +0.3**
HHC S **S** **18 24 20.9 -1.9**
HHC pmax pmax
comp=Z,580nm,5.2s
HHC LR LR
comp=Z,18µm,15.4s
HHC LR LR
comp=Z,16µm,14.7s
HHC LR LR
comp=Z,10µm,14.5s
EDM Edmonton 42.41 59 eP **P** **18 18 01.8 -0.7**
EDM Edmonton 42.41 59 eP **P** **18 18 01.8 -0.7**
KBO Bosley Butte 42.41 78 eP **P** **18 18 03.7 +1.0**
comp=Z,639nm,1.5s
I04A Tendick Farm, 42.54 75 P **P** **18 18 03.8 +0.1**
baz=306,SNR=120
D08A Wollman Farm, 42.68 69 P **P** **18 18 04.0 -0.7**
HAWA Hanford 42.71 71 eP **P** **18 18 04.2 -0.8**
comp=Z,410nm,0.9s
HAWA LR LR
comp=Z,6µm,19.0s
G06A Carlson Farm, 42.73 73 eP **P** **18 18 04.7 -0.5**
comp=Z,679nm,1.7s
L02D Cave Junction, 42.82 78 P **P** **18 18 06.2 +0.3**
baz=308,SNR=85
I05D Terrebonne, OR 42.85 74 P **P** **18 18 06.0 -0.1**
baz=306,SNR=55
HUMO Hull Mountain 42.93 77 eP **P** **18 18 07.0 +0.2**
comp=Z,315nm,1.3s
NEW Newport 43.02 67 ScP **ScP** **18 23 46.1 -1.0**
comp=Z,13nm,1.1s,baz=311,slow=4.3,SNR=3.9
NEW Newport 43.02 67 P **P** **18 18 06.9 -0.6**
baz=304,SNR=65
NEW Newport 43.02 67 eP **P** **18 18 06.9 -0.6**
NEW pmax pmax
comp=Z,990nm,1.9s
NEW Newport 43.02 67 ScP **ScP** **18 23 46.1 -1.0**
NEW LR LR
comp=Z,8µm,21.0s
KRMB Red Mountain 43.02 79 eP **P** **18 18 08.6 +0.9**
comp=Z,363nm,1.5s
J04D Umpqua Nationa 43.05 76 P **P** **18 18 08.1 +0.2**
baz=307,SNR=77
JCC Jacoby Creek, 43.38 80 eP **P** **18 18 11.3 +0.9**
comp=Z,475nm,1.4s
E09A Wood Farm, Sta 43.42 70 P **P** **18 18 10.1 -0.6**
BTO Baotou 43.46 280 eP **P** **18 18 11.9 +0.7**
KHMM Horse Mountain 43.53 80 eP **P** **18 18 12.3 +0.5**
comp=Z,221nm,1.0s
J05D Fort Rock, OR 43.53 75 P **P** **18 18 12.3 +0.5**
baz=307,SNR=299
YBH Yreka Blue Hor 43.60 78 eP **P** **18 18 12.4 +0.1**
YBH pmax pmax
comp=Z,180nm,0.9s
YBH Yreka Blue Hor 43.60 78 eP **P** **18 18 12.4 +0.1**
comp=Z,179nm,0.9s
K04D Chiloquin, OR 43.62 76 P **P** **18 18 12.5 0.0**
baz=308,SNR=14
M02C Callahan 43.73 79 P **P** **18 18 14.0 +0.7**
baz=308,SNR=133
NJ2 Nanjing 43.80 264 eP **P** **18 18 13.6 -0.3**
NJ2 pP **pP** **18 18 19.8 -0.1**
NJ2 sP **sP** **18 18 23.8 +1.5**
NJ2 S **S** **18 24 44.8 +1.4**
NJ2 pmax pmax
comp=Z,360nm,3.5s
NJ2 LR LR
comp=Z,7µm,15.5s
NJ2 LR LR
comp=Z,6µm,19.8s
NJ2 LR LR
comp=Z,8µm,16.0s
TIY Taiyuan 43.85 275 eP **P** **18 18 15.4 +1.1**
TIY PP **PcP** **18 20 00.9 +0.5**
TIY S **S** **18 24 43.3 -0.9**
TIY SS **SS** **18 27 54.9 -5.3**
TIY pmax pmax
comp=Z,590nm,4.6s
TIY LR LR
comp=Z,2µm,12.4s
TIY LR LR
comp=Z,3µm,12.3s
TIY LR LR
comp=Z,5µm,12.9s
KMRM Mail Ridge 43.95 80 eP **P** **18 18 16.3 +1.2**
comp=Z,620nm,1.7s
K05A Summer Lake 44.07 76 eP **P** **18 18 15.8 -0.4**

comp=Z,402nm,1.0s
N02D Trinity Center 44.07 79 P P 18 18 16.5 +0.3
baz=309,SNR=95
M04C Macdoel 44.09 77 P P 18 18 16.4 +0.1
baz=308,SNR=139
WALA Waterton Lakes 44.34 64 eP P 18 18 17.3 -1.0
KCPM Cahto Peak 44.36 81 eP P 18 18 19.1 +0.7
comp=Z,415nm,1.6s
WDC Whiskeytown Da 44.42 79 eP P 18 18 18.6 -0.2
WDC pmax pmax
comp=Z,200nm,1.0s
WDC Whiskeytown Da 44.42 79 eP P 18 18 18.6 -0.2
comp=Z,199nm,1.0s
BSMT Bassoo Peak 44.54 66 eP P 18 18 19.3 -0.7
BLMT Blacktail Moun 44.69 66 eP P 18 18 20.5 -0.6
BMO Blue Mountains 44.87 71 eP P 18 18 21.6 -0.9
BMO pmax pmax
comp=Z,420nm,1.5s
BMO Blue Mountains 44.87 71 eP P 18 18 21.6 -0.9
comp=Z,424nm,1.5s
BMO LR LR
comp=Z,7µm,20.0s
JTMT Jette 44.88 66 eP P 18 18 22.2 -0.3
YBMT Yellow Bay 44.97 66 eP P 18 18 22.9 -0.4
HOPS Hopland Field 45.10 81 eP P 18 18 24.5 +0.2
comp=Z,355nm,1.4s
SWMT Swartz Lake 45.18 66 eP P 18 18 24.2 -0.7
GUMO Guam 45.19 220 PFAKE 18 18 40.0 +15
GUMO LR LR
comp=Z,4µm,20.0s
WVOR Wild Horse Val 45.57 75 eP P 18 18 27.3 -0.8
WVOR pmax pmax
comp=Z,170nm,1.1s
WVOR Wild Horse Val 45.57 75 PFAKE 18 18 40.0 +12
WVOR LR LR
comp=Z,6µm,20.0s
MSO Missoula 45.60 67 P P 18 18 27.6 -0.7
baz=306,SNR=78
MSO Missoula 45.60 67 eP P 18 18 27.3 -1.0
comp=Z,484nm,1.6s
SLMT Seeley Lake 45.61 66 eP P 18 18 27.5 -0.9
ORV Oroville 45.68 80 eP P 18 18 27.7 -1.2
ORV pmax pmax
comp=Z,91nm,0.9s
ORV Oroville 45.68 80 eP P 18 18 27.7 -1.2
comp=Z,91nm,0.8s
MCCM Marconi Confer 45.77 82 eP P 18 18 29.7 +0.2
comp=Z,376nm,1.8s
CHMT Chamberlain Mo 45.94 66 eP P 18 18 29.8 -1.3
AFDM Forest Hills D 46.39 80 eP P 18 18 33.7 -0.7
MFID Camas Ranch 46.59 72 eP P 18 18 35.0 -1.1
comp=Z,150nm,1.1s
LRM Limekiln Ridge 47.03 67 eP P 18 18 38.6 -1.0
PNTR Pine Nut 47.11 79 eP P 18 18 40.2 -0.1
EGMT Eagleton 47.19 63 P P 18 18 40.0 -0.7
baz=307,SNR=42
EGMT Eagleton 47.19 63 eP P 18 18 39.8 -0.9
EGMT LR LR
comp=Z,9µm,20.0s
DLMT Dillon 47.23 68 eP P 18 18 40.2 -0.9
FFC Flin Flon 47.25 52 eP P 18 18 40.6 -0.4
FFC Flin Flon 47.25 52 eP P 18 18 40.6 -0.4
FFC LR LR
comp=Z,21µm,20.0s
HLID Hailey 47.31 71 P P 18 18 41.4 -0.4
baz=308,SNR=147
HLID Hailey 47.31 71 eP P 18 18 40.5 -1.2
HLID LR LR
comp=Z,8µm,19.0s
CMB Columbia Colle 47.33 80 eP P 18 18 41.2 -0.6
CMB Columbia Colle 47.33 80 eP P 18 18 41.2 -0.6
YERR Yerington 47.39 79 eP P 18 18 42.2 -0.3
MCMT McKenzie Canyo 47.42 68 eP P 18 18 41.0 -1.7
TATO Taipei 47.44 255 PFAKE 18 19 00.0 +17
TATO LR LR
comp=Z,4µm,21.0s
SAO San Andreas Ge 47.53 82 eP P 18 18 43.1 -0.3
SAO San Andreas Ge 47.53 82 eP P 18 18 43.1 -0.3
WHN Wuhan 47.58 266 P P 18 18 44.0 +0.2
WHN S S 18 25 35.8 -2.1
WHN pmax pmax
comp=Z,170nm,0.8s
WHN LR LR
comp=Z,10µm,13.4s
WHN LR LR
comp=Z,13µm,14.7s
WHN LR LR
comp=Z,14µm,16.4s
WAKR Walker 47.59 79 eP P 18 18 43.8 -0.2
BOZ Bozeman (W) 47.63 67 P P 18 18 43.5 -0.7
baz=308,SNR=40
BOZ Bozeman (W) 47.63 67 eP P 18 18 42.8 -1.4
BOZ pmax pmax
comp=Z,439nm,1.5s
BOZ MLR MLR
comp=Z,5µm,19.0s
BOZ Bozeman (W) 47.63 67 eP P 18 18 42.8 -1.4
comp=Z,439nm,1.5s
BOZ LR LR
comp=Z,5µm,19.0s
BMN Battle Mountai 47.65 76 eP P 18 18 43.9 -0.6
BMN Battle Mountai 47.65 76 eP P 18 18 43.9 -0.6
YHNB Yeheng 47.73 254 PFAKE 18 19 00.0 +15
YHNB LR LR
comp=Z,6µm,21.0s
KBS Kingsbay 47.87 355 eP P 18 18 45.9 +0.4
KBS IAmb IAmb 18 19 20.4
comp=Z,65nm,1.1s
KBS eS S 18 25 41.6 +0.6
KBS Kingsbay 47.87 355 eP P 18 18 46.5 +1.0
KBS Kingsbay 47.87 355 eP P 18 18 46.5 +1.0
KBS LR LR
comp=Z,4µm,22.0s
NACB Ninganchiao 47.99 254 eP P 18 18 51.2 +4.2
TVH1 TV Hill, Hawth 48.02 79 eP P 18 18 47.1 -0.5
TVH3 East Aurora ar 48.05 79 eP P 18 18 47.4 -0.3
TVH2 Borealis Mine 48.07 79 eP P 18 18 47.8 0.0
QLMT Earthquake Lak 48.21 68 eP P 18 18 48.1 -0.7
PMPB Monarch Peak 48.28 83 eP P 18 18 49.4 +0.1
SPA0 Spitsbergen Ar 48.33 354 eP P 18 18 48.8 -0.3
SPA0 IAmb IAmb 18 19 08.4
comp=Z,194nm,1.1s
SPA0 ePP PP 18 20 41.7 +0.5
SPA0 eS S 18 25 47.8 +0.2
SPA0 eScS ScS 18 28 42.2 +2.2
SPA0 IAMs_20 IAMs_20 18 39 17.8
comp=Z,6µm,19.9s
SPA0 Spitsbergen Ar 48.33 354 eP P 18 18 49.9 +0.8
YHB Horse Butte 48.39 68 eP P 18 18 49.4 -0.8
XAN Xi'an 48.42 274 P P 18 18 49.9 -0.4
XAN pP sP 18 19 00.0 +1.2
XAN sP pP 18 19 03.4 +6.9
XAN S S 18 25 50.4 +0.5
XAN pmax pmax
comp=Z,1µm,11.7s
XAN LR LR
comp=Z,6µm,20.0s
XAN LR LR
comp=Z,9µm,18.8s
XAN LR LR
comp=Z,16µm,18.8s
FCC Fort Churchill 48.44 44 eP P 18 18 49.5 -0.6
FCC pmax pmax
comp=Z,416nm,1.4s
FCC Fort Churchill 48.44 44 eP P 18 18 49.5 -0.6
comp=Z,416nm,1.4s
MLAC Mammoth, Mammo 48.52 80 P P 18 18 51.4 +0.1
baz=312
YHH Holmes Hill 48.56 67 eP P 18 18 50.7 -0.9
YMR Madison River 48.57 67 eP P 18 18 51.2 -0.3
GCMT Greycliff 48.59 66 eP P 18 18 51.4 -0.3
SSLB Suanglung 48.66 254 eP P 18 18 53.9 +1.6
YNR Norris Junctio 48.70 67 eP P 18 18 52.8 +0.1
YULB Yu-li 48.76 253 eP P 18 18 56.2 +3.2
YFT Old Faithful 48.78 68 eP P 18 18 53.6 +0.4
YPP Pitchstone Pla 48.91 68 eP P 18 18 54.4 +0.1
PAGB Antelope Grade 48.94 83 eP P 18 18 54.4 +0.1
LKWY Lake 48.95 67 eP P 18 18 56.0 +1.4
LKWY Lake 48.95 67 eP P 18 18 56.0 +1.4
LKWY LR LR
comp=Z,8µm,19.0s
H17A Grant Village 48.96 68 P P 18 18 55.3 +0.7
baz=309,SNR=45
H17A Grant Village 48.96 68 eP P 18 18 55.1 +0.5

IMW Indian Meadow 49.07 68 eP P 18 18 54.6 -0.9
FLWY Flagg Ranch 49.09 68 eP P 18 18 55.2 -0.4
comp=Z,209nm,1.1s
ZALV Zalesovo Beam 49.16 309 P P 18 18 53.1 -2.5
comp=Z,6.5nm,0.7s,baz=54,slow=5.9,SNR=26
ZALV ScP ScP 18 24 13.1 +0.6
comp=Z,6.3nm,1.0s,baz=62,slow=3.5,SNR=4.0
ZALV LR LR 18 40 25.8
comp=Z,6µm,19.3s,baz=47,slow=37
ZALV Zalesovo Beam 49.16 309 P P 18 18 53.1 -2.5
ZALV pmax pmax
comp=Z,7.0nm,0.7s
ZALV pmax pmax
comp=N,6.0nm,1.0s
ZALV MLR MLR
comp=Z,6µm,19.3s
RCTC Rector, Farmer 49.16 81 P P 18 18 55.4 -0.5
baz=313
QZH Quanzhou 49.16 257 ⇓P P 18 18 55.9 -0.1
QZH PP PP 18 20 47.8 -1.9
QZH S S 18 26 00.1 -0.2
QZH pmax pmax
comp=Z,570nm,1.4s
QZH pmax pmax
comp=Z,4µm,6.8s
QZH LR LR
comp=Z,3µm,14.7s
QZH LR LR
comp=Z,6µm,12.7s
QZH LR LR
comp=Z,8µm,16.4s
TPUB Ta-pu 49.22 254 eP P 18 18 57.0 +0.5
RLMT Red Lodge 49.23 66 P P 18 18 56.7 0.0
baz=309,SNR=104
RLMT Red Lodge 49.23 66 eP P 18 18 55.8 -0.8
RLMT LR LR
comp=Z,6µm,19.0s
TIN Tinemaha, Big 49.26 80 P P 18 18 56.9 0.0
baz=312,SNR=26
MOOW Moose Ponds 49.27 68 eP P 18 18 56.5 -0.5
TPAW Teton Pass 49.32 69 eP P 18 18 57.1 -0.3
TWG Pinlang 49.34 253 eP P 18 18 57.8 +0.4
comp=Z,481nm,1.3s
NVS Novosibirsk 49.36 310 ⇓*i*P P 18 18 55.9 -1.3
NVS *i* 18 20 52.5
NVS pmax pmax
comp=N,56nm,1.7s
NVS pmax pmax
comp=E,163nm,2.0s
NVS pmax pmax
comp=Z,72nm,1.3s
NVS pmax pmax
comp=N,58nm,1.8s
NVS pmax pmax
comp=E,67nm,1.4s
HVU Hansel Valley 49.37 72 eP P 18 18 57.0 -0.7
HVU Hansel Valley 49.37 72 eP P 18 18 57.0 -0.7
SMMC Simmler 49.38 83 P P 18 18 57.2 -0.4
baz=313,SNR=12
LOHW Long Hollow 49.44 68 eP P 18 18 57.5 -0.7
SNOW Snow King Moun 49.45 69 eP P 18 18 58.2 -0.1
REDW Red Top Meadow 49.45 69 eP P 18 18 58.1 -0.3
HSPB Hornsund (broa 49.51 353 eP P 18 18 59.7 +1.6
HSPB IAmb IAmb 18 19 18.1
comp=Z,65nm,1.0s
VES Vestal, Richgr 49.56 82 P P 18 18 57.8 -1.2
baz=313,SNR=40
CWC Cottonwood Cre 49.76 80 P P 18 19 00.2 -0.6
baz=313
BGU Big Grassy Mou 49.77 73 eP P 18 19 00.2 -0.5
PKM Mcpherson Peak 49.77 83 P P 18 19 00.3 -0.6
baz=313,SNR=18
GRAC Grapevine Rang 49.81 79 P P 18 19 00.7 -0.3
baz=312,SNR=29
SPUT South Promonto 49.86 72 eP P 18 19 01.1 -0.4
DGMT Dagmar 49.88 60 P P 18 19 00.9 -0.4
baz=308,SNR=11
DGMT Dagmar 49.88 60 eP P 18 19 01.4 +0.1
DGMT LR LR
comp=Z,8µm,19.0s
LAO LASA Array 49.91 63 P P 18 19 01.9 +0.3
baz=309,SNR=68
LAO LASA Array 49.91 63 eP P 18 19 01.3 -0.3
LAO LR LR
comp=Z,10µm,20.0s
R11A Troy Canyon, C 49.97 77 P P 18 19 01.8 -0.5
baz=312,SNR=268
R11A Troy Canyon, C 49.97 77 eP P 18 19 01.0 -1.3
ISA Isabella, Lake 50.05 81 P P 18 19 01.4 -1.4
baz=313,SNR=16
ISA Isabella, Lake 50.05 81 eP P 18 19 01.7 -1.1
ISA Isabella, Lake 50.05 81 eP P 18 19 01.7 -1.1
LZH Lanzhou 50.08 279 eP P 18 19 03.8 +0.7
LZH pP pP 18 19 06.6 -2.7
LZH sP sP 18 19 09.1 -2.6
LZH PcP PcP 18 20 22.0 -0.6
LZH eS S 18 26 15.3 +1.9
LZH sS sS 18 26 25.0 +1.5
LZH SS SS 18 29 45.0 -1.1
LZH pmax pmax
comp=Z,220nm,1.2s
LZH pmax pmax
comp=Z,880nm,4.6s
LZH LR LR
comp=Z,18µm,15.6s
LZH LR LR
comp=Z,18µm,15.4s
LZH LR LR
comp=Z,12µm,18.3s
SBC Santa Barbara 50.14 83 P P 18 19 02.6 -0.8
baz=314
DAC Darwin (Calif) 50.16 80 eP P 18 19 02.3 -1.5
DAC pmax pmax
comp=Z,70nm,1.0s
DAC Darwin (Calif) 50.16 80 eP P 18 19 02.2 -1.5
comp=Z,70nm,1.0s
HWUT Hardware Ranch 50.17 71 PFAKE 18 19 20.0 +16
HWUT LR LR
comp=Z,6µm,20.0s
ARVC Arvin 50.20 82 P P 18 19 02.7 -1.1
baz=313
GTA Gaotai 50.24 285 P P 18 19 03.8 -0.5
GTA pP pP 18 19 08.0 -2.5
GTA sP sP 18 19 11.3 -1.5
GTA ScP ScP 18 24 17.4 -0.3
GTA PcS PcS 18 24 18.8 -1.5
GTA S S 18 26 12.3 -3.3
GTA sS pS 18 26 22.3 -0.6
GTA ScS ScS 18 28 53.5 -0.8
GTA SS SS 18 29 41.0 -7.6
GTA pmax pmax
comp=Z,96nm,1.1s
GTA pmax pmax
comp=Z,730nm,6.7s
GTA LR LR
comp=Z,20µm,17.1s
GTA LR LR
comp=Z,20µm,16.4s
GTA LR LR
comp=Z,10µm,17.1s
DAG Danmarks Havn 50.32 3⇑*i*P P 18 19 03.3 -0.9
comp=Z,49nm,1.2s
DAG Danmarks Havn 50.32 3⇑*i*P P 18 19 03.3 -0.9
DAG pmax pmax
comp=Z,76nm,1.2s
MPMC Manual Prospec 50.37 80 P P 18 19 04.8 -0.6
baz=313,SNR=66
DUG Dugway, Tooele 50.37 73 P P 18 19 05.2 -0.1
baz=311,SNR=240
DUG Dugway, Tooele 50.37 73 eP P 18 19 04.5 -0.8
DUG Dugway, Tooele 50.37 73 eP P 18 19 04.5 -0.8
DUG LR LR
comp=Z,5µm,20.0s
FURC Furnace Creek, 50.47 80 P P 18 19 05.5 -0.3
baz=313,SNR=134
BSC Santa Cruz Isl 50.49 84 P P 18 19 05.3 -0.8
baz=314,SNR=7.5
TPNV Topopah Spring 50.51 79 P P 18 19 06.0 -0.4
baz=313,SNR=286
TPNV Topopah Spring 50.51 79 eP P 18 19 05.6 -0.8
TPNV Topopah Spring 50.51 79 eP P 18 19 05.6 -0.8
BW06 Boulder Array 50.56 69 P P 18 19 06.3 -0.5
baz=310,SNR=199
BW06 Boulder Array 50.56 69 eP P 18 19 05.5 -1.3
BW06 LR LR
comp=Z,5µm,19.0s

PD31 Pinedale Array 50.56 69 eP P 18 19 05.5 -1.3
PDAR Pinedale Array 50.56 69 P P 18 19 05.5 -1.3
comp=Z,81nm,0.9s,baz=299,slow=3.5,SNR=373
PDAR ScP ScP 18 24 17.6 -1.5
comp=Z,6.0nm,1.1s,baz=258,slow=2.7,SNR=4.1
LRMC Laurel Mtn Rad 50.65 81 P P 18 19 06.5 -0.9
baz=313,SNR=58
ENH Enshi 50.71 270 eP P 18 19 07.1 -0.7
comp=Z,55nm,1.0s
ENH LR LR
comp=Z,7µm,20.0s
BLG Laguna Peak, P 50.76 83 P P 18 19 07.1 -1.0
baz=314,SNR=6.4
PSUT Pine Spring 50.86 75 eP P 18 19 09.4 +0.4
EDW2 Edwards Air Fo 50.87 82 P P 18 19 08.0 -1.0
baz=314,SNR=42
JLU Jordanelle 50.89 72 eP P 18 19 09.0 -0.4
NLU North Lily Min 50.96 73 eP P 18 19 09.1 -0.7
SNCC San Nicolas Is 51.08 84 P P 18 19 09.9 -0.6
baz=314
SNCC San Nicolas Is 51.08 84 eP P 18 19 10.4 -0.1
DECC Green Verdugo 51.10 83 P P 18 19 09.9 -0.8
baz=314,SNR=7.5
SHOC Shoshone, Teco 51.20 80 P P 18 19 10.8 -0.7
baz=313,SNR=32
PASC Pasadena Art C 51.24 83 eP P 18 19 11.4 -0.4
MWC Mount Wilson 51.28 82 eP P 18 19 11.0 -1.2
MWC Mount Wilson 51.28 82 eP P 18 19 11.0 -1.2
GSC Goldstone, Bar 51.29 81 P P 18 19 11.5 -0.7
baz=314,SNR=164
GSC Goldstone, Bar 51.29 81 eP P 18 19 11.2 -1.0
GSC Goldstone, Bar 51.29 81 eP P 18 19 11.2 -1.0
TARA Tarawa 51.44 180 PFAKE 18 19 30.0 +17
TARA LR LR
comp=Z,223nm,19.0s
SHPR Sheep Range 51.45 78 eP P 18 19 12.9 -0.6
RRX Edison Barstow 51.47 81 P P 18 19 12.8 -0.7
baz=314
FMP Fort Macarthur 51.49 83 P P 18 19 12.4 -1.2
baz=314
BFSC Mount Baldy Ra 51.51 82 P P 18 19 13.1 -0.8
baz=314,SNR=43
BJO Bjornoya 51.60 351 eS S 18 26 35.0 +1.9
BJO IAMs_20 IAMs_20 18 46 52.8
comp=Z,5µm,18.6s
CIS Catalina Islan 51.64 84 P P 18 19 13.7 -1.0
baz=314,SNR=9.7
TUQ Turquoise Moun 51.73 80 P P 18 19 14.8 -0.7
baz=314,SNR=73
CCUT Cedar City 51.81 76 eP P 18 19 14.7 -1.5
SCI San Clemente I 51.85 84 P P 18 19 15.6 -0.7
baz=315,SNR=5.7
MSU Marysvale 51.86 74 eP P 18 19 16.1 -0.5
MSU Marysvale 51.86 74 eP P 18 19 16.1 -0.5
TMUT Trail Mountain 51.90 73 eP P 18 19 16.6 -0.4
HEC Hector,Ludlow 51.90 81 P P 18 19 16.1 -0.6
baz=314,SNR=89
BBRC Big Bear Solar 51.94 82 P P 18 19 16.6 -0.7
baz=314
SZCU Shurtz Canyon 51.94 76 eP P 18 19 16.8 -0.4
MTPU Mount Pierson 52.17 75 eP P 18 19 19.5 +0.5
MURC Murrieta 52.23 82 P P 18 19 18.4 -0.8
baz=314,SNR=18
LCMT Little Creek M 52.24 76 eP P 18 19 19.0 -0.3
GMRC Granite Mounta 52.33 80 P P 18 19 19.4 -0.6
baz=314,SNR=98
K22A Casper 52.34 67 P P 18 19 19.2 -0.8
baz=311,SNR=49
K22A Casper 52.34 67 eP P 18 19 19.0 -1.0
comp=Z,200nm,1.3s
SRU San Rafael Swe 52.41 73 eP P 18 19 20.5 -0.2
SRU San Rafael Swe 52.41 73 eP P 18 19 20.5 -0.2
LDFC Landfair 52.46 80 eP P 18 19 19.6 -1.3
KNB Kanab 52.49 76 eP P 18 19 21.0 -0.2
KNB Kanab 52.49 76 eP P 18 19 21.0 -0.2
PKCU Pink Cliffs 52.50 75 eP P 18 19 21.4 0.0
MDND Maddock 52.65 58 P P 18 19 22.1 +0.1
baz=311,SNR=24
MDND Maddock 52.65 58 eP P 18 19 22.2 +0.2
comp=Z,2µm,1.6s
PFO Pinyon Flats O 52.66 82 P P 18 19 21.3 -1.2
baz=314,SNR=26
PFO Pinyon Flats O 52.66 82 eP P 18 19 21.3 -1.2
PFO Pinyon Flats O 52.66 82 eP P 18 19 21.3 -1.2
PFO LR LR
comp=Z,6µm,20.0s
BELC Belle Mtn. Jos 52.67 81 P P 18 19 21.3 -1.3
baz=314,SNR=51
TPFO Pinon Flats 52.67 82 P P 18 19 21.5 -1.1
baz=314,SNR=31
RSSD Black Hills 52.74 64 P P 18 19 22.4 -0.7
baz=311
RSSD Black Hills 52.74 64 eP P 18 19 22.1 -0.9
109C Camp Elliot, M 52.78 83 P P 18 19 22.5 -0.7
baz=315
SUMG Summit 52.86 11⇑*i*P P 18 19 23.3 -0.4
comp=Z,213nm,1.5s
SUMG Summit 52.86 11⇑*i*P P 18 19 23.3 -0.4
SUMG pmax pmax
comp=Z,210nm,1.5s
SUMG Summit 52.86 11 eP P 18 19 23.9 +0.2
ULM Lac du Bonnet 52.94 54 P P 18 19 23.6 -0.6
comp=Z,96nm,1.1s,baz=312,slow=8.3,SNR=41
ULM LR LR 18 43 06.1
comp=Z,14µm,18.0s,baz=316,slow=38
NEE2 Needles Airpor 52.96 80 P P 18 19 23.8 -0.7
baz=314
O20A White River Ci 53.04 70 P P 18 19 24.7 -0.6
baz=312,SNR=72
O20A White River Ci 53.04 70 eP P 18 19 23.8 -1.4
comp=Z,308nm,1.3s
IRM Iron Mountain 53.07 80 P P 18 19 24.7 -0.6
baz=314,SNR=131
A31A Linda, St. Vin 53.16 55 P P 18 19 25.2 -0.6
baz=311
BAR Barrett 53.19 83 eP P 18 19 25.6 -0.6
MONP Monument Peak, 53.19 82 P P 18 19 25.5 -0.9
baz=315,SNR=27
ZSN Zaisan 53.23 302 *i*P P 18 19 24.8 -1.6
comp=Z,140nm,1.2s
ZSN *i*S S 18 26 53.3 -2.9
ZSN LR LR 18 42 02.2
comp=Z,879nm,14.4s
B31A Greenbush Farm 53.26 56 P P 18 19 26.2 -0.3
baz=311
A32A Rocking H Ranc 53.51 55 P P 18 19 28.0 -0.4
baz=311,SNR=15
SWSC Sam W. Stewart 53.52 82 P P 18 19 27.7 -1.0
baz=315,SNR=6.6
IKP In-Ko-Pah, Jac 53.55 82 P P 18 19 28.0 -0.9
baz=315,SNR=15
PDMCI Parker Dam,Lak 53.57 80 P P 18 19 28.3 -0.7
baz=314,SNR=73
SEM Semipalatinsk 53.57 307 *i*P P 18 19 26.2 -2.9
comp=Z,106nm,1.0s
SEM *i*S S 18 26 55.3 -5.9
SEM LR LR 18 42 17.3
comp=Z,2µm,17.4s
PV09 Paradox Valley 53.63 72 eP P 18 19 29.1 -0.7
C31A Landman Farms, 53.63 57 P P 18 19 28.7 -0.6
baz=312,SNR=18
GZH Guangzhou 53.68 260 P P 18 19 23.1 -6.8
GZH S S 18 26 52.8 -10
GZH pmax pmax
comp=Z,2µm,5.4s
CD2 Chengdu 53.72 275 P P 18 19 30.1 -0.1
CD2 pP pP 18 19 34.5 -1.9
CD2 sP sP 18 19 38.5 -0.2
CD2 PP PP 18 21 33.3 +2.4
CD2 S S 18 27 02.4 -0.9
CD2 SS SS 18 30 46.3 +2.6
CD2 pmax pmax
comp=Z,90nm,1.3s
CD2 pmax pmax
comp=Z,760nm,9.5s
CD2 LR LR
comp=Z,20µm,9.3s
CD2 LR LR
comp=Z,10µm,19.0s
CD2 LR LR
comp=Z,8µm,15.2s
Y12C Blythe 53.72 80 P P 18 19 29.4 -0.7
baz=315,SNR=26
PV10 Paradox Valley 53.77 72 eP P 18 19 28.5 -2.2
PHWY Pilot Hill 53.83 67 eP P 18 19 30.6 -0.5
N23A Red Feather La 53.83 68 P P 18 19 31.2 0.0

baz=312,SNR=51
PV04 Paradox Valley 53.83 72 *e*P P **18 19 30.1 -1.0**
B32A Ashes, Strandq 53.84 56 P P **18 19 29.8 -1.0**
baz=312,SNR=14
SZP Santa 53.84 250 *e*P P **18 19 32.4 +1.3**
comp=Z,423nm,1.3s
PV05 Paradox Valley 53.93 73 *e*P P **18 19 31.2 -0.7**
ILULI Ilulissat 53.94 18⇑ *i*P P **18 19 30.0 -1.1**
comp=Z,96nm,1.0s
ILULI Ilulissat 53.94 18⇑ *i*P P **18 19 30.0 -1.1**
ILULI pmax pmax
comp=Z,96nm,1.0s
GLA Glamis 54.03 81 P P **18 19 31.8 -0.6**
baz=315,SNR=50
GLA Glamis 54.03 81 *e*P P **18 19 31.7 -0.8**
GLA Glamis 54.03 81 *e*P P **18 19 31.7 -0.8**
A33A Warroad 54.05 55 P P **18 19 31.7 -0.6**
baz=312
D31A Mcclaflin, Tow 54.13 58 P P **18 19 32.0 -0.9**
baz=312,SNR=7.5
KURK Kurchatov 54.15 309*de*P P **18 19 31.3 -1.6**
KURK Kurchatov 54.15 309 *e*P P **18 19 31.4 -1.6**
KURK LR LR
comp=Z,14μm,19.0s
KURK Kurchatov 54.15 309 P P **18 19 31.5 -1.5**
KURK P P **18 19 31.5 -1.5**
SNR=145
WMQ Urumqi 54.15 297 P P **18 19 33.1 -0.1**
WMQ pP pP 18 19 38.4 -1.0
WMQ sP sP 18 19 45.5 +3.8
WMQ PP **PP 18 21 40.0 +5.5**
WMQ S **S 18 27 08.6 -0.2**
WMQ SS **SS 18 30 52.4 +2.5**
WMQ pmax pmax
comp=Z,120nm,1.3s
WMQ pmax pmax
comp=Z,1μm,4.1s
WMQ LR LR
comp=Z,23μm,18.7s
WMQ LR LR
comp=Z,13μm,24.7s
WMQ LR LR
comp=Z,12μm,18.1s
PV01 Paradox Valley 54.20 72 *e*P P **18 19 33.3 -0.5**
C32A Crookston 54.22 56 P P **18 19 32.8 -0.8**
baz=312
AGMN Agassiz Nation 54.24 55 P P **18 19 33.0 -0.7**
baz=312,SNR=43
AGMN Agassiz Nation 54.24 55 *e*P P **18 19 33.0 -0.7**
AGMN LR LR
comp=Z,12μm,20.0s
MCO Taipa Grande 54.29 259 P P **18 19 36.0 +1.7**
WUAZ Wupatki 54.36 77 P P **18 19 35.0 0.0**
baz=314,SNR=50
WUAZ Wupatki 54.36 77 *e*P P **18 19 35.0 0.0**
WUAZ LR LR
comp=Z,8μm,20.0s
E31A Nome 54.38 58 P P **18 19 33.6 -1.1**
baz=312,SNR=13
B33A Robert and Kas 54.39 55 P P **18 19 34.3 -0.5**
baz=312,SNR=21
SMCO Snowmass 54.41 70 *e*P P **18 19 35.5 0.0**
D32A Dogwood Acres, 54.44 57 P P **18 19 34.1 -1.0**
baz=312
C33A Trail 54.65 56 P P **18 19 35.8 -0.8**
baz=312,SNR=7.8
F31A Hecla 54.66 59 P P **18 19 35.8 -1.0**
baz=312
B34A Aery, Baudette 54.71 55 P P **18 19 36.3 -0.8**
baz=312,SNR=20
HAMF Hammerfest 54.73 348 *e*S S **18 27 13.8 -1.9**
HAMF IAMs_20 IAMs_20 18 43 02.5
comp=Z,5μm,18.9s
ISCO Idaho Springs 54.75 69 P P **18 19 38.3 +0.3**
baz=313,SNR=94
ISCO Idaho Springs 54.75 69 *e*P P **18 19 38.3 +0.3**
ISCO Idaho Springs 54.75 69 *e*P P **18 19 38.3 +0.3**
ISCO LR LR
comp=Z,6μm,20.0s
E32A Braaten, Kindr 54.77 58 P P **18 19 36.5 -1.1**
baz=312
MVCO Mesa Verde 54.88 73 P P **18 19 38.3 -0.4**
baz=314,SNR=96
MVCO Mesa Verde 54.88 73 *e*P P **18 19 38.3 -0.4**
MVCO LR LR
comp=Z,5μm,21.0s
D33A AnnSam, Waubun 55.02 56 P P **18 19 38.6 -0.9**
baz=313,SNR=9.2
KEV Kevo 55.10 346 PFAKE 18 19 50.0 +10
KEV LR LR
comp=Z,6μm,21.0s
G31A Conde 55.11 59 P P **18 19 39.1 -1.0**
baz=313
MAKZ Makanchi 55.13 303 *e*P P **18 19 38.2 -2.0**
MAKZ Makanchi 55.13 303 *e*P P **18 19 38.2 -2.0**
C34A RKJ Ranch, Bem 55.15 55 P P **18 19 39.1 -1.2**
baz=313
GYA Guiyang 55.18 269⇑ *i*P P **18 19 40.8 -0.2**
GYA PcP **PcP 18 20 44.0 +2.1**
GYA PP **PP 18 21 47.5 +3.3**
GYA ScP **ScP 18 24 41.8 +2.5**
GYA S **S 18 27 23.0 -0.2**
GYA pmax pmax
comp=Z,40nm,0.9s
GYA pmax pmax
comp=Z,520nm,4.7s
GYA LR LR
comp=Z,4μm,14.6s
GYA LR LR
comp=Z,5μm,17.8s
GYA LR LR
comp=Z,3μm,18.9s
F32A Veblen 55.23 58 P P **18 19 39.8 -1.1**
baz=313
SUSD Miller 55.24 61 P P **18 19 40.1 -1.0**
baz=313,SNR=8.2
B35A Bob, Littlefor 55.25 54 P P **18 19 40.2 -0.8**
baz=313,SNR=28
E33A Westby DABS, E 55.37 57 P P **18 19 40.8 -1.1**
baz=313,SNR=6.5
D34A Park Rapids 55.39 56 P P **18 19 41.2 -0.9**
baz=313,SNR=30
G32A Webster 55.45 59 P P **18 19 41.6 -1.0**
baz=313
S22A 4UR Ranch, Cre 55.47 71 P P **18 19 43.8 +0.7**
baz=314,SNR=387
H31A Wolsey 55.47 60 P P **18 19 41.7 -0.9**
baz=313
LVZ Lovozero 55.51 342 *e*P P **18 19 42.5 -0.2**
LVZ pmax pmax
comp=Z,22nm,1.0s
LVZ Lovozero 55.51 342 *e*P P **18 19 41.7 -0.9**
comp=Z,81nm,1.0s
LVZ LR LR
comp=Z,5μm,19.0s
ARCES ARCESS Array B 55.52 347 P P **18 19 42.3 -0.3**
comp=Z,5.7nm,0.7s,baz=32,slow=9.3,SNR=9.5
ARCES ScP **ScP 18 24 39.7 -0.2**
comp=Z,12nm,1.0s,baz=8.9,slow=8.6,SNR=6.3
ARCES LR LR 18 44 02.3
comp=Z,6μm,20.4s,baz=15,slow=37
ARE0 ARCESS Array S 55.52 347 *e*P P **18 19 42.7 +0.1**
ARE0 IAmb IAmb 18 20 20.2
comp=Z,96nm,1.4s
ARE0 *e*S **S 18 27 25.0 -1.3**
ARE0 *e*ScS **ScS 18 29 29.9 -0.1**
ARE0 *e*SS **SS 18 31 13.2 +2.9**
ARE0 IAMs_20 IAMs_20 18 43 24.6
comp=Z,6μm,21.1s
C35A Jirik Farms, M 55.58 55 P P **18 19 42.8 -0.6**
baz=313,SNR=28
Q24A Divide 55.59 69 P P **18 19 44.2 +0.2**
baz=314,SNR=35
W18A Petrified Fore 55.60 76 P P **18 19 44.2 +0.2**
baz=315,SNR=16
W18A Petrified Fore 55.60 76 *e*P P **18 19 43.8 -0.2**
comp=Z,600nm,1.8s
F33A 5 Mile Ranch, 55.68 58 P P **18 19 43.1 -1.1**
baz=313,SNR=6.7
I31A Royce, Wessing 55.75 61 P P **18 19 43.7 -0.9**
baz=313
E34A Wadena 55.79 57 P P **18 19 44.2 -0.7**
baz=313,SNR=5.4
SFJD Kangerlussuaq 55.94 19⇑ *i*P P **18 19 44.8 -0.9**
SFJD Kangerlussuaq 55.94 19 *e*P P **18 19 44.6 -1.1**
SFJD pmax pmax
comp=Z,38nm,0.6s
SFJD MLR MLR
comp=Z,4μm,20.0s
SFJD Kangerlussuaq 55.94 19 *e*P P **18 19 44.6 -1.1**
comp=Z,38nm,0.6s
SFJD LR LR
comp=Z,4μm,20.0s
D35A Remer 55.96 55 P P **18 19 45.5 -0.7**
baz=313,SNR=27
OGNE Ogallala 55.97 66 P P **18 19 46.6 +0.2**
baz=314,SNR=50
OGNE Ogallala 55.97 66 PFAKE 18 20 00.0 +14
OGNE LR LR
comp=Z,4μm,19.0s
H32A Carlson Farm, 56.00 60 P P **18 19 45.2 -1.3**
baz=313,SNR=14
214A Organ Pipe Nat 56.01 81 P P **18 19 46.3 -0.4**
baz=316,SNR=49
214A Organ Pipe Nat 56.01 81 *e*P P **18 19 45.9 -0.8**
comp=Z,449nm,1.0s
APA Apatity 56.03 343⇓ *i*P P 18 19 41.3 -5.0
APA pmax pmax
comp=Z,11nm,0.9s
G33A Ortonville 56.05 58 P P **18 19 45.7 -1.1**
baz=313,SNR=16
C36A Pine Crest Far 56.10 54 P P **18 19 46.7 -0.5**
baz=314,SNR=26
J31A Geddes 56.14 62 P P **18 19 46.9 -0.7**
baz=314,SNR=19
E35A Pequot Lakes 56.15 56 P P **18 19 47.0 -0.5**
baz=314,SNR=14
SDCO Great Sand Dun 56.23 71 P P **18 19 49.0 +0.4**
baz=314,SNR=285
SDCO Great Sand Dun 56.23 71 *e*P P **18 19 48.3 -0.2**
SDCO LR LR
comp=Z,4μm,22.0s
F34A Alexandria 56.24 57 P P **18 19 47.3 -0.9**
baz=314,SNR=14
H33A Prehn Over Nor 56.24 59 P P **18 19 47.1 -1.1**
baz=314,SNR=16
TRO Tromso 56.25 349 *e*P P **18 19 49.5 +1.7**
TRO IAmb IAmb 18 19 58.8
comp=Z,67nm,1.2s
TRO *e*S **S 18 27 36.9 +0.8**
TRO *e*SS **SS 18 31 27.2 +5.5**
TRO IAMs_20 IAMs_20 18 48 13.2
comp=Z,4μm,19.8s
BRVK Borovoye 56.30 315*de*P P **18 19 47.5 -0.9**
BRVK pmax pmax
comp=Z,163nm,1.2s
BRVK Borovoye 56.30 315 *e*P P **18 19 47.1 -1.4**
BRVK LR LR
comp=Z,5μm,19.0s
BRVK Borovoye 56.30 315 P P **18 19 47.1 -1.4**
SNR=27
BRVK P P **18 19 47.1 -1.4**
SNR=27
KTK1 Kautokeino 56.31 347 *e*P P **18 19 47.9 -0.4**
KTK1 IAmb IAmb 18 20 26.6
comp=Z,61nm,0.9s
I32A Karley and Nic 56.31 60 P P **18 19 47.3 -1.4**
baz=314
D36A Goodland 56.34 55 P P **18 19 48.1 -0.7**
baz=314,SNR=23
JMIC Jan Mayen 56.34 1 *e*S S **18 27 41.3 +4.0**
XMAS Kiritimati 56.38 144 PFAKE 18 20 00.0 +11
XMAS LR LR
comp=Z,5.0nm,20.0s
SCO Scoresbysund 56.39 6 *i*P P **18 19 48.9 +0.1**
comp=Z,162nm,1.6s
SCO Scoresbysund 56.39 6 *i*P P **18 19 48.9 +0.1**
SCO pmax pmax
comp=Z,160nm,1.6s
G34A Benson 56.42 58 P P **18 19 48.6 -0.9**
baz=314,SNR=6.2
C37A Embarrass 56.44 54 P P **18 19 49.0 -0.5**
baz=314,SNR=22
F35A Swanville 56.54 57 P P **18 19 49.8 -0.6**
baz=314,SNR=7.6
J32A Parkston 56.56 61 P P **18 19 49.4 -1.1**
baz=314,SNR=12
K31A O'Neill 56.59 62 P P **18 19 50.4 -0.4**
baz=314,SNR=11
EYMN Ely 56.62 53 P P **18 19 50.4 -0.5**
baz=314,SNR=26
EYMN Ely 56.62 53 *e*P P **18 19 50.4 -0.5**
EYMN LR LR
comp=Z,9μm,21.0s
SOKR Solikamsk 56.63 327*d i*P P **18 19 48.0 -2.7**
SOKR S **S 18 27 43.2 +1.9**
SOKR SS **SS 18 31 32.3 +4.2**
SOKR pmax pmax
comp=Z,64nm,1.2s
I33A Coleman 56.65 60 P P **18 19 49.9 -1.2**
baz=314
D37A Cotton 56.72 54 P P **18 19 50.7 -0.8**
baz=314,SNR=30
E36A Mcgregor 56.75 55 P P **18 19 51.5 -0.3**
baz=314,SNR=48
H34A Spellman Lake, 56.75 59 P P **18 19 50.8 -1.0**
baz=314,SNR=19
C38A Sawbill Land. 56.89 53 P P **18 19 52.3 -0.5**
baz=314,SNR=19
ECSD EROS Data Cent 56.96 60 P P **18 19 52.2 -1.1**
baz=314,SNR=45
ECSD EROS Data Cent 56.96 60 *e*P P **18 19 52.2 -1.1**
ECSD LR LR
comp=Z,11μm,22.0s
TUC Tucson 56.96 79 P P **18 19 53.5 -0.1**
baz=316
TUC Tucson 56.96 79 *e*P P **18 19 52.4 -1.2**
TUC Tucson 56.96 79 *e*P P **18 19 52.4 -1.2**
TUC LR LR
comp=Z,3μm,19.0s
KSCO Kaye Shedlock' 56.97 68 P P **18 19 54.0 +0.4**
baz=314,SNR=18
KSCO Kaye Shedlock' 56.97 68 *e*P P **18 19 54.3 +0.6**
comp=Z,938nm,1.3s
K32A Verdigre 56.99 62 P P **18 19 52.5 -1.0**
baz=314,SNR=10
G35A Watkins 57.03 57 P P **18 19 53.3 -0.5**
baz=314
J33A Davis 57.06 60 P P **18 19 53.1 -0.9**
baz=314
F36A Milaca 57.07 56 P P **18 19 53.3 -0.7**
baz=314,SNR=24
E37A Wrenshall 57.14 55 P P **18 19 54.1 -0.4**
baz=314
I34A Hadley 57.14 59 P P **18 19 53.6 -1.0**
baz=314,SNR=5.2
H35A Sunnyside Ranc 57.21 58 P P **18 19 54.6 -0.5**
baz=314,SNR=24
T25A Trinidad 57.27 70 P P **18 19 56.3 +0.4**
baz=315,SNR=83
C39A Grand Marais 57.37 53 P P **18 19 55.5 -0.7**
baz=315,SNR=10
SVE Sverdlovsk 57.38 323⇓ *e*P P **18 19 55.5 -0.6**
SVE *e* 18 21 59.2
SVE *e*PPP PPP 18 23 32.4
SVE *e*S **S 18 27 51.1 -0.3**
SVE *e* 18 29 41.5
SVE *e*SS **SS 18 31 39.8 -0.3**
SVE pmax pmax
comp=Z,69nm,1.3s
SVE MLR MLR
comp=Z,8μm,22.0s
G36A St. Michael 57.39 57 P P **18 19 56.0 -0.4**
baz=314,SNR=13
BRZS Berezniki 57.41 311 *i*P P **18 19 54.8 -1.7**
comp=Z,93nm,1.3s
BRZS *e*S **S 18 27 47.7 -4.4**
L32A Elgin 57.42 62 P P **18 19 56.1 -0.6**
baz=314,SNR=16
E38A The Farm, Brul 57.53 54 P P **18 19 56.6 -0.6**
baz=315,SNR=22
K33A Hardington 57.54 61 P P **18 19 56.8 -0.7**
baz=314
F37A Hinrichs Farm, 57.61 56 P P **18 19 57.4 -0.5**
baz=315,SNR=12
LAZ Ladron 57.62 75 *e*P P **18 19 58.6 +0.2**
ANMO Albuquerque 57.64 74 P P **18 19 58.6 +0.2**
baz=315
ANMO Albuquerque 57.64 74*ce*P P **18 19 58.4 -0.1**
ANMO pmax pmax
comp=Z,221nm,1.2s
ANMO Albuquerque 57.64 74 *e*P P **18 19 58.2 -0.3**
comp=Z,206nm,1.2s
ANMO LR LR
comp=Z,5μm,20.0s
L33A Hoskins 57.70 62 P P **18 19 57.6 -1.0**
baz=315,SNR=6.5
I35A Creekview Farm 57.72 59 P P **18 19 57.7 -1.0**
baz=315,SNR=9.1
H36A Jessenland, He 57.76 58 P P **18 19 58.8 -0.1**
baz=315,SNR=17
BGNE Belgrade 57.76 63 P P **18 19 58.8 -0.3**
baz=315,SNR=31
BGNE Belgrade 57.76 63 *e*P P **18 19 58.5 -0.5**
comp=Z,770nm,1.1s
F38A Pierce - Schro 57.82 55 P P **18 19 59.3 0.0**
baz=315,SNR=57
SPMN Marine on St. 57.88 56 P P **18 19 59.4 -0.4**
baz=315,SNR=20
SPMN Marine on St. 57.88 56 *e*P P **18 19 59.7 0.0**
comp=Z,701nm,1.6s
LENM Lemitar 57.89 75 *e*P P **18 20 01.5 +1.3**
J35A Milford 57.95 59 P P **18 19 59.6 -0.7**
baz=315
K34A Le Mars 57.96 60 P P **18 19 59.8 -0.6**
baz=315,SNR=39
LPM Los Pinos Moun 57.98 74 *e*P P **18 20 00.9 0.0**
Y22D IRIS PASSCAL I 57.98 75 P P **18 20 01.7 +0.9**
baz=316,SNR=6.9
TMCR Tamitsa 58.08 339 *e*P P **18 20 00.6 -0.2**
TMCR pmax pmax
comp=Z,140nm,1.1s
BNM Barren Site 58.10 74 *e*P P **18 20 01.8 0.0**
I36A Fitzsimmons Fa 58.11 58 P P **18 20 00.7 -0.7**
baz=315
M33A Taylor Creek F 58.16 62 P P **18 20 01.2 -0.6**
baz=315,SNR=13
E39A Mellen 58.18 54 P P **18 20 01.2 -0.6**
baz=315,SNR=19
TDK Taldyqorghan 58.18 304 *e*P P **18 20 01.0 -0.9**
comp=Z,169nm,1.1s
TDK *e*S **S 18 27 58.5 -3.7**
TDK LR LR 18 45 17.8
comp=Z,2μm,15.4s
LOF Lofoten 58.25 351 *e*P P **18 20 03.3 +1.3**
LOF IAmb IAmb 18 20 13.6
comp=Z,86nm,1.1s
LOF *e*S **S 18 28 03.5 +1.1**
LOF *e*ScS **ScS 18 29 52.8 +2.9**
H37A Dierke Farm, C 58.27 57 P P **18 20 02.8 +0.2**
baz=315,SNR=21
STEI Steigen 58.28 350 *e*P P **18 20 02.4 +0.3**
STEI IAmb IAmb 18 20 55.5
comp=Z,39nm,1.0s
L34A Svendsen Farm, 58.32 61 P P **18 20 02.1 -0.8**
baz=315,SNR=21
F39A Loretta 58.33 55 P P **18 20 02.6 -0.3**
baz=315,SNR=41
K35A Storm Lake 58.39 60 P P **18 20 02.5 -0.9**
baz=315,SNR=18
G38A Ridgeland 58.39 56 P P **18 20 02.6 -0.8**
baz=315,SNR=48
I37A Lemond, Waseca 58.42 58 P P **18 20 03.5 -0.1**
baz=315,SNR=39
J36A Seneca 1, Swea 58.42 59 P P **18 20 02.9 -0.7**
baz=315,SNR=29
ARU Arti 58.44 324*c i*P P **18 20 02.5 -1.0**
ARU 18 20 54.5
ARU 18 22 12.5
ARU *e*S **S 18 28 03.8 -1.4**
ARU 18 29 46.2
ARU SS **SS 18 31 52.2 -4.5**
ARU SSS SSS 18 34 22.2
ARU pmax pmax
comp=Z,72nm,1.2s
ARU MLR MLR
comp=Z,9μm,20.0s
ARU Arti 58.44 324 *e*P P **18 20 02.2 -1.3**
comp=Z,50nm,0.8s
ARU LR LR
comp=Z,9μm,20.0s
E40A Wakefield 58.45 54 P P **18 20 03.7 -0.1**
baz=315,SNR=40
H38A Maiden Rock 58.53 56 P P **18 20 04.1 -0.2**
baz=315,SNR=44
M34A Aspy Farms, Fr 58.53 62 P P **18 20 03.8 -0.6**
baz=315,SNR=12
KMI Kunming 58.54 271 P P **18 20 06.8 +1.9**
KMI PP **PP 18 22 16.9 +2.6**
KMI S **S 18 28 06.8 -1.0**
KMI SS **SS 18 32 02.6 +2.5**
KMI pmax pmax
comp=Z,29nm,0.6s
KMI pmax pmax
comp=Z,800nm,4.2s
KMI LR LR
comp=Z,8μm,17.5s
KMI LR LR
comp=Z,11μm,18.5s
KMI LR LR
comp=Z,5μm,23.5s
121A Cookes Peak, D 58.58 77 P P **18 20 05.3 +0.3**
baz=316,SNR=57
121A Cookes Peak, D 58.58 77 *e*P P **18 20 05.0 -0.1**
comp=Z,420nm,1.6s
N33A J Bar K, Exete 58.61 63 P P **18 20 04.1 -0.8**
baz=315,SNR=14
G39A Holcombe 58.65 55 P P **18 20 04.4 -0.7**
baz=315,SNR=43
L35A Bielow Farm, R 58.65 61 P P **18 20 04.2 -1.1**
baz=315,SNR=12
D41A Chassel 58.66 52 P P **18 20 04.7 -0.4**
baz=316,SNR=8.7
CBKS Cedar Bluff 58.72 66 P P **18 20 05.5 -0.3**
baz=315,SNR=20
CBKS Cedar Bluff 58.72 66 *e*P P **18 20 05.3 -0.5**
CBKS pmax pmax
comp=Z,370nm,1.1s
CBKS MLR MLR
comp=Z,4μm,20.0s
CBKS Cedar Bluff 58.72 66 *e*P P **18 20 05.3 -0.5**
comp=Z,370nm,1.1s
CBKS LR LR
comp=Z,4μm,20.0s
F40A Park Falls 58.72 54 P P **18 20 04.9 -0.7**
baz=316,SNR=22
J37A Redenius Farm, 58.84 58 P P **18 20 06.1 -0.5**
baz=315,SNR=42
K36A Gilmore City 58.85 59 P P **18 20 05.8 -0.8**
baz=315,SNR=23
QIZ Qiongzhong 58.87 260 P P **18 20 08.8 +1.8**
QIZ pP **sP 18 20 18.0 +2.4**
QIZ PP **PP 18 22 21.8 +4.7**
QIZ S **S 18 28 13.1 +1.3**
QIZ LR LR
comp=Z,4μm,19.1s
QIZ LR LR
comp=Z,3μm,21.0s
QIZ LR LR
comp=Z,4μm,13.9s
QIZ Qiongzhong 58.87 260 *e*P P **18 20 08.2 +1.2**
comp=Z,184nm,1.6s
QIZ LR LR
comp=Z,2μm,20.0s
SHLS Shalkode 58.95 302 *i*P P **18 20 03.1 -4.3**
comp=Z,51nm,0.6s
SHLS *i*S **S 18 28 04.0 -8.4**
SHLS LR LR 18 46 02.9
comp=Z,843nm,14.9s
I38A Scanlan Farm, 58.95 57 P P **18 20 06.8 -0.5**
baz=316,SNR=29
O33A Hebron 59.00 64 P P **18 20 06.7 -1.0**
baz=315,SNR=18
H39A Augusta 59.02 56 P P **18 20 07.3 -0.5**
baz=316,SNR=19
M35A Neola 59.03 61 P P **18 20 07.5 -0.4**
baz=315,SNR=41
N34A Lincoln 59.05 62 P P **18 20 07.0 -1.0**
baz=315,SNR=15
L36A Harm Buss Farm 59.12 60 P P **18 20 07.5 -1.0**
baz=316,SNR=7.3
KPKS Kokpek 59.13 302 *i*P P **18 20 06.2 -2.4**
comp=Z,200nm,0.9s
KPKS *i*S **S 18 28 09.1 -5.7**
KPKS LR LR 18 45 33.8
comp=Z,3μm,15.3s
G40A Rib Lake 59.14 55 P P **18 20 08.0 -0.6**
baz=316,SNR=26
UZB Uzynbulak 59.18 302 *i*P P **18 20 06.1 -2.9**

comp=Z,134nm,1.0s
UZB *i* S **S** **18 28 09.7 -5.8**
UZB LR LR 18 46 09.9
comp=Z,1μm,15.3s
K37A Belmond **59.19 59** P **P** **18 20 08.0 -1.0**
baz=316,SNR=31
F41A Three Lakes **59.34 54** P **P** **18 20 09.5 -0.5**
baz=316,SNR=22
J38A Wedel Dairy, R **59.39 58** P **P** **18 20 09.7 -0.7**
baz=316,SNR=28
O34A Beatrice **59.41 63** P **P** **18 20 09.4 -1.1**
baz=316,SNR=78
ZHN Zhinishke **59.47 302** *i* P **P** **18 20 08.2 -2.8**
comp=Z,92nm,1.0s
ZHN *i* S **S** **18 28 13.3 -5.9**
ZHN LR LR 18 45 42.8
comp=Z,2μm,15.0s
N35A Tabor **59.49 62** P **P** **18 20 10.7 -0.4**
baz=316,SNR=12
I39A Houston **59.49 57** P **P** **18 20 10.2 -0.8**
baz=316,SNR=31
H40A Chili **59.51 55** P **P** **18 20 10.6 -0.6**
baz=316,SNR=29
M36A Felix, Anita **59.51 61** P **P** **18 20 10.5 -0.7**
baz=316,SNR=12
SATY Saty **59.56 302** *i* P **P** **18 20 08.8 -2.8**
comp=Z,215nm,1.0s
SATY *i* S **S** **18 28 14.9 -5.5**
SATY LR LR 18 45 59.9
comp=Z,3μm,14.6s
L37A Phoenix Point, **59.58 59** P **P** **18 20 10.8 -0.8**
baz=316,SNR=40
G41A Antigo **59.69 54** P **P** **18 20 11.7 -0.7**
baz=316
K38A Parkersburg **59.72 58** P **P** **18 20 11.7 -0.9**
baz=316,SNR=11
DAV Davao City (W) **59.74 238**‖ *e*P **P** **18 20 17.2 +4.2**
DAV Davao City (W) **59.74 238** PFAKE **18 20 30.0 +17**
DAV LR LR
comp=Z,2μm,21.0s
O35A Humboldt **59.77 62** P **P** **18 20 11.7 -1.3**
baz=316,SNR=8.9
J39A Decorah **59.77 57** P **P** **18 20 11.7 -1.2**
baz=316,SNR=46
P34A Walnut Farm, R **59.79 63** P **P** **18 20 11.7 -1.4**
baz=316,SNR=24
F42A Maple Grove Fa **59.80 53** P **P** **18 20 12.8 -0.3**
baz=316
KONS Konsvik **59.88 351** *e*P **P** **18 20 14.8 +1.5**
H41A Junction City **59.88 55** P **P** **18 20 13.0 -0.7**
baz=316,SNR=24
N36A Muff Farm, Cla **59.88 61** P **P** **18 20 13.2 -0.6**
baz=316
I40A Norwalk **59.92 56** P **P** **18 20 13.4 -0.6**
baz=316,SNR=18
M37A Trindle Farm, **59.94 60** P **P** **18 20 13.4 -0.7**
baz=316,SNR=11
L38A Oak Wood Farm, **59.98 59** P **P** **18 20 13.5 -0.9**
baz=316,SNR=16
SCIA State Center **60.02 59** *e*P **P** **18 20 14.2 -0.4**
comp=Z,644nm,1.4s
SCIA LR LR
comp=Z,11μm,22.0s
STOK Stokkvaagen **60.05 351** *e*P **P** **18 20 14.3 -0.1**
STOK IAmb IAmb 18 20 25.1
comp=Z,110nm,1.2s
MOR8 Moi Rana **60.06 350** *e*P **P** **18 20 13.8 -0.8**
MOR8 IAmb IAmb 18 20 22.0
comp=Z,90nm,1.4s
K39A Oelwein **60.13 58** P **P** **18 20 14.1 -1.3**
baz=316,SNR=20
Q34A Chapman **60.17 64** P **P** **18 20 14.6 -1.2**
baz=316,SNR=11
I41A Arkdale **60.18 56** P **P** **18 20 15.0 -0.7**
baz=316,SNR=12
AAA Alma-Ata **60.21 303** *e*P **P** **18 20 14.5 -1.6**
AAA *e*S **S** **18 28 21.3 -7.4**
AAA pmax pmax
comp=Z,700nm,1.7s
AAA smax smax
comp=E,2μm,8.0s
J40A Soldiers Grove **60.22 57** P **P** **18 20 15.0 -1.0**
baz=316,SNR=17
KSU1 Kansas State U **60.23 64** P **P** **18 20 14.8 -1.3**
baz=316,SNR=5.6
KSU1 Kansas State U **60.23 64** *e*P **P** **18 20 15.2 -1.0**
comp=E,111nm,0.9s
KSU1 LR LR
comp=Z,8μm,22.0s
P35A Duane Minner, **60.24 63** P **P** **18 20 15.3 -0.9**
baz=316,SNR=44
N37A Lee Faris, Mou **60.32 61** P **P** **18 20 16.1 -0.6**
baz=316,SNR=26
O36A Bolckow **60.37 62** P **P** **18 20 16.0 -1.1**
baz=316,SNR=16
M38A Pleasantville **60.38 60** P **P** **18 20 16.2 -0.9**
baz=316,SNR=22
AMTX Amarillo **60.43 70** P **P** **18 20 17.6 -0.1**
baz=316
AMTX Amarillo **60.43 70** *e*P **P** **18 20 17.4 -0.3**
comp=Z,340nm,1.1s
R34A Isabella, Hill **60.45 65** P **P** **18 20 16.4 -1.3**
baz=316,SNR=67
MSTX Muleshoe **60.46 72** P **P** **18 20 17.6 -0.3**
baz=316,SNR=164
MSTX Muleshoe **60.46 72** *e*P **P** **18 20 17.0 -0.9**
comp=Z,854nm,1.4s
L39A Vinton **60.49 58** P **P** **18 20 16.9 -1.0**
baz=316,SNR=39
K40A Colesburg **60.52 57** P **P** **18 20 17.0 -1.0**
baz=316,SNR=41
MNTX Cornudas Mount **60.59 76** P **P** **18 20 18.7 0.0**
baz=317,SNR=446
MNTX Cornudas Mount **60.59 76** *e*P **P** **18 20 18.1 -0.6**
comp=Z,345nm,1.0s
MNTX LR LR
comp=Z,4μm,21.0s
KLMR Klimovskoe **60.60 336** *e*P **P** **18 20 16.7 -1.6**
KLMR *e*S **S** **18 28 31.0 -2.0**
KLMR *e*SS **SS** **18 32 29.0 -1.3**
KLMR pmax pmax
comp=Z,176nm,1.2s
KLMR MLR MLR
comp=Z,4μm,17.0s
J41A Loganville **60.60 56** P **P** **18 20 17.7 -0.9**
baz=317,SNR=8.4
P36A Good Intent, A **60.61 62** P **P** **18 20 17.4 -1.4**
baz=316
SLVN Son La **60.68 267** *e*P **P** **18 20 19.5 0.0**
comp=Z,60nm,0.9s
Q35A Mercer Eighty, **60.71 64** P **P** **18 20 17.7 -1.7**
baz=316,SNR=14
O37A Wolven Farm, M **60.78 61** P **P** **18 20 18.8 -1.1**
baz=316,SNR=32
N38A Joes South For **60.81 60** P **P** **18 20 19.1 -1.0**
baz=316,SNR=24
JFWS Jewell Farm **60.81 57** *e*P **P** **18 20 18.0 -2.1**
JFWS pmax pmax
comp=Z,98nm,0.8s
JFWS MLR MLR
comp=Z,12μm,19.0s
JFWS Jewell Farm **60.81 57** *e*P **P** **18 20 18.0 -2.1**
comp=Z,98nm,0.8s
JFWS LR LR
comp=Z,12μm,19.0s
U32A Winter Ranch, **60.86 67** P **P** **18 20 19.7 -0.9**
baz=316,SNR=20
M39A Webster **60.87 59** P **P** **18 20 19.6 -0.9**
baz=317,SNR=40
L40A Anamosa **60.94 58** P **P** **18 20 19.8 -1.1**
baz=317,SNR=25
Q36A Arnold C. Orve **60.95 63** P **P** **18 20 19.4 -1.6**
baz=316,SNR=10.0
S34A Willow Spring **60.96 65** P **P** **18 20 19.6 -1.6**
baz=316,SNR=15
R35A Emporia Munici **61.01 64** P **P** **18 20 20.2 -1.3**
baz=316,SNR=34
K41A Shullsburg **61.01 57** P **P** **18 20 20.3 -1.1**
baz=317,SNR=39
P37A Lathrop **61.09 62** P **P** **18 20 20.6 -1.4**
baz=317,SNR=28
N39A Derby Farms, D **61.13 60** P **P** **18 20 21.2 -1.1**
baz=317,SNR=32
O38A Galt **61.17 61** P **P** **18 20 21.4 -1.2**
baz=317,SNR=37
M40A Post Highland **61.26 59** P **P** **18 20 21.9 -1.3**
baz=317,SNR=15
L41A Preston **61.30 57** P **P** **18 20 22.0 -1.4**
baz=317,SNR=31
R36A Gordon, Harris **61.38 64** P **P** **18 20 22.5 -1.5**
baz=317,SNR=34
S35A Otter Creek Ra **61.41 65** P **P** **18 20 22.9 -1.3**
baz=317,SNR=30
T34A McClaskey Farm **61.41 66** P **P** **18 20 22.9 -1.3**
baz=317,SNR=33
FUNA Funafuti **61.48 173** PFAKE **18 20 40.0 +15**
FUNA LR LR
comp=Z,5μm,19.0s
P38A Dawn **61.50 61** P **P** **18 20 23.4 -1.4**
baz=317,SNR=50
Q37A Longview Farm, **61.55 62** P **P** **18 20 23.2 -2.0**
baz=317
O39A Kirksville **61.56 60** P **P** **18 20 24.0 -1.2**
baz=317,SNR=26
N40A Mertquake, Sal **61.61 59** P **P** **18 20 24.2 -1.3**
baz=317,SNR=12
FRU Bishkek **61.64 304** *i* P **P** **18 20 26.0 +0.3**
FRU *e*S **S** **18 28 46.0 -0.8**
FRU pmax pmax
comp=Z,240nm,1.7s
FRU smax smax
comp=N,840nm,4.0s
SCHQ Schefferville **61.74 35** P **P** **18 20 25.9 -0.4**
comp=N,132nm,0.8s,baz=335,slow=7.0,SNR=48
SCHQ LR LR 18 49 31.3
comp=N,6μm,18.3s,baz=328,slow=38
R37A Teagarden Farm **61.76 63** P **P** **18 20 24.4 -2.2**
baz=317,SNR=6.8
S36A Lake Cedric, C **61.77 64** P **P** **18 20 25.1 -1.5**
baz=317,SNR=24
M41A Milan **61.78 58** P **P** **18 20 25.4 -1.3**
baz=317,SNR=11
AAK Ala-Archa **61.85 304** *d i* P **P** **18 20 26.4 -0.9**
AAK pmax pmax
comp=Z,268nm,1.0s
AAK Ala-Archa **61.85 304** *e*P **P** **18 20 26.0 -1.3**
comp=Z,144nm,1.2s
AAK LR LR
comp=Z,5μm,21.0s
AAK Ala-Archa **61.85 304** P **P** **18 20 26.6 -0.6**
SNR=63
AAK P **P** **18 20 26.6 -0.6**
SNR=63
T35A Sooner Cattle **61.85 65** P **P** **18 20 25.9 -1.3**
baz=317,SNR=27
Q38A Cooks Store, C **61.94 62** P **P** **18 20 26.0 -1.7**
baz=317,SNR=27
O40A La Belle **62.01 60** P **P** **18 20 27.1 -1.1**
baz=317,SNR=68
P39B Salisbury **62.01 61** P **P** **18 20 27.0 -1.2**
baz=317,SNR=114
T36A Boggs Farm, Ca **62.10 65** P **P** **18 20 27.4 -1.5**
baz=317,SNR=18
BORG Borgarnes **62.10 7** *e*P **P** **18 20 28.6 +0.2**
BORG pmax pmax
comp=Z,164nm,1.6s
BORG MLR MLR
comp=Z,4μm,19.0s
BORG Borgarnes **62.10 7** *e*P **P** **18 20 28.6 +0.2**
comp=Z,164nm,1.6s
BORG LR LR
comp=Z,4μm,19.0s
N41A Harden Midland **62.11 59** P **P** **18 20 27.7 -1.2**
baz=317,SNR=12
LSA Lhasa **62.12 283** P **P** **18 20 29.9 +0.3**
LSA pP **pP** **18 20 34.5 -1.4**
LSA sP **sP** **18 20 39.5 +1.2**
LSA S S 18 28 45.1 -9.0
LSA LR LR
comp=Z,4μm,17.5s
LSA LR LR
comp=Z,4μm,16.4s
LSA LR LR
comp=Z,9μm,21.9s
LSA Lhasa **62.12 283** *e*P **P** **18 20 30.0 +0.3**
LSA pmax pmax
comp=Z,122nm,1.0s
LSA MLR MLR
comp=Z,10μm,19.0s
LSA Lhasa **62.12 283** *e*P **P** **18 20 29.9 +0.3**
comp=Z,122nm,1.0s
LSA LR LR
comp=Z,10μm,19.0s
M42A Shenfield **62.13 58** P **P** **18 20 27.6 -1.4**
baz=318,SNR=6.8
U35A Pawnee **62.13 66** P **P** **18 20 27.9 -1.1**
baz=317,SNR=9.6
S37A Fort Scott **62.16 64** P **P** **18 20 27.5 -1.8**
baz=317,SNR=25
WMOK Wichita Mounta **62.18 69** P **P** **18 20 29.1 -0.3**
baz=317,SNR=42
WMOK Wichita Mounta **62.18 69** *e*P **P** **18 20 28.9 -0.5**
WMOK pmax pmax
comp=Z,264nm,1.1s
WMOK MLR MLR
comp=Z,6μm,21.0s
WMOK Wichita Mounta **62.18 69** *e*P **P** **18 20 28.9 -0.5**
comp=Z,264nm,1.1s
WMOK LR LR
comp=Z,6μm,21.0s
Q39A Willow Grove F **62.22 61** P **P** **18 20 28.2 -1.4**
baz=317,SNR=49
R38A Fenwick Farm, **62.35 63** P **P** **18 20 28.1 -2.4**
baz=317,SNR=18
P40A Paris **62.35 60** P **P** **18 20 29.4 -1.1**
baz=317,SNR=75
N42A Yates City **62.45 58** P **P** **18 20 30.0 -1.1**
baz=318,SNR=17
V35A Meyer Ranch, C **62.52 66** P **P** **18 20 30.8 -0.9**
baz=317,SNR=18
O41A Passleys Farm, **62.53 59** P **P** **18 20 30.6 -1.1**
baz=318,SNR=34
T37A Cheneyville 18 **62.58 64** P **P** **18 20 30.4 -1.7**
baz=317,SNR=20
U36A Oologah **62.66 65** P **P** **18 20 31.4 -1.2**
baz=317,SNR=22
R39A Chumby, Stover **62.72 62** P **P** **18 20 30.9 -2.1**
baz=318,SNR=30
Q40A Laux Farm, Aux **62.73 61** P **P** **18 20 31.8 -1.3**
baz=318,SNR=40
S38A Stockton **62.75 63** P **P** **18 20 31.0 -2.2**
baz=318,SNR=40
P41A Barry, Barry **62.76 60** P **P** **18 20 32.2 -1.1**
baz=318,SNR=29
O42A Bath **62.89 59** P **P** **18 20 32.8 -1.3**
baz=318
FINES FINESS Array B **62.93 343** P **P** **18 20 32.2 -1.8**
comp=Z,14nm,0.9s,baz=20,slow=7.3,SNR=34
FINES PKP2bc **18 49 42.9**
comp=Z,7.1nm,1.1s,baz=152,slow=27,SNR=4.2
FINES LR LR 18 51 34.5
comp=Z,5μm,19.7s,baz=26,slow=40
FINES FINESS Array B **62.93 343** P **P** **18 20 32.2 -1.8**
FINES pmax pmax
comp=Z,12nm,0.8s
W35A Tecumseh **62.94 67** P **P** **18 20 34.0 -0.5**
baz=318,SNR=56
T38A Diamond **62.98 64** P **P** **18 20 33.1 -1.6**
baz=318,SNR=36
TUL1 Leonard **62.98 66** P **P** **18 20 33.8 -1.0**
baz=318,SNR=21
TUL1 Leonard **62.98 66** *e*P **P** **18 20 33.4 -1.4**
comp=Z,392nm,1.5s
U37A Salina **62.99 65** P **P** **18 20 33.6 -1.3**
baz=318,SNR=46
V36A Jenks **62.99 66** P **P** **18 20 33.8 -1.0**
baz=318,SNR=25
S39A Bolivar **63.02 63** P **P** **18 20 32.7 -2.4**
baz=318,SNR=20
HDIL Hopedale **63.03 58** P **P** **18 20 34.2 -0.8**
baz=318,SNR=24
HDIL Hopedale **63.03 58** *e*P **P** **18 20 34.0 -1.0**
comp=Z,665nm,1.3s
HDIL LR LR
comp=Z,10μm,19.0s
HNR Honiara **63.14 194** *e*P **P** **18 20 37.0 +1.1**
HNR pmax pmax
comp=Z,116nm,0.9s
HNR MLR MLR
comp=Z,4μm,19.0s
HNR Honiara **63.14 194** *e*P **P** **18 20 37.0 +1.1**
comp=Z,116nm,0.9s
HNR LR LR
comp=Z,4μm,19.0s
R40A Maddies Statio **63.15 62** P **P** **18 20 34.1 -1.7**
baz=318,SNR=77
P42A Winchester **63.20 59** P **P** **18 20 35.0 -1.2**
baz=318,SNR=21
Q41A Truxton **63.20 60** P **P** **18 20 35.0 -1.2**
baz=318,SNR=61
O43A Sugar Creek Fa **63.22 58** P **P** **18 20 35.4 -0.9**
baz=318,SNR=11
ABTX Abilene, Hawle **63.23 71** P **P** **18 20 36.4 -0.2**
baz=318,SNR=100
ABTX Abilene, Hawle **63.23 71** *e*P **P** **18 20 36.0 -0.5**
comp=Z,863nm,1.4s
W36A Wetumka **63.31 67** P **P** **18 20 36.4 -0.5**
baz=318,SNR=71
TXAR Lajitas Array **63.32 76** P **P** **18 20 36.7 -0.5**
comp=Z,151nm,0.9s,baz=303,slow=4.0,SNR=673
TXAR LR LR 18 48 27.1
comp=Z,4μm,18.4s,baz=0.0,slow=36
TXAR PKP2bc **18 49 40.3**
comp=Z,2.8nm,1.1s,baz=157,slow=5.9,SNR=7.7
V37A Hulbert **63.36 65** P **P** **18 20 36.1 -1.2**
baz=318,SNR=18
U38A Gravette **63.37 64** P **P** **18 20 35.8 -1.5**
baz=318,SNR=21
KSH Kashi **63.39 301**⇑ *i* P **P** **18 20 40.8 +3.2**
KSH PcP **PcP** **18 21 16.8 +2.4**
KSH PP **PP** **18 23 01.6 +5.0**
KSH ScP 18 25 18.3
KSH S **S** **18 29 12.8 +3.7**
KSH ScS **ScS** **18 30 31.0 +1.4**
KSH SS **SS** **18 33 21.4 +6.2**
KSH pmax pmax
comp=Z,140nm,1.0s
KSH LR LR
comp=Z,7μm,17.7s
KSH LR LR
comp=Z,10μm,15.9s
KSH LR LR
comp=Z,5μm,21.1s
X35A Drake **63.44 68** P **P** **18 20 37.2 -0.6**
baz=318,SNR=44
KKAR Karatay Array **63.46 307** *e*P **P** **18 20 36.4 -1.5**
KKAR pmax pmax
comp=Z,35nm,0.7s
KKAR Karatay Array **63.46 307** *e*P **P** **18 20 36.4 -1.5**
comp=Z,35nm,0.7s
ABKAR Akbulak array **63.47 318** *e*P **P** **18 20 36.3 -1.5**
comp=Z,12nm,0.5s
T39A Clever **63.48 63** P **P** **18 20 36.2 -1.9**
baz=316,SNR=27
S40A Lebanon **63.53 62** P **P** **18 20 36.4 -2.0**
baz=318,SNR=31
P43A Skaggs, Pawnee **63.59 59** P **P** **18 20 37.4 -1.3**
baz=318,SNR=14
Q42A Golden Eagle **63.60 60** P **P** **18 20 37.8 -1.0**
baz=318,SNR=34
R41A Rosebud **63.61 61** P **P** **18 20 37.3 -1.6**
baz=318,SNR=58
X36A Centrahoma **63.66 67** P **P** **18 20 38.6 -0.6**
baz=318,SNR=71
W37B Quinton **63.75 66** P **P** **18 20 39.3 -0.6**
baz=318,SNR=62
Y35A Marietta **63.77 68** P **P** **18 20 39.8 -0.2**
baz=318,SNR=65
V38A Canehill **63.78 65** P **P** **18 20 38.8 -1.3**
baz=318,SNR=78
T40A Mansfield **63.85 63** P **P** **18 20 38.6 -1.9**
baz=318,SNR=60
U39A Green Forest **63.90 64** P **P** **18 20 39.4 -1.5**
baz=318,SNR=88
R42A Luebbering **63.93 61** P **P** **18 20 39.8 -1.2**
baz=318,SNR=42
S41A Jillco Farms, **63.94 62** P **P** **18 20 39.4 -1.7**
baz=318,SNR=38
SKNT Sakolnakorn **63.97 264** P **P** **18 20 42.0 +0.5**
comp=Z,89nm,1.0s,comp=Z,3μm
Q43A New Douglas **64.02 59** P **P** **18 20 40.5 -1.0**
baz=318,SNR=28
233A Rising Star **64.10 71** P **P** **18 20 41.9 -0.4**
baz=318,SNR=68
P44A Sand Creek, Wi **64.18 58** P **P** **18 20 41.9 -0.7**
baz=319,SNR=41
X37A Clayton **64.19 66** P **P** **18 20 42.1 -0.6**
baz=318,SNR=49
Y36A Durant **64.19 67** P **P** **18 20 42.1 -0.7**
baz=318,SNR=43
V39A Pettigrew **64.21 64** P **P** **18 20 41.4 -1.6**
baz=318,SNR=79
MOL Molde **64.23 353** IAmb IAmb 18 21 18.8
comp=Z,88nm,1.2s
MOL *e*S **S** **18 29 16.2 -2.3**
U40A Yellville **64.26 63** P **P** **18 20 41.4 -1.8**
baz=318,SNR=62
SFIN Lafayette **64.28 57** P **P** **18 20 42.3 -0.9**
baz=319,SNR=26
SFIN Lafayette **64.28 57** *e*P **P** **18 20 41.9 -1.3**
comp=Z,106nm,0.7s
W38A Poteau **64.31 65** P **P** **18 20 42.9 -0.6**
baz=318,SNR=122
S42A Caledonia **64.31 61** P **P** **18 20 42.0 -1.5**
baz=318,SNR=78
T41A Mountain View **64.34 62** P **P** **18 20 41.7 -2.0**
baz=318,SNR=63
R43A Red Bud **64.39 60** P **P** **18 20 42.7 -1.3**
baz=318,SNR=22
Q44A Meyer Farm, Va **64.40 59** P **P** **18 20 42.9 -1.1**
baz=319,SNR=31
IUG Iuzhnay **64.41 307** *i* P **P** **18 20 41.1 -3.2**
comp=Z,246nm,0.9s
IUG *e*S **S** **18 29 15.6 -6.1**
IUG LR LR 18 48 55.2
comp=Z,2μm,16.1s
X38A Whitesboro **64.43 66** P **P** **18 20 43.7 -0.7**
baz=318,SNR=53
Y37A Hugo **64.50 67** P **P** **18 20 44.2 -0.6**
baz=318,SNR=9.4
AAM Ann Arbor **64.53 53** *e*P **P** **18 20 44.2 -0.6**
AAM pmax pmax
comp=Z,53nm,0.7s
AAM MLR MLR
comp=Z,8μm,21.0s
AAM Ann Arbor **64.53 53** *e*P **P** **18 20 44.2 -0.6**
comp=Z,53nm,0.7s
AAM LR LR
comp=Z,8μm,21.0s
234A Clairette **64.55 70** P **P** **18 20 44.8 -0.3**
baz=318,SNR=22
333A Richland Sprin **64.57 71** P **P** **18 20 44.8 -0.5**
baz=318,SNR=128
Z36A Blue Ridge **64.57 68** P **P** **18 20 44.5 -0.8**
baz=318,SNR=27
W39A Magazine **64.61 65** P **P** **18 20 44.6 -0.9**
baz=318,SNR=85
DOMB Dombas **64.63 352** *e*P **P** **18 20 44.9 -0.3**
DOMB IAmb IAmb 18 21 13.1
comp=Z,448nm,2.1s
DOMB *e*S **S** **18 29 24.7 +1.1**
AKN Aaknes **64.66 353** *e*P **P** **18 20 45.9 +0.5**
AKN *e*S **S** **18 29 26.0 +2.1**
AKN *e* 18 34 38.1
V40A Witts Springs **64.69 64** P **P** **18 20 44.4 -1.6**
baz=318,SNR=129
T42A Van Buren **64.70 62** P **P** **18 20 44.1 -2.0**
baz=318
JCT Junction City **64.72 72** P **P** **18 20 45.7 -0.6**
baz=318,SNR=70
JCT Junction City **64.72 72** *e*P **P** **18 20 45.3 -1.0**
JCT pmax pmax
comp=Z,543nm,1.2s
JCT MLR MLR
comp=Z,4μm,20.0s
JCT Junction City **64.72 72** *e*P **P** **18 20 45.3 -1.0**
comp=Z,543nm,1.2s
JCT LR LR
comp=Z,4μm,20.0s
SHL Shillong **64.75 279**‖ *i* P **P** **18 20 47.0 +0.3**
SHL *e*S **S** **18 29 26.0 -0.3**
SADO Sadowa **64.76 49** *e*P **P** **18 20 44.3 -2.0**
comp=Z,37nm,0.9s
U41A Viola **64.77 63** P **P** **18 20 44.9 -1.7**
baz=318,SNR=86
S43A Fulton Ridge, **64.84 61** P **P** **18 20 45.5 -1.5**
baz=319,SNR=32
R44A Waltonville **64.86 59** P **P** **18 20 45.9 -1.1**
baz=319,SNR=45
433A Art **64.93 72** P **P** **18 20 47.1 -0.5**
baz=318,SNR=233
X39A Fountain Ranch **64.94 66** P **P** **18 20 47.0 -0.6**
baz=318,SNR=117

WHTX **Lake Whitney,** 64.94 70 P P 18 20 47.3 -0.4
baz=318,SNR=33
WHTX **Lake Whitney,** 64.94 70 *e*P P 18 20 47.0 -0.7
comp=Z,250nm,1.2s
334A **Lometa** 64.99 71 P P 18 20 47.7 -0.4
baz=318,SNR=51
W40A **Ferguson Farm,** 65.01 64 P P 18 20 47.2 -0.9
baz=318,SNR=44
Y38A **Idabel** 65.03 66 P P 18 20 47.2 -1.1
baz=318
V41A **Mountainview** 65.06 63 P P 18 20 46.9 -1.6
baz=319,SNR=148
Z37A **Pogue Cattle C** 65.08 68 P P 18 20 47.8 -0.8
baz=318,SNR=20
T43A **Greenville** 65.09 61 P P 18 20 47.2 -1.3
baz=319,SNR=16
136A **Ennis** 65.11 69 P P 18 20 48.1 -0.7
baz=318,SNR=8.4
U42A **Revenden** 65.13 62 P P 18 20 46.9 -1.9
baz=319,SNR=27
S44A **Carbondale** 65.18 60 P P 18 20 47.9 -1.3
baz=319,SNR=26
MIAR **Mount Ida** 65.21 65 P P 18 20 48.6 -0.8
baz=319,SNR=117
MIAR **Mount Ida** 65.21 65 *e*P P 18 20 48.3 -1.1
MIAR pmax pmax
comp=Z,298nm,1.2s
MIAR MLR MLR
comp=Z,5µm,22.0s
MIAR **Mount Ida** 65.21 65 *e*P P 18 20 48.3 -1.1
comp=Z,298nm,1.2s
MIAR LR LR
comp=Z,5µm,22.0s
DLV **T Lat** 65.23 257 *e*P P 18 20 50.9 +1.0
comp=Z,96nm,1.5s
434A **Burnet** 65.36 71 P P 18 20 49.8 -0.7
baz=319,SNR=71
FOO **Floro** 65.38 354 *e*S S 18 29 34.5 +1.9
Y39A **Lockesburg** 65.38 66 P P 18 20 49.5 -1.0
baz=319,SNR=7.0
Z38A **Mt. Pleasant** 65.40 67 P P 18 20 49.6 -1.0
baz=319,SNR=12
NB2 **NORSAR Subarra** 65.41 350 P P 18 20 48.8 -1.5
baz=12,slow=6.5
NB2 **NORSAR Subarra** 65.41 350 P P 18 20 50.2 -0.1
NB2 pmax pmax
comp=Z,41nm,1.2s
NB2 **NORSAR Subarra** 65.41 350 P P 18 20 48.8 -1.5
comp=Z,47nm,1.1s,baz=12,slow=6.5
NOA **NORSAR Array B** 65.41 350 P P 18 20 48.8 -1.5
comp=Z,8.8nm,0.7s,baz=12,slow=6.4,SNR=15
NOA LR LR 18 51 02.0
comp=Z,1µm,19.8s,baz=25,slow=38
137A **Heron Place, G** 65.45 68 P P 18 20 50.3 -0.7
baz=319,SNR=8.0
T44A **Benton** 65.46 61 P P 18 20 49.6 -1.3
baz=319,SNR=8.0
V42A **Cord** 65.46 63 P P 18 20 49.2 -1.8
baz=319,SNR=31
236A **Katherine and** 65.46 69 P P 18 20 50.7 -0.3
baz=319,SNR=32
W41B **Gary Mavity, V** 65.47 64 P P 18 20 49.7 -1.3
baz=319,SNR=60
533A **Kerrville** 65.47 72 P P 18 20 50.5 -0.7
baz=319,SNR=63
335A **Moody** 65.49 70 P P 18 20 50.7 -0.6
baz=319,SNR=11
S45A **Carrier Mills** 65.54 60 P P 18 20 50.5 -1.0
baz=319,SNR=13
U43A **Rector** 65.56 62 P P 18 20 50.3 -1.3
baz=319,SNR=12
MOS **Moscow** 65.57 334 *e*P P 18 20 49.8 -1.6
MOS *e* 18 23 19.0
MOS *e*PPP PPP 18 24 49.0
MOS *i* S S 18 29 35.7 +0.5
MOS *e* 18 30 36.8
MOS *e*SS SS 18 33 52.2 +4.2
MOS pmax pmax
comp=Z,102nm,1.3s
MOS MLR MLR
comp=Z,6µm,19.0s
MOS MLR MLR
comp=N,7µm,17.0s
VSU **Vasula** 65.59 341 *e*P P 18 20 51.7 +0.3
VSU pmax pmax
comp=Z,172nm,1.2s
KKM **Kota Kinabalu** 65.59 246 PFAKE 18 21 00.0 +7.8
KKM LR LR
comp=Z,2µm,21.0s
CMMT **Chiang Mai** 65.59 269 P P 18 20 51.9 -0.2
comp=Z,45nm,1.1s,comp=Z,888nm
CHTO **Chiang Mai** 65.60 269 P P 18 20 51.9 -0.2
comp=Z,175nm,1.0s,comp=Z,4µm
CHTO **Chiang Mai** 65.60 269 *e*P P 18 20 51.4 -0.7
CHTO pmax pmax
comp=Z,31nm,0.9s
CHTO MLR MLR
comp=Z,4µm,19.0s
CHTO **Chiang Mai** 65.60 269 *e*P P 18 20 51.4 -0.7
comp=Z,31nm,0.9s
CHTO LR LR
comp=Z,4µm,19.0s
CHTO **Chiang Mai** 65.60 269 P P 18 20 52.1 0.0
SNR=12
CHTO P P 18 20 52.1 0.0
SNR=12
X40A **Basin Creek Fa** 65.66 65 P P 18 20 51.3 -1.1
baz=319,SNR=36
NC602 **NORSAR Array S** 65.67 350 *e*P P 18 20 51.8 -0.2
NC602 IAmb IAmb 18 21 32.2
comp=Z,105nm,1.4s
NC602 *e*S S 18 29 37.2 +0.9
NC602 *e*SKSac ScS 18 30 47.7 +1.5
HYA **Hoyanger** 65.72 353 *e*P P 18 20 53.1 +0.9
HYA IAmb IAmb 18 21 38.0
comp=Z,106nm,1.1s
336A **Riesel** 65.74 70 P P 18 20 52.4 -0.4
baz=319,SNR=26
435B **Jarrell** 65.77 71 P P 18 20 52.7 -0.3
baz=319,SNR=13
Y40A **Okolona** 65.77 65 P P 18 20 52.1 -1.0
baz=319,SNR=11
138A **Matatall Enter** 65.78 68 P P 18 20 52.7 -0.4
baz=319,SNR=16
W42A **Bald Knob** 65.79 63 P P 18 20 52.0 -1.1
baz=319,SNR=5.0
534A **Blanco** 65.82 72 P P 18 20 53.0 -0.5
baz=319,SNR=91
X41A **Kaden, Bauxite** 65.83 64 P P 18 20 52.3 -1.1
baz=319,SNR=6.6
633A **Saathoff Ranch** 65.84 73 P P 18 20 52.9 -0.7
baz=319,SNR=21
U44A **Portageville** 65.84 61 P P 18 20 52.5 -1.0
baz=319,SNR=6.2
Z39A **Irene McRaven,** 65.85 67 P P 18 20 52.8 -0.7
baz=319
237A **Washetta, Mont** 65.87 69 P P 18 20 52.9 -0.8
baz=319
CMAR **Chiang Mai Arr** 65.87 269 P P 18 20 53.8 -0.1
comp=Z,20nm,0.8s,baz=24,slow=7.3,SNR=77
CMAR PKP2bc 18 49 32.0
comp=Z,2.3nm,1.0s,baz=242,slow=3.9,SNR=7.3
CMAR LR LR 18 53 34.1
comp=Z,4µm,18.5s,baz=43,slow=40
TAPN **Taplejung** 65.88 284 *e*P P 18 20 53.8 -0.4
comp=Z,466nm,0.9s
PMG **Port Moresby** 65.92 208 *i*P P 18 20 56.8 +2.8
PMG pmax pmax
comp=Z,378nm,1.3s
PMG **Port Moresby** 65.92 208 PFAKE 18 21 10.0 +16
PMG LR LR
comp=Z,4µm,20.0s
V43A **Jonesboro** 65.93 62 P P 18 20 52.9 -1.1
baz=319,SNR=6.7
SUE **Sulen** 65.93 354 *e*S S 18 29 42.3 +2.9
PBKT **Sadao Pong** 66.10 266 P P 18 20 55.5 +0.2
comp=Z,37nm,1.5s,comp=Z,1µm
TSM **Tawau** 66.14 243 ⇓P P 18 20 57.1 +1.6
U44B **Burton Farm, H** 66.15 61 P P 18 20 54.7 -0.7
baz=319,SNR=10
139A **Bunkhouse Ranc** 66.16 67 P P 18 20 55.0 -0.5
baz=319,SNR=10
436A **Wall Ranch, Ga** 66.23 70 P P 18 20 56.0 0.0
baz=319,SNR=19
Y41A **Eaglette Beard** 66.24 65 P P 18 20 55.3 -0.7
baz=319
V44A **Blytheville** 66.24 62 P P 18 20 55.3 -0.7
baz=319
238A **Jacksonville** 66.25 68 P P 18 20 55.7 -0.4
baz=319,SNR=8.2
832A **Faith Ranch, C** 66.26 74 P P 18 20 56.0 -0.2
baz=319,SNR=20
X42A **Stuttgart** 66.27 64 P P 18 20 55.2 -1.0
baz=319
Z40A **Long Farm, Mag** 66.27 66 P P 18 20 55.6 -0.7
baz=319,SNR=9.3
WCI **Wyandotte Cave** 66.31 58 *e*P P 18 20 55.1 -1.4
WCI **Wyandotte Cave** 66.31 58 *e*P P 18 20 55.0 -1.4
comp=Z,540nm,1.0s
LMQ **La Malbaie** 66.33 41 *e*P P 18 20 54.8 -1.6
733A **Divot King Ran** 66.33 73 P P 18 20 56.7 0.0
baz=319,SNR=12
337A **Centerville** 66.34 69 P P 18 20 56.5 -0.2
baz=319
535A **Dale** 66.34 71 P P 18 20 56.5 -0.3
baz=319,SNR=13
W43A **Forest City** 66.37 63 P P 18 20 55.5 -1.3
baz=319
634A **China Grove, S** 66.38 72 P P 18 20 56.9 -0.1
baz=319
OBN **Obninsk** 66.41 334 *de*P P 18 20 57.2 +0.5
OBN *e* 18 23 21.5
OBN *i* S S 18 29 45.4 0.0
OBN pmax pmax
comp=Z,87nm,1.4s
OBN MLR MLR
comp=Z,7µm,19.0s
OBN **Obninsk** 66.41 334 *e*P P 18 20 56.9 +0.2
comp=Z,143nm,1.3s
OBN LR LR
comp=Z,7µm,20.0s
ACSO **Alum Creek Sta** 66.44 54 *e*P P 18 20 56.2 -1.0
comp=Z,291nm,1.7s
ACSO LR LR
comp=Z,5µm,19.0s
ODAN **Odare** 66.44 284 *e*P P 18 20 57.3 -0.4
comp=Z,349nm,1.3s
U45A **Rockin P Farm,** 66.45 61 P P 18 20 56.5 -0.8
baz=320,SNR=6.3
GUN **Gumba** 66.53 286 *e*P P 18 20 58.1 -0.4
comp=Z,412nm,1.1s
JIRN **Jiri** 66.54 285 *e*P P 18 20 58.2 -0.3
comp=Z,560nm,1.1s
437A **Phantom Ranch,** 66.56 70 P P 18 20 58.3 +0.2
baz=319,SNR=7.9
BER **Bergen** 66.56 353 *e*S S 18 29 50.7 +3.6
BER *e*SKSac ScS 18 30 54.9 +1.9
833A **Chaparral WMA,** 66.57 74 P P 18 20 58.3 +0.1
baz=319,SNR=11
536A **Bastrop** 66.60 71 P P 18 20 58.3 0.0
baz=319
Z41A **Richland Creek** 66.60 66 P P 18 20 57.6 -0.7
baz=319
239A **Gary** 66.61 68 P P 18 20 58.0 -0.4
baz=319,SNR=10
338A **Crockett** 66.63 69 P P 18 20 58.3 -0.2
baz=319,SNR=6.2
140A **Cam and Jess,** 66.64 67 P P 18 20 58.3 -0.3
baz=319
734A **La Parita Cree** 66.66 73 P P 18 20 59.2 +0.4
baz=319,SNR=14
NATX **Nacogdoches** 66.69 68 P P 18 20 58.6 -0.4
baz=319,SNR=7.3
NATX **Nacogdoches** 66.69 68 *e*P P 18 20 58.9 -0.1
comp=Z,298nm,1.3s
NATX LR LR
comp=Z,5µm,19.0s
X43A **Marvell** 66.70 63 P P 18 20 58.1 -0.9
baz=319
635A **Leesville** 66.71 72 P P 18 20 59.0 -0.1
baz=319,SNR=9.6
Y42A **Garnett, Star** 66.72 64 P P 18 20 58.7 -0.5
baz=319,SNR=7.4
W44A **Shelby Farms P** 66.81 62 P P 18 20 59.1 -0.6
baz=320
V45A **Humboldt** 66.81 61 P P 18 20 58.9 -0.7
baz=320,SNR=7.1
RAMN **Ramite** 66.83 284 *e*P P 18 20 59.6 -0.7
comp=Z,452nm,0.7s
LONY **Lake Ozonia** 66.90 46 *e*P P 18 20 57.9 -2.3
comp=Z,100nm,1.4s
LONY LR LR
comp=Z,6µm,19.0s
KONO **Kongsberg** 66.94 351 *e*P P 18 21 00.6 +0.5
KONO IAmb IAmb 18 21 17.8
comp=Z,733nm,2.6s
KONO *e*S S 18 29 54.1 +2.4
KONO **Kongsberg** 66.94 351 *e*P P 18 21 00.5 +0.5
KONO pmax pmax
comp=Z,170nm,1.2s
KONO **Kongsberg** 66.94 351 PFAKE 18 21 10.0 +10
KONO LR LR
comp=Z,3µm,19.0s
KKN **Kakani** 66.97 286 *e*P P 18 21 00.6 -0.5
comp=Z,178nm,1.0s
240A **Hunter Patters** 66.99 67 P P 18 21 00.3 -0.5
baz=319
438A **Sam Houston St** 67.00 69 P P 18 21 01.3 +0.4
baz=319,SNR=21
537A **Green Hill Far** 67.02 70 P P 18 21 01.5 +0.4
baz=319,SNR=36
141A **Papa Simpson,** 67.04 66 P P 18 21 00.6 -0.5
baz=319,SNR=5.5
M54A **Oil Creek Stat** 67.04 51 P P 18 21 00.4 -0.7
baz=321,SNR=57
636A **Smothers Creek** 67.05 71 P P 18 21 01.7 +0.4
baz=319,SNR=26
Z42A **Norrel Spur, H** 67.06 65 P P 18 21 00.6 -0.6
baz=319,SNR=6.6
PKI **Pulchoki** 67.06 286 *e*P P 18 21 01.1 -0.7
comp=Z,356nm,1.0s
PKIN **Phulchoki** 67.07 286 *e*P P 18 21 01.1 -0.7
comp=Z,299nm,0.9s
339A **Huntington** 67.07 68 P P 18 21 01.1 -0.3
baz=319,SNR=6.2
735A **Kenedy** 67.09 72 P P 18 21 01.9 +0.4
baz=319,SNR=6.9
X44A **Crenshaw** 67.11 63 P P 18 21 00.9 -0.7
baz=320
W45A **Hickory Valley** 67.13 62 P P 18 21 00.9 -0.8
baz=320,SNR=7.1
Y43A **Makayla and Ka** 67.13 64 P P 18 21 00.9 -0.9
baz=320
933A **Laredo** 67.17 74 P P 18 21 02.6 +0.6
baz=319,SNR=34
GKN **Gorkha** 67.19 286 *e*P P 18 21 01.5 -0.9
comp=Z,471nm,1.3s
834A **Tilden** 67.21 73 P P 18 21 03.2 +0.9
baz=319,SNR=8.5
DMN **Daman** 67.21 286 *e*P P 18 21 02.2 -0.5
comp=Z,157nm,1.0s
N54A **Moraine State** 67.32 52 P P 18 21 02.0 -0.8
baz=321,SNR=42
439A **Center Grove,** 67.36 69 P P 18 21 03.3 0.0
baz=319
538A **Harpers Horsep** 67.38 70 P P 18 21 03.9 +0.6
baz=319
340A **Bronson** 67.38 68 P P 18 21 02.9 -0.5
baz=319,SNR=13
BLS5 **Blasjo** 67.43 353 *e*S S 18 30 01.2 +3.4
736A **Circle Diamond** 67.44 72 P P 18 21 04.4 +0.7
baz=319,SNR=17
241A **Mo Tay, Goldon** 67.47 67 P P 18 21 03.6 -0.3
baz=320,SNR=10
Y44A **Strider, Charl** 67.48 63 P P 18 21 03.1 -0.9
baz=320
Z43A **Armstrong Fami** 67.49 65 P P 18 21 03.3 -0.7
baz=320
637A **Eagle Lake** 67.49 71 P P 18 21 04.7 +0.7
baz=319,SNR=10
OXF **Oxford** 67.50 62 *e*P P 18 21 02.5 -1.6
OXF pmax pmax
comp=Z,1µm,1.3s
OXF **Oxford** 67.50 62 *e*P P 18 21 02.5 -1.6
comp=Z,1µm,1.3s
835A **Beeville** 67.50 73 P P 18 21 05.3 +1.2
baz=319,SNR=38
X45A **UM Field Stati** 67.57 62 P P 18 21 03.5 -1.0
baz=320,SNR=26
142A **Monroe** 67.61 65 P P 18 21 04.6 -0.2
baz=320
934A **Benavides** 67.62 74 P P 18 21 06.1 +1.2
baz=319,SNR=35
143A **Socs Landing,** 67.79 65 P P 18 21 05.1 -0.8
baz=320
341A **Kurthwood** 67.85 67 P P 18 21 05.9 -0.4
baz=320,SNR=12
440A **Kirbyville** 67.85 68 P P 18 21 05.7 -0.6
baz=320
242A **Grayson** 67.86 66 P P 18 21 05.6 -0.8
baz=320
Z44A **Pea Ridge, Bel** 67.88 64 P P 18 21 05.4 -1.1
baz=320
AFI **Afiamalu** 67.89 164 PFAKE 18 21 20.0 +13
AFI LR LR
comp=Z,4µm,20.0s
539A **Cross D Ranch,** 67.90 69 P P 18 21 07.0 +0.3
baz=320
Y45A **Yeager Farm, C** 67.92 63 P P 18 21 05.9 -0.8
baz=320,SNR=53
034A **Hebbronville** 67.93 74 P P 18 21 07.9 +1.0
baz=320,SNR=64
737A **Port Lavaca** 67.94 71 P P 18 21 07.7 +0.8
baz=320
KOLN **Koldanda** 67.96 287 *e*P P 18 21 06.4 -0.9
comp=Z,100nm,0.8s
STAV **Stavanger** 67.97 353 IAmb IAmb 18 21 26.6
comp=Z,97nm,1.0s
STAV *e*S S 18 30 06.0 +1.9
LPSR **Galich'ya Gora** 67.99 332 *e*P P 18 21 07.1 +0.2
LPSR *e*S S 18 30 02.4 -2.2
LPSR pmax pmax
comp=Z,70nm,1.4s
LPSR smax smax
comp=E,660nm,8.0s
KVTX **Kingsville** 68.02 73 *e*P P 18 21 08.2 +0.7
comp=E,910nm,1.6s
KVTX LR LR
comp=Z,4µm,20.0s
PYUN **Piuthan** 68.07 288 *e*P P 18 21 07.1 -0.9
comp=Z,280nm,1.1s
BINY **Binghamton** 68.20 48 *e*P P 18 21 06.7 -1.7
comp=Z,195nm,1.5s
BINY LR LR
comp=Z,10µm,19.0s
Z45A **Winona** 68.21 63 P P 18 21 07.8 -0.7
baz=320,SNR=7.0
IZAR **Zarasai** 68.22 340 *e*P P 18 21 07.0 -1.2
540A **Vidor** 68.25 69 P P 18 21 09.2 +0.4
baz=320
CHBT **CHBT** 68.25 262 P P 18 21 11.7 +2.7
comp=Z,71nm,1.5s,comp=Z,3µm
Y46A **Houston** 68.27 62 P P 18 21 08.1 -0.8
baz=320,SNR=28
441A **DeRidder** 68.28 68 P P 18 21 08.8 -0.2
baz=320
342A **Flagon Creek P** 68.29 67 P P 18 21 08.7 -0.4
baz=320,SNR=6.2
035A **Encino** 68.36 74 P P 18 21 09.7 +0.1
baz=320,SNR=32
243A **Waterproof** 68.37 66 P P 18 21 09.6 +0.1
baz=320
144A **Alexander Plac** 68.38 64 P P 18 21 09.0 -0.6
baz=320
ISAL **Salakas** 68.41 340 *e*P P 18 21 08.2 -1.2
SNART **Snartemo** 68.45 352 *e*P P 18 21 09.9 +0.4
SNART IAmb IAmb 18 21 14.5
comp=Z,79nm,1.4s
936A **North Padre Is** 68.46 73 P P 18 21 10.5 +0.4
baz=320
IDID **Didziasalis** 68.53 340 *e*P P 18 21 08.9 -1.3
O56A **Blue Knob Stat** 68.53 51 P P 18 21 09.4 -1.1
baz=322,SNR=64
SSPA **Standing Stone** 68.56 51 *e*P P 18 21 09.5 -1.1
comp=Z,2µm,1.3s
IIGN **Ignalina** 68.60 340 *e*P P 18 21 09.3 -1.3
PKME **Peaks-Kenny Pk** 68.60 42 *e*P P 18 21 09.0 -1.8
comp=Z,1µm,2.4s
PKME LR LR
comp=Z,10µm,19.0s
VBMS **Vicksburg** 68.64 65 P P 18 21 10.7 -0.5
baz=320
145A **Houston Renfro** 68.67 64 P P 18 21 10.8 -0.6
baz=320
244A **Avery, Jackson** 68.69 65 P P 18 21 11.0 -0.5
baz=320,SNR=7.3
442A **Mamou** 68.73 67 P P 18 21 12.5 +0.7
baz=320
VORR **Voronezh** 68.73 331 P P 18 21 11.0 -0.5
VORR pmax pmax
comp=Z,250nm,0.8s
035Z **Hargill** 68.74 74 P P 18 21 12.7 +0.7
baz=320,SNR=5.1
343A **Vidalia** 68.75 66 P P 18 21 12.2 +0.3
baz=320
Z46A **Louisville** 68.75 63 P P 18 21 11.3 -0.6
baz=320,SNR=8.1
Y47A **UCPARC, Winfie** 68.80 62 P P 18 21 11.0 -1.2
baz=320,SNR=63
541A **Lake Charles** 68.81 68 P P 18 21 12.6 +0.3
baz=320
SDNR **Sundarnagar** 68.88 294 *e*P P 18 21 13.0 +0.2
NACGM **Naroch** 68.90 340 *e* P 18 21 13.0 +0.5
TZTN **Tazewell** 69.00 57 *e*P P 18 21 12.7 -0.7
comp=Z,170nm,1.3s
MICGM **Minsk** 69.04 339⇑ *e*P P 18 21 14.0 +0.6
MICGM PM 18 21 16.0
comp=Z,0.3nm,2.0s
MICGM *e*PcP PcP 18 21 30.0 -7.4
MICGM *e*S S 18 30 19.0 +2.0
MICGM *e*PS PnS 18 30 32.0 -10
MICGM *e*ScS SKSac 18 31 08.0 -3.7
MICGM *e*SSS SSS 18 38 20.0
MICGM *e*LQ LQ 18 44 14.0
MICGM *e*LR LR 18 46 00.0
MICGM LRM MLR 18 52 00.0
comp=E,3.7nm,14.0s
MICGM LRM MLR 18 52 04.0
comp=Z,9.0nm,16.0s
MICGM LRM MLR 18 52 10.0
comp=Z,2.2nm,16.0s
MNK **Minsk** 69.04 339⇑ *e*P P 18 21 14.0 +0.6
MNK *e* 18 21 30.0
MNK *e*S S 18 30 19.0 +2.0
MNK *e*PS PnS 18 30 32.0 -10
MNK *e* 18 31 08.0
MNK pmax pmax
comp=Z,340nm,2.0s
MNK MLR MLR
comp=E,4µm,14.0s
MNK MLR MLR
comp=Z,9µm,16.0s
MNK MLR MLR
comp=Z,2µm,16.0s
443A **Delano Plantat** 69.05 67 P P 18 21 13.9 0.0
baz=320
SMLA **Simla** 69.06 294 *e*P P 18 21 12.4 -1.4
SMLA IAmb IAmb 18 21 15.1
comp=Z,216nm,1.3s
344A **Westbrook Farm** 69.11 65 P P 18 21 14.0 -0.2
baz=320,SNR=8.9
542A **Morse** 69.11 68 P P 18 21 14.9 +0.7
baz=320
146A **Union** 69.12 63 P P 18 21 13.8 -0.4
baz=320,SNR=10.0
245A **Little AP, Sta** 69.12 64 P P 18 21 13.4 -0.9
baz=320,SNR=7.3
VSR **Storozhevoye** 69.15 331 *e*P P 18 21 13.6 -0.5
VSR *e*S S 18 30 15.6 -2.8
VSR pmax pmax
comp=Z,60nm,1.2s
VSR smax smax
comp=E,1µm,7.6s
VSR MLR MLR
comp=Z,6µm,25.0s
DDI **Dehra Dun** 69.18 293 *e*P P 18 21 17.2 +2.5
Z47A **Carrollton** 69.22 62 P P 18 21 13.8 -1.1
baz=320,SNR=9.5
N59A **State Game Lan** 69.32 49 P P 18 21 14.3 -1.1
baz=323,SNR=23
Z48A **Northport** 69.36 62 P P 18 21 14.2 -1.5
baz=321,SNR=68
147A **Livingston** 69.51 63 P P 18 21 15.7 -0.9
baz=321,SNR=26
543A **St. Martinvill** 69.53 67 P P 18 21 17.0 +0.2
baz=320
246A **Jackson Lee, B** 69.56 64 P P 18 21 16.5 -0.4
baz=320
345A **Thompson Farm,** 69.60 65 P P 18 21 16.7 -0.5
baz=320
BOK **Bokaro** 69.64 283 *e*P P 18 21 18.1 +0.6
BOK IAmb IAmb 18 21 19.7

comp=Z,185nm,1.6s
444A Pine Grove 69.66 66 P P 18 21 17.5 -0.1
baz=320
247A Quitman 69.81 64 P P 18 21 18.2 -0.3
baz=321,SNR=11
346A Big Creek Wild 69.85 65 P P 18 21 18.2 -0.5
baz=321
445A Amite 69.88 66 P P 18 21 18.8 -0.1
baz=320
544A White Castle 69.90 67 P P 18 21 19.8 +0.8
baz=320
HRV Adam Dziewonsk 69.90 45 eP P 18 21 17.5 -1.4
HRV pmax pmax
comp=Z,51nm,1.2s
HRV Adam Dziewonsk 69.90 45 eP P 18 21 17.5 -1.4
comp=Z,51nm,1.2s
LRAL Lakeview Retre 69.92 62 eP P 18 21 17.2 -2.0
comp=Z,50nm,0.8s
BLA Blacksburg 70.04 54 eP P 18 21 18.9 -1.0
BLA pmax pmax
comp=Z,51nm,0.7s
BLA MLR MLR
comp=Z,8µm,19.0s
BLA Blacksburg 70.04 54 eP P 18 21 18.9 -1.0
comp=Z,51nm,0.7s
BLA LR LR
comp=Z,8µm,19.0s
248A Dixon Mills 70.25 63 P P 18 21 20.6 -0.6
baz=321,SNR=12
545A Edgard 70.32 66 P P 18 21 22.1 +0.4
baz=321
347A Saraland 70.34 64 P P 18 21 21.5 -0.3
baz=321,SNR=15
446A Poplarville 70.37 65 P P 18 21 21.4 -0.5
baz=321,SNR=7.2
SUW Suwalki 70.46 342 eP P 18 21 22.0 -0.1
SUW LMZ LR 18 46 59.4
comp=Z,5µm,31.3s
SUW Suwalki 70.46 342 eP P 18 21 22.0 -0.1
MSVF Nonsavu 70.54 175 eP P 18 21 24.6 +1.6
MSVF pmax pmax
comp=Z,52nm,1.1s
MSVF MLR MLR
comp=Z,3µm,20.0s
MSVF Nonsavu 70.54 175 eP P 18 21 24.6 +1.6
comp=Z,52nm,1.1s
MSVF LR LR
comp=Z,3µm,20.0s
546A Slidell 70.60 66 P P 18 21 23.3 -0.1
baz=321
348A Jackson 70.68 63 P P 18 21 23.4 -0.4
baz=321,SNR=7.6
645A Chauvin 70.71 67 P P 18 21 24.9 +0.8
baz=321
CBN Corbin Frederi 70.73 52 PFAKE 18 21 40.0 +16
CBN LR LR
comp=Z,13µm,19.0s
447A Lucedale 70.75 64 P P 18 21 23.9 -0.4
baz=321
SBUM Sibu 70.78 247 ⇓P P 18 21 25.7 +1.2
448A Bay Minette 71.08 64 P P 18 21 25.9 -0.4
baz=321
KMSC Kings Mountain 71.21 56 P P 18 21 25.9 -1.2
baz=322,SNR=40
KMSC Kings Mountain 71.21 56 eP P 18 21 25.8 -1.2
comp=Z,206nm,1.1s
BRAL Brewton 71.33 63 eP P 18 21 27.6 -0.2
comp=Z,53nm,0.7s
BRAL LR LR
comp=Z,4µm,19.0s
COEN Coen 71.41 211 eP P 18 21 29.2 +0.9
comp=Z,175nm,1.6s
GOGA Godfrey 71.48 59 eP P 18 21 27.1 -1.6
GOGA pmax pmax
comp=Z,132nm,1.2s
GOGA MLR MLR
comp=Z,8µm,19.0s
GOGA Godfrey 71.48 59 eP P 18 21 27.1 -1.6
comp=Z,132nm,1.2s
GOGA LR LR
comp=Z,8µm,19.0s
ESK Eskdalemuir 72.03 358 eP P 18 21 32.0 +0.4
ESK pmax pmax
comp=Z,330nm,1.9s
ESK MLR MLR
comp=Z,3µm,19.0s
ESK Eskdalemuir 72.03 358 eP P 18 21 32.0 +0.4
comp=Z,330nm,1.9s
ESK LR LR
comp=Z,3µm,19.0s
AKASG Malin Array Be 72.27 337 P P 18 21 31.5 -1.6
comp=Z,6.4nm,0.4s,baz=26,slow=6.2,SNR=43
AKASG PKPPKP P'P'df 18 49 11.7 -14
comp=Z,0.6nm,0.5s,baz=235,slow=3.3,SNR=5.1
AKASG LR LR 18 56 31.4
comp=Z,4µm,18.7s,baz=25,slow=39
AKASG Malin Array Be 72.27 337 i P P 18 21 31.7 -1.4
AKASG pmax pmax
comp=Z,7.0nm,0.4s
KIEV Kiev 72.28 337 eP P 18 21 32.4 -0.8
KIEV pmax pmax
comp=Z,52nm,0.8s
KIEV MLR MLR
comp=Z,4µm,19.0s
KIEV Kiev 72.28 337 eP P 18 21 32.4 -0.8
comp=Z,52nm,0.8s
KIEV LR LR
comp=Z,4µm,19.0s
KSM Kuching 72.65 248 eP P 18 21 34.8 -1.1
comp=Z,82nm,1.4s
KSM LR LR
comp=Z,2µm,22.0s
CNNC Cliffs of the 72.85 54 PFAKE 18 21 50.0 +13
CNNC LR LR
comp=Z,9µm,19.0s
TIGA Tifton 72.96 60 P P 18 21 36.5 -1.0
baz=322,SNR=11
TIGA Tifton 72.96 60 eP P 18 21 36.6 -1.0
comp=Z,128nm,1.0s
BEL Belsk 72.98 342 eP P 18 21 38.5 +1.2
BEL Belsk 72.98 342 eP P 18 21 38.5 +1.2
KAPI Kappang 73.03 237 eP P 18 21 38.5 +0.4
comp=Z,78nm,1.3s
KAPI LR LR
comp=Z,1µm,21.0s
GOF Gofitskoye 73.33 325 ⇓iP P 18 21 40.9 +1.4
GOF eS SKiKP 18 31 09.4 +0.1
GOF pmax pmax
comp=Z,323nm,1.6s
GOF pmax pmax
comp=E,77nm,1.8s
GEYT Alibeck 73.34 311 P P 18 21 39.4 -0.4
comp=E,27nm,0.7s,baz=342,slow=3.4,SNR=48
GEYT LR LR 18 57 43.6
comp=E,8µm,18.1s,baz=50,slow=39
TAOE Nuku Hiva Isla 73.35 131 eP P 18 21 40.4 +0.4
comp=E,488nm,1.5s
SURT Suratani 73.36 263 P P 18 21 42.4 +2.3
comp=E,26nm,1.5s
NHSC New Hope 73.41 57 eP P 18 21 39.9 -0.2
comp=E,466nm,1.4s
NHSC LR LR
comp=Z,12µm,22.0s
MAK Makhachkala 73.54 321 eP P 18 21 38.0 -2.8
MAK e 18 21 59.7
MAK e 18 24 19.3
MAK ePPP PPP 18 26 10.1
MAK eS S 18 31 03.7 -5.7
MAK e 18 31 50.2
MAK eSS SS 18 35 55.4 +4.3
JBP Jabalpur 73.58 287 ⇓eP P 18 21 41.3 +0.1
JBP ex x 18 30 55.0
DGPR DIGLIPUR 73.59 270 eP P 18 21 40.9 -0.5
DGPR IAmb IAmb 18 21 42.1
comp=Z,189nm,0.3s
TRTT Trang 73.71 261 P P 18 21 43.1 +1.0
comp=Z,56nm,1.6s,comp=Z,2µm
GROC Groznyy 73.97 323 eP P 18 21 44.3 +1.0
GROC e 18 21 59.9
GROC eS S 18 31 16.5 +2.3
GROC pmax pmax
comp=Z,92nm,1.3s
LVV L'vov 74.26 340 eP P 18 21 43.9 -1.0
LVV e 18 24 33.8
LVV eS SKiKP 18 31 13.5 +3.0
LVV eSS SS 18 35 59.6 -2.1
LVV MLR MLR
comp=Z,3µm,17.0s
KIV Kislovodsk 74.42 325 i P P 18 21 47.4 +1.4
SNR=6.7
KIV Kislovodsk 74.42 325 eP P 18 21 46.6 +0.5
KIV ePPP PPP 18 26 18.5
KIV eS S 18 31 21.4 +1.9
KIV eSS SS 18 36 09.3 +4.6
KIV pmax pmax
comp=Z,88nm,4.2s
KIV pmax pmax
comp=Z,64nm,1.1s
KIV MLR MLR
comp=Z,4µm,18.0s
KIV Kislovodsk 74.42 325 eP P 18 21 45.7 -0.4
comp=Z,80nm,1.1s
KIV LR LR
comp=Z,5µm,19.0s
KIV Kislovodsk 74.42 325 P P 18 21 46.5 +0.4
SNR=24
KIV P P 18 21 46.5 +0.4
SNR=24
NCK Nalchik 74.51 324 d iP P 18 21 46.9 +0.4
NCK pmax pmax
comp=Z,95nm,1.3s
KBZ Khabaz 74.55 325 P P 18 21 46.7 0.0
comp=Z,27nm,0.9s,baz=70,slow=1.7,SNR=41
KBZ LR LR 18 58 14.5
comp=Z,3µm,19.2s,baz=26,slow=39
KSP Ksiaz 74.71 345 eP P 18 21 46.6 -0.8
KSP eS S 18 31 19.5 -2.8
KSP LMZ LR 18 51 25.4
comp=Z,3µm,27.5s
KSP Ksiaz 74.71 345 eP P 18 21 46.6 -0.8
KSP eS S 18 31 19.5 -2.8
KSP MLR MLR
comp=Z,3µm,27.5s
OJC Ojcow 74.71 342 eP P 18 21 47.6 +0.1
OJC eS S 18 31 21.0 -1.4
OJC LMZ LR 18 48 43.3
comp=Z,4µm,29.5s
OJC Ojcow 74.71 342 eP P 18 21 47.6 +0.1
OJC eS S 18 31 21.0 -1.4
KWP Kalwaria Pacla 74.72 340 eP P 18 21 48.4 +0.9
KWP eS S 18 31 22.1 -0.3
KWP LMZ LR 18 49 04.3
comp=Z,6µm,39.3s
KWP Kalwaria Pacla 74.72 340 eP P 18 21 48.4 +0.9
KWP eS S 18 31 22.1 -0.3
CLL Collm 74.73 347 ⇓iP P 18 21 47.3 -0.3
CLL eS SKiKP 18 31 17.0 +5.8
CLL pmax pmax
comp=Z,42nm,1.5s
CLL MLR MLR
comp=Z,4µm,19.2s
CLL Collm 74.73 347 ⇓iP P 18 21 47.3 -0.3
comp=Z,42nm,1.5s
CLL i pP pP 18 21 53.0 -1.0
CLL ePcP PcP 18 22 02.0 +0.3
CLL e 18 22 22.0
comp=Z,46nm,1.2s
CLL ePP PP 18 24 38.0 +4.0
CLL e(PPP) 18 26 06.0
CLL ePPPP 18 27 18.0
CLL eS S 18 31 21.0 -1.5
CLL ePS PnS 18 31 57.0 -0.5
CLL eSS SS 18 36 08.0 -0.8
CLL e 18 40 06.0
CLL LmV 18 59 00.0
comp=Z,4µm,19.2s
CHLP Challavanipeta 74.79 281 eP P 18 21 48.6 +0.2
CHLP IAmb IAmb 18 21 51.2
comp=Z,88nm,1.1s
CHLP eS S 18 31 23.5 -0.6
CHLP eSS SS 18 36 09.8 -1.7
CHLP IVMs_BB IVMs_BB 18 54 54.5
comp=Z,1µm,18.0s
SORM Soroca 74.87 336 ⇑iP P 18 21 47.3 -1.1
SORM Soroca 74.87 336 ⇑P P 18 21 47.3 -1.1
MMRI Maumere 74.93 232 eP P 18 21 48.8 -0.3
comp=Z,364nm,1.5s
DZM Mont Dzumac 74.94 186 eP P 18 21 49.4 +0.3
comp=Z,227nm,1.4s
DZM eS S 18 31 20.4 -5.0
comp=Z,572nm,22.3s
DZM Mont Dzumac 74.94 186 eLQ LQ 18 41 38.4
comp=Z,11µm,24.8s
DZM eLR LR 18 44 40.5
comp=Z,6µm,23.3s
DZM Mont Dzumac 74.94 186 eP P 18 21 51.8 +2.7
comp=Z,165nm,1.4s
SOEI Soe 74.95 230 eP P 18 21 50.1 +0.6
comp=Z,205nm,1.2s
BHPL Bhopal 74.99 289 eP P 18 21 48.6 -1.0
BHPL IAmb IAmb 18 21 51.1
comp=Z,82nm,0.5s
BHPL IAMs_20 IAMs_20 18 57 52.1
comp=Z,8µm,17.3s
ZEI Tsey 75.02 324 eP P 18 21 47.7 -2.0
ZEI eS S 18 31 27.1 +0.7
ZEI pmax pmax
comp=Z,217nm,1.0s
ZEI pmax pmax
comp=N,169nm,1.2s
ZEI pmax pmax
comp=E,161nm,0.9s
BRG Berggiesshubel 75.03 346 ⇓eP P 18 21 49.1 -0.2
comp=E,40nm,1.5s
BRG i 18 21 55.1
comp=E,42nm,1.4s
BRG S S 18 31 25.0 -0.8
BRG SS SS 18 36 02.0 -11
comp=N,4µm,18.6s
comp=E,5µm,18.3s
comp=Z,2µm,22.4s
BRG Berggiesshubel 75.03 346 ⇓eP P 18 21 49.1 -0.2
BRG i 18 21 55.1
BRG S S 18 31 25.0 -0.8
BRG pmax pmax
comp=Z,40nm,1.5s
BRG MLR MLR
comp=N,4µm,18.6s
BRG MLR MLR
comp=E,5µm,18.3s
NEY Neytrino 75.03 325 d iP P 18 21 50.8 +1.1
NEY pmax pmax
comp=Z,7.0nm,1.4s
UPC Upice 75.08 345 ⇓iP P 18 21 49.9 +0.3
UPC eS S 18 31 24.2 -2.2
UPC AMS AMS 18 59 10.0
comp=Z,3µm,19.5s
UPC Upice 75.08 345 ⇓iP P 18 21 49.9 +0.3
UPC eS S 18 31 24.2 -2.2
UPC MLR MLR
comp=Z,3µm,19.5s
GUDG Gudauri 75.09 323 P P 18 21 51.7 +1.6
GUDG S S 18 31 29.7 +2.4
KULM Kulim 75.16 259 eP P 18 21 49.1 -1.5
comp=Z,85nm,1.4s
KULM LR LR
comp=Z,3µm,22.0s
SEKA Sheki 75.17 321 P P 18 21 48.6 -1.8
DPC Dobruska-Polom 75.18 345 ⇓iP P 18 21 50.9 +0.6
DPC epP sP 18 21 57.0 -2.0
DPC eS S 18 31 25.7 -1.9
DPC AMS AMS 18 59 10.0
comp=Z,2µm,17.9s
DPC Dobruska-Polom 75.18 345 ⇓iP P 18 21 50.9 +0.6
DPC e 18 21 57.0
DPC eS S 18 31 25.7 -1.9
DPC MLR MLR
comp=Z,2µm,17.9s
STHS Stebnicka Huta 75.21 341 eP P 18 21 52.4 +2.0
STHS pmax pmax
comp=Z,58nm,0.9s
STHS Stebnicka Huta 75.21 341 eP P 18 21 52.4 +2.0
PVCC Panska Ves 75.27 346 ⇓eP P 18 21 50.9 +0.2
PVCC epP pP 18 21 56.9 -0.2
PVCC eS S 18 31 25.8 -2.8
PVCC eSS SS 18 36 17.3 +0.3
PVCC AMS AMS 19 00 50.0
comp=Z,5µm,16.8s
PVCC Panska Ves 75.27 346 eP P 18 21 50.9 +0.2
PVCC e 18 21 56.9
PVCC eS S 18 31 25.8 -2.8
PVCC eSS SS 18 36 17.3 +0.3
PVCC MLR MLR
comp=Z,5µm,16.8s
ONI Oni 75.35 324 P P 18 21 53.2 +1.8
ONI S S 18 31 31.6 +1.8
ONI Oni 75.35 324 P P 18 21 53.2 +1.8
KRLC Kraliky 75.37 344 ⇓iP P 18 21 52.0 +0.6
KRLC Kraliky 75.37 344 ⇓iP P 18 21 52.0 +0.6
OKC Ostrava-Krasne 75.37 343 ⇓iP P 18 21 52.3 +1.0
OKC epP sP 18 21 58.1 -1.9
OKC eS S 18 31 29.1 -0.6
OKC AMS AMS 18 58 20.0
comp=Z,3µm,16.7s
OKC Ostrava-Krasne 75.37 343 ⇓iP P 18 21 52.3 +1.0
OKC e 18 21 58.1
OKC eS S 18 31 29.1 -0.6
OKC MLR MLR
comp=Z,3µm,16.7s
NIE Niedzica 75.39 342 eP P 18 21 51.8 +0.3
NIE eS S 18 31 30.1 +0.1
NIE LMZ LR 18 49 23.6
comp=Z,3µm,30.5s
NIE Niedzica 75.39 342 eP P 18 21 51.8 +0.3
NIE eS S 18 31 30.1 +0.1
ANN Anapa 75.40 329 d iP P 18 21 51.7 +0.2
ANN e 18 24 44.1
ANN iS S 18 31 30.6 +0.5
ANN i 18 32 03.7
ANN pmax pmax
comp=Z,134nm,1.9s
ANN MLR MLR
comp=Z,3µm,18.0s
VAL Valentia 75.43 2 ⇓iS S 18 31 31.6 +1.4
MORC Moravsky Berou 75.53 344 ⇓iP P 18 21 53.3 +1.0
MORC Moravsky Berou 75.53 344 eP P 18 21 52.6 +0.3
MORC pmax pmax
comp=Z,194nm,1.3s
MORC Moravsky Berou 75.53 344 eP P 18 21 52.5 +0.3
comp=Z,194nm,1.3s
MNGR Mingechevir, A 75.58 321 P P 18 21 51.1 -1.6
IPM Ipoh 75.59 258 eP P 18 21 52.0 -1.0
comp=Z,24nm,0.8s
TBLG Delisi 75.64 323 P P 18 21 54.1 +1.0
TBLG S S 18 31 34.8 +1.8
TBLG Delisi 75.64 323 P P 18 21 54.0 +1.0
DGRG David-gareji 75.64 322 P P 18 21 54.3 +1.2
DGRG S S 18 31 34.9 +1.8
DGRG David-gareji 75.64 322 P P 18 21 54.3 +1.2
CRVS Cervenica-Dubn 75.66 341 eP P 18 21 57.9 +4.9
CRVS eS S 18 31 36.1 +3.2
NGP Nagpur 75.68 286 eP P 18 21 54.2
NGP IAmb IAmb 18 21 54.2
PRA Prague 75.74 346 ⇓eS S 18 31 31.3 -2.4
PRA eSS SS 18 36 26.9 +2.9
PRA AMS AMS 19 01 10.0
comp=Z,5µm,15.6s
UZH Uzhgorod 75.75 340 eP P 18 21 48.2 -5.3
UZH e 18 22 08.2
UZH iS SKiKP 18 31 23.4 +11
UZH ePS PnS 18 32 27.6 +17
SOC Sochi 75.76 327 eP P 18 21 54.7 +1.1
SOC e 18 24 41.8
SOC ePPP PPP 18 26 31.0
SOC eS S 18 31 36.6 +2.5
SOC e 18 32 04.6
SOC pmax pmax
comp=Z,52nm,0.9s
SOC MLR MLR
comp=Z,7µm,18.0s
LANS Liptovska Anna 75.80 342 eP P 18 21 56.0 +2.2
LANS Liptovska Anna 75.80 342 eP P 18 21 56.0 +2.2
PRU Pruhonice 75.80 346 ⇓iP P 18 21 53.9 +0.1
PRU epP sP 18 22 00.5 -2.0
PRU eS S 18 31 31.8 -2.7
PRU eSS SS 18 36 28.1 +3.1
PRU AMS AMS 18 58 40.0
comp=Z,5µm,19.4s
PRU Pruhonice 75.80 346 ⇓iP P 18 21 53.9 +0.1
PRU e 18 22 00.5
PRU eS S 18 31 31.8 -2.7
PRU eSS SS 18 36 28.1 +3.1
PRU MLR MLR
comp=Z,5µm,19.4s
KIS Kishinev 75.81 336 eP P 18 21 53.0 -0.9
comp=Z,200nm,1.0s
KIS Kishinev 75.81 336 i PcP P 18 21 59.0 +5.1
KIS Kishinev 75.81 336 ePP PP 18 24 46.0 +2.8
KIS Kishinev 75.81 336 eP P 18 21 53.0 -0.9
KIS i 18 21 59.0
KIS e 18 24 46.0
KIS iS S 18 31 34.0 -0.6
KIS i 18 31 50.0
KIS iPS PnS 18 32 18.0 +6.4
KIS pmax pmax
comp=Z,200nm,1.0s
KIS smax smax
comp=E,2µm,8.0s
VIS Vishakhapatnam 75.83 281 eP P 18 21 53.9 -0.5
GOPC GO Pecny, Ondr 75.84 346 ⇓eP P 18 21 54.3 +0.3
GOPC eS S 18 31 32.8 -2.1
GOPC eSS SS 18 36 25.1 -0.5
GOPC AMS AMS 18 58 40.0
comp=E,4µm,19.6s
GOPC GO Pecny, Ondr 75.84 346 eP P 18 21 54.3 +0.3
GOPC eS S 18 31 32.8 -2.1
GOPC eSS SS 18 36 25.1 -0.5
GOPC MLR MLR
comp=Z,4µm,19.6s
NKC Novy Kostel 75.86 347 ⇓eP P 18 21 54.3 +0.2
NKC eS S 18 31 33.8 -1.3
NKC eSS SS 18 36 21.7 -4.2
NKC AMS AMS 19 00 20.0
comp=Z,3µm,19.6s
NKC Novy Kostel 75.86 347 eP P 18 21 54.3 +0.2
NKC eS S 18 31 33.8 -1.3
NKC eSS SS 18 36 21.7 -4.2
NKC MLR MLR
comp=Z,3µm,19.6s
VAH Vaihoa 75.94 141 eP P 18 21 54.8 0.0
comp=Z,196nm,1.2s
GANJ Ganja 75.99 321 P P 18 21 53.4 -1.6
BURAR Bucovina Array 76.09 338 ⇓iP P 18 21 55.1 -0.5
BURAR Bucovina Array 76.09 338 ⇓P P 18 21 55.1 -0.5
PRAR RASCA 76.10 337 ⇑iP P 18 21 54.4 -1.1
VRAC Vranov 76.14 344 ⇑iP P 18 21 56.5 +0.8
VRAC Vranov 76.14 344 ⇑P P 18 21 56.6 +0.8
TRPA Tarpa 76.18 340 ⇓eP P 18 21 57.4 +1.5
MEM Membach 76.21 351 P P 18 21 55.9 -0.2
comp=Z,56nm,1.3s
KECS Kecovo 76.25 342 eP P 18 21 57.4 +1.0
KECS pmax pmax
comp=Z,27nm,1.0s
KECS Kecovo 76.25 342 eP P 18 21 57.4 +1.0
SIM Simferopol' 76.27 331 ceP P 18 21 56.0 -0.5
SIM eS S 18 31 39.0 -0.7
SIM pmax pmax
comp=Z,75nm,1.9s
TREC Trest 76.33 345 ⇓eP P 18 21 57.4 +0.5
TREC eS S 18 31 39.2 -1.2
TREC eSS SS 18 36 30.8 -2.4
TREC AMS AMS 19 01 10.0
comp=Z,3µm,16.0s
TREC Trest 76.33 345 eP P 18 21 57.4 +0.5
TREC eS S 18 31 39.2 -1.2
TREC eSS SS 18 36 30.8 -2.4
TREC MLR MLR
comp=Z,3µm,16.0s
CTAO Charters Tower 76.35 206 eP P 18 21 59.1 +2.0
CTAO MLR MLR
comp=Z,3µm,20.0s
CTAO Charters Tower 76.35 206 eP P 18 21 59.0 +2.0
comp=Z,775nm,1.1s
CTAO LR LR
comp=Z,3µm,20.0s
AKH Akhalkalaki 76.37 323 P P 18 21 59.2 +1.7
AKH S S 18 31 44.4 +3.0
AKH Akhalkalaki 76.37 323 ⇑iP P 18 21 57.8 +0.4
AKH Akhalkalaki 76.37 323 P P 18 21 59.1 +1.7
BMR Baia Mare 76.41 339 ⇓iP P 18 21 51.9 -5.4
BMR Baia Mare 76.41 339 ⇓P P 18 21 51.9 -5.4
LEOM Leova 76.44 336 ⇑iP P 18 21 58.6 +1.2
LEOM Leova 76.44 336 ⇑P P 18 21 58.6 +1.2
BCLA Clavier 76.46 352 P P 18 21 57.6 +0.1
comp=Z,32nm,1.4s

BGD	**Bogdanovka**	**76.46 323**		P	**P**	**18 22 00.0 +2.1**
BGD				S	**S**	**18 31 46.8 +4.3**
VYHS	**Vyhne**	**76.55 343**	*eP*	**P**	**18 21 59.2 +1.1**
VYHS				pmax	pmax	
	comp=Z,49nm,1.4s					
VYHS	**Vyhne**	**76.55 343**	*eP*	**P**	**18 21 59.2 +1.1**
VYHS			*eS*	**S**	**18 31 39.7 -3.0**
VYHS			*eL*	L	18 49 35.1
GRFO	**Grafenberg**	**76.55 348**	*eP*	**P**	**18 21 58.2 +0.1**
GRFO				pmax	pmax	
	comp=Z,72nm,1.4s					
GRFO	**Grafenberg**	**76.55 348**	*eP*	**P**	**18 21 58.2 +0.1**
	comp=Z,72nm,1.4s					
LKRN	**Lenkeran, Azer**	**76.69 318**	P	**P**	**18 21 57.4 -1.6**
DWPF	**Disney Wildern**	**76.74 61**	*eP*	**P**	**18 21 59.1 -0.3**
	comp=Z,401nm,1.3s					
SMOL	**Smolenice**	**76.78 344**	*eP*	**P**	**18 22 01.0 +1.7**
SMOL	**Smolenice**	**76.78 344**	*eP*	**P**	**18 22 01.0 +1.7**
KHC	**Kasperske Hory**	**76.78 346**	⇓*iP*	**P**	**18 22 00.1 +0.7**
KHC			*epP*	**pP**	**18 22 04.2 -1.6**
KHC			*eS*	**S**	**18 31 43.4 -1.9**
KHC			*eSS*	**SS**	**18 36 41.9 +2.0**
KHC			AMS	AMS	19 01 50.0
	comp=Z,5µm,16.5s					
KHC	**Kasperske Hory**	**76.78 346**	⇓*iP*	**P**	**18 22 00.1 +0.7**
KHC			*e*		18 22 04.2
KHC			*eS*	**S**	**18 31 43.4 -1.9**
KHC			*eSS*	**SS**	**18 36 41.9 +2.0**
KHC			MLR	MLR	
	comp=Z,5µm,16.5s					
KHC	**Kasperske Hory**	**76.78 346**	*eP*	**P**	**18 21 59.5 +0.1**
	comp=Z,24nm,1.3s					
ARCR	**ARCALIA**	**76.78 339**	⇑*iP*	**P**	**18 22 00.7 +1.3**
TESR	**Tescani**	**76.80 337**	⇓*iP*	**P**	**18 21 58.6 -0.9**
DOU	**Dourbes**	**76.84 352**	P	**P**	**18 21 59.8 +0.2**
PSZ	**Piszkesteto**	**76.90 342**	⇑*iP*	**P**	**18 22 02.2 +2.0**
PSZ	**Piszkesteto**	**76.90 342**	*eP*	**P**	**18 22 01.2 +1.0**
PSZ				pmax	pmax	
	comp=Z,125nm,1.2s					
PSZ				MLR	MLR	
	comp=Z,4µm,20.0s					
PSZ	**Piszkesteto**	**76.90 342**	⇓*eP*	**P**	**18 22 01.6 +1.4**
PSZ	**Piszkesteto**	**76.90 342**	*eP*	**P**	**18 22 01.1 +1.0**
	comp=Z,125nm,1.2s					
PSZ				LR	LR	
	comp=Z,4µm,20.0s					
GNI	**Garni**	**77.01 322**	*i P*	**P**	**18 22 02.3 +1.3**
	SNR=13					
GNI	**Garni**	**77.01 322**	*d iP*	**P**	**18 22 03.3 +2.3**
GNI				pmax	pmax	
	comp=Z,307nm,1.5s					
GNI	**Garni**	**77.01 322**	*eP*	**P**	**18 22 01.6 +0.6**
	comp=Z,1µm,1.5s					
GNI				LR	LR	
	comp=Z,9µm,21.0s					
GNI	**Garni**	**77.01 322**	P	**P**	**18 22 02.9 +1.9**
	SNR=16					
GNI				P	**P**	**18 22 02.9 +1.9**
	SNR=16					
GERES	**GERESS Array B**	**77.04 346**	P	**P**	**18 22 00.6 -0.4**
	comp=Z,1.7nm,0.5s,baz=34,slow=3.6,SNR=29					
GERES				LR	LR	18 57 23.0
	comp=Z,3µm,21.9s,baz=12,slow=37					
WLF	**Walferdange**	**77.13 351**	P	**P**	**18 22 01.8 +0.5**
	comp=Z,45nm,2.1s					
WLF	**Walferdange**	**77.13 351**	*eP*	**P**	**18 22 01.7 +0.4**
WLF				pmax	pmax	
	comp=Z,59nm,1.3s					
WLF				MLR	MLR	
	comp=Z,4µm,19.0s					
WLF	**Walferdange**	**77.13 351**	*eP*	**P**	**18 22 01.7 +0.4**
	comp=Z,60nm,1.3s					
WLF				LR	LR	
	comp=Z,4µm,19.0s					
PVM	**Polavaram**	**77.21 282**	*eP*	**P**	**18 22 01.3 -0.9**
PVM				IAmb	IAmb	18 22 04.8
	comp=Z,70nm,1.0s					
PVM			*eP*	**PP**	**18 24 55.7 -0.2**
PVM			*eS*	**S**	**18 31 49.9 -0.8**
PVM			*eSS*	**SS**	**18 36 51.1 +2.9**
PVM			IVMs_BB	IVMs_BB	18 58 36.0
	comp=Z,984nm,22.8s					
CJR	**Cluj-Napoca**	**77.30 339**	⇓*iP*	**P**	**18 22 03.3 +0.9**
CJR	**Cluj-Napoca**	**77.30 339**	⇓*P*	**P**	**18 22 03.4 +1.0**
RPR	**Rampur**	**77.33 284**	*eP*	**P**	**18 22 01.5 -1.4**
RPR			IAmb	IAmb	18 22 05.2
	comp=Z,134nm,1.1s					
RPR			*ePP*	**PP**	**18 24 55.2 -1.7**
RPR			*eS*	**S**	**18 31 50.4 -1.6**
RPR			*eSS*	**SS**	**18 36 56.9 +7.0**
RPR			IVMs_BB	IVMs_BB	18 57 32.1
	comp=Z,2µm,19.1s					
SRO2	**Moca**	**77.33 343**	*eP*	**P**	**18 22 03.1 +0.7**
SRO2	**Moca**	**77.33 343**	*eP*	**P**	**18 22 03.1 +0.7**
PPT	**Papeete**	**77.35 143**	P	**P**	**18 22 05.0 +2.2**
	comp=Z,14nm,0.3s,baz=215,slow=0.9,SNR=6.1					
PPT				LR	LR	18 47 55.1
	comp=Z,2µm,21.0s,baz=329,slow=29					
PPT2	**Papeete2**	**77.37 144**	*eP*	**P**	**18 22 03.2 +0.2**
	comp=Z,72nm,1.3s					
PPT2	**Papeete2**	**77.37 144**	*eLQ*	LQ	18 42 05.9
	comp=Z,7µm,28.0s					
PPT2			*eLR*	LR	18 45 38.3
	comp=Z,17µm,34.0s,baz=336					
ODBI	**Odobesti**	**77.40 336**	⇓*iP*	P	18 22 13.9 +11
DRGR		**77.42 340**	⇑*iP*	**P**	**18 22 02.8 -0.3**
DRGR		**77.42 340**	⇑*P*	**P**	**18 22 02.8 -0.3**
PLOR	**Plostina**	**77.42 337**	⇑*iP*	**P**	**18 22 04.3 +1.3**
PLOR	**Plostina**	**77.42 337**	⇑*P*	**P**	**18 22 04.3 +1.3**
LHMI	**Lhok Sumawe**	**77.42 262**	*eP*	**P**	**18 22 03.9 +0.5**
	comp=Z,257nm,0.9s					
PAE	**Paea**	**77.44 144**	*eP*	**P**	**18 22 03.2 0.0**
	comp=Z,34nm,1.3s					
BUD	**Budapest**	**77.48 342**	P	**P**	**18 22 05.7 +2.4**
BUD	**Budapest**	**77.48 342**	⇓*eP*	**P**	**18 22 05.1 +1.8**
TLCR		**77.50 335**	⇑*iP*	**P**	**18 22 03.7 +0.3**
TLCR		**77.50 335**	⇑*P*	**P**	**18 22 03.7 +0.3**
NAX	**Nakhchivan**	**77.58 321**	P	**P**	**18 22 02.4 -1.7**
RAR	**Rarotonga**	**77.58 154**	PFAKE		18 22 20.0 +16
RAR			LR	LR	
	comp=Z,4µm,19.0s					
CONA	**Conrad Observa**	**77.60 344**	*i P*	**P**	**18 22 03.7 -0.4**
	comp=Z,54nm,1.4s,SNR=22					
DOPR	**Dopca**	**77.61 337**	⇑*iP*	**P**	**18 22 05.0 +0.9**
TVO	**Taravao**	**77.67 143**	*eP*	**P**	**18 22 04.8 +0.2**
	comp=Z,22nm,1.2s					
CFR	**Carcaliu**	**77.68 335**	⇑*iP*	**P**	**18 22 03.8 -0.6**
CFR	**Carcaliu**	**77.68 335**	⇑*P*	**P**	**18 22 03.8 -0.6**
SOP	**Sopron**	**77.73 344**	P	**P**	**18 22 06.6 +1.9**
SOP	**Sopron**	**77.73 344**	⇓*eP*	**P**	**18 22 06.3 +1.6**
CSKK	**Cs˙ˇtkako**	**77.74 343**	⇓*eP*	**P**	**18 22 06.3 +1.5**
SRSP	**Sriramsagar**	**77.83 285**	*eP*	**P**	**18 22 04.3 -1.4**
SRSP			IAmb	IAmb	18 22 07.4
	comp=Z,92nm,1.1s					
SRSP			*ePP*	**PP**	**18 24 56.1 -5.0**
SRSP			*eS*	**S**	**18 31 53.6 -3.9**
SRSP			IVMs_BB	IVMs_BB	18 59 16.5
	comp=Z,2µm,16.8s					
MLR	**Muntele Rosu**	**77.92 337**	⇓*iP*	**P**	**18 22 06.6 +0.6**
MLR	**Muntele Rosu**	**77.92 337**	⇓*P*	**P**	**18 22 06.6 +0.6**
MOA	**Molln**	**77.93 345**	*eP*	**P**	**18 22 05.2 -0.7**
	comp=Z,27nm,1.6s,SNR=9.7					
ISR	**Istrita**	**78.13 336**	⇑*iP*	**P**	**18 22 04.7 -2.3**
ISR	**Istrita**	**78.13 336**	⇑*P*	**P**	**18 22 04.7 -2.3**
SIRR	**Siria**	**78.14 340**	⇑*iP*	**P**	**18 22 07.7 +0.7**
VOIR		**78.18 338**	⇓*iP*	**P**	**18 22 06.8 -0.6**
VOIR		**78.18 338**	⇓*P*	**P**	**18 22 06.8 -0.6**
BFO	**Black Forest**	**78.23 350**	*eP*	**P**	**18 22 06.7 -0.8**
BFO				pmax	pmax	
	comp=Z,70nm,1.5s					
BFO				MLR	MLR	
	comp=Z,3µm,20.0s					
BFO	**Black Forest**	**78.23 350**	*eP*	**P**	**18 22 06.7 -0.8**
	comp=Z,70nm,1.5s					
BFO				LR	LR	
	comp=Z,3µm,20.0s					
TLB	**Topalu**	**78.26 335**	⇑*iP*	**P**	**18 22 06.3 -1.3**
TLB	**Topalu**	**78.26 335**	⇑*P*	**P**	**18 22 06.3 -1.3**
TIRR	**Tirgusor**	**78.28 335**	⇓*iP*	**P**	**18 22 06.6 -1.2**
TIRR	**Tirgusor**	**78.28 335**	⇓*P*	**P**	**18 22 06.6 -1.2**
TIRR	**Tirgusor**	**78.28 335**	*eP*	**P**	**18 22 07.8 +0.1**
	comp=Z,39nm,0.9s					
ARSA	**Arzberg**	**78.32 345**	*i* pP	**P**	**18 22 08.8 +0.8**
	comp=Z,47nm,1.5s,SNR=18					

ARR	**Arges**	**78.35 338**	⇓*iP*	**P**	**18 22 08.5 +0.3**
MTUR	**Matau**	**78.38 337**	⇑*iP*	P	18 22 17.3 +8.8
MTUR	**Matau**	**78.38 337**	⇑*P*	P	18 22 17.3 +8.8
LOT	**Lotru**	**78.46 338**	⇑*iP*	**P**	**18 22 07.7 -1.3**
ECH	**Echery**	**78.47 350**	⇓*eP*	**P**	**18 22 08.7 -0.1**
THEF	**They Montfort**	**78.57 351**	*eP*	**P**	**18 22 09.2 -0.2**
BZS	**Buzias**	**78.77 340**	⇑*iP*	**P**	**18 22 10.0 -0.5**
BZS	**Buzias**	**78.77 340**	⇑*P*	**P**	**18 22 10.0 -0.5**
RETA	**Reutte**	**78.78 348**	*i P*	**P**	**18 22 10.5 -0.1**
	comp=Z,17nm,1.4s,SNR=5.5					
WATA	**Walderalm**	**78.82 347**	*i* pP	**P**	**18 22 11.3 +0.4**
	comp=Z,42nm,1.3s					
KBA	**Koelnbreinsper**	**78.82 346**	*i* pP	**P**	**18 22 11.4 +0.4**
	comp=Z,72nm,1.2s,SNR=20					
KBA	**Koelnbreinsper**	**78.82 346**	P	**P**	**18 22 12.3 +1.3**
BEHE	**Becsehely**	**78.86 343**	⇓*eP*	**P**	**18 22 12.5 +1.5**
MOTA	**Moosalm**	**78.87 348**	*i P*	**P**	**18 22 11.0 -0.2**
	comp=Z,37nm,1.2s,SNR=11					
WTTA	**Wattenberg**	**78.88 347**	*i* pP	**P**	**18 22 12.0 +0.7**
	comp=Z,51nm,1.5s,SNR=11					
HYBB	**Hyderabad (bro**	**78.89 284**	*eP*	**P**	**18 22 11.3 -0.3**
HYBB			IAmb	IAmb	18 22 13.8
	comp=Z,127nm,1.1s					
HYBB			*ePP*	**PP**	**18 25 16.5 +6.5**
HYBB			*eS*	**S**	**18 32 06.8 -2.1**
HYBB			*eSS*	**SS**	**18 37 20.2 +6.7**
HYBB			IVMs_BB	IVMs_BB	19 01 03.6
	comp=Z,1µm,14.9s					
HYB	**Hyderabad**	**78.89 284**	*i P*	**P**	**18 22 11.0 -0.6**
HYB			*eS*	**S**	**18 32 08.0 -0.9**
HYB	**Hyderabad**	**78.89 284**	*eP*	**P**	**18 22 11.2 -0.4**
HYB			IAmb	IAmb	18 22 13.4
	comp=Z,494nm,1.9s					
SOKA	**Soboth**	**78.95 345**	*i P*	**P**	**18 22 11.7 +0.2**
	comp=Z,64nm,1.2s,SNR=46					
PERS	**Pernice**	**78.98 345**	*eP*	**P**	**18 22 11.6 -0.1**
PERS			*eS*	**S**	**18 32 08.1 -1.0**
PERS			*eSS*	**SS**	**18 37 18.5 +5.4**
DAVA	**Damuels**	**79.08 348**	*i* pP	**P**	**18 22 13.2 +0.9**
	comp=Z,24nm,1.7s,SNR=5.2					
NJS	**Nagarjunasagar**	**79.13 283**	*eP*	**P**	**18 22 11.7 -1.1**
NJS			IAmb	IAmb	18 22 15.1
	comp=Z,97nm,1.2s					
NJS			*ePP*	**PP**	**18 25 17.4 +5.5**
NJS			*eS*	**S**	**18 32 10.2 -1.1**
NJS			*eSS*	**SS**	**18 37 17.5 +0.5**
NJS			IVMs_BB	IVMs_BB	19 00 38.0
	comp=Z,1µm,15.1s					
OBKA	**Obir**	**79.19 345**	*i P*	**P**	**18 22 12.8 -0.1**
	comp=Z,59nm,1.3s,SNR=26					
MYKA	**Terra Mystica**	**79.21 346**	*i* pP	**P**	**18 22 13.8 +0.8**
	comp=Z,37nm,1.6s,SNR=12					
TEIG	**Tepich**	**79.22 71**	PFAKE		18 22 20.0 +6.7
TEIG			LR	LR	
	comp=Z,68nm,20.0s					
FETA	**Feichten**	**79.24 348**	*i* pP	**P**	**18 22 13.6 +0.3**
	comp=Z,27nm,1.4s,SNR=13					
ABTA	**Abfaltersbach**	**79.26 346**	*i* pP	**P**	**18 22 13.5 +0.2**
	comp=Z,49nm,1.4s,SNR=21					
ADKI	**Addanki**	**79.29 282**	*eP*	**P**	**18 22 14.0 +0.3**
ADKI			IAmb	IAmb	18 22 16.5
	comp=Z,112nm,1.2s					
ADKI			*ePP*	**PP**	**18 25 19.3 +6.0**
ADKI			*eS*	**S**	**18 32 12.6 -0.5**
ADKI			*eSS*	**SS**	**18 37 24.6 +5.1**
ADKI			IVMs_BB	IVMs_BB	18 57 32.9
	comp=Z,1µm,25.6s					
BHJ	**Bhuj**	**79.36 294**	*eP*	**P**	**18 22 14.8 +0.8**
BHJ			IAmb	IAmb	18 22 20.1
	comp=Z,4µm,4.8s					
LOMF	**Lomont**	**79.36 350**	⇓*eP*	**P**	**18 22 14.1 +0.3**
KLRI	**Killari**	**79.52 286**	*eP*	**P**	**18 22 15.0 0.0**
KLRI			IAmb	IAmb	18 22 23.9
	comp=Z,102nm,0.9s					
KLRI			*ePP*	**PP**	**18 25 21.3 +6.1**
KLRI			*eS*	**S**	**18 32 12.0 -3.6**
KLRI			IVMs_BB	IVMs_BB	19 00 28.4
	comp=Z,4µm,17.6s					
PRD	**Provadia**	**79.72 335**	P	**P**	**18 22 15.5 -0.2**
SRLM	**Srisailam**	**79.73 283**	*eP*	**P**	**18 22 16.4 +0.2**
SRLM			IAmb	IAmb	18 22 18.1
	comp=Z,73nm,1.2s					
SRLM			*ePP*	**PP**	**18 25 21.6 +4.7**
SRLM			*eS*	**S**	**18 32 17.2 -0.7**
SRLM			*eSS*	**SS**	**18 37 27.8 +1.7**
SRLM			IVMs_BB	IVMs_BB	19 00 55.4
	comp=Z,1µm,19.9s					
VISS	**Visnje**	**79.83 345**	*eP*	**P**	**18 22 15.9 -0.5**
VISS			*eS*	**S**	**18 32 14.3 -3.9**
JAVS	**Javornik**	**79.87 345**	*i P*	**P**	**18 22 15.6 -1.0**
JAVS			*eS*	**S**	**18 32 14.3 -4.4**
JAVS			*eSS*	SS	18 37 16.1 -10
OZLJ	**Ozalj**	**79.92 344**	P	**P**	**18 22 15.0 -1.7**
WRAB	**Tennant Creek**	**79.93 217**	*eP*	**P**	**18 22 16.4 -0.6**
WRAB			pmax	pmax	
	comp=Z,153nm,1.2s					
WRAB			MLR	MLR	
	comp=Z,6µm,21.0s					
WRAB	**Tennant Creek**	**79.93 217**	*eP*	**P**	**18 22 16.4 -0.6**
	comp=Z,153nm,1.2s					
WRAB			LR	LR	
	comp=Z,6µm,21.0s					
WRA	**Warramunga Arr**	**79.94 217**	P	**P**	**18 22 16.6 -0.5**
	comp=Z,15nm,0.8s,baz=33,slow=4.7,SNR=40					
WRA			PKKPbc	**PKKPbc**	**18 41 00.8 -0.4**
	comp=Z,1.1nm,0.7s,baz=213,slow=1.9,SNR=8.3					
WRA			LR	LR	18 54 18.6
	comp=Z,2µm,21.9s,baz=20,slow=33					
WRA	**Warramunga Arr**	**79.94 217**	P	**P**	**18 22 16.6 -0.5**
WRA			pmax	pmax	
	comp=Z,14nm,0.8s					
WRA			MLR	MLR	
	comp=Z,2µm,21.9s					
TUE	**Stuetta**	**79.95 349**	*eP*	**P**	**18 22 17.3 +0.2**
	comp=Z,36nm,0.9s					
TUE			LR	LR	
	comp=Z,2µm,22.0s					
SZH	**Strazhica**	**80.02 336**	P	**P**	**18 22 16.5 -0.9**
BOJS	**Bojanci**	**80.06 344**	*i P*	**P**	**18 22 17.7 +0.2**
BOJS			*eS*	**S**	**18 32 17.8 -2.7**
RCLA	**Racherla**	**80.19 283**	*eP*	**P**	**18 22 17.5 -1.1**
RCLA			IAmb	IAmb	18 22 32.3
	comp=Z,62nm,0.9s					
RCLA			*ePP*	**PP**	**18 25 19.6 -1.2**
RCLA			*eS*	**S**	**18 32 22.2 -0.5**
RCLA			*eSS*	**SS**	**18 37 32.0 -1.1**
RCLA			IVMs_BB	IVMs_BB	19 02 35.8
	comp=Z,1µm,16.4s					
EIDS	**Eidsvold**	**80.30 200**	*eP*	**P**	**18 22 20.6 +1.8**
	comp=Z,81nm,1.4s					
MPEP	**Malo Peshtene**	**80.46 338**	P	**P**	**18 22 19.0 -0.7**
DIVS	**Divibare**	**80.55 341**	P	**P**	**18 22 21.9 +1.6**
POO	**Poona**	**80.75 288**	*eP*	**P**	**18 22 22.0 +0.3**
UDBI	**Udbina**	**80.92 344**	P	**P**	**18 22 21.6 -0.7**
AGO	**Saint Agoulin**	**80.97 353**	⇓*eP*	**P**	**18 22 24.4 +2.0**
PLDF	**La Plantade**	**81.02 352**	⇓*eP*	**P**	**18 22 24.6 +1.9**
NVLJ	**Novalja**	**81.04 344**	P	**P**	**18 22 20.1 -2.6**
SKHT	**Srikalahasti**	**81.10 281**	*eP*	**P**	**18 22 23.0 -0.4**
SKHT			IAmb	IAmb	18 22 26.1
	comp=Z,84nm,1.3s					
SKHT			*ePP*	**PP**	**18 25 29.2 +0.8**
SKHT			*eS*	**S**	**18 32 30.1 -2.0**
SKHT			*eSS*	**SS**	**18 37 46.1 -0.4**
SKHT			IVMs_BB	IVMs_BB	19 01 08.7
	comp=Z,2µm,16.4s					
PGB	**Panagyurishte**	**81.12 337**	P	**P**	**18 22 23.5 +0.2**
EDRB	**Edirne**	**81.16 335**	P	**P**	**18 22 25.2 +1.8**
BRTR	**Keskin Array B**	**81.19 329**	P	**P**	**18 22 23.1 -0.8**
	comp=Z,12nm,0.7s,baz=36,slow=3.2,SNR=38					
BRTR			PKKPbc	**PKKPbc**	**18 40 58.8 +1.7**
	comp=Z,0.4nm,0.9s,baz=221,slow=7.7,SNR=2.3					
BRTR			PKPPKP	P'P'df	18 48 59.1 -11
	comp=Z,0.6nm,0.7s,baz=181,slow=7.1,SNR=4.3					
BRTR			LR	LR	19 02 16.7
	comp=Z,1µm,20.6s,baz=4.0,slow=39					
BRTR	**Keskin Array B**	**81.19 329**	P	**P**	**18 22 23.1 -0.8**
BRTR			pmax	pmax	
	comp=Z,12nm,0.7s					
PYM	**Petit Puy Mans**	**81.28 353**	⇓*eP*	**P**	**18 22 25.8 +1.6**
VTS	**Vitosha**	**81.30 338**	P	**P**	**18 22 25.6 +1.2**
VTS	**Vitosha**	**81.30 338**	⇑*iP*	**P**	**18 22 21.7 -2.7**
VTS	**Vitosha**	**81.30 338**	⇑*P*	**P**	**18 22 21.7 -2.7**
VTS	**Vitosha**	**81.30 338**	P	**P**	**18 22 24.0 -0.4**
MDRS	**Chennai**	**81.31 280**	*eP*	**P**	**18 22 25.0 +0.4**

ANTO	**Ankara**	**81.31 330**	*eP*	**P**	**18 22 24.9 +0.5**
ANTO				pmax	pmax	
	comp=Z,240nm,1.1s					
ANTO				MLR	MLR	
	comp=Z,2µm,19.0s					
ANTO	**Ankara**	**81.31 330**	*eP*	**P**	**18 22 24.9 +0.5**
	comp=Z,240nm,1.1s					
ANTO				LR	LR	
	comp=Z,2µm,19.0s					
ANTO	**Ankara**	**81.31 330**	P	**P**	**18 22 25.2 +0.8**
	SNR=18					
ANTO			P	**P**	**18 22 25.2 +0.8**
	SNR=18					
BBSR	**BB Station**	**81.35 46**	*eP*	**P**	**18 22 24.0 -0.6**
	comp=Z,137nm,1.3s					
BBSR			LR	LR	
	comp=Z,3µm,20.0s					
PLE	**Pljevlja**	**81.41 341**	P	**P**	**18 22 26.6 +1.7**
PLE	**Pljevlja**	**81.41 341**	*eP*	**P**	**18 22 24.5 -0.4**
GRN	**Grenoble**	**81.55 351**	⇓*eP*	**P**	**18 22 27.1 +1.5**
GDM	**Grand'Maison**	**81.56 351**	⇓*eP*	**P**	**18 22 27.1 +1.4**
URV	**Uravakonda**	**81.59 284**	*eP*	**P**	**18 22 25.3 -0.9**
URV			IAmb	IAmb	18 22 33.7
	comp=Z,50nm,0.9s					
URV			*ePP*	**PP**	**18 25 32.6 +0.2**
URV			*eS*	**S**	**18 32 31.5 -5.8**
URV			*eSS*	**SS**	**18 37 54.3 +0.3**
URV			IVMs_BB	IVMs_BB	19 07 03.6
	comp=Z,1µm,14.3s					
SSB	**Saint Sauveur**	**81.63 352**	⇓*eP*	**P**	**18 22 26.6 +0.6**
SSB	**Saint Sauveur**	**81.63 352**	*eP*	**P**	**18 22 25.4 -0.6**
SSB				pmax	pmax	
	comp=Z,43nm,1.3s					
SSB				MLR	MLR	
	comp=Z,2µm,21.0s					
SSB	**Saint Sauveur**	**81.63 352**	*eP*	**P**	**18 22 25.4 -0.6**
	comp=Z,43nm,1.3s					
SSB				LR	LR	
	comp=Z,2µm,21.0s					
UPM	**Unac-Piva**	**81.63 341**	⇑*iP*	**P**	**18 22 25.7 -0.5**
BNI	**Bardonecchia**	**81.65 350**	*eP*	**P**	**18 22 27.2 +1.0**
BNI				pmax	pmax	
	comp=Z,127nm,1.3s					
BNI				MLR	MLR	
	comp=Z,5µm,20.0s					
BNI	**Bardonecchia**	**81.65 350**	*eP*	**P**	**18 22 27.2 +1.0**
	comp=Z,127nm,1.3s					
BNI				LR	LR	
	comp=Z,5µm,20.0s					
FITZ	**Fitzroy Crossi**	**81.71 225**	*eP*	**P**	**18 22 26.7 +0.2**
	comp=Z,154nm,1.3s					
IVA	**Berane**	**81.75 340**	⇑*iP*	**P**	**18 22 26.2 -0.5**
LBL	**Lubilhac**	**81.78 353**	⇓*eP*	**P**	**18 22 28.6 +1.8**
NKY	**Niksic**	**81.99 341**	P	**P**	**18 22 28.7 +0.7**
NKY	**Niksic**	**81.99 341**	*eP*	**P**	**18 22 27.5 -0.5**
BRY	**Bratogost**	**81.99 341**	*eP*	**P**	**18 22 27.3 -0.7**
PVY	**Plav**	**82.00 340**	*eP*	**P**	**18 22 27.5 -0.6**
SFNV	**Sufian**	**82.01 323**	*eP*	**P**	**18 22 28.1 -0.1**
NKME	**Niksic**	**82.04 341**	*eP*	**P**	**18 22 27.7 -0.5**
VLC	**Villacollemand**	**82.09 347**	*eP*	**P**	**18 22 28.7 +0.3**
	comp=Z,37nm,0.8s					
VLC				LR	LR	
	comp=Z,3µm,20.0s					
RDO	**Rodhopi**	**82.12 336**	P	**P**	**18 22 26.9 -1.6**
ALN	**Alexandroupoli**	**82.23 335**	P	**P**	**18 22 29.1 0.0**
CEME	**Cevo**	**82.26 341**	⇑*iP*	**P**	**18 22 28.7 -0.7**
RAO	**Raoul Island**	**82.26 172**	PFAKE		18 22 40.0 +11
RAO			LR	LR	
	comp=Z,3µm,21.0s					
SKO	**Skopje**	**82.29 339**	*i P*	**P**	**18 22 30.6 +1.1**
PDG	**Podgorica**	**82.30 341**	⇑*iP*	**P**	**18 22 28.5 -1.0**
TTG	**Podgorica**	**82.30 341**	⇑*iP*	**P**	**18 22 29.3 -0.2**
NVR	**Nevrokopi**	**82.33 337**	P	**P**	**18 22 29.4 -0.3**
HCY	**Herceg Novi**	**82.44 341**	⇑*iP*	**P**	**18 22 30.0 -0.2**
BUM	**Brajici-Budva**	**82.50 341**	⇑*iP*	**P**	**18 22 30.5 -0.1**
KAVA	**Kavala**	**82.51 336**	P	**P**	**18 22 30.1 -0.5**
DRME	**Dracevica, Mon**	**82.55 341**	⇑*iP*	**P**	**18 22 31.2 +0.4**
SRS	**Serrai**	**82.62 337**	P	**P**	**18 22 30.8 -0.4**
SRS	**Serrai**	**82.62 337**	P	**P**	**18 22 30.8 -0.4**
VAY	**Valandovo**	**82.66 338**	*i P*	**P**	**18 22 32.9 +1.6**
VAY	**Valandovo**	**82.66 338**	*i P*	**P**	**18 22 32.9 +1.6**
TBI	**Tubuai**	**82.72 146**	*eLQ*	LQ	18 44 19.5
	comp=Z,5µm,31.8s					
TBI			*eLR*	LR	18 48 12.9
	comp=Z,9µm,33.2s,baz=335					
KNT	**Kendrikon**	**82.73 338**	P	**P**	**18 22 31.4 -0.4**
KNT	**Kendrikon**	**82.73 338**	P	**P**	**18 22 31.4 -0.4**
ULC	**Ulcinj**	**82.75 341**	⇑*iP*	**P**	**18 22 31.5 -0.4**
SMTH	**Samothraki Isl**	**82.76 336**	P	**P**	**18 22 30.7 -1.2**
KSRV	**Kasrt alli**	**82.90 324**	*eP*	**P**	**18 22 34.1 +1.4**
SOH	**Sokhos**	**82.95 337**	P	**P**	**18 22 32.8 -0.2**
SLMH	**Al Salmeh**	**82.97 325**	*eP*	**P**	**18 22 32.2 -0.9**
DRWC	**Darouich**	**83.03 326**	*eP*	**P**	**18 22 35.0 +1.5**
GOA	**Goa**	**83.17 287**	*eP*	**P**	**18 22 34.1 -0.3**
GOA				IAmb	IAmb	18 22 34.9
	comp=Z,45nm,0.7s					
TIR	**Tirane**	**83.22 340**	⇑*iP*	P	18 22 40.1 +5.8
TIR	**Tirane**	**83.22 340**	*eP*	**P**	**18 22 34.9 +0.6**
TIR				pmax	pmax	
	comp=Z,80nm,0.8s					
TIR				MLR	MLR	
	comp=Z,4µm,21.0s					
TIR	**Tirane**	**83.22 340**	⇑*iP*	P	18 22 40.1 +5.8
TIR	**Tirane**	**83.22 340**	*eP*	**P**	**18 22 34.9 +0.6**
	comp=Z,80nm,0.8s					
TIR				LR	LR	
	comp=Z,4µm,21.0s					
BIA	**Bitola**	**83.22 339**	*i P*	**P**

HATD					P		P	18 22 43.7	-0.7
	SNR=7.1								
NAZ	**Nazwa, Dubai**	**85.24**	**306**	*i* P			**P**	**18 22 44.4**	**-0.4**
	SNR=12								
NAZ	**Nazwa, Dubai**	**85.24**	**306**		P		**P**	**18 22 44.6**	**-0.2**
	SNR=7.8								
NAZ					P		P	18 22 44.6	-0.2
	SNR=7.8								
ASHO	**Ashiyiah**	**85.30**	**306**	*i* P			**P**	**18 22 44.7**	**-0.5**
	SNR=18								
CUC	**Castrocucco**	**85.32**	**343**	*e*P			**P**	**18 22 43.3**	**-1.7**
	comp=Z,6.0nm,0.8s								
CUC					LR		LR		
	comp=Z,2µm,19.0s								
PGAV	**Gavieira, Arco**	**85.44**	**1**	*e*P			**P**	**18 22 45.9**	**+0.2**
	comp=Z,104nm,2.0s								
PGAV	**Gavieira, Arco**	**85.44**	**1**	*e*S			**S**	**18 33 17.4**	**+1.8**
PGAV				*e*SS			**SS**	**18 38 58.0**	**+8.9**
PGAV				*e*LQ			LQ	18 45 42.7	
PGAV				*e*LR			LR	18 51 55.3	
	comp=Z,3µm,22.0s								
DSF	**Desfina**	**85.44**	**337**		P		**P**	**18 22 43.5**	**-2.2**
MARH	**Ras Al Marh**	**85.45**	**325**	*e*P			**P**	**18 22 45.7**	**-0.4**
FAQ	**Al Faqa, Dubai**	**85.48**	**306**	*i* P			**P**	**18 22 45.5**	**-0.5**
	SNR=8.0								
VILL	**Villia**	**85.49**	**336**		P		**P**	**18 22 43.8**	**-2.1**
MAMC	**Mammari**	**85.49**	**328**		P		**P**	**18 22 45.9**	**0.0**
LKD2	**Lefkada island**	**85.50**	**339**		P		**P**	**18 22 45.2**	**-0.8**
PBRG	**Braganca**	**85.60**	**360**	*e*P			**P**	**18 22 46.8**	**+0.4**
	comp=Z,92nm,1.8s								
PBRG	**Braganca**	**85.60**	**360**	*e*S			**S**	**18 33 19.1**	**+1.9**
PBRG				*e*SS			**SS**	**18 38 56.8**	**+5.4**
CSS	**Mathiatis**	**85.65**	**328**		P		**P**	**18 22 48.2**	**+1.5**
CSS	**Mathiatis**	**85.65**	**328**	*e*P			**P**	**18 22 46.3**	**-0.4**
	comp=Z,54nm,1.4s								
CSS					LR		LR		
	comp=Z,530nm,20.0s								
CSS	**Mathiatis**	**85.65**	**328**		P		**P**	**18 22 47.3**	**+0.6**
PCAB	**Cabril**	**85.69**	**1**	*e*P			**P**	**18 22 47.3**	**+0.5**
	comp=Z,82nm,1.8s								
ALFC	**Alefka**	**85.70**	**328**		P		**P**	**18 22 46.3**	**-0.7**
KSL	**Kastellorizon**	**85.70**	**331**		P		**P**	**18 22 45.6**	**-1.3**
THAL	**Thalero**	**85.76**	**337**		P		**P**	**18 22 45.4**	**-1.8**
KLV	**Kalavryta, Ach**	**85.88**	**337**		P		**P**	**18 22 46.5**	**-1.4**
AKMC	**Akamas**	**85.91**	**329**		P		**P**	**18 22 47.7**	**-0.3**
RLS	**Riolos of Patr**	**86.02**	**338**		P		**P**	**18 22 48.6**	**+0.1**
POLO	**Lamas de Olo**	**86.03**	**1**	*e*P			**P**	**18 22 49.1**	**+0.5**
	comp=Z,32nm,1.4s								
POLO	**Lamas de Olo**	**86.03**	**1**	*e*S			**S**	**18 33 22.1**	**+0.6**
POLO				*e*SS			**SS**	**18 39 01.2**	**+3.4**
ARG	**Arkhangelos**	**86.06**	**332**		P		**P**	**18 22 47.0**	**-1.7**
TOTH	**TOTAH**	**86.07**	**325**	*e*P			P	18 22 43.9	-5.0
DRO	**Drossia**	**86.07**	**338**		P		**P**	**18 22 47.9**	**-0.8**
PVRL	**Vila Real**	**86.13**	**1**	*e*P			**P**	**18 22 49.6**	**+0.6**
	comp=Z,99nm,1.6s								
DID	**Didima**	**86.13**	**336**		P		**P**	**18 22 51.0**	**+1.9**
MVO	**Moncorvo**	**86.24**	**360**	*e*P			**P**	**18 22 49.6**	**0.0**
	comp=Z,70nm,1.7s								
MVO	**Moncorvo**	**86.24**	**360**	*e*PP			PP	18 26 01.0	-8.4
MVO				*e*S			**S**	**18 33 24.8**	**+1.3**
MVO				*e*SS			**SS**	**18 39 03.1**	**+2.2**
MVO				*e*LQ			LQ	18 46 20.9	
MVO				*e*LR			LR	18 52 35.4	
	comp=Z,2µm,18.0s								
VLX	**Vlachokerasia**	**86.47**	**337**		P		**P**	**18 22 51.4**	**+0.6**
SALA	**Sala**	**86.55**	**324**	*e*P			**P**	**18 22 48.2**	**-3.2**
SANT	**Santorini**	**86.64**	**334**		PFAKE			18 23 00.0	+8.4
SANT					LR		LR		
	comp=Z,4µm,20.0s								
PVIS	**Viseu**	**86.69**	**1**	*e*P			**P**	**18 22 51.3**	**-0.5**
	comp=Z,49nm,1.5s								
GTBY	**Guantanamo Bay**	**86.72**	**61**	*e*P			**P**	**18 22 51.3**	**-0.9**
	comp=Z,59nm,1.2s								
GTBY					LR		LR		
	comp=Z,8µm,19.0s								
GUD	**Guadarrama**	**86.73**	**358**		P		**P**	**18 22 52.9**	**+0.8**
VSL	**Villasalto**	**86.81**	**347**	*e*P			**P**	**18 22 50.6**	**-1.8**
	comp=Z,67nm,1.5s								
VSL					LR		LR		
	comp=Z,2µm,19.0s								
MTDJ	**Mount Denham**	**86.82**	**64**	*e*P			**P**	**18 22 52.2**	**-0.6**
	comp=Z,325nm,1.4s								
MTDJ					LR		LR		
	comp=Z,5µm,20.0s								
TCHB	**Talchebab**	**86.86**	**325**	*e*P			**P**	**18 22 49.1**	**-3.6**
TRD	**Trivandrum**	**86.87**	**280**	*e*P			**P**	**18 22 52.6**	**-0.3**
VLI	**Veliai**	**86.95**	**336**		P		**P**	**18 22 49.9**	**-3.2**
CEL	**Celeste**	**86.98**	**342**		PFAKE			18 23 00.0	+6.7
CEL					LR		LR		
	comp=Z,2µm,19.0s								
MBWA	**Marble Bar**	**87.00**	**228**		PFAKE			18 23 10.0	+17
MBWA					LR		LR		
	comp=Z,2µm,20.0s								
MTE	**Manteigas**	**87.01**	**0**	*e*P			**P**	**18 22 55.6**	**+2.2**
	comp=Z,64nm,1.9s								
MTE	**Manteigas**	**87.01**	**0**	*e*S			**S**	**18 33 32.1**	**+1.2**
MTE				*e*SS			**SS**	**18 39 13.8**	**+1.7**
MTE				*e*LQ			LQ	18 48 19.1	
MTE				*e*LR			LR	18 53 51.2	
	comp=Z,2µm,20.0s								
MTE	**Manteigas**	**87.01**	**0**		PFAKE			18 23 00.0	+6.6
MTE					LR		LR		
	comp=Z,3µm,19.0s								
PYL	**PYLOS**	**87.07**	**337**		P		**P**	**18 22 50.4**	**-3.2**
PCAS	**Casmilo, Conde**	**87.34**	**1**	*e*P			**P**	**18 22 55.0**	**+0.1**
	comp=Z,57nm,2.4s								
PCAS	**Casmilo, Conde**	**87.34**	**1**	*e*S			**S**	**18 33 36.2**	**+2.1**
PCAS				*e*SS			**SS**	**18 39 20.6**	**+3.7**
GRTK	**Grand Turk**	**87.47**	**57**		PFAKE			18 23 10.0	+14
GRTK					LR		LR		
	comp=Z,6µm,19.0s								
PCBR	**Castelo Branco**	**87.56**	**0**	*e*P			**P**	**18 22 56.6**	**+0.6**
	comp=Z,38nm,2.0s								
ESDC	**Sonseca Array**	**87.69**	**358**		P		**P**	**18 22 56.1**	**-0.6**
	comp=Z,4.0nm,0.8s,baz=356,slow=4.7,SNR=13								
LAST	**Lasithi**	**87.78**	**334**		P		**P**	**18 22 54.2**	**-3.0**
LAST	**Lasithi**	**87.78**	**334**		P		**P**	**18 22 54.2**	**-3.0**
PAB	**San Pablo**	**87.83**	**358**	*e*P			**P**	**18 22 57.2**	**-0.2**
PAB					pmax		pmax		
	comp=Z,10.0nm,0.9s								
PAB					MLR		MLR		
	comp=Z,2µm,21.0s								
PAB	**San Pablo**	**87.83**	**358**	*e*P			**P**	**18 22 57.2**	**-0.2**
	comp=Z,9.7nm,0.9s								
PAB					LR		LR		
	comp=Z,2µm,21.0s								
IMMV	**Iera Moni Meta**	**87.89**	**335**		P		**P**	**18 22 55.1**	**-2.5**
PMRV	**Marv??o**	**87.98**	**0**	*e*S			**S**	**18 33 40.2**	**0.0**
PMRV				*e*SS			**SS**	**18 39 30.5**	**+4.3**
PMRV	**Marv??o**	**87.98**	**0**	*e*LR			LR	18 49 39.0	
	comp=Z,2µm,20.0s								
CLTB	**Caltabellotta**	**88.12**	**344**		PFAKE			18 23 10.0	+11
CLTB					LR		LR		
	comp=Z,2µm,20.0s								
RKT	**Rikitea**	**88.21**	**133**	*e*LQ			LQ	18 46 39.4	
	comp=Z,3µm,35.8s								
RKT				*e*LR			LR	18 50 35.1	
	comp=Z,5µm,36.8s,baz=327								
CMLA	**Cha da Macela**	**88.22**	**15**		PFAKE			18 23 10.0	+11
CMLA					LR		LR		
	comp=Z,3µm,21.0s								
PMAFR	**Mafra**	**88.43**	**2**	*e*S			**S**	**18 33 45.1**	**+0.6**
PESTR	**Estremoz**	**88.54**	**0**	*e*S			**S**	**18 33 45.2**	**-0.3**
STKA	**Stephens Creek**	**88.80**	**206**		P		**P**	**18 23 01.4**	**-0.2**
	comp=Z,9.6nm,0.8s,baz=356,slow=3.9,SNR=8.9								
STKA					LR		LR	18 59 46.5	
	comp=Z,2µm,19.8s,baz=13,slow=34								
EVO	**Evora**	**88.87**	**1**	*e*P			**P**	**18 23 02.0**	**-0.2**
	comp=Z,51nm,1.6s								
JTS	**JuntasAbangare**	**89.05**	**74**		PFAKE			18 23 10.0	+6.6
JTS					LR		LR		
	comp=Z,59nm,19.0s								
PBAR	**Barrancos**	**89.23**	**360**	*e*P			**P**	**18 23 03.7**	**-0.2**
	comp=Z,114nm,1.5s								
PBAR	**Barrancos**	**89.23**	**360**	*e*S			**S**	**18 33 53.4**	**+1.4**
PBAR				*e*SS			**SS**	**18 39 47.9**	**+3.6**
PNCL	**Nicolau / Gran**	**89.28**	**1**	*e*S			**S**	**18 33 53.9**	**+1.4**
PNCL				*e*SS			**SS**	**18 39 50.4**	**+5.3**
SDDR	**Presa de Saban**	**89.50**	**58**	*e*P			**P**	**18 23 05.6**	**+0.1**
	comp=Z,51nm,0.9s								
SDDR					LR		LR		
	comp=Z,4µm,19.0s								
WDD	**Wied Dalam**	**89.59**	**343**		PFAKE			18 23 20.0	+14
WDD					LR		LR		
	comp=Z,2µm,19.0s								
PCVE	**Castro Verde**	**89.77**	**1**	*e*P			**P**	**18 23 08.0**	**+1.6**
PCVE	**Castro Verde**	**89.77**	**1**	*e*S			**S**	**18 33 58.8**	**+1.8**
PCVE				*e*SS			**SS**	**18 39 56.3**	**+4.1**
PVAQ	**Vaqueiros**	**90.00**	**1**	*e*S			**S**	**18 33 59.7**	**+0.5**
PVAQ				*e*SS			**SS**	**18 40 00.0**	**+4.5**
PVAQ				*e*LQ			LQ	18 46 58.9	
PVAQ				*e*LR			LR	18 50 45.2	
	comp=Z,2µm,16.0s								
MORF	**Marmelete**	**90.08**	**1**	*e*S			**S**	**18 34 02.9**	**+2.8**
MORF				*e*SS			**SS**	**18 40 01.1**	**+4.2**
PBDV	**Barranco-do-Ve**	**90.16**	**1**	*e*S			**S**	**18 34 02.2**	**+1.5**
PBDV				*e*SS			**SS**	**18 40 04.4**	**+6.5**
PFVI	**Vila Bisbo**	**90.26**	**1**	*e*S			**S**	**18 34 03.0**	**+1.4**
PFVI				*e*SS			**SS**	**18 40 04.3**	**+5.1**
CAN	**Canberra**	**90.36**	**199**		PFAKE			18 23 20.0	+11
CAN					LR		LR		
	comp=Z,4µm,20.0s								
KEST	**Kesra**	**90.52**	**347**		P		**P**	**18 23 10.1**	**0.0**
	comp=Z,7.1nm,0.9s,baz=245,slow=0.9,SNR=7.5								
BBOO	**Buckleboo**	**91.27**	**210**	*e*P			**P**	**18 23 15.6**	**+2.5**
	comp=Z,34nm,1.1s								
COCO	**West Island**	**91.44**	**252**		PFAKE			18 23 30.0	+16
COCO					LR		LR		
	comp=Z,2µm,20.0s								
PTCN	**Pitcairn Islan**	**92.09**	**130**		PFAKE			18 23 30.0	+13
PTCN					LR		LR		
	comp=Z,4µm,19.0s								
SJG	**San Juan**	**92.83**	**55**	*e*P			**P**	**18 23 20.1**	**-0.8**
SJG					pmax		pmax		
	comp=Z,54nm,1.0s								
SJG					MLR		MLR		
	comp=Z,4µm,19.0s								
SJG	**San Juan**	**92.83**	**55**	*e*P			**P**	**18 23 20.1**	**-0.8**
	comp=Z,54nm,1.0s								
SJG					LR		LR		
	comp=Z,4µm,19.0s								
RTC	**Rabat Centre**	**93.41**	**360**		PFAKE			18 23 30.0	+6.7
RTC					LR		LR		
	comp=Z,5µm,19.0s								
SNZO	**South Karori**	**93.92**	**179**		PFAKE			18 23 40.0	+15
SNZO					LR		LR		
	comp=Z,2µm,19.0s								
PMOZ	**Porto Moniz, M**	**94.11**	**9**	*e*PP			PP	18 27 20.2	+8.1
PMOZ				*e*S			**S**	**18 34 38.6**	**+2.1**
PMOZ				*e*SS			**SS**	**18 40 59.4**	**+4.4**
PMOZ				*e*LQ			LQ	18 48 11.6	
PMOZ				*e*LR			LR	18 57 18.3	
	comp=Z,2µm,20.0s								
PAYG	**Puerto Ayora**	**94.62**	**85**		PFAKE			18 23 40.0	+11
PAYG					LR		LR		
	comp=Z,1µm,20.0s								
ANWB	**Willy Bob**	**95.32**	**51**		PFAKE			18 23 40.0	+7.7
ANWB					LR		LR		
	comp=Z,4µm,21.0s								
FDF	**Fort de France**	**98.16**	**52**		PFAKE			18 24 00.0	+15
FDF					LR		LR		
	comp=Z,5µm,20.0s								
SDV	**Santo Domingo**	**98.26**	**63**		PFAKE			18 24 00.0	+14
SDV					LR		LR		
	comp=Z,3µm,22.0s								
NWAO	**Narrogin (SRO)**	**98.30**	**225**		PFAKE			18 24 00.0	+15
NWAO					LR		LR		
	comp=Z,3µm,22.0s								
ROSC	**El Rosal**	**99.56**	**69**		LR		LR	19 14 06.7	
	comp=Z,1µm,18.0s,baz=18,slow=39								
GRGR	**Grenville**	**100.16**	**54**		PFAKE			18 24 10.0	+16
GRGR					LR		LR		
	comp=Z,3µm,21.0s								
BBGH	**Gun Hill**	**100.29**	**52**		PFAKE			18 24 10.0	+15
BBGH					LR		LR		
	comp=Z,8µm,22.0s								
OTAV	**Otavalo**	**100.93**	**75**		PFAKE			18 24 10.0	+12
OTAV					LR		LR		
	comp=Z,965nm,20.0s								
TAM	**Tamanrasset**	**103.77**	**348**		PFAKE			18 24 20.0	+10
TAM					LR		LR		
	comp=Z,2µm,21.0s								
MSEY	**Mahe Island**	**110.03**	**290**		PFAKE			18 28 50.0	
MSEY					LR		LR		
	comp=Z,2µm,22.0s								
SACV	**Santiago Islan**	**110.85**	**17**		PFAKE			18 28 50.0	
SACV					LR		LR		
	comp=Z,1µm,20.0s								
NNA	**Nana**	**111.64**	**81**		PFAKE			18 28 50.0	
NNA					LR		LR		
	comp=Z,853nm,20.0s								
TORD	**Torodi Ar. Bea**	**113.72**	**351**		PKiKP		**PKiKP**	**18 28 45.4**	**-1.4**
	comp=Z,0.9nm,0.7s,baz=21,slow=2.6,SNR=5.4								
TORD					PP		**PP**	**18 29 35.9**	**-2.4**
	comp=Z,1.8nm,0.8s,baz=11,slow=4.7,SNR=4.8								
TORD					PKKPbc		**PKKPbc**	**18 39 28.0**	**+0.6**
	comp=Z,0.7nm,0.5s,baz=261,slow=0.8,SNR=4.2								
TORD					PKKPab		**PKKPab**	**18 39 35.8**	**-3.4**
	comp=Z,3.1nm,1.0s,baz=193,slow=2.1,SNR=7.7								
TORD					PKKP		**PKKPdf**	**18 39 48.0**	**+0.1**
	comp=Z,4.7nm,0.9s,baz=188,slow=4.2,SNR=6.7								
KMBO	**Kilima Mbogo**	**116.64**	**309**		PP		PP	18 29 58.0	-1.8
	comp=Z,0.6nm,0.3s,baz=42,slow=17,SNR=2.4								
KMBO	**Kilima Mbogo**	**116.64**	**309**		PFAKE			18 29 00.0	+7.3
KMBO					LR		LR		
	comp=Z,2µm,21.0s								
SAML	**Samuel**	**117.14**	**67**		PFAKE			18 29 00.0	+6.7
SAML					LR		LR		
	comp=Z,2µm,21.0s								
LPAZ	**La Paz**	**120.19**	**77**		PKP		**PKPdf**	**18 28 58.4**	**-1.5**
	comp=Z,2.0nm,0.8s,baz=350,slow=2.2,SNR=6.0								
LPAZ					PP		**PP**	**18 30 25.7**	**+0.4**
	comp=Z,4.8nm,1.2s,baz=297,slow=2.3,SNR=4.5								
DBIC	**Dimbokro**	**120.56**	**357**		PKP		**PKPdf**	**18 28 58.4**	**-1.6**
	comp=Z,1.8nm,0.4s,baz=333,slow=4.5,SNR=3.6								
LVC	**Limon Verde**	**124.61**	**82**		PFAKE			18 29 20.0	+12
LVC					LR		LR		
	comp=Z,2µm,20.0s								
ABPO	**Ambohimpanom**	**126.30**	**288**		PFAKE			18 29 20.0	+9.0
ABPO					LR		LR		
	comp=Z,889nm,20.0s								
RCBR	**Riachuelo**	**127.40**	**37**		PFAKE			18 29 20.0	+6.9
RCBR					LR		LR		
	comp=Z,2µm,22.0s								
LCO	**Las Campanas**	**128.27**	**89**		PFAKE			18 29 30.0	+15
LCO					LR		LR		
	comp=Z,2µm,20.0s								
VNDA	**Vanda**	**130.40**	**183**		PKP		**PKPdf**	**18 29 15.8**	**-1.0**
	comp=Z,1.4nm,1.0s,baz=314,slow=4.3,SNR=7.4								
VNDA					SKPbc		**SKPbc**	**18 32 39.5**	**+0.7**
	comp=Z,7.9nm,1.1s,baz=330,slow=3.6,SNR=6.3								
SBA	**Scott Base**	**130.61**	**182**		PKiKP		**PKPdf**	**18 29 18.4**	**+1.2**
SBA	**Scott Base**	**130.61**	**182**	*e*PKPdf			**PKPdf**	**18 29 17.1**	**-0.1**
SBA					LR		LR		
	comp=Z,2µm,19.0s								
LSZ	**Lusaka**	**133.26**	**310**	*e*PKiKP			**PKPdf**	**18 29 23.3**	**-0.9**
LSZ					MLR		MLR		
	comp=Z,2µm,22.0s								
LSZ	**Lusaka**	**133.26**	**310**	*e*PKPdf			**PKPdf**	**18 29 23.3**	**-0.9**
LSZ					LR		LR		
	comp=Z,2µm,22.0s								
CPUP	**Villa Florida**	**134.28**	**75**	PKhKP			PKPpre	18 29 20.0	
	comp=Z,2.2nm,0.8s,baz=270,slow=5.1,SNR=3.6								
CPUP					PKP		**PKPdf**	**18 29 24.8**	**-0.9**
	comp=Z,8.5nm,1.2s,baz=217,slow=2.0,SNR=3.7								
CPUP					PP		**PP**	**18 31 55.2**	**-2.4**
	comp=Z,5.0nm,1.1s,baz=347,slow=5.6,SNR=3.0								
CPUP					SKPbc		**SKPbc**	**18 32 53.4**	**-0.6**
	comp=Z,49nm,1.2s,baz=342,slow=3.4,SNR=18								
ASCN	**Ascension**	**134.70**	**10**		PFAKE			18 29 40.0	+13
ASCN					LR		LR		
	comp=Z,2µm,19.0s								
PLCA	**Paso Flores**	**136.28**	**100**	PKhKP			PKPpre	18 29 24.4	
	comp=Z,6.9nm,1.1s,baz=314,slow=3.0,SNR=5.3								
PLCA					PKP		**PKPdf**	**18 29 27.9**	**-1.2**
	comp=Z,15nm,1.0s,baz=308,slow=2.4,SNR=7.9								
PLCA					PP		**PP**	**18 32 08.3**	**-2.1**
	comp=Z,6.3nm,1.1s,baz=334,slow=6.5,SNR=3.3								
PLCA					SKPbc		**SKPbc**	**18 32 59.3**	**-0.6**
	comp=Z,5.7nm,1.0s,baz=327,slow=6.2,SNR=3.0								
SPB	**Sao Paulo**	**137.70**	**62**		PFAKE			18 29 40.0	+7.9
SPB					LR		LR		
	comp=Z,2µm,20.0s								
TRQA	**Tornquist**	**139.75**	**91**		PFAKE			18 29 50.0	+15
TRQA					LR		LR		
	comp=Z,2µm,19.0s								
QSPA	**South Pole Qui**	**142.72**	**180**		PFAKE			18 29 50.0	+10
QSPA					LR		LR		
	comp=Z,2µm,21.0s								
SHEL	**Horse Pasture**	**143.06**	**358**		PFAKE			18 29 50.0	+7.9
SHEL					LR		LR		
	comp=Z,884nm,20.0s								
MAW	**Mawson**	**144.60**	**218**		PKP		**PKPab**	**18 29 41.3**	**-0.4**
	comp=Z,34nm,0.8s,baz=72,slow=4.1,SNR=79								
BOSA	**Boshof**	**145.98**	**303**		PKPbc		**PKPdf**	**18 29 46.6**	**-0.3**
	comp=Z,10nm,0.6s,baz=20,slow=2.7,SNR=30								
BOSA					SKPbc		**SKPbc**	**18 33 25.1**	**-0.6**
	comp=Z,7.6nm,1.0s,baz=55,slow=7.2,SNR=3.1								
EFI	**East Falkland**	**149.33**	**108**	*e*PKP2			**PKPbc**	**18 29 55.1**	**-0.8**
EFI					MLR		MLR		
	comp=Z,3µm,20.0s								
EFI	**East Falkland**	**149.33**	**108**	*e*PKPbc			**PKPbc**	**18 29 55.1**	**-0.8**
EFI					LR		LR		
	comp=Z,3µm,20.0s								
PMSA	**Palmer Station**	**149.40**	**135**	*e*P			**PKPdf**	**18 29 53.6**	**+2.4**
PMSA					LR		LR		
	comp=Z,2µm,19.0s								
SUR	**Sutherland**	**151.27**	**305**		PFAKE			18 30 10.0	+0.5
SUR					LR		LR		
	comp=Z,4µm,22.0s								
SYO	**Syowa Base**	**153.19**	**216**	*e*PKPdf			**PKPdf**	**18 29 58.0**	**+1.1**
SYO	**Syowa Base**	**153.19**	**216**	*e*pPKPdf			pPKPdf	18 30 01.8	-1.7
SYO	**Syowa Base**	**153.19**	**216**	*i* PKPbc			**PKPbc**	**18 30 08.2**	**+3.9**
NVL	**Nalazarevskaya**	**160.22**	**198**	*e*PKiKP			**PKPdf**	**18 30 07.7**	**+1.8**
NVL				*e*				18 34 35.8	
NVL				*e*SS			SS	18 54 43.3	+5.5
SNAA	**Sanae**	**161.14**	**184**		P		**PKPdf**	**18 30 04.9**	**-2.1**
SNAA	**Sanae**	**161.14**	**184**	*e*PKiKP			**PKPdf**	**18 30 05.4**	**-1.6**
SNAA	**Sanae**	**161.14**	**184**	*e*PKPdf			**PKPdf**	**18 30 05.3**	**-1.6**
VNA3	**Neumayer Olymp**	**161.62**	**177**		P		**PKPdf**	**18 30 05.3**	**-2.1**
VNA2	**Neumayer--Watz**	**161.98**	**180**		P		**PKPdf**	**18 30 06.0**	**-1.8**
	baz=239,slow=0.5								
VNA1	**Neumayer--Stat**	**162.25**	**179**		P		**PKPdf**	**18 30 07.3**	**-0.7**
HOPE	**Hope Point**	**162.54**	**106**		PFAKE			18 30 20.0	+11
HOPE					LR		LR		
	comp=Z,3µm,20.0s								

CSEM ***14*** *18:21:45.7±0.3,38.40N×21.83E, h2km, Error ellipse: s-maj=10.2km s-min=6.3km az=72.0*

ATH 14 18:21:45.0,38.39N×21.83E, h16km±5km, Error ellipse: s-maj=5.8km s-min=1.3km az=64.0, Greece

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op		ISC	h m s	ISC
LAKA	**Lakka**	**0.19**	**142**	P		Pg	18 21 49.4	-0.3
LAKA				S		Sg	18 21 52.5	-0.3
LAKA	**Lakka**	**0.19**	**142**	P		Pg	18 21 49.4	-0.3
LAKA				S		Sg	18 21 52.5	-0.3
TRIZ	**Trizonia**	**0.19**	**97**	P		Pg	18 21 49.8	+0.1
TRIZ				S		Sg	18 21 52.8	0.0
TRIZ	**Trizonia**	**0.19**	**97**	P		Pg	18 21 49.8	+0.1
TRIZ				S		Sg	18 21 52.8	0.0
KALE	**Kalithea**	**0.24**	**89**	P		Pg	18 21 50.7	+0.1
KALE	**Kalithea**	**0.24**	**89**	P		Pg	18 21 50.8	+0.2
PVO	**Paravola**	**0.33**	**314**	P		Pg	18 21 51.4	-0.6
PVO				S		Sb	18 21 58.0	+0.4
PVO	**Paravola**	**0.33**	**314**	P		Pg	18 21 51.5	-0.5
PVO				S		Sb	18 21 58.0	+0.5
KLV	**Kalavryta, Ach**	**0.43**	**144**	P		Pg	18 21 53.7	0.0
KLV	**Kalavryta, Ach**	**0.43**	**144**	P		Pg	18 21 53.7	-0.1
DRO	**Drossia**	**0.45**	**192**	P		Pg	18 21 53.9	-0.2
DRO				S		Sb	18 22 01.2	+0.3
DRO	**Drossia**	**0.45**	**192**	P		Pg	18 21 53.9	-0.1
DRO				S		Sb	18 22 01.2	+0.3

DDA 14 18:22:16.6,39.60N×28.58E, h7km, Md2.9, Turkey

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op		ISC	h m s	ISC
DEMI	**Demirci**	**0.56**	**169**	*i* P		Pb	18 22 28.3	-0.5
BALY	**Balya**	**0.76**	**281**	*i* P		Pb	18 22 32.6	+0.5
BALY				*i* S		Sb	18 22 43.0	+0.3
IGD	**Bursa**	**0.82**	**35**	*i* P		Pg	18 22 31.3	-1.1
IGD				*i* S		Sb	18 22 44.3	-0.2
KNL	**Bal¨¦kesir**	**1.05**	**310**	*i* P		Pg	18 22 32.6	-4.3
KNL				*i* S		Sg	18 22 50.8	+0.2
MANT	**Manisa**	**1.10**	**181**	*i* P		Pg	18 22 31.3	-6.5
MANT				*i* S		Sg	18 22 45.8	-6.3

IDC ***14*** *19:02:21.8±1.1,35.45N×143.59E, h0km, m

0.2nm,0.4s,baz=91,slow=8.0,SNR=1.8
WRA Warramunga Arr 55.70 187 P **P** **19 27 10.7 +0.4**
0.5nm,0.9s,baz=0.5,slow=7.5,SNR=5.4

IDC ***14*** *19:20:21.1±1.0,38°.38N×21°.74E,h0km,mb3.8/6, mb1 3.8/13,mb1mx3.7/40,mbtmp3.7/13,ML3.6/7,Error ellipse: s-maj=18.5km s-min=16.3km az=64.0*
ISCJB ***14*** *19:20:21.6±0.2,38°.32N±0°.01×21°.76E±0°.01,h9km±1km, mb3.8/6,Error ellipse: s-maj=2.1km s-min=1.6km az=39.1*
ATH ***14*** *19:20:21.8,38°.31N×21°.77E,h11km±2km,ML3.7/9,Error ellipse: s-maj=2.6km s-min=0.7km az=125.0*
IASPEI ***14*** *19:20:21.9±0.8,38°.31N±0°.02×21°.78E±0°.01,h8km±4km, mb3.9/6,Error ellipse: s-maj=2.2km s-min=2.0km az=173.0,GT5 selection from ISC bulletin GT5 identified by Bond¨jr and McLaughlin (2009) selection criteria Bond¨jr and McLaughlin, A new ground truth data set for seismic studies, Seism. Res. Let., 80, 465-472, 2009*
THE ***14*** *19:20:22.1,38°.31N×21°.80E,h1km±1km,ML3.7/30,Error ellipse: s-maj=1.1km s-min=0.4km az=245.0*
PDG ***14*** *19:20:22.0±0.6,38°.30N×21°.81E,h10km±1km,ML3.7/13, Error ellipse: s-maj=0.7km s-min=0.6km az=90.0*
CSEM ***14*** *19:20:22.0±0.1,38°.30N×21°.79E,h2km,ML3.7,Error ellipse: s-maj=2.2km s-min=1.6km az=44.0*

ISC 14 19:20:22.2±0.7,38°.32N±0°.01×21°.78E±0°.01,h8km±4km, n288,σ1§11/406,mb3.9/6,17C-15D,Greece

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
UPR	**University Cam**	**0.03**	**173**	P		**Pg**		**19 20 23.0**	**-0.6**
UPR				S		**Sg**		**19 20 24.6**	**-0.1**
UPR	**University Cam**	**0.03**	**173**	P		**Pg**		**19 20 23.0**	**-0.6**
UPR				S		**Sg**		**19 20 24.3**	**-0.4**
UPR	**University Cam**	**0.03**	**173**	P		**Pg**		**19 20 23.6**	**0.0**
UPR				S		**Sg**		**19 20 24.2**	**-0.4**
LAKA	**Lakka**	**0.17**	**116**	P		**Pg**		**19 20 25.9**	**+0.2**
LAKA				S		**Sg**		**19 20 28.7**	**+0.5**
LAKA	**Lakka**	**0.17**	**116**	P		**Pg**		**19 20 26.0**	**+0.2**
TRIZ	**Trizonia**	**0.23**	**78**	P		**Pg**		**19 20 27.1**	**+0.2**
TRIZ				S		**Sg**		**19 20 30.6**	**+0.6**
TRIZ	**Trizonia**	**0.23**	**78**	P		**Pg**		**19 20 27.4**	**+0.5**
TRIZ				S		**Sg**		**19 20 30.8**	**+0.8**
KALE	**Kalithea**	**0.29**	**75**	P		**Pg**		**19 20 28.0**	**0.0**
KALE				S		**Sg**		**19 20 31.5**	**-0.4**
KALE	**Kalithea**	**0.29**	**75**	P		**Pg**		**19 20 28.2**	**+0.2**
KALE				S		**Sg**		**19 20 31.5**	**-0.4**
KALE	**Kalithea**	**0.29**	**75**	P		**Pg**		**19 20 28.2**	**+0.2**
KALE				S		**Sb**		**19 20 33.7**	**-1.1**
KALE				AML	AML			19 20 33.9	
	comp=N,50112μm,0.2s								
KALE				AML	AML			19 20 34.5	
	comp=E,43571μm,0.2s								
AXS	**Araxos**	**0.34**	**250**	P		**Pg**		**19 20 28.4**	**-0.4**
AXS				S		**Sg**		**19 20 33.5**	**+0.2**
AXS	**Araxos**	**0.34**	**250**	P		**Pg**		**19 20 28.4**	**-0.4**
AXS				S		**Sg**		**19 20 33.5**	**+0.2**
AXS	**Araxos**	**0.34**	**250**	P		**Pg**		**19 20 28.4**	**-0.4**
AXS				S		**Sg**		**19 20 32.2**	**-1.2**
RLS	**Riolos of Patr**	**0.36**	**224**	P		**Pg**		**19 20 28.9**	**-0.3**
RLS				S		**Sg**		**19 20 34.8**	**+0.9**
RLS	**Riolos of Patr**	**0.36**	**224**	P		**Pg**		**19 20 28.9**	**-0.3**
RLS				S		**Sg**		**19 20 34.2**	**+0.3**
RLS	**Riolos of Patr**	**0.36**	**224**	P		**Pg**		**19 20 29.1**	**-0.1**
RLS				S		**Sg**		**19 20 34.2**	**+0.3**
RLS				AML	AML			19 20 35.1	
	comp=E,37251μm,0.4s								
RLS				AML	AML			19 20 37.5	
	comp=N,23282μm,0.3s								
PVO	**Paravola**	**0.36**	**326**	P		**Pg**		**19 20 28.7**	**-0.6**
PVO				S		**Sg**		**19 20 34.7**	**+0.6**
PVO	**Paravola**	**0.36**	**326**	P		**Pg**		**19 20 29.0**	**-0.3**
PVO				S		**Sg**		**19 20 34.6**	**+0.5**
PVO	**Paravola**	**0.36**	**326**	P		**Pg**		**19 20 29.0**	**-0.3**
PVO				AML	AML			19 20 35.8	
	comp=N,26645μm,0.2s								
PVO				S		**Sb**		**19 20 36.1**	**-0.7**
PVO				AML	AML			19 20 36.6	
	comp=E,49461μm,0.2s								
DRO	**Drossia**	**0.37**	**189**	P		**Pg**		**19 20 29.0**	**-0.4**
DRO				S		**Sg**		**19 20 34.5**	**+0.3**
DRO	**Drossia**	**0.37**	**189**	P		**Pg**		**19 20 29.2**	**-0.2**
DRO				S		**Sg**		**19 20 34.5**	**+0.3**
DRO	**Drossia**	**0.37**	**189**	P		**Pg**		**19 20 29.2**	**-0.2**
DRO				S		**Sg**		**19 20 34.7**	**+0.5**
DRO				AML	AML			19 20 36.1	
	comp=N,47355μm,0.5s								
DRO				AML	AML			19 20 37.8	
	comp=E,50993μm,0.4s								
TRAZ	**Trapeza**	**0.37**	**113**	P		**Pg**		**19 20 29.5**	**+0.1**
TRAZ				S		**Sg**		**19 20 35.2**	**+0.9**
TRAZ	**Trapeza**	**0.37**	**113**	P		**Pg**		**19 20 29.5**	**+0.1**
TRAZ				S		**Sg**		**19 20 35.2**	**+0.9**
TRAZ				AML	AML			19 20 36.8	
	comp=N,63046μm,0.2s								
TRAZ				AML	AML			19 20 39.8	
	comp=E,39550μm,0.2s								
KLV	**Kalavryta, Ach**	**0.40**	**133**	P		**Pg**		**19 20 29.2**	**-0.8**
KLV				S		**Sg**		**19 20 35.1**	**-0.1**
KLV	**Kalavryta, Ach**	**0.40**	**133**	P		**Pg**		**19 20 29.8**	**-0.2**
KLV				S		**Sg**		**19 20 35.1**	**-0.1**
KLV	**Kalavryta, Ach**	**0.40**	**133**	P		**Pg**		**19 20 29.7**	**-0.2**
KLV				S		**Sg**		**19 20 35.5**	**+0.3**
KLV				AML	AML			19 20 37.7	
	comp=E,11498μm,0.4s								
KLV				AML	AML			19 20 38.8	
	comp=N,12403μm,0.5s								
PDO	**Prodromos**	**0.55**	**301**	P		**Pg**		**19 20 32.0**	**-0.8**
PDO				S		**Sg**		**19 20 40.5**	**+0.5**
PDO	**Prodromos**	**0.55**	**301**	P		**Pg**		**19 20 32.2**	**-0.6**
PDO				S		**Sg**		**19 20 40.5**	**+0.5**
PDO	**Prodromos**	**0.55**	**301**	P		**Pg**		**19 20 32.2**	**-0.6**
PDO				S		**Sg**		**19 20 40.9**	**+1.0**
DSF	**Desfina**	**0.59**	**81**	P		**Pg**		**19 20 32.7**	**-1.0**
DSF				S		**Sg**		**19 20 41.5**	**+0.1**
DSF	**Desfina**	**0.59**	**81**	P		**Pg**		**19 20 32.8**	**-1.0**
DSF				S		**Sg**		**19 20 41.5**	**+0.1**
DSF	**Desfina**	**0.59**	**81**	P		**Pg**		**19 20 32.6**	**-1.0**
DSF				S		**Sb**		**19 20 43.0**	**-0.5**
DSF				AML	AML			19 20 45.6	
	comp=N,12878μm,0.2s								
DSF				AML	AML			19 20 45.8	
	comp=E,14312μm,0.2s								
EVR	**Evrytania**	**0.60**	**2**	P		**Pg**		**19 20 33.0**	**-0.8**
EVR				S		**Sg**		**19 20 42.4**	**+0.7**
EVR	**Evrytania**	**0.60**	**2**	P		**Pg**		**19 20 33.0**	**-0.8**
EVR				S		**Sg**		**19 20 42.4**	**+0.7**
EVR	**Evrytania**	**0.60**	**2**	P		**Pg**		**19 20 32.2**	**-1.6**
EVR				S		**Sb**		**19 20 43.2**	**-0.5**
EVR				AML	AML			19 20 46.0	
	comp=N,7508μm,0.4s								
EVR				AML	AML			19 20 47.1	
	comp=E,8815μm,0.3s								
VTN	**Vitineika**	**0.62**	**230**	P		**Pg**		**19 20 34.2**	**+0.1**
VTN				S		**Sg**		**19 20 42.2**	**+0.1**
VTN	**Vitineika**	**0.62**	**230**	P		**Pg**		**19 20 34.1**	**+0.1**
VTN				S		**Sg**		**19 20 42.1**	**+0.1**
THAL	**Thalero**	**0.75**	**112**	P		**Pg**		**19 20 35.9**	**-0.7**
THAL				S		**Sb**		**19 20 47.6**	**-0.3**
THAL	**Thalero**	**0.75**	**112**	P		**Pg**		**19 20 35.9**	**-0.7**
THAL				S		**Sb**		**19 20 47.6**	**-0.3**
AMT	**Artemida-Makis**	**0.78**	**184**	P		**Pg**		**19 20 36.4**	**-0.9**
AMT				S		**Sb**		**19 20 48.6**	**-0.3**
AMT	**Artemida-Makis**	**0.78**	**184**	P		**Pg**		**19 20 36.6**	**-0.7**
AMT				S		**Sb**		**19 20 48.6**	**-0.3**
AMT	**Artemida-Makis**	**0.78**	**184**	P		**Pg**		**19 20 36.6**	**-0.7**
AMT				S		**Sb**		**19 20 48.7**	**-0.2**
AMT				AML	AML			19 20 52.4	
	comp=N,12940μm,0.5s								
AMT				AML	AML			19 20 54.5	
	comp=E,13942μm,0.5s								
KFL	**Anninata**	**0.81**	**256**	P		**Pg**		**19 20 36.8**	**-0.9**
KFL				S		**Sb**		**19 20 49.6**	**0.0**
KFL	**Anninata**	**0.81**	**256**	P		**Pg**		**19 20 37.5**	**-0.2**
KFL				S		**Sb**		**19 20 49.6**	**0.0**
KFL	**Anninata**	**0.81**	**256**	P		**Pg**		**19 20 37.5**	**-0.2**
AGG	**Agios Georgios**	**0.83**	**31**	*e*P		**Pg**		**19 20 36.2**	**-1.9**
AGG	**Agios Georgios**	**0.83**	**31**	P		**Pg**		**19 20 36.9**	**-1.2**
AGG				S		**Sg**		**19 20 49.5**	**+0.7**
AGG	**Agios Georgios**	**0.83**	**31**	P		**Pg**		**19 20 36.9**	**-1.2**
AGG				S		**Sg**		**19 20 49.5**	**+0.7**
VLS	**Valsamata**	**0.95**	**262**	P		**Pg**		**19 20 38.8**	**-1.6**
VLS				S		**Sb**		**19 20 54.1**	**+0.4**
VLS	**Valsamata**	**0.95**	**262**	P		**Pg**		**19 20 38.8**	**-1.6**
VLS				S		**Sb**		**19 20 54.1**	**+0.4**
VLS	**Valsamata**	**0.95**	**262**	P		**Pg**		**19 20 38.4**	**-2.0**
LTK	**Loutraki**	**0.98**	**107**	P		**Pg**		**19 20 40.2**	**-0.8**
LTK				S		**Sg**		**19 20 53.4**	**-0.3**
LTK	**Loutraki**	**0.98**	**107**	P		**Pg**		**19 20 40.2**	**-0.8**
LTK				S		**Sg**		**19 20 53.4**	**-0.3**
LTK	**Loutraki**	**0.98**	**107**	P		**Pb**		**19 20 41.9**	**+0.4**
LKD2	**Lefkada island**	**1.00**	**299**	P		**Pg**		**19 20 40.0**	**-1.4**
LKD2				S		**Sb**		**19 20 56.4**	**+1.2**
LKD2	**Lefkada island**	**1.00**	**299**	P		**Pg**		**19 20 40.0**	**-1.4**
LKD2				S		**Sb**		**19 20 56.4**	**+1.2**
LKD2	**Lefkada island**	**1.00**	**299**	P		**Pg**		**19 20 40.0**	**-1.4**
LKR	**Lokris**	**1.01**	**70**	P		**Pg**		**19 20 39.8**	**-1.8**
LKR				S		**Sb**		**19 20 55.5**	**0.0**
LKR	**Lokris**	**1.01**	**70**	P		**Pg**		**19 20 39.8**	**-1.8**
LKR				S		**Sb**		**19 20 55.5**	**0.0**
LKR	**Lokris**	**1.01**	**70**	P		**Pg**		**19 20 39.4**	**-2.2**
VLX	**Vlachokerasia**	**1.06**	**153**	P		**Pg**		**19 20 41.0**	**-1.5**
VLX				S		**Sb**		**19 20 57.1**	**+0.3**
VLX	**Vlachokerasia**	**1.06**	**153**	P		**Pg**		**19 20 41.0**	**-1.5**
VLX				S		**Sb**		**19 20 57.1**	**+0.3**
VLX	**Vlachokerasia**	**1.06**	**153**	P		**Pg**		**19 20 40.6**	**-1.9**
ITM	**Ithomi**	**1.14**	**174**	P		**Pg**		**19 20 42.8**	**-1.2**
ITM				S		**Sb**		**19 20 59.8**	**+0.6**
ITM	**Ithomi**	**1.14**	**174**	P		**Pg**		**19 20 43.1**	**-0.9**
ITM				S		**Sb**		**19 20 59.8**	**+0.6**
ITM	**Ithomi**	**1.14**	**174**	P		**Pg**		**19 20 43.1**	**-0.9**
VIL2	**Platees**	**1.18**	**95**	P		**Pb**		**19 20 44.3**	**+0.3**
VILL	**Villia**	**1.22**	**97**	P		**Pg**		**19 20 44.3**	**-1.2**
VILL				S		**Sb**		**19 21 02.2**	**+0.8**
VILL	**Villia**	**1.22**	**97**	P		**Pg**		**19 20 45.1**	**-0.4**
VILL				S		**Sb**		**19 21 02.2**	**+0.8**
SMIA	**Simia**	**1.25**	**63**	P		**Pg**		**19 20 44.9**	**-1.3**
SMIA	**Simia**	**1.25**	**63**	P		**Pg**		**19 20 44.9**	**-1.3**
THL	**Klokotos Trika**	**1.26**	**8**	P		**Pg**		**19 20 45.5**	**-0.9**
THL				S		**Sn**		**19 21 04.1**	**+0.8**
THL	**Klokotos Trika**	**1.26**	**8**	P		**Pb**		**19 20 46.5**	**+0.2**
THL				S		**Sn**		**19 21 04.1**	**+0.8**
THL	**Klokotos Trika**	**1.26**	**8**	P		**Pb**		**19 20 46.5**	**+0.2**
DID	**Didima**	**1.41**	**125**	P		**Pn**		**19 20 47.6**	**-0.6**
DID				S		**Sb**		**19 21 07.2**	**+0.3**
DID	**Didima**	**1.41**	**125**	P		**Pn**		**19 20 47.6**	**-0.6**
DID				S		**Sb**		**19 21 07.2**	**+0.3**
FYTO	**Fytoko, Volos**	**1.42**	**39**	P		**Pn**		**19 20 48.3**	**0.0**
FYTO	**Fytoko, Volos**	**1.42**	**39**	P		**Pn**		**19 20 48.3**	**0.0**
PYL	**PYLOS**	**1.42**	**181**	P		**Pn**		**19 20 47.4**	**-0.9**
PYL				S		**Sn**		**19 21 07.9**	**+0.7**
PYL	**PYLOS**	**1.42**	**181**	P		**Pn**		**19 20 47.4**	**-0.9**
PYL				S		**Sn**		**19 21 07.9**	**+0.7**
NEO	**Neokhori**	**1.50**	**48**	P		**Pn**		**19 20 49.3**	**-0.2**
NEO				S		**Sg**		**19 21 10.5**	**+0.1**
NEO	**Neokhori**	**1.50**	**48**	P		**Pn**		**19 20 49.3**	**-0.2**
NEO				S		**Sg**		**19 21 10.5**	**+0.1**
NEO	**Neokhori**	**1.50**	**48**	P		**Pn**		**19 20 48.5**	**-1.0**
XOR	**Xorichti**	**1.52**	**46**	P		**Pn**		**19 20 49.0**	**-0.8**
XOR				S		**Sg**		**19 21 11.0**	**-0.1**
XOR	**Xorichti**	**1.52**	**46**	P		**Pn**		**19 20 49.0**	**-0.8**
XOR				S		**Sg**		**19 21 11.0**	**-0.1**
JAN	**Janina**	**1.52**	**332**	P		**Pb**		**19 20 51.1**	**+0.4**
JAN				S		**Sg**		**19 21 12.6**	**+1.4**
JAN	**Janina**	**1.52**	**332**	P		**Pb**		**19 20 51.1**	**+0.4**
JAN				S		**Sg**		**19 21 12.6**	**+1.4**
ATH	**Athens Observa**	**1.56**	**102**	P		**Pn**		**19 20 49.5**	**-0.8**
ATH				S		**Sn**		**19 21 11.4**	**+0.6**
ATH	**Athens Observa**	**1.56**	**102**	P		**Pn**		**19 20 50.3**	**0.0**
ATH				S		**Sn**		**19 21 11.4**	**+0.6**
ATH	**Athens Observa**	**1.56**	**102**	P		**Pn**		**19 20 50.3**	**0.0**
SKIA	**Skiathos**	**1.57**	**57**	P		**Pn**		**19 20 49.9**	**-0.5**
SKIA	**Skiathos**	**1.57**	**57**	P		**Pn**		**19 20 49.9**	**-0.5**
ATHU	**Athens Univers**	**1.62**	**102**	P		**Pn**		**19 20 50.2**	**-0.9**
ATHU				S		**Sn**		**19 21 12.0**	**-0.1**
ATHU	**Athens Univers**	**1.62**	**102**	P		**Pn**		**19 20 50.2**	**-0.9**
ATHU				S		**Sn**		**19 21 12.0**	**-0.1**
VLY	**Voula,Athens**	**1.65**	**106**	P		**Pn**		**19 20 50.9**	**-0.7**
VLY				S		**Sn**		**19 21 13.7**	**+0.7**
VLY	**Voula,Athens**	**1.65**	**106**	P		**Pn**		**19 20 50.9**	**-0.7**
VLY				S		**Sn**		**19 21 13.7**	**+0.7**
IGT	**Igoumenitsa**	**1.66**	**318**	P		**Pn**		**19 20 52.5**	**+0.8**
IGT	**Igoumenitsa**	**1.66**	**318**	P		**Pn**		**19 20 52.5**	**+0.8**
PTL	**Penteli**	**1.66**	**99**	P		**Pn**		**19 20 51.7**	**0.0**
PTL				S		**Sn**		**19 21 13.9**	**+0.6**
PTL	**Penteli**	**1.66**	**99**	P		**Pn**		**19 20 51.7**	**0.0**
PTL				S		**Sn**		**19 21 13.9**	**+0.6**
EREA	**Eretria**	**1.69**	**86**	P		**Pn**		**19 20 52.3**	**+0.2**
EREA				S		**Sn**		**19 21 14.9**	**+0.8**
EREA	**Eretria**	**1.69**	**86**	P		**Pn**		**19 20 52.3**	**+0.2**
EREA				S		**Sn**		**19 21 14.9**	**+0.8**
SGD	**Sagiada**	**1.77**	**318**	P		**Pn**		**19 20 54.2**	**+1.0**
SGD	**Sagiada**	**1.77**	**318**	P		**Pn**		**19 20 54.2**	**+1.0**
VLI	**Veliai**	**1.84**	**150**	P		**Pn**		**19 20 53.9**	**-0.2**
VLI				S		**Sn**		**19 21 18.9**	**+1.3**
VLI	**Veliai**	**1.84**	**150**	P		**Pn**		**19 20 53.9**	**-0.2**
VLI				S		**Sn**		**19 21 18.9**	**+1.3**
AOS	**Alonnisos**	**1.85**	**62**	*e*P		**Pn**		**19 20 53.8**	**-0.5**
AOS	**Alonnisos**	**1.85**	**62**	P		**Pn**		**19 20 53.4**	**-0.9**
AOS	**Alonnisos**	**1.85**	**62**	P		**Pn**		**19 20 53.4**	**-0.9**
LIT	**Litokhoron**	**1.87**	**17**	P		**Pn**		**19 20 54.5**	**0.0**
LIT	**Litokhoron**	**1.87**	**17**	P		**Pn**		**19 20 54.5**	**0.0**
PENT	**Pentalofos**	**1.94**	**345**	P		**Pb**		**19 20 58.0**	**+0.1**
PENT	**Pentalofos**	**1.94**	**345**	P		**Pb**		**19 20 58.0**	**+0.1**
KZN	**Kozani**	**1.99**	**360**	P		**Pb**		**19 20 58.0**	**-0.7**
KZN	**Kozani**	**1.99**	**360**	P		**Pb**		**19 20 58.0**	**-0.7**
KEK	**Kerkira**	**2.08**	**313**	P		**Pn**		**19 20 58.5**	**+1.0**
KEK	**Kerkira**	**2.08**	**313**	P		**Pn**		**19 20 58.5**	**+1.0**
NEST	**Nestorio**	**2.17**	**345**	P		**Pb**		**19 21 02.0**	**+0.2**
NEST	**Nestorio**	**2.17**	**345**	P		**Pb**		**19 21 02.0**	**+0.2**
PAIG	**Paliouri**	**2.18**	**42**	P		**Pn**		**19 20 58.1**	**-0.8**
PAIG	**Paliouri**	**2.18**	**42**	P		**Pn**		**19 20 58.1**	**-0.8**
KYTH	**Kithira**	**2.28**	**153**	P		**Pn**		**19 21 01.7**	**+1.5**
PLG	**Polygyros**	**2.43**	**32**	P		**Pn**		**19 21 02.0**	**-0.2**
PLG	**Polygyros**	**2.43**	**32**	P		**Pn**		**19 21 02.0**	**-0.2**
FNA	**Florina**	**2.48**	**353**	*e*P		**Pn**		**19 21 05.3**	**+2.3**
FNA	**Florina**	**2.48**	**353**	P		**Pn**		**19 21 05.0**	**+1.9**
FNA	**Florina**	**2.48**	**353**	P		**Pn**		**19 21 05.0**	**+1.9**
HORT	**Hortiatis**	**2.50**	**24**	*e*P		**Pn**		**19 21 03.6**	**+0.3**
HORT	**Hortiatis**	**2.50**	**24**	P		**Pn**		**19 21 02.9**	**-0.3**
HORT	**Hortiatis**	**2.50**	**24**	P		**Pn**		**19 21 02.9**	**-0.3**
MHLO	**Agia Marina, M**	**2.64**	**127**	P		**Pn**		**19 21 04.9**	**-0.2**
MHLO	**Agia Marina, M**	**2.64**	**127**	P		**Pn**		**19 21 04.9**	**-0.2**
OUR	**Ouranopolis**	**2.64**	**40**	*e*P		**Pn**		**19 21 05.5**	**+0.3**
OUR	**Ouranopolis**	**2.64**	**40**	P		**Pn**		**19 21 04.7**	**-0.4**
OUR	**Ouranopolis**	**2.64**	**40**	P		**Pn**		**19 21 04.7**	**-0.4**
BIA	**Bitola**	**2.72**	**353**	*i* Pn		**Pb**		**19 21 10.7**	**-0.6**
BIA	**Bitola**	**2.72**	**353**	*i* Pn		**Pb**		**19 21 10.6**	**-0.6**
ANKY	**Antikythira Is**	**2.73**	**153**	P		**Pn**		**19 21 08.1**	**+1.8**
ANKY	**Antikythira Is**	**2.73**	**153**	P		**Pn**		**19 21 08.1**	**+1.8**
SOH	**Sokhos**	**2.78**	**25**	P		**Pn**		**19 21 06.8**	**-0.3**
SOH	**Sokhos**	**2.78**	**25**	P		**Pn**		**19 21 06.8**	**-0.3**
OHR	**Ohrid**	**2.89**	**345**	*e*Pn		**Pb**		**19 21 15.4**	**+1.2**
KNT	**Kendrikon**	**2.97**	**16**	*e*P		**Pn**		**19 21 11.1**	**+1.4**
KNT	**Kendrikon**	**2.97**	**16**	P		**Pn**		**19 21 10.1**	**+0.4**
KNT				S		**Sn**		**19 21 47.4**	**+1.9**
KNT	**Kendrikon**	**2.97**	**16**	P		**Pn**		**19 21 10.1**	**+0.4**
KNT				S		**Sn**		**19 21 47.4**	**+1.9**
VAY	**Valandovo**	**3.06**	**11**	*e*Pn		**Pn**		**19 21 11.7**	**+0.7**
VAY	**Valandovo**	**3.06**	**11**	*e*Pn		**Pn**		**19 21 11.6**	**+0.7**
SRS	**Serrai**	**3.13**	**26**	P		**Pn**		**19 21 12.0**	**+0.2**
SRS	**Serrai**	**3.13**	**26**	P		**Pn**		**19 21 12.0**	**+0.2**
APE	**Apeiranthos**	**3.22**	**112**	*e*P		**Pn**		**19 21 13.3**	**+0.1**
APE	**Apeiranthos**	**3.22**	**112**	*e*P		**Pn**		**19 21 13.3**	**+0.1**
SIGR	**SIGRI**	**3.31**	**73**	*e*P		**Pn**		**19 21 14.7**	**+0.4**
SIGR	**SIGRI**	**3.31**	**73**	*e*P		**Pn**		**19 21 14.7**	**+0.4**
IMMV	**Iera Moni Meta**	**3.35**	**148**	P		**Pn**		**19 21 15.2**	**+0.3**
IMMV	**Iera Moni Meta**	**3.35**	**148**	P		**Pn**		**19 21 15.2**	**+0.3**
CHOS	**Chios island**	**3.36**	**87**	*e*P		**Pn**		**19 21 15.8**	**+0.7**
CHOS	**Chios island**	**3.36**	**87**	P		**Pn**		**19 21 15.5**	**+0.4**
CHOS	**Chios island**	**3.36**	**87**	P		**Pn**		**19 21 15.5**	**+0.4**
THR5	**Thira Island,**	**3.42**	**123**	P		**Pn**		**19 21 16.2**	**+0.4**
THR5	**Thira Island,**	**3.42**	**123**	P		**Pn**		**19 21 16.2**	**+0.4**
NVR	**Nevrokopi**	**3.43**	**27**	P		**Pn**		**19 21 16.3**	**+0.3**
NVR	**Nevrokopi**	**3.43**	**27**	P		**Pn**		**19 21 16.3**	**+0.3**
THR3	**Thira Island,**	**3.46**	**122**	P		**Pn**		**19 21 16.9**	**+0.6**
THR3	**Thira Island,**	**3.46**	**122**	P		**Pn**		**19 21 16.9**	**+0.6**
VAM	**Vamos**	**3.49**	**146**	P		**Pn**		**19 21 17.1**	**+0.3**
VAM				S		**Sn**		**19 21 59.6**	**+1.2**
VAM	**Vamos**	**3.49**	**146**	P		**Pn**		**19 21 17.1**	**+0.3**
VAM				S		**Sn**		**19 21 59.6**	**+1.2**
BOZC	**Bozcaada**	**3.66**	**64**	*e*P		**Pn**		**19 21 18.6**	**-0.5**
BOZC	**Bozcaada**	**3.66**	**64**	*e*P		**Pn**		**19 21 18.6**	**-0.5**
SKO	**Skopje**	**3.66**	**356**	*e*Pn		**Pn**		**19 21 21.6**	**+2.4**
SKO	**Skopje**	**3.66**	**356**	*e*Pn		**Pn**		**19 21 21.5**	**+2.4**
GADA	**Gvkgeada**	**3.70**	**58**	*e*P		**Pn**		**19 21 19.5**	**-0.2**
GADA	**Gvkgeada**	**3.70**	**58**	*e*P		**Pn**		**19 21 19.5**	**-0.2**
URLA	**Izmir**	**3.79**	**88**	*e*P		**Pn**		**19 21 21.7**	**+0.8**
URLA	**Izmir**	**3.79**	**88**	*e*P		**Pn**		**19 21 21.7**	**+0.8**
IDI	**Anoyia**	**3.92**	**140**	Pn		**Pn**		**19 21 24.3**	**+1.5**
	comp=E,3.9nm,0.3s,baz=318,slow=17,SNR=22								
IDI						Sn		**19 22 11.8**	**+2.8**
	comp=E,6.0nm,0.3s,baz=102,slow=4.2,SNR=5.4								
IDI	**Anoyia**	**3.92**	**140**	P		**Pn**		**19 21 21.9**	**-0.9**
IDI	**Anoyia**	**3.92**	**140**	P		**Pn**		**19 21 21.9**	**-0.9**
RDO	**Rodhopi**	**4.05**	**45**	P		**Pn**		**19 21 23.6**	**-0.8**
RDO	**Rodhopi**	**4.05**	**45**	P		**Pn**		**19 21 23.6**	**-0.8**
CGL1	**Ceglie Messapi**	**4.07**	**306**	*i* Pn		**Pn**		**19 21 25.4**	**+0.6**
ULC	**Ulcinj**	**4.13**	**333**	⇑*i*Pn		**Pn**		**19 21 26.5**	**+0.9**
ULC				*e*Sn		**Sn**		**19 22 16.3**	**+2.1**
ULC	**Ulcinj**	**4.13**	**333**	⇑*i*Pn		**Pn**		**19 21 26.5**	**+0.9**
ULC				*e*Sn		**Sn**		**19 22 16.3**	**+2.1**
ENEZ	**Enez**	**4.16**	**53**	*e*P		**Pn**		**19 21 26.6**	**+0.7**
ENEZ	**Enez**	**4.16**	**53**	*e*P		**Pn**		**19 21 26.6**	**+0.7**
ALN	**Alexandroupoli**	**4.18**	**51**	*e*P		**Pn**		**19 21 27.9**	**+1.7**
ALN	**Alexandroupoli**	**4.18**	**51**	*e*P		**Pn**		**19 21 28.0**	**+1.7**
FASA	**Fasano**	**4.24**	**308**	*i* Pn		**Pn**		**19 21 27.3**	**+0.3**
MASS	**Massafra**	**4.27**	**304**	*e*Pn		**Pn**		**19 21 27.4**	**-0.1**
LAST	**Lasithi**	**4.33**	**136**	P		**Pn**		**19 21 27.7**	**-0.7**
LAST	**Lasithi**	**4.33**	**136**	P		**Pn**		**19 21 27.7**	**-0.7**
DRME	**Dracevica, Mon**	**4.35**	**334**	⇑*i*Pn		**Pn**		**19 21 29.1**	**+0.5**
DRME				*e*Sn		**Sn**		**19 22 21.7**	**+2.2**
DRME	**Dracevica, Mon**	**4.35**	**334**	⇑*i*Pn		**Pn**		**19 21 29.1**	**+0.5**
DRME				*e*Sn		**Sn**		**19 22 21.7**	**+2.2**
LPK	**Lapseki**	**4.37**	**60**	*e*P		**Pn**		**19 21 29.5**

MOA				Sn	**Sn**	19 25 03.8	**+0.9**	
	comp=E,2.6nm,0.6s							
GERES	**GERESS Array B**	**12.04**	**344**	Pn	**Pn**	19 23 14.3	**+0.2**	
	comp=E,0.1nm,0.3s,baz=167,slow=13,SNR=4.3							
DAVOX	**Davos/Dischmat**	**12.18**	**318**	Pn	**Pn**	19 23 16.2	**+0.1**	
	comp=E,0.2nm,0.3s,baz=134,slow=17,SNR=2.7							
MMAI	**Mount Meron Ar**	**12.27**	**111**	Pn	**Pn**	19 23 18.1	**+0.8**	
	comp=E,0.2nm,0.3s,baz=284,slow=18,SNR=2.6							
KHC	**Kasperske Hory**	**12.32**	**334**	*e*P	Pn	19 23 33.0	+15	
ESDC	**Sonseca Array**	**20.04**	**282**	P	**P**	19 24 56.2	**+0.5**	
	comp=E,0.2nm,0.3s,baz=75,slow=11,SNR=12							
FINES	**FINESS Array B**	**23.31**	**5**	P	**P**	19 25 28.4	**-1.9**	
	comp=E,1.6nm,0.8s,baz=181,slow=8.9,SNR=5.8							
NB2	**NORSAR Subarra**	**23.69**	**347**	P	**P**	19 25 33.1	**-1.1**	
	comp=E,2.5nm,0.8s,SNR=3.1							
NB2	**NORSAR Subarra**	**23.69**	**347**	P	**P**	19 25 33.1	**-1.1**	
	comp=Z,2.5nm,0.8s,baz=159,slow=11							
NOA	**NORSAR Array B**	**23.69**	**347**	P	**P**	19 25 33.0	**-1.3**	
	comp=Z,0.6nm,0.6s,baz=163,slow=12,SNR=3.6							
EKA	**Eskdalemuir Ar**	**23.90**	**324**	P	**P**	19 25 34.7	**-1.5**	
	comp=Z,2.5nm,0.7s,baz=120,slow=8.8,SNR=4.5							
TORD	**Torodi Ar. Bea**	**30.77**	**221**	P	**P**	19 26 38.3	**0.0**	
	comp=Z,1.3nm,0.6s,baz=33,slow=9.3,SNR=9.9							
ARCES	**ARCESS Array B**	**31.34**	**3**	P	**P**	19 26 43.7	**+0.9**	
	comp=Z,2.1nm,0.8s,baz=207,slow=13,SNR=3.3							
ZALV	**Zalesovo Beam**	**44.86**	**48**	P	**P**	19 28 36.1	**-0.6**	
	comp=Z,1.4nm,0.3s,baz=270,slow=8.5,SNR=7.8							

IDC 14 19:24:29.1±9.8, 28°.13S×176°.71W, h0km, mb3.7/3, mb1 3.9/3, mb1mx3.7/19, mbtmp3.7/3, Error ellipse: s-maj=195.8km s-min=37.3km az=109.0, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
RAO	**Raoul Island**	**1.54**	**223**	Pn		Pn	19 24 57.5	-0.4
	106nm,0.3s,baz=98,slow=21,SNR=5.7							
RAO				Sn		Sg	19 25 19.7	+1.0
	167nm,0.3s,baz=30,slow=20,SNR=3.0							
STKA	**Stephens Creek**	**36.15**	**254**	P		P	19 31 34.0	+0.8
	0.7nm,0.6s,baz=90,slow=10,SNR=3.1							
ASAR	**Alice Springs**	**44.41**	**264**	P		P	19 32 41.5	-0.4
	0.5nm,0.5s,baz=106,slow=7.9,SNR=30							
WRA	**Warramunga Arr**	**45.20**	**269**	P		P	19 32 48.0	-0.2
	0.7nm,0.5s,baz=109,slow=7.7,SNR=13							

JMA 14 19:33:11.7±0.3, 36°.68N×142°.37E, h41km, M2.8, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
ONAJ	**Iwakimizuishiy**	**1.33**	**289**	P		Pn	19 33 34.3	+0.5
ONAJ				S		Sn	19 33 51.6	+1.3
JHO	**Hitachi**	**1.45**	**268**	P		Pn	19 33 35.9	+0.5
JMM	**Marumori**	**1.73**	**314**	P		Pn	19 33 40.0	+0.8
JFT	**Otama**	**1.83**	**298**	P		Pn	19 33 42.4	+1.8
JFT				S		Sn	19 34 04.9	+2.3
JAG	**Ashikaga**	**2.36**	**265**	P		Pn	19 33 49.3	+1.3
JAG				*e*S		Sn	19 34 17.1	+1.4
JYK	**Kaneyama**	**2.74**	**325**	P		Pn	19 33 54.7	+1.5
JRY	**Ryogami san**	**2.88**	**258**	P		Pn	19 33 56.2	+1.1
MAT	**Matsushiro**	**3.35**	**269**	P		Pn	19 34 03.9	+2.3
MAT				*e*S		Sn	19 34 44.3	+4.1

MAN 14 19:37:00, 10°.04N×121°.78E, h4km, mb4.6, ML3.4, MS3.4, 2D, Panay

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
GUIM	**Jordan**	**0.99**	**54**	*e*P		Pn	19 37 20.3	-0.4
GUIM				*e*S		Sn	19 37 35.7	+0.6
SNPH	**Sibulan**	**1.60**	**116**	⇓*i*P		Pb	19 37 30.0	-0.1
SNPH				*i* S		Sg	19 37 54.6	+3.2
RCP	**Roxas**	**1.79**	**32**	⇓*e*P		Pb	19 37 33.4	0.0
RCP				*e*S		Sb	19 37 56.1	-0.1
BUSP	**Coron**	**2.49**	**322**	*e*P		Pn	19 37 42.5	+1.1
BUSP				*e*S		Sg	19 38 30.4	+10
ENSP	**El Nido**	**2.58**	**297**	*e*P		Pn	19 37 44.3	+1.6
PAGZ	**Pagadian**	**2.69**	**144**	*e*P		Pn	19 37 45.4	+1.2
PAGZ				*e*S		Sb	19 38 19.9	-2.4
BOAC	**Boac**	**3.40**	**1**	*e*P		Pb	19 38 00.8	0.0
BOAC				*e*S		Sb	19 38 39.0	-3.6

*PDG **14** 19:43:18.7±0.5, 42°.03N×20°.52E, h0km±11km, ML2.6/12, Error ellipse: s-maj=0.6km s-min=0.8km az=0.0*
*CSEM **14** 19:43:18.3±0.2, 42°.00N×20°.48E, h2km, ML2.5, Error ellipse: s-maj=4.8km s-min=4.0km az=20.0*
*SKO **14** 19:43:18.4, 41°.98N×20°.54E, h15km, M1.4, ML2.5*
*BEO **14** 19:43:19.3±0.4, 42°.03N×20°.48E, h5km±3km, M2.3/1*
*TIR **14** 19:43:24.4, 42°.85N×20°.41E, h0km, ML3.2*
ISC 14 19:43:18.5±1.2, 42°.03N±0°.02×20°.52E±0°.02, h0km±10km, n68, σ1§39/102, 13C-9D, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
SKO	**Skopje**	**0.69**	**95**	⇓*i*Pg		**Pg**	**19 43 31.8**	**0.0**
SKO				*i* Sg		**Sg**	**19 43 42.6**	**+1.9**
SKO				*e*Lg		Lg	19 43 44.4	
	comp=N,13nm,0.4s							
SKO				*e*Lg		Lg	19 43 44.6	
	comp=E,11nm,0.6s							
SKO	**Skopje**	**0.69**	**95**	⇓*i*Pg		**Pg**	**19 43 31.7**	**0.0**
SKO				*i* Sg		**Sg**	**19 43 42.6**	**+1.9**
SKO				*e*Lg		Lg	19 43 44.4	
	comp=E,13nm,0.4s							
PVY	**Plav**	**0.70**	**324**	⇑*i*Pg		**Pg**	**19 43 31.0**	**-0.9**
PVY				*e*Sg		**Sb**	**19 43 43.0**	**-0.9**
PVY	**Plav**	**0.70**	**324**	⇑*i*Pg		**Pg**	**19 43 31.0**	**-0.9**
PVY				*e*Sg		**Sb**	**19 43 43.0**	**-0.9**
TIR	**Tirane**	**0.84**	**216**	*i* PcP		**Pg**	**19 43 32.7**	**-1.4**
TIR				*i* Sg		**Sn**	**19 43 54.5**	**+3.8**
TIR	**Tirane**	**0.84**	**216**	*e*Pg		**Pg**	**19 43 34.1**	**-0.5**
TIR	**Tirane**	**0.84**	**216**	*i* Pg		**Pg**	**19 43 33.2**	**-1.4**
OHR	**Ohrid**	**0.94**	**167**	⇑*i*Pg		**Pg**	**19 43 36.1**	**-0.5**
OHR				*e*Sg		**Sg**	**19 43 48.9**	**+0.1**
OHR				*e*Lg		Lg	19 43 51.1	
	comp=N,151nm,0.8s							
OHR				*e*Lg		Lg	19 43 51.3	
	comp=E,123nm,0.7s							
OHR	**Ohrid**	**0.94**	**167**	⇑*i*Pg		**Pg**	**19 43 36.1**	**-0.5**
OHR				*e*Sg		**Sg**	**19 43 48.9**	**+0.1**
OHR				*e*Lg		Lg	19 43 51.1	
	comp=E,151nm,0.8s							
ULC	**Ulcinj**	**0.95**	**266**	⇓*i*Pg		**Pg**	**19 43 35.5**	**-1.3**
ULC				*e*Sg		**Sn**	**19 43 51.5**	**-2.0**
ULC	**Ulcinj**	**0.95**	**266**	⇓*i*Pg		**Pg**	**19 43 35.5**	**-1.3**
ULC				*e*Sg		**Sn**	**19 43 51.5**	**-2.0**
BEY	**Berane**	**0.96**	**331**	⇓*i*Pg		**Pg**	**19 43 36.5**	**-0.4**
BEY				*e*Sg		**Sb**	**19 43 51.5**	**+0.2**
IVA	**Berane**	**0.96**	**331**	⇓*i*Pg		**Pg**	**19 43 36.5**	**-0.4**
IVA				*e*Sg		**Sb**	**19 43 51.5**	**+0.2**
DRME	**Dracevica, Mon**	**1.00**	**279**	*e*Pg		**Pg**	**19 43 36.2**	**-1.6**
DRME				*e*Sg		**Sn**	**19 43 53.7**	**-1.0**
DRME	**Dracevica, Mon**	**1.00**	**279**	*e*Pg		**Pg**	**19 43 37.0**	**-0.8**
PDG	**Podgorica**	**1.02**	**293**	*e*Pg		**Pg**	**19 43 36.6**	**-1.4**
PDG				*e*Sg		**Sb**	**19 43 51.7**	**-1.2**
PDG	**Podgorica**	**1.02**	**293**	⇑*i*Pg		**Pg**	**19 43 37.4**	**-0.7**
PDG				*e*Sg		**Sb**	**19 43 51.7**	**-1.2**
TTG	**Podgorica**	**1.02**	**293**	⇑*i*Pg		**Pg**	**19 43 37.4**	**-0.7**
TTG				*e*Sg		**Sn**	**19 43 53.6**	**-1.4**
BUM	**Brajici-Budva**	**1.24**	**283**	⇓*i*Pg		**Pg**	**19 43 41.2**	**-1.0**
BUM				*e*Sg		**Sn**	**19 44 01.8**	**+1.2**
BUM	**Brajici-Budva**	**1.24**	**283**	⇓*i*Pg		**Pg**	**19 43 41.2**	**-1.0**
BUM				*e*Sg		**Sn**	**19 44 01.8**	**+1.2**
BARS	**Barje**	**1.24**	**50**	*e*Pg		**Pg**	**19 43 41.8**	**-0.5**
BARS				*e*Sg		**Sn**	**19 44 00.6**	**0.0**
SELS	**Selova**	**1.27**	**20**	*e*Pg		**Pg**	**19 43 42.2**	**-0.6**
SELS				*e*Sg		**Sg**	**19 43 58.6**	**-0.7**
SJES	**Sjenica**	**1.29**	**342**	*e*Pg		**Pg**	**19 43 42.2**	**-1.1**
SJES				*e*Sg		**Sb**	**19 44 00.7**	**-0.3**
CEME	**Cevo**	**1.29**	**294**	*e*Pg		**Pg**	**19 43 41.2**	**-2.1**
CEME				*e*Sg		**Sn**	**19 44 03.9**	**+1.9**
CEME	**Cevo**	**1.29**	**294**	*e*Pg		**Pg**	**19 43 41.2**	**-2.1**
NKME	**Niksic**	**1.37**	**303**	⇑*i*Pg		**Pg**	**19 43 44.0**	**-0.8**
NKME				*e*Sg		**Sn**	**19 44 05.6**	**+1.7**
NKME	**Niksic**	**1.37**	**303**	⇑*i*Pg		**Pg**	**19 43 44.0**	**-0.8**
NKY	**Niksic**	**1.37**	**305**	⇑*i*Pg		**Pg**	**19 43 44.2**	**-0.6**
NKY				*e*Sg		**Sn**	**19 44 05.9**	**+1.9**
NKY	**Niksic**	**1.37**	**305**	⇑*i*Pg		**Pg**	**19 43 44.2**	**-0.6**
PLE	**Pljevlja**	**1.54**	**328**	⇑*i*Pg		**Pn**	**19 43 46.7**	**-0.7**
PLE				*e*Sg		**Sg**	**19 44 11.4**	**+3.3**
PLE	**Pljevlja**	**1.54**	**328**	⇑*i*Pg		**Pn**	**19 43 46.7**	**-0.7**
PLE				*e*Sg		**Sg**	**19 44 11.4**	**+3.3**
HCY	**Herceg Novi**	**1.56**	**286**	*e*Pg		**Pn**	**19 43 46.5**	**-1.0**
HCY				*e*Sg		**Sg**	**19 44 12.0**	**+3.4**
HCY	**Herceg Novi**	**1.56**	**286**	*e*Pn		**Pn**	**19 43 46.7**	**-0.8**
HCY				*e*Sn		**Sg**	**19 44 08.7**	**+0.1**
HCY				*e*Sg		**Sg**	**19 44 12.0**	**+3.4**
IVAS	**Ivanjica**	**1.57**	**350**	*e*Pg		**Pn**	**19 43 46.7**	**-1.0**
IVAS				*e*Sg		**Sg**	**19 44 09.2**	**+0.3**
IVAS	**Ivanjica**	**1.57**	**350**	*e*Pg		**Pn**	**19 43 46.7**	**-1.0**
IVAS				*e*Sg		**Sg**	**19 44 09.2**	**+0.3**
UPM	**Unac-Piva**	**1.67**	**315**	⇑*i*Pn		**Pb**	**19 43 49.6**	**-0.7**
UPM				*e*Sn		**Sg**	**19 44 15.3**	**+3.1**
UPM	**Unac-Piva**	**1.67**	**315**	*e*Pn		**Pn**	**19 43 49.3**	**+0.1**
VAY	**Valandovo**	**1.69**	**114**	*e*Pg		**Pn**	**19 43 49.8**	**+0.4**
VAY	**Valandovo**	**1.69**	**114**	*e*Pg		**Pn**	**19 43 49.8**	**+0.4**
BRY	**Bratogost**	**1.70**	**301**	⇓*i*Pn		**Pb**	**19 43 50.4**	**-0.4**
BRY				*e*Sn		**Sg**	**19 44 15.9**	**+2.7**
BRY	**Bratogost**	**1.70**	**301**	*e*Pn		**Pb**	**19 43 49.9**	**-0.9**
TREB	**Trebinje**	**1.75**	**294**	*e*Pn		**Pb**	**19 43 50.8**	**-0.6**
TREB				*e*Sn		**Sb**	**19 44 13.2**	**-0.7**
BOVS	**Bovan**	**1.82**	**28**	*e*Pn		**Pn**	**19 43 50.9**	**-0.3**
BOVS	**Bovan**	**1.82**	**28**	*e*Pn		**Pn**	**19 43 50.9**	**-0.3**
GRUS	**Gruza**	**1.86**	**4**	*e*Pn		**Pn**	**19 43 51.4**	**-0.3**
GRUS	**Gruza**	**1.86**	**4**	*e*Pn		**Pn**	**19 43 51.4**	**-0.3**
ZAPS	**Zavoj**	**2.00**	**51**	*e*Pn		**Pn**	**19 43 53.9**	**+0.3**
ZAPS	**Zavoj**	**2.00**	**51**	*e*Pn		**Pn**	**19 43 53.9**	**+0.3**
BBLS	**Lazići**	**2.01**	**336**	*e*Pn		**Pn**	**19 43 53.5**	**-0.2**
BBLS	**Lazići**	**2.01**	**336**	*e*Pn		**Pn**	**19 43 53.5**	**-0.2**
BBLS				*e*Sn		**Sb**	**19 44 21.3**	**-0.2**
BOLS	**Boljevac**	**2.08**	**30**	*e*Pn		**Pn**	**19 43 56.1**	**+1.4**
BOLS	**Boljevac**	**2.08**	**30**	*e*Pn		**Pn**	**19 43 56.1**	**+1.4**
DIVS	**Divibare**	**2.10**	**350**	*e*Pn		**Pb**	**19 43 56.5**	**-1.1**
DIVS				*e*Sn		**Sb**	**19 44 23.6**	**-0.6**
ZAGS	**Zajecar**	**2.18**	**35**	*e*Pn		**Pn**	**19 43 55.2**	**-0.9**
ZAGS	**Zajecar**	**2.18**	**35**	*e*Pn		**Pn**	**19 43 55.2**	**-0.9**
TRUS	**Trudelj**	**2.19**	**358**	*e*Pn		**Pn**	**19 43 56.6**	**+0.4**
TRUS	**Trudelj**	**2.19**	**358**	*e*Pn		**Pn**	**19 43 56.6**	**+0.4**
KUBS	**Kucevo**	**2.52**	**19**	*e*Pn		**Pb**	**19 44 03.0**	**-1.7**
KUBS	**Kucevo**	**2.52**	**19**	*e*Pn		**Pb**	**19 44 03.0**	**-1.7**
TEKS	**Tekeris**	**2.62**	**344**	*e*Pn		**Pn**	**19 44 01.0**	**-1.1**
TEKS	**Tekeris**	**2.62**	**344**	*e*Pn		**Pn**	**19 44 02.3**	**+0.2**
UDBI	**Udbina**	**4.27**	**307**	*e*Pn		**Pn**	**19 44 27.8**	**+2.9**
UDBI	**Udbina**	**4.27**	**307**	*e*Pn		**Pn**	**19 44 27.8**	**+2.9**
NVLJ	**Novalja**	**4.83**	**303**	*i* Pn		**Pn**	**19 44 33.8**	**+1.3**
NVLJ	**Novalja**	**4.83**	**303**	*i* Pn		**Pn**	**19 44 33.8**	**+1.3**
CRES	**Cresnjev**	**5.27**	**318**	*e*Pn		**Pn**	**19 44 39.3**	**+0.8**
CEY	**Cerknica**	**5.75**	**312**	*e*Pn		**Pn**	**19 44 45.3**	**+0.1**
FETA	**Feichten**	**8.59**	**309**	*i* Pn		Pn	19 45 28.9	+4.8
	comp=E,0.3nm,0.3s							

*IDC **14** 19:48:18.1±1.2, 24°.20N×120°.73E, h0km, mb3.6/5, mb1 3.8/6, mb1mx3.5/38, mbtmp3.7/6, ML3.6/1, Error ellipse: s-maj=80.9km s-min=22.4km az=71.0*
*NEIC **14** 19:48:21.1±1.2, 24°.66N×121°.91E, h10km, ML4.2(TAP), Error ellipse: s-maj=14.4km s-min=12.6km az=69.0*
NEIC Recorded [3 TAP] in Yilan and [1 TAP] in Hualien and Taoyuan.
*JMA **14** 19:48:22.8±0.2, 24°.63N×121°.69E, h47km±4km, M3.9*
*ISCJB **14** 19:48:23.4±0.2, 24°.70N±0°.02×121°.75E±0°.02, h49km±3km, mb3.6/5, Error ellipse: s-maj=3.9km s-min=2.5km az=156.8*
*TAP **14** 19:48:23.3, 24°.66N×121°.71E, h44km, ML4.0, B*
ISC 14 19:48:24.1±0.8, 24°.68N±0°.03×121°.74E±0°.02, h41km±5km, n85, σ1§29/120, mb3.5/5, 14C-10D, Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
TWE	**Neicheng**	**0.08**	**305**	⇑*i*P		**Pn**	**19 48 30.9**	**+0.1**
	baz=337							
TWE				*i* S		**Sn**	**19 48 36.0**	**+0.7**
	baz=337							
ILA	**Ilan**	**0.09**	**6**	⇓*i*P		**Pn**	**19 48 31.2**	**+0.4**
	baz=22							
ILA				*i* S		**Sn**	**19 48 36.7**	**+1.3**
	baz=22							
TWC	**Suao**	**0.12**	**123**	⇓*i*P		**Pn**	**19 48 30.9**	**0.0**
	baz=111							
ENTT	**Nioudou**	**0.16**	**257**	⇑*i*P		**Pn**	**19 48 31.2**	**0.0**
	baz=268							
EGS		**0.24**	**47**	⇓*i*P		**Pn**	**19 48 32.5**	**+0.6**
	baz=44							
EGS				*e*S		**Sn**	**19 48 38.6**	**+1.4**
	baz=44							
ENA	**Nanau**	**0.25**	**179**	⇓*i*P		**Pn**	**19 48 31.4**	**-0.5**
	baz=177							
YHNB	**Yeheng**	**0.33**	**269**	*e*Pn		**Pn**	**19 48 32.1**	**-0.7**
TWA	**Mucha**	**0.33**	**335**	⇑*i*P		**Pn**	**19 48 32.8**	**0.0**
	baz=341							
TWA				*i* S		**Sn**	**19 48 39.0**	**+0.1**
	baz=341							
NSK	**Sanguang**	**0.34**	**270**	⇑*i*P		**Pn**	**19 48 32.7**	**-0.3**
	baz=268							
NSK				*i* S		**Sn**	**19 48 38.8**	**-0.5**
	baz=268							
EHP	**Heping Village**	**0.36**	**179**	*e*P		**Pn**	**19 48 30.9**	**-2.3**
	baz=181							
TATO	**Taipei**	**0.37**	**323**	*e*Pn		**Pn**	**19 48 31.8**	**-1.5**
NWF	**Wu-fen Shan**	**0.40**	**6**	⇓*i*P		**Pn**	**19 48 33.7**	**+0.1**
	baz=9.0							
NWF				S		**Sn**	**19 48 40.3**	**0.0**
	baz=9.0							
TWB1	**Santiao Chiao**	**0.40**	**35**	⇓*i*P		**Pn**	**19 48 33.8**	**+0.1**
	baz=37							
TWB1				*i* S		**Sn**	**19 48 41.2**	**+0.9**
	baz=37							
NNS	**Nan Shan**	**0.41**	**235**	⇑P		**Pn**	**19 48 33.5**	**-0.3**
	baz=238							
NNS				S		**Sn**	**19 48 40.0**	**-0.6**
	baz=238							
TAP1	**Taipei**	**0.41**	**332**	⇑*i*P		**Pn**	**19 48 33.4**	**-0.3**
	baz=334							
TAP1				*i* S		**Sn**	**19 48 40.2**	**-0.2**
	baz=334							
TAP	**Taipei**	**0.42**	**330**	⇑*i*P		**Pn**	**19 48 33.4**	**-0.5**
	baz=334							
TAP				*i* S		**Sn**	**19 48 40.3**	**-0.3**
	baz=334							
TWS1	**Kuangyinshan**	**0.51**	**326**	⇑*i*P		**Pn**	**19 48 34.9**	**-0.2**
	baz=329							
TWS1				*i* S		**Sn**	**19 48 43.3**	**+0.5**
	baz=329							
NACB	**Ninganchiao**	**0.52**	**195**	*e*Pn		**Pn**	**19 48 33.1**	**-2.0**
NCU	**National Centr**	**0.58**	**300**	⇑*i*P		**Pn**	**19 48 35.7**	**-0.2**
	baz=303							
NCU				*i* S		**Sn**	**19 48 44.8**	**+0.5**
	baz=303							
TWD	**Chiawan**	**0.61**	**192**	*e*P		**Pn**	**19 48 35.1**	**-1.2**
	baz=189							
TWY	**Chenhua**	**0.61**	**348**	⇓*i*P		**Pn**	**19 48 36.2**	**-0.1**
	baz=351							
TWY				S		**Sn**	**19 48 45.2**	**+0.1**
	baz=351							
TWT	**Tachien**	**0.66**	**231**	⇑*i*P		**Pn**	**19 48 37.4**	**+0.1**
	baz=236							
TWT				*e*S		**Sn**	**19 48 46.3**	**-0.3**
	baz=236							
NSTT	**Nanjuang**	**0.67**	**266**	⇑*i*P		**Pn**	**19 48 36.9**	**-0.3**
	baz=267							
NSTT				S		**Sn**	**19 48 46.3**	**-0.3**
	baz=267							
WHF	**Hehuan Shan**	**0.68**	**219**	⇓*i*P		**Pn**	**19 48 37.1**	**-0.6**
	baz=212							
WHF				*e*S		**Sn**	**19 48 46.9**	**-0.5**
	baz=212							
HWA	**Hwalien**	**0.71**	**190**	*e*P		**Pn**	**19 48 35.5**	**-2.2**
	baz=195							
HSN	**Hsinchu**	**0.71**	**280**	*e*P		**Pn**	**19 48 36.3**	**-1.4**
	baz=285							
HSN				*e*S		**Sn**	**19 48 46.4**	**-1.0**
	baz=285							
NSY	**Sanyi**	**0.93**	**254**	⇑P		**Pn**	**19 48 40.8**	**+0.2**
	baz=268							
NSY				*e*S		**Sn**	**19 48 54.5**	**+1.7**
	baz=268							
TWQ1	**Liyutan**	**0.94**	**250**	⇑*i*P		**Pn**	**19 48 40.9**	**+0.1**
	baz=250							
TWQ1				*e*S		**Sn**	**19 48 53.7**	**+0.6**
	baz=250							
SMLT	**Sun Moon Lake**	**1.10**	**224**	*e*P		**Pn**	**19 48 44.0**	**+0.8**
	baz=220							
SMLT				*e*S		**Sn**	**19 48 59.5**	**+2.3**
	baz=220							
TCU	**Taichung**	**1.10**	**242**	*e*P		**Pn**	**19 48 43.0**	**0.0**
	baz=241							
TYC	**Yuchr**	**1.11**	**226**	⇑P		**Pn**	**19 48 43.9**	**+0.7**
	baz=237							
TYC				*e*S		**Sn**	**19 48 58.0**	**+0.7**
	baz=237							
JYNG	**Yonaguni jima**	**1.12**	**101**	P		**Pn**	**19 48 42.9**	**-0.4**
JYNG				S		**Sn**	**19 48 57.9**	**+0.3**
SSLB	**Suanglung**	**1.14**	**219**	*e*Pn		**Pn**	**19 48 42.1**	**-1.5**
YOJ	**Yonaguni jima**	**1.18**	**100**	⇓*i*P		**Pn**	**19 48 43.7**	**-0.4**
	baz=90							
YOJ				S		**Sn**	**19 48 59.8**	**+0.9**
	baz=90							
YOJ	**Yonaguni jima**	**1.18**	**100**	P		**Pn**	**19 48 43.7**	**-0.4**
YOJ				S		**Sn**	**19 48 59.7**	**+0.7**
YOJ	**Yonaguni jima**	**1.18**	**100**	*e*Pn		**Pn**	**19 48 43.0**	**-1.2**
EHY	**Hungye**	**1.23**	**198**	*e*P		**Pn**	**19 48 42.4**	**-2.3**
	baz=188							
WNT	**Mingjian**	**1.25**	**231**	*e*P		**Pn**	**19 48 45.5**	**+0.4**
	baz=244							
WNT				*e*S		**Sn**	**19 49 02.3**	**+1.6**
	baz=244							
YULB	**Yu-li**	**1.34**	**198**	*e*Pn		**Pn**	**19 48 45.4**	**-0.9**
TWF1	**Yuli**	**1.38**	**197**	*e*P		**Pn**	**19 48 46.0**	**-0.9**
	baz=197							
ALS	**Alishan**	**1.44**	**216**	*e*P		**Pn**	**19 48 48.9**	**+0.9**
	baz=231							
CHN5	**Tsauling**	**1.45**	**222**	*e*P		**Pn**	**19 48 48.4**	**+0.5**
	baz=224							
CHN5				*e*S		**Sn**	**19 49 09.0**	**+3.3**
	baz=224							
WGK	**Gukeng**	**1.46**	**228**	*e*P		**Pn**	**19 48 49.2**	**+1.3**
	baz=239							
WTCT	**Ta-ch'eng**	**1.56**	**239**	*e*P		**Pn**	**19 48 48.5**	**-0.8**
	baz=249							
CHKT	**Chengkung**	**1.61**	**192**	*e*P		**Pn**	**19 48 49.7**	**-0.3**
	baz=192							
CHN2	**Minshiung**	**1.62**	**226**	*e*P		**Pn**	**19 48 51.1**	**+0.9**
	baz=237							
ELDTW	**Lidau**	**1.62**	**204**	*e*P		**Pn**	**19 48 48.9**	**-1.4**
	baz=193							
TPUB	**Ta-pu**	**1.70**	**217**	*e*Pn		**Pn**	**19 48 51.6**	**+0.3**
WSF	**Szhu**	**1.73**	**234**	*e*P		**Pn**	**19 48 52.0**	**+0.4**
	baz=233							
STYT	**Tauyuan**	**1.75**	**211**	*e*P		**Pn**	**19 48 53.2**	**+1.2**
	baz=224							
STYT				*e*S		**Sn**	**19 49 17.1**	**+3.8**
	baz=224							
WTP	**Ta-pu**	**1.76**	**216**	*e*P		**Pn**	**19 48 53.0**	**+0.9**
	baz=216							
WTP				*e*S		**Sn**	**19 49 17.0**	**+3.7**
	baz=216							
TWK	**Hsinying**	**1.81**	**219**	*e*P		**Pn**	**19 48 54.2**	**+1.4**
	baz=221							
TWK				*e*S		**Sn**	**19 49 17.4**	**+2.8**
	baz=221							
IRIF	**Iriomote-Funau**	**1.85**	**100**	P		**Pn**	**19 48 52.6**	**-0.7**
IRIF				S		**Sn**	**19 49 15.1**	**-0.3**
CHN1	**Nanshi**	**1.85**	**217**	*e*P		**Pn**	**19 48 55.3**	**+1.9**
	baz=219							
CHN1				*e*S		**Sn**	**19 49 18.6**	**+3.0**
	baz=219							
SGST	**Jiashian**	**1.91**	**214**	*e*P		**Pn**	**19 48 55.0**	**+0.8**
	baz=228							
CHN8	**Yiju**	**1.92**	**227**	*e*P		**Pn**	**19 48 53.8**	**-0.6**
	baz=238							
TWG	**Pinlang**	**1.94**	**198**	*e*P		**Pn**	**19 48 54.2**	**-0.5**
	baz=188							
TWG	**Pinlang**	**1.94**	**198**	*e*Pn		**Pn**	**19 48 55.2**	**+0.5**
HATJ	**Hateruma jima**	**1.98**	**108**	P		**Pn**	**19 48 55.5**	**+0.3**
CHN3	**Shinhua**	**2.03**	**219**	*e*P		**Pn**	**19 48 55.9**	**+0.1**
	baz=219

	1.2nm,0.3s,baz=43,slow=4.5,SNR=11								
BRTR	**Keskin Array B**	**146.80**	**310**	PKPbc	**PKPbc**	**20**	**19**	**49.2**	**-0.3**
	1.0nm,0.6s,baz=140,slow=4.2,SNR=6.3								
KHC	**Kasperske Hory**	**150.96**	**342**	*e*P	PKPab	20	20	19.0	+10
GERES	**GERESS Array B**	**151.18**	**342**	PKPbc	**PKPbc**	**20**	**19**	**59.6**	**-0.2**
	0.6nm,0.7s,baz=35,slow=4.9,SNR=5.1								

ISCJB ***14*** *20:26:38.9±0.5, 43.˚18N±0.˚02×78.˚38E±0.˚03, h7*^{km}*±4km, Error ellipse: s-maj=4.1km s-min=2.9km az=136.2*
SOME ***14*** *20:26:38.2, 43.˚15N×78.˚37E, h10*^{km}
KRNET ***14*** *20:26:38.2±0.1, 43.˚20N×78.˚36E, h26*^{km}*, mb2.2*
NNC ***14*** *20:26:40.1±0.9, 43.˚20N×78.˚50E, h0*^{km}*, mb2.9, mpv2.6, Error ellipse: s-maj=38.9km s-min=4.5km az=171.0*

ISC 14 20:26:38.5±1.1, 43.˚22N±0.˚02×78.˚31E±0.˚02, h2^{km}**±10**^{km}**, n25, σ1º10/48, 13C-8D, Lake Issyk-Kul region**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SATY	**Saty**	**0.17**	**157**	*e*P		**Pg**		**20 26 41.7**	**-0.1**
SATY	65nm,0.1s			*e*S		**Sg**		**20 26 43.9**	**-0.2**
KURS	4µm,0.1s **Kuram**	**0.29**	**339**	*e*P		**Pb**		**20 26 45.8**	**-0.8**
KURS	6.5nm,0.1s			*e*S		**Sb**		**20 26 51.1**	**-0.8**
KPKS	94nm,0.2s **Kokpek**	**0.37**	**47**	*e*P		**Pg**		**20 26 46.4**	**+0.8**
KPKS	53nm,0.1s			*e*S		**Sg**		**20 26 51.8**	**+1.4**
ANVS	204nm,0.2s **Anan'yevo**	**0.64**	**228**	⇑*i*P		**Pg**		**20 26 51.0**	**+0.2**
ANVS	baz=231			⇑*i*S		**Sg**		**20 27 00.4**	**+1.3**
PRZ	baz=231 **Przheval'sk**	**0.73**	**175**	⇑*i*P		**Pg**		**20 26 52.7**	**+0.1**
PRZ	baz=177			⇑*i*S		**Sg**		**20 27 02.7**	**+0.6**
SHLS	baz=177 **Shalkode**	**0.84**	**94**	*e*P		**Pn**		**20 26 59.2**	**+1.7**
SHLS	14nm,0.1s			*e*S		**Sn**		**20 27 14.4**	**+3.9**
MNBS	25nm,0.2s **Baschi**	**0.86**	**4**	*e*P		**Pg**		**20 26 54.9**	**-0.2**
MNBS	27nm,0.3s			*e*S		**Sg**		**20 27 07.0**	**+0.6**
PDGK	24nm,0.3s **Podgornoye**	**0.87**	**82**	⇑*i*P		**Pg**		**20 26 54.3**	**-0.8**
PDGK	baz=81			⇑*i*S		**Sg**		**20 27 05.6**	**-0.8**
PDGK	baz=81 **Podgornoye**	**0.87**	**82**	⇓P		**Pg**		**20 26 54.0**	**-1.1**
PDGK	9.5nm,0.4s			⇑S		**Sg**		**20 27 04.7**	**-1.6**
TNSS	13nm,0.4s **Tian-Shan**	**1.02**	**260**	*e*P		**Pg**		**20 26 58.2**	**+0.2**
TNSS	20nm,0.3s			*e*S		**Sb**		**20 27 12.7**	**-0.3**
ARXS	20nm,0.2s **Arharly**	**1.06**	**341**	*e*P		**Pb**		**20 26 59.3**	**-0.3**
ARXS	5.5nm,0.2s			*e*S		**Sn**		**20 27 14.6**	**-1.2**
CHKK	31nm,0.2s **Chushkaly**	**1.16**	**304**	*e*P		**Pn**		**20 27 01.4**	**-0.3**
CHKK	19nm,0.2s			*e*S		**Sn**		**20 27 18.2**	**0.0**
IZV	36nm,0.2s **Izvestkoviy**	**1.26**	**262**	*e*P		**Pg**		**20 27 02.1**	**-0.5**
IZV	15nm,0.2s			*e*S		**Sb**		**20 27 19.6**	**-0.2**
KDJ	20nm,0.2s **Kajisay**	**1.37**	**218**	⇓*e*P		**Pn**		**20 27 03.8**	**-1.0**
KDJ	baz=219			⇓*e*S		**Sb**		**20 27 21.8**	**-1.2**
MTBS	baz=219 **Maitube**	**1.38**	**267**	*e*P		**Pb**		**20 27 04.9**	**-0.2**
MTBS	6.8nm,0.1s			*e*S		**Sn**		**20 27 24.3**	**+0.5**
KTMS	16nm,0.2s **Ketmen**	**1.50**	**81**	*e*P		**Pn**		**20 27 05.3**	**-1.4**
KTMS	7.8nm,0.2s			*e*S		**Sn**		**20 27 24.9**	**-2.0**
DJR	24nm,0.2s **Jarkent**	**1.55**	**43**	*e*P		**Pb**		**20 27 07.4**	**-0.5**
DJR	14nm,0.2s			*e*S		**Sg**		**20 27 28.1**	**-0.1**
DGS	46nm,0.2s **Degeres**	**1.86**	**272**	*e*P		**Pb**		**20 27 13.0**	**-0.3**
DGS	8.0nm,0.5s			*e*S		**Sg**		**20 27 38.4**	**+0.2**
BOOM	19nm,0.5s **Boomskoye usch**	**1.89**	**248**	⇑*e*P		**Pn**		**20 27 12.0**	**0.0**
BOOM	baz=249			⇑*e*S		**Sn**		**20 27 36.7**	**+0.2**
TKM2	baz=249 **Tokmak 2**	**2.01**	**263**	⇓Pn		**Pb**		**20 27 16.1**	**+0.2**
TKM2	2.1nm,0.3s			⇓Sn		**Sg**		**20 27 44.7**	**+1.5**
KAPS	7.0nm,0.3s **Kapalarasan**	**2.20**	**20**	*e*P		**Pb**		**20 27 19.2**	**+0.1**
KAPS	4.3nm,0.2s			*e*S		**Sg**		**20 27 49.0**	**-0.2**
NRN	13nm,0.3s **Naryn**	**2.47**	**225**	⇑*e*P		**Pn**		**20 27 20.7**	**+0.6**
NRN	baz=225			⇑*e*S		**Sn**		**20 27 51.3**	**+0.2**
AAK	baz=225 **Ala-Archa**	**2.86**	**260**	⇑Pn		**Pb**		**20 27 30.4**	**-0.1**
AAK	1.2nm,0.3s			⇓Sn		**Sg**		**20 28 09.5**	**-1.0**
MAKZ	3.3nm,0.5s **Makanchi**	**4.43**	**35**	⇑Pn		**Pn**		**20 27 48.7**	**+2.0**
MAKZ	1.6nm,1.1s			⇓Lg		Lg		20 28 56.7	
MK31	1.1nm,0.6s **Makanchi Array**	**4.55**	**37**	Pn		**Pn**		**20 27 50.6**	**+2.1**
MK31	0.1nm,0.3s,baz=210,slow=14,SNR=5.2			⇓Lg		Lg		20 29 00.4	
	0.4nm,0.4s,baz=214,slow=27,SNR=12								

IDC 14 20:30:54.2±28.0, 15.˚53S×171.˚66W, h0^{km}**, mb4.2/4, mb1 4.4/4, mb1mx3.7/39, mbtmp4.2/4, Error ellipse: s-maj=578.3km s-min=161.2km az=85.0, Samoa Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**45.42**	**240**	P		P	P	20 39 15.3	+0.3
	2.4nm,0.7s,baz=94,slow=13,SNR=7.0								
WRA	**Warramunga Arr**	**51.44**	**257**	P		P	P	20 40 01.2	-0.4
	0.5nm,0.5s,baz=95,slow=6.9,SNR=16								
ASAR	**Alice Springs**	**51.66**	**252**	P		P	P	20 40 03.2	0.0
	5.9nm,0.6s,baz=88,slow=8.3,SNR=130								
FITZ	**Fitzroy Crossi**	**59.82**	**258**	P		P	P	20 41 01.7	-0.2
	3.2nm,1.0s,baz=95,slow=3.6,SNR=2.4								

IDC 14 20:40:03.8±3.0, 3.˚51N×124.˚72E, h348^{km}**±27**^{km}**, mb3.2/4, mb1 3.4/4, mb1mx2.8/43, mbtmp3.9/4, Error ellipse: s-maj=82.5km s-min=12.1km az=68.0, Celebes Sea**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**21.49**	**178**	P		P	P	20 44 25.6	0.0
	1.6nm,0.5s,baz=359,slow=9.4,SNR=22								
WRA	**Warramunga Arr**	**25.15**	**158**	P		P	P	20 44 58.2	-0.5
	1.2nm,0.3s,baz=338,slow=10,SNR=41								
WRA				PcP		PcP	PcP	20 48 23.4	+1.0
	0.4nm,0.8s,baz=330,slow=2.3,SNR=4.6								
WRA				S		S	S	20 48 54.5	-3.2
	0.7nm,0.7s,baz=332,slow=16,SNR=3.2								
ASAR	**Alice Springs**	**28.45**	**162**	P		P	P	20 45 28.6	+0.5
	0.2nm,0.3s,baz=342,slow=8.1,SNR=6.8								
ASAR				PcP		PcP	PcP	20 48 31.2	+0.9
	0.4nm,0.4s,baz=354,slow=2.1,SNR=6.1								
ASAR				S		S	S	20 49 52.0	+2.4
	0.5nm,0.9s,baz=24,slow=34,SNR=3.2								
KURBB	**Kurchatov Arra**	**60.85**	**328**	P		P	P	20 49 39.8	-0.6
	1.4nm,0.6s,baz=128,slow=6.5,SNR=14								
TORD	**Torodi Ar. Bea**	**121.08**	**288**	PKP		PKPdf	PKPdf	20 58 16.2	-0.4
	0.3nm,0.4s,baz=91,slow=2.8,SNR=7.9								

WEL 14 20:47:05.3±0.3, 37.˚35S×179.˚98E, h33^{km}**, ML3.8/10, 1C, Error ellipse: s-maj=4.6km s-min=2.5km az=0.0, Off east coast of North Island**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
WMGZ	**Waiomatatini S**	**1.33**	**249**	PN		PN	Pn	20 47 27.0	-0.5
WMGZ				SN		SN	Sn	20 47 43.6	-0.5
WMGZ				AML		AML	AML	20 47 45.1	
MXZ	**Matakaoa Point**	**1.35**	**261**	PN		PN	Pn	20 47 27.1	-0.7
MXZ				SN		SN	Sn	20 47 43.5	-1.1
MXZ				AML		AML	AML	20 47 44.2	
PUZ	**Puketiti**	**1.54**	**242**	PN		PN	Pn	20 47 29.7	-0.8
PUZ				SN		SN	Sn	20 47 48.0	-1.5
PUZ				AML		AML	AML	20 47 50.3	
PKGZ	**Pakihiroa**	**1.60**	**250**	PN		PN	Pn	20 47 30.7	-0.7
PKGZ				SN		SN	Sn	20 47 49.8	-1.2
HAZ	**Te Kaha**	**1.79**	**256**	⇑PN		PN	Pn	20 47 33.9	-0.1
HAZ				AML		AML	AML	20 47 57.8	
HAZ				AML		AML	AML	20 47 58.0	
HAZ				AML		AML	AML	20 47 59.9	
CNGZ	**Carnagh Statio**	**1.80**	**231**	PN		PN	Pn	20 47 33.7	-0.3
CNGZ				AML		AML	AML	20 47 58.7	
RUGZ	**Raukumara Rang**	**1.93**	**251**	*e*PN		PN	Pn	20 47 35.4	-0.6
MWZ	**Matawai**	**2.18**	**243**	PN		PN	Pn	20 47 37.8	-1.5
MWZ				SN		SN	Sn	20 48 03.3	-1.7
MWZ				AML		AML	AML	20 48 04.4	
RIGZ	**Rimuhau**	**2.21**	**232**	PN		PN	Pn	20 47 39.1	-0.6
RIGZ				SN		SN	Sn	20 48 04.1	-1.9
RIGZ				AML		AML	AML	20 48 06.3	
MHGZ	**Mahia Peninsul**	**2.43**	**222**	PN		PN	Pn	20 47 41.5	-1.2
MHGZ				AML		AML	AML	20 48 13.7	
URZ	**Urewera**	**2.45**	**247**	PN		PN	Pn	20 47 43.0	+0.1
URZ				AML		AML	AML	20 48 11.7	
URZ				AML		AML	AML	20 48 13.3	
KNZ	**Kokohu**	**2.47**	**227**	*e*PN		PN	Pn	20 47 42.0	-1.2
KNZ				SN		SN	Sn	20 48 09.0	-3.2
BKZ	**Black Stump Fm**	**3.29**	**236**	PN		PN	Pn	20 47 53.4	-1.1
MCHZ	**McNeill Hill**	**3.32**	**230**	PN		PN	Pn	20 47 53.5	-1.4
MCHZ				AML		AML	AML	20 48 34.5	
MCHZ				AML		AML	AML	20 48 36.4	
KAHZ	**Kahuranaki**	**3.44**	**224**	PN		PN	Pn	20 47 54.7	-2.0
KRHZ	**Kereru**	**3.64**	**230**	PN		PN	Pn	20 47 57.4	-2.0
BHHZ	**Black Hill Sta**	**3.75**	**234**	PN		PN	Pn	20 47 59.4	-1.4

ISCJB ***14*** *21:14:55.0±0.6, 50.˚23N±0.˚04×19.˚18E±0.˚03, h0*^{km}*, Error ellipse: s-maj=5.5km s-min=2.7km az=15.5*
PRU ***14*** *21:14:56.9, 50.˚24N×19.˚25E, h0*^{km}
IPEC ***14*** *21:14:56.8±0.2, 50.˚14N×19.˚33E, h0*^{km}*, ML2.2/3, Error ellipse: s-maj=2.9km s-min=1.0km az=164.0*
CSEM ***14*** *21:14:57.4±0.7, 50.˚30N×19.˚13E, h2*^{km}*, ML3.0/10, Error ellipse: s-maj=11.1km s-min=8.4km az=16.0*

ISC 14 21:14:56.5±0.8, 50.˚16N±0.˚05×19.˚25E±0.˚02, h0^{km}**, n28, σ0º94/45, Poland**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
OJC	**Ojcow**	**0.36**	**79**	*e*Pg		**Pg**		**21 15 02.9**	**-0.5**
OJC				*e*Sg		**Sg**		**21 15 07.4**	**-0.6**
OJC	**Ojcow**	**0.36**	**79**	*e*Pg		**Pg**		**21 15 02.9**	**-0.5**
OJC				*e*Sg		**Sg**		**21 15 07.4**	**-0.6**
OKC	**Ostrava-Krasne**	**0.78**	**246**	*e*PG		**Pb**		**21 15 13.2**	**+0.2**
OKC				*e*SG		**Sb**		**21 15 23.3**	**-0.9**
	comp=Z,36nm,0.4s								
OKC	**Ostrava-Krasne**	**0.78**	**246**	Pg		**Pb**		**21 15 13.2**	**+0.2**
OKC				Sg		**Sb**		**21 15 23.3**	**-0.9**
	36nm,0.4s								
LANS	**Liptovska Anna**	**1.02**	**172**	*e*PG		**Pb**		**21 15 17.2**	**+0.2**
LANS				*e*SG		**Sb**		**21 15 31.7**	**+0.8**
MORC	**Moravsky Berou**	**1.17**	**252**	*e*Pg		**Pb**		**21 15 19.8**	**+0.2**
MORC				*e*Sg		**Sb**		**21 15 34.8**	**-0.5**
	64nm,0.6s								
STHS	**Stebnicka Huta**	**1.49**	**119**	*e*PG		**Pb**		**21 15 25.3**	**+0.3**
STHS				*e*SN		**Sn**		**21 15 46.0**	**+1.3**
STHS				*e*LG		Lg		21 15 47.7	
KRLC	**Kraliky**	**1.59**	**268**	*e*PG		**Pn**		**21 15 25.9**	**-0.1**
KRLC	**Kraliky**	**1.59**	**268**	Pg		**Pn**		**21 15 25.9**	**-0.1**
VYHS	**Vyhne**	**1.69**	**189**	*e*PG		**Pn**		**21 15 27.3**	**0.0**
VYHS				*e*SN		**Sn**		**21 15 49.0**	**-0.6**
VYHS				*e*LG		Lg		21 15 53.3	
DPC	**Dobruska-Polom**	**1.89**	**277**	*e*PG		**Pb**		**21 15 31.0**	**-1.0**
DPC				*e*SG		**Sb**		**21 15 56.2**	**0.0**
	comp=Z,30nm,0.6s								
DPC	**Dobruska-Polom**	**1.89**	**277**	Pg		**Pb**		**21 15 31.0**	**-1.0**
DPC				Sg		**Sb**		**21 15 56.2**	**0.0**
	30nm,0.6s								
VRAC	**Vranov**	**1.92**	**245**	*e*Pn		**Pb**		**21 15 31.6**	**-0.9**
VRAC				*e*Sg		**Sg**		**21 15 58.3**	**0.0**
	9.6nm,0.2s								
KSP	**Ksiaz**	**2.01**	**291**	*e*Pg		**Pg**		**21 15 35.0**	**-0.1**
KSP				*e*Sg		**Sg**		**21 16 01.5**	**+0.3**
KSP	**Ksiaz**	**2.01**	**291**	*e*Pg		**Pg**		**21 15 35.0**	**-0.1**
KSP				*e*Sg		**Sg**		**21 16 01.5**	**+0.3**
UPC	**Upice**	**2.11**	**281**	*e*SG		**Sg**		**21 16 03.5**	**-0.7**
	comp=Z,14nm,0.5s								
UPC	**Upice**	**2.11**	**281**	Sg		**Sg**		**21 16 03.5**	**-0.7**
	14nm,0.5s								
KRUC	**Moravsky**	**2.16**	**241**	*e*Pn		**Pn**		**21 15 34.4**	**+0.7**
KRUC				*e*Sg		**Sg**		**21 16 05.7**	**-0.1**
	9.4nm,0.4s								
PVCC	**Panska Ves**	**3.02**	**279**	*e*SG		**Sg**		**21 16 32.6**	**-1.1**
	comp=Z,18nm,0.5s								
PVCC	**Panska Ves**	**3.02**	**279**	Sg		**Sg**		**21 16 32.6**	**-1.1**
	18nm,0.5s								
PRU	**Pruhonice**	**3.04**	**269**	*e*SG		**Sg**		**21 16 32.5**	**-1.7**
	comp=Z,12nm,0.6s								
PRU	**Pruhonice**	**3.04**	**269**	Sg		**Sg**		**21 16 32.5**	**-1.7**
	12nm,0.6s								
BRG	**Berggiesshubel**	**3.46**	**284**	PG		**Pg**		**21 16 06.7**	**+3.8**
BRG				SG		**Sg**		**21 16 47.1**	**-0.7**
	6.6nm,0.7s								
KHC	**Kasperske Hory**	**3.83**	**257**	*e*PN		**Pn**		**21 15 57.5**	**+0.7**
KHC				*e*PG		**Pg**		**21 16 09.5**	**-0.4**
KHC				*e*SG		**Sg**		**21 16 58.0**	**-1.5**
	comp=Z,10nm,0.7s								
KHC	**Kasperske Hory**	**3.83**	**257**	Pn		**Pn**		**21 15 57.5**	**+0.7**
CLL	**Collm**	**4.13**	**289**	*e*Sg		**Sg**		**21 17 10.0**	**+0.7**
NKC	**Novy Kostel**	**4.37**	**274**	*e*SG		**Sg**		**21 17 16.4**	**-0.6**
	comp=Z,6.7nm,0.5s								
NKC	**Novy Kostel**	**4.37**	**274**	Sg		**Sg**		**21 17 16.4**	**-0.6**
	6.7nm,0.5s								

SJA ***14*** *21:21:29.5±0.9, 32.˚65S×71.˚62W, h10*^{km}*±12*^{km}*, MD2.9, ML2.8, MW3.0*
GUC ***14*** *21:21:29.8±0.6, 32.˚73S×71.˚67W, h15*^{km}*±7km, ML2.9*

ISC 14 21:21:27.5±3.5, 32.˚62S±0.˚06×71.˚8W±0.˚1, h14^{km}**±15**^{km}**, n10, σ1º05/17, Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
ROC1	**El Roble**	**0.73**	**119**	*e*P		**Pb**		**21 21 42.8**	**+0.7**
ROC1				*e*S		**Sn**		**21 21 52.9**	**-1.7**
ROCH	**El Roble**	**0.73**	**119**	*e*P		**Pb**		**21 21 42.7**	**+0.6**
ROCH				*e*S		**Sb**		**21 21 52.1**	**+0.1**
ROCH				IAML				21 21 53.5	
	comp=N,878nm,0.5s								
PEL	**Peldehue**	**1.05**	**120**	*e*P		**Pb**		**21 21 47.7**	**+0.3**
PEL				*e*S		**Sn**		**21 22 01.7**	**-0.7**
PEL				IAML				21 22 04.4	
	comp=E,938nm,0.4s								
CLCH	**Cerro Calan**	**1.29**	**127**	*e*P		**Pb**		**21 21 51.5**	**-0.1**
CLCH				*e*S		**Sn**		**21 22 08.3**	**-0.1**
CLCH				IAML				21 22 12.4	
	comp=E,537nm,0.3s								
ANTU	**Antumapu**	**1.34**	**135**	*e*P		**Pn**		**21 21 52.5**	**+0.6**
ANTU				*e*S		**Sg**		**21 22 09.9**	**-0.9**
FCH	**Farellones**	**1.43**	**120**	*e*P		**Pn**		**21 21 54.0**	**+0.7**
FCH				*e*S		**Sg**		**21 22 12.7**	**-0.9**
AUSP	**Uspallata**	**2.05**	**80**	*e*P		**Pb**		**21 22 06.3**	**+1.6**
AUSP				*e*S		**Sg**		**21 22 34.3**	**+0.7**
ASAL	**Salagasta**	**2.48**	**90**	*e*P		**Pb**		**21 22 12.6**	**+0.7**
ACCO	**Cerro Coronel**	**3.07**	**49**	*e*P		**Pb**		**21 22 22.4**	**+0.3**
ACCO				IAML				21 23 09.6	
	comp=Z,29nm,0.3s								
AMOG	**MOGNA**	**3.25**	**60**	*e*P		**Pb**		**21 22 23.1**	**-1.9**

DDA ***14*** *21:34:02.4, 38.˚29N×26.˚59E, h19*^{km}*, Md2.6*
ISCJB ***14*** *21:34:03.7±0.4, 38.˚28N±0.˚02×26.˚62E±0.˚04, h9*^{km}*±3km, Error ellipse: s-maj=4.9km s-min=3.6km az=169.1*
CSEM ***14*** *21:34:03.9±0.1, 38.˚28N×26.˚61E, h8*^{km}*, MD2.6, Error ellipse: s-maj=2.8km s-min=1.9km az=70.0*
ISK ***14*** *21:34:03.1, 38.˚28N×26.˚61E, h5*^{km}*, MD2.3*

ISC 14 21:34:03.2±0.8, 38.˚29N±0.˚02×26.˚62E±0.˚02, h15^{km}**±4**^{km}**, n38, σ1º21/56, Aegean Sea**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
URLA	**Izmir**	**0.07**	**341**	*e*PG		**Pg**		**21 34 06.1**	**-0.1**
URLA				*e*SG		**Sg**		**21 34 08.3**	**+0.1**
URLA	**Izmir**	**0.07**	**341**	*i* P		**Pg**		**21 34 06.2**	**+0.1**
URLA				*i* S		**Sg**		**21 34 08.3**	**+0.1**
URLA	**Izmir**	**0.07**	**341**	*e*Pg		**Pg**		**21 34 06.1**	**-0.1**
URLA				S		**Sg**		**21 34 08.3**	**+0.1**
ZEY	**ˇzmir**	**0.11**	**240**	*i* P		**Pg**		**21 34 06.2**	**-0.3**
ZEY				*i* S		**Sg**		**21 34 08.6**	**-0.1**
CESE	**ˆeˇme**	**0.26**	**278**	*e*PG		**Pg**		**21 34 09.0**	**+0.3**
CESE				*e*SG		**Sg**		**21 34 12.1**	**-0.4**
KRBN	**Karaburun**	**0.30**	**350**	*e*PG		**Pg**		**21 34 09.6**	**0.0**
KRBN				*e*SG		**Sg**		**21 34 14.8**	**+0.9**
DGB	**ˇzmir**	**0.32**	**140**	*i* P		**Pg**		**21 34 09.9**	**+0.2**
DGB				*i* S		**Sb**		**21 34 15.1**	**-0.3**
FOCM	**Foˇ§a**	**0.43**	**11**	*e*PG		**Pg**		**21 34 11.8**	**+0.1**
FOCM				*e*SG		**Sg**		**21 34 18.6**	**+1.0**
CHOS	**Chios island**	**0.46**	**282**	*e*PG		**Pb**		**21 34 12.8**	**-0.2**
CHOS				*e*SG		**Sb**		**21 34 18.9**	**-0.7**
CHOS	**Chios island**	**0.46**	**282**	*e*Pg		**Pb**		**21 34 12.8**	**-0.2**
CHOS				*e*Sg		**Sb**		**21 34 19.0**	**-0.7**
CAND	**Candarli**	**0.67**	**12**	*e*PG		**Pb**		**21 34 17.4**	**+0.7**
CAND				*e*SG		**Sb**		**21 34 27.4**	**+1.6**
GCAM	**G?zelcaml?**	**0.76**	**141**	*i* P		**Pb**		**21 34 18.6**	**+0.4**
GCAM				*i* S		**Sb**		**21 34 28.8**	**+0.4**
GCAM	**G?zelcaml?**	**0.76**	**141**	P		**Pb**		**21 34 18.6**	**+0.4**
GCAM				S		**Sb**		**21 34 28.8**	**+0.4**
DKL	**Dikili**	**0.81**	**16**	*e*PG		**Pg**		**21 34 19.2**	**+0.3**
DKL	**Dikili**	**0.81**	**16**	*e*Pg		**Pg**		**21 34 19.2**	**+0.3**
AYVA	**Ayvalik**	**1.01**	**3**	*i* P		**Pg**		**21 34 20.9**	**-1.9**
AYVA				*i* S		**Sn**		**21 34 37.8**	**+0.9**
AYDB	**Zeytinkoy-Aydi**	**1.06**	**109**	*e*PG		**Pb**		**21 34 23.7**	**+0.5**
SIGR	**SIGRI**	**1.10**	**327**	*e*PN		**Pb**		**21 34 25.0**	**+1.0**
SIGR	**SIGRI**	**1.10**	**327**	*e*Pn		**Pn**		**21 34 25.0**	**+1.0**
AKS	**Akhisar**	**1.10**	**58**	*e*PN		**Pg**		**21 34 24.6**	**+0.2**
BODT	**Bodrum**	**1.34**	**156**	*e*PN		**Pg**		**21 34 29.3**	**+0.3**
BODT	**Bodrum**	**1.34**	**156**	*e*Pn		**Pg**		**21 34 29.3**	**+0.3**
MLSB	**Milas**	**1.35**	**137**	*e*PN		**Pg**		**21 34 29.2**	**+0.1**
MLSB	**Milas**	**1.35**	**137**	*e*Pn		**Pg**		**21 34 29.3**	**+0.1**
BDRM	**Kayabasi**	**1.39**	**152**	*i* P		**Pn**		**21 34 28.8**	**+0.7**
BDRM				*i* S		**Sg**		**21 34 51.3**	**+3.4**
BDRM	**Kayabasi**	**1.39**	**152**	P		**Pn**		**21 34 28.8**	**+0.7**
APE	**Apeiranthos**	**1.50**	**216**	*e*PN		**Pb**		**21 34 30.9**	**+0.2**
APE	**Apeiranthos**	**1.50**	**216**	*e*Pn		**Pb**		**21 34 31.0**	**+0.2**
MANT	**Manisa**	**1.53**	**82**	*i* P		**Pn**		**21 34 26.5**	**-3.7**
MANT				*i* S		**Sn**		**21 34 44.6**	**-5.4**
EZN	**Ezine**	**1.55**	**351**	*e*PN		**Pb**		**21 34 32.4**	**+0.9**
EZN	**Ezine**	**1.55**	**351**	*e*Pn		**Pb**		**21 34 32.4**	**+0.9**
BOZC	**Bozcaada**	**1.61**	**344**	*e*PN		**Pb**		**21 34 33.1**	**+0.5**
BOZC	**Bozcaada**	**1.61**	**344**	*e*Pn		**Pb**		**21 34 33.1**	**+0.5**
KUJA	**Kula-Manisa**	**1.61**	**82**	*e*PN		**Pb**		**21 34 33.3**	**+0.6**
BALY	**Balya**	**1.64**	**28**	*i* P		**Pb**		**21 34 33.3**	**+0.1**
BALY				*i* S		**Sb**		**21 34 54.7**	**+1.1**
BALY	**Balya**	**1.64**	**28**	P		**Pb**		**21 34 33.3**	**+0.1**
BALY				S		**Sb**		**21 34 54.7**	**+1.1**
BALB	**Balikesir**	**1.66**	**36**	*e*PN		**Pb**		**21 34 34.1**	**+0.7**
BALB	**Balikesir**	**1.66**	**36**	*e*Pn		**Pb**		**21 34 34.2**	**+0.7**

WEL 14 21:37:04.7±0.4, 35.˚52S×177.˚89E, h252^{km}**±8**^{km}**, ML3.8/11, 1D, Error ellipse: s-maj=10.7km s-min=9.8km az=90.0, Off east coast of North Island**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**2.06**	**171**	⇓PN		PN	Pn	21 37 48.0	+0.1
MXZ				SN		S		21 38 22.1	0.0
HAZ	**Te Kaha**	**2.23**	**182**	PN		PN	Pn	21 37 50.2	+0.8
HAZ				SN		S		21 38 24.3	-0.6
WMGZ	**Waiomatatini S**	**2.33**	**170**	PN		PN	Pn	21 37 50.5	+0.1
WMGZ				SN		S		21 38 26.4	-0.2
WMGZ				AML		AML	AML	21 38 28.7	
PKGZ	**Pakihiroa**	**2.37**	**176**	PN		PN	Pn	21 37 50.8	0.0
RUGZ	**Raukumara Rang**	**2.45**	**184**	PN		PN	Pn	21 37 51.9	+0.2
URZ	**Urewera**	**2.80**	**193**	PN		PN	Pn	21 37 56.1	+1.0
URZ				SN		S		21 38 34.7	-0.5
MWZ	**Matawai**	**2.82**	**186**	PN		PN	Pn	21 37 56.0	+0.6
RIGZ	**Rimuhau**	**3.18**	**182**	PN		PN	Pn	21 37 58.8	-0.5
RIGZ				AML		AML	AML	21 38 44.9	
KNZ	**Kokohu**	**3.50**	**183**	*e

KST	**Kastek**	**2.57**	**305**	*e*P	**Pb**	**21 47 28.1**	**+0.9**
	1.3nm,0.4s						
KST				*e*S	**Sg**	**21 48 02.2**	**-1.4**
	13nm,0.5s						
CHKK	**Chushkaly**	**2.63**	**330**	*e*P	**Pb**	**21 47 28.0**	**-0.2**
	5.6nm,0.4s						
CHKK				*e*S	**Sb**	**21 48 01.7**	**+1.2**
	22nm,0.3s						
KTBS	**Karatobe**	**2.64**	**324**	*e*P	**Pb**	**21 47 29.8**	**+1.4**
KTBS				*e*S	**Sg**	**21 48 04.6**	**-1.3**
KZA	**Kyzart**	**2.71**	**282**	⇓*e*P	**Pb**	**21 47 28.3**	**-1.5**
	baz=281						
KZA				⇓*e*S	**Sb**	**21 48 02.8**	**-0.4**
	baz=281						
ARXS	**Arharly**	**2.72**	**345**	*e*P	**Pb**	**21 47 30.8**	**+1.1**
	2.9nm,0.4s						
ARXS				*e*S	**Sg**	**21 48 06.7**	**-1.8**
	38nm,0.7s						
TKM2	**Tokmak 2**	**2.74**	**300**	⇓*e*P	**Pb**	**21 47 28.7**	**-1.4**
	baz=299						
TKM2				⇓*i*S	**Sb**	**21 48 03.3**	**-0.5**
	baz=299						
TKM2	**Tokmak 2**	**2.74**	**300**	⇑Pn	**Pb**	**21 47 29.5**	**-0.6**
	0.9nm,0.3s						
TKM2				⇓Sn	**Sg**	**21 48 07.3**	**-1.7**
	4.2nm,0.5s						
DGS	**Degeres**	**2.80**	**307**	*e*P	**Pb**	**21 47 31.2**	**+0.2**
	2.7nm,0.7s						
DGS				*e*S	**Sb**	**21 48 07.3**	**+1.9**
	5.0nm,0.5s						
DJR	**Jarkent**	**2.83**	**14**	*e*P	**Pb**	**21 47 31.4**	**-0.2**
	2.9nm,0.3s						
DJR				*e*S	**Sb**	**21 48 07.8**	**+1.6**
	26nm,0.3s						

ISCJB ***14*** *21:47:21.9±0.3,37°83N±0.02×27°.10E±0.02, h6km±2km, Error ellipse: s-maj=3.2km s-min=2.3km az=141.4*
DDA ***14*** *21:47:21.5,37°.82N×27°.11E, h16km, MI3.4*
ISK ***14*** *21:47:21.6,37°.83N×27°.12E, h7km, ML3.1*
CSEM ***14*** *21:47:22.0±0.1,37°.83N×27°.10E, h5km, ML3.1, Error ellipse: s-maj=3.0km s-min=2.2km az=58.0*
THE ***14*** *21:47:22.9,37°.87N×27°.14E, h9km±3km, ML3.2/5, Error ellipse: s-maj=3.5km s-min=1.2km az=236.0*

ISC 14 21:47:22.0±0.8, 37°.84N±0.02×27°.13E±0.02, h12km±5km, n110, σ1°03/145, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUSD	**Kusadasi-Aydin**	**0.13**	**78**	PG	**Pg**	**21 47 25.1**	**-0.1**
KUSD				SG	**Sg**	**21 47 27.5**	**0.0**
KUSD	**Kusadasi-Aydin**	**0.13**	**78**	*i* Pg	**Pg**	**21 47 25.1**	**-0.1**
KUSD				*i* Sg	**Sg**	**21 47 27.5**	**0.0**
GCAM	**G?zelcaml?**	**0.16**	**149**	*i* P	**Pg**	**21 47 26.0**	**+0.4**
GCAM				*i* S	**Sg**	**21 47 28.6**	**+0.4**
GCAM	**G?zelcaml?**	**0.16**	**149**	P	**Pg**	**21 47 26.0**	**+0.4**
GCAM				S	**Sg**	**21 47 28.6**	**+0.4**
SMG	**Samos**	**0.27**	**242**	S	**Sg**	**21 47 30.1**	**-1.1**
DGB	**˙zmir**	**0.29**	**318**	*i* P	**Pg**	**21 47 27.5**	**-0.5**
DGB				*i* S	**Sg**	**21 47 32.2**	**+0.2**
DIDI	**Didim-Aydin**	**0.47**	**169**	PG	**Pg**	**21 47 31.2**	**0.0**
DIDI				SG	**Sb**	**21 47 38.1**	**0.9**
DIDI	**Didim-Aydin**	**0.47**	**169**	*i* Pg	**Pg**	**21 47 31.2**	**0.0**
DIDI				*i* Sg	**Sb**	**21 47 38.1**	**-0.9**
AYDB	**Zeytinkoy-Aydi**	**0.61**	**79**	PG	**Pg**	**21 47 34.2**	**+0.3**
AYDB				SG	**Sb**	**21 47 43.1**	**-0.3**
AYDB	**Zeytinkoy-Aydi**	**0.61**	**79**	*i* Pg	**Pg**	**21 47 34.2**	**+0.3**
AYDB				*i* Sg	**Sb**	**21 47 43.1**	**-0.3**
ZEY	**˙zmir**	**0.64**	**309**	*i* P	**Pg**	**21 47 33.8**	**-0.7**
ZEY				*i* S	**Sg**	**21 47 42.6**	**-0.3**
URLA	**Izmir**	**0.67**	**321**	PG	**Pg**	**21 47 35.2**	**+0.1**
URLA				SG	**Sb**	**21 47 44.7**	**-0.3**
URLA	**Izmir**	**0.67**	**321**	*i* P	**Pg**	**21 47 35.3**	**+0.2**
URLA				*i* S	**Sb**	**21 47 45.2**	**+0.1**
URLA	**Izmir**	**0.67**	**321**	*i* Pg	**Pg**	**21 47 35.2**	**+0.1**
URLA				*i* Sg	**Sb**	**21 47 44.7**	**-0.3**
URLA				S	**Sb**	**21 47 45.2**	**+0.1**
YKAV	**Yalikavak-Bodr**	**0.72**	**170**	PG	**Pg**	**21 47 35.6**	**-0.3**
YKAV	**Yalikavak-Bodr**	**0.72**	**170**	*i* Pg	**Pg**	**21 47 35.6**	**-0.3**
MLSB	**Milas**	**0.74**	**136**	PG	**Pg**	**21 47 36.1**	**-0.3**
MLSB	**Milas**	**0.74**	**136**	*i* Pg	**Pg**	**21 47 36.1**	**-0.3**
BODT	**Bodrum**	**0.79**	**169**	PG	**Pg**	**21 47 37.3**	**+0.1**
BODT	**Bodrum**	**0.79**	**169**	P	**Pn**	**21 47 38.5**	**-0.4**
BODT	**Bodrum**	**0.79**	**169**	*i* Pg	**Pg**	**21 47 37.3**	**+0.1**
BODT	**Bodrum**	**0.79**	**169**	P	**Pn**	**21 47 38.5**	**-0.4**
BDRM	**Kayabasi**	**0.81**	**162**	*i* P	**Pg**	**21 47 37.4**	**-0.2**
BDRM				*i* S	**Sb**	**21 47 48.8**	**-0.1**
CESE	**˜e¨me**	**0.82**	**307**	PG	**Pg**	**21 47 37.9**	**0.0**
CESE	**˜e¨me**	**0.82**	**307**	*i* Pg	**Pg**	**21 47 37.9**	**0.0**
KRBN	**Karaburun**	**0.88**	**329**	PG	**Pg**	**21 47 39.3**	**+0.2**
KRBN	**Karaburun**	**0.88**	**329**	*i* Pg	**Pg**	**21 47 39.3**	**+0.2**
CHOS	**Chios island**	**1.01**	**303**	PG	**Pg**	**21 47 41.6**	**+0.1**
CHOS	**Chios island**	**1.01**	**303**	P	**Pg**	**21 47 40.9**	**-0.6**
CHOS				S	**Sb**	**21 47 55.4**	**+0.6**
CHOS	**Chios island**	**1.01**	**303**	P	**Pg**	**21 47 41.1**	**-0.4**
CHOS	**Chios island**	**1.01**	**303**	*i* Pg	**Pg**	**21 47 41.6**	**+0.1**
CHOS				S	**Sb**	**21 47 55.2**	**+0.4**
CAND	**Candarli**	**1.15**	**347**	PN	**Pb**	**21 47 43.9**	**+0.2**
DAT	**Datca**	**1.16**	**162**	PN	**Pg**	**21 47 43.6**	**-0.8**
DAT	**Datca**	**1.16**	**162**	*i* P	**Pg**	**21 47 43.6**	**-0.8**
DAT				*i* S	**Sn**	**21 48 00.2**	**+0.2**
DAT	**Datca**	**1.16**	**162**	P	**Pg**	**21 47 43.6**	**-0.8**
DAT				S	**Sn**	**21 48 00.2**	**+0.2**
AKS	**Akhisar**	**1.17**	**27**	PN	**Pb**	**21 47 44.2**	**0.0**
AKS	**Akhisar**	**1.17**	**27**	*i* Pn	**Pb**	**21 47 44.2**	**0.0**
NIS1	**Nisyros Isl.**	**1.23**	**178**	*e*PN	**Pb**	**21 47 44.9**	**-0.4**
NIS1	**Nisyros Isl.**	**1.23**	**178**	P	**Pb**	**21 47 44.5**	**-0.7**
NIS1	**Nisyros Isl.**	**1.23**	**178**	P	**Pb**	**21 47 44.5**	**-0.7**
NIS1	**Nisyros Isl.**	**1.23**	**178**	*e*Pn	**Pb**	**21 47 44.9**	**-0.4**
DKL	**Dikili**	**1.25**	**352**	*e*PN	**Pn**	**21 47 45.2**	**-0.1**
DKL	**Dikili**	**1.25**	**352**	*e*Pn	**Pn**	**21 47 45.2**	**-0.1**
MANT	**Manisa**	**1.30**	**59**	*i* P	Pn	21 47 40.6	-5.7
MANT				*i* S	**Sb**	**21 47 56.1**	**-7.2**
KULA	**Kula-Manisa**	**1.38**	**60**	*e*PN	**Pn**	**21 47 48.0**	**+0.7**
KULA	**Kula-Manisa**	**1.38**	**60**	P	**Pn**	**21 47 46.7**	**-0.5**
KULA				S	**Sb**	**21 48 04.5**	**-1.1**
KULA	**Kula-Manisa**	**1.38**	**60**	*e*Pn	**Pn**	**21 47 48.0**	**+0.7**
KULA				S	**Sb**	**21 48 04.5**	**-1.1**
MRSB	**Marmaris-Mugla**	**1.40**	**142**	*e*PN	**Pn**	**21 47 47.5**	**0.0**
MRSB	**Marmaris-Mugla**	**1.40**	**142**	*e*Pn	**Pn**	**21 47 47.5**	**0.0**
APE	**Apeiranthos**	**1.49**	**239**	*e*PN	**Pb**	**21 47 49.5**	**-0.1**
APE	**Apeiranthos**	**1.49**	**239**	P	**Pn**	**21 47 47.4**	**-1.2**
APE				S	**Sn**	**21 48 08.4**	**+0.4**
APE	**Apeiranthos**	**1.49**	**239**	P	**Pn**	**21 47 47.6**	**-1.0**
APE	**Apeiranthos**	**1.49**	**239**	*e*Pn	**Pb**	**21 47 49.5**	**-0.1**
APE				S	**Sn**	**21 48 08.4**	**+0.4**
DENT	**Denizli**	**1.51**	**93**	*e*PN	**Pn**	**21 47 49.7**	**+0.7**
DENT	**Denizli**	**1.51**	**93**	*e*Pn	**Pn**	**21 47 49.7**	**+0.7**
AYVA	**Ayvalik**	**1.51**	**347**	*i* P	**Pb**	**21 47 50.4**	**+0.4**
AYVA				*i* S	**Sg**	**21 48 11.2**	**+0.5**
AYVA	**Ayvalik**	**1.51**	**347**	P	**Pb**	**21 47 50.4**	**+0.4**
AYVA				S	**Sg**	**21 48 11.2**	**+0.5**
TURN	**Turunc**	**1.52**	**129**	*i* P	**Pn**	**21 47 47.0**	**-1.9**
TURN				*i* S	**Sb**	**21 48 10.1**	**+0.9**
DNZL	**Cakiroluk**	**1.52**	**95**	*i* P	**Pn**	**21 47 49.9**	**+0.6**
DNZL				*i* S	**Sg**	**21 48 12.2**	**+1.1**
CUND	**Cunda Adasi-Ba**	**1.54**	**347**	*e*PN	**Pb**	**21 47 50.8**	**+0.3**
CUND	**Cunda Adasi-Ba**	**1.54**	**347**	*e*Pn	**Pb**	**21 47 50.8**	**+0.3**
PRK	**Paraskevi**	**1.56**	**335**	P	**Pn**	**21 47 49.1**	**-0.5**
PRK				S	**Sn**	**21 48 09.8**	**0.0**
PRK	**Paraskevi**	**1.56**	**335**	P	**Pn**	**21 47 49.3**	**-0.3**
PRK				S	**Sn**	**21 48 10.1**	**+0.3**
DALY	**Dalyan (Mu˘la**	**1.58**	**129**	*e*PN	**Pb**	**21 47 51.1**	**-0.1**
DALY	**Dalyan (Mu˘la**	**1.58**	**129**	*i* P	**Pn**	**21 47 50.1**	**+0.2**
DALY	**Dalyan (Mu˘la**	**1.58**	**129**	*e*Pn	**Pb**	**21 47 51.1**	**-0.1**
SIGR	**SIGRI**	**1.70**	**324**	P	**Pn**	**21 47 51.1**	**-0.4**
SIGR				S	**Sn**	**21 48 14.2**	**+1.0**
SIGR	**SIGRI**	**1.70**	**324**	P	**Sn**	**21 47 51.1**	**-0.4**
SIGR				S	**Sn**	**21 48 14.2**	**+1.0**
DEMI	**Demirci**	**1.73**	**45**	*i* P	**Pg**	**21 47 55.6**	**+0.3**
DEMI				*i* S	**Sg**	**21 48 17.4**	**-0.4**
DEMI	**Demirci**	**1.73**	**45**	P	**Pg**	**21 47 55.6**	**+0.3**
DEMI				S	**Sg**	**21 48 17.4**	**-0.4**
ARG	**Arkhangelos**	**1.80**	**153**	P	**Pn**	**21 47 53.9**	**+1.0**
ARG				S	**Sn**	**21 48 16.9**	**+1.2**
ARG	**Arkhangelos**	**1.80**	**153**	P	**Pn**	**21 47 53.1**	**+0.2**
ARG				S	**Sn**	**21 48 16.9**	**+1.2**
SIMA	**Simav-Kutahya**	**1.92**	**49**	*e*PN	**Pb**	**21 47 56.5**	**-0.5**
SIMA	**Simav-Kutahya**	**1.92**	**49**	*e*Pn	**Pb**	**21 47 56.5**	**-0.5**
KHL	**Karahalli**	**1.95**	**75**	*e*PN	**Pn**	**21 47 55.9**	**+0.9**
KHL	**Karahalli**	**1.95**	**75**	*e*Pn	**Pn**	**21 47 55.9**	**+0.9**
FETY	**Fethiye**	**1.97**	**127**	*e*PN	**Pn**	**21 47 56.5**	**+1.3**
FETY	**Fethiye**	**1.97**	**127**	*e*Pn	**Pn**	**21 47 56.5**	**+1.3**
SANT	**Santorini**	**1.98**	**223**	P	**Pn**	**21 47 56.0**	**+0.6**
THR3	**Thira Island,**	**1.98**	**225**	P	**Pn**	**21 47 56.5**	**+1.1**
THR3	**Thira Island,**	**1.98**	**225**	P	**Pn**	**21 47 56.5**	**+1.1**
THR5	**Thira Island,**	**2.01**	**226**	P	**Pb**	**21 47 57.9**	**-0.6**
THR5	**Thira Island,**	**2.01**	**226**	P	**Pb**	**21 47 57.9**	**-0.6**
GOLH	**Golhisar**	**2.02**	**106**	*i* P	**Pn**	**21 47 57.7**	**+1.6**
THR6	**Thira Island,**	**2.02**	**224**	P	**Pn**	**21 47 57.3**	**+1.3**
THR6	**Thira Island,**	**2.02**	**224**	P	**Pn**	**21 47 57.3**	**+1.3**
GEDZ	**Gediz**	**2.16**	**55**	*e*PN	**Pb**	**21 48 00.3**	**-0.8**
GEDZ	**Gediz**	**2.16**	**55**	*e*Pn	**Pb**	**21 48 00.3**	**-0.8**
KARP	**Karpathos**	**2.28**	**179**	*e*PN	**Pn**	**21 48 00.2**	**+0.6**
KARP	**Karpathos**	**2.28**	**179**	*e*Pn	**Pn**	**21 48 00.2**	**+0.6**
ELL	**Elmali**	**2.47**	**115**	*e*PN	**Pn**	**21 48 03.3**	**+1.1**
ELL	**Elmali**	**2.47**	**115**	*e*Pn	**Pn**	**21 48 03.3**	**+1.1**
AKAS	**Kas**	**2.54**	**128**	*e*PN	**Pn**	**21 48 05.0**	**+1.7**
AKAS	**Kas**	**2.54**	**128**	*i* P	**Pn**	**21 48 05.6**	**+2.3**
AKAS	**Kas**	**2.54**	**128**	*e*Pn	**Pn**	**21 48 05.0**	**+1.7**
AKAS	**Kas**	**2.54**	**128**	P	**Pn**	**21 48 05.6**	**+2.3**
LIA	**Limnos Island**	**2.56**	**324**	P	**Pn**	**21 48 03.3**	**0.0**
LIA	**Limnos Island**	**2.56**	**324**	P	**Pn**	**21 48 03.4**	**+0.1**
VLY	**Voula,Athens**	**2.64**	**271**	P	**Pn**	**21 48 04.3**	**-0.2**
VLY	**Voula,Athens**	**2.64**	**271**	P	**Pn**	**21 48 04.3**	**-0.2**
KORT	**Korkueli**	**2.69**	**107**	*e*PN	**Pn**	**21 48 07.1**	**+1.8**
KORT	**Korkueli**	**2.69**	**107**	*i* P	**Pn**	**21 48 02.0**	**-3.3**
KORT	**Korkueli**	**2.69**	**107**	P	**Pn**	**21 48 02.0**	**-3.3**
KORT	**Korkueli**	**2.69**	**107**	*e*Pn	**Pn**	**21 48 07.1**	**+1.8**
SMTH	**Samothraki Isl**	**2.91**	**335**	P	**Pn**	**21 48 08.2**	**0.0**
SMTH	**Samothraki Isl**	**2.91**	**335**	P	**Pn**	**21 48 08.2**	**0.0**
ALN	**Alexandroupoli**	**3.17**	**345**	P	**Pn**	**21 48 11.7**	**0.0**
ALN	**Alexandroupoli**	**3.17**	**345**	P	**Pn**	**21 48 11.7**	**0.0**
RDO	**Rodhopi**	**3.53**	**340**	P	**Pn**	**21 48 17.1**	**+0.5**
RDO	**Rodhopi**	**3.53**	**340**	P	**Pn**	**21 48 17.1**	**+0.5**

IDC ***14*** *21:47:56.2±1.3,18°.16S×168°.18E, h0km, mb3.8/5, mb1 4.0/6, mb1mx3.7/30, mbtmp3.8/6, ML3.6/1, MS3.5/2, Ms1 3.5/2, ms1mx2.8/31, Error ellipse: s-maj=45.6km s-min=27.2km az=136.0*
ISCJB ***14*** *21:47:59.4±1.5,18°.3S±0.1×168°.2E±0.3, h32km, mb3.8/5, MS3.7/1, Error ellipse: s-maj=39.8km s-min=11.6km az=15.1*

ISC 14 21:48:00.9±1.2, 18°.3S±0.1×168°.2E±0.3, h32km, n9, σ0°67/9, mb3.9/5, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**4.13**	**204**	Pn	**Pn**	**21 49 02.0**	**+0.3**
	3.5nm,0.3s,baz=71,slow=13,SNR=23						
DZM				Sn	**Sn**	**21 49 48.7**	**-0.3**
	11nm,0.3s,baz=337,slow=22,SNR=9.4						
AFI	**Afiamalu**	**19.70**	**80**	LR	LR	21 59 18.6	
	comp=Z,61nm,19.6s,baz=44,slow=35						
STKA	**Stephens Creek**	**27.57**	**235**	P	**P**	**21 53 45.2**	**+0.1**
	1.0nm,0.7s,baz=66,slow=12,SNR=3.2						
WRA	**Warramunga Arr**	**32.03**	**261**	P	**P**	**21 54 24.1**	**-0.7**
	0.4nm,0.7s,baz=82,slow=6.5,SNR=4.8						
ASAR	**Alice Springs**	**32.44**	**255**	P	**P**	**21 54 28.4**	**0.0**
	1.0nm,0.5s,baz=82,slow=8.4,SNR=13						
ASAR				LR	LR	22 05 44.9	
	comp=Z,158nm,20.3s,baz=152,slow=33						
SONM	**Songino Array**	**85.88**	**323**	P	**P**	**22 00 38.6**	**+1.0**
	0.7nm,0.7s,baz=119,slow=5.1,SNR=3.9						
ILAR	**Eielson Array**	**89.61**	**18**	P	**P**	**22 00 53.9**	**-1.0**
	0.3nm,0.4s,baz=226,slow=3.6,SNR=3.7						
ARCES	**ARCESS Array B**	**123.90**	**345**	PKP	**PKPdf**	**22 06 55.2**	**+0.1**
	2.4nm,0.9s,baz=64,slow=2.1,SNR=2.9						
RCBR	**Riachuelo**	**146.23**	**133**	PKPbc	**PKPbc**	**22 07 39.5**	**+0.3**
	3.5nm,0.5s,baz=270,slow=4.0,SNR=4.2						

CSEM ***14*** *22:03:45.4,38°.73N×23°.36E, h11km, ML1.2/7*

ATH 14 22:03:45.5, 38°.72N×23°.36E, h21km±5km, ML1.3/7, Error ellipse: s-maj=5.9km s-min=1.0km az=300.0, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LKR	**Lokris**	**0.29**	**256**	P	Pb	22 03 51.7	-0.3
LKR				S	Sb	22 03 56.3	-0.2
LKR	**Lokris**	**0.29**	**256**	P	Pb	22 03 51.4	-0.6
LKR				S	Sb	22 03 56.0	-0.5
LKR				AML	AML	22 03 57.1	
	comp=N,136μm,0.2s						
LKR				AML	AML	22 03 57.3	
	comp=E,142μm,0.1s						
SKIA	**Skiathos**	**0.45**	**11**	P	Pn	22 03 55.8	-1.0
SKIA				S	Sb	22 04 02.5	+1.5
SKIA	**Skiathos**	**0.45**	**11**	P	Pn	22 03 56.0	-0.8
SKIA				S	Sn	22 04 03.1	-1.2
SKIA				AML	AML	22 04 03.1	
	comp=E,85μm,0.3s						
SKIA				AML	AML	22 04 03.8	
	comp=N,56μm,0.2s						
VIL2	**Platees**	**0.51**	**188**	P	Pb	22 03 55.7	-0.1
VIL2				S	Sn	22 04 04.6	-1.1
VIL2				AML	AML	22 04 05.5	
	comp=E,71μm,0.5s						
VIL2				AML	AML	22 04 09.6	
	comp=N,62μm,0.3s						
EREA	**Eretria**	**0.54**	**123**	P	Pb	22 03 55.9	-0.5
EREA				S	Sn	22 04 05.3	-1.2
EREA	**Eretria**	**0.54**	**123**	P	Pb	22 03 55.5	-0.8
EREA				S	Sn	22 04 05.2	-1.3
EREA				AML	AML	22 04 05.5	
	comp=E,96μm,0.2s						
EREA				AML	AML	22 04 06.4	
	comp=N,85μm,0.2s						
VILL	**Villia**	**0.56**	**183**	P	Pb	22 03 55.8	-0.9
VILL				S	Sb	22 04 04.3	+0.1
NEO	**Neokhori**	**0.59**	**350**	P	Pb	22 03 56.1	-1.2
NEO				S	Sb	22 04 04.9	-0.5
NEO	**Neokhori**	**0.59**	**350**	P	Pb	22 03 55.9	-1.4
NEO				S	Sb	22 04 04.8	-0.6
NEO				AML	AML	22 04 08.3	
	comp=E,45μm,0.2s						
NEO				AML	AML	22 04 09.9	
	comp=N,78μm,0.3s						
DSF	**Desfina**	**0.72**	**245**	P	Pn	22 04 00.1	-0.4
DSF				S	Sn	22 04 11.2	+0.3
DSF	**Desfina**	**0.72**	**245**	P	Pn	22 04 00.1	-0.4
DSF				S	Sn	22 04 11.5	+0.7
DSF				AML	AML	22 04 13.6	
	comp=E,28μm,0.2s						
DSF				AML	AML	22 04 14.1	
	comp=N,35μm,0.2s						
LTK	**Loutraki**	**0.76**	**204**	P	Pb	22 04 00.4	+0.4
LTK				S	Sb	22 04 10.8	+0.9
LTK	**Loutraki**	**0.76**	**204**	P	Pb	22 04 00.4	+0.4
LTK				S	Sn	22 04 11.1	-0.8
LTK				AML	AML	22 04 17.7	
	comp=N,31μm,0.4s						
LTK				AML	AML	22 04 17.7	
	comp=E,55μm,0.5s						
VLY	**Voula,Athens**	**0.93**	**158**	P	Pn	22 04 04.5	+1.1
VLY				S	Sb	22 04 12.1	-2.8
VLY	**Voula,Athens**	**0.93**	**158**	P	Pn	22 04 03.6	+0.2
VLY				S	Sb	22 04 11.0	-3.9

ISCJB ***14*** *22:20:04.7±0.5,37°.86N±0.03×27°.13E±0.04, h2km±6km, Error ellipse: s-maj=6.0km s-min=3.9km az=38.7*
CSEM ***14*** *22:20:04.9±0.2,37°.87N×27°.14E, h2km, MD2.7, Error ellipse: s-maj=5.0km s-min=3.5km az=47.0*
DDA ***14*** *22:20:04.4,37°.84N×27°.15E, h6km, Md2.6*
ISK ***14*** *22:20:04.6,37°.88N×27°.15E, h5km, MD2.7*

ISC 14 22:20:04.7±0.9, 37°.87N±0.02×27°.16E±0.02, h9km±7km, n36, σ1°31/47, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUSD	**Kusadasi-Aydin**	**0.10**	**95**	*e*PG	**Pg**	**22 20 07.4**	**+0.1**
KUSD				*e*SG	**Sg**	**22 20 09.2**	**+0.1**
KUSD	**Kusadasi-Aydin**	**0.10**	**95**	*e*Pg	**Pg**	**22 20 07.4**	**+0.1**
KUSD				*e*Sg	**Sg**	**22 20 09.2**	**+0.1**
GCAM	**G?zelcaml?**	**0.18**	**160**	*i* P	**Pg**	**22 20 07.2**	**-1.3**
GCAM				*i* S	**Sg**	**22 20 10.8**	**-0.2**
GCAM	**G?zelcaml?**	**0.18**	**160**	P	**Pg**	**22 20 07.2**	**-1.3**
GCAM				S	**Sg**	**22 20 10.8**	**-0.2**
DGB	**˙zmir**	**0.28**	**310**	*i* P	**Pg**	**22 20 10.1**	**-0.3**
DGB				*i* S	**Sg**	**22 20 14.0**	**-0.2**
DIDI	**Didim-Aydin**	**0.50**	**172**	*e*PG	**Pb**	**22 20 15.7**	**+0.1**
DIDI	**Didim-Aydin**	**0.50**	**172**	*e*Pg	**Pb**	**22 20 15.7**	**+0.1**
AYDB	**Zeytinkoy-Aydi**	**0.59**	**82**	*e*PG	**Pg**	**22 20 16.3**	**+0.2**
AYDB				*e*SG	**Sb**	**22 20 25.7**	**0.0**
AYDB	**Zeytinkoy-Aydi**	**0.59**	**82**	*e*Pg	**Pg**	**22 20 16.3**	**+0.2**
AYDB				*e*Sg	**Sb**	**22 20 25.7**	**0.0**
URLA	**Izmir**	**0.66**	**318**	*e*PG	**Pb**	**22 20 18.1**	**-0.3**
URLA	**Izmir**	**0.66**	**318**	*i* P	**Pg**	**22 20 17.3**	**-0.2**
URLA				*i* S	**Sb**	**22 20 28.6**	**+0.8**
URLA	**Izmir**	**0.66**	**318**	P	**Pg**	**22 20 17.3**	**-0.2**
URLA	**Izmir**	**0.66**	**318**	*e*Pg	**Pb**	**22 20 18.1**	**-0.3**
URLA				S	**Sb**	**22 20 28.6**	**+0.8**
MLSB	**Milas**	**0.76**	**139**	*e*PG	**Pb**	**22 20 20.3**	**+0.2**
MLSB	**Milas**	**0.76**	**139**	*e*Pg	**Pb**	**22 20 20.3**	**+0.2**
BODT	**Bodrum**	**0.81**	**171**	*e*PG	**Pg**	**22 20 20.3**	**-0.1**
BODT	**Bodrum**	**0.81**	**171**	*e*Pg	**Pg**	**22 20 20.3**	**-0.1**
FOCM	**Fo˘§a**	**0.91**	**338**	*e*PG	**Pg**	**22 20 21.5**	**-0.7**
FOCM	**Fo˘§a**	**0.91**	**338**	*e*Pg	**Pg**	**22 20 21.5**	**-0.7**
CHOS	**Chios island**	**1.01**	**301**	*e*PG	**Pg**	**22 20 23.9**	**-0.2**
CHOS	**Chios island**	**1.01**	**301**	*e*Pg	**Pg**	**22 20 24.0**	**-0.2**
AKS	**Akhisar**	**1.13**	**27**	*e*PN	**Pb**	**22 20 26.7**	**+0.2**
AKS	**Akhisar**	**1.13**	**27**	*e*Pn	**Pb**	**22 20 26.7**	**+0.2**
DAT	**Datca**	**1.19**	**163**	*e*PN	**Pn**	**22 20 28.3**	**+0.7**
DAT	**Datca**	**1.19**	**163**	*e*Pn	**Pn**	**22 20 28.3**	**+0.7**
MANT	**Manisa**	**1.27**	**60**	*i* P	Pg	22 20 23.0	-6.1
MANT				*i* S	**Sg**	**22 20 37.6**	**-7.9**
KULA	**Kula-Manisa**	**1.35**	**61**	*e*PN	**Pg**	**22 20 31.1**	**+0.5**
KULA	**Kula-Manisa**	**1.35**	**61**	*e*Pn	**Pg**	**22 20 31.1**	**+0.5**
APE	**Apeiranthos**	**1.52**	**239**	*e*PN	**Pb**	**22 20 33.0**	**-0.1**
APE	**Apeiranthos**	**1.52**	**239**	*e*Pn	**Pb**	**22 20 33.0**	**-0.1**
SIGR	**SIGRI**	**1.69**	**323**	*e*PN	**Pb**	**22 20 35.6**	**-0.3**
SIGR	**SIGRI**	**1.69**	**323**	*e*Pn	**Pb**	**22 20 35.6**	**-0.3**
DEMI	**Demirci**	**1.69**	**46**	*i* P	**Pg**	**22 20 36.5**	**+0.4**
DEMI				*i* S	**Sg**	**22 20 59.1**	**-0.1**
DEMI	**Demirci**	**1.69**	**46**	P	**Pg**	**22 20 36.5**	**+0.4**
DEMI				S	**Sg**	**22 20 59.1**	**-0.1**
EZN	**Ezine**	**2.06**	**342**	*e*PN	**Pn**	**22 20 40.6**	**+1.1**
EZN	**Ezine**	**2.06**	**342**	*e*Pn	**Pn**	**22 20 40.6**	**+1.1**

CSEM ***14*** *22:23:59.0,39°.57N×29°.74W, h10km, ML2.7*

PDA 14 22:23:59.0±1.0, 39°.57N×29°.74W, h10km, MD3.6, ML2.7, Error ellipse: s-maj=17.7km s-min=7.4km az=56.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCED	**Cedros**	**1.24**	**139**	*e*P	Pn	22 24 17.6	-4.7
PCED				*e*S	Sb	22 24 31.3	-7.1
PCED				A	A	22 24 31.8	
	38nm,0.1s						
PCED	**Cedros**	**1.24**	**139**	*e*P	Pn	22 24 17.6	-4.7
PCED				*e*S	Sb	22 24 31.3	-7.1
CALA	**Caldeira**	**1.27**	**140**	*e*S	Sb	22 24 32.9	-6.6
CALA	**Caldeira**	**1.27**	**140**	*e*S	Sb	22 24 32.9	-6.6
HOR	**Horta**	**1.35**	**140**	*e*S	Sb	22 24 34.5	-7.2
HOR				A	A	22 24 36.2	
	184nm,0.2s						
HOR	**Horta**	**1.35**	**140**	*e*S	Sb	22 24 34.5	-7.2
ROSA	**Rosais**	**1.

JOKE	**Okinoerabujima**	**1.20**	**69**	P		**Pn**	**23 16 43.6**	**+0.6**
JOKE				S		**Sn**	**23 16 59.8**	**-0.4**
JTK	**Tokunoshima**	**1.69**	**59**	P		**Pn**	**23 16 49.3**	**+0.4**
JTK				S		**Sn**	**23 17 09.6**	**-1.1**
JAMN	**Amaminishikomi**	**2.11**	**51**	P		**Pn**	**23 16 54.3**	**0.0**
JAMN				S		**Sn**	**23 17 18.1**	**-2.2**
JAM	**Amami Oshima**	**2.52**	**53**	P		**Pn**	**23 16 59.9**	**+0.3**
JAM				S		**Sn**	**23 17 28.4**	**-1.3**
JZK	**Kikaishima**	**2.74**	**59**	P		**Pn**	**23 17 03.2**	**+0.7**
JZK				S		**Sn**	**23 17 35.1**	**+0.1**
JTAJ	**Takarajima**	**2.78**	**37**	P		**Pn**	**23 17 03.9**	**+0.9**
JIRB	**Irabujima**	**2.84**	**223**	P		**Pn**	**23 17 05.2**	**+1.3**
JTJ	**Tarama**	**3.27**	**227**	P		**Pn**	**23 17 10.6**	**+0.9**
JISG	**Ishigakijimahi**	**3.57**	**230**	P		**Pn**	**23 17 13.9**	**+0.2**
JISG				S		**Sn**	**23 17 53.0**	**-2.0**
JMZ	**Minamidaito 2**	**3.68**	**107**	P		**Pn**	**23 17 14.5**	**-0.6**
JMZ				S		**Sn**	**23 17 53.4**	**-4.1**
JIJ	**Ishigaki jima**	**3.83**	**229**	P		**Pn**	**23 17 17.1**	**-0.1**
IRIF	**Iriomote-Funau**	**4.14**	**232**	P		**Pn**	**23 17 21.3**	**0.0**
IRIF				S		**Sn**	**23 18 11.3**	**+2.7**
JYNG	**Yonagunijimaku**	**4.65**	**239**	P		**Pn**	**23 17 28.8**	**+0.6**
TATO	**Taipei**	**5.59**	**251**	*e*Pn		**Pn**	**23 17 45.2**	**+4.2**
YHNB	**Yeheng**	**5.80**	**249**	*e*Pn		**Pn**	**23 17 46.6**	**+2.7**
YHNB				*e*S		**Sn**	**23 18 53.6**	**+4.4**
NACB	**Ninganchiao**	**5.84**	**243**	*e*Pn		**Pn**	**23 17 44.0**	**-0.4**
NACB				*e*S		**Sn**	**23 18 45.8**	**-4.3**
YULB	**Yu-li**	**6.49**	**238**	*e*Pn		**Pn**	**23 17 51.0**	**-2.2**
	20nm,0.8s							
YULB				*e*S		**Sn**	**23 19 00.7**	**-5.1**
SSLB	**Suanglung**	**6.54**	**243**	*e*Pn		**Pn**	**23 17 53.5**	**-0.5**
	50nm,0.2s							
SSLB				*e*S		**Sn**	**23 19 03.7**	**-3.5**
TWG	**Pinlang**	**6.99**	**236**	*e*Pn		**Pn**	**23 17 58.1**	**-1.9**
TWG				*e*S		**Sn**	**23 19 11.6**	**-6.3**
TPUB	**Ta-pu**	**7.05**	**241**	*e*Pn		**Pn**	**23 18 01.1**	**+0.2**
	17nm,0.4s							
TPUB				*e*S		**Sn**	**23 19 19.1**	**-0.4**
KSAR	**Wonju Array Be**	**10.49**	**3**	P		**Pn**	**23 18 47.0**	**-0.6**
KSRS	**Korea Array**	**10.51**	**3**	P		**Pn**	**23 18 47.0**	**-0.8**
	0.2nm,0.3s,baz=176,slow=15,SNR=5.8							
JHJ	**Hachijo jima 2**	**12.44**	**57**	P		**Pn**	**23 19 12.2**	**-1.5**
	5.5nm,0.3s,baz=233,slow=20,SNR=2.4							
SONM	**Songino Array**	**26.52**	**327**	P		**P**	**23 21 47.8**	**-0.6**
	1.8nm,0.4s,baz=141,slow=11,SNR=14							
CMAR	**Chiang Mai Arr**	**27.45**	**258**	LR		LR	23 33 28.0	
	comp=Z,17nm,18.4s,baz=225,slow=37							
ZALV	**Zalesovo Beam**	**41.20**	**323**	P		**P**	**23 23 54.4**	**-0.4**
	1.4nm,0.4s,baz=114,slow=9.5,SNR=7.7							
KURK	**Kurchatov**	**43.75**	**316**	*e*P		**P**	**23 24 15.5**	**+0.1**
	11nm,0.5s							
KURBB	**Kurchatov Arra**	**43.78**	**316**	P		**P**	**23 24 15.5**	**-0.2**
	1.5nm,0.4s,baz=104,slow=9.0,SNR=14							
WRAB	**Tennant Creek**	**47.08**	**171**	*e*P		**P**	**23 24 43.5**	**+1.5**
	4.1nm,1.3s							
WRA	**Warramunga Arr**	**47.09**	**171**	P		**P**	**23 24 43.5**	**+1.4**
	0.8nm,0.5s,baz=353,slow=8.5,SNR=8.8							
ASAR	**Alice Springs**	**50.70**	**172**	P		**P**	**23 25 12.0**	**+2.4**
	0.5nm,0.5s,baz=2.1,slow=14,SNR=6.2							
GEYT	**Alibeck**	**58.23**	**300**	P		**P**	**23 26 04.9**	**+0.8**
	4.0nm,0.6s,baz=80,slow=8.1,SNR=2.6							
ILAR	**Eielson Array**	**64.22**	**28**	P		**P**	**23 26 45.1**	**+1.0**
	0.2nm,0.5s,baz=294,slow=6.8,SNR=4.1							
SPITS	**Spitsbergen Ar**	**67.98**	**348**	P		**P**	**23 27 07.5**	**-0.4**
	2.3nm,0.5s,baz=68,slow=15,SNR=4.1							
KBZ	**Khabaz**	**68.08**	**309**	P		**P**	**23 27 10.0**	**+0.9**
	3.8nm,0.9s,baz=90,slow=3.5,SNR=10							
FINES	**FINESS Array B**	**71.85**	**330**	P		**P**	**23 27 31.4**	**-0.5**
	6.5nm,1.0s,baz=66,slow=5.3,SNR=14							
AKASG	**Malin Array Be**	**74.47**	**319**	P		**P**	**23 27 46.9**	**-0.5**
	0.5nm,0.3s,baz=62,slow=6.3,SNR=3.5							
BRTR	**Keskin Array B**	**75.96**	**308**	P		**P**	**23 27 56.8**	**+0.4**
	2.7nm,0.8s,baz=99,slow=4.5,SNR=15							
YKA	**Yellowknife Ar**	**78.24**	**25**	P		**P**	**23 28 09.2**	**+0.6**
	1.2nm,0.7s,baz=302,slow=5.9,SNR=3.4							
NOA	**NORSAR Array B**	**78.33**	**333**	P		**P**	**23 28 08.9**	**-0.2**
	0.9nm,0.5s,baz=54,slow=5.5,SNR=3.3							
VRAC	**Vranov**	**82.31**	**322**	P		**P**	**23 28 29.7**	**-0.9**
	2.1nm,0.5s,baz=95,slow=11,SNR=4.1							
GERES	**GERESS Array B**	**84.15**	**323**	P		**P**	**23 28 38.6**	**-1.6**
	0.7nm,0.6s,baz=49,slow=6.2,SNR=8.6							

CSEM ***14*** *23:19:13.4,37.˚86N×27.˚17E,h15km,MD2.5*
ISK 14 23:19:13.4,37.˚86N×27.˚17E,h15km,MD2.5,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AYDB	**Zeytinkoy-Aydi**	**0.57**	**81**	*e*PG	Pb	23 19 25.2	-0.1
AYDB				*e*SG	Sb	23 19 33.6	+0.3
AYDB	**Zeytinkoy-Aydi**	**0.57**	**81**	*e*Pg	Pb	23 19 25.2	0.0
AYDB				*e*Sg	Sb	23 19 33.6	+0.3
URLA	**Izmir**	**0.68**	**318**	*e*PG	Pb	23 19 27.2	+0.3
URLA				*e*SG	Sb	23 19 37.0	+0.8
URLA	**Izmir**	**0.68**	**318**	*e*Pg	Pb	23 19 27.2	+0.3
URLA				*e*Sg	Sb	23 19 37.0	+0.9
BODT	**Bodrum**	**0.81**	**172**	*e*PG	Pb	23 19 29.5	+0.4
BODT	**Bodrum**	**0.81**	**172**	*e*Pg	Pb	23 19 29.5	+0.4
CHOS	**Chios island**	**1.03**	**301**	*e*PG	Pg	23 19 33.3	0.0
CHOS	**Chios island**	**1.03**	**301**	*e*Pg	Pn	23 19 33.3	0.0

ISCJB ***14*** *23:26:32.8±1.3,39.˚09N±0.˚08×28.˚98E±0.˚08,h18km±6km, Error ellipse: s-maj=15.6km s-min=8.5km az=148.2*
CSEM ***14*** *23:26:32.6±0.1,39.˚10N×28.˚96E,h16km±1km,MD2.2, Error ellipse: s-maj=6.4km s-min=2.7km az=120.0*
ISK ***14*** *23:26:32.2,39.˚15N×28.˚90E,h11km,MD2.2*
DDA ***14*** *23:26:37.0,38.˚97N×28.˚72E,h7km,Md2.2*
ISC 14 23:26:31.4±1.0,38.˚99N±0.˚04×29.˚04E±0.˚05,h18km±5km, n13,σ1s17/23,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIMA	**Simav-Kutahya**	**0.10**	**336**	*e*PG	**Pg**	**23 26 35.3**	**+0.1**
SIMA				*e*SG	**Sg**	**23 26 37.4**	**-0.3**
SIMA	**Simav-Kutahya**	**0.10**	**336**	*e*Pg	**Pg**	**23 26 35.3**	**+0.1**
SIMA				*e*Sg	**Sg**	**23 26 37.4**	**-0.3**
DEMI	**Demirci**	**0.25**	**282**	*i* P	**Pb**	**23 26 38.2**	**+0.7**
DEMI				*i* S	**Sg**	**23 26 41.4**	**+0.2**
DEMI	**Demirci**	**0.25**	**282**	P	**Pb**	**23 26 38.2**	**+0.7**
DEMI				S	**Sg**	**23 26 41.4**	**+0.2**
KULA	**Kula-Manisa**	**0.56**	**212**	*e*PG	**Pn**	**23 26 45.5**	**+0.9**
KULA				*e*SG	**Sn**	**23 26 54.3**	**+0.8**
KULA	**Kula-Manisa**	**0.56**	**212**	*e*Pg	**Pn**	**23 26 45.5**	**+0.9**
KULA				*e*Sg	**Sn**	**23 26 54.3**	**+0.8**
TVSB	**Tavsanli**	**0.56**	**36**	*e*PG	**Pb**	**23 26 43.1**	**+0.2**
TVSB				*e*SG	**Sg**	**23 26 50.3**	**0.0**
TVSB	**Tavsanli**	**0.56**	**36**	*e*Pg	**Pb**	**23 26 43.1**	**+0.2**
TVSB				*e*Sg	**Sg**	**23 26 50.3**	**0.0**
MANT	**Manisa**	**0.62**	**217**	*i* P	Pg	23 26 39.0	-4.8
MANT				*i* S	**Sg**	**23 26 48.0**	**-4.2**
KCTX	**Karacabey (Bur**	**1.38**	**338**	*e*PN	**Pn**	**23 26 55.6**	**-0.1**
KCTX				*e*SN	**Sb**	**23 27 12.5**	**-1.4**
KCTX	**Karacabey (Bur**	**1.38**	**338**	*e*Pn	**Pn**	**23 26 55.6**	**-0.1**
KCTX				*e*Sn	**Sb**	**23 27 12.5**	**-1.4**
MDNY	**Mudanya-Bursa**	**1.38**	**355**	*e*PN	**Pn**	**23 26 55.8**	**0.0**
MDNY	**Mudanya-Bursa**	**1.38**	**355**	*e*Pn	**Pn**	**23 26 55.8**	**0.0**

ATH ***14*** *23:28:05.1,35.˚81N×25.˚67E,h40km±1km,ML2.1/8, Error ellipse: s-maj=2.0km s-min=0.9km az=92.0*
ISCJB ***14*** *23:28:06.1±0.5,35.˚81N±0.˚02×25.˚68E±0.˚05,h33km±4km, Error ellipse: s-maj=6.3km s-min=3.6km az=172.6*
CSEM ***14*** *23:28:06.1±0.2,35.˚80N×25.˚66E,h30km,ML2.1, Error ellipse: s-maj=5.0km s-min=3.3km az=88.0*
THE ***14*** *23:28:06.4,35.˚80N×25.˚67E,h20km±2km,ML2.1/5, Error ellipse: s-maj=2.7km s-min=0.8km az=97.0*
ISC 14 23:28:06.1±1.0,35.˚80N±0.˚02×25.˚65E±0.˚03,h30km±10km, n47,σ0s66/76,Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NPS	**Neapolis**	**0.54**	**183**	P	**Pb**	**23 28 17.2**	**0.0**
NPS				S	**Sb**	**23 28 25.1**	**+0.4**
NPS	**Neapolis**	**0.54**	**183**	P	**Pb**	**23 28 17.2**	**0.0**
NPS				S	**Sb**	**23 28 25.1**	**+0.4**
NPS	**Neapolis**	**0.54**	**183**	P	**Pn**	**23 28 17.8**	**0.0**
NPS				S	**Sb**	**23 28 24.7**	**0.0**
NPS				AML	AML	23 28 26.0	
	comp=N,307μm,0.2s						
NPS				AML	AML	23 28 26.9	
	comp=E,304μm,0.2s						
SANT	**Santorini**	**0.59**	**345**	P	**Pn**	**23 28 19.3**	**+0.8**
SANT				S	**Sb**	**23 28 26.4**	**+0.3**
SANT	**Santorini**	**0.59**	**345**	P	**Pb**	**23 28 19.3**	**+0.8**
SANT				S	**Sb**	**23 28 26.4**	**+0.3**
SANT				AML	AML	23 28 28.3	
	comp=E,412μm,0.1s						
SANT				AML	AML	23 28 28.9	
	comp=N,263μm,0.2s						
THR6	**Thira Island,**	**0.59**	**340**	P	**Pb**	**23 28 17.8**	**-0.2**
THR6	**Thira Island,**	**0.59**	**340**	P	**Pb**	**23 28 17.8**	**-0.2**
SAP1	**Santorini-Akro**	**0.59**	**339**	P	**Pb**	**23 28 17.5**	**-0.5**
SAP1				S	**Sn**	**23 28 27.3**	**+0.2**
SAP1	**Santorini-Akro**	**0.59**	**339**	P	**Pb**	**23 28 17.5**	**-0.5**
SAP1				S	**Sn**	**23 28 27.3**	**+0.2**
SAP1				AML	AML	23 28 28.1	
	comp=E,798μm,0.3s						
SAP1				AML	AML	23 28 28.9	
	comp=N,1167μm,0.2s						
SAP2K	**Karterados**	**0.63**	**345**	P	**Pb**	**23 28 17.6**	**-1.0**
SAP2K				S	**Sn**	**23 28 28.3**	**+0.2**
SAP2K				AML	AML	23 28 29.2	
	comp=E,815μm,0.4s						
SAP2K				AML	AML	23 28 29.2	
	comp=N,827μm,0.2s						
THR3	**Thira Island,**	**0.64**	**341**	P	**Pb**	**23 28 18.5**	**-0.3**
THR3	**Thira Island,**	**0.64**	**341**	P	**Pb**	**23 28 18.5**	**-0.3**
LAST	**Lasithi**	**0.66**	**193**	P	**Pb**	**23 28 18.5**	**-0.6**
LAST				S	**Sb**	**23 28 28.0**	**0.0**
LAST	**Lasithi**	**0.66**	**193**	P	**Pb**	**23 28 18.5**	**-0.6**
LAST				S	**Sb**	**23 28 28.3**	**+0.3**
LAST	**Lasithi**	**0.66**	**193**	P	**Pb**	**23 28 18.3**	**-0.9**
LAST				S	**Sb**	**23 28 28.3**	**+0.3**
LAST				AML	AML	23 28 29.0	
	comp=N,129μm,0.3s						
LAST				AML	AML	23 28 30.6	
	comp=E,91μm,0.2s						
THR5	**Thira Island,**	**0.66**	**338**	P	**Pb**	**23 28 19.1**	**0.0**
THR5	**Thira Island,**	**0.66**	**338**	P	**Pb**	**23 28 19.1**	**0.0**
IDI	**Anoyia**	**0.81**	**231**	P	**Pn**	**23 28 21.3**	**-0.2**
IDI				S	**Sb**	**23 28 32.3**	**+0.1**
IDI	**Anoyia**	**0.81**	**231**	P	**Pn**	**23 28 21.3**	**-0.2**
IDI				S	**Sb**	**23 28 32.3**	**+0.1**
IDI	**Anoyia**	**0.81**	**231**	P	**Pn**	**23 28 21.3**	**-0.2**
IDI				S	**Sb**	**23 28 32.3**	**+0.1**
IDI				AML	AML	23 28 33.3	
	comp=E,191μm,0.4s						
IDI				AML	AML	23 28 34.6	
	comp=N,269μm,0.3s						
ZKR	**Zakros**	**0.83**	**146**	P	**Pb**	**23 28 22.8**	**+0.8**
ZKR	**Zakros**	**0.83**	**146**	S	**Sb**	**23 28 31.9**	**-0.9**
ZKR	**Zakros**	**0.83**	**146**	P	**Pb**	**23 28 22.8**	**+0.8**
ZKR				S	**Sb**	**23 28 31.9**	**-0.8**
ZKR				AML	AML	23 28 33.9	
	comp=E,233μm,0.2s						
ZKR				AML	AML	23 28 35.5	
	comp=N,105μm,0.2s						
SIVA	**Sivas**	**1.04**	**221**	P	**Pb**	**23 28 25.4**	**-0.1**
SIVA				S	**Sn**	**23 28 38.7**	**+0.4**
SIVA	**Sivas**	**1.04**	**221**	P	**Pb**	**23 28 25.4**	**-0.1**
SIVA				S	**Sn**	**23 28 38.7**	**+0.4**
SIVA	**Sivas**	**1.04**	**221**	P	**Pb**	**23 28 26.0**	**+0.5**
SIVA				S	**Sb**	**23 28 40.5**	**+1.6**
SIVA				AML	AML	23 28 43.1	
	comp=N,123μm,0.4s						
SIVA				AML	AML	23 28 45.2	
	comp=E,137μm,0.4s						
VAM	**Vamos**	**1.25**	**252**	P	**Pb**	**23 28 28.5**	**-0.5**
VAM				S	**Sb**	**23 28 44.5**	**-0.2**
VAM	**Vamos**	**1.25**	**252**	P	**Pn**	**23 28 27.7**	**+0.2**
VAM				S	**Sb**	**23 28 44.5**	**-0.2**
VAM	**Vamos**	**1.25**	**252**	P	**Pn**	**23 28 27.7**	**+0.2**
KARP	**Karpathos**	**1.25**	**101**	P	**Pn**	**23 28 27.4**	**-0.3**
KARP	**Karpathos**	**1.25**	**101**	P	**Pn**	**23 28 27.4**	**-0.3**
KARP	**Karpathos**	**1.25**	**101**	P	**Pn**	**23 28 27.6**	**-0.1**
APE	**Apeiranthos**	**1.27**	**356**	P	**Pn**	**23 28 27.6**	**-0.2**
APE	**Apeiranthos**	**1.27**	**356**	P	**Pn**	**23 28 27.6**	**-0.2**
APE				S	**Sn**	**23 28 43.5**	**-0.4**
APE	**Apeiranthos**	**1.27**	**356**	P	**Pn**	**23 28 27.4**	**-0.4**
APE				S	**Sn**	**23 28 43.5**	**-0.4**
MHLO	**Agia Marina, M**	**1.34**	**312**	P	**Pn**	**23 28 28.5**	**-0.3**
MHLO				S	**Sn**	**23 28 44.5**	**-1.2**
MHLO	**Agia Marina, M**	**1.34**	**312**	P	**Pn**	**23 28 28.5**	**-0.3**
MHLO				S	**Sn**	**23 28 44.5**	**-1.2**
IMMV	**Iera Moni Meta**	**1.40**	**256**	P	**Pn**	**23 28 29.9**	**+0.2**
IMMV	**Iera Moni Meta**	**1.40**	**256**	P	**Pn**	**23 28 29.9**	**+0.2**
IMMV				S	**Sb**	**23 28 48.9**	**-0.3**
IMMV	**Iera Moni Meta**	**1.40**	**256**	P	**Pn**	**23 28 30.5**	**+0.9**
IMMV				S	**Sb**	**23 28 48.9**	**-0.3**
GVD	**Gavdhos**	**1.60**	**234**	P	**Pn**	**23 28 31.2**	**-1.2**
GVD	**Gavdhos**	**1.60**	**234**	P	**Pn**	**23 28 31.2**	**-1.2**
SERI	**Serifos**	**1.65**	**326**	P	**Pn**	**23 28 34.5**	**+1.4**
SERI	**Serifos**	**1.65**	**326**	P	**Pn**	**23 28 34.5**	**+1.4**
KYTH	**Kithira**	**2.16**	**283**	P	**Pn**	**23 28 40.8**	**+0.7**
KYTH				S	**Sn**	**23 29 07.1**	**+1.2**
VLI	**Veliai**	**2.38**	**293**	P	**Pn**	**23 28 41.9**	**-1.1**
VLI				S	**Sn**	**23 29 12.4**	**+1.2**
VLI	**Veliai**	**2.38**	**293**	P	**Pn**	**23 28 41.9**	**-1.1**
VLI				S	**Sn**	**23 29 12.4**	**+1.2**

IDC 14 23:45:29.8±2.0,15.˚89N×123.˚24E,h0km,mb3.7/4, mb1 3.9/4,mb1mx3.4/50,mbtmp3.7/4,1C,Error ellipse: s-maj=185.4km s-min=24.4km az=69.0,Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DMPH	**Davao City--Mi**	**9.03**	**166**	*e*P	Pn	23 47 43.3	+1.7
FITZ	**Fitzroy Crossi**	**33.86**	**176**	P	P	23 52 14.0	-0.2
	1.0nm,0.6s,baz=0.0,slow=8.1,SNR=3.1						
WRA	**Warramunga Arr**	**37.24**	**163**	P	P	23 52 43.0	-0.3
	0.3nm,0.5s,baz=344,slow=9.1,SNR=10.0						
ASAR	**Alice Springs**	**40.67**	**165**	P	P	23 53 12.3	+0.2
	0.4nm,0.5s,baz=343,slow=6.8,SNR=8.5						
ZALV	**Zalesovo Beam**	**48.31**	**331**	P	P	23 54 12.7	-0.1
	0.5nm,0.4s,baz=107,slow=9.7,SNR=2.3						

ATH ***14*** *23:50:04.5,35.˚79N×25.˚65E,h32km,ML2.9/20, Error ellipse: s-maj=0.9km s-min=0.7km az=171.0*
ISCJB ***14*** *23:50:06.0±0.3,35.˚79N±0.˚02×25.˚59E±0.˚02,h21km±3km, Error ellipse: s-maj=3.0km s-min=2.7km az=28.7*
CSEM ***14*** *23:50:05.8±0.1,35.˚79N×25.˚56E,h12km,ML2.9, Error ellipse: s-maj=2.7km s-min=2.5km az=113.0*
THE ***14*** *23:50:05.6,35.˚79N×25.˚59E,h8km±1km,ML3.1/11, Error ellipse: s-maj=1.5km s-min=0.7km az=106.0*
DDA ***14*** *23:50:22.6,37.˚06N×26.˚82E,h7km,Md2.9*
ISC 14 23:50:05.5±0.9,35.˚79N±0.˚01×25.˚62E±0.˚02,h15km±8km, n111,σ1s17/170,Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NPS	**Neapolis**	**0.53**	**180**	P	**Pg**	**23 50 15.8**	**-0.1**
NPS				S	**Sg**	**23 50 23.5**	**+0.5**
NPS	**Neapolis**	**0.53**	**180**	P	**Pg**	**23 50 16.1**	**+0.2**
NPS				S	**Sg**	**23 50 23.5**	**+0.5**
NPS	**Neapolis**	**0.53**	**180**	P	**Pg**	**23 50 16.1**	**+0.2**
NPS				S	**Sg**	**23 50 22.5**	**-0.5**
NPS				AML	AML	23 50 25.2	
	comp=E,4930μm,0.2s						
NPS				AML	AML	23 50 25.9	
	comp=N,4943μm,0.3s						
THR6	**Thira Island,**	**0.59**	**343**	P	**Pg**	**23 50 16.8**	**-0.4**
THR6	**Thira Island,**	**0.59**	**343**	P	**Pg**	**23 50 16.8**	**-0.4**
SANT	**Santorini**	**0.59**	**348**	P	**Pg**	**23 50 16.7**	**-0.5**
SANT				S	**Sb**	**23 50 26.2**	**+0.4**
SANT	**Santorini**	**0.59**	**348**	P	**Pg**	**23 50 16.7**	**-0.5**
SANT				S	**Sb**	**23 50 26.2**	**+0.4**
SANT				AML	AML	23 50 27.3	
	comp=E,3197μm,0.3s						
SANT				AML	AML	23 50 28.1	
	comp=N,2053μm,0.3s						
SAP1	**Santorini-Akro**	**0.59**	**343**	P	**Pg**	**23 50 17.6**	**+0.4**
SAP1				S	**Sg**	**23 50 25.7**	**+0.6**
SAP1	**Santorini-Akro**	**0.59**	**343**	P	**Pg**	**23 50 17.6**	**+0.4**
SAP1				S	**Sg**	**23 50 25.7**	**+0.6**
SAP1				AML	AML	23 50 27.3	
	comp=E,9881μm,0.4s						
SAP1				AML	AML	23 50 28.1	
	comp=N,12556μm,0.3s						
THT1	**Athinios (Pele**	**0.61**	**346**	P	**Pg**	**23 50 17.1**	**-0.5**
THT1				S	**Sg**	**23 50 26.3**	**+0.6**
THT1	**Athinios (Pele**	**0.61**	**346**	P	**Pg**	**23 50 17.1**	**-0.5**
THT1				S	**Sg**	**23 50 26.3**	**+0.6**
THR8	**Santorini-Mono**	**0.63**	**350**	P	**Pg**	**23 50 17.4**	**-0.4**
THR8	**Santorini-Mono**	**0.63**	**350**	P	**Pg**	**23 50 17.4**	**-0.4**
SAP2K	**Karterados**	**0.64**	**348**	P	**Pg**	**23 50 17.4**	**-0.6**
SAP2K				S	**Sg**	**23 50 26.8**	**+0.4**
SAP2K				AML	AML	23 50 31.9	
	comp=E,7439μm,0.4s						
SAP2K				AML	AML	23 50 33.0	
	comp=N,8514μm,0.5s						
LAST	**Lasithi**	**0.64**	**190**	P	**Pg**	**23 50 17.7**	**-0.3**
LAST				S	**Sg**	**23 50 27.1**	**+0.6**
LAST	**Lasithi**	**0.64**	**190**	P	**Pg**	**23 50 17.8**	**-0.3**
LAST				S	**Sg**	**23 50 27.1**	**+0.6**
LAST	**Lasithi**	**0.64**	**190**	P	**Pg**	**23 50 17.8**	**-0.3**
LAST				S	**Sg**	**23 50 25.5**	**-1.0**
LAST				AML	AML	23 50 28.1	
	comp=N,1843μm,0.4s						
LAST				AML	AML	23 50 29.6	
	comp=E,1431μm,0.2s						
THR3	**Thira Island,**	**0.64**	**344**	P	**Pg**	**23 50 17.7**	**-0.4**
THR3	**Thira Island,**	**0.64**	**344**	P	**Pg**	**23 50 17.7**	**-0.4**
IACM	**Heraklion**	**0.66**	**223**	P	**Pg**	**23 50 18.7**	**+0.3**
IACM	**Heraklion**	**0.66**	**223**	P	**Pg**	**23 50 18.7**	**+0.3**
IACM				S	**Sb**	**23 50 29.1**	**+1.6**
IACM				AML	AML	23 50 33.4	
	comp=E,12134μm,0.4s						
IACM				AML	AML	23 50 35.6	
	comp=N,9824μm,0.4s						
THR5	**Thira Island,**	**0.66**	**341**	P	**Pg**	**23 50 18.2**	**-0.3**
THR5	**Thira Island,**	**0.66**	**341**	P	**Pg**	**23 50 18.2**	**-0.3**
IDI	**Anoyia**	**0.78**	**230**	P	**Pg**	**23 50 20.2**	**-0.4**
IDI				S	**Sg**	**23 50 30.8**	**0.0**
IDI	**Anoyia**	**0.78**	**230**	P	**Pg**	**23 50 20.4**	**-0.2**
IDI				S	**Sg**	**23 50 30.8**	**0.0**
IDI	**Anoyia**	**0.78**	**230**	P	**Pg**	**23 50 20.4**	**-0.2**
IDI				S	**Sg**	**23 50 31.0**	**+0.1**
IDI				AML	AML	23 50 32.5	
	comp=E,2643μm,0.4s						
IDI				AML	AML	23 50 33.8	
	comp=N,3845μm,0.4s						
ZKR	**Zakros**	**0.83**	**144**	P	**Pb**	**23 50 22.1**	**+0.5**
ZKR				S	**Sg**	**23 50 31.7**	**-1.0**
ZKR	**Zakros**	**0.83**	**144**	P	**Pb**	**23 50 22.1**	**+0.5**
ZKR				S	**Sg**	**23 50 31.7**	**-1.0**
ZKR				AML	AML	23 50 33.0	
	comp=E,3829μm,0.2s						
ZKR				AML	AML	23 50 34.7	
	comp=N,1471μm,0.2s						
SIVA	**Sivas**	**1.01**	**221**	P	**Pb**	**23 50 24.3**	**-0.4**
SIVA				S	**Sb**	**23 50 38.3**	**+0.5**
SIVA	**Sivas**	**1.01**	**221**	P	**Pb**	**23 50 24.3**	**-0.4**
SIVA				S	**Sb**	**23 50 37.4**	**-0.4**
SIVA	**Sivas**	**1.01**	**221**	P	**Pb**	**23 50 24.8**	**+0.1**
SIVA				S	**Sb**	**23 50 37.4**	**-0.4**
SIVA				AML	AML	23 50 42.2	
	comp=N,1562μm,0.3s						
SIVA				AML	AML	23 50 45.1	
	comp=E,2035μm,0.7s						
VAM	**Vamos**	**1.22**	**252**	P	**Pn**	**23 50 26.9**	**-1.0**
VAM				S	**Sb**	**23 50 43.9**	**+0.3**
VAM	**Vamos**	**1.22**	**252**	P	**Pn**	**23 50 26.9**	**-1.0**
VAM				S	**Sb**	**23 50 43.9**	**+0.3**
VAM	**Vamos**	**1.22**	**252**	P	**Pn**	**23 50 26.6**	**-1.4**
VAM				S	**Sb**	**23 50 44.0**	**+0.4**
VAM				AML	AML	23 50 47.5	
	comp=N,1029μm,0.3s						
VAM				AML	AML	23 50 54.3	
	comp=E,695μm,0.4s						
APE	**Apeiranthos**	**1.28**	**357**	*e*P	**Pb**	**23 50 30.1**	**+0.8**
APE	**Apeiranthos**	**1.28**	**357**	P	**Pn**	**23 50 27.5**	**-1.3**
APE	**Apeiranthos**	**1.28**	**357**	P	**Pn**	**23 50 29.3**	**+0.5**
APE				S	**Sb**	**23 50 44.9**	**-0.6**
APE	**Apeiranthos**	**1.28**	**357**	P	**Pn**	**23 50 29.3**	**+0.5**
APE				S	**Sb**	**23 50 44.9**	**-0.6**
APE				AML	AML	23 50 51.2	
	comp=N,266μm,0.5s						
APE				AML	AML	23 50 53.3	
	comp=E,217μm,0.5s						
KARP	**Karpathos**	**1.28**	**100**	*e*P	**Pn**	**23 50 28.4**	**-0.5**
KARP	**Karpathos**	**1.28**	**100**	P	**Pn**	**23 50 29.3**	**+0.4**
KARP	**Karpathos**	**1.28**	**100**	P	**Pn**	**23 50 29.3**	**+0.4**

VLI	**Veliai**	**2.35**	**294**	P	**Pn**	**23 50 43.1**	**-0.5**
VLI				S	**Sn**	**23 51 11.2**	**-0.9**
VLI	**Veliai**	**2.35**	**294**	P	**Pn**	**23 50 43.1**	**-0.5**
VLI				S	**Sn**	**23 51 11.3**	**-0.9**
VLI	**Veliai**	**2.35**	**294**	P	**Pn**	**23 50 42.7**	**-0.9**
VLI				S	**Sn**	**23 51 11.3**	**-0.9**
VLI				AML	AML	23 51 19.8	
	comp=E,139μm,0.4s						
VLI				AML	AML	23 51 21.0	
	comp=N,136μm,0.5s						
ZEY	**ˇzmir**	**2.55**	**16**	*i* P	**Pn**	**23 50 45.5**	**-0.6**
TURN	**Turunc**	**2.64**	**65**	*i* P	**Pn**	**23 50 45.1**	**-2.4**
TURN				*i* S	**Sn**	**23 51 16.0**	**-3.3**
TURN	**Turunc**	**2.64**	**65**	P	**Pn**	**23 50 45.1**	**-2.4**
TURN				S	**Sn**	**23 51 16.0**	**-3.3**
DALY	**Dalyan (Muˇla**	**2.66**	**66**	*e*P	**Pn**	**23 50 49.5**	**+1.7**
DALY	**Dalyan (Muˇla**	**2.66**	**66**	*i* P	**Pb**	**23 50 50.6**	**-2.2**
DALY				*i* S	**Sn**	**23 51 21.8**	**+2.1**
DALY	**Dalyan (Muˇla**	**2.66**	**66**	*e*P	**Pn**	**23 50 49.5**	**+1.7**
DALY				S	**Sn**	**23 51 21.8**	**+2.1**
AYDB	**Zeytinkoy-Aydi**	**2.82**	**40**	*e*P	**Pn**	**23 50 52.1**	**+2.0**
AYDB	**Zeytinkoy-Aydi**	**2.82**	**40**	*e*P	**Pn**	**23 50 52.1**	**+2.0**
FETY	**Fethiye**	**2.93**	**72**	*e*P	**Pn**	**23 50 53.1**	**+1.6**
FETY	**Fethiye**	**2.93**	**72**	*e*P	**Pn**	**23 50 53.1**	**+1.6**
EREA	**Eretria**	**2.95**	**333**	P	**Pn**	**23 50 51.5**	**-0.3**
EREA	**Eretria**	**2.95**	**333**	P	**Pn**	**23 50 51.5**	**-0.3**
VLX	**Vlachokerasia**	**3.04**	**302**	P	**Pn**	**23 50 53.1**	**-0.1**
VLX	**Vlachokerasia**	**3.04**	**302**	P	**Pn**	**23 50 53.1**	**-0.1**
VLX				S	**Sn**	**23 51 28.3**	**-1.1**
VLX	**Vlachokerasia**	**3.04**	**302**	P	**Pn**	**23 50 54.9**	**+1.8**
VLX				S	**Sn**	**23 51 28.3**	**-1.1**
VLX				AML	AML	23 51 41.3	
	comp=N,64μm,0.6s						
VLX				AML	AML	23 51 41.5	
	comp=E,92μm,0.5s						
LTK	**Loutraki**	**3.08**	**317**	P	**Pn**	**23 50 54.5**	**+1.0**
LTK	**Loutraki**	**3.08**	**317**	P	**Pn**	**23 50 54.5**	**+1.0**
SIGR	**SIGRI**	**3.42**	**3**	*e*P	**Pn**	**23 50 59.9**	**+1.7**
SIGR	**SIGRI**	**3.42**	**3**	*e*P	**Pn**	**23 50 59.9**	**+1.7**
GOLH	**Golhisar**	**3.49**	**64**	*i* P	**Pn**	**23 51 01.4**	**+2.1**
GOLH				*i* S	**Sn**	**23 51 44.3**	**+3.9**
GOLH	**Golhisar**	**3.49**	**64**	P	**Pn**	**23 51 01.4**	**+2.1**
GOLH				S	**Sn**	**23 51 44.3**	**+3.9**
KLV	**Kalavryta, Ach**	**3.57**	**310**	P	**Pn**	**23 51 01.9**	**+1.5**
KLV	**Kalavryta, Ach**	**3.57**	**310**	P	**Pn**	**23 51 01.9**	**+1.5**
ELL	**Elmali**	**3.60**	**73**	*e*P	**Pn**	**23 51 02.0**	**+1.2**
ELL	**Elmali**	**3.60**	**73**	*e*P	**Pn**	**23 51 02.0**	**+1.2**
AOS	**Alonnisos**	**3.65**	**338**	*e*P	**Pn**	**23 51 03.8**	**+2.5**
AOS	**Alonnisos**	**3.65**	**338**	*e*P	**Pn**	**23 51 03.8**	**+2.5**
LAKA	**Lakka**	**3.80**	**311**	P	**Pn**	**23 51 05.1**	**+1.6**
LAKA	**Lakka**	**3.80**	**311**	P	**Pn**	**23 51 05.1**	**+1.6**
DRO	**Drossia**	**3.80**	**306**	P	**Pn**	**23 51 02.5**	**-1.0**
DRO	**Drossia**	**3.80**	**306**	P	**Pn**	**23 51 02.5**	**-1.0**
KALE	**Kalithea**	**3.80**	**314**	P	**Pn**	**23 51 05.6**	**+2.1**
KALE	**Kalithea**	**3.80**	**314**	P	**Pn**	**23 51 05.6**	**+2.1**
KORT	**Korkueli**	**4.01**	**71**	*i* P	**Pn**	**23 51 08.8**	**+2.4**
KORT	**Korkueli**	**4.01**	**71**	P	**Pn**	**23 51 08.8**	**+2.4**

NIED ***15*** *00:00:00,38˚.80N×142˚.20E,h26km,Mw3.5 Best double couple: M₀2.09000×10¹⁴ NP1:φ₀=79.00000°,δ=42.00000°, λ=-115.00000°. NP2:φ₀=291.00000°,δ=53.00000°, λ=-69.00000°.*

IDC ***15*** *00:00:16.6±5.6,38˚.99N×142˚.39E,h0km,mb3.7/2, mb1 3.9/4,mb1mx3.5/51,mbtmp3.8/4,ML3.3/2,Error ellipse: s-maj=114.0km s-min=62.0km az=163.0*

ISCJB ***15*** *00:00:21.3±1.3,38˚.72N±0˚.04×142˚.21E±0˚.08,h30km±6km, mb3.8/2,Error ellipse: s-maj=11.0km s-min=7.2km az=177.8*

JMA ***15*** *00:00:23.0±0.1,38˚.79N×142˚.13E,h35km±1km,M4.1*

JMA Felt II J1.

ISC 15 00:00:22.5±1.8,**38˚.76N**±0˚.05×**142˚.17E**±0˚.09,**h30**km±12km, **n13**,σ0**9**93/21,**Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OFUJ	**Ofunato**	**0.51**	**310**	P	**Pb**	**00 00 33.1**	**+0.1**
OFUJ				S	**Sb**	**00 00 39.9**	**-0.3**
JIO	**Ouri**	**0.71**	**245**	P	**Pn**	**00 00 35.9**	**-0.6**
JIO				*e*S	**Sn**	**00 00 44.6**	**-1.8**
JMK	**Ichinoseki**	**0.77**	**285**	P	**Pn**	**00 00 37.0**	**-0.3**
JMK				*e*S	**Sn**	**00 00 46.6**	**-1.2**
JOM	**Ohasama**	**0.99**	**317**	P	**Pn**	**00 00 40.3**	**0.0**
JOM				*e*S	**Sn**	**00 00 52.7**	**-0.6**
JTH	**Tanohata**	**1.21**	**349**	P	**Pn**	**00 00 42.7**	**-0.6**
JOU	**Okura**	**1.24**	**252**	P	**Pn**	**00 00 44.2**	**+0.4**
JOU				*e*S	**Sn**	**00 00 59.4**	**-0.2**
JRG	**Rokugo**	**1.36**	**299**	P	**Pn**	**00 00 46.0**	**+0.6**
JRG				*e*S	**Sn**	**00 01 03.3**	**+0.9**
JMM	**Marumori**	**1.40**	**231**	P	**Pn**	**00 00 45.8**	**-0.2**
JMM				*e*S	**Sn**	**00 01 02.6**	**-0.8**
JYK	**Kaneyama**	**1.42**	**277**	P	**Pn**	**00 00 46.8**	**+0.5**
MJAR	**Matsushiro Arr**	**3.84**	**236**	Pn	**Pn**	**00 01 21.0**	**+1.4**
	0.5nm,0.3s,baz=46,slow=11,SNR=4.8						
JHJ	**Hachijo jima 2**	**5.95**	**200**	Pn	**Pn**	**00 01 49.3**	**+0.8**
	8.2nm,0.3s,baz=86,slow=16,SNR=3.8						
JHJ				Sn	**Sn**	**00 02 53.8**	**-1.8**
	4.3nm,0.3s,baz=262,slow=15,SNR=2.9						
WRA	**Warramunga Arr**	**58.85**	**189**	P	**P**	**00 10 18.8**	**+0.4**
	0.7nm,0.7s,baz=6.5,slow=7.1,SNR=8.3						
ASAR	**Alice Springs**	**62.58**	**189**	P	**P**	**00 10 44.2**	**+0.5**
	0.5nm,0.7s,baz=356,slow=5.6,SNR=4.3						

IDC ***15*** *00:01:10.0±2.9,32˚.33S×177˚.38W,h0km,mb4.1/3, mb1 4.3/5,mb1mx3.9/38,mbtmp4.1/5,ML3.9/2,Error ellipse: s-maj=60.0km s-min=27.2km az=109.0*

ISCJB ***15*** *00:01:11.6±1.2,32˚.45S±0˚.05×177˚.3W±0˚.2,h33km, mb4.0/3,Error ellipse: s-maj=22.2km s-min=5.6km az=11.8*

ISC 15 00:01:13.4±1.4,**32˚.42S**±0˚.07×**177˚.2W**±0˚.2,**h35**km,**n13**, σ1**9**03/19,**mb4.3**/3,**South of Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**3.23**	**348**	Pn	**Pn**	**00 02 01.7**	**+0.1**
	46nm,0.3s,baz=119,slow=19,SNR=4.0						
RAO				Sn	**Sn**	**00 02 37.5**	**-1.3**
	177nm,0.3s,baz=35,slow=22,SNR=5.6						
WMGZ	**Waiomatatini S**	**6.49**	**213**	PN	**Pn**	**00 02 46.9**	**+0.6**
PKGZ	**Pakihiroa**	**6.70**	**214**	*e*PN	**Pn**	**00 02 49.6**	**+0.2**
PKGZ				SN	**Sn**	**00 04 03.9**	**-0.6**
HAZ	**Te Kaha**	**6.74**	**217**	PN	**Pn**	**00 02 51.5**	**+1.7**
HAZ				SN	**Sn**	**00 04 06.7**	**+1.3**
PUZ	**Puketiti**	**6.77**	**212**	PN	**Pn**	**00 02 49.9**	**-0.3**
PUZ				SN	**Sn**	**00 04 05.0**	**-1.0**
RUGZ	**Raukumara Rang**	**6.96**	**216**	PN	**Pn**	**00 02 54.2**	**+1.3**
URZ	**Urewera**	**7.47**	**217**	PN	**Pn**	**00 02 59.3**	**-0.5**
	0.6nm,0.3s,baz=265,slow=5.0,SNR=7.4						
URZ				Sn	**Sn**	**00 04 21.4**	**-1.8**
	3.4nm,0.3s,baz=222,slow=23,SNR=12						
URZ	**Urewera**	**7.47**	**217**	PN	**Pn**	**00 03 00.4**	**+0.6**
URZ				SN	**Sn**	**00 04 21.6**	**-1.7**
CTZ	**Chatham Island**	**11.30**	**178**	*e*PN	**Pn**	**00 03 52.2**	**-0.1**
CTZ				SN	Sn	00 05 48.2	-9.1
CTA	**Charters Tower**	**34.87**	**281**	P	**P**	**00 08 01.9**	**+0.4**
	2.1nm,0.6s,baz=114,slow=10.0,SNR=3.1						
ASAR	**Alice Springs**	**43.75**	**269**	P	**P**	**00 09 15.9**	**+0.3**
	0.6nm,0.5s,baz=109,slow=7.7,SNR=8.4						
WRA	**Warramunga Arr**	**44.92**	**274**	P	**P**	**00 09 24.8**	**-0.2**
	1.4nm,0.3s,baz=112,slow=8.0,SNR=5.5						
FINES	**FINESS Array B**	**147.29**	**339**	PKPbc	**PKPbc**	**00 20 53.0**	**+0.7**
	3.8nm,0.8s,baz=46,slow=5.5,SNR=8.0						

SOME ***15*** *00:02:31.0,39˚.67N×71˚.45E,h20km*

NNC ***15*** *00:02:37.8±7.0,40˚.06N×71˚.09E,h0km,mb3.6,mpv3.3, Error ellipse: s-maj=47.7km s-min=28.9km az=21.0*

KRNET ***15*** *00:02:40.7±0.1,40˚.37N×71˚.30E,h10km,mb2.9*

ISC 15 00:02:38.0±3.3,**40˚.1N**±0˚.1×**71˚.23E**±0˚.07,**h3**km±16km,**n18**, σ1**8**83/34,**26C-6D,Tajikistan**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BTK	**Batken**	**0.32**	**262**	⇓*i*P	Pg	00 02 50.1	+5.9
	baz=230						
BTK				⇓*i*S	Sg	00 02 57.3	+8.8
	baz=230						
ARK	**Arkit**	**1.78**	**18**	⇑*i*P	**Pn**	**00 03 09.5**	**-0.3**
	baz=20						
ARK				⇑*e*S	**Sn**	**00 03 30.5**	**-2.5**
	baz=20						
ARSB	**Arslanbob**	**1.81**	**47**	⇑*i*P	**Pn**	**00 03 10.6**	**+0.4**
	baz=52						
ARSB				⇑*i*S	**Sn**	**00 03 33.6**	**0.0**
	baz=52						
TOKL	**Toktogul**	**2.21**	**33**	⇑*e*P	**Pn**	**00 03 17.4**	**+1.7**
	baz=37						
TOKL				⇑*i*S	**Sn**	**00 03 44.5**	**+0.8**
	baz=37						
IUG	**Iuzhnay**	**2.23**	**336**	*e*P	**Pb**	**00 03 17.9**	**-1.2**
	62nm,0.2s						
IUG				*e*S	**Sg**	**00 03 51.4**	**+1.6**
	50nm,0.3s						
MNAS	**Manas**	**2.57**	**21**	⇓*i*P	**Pn**	**00 03 22.8**	**+2.1**
	baz=23						
MNAS				⇓*i*S	**Sn**	**00 03 52.8**	**+0.3**
	baz=23						
MNAS	**Manas**	**2.57**	**21**	⇑Pn	**Pn**	**00 03 22.8**	**+2.1**
	7.5nm,0.3s						
MNAS				⇑Pg	**Pb**	**00 03 24.8**	**0.0**
	7.9nm,0.4s						
MNAS				⇑Sn	**Sn**	**00 03 53.5**	**+1.0**
	22nm,0.4s						
MNAS				⇑Lg	Lg	00 04 02.1	
	36nm,0.6s						
AML	**Almayashu**	**2.75**	**42**	⇑*i*P	**Pn**	**00 03 24.6**	**+1.2**
	baz=45						
AML				⇑*i*S	**Sn**	**00 03 56.2**	**-1.1**
	baz=45						
MRKS	**Merke**	**3.04**	**29**	*e*P	**Pb**	**00 03 31.4**	**-1.4**
	29nm,0.5s						
MRKS				*e*S	**Sg**	**00 04 15.3**	**-0.3**
	30nm,0.5s						
KK31	**Karatay Array**	**3.05**	**350**	⇑Pg	**Pb**	**00 03 31.9**	**-1.0**
	2.3nm,0.3s,baz=164,slow=17,SNR=42						
KK31				⇑Sn	**Sb**	**00 04 08.7**	**-1.8**
	13nm,0.4s,baz=148,slow=25,SNR=13						
KK31				⇑Lg	Lg	00 04 15.1	
	19nm,0.6s,baz=155,slow=26,SNR=5.7						
EKS2	**Erkin-Say**	**3.19**	**36**	⇑*i*P	**Pn**	**00 03 30.9**	**+1.7**
	baz=38						
EKS2				⇑*i*S	**Sn**	**00 04 07.6**	**-0.3**
	baz=38						
AAK	**Ala-Archa**	**3.53**	**43**	⇑*i*P	**Pn**	**00 03 35.0**	**+1.2**
	baz=46						
AAK				⇑*i*S	**Sn**	**00 04 14.7**	**-1.4**
	baz=46						
AAK	**Ala-Archa**	**3.53**	**43**	⇑Pg	**Pb**	**00 03 40.5**	**-0.6**
	2.9nm,0.5s						
AAK				⇓Sn	**Sb**	**00 04 23.9**	**-0.6**
	5.2nm,0.4s						
AAK				⇑Lg	Lg	00 04 31.1	
	12nm,0.8s						
KZA	**Kyzart**	**3.62**	**56**	⇑*i*P	**Pn**	**00 03 36.0**	**+0.6**
	baz=59						
KZA				⇑*i*S	**Sn**	**00 04 16.7**	**-2.1**
	baz=59						
USP	**Ospenovka**	**4.00**	**37**	⇑*i*P	**Pn**	**00 03 41.4**	**+1.2**
	baz=39						
USP				⇑*i*S	**Sn**	**00 04 25.5**	**-2.1**
	baz=39						
TKM2	**Tokmak 2**	**4.32**	**48**	⇓Pn	**Pn**	**00 03 46.2**	**+1.4**
	2.9nm,0.5s						
TKM2				⇑Sn	**Sn**	**00 04 41.0**	**+5.2**
	5.0nm,0.6s						
KST	**Kastek**	**4.61**	**49**	*e*P	Pn	00 03 54.3	+5.6
	0.7nm,0.2s						
KST				*e*S	**Sb**	**00 04 54.1**	**-1.4**
	9.7nm,0.6s						
DGS	**Degeres**	**4.63**	**46**	*e*P	**Pb**	**00 03 57.1**	**-2.8**
	2.7nm,0.4s						
DGS				*e*S	**Sb**	**00 04 59.3**	**+3.3**
	9.7nm,0.6s						

ISCJB ***15*** *00:21:03.1±0.2,59˚.89N±0˚.02×151˚.76W±0˚.03,h74km±3km, mb4.5/7,Error ellipse: s-maj=3.5km s-min=2.5km az=145.2*

NEIC ***15*** *00:21:05.2±0.0,59˚.90N×151˚.83W,h56km,ML4.0(AEIC), After AEIC.*

NEIC Felt [III] at Anchor Point and Homer. Also felt at Ninilchik, Seward and Sterling.

IDC ***15*** *00:21:07.3±3.7,60˚.08N×151˚.57W,h90km±31km,mb4.0/5, mb1 4.0/9,mb1mx3.5/62,mbtmp4.2/9,MS2.9/1,Ms1 2.9/1, ms1mx2.2/38,Error ellipse: s-maj=30.8km s-min=28.0km az=0.0*

ISC 15 00:21:04.7±0.7,**59˚.89N**±0˚.03×**151˚.81W**±0˚.03,**h58**km±7km, **n119**,σ1**9**00/140,**mb4.5**/7,**Kenai Peninsula**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HOM	**Homer**	**0.25**	**160**	P	**Pn**	**00 21 14.5**	**+0.3**
HOM				S	**Sn**	**00 21 22.5**	**+1.4**
CNPM	**China Poot**	**0.47**	**141**	P	**Pn**	**00 21 15.9**	**-0.3**
CNPM				S	**Sn**	**00 21 24.8**	**+0.3**
BRLK	**Bradley Lake**	**0.48**	**105**	P	**Pn**	**00 21 16.1**	**-0.2**
BRLK				S	**Sn**	**00 21 25.0**	**+0.2**
ILIB	**Iliamna**	**0.61**	**289**	P	**Pn**	**00 21 17.2**	**-0.5**
ILW	**Iliamna West**	**0.69**	**285**	P	**Pn**	**00 21 18.2**	**-0.6**
RED	**Redoubt Volcan**	**0.71**	**318**	P	**Pn**	**00 21 18.4**	**-0.7**
RED				S	**Sn**	**00 21 29.4**	**-0.2**
RDWB	**Redoubt West**	**0.79**	**320**	P	**Pn**	**00 21 19.4**	**-0.7**
RDWB				S	**Sn**	**00 21 30.7**	**-0.6**
RDJH	**Redoubt Jeurge**	**0.86**	**325**	P	**Pn**	**00 21 20.5**	**-0.4**
RDJH				S	**Sn**	**00 21 32.5**	**-0.3**
NKA	**Nikishka**	**0.90**	**18**	P	**Pn**	**00 21 22.6**	**+1.3**
BGRM	**Barrier Glacie**	**0.92**	**341**	P	**Pn**	**00 21 21.1**	**-0.5**
AUE	**Augustine Isla**	**0.96**	**237**	P	**Pn**	**00 21 21.8**	**-0.2**
AUL	**Augustine Lava**	**0.97**	**239**	P	**Pn**	**00 21 22.4**	**+0.2**
AUL				S	**Sn**	**00 21 36.0**	**+0.8**
AUI	**Augustine Isla**	**0.99**	**236**	P	**Pn**	**00 21 22.4**	**-0.2**
SLKM	**Skilak Lake**	**1.00**	**51**	P	**Pn**	**00 21 22.1**	**-0.7**
SEW	**Seward**	**1.21**	**79**	*e*Pn	**Pn**	**00 21 25.5**	**+0.2**
SEW				*e*S	**Sn**	**00 21 42.6**	**+2.0**
VOGL	**Vogel Lake**	**1.30**	**31**	P	**Pn**	**00 21 27.7**	**+1.2**
SPCR	**Spurr Chakacha**	**1.33**	**352**	P	**Pn**	**00 21 27.8**	**-0.3**
CKL	**Chakachamna La**	**1.33**	**349**	P	**Pn**	**00 21 27.0**	**-0.4**
CDD	**Cape Douglas**	**1.35**	**225**	P	**Pn**	**00 21 27.2**	**-0.1**
FOPK	**Fourpeaked Vol**	**1.42**	**218**	P	**Pn**	**00 21 28.0**	**-0.3**
SPWE	**Spurr West**	**1.43**	**345**	P	**Pn**	**00 21 28.8**	**+0.2**
FOSS	**Fourpeaked Sta**	**1.46**	**222**	P	**Pn**	**00 21 28.8**	**0.0**
MCNL	**McNeil River**	**1.47**	**242**	P	**Pn**	**00 21 28.3**	**-0.6**
FIB	**Fire Island**	**1.51**	**32**	P	**Pn**	**00 21 30.4**	**+1.0**
RC01	**Rabbit Creek A**	**1.58**	**40**	*e*Pn	**Pn**	**00 21 30.4**	**0.0**
RC01				*e*S	**Sn**	**00 21 51.5**	**+1.8**
STLK	**Strandline Lak**	**1.61**	**360**	P	**Pn**	**00 21 31.2**	**+0.3**
SUA	**Susitna One**	**1.66**	**18**	P	**Pn**	**00 21 31.6**	**0.0**
KAPH	**Katmai Pasha**	**1.84**	**226**	P	**Pn**	**00 21 33.8**	**-0.2**
PWL	**Port Wells**	**1.98**	**59**	P	**Pn**	**00 21 35.1**	**-0.7**
KAHC	**Katmai Hardscr**	**2.06**	**234**	P	**Pn**	**00 21 36.3**	**-0.7**
SKT	**Skwentna**	**2.10**	**4**	P	**Pn**	**00 21 37.9**	**+0.4**
PMR	**Palmer**	**2.15**	**36**	*e*Pn	**Pn**	**00 21 37.8**	**-0.4**
PMR				*e*S	**Sn**	**00 22 04.3**	**+0.6**
KDAK	**Kodiak Island**	**2.15**	**191**	*e*Pn	**Pn**	**00 21 37.0**	**-1.2**
SVW2	**Sparrevohn**	**2.22**	**305**	P	**Pn**	**00 21 38.2**	**-0.9**
SVW2				S	**Sn**	**00 22 04.0**	**-1.5**
KNK	**Knik Glacier**	**2.25**	**46**	P	**Pn**	**00 21 39.1**	**-0.4**
KAKN	**Katmai Knife C**	**2.32**	**228**	P	**Pn**	**00 21 40.1**	**-0.4**
KAKN				S	**Sn**	**00 22 07.0**	**-0.8**
KVTA	**Katmai Vly 10**	**2.35**	**231**	P	**Pn**	**00 21 41.5**	**+0.6**
GHO	**Glory Hole Cre**	**2.36**	**36**	P	**Pn**	**00 21 40.7**	**-0.3**
KABR	**Katmai Barrier**	**2.41**	**224**	P	**Pn**	**00 21 41.4**	**-0.3**
KELA	**Mount Kelaz**	**2.49**	**236**	P	**Pn**	**00 21 42.3**	**-0.5**
SML	**Sawmill**	**2.57**	**40**	*e*Pn	**Pn**	**00 21 43.3**	**-0.5**
HIN	**Hinchinbrook I**	**2.70**	**77**	P	**Pn**	**00 21 44.3**	**-1.4**
FID	**Port Fidalgo**	**2.79**	**70**	P	**Pn**	**00 21 44.7**	**-2.1**
OHAK	**Old Harbor**	**2.79**	**197**	P	**Pn**	**00 21 45.3**	**-1.5**
MID	**Middleton Isla**	**2.81**	**97**	P	**Pn**	**00 21 47.0**	**-0.1**
JPK	**Jack Peak**	**2.83**	**63**	P	**Pn**	**00 21 46.3**	**-1.1**
SCM	**Sheep Creek Mo**	**2.93**	**46**	P	**Pn**	**00 21 48.5**	**-0.4**
VLZ	**Valdez**	**2.98**	**63**	P	**Pn**	**00 21 48.7**	**-0.7**
PPLA	**Purkeypile**	**3.02**	**357**	P	**Pn**	**00 21 50.5**	**+0.4**
PLK3	**Peulik 3**	**3.21**	**228**	P	**Pn**	**00 21 52.8**	**+0.2**
DIV	**Divide**	**3.23**	**65**	*e*Pn	**Pn**	**00 21 51.9**	**-1.1**
DIV				*e*S	**Sn**	**00 22 29.2**	**-1.0**
PLK4	**Peulik 4**	**3.28**	**228**	P	**Pn**	**00 21 53.9**	**+0.3**
KLU	**Klutina**	**3.31**	**58**	P	**Pn**	**00 21 53.3**	**-0.7**
CAST	**Castle Rocks**	**3.54**	**358**	P	**Pn**	**00 21 57.1**	**0.0**
GOAT	**Goat Mountain**	**3.60**	**76**	P	**Pn**	**00 21 57.8**	**-0.1**
TT01	**Tatalina**	**3.64**	**328**	P	**Pn**	**00 21 58.1**	**-0.3**
TRF	**Thorofare Moun**	**3.64**	**11**	P	**Pn**	**00 21 58.7**	**0.0**
TTA	**Tatalina**	**3.66**	**328**	P	**Pn**	**00 21 58.2**	**-0.6**
KTH	**Kantishna Hill**	**3.70**	**6**	*e*Pn	**Pn**	**00 22 00.8**	**+1.5**
KTH				*e*S	**Sn**	**00 22 42.6**	**+1.0**
KAIM	**Kayak Island**	**3.72**	**86**	P	**Pn**	**00 21 60.0**	**+0.4**
BMRM	**Bremner River**	**3.73**	**70**	P	**Pn**	**00 21 58.8**	**-1.0**
PS11	**TAPS Pump St11**	**3.79**	**52**	P	**Pn**	**00 22 00.7**	**+0.2**
RND	**Reindeer**	**3.80**	**21**	P	**Pn**	**00 22 01.5**	**+0.8**
DHY	**Denali Highway**	**3.84**	**32**	P	**Pn**	**00 22 01.5**	**+0.2**
NICHA	**Nichawak Mount**	**3.95**	**82**	P	**Pn**	**00 22 02.2**	**-0.4**
CHUM	**Lake Minchumin**	**4.01**	**357**	P	**Pn**	**00 22 03.7**	**+0.3**
BERG	**Berg Lake**	**4.08**	**79**	P	**Pn**	**00 22 04.8**	**+0.2**
MCK	**McKinley**	**4.09**	**18**	P	**Pn**	**00 22 05.3**	**+0.8**
HARP	**HAARP**	**4.09**	**49**	P	**Pn**	**00 22 04.6**	**-0.1**
GRIN	**Grindle Hills**	**4.27**	**81**	P	**Pn**	**00 22 07.0**	**-0.1**
KHIT	**Khitrov Hills**	**4.31**	**79**	P	**Pn**	**00 22 07.4**	**-0.3**
PAX	**Paxson**	**4.34**	**42**	*e*Pn	**Pn**	**00 22 07.9**	**-0.2**
PAX				*e*S	**Sn**	**00 22 57.4**	**+0.1**
WAX	**Waxell Ridge**	**4.51**	**79**	P	**Pn**	**00 22 10.3**	**-0.1**
ANPK	**Aniakchak Peak**	**4.52**	**230**	P	**Pn**	**00 22 10.5**	**0.0**
TGL	**Tana Glacier**	**4.55**	**75**	P	**Pn**	**00 22 11.2**	**+0.2**
PS10	**TAPS Pump St10**	**4.56**	**37**	P	**Pn**	**00 22 11.6**	**+0.5**
KULT	**Kultieth River**	**4.57**	**82**	P	**Pn**	**00 22 10.9**	**-0.3**
BARK	**Barkley Ridge**	**4.69**	**80**	P	**Pn**	**00 22 12.6**	**-0.3**
ISLE	**Juniper Island**	**4.77**	**77**	P	**Pn**	**00 22 13.5**	**-0.6**
PTPK	**Patty Peak**	**4.79**	**70**	P	**Pn**	**00 22 13.6**	**-0.8**
WRH	**Wood River Hil**	**4.91**	**19**	P	**Pn**	**00 22 15.8**	**0.0**
MESA	**MESA**	**4.95**	**82**	P	**Pn**	**00 22 16.4**	**-0.2**
HDA	**Harding Lake**	**5.07**	**25**	P	**Pn**	**00 22 18.3**	**+0.2**
CCB	**Clear Creek Bu**	**5.12**	**20**	P	**Pn**	**00 22 18.5**	**-0.2**
PS08	**TAPS Pump Stn8**	**5.22**	**24**	P	**Pn**	**00 22 20.1**	**+0.2**
DOT	**Dot Lake**	**5.26**	**41**	*e*Pn	**Pn**	**00 22 20.2**	**-0.5**
CTGM	**Chitina Glacie**	**5.30**	**74**	P	**Pn**	**00 22 21.9**	**+0.5**
COLA	**College**	**5.33**	**19**	*e*Pn	**Pn**	**00 22 21.3**	**-0.2**
COLA				*e*S	**Sn**	**00 23 20.8**	**-0.6**
MDM	**Murphy Dome**	**5.35**	**17**	P	**Pn**	**00 22 21.8**	**0.0**
TABL	**Table Mountain**	**5.36**	**80**	P	**Pn**	**00 22 22.4**	**+0.2**
ILAR	**Eielson Array**	**5.41**	**23**	P	**Pn**	**00 22 22.4**	**-0.2**
	25nm,0.3s,baz=205,slow=14,SNR=657						
ILAR				S	**Sn**	**00 23 21.4**	**-1.9**
	6.6nm,0.3s,baz=203,slow=19,SNR=4.7						
ILB	**Eielson Array**	**5.41**	**23**	P	**Pn**	**00 22 22.4**	**-0.2**
LOGN	**Logan Glacier**	**5.45**	**75**	P	**Pn**	**00 22 23.5**	**+0.2**
BCA3	**Beaver Creek A**	**5.76**	**52**	P	**Pn**	**00 22 26.9**	**-0.6**
PS06	**TAPS Pump Stn6**	**6.06**	**8**	P	**Pn**	**00 22 31.6**	**+0.1**
BCPM	**Bancas Point**	**6.12**	**84**	P	**Pn**	**00 22 32.4**	**0.0**
IM3	**Indian Mountai**	**6.18**	**353**	P	**Pn**	**00 22 32.5**	**-0.7**
PNL	**Peninsula**	**6.27**	**87**	P	**Pn**	**00 22 34.0**	**-0.5**
SDPT	**Sand Point**	**6.51**	**229**	*e*Pn	**Pn**	**00 22 39.7**	**+2.0**
SDPT				*e*S	**Sn**	**00 23 53.8**	**+3.3**
EGAK	**Eagle**	**6.97**	**41**	*e*Pn	**Pn**	**00 22 43.2**	**-0.7**
	73nm,0.9s						
EGAK				*e*S	**Sn**	**00 24 03.6**	**+2.0**
DHAK	**Deception Hill**	**6.97**	**91**	P	**Pn**	**00 22 43.5**	**-0.6**
DAWY	**Dawson**	**7.19**	**49**	P	**Pn**	**00 22 46.5**	**-0.5**
COLD	**Coldfoot**	**7.40**	**5**	*e*Pn	**Pn**	**00 22 49.6**	**-0.2**
	531nm,0.5s						
COLD				*e*S	**Sn**	**00 24 14.8**	**+2.6**
SKAG	**Skagway**	**8.35**	**86**	*e*Pn	**Pn**	**00 23 02.1**	**

8.9nm,1.3s
PDAR Pinedale Array 41.76 351 P **P 00 30 11.3 +0.4**
1.5nm,0.7s,baz=138,slow=7.7,SNR=13
PDAR PcP **PcP 00 32 06.2 -0.9**
1.1nm,0.9s,baz=144,slow=6.3,SNR=4.5
PDAR LR LR 00 46 04.9
comp=Z,116nm,20.0s,baz=194,slow=34
ECSD EROS Data Cent 42.24 5 *e*P **P 00 30 15.0 +0.5**
6.6nm,1.1s
LOHW Long Hollow 42.76 350 *e*P **P 00 30 20.2 +1.2**
2.6nm,0.8s
NEW Newport 48.57 346 P **P 00 31 05.0 +0.3**
1.9nm,0.8s,baz=146,slow=14,SNR=3.5
ULM Lac du Bonnet 48.77 5 P **P 00 31 04.8 -1.3**
5.4nm,0.7s,baz=191,slow=8.7,SNR=5.7
ULM LR LR 00 51 38.4
comp=Z,59nm,18.4s,baz=348,slow=36
PLCA Paso Flores 50.45 150 LR LR 00 47 45.0
comp=Z,195nm,19.8s,baz=328,slow=30
CPUP Villa Florida 50.54 126 P **P 00 31 19.9 -0.1**
4.4nm,0.9s,baz=301,slow=9.1,SNR=8.4
PPT2 Papeete2 51.30 246 *e*LR LR 00 46 01.1
86nm,26.2s
YKA Yellowknife Ar 61.67 353 LR LR 00 57 36.7
comp=Z,10nm,21.2s,baz=180,slow=34
RCBR Riachuelo 65.58 97 LR LR 01 00 37.0
comp=Z,70nm,19.0s,baz=260,slow=35
INK Inuvik 70.23 348 P **P 00 33 34.5 +0.6**
3.1nm,0.8s,baz=147,slow=9.7,SNR=5.7
ILAR Eielson Array 71.17 341 P **P 00 33 39.9 +0.1**
2.2nm,0.6s,baz=148,slow=4.7,SNR=23
ILAR LR LR 01 03 51.5
comp=Z,42nm,18.4s,baz=122,slow=35
H11N3 WAKE ISLAND Hy 91.30 290 T T 02 16 41.3
baz=90,slow=75,SNR=18
H11N2 WAKE ISLAND Hy 91.31 290 T T 02 16 56.9
baz=90,slow=75,SNR=14
H11N1 WAKE ISLAND Hy 91.32 290 T T 02 16 40.5
baz=90,slow=75,SNR=15
H11S2 WAKE ISLAND Hy 91.54 288 T T 02 17 14.4
baz=86,slow=74,SNR=14
H11S1 WAKE ISLAND Hy 91.55 288 T T 02 17 02.5
baz=86,slow=74,SNR=14
H11S3 WAKE ISLAND Hy 91.56 288 T T 02 17 00.0
baz=86,slow=74,SNR=13
VNDA Vanda 92.97 192 LR LR 01 08 17.6
comp=Z,48nm,20.4s,baz=355,slow=30
PETK Petropavlovsk- 95.48 324 LR LR 01 12 13.6
comp=Z,19nm,19.4s,baz=91,slow=31
DBIC Dimbokro 96.10 83 LR LR 01 14 48.6
comp=Z,34nm,19.9s,baz=181,slow=33
ASAR Alice Springs 122.35 243 PKP **PKPdf 00 41 16.7 -0.7**
1.1nm,0.8s,baz=91,slow=3.1,SNR=6.9
WRA Warramunga Arr 122.78 247 PKP **PKPdf 00 41 17.7 -0.6**
1.4nm,0.8s,baz=83,slow=2.8,SNR=6.1
ZALV Zalesovo Beam 124.51 356 PKP **PKPdf 00 41 19.7 -0.9**
0.7nm,0.5s,baz=75,slow=1.6,SNR=2.4
SONM Songino Array 125.29 338 PKP **PKPdf 00 41 22.4 -0.1**
0.4nm,0.6s,baz=45,slow=0.4,SNR=2.9
WSAR Wadi Sarin 148.51 37 PKPbc **PKPbc 00 42 08.4 -0.6**
3.4nm,1.0s,baz=222,slow=2.4,SNR=3.5
CMAR Chiang Mai Arr 151.98 316 PKP **PKPdf 00 42 11.2 +0.1**
0.5nm,0.3s,baz=325,slow=2.9,SNR=5.7
CMAR PKPbc **PKiKP 00 42 17.9 0.0**
3.0nm,1.0s,baz=15,slow=1.4,SNR=8.5

*ISCJB **15** 00:23:37.5±0.5,49.82N±0.04×18.48E±0.02,h0km, Error ellipse: s-maj=5.5km s-min=2.7km az=7.2*
*IPEC **15** 00:23:38.2±0.2,49.82N×18.57E,h0km,ML1.7/3, Error ellipse: s-maj=2.1km s-min=1.1km az=161.0*
*CSEM **15** 00:23:38.2±0.2,49.80N×18.50E,h1km,ML2.6/5, Error ellipse: s-maj=7.0km s-min=3.6km az=3.0*
*PRU **15** 00:23:40.9,49.80N×18.39E,h0km*
ISC 15 00:23:37.9±0.8,49.80N±0.04×18.50E±0.02,h0km,n26, σ0s97/43,Czech and Slovak Republics

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
OKC	**Ostrava-Krasne**	**0.23**	**279**	*e*PG		**Pg**	**00 23 44.0**	**+1.7**
OKC				*e*SG		**Sg**	**00 23 46.2**	**+0.9**
	comp=Z,26nm,0.4s							
OKC	**Ostrava-Krasne**	**0.23**	**279**	Pg		**Pg**	**00 23 44.0**	**+1.7**
OKC				Sg		**Sg**	**00 23 46.2**	**+0.9**
	26nm,0.4s							
MORC	**Moravsky Berou**	**0.62**	**268**	*e*Pg		**Pb**	**00 23 51.1**	**-0.6**
MORC				*e*Sg		**Sg**	**00 23 59.0**	**+1.2**
	18nm,0.3s							
LANS	**Liptovska Anna**	**0.91**	**136**	*e*PG		**Pg**	**00 23 55.7**	**+0.3**
LANS				*e*SG		**Sn**	**00 24 11.6**	**-0.3**
OJC	**Ojcow**	**0.94**	**63**	*e*Pg		**Pg**	**00 23 55.3**	**-0.6**
OJC				*e*Sg		**Sg**	**00 24 07.7**	**-0.4**
OJC	**Ojcow**	**0.94**	**63**	*e*Pg		**Pg**	**00 23 55.3**	**-0.6**
OJC				*e*Sg		**Sg**	**00 24 07.7**	**-0.4**
KRLC	**Kraliky**	**1.14**	**284**	*e*PG		**Pg**	**00 23 59.5**	**-0.3**
KRLC				*e*SG		**Sb**	**00 24 16.1**	**+0.2**
KRLC	**Kraliky**	**1.14**	**284**	Pg		**Pg**	**00 23 59.5**	**-0.3**
KRLC				Sg		**Sb**	**00 24 16.1**	**+0.2**
NIE	**Niedzica**	**1.23**	**108**	*e*Pg		**Pg**	**00 24 01.6**	**0.0**
NIE				*e*Sg		**Sn**	**00 24 20.7**	**+0.8**
NIE	**Niedzica**	**1.23**	**108**	*e*Pg		**Pg**	**00 24 01.6**	**0.0**
NIE				*e*Sg		**Sn**	**00 24 20.7**	**+0.8**
VYHS	**Vyhne**	**1.33**	**170**	*e*Pg		**Pg**	**00 24 03.2**	**-0.2**
VYHS				*e*Sn		**Sn**	**00 24 21.8**	**-0.4**
VYHS	**Vyhne**	**1.33**	**170**	*e*PG		**Pg**	**00 24 03.2**	**-0.2**
VYHS				*e*SN		**Sn**	**00 24 21.8**	**-0.4**
VRAC	**Vranov**	**1.33**	**249**	*e*Pg		**Pn**	**00 24 03.9**	**+0.1**
VRAC				*e*Sg		**Sb**	**00 24 21.6**	**+0.1**
	11nm,0.2s							
DPC	**Dobruska-Polom**	**1.50**	**292**	*e*PG		**Pg**	**00 24 06.7**	**-0.1**
DPC				*e*SG		**Sn**	**00 24 26.6**	**+0.1**
	comp=Z,4.9nm,0.3s							
DPC	**Dobruska-Polom**	**1.50**	**292**	Pg		**Pg**	**00 24 06.7**	**-0.1**
DPC				Sg		**Sn**	**00 24 26.6**	**+0.1**
	4.9nm,0.3s							
KRUC	**Moravsky**	**1.56**	**242**	*e*Pg		**Pb**	**00 24 07.3**	**-0.4**
KRUC				*e*Sg		**Sg**	**00 24 28.6**	**+0.6**
	7.2nm,0.2s							
UPC	**Upice**	**1.75**	**295**	*e*SG		**Sg**	**00 24 34.6**	**+0.6**
UPC	**Upice**	**1.75**	**295**	Sg		**Sg**	**00 24 34.6**	**+0.6**
STHS	**Stebnicka Huta**	**1.83**	**101**	*e*Pn		**Pg**	**00 24 12.7**	**-0.3**
STHS	**Stebnicka Huta**	**1.83**	**101**	*e*PN		**Pg**	**00 24 12.7**	**-0.3**
STHS				*e*SN		**Sg**	**00 24 40.5**	**+3.8**
STHS				*e*LG		Lg	00 24 46.6	
TREC	**Trest**	**2.02**	**257**	*e*SG		**Sg**	**00 24 42.8**	**-0.2**
	comp=Z,4.2nm,0.3s							
TREC	**Trest**	**2.02**	**257**	Sg		**Sg**	**00 24 42.8**	**-0.2**
	4.2nm,0.3s							
PRU	**Pruhonice**	**2.56**	**276**	*e*SG		**Sg**	**00 24 58.9**	**-1.4**
PRU	**Pruhonice**	**2.56**	**276**	Sg		**Sg**	**00 24 58.9**	**-1.4**
KHC	**Kasperske Hory**	**3.28**	**260**	*e*SG		**Sg**	**00 25 21.5**	**-1.7**
KHC	**Kasperske Hory**	**3.28**	**260**	Sg		**Sg**	**00 25 21.5**	**-1.7**

*IDC **15** 00:29:41.2±1.9,34.81S×179.64E,h0km,mb3.6/3, mb1 3.9/4,mb1mx3.7/35,mbtmp3.6/4,ML3.8/1, Error ellipse: s-maj=47.0km s-min=32.3km az=134.0*
ISC 15 00:29:34.6±3.1,35.1S±0.2×178.6W±0.3,h35km,n15, σ0s94/21,mb3.3/3,East of North Island

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
MXZ	**Matakaoa Point**	**3.49**	**225**	PN		**Pn**	**00 30 26.2**	**-0.1**
MXZ				SN		**Sn**	**00 31 05.4**	**-1.0**
WMGZ	**Waiomatatini S**	**3.61**	**221**	PN		**Pn**	**00 30 29.2**	**+1.2**
WMGZ				SN		**Sn**	**00 31 10.9**	**+1.5**
PKGZ	**Pakihiroa**	**3.84**	**223**	*e*PN		**Pn**	**00 30 30.7**	**-0.6**
PKGZ				SN		**Sn**	**00 31 10.0**	**+0.8**
PUZ	**Puketiti**	**3.88**	**220**	PN		**Pn**	**00 30 31.6**	**-0.1**
HAZ	**Te Kaha**	**3.93**	**227**	PN		**Pn**	**00 30 34.1**	**+1.7**
TWGZ	**Tauwhareparae**	**4.11**	**221**	PN		**Pn**	**00 30 35.7**	**+0.9**
TWGZ				SN		**Sn**	**00 31 22.5**	**+0.9**
RUGZ	**Raukumara Rang**	**4.13**	**225**	*e*PN		**Pn**	**00 30 35.6**	**+0.4**
CNGZ	**Carnagh Statio**	**4.22**	**216**	PN		**Pn**	**00 30 36.3**	**-0.1**
MWZ	**Matawai**	**4.47**	**223**	PN		**Pn**	**00 30 40.0**	**+0.2**
MWZ				SN		**Sn**	**00 31 30.4**	**-0.1**
URZ	**Urewera**	**4.66**	**226**	Pn		**Pn**	**00 30 42.7**	**+0.4**
	5.6nm,0.3s,baz=281,slow=1.9,SNR=19							
URZ				Sn		**Sn**	**00 31 33.9**	**-1.2**
	9.0nm,0.3s,baz=228,slow=15,SNR=12							
URZ	**Urewera**	**4.66**	**226**	*e*PN		**Pn**	**00 30 42.2**	**-0.1**
URZ				SN		**Sn**	**00 31 33.3**	**-1.8**
MHGZ	**Mahia Peninsul**	**4.90**	**214**	PN		**Pn**	**00 30 45.0**	**-0.7**
ASAR	**Alice Springs**	**42.56**	**272**	P		**P**	**00 37 27.4**	**+0.2**
	0.4nm,0.7s,baz=114,slow=8.5,SNR=5.0							
WRA	**Warramunga Arr**	**43.97**	**277**	P		**P**	**00 37 38.2**	**-0.4**
	0.2nm,0.4s,baz=118,slow=7.7,SNR=5.5							
TXAR	**Lajitas Array**	**95.34**	**58**	P		P	00 43 12.3	+17
	0.2nm,0.6s,baz=224,slow=7.5,SNR=4.2							

IDC 15 00:30:57.4±14.0,23.66S×179.03W,h514km±72km, mb3.5/5,mb1 3.6/6,mb1mx3.1/39,mbtmp4.4/6,Error ellipse: s-maj=201.9km s-min=29.2km az=57.0,South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
DZM	**Mont Dzumac**	**13.48**	**274**	P		P	00 33 51.7	-0.1
	0.4nm,0.3s,baz=159,slow=8.6,SNR=3.4							
RPZ	**Rata Peaks**	**21.61**	**200**	P		P	00 35 09.7	0.0
	7.8nm,0.7s,baz=62,slow=3.9,SNR=2.5							
CTA	**Charters Tower**	**32.36**	**269**	P		P	00 36 45.1	+0.7
	9.5nm,0.3s,baz=89,slow=11,SNR=15							
STKA	**Stephens Creek**	**35.64**	**248**	P		P	00 37 11.0	-0.8
	1.4nm,0.5s,baz=84,slow=10,SNR=4.8							
ASAR	**Alice Springs**	**42.95**	**260**	P		P	00 38 10.4	-0.6
	1.0nm,0.4s,baz=96,slow=7.6,SNR=12							
WRA	**Warramunga Arr**	**43.31**	**266**	P		P	00 38 13.5	-0.4
	2.9nm,0.4s,baz=97,slow=8.4,SNR=70							
FITZ	**Fitzroy Crossi**	**51.73**	**265**	P		P	00 39 17.5	+0.3
	baz=170,slow=19							

*DDA **15** 00:39:57.7,38.80N×25.28E,h4km,Md2.9*
*ISCJB **15** 00:39:58.5±0.7,38.75N±0.03×25.30E±0.03,h6km±6km, Error ellipse: s-maj=5.1km s-min=3.5km az=163.1*
*CSEM **15** 00:39:58.7±0.1,38.74N×25.31E,h12km,ML2.0, Error ellipse: s-maj=4.1km s-min=2.7km az=169.0*
*ATH **15** 00:39:58.1,38.76N×25.30E,h29km±1km,ML2.0/8, Error ellipse: s-maj=2.1km s-min=0.9km az=107.0*
*THE **15** 00:39:59.8,38.76N×25.35E,h13km±1km,ML2.2/6, Error ellipse: s-maj=2.2km s-min=0.4km az=105.0*
ISC 15 00:39:58.4±1.1,38.74N±0.02×25.31E±0.02,h9km±9km, n39,σ0s64/66,Aegean Sea

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
SKY	**Skiros Island**	**0.61**	**283**	P		**Pg**	**00 40 10.1**	**-0.1**
SKY				S		**Sb**	**00 40 20.7**	**+0.9**
SKY	**Skiros Island**	**0.61**	**283**	P		**Pg**	**00 40 10.1**	**-0.1**
SKY				S		**Sb**	**00 40 20.7**	**+0.9**
SKY				AML	AML		00 40 21.8	
	comp=E,267μm,0.3s							
SKY				AML	AML		00 40 24.9	
	comp=N,241μm,0.2s							
SIGR	**SIGRI**	**0.64**	**42**	P		**Pg**	**00 40 11.1**	**+0.4**
SIGR				S		**Sb**	**00 40 20.5**	**-0.2**
SIGR	**SIGRI**	**0.64**	**42**	P		**Pg**	**00 40 11.1**	**+0.4**
SIGR				S		**Sg**	**00 40 19.0**	**-0.1**
SIGR	**SIGRI**	**0.64**	**42**	P		**Pg**	**00 40 11.1**	**+0.4**
SIGR				S		**Sg**	**00 40 18.9**	**-0.1**
SIGR				AML	AML		00 40 24.1	
	comp=E,407μm,0.4s							
SIGR				AML	AML		00 40 27.3	
	comp=N,416μm,0.3s							
CHOS	**Chios island**	**0.68**	**121**	P		**Pg**	**00 40 12.2**	**+0.6**
CHOS				S		**Sb**	**00 40 22.3**	**+0.2**
CHOS	**Chios island**	**0.68**	**121**	P		**Pb**	**00 40 12.4**	**-0.2**
CHOS				S		**Sb**	**00 40 22.3**	**+0.2**
CHOS	**Chios island**	**0.68**	**121**	P		**Pb**	**00 40 12.4**	**-0.2**
CHOS				S		**Sb**	**00 40 23.2**	**+1.1**
CHOS				AML	AML		00 40 25.7	
	comp=N,842μm,0.3s							
CHOS				AML	AML		00 40 26.0	
	comp=E,738μm,0.3s							
PRK	**Paraskevi**	**0.91**	**56**	P		**Pg**	**00 40 15.9**	**0.0**
PRK				S		**Sb**	**00 40 28.9**	**+0.5**
PRK	**Paraskevi**	**0.91**	**56**	P		**Pg**	**00 40 15.9**	**0.0**
PRK				S		**Sb**	**00 40 28.9**	**+0.5**
PRK	**Paraskevi**	**0.91**	**56**	P		**Pg**	**00 40 15.8**	**-0.1**
PRK				S		**Sn**	**00 40 29.9**	**-0.5**
PRK				AML	AML		00 40 32.5	
	comp=N,302μm,0.4s							
PRK				AML	AML		00 40 32.9	
	comp=E,285μm,0.5s							
KARY	**Karystos**	**0.98**	**224**	P		**Pg**	**00 40 16.5**	**-0.8**
KARY				S		**Sg**	**00 40 29.9**	**-0.2**
KARY	**Karystos**	**0.98**	**224**	P		**Pg**	**00 40 16.5**	**-0.8**
KARY				S		**Sg**	**00 40 29.9**	**-0.2**
KARY				AML	AML		00 40 32.9	
	comp=E,179μm,0.2s							
KARY				AML	AML		00 40 33.6	
	comp=N,117μm,0.3s							
URLA	**Izmir**	**1.08**	**110**	*i* P		**Pb**	**00 40 18.6**	**-0.7**
URLA				*i* S		**Sn**	**00 40 35.5**	**+0.7**
URLA	**Izmir**	**1.08**	**110**	P		**Pb**	**00 40 18.6**	**-0.7**
URLA				S		**Sn**	**00 40 35.5**	**+0.7**
EREA	**Eretria**	**1.12**	**254**	P		**Pn**	**00 40 20.9**	**+0.6**
EREA				S		**Sn**	**00 40 35.5**	**-0.4**
EREA	**Eretria**	**1.12**	**254**	P		**Pb**	**00 40 20.1**	**+0.1**
EREA				S		**Sn**	**00 40 35.5**	**-0.4**
EREA	**Eretria**	**1.12**	**254**	P		**Pb**	**00 40 20.1**	**+0.1**
EREA				S		**Sn**	**00 40 35.5**	**-0.4**
EREA				AML	AML		00 40 37.8	
	comp=N,162μm,0.4s							
EREA				AML	AML		00 40 38.4	
	comp=E,94μm,0.4s							
LIA	**Limnos Island**	**1.16**	**355**	P		**Pb**	**00 40 20.5**	**-0.1**
LIA				S		**Sn**	**00 40 36.6**	**-0.2**
LIA	**Limnos Island**	**1.16**	**355**	P		**Pb**	**00 40 20.5**	**-0.1**
LIA				S		**Sb**	**00 40 35.6**	**-0.1**
LIA	**Limnos Island**	**1.16**	**355**	P		**Pb**	**00 40 19.8**	**-0.9**
LIA				S		**Sb**	**00 40 35.6**	**-0.1**
LIA				AML	AML		00 40 40.2	
	comp=E,115μm,0.4s							
LIA				AML	AML		00 40 41.4	
	comp=N,121μm,0.7s							
AOS	**Alonnisos**	**1.19**	**292**	P		**Pg**	**00 40 21.6**	**+0.2**
AOS				S		**Sn**	**00 40 39.0**	**+1.4**
AOS	**Alonnisos**	**1.19**	**292**	P		**Pg**	**00 40 21.4**	**+0.1**
AOS				S		**Sn**	**00 40 39.0**	**+1.4**
AOS	**Alonnisos**	**1.19**	**292**	P		**Pg**	**00 40 21.6**	**+0.2**
AOS				AML	AML		00 40 41.2	
	comp=E,54μm,0.4s							
AOS				AML	AML		00 40 41.4	
	comp=N,68μm,0.5s							
AYVA	**Ayvalik**	**1.22**	**62**	*i* P		**Pn**	**00 40 21.2**	**-0.4**
AYVA				*i* S		**Sn**	**00 40 38.0**	**-0.1**
AYVA	**Ayvalik**	**1.22**	**62**	P		**Pn**	**00 40 21.2**	**-0.4**
AYVA				S		**Sn**	**00 40 38.0**	**-0.1**
BOZC	**Bozcaada**	**1.24**	**27**	*i* P		**Pn**	**00 40 19.9**	**-2.1**
BOZC				*i* S		**Sb**	**00 40 38.0**	**-0.1**
VLY	**Voula,Athens**	**1.48**	**234**	P		**Pn**	**00 40 25.2**	**-0.1**
VLY	**Voula,Athens**	**1.48**	**234**	P		**Pn**	**00 40 25.2**	**-0.1**
VLY	**Voula,Athens**	**1.48**	**234**	P		**Pn**	**00 40 24.4**	**-0.8**
SKIA	**Skiathos**	**1.50**	**287**	P		**Pn**	**00 40 25.1**	**-0.3**
SKIA	**Skiathos**	**1.50**	**287**	P		**Pn**	**00 40 25.1**	**-0.3**
PAIG	**Paliouri**	**1.73**	**314**	P		**Pn**	**00 40 28.7**	**0.0**
PAIG	**Paliouri**	**1.73**	**314**	P		**Pn**	**00 40 28.7**	**0.0**
SMTH	**Samothraki Isl**	**1.74**	**6**	P		**Pn**	**00 40 28.2**	**-0.6**
SMTH	**Samothraki Isl**	**1.74**	**6**	P		**Pn**	**00 40 28.2**	**-0.6**
SMTH	**Samothraki Isl**	**1.74**	**6**	P		**Pn**	**00 40 27.8**	**-1.0**
BALY	**Balya**	**2.05**	**60**	*i* P		**Pg**	**00 40 38.0**	**+0.2**
BALY				*i* S		**Sg**	**00 41 06.6**	**+2.1**
BALY	**Balya**	**2.05**	**60**	P		**Pg**	**00 40 38.0**	**+0.2**

IDC 15 00:44:52.4±9.6,20.31S×176.73W,h0km,mb3.9/3, mb1 4.1/3,mb1mx3.7/28,mbtmp3.9/3,Error ellipse: s-maj=352.9km s-min=42.9km az=19.0,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
CTA	**Charters Tower**	**34.70**	**264**	P		P	00 51 45.2	+1.0
	3.0nm,0.4s,baz=86,slow=13,SNR=3.8							
ASAR	**Alice Springs**	**45.72**	**256**	P		P	00 53 14.1	-1.6
	0.7nm,0.8s,baz=103,slow=8.0,SNR=5.0							
WRA	**Warramunga Arr**	**45.81**	**262**	P		P	00 53 16.5	+0.1
	0.6nm,0.5s,baz=96,slow=8.3,SNR=24							
TORD	**Torodi Ar. Bea**	**172.72**	**168**	PKPab		PKPab	01 06 29.4	-0.3
	0.5nm,1.0s,baz=204,slow=4.0,SNR=2.3							

WEL 15 01:12:32.4±0.4,36.61S×177.21E,h143km±7km,ML3.7/10,

1C-1D,Error ellipse: s-maj=6.1km s-min=5.4km az=0.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
HAZ	**Te Kaha**	**1.23**	**158**	*e*PN		Pn	01 12 59.0	+0.4
HAZ				SN		Sn	01 13 19.1	+0.3
HAZ				AML	AML		01 13 20.3	
MXZ	**Matakaoa Point**	**1.29**	**138**	*e*PN		Pn	01 12 59.8	+0.6
MXZ				SN		Sn	01 13 20.2	+0.4
RUGZ	**Raukumara Rang**	**1.41**	**165**	PN		Pn	01 13 00.2	-0.3
RUGZ				SN		Sn	01 13 21.1	-1.1
PKGZ	**Pakihiroa**	**1.45**	**152**	*e*PN		Pn	01 13 00.9	0.0
WMGZ	**Waiomatatini S**	**1.55**	**142**	*e*PN		Pn	01 13 01.8	0.0
WMGZ				SN		Sn	01 13 24.3	-0.2
WMGZ				AML	AML		01 13 25.7	
URZ	**Urewera**	**1.65**	**183**	PN		Pn	01 13 03.5	+0.5
URZ				SN		Sn	01 13 27.4	+0.8
TWGZ	**Tauwhareparae**	**1.68**	**159**	PN		Pn	01 13 03.8	+0.3
TWGZ				SN		Sn	01 13 27.4	+0.1
TWGZ				AML	AML		01 13 30.6	
PUZ	**Puketiti**	**1.68**	**151**	PN		Pn	01 13 02.9	-0.5
PUZ				SN		Sn	01 13 26.1	-1.2
PUZ				AML	AML		01 13 28.1	
MWZ	**Matawai**	**1.74**	**172**	PN		Pn	01 13 03.7	-0.5
MWZ				SN		Sn	01 13 28.4	-0.2
MWZ				AML	AML		01 13 30.0	
TKGZ	**Te Karaka**	**1.90**	**165**	SN		Sn	01 13 30.2	-1.5
TKGZ				AML	AML		01 13 32.0	
MUGZ	**Murupara**	**1.90**	**190**	PN		Pn	01 13 06.3	+0.4
CNGZ	**Carnagh Statio**	**2.03**	**157**	PN		Pn	01 13 06.9	-0.6
SNGZ	**Shannon Statio**	**2.17**	**177**	PN		Pn	01 13 08.5	-0.7
SNGZ				AML	AML		01 13 38.1	
SNGZ				AML	AML		01 13 40.9	
KNZ	**Kokohu**	**2.44**	**171**	⇓PN		Pn	01 13 10.7	-1.6
NMHZ	**Naumai**	**2.51**	**187**	PN		Pn	01 13 13.0	-0.3
NMHZ				AML	AML		01 13 47.5	
NMHZ				AML	AML		01 13 50.1	
MHGZ	**Mahia Peninsul**	**2.60**	**168**	PN		Pn	01 13 12.6	-1.7
BKZ	**Black Stump Fm**	**2.62**	**192**	PN		Pn	01 13 13.3	-1.3
BHHZ	**Black Hill Sta**	**3.02**	**197**	PN		Pn	01 13 18.0	-1.7
MOVZ	**Moawhango**	**3.02**	**202**	PN		Pn	01 13 18.4	-1.4
KRHZ	**Kereru**	**3.10**	**192**	PN		Pn	01 13 18.5	-2.3
KRHZ				SN		Sn	01 13 55.7	-2.6
KAHZ	**Kahuranaki**	**3.19**	**185**	PN		Pn	01 13 19.6	-2.3
PNHZ	**Pukenui**	**3.40**	**193**	PN		Pn	01 13 21.9	-2.7
PXZ	**Pawanui**	**3.43**	**184**	⇑PN		Pn	01 13 21.9	-3.0
PXZ				SN		Sn	01 14 00.5	-5.2
PXZ				AML	AML		01 14 04.2	
PXZ				AML	AML		01 14 04.4	
WPHZ	**Waipukurau**	**3.50**	**190**	PN		Pn	01 13 23.1	-2.9
TSZ	**Takapari Road**	**3.58**	**196**	PN		Pn	01 13 23.9	-3.1
TSZ				SN		Sn	01 14 05.9	-3.5
DVHZ	**Dannevirke**	**3.78**	**192**	PN		Pn	01 13 26.1	-3.4
MRZ	**Mangatainoka R**	**4.25**	**197**	PN		Pn	01 13 31.7	-3.9
HOWZ	**Holdsworth Sta**	**4.49**	**197**	PN		Pn	01 13 34.3	-4.5
KIW	**Kapiti Island**	**4.61**	**202**	PN		Pn	01 13 36.1	-4.4
TCW	**Tory Channel**	**5.13**	**206**	*e*PN		Pn	01 13 42.2	-5.2
THZ	**Tophouse**	**6.14**	**212**	PN		Pn	01 13 55.8	-5.0
THZ				SN		Sn	01 15 03.3	-6.7
KHZ	**Kahutara**	**6.46**	**205**	PN		Pn	01 13 59.0	-6.0
MQZ	**McQueen's Vall**	**7.90**	**205**	PN		Pn	01 14 16.4	-7.9

IDC 15 01:12:39.2±9.5,18.98S×173.17W,h0km,mb4.2/3, mb1 4.4/4,mb1mx3.9/31,mbtmp4.2/4,ML4.3/1,Error ellipse: s-maj=198.2km s-min=161.6km az=6.0,Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
DZM	**Mont Dzumac**	**19.34**	**257**	P		P	01 17 06.7	+0.4
	0.8nm,0.3s,baz=119,slow=19,SNR=8.4							
STKA	**Stephens Creek**	**42.53**	**243**	P		P	01 20 37.2	+0.4
	0.9nm,0.5s,baz=88,slow=13,SNR=3.8							
ASAR	**Alice Springs**	**49.30**	**255**	P		P	01 21 30.1	-0.2
	3.3nm,0.6s,baz=96,slow=8.5,SNR=41							
WRA	**Warramunga Arr**	**49.33**	**260**	P		P	01 21 29.9	-0.7
	1.0nm,0.3s,baz=96,slow=8.8,SNR=7.0							

*JMA **15** 01:18:08.4±0.4,43.06N×147.68E,h18km,M3.3*
*SKHL **15** 01:18:09.2±0.2,43.18N×147.86E,h33km,mb4.5/3*
ISC 15 01:18:11.5±5.4,43.3N±0.1×147.7E±0.2,h34km±6km,n9, σ0s96/10,Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
SHO	**Shikotan**	**0.86**	**312**	*e*P		**Pn**	**01 18 26.1**	**-1.1**
SHO				AMB	AMB		01 18 26.7	
	140nm,0.3s							
SHO				*i* S		**Sb**	**01 18 38.9**	**-0.4**
SHO				A	A		01 18 40.4	
	2μm,0.3s							
SHO				A	A		01 18 40.4	
	1μm,0.3s							
NEM2	**Nemuro 2**	**1.44**	**273**	P		Pn	01 18 34.1	-1.0
NEM2				*e*S		**Sn**	**01 18 53.0**	**+0.1**
YUK	**Yuzh-Kuril'sk**	**1.54**	**299**	*i* P		Pn	01 18 35.9	-0.5
YUK				AMB	AMB		01 18 37.2	
	60nm,0.3s							
YUK				AMB	AMB		01 18 37.2	
	50nm,0.3s							
YUK				AMB	AMB		01 18 37.2	
	180nm,0.3s							
YUK				*i* S		**

ms1mx2.6/46, Error ellipse: s-maj=51.4km s-min=23.5km az=44.0
*ISCJB **15** 01:29:40.2±1.0, 2°.79N±0°.08×96°.43E±0°.07, h31km, mb4.2/6, Error ellipse: s-maj=11.9km s-min=9.7km az=6.8*
*DJA **15** 01:29:41.8±1.0, 3°.N±6°×9°.7E±°, h10km, M4.2/6, MLv4.2/6*
ISC 15 01:29:42.7±1.1, **3.00N**±0.09×**96.48E**±0.07, **h31km**, **n18, σ2§11/16, mb4.2/6, Northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TPTI		**0.74**	**69**	P	**Pb**	**01 29 55.3**	**-1.9**
TPTI				S	**Sb**	**01 30 05.7**	**-1.4**
MLSI	**Meulaboh, Aceh**	**1.26**	**356**	P	**Pb**	**01 30 05.1**	**-0.9**
MLSI				S	**Sb**	**01 30 23.6**	**+1.7**
KCSI	**Kotacane, Aceh**	**1.39**	**68**	P	**Pb**	**01 30 06.8**	**-1.3**
KCSI				S	**Sb**	**01 30 25.0**	**-0.4**
LHMI	**Lhok Sumawe**	**2.27**	**12**	P	**Pn**	**01 30 19.3**	**+1.3**
PSI	**Prapat**	**2.44**	**95**	Pn	**Pb**	**01 30 24.6**	**-1.5**
	1.1nm,0.3s,baz=309,slow=14,SNR=6.9						
PSI				Sn	**Sb**	**01 31 01.6**	**+5.7**
	8.3nm,0.3s,baz=110,slow=21,SNR=4.9						
CMAR	**Chiang Mai Arr**	**15.55**	**9**	Pn	**P**	**01 33 24.1**	**+0.2**
	0.9nm,0.3s,baz=200,slow=11,SNR=9.5						
CMAR				LR	LR	01 40 30.8	
	comp=Z,57nm,18.1s,baz=160,slow=41						
H08S2	**Diego Garcia H**	**26.17**	**246**	T	T	02 01 28.4	
	baz=67,slow=76,SNR=3.9						
H08S3	**Diego Garcia H**	**26.17**	**246**	T	T	02 01 36.6	
	baz=67,slow=76,SNR=3.1						
H08S1	**Diego Garcia H**	**26.18**	**246**	T	T	02 01 39.3	
	baz=67,slow=76,SNR=3.7						
H01W3	**Cape Leeuwin H**	**41.17**	**158**	T	T	02 20 49.5	
	baz=327,slow=74,SNR=6.3						
H01W2	**Cape Leeuwin H**	**41.18**	**158**	T	T	02 20 52.6	
	baz=327,slow=74,SNR=5.5						
H01W1	**Cape Leeuwin H**	**41.18**	**158**	T	T	02 20 50.7	
	baz=327						
WRA	**Warramunga Arr**	**43.60**	**123**	P	**P**	**01 37 44.5**	**+0.1**
	0.5nm,0.4s,baz=303,slow=9.0,SNR=2.7						
SONM	**Songino Array**	**45.48**	**9**	P	**P**	**01 37 59.6**	**+0.4**
	0.6nm,0.5s,baz=180,slow=10,SNR=4.6						
GEYT	**Allbeck**	**49.39**	**320**	P	**P**	**01 38 31.0**	**+1.3**
	6.5nm,0.7s,baz=171,slow=10,SNR=4.6						
KURBB	**Kurchatov Arra**	**49.82**	**345**	P	**P**	**01 38 32.3**	**-0.3**
	1.4nm,0.4s,baz=168,slow=6.9,SNR=8.3						
ZALV	**Zalesovo Beam**	**51.68**	**351**	P	**P**	**01 38 47.0**	**+0.4**
	3.1nm,0.5s,baz=172,slow=6.4,SNR=9.2						
AKASG	**Malin Array Be**	**73.41**	**322**	P	**P**	**01 41 09.0**	**-2.9**
	1.2nm,0.5s,baz=83,slow=6.3,SNR=5.9						

*GUC **15** 01:33:22.4±0.4, 32°.56S×71°.68W, h22km±6km, ML3.5*
*SJA **15** 01:33:23.8±0.8, 32°.59S×71°.52W, h10km±11km, MD3.0*
ISC 15 01:33:22.9±3.4, **32.51S**±0.06×**71.6W**±0.2, **h15**km±15km, **n12, σ1§23/16, 4D, Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ROC1	**El Roble**	**0.67**	**135**	*eP*	**Pb**	**01 33 36.4**	**0.0**
ROC1				*eS*	**Sb**	**01 33 46.1**	**+0.5**
ROCH	**El Roble**	**0.67**	**134**	⇓*iP*	**Pb**	**01 33 36.2**	**-0.2**
ROCH				*i* S	**Sb**	**01 33 46.4**	**+0.8**
ROCH				IAML		01 33 48.4	
	comp=N,3μm,0.2s						
PEL	**Peldehue**	**0.98**	**130**	⇓*iP*	**Pb**	**01 33 41.4**	**-0.3**
PEL				*i* S	**Sn**	**01 33 55.7**	**-0.2**
PEL				IAML		01 33 57.5	
	comp=E,3μm,0.3s						
CLCH	**Cerro Calan**	**1.25**	**136**	⇓*iP*	**Pn**	**01 33 44.8**	**-1.0**
CLCH				*i* S	**Sb**	**01 34 01.9**	**-0.2**
CLCH				IAML		01 34 05.8	
	comp=E,2μm,0.7s						
FSR	**Penalolen**	**1.31**	**138**	*i* S	**Sb**	**01 34 03.7**	**-0.3**
ANTU	**Antumapu**	**1.32**	**143**	IAML		01 34 05.5	
	comp=N,1μm,0.3s						
FCH	**Farellones**	**1.36**	**127**	⇓*iP*	**Pn**	**01 33 47.3**	**-0.3**
FCH				*i* S	**Sg**	**01 34 06.2**	**-0.6**
FCH				IAML		01 34 07.5	
	comp=E,1μm,0.2s						
AUSP	**Uspallata**	**1.88**	**82**	*eP*	**Pg**	**01 33 59.6**	**+0.6**
AAGR	**Agrelo**	**2.39**	**105**	*eP*	**Pb**	**01 34 06.7**	**+1.0**
TLL	**Tololo Astrono**	**2.43**	**16**	*eP*	**Pn**	**01 34 04.3**	**+2.0**
TLL				IAML		01 34 53.4	
	comp=N,371nm,0.7s						
RTCV	**Cerro Valdivia**	**2.66**	**77**	*eP*	**Pb**	**01 34 10.4**	**+0.1**
AGUA	**GUANDACOL**	**4.01**	**42**	*eP*	**Pb**	**01 34 30.3**	**-3.1**

*HLW **15** 01:35:03.0, 32°.25N×35°.83E, h18km±12km, Md2.8, Ml2.8*
*GII **15** 01:35:03.5±0.0, 32°.02N×35°.47E, h2km, MD2.5/5*
*ISCJB **15** 01:35:04.1±0.5, 32°.00N±0°.02×35°.49E±0°.04, h1km±4km, Error ellipse: s-maj=5.9km s-min=2.4km az=19.3*
*NSSC **15** 01:35:04.1±1.0, 31°.99N×35°.51E, h0km±6km, MD1.4, ML2.6*
*CSEM **15** 01:35:04.4±0.1, 32°.01N×35°.48E, h2km, MD2.5, Error ellipse: s-maj=4.7km s-min=1.8km az=107.0*
ISC 15 01:35:04.6±1.0, **32.02N**±0.02×**35.52E**±0.03, **h7**km±9km, **n59, σ0§55/88, Dead Sea region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HMDT	**Nahal Hemdat**	**0.23**	**1**	Pg	**Pg**	**01 35 09.1**	**-0.1**
HMDT				Sg	**Sg**	**01 35 13.9**	**+1.6**
MMLI	**Mount Malkishu**	**0.42**	**349**	Pg	**Pg**	**01 35 12.5**	**-0.3**
MMLI				Sg	**Sg**	**01 35 19.5**	**+1.1**
SLTI	**Sal'it**	**0.46**	**298**	Pg	**Pg**	**01 35 12.7**	**-0.8**
SLTI				Sg	**Sg**	**01 35 20.1**	**+0.5**
DSI	**Dead Sea**	**0.47**	**195**	Pg	**Pg**	**01 35 13.1**	**-0.5**
DSI				Sg	**Sg**	**01 35 20.2**	**+0.6**
DSI	**Dead Sea**	**0.47**	**195**	Pg	**Pg**	**01 35 13.1**	**-0.5**
DSI				Sg	**Sg**	**01 35 20.2**	**+0.6**
AMAZ	**Amatzia**	**0.71**	**227**	Pg	**Pg**	**01 35 17.7**	**-0.5**
AMAZ				Sg	**Sb**	**01 35 29.6**	**+0.4**
MZDA	**Masada**	**0.72**	**191**	Pg	**Pg**	**01 35 18.3**	**-0.1**
MZDA				Sg	**Sg**	**01 35 28.4**	**+0.6**
MZDA	**Masada**	**0.72**	**191**	Pg	**Pg**	**01 35 18.3**	**-0.1**
MZDA				Sg	**Sg**	**01 35 28.4**	**+0.6**
TCHB	**Talchebab**	**0.75**	**30**	*eP*	**Pb**	**01 35 19.6**	**-0.4**
TCHB				*eS*	**Sb**	**01 35 30.4**	**0.0**
TCHB				AML	AML	01 35 31.3	
	comp=N,281nm,0.3s						
TCHB				AML	AML	01 35 35.2	
	comp=E,130nm,0.7s						
TCHB	**Talchebab**	**0.75**	**30**	*eP*	**Pb**	**01 35 19.5**	**-0.4**
	SNR=75						
TCHB				*eS*	**Sb**	**01 35 30.4**	**0.0**
	comp=E,130nm,0.7s,SNR=59						
OFRI	**'Ofer**	**0.75**	**323**	Pg	**Pg**	**01 35 18.2**	**-0.8**
OFRI	**'Ofer**	**0.75**	**323**	Pg	**Pg**	**01 35 18.2**	**-0.8**
BLGI	**Bet Lehem HaGe**	**0.76**	**339**	Pg	**Pg**	**01 35 19.0**	**-0.3**
BLGI	**Bet Lehem HaGe**	**0.76**	**339**	Pg	**Pg**	**01 35 19.0**	**-0.3**
KSHT	**Keshet**	**0.99**	**14**	Pg	**Pb**	**01 35 23.9**	**-0.2**
MMA0B	**Mount Meron ar**	**1.00**	**354**	Pg	**Pg**	**01 35 22.9**	**-0.8**
MMA0B				Sg	**Sb**	**01 35 37.9**	**+0.4**
HNTI	**Hanita**	**1.10**	**345**	Pg	**Pg**	**01 35 25.4**	**-0.3**
HNTI				Sg	**Sb**	**01 35 41.0**	**+0.6**
HNTI	**Hanita**	**1.10**	**345**	Pg	**Pg**	**01 35 25.4**	**-0.3**
HNTI				Sg	**Sb**	**01 35 41.0**	**+0.6**
KSDI	**Kefar Szold**	**1.17**	**6**	Pg	**Pg**	**01 35 26.5**	**-0.6**
KSDI	**Kefar Szold**	**1.17**	**6**	Pg	**Pg**	**01 35 26.5**	**-0.6**
SALA	**Sala**	**1.24**	**56**	*eP*	**Pg**	**01 35 28.1**	**-0.2**
SALA				*eS*	**Sn**	**01 35 45.6**	**+0.2**
SALA				AML	AML	01 35 49.3	
	comp=N,221nm,0.4s						
SALA				AML	AML	01 35 51.1	
	comp=E,14nm,0.5s						
SALA	**Sala**	**1.24**	**56**	*eP*	**Pg**	**01 35 28.1**	**-0.2**
	SNR=57						
SALA				*eS*	**Sn**	**01 35 45.6**	**+0.2**
	comp=E,14nm,0.5s,SNR=49						
BRBR	**Barbar**	**1.43**	**15**	*eP*	**Pn**	**01 35 31.3**	**+0.2**
BRBR				*eS*	**Sg**	**01 35 51.0**	**+0.3**
BRBR				AML	AML	01 35 55.3	
	comp=E,112nm,0.3s						
BRBR				AML	AML	01 35 55.9	
	comp=N,146nm,0.7s						
BRBR	**Barbar**	**1.43**	**15**	*eP*	**Pn**	**01 35 31.3**	**+0.2**
	SNR=57						
BRBR				*eS*	**Sg**	**01 35 51.0**	**+0.3**
	comp=N,146nm,0.7s,SNR=49						
KZIT	**Kziot**	**1.47**	**221**	Pn	**Pn**	**01 35 31.0**	**-0.4**
KZIT	**Kziot**	**1.47**	**221**	Pn	**Pn**	**01 35 31.0**	**-0.4**
ZFRI	**Zfri**	**1.49**	**191**	Pn	**Pn**	**01 35 31.4**	**-0.3**
ZFRI	**Zfri**	**1.49**	**191**	Pn	**Pn**	**01 35 31.4**	**-0.3**
RCY	**Rachaya**	**1.50**	**10**	*eP*	**Pn**	**01 35 31.6**	**-0.4**
TOTH	**TOTAH**	**1.54**	**30**	*eP*	**Pb**	**01 35 33.4**	**-0.1**
TOTH				*eS*	**Sg**	**01 35 54.2**	**+0.1**
TOTH				AML	AML	01 35 58.5	
	comp=E,144nm,0.3s						
TOTH				AML	AML	01 35 58.8	
	comp=N,78nm,0.6s						
TOTH	**TOTAH**	**1.54**	**30**	*eP*	**Pb**	**01 35 33.4**	**-0.1**
	SNR=57						
TOTH				*eS*	**Sg**	**01 35 54.2**	**+0.1**
	comp=N,78nm,0.6s,SNR=49						
QASN	**Qassioun**	**1.64**	**23**	*eP*	**Pn**	**01 35 34.4**	**+0.6**
QASN				*eS*	**Sg**	**01 35 57.3**	**+0.1**
QASN				AML	AML	01 35 60.0	
	comp=N,457nm,0.2s						
QASN				AML	AML	01 36 00.0	
	comp=E,340nm,0.2s						
QASN	**Qassioun**	**1.64**	**23**	*eP*	**Pn**	**01 35 34.4**	**+0.6**
	SNR=57						
QASN				*eS*	**Sg**	**01 35 57.3**	**+0.1**
	comp=E,340nm,0.2s,SNR=49						
DQRL	**Deir Qamar**	**1.68**	**1**	*eP*	**Pn**	**01 35 35.2**	**+0.8**
DQRL	**Deir Qamar**	**1.68**	**1**	*eP*	**Pn**	**01 35 35.2**	**+0.8**
PRNI	**Paran**	**1.72**	**195**	Pn	**Pn**	**01 35 34.8**	**-0.1**
PRNI				Sn	**Sb**	**01 35 58.5**	**+0.2**
PRNI	**Paran**	**1.72**	**195**	Pn	**Pn**	**01 35 34.8**	**-0.1**
PRNI				Sn	**Sb**	**01 35 58.5**	**+0.2**
RSH		**1.86**	**236**	P	**Pn**	**01 35 36.7**	**-0.2**
	baz=236						
RSH				S	**Sb**	**01 36 02.5**	**+0.1**
	baz=236						
RSH		**1.86**	**236**	P	**Pn**	**01 35 36.7**	**-0.2**
RSH				S	**Sb**	**01 36 02.5**	**+0.1**
BHL	**Bhannes**	**1.88**	**3**	*eP*	**Pn**	**01 35 38.1**	**+0.9**
BHL	**Bhannes**	**1.88**	**3**	*eP*	**Pn**	**01 35 38.1**	**+0.9**
HRFI	**Mount Harif**	**2.02**	**192**	Pn	**Pn**	**01 35 39.0**	**0.0**
HRFI	**Mount Harif**	**2.02**	**192**	Pn	**Pn**	**01 35 39.0**	**0.0**
MARH	**Ras Al Marh**	**2.16**	**22**	*eP*	**Pb**	**01 35 43.3**	**-0.8**
MARH				*eS*	**Sb**	**01 36 10.1**	**-1.1**
MARH				AML	AML	01 36 16.9	
	comp=E,186nm,0.5s						
MARH				AML	AML	01 36 18.5	
	comp=N,103nm,0.4s						
MARH	**Ras Al Marh**	**2.16**	**22**	*eP*	**Pb**	**01 35 43.3**	**-0.8**
	SNR=45						
MARH				*eS*	**Sb**	**01 36 10.1**	**-1.1**
	comp=N,103nm,0.4s,SNR=40						
HWQ	**Hawqa**	**2.28**	**9**	*eP*	**Pb**	**01 35 44.9**	**-1.2**
HWQ	**Hawqa**	**2.28**	**9**	*eP*	**Pb**	**01 35 44.9**	**-1.2**
MBRI	**Mt Berech**	**2.28**	**193**	Pn	**Pn**	**01 35 42.5**	**-0.2**
MBRI	**Mt Berech**	**2.28**	**193**	Pn	**Pn**	**01 35 42.5**	**-0.2**
EIL	**Elat**	**2.39**	**192**	Pn	**Pn**	**01 35 43.9**	**-0.2**
EIL	**Elat**	**2.39**	**192**	Pn	**Pn**	**01 35 43.9**	**-0.2**
HNKL	**Nakhl**	**2.47**	**213**	P	**Pn**	**01 35 44.9**	**-0.3**
	baz=215						
HNKL				AMP		01 36 00.0	
	comp=N,50μm,0.5s,logA/T=5.0,baz=215						
HNKL				S	**Sn**	**01 36 16.8**	**+1.2**
	baz=215						
HNKL	**Nakhl**	**2.47**	**213**	P	**Pn**	**01 35 44.9**	**-0.3**
HNKL				S	**Sn**	**01 36 16.8**	**+1.2**
SUZ	**Suez**	**3.17**	**227**	P	**Pn**	**01 35 55.0**	**+0.1**
	baz=228						
SUZ	**Suez**	**3.17**	**227**	P	**Pn**	**01 35 55.0**	**+0.1**
GLL	**Jalalah**	**4.08**	**234**	P	**Pn**	**01 36 07.2**	**-0.2**
	baz=235						
GLL	**Jalalah**	**4.08**	**234**	P	**Pn**	**01 36 07.2**	**-0.2**
GRB	**Gharib**	**4.42**	**213**	P	**Pn**	**01 36 11.8**	**-0.3**
	baz=215						
GRB	**Gharib**	**4.42**	**213**	P	**Pn**	**01 36 11.8**	**-0.3**

*ATH **15** 01:35:55.8, 37°.77N×27°.14E, h18km±4km, ML2.3/3, Error ellipse: s-maj=6.8km s-min=1.5km az=240.0*
*ISCJB **15** 01:35:56.2±0.7, 37°.83N±0°.02×27°.13E±0°.04, h8km±6km, Error ellipse: s-maj=5.6km s-min=3.6km az=163.6*
*CSEM **15** 01:35:56.7±0.2, 37°.80N×27°.11E, h15km, ML2.5, Error ellipse: s-maj=5.7km s-min=3.4km az=61.0*
*DDA **15** 01:35:56.3, 37°.83N×27°.12E, h7km, Md2.8*
*THE **15** 01:35:57.1, 37°.78N×27°.09E, h12km, ML2.5/3, Error ellipse: s-maj=1.1km s-min=0.6km az=210.0*
ISC 15 01:35:56.6±0.9, **37.80N**±0.02×**27.10E**±0.03, **h15**km±6km, **n33, σ0§62/57, Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SMG	**Samos**	**0.23**	**245**	P	**Pg**	**01 36 01.7**	**0.0**
SMG				S	**Sg**	**01 36 05.3**	**+0.2**
SMG	**Samos**	**0.23**	**245**	P	**Pg**	**01 36 02.1**	**+0.4**
SMG				S	**Sg**	**01 36 05.3**	**+0.2**
SMG	**Samos**	**0.23**	**245**	P	**Pg**	**01 36 02.1**	**+0.4**
SMG				S	**Sg**	**01 36 05.0**	**-0.1**
SMG				AML	AML	01 36 06.5	
	comp=E,2945μm,0.2s						
SMG				AML	AML	01 36 07.4	
	comp=N,3534μm,0.3s						
DGB	**˜zmir**	**0.30**	**325**	*i* P	**Pg**	**01 36 01.8**	**-1.1**
DGB				*i* S	**Sg**	**01 36 07.0**	**-0.2**
ZEY	**˜zmir**	**0.64**	**313**	*i* P	**Pg**	**01 36 08.3**	**-0.8**
ZEY				*i* S	**Sg**	**01 36 16.1**	**-1.5**
URLA	**Izmir**	**0.68**	**325**	*i* P	**Pb**	**01 36 10.9**	**+0.7**
URLA				*i* S	**Sb**	**01 36 20.0**	**+0.5**
URLA	**Izmir**	**0.68**	**325**	P	**Pb**	**01 36 10.9**	**+0.7**
URLA				S	**Sb**	**01 36 20.0**	**+0.5**
BODT	**Bodrum**	**0.76**	**167**	P	**Pg**	**01 36 11.2**	**-0.2**
BODT				S	**Sb**	**01 36 22.5**	**+0.9**
BODT	**Bodrum**	**0.76**	**167**	P	**Pg**	**01 36 11.2**	**-0.2**
BODT				S	**Sb**	**01 36 22.5**	**+0.9**
BDRM	**Kayabasi**	**0.79**	**159**	*i* P	**Pb**	**01 36 12.2**	**+0.2**
BDRM				*i* S	**Sn**	**01 36 23.9**	**-0.7**
BDRM	**Kayabasi**	**0.79**	**159**	P	**Pb**	**01 36 12.2**	**+0.2**
BDRM				S	**Sn**	**01 36 23.9**	**-0.7**
CHOS	**Chios island**	**1.01**	**306**	P	**Pb**	**01 36 15.8**	**0.0**
CHOS				S	**Sn**	**01 36 30.5**	**+0.3**
CHOS	**Chios island**	**1.01**	**306**	P	**Pb**	**01 36 15.8**	**0.0**
CHOS				S	**Sb**	**01 36 29.8**	**+0.9**
CHOS	**Chios island**	**1.01**	**306**	P	**Pb**	**01 36 15.3**	**-0.5**
CHOS				S	**Sb**	**01 36 29.8**	**+0.9**
CHOS				AML	AML	01 36 33.0	
	comp=N,263μm,0.2s						
CHOS				AML	AML	01 36 34.3	
	comp=E,433μm,0.2s						
DAT	**Datca**	**1.14**	**160**	*i* P	**Pg**	**01 36 18.7**	**+0.1**
DAT				*i* S	**Sn**	**01 36 34.2**	**+0.8**
DAT	**Datca**	**1.14**	**160**	P	**Pg**	**01 36 18.7**	**+0.1**
DAT				S	**Sn**	**01 36 34.2**	**+0.8**
NIS1	**Nisyros Isl.**	**1.20**	**177**	P	**Pn**	**01 36 17.6**	**-1.2**
NIS1	**Nisyros Isl.**	**1.20**	**177**	P	**Pn**	**01 36 17.6**	**-1.2**
MANT	**Manisa**	**1.34**	**59**	*i* P	Pn	01 36 16.1	-4.8
MANT				*i* S	Sb	01 36 29.1	-9.5
MANT	**Manisa**	**1.34**	**59**	P	Pn	01 36 16.1	-4.8
KULA	**Kula-Manisa**	**1.42**	**60**	P	**Pn**	**01 36 21.4**	**-0.5**
KULA				S	**Sn**	**01 36 39.6**	**-0.8**
KULA	**Kula-Manisa**	**1.42**	**60**	P	**Pn**	**01 36 21.4**	**-0.5**
KULA				S	**Sn**	**01 36 39.6**	**-0.8**
APE	**Apeiranthos**	**1.45**	**240**	P	**Pn**	**01 36 22.4**	**+0.2**
APE				S	**Sn**	**01 36 40.5**	**-0.5**
APE	**Apeiranthos**	**1.45**	**240**	P	**Pn**	**01 36 22.4**	**+0.2**
APE				S	**Sn**	**01 36 40.5**	**-0.5**
APE	**Apeiranthos**	**1.45**	**240**	P	**Pb**	**01 36 23.2**	**0.0**
TURN	**Turunc**	**1.52**	**127**	*i* P	**Pn**	**01 36 22.6**	**-0.5**
TURN				*i* S	**Sn**	**01 36 42.0**	**-0.6**
TURN	**Turunc**	**1.52**	**127**	P	**Pn**	**01 36 22.6**	**-0.5**
TURN				S	**Sn**	**01 36 42.0**	**-0.6**
PRK	**Paraskevi**	**1.58**	**336**	P	**Pn**	**01 36 24.0**	**0.0**
PRK				S	**Sn**	**01 36 44.3**	**+0.1**
PRK	**Paraskevi**	**1.58**	**336**	P	**Pn**	**01 36 24.0**	**0.0**
PRK				S	**Sn**	**01 36 44.3**	**+0.1**
PRK	**Paraskevi**	**1.58**	**336**	P	**Pb**	**01 36 25.7**	**+0.2**
PRK				S	**Sn**	**01 36 44.0**	**-0.1**
SIGR	**SIGRI**	**1.71**	**326**	P	**Pb**	**01 36 27.9**	**+0.2**
SIGR	**SIGRI**	**1.71**	**326**	P	**Pb**	**01 36 27.9**	**+0.2**
SIGR				AML	AML	01 36 54.1	
	comp=N,82μm,0.4s						
SIGR				AML	AML	01 36 54.8	
	comp=E,81μm,0.5s						
DEMI	**Demirci**	**1.77**	**45**	*i* P	**Pg**	**01 36 31.6**	**+1.0**
DEMI				*i* S	**Sn**	**01 36 49.8**	**+0.7**

*IDC **15** 01:40:09.2±0.6, 46°.93N×22°.92W, h0km, mb4.2/22,*
mb1 4.3/25, mb1mx4.1/58, mbtmp4.2/25, ML5.4/2, MS3.4/15, Ms1 3.4/15, ms1mx3.1/60, Error ellipse: s-maj=16.3km s-min=14.7km az=177.0
*CSEM **15** 01:40:10.6±0.2, 46°.84N×22°.74W, h10km, mb4.1/12, Error ellipse: s-maj=6.2km s-min=3.9km az=133.0*
*PDA **15** 01:40:11.0, 46°.83N×22°.71W, h10km, mb4.4*
*INMG **15** 01:40:11.0, 46°.83N×22°.71W, h10km*
*NEIC **15** 01:40:11.2±0.5, 46°.94N×22°.80W, h10km, mb4.1/5, Error ellipse: s-maj=11.1km s-min=6.6km az=188.0*
*LDG **15** 01:40:14.4±0.3, 46°.93N×22°.67W, h45km±3km, Ml4.6/26, Error ellipse: s-maj=11.0km s-min=5.2km az=146.0*
ISC 15 01:40:10.5±0.5, **46.65N**±0.06×**22.72W**±0.06, **h10**km, **n306, σ1§96/293, mb4.1/39, MS3.4/14, 1C-11D, North Atlantic Ocean**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PGRA	**Graciosa**	**8.53**	**209**	*eP*	**Pn**	**01 42 16.3**	**+2.2**
	266nm,0.5s						
PGRA				*eS*	**Sn**	**01 43 47.9**	**-2.5**
PGRA	**Graciosa**	**8.53**	**209**	*eP*	**Pn**	**01 42 16.3**	**+2.2**
	266nm,0.5s						
ADH	**Angra Heroismo**	**8.65**	**204**	*eP*	**Pn**	**01 42 17.7**	**+2.0**
	308nm,0.4s						
ADH				*eS*	**Sn**	**01 43 48.9**	**-4.3**
ADH	**Angra Heroismo**	**8.65**	**204**	*eP*	**Pn**	**01 42 17.7**	**+2.0**
	308nm,0.4s						
ROSA	**Rosais**	**8.90**	**209**	*eP*	**Pn**	**01 42 22.5**	**+3.4**
	84nm,0.5s						
ROSA				*eS*	**Sn**	**01 43 56.0**	**-3.4**
ROSA	**Rosais**	**8.90**	**209**	*eP*	**Pn**	**01 42 22.5**	**+3.4**
	84nm,0.5s						
PMAN	**Manadas**	**8.93**	**208**	*eP*	**Pn**	**01 42 21.8**	**+2.3**
	103nm,0.7s						
PMAN				*eS*	**Sn**	**01 43 55.5**	**-4.6**
PMAN	**Manadas**	**8.93**	**208**	*eP*	**Pn**	**01 42 21.8**	**+2.3**
	103nm,0.7s						
PCALD	**Caldeiras da R**	**9.08**	**194**	*eP*	**Pn**	**01 42 25.6**	**+4.1**
	113nm,0.2s						
PCALD	**Caldeiras da R**	**9.08**	**194**	*eP*	**Pn**	**01 42 25.6**	**+4.1**
	113nm,0.2s						
PSET	**Sete Cidades**	**9.09**	**195**	*eP*	**Pn**	**01 42 23.5**	**+1.7**
	40nm,0.4s						
PSET				*eS*	**Sn**	**01 43 58.7**	**-5.5**
PSET	**Sete Cidades**	**9.09**	**195**	*eP*	**Pn**	**01 42 23.5**	**+1.7**
	40nm,0.4s						
CMLA	**Cha da Macela**	**9.12**	**194**	*eP*	**Pn**	**01 42 24.2**	**+2.1**
CMLA				*eS*	**Sn**	**01 43 59.6**	**-5.1**
CMLA	**Cha da Macela**	**9.12**	**194**	*eP*	**Pn**	**01 42 24.2**	**+2.1**
CMLA	**Cha da Macela**	**9.12**	**194**	*ePn*	**Pn**	**01 42 24.8**	**+2.7**
	39nm,0.6s						
CMLA	**Cha da Macela**	**9.12**	**194**	*ePn*	**Pn**	**01 42 24.8**	**+2.7**
	39nm,0.6s						
CMLA				*eSn*	**Sn**	**01 44 00.1**	**-4.6**
PCED	**Cedros**	**9.14**	**211**	*eP*	**Pn**	**01 42 26.1**	**+3.7**
	78nm,0.6s						
PCED				*eS*	**Sn**	**01 44 02.9**	**-2.4**
PCED	**Cedros**	**9.14**	**211**	*eP*	**Pn**	**01 42 26.1**	**+3.7**
	78nm,0.6s						
PDA	**Ponta Delgada**	**9.15**	**195**	*eP*	**Pn**	**01 42 23.9**	**+1.3**
	32nm,0.3s						
PDA				*eS*	Sn	01 43 56.9	-8.8
PDA	**Ponta Delgada**	**9.15**	**195**	*eP*	**Pn**	**01 42 23.9**	**+1.3**
	32nm,0.3s						
PICO	**Pico**	**9.16**	**209**	*eP*	**Pn**	**01 42 27.5**	**+4.7**
	138nm,0.7s						
PICO				*eS*	**Sn**	**01 44 02.5**	**-3.4**
CALA	**Caldeira**	**9.18**	**211**	*eP*	Pn	01 42 29.8	+6.7
CALA				*eS*	**Sn**	**01 44 05.5**	**-1.0**
HOR	**Horta**	**9.21**	**210**	*eP*	**Pn**	**01 42 24.3**	**+1.0**
	16nm,0.2s						
HOR	**Horta**	**9.21**	**210**	*eP*	**Pn**	**01 42 24.3**	**+1.0**
	16nm,0.2s						
PCAN	**Candelaria**	**9.21**	**210**	*eP*	Pn	01 42 28.4	+5.0
	98nm,0.5s						
PCAN				*eS*	**Sn**	**01 44 05.6**	**-1.5**
H07N1	**FLORES T-PHASE**	**9.27**	**224**	*eS*	**Sn**	**01 44 01.4**	**-7.1**
PSMN	**Pico do Norte,**	**9.79**	**191**	*eP*	**Pn**	**01 42 33.3**	**+1.9**
	32nm,0.7s						
PSMN				*eS*	**Sn**	**01 44 14.3**	**-7.0**
PSMN	**Pico do Norte,**	**9.79**	**191**	*eP*	**Pn**	**01 42 33.3**	**+1.9**
	32nm,0.7s						
PSMA	**Santa Maria**	**9.81**	**191**	*eP*	**Pn**	**01 42 33.1**	**+1.5**
	27nm,0.5s						
PSMA				*eS*	**Sn**	**01 44 14.3**	**-7.4**
PGAV	**Gavieira, Arco**	**11.36**	**109**	*eP*	**Pn**	**01 42 53.8**	**+0.9**
	53nm,2.4s						
PGAV				*eS*	Sn	01 44 48.7	-11
PGAV	**Gavieira, Arco**	**11.36**	**109**	*eP*	**Pn**	**01 42 53.8**	**+0.9**
	53nm,2.4s						
PTO	**Porto**	**11.57**	**113**	*eP*	**Pn**	**01 42 57.0**	**+1.3**
	53nm,0.3s						
PTO	

ROSF					eSn		Sn	01 45 30.7	-15
PMRV	**Marv??o**	**13.32**	**117**		*e*P		**Pn**	**01 43 20.1**	**+0.5**
	comp=Z,21nm,1.5s								
PMRV					*e*S		Sn	01 45 35.7	-12
PMRV	**Marv??o**	**13.32**	**117**		*e*P		**Pn**	**01 43 20.1**	**+0.5**
	comp=Z,21nm,1.5s								
QUIF	**Quistinic**	**13.34**	**77**		*e*Pn		**Pn**	**01 43 17.7**	**-2.1**
QUIF					eSn		Sn	01 45 31.3	-17
	comp=Z,58nm,0.5s								
QUIF	**Quistinic**	**13.34**	**77**		*e*Pn		**Pn**	**01 43 17.7**	**-2.1**
QUIF	**Quistinic**	**13.34**	**77**		*e*Pn		**Pn**	**01 43 17.7**	**-2.1**
QUIF					eSn		Sn	01 45 31.3	-17
PNCL	**Nicolau / Gran**	**13.50**	**124**		*e*P		**Pn**	**01 43 23.1**	**+1.1**
PNCL					eS		Sn	01 45 41.1	-11
PNCL	**Nicolau / Gran**	**13.50**	**124**		*e*P		**Pn**	**01 43 23.1**	**+1.1**
WPS	**Cemaes, Angles**	**13.50**	**53**		*e*P		**Pn**	**01 43 20.5**	**-1.5**
WPS	**Cemaes, Angles**	**13.50**	**53**		*e*P		**Pn**	**01 43 20.5**	**-1.5**
EVO	**Evora**	**13.52**	**122**		*e*P		**Pn**	**01 43 23.5**	**+1.2**
EVO					eS		Sn	01 45 40.9	-12
EVO	**Evora**	**13.52**	**122**		*e*P		**Pn**	**01 43 23.5**	**+1.2**
PESTR	**Estremoz**	**13.55**	**120**		*e*P		**Pn**	**01 43 22.7**	**0.0**
PESTR					eS		Sn	01 45 40.5	-13
PESTR	**Estremoz**	**13.55**	**120**		*e*P		**Pn**	**01 43 22.7**	**0.0**
WME	**Myndd Eilian**	**13.61**	**54**		*e*P		**Pn**	**01 43 21.7**	**-1.7**
WME	**Myndd Eilian**	**13.61**	**54**		*e*P		**Pn**	**01 43 21.7**	**-1.7**
SGMF	**Saint Gilles**	**13.74**	**76**		*e*Pn		**Pn**	**01 43 23.1**	**-2.1**
SGMF					eSn		Sn	01 45 39.4	-18
	comp=Z,28nm,0.5s								
SGMF	**Saint Gilles**	**13.74**	**76**		*e*Pn		**Pn**	**01 43 23.1**	**-2.1**
SGMF	**Saint Gilles**	**13.74**	**76**		*e*Pn		**Pn**	**01 43 23.1**	**-2.1**
SGMF					eSn		Sn	01 45 39.4	-18
LLW	**Llanuwchllyn**	**13.78**	**56**		*e*P		**Pn**	**01 43 23.6**	**-2.1**
LLW	**Llanuwchllyn**	**13.78**	**56**		*e*P		**Pn**	**01 43 23.6**	**-2.1**
WPM1	**Penmaenmawr**	**13.78**	**54**		*e*P		**Pn**	**01 43 24.3**	**-1.5**
WPM1	**Penmaenmawr**	**13.78**	**54**		*e*P		**Pn**	**01 43 24.3**	**-1.5**
PTEO	**Sao Teotonio**	**13.79**	**126**		*e*P		**Pn**	**01 43 27.3**	**+1.3**
PTEO					eS		Sn	01 45 48.2	-11
PTEO	**Sao Teotonio**	**13.79**	**126**		*e*P		**Pn**	**01 43 27.3**	**+1.3**
MESJ	**Messejana**	**13.87**	**124**		*e*P		**Pn**	**01 43 28.5**	**+1.5**
MESJ					eS		Sn	01 45 49.1	-12
MESJ	**Messejana**	**13.87**	**124**		*e*P		**Pn**	**01 43 28.5**	**+1.5**
MCH1	**Michaelchurch**	**13.92**	**60**		*e*P		**Pn**	**01 43 26.0**	**-1.7**
MCH1	**Michaelchurch**	**13.92**	**60**		*e*P		**Pn**	**01 43 26.0**	**-1.7**
PBEJ	**Beja**	**13.94**	**123**		*e*P		**Pn**	**01 43 30.0**	**+1.9**
PBEJ					eS		Sn	01 45 48.4	-14
PBEJ	**Beja**	**13.94**	**123**		*e*P		**Pn**	**01 43 30.0**	**+1.9**
HGH	**Gray Hill**	**13.95**	**62**		*e*P		**Pn**	**01 43 26.4**	**-1.6**
HGH	**Gray Hill**	**13.95**	**62**		*e*P		**Pn**	**01 43 26.4**	**-1.6**
MONM	**Monmouth**	**13.99**	**61**		*e*P		**Pn**	**01 43 26.9**	**-1.8**
MONM					AMB		AMB	01 43 27.7	
	comp=Z,64nm,1.7s								
MONM	**Monmouth**	**13.99**	**61**		*e*P		**Pn**	**01 43 26.9**	**-1.8**
JSA	**Saint Aubin**	**14.01**	**72**		*e*P		**Pn**	**01 43 27.6**	**-1.3**
JSA					AMB		AMB	01 43 35.8	
	comp=Z,40nm,2.7s								
JSA	**Saint Aubin**	**14.01**	**72**		*e*P		**Pn**	**01 43 27.6**	**-1.3**
FOEL	**Foel Wylfa**	**14.05**	**56**		*e*P		**Pn**	**01 43 27.9**	**-1.6**
FOEL					AMB		AMB	01 43 33.4	
	comp=Z,48nm,2.2s								
FOEL	**Foel Wylfa**	**14.05**	**56**		*e*P		**Pn**	**01 43 28.0**	**-1.6**
PCVE	**Castro Verde**	**14.11**	**124**		*e*P		**Pn**	**01 43 32.1**	**+1.7**
PCVE					eS		Sn	01 45 54.9	-12
PBAR	**Barrancos**	**14.33**	**121**		*e*P		**Pn**	**01 43 34.3**	**+1.0**
	comp=Z,52nm,1.9s								
PBAR					eS		Sn	01 45 59.6	-13
STRD	**Stroud**	**14.37**	**62**		*e*P		**Pn**	**01 43 31.2**	**-2.6**
PBDV	**Barranco-do-Ve**	**14.45**	**125**		*e*P		**Pn**	**01 43 37.4**	**+2.4**
PBDV					eS		Sn	01 46 05.3	-10
PVAQ	**Vaqueiros**	**14.46**	**124**		*e*P		**Pn**	**01 43 36.1**	**+1.0**
PVAQ					eS		Sn	01 46 02.9	-12
SWN1	**Swindon**	**14.53**	**63**		*e*P		**Pn**	**01 43 34.7**	**-1.4**
SWN1					AMB		AMB	01 43 41.1	
	comp=Z,88nm,3.0s								
PMAR	**Madeira**	**14.60**	**160**		*e*P		**Pn**	**01 43 38.8**	**+1.6**
SSW	**Stow on the Wo**	**14.60**	**61**		*e*P		**Pn**	**01 43 35.2**	**-1.8**
KESW	**Keswick, Cumbr**	**14.73**	**50**		*e*P		**Pn**	**01 43 37.6**	**-1.2**
KESW					AMB		AMB	01 43 41.8	
	comp=Z,69nm,1.7s								
WOL	**Wolverton**	**14.85**	**64**		*e*P		**Pn**	**01 43 39.7**	**-0.7**
WOL					AMB		AMB	01 43 46.8	
	comp=Z,80nm,1.9s								
GRR	**Gorron**	**14.87**	**75**		*e*Pn		**Pn**	**01 43 38.8**	**-1.9**
GRR					eSn		Sn	01 46 10.9	-14
	comp=Z,28nm,0.4s								
GRR	**Gorron**	**14.87**	**75**		*e*Pn		**Pn**	**01 43 38.8**	**-1.9**
GRR	**Gorron**	**14.87**	**75**		*e*Pn		**Pn**	**01 43 38.8**	**-1.9**
GRR					eSn		Sn	01 46 10.9	-14
BHH	**Howats Hill**	**14.89**	**48**		*e*P		**Pn**	**01 43 39.5**	**-1.4**
KPL	**Plockton**	**14.96**	**38**		*e*P		**Pn**	**01 43 39.7**	**-2.1**
ECK	**Cauldkaine Hil**	**14.98**	**48**		*e*P		**Pn**	**01 43 40.2**	**-2.0**
EKA	**Eskdalemuir Ar**	**15.03**	**48**		Pn		**Pn**	**01 43 39.8**	**-3.0**
	baz=226,slow=12,SNR=32								
EKA					Sn		Sn	01 46 16.7	-13
	baz=241,slow=26,SNR=8.5								
FLN	**La Foliniere**	**15.11**	**74**		*e*Pn		**Pn**	**01 43 42.0**	**-1.9**
	baz=266								
FLN					eSn		Sn	01 46 14.5	-17
	comp=Z,31nm,0.5s								
FLN	**La Foliniere**	**15.11**	**74**		*e*Pn		**Pn**	**01 43 42.0**	**-1.9**
FLN	**La Foliniere**	**15.11**	**74**		*e*Pn		**Pn**	**01 43 42.0**	**-1.9**
FLN					eSn		Sn	01 46 14.5	-17
PAB	**San Pablo**	**15.16**	**111**		*e*Pn		**Pn**	**01 43 46.8**	**+2.1**
	comp=Z,13nm,0.3s								
PAB	**San Pablo**	**15.16**	**111**		*e*Pn		**Pn**	**01 43 46.9**	**+2.1**
	comp=Z,13nm,0.3s								
ESDC	**Sonseca Array**	**15.34**	**110**		Pn		**Pn**	**01 43 49.3**	**+2.3**
	comp=Z,8.6nm,0.3s,baz=300,slow=13,SNR=71								
ESDC					Sn		**Sn**	**01 46 29.4**	**-7.5**
	comp=Z,1.2nm,0.3s,baz=296,slow=23,SNR=5.2								
ESDC					LR		LR	01 48 34.8	
	comp=Z,113nm,21.9s,baz=295,slow=32								
LDF	**La Druitiere**	**15.35**	**74**		*e*Pn		**Pn**	**01 43 45.3**	**-1.8**
LDF					eSn		Sn	01 46 21.3	-16
	comp=Z,14nm,0.3s								
LDF	**La Druitiere**	**15.35**	**74**		*e*Pn		**Pn**	**01 43 45.3**	**-1.8**
LDF	**La Druitiere**	**15.35**	**74**		*e*Pn		**Pn**	**01 43 45.3**	**-1.8**
LDF					eSn		Sn	01 46 21.3	-16
MFF	**Saint Martin d**	**15.51**	**82**		*e*Pn		**Pn**	**01 43 47.8**	**-1.3**
MFF					eSn		Sn	01 46 23.7	-17
	comp=Z,39nm,0.4s								
MFF	**Saint Martin d**	**15.51**	**82**		*e*Pn		**Pn**	**01 43 47.8**	**-1.3**
MFF	**Saint Martin d**	**15.51**	**82**		*e*Pn		**Pn**	**01 43 47.8**	**-1.3**
MFF					eSn		Sn	01 46 23.7	-17
SJPF	**Ste Jean**	**15.63**	**95**		*e*Pn		**Pn**	**01 43 50.5**	**-0.3**
SJPF					eSn		Sn	01 46 28.3	-16
	comp=Z,12nm,0.4s								
SJPF	**Ste Jean**	**15.63**	**95**		*e*Pn		**Pn**	**01 43 50.5**	**-0.3**
SJPF	**Ste Jean**	**15.63**	**95**		*e*Pn		**Pn**	**01 43 50.5**	**-0.3**
SJPF					eSn		Sn	01 46 28.3	-16
ETSF	**Etsaut**	**16.16**	**95**		*e*Pn		**Pn**	**01 43 59.3**	**+1.6**
ETSF					eSn		Sn	01 46 44.5	-12
	comp=Z,7.1nm,0.3s								
ETSF	**Etsaut**	**16.16**	**95**		*e*Pn		**Pn**	**01 43 59.3**	**+1.6**
ETSF	**Etsaut**	**16.16**	**95**		*e*Pn		**Pn**	**01 43 59.3**	**+1.6**
ETSF					eSn		Sn	01 46 44.5	-12
LFF	**La Frestale**	**16.44**	**87**		*e*Pn		**Pn**	**01 44 01.6**	**+0.4**
LFF					eSn		Sn	01 46 45.7	-18
	comp=Z,12nm,0.3s								
LFF	**La Frestale**	**16.44**	**87**		*e*Pn		**Pn**	**01 44 01.6**	**+0.4**
LFF	**La Frestale**	**16.44**	**87**		*e*Pn		**Pn**	**01 44 01.6**	**+0.4**
LFF					eSn		Sn	01 46 45.7	-18
EPF	**Esparros**	**16.73**	**94**		*e*Pn		**P**	**01 44 06.6**	**-0.7**
EPF					eSn		Sn	01 46 58.4	-12
	comp=Z,10nm,0.4s								
EPF	**Esparros**	**16.73**	**94**		*e*Pn		**P**	**01 44 06.6**	**-0.7**
EPF	**Esparros**	**16.73**	**94**		*e*Pn		**P**	**01 44 06.6**	**-0.7**
EPF					eSn		Sn	01 46 58.4	-12
RJF	**Les Rejaudoux**	**16.89**	**86**		*e*Pn		**Pn**	**01 44 07.4**	**+0.5**
RJF					eSn		Sn	01 46 56.6	-18
	comp=Z,13nm,0.5s								
RJF	**Les Rejaudoux**	**16.89**	**86**		*e*Pn		**Pn**	**01 44 07.4**	**+0.5**
RJF	**Les Rejaudoux**	**16.89**	**86**		*e*Pn		**Pn**	**01 44 07.4**	**+0.5**
RJF					eSn		Sn	01 46 56.6	-18
TCF	**Toulx Ste Croi**	**17.16**	**82**		*e*Pn		**Pn**	**01 44 10.6**	**+0.3**
TCF					eSn		Sn	01 46 58.6	-23
	comp=Z,13nm,0.3s								
TCF	**Toulx Ste Croi**	**17.16**	**82**		*e*Pn		**Pn**	**01 44 10.6**	**+0.3**
TCF	**Toulx Ste Croi**	**17.16**	**82**		*e*Pn		**Pn**	**01 44 10.6**	**+0.3**
TCF					eSn		Sn	01 46 58.6	-23
HYF	**Humbligny**	**17.30**	**79**		*e*Pn		**P**	**01 44 13.1**	**-0.4**
HYF					eSn		Sn	01 47 05.8	-19
HYF	**Humbligny**	**17.30**	**79**		*e*Pn		**P**	**01 44 13.1**	**-0.4**
HYF					eSn		Sn	01 47 05.8	-19
CAF	**Calviac**	**17.36**	**87**		*e*Pn		**Pn**	**01 44 12.9**	**+0.1**
CAF					eSn		Sn	01 47 06.2	-20
	comp=Z,11nm,0.3s								
CAF	**Calviac**	**17.36**	**87**		*e*Pn		**Pn**	**01 44 12.9**	**+0.1**
CAF	**Calviac**	**17.36**	**87**		*e*Pn		**Pn**	**01 44 12.9**	**+0.1**
CAF					eSn		Sn	01 47 06.2	-20
BGF	**Bois d'Agland**	**17.55**	**81**		*e*Pn		**P**	**01 44 16.1**	**-0.1**
BGF					eSn		Sn	01 47 11.3	-19
	comp=Z,72nm,0.4s								
BGF	**Bois d'Agland**	**17.55**	**81**		*e*Pn		**P**	**01 44 16.1**	**-0.1**
BGF	**Bois d'Agland**	**17.55**	**81**		*e*Pn		**P**	**01 44 16.1**	**-0.1**
BGF					eSn		Sn	01 47 11.3	-19
AVF	**Avril sur Loir**	**17.86**	**80**		*e*Pn		**P**	**01 44 19.6**	**0.0**
AVF					eSn		Sn	01 47 18.8	-19
	comp=Z,19nm,0.3s								
AVF	**Avril sur Loir**	**17.86**	**80**		*e*Pn		**P**	**01 44 19.6**	**0.0**
AVF	**Avril sur Loir**	**17.86**	**80**		*e*Pn		**P**	**01 44 19.6**	**0.0**
AVF					eSn		Sn	01 47 18.8	-19
SSF	**Saint Saulge**	**17.92**	**79**		*e*Pn		**P**	**01 44 20.7**	**+0.4**
SSF					eSn		Sn	01 47 20.6	-19
	comp=Z,14nm,0.4s								
SSF	**Saint Saulge**	**17.92**	**79**		*e*Pn		**P**	**01 44 20.7**	**+0.4**
SSF	**Saint Saulge**	**17.92**	**79**		*e*Pn		**P**	**01 44 20.7**	**+0.4**
SSF					eSn		Sn	01 47 20.6	-19
MTLF	**Montolieu**	**17.92**	**92**		*e*Pn		**P**	**01 44 21.6**	**+1.3**
MTLF					eSn		Sn	01 47 21.1	-18
	comp=Z,6.1nm,0.3s								
MTLF	**Montolieu**	**17.92**	**92**		*e*Pn		**P**	**01 44 21.6**	**+1.3**
MTLF	**Montolieu**	**17.92**	**92**		*e*Pn		**P**	**01 44 21.6**	**+1.3**
MTLF					eSn		Sn	01 47 21.1	-18
LOR	**Lormes**	**18.13**	**78**		*e*Pn		**P**	**01 44 23.5**	**+0.9**
	baz=279								
LOR					eSn		Sn	01 47 27.7	-17
	comp=Z,22nm,0.4s								
LOR	**Lormes**	**18.13**	**78**		*e*Pn		**P**	**01 44 23.5**	**+0.9**
LOR	**Lormes**	**18.13**	**78**		*e*Pn		**P**	**01 44 23.5**	**+0.9**
LOR					eSn		Sn	01 47 27.7	-17
BAIF	**Baives**	**18.18**	**69**		*e*Pn		**P**	**01 44 23.2**	**+0.1**
BAIF	**Baives**	**18.18**	**69**		*e*Pn		**P**	**01 44 23.2**	**+0.1**
BAIF	**Baives**	**18.18**	**69**		*e*Pn		**P**	**01 44 23.2**	**+0.1**
SMF	**Signal de Mont**	**18.21**	**80**		*e*Pn		**P**	**01 44 24.2**	**+0.7**
SMF					eSn		Sn	01 47 28.9	-18
	comp=Z,6.7nm,0.2s								
SMF	**Signal de Mont**	**18.21**	**80**		*e*Pn		**P**	**01 44 24.2**	**+0.7**
SMF	**Signal de Mont**	**18.21**	**80**		*e*Pn		**P**	**01 44 24.2**	**+0.7**
SMF					eSn		Sn	01 47 28.9	-18
SFTF	**Sexfontaines**	**18.81**	**75**		*e*Pn		**Pn**	**01 44 32.5**	**+1.9**
	baz=262								
SFTF					eSn		Sn	01 47 40.2	-21
	comp=Z,18nm,0.5s								
SFTF	**Sexfontaines**	**18.81**	**75**		*e*Pn		**Pn**	**01 44 32.5**	**+1.9**
SFTF	**Sexfontaines**	**18.81**	**75**		*e*Pn		**Pn**	**01 44 32.5**	**+1.9**
SFTF					eSn		Sn	01 47 40.2	-21
LASF	**Ste Croix**	**18.82**	**88**		*e*Pn		**Pn**	**01 44 32.9**	**+2.1**
LASF					eSn		Sn	01 47 46.4	-15
	comp=Z,6.3nm,0.4s								
LASF	**Ste Croix**	**18.82**	**88**		*e*Pn		**Pn**	**01 44 32.9**	**+2.1**
LASF	**Ste Croix**	**18.82**	**88**		*e*Pn		**Pn**	**01 44 32.9**	**+2.1**
LASF					eSn		Sn	01 47 46.4	-15
VIVF	**Saint-Julien-l**	**19.16**	**85**		*e*Sn		Sn	01 47 50.3	-19
	comp=Z,6.5nm,0.4s								
MDT	**Midelt**	**19.55**	**129**		P		**Pn**	**01 44 42.9**	**+3.2**
	comp=Z,0.2nm,0.3s,baz=301,slow=17,SNR=7.4								
MDT					S		S	01 48 06.9	-12
	comp=Z,0.5nm,0.3s,baz=212,slow=19,SNR=10								
HAU	**Haudompre**	**19.70**	**75**		*e*Pn		**P**	**01 44 40.0**	**+0.1**
HAU					eSn		S	01 48 01.8	-20
	comp=Z,6.7nm,0.4s								
HAU	**Haudompre**	**19.70**	**75**		*e*Pn		**P**	**01 44 40.0**	**+0.1**
HAU	**Haudompre**	**19.70**	**75**		*e*Pn		**P**	**01 44 40.0**	**+0.1**
HAU					eSn		S	01 48 01.8	-20
CABF	**La Chapelle**	**19.74**	**80**		*e*Pn		**Pn**	**01 44 44.8**	**+2.9**
CABF	**La Chapelle**	**19.74**	**80**		*e*Pn		**Pn**	**01 44 44.8**	**+2.9**
ORIF	**Oris-en-Rattie**	**19.98**	**85**		*e*P		**Pn**	**01 44 48.2**	**+3.5**
ORIF	**Oris-en-Rattie**	**19.98**	**85**		*e*P		**Pn**	**01 44 48.2**	**+3.5**
SMRF	**Simiane la Rot**	**20.03**	**87**		*e*P		Pn	01 44 48.4	+3.1
SMRF	**Simiane la Rot**	**20.03**	**87**		*e*P		Pn	01 44 48.4	+3.1
HINF	**Hinteralfeld**	**20.07**	**76**		*e*Pn		**P**	**01 44 42.5**	**-1.4**
HINF					eSn		S	01 48 10.6	-19
	comp=Z,9.4nm,0.4s								
HINF	**Hinteralfeld**	**20.07**	**76**		*e*Pn		**P**	**01 44 42.5**	**-1.4**
HINF					eSn		S	01 48 10.6	-19
CDF	**Champ du Feu**	**20.27**	**74**		*e*Pn		Pn	01 44 47.2	-0.9
CDF	**Champ du Feu**	**20.27**	**74**		*e*Pn		Pn	01 44 47.2	-0.9
CDF	**Champ du Feu**	**20.27**	**74**		*e*Pn		Pn	01 44 47.2	-0.9
LPL	**La Plagne**	**20.41**	**82**		*e*P		Pn	01 44 49.6	-0.3
LPL	**La Plagne**	**20.41**	**82**		*e*P		Pn	01 44 49.6	-0.3
LPL	**La Plagne**	**20.41**	**82**		*e*P		Pn	01 44 49.6	-0.3
LPG	**La Plagne**	**20.43**	**82**		*e*P		Pn	01 44 50.0	-0.2
LPG	**La Plagne**	**20.43**	**82**		*e*P		Pn	01 44 50.0	-0.2
LPG	**La Plagne**	**20.43**	**82**		*e*P		Pn	01 44 50.0	-0.2
MBDF	**Montbardon**	**20.64**	**85**		*e*P		Pn	01 44 52.7	+0.2
MBDF	**Montbardon**	**20.64**	**85**		*e*P		Pn	01 44 52.7	+0.2
MBDF	**Montbardon**	**20.64**	**85**		*e*P		Pn	01 44 52.7	+0.2
LMR	**La Mourre**	**20.88**	**88**		*e*P		**P**	**01 44 54.0**	**+1.3**
LMR	**La Mourre**	**20.88**	**88**		*e*P		**P**	**01 44 54.0**	**+1.3**
LMR	**La Mourre**	**20.88**	**88**		*e*P		**P**	**01 44 54.0**	**+1.3**
FRF	**La Foret Royal**	**20.90**	**88**		*e*P		Pn	01 44 54.7	-0.7
FRF	**La Foret Royal**	**20.90**	**88**		*e*P		Pn	01 44 54.7	-0.7
FRF	**La Foret Royal**	**20.90**	**88**		*e*P		Pn	01 44 54.7	-0.7
BFO	**Black Forest**	**20.98**	**74**		P		**P**	**01 44 53.4**	**-0.4**
	comp=Z,6.2nm,0.8s								
BFO	**Black Forest**	**20.98**	**74**		P		**P**	**01 44 53.4**	**-0.4**
	comp=Z,6.3nm,0.8s								
SBF	**Sospel**	**21.35**	**86**		*e*P		**P**	**01 45 01.7**	**+3.9**
SBF	**Sospel**	**21.35**	**86**		*e*P		**P**	**01 45 01.7**	**+3.9**
TUE	**Stuetta**	**21.97**	**79**		*e*P		**P**	**01 45 05.1**	**+0.4**
	comp=Z,5.8nm,0.6s								
TUE	**Stuetta**	**21.97**	**79**		*e*P		**P**	**01 45 05.0**	**+0.4**
	comp=Z,5.8nm,0.6s								
DAVA	**Damuels**	**22.17**	**76**		*e*Pn		**P**	**01 45 08.4**	**+1.7**
	comp=Z,9.4nm,0.9s								
DAVA	**Damuels**	**22.17**	**76**		P		**P**	**01 45 08.4**	**+1.7**
	comp=Z,9.4nm,0.9s								
DAVOX	**Davos/Dischmat**	**22.27**	**78**		P		**P**	**01 45 10.4**	**+2.6**
	comp=Z,2.5nm,0.8s,baz=306,slow=16,SNR=4.1								
DAVOX					LR		LR	01 53 07.7	
	comp=Z,90nm,19.7s,baz=276,slow=35								
RETA	**Reutte**	**22.73**	**76**		*e*pP		pP	01 45 18.3	+2.9
	comp=Z,3.6nm,1.1s								
FETA	**Feichten**	**22.79**	**77**		*e*P		**P**	**01 45 14.3**	**+1.0**
	comp=Z,5.2nm,1.1s								
FETA	**Feichten**	**22.79**	**77**		P		**P**	**01 45 14.3**	**+1.0**
	comp=Z,5.2nm,1.1s								
PGF	**Pioggiola**	**22.87**	**89**		*e*P		**P**	**01 45 16.0**	**+1.9**
PGF	**Pioggiola**	**22.87**	**89**		*e*P		**P**	**01 45 16.0**	**+1.9**
PGF	**Pioggiola**	**22.87**	**89**		*e*P		**P**	**01 45 16.0**	**+1.9**
MOTA	**Moosalm**	**22.98**	**76**		*e*pP		pP	01 45 17.5	-0.6
	comp=Z,3.2nm,0.8s								
MOTA	**Moosalm**	**22.98**	**76**		P		pP	01 45 17.5	-0.6
	comp=Z,3.2nm,0.8s								
SQTA	**Sankt Quirin**	**23.07**	**76**		*e*pP		pP	01 45 19.6	+0.5
	comp=Z,0.1nm,0.9s								
ABTA	**Abfaltersbach**	**24.05**	**77**		*e*P		**P**	**01 45 26.5**	**+0.8**
	comp=Z,2.6nm,0.8s								
ABTA	**Abfaltersbach**	**24.05**	**77**		P		**P**	**01 45 26.5**	**+0.8**
	comp=Z,2.6nm,0.8s								
NOA	**NORSAR Array B**	**24.30**	**41**		LR		LR	01 53 24.6	
	comp=Z,37nm,21.8s,baz=255,slow=33								
KHC	**Kasperske Hory**	**24.32**	**71**		*e*P		**P**	**01 45 28.7**	**+0.5**
KHC					*e*pP		**sP**	**01 45 35.3**	**+2.8**
KHC					*e*x		x	01 45 40.6	
KHC	**Kasperske Hory**	**24.32**	**71**		*e*P		**P**	**01 45 28.1**	**-0.1**
	comp=Z,1.4nm,0.9s								
KHC	**Kasperske Hory**	**24.32**	**71**		*e*P		**P**	**01 45 28.1**	**-0.1**
	comp=Z,1.4nm,0.9s								
BRG	**Berggiesshubel**	**24.37**	**66**		*e*P		**P**	**01 45 28.6**	**+0.1**
	comp=Z,6.2nm,0.7s								
GERES	**GERESS Array B**	**24.44**	**71**		P		**P**	**01 45 30.1**	**+0.8**
	comp=Z,2.2nm,0.8s,baz=274,slow=6.6,SNR=18								
GERES					LR		LR	01 54 44.7	
	comp=Z,117nm,18.4s,baz=266,slow=36								
KBA	**Koelnbreinsper**	**24.53**	**76**		P		**P**	**01 45 31.6**	**+1.3**
	comp=Z,3.7nm,0.7s								
KBA	**Koelnbreinsper**	**24.53**	**76**		P		**P**	**01 45 31.6**	**+1.3**
	comp=Z,3.7nm,0.7s								
MYKA	**Terra Mystica**	**24.83**	**77**		*e*P		**P**	**01 45 34.7**	**+1.8**
	comp=Z,4.5nm,0.9s								
MYKA	**Terra Mystica**	**24.83**	**77**		P		**P**	**01 45 34.7**	**+1.8**
	comp=Z,4.5nm,0.9s								
PRU	**Pruhonice**	**24.83**	**69**		*e*P		**P**	**01 45 33.4**	**+0.6**
PRU	**Pruhonice**	**24.83**	**69**		P		**P**	**01 45 33.4**	**+0.6**
MOA	**Molln**	**24.99**	**74**		P		**P**	**01 45 34.2**	**0.0**
	comp=Z,3.3nm,1.0s								
MOA	**Molln**	**24.99**	**74**		P		**P**	**01 45 34.2**	**0.0**
	comp=Z,3.3nm,1.0s								
GOPC	**GO Pecny, Ondr**	**25.00**	**69**		*e*P		**P**	**01 45 34.8**	**+0.5**
GOPC	**GO Pecny, Ondr**	**25.00**	**69**		P		**P**	**01 45 34.8**	**+0.5**
JMIC	**Jan Mayen**	**25.36**	**11**		LR		LR	01 53 57.0	
	comp=Z,72nm,18.1s,baz=242,slow=33								
OBKA	**Obir**	**25.47**	**77**		*e*P		**P**	**01 45 39.4**	**+0.7**
	comp=Z,5.1nm,0.7s								
OBKA	**Obir**	**25.47**	**77**		P		**P**	**01 45 39.4**	**+0.7**
	comp=Z,5.1nm,0.7s								
DPC	**Dobruska-Polom**	**25.93**	**67**		*e*P		**P**	**01 45 42.9**	**+0.1**
DPC	**Dobruska-Polom**	**25.93**	**67**		P		**P**	**01 45 42.9**	**+0.1**
ARSA	**Arzberg**	**25.94**	**75**		*e*P		**P**	**01 45 43.3**	**+0.4**
	comp=Z,5.0nm,0.8s								
ARSA	**Arzberg**	**25.94**	**75**		P		**P**	**01 45 43.3**	**+0.4**
	comp=Z,5.0nm,0.8s								
VRAC	**Vranov**	**26.25**	**70**		P		**P**	**01 45 45.5**	**-0.1**
	comp=Z,3.2nm,0.8s,baz=246,slow=12,SNR=4.7								
VRAC					LR		LR	01 56 12.0	
	comp=Z,177nm,18.4s,baz=291,slow=37								
KEST	**Kesra**	**26.31**	**103**		P		**P**	**01 45 48.2**	**+1.9**
	comp=Z,8.5nm,0.8s,baz=275,slow=3.0,SNR=18								
KEST					LR		LR	01 55 12.9	
	comp=Z,107nm,19.6s,baz=346,slow=34								
BZS	**Buzias**	**30.44**	**75**	⇓	*i*P		**P**	**

MNBS Baschi 1.09 255 *e*P Pb 01 50 51.0 -0.4
comp=N,263nm,0.3s
MNBS *e*S Sb 01 51 04.1 -1.3
comp=N,2μm,0.3s
TDK Taldyqorghan 1.22 302 *e*P Pb 01 50 53.9 +0.3
comp=N,390nm,0.1s
TDK *e*S Sb 01 51 08.7 -0.3
comp=N,2μm,0.5s
KPKS Kokpek 1.24 224 *e*P Pn 01 50 54.0 +0.4
comp=N,3μm,0.2s
KPKS *e*S Sb 01 51 10.0 +0.4
comp=N,12μm,0.6s
SHLS Shalkode 1.24 194 *e*P Pn 01 50 53.4 -0.2
comp=N,774nm,0.4s
SHLS *e*S Sb 01 51 09.7 0.0
comp=N,3μm,0.7s
UZB Uzynbulak 1.36 207 *e*P Pb 01 50 56.1 0.0
comp=N,842nm,0.2s
UZB *e*S Sn 01 51 12.1 -0.9
comp=N,17μm,0.3s
ARXS Arharly 1.47 265 *e*P Pb 01 50 58.4 +0.5
comp=N,406nm,0.3s
ARXS *e*S Sb 01 51 16.7 +0.5
comp=N,3μm,0.3s
KURS Kuram 1.50 235 *e*P Pb 01 50 58.8 +0.4
comp=N,83nm,0.5s
KURS *e*S Sb 01 51 17.3 0.0
comp=N,1μm,0.2s
SATY Saty 1.68 220 *e*P Pb 01 51 01.5 0.0
comp=N,725nm,0.2s
SATY *e*S Sb 01 51 22.0 -0.3
comp=N,13μm,0.3s
CHKK Chushkaly 2.13 257 *e*P Pb 01 51 10.1 +1.0
comp=N,209nm,0.2s
CHKK *e*S Sb 01 51 36.7 +1.4
comp=N,2μm,0.2s
PRZ Przheval'sk 2.16 210⇑*e*P Pb 01 51 09.3 -0.4
baz=210
PRZ ⇑*e*S Sb 01 51 38.3 +2.0
baz=210
ANVS Anan'yevo 2.25 226⇑*e*P Pb 01 51 10.6 -0.6
baz=227
ANVS ⇑*i*S Sb 01 51 40.5 +1.8
baz=227
KNDC Almaty 2.39 242 ⇓Pn Pb 01 51 14.4 +0.9
comp=N,270nm,0.7s
KNDC ⇓Lg Lg 01 51 48.6
comp=N,454nm,0.5s
AAA Alma-Ata 2.43 243 *e*PN Pg 01 51 16.2 -1.3
AAA *e*S Sb 01 51 46.2 +2.4
AAA pmax pmax
comp=Z,238nm,0.4s
AAA smax smax
comp=N,1μm,0.4s
AAA Alma-Ata 2.43 243 *e*P Pb 01 51 15.8 +1.6
comp=N,343nm,0.4s
AAA *e*S Sb 01 51 46.4 +2.6
comp=N,1μm,0.3s
TNSS Tian-Shan 2.50 239 *e*P Pb 01 51 17.0 +1.5
comp=N,69nm,0.4s
TNSS *e*S Sb 01 51 48.7 +2.6
comp=N,910nm,0.3s
IZV Izvestkoviy 2.71 242 *e*P Pb 01 51 20.5 +1.5
comp=N,213nm,0.4s
IZV *e*S Sb 01 51 55.0 +3.1
comp=N,487nm,0.2s
MTBS Maitube 2.78 245 *e*P Pb 01 51 21.4 +1.2
comp=N,84nm,0.2s
MTBS *e*S Sb 01 51 56.1 +2.2
comp=N,628nm,0.2s
MAKZ Makanchi 2.86 31 ⇑Pn Pn 01 51 18.1 +2.3
comp=N,49nm,0.7s
MAKZ ⇑Pg Pg 01 51 24.3 -1.5
comp=N,46nm,0.5s
MAKZ ⇑Sn Sb 01 51 58.5 +2.2
comp=N,310nm,0.5s
MAKZ ⇓Lg Lg 01 52 00.5
comp=N,243nm,0.5s
MAKZ Makanchi 2.86 31 *e*PN Pn 01 51 18.0 +2.2
MAKZ *e* 01 51 48.5
MAKZ Makanchi 2.86 31 *e*Pn Pn 01 51 18.0 +2.2
MAKZ *e*Sn Sn 01 51 48.5 -1.3
MK01 Makanchi Array 2.95 35 *e*Pn Pn 01 51 19.0 +1.9
MK01 *e*Sn Sn 01 51 48.4 -3.7
MK31 Makanchi Array 2.97 34 Pn Pn 01 51 20.1 +2.7
comp=N,73nm,0.6s,baz=209,slow=14,SNR=1016
MK31 ⇑Pg Pg 01 51 29.7 +1.8
comp=N,75nm,0.3s,baz=209,slow=16,SNR=37
MK31 ⇑Lg Lg 01 52 03.4
comp=N,108nm,0.4s,baz=216,slow=27,SNR=15
MK31 Makanchi Array 2.97 34 *e*PN Pn 01 51 20.0 +2.7
MK31 01 51 57.3
MK31 pmax pmax
comp=Z,75nm,0.4s
MK31 Makanchi Array 2.97 34 *e*Pn Pn 01 51 19.9 +2.7
MK31 *e*Sn Sn 01 51 49.6 -2.9
MKAR Makanchi Array 2.97 34 *e*PN Pn 01 51 20.0 +2.7
MKAR 01 51 50.9
MKAR Makanchi Array 2.97 34 *e*Pn Pn 01 51 19.9 +2.7
MKAR *e*Sn Sn 01 51 50.9 -1.6
KDJ Kajisay 2.97 222⇓*e*P Pn 01 51 20.3 +2.8
baz=223
KDJ ⇓*i*S Sb 01 51 57.2 -2.4
baz=223
KST Kastek 3.12 246 *e*P Pb 01 51 27.6 +1.6
comp=Z,30nm,0.4s
KST *e*S Sb 01 52 06.6 +2.8
comp=Z,293nm,0.3s
DGS Degeres 3.17 251 *e*P Pb 01 51 27.3 +0.4
comp=Z,99nm,0.4s
DGS *e*S Sb 01 52 06.2 +1.1
comp=Z,1μm,0.5s
ULHL Ulahol 3.39 233⇑*i*P Pb 01 51 29.6 -1.0
baz=233
ULHL ⇑*i*S Sb 01 52 12.1 +0.5
baz=233
BOOM Boomskoye usch 3.42 238⇑*e*P Pn 01 51 27.2 +3.6
baz=239
BOOM ⇑*e*S Sb 01 52 08.5 -3.9
baz=239
TKM2 Tokmak 2 3.42 247⇑*i*P Pb 01 51 31.7 +0.6
baz=247
TKM2 ⇑*i*S Sb 01 52 15.3 +2.9
baz=247
TKM2 Tokmak 2 3.42 247 ⇓Pg Pg 01 51 38.6 +2.2
comp=Z,70nm,0.8s
TKM2 ⇑Lg Lg 01 52 17.1
comp=Z,314nm,0.7s
TKM2 Tokmak 2 3.42 247 PN Pg 01 51 38.6 +2.2
TKM2 01 52 17.0
TKM2 pmax pmax
comp=Z,42nm,0.5s
CHMS Chumysh 3.95 252⇑*i*P Pb 01 51 39.4 -0.7
baz=252
CHMS ⇑*i*S Sb 01 52 29.2 +1.6
baz=252
KBK Karagaybulak 3.96 246⇑*i*P Pb 01 51 38.4 -2.0
baz=247
KBK ⇑*i*S Sb 01 52 28.3 +0.2
baz=247
USP Ospenovka 4.03 256⇑*i*P Pb 01 51 40.8 -0.8
baz=257
USP ⇑*i*S Sb 01 51 31.9 +1.9
baz=257
KZA Kyzart 4.07 237⇑*i*P Pb 01 51 39.4 -3.0
baz=238
KZA ⇑*i*S Sb 01 52 29.2 -2.3
baz=238
NRN Naryn 4.08 225⇑*e*P Pn 01 51 36.7 +3.9
baz=226
NRN ⇑*e*S Sn 01 52 24.0 +3.7
baz=226
AAK Ala-Archa 4.27 248 Pn Pn 01 51 37.4 +2.1
comp=Z,2.2nm,0.3s,baz=83,slow=4.3,SNR=16
AAK Pg Pb 01 51 46.5 +0.8
comp=Z,7.4nm,0.3s,baz=81,slow=7.0,SNR=16
AAK Lg Lg 01 52 43.0
comp=Z,18nm,0.3s,baz=286,slow=22,SNR=8.5
AAK Ala-Archa 4.27 248⇑*i*P Pb 01 51 43.1 -2.5
baz=248
AAK ⇑*i*S Sb 01 52 36.3 -0.6
baz=248
AAK Ala-Archa 4.27 248 ⇑Pg Pb 01 51 46.5 +0.8
comp=Z,47nm,0.6s
AAK Lg Lg 01 52 46.2
comp=Z,88nm,0.5s
AAK Ala-Archa 4.27 248 *e*Pn Pn 01 51 37.9 +2.6
AAK *e*Pg Pb 01 51 46.5 +0.8
AAK *e*Sn Sn 01 52 25.3 +0.5
AAK *e*Lg Lg 01 52 43.0
UCH Uchtor 4.45 243⇑*i*P Pb 01 51 45.4 -3.5
baz=244
UCH ⇑*i*S Sb 01 52 39.7 -2.7
baz=244
ZSN Zaisan 4.66 47 *e*P Pb 01 51 54.5 +2.3
comp=Z,4.5nm,0.5s
ZSN *e*S Sb 01 52 53.6 +5.6
comp=Z,44nm,0.8s
MRKS Merke 5.09 254 *e*P Pb 01 52 03.7 +4.2
comp=Z,39nm,0.4s
MRKS *e*S Sg 01 53 08.6 -5.6
comp=Z,94nm,0.3s
KSH Kashi 5.64 212 Pn Pb 01 52 02.0 -7.1
KSH Sn Sb 01 53 10.5 -6.0
KSH smax smax
comp=Z,64nm,1.0s
KSH smax smax
comp=Z,81nm,0.9s
WMQ Urumqi 5.67 93 Pn Pn 01 51 56.6 +2.2
WMQ Sn Sn 01 53 02.0 +2.9
WMQ smax smax
comp=Z,140nm,0.7s
WMQ smax smax
comp=Z,91nm,0.7s
MNAS Manas 5.68 253 ⇓Pg Pb 01 52 13.8 +4.1
comp=Z,12nm,0.8s
MNAS ⇑Lg Lg 01 53 27.5
comp=Z,102nm,0.8s
MNAS Manas 5.68 253 PN Pb 01 52 13.7 +4.1
MNAS 01 53 27.5
MNAS pmax pmax
comp=Z,12nm,0.8s
SEM Semipalatinsk 6.05 2 *e*P Pb 01 52 20.8 +4.7
comp=Z,23nm,0.3s
SEM *e*S Sg 01 53 38.0 -7.2
comp=Z,76nm,0.4s
KURBB Kurchatov Arra 6.33 352 Pn Pn 01 52 04.2 +0.9
comp=Z,2.3nm,0.3s,baz=180,slow=12,SNR=118
KURBB Sn Sn 01 53 15.3 +0.2
comp=Z,1.7nm,0.3s,baz=198,slow=16,SNR=4.4
KURBB Lg Lg 01 53 49.1
comp=Z,7.4nm,0.3s,baz=195,slow=27,SNR=12
KURBB Kurchatov Arra 6.33 352 ⇓Pn Pn 01 52 04.2 +0.9
comp=Z,21nm,0.4s
KURBB ⇓Lg Lg 01 53 51.9
comp=Z,991nm,1.2s
KURK Kurchatov 6.41 353 ⇓Pn Pn 01 52 05.3 +0.8
comp=Z,23nm,0.5s
KURK ⇓Pg Pb 01 52 14.6 -7.4
comp=Z,25nm,0.5s
KURK ⇑Lg Lg 01 53 53.7
comp=Z,241nm,0.8s
KURK Kurchatov 6.41 353 PN Pn 01 52 05.3 +0.8
KURK pmax pmax
comp=Z,23nm,0.5s
KURK Kurchatov 6.41 353 *e*Pn Pn 01 52 05.2 +0.8
KURK *e*Sn Sn 01 53 16.8 -0.4
KURK Lg Lg 01 53 49.1
KK31 Karatay Array 6.89 263 Pn Pn 01 52 12.8 +1.6
comp=Z,0.7nm,0.3s,baz=72,slow=14,SNR=30
KK31 Pg Pg 01 52 39.1 -3.7
comp=Z,6.0nm,0.5s,baz=75,slow=14,SNR=9.7
KK31 ⇓Lg Lg 01 54 08.0
comp=Z,30nm,0.5s,baz=71,slow=30,SNR=11
KK31 Karatay Array 6.89 263 PN Pn 01 52 12.7 +1.6
KK31 pmax pmax
comp=Z,1.0nm,0.3s
KKAR Karatay Array 6.89 263 *e*PN Pn 01 52 13.3 +2.1
KKAR Karatay Array 6.89 263 *e*Pn Pn 01 52 13.2 +2.1
ZAA0 Zalesovo Array 10.12 17 *e*Pn Pn 01 52 56.4 +1.0
ZALV Zalesovo Beam 10.12 17 Pn Pn 01 52 56.3 +0.9
comp=Z,6.0nm,0.3s,baz=205,slow=13,SNR=53
ZALV Sn Sn 01 54 44.3 -4.1
comp=Z,1.5nm,0.3s,baz=220,slow=22,SNR=3.7
ZALV Lg Lg 01 55 49.3
comp=Z,0.7nm,0.3s,baz=200,slow=24,SNR=6.0
ZALV LR LR 01 57 03.0
comp=Z,115nm,19.1s,baz=263,slow=39
ZAA1 Zalesovo Array 10.13 17 *e*Pn Pn 01 52 56.3 +0.9
ZAA1 *e*Sn Sn 01 54 44.3 -4.2
ZAA1 *e*Lg Lg 01 55 49.3
BVAR Borovoye Array 10.68 328 Pn Pn 01 53 03.7 +0.6
comp=Z,1.2nm,0.3s,baz=140,slow=12,SNR=11
BVAR Sn Sn 01 54 59.2 -3.0
comp=Z,2.5nm,0.3s,baz=134,slow=19,SNR=4.7
BVAR Lg Lg 01 56 07.9
comp=Z,3.4nm,0.3s,baz=140,slow=31,SNR=6.0
NVS Novosibirsk 10.71 11⇑*i*P Pn 01 53 04.6 +1.2
NVS *i* 01 55 07.0
BRVK Borovoye 10.75 327 *i*P Pn 01 53 04.7 +0.7
BRVK Borovoye 10.75 327 *e*Pn Pn 01 53 05.0 +1.0
BRVK *e*Sn Sn 01 55 00.7 -3.1
AB31 Akbulak array 14.48 297 *e*P Pn 01 53 51.9 -3.0
AB31 pmax pmax
comp=Z,5.0nm,0.6s
ABKAR Akbulak array 14.48 297 *e*Pn Pn 01 53 52.5 -2.4
AKTO Aktyubinsk 15.96 300 Pn Pn 01 54 12.8 -1.8
comp=Z,0.4nm,0.3s,baz=104,slow=14,SNR=14
AKTO Lg Lg 01 58 55.0
comp=Z,0.1nm,0.3s,baz=318,slow=15,SNR=4.4
AKTO LR LR 02 00 46.9
comp=Z,57nm,18.2s,baz=117,slow=39
AKTO Aktyubinsk 15.96 300 P Pn 01 54 12.3 -2.2
AKTO pmax pmax
comp=Z,3.0nm,0.6s
TLY Talaya 17.46 57 *e*P Pn 01 54 33.7 +0.2
TLY pmax pmax
comp=Z,13nm,0.3s
ARU Arti 18.08 319 P P 01 54 42.1 +0.7
comp=Z,0.0nm,0.3s,baz=117,slow=11,SNR=5.2
ARU Lg Lg 01 59 57.8
comp=Z,0.0nm,0.3s,baz=253,slow=20,SNR=2.3
ARU Arti 18.08 319 *d*P P 01 54 41.9 +0.5
ARU S S 01 58 06.0 -1.8
ARU pmax pmax
comp=Z,5.0nm,1.0s
ARU Arti 18.08 319 *e*Pn P 01 54 42.1 +0.7
comp=Z,6.0nm,1.1s
ARU Lg Lg 01 59 57.8
SONA0 Songino Array 18.69 70 *e*P P 01 54 48.2 -0.1
comp=Z,3.7nm,1.0s
SONM Songino Array 18.69 70 P P 01 54 48.2 -0.1
comp=Z,0.2nm,0.3s,baz=261,slow=11,SNR=9.2
SONA1 Songino Array 18.70 70 *e*P P 01 54 47.8 -0.6
ULN Ulaanbaatar 19.13 70 *i*P P 01 54 53.2 0.0
ULN pmax pmax
comp=Z,7.0nm,2.2s
SOKR Solikamsk 20.68 326⇑*i*P Pn 01 55 11.6 -0.5
SOKR pmax pmax
comp=Z,13nm,1.1s
NRIK Noril'sk 25.35 6 P P 01 55 57.5 +0.9
comp=Z,6.4nm,0.6s,baz=191,slow=5.9,SNR=8.5
KIV Kislovodsk 26.53 282 *e*P P 01 56 07.9 +0.2
KIV pmax pmax
comp=Z,7.0nm,1.1s
KIV MLR MLR
comp=Z,54nm,14.0s
OBN Obninsk 29.51 307 *e*P P 01 56 36.5 +2.5
OBN pmax pmax
comp=Z,4.0nm,0.9s
TOKA Tokat 32.04 278 *e*P P 01 56 57.9 +1.3
comp=Z,12nm,0.4s
AKBB Malin Array Si 34.20 299 *e*P P 01 57 13.0 -2.3
AKBB pmax pmax
comp=Z,5.0nm,0.7s
AKBB Malin Array Si 34.20 299 *e*P P 01 57 13.0 -2.3
comp=Z,4.6nm,0.7s
BR101 Keskin Array S 34.28 279 *e*P P 01 57 17.0 +0.7
BRTR Keskin Array B 34.28 279 P P 01 57 17.0 +0.7
comp=Z,0.5nm,0.7s,baz=90,slow=2.5,SNR=3.8
BRTR Keskin Array B 34.28 279 *e*P P 01 57 18.1 +1.8
BRTR pmax pmax
comp=Z,1.0nm,0.8s
FIA1 FINESS Array S 35.44 318 *e*P P 01 57 26.7 +0.9
FIA0 FINESS Array S 35.44 318 *e*P P 01 57 25.9 +0.1
FIA0 FINESS Array S 35.44 318 *e*P P 01 57 25.9 +0.1
FINES FINESS Array B 35.44 318 P P 01 57 25.9 +0.1
comp=Z,4.1nm,0.9s,baz=99,slow=8.5,SNR=7.1
FINES FINESS Array B 35.44 318 *e*P P 01 57 26.3 +0.5
FINES pmax pmax
comp=Z,4.0nm,0.9s
ARA0 ARCESS Array S 36.94 332 *e*P P 01 57 39.4 +0.9
ARCES ARCESS Array B 36.94 332 P P 01 57 39.4 +0.9
comp=Z,1.4nm,0.6s,baz=88,slow=8.6,SNR=3.9
ARCES ARCESS Array B 36.94 332 *e*P P 01 57 40.0 +1.4
ARCES pmax pmax
comp=Z,1.0nm,0.6s
NB2 NORSAR Subarra 42.62 318 P P 01 58 26.4 +0.4
comp=Z,1.1nm,0.5s,baz=81,slow=8.6
NB200 NORSAR Array S 42.62 318 *e*P P 01 58 25.9 0.0
NOA NORSAR Array B 42.62 318 P P 01 58 25.9 0.0
comp=Z,1.2nm,0.6s,baz=77,slow=7.9,SNR=6.1
NOA LR LR 02 17 22.6
comp=Z,24nm,20.2s,baz=345,slow=38
NOA NORSAR Array B 42.62 318 *e*P P 01 58 26.6 +0.6
NOA pmax pmax
comp=Z,1.0nm,0.6s
GEC2 GERESS Array S 44.39 300 *e*P P 01 58 41.3 +0.9
GEC2 pmax pmax
comp=Z,12nm,1.8s
GEC2 GERESS Array S 44.39 300 *e*P P 01 58 41.3 +0.9
comp=Z,12nm,1.8s
GERES GERESS Array B 44.39 300 P P 01 58 41.3 +0.9
comp=Z,0.3nm,0.6s,baz=54,slow=7.5,SNR=3.0
BFO Black Forest 47.89 301 *i*P P 01 59 09.9 +2.0
INK Inuvik 64.90 13 P P 02 01 08.9 +0.3
comp=Z,2.4nm,0.9s,baz=354,slow=9.0,SNR=3.1
INK Inuvik 64.90 13 P P 02 01 09.0 +0.3
INK pmax pmax
comp=Z,2.0nm,0.9s
IL1 Eielson Array 65.23 20 *e*P P 02 01 11.2 +0.2
ILAR Eielson Array 65.23 20 P P 02 01 11.4 +0.4
comp=Z,1.6nm,0.7s,baz=319,slow=5.2,SNR=12
ILB Eielson Array 65.23 20 *e*P P 02 01 11.4 +0.4
TOA1 Torodi Ar. Sit 72.50 271 *e*P P 02 01 56.8 -0.1
comp=Z,20nm,1.8s
TORD Torodi Ar. Bea 72.50 271 P P 02 01 56.8 -0.1
comp=Z,1.1nm,0.5s,baz=42,slow=5.3,SNR=23
YKA Yellowknife Ar 72.86 7 P P 02 01 58.7 +0.4
comp=Z,1.4nm,0.7s,baz=341,slow=5.7,SNR=4.1
YKB5 Yellowknife Ar 72.86 7 *e*P P 02 01 58.7 +0.4
PD31 Pinedale Array 92.84 7 *e*P P 02 03 43.4 +0.5
PDAR Pinedale Array 92.84 7 P P 02 03 43.4 +0.5
comp=Z,0.5nm,0.9s,baz=35,slow=2.2,SNR=2.5

CSEM ***15*** *01:57:40.4±0.4, 36.62N×7.53W, h30km, ML1.6, Error ellipse: s-maj=8.4km s-min=4.6km az=11.0*
MDD ***15*** *01:57:40.9±1.2, 36.56N×7.63W, h46km±29km, mb3.5/5, Error ellipse: s-maj=12.3km s-min=6.6km az=9.0, PRXIMO*
IGIL ***15*** *01:57:41.9, 36.59N×7.66W, h25km, ML1.2*
INMG ***15*** *01:57:41.1±1.4, 36.57N×7.62W, h26km±6km, ML1.6, Error ellipse: s-maj=4.5km s-min=4.3km az=17.0*

ISC 15 01:57:38.7±1.7, 36.53N±0.07×7.57W±0.03, h33km±7km, n56, σ1s 01/83, 3D, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase	ID	Time h m s	Res ISC
PBDV	**Barranco-do-Ve**	**0.78**	**338**	⇓*e*Pg	**Pn**	**01 57 54.3**	**+0.9**
PBDV				*e*Sg	**Sn**	**01 58 03.9**	**0.0**
PBDV				A	A	01 58 10.3	
	6.2nm,0.8s						
PBDV	**Barranco-do-Ve**	**0.78**	**338**	P	**Pn**	**01 57 54.3**	**+0.9**
PBDV				S	**Sn**	**01 58 03.9**	**0.0**
	6.2nm,0.8s						
PBDV	**Barranco-do-Ve**	**0.78**	**338**	P	**Pn**	**01 57 54.3**	**+0.9**
PBDV				S	**Sn**	**01 58 03.9**	**0.0**
	6.2nm,0.8s						
PVAQ	**Vaqueiros**	**0.89**	**352**	⇓*i*P	**Pb**	**01 57 55.9**	**+0.3**
PVAQ				*e*S	**Sn**	**01 58 06.6**	**0.0**
PVAQ				A	A	01 58 07.2	
	17nm,0.1s						
PVAQ	**Vaqueiros**	**0.89**	**352**	P	**Pb**	**01 57 55.9**	**+0.3**
PVAQ				S	**Sn**	**01 58 06.6**	**0.0**
	17nm,0.1s						
PVAQ	**Vaqueiros**	**0.89**	**352**	⇓*i*P	**Pb**	**01 57 55.9**	**+0.3**
PVAQ				S	**Sn**	**01 58 06.6**	**0.0**
	17nm,0.1s						
EGRO	**El Granado**	**1.01**	**4**	P	**Pb**	**01 57 57.9**	**+0.2**
	2.2nm,0.1s,SNR=7.9						
EGRO				S	**Sb**	**01 58 10.1**	**-0.6**
	11nm,0.1s,SNR=7.9						
EGRO	**El Granado**	**1.01**	**4**	P	**Pb**	**01 57 57.9**	**+0.2**
	2.2nm,0.1s,SNR=7.9						
EGRO				S	**Sb**	**01 58 10.1**	**-0.6**
	11nm,0.1s,SNR=7.9						
PCVE	**Castro Verde**	**1.17**	**341**	*e*P	**Pn**	**01 58 00.0**	**+1.3**
PCVE				*e*S	**Sn**	**01 58 13.7**	**+0.1**
PCVE				A	A	01 58 21.5	
	3.4nm,0.1s						
PCVE	**Castro Verde**	**1.17**	**341**	P	**Pn**	**01 58 00.0**	**+1.3**
PCVE				S	**Sn**	**01 58 13.7**	**+0.1**
	3.4nm,0.1s						
PCVE	**Castro Verde**	**1.17**	**341**	*e*P	**Pn**	**01 58 00.0**	**+1.3**
PCVE				S	**Sn**	**01 58 13.7**	**+0.1**
	3.4nm,0.1s						
PFVI	**Vila Bisbo**	**1.18**	**301**	*e*S	**Sn**	**01 58 13.0**	**-0.8**
PFVI	**Vila Bisbo**	**1.18**	**301**	S	**Sn**	**01 58 12.7**	**-1.1**
	7.9nm,0.1s,SNR=7.9						
PFVI	**Vila Bisbo**	**1.18**	**301**	*e*S	**Sn**	**01 58 13.0**	**-0.8**
PTEO	**Sao Teotonio**	**1.38**	**318**	*e*P	**Pn**	**01 58 02.6**	**+1.0**
PTEO				*e*S	**Sn**	**01 58 18.3**	**-0.4**
PTEO	**Sao Teotonio**	**1.38**	**318**	P	**Pn**	**01 58 02.6**	**+1.0**
PTEO				S	**Sn**	**01 58 18.3**	**-0.4**
PTEO	**Sao Teotonio**	**1.38**	**318**	*e*P	**Pn**	**01 58 02.6**	**+1.0**
PTEO				*e*S	**Sn**	**01 58 18.3**	**-0.4**
MESJ	**Messejana**	**1.41**	**338**	*e*P	**Pn**	**01 58 03.2**	**+1.1**
MESJ				*e*S	**Sn**	**01 58 19.1**	**-0.4**
MESJ				AML	AML	01 58 20.1	
	comp=N,3.1nm,0.3s						
MESJ	**Messejana**	**1.41**	**338**	*e*P	**Pn**	**01 58 03.2**	**+1.1**
MESJ				*e*S	**Sn**	**01 58 19.4**	**-0.2**
MESJ				A	A	01 58 28.0	
	comp=N,4.2nm,0.2s						
MESJ	**Messejana**	**1.41**	**338**	P	**Pn**	**01 58 03.2**	**+1.1**
MESJ				S	**Sn**	**01 58 19.1**	**-0.4**
	comp=N,3.1nm,0.3s						
MESJ	**Messejana**	**1.41**	**338**	*e*P	**Pn**	**01 58 03.2**	**+1.1**
MESJ				*e*S	**Sn**	**01 58 19.4**	**-0.2**
	comp=N,4.2nm,0.2s						
ESPR	**Espera**	**1.42**	**75**	P	**Pn**	**01 58 04.0**	**+1.9**
	comp=N,3.3nm,0.1s,SNR=7.9						
ESPR				S	**Sb**	**01 58 21.5**	**-0.7**
	comp=N,2.6nm,0.2s,SNR=7.9						
ESPR	**Espera**	**1.42**	**75**	P	**Pn**	**01 58 04.0**	**+1.9**
	comp=N,3.3nm,0.1s,SNR=7.9						
ESPR				S	**Sb**	**01 58 21.5**	**-0.7**
	comp=N,2.6nm,0.2s,SNR=7.9						
EMIN	**Mina Concepcio**	**1.43**	**30**	P	**Pn**	**01 58 03.4**	**+1.0**
	comp=N,0.1nm,0.1s,SNR=4.0						
EMIN				S	**Sn**	**01 58 19.9**	**-0.1**
	comp=N,3.5nm,0.1s,SNR=7.9						
EMIN	**Mina Concepcio**	**1.43**	**30**	P	**Pn**	**01 58 03.4**	**+1.0**
	comp=N,0.1nm,0.1s,SNR=4.0						
EMIN				S	**Sn**	**01 58 19.9**	**-0.1**
	comp=N,3.5nm,0.1s,SNR=7.9						
PBEJ	**Beja**	**1.52**	**351**	*e*S	**Sn**	**01 58 21.9**	**-0.3**
PBEJ	**Beja**	**1.52**	**351**	S	**Sn**	**01 58 21.9**	**-0.3**
PBEJ	**Beja**	**1.52**	**351**	*e*S	**Sn**	**01 58 21.9**	**-0.3**
PBAR	**Barrancos**	**1.70**	**14**	*e*S	**Sn**	**01 58 27.5**	**+0.8**
PBAR				A	A	01 58 32.5	
	comp=N,5.7nm,0.1s						
PBAR	**Barrancos**	**1.70**	**14**	S	**Sn**	**01 58 27.5**	**+0.8**
	comp=N,5.7nm,0.1s						
PBAR	**Barrancos**	**1.70**	**14**	S	**Sn**	**01 58 27.5**	**+0.8**
	comp=N,5.7nm,0.1s						
PNCL	**Nicolau / Gran**	**1.76**	**334**	*e*P	**Pn**	**01 58 07.9**	**+1.0**
PNCL	**Nicolau / Gran**	**1.76**	**334**	*e*P	**Pn**	**01 58 07.9**	**+1.0**
EBAD	**Badajoz**	**2.27**	**11**	P	**Pn**	**01 58 14.9**	**+1.0**
	comp=N,0.4nm,0.1s,SNR=7.9						
EBAD				S	**Sn**	**01 58 39.6**	**-1.1**
	comp=N,1.3nm,0.1s,SNR=7.9						
EBAD	**Badajoz**	**2.27**	**11**	P	**Pn**	**01 58 14.9**	**+1.0**
	comp=N,0.4nm,0.1s,SNR=7.9						
EBAD				S	**Sn**	**01 58 39.6**	**-1.1**
	comp=N,1.3nm,0.1s,SNR=7.9						
ECAB	**El Cabril**	**2.31**	**47**	S	**Sn**	**01 58 40.7**	**-1.0**
	comp=N,0.6nm,0.1s,SNR=7.9						
ECAB	**El Cabril**	**2.31**	**47**	S	**Sn**	**01 58 40.7**	**-1.0**
	comp=N,0.6nm,0.1s,SNR=7.9						
PESTR	**Estremoz**	**2.34**	**360**	*e*Sn	**Sn**	**01 58 42.5**	**0.0**
PESTR				A	A	01 58 43.6	
	comp=N,1.9nm,0.4s						
PESTR	**Estremoz**	**2.34**	**360**	*e*Sn	**Sn**	**01 58 42.5**	**0.0**
	comp=N,1.9nm,0.4s						
PMAFR	**Mafra**	**2.78**	**331**	P	**Pn**	**01 58 20.1**	**-0.8**
	comp=N,1.9nm,0.1s,SNR=7.9						
PMAFR				S	Sn	01 58 43.8	-10

comp=N,6,4nm,0.3s,SNR=7.9
PMAFR **Mafra** 2.78 331 P Pn 01 58 20.1 -0.8
comp=N,1,9nm,0.1s,SNR=7.9
EADA **Adamuz** 2.89 55 S Sn 01 58 55.5 -0.6
comp=N,1,4nm,0.1s,SNR=7.9
EADA **Adamuz** 2.89 55 S Sn 01 58 55.5 -0.6
comp=N,1,4nm,0.1s,SNR=7.9
PMRV **Marv??o** 2.90 3 *e*Pn Pn 01 58 23.8 +1.2
PMRV *e*Sn Sn 01 58 56.2 -0.2
PMRV A A 01 58 56.8
comp=N,1,8nm,0.2s
PMRV **Marv??o** 2.90 3 P Pn 01 58 23.8 +1.2
PMRV S Sn 01 58 56.2 -0.2
comp=N,1,8nm,0.2s
PMRV **Marv??o** 2.90 3 P Pn 01 58 23.8 +1.2
PMRV S Sn 01 58 56.2 -0.2
comp=N,1,8nm,0.2s
EQES **Quesada** 3.81 69 S Sn 01 59 18.1 -0.8
comp=N,0.3nm,0.1s,SNR=7.9
EQES **Quesada** 3.81 69 S Sn 01 59 18.1 -0.8
comp=N,0.3nm,0.1s,SNR=7.9
SESP **Santiago Espad** 4.31 67 S Sn 01 59 30.6 -0.6
comp=N,0.8nm,0.2s,SNR=7.9
SESP **Santiago Espad** 4.31 67 S Sn 01 59 30.6 -0.6
comp=N,0.8nm,0.2s,SNR=7.9
MVO **Moncorvo** 4.65 5 S Sn 01 59 36.9 -2.7
comp=N,1.9nm,0.2s,SNR=7.9
MVO **Moncorvo** 4.65 5 S Sn 01 59 36.9 -2.7
comp=N,1.9nm,0.2s,SNR=7.9
GUD **Guadarrama** 4.90 32 S Sn 01 59 43.9 -2.0
comp=N,0.6nm,0.3s,SNR=7.9
GUD **Guadarrama** 4.90 32 S Sn 01 59 43.9 -2.0
comp=N,0.6nm,0.3s,SNR=7.9
ETOB **Tobarra** 5.23 64 S Sn 01 59 51.6 -2.1
comp=N,0.5nm,0.1s,SNR=7.9
ETOB **Tobarra** 5.23 64 S Sn 01 59 51.6 -2.1
comp=N,0.5nm,0.1s,SNR=7.9

PGC ***15*** *02:06:47.9±1.1,59.˚05N×138.˚01W,h5km,mb4.5,ML4.7/11, Mw4.5/11,88km east of Yakutat, Ak Southeastern Alaska*

ISCJB ***15*** *02:06:47.3±0.4,59.˚20N±0.˚01×137.˚96W±0.˚03,h10km±2km, mb4.5/137,MS3.7/31,Error ellipse: s-maj=2.8km s-min=1.6km az=41.3*

GCMT ***15*** *02:06:48.0±0.5,59.˚15N×138.˚10W,h13km±1km,MW4.8/59, Moment Tensor Solution. s18,c21; s59,c88; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}1.54±.13; $M_{\theta\theta}$-0.91±.09; $M_{\phi\phi}$-0.63±.08; $M_{r\theta}$-0.14±.21; $M_{\theta\phi}$0.92±.05; $M_{\phi r}$-0.57±.23; Best double couple: $M_0$1.73200×10^{16} NP1:ϕ_s149.00000°,δ53.00000°,λ113.00000°. NP2: ϕ_s293.00000°,δ43.00000°,λ63.00000°. Principal axes: T 1.7390, Plg71.0000°, Azm118.0000°; N -0.0140, Plg18.0000°, Azm314.0000°; P -1.7250, Plg5.0000°, Azm222.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

NEIC ***15*** *02:06:48.0±0.0,59.˚06N×138.˚02W,h4km,mb4.5/99, MW4.6,ML4.5(AEIC),MW4.5(OTT),Moment Tensor Solution. s19 Moment tensor: Scale 10^{15}Nm; M_{rr}8.54; $M_{\theta\theta}$-4.67; $M_{\phi\phi}$-3.88; $M_{r\theta}$-2.93; $M_{\theta\phi}$4.50; $M_{\phi r}$-0.68; Best double couple: $M_0$9.20000×10^{15} NP1:ϕ_s298.00000°, δ53.00000°,λ71.00000°. NP2:ϕ_s147.00000°,δ41.00000°, λ113.00000°. Principal axes: T 9.3800, Plg74.0000°, Azm152.0000°; N -0.4200, Plg15.0000°, Azm309.0000°; P -8.9600, Plg6.0000°, Azm41.0000°; After AEIC.*

NEIC Felt [III] at Haines.

IDC ***15*** *02:06:49.1±0.5,59.˚21N×137.˚85W,h11km±2km,mb4.4/30, mb1 4.5/34,mb1mx4.3/68,mbtmp4.5/34,ML4.3/4,MS3.6/29, Ms1 3.6/29,ms1mx3.5/49 Error ellipse: s-maj=14.2km s-min=6.6km az=37.0*

MOS ***15*** *02:06:49.1±0.8,59.˚14N×138.˚25W,h26km,mb4.9/45, Error ellipse: s-maj=12.0km s-min=4.4km az=105.4*

ISC 15 02:06:48.7±0.4,59.˚11N±0.˚03×138.˚06W±0.˚02,h9km±2km, h10km:pP-P,n806,σ1§17/834,mb4.6/140,MS3.7/31, 31C-12D,Southeastern Alaska

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DHAK	**Deception Hill**	**0.08**	**258**	P	**Pg**	**02 06 50.3**	**-0.7**
DHAK				S	**Sg**	**02 06 52.6**	**-0.1**
PNL	**Peninsula**	**0.89**	**310**	P	**Pg**	**02 07 04.7**	**-1.0**
PNL				S	**Sb**	**02 07 18.5**	**+0.4**
PNL	**Peninsula**	**0.89**	**310**	P	**Pg**	**02 07 04.6**	**-1.1**
PNL				S	**Sb**	**02 07 18.0**	**-0.1**
YKU2	**Yakutat**	**0.92**	**297**	P	**Pg**	**02 07 06.2**	**-0.1**
YKU2				S	**Sn**	**02 07 20.6**	**-0.4**
PLBC	**Pleasant Camp**	**0.94**	**67**	P	**Pg**	**02 07 04.6**	**-2.1**
PLBC				S	**Sg**	**02 07 17.3**	**-1.6**
PLBC	**Pleasant Camp**	**0.94**	**67**	P	**Pg**	**02 07 04.6**	**-2.1**
PLBC				S	**Sg**	**02 07 17.3**	**-1.6**
BCPM	**Bancas Point**	**1.17**	**317**	P	**Pb**	**02 07 09.0**	**-2.0**
BCPM				S	**Sg**	**02 07 25.9**	**-0.3**
YUK7	**Dusty Glacier**	**1.43**	**358**	Pn	**Pn**	**02 07 13.8**	**-1.1**
YUK7				Sg	**Sg**	**02 07 34.1**	**-0.5**
SKAG	**Skagway**	**1.45**	**75**	P	**Pn**	**02 07 13.3**	**-1.6**
SKAG				S	**Sn**	**02 07 32.8**	**-1.2**
SAMH	**Samovar Hills**	**1.72**	**308**	P	**Pn**	**02 07 17.5**	**-1.3**
HYT	**Haines Junctio**	**1.75**	**9**	Pn	**Pn**	**02 07 18.9**	**-0.3**
HYT				Sg	**Sg**	**02 07 43.8**	**-1.0**
HYT	**Haines Junctio**	**1.75**	**9**	P	**Pn**	**02 07 18.6**	**-0.5**
BESE	**Bessie Mountai**	**1.75**	**106**	Pn	**Pn**	**02 07 17.7**	**-1.5**
BESE				Sg	**Sn**	**02 07 40.9**	**-0.6**
BESE	**Bessie Mountai**	**1.75**	**106**	P	**Pn**	**02 07 16.8**	**-2.3**
YUK6	**Outpost Mounta**	**1.85**	**355**	Pn	**Pn**	**02 07 20.8**	**+0.1**
YUK6				Sg	**Sg**	**02 07 47.0**	**-1.0**
YUK5	**Granite Creek**	**2.03**	**3**	Pn	**Pn**	**02 07 23.8**	**+0.6**
YUK5				Sg	**Sg**	**02 07 52.0**	**-2.0**
RKAV	**Rock Avalanche**	**2.05**	**307**	P	**Pn**	**02 07 22.7**	**-0.7**
TABL	**Table Mountain**	**2.05**	**312**	P	**Pn**	**02 07 22.1**	**-1.4**
JIS	**Juneau Island**	**2.09**	**112**	P	**Pn**	**02 07 21.5**	**-2.3**
WHY	**Whitehorse**	**2.23**	**44**	Pn	**Pn**	**02 07 25.4**	**-0.5**
WHY				Sg	**Sg**	**02 07 58.1**	**-2.3**
WHY	**Whitehorse**	**2.23**	**44**	P	**Pn**	**02 07 25.4**	**-0.5**
MESA	**MESA**	**2.25**	**300**	P	**Pn**	**02 07 24.6**	**-1.6**
LOGN	**Logan Glacier**	**2.27**	**321**	P	**Pn**	**02 07 25.9**	**-0.6**
GRNC	**Granite Creek**	**2.47**	**313**	P	**Pn**	**02 07 28.5**	**-0.7**
CTGM	**Chitina Glacie**	**2.48**	**320**	Pn	**Pn**	**02 07 29.1**	**-0.3**
CTGM				Sn	**Sb**	**02 08 01.2**	**-2.9**
CTGM	**Chitina Glacie**	**2.48**	**320**	P	**Pn**	**02 07 29.1**	**-0.3**
BARK	**Barkley Ridge**	**2.59**	**302**	P	**Pn**	**02 07 29.4**	**-1.3**
KULT	**Kultieth River**	**2.63**	**298**	P	**Pn**	**02 07 29.8**	**-1.4**
ISLE	**Juniper Island**	**2.63**	**307**	P	**Pn**	**02 07 30.8**	**-0.5**
WAX	**Waxell Ridge**	**2.77**	**301**	P	**Pn**	**02 07 31.7**	**-1.6**
GRIN	**Grindle Hills**	**2.91**	**296**	P	**Pn**	**02 07 34.2**	**-0.9**
YUK3	**Moose Creek**	**2.93**	**337**	Pn	**Pn**	**02 07 35.4**	**-0.1**
YUK3				Sg	**Sg**	**02 08 19.7**	**-3.0**
KHIT	**Khitrov Hills**	**2.95**	**299**	P	**Pn**	**02 07 34.0**	**-1.6**
YUK2	**White River**	**3.02**	**334**	Pn	**Pn**	**02 07 37.1**	**+0.4**
YUK2				Sg	**Sb**	**02 08 20.9**	**+1.4**
PTPK	**Patty Peak**	**3.03**	**315**	P	**Pn**	**02 07 36.7**	**-0.3**
CRQM	**Cirque**	**3.04**	**305**	*e*Pn	**Pn**	**02 07 36.9**	**-0.2**
YUK1	**Sand Pete Hill**	**3.29**	**339**	Pn	**Pn**	**02 07 40.4**	**0.0**
KAIM	**Kayak Island**	**3.34**	**287**	P	**Pn**	**02 07 40.6**	**-0.3**
MCARA	**McCarthy VSAT**	**3.37**	**315**	P	**Pn**	**02 07 41.4**	**+0.1**
RAGM	**Ragged Mountai**	**3.58**	**294**	P	**Pn**	**02 07 42.4**	**-1.9**
BVCY	**Beaver Creek**	**3.59**	**339**	Pn	**Pn**	**02 07 44.3**	**-0.2**
BVCY				Sg	**Sg**	**02 08 43.5**	**-0.4**
BVCY	**Beaver Creek**	**3.59**	**339**	P	**Pn**	**02 07 44.2**	**-0.2**
WRAK	**Wrangell Islan**	**4.08**	**129**	P	**Pn**	**02 07 49.1**	**-2.0**
EYAK	**Cordova Ski Ar**	**4.14**	**294**	*e*Pn	**Pn**	**02 07 50.7**	**-1.2**
DLBC	**Dease Lake**	**4.24**	**96**	Pn	**Pn**	**02 07 51.9**	**-1.5**
	36nm,0.3s,baz=270,slow=8.9,SNR=247						
DLBC				Sn	**Sn**	**02 08 43.1**	**+0.1**
	105nm,0.3s,baz=249,slow=14,SNR=13						
DLBC				Lg	Lg	02 08 58.6	
	296nm,0.3s,baz=152,slow=20,SNR=12						
DLBC				LR	LR	02 09 27.4	
	comp=Z,1μm,20.9s,baz=242,slow=38						
DLBC	**Dease Lake**	**4.24**	**96**	Pn	**Pn**	**02 07 51.6**	**-1.7**
DLBC				Sn	**Sn**	**02 08 43.0**	**+0.1**
DLBC				Sg	**Sb**	**02 08 58.2**	**+3.7**
DLBC	**Dease Lake**	**4.24**	**96**	P	**Pn**	**02 07 51.5**	**-1.8**
DIV	**Divide**	**4.36**	**301**	Pn	**Pn**	**02 07 54.4**	**-0.6**
DIV				Sg	**Sb**	**02 08 55.7**	**-2.3**
DIV	**Divide**	**4.36**	**301**	*e*Pn	**Pn**	**02 07 54.9**	**-0.1**
BCA3	**Beaver Creek A**	**4.36**	**337**	P	**Pn**	**02 07 55.6**	**+0.5**
FID	**Port Fidalgo**	**4.54**	**295**	P	**Pn**	**02 07 57.2**	**-0.3**
KLU	**Klutina**	**4.58**	**305**	*e*Pn	**Pn**	**02 07 58.2**	**+0.1**
MENT	**Mentasta**	**4.73**	**327**	*e*Pn	**Pn**	**02 08 01.0**	**+0.9**
HARP	**HAARP**	**4.80**	**317**	Pn	**Pn**	**02 08 03.1**	**+2.1**
HARP	**HAARP**	**4.80**	**317**	*e*Pn	**Pn**	**02 08 03.6**	**+2.6**
DAWY	**Dawson**	**5.02**	**353**	Pn	**Pn**	**02 08 05.0**	**+1.0**
DAWY				Sn	**Sn**	**02 09 02.8**	**+0.8**
DAWY				Sg	**Sg**	**02 09 26.7**	**-2.9**
PAX	**Paxson**	**5.29**	**320**	Pn	**Pn**	**02 08 06.6**	**-1.2**
PAX	**Paxson**	**5.29**	**320**	*e*P	**Pn**	**02 08 07.3**	**-0.5**
PAX	**Paxson**	**5.29**	**320**	*e*Pn	**Pn**	**02 08 07.3**	**-0.5**
SCM	**Sheep Creek Mo**	**5.34**	**305**	P	**Pn**	**02 08 08.2**	**-0.2**
SCM	**Sheep Creek Mo**	**5.34**	**305**	P	**Pn**	**02 08 08.2**	**-0.2**
DOT	**Dot Lake**	**5.39**	**330**	Pn	**Pn**	**02 08 08.4**	**-0.7**
DOT	**Dot Lake**	**5.39**	**330**	*e*Pn	**Pn**	**02 08 08.9**	**-0.2**
PWL	**Port Wells**	**5.45**	**293**	P	**Pn**	**02 08 08.5**	**-1.4**
NDJ	**Naden**	**5.89**	**149**	Pn	**Pn**	**02 08 14.0**	**-2.0**
DHY	**Denali Highway**	**6.02**	**315**	*e*Pn	**Pn**	**02 08 19.3**	**+1.4**
BRLK	**Bradley Lake**	**6.58**	**281**	*e*Pn	**Pn**	**02 08 26.1**	**+0.7**
H02N1	**VAN INLET T-PH**	**6.63**	**150**	Pn	**Pn**	**02 08 23.6**	**-2.6**
H02N1				Sn	**Sn**	**02 09 37.6**	**-4.1**
VIB	**Van Inlet**	**6.63**	**150**	Pn	**Pn**	**02 08 22.8**	**-3.4**
VIB				Sn	**Sn**	**02 09 35.9**	**-5.8**
DIB	**Dawson Inlet,**	**6.69**	**150**	Pn	**Pn**	**02 08 24.4**	**-2.5**
DIB				Sn	**Sn**	**02 09 37.2**	**-5.9**
DIB	**Dawson Inlet,**	**6.69**	**150**	*e*Pn	**Pn**	**02 08 26.2**	**-0.6**
H02S1	**DAWSON INLET T**	**6.69**	**150**	Pn	**Pn**	**02 08 25.2**	**-1.7**
H02S1				Sn	**Sn**	**02 09 39.4**	**-3.7**
SUA	**Susitna One**	**6.73**	**296**	*e*Pn	**Pn**	**02 08 27.9**	**+0.3**
RND	**Reindeer**	**6.75**	**314**	*e*P	**Pn**	**02 08 28.9**	**+1.0**
RND	**Reindeer**	**6.75**	**314**	*e*Pn	**Pn**	**02 08 28.9**	**+1.0**
CNPM	**China Poot**	**6.76**	**279**	P	**Pn**	**02 08 27.2**	**-0.7**
HDA	**Harding Lake**	**6.78**	**325**	*e*Pn	**Pn**	**02 08 29.1**	**+0.9**
MOBC	**Moresby Island**	**6.88**	**148**	Pn	**Pn**	**02 08 26.8**	**-2.8**
HOM	**Homer**	**6.96**	**288**	*e*Pn	**Pn**	**02 08 32.0**	**+1.4**
MCK	**McKinley**	**6.98**	**316**	*e*P	**Pn**	**02 08 32.4**	**+1.6**
MCK	**McKinley**	**6.98**	**316**	*e*Pn	**Pn**	**02 08 32.4**	**+1.6**
IL1	**Eielson Array**	**7.04**	**328**	P	**Pn**	**02 08 31.8**	**+0.1**
ILAR	**Eielson Array**	**7.04**	**328**	Pn	**Pn**	**02 08 30.6**	**-1.1**
	1.3nm,0.3s,baz=154,slow=13,SNR=54						
ILAR				Lg	Lg	02 10 33.0	
	2.0nm,0.3s,baz=121,slow=25,SNR=5.5						
ILB	**Eielson Array**	**7.04**	**328**	*e*Pn	**Pn**	**02 08 31.9**	**+0.2**
WRH	**Wood River Hil**	**7.17**	**323**	*e*Pn	**Pn**	**02 08 34.5**	**+1.0**
CCB	**Clear Creek Bu**	**7.21**	**325**	*e*Pn	**Pn**	**02 08 35.2**	**+1.1**
SPU	**Mount Spurr**	**7.29**	**293**	*e*Pn	**Pn**	**02 08 34.6**	**-0.6**
TRF	**Thorofare Moun**	**7.32**	**312**	*e*Pn	**Pn**	**02 08 36.1**	**+0.4**
COLA	**College**	**7.39**	**326**	*e*P	**Pn**	**02 08 35.9**	**-0.6**
BNB	**Barry Inlet**	**7.45**	**149**	Pn	**Pn**	**02 08 41.0**	**-1.9**
RSO	**Redoubt South**	**7.54**	**287**	*e*Pn	**Pn**	**02 08 37.8**	**-0.9**
MDM	**Murphy Dome**	**7.56**	**325**	*e*Pn	**Pn**	**02 08 41.0**	**+2.1**
KTH	**Kantishna Hill**	**7.62**	**311**	*e*Pn	**Pn**	**02 08 40.0**	**+0.3**
KDAK	**Kodiak Island**	**7.74**	**266**	*i* P	**Pn**	**02 08 38.9**	**-2.3**
KDAK	**Kodiak Island**	**7.74**	**266**	*e*Pn	**Pn**	**02 08 39.8**	**-1.5**
FNBB	**Fort Nelson**	**7.78**	**85**	Pn	**Pn**	**02 08 42.0**	**+0.1**
PPLA	**Purkeypile**	**7.84**	**305**	*e*Pn	**Pn**	**02 08 43.2**	**+0.4**
CAST	**Castle Rocks**	**8.01**	**309**	*e*Pn	**Pn**	**02 08 45.3**	**+0.2**
FYU	**Fort Yukon**	**8.17**	**339**	*e*Pn	**Pn**	**02 08 48.8**	**+1.7**
OHAK	**Old Harbor**	**8.27**	**263**	*e*Pn	**Pn**	**02 08 46.0**	**-2.5**
BBB	**Bella Bella**	**8.92**	**137**	Pn	**Pn**	**02 08 58.5**	**+1.0**
	1.6nm,0.3s,baz=272,slow=23,SNR=23						
BBB	**Bella Bella**	**8.92**	**137**	Pn	**Pn**	**02 08 58.6**	**+1.1**
BBB	**Bella Bella**	**8.92**	**137**	*e*Pn	**Pn**	**02 08 58.7**	**+1.2**
SVW2	**Sparrevohn**	**8.97**	**290**	*e*Pn	**Pn**	**02 08 56.4**	**-1.8**
INK	**Inuvik**	**9.45**	**10**	Pn	**Pn**	**02 09 04.3**	**-0.3**
	0.6nm,0.3s,baz=190,slow=11,SNR=14						
INK				LR	LR	02 13 15.1	
	comp=Z,540nm,18.4s,baz=196,slow=41						
INK	**Inuvik**	**9.45**	**10**	Pn	**Pn**	**02 09 04.1**	**-0.6**
INK	**Inuvik**	**9.45**	**10**	*e*P	**Pn**	**02 09 05.8**	**+1.1**
INK	**Inuvik**	**9.45**	**10**	*e*Pn	**Pn**	**02 09 05.8**	**+1.1**
TT01	**Tatalina**	**9.50**	**301**	*e*Pn	**Pn**	**02 09 04.2**	**-1.2**
TTA	**Tatalina**	**9.51**	**301**	*e*P	**Pn**	**02 09 04.2**	**-1.4**
TTA	**Tatalina**	**9.51**	**301**	*e*Pn	**Pn**	**02 09 04.2**	**-1.4**
CLVN	**Colville Lake**	**9.62**	**29**	Pn	**Pn**	**02 09 06.1**	**-0.8**
COLD	**Coldfoot**	**9.80**	**331**	Pn	**Pn**	**02 09 11.4**	**+1.9**
COLD	**Coldfoot**	**9.80**	**331**	*e*Pn	**Pn**	**02 09 11.8**	**+2.3**
UBRB	**Upper Baezaeko**	**9.99**	**122**	Pn	**Pn**	**02 09 14.6**	**+2.3**
SMPN	**Simpson Lake**	**10.42**	**24**	Pn	**Pn**	**02 09 19.0**	**+1.0**
TLCB	**Telegraph Cove**	**10.73**	**138**	Pn	**Pn**	**02 09 24.4**	**+2.2**
TOLK	**Toolik Lake Re**	**10.80**	**337**	P	**Pn**	**02 09 25.7**	**+2.5**
	baz=147						
WOSB	**Woss**	**11.15**	**138**	Pn	**Pn**	**02 09 28.9**	**+0.8**
YKR1	**Yellowknife Ar**	**11.76**	**63**	P	**Pn**	**02 09 35.1**	**-1.2**
YKR2	**Yellowknife Ar**	**11.78**	**63**	P	**Pn**	**02 09 36.0**	**-0.6**
YKR3	**Yellowknife Ar**	**11.80**	**63**	P	**Pn**	**02 09 36.2**	**-0.7**
YKR4	**Yellowknife Ar**	**11.83**	**63**	P	**Pn**	**02 09 36.4**	**-0.8**
YKR5	**Yellowknife Ar**	**11.85**	**63**	P	**Pn**	**02 09 36.3**	**-1.2**
YKR6	**Yellowknife Ar**	**11.87**	**63**	P	**Pn**	**02 09 36.9**	**-1.0**
YKR7	**Yellowknife Ar**	**11.89**	**63**	P	**Pn**	**02 09 37.5**	**-0.7**
YKB1	**Yellowknife Ar**	**11.91**	**64**	P	**Pn**	**02 09 37.3**	**-1.0**
YKB2	**Yellowknife Ar**	**11.91**	**64**	P	**Pn**	**02 09 37.6**	**-0.8**
YKB3	**Yellowknife Ar**	**11.91**	**64**	P	**Pn**	**02 09 37.7**	**-0.7**
YKB4	**Yellowknife Ar**	**11.91**	**64**	P	**Pn**	**02 09 37.7**	**-0.7**
YKA	**Yellowknife Ar**	**11.92**	**64**	Pn	**Pn**	**02 09 36.3**	**-2.2**
	3.3nm,0.3s,baz=320,slow=21,SNR=62						
YKA				Lg	Lg	02 13 01.2	
	0.4nm,0.3s,baz=258,slow=28,SNR=5.0						
YKA				LR	LR	02 14 50.3	
	comp=Z,32nm,20.9s,baz=180,slow=41						
YKR8	**Yellowknife Ar**	**11.92**	**64**	P	**Pn**	**02 09 37.7**	**-0.7**
YKB6	**Yellowknife Ar**	**11.92**	**63**	P	**Pn**	**02 09 37.7**	**-0.8**
YKW3	**Yellowknife Ar**	**11.92**	**63**	P	**Pn**	**02 09 38.3**	**-0.2**
YKB7	**Yellowknife Ar**	**11.92**	**63**	P	**Pn**	**02 09 37.4**	**-1.1**
YKB8	**Yellowknife Ar**	**11.93**	**63**	P	**Pn**	**02 09 37.6**	**-0.9**
YKB9	**Yellowknife Ar**	**11.93**	**63**	P	**Pn**	**02 09 37.6**	**-1.0**
YKB0	**Yellowknife Ar**	**11.93**	**63**	P	**Pn**	**02 09 37.5**	**-1.1**
YKR9	**Yellowknife Ar**	**11.94**	**64**	P	**Pn**	**02 09 38.4**	**-0.4**
WSLR	**Whistler**	**12.54**	**129**	P	**Pn**	**02 09 49.4**	**+2.4**
LLLB	**Lillooet**	**12.59**	**125**	P	**Pn**	**02 09 49.9**	**+2.1**
LLLB	**Lillooet**	**12.59**	**125**	*e*Pn	**Pn**	**02 09 50.1**	**+2.3**
SDPT	**Sand Point**	**12.69**	**262**	*e*Pn	**Pn**	**02 09 49.4**	**+0.4**
BIB	**Bowen Island**	**12.96**	**132**	P	**Pn**	**02 09 57.0**	**+4.3**
MNB	**Mounoet Dainar**	**13.05**	**113**	P	**Pn**	**02 09 56.5**	**+2.2**
B010	**North Saanich**	**13.53**	**134**	P	**P**	**02 10 11.1**	**+1.4**
PGC	**Sidney**	**13.53**	**134**	P	**P**	**02 10 11.0**	**+1.3**
B009	**North Saanich**	**13.53**	**134**	P	**P**	**02 10 11.1**	**+1.4**
B011	**North Saanich**	**13.53**	**134**	P	**P**	**02 10 11.5**	**+1.8**
MCW	**Mount Constitu**	**13.73**	**133**	P	**P**	**02 10 13.7**	**+1.6**
MCW	**Mount Constitu**	**13.73**	**133**	P	**P**	**02 10 13.9**	**+1.8**
MCW	**Mount Constitu**	**13.73**	**133**	P	**P**	**02 10 13.9**	**+1.8**
MBW	**Mount Baker**	**14.01**	**130**	P	**Pn**	**02 10 10.1**	**+2.9**
B05A	**Bryant**	**14.36**	**132**	P	**Pn**	**02 10 13.7**	**+1.9**
	baz=325						
NLWA	**Neilton Lookou**	**14.45**	**138**	*e*Pn	**Pn**	**02 10 16.6**	**+3.5**
PNT	**Penticton**	**14.53**	**124**	P	**P**	**02 10 20.9**	**0.0**
EDM	**Edmonton**	**14.92**	**102**	P	**Pn**	**02 10 19.2**	**-0.3**
C06D	**Leavenworth**	**15.10**	**130**	P	**Pn**	**02 10 23.5**	**+1.5**
	baz=324						
NLW	**Nelson Butte**	**15.20**	**129**	P	**Pn**	**02 10 25.7**	**+2.4**
E03A	**Lebam**	**15.28**	**139**	*e*Pn	**Pn**	**02 10 27.0**	**+2.7**
	36nm,1.0s						
D05A	**Enumclaw**	**15.29**	**134**	*e*Pn	**P**	**02 10 27.8**	**-1.5**
	59nm,1.0s						
B941	**Kapowsin**	**15.38**	**135**	P	**P**	**02 10 32.0**	**+1.8**
B08A	**Colville Reser**	**15.38**	**126**	*e*Pn	**Pn**	**02 10 27.6**	**+1.9**
	13nm,1.0s						
ETW	**Entiat**	**15.58**	**130**	P	**Pn**	**02 10 30.4**	**+2.0**
LON	**Longmire**	**15.72**	**135**	*e*P	**Pn**	**02 10 32.3**	**+2.1**
LON				pmax	pmax		
	comp=Z,55nm,1.0s						
LON	**Longmire**	**15.72**	**135**	*e*Pn	**Pn**	**02 10 32.3**	**+2.1**
	comp=Z,55nm,1.0s						
LTY	**Liberty**	**15.73**	**131**	P	**Pn**	**02 10 31.8**	**+1.5**
LTY	**Liberty**	**15.73**	**131**	*e*Pn	**Pn**	**02 10 32.2**	**+1.9**
	comp=Z,114nm,1.3s						
NEW	**Newport**	**16.40**	**122**	Pn	**Pn**	**02 10 40.5**	**+1.6**
	comp=Z,0.1nm,0.3s,baz=316,slow=13,SNR=9.5						
NEW	**Newport**	**16.40**	**122**	P	**Pn**	**02 10 40.0**	**+1.2**
	baz=319,SNR=20						
NEW	**Newport**	**16.40**	**122**	*e*P	**Pn**	**02 10 40.4**	**+1.6**
NEW				pmax	pmax		
	comp=Z,19nm,1.0s						
NEW	**Newport**	**16.40**	**122**	*e*Pn	**Pn**	**02 10 40.4**	**+1.5**
	comp=Z,19nm,1.0s						
G03D	**McMinnville, O**	**16.56**	**141**	P	**Pn**	**02 10 41.6**	**+0.9**
	baz=332						
TRW	**Toppenish Ridg**	**16.58**	**133**	P	**P**	**02 10 42.9**	**-0.8**
D08A	**Wollman Farm,**	**16.59**	**128**	*e*Pn	**P**	**02 10 43.1**	**-0.5**
	comp=Z,14nm,1.0s						
E07A	**Sunnyside**	**16.62**	**131**	*e*Pn	**Pn**	**02 10 43.1**	**+1.4**
	comp=Z,19nm,1.0s						
HAWA	**Hanford**	**16.89**	**131**	*e*Pn	**Pn**	**02 10 46.1**	**+1.1**
	comp=Z,17nm,1.1s						
TDH	**Tom, Dick, Har**	**16.99**	**137**	P	**P**	**02 10 48.1**	**-0.1**
G05D	**Wamic, OR**	**17.19**	**136**	P	**P**	**02 10 50.1**	**-0.3**
	baz=330,SNR=11						
WALA	**Waterton Lakes**	**17.27**	**115**	P	**Pn**	**02 10 50.6**	**+0.7**
E09A	**Wood Farm, Sta**	**17.34**	**128**	*e*Pn	**P**	**02 10 51.8**	**-0.3**
	comp=Z,12nm,1.0s						
G06A	**Carlson Farm,**	**17.44**	**135**	*e*Pn	**P**	**02 10 53.9**	**+0.7**
	comp=Z,26nm,1.3s						
VTHM	**Trough**	**17.52**	**135**	P	**P**	**02 10 54.9**	**+0.8**
BSMT	**Bassoo Peak**	**17.75**	**119**	*e*Pn	**P**	**02 10 57.0**	**+0.2**
I03D	**Drain, OR**	**17.89**	**143**	P	**P**	**02 10 58.8**	**+0.8**
	baz=335						
I05D	**Terrebonne, OR**	**17.97**	**138**	P	**P**	**02 10 59.7**	**+0.6**
	baz=331,SNR=14						
JTMT	**Jette**	**18.05**	**119**	*e*Pn	**P**	**02 11 00.9**	**+0.9**
YBMT	**Yellow Bay**	**18.09**	**118**	*e*Pn	**P**	**02 11 01.4**	**+1.0**
I04A	**Tendick Farm,**	**18.09**	**141**	P	**P**	**02 11 01.1**	**+0.7**
	baz=333,SNR=14						
F10A	**Beach Ranch, E**	**18.15**	**127**	*e*Pn	**P**	**02 11 01.8**	**+0.7**
	comp=Z,14nm,0.9s						
SWMT	**Swartz Lake**	**18.36**	**119**	*e*Pn	**P**	**02 11 04.7**	**+1.4**
J04D	**Umpqua Nationa**	**18.69**	**141**	P	**Pn**	**02 11 08.3**	**+0.8**
	baz=334,SNR=6.7						
SLMT	**Seeley Lake**	**18.79**	**118**	*e*P	**Pn**	**02 11 09.4**	**+0.8**
MSO	**Missoula**	**18.89**	**120**	P	**Pn**	**02 11 10.3**	**+0.5**
	baz=319,SNR=6.3						
MSO	**Missoula**	**18.89**	**120**	*e*P	**Pn**	**02 11 10.9**	**+1.1**
	comp=Z,19nm,1.1s						
J05D	**Fort Rock, OR**	**18.94**	**139**	P	**Pn**	**02 11 11.0**	**+0.6**
	baz=333,SNR=23						
HUMO	**Hull Mountain**	**19.00**	**144**	*e*P	**Pn**	**02 11 12.4**	**+1.5**
	comp=Z,29nm,1.1s						
BMO	**Blue Mountains**	**19.04**	**129**	*e*P	**Pn**	**02 11 12.0**	**+0.4**
BMO				pmax	pmax		
	comp=Z,16nm,1.0s						
BMO	**Blue Mountains**	**19.04**	**129**	*e*P	**Pn**	**02 11 12.0**	**+0.4**
	comp=Z,16nm,1.0s						
CHMT	**Chamberlain Mo**	**19.14**	**119**	*e*P	**Pn**	**02 11 13.8**	**+0.9**
L02D	**Cave Junction,**	**19.21**	**146**	P	**Pn**	**02 11 13.9**	**+0.4**
	baz=337,SNR=6.0						
K04D	**Chiloquin, OR**	**19.36**	**141**	P	**Pn**	**02 11 15.5**	**+0.1**
	baz=334						
K05A	**Summer Lake**	**19.55**	**139**	*e*P	**Pn**	**02

BW06 **Boulder Array** 24.01 120 *e*P P 02 12 04.2 +0.4
comp=Z,47nm,1.9s
PD31 **Pinedale Array** 24.01 120 *e*P P 02 12 04.2 +0.5
PDAR **Pinedale Array** 24.01 120 P P 02 12 03.6 -0.2
comp=Z,5.7nm,0.8s,baz=314,slow=6.9,SNR=32
PDAR LR LR 02 21 30.1
comp=Z,87nm,19.4s,baz=341,slow=37
BGU **Big Grassy Mou** 24.04 128 *e*P P 02 12 04.7 +0.7
comp=Z,4.7nm,1.0s
HWUT **Hardware Ranch** 24.08 125 *e*P P 02 12 04.6 +0.3
comp=Z,12nm,0.8s
TVH1 **TV Hill, Hawth** 24.09 141 *e*P P 02 12 05.3 +0.7
comp=Z,6.8nm,0.9s
TVH3 **East Aurora ar** 24.17 141 *e*P P 02 12 06.1 +0.9
comp=Z,4.3nm,1.0s
DUG **Dugway, Tooele** 24.75 129 P P 02 12 11.0 +0.6
baz=328,SNR=28
DUG **Dugway, Tooele** 24.75 129 *e*P P 02 12 10.8 +0.4
DUG pmax pmax
comp=Z,21nm,0.9s
DUG **Dugway, Tooele** 24.75 129 *e*P P 02 12 10.8 +0.4
comp=Z,21nm,0.9s
JLU **Jordanelle** 24.96 126 *e*P P 02 12 14.6 +2.2
comp=Z,4.5nm,0.9s
MDND **Maddock** 25.14 100 P P 02 12 14.2 +0.6
baz=311
NLU **North Lily Min** 25.25 128 *e*P P 02 12 15.8 +0.8
comp=Z,14nm,1.1s
R11A **Troy Canyon, C** 25.29 135 P P 02 12 15.6 +0.3
baz=333,SNR=32
R11A **Troy Canyon, C** 25.29 135 *e*P P 02 12 16.0 +0.7
comp=Z,32nm,1.5s
BILL **Bilibino** 25.42 314‖ *e*P P 02 12 16.4 +0.4
BILL *e* 02 12 29.1
BILL *e*PPP PPP 02 12 57.7
BILL pmax pmax
comp=Z,17nm,1.1s
BILL MLR MLR
comp=Z,226nm,17.0s
K22A **Casper** 25.48 116 P P 02 12 17.0 0.0
baz=321,SNR=7.2
K22A **Casper** 25.48 116 *e*P P 02 12 17.4 +0.4
comp=Z,13nm,1.0s
RSSD **Black Hills** 25.54 111 P P 02 12 17.7 +0.1
baz=318
ULM **Lac du Bonnet** 25.55 92 P P 02 12 17.7 +0.4
comp=Z,16nm,0.8s,baz=299,slow=10,SNR=14
ULM LR LR 02 22 51.5
comp=Z,557nm,19.4s,baz=318,slow=38
ULM **Lac du Bonnet** 25.55 92 P P 02 12 17.7 +0.4
ULM **Lac du Bonnet** 25.55 92 *e*P P 02 12 18.3 +0.9
ULM pmax pmax
comp=Z,20nm,0.9s
ULM **Lac du Bonnet** 25.55 92 *e*P P 02 12 18.2 +0.9
comp=Z,20nm,0.9s
A31A **Linda, St. Vin** 25.68 95 P P 02 12 18.6 0.0
baz=309
B31A **Greenbush Farm** 25.76 97 P P 02 12 19.5 +0.2
baz=310
GRAC **Grapevine Rang** 25.88 140 P P 02 12 21.0 +0.5
baz=335,SNR=7.2
RCTC **Rector, Farmer** 25.91 143 P P 02 12 21.2 +0.5
baz=338
A32A **Rocking H Ranc** 26.05 95 P P 02 12 22.1 +0.3
baz=309,SNR=9.7
C31A **Landman Farms,** 26.13 98 P P 02 12 22.9 +0.3
baz=311
TMUT **Trail Mountain** 26.16 127 *e*P P 02 12 24.5 +1.1
comp=Z,4.1nm,0.9s
TPNV **Topopah Spring** 26.30 138 P P 02 12 24.9 +0.4
baz=334,SNR=25
TPNV **Topopah Spring** 26.30 138 *e*P P 02 12 25.2 +0.7
TPNV pmax pmax
comp=Z,22nm,1.0s
TPNV **Topopah Spring** 26.30 138 *e*P P 02 12 25.2 +0.7
comp=Z,22nm,1.0s
B32A **Ashes, Strandq** 26.35 96 P P 02 12 24.7 0.0
baz=310
MSU **Marysvale** 26.44 130 *e*P P 02 12 26.7 +0.9
MSU **Marysvale** 26.44 130 *e*P P 02 12 26.7 +0.9
DAC **Darwin (Calif)** 26.46 141 *e*P P 02 12 27.2 +1.2
DAC pmax pmax
comp=Z,13nm,1.5s
DAC **Darwin (Calif)** 26.46 141 *e*P P 02 12 27.2 +1.2
comp=Z,13nm,1.5s
FURC **Furnace Creek,** 26.53 139 P P 02 12 27.0 +0.8
baz=335
A33A **Warroad** 26.60 94 P P 02 12 27.0 +0.1
baz=309
SMMC **Simmler** 26.60 146 P P 02 12 27.7 +0.6
baz=339
SRU **San Rafael Swe** 26.60 127 *e*P P 02 12 27.5 +0.3
SRU pmax pmax
comp=Z,14nm,1.0s
SRU **San Rafael Swe** 26.60 127 *e*P P 02 12 27.5 +0.3
comp=Z,14nm,1.0s
D31A **Mcclaflin, Tow** 26.62 99 P P 02 12 27.2 0.0
baz=312,SNR=9.5
MPMC **Manual Prospec** 26.69 141 P P 02 12 28.5 +0.5
baz=336
C32A **Crookston** 26.72 96 P P 02 12 27.9 -0.1
baz=310
O20A **White River Ci** 26.72 122 P P 02 12 28.5 +0.2
baz=325,SNR=7.8
ISA **Isabella, Lake** 26.74 143 P P 02 12 28.2 -0.1
baz=337
AGMN **Agassiz Nation** 26.76 95 P P 02 12 28.3 0.0
baz=310,SNR=6.0
AGMN **Agassiz Nation** 26.76 95 *e*P P 02 12 29.2 +0.9
comp=Z,21nm,1.1s
CCUT **Cedar City** 26.82 133 *e*P P 02 12 29.1 -0.1
comp=Z,10.0nm,1.1s
E31A **Nome** 26.87 100 P P 02 12 29.3 -0.1
baz=313
SZCU **Shurtz Canyon** 26.89 132 *e*P P 02 12 30.6 +0.8
comp=Z,17nm,1.0s
D32A **Dogwood Acres,** 26.93 98 P P 02 12 29.0 -0.8
baz=312
EPLO **Experimental L** 27.00 91 P P 02 12 31.9 +1.3
SHPR **Sheep Range** 27.08 136 *e*P P 02 12 32.4 +0.9
comp=Z,8.1nm,1.4s
N23A **Red Feather La** 27.14 118 P P 02 12 31.7 -0.4
baz=323
N23A **Red Feather La** 27.14 118 *e*P P 02 12 33.0 +1.0
comp=Z,9.2nm,1.0s
LRMC **Laurel Mtn Rad** 27.16 141 P P 02 12 32.0 -0.2
baz=337
F31A **Hecla** 27.16 101 P P 02 12 31.7 -0.3
baz=314
SHOC **Shoshone, Teco** 27.24 139 P P 02 12 33.1 +0.3
baz=335
B34A **Aery, Baudette** 27.27 94 P P 02 12 32.3 -0.5
baz=309
LCMT **Little Creek M** 27.34 133 *e*P P 02 12 34.7 +1.0
comp=Z,8.6nm,1.2s
KNB **Kanab** 27.49 132 *e*P P 02 12 36.4 +1.2
KNB pmax pmax
comp=Z,14nm,1.2s
KNB **Kanab** 27.49 132 *e*P P 02 12 36.4 +1.2
comp=Z,14nm,1.2s
D33A **AnnSam, Waubun** 27.52 97 P P 02 12 35.2 0.0
baz=311
GSC **Goldstone, Bar** 27.61 140 P P 02 12 36.9 +0.7
baz=336,SNR=5.2
GSC **Goldstone, Bar** 27.61 140 *e*P P 02 12 37.2 +1.1
GSC pmax pmax
comp=Z,8.0nm,1.1s
GSC **Goldstone, Bar** 27.61 140 *e*P P 02 12 37.2 +1.1
comp=Z,7.6nm,1.1s
EDW2 **Edwards Air Fo** 27.61 143 P P 02 12 36.8 +0.7
baz=338
G31A **Conde** 27.63 102 P P 02 12 36.0 -0.2
baz=314
C34A **RKJ Ranch, Bem** 27.67 95 P P 02 12 36.6 +0.1
baz=310
PV09 **Paradox Valley** 27.70 125 *e*P P 02 12 37.7 +0.5
TUQ **Turquoise Moun** 27.78 139 P P 02 12 38.3 +0.5
baz=335,SNR=5.4
SUSD **Miller** 27.81 104 P P 02 12 38.1 +0.3
baz=316
PV10 **Paradox Valley** 27.84 125 *e*P P 02 12 39.8 +1.3
E33A **Westby DABS, E** 27.87 98 P P 02 12 38.6 +0.4
baz=312
D34A **Park Rapids** 27.89 96 P P 02 12 38.4 -0.2
baz=311,SNR=5.4
G32A **Webster** 27.96 102 P P 02 12 39.1 -0.1
baz=314

BLG **Laguna Peak, P** 28.00 145 P P 02 12 40.2 +0.6
baz=339
H31A **Wolsey** 28.02 104 P P 02 12 40.0 +0.3
baz=316
SMCO **Snowmass** 28.07 121 *e*P P 02 12 39.8 -0.8
comp=Z,15nm,1.7s
PV05 **Paradox Valley** 28.07 126 *e*P P 02 12 40.8 +0.3
C35A **Jirik Farms, M** 28.12 94 P P 02 12 40.2 -0.3
baz=310
ISCO **Idaho Springs** 28.16 119 P P 02 12 41.8 +0.4
baz=324
ISCO **Idaho Springs** 28.16 119 *e*P P 02 12 42.1 +0.7
ISCO pmax pmax
comp=Z,6.0nm,1.0s
ISCO **Idaho Springs** 28.16 119 *e*P P 02 12 42.1 +0.7
comp=Z,5.8nm,1.0s
F33A **5 Mile Ranch,** 28.17 99 P P 02 12 41.4 +0.4
baz=313
U15A **North Rim** 28.21 132 *e*P P 02 12 42.6 +0.8
comp=Z,4.3nm,1.0s
BFSC **Mount Baldy Ra** 28.31 142 P P 02 12 43.1 +0.6
baz=338
GMRC **Granite Mounta** 28.46 139 P P 02 12 44.3 +0.4
baz=336
D35A **Remer** 28.48 95 P P 02 12 43.6 -0.2
baz=311
H32A **Carlson Farm,** 28.52 103 P P 02 12 44.5 +0.3
baz=315,SNR=8.2
G33A **Ortonville** 28.54 101 P P 02 12 44.3 0.0
baz=314
E35A **Pequot Lakes** 28.65 96 P P 02 12 45.2 0.0
baz=312
H33A **Prehn Over Nor** 28.75 102 P P 02 12 45.4 -0.7
baz=315
J31A **Geddes** 28.75 106 P P 02 12 46.0 -0.2
baz=317
W13A **Hualapai Mount** 28.80 136 *e*P P 02 12 47.9 +1.0
D36A **Goodland** 28.88 94 P P 02 12 47.1 -0.2
baz=311,SNR=5.3
C37A **Embarrass** 29.02 93 P P 02 12 48.7 +0.2
baz=310
F35A **Swanville** 29.04 98 P P 02 12 48.8 +0.1
baz=313
MVCO **Mesa Verde** 29.06 126 P P 02 12 49.0 -0.2
baz=328
BELC **Belle Mtn. Jos** 29.07 140 P P 02 12 49.3 +0.1
baz=337
J32A **Parkston** 29.13 105 P P 02 12 49.0 -0.5
baz=317
I33A **Coleman** 29.17 103 P P 02 12 49.3 -0.6
baz=316
IRM **Iron Mountain** 29.21 139 P P 02 12 50.9 +0.6
baz=336
EYMN **Ely** 29.24 92 P P 02 12 49.6 -0.9
baz=310
EYMN **Ely** 29.24 92 *e*P P 02 12 50.3 -0.2
comp=Z,57nm,1.5s
H34A **Spellman Lake,** 29.25 101 P P 02 12 50.5 -0.1
baz=315,SNR=6.6
E36A **McGregor** 29.27 95 P P 02 12 50.5 -0.2
baz=312
D37A **Cotton** 29.27 94 P P 02 12 50.8 +0.1
baz=311
PFO **Pinyon Flats O** 29.27 141 ⇑P P 02 12 52.1 +1.1
S22A **4UR Ranch, Cre** 29.32 123 P P 02 12 51.9 +0.3
baz=327
S22A **4UR Ranch, Cre** 29.32 123 *e*P P 02 12 52.5 +0.9
comp=Z,4.1nm,1.0s
WUAZ **Wupatki** 29.37 132 P P 02 12 52.2 +0.3
baz=332,SNR=10
WUAZ **Wupatki** 29.37 132 *e*P P 02 12 52.8 +1.0
comp=Z,12nm,1.0s
ECSD **EROS Data Cent** 29.49 103 P P 02 12 52.8 0.0
baz=316,SNR=5.4
ECSD **EROS Data Cent** 29.49 103 *e*P P 02 12 52.9 +0.2
comp=Z,33nm,1.8s
C38A **Sawbill Land.** 29.50 92 P P 02 12 52.2 -0.6
baz=310
F36A **Milaca** 29.57 97 P P 02 12 53.4 0.0
baz=313
K32A **Verdigre** 29.59 106 P P 02 12 53.8 +0.1
baz=318
H35A **Sunnyside Ranc** 29.71 100 P P 02 12 55.4 +0.8
baz=314
Y12C **Blythe** 29.79 138 P P 02 12 56.4 +1.0
baz=336
SDCO **Great Sand Dun** 29.90 121 P P 02 12 56.9 +0.1
baz=326
SDCO **Great Sand Dun** 29.90 121 *e*P P 02 12 57.4 +0.6
comp=Z,3.4nm,1.3s
MONP **Monument Peak,** 29.94 142 P P 02 12 57.8 +0.8
baz=338
C39A **Grand Marais** 30.02 91 P P 02 12 57.8 +0.4
baz=310
E38A **The Farm, Brul** 30.08 94 P P 02 12 58.2 +0.3
baz=312
SWSC **Sam W. Stewart** 30.10 141 P P 02 12 59.2 +1.0
baz=337
Y14A **Wickenburg** 30.16 136 *e*P P 02 13 00.1 +1.3
comp=Z,20nm,0.8s
KSCO **Kaye Shedlock'** 30.17 116 P P 02 12 59.4 +0.5
baz=324
H36A **Jessenland, He** 30.25 99 P P 02 12 59.8 +0.4
baz=314
IKP **In-Ko-Pah, Jac** 30.27 141 P P 02 13 00.8 +1.1
baz=338
X16A **Lo Mia Camp, P** 30.31 133 *e*P P 02 13 01.6 +1.3
comp=Z,3.6nm,0.8s
GLA **Glamis** 30.32 139 P P 02 13 01.5 +1.3
baz=336
F38A **Pier - Schro** 30.35 95 P P 02 13 01.1 +0.8
baz=312
W18A **Petrified Fore** 30.36 130 P P 02 13 00.8 +0.1
baz=331,SNR=5.7
BGNE **Belgrade** 30.44 108 P P 02 13 01.9 +0.7
baz=319
K34A **Le Mars** 30.51 104 P P 02 13 02.1 +0.3
baz=317
X18A **Snowflake** 30.79 131 *e*P P 02 13 05.8 +1.3
comp=Z,15nm,1.0s
F39A **Loretta** 30.87 94 P P 02 13 05.7 +0.8
baz=312
T25A **Trinidad** 30.89 120 P P 02 13 05.4 +0.1
baz=326
G38A **Ridgeland** 30.90 96 P P 02 13 05.0 -0.2
baz=314
L34A **Svendsen Farm,** 30.90 105 P P 02 13 05.0 -0.2
baz=318
I37A **Lemond, Waseca** 30.92 99 P P 02 13 05.4 +0.1
baz=315
K35A **Storm Lake** 30.92 103 P P 02 13 05.9 +0.5
baz=317
J36A **Seneca 1, Swea** 30.93 101 P P 02 13 05.8 +0.4
baz=316
H38A **Maiden Rock** 31.02 97 P P 02 13 06.5 +0.2
baz=314
L35A **Bielow Farm, R** 31.21 104 P P 02 13 07.6 -0.3
baz=319
F40A **Park Falls** 31.28 93 P P 02 13 07.9 -0.6
baz=312
J37A **Redenius Farm,** 31.34 100 P P 02 13 08.9 -0.1
baz=316
K36A **Gilmore City** 31.37 102 P P 02 13 09.4 0.0
baz=317
I38A **Scanlan Farm,** 31.44 98 P P 02 13 09.8 -0.2
baz=315
H39A **Augusta** 31.53 96 P P 02 13 10.5 -0.2
baz=314
L36A **Harm Buss Farm** 31.66 103 P P 02 13 11.9 0.0
baz=318
G40A **Rib Lake** 31.68 94 P P 02 13 12.1 0.0
baz=313
CBKS **Cedar Bluff** 31.68 113 P P 02 13 12.4 +0.3
baz=322
N34A **Lincoln** 31.69 107 P P 02 13 12.0 -0.2
baz=319
K37A **Belmond** 31.69 101 P P 02 13 12.4 +0.2
baz=317
O33A **Hebron** 31.74 109 P P 02 13 13.0 +0.3
baz=320
ANMO **Albuquerque** 31.85 125 P P 02 13 14.7 +0.9
comp=Z,3.5nm,1.1s,baz=336,slow=6.8,SNR=5.3
ANMO LR LR 02 26 21.8
comp=Z,155nm,20.2s,baz=278,slow=37
ANMO **Albuquerque** 31.85 125 P P 02 13 14.7 +0.9
baz=329
ANMO **Albuquerque** 31.85 125 *e*P P 02 13 14.9 +1.1
ANMO pmax pmax
comp=Z,12nm,1.5s
ANMO **Albuquerque** 31.85 125 *e*P P 02 13 14.9 +1.1
comp=Z,12nm,1.5s
J38A **Wedel Dairy, R** 31.88 99 P P 02 13 13.9 +0.1
baz=316
I39A **Houston** 31.99 98 P P 02 13 14.7 -0.1
baz=315
214A **Organ Pipe Nat** 32.02 137 P P 02 13 15.8 +0.7
baz=336
H40A **Chili** 32.03 95 P P 02 13 16.0 +0.9
baz=314
FRB **Frobisher Bay** 32.05 52 LR LR 02 27 21.4
comp=Z,110nm,18.1s,baz=196,slow=39
M36A **Felix, Anita** 32.07 104 P P 02 13 16.2 +0.6
baz=318
O34A **Beatrice** 32.09 108 P P 02 13 15.7 0.0
baz=320,SNR=11
N35A **Tabor** 32.09 106 P P 02 13 15.9 +0.2
baz=319,SNR=5.7
L37A **Phoenix Point,** 32.10 102 P P 02 13 16.1 +0.4
baz=317
G41A **Antigo** 32.24 94 P P 02 13 16.7 -0.3
baz=313
J39A **Decorah** 32.26 98 P P 02 13 17.4 +0.2
baz=316
Y22D **IRIS PASSCAL I** 32.41 127 P P 02 13 19.4 +0.8
baz=330
F42A **Maple Grove Fa** 32.41 92 P P 02 13 18.0 -0.4
baz=312
H41A **Junction City** 32.41 95 P P 02 13 18.5 0.0
baz=314
SEY **Seymchan** 32.42 307 *e*P P 02 13 17.5 -0.8
I40A **Norwalk** 32.42 97 P P 02 13 18.9 +0.3
baz=315
TUC **Tucson** 32.44 134 P P 02 13 18.9 +0.1
baz=334
TUC **Tucson** 32.44 134 *e*P P 02 13 19.7 +0.8
TUC pmax pmax
comp=Z,20nm,1.4s
TUC **Tucson** 32.44 134 *e*P P 02 13 19.7 +0.8
comp=Z,20nm,1.4s
BNM **Barren Site** 32.46 126 *e*P P 02 13 20.6 +1.3
N36A **Muff Farm, Cla** 32.47 105 P P 02 13 19.3 +0.3
baz=319
M37A **Trindle Farm,** 32.48 103 P P 02 13 19.4 +0.3
baz=318
L38A **Oak Wood Farm,** 32.49 101 P P 02 13 18.8 -0.4
baz=317
P34A **Walnut Farm, R** 32.52 109 P P 02 13 19.3 -0.2
baz=321
K39A **Oelwein** 32.62 99 P P 02 13 19.9 -0.4
baz=316,SNR=5.6
J40A **Soldiers Grove** 32.71 97 P P 02 13 21.0 -0.1
baz=315
N37A **Lee Faris, Mou** 32.89 104 P P 02 13 22.7 0.0
baz=319
M38A **Pleasantville** 32.90 102 P P 02 13 22.3 -0.5
baz=318
P35A **Duane Minner,** 32.93 108 P P 02 13 23.0 -0.1
baz=321
Q34A **Chapman** 32.95 109 P P 02 13 23.2 0.0
baz=321
KSU1 **Kansas State U** 32.97 109 P P 02 13 23.9 +0.5
baz=321
K40A **Colesburg** 33.01 99 P P 02 13 23.3 -0.4
baz=316
J41A **Loganville** 33.11 97 P P 02 13 24.6 0.0
baz=315
P36A **Good Intent, A** 33.26 107 P P 02 13 26.4 +0.6
baz=320
R34A **Isabella, Hill** 33.28 110 P P 02 13 26.1 0.0
baz=322,SNR=5.2
N38A **Joes South For** 33.35 103 P P 02 13 26.2 -0.5
baz=319
O37A **Wolven Farm, M** 33.37 105 P P 02 13 27.2 +0.4
baz=319
M39A **Webster** 33.38 101 P P 02 13 26.9 0.0
baz=318
121A **Cookes Peak, D** 33.40 129 P P 02 13 28.0 +0.6
baz=332,SNR=5.7
L40A **Anamosa** 33.43 100 P P 02 13 27.1 -0.3
baz=317
Q35A **Mercer Eighty,** 33.44 108 P P 02 13 27.3 -0.2
baz=321
K41A **Shullsburg** 33.50 98 P P 02 13 27.5 -0.5
baz=316
Q36A **Arnold C. Orve** 33.64 108 P P 02 13 29.1 -0.2
baz=321
N39A **Derby Farms, D** 33.66 102 P P 02 13 29.3 0.0
baz=318
P37A **Lathrop** 33.70 106 P P 02 13 29.6 -0.2
baz=320
O38A **Galt** 33.74 104 P P 02 13 29.6 -0.5
baz=319
M40A **Post Highland** 33.76 101 P P 02 13 30.2 -0.1
baz=318
R35A **Emporia Munici** 33.77 109 P P 02 13 30.5 +0.1
baz=322
L41A **Preston** 33.79 99 P P 02 13 30.5 0.0
baz=317
S34A **Willow Spring** 33.82 111 P P 02 13 31.6 +0.7
baz=323
319A **Douglas** 33.84 132 *e*P P 02 13 32.9 +1.7
comp=Z,12nm,0.9s
AMTX **Amarillo** 33.98 119 P P 02 13 33.0 +0.7
baz=327
AMTX **Amarillo** 33.98 119 *e*P P 02 13 33.3 +0.9
comp=Z,10.0nm,0.9s
P38A **Dawn** 34.08 105 P P 02 13 33.2 +0.1
baz=320
N40A **Mertquake, Sal** 34.11 101 P P 02 13 33.8 +0.5
baz=318
R36A **Gordon, Harris** 34.11 108 P P 02 13 33.4 +0.1
baz=322
Q37A **Longview Farm,** 34.20 107 P P 02 13 34.2 0.0
baz=321
S35A **Otter Creek Ra** 34.22 110 P P 02 13 34.3 0.0
baz=322,SNR=6.1
MSTX **Muleshoe** 34.27 121 P P 02 13 34.7 -0.2
baz=328,SNR=6.8
MSTX **Muleshoe** 34.27 121 *e*P P 02 13 35.8 +1.0
comp=Z,20nm,1.0s
M41A **Milan** 34.28 100 P P 02 13 34.4 -0.3
baz=318
T34A **McClaskey Farm** 34.33 112 P P 02 13 35.2 0.0
baz=323
R37A **Teagarden Farm** 34.45 108 P P 02 13 36.2 -0.1
baz=321
O40A **La Belle** 34.54 103 P P 02 13 36.5 -0.5
baz=319
S36A **Lake Cedric, C** 34.54 109 P P 02 13 36.4 -0.7
baz=322
Q38A **Cooks Store, C** 34.55 106 P P 02 13 36.8 -0.3
baz=320,SNR=5.5
P39B **Salisbury** 34.58 104 P P 02 13 36.4 -1.0
baz=320
N41A **Harden Midland** 34.61 101 P P 02 13 37.5 -0.2
baz=318
MA2 **Magadan** 34.70 302 LR LR 02 29 27.7
comp=Z,101nm,18.2s,baz=76,slow=39
T35A **Sooner Cattle** 34.74 111 P P 02 13 38.4 -0.4
baz=323
Q39A **Willow Grove F** 34.80 105 P P 02 13 38.7 -0.6
baz=320
S37A **Fort Scott** 34.89 108 P P 02 13 39.9 -0.2
baz=322
P40A **Paris** 34.90 103 P P 02 13 39.5 -0.6
baz=320
T36A **Boggs Farm, Ca** 34.93 110 P P 02 13 40.0 -0.4
baz=323
R38A **Fenwick Farm,** 35.01 107 P P 02 13 40.6 -0.5
baz=321
O41A **Passleys Farm,** 35.04 102 P P 02 13 40.8 -0.6
baz=319
PETK **Petropavlovsk-** 35.05 289 P P 02 13 42.0 +0.7
comp=Z,3.2nm,0.4s,baz=286,slow=34,SNR=4.2
PETK LR LR 02 28 42.7
comp=Z,99nm,20.8s,baz=49,slow=37
MNTX **Cornudas Mount** 35.10 127 P P 02 13 42.8 +0.8
baz=331,SNR=6.8
MNTX **Cornudas Mount** 35.10 127 *e*P P 02 13 43.2 +1.2
comp=Z,10nm,1.4s
P41A **Barry, Barry** 35.28 102 P P 02 13 42.8 -0.7
baz=319
Q40A **Laux Farm, Aux** 35.29 104 P P 02 13 42.4 -1.1
baz=320
R39A **Chumby, Stover** 35.34 106 P P 02 13 43.2 -0.7
baz=321,SNR=9.4

T37A Cheneyville 18 35.34 109 P P 02 13 43.2 -0.8
baz=322,SNR=6.4
WMOK Wichita Mounta 35.43 116 P P 02 13 44.6 -0.2
baz=326,SNR=13
WMOK Wichita Mounta 35.43 116 *e*P P 02 13 45.6 +0.8
WMOK pmax pmax
comp=Z,16nm,1.0s
WMOK Wichita Mounta 35.43 116 *e*P P 02 13 45.5 +0.8
comp=Z,16nm,1.0s
S38A Stockton 35.44 107 P P 02 13 43.9 -1.0
baz=322,SNR=6.6
HDIL Hopedale 35.52 100 P P 02 13 44.1 -1.3
baz=318
S39A Bolivar 35.68 107 P P 02 13 45.7 -1.2
baz=322
P42A Winchester 35.71 102 P P 02 13 46.1 -1.1
baz=319
T38A Diamond 35.72 109 P P 02 13 46.4 -0.8
baz=322
R40A Maddies Statio 35.74 105 P P 02 13 45.7 -1.6
baz=321
Q41A Truxton 35.75 103 P P 02 13 46.5 -0.9
baz=320
U37A Salina 35.82 110 P P 02 13 47.5 -0.5
baz=323
TUL1 Leonard 35.89 111 P P 02 13 48.7 0.0
baz=324
TUL1 Leonard 35.89 111 *e*P P 02 13 49.0 +0.3
comp=Z,10.0nm,0.8s
V36A Jenks 35.92 112 P P 02 13 48.5 -0.4
baz=324
W35A Tecumseh 35.98 113 P P 02 13 49.2 -0.4
baz=325
P43A Skaggs, Pawnee 36.09 101 P P 02 13 49.7 -0.7
baz=319
U38A Gravette 36.15 109 P P 02 13 49.8 -1.1
baz=323,SNR=5.3
S40A Lebanon 36.16 106 P P 02 13 49.8 -1.2
baz=321
T39A Clever 36.18 108 P P 02 13 50.2 -1.0
baz=322
V37A Hulbert 36.22 111 P P 02 13 51.0 -0.5
baz=324,SNR=6.0
W36A Wetumka 36.30 113 P P 02 13 51.9 -0.4
baz=324
T40A Mansfield 36.50 107 P P 02 13 52.6 -1.4
baz=322
TIXI Tiksi 36.51 328 *e*P P 02 13 52.8 -0.8
TIXI pmax pmax
comp=Z,13nm,1.1s
Q43A New Douglas 36.53 102 P P 02 13 53.8 -0.3
baz=320
S41A Jillco Farms, 36.54 105 P P 02 13 53.5 -0.8
baz=321,SNR=9.3
X35A Drake 36.55 114 P P 02 13 53.9 -0.5
baz=325
V38A Canehill 36.59 110 P P 02 13 54.1 -0.7
baz=323,SNR=9.1
U39A Green Forest 36.63 108 P P 02 13 54.1 -1.0
baz=323
P44A Sand Creek, Wi 36.68 100 P P 02 13 54.6 -0.7
baz=319
W37B Quinton 36.68 112 P P 02 13 55.5 0.0
baz=324
X36A Centrahoma 36.71 113 P P 02 13 56.0 +0.3
baz=325
S42A Caledonia 36.88 104 P P 02 13 56.1 -1.0
baz=321
Q44A Meyer Farm, Va 36.90 101 P P 02 13 56.7 -0.6
baz=320
R43A Red Bud 36.92 103 P P 02 13 56.5 -0.9
baz=320
T41A Mountain View 36.96 106 P P 02 13 56.9 -0.9
baz=322
U40A Yellville 36.96 108 P P 02 13 57.3 -0.6
baz=322
V39A Pettigrew 36.98 109 P P 02 13 57.4 -0.8
baz=323,SNR=6.8
X37A Clayton 37.16 112 P P 02 13 59.5 0.0
baz=325
W38A Poteau 37.18 111 P P 02 13 59.7 0.0
baz=324
Y36A Durant 37.29 114 P P 02 14 00.3 -0.3
baz=326
T42A Van Buren 37.30 105 P P 02 13 59.6 -1.1
baz=322
SKR Severo-Kuril's 37.31 287 *e*P P 02 14 01.6 +1.0
X38A Whitesboro 37.35 111 P P 02 14 01.3 +0.1
baz=324
SCHQ Schefferville 37.37 64 LR LR 02 30 32.4
comp=Z,33nm,19.9s,baz=52,slow=38
S43A Fulton Ridge, 37.39 104 P P 02 14 00.1 -1.4
baz=321
V40A Witts Springs 37.41 108 P P 02 14 00.2 -1.5
baz=323,SNR=5.2
U41A Viola 37.43 107 P P 02 14 00.7 -1.1
baz=322
W39A Magazine 37.43 110 P P 02 14 00.8 -1.0
baz=324
Y37A Hugo 37.54 113 P P 02 14 02.8 0.0
baz=325
233A Rising Star 37.64 119 P P 02 14 03.3 -0.4
baz=328
T43A Greenville 37.66 104 P P 02 14 03.1 -0.6
baz=321
SADO Sadowa 37.73 86 LR LR 02 29 51.1
comp=Z,189nm,18.5s,baz=340,slow=37
SUMG Summit 37.73 29 *i*P P 02 14 07.1 +2.6
comp=Z,6.9nm,0.8s
SUMG Summit 37.73 29 *e*P P 02 14 07.1 +2.6
SUMG pmax pmax
comp=Z,7.0nm,0.8s
Z36A Blue Ridge 37.74 115 P P 02 14 04.4 -0.1
baz=326
V41A Mountainview 37.76 108 P P 02 14 03.1 -1.5
baz=323
U42A Revenden 37.76 106 P P 02 14 03.8 -0.9
baz=322
X39A Fountain Ranch 37.83 111 P P 02 14 04.2 -1.0
baz=324
TX31 Lajitas Ar. Si 37.88 127 *e*P P 02 14 06.4 +0.6
TXAR Lajitas Array 37.88 127 P P 02 14 06.3 +0.5
comp=Z,3.2nm,0.8s,baz=325,slow=6.6,SNR=26
TXAR PcP PcP 02 16 21.4 -0.5
comp=Z,0.7nm,0.6s,baz=217,slow=0.7,SNR=6.4
TXAR LR LR 02 30 29.5
comp=Z,71nm,19.0s,baz=0.0,slow=38
234A Clairette 38.00 118 P P 02 14 06.1 -0.6
baz=328
MIAR Mount Ida 38.06 110 P P 02 14 06.7 -0.4
baz=324,SNR=11
MIAR Mount Ida 38.06 110 *e*P P 02 14 07.2 +0.1
MIAR pmax pmax
comp=Z,11nm,0.8s
MIAR Mount Ida 38.06 110 *e*P P 02 14 07.2 +0.1
comp=Z,11nm,0.8s
V42A Cord 38.12 107 P P 02 14 06.0 -1.6
baz=323
U43A Rector 38.16 105 P P 02 14 07.4 -0.6
baz=322
333A Richland Sprin 38.19 119 P P 02 14 08.2 -0.1
baz=328
W41B Gary Mavity, V 38.20 108 P P 02 14 07.8 -0.6
baz=323
Y39A Lockesburg 38.30 111 P P 02 14 09.1 -0.1
baz=325
USIN University of 38.30 101 *e*P P 02 14 09.2 +0.1
comp=Z,22nm,0.7s
WHTX Lake Whitney, 38.33 117 P P 02 14 09.5 +0.1
baz=327
136A Ennis 38.35 115 P P 02 14 09.6 0.0
baz=327
U44A Portageville 38.42 104 P P 02 14 10.3 +0.2
baz=322
X40A Basin Creek Fa 38.47 109 P P 02 14 09.9 -0.7
baz=324
334A Lometa 38.52 118 P P 02 14 10.5 -0.6
baz=328
JCT Junction City 38.55 121 P P 02 14 11.6 +0.3
baz=329
433A Art 38.63 120 P P 02 14 11.8 -0.2
baz=329
236A Katherine and 38.75 116 P P 02 14 13.7 +0.7
baz=327
434A Burnet 38.95 119 P P 02 14 14.8 +0.1
baz=328
Y41A Eaglette Beard 39.06 110 P P 02 14 15.8 +0.2
baz=324

237A Washetta, Mont 39.08 115 P P 02 14 15.7 0.0
baz=327
336A Riesel 39.12 117 P P 02 14 16.1 +0.1
baz=328
DAG Danmarks Havn 39.17 19 *i*P P 02 14 15.3 -0.7
comp=Z,6.7nm,0.7s
DAG Danmarks Havn 39.17 19 *i*P P 02 14 15.3 -0.7
DAG pmax pmax
comp=Z,5.0nm,0.7s
HPIG 39.20 131 *e*P P 02 14 18.6 +1.5
comp=Z,7.1nm,0.8s
533A Kerrville 39.24 120 P P 02 14 17.5 +0.4
baz=329
534A Blanco 39.52 120 P P 02 14 19.1 -0.4
baz=329
WVT Waverly 39.64 103 *e*P P 02 14 20.3 -0.1
WVT pmax pmax
comp=Z,6.0nm,0.7s
WVT Waverly 39.64 103 *e*P P 02 14 20.3 -0.1
comp=Z,5.6nm,0.7s
239A Gary 39.70 114 P P 02 14 21.6 +0.7
baz=326
M54A Oil Creek Stat 39.77 90 P P 02 14 21.4 0.0
baz=317
N54A Moraine State 40.00 91 P P 02 14 22.7 -0.6
baz=317,SNR=5.4
LPIG La Paz 40.08 139 LR LR 02 31 47.3
comp=Z,76nm,20.1s,baz=10,slow=37
733A Divot King Ran 40.28 122 P P 02 14 26.4 +0.6
baz=330
832A Faith Ranch, C 40.36 123 P P 02 14 27.5 +1.0
baz=331
340A Bronson 40.47 113 P P 02 14 27.5 +0.2
baz=326
NCB Newcomb 40.81 83 *e*P P 02 14 30.6 +0.6
comp=Z,0.2nm,1.0s
341A Kurthwood 40.88 113 P P 02 14 31.4 +0.7
baz=326
Y46A Houston 40.91 106 P P 02 14 30.4 -0.5
baz=323,SNR=5.9
637A Eagle Lake 40.99 118 P P 02 14 32.6 +0.9
baz=328
736A Circle Diamond 41.07 119 P P 02 14 33.2 +0.9
baz=329
O56A Blue Knob Stat 41.24 90 P P 02 14 33.4 -0.3
baz=318
933A Laredo 41.25 123 P P 02 14 35.2 +1.4
baz=331
SSPA Standing Stone 41.32 89 *e*P P 02 14 34.8 +0.5
comp=Z,20nm,1.1s
Y47A UCPARC, Winfie 41.39 105 P P 02 14 35.0 +0.1
baz=323
Z46A Louisville 41.42 107 P P 02 14 35.6 +0.5
baz=324
244A Avery, Jackson 41.49 109 P P 02 14 36.2 +0.5
baz=325
934A Benavides 41.59 122 P P 02 14 37.9 +1.4
baz=330
Z47A Carrollton 41.84 106 P P 02 14 38.0 -0.6
baz=324,SNR=14
344A Westbrook Farm 41.95 110 P P 02 14 39.2 -0.3
baz=326
Z48A Northport 41.96 105 P P 02 14 39.1 -0.4
baz=324,SNR=7.1
034A Hebbronville 41.98 122 P P 02 14 41.3 +1.5
baz=331
TKL Tuckaleechee C 42.06 99 P P 02 14 40.1 -0.3
comp=Z,2.9nm,0.8s,baz=327,slow=7.1,SNR=4.9
SPITS Spitsbergen Ar 42.08 8 P P 02 14 39.1 -0.9
comp=Z,5.4nm,0.8s,baz=29,slow=1.9,SNR=4.3
SPITS PcP PcP 02 16 33.4 -1.1
comp=Z,7.2nm,0.7s,baz=27,slow=2.1,SNR=4.2
147A Livingston 42.17 106 P P 02 14 41.5 +0.3
baz=324
N59A State Game Lan 42.21 87 P P 02 14 41.7 +0.2
baz=317
345A Thompson Farm, 42.41 109 P P 02 14 43.7 +0.5
baz=325
247A Quitman 42.50 107 P P 02 14 44.4 +0.4
baz=325
LRAL Lakeview Retre 42.51 105 *e*P P 02 14 44.1 0.0
comp=Z,33nm,2.0s
BLA Blacksburg 42.58 95 *e*P P 02 14 45.5 +0.8
BLA pmax pmax
comp=Z,21nm,1.2s
BLA Blacksburg 42.58 95 *e*P P 02 14 45.5 +0.8
comp=Z,21nm,1.2s
248A Dixon Mills 42.90 106 P P 02 14 47.0 -0.2
baz=324,SNR=8.7
347A Saraland 43.07 108 P P 02 14 49.1 +0.6
baz=325
348A Jackson 43.37 107 P P 02 14 51.2 +0.2
baz=325
447A Lucedale 43.51 108 P P 02 14 52.4 +0.3
baz=325
JSRW J. Sargeant Re 43.52 92 *e*P P 02 14 52.7 +0.5
LNIG Linares 43.54 125 *e*P P 02 14 52.9 +0.5
comp=Z,15nm,0.8s
KMSC Kings Mountain 43.71 97 P P 02 14 53.7 -0.1
baz=321
JSC Jenkinsville 44.42 98 *e*P P 02 14 59.9 +0.5
JSC pmax pmax
comp=Z,18nm,1.5s
JSC Jenkinsville 44.42 98 *e*P P 02 14 59.9 +0.5
comp=Z,18nm,1.5s
CLNS Chul'man 47.09 312 *e*P P 02 15 18.9 -1.4
CLNS pmax pmax
comp=Z,21nm,1.1s
CLNS pmax pmax
comp=N,7.0nm,0.9s
CLNS pmax pmax
comp=E,16nm,1.0s
NRIK Noril'sk 47.72 340 P P 02 15 25.1 +0.2
comp=E,4.6nm,0.4s,baz=48,slow=6.0,SNR=7.3
NRIK LR LR 02 38 09.6
comp=E,77nm,18.1s,baz=102,slow=40
BOD Bodaibo 50.31 319 *e*P P 02 15 44.0 -1.0
BOD pmax pmax
comp=Z,15nm,1.2s
ARCES ARCESS Array B 51.11 7 P P 02 15 49.8 -1.1
comp=Z,3.4nm,0.8s,baz=6.8,slow=8.4,SNR=4.7
ARCES PcP PcP 02 17 05.7 -0.6
comp=Z,5.2nm,0.8s,baz=310,slow=5.7,SNR=6.3
ARCES LR LR 02 42 32.3
comp=Z,28nm,18.1s,baz=356,slow=42
CMIG Matias Romero 52.41 124 P P 02 16 01.3 +0.1
comp=Z,5.7nm,0.9s,baz=318,slow=7.6,SNR=6.1
USRK Ussuriysk Ar. 53.45 296 P P 02 16 08.2 -0.4
comp=Z,4.0nm,0.9s,baz=77,slow=7.6,SNR=4.1
USRK pP pP 02 16 12.1 +0.6
comp=Z,3.4nm,0.8s,baz=32,slow=9.7,SNR=4.9
MDJ Mudanjiang 54.23 298 P P 02 16 14.1 -0.2
MDJ pmax pmax
comp=Z,7.0nm,0.6s
MDJ pmax pmax
comp=Z,54nm,5.3s
H11N2 WAKE ISLAND Hy 55.53 249 T T 03 15 56.0
baz=31,slow=76,SNR=2794
H11N3 WAKE ISLAND Hy 55.53 249 T T 03 15 46.7
baz=31,slow=76,SNR=3372
H11N1 WAKE ISLAND Hy 55.55 249 T T 03 15 43.1
baz=31,slow=76,SNR=2134
MAJO Matsushiro 56.41 286 *c i*P P 02 16 33.0 +2.9
MJAR Matsushiro Arr 56.41 286 LR LR 02 41 60.0
comp=Z,44nm,21.8s,baz=45,slow=37
H11S1 WAKE ISLAND Hy 56.67 249 T T 03 17 07.3
baz=30,slow=76,SNR=2210
H11S2 WAKE ISLAND Hy 56.68 249 T T 03 17 09.5
baz=30,slow=76,SNR=822
H11S3 WAKE ISLAND Hy 56.69 249 T T 03 17 09.0
baz=30,slow=76,SNR=1048
NB2 NORSAR Subarra 57.83 17 P P 02 16 39.0 -0.9
comp=Z,2.4nm,0.6s,baz=342,slow=7.4
NOA NORSAR Array B 57.83 17 P P 02 16 38.9 -0.9
comp=Z,2.7nm,0.6s,baz=343,slow=7.3,SNR=9.2
TLY Talaya 58.80 320 P P 02 16 46.8 +0.1
comp=Z,3.1nm,0.7s,baz=11,slow=6.4,SNR=4.9
TLY Talaya 58.80 320 *e*P P 02 16 49.4 +2.7
TLY pmax pmax
comp=Z,15nm,0.8s
TLY MLR MLR
comp=Z,197nm,17.0s
FINES FINESS Array B 59.15 9 P P 02 16 48.3 -0.7
comp=Z,2.2nm,0.7s,baz=3.4,slow=9.5,SNR=6.9
FINES LR LR 02 46 32.6
comp=Z,23nm,18.1s,baz=32,slow=40
FINES FINESS Array B 59.15 9 *ce*P P 02 16 48.5 -0.5
FINES pmax pmax
comp=Z,2.0nm,0.7s
KLMR Klimovskoe 60.36 1 *e*P P 02 16 55.5 -1.8
KLMR pmax pmax
comp=Z,22nm,1.4s
KSRS Korea Array 60.66 294 P P 02 17 00.3 +0.6
comp=Z,11nm,0.6s,baz=31,slow=6.5,SNR=12
KSRS pP sP 02 17 04.1 +0.2
comp=Z,6.3nm,0.8s,baz=25,slow=6.7,SNR=9.7
KSRS LR LR 02 44 14.0
comp=Z,24nm,19.2s,baz=38,slow=37
KSAR Wonju Array Be 60.69 294 P P 02 17 00.3 +0.4
KSAR *PP sP 02 17 04.1 +0.1
KSAR Wonju Array Be 60.69 294 P P 02 17 00.3 +0.4
KSAR pP sP 02 17 04.1 +0.1
ULN Ulaanbaatar 60.85 316 *ce*P P 02 17 01.7 +0.7
ULN pmax pmax
comp=Z,21nm,1.0s
ULN Ulaanbaatar 60.85 316 *e*P P 02 17 01.9 +0.9
SOKR Solikamsk 61.06 351 *d i*P P 02 17 00.6 -1.4
SOKR pmax pmax
comp=Z,47nm,1.2s
SONA1 Songino Array 61.10 316 *e*P P 02 17 03.6 +0.9
SONM Songino Array 61.11 316 P P 02 17 03.7 +0.9
comp=Z,5.1nm,0.6s,baz=32,slow=8.9,SNR=17
SONM pP sP 02 17 07.8 +0.8
comp=Z,5.4nm,0.6s,baz=37,slow=9.0,SNR=6.2
SONM LR LR 02 45 24.3
comp=Z,106nm,20.0s,baz=44,slow=38
ZALV Zalesovo Beam 62.13 333 P P 02 17 08.8 -0.6
comp=Z,3.5nm,0.6s,baz=16,slow=6.3,SNR=11
ZALV pP pP 02 17 12.8 +0.4
comp=Z,6.6nm,0.9s,baz=17,slow=6.7,SNR=2.7
ZALV LR LR 02 48 33.9
comp=Z,58nm,18.4s,baz=234,slow=40
ARU Arti 64.05 350 P P 02 17 21.7 -0.4
comp=Z,12nm,0.5s,baz=337,slow=2.9,SNR=19
ARU pP pP 02 17 25.3 +0.2
comp=Z,12nm,0.5s,baz=341,slow=2.9,SNR=6.4
ARU Arti 64.05 350 *c i*P P 02 17 21.6 -0.4
ARU 02 17 57.6
ARU S S 02 25 57.1 -1.0
ARU SS SS 02 29 59.8 -5.9
ARU pmax pmax
comp=Z,23nm,1.0s
HHC Hu-ho-hao-te 65.05 308 *e*P P 02 17 30.9 +1.9
HHC PP PP 02 20 00.4 +8.9
HHC S S 02 26 17.0 +5.9
HHC pmax pmax
comp=Z,8.0nm,1.0s
HHC pmax pmax
comp=Z,66nm,5.1s
HHC LR LR
comp=N,250nm,15.3s
HHC LR LR
comp=E,290nm,17.5s
BRVK Borovoye 65.87 342 *ce*P P 02 17 34.0 +0.1
BRVK pmax pmax
comp=Z,33nm,1.7s
BRVK Borovoye 65.87 342 *e*P P 02 17 33.8 -0.1
BVAR Borovoye Array 65.88 342 P P 02 17 33.8 -0.3
comp=Z,2.3nm,0.6s,baz=38,slow=5.6,SNR=20
OBN Obninsk 66.05 3 *e*P P 02 17 34.9 -0.1
OBN *i* 02 17 40.4
OBN pmax pmax
comp=Z,29nm,1.7s
KURK Kurchatov 66.54 336 *ce*P P 02 17 38.0 -0.3
KURK pmax pmax
comp=Z,19nm,1.0s
KURK Kurchatov 66.54 336 P P 02 17 38.2 -0.1
KURK pP pP 02 17 42.0 +0.7
KURK PcP PcP 02 18 07.9 +0.3
KURBB Kurchatov Arra 66.64 336 P P 02 17 38.2 -0.8
comp=Z,5.4nm,0.8s,baz=24,slow=5.9,SNR=33
KURBB pP pP 02 17 42.0 0.0
comp=Z,1.9nm,0.8s,baz=21,slow=5.6,SNR=9.9
KURBB PcP PcP 02 18 07.9 -0.2
comp=Z,2.4nm,0.6s,baz=16,slow=4.6,SNR=6.3
CLL Collm 67.46 19 *e*P P 02 17 44.0 -0.1
CLL Collm 67.46 19 *e*P P 02 17 44.0 -0.1
BRG Berggiesshubel 68.03 19 *e*P P 02 17 47.9 +0.1
comp=Z,3.9nm,1.0s
BRG Berggiesshubel 68.03 19 *e*P P 02 17 47.9 +0.1
BRG pmax pmax
comp=Z,6.0nm,1.0s
MOTC Monteria, Cord 68.52 110 *e*P P 02 17 50.4 -0.9
UPC Upice 68.72 17 *e*P P 02 17 52.4 +0.3
UPC Upice 68.72 17 *e*P P 02 17 52.4 +0.3
DPC Dobruska-Polom 68.92 17 *e*P P 02 17 54.1 +0.7
DPC Dobruska-Polom 68.92 17 *e*P P 02 17 54.1 +0.7
KRLC Kraliky 69.26 17 *e*P P 02 17 55.9 +0.4
KRLC Kraliky 69.26 17 *e*P P 02 17 55.9 +0.4
MK31 Makanchi Array 69.38 332 *e*P P 02 17 55.7 -0.6
MK31 Makanchi Array 69.38 332 *e*P P 02 17 55.7 -0.6
MKAR Makanchi Array 69.38 332 *e*P P 02 17 55.7 -0.6
MKAR Makanchi Array 69.38 332 *e*P P 02 17 55.7 -0.6
KHC Kasperske Hory 69.66 19 *e*P P 02 17 58.6 +0.6
KHC *ex* x 02 18 03.6
KHC Kasperske Hory 69.66 19 *e*P P 02 17 58.6 +0.6
KHC *e* 02 18 03.6
OKC Ostrava-Krasne 69.69 16 *e*P P 02 17 58.1 0.0
OKC Ostrava-Krasne 69.69 16 *e*P P 02 17 58.1 0.0
GERES GERESS Array B 69.95 19 P P 02 17 59.5 -0.4
comp=Z,0.4nm,0.6s,baz=352,slow=5.5,SNR=5.8
GERES LR LR 02 51 38.2
comp=Z,39nm,18.1s,baz=342,slow=38
VRAC Vranov 69.97 17 P P 02 18 00.2 +0.3
comp=Z,1.9nm,0.5s,baz=342,slow=3.4,SNR=4.1
VRAC Vranov 69.97 17 *i*P P 02 17 59.2 -0.7
ZARC Zaragoza, Cauc 70.03 110 *e*P P 02 17 59.6 -1.0
AKASG Malin Array Be 70.06 9 P P 02 17 59.6 -0.7
comp=Z,3.6nm,0.5s,baz=355,slow=6.0,SNR=17
AKASG LR LR 02 51 47.0
comp=Z,30nm,18.4s,baz=315,slow=39
AKASG Malin Array Be 70.06 9 *ce*P P 02 17 59.5 -0.8
AKASG pmax pmax
comp=Z,4.0nm,0.5s
AKBB Malin Array Si 70.06 9 *e*P P 02 17 59.9 -0.5
AKBB Malin Array Si 70.06 9 *e*P P 02 17 59.9 -0.5
KIEV Kiev 70.07 9 *e*P P 02 17 59.7 -0.7
KIEV pmax pmax
comp=Z,7.0nm,0.6s
KIEV Kiev 70.07 9 *e*P P 02 17 59.8 -0.5
STHS Stebnicka Huta 70.52 14 *e*P P 02 18 03.6 +0.4
STHS pmax pmax
comp=Z,4.0nm,0.8s
STHS Stebnicka Huta 70.52 14 *e*P P 02 18 03.6 +0.4
LANS Liptovska Anna 70.55 15 *e*P P 02 18 04.0 +0.6
LANS Liptovska Anna 70.55 15 *e*P P 02 18 04.0 +0.6
WMQ Urumqi 70.70 327 P P 02 18 06.5 +2.0
WMQ pP sP 02 18 11.3 +2.6
WMQ sP pP 02 18 13.5 +5.9
WMQ pmax pmax
comp=Z,16nm,0.6s
WMQ pmax pmax
comp=Z,140nm,3.8s
GTA Gaotai 70.79 316 *e*P P 02 18 05.6 +0.4
GTA pP sP 02 18 09.3 -0.1
GTA sP pP 02 18 12.3 +4.1
GTA S S 02 27 15.6 -4.2
GTA sS pS 02 27 23.8 +0.2
GTA Gaotai 70.79 316 SS SS 02 31 45.0 -5.9
GTA pmax pmax
comp=Z,10.0nm,1.0s
GTA pmax pmax
comp=Z,71nm,6.9s
GTA LR LR
comp=N,100nm,13.5s
GTA LR LR
comp=E,160nm,16.9s
GTA LR LR
comp=Z,92nm,13.8s
HELC Santa Helena 70.83 111 *e*P P 02 18 06.0 0.0
VYHS Vyhne 71.10 16 *e*P P 02 18 06.5 -0.3
VYHS Vyhne 71.10 16 *e*P P 02 18 06.5 -0.3
CONA Conrad Observa 71.20 18 *e*P P 02 18 06.8 -0.7
comp=Z,3.3nm,0.7s
KBA Koelnbreinsper 71.60 20 *es*P P 02 18 10.3 +0.3
comp=Z,3.7nm,0.8s
BARC Barichara 71.62 109 *e*P P 02 18 08.7 -1.9
ABTA Abfaltersbach 71.77 21 pP P 02 18 10.6 -0.3
comp=Z,2.9nm,1.1s
ARSA Arzberg 71.80 19 *ep*P P 02 18 11.3 +0.3
comp=Z,3.3nm,1.1s
XAN Xi'an 71.96 307 P P 02 18 11.8 -0.4

XAN pP sP 02 18 21.5 +5.1
XAN sP PcP 02 18 24.0 -6.8
XAN pmax pmax
comp=Z,11nm,1.5s
XAN pmax pmax
comp=Z,64nm,5.1s
LZH Lanzhou 72.21 311 *e*P **P 02 18 14.8 +1.0**
LZH pP sP 02 18 18.3 +0.3
LZH sP pP 02 18 21.9 +5.0
LZH pmax pmax
comp=Z,21nm,1.0s
LZH pmax pmax
comp=Z,110nm,5.1s
RUSC La Rusia 72.27 109 *e*P **P 02 18 13.8 -1.0**
RUSC La Rusia 72.27 109 *e*P **P 02 18 14.4 -0.4**
OBKA Obir 72.36 19 *ep*P **P 02 18 14.1 -0.4**
comp=Z,5.3nm,0.9s
SORM Soroca 72.54 9⇑*i*P **P 02 18 14.4 -1.0**
SORM Soroca 72.54 9 ⇑P **P 02 18 14.4 -1.0**
ROSC El Rosal 72.59 111 LR LR 02 53 41.7
comp=Z,48nm,18.6s,baz=161,slow=39
ROSC El Rosal 72.59 111 *e*P **P 02 18 17.6 +1.1**
BUR08 Bucovina Ar. S 72.72 12 *e*P **P 02 18 17.2 +0.6**
BURAR Bucovina Array 72.76 12⇑*i*P **P 02 18 16.2 -0.6**
BURAR Bucovina Array 72.76 12 ⇑P **P 02 18 16.2 -0.6**
SIRR Siria 73.67 15⇑*i*P **P 02 18 19.5 -2.6**
LEOM Leova 74.18 10⇑*i*P **P 02 18 24.0 -1.0**
LEOM Leova 74.18 10 ⇑P **P 02 18 24.0 -1.0**
BZS Buzias 74.30 15⇑*i*P **P 02 18 25.1 -0.7**
BZS Buzias 74.30 15 ⇑P **P 02 18 25.1 -0.7**
ESDC Sonseca Array 74.48 35 P **P 02 18 26.8 -0.3**
comp=Z,0.9nm,0.7s,baz=331,slow=6.1,SNR=6.1
ESDC LR LR 02 50 28.2
comp=Z,59nm,18.8s,baz=320,slow=35
PLOR Plostina 74.65 11⇓*i*P **P 02 18 27.8 -0.1**
PLOR Plostina 74.65 11 ⇓P **P 02 18 27.8 -0.1**
OTAV Otavalo 74.66 117 *e*P **P 02 18 29.9 +1.0**
LOT Lotru 74.73 13⇓*i*P **P 02 18 28.1 -0.4**
VOIR 74.89 12⇑*i*P **P 02 18 28.0 -1.3**
VOIR 74.89 12 ⇑P **P 02 18 28.0 -1.3**
ARR Arges 74.91 13⇓*i*P **P 02 18 29.6 +0.1**
MLR Muntele Rosu 74.93 12 LR LR 02 50 38.1
comp=Z,12nm,20.2s,baz=1.5,slow=35
MLR Muntele Rosu 74.93 12⇑*i*P **P 02 18 30.7 +1.1**
MLR Muntele Rosu 74.93 12 ⇑P **P 02 18 30.7 +1.1**
AAK Ala-Archa 75.10 336 LR LR 02 55 36.3
comp=Z,72nm,18.0s,baz=4.5,slow=39
AAK Ala-Archa 75.10 336 *e*P **P 02 18 31.0 +0.3**
AAK pmax pmax
comp=Z,24nm,1.1s
AAK Ala-Archa 75.10 336 *e*P **P 02 18 31.1 +0.4**
CFR Carcaliu 75.45 10⇓*i*P **P 02 18 32.3 -0.1**
CFR Carcaliu 75.45 10 ⇓P **P 02 18 32.3 -0.1**
TLCR 75.50 10⇓*i*P **P 02 18 32.9 +0.2**
TLCR 75.50 10 ⇓P **P 02 18 32.9 +0.2**
MNAS Manas 75.65 337 P **P 02 18 34.4 +0.5**
MNAS pmax pmax
comp=Z,9.0nm,1.0s
HARR Harsova 75.92 10⇑*i*P **P 02 18 33.5 -1.6**
HARR Harsova 75.92 10 ⇑P **P 02 18 33.5 -1.6**
TLB Topalu 76.03 10⇑*i*P **P 02 18 35.5 -0.3**
TLB Topalu 76.03 10 ⇑P **P 02 18 35.5 -0.3**
GOF Gofitskoye 76.19 359⇑*e*P **P 02 18 36.4 -0.3**
GOF pmax pmax
comp=Z,26nm,0.9s
PDG Podgorica 77.09 17⇑*i*P **P 02 18 39.2 -2.6**
KIV Kislovodsk 77.30 359 *e*P **P 02 18 42.9 -0.2**
KIV pmax pmax
comp=Z,9.0nm,1.0s
KIV MLR MLR
comp=Z,27nm,18.0s
VTS Vitosha 77.48 14⇑*i*P **P 02 18 40.9 -3.3**
VTS Vitosha 77.48 14 ⇑P **P 02 18 40.9 -3.3**
KBZ Khabaz 77.52 359 P **P 02 18 44.5 +0.3**
comp=Z,4.9nm,0.9s,baz=342,slow=5.2,SNR=14
NCK Nalchik 77.75 359 *i* P **P 02 18 44.8 -0.7**
NCK pmax pmax
comp=Z,9.0nm,1.0s
KSH Kashi 77.75 334⇓*i*P **P 02 18 48.8 +3.0**
KSH PcP **PcP 02 18 58.6 +2.8**
KSH PP **PP 02 21 45.8 +5.5**
KSH S **S 02 28 40.6 +2.6**
KSH Kashi 77.75 334 SKS **SKSac 02 28 58.8 -0.6**
KSH Kashi 77.75 334 ScS **ScS 02 29 05.6 +1.0**
KSH Kashi 77.75 334 SS **SS 02 33 43.6 +7.0**
KSH pmax pmax
comp=Z,11nm,1.1s
KSH pmax pmax
comp=Z,100nm,3.8s
KSH LR LR
comp=N,52nm,5.1s
KSH LR LR
comp=E,57nm,4.8s
KSH LR LR
comp=Z,120nm,5.5s
NEY Neytrino 78.00 359 *e*P **P 02 18 47.5 +0.3**
NEY pmax pmax
comp=Z,1.0nm,0.7s
ZEI Tsey 78.45 359 *e*P **P 02 18 46.8 -2.9**
ZEI pmax pmax
comp=Z,21nm,1.1s
GNI Garni 81.08 358 *e*P **P 02 19 04.6 +0.7**
GNI pmax pmax
comp=Z,33nm,1.1s
BRTR Keskin Array B 81.28 6 P **P 02 19 04.6 -0.4**
comp=Z,3.1nm,0.8s,baz=6.4,slow=3.5,SNR=19
BRTR LR LR 02 57 50.9
comp=Z,13nm,20.3s,baz=339,slow=38
BRTR Keskin Array B 81.28 6*ce*P **P 02 19 04.9 -0.1**
BRTR pmax pmax
comp=Z,3.0nm,0.7s
KMI Kunming 82.33 307 P **P 02 19 11.5 +0.7**
KMI pmax pmax
comp=Z,13nm,0.7s
GEYT Alibeck 82.39 347 P **P 02 19 10.4 -0.3**
comp=Z,6.6nm,0.6s,baz=306,slow=5.3,SNR=14
GEYT LR LR 02 59 36.3
comp=Z,36nm,20.2s,baz=160,slow=38
PTGA Pitinga 84.52 101 P **P 02 19 21.9 +0.1**
comp=Z,5.0nm,0.7s,baz=336,slow=6.7,SNR=16
TAPN Taplejung 85.91 320 *e*P **P 02 19 29.0 -0.1**
comp=Z,38nm,0.7s
GUN Gumba 85.98 322 *e*P **P 02 19 29.4 -0.1**
JIRN Jiri 86.12 322 *e*P **P 02 19 30.4 +0.2**
KKN Kakani 86.28 322 *e*P **P 02 19 30.7 -0.2**
comp=Z,28nm,0.6s
GKN Gorkha 86.29 323 *e*P **P 02 19 30.7 -0.1**
comp=Z,15nm,0.6s
PKI Pulchoki 86.45 322 *e*P **P 02 19 31.6 -0.2**
comp=Z,16nm,0.5s
DMN Daman 86.51 323 *e*P **P 02 19 31.8 -0.2**
comp=Z,16nm,0.5s
RAMN Ramite 86.64 321 *e*P **P 02 19 32.6 -0.1**
comp=Z,30nm,0.6s
PYUN Piuthan 86.70 324 *e*P **P 02 19 32.8 -0.1**
KOLN Koldanda 86.82 324 *e*P **P 02 19 32.9 -0.6**
comp=Z,14nm,0.7s
CMAR Chiang Mai Arr 89.84 307 P **P 02 19 48.0 +0.3**
comp=Z,1.5nm,0.4s,baz=4.5,slow=5.5,SNR=8.4
CMAR pP **sP 02 19 51.9 0.0**
comp=Z,11nm,0.8s,baz=5.7,slow=5.1,SNR=12
CMAR LR LR 03 03 41.6
comp=Z,38nm,18.7s,baz=7.0,slow=38
CMAR Chiang Mai Arr 89.84 307 *i* P **P 02 19 45.0 -2.7**
CMAR pmax pmax
comp=Z,2.0nm,0.4s
LPAZ La Paz 93.94 115 P **P 02 20 05.2 -2.0**
comp=Z,1.3nm,0.7s,baz=315,slow=0.7,SNR=5.8
BOSA Boshof 147.42 28 PKPbc **PKPbc 02 26 31.3 -1.1**
comp=Z,5.2nm,0.8s,baz=3.2,slow=1.5,SNR=9.4
VNA3 Neumayer Olymp 156.09 141 PKP **PKPab 02 27 08.9 -0.4**
VNA1 Neumayer--Stat 156.59 140 PKP **PKPab 02 27 11.3 -0.1**
VNA2 Neumayer--Watz 156.86 141 PKP **PKPdf 02 26 43.6 +1.1**
baz=158,slow=0.3
VNA2 x x 02 27 11.8
baz=295,slow=4.7
SNAA Sanae 158.20 143 PKP **PKPab 02 27 17.7 -0.7**
MAW Mawson 167.39 219 PKPab **PKPab 02 27 57.5 -1.2**
comp=Z,1.4nm,0.6s,baz=72,slow=5.3,SNR=6.7

NIED ***15*** *02:13:00,38.˚30N×142.˚10E,h44km,Mw3.8 Best double couple: M₀5.08000×10¹⁴ NP1:φ₅289.00000°,δ31.00000°, λ-163.00000°. NP2:φ₅184.00000°,δ81.00000°,*

λ-60.00000°.
IDC ***15*** *02:13:51.9±1.8,38.˚44N×142.˚64E,h0km,mb4.1/4, mb1 4.2/6,mb1mx3.6/59,mbtmp4.1/6,ML3.5/2,MS2.7/2, Ms1 2.7/2,ms1mx2.5/44,Error ellipse: s-maj=42.0km s-min=23.8km az=89.0*
ISCJB ***15*** *02:13:57.1±1.4,38.˚31N±0.˚04×142.˚16E±0.˚07,h33km±9km, mb3.9/4,MS2.9/1,Error ellipse: s-maj=9.2km s-min=6.1km az=8.0*
JMA ***15*** *02:13:57.6±0.1,38.˚33N×142.˚12E,h38km±2km,M4.0*
JMA Felt I J1.
ISC 15 02:13:56.5±1.9,38.˚32N±0.˚04×142.˚19E±0.˚08,h23km±13km, n26,σ1°56/31,mb3.9/4,Near east coast of eastern Honshu
Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
JIO Ouri 0.68 282 P **Pb 02 14 09.9 +0.3**
JIO S **Sb 02 14 17.9 -0.7**
OFUJ Ofunato 0.86 332 P **Pb 02 14 12.9 +0.1**
OFUJ *e*S **Sb 02 14 23.6 -0.4**
JMK Ichinoseki 0.99 310 P **Pn 02 14 14.7 -0.2**
JMK *e*S **Sb 02 14 26.6 -0.9**
JMM Marumori 1.19 248 P **Pn 02 14 17.0 -0.7**
JMM *e*S **Sn 02 14 31.3 -1.9**
JOU Okura 1.20 273 P **Pn 02 14 17.9 0.0**
JOU *e*S **Sn 02 14 32.4 -1.1**
JOM Ohasama 1.35 329 P **Pn 02 14 20.3 +0.4**
JOM *e*S **Sn 02 14 36.6 -0.5**
JFK Kawauchi 1.41 228 P **Pn 02 14 19.9 -0.9**
JFK *e*S **Sn 02 14 35.8 -2.9**
JYK Kaneyama 1.55 293 P **Pn 02 14 23.1 +0.4**
JYK *e*S **Sn 02 14 41.3 -0.8**
JRG Rokugo 1.62 312 P **Pn 02 14 24.4 +0.7**
JFT Otama 1.67 242 P **Pn 02 14 24.4 +0.1**
JFT *e*S **Sn 02 14 44.4 -0.6**
JYS Shirataka 1.68 267 P **Pn 02 14 24.4 0.0**
JYS *e*S **Sn 02 14 44.7 -0.5**
MJAR Matsushiro Arr 3.63 242 Pn **Pn 02 14 54.5 +3.1**
2.2nm,0.3s,baz=69,slow=11,SNR=22
MJAR Sn **Sb 02 15 43.4 -0.3**
1.0nm,0.3s,baz=200,slow=36,SNR=3.7
MAT Matsushiro 3.63 242 P **Pn 02 14 54.5 +3.2**
MAT *e*S **Sn 02 15 37.4 +3.9**
JHJ Hachijo jima 2 5.55 201 Pn **Pn 02 15 19.1 +1.5**
5.0nm,0.3s,baz=67,slow=23,SNR=3.7
JHJ Sn **Sn 02 16 17.5 -3.1**
7.2nm,0.3s,baz=92,slow=23,SNR=3.0
KSRS Korea Array 11.31 270 LR LR 02 20 45.6
comp=Z,20nm,20.1s,baz=34,slow=35
H11N2 WAKE ISLAND Hy 28.31 124 T T 02 50 05.6
baz=316,slow=75,SNR=67
H11N1 WAKE ISLAND Hy 28.32 124 T T 02 50 07.5
baz=316,slow=75,SNR=72
H11N3 WAKE ISLAND Hy 28.33 124 T T 02 50 08.2
baz=316,slow=75,SNR=68
H11S1 WAKE ISLAND Hy 29.08 126 T T 02 51 02.6
baz=318,slow=76,SNR=70
H11S3 WAKE ISLAND Hy 29.08 126 T T 02 51 02.3
baz=318,slow=76,SNR=104
H11S2 WAKE ISLAND Hy 29.09 126 T T 02 51 03.8
baz=318,slow=76,SNR=77
TLY Talaya 29.98 309 LR LR 02 32 24.5
comp=Z,25nm,19.2s,baz=183,slow=37
ZALV Zalesovo Beam 41.52 311 P **P 02 21 42.4 +0.7**
0.6nm,0.3s,baz=104,slow=6.1,SNR=2.7
KURBB Kurchatov Arra 45.71 307 P **P 02 22 15.1 -0.4**
1.2nm,0.5s,baz=82,slow=7.7,SNR=10
WRA Warramunga Arr 58.42 189 P **P 02 23 50.4 +0.1**
0.3nm,0.3s,baz=7.1,slow=7.2,SNR=2.4
NOA NORSAR Array B 73.24 337 P **P 02 25 25.3 0.0**
1.2nm,0.8s,baz=30,slow=4.2,SNR=3.5

ISCJB ***15*** *02:18:45.6±0.5,32.˚01N±0.˚02×35.˚49E±0.˚04,h2km±3km, Error ellipse: s-maj=5.9km s-min=2.4km az=20.8*
CSEM ***15*** *02:18:45.8±0.1,32.˚00N×35.˚48E,h2km,MD2.3,Error ellipse: s-maj=4.4km s-min=2.1km az=109.0*
HLW ***15*** *02:18:45.8,32.˚11N×35.˚65E,h20km±10km,Md2.6,Ml2.4*
GII ***15*** *02:18:45.1±0.0,32.˚03N×35.˚47E,h5km,MD2.3/5*
NSSC ***15*** *02:18:46.4±0.9,32.˚02N×35.˚55E,h0km±4km,ML2.3*
ISC 15 02:18:45.9±1.0,32.˚03N±0.˚02×35.˚53E±0.˚03,h9km±8km, n55,σ0°60/90,Dead Sea region
Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
HMDT Nahal Hemdat 0.23 359 Pg **Pg 02 18 50.4 -0.1**
HMDT Sg **Sg 02 18 55.0 +1.4**
MMLI Mount Malkishu 0.42 348 Pg **Pg 02 18 53.9 -0.2**
MMLI Mount Malkishu 0.42 348 Pg **Pg 02 18 53.9 -0.2**
SLTI Sal'it 0.47 298 Pg **Pg 02 18 54.0 -1.0**
SLTI Sg **Sg 02 19 02.0 +0.9**
SLTI Sal'it 0.47 298 Pg **Pg 02 18 54.0 -1.0**
SLTI Sg **Sg 02 19 02.0 +0.9**
DSI Dead Sea 0.47 196 Pg **Pg 02 18 54.5 -0.5**
DSI Sg **Sg 02 19 01.5 +0.3**
MZDA Masada 0.73 191 Pg **Pg 02 18 59.6 -0.3**
MZDA Sg **Sb 02 19 10.4 -0.3**
MZDA Masada 0.73 191 Pg **Pg 02 18 59.6 -0.3**
TCHB Talchebab 0.74 30 *e*P **Pb 02 19 00.9 -0.1**
TCHB *e*S **Sb 02 19 11.3 0.0**
TCHB AML AML 02 19 15.2
comp=E,52nm,0.2s
TCHB AML AML 02 19 17.5
comp=N,150nm,0.3s
TCHB Talchebab 0.74 30 *e*P **Pb 02 19 00.9 -0.1**
SNR=75
TCHB *e*S **Sb 02 19 11.3 0.0**
comp=N,150nm,0.3s,SNR=59
OFRI 'Ofer 0.75 322 Pg **Pg 02 19 00.0 -0.4**
OFRI 'Ofer 0.75 322 Pg **Pg 02 19 00.0 -0.4**
BLGI Bet Lehem HaGe 0.76 338 Pg **Pg 02 19 00.5 -0.1**
BLGI Sg **Sg 02 19 11.2 +0.7**
BLGI Bet Lehem HaGe 0.76 338 Pg **Pg 02 19 00.5 -0.1**
BLGI Sg **Sg 02 19 11.2 +0.7**
KSHT Keshet 0.98 14 Pg **Pb 02 19 05.2 0.0**
KSHT Keshet 0.98 14 Pg **Pb 02 19 05.2 0.0**
MMA0B Mount Meron ar 0.99 354 Pg **Pg 02 19 04.3 -0.7**
MMA0B Mount Meron ar 0.99 354 Pg **Pg 02 19 04.3 -0.7**
KSDI Kefar Szold 1.17 5 Pg **Pg 02 19 08.0 -0.3**
KSDI Sg **Sn 02 19 24.3 -0.2**
KSDI Kefar Szold 1.17 5 Pg **Pg 02 19 08.0 -0.3**
KSDI Sg **Sn 02 19 24.3 -0.2**
SALA Sala 1.23 56 *e*P **Pn 02 19 09.5 +0.1**
SALA *e*S **Sn 02 19 26.9 +0.6**
SALA AML AML 02 19 30.6
comp=N,100nm,0.4s
SALA AML AML 02 19 31.4
comp=E,6.9nm,0.4s
SALA Sala 1.23 56 *e*P **Pn 02 19 09.5 +0.1**
SNR=57
SALA *e*S **Sn 02 19 26.9 +0.6**
comp=E,6.9nm,0.4s,SNR=49
BRBR Barbar 1.43 14 *e*P **Pn 02 19 12.3 +0.1**
BRBR *e*S **Sg 02 19 32.7 +0.9**
BRBR AML AML 02 19 36.4
comp=E,59nm,0.3s
BRBR AML AML 02 19 37.1
comp=N,72nm,0.7s
BRBR Barbar 1.43 14 *e*P **Pn 02 19 12.3 +0.1**
SNR=57
BRBR *e*S **Sg 02 19 32.7 +0.9**
comp=N,72nm,0.7s,SNR=49
KZIT Kziot 1.48 221 Pn **Pn 02 19 12.3 -0.4**
KZIT Sn **Sb 02 19 32.3 -0.1**
KZIT Kziot 1.48 221 Pn **Pn 02 19 12.3 -0.4**
KZIT Sn **Sb 02 19 32.3 -0.1**
RCY Rachaya 1.49 10 *e*P **Pn 02 19 13.1 +0.1**
ZFRI Zfri 1.50 192 Pn **Pn 02 19 12.8 -0.1**
ZFRI Sn **Sb 02 19 32.9 0.0**
ZFRI Zfri 1.50 192 Pn **Pn 02 19 12.8 -0.1**
ZFRI Sn **Sb 02 19 32.9 0.0**
TOTH TOTAH 1.53 29 *e*P **Pb 02 19 14.8 +0.3**
TOTH *e*S **Sg 02 19 35.0 -0.2**
TOTH AML AML 02 19 39.7
comp=E,56nm,0.3s
TOTH AML AML 02 19 39.8
comp=N,31nm,0.4s
TOTH TOTAH 1.53 29 *e*P **Pb 02 19 14.8 +0.3**
SNR=57
TOTH *e*S **Sg 02 19 35.0 -0.2**
comp=N,31nm,0.4s,SNR=49
QASN Qassioun 1.63 23 *e*P **Pg 02 19 16.9 -0.2**
QASN *e*S **Sg 02 19 38.4 +0.1**
QASN AML AML 02 19 42.2
comp=N,230nm,0.2s
QASN AML AML 02 19 43.8
comp=E,158nm,0.2s
QASN Qassioun 1.63 23 *e*P **Pg 02 19 16.9 -0.2**
SNR=57
QASN *e*S **Sg 02 19 38.4 +0.1**
comp=E,158nm,0.2s,SNR=49
DQRL Deir Qamar 1.68 1 *e*P **Pg 02 19 17.6 -0.4**
DQRL Deir Qamar 1.68 1 *e*P **Pg 02 19 17.6 -0.4**
PRNI Paran 1.73 195 Pn **Pn 02 19 16.0 -0.1**
PRNI Sn **Sb 02 19 39.8 +0.2**
PRNI Paran 1.73 195 Pn **Pn 02 19 16.0 -0.1**
PRNI Sn **Sb 02 19 39.8 +0.2**
RSH 1.87 236 P **Pn 02 19 18.0 -0.2**
RSH S **Sn 02 19 42.5 +0.5**
baz=236
RSH S **Sn 02 19 42.5 +0.5**
baz=236
RSH 1.87 236 P **Pn 02 19 18.0 -0.2**
RSH S **Sn 02 19 42.4 +0.5**
BHL Bhannes 1.88 3 *e*P **Pb 02 19 20.0 -0.4**
BHL Bhannes 1.88 3 *e*P **Pb 02 19 20.0 -0.4**
HRFI Mount Harif 2.03 192 Pn **Pn 02 19 20.3 0.0**
HRFI Mount Harif 2.03 192 Pn **Pn 02 19 20.3 0.0**
MARH Ras Al Marh 2.15 22 *e*P **Pb 02 19 24.6 -0.6**
MARH *e*S **Sb 02 19 51.4 -0.7**
MARH AML AML 02 19 58.2
comp=E,92nm,0.5s
MARH AML AML 02 19 59.8
comp=N,46nm,0.4s
MARH Ras Al Marh 2.15 22 *e*P **Pb 02 19 24.6 -0.6**
SNR=45
MARH *e*S **Sb 02 19 51.4 -0.7**
comp=N,46nm,0.4s,SNR=40
HWQ Hawqa 2.27 9 *e*P **Pb 02 19 26.9 -0.3**
HWQ Hawqa 2.27 9 *e*P **Pb 02 19 26.9 -0.3**
MBRI Mt Berech 2.29 194 Pn **Pn 02 19 23.9 0.0**
MBRI Sn **Sn 02 19 53.5 +1.3**
MBRI Mt Berech 2.29 194 Pn **Pn 02 19 23.9 0.0**
MBRI Sn **Sn 02 19 53.5 +1.3**
HNKL Nakhl 2.48 213 P **Pn 02 19 26.3 -0.2**
baz=214
HNKL S **Sn 02 19 57.1 +0.2**
baz=214
HNKL AMP 02 20 00.0
comp=E,20μm,0.5s,logA/T=4.6,baz=214
HNKL Nakhl 2.48 213 P **Pn 02 19 26.3 -0.2**
HNKL S **Sn 02 19 57.1 +0.2**
ROOS tl_alroos 2.60 34 *e*P **Pb 02 19 30.7 -2.0**
ROOS *e*S **Sn 02 20 01.4 +1.4**
ROOS AML AML 02 20 12.0
comp=N,20nm,0.6s
ROOS AML AML 02 20 28.7
comp=E,20nm,0.5s
ROOS tl_alroos 2.60 34 *e*P **Pb 02 19 30.7 -2.0**
SNR=45
ROOS *e*S **Sn 02 20 01.4 +1.4**
comp=E,20nm,0.5s,SNR=40
SUZ Suez 3.18 227 P **Pn 02 19 36.2 +0.1**
baz=228
SUZ Suez 3.18 227 P **Pn 02 19 36.2 +0.1**

DJA 15 02:27:56.0±1.3,1°S±6°×12°1E±1°0,h264km±15km,M3.7/7, MLv3.7/7,Sulawesi
Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
PCI Palu 1.24 277 P Pn 02 28 35.6 +1.7
PCI S S 02 29 00.4 -3.5
MRSI Marisa 1.76 30 P Pn 02 28 36.8 -0.8
TTSI Tana Toraja 2.33 212 P Pn 02 28 43.1 +0.4
TTSI S S 02 29 19.7 0.0
GTOI Gorontalo 2.57 49 P Pn 02 28 44.8 -0.2
SPSI Sidrap Palu 3.16 204 P Pn 02 28 50.8 -0.3
KDI Kendari 3.27 152 P Pn 02 28 53.6 +1.3

IDC ***15*** *02:34:52.3±2.4,29.˚37S×72.˚40W,h0km,mb3.5/2, mb1 3.9/3,mb1mx3.7/15,mbtmp3.6/3,ML3.4/1,MS2.9/1, Ms1 2.9/1,ms1mx2.5/15,Error ellipse: s-maj=78.7km s-min=47.7km az=31.0*
SJA ***15*** *02:34:58.6±0.8,29.˚35S×72.˚35W,h55km,ML3.4,MW3.3*
ISC 15 02:34:55.1±1.2,29.˚33S±0.˚07×72.˚36W±0.˚08,h17km,n13, σ2°88/16,2D,Off coast of central Chile
Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
AGUA GUANDACOL 3.38 94⇓*e*P **Pb 02 35 51.5 -3.1**
VCA Vinchina 3.68 82 *e*P **Pb 02 35 56.1 -3.8**
VCA *e*S **Sb 02 36 41.4 -2.9**
VCA IAML 02 36 44.9
comp=Z,60nm,0.7s
AMOG MOGNA 3.71 117 *e*P **Pb 02 35 57.5 -2.7**
AUSP Uspallata 3.85 139 *e*P **Pb 02 35 58.9 -3.9**
ASAL Salagasta 4.44 138 *e*P **Pb 02 36 08.9 -3.8**
ASAL ⇓*e*S **Sg 02 37 18.6 +1.0**
AVFE Valle Fertil 4.45 109 *e*P **Pn 02 36 05.3 +3.4**
AVFE *e*S **Sn 02 36 56.3 +2.9**
ACLC CERRO LA CRUZ 4.72 92 *e*P **Pn 02 36 08.1 +2.4**
ACLC *e*S **Sn 02 37 02.7 +2.6**
APLL PUNTA DE LOS L 5.17 103 *e*P **Pn 02 36 14.2 +2.4**
LPAZ La Paz 13.55 18 Pn **Pn 02 38 07.3 +0.2**
comp=Z,0.1nm,0.3s,baz=186,slow=7.6,SNR=7.0
CPUP Villa Florida 13.63 81 LR LR 02 43 50.5
comp=Z,53nm,20.8s,baz=259,slow=39
TXAR Lajitas Array 65.55 330 P **P 02 45 37.9 0.0**
comp=Z,0.2nm,0.6s,baz=134,slow=7.7,SNR=2.7
TORD Torodi Ar. Bea 82.90 71 P **P 02 47 19.5 +0.2**
comp=Z,0.5nm,0.8s,baz=263,slow=5.2,SNR=6.8
ZALV Zalesovo Beam 150.32 28 PKPbc **PKPbc 02 54 45.1 +0.2**
comp=Z,1.4nm,0.4s,baz=304,slow=2.8,SNR=6.0

IDC 15 02:39:38.0±9.8,6.˚12S×130.˚77E,h75km±98km,mb3.7/3, mb1 4.0/5,mb1mx3.5/43,mbtmp4.2/5,ML4.4/2,MS4.0/2, Ms1 4.0/2,ms1mx2.9/37,Error ellipse: s-maj=138.1km s-min=46.1km az=76.0,Banda Sea
Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
SIJI Sorong 5.24 5 P Pn 02 41 01.8 +7.9
19nm,0.3s,baz=18,slow=0.9,SNR=3.6
SIJI S Sn 02 41 58.6 +5.6
16nm,0.3s,baz=90,slow=24,SNR=7.9
WRA Warramunga Ar 14.17 166 P Pn 02 42 53.4 -1.8
1.8nm,0.3s,baz=349,slow=13,SNR=13
WRA S Sn 02 45 22.3 -8.7
1.2nm,0.3s,baz=336,slow=23,SNR=4.9
ASAR Alice Springs 17.70 171 P Pn 02 43 40.6 +1.0
1.5nm,0.3s,baz=346,slow=10,SNR=72
ASAR S Sn 02 46 45.6 -11
0.3nm,0.3s,baz=2.5,slow=28,SNR=4.0
URZ Urewera 52.72 134 LR LR 03 11 06.9
comp=Z,138nm,20.6s,baz=189,slow=36
ZALV Zalesovo Beam 71.14 333 P P 02 50 48.4 0.0
1.1nm,0.5s,baz=133,slow=8.1,SNR=3.3
KURBB Kurchatov Arra 72.17 328 P P 02 50 54.9 +0.3
1.5nm,0.7s,baz=127,slow=4.9,SNR=8.3
BVAR Borovoye Array 77.73 327 P P 02 51 26.5 -0.2
0.5nm,0.5s,baz=117,slow=5.2,SNR=3.7
INK Inuvik 97.77 22 LR LR 03 33 31.3
comp=Z,76nm,21.2s,baz=151,slow=33
TORD Torodi Ar. Bea 129.38 282 PKP PKPdf 02 58 38.4 -0.6
0.3nm,0.6s,baz=100,slow=2.6,SNR=4.2

WEL 15 02:40:06.7±0.4,36.˚49S×177.˚84E,h122km±7km,ML3.6/9, 1C,Error ellipse: s-maj=6.6km s-min=5.9km az=0.0,Off east coast of North Island
Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
MXZ Matakaoa Point 1.13 161 PN Pn 02 40 30.2 0.0
MXZ SN Sn 02 40 48.5 +0.4
MXZ AML AML 02 40 53.4
HAZ Te Kaha 1.26 182 ⇑PN Pn 02 40 31.9 +0.3
HAZ SN Sn 02 40 50.8 +0.2
HAZ AML AML 02 40 51.4
HAZ AML AML 02 40 51.4
HAZ AML AML 02 40 52.7
WMGZ Waiomatatini S 1.40 161 PN Pn 02 40 33.0 -0.1
WMGZ SN Sn 02 40 52.7 -0.6

WMGZ				AML	AML	02 40 53.4	
PKGZ	**Pakihiroa**	**1.41**	**172**	PN	Pn	02 40 33.4	+0.2
RUGZ	**Raukumara Rang**	**1.48**	**185**	PN	Pn	02 40 33.8	-0.3
PUZ	**Puketiti**	**1.61**	**168**	PN	Pn	02 40 35.3	-0.3
PUZ				AML	AML	02 41 05.4	
PUZ				AML	AML	02 41 08.4	
TWGZ	**Tauwhareparae**	**1.69**	**176**	PN	Pn	02 40 37.0	+0.5
TWGZ				AML	AML	02 41 04.9	
TWGZ				AML	AML	02 41 05.3	
MWZ	**Matawai**	**1.86**	**188**	PN	Pn	02 40 38.4	-0.1
MWZ				AML	AML	02 41 04.4	
MWZ				AML	AML	02 41 04.4	
URZ	**Urewera**	**1.86**	**198**	PN	Pn	02 40 38.3	-0.1
URZ				AML	AML	02 41 04.6	
URZ				AML	AML	02 41 08.1	
CNGZ	**Carnagh Statio**	**2.01**	**172**	PN	Pn	02 40 40.1	-0.3
RAGZ	**Rawiri**	**2.03**	**189**	PN	Pn	02 40 40.8	+0.2
RAGZ				AML	AML	02 41 14.0	
RAGZ				AML	AML	02 41 14.1	
MUGZ	**Murupara**	**2.16**	**203**	PN	Pn	02 40 42.4	+0.2
MUGZ				SN	Sn	02 41 08.9	-0.6
RTZ	**Ruatahuna**	**2.23**	**198**	PN	Pn	02 40 42.6	-0.6
KNZ	**Kokohu**	**2.53**	**183**	PN	Pn	02 40 45.2	-1.7
MHGZ	**Mahia Peninsul**	**2.66**	**179**	PN	Pn	02 40 46.9	-1.7
ARHZ	**Aropaoanui**	**2.85**	**193**	PN	Pn	02 40 49.8	-1.2
ARHZ				AML	AML	02 41 25.4	
BKZ	**Black Stump Fm**	**2.88**	**201**	PN	Pn	02 40 51.0	-0.5
KRHZ	**Kereru**	**3.35**	**200**	PN	Pn	02 40 55.8	-1.9
KAHZ	**Kahuranaki**	**3.38**	**193**	PN	Pn	02 40 56.3	-1.8
MRZ	**Mangatainoka R**	**4.53**	**202**	PN	Pn	02 41 09.8	-3.4
MRZ				SN	Sn	02 41 58.9	-6.1
OXZ	**Oxford**	**8.15**	**211**	SN	Sn	02 43 21.2	-11
MQZ	**McQueen's Vall**	**8.23**	**207**	SN	Sn	02 43 22.2	-12

KRSC 15 03:15:48.0±1.6, 55°35N×166°44E, h34km±8km, ML3.6,
Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BKI	**Bering**	**0.30**	**241**	*eP*	Pn	03 15 56.2	+0.3
BKI				*eS*	Sb	03 16 02.1	+0.9
MKZ	**Mys Kozlova**	**2.83**	**256**	*eP*	Pb	03 16 34.5	-3.3
MKZ				*eS*	Sn	03 17 07.6	+4.0
SMKR	**Semkarok**	**3.05**	**296**	P	Pn	03 16 37.2	+3.3
SMKR				S	Sb	03 17 14.4	-4.1
SRKR	**Sorokina**	**3.23**	**296**	P	Pn	03 16 39.3	+2.9
SPN	**Mys Shipunski**	**4.39**	**242**	*eP*	Pn	03 16 56.8	+4.6
SPN				*eS*	Sn	03 17 44.8	+2.7
SDLR	**Sedlovina**	**4.88**	**248**	*eP*	Pn	03 17 04.2	+5.1
SDLR				*eS*	Sn	03 17 59.1	+4.6
KRER	**Koryakskii**	**4.95**	**249**	*eP*	Pn	03 17 05.4	+5.4
KRER				S	Sn	03 18 01.7	+5.6
AVH	**Avacha**	**4.97**	**248**	*eP*	Pn	03 17 04.5	+4.3
AVH				*eP*	Pn	03 17 04.9	+4.7
AVH				*eS*	Sn	03 18 02.3	+5.8
AVH				*eS*	Sn	03 18 02.8	+6.3
GNL	**Ganaly**	**5.22**	**255**	*eP*	Pn	03 17 09.4	+5.7
RUS	**Russkaya**	**5.52**	**241**	*eP*	Pn	03 17 12.4	+4.7

CSEM 15 03:19:37.7, 39°60N×29°73W, h10km, ML2.8
PDA 15 03:19:37.7±1.3, 39°60N×29°73W, h10km, MD3.5, ML2.8,
Error ellipse: s-maj=11.2km s-min=4.5km az=23.0,
Azores Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H07S1	**FLORES T-PHASE**	**1.16**	**260**	*eS*	Sb	03 20 08.3	-6.8
PCED	**Cedros**	**1.26**	**140**	*eP*	Pn	03 19 56.8	-4.5
PCED				*eS*	Sb	03 20 10.5	-7.2
PCED				A	A	03 20 11.2	
	58nm,0.2s						
PCED	**Cedros**	**1.26**	**140**	*eP*	Pn	03 19 56.8	-4.5
PCED				*eS*	Sb	03 20 10.5	-7.2
CALA	**Caldeira**	**1.29**	**141**	*eS*	Sb	03 20 11.8	-7.0
CALA	**Caldeira**	**1.29**	**141**	*eS*	Sb	03 20 11.8	-7.0
HOR	**Horta**	**1.37**	**141**	*eS*	Sb	03 20 13.5	-7.4
HOR				A	A	03 20 15.1	
	140nm,0.2s						
HOR	**Horta**	**1.37**	**141**	*eS*	Sb	03 20 13.5	-7.4
ROSA	**Rosais**	**1.45**	**127**	*eP*	Pn	03 19 59.6	-4.4
ROSA				*eS*	Sn	03 20 15.4	-7.7
ROSA				A	A	03 20 19.1	
	26nm,0.3s						
ROSA	**Rosais**	**1.45**	**127**	*eP*	Pn	03 19 59.6	-4.4
ROSA				*eS*	Sn	03 20 15.4	-7.7
PGRA	**Graciosa**	**1.47**	**112**	*eS*	Sn	03 20 15.4	-8.1
PGRA				A	A	03 20 15.9	
	29nm,0.4s						
PGRA	**Graciosa**	**1.47**	**112**	*eS*	Sn	03 20 15.4	-8.1
PCAN	**Candelaria**	**1.49**	**139**	*eP*	Pn	03 20 00.3	-4.3
PCAN				*eS*	Sn	03 20 16.6	-7.5
PCAN				A	A	03 20 18.8	
	153nm,0.1s						
PCAN	**Candelaria**	**1.49**	**139**	*eP*	Pn	03 20 00.3	-4.3
PCAN				*eS*	Sn	03 20 16.6	-7.5
PICO	**Pico**	**1.49**	**137**	*eP*	Pn	03 20 00.5	-4.1
PICO				*eS*	Sn	03 20 17.0	-7.2
PICO				A	A	03 20 18.9	
	159nm,0.2s						
PICO	**Pico**	**1.49**	**137**	*eP*	Pn	03 20 00.5	-4.1
PICO				*eS*	Sn	03 20 17.0	-7.2
PMAN	**Manadas**	**1.60**	**127**	*eP*	Pn	03 20 01.4	-4.6
PMAN				*eS*	Sn	03 20 19.0	-7.7
PMAN				A	A	03 20 25.6	
	29nm,0.2s						
PMAN	**Manadas**	**1.60**	**127**	*eP*	Pn	03 20 01.4	-4.6
PMAN				*eS*	Sn	03 20 19.0	-7.7

IDC 15 03:26:56.8±2.0, 0°78N×67°41E, h0km, mb3.9/4, mb1 4.1/5,
mb1mx3.5/57, mbtmp4.0/5, ML4.2/1, Error ellipse:
s-maj=64.6km s-min=28.5km az=62.0, Carlsberg Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H08N2	**Diego Garcia H**	**7.92**	**153**	T	T	03 37 09.2	
	baz=333,slow=76,SNR=206						
H08N3	**Diego Garcia H**	**7.93**	**153**	T	T	03 37 11.0	
	baz=333,slow=76,SNR=185						
H08N1	**Diego Carcia H**	**7.94**	**153**	T	T	03 37 10.9	
	baz=333,slow=76,SNR=182						
PALK	**Pallekele**	**14.74**	**64**	Pn	Pn	03 30 27.4	+0.5
	1.1nm,0.3s,baz=296,slow=7.3,SNR=3.4						
KURBB	**Kurchatov Arra**	**50.55**	**9**	P	P	03 35 57.4	+0.5
	0.7nm,0.4s,baz=205,slow=5.6,SNR=7.1						
ZALV	**Zalesovo Beam**	**54.91**	**12**	P	P	03 36 28.4	-0.7
	0.5nm,0.3s,baz=191,slow=7.0,SNR=2.6						
H01W3	**Cape Leeuwin H**	**56.24**	**134**	T	T	04 37 11.6	
	baz=299,slow=75,SNR=11						
H01W2	**Cape Leeuwin H**	**56.24**	**134**	T	T	04 37 10.5	
	baz=299,slow=75,SNR=9.9						
H01W1	**Cape Leeuwin H**	**56.26**	**134**	T	T	04 37 12.1	
	baz=299,slow=75,SNR=10.0						
WRA	**Warramunga Arr**	**68.66**	**112**	P	P	03 38 02.7	+0.1
	1.2nm,0.6s,baz=291,slow=5.7,SNR=6.5						
ASAR	**Alice Springs**	**68.89**	**116**	P	P	03 38 03.9	-0.1
	0.9nm,0.6s,baz=288,slow=6.1,SNR=10.0						
TXAR	**Lajitas Array**	**148.86**	**345**	PKPbc	PKPbc	03 46 46.9	-0.5
	0.5nm,0.9s,baz=45,slow=1.4,SNR=2.4						

SJA 15 03:29:28.9±0.7, 32°31S×72°02W, h40km, MD3.2
GUC 15 03:29:31.3±0.6, 32°57S×71°39W, h35km±3km, ML2.5
ISC 15 03:29:30.1±4.0, 32°77S±0°08×71°8W±0°2, h23km±19km,
n10, σ1°90/16, 1C-2D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ROCH	**El Roble**	**0.66**	**108**	*iP*	**Pb**	**03 29 43.3**	**+0.2**
ROCH				*i* S	**Sb**	**03 29 52.0**	**0.0**
ROCH				IAML		03 29 52.5	
	comp=N,735nm,0.1s						
PEL	**Peldehue**	**0.98**	**113**	*iP*	**Pn**	**03 29 48.2**	**-0.2**
PEL				*i* S	**Sb**	**03 30 00.8**	**-0.1**
PEL				IAML		03 30 01.5	
	comp=N,570nm,0.2s						
RCDM	**Rinconada Maip**	**1.07**	**132**	*i* S	**Sb**	**03 30 05.5**	**+1.8**
RCDM				IAML		03 30 06.0	
	comp=N,395nm,0.1s						
CLCH	**Cerro Calan**	**1.20**	**122**	*eP*	**Pn**	**03 29 51.9**	**+0.3**
CLCH				*eS*	**Sn**	**03 30 06.8**	**-0.4**
CLCH				IAML		03 30 18.4	
	comp=E,112nm,0.3s						
FCH	**Farellones**	**1.35**	**115**	*iP*	**Pn**	**03 29 54.0**	**+0.2**
FCH				*i* S	**Sb**	**03 30 11.0**	**-1.0**
FCH				IAML		03 30 14.8	
	comp=E,90nm,0.3s						
AUSP	**Uspallata**	**2.08**	**75**	*eP*	**Pn**	**03 30 04.2**	**+0.4**
AUSP				*eS*	**Sb**	**03 30 33.3**	**+0.5**
ASAL	**Salagasta**	**2.47**	**87**	*eP*	**Pb**	**03 30 12.7**	**-1.1**
ASAL				*eS*	**Sb**	**03 30 45.3**	**+1.3**
AAGR	**Agrelo**	**2.48**	**98**	*eP*	**Pb**	**03 30 13.1**	**-1.0**
RTCV	**Cerro Valdivia**	**2.87**	**73**	*eP*	**Pn**	**03 30 16.1**	**+1.6**
AMOG	**MOGNA**	**3.33**	**58**	*eP*	**Pn**	**03 30 20.4**	**-0.3**

CSEM 15 03:29:50.6, 39°54N×29°91W, h10km, ML2.7
PDA 15 03:29:50.6±1.0, 39°54N×29°91W, h10km, MD3.5, ML2.7,
Error ellipse: s-maj=13.5km s-min=3.4km az=21.0,
Azores Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H07S1	**FLORES T-PHASE**	**1.01**	**261**	*eS*	Sg	03 30 17.8	-5.5
PCED	**Cedros**	**1.31**	**134**	*eS*	Sb	03 30 22.9	-9.2
PCED				A	A	03 30 25.3	
	46nm,0.3s						
PCED	**Cedros**	**1.31**	**134**	*eS*	Sb	03 30 22.9	-9.2
CALA	**Caldeira**	**1.34**	**135**	*eS*	Sb	03 30 26.1	-7.0
CALA	**Caldeira**	**1.34**	**135**	*eS*	Sb	03 30 26.1	-7.0
HOR	**Horta**	**1.42**	**135**	*eS*	Sn	03 30 27.5	-7.7
HOR				A	A	03 30 29.1	
	113nm,0.2s						
HOR	**Horta**	**1.42**	**135**	*eS*	Sn	03 30 27.5	-7.7
ROSA	**Rosais**	**1.53**	**122**	*eP*	Pn	03 30 13.2	-4.8
ROSA				*eS*	Sn	03 30 30.1	-7.9
ROSA				A	A	03 30 30.1	
	16nm,0.2s						
ROSA	**Rosais**	**1.53**	**122**	*eP*	Pn	03 30 13.2	-4.8
ROSA				*eS*	Sn	03 30 30.1	-7.9
PCAN	**Candelaria**	**1.54**	**134**	*eP*	Pn	03 30 13.8	-4.4
PCAN				*eS*	Sn	03 30 30.7	-7.6
PCAN				A	A	03 30 33.7	
	131nm,0.2s						
PCAN	**Candelaria**	**1.54**	**134**	*eP*	Pn	03 30 13.8	-4.4
PCAN				*eS*	Sn	03 30 30.7	-7.6
PICO	**Pico**	**1.55**	**131**	*eP*	Pn	03 30 14.1	-4.3
PICO				*eS*	Sn	03 30 31.1	-7.5
PICO				A	A	03 30 34.1	
	112nm,0.2s						
PICO	**Pico**	**1.55**	**131**	*eP*	Pn	03 30 14.1	-4.3
PICO				*eS*	Sn	03 30 31.1	-7.5
PMAN	**Manadas**	**1.68**	**122**	*eS*	Sn	03 30 33.8	-7.9
PMAN				A	A	03 30 35.5	
	11nm,0.2s						
PMAN	**Manadas**	**1.68**	**122**	*eS*	Sn	03 30 33.8	-7.9

IDC 15 03:41:37.3±0.9, 18°52S×173°81W, h0km, mb4.3/8,
mb1 4.5/9, mb1mx4.1/43, mbtmp4.3/9, ML4.3/1, MS3.8/6,
Ms1 3.8/6, ms1mx3.3/36, Error ellipse: s-maj=40.1km
s-min=18.6km az=134.0
ISCJB 15 03:41:39.5±0.4, 18°91S±0°07×173°69W±0°08, h33km,
mb4.8/28, MS3.8/5, Error ellipse: s-maj=13.3km
s-min=7.5km az=39.7
NEIC 15 03:41:41.5±0.4, 18°86S×173°66W, h35km, mb5.1/24,
Error ellipse: s-maj=15.9km s-min=7.6km az=127.0
ISC 15 03:41:40.2±0.6, 18°65S±0°09×173°6W±0°1, h31km, n66,
σ2°23/61, mb5.0/29, MS3.8/5, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**5.02**	**21**	Pn	**Pn**	**03 42 51.9**	**-1.6**
	11nm,0.3s,baz=351,slow=4.3,SNR=7.8						
AFI				Sn	**Sn**	**03 43 45.5**	**-5.1**
	38nm,0.3s,baz=190,slow=21,SNR=7.3						
AFI				T	T	03 48 16.5	
	11nm,0.3s,baz=309,slow=14,SNR=4.4						
AFI	**Afiamalu**	**5.02**	**21**	*e*Pn	**Pn**	**03 42 52.5**	**-1.0**
AFI				*e*Sn	**Sn**	**03 43 45.5**	**-5.1**
AFI				*e*Sg	**Sn**	**03 43 46.5**	**-4.1**
AFI				TT		03 48 16.5	
MSVF	**Nonsavu**	**8.00**	**275**	*e*Pn	**Pn**	**03 43 33.0**	**-1.4**
RAR	**Rarotonga**	**13.25**	**103**	Pn	Pn	03 44 32.0	-14
	7.1nm,0.3s,baz=165,slow=4.1,SNR=8.2						
DZM	**Mont Dzumac**	**19.02**	**256**	P	**Pn**	**03 46 03.9**	**+3.2**
	0.8nm,0.3s,baz=80,slow=20,SNR=7.8						
DZM				LR	LR	03 52 35.7	
	comp=Z,246nm,18.4s,baz=55,slow=35						
DZM	**Mont Dzumac**	**19.02**	**256**	*e*P	**Pn**	**03 46 02.0**	**+1.3**
	57nm,1.4s						
DZM				*e*LR	LR	03 50 54.0	
	233nm,23.4s						
DZM	**Mont Dzumac**	**19.02**	**256**	*e*P	**Pn**	**03 46 01.8**	**+1.0**
	52nm,1.5s						
OUZ	**Omahuta**	**20.04**	**212**	*e*P	**P**	**03 46 09.8**	**-0.9**
	141nm,1.9s						
URZ	**Urewera**	**21.16**	**201**	P	**P**	**03 46 19.9**	**-2.9**
	6.3nm,0.3s,baz=251,slow=2.4,SNR=11						
URZ	**Urewera**	**21.16**	**201**	*e*P	**P**	**03 46 19.9**	**-2.9**
	73nm,1.6s						
BKZ	**Black Stump Fm**	**22.18**	**201**	*e*P	**P**	**03 46 29.4**	**-4.5**
	84nm,1.8s						
HIZ	**Hauiti**	**22.20**	**205**	*e*P	**P**	**03 46 31.9**	**-2.2**
	370nm,1.6s						
PPT2	**Papeete2**	**22.85**	**91**	*e*LR	LR	03 51 31.2	
	274nm,28.8s						
PPT	**Papeete**	**22.85**	**91**	LR	LR	03 53 32.6	
	comp=Z,242nm,18.4s,baz=280,slow=31						
TBI	**Tubuai**	**23.00**	**106**	*e*LR	LR	03 51 16.0	
	229nm,34.2s						
THZ	**Tophouse**	**25.76**	**204**	*e*P	**P**	**03 47 07.2**	**-1.0**
	60nm,1.2s						
LTZ	**Lake Taylor**	**26.88**	**203**	*e*P	**P**	**03 47 17.3**	**-0.9**
	119nm,1.6s						
RPZ	**Rata Peaks**	**28.14**	**204**	P	**P**	**03 47 32.0**	**+2.4**
	15nm,0.6s,baz=2.0,slow=3.7,SNR=12						
RPZ	**Rata Peaks**	**28.14**	**204**	*e*P	**P**	**03 47 30.1**	**+0.5**
	115nm,1.7s						
FOZ	**Fox Glacier**	**28.48**	**206**	*e*P	**P**	**03 47 32.1**	**-0.4**
	201nm,1.6s						
ARMA	**Armidale**	**33.61**	**243**	*e*P	**P**	**03 48 17.0**	**-1.1**
	17nm,1.3s						
RKT	**Rikitea**	**36.29**	**104**	*e*LR	LR	03 57 41.9	
	179nm,30.8s						
CTAO	**Charters Tower**	**37.85**	**261**	*e*P	**P**	**03 48 55.5**	**+1.0**
	14nm,0.6s						
MCQ	**Macquarie Isla**	**41.50**	**204**	*e*P	**P**	**03 49 19.8**	**-4.5**
	182nm,1.3s						
COEN	**Coen**	**41.68**	**270**	*e*P	**P**	**03 49 27.0**	**+0.6**
	36nm,1.4s						
UWE	**Uwekahuna**	**41.88**	**26**	*e*P	**P**	**03 49 29.4**	**+1.4**
	147nm,1.2s						
OBL	**Observatory Le**	**41.88**	**26**	*e*P	**P**	**03 49 29.2**	**+1.3**
	96nm,1.1s						
STKA	**Stephens Creek**	**42.33**	**243**	P	**P**	**03 49 30.7**	**-0.8**
	1.7nm,0.6s,baz=101,slow=8.4,SNR=5.0						
STKA	**Stephens Creek**	**42.33**	**243**	*e*P	**P**	**03 49 30.7**	**-0.8**
	6.1nm,1.8s						
BBOO	**Buckleboo**	**47.09**	**242**	*e*P	**P**	**03 50 07.0**	**-2.4**
	83nm,1.9s						
AS01	**Alice Springs**	**48.96**	**255**	*e*P	**P**	**03 50 23.8**	**-0.3**
WB2	**Warramunga Arr**	**48.99**	**259**	*e*P	**P**	**03 50 24.0**	**-0.3**
WRAB	**Tennant Creek**	**48.99**	**260**	*e*P	**P**	**03 50 23.2**	**-1.1**
	13nm,0.6s						
WR1	**Warramunga Arr**	**49.00**	**259**	*e*P	**P**	**03 50 24.1**	**-0.2**
	13nm,0.8s						
WRA	**Warramunga Arr**	**49.00**	**259**	P	**P**	**03 50 24.1**	**-0.3**
	2.2nm,0.4s,baz=97,slow=7.7,SNR=55						
AS31	**Alice Springs**	**49.00**	**255**	*e*P	**P**	**03 50 24.6**	**+0.2**
	5.4nm,1.3s						
ASAR	**Alice Springs**	**49.00**	**255**	P	**P**	**03 50 24.6**	**+0.2**
	7.1nm,0.7s,baz=94,slow=8.1,SNR=49						
MJAR	**Matsushiro Arr**	**71.30**	**321**	P	**P**	**03 52 57.8**	**+0.9**
	2.0nm,0.7s,baz=139,slow=9.5,SNR=5.3						
QSPA	**South Pole Qui**	**71.42**	**180**	*e*P	**P**	**03 52 55.3**	**-2.0**
DSCC	**Desert Studies**	**76.38**	**45**	*e*P	**P**	**03 53 25.3**	**-1.3**
BBB	**Bella Bella**	**80.86**	**26**	LR	LR	04 25 53.1	
	comp=Z,37nm,18.5s,baz=204,slow=33						
LTX	**Lajitas**	**82.57**	**56**	*e*P	**P**	**03 54 02.4**	**+1.8**
TX31	**Lajitas Ar. Si**	**82.57**	**56**	*e*P	**P**	**03 54 03.0**	**+2.4**
TXAR	**Lajitas Array**	**82.57**	**56**	P	**P**	**03 54 02.4**	**+1.8**
	0.8nm,0.9s,baz=218,slow=7.9,SNR=5.5						
TXAR				LR	LR	04 25 38.1	
	comp=Z,40nm,18.1s,baz=0.0,slow=32						

RND	**Reindeer**	**84.04**	**11**	*e*P	P	03 54 12.6	+5.2
	33nm,2.0s						
PD31	**Pinedale Array**	**84.80**	**42**	*e*P	**P**	**03 54 13.7**	**+1.7**
PDAR	**Pinedale Array**	**84.80**	**42**	P	**P**	**03 54 13.7**	**+1.7**
	0.5nm,0.6s,baz=198,slow=3.7,SNR=7.0						
WRH	**Wood River Hil**	**85.16**	**11**	*e*P	**P**	**03 54 15.6**	**+2.7**
	24nm,1.7s						
CCB	**Clear Creek Bu**	**85.37**	**11**	*e*P	**P**	**03 54 16.5**	**+2.6**
	4.3nm,0.9s						
MDM	**Murphy Dome**	**85.58**	**11**	*e*P	**P**	**03 54 17.9**	**+2.9**
	5.7nm,1.2s						
IL1	**Eielson Array**	**85.65**	**11**	*e*P	**P**	**03 54 17.3**	**+2.0**
ILAR	**Eielson Array**	**85.65**	**11**	P	**P**	**03 54 17.4**	**+2.0**
	0.9nm,0.8s,baz=216,slow=5.0,SNR=5.6						
ILB	**Eielson Array**	**85.65**	**11**	*e*P	**P**	**03 54 17.4**	**+2.0**
WMOK	**Wichita Mounta**	**88.61**	**53**	*e*P	**P**	**03 54 35.1**	**+4.7**
	5.9nm,0.8s						
ULM	**Lac du Bonnet**	**96.56**	**39**	LR	LR	04 33 01.1	
	comp=Z,33nm,18.4s,baz=227,slow=32						
LPAZ	**La Paz**	**98.87**	**110**	LR	LR	04 31 00.2	
	comp=Z,41nm,20.1s,baz=229,slow=30						
MARD	**Mardin**	**144.66**	**309**	*e*PKPdf	**PKPdf**	**04 01 18.1**	**+3.8**
CLL	**Collm**	**146.99**	**352**	*e*PKPdf	**PKPbc**	**04 01 19.0**	**-0.6**
CLL				*e*PKPbc	**PKiKP**	**04 01 22.0**	**-0.2**
CLL				*e*		04 01 49.0	
BR101	**Keskin Array S**	**148.48**	**318**	*e*PKPbc	**PKPab**	**04 01 26.6**	**-1.0**
BR131	**Keskin Array S**	**148.48**	**318**	*e*PKPbc	**PKPab**	**04 01 26.8**	**-0.9**
BRTR	**Keskin Array B**	**148.48**	**318**	PKPbc	**PKPab**	**04 01 26.6**	**-1.0**
	1.5nm,0.7s,baz=138,slow=2.6,SNR=9.2						
BR231	**Keskin MP Arra**	**148.97**	**318**	*e*PKPbc	**PKPbc**	**04 01 27.4**	**+1.9**
KHC	**Kasperske Hory**	**149.04**	**351**	*e*PKP	**PKPab**	**04 01 28.7**	**-0.7**
GEC2	**GERESS Array S**	**149.30**	**351**	*e*PKPbc	**PKPbc**	**04 01 28.0**	**+2.0**
GERES	**GERESS Array B**	**149.30**	**351**	PKPbc	**PKPbc**	**04 01 28.0**	**+2.0**
	0.5nm,0.7s,baz=357,slow=2.7,SNR=5.9						
GEA0	**GERESS Array S**	**149.31**	**351**	*e*PKPbc	**PKPbc**	**04 01 27.9**	**+2.0**

IDC 15 03:43:56.7±2.2, 58°77N×138°30W, h0km, mb2.8/1,
mb1 3.3/4, mb1mx3.2/52, mbtmp3.0/4, ML3.1/3, Error
ellipse: s-maj=40.4km s-min=12.6km az=27.0
ISCJB 15 03:43:58.3±0.6, 59°11N±0°03×137°92W±0°03, h1km±4km,
mb2.5/1, Error ellipse: s-maj=4.8km s-min=2.8km az=13.5
NEIC 15 03:44:00.1±0.0, 59°10N×138°00W, h3km, ML3.0 (OTT),
ML3.0 (AEIC), After AEIC.
PGC 15 03:44:00.0±0.6, 59°06N×137°96W, h1km, ML3.0/8, 90km
east of Yakutat, Ak Southeastern Alaska
ISC 15 03:43:58.6±1.2, 59°03N±0°04×137°98W±0°02, h2km±9km,
n43, σ0°81/66, Southeastern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DHAK	**Deception Hill**	**0.14**	**296**	P	**Pg**	**03 44 02.3**	**+1.0**
DHAK				S	**Sg**	**03 44 04.4**	**+1.4**
PLBC	**Pleasant Camp**	**0.93**	**62**	P	**Pg**	**03 44 16.5**	**0.0**
PLBC				S	**Sg**	**03 44 28.5**	**0.0**
PLBC	**Pleasant Camp**	**0.93**	**62**	P	**Pg**	**03 44 16.4**	**0.0**
PLBC				S	**Sg**	**03 44 28.6**	**+0.1**
PNL	**Peninsula**	**0.97**	**312**	P	**Pg**	**03 44 16.8**	**-0.3**
PNL				S	**Sg**	**03 44 29.2**	**-0.4**
PNL	**Peninsula**	**0.97**	**312**	P	**Pg**	**03 44 16.6**	**-0.5**
PNL				S	**Sg**	**03 44 29.3**	**-0.4**
YKU2	**Yakutat**	**0.99**	**300**	P	**Pb**	**03 44 18.2**	**-0.3**
YKU2				S	**Sb**	**03 44 32.5**	**+0.5**
BCPM	**Bancas Point**	**1.25**	**318**	P	**Pg**	**03 44 21.2**	**-1.4**
BCPM				S	**Sg**	**03 44 39.1**	**+0.3**
SKAG	**Skagway**	**1.43**	**71**	P	**Pn**	**03 44 25.2**	**-0.3**
SKAG				S	**Sb**	**03 44 43.7**	**-0.8**
YUK7	**Dusty Glacier**	**1.51**	**357**	Pn	**Pn**	**03 44 25.9**	**-0.9**
YUK7				Sg	**Sn**	**03 44 45.6**	**-1.5**
BESE	**Bessie Mountai**	**1.69**	**104**	Pn	**Pn**	**03 44 29.4**	**+0.2**
BESE				Sg	**Sb**	**03 44 52.1**	**0.0**
BESE	**Bessie Mountai**	**1.69**	**104**	P	**Pn**	**03 44 29.2**	**+0.1**
BESE				S	**Sn**	**03 44 51.8**	**+0.4**
SAMH	**Samovar Hills**	**1.80**	**309**	P	**Pn**	**03 44 30.3**	**-0.5**
HYT	**Haines Junctio**	**1.82**	**7**	Pn	**Pn**	**03 44 30.7**	**-0.3**
HYT				Sg	**Sn**	**03 44 55.1**	**+0.4**
HYT	**Haines Junctio**	**1.82**	**7**	P	**Pn**	**03 44 30.7**	**-0.3**
YUK6	**Outpost Mounta**	**1.93**	**354**	Pn	**Pn**	**03 44 32.9**	**+0.2**
YUK6				Sg	**Sb**	**03 44 59.0**	**-0.2**
JIS	**Juneau Island**	**2.03**	**110**	P	**Pn**	**03 44 33.1**	**-0.6**
RKAV	**Rock Avalanche**	**2.13**	**308**	P	**Pn**	**03 44 35.4**	**0.0**
TABL	**Table Mountain**	**2.14**	**313**	P	**Pn**	**03 44 35.0**	**-0.5**
WHY	**Whitehorse**	**2.26**	**42**	Pn	**Pn**	**03 44 37.3**	**+0.2**
WHY				Pg	**Pb**	**03 44 40.4**	**+0.2**
WHY				Sn	**Sn**	**03 45 06.3**	**+0.7**
WHY				Sg	**Sb**	**03 45 10.3**	**+1.6**
WHY	**Whitehorse**	**2.26**	**42**	P	**Pn**	**03 44 37.3**	**+0.2**
LOGN	**Logan Glacier**	**2.36**	**321**	P	**Pn**	**03 44 38.1**	**-0.4**
BAGL	**Bagley Icefiel**	**2.54**	**307**	P	**Pn**	**03 44 40.6**	**-0.3**
GRHC	**Granite Creek**	**2.56**

BSO4	**Boso 4**	**13.46**	**351**	P	**Pn**	**03 47 04.8**	**+0.2**
BSO4				*eS*	**S**	**03 49 32.1**	**-0.5**
JIE	**Ise**	**13.82**	**338**	P	**Pn**	**03 47 09.4**	**+0.5**
JKN2	**Miekihoku**	**13.84**	**336**	P	**Pn**	**03 47 09.7**	**+0.5**
HMMJ	**Hamamatsu 2**	**13.92**	**342**	P	**Pn**	**03 47 10.9**	**+0.8**
JOD2	**Odawara 2**	**13.95**	**347**	P	**Pn**	**03 47 10.4**	**-0.2**
JTO	**Tosashimizu**	**14.35**	**323**	P	**Pn**	**03 47 18.2**	**+3.0**
JHU	**Hanno**	**14.48**	**348**	P	**P**	**03 47 16.0**	**+0.3**
JHU				*eS*	**S**	**03 49 50.3**	**-3.8**
INU	**Inuyama**	**14.59**	**340**	*eP*	**P**	**03 47 16.6**	**-0.2**
MJAR	**Matsushiro Arr**	**15.38**	**345**	P	**P**	**03 47 25.6**	**+0.1**
	4.6nm,0.3s,baz=168,slow=9.8,SNR=21						
MAJO	**Matsushiro**	**15.38**	**345**	*eP*	**P**	**03 47 26.2**	**+0.7**
	22nm,0.4s						
MAT	**Matsushiro**	**15.38**	**345**	P	**P**	**03 47 25.5**	**0.0**
MAT				*eS*	**S**	**03 50 05.8**	**-6.2**
MJB9	**Matsu-Tunnel**	**15.38**	**345**	*eP*	**P**	**03 47 25.8**	**+0.3**
	6.3nm,0.3s						
JNU	**Nakatsue**	**15.66**	**319**	P	**Pn**	**03 47 31.0**	**+0.4**
	1.3nm,0.3s,baz=147,slow=4.4,SNR=5.8						
NACB	**Ninganchiao**	**19.87**	**281**	*eP*	**P**	**03 48 11.8**	**-2.1**
	22nm,1.0s						
YHNB	**Yeheng**	**20.10**	**283**	*eP*	**P**	**03 48 16.0**	**-0.4**
	91nm,1.7s						
ERM	**Erimo**	**20.27**	**0**	*eP*	**P**	**03 48 19.8**	**+2.0**
	46nm,1.1s						
KSRS	**Korea Array**	**20.42**	**324**	P	**P**	**03 48 19.5**	**+0.2**
	6.1nm,0.3s,baz=143,slow=9.0,SNR=11						
KSRS				ScP	**ScP**	**03 55 25.4**	**+1.4**
	0.5nm,0.3s,baz=146,slow=2.5,SNR=4.3						
SSLB	**Suanglung**	**20.44**	**280**	*eP*	**P**	**03 48 20.1**	**+0.4**
	71nm,1.9s						
USRK	**Ussuriysk Ar.**	**24.23**	**340**	P	**P**	**03 48 55.2**	**+1.0**
	2.6nm,0.5s,baz=167,slow=10,SNR=7.9						
MYLDM	**Lahad Datu**	**28.86**	**239**	*eP*	**P**	**03 49 36.8**	**+1.2**
	18nm,0.9s						
HHC	**Hu-ho-hao-te**	**32.72**	**313**	*eP*	**P**	**03 50 08.3**	**-0.9**
HHC				pmax	pmax		
	comp=Z,13nm,0.9s						
HHC				pmax	pmax		
	comp=Z,91nm,6.8s						
COEN	**Coen**	**35.42**	**180**	*eP*	**P**	**03 50 32.1**	**-0.3**
	comp=Z,26nm,1.3s						
SBUM	**Sibu**	**35.52**	**242**	*eP*	**P**	**03 50 33.1**	**-0.3**
	comp=Z,10nm,0.5s						
SLVN	**Son La**	**36.31**	**277**	*eP*	**P**	**03 50 39.5**	**-0.6**
	comp=Z,5.0nm,0.7s						
KMI	**Kunming**	**37.02**	**283**	P	**P**	**03 50 45.8**	**-0.3**
KMI				pmax	pmax		
	comp=Z,13nm,0.6s						
SONM	**Songino Array**	**39.24**	**321**	P	**P**	**03 51 05.2**	**+1.2**
	comp=Z,0.6nm,0.4s,baz=128,slow=5.9,SNR=4.9						
CHTO	**Chiang Mai**	**41.34**	**274**	*eP*	**P**	**03 51 22.3**	**+0.9**
	comp=Z,8.0nm,1.2s						
CMAR	**Chiang Mai Arr**	**41.41**	**274**	P	**P**	**03 51 23.4**	**+1.4**
	comp=Z,1.8nm,0.3s,baz=80,slow=6.0,SNR=10						
WRAB	**Tennant Creek**	**42.22**	**192**	*eP*	**P**	**03 51 27.7**	**-0.7**
	comp=Z,13nm,0.6s						
WB2	**Warramunga Arr**	**42.23**	**192**	*eP*	**P**	**03 51 27.8**	**-0.7**
WRA	**Warramunga Arr**	**42.23**	**192**	P	**P**	**03 51 27.6**	**-0.9**
	comp=Z,8.6nm,0.6s,baz=12,slow=8.1,SNR=47						
FITZ	**Fitzroy Crossi**	**43.05**	**205**	*eP*	**P**	**03 51 34.1**	**-0.8**
UGM	**Wanagama**	**43.37**	**231**	*eP*	**P**	**03 51 37.5**	**-0.2**
	comp=Z,596nm,1.8s						
KULM	**Kulim**	**44.10**	**255**	*eP*	**P**	**03 51 44.6**	**+1.0**
	comp=Z,14nm,0.6s						
CISI	**Cisompet, Garu**	**45.12**	**234**	*eP*	**P**	**03 51 49.3**	**-2.2**
	comp=Z,62nm,0.5s						
ASAR	**Alice Springs**	**45.94**	**192**	P	**P**	**03 51 56.5**	**-1.2**
	comp=Z,2.0nm,0.7s,baz=16,slow=11,SNR=17						
PSI	**Prapat**	**46.75**	**253**	*eP*	**P**	**03 52 05.0**	**+0.7**
	comp=Z,13nm,1.0s						
MNAI	**Manna**	**46.98**	**241**	*eP*	**P**	**03 52 03.3**	**-2.6**
	comp=Z,149nm,1.0s						
MBWA	**Marble Bar**	**48.27**	**210**	*eP*	**P**	**03 52 14.4**	**-1.1**
	comp=Z,38nm,1.9s						
UNV	**Unalaska Valle**	**49.72**	**37**	*eP*	**P**	**03 52 26.6**	**+0.6**
	comp=Z,221nm,1.8s						
WMQ	**Urumqi**	**50.46**	**309**	P	**P**	**03 52 33.3**	**+1.5**
WMQ				pP	pP	**03 53 35.8**	**-1.3**
WMQ				pmax	pmax		
	comp=Z,8.0nm,0.7s						
WMQ				pmax	pmax		
	comp=Z,76nm,3.7s						
STKA	**Stephens Creek**	**53.28**	**181**	P	**P**	**03 52 51.5**	**-0.9**
	comp=Z,2.3nm,0.5s,baz=11,slow=11,SNR=5.8						
FORT	**Forrest**	**54.10**	**196**	*eP*	**P**	**03 52 58.0**	**-0.5**
	comp=Z,328nm,1.4s						
ZAA0	**Zalesovo Array**	**54.11**	**322**	*eP*	**P**	**03 52 58.5**	**+0.2**
ZAA0				*ePcP*	**PcP**	**03 53 57.6**	**-1.0**
ZALV	**Zalesovo Beam**	**54.11**	**322**	P	**P**	**03 52 57.6**	**-0.7**
	comp=Z,1.1nm,0.3s,baz=104,slow=6.3,SNR=7.2						
ZALV				PcP	**PcP**	**03 53 58.0**	**-0.6**
	comp=Z,4.2nm,0.4s,baz=114,slow=4.1,SNR=10						
MK01	**Makanchi Array**	**54.57**	**313**	*eP*	**P**	**03 53 02.3**	**+0.5**
BBOO	**Buckleboo**	**54.60**	**187**	*eP*	**P**	**03 53 01.3**	**-0.6**
	comp=Z,86nm,2.0s						
KURK	**Kurchatov**	**57.37**	**317**	*eP*	**P**	**03 53 21.5**	**+0.2**
	comp=Z,3.8nm,0.8s						
KURBB	**Kurchatov Arra**	**57.42**	**317**	P	**P**	**03 53 21.9**	**+0.3**
	comp=Z,5.5nm,0.5s,baz=96,slow=7.5,SNR=41						
KSH	**Kashi**	**59.10**	**304**	*eP*	**P**	**03 53 38.1**	**+4.6**
KSH				S	**S**	**04 01 18.5**	**+2.7**
KSH				sS	sS	04 03 08.4	-7.0
KSH	**Kashi**	**59.10**	**304**	SS	SS	04 05 19.6	+4.2
KSH				pmax	pmax		
	comp=Z,25nm,1.8s						
KSH				pmax	pmax		
	comp=Z,62nm,3.5s						
KSH				LR	LR		
	comp=N,53nm,4.7s						
KSH				LR	LR		
	comp=E,80nm,4.1s						
KSH				LR	LR		
	comp=Z,150nm,5.6s						
RND	**Reindeer**	**61.06**	**29**	*eP*	**P**	**03 53 45.3**	**-1.0**
	comp=Z,33nm,2.0s						
ILAR	**Eielson Array**	**62.12**	**27**	P	**P**	**03 53 52.9**	**-0.3**
	comp=Z,0.7nm,0.6s,baz=252,slow=5.3,SNR=5.1						
BRVK	**Borovoye**	**62.63**	**320**	*eP*	**P**	**03 53 57.5**	**+0.7**
	comp=Z,5.8nm,0.5s						
KKAR	**Karatay Array**	**62.93**	**308**	*eP*	**P**	**03 53 60.0**	**+1.0**
	comp=Z,28nm,0.6s						
INK	**Inuvik**	**67.64**	**24**	P	**P**	**03 54 28.5**	**+0.1**
	comp=Z,1.8nm,0.9s,baz=288,slow=6.4,SNR=3.0						
ARU	**Arti**	**69.17**	**324**	P	**P**	**03 54 38.1**	**0.0**
	comp=Z,3.0nm,0.4s,baz=127,slow=7.5,SNR=4.4						
ABKAR	**Akbulak array**	**69.44**	**316**	*eP*	**P**	**03 54 40.1**	**+0.2**
	comp=Z,85nm,0.6s						
YKA	**Yellowknife Ar**	**76.54**	**28**	P	**P**	**03 55 21.1**	**+0.1**
	comp=Z,1.1nm,0.5s,baz=292,slow=5.9,SNR=6.2						
ARCES	**ARCESS Array B**	**78.88**	**341**	P	**P**	**03 55 34.1**	**+0.4**
	comp=Z,2.5nm,0.5s,baz=71,slow=8.0,SNR=9.5						
NEW	**Newport**	**80.40**	**42**	P	**P**	**03 55 43.0**	**+0.7**
	comp=Z,1.6nm,0.7s,baz=336,slow=8.5,SNR=3.5						
JUCM	**University of**	**81.03**	**54**	*eP*	**P**	**03 55 49.3**	**+3.5**
KBZ	**Khabaz**	**82.25**	**314**	P	**P**	**03 55 52.8**	**+0.8**
	comp=Z,5.9nm,0.8s,baz=77,slow=3.7,SNR=16						
FINES	**FINESS Array B**	**83.12**	**334**	P	**P**	**03 55 55.3**	**-0.7**
	comp=Z,4.4nm,0.4s,baz=65,slow=4.9,SNR=35						
HRY	**Holter Researc**	**84.31**	**42**	*eP*	**P**	**03 56 03.4**	**+0.9**
R11A	**Troy Canyon, C**	**85.28**	**51**	*eP*	**P**	**03 56 08.3**	**+0.7**
	comp=Z,2.7nm,1.3s						
TPNV	**Topopah Spring**	**85.36**	**52**	*eP*	**P**	**03 56 08.7**	**+0.7**
	comp=Z,3.2nm,0.8s						
PFO	**Pinyon Flats O**	**86.53**	**55**	P	**P**	**03 56 14.2**	**+0.5**
	comp=Z,1.9nm,0.7s,baz=296,slow=7.6,SNR=3.6						
AKASG	**Malin Array Be**	**87.42**	**324**	P	**P**	**03 56 16.0**	**-1.4**
	comp=Z,0.4nm,0.3s,baz=46,slow=4.8,SNR=5.1						
BRTR	**Keskin Array B**	**90.23**	**313**	P	**P**	**03 56 29.8**	**-1.2**
	comp=Z,0.9nm,0.8s,baz=60,slow=3.6,SNR=5.8						
BR231	**Keskin MP Arra**	**90.75**	**314**	*eP*	**P**	**03 56 35.3**	**+1.9**
SNAA	**Sanae**	**126.30**	**193**	PKP	**PKPdf**	**04 02 28.1**	**-2.0**
VNA3	**Neumayer Olymp**	**127.95**	**191**	PKP	**PKPdf**	**04 02 32.5**	**-0.6**
TORD	**Torodi Ar. Bea**	**128.62**	**309**	PKP	**PKPdf**	**04 02 36.2**	**+0.1**
	comp=Z,0.3nm,0.4s,baz=41,slow=1.1,SNR=12						
PLCA	**Paso Flores**	**145.88**	**132**	PKPbc	**PKPbc**	**04 03 08.6**	**+0.3**
	comp=Z,9.8nm,0.6s,baz=265,slow=4.0,SNR=42						
LPAZ	**La Paz**	**150.11**	**85**	PKP	**PKPdf**	**04 03 16.4**	**+1.1**
	comp=Z,3.3nm,0.6s,baz=306,slow=1.4,SNR=4.1						
LPAZ				PKPbc	**PKiKP**	**04 03 21.2**	**-0.1**
	comp=Z,5.8nm,0.5s,baz=323,slow=1.9,SNR=52						
LPAZ				PKPab	**PKPab**	**04 03 28.4**	**+0.7**
	comp=Z,2.8nm,0.4s,baz=24,slow=5.9,SNR=11						

RSNC 15 03:59:33.7±0.4, 6.87N×73.27W, h122km±3km, ML2.2, 2C, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
BARC	**Barichara**	**0.29**	**161**	*i*	P		Pn	03 59 50.9	-0.3
BARC				*eS*	Sn			04 00 03.9	-0.4
BARC				*i*				04 00 05.2	
	comp=Z,124nm,0.3s								
BARC	**Barichara**	**0.29**	**161**	*i*	P		Pn	03 59 50.9	-0.2
BARC				*eS*	Sn			04 00 03.8	-0.4
BARC				*i*				04 00 05.2	
	comp=Z,111nm,0.3s								
BRRC	**Barranca, Sant**	**0.50**	**299**	⇑*i*	P		Pn	03 59 51.3	-0.5
BRRC				*eS*	Sn			04 00 05.4	-0.1
BRRC				*i*				04 00 06.0	
	comp=Z,55nm,0.1s								
BRRC	**Barranca, Sant**	**0.50**	**299**	⇑*i*	P		Pn	03 59 51.3	-0.5
BRRC				*eS*	Sn			04 00 05.1	-0.4
BRRC				*i*				04 00 06.1	
	comp=Z,53nm,0.1s								
RUSC	**La Rusia**	**0.99**	**169**	*eP*			Pn	03 59 55.8	-0.5
RUSC				*eS*			Sn	04 00 12.9	-0.4
RUSC	**La Rusia**	**0.99**	**169**	*eP*			Pn	03 59 55.8	-0.5
RUSC				*eS*			Sn	04 00 12.9	-0.4
RUSC				*i*				04 00 14.7	
	comp=Z,5.6nm,0.2s								
OCAC	**Ocana**	**1.36**	**358**	*eP*			Pn	03 59 59.3	-0.6
OCAC				*eS*			Sn	04 00 19.5	-0.3
OCAC				*i*				04 00 25.6	
	comp=Z,23nm,0.4s								
OCAC	**Ocana**	**1.36**	**358**	*eP*			Pn	03 59 59.3	-0.6
OCAC				*eS*			Sn	04 00 19.3	-0.5
OCAC				*i*				04 00 25.7	
	comp=Z,23nm,0.5s								
ZARC	**Zaragoza, Cauc**	**1.69**	**292**	*eP*			Pn	04 00 02.7	-0.8
ZARC				*eS*			Sn	04 00 25.9	-0.3
ZARC				*i*				04 00 28.3	
	comp=Z,16nm,0.6s								
ZARC	**Zaragoza, Cauc**	**1.69**	**292**	*eP*			Pn	04 00 02.8	-0.7
ZARC				*eS*			Sn	04 00 26.0	-0.2
ZARC				*i*				04 00 28.4	
	comp=Z,15nm,0.4s								
NORC	**Norcasia**	**2.05**	**231**	*eP*			Pn	04 00 07.7	-0.2
NORC				*eS*			Sn	04 00 33.5	-0.5
NORC	**Norcasia**	**2.05**	**231**	*eP*			Pn	04 00 07.7	-0.2
NORC				*eS*			Sn	04 00 33.0	-1.0
CHIC	**Chingaza**	**2.27**	**192**	*eP*			Pn	04 00 11.0	0.0
CHIC				*eS*			Sn	04 00 39.4	-0.1
CHIC				*i*				04 00 43.0	
	comp=Z,4.1nm,0.9s								
CHIC	**Chingaza**	**2.27**	**192**	*eP*			Pn	04 00 11.0	0.0
CHIC				*eS*			Sn	04 00 40.2	+0.6
CHIC				*i*				04 00 43.0	
	comp=Z,4.2nm,0.9s								
HELC	**Santa Helena**	**2.34**	**253**	*eP*			Pn	04 00 11.6	-0.3
HELC				*eS*			Sn	04 00 40.5	-0.6
HELC				*i*				04 00 46.1	
	comp=Z,6.8nm,0.3s								
HELC	**Santa Helena**	**2.34**	**253**	*eP*			Pn	04 00 12.0	+0.2
HELC				*eS*			Sn	04 00 40.4	-0.6
HELC				*i*				04 00 46.1	
	comp=Z,6.5nm,0.2s								
CODC	**Agust´›n Codaz**	**3.05**	**357**	*eP*			Pn	04 00 20.8	0.0
CODC				*i*				04 00 35.5	
	comp=Z,18nm,0.9s								
CODC				*eS*			Sn	04 00 57.3	+0.2
PRAC	**Prado**	**3.52**	**207**	*eP*			Pn	04 00 26.4	-0.5
PRAC				*eS*			Sn	04 01 07.6	-0.5
PRAC	**Prado**	**3.52**	**207**	*eS*			Sn	04 01 07.4	-0.7

IDC 15 04:15:37.5±2.1, 5.41S×152.13E, h0km, mb3.7/4, mb1 4.0/4, mb1mx3.7/29, mbtmp3.8/4, Error ellipse: s-maj=116.5km s-min=27.3km az=129.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**22.54**	**229**	P			P	04 20 38.9	-0.4
	1.0nm,0.9s,baz=56,slow=10,SNR=2.6								
ASAR	**Alice Springs**	**25.25**	**222**	P			P	04 21 05.8	+0.2
	1.4nm,0.8s,baz=53,slow=9.5,SNR=13								
FITZ	**Fitzroy Crossi**	**28.78**	**242**	P			P	04 21 37.4	0.0
	3.8nm,1.0s,baz=50,slow=12,SNR=8.8								
ILAR	**Eielson Array**	**82.97**	**22**	P			P	04 28 04.4	+0.2
	0.5nm,0.7s,baz=248,slow=5.9,SNR=4.6								
TORD	**Torodi Ar. Bea**	**149.85**	**287**	PKPbc			PKPbc	04 35 30.2	-0.6
	0.4nm,0.7s,baz=123,slow=1.9,SNR=3.2								

MAN 15 04:16:42, 13.49N×120.35E, h33km, mb4.2, ML3.0, MS2.7
MAN INTENSITY II - PUERTO GALERA ORIENTAL MINDORO.
ISCJB 15 04:16:43.3±0.8, 13.51N±0.06×120.58E±0.09, h70km, mb3.6/4, Error ellipse: s-maj=13.2km s-min=8.8km az=6.9
IDC 15 04:16:44.5±1.5, 13.55N×120.69E, h68km±21km, mb3.3/4, mb1 3.5/4, mb1mx3.2/40, mbtmp3.6/4, Error ellipse: s-maj=44.4km s-min=21.2km az=53.0

ISC 15 04:16:43.8±1.0, 13.49N±0.07×120.6E±0.1, h70km, n10, σ1s53/16, mb3.6/4, 4C-1D, Mindoro

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PGP	**Puerto Galera**	**0.37**	**89**	⇓*eP*			**Pn**	**04 16 54.2**	**-1.3**
PGP				*eS*			**Sn**	**04 17 02.7**	**-1.4**
TGY	**Tagaytay City**	**0.70**	**30**	P			**Pn**	**04 16 58.8**	**-0.1**
	3µm,0.3s,baz=203,slow=9.8,SNR=110								
TGY				S			**Sn**	**04 17 10.3**	**+0.5**
	4µm,0.3s,baz=337,slow=23,SNR=67								
TGY	**Tagaytay City**	**0.70**	**30**	⇑*iP*			**Pn**	**04 16 58.6**	**-0.2**
TGY				*i* S			**Sn**	**04 17 10.0**	**+0.1**
LQP	**Lukban**	**1.12**	**57**	⇑*eP*			**Pn**	**04 17 03.4**	**-0.7**
GQP	**Guinayangan**	**1.87**	**77**	⇑*eP*			**Pn**	**04 17 15.7**	**+2.0**
PCPH	**Palayan**	**2.12**	**14**	⇑*eP*			**Pn**	**04 17 16.0**	**-1.1**
PCPH				*eS*			**Sn**	**04 17 41.4**	**-1.1**
CMAR	**Chiang Mai Arr**	**21.37**	**286**	P			**P**	**04 21 27.9**	**+2.3**
	1.0nm,0.3s,baz=93,slow=8.2,SNR=3.5								
WRA	**Warramunga Arr**	**35.88**	**158**	P			**P**	**04 23 38.0**	**+0.7**
	0.3nm,0.4s,baz=333,slow=10,SNR=4.3								
WRA				pP			**pP**	**04 23 51.6**	**-2.7**
	0.6nm,0.6s,baz=336,slow=9.8,SNR=4.2								
SONM	**Songino Array**	**36.22**	**344**	P			**P**	**04 23 40.3**	**+0.2**
	0.5nm,0.4s,baz=156,slow=11,SNR=3.6								
ASAR	**Alice Springs**	**39.17**	**160**	P			**P**	**04 24 06.5**	**+1.5**
	0.3nm,0.5s,baz=338,slow=6.4,SNR=4.6								
ASAR				pP			**pP**	**04 24 20.1**	**-2.1**
	1.0nm,0.6s,baz=339,slow=7.2,SNR=5.2								

ISCJB 15 04:31:45.8±0.5, 18.52N±0.05×146.9E±0.1, h52km, mb4.2/19, MS3.5/13, Error ellipse: s-maj=16.9km s-min=6.5km az=4.9
NEIC 15 04:31:49.3±1.7, 18.49N×146.92E, h70km±16km, mb4.3/6, Error ellipse: s-maj=14.4km s-min=7.4km az=83.0
IDC 15 04:31:49.3±3.6, 18.51N×146.92E, h67km±34km, mb3.7/12, mb1 4.0/14, mb1mx3.7/57, mbtmp4.1/14, ML4.3/2, MS3.5/14, Ms1 3.5/14, ms1mx3.3/32, Error ellipse: s-maj=27.7km s-min=15.4km az=83.0

ISC 15 04:31:47.4±0.6, 18.56N±0.07×146.9E±0.2, h52km, n45, σ1s24/35, mb4.0/19, MS3.5/13, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**5.31**	**202**	P			**Pn**	**04 33 06.3**	**+2.1**
	24nm,0.3s,baz=185,slow=1.0,SNR=4.1								
GUMO				S			**Sn**	**04 34 05.3**	**+1.3**
	14nm,0.3s,baz=314,slow=22,SNR=4.5								
GUMO				LR			LR	04 35 07.1	
	comp=Z,517nm,19.4s,baz=76,slow=38								
GUMO	**Guam**	**5.31**	**202**	*ePn*			**Pn**	**04 33 05.8**	**+1.6**
GUMO				*eSn*			**Sn**	**04 34 02.5**	**-1.5**
H11S3	**WAKE ISLAND Hy**	**18.78**	**87**	T			T	04 55 03.6	
	baz=274,slow=74,SNR=18								
H11S1	**WAKE ISLAND Hy**	**18.78**	**87**	T			T	04 55 14.8	
	baz=274,slow=74,SNR=15								
H11S2	**WAKE ISLAND Hy**	**18.80**	**87**	T			T	04 55 02.6	
	baz=274,slow=74,SNR=17								
MJAR	**Matsushiro Arr**	**19.48**	**339**	P			**Pn**	**04 36 11.1**	**-0.5**
	0.4nm,0.3s,baz=168,slow=11,SNR=9.3								
RABL	**Rabaul**	**23.20**	**167**	*eP*			**P**	**04 36 49.5**	**-0.5**
	132nm,0.5s								
KSRS	**Korea Array**	**25.10**	**322**	LR			LR	04 46 24.9	
	comp=Z,108nm,21.0s,baz=134,slow=35								
TGY	**Tagaytay City**	**25.28**	**264**	LR			LR	04 46 05.3	
	comp=Z,145nm,21.2s,baz=53,slow=34								
PMG	**Port Moresby**	**27.79**	**179**	LR			LR	04 46 44.5	
	comp=Z,84nm,20.3s,baz=188,slow=32								
USRK	**Ussuriysk Ar.**	**28.46**	**337**	P			**P**	**04 37 39.5**	**+2.1**
	2.3nm,0.8s,baz=208,slow=8.0,SNR=4.1								
PETK	**Petropavlovsk-**	**35.50**	**11**	LR			LR	04 52 32.8	
	comp=Z,48nm,19.0s,baz=210,slow=35								
WRAB	**Tennant Creek**	**40.18**	**198**	*eP*			**P**	**04 39 17.1**	**-1.8**
	35nm,1.4s								
WB2	**Warramunga Arr**	**40.19**	**198**	*eP*			**P**	**04 39 17.6**	**-1.2**
WR1	**Warramunga Arr**	**40.19**	**198**	*eP*			**P**	**04 39 18.8**	**-0.1**
	12nm,1.3s								
WRA	**Warramunga Arr**	**40.19**	**198**	P			**P**	**04 39 18.8**	**-0.1**
	1.6nm,0.7s,baz=20,slow=9.2,SNR=6.3								
AS31	**Alice Springs**	**43.84**	**197**	*eP*			**P**	**04 39 48.6**	**0.0**
	1.8nm,1.1s								
ASAR	**Alice Springs**	**43.84**	**197**	P			**P**	**04 39 48.6**	**-0.1**
	1.0nm,0.6s,baz=18,slow=8.4,SNR=7.1								
ASAR				LR			LR	04 59 07.6	
	comp=Z,144nm,18.4s,baz=78,slow=37								
SONA0	**Songino Array**	**43.95**	**321**	*eP*			**P**	**04 39 50.7**	**+1.2**
	2.7nm,0.8s								
SONM	**Songino Array**	**43.95**	**321**	P			**P**	**04 39 50.7**	**+1.2**
	1.6nm,0.8s,baz=133,slow=10,SNR=7.3								
SONA1	**Songino Array**	**43.96**	**321**	*eP*			**P**	**04 39 51.4**	**+1.9**
CMAR	**Chiang Mai Arr**	**45.35**	**278**	LR			LR	04 57 40.1	
	comp=Z,32nm,20.5s,baz=139,slow=34								
STKA	**Stephens Creek**	**50.40**	**186**	LR			LR	05 03 37.9	
	comp=Z,109nm,18.2s,baz=210,slow=38								
ZAA0	**Zalesovo Array**	**58.81**	**322**	*eP*			**P**	**04 41 40.6**	**+0.3**
ZALV	**Zalesovo Beam**	**58.81**	**322**	P			**P**	**04 41 41.3**	**+1.0**
	0.8nm,0.3s,baz=116,slow=6.8,SNR=4.2								
ZALV				LR			LR	05 07 03.4	
	comp=Z,24nm,18.4s,baz=266,slow=36								
ZAA1	**Zalesovo Array**	**58.81**	**322**	*eP*			**P**	**04 41 41.3**	**+1.0**
KURK	**Kurchatov**	**62.12**	**318**	*eP*			**P**	**04 42 03.4**	**+0.4**
KURBB	**Kurchatov Arra**	**62.17**	**318**	P			**P**	**04 42 03.4**	**+0.1**
	1.4nm,0.7s,baz=95,slow=7.2,SNR=8.6								
ILAR	**Eielson Array**	**63.28**	**26**	P			**P**	**04 42 09.6**	**-0.8**
	0.3nm,0.6s,baz=270,slow=4.5,SNR=5.5								
ILAR				LR			LR	05 07 14.4	
	comp=Z,29nm,20.7s,baz=248,slow=34								
ILB	**Eielson Array**	**63.28**	**26**	*eP*			**P**	**04 42 09.6**	**-0.8**
HYB	**Hyderabad**	**64.62**	**281**	*i* P			**P**	**04 42 16.0**	**-4.1**
BVAR	**Borovoye Array**	**67.30**	**320**	P			**P**	**04 42 37.2**	**+0.5**
	3.2nm,0.5s,baz=93,slow=7.4,SNR=15								
BRVK	**Borovoye**	**67.36**	**320**	*eP*			**P**	**04 42 37.4**	**+0.3**
	4.1nm,0.5s								
PPT	**Papeete**	**72.04**	**116**	LR			LR	05 07 31.1	
	comp=Z,41nm,20.5s,baz=322,slow=30								
ABKAR	**Akbulak array**	**74.21**	**317**	*eP*			**P**	**04 43 17.9**	**-0.8**
	0.7nm,0.5s								
YKA	**Yellowknife Ar**	**77.58**	**28**	P			**P**	**04 43 37.9**	**+0.2**
	1.1nm,0.8s,baz=273,slow=4.0,SNR=3.6								
YKB5	**Yellowknife Ar**	**77.58**	**28**	*eP*			**P**	**04 43 37.9**	**+0.2**
NEW	**Newport**	**80.26**	**42**	P			**P**	**04 43 53.2**	**+0.5**
	2.2nm,0.8s,baz=343,slow=6.0,SNR=3.2								
ARCES	**ARCESS Array B**	**82.97**	**342**	LR			LR	05 27 20.0	
	comp=Z,25nm,19.9s,baz=32,slow=40								
KBZ	**Khabaz**	**87.03**	**315**	LR			LR	05 26 08.0	
	comp=Z,33nm,20.3s,baz=54,slow=37								
PD31	**Pinedale Array**	**87.12**	**46**	*eP*			**P**	**04 44 28.4**	**+0.2**
PDAR	**Pinedale Array**	**87.12**	**46**	P			**P**	**04 44 28.4**	**+0.2**
	0.5nm,0.7s,baz=211,slow=1.7,SNR=6.2								
PDAR				LR			LR	05 18 03.3	
	comp=Z,31nm,19.7s,baz=299,slow=32								
FIA0	**FINESS Array S**	**87.48**	**336**	*eP*		

CPE	**Camp Elliot**	**1.70**	**295**	*e*Sn	**Sg**	**04 36 05.3**	**-1.2**
TPFO	**Pinon Flats**	**1.73**	**325**	P	**Pn**	**04 35 41.8**	**+0.3**
	baz=144						
PFO	**Pinyon Flats O**	**1.73**	**325**	P	**Pn**	**04 35 41.8**	**+0.2**
	baz=144						
PFO	**Pinyon Flats O**	**1.73**	**325**	*e*Pn	**Pn**	**04 35 41.4**	**-0.1**
DGR	**Domenigoni Val**	**2.06**	**315**	*e*Sn	**Sg**	**04 36 17.1**	**-1.0**
214A	**Organ Pipe Nat**	**2.10**	**96**	S	**Sg**	**04 36 17.7**	**-1.3**
	baz=277						
MURC	**Murrieta**	**2.15**	**311**	Sb	**Sg**	**04 36 19.3**	**-1.4**
	baz=130						
Y14A	**Wickenburg**	**2.57**	**47**	*e*Pn	**Pn**	**04 35 53.5**	**+0.4**
MWC	**Mount Wilson**	**3.10**	**312**	*e*Pn	**Pn**	**04 35 59.2**	**-1.1**
X16A	**Lo Mia Camp, P**	**3.89**	**54**	*e*Pn	**Pn**	**04 36 12.3**	**+1.0**
BAKC	**Calstate**	**4.48**	**316**	*e*Sn	**Sn**	**04 37 09.8**	**-1.4**
U15A	**North Rim**	**4.89**	**29**	*e*Pn	**Pn**	**04 36 27.4**	**+2.4**
SZCU	**Shurtz Canyon**	**5.68**	**18**	*e*Sn	**Sn**	**04 37 45.4**	**+4.5**

NIED ***15*** *04:35:00.3, 37.20N × 142.40E, h20km, Mw3.4 Best double couple: M0 1.66000 × 10^14 NP1: φ = 214.00000°, δ = 20.00000°, λ = 105.00000°. NP2: φ = 17.00000°, δ = 71.00000°, λ = 84.00000°.*

JMA 15 04:35:51.4 ± 0.2, 37.17N × 142.42E, h3km ± 2km, M4.0, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JFK	**Kawauchi**	**1.25**	**280**	P	Pg	04 36 15.0	-0.3
JFK				S	Sb	04 36 32.0	-0.1
ONAJ	**Iwakimizuishiy**	**1.30**	**267**	P	Pg	04 36 16.1	-0.2
ONAJ				S	Sn	04 36 34.3	-0.1
JMM	**Marumori**	**1.47**	**299**	P	Pn	04 36 18.5	-0.3
JMM				S	Sb	04 36 37.6	-0.8
JIO	**Ouri**	**1.54**	**327**	P	Pn	04 36 19.6	-0.1
JIO				*e*S	Sb	04 36 40.3	-0.1
JFT	**Otama**	**1.70**	**282**	P	Pb	04 36 22.6	-0.6
JOU	**Okura**	**1.83**	**311**	P	Pb	04 36 24.9	-0.7
JOU				*e*S	Sb	04 36 48.6	-0.3
JMK	**Ichinoseki**	**2.02**	**332**	P	Pn	04 36 27.0	+0.7
JYK	**Kaneyama**	**2.39**	**318**	P	Pn	04 36 31.9	+0.5
MAT	**Matsushiro**	**3.44**	**261**	P	Pn	04 36 48.6	+2.7
MAT				S	Sb	04 37 31.5	-3.6

IDC ***15*** *04:46:06.0 ± 1.4, 26.74N × 55.28E, h0km, mb4.0/9, mb1 4.2/11, mb1mx3.9/38, mbtmp4.1/11, ML3.8/2, MS2.8/1, Ms1 2.8/1, ms1mx2.3/38, Error ellipse: s-maj=27.2km s-min=22.0km az=164.0*

OMAN ***15*** *04:46:06.0 ± 1.4, 27.07N × 55.54E, h25km, Error ellipse: s-maj=16.4km s-min=11.6km az=27.0*

TEH ***15*** *04:46:07.9, 26.64N × 55.38E, h27km, ML3.7*

DSN ***15*** *04:46:07.0 ± 3.2, 26.90N × 55.49E, h15km, ML3.9/8, Error ellipse: s-maj=4.1km s-min=2.2km az=25.0*

THR ***15*** *04:46:07.8 ± 0.7, 26.59N × 55.30E, h32km ± 15km, ML3.6*

ISCJB ***15*** *04:46:07.2 ± 0.4, 26.70N ± 0.03 × 55.25E ± 0.04, h10km, mb4.0/9, Error ellipse: s-maj=4.8km s-min=3.9km az=150.3*

CSEM ***15*** *04:46:08.9 ± 0.2, 26.67N × 55.35E, h10km, ML3.9, Error ellipse: s-maj=5.9km s-min=4.0km az=66.0*

ISC 15 04:46:07.1 ± 0.6, 26.65N ± 0.02 × 55.29E ± 0.03, h10km, n72, σ 19 71/80, mb3.9/9, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BNDS	**Bandar-Abbas**	**1.08**	**46**	*e*Pg	**Pn**	**04 46 28.4**	**-0.1**
BNDS				*e*Sg	**Sn**	**04 46 44.0**	**+0.3**
BNDS				AML	AML	04 46 49.4	
	comp=E,2μm,0.3s						
BNDS	**Bandar-Abbas**	**1.08**	**46**	*e*Pg	**Pn**	**04 46 28.4**	**-0.1**
BNDS				*e*Sg	**Sn**	**04 46 44.0**	**+0.3**
BANOM	**Banah**	**1.16**	**128**	*e*P	**Pn**	**04 46 29.5**	**+0.1**
	SNR=328						
BANOM	**Banah**	**1.16**	**128**	P	**Pn**	**04 46 29.7**	**+0.3**
	SNR=328						
BANOM				S	**Sn**	**04 46 46.2**	**+0.9**
BANOM	**Banah**	**1.16**	**128**	P	**Pn**	**04 46 29.7**	**+0.3**
	SNR=328						
BANOM				S	**Sn**	**04 46 46.2**	**+0.9**
IBND	**Bandar-abas**	**1.37**	**54**	*e*Pg	**Pg**	**04 46 34.0**	**+0.6**
IBND				*e*Sg	**Sg**	**04 46 53.1**	**+2.0**
IBND				*e*AMB	AMB	04 47 09.7	
	comp=Z,70μm,0.3s						
IBND	**Bandar-abas**	**1.37**	**54**	*e*Pg	**Pg**	**04 46 34.0**	**+0.6**
IBND				*e*Sg	**Sg**	**04 46 53.1**	**+2.0**
KHSK	**Kohestak**	**1.58**	**86**	*e*Pn	**Pg**	**04 46 35.6**	**-1.8**
KHSK	**Kohestak**	**1.58**	**86**	*e*Pn	**Pg**	**04 46 35.6**	**-1.8**
NIAN	**Nian**	**1.65**	**56**	*e*Pn	**Pb**	**04 46 36.2**	**-1.4**
NIAN	**Nian**	**1.65**	**56**	*e*Pn	**Pb**	**04 46 36.2**	**-1.4**
NAZ	**Nazwa, Dubai**	**1.69**	**169**	*e*P	**Pg**	**04 46 39.2**	**-0.3**
	SNR=17						
NAZ	**Nazwa, Dubai**	**1.69**	**169**	P	**Pg**	**04 46 39.2**	**-0.3**
	SNR=17						
NAZ	**Nazwa, Dubai**	**1.69**	**169**	P	**Pg**	**04 46 39.2**	**-0.3**
UOSS	**Minazif**	**1.89**	**154**	P	**Pb**	**04 46 40.7**	**-0.9**
	SNR=39						
UOSS				S	**Sg**	**04 47 09.5**	**+1.7**
UOSS	**Minazif**	**1.89**	**154**	P	**Pb**	**04 46 40.7**	**-0.9**
UOSS				S	**Sg**	**04 47 09.5**	**+1.7**
FAQ	**Al Faqa, Dubai**	**1.92**	**172**	*e*P	**Pg**	**04 46 42.4**	**-1.5**
	SNR=9.5						
FAQ	**Al Faqa, Dubai**	**1.92**	**172**	P	**Pg**	**04 46 42.4**	**-1.5**
	SNR=9.5						
FAQ	**Al Faqa, Dubai**	**1.92**	**172**	P	**Pg**	**04 46 42.4**	**-1.5**
	SNR=9.5						
FAQ				S	**Sg**	**04 47 14.5**	**+5.8**
HATD	**Hatta, Dubai**	**1.97**	**157**	*e*P	**Pg**	**04 46 42.4**	**-2.4**
	SNR=45						
HATD	**Hatta, Dubai**	**1.97**	**157**	P	**Pg**	**04 46 42.4**	**-2.4**
	SNR=45						
HATD	**Hatta, Dubai**	**1.97**	**157**	P	**Pg**	**04 46 43.2**	**-1.6**
	SNR=14						
ASHO	**Ashiyiah**	**2.08**	**160**	*e*P	**Pb**	**04 46 44.1**	**-0.7**
	SNR=42						
ASHO	**Ashiyiah**	**2.08**	**160**	P	**Pb**	**04 46 44.2**	**-0.7**
	SNR=32						
ASHO	**Ashiyiah**	**2.08**	**160**	P	**Pb**	**04 46 44.2**	**-0.7**
	SNR=32						
GHIR	**Ghir-Karzin**	**2.62**	**309**	*e*Pn	**Pn**	**04 46 51.0**	**+1.4**
GHIR				AML	AML	04 47 50.0	
	comp=E,105nm,0.5s						
GHIR	**Ghir-Karzin**	**2.62**	**309**	*e*Pn	**Pn**	**04 46 51.0**	**+1.4**
NGRK	**Negar Kerman**	**3.24**	**23**	*e*Pn	**Pn**	**04 47 00.1**	**+1.7**
NGRK	**Negar Kerman**	**3.24**	**23**	*e*Pn	**Pn**	**04 47 00.1**	**+1.7**
ISRV	**Sarvestan**	**3.33**	**325**	*e*Pn	**Pb**	**04 47 03.1**	**-3.5**
ISRV				*e*AMB	AMB	04 48 28.2	
	comp=Z,3μm,0.5s						
ISRV	**Sarvestan**	**3.33**	**325**	*e*Pn	**Pb**	**04 47 03.1**	**-3.5**
TVBK	**TV Kerman**	**3.57**	**21**	*e*Pn	**Pn**	**04 47 04.8**	**+1.9**
TVBK	**TV Kerman**	**3.57**	**21**	*e*Pn	**Pn**	**04 47 04.8**	**+1.9**
IPAR	**Pars**	**3.75**	**329**	*e*Pn	**Pn**	**04 47 08.5**	**+3.2**
IPAR				*e*AMB	AMB	04 48 28.0	
	comp=Z,971nm,0.5s						
IPAR	**Pars**	**3.75**	**329**	*e*Pn	**Pn**	**04 47 08.5**	**+3.2**
CHMN	**Cheshme madani**	**3.76**	**31**	*e*Pn	**Pn**	**04 47 07.7**	**+2.1**
CHMN	**Cheshme madani**	**3.76**	**31**	*e*Pn	**Pn**	**04 47 07.7**	**+2.1**
KHGB	**Koh Gabri**	**3.85**	**15**	*e*Pn	**Pn**	**04 47 08.9**	**+2.2**
KHGB	**Koh Gabri**	**3.85**	**15**	*e*Pn	**Pn**	**04 47 08.9**	**+2.2**
WSAR	**Wadi Sarin**	**4.55**	**138**	Pn	**Pn**	**04 47 17.6**	**+1.5**
	comp=Z,1.9nm,0.3s,baz=325,slow=13,SNR=16						
WSAR				Sn	**Sn**	**04 48 08.1**	**-1.0**
	comp=Z,5.0nm,0.3s,baz=145,slow=15,SNR=6.8						
IMEH	**Mehriz**	**4.76**	**353**	*e*Pn	**Pn**	**04 47 21.5**	**+2.3**
IMEH				*e*AMB	AMB	04 47 26.8	
	comp=Z,386nm,0.1s						
IMEH	**Mehriz**	**4.76**	**353**	*e*Pn	**Pn**	**04 47 21.5**	**+2.3**
CHBR	**Chabahar**	**4.78**	**102**	*e*Pn	**Pn**	**04 47 19.7**	**+0.5**
CHBR	**Chabahar**	**4.78**	**102**	*e*Pn	**Pn**	**04 47 19.7**	**+0.5**
IBAF	**Bafgh**	**4.93**	**3**	*e*Pn	**Pn**	**04 47 22.8**	**+1.4**
IBAF				*e*AMB	AMB	04 47 27.3	
	comp=Z,472nm,0.2s						
IBAF	**Bafgh**	**4.93**	**3**	*e*Pn	**Pn**	**04 47 22.8**	**+1.4**
ISAD	**Sadrabad**	**5.43**	**345**	*e*Pn	**Pn**	**04 47 31.2**	**+2.8**
ISAD	**Sadrabad**	**5.43**	**345**	*e*Pn	**Pn**	**04 47 31.2**	**+2.8**
ICHK	**Chekchek**	**5.63**	**352**	*e*Pn	**Pn**	**04 47 32.7**	**+1.6**
ICHK				*e*AMB	AMB	04 48 04.8	
	comp=Z,228nm,0.3s						
ICHK	**Chekchek**	**5.63**	**352**	*e*Pn	**Pn**	**04 47 32.7**	**+1.6**
IRAM	**Ramesheh**	**5.74**	**334**	*e*Pn	**Pn**	**04 47 34.3**	**+1.7**
IRAM				*e*AMB	AMB	04 47 35.6	
	comp=Z,433nm,0.1s						
IRAM	**Ramesheh**	**5.74**	**334**	*e*Pn	**Pn**	**04 47 34.3**	**+1.7**
IGAR	**Gharneh**	**6.39**	**334**	*e*Pn	**Pn**	**04 47 43.6**	**+2.0**
IGAR				*e*AMB	AMB	04 47 49.6	
	comp=Z,297nm,0.1s						
NASN	**Na'in**	**6.50**	**341**	*e*PN5		04 47 44.2	
NASN	**Na'in**	**6.50**	**341**	*e*P	**Pn**	**04 47 44.3**	**+1.2**
IZEF	**Zefreh**	**6.74**	**338**	*e*Pn	**Pn**	**04 47 46.9**	**+0.6**
IZEF				*e*AMB	AMB	04 47 47.5	
	comp=Z,264nm,0.2s						
IZEF	**Zefreh**	**6.74**	**338**	*e*Pn	**Pn**	**04 47 46.9**	**+0.6**
IPIR	**Pirpir**	**7.13**	**329**	*e*Pn	**Pn**	**04 47 53.5**	**+1.7**
IPIR				*e*AMB	AMB	04 47 58.0	
	comp=Z,300nm,0.1s						
IPIR	**Pirpir**	**7.13**	**329**	*e*Pn	**Pn**	**04 47 53.5**	**+1.7**
IKLH	**Kolahrood**	**7.39**	**335**	*e*Pn	**Pn**	**04 47 55.2**	**-0.1**
IKLH				*e*AMB	AMB	04 49 56.9	
	comp=Z,124nm,0.1s						
IKLH	**Kolahrood**	**7.39**	**335**	*e*Pn	**Pn**	**04 47 55.2**	**-0.1**
KBZ	**Khabaz**	**19.79**	**333**	Pn	**Pn**	**04 50 39.3**	**+0.3**
	comp=Z,0.5nm,0.3s,baz=142,slow=8.7,SNR=21						
KVAR	**Kislovodsk Arr**	**20.05**	**333**	LR	LR	04 59 21.7	
	comp=Z,27nm,21.8s,baz=354,slow=40						
BRTR	**Keskin Array B**	**22.26**	**311**	P	**P**	**04 51 04.6**	**+0.2**
	comp=Z,3.9nm,0.8s,baz=133,slow=13,SNR=19						
AKTO	**Aktyubinsk**	**23.84**	**4**	P	**P**	**04 51 20.3**	**0.0**
	comp=Z,2.6nm,0.5s,baz=153,slow=7.7,SNR=9.7						
BVAR	**Borovoye Array**	**28.66**	**19**	P	**P**	**04 52 03.4**	**-0.5**
	comp=Z,0.9nm,0.5s,baz=210,slow=8.6,SNR=5.5						
KURBB	**Kurchatov Arra**	**29.80**	**30**	P	**P**	**04 52 14.0**	**-0.1**
	comp=Z,0.9nm,0.6s,baz=228,slow=8.4,SNR=9.3						
AKASG	**Malin Array Be**	**31.18**	**327**	P	**P**	**04 52 25.2**	**-1.0**
	comp=Z,0.8nm,0.6s,baz=134,slow=8.2,SNR=4.5						
ZALV	**Zalesovo Beam**	**34.90**	**31**	P	**P**	**04 52 58.0**	**-0.7**
	comp=Z,3.4nm,0.5s,baz=235,slow=9.2,SNR=13						
FINES	**FINESS Array B**	**39.95**	**339**	P	**P**	**04 53 41.0**	**-0.3**
	comp=Z,3.0nm,0.5s,baz=142,slow=9.6,SNR=21						
ESDC	**Sonseca Array**	**50.45**	**301**	P	**P**	**04 55 04.9**	**-0.2**
	comp=Z,0.6nm,0.6s,baz=62,slow=7.8,SNR=5.7						
TORD	**Torodi Ar. Bea**	**51.82**	**266**	P	**P**	**04 55 15.8**	**+0.1**
	comp=Z,2.0nm,0.9s,baz=60,slow=7.0,SNR=10						

ISCJB ***15*** *04:52:09.7 ± 0.3, 41.81N ± 0.01 × 20.31E ± 0.02, h1km ± 2km, Error ellipse: s-maj=3.0km s-min=1.8km az=137.8*

SKO ***15*** *04:52:09.9, 41.76N × 20.24E, h15km, M2.4, ML3.0*

BEO ***15*** *04:52:10.9 ± 0.3, 41.81N × 20.31E, h0km, M2.9/1*

PDG ***15*** *04:52:10.3 ± 0.2, 41.76N × 20.28E, h14km, MD3.2/3, ML3.1/13, Error ellipse: s-maj=0.3km s-min=0.4km az=0.0*

CSEM ***15*** *04:52:10.4 ± 0.1, 41.79N × 20.29E, h2km, ML3.1, Error ellipse: s-maj=2.8km s-min=1.8km az=49.0*

THE ***15*** *04:52:11.5, 41.81N × 20.37E, h5km ± 1km, ML3.0/6, Error ellipse: s-maj=2.0km s-min=1.0km az=330.0*

TIR ***15*** *04:52:15.4 ± 10.0, 41.81N × 20.33E, h15km ± 36km, ML3.4*

ISC 15 04:52:10.9 ± 1.0, 41.76N ± 0.02 × 20.27E ± 0.02, h8km ± 9km, n140, σ 0 9 93/219, 16C-20D, Albania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TIR	**Tirane**	**0.51**	**217**	*i* Pg	**Pg**	**04 52 20.4**	**-0.3**
TIR				*i* SG	**Sg**	**04 52 28.8**	**+1.3**
TIR	**Tirane**	**0.51**	**217**	*i* PG	**Pg**	**04 52 20.7**	**-0.1**
TIR				*i* SG	**Sb**	**04 52 29.2**	**-0.4**
TIR	**Tirane**	**0.51**	**217**	*i* Pg	**Pg**	**04 52 20.5**	**-0.3**
TIR				*e*Sg	**Sg**	**04 52 28.8**	**+1.3**
TIR	**Tirane**	**0.51**	**217**	⇓*i*P	**Pg**	**04 52 20.5**	**-0.3**
TIR	**Tirane**	**0.51**	**217**	P	**Pg**	**04 52 20.6**	**-0.2**
TIR				*i* Sg	**Sg**	**04 52 28.8**	**+1.3**
TIR				S	**Sb**	**04 52 29.1**	**-0.5**
ZATK	**Zatriq**	**0.74**	**21**	P	**Pg**	**04 52 24.7**	**-0.4**
OHR	**Ohrid**	**0.76**	**148**	*i* Pg	**Pg**	**04 52 25.0**	**-0.6**
OHR				*i* Sg	**Sb**	**04 52 40.1**	**+0.3**
OHR				*e*Lg	Lg	04 52 40.2	
	comp=N,749nm,0.4s						
OHR				*e*Lg	Lg	04 52 40.6	
	comp=E,580nm,0.5s						
OHR	**Ohrid**	**0.76**	**148**	*i* Pg	**Pg**	**04 52 24.9**	**-0.6**
OHR				*i* Sg	**Sb**	**04 52 37.1**	**+0.3**
OHR				*e*Lg	Lg	04 52 40.1	
	comp=E,749nm,0.4s						
ULC	**Ulcinj**	**0.79**	**285**	⇑*i* Pg	**Pg**	**04 52 25.1**	**-1.0**
ULC				*e*Sg	**Sb**	**04 52 37.6**	**-0.2**
ULC	**Ulcinj**	**0.79**	**285**	P	**Pg**	**04 52 25.3**	**-0.8**
ULC				*e*Sg	**Sb**	**04 52 37.6**	**-0.2**
PVY	**Plav**	**0.86**	**345**	⇓*i* Pg	**Pg**	**04 52 26.5**	**-1.0**
PVY				*e*Sg	**Sb**	**04 52 39.9**	**-0.1**
PVY	**Plav**	**0.86**	**345**	⇓*i* Pg	**Pg**	**04 52 26.5**	**-1.0**
PVY				*e*Sg	**Sb**	**04 52 39.9**	**-0.1**
PEJK	**Peje**	**0.88**	**0**	P	**Pg**	**04 52 28.1**	**+0.3**
SKO	**Skopje**	**0.90**	**76**	P	**Pg**	**04 52 27.9**	**-0.2**
SKO				S	**Sg**	**04 52 40.2**	**+0.4**
SKO	**Skopje**	**0.90**	**76**	*i* Pg	**Pg**	**04 52 28.0**	**-0.2**
SKO				*i* Sg	**Sb**	**04 52 40.6**	**-0.2**
SKO				*e*Lg	Lg	04 52 41.4	
	comp=N,53nm,0.3s						
SKO				*e*Lg	Lg	04 52 41.5	
	comp=E,40nm,0.3s						
SKO	**Skopje**	**0.90**	**76**	P	**Pg**	**04 52 27.9**	**-0.2**
SKO				S	**Sg**	**04 52 40.2**	**+0.4**
SKO				*e*Lg	Lg	04 52 41.4	
	comp=E,53nm,0.3s						
DRME	**Dracevica, Mon**	**0.92**	**298**	⇓*i* Pg	**Pg**	**04 52 27.1**	**-1.4**
DRME				*e*Sg	**Sb**	**04 52 42.2**	**+0.9**
DRME	**Dracevica, Mon**	**0.92**	**298**	⇓*i* Pg	**Pg**	**04 52 27.1**	**-1.4**
DRME				*e*Sg	**Sg**	**04 52 39.3**	**-1.1**
PDG	**Podgorica**	**1.01**	**312**	P	**Pb**	**04 52 30.6**	**0.0**
PDG	**Podgorica**	**1.01**	**312**	⇑*i* Pg	**Pg**	**04 52 28.6**	**-1.7**
PDG				*e*Sg	**Sg**	**04 52 43.5**	**+0.1**
PDG	**Podgorica**	**1.01**	**312**	⇓*i*P	**Pg**	**04 52 29.1**	**-1.2**
PDG	**Podgorica**	**1.01**	**312**	⇑*i* Pg	**Pg**	**04 52 28.9**	**-1.4**
PDG	**Podgorica**	**1.01**	**312**	P	**Pb**	**04 52 30.6**	**0.0**
PDG				*e*Sg	**Sg**	**04 52 42.2**	**-1.2**
PDG				S	**Sn**	**04 52 44.8**	**-0.8**
TTG	**Podgorica**	**1.01**	**312**	⇑*i* Pg	**Pg**	**04 52 28.9**	**-1.4**
TTG				*e*Sg	**Sn**	**04 52 45.2**	**-0.4**
BIA	**Bitola**	**1.08**	**133**	*i* Pg	**Pb**	**04 52 30.9**	**-1.0**
BIA				*i* Sg	**Sn**	**04 52 47.0**	**-0.6**
BIA				*e*Lg	Lg	04 52 50.9	
	comp=N,309nm,0.4s						
BIA				*e*Lg	Lg	04 52 51.0	
	comp=E,390nm,0.7s						
BIA	**Bitola**	**1.08**	**133**	*i* Pg	**Pb**	**04 52 30.8**	**-1.0**
BIA				*i* Sg	**Sn**	**04 52 46.9**	**-0.6**
BIA				*e*Lg	Lg	04 52 50.9	
	comp=E,309nm,0.4s						
BEY	**Berane**	**1.15**	**346**	⇑*i* Pg	**Pb**	**04 52 31.8**	**-1.2**
BEY				*e*Sg	**Sn**	**04 52 49.4**	**+0.2**
IVA	**Berane**	**1.15**	**346**	⇑*i* Pg	**Pb**	**04 52 31.8**	**-1.2**
IVA				*e*Sg	**Sn**	**04 52 49.4**	**+0.2**
BUM	**Brajici-Budva**	**1.16**	**298**	⇑*i* Pg	**Pb**	**04 52 32.0**	**-1.2**
BUM				*e*Sg	**Sn**	**04 52 50.2**	**+0.8**
BUM	**Brajici-Budva**	**1.16**	**298**	⇑*i* Pg	**Pb**	**04 52 32.0**	**-1.2**
BUM				*e*Sg	**Sn**	**04 52 50.2**	**+0.8**
SMRK	**Smrekonice**	**1.22**	**24**	P	**Pg**	**04 52 35.2**	**+1.0**
CEME	**Cevo**	**1.28**	**308**	⇓*i* Pg	**Pn**	**04 52 33.5**	**-1.5**
CEME				*e*Sg	**Sg**	**04 52 54.4**	**+2.5**
CEME	**Cevo**	**1.28**	**308**	⇓*i* Pg	**Pn**	**04 52 33.5**	**-1.5**
CEME				*e*Sg	**Sg**	**04 52 54.4**	**+2.5**
FNA	**Florina**	**1.28**	**139**	P	**Pn**	**04 52 34.0**	**-1.1**
FNA				S	**Sg**	**04 52 53.2**	**+1.1**
FNA	**Florina**	**1.28**	**139**	P	**Pn**	**04 52 34.0**	**-1.1**
FNA				S	**Sg**	**04 52 53.2**	**+1.1**
NKME	**Niksic**	**1.40**	**316**	⇓*i* Pg	**Pn**	**04 52 36.0**	**-0.8**
NKME				*e*Sg	**Sg**	**04 52 57.5**	**+1.5**
NKME	**Niksic**	**1.40**	**316**	⇓*i* Pg	**Pn**	**04 52 36.0**	**-0.8**
NKME				*e*Sg	**Sg**	**04 52 57.5**	**+1.5**
NKY	**Niksic**	**1.42**	**318**	⇑*i* Pg	**Pn**	**04 52 36.4**	**-0.6**
NKY				*e*Sg	**Sg**	**04 52 57.7**	**+1.3**
NKY	**Niksic**	**1.42**	**318**	⇑*i* Pg	**Pn**	**04 52 36.4**	**-0.6**
NKY				*e*Sg	**Sg**	**04 52 57.7**	**+1.3**
NEST	**Nestorio**	**1.47**	**156**	P	**Pn**	**04 52 38.0**	**+0.3**
NEST				S	**Sg**	**04 52 58.1**	**+0.1**
NEST	**Nestorio**	**1.47**	**156**	P	**Pn**	**04 52 38.0**	**+0.3**
NEST				S	**Sg**	**04 52 58.1**	**+0.1**
HCY	**Herceg Novi**	**1.49**	**298**	⇑*i* Pg	**Pn**	**04 52 37.4**	**-0.5**
HCY				*e*Sg	**Sg**	**04 53 00.1**	**+1.3**
HCY	**Herceg Novi**	**1.49**	**298**	*e*Pn	**Pn**	**04 52 37.2**	**-0.7**
HCY				*e*Sn	**Sb**	**04 52 57.7**	**-0.1**
HCY				*e*Sg	**Sg**	**04 53 00.1**	**+1.3**
SJES	**Sjenica**	**1.52**	**352**	⇓*i* Pg	**Pn**	**04 52 38.4**	**0.0**
SJES				*e*Sg	**Sn**	**04 52 56.9**	**-1.4**
BARS	**Barje**	**1.56**	**47**	*e*Pn	**Pn**	**04 52 38.8**	**0.0**
BARS				*e*Sg	**Sn**	**04 52 58.4**	**-0.8**
SELS	**Selova**	**1.59**	**23**	*i* Pg	**Pn**	**04 52 38.9**	**-0.4**
PENT	**Pentalofos**	**1.69**	**157**	P	**Pn**	**04 52 41.4**	**+0.6**
PENT				S	**Sb**	**04 53 04.1**	**+0.3**
PENT	**Pentalofos**	**1.69**	**157**	P	**Pn**	**04 52 41.4**	**+0.6**
PENT				S	**Sb**	**04 53 04.1**	**+0.3**
PLE	**Pljevlja**	**1.70**	**338**	⇓*i* Pn	**Pn**	**04 52 41.0**	**+0.1**
PLE				*e*Sn	**Sb**	**04 53 04.4**	**+0.5**
PLE	**Pljevlja**	**1.70**	**338**	⇓*i* Pn	**Pn**	**04 52 41.0**	**+0.1**
PLE				*e*Sn	**Sb**	**04 53 04.4**	**+0.5**
BRY	**Bratogost**	**1.72**	**312**	⇓*i* Pn	**Pn**	**04 52 41.1**	**-0.1**
BRY				*e*Sn	**Sb**	**04 53 05.2**	**+0.7**
BRY	**Bratogost**	**1.72**	**312**	⇓*i* Pn	**Pn**	**04 52 41.1**	**-0.1**
BRY				*e*Sn	**Sn**	**04 53 03.6**	**+0.3**
TREB	**Trebinje**	**1.72**	**304**	⇑*i* Pn	**Pn**	**04 52 41.1**	**+0.1**
TREB				*e*Sn	**Sn**	**04 53 03.8**	**+0.1**
UPM	**Unac-Piva**	**1.76**	**325**	⇓*i* Pn	**Pn**	**04 52 41.7**	**-0.1**
UPM				*e*Sn	**Sb**	**04 53 05.9**	**+0.1**
UPM	**Unac-Piva**	**1.76**	**325**	⇓*i* Pn	**Pn**	**04 52 41.7**	**-0.1**
UPM				*e*Sn	**Sn**	**04 53 04.4**	**-0.1**
VAY	**Valandovo**	**1.78**	**103**	P	**Pn**	**04 52 41.8**	**-0.1**
VAY				S	**Sb**	**04 53 05.4**	**-0.8**
VAY	**Valandovo**	**1.78**	**103**	*i* Pn	**Pb**	**04 52 43.4**	**-0.4**
VAY				*i* Sn	**Sb**	**04 53 06.7**	**+0.5**
VAY				*e*Lg	Lg	04 53 10.1	
	comp=N,170nm,0.6s						
VAY				*e*Lg	Lg	04 53 11.2	
	comp=E,106nm,0.5s						
VAY	**Valandovo**	**1.78**	**103**	*e*Pg	**Pn**	**04 52 42.2**	**+0.3**
VAY				*e*Sg	**Sb**	**04 53 06.7**	**+0.5**
VAY	**Valandovo**	**1.78**	**103**	*i* Pn	**Pb**	**04 52 41.8**	**-0.1**
VAY	**Valandovo**	**1.78**	**103**	*e*Pg	**Pn**	**04 52 42.2**	**+0.3**
VAY	**Valandovo**	**1.78**	**103**	*i* Pn	**Pb**	**04 52 43.3**	**-0.4**
VAY				S	**Sb**	**04 53 05.4**	**-0.8**
VAY				*e*Sg	**Sb**	**04 53 06.7**	**+0.5**
VAY				*e*Lg	Lg	04 53 10.0	
	comp=E,170nm,0.6s						
IVAS	**Ivanjica**	**1.82**	**357**	*e*Pg	**Pn**	**04 52 42.1**	**-0.4**
IVAS				*e*Sg	**Sb**	**04 53 07.2**	**-0.1**
IVAS	**Ivanjica**	**1.82**	**357**	*e*Pg	**Pn**	**04 52 42.1**	**-0.4**
IVAS				*e*Sg	**Sb**	**04 53 07.2**	**-0.1**
KZN	**Kozani**	**1.84**	**141**	P	**Pn**	**04 52 42.8**	**0.0**
KZN				S	**Sb**	**04 53 07.6**	**-0.4**
KZN	**Kozani**	**1.84**	**141**	P	**Pn**	**04 52 42.8**	**0.0**
KZN				S	**Sb**	**04 53 07.6**	**-0.4**
KTI	**Kastanea**	**1.95**	**134**	P	**Pn**	**04 52 45.2**	**+0.8**
KTI	**Kastanea**	**1.95**	**134**	P	**Pn**	**04 52 45.2**	**+0.8**
KNT	**Kendrikon**	**2.06**	**106**	P	**Pn**	**04 52 45.6**	**-0.2**
KNT				S	**Sn**	**04 53 12.3**	**+0.6**
KNT	**Kendrikon**	**2.06**	**106**	P	**Pn**	**04 52 45.6**	**-0.2**
KNT				S	**Sn**	**04 53 12.3**	**+0.6**
SGD	**Sagiada**	**2.15**	**181**	P	**Pb**	**04 52 48.5**	**-1.4**
SGD	**Sagiada**	**2.15**	**181**	P	**Pb**	**04 52 48.5**	**-1.4**
BOVS	**Bovan**	**2

	baz=224,slow=76,SNR=137							
H08S2	**Diego Garcia H**	**7.23**	**43**	T	T	05 28 51.1		
	baz=224,slow=76,SNR=82							
H08S3	**Diego Garcia H**	**7.23**	**43**	T	T	05 28 45.4		
	baz=224,slow=76,SNR=107							
H08N3	**Diego Garcia H**	**7.43**	**28**	T	T	05 29 14.9		
	baz=211,slow=76,SNR=402							
H08N1	**Diego Garcia H**	**7.45**	**28**	T	T	05 29 16.2		
	baz=211,slow=76,SNR=365							
H08N2	**Diego Garcia H**	**7.46**	**28**	T	T	05 29 26.8		
	baz=211,slow=76,SNR=402							
H01W3	**Cape Leeuwin H**	**47.37**	**126**	T	T	06 16 54.9		
	baz=283,slow=75,SNR=5.1							
H01W2	**Cape Leeuwin H**	**47.38**	**126**	T	T	06 16 54.2		
	baz=283,slow=75,SNR=5.4							
H01W1	**Cape Leeuwin H**	**47.39**	**126**	T	T	06 16 55.4		
	baz=283,slow=75,SNR=5.9							
ASAR	**Alice Springs**	**63.47**	**110**	P	P	05 27 43.5		-0.9
	0.4nm,0.8s,baz=278,slow=6.5,SNR=5.0							
WRA	**Warramunga Arr**	**64.14**	**106**	P	P	05 27 49.5		+0.7
	0.8nm,0.3s,baz=276,slow=5.2,SNR=2.7							
PDAR	**Pinedale Array**	**150.21**	**356**	PKPbc	PKPbc	05 37 05.3		-0.3
	0.3nm,0.6s,baz=62,slow=4.2,SNR=3.2							

JMA 15 05:54:23.0±0.1, 37.89N×144.30E, h28km, M3.5, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OFUJ	**Ofunato**	**2.38**	**301**	P	Pn	05 55 01.5	+1.3
OFUJ				*e*S	Sn	05 55 30.6	+2.2
JIO	**Ouri**	**2.39**	**285**	P	Pn	05 55 01.8	+1.5
JIO				S	Sn	05 55 30.7	+2.0
MIYJ	**Miyakonagasawa**	**2.57**	**312**	P	Pn	05 55 03.8	+1.1
MIYJ				*e*S	Sn	05 55 34.7	+1.6
JOM	**Ohasama**	**2.83**	**305**	*e*S	Sn	05 55 42.0	+2.4
JFT	**Otama**	**3.17**	**264**	*e*S	Sn	05 55 49.6	+1.8
JRG	**Rokugo**	**3.24**	**299**	P	Pn	05 55 14.4	+2.4
JRG				*e*S	Sn	05 55 52.3	+2.7
JYK	**Kaneyama**	**3.26**	**290**	P	Pn	05 55 15.0	+2.7
JYK				*e*S	Sn	05 55 53.2	+3.1

IDC 15 06:02:05.2±2.0, 20.91S×67.11W, h0km, mb4.2/1, mb1 3.9/3, mb1mx3.6/22, mbtmp3.8/3, ML3.8/2, Error ellipse: s-maj=59.7km s-min=28.2km az=86.0
GUC 15 06:02:11.7±0.6, 20.66S×68.97W, h104km±3km, ML4.0
ISCJB 15 06:02:12.5±0.7, 20.68S±0.03×69.08W±0.10, h112km±7km, mb3.9/1, Error ellipse: s-maj=14.8km s-min=4.6km az=176.5

ISC 15 06:02:13.6±1.2, 20.68S±0.03×69.06W±0.09, h100km±10km, n15, σ0.95/25, 5C-2D, Northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PB01	**IPOC Station P**	**0.54**	**228**	⇑*i*P	**Pn**	**06 02 29.3**	**-0.6**
PB01				*i* S	**Sn**	**06 02 43.0**	**+1.0**
PB01				IAML		06 02 43.8	
	comp=E,11μm,0.2s						
PB08	**IPOC Station P**	**0.55**	**351**	⇑*i*P	**Pn**	**06 02 29.2**	**-1.0**
PB08				*i* S	**Sn**	**06 02 42.5**	**-0.1**
PB08				IAML		06 02 43.4	
	comp=E,6μm,0.2s						
HMBC	**Humberstone**	**0.88**	**297**	⇑*i*P	**Pn**	**06 02 32.5**	**-0.4**
HMBC				*i* S	**Sn**	**06 02 47.7**	**+0.3**
HMBC				IAML		06 02 50.6	
	comp=N,3μm,0.5s						
PB09	**IPOC Station P**	**1.12**	**189**	⇑*i*P	**Pn**	**06 02 34.9**	**-0.7**
PB09				*i* S	**Sn**	**06 02 52.9**	**+0.7**
PB09				IAML		06 02 55.7	
	comp=N,7μm,0.5s						
PB07	**IPOC Station P**	**1.30**	**216**	⇓*i*P	**Pn**	**06 02 37.2**	**-0.4**
PB07				*i* S	**Sn**	**06 02 57.1**	**+1.4**
PB07				IAML		06 02 58.0	
	comp=E,6μm,0.3s						
PSGC	**Pisagua**	**1.47**	**317**	⇑*i*P	**Pn**	**06 02 38.8**	**-0.8**
PSGC				*i* S	**Sn**	**06 02 59.9**	**+0.6**
PSGC				IAML		06 03 05.6	
	comp=N,1μm,0.4s						
MNMC	**Minye Minye**	**1.62**	**342**	⇓*i*P	**Pn**	**06 02 41.1**	**-0.6**
MNMC				*i* S	**Sn**	**06 03 03.8**	**+0.8**
MNMC				IAML		06 03 05.8	
	comp=E,4μm,0.1s						
LVC	**Limon Verde**	**1.92**	**176**	*e*P	**Pn**	**06 02 44.9**	**-0.7**
LVC				*e*S	**Sn**	**06 03 10.4**	**+0.6**
PB04	**IPOC Station P**	**1.93**	**212**	*e*P	**Pn**	**06 02 45.2**	**-0.3**
PB04				IAML		06 03 20.0	
	comp=E,1μm,0.4s						
PB06	**IPOC Station P**	**2.07**	**193**	*e*P	**Pn**	**06 02 45.9**	**-1.4**
PB06				*i* S	**Sn**	**06 03 12.6**	**-0.3**
PB06				IAML		06 03 20.0	
	comp=N,1μm,0.4s						
PB13	**IPOC Station P**	**2.37**	**350**	*e*P	**Pn**	**06 02 51.6**	**0.0**
PB12	**IPOC Station P**	**2.38**	**330**	*e*P	**Pn**	**06 02 49.8**	**-1.5**
PB12				*i* S	**Sn**	**06 03 19.8**	**-0.3**
LPAZ	**La Paz**	**4.46**	**12**	Pn	**Pn**	**06 03 18.6**	**-1.0**
	comp=N,1.1nm,0.3s,baz=184,slow=7.9,SNR=45						
LPAZ					Sn	**06 04 12.8**	**+2.1**
	comp=N,0.9nm,0.3s,baz=157,slow=5.7,SNR=5.3						
PLCA	**Paso Flores**	**20.03**	**183**	P	**P**	**06 06 39.1**	**+0.5**
	comp=N,0.1nm,0.3s,baz=21,slow=12,SNR=4.4						
TORD	**Torodi Ar. Bea**	**77.21**	**71**	P	P	06 13 52.4	-4.8
	comp=N,1.4nm,0.5s,baz=252,slow=5.2,SNR=20						

CSEM 15 06:21:05.1, 39.57N×29.82W, h10km, ML2.8
PDA 15 06:21:05.1±0.8, 39.57N×29.82W, h10km, MD3.6, ML2.8, Error ellipse: s-maj=20.2km s-min=6.8km az=52.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PCED	**Cedros**	**1.28**	**137**	*e*S	Sb	06 21 38.5	-7.4
PCED				A	A	06 21 41.4	
	50nm,0.3s						
PCED	**Cedros**	**1.28**	**137**	*e*S	Sb	06 21 38.5	-7.4
CALA	**Caldeira**	**1.32**	**138**	*e*P	Pn	06 21 24.7	-4.9
CALA				*e*S	Sb	06 21 40.0	-7.0
CALA	**Caldeira**	**1.32**	**138**	*e*P	Pn	06 21 24.7	-4.9
CALA				*e*S	Sb	06 21 40.0	-7.0
HOR	**Horta**	**1.40**	**138**	*e*S	Sn	06 21 41.6	-7.5
HOR				A	A	06 21 42.8	
	114nm,0.3s						
HOR	**Horta**	**1.40**	**138**	*e*S	Sn	06 21 41.6	-7.5
ROSA	**Rosais**	**1.49**	**124**	*e*S	Sn	06 21 43.9	-7.6
ROSA				A	A	06 21 46.1	
	9.6nm,0.3s						
ROSA	**Rosais**	**1.49**	**124**	*e*S	Sn	06 21 43.9	-7.6
PCAN	**Candelaria**	**1.52**	**136**	*e*P	Pn	06 21 27.9	-4.4
PCAN				*e*S	Sn	06 21 44.7	-7.5
PCAN				A	A	06 21 49.5	
	90nm,0.3s						
PCAN	**Candelaria**	**1.52**	**136**	*e*P	Pn	06 21 27.9	-4.4
PCAN				*e*S	Sn	06 21 44.7	-7.5
PICO	**Pico**	**1.52**	**134**	*e*P	Pn	06 21 27.9	-4.6
PICO				*e*S	Sn	06 21 45.1	-7.3
PICO				A	A	06 21 47.8	
	80nm,0.2s						
PICO	**Pico**	**1.52**	**134**	*e*P	Pn	06 21 27.9	-4.6
PICO				*e*S	Sn	06 21 45.1	-7.3

SOME 15 06:49:14.4, 42.37N×80.53E, h15km
KRNET 15 06:49:17.7±0.1, 42.56N×80.39E, mb2.5
NNC 15 06:49:18.2±1.9, 42.42N×80.15E, h0km, mb2.4, mpv2.3, Error ellipse: s-maj=14.5km s-min=9.8km az=79.0

ISC 15 06:49:12.1±2.2, 42.35N±0.07×80.64E±0.07, h9km±12km, n27, σ1.893/51, 18C-3D, Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SHLS	**Shalkode**	**1.19**	**314**	*e*P	**Pb**	**06 49 31.9**	**-2.9**
	3.4nm,0.3s						
SHLS				*e*S	**Sb**	**06 49 44.6**	**-5.7**
	36nm,0.2s						
PDGK	**Podgornoye**	**1.29**	**320**	⇑*e*P	**Pb**	**06 49 37.7**	**+1.0**
	baz=320						
PDGK				⇑*e*S	**Sb**	**06 49 52.5**	**-1.0**
	baz=320						
PDGK	**Podgornoye**	**1.29**	**320**	⇓P	**Pg**	**06 49 38.0**	**+1.0**
	1.2nm,0.3s						
PDGK				⇓S	**Sb**	**06 49 52.3**	**-1.2**
	12nm,0.7s						
UZB	**Uzynbulak**	**1.43**	**305**	*e*P	**Pn**	**06 49 39.0**	**+0.5**
	4.4nm,0.1s						
UZB				*e*S	**Sn**	**06 49 56.4**	**-1.1**
	16nm,0.2s						
PRZ	**Przheval'sk**	**1.66**	**276**	⇑*e*P	**Pg**	**06 49 46.3**	**+2.3**
	baz=267						
PRZ				⇑*e*S	**Sg**	**06 50 06.9**	**+1.4**
	baz=267						
SATY	**Saty**	**1.79**	**294**	*e*P	**Pb**	**06 49 46.5**	**+1.3**
SATY				*e*S	**Sg**	**06 50 09.4**	**-0.3**
KPKS	**Kokpek**	**1.82**	**309**	*e*P	**Pb**	**06 49 46.0**	**+0.4**
	25nm,0.2s						
KPKS				*e*S	**Sb**	**06 50 08.3**	**-0.3**
	70nm,0.2s						
DJR	**Jarkent**	**2.08**	**343**	*e*P	**Pb**	**06 49 51.5**	**+1.5**
	6.5nm,0.1s						
DJR				*e*S	**Sg**	**06 50 18.2**	**-0.8**
	18nm,0.1s						
KURS	**Kuram**	**2.14**	**303**	*e*P	**Pb**	**06 49 52.0**	**+0.9**
	2.2nm,0.4s						
KURS				*e*S	**Sg**	**06 50 19.1**	**-1.8**
	6.3nm,0.4s						
ANVS	**Anan'yevo**	**2.24**	**282**	⇑*i*P	**Pg**	**06 49 54.9**	**-0.1**
	baz=277						
ANVS				⇑*i*S	**Sg**	**06 50 22.5**	**-1.5**
	baz=277						
MNBS	**Baschi**	**2.38**	**317**	*e*P	**Pn**	**06 49 53.8**	**+2.4**
MNBS				*e*S	**Sb**	**06 50 22.4**	**-2.4**
KDJ	**Kajisay**	**2.58**	**266**	⇑*e*P	**Pg**	**06 50 00.9**	**-0.6**
	baz=261						
KDJ				⇑*e*S	**Sg**	**06 50 33.0**	**-1.9**
	baz=261						
MDOK	**Medeo**	**2.77**	**288**	Pg	**Pb**	**06 50 02.6**	**+0.8**
MDOK				⇓Lg	Lg	06 50 36.7	
MDOK	**Medeo**	**2.77**	**288**	*e*P	**Pb**	**06 50 03.6**	**+1.8**
	6.0nm,0.5s						
MDOK				*e*S	**Sg**	**06 50 39.0**	**-2.0**
	8.9nm,0.4s						
ARXS	**Arharly**	**2.77**	**313**	*e*P	**Pb**	**06 50 02.2**	**+0.3**
	3.3nm,0.2s						
ARXS				*e*S	**Sb**	**06 50 37.1**	**+1.1**
	25nm,0.4s						
TNSS	**Tian-Shan**	**2.81**	**286**	*e*P	**Pb**	**06 50 04.2**	**+1.5**
	5.5nm,0.3s						
TNSS				*e*S	**Sg**	**06 50 40.0**	**-2.2**
	12nm,0.2s						
IZV	**Izvestkoviy**	**3.04**	**284**	*e*P	**Pb**	**06 50 07.1**	**+0.5**
	6.6nm,0.1s						
IZV				*e*S	**Sb**	**06 50 45.6**	**+1.7**
	16nm,0.3s						
CHKK	**Chushkaly**	**3.07**	**301**	*e*P	**Pb**	**06 50 07.2**	**+0.3**
	3.6nm,0.3s						
CHKK				*e*S	**Sb**	**06 50 45.4**	**+1.0**
	33nm,0.3s						
KAPS	**Kapalarasan**	**3.08**	**343**	*e*P	**Pb**	**06 50 08.6**	**+1.5**
	0.9nm,0.2s						
KAPS				*e*S	**Sb**	**06 50 47.5**	**+2.6**
	10nm,0.2s						
MTBS	**Maitube**	**3.20**	**286**	*e*P	**Pb**	**06 50 10.5**	**+1.4**
	4.2nm,0.3s						
MTBS				*e*S	**Sb**	**06 50 50.8**	**+2.6**
	11nm,0.3s						
ULHL	**Ulahol**	**3.26**	**270**	⇑*i*P	**Pb**	**06 50 11.0**	**+0.7**
	baz=265						
ULHL				⇑*i*S	**Sb**	**06 50 49.3**	**-0.9**
	baz=265						
BOOM	**Boomskoye usch**	**3.48**	**274**	⇑*e*P	**Pb**	**06 50 13.1**	**-0.9**
	baz=270						
BOOM				⇑*e*S	**Sb**	**06 50 53.6**	**-2.8**
	baz=270						
KST	**Kastek**	**3.51**	**283**	*e*P	**Pb**	**06 50 15.3**	**+0.8**
	1.5nm,0.2s						
KST				*e*S	**Sb**	**06 50 59.0**	**+1.7**
	6.6nm,0.5s						
DGS	**Degeres**	**3.69**	**286**	*e*P	**Pb**	**06 50 18.6**	**+1.0**
	1.5nm,0.3s						
DGS				*e*S	**Sb**	**06 51 04.9**	**+2.5**
	6.6nm,0.5s						
TKM2	**Tokmak 2**	**3.76**	**280**	⇑*i*P	**Pb**	**06 50 16.8**	**-2.0**
	baz=278						
TKM2				⇑*i*S	**Sb**	**06 50 59.8**	**-4.8**
	baz=278						
TKM2	**Tokmak 2**	**3.76**	**280**	⇑Pg	**Pb**	**06 50 17.6**	**-1.3**
	1.2nm,0.7s						
TKM2				⇑Lg	Lg	06 51 06.9	
	5.7nm,0.5s						
MK31	**Makanchi Array**	**4.60**	**14**	⇑Pn	**Pb**	**06 50 30.4**	**-2.6**
	0.1nm,0.3s,baz=202,slow=14,SNR=9.9						
MK31				⇑Lg	Lg	06 51 43.0	
	1.0nm,0.6s,baz=201,slow=27,SNR=3.5						

ISCJB 15 06:56:28.1±0.7, 36.9N±0.1×135.0E±0.1, h372km, mb3.1/1, Error ellipse: s-maj=18.8km s-min=13.6km az=9.9
JMA 15 06:56:28.3±0.4, 36.96N×135.01E, h374km±5km, M2.8
IDC 15 06:56:28.4±1.3, 36.81N×135.01E, h363km±24km, mb2.9/1, mb1 3.1/4, mb1mx2.7/38, mbtmp3.6/4, Error ellipse: s-maj=43.7km s-min=26.0km az=36.0

ISC 15 06:56:28.7±1.3, 36.9N±0.1×135.01E±0.09, h372km, n11, σ0.40/11, Sea of Japan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JKY	**Yasaka**	**1.26**	**177**	P	**Pn**	**06 57 18.2**	**+0.2**
JOI	**OKI**	**1.54**	**248**	P	**Pn**	**06 57 19.6**	**+0.3**
JSZ	**Suzu**	**1.96**	**73**	P	**Pn**	**06 57 21.8**	**+0.2**
JNG	**Nsakai**	**2.53**	**100**	P	**Pn**	**06 57 26.5**	**+0.6**
MAT	**Matsushiro**	**2.59**	**97**	P	**Pn**	**06 57 26.4**	**+0.1**
MAT	**Matsushiro**	**2.59**	**97**	P	**Pn**	**06 57 26.4**	**+0.1**
MJAR	**Matsushiro Arr**	**2.59**	**97**	P	**Pn**	**06 57 25.6**	**-0.8**
	2.6nm,0.3s,baz=277,slow=9.8,SNR=42						
JSD	**Sado**	**2.83**	**65**	P	**Pn**	**06 57 28.2**	**+0.1**
KSRS	**Korea Array**	**5.69**	**278**	P	**Pn**	**06 57 56.6**	**-0.1**
	0.7nm,0.3s,baz=97,slow=12,SNR=13						
USRK	**Ussuriysk Ar.**	**7.65**	**343**	P	**Pn**	**06 58 19.2**	**+0.3**
	0.3nm,0.3s,baz=172,slow=10,SNR=12						
WRA	**Warramunga Arr**	**56.53**	**181**	P	**P**	**07 05 33.5**	**-0.2**
	0.3nm,0.3s,baz=359,slow=7.5,SNR=8.4						

IDC 15 07:06:06.5±999.0, 50.82N×118.03E, h0km, Error ellipse: s-maj=587.2km s-min=174.8km az=108.0, Priamurye-Northeastern China border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I45RU	**USSURIYSK INFR**	**11.51**	**120**	*i*		08 15 20.0	
	baz=308,slow=321,SNR=3.9						
I30JP	**ISUMI INFRASON**	**22.35**	**125**	*i*		09 24 20.0	
	baz=323,slow=322,SNR=0.4						
I44RU	**PETROPAVLOVSK**	**24.34**	**69**	*i*		09 34 26.7	
	baz=280,slow=312,SNR=0.6						

ISK 15 07:34:37.7, 40.41N×42.21E, h17km, MD2.5
CSEM 15 07:34:39.0±0.3, 40.38N×42.25E, h5km, MD2.5, Error ellipse: s-maj=6.1km s-min=4.6km az=88.0
DDA 15 07:34:39.1, 40.40N×42.25E, h7km, Md2.5

ISC 15 07:34:39.4±1.1, 40.40N±0.02×42.26E±0.03, h6km±9km, n21, σ0.70/38, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SENK	**Senkaya-Erzuru**	**0.18**	**24**	*e*PG	**Pg**	**07 34 42.7**	**-0.3**
SENK				*e*SG	**Sg**	**07 34 46.4**	**+0.9**
SENK	**Senkaya-Erzuru**	**0.18**	**24**	*e*Pg	**Pg**	**07 34 42.7**	**-0.3**
SENK				*e*Sg	**Sg**	**07 34 46.4**	**+0.9**
HOMI	**Horasan**	**0.45**	**217**	*i* P	**Pg**	**07 34 47.5**	**-0.5**
HOMI				*i* S	**Sg**	**07 34 54.5**	**+0.6**
DDEM	**Demirkent**	**0.62**	**322**	*i* P	**Pg**	**07 34 51.5**	**0.0**
DDEM				*i* S	**Sb**	**07 35 00.9**	**-0.9**
DDEM	**Demirkent**	**0.62**	**322**	P	**Pg**	**07 34 51.5**	**0.0**
DDEM				S	**Sb**	**07 35 00.9**	**-0.9**
KARS	**Kars**	**0.67**	**70**	*e*PG	**Pg**	**07 34 51.9**	**-0.4**
KARS				*e*SG	**Sb**	**07 35 02.4**	**-0.7**
KARS	**Kars**	**0.67**	**70**	*e*Pg	**Pg**	**07 34 51.9**	**-0.4**
KARS				*e*Sg	**Sb**	**07 35 02.4**	**-0.7**
DAGI	**Agillar**	**0.72**	**339**	*i* P	**Pg**	**07 34 53.2**	**-0.2**
DAGI				*i* S	**Sg**	**07 35 03.2**	**+0.4**
ARTV	**Artvin**	**0.82**	**342**	*i* P	**Pg**	**07 34 55.0**	**-0.2**
ARTV				*i* S	**Sb**	**07 35 06.8**	**-0.8**
ARTV	**Artvin**	**0.82**	**342**	P	**Pg**	**07 34 55.0**	**-0.2**
ARTV				S	**Sb**	**07 35 06.8**	**-0.8**
ERZM	**Erzurum**	**0.84**	**234**	*i* P	**Pg**	**07 34 55.5**	**-0.1**
ERZM				*i* S	**Sb**	**07 35 07.5**	**-0.8**
ERZM	**Erzurum**	**0.84**	**234**	P	**Pg**	**07 34 55.5**	**-0.1**
ERZM				S	**Sb**	**07 35 07.5**	**-0.8**
EZM	**Erzurum**	**0.85**	**234**	*e*PG	**Pg**	**07 34 54.9**	**-0.8**
AGRB	**Hanur-Agry**	**1.00**	**145**	*e*PG	**Pg**	**07 34 57.9**	**-0.7**
AGRB	**Hanur-Agry**	**1.00**	**145**	*e*Pg	**Pg**	**07 34 57.9**	**-0.7**
DBOC	**Borcka**	**1.04**	**335**	*i* P	**Pn**	**07 35 00.8**	**+0.2**
DBOC				*i* S	**Sg**	**07 35 12.6**	**-0.4**
DBOC	**Borcka**	**1.04**	**335**	P	**Pn**	**07 35 00.8**	**+0.2**
DBOC				S	**Sg**	**07 35 12.6**	**-0.4**
TUTA	**Tutak**	**1.08**	**157**	*i* P	**Pg**	**07 34 59.9**	**-0.3**
TUTA				*i* S	**Sn**	**07 35 17.1**	**+0.3**
TUTA	**Tutak**	**1.08**	**157**	P	**Pg**	**07 34 59.9**	**-0.3**
TUTA				S	**Sn**	**07 35 17.1**	**+0.3**
EKAR	**Karacoban**	**1.15**	**187**	*i* P	**Pn**	**07 35 02.4**	**+0.1**
EKAR				*i* S	**Sn**	**07 35 20.9**	**+2.4**
EKAR	**Karacoban**	**1.15**	**187**	P	**Pn**	**07 35 02.4**	**+0.1**

IDC 15 07:52:18.5±5.4, 6.45S×146.62E, h87km±51km, mb3.5/4, mb1 3.6/6, mb1mx3.3/46, mbtmp3.8/6, ML3.7/1, Error ellipse: s-maj=48.6km s-min=27.3km az=137.0
ISCJB 15 07:52:19.8±1.4, 6.6S±0.1×146.6E±0.2, h110km, mb3.7/3, Error ellipse: s-maj=25.1km s-min=13.7km az=162.2

ISC 15 07:52:20.8±1.3, 6.5S±0.1×146.6E±0.2, h110km, n7, σ0.99/8, mb3.7/3, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**2.90**	**170**	P	**Pn**	**07 53 05.6**	**+0.1**
	4.7nm,0.3s,baz=307,slow=6.2,SNR=7.9						
PMG				S	**Sn**	**07 53 38.9**	**-0.9**
	20nm,0.3s,baz=152,slow=21,SNR=33						
WRA	**Warramunga Arr**	**17.89**	**221**	P	**P**	**07 56 21.8**	**-0.1**
	0.3nm,0.3s,baz=40,slow=11,SNR=15						
ASAR	**Alice Springs**	**20.98**	**214**	P	**P**	**07 56 55.5**	**+0.1**
	0.6nm,0.4s,baz=54,slow=9.0,SNR=20						
FITZ	**Fitzroy Crossi**	**23.48**	**239**	P	**P**	**07 57 19.9**	**-0.9**
	1.8nm,0.5s,baz=46,slow=9.8,SNR=6.6						
STKA	**Stephens Creek**	**25.65**	**190**	P	**P**	**07 57 42.1**	**+1.8**
	1.3nm,0.5s,baz=6.3,slow=9.2,SNR=4.1						
ILAR	**Eielson Array**	**86.11**	**23**	P	**P**	**08 04 49.0**	**-0.2**
	0.9nm,0.7s,baz=254,slow=4.8,SNR=16						
TORD	**Torodi Ar. Bea**	**144.87**	**284**	PKP	**PKPdf**	**08 11 45.7**	**-0.2**
	1.7nm,1.1s,baz=58,slow=3.6,SNR=5.4						

BJI 15 07:53:11.0, 35.40S×177.90W, h8km, mb5.8/9, mB5.7/2, Ms5.9/3, Ms7 5.8/6
NEIC 15 07:53:12.0±0.0, 35.43S×177.88W, h13km, Moment Tensor Solution. s13 Moment tensor: Scale 10^18Nm; Mrr=1.05; Mθθ=0.26; Mφφ=1.31; Mrθ=0.24; Mrφ=0.25; Mθφ=1.20; Best double couple: M0=1.70000×10^18 NP1:ϕs=191.00000°, δ68.00000°, λ-88.00000°. NP2:ϕs=6.00000°, δ22.00000°, λ-94.00000°. Principal axes: T 1.8600, Plg22.0000°, Azm279.0000°; N -0.2900, Plg1.0000°, Azm10.0000°; P -1.5700, Plg67.0000°, Azm104.0000°;
IDC 15 07:53:17.0±0.3, 35.07S×178.94W, h0km, mb5.6/25, mb1 5.6/27, mb1mx5.5/38, mbtmp5.5/27, ML5.0/2, MS5.8/18, Ms1 5.8/18, ms1mx5.5/37 Error ellipse: s-maj=12.8km s-min=11.3km az=16.0
MOS 15 07:53:17.8±1.1, 35.13S×179.00W, h12km, mb6.1/55, MS6.3/35, Error ellipse: s-maj=11.0km s-min=8.3km az=70.8
GCMT 15 07:53:18.8±0.1, 35.18S×178.68W, h12km, MW6.0/139, Moment Tensor Solution. s107,c207; s139,c461; Duration: 2s4 Moment tensor: Scale 10^18Nm; Mrr=1.14±.01; Mθθ=0.15±.01; Mφφ=1.29±.01; Mrθ=0.09±.03; Mθφ=0.31±.01; Mrφ=0.04±.03; Best double couple: M0=1.25200×10^18 NP1:ϕs=186.00000°, δ46.00000°, λ-99.00000°. NP2:ϕs=18.00000°, δ45.00000°, λ-81.00000°. Principal axes: T 1.3540, Plg0.0000°, Azm282.0000°; N -0.2030, Plg6.0000°, Azm192.0000°; P -1.1510, Plg84.0000°, Azm16.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.
NEIC 15 07:53:18.6±0.1, 35.37S×179.04W, h10km, mb6.0/166, MS6.2/297, MW6.1, MW6.1 Error ellipse: s-maj=5.3km s-min=2.9km az=139.0
NEIC Felt at Patutahi.
WEL 15 07:53:20.0±0.0, 35.42S×178.45W, h56km, ML6.2/55, Mw6.1
WEL Felt between Auckland, Otago and Gisborne, maximum reported intensity MM 6.
ISCJB 15 07:53:21.6±0.1, 35.32S±0.02×179.05W±0.03, h42km, mb5.9/196, MS6.2/382, Error ellipse: s-maj=4.4km s-min=1.7km az=138.7
NEIC 15 07:53:40.4±0.0, 35.05S×178.71W, h10km, Moment Tensor Solution. s38 Moment tensor: Scale 10^18Nm; Mrr=1.10; Mθθ=0.11; Mφφ1.20; Mrθ=1.08; Mφθ0.32; Mφr-0.47; Best double couple: M0=1.70000×10^18 NP1:ϕs=170.00000°, δ35.00000°, λ-138.00000°. NP2:ϕs=44.00000°, δ68.00000°, λ-63.00000°. Principal axes: T 1.5200, Plg18.0000°, Azm114.0000°; N 0.2900, Plg25.0000°, Azm213.0000°; P -1.8100, Plg58.0000°, Azm352.0000°;

ISC 15 07:53:23.4±0.2, 35.14S±0.04×178.90W±0.04, h42km, n1054, σ2.919/759, mb6.0/179, MS6.2/382, 11C-3D, East of North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MXZ	**Matakaoa Point**	**3.31**	**222**	Pn	**Pn**	**07 54 09.5**	**-3.2**
MXZ				*e*Pn	Pn	07 54 10.2	-2.5
MXZ	**Matakaoa Point**	**3.31**	**222**	PN	**Pn**	**07 54 09.1**	**-3.6**
MXZ				SN	**Sn**	**07 54 49.9**	**-0.9**
MXZ				AML	AML	07 54 52.7	
WMGZ	**Waiomatatini S**	**3.44**	**218**	PN	**Pn**	**07 54 11.3**	**-3.2**
WMGZ				SN	**Sn**	**07 54 55.8**	**+1.7**
WMGZ				AML	AML	07 55 02.8	
PKGZ	**Pakihiroa**	**3.67**	**221**	PN	**Pn**	**07 54 14.2**	**-3.5**
PUZ	**Puketiti**	**3.72**	**217**	PN	**Pn**	**07 54 14.6**	**-3.8**
PUZ				SN	**Sn**	**07 54 60.0**	**-0.9**
PUZ				AML	AML	07 55 01.7	
HAZ	**Te Kaha**	**3.74**	**225**	PN	**Pn**	**07 54 16.1**	**-2.5**
HAZ				SN	**Sn**	**07 55 03.5**	**+2.1**
HAZ				AML	AML	07 55 06.3	
HAZ				AML	AML	07 55 10.2	
HAZ				AML	AML	07 55 10.2	
TWGZ	**Tauwhareparae**	**3.94**	**219**	PN	**Pn**	**07 54 18.7**	**-2.7**
TWGZ				SN	**Sn**	**07 55 07.1**	**+0

EDRZ	Edgecumbe	4.59	229	PN	Pn	07 54 27.9	-2.5
KUZ	Kuaotunu	4.65	248	PN	Pn	07 54 29.0	-2.1
TGRZ	Tauranga	4.68	235	ePN	Pn	07 54 28.5	-3.1
SNGZ	Shannon Statio	4.72	219	ePN	Pn	07 54 27.8	-4.3
SNGZ				AML	AML	07 55 29.1	
SNGZ				AML	AML	07 55 29.8	
GRZ	Great Barrier	4.73	255	PN	Pn	07 54 30.9	-1.3
KNZ	Kokohu	4.75	214	ePN	Pn	07 54 27.5	-4.9
KNZ				AML	AML	07 55 30.0	
KNZ				AML	AML	07 55 33.0	
MHGZ	Mahia Peninsul	4.75	212	PN	Pn	07 54 27.7	-4.8
MHGZ				AML	AML	07 55 28.0	
MHGZ				AML	AML	07 55 33.4	
LIRZ	Lichensteins R	4.75	232	ePN	Pn	07 54 30.5	-2.1
MUGZ	Murupara	4.81	225	ePN	Pn	07 54 29.4	-4.0
TARZ	Mount Tarawera	4.82	229	ePN	Pn	07 54 31.3	-2.2
OMRZ	Omania	4.82	231	PN	Pn	07 54 31.3	-2.2
KARZ	Kaharoa	4.85	232	PN	Pn	07 54 31.1	-2.8
RRRZ	Republican Roa	4.88	228	PN	Pn	07 54 31.3	-3.0
HLRZ	Highlands Stat	4.92	229	ePN	Pn	07 54 33.0	-1.9
KMRZ	Kaimai	4.96	236	PN	Pn	07 54 32.9	-2.5
UTU	Utuhina	4.98	231	ePN	Pn	07 54 33.2	-2.5
WHHZ	Waihua	5.00	217	AML	AML	07 55 35.5	
WHHZ				AML	AML	07 55 42.7	
HSRZ	Hossack Road	5.03	230	PN	Pn	07 54 34.7	-1.6
HRRZ	Handcock Road	5.05	229	PN	Pn	07 54 34.6	-2.1
PRRZ	Plateau Road	5.05	227	PN	Pn	07 54 33.7	-2.9
PRRZ				SN	Sn	07 55 32.3	-1.5
WIAZ	Waiheke Island	5.12	249	PN	Pn	07 54 36.4	-1.1
ALRZ	Allen Road	5.12	227	ePN	Pn	07 54 34.8	-2.8
MKAZ	Moumakai	5.20	246	PN	Pn	07 54 37.0	-1.6
TOZ	Tahuroa Road	5.21	239	PN	Pn	07 54 36.1	-2.6
WPRZ	Whakapapatarin	5.21	228	PN	Pn	07 54 36.6	-2.2
NMHZ	Naumai	5.23	220	ePN	Pn	07 54 35.6	-3.6
NMHZ				AML	AML	07 55 39.3	
NMHZ				AML	AML	07 55 39.7	
MRHZ	Matea Rd	5.26	224	PN	Pn	07 54 36.7	-2.9
MRHZ				AML	AML	07 55 38.8	
MRHZ				AML	AML	07 55 38.9	
ARHZ	Aropaoanui	5.26	217	PN	Pn	07 54 35.2	-4.4
ARHZ				AML	AML	07 55 39.8	
ARHZ				AML	AML	07 55 40.5	
ABAZ	Army Bay	5.30	252	PN	Pn	07 54 39.4	-0.6
ETAZ	East Tamaki Re	5.32	248	PN	Pn	07 54 39.2	-1.1
KUTZ	Kaahu Road	5.40	230	PN	Pn	07 54 39.1	-2.3
KBAZ	Karaka Road Bo	5.40	247	PN	Pn	07 54 40.7	-0.6
EPAZ	Eden Park BICE	5.44	250	PN	Pn	07 54 42.0	+0.1
HBAZ	Herne Bay Bore	5.44	250	PN	Pn	07 54 42.5	+0.5
BKZ	Black Stump Fm	5.45	221	Pn	Pn	07 54 38.1	-4.1
BKZ				ePn	Pn	07 54 39.5	-2.7
BKZ	Black Stump Fm	5.45	221	PN	Pn	07 54 37.8	-4.4
BKZ				AML	AML	07 55 43.3	
BKZ				AML	AML	07 55 52.4	
HATZ	Hinemaiaia	5.49	225	PN	Pn	07 54 40.2	-2.5
CKHZ	Cape Kidnapper	5.53	214	ePN	Pn	07 54 37.5	-5.7
CKHZ				AML	AML	07 55 44.7	
CKHZ				AML	AML	07 55 46.9	
RVAZ	Riverhead Bore	5.54	251	PN	Pn	07 54 42.3	-1.0
MCHZ	McNeill Hill	5.55	218	PN	Pn	07 54 39.9	-3.6
MCHZ				AML	AML	07 55 49.2	
MCHZ				AML	AML	07 55 53.9	
WCZ	Waipu Caves	5.57	260	PN	Pn	07 54 42.6	-1.1
AWAZ	Awhitu Peninsu	5.57	248	PN	Pn	07 54 43.4	-0.4
WATZ	Wairara	5.58	229	PN	Pn	07 54 41.7	-2.3
WTAZ	Waiatarua	5.59	249	ePN	Pn	07 54 44.0	0.0
RATZ	Rangitukua	5.66	227	PN	Pn	07 54 42.6	-2.4
KWHZ	Kaweka Forest	5.68	220	PN	Pn	07 54 42.1	-3.2
KWHZ				AML	AML	07 55 51.0	
KWHZ				AML	AML	07 55 51.8	
RITZ	Rihia Road	5.68	226	PN	Pn	07 54 42.7	-2.6
KAHZ	Kahuranaki	5.74	215	PN	Pn	07 54 41.3	-4.8
KAHZ				AML	AML	07 55 52.8	
KAHZ				AML	AML	07 56 00.1	
KRHZ	Kereru	5.87	219	ePN	Pn	07 54 44.0	-3.8
KRHZ				AML	AML	07 55 52.6	
KRHZ				AML	AML	07 55 53.0	
KRVZ	Karewarewa	5.88	226	ePN	Pn	07 54 45.2	-3.0
BHHZ	Black Hill Sta	5.92	221	ePN	Pn	07 54 44.1	-4.4
BHHZ				AML	AML	07 55 53.6	
BHHZ				AML	AML	07 55 57.7	
OTVZ	Oturere	5.92	226	ePN	Pn	07 54 45.5	-3.2
RAO	Raoul Island	5.93	8	Pn	Pn	07 54 40.9	-7.8
	492nm,0.3s,baz=121,slow=8.8,SNR=17						
RAO				Sn	Sn	07 55 49.3	-6.0
	2µm,0.3s,baz=58,slow=22,SNR=9.1						
RAO				LR	LR	07 57 13.8	
	comp=Z,23µm,19.8s,baz=185,slow=40						
WTVZ	West Tongariro	5.93	226	PN	Pn	07 54 46.1	-2.7
PXZ	Pawanui	5.93	213	AML	AML	07 55 54.3	
PXZ				AML	AML	07 55 54.3	
PXZ				AML	AML	07 55 55.4	
PXZ				AML	AML	07 55 55.4	
NGZ	Ngauruhoe	5.96	226	ePN	Pn	07 54 46.1	-3.1
TWVZ	Taurewa	5.99	227	ePN	Pn	07 54 47.4	-2.2
MOVZ	Moawhango	6.03	223	PN	Pn	07 54 46.3	-3.8
HIZ	Hauiti	6.04	234	Pn	Pn	07 54 49.3	-0.9
HIZ				ePn	Pn	07 54 49.5	-0.7
HIZ	Hauiti	6.04	234	PN	Pn	07 54 48.4	-1.6
WHVZ	Whangaehu Hut	6.04	225	PN	Pn	07 54 46.7	-3.7
FWVZ	Far West T-bar	6.04	226	ePN	Pn	07 54 47.2	-3.3
DRZ	Dome Shelter	6.05	225	PN	Pn	07 54 48.2	-2.4
WNVZ	Wahianoa	6.06	225	ePN	Pn	07 54 47.0	-3.7
TRVZ	Turoa	6.07	225	ePN	Pn	07 54 49.1	-1.8
OUZ	Omahuta	6.15	267	ePn	Pn	07 54 50.5	-1.1
OUZ				Pn	Pn	07 54 50.7	-1.0
OUZ	Omahuta	6.15	267	PN	Pn	07 54 50.6	-1.1
WPHZ	Waipukurau	6.15	216	PN	Pn	07 54 47.1	-4.7
WPHZ				AML	AML	07 56 09.4	
WPHZ				AML	AML	07 56 12.1	
PNHZ	Pukenui	6.16	218	ePN	Pn	07 54 45.7	-6.1
PNHZ				AML	AML	07 55 58.5	
PNHZ				AML	AML	07 55 58.7	
PKVZ	Pokaka	6.18	226	ePN	Pn	07 54 49.7	-2.6
PRHZ	Porangahau	6.22	213	PN	Pn	07 54 46.5	-6.3
PRHZ				AML	AML	07 56 14.8	
PRHZ				AML	AML	07 56 15.4	
TSZ	Takapari Road	6.38	218	AML	AML	07 56 07.9	
TSZ				AML	AML	07 56 09.1	
VRZ	Vera Road	6.44	230	ePN	Pn	07 54 53.4	-2.4
ANWZ	Angora Road	6.45	213	ePN	Pn	07 54 50.5	-5.3
ANWZ				AML	AML	07 56 07.7	
ANWZ				AML	AML	07 56 18.1	
DVHZ	Dannevirke	6.47	216	ePN	Pn	07 54 50.6	-5.5
DVHZ				AML	AML	07 56 05.6	
DVHZ				AML	AML	07 56 06.9	
MHEZ	Mangahewa	6.69	232	PN	Pn	07 54 59.0	-0.1
POWZ	Post Office Ro	6.73	217	ePN	Pn	07 54 55.9	-3.8
POWZ				AML	AML	07 56 13.1	
POWZ				AML	AML	07 56 16.2	
BFZ	Birch Farm	6.73	213	Pn	Pn	07 54 52.6	-7.1
BFZ				ePn	Pn	07 54 54.3	-5.4
BFZ	Birch Farm	6.73	213	ePN	Pn	07 54 52.5	-7.2
BFZ				AML	AML	07 56 12.1	
BFZ				AML	AML	07 56 12.1	
BFZ				AML	AML	07 56 13.1	
BFZ				AML	AML	07 56 14.3	
PRWZ	Pori Road	6.76	215	PN	Pn	07 54 55.1	-5.0
PRWZ				AML	AML	07 56 13.5	
PRWZ				AML	AML	07 56 13.8	
DREZ	Durham Road	6.83	232	PN	Pn	07 55 00.4	-0.7
LREZ	Lake Rotokare	6.86	229	ePN	Pn	07 54 58.7	-2.8
CPWZ	Castlepoint	6.94	212	AML	AML	07 56 20.9	
CPWZ				AML	AML	07 56 25.5	
NEZ	North Egmont	6.95	232	PN	Pn	07 55 02.7	0.0
TIWZ	Tintock	6.97	215	ePN	Pn	07 54 56.6	-6.5
TIWZ				AML	AML	07 56 21.4	
TIWZ				AML	AML	07 56 21.6	
KHEZ	Kahui Hut	7.01	232	PN	Pn	07 55 03.2	-0.4
MRZ	Mangatainoka R	7.03	217	ePN	Pn	07 54 57.7	-6.2
MRZ				AML	AML	07 56 17.6	
MRZ				AML	AML	07 56 19.0	
TMWZ	Te Maipa	7.24	213	ePN	Pn	07 54 59.2	-7.5
TMWZ				AML	AML	07 56 25.8	
TMWZ				AML	AML	07 56 25.9	
HOWZ	Holdsworth Sta	7.24	216	ePN	Pn	07 54 59.8	-7.0
HOWZ				AML	AML	07 56 22.4	
HOWZ				AML	AML	07 56 26.0	
OGWZ	Otaki Gorge	7.35	218	ePN	Pn	07 55 01.9	-6.3
OGWZ				AML	AML	07 56 26.4	
OGWZ				AML	AML	07 56 28.9	
MTW	Mount Morrison	7.45	215	PN	Pn	07 55 02.1	-7.5
MTW				AML	AML	07 56 29.4	
MTW				AML	AML	07 56 29.8	
KIW	Kapiti Island	7.52	219	PN	Pn	07 55 05.0	-5.5
KIW				SN	Sn	07 56 28.3	-6.1
KIW				AML	AML	07 56 30.2	
KIW				AML	AML	07 56 31.1	
TRWZ	Traveller	7.56	213	PN	Pn	07 55 04.3	-6.8
TRWZ				AML	AML	07 56 31.4	
TRWZ				AML	AML	07 56 37.2	
CAW	Cannon Point	7.62	217	ePN	Pn	07 55 05.0	-6.9
CAW				AML	AML	07 56 33.1	
CAW				AML	AML	07 56 36.5	
PAWZ	Paruwai Farm	7.67	214	ePN	Pn	07 55 04.9	-7.7
PAWZ				AML	AML	07 56 33.0	
PAWZ				AML	AML	07 56 33.7	
MSWZ	Moikau Station	7.77	215	PN	Pn	07 55 07.1	-6.9
MSWZ				AML	AML	07 56 39.1	
MSWZ				AML	AML	07 56 40.4	
PLWZ	Palliser	7.89	214	PN	Pn	07 55 07.6	-8.1
PLWZ				AML	AML	07 56 38.9	
PLWZ				AML	AML	07 56 41.0	
WEL	Wellington	7.90	217	AML	AML	07 56 39.1	
WEL				AML	AML	07 56 39.1	
WEL				AML	AML	07 56 40.0	
WEL				AML	AML	07 56 40.0	
BHW	Baring Head	7.95	216	AML	AML	07 56 38.9	
BHW				AML	AML	07 56 42.3	
SNZO	South Karori	7.96	217	ePn	Pn	07 55 10.7	-5.8
DUWZ	D'Urville Isla	8.01	223	PN	Pn	07 55 10.6	-6.5
TCW	Tory Channel	8.10	220	PN	Pn	07 55 12.0	-6.4
TCW				AML	AML	07 56 42.7	
TCW				AML	AML	07 56 43.1	
TUWZ	Tuamarina	8.43	220	PN	Pn	07 55 16.9	-6.1
TUWZ				AML	AML	07 56 52.8	
TUWZ				AML	AML	07 56 56.1	
BSWZ	Blackbirch Sta	8.67	219	PN	Pn	07 55 19.4	-6.9
BSWZ				AML	AML	07 57 01.7	
BSWZ				AML	AML	07 57 04.5	
CTZ	Chatham Island	8.76	169	ePN	Pn	07 55 21.4	-6.1
QRZ	Quartz Range	8.83	227	PN	Pn	07 55 22.1	-6.4
THZ	Tophouse	9.22	222	Pn	Pn	07 55 26.9	-6.9
THZ				ePn	Pn	07 55 27.2	-6.7
THZ	Tophouse	9.22	222	ePN	Pn	07 55 25.8	-8.0
KHZ	Kahutara	9.36	217	Pn	Pn	07 55 29.6	-6.1
KHZ				ePn	Pn	07 55 30.2	-5.5
KHZ	Kahutara	9.36	217	PN	Pn	07 55 29.0	-6.7
KHZ				AML	AML	07 57 12.2	
KHZ				AML	AML	07 57 12.2	
KHZ				AML	AML	07 57 12.8	
KHZ				AML	AML	07 57 12.8	
DSZ	Denniston Nort	9.83	225	ePN	Pn	07 55 33.2	-9.0
LTZ	Lake Taylor	10.27	219	Pn	Pn	07 55 40.7	-7.5
LTZ				ePn	Pn	07 55 41.4	-6.8
INZ	Inchbonnie	10.67	222	PN	Pn	07 55 45.1	-8.5
CRLZ	Canterbury Las	10.67	215	ePn	Pn	07 55 48.2	-5.4
CRLZ				Pn	Pn	07 55 48.9	-4.7
MQZ	McQueen's Vall	10.76	215	Pn	Pn	07 55 47.6	-7.2
MQZ				ePn	Pn	07 55 48.5	-6.4
MQZ	McQueen's Vall	10.76	215	ePN	Pn	07 55 45.4	-9.4
OXZ	Oxford	10.78	218	Pn	Pn	07 55 48.6	-6.5
OXZ				ePn	Pn	07 55 48.9	-6.2
OXZ	Oxford	10.78	218	PN	Pn	07 55 46.3	-8.8
WVZ	Waitaha Valley	11.29	222	PN	Pn	07 55 55.7	-6.4
RPZ	Rata Peaks	11.56	219	Pn	Pn	07 55 59.8	-6.0
	16nm,0.3s,baz=151,slow=0.9,SNR=42						
RPZ				Sn	Sn	07 58 01.4	-12
	94nm,0.3s,baz=229,slow=19,SNR=29						
RPZ	Rata Peaks	11.56	219	Pn	Pn	07 55 59.1	-6.6
RPZ				ePn	Pn	07 55 59.9	-5.8
RPZ				eSn	Sn	07 58 01.4	-12
RPZ	Rata Peaks	11.56	219	PN	Pn	07 55 58.2	-7.6
FOZ	Fox Glacier	12.10	223	Pn	Pn	07 56 07.0	-6.1
FOZ				ePn	Pn	07 56 08.5	-4.7
FOZ	Fox Glacier	12.10	223	ePN	Pn	07 56 05.4	-7.7
LBZ	Lake Benmore	12.47	219	Pn	Pn	07 56 11.6	-6.6
LBZ				ePn	Pn	07 56 13.0	-5.2
LBZ	Lake Benmore	12.47	219	PN	Pn	07 56 10.7	-7.5
ODZ	Otahua Downs	12.71	216	Pn	Pn	07 56 13.6	-8.0
ODZ				ePn	Pn	07 56 15.7	-5.9
ODZ	Otahua Downs	12.71	216	PN	Pn	07 56 10.1	-8.5
JCZ	Jackson Bay	13.02	223	PN	Pn	07 56 17.1	-8.7
WKZ	Wanaka	13.38	220	Pn	Pn	07 56 24.4	-6.3
WKZ				ePn	Pn	07 56 26.4	-4.3
WKZ	Wanaka	13.38	220	PN	Pn	07 56 23.5	-7.2
EAZ	Earnscleugh	13.51	218	PN	Pn	07 56 25.7	-6.7
TUZ	Tuapeka	13.87	215	PN	Pn	07 56 30.6	-6.7
MLZ	Mavora Lakes	14.22	220	Pn	Pn	07 56 36.3	-5.8
MLZ				ePn	Pn	07 56 38.9	-3.1
MLZ	Mavora Lakes	14.22	220	PN	Pn	07 56 36.2	-5.9
SYZ	Scrubby Hill	14.53	215	PN	Pn	07 56 40.6	-5.5
WHZ	Wether Hill Ro	14.66	219	Pn	Pn	07 56 41.8	-6.1
WHZ				ePn	Pn	07 56 44.8	-3.2
WHZ	Wether Hill Ro	14.66	219	PN	Pn	07 56 41.3	-6.6
APZ	The Paps	15.29	216	PN	Pn	07 56 51.5	-4.8
PYZ	Puysegur Point	15.50	220	ePn	Pn	07 56 55.1	-3.9
	393nm,1.0s						
MSVF	Nonsavu	17.55	350	eP	Pn	07 57 22.8	-2.2
MSVF				pmax	pmax		
	comp=Z,663nm,1.4s						
MSVF	Nonsavu	17.55	350	ePn	Pn	07 57 22.8	-2.2
	comp=Z,663nm,1.4s						
DZM	Mont Dzumac	18.28	312	P	P	07 57 31.2	-2.6
	comp=Z,0.6nm,0.3s,baz=158,slow=19,SNR=7.3						
DZM				LR	LR	08 02 02.7	
	comp=Z,18µm,20.2s,baz=142,slow=29						
DZM	Mont Dzumac	18.28	312	eP	Pn	07 57 34.7	+0.7
	comp=Z,1µm,1.4s						
DZM				eLQ	LQ	08 01 12.8	
	comp=Z,86µm,28.7s						
DZM				eLR	LR	08 02 00.8	
	comp=Z,79µm,27.9s						
DZM	Mont Dzumac	18.28	312	ePn	P	07 57 33.5	-0.3
	comp=Z,1µm,1.5s						
RAR	Rarotonga	21.78	55	P	P	07 58 08.9	-2.8
	comp=Z,215nm,1.0s,baz=236,slow=9.2,SNR=18						
RAR				LR	LR	08 06 59.9	
	comp=Z,20µm,18.0s,baz=225,slow=38						
RAR	Rarotonga	21.78	55	P	P	07 58 08.9	-2.8
RAR				pmax	pmax		
	comp=Z,190nm,0.9s						
RAR				MLR	MLR		
	comp=Z,20µm,18.0s						
RAR	Rarotonga	21.78	55	eP	P	07 58 11.0	-0.7
	comp=Z,1µm,1.6s						
RAR				LR	LR		
	comp=Z,25µm,19.0s						
AFI	Afiamalu	22.09	19	P	P	07 58 12.7	-2.5
	comp=Z,660nm,0.8s,baz=214,slow=3.0,SNR=19						
AFI				S	S	08 02 07.8	-8.6
	comp=Z,37nm,0.5s,baz=139,slow=22,SNR=4.3						
AFI	Afiamalu	22.09	19	eP	P	07 58 13.0	-2.2
	comp=Z,832nm,0.9s						
RIV	Riverview	24.68	264	P	P	07 58 43.5	+3.1
RIV				pmax	pmax		
	comp=Z,524nm,1.2s						
ARMA	Armidale	25.18	272	eP	P	07 58 45.9	+0.8
	comp=Z,540nm,1.5s						
ARMA				LR	LR		
	comp=Z,25µm,22.0s						
CAN	Canberra	26.17	260	eP	P	07 58 52.6	-1.4
CAN				pmax	pmax		
	comp=Z,447nm,1.6s						
CAN	Canberra	26.17	260	eP	P	07 58 52.6	-1.4
	comp=Z,447nm,1.6s						
TAU	Tasmania Unive	27.23	243	PFAKE		07 59 10.0	+6.6
TAU				LR	LR		
	comp=Z,17µm,20.0s						
EIDS	Eidsvold	27.61	282	eP	P	07 59 06.3	-0.7
	comp=Z,153nm,1.1s						
EIDS				LR	LR		
	comp=Z,11µm,18.0s						
TBI	Tubuai	28.14	73	eLQ	LQ	08 04 41.9	
	comp=Z,28µm,25.9s						
TBI				eLR	LR	08 06 08.9	
	comp=Z,37µm,29.2s,baz=235						
TBI	Tubuai	28.14	73	eT	T	08 28 04.0	
	comp=Z,43nm,0.3s						
TOO	Toolangi	28.68	255	P	P	07 59 19.6	+3.2
TOO				pmax	pmax		
	comp=Z,208nm,1.6s						
PAE	Paea	31.34	64	eP	P	07 59 40.5	+0.5
	comp=Z,35nm,1.1s						
PAE	Paea	31.34	64	eT	T	08 32 06.9	
	comp=Z,16nm,0.3s						
PPT2	Papeete2	31.39	64	eP	P	07 59 41.3	+0.8
	comp=Z,215nm,1.2s						
PPT2				eS	S	08 04 48.7	+3.5
	comp=Z,3µm,27.0s						
PPT2				eLQ	LQ	08 05 55.3	
	comp=Z,22µm,24.8s						
PPT2				eLR	LR	08 07 33.9	
	comp=Z,31µm,28.0s,baz=231						
PPT2	Papeete2	31.39	64	eT	T	08 32 11.5	
	comp=Z,21nm,0.3s						
PPT	Papeete	31.40	64	P	P	07 59 39.7	-0.9
	comp=Z,36nm,0.7s,baz=174,slow=7.8,SNR=12						
PPT				LR	LR	08 10 54.8	
	comp=Z,15µm,18.7s,baz=239,slow=34						
TVO	Taravao	31.50	64	eP	P	07 59 42.2	+0.7
	comp=Z,80nm,1.2s						
TVO	Taravao	31.50	64	eT	T	08 32 19.6	
	comp=Z,3.2nm,0.3s						
TIAR	Tiarei	31.57	64	eP	P	07 59 42.9	+0.8
	comp=Z,59nm,0.9s						
TIAR	Tiarei	31.57	64	eT	T	08 32 25.0	
	comp=Z,3.2nm,0.3s						
HNR	Honiara	32.07	318	P	P	07 59 44.3	-2.1
	comp=Z,234nm,0.9s,baz=204,slow=4.6,SNR=7.4						
HNR	Honiara	32.07	318	eP	P	07 59 41.0	-5.5
HNR	Honiara	32.07	318	eP	P	07 59 46.6	+0.2
HNR				MLR	MLR		
	comp=Z,7µm,22.0s						
HNR	Honiara	32.07	318	eP	P	07 59 46.6	+0.2
HNR				LR	LR		
	comp=Z,7µm,22.0s						
STKA	Stephens Creek	32.96	264	P	P	07 59 54.2	0.0
	comp=Z,21nm,0.8s,baz=102,slow=9.7,SNR=24						
STKA				PcP	PcP	08 02 40.1	+2.6
	comp=Z,15nm,0.7s,baz=143,slow=5.6,SNR=3.9						
STKA				LR	LR	08 11 39.5	
	comp=Z,10µm,21.9s,baz=102,slow=34						
STKA	Stephens Creek	32.96	264	eP	P	07 59 56.2	+2.0
STKA	Stephens Creek	32.96	264	eP	P	07 59 51.7	-2.5
	comp=Z,100nm,1.6s						
STKA				LR	LR		
	comp=Z,2µm,21.0s						
CTA	Charters Tower	34.13	287	P	P	08 00 04.3	-0.1
	comp=Z,151nm,1.1s,baz=121,slow=10,SNR=54						
CTA				ScP	ScP	08 06 30.8	+8.2
	comp=Z,28nm,1.1s,baz=91,slow=4.4,SNR=6.4						
CTA				LR	LR	08 14 00.7	
	comp=Z,6µm,18.1s,baz=93,slow=36						
CTAO	Charters Tower	34.13	287	eP	P	08 00 04.1	-0.3
CTAO				pmax	pmax		
	comp=Z,1µm,1.5s						
CTAO				MLR	MLR		
	comp=Z,8µm,18.0s						
CTAO	Charters Tower	34.13	287	eP	P	08 00 04.1	-0.3
	comp=Z,1µm,1.5s						
CTAO				LR	LR		
	comp=Z,8µm,18.0s						
VAH	Vaihoa	34.33	63	eP	P	08 00 06.5	+0.4
	comp=Z,165nm,1.2s						
VAH	Vaihoa	34.33	63	eT	T	08 35 51.1	
	comp=Z,53nm,0.3s						
TARA	Tarawa	37.10	346	PFAKE		08 00 40.0	+10
TARA				LR	LR		
	comp=Z,12µm,20.0s						
BBOO	Buckleboo	37.19	260	eP	P	08 00 30.3	-0.3
	comp=Z,346nm,1.4s						
BBOO				LR	LR		
	comp=Z,14µm,21.0s						
RKT	Rikitea	39.90	85	eP	P	08 00 52.6	-0.8
	comp=Z,116nm,1.2s						
RKT				eS	S	08 06 56.8	+1.3
	comp=Z,5µm,26.2s						
RKT				eLQ	LQ	08 09 55.0	
	comp=Z,7µm,27.0s						
RKT				eLR	LR	08 11 36.9	
	comp=Z,33µm,28.8s,baz=244						
RKT	Rikitea	39.90	85	eT	T	08 42 40.9	
	comp=Z,5.0nm,0.3s						
COEN	Coen	40.10	292	eP	P	08 00 55.0	-0.1
	comp=Z,239nm,0.9s						
COEN				LR	LR		
	comp=Z,22µm,18.0s						
PMG	Port Moresby	40.19	301	P	P	08 00 54.6	-1.2
	comp=Z,36nm,0.9s,baz=78,slow=9.4,SNR=5.5						
PMG				LR	LR	08 15 52.7	
	comp=Z,14µm,20.6s,baz=112,slow=34						
PMG	Port Moresby	40.19	301	eP	P	08 00 56.4	+0.5
PMG				pmax	pmax		
	comp=Z,385nm,1.4s						
PMG				MLR	MLR		
	comp=Z,15µm,20.0s						
PMG	Port Moresby	40.19	301	eP	P	08 00 56.4	+0.5
	comp=Z,385nm,1.4s						
PMG				LR	LR		
	comp=Z,15µm,20.0s						
RABL	Rabaul	40.81	312	eP	P	08 00 59.1	-1.9
	comp=Z,1µm,1.4s						
XMAS	Kiritimati	42.10	33	eP	P	08 01 12.7	+1.2
	comp=Z,435nm,1.4s						
XMAS				LR	LR		
	comp=Z,9µm,19.0s						
AS01	Alice Springs	42.29	273	eP	P	08 01 11.2	-2.0
AS31	Alice Springs	42.33	273	eP	P	08 01 11.4	-2.0
	comp=Z,93nm,0.7s						
ASAR	Alice Springs	42.33	273	P	P	08 01 11.5	-2.0
	comp=Z,162nm,0.9s,baz=115,slow=7.9,SNR=158						
ASAR				ScP	ScP	08 06 58.3	+4.6
	comp=Z,6.2nm,0.9s,baz=99,slow=4.8,SNR=4.9						
ASAR				S	S	08 07 28.8	-3.0
	comp=Z,5.0nm,0.8s,baz=118,slow=14,SNR=5.1						
ASAR				LR	LR	08 17 54.7	
	comp=Z,19µm,21.2s,baz=116,slow=35						
ASAR	Alice Springs	42.33	273	P	P	08 01 11.5	-2.0
ASAR				S	S	08 07 28.8	-3.0
ASAR				pmax	pmax		
	comp=Z,163nm,0.9s						
ASAR				smax	smax		
	comp=N,

comp=Z,13µm,18.0s
WR2 Warramunga Arr 43.73 278 PFAKE 08 01 40.0 +15
WR2 LR LR
comp=Z,7µm,22.0s
WC2 Warramunga Arr 43.73 278 PFAKE 08 01 40.0 +15
WC2 LR LR
comp=Z,8µm,21.0s
WB2 Warramunga Arr 43.74 278 *eP* **P 08 01 22.7 -2.2**
WB2 LR LR
comp=Z,12µm,18.0s
WC4 Warramunga Arr 43.74 278 PFAKE 08 01 40.0 +15
WC4 LR LR
comp=Z,8µm,21.0s
WB3 Warramunga Arr 43.74 278 PFAKE 08 01 40.0 +15
WB3 LR LR
comp=Z,13µm,18.0s
WRAB Tennant Creek 43.74 278 *i* P **P 08 01 25.3 +0.4**
WRAB pmax pmax
comp=Z,336nm,0.6s
WRAB Tennant Creek 43.74 278 PFAKE 08 01 40.0 +15
WRAB LR LR
comp=Z,14µm,18.0s
WR1 Warramunga Arr 43.75 278 *eP* **P 08 01 22.6 -2.3**
comp=Z,697nm,1.5s
WR1 *e*PP **PcP 08 03 13.6 +2.3**
WR1 LR LR
comp=Z,14µm,18.0s
WRA Warramunga Arr 43.75 278 P **P 08 01 22.6 -2.3**
comp=Z,129nm,0.8s,baz=118,slow=7.7,SNR=218
WRA PcP **PcP 08 03 13.6 +2.3**
comp=Z,31nm,0.9s,baz=122,slow=3.1,SNR=5.0
WRA S **S 08 07 48.5 -4.0**
comp=Z,7.7nm,1.0s,baz=116,slow=13,SNR=5.2
WRA LR LR 08 18 03.4
comp=Z,9µm,21.9s,baz=125,slow=34
WRA PKPPKP P'P'df 08 32 53.8 -22
comp=Z,1.2nm,0.9s,baz=294,slow=1.3,SNR=4.7
WB4 Warramunga Arr 43.75 278 PFAKE 08 01 40.0 +15
WB4 LR LR
comp=Z,7µm,20.0s
WC1 Warramunga Arr 43.76 278 PFAKE 08 01 40.0 +15
WC1 LR LR
comp=Z,6µm,21.0s
WB5 Warramunga Arr 43.76 278 PFAKE 08 01 40.0 +15
WB5 LR LR
comp=Z,8µm,20.0s
WB6 Warramunga Arr 43.77 278 PFAKE 08 01 40.0 +15
WB6 LR LR
comp=Z,13µm,18.0s
WB8 Warramunga Arr 43.78 278 PFAKE 08 01 40.0 +15
WB8 LR LR
comp=Z,8µm,20.0s
WB9 Warramunga Arr 43.78 278 PFAKE 08 01 40.0 +15
WB9 LR LR
comp=Z,18µm,20.0s
WB0 Warramunga Arr 43.79 278 PFAKE 08 01 40.0 +15
WB0 LR LR
comp=Z,9µm,20.0s
FORT Forrest 44.29 260 *eP* **P 08 01 26.8 -2.3**
comp=Z,3µm,0.8s
FORT LR LR
comp=Z,88µm,20.0s
MANU Manus Island 45.46 309 PFAKE 08 01 50.0 +11
MANU LR LR
comp=Z,17µm,22.0s
KWAJ Kwajalein Atol 45.53 341 P **P 08 01 38.4 -0.6**
KWAJ pmax pmax
comp=Z,144nm,1.0s
KWAJ Kwajalein Atol 45.53 341 PFAKE 08 01 50.0 +11
KWAJ LR LR
comp=Z,22µm,22.0s
PATS Pohnpei 46.96 328 *eP* **P 08 01 49.8 -0.5**
comp=Z,249nm,1.4s
PATS LR LR
comp=Z,30µm,20.0s
JAY Jayapura 49.57 302 P **P 08 02 07.6 -3.0**
comp=Z,22nm,1.0s,baz=89,slow=24,SNR=10
JAY Jayapura 49.57 302 P **P 08 02 07.8 -2.8**
comp=Z,269nm,1.2s,comp=Z,4µm
GENI Genyem 49.89 301 P **P 08 02 11.0 -1.9**
comp=Z,441nm,1.6s,comp=Z,7µm
MTN Manton Dam 50.16 283 *eP* **P 08 02 14.0 -1.0**
comp=Z,416nm,1.4s
MTN LR LR
comp=Z,7µm,19.0s
SMPI Sarmi 51.34 300 P P 08 02 15.4 -8.5
FITZ Fitzroy Crossi 51.77 274 P **P 08 02 25.7 -1.3**
comp=Z,66nm,0.6s,baz=128,slow=6.6,SNR=28
FITZ LR LR 08 23 50.7
comp=Z,13µm,20.8s,baz=119,slow=35
NWAO Narrogin (SRO) 52.15 253 LR LR 08 20 55.2
comp=Z,4µm,21.6s,baz=305,slow=32
NWAO Narrogin (SRO) 52.15 253 *eP* **P 08 02 28.4 -1.4**
NWAO pmax pmax
comp=Z,493nm,1.8s
NWAO MLR MLR
comp=Z,7µm,19.0s
NWAO Narrogin (SRO) 52.15 253 *eP* **P 08 02 28.4 -1.4**
comp=Z,493nm,1.8s
NWAO LR LR
comp=Z,7µm,19.0s
JOHN Johnston Islan 52.35 11 PFAKE 08 02 40.0 +8.8
JOHN LR LR
comp=Z,22µm,22.0s
SAUI Saumlaki 52.92 289 P **P 08 02 36.2 +0.5**
comp=Z,823nm,1.0s,comp=Z,12µm
QSPA South Pole Qui 54.98 180 *eP* **P 08 02 50.4 +0.2**
QSPA LR LR
comp=Z,17µm,18.0s
MBWA Marble Bar 55.10 267 *eP* **P 08 02 49.7 -1.9**
comp=Z,219nm,1.2s
MBWA LR LR
comp=Z,9µm,22.0s
FAKI Fak Fak 55.42 294 P **P 08 02 54.6 +0.7**
FAKI Fak Fak 55.42 294 *eP* **P 08 02 51.8 -2.1**
comp=Z,496nm,1.3s
FAKI LR LR
comp=Z,26µm,21.0s
SOEI Soe 57.43 282 P **P 08 03 07.6 -0.7**
comp=Z,589nm,1.4s,comp=Z,9µm
SOEI Soe 57.43 282 *eP* **P 08 03 07.2 -1.1**
comp=Z,888nm,1.3s
SOEI LR LR
comp=Z,15µm,22.0s
MIR Mirnyy 57.59 208⇑ *i* P **P 08 03 08.0 -0.5**
MIR *i* 08 03 11.0
MIR *i* PPP PPP 08 06 42.0
MIR *i* S S 08 11 17.0 +14
MIR *i* 08 12 56.0
MIR pmax pmax
comp=Z,23nm,1.9s
MIR MLR MLR
comp=E,4µm,16.0s
MIR MLR MLR
comp=Z,8µm,16.0s
MSAI Masohi 57.66 291 P **P 08 03 10.7 +0.9**
AAI Ambon 58.01 290 P **P 08 03 09.9 -2.3**
HLP Hilina Pali 58.59 26 *eP* **P 08 03 19.7 +3.6**
comp=Z,985nm,1.8s
SDHHI Sand Hill 58.68 26 *eP* **P 08 03 18.6 +1.8**
comp=Z,862nm,1.7s
SDHHI LR LR
comp=Z,13µm,20.0s
RIM Rim 58.69 26 *eP* **P 08 03 16.9 0.0**
comp=Z,296nm,1.2s
RIM LR LR
comp=Z,14µm,20.0s
WRMHI West Rim 58.69 26 *eP* **P 08 03 17.3 +0.3**
comp=Z,773nm,1.7s
PUH Pauahi 58.69 26 *eP* **P 08 03 16.7 -0.2**
KKO Keanakako'i 58.70 26 *eP* **P 08 03 17.1 +0.1**
comp=Z,578nm,1.6s
KKO LR LR
comp=Z,14µm,20.0s
NPH North Pit 58.70 26 *eP* **P 08 03 20.0 +3.0**
NPH pmax pmax
comp=Z,593nm,1.9s
NPH North Pit 58.70 26 *eP* **P 08 03 20.0 +3.0**
comp=Z,593nm,1.9s
OBL Observatory Le 58.71 26 *eP* **P 08 03 20.0 +3.0**
comp=Z,417nm,1.5s
UWE Uwekahuna 58.71 26 *eP* **P 08 03 20.4 +3.3**
comp=Z,609nm,1.5s
UWE LR LR
comp=Z,13µm,20.0s
BYL Byron's Ledge 58.71 26 *eP* **P 08 03 18.7 +1.7**
comp=Z,644nm,1.7s
BYL LR LR
comp=Z,14µm,20.0s
UWB Uwekahuna B 58.72 26 *eP* **P 08 03 17.1 0.0**
comp=Z,360nm,1.5s
HATHI Halema'uma'u T 58.72 26 *eP* **P 08 03 17.8 +0.7**
comp=Z,471nm,1.4s
SBLHI Steaming Bluff 58.72 26 PFAKE 08 03 30.0 +13
SBLHI LR LR
comp=Z,13µm,20.0s
STCH Steam Cracks 58.74 26 *eP* **P 08 03 17.8 +0.6**
comp=Z,365nm,1.4s
MLH Mauna Loa 58.74 26 *eP* **P 08 03 18.8 +1.4**
MLH pmax pmax
comp=Z,805nm,1.8s
MLH Mauna Loa 58.74 26 *eP* **P 08 03 18.8 +1.4**
comp=Z,805nm,1.8s
JCUZ Jacuzzi 58.74 26 PFAKE 08 03 30.0 +13
JCUZ LR LR
comp=Z,14µm,20.0s
NPOC North of Pu'u 58.75 26 *eP* **P 08 03 20.6 +3.3**
comp=Z,211nm,1.1s
POHA Pohakuloa 58.93 26 *eP* **P 08 03 21.6 +2.9**
comp=Z,495nm,1.5s
RPN Rapa Nui 59.01 103 LR LR 08 25 03.2
comp=Z,14µm,18.0s,baz=224,slow=32
RPN Rapa Nui 59.01 103 PFAKE 08 03 30.0 +11
RPN LR LR
comp=Z,16µm,20.0s
HPAH Hawaii Prepara 59.12 26 *eP* **P 08 03 20.1 +0.2**
comp=Z,588nm,1.7s
KIP Kipapa 59.64 23 *i* P **P 08 03 22.9 -0.4**
KIP Kipapa 59.64 23 *eP* **P 08 03 26.3 +2.9**
comp=Z,436nm,1.4s
KEKH Kekaha 59.66 21 *eP* **P 08 03 25.3 +1.9**
comp=Z,357nm,1.2s
MMRI Maumere 59.70 281 *eP* **P 08 03 22.9 -1.2**
comp=Z,1µm,1.3s
MMRI LR LR
comp=Z,7µm,20.0s
OPA Opana 59.89 23 *eP* **P 08 03 28.5 +3.5**
OPA pmax pmax
comp=Z,466nm,1.5s
OPA Opana 59.89 23 *eP* **P 08 03 28.5 +3.5**
comp=Z,466nm,1.5s
MIDW Midway 63.03 2 *eP* **P 08 03 45.6 -0.5**
comp=Z,431nm,1.2s
KAPI Kappang 63.82 283 PFAKE 08 04 00.0 +8.3
KAPI LR LR
comp=Z,9µm,22.0s
JAGI Jajag, Banyuwa 66.34 276 *eP* **P 08 04 07.2 -0.9**
comp=Z,139nm,1.2s
JAGI LR LR
comp=Z,9µm,22.0s
DAV Davao City (W) 67.02 297⇑ *eP* **P 08 04 10.2 -2.3**
DAV Davao City (W) 67.02 297 ⇓S **S 08 13 08.8 +5.6**
MAW Mawson 67.62 201 P **P 08 04 15.6 +0.1**
comp=Z,56nm,1.2s,baz=134,slow=5.1,SNR=37
MAW PKPPKP **P'P'df 08 32 40.1 -3.2**
comp=Z,8.4nm,1.3s,baz=300,slow=4.2,SNR=5.4
MAW LR LR 08 33 03.1
comp=Z,12µm,19.2s,baz=116,slow=35
MAW Mawson 67.62 201 *eP* **P 08 04 15.5 +0.1**
MAW pmax pmax
comp=Z,29nm,1.2s
MAW MLR MLR
comp=Z,3µm,19.0s
MAW Mawson 67.62 201 *eP* **P 08 04 15.5 +0.1**
comp=Z,29nm,1.2s
MAW LR LR
comp=Z,3µm,19.0s
PMSA Palmer Station 68.28 155 P **P 08 04 20.2 +0.6**
comp=Z,51nm,1.0s,baz=220,slow=8.4,SNR=5.8
PMSA Palmer Station 68.28 155 *eP* **P 08 04 19.6 0.0**
comp=Z,101nm,1.0s
PMSA LR LR
comp=Z,6µm,20.0s
UGM Wanagama 69.62 275 PFAKE 08 04 40.0 +11
UGM LR LR
comp=Z,8µm,21.0s
MYLDM Lahad Datu 71.08 291 *eP* **P 08 04 39.4 +1.8**
comp=Z,170nm,1.2s
CISI Cisompet, Garu 72.03 273 *eP* **P 08 04 43.1 -0.4**
comp=Z,461nm,1.6s
CISI LR LR
comp=Z,10µm,21.0s
RCP Roxas 72.11 299⇓ *eP* **P 08 04 44.7 +1.0**
GO10 Punta Arenas 72.17 143 *eP* **P 08 04 44.7 +1.0**
comp=Z,372nm,1.1s
GO10 LR LR
comp=Z,18µm,19.0s
XMIS Christmas Isla 72.18 270 PFAKE 08 05 00.0 +16
XMIS LR LR
comp=Z,6µm,20.0s
SYO Syowa Base 72.34 194⇑ *eP* **P 08 04 41.6 -2.7**
SYO Syowa Base 72.34 194 ⇑ *i*P **P 08 04 45.2 +0.9**
SYO Syowa Base 72.34 194 ⇓ *i*S **P 08 04 46.7 +2.4**
USHA Ushuaia 72.45 145 P **P 08 04 44.9 -0.3**
comp=Z,214nm,0.9s,baz=205,slow=4.5,SNR=17
USHA LR LR 08 31 21.8
comp=Z,29µm,18.4s,baz=159,slow=32
KKM Kota Kinabalu 73.38 290 *eP* **P 08 04 48.9 -2.6**
comp=Z,809nm,1.8s
SNAA Sanae 73.45 179 P **P 08 04 49.9 -1.1**
SNAA Sanae 73.45 179 P **P 08 04 49.6 -1.4**
comp=Z,17nm,0.6s,baz=205,slow=10.0,SNR=94
SNAA Sanae 73.45 179 *eP* **P 08 04 49.6 -1.4**
SNAA pmax pmax
comp=Z,274nm,1.3s
SNAA MLR MLR
comp=Z,7µm,19.0s
SNAA Sanae 73.45 179 *eP* **P 08 04 49.6 -1.4**
comp=Z,274nm,1.3s
SNAA LR LR
comp=Z,7µm,19.0s
VNA3 Neumayer Olymp 73.64 176 P **P 08 04 50.9 -1.1**
BATP Bataraza 73.93 293 *eP* **P 08 04 52.9 -1.6**
VNA2 Neumayer--Watz 74.06 177 P **P 08 04 53.7 -0.8**
baz=178,slow=5.4
NVL N'lazarevskaya 74.11 184 *eP* **P 08 04 56.3 +1.5**
NVL *e* 08 05 10.0
NVL *e* 08 07 40.9
NVL *e*S **S 08 14 25.9 +1.7**
NVL *e*SS **SS 08 19 16.4 +7.8**
NVL MLR MLR
comp=Z,8µm,21.0s
VNA1 Neumayer--Stat 74.30 177 P **P 08 04 55.2 -0.7**
SBUM Sibu 74.30 284 *eP* **P 08 04 55.2 -1.5**
comp=Z,204nm,1.3s
CHRN Cochrane 74.77 137 *eP* **P 08 04 58.1 -0.9**
comp=Z,26nm,1.0s
TGY Tagaytay City 75.12 299 P **P 08 05 03.3 +1.9**
comp=Z,267nm,0.3s,baz=280,slow=5.8,SNR=5.7
KSM Kuching 75.23 283 *eP* **P 08 05 00.6 -1.6**
comp=Z,217nm,1.5s
PAF Port-aux-Franc 75.97 219 PFAKE 08 05 20.0 +14
PAF LR LR
comp=Z,9µm,20.0s
MNAI Manna 77.81 273 PFAKE 08 05 30.0 +13
MNAI LR LR
comp=Z,10µm,22.0s
COCO West Island 78.45 263 PFAKE 08 05 30.0 +10
COCO LR LR
comp=Z,8µm,21.0s
EFI East Falkland 79.23 147 *i* P P 08 05 17.4 -6.6
EFI East Falkland 79.23 147 *eP* **P 08 05 23.6 -0.4**
comp=Z,184nm,1.0s
EFI LR LR
comp=Z,4µm,19.0s
PLCA Paso Flores 79.84 133 P **P 08 05 27.6 0.0**
comp=Z,61nm,1.0s,baz=263,slow=5.7,SNR=34
PLCA PKPPKP **P'P'df 08 32 20.0 -1.5**
comp=Z,4.7nm,1.1s,baz=285,slow=2.4,SNR=3.1
PLCA LR LR 08 34 44.6
comp=Z,5µm,18.3s,baz=242,slow=31
PLCA Paso Flores 79.84 133 *eP* **P 08 05 27.0 -0.6**
PLCA pmax pmax
comp=Z,196nm,1.4s
PLCA Paso Flores 79.84 133 *eP* **P 08 05 27.0 -0.6**
comp=Z,196nm,1.4s
MYKOM Kota Tinggi 80.62 279 *eP* **P 08 05 33.3 +1.2**
comp=Z,265nm,1.7s
MAJO Matsushiro 81.73 326 *eP* **P 08 05 36.8 -0.6**
GO05 HualaæØ 82.48 128 *eP* **P 08 05 41.3 -0.4**
comp=Z,150nm,1.3s
GO05 LR LR
comp=Z,9µm,18.0s
QZH Quanzhou 84.08 306⇑ *i*P **P 08 05 51.0 +1.1**
QZH pmax pmax
comp=Z,240nm,1.0s
ERM Erimo 84.29 333 *eP* **P 08 05 50.5 0.0**
ROC1 El Roble 84.33 126 *eP* **P 08 05 50.9 -0.6**
comp=Z,90nm,0.9s
ROCH El Roble 84.33 126 *eP* **P 08 05 51.2 -0.4**
CLCH Cerro Calan 84.38 127 *eP* **P 08 05 50.8 -0.8**
PEL Peldehue 84.44 127 *eP* **P 08 05 50.9 -0.9**
IPM Ipoh 84.47 279 *eP* **P 08 05 52.4 +0.2**
comp=Z,151nm,1.1s
PSI Prapat 85.21 277 P **P 08 05 54.5 -1.5**
comp=Z,24nm,0.8s,baz=183,slow=5.8,SNR=21
PSI Prapat 85.21 277 *eP* **P 08 05 53.3 -2.7**
comp=Z,150nm,1.3s
HOPE Hope Point 85.22 159 *eP* **P 08 05 55.7 +0.5**
comp=Z,257nm,1.1s
HOPE LR LR
comp=Z,7µm,18.0s
KULM Kulim 85.25 280 *eP* **P 08 05 55.6 -0.5**
MCO Taipa Grande 85.66 301 P **P 08 06 01.0 +3.2**
MCO Taipa Grande 85.66 301 P P 08 06 13.0 +15
SKLT Songkhla 86.36 281 P **P 08 06 02.5 +0.9**
comp=Z,84nm,1.6s
QIZ Qiongzhong 86.37 296 P **P 08 06 02.3 +0.9**
QIZ Qiongzhong 86.37 296 *eP* **P 08 06 01.3 -0.1**
comp=Z,86nm,1.2s
TRQA Tornquist 86.62 135 *eP* **P 08 06 02.3 -0.4**
comp=Z,61nm,1.0s
TRQA LR LR
comp=Z,7µm,19.0s
CRZF Crozet Islands 86.83 212 PFAKE 08 06 10.0 +6.6
CRZF LR LR
comp=Z,4µm,18.0s
LCO Las Campanas 87.00 124 *eP* **P 08 06 04.3 -0.6**
comp=Z,107nm,1.4s
LCO LR LR
comp=Z,7µm,20.0s
ATKA Atka Island 87.07 3 *eP* **P 08 06 03.6 -0.4**
comp=Z,176nm,1.0s
SLBS Sierra La Lagu 87.65 59 *eP* **P 08 06 08.7 +1.0**
comp=Z,177nm,1.3s
SLBS LR LR
comp=Z,9µm,22.0s
SMY Shemya 87.72 356 *eP* **P 08 06 07.6 +0.5**
comp=Z,635nm,1.5s
SNCC San Nicolas Is 87.87 46 P **P 08 06 07.7 -0.6**
baz=225
SNCC San Nicolas Is 87.87 46 PFAKE 08 06 20.0 +12
SNCC LR LR
comp=Z,13µm,19.0s
SCI San Clemente I 88.26 47 P **P 08 06 09.0 -1.2**
baz=225
BSC Santa Cruz Isl 88.33 46 P **P 08 06 10.5 -0.1**
baz=225,SNR=5.2
SRIG Santa Rosalia 88.43 55 *eP* **P 08 06 13.6 +2.4**
comp=Z,265nm,1.6s
SRIG LR LR
comp=Z,10µm,22.0s
PAYG Puerto Ayora 88.48 90 PFAKE 08 06 20.0 +8.2
PAYG LR LR
comp=Z,6µm,19.0s
SBC Santa Barbara 88.60 45 P **P 08 06 11.0 -0.8**
baz=225
CIS Catalina Islan 88.63 47 P **P 08 06 11.7 -0.4**
baz=225
PTAM Tassajara Cree 88.70 44 *eP* **P 08 06 13.9 +1.5**
BLG Laguna Peak, P 88.74 46 P **P 08 06 11.5 -1.0**
baz=225
NJ2 Nanjing 88.77 311 *eP* **P 08 06 10.8 -1.9**
PKM Mcpherson Peak 88.86 45 P **P 08 06 12.5 -0.7**
baz=224,SNR=14
FMP Fort Macarthur 88.92 47 P **P 08 06 12.4 -0.9**
baz=225
SMMC Simmler 89.06 44 P **P 08 06 14.5 +0.5**
baz=224,SNR=5.8
109C Camp Elliot, M 89.07 48 P **P 08 06 13.9 -0.2**
baz=226
BAR Barrett 89.19 48 *eP* **P 08 06 17.2 +2.6**
comp=Z,197nm,1.7s
BAR LR LR
comp=Z,10µm,18.0s
PAGB Antelope Grade 89.21 44 *eP* **P 08 06 16.4 +1.7**
comp=Z,327nm,1.6s
PAGB LR LR
comp=Z,8µm,19.0s
PMPB Monarch Peak 89.24 43 *eP* **P 08 06 17.1 +2.3**
comp=Z,269nm,1.5s
PMPB LR LR
comp=Z,8µm,19.0s
SAO San Andreas Ge 89.28 43 *eP* **P 08 06 15.9 +1.0**
SAO pmax pmax
comp=Z,138nm,1.5s
SAO MLR MLR
comp=Z,7µm,20.0s
SAO San Andreas Ge 89.28 43 *eP* **P 08 06 15.9 +1.0**
comp=Z,138nm,1.5s
SAO LR LR
comp=Z,7µm,20.0s
DECC Green Verdugo 89.28 46 P **P 08 06 14.3 -0.8**
baz=225
OSI Osito Audit: C 89.30 46 P **P 08 06 14.3 -0.9**
baz=225
OSI Osito Audit: C 89.30 46 *eP* **P 08 06 16.1 +1.0**
comp=Z,293nm,1.6s
OSI LR LR
comp=Z,9µm,20.0s
PASC Pasadena Art C 89.31 46 *eP* **P 08 06 16.3 +1.1**
comp=Z,121nm,1.4s
PASC LR LR
comp=Z,16µm,19.0s
MWC Mount Wilson 89.42 46 *eP* **P 08 06 16.9 +1.0**
MWC pmax pmax
comp=Z,142nm,1.4s
MWC MLR MLR
comp=Z,15µm,19.0s
MWC Mount Wilson 89.42 46 *eP* **P 08 06 16.9 +1.0**
comp=Z,142nm,1.4s
MWC LR LR
comp=Z,15µm,19.0s
MONP Monument Peak, 89.48 48 P **P 08 06 16.3 0.0**
baz=226,SNR=41
MCCM Marconi Confer 89.50 41 PFAKE 08 06 30.0 +14
MCCM LR LR
comp=Z,11µm,19.0s
MURC Murrieta 89.50 47 P **P 08 06 16.5 +0.3**
baz=226,SNR=28
IKP In-Ko-Pah, Jac 89.51 49 P **P 08 06 16.8 +0.5**
baz=227,SNR=29
ARVC Arvin 89.60 45 P **P 08 06 16.5 0.0**
baz=225,SNR=13
BFSC Mount Baldy Ra 89.67 47 P **P 08 06 16.4 -0.6**
baz=226,SNR=60
SWSC Sam W. Stewart 89.90 49 P **P 08 06 18.0 0.0**
baz=227,SNR=30
EDW2 Edwards Air Fo 89.92 46 P **P 08 06 18.3 +0.2**
baz=226,SNR=65
VES Vestal, Richgr 89.95 45 P **P 08 06 18.1 -0.1**
baz=225,SNR=15
TPFO Pinon Flats 89.95 48 P **P 08 06 19.0 +0.7**
baz=226,SNR=39
PFO Pinyon Flats O 89.95 48 P **P 08 06 18.6 +0.3**
comp=Z,43nm,1.1s,baz=250,slow=2.6,SNR=24
PFO Pinyon Flats O 89.95 48 P **P 08 06 17.9 -0.4**
baz=226,SNR=36
PFO Pinyon Flats O 89.95 48 *eP* **P 08 06 19.4 +1.0**
PFO pmax pmax
comp=Z,163nm,1.4s
PFO MLR MLR
comp=Z,15µm,20.0s
PFO Pinyon Flats O 89.95 48 *eP* **P 08 06 19.4 +1.0**
comp=Z,163nm,1.4s
PFO LR LR
comp=Z,15µm,20.0s
HOPS Hopland Field 90.02 40 PFAKE 08 06 30.0 +12
HOPS LR LR
comp=Z,9µm,19.0s
GDXM Geysers 90.03 40 *eP* **P 08 06 19.8 +1.3**
comp=Z,82nm,1.1s
GDXM LR LR
comp=Z,17µm,19.0s
BBRC Big Bear Solar 90.12 47 P **P 08 06 19.8 +0.5**
baz=226,SNR=5.0
ISA Isabella, Lake 90.18 45 P **P 08 06 19.7 +0.4**
baz=225,SNR=10
ISA Isabella, Lake 90.18 45 PFAKE 08 06 30.0 +11
ISA LR LR
comp=Z,9µm,20.0s

RCTC **Rector, Farmer** 90.19 44 P P 08 06 19.3 +0.1
baz=225,SNR=6.5
PETK **Petropavlovsk-** 90.21 346 P P 08 06 19.7 +0.8
comp=Z,176nm,0.9s,baz=112,slow=4.8,SNR=11
PETK PKiKP PKiKP 08 11 15.1 +0.9
comp=Z,1.8nm,0.5s,baz=98,slow=4.6,SNR=7.2
PETK LR LR 08 42 05.1
comp=Z,2µm,19.1s,baz=187,slow=32
PETK **Petropavlovsk-** 90.21 346 P P 08 06 19.7 +0.8
PETK pmax pmax
comp=Z,164nm,0.9s
PEA1 **Petropavlovsk-** 90.22 346 eP P 08 06 19.7 +0.8
KCPM **Cahto Peak** 90.26 39 eP P 08 06 21.0 +1.4
comp=Z,367nm,1.7s
KCPM LR LR
comp=Z,10µm,19.0s
HSIG 90.40 54 eP P 08 06 20.9 +0.5
comp=Z,133nm,1.2s
HSIG LR LR
comp=Z,10µm,19.0s
BELC **Belle Mtn. Jos** 90.50 48 P P 08 06 21.5 +0.5
baz=227,SNR=85
RRX **Edison Barstow** 90.50 46 P P 08 06 20.7 0.0
baz=226
LRMC **Laurel Mtn Rad** 90.51 46 P P 08 06 21.2 +0.3
baz=226,SNR=72
GLA **Glamis** 90.58 49 P P 08 06 21.9 +0.8
baz=227,SNR=49
GLA **Glamis** 90.58 49 eP P 08 06 22.8 +1.7
comp=Z,359nm,1.6s
GLA LR LR
comp=Z,12µm,19.0s
KMRM **Mail Ridge** 90.59 39 eP P 08 06 22.3 +1.2
comp=Z,84nm,0.9s
KMRM LR LR
comp=Z,12µm,18.0s
CMB **Columbia Colle** 90.77 42 eP P 08 06 22.4 +0.4
CMB pmax pmax
comp=Z,56nm,1.0s
CMB MLR MLR
comp=Z,8µm,20.0s
CMB **Columbia Colle** 90.77 42 eP P 08 06 22.4 +0.4
comp=Z,56nm,1.0s
CMB LR LR
comp=Z,8µm,20.0s
HEC **Hector Ludlow** 90.86 47 P P 08 06 22.9 +0.3
baz=226,SNR=77
JCC **Jacoby Creek,** 90.87 38 PFAKE 08 06 30.0 +7.8
JCC LR LR
comp=Z,8µm,18.0s
GSC **Goldstone, Bar** 90.91 46 P P 08 06 23.4 +0.6
baz=226,SNR=13
GSC **Goldstone, Bar** 90.91 46 eP P 08 06 23.7 +1.0
GSC pmax pmax
comp=Z,183nm,1.5s
GSC MLR MLR
comp=Z,8µm,19.0s
GSC **Goldstone, Bar** 90.91 46 eP P 08 06 23.7 +1.0
comp=Z,183nm,1.5s
GSC LR LR
comp=Z,8µm,19.0s
CWC **Cottonwood Cre** 90.95 45 P P 08 06 23.2 +0.2
baz=226
MPMC **Manual Prospec** 91.03 45 P P 08 06 23.6 +0.2
baz=226,SNR=56
113A **Mohawk Valley,** 91.05 50 eP P 08 06 25.1 +1.8
comp=Z,120nm,1.4s
113A LR LR
comp=Z,14µm,18.0s
KHMM **Horse Mountain** 91.06 39 PFAKE 08 06 40.0 +17
KHMM LR LR
comp=Z,11µm,18.0s
AFDM **Forest Hills D** 91.11 41 eP P 08 06 23.8 +0.3
comp=Z,52nm,1.1s
AFDM LR LR
comp=Z,7µm,20.0s
214A **Organ Pipe Nat** 91.11 51 P P 08 06 23.3 -0.4
baz=228
DAC **Darwin (Calif)** 91.12 45 PFAKE 08 06 40.0 +16
DAC LR LR
comp=Z,10µm,19.0s
IRM **Iron Mountain** 91.13 48 P P 08 06 24.1 +0.4
baz=227,SNR=158
Y12C **Blythe** 91.23 49 P P 08 06 24.9 +0.8
baz=229,SNR=40
Y12C **Blythe** 91.23 49 eP P 08 06 25.6 +1.4
comp=Z,233nm,1.6s
Y12C LR LR
comp=Z,11µm,19.0s
GMRC **Granite Mounta** 91.24 47 P P 08 06 24.8 +0.5
baz=227,SNR=55
ORV **Oroville** 91.26 41 eP P 08 06 24.7 +0.6
ORV pmax pmax
comp=Z,132nm,1.8s
ORV MLR MLR
comp=Z,7µm,19.0s
ORV **Oroville** 91.26 41 eP P 08 06 24.7 +0.6
comp=Z,132nm,1.8s
ORV LR LR
comp=Z,7µm,19.0s
TIN **Tinemaha, Big** 91.29 44 P P 08 06 25.1 +0.6
baz=225
MLAC **Mammoth, Mammo** 91.35 43 P P 08 06 25.3 +0.4
baz=225,SNR=8.4
KRMB **Red Mountain** 91.45 38 eP P 08 06 27.0 +1.8
comp=Z,123nm,1.4s
KRMB LR LR
comp=Z,10µm,18.0s
WDC **Whiskeytown Da** 91.46 39 eP P 08 06 25.5 +0.5
WDC pmax pmax
comp=Z,120nm,1.4s
WDC MLR MLR
comp=Z,6µm,20.0s
WDC **Whiskeytown Da** 91.46 39 eP P 08 06 25.5 +0.5
comp=Z,120nm,1.4s
WDC LR LR
comp=Z,6µm,20.0s
TUQ **Turquoise Moun** 91.52 47 P P 08 06 25.9 +0.3
baz=227,SNR=56
PB04 **IPOC Station P** 91.57 119 eP P 08 06 26.3 -0.1
comp=Z,96nm,1.0s
PB04 LR LR
comp=Z,7µm,19.0s
SHOC **Shoshone, Teco** 91.63 46 P P 08 06 26.1 +0.1
baz=227,SNR=63
WAKR **Walker** 91.63 43 eP P 08 06 26.7 +0.6
comp=Z,85nm,1.3s
WAKR LR LR
comp=Z,8µm,21.0s
N02D **Trinity Center** 91.66 39 P P 08 06 26.7 +0.7
baz=223,SNR=32
FURC **Furnace Creek,** 91.68 45 P P 08 06 26.9 +0.8
baz=226,SNR=6.2
GRAC **Grapevine Rang** 91.75 45 P P 08 06 26.9 +0.4
baz=226,SNR=21
LDFC **Landfair** 91.77 47 eP P 08 06 28.6 +1.9
comp=Z,337nm,1.3s
LDFC LR LR
comp=Z,8µm,19.0s
KBO **Bosley Butte** 91.80 37 PFAKE 08 06 40.0 +13
KBO LR LR
comp=Z,7µm,19.0s
PDMCI **Parker Dam,Lak** 91.84 49 P P 08 06 27.6 +0.7
baz=228,SNR=13
NEE2 **Needles Airpor** 91.86 48 P P 08 06 27.9 +0.8
baz=227,SNR=7.5
TVH3 **East Aurora ar** 91.87 43 eP P 08 06 27.8 +0.5
comp=Z,101nm,1.8s
TVH3 LR LR
comp=Z,5µm,20.0s
M02C **Callahan** 91.89 39 P P 08 06 27.4 +0.3
baz=223,SNR=27
TVH2 **Borealis Mine** 91.92 43 eP P 08 06 28.4 +0.9
comp=Z,18nm,0.9s
TVH2 LR LR
comp=Z,5µm,21.0s
DL2 **Dalian** 91.93 318 eP P 08 06 15.6 -12
DL2 **Dalian** 91.93 318 eS S 08 17 15.5 -10
DL2 pmax pmax
comp=Z,5µm,5.3s
DL2 LR LR
comp=N,3µm,17.7s
DL2 LR LR
comp=E,6µm,15.3s
DL2 LR LR
comp=Z,6µm,14.7s
PNTR **Pine Nut** 91.96 42 eP P 08 06 28.4 +0.7
comp=Z,55nm,0.9s
PNTR LR LR
comp=Z,8µm,21.0s
TVH1 **TV Hill, Hawth** 91.97 43 eP P 08 06 28.6 +0.7
comp=Z,86nm,1.6s
TVH1 LR LR
comp=Z,8µm,21.0s
L02D **Cave Junction,** 92.07 38 P P 08 06 29.0 +1.1
baz=222,SNR=9.0
YERR **Yerington** 92.08 42 eP P 08 06 28.3 +0.1
comp=Z,40nm,1.0s
YERR LR LR
comp=Z,7µm,21.0s
SLVN **Son La** 92.17 295 eP P 08 06 28.7 -0.2
comp=Z,75nm,1.0s
YBH **Yreka Blue Hor** 92.21 38 eP P
YBH pmax pmax
comp=Z,35nm,1.1s
YBH **Yreka Blue Hor** 92.21 38 eP P 08 06 28.6 0.0
comp=Z,35nm,1.1s
KEBM **Edson Butte** 92.24 37 eP P 08 06 28.7 0.0
comp=Z,184nm,1.1s
KEBM LR LR
comp=Z,7µm,18.0s
LVC **Limon Verde** 92.28 120 PFAKE 08 06 40.0 +10
LVC LR LR
comp=Z,8µm,18.0s
Y14A **Wickenburg** 92.30 49 eP P 08 06 29.9 +0.8
comp=Z,249nm,1.0s
Y14A LR LR
comp=Z,38µm,19.0s
TLIG **Tlapa** 92.32 70 PFAKE 08 06 40.0 +10
TLIG LR LR
comp=Z,7µm,20.0s
TPNV **Topopah Spring** 92.36 45 P P 08 06 29.8 +0.3
baz=227,SNR=36
TPNV **Topopah Spring** 92.36 45 eP P 08 06 30.8 +1.2
TPNV pmax pmax
comp=Z,72nm,1.4s
TPNV MLR MLR
comp=Z,7µm,18.0s
TPNV **Topopah Spring** 92.36 45 eP P 08 06 30.8 +1.2
comp=Z,72nm,1.4s
TPNV LR LR
comp=Z,7µm,18.0s
ZAIG **Zacatecas** 92.39 64 eP P 08 06 31.5 +1.4
comp=Z,57nm,1.4s
ZAIG LR LR
comp=Z,11µm,22.0s
PAHR **Pah Rah Range** 92.51 42 eP P 08 06 30.4 +0.2
comp=Z,57nm,1.3s
PAHR LR LR
comp=Z,7µm,18.0s
W13A **Hualapai Mount** 92.53 48 eP P 08 06 31.6 +1.3
comp=Z,79nm,1.4s
W13A LR LR
comp=Z,6µm,20.0s
LGMM **Garner Mountai** 92.56 39 eP P 08 06 31.2 +0.9
TUC **Tucson** 92.64 52 P P 08 06 30.0 -0.8
baz=229
TUC **Tucson** 92.64 52 eP P 08 06 32.2 +1.4
TUC pmax pmax
comp=Z,120nm,1.4s
TUC MLR MLR
comp=Z,9µm,20.0s
TUC **Tucson** 92.64 52 eP P 08 06 32.2 +1.4
comp=Z,120nm,1.4s
TUC LR LR
comp=Z,9µm,20.0s
M04C **Macdoel** 92.69 39 P P 08 06 30.7 -0.2
baz=223,SNR=28
HPIG 92.70 59 eP P 08 06 31.6 +0.2
comp=Z,27nm,1.0s
HPIG LR LR
comp=Z,14µm,20.0s
SHPR **Sheep Range** 92.70 46 eP P 08 06 32.3 +1.2
comp=Z,58nm,1.5s
SHPR LR LR
comp=Z,8µm,18.0s
HUMO **Hull Mountain** 92.73 38 eP P 08 06 32.1 +1.2
comp=Z,98nm,1.4s
JRQG **Juriquilla Cam** 92.74 67 eP P 08 06 32.4 +0.7
comp=Z,133nm,1.5s
JRQG LR LR
comp=Z,12µm,21.0s
NNA **Nana** 92.82 107 eP P 08 06 31.8 -0.3
NNA pmax pmax
comp=Z,33nm,0.9s
NNA MLR MLR
comp=Z,11µm,19.0s
NNA **Nana** 92.82 107 eP P 08 06 31.8 -0.3
comp=Z,32nm,0.9s
NNA LR LR
comp=Z,11µm,19.0s
PB01 **IPOC Station P** 92.86 118 eP P 08 06 32.1 -0.2
comp=Z,69nm,0.9s
PB01 LR LR
comp=Z,5µm,20.0s
UNM **Universidad Na** 92.89 68 PFAKE 08 06 40.0 +7.5
UNM LR LR
comp=Z,7µm,20.0s
319A **Douglas** 93.02 53 eP P 08 06 34.2 +1.5
comp=Z,92nm,1.4s
319A LR LR
comp=Z,12µm,20.0s
GYA **Guiyang** 93.26 300 P P 08 06 32.0 -1.9
GYA PP PP 08 10 20.8 +2.5
GYA SKS SKSac 08 17 05.4 +0.5
GYA SS SS 08 24 05.0 +10
GYA pmax pmax
comp=Z,40nm,1.0s
GYA pmax pmax
comp=Z,180nm,7.2s
GYA LR LR
comp=Z,2µm,19.6s
GYA LR LR
comp=Z,1µm,20.2s
GYA LR LR
comp=Z,2µm,18.6s
I03D **Drain, OR** 93.33 37 P P 08 06 32.9 -0.7
baz=222,SNR=12
K04D **Chiloquin, OR** 93.35 38 P P 08 06 32.8 -1.1
baz=224,SNR=7.3
CN2 **Changchun** 93.47 323 eP P 08 06 32.6 -1.6
CN2 pmax pmax
comp=Z,20nm,1.2s
PB11 **IPOC Station P** 93.54 117 eP P 08 06 35.2 -0.3
comp=Z,108nm,0.9s
PB11 LR LR
comp=Z,4µm,19.0s
MOD **Modoc Plateau** 93.58 40 eP P 08 06 35.0 0.0
comp=Z,48nm,1.1s
MOD LR LR
comp=Z,9µm,18.0s
X16A **Lo Mia Camp, P** 93.59 50 eP P 08 06 36.1 +0.8
comp=Z,49nm,1.0s
X16A LR LR
comp=Z,8µm,18.0s
J04D **Umpqua Nationa** 93.62 38 P P 08 06 34.5 -0.7
baz=223,SNR=20
R11A **Troy Canyon, C** 93.70 45 P P 08 06 34.3 -1.4
baz=227
R11A **Troy Canyon, C** 93.70 45 PFAKE 08 06 50.0 +14
R11A LR LR
comp=Z,8µm,18.0s
K05A **Summer Lake** 93.86 39 eP P 08 06 36.3 0.0
comp=Z,84nm,1.0s
K05A LR LR
comp=Z,8µm,18.0s
I04A **Tendick Farm,** 93.87 37 P P 08 06 35.3 -0.8
baz=223,SNR=25
COR **Corvallis** 94.01 36 eP P 08 06 37.7 +1.0
COR pmax pmax
comp=Z,136nm,1.5s
COR MLR MLR
comp=Z,10µm,19.0s
COR **Corvallis** 94.01 36 eP P 08 06 37.7 +1.0
comp=Z,136nm,1.5s
COR LR LR
comp=Z,10µm,19.0s
J05D **Fort Rock, OR** 94.09 38 P P 08 06 36.2 -1.1
baz=224,SNR=39
IRO **Indian Ridge** 94.10 37 eP P 08 06 37.3 -0.1
LCMT **Little Creek M** 94.19 47 eP P 08 06 38.6 +0.7
comp=Z,43nm,1.5s
LCMT LR LR
comp=Z,7µm,19.0s
BMN **Battle Mountai** 94.20 42 eP P 08 06 38.1 +0.2
BMN pmax pmax
comp=Z,42nm,1.3s
BMN MLR MLR
comp=Z,6µm,19.0s
BMN **Battle Mountai** 94.20 42 eP P 08 06 38.1 +0.2
comp=Z,42nm,1.3s
BMN LR LR
comp=Z,6µm,19.0s
CMAR **Chiang Mai Arr** 94.26 289 P P 08 06 37.5 -1.0
comp=Z,2.9nm,0.3s,baz=145,slow=3.5,SNR=13
CMAR PP PP 08 10 27.4 +1.4
comp=Z,13nm,1.0s,baz=134,slow=5.4,SNR=5.4
CMAR PKKPbc PKKPbc 08 23 40.0 +1.8
comp=Z,1.2nm,0.3s,baz=294,slow=5.1,SNR=4.8
WUAZ **Wupatki** 94.34 49 P P 08 06 37.5 -1.2
baz=229
WUAZ **Wupatki** 94.34 49 eP P 08 06 40.1 +1.4
comp=Z,51nm,1.2s
WUAZ LR LR
comp=Z,8µm,19.0s
U15A **North Rim** 94.38 48 eP P 08 06 40.0 +1.1
comp=Z,68nm,1.4s
U15A LR LR
comp=Z,6µm,19.0s
KNB **Kanab** 94.44 47 eP P 08 06 40.4 +1.3
KNB pmax pmax
comp=Z,80nm,1.5s
KNB **Kanab** 94.44 47 eP P 08 06 40.4 +1.3
comp=Z,80nm,1.5s
CHTO **Chiang Mai** 94.46 290 P P 08 06 42.6 +3.2
comp=Z,110nm,1.1s,comp=Z,19µm
CHTO **Chiang Mai** 94.46 290 eP P 08 06 39.0 -0.4
CHTO pmax pmax
comp=Z,466nm,1.6s
CHTO **Chiang Mai** 94.46 290 eP P 08 06 39.0 -0.4
comp=Z,466nm,1.6s
CCUT **Cedar City** 94.47 47 eP P 08 06 39.6 +0.3
comp=Z,73nm,1.8s
G03D **McMinnville, O** 94.49 36 P P 08 06 40.3 +1.4
baz=223,SNR=7.9
X18A **Snowflake** 94.60 51 eP P 08 06 41.3 +1.4
comp=Z,82nm,1.6s
X18A LR LR
comp=Z,7µm,19.0s
SZCU **Shurtz Canyon** 94.66 47 PFAKE 08 06 50.0 +10
SZCU LR LR
comp=Z,10µm,20.0s
121A **Cookes Peak, D** 94.73 53 P P 08 06 41.9 +1.3
baz=231
I05D **Terrebonne, OR** 94.79 37 P P 08 06 40.6 +0.2
baz=224,SNR=31
WVOR **Wild Horse Val** 94.83 40 eP P 08 06 40.8 +0.1
WVOR pmax pmax
comp=Z,87nm,1.5s
WVOR MLR MLR
comp=Z,10µm,18.0s
WVOR **Wild Horse Val** 94.83 40 eP P 08 06 40.8 +0.1
comp=Z,87nm,1.5s
WVOR LR LR
comp=Z,10µm,18.0s
PSUT **Pine Spring** 94.83 46 PFAKE 08 06 50.0 +9.1
PSUT LR LR
comp=Z,6µm,18.0s
PKCU **Pink Cliffs** 95.03 47 eP P 08 06 45.0 +3.0
W18A **Petrified Fore** 95.11 50 P P 08 06 43.1 +0.8
baz=230
W18A **Petrified Fore** 95.11 50 PFAKE 08 06 50.0 +7.7
W18A LR LR
comp=Z,7µm,19.0s
LVIG **Laguna Verde** 95.23 70 PFAKE 08 06 50.0 +7.1
LVIG LR LR
comp=Z,6µm,19.0s
KMI **Kunming** 95.28 297 P P 08 06 44.0 +0.7
KMI pmax pmax
comp=Z,18nm,1.5s
KMI LR LR
comp=Z,3µm,17.3s
E03A **Lebam** 95.33 35 eP P 08 06 43.4 +0.8
comp=Z,100nm,1.4s
F04A **Amboy** 95.42 36 eP P 08 06 43.4 +0.3
comp=Z,90nm,1.4s
G05D **Wamic, OR** 95.46 37 P P 08 06 43.3 -0.1
baz=224
MTPU **Mount Pierson** 95.50 47 eP P 08 06 46.0 +1.9
comp=Z,98nm,1.7s
MTPU LR LR
comp=Z,7µm,22.0s
TX31 **Lajitas Ar. Si** 95.56 58 eP P 08 06 44.2 -0.1
LTX **Lajitas** 95.56 58 eP P 08 06 43.9 -0.4
TXAR **Lajitas Array** 95.56 58 P P 08 06 43.9 -0.4
comp=Z,7.9nm,0.9s,baz=208,slow=7.1,SNR=26
TXAR PKKPbc PKKPdf 08 23 43.5 +7.4
comp=Z,1.1nm,0.9s,baz=73,slow=5.5,SNR=4.7
FL2 **Flat Top 2** 95.64 36 eP P 08 06 44.7 +0.4
TCRU **Three Creeks R** 95.71 46 PFAKE 08 07 00.0 +15
TCRU LR LR
comp=Z,7µm,19.0s
G06A **Carlson Farm,** 95.79 37 eP P 08 06 45.3 +0.4
comp=Z,90nm,1.4s
MSU **Marysvale** 95.81 46 eP P 08 06 46.8 +1.4
MSU **Marysvale** 95.81 46 eP P 08 06 46.8 +1.4
TUIG **Tuzandepetl** 95.81 72 PFAKE 08 07 00.0 +14
TUIG LR LR
comp=Z,12µm,19.0s
NLWA **Neilton Lookou** 95.81 34 eP P 08 06 45.5 +0.6
comp=Z,19nm,1.0s
MNTX **Cornudas Mount** 95.82 55 P P 08 06 45.0 -0.3
baz=232
MNTX **Cornudas Mount** 95.82 55 eP P 08 06 45.8 +0.5
comp=Z,25nm,1.3s
MNTX LR LR
comp=Z,8µm,18.0s
LNIG **Linares** 95.93 64 eP P 08 06 45.8 -0.2
comp=Z,36nm,1.4s
LNIG LR LR
comp=Z,8µm,20.0s
Y22D **IRIS PASSCAL I** 96.26 53 PFAKE 08 07 00.0 +13
Y22D LR LR
comp=Z,10µm,18.0s
LON **Longmire** 96.30 36 eP P 08 06 48.2 +1.0
LON pmax pmax
comp=Z,70nm,2.0s
LON **Longmire** 96.30 36 eP P 08 06 48.2 +1.0
comp=Z,70nm,2.0s
D05A **Enumclaw** 96.54 35 eP P 08 06 49.2 +1.0
comp=Z,64nm,1.1s
DUG **Dugway, Tooele** 96.54 45 P P 08 06 47.2 -1.3
baz=229
DUG **Dugway, Tooele** 96.54 45 eP P 08 06 50.7 +2.1
DUG pmax pmax
comp=Z,13nm,1.5s
DUG MLR MLR
comp=Z,6µm,18.0s
DUG **Dugway, Tooele** 96.54 45 eP P 08 06 50.7 +2.1
comp=Z,12nm,1.5s
DUG LR LR
comp=Z,6µm,18.0s
CCIG **Comitan** 96.61 75 PFAKE 08 07 00.0 +11
CCIG LR LR
comp=Z,10µm,21.0s
NLU **North Lily Min** 96.81 45 eP P 08 06 48.9 -1.0
comp=Z,36nm,1.9s
NLU LR LR
comp=Z,14µm,18.0s
LPAZ **La Paz** 96.85 115 P P 08 06 50.7 -0.6
comp=Z,13nm,0.8s,baz=244,slow=6.6,SNR=21
LPAZ **La Paz** 96.85 115 eP P 08 06 50.2 -1.0
LPAZ pmax pmax
comp=Z,20nm,0.9s
LPAZ **La Paz** 96.85 115 eP P 08 06 50.2 -1.0
comp=Z,20nm,0.9s
BGU **Big Grassy Mou** 96.89 44 PFAKE 08 07 00.0 +10
BGU LR LR
comp=Z,7µm,18.0s
TMUT **Trail Mountain** 96.89 46 eP P 08 06 51.1 +0.7
comp=Z,23nm,1.3s
TMUT LR LR
comp=Z,6µm,19.0s
PGC **Sidney** 96.93 33 eP P 08 06 50.8 +0.9
comp=Z,26nm,1.0s
WMUT **West Mountain** 97.03 45 eP P 08 06 50.4 -0.5
HTW **Haystack Looko** 97.08 35 eP Pdif 08 06 51.9 +1.1
ANMO **Albuquerque** 97.10 52 P P 08 06 51.2 -0.1
comp=Z,7.2nm,1.1s,baz=209,slow=4.7,SNR=16
ANMO **Albuquerque** 97.10 52 P P 08 06 51.0 -0.4
baz=232
ANMO **Albuquerque** 97.10 52 eP Pdif 08 06 51.8 +0.4

comp=Z,23nm,1.4s
ANMO LR LR
comp=Z,6µm,20.0s
MPU Maple Canyon 97.11 46 *e*P Pdif 08 06 54.1 +2.8
comp=Z,19nm,1.5s
MPU LR LR
comp=Z,12µm,18.0s
HAWA Hanford 97.15 37 *e*P Pdif 08 06 52.2 +1.1
comp=Z,22nm,1.0s
SRU San Rafael Swe 97.18 47 PFAKE 08 07 00.0 +8.4
SRU LR LR
comp=Z,6µm,19.0s
BMO Blue Mountains 97.20 39 *e*P **P 08 06 51.1 -0.3**
BMO pmax pmax
comp=Z,24nm,1.3s
BMO MLR MLR
comp=Z,9µm,19.0s
BMO Blue Mountains 97.20 39 *e*P **P 08 06 51.1 -0.3**
comp=Z,24nm,1.3s
BMO LR LR
comp=Z,9µm,19.0s
MVCO Mesa Verde 97.21 49 P Pdif 08 06 52.8 +0.9
baz=231
MVCO Mesa Verde 97.21 49 *e*P Pdif 08 06 54.5 +2.6
comp=Z,19nm,1.5s
MVCO LR LR
comp=Z,8µm,19.0s
LTY Liberty 97.21 36 *e*P **P 08 06 51.4 0.0**
comp=Z,15nm,1.0s
B05A Bryant 97.26 34 P Pdif 08 06 52.8 +1.3
baz=224
A04D Lummi Island 97.31 34 P Pdif 08 06 53.3 +1.6
baz=223
PV05 Paradox Valley 97.39 48 *e*P Pdif 08 06 55.8 +3.2
SPUT South Promonto 97.47 44 PFAKE 08 07 00.0 +7.1
SPUT LR LR
comp=Z,8µm,19.0s
832A Faith Ranch, C 97.54 61 P **P 08 06 53.2 0.0**
baz=234
JLU Jordanelle 97.59 45 *e*P Pdif 08 06 54.5 +1.0
comp=Z,18nm,1.6s
JLU LR LR
comp=Z,8µm,18.0s
HVU Hansel Valley 97.60 44 *e*P Pdif 08 06 53.7 +0.3
HVU pmax pmax
comp=Z,36nm,1.6s
HVU MLR MLR
comp=Z,7µm,18.0s
HVU Hansel Valley 97.60 44 *e*P Pdif 08 06 53.7 +0.3
comp=Z,36nm,1.6s
HVU LR LR
comp=Z,7µm,18.0s
CPUP Villa Florida 97.60 130 P **P 08 06 52.8 -0.9**
comp=Z,17nm,0.9s,baz=250,slow=4.5,SNR=19
CPUP PKKPbc **PKKPbc 08 23 29.4 +0.7**
comp=Z,1.9nm,0.6s,baz=24,slow=2.7,SNR=5.6
CPUP LR LR 08 47 04.4
comp=Z,7µm,18.1s,baz=246,slow=33
BBB Bella Bella 97.61 29 P Pdif 08 06 53.8 +0.9
comp=Z,11nm,0.9s,baz=239,slow=4.3,SNR=4.3
BBB Bella Bella 97.61 29 *e*P Pdif 08 06 53.8 +0.9
comp=Z,252nm,2.0s
PV09 Paradox Valley 97.63 48 *e*P Pdif 08 06 56.3 +2.5
933A Laredo 97.65 62 P Pdif 08 06 54.3 +0.5
baz=234,SNR=13
P18A Preston Nutter 97.67 47 *e*P Pdif 08 06 55.4 +1.4
comp=Z,10nm,1.1s
P18A LR LR
comp=Z,6µm,20.0s
PV01 Paradox Valley 97.75 49 *e*P **P 08 06 54.2 0.0**
034A Hebbronville 97.76 62 P Pdif 08 06 55.9 +1.6
baz=234
HLID Hailey 97.86 41 P Pdif 08 06 54.8 +0.3
baz=228
HLID Hailey 97.86 41 *e*P Pdif 08 06 55.1 +0.5
comp=Z,20nm,1.4s
HLID LR LR
comp=Z,6µm,19.0s
D08A Wollman Farm, 97.92 37 *e*P Pdif 08 06 55.0 +0.5
comp=Z,19nm,1.0s
D08A LR LR
comp=Z,10µm,18.0s
E09A Wood Farm, Sta 97.92 37 *e*P Pdif 08 06 57.6 +3.1
comp=Z,37nm,1.4s
833A Chaparral WMA, 97.98 61 P Pdif 08 06 55.7 +0.5
baz=234
F10A Beach Ranch, E 98.01 38 *e*P **P 08 06 54.6 -0.4**
comp=Z,79nm,1.8s
HWUT Hardware Ranch 98.17 44 *e*P Pdif 08 06 57.0 +1.0
comp=Z,17nm,1.5s
HWUT LR LR
comp=Z,8µm,18.0s
934A Benavides 98.19 62 P Pdif 08 06 57.4 +1.2
baz=234
834A Tilden 98.47 62 P **P 08 06 57.7 +0.3**
baz=234,SNR=5.9
S22A 4UR Ranch, Cre 98.58 50 P Pdif 08 06 59.5 +1.4
baz=232,SNR=10
S22A 4UR Ranch, Cre 98.58 50 PFAKE 08 07 10.0 +12
S22A LR LR
comp=Z,7µm,18.0s
KVTX Kingsville 98.61 62 PFAKE 08 07 10.0 +12
KVTX LR LR
comp=Z,11µm,18.0s
B08A Colville Reser 98.63 36 *e*P Pdif 08 06 59.5 +1.8
comp=Z,5.7nm,0.9s
OTAV Otavalo 98.68 96 PFAKE 08 07 10.0 +11
OTAV LR LR
comp=Z,2µm,21.0s
633A Saathoff Ranch 98.79 60 P **P 08 06 58.9 +0.1**
baz=234
SCIG Sabancuy 98.87 73 PFAKE 08 07 10.0 +11
SCIG LR LR
comp=Z,6µm,20.0s
734A La Parita Cree 98.88 61 P **P 08 06 58.6 -0.6**
baz=235
JCT Junction City 98.94 59 P **P 08 06 59.4 0.0**
baz=234
JCT Junction City 98.94 59 *e*P Pdif 08 07 00.2 +0.7
JCT pmax pmax
comp=Z,25nm,1.6s
JCT MLR MLR
comp=Z,10µm,19.0s
JCT Junction City 98.94 59 *e*P Pdif 08 07 00.2 +0.7
comp=Z,25nm,1.6s
JCT LR LR
comp=Z,10µm,19.0s
MSTX Muleshoe 98.94 55 P **P 08 06 58.7 -0.8**
baz=233
MSTX Muleshoe 98.94 55 *e*P Pdif 08 07 00.3 +0.8
comp=Z,71nm,2.0s
MSTX LR LR
comp=Z,7µm,18.0s
HHC Hu-ho-hao-te 98.97 314 *e*P **P 08 06 56.3 -3.2**
JTS JuntasAbangare 99.04 84 LR LR 08 44 26.9
comp=Z,5µm,18.1s,baz=292,slow=31
LLLB Lillooet 99.05 33 *e*P **Pdif 08 07 00.8 +1.3**
comp=Z,58nm,1.8s
O20A White River Ci 99.19 47 PFAKE 08 07 10.0 +9.4
O20A LR LR
comp=Z,5µm,18.0s
TGUH Tegucigalpa,Un 99.25 79 PFAKE 08 07 10.0 +8.9
TGUH LR LR
comp=Z,4µm,18.0s
TUMC Tumaco 99.37 94 PFAKE 08 07 10.0 +8.2
TUMC LR LR
comp=Z,3µm,20.0s
SMCO Snowmass 99.37 48 *e*P **Pdif 08 07 04.5 +2.9**
comp=Z,9.5nm,1.1s
SMCO LR LR
comp=Z,10µm,20.0s
SDCO Great Sand Dun 99.42 50 P **Pdif 08 07 00.3 -1.5**
baz=233,SNR=6.5
SDCO Great Sand Dun 99.42 50 *e*P **Pdif 08 07 03.6 +1.8**
comp=Z,10nm,1.5s
SDCO LR LR
comp=Z,6µm,19.0s
MCMT McKenzie Canyo 99.54 41 *e*P **Pdif 08 07 01.6 -0.5**
HDC Heredia 99.56 85 PFAKE 08 07 10.0 +7.2
HDC LR LR
comp=Z,7µm,19.0s
433A Art 99.59 59 P **Pdif 08 07 01.4 -1.0**
baz=235,SNR=11
534A Blanco 99.61 60 P **Pdif 08 07 02.8 +0.3**
baz=235,SNR=6.6
NEW Newport 99.63 37 P **Pdif 08 07 01.3 -0.8**
comp=Z,1.9nm,0.9s,baz=90,slow=20,SNR=3.0
NEW PP **PP 08 11 05.1 -1.9**
comp=Z,4.5nm,1.2s,baz=233,slow=5.1,SNR=6.1
NEW Newport 99.63 37 PFAKE 08 07 10.0 +7.9
NEW LR LR
comp=Z,8µm,18.0s
REDW Red Top Meadow 99.70 43 *e*Pdif **Pdif 08 07 03.3 +0.5**
comp=Z,16nm,1.3s
REDW LR LR
comp=Z,7µm,18.0s
TPAW Teton Pass 99.73 43 PFAKE 08 07 20.0 +17
TPAW LR LR
comp=Z,5µm,18.0s
T25A Trinidad 99.75 51 P **Pdif 08 07 03.7 +0.6**
baz=233,SNR=6.9
T25A Trinidad 99.75 51 PFAKE 08 07 20.0 +17
T25A LR LR
comp=Z,5µm,20.0s
635A Leesville 99.75 61 P **Pdif 08 07 04.0 +0.9**
baz=235
SNOW Snow King Moun 99.82 43 PFAKE 08 07 20.0 +17
SNOW LR LR
comp=Z,5µm,18.0s
IMW Indian Meadow 99.99 43 PFAKE 08 07 20.0 +16
IMW LR LR
comp=Z,5µm,18.0s
333A Richland Sprin 100.00 59 P **Pdif 08 07 01.9 -2.2**
baz=235,SNR=6.0
LOHW Long Hollow 100.00 43 PFAKE 08 07 20.0 +16
LOHW LR LR
comp=Z,4µm,20.0s
MOOW Moose Ponds 100.01 43 PFAKE 08 07 20.0 +16
MOOW LR LR
comp=Z,6µm,19.0s
736A Circle Diamond 100.01 62 P **Pdif 08 07 04.0 -0.2**
baz=235
DLMT Dillon 100.03 41 *e*Pdif **Pdif 08 07 04.8 +0.7**
DLMT LR LR
comp=Z,4µm,20.0s
BW06 Boulder Array 100.06 44 P **Pdif 08 07 04.0 -0.4**
baz=231
BW06 Boulder Array 100.06 44 *e*Pdif **Pdif 08 07 06.6 +2.2**
BW06 LR LR
comp=Z,5µm,18.0s
PD31 Pinedale Array 100.06 44 *e*Pdif **Pdif 08 07 06.6 +2.2**
PDAR Pinedale Array 100.06 44 P **Pdif 08 07 04.2 -0.2**
comp=Z,1.9nm,0.9s,baz=201,slow=2.5,SNR=13
PDAR PP **PP 08 11 08.4 -2.2**
comp=Z,7.3nm,1.2s,baz=224,slow=5.0,SNR=6.4
PDAR PKKPbc **PKKPbc 08 23 23.8 +0.4**
comp=Z,1.2nm,0.8s,baz=91,slow=5.8,SNR=7.0
AMTX Amarillo 100.20 55 PFAKE 08 07 20.0 +15
AMTX LR LR
comp=Z,6µm,19.0s
434A Burnet 100.21 60 P **Pdif 08 07 04.2 -0.9**
baz=235
FLWY Flagg Ranch 100.25 43 PFAKE 08 07 20.0 +15
FLWY LR LR
comp=Z,6µm,18.0s
MSO Missoula 100.27 39 PFAKE 08 07 20.0 +15
MSO LR LR
comp=Z,9µm,20.0s
ABTX Abilene, Hawle 100.28 57 PFAKE 08 07 20.0 +15
ABTX LR LR
comp=Z,10µm,19.0s
YPP Pitchstone Pla 100.31 43 PFAKE 08 07 20.0 +14
YPP LR LR
comp=Z,6µm,19.0s
Q24A Divide 100.37 50 PFAKE 08 07 20.0 +14
Q24A LR LR
comp=Z,8µm,19.0s
YHB Horse Butte 100.39 42 PFAKE 08 07 20.0 +14
YHB LR LR
comp=Z,8µm,18.0s
YFT Old Faithful 100.40 42 PFAKE 08 07 20.0 +14
YFT LR LR
comp=Z,17µm,19.0s
YMR Madison River 100.47 42 PFAKE 08 07 20.0 +14
YMR LR LR
comp=Z,6µm,20.0s
H17A Grant Village 100.51 43 PFAKE 08 07 20.0 +14
H17A LR LR
comp=Z,7µm,19.0s
ISCO Idaho Springs 100.58 49 P **Pdif 08 07 06.6 -0.3**
baz=233
ISCO Idaho Springs 100.58 49 PFAKE 08 07 20.0 +13
ISCO LR LR
comp=Z,9µm,18.0s
YHH Holmes Hill 100.61 42 *e*Pdif **Pdif 08 07 08.1 +1.2**
YHH LR LR
comp=Z,7µm,18.0s
YNR Norris Junctio 100.66 42 PFAKE 08 07 20.0 +13
YNR LR LR
comp=Z,7µm,18.0s
BOZ Bozeman (W) 100.70 41 P **Pdif 08 07 08.0 +0.9**
baz=230
BOZ Bozeman (W) 100.70 41 PFAKE 08 07 20.0 +13
BOZ LR LR
comp=Z,6µm,19.0s
LKWY Lake 100.72 43 PFAKE 08 07 20.0 +13
LKWY LR LR
comp=Z,8µm,18.0s
DGAR Diego Garcia 100.75 253 PFAKE 08 07 20.0 +12
DGAR LR LR
comp=Z,10µm,19.0s
LZH Lanzhou 100.93 306 *e*P **Pdif 08 07 07.3 -1.1**
LZH pP pPdif 08 07 10.5 -11
LZH sP pP 08 07 13.5 -7.8
LZH SKS **SKSac 08 17 45.3 +1.1**
LZH *e*S **Sdif 08 18 43.1 -0.4**
LZH SS SS 08 25 55.1 +12
234A Clairette 100.97 59 P **Pdif 08 07 09.1 +0.6**
baz=235
N23A Red Feather La 101.04 48 PFAKE 08 07 20.0 +11
N23A LR LR
comp=Z,5µm,19.0s
WHTX Lake Whitney, 101.44 59 P **Pdif 08 07 11.6 +1.0**
baz=236
WHTX Lake Whitney, 101.44 59 PFAKE 08 07 20.0 +9.5
WHTX LR LR
comp=Z,10µm,18.0s
PHWY Pilot Hill 101.58 47 PFAKE 08 07 20.0 +8.7
PHWY LR LR
comp=Z,4µm,18.0s
RLMT Red Lodge 101.69 43 PFAKE 08 07 20.0 +8.4
RLMT LR LR
comp=Z,5µm,20.0s
K22A Casper 101.75 46 P **Pdif 08 07 14.0 +2.1**
baz=233
K22A Casper 101.75 46 PFAKE 08 07 20.0 +8.1
K22A LR LR
comp=Z,8µm,19.0s
DLBC Dease Lake 101.76 24 PKKPbc PKKPbc 08 23 20.6 +1.8
comp=Z,2.1nm,0.7s,baz=72,slow=3.2,SNR=5.9
TEIG Tepich 101.84 74 PFAKE 08 07 20.0 +7.4
TEIG LR LR
comp=Z,4µm,19.0s
KSCO Kaye Shedlock' 101.98 51 PFAKE 08 07 30.0 +17
KSCO LR LR
comp=Z,7µm,19.0s
WMOK Wichita Mounta 102.07 56 PFAKE 08 07 30.0 +17
WMOK LR LR
comp=Z,11µm,18.0s
136A Ennis 102.37 59 P **Pdif 08 07 16.9 +2.3**
baz=236
CCB Clear Creek Bu 102.41 13 *e*Pdif **Pdif 08 07 15.7 +1.7**
ILAR Eielson Array 102.70 13 P **Pdif 08 07 15.4 +0.1**
comp=Z,2.2nm,1.0s,baz=213,slow=5.5,SNR=14
ILAR PKKPbc **PKKPbc 08 23 16.8 +0.6**
comp=Z,1.5nm,0.8s,baz=26,slow=1.7,SNR=6.3
NATX Nacogdoches 103.30 61 PFAKE 08 07 30.0 +11
NATX LR LR
comp=Z,6µm,18.0s
OGNE Ogallala 103.47 49 PFAKE 08 07 30.0 +11
OGNE LR LR
comp=Z,9µm,19.0s
PRAC Prado 103.58 95 PFAKE 08 07 30.0 +9.4
PRAC LR LR
comp=Z,5µm,18.0s
340A Bronson 103.66 61 P **Pdif 08 07 23.8 +3.4**
baz=237
CBKS Cedar Bluff 103.72 52 P **Pdif 08 07 22.8 +2.3**
baz=236
CBKS Cedar Bluff 103.72 52 PFAKE 08 07 30.0 +9.4
CBKS LR LR
comp=Z,8µm,18.0s
RSSD Black Hills 104.08 46 PFAKE 08 07 30.0 +7.7
RSSD LR LR
comp=Z,7µm,19.0s
HELC Santa Helena 104.46 93 PFAKE 08 07 40.0 +15
HELC LR LR
comp=Z,5µm,19.0s
ROSC El Rosal 104.69 94 PFAKE 08 07 40.0 +14
ROSC LR LR
comp=Z,3µm,18.0s
TUL1 Leonard 104.76 56 PFAKE 08 07 40.0 +15
TUL1 LR LR
comp=Z,12µm,18.0s
SAML Samuel 105.23 113 PFAKE 08 11 50.0
SAML LR LR
comp=Z,2µm,19.0s
T36A Boggs Farm, Ca 105.31 55 P PKiKP 08 11 32.1 -9.3
baz=237
YAK Yakutsk 105.33 338 PFAKE 08 11 50.0
YAK LR LR
comp=Z,300nm,22.0s
S35A Otter Creek Ra 105.35 55 P PKiKP 08 11 32.2 -9.3
baz=237
Z41A Richland Creek 105.42 60 P PKiKP 08 11 32.2 -10
baz=238
WLAR White Oak Lake 105.43 60 PFAKE 08 11 50.0
WLAR LR LR
comp=Z,10µm,19.0s
U37A Salina 105.48 56 P **PKiKP 08 11 35.8 -6.0**
baz=238
Y40A Okoloma 105.48 59 P PKiKP 08 11 30.3 -12
baz=238
MIAR Mount Ida 105.56 59 PFAKE 08 11 50.0
MIAR LR LR
comp=Z,7µm,19.0s
Q34A Chapman 105.61 53 P PKiKP 08 11 33.4 -8.5
baz=237
SPB Sao Paulo 105.65 134 PFAKE 08 11 50.0
SPB LR LR
comp=Z,6µm,18.0s
S36A Lake Cedric, C 105.86 55 P **PKiKP 08 11 36.5 -5.9**
baz=238
KSU1 Kansas State U 105.92 53 PFAKE 08 11 50.0
KSU1 LR LR
comp=Z,6µm,19.0s
344A Westbrook Farm 105.97 63 P **PKiKP 08 11 37.2 -5.6**
baz=238
P34A Walnut Farm, R 106.02 53 P **PKiKP 08 11 35.5 -7.2**
baz=237
X40A Basin Creek Fa 106.05 59 P **PKiKP 08 11 37.4 -5.4**
baz=238
SONM Songino Array 106.13 317 PKKPbc PKKPbc 08 23 09.1 +3.8
comp=Z,4.6nm,0.9s,baz=301,slow=2.5,SNR=10
143A Socs Landing, 106.13 61 P PKiKP 08 11 34.8 -8.2
baz=238
BGNE Belgrade 106.17 51 PFAKE 08 11 50.0
BGNE LR LR
comp=Z,9µm,19.0s
HHAR Hobbs 106.22 57 PFAKE 08 12 00.0
HHAR LR LR
comp=Z,9µm,19.0s
RUSC La Rusia 106.30 94 PFAKE 08 12 00.0
RUSC LR LR
comp=Z,2µm,18.0s
O34A Beatrice 106.44 52 P PKiKP 08 11 33.6 -10
baz=238
CCAR Cane Creek 106.50 60 PFAKE 08 12 00.0
CCAR LR LR
comp=Z,12µm,20.0s
VBMS Vicksburg 106.52 62 PFAKE 08 12 00.0
VBMS LR LR
comp=Z,7µm,19.0s
UALR University of 106.54 59 PFAKE 08 12 00.0
UALR LR LR
comp=Z,9µm,19.0s
U39A Green Forest 106.59 57 P **PKiKP 08 11 36.5 -7.4**
baz=238
Q36A Arnold C. Orve 106.61 54 P **PKiKP 08 11 38.6 -5.2**
baz=238
446A Poplarville 106.62 64 P PKiKP 08 11 33.0 -11
baz=239
R37A Teagarden Farm 106.69 55 P **PKiKP 08 11 38.1 -5.9**
baz=238
V40A Witts Springs 106.74 58 P **PKiKP 08 11 36.7 -7.5**
baz=238
X301 Greenbrier Sit 106.75 59 PFAKE 08 12 00.0
X301 LR LR
comp=Z,7µm,20.0s
J31A Geddes 106.81 49 P **PKiKP 08 11 47.2 +3.2**
baz=237
W41B Gary Mavity, V 106.82 59 P **PKiKP 08 11 44.3 0.0**
baz=238
WHAR Wooly Hollow 106.85 59 PFAKE 08 12 00.0
WHAR LR LR
comp=Z,6µm,20.0s
346A Big Creek Wild 106.86 63 P **PKiKP 08 11 45.6 +1.1**
baz=239
245A Little AP, Sta 106.88 63 P **PKiKP 08 11 45.6 +1.1**
baz=239
S38A Stockton 106.95 56 P **PKiKP 08 11 44.6 +0.1**
baz=238
T39A Clever 107.00 57 P **PKiKP 08 11 45.3 +0.8**
baz=238
U40A Yellville 107.01 57 P **PKiKP 08 11 43.3 -1.3**
baz=239
Y43A Makayla and Ka 107.10 60 P **PKiKP 08 11 45.4 +0.6**
baz=239
447A Lucedale 107.15 64 P **PKiKP 08 11 43.4 -1.6**
baz=239
S39A Bolivar 107.38 56 P **PKiKP 08 11 40.7 -4.6**
baz=239
Z45A Winona 107.71 61 P **PKiKP 08 11 39.1 -6.9**
baz=239
HBAR Harrisburg 108.13 59 PFAKE 08 12 00.0
HBAR LR LR
comp=Z,7µm,22.0s
ECSD EROS Data Cent 108.36 49 PFAKE 08 12 00.0
ECSD LR LR
comp=Z,6µm,20.0s
S41A Jillco Farms, 108.40 57 P **PKiKP 08 11 42.2 -5.0**
baz=239
RAMN Ramite 108.41 290 *e*P **PKKPdf 08 23 12.4 0.0**
MET Memphis--Engin 108.42 60 PFAKE 08 12 00.0
MET LR LR
comp=Z,10µm,18.0s
248A Dixon Mills 108.48 63 P **PKiKP 08 11 51.3 +3.9**
baz=240
OXF Oxford 108.49 61 PFAKE 08 12 00.0
OXF LR LR
comp=Z,8µm,18.0s
BRAL Brewton 108.53 65 PFAKE 08 12 00.0
BRAL LR LR
comp=Z,6µm,19.0s
INK Inuvik 108.53 16 PKKPbc PKKPbc 08 23 02.5 +4.5
comp=Z,4.4nm,1.0s,baz=17,slow=13,SNR=3.7
Y46A Houston 108.57 61 P **PKiKP 08 11 46.0 -1.5**
baz=240
GNAR Gosnell 108.78 59 PFAKE 08 12 00.0
GNAR LR LR
comp=Z,7µm,19.0s
PBMO Poplar Bluff 108.90 58 PFAKE 08 12 00.0
PBMO LR LR
comp=Z,9µm,20.0s
PVMO Portageville 109.23 59 PFAKE 08 12 00.0
PVMO LR LR
comp=Z,8µm,20.0s
HALT Halls 109.23 59 PFAKE 08 12 00.0
HALT LR LR
comp=Z,9µm,19.0s
PARMO Parma 109.32 58 PFAKE 08 12 00.0
PARMO LR LR
comp=Z,10µm,20.0s
MTDJ Mount Denham 109.36 81 PFAKE 08 12 00.0
MTDJ LR LR
comp=Z,12µm,19.0s
I35A Creekview Farm 109.44 50 P **PKiKP 08 11 43.0 -6.0**
baz=240
GUN Gumba 109.44 291 *e*P **PKKPdf 08 23 09.1 -1.5**
comp=Z,48nm,0.9s
GLAT Glass 109.45 59 PFAKE 08 12 00.0
GLAT LR LR
comp=Z,8µm,20.0s
LRAL Lakeview Retre 109.49 63 PFAKE 08 12 00.0
LRAL LR LR
comp=Z,8µm,20.0s
SCIA State Center 109.58 52 PFAKE 08 12 00.0
SCIA LR LR
comp=Z,8µm,19.0s
PKI Pulchoki 109.63 290 *e*P **PKKPdf 08 23 07.5 -2.7**

comp=Z,29nm,0.9s
KKN Kakani 109.84 290 *e*P **PKKPab 08 23 05.9 +2.3**
comp=Z,20nm,0.5s
DMN Daman 109.89 290 *e*P **PKKPab 08 23 05.9 +2.5**
comp=Z,14nm,0.5s
SLM Saint Louis 109.95 56 PFAKE 08 12 00.0
SLM LR LR
comp=Z,14µm,18.0s
SDV Santo Domingo 109.98 93 PFAKE 08 12 00.0
SDV LR LR
comp=Z,5µm,19.0s
YKA Yellowknife Ar 110.02 26 Pdiff **Pdif 08 07 50.4 +2.6**
comp=Z,0.4nm,0.8s,baz=231,slow=3.9,SNR=2.3
YKA PKKPbc **PKKPbc 08 22 51.7 -1.4**
comp=Z,7.9nm,0.8s,baz=40,slow=3.1,SNR=13
I36A Fitzsimmons Fa 110.12 50 P **PKiKP 08 11 44.7 -5.5**
baz=240
SUR Sutherland 110.33 198 PFAKE 08 12 00.0
SUR LR LR
comp=Z,6µm,20.0s
WVT Waverly 110.41 60 PFAKE 08 12 00.0
WVT LR LR
comp=Z,9µm,19.0s
GKN Gorkha 110.44 290 *e*P **PKKPab 08 23 04.5 +3.6**
comp=Z,26nm,0.8s
L39A Vinton 110.48 52 P **PKiKP 08 11 47.1 -3.8**
baz=241
I37A Lemond, Waseca 110.51 50 P **PKiKP 08 11 46.3 -4.6**
baz=241
D33A AnnSam, Wauburn 110.55 46 P PKiKP 08 11 42.9 -8.0
baz=240
R44A Waltonville 110.56 57 P **PKiKP 08 11 47.1 -4.1**
baz=241
ABPO Ambohimpanom 110.60 227 PFAKE 08 12 00.0
ABPO LR LR
comp=Z,6µm,19.0s
S45A Carrier Mills 110.63 58 P **PKiKP 08 11 47.7 -3.7**
baz=241
J38A Wedel Dairy, R 110.75 51 P **PKiKP 08 11 45.0 -6.5**
baz=241
Q44A Meyer Farm, Va 110.92 57 P **PKiKP 08 11 46.9 -4.9**
baz=241
L40A Anamosa 110.96 53 P **PKiKP 08 11 44.8 -7.0**
baz=241
FFC Flin Flon 111.05 37 PFAKE 08 12 00.0
FFC LR LR
comp=Z,9µm,18.0s
A32A Rocking H Ranc 111.05 44 P **PKiKP 08 11 45.7 -6.1**
baz=240
AGMN Agassiz Nation 111.11 45 PFAKE 08 12 00.0
AGMN LR LR
comp=Z,7µm,18.0s
I38A Scanlan Farm, 111.19 51 P **PKiKP 08 11 48.0 -4.2**
baz=241
TIGA Tifton 111.23 66 PFAKE 08 12 00.0
TIGA LR LR
comp=Z,14µm,18.0s
DWPF Disney Wildern 111.26 70 PFAKE 08 12 00.0
DWPF LR LR
comp=Z,6µm,22.0s
K40A Colesburg 111.32 52 P **PKiKP 08 11 48.2 -4.3**
baz=241
SWET Sewanee 111.32 61 PFAKE 08 12 00.0
SWET LR LR
comp=Z,11µm,18.0s
F36A Milaca 111.33 48 P **PKiKP 08 11 47.5 -4.9**
baz=241
O43A Sugar Creek Fa 111.38 55 P **PKiKP 08 11 47.8 -4.9**
baz=242
USIN University of 111.40 58 PFAKE 08 12 00.0
USIN LR LR
comp=Z,11µm,19.0s
L41A Preston 111.44 53 P **PKiKP 08 11 48.4 -4.3**
baz=242
P44A Sand Creek, Wi 111.46 56 P **PKiKP 08 11 48.4 -4.5**
baz=242
SPMN Marine on St. 111.46 49 PFAKE 08 12 00.0
SPMN LR LR
comp=Z,8µm,19.0s
OLIL Olney 111.47 57 PFAKE 08 12 00.0
OLIL LR LR
comp=Z,9µm,20.0s
HDIL Hopedale 111.52 55 PFAKE 08 12 10.0
HDIL LR LR
comp=Z,9µm,18.0s
D35A Remer 111.59 47 P **PKiKP 08 11 46.7 -6.2**
baz=241
I39A Houston 111.62 51 P **PKiKP 08 11 46.1 -6.9**
baz=242
PYUN Piuthan 111.76 290 *e*P **PKKPab 08 22 57.4 +2.3**
comp=Z,24nm,0.5s
E36A McGregor 111.80 48 P PKiKP 08 11 43.9 -9.4
baz=242
F37A Hinrichs Farm, 111.81 49 P PKiKP 08 11 43.0 -10
baz=242
JFWS Jewell Farm 112.00 52 PFAKE 08 12 10.0
JFWS LR LR
comp=Z,8µm,20.0s
ULM Lac du Bonnet 112.05 43 PFAKE 08 12 10.0
ULM LR LR
comp=Z,7µm,18.0s
GTBY Guantanamo Bay 112.20 81 PFAKE 08 12 10.0
GTBY LR LR
comp=Z,4µm,18.0s
GOGA Godfrey 112.27 64 PFAKE 08 12 10.0
GOGA LR LR
comp=Z,9µm,22.0s
J41A Loganville 112.36 52 P PKiKP 08 11 46.6 -7.8
baz=242
CPCT Cooper Cave 112.45 62 PFAKE 08 12 10.0
CPCT LR LR
comp=Z,9µm,20.0s
WCI Wyandotte Cave 112.48 58 PFAKE 08 12 10.0
WCI LR LR
comp=Z,13µm,18.0s
BOSA Boshof 112.61 203 PKiKP **PKiKP 08 11 57.5 +1.7**
comp=Z,12nm,0.9s,baz=176,slow=4.9,SNR=9.5
BOSA PKKP **PKKPab 08 22 54.4 -1.3**
comp=Z,8.0nm,0.9s,baz=39,slow=3.9,SNR=3.8
BLO Bloomington 112.76 57 PFAKE 08 12 10.0
BLO LR LR
comp=Z,11µm,21.0s
PTGA Pitinga 112.90 108 PFAKE 08 12 10.0
PTGA LR LR
comp=Z,6µm,18.0s
SFIN Lafayette 112.92 56 PFAKE 08 12 10.0
SFIN LR LR
comp=Z,9µm,19.0s
TKL Tuckaleechee C 113.09 62 PFAKE 08 12 10.0
TKL LR LR
comp=Z,10µm,19.0s
LGNH LØogne 113.51 83 PFAKE 08 12 10.0
LGNH LR LR
comp=Z,10µm,21.0s
EYMN Ely 113.53 47 PFAKE 08 12 10.0
EYMN LR LR
comp=Z,6µm,20.0s
TZTN Tazewell 113.65 61 PFAKE 08 12 10.0
TZTN LR LR
comp=Z,13µm,18.0s
JSC Jenkinsville 114.29 64 PFAKE 08 12 10.0 +12
JSC LR LR
comp=Z,10µm,20.0s
NHSC New Hope 114.57 66 PFAKE 08 12 10.0 +11
NHSC LR LR
comp=Z,9µm,19.0s
KMSC Kings Mountain 114.63 63 PFAKE 08 12 10.0 +11
KMSC LR LR
comp=Z,8µm,20.0s
SDDR Presa de Saban 114.83 84 PFAKE 08 12 10.0 +10
SDDR LR LR
comp=Z,6µm,18.0s
MSEY Mahe Island 115.43 244 PFAKE 08 12 10.0 +8.6
MSEY LR LR
comp=Z,7µm,19.0s
WMQ Urumqi 115.51 307 PKP **PKPdf 08 11 55.8 -4.8**
WMQ PP **PP 08 13 05.6 +2.2**
WMQ SKKS 08 19 58.3
ACSO Alum Creek Sta 115.67 58 *e*PKPdf **PKPdf 08 12 01.3 +0.4**
ACSO LR LR
comp=Z,8µm,19.0s
AAM Ann Arbor 116.09 55 PFAKE 08 12 10.0 +8.4
AAM LR LR
comp=Z,9µm,20.0s
BLA Blacksburg 116.20 62 *e*PKIKP **PKPdf 08 12 01.2 -0.9**
BLA MLR MLR
comp=Z,10µm,19.0s
BLA Blacksburg 116.20 62 *e*PKPdf **PKPdf 08 12 01.2 -0.9**
BLA LR LR
comp=Z,10µm,19.0s
GRTK Grand Turk 116.21 81 PFAKE 08 12 10.0 +7.5
GRTK LR LR
comp=Z,10µm,21.0s
CNNC Cliffs of the 117.21 65 PFAKE 08 12 20.0 +16
CNNC LR LR
comp=Z,7µm,18.0s
MCWV Mont Chateau 117.63 59 PFAKE 08 12 20.0 +15
MCWV LR LR
comp=Z,6µm,21.0s
MPR Mayaguez 117.82 87 PFAKE 08 12 20.0 +14
MPR LR LR
comp=Z,6µm,21.0s
AGP Aguadilla 117.92 86 PFAKE 08 12 20.0 +14
AGP LR LR
comp=Z,5µm,19.0s
N54A Moraine State 118.05 58 P PKPpre 08 11 59.1
baz=246
ALLY Alegheny Colle 118.22 57 PFAKE 08 12 20.0 +14
ALLY LR LR
comp=Z,14µm,19.0s
IP07 Quail 118.22 62 PFAKE 08 12 20.0 +14
IP07 LR LR
comp=Z,11µm,19.0s
JSRW J. Sargeant Re 118.24 62 *e*PKPdf **PKPdf 08 12 06.5 +0.6**
IP04 Greensprings 118.24 62 *e*PKPdf **PKPdf 08 12 07.2 +1.3**
IP04 LR LR
comp=Z,11µm,20.0s
IP06 Yanceyville 118.26 62 *e*PKPdf **PKPdf 08 12 06.5 +0.6**
IP06 LR LR
comp=Z,11µm,19.0s
IP03 Louisa 118.27 62 PFAKE 08 12 20.0 +14
IP03 LR LR
comp=Z,11µm,19.0s
IP01 Cuckoo 118.32 62 *e*PKPdf **PKPdf 08 12 06.5 +0.4**
IP01 LR LR
comp=Z,11µm,19.0s
IP05 Hopewell Churc 118.38 62 *e*PKPdf **PKPdf 08 12 05.1 -1.1**
IP05 LR LR
comp=Z,10µm,21.0s
CVRD Centerville Ro 118.44 62 PFAKE 08 12 20.0 +14
CVRD LR LR
comp=Z,10µm,20.0s
M54A Oil Creek Stat 118.49 58 P PKPpre 08 11 59.1
baz=247
ERPA Erie 118.51 57 PFAKE 08 12 20.0 +14
ERPA LR LR
comp=Z,11µm,19.0s
SJG San Juan 118.58 87 PFAKE 08 12 20.0 +13
SJG LR LR
comp=Z,6µm,20.0s
PTRD Partlow Road 118.59 62 PFAKE 08 12 20.0 +13
PTRD LR LR
comp=Z,12µm,20.0s
CBN Corbin Frederi 118.81 62 PFAKE 08 12 20.0 +13
CBN LR LR
comp=Z,8µm,20.0s
HUMP Col San Antoni 118.84 87 *e*PKPdf **PKPdf 08 12 08.5 +0.8**
HUMP LR LR
comp=Z,6µm,20.0s
CBYP Canovanas 118.90 87 PFAKE 08 12 20.0 +12
CBYP LR LR
comp=Z,8µm,22.0s
GRGR Grenville 119.11 96 PFAKE 08 12 20.0 +12
GRGR LR LR
comp=Z,3µm,20.0s
SSPA Standing Stone 119.39 59 *e*PKPdf **PKPdf 08 12 08.7 +0.6**
SSPA LR LR
comp=Z,9µm,18.0s
SDMD Soldier's Deli 119.66 61 *e*PKPdf **PKPdf 08 12 09.4 +0.8**
SDMD LR LR
comp=Z,4µm,18.0s
STVI Saint Thomas 119.68 88 PFAKE 08 12 20.0 +11
STVI LR LR
comp=Z,6µm,18.0s
SVB Belmont 120.06 95 PFAKE 08 12 20.0 +10
SVB LR LR
comp=Z,5µm,22.0s
SADO Sadowa 120.07 54 PFAKE 08 12 20.0 +11
SADO LR LR
comp=Z,9µm,19.0s
MVL Millersville 120.24 60 *e*PKPdf **PKPdf 08 12 12.2 +2.5**
MVL LR LR
comp=Z,8µm,20.0s
SABA Saba 120.71 89 PFAKE 08 12 20.0 +8.7
SABA LR LR
comp=Z,6µm,18.0s
PSUB Penn St. - Bra 120.85 61 PFAKE 08 12 20.0 +9.1
PSUB LR LR
comp=Z,10µm,19.0s
SEUS St. Eustatius 120.86 90 PFAKE 08 12 20.0 +8.5
SEUS LR LR
comp=Z,4µm,22.0s
FDF Fort de France 120.93 93 PFAKE 08 12 20.0 +8.2
FDF LR LR
comp=Z,4µm,19.0s
ZALV Zalesovo Beam 121.01 317 PKP **PKPdf 08 12 08.0 -2.7**
comp=Z,9.3nm,0.4s,baz=116,slow=2.1,SNR=9.3
ZAA1 Zalesovo Array 121.01 317 *e*PKPdf **PKPdf 08 12 08.0 -2.7**
SMRT St. Maarten 121.07 89 PFAKE 08 12 20.0 +8.1
SMRT LR LR
comp=Z,5µm,19.0s
KSPA Keystone Colle 121.22 59 *e*PKPdf **PKPdf 08 12 11.2 -0.3**
KSPA LR LR
comp=Z,12µm,19.0s
GDHS Morne Mazeau, 121.23 92 PFAKE 08 12 20.0 +7.7
GDHS LR LR
comp=Z,7µm,20.0s
BINY Binghamton 121.30 58 *e*PKPdf **PKPdf 08 12 12.5 +0.8**
BINY LR LR
comp=Z,15µm,19.0s
BBGH Gun Hill 121.37 96 PFAKE 08 12 20.0 +7.4
BBGH LR LR
comp=Z,6µm,21.0s
PLVO Plevna 121.54 55 PFAKE 08 12 20.0 +8.0
PLVO LR LR
comp=Z,13µm,19.0s
BRNJ Basking Ridge 121.76 60 PFAKE 08 12 20.0 +7.4
BRNJ LR LR
comp=Z,9µm,18.0s
ODNJ Ogdensburg 121.87 60 PFAKE 08 12 20.0 +7.2
ODNJ LR LR
comp=Z,9µm,18.0s
KSH Kashi 121.91 298 *e*PKP **PKPdf 08 12 10.6 -2.5**
KSH PP **PP 08 13 53.6 +5.7**
KSH PKS **PKSdf 08 15 45.6 -4.2**
KSH SKS **SKSdf 08 19 20.9 -0.8**
KSH SKKS **SKKSac 08 20 45.9 +2.7**
KSH SS SS 08 30 35.5 +13
ANWB Willy Bob 121.93 90 PFAKE 08 12 30.0 +16
ANWB LR LR
comp=Z,5µm,21.0s
CPNY Central Park 122.23 60 PFAKE 08 12 30.0 +17
CPNY LR LR
comp=Z,12µm,18.0s
VLDQ Val d'Or 122.29 51 *e*PKPdf **PKPdf 08 12 13.2 -0.1**
VLDQ LR LR
comp=Z,12µm,18.0s
PAL Palisades 122.34 60 *e*PKIKP **PKPdf 08 12 14.7 +1.0**
PAL MLR MLR
comp=Z,10µm,18.0s
PAL Palisades 122.34 60 *e*PKPdf **PKPdf 08 12 14.7 +1.0**
PAL LR LR
comp=Z,10µm,18.0s
LONY Lake Ozonia 123.08 56 PFAKE 08 12 30.0 +15
LONY LR LR
comp=Z,12µm,18.0s
TRY Troy 123.09 58 *e*PKPdf **PKPdf 08 12 15.2 +0.2**
TRY LR LR
comp=Z,26µm,18.0s
NCB Newcomb 123.11 57 *e*PKPdf **PKPdf 08 12 15.9 +0.8**
NCB LR LR
comp=Z,200nm,18.0s
YLE Yale 123.13 60 PFAKE 08 12 30.0 +15
YLE LR LR
comp=Z,10µm,21.0s
ACCN Adirondack Com 123.31 57 *e*PKPdf **PKPdf 08 12 16.3 +0.8**
ACCN LR LR
comp=Z,6µm,18.0s
NRIK Noril'sk 123.62 335 PKP **PKPdf 08 12 15.1 -0.2**
comp=Z,27nm,0.8s,baz=81,slow=0.6,SNR=4.0
LSZ Lusaka 123.66 212 *e*PKIKP **PKPdf 08 12 17.8 +0.6**
LSZ MLR MLR
comp=Z,7µm,21.0s
LSZ Lusaka 123.66 212 *e*PKPdf **PKPdf 08 12 17.8 +0.6**
LSZ LR LR
comp=Z,7µm,21.0s
KURK Kurchatov 123.71 312 *e*PKIKP **PKPdf 08 12 15.2 -0.8**
KURK Kurchatov 123.71 312 *e*PKPdf **PKPdf 08 12 15.2 -0.8**
KURBB Kurchatov Arra 123.73 312 PKP **PKPdf 08 12 15.2 -0.8**
comp=Z,39nm,0.9s,baz=114,slow=2.0,SNR=7.3
KURBB PKKPbc **PKKPbc 08 22 07.4 +3.6**
comp=Z,2.8nm,1.0s,baz=285,slow=4.6,SNR=4.9
KURBB SKKPbc SKKPbc 08 26 00.2 +8.2
comp=Z,3.1nm,0.9s,baz=278,slow=4.0,SNR=6.7
TSUM Tsumeb 123.74 199 PKP **PKPdf 08 12 17.4 0.0**
comp=Z,20nm,1.0s,baz=245,slow=1.8,SNR=6.1
FRNY Flat Rock 123.82 56 *e*PKPdf **PKPdf 08 12 16.4 0.0**
FRNY LR LR
comp=Z,7µm,22.0s
MDV Middlebury 123.84 57 *e*PKPdf **PKPdf 08 12 17.3 +0.8**
QUA2 Belchertown 123.86 59 *e*PKPdf **PKPdf 08 12 16.4 -0.2**
QUA2 LR LR
comp=Z,9µm,18.0s
AAK Ala-Archa 124.03 301 PKKPbc PKKPbc 08 22 06.0 +3.3
comp=Z,5.5nm,0.8s,baz=255,slow=3.4,SNR=7.0
BRYW Bryant College 124.32 60 *e*PKPdf **PKPdf 08 12 18.9 +1.4**
BRYW LR LR
comp=Z,14µm,20.0s
HNH Hanover 124.36 57 *e*PKPdf **PKPdf 08 12 19.2 +1.7**
HNH LR LR
comp=Z,21µm,18.0s
HRV Adam Dziewonsk 124.50 59 *e*PKIKP **PKPdf 08 12 18.8 +1.0**
HRV MLR MLR
comp=Z,13µm,19.0s
HRV Adam Dziewonsk 124.50 59 *e*PKPdf **PKPdf 08 12 18.8 +1.0**
HRV LR LR
comp=Z,13µm,19.0s
WES Weston 124.62 59 *e*PKIKP **PKPdf 08 12 18.3 +0.3**
WES MLR MLR
comp=Z,18µm,19.0s
WES Weston 124.62 59 *e*PKPdf **PKPdf 08 12 18.3 +0.3**
WES LR LR
comp=Z,18µm,19.0s
BCX Boston College 124.71 59 *e*PKPdf **PKPdf 08 12 19.2 +1.1**
BCX LR LR
comp=Z,27µm,20.0s
FFD Franklin Falls 124.73 58 PFAKE 08 12 30.0 +12
FFD LR LR
comp=Z,23µm,18.0s
LBNH Lisbon 124.77 57 *e*PKIKP **PKPdf 08 12 19.6 +1.3**
LBNH MLR MLR
comp=Z,8µm,19.0s
LBNH Lisbon 124.77 57 *e*PKPdf **PKPdf 08 12 19.6 +1.3**
LBNH LR LR
comp=Z,8µm,19.0s
BBSR BB Station 126.13 73 PFAKE 08 12 30.0 +8.8
BBSR LR LR
comp=Z,4µm,20.0s
RCBR Riachuelo 126.39 132 PFAKE 08 12 30.0 +7.6
RCBR LR LR
comp=Z,4µm,18.0s
WVL Waterville 126.42 57 *e*PKPdf **PKPdf 08 12 22.2 +0.9**
WVL LR LR
comp=Z,14µm,18.0s
LMQ La Malbaie 126.75 53 *e*PKPdf **PKPdf 08 12 21.1 -0.8**
LMQ LR LR
comp=Z,8µm,21.0s
PKME Peaks-Kenny Pk 126.86 56 *e*PKPdf **PKPdf 08 12 21.9 -0.3**
PKME LR LR
comp=Z,10µm,18.0s
EMMW East Machias 127.97 57 PFAKE 08 12 40.0 +16
EMMW LR LR
comp=Z,12µm,20.0s
PQI Presque Isle 128.07 55 *e*PKPdf **PKPdf 08 12 25.1 +0.6**
GGN Saint George 128.50 57 *e*PKPdf **PKPdf 08 12 26.2 +0.9**
GGN LR LR
comp=Z,9µm,18.0s
BVAR Borovoye Array 129.18 313 PKP **PKPdf 08 12 25.5 -0.9**
comp=Z,28nm,0.7s,baz=94,slow=1.3,SNR=6.8
BVAR Borovoye Array 129.18 313 PKIKP **PKPdf 08 12 25.5 -0.9**
BVAR pmax pmax
comp=Z,27nm,0.7s
LMN Caledonia Moun 130.06 56 *e*PKPdf **PKPdf 08 12 28.7 +0.4**
SCHQ Schefferville 130.20 45 PKP **PKPdf 08 12 28.6 +0.3**
comp=Z,9.1nm,0.9s,baz=340,slow=4.6,SNR=4.4
KMBO Kilima Mbogo 130.58 231 PKP **PKPdf 08 12 31.1 +0.4**
comp=Z,12nm,1.0s,baz=176,slow=3.4,SNR=12
KMBO SKPbc **SKPbc 08 15 57.2 +6.3**
comp=Z,1.3nm,0.4s,baz=318,slow=2.2,SNR=3.1
KMBO Kilima Mbogo 130.58 231 *e*PKIKP **PKPdf 08 12 31.3 +0.6**
KMBO *e* 08 12 32.2
KMBO MLR MLR
comp=Z,9µm,18.0s
KMBO Kilima Mbogo 130.58 231 *e*PKPpre PKPpre 08 12 31.3
KMBO *e*PKPdf **PKiKP 08 12 32.2 +0.6**
KMBO LR LR
comp=Z,9µm,18.0s
GEYT Alibeck 134.72 291 SKPbc **SKPab 08 16 09.6 +1.7**
comp=Z,124nm,1.2s,baz=90,slow=0.4,SNR=8.2
ASCN Ascension 134.74 158 PFAKE 08 12 50.0 +12
ASCN LR LR
comp=Z,4µm,22.0s
ARU Arti 136.17 317 *i* PKIKP **PKPdf 08 12 41.9 +2.5**
ARU 08 15 23.3
ARU SS SS 08 33 18.9 +1.2
SPA0 Spitsbergen Ar 136.36 355 *e*PKPdf **PKPdf 08 12 39.5 +0.2**
SPITS Spitsbergen Ar 136.36 355 PKP **PKPdf 08 12 39.0 -0.3**
comp=Z,34nm,0.6s,baz=107,slow=5.3,SNR=11
FURI Furi 136.88 242 PFAKE 08 12 50.0 +7.5
FURI LR LR
comp=Z,14µm,20.0s
APA Apatity 142.65 340 ⇑ *i*PKIKP **PKPdf 08 12 50.1 -0.8**
APA pmax pmax
comp=Z,11nm,0.9s
ARA0 ARCESS Array S 143.02 346 *e*PKPdf **PKPdf 08 12 50.5 -1.0**
ARA0 *e*PKPdf PKPbc 08 12 51.2 +2.6
ARCES ARCESS Array B 143.02 346 PKP **PKPdf 08 12 50.5 -1.1**
comp=Z,31nm,0.8s,baz=46,slow=2.8,SNR=9.8
KLMR Klimovskoe 144.49 328 *e*PKIKP **PKPab 08 12 51.9 -0.9**
KLMR pmax pmax
comp=Z,210nm,1.2s
ZEI Tsey 146.15 296 *i* PKP2 **PKPab 08 13 02.0 +2.1**
ZEI pmax pmax
comp=Z,1µm,1.2s
GOF Gofitskoye 146.75 300 ⇑ *e*PKP2 **PKPbc 08 13 00.0 -0.5**
GOF pmax pmax
comp=Z,1µm,1.8s
KBZ Khabaz 146.89 298 PKPbc **PKPbc 08 13 00.4 -0.5**
comp=Z,156nm,0.9s,baz=313,slow=4.7,SNR=7.0
KIV Kislovodsk 147.04 298 *e*PKP2 **PKPbc 08 13 01.9 +0.4**
KIV pmax pmax
comp=Z,157nm,1.1s
MOS Moscow 147.68 321 α *i*PKP2 **PKPbc 08 13 02.3 -0.4**
MOS pmax pmax
comp=Z,475nm,1.2s
LPSR Galich'ya Gora 148.09 315 *e*PKP2 **PKPab 08 13 06.1 -0.8**
LPSR pmax pmax
comp=Z,250nm,0.8s
VORR Voronezh 148.20 313 PKHKP PKPpre 08 12 58.0
VORR pmax pmax
comp=Z,750nm,2.4s
VSR Storozhevoye 148.35 312 *e*PKP2 **PKPbc 08 13 05.6 +0.9**
VSR pmax pmax
comp=Z,340nm,1.3s
OBN Obninsk 148.48 320 PKPbc **PKPbc 08 13 03.5 -1.3**
comp=Z,92nm,0.4s,baz=85,slow=1.2,SNR=7.6
OBN Obninsk 148.48 320 *ce*PKIKP **PKPbc 08 13 03.2 -1.6**
OBN *i* 08 13 09.2
OBN *e* 08 20 10.9
OBN pmax pmax
comp=Z,472nm,1.3s
OBN pmax pmax
comp=Z,578nm,1.4s
OBN Obninsk 148.48 320 *e*PKPbc **PKPbc 08 13 04.2 -0.6**
FIA1 FINESS Array S 149.26 337 *e*PKPbc **PKPbc 08 13 07.8 +1.2**
FIA0 FINESS Array S 149.26 337 *e*PKPdf **PKPdf 08 13 04.5 +2.2**
FINES FINESS Array B 149.26 337 PKPbc **PKPdf 08 13 04.5 +2.2**
comp=Z,185nm,0.9s,baz=61,slow=2.4,SNR=34
SACV Santiago Islan 150.07 126 *e*PKPbc **PKPbc 08 13 09.1 -1.0**
SACV LR LR
comp=Z,3µm,20.0s
LIC Lamto 150.67 167 *e*PKIKP **PKPbc 08 13 09.7 -1.9**
comp=Z,642nm,0.8s
ANN Anapa 150.74 300 *e*PKIKP **PKPdf 08 13 06.9 +1.7**
ANN *e* 08 13 10.8
ANN *e* 08 16 46.7

ANN				pmax	pmax			
	comp=E,36nm,0.9s							
ANN				pmax	pmax			
	comp=N,52nm,0.9s							
ANN				pmax	pmax			
	comp=Z,300nm,0.9s							
KIC	**Kosan Boka**	**150.86**	**168**	*e*PKIKP	**PKPbc**	**08 13 09.9**	**-2.1**	
	comp=Z,672nm,1.1s							
TIC	**Toumodi**	**151.09**	**167**	*e*PKIKP	**PKPbc**	**08 13 10.1**	**-2.5**	
DBIC	**Dimbokro**	**151.14**	**168**	PKPbc	**PKPbc**	**08 13 11.4**	**-1.3**	
	comp=E,118nm,0.8s,baz=158,slow=1.8,SNR=22							
SIM	**Simferopol'**	**153.06**	**301**	*c i*PKIKP	**PKPdf**	**08 13 10.4**	**+1.7**	
SIM				pmax	pmax			
	comp=Z,188nm,1.2s							
NC303	**NORSAR Array S**	**153.08**	**349**	*e*PKPbc	**PKPbc**	**08 13 17.0**	**+1.4**	
NB2	**NORSAR Subarra**	**153.28**	**349**	PKPdf	**PKPbc**	**08 13 16.9**	**+0.8**	
	baz=27,slow=1.8							
NB2	**NORSAR Subarra**	**153.28**	**349**	PKPdf	**PKPbc**	**08 13 16.9**	**+0.8**	
	comp=Z,43nm,1.0s,baz=27,slow=1.8							
NB200	**NORSAR Array S**	**153.28**	**349**	*e*PKPbc	**PKPbc**	**08 13 15.8**	**-0.3**	
NOA	**NORSAR Array B**	**153.28**	**349**	PKPbc	**PKPbc**	**08 13 15.8**	**-0.3**	
	comp=Z,68nm,1.1s,baz=13,slow=4.1,SNR=7.0							
BR101	**Keskin Array S**	**153.85**	**290**	*e*PKPbc	**PKPbc**	**08 13 19.3**	**+1.2**	
BRTR	**Keskin Array B**	**153.85**	**290**	PKPbc	**PKPbc**	**08 13 19.3**	**+1.2**	
	comp=Z,20nm,0.8s,baz=150,slow=4.0,SNR=9.9							
H07S1	**FLORES T-PHASE**	**154.02**	**71**	*e*PKPdf	**PKPbc**	**08 13 17.7**	**-0.7**	
AKASG	**Malin Array Be**	**154.40**	**316**	PKPbc	**PKPbc**	**08 13 19.8**	**+1.0**	
	comp=Z,13nm,0.5s,baz=45,slow=2.9,SNR=6.7							
AKASG				PKPab	**PKPab**	**08 13 33.0**	**-0.2**	
	comp=Z,33nm,0.7s,baz=52,slow=2.9,SNR=5.4							
AKBB	**Malin Array Si**	**154.40**	**316**	*e*PKIKP	**PKPbc**	**08 13 19.2**	**+0.5**	
AKBB				*e*		08 13 33.3		
AKBB	**Malin Array Si**	**154.40**	**316**	*e*PKPbc	**PKPbc**	**08 13 19.2**	**+0.5**	
AKBB				*e*PKPab	**PKPab**	**08 13 33.3**	**+0.1**	
PCED	**Cedros**	**155.96**	**73**	*e*PKPdf	**PKPdf**	**08 13 16.0**	**+3.1**	
PICO	**Pico**	**156.17**	**73**	*e*PKPdf	**PKPdf**	**08 13 15.4**	**+2.1**	
ROSA	**Rosais**	**156.32**	**73**	*e*PKPdf	PKPdf	08 13 22.0	+8.6	
PGRA	**Graciosa**	**156.52**	**72**	*e*PKPdf	**PKPdf**	**08 13 13.7**	**+0.1**	
TOC4	**Torodi Ar. Sit**	**158.07**	**182**	PFAKE		08 13 30.0	+14	
TOC4				LR	LR			
	comp=Z,10μm,21.0s							
TOC5	**Torodi Ar. Sit**	**158.08**	**181**	PFAKE		08 13 30.0	+14	
TOC5				LR	LR			
	comp=Z,11μm,21.0s							
TOC3	**Torodi Ar. Sit**	**158.09**	**182**	PFAKE		08 13 30.0	+14	
TOC3				LR	LR			
	comp=Z,10μm,20.0s							
TOB3	**Torodi Ar. Sit**	**158.09**	**182**	PFAKE		08 13 30.0	+14	
TOB3				LR	LR			
	comp=Z,10μm,20.0s							
TOB4	**Torodi Ar. Sit**	**158.09**	**182**	PFAKE		08 13 30.0	+14	
TOB4				LR	LR			
	comp=Z,10μm,20.0s							
TOA3	**Torodi Ar. Sit**	**158.09**	**182**	PFAKE		08 13 30.0	+14	
TOA3				LR	LR			
	comp=Z,100nm,18.0s							
TOA2	**Torodi Ar. Sit**	**158.10**	**182**	PFAKE		08 13 30.0	+14	
TOA2				LR	LR			
	comp=Z,100nm,18.0s							
TOA0	**Torodi Ar. Sit**	**158.10**	**182**	*e*PKPdf	**PKPdf**	**08 13 16.0**	**-0.4**	
TOA0				*e*PKPdf	**PKPdf**	**08 13 16.3**	**0.0**	
TOA0				LR	LR			
	comp=Z,10μm,20.0s							
TORD	**Torodi Ar. Bea**	**158.10**	**182**	PKP	**PKPdf**	**08 13 16.4**	**+0.1**	
	comp=Z,11nm,1.0s,baz=176,slow=0.4,SNR=24							
TORD				PKPab	**PKPab**	**08 13 50.0**	**+0.2**	
	comp=Z,76nm,1.0s,baz=170,slow=3.9,SNR=18							
TOA1	**Torodi Ar. Sit**	**158.10**	**182**	*e*PKPdf	**PKPdf**	**08 13 16.4**	**+0.1**	
TOA1				*e*PKPab	**PKPab**	**08 13 50.0**	**+0.2**	
TOB2	**Torodi Ar. Sit**	**158.10**	**182**	PFAKE		08 13 30.0	+14	
TOB2				LR	LR			
	comp=Z,10μm,21.0s							
TOB5	**Torodi Ar. Sit**	**158.10**	**182**	PFAKE		08 13 30.0	+14	
TOB5				LR	LR			
	comp=Z,11μm,20.0s							
TOC2	**Torodi Ar. Sit**	**158.11**	**182**	PFAKE		08 13 30.0	+14	
TOC2				LR	LR			
	comp=Z,10μm,20.0s							
TOC7	**Torodi Ar. Sit**	**158.11**	**182**	PFAKE		08 13 30.0	+14	
TOC7				LR	LR			
	comp=Z,10μm,20.0s							
TOC1	**Torodi Ar. Sit**	**158.12**	**182**	PFAKE		08 13 30.0	+14	
TOC1				LR	LR			
	comp=Z,11μm,20.0s							
PSET	**Sete Cidades**	**158.29**	**75**	*e*PKPdf	**PKPdf**	**08 13 18.4**	**+2.5**	
CMLA	**Cha da Macela**	**158.44**	**75**	*e*PKPdf	**PKPdf**	**08 13 16.7**	**+0.6**	
UZH	**Uzhgorod**	**159.34**	**317**	*e*PKP2	**PKPab**	**08 13 56.0**	**+1.5**	
EKA	**Eskdalemuir Ar**	**159.59**	**7**	PKPab	**PKPab**	**08 13 55.2**	**-0.1**	
	comp=Z,16nm,0.8s,baz=5.4,slow=3.5,SNR=5.5							
EKA				SKKPbc		08 23 41.8		
	comp=Z,4.7nm,0.9s,baz=134,slow=4.8,SNR=4.1							
CRVS	**Cervenica-Dubn**	**159.65**	**319**	*e*PKP2	PKPab	08 14 06.8	+11	
CRVS	**Cervenica-Dubn**	**159.65**	**319**	*e*	PKPab	08 14 06.8	+11	
OKC	**Ostrava-Krasne**	**160.74**	**325**	*e*PKPAB	**PKPab**	**08 14 02.9**	**+2.4**	
OKC				*ex*	x	08 14 15.1		
OKC				AMS	AMS	09 35 00.0		
	comp=Z,2μm,17.1s							
OKC	**Ostrava-Krasne**	**160.74**	**325**	*e*PKP2	**PKPab**	**08 14 02.9**	**+2.4**	
OKC				MLR	MLR			
	comp=Z,2μm,17.1s							
DPC	**Dobruska-Polom**	**161.19**	**329**	AMS	AMS	09 38 20.0		
	comp=Z,2μm,17.9s							
UPC	**Upice**	**161.20**	**329**	AMS	AMS	09 44 40.0		
	comp=Z,2μm,18.0s							
VYHS	**Vyhne**	**161.28**	**321**	*e*PKP2	**PKPab**	**08 14 05.1**	**+2.1**	
VYHS	**Vyhne**	**161.28**	**321**	*e*PKP	**PKPab**	**08 14 05.1**	**+2.1**	
CLL	**Collm**	**161.70**	**336**	*e*PKP2	**PKPab**	**08 14 05.0**	**+0.4**	
CLL				pmax	pmax			
	comp=Z,95nm,1.3s							
CLL				MLR	MLR			
	comp=Z,3μm,18.6s							
CLL	**Collm**	**161.70**	**336**	*e*PKPab	**PKPab**	**08 14 05.0**	**+0.4**	
	comp=Z,95nm,1.3s							
CLL				*i*		08 14 09.0		
CLL				*i* pPKPab	**pPKPab**	**08 14 18.6**	**+1.1**	
	comp=Z,211nm,1.5s							
CLL				*e*PSKS		08 28 10.0		
CLL				LmV		09 39 00.0		
	comp=Z,3μm,18.6s							
PVCC	**Panska Ves**	**161.77**	**332**	*e*PKPAB	**PKPab**	**08 14 07.2**	**+2.2**	
PVCC				*ex*	x	08 14 19.6		
PVCC				AMS	AMS	09 45 10.0		
	comp=Z,2μm,18.1s							
PVCC	**Panska Ves**	**161.77**	**332**	*e*PKP2	**PKPab**	**08 14 07.2**	**+2.2**	
PVCC				MLR	MLR			
	comp=Z,2μm,18.1s							
SMOL	**Smolenice**	**161.98**	**323**	*e*PKP2	**PKPab**	**08 14 07.9**	**+1.9**	
SMOL	**Smolenice**	**161.98**	**323**	*e*PKP	**PKPab**	**08 14 07.9**	**+1.9**	
GOPC	**GO Pecny, Ondr**	**162.16**	**330**	AMS	AMS	09 32 40.0		
	comp=Z,3μm,17.5s							
PRA	**Prague**	**162.19**	**331**	AMS	AMS	09 47 00.0		
	comp=Z,2μm,17.0s							
PRU	**Pruhonice**	**162.21**	**331**	*e*PKPAB	**PKPab**	**08 14 07.0**	**+0.1**	
PRU				*ex*	x	08 14 21.7		
PRU				AMS	AMS	09 47 10.0		
	comp=Z,3μm,17.8s							
PRU	**Pruhonice**	**162.21**	**331**	*e*PKP2	**PKPab**	**08 14 07.0**	**+0.1**	
PRU				MLR	MLR			
	comp=Z,3μm,17.8s							
TREC	**Trest**	**162.34**	**328**	AMS	AMS	09 38 20.0		
	comp=Z,3μm,17.0s							
NKC	**Novy Kostel**	**162.80**	**335**	*e*PKPAB	**PKPab**	**08 14 10.8**	**+1.3**	
NKC				*ex*	x	08 14 23.1		
NKC				AMS	AMS	09 37 50.0		
	comp=Z,4μm,17.9s							
NKC	**Novy Kostel**	**162.80**	**335**	*e*PKP2	**PKPab**	**08 14 10.8**	**+1.3**	
NKC				MLR	MLR			
	comp=Z,4μm,17.9s							
KHC	**Kasperske Hory**	**163.27**	**330**	*e*PKPAB	**PKPab**	**08 14 13.4**	**+1.7**	
KHC				*ex*	x	08 14 26.1		
KHC				AMS	AMS	09 42 40.0		
	comp=Z,3μm,17.4s							
KHC	**Kasperske Hory**	**163.27**	**330**	*e*PKP2	**PKPab**	**08 14 13.4**	**+1.7**	
KHC				MLR	MLR			
	comp=Z,3μm,17.4s							
CLTB	**Caltabellotta**	**169.93**	**288**	*e*PKPdf	**PKPdf**	**08 13 27.7**	**+1.2**	
PCAB	**Cabril**	**170.29**	**45**	*e*PKPdf	**PKPdf**	**08 13 30.2**	**+3.7**	
POLO	**Lamas de Olo**	**170.64**	**46**	*e*PKPdf	**PKPdf**	**08 13 30.1**	**+3.3**	
POLO	**Lamas de Olo**	**170.64**	**46**	*e*PKPab	**PKPab**	**08 14 46.8**	**+2.2**	
PVRL	**Vila Real**	**170.75**	**46**	*e*PKPdf	**PKPdf**	**08 13 29.0**	**+2.2**	
PMAFR	**Mafra**	**170.87**	**62**	*e*PKPdf	**PKPdf**	**08 13 29.3**	**+2.4**	
PMAFR	**Mafra**	**170.87**	**62**	*e*PKPab	**PKPab**	**08 14 47.0**	**+1.4**	
PCAS	**Casmilo, Conde**	**170.94**	**54**	*e*PKPdf	**PKPdf**	**08 13 29.9**	**+3.0**	
PBRG	**Braganca**	**170.94**	**40**	*e*PKPdf	**PKPdf**	**08 13 28.2**	**+1.3**	
PMST	**Lisbon--Monsan**	**171.02**	**63**	*e*PKPdf	**PKPdf**	**08 13 29.6**	**+2.6**	
LIS	**Lisbon**	**171.05**	**63**	*e*P	PKPpre	08 13 18.6		
MVO	**Moncorvo**	**171.22**	**44**	*e*PKPdf	**PKPdf**	**08 13 29.1**	**+2.0**	
MVO	**Moncorvo**	**171.22**	**44**	*e*PKPab	**PKPab**	**08 14 48.6**	**+1.5**	
MTE	**Manteigas**	**171.37**	**50**	*e*PKPdf	**PKPdf**	**08 13 28.0**	**+0.8**	
MTE	**Manteigas**	**171.37**	**50**	*e*PKPab	**PKPab**	**08 14 48.9**	**+1.0**	
MTE	**Manteigas**	**171.37**	**50**	*e*PKPab	**PKPab**	**08 14 49.4**	**+1.6**	
PNCL	**Nicolau / Gran**	**171.71**	**66**	*e*PKPdf	**PKPdf**	**08 13 28.5**	**+1.2**	
PTEO	**Sao Teotonio**	**171.71**	**70**	*e*PKPdf	**PKPdf**	**08 13 32.2**	**+4.9**	
PCBR	**Castelo Branco**	**171.72**	**53**	*e*PKPdf	**PKPdf**	**08 13 28.2**	**+0.9**	
PFVI	**Vila Bisbo**	**171.72**	**73**	*e*PKPdf	**PKPdf**	**08 13 28.6**	**+1.2**	
MORF	**Marmelete**	**171.82**	**72**	*e*P	PKPdf	08 13 19.4	-8.0	
EVO	**Evora**	**171.94**	**62**	*e*PKPdf	**PKPdf**	**08 13 29.8**	**+2.4**	
EVO	**Evora**	**171.94**	**62**	*e*PKPab	**PKPab**	**08 14 52.0**	**+1.6**	
PMRV	**Marv??o**	**171.99**	**55**	*e*PKPdf	**PKPdf**	**08 13 29.9**	**+2.5**	
PMRV	**Marv??o**	**171.99**	**55**	*e*PKPab	**PKPab**	**08 14 51.8**	**+1.2**	
MESJ	**Messejana**	**172.02**	**68**	*e*P	PKPpre	08 13 19.3		
VSL	**Villasalto**	**172.10**	**306**	*e*PKPab	**PKPab**	**08 14 52.2**	**+1.2**	
PESTR	**Estremoz**	**172.11**	**59**	*e*PKPdf	**PKPdf**	**08 13 27.8**	**+0.3**	
PESTR	**Estremoz**	**172.11**	**59**	*e*PKPab	**PKPab**	**08 14 52.0**	**+0.8**	
PCVE	**Castro Verde**	**172.22**	**69**	*e*PKPdf	**PKPdf**	**08 13 29.5**	**+1.9**	
PBEJ	**Beja**	**172.23**	**66**	*e*PKPdf	**PKPdf**	**08 13 30.0**	**+2.4**	
PBDV	**Barranco-do-Ve**	**172.40**	**71**	*e*PKPdf	**PKPdf**	**08 13 29.9**	**+2.2**	
PVAQ	**Vaqueiros**	**172.53**	**70**	*e*PKPdf	**PKPdf**	**08 13 29.8**	**+2.1**	
PBAR	**Barrancos**	**172.79**	**63**	*e*PKPdf	**PKPdf**	**08 13 29.6**	**+1.8**	
PBAR	**Barrancos**	**172.79**	**63**	*e*PKPab	**PKPab**	**08 14 55.0**	**+0.8**	
KEST	**Kesra**	**173.25**	**277**	PKP	**PKPdf**	**08 13 27.7**	**-0.5**	
	comp=Z,14nm,1.0s,baz=232,slow=3.0,SNR=11							
KEST				PKPab	**PKPab**	**08 14 56.3**	**-0.2**	
	comp=Z,24nm,1.0s,baz=255,slow=6.6,SNR=2.9							
KEST	**Kesra**	**173.25**	**277**	*e*P	**PKPdf**	**08 13 27.6**	**-0.6**	
	comp=Z,191nm,1.6s							
KEST				LR	LR			
	comp=Z,22μm,18.0s							
ESDC	**Sonseca Array**	**173.94**	**40**	PKP	**PKPdf**	**08 13 28.6**	**+0.3**	
	comp=Z,8.0nm,1.0s,baz=349,slow=2.6,SNR=23							
ESDC				PKPab	**PKPab**	**08 14 59.5**	**+0.3**	
	comp=Z,1.6nm,0.6s,baz=317,slow=4.0,SNR=5.2							
ES19	**SONSECA Array**	**173.95**	**40**	*e*PKPdf	**PKPdf**	**08 13 29.0**	**+0.7**	
CMAH	**Djebel Manchou**	**174.66**	**288**	P	**PKPdf**	**08 13 28.0**	**-0.6**	
ABSA	**Djebel Ababsia**	**174.69**	**284**	P	**PKPdf**	**08 13 29.0**	**+0.3**	
MDT	**Midelt**	**174.72**	**114**	PKP	**PKPdf**	**08 13 29.3**	**+0.5**	
	comp=Z,23nm,1.1s,baz=149,slow=2.2							
CAEH	**'Ain El Ouahch**	**175.06**	**291**	P	**PKPdf**	**08 13 29.1**	**+0.4**	
CKFL	**Kef-Lekhel**	**175.26**	**287**	P	**PKPdf**	**08 13 30.3**	**+1.4**	
CTEI	**Djebel Teioual**	**175.58**	**284**	P	**PKPdf**	**08 13 31.0**	**+2.0**	
DFRA	**Djebel Bou Aff**	**175.88**	**291**	P	**PKPdf**	**08 13 31.1**	**+2.1**	
CKHR	**Kef el Ahmar**	**176.30**	**285**	P	**PKPdf**	**08 13 32.7**	**+3.5**	
SET	**Setif**	**176.35**	**288**	P	**PKPdf**	**08 13 30.0**	**+0.9**	
ATAF	**Djebel Tarf**	**177.31**	**287**	P	**PKPdf**	**08 13 29.8**	**+0.5**	
ABA	**Alger-Bouzarea**	**177.72**	**317**	P	**PKPdf**	**08 13 28.0**	**-1.2**	
ADJB	**Djebel Djouab**	**177.84**	**299**	P	**PKPdf**	**08 13 31.8**	**+2.4**	

CSEM ***15*** *07:53:26.7, 47°.48N×14°.90E, h0km, ML1.2/5, Mining explosion.*

VIE 15 07:53:26.7±0.2, 47°.48N×14°.90E, h0km, mb1.3/3, ML1.2/5, Error ellipse: s-maj=2.3km s-min=1.5km az=179.0, Mining explosion., Austria

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ARSA	**Arzberg**	**0.48**	**118**	Pg	Pg	07 53 36.2	+0.3
	0.6nm,0.1s						
ARSA				Sg	Sg	07 53 42.8	+0.7
	1.2nm,0.1s						
MOA	**Molln**	**0.57**	**311**	Pg	Pg	07 53 37.6	0.0
	1.1nm,0.1s						
MOA				Sg	Sg	07 53 46.3	+1.4
	6.4nm,0.5s						
CONA	**Conrad Observa**	**0.79**	**55**	Pg	Pg	07 53 42.0	+0.2
	0.1nm,0.0s						
CONA				Sg	Sg	07 53 52.9	+0.9
	0.8nm,0.1s						
KBA	**Koelnbreinsper**	**1.13**	**250**	Pg	Pg	07 53 48.1	-0.3
	0.5nm,0.1s						
KBA				Sg	Sb	07 54 04.4	-0.2
	0.7nm,0.3s						

ISCJB ***15*** *07:54:13.2±0.4, 37°.21N±0°.02×22°.02E±0°.03, h6km±4km, Error ellipse: s-maj=4.0km s-min=3.6km az=147.5*
CSEM ***15*** *07:54:13.0, 37°.21N×22°.03E, h11km, ML3.5/15*
ATH ***15*** *07:54:13.0, 37°.21N×22°.03E, h11km±1km, ML3.5/15, Error ellipse: s-maj=1.9km s-min=0.8km az=247.0*

ISC 15 07:54:13.3±0.9, 37°.21N±0°.02×22°.02E±0°.02, h7km±6km, n60, σ0°.87/90, 4C-1D, Southern Greece

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ITM	**Ithomi**	**0.08**	**251**	P	**Pg**	**07 54 14.1**	**-1.2**
ITM				S	**Sg**	**07 54 17.8**	**+1.1**
ITM	**Ithomi**	**0.08**	**251**	P	**Pg**	**07 54 14.2**	**-1.2**
ITM				AML	AML	07 54 17.4	
ITM				S	**Sg**	**07 54 17.9**	**+1.1**
ITM				AML	AML	07 54 19.4	
VLX	**Vlachokerasia**	**0.33**	**60**	P	**Pg**	**07 54 20.2**	**+0.4**
VLX				S	**Sg**	**07 54 23.8**	**-0.4**
VLX	**Vlachokerasia**	**0.33**	**60**	P	**Pg**	**07 54 20.2**	**+0.4**
VLX				S	**Sg**	**07 54 23.8**	**-0.4**
VLX				AML	AML	07 54 28.9	
	comp=N,29673μm,0.8s						
VLX				AML	AML	07 54 29.0	
	comp=E,30787μm,0.9s						
TRIP	**Tripoli**	**0.38**	**32**	P	**Pg**	**07 54 21.0**	**+0.3**
TRIP				S	**Sg**	**07 54 26.0**	**+0.3**
TRIP	**Tripoli**	**0.38**	**32**	P	**Pg**	**07 54 21.0**	**+0.3**
TRIP				S	**Sg**	**07 54 26.0**	**+0.3**
TRIP				AML	AML	07 54 28.0	
	comp=E,13778μm,0.6s						
TRIP				AML	AML	07 54 30.0	
	comp=N,15094μm,0.8s						
PYL	**PYLOS**	**0.38**	**216**	P	**Pg**	**07 54 19.8**	**-1.0**
PYL				S	**Sg**	**07 54 26.2**	**+0.5**
PYL	**PYLOS**	**0.38**	**216**	P	**Pg**	**07 54 19.8**	**-1.0**
PYL				S	**Sg**	**07 54 26.2**	**+0.5**
AMT	**Artemida-Makis**	**0.41**	**323**	P	**Pg**	**07 54 21.7**	**+0.4**
AMT				S	**Sg**	**07 54 27.0**	**+0.3**
AMT	**Artemida-Makis**	**0.41**	**323**	P	**Pg**	**07 54 21.7**	**+0.4**
AMT				S	**Sg**	**07 54 27.0**	**+0.3**
AMT				AML	AML	07 54 28.5	
	comp=N,72581μm,0.2s						
AMT				AML	AML	07 54 32.4	
	comp=E,81401μm,0.8s						
DRO	**Drossia**	**0.79**	**342**	P	**Pg**	**07 54 28.4**	**0.0**
DRO				S	**Sb**	**07 54 39.2**	**-0.9**
DRO	**Drossia**	**0.79**	**342**	P	**Pg**	**07 54 28.4**	**0.0**
DRO				S	**Sb**	**07 54 39.2**	**-0.9**
DRO				AML	AML	07 54 45.2	
	comp=N,21892μm,0.6s						
DRO				AML	AML	07 54 46.6	
	comp=E,17138μm,0.4s						
KLV	**Kalavryta, Ach**	**0.84**	**7**	P	**Pg**	**07 54 29.0**	**-0.5**
KLV				S	**Sg**	**07 54 40.8**	**+0.3**
KLV	**Kalavryta, Ach**	**0.84**	**7**	P	**Pg**	**07 54 28.9**	**-0.5**
KLV				S	**Sg**	**07 54 40.8**	**+0.3**
KLV				AML	AML	07 54 43.0	
	comp=E,6139μm,0.6s						
KLV				AML	AML	07 54 47.2	
	comp=N,4934μm,0.8s						
VLI	**Veliai**	**0.88**	**123**	P	**Pg**	**07 54 30.2**	**0.0**
VLI				S	**Sb**	**07 54 42.3**	**-0.5**
VLI	**Veliai**	**0.88**	**123**	P	**Pg**	**07 54 30.2**	**0.0**
VLI				S	**Sb**	**07 54 42.3**	**-0.5**
VLI				AML	AML	07 54 47.5	
	comp=E,3558μm,0.5s						
VLI				AML	AML	07 54 51.1	
	comp=N,2247μm,0.9s						
RLS	**Riolos of Patr**	**0.96**	**333**	P	**Pg**	**07 54 31.0**	**-0.7**
RLS				S	**Sg**	**07 54 43.8**	**-0.3**
RLS	**Riolos of Patr**	**0.96**	**333**	P	**Pg**	**07 54 31.0**	**-0.7**
RLS				S	**Sg**	**07 54 43.8**	**-0.3**
RLS				AML	AML	07 54 49.9	
	comp=E,4429μm,0.4s						
RLS				AML	AML	07 54 50.8	
	comp=N,6763μm,0.7s						
VTN	**Vitineika**	**0.97**	**317**	P	**Pb**	**07 54 32.5**	**0.0**
VTN	**Vitineika**	**0.97**	**317**	P	**Pb**	**07 54 32.5**	**0.0**
TRAZ	**Trapeza**	**0.97**	**9**	P	**Pg**	**07 54 30.4**	**-1.6**
TRAZ				S	**Sb**	**07 54 45.3**	**-0.3**
TRAZ	**Trapeza**	**0.97**	**9**	P	**Pg**	**07 54 30.4**	**-1.6**
TRAZ				S	**Sb**	**07 54 45.3**	**-0.3**
TRAZ				AML	AML	07 54 48.6	
	comp=E,11966μm,0.5s						
TRAZ				AML	AML	07 54 50.2	
	comp=N,17833μm,0.5s						
THAL	**Thalero**	**0.97**	**31**	P	**Pg**	**07 54 30.8**	**-1.2**
THAL	**Thalero**	**0.97**	**31**	P	**Pg**	**07 54 30.8**	**-1.2**
DID	**Didima**	**1.01**	**72**	P	**Pg**	**07 54 32.6**	**-0.2**
DID				S	**Sg**	**07 54 44.8**	**-1.2**
DID	**Didima**	**1.01**	**72**	P	**Pg**	**07 54 32.6**	**-0.2**
DID				S	**Sg**	**07 54 44.8**	**-1.2**
DID				AML	AML	07 54 50.7	
	comp=E,1622μm,0.5s						
DID				AML	AML	07 54 51.9	
	comp=N,1832μm,0.7s						
LAKA	**Lakka**	**1.03**	**358**	P	**Pg**	**07 54 32.5**	**-0.6**
LAKA				S	**Sb**	**07 54 47.0**	**-0.3**
LAKA	**Lakka**	**1.03**	**358**	P	**Pg**	**07 54 32.5**	**-0.6**
LAKA				S	**Sb**	**07 54 47.0**	**-0.3**
LAKA				AML	AML	07 54 51.6	
	comp=N,4731μm,0.5s						
LAKA				AML	AML	07 54 54.9	
	comp=E,2891μm,0.8s						
LOUT	**Loutraki**	**1.09**	**44**	P	**Pg**	**07 54 33.6**	**-0.6**
LOUT				S	**Sb**	**07 54 49.0**	**+0.1**
LOUT	**Loutraki**	**1.09**	**44**	P	**Pg**	**07 54 33.5**	**-0.6**
LOUT				S	**Sb**	**07 54 49.0**	**+0.1**
LOUT				AML	AML	07 54 52.8	
	comp=E,5603μm,0.7s						
LOUT				AML	AML	07 54 53.5	
	comp=N,4687μm,0.8s						
UPR	**University Cam**	**1.09**	**350**	P	**Pg**	**07 54 33.7**	**-0.6**
UPR	**University Cam**	**1.09**	**350**	P	**Pg**	**07 54 33.7**	**-0.6**
LTK	**Loutraki**	**1.11**	**42**	P	**Pg**	**07 54 34.0**	**-0.6**
LTK				S	**Sg**	**07 54 48.3**	**-0.7**
LTK	**Loutraki**	**1.11**	**42**	P	**Pg**	**07 54 34.0**	**-0.6**
LTK				S	**Sg**	**07 54 48.3**	**-0.7**
LTK				AML	AML	07 54 52.3	
	comp=E,3382μm,0.5s						
LTK				AML	AML	07 54 54.7	
	comp=N,3875μm,0.5s						
KALE	**Kalithea**	**1.19**	**5**	P	**Pg**	**07 54 34.5**	**-1.6**
KALE				S	**Sn**	**07 54 52.7**	**-0.1**
KALE	**Kalithea**	**1.19**	**5**	P	**Pg**	**07 54 34.5**	**-1.6**
KALE				S	**Sn**	**07 54 52.7**	**-0.1**
KALE				AML	AML	07 54 56.6	
	comp=N,3921μm,0.7s						
KALE				AML	AML	07 54 56.8	
	comp=E,3028μm,1.0s						
KYTH	**Kithira**	**1.25**	**138**	P	**Pn**	**07 54 36.7**	**-0.5**
DSF	**Desfina**	**1.27**	**18**	P	**Pn**	**07 54 36.3**	**-1.2**
DSF	**Desfina**	**1.27**	**18**	P	**Pn**	**07 54 36.3**	**-1.2**
KFL	**Anninata**	**1.33**	**313**	P	**Pn**	**07 54 37.8**	**-0.5**
KFL	**Anninata**	**1.33**	**313**	P	**Pn**	**07 54 37.8**	**-0.5**
VILL	**Villia**	**1.40**	**47**	P	**Pg**	**07 54 40.0**	**-0.2**
VIL2	**Platees**	**1.41**	**44**	P	**Pg**	**07 54 40.0**	**-0.3**
VLS	**Valsamata**	**1.49**	**311**	P	**Pn**	**07 54 40.0**	**-0.5**
VLS	**Valsamata**	**1.49**	**311**	P	**Pn**	**07 54 40.0**	**-0.5**
PDO	**Prodromos**	**1.54**	**335**	P	**Pb**	**07 54 42.0**	**-0.1**
PDO	**Prodromos**	**1.54**	**335**	P	**Pb**	**07 54 42.0**	**-0.1**
VLY	**Voula,Athens**	**1.55**	**65**	P	**Pn**	**07 54 41.4**	**+0.1**
VLY				S	**Sb**	**07 55 02.3**	**+0.1**
VLY	**Voula,Athens**	**1.55**	**65**	P	**Pn**	**07 54 41.4**	**+0.1**
VLY				S	**Sb**	**07 55 02.2**	**+0.1**
VLY				AML	AML	07 55 08.1	
	comp=E,1685μm,0.9s						
VLY				AML	AML	07 55 09.4	
	comp=N,1954μm,0.9s						
ANKY	**Antikythira Is**	**1.69**	**142**	P	**Pg**	**07 54 46.0**	**+0.3**
ANKY	**Antikythira Is**	**1.69**	**142**	P	**Pg**	**07 54 46.0**	**+0.3**
SKIA	**Skiathos**	**2.26**	**

nsta2 refers to surface/mantle waves, cutoff=50s.

NEIC ***15*** *08:00:09.6±0.1,36.26N×141.34E,h28km,mb5.8/293, ME6.1,MS6.0/297,MW6.1,MW6.1 Error ellipse: s-maj=3.1km s-min=2.0km az=143.0,Moment Tensor Solution. s95 Moment tensor: Scale 10¹⁸Nm; Mrr0.84; Mθθ-0.01; Mφφ-0.83; Mrθ0.47; Mrφ-0.33; Mθφ1.19; Best double couple: M₀1.60000×10¹⁸ NP1:φ₁97.00000°, δ18.00000°,λ86.00000°. NP2:φ₂21.00000°,δ73.00000°, λ91.00000°. Principal axes: T 1.5000, Plg62.0000°, Azm293.0000°; N 0.1100, Plg1.0000°, Azm201.0000°; P -1.6100, Plg28.0000°, Azm110.0000°; Broadband fault plane solution: P waves. NP1:φ₁200.00000°,δ10.00000°, λ90.00000°. NP2:φ₂20.00000°,δ80.00000°,λ90.00000°. Principal axes: T Plg55.0000°, Azm290.0000°; N Plg0.0000°, Azm0.0000°; P Plg35.0000°, Azm110.0000°; Depth from synthetics of broadband displacement seismograms. Energy computed from BB mechanism.*

NEIC Felt [IV] at Fujisawa; [III] at Chiba and Tokyo; [II] at Yokosuka. Felt widely in southeastern Honshu. Recorded [4 JMA] in Ibaraki.

ISC 15 08:00:08.9±0.4,36.26N±0.02×141.43E±0.03,h24km±2km, h24km:pP-P,n1883,σ1977/1912,mb5.9/483,MS6.2/600, 143C-39D,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CHOJ	**Chosi**	**0.73**	**220**			S	**Sn**	**08 00 34.5**	**+0.5**
JHO	**Hitachi**	**0.78**	**297**			P	**Pb**	**08 00 23.7**	**-0.1**
JHO						S	**Sn**	**08 00 35.3**	**0.0**
ONAJ	**Iwakimizuishiy**	**0.98**	**329**	⇓		P	**Pn**	**08 00 26.3**	**-0.9**
ONAJ						S	**Sb**	**08 00 39.9**	**+0.1**
JYT	**Yasato**	**1.00**	**268**	⇓		P	**Pn**	**08 00 27.1**	**-0.3**
JYT						S	**Sn**	**08 00 40.6**	**-0.2**
JFK	**Kawauchi**	**1.19**	**338**	⇓		P	**Pn**	**08 00 29.2**	**-0.8**
I30JP	**ISUMI INFRASON**	**1.32**	**224**			Pn	**Pn**	**08 00 31.8**	**0.0**
	baz=64,slow=19,SNR=4.2								
JSB	**Shiboa**	**1.41**	**300**	⇓		P	**Pb**	**08 00 33.8**	**-0.7**
JFT	**Otama**	**1.53**	**325**	⇓		P	**Pn**	**08 00 35.4**	**+0.7**
JFT						S	**Sb**	**08 00 56.3**	**+0.7**
JAG	**Ashikaga**	**1.61**	**276**	⇓		P	**Pn**	**08 00 35.8**	**0.0**
JAG						S	**Sn**	**08 00 55.5**	**-0.2**
BSO3	**Boso 3**	**1.64**	**208**			P	**Pn**	**08 00 36.1**	**+0.1**
BSO1	**Boso 1**	**1.65**	**193**			P	**Pn**	**08 00 35.2**	**-0.6**
JMM	**Marumori**	**1.68**	**342**	⇓		P	**Pn**	**08 00 36.3**	**-0.4**
JMM						S	**Sn**	**08 00 55.1**	**-2.4**
JFY	**Yanaizu**	**1.80**	**310**	⇓		P	**Pn**	**08 00 39.2**	**+0.8**
JKT	**Katashina**	**1.83**	**287**	⇓		P	**Pn**	**08 00 39.8**	**+0.9**
JKT						S	**Sn**	**08 00 59.7**	**-1.7**
JRY	**Ryogami san**	**2.06**	**264**	⇓		P	**Pn**	**08 00 42.2**	**+0.1**
JHK	**Hiroka**	**2.18**	**298**	⇓		P	**Pn**	**08 00 45.0**	**+1.4**
JYS	**Shirataka**	**2.24**	**331**	⇓		P	**Pn**	**08 00 45.5**	**+1.1**
JIZS	**Izushimoda**	**2.59**	**234**			P	**Pn**	**08 00 49.8**	**+0.5**
MJAR	**Matsushiro Arr**	**2.62**	**277**			Pn	**Pn**	**08 00 50.0**	**+0.4**
	511nm,0.3s,baz=109,slow=9.0,SNR=1431								
MJAR						LR		08 02 11.9	
	comp=Z,573μm,18.0s,baz=95,slow=48								
MAJO	**Matsushiro**	**2.62**	**277**	*d*	*i*	P	**Pn**	**08 00 51.4**	**+1.7**
MAJO	**Matsushiro**	**2.62**	**277**	*e*		Pn	**Pn**	**08 00 51.0**	**+1.3**
MAJO				*e*		Sn	**Sn**	**08 01 19.6**	**-1.1**
MAT	**Matsushiro**	**2.62**	**277**			P	**Pn**	**08 00 51.1**	**+1.4**
MAT				*e*		S	**Sb**	**08 01 24.0**	**-2.9**
MAT	**Matsushiro**	**2.62**	**277**			P	**Pn**	**08 00 51.0**	**+1.4**
MJB9	**Matsu-Tunnel**	**2.62**	**277**	*e*		Pn	**Pn**	**08 00 51.5**	**+1.8**
JNG	**Nsakai**	**2.70**	**274**			P	**Pn**	**08 00 52.3**	**+1.5**
JNT	**Takato**	**2.70**	**263**	⇓		P	**Pn**	**08 00 52.7**	**+1.8**
JJN	**Nakama**	**2.76**	**289**	⇓		P	**Pn**	**08 00 53.9**	**+2.3**
JNY	**Yasuok**	**3.04**	**254**	⇑		P	**Pn**	**08 00 58.4**	**+2.9**
JSD	**Sado**	**3.09**	**306**	⇓		P	**Pn**	**08 00 57.0**	**+0.8**
JRG	**Rokugo**	**3.19**	**349**	⇑		P	**Pn**	**08 00 58.2**	**+0.7**
JGN	**Niukaw**	**3.33**	**271**	⇓		P	**Pn**	**08 01 01.6**	**+2.1**
JGF	**Kuroka**	**3.37**	**260**			P	**Pn**	**08 01 02.9**	**+2.8**
JHJ2	**Mitsune**	**3.42**	**203**	*e*		Pn	**Pn**	**08 01 00.4**	**-0.2**
JHJ2				*e*		Sn	**Sn**	**08 01 40.5**	**+0.2**
JHJ	**Hachijo jima 2**	**3.42**	**204**			Pn	**Pn**	**08 01 00.1**	**-0.6**
	594nm,0.3s,baz=319,slow=16,SNR=129								
JHJ						Sn	**Sn**	**08 01 39.2**	**-1.2**
	2μm,0.3s,baz=218,slow=22,SNR=7.3								
JHJ						LR	LR	08 01 49.2	
	comp=Z,26μm,21.9s,baz=38,slow=31								
JSZ	**Suzu**	**3.47**	**291**	⇓		P	**Pn**	**08 01 02.8**	**+1.4**
JAO	**Obara**	**3.54**	**255**	⇑		P	**Pn**	**08 01 05.0**	**+2.6**
INU	**Inuyama**	**3.71**	**257**	*e*		Pn	**Pn**	**08 01 07.2**	**+2.6**
INU				*e*		Sn	**Sn**	**08 01 47.5**	**+0.1**
JHG	**Hegura jima**	**3.94**	**295**			P	**Pn**	**08 01 09.4**	**+1.6**
JFM	**Mihama**	**4.49**	**262**	⇑		P	**Pn**	**08 01 18.1**	**+2.8**
JWT	**Wachi**	**5.00**	**260**			P	**Pn**	**08 01 24.8**	**+2.4**
ERM	**Erimo**	**5.90**	**13**	⇑	*i*	P	**Pn**	**08 01 33.5**	**-1.2**
ERM						pmax	pmax		
	comp=Z,300nm,1.0s								
ERM	**Erimo**	**5.90**	**13**	*e*		Pn	**Pn**	**08 01 33.5**	**-1.2**
ERM				*e*		Sn	**Sn**	**08 02 42.2**	**+0.8**
JAD	**Aida**	**6.07**	**260**			P	**Pn**	**08 01 39.1**	**+2.1**
ASAJ	**Asahikawa**	**7.89**	**6**			Pn	**Pn**	**08 02 00.7**	**-1.4**
	baz=99,slow=9.6								
ASAJ	**Asahikawa**	**7.89**	**6**	*e*		Pn	**Pn**	**08 02 01.5**	**-0.6**
YUK	**Yuzh-Kuril'sk**	**8.47**	**22**	*i*		P	**Pn**	**08 02 08.0**	**-1.9**
CBIJ	**Chichi jima**	**9.16**	**176**	*e*		Pn	**Pn**	**08 02 16.8**	**-2.8**
JNU	**Nakatsue**	**9.24**	**253**			Pn	**Pn**	**08 02 21.1**	**+0.4**
	comp=Z,7.1nm,0.3s,baz=64,slow=8.0,SNR=37								
JNU	**Nakatsue**	**9.24**	**253**	*e*		Pn	**Pn**	**08 02 22.0**	**+1.3**
VLA	**Vladivostok**	**10.05**	**316**	*c*	*i*	P	**Pn**	**08 02 34.5**	**+2.9**
VLA						MLR	MLR		
	comp=Z,220μm,18.0s								
MSHR	**Mys Shultsa**	**10.14**	**312**	*c*	*e*	P	**Pn**	**08 02 35.8**	**+2.9**
KUR	**Kuril'sk**	**10.20**	**27**	*e*		P	**Pn**	**08 02 35.3**	**+1.7**
KUR						pmax	pmax		
	comp=Z,2μm,3.8s								
KUR						pmax	pmax		
	comp=N,1μm,3.9s								
KUR						pmax	pmax		
	comp=E,1μm,3.2s								
KUR						pmax	pmax		
	comp=Z,379nm,0.6s								
KUR						pmax	pmax		
	comp=N,95nm,0.4s								
KUR						pmax	pmax		
	comp=E,214nm,0.5s								
KUR						MLR	MLR		
	comp=E,47μm,17.0s								
KUR						MLR	MLR		
	comp=Z,37μm,17.0s								
KUR						MLR	MLR		
	comp=N,18μm,16.0s								
USRK	**Ussuriysk Ar.**	**10.71**	**321**			Pn	**Pn**	**08 02 41.1**	**+0.4**
	comp=N,4.2nm,0.3s,baz=133,slow=12,SNR=158								
USRK						LR	LR	08 06 45.5	
	comp=N,225μm,18.4s,baz=126,slow=37								
YSS	**Yuzh-Sakhalins**	**10.73**	**5**	⇑	*e*	P	**Pn**	**08 02 39.4**	**-1.5**
YSS					*e*	S	**Sn**	**08 04 37.1**	**-3.0**
YSS						pmax	pmax		
	comp=Z,120nm,0.6s								
YSS						pmax	pmax		
	comp=Z,2μm,5.6s								
YSS						MLR	MLR		
	comp=Z,57μm,17.0s								
YSS						MLR	MLR		
	comp=N,44μm,16.0s								
YSS						MLR	MLR		
	comp=E,74μm,19.0s								
YSS	**Yuzh-Sakhalins**	**10.73**	**5**	*e*		Pn	**Pn**	**08 02 40.0**	**-0.9**
KSRS	**Korea Array**	**10.89**	**280**			Pn	**Pn**	**08 02 45.1**	**+1.9**
	comp=E,5.4nm,0.3s,baz=91,slow=12,SNR=81								
KSRS						LR	LR	08 06 57.2	
	comp=E,139μm,18.9s,baz=74,slow=38								
KS01	**Wonju Array Si**	**10.92**	**280**	*e*		Pn	**Pn**	**08 02 47.2**	**+3.6**
KS15	**Wonju Array Si**	**10.92**	**280**	*e*		Pn	**Pn**	**08 02 48.2**	**+4.6**
INCN	**Inchon**	**11.92**	**280**	*e*		Pn	**Pn**	**08 03 01.4**	**+4.1**
MDJ	**Mudanjiang**	**12.28**	**316**			P	**Pn**	**08 03 03.4**	**+1.3**
MDJ						pmax	pmax		
	comp=E,60nm,1.4s								
MDJ						pmax	pmax		
	comp=E,7μm,8.3s								
MDJ						LR	LR		
	comp=E,108μm,16.6s								
MDJ						LR	LR		
	comp=E,100μm,17.3s								
MDJ						LR	LR		
	comp=E,199μm,15.8s								
MDJ	**Mudanjiang**	**12.28**	**316**	*e*		Pn	**Pn**	**08 03 03.5**	**+1.3**
HABR	**Khabarovsk**	**13.07**	**341**	*c*	*i*	P	**Pn**	**08 03 10.1**	**-2.9**
HABR						pmax	pmax		
	comp=E,22nm,1.5s								
HABR						pmax	pmax		
	comp=Z,36nm,1.5s								
HABR						pmax	pmax		
	comp=N,11nm,1.5s								
CN2	**Changchun**	**14.36**	**306**	*e*		P	**Pn**	**08 03 30.9**	**+0.3**
CN2				*e*		S	**Sn**	**08 06 11.6**	**+2.6**
CN2						pmax	pmax		
	comp=N,60nm,1.4s								
CN2						pmax	pmax		
	comp=N,200nm,5.0s								
CN2						LR	LR		
	comp=N,53μm,16.0s								
CN2						LR	LR		
	comp=N,89μm,16.0s								
TYV	**Tymovskoe**	**14.62**	**3**	*e*		P	Pn	08 03 29.2	-4.9
TYV						pmax	pmax		
	comp=Z,3μm,5.2s								
TYV						MLR	MLR		
	comp=Z,122μm,15.0s								
JOW	**Kunigami**	**14.62**	**234**			Pn	**Pn**	**08 03 34.7**	**+0.4**
	comp=Z,4.0nm,0.3s,baz=54,slow=9.6,SNR=6.0								
JOW	**Kunigami**	**14.62**	**234**	*e*		Pn	**Pn**	**08 03 33.0**	**-1.3**
SNY	**Shenyang**	**14.94**	**297**	⇑		P	**Pn**	**08 03 39.0**	**+0.6**
SNY						S	**Sn**	**08 06 23.4**	**+0.4**
SNY						pmax	pmax		
	comp=Z,190nm,1.7s								
SNY						pmax	pmax		
	comp=Z,21μm,10.4s								
SNY						LR	LR		
	comp=N,78μm,14.1s								
SNY						LR	LR		
	comp=E,141μm,16.7s								
SNY						LR	LR		
	comp=Z,199μm,17.2s								
DL2	**Dalian**	**15.92**	**285**	⇑	*i*	P	**Pn**	**08 03 51.8**	**+0.5**
DL2						S	**Sn**	**08 06 50.1**	**+3.1**
DL2						pmax	pmax		
	comp=Z,310nm,1.2s								
DL2						pmax	pmax		
	comp=Z,30μm,6.7s								
DL2						LR	LR		
	comp=Z,173μm,16.2s								
DL2						LR	LR		
	comp=Z,220μm,15.7s								
NKL	**Nikolayevsk**	**16.89**	**358**	*e*		P	**Pn**	**08 04 02.0**	**-1.5**
NKL						pmax	pmax		
	comp=N,9μm,16.0s								
NKL						pmax	pmax		
	comp=Z,13μm,16.0s								
NKL						pmax	pmax		
	comp=N,50nm,1.8s								
NKL						pmax	pmax		
	comp=E,260nm,1.8s								
NKL						pmax	pmax		
	comp=Z,860nm,1.8s								
NKL						MLR	MLR		
	comp=E,73μm,16.0s								
NKL						MLR	MLR		
	comp=E,65μm,16.0s								
OKH	**Okha**	**17.32**	**3**	⇑	*i*	P	**Pn**	**08 04 07.6**	**-1.2**
OKH					*i*	S	**Sn**	**08 07 19.1**	**-1.5**
OKH						pmax	pmax		
	comp=Z,4μm,16.0s								
OKH						smax	smax		
	comp=N,5μm,12.0s								
OKH						MLR	MLR		
	comp=Z,51μm,19.0s								
SKR	**Severo-Kuril's**	**17.87**	**32**	*e*		P	P	08 04 26.8	+11
SKR				*e*		S	**Sn**	**08 07 34.0**	**-0.1**
SKR						pmax	pmax		
	comp=Z,3μm,4.6s								
SKR						MLR	MLR		
	comp=Z,28μm,19.0s								
SKR						MLR	MLR		
	comp=Z,26μm,18.0s								
NJ2	**Nanjing**	**19.14**	**264**	*e*		P	**P**	**08 04 28.3**	**-2.0**
NJ2						S	**Sn**	**08 08 03.8**	**-1.3**
NJ2						sS	**sS**	**08 08 12.3**	**-4.5**
NJ2						pmax	pmax		
	comp=Z,8μm,7.8s								
NJ2						LR	LR		
	comp=Z,82μm,16.0s								
NJ2						LR	LR		
	comp=Z,75μm,21.4s								
NJ2						LR	LR		
	comp=Z,101μm,20.3s								
TIA	**Tai'an**	**19.60**	**277**	⇑		P	**P**	**08 04 33.8**	**-1.6**
TIA						pP	**sP**	**08 04 47.3**	**+2.1**
TIA						pmax	pmax		
	comp=Z,160nm,1.4s								
TIA						LR	LR		
	comp=Z,68μm,15.8s								
TIA						LR	LR		
	comp=Z,61μm,18.8s								
TIA						LR	LR		
	comp=Z,87μm,20.7s								
YOJ	**Yonaguni jima**	**19.74**	**239**	*e*		P	**P**	**08 04 34.6**	**-2.3**
YOJ						pmax	pmax		
	comp=Z,410nm,0.7s								
YOJ	**Yonaguni jima**	**19.74**	**239**	*e*		P	**P**	**08 04 34.6**	**-2.3**
	comp=Z,414nm,0.7s								
BJI	**Beijing**	**20.20**	**288**			P	**P**	**08 04 39.5**	**-2.3**
BJI						S	**S**	**08 08 23.3**	**-4.0**
BJI						pmax	pmax		
	comp=Z,6μm,10.3s								
BJI						LR	LR		
	comp=Z,67μm,13.6s								
BJI						LR	LR		
	comp=Z,24μm,17.8s								
BJI						LR	LR		
	comp=Z,49μm,21.2s								
BJT	**Baijiatuau**	**20.20**	**288**	*e*		P	**P**	**08 04 39.4**	**-2.4**
BJT						pmax	pmax		
	comp=Z,756nm,1.4s								
BJT						MLR	MLR		
	comp=Z,69μm,20.0s								
BJT	**Baijiatuau**	**20.20**	**288**	*e*		P	**P**	**08 04 39.4**	**-2.4**
	comp=Z,756nm,1.4s								
BJT						LR	LR		
	comp=Z,69μm,20.0s								
PEA0	**Petropavlovsk-**	**20.35**	**29**	*e*		P	**P**	**08 04 43.2**	**-0.1**
PEA0B	**Petropavlovsk-**	**20.35**	**29**	*e*		P	**P**	**08 04 43.4**	**+0.1**
	comp=Z,619nm,1.4s								
PEA0B						LR	LR		
	comp=Z,28μm,20.0s								
PETK	**Petropavlovsk-**	**20.35**	**29**	*e*		P	**P**	**08 04 43.6**	**+0.3**
	comp=Z,60nm,0.9s,baz=206,slow=7.9,SNR=17								
PETK						LR	LR	08 12 59.9	
	comp=Z,25μm,20.2s,baz=218,slow=38								
PEA1	**Petropavlovsk-**	**20.35**	**29**	*e*		P	**P**	**08 04 43.6**	**+0.3**
HIA	**Hailar**	**20.46**	**316**	*e*		P	**P**	**08 04 41.0**	**-3.6**
HIA						pmax	pmax		
	comp=Z,333nm,1.0s								
HIA						MLR	MLR		
	comp=Z,130μm,18.0s								
HIA	**Hailar**	**20.46**	**316**	*e*		P	**P**	**08 04 41.0**	**-3.6**
	comp=Z,332nm,1.0s								
HIA						LR	LR		
	comp=Z,130μm,18.0s								
TATO	**Taipei**	**20.48**	**242**	*e*		P	**P**	**08 04 43.6**	**-1.4**
	comp=Z,940nm,1.8s								
TATO						LR	LR		
	comp=Z,65μm,18.0s								
PET	**Petropavlovsk**	**20.67**	**30**	*c*	*e*	P	**P**	**08 04 47.6**	**+0.9**
PET					*i*	S	**S**	**08 08 28.5**	**-7.8**
PET						pmax	pmax		
	comp=Z,4μm,17.4s								
PET						pmax	pmax		
	comp=Z,239nm,1.3s								
PET						MLR	MLR		
	comp=Z,38μm,21.0s								
PET						MLR	MLR		
	comp=Z,29μm,19.0s								
PET	**Petropavlovsk**	**20.67**	**30**	*e*		P	**P**	**08 04 46.3**	**-0.4**
	comp=Z,440nm,1.3s								
PET						LR	LR		
	comp=Z,31μm,20.0s								
YHNB	**Yeheng**	**20.75**	**242**	*e*		P	**P**	**08 04 45.6**	**-2.4**
	comp=Z,171nm,1.1s								
YHNB						LR	LR		
	comp=Z,63μm,19.0s								
NACB	**Ninganchiao**	**20.91**	**240**	*e*		P	**P**	**08 04 46.5**	**-3.1**
	comp=Z,143nm,0.5s								
NACB						LR	LR		
	comp=Z,81μm,20.0s								
SSLB	**Suanglung**	**21.61**	**241**	*e*		P	**P**	**08 04 54.5**	**-2.7**
	comp=Z,126nm,0.8s								
SSLB						LR	LR		
	comp=Z,50μm,20.0s								
YULB	**Yu-li**	**21.62**	**239**	*e*		P	**P**	**08 04 54.3**	**-3.0**
	comp=Z,91nm,0.8s								
YULB						LR	LR		
	comp=Z,30μm,21.0s								
TPUB	**Ta-pu**	**22.14**	**240**	*e*		P	**P**	**08 04 59.1**	**-3.8**
	comp=Z,434nm,1.3s								
TPUB						LR	LR		
	comp=Z,50μm,20.0s								
TWG	**Pinlang**	**22.15**	**238**	*e*		P	**P**	**08 05 00.1**	**-2.9**
	comp=Z,905nm,1.0s								
TWG						LR	LR		
	comp=Z,81μm,22.0s								
QZH	**Quanzhou**	**22.61**	**246**	⇑	*i*	P	**P**	**08 05 02.4**	**-5.5**
QZH						S	S	08 09 02.4	-12
QZH						pmax	pmax		
	comp=Z,390nm,1.0s								
QZH						LR	LR		
	comp=Z,117μm,20.6s								
QZH						LR	LR		
	comp=Z,183μm,18.4s								
GUMO	**Guam**	**22.79**	**171**			P	**P**	**08 05 10.1**	**+0.3**
	comp=Z,75nm,0.7s,baz=298,slow=2.2,SNR=7.4								
GUMO	**Guam**	**22.79**	**171**			P	**P**	**08 05 10.1**	**+0.3**
GUMO						pmax	pmax		
	comp=Z,581nm,0.9s								
GUMO	**Guam**	**22.79**	**171**	*e*		P	**P**	**08 05 13.9**	**+4.1**
TIY	**Taiyuan**	**23.17**	**282**	*e*		P	**P**	**08 05 10.1**	**-3.6**
TIY						pP	**sP**	**08 05 29.9**	**+6.2**
TIY						PP	**PnPn**	**08 05 42.8**	**+3.4**
TIY						S	**S**	**08 09 18.3**	**-5.7**
TIY						sS	Sn	08 09 41.0	-1.0
TIY						SS	**SnSn**	**08 10 08.5**	**+10**
TIY						pmax	pmax		
	comp=Z,4μm,6.6s								
TIY						LR	LR		
	comp=Z,59μm,14.2s								
TIY						LR	LR		
	comp=Z,161μm,15.1s								
WHN	**Wuhan**	**23.28**	**264**	⇑		P	**P**	**08 05 12.4**	**-2.3**
WHN						S	**S**	**08 09 23.3**	**-2.4**
WHN						LR	LR		
	comp=Z,98μm,12.7s								
WHN						LR	LR		
	comp=Z,192μm,19.1s								
CLNS	**Chul'man**	**23.39**	**337**	*e*		P	**P**	**08 05 13.8**	**-1.9**
CLNS				*e*		*PP	**pP**	**08 05 23.5**	**+0.9**
CLNS				*e*				08 09 06.7	
CLNS				*e*		S	**S**	**08 09 19.0**	**-8.2**
CLNS				*e*		SS	**SnSn**	**08 10 02.4**	**-0.7**
CLNS						pmax	pmax		
	comp=N,520nm,1.1s								
CLNS						pmax	pmax		
	comp=Z,524nm,1.1s								
CLNS						pmax	pmax		
	comp=E,133nm,1.1s								
CLNS						smax	smax		
	comp=E,6μm,10.0s								
CLNS						smax	smax		
	comp=N,8μm,10.4s								
CLNS						MLR	MLR		
	comp=Z,52μm,13.0s								
CLNS						MLR	MLR		
	comp=N,50μm,14.0s								
CLNS						MLR	MLR		
	comp=E,35μm,15.0s								
HHC	**Hu-ho-hao-te**	**23.74**	**290**	*e*		P	**P**	**08 05 15.5**	**-3.8**
HHC						PP	**PnPn**	**08 05 46.6**	**-0.6**
HHC						S	**S**	**08 09 31.8**	**-1.4**
HHC						pmax	pmax		
	comp=E,4μm,8.7s								
HHC						LR	LR		
	comp=E,34μm,14.2s								
HHC						LR	LR		
	comp=E,69μm,15.0s								
MA2	**Magadan**	**24.10**	**12**			P	**P**	**08 05 22.1**	**-0.2**
	comp=E,116nm,1.0s,baz=192,slow=9.6,SNR=33								
MA2						LR	LR	08 16 14.5	
	comp=E,11μm,18.1s,baz=196,slow=40								
MA2	**Magadan**	**24.10**	**12**			P	**P**	**08 05 22.1**	**-0.2**
MA2						pmax	pmax		
	comp=Z,116nm,1.0s								
MA2						MLR	MLR		
	comp=Z,11μm,18.1s								
BTO	**Baotou**	**24.91**	**290**	*e*		P	**P**	**08 05 26.9**	**-3.2**
BTO						S	**S**	**08 09 44.8**	**-7.2**
BTO						LR	LR		
	comp=Z,14μm,13.7s								
CIT	**Chita**	**25.25**	**317**	*e*		P	**P**	**08 05 31.1**	**-1.8**
CIT				*e*				08 05 45.2	
CIT				*e*				08 06 13.2	
CIT				*e*				08 06 17.7	
CIT						pmax	pmax		
	comp=Z,782nm,1.6s								
SZP	**Santa**	**26.31**	**230**	*e*		P	**P**	**08 05 42.8**	**+0.1**
	comp=Z,582nm,1.3s								
XAN	**Xi'an**	**26.61**	**275**			P	**P**	**08 05 44.1**	**-1.4**
XAN						pP	pP	08 05 53.0	+0.3
XAN						S	**S**	**08 10 15.4**	**-3.6**
XAN						pmax	pmax		
	comp=Z,420nm,1.7s								
XAN						pmax	pmax		
	comp=Z,8μm,11.3s								
XAN						LR	LR		
	comp=Z,34μm,16.3s								
XAN						LR	LR		
	comp=Z,80μm,13.5s								
ENH	**Enshi**	**27.29**	**267**	*e*		P	**P**	**08 05 50.7**	**-1.0**
	comp=Z,772nm,1.1s								
ENH						LR	LR		
	comp=Z,45μm,20.0s								
BOLP	**Bolinao**	**27.53**	**230**	*e*		P	**P**	**08 05 52.9**	**-0.8**
SEY	**Seymchan**	**27.54**	**11**			P	**P**	**08 05 53.9**	**+0.5**
	comp=Z,100nm,1.0s,baz=209,slow=8.0,SNR=26								
SEY						LR	LR	08 18 21.6	
	comp=Z,15μm,18.8s,baz=202,slow=40								
SEY	**Seymchan**	**27.54**	**11**			P	**P**	**08 05 53.9**	**+0.5**
SEY						pmax	pmax		
	comp=Z,81nm,1.0s								
SEY						MLR	MLR		
	comp=Z,15μm,18.8s								
GZH	**Guangzhou**	**27.60**	**249**			P	P	08 05 45.8	-8.6
GZH						sP	pP	08 05 59.9	-1.7
GZH						S	S	08 10 19.3	-15
GZH						pmax	pmax		
	comp=Z,8μm,9.4s								
H11N2	**WAKE ISLAND Hy**	**27.75**	**120**			T	T	08 35 19.7	
	baz=312,slow=75,SNR=298								
H11N1	**WAKE ISLAND Hy**	**27.75**	**120**			T	T	08 35 15.7	
	baz=312,slow=75,SNR=188								
H11N3	**WAKE ISLAND Hy**	**27.77**	**120**			T	T	08 35 15.2	
	baz=312,slow=75,SNR=371								
ULN	**Ulaanbaatar**	**27.81**	**305**	*e*		P	**P**	**08 05 55.8**	**-0.4**
ULN						pmax	pmax		
	comp=Z,230nm,1.1s								
ULN	**Ulaanbaatar**	**27.81**	**305**	*e*		P	**P**	**08 05 55.8**	**-0.4**
	comp=Z,230nm,1.1s								
ULN						LR	LR		
	comp=Z,62μm,22.0s

baz=313,slow=76,SNR=421
H11S2 WAKE ISLAND Hy 28.45 122 T T 08 36 06.3
baz=313,slow=76,SNR=576
TGY Tagaytay City 28.71 225 LR LR 08 18 48.0
comp=Z,10μm,18.2s,baz=25,slow=39
LZH Lanzhou 30.22 281 ⇓P **P** **08 06 17.8 0.0**
LZH S **S** **08 11 15.0 -1.0**
LZH pmax pmax
comp=Z,1μm,1.5s
LZH pmax pmax
comp=Z,3μm,4.7s
LZH LR LR
comp=Z,43μm,13.5s
LZH LR LR
comp=Z,116μm,16.4s
IRK Irkutsk 30.63 313 *e*P **P** **08 06 20.4 -0.6**
IRK *e*S **S** **08 11 27.9 +6.1**
IRK pmax pmax
comp=Z,475nm,2.4s
ZAK Zakamensk 30.76 309 *e*P **P** **08 06 21.9 -0.4**
ZAK pmax pmax
comp=Z,214nm,1.2s
BUSP Coron 30.82 224 *e*P **P** **08 06 20.6 -2.4**
TLY Talaya 30.85 312 P **P** **08 06 22.9 -0.1**
comp=Z,266nm,0.8s,baz=114,slow=6.5,SNR=73
TLY LR LR 08 19 25.5
comp=Z,81μm,18.2s,baz=104,slow=38
TLY Talaya 30.85 312*c i*P **P** **08 06 22.9 -0.1**
TLY *e* 08 07 23.7
TLY *e*PPP PPP 08 07 39.0
TLY *e*S **S** **08 11 26.0 +0.8**
TLY pmax pmax
comp=Z,457nm,1.0s
TLY MLR MLR
comp=Z,85μm,15.0s
TLY Talaya 30.85 312 *e*P **P** **08 06 23.8 +0.8**
TLY LR LR
comp=Z,105μm,18.0s
TLY Talaya 30.85 312 P **P** **08 06 23.5 +0.5**
SNR=88
TLY P **P** **08 06 23.5 +0.5**
SNR=88
TLY P **P** **08 06 23.5 +0.5**
SNR=88
GYA Guiyang 31.12 262⇑ *i*P **P** **08 06 24.3 -1.4**
GYA S **S** **08 11 28.3 -1.7**
GYA SS **SnSn** **08 13 13.4 +1.2**
GYA pmax pmax
comp=Z,170nm,1.2s
GYA LR LR
comp=Z,25μm,20.2s
GYA LR LR
comp=Z,51μm,18.6s
CD2 Chengdu 31.70 271⇑ *i*P **P** **08 06 29.8 -0.9**
CD2 PP **PnPn** **08 07 36.5 +1.6**
CD2 PcP **PcP** **08 09 20.3 -1.8**
CD2 S **S** **08 11 35.5 -3.5**
CD2 SS **SnSn** **08 13 25.1 -1.1**
CD2 pmax pmax
comp=Z,240nm,1.6s
CD2 pmax pmax
comp=Z,4μm,9.5s
CD2 LR LR
comp=Z,47μm,16.1s
CD2 LR LR
comp=Z,57μm,18.0s
MOY Mondy 32.45 311 *e*P **P** **08 06 37.8 +0.6**
MOY pmax pmax
comp=Z,303nm,1.7s
DAV Davao City (W) 32.48 210 PFAKE 08 06 50.0 +12
DAV LR LR
comp=Z,23μm,20.0s
QIZ Qiongzhong 32.63 247 P **P** **08 06 39.3 +0.4**
QIZ S **S** **08 11 56.8 +3.2**
QIZ LR LR
comp=Z,18μm,19.7s
QIZ LR LR
comp=Z,38μm,14.8s
QIZ Qiongzhong 32.63 247 PFAKE 08 06 50.0 +11
QIZ LR LR
comp=Z,34μm,19.0s
GTA Gaotai 32.81 288 *e*P **P** **08 06 39.4 -1.1**
GTA S **S** **08 11 52.6 -3.7**
GTA SS **SnSn** **08 13 49.8 -3.4**
GTA pmax pmax
comp=Z,62nm,1.6s
GTA pmax pmax
comp=Z,4μm,6.9s
GTA LR LR
comp=Z,23μm,16.4s
GTA LR LR
comp=Z,70μm,16.9s
PATS Pohnpei 33.11 148 *e*P **P** **08 06 42.6 -0.5**
comp=Z,283nm,1.3s
PATS LR LR
comp=Z,30μm,20.0s
BILL Bilibino 34.76 16*c i*P **P** **08 06 56.2 -0.7**
BILL 08 09 31.0
BILL *e*S **S** **08 12 24.2 -1.3**
BILL *i* SS **SnSn** **08 14 43.0 +3.5**
BILL pmax pmax
comp=Z,33nm,1.2s
BILL MLR MLR
comp=Z,21μm,15.0s
KMI Kunming 34.87 262 P **P** **08 06 57.8 -0.8**
KMI PP **PnPn** **08 08 16.0 +0.7**
KMI S **S** **08 12 28.3 -0.3**
KMI SS **SnSn** **08 14 43.6 +0.1**
KMI pmax pmax
comp=Z,210nm,1.7s
KMI pmax pmax
comp=Z,3μm,8.6s
KMI LR LR
comp=Z,35μm,17.0s
KMI LR LR
comp=Z,54μm,16.1s
ATKA Atka Island 34.94 49 PFAKE 08 07 10.0 +11
ATKA LR LR
comp=Z,22μm,20.0s
MIDW Midway 35.55 91 PFAKE 08 07 20.0 +16
MIDW LR LR
comp=Z,22μm,21.0s
SLVN Son La 35.85 256 PFAKE 08 07 20.0 +13
SLVN LR LR
comp=Z,17μm,20.0s
TIXI Tiksi 36.05 353 P **P** **08 07 07.5 -0.4**
comp=Z,56nm,0.9s,baz=146,slow=7.8,SNR=15
TIXI LR LR 08 23 01.2
comp=Z,39μm,18.5s,baz=155,slow=38
TIXI Tiksi 36.05 353*c i*P **P** **08 07 07.4 -0.6**
TIXI pmax pmax
comp=Z,197nm,2.0s
TIXI MLR MLR
comp=Z,41μm,17.0s
TIXI Tiksi 36.05 353 *e*P **P** **08 07 07.7 -0.2**
KWAJ Kwajalein Atol 36.26 132 PFAKE 08 07 20.0 +10
KWAJ LR LR
comp=Z,22μm,22.0s
MYLDM Lahad Datu 37.43 220 *e*P **P** **08 07 21.2 +1.0**
comp=Z,365nm,1.3s
MYLDM LR LR
comp=Z,34μm,21.0s
MYLDM Lahad Datu 37.43 220⇑P **P** **08 07 21.9 +1.7**
SDKM Sandakan 37.73 222⇑P **P** **08 07 23.5 +0.6**
KKM Kota Kinabalu 37.93 224 *e*P **P** **08 07 25.6 +0.9**
comp=Z,99nm,1.2s
KKM LR LR
comp=Z,15μm,19.0s
KKM Kota Kinabalu 37.93 224⇑P **P** **08 07 28.3 +3.7**
SMPI Sarmi 38.14 184 P P 08 07 33.2 +7.0
NIKH Nikolski High 38.27 48 PFAKE 08 07 40.0 +13
NIKH LR LR
comp=Z,21μm,20.0s
SKNT Sakolnakorn 38.29 250 P **P** **08 07 31.3 +3.7**
comp=Z,197nm,1.3s,comp=Z,7μm
DLV T Lat 38.30 239 *e*P **P** **08 07 29.2 +1.4**
comp=Z,198nm,1.0s
DLV LR LR
comp=Z,21μm,21.0s
TSM Tawau 38.51 220⇓P **P** **08 07 29.8 +0.5**
JAY Jayapura 38.59 181 P **P** **08 07 30.4 +0.4**
comp=Z,2.7nm,0.9s,baz=270,slow=20,SNR=3.1
JAY Jayapura 38.59 181 P P 08 07 44.1 +14
GENI Genyem 38.67 182 P P 08 07 35.6 +4.9
KMSI Cibinong 39.03 208 P **P** **08 07 31.1 -2.6**
GAMB Gambell 39.37 31 PFAKE 08 07 50.0 +14
GAMB LR LR
comp=Z,12μm,19.0s
UNV Unalaska Valle 39.75 47 PFAKE 08 07 50.0 +11
UNV LR LR
comp=Z,12μm,22.0s
FAKI Fak Fak 39.91 194 P **P** **08 07 42.5 +1.4**
comp=Z,216nm,0.7s
FAKI Fak Fak 39.91 194 *e*P **P** **08 07 41.6 +0.5**
comp=Z,171nm,0.8s
FAKI LR LR
comp=Z,26μm,21.0s
MRSI Marisa 39.94 211 P **P** **08 07 42.3 +1.0**
comp=Z,372nm,1.3s,comp=Z,7μm
AKUT Akutan 40.20 47 PFAKE 08 08 00.0 +17
AKUT LR LR
comp=Z,9μm,20.0s
SANI Sanana 40.75 204 P P 08 07 42.8 -5.2
MSAI Masohi 41.10 199 P **P** **08 07 54.6 +3.7**
comp=Z,181nm,1.5s,comp=Z,3μm
CMMT Chiang Mai 41.12 257 P **P** **08 07 51.1 -0.1**
comp=Z,160nm,1.9s,comp=Z,4μm
CHTO Chiang Mai 41.12 257 P **P** **08 07 51.2 0.0**
comp=Z,711nm,1.4s,comp=Z,19μm
CHTO Chiang Mai 41.12 257 *e*P **P** **08 07 51.1 -0.1**
CHTO pmax pmax
comp=Z,470nm,1.6s
CHTO Chiang Mai 41.12 257 *e*P **P** **08 07 51.1 -0.1**
comp=Z,466nm,1.6s
CHTO LR LR
comp=Z,21μm,22.0s
CHTO Chiang Mai 41.12 257 P **P** **08 07 51.1 -0.1**
SNR=24
WMQ Urumqi 41.21 298 P **P** **08 07 52.8 +1.1**
WMQ PP **PP** **08 09 27.8 +1.0**
WMQ pmax pmax
comp=Z,770nm,1.7s
WMQ pmax pmax
comp=Z,12μm,4.3s
WMQ LR LR
comp=Z,34μm,13.9s
WMQ LR LR
comp=Z,45μm,16.7s
WMQ LR LR
comp=Z,36μm,22.3s
CM31 Chiang Mai Arr 41.32 256 *e*P **P** **08 07 55.1 +2.2**
CMAR Chiang Mai Arr 41.32 256 P **P** **08 07 52.9 +0.1**
comp=Z,16nm,0.7s,baz=50,slow=4.6,SNR=22
CMAR PcP **PcP** **08 09 52.7 +1.6**
comp=Z,12nm,0.8s,baz=19,slow=4.6,SNR=4.1
CMAR LR LR 08 25 30.0
comp=Z,17μm,21.6s,baz=52,slow=37
CM01 Chiang Mai Arr 41.33 256 *e*P **P** **08 07 52.3 -0.5**
RABL Rabaul 41.48 164 PFAKE 08 08 10.0 +16
RABL LR LR
comp=Z,15μm,20.0s
AAI Ambon 41.63 200 P **P** **08 07 56.7 +1.5**
comp=Z,728nm,1.1s,comp=Z,9μm
AAI Ambon 41.63 200 P **P** **08 07 58.0 +2.8**
AAI pmax pmax
comp=Z,733nm,1.3s
BTM Bintulu 42.03 225⇓P **P** **08 07 59.0 +0.4**
LSA Lhasa 42.30 276 P **P** **08 08 02.4 +1.1**
LSA pmax pmax
comp=Z,86nm,1.3s
LSA pmax pmax
comp=Z,5μm,8.5s
LSA LR LR
comp=Z,10μm,14.7s
LSA LR LR
comp=Z,26μm,14.7s
LSA LR LR
comp=Z,64μm,14.7s
LSA Lhasa 42.30 276 *e*P **P** **08 08 01.7 +0.4**
LSA pmax pmax
comp=Z,181nm,1.0s
LSA MLR MLR
comp=Z,30μm,19.0s
LSA Lhasa 42.30 276 *e*P **P** **08 08 01.7 +0.4**
comp=Z,181nm,1.0s
LSA LR LR
comp=Z,30μm,19.0s
ZAA0 Zalesovo Array 42.45 313 *e*P **P** **08 08 01.5 -0.1**
ZAA1 Zalesovo Array 42.45 313 *e*P **P** **08 08 01.5 -0.1**
ZAA1 *e*PcP **PcP** **08 09 53.2 -1.0**
ZALV Zalesovo Beam 42.45 313 P **P** **08 08 01.5 -0.1**
comp=Z,98nm,0.6s,baz=91,slow=6.5,SNR=152
ZALV PcP **PcP** **08 09 53.2 -1.0**
comp=Z,23nm,0.6s,baz=89,slow=3.8,SNR=4.4
ZALV LR LR 08 26 34.0
comp=Z,52μm,18.4s,baz=88,slow=37
ZSN Zaisan 42.72 303 *i* P **P** **08 08 05.2 +1.3**
ZSN *i* S **S** **08 14 29.4 +3.4**
ZSN LR LR 08 25 35.5
comp=Z,4μm,12.8s
SBUM Sibu 43.13 225 *e*P **P** **08 08 07.9 +0.3**
comp=Z,63nm,1.1s
SBUM LR LR
comp=Z,14μm,20.0s
SBUM Sibu 43.13 225⇑P **P** **08 08 07.9 +0.3**
SDPT Sand Point 43.33 45 PFAKE 08 08 20.0 +11
SDPT LR LR
comp=Z,12μm,20.0s
NVS Novosibirsk 43.38 314⇓ *i*P **P** **08 08 09.7 +0.6**
NVS pmax pmax
comp=E,633nm,1.8s
NVS pmax pmax
comp=Z,1μm,1.8s
NVS pmax pmax
comp=N,110nm,2.0s
SHL Shillong 43.42 270⇑ *i*P **P** **08 08 10.5 +0.5**
SHL *i* S **S** **08 14 38.0 +0.9**
KDI Kendari 43.71 208 P **P** **08 08 13.4 +1.2**
comp=N,251nm,1.4s,comp=N,5μm
BKB Balikpapan 43.77 217 P **P** **08 08 13.1 +0.5**
comp=N,487nm,1.7s,comp=N,9μm
NRIK Noril'sk 43.97 336 P **P** **08 08 13.4 -0.3**
comp=N,50nm,0.9s,baz=113,slow=8.0,SNR=45
NRIK LR LR 08 28 21.4
comp=N,18μm,18.2s,baz=110,slow=38
TTSI Tana Toraja 44.01 212 P **P** **08 08 15.1 +0.6**
comp=N,134nm,1.4s,comp=N,2μm
MTKI Muara Teweh, K 44.49 220 P **P** **08 08 20.0 +1.5**
comp=N,134nm,0.9s,comp=N,7μm
CHGN Chignik 44.51 44 PFAKE 08 08 30.0 +12
CHGN LR LR
comp=Z,12μm,20.0s
MK01 Makanchi Array 44.54 303 *e*P **P** **08 08 18.6 -0.1**
MK31 Makanchi Array 44.55 303 *i* P **P** **08 08 18.7 +0.1**
MK31 pmax pmax
comp=Z,370nm,1.0s
MK31 Makanchi Array 44.55 303 *e*P **P** **08 08 18.9 +0.3**
MKAR Makanchi Array 44.55 303 *e*P **P** **08 08 18.9 +0.3**
MKAR pmax pmax
comp=Z,2μm,1.0s
MKAR Makanchi Array 44.55 303 *e*P **P** **08 08 18.9 +0.3**
comp=Z,2μm,1.0s
MKAR LR LR
comp=Z,14μm,18.0s
MAKZ Makanchi 44.76 303 *i* P **P** **08 08 19.8 -0.5**
MAKZ pmax pmax
comp=Z,339nm,1.2s
MAKZ Makanchi 44.76 303 *e*P **P** **08 08 20.7 +0.4**
comp=Z,308nm,1.0s
MAKZ LR LR
comp=Z,59μm,19.0s
SPSI Sidrap Palu 44.86 211 P **P** **08 08 21.0 -0.3**
comp=Z,311nm,1.3s,comp=Z,4μm
SAUI Saumlaki 45.03 194 P P 08 08 27.6 +4.9
SAUI Saumlaki 45.03 194 PFAKE 08 08 30.0 +7.3
SAUI LR LR
comp=Z,20μm,18.0s
KSM Kuching 45.04 227 *e*P **P** **08 08 23.5 +0.7**
comp=Z,412nm,1.7s
KSM Kuching 45.04 227⇑P **P** **08 08 23.8 +1.0**
BBSI Bau Bau 45.14 207 P **P** **08 08 28.1 +4.5**
comp=Z,123nm,1.3s,comp=Z,2μm
TARA Tarawa 45.35 133 PFAKE 08 08 40.0 +15
TARA LR LR
comp=Z,28μm,21.0s
SEM Semipalatinsk 45.42 308 *i* P **P** **08 08 24.6 -1.2**
comp=Z,685nm,1.2s
SEM *i* S **S** **08 15 03.9 -1.9**
SEM LR LR 08 26 47.3
comp=Z,18μm,13.9s
STKI Sintang 45.50 224 P **P** **08 08 28.0 +1.5**
comp=Z,211nm,1.1s
PMG Port Moresby 45.74 172 P **P** **08 08 28.6 +0.3**
comp=Z,54nm,1.1s,baz=333,slow=15,SNR=3.1
PMG Port Moresby 45.74 172*c i*P **P** **08 08 25.9 -2.4**
PMG pmax pmax
comp=Z,223nm,1.1s
PMG MLR MLR
comp=Z,24μm,14.0s
KAPI Kappang 45.81 211 PFAKE 08 08 40.0 +11
KAPI LR LR
comp=Z,9μm,22.0s
KAPI Kappang 45.81 211 P **P** **08 08 28.7 -0.2**
SNR=71
KAPI P **P** **08 08 28.7 -0.2**
SNR=71
KAPI P **P** **08 08 28.7 -0.2**
SNR=71
TAPN Taplejung 46.02 275 *e*P **P** **08 08 31.4 +0.5**
comp=Z,439nm,0.8s
TT01 Tatalina 46.04 34 *e*P **P** **08 08 30.7 +0.5**
TTA Tatalina 46.04 34 *e*P **P** **08 08 30.8 +0.4**
TTA pmax pmax
comp=Z,69nm,1.3s
TTA Tatalina 46.04 34 *e*P **P** **08 08 30.8 +0.4**
comp=Z,68nm,1.4s
SVW2 Sparrevohn 46.12 37 *e*P **P** **08 08 32.8 +1.8**
comp=Z,166nm,1.4s
KURK Kurchatov 46.42 309*c i*P **P** **08 08 33.3 0.0**
KURK pmax pmax
comp=Z,688nm,0.9s
KURK MLR MLR
comp=Z,223μm,17.0s
KURK Kurchatov 46.42 309 *e*P **P** **08 08 33.4 0.0**
comp=Z,514nm,0.8s
KURK LR LR
comp=Z,54μm,18.0s
ODAN Odare 46.48 274 *e*P **P** **08 08 34.7 +0.2**
comp=Z,710nm,1.1s
KURBB Kurchatov Arra 46.49 309 P **P** **08 08 33.9 0.0**
comp=Z,205nm,0.6s,baz=84,slow=8.0,SNR=570
KURBB S **S** **08 15 23.8 +3.3**
comp=Z,7.1nm,1.2s,baz=72,slow=12,SNR=3.8
BSSI Bau Bau, Buton 46.53 209 P **P** **08 08 38.0 +3.4**
comp=Z,332nm,1.7s,comp=Z,7μm
BBKI Banjar Baru 46.68 218 P **P** **08 08 35.4 -0.4**
comp=Z,686nm,1.6s,comp=Z,9μm
KTGM Kuala Trenggan 46.70 238⇑P **P** **08 08 36.9 +1.0**
RAMN Ramite 47.08 275 *e*P **P** **08 08 39.6 +0.4**
comp=Z,2μm,0.9s
JIRN Jiri 47.11 276 *e*P **P** **08 08 40.3 +0.8**
PDGK Podgornoye 47.15 299 *i* P **P** **08 08 39.1 -0.3**
PDGK pmax pmax
comp=Z,662nm,0.9s
SKLT Songkhla 47.16 242 P **P** **08 08 41.7 +2.2**
comp=Z,164nm,1.0s,comp=Z,4μm
SHLS Shalkode 47.21 298 *i* P **P** **08 08 36.1 -3.8**
comp=Z,899nm,1.3s
SHLS *e*S **S** **08 15 25.5 -5.9**
SHLS LR LR 08 29 04.1
comp=Z,28μm,14.6s
GUN Gumba 47.25 276 *e*P **P** **08 08 41.2 +0.6**
comp=Z,2μm,1.3s
OHAK Old Harbor 47.31 42 *e*P **P** **08 08 41.1 +0.9**
comp=Z,53nm,0.8s
OHAK LR LR
comp=Z,17μm,21.0s
JOHN Johnston Islan 47.45 101 PFAKE 08 08 50.0 +8.2
JOHN LR LR
comp=Z,22μm,22.0s
RSO Redoubt South 47.50 38 *e*P **P** **08 08 42.6 +0.7**
UZB Uzynbulak 47.53 298 *i* P **P** **08 08 41.3 -1.1**
comp=Z,829nm,1.3s
UZB *i* S **S** **08 15 34.4 -1.5**
UZB LR LR 08 28 40.1
comp=Z,25μm,14.1s
TDK Taldyqorghan 47.54 301 *e*P **P** **08 08 42.0 -0.2**
comp=Z,648nm,1.3s
TDK *i* S **S** **08 15 35.2 -0.6**
TDK LR LR 08 28 36.1
comp=Z,16μm,13.9s
KDAK Kodiak Island 47.66 41 P **P** **08 08 43.4 +0.5**
comp=Z,57nm,0.8s,baz=303,slow=3.7,SNR=22
KDAK Kodiak Island 47.66 41 *i* P **P** **08 08 42.9 0.0**
KDAK Kodiak Island 47.66 41 *e*P **P** **08 08 43.1 +0.2**
comp=Z,775nm,2.0s
KDAK LR LR
comp=Z,17μm,20.0s
PBKI Pangkalan Bun 47.69 222 P P 08 08 48.9 +5.3
KPKS Kokpek 47.69 299 *i* P **P** **08 08 42.6 -0.9**
comp=Z,1μm,1.4s
KPKS *i* S **S** **08 15 36.9 -1.2**
KPKS LR LR 08 28 49.4
comp=Z,48μm,17.0s
PKI Pulchoki 47.77 276 *e*P **P** **08 08 44.7 +0.1**
comp=Z,1μm,1.0s
PKIN Phulchoki 47.78 276 *e*P **P** **08 08 45.1 +0.5**
comp=Z,735nm,0.9s
KKN Kakani 47.78 277 *e*P **P** **08 08 45.1 +0.5**
comp=Z,1μm,1.0s
PPLA Purkeypile 47.79 35 *e*P **P** **08 08 43.2 -0.9**
comp=Z,230nm,1.3s
PPLA LR LR
comp=Z,10μm,20.0s
SPU Mount Spurr 47.84 37 *e*P **P** **08 08 45.3 +0.9**
CAST Castle Rocks 47.85 34 *e*P **P** **08 08 45.5 +1.1**
comp=Z,118nm,1.3s
CAST LR LR
comp=Z,8μm,18.0s
ZHN Zhinishke 47.94 299 *i* P **P** **08 08 43.5 -2.0**
comp=Z,575nm,1.3s
ZHN *i* S **S** **08 15 39.2 -2.5**
ZHN LR LR 08 28 35.2
comp=Z,28μm,15.0s
SATY Saty 47.99 298 *i* P **P** **08 08 44.8 -1.1**
comp=Z,1μm,1.4s
SATY *i* S **S** **08 15 41.0 -1.4**
SATY LR LR 08 29 01.9
comp=Z,43μm,15.3s
DMN Daman 48.00 276 *e*P **P** **08 08 46.7 +0.4**
comp=Z,717nm,1.1s
MMRI Maumere 48.17 206 P **P** **08 08 50.6 +3.3**
comp=Z,526nm,1.9s,comp=Z,11μm
MMRI Maumere 48.17 206 *e*P **P** **08 08 48.3 +1.0**
comp=Z,1μm,1.6s
MMRI LR LR
comp=Z,7μm,20.0s
GKN Gorkha 48.21 277 *e*P **P** **08 08 48.3 +0.5**
comp=Z,3μm,1.1s
CNPM China Poot 48.28 39 *e*P **P** **08 08 49.7 +1.9**
comp=Z,210nm,1.7s
CNPM LR LR
comp=Z,8μm,21.0s
KTH Kantishna Hill 48.38 34 *e*P **P** **08 08 49.6 +1.1**
comp=Z,117nm,1.1s
KTH LR LR
comp=Z,7μm,19.0s
KULM Kulim 48.45 240 *e*P **P** **08 08 49.3 -0.2**
comp=Z,436nm,1.9s
KULM LR LR
comp=Z,23μm,20.0s
KULM Kulim 48.45 240⇑P **P** **08 08 49.7 +0.2**
BRLK Bradley Lake 48.45 39 *e*P **P** **08 08 51.4 +2.4**
comp=Z,151nm,1.4s
SUA Susitna One 48.47 36 *e*P **P** **08 08 50.3 +1.1**
comp=Z,89nm,0.9s
SUA LR LR
comp=Z,6μm,20.0s
SOEI Soe 48.55 203 P **P** **08 08 52.5 +2.2**
comp=Z,791nm,0.9s,comp=Z,8μm
SOEI Soe 48.55 203 *e*P **P** **08 08 49.9 -0.4**
comp=Z,668nm,0.9s
SOEI LR LR
comp=Z,15μm,22.0s
TRF Thorofare Moun 48.66 34 *e*P **P** **08 08 51.8 +1.0**
comp=Z,82nm,1.0s
TRF LR LR
comp=Z,8μm,19.0s
HNR Honiara 48.68 155 LR LR 08 26 10.2
comp=Z,14μm,21.8s,baz=325,slow=32
HNR Honiara 48.68 155 PFAKE 08 09 00.0 +8.8
HNR LR LR
comp=Z,17μm,20.0s
IPM Ipoh 48.76 239 *e*P **P** **08 08 51.3 -0.7**
comp=Z,151nm,1.1s
IPM LR LR
comp=Z,22μm,19.0s
IPM Ipoh 48.76 239⇓P **P** **08 08 51.4 -0.5**
COLD Coldfoot 48.82 29 *e*P **P** **08 08 52.5 +0.8**

comp=Z,68nm,1.2s
COLD LR LR
comp=Z,9µm,20.0s
MYKOM **Kota Tinggi** 48.82 234 PFAKE 08 09 00.0 +7.6
MYKOM LR LR
comp=Z,10µm,20.0s
MYKOM **Kota Tinggi** 48.82 234 ⇓P **P** **08 08 52.2 -0.2**
MDOK **Medeo** 48.92 299 *i* P **P** **08 08 51.7 -1.4**
comp=Z,992nm,1.3s
MDOK *i* S **S** **08 15 53.7 -2.0**
MDOK LR LR 08 29 03.0
comp=Z,46µm,17.9s
RC01 **Rabbit Creek A** 48.96 37 *e*P **P** **08 08 53.1 +0.2**
comp=Z,128nm,1.1s
RC01 LR LR
comp=Z,12µm,21.0s
KGM **Kluang** 49.00 235 ⇓P **P** **08 08 53.5 -0.3**
AAA **Alma-Ata** 49.01 299 *e*P **P** **08 08 54.5 +0.9**
AAA *e*S **S** **08 15 56.3 -0.3**
AAA smax smax
comp=N,12µm,16.0s
KOLN **Koldanda** 49.14 277 *e*P **P** **08 08 55.5 +0.5**
TOLK **Toolik Lake Re** 49.15 27 P **P** **08 08 52.3 -2.1**
baz=266
PMR **Palmer** 49.23 36 *e*P **P** **08 08 54.8 -0.1**
PMR pmax pmax
comp=Z,160nm,1.2s
PMR **Palmer** 49.23 36 *e*P **P** **08 08 54.8 -0.1**
comp=Z,157nm,1.3s
PMR LR LR
comp=Z,9µm,21.0s
FRIM **Kepong** 49.24 238 ⇓P **P** **08 08 55.2 -0.4**
MCK **McKinley** 49.26 33 *e*P **P** **08 08 55.0 -0.2**
MCK pmax pmax
comp=Z,74nm,1.0s
MCK **McKinley** 49.26 33 *e*P **P** **08 08 55.0 -0.2**
comp=Z,74nm,1.0s
MCK LR LR
comp=Z,13µm,19.0s
RND **Reindeer** 49.30 34 *e*P **P** **08 08 55.8 +0.2**
RND pmax pmax
comp=Z,190nm,1.3s
RND **Reindeer** 49.30 34 *e*P **P** **08 08 55.8 +0.2**
comp=Z,190nm,1.3s
RND LR LR
comp=Z,9µm,20.0s
PYUN **Piuthan** 49.49 278 *e*P **P** **08 08 58.3 +0.6**
comp=Z,1µm,0.7s
MDM **Murphy Dome** 49.56 32 *e*P **P** **08 08 58.2 +0.7**
comp=Z,539nm,1.7s
MDM LR LR
comp=Z,8µm,20.0s
SML **Sawmill** 49.60 36 *e*P **P** **08 08 58.3 +0.4**
SML pmax pmax
comp=Z,98nm,0.9s
SML **Sawmill** 49.60 36 *e*P **P** **08 08 58.3 +0.4**
comp=Z,98nm,0.9s
SML LR LR
comp=Z,11µm,22.0s
WRH **Wood River Hil** 49.62 32 *e*P **P** **08 08 58.4 +0.5**
comp=Z,56nm,1.0s
WRH LR LR
comp=Z,8µm,19.0s
COLA **College** 49.72 32 *e*P **P** **08 09 00.0 +1.4**
COLA pmax pmax
comp=Z,90nm,1.0s
COLA **College** 49.72 32 *e*P **P** **08 09 00.0 +1.4**
comp=Z,90nm,1.0s
COLA LR LR
comp=Z,8µm,20.0s
CCB **Clear Creek Bu** 49.74 32 *e*P **P** **08 08 58.7 -0.1**
comp=Z,193nm,1.9s
CCB LR LR
comp=Z,6µm,19.0s
MTN **Manton Dam** 49.80 193 *e*P **P** **08 08 58.9 -0.8**
comp=Z,358nm,1.1s
COEN **Coen** 49.98 178 *e*P **P** **08 09 03.1 +2.0**
comp=Z,112nm,0.9s
DHY **Denali Highway** 49.99 34 *e*P **P** **08 09 01.6 +0.7**
comp=Z,95nm,1.3s
DHY LR LR
comp=Z,10µm,20.0s
TKM2 **Tokmak 2** 50.01 299 *i* P **P** **08 09 02.0 +0.5**
TKM2 pmax pmax
comp=Z,584nm,1.2s
PLAI **Plampang** 50.07 211 P **P** **08 09 02.9 +1.0**
comp=Z,396nm,1.4s,comp=Z,5µm
SCM **Sheep Creek Mo** 50.08 36 *e*P **P** **08 09 01.8 +0.3**
SCM pmax pmax
comp=Z,110nm,0.9s
SCM **Sheep Creek Mo** 50.08 36 *e*P **P** **08 09 01.8 +0.3**
comp=Z,110nm,0.9s
SCM LR LR
comp=Z,10µm,22.0s
HDA **Harding Lake** 50.12 32 *e*P **P** **08 09 01.7 0.0**
comp=Z,266nm,1.6s
HDA LR LR
comp=Z,9µm,20.0s
ILAR **Eielson Array** 50.13 32 P **P** **08 09 01.3 -0.5**
comp=Z,32nm,0.6s,baz=267,slow=6.1,SNR=73
ILAR **Eielson Array** 50.13 32 P **P** **08 09 01.3 -0.5**
ILAR pmax pmax
comp=Z,30nm,0.6s
ILB **Eielson Array** 50.13 32 *e*P **P** **08 09 01.4 -0.4**
IL1 **Eielson Array** 50.14 32 *e*P **P** **08 09 01.3 -0.5**
KMMI **Kalianget** 50.21 217 P **P** **08 09 02.8 -0.2**
BRZS **Berezniki** 50.30 309 *i* P **P** **08 09 02.0 -1.3**
comp=Z,214nm,1.3s
BRZS *e*S **S** **08 16 12.9 -1.4**
BRZS LR LR 08 30 06.0
comp=Z,992nm,15.2s
TWSI **Taliwang, Sumb** 50.37 212 P **P** **08 09 06.3 +2.2**
comp=Z,277nm,1.2s,comp=Z,3µm
SRBI **Singaraja** 50.53 215 P **P** **08 09 06.7 +1.3**
comp=Z,421nm,1.4s,comp=Z,9µm
FID **Port Fidalgo** 50.57 37 *e*P **P** **08 09 07.3 +2.1**
comp=Z,170nm,1.3s
FID LR LR
comp=Z,12µm,19.0s
FRU **Bishkek** 50.73 299 *e*P P 08 08 54.0 -13
FRU *i* 08 09 08.0
FRU *e*S **S** **08 16 27.0 +6.3**
FRU *i* 08 16 38.0
FRU MLR MLR
comp=E,28µm,14.0s
ABJI **Asem Bagus** 50.74 216 P **P** **08 09 07.8 +0.9**
comp=E,440nm,1.1s,comp=E,10µm
KSH **Kashi** 50.74 295 ⇓*i* P **P** **08 09 11.0 +4.1**
KSH PP **PP** **08 11 08.1 +5.2**
KSH S **S** **08 16 26.5 +5.5**
KSH pmax pmax
comp=E,130nm,1.0s
KSH LR LR
comp=E,19µm,15.8s
KSH LR LR
comp=E,13µm,12.6s
KSH LR LR
comp=E,26µm,14.4s
FYU **Fort Yukon** 50.77 30 *e*P **P** **08 09 08.5 +1.9**
comp=E,740nm,1.8s
FYU LR LR
comp=Z,13µm,19.0s
KLU **Klutina** 50.77 36 *e*P **P** **08 09 07.6 +0.8**
comp=Z,111nm,1.1s
KLU LR LR
comp=Z,9µm,20.0s
BWNR **Bhubaneshwar** 50.85 268 *e*P P 08 09 12.8 +5.0
PAX **Paxson** 50.86 34 PFAKE 08 09 20.0 +13
PAX LR LR
comp=Z,13µm,19.0s
AAK **Ala-Archa** 50.87 299 P **P** **08 09 08.6 +0.7**
comp=Z,84nm,0.8s,baz=89,slow=7.9,SNR=34
AAK LR LR 08 32 00.9
comp=Z,115µm,19.4s,baz=57,slow=38
AAK **Ala-Archa** 50.87 299 *e*P **P** **08 09 08.6 +0.7**
AAK LR LR
comp=Z,114µm,19.0s
DIV **Divide** 50.88 37 *e*P **P** **08 09 08.6 +1.0**
comp=Z,188nm,1.1s
DIV LR LR
comp=Z,10µm,20.0s
EYAK **Cordova Ski Ar** 50.95 37 PFAKE 08 09 20.0 +12
EYAK LR LR
comp=Z,12µm,22.0s
HARP **HAARP** 51.05 35 *e*P **P** **08 09 09.9 +1.1**
comp=Z,151nm,0.9s
HARP LR LR
comp=Z,7µm,19.0s
DNP **Denpasar** 51.06 214 P **P** **08 09 08.4 -0.9**
TBJI **Tambak Boyo** 51.06 219 P **P** **08 09 13.1 +3.7**
comp=Z,724nm,1.3s
PTH **Pithoragarh** 51.09 281 *e*P **P** **08 09 09.4 -0.4**
BVAR **Borovoye Array** 51.10 313 P **P** **08 09 09.4 0.0**
comp=Z,146nm,0.9s,baz=79,slow=7.7,SNR=198
BVAR LR LR 08 31 11.4
comp=Z,23µm,21.7s,baz=74,slow=36
LHMI **Lhok Sumawe** 51.13 244 PFAKE 08 09 20.0 +10
LHMI LR LR
comp=Z,20µm,20.0s
BRVK **Borovoye** 51.16 313 *c i*P **P** **08 09 09.9 +0.2**
BRVK pmax pmax
comp=Z,260nm,0.9s
BRVK MLR MLR
comp=Z,136µm,16.0s
BRVK **Borovoye** 51.16 313 *e*P **P** **08 09 10.0 +0.2**
comp=Z,226nm,1.0s
BRVK LR LR
comp=Z,59µm,18.0s
BRVK **Borovoye** 51.16 313 P **P** **08 09 10.0 +0.2**
SNR=203
BRVK P **P** **08 09 10.0 +0.2**
SNR=203
BRVK P **P** **08 09 10.0 +0.2**
SNR=203
IGBI **Denpasar** 51.21 214 P **P** **08 09 12.6 +2.1**
comp=Z,296nm,1.0s,comp=Z,5µm
JAGI **Jajag, Banyuwa** 51.36 215 P **P** **08 09 12.9 +1.3**
comp=Z,272nm,1.1s,comp=Z,4µm
JAGI **Jajag, Banyuwa** 51.36 215 *e*P **P** **08 09 10.2 -1.4**
comp=Z,266nm,1.0s
JAGI LR LR
comp=Z,9µm,22.0s
PSI **Prapat** 51.42 240 P **P** **08 09 11.3 -0.9**
comp=Z,83nm,0.7s,baz=19,slow=7.2,SNR=11
PSI **Prapat** 51.42 240 *e*P **P** **08 09 12.0 -0.2**
PSI pmax pmax
comp=Z,110nm,0.8s
PSI **Prapat** 51.42 240 *e*P **P** **08 09 12.0 -0.2**
comp=Z,106nm,0.8s
PSI LR LR
comp=Z,16µm,20.0s
RGRI **Rengat** 51.42 234 P **P** **08 09 13.2 +1.1**
DOT **Dot Lake** 51.44 33 *e*P **P** **08 09 11.8 +0.1**
comp=Z,118nm,0.9s
DOT LR LR
comp=Z,32µm,19.0s
BMRM **Bremner River** 51.46 37 *e*P **P** **08 09 12.9 +1.0**
comp=Z,120nm,0.9s
BMRM LR LR
comp=Z,13µm,21.0s
RAGM **Ragged Mountai** 51.50 38 PFAKE 08 09 20.0 +7.8
RAGM LR LR
comp=Z,10µm,22.0s
GMJI **Gumukmas** 51.53 216 P **P** **08 09 11.0 -1.8**
MENT **Mentasta** 51.66 34 *e*P **P** **08 09 14.0 +0.6**
comp=Z,99nm,1.0s
MENT LR LR
comp=Z,11µm,20.0s
NGJI **Ngawi** 51.73 219 P **P** **08 09 15.3 +0.9**
BKNI **Bangkinang** 51.77 236 P **P** **08 09 14.7 0.0**
BKNI **Bangkinang** 51.77 236 *e*P **P** **08 09 14.8 +0.1**
comp=Z,810nm,1.0s
BKNI LR LR
comp=Z,10µm,20.0s
SMRI **Semarang** 51.99 220 P **P** **08 09 16.8 +0.4**
SMRI **Semarang** 51.99 220 *e*P **P** **08 09 16.7 +0.4**
comp=Z,715nm,1.2s
PWJI **Pagerwojo** 52.12 218 P **P** **08 09 15.5 -1.7**
CRQM **Cirque** 52.20 37 *e*P **P** **08 09 19.2 +1.5**
comp=Z,197nm,1.1s
CRQM LR LR
comp=Z,11µm,18.0s
MNAS **Manas** 52.32 299 P **P** **08 09 20.0 +1.2**
MNAS pmax pmax
comp=Z,432nm,1.0s
TPTI 52.32 242 P **P** **08 09 16.5 -2.4**
PCJI **Pacitan** 52.58 219 P **P** **08 09 19.1 -1.6**
EGAK **Eagle** 52.58 32 *e*P **P** **08 09 19.9 -0.2**
comp=Z,145nm,1.4s
EGAK LR LR
comp=Z,7µm,20.0s
UGM **Wanagama** 52.67 220 P **P** **08 09 19.7 -1.7**
UGM **Wanagama** 52.67 220 *e*P **P** **08 09 20.5 -0.9**
comp=Z,3µm,1.3s
UGM LR LR
comp=Z,8µm,21.0s
SDNR **Sundarnagar** 52.86 285 *e*P **P** **08 09 20.6 -2.1**
BLSP **Bilaspur** 52.91 272 *e*P **P** **08 09 22.9 -0.3**
BLSP *ex* x 08 12 13.4
KPJI **Karang Pucung** 53.03 222 P **P** **08 09 23.2 -0.8**
PDSI **Padang** 53.07 235 P **P** **08 09 22.7 -1.7**
CHLP **Challavanipeta** 53.18 267 *e*P **P** **08 09 25.2 0.0**
CHLP IAmb IAmb 08 09 29.2
comp=Z,1µm,1.9s
CHLP *e*S **S** **08 16 54.5 -0.2**
CHLP IVMs_BB IVMs_BB 08 31 12.4
comp=Z,6µm,25.6s
BHK **Bhakra** 53.32 285 *e*P **P** **08 09 25.0 -1.1**
LEM **Lembang** 53.33 224 P **P** **08 09 30.8 +4.4**
DAWY **Dawson** 53.44 33 *e*P **P** **08 09 26.6 +0.1**
comp=Z,180nm,1.8s
DAWY LR LR
comp=Z,12µm,21.0s
MDSI **Maura Dua** 53.45 229 P **P** **08 09 26.6 -0.5**
THN **Thein Dam** 53.46 286 *e*P **P** **08 09 24.8 -2.3**
THN *ex* x 08 10 30.2
BLSI **Bandar Lampung** 53.51 227 P **P** **08 09 27.1 -0.5**
KKAR **Karatay Array** 53.53 301 PFAKE 08 09 40.0 +13
KKAR LR LR
comp=Z,18µm,19.0s
MASI **Maura Aman, Be** 53.60 232 P **P** **08 09 27.9 -0.4**
CMJI **Cimerak** 53.66 222 P **P** **08 09 26.9 -1.8**
CISI **Cisompet, Garu** 53.82 223 *e*P **P** **08 09 29.6 -0.4**
comp=Z,198nm,0.9s
CISI LR LR
comp=Z,10µm,21.0s
NDI **New Delhi** 53.84 281 *e*P **P** **08 09 28.0 -1.9**
PBSI **Pulau Batu** 53.91 238 P **P** **08 09 29.6 -1.0**
LWLI **Liwa** 53.94 228 P **P** **08 09 29.5 -1.4**
CNJI **Cibinong** 54.00 224 P **P** **08 09 28.1 -3.0**
KASI **Kota Agung** 54.08 228 P **P** **08 09 28.8 -2.9**
MNAI **Manna** 54.10 230 P **P** **08 09 28.1 -3.8**
MNAI **Manna** 54.10 230 PFAKE 08 09 40.0 +8.1
MNAI LR LR
comp=Z,10µm,22.0s
OPA **Opana** 54.14 88 PFAKE 08 09 50.0 +18
OPA LR LR
comp=Z,7µm,19.0s
JBP **Jabalpur** 54.14 274 ⇓*e*P **P** **08 09 32.1 0.0**
JBP *ex* x 08 16 58.3
CGJI **Cibinong** 54.25 226 P **P** **08 09 29.7 -3.2**
KIP **Kipapa** 54.26 88 PFAKE 08 09 50.0 +17
KIP LR LR
comp=Z,7µm,20.0s
SISI **Saibi** 54.29 236 P **P** **08 09 32.2 -1.1**
HON **Honolulu** 54.32 88 PFAKE 08 09 50.0 +16
HON LR LR
comp=Z,9µm,20.0s
PPSI **Pulau Pagai** 54.75 234 P **P** **08 09 36.4 -0.3**
HYT **Haines Junctio** 54.91 36 *e*P **P** **08 09 38.9 +1.5**
comp=Z,228nm,1.3s
HYT LR LR
comp=Z,7µm,20.0s
DHAK **Deception Hill** 54.95 38 PFAKE 08 09 50.0 +12
DHAK LR LR
comp=Z,7µm,19.0s
INK **Inuvik** 55.06 27 P **P** **08 09 37.6 -0.5**
comp=Z,36nm,0.7s,baz=283,slow=7.5,SNR=32
INK LR LR 08 36 09.0
comp=Z,11µm,19.2s,baz=270,slow=39
INK PKP2bc 08 39 53.5
comp=Z,4.4nm,1.1s,baz=119,slow=9.1,SNR=3.5
INK **Inuvik** 55.06 27 P **P** **08 09 37.7 -0.5**
INK pmax pmax
comp=Z,36nm,0.7s
INK MLR MLR
comp=Z,11µm,19.2s
INK **Inuvik** 55.06 27 *e*P **P** **08 09 38.6 +0.4**
comp=Z,97nm,1.2s
INK LR LR
comp=Z,15µm,19.0s
SVE **Sverdlovsk** 55.74 319 *d i*P **P** **08 09 43.8 +0.6**
SVE *e* 08 11 49.4
SVE *e*PPP PPP 08 13 07.0
SVE *e*S **S** **08 17 27.2 -1.0**
SVE pmax pmax
comp=Z,3µm,17.4s
SVE pmax pmax
comp=Z,654nm,1.5s
SVE MLR MLR
comp=N,20µm,17.0s
SVE MLR MLR
comp=E,50µm,16.0s
SVE MLR MLR
comp=Z,60µm,16.0s
PVM **Polavaram** 55.81 267 *e*P **P** **08 09 43.8 -0.5**
PVM IAmb IAmb 08 09 47.9
comp=Z,748nm,2.0s
PVM *e*S **S** **08 17 28.2 -1.9**
PVM IVMs_BB IVMs_BB 08 32 42.0
comp=Z,5µm,25.1s
NGP **Nagpur** 55.88 272 *e*P **P** **08 09 44.6 -0.2**
FITZ **Fitzroy Crossi** 56.10 198 P **P** **08 09 45.3 -0.8**
comp=Z,25nm,0.6s,baz=22,slow=7.7,SNR=16
FITZ S **S** **08 17 38.1 +4.5**
comp=Z,5.3nm,0.9s,baz=170,slow=20,SNR=3.2
FITZ **Fitzroy Crossi** 56.10 198 *e*P **P** **08 09 46.1 0.0**
comp=Z,213nm,1.4s
WHY **Whitehorse** 56.20 36 *e*P **P** **08 09 46.5 -0.2**
comp=Z,186nm,1.4s
WHY LR LR
comp=Z,7µm,19.0s
DZET **Dzherino** 56.20 296 P **P** **08 09 47.0 0.0**
DZET pmax pmax
comp=Z,551nm,1.3s
CTA **Charters Tower** 56.23 175 P **P** **08 09 46.4 -0.7**
comp=Z,3.3nm,0.6s,baz=284,slow=4.6,SNR=3.2
CTAO **Charters Tower** 56.23 175 *e*P **P** **08 09 49.1 +2.0**
CTAO pmax pmax
comp=Z,210nm,1.7s
CTAO **Charters Tower** 56.23 175 *e*P **P** **08 09 47.8 +0.7**
comp=Z,206nm,1.7s
WRAB **Tennant Creek** 56.29 188 *e*P **P** **08 09 46.9 -0.6**
WRAB pmax pmax
comp=Z,330nm,1.4s
WRAB **Tennant Creek** 56.29 188 *e*P **P** **08 09 46.9 -0.6**
comp=Z,326nm,1.4s
SKAG **Skagway** 56.29 38 *e*P **P** **08 09 48.3 +1.2**
comp=Z,128nm,1.2s
SKAG LR LR
comp=Z,7µm,18.0s
WB2 **Warramunga Arr** 56.30 188 *e*P **P** **08 09 47.8 +0.2**
WR1 **Warramunga Arr** 56.30 188 *e*P **P** **08 09 46.5 -1.2**
comp=Z,150nm,1.0s
WRA **Warramunga Arr** 56.30 188 P **P** **08 09 46.5 -1.2**
comp=Z,57nm,1.0s,baz=6.9,slow=8.0,SNR=25
WRA ScP **ScP** **08 14 45.6 +3.1**
comp=Z,5.2nm,0.8s,baz=6.9,slow=4.5,SNR=4.8
WRA S **S** **08 17 33.3 -3.1**
comp=Z,3.0nm,1.1s,baz=13,slow=11,SNR=4.9
WRA PKP2bc 08 39 54.6
comp=Z,2.3nm,1.0s,baz=169,slow=2.1,SNR=6.3
WRA **Warramunga Arr** 56.30 188 *i* P **P** **08 09 48.9 +1.3**
WRA pmax pmax
comp=Z,77nm,0.8s
BESE **Bessie Mountai** 56.77 38 PFAKE 08 10 00.0 +9.3
BESE LR LR
comp=Z,9µm,20.0s
HPAH **Hawaii Prepara** 56.83 88 PFAKE 08 10 00.0 +8.3
HPAH LR LR
comp=Z,10µm,20.0s
RPR **Rampur** 56.85 270 *e*P **P** **08 09 51.2 -0.5**
RPR IAmb IAmb 08 09 55.0
comp=Z,2µm,2.1s
RPR *e*S **S** **08 17 41.8 -2.2**
RPR IVMs_BB IVMs_BB 08 38 12.9
comp=Z,7µm,15.9s
SOKR **Solikamsk** 56.95 323 *c i*P **P** **08 09 49.7 -2.1**
SOKR S **S** **08 17 40.5 -3.6**
SOKR SS **SS** **08 21 29.6 -2.4**
SOKR pmax pmax
comp=Z,75nm,0.9s
SOKR MLR MLR
comp=Z,31µm,19.0s
ARU **Arti** 56.95 319 P P 08 09 45.3 -6.6
comp=Z,1.4nm,0.3s,baz=93,slow=19,SNR=2.3
ARU **Arti** 56.95 319 *c i*P **P** **08 09 51.8 -0.1**
ARU 08 10 50.2
ARU 08 12 02.1
ARU PPP PPP 08 13 13.2
ARU S **S** **08 17 47.9 +3.6**
ARU 08 19 37.5
ARU pmax pmax
comp=Z,799nm,1.7s
ARU pmax pmax
comp=Z,3µm,16.5s
ARU MLR MLR
comp=Z,51µm,17.0s
ARU **Arti** 56.95 319 *e*P **P** **08 09 51.8 -0.1**
comp=Z,690nm,1.2s
ARU LR LR
comp=Z,52µm,18.0s
XMIS **Christmas Isla** 57.42 223 *e*P **P** **08 09 54.6 -1.1**
comp=Z,190nm,1.0s
XMIS LR LR
comp=Z,6µm,20.0s
UWE **Uwekahuna** 57.47 89 PFAKE 08 10 10.0 +14
UWE LR LR
comp=Z,13µm,20.0s
WRMHI **West Rim** 57.47 89 PFAKE 08 10 10.0 +14
WRMHI LR LR
comp=Z,12µm,19.0s
OBL **Observatory Le** 57.48 89 PFAKE 08 10 10.0 +14
OBL LR LR
comp=Z,13µm,20.0s
UWB **Uwekahuna B** 57.48 89 PFAKE 08 10 10.0 +14
UWB LR LR
comp=Z,16µm,20.0s
NPH **North Pit** 57.49 89 PFAKE 08 10 10.0 +14
NPH LR LR
comp=Z,13µm,20.0s
SDHHI **Sand Hill** 57.49 89 PFAKE 08 10 10.0 +14
SDHHI LR LR
comp=Z,13µm,20.0s
SBLHI **Steaming Bluff** 57.49 89 PFAKE 08 10 10.0 +14
SBLHI LR LR
comp=Z,13µm,20.0s
RIM **Rim** 57.50 89 PFAKE 08 10 10.0 +14
RIM LR LR
comp=Z,14µm,20.0s
BYL **Byron's Ledge** 57.50 89 PFAKE 08 10 10.0 +14
BYL LR LR
comp=Z,14µm,20.0s
KKO **Keanakako'i** 57.51 89 PFAKE 08 10 10.0 +13
KKO LR LR
comp=Z,14µm,20.0s
SRSP **Sriramsagar** 57.58 271 *e*P **P** **08 09 56.0 -0.9**
SRSP IAmb IAmb 08 10 01.6
comp=Z,386nm,1.0s
SRSP *e*S **S** **08 17 52.9 -0.7**
SRSP IVMs_BB IVMs_BB 08 38 18.9
comp=Z,5µm,15.8s
STCH **Steam Cracks** 57.63 89 PFAKE 08 10 10.0 +13
STCH LR LR
comp=Z,15µm,21.0s
JCUZ **Jacuzzi** 57.65 89 PFAKE 08 10 10.0 +13
JCUZ LR LR
comp=Z,14µm,20.0s
KBL **Kabul** 57.71 291 *e*P **P** **08 09 57.6 -0.3**
KBL pmax pmax
comp=Z,240nm,1.3s
KBL **Kabul** 57.71 291 *e*P **P** **08 09 57.6 -0.3**
comp=Z,241nm,1.3s
KBL LR LR
comp=Z,26µm,19.0s
ADKI **Addanki** 57.90 267 *e*P **P** **08 10 00.5 +1.3**
ADKI IAmb IAmb 08 10 03.9
comp=Z,168nm,1.3s
ADKI *e*pP **pP** **08 10 06.7 -0.1**
NJS **Nagarjunasagar** 58.05 268 *e*P **P** **08 10 00.1 -0.1**
NJS IAmb IAmb 08 10 03.5
comp=Z,560nm,2.0s
NJS *e*S **S** **08 17 57.6 -2.2**
NJS IVMs_BB IVMs_BB 08 34 13.2
comp=Z,5µm,28.1s
HYB **Hyderabad** 58.20 269 *i* P **P** **08 10 02.0 +0.7**
HYB *e*PP **PP** **08 12 12.0 +1.7**
HYB *e*S **S** **08 18 02.0 +0.2**
HYB LR LR

comp=Z,22nm,24.0s
HYBB Hyderabad (bro 58.20 269 *e*P **P 08 10 00.8 -0.5**
HYBB IAmb IAmb 08 10 03.7
comp=Z,288nm,1.4s
HYBB *e*S **S 08 18 01.7 -0.2**
HYBB IVMs_BB IVMs_BB 08 36 21.2
comp=Z,5µm,17.5s
AB31 Akbulak array 58.45 311 *i* P **P 08 10 01.9 -0.7**
AB31 pmax pmax
comp=Z,65nm,0.5s
ABKAR Akbulak array 58.45 311 *e*P **P 08 10 02.4 -0.1**
comp=Z,1µm,0.9s
ABKAR LR LR
comp=Z,9µm,20.0s
CRAG Craig 58.62 42 PFAKE 08 10 20.0 +16
CRAG LR LR
comp=Z,8µm,20.0s
SRLM Srisailam 58.63 267 *e*P **P 08 10 03.8 -0.6**
SRLM IAmb IAmb 08 10 06.7
comp=Z,209nm,1.4s
SRLM *e*S **S 08 18 08.6 +1.1**
SRLM IVMs_BB IVMs_BB 08 34 28.8
comp=Z,5µm,25.1s
WRAK Wrangell Islan 58.72 40 PFAKE 08 10 20.0 +16
WRAK LR LR
comp=Z,8µm,21.0s
RCLA Racherla 58.93 267 *e*P **P 08 10 05.4 -0.9**
RCLA IAmb IAmb 08 10 10.7
comp=Z,149nm,1.0s
RCLA *e*S **S 08 18 08.3 -2.9**
RCLA IVMs_BB IVMs_BB 08 34 51.7
comp=Z,6µm,26.5s
AKTO Aktyubinsk 59.20 312 P **P 08 10 07.3 -0.5**
comp=Z,87nm,1.0s,baz=76,slow=7.6,SNR=117
AKTO LR LR 08 36 52.0
comp=Z,42µm,19.2s,baz=68,slow=37
DLBC Dease Lake 59.22 38 P **P 08 10 07.8 -0.1**
comp=Z,8.2nm,0.9s,baz=301,slow=6.9,SNR=14
DLBC Dease Lake 59.22 38 *e*P **P 08 10 09.1 +1.2**
SKHT Srikalahasti 59.27 265 *e*P **P 08 10 08.9 +0.2**
SKHT IAmb IAmb 08 10 13.5
comp=Z,300nm,1.1s
SKHT *e*S **S 08 18 15.1 -0.5**
SKHT IVMs_BB IVMs_BB 08 36 31.1
comp=Z,3µm,26.3s
KLRI Killari 59.44 271 *e*P **P 08 10 09.2 -0.7**
KLRI IAmb IAmb 08 10 14.1
comp=Z,367nm,1.1s
KLRI *e*S **S 08 18 17.5 -0.4**
KLRI IVMs_BB IVMs_BB 08 38 49.1
comp=Z,8µm,19.1s
DIB Dawson Inlet, 59.76 44 PFAKE 08 10 30.0 +18
DIB LR LR
comp=Z,7µm,20.0s
AS31 Alice Springs 60.03 188 *e*P **P 08 10 13.1 -0.6**
ASAR Alice Springs 60.03 188 P **P 08 10 13.1 -0.6**
comp=Z,16nm,0.9s,baz=9.1,slow=5.7,SNR=19
ASAR PKPPKP P'P'df 08 39 45.5 +14
comp=Z,5.4nm,1.1s,baz=172,slow=2.7,SNR=9.2
URV Uravakonda 60.58 267 *e*P **P 08 10 17.1 -0.7**
URV IAmb IAmb 08 10 20.8
comp=Z,468nm,1.8s
URV *e*S **S 08 18 30.7 -1.8**
URV IVMs_BB IVMs_BB 08 35 40.5
comp=Z,4µm,23.1s
MBWA Marble Bar 60.69 203 *e*P **P 08 10 17.1 -1.1**
comp=Z,228nm,1.4s
MBWA Marble Bar 60.69 203 P **P 08 10 17.3 -0.9**
SNR=14
MBWA P **P 08 10 17.3 -0.9**
SNR=14
HOPEN Hopen 60.79 346 IVMs_BB IVMs_BB 08 40 21.0
comp=Z,9µm,14.2s
SPA0 Spitsbergen Ar 61.28 349 *e*P **P 08 10 22.0 +0.4**
SPA0 IVmB_BB 08 10 25.9
comp=Z,3µm,2.4s
SPA0 *e*S **S 08 18 44.2 +4.3**
SPA0 IVMs_BB IVMs_BB 08 40 10.3
comp=Z,7µm,18.2s
SPA0 Spitsbergen Ar 61.28 349 *e*P **P 08 10 21.8 +0.1**
SPITS Spitsbergen Ar 61.28 349 P **P 08 10 21.5 -0.1**
comp=Z,19nm,0.9s,baz=78,slow=8.6,SNR=16
KBS Kingsbay 61.42 350⇑ *i*P **P 08 10 23.2 +0.7**
KBS IVmB_BB 08 10 36.7
comp=Z,3µm,2.0s
KBS *e*PP **PP 08 12 38.7 +1.4**
KBS *e*S **S 08 18 44.6 +3.1**
KBS IVMs_BB IVMs_BB 08 40 38.0
comp=Z,5µm,14.3s
KBS Kingsbay 61.42 350 *e*P **P 08 10 22.5 0.0**
KBS pmax pmax
comp=Z,251nm,1.2s
KBS MLR MLR
comp=Z,7µm,19.0s
KBS Kingsbay 61.42 350 *e*P **P 08 10 22.4 0.0**
comp=Z,251nm,1.2s
KBS LR LR
comp=Z,7µm,19.0s
POO Poona 61.42 273⇑ *i*P **P 08 10 19.0 -4.4**
comp=Z,27nm,1.0s
POO *i* PCP **pP 08 10 29.0 -2.1**
POO *e*PCS **PcS 08 15 11.0 +2.3**
POO *i* S S 08 18 19.0 -24
POO *i* PPS PPS 08 18 39.0
POO *i* SS SS 08 22 11.0 -33
POO *i* LR LR 08 27 27.0
EIDS Eidsvold 61.98 170 *e*P **P 08 10 27.1 +0.3**
comp=Z,34nm,0.9s
EIDS LR LR
comp=Z,11µm,22.0s
HSPB Hornsund (broa 62.20 348⇑ *i*P **P 08 10 28.4 +0.6**
HSPB IVmB_BB 08 10 31.2
comp=Z,5µm,2.2s
HSPB *e*S **S 08 18 53.2 +1.8**
HSPB IVMs_BB IVMs_BB 08 40 08.2
comp=Z,7µm,17.5s
HSPB Hornsund (broa 62.20 348 *e*P **P 08 10 28.5 +0.7**
HSPB *e* 08 12 44.5
HSPB *e*S **S 08 18 53.1 +1.6**
PALK Pallekele 62.22 258 P **P 08 10 29.0 +0.1**
PALK Pallekele 62.22 258 *e*P **P 08 10 29.3 +0.4**
PALK pmax pmax
comp=Z,330nm,1.6s
PALK Pallekele 62.22 258 *e*P **P 08 10 29.3 +0.4**
comp=Z,330nm,1.6s
PALK LR LR
comp=Z,10µm,22.0s
PALK Pallekele 62.22 258 P **P 08 10 31.2 +2.3**
SNR=6.8
PALK P **P 08 10 31.2 +2.3**
SNR=6.8
PALK P **P 08 10 31.2 +2.3**
SNR=6.8
BBB Bella Bella 62.60 44 P **P 08 10 31.3 +0.5**
comp=Z,3.5nm,0.7s,baz=283,slow=12,SNR=3.3
BBB Bella Bella 62.60 44 *e*P **P 08 10 31.3 +0.5**
BBB LR LR
comp=Z,7µm,21.0s
DZM Mont Dzumac 62.65 154 P **P 08 10 30.7 -0.8**
comp=Z,33nm,1.1s,baz=116,slow=14,SNR=2.6
DZM LR LR 08 35 58.6
comp=Z,22µm,20.1s,baz=328,slow=34
DZM Mont Dzumac 62.65 154 *e*P **P 08 10 35.3 +3.8**
comp=Z,321nm,1.3s
DZM *e*S **S 08 18 57.6 -0.9**
comp=Z,28µm,29.1s
DZM *e*LQ LQ 08 26 09.8
comp=Z,27µm,34.0s
DZM *e*LR LR 08 29 08.3
comp=Z,30µm,21.1s
DZM Mont Dzumac 62.65 154 *e*P **P 08 10 33.1 +1.5**
comp=Z,162nm,1.2s
DZM LR LR
comp=Z,26µm,20.0s
LVZ Lovozero 62.82 336*c**e*P **P 08 10 31.7 -0.4**
LVZ pmax pmax
comp=Z,86nm,0.8s
LVZ MLR MLR
comp=Z,41µm,18.0s
LVZ Lovozero 62.82 336 *e*P **P 08 10 31.5 -0.6**
comp=Z,69nm,0.8s
LVZ LR LR
comp=Z,43µm,18.0s
BJO Bjornoya 63.17 345 *e*P **P 08 10 34.6 +0.4**
BJO IVmB_BB 08 10 51.5
comp=Z,4µm,3.7s
BJO *e*S **S 08 19 06.3 +2.7**
BJO IVMs_BB IVMs_BB 08 41 54.4
comp=Z,14µm,16.7s
APA Apatity 63.40 336⇓ *i*P **P 08 10 34.5 -1.3**
APA *i* 08 11 13.0
APA *i* 08 13 04.0
APA *i* S **S 08 19 05.0 -1.7**
APA *i* PS **PnS 08 19 15.0 -9.5**
APA pmax pmax
comp=Z,38nm,0.8s
TMCR Tamitsa 63.43 332 *e*P **P 08 10 36.0 -0.1**
TMCR *e*S **S 08 19 10.2 +3.1**
TMCR pmax pmax
comp=Z,289nm,1.0s
COCO West Island 63.95 230 *e*P **P 08 10 40.7 +0.5**
COCO pmax pmax
comp=Z,430nm,1.4s
COCO West Island 63.95 230 *e*P **P 08 10 40.7 +0.5**
comp=Z,428nm,1.4s
COCO LR LR
comp=Z,8µm,21.0s
KEV Kevo 64.17 339 PFAKE 08 10 50.0 +9.1
KEV LR LR
comp=Z,34µm,18.0s
GEYT Alibeck 64.22 299 P **P 08 10 42.3 +0.4**
comp=Z,75nm,0.9s,baz=41,slow=2.7,SNR=39
GEYT LR LR 08 40 41.5
comp=Z,26µm,18.6s,baz=60,slow=38
KLMR Klimovskoe 64.42 328 *e*P **P 08 10 41.6 -1.1**
KLMR *e* 08 11 16.2
KLMR *e* 08 13 04.4
KLMR *e*S **S 08 19 20.3 +0.8**
KLMR pmax pmax
comp=Z,423nm,1.3s
KLMR MLR MLR
comp=Z,7µm,14.0s
YKW3 Yellowknife Ar 64.43 30 *e*P **P 08 10 42.8 +0.1**
comp=Z,93nm,1.4s
YKW3 LR LR
comp=Z,5µm,22.0s
YKA Yellowknife Ar 64.46 30 P **P 08 10 42.5 -0.4**
comp=Z,10nm,0.8s,baz=302,slow=6.7,SNR=28
YKA LR LR 08 37 58.9
comp=Z,433nm,21.9s,baz=0.0,slow=35
YKA PKPPKP **P'P'df 08 39 36.4 -1.2**
comp=Z,1.8nm,1.1s,baz=108,slow=2.3,SNR=4.0
YKB5 Yellowknife Ar 64.46 30 *e*P **P 08 10 42.0 -0.9**
HAMF Hammerfest 64.55 341 *e*P **P 08 10 43.4 0.0**
HAMF IVmB_BB 08 10 59.8
comp=Z,3µm,5.1s
HAMF *e*S **S 08 19 22.1 +1.2**
HAMF IVMs_BB IVMs_BB 08 44 26.7
comp=Z,14µm,17.6s
ARA0 ARCESS Array S 64.72 340 *e*P **P 08 10 44.8 +0.2**
ARCES ARCESS Array B 64.72 340 P **P 08 10 44.8 +0.2**
comp=Z,54nm,0.8s,baz=52,slow=7.9,SNR=66
ARCES LR LR 08 42 07.6
comp=Z,16µm,20.6s,baz=34,slow=39
ARE0 ARCESS Array S 64.72 340 *e*P **P 08 10 44.8 +0.3**
ARE0 IVmB_BB 08 10 59.3
comp=Z,3µm,2.3s
ARE0 *e*S **S 08 19 24.6 +1.5**
ARE0 *e*SS **SS 08 23 36.0 +2.6**
ARE0 IVMs_BB IVMs_BB 08 44 38.6
comp=Z,9µm,15.1s
ARE0 ARCESS Array S 64.72 340 *e*P **P 08 10 45.0 +0.4**
comp=Z,224nm,1.3s
ARE0 LR LR
comp=Z,23µm,18.0s
KTK1 Kautokeino 65.68 340 *e*P **P 08 10 51.0 +0.2**
KTK1 IVmB_BB 08 10 53.5
comp=Z,3µm,2.4s
XMAS Kiritimati 65.73 106 PFAKE 08 11 00.0 +8.1
XMAS LR LR
comp=Z,20µm,20.0s
TRO Tromso 66.45 341 *e*P **P 08 10 58.2 +2.6**
TRO IVmB_BB 08 11 00.9
comp=Z,2µm,2.3s
TRO *e*S **S 08 19 47.8 +3.7**
TRO *e*SS **SS 08 24 05.3 +5.3**
TRO IVMs_BB IVMs_BB 08 44 49.2
comp=Z,14µm,15.8s
DAG Danmarks Havn 66.54 355⇑ *i*P **P 08 10 55.9 -0.3**
comp=Z,83nm,1.0s
DAG *i* S **S 08 19 44.5 -0.6**
comp=Z,7µm,16.0s
DAG Danmarks Havn 66.54 355⇑ *i*P **P 08 10 55.9 -0.3**
DAG *i* S **S 08 19 44.5 -0.6**
DAG pmax pmax
comp=Z,83nm,1.0s
DAG MLR MLR
comp=Z,7µm,16.0s
AFI Afiamalu 66.63 130 LR LR 08 34 14.1
comp=Z,14µm,21.5s,baz=292,slow=31
JOF Joensuu 66.65 332 P **P 08 10 56.8 -0.3**
JOF pmax pmax
comp=Z,199nm,1.1s
LLLB Lillooet 66.80 44 *e*P **P 08 10 59.2 +0.9**
comp=Z,85nm,1.2s
LLLB LR LR
comp=Z,8µm,21.0s
PGC Sidney 66.86 46 *e*P **P 08 10 59.5 +0.9**
comp=Z,61nm,1.1s
PGC LR LR
comp=Z,4µm,21.0s
ARMA Armidale 67.02 170 *e*P **P 08 11 01.3 +1.4**
comp=Z,68nm,1.3s
NLWA Neilton Lookou 67.22 47 *e*P **P 08 11 02.6 +1.5**
comp=Z,171nm,1.0s
NLWA LR LR
comp=Z,5µm,20.0s
A04D Lummi Island 67.25 46 P **P 08 10 57.3 -3.9**
baz=300
OUL Oulu 67.30 336 P **P 08 11 00.6 -0.6**
OUL pmax pmax
comp=Z,252nm,1.1s
STKA Stephens Creek 67.79 180 P **P 08 11 03.3 -1.3**
comp=Z,15nm,1.0s,baz=355,slow=8.3,SNR=9.1
STKA LR LR 08 39 48.9
comp=Z,8µm,20.9s,baz=355,slow=35
STKA Stephens Creek 67.79 180 *e*P **P 08 11 05.1 +0.6**
STKA Stephens Creek 67.79 180 *e*P **P 08 11 05.1 +0.6**
comp=Z,7.1nm,1.0s
E03A Lebam 67.82 48 *e*P **P 08 11 06.0 +1.2**
comp=Z,149nm,1.0s
E03A LR LR
comp=Z,5µm,19.0s
B05A Bryant 67.83 46 P **P 08 11 02.3 -2.6**
baz=300
B05A S **S 08 20 03.3 +1.9**
baz=300
FORT Forrest 67.86 192 *e*P **P 08 11 04.0 -1.0**
comp=Z,1µm,0.6s
MOS Moscow 67.88 324α *i*P **P 08 11 04.5 -0.5**
MOS *i* 08 11 15.1
MOS *i* 08 11 27.5
MOS *e* 08 13 32.5
MOS *i* S **S 08 20 01.2 -0.5**
MOS *e* 08 20 22.2
MOS *e*SS **SS 08 24 24.6 +1.8**
MOS pmax pmax
comp=Z,2µm,2.5s
MOS pmax pmax
comp=Z,600nm,1.4s
MOS smax smax
comp=N,3µm,5.0s
MOS smax smax
comp=E,2µm,4.0s
MOS MLR MLR
comp=E,26µm,14.0s
MOS MLR MLR
comp=Z,32µm,14.0s
JCW Jim Creek 67.96 46 *e*P **P 08 11 06.5 +0.7**
B06A Marblemount 68.06 45 *e*P **P 08 11 07.1 +0.9**
comp=Z,74nm,1.0s
B06A LR LR
comp=Z,7µm,19.0s
HTW Haystack Looko 68.25 46 *e*P **P 08 11 08.2 +0.6**
F04D Rainier, OR 68.38 48 P **P 08 11 04.9 -3.4**
baz=300
STEI Steigen 68.60 341 *e*P **P 08 11 09.2 -0.1**
G03D McMinnville, O 68.67 49 P **P 08 11 07.1 -3.0**
baz=300
SUF Sumiainen 68.68 333 P **P 08 11 09.7 -0.2**
SUF pmax pmax
comp=Z,220nm,1.1s
C06D Leavenworth 68.70 46 P **P 08 11 08.6 -1.7**
baz=301
OBN Obninsk 68.72 323 P **P 08 11 10.1 -0.1**
comp=Z,175nm,0.9s,baz=73,slow=1.9,SNR=30
OBN LR LR 08 43 37.8
comp=Z,13µm,19.3s,baz=58,slow=38
OBN Obninsk 68.72 323*c* *i*P **P 08 11 10.0 -0.2**
OBN *i* 08 11 20.7
OBN *e* 08 11 32.9
OBN *e* 08 13 40.2
OBN *i* S **S 08 20 12.5 +0.7**
OBN *i* PS **PnS 08 20 28.3 -9.1**
OBN *i* SS **SS 08 24 38.2 +2.4**
OBN pmax pmax
comp=Z,455nm,1.3s
OBN MLR MLR
comp=Z,41µm,16.0s
OBN Obninsk 68.72 323 *e*P **P 08 11 10.2 -0.1**
comp=Z,2µm,1.7s
OBN LR LR
comp=Z,20µm,18.0s
TDL Tradedollar La 68.72 48 *e*P **P 08 11 11.2 +0.5**
KULLO Kullorsuaq 68.74 5 *i* P **P 08 11 09.4 -0.7**
comp=Z,196nm,1.5s
KULLO *i* S **S 08 20 09.1 -2.4**
comp=Z,16µm,17.0s
KULLO Kullorsuaq 68.74 5 *i* P **P 08 11 09.4 -0.7**
KULLO *i* S **S 08 20 09.1 -2.4**
KULLO pmax pmax
comp=Z,200nm,1.5s
KULLO MLR MLR
comp=Z,16µm,17.0s
LVP Lakeview Peak 68.75 48 *e*P **P 08 11 11.6 +0.8**
LON Longmire 68.76 47 *e*P **P 08 11 11.7 +0.9**
comp=Z,45nm,1.1s
F04A Amboy 68.81 48 *e*P **P 08 11 11.7 +0.7**
comp=Z,114nm,0.9s
F04A LR LR
comp=Z,6µm,19.0s
PUL Pulkovo 68.86 330 *e*P **P 08 11 11.3 +0.3**
PUL pmax pmax
comp=Z,174nm,1.2s
PUL MLR MLR
comp=Z,24µm,17.0s
MTMW Mount Mitchell 68.89 48 *e*P **P 08 11 13.0 +1.3**
LOF Lofoten 68.89 342 *e*P **P 08 11 11.8 +0.7**
LOF IVmB_BB 08 11 29.6
comp=Z,2µm,4.0s
LOF *e*S **S 08 20 15.0 +1.6**
LOF *e*SS **SS 08 24 43.8 +5.8**
LOF IVMs_BB IVMs_BB 08 45 59.1
comp=Z,11µm,15.2s
BBOO Buckleboo 68.90 185 *e*P **P 08 11 12.2 +0.7**
comp=Z,50nm,0.9s
BBOO LR LR
comp=Z,9µm,20.0s
LPSR Galich'ya Gora 68.90 320 *e*P **P 08 11 10.8 -0.6**
LPSR *e*S **S 08 20 11.0 -3.0**
LPSR pmax pmax
comp=Z,170nm,0.9s
LPSR smax smax
comp=N,240nm,5.6s
LPSR MLR MLR
comp=Z,80µm,17.0s
MAK Makhachkala 68.95 308 *e*P **P 08 11 11.2 -0.7**
MAK *e* 08 11 40.3
MAK *e* 08 13 42.3
MAK *e*PPP PPP 08 15 21.8
MAK *e*S **S 08 20 16.2 +1.3**
MAK *e*SSS SSS 08 27 44.6
COR Corvallis 68.96 50 *e*P **P 08 11 14.4 +2.5**
COR pmax pmax
comp=Z,160nm,1.0s
COR Corvallis 68.96 50 *e*P **P 08 11 12.9 +1.0**
comp=Z,161nm,1.0s
COR LR LR
comp=Z,10µm,19.0s
LTY Liberty 69.17 46 *e*P **P 08 11 13.7 +0.4**
comp=Z,65nm,0.9s
LTY LR LR
comp=Z,5µm,19.0s
KEBM Edson Butte 69.18 52 *e*P **P 08 11 15.5 +2.1**
comp=Z,253nm,1.0s
KEBM LR LR
comp=Z,7µm,19.0s
VORR Voronezh 69.25 319 *e*P **P 08 11 12.0 -1.6**
VORR pmax pmax
comp=Z,500nm,1.6s
WTV Waterville 69.36 46 *e*P **P 08 11 14.0 -0.5**
B08A Colville Reser 69.37 45 *e*P **P 08 11 14.1 -0.5**
comp=Z,79nm,1.1s
B08A LR LR
comp=Z,9µm,19.0s
I03D Drain, OR 69.38 51 P **P 08 11 13.4 -1.2**
baz=301
FIA1 FINESS Array S 69.50 332 *e*P **P 08 11 14.2 -0.8**
FIA0 FINESS Array S 69.50 332 *e*P **P 08 11 14.8 -0.2**
FIA0 FINESS Array S 69.50 332 *e*P **P 08 11 14.8 -0.2**
FINES FINESS Array B 69.50 332 P **P 08 11 14.8 -0.2**
comp=Z,227nm,1.0s,baz=60,slow=7.5,SNR=85
FINES LR LR 08 44 07.5
comp=Z,32µm,18.2s,baz=44,slow=38
VSR Storozhevoye 69.52 319 *e*P **P 08 11 14.5 -0.8**
VSR *e*S **S 08 20 20.5 -0.9**
VSR pmax pmax
comp=Z,200nm,1.0s
VSR smax smax
comp=N,2µm,10.1s
VSR MLR MLR
comp=Z,63µm,16.0s
TDH Tom, Dick, Har 69.52 48 *e*P **P 08 11 16.1 +0.5**
KBO Bosley Butte 69.59 52 PFAKE 08 11 30.0 +14
KBO LR LR
comp=Z,7µm,19.0s
VAF Ylistaro 69.70 335 *e*P **P 08 11 16.8 +0.6**
VAF pmax pmax
comp=Z,200nm,1.1s
G05D Wamic, OR 69.83 48 P **P 08 11 15.7 -1.7**
baz=302
GROC Groznyy 69.90 309 *e*P **P 08 11 17.5 -0.3**
GROC *e* 08 11 38.4
GROC pmax pmax
comp=Z,291nm,1.7s
I04A Tendick Farm, 69.92 50 P **P 08 11 15.8 -2.2**
baz=301
EDM Edmonton 69.94 38 *e*P **P 08 11 18.0 +0.1**
EDM pmax pmax
comp=Z,75nm,1.0s
EDM Edmonton 69.94 38 *e*P **P 08 11 18.0 +0.1**
comp=Z,75nm,1.0s
EDM LR LR
comp=Z,8µm,19.0s
L02D Cave Junction, 70.01 52 P **P 08 11 16.0 -2.5**
baz=301
E07A Sunnyside 70.01 47 *e*P **P 08 11 19.6 +1.2**
comp=Z,100nm,1.1s
E07A LR LR
comp=Z,7µm,18.0s
MOR8 Moi Rana 70.09 340 *e*P **P 08 11 17.4 -1.2**
MOR8 IVmB_BB 08 11 21.2
comp=Z,3µm,2.5s
MOR8 IVMs_BB IVMs_BB 08 44 45.6
comp=Z,9µm,16.6s
KRMB Red Mountain 70.14 53 PFAKE 08 11 30.0 +11
KRMB LR LR
comp=Z,10µm,18.0s
HUMO Hull Mountain 70.19 51 PFAKE 08 11 30.0 +10
HUMO LR LR
comp=Z,9µm,19.0s
KONS Konsvik 70.21 340 *e*P **P 08 11 19.8 +0.6**
KONS IVMs_BB IVMs_BB 08 45 36.5
comp=Z,18µm,19.0s
G06A Carlson Farm, 70.25 48 *e*P **P 08 11 21.1 +1.2**
comp=Z,92nm,1.2s
HAWA Hanford 70.29 47 *e*P **P 08 11 20.8 +0.6**
comp=Z,56nm,1.1s
HAWA LR LR
comp=Z,6µm,19.0s
I05D Terrebonne, OR 70.29 49 P **P 08 11 17.6 -2.6**
baz=302
D08A Wollman Farm, 70.29 46 *e*P **P 08 11 20.6 +0.4**
comp=Z,68nm,0.9s
D08A LR LR
comp=Z,7µm,19.0s
STOK Stokkvaagen 70.36 340 *e*P **P 08 11 19.8 -0.4**
J04D Umpqua Nationa 70.39 50 P **P 08 11 19.2 -1.9**

baz=302
JCC Jacoby Creek, 70.43 53 PFAKE 08 11 30.0 +8.9
JCC LR LR
comp=Z,6μm,19.0s
KHMM Horse Mountain 70.59 53 *e*P **P 08 11 22.4 +0.1**
KHMM comp=Z,119nm,1.1s LR LR
comp=Z,8μm,19.0s
GOF Gofitskoye 70.62 312⇑ *i*P **P 08 11 22.3 +0.1**
GOF pmax pmax
comp=Z,290nm,0.9s
NEW Newport 70.67 44 P **P 08 11 22.8 +0.3**
comp=Z,17nm,0.9s,baz=308,slow=4.6,SNR=14
NEW Newport 70.67 44 P **P 08 11 20.2 -2.2**
baz=303
NEW Newport 70.67 44 *e*P **P 08 11 22.8 +0.3**
NEW pmax pmax
comp=Z,53nm,1.0s
NEW Newport 70.67 44 *e*P **P 08 11 22.8 +0.3**
comp=Z,53nm,1.0s
NEW LR LR
comp=Z,5μm,21.0s
YBH Yreka Blue Hor 70.80 52 *e*P **P 08 11 25.0 +1.5**
YBH pmax pmax
comp=Z,40nm,0.9s
YBH Yreka Blue Hor 70.80 52 *e*P **P 08 11 25.0 +1.5**
comp=Z,40nm,0.8s
YBH LR LR
comp=Z,5μm,19.0s
M02C Callahan 70.89 52 P **P 08 11 20.9 -3.1**
baz=302
JMIC Jan Mayen 70.91 350 LR LR 08 44 52.2
comp=Z,6μm,18.2s,baz=36,slow=38
JMIC Jan Mayen 70.91 350 *e*S **S 08 20 40.2 +3.2**
J05D Fort Rock, OR 70.91 50 P **P 08 11 22.3 -1.9**
baz=302
K04D Chiloquin, OR 70.94 51 P **P 08 11 24.3 0.0**
baz=302
KMRM Mail Ridge 70.95 54 PFAKE 08 11 40.0 +16
KMRM LR LR
comp=Z,12μm,18.0s
E09A Wood Farm, Sta 71.04 46 *e*P **P 08 11 25.4 +0.7**
comp=Z,121nm,1.0s
E09A LR LR
comp=Z,5μm,19.0s
DGRG David-gareji 71.08 308 P **P 08 11 25.5 +0.4**
DGRG David-gareji 71.08 308 P **P 08 11 25.5 +0.4**
WSAR Wadi Sarin 71.08 285 P **P 08 11 25.7 +0.4**
comp=Z,56nm,0.9s,baz=94,slow=6.0,SNR=20
NCK Nalchik 71.11 310⇑ *i*P **P 08 11 25.2 0.0**
NCK pmax pmax
comp=Z,194nm,1.2s
NCK MLR MLR
comp=Z,26μm,20.0s
VSU Vasula 71.12 330*c* *i*P **P 08 11 24.9 -0.1**
VSU pmax pmax
comp=Z,1μm,1.3s
VSU MLR MLR
comp=Z,55μm,16.0s
WBK Wadi Bani Khal 71.15 285 P **P 08 11 26.2 +0.4**
SNR=22
N02D Trinity Center 71.20 53 P **P 08 11 26.3 +0.4**
baz=302,SNR=13
ZEI Tsey 71.30 310 *e*P **P 08 11 23.9 -2.7**
ZEI pmax pmax
comp=Z,325nm,1.1s
ZEI pmax pmax
comp=N,195nm,0.9s
ZEI pmax pmax
comp=E,296nm,1.0s
KCPM Cahto Peak 71.31 54 *e*P **P 08 11 25.8 -0.9**
comp=E,177nm,1.1s
KCPM LR LR
comp=Z,10μm,19.0s
BIDO Bidbid 71.33 286 P **P 08 11 27.4 +0.6**
SNR=46
BIDO P **P 08 11 27.4 +0.6**
SNR=46
M04C Macdoel 71.33 52 P **P 08 11 25.8 -0.9**
baz=302
TBLG Delisi 71.34 308 P **P 08 11 27.0 +0.3**
TBLG Delisi 71.34 308 P **P 08 11 26.9 +0.3**
KBZ Khabaz 71.42 311 P **P 08 11 27.3 +0.3**
comp=Z,151nm,1.0s,baz=71,slow=4.3,SNR=96
KBZ LR LR 08 47 01.3
comp=Z,16μm,18.4s,baz=40,slow=39
KVAR Kislovodsk Arr 71.42 311 LR LR 08 47 06.5
comp=Z,17μm,18.5s,baz=24,slow=40
K05A Summer Lake 71.42 50 *e*P **P 08 11 28.6 +1.2**
comp=Z,206nm,1.0s
K05A LR LR
comp=Z,7μm,19.0s
KIV Kislovodsk 71.42 311 *i* P **P 08 11 27.4 +0.2**
SNR=82
KIV Kislovodsk 71.42 311 *e*P **P 08 11 27.6 +0.4**
KIV *e*S **S 08 20 46.6 +2.5**
KIV *e*SS **SS 08 25 22.4 +4.3**
KIV pmax pmax
comp=Z,1μm,4.7s
KIV pmax pmax
comp=Z,429nm,1.1s
KIV MLR MLR
comp=Z,20μm,18.0s
KIV Kislovodsk 71.42 311 *e*P **P 08 11 27.6 +0.4**
comp=Z,325nm,0.9s
KIV LR LR
comp=Z,22μm,18.0s
KIV Kislovodsk 71.42 311 P **P 08 11 27.7 +0.5**
SNR=78
KIV P **P 08 11 27.7 +0.5**
SNR=78
SUMG Summit 71.45 360 *i* P **P 08 11 27.9 +0.7**
comp=Z,944nm,1.8s
SUMG *e*S **S 08 20 45.9 +1.8**
comp=Z,14μm,19.0s
SUMG Summit 71.45 360 *i* P **P 08 11 27.9 +0.7**
SUMG *e*S **S 08 20 45.9 +1.8**
SUMG pmax pmax
comp=Z,940nm,1.8s
SUMG MLR MLR
comp=Z,14μm,19.0s
SUMG Summit 71.45 360 *e*P **P 08 11 27.5 +0.3**
comp=Z,269nm,1.2s
SUMG LR LR
comp=Z,14μm,19.0s
BANOM Banah 71.47 289 P **P 08 11 27.8 +0.1**
WDC Whiskeytown Da 71.52 53 *e*P **P 08 11 29.2 +1.5**
WDC pmax pmax
comp=Z,97nm,1.0s
WDC Whiskeytown Da 71.52 53 *e*P **P 08 11 28.2 +0.5**
comp=Z,97nm,1.0s
WDC LR LR
comp=Z,6μm,20.0s
CAN Canberra 71.57 173 *e*P **P 08 11 29.9 +2.1**
CAN pmax pmax
comp=Z,81nm,1.3s
CAN Canberra 71.57 173 *e*P **P 08 11 29.9 +2.1**
comp=Z,81nm,1.3s
ONI Oni 71.69 310 P **P 08 11 29.5 +0.7**
ONI Oni 71.69 310 P **P 08 11 29.4 +0.7**
NEY Neytrino 71.78 311*c* *i*P **P 08 11 29.9 +0.4**
NEY pmax pmax
comp=Z,22nm,1.2s
NEY MLR MLR
comp=Z,13μm,18.0s
F10A Beach Ranch, E 71.86 46 *e*P **P 08 11 31.1 +1.3**
comp=Z,56nm,0.9s
F10A LR LR
comp=Z,5μm,22.0s
JMDO Jabal Madar 71.96 285 P **P 08 11 31.0 +0.3**
SNR=24
WALA Waterton Lakes 72.00 42 *e*P **P 08 11 31.4 +0.8**
comp=Z,47nm,0.9s
WALA LR LR
comp=Z,6μm,21.0s
HOPS Hopland Field 72.01 55 PFAKE 08 11 40.0 +9.3
HOPS LR LR
comp=Z,9μm,19.0s
UOSS Minazif 72.06 288 *e*P **P 08 11 31.3 +0.1**
comp=Z,102nm,1.1s
UOSS LR LR
comp=Z,7μm,20.0s
GNI Garni 72.18 307 P **P 08 11 32.1 +0.2**
comp=Z,97nm,0.9s,baz=19,slow=1.0,SNR=29
GNI LR LR 08 45 50.7
comp=Z,15μm,19.7s,baz=61,slow=38
GNI Garni 72.18 307 *i* P **P 08 11 32.7 +0.8**
SNR=18
GNI Garni 72.18 307*c* *i*P **P 08 11 33.0 +1.1**
GNI pmax pmax
comp=Z,861nm,1.3s
GNI MLR MLR
comp=Z,32μm,15.0s
GNI Garni 72.18 307 *e*P **P 08 11 32.9 +1.1**
GNI LR LR
comp=Z,14μm,19.0s
GNI Garni 72.18 307 P **P 08 11 33.0 +1.1**
SNR=65
GNI P **P 08 11 33.0 +1.1**
SNR=65
HATD Hatta, Dubai 72.18 288 *i* P **P 08 11 32.0 +0.1**
SNR=71
HATD Hatta, Dubai 72.18 288 P **P 08 11 33.0 +1.0**
SNR=52
HATD P **P 08 11 33.0 +1.0**
SNR=52
BSMT Bassoo Peak 72.20 43 *e*P **P 08 11 32.5 +0.5**
MOD Modoc Plateau 72.23 51 *e*P **P 08 11 33.1 +0.9**
comp=Z,48nm,1.0s
MOD LR LR
comp=Z,9μm,18.0s
AKH Akhalkalaki 72.30 309 P **P 08 11 33.4 +0.8**
AKH Akhalkalaki 72.30 309⇑ *i*P **P 08 11 33.5 +0.9**
AKH Akhalkalaki 72.30 309 P **P 08 11 33.4 +0.8**
GDXM Geysers 72.30 55 PFAKE 08 11 50.0 +17
GDXM LR LR
comp=Z,17μm,19.0s
BGD Bogdanovka 72.31 308 P **P 08 11 34.0 +1.3**
ASHO Ashiyiah 72.31 288 P **P 08 11 33.0 +0.2**
BLMT Blacktail Moun 72.35 43 *e*P **P 08 11 35.5 +2.6**
BMO Blue Mountains 72.44 47 *e*P **P 08 11 33.8 +0.5**
BMO pmax pmax
comp=Z,57nm,1.0s
BMO Blue Mountains 72.44 47 *e*P **P 08 11 33.8 +0.5**
comp=Z,57nm,1.0s
BMO LR LR
comp=Z,9μm,19.0s
NAZ Nazwa, Dubai 72.45 288 *i* P **P 08 11 33.6 0.0**
SNR=21
NAZ Nazwa, Dubai 72.45 288 P **P 08 11 33.4 -0.1**
SNR=21
NAZ P **P 08 11 33.4 -0.1**
SNR=21
NWAO Narrogin (SRO) 72.46 201 P **P 08 11 33.1 -0.1**
comp=Z,106nm,1.2s,baz=265,slow=6.9,SNR=13
NWAO Narrogin (SRO) 72.46 201 *e*P **P 08 11 33.1 -0.1**
comp=Z,7.5nm,1.3s
JTMT Jette 72.54 43 *e*P **P 08 11 34.1 +0.2**
MCCM Marconi Confer 72.60 55 PFAKE 08 11 50.0 +16
MCCM LR LR
comp=Z,11μm,19.0s
YBMT Yellow Bay 72.62 43 *e*P **P 08 11 35.4 +1.0**
FAQ Al Faqa, Dubai 72.64 288 *i* P **P 08 11 35.0 +0.3**
SNR=24
FAQ Al Faqa, Dubai 72.64 288 P **P 08 11 34.5 -0.2**
SNR=18
FAQ P **P 08 11 34.5 -0.2**
SNR=18
ARQ Araqi 72.67 286 P **P 08 11 35.1 +0.2**
SNR=35
ORV Oroville 72.74 53 *e*P **P 08 11 35.4 +0.4**
ORV pmax pmax
comp=Z,56nm,0.9s
ORV Oroville 72.74 53 *e*P **P 08 11 35.4 +0.4**
comp=Z,56nm,0.9s
ORV LR LR
comp=Z,7μm,19.0s
SWMT Swartz Lake 72.83 43 *e*P **P 08 11 36.0 +0.4**
SCO Scoresbysund 72.88 354 *i* P **P 08 11 34.9 -0.4**
comp=Z,741nm,2.0s
SCO *e*S **S 08 21 02.6 +2.9**
SCO Scoresbysund 72.88 354 *i* P **P 08 11 34.9 -0.4**
SCO *e*S **S 08 21 02.6 +2.9**
SCO pmax pmax
comp=Z,740nm,2.0s
WVOR Wild Horse Val 72.98 50 *e*P **P 08 11 37.6 +1.1**
WVOR pmax pmax
comp=Z,260nm,1.9s
WVOR Wild Horse Val 72.98 50 *e*P **P 08 11 37.6 +1.1**
comp=Z,261nm,1.9s
WVOR LR LR
comp=Z,10μm,18.0s
IZAR Zarasai 73.06 328 *e*P **P 08 11 37.0 +0.4**
IZAR IAmb IAmb 08 11 42.2
comp=Z,103nm,0.7s
IDID Didziasalis 73.13 327 *e*P **P 08 11 37.2 +0.2**
IDID IAmb IAmb 08 11 42.7
comp=Z,109nm,0.8s
MICGM Minsk 73.14 326⇑ *i*P **P 08 11 37.0 -0.1**
MICGM ⇑ *e*P **P 08 11 37.0 -0.1**
MICGM PM 08 11 38.0
comp=Z,0.6nm,1.8s
MICGM PM 08 11 39.0
comp=N,0.6nm,1.8s
MICGM PM 08 11 40.0
comp=E,0.7nm,2.0s
MICGM *e*PcP **PcP 08 11 58.0 +4.3**
MICGM *e*PP **PP 08 14 22.0 +2.5**
MICGM *e*PPP PPP 08 16 06.0
MICGM *e*S **S 08 21 05.0 +1.8**
MICGM *e*PS **PnS 08 21 30.0 -6.2**
MICGM *e*SS **SS 08 25 50.0 +6.4**
MICGM *e*SSS SSS 08 29 10.0
MICGM *e*LQ LQ 08 37 20.0
MICGM LQM 08 41 42.0
comp=E,5.1nm,18.0s
MICGM *e*LR LR 08 43 36.0
MICGM LRM MLR 08 46 50.0
comp=N,5.0nm,15.0s
MICGM LRM MLR 08 46 50.0
comp=Z,58nm,16.0s
MICGM LRM MLR 08 46 52.0
comp=N,27nm,18.0s
MICGM LRM MLR 08 46 52.0
comp=Z,81nm,16.0s
MICGM LRM MLR 08 46 54.0
comp=E,30nm,16.0s
MICGM LRM MLR 08 46 54.0
comp=E,15nm,16.0s
MNK Minsk 73.14 326*c* *i*P **P 08 11 37.0 -0.1**
MNK *e* 08 11 58.0
MNK *e* 08 14 22.0
MNK *e*PPP PPP 08 16 06.0
MNK *e*S **S 08 21 05.0 +1.8**
MNK *e*PS **PnS 08 21 30.0 -6.2**
MNK *e*SS **SS 08 25 50.0 +6.4**
MNK pmax pmax
comp=Z,550nm,1.8s
MNK pmax pmax
comp=N,610nm,1.8s
MNK pmax pmax
comp=E,680nm,2.0s
MNK MLR MLR
comp=Z,58μm,16.0s
MNK MLR MLR
comp=N,5μm,15.0s
MNK MLR MLR
comp=Z,81μm,16.0s
MNK MLR MLR
comp=N,27μm,18.0s
MNK MLR MLR
comp=E,30μm,16.0s
MNK MLR MLR
comp=E,15μm,16.0s
ISAL Salakas 73.23 328 *e*P **P 08 11 38.1 +0.5**
ISAL IAmb IAmb 08 11 43.4
comp=Z,191nm,0.7s
MSO Missoula 73.26 44 P **P 08 11 36.2 -1.9**
baz=305
MSO Missoula 73.26 44 *e*P **P 08 11 38.1 0.0**
comp=Z,249nm,1.9s
MSO LR LR
comp=Z,9μm,20.0s
SLMT Seeley Lake 73.27 43 *e*P **P 08 11 38.4 +0.1**
IIGN Ignalina 73.33 327 *e*P **P 08 11 38.4 +0.2**
IIGN IAmb IAmb 08 11 43.5
comp=Z,144nm,0.8s
NACGM Naroch 73.38 327 *e*P **P 08 11 38.0 -0.5**
NACGM *e*P **P 08 11 38.0 -0.5**
NACGM PM 08 11 43.0
comp=Z,0.9nm,1.0s
NACGM *e*PP **PP 08 14 22.0 +0.5**
NACGM *e*PPP PPP 08 16 12.0
NACGM *e*S **SKiKP 08 21 08.0 +0.2**
NACGM *e*PS **PnS 08 21 28.0 -11**
NACGM *e*SS SS 08 25 35.0 -12
NACGM *e*SSS SSS 08 29 24.0
NACGM *e*LQ LQ 08 33 53.0
NACGM *e*LR LR 08 41 04.0
NACGM LRM MLR 08 47 04.0
comp=Z,70nm,16.0s
ARTV Artvin 73.41 309 *e*P **P 08 11 39.8 +0.5**
comp=Z,307nm,1.5s
ARTV LR LR
comp=Z,9μm,20.0s
AFDM Forest Hills D 73.42 54 *e*P **P 08 11 39.9 +0.8**
comp=Z,62nm,1.3s
AFDM LR LR
comp=Z,7μm,20.0s
SOC Sochi 73.42 312*c* *i*P **P 08 11 38.6 -0.4**
SOC *e* 08 14 21.3
SOC *e*PPP PPP 08 16 03.6
SOC *e*S **S 08 21 07.1 +0.4**
SOC *e* 08 21 47.5
SOC pmax pmax
comp=Z,2μm,3.2s
SOC pmax pmax
comp=Z,196nm,1.2s
SOC MLR MLR
comp=Z,39μm,21.0s
TBLU Trondheim 73.47 339 *e*P **P 08 11 38.2 -0.7**
TBLU IVmB_BB 08 11 53.6
comp=Z,3μm,1.8s
TBLU *e*S **SKiKP 08 21 08.5 +0.8**
TBLU IVMs_BB IVMs_BB 08 46 57.8
comp=Z,15μm,16.6s
CHMT Chamberlain Mo 73.59 44 *e*P **P 08 11 39.9 -0.3**
PAHR Pah Rah Range 74.02 52 *e*P **P 08 11 43.7 +0.9**
comp=Z,83nm,1.0s
PAHR LR LR
comp=Z,7μm,18.0s
ANN Anapa 74.08 314*c* *i*P **P 08 11 42.5 -0.3**
ANN *e* 08 11 52.1
ANN *e*S **S 08 21 14.7 +0.7**
ANN pmax pmax
comp=Z,473nm,1.6s
ANN pmax pmax
comp=N,179nm,1.6s
ANN pmax pmax
comp=E,138nm,1.6s
PNTR Pine Nut 74.23 53 *e*P **P 08 11 44.3 +0.2**
comp=E,62nm,0.9s
PNTR LR LR
comp=Z,8μm,21.0s
CMB Columbia Colle 74.30 54 *e*P **P 08 11 45.7 +1.4**
CMB pmax pmax
comp=Z,89nm,1.0s
CMB Columbia Colle 74.30 54 *e*P **P 08 11 45.4 +1.1**
comp=Z,89nm,1.0s
CMB LR LR
comp=Z,8μm,20.0s
SAO San Andreas Ge 74.30 56 PFAKE 08 12 00.0 +16
SAO LR LR
comp=Z,7μm,20.0s
FFC Flin Flon 74.34 33 *e*P **P 08 11 43.8 -0.4**
FFC pmax pmax
comp=Z,82nm,1.0s
FFC Flin Flon 74.34 33 *e*P **P 08 11 43.8 -0.4**
comp=Z,82nm,1.0s
FFC LR LR
comp=Z,6μm,22.0s
ILULI Ilulissat 74.43 5⇑ *i*P **P 08 11 44.4 0.0**
comp=Z,154nm,1.2s
ILULI *e*S **S 08 21 15.9 -1.3**
comp=Z,12μm,17.0s
ILULI Ilulissat 74.43 5⇑ *i*P **P 08 11 44.4 0.0**
ILULI *e*S **S 08 21 15.9 -1.3**
ILULI pmax pmax
comp=Z,150nm,1.2s
ILULI MLR MLR
comp=Z,12μm,17.0s
HRY Holter Researc 74.50 43 *e*P **P 08 11 45.6 +0.2**
YERR Yerington 74.52 53 *e*P **P 08 11 46.5 +0.8**
comp=Z,134nm,1.0s
YERR LR LR
comp=Z,7μm,21.0s
WAKR Walker 74.66 53 *e*P **P 08 11 47.7 +1.1**
comp=Z,52nm,0.9s
WAKR LR LR
comp=Z,8μm,21.0s
FCC Fort Churchill 74.68 26 *e*P **P 08 11 45.9 -0.1**
FCC pmax pmax
comp=Z,180nm,1.3s
FCC Fort Churchill 74.68 26 *e*P **P 08 11 45.9 -0.1**
comp=Z,182nm,1.3s
FCC LR LR
comp=Z,9μm,21.0s
LRM Limekiln Ridge 74.69 44 *e*P **P 08 11 47.2 +0.5**
NC405 NORSAR Array S 74.69 337 *e*P **P 08 11 46.2 +0.1**
NC303 NORSAR Array S 74.71 337 *e*P **P 08 11 46.7 +0.5**
DOMB Dombas 74.77 339 *e*P **P 08 11 46.7 +0.2**
DOMB IVmB_BB 08 11 50.4
comp=Z,3μm,2.3s
DOMB *e*S **S 08 21 22.5 +1.2**
DOMB *e*SS **SS 08 26 10.0 +2.0**
DOMB IVMs_BB IVMs_BB 08 47 39.6
comp=Z,17μm,18.2s
MOL Molde 74.78 340⇑ *i*P **P 08 11 46.7 +0.1**
MOL IVmB_BB 08 12 06.3
comp=Z,3μm,5.0s
MOL *e*S **S 08 21 24.4 +3.1**
MOL IVMs_BB IVMs_BB 08 48 26.3
comp=Z,8μm,14.1s
HFS Hagfors 74.80 336 P **P 08 11 46.2 -0.5**
comp=Z,73nm,0.9s,baz=77,slow=6.5,SNR=25
HFS LR LR 08 47 20.0
comp=Z,39μm,19.5s,baz=29,slow=38
HFS Hagfors 74.80 336 P **P 08 11 46.2 -0.5**
HFS pmax pmax
comp=Z,74nm,0.9s
HFS MLR MLR
comp=Z,39μm,19.5s
EGMT Eagleton 74.84 41 P **P 08 11 47.2 -0.1**
baz=308
EGMT Eagleton 74.84 41 PFAKE 08 12 00.0 +13
EGMT LR LR
comp=Z,6μm,20.0s
NC204 NORSAR Array S 74.86 338 *e*P **P 08 11 47.2 0.0**
NB201 NORSAR Array S 74.87 337 *e*P **P 08 11 47.1 0.0**
DLMT Dillon 74.88 45 *e*P **P 08 11 48.0 +0.4**
comp=Z,219nm,1.4s
DLMT LR LR
comp=Z,4μm,20.0s
HLID Hailey 74.88 47 P **P 08 11 45.8 -1.9**
baz=306
HLID Hailey 74.88 47 *e*P **P 08 11 49.0 +1.2**
comp=Z,64nm,1.3s
HLID LR LR
comp=Z,6μm,19.0s
NB2 NORSAR Subarra 74.90 337 P **P 08 11 47.1 -0.3**
baz=41,slow=5.9
NB2 NORSAR Subarra 74.90 337 P **P 08 11 48.8 +1.4**
NB2 pmax pmax
comp=Z,272nm,1.3s
NB2 NORSAR Subarra 74.90 337 P **P 08 11 47.1 -0.3**
comp=Z,294nm,1.2s,baz=41,slow=5.9
NB200 NORSAR Array S 74.90 337 *e*P **P 08 11 47.2 -0.2**
NOA NORSAR Array B 74.90 337 P **P 08 11 47.2 -0.2**
comp=Z,125nm,0.9s,baz=39,slow=5.8,SNR=70
NOA LR LR 08 48 14.2
comp=Z,32μm,18.8s,baz=30,slow=39
AKASG Malin Array Be 74.92 322 P **P 08 11 47.1 -0.4**
comp=Z,101nm,0.5s,baz=46,slow=6.1,SNR=187
AKASG LR LR 08 47 47.3
comp=Z,57μm,18.0s,baz=50,slow=38
AKASG Malin Array Be 74.92 322 *i* P **P 08 11 47.0 -0.5**
AKASG pmax pmax
comp=Z,109nm,0.5s
AKBB Malin Array Si 74.92 322 *e*P **P 08 11 47.2 -0.4**
AKBB pmax pmax
comp=Z,210nm,0.8s
AKBB Malin Array Si 74.92 322 *e*P **P 08 11 47.1 -0.4**
comp=Z,212nm,0.8s
KIEV Kiev 74.93 322*c* *i*P **P 08 11 47.3 -0.3**
KIEV pmax pmax
comp=Z,399nm,1.3s
KIEV MLR MLR
comp=Z,51μm,16.0s
KIEV Kiev 74.93 322 *e*P **P 08 11 47.1 -0.5**

comp=Z,207nm,0.7s
KIEV LR LR
AK11 Malin Array Si 74.96 322 *e*P **P 08 11 47.3 -0.5**
KOPT Kop Dagi 74.96 309 *e*P **P 08 11 50.0 +1.6**
comp=Z,942nm,1.4s
KOPT LR LR
comp=Z,31µm,18.0s
BMN Battle Mountai 74.98 51 *e*P **P 08 11 49.3 +0.9**
BMN pmax pmax
comp=Z,88nm,1.0s
BMN Battle Mountai 74.98 51 *e*P **P 08 11 49.3 +0.9**
comp=Z,88nm,1.0s
BMN LR LR
comp=Z,6µm,19.0s
LCCM Lewis and Clar 75.00 44 *e*P **P 08 11 48.8 +0.4**
NBO02 NORSAR Array S 75.00 338 *e*P **P 08 11 48.0 0.0**
NC602 NORSAR Array S 75.03 337 *e*P **P 08 11 48.0 -0.1**
NC602 IVmB_BB 08 12 09.6
comp=Z,3µm,4.2s
NC602 *e*S **S 08 21 25.6 +1.3**
NC602 IVMs_BB IVMs_BB 08 47 46.2
comp=Z,20µm,17.5s
NC602 NORSAR Array S 75.03 337 *e*P **P 08 11 48.0 -0.1**
PMPB Monarch Peak 75.04 56 PFAKE 08 12 00.0 +11
PMPB LR LR
comp=Z,8µm,19.0s
NBO00 NORSAR Array S 75.04 338 *e*P **P 08 11 48.2 0.0**
MCMT McKenzie Canyo 75.05 45 *e*P **P 08 11 49.2 +0.4**
TVH1 TV Hill, Hawth 75.12 53 *e*P **P 08 11 50.6 +1.1**
comp=Z,102nm,1.2s
TVH1 LR LR
comp=Z,8µm,21.0s
TVH3 East Aurora ar 75.14 53 *e*P **P 08 11 50.2 +0.8**
comp=Z,97nm,1.0s
TVH3 LR LR
comp=Z,5µm,20.0s
NAO01 NORSAR Array S 75.16 337 *e*P **P 08 11 48.6 -0.2**
TVH2 Borealis Mine 75.17 53 *e*P **P 08 11 51.3 +1.7**
comp=Z,57nm,1.0s
TVH2 LR LR
comp=Z,5µm,21.0s
AKN Aaknes 75.25 340 *e*P **P 08 11 49.8 +0.4**
AKN IVmB_BB 08 11 59.6
comp=Z,3µm,4.4s
AKN *e*S **S 08 21 29.6 +3.0**
AKN *e*SS **SS 08 26 21.3 +6.0**
AKN IVMs_BB IVMs_BB 08 48 25.1
comp=Z,10µm,18.5s
BOZ Bozeman (W) 75.28 44 P **P 08 11 47.0 -3.0**
baz=307
BOZ Bozeman (W) 75.28 44 *e*P **P 08 11 50.0 0.0**
BOZ pmax pmax
comp=Z,56nm,1.0s
BOZ MLR MLR
comp=Z,6µm,19.0s
BOZ Bozeman (W) 75.28 44 *e*P **P 08 11 50.0 0.0**
comp=Z,56nm,1.0s
BOZ LR LR
comp=Z,6µm,19.0s
MLAC Mammoth, Mammo 75.55 54 P **P 08 11 50.7 -1.0**
baz=305
SUW Suwalki 75.55 328 *e*P **P 08 11 51.0 -0.1**
SUW *e*S **SKSac 08 21 50.1 -9.1**
SUW LMZ LR 08 48 04.7
comp=Z,24µm,19.0s
SUW Suwalki 75.55 328 *e*P **P 08 11 51.0 -0.1**
SUW *e*S **SKSac 08 21 50.2 -9.1**
SUW MLR MLR
comp=Z,24µm,19.0s
RAO Raoul Island 75.55 144 LR LR 08 40 32.3
comp=Z,8µm,19.4s,baz=4.5,slow=32
PAGB Antelope Grade 75.68 56 *e*P **P 08 11 51.8 -0.5**
comp=Z,158nm,1.1s
PAGB LR LR
comp=Z,8µm,19.0s
QLMT Earthquake Lak 75.86 45 *e*P **P 08 11 54.0 +0.6**
SIM Simferopol' 75.89 316 *ce*P **P 08 11 53.2 -0.1**
SIM S **S 08 21 34.5 +0.2**
SIM pmax pmax
comp=Z,150nm,0.8s
SIM pmax pmax
comp=Z,2µm,17.0s
SIM MLR MLR
comp=Z,22µm,16.0s
OSL Oslo 75.91 337 *e*P **P 08 11 53.3 +0.2**
OSL IVmB_BB 08 12 06.8
comp=Z,3µm,2.3s
OSL *e*S **S 08 21 36.5 +2.6**
RCTC Rector, Farmer 76.03 55 P **P 08 11 56.2 +2.0**
baz=305
YHB Horse Butte 76.04 44 *e*P **P 08 11 54.9 +0.4**
comp=Z,95nm,1.2s
YHB LR LR
comp=Z,8µm,18.0s
SMMC Simmler 76.09 56 P **P 08 11 56.2 +1.5**
baz=305
YHH Holmes Hill 76.21 44 *e*P **P 08 11 55.9 +0.4**
comp=Z,136nm,1.8s
YHH LR LR
comp=Z,7µm,18.0s
YMR Madison River 76.22 44 *e*P **P 08 11 56.4 +1.0**
comp=Z,175nm,1.4s
YMR LR LR
comp=Z,6µm,20.0s
FOO Floro 76.26 340 *e*P **P 08 11 55.4 +0.4**
FOO IVmB_BB 08 12 09.9
comp=Z,5µm,4.0s
FOO *e*S **S 08 21 42.0 +4.3**
FOO IVMs_BB IVMs_BB 08 48 52.3
comp=Z,10µm,13.7s
TIN Tinemaha, Big 76.27 54 P **P 08 11 56.7 +0.9**
baz=305
SHAO Shalim 76.27 282 P **P 08 11 54.8 -1.1**
SHAO P **P 08 11 54.8 -1.1**
HYA Hoyanger 76.30 339 *e*P **P 08 11 55.5 +0.3**
MARD Mardin 76.33 306 *e*P **P 08 11 56.8 +0.7**
comp=Z,1µm,1.7s
MARD LR LR
comp=Z,16µm,22.0s
YNR Norris Junctio 76.35 44 *e*P **P 08 11 57.4 +1.1**
comp=Z,83nm,1.2s
YNR LR LR
comp=Z,7µm,18.0s
MCID Moose Creek 76.39 45 *e*P **P 08 11 58.1 +1.7**
KLNR Kaliningrad 76.39 329 ⇑ *i*P **P 08 11 54.6 -1.3**
KLNR pmax pmax
comp=Z,186nm,0.9s
KLNR MLR MLR
comp=Z,27µm,17.0s
VES Vestal, Richgr 76.40 56 P **P 08 11 55.2 -1.1**
baz=305
YFT Old Faithful 76.42 45 *e*P **P 08 11 58.7 +2.1**
comp=Z,85nm,1.1s
YFT LR LR
comp=Z,17µm,19.0s
PKM Mcpherson Peak 76.45 57 P **P 08 11 56.0 -0.9**
baz=305
KONO Kongsberg 76.49 337 *e*P **P 08 11 57.2 +0.8**
KONO IVmB_BB 08 12 00.5
comp=Z,2µm,2.4s
KONO *e*S **S 08 21 42.3 +1.9**
KONO *e*SS **SS 08 26 38.7 +4.6**
KONO IVMs_BB IVMs_BB 08 48 41.2
comp=Z,16µm,16.3s
KONO Kongsberg 76.49 337 *c i*P **P 08 11 58.1 +1.7**
KONO pmax pmax
comp=Z,947nm,1.6s
KONO Kongsberg 76.49 337 *e*P **P 08 11 56.1 -0.3**
comp=Z,206nm,1.4s
KONO LR LR
comp=Z,47µm,18.0s
YPP Pitchstone Pla 76.55 45 *e*P **P 08 11 58.7 +1.3**
comp=Z,145nm,1.7s
YPP LR LR
comp=Z,6µm,19.0s
LKWY Lake 76.60 44 *e*P **P 08 11 59.6 +1.9**
LKWY pmax pmax
comp=Z,78nm,1.1s
LKWY MLR MLR
comp=Z,7µm,20.0s
LKWY Lake 76.60 44 *e*P **P 08 11 59.6 +1.9**
comp=Z,78nm,1.1s
LKWY LR LR
comp=Z,7µm,20.0s
H17A Grant Village 76.61 44 P **P 08 11 57.9 +0.2**
baz=308
H17A Grant Village 76.61 44 *e*P **P 08 11 58.9 +1.2**
comp=Z,108nm,1.0s
H17A LR LR
comp=Z,7µm,19.0s
SFJD Kangerlussuaq 76.65 5 *i*P **P 08 11 57.0 -0.1**
comp=Z,863nm,2.4s
SFJD *e*S **S 08 21 38.9 -2.9**
comp=Z,9µm,17.0s
SFJD Kangerlussuaq 76.65 5 *e*P **P 08 11 57.2 +0.1**
comp=Z,164nm,1.2s
SFJD LR LR
comp=Z,11µm,18.0s
KBSD Kabsdagh 76.66 306 *e*P **P 08 12 01.3 +3.4**
IMW Indian Meadow 76.70 45 *e*P **P 08 11 59.0 +0.7**
comp=Z,144nm,1.4s
IMW LR LR
comp=Z,5µm,18.0s
CWC Cottonwood Cre 76.72 55 P **P 08 11 57.9 -0.5**
baz=305
FLWY Flagg Ranch 76.73 45 *e*P **P 08 11 58.8 +0.5**
comp=Z,626nm,2.0s
FLWY LR LR
comp=Z,6µm,18.0s
SBC Santa Barbara 76.78 57 P **P 08 11 57.4 -1.1**
baz=305
SUE Sulen 76.79 340 *e*P **P 08 11 58.7 +0.7**
SUE IVmB_BB 08 12 09.2
comp=Z,4µm,3.4s
SUE *e*S **S 08 21 45.9 +2.4**
SUE IVMs_BB IVMs_BB 08 49 15.1
comp=Z,10µm,12.8s
GRAC Grapevine Rang 76.87 54 P **P 08 11 59.6 +0.6**
baz=306
RLMT Red Lodge 76.89 43 P **P 08 11 58.5 -0.7**
baz=309
RLMT Red Lodge 76.89 43 *e*P **P 08 11 59.5 +0.3**
comp=Z,190nm,1.8s
RLMT LR LR
comp=Z,5µm,20.0s
MOOW Moose Ponds 76.91 45 *e*P **P 08 12 00.5 +1.1**
comp=Z,225nm,1.9s
MOOW LR LR
comp=Z,3µm,20.0s
ISA Isabella, Lake 76.91 55 P **P 08 11 57.2 -2.1**
baz=305
ISA Isabella, Lake 76.91 55 PFAKE 08 12 10.0 +11
ISA LR LR
comp=Z,9µm,20.0s
HVU Hansel Valley 76.91 48 *e*P **P 08 11 59.8 +0.4**
HVU pmax pmax
comp=Z,70nm,1.1s
HVU MLR MLR
comp=Z,6µm,19.0s
HVU Hansel Valley 76.91 48 *e*P **P 08 11 59.8 +0.4**
comp=Z,70nm,1.1s
HVU LR LR
comp=Z,6µm,19.0s
TPAW Teton Pass 76.94 45 *e*P **P 08 11 59.9 +0.3**
comp=Z,50nm,0.9s
TPAW LR LR
comp=Z,5µm,21.0s
ARVC Arvin 76.98 56 P **P 08 11 58.5 -1.1**
baz=305
SORM Soroca 77.00 321 ‖ *i*P **P 08 11 59.4 -0.1**
LOHW Long Hollow 77.07 45 *e*P **P 08 12 01.2 +1.0**
comp=Z,122nm,1.8s
LOHW LR LR
comp=Z,4µm,20.0s
SNOW Snow King Moun 77.08 45 *e*P **P 08 12 01.0 +0.7**
comp=Z,86nm,1.4s
SNOW LR LR
comp=Z,4µm,20.0s
REDW Red Top Meadow 77.08 45 *e*P **P 08 12 01.1 +0.7**
comp=Z,89nm,1.3s
REDW LR LR
comp=Z,5µm,22.0s
BSC Santa Cruz Isl 77.08 57 P **P 08 12 00.5 +0.2**
baz=305
DAC Darwin (Calif) 77.14 54 *e*P **P 08 12 00.1 -0.7**
DAC pmax pmax
comp=Z,36nm,1.0s
DAC Darwin (Calif) 77.14 54 PFAKE 08 12 10.0 +9.2
DAC LR LR
comp=Z,10µm,19.0s
ASK Askoy 77.14 339 *e*P **P 08 12 00.5 +0.5**
ASK IVmB_BB 08 12 16.3
comp=Z,3µm,2.3s
BER Bergen 77.18 339 *e*P **P 08 12 00.6 +0.4**
BER IVmB_BB 08 12 04.5
comp=Z,3µm,5.0s
BER *e*S **S 08 21 50.7 +2.9**
BER *e*SS **SS 08 26 48.3 +3.9**
BER IVMs_BB IVMs_BB 08 49 14.6
comp=Z,13µm,18.9s
BER Bergen 77.18 339 P **P 08 12 00.5 +0.3**
BER pmax pmax
comp=Z,32nm,1.3s
ODD1 Odda 77.19 338 *e*P **P 08 12 00.6 +0.2**
ODD1 IVmB_BB 08 12 15.4
comp=Z,3µm,2.2s
ODD1 IVMs_BB IVMs_BB 08 48 44.0
comp=Z,15µm,20.4s
R11A Troy Canyon, C 77.22 52 P **P 08 12 00.7 -0.5**
baz=306
R11A Troy Canyon, C 77.22 52 *e*P **P 08 12 01.7 +0.5**
comp=Z,76nm,1.0s
R11A LR LR
comp=Z,8µm,18.0s
BGU Big Grassy Mou 77.27 48 *e*P **P 08 12 01.1 -0.3**
comp=Z,56nm,1.2s
BGU LR LR
comp=Z,6µm,18.0s
TOKA Tokat 77.28 311 *e*P **P 08 12 02.5 +1.2**
TOKA LR LR
comp=Z,8µm,21.0s
SFNV Sufian 77.28 306 *e*P **P 08 12 01.7 +0.3**
MPMC Manual Prospec 77.33 55 P **P 08 12 01.3 -0.5**
baz=306
OSI Osito Audit: C 77.34 56 P **P 08 12 01.5 -0.3**
baz=306
OSI Osito Audit: C 77.34 56 PFAKE 08 12 10.0 +8.2
OSI LR LR
comp=Z,9µm,20.0s
SPUT South Promonto 77.39 48 PFAKE 08 12 10.0 +7.9
SPUT LR LR
comp=Z,8µm,19.0s
DGMT Dagmar 77.43 38 P **P 08 11 58.3 -3.7**
baz=311
DGMT Dagmar 77.43 38 *e*P **P 08 12 02.1 +0.1**
comp=Z,174nm,1.4s
DGMT LR LR
comp=Z,8µm,19.0s
KIS Kishinev 77.49 320 *e*P **P 08 12 00.0 -2.3**
comp=Z,600nm,2.0s
KIS Kishinev 77.49 320 *e*PP PP 08 15 04.0 +7.5
KIS Kishinev 77.49 320 *e*PPP PPP 08 16 54.0
KIS *e*S **S 08 21 46.0 -5.7**
KIS *e*ScS **SKSac 08 22 08.0 -5.9**
KIS Kishinev 77.49 320 *e*PS **PnS 08 22 34.0 +1.4**
KIS *e*SS SS 08 26 05.0 -45
KIS *e*LQ LQ 08 37 13.0
comp=Z,18µm,23.0s
KIS *e*LR LR 08 42 30.0
comp=Z,83µm,16.0s
KIS Kishinev 77.49 320 *e*P **P 08 12 00.0 -2.3**
KIS *e* 08 12 11.0
KIS *e* 08 15 04.0
KIS *e* 08 16 54.0
KIS *e*S **S 08 21 46.0 -5.7**
KIS *e* 08 22 08.0
KIS *e*PS **PnS 08 22 34.0 +1.4**
KIS pmax pmax
comp=Z,630nm,2.0s
KIS pmax pmax
comp=Z,2µm,7.0s
KIS pmax pmax
comp=Z,6µm,17.0s
KIS MLR MLR
comp=N,53µm,16.0s
KIS MLR MLR
comp=E,45µm,16.0s
KIS MLR MLR
comp=Z,88µm,16.0s
KIS MLR MLR
comp=Z,83µm,16.0s
FURC Furnace Creek, 77.50 54 P **P 08 12 03.2 +0.7**
baz=306
FRB Frobisher Bay 77.52 13 P **P 08 12 02.1 0.0**
FRB pmax pmax
comp=Z,147nm,1.2s
LRMC Laurel Mtn Rad 77.54 55 P **P 08 12 03.4 +0.5**
baz=306
LAO LASA Array 77.55 41 P **P 08 12 03.5 +0.8**
baz=310
LAO LASA Array 77.55 41 *e*P **P 08 12 03.3 +0.6**
comp=Z,260nm,1.6s
LAO LR LR
comp=Z,5µm,20.0s
SNCC San Nicolas Is 77.59 58 P **P 08 12 03.3 +0.3**
baz=305
SNCC San Nicolas Is 77.59 58 PFAKE 08 12 20.0 +17
SNCC LR LR
comp=Z,13µm,19.0s
TPNV Topopah Spring 77.62 53 P **P 08 12 04.7 +1.3**
baz=306
TPNV Topopah Spring 77.62 53 *e*P **P 08 12 04.2 +0.8**
TPNV pmax pmax
comp=Z,95nm,1.1s
TPNV Topopah Spring 77.62 53 *e*P **P 08 12 03.9 +0.4**
comp=Z,95nm,1.1s
TPNV LR LR
comp=Z,7µm,18.0s
BLS5 Blasjo 77.64 338 *e*P **P 08 12 03.1 +0.2**
BLS5 IVmB_BB 08 12 28.0
comp=Z,2µm,3.2s
BLS5 *e*S **S 08 21 54.7 +1.8**
BLS5 IVMs_BB IVMs_BB 08 48 34.3
comp=Z,12µm,25.0s
EDW2 Edwards Air Fo 77.68 56 P **P 08 12 04.7 +1.0**
baz=306
RBK Rabkut 77.68 283 P **P 08 12 03.2 -0.7**
SNR=9.6
HWUT Hardware Ranch 77.74 47 *e*P **P 08 12 04.8 +0.8**
comp=Z,116nm,1.2s
HWUT LR LR
comp=Z,8µm,18.0s
DECC Green Verdugo 77.82 57 P **P 08 12 05.0 +0.6**
baz=306
DUG Dugway, Tooele 77.85 49 P **P 08 12 05.0 +0.4**
baz=308
DUG Dugway, Tooele 77.85 49 *e*P **P 08 12 05.5 +0.9**
comp=Z,95nm,1.0s
DUG LR LR
comp=Z,6µm,18.0s
HOMB Homborsund 77.93 337 *e*P **P 08 12 04.7 +0.3**
HOMB IVmB_BB 08 12 18.3
comp=Z,3µm,2.8s
HOMB *e*S **S 08 21 58.2 +2.2**
HOMB IVMs_BB IVMs_BB 08 49 23.0
comp=Z,19µm,16.6s
PASC Pasadena Art C 77.96 56 PFAKE 08 12 20.0 +15
PASC LR LR
comp=Z,16µm,19.0s
CUSAR Sarkisla-SIVAS 77.97 310 *i*P **P 08 12 05.9 +0.6**
LVV L'vov 78.01 324 *e*P **P 08 12 06.0 +0.9**
LVV *e* 08 15 06.9
LVV *e*S **S 08 21 59.5 +2.3**
LVV MLR MLR
comp=Z,38µm,16.0s
IAS Iasi 78.01 320 ⇑ *i*P **P 08 12 05.1 -0.1**
MWC Mount Wilson 78.02 56 PFAKE 08 12 20.0 +14
MWC LR LR
comp=Z,15µm,19.0s
BEL Belsk 78.10 327 *e*P **P 08 12 06.3 +0.8**
BEL LMZ LR 08 48 43.8
comp=Z,21µm,19.4s
BEL Belsk 78.10 327 *e*P **P 08 12 06.3 +0.8**
BEL MLR MLR
comp=Z,21µm,19.4s
CTAK Corum_Osmancik 78.11 312 *i*P **P 08 12 05.9 -0.2**
BSD Bornholm Skovb 78.13 332 ⇑ *i*P **P 08 12 05.3 -0.3**
comp=Z,243nm,1.2s
BSD *e*S **S 08 21 57.1 -1.1**
comp=Z,23µm,17.0s
BSD Bornholm Skovb 78.13 332 ⇑ *i*P **P 08 12 05.3 -0.3**
BSD *e*S **S 08 21 57.1 -1.1**
BSD pmax pmax
comp=Z,240nm,1.2s
BSD MLR MLR
comp=Z,23µm,17.0s
LEOM Leova 78.13 320 ⇑ *i*P **P 08 12 06.7 +0.9**
FMP Fort Macarthur 78.16 57 P **P 08 12 07.4 +1.2**
baz=306
BW06 Boulder Array 78.19 45 P **P 08 12 07.7 +1.1**
baz=309
BW06 Boulder Array 78.19 45 *e*P **P 08 12 06.5 -0.1**
BW06 LR LR
comp=Z,5µm,22.0s
PD31 Pinedale Array 78.19 45 *e*P **P 08 12 06.5 0.0**
PDAR Pinedale Array 78.19 45 P **P 08 12 06.0 -0.5**
comp=Z,5.1nm,0.5s,baz=187,slow=1.9,SNR=3.8
PDAR PKPPKP **P'P'df 08 39 08.8 -4.6**
comp=Z,0.2nm,0.6s,baz=106,slow=3.2,SNR=4.7
PSUT Pine Spring 78.20 51 PFAKE 08 12 20.0 +13
PSUT LR LR
comp=Z,6µm,18.0s
SHOC Shoshone, Teco 78.22 54 P **P 08 12 06.3 -0.3**
baz=306
GSC Goldstone, Bar 78.22 55 P **P 08 12 07.2 +0.5**
baz=306
GSC Goldstone, Bar 78.22 55 *e*P **P 08 12 08.3 +1.6**
comp=Z,63nm,1.3s
GSC pmax pmax
GSC Goldstone, Bar 78.22 55 *e*P **P 08 12 08.3 +1.6**
comp=Z,63nm,1.3s
GSC LR LR
comp=Z,8µm,19.0s
COAL Corum-Alaca 78.23 311 *i*P **P 08 12 07.1 +0.4**
CIS Catalina Islan 78.26 57 P **P 08 12 07.0 +0.2**
baz=306
STAV Stavanger 78.26 338 *e*P **P 08 12 07.0 +0.7**
STAV *e*S **S 08 22 03.4 +3.8**
STAV IVMs_BB IVMs_BB 08 49 23.9
comp=Z,11µm,18.5s
BFSC Mount Baldy Ra 78.28 56 P **P 08 12 07.1 +0.1**
baz=306
SNART Snartemo 78.29 337 *e*P **P 08 12 06.6 +0.1**
SNART IVmB_BB 08 12 09.2
comp=Z,2µm,2.6s
SNART IVMs_BB IVMs_BB 08 49 45.0
comp=Z,10µm,17.8s
KSRV Kasrt alli 78.33 306 *e*P **P 08 12 07.1 -0.1**
GZT Gaziantep 78.38 308 *i*P **P 08 12 08.9 +1.3**
BORG Borgarnes 78.41 353 P **P 08 12 06.6 -0.4**
comp=Z,118nm,0.9s,baz=36,slow=3.9,SNR=21
BORG LR LR 08 47 41.5
comp=Z,5µm,20.0s,baz=18,slow=36
BORG Borgarnes 78.41 353 *e*P **P 08 12 09.7 +2.7**
comp=Z,284nm,1.2s
SCI San Clemente I 78.41 58 P **P 08 12 07.9 +0.3**
baz=306
JLU Jordanelle 78.42 48 *e*P **P 08 12 08.6 +0.7**
comp=Z,79nm,1.3s
JLU LR LR
comp=Z,8µm,18.0s
NLU North Lily Min 78.44 49 *e*P **P 08 12 08.5 +0.5**
comp=Z,65nm,1.0s
NLU LR LR
comp=Z,14µm,18.0s
ILGA Ilgaz 78.50 313 *i*P **P 08 12 09.3 +1.0**
ILGA Ilgaz 78.50 313 *e*P **P 08 12 09.3 +1.0**
comp=Z,193nm,0.8s
ILGA LR LR
comp=Z,9µm,18.0s
GKP Gorka Klasztor 78.58 330 *e*P **P 08 12 10.2 +2.0**
GKP *e*S **S 08 22 04.2 +1.1**
GKP LMZ LR 08 50 22.8
comp=Z,41µm,18.1s
GKP Gorka Klasztor 78.58 330 *e*P **P 08 12 10.2 +2.0**
GKP *e*S **S 08 22 04.2 +1.1**
GKP MLR MLR
comp=Z,41µm,18.1s
PRAR RASCA 78.58 321 ⇑ *i*P **P 08 12 08.5 +0.1**
SHPR Sheep Range 78.59 53 *e*P **P 08 12 09.8 +1.0**
comp=Z,95nm,1.2s
SHPR LR LR
comp=Z,8µm,18.0s
COP Copenhagen 78.62 333 *i*P **P 08 12 08.8 +0.5**
comp=Z,123nm,1.0s
comp=Z,12µm,16.0s
COP Copenhagen 78.62 333 *i*P **P 08 12 08.8 +0.5**
COP pmax pmax

	comp=Z,120nm,1.0s										
COP						MLR	MLR				
	comp=Z,12µm,16.0s										
MPU	**Maple Canyon**	**78.67**	**49**	*eP*		**P**		**08 12 09.1**	**-0.1**		
	comp=Z,75nm,1.0s										
MPU						LR	LR				
	comp=Z,12µm,18.0s										
TUQ	**Turquoise Moun**	**78.73**	**54**	P		**P**		**08 12 10.0**	**+0.5**		
	baz=307										
BBRC	**Big Bear Solar**	**78.76**	**56**	P		**P**		**08 12 10.2**	**+0.4**		
	baz=306										
KWP	**Kalwaria Pacla**	**78.76**	**324**	*eP*		**P**		**08 12 10.0**	**+0.7**		
KWP				*ePP*		**PP**		**08 15 05.8**	**-1.2**		
KWP				*eS*		**S**		**08 22 05.5**	**+0.1**		
KWP				LMZ		LR		08 50 16.5			
	comp=Z,62µm,16.2s										
KWP	**Kalwaria Pacla**	**78.76**	**324**	*eP*		**P**		**08 12 10.0**	**+0.7**		
KWP				*e*				08 15 05.8			
KWP				*eS*		**S**		**08 22 05.4**	**+0.1**		
KWP				MLR		MLR					
	comp=Z,62µm,16.2s										
HCB	**Kahramanmara˘**	**78.80**	**308**	*i* P		**P**		**08 12 10.8**	**+1.0**		
HEC	**Hector,Ludlow**	**78.81**	**55**	P		**P**		**08 12 08.7**	**-1.3**		
	baz=307										
BUR08	**Bucovina Ar. S**	**78.91**	**322**	*eP*		**P**		**08 12 10.7**	**+0.4**		
BURAR	**Bucovina Array**	**78.92**	**322**	P		**P**		**08 12 11.5**	**+1.2**		
TESR	**Tescani**	**78.94**	**320**	⇑*iP*		**P**		**08 12 10.2**	**-0.1**		
MURC	**Murrieta**	**78.97**	**56**	P		**P**		**08 12 09.1**	**-1.6**		
	baz=306										
CDAG	**Cicekdag**	**78.99**	**311**	*i* P		**P**		**08 12 11.2**	**+0.3**		
ANDN	**Andirin**	**79.02**	**309**	*i* P		**P**		**08 12 11.5**	**+0.5**		
CFR	**Carcaliu**	**79.03**	**319**	⇑*iP*		**P**		**08 12 10.8**	**0.0**		
TCRU	**Three Creeks R**	**79.03**	**50**	PFAKE				08 12 20.0	+8.7		
TCRU				LR		LR					
	comp=Z,7µm,19.0s										
KUZU	**Kuzuini**	**79.04**	**308**	*i* P		**P**		**08 12 11.8**	**+0.7**		
KAMA	**Osmaniye**	**79.05**	**308**	*i* P		**P**		**08 12 11.7**	**+0.4**		
CCUT	**Cedar City**	**79.11**	**51**	*eP*		**P**		**08 12 11.4**	**-0.3**		
	comp=Z,55nm,1.0s										
PETR	**Petresti**	**79.15**	**319**	⇑*iP*		**P**		**08 12 12.9**	**+1.4**		
MUD	**Monsted U'grnd**	**79.16**	**335**	*i* P		**P**		**08 12 09.2**	**-2.1**		
	comp=Z,684nm,2.0s										
MUD				*eS*		**S**		**08 22 09.8**	**+0.6**		
	comp=Z,27µm,20.0s										
MUD	**Monsted U'grnd**	**79.16**	**335**	*eP*		**P**		**08 12 09.2**	**-2.1**		
MUD				*eS*		**S**		**08 22 09.8**	**+0.6**		
MUD				pmax		pmax					
	comp=Z,680nm,2.0s										
MUD				MLR		MLR					
	comp=Z,27µm,20.0s										
RGN	**Rugen**	**79.16**	**332**	PFAKE				08 12 20.0	+8.7		
RGN				LR		LR					
	comp=Z,22µm,18.0s										
SZCU	**Shurtz Canyon**	**79.25**	**51**	*eP*		**P**		**08 12 14.2**	**+1.7**		
	comp=Z,37nm,1.0s										
SZCU				LR		LR					
	comp=Z,10µm,20.0s										
MSU	**Marysvale**	**79.26**	**50**	*eP*		**P**		**08 12 13.7**	**+1.2**		
MSU	**Marysvale**	**79.26**	**50**	*eP*		**P**		**08 12 13.7**	**+1.2**		
GMRC	**Granite Mounta**	**79.29**	**55**	P		**P**		**08 12 12.2**	**-0.4**		
	baz=307										
YAHY	**KAYSERI_Yahyal**	**79.32**	**310**	*i* P		**P**		**08 12 13.0**	**+0.3**		
TIRR	**Tirgusor**	**79.36**	**318**	⇓*iP*		**P**		**08 12 12.6**	**0.0**		
TIRR	**Tirgusor**	**79.36**	**318**	*eP*		**P**		**08 12 12.4**	**-0.2**		
TIRR				pmax		pmax					
	comp=Z,210nm,1.4s										
TIRR	**Tirgusor**	**79.36**	**318**	*eP*		**P**		**08 12 12.4**	**-0.2**		
	comp=Z,211nm,1.4s										
TIRR				LR		LR					
	comp=Z,43µm,19.0s										
BR101	**Keskin Array S**	**79.37**	**312**	*eP*		**P**		**08 12 13.1**	**0.0**		
BR131	**Keskin Array S**	**79.37**	**312**	*eP*		**P**		**08 12 13.2**	**+0.2**		
BRTR	**Keskin Array B**	**79.37**	**312**	P		**P**		**08 12 13.1**	**0.0**		
	comp=Z,68nm,0.9s,baz=101,slow=3.9,SNR=96										
BRTR				PKKP		**PKKPdf**		**08 30 48.7**	**-0.3**		
	comp=Z,1.1nm,0.8s,baz=158,slow=4.0,SNR=3.9										
BRTR				LR		LR		08 51 54.5			
	comp=Z,11µm,18.1s,baz=36,slow=39										
PLOR	**Plostina**	**79.37**	**320**	⇓*iP*		**P**		**08 12 13.6**	**+0.8**		
TMUT	**Trail Mountain**	**79.37**	**49**	*eP*		**P**		**08 12 13.2**	**0.0**		
	comp=Z,65nm,1.2s										
TMUT				LR		LR					
	comp=Z,6µm,19.0s										
109C	**Camp Elliot, M**	**79.44**	**57**	P		**P**		**08 12 13.1**	**-0.2**		
	baz=306										
PFO	**Pinyon Flats O**	**79.45**	**56**	P		**P**		**08 12 13.1**	**-0.4**		
	baz=307										
PFO	**Pinyon Flats O**	**79.45**	**56**	*eP*		**P**		**08 12 14.3**	**+0.8**		
PFO				pmax		pmax					
	comp=Z,78nm,1.1s										
PFO	**Pinyon Flats O**	**79.45**	**56**	*eP*		**P**		**08 12 13.9**	**+0.4**		
	comp=Z,78nm,1.1s										
PFO				LR		LR					
	comp=Z,15µm,20.0s										
TPFO	**Pinon Flats**	**79.46**	**56**	P		**P**		**08 12 14.1**	**+0.5**		
	baz=307										
HARR	**Harsova**	**79.46**	**318**	⇑*iP*		**P**		**08 12 14.0**	**+0.8**		
TLB	**Topalu**	**79.47**	**318**	⇓*iP*		**P**		**08 12 13.3**	**+0.1**		
LDFC	**Landfair**	**79.47**	**54**	*eP*		**P**		**08 12 14.7**	**+1.1**		
	comp=Z,115nm,1.1s										
LDFC				LR		LR					
	comp=Z,8µm,19.0s										
EFOR	**EFORIE**	**79.48**	**317**	⇑*iP*		**P**		**08 12 14.6**	**+1.3**		
LCMT	**Little Creek M**	**79.51**	**52**	*eP*		**P**		**08 12 13.8**	**0.0**		
	comp=Z,80nm,1.0s										
LCMT				LR		LR					
	comp=Z,7µm,19.0s										
BELC	**Belle Mtn. Jos**	**79.53**	**56**	P		**P**		**08 12 14.4**	**+0.5**		
	baz=307										
MTPU	**Mount Pierson**	**79.55**	**50**	*eP*		**P**		**08 12 15.3**	**+1.0**		
	comp=Z,100nm,1.4s										
STHS	**Stebnicka Huta**	**79.60**	**325**	*eP*		**P**		**08 12 14.4**	**+0.5**		
STHS				pmax		pmax					
	comp=Z,96nm,1.2s										
STHS	**Stebnicka Huta**	**79.60**	**325**	*eP*		**P**		**08 12 14.4**	**+0.5**		
BCAM	**Yenicaga**	**79.63**	**313**	*i* P		**P**		**08 12 14.2**	**-0.2**		
UZH	**Uzhgorod**	**79.65**	**324**	*eP*		**P**		**08 12 11.0**	**-3.1**		
UZH				*i*				08 12 14.4			
UZH				*e*				08 12 21.2			
UZH				*e*				08 15 12.0			
UZH				*eS*		**S**		**08 22 06.6**	**-8.2**		
UZH				*e*				08 22 24.2			
UZH				*ePS*		**PnS**		**08 22 51.0**	**-8.9**		
UZH				MLR		MLR					
	comp=N,14µm,15.0s										
UZH				MLR		MLR					
	comp=E,19µm,15.0s										
UZH				MLR		MLR					
	comp=Z,8µm,15.0s										
OJC	**Ojcow**	**79.69**	**326**	*eP*		**P**		**08 12 14.8**	**+0.5**		
OJC				*ePP*		**PP**		**08 15 17.1**	**+2.4**		
OJC				*eS*		**S**		**08 22 13.7**	**-1.4**		
OJC				LMZ		LR		08 51 18.0			
	comp=Z,56µm,16.7s										
OJC	**Ojcow**	**79.69**	**326**	*eP*		**P**		**08 12 14.8**	**+0.5**		
OJC				*e*				08 15 17.1			
OJC				*eS*		**S**		**08 22 13.7**	**-1.4**		
OJC				MLR		MLR					
	comp=Z,56µm,16.7s										
OJC	**Ojcow**	**79.69**	**326**	*eP*		**P**		**08 12 14.6**	**+0.3**		
	comp=Z,421nm,1.3s										
RAR	**Rarotonga**	**79.70**	**126**	LR		LR		08 44 08.1			
	comp=Z,12µm,18.4s,baz=318,slow=33										
ARCR	**ARCALIA**	**79.72**	**322**	⇑*iP*		**P**		**08 12 15.8**	**+1.3**		
BMR	**Baia Mare**	**79.74**	**323**	⇑*iP*		**P**		**08 12 15.4**	**+0.8**		
P18A	**Preston Nutter**	**79.75**	**48**	*eP*		**P**		**08 12 15.7**	**+0.5**		
	comp=Z,99nm,1.1s										
P18A				LR		LR					
	comp=Z,6µm,20.0s										
KNB	**Kanab**	**79.77**	**52**	*eP*		**P**		**08 12 15.7**	**+0.4**		
KNB				pmax		pmax					
	comp=Z,118nm,1.1s										
KNB	**Kanab**	**79.77**	**52**	*eP*		**P**		**08 12 15.7**	**+0.4**		
	comp=Z,118nm,1.1s										
ANTO	**Ankara**	**79.79**	**312**	*eP*		**P**		**08 12 15.7**	**+0.5**		
ANTO				pmax		pmax					
	comp=Z,290nm,1.3s										
ANTO	**Ankara**	**79.79**	**312**	*eP*		**P**		**08 12 15.7**	**+0.5**		
	comp=Z,289nm,1.3s										
ANTO	**Ankara**	**79.79**	**312**	P		**P**		**08 12 15.6**	**+0.5**		
	SNR=40										
ANTO				P		**P**		**08 12 15.6**	**+0.5**		
	SNR=40										
BR231	**Keskin MP Arra**	**79.82**	**312**	*eP*		**P**		**08 12 16.3**	**+0.9**		
PGOR	**Pogoanele**	**79.83**	**319**	⇑*iP*		**P**		**08 12 16.4**	**+1.3**		
CRVS	**Cervenica-Dubn**	**79.86**	**325**	*eP*		P		08 12 24.5	+9.2		
CRVS				*eS*		**S**		**08 22 23.1**	**+6.1**		
CRVS	**Cervenica-Dubn**	**79.86**	**325**	*eP*		P		08 12 24.5	+9.2		
CRVS				*eS*		**S**		**08 22 23.1**	**+6.1**		
CRVS				*e*				08 55 35.0			
BAR	**Barrett**	**79.86**	**57**	*eP*		**P**		**08 12 17.9**	**+2.2**		
	comp=Z,79nm,1.1s										
BAR				LR		LR					
	comp=Z,10µm,18.0s										
TRPA	**Tarpa**	**79.89**	**323**	⇑*eP*		**P**		**08 12 16.1**	**+0.7**		
MONP	**Monument Peak,**	**79.91**	**57**	P		**P**		**08 12 16.5**	**+0.4**		
	baz=307										
SRU	**San Rafael Swe**	**79.91**	**49**	*eP*		**P**		**08 12 15.7**	**-0.3**		
SRU				pmax		pmax					
	comp=Z,94nm,0.8s										
SRU				MLR		MLR					
	comp=Z,6µm,19.0s										
SRU	**San Rafael Swe**	**79.91**	**49**	*eP*		**P**		**08 12 15.7**	**-0.3**		
	comp=Z,94nm,0.8s										
SRU				LR		LR					
	comp=Z,6µm,19.0s										
ISR	**Istrita**	**79.92**	**319**	⇓*iP*		**P**		**08 12 17.1**	**+1.4**		
DOPR	**Dopca**	**79.95**	**320**	⇓*iP*		**P**		**08 12 17.2**	**+1.3**		
AKSY	**AKSARAY - Alti**	**79.97**	**311**	*i* P		**P**		**08 12 15.5**	**-0.7**		
MLR	**Muntele Rosu**	**79.98**	**320**	P		**P**		**08 12 16.2**	**+0.1**		
	comp=Z,12nm,1.1s,baz=12,slow=4.2,SNR=25										
MLR				LR		LR		08 50 06.5			
	comp=Z,6µm,21.2s,baz=50,slow=38										
MLR	**Muntele Rosu**	**79.98**	**320**	⇑*iP*		**P**		**08 12 16.3**	**+0.1**		
MLR	**Muntele Rosu**	**79.98**	**320**	*eP*		**P**		**08 12 16.2**	**+0.1**		
MLR				pmax		pmax					
	comp=Z,310nm,1.6s										
MLR	**Muntele Rosu**	**79.98**	**320**	*eP*		**P**		**08 12 16.2**	**+0.1**		
	comp=Z,312nm,1.6s										
MLR				LR		LR					
	comp=Z,66nm,18.0s										
NEE2	**Needles Airpor**	**79.98**	**54**	P		**P**		**08 12 15.5**	**-0.7**		
	baz=307										
PSN	**Preselentsi**	**79.99**	**317**	*i* P		**P**		**08 12 16.7**	**+0.6**		
K22A	**Casper**	**79.99**	**44**	P		**P**		**08 12 15.2**	**-1.1**		
	baz=311										
K22A	**Casper**	**79.99**	**44**	*eP*		**P**		**08 12 18.7**	**+2.4**		
	comp=Z,83nm,1.3s										
K22A				LR		LR					
	comp=Z,8µm,19.0s										
IRM	**Iron Mountain**	**80.00**	**55**	P		**P**		**08 12 15.2**	**-1.2**		
	baz=307										
NIE	**Niedzica**	**80.03**	**325**	*eP*		**P**		**08 12 17.0**	**+0.7**		
NIE				*ePP*		**PP**		**08 15 21.1**	**+3.5**		
NIE				*eS*		**S**		**08 22 19.6**	**+0.7**		
NIE				LMZ		LR		08 51 32.5			
	comp=Z,32µm,16.1s										
NIE	**Niedzica**	**80.03**	**325**	*eP*		**P**		**08 12 17.0**	**+0.7**		
NIE				*e*				08 15 21.1			
NIE				*eS*		**S**		**08 22 19.6**	**+0.7**		
NIE				MLR		MLR					
	comp=Z,32µm,16.1s										
YAYL	**Yayladag**	**80.11**	**307**	*i* P		**P**		**08 12 14.3**	**-2.7**		
MDND	**Maddock**	**80.11**	**37**	P		**P**		**08 12 14.8**	**-1.9**		
	baz=314										
MDND	**Maddock**	**80.11**	**37**	*eP*		**P**		**08 12 16.4**	**-0.3**		
	comp=Z,196nm,1.3s										
MDND				LR		LR					
	comp=Z,8µm,21.0s										
ULM	**Lac du Bonnet**	**80.14**	**33**	P		**P**		**08 12 15.9**	**-0.9**		
	comp=Z,19nm,0.9s,baz=312,slow=4.9,SNR=9.4										
ULM				LR		LR		08 47 20.4			
	comp=Z,4µm,21.7s,baz=335,slow=35										
ULM	**Lac du Bonnet**	**80.14**	**33**	*eP*		**P**		**08 12 16.2**	**-0.5**		
	comp=Z,53nm,1.0s										
ULM				LR		LR					
	comp=Z,6µm,19.0s										
KKUL	**Konya-Kulu**	**80.16**	**312**	*i* P		**P**		**08 12 17.8**	**+0.6**		
RWWY	**Rawlins**	**80.22**	**45**	PFAKE				08 12 30.0	+12		
RWWY				LR		LR					
	comp=Z,146µm,21.0s										
SECR		**80.22**	**319**	⇑*iP*		**P**		**08 12 18.7**	**+1.4**		
IKP	**In-Ko-Pah, Jac**	**80.26**	**57**	P		**P**		**08 12 17.1**	**-0.8**		
	baz=307										
W13A	**Hualapai Mount**	**80.26**	**54**	*eP*		**P**		**08 12 18.7**	**+0.7**		
	comp=Z,56nm,1.4s										
W13A				LR		LR					
	comp=Z,6µm,20.0s										
SWSC	**Sam W. Stewart**	**80.29**	**56**	P		**P**		**08 12 16.8**	**-1.1**		
	baz=307										
CJR	**Cluj-Napoca**	**80.35**	**322**	⇑*iP*		**P**		**08 12 19.6**	**+1.6**		
RSSD	**Black Hills**	**80.39**	**42**	P		**P**		**08 12 16.4**	**-2.1**		
	baz=312										
RSSD	**Black Hills**	**80.39**	**42**	*eP*		**P**		**08 12 18.7**	**+0.2**		
RSSD				pmax		pmax					
	comp=Z,150nm,1.8s										
RSSD	**Black Hills**	**80.39**	**42**	*eP*		**P**		**08 12 18.7**	**+0.2**		
	comp=Z,150nm,1.8s										
RSSD				LR		LR					
	comp=Z,7µm,19.0s										
U15A	**North Rim**	**80.47**	**52**	*eP*		**P**		**08 12 20.0**	**+0.8**		
	comp=Z,59nm,0.9s										
U15A				LR		LR					
	comp=Z,6µm,19.0s										
VOIR		**80.48**	**320**	⇑*iP*		**P**		**08 12 19.2**	**+0.4**		
VOIR		**80.48**	**320**	P		**P**		**08 12 19.0**	**+0.2**		
VOIR				pmax		pmax					
	comp=Z,50nm,1.4s										
RAC	**Raciborz**	**80.50**	**327**	*eP*		**P**		**08 12 19.4**	**+0.7**		
RAC				*eS*		**S**		**08 22 23.7**	**+0.1**		
RAC				MLR		MLR					
	comp=Z,25µm,18.0s										
KERG	**Konya-Eregli**	**80.51**	**310**	*i* P		**P**		**08 12 18.1**	**-1.1**		
HIZ	**Hauiti**	**80.56**	**154**	PFAKE				08 12 30.0	+11		
HIZ				LR		LR					
	comp=Z,12µm,20.0s										
PDMCI	**Parker Dam,Lak**	**80.58**	**54**	P		**P**		**08 12 18.7**	**-0.7**		
	baz=308										
LANS	**Liptovska Anna**	**80.60**	**326**	*eP*		**P**		**08 12 20.3**	**+0.9**		
LANS				*e*				08 15 26.6			
LANS	**Liptovska Anna**	**80.60**	**326**	*eP*		**P**		**08 12 20.3**	**+0.9**		
LANS				*ePP*		**PP**		**08 15 26.6**	**+4.2**		
KECS	**Kecovo**	**80.61**	**325**	*eP*		**P**		**08 12 19.5**	**+0.2**		
KECS				pmax		pmax					
	comp=Z,40nm,1.2s										
KECS	**Kecovo**	**80.61**	**325**	*eP*		**P**		**08 12 19.5**	**+0.2**		
O20A	**White River Ci**	**80.62**	**47**	P		**P**		**08 12 17.4**	**-2.5**		
	baz=310										
O20A	**White River Ci**	**80.62**	**47**	*eP*		**P**		**08 12 20.0**	**+0.2**		
	comp=Z,52nm,0.9s										
O20A				LR		LR					
	comp=Z,4µm,19.0s										
B31A	**Greenbush Farm**	**80.64**	**35**	P		**P**		**08 12 18.5**	**-1.0**		
	baz=316										
Y12C	**Blythe**	**80.66**	**55**	P		**P**		**08 12 17.8**	**-2.1**		
	baz=308										
Y12C	**Blythe**	**80.66**	**55**	*eP*		**P**		**08 12 20.8**	**+0.9**		
	comp=Z,64nm,1.1s										
Y12C				LR		LR					
	comp=Z,11µm,19.0s										
OKC	**Ostrava-Krasne**	**80.70**	**327**	⇑*eP*		**P**		**08 12 20.2**	**+0.4**		
OKC				*epP*		**sP**		**08 12 30.1**	**-0.4**		
OKC				*ePP*		**PP**		**08 15 26.4**	**+3.3**		
OKC				*eS*		**S**		**08 22 28.1**	**+2.4**		
OKC				*ex*		x		08 27 26.6			
OKC				AMS		AMS		08 51 50.0			
	comp=Z,22nm,16.5s										
OKC	**Ostrava-Krasne**	**80.70**	**327**	*eP*		**P**		**08 12 20.2**	**+0.4**		
OKC				*e*				08 12 30.1			
OKC				*e*				08 15 26.4			
OKC				*eS*		**S**		**08 22 28.1**	**+2.4**		
OKC				MLR		MLR					
	comp=Z,22nm,16.5s										
DRGR		**80.73**	**322**	⇑*iP*		**P**		**08 12 20.6**	**+0.5**		
PRD	**Provadia**	**80.73**	**317**	*i* P		**P**		**08 12 20.5**	**+0.4**		
ARR	**Arges**	**80.75**	**320**	⇓*iP*		**P**		**08 12 21.8**	**+1.6**		
KSP	**Ksiaz**	**80.76**	**328**	*eP*		**P**		**08 12 20.6**	**+0.5**		
KSP				*ePP*		**PP**		**08 15 25.9**	**+2.3**		
KSP				*eS*		**S**		**08 22 25.3**	**-1.1**		
KSP				LMZ		LR		08 51 37.6			
	comp=Z,32µm,18.9s										
KSP	**Ksiaz**	**80.76**	**328**	*eP*		**P**		**08 12 20.6**	**+0.5**		
KSP				*e*				08 15 25.9			
KSP				*eS*		**S**		**08 22 25.3**	**-1.1**		
KSP				MLR		MLR					
	comp=Z,32µm,18.9s										
A32A	**Rocking H Ranc**	**80.82**	**34**	P		**P**		**08 12 18.6**	**-1.9**		
	baz=316										
GLA	**Glamis**	**80.88**	**56**	P		**P**		**08 12 18.6**	**-2.6**		
	baz=308										
GLA	**Glamis**	**80.88**	**56**	*eP*		**P**		**08 12 22.5**	**+1.4**		
GLA				pmax		pmax					
	comp=Z,87nm,1.0s										
GLA	**Glamis**	**80.88**	**56**	*eP*		**P**		**08 12 22.5**	**+1.4**		
	comp=Z,86nm,1.0s										
GLA				LR		LR					
	comp=Z,12µm,19.0s										
FKH	**Fakeheh**	**81.01**	**306**	*eP*		**P**		**08 12 22.5**	**+0.6**		
MORC	**Moravsky Berou**	**81.01**	**327**	⇑*iP*		**P**		**08 12 21.9**	**+0.3**		
MORC	**Moravsky Berou**	**81.01**	**327**	*eP*		**P**		**08 12 21.8**	**+0.3**		
MORC				pmax		pmax					
	comp=Z,520nm,1.1s										
MORC	**Moravsky Berou**	**81.01**	**327**	*eP*		**P**		**08 12 21.8**	**+0.3**		
	comp=Z,519nm,1.1s										
C31A	**Landman Farms,**	**81.05**	**36**	P		**P**		**08 12 18.9**	**-2.8**		
	baz=316										
KDHN	**Kadinhani**	**81.05**	**311**	*i* P		**P**		**08 12 21.6**	**-0.5**		
KIZK	**Mersin**	**81.08**	**309**	*i* P		**P**		**08 12 21.6**	**-0.5**		
MARH	**Ras Al Marh**	**81.09**	**306**	*eP*		**P**		**08 12 22.7**	**+0.2**		
DPC	**Dobruska-Polom**	**81.12**	**328**	*eP*		**P**		**08 12 22.7**	**+0.6**		
DPC				*epP*		**pP**		**08 12 31.3**	**+1.3**		
DPC				*ex*		x		08 12 33.9			
DPC				*ePP*		**PP**		**08 15 23.9**	**-2.7**		
DPC				*eS*		**S**		**08 22 31.7**	**+1.5**		
DPC				AMS		AMS		08 51 40.0			
	comp=Z,30µm,17.5s										
DPC	**Dobruska-Polom**	**81.12**	**328**	*eP*		**P**		**08 12 22.7**	**+0.6**		
DPC				*e*				08 12 31.3			
DPC				*e*				08 15 23.9			
DPC				*eS*		**S**		**08 22 31.7**	**+1.5**		
DPC				MLR		MLR					
	comp=Z,30µm,17.5s										
KRLC	**Kraliky**	**81.12**	**328**	*eP*		**P**		**08 12 22.5**	**+0.4**		
KRLC				*epP*		**pP**		**08 12 31.2**	**+1.2**		
KRLC	**Kraliky**	**81.12**	**328**	*eP*		**P**		**08 12 22.5**	**+0.4**		
KRLC				*e*				08 12 31.2			
UPC	**Upice**	**81.13**	**328**	⇑*eP*		**P**		**08 12 22.5**	**+0.4**		
UPC				*epP*		**sP**		**08 12 34.0**	**+1.1**		
UPC				*ex*		x		08 12 43.5			
UPC				*ePP*		**PP**		**08 15 30.4**	**+3.7**		
UPC				*eS*		**S**		**08 22 29.3**	**-1.0**		
UPC				*eSS*		**SS**		**08 27 44.6**	**+0.4**		
UPC				AMS		AMS		08 51 40.0			
	comp=Z,37µm,18.5s										
UPC	**Upice**	**81.13**	**328**	*eP*		**P**		**08 12 22.5**	**+0.4**		
UPC				*e*				08 12 34.0			
UPC				*e*				08 15 30.4			
UPC				*eS*		**S**		**08 22 29.3**	**-1.0**		
UPC				*eSS*		**SS**		**08 27 44.6**	**+0.4**		
UPC				MLR		MLR					
	comp=Z,37µm,18.5s										
PV09	**Paradox Valley**	**81.13**	**48**	*eP*		**P**		**08 12 23.1**	**+0.4**		
HUMR	**Humele**	**81.14**	**320**	⇑*iP*		**P**		**08 12 22.8**	**+0.6**		
URZ	**Urewera**	**81.16**	**152**	LR		LR		08 42 29.1			
	comp=Z,9µm,21.4s,baz=346,slow=31										
ESKT	**Eskisehir**	**81.17**	**313**	*i* P		**P**		**08 12 22.9**	**+0.2**		
BORA	**Eskisehir**	**81.17**	**313**	*i* P		**P**		**08 12 22.1**	**-0.5**		
B32A	**Ashes, Strandq**	**81.18**	**35**	P		**P**		**08 12 20.0**	**-2.3**		
	baz=316										
BIGH	**Upper Bighouse**	**81.25**	**342**	*eP*		**P**		**08 12 22.6**	**0.0**		
BIGH				AMS		AMS		08 57 59.7			
	comp=Z,15µm,16.4s										
PV10	**Paradox Valley**	**81.27**	**49**	*eP*		**P**		**08 12 24.2**	**+0.8**		
DEV	**Deva**	**81.27**	**322**	⇓*iP*		**P**		**08 12 24.1**	**+1.2**		
HWQ	**Hawqa**	**81.29**	**306**	*eP*		**P**		**08 12 22.8**	**-0.6**		
PSZ	**Piszkesteto**	**81.29**	**325**	⇑*iP*		**P**		**08 12 24.5**	**+1.4**		
PSZ	**Piszkesteto**	**81.29**	**325**	*eP*		**P**		**08 12 23.3**	**+0.2**		
PSZ				pmax		pmax					
	comp=Z,243nm,1.2s										
PSZ				MLR		MLR					
	comp=Z,54µm,18.0s										
PSZ	**Piszkesteto**	**81.29**	**325**	⇑*eP*		**P**		**08 12

comp=Z,16µm,22.0s
ERMK Ermenek 81.75 310 *i* P **P** 08 12 24.6 -1.3
113A Mohawk Valley, 81.76 55 *e*P **P** 08 12 26.8 +1.0
comp=Z,34nm,1.0s
113A LR LR
comp=Z,14µm,18.0s
CLL Collm 81.77 330⇑ *i*P **P** 08 12 25.3 -0.1
CLL *e*S **S** 08 22 39.0 +2.2
CLL pmax pmax
comp=Z,141nm,1.1s
CLL MLR MLR
comp=Z,28µm,18.0s
CLL Collm 81.77 330⇑ *i*P **P** 08 12 25.3 -0.1
comp=Z,141nm,1.1s
CLL *e*pP **sP** 08 12 35.0 -1.2
CLL *i* 08 12 47.8
CLL *e* 08 15 21.0
CLL *e*PP **PP** 08 15 38.0 +6.2
CLL *e*S **S** 08 22 39.0 +2.2
CLL *e*PS **PnS** 08 23 24.0 -2.1
CLL *e*SS **SS** 08 28 04.0 +10
CLL *e* 08 28 42.0
CLL *e* 08 32 24.0
CLL *e*SSSS 08 34 18.0
CLL LmH 08 51 00.0
comp=N,25µm,18.4s
CLL LmH 08 51 00.0
comp=E,14µm,18.9s
CLL LmV 08 54 00.0
comp=N,20µm,18.3s
CLL LmV 08 54 00.0
comp=E,18µm,18.2s
CLL LmV 08 54 00.0
comp=Z,28µm,18.0s
CLL Lmax 08 55 00.0
CLL Collm 81.77 330 *e*P **P** 08 12 24.6 -0.8
comp=Z,120nm,1.0s
CLL LR LR
comp=Z,22µm,22.0s
VRAC Vranov 81.78 327 P **P** 08 12 26.0 +0.5
comp=Z,62nm,1.0s,baz=63,slow=5.0,SNR=36
VRAC Vranov 81.78 327⇑ *i*P **P** 08 12 26.0 +0.5
E31A Nome 81.85 37 P P 08 12 19.6 -6.4
baz=316
D32A Dogwood Acres, 81.86 36 P P 08 12 21.0 -5.0
baz=316
DQRL Deir Qamar 81.89 306 *e*P **P** 08 12 26.4 -0.1
ASF Jabal al Asfar 81.95 304 P **P** 08 12 27.4 +0.6
comp=Z,34nm,0.9s,baz=18,slow=1.7,SNR=39
SRE Strehaia 81.97 321⇑ *i*P **P** 08 12 27.1 +0.5
B34A Aery, Baudette 81.97 34 P **P** 08 12 22.8 -3.7
baz=318
SMCO Snowmass 81.99 47 *e*P **P** 08 12 27.2 -0.1
comp=Z,48nm,1.1s
SMCO LR LR
comp=Z,10µm,20.0s
C33A Trail 81.99 35 P **P** 08 12 23.0 -3.7
baz=317
SMOL Smolenice 81.99 326 *e*P **P** 08 12 27.7 +1.0
SMOL Smolenice 81.99 326 *e*P **P** 08 12 27.7 +1.0
EDRB Edirne 82.00 317 P **P** 08 12 27.3 +0.5
BUD Budapest 82.01 325 P **P** 08 12 26.8 0.0
BUD pmax pmax
comp=Z,48nm,0.9s
BUD Budapest 82.01 325⇑ *e*P **P** 08 12 27.2 +0.4
BZS Buzias 82.10 322⇑ *i*P **P** 08 12 27.2 -0.1
GOPC GO Pecny, Ondr 82.10 328 *e*P **P** 08 12 27.7 +0.5
GOPC *e*pP **sP** 08 12 37.7 -0.3
GOPC *e*PP **PP** 08 15 30.1 -4.5
GOPC *e*S **S** 08 22 41.2 +0.9
GOPC *e*SS **SS** 08 27 56.3 -2.3
GOPC AMS AMS 08 53 30.0
comp=Z,37µm,15.2s
GOPC GO Pecny, Ondr 82.10 328 *e*P **P** 08 12 27.7 +0.5
GOPC *e* 08 12 37.7
GOPC *e* 08 15 30.1
GOPC *e*S **S** 08 22 41.2 +0.9
GOPC *e*SS **SS** 08 27 56.3 -2.3
GOPC MLR MLR
comp=Z,37µm,15.2s
PRA Prague 82.13 329⇑ *e*P **P** 08 12 27.8 +0.5
PRA *ex* x 08 12 39.9
PRA *e*PP **PP** 08 15 38.6 +3.8
PRA *e*S **S** 08 22 40.5 0.0
PRA AMS AMS 08 53 30.0
comp=Z,37µm,15.1s
PRA Prague 82.13 329 *e*P **P** 08 12 27.8 +0.5
PRA *e* 08 12 39.9
PRA *e* 08 15 38.6
PRA *e*S **S** 08 22 40.5 0.0
PRA MLR MLR
comp=Z,37µm,15.1s
PRU Pruhonice 82.15 329⇑ *e*P **P** 08 12 27.6 +0.2
PRU *e*pP **pP** 08 12 36.7 +1.4
PRU *e*PP **PP** 08 15 28.2 -6.8
PRU *e*S **S** 08 22 42.0 +1.3
PRU *e*SS **SS** 08 27 56.5 -2.7
PRU AMS AMS 08 53 30.0
comp=Z,39µm,15.2s
PRU Pruhonice 82.15 329 *e*P **P** 08 12 27.6 +0.2
PRU *e* 08 12 36.7
PRU *e*S **S** 08 22 42.0 +1.3
PRU *e*SS **SS** 08 27 56.5 -2.7
PRU MLR MLR
comp=Z,39µm,15.2s
F31A Hecla 82.17 38 P **P** 08 12 23.5 -4.1
baz=315
BAGO Egridir - ISPA 82.19 312 *i*P **P** 08 12 28.0 0.0
E32A Braaten, Kindr 82.22 36 P P 08 12 22.0 -5.9
baz=316
X16A Lo Mia Camp, P 82.26 53 *e*P **P** 08 12 29.8 +1.2
comp=Z,77nm,1.4s
X16A LR LR
comp=Z,8µm,18.0s
TREC Trest 82.27 328⇑ *e*P **P** 08 12 28.3 +0.2
TREC *e*pP **sP** 08 12 38.5 -0.4
TREC *e*PP **PP** 08 15 39.9 +3.9
TREC *e*S **S** 08 22 43.7 +1.6
TREC AMS AMS 08 53 30.0
comp=Z,31µm,15.3s
TREC Trest 82.27 328 *e*P **P** 08 12 28.3 +0.2
TREC *e* 08 12 38.5
TREC *e* 08 15 39.9
TREC *e*S **S** 08 22 43.7 +1.6
TREC MLR MLR
comp=Z,31µm,15.3s
RRR Rubha Reidh 82.28 343 *e*P **P** 08 12 28.4 +0.5
MVCO Mesa Verde 82.34 49 P **P** 08 12 25.7 -3.4
baz=310
MVCO Mesa Verde 82.34 49 *e*P **P** 08 12 29.5 +0.5
comp=Z,363nm,1.9s
MVCO LR LR
comp=Z,8µm,19.0s
ISCO Idaho Springs 82.38 46 P **P** 08 12 26.2 -3.1
baz=312
ISCO Idaho Springs 82.38 46 *e*P **P** 08 12 29.9 +0.6
ISCO pmax pmax
comp=Z,45nm,1.0s
ISCO Idaho Springs 82.38 46 *e*P **P** 08 12 29.3 0.0
comp=Z,44nm,1.0s
ISCO LR LR
comp=Z,9µm,18.0s
D33A AnnSam, Waubun 82.41 35 P **P** 08 12 24.3 -4.6
baz=317
MMAI Mount Meron Ar 82.42 305 LR LR 08 52 10.5
comp=Z,26µm,21.9s,baz=70,slow=38
RRH Rhenigidale 82.43 343⇑ *e*P **P** 08 12 28.9 +0.2
CSKK Cs˙ǂkako 82.46 325⇑ *e*P **P** 08 12 29.3 +0.2
ISP Isparta 82.46 312 *e*P **P** 08 12 29.5 0.0
ISP pmax pmax
comp=Z,82nm,1.0s
ISP Isparta 82.46 312 *e*P **P** 08 12 29.1 -0.4
comp=Z,82nm,1.0s
ISP LR LR
comp=Z,11µm,20.0s
C34A RKJ Ranch, Bem 82.47 35 P **P** 08 12 27.3 -1.9
baz=317
KAC Achnashellach 82.48 343⇑ *e*P **P** 08 12 29.1 +0.1
B35A Bob, Littlefor 82.48 34 P **P** 08 12 28.2 -1.0
baz=318
CSS Mathiatis 82.55 308 P **P** 08 12 29.6 -0.3
CSS Mathiatis 82.55 308 *e*P **P** 08 12 29.4 -0.4
comp=Z,25nm,0.8s
CSS LR LR
comp=Z,6µm,21.0s

CSS Mathiatis 82.55 308 P **P** 08 12 30.4 +0.5
MPEP Malo Peshtene 82.59 319 *i*P **P** 08 12 30.3 +0.4
KNL Bal˙¨kesir 82.61 315 *i*P **P** 08 12 29.9 -0.1
G31A Conde 82.64 38 P **P** 08 12 28.3 -1.9
baz=316
KPL Plockton 82.71 343⇑ *e*P **P** 08 12 30.6 +0.4
KPL AMB AMB 08 12 34.7
comp=Z,243nm,2.6s
KPL AMS AMS 08 59 01.4
comp=Z,8µm,15.1s
F32A Veblen 82.72 37 P **P** 08 12 28.6 -1.9
baz=316
KESN Edirne-Kesan 82.72 316 *i*P **P** 08 12 30.5 -0.6
EDU Dundee 82.75 341⇑ *e*P **P** 08 12 30.5 0.0
D34A Park Rapids 82.75 35 P **P** 08 12 27.0 -3.7
baz=317
E33A Westby DABS, E 82.80 36 P **P** 08 12 27.7 -3.3
baz=317
SUSD Miller 82.82 39 P **P** 08 12 27.0 -4.2
baz=315
NKC Novy Kostel 82.83 330⇑ *e*P **P** 08 12 31.2 +0.2
NKC *e*pP **sP** 08 12 40.6 -1.2
NKC *e*S **S** 08 22 49.1 +1.4
NKC AMS AMS 08 53 00.0
comp=Z,38µm,15.5s
NKC Novy Kostel 82.83 330 *e*P **P** 08 12 31.2 +0.2
NKC *e* 08 12 40.6
NKC *e*S **S** 08 22 49.1 +1.4
NKC MLR MLR
comp=Z,38µm,15.5s
MOX Moxa 82.84 330 P **P** 08 12 31.0 -0.1
MOX pmax pmax
comp=Z,66nm,2.0s
C35A Jirik Farms, M 82.86 34 P **P** 08 12 28.4 -2.8
baz=318
KDZ Kurdzhali 82.86 317 *i*P **P** 08 12 32.4 +1.0
ALFC Alefka 82.89 309 P **P** 08 12 31.6 -0.1
W18A Petrified Fore 82.91 51 P **P** 08 12 30.5 -1.5
baz=310
W18A Petrified Fore 82.91 51 PFAKE 08 12 40.0 +8.0
W18A LR LR
comp=Z,7µm,19.0s
PLD Plovdiv 82.94 318 *i*P **P** 08 12 32.0 +0.3
SZAC Sozni 82.97 308 P **P** 08 12 32.3 +0.2
G32A Webster 82.97 38 P **P** 08 12 28.6 -3.3
baz=316
SOP Sopron 83.00 326 P **P** 08 12 33.1 +1.2
SOP pmax pmax
comp=Z,122nm,1.3s
SOP Sopron 83.00 326⇑ *e*P **P** 08 12 32.4 +0.5
S22A 4UR Ranch, Cre 83.01 48 P **P** 08 12 31.8 -0.8
baz=311
S22A 4UR Ranch, Cre 83.01 48 *e*P **P** 08 12 33.5 +1.0
comp=Z,118nm,1.6s
S22A LR LR
comp=Z,7µm,18.0s
SNZO South Karori 83.01 155 PFAKE 08 12 40.0 +8.3
SNZO LR LR
comp=Z,11µm,22.0s
ALN Alexandroupoli 83.03 316 P **P** 08 12 31.9 -0.3
ALN Alexandroupoli 83.03 316 P **P** 08 12 32.4 +0.2
ALN pmax pmax
comp=Z,57nm,1.2s
H31A Wolsey 83.04 39 P **P** 08 12 29.9 -2.3
baz=315
KORT Korkueli 83.10 311 *i*P **P** 08 12 32.6 -0.2
KULA Kula-Manisa 83.12 313 P **P** 08 12 32.5 -0.3
CONA Conrad Observa 83.13 327 *i*P **P** 08 12 33.0 +0.2
SNR=77
RDO Rodhopi 83.14 317 P **P** 08 12 32.9 +0.1
AKMC Akamas 83.14 309 P **P** 08 12 32.8 -0.1
X18A Snowflake 83.15 52 *e*P **P** 08 12 35.1 +1.9
comp=Z,108nm,1.5s
X18A LR LR
comp=Z,7µm,19.0s
E34A Wadena 83.18 35 P **P** 08 12 30.5 -2.4
baz=317
MANT Manisa 83.19 313 PFAKE 08 12 40.0 +6.6
MANT LR LR
comp=Z,16µm,22.0s
Q24A Divide 83.20 46 P **P** 08 12 31.8 -1.7
baz=312
Q24A Divide 83.20 46 PFAKE 08 12 50.0 +16
Q24A LR LR
comp=Z,8µm,19.0s
ESY Stoneypath 83.20 341 *e*P **P** 08 12 32.4 -0.5
KHC Kasperske Hory 83.21 329 *e*P **P** 08 12 33.1 0.0
KHC *e*pP **pP** 08 12 41.9 +0.9
KHC *e*sP **sP** 08 12 44.4 +0.6
KHC *e*S **S** 08 22 53.4 +1.7
KHC *e*SS **SS** 08 28 15.2 +0.1
KHC AMS AMS 08 54 20.0
comp=Z,39µm,16.0s
KHC Kasperske Hory 83.21 329 *e*P **P** 08 12 33.1 0.0
KHC *e* 08 12 41.9
KHC *e*S **S** 08 22 53.4 +1.7
KHC *e*SS **SS** 08 28 15.2 +0.1
KHC MLR MLR
comp=Z,39µm,16.0s
KHC Kasperske Hory 83.21 329 *e*P **P** 08 12 33.0 0.0
comp=Z,36nm,1.0s
KHC LR LR
comp=Z,16µm,18.0s
RZN Rozhen 83.22 318 *i*P **P** 08 12 34.0 +0.6
BEO Beograd 83.24 322 P **P** 08 12 32.8 -0.4
BEO pmax pmax
comp=Z,17nm,1.3s
D35A Remer 83.28 35 P **P** 08 12 31.9 -1.5
baz=318
C36A Pine Crest Far 83.33 33 P **P** 08 12 30.3 -3.3
baz=319
I31A Royce, Wessing 83.33 39 P **P** 08 12 31.4 -2.3
baz=315
AKHS Akhisar 83.37 314 *i*P **P** 08 12 33.2 -0.8
GEC2 GERESS Array S 83.37 328 *e*P **P** 08 12 33.7 -0.3
GEC2 pmax pmax
comp=Z,48nm,1.0s
GEC2 GERESS Array S 83.37 328 *e*P **P** 08 12 33.7 -0.3
comp=Z,48nm,1.0s
GEC2 LR LR
comp=Z,28µm,18.0s
GERES GERESS Array B 83.37 328 P **P** 08 12 33.6 -0.4
comp=Z,35nm,1.0s,baz=41,slow=4.3,SNR=47
GERES PKKPbc **PKKPbc** 08 30 57.9 +5.2
comp=Z,0.2nm,0.3s,baz=245,slow=2.8,SNR=3.5
GERES LR LR 08 53 41.7
comp=Z,22µm,18.0s,baz=26,slow=39
GERES GERESS Array B 83.37 328 P **P** 08 12 33.6 -0.4
GERES pmax pmax
comp=Z,34nm,1.0s
GERES MLR MLR
comp=Z,22µm,18.0s
GEA0 GERESS Array S 83.38 328 *e*P **P** 08 12 33.5 -0.4
VTS Vitosha 83.41 319 P **P** 08 12 34.6 +0.3
VTS Vitosha 83.41 319⇑ *i*P **P** 08 12 35.1 +0.8
VTS Vitosha 83.41 319 *e*P **P** 08 12 34.8 +0.5
VTS pmax pmax
comp=Z,160nm,1.2s
VTS Vitosha 83.41 319 *i*P **P** 08 12 34.8 +0.5
VTS Vitosha 83.41 319 *e*P **P** 08 12 34.8 +0.5
comp=Z,159nm,1.2s
VTS LR LR
comp=Z,29µm,20.0s
EAB Aberfoyle 83.41 342 *e*P **P** 08 12 33.8 -0.1
GOLH Golhisar 83.42 312 *i*P **P** 08 12 34.2 -0.2
WET Wettzell 83.49 329 P **P** 08 12 34.6 +0.1
WET pmax pmax
comp=Z,128nm,2.2s
E35A Pequot Lakes 83.51 35 P **P** 08 12 32.2 -2.4
baz=318
G33A Ortonville 83.54 37 P **P** 08 12 33.3 -1.5
baz=317
H32A Carlson Farm, 83.54 38 P **P** 08 12 33.4 -1.5
baz=316
LTZ Lake Taylor 83.55 158 PFAKE 08 12 50.0 +15
LTZ LR LR
comp=Z,11µm,21.0s
SMTH Samothraki Isl 83.60 316 P **P** 08 12 33.8 -1.4
D36A Goodland 83.61 34 P **P** 08 12 33.2 -2.0
baz=319
OGNE Ogallala 83.63 43 P **P** 08 12 33.9 -1.5
baz=314
OGNE Ogallala 83.63 43 *e*P **P** 08 12 37.4 +1.9
comp=Z,260nm,1.7s
OGNE LR LR

comp=Z,9µm,19.0s
C37A Embarrass 83.64 33 P **P** 08 12 35.1 -0.2
baz=319
F34A Alexandria 83.67 36 P **P** 08 12 33.5 -1.9
baz=317
GRF Grafenberg Arr 83.74 330 P **P** 08 12 36.7 +0.9
GRF pmax pmax
comp=Z,278nm,1.2s
GRFO Grafenberg 83.75 330 *e*P **P** 08 12 36.0 +0.3
GRFO pmax pmax
comp=Z,1µm,2.0s
GRFO Grafenberg 83.75 330 *e*P **P** 08 12 36.0 +0.3
comp=Z,1µm,2.0s
GRFO LR LR
comp=Z,18µm,19.0s
J31A Geddes 83.75 40 P **P** 08 12 35.4 -0.6
baz=315
H33A Prehn Over Nor 83.76 38 P **P** 08 12 34.5 -1.5
baz=316
EYMN Ely 83.78 33 P **P** 08 12 34.0 -2.0
baz=320
EYMN Ely 83.78 33 *e*P **P** 08 12 35.0 -1.0
comp=Z,238nm,1.8s
EYMN LR LR
comp=Z,5µm,21.0s
PGBU Glenifferbraes 83.78 341 AMS AMS 08 53 00.9
comp=Z,10µm,18.5s
ARSA Arzberg 83.79 326 *i*P **P** 08 12 36.2 +0.2
SNR=40
SDCO Great Sand Dun 83.80 47 P **P** 08 12 34.5 -2.1
baz=312
SDCO Great Sand Dun 83.80 47 *e*P **P** 08 12 37.1 +0.5
comp=Z,66nm,1.4s
SDCO LR LR
comp=Z,6µm,19.0s
BEHE Becsehely 83.80 325⇑ *e*P **P** 08 12 36.2 +0.1
KAVA Kavala 83.81 317 P **P** 08 12 36.2 0.0
MMB Musomiste 83.82 318 *i*P **P** 08 12 36.8 +0.4
EKA Eskdalemuir Ar 83.86 341 P **P** 08 12 36.2 0.0
comp=Z,6.1nm,0.6s,baz=32,slow=4.7,SNR=15
EKA LR LR 08 53 38.3
comp=Z,17µm,19.5s,baz=25,slow=38
BUG Bochum--Univer 83.86 333 P **P** 08 12 35.6 -0.7
BUG pmax pmax
comp=Z,67nm,1.0s
I32A Karley and Nic 83.87 38 P **P** 08 12 34.2 -2.4
baz=316
ESK Eskdalemuir 83.89 341⇑ *e*P **P** 08 12 36.3 0.0
ESK AMS AMS 08 54 23.2
comp=Z,15µm,16.6s
ESK Eskdalemuir 83.89 341 *e*P **P** 08 12 36.1 -0.2
ESK pmax pmax
comp=Z,139nm,1.5s
ESK MLR MLR
comp=Z,21µm,20.0s
ESK Eskdalemuir 83.89 341 *e*P **P** 08 12 36.1 -0.2
comp=Z,139nm,1.5s
ESK LR LR
comp=Z,21µm,20.0s
G34A Benson 83.89 37 P **P** 08 12 32.9 -3.7
baz=317
MOA Molln 83.89 327 *i*P **P** 08 12 36.8 +0.2
SNR=31
NVR Nevrokopi 83.92 318 P **P** 08 12 36.8 0.0
F35A Swanville 83.94 36 P **P** 08 12 33.6 -3.3
baz=318
D37A Cotton 83.96 34 P **P** 08 12 35.0 -2.0
baz=319
OXZ Oxford 83.97 158 *e*P **P** 08 12 37.5 +0.8
comp=Z,79nm,0.6s
KKB Krupnik 83.98 319 *i*P **P** 08 12 37.6 +0.5
ECK Cauldkaine Hil 83.99 340 *e*P **P** 08 12 36.9 +0.1
DIVS Divibare 83.99 322 P **P** 08 12 36.8 -0.4
TUC Tucson 84.01 54 P **P** 08 12 33.5 -4.0
baz=310
TUC Tucson 84.01 54 *e*P **P** 08 12 37.8 +0.2
TUC pmax pmax
comp=Z,190nm,1.9s
TUC Tucson 84.01 54 *e*P **P** 08 12 37.8 +0.2
comp=Z,191nm,1.9s
TUC LR LR
comp=Z,9µm,20.0s
RPZ Rata Peaks 84.04 159 LR LR 08 45 17.5
comp=Z,5µm,21.5s,baz=326,slow=32
C38A Sawbill Land. 84.05 33 P **P** 08 12 34.0 -3.3
baz=320
AKAS Kas 84.05 311 *i*P **P** 08 12 36.7 -1.0
AKAS Kas 84.05 311 *e*P **P** 08 12 36.9 -0.8
comp=Z,135nm,1.1s
AKAS LR LR
comp=Z,5µm,22.0s
KOGS Kog 84.06 325 *e*P **P** 08 12 36.8 -0.6
E36A McGregor 84.07 35 P **P** 08 12 34.2 -3.3
baz=319
KSL Kastellorizon 84.12 311 P **P** 08 12 36.8 -1.1
J32A Parkston 84.15 39 P **P** 08 12 35.6 -2.3
baz=316
LIA Limnos Island 84.19 316 P **P** 08 12 37.7 -0.5
I33A Coleman 84.19 38 P **P** 08 12 35.8 -2.4
baz=316
K31A O'Neill 84.22 40 P **P** 08 12 35.1 -3.3
baz=315
SRS Serrai 84.22 318 P **P** 08 12 37.7 -0.7
TURN Turunc 84.24 312 *i*P **P** 08 12 40.6 +2.2
H34A Spellman Lake, 84.24 37 P **P** 08 12 35.6 -2.8
baz=317
DALY Dalyan (Mu¨la 84.25 312 *i*P **P** 08 12 38.9 +0.4
PPT Papeete 84.28 116 LR LR 08 44 00.5
comp=Z,12µm,20.6s,baz=287,slow=31
SIGR SIGRI 84.28 315 P **P** 08 12 38.5 -0.1
PPT2 Papeete2 84.29 117 *e*P **P** 08 12 40.6 +1.6
comp=Z,65nm,1.2s
PPT2 Papeete2 84.29 117 *e*S **S** 08 22 58.9 -4.4
comp=Z,13µm,31.2s
PPT2 Papeete2 84.29 117 *e*LR LR 08 38 50.0
comp=Z,20µm,21.2s,baz=310
PPT2 Papeete2 84.29 117 *e*T T 09 44 31.5
comp=Z,4.9nm,0.3s
PAE Paea 84.33 117 *e*P **P** 08 12 40.6 +1.5
comp=Z,16nm,1.3s
PAE Paea 84.33 117 *e*T T 09 44 33.5
comp=Z,0.9nm,0.3s
BBO1 Bothel 84.41 340⇑ *e*P **P** 08 12 39.4 +0.4
E37A Wrenshall 84.42 34 P **P** 08 12 37.3 -1.9
baz=319
URLA Izmir 84.43 314 *i*P **P** 08 12 38.5 -1.0
F36A Milaca 84.43 35 P **P** 08 12 37.4 -1.9
baz=318
PERS Pernice 84.44 326 *i*P **P** 08 12 39.0 -0.4
PERS *e*PP **PP** 08 15 58.6 +4.7
TIAR Tiarei 84.44 116 *e*P **P** 08 12 41.2 +1.6
comp=Z,32nm,1.1s
TIAR Tiarei 84.44 116 *e*T T 09 44 41.4
comp=Z,2.3nm,0.2s
SOKA Soboth 84.44 326 *i*P **P** 08 12 39.1 -0.3
SNR=53
G35A Watkins 84.46 36 P **P** 08 12 38.0 -1.5
baz=318
C39A Grand Marais 84.46 32 P **P** 08 12 38.4 -1.1
baz=321
DGB ¨zmir 84.47 314 *i*P **P** 08 12 39.3 -0.3
GMK Mull of Kintyr 84.48 342⇑ *e*P **P** 08 12 39.4 0.0
GCAM G?zelcaml? 84.50 313 *i*P **P** 08 12 39.6 -0.2
KESW Keswick, Cumbr 84.50 340 *e*P **P** 08 12 39.3 -0.2
KESW AMB AMB 08 12 42.7
comp=Z,250nm,2.4s
KESW AMS AMS 08 53 49.3
comp=Z,19µm,18.8s
ECSD EROS Data Cent 84.51 38 P **P** 08 12 39.2 -0.6
baz=317
ECSD EROS Data Cent 84.51 38 *e*P **P** 08 12 39.3 -0.5
comp=Z,36nm,0.9s
ECSD LR LR
comp=Z,6µm,20.0s
OUR Ouranopolis 84.56 317 P **P** 08 12 39.5 -0.5
SOH Sokhos 84.56 318 P **P** 08 12 39.5 -0.6
SOH Sokhos 84.56 318 P **P** 08 12 39.7 -0.4
SOH pmax pmax
comp=Z,51nm,1.1s
ZEY ¨zmir 84.56 314 *i*P **P** 08 12 39.8 -0.3
KNT Kendrikon 84.57 318 P **P** 08 12 39.9 -0.2
K32A Verdigre 84.59 40 P **P** 08 12 39.7 -0.6
baz=316
KSCO Kaye Shedlock' 84.62 45 P **P** 08 12 39.9 -0.6
baz=313
KSCO Kaye Shedlock' 84.62 45 *e*P **P** 08 12 42.3 +1.7
comp=Z,66nm,1.0s

KSCO LR LR
comp=Z,7µm,19.0s
J33A Davis 84.63 39 P **P** 08 12 38.9 -1.5
baz=316
VAY Valandovo 84.63 319 P **P** 08 12 40.2 -0.2
VAY Valandovo 84.63 319 *i* P **P** 08 12 40.9 +0.5
TVO Taravao 84.65 116 *eP* **P** 08 12 42.5 +1.7
comp=Z,16nm,1.1s
I34A Hadley 84.66 38 P **P** 08 12 38.2 -2.4
baz=317
H35A Sunnyside Ranc 84.68 37 P **P** 08 12 38.2 -2.4
baz=318
GAL1 Galloway 84.69 341⇑ *eP* **P** 08 12 40.2 -0.2
GAL1 AMB AMB 08 12 43.2
comp=Z,64nm,2.3s
GAL1 AMS AMS 08 54 07.6
comp=Z,6µm,17.8s
LMK Market Rasen 84.70 338 AMS AMS 08 51 48.3
comp=Z,24µm,24.2s
CHOS Chios Island 84.72 315 P **P** 08 12 40.5 -0.5
SISC Sisak 84.73 325 P **P** 08 12 40.5 -0.3
E38A The Farm, Brul 84.77 34 P **P** 08 12 40.4 -0.6
baz=320
SKO Skopje 84.77 320 P **P** 08 12 41.5 +0.4
SKO Skopje 84.77 320 *i* P **P** 08 12 42.2 +1.1
OBKA Obir 84.79 326 P **P** 08 12 40.7 -0.5
comp=Z,26nm,1.0s
OBKA *i* PP **PP** 08 15 50.6 -6.2
comp=Z,60nm,1.9s
BDRM Kayabasi 84.80 313 *i* P **P** 08 12 42.0 +0.6
EIL Elat 84.81 303 P **P** 08 12 41.5 -0.1
comp=Z,54nm,1.0s,baz=45,slow=4.1,SNR=23
EIL LR LR 08 54 41.7
comp=Z,9µm,19.0s,baz=40,slow=39
PLG Polygyros 84.82 317 P **P** 08 12 40.8 -0.6
PLE Pljevlja 84.85 322⇑ *iP* **P** 08 12 41.3 -0.3
T25A Trinidad 84.85 47 P **P** 08 12 41.2 -0.7
baz=312
T25A Trinidad 84.85 47 *eP* **P** 08 12 42.3 +0.4
comp=Z,228nm,1.8s
T25A LR LR
comp=Z,5µm,20.0s
HORT Hortiatis 84.86 318 P **P** 08 12 40.7 -1.0
KBA Koelnbreinsper 84.88 327 *i* P **P** 08 12 41.3 -0.5
SNR=32
KBA *i* PP **PP** 08 16 00.3 +2.7
comp=Z,46nm,1.2s
KBA Koelnbreinsper 84.88 327 P **P** 08 12 42.3 +0.5
KBA pmax pmax
comp=Z,91nm,2.3s
BLY Banja Luka 84.89 324 *eP* **P** 08 12 41.5 -0.2
comp=Z,187nm,1.4s
BLY LR LR
comp=Z,20µm,18.0s
THE Thessaloniki 84.90 318 P **P** 08 12 40.4 -1.4
THE pmax pmax
comp=Z,103nm,1.1s
IVA Berane 84.93 321⇑ *iP* **P** 08 12 41.5 -0.5
DAT Datca 84.95 312 *i* P **P** 08 12 41.6 -0.6
F37A Hinrichs Farm, 84.95 35 P **P** 08 12 40.4 -1.5
baz=319
ARG Arkhangelos 84.96 312 P **P** 08 12 42.1 -0.1
MEM Membach 85.00 333 P **P** 08 12 42.1 0.0
MEM pmax pmax
comp=Z,97nm,2.0s
PAIG Paliouri 85.00 317 P **P** 08 12 41.5 -0.8
WACR West Acre 85.04 337 *eP* **P** 08 12 42.7 +0.5
WACR AMS AMS 08 54 23.1
comp=Z,18µm,18.6s
L32A Elgin 85.04 40 P **P** 08 12 41.0 -1.5
baz=316
OZLJ Ozalj 85.05 325 P **P** 08 12 41.6 -0.7
ANMO Albuquerque 85.07 50 LR LR 08 45 32.9
comp=Z,3µm,21.5s,baz=344,slow=32
ANMO Albuquerque 85.07 50 P **P** 08 12 42.4 -0.6
baz=312
ANMO Albuquerque 85.07 50*c iP* **P** 08 12 43.0 0.0
ANMO pmax pmax
comp=Z,30nm,1.5s
ANMO MLR MLR
comp=Z,4µm,17.0s
ANMO Albuquerque 85.07 50 *eP* **P** 08 12 43.4 +0.4
comp=Z,190nm,1.8s
ANMO LR LR
comp=Z,5µm,19.0s
PVY Plav 85.09 321 *eP* **P** 08 12 42.5 -0.4
MYKA Terra Mystica 85.10 327 *i* P **P** 08 12 42.0 -0.8
SNR=10
F38A Pierce - Schro 85.12 34 P **P** 08 12 41.7 -1.1
baz=320
K33A Hardington 85.13 39 P **P** 08 12 42.4 -0.6
baz=316
LJU Ljubljana 85.15 326 *i* P **P** 08 12 42.2 -0.7
LJU *e* 08 13 24.8
LJU *eP* PP **PP** 08 16 04.1 +4.5
LJU *e* 08 23 03.8
J34A George 85.16 38 P **P** 08 12 41.6 -1.5
baz=317
UPM Unac-Piva 85.18 322⇑ *iP* **P** 08 12 42.7 -0.7
H36A Jessenland, He 85.20 36 P **P** 08 12 41.3 -1.9
baz=318
I35A Creekview Farm 85.23 37 P **P** 08 12 42.3 -1.0
baz=318
BOJS Bojanci 85.23 325 *i* P **P** 08 12 42.8 -0.5
SPMN Marine on St. 85.25 35 P **P** 08 12 43.3 -0.1
baz=319
SPMN Marine on St. 85.25 35 *eP* **P** 08 12 43.1 -0.3
comp=Z,52nm,1.1s
SPMN LR LR
comp=Z,8µm,19.0s
STU Stuttgart 85.28 331 *eP* **P** 08 12 43.8 +0.3
STU pmax pmax
comp=Z,200nm,1.2s
STU Stuttgart 85.28 331 *eP* **P** 08 12 43.8 +0.3
comp=Z,200nm,1.2s
STU LR LR
comp=Z,23µm,18.0s
WIM Isle of Man 85.32 341⇑ *eP* **P** 08 12 43.6 0.0
Y22D IRIS PASSCAL I 85.35 51 P **P** 08 12 43.4 -1.0
baz=311
Y22D IRIS PASSCAL I 85.35 51 PFAKE 08 13 00.0 +16
Y22D LR LR
comp=Z,10µm,18.0s
E39A Mellen 85.39 33 P **P** 08 12 42.1 -2.0
baz=320
BGNE Belgrade 85.39 41 P **P** 08 12 41.9 -2.4
baz=316
BGNE Belgrade 85.39 41 *eP* **P** 08 12 43.7 -0.6
comp=Z,260nm,1.4s
BGNE LR LR
comp=Z,9µm,19.0s
AOS Alonnisos 85.42 316 P **P** 08 12 43.1 -1.3
NKY Niksic 85.42 321⇑ *iP* **P** 08 12 44.1 -0.4
JAVS Javornik 85.47 326 *i* P **P** 08 12 43.3 -1.4
JAVS *eP* PP **PP** 08 16 06.2 +3.8
JAVS *e* 08 23 06.7
WTTA Wattenberg 85.47 328 *i* P **P** 08 12 44.4 -0.4
SNR=7.0
J35A Milford 85.48 38 P **P** 08 12 43.6 -1.0
baz=318
NKME Niksic 85.48 321 *eP* **P** 08 12 44.0 -0.7
ABTA Abfaltersbach 85.50 328 *i* P **P** 08 12 44.0 -0.8
SNR=18
K34A Le Mars 85.53 39 P **P** 08 12 42.1 -2.8
baz=317
PDG Podgorica 85.57 321⇑ *iP* **P** 08 12 45.0 -0.1
TTG Podgorica 85.57 321⇑ *iP* **P** 08 12 44.8 -0.3
GMM Mts of Mourne 85.57 341⇑ *eP* **P** 08 12 44.3 -0.5
I36A Fitzsimmons Fa 85.58 37 P **P** 08 12 44.5 -0.6
baz=318
F39A Loretta 85.58 34 P **P** 08 12 44.5 -0.6
baz=320
BRY Bratogost 85.59 322⇑ *iP* **P** 08 12 44.5 -0.9
319A Douglas 85.59 54 *eP* **P** 08 12 46.4 +0.8
comp=Z,66nm,1.1s
319A LR LR
comp=Z,12µm,20.0s
E40A Wakefield 85.62 33 P **P** 08 12 44.7 -0.6
baz=321
MOTA Moosalm 85.64 329 *i* PcP **P** 08 12 45.4 -0.1
SNR=6.7
FNA Florina 85.65 319 P **P** 08 12 44.4 -1.2
FNA Florina 85.65 319 P **P** 08 12 45.1 -0.5
FNA pmax pmax
comp=Z,91nm,2.1s
SKIA Skiathos 85.65 316 P **P** 08 12 44.2 -1.4

CEME Cevo 85.66 321⇑ *iP* **P** 08 12 44.7 -0.9
XOR Xorichti 85.67 317 P **P** 08 12 44.3 -1.4
RETA Reutte 85.67 329 *i* PcP **P** 08 12 45.5 -0.1
SNR=34
H37A Dierke Farm, C 85.68 36 P **P** 08 12 42.7 -2.8
baz=319
D41A Chassel 85.72 32 P **P** 08 12 44.2 -1.5
baz=322
OHR Ohrid 85.72 319 *i* P **P** 08 12 45.7 -0.2
G38A Ridgeland 85.73 35 P **P** 08 12 43.9 -2.0
baz=320
UDBI Udbina 85.73 324 P **P** 08 12 44.9 -1.1
WLF Walferdange 85.73 333 *eP* **P** 08 12 46.4 +0.7
WLF pmax pmax
comp=Z,610nm,2.0s
WLF Walferdange 85.73 333 *eP* **P** 08 12 46.4 +0.7
comp=Z,610nm,2.0s
WLF LR LR
comp=Z,21µm,18.0s
TRI Trieste 85.75 326 PFAKE 08 13 00.0 +14
TRI LR LR
comp=Z,25µm,21.0s
M33A Taylor Creek F 85.78 40 P **P** 08 12 45.2 -1.0
baz=316
KZN Kozani 85.78 318 P **P** 08 12 45.1 -1.2
DRME Dracevica, Mon 85.78 321⇑ *iP* **P** 08 12 45.8 -0.4
121A Cookes Peak, D 85.81 52 P **P** 08 12 46.1 -0.6
baz=311
BUM Brajici-Budva 85.85 321⇑ *iP* **P** 08 12 45.9 -0.7
GIVF Givet 85.85 334 *eP* **P** 08 12 45.1 -1.2
GIVF pmax pmax
comp=Z,202nm,1.7s
I37A Lemond, Waseca 85.87 36 P **P** 08 12 44.6 -1.9
baz=319
WME Myndd Eilian 85.89 340⇑ *eP* **P** 08 12 46.4 -0.1
H38A Maiden Rock 85.90 35 P **P** 08 12 44.8 -1.9
baz=319
WPM1 Penmaenmawr 85.91 340⇑ *eP* **P** 08 12 46.5 0.0
L34A Svendsen Farm, 85.91 39 P **P** 08 12 45.4 -1.5
baz=317
ULC Ulcinj 85.92 321⇑ *iP* **P** 08 12 46.2 -0.7
APE Apeiranthos 85.92 314⇑ *iP* **P** 08 12 46.5 -0.5
APE Apeiranthos 85.92 314*c iP* **P** 08 12 45.0 -2.0
APE pmax pmax
comp=Z,184nm,2.4s
APE MLR MLR
comp=Z,5µm,20.0s
J36A Seneca 1, Swea 85.93 37 P **P** 08 12 45.8 -1.0
baz=318
F40A Park Falls 85.93 33 P **P** 08 12 46.2 -0.6
baz=321
K35A Storm Lake 85.94 38 P **P** 08 12 45.0 -1.9
baz=318
WPS Cemaes, Angles 85.94 340 AMS AMS 08 54 31.7
comp=Z,15µm,20.6s
HCY Herceg Novi 85.94 321⇑ *iP* **P** 08 12 46.1 -0.9
G39A Holcombe 85.95 34 P **P** 08 12 45.4 -1.5
baz=320
BFO Black Forest 85.98 331 *eP* **P** 08 12 46.6 -0.4
BFO pmax pmax
comp=Z,76nm,0.9s
BFO Black Forest 85.98 331 *eP* **P** 08 12 46.6 -0.4
comp=Z,76nm,0.9s
BFO LR LR
comp=Z,15µm,18.0s
HSIG 85.99 57 PFAKE 08 13 00.0 +13
HSIG LR LR
comp=Z,10µm,19.0s
KARP Karpathos 85.99 312 *eP* **P** 08 12 46.5 -0.8
comp=Z,358nm,1.9s
KARP LR LR
comp=Z,5µm,19.0s
WLF1 Llynfaes 86.01 340 *eP* **P** 08 12 46.8 -0.2
WLF1 AMB AMB 08 12 49.8
comp=Z,286nm,2.0s
WLF1 AMS AMS 08 54 34.1
comp=Z,33µm,19.9s
FOEL Foel Wylfa 86.03 339⇑ *eP* **P** 08 12 47.2 0.0
FOEL AMB AMB 08 12 50.1
comp=Z,198nm,2.5s
FOEL AMS AMS 08 55 54.7
comp=Z,20µm,16.9s
TIR Tirane 86.04 320 *eP* **P** 08 12 47.9 +0.4
TIR pmax pmax
comp=Z,139nm,1.1s
TIR MLR MLR
comp=Z,77µm,18.0s
TIR Tirane 86.04 320 *eP* **P** 08 12 47.9 +0.4
comp=Z,139nm,1.1s
TIR LR LR
comp=Z,77µm,18.0s
FETA Feichten 86.05 329 *i* P **P** 08 12 47.2 -0.4
SNR=21
SCHQ Schefferville 86.07 16 P **P** 08 12 45.7 -1.7
comp=Z,20nm,0.6s,baz=4.7,slow=4.0,SNR=10.0
SCHQ LR LR 08 51 39.2
comp=Z,6µm,21.9s,baz=348,slow=36
SCHQ Schefferville 86.07 16 PFAKE 08 13 00.0 +13
SCHQ LR LR
comp=Z,7µm,21.0s
YLL Llanberis 86.08 340 *eP* **P** 08 12 47.3 -0.1
NEST Nestorio 86.09 319 P **P** 08 12 46.9 -0.9
BAIF Baives 86.11 334 *eP* **P** 08 12 46.5 -1.1
BAIF pmax pmax
comp=Z,91nm,1.6s
NVLJ Novalja 86.12 325 P **P** 08 12 45.9 -1.9
M34A Aspy Farms, Fr 86.14 40 P **P** 08 12 47.0 -1.0
baz=317
SRIG Santa Rosalia 86.17 59 PFAKE 08 13 00.0 +12
SRIG LR LR
comp=Z,10µm,22.0s
THL Klokotos Trika 86.17 318 P **P** 08 12 45.9 -2.2
DAVA Damuels 86.19 329 *i* PcP **P** 08 12 48.0 -0.3
SNR=21
PENT Pentalofos 86.20 318 P **P** 08 12 47.2 -1.2
LLW Llanuwchllyn 86.20 340⇑ *eP* **P** 08 12 47.9 -0.1
LLW AMB AMB 08 12 50.8
comp=Z,879nm,2.4s
ELSH Elham, Standar 86.23 336 *eP* **P** 08 12 47.2 -1.0
ELSH AMB AMB 08 12 51.8
comp=Z,194nm,1.1s
ELSH AMS AMS 08 55 09.9
comp=Z,24µm,18.7s
L35A Bielow Farm, R 86.23 39 P **P** 08 12 47.8 -0.6
baz=317
N33A J Bar K, Exete 86.24 41 P **P** 08 12 47.5 -1.0
baz=316
LKR Lokris 86.27 316 P **P** 08 12 46.5 -2.1
J37A Redenius Farm, 86.33 37 P **P** 08 12 47.3 -1.5
baz=319
I38A Scanlan Farm, 86.36 36 P **P** 08 12 46.1 -2.9
baz=319
H39A Augusta 86.36 35 P **P** 08 12 47.5 -1.5
baz=320
CBKS Cedar Bluff 86.38 43 P **P** 08 12 47.3 -1.9
baz=315
CBKS Cedar Bluff 86.38 43 *eP* **P** 08 12 49.0 -0.2
CBKS pmax pmax
comp=Z,87nm,1.2s
CBKS Cedar Bluff 86.38 43 *eP* **P** 08 12 49.0 -0.2
comp=Z,87nm,1.2s
CBKS LR LR
comp=Z,5µm,19.0s
AGG Agios Georgios 86.38 317 P **P** 08 12 47.2 -2.0
AGG Agios Georgios 86.38 317 *eP* **P** 08 12 48.6 -0.6
AGG pmax pmax
comp=Z,139nm,1.0s
AGG MLR MLR
comp=Z,64µm,19.0s
AGG Agios Georgios 86.38 317 *eP* **P** 08 12 48.6 -0.6
comp=Z,139nm,1.0s
AGG LR LR
comp=Z,64µm,19.0s
K36A Gilmore City 86.39 38 P **P** 08 12 46.3 -2.8
baz=318
G40A Rib Lake 86.40 34 P **P** 08 12 45.4 -3.8
baz=321
SANT Santorini 86.44 313 *eP* **P** 08 12 48.8 -0.8
comp=Z,252nm,1.4s
SANT LR LR
comp=Z,11µm,19.0s
F41A Three Lakes 86.52 33 P **P** 08 12 48.3 -1.5
baz=322
ECH Echery 86.53 331⇑ *eP* **P** 08 12 49.3 -0.5
FUORN Ofenpass-Fuorn 86.56 329 *eP* **P** 08 12 50.1 -0.1
comp=Z,97nm,1.0s

FUORN LR LR
comp=Z,44µm,18.0s
DSB Dublin 86.58 341 *eP* **P** 08 12 50.4 +0.5
comp=Z,161nm,1.7s
DSB LR LR
comp=Z,10µm,20.0s
DAVOX Davos/Dischmat 86.59 329 P **P** 08 12 49.5 -0.8
comp=Z,33nm,1.1s,baz=55,slow=6.4,SNR=15
DAVOX PP PP 08 16 21.3 +10
comp=Z,14nm,1.0s,baz=50,slow=2.5,SNR=3.1
DAVOX LR LR 08 55 11.0
comp=Z,33µm,18.6s,baz=10.0,slow=38
DAVOX Davos/Dischmat 86.59 329 P **P** 08 12 49.5 -0.8
DAVOX pmax pmax
comp=Z,33nm,1.1s
DAVOX MLR MLR
comp=Z,33µm,18.6s
M35A Neola 86.63 39 P **P** 08 12 49.3 -1.0
baz=317
O33A Hebron 86.65 41 P **P** 08 12 48.1 -2.4
baz=316
N34A Lincoln 86.67 40 P **P** 08 12 49.1 -1.5
baz=317
L36A Harm Buss Farm 86.68 38 P **P** 08 12 48.2 -2.4
baz=318
K37A Belmond 86.69 37 P **P** 08 12 49.1 -1.5
baz=319
STRD Stroud 86.71 338 *eP* **P** 08 12 50.5 0.0
STRD AMB AMB 08 12 55.0
comp=Z,308nm,1.4s
STRD AMS AMS 08 52 46.8
comp=Z,20µm,23.4s
HMNX Herstmonceux 86.73 337 AMS AMS 08 56 02.4
comp=Z,21µm,17.2s
MCH1 Michaelchurch 86.77 339⇑ *eP* **P** 08 12 50.6 -0.2
MCH1 AMB AMB 08 12 53.3
comp=Z,207nm,2.5s
MCH1 AMS AMS 08 51 16.3
comp=Z,14µm,24.2s
H40A Chili 86.81 34 P **P** 08 12 50.6 -0.6
baz=321
WOL Wolverton 86.83 338 *eP* **P** 08 12 50.8 -0.3
WOL AMS AMS 08 55 47.3
comp=Z,21µm,18.8s
J38A Wedel Dairy, R 86.84 36 P **P** 08 12 49.8 -1.5
baz=319
MOF Molkenrain 86.84 331⇑ *eP* **P** 08 12 50.6 -0.8
MONM Monmouth 86.85 339⇑ *eP* **P** 08 12 50.9 -0.3
MONM AMS AMS 08 53 02.6
comp=Z,15µm,22.7s
I39A Houston 86.88 35 P **P** 08 12 50.0 -1.5
baz=320
G41A Antigo 86.90 33 P **P** 08 12 51.0 -0.7
baz=321
F42A Maple Grove Fa 86.93 32 P **P** 08 12 51.1 -0.6
baz=322
KALE Kalithea 86.93 317 P **P** 08 12 50.1 -1.9
LPW Lampeter 86.97 340 *eP* **P** 08 12 51.6 -0.2
LPW AMB AMB 08 12 54.4
comp=Z,118nm,2.5s
LPW AMS AMS 08 56 41.1
comp=Z,18µm,17.4s
THEF They Montfort 86.97 332⇑ *eP* **P** 08 12 51.2 -0.7
HINF Hinteralfeld 86.98 331 *eP* **P** 08 12 50.4 -1.6
HINF pmax pmax
comp=Z,122nm,1.7s
HGH Gray Hill 87.03 339⇑ *eP* **P** 08 12 51.7 -0.4
O34A Beatrice 87.04 41 P **P** 08 12 51.9 -0.6
baz=317
BATH Bath 87.06 338 AMS AMS 08 53 33.5
comp=Z,22µm,22.8s
TUE Stuetta 87.06 329 *eP* **P** 08 12 52.4 -0.2
comp=Z,188nm,1.5s
TUE LR LR
comp=Z,38µm,20.0s
M36A Felix, Anita 87.09 39 P **P** 08 12 51.6 -1.0
baz=318
SGD Sagiada 87.10 319 P **P** 08 12 51.6 -1.1
L37A Phoenix Point, 87.11 38 P **P** 08 12 50.3 -2.4
baz=319
H41A Junction City 87.15 34 P **P** 08 12 51.8 -1.1
baz=321
KLV Kalavryta, Ach 87.17 316 P **P** 08 12 50.6 -2.5
K38A Parkersburg 87.20 37 P **P** 08 12 53.4 +0.3
baz=319
KEK Kerkira 87.26 319 P **P** 08 12 51.8 -1.6
LAST Lasithi 87.26 312 P **P** 08 12 52.2 -1.4
I40A Norwalk 87.27 35 P **P** 08 12 51.9 -1.5
baz=320
PDO Prodromos 87.31 317 P **P** 08 12 52.4 -1.3
LOMF Lomont 87.37 331⇑ *eP* **P** 08 12 53.4 -0.5
O35A Humboldt 87.39 40 P **P** 08 12 53.5 -0.6
baz=317
P34A Walnut Farm, R 87.44 41 P **P** 08 12 53.3 -1.0
baz=317
LKD2 Lefkada island 87.46 318 P **P** 08 12 53.3 -1.2
N36A Muff Farm, Cla 87.48 39 P **P** 08 12 53.0 -1.5
baz=318
I41A Arkdale 87.49 34 P **P** 08 12 52.9 -1.5
baz=321
L38A Oak Wood Farm, 87.49 37 P **P** 08 12 52.6 -1.9
baz=319
M37A Trindle Farm, 87.50 38 P **P** 08 12 52.7 -1.9
baz=318
IDI Anoyia 87.52 313 P **P** 08 12 53.5 -1.4
comp=Z,56nm,1.0s,baz=16,slow=9.6,SNR=12
IDI Anoyia 87.52 313 P **P** 08 12 53.0 -1.9
IDI Anoyia 87.52 313 *eP* **P** 08 12 53.4 -1.4
comp=Z,137nm,1.3s
IDI LR LR
comp=Z,5µm,19.0s
RLS Riolos of Patr 87.54 317 P **P** 08 12 53.9 -0.9
SCIA State Center 87.54 38 *eP* **P** 08 12 55.0 +0.2
comp=Z,245nm,1.6s
SCIA LR LR
comp=Z,8µm,19.0s
K39A Oelwein 87.58 36 P **P** 08 12 54.4 -0.6
baz=320
J40A Soldiers Grove 87.60 35 P **P** 08 12 52.6 -2.4
baz=320
SIVA Sivas 87.76 313 P **P** 08 12 55.1 -0.8
Q34A Chapman 87.83 42 P **P** 08 12 54.8 -1.4
baz=317
KSU1 Kansas State U 87.87 41 P **P** 08 12 55.9 -0.5
baz=317
KSU1 Kansas State U 87.87 41 *eP* **P** 08 12 56.0 -0.4
comp=Z,63nm,0.9s
KSU1 LR LR
comp=Z,6µm,19.0s
P35A Duane Minner, 87.88 41 P **P** 08 12 55.4 -1.0
baz=317
MNTX Cornudas Mount 87.89 52 P **P** 08 12 56.3 -0.4
baz=312
MNTX Cornudas Mount 87.89 52 PFAKE 08 13 10.0 +13
MNTX LR LR
comp=Z,8µm,18.0s
N37A Lee Faris, Mou 87.91 39 P **P** 08 12 56.0 -0.6
baz=318
M38A Pleasantville 87.92 38 P **P** 08 12 54.7 -1.9
baz=319
K40A Colesburg 87.95 36 P **P** 08 12 54.7 -1.9
baz=320
J41A Loganville 87.96 35 P **P** 08 12 53.9 -2.9
baz=321
L39A Vinton 87.97 37 P **P** 08 12 55.8 -1.0
baz=320
MSTX Muleshoe 87.98 48 P **P** 08 12 57.0 -0.1
baz=314
MSTX Muleshoe 87.98 48 PFAKE 08 13 10.0 +13
MSTX LR LR
comp=Z,7µm,18.0s
O36A Bolckow 87.98 40 P **P** 08 12 57.3 +0.3
baz=318
SENIN Lac Senin/Sane 87.99 330 *eP* **P** 08 12 57.7 +0.6
comp=Z,138nm,1.6s
SENIN LR LR
comp=Z,22µm,19.0s
AMTX Amarillo 88.00 47 P **P** 08 12 57.6 +0.3
baz=314
AMTX Amarillo 88.00 47 *eP* **P** 08 12 57.7 +0.5
comp=Z,103nm,1.4s
AMTX LR LR
comp=Z,6µm,19.0s
HTL Hartland 88.08 339⇑ *eP* **P** 08 12 56.8 -0.4
HTL AMS AMS 08 57 25.2
comp=Z,9µm,17.1s
R34A Isabella, Hill 88.11 42 P **P** 08 12 56.6 -1.0

baz=316
TBI Tubuai 88.12 121 *e*S S 08 23 36.3 -4.0
comp=Z,3µm,26.0s
TBI Tubuai 88.12 121 *e*LR LR 08 40 39.8
comp=Z,27µm,26.0s,baz=311
TBI Tubuai 88.12 121 *e*T T 09 49 19.4
comp=Z,43nm,0.3s
JFWS Jewell Farm 88.20 35 PFAKE 08 13 10.0 +12
JFWS LR LR
comp=Z,8µm,20.0s
PYL PYLOS 88.22 316 P P 08 12 56.0 -2.1
P36A Good Intent, A 88.23 40 P P 08 12 57.6 -0.6
baz=318
Q35A Mercer Eighty, 88.36 41 P P 08 12 57.3 -1.5
baz=317
N38A Joes South For 88.37 38 P P 08 12 57.3 -1.5
baz=319
O37A Wolven Farm, M 88.38 39 P P 08 12 58.2 -0.6
baz=318
M39A Webster 88.38 37 P P 08 12 57.7 -1.0
baz=320
L40A Anamosa 88.39 36 P P 08 12 58.7 -0.1
baz=320
K41A Shullsburg 88.41 35 P P 08 12 58.7 -0.2
baz=321
DYA Yadsworthy 88.42 339 *e*P P 08 12 57.7 -1.0
DYA AMB AMB 08 13 01.1
comp=Z,104nm,2.1s
DYA AMS AMS 08 57 27.9
comp=Z,13µm,16.7s
DYA Yadsworthy 88.42 339 *e*P P 08 12 59.1 +0.3
comp=Z,194nm,1.6s
VLC Villacollemand 88.46 327 *e*P P 08 12 59.3 +0.1
comp=Z,100nm,1.4s
VLC LR LR
comp=Z,33µm,18.0s
AQU L'Aquila 88.50 324 *e*P P 08 12 59.7 +0.3
AQU pmax pmax
comp=Z,280nm,1.5s
AQU L'Aquila 88.50 324 *e*P P 08 12 59.7 +0.3
comp=Z,281nm,1.5s
AQU LR LR
comp=Z,33µm,18.0s
U32A Winter Ranch, 88.51 45 P P 08 12 57.6 -1.9
baz=316
Q36A Arnold C. Orve 88.59 41 P P 08 12 58.3 -1.5
baz=318
S34A Willow Spring 88.62 43 P P 08 12 58.1 -1.9
baz=317
R35A Emporia Munici 88.66 42 P P 08 12 58.7 -1.5
baz=317
N39A Derby Farms, D 88.67 38 P P 08 12 58.2 -1.9
baz=319
P37A Lathrop 88.70 40 P P 08 12 58.9 -1.5
baz=318
L41A Preston 88.73 36 P P 08 13 00.2 -0.2
baz=321
VAL Valentia 88.73 343 ⇓*i*P P 08 13 00.7 +0.5
VAL Valentia 88.73 343 ⇓*i*S S 08 23 45.8 +0.3
VAL *e*SS SS 08 29 37.7 +2.1
O38A Galt 88.75 39 P P 08 12 59.5 -1.0
baz=319
M40A Post Highland 88.76 37 P P 08 12 59.0 -1.5
baz=320
LPL La Plagne 88.91 330 *e*P P 08 13 00.2 -1.3
LPL pmax pmax
comp=Z,21nm,0.8s
LPG La Plagne 88.91 330 *e*P P 08 13 00.3 -1.3
LPG pmax pmax
comp=Z,94nm,1.5s
JSA Saint Aubin 88.99 337⇑*e*P P 08 13 00.8 -0.6
JSA AMB AMB 08 13 03.9
comp=Z,120nm,2.4s
JSA AMS AMS 08 57 25.7
comp=Z,28µm,18.5s
CCA1 Carnmenellis 89.02 339 AMS AMS 08 58 02.8
comp=Z,15µm,16.2s
R36A Gordon, Harris 89.03 41 P P 08 13 01.3 -0.6
baz=318
S35A Otter Creek Ra 89.06 42 P P 08 13 02.0 -0.1
baz=317
T34A McClaskey Farm 89.07 43 P P 08 13 02.0 -0.1
baz=317
P38A Dawn 89.10 39 P P 08 13 02.0 -0.1
baz=319
VLDQ Val d'Or 89.11 25 *e*P P 08 13 02.7 +0.7
comp=Z,85nm,1.3s
VLDQ LR LR
comp=Z,12µm,18.0s
CUC Castrocucco 89.12 321 *e*P P 08 13 00.5 -1.8
comp=Z,47nm,1.3s
CUC LR LR
comp=Z,20µm,19.0s
N40A Mertquake, Sal 89.12 37 P P 08 13 01.7 -0.6
baz=320
O39A Kirksville 89.12 38 P P 08 13 01.7 -0.6
baz=319
AVF Avril sur Loir 89.16 333 *e*P P 08 13 01.4 -0.9
AVF pmax pmax
comp=Z,148nm,1.4s
Q37A Longview Farm, 89.18 40 P P 08 13 02.5 -0.1
baz=318
M41A Milan 89.25 36 P P 08 13 02.2 -0.6
baz=321
GRR Gorron 89.27 336 *e*P P 08 13 01.9 -0.9
GRR pmax pmax
comp=Z,188nm,1.6s
BNI Bardonecchia 89.31 330 *e*P P 08 13 04.3 +1.0
BNI pmax pmax
comp=Z,220nm,2.0s
BNI Bardonecchia 89.31 330 *e*P P 08 13 04.2 +1.0
comp=Z,222nm,2.0s
BNI LR LR
comp=Z,23µm,18.0s
OG22 Abries 89.39 329 *e*P P 08 13 04.1 +0.4
R37A Teagarden Farm 89.40 41 P P 08 13 01.3 -2.4
baz=318
GDM Grand'Maison 89.41 330 *e*P P 08 13 04.9 +1.1
S36A Lake Cedric, C 89.42 42 P P 08 13 03.7 -0.1
baz=318
MSEY Mahe Island 89.48 264 P P 08 13 06.5 +2.1
MSEY Mahe Island 89.48 264 PFAKE 08 13 20.0 +16
MSEY LR LR
comp=Z,7µm,19.0s
T35A Sooner Cattle 89.52 43 P P 08 13 04.1 -0.1
baz=317
GRN Grenoble 89.53 330 *e*P P 08 13 05.7 +1.5
Q38A Cooks Store, C 89.55 40 P P 08 13 04.2 -0.1
baz=319
O40A La Belle 89.56 38 P P 08 13 04.2 -0.1
baz=320
M42A Sheffield 89.56 36 P P 08 13 04.6 +0.3
baz=321
P39B Salisbury 89.59 39 P P 08 13 02.6 -1.9
baz=319
N41A Harden Midland 89.61 37 P P 08 13 03.5 -1.1
baz=320
ORIF Oris-en-Rattie 89.74 330 *e*P P 08 13 04.8 -0.4
ORIF pmax pmax
comp=Z,42nm,1.3s
PLDF La Plantade 89.75 332 *e*P P 08 13 06.1 +0.9
T36A Boggs Farm, Ca 89.76 42 P P 08 13 04.8 -0.5
baz=317
U35A Pawnee 89.79 43 P P 08 13 05.0 -0.5
baz=317
WMOK Wichita Mounta 89.80 46 P P 08 13 06.0 +0.4
baz=316
WMOK Wichita Mounta 89.80 46 *e*P P 08 13 07.5 +1.9
WMOK pmax pmax
comp=Z,66nm,1.5s
WMOK MLR MLR
comp=Z,11µm,18.0s
WMOK Wichita Mounta 89.80 46 *e*P P 08 13 07.5 +1.9
comp=Z,66nm,1.5s
WMOK LR LR
comp=Z,11µm,18.0s
S37A Fort Scott 89.81 41 P P 08 13 04.5 -1.0
baz=318
Q39A Willow Grove F 89.81 39 P P 08 13 04.5 -1.0
baz=319
AGO Saint Agoulin 89.86 332 *e*P P 08 13 06.5 +0.8
N42A Yates City 89.91 36 P P 08 13 06.7 +0.7
baz=321
P40A Paris 89.92 38 P P 08 13 05.9 -0.1
baz=320
SSB Saint Sauveur 89.97 331 *e*P P 08 13 05.7 -0.5
SSB Saint Sauveur 89.97 331 *e*P P 08 13 06.2 0.0
SSB pmax pmax
comp=Z,65nm,1.5s
SSB Saint Sauveur 89.97 331 *e*P P 08 13 06.2 0.0
comp=Z,65nm,1.5s
SSB LR LR
comp=Z,22µm,18.0s
R38A Fenwick Farm, 89.98 40 P P 08 13 06.7 +0.3
baz=318
O41A Passleys Farm, 90.05 37 P P 08 13 07.4 +0.7
baz=320
ATD Arta Tunnel 90.08 284 PP PP 08 16 49.2 +8.8
comp=Z,9.9nm,0.8s,baz=32,slow=5.3,SNR=4.2
COLF Collangettes 90.10 332 *e*P P 08 13 06.9 +0.1
PYM Petit Puy Mans 90.16 332 *e*P P 08 13 07.9 +0.7
V35A Meyer Ranch, C 90.17 44 P P 08 13 08.1 +0.8
baz=317
T37A Cheneyville 18 90.23 42 P P 08 13 06.5 -1.0
baz=316
VIVF Saint-Julien-l 90.27 331 *e*P P 08 13 07.4 -0.2
VIVF pmax pmax
comp=Z,59nm,1.3s
P41A Barry, Barry 90.30 38 P P 08 13 06.3 -1.5
baz=320
Q40A Laux Farm, Aux 90.31 39 P P 08 13 05.5 -2.4
baz=320
U36A Oologah 90.33 43 P P 08 13 06.5 -1.4
baz=317
R39A Chumby, Stover 90.33 40 P P 08 13 06.1 -1.9
baz=319
O42A Bath 90.38 37 P P 08 13 07.1 -1.1
baz=321
CEL Celeste 90.38 320 *e*P P 08 13 07.8 -0.5
comp=Z,108nm,1.0s
CEL LR LR
comp=Z,31µm,19.0s
S38A Stockton 90.39 41 P P 08 13 07.2 -1.0
baz=318
HDIL Hopedale 90.48 36 P P 08 13 07.1 -1.5
baz=322
HDIL Hopedale 90.48 36 *e*P P 08 13 08.3 -0.3
comp=Z,74nm,1.1s
HDIL LR LR
comp=Z,9µm,18.0s
LBL Lubilhac 90.51 332 *e*P P 08 13 09.8 +1.0
TX31 Lajitas Ar. Si 90.58 52 *e*P P 08 13 09.3 -0.1
LTX Lajitas 90.58 52 *e*P P 08 13 08.1 -1.3
LTX Lajitas 90.58 52 *e*P P 08 13 08.1 -1.3
TXAR Lajitas Array 90.58 52 P P 08 13 08.1 -1.3
comp=Z,8.4nm,0.9s,baz=320,slow=2.3,SNR=19
TXAR PKKPbc **PKKPbc** 08 30 40.9 +5.8
comp=Z,0.8nm,0.8s,baz=151,slow=4.0,SNR=4.6
TXAR LR LR 08 53 08.6
comp=Z,7µm,18.3s,baz=0.0,slow=35
TXAR Lajitas Array 90.58 52 P P 08 13 08.1 -1.3
TXAR pmax pmax
comp=Z,4.0nm,0.7s
TXAR MLR MLR
comp=Z,7µm,18.3s
W35A Tecumseh 90.59 44 P P 08 13 07.8 -1.4
baz=317
T38A Diamond 90.63 41 P P 08 13 07.9 -1.5
baz=318
TUL1 Leonard 90.64 43 P P 08 13 08.0 -1.4
baz=317
TUL1 Leonard 90.64 43 *e*P P 08 13 09.3 -0.1
comp=Z,34nm,0.8s
TUL1 LR LR
comp=Z,12µm,18.0s
U37A Salina 90.65 42 P P 08 13 09.4 -0.1
baz=318
V36A Jenks 90.65 43 P P 08 13 07.6 -1.9
baz=317
S39A Bolivar 90.65 40 P P 08 13 07.6 -1.9
baz=319
O43A Sugar Creek Fa 90.68 36 P P 08 13 08.0 -1.5
baz=321
P42A Winchester 90.72 37 P P 08 13 09.2 -0.6
baz=321
R40A Maddies Statio 90.75 39 P P 08 13 09.3 -0.6
baz=320
Q41A Truxton 90.77 38 P P 08 13 08.5 -1.5
baz=320
ABTX Abilene, Hawle 90.79 48 P P 08 13 08.0 -2.3
baz=315
ABTX Abilene, Hawle 90.79 48 *e*P P 08 13 10.6 +0.3
comp=Z,44nm,1.0s
ABTX LR LR
comp=Z,10µm,19.0s
HPIG 90.88 55 *e*P P 08 13 11.6 +0.6
comp=Z,39nm,1.0s
HPIG LR LR
comp=Z,14µm,20.0s
W36A Wetumka 90.97 44 P P 08 13 07.8 -3.2
baz=317
U38A Grovette 91.02 42 P P 08 13 09.3 -1.9
baz=318
V37A Hulbert 91.02 43 P P 08 13 09.8 -1.4
baz=318
P43A Skaggs, Pawnee 91.08 37 P P 08 13 09.0 -2.4
baz=321
X35A Drake 91.08 45 P P 08 13 11.5 -0.1
baz=317
T39A Clever 91.12 41 P P 08 13 10.2 -1.5
baz=319
Q42A Golden Eagle 91.15 38 P P 08 13 10.7 -1.1
baz=321
S40A Lebanon 91.15 40 P P 08 13 10.3 -1.5
baz=319
R41A Rosebud 91.20 39 P P 08 13 09.1 -2.9
baz=320
CAF Calviac 91.22 332 *e*P P 08 13 11.6 -0.4
CAF pmax pmax
comp=Z,53nm,1.2s
X36A Centrahoma 91.31 44 P P 08 13 08.9 -3.7
baz=317
SADO Sadowa 91.37 28 LR LR 08 57 05.6
comp=Z,4µm,20.7s,baz=360,slow=37
SADO Sadowa 91.37 28 *e*P P 08 13 13.8 +1.1
comp=Z,90nm,1.7s
SADO LR LR
comp=Z,9µm,19.0s
HHAR Hobbs 91.38 42 *e*P P 08 13 12.3 -0.6
comp=Z,19nm,0.8s
HHAR LR LR
comp=Z,9µm,19.0s
Y35A Marietta 91.40 45 P P 08 13 09.4 -3.7
baz=317
W37B Quinton 91.41 43 P P 08 13 11.1 -1.9
baz=318
V38A Canehill 91.44 42 P P 08 13 11.2 -1.9
baz=318
T40A Mansfield 91.48 40 P P 08 13 11.8 -1.5
baz=319
R42A Luebbering 91.50 38 P P 08 13 12.8 -0.6
baz=320
SLM Saint Louis 91.51 38 PFAKE 08 13 30.0 +17
SLM LR LR
comp=Z,14µm,18.0s
Q43A New Douglas 91.54 37 P P 08 13 12.9 -0.6
baz=321
S41A Jilco Farms, 91.55 40 P P 08 13 12.1 -1.5
baz=320
U39A Green Forest 91.55 41 P P 08 13 11.3 -2.4
baz=319
AAM Ann Arbor 91.63 32 PFAKE 08 13 30.0 +16
AAM LR LR
comp=Z,9µm,20.0s
SFIN Lafayette 91.65 35 P P 08 13 12.9 -1.1
baz=323
SFIN Lafayette 91.65 35 PFAKE 08 13 30.0 +16
SFIN LR LR
comp=Z,9µm,19.0s
P44A Sand Creek, Wi 91.65 36 P P 08 13 11.2 -2.9
baz=322
233A Rising Star 91.67 48 P P 08 13 12.9 -1.4
baz=316
TRQ Mont Tremblant 91.73 24 *e*P P 08 13 14.1 -0.3
VAE Valguarnera 91.74 321 LR LR 08 58 17.4
comp=Z,14µm,20.6s,baz=109,slow=38
Y36A Durant 91.84 45 P P 08 13 12.3 -2.8
baz=317
X37A Clayton 91.85 44 P P 08 13 10.9 -4.1
baz=318
LMQ La Malbaie 91.85 21 PFAKE 08 13 30.0 +15
LMQ LR LR
comp=Z,8µm,21.0s
V39A Pettigrew 91.87 42 P P 08 13 11.9 -3.4
baz=319
PLVO Plevna 91.89 26 PFAKE 08 13 30.0 +15
PLVO LR LR
comp=Z,13µm,19.0s
S42A Caledonia 91.90 39 P P 08 13 10.6 -4.7
baz=320
Q44A Meyer Farm, Va 91.90 37 P P 08 13 12.8 -2.4
baz=322
U40A Yellville 91.90 41 P P 08 13 13.4 -2.0
baz=319
R43A Red Bud 91.94 38 P P 08 13 14.3 -1.1
baz=321
T41A Mountain View 91.95 40 P P 08 13 13.6 -2.0
baz=320
W38A Poteau 91.97 43 P P 08 13 13.7 -1.9
baz=318
X38A Whitesboro 92.09 43 P P 08 13 15.6 -0.6
baz=318
333A Richland Sprin 92.11 48 P P 08 13 15.9 -0.5
baz=316
234A Clairette 92.13 47 P P 08 13 15.9 -0.5
baz=316
Y37A Hugo 92.16 44 P P 08 13 15.1 -1.4
baz=318
JCT Junction City 92.21 49 P P 08 13 16.4 -0.5
baz=315
JCT Junction City 92.21 49 *e*P P 08 13 18.8 +1.9
JCT pmax pmax
comp=Z,98nm,1.7s
JCT Junction City 92.21 49 *e*P P 08 13 18.8 +1.9
comp=Z,98nm,1.8s
JCT LR LR
comp=Z,10µm,19.0s
Z36A Blue Ridge 92.21 45 P P 08 13 16.2 -0.5
baz=317
CLTB Caltabellotta 92.27 321 PFAKE 08 13 30.0 +13
CLTB LR LR
comp=Z,39µm,21.0s
W39A Magazine 92.27 42 P P 08 13 15.6 -1.5
baz=319
T42A Van Buren 92.31 39 P P 08 13 15.7 -1.5
baz=320
V40A Witts Springs 92.33 41 P P 08 13 17.2 -0.2
baz=319
R44A Waltonville 92.38 37 P P 08 13 16.8 -0.6
baz=322
U41A Viola 92.41 40 P P 08 13 16.1 -1.5
baz=320
S43A Fulton Ridge, 92.41 38 P P 08 13 16.5 -1.1
baz=321
433A Art 92.45 49 P P 08 13 16.5 -1.4
baz=315
OLIL Olney 92.48 37 *e*P P 08 13 17.8 -0.1
comp=Z,46nm,1.1s
OLIL LR LR
comp=Z,9µm,20.0s
WHTX Lake Whitney, 92.54 47 P P 08 13 17.8 -0.5
baz=316
WHTX Lake Whitney, 92.54 47 *e*P P 08 13 18.5 +0.2
comp=Z,91nm,1.1s
WHTX LR LR
comp=Z,10µm,18.0s
334A Lometa 92.55 48 P P 08 13 17.9 -0.5
baz=316
X39A Fountain Ranch 92.60 43 P P 08 13 18.4 -0.1
baz=318
VSL Villasalto 92.63 325 *e*P P 08 13 18.9 +0.3
comp=Z,154nm,1.5s
VSL LR LR
comp=Z,18µm,18.0s
T43A Greenville 92.68 39 P P 08 13 17.3 -1.5
baz=321
Y38A Idabel 92.69 44 P P 08 13 19.3 +0.4
baz=318
V41A Mountainview 92.70 41 P P 08 13 19.3 +0.3
baz=320
LRDF Laroque-de-Fa 92.72 331 *e*P P 08 13 18.9 -0.1
Z37A Pogue Cattle C 92.73 45 P P 08 13 19.5 +0.4
baz=317
S44A Carbondale 92.73 38 P P 08 13 18.9 -0.2
baz=321
136A Ennis 92.73 46 P P 08 13 19.1 -0.1
baz=317
U42A Revenden 92.75 40 P P 08 13 19.1 -0.2
baz=320
PBMO Poplar Bluff 92.84 39 *e*P P 08 13 19.3 -0.3
comp=Z,50nm,1.2s
PBMO LR LR
comp=Z,9µm,20.0s
MIAR Mount Ida 92.87 43 P P 08 13 18.8 -1.0
baz=319
MIAR Mount Ida 92.87 43 *e*P P 08 13 19.8 0.0
MIAR pmax pmax
comp=Z,71nm,1.1s
MIAR Mount Ida 92.87 43 *e*P P 08 13 19.8 0.0
comp=Z,71nm,1.1s
MIAR LR LR
comp=Z,7µm,19.0s
BLO Bloomington 92.88 35 PFAKE 08 13 30.0 +10
BLO LR LR
comp=Z,11µm,21.0s
434A Burnet 92.90 48 P P 08 13 20.0 -0.1
baz=316
WDD Wied Dalam 92.93 319 PFAKE 08 13 30.0 +10
WDD LR LR
comp=Z,20µm,19.0s
533A Kerrville 92.96 49 P P 08 13 20.7 +0.4
baz=316
SJAF Saint Jean de 92.97 331 *e*P P 08 13 20.2 +0.1
X301 Greenbrier Sit 92.99 41 *e*P P 08 13 20.3 -0.1
comp=Z,27nm,1.1s
X301 LR LR
comp=Z,7µm,20.0s
WHAR Wooly Hollow 93.01 41 *e*P P 08 13 20.4 -0.1
comp=Z,64nm,1.2s
WHAR LR LR
comp=Z,6µm,20.0s
FILF Fillols 93.03 331 *e*P P 08 13 20.0 -0.5
Y39A Lockesburg 93.04 43 P P 08 13 20.9 +0.3
baz=318
Z38A Mt. Pleasant 93.05 44 P P 08 13 20.5 -0.1
baz=318
335A Moody 93.07 47 P P 08 13 20.7 -0.1
baz=316
S45A Carrier Mills 93.07 38 P P 08 13 20.9 +0.3
baz=322
236A Katherine and 93.08 46 P P 08 13 20.7 -0.1
baz=317
137A Heron Place, G 93.09 45 P P 08 13 19.0 -1.9
baz=317
W41B Gary Mavity, V 93.12 41 P P 08 13 20.3 -0.6
baz=320
LONY Lake Ozonia 93.13 25 PFAKE 08 13 30.0 +9.2
LONY LR LR
comp=Z,12µm,18.0s
DRLN Deer Lake 93.21 12 PFAKE 08 13 30.0 +9.0
DRLN LR LR
comp=Z,15µm,19.0s
FRNY Flat Rock 93.27 24 PFAKE 08 13 30.0 +8.6
FRNY LR LR
comp=Z,7µm,22.0s
PARMO Parma 93.28 39 PFAKE 08 13 30.0 +8.4
PARMO LR LR
comp=Z,10µm,20.0s
ERPA Erie 93.29 30 PFAKE 08 13 30.0 +8.4
ERPA LR LR
comp=Z,11µm,19.0s
USIN University of 93.29 37 PFAKE 08 13 30.0 +8.3
USIN LR LR
comp=Z,11µm,19.0s
PQI Presque Isle 93.30 20 PFAKE 08 13 30.0 +8.5
PQI LR LR
comp=Z,16µm,19.0s
633A Saathoff Ranch 93.31 50 P P 08 13 21.0 -0.9
baz=315
X40A Basin Creek Fa 93.32 42 P P 08 13 20.4 -1.5
baz=319
435B Jarrell 93.33 48 P P 08 13 21.5 -0.5
baz=316
534A Blanco 93.33 49 P P 08 13 20.6 -1.4
baz=316
UALR University of 93.37 42 *e*P P 08 13 24.0 +2.0
comp=Z,108nm,1.9s
UALR LR LR
comp=Z,9µm,19.0s
VALF Valcebollere 93.38 331 *e*P P 08 13 22.0 -0.2
138A Matatall Enter 93.42 45 P P 08 13 21.8 -0.6
baz=318

W42A Bald Knob 93.43 41 P P 08 13 19.9 -2.4
baz=320
Y40A Okolona 93.43 43 P P 08 13 21.8 -0.6
baz=319
X41A Kaden, Bauxite 93.49 42 P P 08 13 23.4 +0.8
baz=319
237A Washetta, Mont 93.49 46 P P 08 13 19.9 -2.8
baz=317
PVMO Portageville 93.50 39 PFAKE 08 13 30.0 +7.4
PVMO LR LR
comp=Z,8µm,20.0s
Z39A Irene McRaven, 93.51 44 P P 08 13 20.4 -2.4
baz=318
V43A Jonesboro 93.55 40 P P 08 13 21.4 -1.5
baz=321
ACSO Alum Creek Sta 93.61 32 eP P 08 13 23.2 +0.1
comp=Z,24nm,0.9s
ACSO LR LR
comp=Z,8µm,19.0s
ALLY Alegheny Colle 93.62 30 PFAKE 08 13 30.0 +6.9
ALLY LR LR
comp=Z,14µm,19.0s
832A Faith Ranch, C 93.64 51 P P 08 13 24.4 +0.9
baz=315
HBAR Harrisburg 93.67 40 PFAKE 08 13 40.0 +17
HBAR LR LR
comp=Z,7µm,22.0s
RESF Ens 93.67 332 eP P 08 13 23.7 +0.2
GNAR Gosnell 93.68 39 PFAKE 08 13 40.0 +17
GNAR LR LR
comp=Z,7µm,19.0s
VIEF Viey 93.73 333 eP P 08 13 24.1 +0.4
WCI Wyandotte Cave 93.74 36 PFAKE 08 13 40.0 +16
WCI LR LR
comp=Z,13µm,18.0s
733A Divot King Ran 93.76 50 P P 08 13 24.4 +0.4
baz=315
WLAR White Oak Lake 93.77 43 eP P 08 13 25.9 +1.9
comp=Z,132nm,1.5s
WLAR LR LR
comp=Z,10µm,19.0s
139A Bunkhouse Ranc 93.81 44 P P 08 13 23.1 -1.0
baz=318
436A Wall Ranch, Ga 93.81 47 P P 08 13 25.5 +1.3
baz=317
GLAT Glass 93.82 39 PFAKE 08 13 40.0 +16
GLAT LR LR
comp=Z,8µm,20.0s
NCB Newcomb 93.82 25 PFAKE 08 13 40.0 +16
NCB LR LR
comp=Z,200nm,18.0s
238A Jacksonville 93.89 45 P P 08 13 25.3 +0.8
baz=318
Y41A Eaglette Beard 93.90 42 P P 08 13 24.8 +0.3
baz=319
Z40A Long Farm, Mag 93.93 43 P P 08 13 24.1 -0.6
baz=319
M54A Oil Creek Stat 93.93 30 P P 08 13 24.7 +0.1
baz=328
LARF Larrau 93.96 333 eP P 08 13 26.4 +1.7
U45A Rockin P Farm, 94.02 38 P P 08 13 24.4 -0.7
baz=322
HALT Halls 94.07 39 PFAKE 08 13 40.0 +15
HALT LR LR
comp=Z,9µm,19.0s
536A Bastrop 94.15 48 P P 08 13 24.4 -1.4
baz=316
635A Leesville 94.22 49 P P 08 13 22.9 -3.2
baz=316
PKME Peaks-Kenny Pk 94.22 21 PFAKE 08 13 40.0 +14
PKME LR LR
comp=Z,10µm,18.0s
N54A Moraine State 94.26 30 P P 08 13 22.1 -4.0
baz=328
CCAR Cane Creek 94.33 42 PFAKE 08 13 40.0 +14
CCAR LR LR
comp=Z,12µm,20.0s
NATX Nacogdoches 94.33 45 PFAKE 08 13 40.0 +13
NATX LR LR
comp=Z,6µm,18.0s
LBNH Lisbon 94.34 23 PFAKE 08 13 40.0 +14
LBNH LR LR
comp=Z,8µm,19.0s
MET Memphis--Engin 94.38 40 PFAKE 08 13 40.0 +13
MET LR LR
comp=Z,10µm,18.0s
Y42A Garnett, Star 94.38 42 P P 08 13 26.6 -0.2
baz=320
ACCN Adirondack Com 94.53 25 PFAKE 08 13 40.0 +13
ACCN LR LR
comp=Z,5µm,20.0s
933A Laredo 94.55 51 P P 08 13 25.4 -2.3
baz=315
636A Smothers Creek 94.58 48 P P 08 13 25.9 -1.9
baz=316
537A Green Hill Far 94.59 47 P P 08 13 25.9 -1.9
baz=317
438A Sam Houston St 94.60 46 P P 08 13 27.3 -0.5
baz=317
834A Tilden 94.64 50 P P 08 13 28.9 +0.9
baz=316
WVT Waverly 94.66 38 PFAKE 08 13 40.0 +12
WVT LR LR
comp=Z,9µm,19.0s
HNH Hanover 94.70 24 PFAKE 08 13 40.0 +12
HNH LR LR
comp=Z,21µm,18.0s
BINY Binghamton 94.75 27 PFAKE 08 13 40.0 +12
BINY LR LR
comp=Z,15µm,19.0s
WVL Waterville 94.75 22 PFAKE 08 13 40.0 +12
WVL LR LR
comp=Z,14µm,18.0s
LMN Caledonia Moun 94.90 18 PFAKE 08 13 40.0 +11
LMN LR LR
comp=Z,7µm,18.0s
FURI Furi 94.92 285 PFAKE 08 13 40.0 +10
FURI LR LR
comp=Z,14µm,20.0s
736A Circle Diamond 94.96 49 P P 08 13 29.4 -0.1
baz=316
439A Center Grove, 94.98 46 P P 08 13 27.7 -1.9
baz=318
GGN Saint George 95.05 20 PFAKE 08 13 40.0 +10
GGN LR LR
comp=Z,9µm,18.0s
TRY Troy 95.11 25 PFAKE 08 13 40.0 +10
TRY LR LR
comp=Z,26µm,18.0s
FFD Franklin Falls 95.12 24 PFAKE 08 13 40.0 +10
FFD LR LR
comp=Z,22µm,18.0s
OXF Oxford 95.12 40 PFAKE 08 13 40.0 +10
OXF LR LR
comp=Z,8µm,18.0s
SSPA Standing Stone 95.38 29 PFAKE 08 13 40.0 +8.8
SSPA LR LR
comp=Z,9µm,18.0s
KSPA Keystone Colle 95.39 27 PFAKE 08 13 40.0 +8.8
KSPA LR LR
comp=Z,12µm,19.0s
MCWV Mont Chateau 95.42 31 PFAKE 08 13 40.0 +8.6
MCWV LR LR
comp=Z,6µm,21.0s
KVTX Kingsville 95.46 50 PFAKE 08 13 40.0 +8.2
KVTX LR LR
comp=Z,11µm,18.0s
Z44A Pea Ridge, Bel 95.53 41 P P 08 13 31.8 -0.2
baz=320
KEST Kesra 95.64 323 P P 08 13 31.7 -0.9
comp=Z,14nm,1.0s,baz=286,slow=1.0,SNR=12
KEST LR LR 09 01 44.2
comp=Z,18µm,18.1s,baz=344,slow=39
ZAIG Zacatecas 95.76 56 eP P 08 13 34.5 +0.9
comp=Z,23nm,1.2s
Y46A Houston 95.90 40 P P 08 13 33.9 +0.2
baz=322
QUA2 Belchertown 95.95 25 PFAKE 08 13 50.0 +16
QUA2 LR LR
comp=Z,9µm,18.0s
HRV Adam Dziewonsk 96.01 24 PFAKE 08 13 50.0 +16
HRV LR LR
comp=Z,13µm,19.0s
035Z Hargill 96.12 51 P P 08 13 34.3 -0.5
baz=316
WES Weston 96.20 24 PFAKE 08 13 50.0 +15
WES LR LR
comp=Z,18µm,19.0s
ODNJ Ogdensburg 96.23 27 PFAKE 08 13 50.0 +15
ODNJ LR LR
comp=Z,9µm,18.0s
BCX Boston College 96.30 24 PFAKE 08 13 50.0 +15
BCX LR LR
comp=Z,27µm,20.0s
VBMS Vicksburg 96.30 42 PFAKE 08 13 50.0 +14
VBMS LR LR
comp=Z,7µm,19.0s
145A Houston Renfro 96.32 42 P P 08 13 36.3 +0.7
baz=321
SWET Sewanee 96.32 37 eP P 08 13 35.6 -0.1
comp=Z,14nm,1.1s
SWET LR LR
comp=Z,11µm,18.0s
LNIG Linares 96.34 53 PFAKE 08 13 50.0 +14
LNIG LR LR
comp=Z,8µm,20.0s
TZTN Tazewell 96.38 35 PFAKE 08 13 50.0 +14
TZTN LR LR
comp=Z,13µm,18.0s
PAL Palisades 96.55 26 PFAKE 08 13 50.0 +14
PAL LR LR
comp=Z,10µm,18.0s
BRYW Bryant College 96.55 24 PFAKE 08 13 50.0 +13
BRYW LR LR
comp=Z,14µm,20.0s
BRNJ Basking Ridge 96.59 27 PFAKE 08 13 50.0 +13
BRNJ LR LR
comp=Z,9µm,18.0s
YLE Yale 96.61 25 PFAKE 08 13 50.0 +13
YLE LR LR
comp=Z,10µm,21.0s
CPNY Central Park 96.72 26 PFAKE 08 13 50.0 +13
CPNY LR LR
comp=Z,12µm,18.0s
CPCT Cooper Cave 96.82 36 eP P 08 13 39.3 +1.5
comp=Z,13nm,1.1s
CPCT LR LR
comp=Z,9µm,20.0s
SDMD Soldier's Deli 96.84 29 PFAKE 08 13 50.0 +12
SDMD LR LR
comp=Z,4µm,18.0s
PSUB Penn St. - Bra 96.93 28 PFAKE 08 13 50.0 +12
PSUB LR LR
comp=Z,10µm,19.0s
Z48A Northport 96.97 40 P P 08 13 36.5 -2.1
baz=322
TKL Tuckaleechee C 97.00 36 PFAKE 08 13 50.0 +11
TKL LR LR
comp=Z,10µm,19.0s
BLA Blacksburg 97.23 32 PFAKE 08 13 50.0 +10
BLA LR LR
comp=Z,10µm,19.0s
IP04 Greensprings 97.47 30 PFAKE 08 13 50.0 +9.2
IP04 LR LR
comp=Z,11µm,20.0s
LRAL Lakeview Retre 97.52 39 PFAKE 08 13 50.0 +8.9
LRAL LR LR
comp=Z,8µm,20.0s
IP03 Louisa 97.56 30 PFAKE 08 13 50.0 +8.8
IP03 LR LR
comp=Z,11µm,19.0s
CVRD Centerville Ro 97.61 30 PFAKE 08 13 50.0 +8.6
CVRD LR LR
comp=Z,10µm,20.0s
PTRD Partlow Road 97.64 30 PFAKE 08 13 50.0 +8.5
PTRD LR LR
comp=Z,12µm,20.0s
IP07 Quail 97.65 30 PFAKE 08 13 50.0 +8.4
IP07 LR LR
comp=Z,11µm,19.0s
IP06 Yanceyville 97.65 30 PFAKE 08 13 50.0 +8.4
IP06 LR LR
comp=Z,11µm,19.0s
IP01 Cuckoo 97.66 30 PFAKE 08 13 50.0 +8.4
IP01 LR LR
comp=Z,11µm,19.0s
CBN Corbin Frederi 97.67 30 PFAKE 08 13 50.0 +8.3
CBN LR LR
comp=Z,8µm,20.0s
IP05 Hopewell Churc 97.83 30 PFAKE 08 13 50.0 +7.6
IP05 LR LR
comp=Z,10µm,21.0s
ESDC Sonseca Array 97.99 334 P P 08 13 42.2 -0.9
comp=Z,11nm,1.0s,baz=359,slow=3.6,SNR=4.5
ESDC PP PP 08 17 47.0 +6.0
comp=Z,5.3nm,1.0s,baz=26,slow=8.4,SNR=4.7
ESDC LR LR 09 02 09.0
comp=Z,21µm,21.4s,baz=45,slow=38
ESLA Sonseca Array 97.99 334 PFAKE 08 13 50.0 +6.8
ESLA LR LR
comp=Z,28µm,22.0s
PAB San Pablo 98.24 334 PFAKE 08 14 00.0 +16
PAB LR LR
comp=Z,21µm,21.0s
RKT Rikitea 98.45 112 eSS SS 08 31 50.0 -7.7
comp=Z,4µm,28.8s
RKT Rikitea 98.45 112 eLR LR 08 45 25.9
comp=Z,20µm,24.2s,baz=306
MTE Manteigas 98.55 337 eP P 08 13 44.5 -1.1
comp=Z,76nm,1.2s
MTE LR LR
comp=Z,15µm,18.0s
KMSC Kings Mountain 98.56 34 PFAKE 08 14 00.0 +14
KMSC LR LR
comp=Z,8µm,20.0s
MOIG Morelia 98.81 58 PFAKE 08 14 00.0 +13
MOIG LR LR
comp=Z,5µm,18.0s
RER Riviere de l'E 98.89 250 PFAKE 08 14 00.0 +13
RER LR LR
comp=Z,8µm,19.0s
BRAL Brewton 98.97 41 PFAKE 08 14 00.0 +12
BRAL LR LR
comp=Z,6µm,19.0s
GOGA Godfrey 98.98 37 PFAKE 08 14 00.0 +12
GOGA LR LR
comp=Z,9µm,22.0s
JSC Jenkinsville 99.30 35 PFAKE 08 14 00.0 +11
JSC LR LR
comp=Z,10µm,20.0s
CNNC Cliffs of the 99.99 32 PFAKE 08 14 00.0 +8.0
CNNC LR LR
comp=Z,7µm,18.0s
TIGA Tifton 100.52 38 PFAKE 08 14 10.0 +16
TIGA LR LR
comp=Z,14µm,18.0s
LIS Lisbon 100.60 337 ePP PP 08 18 00.6 -0.1
NHSC New Hope 100.78 35 PFAKE 08 14 10.0 +14
NHSC LR LR
comp=Z,9µm,19.0s
MESJ Messejana 101.09 336 ePP PP 08 18 04.3 -0.2
MORF Marmelete 101.72 336 ePP PP 08 18 09.0 -0.3
PFVI Vila Bisbo 101.94 336 PFAKE 08 14 10.0 +9.3
PFVI LR LR
comp=Z,15µm,18.0s
KMBO Kilima Mbogo 102.09 278 PP PP 08 18 14.3 +0.5
comp=Z,3.2nm,0.7s,baz=46,slow=9.2,SNR=4.8
KMBO Kilima Mbogo 102.09 278 PFAKE 08 14 10.0 +8.0
KMBO LR LR
comp=Z,9µm,18.0s
PTCN Pitcairn Islan 103.22 111 PFAKE 08 14 20.0 +14
PTCN LR LR
comp=Z,11µm,20.0s
RTC Rabat Centre 104.10 333 PFAKE 08 14 20.0 +10
RTC LR LR
comp=Z,50µm,18.0s
ABPO Ambohimpanom 104.29 257 PFAKE 08 14 20.0 +8.5
ABPO LR LR
comp=Z,6µm,19.0s
MDT Midelt 104.29 331 PP PP 08 18 32.9 +4.1
comp=Z,6.1nm,1.1s,baz=34,slow=7.1,SNR=4.1
DWPF Disney Wildern 104.31 38 PFAKE 08 14 20.0 +8.6
DWPF LR LR
comp=Z,6µm,18.0s
ROSA Rosais 104.78 352 PFAKE 08 14 20.0 +6.7
ROSA LR LR
comp=Z,6µm,18.0s
CMLA Cha da Macela 105.36 349 PFAKE 08 18 40.0
CMLA LR LR
comp=Z,5µm,18.0s
BBSR BB Station 107.47 23 PFAKE 08 18 50.0
BBSR LR LR
comp=Z,4µm,20.0s
TAM Tamanrasset 107.99 318 PFAKE 08 18 50.0
TAM LR LR
comp=Z,6µm,19.0s
VNDA Vanda 114.21 175 PKP PKPdf 08 18 45.5 +0.6
comp=Z,1.6nm,0.9s,baz=320,slow=5.0,SNR=4.4
VNDA PKKPbc **PKKPab** 08 29 36.3 +7.2
comp=Z,1.6nm,1.0s,baz=228,slow=5.4,SNR=4.2
LSZ Lusaka 117.52 271 PKP **PKPdf** 08 18 51.6 -1.6
comp=Z,2.9nm,0.4s,baz=12,slow=2.8,SNR=7.3
LSZ PP **PP** 08 20 03.6 -1.9
comp=Z,2.1nm,0.3s,baz=26,slow=6.9,SNR=4.7
LSZ Lusaka 117.52 271 ePKIKP **PKPdf** 08 18 53.1 -0.1
LSZ MLR MLR
comp=Z,7µm,21.0s
LSZ Lusaka 117.52 271 ePKPdf **PKPdf** 08 18 53.1 -0.1
LSZ LR LR
comp=Z,7µm,21.0s
TOC1 Torodi Ar. Sit 117.86 315 PFAKE 08 19 10.0 +16
TOC1 LR LR
comp=Z,11µm,20.0s
TOC2 Torodi Ar. Sit 117.86 315 PFAKE 08 19 10.0 +16
TOC2 LR LR
comp=Z,10µm,20.0s
TOB2 Torodi Ar. Sit 117.87 315 PFAKE 08 19 10.0 +16
TOB2 LR LR
comp=Z,10µm,21.0s
TOC3 Torodi Ar. Sit 117.88 315 PFAKE 08 19 10.0 +16
TOC3 LR LR
comp=Z,10µm,20.0s
TOA2 Torodi Ar. Sit 117.88 315 PFAKE 08 19 10.0 +16
TOA2 LR LR
comp=Z,100nm,18.0s
TOC7 Torodi Ar. Sit 117.88 315 PFAKE 08 19 10.0 +16
TOC7 LR LR
comp=Z,10µm,20.0s
TOA1 Torodi Ar. Sit 117.88 315 ePKPdf **PKPdf** 08 18 52.4 -1.5
TOA1 ePP PP 08 19 58.2 -8.7
TOA0 Torodi Ar. Sit 117.88 315 PFAKE 08 19 10.0 +16
TOA0 LR LR
comp=Z,10µm,20.0s
TORD Torodi Ar. Bea 117.88 315 PKP **PKPdf** 08 18 52.4 -1.5
comp=Z,7.9nm,0.8s,baz=18,slow=2.0,SNR=8.2
TORD PP PP 08 19 58.2 -8.7
comp=Z,16nm,1.0s,baz=34,slow=7.3,SNR=9.0
TORD PKKPbc **PKKPab** 08 29 22.9 +3.5
comp=Z,2.0nm,1.0s,baz=213,slow=3.0,SNR=3.9
TOB3 Torodi Ar. Sit 117.89 315 PFAKE 08 19 10.0 +16
TOB3 LR LR
comp=Z,10µm,20.0s
TOB5 Torodi Ar. Sit 117.89 315 PFAKE 08 19 10.0 +16
TOB5 LR LR
comp=Z,11µm,20.0s
TOA3 Torodi Ar. Sit 117.89 315 PFAKE 08 19 10.0 +16
TOA3 LR LR
comp=Z,100nm,18.0s
TOB4 Torodi Ar. Sit 117.90 315 PFAKE 08 19 10.0 +16
TOB4 LR LR
comp=Z,10µm,20.0s
TOC4 Torodi Ar. Sit 117.90 315 PFAKE 08 19 10.0 +16
TOC4 LR LR
comp=Z,10µm,21.0s
TOC5 Torodi Ar. Sit 117.91 315 PFAKE 08 19 10.0 +16
TOC5 LR LR
comp=Z,11µm,21.0s
MAW Mawson 118.85 205 PKP **PKPdf** 08 18 49.7 -4.3
comp=Z,4.3nm,0.9s,baz=185,slow=6.6,SNR=9.5
MAW PP **PP** 08 20 18.8 +5.1
comp=Z,7.5nm,1.0s,baz=43,slow=7.8,SNR=4.3
MAW Mawson 118.85 205 ePKIKP **PKPdf** 08 18 50.9 -3.1
MAW Mawson 118.85 205 ePKPdf **PKPdf** 08 18 50.9 -3.1
MATP Matopo 119.98 266 PKP **PKPdf** 08 18 55.5 -2.4
comp=Z,10nm,0.9s,baz=63,slow=18,SNR=11
MATP PP **PP** 08 20 22.9 +0.3
comp=Z,12nm,1.1s,baz=62,slow=7.8,SNR=6.8
RPN Rapa Nui 120.29 103 PFAKE 08 19 10.0 +12
RPN LR LR
comp=Z,14µm,22.0s
QSPA South Pole Qui 126.01 180 ePKPdf **PKPdf** 08 19 07.0 -0.9
QSPA LR LR
comp=Z,7µm,22.0s
BOSA Boshof 126.45 259 PKP **PKPdf** 08 19 09.4 -0.6
comp=Z,25nm,1.0s,baz=80,slow=2.5,SNR=14
BOSA Boshof 126.45 259 ePKPdf **PKPdf** 08 19 09.4 -0.6
BOSA ePKPdf **PKiKP** 08 19 09.8 -0.7
DBIC Dimbokro 126.86 316 PKP **PKPdf** 08 19 10.6 -0.5
comp=Z,30nm,1.1s,baz=15,slow=3.9,SNR=5.4
DBIC PP **PP** 08 21 04.8 -3.0
comp=Z,11nm,0.9s,baz=3.2,slow=6.7,SNR=4.4
TIC Toumodi 126.97 317 ePKP2 **PKPdf** 08 19 11.0 -0.4
RUSC La Rusia 127.04 45 ePKPdf **PKPdf** 08 19 11.5 -0.7
KIC Kosan Boka 127.05 316 ePKP2 **PKPdf** 08 19 10.5 -1.0
comp=Z,100nm,1.2s
SACV Santiago Islan 127.12 342 PFAKE 08 19 20.0 +8.4
SACV LR LR
comp=Z,3µm,20.0s
ROSC El Rosal 127.17 47 PKP **PKPdf** 08 19 11.4 -0.9
comp=Z,12nm,1.1s,baz=32,slow=4.1,SNR=5.8
ROSC El Rosal 127.17 47 ePKPdf **PKPdf** 08 19 12.6 +0.3
ROSC LR LR
comp=Z,2µm,19.0s
LIC Lamto 127.32 316 ePKP2 **PKPdf** 08 19 11.9 -0.1
comp=Z,92nm,1.2s
SYO Syowa Base 127.53 206 eX **PKPdf** 08 19 07.0 -3.6
PRAC Prado 127.73 48 ePKPdf **PKPdf** 08 19 14.0 +1.1
OTAV Otavalo 128.15 55 PFAKE 08 19 30.0 +16
OTAV LR LR
comp=Z,3µm,21.0s
TSUM Tsumeb 128.17 273 PKP **PKPdf** 08 19 13.4 -0.2
comp=Z,16nm,0.9s,baz=100,slow=1.5,SNR=7.9
SUR Sutherland 131.47 256 PP PP 08 21 44.0 +4.9
comp=Z,0.6nm,1.0s,baz=97,slow=2.8,SNR=3.5
NVL N'lazarevskaya 136.58 202 ePKIKP **PKPdf** 08 19 30.3 +2.6
NNA Nana 137.93 65 i PKIKP **PKPdf** 08 19 35.9 +3.9
PTGA Pitinga 139.45 34 PKhKP PKPpre 08 19 26.0
comp=Z,2.7nm,0.8s,baz=270,slow=19,SNR=3.7
PTGA PP **PP** 08 22 28.4 +0.3
comp=Z,3.4nm,0.9s,baz=347,slow=7.5,SNR=5.6
SNAA Sanae 140.02 197 PKP PKPpre 08 19 25.4
SNAA Sanae 140.02 197 PP PP 08 22 32.4 +0.9
comp=Z,17nm,1.1s,baz=146,slow=4.9,SNR=5.5
VNA2 Neumayer--Watz 141.59 196 PKP PKPpre 08 19 31.8
baz=119,slow=3.1
VNA3 Neumayer Olymp 141.83 195 PKP PKPpre 08 19 30.9
VNA1 Neumayer--Stat 141.98 196 PKP PKPpre 08 19 33.7
ASCN Ascension 144.19 316 PFAKE 08 19 50.0 +6.8
ASCN LR LR
comp=Z,6µm,19.0s
SHEL Horse Pasture 144.51 296 i PKIKP **PKPdf** 08 19 43.4 -0.3
SHEL Horse Pasture 144.51 296 PFAKE 08 20 00.0 +16
SHEL LR LR
comp=Z,6µm,20.0s
LPAZ La Paz 147.06 61 PKPbc **PKPdf** 08 19 49.3 +0.5
comp=Z,13nm,0.6s,baz=296,slow=2.4,SNR=48
PMSA Palmer Station 147.65 160 PFAKE 08 20 00.0 +7.5
PMSA LR LR
comp=Z,4µm,21.0s
PB11 IPOC Station P 148.19 67 PFAKE 08 20 00.0 +3.7
PB11 LR LR
comp=Z,7µm,21.0s
PB01 IPOC Station P 149.08 69 PFAKE 08 20 00.0 +0.2
PB01 LR LR
comp=Z,7µm,22.0s
PB04 IPOC Station P 149.31 72 PFAKE 08 20 00.0 -0.8
PB04 LR LR
comp=Z,5µm,20.0s
RCBR Riachuelo 149.61 355 ePKPbc **PKPbc** 08 19 56.5 -0.4
LVC Limon Verde 150.41 71 PFAKE 08 20 10.0 +4.5
LVC LR LR
comp=Z,5µm,21.0s
SIV San Ignacio 151.56 51 PKPbc **PKPbc** 08 19 59.9 -1.6
comp=Z,22nm,0.9s,baz=305,slow=1.5,SNR=8.8
LCO Las Campanas 152.08 84 PFAKE 08 20 10.0 -2.2
LCO LR LR
comp=Z,5µm,19.0s
USHA Ushuaia 152.35 142 PKPbc **PKPbc** 08 20 01.6 -0.5
comp=Z,178nm,1.0s,baz=235,slow=1.9,SNR=9.7
GO05 Hualaæø 152.93 97 PFAKE 08 20 10.0 -5.3
GO05 LR LR
comp=Z,8µm,20.0s
PLCA Paso Flores 154.65 110 PKP **PKPdf** 08 19 58.5 -0.6
comp=Z,2.7nm,1.1s,baz=65,slow=13,SNR=2.9
PLCA PKPbc **PKiKP** 08 20 07.9 +0.2
comp=Z,6.8nm,1.0s,baz=287,slow=6.1,SNR=6.0
EFI East Falkland 159.26 144 PFAKE 08 20 20.0 +16
EFI LR LR

comp=Z,5µm,22.0s
CPUP Villa Florida 161.18 64 PKP **PKPdf 08 20 06.6 -0.9**
comp=Z,4.8nm,1.1s,baz=148,slow=2.9,SNR=4.6

IDC ***15*** *08:02:00.2±2.5, 35°.03S×179°.22W, h0km, mb4.0/1, mb1 4.2/2, mb1mx3.8/33, mbtmp4.2/2, ML4.2/1, Error ellipse: s-maj=85.9km s-min=35.4km az=129.0*
ISC 15 08:01:59.0±1.5, 35°.6S±0°.1×178°.5W±0°.1, h10km, n29, σ2§48/35, East of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**3.26**	**231**	*e*PN	**Pn**	**08 02 51.5**	**+1.3**
WMGZ	**Waiomatatini S**	**3.36**	**227**	*e*PN	**Pn**	**08 02 54.1**	**+2.5**
PKGZ	**Pakihiroa**	**3.61**	**229**	*e*PN	**Pn**	**08 02 57.3**	**+2.2**
PKGZ				SN	**Sn**	**08 03 40.8**	**+3.1**
PUZ	**Puketiti**	**3.62**	**225**	PN	**Pn**	**08 02 57.6**	**+2.4**
HAZ	**Te Kaha**	**3.71**	**233**	PN	**Pn**	**08 02 59.8**	**+3.4**
RUGZ	**Raukumara Rang**	**3.90**	**231**	*e*PN	**Pn**	**08 03 01.9**	**+2.8**
CNGZ	**Carnagh Statio**	**3.94**	**221**	*e*PN	**Pn**	**08 03 02.3**	**+2.8**
MWZ	**Matawai**	**4.22**	**228**	PN	**Pn**	**08 03 05.5**	**+2.0**
MWZ				SN	**Sn**	**08 03 54.2**	**+1.2**
RAGZ	**Rawiri**	**4.40**	**227**	PN	**Pn**	**08 03 08.1**	**+2.2**
RAGZ				SN	**Sn**	**08 03 58.3**	**+1.1**
PRGZ	**Paritu Road**	**4.43**	**220**	PN	**Pn**	**08 03 08.5**	**+2.2**
URZ	**Urewera**	**4.44**	**231**	Pn	**Pn**	**08 03 08.1**	**+1.8**
	12nm,0.3s,baz=274,slow=3.2,SNR=7.8						
URZ				Sn	**Sn**	**08 03 58.8**	**+0.7**
	15nm,0.3s,baz=129,slow=17,SNR=11						
URZ	**Urewera**	**4.44**	**231**	*e*PN	**Pn**	**08 03 07.9**	**+1.6**
URZ				SN	**Sn**	**08 03 58.3**	**+0.2**
MHGZ	**Mahia Peninsul**	**4.59**	**218**	*e*PN	**Pn**	**08 03 10.8**	**+2.3**
KNZ	**Kokohu**	**4.62**	**220**	*e*PN	**Pn**	**08 03 08.6**	**-0.2**
SNGZ	**Shannon Statio**	**4.63**	**225**	*e*PN	**Pn**	**08 03 10.7**	**+1.6**
RTZ	**Ruatahuna**	**4.74**	**229**	*e*PN	**Pn**	**08 03 13.2**	**+2.6**
KUZ	**Kuaotunu**	**4.83**	**254**	PN	**Pn**	**08 03 11.9**	**+0.1**
NMHZ	**Naumai**	**5.15**	**225**	PN	**Pn**	**08 03 18.7**	**+2.4**
NMHZ				SN	**Sn**	**08 04 17.7**	**+2.0**
BKZ	**Black Stump Fm**	**5.38**	**227**	SN	**Sn**	**08 04 21.1**	**-0.3**
BHHZ	**Black Hill Sta**	**5.84**	**226**	*e*PN	**Pn**	**08 03 27.6**	**+1.8**
BFZ	**Birch Farm**	**6.58**	**218**	SN	**Sn**	**08 04 48.8**	**-2.2**
MRZ	**Mangatainoka R**	**6.91**	**221**	SN	**Sn**	**08 04 56.4**	**-2.7**
TCW	**Tory Channel**	**8.01**	**223**	SN	**Sn**	**08 05 21.7**	**-4.2**
CTZ	**Chatham Island**	**8.29**	**171**	SN	**Sn**	**08 05 31.2**	**-1.7**
NNZ	**Nelson**	**8.52**	**226**	SN	**Sn**	**08 05 35.2**	**-3.4**
THZ	**Tophouse**	**9.14**	**225**	SN	**Sn**	**08 05 48.0**	**-6.1**
ASAR	**Alice Springs**	**42.69**	**273**	P	**P**	**08 09 53.8**	**-2.5**
	1.7nm,0.7s,baz=117,slow=7.5,SNR=8.0						
FINES	**FINESS Array B**	**149.78**	**337**	PKPbc	**PKPbc**	**08 21 47.8**	**-0.6**
	1.8nm,0.6s,baz=50,slow=2.2,SNR=5.0						
BRTR	**Keskin Array B**	**154.30**	**289**	PKPbc	**PKPbc**	**08 22 01.8**	**+2.2**
	1.3nm,0.8s,baz=81,slow=1.9,SNR=2.5						

IDC ***15*** *08:04:58.4±2.3, 34°.88S×178°.92W, h0km, mb4.3/2, mb1 4.5/3, mb1mx4.0/38, mbtmp4.3/3, ML4.2/1, Error ellipse: s-maj=72.2km s-min=40.6km az=143.0*
ISC 15 08:05:00.7±1.4, 35°.49S±0°.10×178°.32W±0°.10, h35km, n33, σ2§14/49, East of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**3.42**	**232**	PN	**Pn**	**08 05 51.5**	**+0.1**
MXZ				SN	**Sn**	**08 06 31.5**	**+0.8**
WMGZ	**Waiomatatini S**	**3.51**	**228**	PN	**Pn**	**08 05 54.6**	**+1.9**
WMGZ				SN	**Sn**	**08 06 36.1**	**+3.2**
PKGZ	**Pakihiroa**	**3.76**	**229**	PN	**Pn**	**08 05 57.9**	**+1.7**
PKGZ				SN	**Sn**	**08 06 41.1**	**+1.8**
PUZ	**Puketiti**	**3.77**	**226**	PN	**Pn**	**08 05 57.5**	**+1.2**
HAZ	**Te Kaha**	**3.87**	**233**	PN	**Pn**	**08 05 59.5**	**+1.9**
TWGZ	**Tauwhareparae**	**4.00**	**227**	*e*PN	**Pn**	**08 06 01.5**	**+2.0**
TWGZ				SN	**Sn**	**08 06 47.0**	**+1.8**
RUGZ	**Raukumara Rang**	**4.06**	**231**	*e*PN	**Pn**	**08 06 03.2**	**+2.9**
RUGZ				SN	**Sn**	**08 06 49.0**	**+2.3**
CNGZ	**Carnagh Statio**	**4.08**	**222**	PN	**Pn**	**08 06 02.9**	**+2.3**
TKGZ	**Te Karaka**	**4.25**	**225**	*e*PN	**Pn**	**08 06 04.5**	**+1.6**
TKGZ				SN	**Sn**	**08 06 54.0**	**+2.7**
MWZ	**Matawai**	**4.38**	**228**	*e*PN	**Pn**	**08 06 06.2**	**+1.5**
MWZ				SN	**Sn**	**08 06 56.5**	**+2.1**
RAGZ	**Rawiri**	**4.55**	**227**	*e*PN	**Pn**	**08 06 08.4**	**+1.3**
RAGZ				SN	**Sn**	**08 06 59.8**	**+1.2**
PRGZ	**Paritu Road**	**4.58**	**220**	*e*PN	**Pn**	**08 06 09.7**	**+2.3**
URZ	**Urewera**	**4.59**	**232**	Pn	**Pn**	**08 06 09.1**	**+1.5**
	11nm,0.3s,baz=271,slow=2.2,SNR=10						
URZ				Sn	**Sn**	**08 06 58.8**	**-0.8**
	36nm,0.3s,baz=165,slow=21,SNR=15						
URZ	**Urewera**	**4.59**	**232**	*e*PN	**Pn**	**08 06 08.5**	**+0.9**
URZ				SN	**Sn**	**08 06 59.5**	**-0.1**
KNZ	**Kokohu**	**4.76**	**221**	*e*PN	**Pn**	**08 06 11.2**	**+1.4**
SNGZ	**Shannon Statio**	**4.78**	**225**	*e*PN	**Pn**	**08 06 12.8**	**+2.6**
SNGZ				SN	**Sn**	**08 07 06.1**	**+1.8**
MUGZ	**Murupara**	**4.93**	**231**	PN	**Pn**	**08 06 12.9**	**+0.5**
MUGZ				SN	**Sn**	**08 07 06.1**	**-2.1**
KUZ	**Kuaotunu**	**4.99**	**254**	*e*PN	**Pn**	**08 06 12.2**	**-0.8**
RRRZ	**Republican Roa**	**5.02**	**234**	PN	**Pn**	**08 06 14.5**	**+0.9**
ARHZ	**Aropaoanui**	**5.30**	**223**	*e*PN	**Pn**	**08 06 18.6**	**+1.3**
ARHZ				SN	**Sn**	**08 07 18.6**	**+1.4**
MKAZ	**Moumakai**	**5.51**	**251**	PN	**Pn**	**08 06 20.1**	**-0.1**
BKZ	**Black Stump Fm**	**5.53**	**227**	*e*PN	**Pn**	**08 06 21.9**	**+1.4**
BKZ				SN	**Sn**	**08 07 23.5**	**+0.6**
BHHZ	**Black Hill Sta**	**5.99**	**227**	*e*PN	**Pn**	**08 06 26.8**	**-0.1**
MOVZ	**Moawhango**	**6.13**	**229**	PN	**Pn**	**08 06 29.5**	**+0.7**
BFZ	**Birch Farm**	**6.72**	**218**	PN	**Pn**	**08 06 36.9**	**0.0**
BFZ				SN	**Sn**	**08 07 49.3**	**-2.9**
MRZ	**Mangatainoka R**	**7.06**	**221**	*e*PN	**Pn**	**08 06 41.4**	**0.0**
MRZ				SN	**Sn**	**08 07 57.9**	**-2.5**
CTZ	**Chatham Island**	**8.34**	**171**	*e*Pn	Pn	08 07 05.2	+6.3
CTZ				SN	**Sn**	**08 08 30.2**	**-1.6**
THZ	**Tophouse**	**9.29**	**225**	SN	**Sn**	**08 08 49.6**	**-5.7**
KHZ	**Kahutara**	**9.38**	**220**	SN	**Sn**	**08 08 50.6**	**-6.8**
ASAR	**Alice Springs**	**42.82**	**273**	P	**P**	**08 12 53.6**	**-1.8**
	2.9nm,0.8s,baz=114,slow=7.8,SNR=3.0						
WRA	**Warramunga Arr**	**44.26**	**278**	P	**P**	**08 13 05.5**	**-1.5**
	2.9nm,0.6s,baz=117,slow=7.6,SNR=3.5						
KURBB	**Kurchatov Arra**	**124.32**	**311**	PKP	**PKPdf**	**08 23 57.0**	**+1.7**
	1.2nm,0.7s,baz=122,slow=1.7,SNR=4.7						
FINES	**FINESS Array B**	**149.77**	**337**	PKPbc	**PKPbc**	**08 24 46.9**	**+0.9**
	5.3nm,0.8s,baz=29,slow=3.2,SNR=9.9						

IDC ***15*** *08:10:34.9±1.2, 35°.28S×178°.90W, h0km, mb4.5/4, mb1 4.6/6, mb1mx4.1/42, mbtmp4.5/6, ML4.2/2, Error ellipse: s-maj=41.4km s-min=25.5km az=137.0*
ISCJB ***15*** *08:10:35.1±0.7, 35°.54S±0°.06×178°.78W±0°.10, h10km, mb4.6/7, Error ellipse: s-maj=13.4km s-min=5.6km az=34.6*
NEIC ***15*** *08:10:36.1±0.7, 35°.26S×178°.96W, h10km, mb4.8/3, Error ellipse: s-maj=18.9km s-min=11.9km az=109.0*
ISC 15 08:10:36.3±0.8, 35°.53S±0°.08×178°.75W±0°.09, h10km, n63, σ2§35/81, mb4.6/7, 1C, East of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**3.12**	**229**	PN	**Pn**	**08 11 26.2**	**+0.7**
MXZ				SN	**Sn**	**08 12 08.0**	**+5.2**
WMGZ	**Waiomatatini S**	**3.23**	**224**	*e*PN	**Pn**	**08 11 27.7**	**+0.7**
WMGZ				SN	**Sb**	**08 12 13.1**	**+0.1**
PUZ	**Puketiti**	**3.49**	**223**	PN	**Pn**	**08 11 30.6**	**-0.1**
PUZ				SN	**Sb**	**08 12 18.0**	**-2.8**
HAZ	**Te Kaha**	**3.56**	**230**	*e*PN	**Pn**	**08 11 32.3**	**+0.7**
HAZ				SN	**Sb**	**08 12 21.0**	**-1.7**
CNGZ	**Carnagh Statio**	**3.82**	**219**	*e*PN	**Pn**	**08 11 35.8**	**+0.6**
MWZ	**Matawai**	**4.09**	**226**	*e*PN	**Pn**	**08 11 38.7**	**-0.2**
RIGZ	**Rimuhau**	**4.22**	**220**	*e*PN	**Pn**	**08 11 42.0**	**+1.3**
RAGZ	**Rawiri**	**4.26**	**225**	PN	**Pn**	**08 11 41.8**	**+0.5**
URZ	**Urewera**	**4.29**	**229**	Pn	**Pn**	**08 11 42.4**	**+0.8**
	22nm,0.3s,baz=212,slow=0.8,SNR=29						
URZ				Sn	**Sn**	**08 12 34.6**	**+2.8**
	41nm,0.3s,baz=158,slow=23,SNR=16						
URZ	**Urewera**	**4.29**	**229**	*e*PN	**Pn**	**08 11 40.1**	**-1.5**
URZ				SN	**Sn**	**08 12 35.6**	**+3.9**
PRGZ	**Paritu Road**	**4.32**	**217**	PN	**Pn**	**08 11 41.8**	**-0.3**
MHGZ	**Mahia Peninsul**	**4.49**	**215**	PN	**Pn**	**08 11 45.3**	**+0.9**
KNZ	**Kokohu**	**4.50**	**218**	PN	**Pn**	**08 11 44.1**	**-0.5**
SNGZ	**Shannon Statio**	**4.50**	**223**	PN	**Pn**	**08 11 44.8**	**+0.2**
MUGZ	**Murupara**	**4.64**	**229**	*e*PN	**Pn**	**08 11 45.4**	**-1.0**
MUGZ				SN	**Sn**	**08 12 44.6**	**+4.3**
WHHZ	**Waihua**	**4.77**	**221**	PN	**Pn**	**08 11 49.9**	**+1.6**
WHHZ				SN	**Sn**	**08 12 48.6**	**+5.0**
NMHZ	**Naumai**	**5.02**	**224**	*e*PN	**Pn**	**08 11 52.4**	**+0.6**
NMHZ				SN	**Sn**	**08 12 54.7**	**+4.9**
ARHZ	**Aropaoanui**	**5.04**	**221**	PN	**Pn**	**08 11 52.3**	**+0.4**
ARHZ				SN	**Sn**	**08 12 55.4**	**+5.3**
MRHZ	**Matea Rd**	**5.08**	**228**	*e*PN	**Pn**	**08 11 55.7**	**+3.2**
BKZ	**Black Stump Fm**	**5.25**	**225**	PN	**Pn**	**08 11 54.9**	**+0.1**
CKHZ	**Cape Kidnapper**	**5.29**	**218**	PN	**Pn**	**08 11 55.7**	**+0.3**
MCHZ	**McNeill Hill**	**5.33**	**221**	*e*PN	**Pn**	**08 11 57.7**	**+1.9**
KRHZ	**Kereru**	**5.64**	**222**	PN	**Pn**	**08 12 03.7**	**+3.4**
BHHZ	**Black Hill Sta**	**5.71**	**225**	PN	**Pn**	**08 12 04.4**	**+3.1**
BHHZ				SN	**Sn**	**08 13 09.5**	**+2.7**
MOVZ	**Moawhango**	**5.84**	**227**	*e*PN	**Pn**	**08 12 05.6**	**+2.6**
MOVZ				SN	**Sn**	**08 13 11.3**	**+1.3**
WHVZ	**Whangaehu Hut**	**5.86**	**229**	*e*PN	**Pn**	**08 12 03.9**	**+0.5**
WNVZ	**Wahianoa**	**5.88**	**228**	*e*PN	**Pn**	**08 12 07.0**	**+3.3**
PNHZ	**Pukenui**	**5.93**	**221**	PN	**Pn**	**08 12 06.5**	**+2.3**
PNHZ				SN	**Sn**	**08 13 14.9**	**+2.7**
TSZ	**Takapari Road**	**6.16**	**221**	*e*PN	**Pn**	**08 12 07.8**	**+0.5**
BFZ	**Birch Farm**	**6.48**	**216**	PN	**Pn**	**08 12 10.4**	**-1.3**
BFZ				SN	**Sn**	**08 13 26.0**	**+0.3**
PRWZ	**Pori Road**	**6.52**	**218**	SN	**Sn**	**08 13 28.3**	**+1.7**
MRZ	**Mangatainoka R**	**6.80**	**219**	PN	**Pn**	**08 12 14.0**	**-2.1**
MRZ				SN	**Sn**	**08 13 33.7**	**+0.2**
TMWZ	**Te Maipa**	**6.98**	**215**	PN	**Pn**	**08 12 17.0**	**-1.6**
MTW	**Mount Morrison**	**7.21**	**217**	SN	**Sn**	**08 13 43.6**	**0.0**
TRWZ	**Traveller**	**7.30**	**215**	SN	**Sn**	**08 13 46.5**	**+0.5**
CAW	**Cannon Point**	**7.39**	**219**	SN	**Sn**	**08 13 47.7**	**-0.4**
PAWZ	**Paruwai Farm**	**7.42**	**216**	PN	**Pn**	**08 12 24.5**	**-0.1**
PAWZ				SN	**Sn**	**08 13 48.5**	**-0.3**
PLWZ	**Palliser**	**7.64**	**216**	*e*PN	**Pn**	**08 12 26.8**	**-0.9**
PLWZ				SN	**Sn**	**08 13 53.7**	**-0.6**
SNZO	**South Karori**	**7.72**	**220**	*e*Pn	**Pn**	**08 12 31.1**	**+2.3**
SNZO				*e*Sn	**Sn**	**08 13 58.7**	**+2.4**
TCW	**Tory Channel**	**7.88**	**222**	SN	**Sn**	**08 13 59.7**	**-0.5**
TUWZ	**Tuamarina**	**8.21**	**222**	SN	**Sn**	**08 14 06.7**	**-1.7**
CTZ	**Chatham Island**	**8.36**	**169**	*e*PN	**Pn**	**08 12 39.1**	**+1.6**
BSWZ	**Blackbirch Sta**	**8.45**	**221**	SN	**Sn**	**08 14 12.5**	**-1.7**
LTZ	**Lake Taylor**	**10.05**	**221**	SN	**Sn**	**08 14 47.6**	**-5.8**
MQZ	**McQueen's Vall**	**10.51**	**216**	*e*PN	**Pn**	**08 13 05.6**	**-1.4**
MQZ				SN	**Sn**	**08 14 57.6**	**-7.1**
OXZ	**Oxford**	**10.55**	**220**	SN	**Sn**	**08 14 58.7**	**-6.9**
RPZ	**Rata Peaks**	**11.33**	**221**	Pn	**Pn**	**08 13 18.5**	**+0.2**
	0.9nm,0.3s,baz=37,slow=5.1,SNR=3.0						
CTAO	**Charters Tower**	**34.35**	**287**	*e*P	P	08 17 18.4	-5.0
	9.1nm,0.7s						
ASAR	**Alice Springs**	**42.47**	**273**	P	**P**	**08 18 30.8**	**-1.0**
	8.0nm,0.8s,baz=112,slow=7.4,SNR=16						
SBA	**Scott Base**	**42.89**	**184**	*e*P	**P**	**08 18 36.1**	**+1.7**
WRAB	**Tennant Creek**	**43.91**	**278**	*e*P	**P**	**08 18 42.3**	**-1.1**
	7.6nm,0.7s						
WRA	**Warramunga Arr**	**43.91**	**278**	P	**P**	**08 18 42.2**	**-1.2**
	3.6nm,0.7s,baz=117,slow=7.7,SNR=12						
FITZ	**Fitzroy Crossi**	**51.91**	**274**	P	**P**	**08 19 44.8**	**-0.6**
	3.2nm,0.9s,baz=135,slow=5.7,SNR=4.0						
QSPA	**South Pole Qui**	**54.59**	**180**	*e*P	**P**	**08 20 06.0**	**+1.4**
	11nm,0.6s						
SYO	**Syowa Base**	**71.99**	**194⇑**	*e*P	**P**	**08 22 00.2**	**+0.5**
PETK	**Petropavlovsk-**	**90.62**	**346**	P	**P**	**08 23 37.6**	**-0.7**
	4.7nm,0.8s,baz=141,slow=5.7,SNR=4.0						
KURK	**Kurchatov**	**124.05**	**312**	PKP	**PKPdf**	**08 29 33.2**	**-1.1**
KURBB	**Kurchatov Arra**	**124.08**	**311**	PKP	**PKPdf**	**08 29 33.2**	**-1.2**
	0.9nm,0.6s,baz=105,slow=2.1,SNR=7.1						
BVAR	**Borovoye Array**	**129.53**	**313**	PKP	**PKPdf**	**08 29 44.0**	**-0.8**
	1.0nm,0.7s,baz=84,slow=5.2,SNR=5.3						
KBZ	**Khabaz**	**147.18**	**297**	PKPbc	**PKPbc**	**08 30 18.3**	**-1.1**
	5.0nm,0.9s,baz=158,slow=5.9,SNR=6.5						
FINES	**FINESS Array B**	**149.66**	**336**	PKPbc	**PKPbc**	**08 30 24.1**	**-1.2**
	3.9nm,0.6s,baz=32,slow=4.7,SNR=7.9						
AKASG	**Malin Array Be**	**154.76**	**316**	PKPbc	**PKPbc**	**08 30 37.0**	**-0.2**
	0.2nm,0.3s,baz=54,slow=1.9,SNR=3.0						
TORD	**Torodi Ar. Bea**	**157.71**	**181**	PKPab	**PKPab**	**08 31 07.7**	**+2.0**
	1.7nm,0.8s,baz=189,slow=3.1,SNR=3.6						

ISCJB ***15*** *08:11:06.6±1.1, 35°.3S±0°.1×178°.6W±0°.2, h10km, mb4.6/8, Error ellipse: s-maj=24.4km s-min=10.4km az=35.8*
NEIC ***15*** *08:11:09.6±0.7, 35°.10S×178°.69W, h10km, mb4.8/5, Error ellipse: s-maj=21.6km s-min=16.6km az=142.0*
IDC ***15*** *08:11:09.1±1.1, 35°.18S×178°.82W, h0km, mb4.4/3, mb1 4.6/4, mb1mx4.1/41, mbtmp4.4/4, ML4.5/1, Error ellipse: s-maj=40.8km s-min=29.7km az=160.0*
ISC 15 08:11:09.5±0.8, 35°.2S±0°.1×178°.7W±0°.1, h10km, n32, σ1§17/34, mb4.5/8, 1C, East of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**4.55**	**226**	Pn	**Pn**	**08 12 19.0**	**+0.5**
	22nm,0.3s,baz=273,slow=5.0,SNR=7.2						
URZ				Sn	**Sn**	**08 13 10.3**	**-1.2**
	31nm,0.3s,baz=307,slow=20,SNR=3.2						
URZ	**Urewera**	**4.55**	**226**	Pn	**Pn**	**08 12 19.0**	**+0.5**
URZ				Sn	**Sn**	**08 13 10.3**	**-1.2**
FUNA	**Funafuti**	**26.59**	**355**	*e*P	**P**	**08 16 47.5**	**-0.5**
CTAO	**Charters Tower**	**34.28**	**287**	*e*P	**P**	**08 17 55.7**	**-0.3**
	9.5nm,0.4s						
PMG	**Port Moresby**	**40.34**	**301**	*e*P	**P**	**08 18 47.8**	**+0.4**
	7.5nm,0.8s						
ASAR	**Alice Springs**	**42.48**	**272**	P	**P**	**08 19 05.1**	**0.0**
	3.6nm,0.5s,baz=115,slow=7.2,SNR=4.3						
ASAR	**Alice Springs**	**42.48**	**272**	P	**P**	**08 19 05.1**	**0.0**
WRAB	**Tennant Creek**	**43.90**	**278**	*e*P	**P**	**08 19 16.3**	**-0.2**
	4.9nm,0.6s						
WRA	**Warramunga Arr**	**43.90**	**278**	P	**P**	**08 19 16.0**	**-0.5**
	3.3nm,0.7s,baz=118,slow=7.6,SNR=8.4						
WRA	**Warramunga Arr**	**43.90**	**278**	P	**P**	**08 19 16.0**	**-0.5**
FITZ	**Fitzroy Crossi**	**51.92**	**274**	P	**P**	**08 20 20.2**	**+1.5**
	3.1nm,0.8s,baz=169,slow=5.2,SNR=3.4						
FITZ	**Fitzroy Crossi**	**51.92**	**274**	P	**P**	**08 20 20.2**	**+1.5**
MBWA	**Marble Bar**	**55.25**	**267**	*e*P	**P**	**08 20 41.6**	**-1.4**
	13nm,0.8s						
SYO	**Syowa Base**	**72.34**	**194⇑**	*e*P	**P**	**08 22 34.4**	**-0.6**
WUAZ	**Wupatki**	**94.25**	**49**	*e*P	**P**	**08 24 25.9**	**-3.1**
	3.4nm,0.6s						
KURK	**Kurchatov**	**123.84**	**312**	PKP	**PKPdf**	**08 30 07.4**	**+0.2**
KURBB	**Kurchatov Arra**	**123.87**	**312**	PKP	**PKPdf**	**08 30 07.4**	**+0.2**
	1.3nm,0.8s,baz=114,slow=1.8,SNR=5.5						
BVAR	**Borovoye Array**	**129.32**	**313**	PKP	**PKPdf**	**08 30 17.9**	**+0.3**
	1.0nm,0.6s,baz=79,slow=2.3,SNR=4.5						
BVAR	**Borovoye Array**	**129.32**	**313**	PKP	**PKPdf**	**08 30 17.9**	**+0.3**
FINES	**FINESS Array B**	**149.35**	**337**	PKPbc	**PKPbc**	**08 30 58.3**	**+0.5**
	8.3nm,0.8s,baz=37,slow=3.1,SNR=7.1						
FINES	**FINESS Array B**	**149.35**	**337**	PKPbc	**PKPbc**	**08 30 58.3**	**+0.5**
LIC	**Lamto**	**150.61**	**167**	*e*P	**PKPbc**	**08 31 03.4**	**+1.1**
	46nm,1.2s						
KIC	**Kosan Boka**	**150.79**	**168**	*e*PKIKP	**PKPbc**	**08 31 03.7**	**+1.0**
	87nm,1.7s						
TIC	**Toumodi**	**151.02**	**167**	*e*PKIKP	**PKPbc**	**08 31 03.9**	**+0.6**
DBIC	**Dimbokro**	**151.07**	**167**	PKPbc	**PKPbc**	**08 31 04.3**	**+0.9**
	3.1nm,0.8s,baz=136,slow=0.8,SNR=3.3						
DBIC	**Dimbokro**	**151.07**	**167**	PKPbc	**PKPbc**	**08 31 04.3**	**+0.9**
MMAI	**Mount Meron Ar**	**151.75**	**275**	PKPbc	**PKPbc**	**08 31 05.4**	**+0.9**
	1.0nm,0.3s,baz=98,slow=6.0,SNR=3.0						
MMAI	**Mount Meron Ar**	**151.75**	**275**	PKPbc	**PKPbc**	**08 31 05.4**	**+0.9**
BRTR	**Keskin Array B**	**154.00**	**290**	PKPbc	**PKPbc**	**08 31 12.0**	**+2.6**
	0.9nm,0.6s,baz=112,slow=1.4,SNR=2.7						
BRTR	**Keskin Array B**	**154.00**	**290**	PKPbc	**PKPbc**	**08 31 12.0**	**+2.6**
TORD	**Torodi Ar. Bea**	**158.06**	**181**	PKPab	**PKPab**	**08 31 41.1**	**+0.7**
	1.4nm,0.7s,baz=164,slow=2.5,SNR=3.7						
TORD	**Torodi Ar. Bea**	**158.06**	**181**	PKPab	**PKPab**	**08 31 41.1**	**+0.7**

ISCJB ***15*** *08:12:39.0±0.6, 10°.71N±0°.03×61°.46W±0°.04, h77km±7km, Error ellipse: s-maj=6.9km s-min=3.8km az=29.5*
TRN ***15*** *08:12:40.8, 10°.96N×61°.46W, h3km, MD3.5*
FUNV ***15*** *08:12:41.0, 10°.71N×61°.35W, h100km, MW3.1*
ISC 15 08:12:39.4±1.3, 10°.68N±0°.03×61°.43W±0°.04, h64km±8km, n23, σ1§79/43, 1D, Trinidad

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TRN	**Trinidad (W)**	**0.04**	**142⇓**	*i*P	**Pn**	**08 12 47.6**	**-1.2**
TRN				*e*S	**Sn**	**08 12 52.7**	**-3.0**
TPP	**Pointe-a-Pierr**	**0.36**	**184**	*i* P	**Pn**	**08 12 51.6**	**+1.2**
TPP				*e*S	**Sn**	**08 13 01.0**	**+2.6**
GUIV	**Guiria**	**0.78**	**268**	*e*P	**Pn**	**08 12 56.3**	**+1.4**
GUIV				*e*S	**Sn**	**08 13 07.8**	**+1.5**
TOSP	**Speyside**	**1.07**	**55**	*e*P	**Pn**	**08 12 59.1**	**+0.6**
TOSP				*e*S	**Sn**	**08 13 13.6**	**+0.8**
GRGR	**Grenville**	**1.46**	**351**	*e*P	**Pn**	**08 13 03.0**	**-0.7**
GRGR				*e*S	**Sn**	**08 13 21.0**	**-1.0**
GRW	**Mount Saint Ca**	**1.49**	**351**	*e*P	**Pn**	**08 13 04.8**	**+0.7**
GRW				*e*S	**Sn**	**08 13 21.3**	**-1.5**
GRHS	**Sauteurs**	**1.55**	**352**	*e*P	**Pn**	**08 13 05.1**	**+0.3**
GRHS				*e*S	**Sn**	**08 13 23.9**	**-0.2**
GUNV	**Guanoco**	**1.58**	**251**	*e*P	**Pn**	**08 13 07.7**	**+2.5**
GUNV				*e*S	**Sn**	**08 13 27.0**	**+2.3**
GRSS	**Sisters**	**1.62**	**354**	*e*P	**Pn**	**08 13 07.1**	**+1.3**
GRSS				*e*S	**Sn**	**08 13 24.9**	**-0.8**
CRUV	**Carupano**	**1.78**	**270**	*e*P	**Pn**	**08 13 08.7**	**+0.8**
CRUV				*e*S	**Sn**	**08 13 29.7**	**+0.2**
SVB	**Belmont**	**2.58**	**4**	*e*P	**Pn**	**08 13 20.1**	**+1.2**
SVB	**Belmont**	**2.58**	**4**	*e*P	**Pn**	**08 13 21.0**	**+2.1**
SVB				*e*S	**Sn**	**08 13 49.6**	**+0.5**
RIOV	**Rio Grande**	**2.62**	**188**	*e*P	**Pn**	**08 13 20.7**	**+1.3**
RIOV				*e*S	**Sn**	**08 13 50.6**	**+0.5**
SVV	**Soufriere Volc**	**2.63**	**4**	*e*P	**Pn**	**08 13 21.2**	**+1.6**
SSV	**Crater Summit**	**2.64**	**5**	*e*P	**Pn**	**08 13 21.1**	**+1.4**
SSV				*e*S	**Sn**	**08 13 49.6**	**-1.1**
MCLT	**Moule a Chique**	**3.05**	**9**	*e*P	**Pn**	**08 13 26.3**	**+1.0**
MCLT				*e*S	**Sn**	**08 14 00.2**	**-0.4**
PCRV	**Puerto La Cruz**	**3.20**	**261**	*e*P	**Pn**	**08 13 28.7**	**+1.4**
PCRV				*e*S	**Sn**	**08 14 03.6**	**-0.6**
PRGV	**PARIAGUAN**	**3.70**	**239**	*e*P	**Pn**	**08 13 35.7**	**+1.5**
PRGV				*e*S	**Sn**	**08 14 15.6**	**-1.0**
CUPV	**Cœpira**	**4.33**	**262**	*e*P	**Pn**	**08 13 43.6**	**+0.8**
CUPV				*e*S	**Sn**	**08 14 31.2**	**-1.0**
BIRV	**Birongo**	**4.76**	**268**	*e*P	**Pn**	**08 13 50.6**	**+1.9**
BIRV				*e*S	**Sn**	**08 14 40.5**	**-2.2**
LUEV	**Luepa**	**4.80**	**180**	*e*P	**Pn**	**08 13 49.6**	**+0.2**
LUEV				*e*S	**Sn**	**08 14 40.5**	**-3.4**
BAUV	**El Baul**	**6.74**	**256**	*e*P	**Pn**	**08 14 16.1**	**+0.2**
BAUV				*e*S	**Sn**	**08 15 26.8**	**-4.4**
MAPV	**Macapo**	**6.97**	**264**	*e*S	**Sn**	**08 15 32.3**	**-4.6**

MEX 15 08:13:59.4±0.4, 13°.80N×91°.76W, h63km±19km, MD3.6, Near coast of Guatemala

| Code | Station Name | Δ° | AZ° | Phase ID Op | ISC | Time h m s | Res IS

KYTH	Kithira	1.27	139	P		Pb	08 17 01.1	0.0	
KFL	Anninata	1.31	313	P		Pn	08 17 01.5	-0.3	
KFL	Anninata	1.31	313	P		Pg	08 17 02.1	+0.1	
KFL	Anninata	1.31	313	P		Pg	08 17 02.1	+0.1	
VILL	Villia	1.40	47	P		Pn	08 17 02.5	-0.4	
VILL				S		Sb	08 17 19.2	-2.2	
VILL	Villia	1.40	47	P		Pn	08 17 02.7	-0.2	
VILL				S		Sb	08 17 19.2	-2.2	
VIL2	Platees	1.40	45	P		Pn	08 17 02.7	-0.3	
PVO	Paravola	1.45	345	P		Pg	08 17 06.1	+1.5	
PVO	Paravola	1.45	345	P		Pg	08 17 06.0	+1.5	
VLS	Valsamata	1.48	311	P		Pb	08 17 04.1	-0.6	
VLS	Valsamata	1.48	311	P		Pb	08 17 04.1	-0.6	
PDO	Prodromos	1.52	335	P		Pg	08 17 05.9	-0.1	
PDO	Prodromos	1.52	335	P		Pg	08 17 05.9	-0.1	
VLY	Voula,Athens	1.55	65	P		Pn	08 17 03.8	-1.2	
VLY	Voula,Athens	1.55	65	P		Pn	08 17 03.8	-1.2	
LKR	Lokris	1.62	28	P		Pb	08 17 06.7	-0.5	
LKR	Lokris	1.62	28	P		Pb	08 17 06.7	-0.5	
EVR	Evrytania	1.70	355	P		Pb	08 17 08.8	+0.2	
EVR	Evrytania	1.70	355	P		Pb	08 17 08.8	+0.2	
EVR	Evrytania	1.70	355	P		Pg	08 17 09.1	-0.4	
ANKY	Antikythira Is	1.70	142	P		Pb	08 17 08.7	+0.2	
ANKY	Antikythira Is	1.70	142	P		Pb	08 17 08.7	+0.2	
AGG	Agios Georgios	1.81	8	P		Pb	08 17 09.7	-0.8	
AGG	Agios Georgios	1.81	8	P		Pb	08 17 09.7	-0.8	
AGG	Agios Georgios	1.81	8	P		Pn	08 17 09.0	+0.4	
LKD2	Lefkada island	1.90	326	P		Pg	08 17 12.5	-0.7	
LKD2	Lefkada island	1.90	326	P		Pg	08 17 12.5	-0.7	
LKD2	Lefkada island	1.90	326	P		Pg	08 17 13.5	+0.3	
LKD2					AML	AML	08 17 44.5		
	comp=E,2658μm,0.5s								
LKD2					AML	AML	08 17 48.4		
	comp=N,2840μm,0.5s								
XOR	Xorichti	2.33	23	P		Pn	08 17 16.4	+0.6	
XOR	Xorichti	2.33	23	P		Pn	08 17 16.4	+0.6	
IDI	Anoyia	3.02	129	Pn		Pb	08 17 29.1	-2.0	
	comp=N,5.0nm,0.3s,baz=304,slow=14,SNR=14								
IDI				Sn		Sb	08 18 08.2	-0.1	
	comp=N,8.4nm,0.3s,baz=59,slow=22,SNR=6.2								
VAE	Valguarnera	6.06	275	Sn		Sn	08 19 23.8	+7.0	
	comp=N,4.2nm,0.3s,baz=0.2,slow=12,SNR=4.0								
MLR	Muntele Rosu	8.77	18	Pn		Pn	08 18 49.0	+4.7	
	comp=N,0.1nm,0.3s,baz=174,slow=18,SNR=2.9								
BRTR	Keskin Array B	9.45	71	Pn		Pn	08 18 56.3	+2.7	
	comp=N,0.0nm,0.3s,baz=254,slow=12,SNR=2.2								
MMAI	Mount Meron Ar	11.74	107	LR		LR	08 24 28.4		
	comp=N,2μm,19.1s,baz=35,slow=40								
AKASG	Malin Array Be	14.43	19	Pn		Pn	08 20 01.1	-0.4	
	comp=N,0.8nm,0.3s,baz=214,slow=13,SNR=4.8								
EKA	Eskdalemuir Ar	24.89	325	P		P	08 22 00.2	0.0	
	comp=N,1.9nm,0.8s,baz=129,slow=9.9,SNR=4.8								
KURBB	Kurchatov Arra	41.85	53	P		P	08 24 25.9	-1.5	
	comp=N,1.2nm,0.6s,baz=278,slow=8.7,SNR=8.5								
ZALV	Zalesovo Beam	45.45	48	P		P	08 24 55.6	-0.8	
	comp=N,1.3nm,0.5s,baz=276,slow=7.8,SNR=3.0								
BOSA	Boshof	65.56	177	P		P	08 27 22.8	+1.4	
	comp=N,2.6nm,0.9s,baz=344,slow=8.2,SNR=3.7								
ROSC	El Rosal	92.14	278	LR		LR	09 09 10.0		
	comp=N,864nm,19.4s,baz=0.5,slow=34								

BUC 15 08:23:33.5±0.5, 46°.00N×22°.82E, h11km, MD2.4/2, 8C-4D, Error ellipse: s-maj=6.7km s-min=4.0km az=326.0, Romania

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
DEV	Deva	0.13	152	↓iP		Pg		08 23 36.6	0.0
DEV				S		Sg		08 23 39.6	+0.7
DEV	Deva	0.13	152	↓iP		Pg		08 23 36.6	0.0
DEV				iS		Sg		08 23 39.6	+0.7
DRGR		0.80	355	↑iP		Pn		08 23 50.2	-0.6
DRGR		0.80	355	↑iP		Pn		08 23 50.2	-0.6
SIRR	Siria	0.85	289	↑iP		Pb		08 23 50.3	+0.1
SIRR	Siria	0.85	289	↑iP		Pb		08 23 50.3	+0.1
SIRR				iS		Sb		08 24 02.1	+0.5
CJR	Cluj-Napoca	0.90	37	↓iP		Pb		08 23 51.5	+0.4
CJR	Cluj-Napoca	0.90	37	↓iP		Pb		08 23 51.5	+0.4
CJR				iS		Sb		08 24 03.3	+0.2
BZS	Buzias	0.92	246	↑iP		Pb		08 23 51.6	+0.2
BZS	Buzias	0.92	246	↑iP		Pb		08 23 51.6	+0.2
BZS				iS		Sn		08 24 05.4	-0.1
VOIR		1.66	109	↑iP		Pb		08 24 03.8	-0.3
VOIR		1.66	109	↑iP		Pb		08 24 03.8	-0.3
VOIR				iS		Sb		08 24 25.2	+0.2

IDC 15 08:27:05.7±1.1, 36°.70N×141°.41E, h0km, mb3.7/6, mb1 3.7/8, mb1mx3.5/61, mbtmp3.6/8, ML2.6/2, Error ellipse: s-maj=31.4km s-min=20.9km az=69.0
ISCJB 15 08:27:06.6±1.3, 36°.32N±0°.03×141°.67E±0°.08, h25km±8km, mb3.7/6, Error ellipse: s-maj=10.6km s-min=5.8km az=179.5
JMA 15 08:27:08.2±0.2, 36°.28N×141°.52E, h50km±4km, M3.4

ISC 15 08:27:05.9±1.9, 36°.32N±0°.03×141°.42E±0°.07, h7km±12km, n21, σ1s78/28, mb3.7/6, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
JHO	Hitachi	0.74	293	P		Pn		08 27 23.6	+0.8
JHO				S		Sn		08 27 36.3	+2.0
CHOJ	Chosi	0.77	216	P		Pn		08 27 23.1	0.0
CHOJ				S		Sn		08 27 34.9	+0.1
ONAJ	Iwakimizuishiy	0.92	328	P		Pn		08 27 26.3	+1.0
JFK	Kawauchi	1.13	338	P		Pn		08 27 28.5	+0.4
JFT	Otama	1.47	324	P		Pg		08 27 34.7	+0.5
JAG	Ashikaga	1.59	274	P		Pg		08 27 36.0	-0.4
JMM	Marumori	1.62	342	P		Pb		08 27 36.1	0.0
JMM				eS		Sb		08 27 56.8	+0.1
BSO3	Boso 3	1.69	206	P		Pb		08 27 37.3	+0.2
BSO3				S		Sb		08 27 58.9	+0.5
BSO1	Boso 1	1.70	192	S		Sn		08 27 57.6	+0.4
JFY	Yanaizu	1.75	309	P		Pg		08 27 39.5	+0.1
MJAR	Matsushiro Arr	2.59	276	Pn		Pn		08 27 48.7	+0.5
	5.0nm,0.3s,baz=210,slow=14,SNR=43								
MJAR				Sn		Sb		08 28 25.1	+0.3
	5.1nm,0.3s,baz=149,slow=13,SNR=7.1								
MAT	Matsushiro	2.60	276	P		Pb		08 27 51.4	-1.4
MAT				S		Sb		08 28 23.8	-1.1
JHJ	Hachijo jima 2	3.47	203	Pn		Pn		08 28 00.8	+0.5
	21nm,0.3s,baz=336,slow=22,SNR=17								
JHJ				Sn		Sn		08 28 38.1	-3.4
	34nm,0.3s,baz=57,slow=23,SNR=11								
USRK	Ussuriysk Ar.	10.66	320	Pn		Pn		08 29 37.0	-1.9
	0.1nm,0.3s,baz=106,slow=15,SNR=2.5								
KSRS	Korea Array	10.87	280	Pn		Pn		08 29 46.0	+4.3
	0.2nm,0.3s,baz=94,slow=13,SNR=5.8								
SONM	Songino Array	28.19	305	P		P		08 32 57.9	-1.1
	0.9nm,0.7s,baz=105,slow=9.2,SNR=5.7								
ZALV	Zalesovo Beam	42.40	313	P		P		08 34 59.7	-1.0
	1.0nm,0.3s,baz=131,slow=5.9,SNR=2.6								
ILAR	Eielson Array	50.09	32	P		P		08 35 59.8	-1.3
	0.4nm,0.9s,baz=292,slow=6.1,SNR=4.8								
WRA	Warramunga Arr	56.36	188	P		P		08 36 51.4	+3.8
	0.5nm,0.6s,baz=3.6,slow=7.4,SNR=6.8								
AKTO	Aktyubinsk	59.15	312	P		P		08 37 05.6	-1.5
	0.9nm,0.6s,baz=59,slow=12,SNR=2.7								
ASAR	Alice Springs	60.09	188	P		P		08 37 17.1	+3.4
	0.2nm,0.7s,baz=16,slow=12,SNR=2.7								

ATH 15 08:29:42.9, 37°.18N×22°.00E, h9km±3km, ML2.0/8, Error ellipse: s-maj=3.8km s-min=1.0km az=233.0
CSEM 15 08:29:42.8±0.2, 37°.18N×22°.00E, h5km, ML2.0, Error ellipse: s-maj=4.5km s-min=4.0km az=54.0

THE 15 08:29:43.4, 37°.18N×22°.02E, h0km±1km, Error ellipse: s-maj=1.2km s-min=0.4km az=224.0, Southern Greece

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
ITM	Ithomi	0.08	268	P		Pg		08 29 44.8	-0.1
ITM				S		Sg		08 29 44.9	-1.0
ITM	Ithomi	0.08	268	S		Sg		08 29 44.9	-1.0
ITM	Ithomi	0.08	268	P		Pg		08 29 45.0	+0.1
ITM	Ithomi	0.08	268	P		Pg		08 29 45.0	+0.1
ITM					AML	AML		08 29 46.8	
	comp=N,8507μm,0.3s								
ITM					AML	AML		08 29 46.8	
	comp=E,11218μm,0.3s								
VLX	Vlachokerasia	0.34	56	P		Pg		08 29 50.0	+0.1
VLX				S		Sg		08 29 55.2	+0.9
VLX	Vlachokerasia	0.34	56	P		Pg		08 29 49.8	-0.1
VLX				S		Sg		08 29 55.0	+0.7
VLX	Vlachokerasia	0.34	56	P		Pg		08 29 49.8	-0.1
VLX				S		Sg		08 29 55.1	+0.7
VLX					AML	AML		08 29 55.8	
	comp=E,1997μm,0.3s								
VLX					AML	AML		08 29 56.3	
	comp=N,1491μm,0.3s								
PYL	PYLOS	0.36	218	P		Pg		08 29 50.3	-0.1
PYL				S		Sg		08 29 56.2	+1.1
PYL	PYLOS	0.36	218	P		Pg		08 29 49.2	-1.2
PYL				S		Sg		08 29 55.2	+0.1
PYL	PYLOS	0.36	218	P		Pg		08 29 49.2	-1.1
PYL				S		Sg		08 29 55.3	+0.2
PYL					AML	AML		08 29 58.2	
	comp=E,501μm,0.2s								
PYL					AML	AML		08 29 58.3	
	comp=N,360μm,0.3s								
TRIP	Tripoli	0.40	30	P		Pg		08 29 49.9	-1.1
TRIP				S		Sg		08 29 57.3	+1.1
TRIP	Tripoli	0.40	30	P		Pg		08 29 49.9	-1.1
TRIP				S		Sg		08 29 57.3	+1.2
TRIP					AML	AML		08 29 58.9	
	comp=N,300μm,0.3s								
TRIP					AML	AML		08 29 59.4	
	comp=E,461μm,0.3s								
AMT	Artemida-Makis	0.43	324	P		Pg		08 29 51.7	0.0
AMT				S		Sg		08 29 58.2	+1.0
AMT	Artemida-Makis	0.43	324	P		Pg		08 29 51.5	-0.2
AMT				S		Sg		08 29 57.0	-0.2
AMT	Artemida-Makis	0.43	324	P		Pg		08 29 51.5	-0.2
AMT				S		Sg		08 29 57.0	-0.2
AMT					AML	AML		08 29 59.3	
	comp=E,2098μm,0.2s								
AMT					AML	AML		08 29 59.6	
	comp=N,3685μm,0.2s								
DRO	Drossia	0.81	342	P		Pg		08 29 58.7	-0.2
DRO				S		Sb		08 30 10.6	-1.2
DRO	Drossia	0.81	342	P		Pg		08 29 58.7	-0.2
DRO				S		Sg		08 30 10.4	+1.0
DRO	Drossia	0.81	342	P		Pg		08 29 58.1	-0.7
DRO				S		Sg		08 30 10.4	+1.1
KLV	Kalavryta, Ach	0.86	7	P		Pg		08 29 59.4	-0.6
KLV				S		Sg		08 30 12.1	+0.9
KLV	Kalavryta, Ach	0.86	7	P		Pg		08 29 59.4	-0.6
KLV				S		Sg		08 30 12.0	+0.8
KLV	Kalavryta, Ach	0.86	7	P		Pg		08 29 59.4	-0.6
KLV				S		Sg		08 30 12.0	+0.7
KLV					AML	AML		08 30 12.9	
	comp=N,80μm,0.3s								
KLV					AML	AML		08 30 13.8	
	comp=E,99μm,0.4s								
VLI	Veliai	0.87	122	P		Pg		08 30 00.6	+0.6
VLI	Veliai	0.87	122	P		Pg		08 30 00.6	+0.6
RLS	Riolos of Patr	0.98	333	P		Pg		08 30 01.4	-0.8
RLS				S		Sg		08 30 15.0	+0.1
RLS	Riolos of Patr	0.98	333	P		Pg		08 30 01.4	-0.8
RLS				S		Sg		08 30 15.0	+0.1
RLS					AML	AML		08 30 19.3	
	comp=N,151μm,0.2s								
RLS					AML	AML		08 30 20.0	
	comp=E,113μm,0.5s								
TRAZ	Trapeza	0.99	9	P		Pg		08 30 00.5	-2.0
TRAZ	Trapeza	0.99	9	P		Pg		08 30 00.5	-2.0
DID	Didima	1.02	71	P		Pg		08 30 02.3	-0.6
DID				S		Sg		08 30 16.4	+0.2
DID	Didima	1.02	71	P		Pg		08 30 02.3	-0.6
DID				S		Sg		08 30 16.4	+0.2
DID					AML	AML		08 30 21.2	
	comp=E,141μm,0.3s								
DID					AML	AML		08 30 22.5	
	comp=N,105μm,0.4s								
LTK	Loutraki	1.12	41	P		Pb		08 30 06.0	+0.3
LTK	Loutraki	1.12	41	P		Pb		08 30 06.0	+0.2
AXS	Araxos	1.13	333	P		Pg		08 30 04.9	-0.3
AXS				S		Sg		08 30 22.2	+0.3
AXS	Araxos	1.13	333	P		Pg		08 30 04.9	-0.3
AXS				S		Sg		08 30 20.2	+0.3
KYTH	Kithira	1.23	138	P		Pn		08 30 08.7	+0.8
PVO	Paravola	1.48	345	P		Pn		08 30 09.3	-2.1
PVO	Paravola	1.48	345	P		Pn		08 30 09.3	-2.0

ATH 15 08:30:24.4, 34°.58N×25°.41E, h23km±3km, ML2.2/2, Error ellipse: s-maj=5.2km s-min=1.4km az=355.0
CSEM 15 08:30:24.0±0.6, 34°.53N×25°.44E, h10km, ML2.2, Error ellipse: s-maj=11.0km s-min=5.5km az=162.0

THE 15 08:30:22.5, 34°.49N×25°.53E, h7km±4km, Error ellipse: s-maj=4.5km s-min=0.8km az=115.0, Crete

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
LAST	Lasithi	0.68	356	P		Pg		08 30 35.6	+0.1
LAST				S		Sg		08 30 45.3	+1.0
LAST	Lasithi	0.68	356	P		Pg		08 30 35.6	+0.1
LAST				S		Sb		08 30 45.8	-0.5
LAST	Lasithi	0.68	356	P		Pg		08 30 35.7	+0.2
LAST				S		Sg		08 30 45.3	+1.0
LAST	Lasithi	0.68	356	P		Pg		08 30 35.7	+0.2
NPS	Neapolis	0.78	5	P		Pg		08 30 36.9	-0.6
NPS				S		Sg		08 30 47.8	+0.2
NPS	Neapolis	0.78	5	P		Pg		08 30 37.5	0.0
NPS				S		Sb		08 30 49.0	-0.2
NPS	Neapolis	0.78	5	P		Pg		08 30 37.5	0.0
NPS				S		Sb		08 30 49.0	-0.2
NPS	Neapolis	0.78	5	P		Pg		08 30 37.1	-0.3
SIVA	Sivas	0.80	312	P		Pg		08 30 37.7	-0.1
SIVA				S		Sg		08 30 47.3	-0.9
SIVA	Sivas	0.80	312	P		Pg		08 30 37.7	-0.1
SIVA				S		Sb		08 30 49.8	+0.1
SIVA	Sivas	0.80	312	P		Pg		08 30 37.4	-0.4
SIVA				S		Sg		08 30 47.3	-0.9
SIVA	Sivas	0.80	312	P		Pg		08 30 37.4	-0.4
ZKR	Zakros	0.84	42	P		Pn		08 30 40.5	-0.3
ZKR				S		Sn		08 30 54.1	+0.6
ZKR	Zakros	0.84	42	P		Pn		08 30 40.5	-0.4
ZKR				S		Sn		08 30 54.1	+0.6
ZKR					AML	AML		08 30 58.2	
	comp=E,583μm,0.4s								
ZKR					AML	AML		08 30 59.7	
	comp=N,247μm,0.5s								
IDI	Anoyia	0.96	327	P		Pg		08 30 40.5	-0.4
IDI	Anoyia	0.96	327	P		Pg		08 30 40.5	-0.4
IDI	Anoyia	0.96	327	P		Pg		08 30 40.5	-0.4
IDI				S		Sg		08 30 52.5	-0.9
IDI	Anoyia	0.96	327	P		Pg		08 30 40.2	-0.7
IDI				S		Sg		08 30 52.5	-0.9
IDI					AML	AML		08 30 55.5	
	comp=E,373μm,0.6s								
IDI					AML	AML		08 30 58.5	
	comp=N,242μm,0.3s								
GVD	Gavdhos	1.24	287	P		Pb		08 30 45.9	-0.4
GVD	Gavdhos	1.24	287	P		Pb		08 30 45.9	-0.4
VAM	Vamos	1.43	310	P		Pb		08 30 49.6	+0.1
VAM	Vamos	1.43	310	P		Pb		08 30 49.6	+0.1
IMMV	Iera Moni Meta	1.60	308	P		Pn		08 30 51.6	+0.3
IMMV	Iera Moni Meta	1.60	308	P		Pn		08 30 51.6	+0.3

IDC 15 08:30:35.8±1.0, 36°.19N×141°.71E, h0km, mb4.0/7, mb1 4.1/12, mb1mx3.8/67, mbtmp4.0/12, ML4.0/4, Error ellipse: s-maj=22.8km s-min=20.3km az=105.0
JMA 15 08:30:40.0±0.2, 36°.29N×141°.56E, h48km±4km, M3.9

ISC 15 08:30:36.8±1.7, 36°.21N±0°.04×141°.72E±0°.08, h8km±10km, n30, σ1s09/29, mb4.0/8, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
CHOJ	Chosi	0.86	234	P		Pn		08 30 55.4	+0.2
CHOJ				S		Sn		08 31 07.1	-0.8
JHO	Hitachi	1.01	294	P		Pg		08 30 55.8	-0.4
ONAJ	Iwakimizuishiy	1.16	321	P		Pg		08 30 58.0	-1.0
JFK	Kawauchi	1.34	330	P		Pn		08 31 00.8	-1.0
BSO1	Boso 1	1.67	201	P		Pb		08 31 07.7	+0.3
BSO1				S		Sg		08 31 30.3	0.0
JFT	Otama	1.71	320	P		Pn		08 31 07.3	+0.3
JFT				S		Sn		08 31 27.7	-1.3
BSO3	Boso 3	1.71	215	P		Pb		08 31 08.7	+0.3
JMM	Marumori	1.81	336	P		Pn		08 31 08.1	-0.2
JAG	Ashikaga	1.84	277	P		Pn		08 31 08.2	-0.5
JFY	Yanaizu	2.01	307	P		Pn		08 31 11.3	+0.3
MJAR	Matsushiro Arr	2.85	278	Pn		Pn		08 31 23.0	+0.4
	32nm,0.3s,baz=116,slow=8.6,SNR=62								
MJAR				Sn		Sn		08 31 57.3	+0.2
	12nm,0.3s,baz=112,slow=15,SNR=6.1								
MAT	Matsushiro	2.85	278	P		Pn		08 31 23.2	+0.6
MAT				S		Sn		08 31 56.4	-0.7
JHJ	Hachijo jima 2	3.47	208	Pn		Pn		08 31 32.5	+1.3
	37nm,0.3s,baz=273,slow=23,SNR=18								
JHJ				Sn		Sn		08 32 09.5	-2.9
	98nm,0.3s,baz=54,slow=23,SNR=12								
ASAJ	Asahikawa	7.93	5	Pn		Pn		08 32 33.9	+1.5
	4.3nm,0.3s,baz=90,slow=20,SNR=2.6								
USRK	Ussuriysk Ar.	10.90	320	Pn		Pn		08 33 14.1	+1.0
	0.2nm,0.3s,baz=124,slow=12,SNR=5.2								
KSRS	Korea Array	11.12	280	Pn		Pn		08 33 18.6	+2.5
	0.2nm,0.3s,baz=94,slow=14,SNR=7.3								
H11N2	WAKE ISLAND Hy	27.52	120	T		T		09 05 42.0	
	baz=311,slow=75,SNR=0.9								
H11N1	WAKE ISLAND Hy	27.53	120	T		T		09 05 37.3	
	baz=311,slow=75,SNR=6.6								
H11N3	WAKE ISLAND Hy	27.54	120	T		T		09 05 40.8	
	baz=311,slow=75,SNR=7.1								
H11S1	WAKE ISLAND Hy	28.21	122	T		T		09 06 24.3	
	baz=313,slow=75,SNR=8.1								
H11S3	WAKE ISLAND Hy	28.21	122	T		T		09 06 26.4	
	baz=313,slow=75,SNR=9.6								
H11S2	WAKE ISLAND Hy	28.23	122	T		T		09 06 31.8	
	baz=313,slow=75,SNR=6.5								
SONM	Songino Array	28.45	305	P		P		08 36 31.5	-0.8
	1.5nm,0.6s,baz=101,slow=7.7,SNR=7.4								
ZALV	Zalesovo Beam	42.65	313	P		P		08 38 33.1	-0.5
	1.5nm,0.3s,baz=85,slow=6.2,SNR=3.7								
ILAR	Eielson Array	50.06	32	P		P		08 39 33.2	+1.5
	1.1nm,0.8s,baz=264,slow=5.6,SNR=12								
WRA	Warramunga Arr	56.28	188	P		P		08 40 17.6	-0.3
	0.6nm,0.5s,baz=6.1,slow=7.3,SNR=11								
AKTO	Aktyubinsk	59.41	312	P		P		08 40 40.0	+0.4
	0.6nm,0.4s,baz=78,slow=7.3,SNR=5.1								
KBZ	Khabaz	71.62	311	P		P		08 41 58.3	-0.4
	0.9nm,0.7s,baz=51,slow=1.6,SNR=3.7								
NB2	NORSAR Subarra	75.04	337	P		P		08 42 30.1	+11
	comp=Z,2.3nm,0.6s,baz=40,slow=6.2								
PDAR	Pinedale Array	78.07	45	P		P		08 42 36.2	-0.2
	comp=Z,0.3nm,0.5s,baz=270,slow=3.0,SNR=4.6								

MOS 15 08:42:19.9±1.3, 35°.73N×25°.65E, h21km, mb4.6/31, Error ellipse: s-maj=6.9km s-min=3.8km az=97.9
ISK 15 08:42:19.6, 35°.57N×25°.44E, h32km, ML4.1
DDA 15 08:42:20.8, 36°.02N×25°.70E, h12km, Ml4.0
THE 15 08:42:21.8, 35°.80N×25°.68E, h14km, ML4.5/6, Error ellipse: s-maj=1.0km s-min=0.4km az=274.0
NEIC 15 08:42:21.0±0.0, 35°.80N×25°.65E, h31km, mb4.5/16, ML4.5(ATH), ML4.5(THE), After ATH.
NEIC Felt [II] at Irakleion.
ISCJB 15 08:42:21.9±0.2, 35°.72N±0°.01×25°.69E±0°.02, h41km±2km, mb4.5/42, MS5.1/1, Error ellipse: s-maj=2.5km s-min=2.1km az=29.0
ATH 15 08:42:21.1, 35°.80N×25°.66E, h31km, ML4.5/16, Error ellipse: s-maj=0.8km s-min=0.5km az=225.0
CSEM 15 08:42:22.6±0.1, 35°.73N×25°.65E, h30km, mb4.4/11, Error ellipse: s-maj=3.1km s-min=2.3km az=33.0
IDC 15 08:42:22.0±4.2, 35°.85N×25°.58E, h26km±29km, mb4.2/20, mb1 4.3/26, mb1mx4.1/60, mbtmp4.3/26, ML3.8/6, MS4.6/1, Ms1 4.6/1, ms1mx3.8/46, Error ellipse: s-maj=14.3km s-min=9.5km az=140.0
HLW 15 08:42:25.4, 35°.71N×25°.90E, h32km±15km, Md4.1, Ml4.0
NIC 15 08:42:29.3±0.3, 36°.81N×26°.47E, h25km, mb4.9, ML4.5
GII 15 08:42:29.0±0.0, 35°.16N×26°.00E, h30km, mb4.1/2, MD3.7/4

ISC 15 08:42:22.0±0.7, 35°.78N±0°.02×25°.71E±0°.02, h27km±5km, n543, σ1s80/607, mb4.5/42, 14C-4D, Crete

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
NPS	Neapolis	0.53	189	P		Pb		08 42 32.4	-0.4
NPS				S		Sb		08 42 40.9	+0.9
NPS	Neapolis	0.53	189	P		Pb		08 42 32.4	-0.4
NPS	Neapolis	0.53	189	P		Pb		08 42 32.4	-0.4
NPS				S		Sb		08 42 40.9	+0.9
NPS	Neapolis	0.53	189	P		Pb		08 42 32.2	-0.6
NPS				S		Sn		08 42 41.2	-0.6
NPS					AML	AML		08 42 42.6	
	comp=E,85826μm,0.5s								
NPS					AML	AML		08 42 42.7	
	comp=N,44118μm,0.2s								
NPS	Neapolis	0.53	189	P		Pb		08 42 32.4	-0.4
SANT	Santorini	0.62	341	P		Pb		08 42 33.4	-1.0
SANT				S		Sb		08 42 42.7	-0.1
SANT	Santorini	0.62	341	ePg		Pb		08 42 33.7	-0.7
SANT				S		Sb		08 42 42.7	-0.1
SANT	Santorini	0.62	341	P		Pb		08 42 33.6	-0.7
SANT				S		Sb		08 42 41.0	-0.8
SANT					AML	AML

comp=E,50994µm,0.3s
IDI AML AML 08 42 50.6
comp=N,64241µm,0.4s
IDI Anoyia 0.83 234 *e*Pg **Pb 08 42 36.9 -1.0**
IDI *e*Sg **Sb 08 42 48.2 -0.5**
SIVA Sivas 1.06 224 P **Pn 08 42 41.0 -0.1**
SIVA Sivas 1.06 224 P **Pn 08 42 41.0 -0.1**
SIVA S **Sb 08 42 55.1 -0.1**
SIVA Sivas 1.06 224 P **Pb 08 42 41.4 -0.3**
SIVA S **Sb 08 42 55.1 -0.1**
SIVA AML AML 08 42 57.4
comp=N,24041µm,0.3s
SIVA AML AML 08 42 57.4
comp=E,73734µm,0.7s
SIVA Sivas 1.06 224 *e*Pn **Pn 08 42 41.0 -0.1**
KARP Karpathos 1.21 101 *e*PN **Pn 08 42 43.5 +0.3**
KARP *e*SN **Sb 08 43 00.5 +1.1**
KARP Karpathos 1.21 101 P **Pn 08 42 43.8 +0.6**
KARP Karpathos 1.21 101 *e*Pn **Pn 08 42 43.5 +0.3**
KARP Karpathos 1.21 101 P **Pn 08 42 43.8 +0.6**
KARP S **Sb 08 43 00.3 +0.9**
KARP Karpathos 1.21 101 P **Pn 08 42 43.7 +0.5**
KARP S **Sb 08 43 00.4 +1.1**
KARP AML AML 08 43 04.7
comp=N,21036µm,0.3s
KARP AML AML 08 43 04.8
comp=E,35477µm,0.8s
KARP Karpathos 1.21 101 *e*Pn **Pn 08 42 43.8 +0.6**
KARP *e*Sn **Sb 08 43 00.6 +1.1**
VAM Vamos 1.29 253 P **Pn 08 42 43.9 -0.3**
VAM Vamos 1.29 253 P **Pn 08 42 43.9 -0.3**
VAM S **Sb 08 43 00.9 -0.8**
VAM Vamos 1.29 253 P **Pn 08 42 44.1 -0.2**
VAM S **Sn 08 43 00.8 +0.2**
VAM AML AML 08 43 03.2
comp=E,12758µm,0.3s
VAM AML AML 08 43 04.8
comp=N,16068µm,0.6s
APE Apeiranthos 1.29 354 *e*PN **Pn 08 42 44.1 -0.3**
APE Apeiranthos 1.29 354 P **Pn 08 42 44.0 -0.4**
APE S **Sb 08 43 04.1 +2.2**
APE Apeiranthos 1.29 354 ⇑*i*P **Pn 08 42 43.7 -0.7**
APE Apeiranthos 1.29 354 ⇑P **Pn 08 42 43.7 -0.7**
APE 08 43 06.0
APE Apeiranthos 1.29 354 *e*Pn **Pn 08 42 44.1 -0.3**
APE S **Sb 08 43 04.1 +2.2**
APE Apeiranthos 1.29 354 P **Pn 08 42 43.7 -0.7**
APE AML AML 08 43 05.5
comp=E,9138µm,0.2s
APE AML AML 08 43 08.4
comp=N,11969µm,0.3s
APE Apeiranthos 1.29 354 *e*Pn **Pn 08 42 44.0 -0.4**
MHLO Agia Marina, M 1.39 311 P **Pn 08 42 46.3 +0.6**
MHLO S **Sb 08 43 05.0 +0.3**
MHLO Agia Marina, M 1.39 311 P **Pn 08 42 46.3 +0.6**
MHLO S **Sb 08 43 04.9 +0.2**
MHLO AML AML 08 43 08.3
comp=N,58223µm,0.5s
MHLO AML AML 08 43 08.7
comp=E,70558µm,0.6s
NISR Nisiros 1.42 54 P **Pn 08 42 46.4 +0.4**
NISR Nisiros 1.42 54 P **Pn 08 42 46.9 +0.9**
NISR Nisiros 1.42 54 P **Pn 08 42 46.9 +0.9**
NISR AML AML 08 43 12.1
comp=N,20568µm,0.8s
NISR AML AML 08 43 14.2
comp=E,28825µm,0.6s
NISR Nisiros 1.42 54 *e*Pn **Pn 08 42 46.4 +0.4**
NIS1 Nisyros Isl. 1.44 55 *e*PN **Pb 08 42 48.3 0.0**
NIS1 Nisyros Isl. 1.44 55 P **Pb 08 42 48.3 0.0**
NIS1 Nisyros Isl. 1.44 55 P **Pb 08 42 48.3 0.0**
IMMV Iera Moni Meta 1.44 258 P **Pn 08 42 46.0 -0.4**
IMMV Iera Moni Meta 1.44 258 P **Pn 08 42 46.0 -0.4**
IMMV Iera Moni Meta 1.44 258 P **Pn 08 42 45.7 -0.7**
IMMV AML AML 08 43 10.6
comp=E,20735µm,0.6s
IMMV AML AML 08 43 12.4
comp=N,22477µm,0.6s
GVD Gavdhos 1.63 235 P **Pn 08 42 49.1 +0.2**
GVD S **Sn 08 43 09.6 +0.6**
GVD Gavdhos 1.63 235 P **Pn 08 42 49.1 +0.2**
GVD S **Sn 08 43 09.6 +0.6**
GVD Gavdhos 1.63 235 P **Pb 08 42 50.7 -0.7**
GVD Gavdhos 1.63 235 *e*Pn **Pn 08 42 49.1 +0.2**
DAT Datca 1.78 57 *e*PN **Pb 08 42 52.8 -1.3**
DAT Datca 1.78 57 *i*P **Pn 08 42 52.5 +1.3**
DAT Datca 1.78 57 P **Pn 08 42 52.5 +1.3**
DAT Datca 1.78 57 *e*Pn **Pb 08 42 52.8 -1.3**
BODT Bodrum 1.82 45 *e*PN **Pb 08 42 53.5 -1.1**
BODT Bodrum 1.82 45 P **Pn 08 42 51.7 +0.2**
BODT Bodrum 1.82 45 P **Pn 08 42 51.7 +0.2**
BODT Bodrum 1.82 45 *e*Pn **Pb 08 42 53.5 -1.1**
BODT Bodrum 1.82 45 *e*Pn **Pn 08 42 51.7 +0.2**
BDRM Kayabasi 1.90 47 *i*P **Pn 08 42 53.3 +0.7**
BDRM Kayabasi 1.90 47 P **Pn 08 42 53.3 +0.7**
ANKY Antikythira Is 1.96 273 P **Pn 08 42 53.0 -0.5**
ANKY Antikythira Is 1.96 273 P **Pn 08 42 53.0 -0.5**
ANKY Antikythira Is 1.96 273 P **Pn 08 42 52.5 -1.0**
ANKY Antikythira Is 1.96 273 *e*Pn **Pn 08 42 53.0 -0.5**
ARG Arkhangelos 2.01 77 P **Pb 08 42 56.9 -0.9**
ARG S **Sb 08 43 21.4 -1.0**
ARG Arkhangelos 2.01 77 P **Pb 08 42 56.9 -0.9**
ARG S **Sb 08 43 21.4 -1.0**
ARG AML AML 08 43 22.3
comp=N,11846µm,0.5s
ARG AML AML 08 43 23.2
comp=E,11276µm,0.5s
SMG Samos 2.12 25 P **Pn 08 42 55.1 -0.7**
SMG Samos 2.12 25 P **Pn 08 42 55.1 -0.7**
KYTH Kithira 2.21 283 P **Pn 08 42 56.9 -0.1**
KYTH Kithira 2.21 283 P **Pn 08 42 57.5 +0.5**
KYTH Kithira 2.21 283 *e*Pn **Pn 08 42 56.9 -0.1**
MRSB Marmaris-Mugla 2.22 64 *e*PN **Pn 08 42 58.9 +1.8**
MRSB Marmaris-Mugla 2.22 64 *e*Pn **Pn 08 42 58.9 +1.8**
MLSB Milas 2.25 47 *e*PN **Pb 08 42 59.9 -2.0**
MLSB Milas 2.25 47 *e*Pn **Pb 08 42 59.9 -2.0**
GCAM G?zelcaml? 2.27 32 *i*P **Pn 08 42 58.2 +0.4**
GCAM G?zelcaml? 2.27 32 P **Pn 08 42 58.2 +0.4**
VLI Veliai 2.43 293 P **Pn 08 42 59.8 -0.1**
VLI Veliai 2.43 293 P **Pn 08 42 59.8 -0.1**
VLI Veliai 2.43 293 P **Pn 08 42 59.3 -0.6**
VLI Veliai 2.43 293 *e*Pn **Pn 08 42 59.8 -0.1**
DGB ˙zmir 2.45 22 *i*P **Pn 08 43 01.1 +0.8**
KARY Karystos 2.46 336 P **Pn 08 43 00.7 +0.2**
KARY Karystos 2.46 336 P **Pn 08 43 00.7 +0.2**
VLY Voula,Athens 2.57 324 P **Pn 08 43 02.0 0.0**
VLY Voula,Athens 2.57 324 P **Pn 08 43 02.0 0.0**
TURN Turunc 2.58 64 *i*P **Pn 08 42 59.3 -2.7**
TURN *i*S **Sn 08 43 30.2 -2.2**
TURN Turunc 2.58 64 P **Pn 08 42 59.3 -2.7**
TURN S **Sn 08 43 30.2 -2.2**
DALY Dalyan (Mu˘la 2.59 66 *e*PN **Pn 08 43 04.4 +2.2**
DALY Dalyan (Mu˘la 2.59 66 *i*P **Pb 08 43 06.4 -1.4**
DALY *i*S **Sb 08 43 37.6 -1.6**
DALY Dalyan (Mu˘la 2.59 66 *e*Pn **Pn 08 43 04.4 +2.2**
DALY Dalyan (Mu˘la 2.59 66 P **Pb 08 43 06.4 -1.4**
DALY S **Sb 08 43 37.6 -1.6**
CHOS Chios island 2.61 6 P **Pn 08 43 02.6 0.0**
CHOS Chios island 2.61 6 P **Pn 08 43 02.6 0.0**
CHOS Chios island 2.61 6 P **Pn 08 43 01.8 -0.7**
CHOS Chios island 2.61 6 *e*Pn **Pn 08 43 02.6 0.0**
DID Didima 2.63 312 P **Pn 08 43 02.6 -0.2**
DID Didima 2.63 312 P **Pn 08 43 02.5 -0.2**
URLA Izmir 2.67 15 *e*PN **Pn 08 43 06.0 +2.7**
URLA Izmir 2.67 15 *e*Pn **Pn 08 43 06.0 +2.7**
ATHU Athens Univers 2.67 325 P **Pn 08 43 03.0 -0.3**
ATHU Athens Univers 2.67 325 P **Pn 08 43 03.0 -0.3**
ATHU Athens Univers 2.67 325 *e*Pn **Pn 08 43 03.0 -0.3**
PTL Penteli 2.70 327 P **Pn 08 43 03.1 -0.6**
PTL Penteli 2.70 327 P **Pn 08 43 04.2 +0.5**
PTL Penteli 2.70 327 P **Pn 08 43 04.2 +0.5**
PTL Penteli 2.70 327 *e*Pn **Pn 08 43 03.1 -0.6**
ATH Athens Observa 2.71 324 P **Pn 08 43 04.5 +0.7**
ATH Athens Observa 2.71 324 P **Pn 08 43 04.4 +0.7**
AYDB Zeytinkoy-Aydi 2.78 38 *e*PN **Pn 08 43 07.1 +2.2**
AYDB Zeytinkoy-Aydi 2.78 38 *e*Pn **Pn 08 43 07.1 +2.2**
FETY Fethiye 2.86 72 *e*PN **Pn 08 43 08.5 +2.6**
FETY Fethiye 2.86 72 P **Pn 08 43 06.0 +0.1**
FETY S **Sn 08 43 40.4 +1.0**
FETY Fethiye 2.86 72 P **Pn 08 43 06.0 +0.1**
FETY Fethiye 2.86 72 *e*Pn **Pn 08 43 08.5 +2.6**
FETY *e*Sn **Sn 08 43 40.4 +1.0**
EREA Eretria 2.99 332 P **Pn 08 43 07.6 -0.1**
EREA Eretria 2.99 332 P **Pn 08 43 07.6 -0.1**
LOUT Loutraki 3.11 316 P **Pn 08 43 09.2 -0.1**
LOUT Loutraki 3.11 316 P **Pn 08 43 09.2 -0.1**
VLX Vlachokerasia 3.11 302 P **Pn 08 43 11.9 +2.4**
VLX Vlachokerasia 3.11 302 P **Pn 08 43 11.9 +2.4**
LTK Loutraki 3.13 316 P **Pn 08 43 11.3 +1.6**
LTK Loutraki 3.13 316 P **Pn 08 43 11.2 +1.6**
KSL Kastellorizon 3.16 82 P **Pn 08 43 13.5 +3.5**
AKAS Kas 3.19 81 *e*PN **Pn 08 43 12.8 +2.3**
AKAS Kas 3.19 81 *i*P **Pn 08 43 12.9 +2.4**
AKAS *i*S **Sn 08 43 48.8 +1.0**
AKAS Kas 3.19 81 *e*Pn **Pn 08 43 12.8 +2.3**
AKAS S **Sn 08 43 48.8 +1.0**
AKAS Kas 3.19 81 *e*Pn **Pn 08 43 13.6 +3.0**
DENT Denizli 3.32 53 *e*PN **Pn 08 43 14.7 +2.5**
DENT Denizli 3.32 53 *e*Pn **Pn 08 43 14.7 +2.5**
ITM Ithomi 3.35 296 P **Pn 08 43 14.7 +2.0**
ITM Ithomi 3.35 296 P **Pn 08 43 14.6 +2.0**
DKL Dikili 3.42 16 *e*PN **Pn 08 43 16.7 +3.2**
DKL Dikili 3.42 16 *e*Pn **Pn 08 43 16.7 +3.2**
SIGR SIGRI 3.42 2 P **Pn 08 43 13.8 +0.2**
SIGR SIGRI 3.42 2 P **Pn 08 43 13.8 +0.2**
SIGR SIGRI 3.42 2 P **Pn 08 43 12.9 -0.7**
SIGR SIGRI 3.42 2 *e*Pn **Pn 08 43 13.8 +0.2**
GOLH Golhisar 3.43 64 *i*P **Pn 08 43 17.7 +3.9**
GOLH *i*S **Sn 08 43 58.0 +4.5**
GOLH Golhisar 3.43 64 P **Pn 08 43 17.7 +3.9**
GOLH S **Sn 08 43 58.0 +4.5**
PRK Paraskevi 3.49 7 P **Pn 08 43 14.4 -0.1**
PRK Paraskevi 3.49 7 *e*P **Pn 08 43 14.4 -0.1**
PRK Paraskevi 3.49 7 P **Pn 08 43 14.4 -0.1**
PRK Paraskevi 3.49 7 P **Pn 08 43 13.7 -0.8**
PRK Paraskevi 3.49 7 *e*Pn **Pn 08 43 14.4 -0.1**
AKS Akhisar 3.52 28 *e*PN **Pn 08 43 18.2 +3.3**
AKS Akhisar 3.52 28 *e*Pn **Pn 08 43 18.2 +3.3**
ELL Elmali 3.53 73 *e*PN **Pn 08 43 18.4 +3.2**
ELL Elmali 3.53 73 *e*Pn **Pn 08 43 18.4 +3.2**
MANT Manisa 3.53 39 *i*P **Pn 08 43 15.5 +0.1**
MANT Manisa 3.53 39 *e*Pn **Pn 08 43 14.0 -1.3**
MANT Manisa 3.53 39 P **Pn 08 43 15.5 +0.1**
MANT Manisa 3.53 39 *e*Pn **Pn 08 43 14.0 -1.3**
LKR Lokris 3.59 324 P **Pn 08 43 16.7 +0.8**
LKR Lokris 3.59 324 P **Pn 08 43 16.7 +0.8**
KULA Kula-Manisa 3.60 40 *e*PN **Pn 08 43 19.2 +3.0**
KULA Kula-Manisa 3.60 40 *e*Pn **Pn 08 43 19.2 +3.0**
KLV Kalavryta, Ach 3.64 309 P **Pn 08 43 16.6 0.0**
KLV Kalavryta, Ach 3.64 309 P **Pn 08 43 16.6 0.0**
KLV Kalavryta, Ach 3.64 309 P **Pn 08 43 18.5 +1.9**
KLV Kalavryta, Ach 3.64 309 *e*Pn **Pn 08 43 16.6 0.0**
DSF Desfina 3.65 317 P **Pn 08 43 17.1 +0.3**
DSF Desfina 3.65 317 P **Pn 08 43 17.1 +0.3**
DSF Desfina 3.65 317 P **Pn 08 43 17.7 +0.8**
DSF Desfina 3.65 317 *e*Pn **Pn 08 43 17.1 +0.3**
AMT Artemida-Makis 3.66 300 P **Pn 08 43 18.2 +1.3**
AMT Artemida-Makis 3.66 300 P **Pn 08 43 18.2 +1.3**
SMIA Simia 3.68 328 P **Pn 08 43 17.4 +0.3**
SMIA Simia 3.68 328 P **Pn 08 43 17.4 +0.3**
AOS Alonnisos 3.68 337 P **Pn 08 43 17.2 0.0**
AOS Alonnisos 3.68 337 P **Pn 08 43 17.1 0.0**
SKIA Skiathos 3.82 333 P **Pn 08 43 18.9 -0.2**
SKIA Skiathos 3.82 333 P **Pn 08 43 18.9 -0.2**
KALE Kalithea 3.86 313 P **Pn 08 43 19.9 +0.2**
KALE Kalithea 3.86 313 P **Pn 08 43 19.9 +0.2**
KALE Kalithea 3.86 313 *e*Pn **Pn 08 43 19.9 +0.2**
LAKA Lakka 3.86 311 P **Pn 08 43 20.1 +0.4**
LAKA Lakka 3.86 311 P **Pn 08 43 20.1 +0.4**
LAKA Lakka 3.86 311 *e*Pn **Pn 08 43 20.1 +0.4**
DRO Drossia 3.87 305 P **Pn 08 43 21.3 +1.5**
DRO Drossia 3.87 305 P **Pn 08 43 21.3 +1.5**
DRO Drossia 3.87 305 P **Pn 08 43 22.5 +2.8**
KORT Korkueli 3.94 71 *e*PN **Pn 08 43 23.5 +2.7**
KORT Korkueli 3.94 71 *i*P **Pn 08 43 24.5 +3.7**
KORT *i*S **Sb 08 44 13.1 -4.9**
KORT Korkueli 3.94 71 *e*Pn **Pn 08 43 23.5 +2.7**
KORT Korkueli 3.94 71 P **Pn 08 43 24.5 +3.7**
KHL Karahalli 3.97 49 *e*PN **Pn 08 43 24.3 +3.1**
KHL Karahalli 3.97 49 *e*Pn **Pn 08 43 24.3 +3.1**
NEO Neokhori 4.03 331 P **Pn 08 43 22.6 +0.6**
NEO Neokhori 4.03 331 P **Pn 08 43 22.6 +0.6**
RLS Riolos of Patr 4.09 305 P **Pn 08 43 24.2 +1.5**
RLS Riolos of Patr 4.09 305 P **Pn 08 43 24.0 +1.5**
XOR Xorichti 4.10 332 P **Pn 08 43 23.3 +0.4**
XOR Xorichti 4.10 332 P **Pn 08 43 23.3 +0.4**
XOR Xorichti 4.10 332 P **Pn 08 43 23.2 +0.4**
XOR Xorichti 4.10 332 *e*Pn **Pn 08 43 23.3 +0.4**
ANTB Antalya 4.14 73 *e*PN **Pn 08 43 26.4 +2.9**
ANTB Antalya 4.14 73 *e*Pn **Pn 08 43 26.4 +2.9**
SIMA Simav-Kutahya 4.20 37 *e*PN **Pn 08 43 27.5 +3.1**
SIMA Simav-Kutahya 4.20 37 *e*Pn **Pn 08 43 27.5 +3.1**
AGG Agios Georgios 4.21 321 *e*P **Pn 08 43 23.5 -0.9**
AGG Agios Georgios 4.21 321 *e*P **Pn 08 43 23.5 -0.9**
AGG Agios Georgios 4.21 321 *e*Pn **Pn 08 43 26.8 +2.3**
AGG Agios Georgios 4.21 321 *e*Pn **Pn 08 43 23.5 -0.9**
BCK Bucak 4.27 65 *e*PN **Pn 08 43 28.4 +3.1**
BCK Bucak 4.27 65 *e*Pn **Pn 08 43 28.4 +3.1**
SLUM Salum 4.30 186 P **Pn 08 43 26.2 +0.5**
baz=188
SLUM S **Sn 08 44 12.6 -2.3**
baz=188
SLUM Salum 4.30 186 P **Pn 08 43 26.2 +0.5**
SLUM S **Sn 08 44 12.6 -2.3**
ISP Isparta 4.37 61 ⇑*i*P Pn 08 43 31.6 +4.9
ISP Isparta 4.37 61 *e*P **Pn 08 43 31.1 +4.4**
ISP Isparta 4.37 61 *e*P **Pn 08 43 31.1 +4.4**
ISP Isparta 4.37 61 *e*Pn **Pn 08 43 31.1 +4.4**
PVO Paravola 4.38 312 P **Pn 08 43 29.6 +2.9**
EVR Evrytania 4.41 316 P **Pn 08 43 28.4 +1.1**
EVR Evrytania 4.41 316 P **Pn 08 43 28.3 +1.1**
PAIG Paliouri 4.44 339 P **Pn 08 43 27.7 +0.2**
PAIG Paliouri 4.44 339 *e*P **Pn 08 43 27.7 +0.2**
PAIG Paliouri 4.44 339 P **Pn 08 43 27.7 +0.2**
PAIG Paliouri 4.44 339 P **Pn 08 43 27.2 -0.4**
PAIG Paliouri 4.44 339 *e*Pn **Pn 08 43 27.7 +0.2**
KFL Anninata 4.57 302 P **Pn 08 43 31.8 +2.3**
KFL Anninata 4.57 302 P **Pn 08 43 31.8 +2.3**
PDO Prodromos 4.58 309 P **Pn 08 43 31.0 +1.5**
PDO Prodromos 4.58 309 P **Pn 08 43 30.9 +1.5**
MATC Matruh 4.60 164 P **Pn 08 43 29.7 -0.2**
baz=165
BAGO Egridir - ISPA 4.63 60 *i*P **Pn 08 43 35.0 +4.7**
VLS Valsamata 4.74 302 P **Pn 08 43 33.2 +1.4**
VLS Valsamata 4.74 302 P **Pn 08 43 33.2 +1.4**
HMAT Matruh 4.82 166 P **Pn 08 43 29.7 -3.1**
PLG Polygyros 4.92 339 P **Pn 08 43 35.8 +1.6**
PLG Polygyros 4.92 339 P **Pn 08 43 34.3 +0.1**
PLG Polygyros 4.92 339 P **Pn 08 43 34.3 +0.1**
BOLV Bolvadin 5.11 53 *i*P Pn 08 43 42.1 +5.2
BOLV Bolvadin 5.11 53 *e*Pn **Pn 08 43 41.6 +4.7**
BOLV Bolvadin 5.11 53 P Pn 08 43 42.1 +5.2
BOLV Bolvadin 5.11 53 *e*Pn **Pn 08 43 41.6 +4.7**
ALN Alexandroupoli 5.11 3 P **Pn 08 43 37.5 +0.7**
ALN Alexandroupoli 5.11 3 P **Pn 08 43 37.5 +0.7**
SOH Sokhos 5.36 341 P **Pn 08 43 43.4 +3.1**
SOH pmax pmax
comp=Z,16nm,0.6s
SOH Sokhos 5.36 341 P **Pn 08 43 43.4 +3.1**
comp=Z,16nm,0.6s
JAN Janina 5.46 317 P Pn 08 43 47.3 +5.7
AKMC Akamas 5.46 96 P **Pn 08 43 42.8 +1.2**
AKMC Akamas 5.46 96 P **Pn 08 43 42.8 +1.2**
baz=292
PPCY Paphos 5.50 97 P **Pn 08 43 43.7 +1.6**
PPCY Paphos 5.50 97 P **Pn 08 43 43.7 +1.6**
baz=293
ALFC Alefka 5.66 94 P **Pn 08 43 44.9 +0.5**
ALFC Alefka 5.66 94 P **Pn 08 43 44.9 +0.5**
baz=290
ALFC S **Sn 08 44 45.2 -3.3**
IGT Igoumenitsa 5.67 313 P **Pn 08 43 45.6 +1.1**
IGT Igoumenitsa 5.67 313 P **Pn 08 43 45.6 +1.1**
KMER Konya-Meram 5.70 68 *i*P **Pn 08 43 48.9 +3.9**
KONT Konya--Tatoy 5.75 66 *i*P **Pn 08 43 49.4 +3.7**
ERMK Ermenek 5.89 80 *i*P Pn 08 43 52.5 +4.9
SZAC Souni 5.96 98 P **Pn 08 43 50.8 +2.3**
SZAC Souni 5.96 98 P **Pn 08 43 50.8 +2.3**
baz=293
FNA Florina 6.04 327 P **Pn 08 43 53.4 +3.7**
FNA pmax pmax
comp=Z,34nm,1.0s
VAY Valandovo 6.05 337 *i* Pn Pn 08 43 56.5 +6.8
KEK Kerkira 6.11 312 P **Pn 08 43 51.0 +0.5**
KEK Kerkira 6.11 312 P **Pn 08 43 50.3 -0.2**
KEK Kerkira 6.11 312 P **Pn 08 43 50.3 -0.2**
KEK Kerkira 6.11 312 *e*Pn **Pn 08 43 51.0 +0.5**
BIA Bitola 6.26 328 *i* Pn **Pn 08 43 56.1 +3.5**
CSS Mathiatis 6.28 95 Pn **Pn 08 43 54.5 +1.5**
CSS Mathiatis 6.28 95 *e*Pn **Pn 08 43 54.3 +1.4**
CSS Mathiatis 6.28 95 *e*Pn **Pn 08 43 54.3 +1.4**
CSS Mathiatis 6.28 95 P **Pn 08 43 54.4 +1.5**
baz=290
CSS S **Sn 08 45 00.3 -3.5**
SWA2 6.53 182 P **Pn 08 43 56.9 +0.6**
baz=184
SWA2 AMP 08 45 00.0
comp=N,180µm,0.4s,logA/T=5.6,baz=184
SWA2 6.53 182 P **Pn 08 43 56.9 +0.6**
OHR Ohrid 6.57 326 *i* Pn **Pn 08 44 01.3 +4.4**
BR231 Keskin MP Arra 6.91 52 *e*Pn **Pn 08 44 06.4 +4.8**
ANTO Ankara 6.93 52 *e*P **Pn 08 44 06.6 +4.7**
ANTO Ankara 6.93 52 *e*Pn **Pn 08 44 06.6 +4.7**
VTS Vitosha 7.07 345 ⇓*i*P **Pn 08 44 08.3 +4.4**
VTS Vitosha 7.07 345 *e*P **Pn 08 44 05.4 +1.5**
VTS Vitosha 7.07 345 *e*P **Pn 08 44 05.4 +1.5**
VTS Vitosha 7.07 345 *e*Pn **Pn 08 44 05.4 +1.5**
TIR Tirane 7.20 322 ⇑*i*P **Pn 08 44 09.8 +4.3**
TIR Tirane 7.20 322 ⇑P **Pn 08 44 09.8 +4.3**
HMYD Mayadein 7.35 143 P **Pn 08 44 07.0 -0.6**
baz=143
HMYD Mayadein 7.35 143 P **Pn 08 44 07.0 -0.6**
BR101 Keskin Array S 7.41 56 *e*Pn **Pn 08 44 10.4 +1.8**
BR101 Keskin Array S 7.41 56 *e*Pn **Pn 08 44 10.3 +1.8**
BR131 Keskin Array S 7.41 56 *e*Pn **Pn 08 44 12.3 +3.7**
BRTR Keskin Array B 7.41 56 Pn **Pn 08 44 10.3 +1.8**
comp=N,1.2nm,0.3s,baz=227,slow=14,SNR=43
DED Mersin 7.43 78 *i*P **Pn 08 44 09.9 +1.3**
KOT Kottamia 7.78 137 P **Pn 08 44 12.8 -0.8**
baz=137
KOT Kottamia 7.78 137 P **Pn 08 44 12.8 -0.8**
HHAG Hagoal 7.92 135 P **Pn 08 44 14.8 -0.6**
baz=136
HHAG Hagoal 7.92 135 P **Pn 08 44 14.8 -0.6**
GLL Jalalah 7.99 139 P **Pn 08 44 15.8 -0.6**
baz=139
GLL Jalalah 7.99 139 P **Pn 08 44 15.8 -0.6**
ILGA Ilgaz 8.19 48 *e*Pn **Pn 08 44 21.1 +1.7**
ILGA Ilgaz 8.19 48 *e*Pn **Pn 08 44 21.1 +1.7**
CEL Celeste 8.23 290 *e*Pn **Pn 08 44 18.6 -1.1**
CEL Celeste 8.23 290 *e*Pn **Pn 08 44 18.6 -1.1**
RSH 8.25 123 P **Pn 08 44 19.3 -0.6**
baz=123
RSH 8.25 123 P **Pn 08 44 19.3 -0.6**
MMA0B Mount Meron ar 8.47 106 Pn **Pn 08 44 24.2 +1.1**
MMA0B Sn **Sn 08 45 55.7 -2.2**
MMA0B Mount Meron ar 8.47 106 Pn **Pn 08 44 24.2 +1.1**
SLTI Sal'it 8.51 112 Pn **Pn 08 44 24.4 +0.8**
SLTI Sn **Sn 08 45 56.0 -2.7**
SLTI Sal'it 8.51 112 Pn **Pn 08 44 24.4 +0.8**
KSDI Kefar Szold 8.61 105 Pn **Pn 08 44 25.9 +1.0**
KSDI Kefar Szold 8.61 105 Pn **Pn 08 44 25.9 +1.0**
ZAF Zafarana 8.68 136 P **Pn 08 44 25.3 -0.5**
baz=137
ZAF Zafarana 8.68 136 P **Pn 08 44 25.3 -0.5**
MMLI Mount Malkishu 8.72 110 Pn **Pn 08 44 26.4 0.0**
MMLI Mount Malkishu 8.72 110 Pn **Pn 08 44 26.4 0.0**
KZIT Kziot 8.74 121 Pn **Pn 08 44 25.9 -0.8**
KZIT Sn **Sn 08 45 59.3 -5.1**
KZIT Kziot 8.74 121 Pn **Pn 08 44 25.9 -0.8**
AMAZ Amatzia 8.77 116 Pn **Pn 08 44 27.3 +0.3**
AMAZ Sn **Sn 08 46 00.4 -4.6**
AMAZ Amatzia 8.77 116 Pn **Pn 08 44 27.3 +0.3**
HMDT Nahal Hemdat 8.88 111 Pn **Pn 08 44 29.2 +0.7**
HMDT Nahal Hemdat 8.88 111 Pn **Pn 08 44 29.2 +0.7**
CUC Castrocucco 8.88 301 *e*Pn **Pn 08 44 28.6 0.0**
CUC Castrocucco 8.88 301 *e*Pn **Pn 08 44 28.6 0.0**
TIRR Tirgusor 8.91 13 ⇑*i*P **Pn 08 44 31.0 +2.1**
TIRR Tirgusor 8.91 13 ⇑P **Pn 08 44 31.0 +2.1**
TIRR Tirgusor 8.91 13 *e*Pn **Pn 08 44 27.7 -1.2**
TIRR Tirgusor 8.91 13 P **Pn 08 44 31.0 +2.1**
TIRR Tirgusor 8.91 13 *e*Pn **Pn 08 44 27.7 -1.2**
TLB Topalu 8.97 11 ⇓*i*P **Pn 08 44 32.2 +2.5**
TLB Topalu 8.97 11 ⇓P **Pn 08 44 32.2 +2.5**
TLB Topalu 8.97 11 P **Pn 08 44 32.2 +2.5**
YTIR Yattir 9.00 117 Pn **Pn 08 44 30.3 0.0**
YTIR Yattir 9.00 117 Pn **Pn 08 44 30.3 0.0**
HNKL Nakhl 9.08 128 P **Pn 08 44 30.6 -0.7**
baz=128
HNKL Nakhl 9.08 128 P **Pn 08 44 30.6 -0.7**
DSI Dead Sea 9.09 115 Pn **Pn 08 44 31.2 -0.2**
DSI Dead Sea 9.09 115 Pn **Pn 08 44 31.2 -0.2**
RMNI Mount Ramon 9.18 122 Pn **Pn 08 44 32.6 -0.2**
RMNI Mount Ramon 9.18 122 Pn **Pn 08 44 32.6 -0.2**
MZDA Masada 9.21 116 Pn **Pn 08 44 32.5 -0.5**
MZDA Masada 9.21 116 Pn **Pn 08 44 32.5 -0.5**
VAE Valguarnera 9.24 284 Sn **Sn 08 46 15.7 -0.9**
comp=N,5.1nm,0.3s,baz=255,slow=11,SNR=3.6
VAE LR LR 08 49 15.4
comp=N,3µm,19.2s,baz=22,slow=45
KRMI Paran Flat 9.45 124 Pn **Pn 08 44 35.9 -0.5**
KRMI Sn **Sn 08 46 14.3 -7.4**
KRMI Paran Flat 9.45 124 Pn **Pn 08 44 35.9 -0.5**
PRNI Paran 9.49 122 Pn **Pn 08 44 36.2 -0.8**
PRNI Sn **Sn 08 46 17.1 -5.7**
PRNI Paran 9.49 122 Pn **Pn 08 44 36.2 -0.8**
GRB Gharib 9.60 139 P **Pn 08 44 37.8 -0.7**
baz=139
GRB Gharib 9.60 139 P **Pn 08 44 37.8 -0.7**
VOIR 9.66 357 ⇑*i*P **Pn 08 44 41.5 +2.3**
VOIR 9.66 357 ⇑P **Pn 08 44 41.5 +2.3**
VOIR 9.66 357 P **Pn 08 44 41.5 +2.3**
MLR Muntele Rosu 9.70 1 Pn **Pn 08 44 40.3 +0.4**
comp=N,0.1nm,0.3s,baz=168,slow=12,SNR=2.3
MLR Muntele Rosu 9.70 1 ⇑*i*P **Pn 08 44 41.8 +1.9**
MLR Muntele Rosu 9.70 1 *e*P **Pn 08 44 40.4 +0.5**
MLR Muntele Rosu 9.70 1 *e*P **Pn 08 44 40.4 +0.5**
MLR Muntele Rosu 9.70 1 *e*Pn **Pn 08 44 40.4 +0.5**
HRFI Mount Harif 9.71 124 Pn **Pn 08 44 39.2 -0.8**
HRFI Sn **Sn 08 46 21.8 -6.3**
HRFI Mount Harif 9.71 124 Pn **Pn 08 44 39.2 -0.8**
MBRI Mt Berech 9.78 125 Pn **Pn 08 44 39.8 -1.2**
MBRI Mt Berech 9.78 125 Pn **Pn 08 44 39.8 -1.2**
EIL Elat 9.88 125 Pn **Pn 08 44 43.9 +1.6**
comp=N,2.6nm,0.3s,baz=296,slow=2.2,SNR=14
EIL Sn **Sn 08 46 25.2 -7.2**
comp=N,14nm,0.3s,baz=345,slow=6.7,SNR=13
EIL Elat 9.88 125 Pn **Pn 08 44 41.3 -1.0**
EIL Sn **Sn 08 46 24.6 -7.8**
PLOR Plostina 10.08 4 ⇑*i*P **Pn 08 44 48.2 +3.2**
PLOR Plostina 10.08 4 ⇑P **Pn 08 44 48.2 +3.2**
BZS Buzias 10.30 344 ⇑*i*P **Pn 08 44 51.9 +3.9**
BZS Buzias 10.30 344 ⇑P **Pn 08 44 51.9 +3.9**
HDK1 Dakhla 10.69 162 P **Pn 08 44 53.4 0.0**
baz=162
HDK1 Dakhla 10.69 162 P **Pn 08 44 53.4 0.0**
HHRG Al Ghardaqah 10.85 140 P **Pn 08 44 57.4 +1.8**
baz=140
HHRG Al Ghardaqah 10.85 140 P **Pn 08 44 57.4 +1.8**
GTR Jabal at Tayr 11.06 157 P **Pn 08 44 58.4 0.0**
baz=157
GTR Jabal at Tayr 11.06 157 P **Pn 08 44 58.4 0.0**
NVLJ Novalja 12.06 320 *e*Pn **Pn 08 45 08.7 -3.3**
NVLJ Sn **Sn 08 47 21.1 -4.4**
PSZ Piszkesteto 12.87 342 *e*P **Pn 08 45 25.9 +2.7**
PSZ Piszkesteto 12.87 342 *e*P **Pn 08 45 25.9 +2.7**
PSZ Piszkesteto 12.87 342 *e*Pn **Pn 08 45 25.9 +2.7**
KEST Kesra 13.29 275 Pn **Pn 08 45 27.9 -1.1**
comp=N,0.3nm,0.3s,baz=202,slow=2.0,SNR=3.5
KEST Kesra 13.29 275 *e*Pn **Pn 08 45 28.5 -0.5**
KEST Kesra 13.29 275 *e*Pn **Pn 08 45 28.5 -0.5**
VYHS Vyhne 13.68 340 *e*P **P 08 45 38.4 -4.2**
**VY

KBA	Koelnbreinsper	14.59	324	P		P	08 45 55.1	+2.2	
	comp=Z,9.0nm,0.9s								
MOA	Molln	14.75	328	*i* Pn		P	08 45 54.5	0.0	
	comp=Z,5.0nm,0.9s								
ABTA	Abfaltersbach	14.76	322	*i* Pn		P	08 45 54.5	-0.2	
	comp=Z,6.2nm,0.7s								
KIEV	Kiev	15.12	9	*e*P		Pn	08 45 55.4	+1.8	
KIEV				pmax	pmax				
	comp=Z,22nm,0.8s								
KIEV	Kiev	15.12	9	*e*Pn		Pn	08 45 55.4	+1.8	
	comp=Z,22nm,0.8s								
KIEV	Kiev	15.12	9	*e*Pn		Pn	08 45 55.4	+1.8	
	comp=Z,22nm,0.8s								
AKASG	Malin Array Be	15.13	9	Pn		Pn	08 45 55.1	+1.3	
	comp=Z,6.2nm,0.3s,baz=200,slow=11,SNR=31								
KBZ	Khabaz	15.40	54	Pn		P	08 46 01.3	-0.4	
	comp=Z,0.2nm,0.3s,baz=252,slow=7.8,SNR=13								
WTTA	Wattenberg	15.55	322	*i* Pn		P	08 46 07.1	+3.6	
	comp=Z,12nm,0.9s								
WATA	Walderalm	15.63	322	*i* Pn		P	08 46 06.2	+1.8	
	comp=Z,5.3nm,0.5s								
ZEI	Tsey	15.71	58	*e*P		P	08 46 06.9	+1.5	
ZEI				pmax	pmax				
	comp=Z,9.0nm,0.3s								
GEA0	GERESS Array S	15.75	330	*e*Pn		P	08 46 05.8	+0.1	
GEC2	GERESS Array S	15.76	330	*e*P		Pn	08 46 02.6	+0.5	
GEC2				pmax	pmax				
	comp=Z,10.0nm,1.1s								
GEC2	GERESS Array S	15.76	330	*e*Pn		Pn	08 46 02.6	+0.5	
	comp=Z,9.9nm,1.1s								
GEC2	GERESS Array S	15.76	330	*e*Pn		Pn	08 46 02.6	+0.5	
	comp=Z,9.9nm,1.1s								
GERES	GERESS Array B	15.76	330	Pn		Pn	08 46 03.5	+1.4	
	comp=Z,0.4nm,0.3s,baz=142,slow=13,SNR=19								
FETA	Feichten	15.86	320	*i* Pn		P	08 46 07.9	+0.9	
	comp=Z,12nm,0.9s								
FUORN	Ofenpass-Fuorn	15.86	318	*e*Pn		P	08 46 06.0	-1.0	
	comp=Z,11nm,0.7s								
FUORN	Ofenpass-Fuorn	15.86	318	*e*Pn		P	08 46 06.0	-1.0	
	comp=Z,11nm,0.7s								
MOTA	Moosalm	15.87	321	*i* P		P	08 46 06.5	-0.6	
	comp=Z,8.0nm,1.0s								
KHC	Kasperske Hory	16.04	330	*e*P		Pn	08 46 06.7	+1.1	
KHC				*ex*		x	08 46 09.1		
KHC				*ep*P		pP	08 46 16.2	+0.2	
KHC	Kasperske Hory	16.04	330	*e*P		Pn	08 46 05.6	0.0	
KHC				*e*			08 48 57.6		
KHC				pmax	pmax				
	comp=Z,4.0nm,1.0s								
KHC	Kasperske Hory	16.04	330	*e*Pn		Pn	08 46 05.6	0.0	
	comp=Z,4,1nm,1.0s								
KHC	Kasperske Hory	16.04	330	P		Pn	08 46 06.7	+1.1	
KHC	Kasperske Hory	16.04	330	*e*Pn		Pn	08 46 05.6	0.0	
	comp=Z,4.1nm,1.0s								
KHC				*e*Sn		Sn	08 48 57.5	-4.9	
DPC	Dobruska-Polom	16.07	338	*e*P		P	08 46 09.8	+0.6	
DPC	Dobruska-Polom	16.07	338	*e*P		P	08 46 09.8	+0.6	
DPC	Dobruska-Polom	16.07	338	*e*P		P	08 46 09.8	+0.6	
RETA	Reutte	16.14	321	*i* Pn		Pn	08 46 02.4	-4.6	
	comp=Z,3.2nm,0.7s								
DAVOX	Davos/Dischmat	16.16	318	Pn		P	08 46 08.9	-1.5	
	comp=Z,0.3nm,0.3s,baz=156,slow=20,SNR=2.3								
TUE	Stuetta	16.28	316	*e*Pn		P	08 46 11.7	0.0	
	comp=Z,11nm,0.8s								
WET	Wettzell	16.34	329	P		P	08 46 12.5	+0.4	
WET				pmax	pmax				
	comp=Z,27nm,0.9s								
WET	Wettzell	16.34	329	P		P	08 46 12.5	+0.4	
	comp=Z,27nm,0.9s								
LPG	La Plagne	17.32	310	*e*P		P	08 46 24.8	+1.5	
LPG				pmax	pmax				
	comp=Z,11nm,0.8s								
LPG	La Plagne	17.32	310	*e*P		P	08 46 24.8	+1.5	
	comp=Z,11nm,0.8s								
SENIN	Lac Senin/Sane	17.41	313	*e*P		P	08 46 24.2	0.0	
	comp=Z,18nm,0.6s								
SENIN	Lac Senin/Sane	17.41	313	*e*P		P	08 46 24.2	0.0	
	comp=Z,18nm,0.6s								
CLL	Collm	18.00	333	*e*P		Pn	08 46 30.0	-0.2	
CLL	Collm	18.00	333	*e*P		Pn	08 46 30.0	-0.2	
CLL	Collm	18.00	333	*e*P		Pn	08 46 28.0	-2.2	
	comp=Z,8.0nm,0.8s								
CLL				*ep*P		P	08 46 32.0	+1.5	
CLL				*es*P		pP	08 46 37.0	-0.7	
CABF	La Chapelle	18.25	312	*e*P		Pn	08 46 32.6	-0.8	
CABF				pmax	pmax				
	comp=Z,18nm,0.8s								
CABF	La Chapelle	18.25	312	*e*P		Pn	08 46 32.6	-0.8	
	comp=Z,18nm,0.8s								
VIVF	Saint-Julien-l	18.38	306	*e*P		P	08 46 33.2	-1.6	
VIVF				pmax	pmax				
	comp=Z,4.0nm,0.7s								
VIVF	Saint-Julien-l	18.38	306	*e*P		P	08 46 33.2	-1.6	
	comp=Z,4.0nm,0.7s								
AVF	Avril sur Loir	20.01	310	*e*P		P	08 46 51.7	-0.8	
AVF				pmax	pmax				
	comp=Z,9.0nm,0.8s								
AVF	Avril sur Loir	20.01	310	*e*P		P	08 46 51.7	-0.8	
	comp=Z,9.0nm,0.8s								
CAF	Calviac	20.14	304	*e*P		P	08 46 54.2	+0.2	
CAF				pmax	pmax				
	comp=Z,6.0nm,0.8s								
CAF	Calviac	20.14	304	*e*P		P	08 46 54.2	+0.2	
	comp=Z,6.0nm,0.8s								
OBN	Obninsk	20.73	18	*i*P		Pn	08 47 05.5	+2.8	
OBN				*e**PP		sP	08 47 11.7	+0.7	
OBN				*e*			08 47 26.0		
OBN				S		Sn	08 50 56.0	+0.3	
OBN				SS		SnSn	08 51 21.0	+10	
OBN				pmax	pmax				
	comp=Z,21nm,1.3s								
GIVF	Givet	20.84	320	*e*P		P	08 47 01.0	-0.5	
GIVF				pmax	pmax				
	comp=Z,7.0nm,0.6s								
GIVF	Givet	20.84	320	*e*P		P	08 47 01.0	-0.5	
	comp=Z,7.0nm,0.6s								
TAM	Tamanrasset	21.80	239	P		P	08 47 16.9	+4.7	
TAM				pmax	pmax				
	comp=Z,7.0nm,0.8s								
FLN	La Foliniere	23.18	312	*e*P		P	08 47 25.2	-1.2	
FLN				pmax	pmax				
	comp=Z,20nm,0.7s								
ES19	SONSECA Array	23.69	288	*e*P		P	08 47 31.7	+0.2	
ESDC	Sonseca Array	23.73	288	P		P	08 47 29.9	-2.1	
	comp=Z,1.6nm,0.4s,baz=81,slow=9.6,SNR=15								
ESLA	Sonseca Array	23.73	288	*e*P		P	08 47 32.6	+0.6	
	comp=Z,12nm,1.0s								
ROSF	Rostrenen	24.74	309	*e*P		P	08 47 40.0	-1.1	
ROSF				pmax	pmax				
	comp=Z,50nm,1.6s								
MDT	Midelt	25.18	272	P		P	08 47 45.8	+0.5	
	comp=Z,1.9nm,0.5s,baz=94,slow=15,SNR=7.0								
FIA0	FINESS Array S	25.68	0	*e*P		P	08 47 49.3	-0.1	
FIA0	FINESS Array S	25.68	0	*e*P		P	08 47 49.3	-0.1	
FINES	FINESS Array B	25.68	0	P		P	08 47 49.3	-0.1	
	comp=Z,1.6nm,0.5s,baz=160,slow=12,SNR=5.5								
GEYT	Alibeck	25.95	76	P		P	08 47 53.9	+1.7	
	comp=Z,10nm,0.5s,baz=269,slow=8.9,SNR=7.4								
AKTO	Aktyubinsk	27.50	48	P		P	08 48 06.1	+0.1	
	comp=Z,0.7nm,0.3s,baz=225,slow=4.9,SNR=4.8								
AKTO	Aktyubinsk	27.50	48	P		P	08 48 04.0	-2.0	
AKTO				pmax	pmax				
	comp=Z,3.0nm,1.2s								
EKA	Eskdalemuir Ar	27.80	324	P		P	08 48 07.2	-1.4	
	comp=Z,7.2nm,0.6s,baz=123,slow=9.5,SNR=14								
ABKAR	Akbulak array	28.33	51	*e*P		P	08 48 14.0	+0.6	
	comp=Z,0.5nm,0.2s								
TOA1	Torodi Ar. Sit	31.23	230	*e*P		P	08 48 40.0	+0.6	
TOA0	Torodi Ar. Sit	31.23	230	*e*P		P	08 48 40.0	+0.5	
TORD	Torodi Ar. Bea	31.23	230	P		P	08 48 40.0	+0.6	
	comp=Z,3.5nm,0.5s,baz=33,slow=8.6,SNR=34								
ARA0	ARCESS Array S	33.81	360	*e*P		P	08 49 00.1	-1.3	
ARA0	ARCESS Array S	33.81	360	*e*P		P	08 49 00.1	-1.3	
ARCES	ARCESS Array B	33.81	360	P		P	08 49 00.1	-1.3	
	comp=Z,0.7nm,0.4s,baz=176,slow=9.7,SNR=3.7								
KK31	Karatay Array	35.03	64	*i* P		P	08 49 12.5	+0.2	
KK31				pmax	pmax				
	comp=Z,1.0nm,0.5s								
KK31	Karatay Array	35.03	64	*i* P		P	08 49 12.5	+0.2	
	comp=Z,1.0nm,0.5s								
KKAR	Karatay Array	35.03	64	*e*P		P	08 49 13.6	+1.3	
KKAR				pmax	pmax				
	comp=Z,4.0nm,0.7s								
KKAR	Karatay Array	35.03	64	*e*P		P	08 49 13.6	+1.3	
	comp=Z,4.0nm,0.7s								
KKAR	Karatay Array	35.03	64	*e*P		P	08 49 13.6	+1.3	
	comp=Z,4.0nm,0.7s								
AAK	Ala-Archa	37.98	64	P		P	08 49 38.6	+0.9	
AAK				pmax	pmax				
	comp=Z,3.0nm,0.6s								
AAK	Ala-Archa	37.98	64	P		P	08 49 38.6	+0.9	
	comp=Z,3.0nm,0.6s								
AAK	Ala-Archa	37.98	64	*e*P		P	08 49 39.7	+2.0	
	comp=Z,6.0nm,0.6s								
TKM2	Tokmak 2	38.76	64	P		P	08 49 44.4	+0.1	
TKM2				pmax	pmax				
	comp=Z,4.0nm,0.7s								
TKM2	Tokmak 2	38.76	64	P		P	08 49 44.4	+0.1	
	comp=Z,4.0nm,0.7s								
KSH	Kashi	39.56	69	*e*P		P	08 49 52.1	+1.2	
KSH				pP		sP	08 50 17.3	+15	
KSH				PP		PnPn	08 51 25.1	+0.2	
KSH				S		S	08 55 35.1	-17	
KSH				sS		sS	08 56 18.6	+13	
KSH				SS		SS	08 58 19.5	-28	
KSH				pmax	pmax				
	comp=Z,2μm,12.5s								
KSH				LR		LR			
	comp=N,1μm,14.5s								
KSH				LR		LR			
	comp=E,2μm,16.8s								
KSH				LR		LR			
	comp=Z,2μm,15.0s								
DBIC	Dimbokro	40.30	231	P		P	08 49 57.0	-0.2	
	comp=Z,4.1nm,0.7s,baz=11,slow=11,SNR=5.7								
DBIC	Dimbokro	40.30	231	*e*P		P	08 49 57.0	-0.2	
	comp=Z,31nm,1.5s								
DBIC	Dimbokro	40.30	231	*e*P		P	08 49 57.0	-0.2	
	comp=Z,31nm,1.5s								
TIC	Toumodi	40.43	232	*e*P		P	08 49 59.3	+1.1	
KURK	Kurchatov	40.44	51	P		P	08 49 57.8	-0.1	
KURK				pmax	pmax				
	comp=Z,7.0nm,0.5s								
KURK	Kurchatov	40.44	51	*e*P		P	08 49 58.5	+0.6	
	comp=Z,12nm,0.8s								
KURK	Kurchatov	40.44	51	*e*P		P	08 49 58.5	+0.6	
	comp=Z,12nm,0.8s								
KIC	Kosan Boka	40.47	231	*e*P		P	08 50 00.4	+1.9	
	comp=Z,94nm,1.7s								
LIC	Lamto	40.76	231	*e*P		P	08 50 02.3	+1.4	
	comp=Z,43nm,1.4s								
PDGK	Podgornoye	41.53	63	P		P	08 50 07.8	+0.6	
PDGK				pmax	pmax				
	comp=Z,3.0nm,0.5s								
PDGK	Podgornoye	41.53	63	P		P	08 50 07.8	+0.6	
	comp=Z,6.0nm,0.5s								
MAKZ	Makanchi	42.84	57	*e*P		P	08 50 18.8	+1.1	
MAKZ				pmax	pmax				
	comp=Z,6.0nm,0.5s								
MAKZ	Makanchi	42.84	57	*e*P		P	08 50 18.8	+1.1	
	comp=Z,6.3nm,0.5s								
MAKZ	Makanchi	42.84	57	*e*P		P	08 50 18.8	+1.1	
	comp=Z,6.3nm,0.5s								
MK31	Makanchi Array	43.06	57	*i* P		P	08 50 20.5	+1.0	
MK31				pmax	pmax				
	comp=Z,8.0nm,0.5s								
MK31	Makanchi Array	43.06	57	*i* P		P	08 50 20.5	+1.0	
	comp=Z,8.0nm,0.5s								
MK31	Makanchi Array	43.06	57	*e*P		P	08 50 20.5	+1.0	
MKAR	Makanchi Array	43.06	57	*e*P		P	08 50 20.5	+1.0	
MKAR	Makanchi Array	43.06	57	*e*P		P	08 50 20.5	+1.0	
	comp=Z,140nm,0.4s								
MKAR	Makanchi Array	43.06	57	*e*P		P	08 50 20.5	+1.0	
	comp=Z,140nm,0.4s								
MK01	Makanchi Array	43.07	57	*e*P		P	08 50 20.5	+1.0	
MK01	Makanchi Array	43.07	57	*e*P		P	08 50 20.5	+1.0	
NVS	Novosibirsk	43.33	45	*i* P		P	08 50 22.7	+1.2	
NVS	Novosibirsk	43.33	45	*i* P		P	08 50 22.7	+1.2	
ZAA0	Zalesovo Array	44.25	47	*e*P		P	08 50 28.7	-0.2	
ZAA0	Zalesovo Array	44.25	47	*e*P		P	08 50 28.7	-0.2	
ZAA1	Zalesovo Array	44.25	47	*e*P		P	08 50 28.8	-0.1	
ZAA1	Zalesovo Array	44.25	47	*e*P		P	08 50 28.8	-0.1	
ZALV	Zalesovo Beam	44.25	47	P		P	08 50 28.8	-0.1	
	comp=Z,6.8nm,0.4s,baz=266,slow=8.4,SNR=9.3								
WMQ	Urumqi	47.31	60	P		P	08 50 55.1	+1.8	
WMQ				pP		sP	08 51 06.5	+1.8	
WMQ				sP		pP	08 51 11.6	+10	
WMQ				pmax	pmax				
	comp=Z,16nm,0.7s								
LSA	Lhasa	54.48	76	*e*P		P	08 51 49.7	+1.8	
LSA				pmax	pmax				
	comp=Z,5.0nm,0.7s								
LSA	Lhasa	54.48	76	*e*P		P	08 51 49.7	+1.8	
	comp=Z,4.8nm,0.7s								
ZAK	Zakamensk	56.00	49	*e*P		P	08 51 58.6	+0.5	
ZAK				pmax	pmax				
	comp=Z,4.0nm,1.1s								
SONA0	Songino Array	58.75	51	*e*P		P	08 52 18.3	+0.7	
	comp=Z,3.5nm,0.6s								
SONM	Songino Array	58.75	51	P		P	08 52 18.3	+0.7	
	comp=Z,2.7nm,0.6s,baz=286,slow=7.8,SNR=17								
SONA1	Songino Array	58.75	51	*e*P		P	08 52 18.4	+0.7	
ULN	Ulaanbaatar	59.15	51	*e*P		P	08 52 20.8	+0.4	
ULN				pmax	pmax				
	comp=Z,4.0nm,0.8s								
ULN	Ulaanbaatar	59.15	51	*e*P		P	08 52 20.8	+0.4	
	comp=Z,3.7nm,0.8s								
SCHQ	Schefferville	63.00	320	P		P	08 52 46.0	-0.3	
	comp=Z,4.9nm,0.5s,baz=346,slow=1.5,SNR=4.6								
SCHQ	Schefferville	63.00	320	*e*P		P	08 52 46.5	+0.3	
	comp=Z,64nm,1.8s								
BOSA	Boshof	64.05	180	P		P	08 52 54.3	+0.8	
	comp=Z,4.4nm,0.6s,baz=343,slow=8.0,SNR=8.9								
KMI	Kunming	65.72	76	P		P	08 53 04.8	0.0	
KMI				pmax	pmax				
	comp=Z,12nm,0.6s								
CM31	Chiang Mai Arr	66.06	84	*e*P		P	08 53 07.8	+1.0	
CMAR	Chiang Mai Arr	66.06	84	P		P	08 53 08.0	+1.2	
	comp=Z,1.3nm,0.3s,baz=300,slow=7.9,SNR=5.3								
USRK	Ussuriysk Ar.	76.08	45	P		P	08 54 06.7	-0.5	
	comp=Z,2.5nm,0.7s,baz=278,slow=7.0,SNR=7.8								
YKA	Yellowknife Ar	76.99	342	P		P	08 54 11.1	-0.8	
	comp=Z,0.9nm,0.5s,baz=32,slow=5.1,SNR=5.3								
YKB5	Yellowknife Ar	76.99	342	*e*P		P	08 54 11.5	-0.5	
KS15	Wonju Array Si	77.53	53	*e*P		P	08 54 15.9	+0.5	
KSAR	Wonju Array Be	77.53	53	P		P	08 54 15.9	+0.5	
KSAR	Wonju Array Be	77.53	53	P		P	08 54 15.9	+0.5	
KSRS	Korea Array	77.55	53	P		P	08 54 15.9	+0.4	
	comp=Z,2.6nm,0.5s,baz=302,slow=4.3,SNR=9.7								
ULM	Lac du Bonnet	80.04	326	P		P	08 54 28.4	-0.6	
	comp=Z,3.4nm,0.7s,baz=93,slow=13,SNR=4.0								
MJAR	Matsushiro Ar	84.58	48	P		P	08 54 52.4	-0.7	
	comp=Z,0.8nm,0.4s,baz=292,slow=3.5,SNR=4.3								
NEW	Newport	89.99	336	P		P	08 55 18.6	-0.4	
	comp=Z,2.6nm,0.8s,baz=108,slow=6.4,SNR=3.8								
WRA	Warramunga Arr	116.22	96	PKP		PKPdf	09 01 03.2	0.0	
	comp=Z,1.0nm,1.1s,baz=318,slow=1.5,SNR=5.5								
WR1	Warramunga Arr	116.22	96	*e*PKPdf		PKPdf	09 01 03.2	0.0	
AS31	Alice Springs	117.72	100	*e*PKPdf		PKPdf	09 01 06.8	+0.7	
ASAR	Alice Springs	117.72	100	PKP		PKPdf	09 01 06.0	-0.1	
	comp=Z,0.5nm,0.5s,baz=312,slow=1.6,SNR=10								

BJI ***15*** *08:43:04.8, 19.°60N×78.°00W, h5km, mB5.4/1, Ms5.6/4, Ms7 5.5/6*

ISCJB ***15*** *08:43:05.2±0.1, 19.°54N±0.°01×78.°04W±0.°01, h10km, mb5.1/269, MS5.1/10, Error ellipse: s-maj=2.5km s-min=1.5km az=41.6*

MOS ***15*** *08:43:05.2±1.0, 19.°54N×77.°93W, h10km, mb5.3/69, Error ellipse: s-maj=9.8km s-min=5.0km az=118.4*

IDC ***15*** *08:43:05.6±0.4, 19.°59N×78.°04W, h0km, mb4.8/39, mb1 4.9/43, mb1mx4.8/58, mbtmp4.8/43, ML4.5/3, MS5.0/8, Ms1 5.0/8, ms1mx4.6/52, Error ellipse: s-maj=13.7km s-min=9.6km az=70.0*

NEIC ***15*** *08:43:07.2±0.1, 19.°57N×77.°94W, h10km, mb5.2/261, MW5.2, Error ellipse: s-maj=3.4km s-min=2.3km az=215.0, Moment Tensor Solution. s14 Moment tensor: Scale 10^16 Nm; Mrr=2.66; Mθθ=4.86; Mφφ=7.52; Mrθ=0.97; Mθφ=1.77; Mφr=0.41; Best double couple: M=6.90000×10^16 NP1: φs=231.00000°, δ=75.00000°, λ=-13.00000°. NP2: φs=325.00000°, δ=77.00000°, λ=-165.00000°. Principal axes: T 7.7800, Plg1.0000°, Azm98.0000°; N -2.3000, Plg70.0000°, Azm4.0000°; P -5.4800, Plg20.0000°, Azm188.0000°;*

NEIC Felt [II] at Montego Bay, Jamaica. Also felt at Brown's Town, Ewarton, Mandeville, Old Harbour and Santa Cruz. Felt at Cap-Haitien, Haiti and at Key Largo, North Palm Beach, Port Saint Lucie and Vero Beach, Florida.

JSN ***15*** *08:43:07.6±0.4, 19.°50N×77.°96W, h15km±93km, MD5.1*

GCMT ***15*** *08:43:07.2±0.3, 19.°60N×78.°08W, h12km, MW5.4/102, Moment Tensor Solution. s20,c25; s102,c147; Duration: 1s2 Moment tensor: Scale 10^17 Nm; Mrr=0.20±.06; Mθθ=1.26±.05; Mφφ=1.46±.05; Mrθ=0.22±.15; Mθφ=0.67±.05; Mφr=0.43±.14; Best double couple: M=1.59100×10^17 NP1:φs=329.00000°,δ=88.00000°, λ=-162.00000°. NP2:φs=238.00000°,δ=72.00000°, λ=-2.00000°. Principal axes: T 1.6890, Plg11.0000°, Azm102.0000°; N -0.1980, Plg72.0000°, Azm334.0000°; P -1.4930, Plg14.0000°, Azm195.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

ISC 15 08:43:06.6±0.2, 19.°51N±0.°03×78.°00W±0.°04, h10km, n1122, σ1ᵖ43/1123, mb5.2/278, MS5.2/10, 30C-13D, Cuba region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time	Res
MBJ	Montego Bay	1.10	173	*i*P		Pb		08 43 26.7	-1.1
BBJ	Bamboo Saint A	1.31	148	*i*P		Pn		08 43 29.7	-1.3
MTDJ	Mount Denham	1.34	161	*e*Pn		Pn		08 43 30.5	-1.0
MTDJ				*e*Sn		Sb		08 43 46.9	-2.4
BNJ	Bonny Gate	1.54	140	*i*P		Pn		08 43 32.6	-1.5
STH	Stony Hill	1.81	141	*i*P		Pn		08 43 36.3	-1.6
STH				*i* S		Sn		08 43 58.3	-2.7
GWJ	Greenwich	1.86	140	*i*P		Pn		08 43 37.6	-1.1
HOJ	Hope	1.90	141	*i*P		Pn		08 43 38.1	-1.0
GTBY	Guantanamo Bay	2.75	81	*e*Pn		Pn		08 43 48.8	-2.0
GTBY				*e*Sn		Sn		08 44 21.3	-2.8
LGNH	LØogne	5.20	100	*e*Pn		Pn		08 44 22.3	-2.1
SDDR	Presa de Saban	6.36	94	*e*P		Sn		08 45 53.6	+0.3
SDDR	Presa de Saban	6.36	94	*e*Pn		Pn		08 44 38.7	-1.8
SDDR				*e*Sn		Sn		08 45 53.5	+0.3
GRTK	Grand Turk	6.74	72	*e*Pn		Pn		08 44 43.5	-2.0
GRTK				*e*Sn		Sn		08 45 59.6	-2.8
URIC	Uribia, Colomb	9.68	142	*e*P		Pn		08 45 25.8	-0.1
TEIG	Tepich	9.70	276	*e*Pn		Pn		08 45 26.1	-0.2
SJCC	San Jacinto, C	9.93	164	*e*P		Pn		08 45 31.5	+1.9
IDE	Isla Desecheo	10.02	95	*e*Pn		Pn		08 45 28.9	-1.8
AGP	Aguadilla	10.33	94	*e*Pn		Pn		08 45 34.0	-0.9
MPR	Mayaguez	10.36	95	*e*Pn		Pn		08 45 34.8	-0.5
MPR				*e*Sn		Sn		08 47 28.7	-2.9
TGUH	Tegucigalpa,Un	10.40	240	*e*Pn		Pn		08 45 36.7	+0.8
CODC	Agust¨›n Codaz	10.48	155	*e*P		Pn		08 45 35.4	-1.6
CAPC	Capurgana	10.82	177	*e*P		Pn		08 45 39.4	-2.3
MOTC	Monteria, Cord	10.90	168	*e*P		Pn		08 45 41.1	-1.7
CELP	Cerrillos	10.91	96	*e*Pn		Pn		08 45 41.9	-1.0
CELP				*e*Sn		Sn		08 47 42.5	-2.5
HDC	Heredia	11.14	213	*e*Pn		Pn		08 45 46.9	+0.6
SJG	San Juan	11.30	95	Pn		Pn		08 45 44.2	-4.0
	6.2nm,0.3s,baz=296,slow=8.8,SNR=11								
SJG				Sn		Sn		08 47 47.5	-7.2
	2.6nm,0.3s,baz=157,slow=23,SNR=8.1								
SJG				LR		LR		08 50 13.6	
	comp=Z,5μm,19.2s,baz=248,slow=38								
SJG	San Juan	11.30	95	*e*P		Pn		08 45 47.3	-1.0
SJG				*e*				08 47 49.1	
SJG	San Juan	11.30	95	*e*P		Pn		08 45 44.5	-3.8
SJG	San Juan	11.30	95	*e*Pn		Pn		08 45 46.6	-1.6
SJG				*e*Sn		Sn		08 47 48.9	-5.8
JTS	JuntasAbangare	11.36	217	Pn		Pn		08 45 48.8	-0.3
	2.1nm,0.3s,baz=162,slow=20,SNR=18								
JTS	JuntasAbangare	11.36	217	*e*P		Pn		08 45 50.9	+1.8
CBYP	Canovanas	11.56	94	*e*Pn		Pn		08 45 49.2	-2.5
CBYP				*e*Sn		Sn		08 47 55.4	-5.6
HUMP	Col San Antoni	11.58	95	*e*Pn		Pn		08 45 49.4	-2.6
ZARC	Zaragoza, Cauc	12.32	165	*e*P		Pn		08 46 03.1	+0.9
STVI	Saint Thomas	12.40	93	*e*Pn		Pn		08 46 01.1	-2.1
STVI				*e*Sn		Sn		08 48 12.8	-8.7
SCIG	Sabancuy	12.47	270	*e*Pn		Pn		08 46 02.3	-1.9
SCIG				*e*Sn		Sn		08 48 15.6	-7.7
CDVI	St. Croix	12.66	96	*e*Pn		Pn		08 46 05.6	-1.2
SDV	Santo Domingo	12.74	145	*e*Pn		Pn		08 46 08.2	+0.1
TIGA	Tiffton	12.91	338	P		Pn		08 46 06.9	-3.3
	baz=156,SNR=13								
TIGA	Tifton	12.91	338	*e*Pn		Pn		08 46 06.8	-3.3
BRRC	Barranca, Sant	13.01

DWS Wesley 16.39 101 eP Pn 08 46 55.5 -1.4
DWS Wesley 16.39 101 e 08 50 55.4
146A Union 16.41 325 P Pn 08 46 54.3 -2.7
baz=140,SNR=9.5
245A Little AP, Sta 16.43 322 P Pn 08 46 54.4 -2.9
baz=136,SNR=5.0
DLPL La Plaine 16.51 102 eP Pn 08 46 56.5 -2.0
DLPL La Plaine 16.51 102 e 08 50 51.5
344A Westbrook Farm 16.53 319 P Pn 08 46 55.8 -2.7
baz=133,SNR=9.2
CXM Morne La Croix 16.74 104 eP Pn 08 47 00.6 -0.9
BAMF Morne Balai 16.76 104 eP P 08 47 08.2 +4.3
Z46A Louisville 16.78 327 P Pn 08 46 58.7 -3.0
baz=142,SNR=13
FDF Fort de France 16.78 104 eP Pn 08 47 00.4 -1.6
FDF Fort de France 16.78 104 eP Pn 08 47 00.7 -1.2
FDF Fort de France 16.78 104 e 08 50 28.7
FDF Fort de France 16.78 104 eP Pn 08 47 02.0 +0.1
FDF pmax pmax
comp=Z,222nm,1.0s
FDF Fort de France 16.78 104 ePn Pn 08 47 02.0 +0.1
comp=Z,222nm,1.0s
Y47A UCPARC, Winfie 16.81 331 P Pn 08 46 59.0 -3.2
baz=146,SNR=32
145A Houston Renfro 16.86 323 P Pn 08 46 59.8 -3.0
baz=138,SNR=5.3
TKL Tuckaleechee C 16.88 344 Pn Pn 08 47 00.2 -2.8
comp=Z,2.3nm,0.3s,baz=162,slow=12,SNR=66
TKL Tuckaleechee C 16.88 344 eP Pn 08 47 00.2 -2.8
TKL pmax pmax
comp=Z,140nm,1.2s
TKL Tuckaleechee C 16.88 344 ePn Pn 08 46 60.0 -3.0
CPCT Cooper Cave 16.90 341 ePn Pn 08 47 01.3 -1.9
comp=Z,111nm,1.1s
542A Morse 16.90 312 P Pn 08 46 59.7 -3.6
baz=125
244A Avery, Jackson 16.91 320 P Pn 08 47 00.8 -2.5
baz=134,SNR=9.4
BIM Bigot 16.93 104 eP Pn 08 47 03.3 -0.4
VBMS Vicksburg 16.93 321 P Pn 08 47 01.1 -2.5
baz=135,SNR=6.7
VBMS Vicksburg 16.93 321 ePn Pn 08 47 01.5 -2.1
comp=Z,106nm,0.9s
SWET Sewanee 17.15 337 ePn Pn 08 47 04.7 -1.8
comp=Z,152nm,0.9s
144A Alexander Plac 17.17 322 P Pn 08 47 04.4 -2.3
baz=136,SNR=5.6
SVB Belmont 17.21 109 eP Pn 08 47 05.8 -1.5
SVB Belmont 17.21 109 e 08 50 27.8
SVB Belmont 17.21 109 ePn Pn 08 47 07.2 -0.2
comp=Z,299nm,1.0s
SVV Soufriere Volc 17.23 108 eP Pn 08 47 07.7 +0.2
SSV Crater Summit 17.24 108 eP Pn 08 47 07.7 -0.1
FCV Fort Charlotte 17.26 109 eP Pn 08 47 06.8 -1.1
Y46A Houston 17.28 328 P Pn 08 47 05.6 -2.4
baz=143,SNR=43
243A Waterproof 17.29 318 P Pn 08 47 05.8 -2.3
baz=132
Z45A Winona 17.31 325 P Pn 08 47 07.3 -1.1
baz=140,SNR=20
541A Lake Charles 17.32 310 P Pn 08 47 05.9 -2.7
baz=124
MCLT Moule a Chique 17.32 107 eP Pn 08 47 01.5 -7.2
MCLT Moule a Chique 17.32 107 e 08 50 34.8
GRGR Grenville 17.34 113 eP Pn 08 47 08.3 -0.6
GRGR Grenville 17.34 113 e 08 50 11.8
GRGR Grenville 17.34 113 ePn Pn 08 47 08.0 -0.9
comp=Z,312nm,1.0s
LVIG Laguna Verde 17.36 274 ePn Pn 08 47 07.2 -1.9
comp=Z,138nm,0.9s
342A Flagon Creek P 17.50 315 P Pn 08 47 09.1 -1.7
baz=129
BBSR BB Station 17.50 40 ePn Pn 08 47 09.7 -1.1
comp=Z,104nm,0.9s
Y45A Yeager Farm, C 17.61 327 P Pn 08 47 10.5 -1.7
baz=141,SNR=6.7
Z44A Pea Ridge, Bel 17.65 323 P Pn 08 47 11.8 -0.7
baz=138,SNR=7.2
TZTN Tazewell 17.66 345 ePn Pn 08 47 09.1 -3.7
comp=Z,98nm,0.8s
441A DeRidder 17.71 312 P Pn 08 47 11.9 -1.5
baz=126
VWCC Virginia Weste 17.76 355 ePn Pn 08 47 10.9 -3.0
BLA Blacksburg 17.77 354 eP Pn 08 47 11.2 -2.9
BLA pmax pmax
comp=Z,140nm,1.0s
BLA Blacksburg 17.77 354 ePn Pn 08 47 10.9 -3.2
comp=Z,142nm,0.9s
143A Socs Landing, 17.80 320 P Pn 08 47 14.6 +0.1
baz=134,SNR=5.8
242A Grayson 17.83 317 P Pn 08 47 12.9 -2.0
baz=131
FLOC Florencia 17.96 172 eP P 08 47 17.3 +0.1
540A Vidor 17.98 309 P Pn 08 47 15.3 -1.4
baz=122
142A Monroe 18.03 319 P Pn 08 47 16.0 -1.3
baz=133
Y44A Strider, Charl 18.04 325 P Pn 08 47 17.1 -0.3
baz=140,SNR=6.0
341A Kurthwood 18.05 314 P Pn 08 47 15.9 -1.6
baz=127
OXF Oxford 18.05 328 eP Pn 08 47 15.9 -1.7
OXF pmax pmax
comp=Z,170nm,1.1s
OXF Oxford 18.05 328 ePn Pn 08 47 15.8 -1.7
comp=Z,170nm,1.1s
JSRW J. Sargeant Re 18.12 0 ePn Pn 08 47 15.0 -3.4
440A Kirbyville 18.26 311 P Pn 08 47 19.7 -0.4
baz=124,SNR=8.8
IP05 Hopewell Churc 18.26 1 ePn Pn 08 47 16.9 -3.2
comp=Z,80nm,0.8s
TRN Trinidad (W) 18.27 116 eP P 08 47 21.5 +1.0
241A Mo Tay, Goldon 18.30 316 P Pn 08 47 19.7 -1.0
baz=129
IP07 Quail 18.35 360 ePn Pn 08 47 19.0 -2.2
comp=Z,77nm,0.9s
IP06 Yanceyville 18.36 0 ePn Pn 08 47 18.3 -3.1
comp=Z,54nm,0.8s
IP01 Cuckoo 18.39 0 ePn Pn 08 47 18.7 -2.9
comp=Z,179nm,1.6s
Y43A Makayla and Ka 18.39 324 P Pn 08 47 20.8 -1.0
baz=138,SNR=6.5
TPP Pointe-a-Pierr 18.40 117 eP Pn 08 47 23.7 +1.7
X44A Crenshaw 18.42 327 P P 08 47 21.2 -0.9
baz=141,SNR=6.7
IP03 Louisa 18.45 360 ePn P 08 47 19.6 -2.7
comp=Z,76nm,0.9s
CMBC Cumbal 18.45 179 eP Pn 08 47 23.5 +0.5
W45A Hickory Valley 18.47 330 P P 08 47 22.2 -0.4
baz=145,SNR=9.6
539A Cross D Ranch, 18.47 308 P P 08 47 21.1 -1.5
baz=121
CVRD Centerville Ro 18.50 0 ePn P 08 47 20.2 -2.7
comp=Z,63nm,0.9s
IP04 Greensprings 18.52 360 eP P 08 47 20.2 -2.9
comp=Z,43nm,0.9s
Z42A Norrel Spur, H 18.52 321 P P 08 47 22.5 -0.7
baz=134
738A Farr-Stevens R 18.57 303 P P 08 47 22.3 -1.5
baz=116
340A Bronson 18.59 313 P P 08 47 23.3 -0.7
baz=126,SNR=12
CBN Corbin Frederi 18.64 2 eP Pn 08 47 24.7 0.0
comp=Z,95nm,0.8s
141A Papa Simpson, 18.67 317 P P 08 47 24.0 -0.8
baz=131
638A Rosharon 18.68 305 P P 08 47 23.9 -1.0
baz=118
WVT Waverly 18.69 334 eP P 08 47 24.1 -0.9
WVT pmax pmax
comp=Z,48nm,1.0s
WVT Waverly 18.69 334 eP P 08 47 23.8 -1.2
comp=Z,48nm,0.9s
TOSP Speyside 18.69 113 eP P 08 47 24.9 -0.3
W44A Shelby Farms P 18.76 329 P P 08 47 24.8 -1.0
baz=143
BBGH Gun Hill 18.78 107 eP Pn 08 47 32.2 +5.5
BBGH Gun Hill 18.78 107 eP Pn 08 47 28.2 +1.5
comp=Z,720nm,1.1s
X43A Marvell 18.82 325 P Pn 08 47 26.7 -0.3
baz=139,SNR=19
Y42A Garnett, Star 18.83 322 P P 08 47 26.3 -0.2
baz=136,SNR=5.1
V45A Humboldt 18.84 331 P P 08 47 25.6 -1.1
baz=146,SNR=7.3
439A Center Grove, 18.86 310 P P 08 47 26.1 -0.9
baz=122,SNR=18
240A Hunter Patters 18.88 314 P P 08 47 26.0 -1.1
baz=128
CCAR Cane Creek 18.88 322 eP Pn 08 47 28.3 +0.7
comp=Z,545nm,1.5s
339A Huntington 19.01 312 P P 08 47 28.2 -0.4
baz=124,SNR=8.3
Z41A Richland Creek 19.04 319 P P 08 47 29.1 +0.2
baz=132,SNR=12
538A Harpers Horsep 19.10 307 P P 08 47 29.2 -0.4
baz=120
140A Cam and Jess, 19.12 316 P P 08 47 29.1 -0.7
baz=129
OTAV Otavalo 19.15 181 eP Pn 08 47 33.5 +1.9
comp=Z,131nm,1.4s
HALT Halls 19.16 331 eP P 08 47 30.5 +0.3
comp=Z,197nm,1.1s
W43A Forest City 19.17 327 P P 08 47 29.7 -0.5
baz=141
737A Port Lavaca 19.17 302 P P 08 47 30.2 -0.2
baz=114
X42A Stuttgart 19.26 324 P P 08 47 31.6 +0.3
baz=138,SNR=6.1
U45A Rockin P Farm, 19.26 333 P P 08 47 31.2 -0.1
baz=148,SNR=12
UTMT University of 19.30 333 eP P 08 47 31.6 -0.1
comp=Z,250nm,1.1s
NATX Nacogdoches 19.33 312 P P 08 47 31.2 -0.9
baz=125
NATX Nacogdoches 19.33 312 eP Pn 08 47 33.1 0.0
comp=Z,74nm,1.1s
239A Gary 19.34 313 P P 08 47 31.6 -0.6
baz=126
Y41A Eaglette Beard 19.34 321 P Pn 08 47 32.7 -0.6
baz=134
V44A Blytheville 19.35 330 P Pn 08 47 32.8 -0.6
baz=144
438A Sam Houston St 19.36 309 P P 08 47 32.6 +0.2
baz=121
637A Eagle Lake 19.38 304 P Pn 08 47 33.3 -0.4
baz=116,SNR=24
Z40A Long Farm, Mag 19.41 318 P P 08 47 33.4 +0.5
baz=131
GLAT Glass 19.43 332 eP P 08 47 33.4 +0.3
comp=Z,303nm,1.0s
HBAR Hasburg 19.50 328 eP P 08 47 34.4 +0.5
comp=Z,196nm,1.0s
U44B Burton Farm, H 19.51 332 P P 08 47 34.5 +0.4
baz=146
WLAR White Oak Lake 19.52 319 eP Pn 08 47 35.5 +0.2
comp=Z,130nm,1.1s
GNAR Gosnell 19.52 330 eP P 08 47 34.4 +0.3
comp=Z,240nm,1.0s
338A Crockett 19.56 310 P P 08 47 35.0 +0.4
baz=133,SNR=15
TLIG Tlapa 19.60 268 eP P 08 47 35.9 +0.6
comp=Z,67nm,0.8s
V43A Jonesboro 19.63 328 P P 08 47 35.8 +0.5
baz=142,SNR=6.5
537A Green Hill Far 19.66 306 P P 08 47 36.1 +0.4
baz=118,SNR=19
139A Bunkhouse Ranc 19.69 315 P Pn 08 47 36.8 -0.6
baz=128
X41A Kaden, Bauxite 19.72 322 P P 08 47 36.8 +0.5
baz=135
035Z Hargill 19.72 294 P P 08 47 36.5 +0.1
baz=106,SNR=14
PVMO Portageville 19.73 331 eP P 08 47 34.9 -1.6
comp=Z,151nm,0.8s
W42A Bald Knob 19.74 325 P Pn 08 47 37.3 -0.6
baz=139
736A Circle Diamond 19.75 302 P Pn 08 47 37.7 -0.5
baz=114,SNR=19
238A Jacksonville 19.79 312 P P 08 47 37.7 +0.6
baz=125
U44A Portageville 19.80 331 P P 08 47 37.9 +0.7
baz=146
UALR University of 19.82 323 eP Pn 08 47 38.3 -0.7
comp=Z,64nm,0.9s
Y40A Okolona 19.84 320 P Pn 08 47 38.6 -0.6
baz=133,SNR=7.9
SDMD Soldier's Deli 19.86 3 eP P 08 47 37.7 -0.1
comp=Z,68nm,0.8s
437A Phantom Ranch, 19.89 308 P Pn 08 47 39.0 -0.8
baz=120
035A Encino 19.89 296 P Pn 08 47 39.5 -0.4
baz=108
Z39A Irene McRaven, 19.90 317 P Pn 08 47 39.2 -0.7
baz=129
X40A Basin Creek Fa 19.90 322 P Pn 08 47 39.8 -0.1
baz=135,SNR=17
KVTX Kirsville 19.90 297 eP Pn 08 47 41.1 +1.1
comp=Z,158nm,1.1s
337A Centerville 19.95 310 P Pn 08 47 40.0 -0.6
baz=122
636A Smothers Creek 19.96 303 P P 08 47 39.4 +0.4
baz=115,SNR=24
PARMO Parma 19.96 331 eP P 08 47 39.6 +0.6
comp=Z,330nm,1.0s
WCI Wyandotte Cave 20.00 341 eP P 08 47 39.7 +0.2
WCI pmax pmax
comp=Z,190nm,1.2s
WCI Wyandotte Cave 20.00 341 eP P 08 47 39.6 +0.2
comp=Z,186nm,1.3s
U43A Rector 20.03 330 P P 08 47 39.4 -0.2
baz=144,SNR=24
W41B Gary Mavity, V 20.06 324 P P 08 47 40.0 -0.1
baz=137,SNR=25
V42A Cord 20.07 327 P P 08 47 40.2 0.0
baz=140,SNR=34
835A Beeville 20.11 300 P P 08 47 41.1 +0.5
baz=111,SNR=7.7
138A Matatall Enter 20.14 314 P Pn 08 47 42.1 -0.7
baz=126,SNR=7.7
WHAR Wooly Hollow 20.17 324 eP P 08 47 41.7 +0.5
comp=Z,135nm,1.1s
X301 Greenbrier Sit 20.19 324 eP P 08 47 42.1 +0.7
comp=Z,193nm,1.3s
USIN University of 20.23 337 eP P 08 47 42.0 +0.2
comp=Z,96nm,1.0s
536A Bastrop 20.23 305 P P 08 47 42.1 +0.2
baz=117,SNR=8.4
T44A Benton 20.24 332 P P 08 47 41.8 -0.2
baz=147,SNR=9.3
237A Washetta, Mont 20.27 311 P P 08 47 43.1 +0.7
baz=124,SNR=12
Y39A Lockesburg 20.29 318 P P 08 47 42.8 +0.2
baz=131,SNR=21
735A Kendy 20.31 301 P P 08 47 43.4 +0.6
baz=113
S45A Carrier Mills 20.32 335 P P 08 47 42.6 -0.3
baz=150,SNR=15
436A Wall Ranch, Ga 20.35 307 P P 08 47 43.4 +0.2
baz=119
PBMO Poplar Bluff 20.37 330 eP P 08 47 43.7 +0.4
comp=Z,55nm,0.8s
MIAR Mount Ida 20.38 320 P P 08 47 44.0 +0.5
baz=133,SNR=55
MIAR Mount Ida 20.38 320 eP P 08 47 43.5 0.0
MIAR Mount Ida 20.38 320 eP P 08 47 43.5 0.0
034A Hebbronville 20.42 295 P P 08 47 44.9 +0.8
baz=107,SNR=69
U42A Revenden 20.42 328 P P 08 47 44.4 +0.5
baz=142,SNR=70
Z38A Mt. Pleasant 20.43 315 P Pn 08 47 45.1 -1.1
baz=128
934A Benavides 20.45 297 P P 08 47 44.8 +0.5
baz=109,SNR=41
V41A Mountainview 20.46 325 P P 08 47 44.2 -0.2
baz=139,SNR=79
PSUB Penn St. - Bra 20.47 6 eP P 08 47 45.0 +0.5
comp=Z,97nm,1.4s
MVL Millersville 20.47 4 eP P 08 47 44.9 +0.4
comp=Z,34nm,0.7s
MVL eS S 08 51 34.2 +0.5
635A Leesville 20.49 302 P P 08 47 44.5 -0.2
baz=114,SNR=14
W40A Ferguson Farm, 20.54 323 P Pn 08 47 46.6 -0.8
baz=136,SNR=20
T43A Greenville 20.55 331 P P 08 47 45.3 -0.1
baz=145,SNR=31
137A Heron Place, G 20.57 313 P P 08 47 46.3 +0.8
baz=125,SNR=22
LNIG Linares 20.58 289 eP P 08 47 46.7 +0.9
comp=Z,89nm,1.0s
535A Dale 20.60 304 P P 08 47 45.5 -0.5
baz=116,SNR=17
S44A Carbondale 20.61 334 P P 08 47 45.6 -0.4
baz=148,SNR=24
834A Tilden 20.65 298 P P 08 47 46.7 +0.2
baz=110,SNR=12
X39A Fountain Ranch 20.68 320 P P 08 47 46.7 -0.2
baz=132,SNR=18
Y38A Idabel 20.69 317 P P 08 47 46.8 0.0
baz=130,SNR=10
336A Riesel 20.69 309 P P 08 47 46.8 -0.2
baz=120,SNR=14
O56A Blue Knob Stat 20.70 359 P P 08 47 47.4 +0.4
baz=178,SNR=45
U41A Viola 20.76 327 P P 08 47 47.5 -0.2
baz=140,SNR=38
236A Katherine and 20.78 310 P P 08 47 48.0 +0.1
baz=122,SNR=28
Z37A Pogue Cattle C 20.82 314 P P 08 47 48.5 +0.2
baz=126
V40A Witts Springs 20.84 324 P P 08 47 48.3 -0.2
baz=137,SNR=86
S43A Fulton Ridge, 20.86 332 P P 08 47 48.4 -0.3
baz=146,SNR=19
T42A Van Buren 20.89 329 P P 08 47 49.4 +0.4
baz=143
734A La Parita Cree 20.91 300 P P 08 47 49.1 -0.2
baz=112,SNR=15
BLO Bloomington 20.94 341 eP P 08 47 50.2 +0.7
BLO pmax pmax
comp=Z,79nm,0.8s
BLO Bloomington 20.94 341 eP P 08 47 50.2 +0.7
comp=Z,79nm,0.8s
634A China Grove, S 20.95 302 P P 08 47 49.8 0.0
baz=113
W39A Magazine 20.95 321 P P 08 47 50.6 +0.9
baz=134,SNR=22
435B Jarrell 20.95 306 P P 08 47 49.7 -0.1
baz=118,SNR=10
R44A Waltonville 21.02 335 P P 08 47 50.6 +0.2
baz=150
136A Ennis 21.04 312 P P 08 47 51.2 +0.5
baz=123,SNR=31
SSPA Standing Stone 21.06 0 eP P 08 47 51.6 +0.8
comp=Z,118nm,1.0s
OLIL Olney 21.07 338 eP P 08 47 51.1 +0.2
comp=Z,167nm,1.0s
335A Moody 21.07 308 P P 08 47 52.1 +1.1
baz=119,SNR=12
933A Laredo 21.09 296 P P 08 47 51.6 +0.3
baz=108,SNR=39
ACSO Alum Creek Sta 21.10 349 eP P 08 47 52.0 +0.8
comp=Z,189nm,1.0s
T41A Mountain View 21.23 328 P P 08 47 52.8 +0.1
baz=142,SNR=119
X38A Whitesboro 21.23 319 P P 08 47 53.3 +0.6
baz=131,SNR=90
U40A Yellville 21.26 325 P P 08 47 53.5 +0.4
baz=138,SNR=104
Y37A Hugo 21.30 316 P P 08 47 53.8 +0.3
baz=128,SNR=36
W38A Poteau 21.30 320 P P 08 47 54.5 +1.0
baz=132,SNR=53
534A Blanco 21.31 303 P P 08 47 54.2 +0.5
baz=115,SNR=29
BRNJ Basking Ridge 21.31 7 eP P 08 47 53.7 +0.2
comp=Z,436nm,1.3s
V39A Pettigrew 21.32 323 P P 08 47 54.5 +0.7
baz=136,SNR=115
S42A Caledonia 21.34 331 P P 08 47 53.7 -0.2
baz=145,SNR=63
R43A Red Bud 21.39 333 P P 08 47 54.6 +0.2
baz=148,SNR=34
833A Chaparral WMA, 21.41 298 P P 08 47 55.0 +0.2
baz=109,SNR=17
Z36A Blue Ridge 21.42 313 P P 08 47 55.7 +0.9
baz=125=9.9
N59A State Game Lan 21.43 5 P P 08 47 55.8 +1.0
baz=186,SNR=28
WHTX Lake Whitney, 21.45 309 P P 08 47 55.9 +0.8
baz=121,SNR=34
WHTX Lake Whitney, 21.45 309 eP P 08 47 55.9 +0.8
comp=Z,207nm,1.0s
N54A Moraine State 21.45 356 P P 08 47 55.4 +0.3
baz=175,SNR=13
733A Divot King Ran 21.47 299 P P 08 47 55.8 +0.5
baz=110,SNR=11
434A Burnet 21.49 306 P P 08 47 56.2 +0.6
baz=117,SNR=31
CPNY Central Park 21.50 8 eP P 08 47 56.5 +1.0
comp=Z,76nm,1.1s
X37A Clayton 21.52 318 P P 08 47 56.0 +0.2
baz=130,SNR=36
Q44A Meyer Farm, Va 21.56 336 P P 08 47 56.6 +0.4
baz=150,SNR=75
U39A Green Forest 21.62 324 P P 08 47 57.3 +0.3
baz=137,SNR=157
633A Saathoff Ranch 21.64 301 P P 08 47 57.1 -0.1
baz=112,SNR=101
S41A Jillco Farms, 21.64 329 P P 08 47 57.1 -0.1
baz=142,SNR=61
Y36A Durant 21.69 315 P P 08 47 58.1 +0.4
baz=127,SNR=5.8
T40A Mansfield 21.69 327 P P 08 47 57.4 -0.3
baz=140,SNR=55
ODNJ Ogdensburg 21.70 7 eP P 08 47 58.4 +0.7
comp=Z,163nm,0.9s
334A Lometa 21.71 307 P P 08 47 57.7 -0.2
baz=118,SNR=87
PAL Palisades 21.71 8 eP P 08 47 58.4 +0.5
PAL pmax pmax
comp=Z,86nm,0.9s
PAL Palisades 21.71 8 eP P 08 47 58.3 +0.5
comp=Z,86nm,0.9s
R42A Luebbering 21.76 332 P P 08 47 58.8 +0.3
baz=146,SNR=80
533A Kerrville 21.77 303 P P 08 47 58.6 0.0
baz=114,SNR=11
V38A Canehill 21.78 322 P P 08 47 59.0 +0.4
baz=134,SNR=41
HHAR Hobbs 21.81 323 eP P 08 47 59.5 +0.6
comp=Z,132nm,0.9s
SLM Saint Louis 21.82 333 eP P 08 47 59.5 +0.5
SLM pmax pmax
comp=Z,140nm,1.0s
SLM Saint Louis 21.82 333 eP P 08 47 59.5 +0.5
comp=Z,138nm,1.0s
MOIG Morelia 21.85 274 eP P 08 48 01.0 +1.3
comp=Z,266nm,1.5s
Q43A New Douglas 21.86 335 P P 08 47 59.4 0.0
baz=149,SNR=10
832A Faith Ranch, C 21.89 298 P P 08 47 59.8 0.0
baz=109,SNR=33
P44A Sand Creek, Wi 21.91 338 P P 08 48 00.2 +0.3
baz=152,SNR=38
W37B Quinton 21.91 319 P P 08 48 00.5 +0.5
baz=131,SNR=12
234A Clairette 21.95 309 P P 08 48 01.1 +0.6
baz=120,SNR=40
M54A Oil Creek Stat 21.98 357 P P 08 48 00.8 +0.1
baz=176,SNR=33
S40A Lebanon 22.02 328 P P 08 48 00.9 -0.4
baz=128,SNR=18
T39A Clever 22.04 326 P P 08 48 01.1 -0.3
baz=138,SNR=50
R41A Rosebud 22.04 331 P P 08 48 01.2 -0.2
baz=144,SNR=58
433A Art 22.10 305 P P 08 48 01.9 -0.3
baz=115,SNR=84
X36A Centrahoma 22.14 316 P P 08 48 02.9 +0.4
baz=147,SNR=32
ALLY Alegheny Colle 22.15 356 eP P 08 48 03.4 +0.8
comp=Z,261nm,0.9s
YLE Yale 22.16 10 eP P 08 48 03.1 +0.4
comp=Z,252nm,1.0s
U38A Gravette 22.17 323 P P 08 48 03.1 +0.3
baz=135,SNR=33
Q42A Golden Eagle 22.18 333 P P 08 48 03.3 +0.5
baz=125,SNR=7.0
Y35A Marietta 22.20 314 P P 08 48 03.6 +0.5
baz=157,SNR=45
SFIN Lafayette 22.22 341 P P 08 48 03.6 +0.3
SFIN Lafayette 22.22 341 eP P 08 48 03.6 +0.3
comp=Z,248nm,1.0s
V37A Hulbert 22.23 321 P P 08 48 03.2 -0.3
baz=133,SNR=49
333A Richland Sprin 22.27 306 P P 08 48 04.1 +0.1
baz=117,SNR=56
P43A Skaggs, Pawnee 22.39 336 P P 08 48 05.6 +0.5
baz=150,SNR=16
W36A Wetumka 22.41 318 P P 08 48 06.1 +0.7

baz=129,SNR=32
X35A **Drake** 22.44 315 P P 08 48 06.6 +0.9
baz=126,SNR=24
R40A **Maddies Statio** 22.45 329 P P 08 48 05.7 -0.1
baz=142,SNR=106
Q41A **Truxton** 22.51 332 P P 08 48 06.5 0.0
baz=146,SNR=100
S39A **Bolivar** 22.51 327 P P 08 48 06.6 +0.1
baz=139,SNR=62
233A **Rising Star** 22.53 308 P P 08 48 07.1 +0.3
baz=118,SNR=44
JCT **Junction City** 22.54 303 P P 08 48 06.8 -0.1
baz=114,SNR=28
JCT **Junction City** 22.54 303 eP P 08 48 08.0 +1.1
JCT pmax pmax
comp=Z,81nm,0.9s
JCT **Junction City** 22.54 303 eP P 08 48 08.0 +1.1
comp=Z,81nm,0.9s
T38A **Diamond** 22.55 324 P P 08 48 06.7 -0.1
baz=136,SNR=38
U37A **Salina** 22.57 322 P P 08 48 06.7 -0.4
baz=134,SNR=38
ERPA **Erie** 22.61 356 eP P 08 48 08.1 +0.7
comp=Z,124nm,1.1s
TUL1 **Leonard** 22.64 320 P P 08 48 07.5 -0.3
baz=131,SNR=40
TUL1 **Leonard** 22.64 320 eP P 08 48 07.5 -0.3
comp=Z,240nm,1.4s
V36A **Jenks** 22.65 319 P P 08 48 08.0 +0.1
baz=131,SNR=22
P42A **Winchester** 22.67 335 P P 08 48 07.9 -0.2
baz=148,SNR=19
BINY **Binghamton** 22.69 4 eP P 08 48 09.2 +0.9
comp=Z,114nm,0.9s
S38A **Stockton** 22.77 326 P P 08 48 09.4 +0.2
baz=138,SNR=49
W35A **Tecumseh** 22.83 317 P P 08 48 09.2 -0.7
baz=128,SNR=20
R39A **Chumby, Stover** 22.85 328 P P 08 48 09.9 -0.1
baz=141,SNR=67
O43A **Sugar Creek Fa** 22.88 337 P P 08 48 09.7 -0.6
baz=152,SNR=7.9
Q40A **Laux Farm, Aux** 22.93 331 P P 08 48 10.4 -0.5
baz=144,SNR=44
U36A **Ologah** 22.93 321 P P 08 48 10.7 -0.1
baz=132,SNR=27
T37A **Cheneyville 18** 22.96 323 P P 08 48 10.3 -0.8
baz=135,SNR=42
BRYW **Bryant College** 23.01 12 eP P 08 48 12.1 +0.5
comp=Z,242nm,1.3s
P41A **Barry, Barry** 23.04 334 P P 08 48 11.6 -0.4
baz=147,SNR=44
O42A **Bath** 23.09 336 P P 08 48 11.9 -0.6
baz=150,SNR=9.1
HDIL **Hopedale** 23.11 338 P P 08 48 12.1 -0.5
baz=152,SNR=15
HDIL **Hopedale** 23.11 338 eP P 08 48 12.7 0.0
comp=Z,180nm,1.1s
ZAIG **Zacatecas** 23.14 282 eP P 08 48 14.5 +1.0
comp=Z,105nm,1.5s
MMNY **Mt. Morris Dam** 23.16 0 eP P 08 48 14.5 +1.3
R38A **Fenwick Farm,** 23.19 327 P P 08 48 13.0 -0.6
baz=139,SNR=30
V35A **Meyer Ranch, C** 23.19 318 P P 08 48 13.0 -0.6
baz=129,SNR=12
QUA2 **Belchertown** 23.20 11 eP P 08 48 14.1 +0.5
comp=Z,64nm,0.9s
AAM **Ann Arbor** 23.23 349 eP P 08 48 15.4 +1.6
AAM pmax pmax
comp=Z,84nm,0.9s
AAM **Ann Arbor** 23.23 349 eP P 08 48 15.4 +1.6
comp=Z,84nm,0.9s
O41A **Passleys Farm,** 23.34 334 P P 08 48 14.1 -0.9
baz=148,SNR=22
P40A **Paris** 23.35 332 P P 08 48 14.6 -0.5
baz=145,SNR=18
BUF **Buffalo** 23.36 358 eP P 08 48 16.8 +1.6
S37A **Fort Scott** 23.36 325 P P 08 48 14.9 -0.4
baz=136,SNR=24
ABTX **Abilene, Hawle** 23.37 308 P P 08 48 15.5 0.0
baz=119,SNR=24
ABTX **Abilene, Hawle** 23.37 308 eP P 08 48 15.0 -0.5
comp=Z,251nm,1.4s
Q39A **Willow Grove F** 23.39 330 P P 08 48 14.8 -0.7
baz=142,SNR=35
TRY **Troy** 23.44 8 eP P 08 48 16.8 +0.7
comp=Z,85nm,1.1s
T36A **Boggs Farm, Ca** 23.46 322 P P 08 48 16.0 -0.3
baz=133,SNR=18
BCX **Boston College** 23.48 13 eP P 08 48 17.2 +0.8
comp=Z,341nm,0.9s
WES **Weston** 23.50 12 eP P 08 48 17.3 +0.7
WES pmax pmax
comp=Z,180nm,1.0s
WES **Weston** 23.50 12 eP P 08 48 17.2 +0.7
comp=Z,177nm,1.0s
U35A **Pawnee** 23.51 319 P P 08 48 16.5 -0.3
baz=130,SNR=16
HRV **Adam Dziewonsk** 23.57 12 eP P 08 48 17.5 +0.2
HRV pmax pmax
comp=Z,110nm,1.4s
HRV **Adam Dziewonsk** 23.57 12 eP P 08 48 17.4 +0.2
comp=Z,111nm,1.4s
N42A **Yates City** 23.62 337 P P 08 48 17.0 -0.8
baz=150,SNR=8.8
Q38A **Cooks Store, C** 23.63 328 P P 08 48 17.6 -0.4
baz=141
P39B **Salisbury** 23.64 331 P P 08 48 17.4 -0.6
baz=143,SNR=15
T35A **Sooner Cattle** 23.74 321 P P 08 48 18.8 -0.2
baz=132,SNR=35
O40A **La Belle** 23.76 333 P P 08 48 18.7 -0.4
baz=146,SNR=19
S36A **Lake Cedric, C** 23.76 323 P P 08 48 18.8 -0.4
baz=135,SNR=27
R37A **Teagarden Farm** 23.77 326 P P 08 48 19.3 0.0
baz=137,SNR=50
N41A **Harden Midland** 23.83 335 P P 08 48 19.8 0.0
baz=149,SNR=7.3
WMOK **Wichita Mounta** 23.85 314 P P 08 48 20.2 0.0
baz=124
Q37A **Longview Farm,** 23.99 327 P P 08 48 21.4 0.0
baz=139,SNR=13
M42A **Sheffield** 24.07 338 P P 08 48 21.6 -0.4
baz=152,SNR=7.8
ACCN **Adirondack Com** 24.09 8 eP P 08 48 23.4 +1.2
comp=Z,250nm,1.9s
P38A **Dawn** 24.11 330 P P 08 48 22.2 -0.3
baz=142,SNR=27
R36A **Gordon, Harris** 24.14 325 P P 08 48 22.6 -0.2
baz=136,SNR=36
S35A **Otter Creek Ra** 24.15 322 P P 08 48 22.8 -0.1
baz=134,SNR=30
O39A **Kirksville** 24.16 332 P P 08 48 22.8 -0.2
baz=144,SNR=15
T34A **McClaskey Farm** 24.22 320 P P 08 48 23.4 -0.1
baz=131,SNR=22
N40A **Mertquake, Sal** 24.27 334 P P 08 48 23.8 -0.1
baz=147,SNR=7.3
M41A **Milan** 24.28 337 P P 08 48 23.3 -0.7
baz=150,SNR=8.3
O38A **Galt** 24.47 330 P P 08 48 26.0 +0.2
baz=142,SNR=17
P37A **Lathrop** 24.48 328 P P 08 48 26.0 +0.1
baz=140,SNR=47
FFD **Franklin Falls** 24.48 11 eP P 08 48 27.3 +1.5
comp=Z,73nm,0.8s
R35A **Emporia Munici** 24.52 324 P P 08 48 26.4 0.0
baz=135,SNR=10
Q36A **Arnold C. Orve** 24.58 326 P P 08 48 26.8 0.0
baz=137,SNR=14
NCB **Newcomb** 24.60 7 eP P 08 48 28.1 +1.1
comp=Z,1.4nm,0.8s
HNH **Hanover** 24.60 10 eP P 08 48 28.4 +1.5
comp=Z,219nm,1.3s
S34A **Willow Spring** 24.62 321 P P 08 48 26.5 -0.7
baz=132
N39A **Derby Farms, D** 24.65 333 P P 08 48 27.3 -0.2
baz=145,SNR=34
M40A **Post Highland** 24.68 335 P P 08 48 27.2 -0.5
baz=148,SNR=9.4
MDV **Middlebury** 24.75 8 eP P 08 48 29.8 +1.5
Q35A **Mercer Eighty,** 24.81 325 P P 08 48 28.7 -0.3
baz=136,SNR=22
O37A **Wolven Farm, M** 24.83 329 P P 08 48 29.2 +0.2
baz=141,SNR=21
L41A **Preston** 24.87 337 P P 08 48 29.1 -0.3
baz=151,SNR=6.9

N38A **Joes South For** 24.90 332 P P 08 48 29.6 -0.2
baz=144,SNR=19
P36A **Good Intent, A** 24.93 327 P P 08 48 29.8 -0.2
baz=138
U32A **Winter Ranch,** 24.95 317 P P 08 48 31.2 +0.9
baz=127
M39A **Webster** 25.01 334 P P 08 48 30.6 -0.1
baz=147,SNR=21
R34A **Isabella, Hill** 25.10 322 P P 08 48 31.5 -0.1
baz=133,SNR=21
L40A **Anamosa** 25.13 336 P P 08 48 31.6 -0.2
baz=149,SNR=21
LBNH **Lisbon** 25.18 10 eP P 08 48 33.3 +1.1
LBNH pmax pmax
comp=Z,71nm,0.9s
LBNH **Lisbon** 25.18 10 eP P 08 48 33.3 +1.1
comp=Z,71nm,0.8s
O36A **Bolckow** 25.20 328 P P 08 48 32.3 -0.1
baz=140,SNR=10
LONY **Lake Ozonia** 25.20 6 eP P 08 48 33.1 +0.7
comp=Z,86nm,0.8s
SADO **Sadowa** 25.21 358 P P 08 48 31.8 -0.6
comp=Z,80nm,0.8s,baz=198,slow=9.0,SNR=30
SADO **Sadowa** 25.21 358 eP P 08 48 32.7 +0.3
comp=Z,99nm,0.9s
K41A **Shullsburg** 25.27 338 P P 08 48 33.0 0.0
baz=152,SNR=5.5
P35A **Duane Minner,** 25.29 326 P P 08 48 33.0 -0.2
baz=137,SNR=16
LTX **Lajitas** 25.29 298 eP P 08 48 34.6 +1.1
LTX **Lajitas** 25.29 298 eP P 08 48 34.6 +1.1
TX31 **Lajitas Ar. Si** 25.29 298 eP P 08 48 34.1 +0.7
TXAR **Lajitas Array** 25.29 298 P P 08 48 34.6 +1.1
comp=Z,8.2nm,0.8s,baz=113,slow=9.6,SNR=55
KSU1 **Kansas State U** 25.30 324 P P 08 48 33.3 0.0
baz=135,SNR=7.6
KSU1 **Kansas State U** 25.30 324 eP P 08 48 33.7 +0.4
comp=Z,142nm,0.9s
N37A **Lee Faris, Mou** 25.32 330 P P 08 48 33.6 +0.1
baz=142,SNR=47
Q34A **Chapman** 25.36 324 P P 08 48 34.0 +0.1
baz=134,SNR=12
M38A **Pleasantville** 25.39 333 P P 08 48 34.0 -0.1
baz=145,SNR=30
PLVO **Plevna** 25.47 2 eP P 08 48 35.4 +0.5
comp=Z,83nm,0.9s
L39A **Vinton** 25.48 335 P P 08 48 34.8 -0.2
baz=148,SNR=13
FRNY **Flat Rock** 25.52 7 eP P 08 48 36.2 +0.9
comp=Z,30nm,1.0s
JFWS **Jewell Farm** 25.52 339 eP P 08 48 35.5 +0.1
JFWS **Jewell Farm** 25.52 339 eP P 08 48 35.4 +0.1
comp=Z,72nm,0.9s
K40A **Colesburg** 25.65 337 P P 08 48 36.1 -0.4
baz=150,SNR=17
N36A **Muff Farm, Cla** 25.72 329 P P 08 48 37.2 +0.1
baz=141,SNR=39
P34A **Walnut Farm, R** 25.73 325 P P 08 48 37.0 -0.3
baz=135,SNR=23
M37A **Trindle Farm,** 25.76 331 P P 08 48 37.4 -0.1
baz=143,SNR=9.7
O35A **Humboldt** 25.78 327 P P 08 48 37.4 -0.2
baz=138
SCIA **State Center** 25.80 333 eP P 08 48 38.5 +0.6
comp=Z,675nm,1.8s
J41A **Loganville** 25.85 340 P P 08 48 37.6 -0.6
baz=153,SNR=17
L38A **Oak Wood Farm,** 25.89 334 P P 08 48 38.6 0.0
baz=146,SNR=15
K39A **Oelwein** 25.94 336 P P 08 48 38.5 -0.6
baz=149,SNR=17
WVL **Waterville** 25.94 14 eP P 08 48 41.0 +2.0
comp=Z,90nm,0.8s
AMTX **Amarillo** 25.95 311 P P 08 48 38.6 -0.8
baz=120
AMTX **Amarillo** 25.95 311 eP P 08 48 39.5 0.0
comp=Z,126nm,1.1s
N35A **Tabor** 26.09 328 P P 08 48 40.3 -0.2
baz=139,SNR=16
J40A **Soldiers Grove** 26.12 339 P P 08 48 40.9 +0.2
baz=152,SNR=8.6
O34A **Beatrice** 26.12 326 P P 08 48 40.7 -0.1
baz=137,SNR=20
M36A **Felix, Anita** 26.14 330 P P 08 48 41.2 +0.2
baz=142,SNR=34
L37A **Phoenix Point,** 26.21 333 P P 08 48 41.7 +0.1
baz=144,SNR=14
K38A **Parkersburg** 26.23 335 P P 08 48 41.8 0.0
baz=147,SNR=19
MSTX **Muleshoe** 26.31 308 P P 08 48 42.6 -0.2
baz=117,SNR=16
MSTX **Muleshoe** 26.31 308 eP P 08 48 42.7 0.0
comp=Z,33nm,0.8s
J39A **Decorah** 26.41 337 P P 08 48 43.0 -0.3
baz=150,SNR=16
I41A **Arkdale** 26.42 341 P P 08 48 43.1 -0.4
baz=154,SNR=8.3
HPIG 26.44 291 eP P 08 48 44.5 +0.5
comp=Z,41nm,1.3s
ATAH **Atahualpa** 26.48 181 P P 08 48 47.7 +3.1
comp=Z,15nm,1.0s,baz=347,slow=10,SNR=9.4
N34A **Lincoln** 26.50 327 P P 08 48 43.9 -0.4
baz=138
I40A **Norwalk** 26.52 339 P P 08 48 43.9 -0.4
baz=152
O33A **Hebron** 26.52 325 P P 08 48 45.5 +1.1
baz=135,SNR=6.7
M35A **Neola** 26.58 329 P P 08 48 44.9 +0.1
baz=140,SNR=14
L36A **Harm Buss Farm** 26.59 332 P P 08 48 44.9 -0.2
baz=143,SNR=8.8
J38A **Wedel Dairy R** 26.68 336 P P 08 48 45.5 -0.3
baz=148,SNR=9.9
PKME **Peaks-Kenny Pk** 26.68 14 eP P 08 48 47.3 +1.5
comp=Z,71nm,1.4s
K37A **Belmond** 26.69 334 P P 08 48 45.8 -0.1
baz=145,SNR=49
PTGA **Pitinga** 26.78 137 P P 08 48 49.2 +2.2
comp=Z,34nm,0.9s,baz=319,slow=9.8,SNR=56
PTGA LR LR 08 58 45.2
comp=Z,3µm,22.0s,baz=323,slow=35
PTGA **Pitinga** 26.78 137 eP P 08 48 48.6 +1.6
comp=Z,77nm,0.9s
I39A **Houston** 26.79 338 P P 08 48 46.5 -0.3
baz=151,SNR=10
TRQ **Mont Tremblant** 26.80 5 eP P 08 48 47.5 +0.6
H41A **Junction City** 26.86 341 P P 08 48 47.4 0.0
baz=155,SNR=5.3
CBKS **Cedar Bluff** 26.91 320 P P 08 48 48.6 +0.6
baz=129,SNR=6.1
CBKS **Cedar Bluff** 26.91 320 eP P 08 48 49.9 +1.9
CBKS pmax pmax
comp=Z,160nm,1.0s
CBKS **Cedar Bluff** 26.91 320 eP P 08 48 48.5 +0.5
comp=Z,165nm,1.0s
N33A **J Bar K, Exete** 26.92 326 P P 08 48 47.8 -0.3
baz=136
K36A **Gilmore City** 26.93 333 P P 08 48 48.3 +0.2
baz=144,SNR=26
L35A **Bielow Farm, R** 27.00 330 P P 08 48 48.6 -0.2
baz=141
M34A **Aspy Farms, Fr** 27.04 328 P P 08 48 49.5 +0.4
baz=138,SNR=14
H40A **Chili** 27.09 340 P P 08 48 49.0 -0.5
baz=154,SNR=9.3
J37A **Redenius Farm,** 27.10 335 P P 08 48 49.7 +0.1
baz=146,SNR=22
GGN **Saint George** 27.17 17 eP P 08 48 51.3 +1.2
comp=Z,36nm,1.1s
I38A **Scanlan Farm,** 27.25 337 P P 08 48 50.3 -0.6
baz=149,SNR=17
G41A **Antigo** 27.26 343 P P 08 48 50.8 -0.2
baz=156
L34A **Svendsen Farm,** 27.29 329 P P 08 48 51.1 -0.2
baz=140,SNR=18
K35A **Storm Lake** 27.34 332 P P 08 48 51.7 0.0
baz=142,SNR=16
M33A **Taylor Creek F** 27.40 328 P P 08 48 52.3 0.0
baz=138,SNR=5.1
H39A **Augusta** 27.43 339 P P 08 48 52.3 -0.3
baz=152,SNR=6.4
MNTX **Cornudas Mount** 27.44 302 P P 08 48 53.5 +0.7
baz=110,SNR=25
MNTX **Cornudas Mount** 27.44 302 eP P 08 48 53.5 +0.7
comp=Z,22nm,1.0s
J36A **Seneca 1, Swea** 27.44 334 P P 08 48 52.2 -0.5
baz=145,SNR=15
F42A **Maple Grove Fa** 27.49 345 P P 08 48 52.7 -0.3
baz=159
G40A **Rib Lake** 27.61 341 P P 08 48 54.3 +0.1
baz=154,SNR=8.0
I37A **Lemond, Waseca** 27.63 336 P P 08 48 53.5 -0.8
baz=147
K34A **Le Mars** 27.71 330 P P 08 48 55.0 -0.1
baz=141,SNR=6.6
F41A **Three Lakes** 27.73 343 P P 08 48 55.6 +0.4
baz=157
BGNE **Belgrade** 27.77 326 P P 08 48 55.6 0.0
baz=136,SNR=9.6
BGNE **Belgrade** 27.77 326 eP P 08 48 56.1 +0.4
comp=Z,219nm,0.9s
H38A **Maiden Rock** 27.78 338 P P 08 48 55.3 -0.3
baz=150
L33A **Hoskins** 27.88 328 P P 08 48 56.6 0.0
baz=138,SNR=9.5
I36A **Fitzsimmons Fa** 27.88 335 P P 08 48 55.4 -1.1
baz=146,SNR=5.4
H37A **Dierke Farm, C** 27.93 337 P P 08 48 56.7 -0.3
baz=149,SNR=9.3
G39A **Holcombe** 27.93 340 P P 08 48 57.0 0.0
baz=153,SNR=9.4
G38A **Ridgeland** 28.06 339 P P 08 48 57.0 -1.2
baz=151
K33A **Hardington** 28.07 329 P P 08 48 58.0 -0.3
baz=139
J34A **George** 28.11 331 P P 08 48 58.4 -0.3
baz=142
L32A **Elgin** 28.13 327 P P 08 48 58.9 +0.1
baz=137
I35A **Creekview Farm** 28.14 333 P P 08 48 58.3 -0.6
baz=144
F40A **Park Falls** 28.18 342 P P 08 48 58.6 -0.6
baz=155
H36A **Jessenland, He** 28.31 336 P P 08 49 00.2 -0.2
baz=147
E41A **Kenton** 28.36 344 P P 08 49 00.2 -0.7
baz=158
F39A **Loretta** 28.42 341 P P 08 49 00.9 -0.4
baz=154,SNR=5.1
SPMN **Marine on St.** 28.44 338 P P 08 49 00.2 -1.3
baz=150
SPMN **Marine on St.** 28.44 338 eP P 08 49 01.7 +0.2
comp=Z,36nm,1.2s
LMN **Caledonia Moun** 28.44 20 eP P 08 49 02.6 +1.0
comp=Z,107nm,1.7s
VLDQ **Val d'Or** 28.54 1 eP P 08 49 03.7 +1.4
comp=Z,39nm,1.3s
K32A **Verdigre** 28.59 328 P P 08 49 02.3 -0.6
baz=138,SNR=39
E40A **Wakefield** 28.59 343 P P 08 49 02.2 -0.7
baz=156
J33A **Davis** 28.60 330 P P 08 49 02.1 -0.9
baz=140,SNR=6.3
I34A **Hadley** 28.67 333 P P 08 49 02.6 -1.0
baz=143
E39A **Mellen** 28.72 342 P P 08 49 04.4 +0.4
baz=155
ECSD **EROS Data Cent** 28.76 331 P P 08 49 03.9 -0.5
baz=141,SNR=28
ECSD **EROS Data Cent** 28.76 331 eP P 08 49 04.0 -0.4
comp=Z,31nm,0.9s
F38A **Pierce - Schro** 28.76 340 P P 08 49 04.5 +0.1
baz=152
H35A **Sunnyside Ranc** 28.77 335 P P 08 49 04.2 -0.2
baz=145,SNR=28
G36A **St. Michael** 28.79 337 P P 08 49 04.5 -0.2
baz=148
F37A **Hinrichs Farm,** 28.81 338 P P 08 49 04.4 -0.4
baz=150
KSCO **Kaye Shedlock'** 28.82 318 P P 08 49 03.4 -1.8
baz=125
K31A **O'Neill** 28.96 327 P P 08 49 06.1 -0.1
baz=136,SNR=16
T25A **Trinidad** 29.00 313 P P 08 49 07.2 +0.4
baz=120,SNR=12
T25A **Trinidad** 29.00 313 eP P 08 49 07.9 +1.1
comp=Z,59nm,1.4s
J32A **Parkston** 29.06 329 P P 08 49 06.8 -0.3
baz=139,SNR=25
G35A **Watkins** 29.06 336 P P 08 49 06.4 -0.7
baz=146
I33A **Coleman** 29.09 331 P P 08 49 06.3 -1.0
baz=141
H34A **Spellman Lake,** 29.13 333 P P 08 49 07.0 -0.7
baz=144,SNR=11
E38A **The Farm, Brul** 29.23 341 P P 08 49 08.4 -0.1
baz=153
F36A **Milaca** 29.25 337 P P 08 49 08.1 -0.5
baz=149,SNR=11
I32A **Karley and Nic** 29.38 331 P P 08 49 09.2 -0.7
baz=140,SNR=7.1
J31A **Geddes** 29.44 328 P P 08 49 09.8 -0.6
baz=137,SNR=28
ANMO **Albuquerque** 29.48 307 P P 08 49 12.1 +1.0
comp=Z,3.2nm,1.0s,baz=146,slow=11,SNR=14
ANMO **Albuquerque** 29.48 307 P P 08 49 12.7 +1.6
baz=114
ANMO **Albuquerque** 29.48 307 eP P 08 49 13.5 +2.3
ANMO pmax pmax
comp=Z,12nm,1.0s
ANMO **Albuquerque** 29.48 307 eP P 08 49 13.0 +1.9
comp=Z,12nm,1.0s
Y22D **IRIS PASSCAL I** 29.49 305 P P 08 49 13.1 +1.8
baz=112
G34A **Benson** 29.54 334 P P 08 49 10.6 -0.7
baz=144,SNR=12
H33A **Prehn Over Nor** 29.56 332 P P 08 49 11.0 -0.5
baz=142
OGNE **Ogallala** 29.62 321 P P 08 49 10.4 -1.8
baz=129
OGNE **Ogallala** 29.62 321 eP P 08 49 13.0 +0.8
comp=Z,36nm,0.8s
F35A **Swanville** 29.63 336 P P 08 49 11.5 -0.6
baz=147,SNR=8.4
121A **Cookes Peak, D** 29.64 302 P P 08 49 11.2 -1.3
baz=108
E36A **McGregor** 29.71 338 P P 08 49 12.7 -0.2
baz=150,SNR=6.8
H32A **Carlson Farm,** 29.73 331 P P 08 49 12.2 -0.8
baz=141,SNR=13
G33A **Ortonville** 29.84 333 P P 08 49 13.1 -0.9
baz=143,SNR=16
F34A **Alexandria** 29.84 335 P P 08 49 13.4 -0.6
baz=146,SNR=11
I31A **Royce, Wessing** 29.88 329 P P 08 49 14.1 -0.3
baz=138
C39A **Grand Marais** 29.91 343 P P 08 49 13.9 -0.7
baz=156
D37A **Cotton** 30.00 340 P P 08 49 15.2 -0.1
baz=152,SNR=8.8
SDCO **Great Sand Dun** 30.05 313 P P 08 49 16.0 -0.3
baz=120,SNR=9.7
SDCO **Great Sand Dun** 30.05 313 eP P 08 49 17.1 +0.8
comp=Z,21nm,1.4s
C38A **Sawbill Land.** 30.14 342 P P 08 49 16.1 -0.5
baz=154
E35A **Pequot Lakes** 30.16 337 P P 08 49 16.7 -0.1
baz=148,SNR=14
H31A **Wolsey** 30.19 330 P P 08 49 16.3 -0.8
baz=139
D36A **Goodland** 30.26 339 P P 08 49 17.4 -0.3
baz=151
F33A **5 Mile Ranch,** 30.30 334 P P 08 49 17.3 -0.7
baz=144,SNR=9.6
LPIG **La Paz** 30.31 285 LR LR 09 02 17.9
comp=Z,3µm,18.1s,baz=5.0,slow=38
G32A **Webster** 30.34 332 P P 08 49 17.9 -0.5
baz=141,SNR=26
SUSD **Miller** 30.39 330 P P 08 49 18.1 -0.8
baz=138,SNR=15
E34A **Wadena** 30.41 336 P P 08 49 18.5 -0.5
baz=147
EYMN **Ely** 30.42 342 P P 08 49 18.3 -0.8
baz=154,SNR=5.3
EYMN **Ely** 30.42 342 eP P 08 49 17.6 -1.4
comp=Z,18nm,0.8s
D35A **Remer** 30.48 338 P P 08 49 19.2 -0.4
baz=149
319A **Douglas** 30.52 299 eP P 08 49 22.5 +2.2
comp=Z,24nm,1.0s
G31A **Conde** 30.64 331 P P 08 49 20.2 -0.8
baz=140,SNR=10
C36A **Pine Crest Far** 30.66 340 P P 08 49 20.5 -0.6
baz=152,SNR=8.8
F32A **Veblen** 30.67 333 P P 08 49 20.5 -0.8
baz=143

E33A **Westby DABS, E** 30.72 335 P P 08 49 20.8 -1.0
baz=145,SNR=7.4
D34A **Park Rapids** 30.89 337 P P 08 49 22.5 -0.8
baz=147,SNR=12
S22A **4UR Ranch, Cre** 30.97 312 P P 08 49 23.5 -1.0
baz=118,SNR=7.5
S22A **4UR Ranch, Cre** 30.97 312 eP P 08 49 27.0 +2.6
comp=Z,31nm,1.7s
C35A **Jirik Farms, M** 30.98 339 P P 08 49 23.5 -0.5
baz=150
F31A **Hecla** 31.15 332 P P 08 49 23.9 -1.7
baz=141,SNR=11
ISCO **Idaho Springs** 31.18 316 P P 08 49 26.1 -0.2
baz=122,SNR=12
ISCO **Idaho Springs** 31.18 316 eP P 08 49 27.0 +0.7
ISCO pmax pmax
comp=Z,18nm,1.0s
ISCO **Idaho Springs** 31.18 316 eP P 08 49 26.9 +0.7
comp=Z,18nm,1.0s
D33A **AnnSam, Waubun** 31.18 336 P P 08 49 25.5 -0.3
baz=146,SNR=25
E32A **Braaten, Kindr** 31.22 334 P P 08 49 25.2 -1.0
baz=143
C34A **RKJ Ranch, Bem** 31.27 338 P P 08 49 26.1 -0.4
baz=148,SNR=6.3
NNA **Nana** 31.31 178 ceP P 08 49 34.2 +6.9
NNA **Nana** 31.31 178 eP P 08 49 28.6 +1.4
comp=Z,30nm,1.1s
HSIG 31.41 294 eP P 08 49 29.7 +1.6
comp=Z,40nm,1.4s
B35A **Bob, Littlefor** 31.47 340 P P 08 49 27.8 -0.5
baz=151
E31A **Nome** 31.54 333 P P 08 49 28.0 -0.9
baz=142,SNR=11
D32A **Dogwood Acres,** 31.64 335 P P 08 49 28.8 -1.0
baz=144,SNR=8.3
C33A **Trail** 31.67 337 P P 08 49 29.9 -0.2
baz=147
SMCO **Snowmass** 31.76 314 eP P 08 49 32.0 +0.5
comp=Z,22nm,1.1s
SAML **Samuel** 31.82 151 eP P 08 49 32.7 +1.0
comp=Z,52nm,0.8s
D31A **Mcclaflin, Tow** 31.86 334 P P 08 49 30.4 -1.4
baz=143,SNR=7.6
B34A **Aery, Baudette** 31.89 339 P P 08 49 31.5 -0.6
baz=149
PHWY **Pilot Hill** 31.91 319 eP P 08 49 32.5 -0.1
comp=Z,20nm,0.8s
MVCO **Mesa Verde** 31.92 310 P P 08 49 32.7 -0.1
baz=115,SNR=7.0
MVCO **Mesa Verde** 31.92 310 eP P 08 49 34.0 +1.2
comp=Z,54nm,1.4s
N23A **Red Feather La** 31.99 318 P P 08 49 33.2 -0.1
baz=123
N23A **Red Feather La** 31.99 318 eP P 08 49 35.4 +2.0
comp=Z,27nm,1.3s
X18A **Snowflake** 32.00 304 eP P 08 49 35.9 +2.5
comp=Z,9.3nm,0.9s
TUC **Tucson** 32.00 300 P P 08 49 32.5 -0.8
baz=105
TUC **Tucson** 32.00 300 eP P 08 49 35.0 +1.7
TUC pmax pmax
comp=Z,20nm,1.2s
TUC **Tucson** 32.00 300 eP P 08 49 35.0 +1.7
comp=Z,20nm,1.3s
B33A **Robert and Kas** 32.04 338 P P 08 49 33.0 -0.3
baz=147,SNR=5.3
AGMN **Agassiz Nation** 32.16 337 P P 08 49 34.2 -0.2
baz=147,SNR=23
AGMN **Agassiz Nation** 32.16 337 eP P 08 49 34.5 +0.1
comp=Z,53nm,0.9s
PV01 **Paradox Valley** 32.38 311 eP P 08 49 38.0 +1.3
C31A **Landman Farms,** 32.46 335 P P 08 49 36.3 -0.8
baz=144,SNR=11
B32A **Ashes, Strandq** 32.49 337 P P 08 49 36.4 -0.8
baz=146,SNR=16
A33A **Warroad** 32.53 338 P P 08 49 37.0 -0.7
baz=148,SNR=15
PV05 **Paradox Valley** 32.73 311 eP P 08 49 40.5 +0.8
RSSD **Black Hills** 32.79 324 P P 08 49 39.5 -0.7
baz=130
RSSD **Black Hills** 32.79 324 eP P 08 49 40.2 0.0
RSSD pmax pmax
comp=Z,19nm,1.0s
RSSD **Black Hills** 32.79 324 eP P 08 49 40.2 0.0
comp=Z,19nm,1.0s
PV10 **Paradox Valley** 32.81 312 eP P 08 49 41.3 +0.7
A32A **Rocking H Ranc** 32.91 337 P P 08 49 40.1 -0.8
baz=146,SNR=19
B31A **Greenbush Farm** 32.93 336 P P 08 49 40.2 -1.0
baz=144,SNR=19
PV09 **Paradox Valley** 32.93 312 eP P 08 49 42.8 +1.2
O20A **White River Ci** 33.09 315 P P 08 49 42.0 -0.9
baz=119
O20A **White River Ci** 33.09 315 eP P 08 49 45.7 +2.8
comp=Z,20nm,1.1s
X16A **Lo Mia Camp, P** 33.13 304 eP P 08 49 45.6 +2.3
comp=Z,21nm,1.1s
A31A **Linda, St. Vin** 33.17 337 P P 08 49 42.8 -0.5
baz=145
MDND **Maddock** 33.27 333 P P 08 49 43.2 -0.9
baz=141,SNR=15
MDND **Maddock** 33.27 333 eP P 08 49 44.1 -0.1
comp=Z,78nm,0.9s
K22A **Casper** 33.33 320 P P 08 49 44.7 -0.3
baz=125
K22A **Casper** 33.33 320 eP P 08 49 45.9 +0.9
comp=Z,20nm,1.1s
WUAZ **Wupatki** 33.43 305 P P 08 49 46.5 +0.6
baz=110,SNR=13
WUAZ **Wupatki** 33.43 305 eP P 08 49 45.8 -0.1
comp=Z,43nm,1.0s
214A **Organ Pipe Nat** 33.58 299 P P 08 49 47.2 +0.2
baz=103
ULM **Lac du Bonnet** 33.82 339 P P 08 49 48.8 -0.1
comp=Z,29nm,0.8s,baz=151,slow=9.1,SNR=25
ULM LR LR 09 03 55.7
comp=Z,5μm,19.0s,baz=42,slow=37
ULM **Lac du Bonnet** 33.82 339 eP P 08 49 48.7 -0.1
comp=Z,52nm,1.0s
SRU **San Rafael Swe** 34.18 312 eP P 08 49 53.7 +1.3
SRU pmax pmax
comp=Z,25nm,1.0s
SRU **San Rafael Swe** 34.18 312 eP P 08 49 53.1 +0.7
comp=Z,25nm,1.0s
Y14A **Wickenburg** 34.23 302 eP P 08 49 54.2 +1.4
comp=Z,108nm,1.3s
MMU **Miners Mountai** 34.35 310 eP P 08 49 55.4 +1.4
U15A **North Rim** 34.44 307 eP P 08 49 56.8 +2.0
comp=Z,59nm,1.7s
113A **Mohawk Valley,** 34.55 300 eP P 08 49 56.4 +0.9
comp=Z,13nm,1.1s
TMUT **Trail Mountain** 34.74 312 eP P 08 49 58.8 +1.5
comp=Z,24nm,1.2s
EKU **East Kanab** 34.81 307 eP P 08 50 00.0 +2.1
MTPU **Mount Pierson** 34.94 309 eP P 08 50 01.7 +2.5
comp=Z,29nm,0.9s
MSU **Marysvale** 35.11 310 eP P 08 50 02.0 +1.5
MSU **Marysvale** 35.11 310 eP P 08 50 02.0 +1.5
PDMCI **Parker Dam,Lak** 35.24 302 P P 08 50 01.7 +0.4
baz=105
W13A **Hualapai Mount** 35.25 304 eP P 08 50 03.6 +1.8
comp=Z,60nm,1.8s
PD31 **Pinedale Array** 35.27 318 eP P 08 50 01.3 -0.5
PDAR **Pinedale Array** 35.27 318 P P 08 50 01.1 -0.7
comp=Z,1.9nm,0.6s,baz=116,slow=9.9,SNR=29
PDAR LR LR 09 04 42.7
comp=Z,2μm,19.9s,baz=326,slow=37
BW06 **Boulder Array** 35.27 318 P P 08 50 00.6 -1.2
baz=121,SNR=5.4
BW06 **Boulder Array** 35.27 318 eP P 08 50 00.7 -1.2
LCMT **Little Creek M** 35.35 307 eP P 08 50 04.1 +1.6
comp=Z,49nm,1.4s
Y12C **Blythe** 35.40 301 P P 08 50 01.1 -1.7
baz=104
SZCU **Shurtz Canyon** 35.44 308 eP P 08 50 06.8 +3.5
comp=Z,16nm,1.3s
JLU **Jordanelle** 35.47 314 eP P 08 50 04.5 +0.9
comp=Z,16nm,1.3s
GLA **Glamis** 35.48 300 P P 08 50 02.0 -1.6
baz=103
GLA **Glamis** 35.48 300 eP P 08 50 05.6 +2.0
GLA pmax pmax
comp=Z,30nm,1.0s
GLA **Glamis** 35.48 300 eP P 08 50 05.5 +2.0
comp=Z,30nm,1.0s
LAO **LASA Array** 35.62 326 P P 08 50 03.8 -0.8
baz=130
LAO **LASA Array** 35.62 326 eP P 08 50 04.2 -0.4
comp=Z,15nm,0.8s
NLU **North Lily Min** 35.62 312 eP P 08 50 05.8 +1.0
comp=Z,26nm,1.2s
CCUT **Cedar City** 35.63 308 eP P 08 50 04.8 -0.2
comp=Z,33nm,1.5s
DGMT **Dagmar** 35.80 330 P P 08 50 05.8 -0.4
baz=135,SNR=12
DGMT **Dagmar** 35.80 330 eP P 08 50 06.3 +0.2
comp=Z,56nm,0.9s
HWUT **Hardware Ranch** 36.00 315 eP P 08 50 07.9 -0.2
comp=Z,11nm,0.9s
IRM **Iron Mountain** 36.00 302 P P 08 50 08.6 +0.6
baz=104,SNR=17
DUG **Dugway, Tooele** 36.24 312 P P 08 50 10.6 +0.5
baz=114,SNR=23
DUG **Dugway, Tooele** 36.24 312 eP P 08 50 11.0 +1.0
DUG pmax pmax
comp=Z,33nm,1.1s
DUG **Dugway, Tooele** 36.24 312 eP P 08 50 11.0 +1.0
comp=Z,33nm,1.1s
SWSC **Sam W. Stewart** 36.26 299 P P 08 50 10.8 +0.7
baz=102
SCHQ **Schefferville** 36.28 11 P P 08 50 09.1 -1.0
comp=Z,29nm,0.7s,baz=198,slow=7.7,SNR=18
SCHQ **Schefferville** 36.28 11 eP P 08 50 10.7 +0.6
comp=Z,44nm,0.9s
PSUT **Pine Spring** 36.34 309 eP P 08 50 11.5 +0.5
comp=Z,50nm,0.8s
LOHW **Long Hollow** 36.36 319 eP P 08 50 11.0 -0.1
comp=Z,12nm,0.9s
RLMT **Red Lodge** 36.37 322 P P 08 50 11.3 +0.1
baz=124,SNR=11
RLMT **Red Lodge** 36.37 322 eP P 08 50 11.1 -0.1
comp=Z,79nm,1.6s
SNOW **Snow King Moun** 36.38 318 eP P 08 50 11.5 +0.1
comp=Z,52nm,1.7s
REDW **Red Top Meadow** 36.39 318 eP P 08 50 11.0 -0.4
comp=Z,41nm,1.1s
IKP **In-Ko-Pah, Jac** 36.45 299 P P 08 50 12.4 +0.4
baz=101
TPAW **Teton Pass** 36.52 318 eP P 08 50 12.5 -0.1
comp=Z,21nm,1.1s
MOOW **Moose Ponds** 36.52 319 eP P 08 50 12.3 -0.2
comp=Z,12nm,0.8s
GMRC **Granite Mounta** 36.57 302 P P 08 50 13.4 +0.4
baz=105
BELC **Belle Mtn. Jos** 36.65 301 P P 08 50 14.1 +0.4
baz=103
SHPR **Sheep Range** 36.65 305 eP P 08 50 15.1 +1.5
comp=Z,15nm,1.1s
FLWY **Flagg Ranch** 36.66 319 eP P 08 50 14.1 +0.3
comp=Z,28nm,1.1s
BGU **Big Grassy Mou** 36.69 313 eP P 08 50 13.1 -0.9
comp=Z,26nm,1.3s
IMW **Indian Meadow** 36.72 319 eP P 08 50 14.0 -0.3
comp=Z,12nm,0.7s
H17A **Grant Village** 36.75 320 P P 08 50 15.1 +0.5
baz=122
H17A **Grant Village** 36.75 320 eP P 08 50 15.0 +0.5
comp=Z,25nm,1.4s
MONP **Monument Peak,** 36.76 299 P P 08 50 14.6 -0.1
baz=102
YPP **Pinstone Pla** 36.83 320 eP P 08 50 16.2 +1.0
comp=Z,7.6nm,1.0s
LPAZ **La Paz** 36.87 164 P P 08 50 16.4 +0.3
comp=Z,5.0nm,1.1s,baz=355,slow=3.9,SNR=12
LPAZ **La Paz** 36.87 164 eP P 08 50 16.9 +0.8
LPAZ pmax pmax
comp=Z,14nm,0.9s
LPAZ **La Paz** 36.87 164 eP P 08 50 16.4 +0.3
comp=Z,14nm,0.8s
HVU **Hansel Valley** 36.89 315 eP P 08 50 15.8 +0.2
HVU pmax pmax
comp=Z,9.0nm,0.9s
HVU **Hansel Valley** 36.89 315 eP P 08 50 15.4 -0.2
comp=Z,8.8nm,0.9s
TPFO **Pinon Flats** 36.94 300 P P 08 50 16.5 +0.4
baz=102
PFO **Pinyon Flats O** 36.94 300 P P 08 50 16.4 +0.2
baz=102
PFO **Pinyon Flats O** 36.94 300 eP P 08 50 21.0 +4.9
PFO pmax pmax
comp=Z,23nm,1.3s
PFO **Pinyon Flats O** 36.94 300 eP P 08 50 15.1 -1.0
comp=Z,23nm,1.4s
YFT **Old Faithful** 36.94 320 eP P 08 50 14.8 -1.3
comp=Z,27nm,1.2s
TUQ **Turquoise Moun** 36.95 303 P P 08 50 17.3 +1.1
baz=105,SNR=6.6
GCMT **Greycliff** 36.98 322 eP P 08 50 15.8 -0.6
HEC **Hector,Ludlow** 37.12 302 P P 08 50 18.8 +1.2
baz=104
YHH **Holmes Hill** 37.13 320 eP P 08 50 20.2 +2.5
comp=Z,34nm,1.9s
YMR **Madison River** 37.13 320 eP P 08 50 17.9 +0.2
comp=Z,16nm,1.0s
YHB **Horse Butte** 37.32 320 eP P 08 50 20.9 +1.7
comp=Z,12nm,0.9s
SHOC **Shoshone, Teco** 37.35 304 P P 08 50 20.7 +1.3
baz=106
BBRC **Big Bear Solar** 37.46 301 P P 08 50 21.4 +0.7
baz=103
R11A **Troy Canyon, C** 37.55 308 P P 08 50 22.2 +0.9
baz=109,SNR=20
R11A **Troy Canyon, C** 37.55 308 eP P 08 50 22.3 +0.9
comp=Z,24nm,1.3s
GSC **Goldstone, Bar** 37.61 303 P P 08 50 22.6 +0.8
baz=104
GSC **Goldstone, Bar** 37.61 303 eP P 08 50 25.9 +4.2
GSC pmax pmax
comp=Z,57nm,1.8s
GSC **Goldstone, Bar** 37.61 303 eP P 08 50 25.9 +4.2
comp=Z,57nm,1.8s
TPNV **Topopah Spring** 37.62 306 P P 08 50 23.1 +1.2
baz=107,SNR=9.1
TPNV **Topopah Spring** 37.62 306 eP P 08 50 23.8 +1.9
TPNV pmax pmax
comp=Z,25nm,1.1s
TPNV **Topopah Spring** 37.62 306 eP P 08 50 23.8 +1.9
comp=Z,25nm,1.1s
FURC **Furnace Creek,** 37.96 305 P P 08 50 25.7 +1.2
baz=106
BOZ **Bozeman (W)** 38.02 321 P P 08 50 24.7 -0.5
baz=122,SNR=6.9
BOZ **Bozeman (W)** 38.02 321 eP P 08 50 25.2 0.0
BOZ pmax pmax
comp=Z,63nm,2.0s
BOZ **Bozeman (W)** 38.02 321 eP P 08 50 25.2 0.0
comp=Z,63nm,2.0s
EGMT **Eagleton** 38.33 325 P P 08 50 28.0 +0.3
baz=127,SNR=11
EGMT **Eagleton** 38.33 325 eP P 08 50 26.5 -1.1
comp=Z,44nm,1.1s
MPMC **Manual Prospec** 38.34 304 P P 08 50 27.7 -0.3
baz=105
LRMC **Laurel Mtn Rad** 38.35 303 P P 08 50 28.3 +0.2
baz=104,SNR=6.5
MCMT **McKenzie Canyo** 38.37 319 eP P 08 50 29.0 +0.8
EDW2 **Edwards Air Fo** 38.46 302 P P 08 50 28.6 -0.3
baz=103
DLMT **Dillon** 38.48 320 eP P 08 50 29.3 +0.2
comp=Z,21nm,1.1s
GRAC **Grapevine Rang** 38.49 305 P P 08 50 29.9 +0.7
baz=106
HRY **Holter Researc** 38.74 322 eP P 08 50 30.0 -1.1
HLID **Hailey** 38.76 316 P P 08 50 31.0 -0.5
baz=116,SNR=27
HLID **Hailey** 38.76 316 eP P 08 50 31.4 -0.1
comp=Z,13nm,0.9s
SIV **San Ignacio** 39.00 154 P P 08 50 34.4 +0.9
comp=Z,16nm,0.9s,baz=346,slow=8.5,SNR=27
BMN **Battle Mountai** 39.45 311 eP P 08 50 38.1 +0.9
BMN pmax pmax
comp=Z,21nm,1.2s
BMN **Battle Mountai** 39.45 311 eP P 08 50 38.1 +0.9
comp=Z,21nm,1.2s
VES **Vestal, Richgr** 39.54 303 P P 08 50 39.7 +1.9
baz=103
FFC **Flin Flon** 39.62 338 eP P 08 50 38.3 +0.1
FFC pmax pmax
comp=Z,49nm,1.0s
FFC **Flin Flon** 39.62 338 eP P 08 50 38.3 +0.1
comp=Z,49nm,1.0s
CHMT **Chamberlain Mo** 39.67 322 eP P 08 50 38.9 -0.2
RCTC **Rector, Farmer** 39.77 304 P P 08 50 41.7 +1.9
baz=104
PB11 **IPOC Station P** 39.87 168 eP P 08 50 40.7 -0.1
comp=Z,49nm,1.1s
TVH2 **Borealis Mine** 39.93 307 eP P 08 50 42.3 +0.9
comp=Z,10.0nm,1.0s
TVH1 **TV Hill, Hawth** 39.96 307 eP P 08 50 43.1 +1.3
comp=Z,35nm,1.3s
TVH3 **East Aurora ar** 39.98 307 eP P 08 50 42.9 +1.2
comp=Z,21nm,1.1s
SLMT **Seeley Lake** 39.98 322 eP P 08 50 41.7 +0.1
MSO **Missoula** 40.03 321 P P 08 50 41.5 -0.5
baz=120
YERR **Yerington** 40.47 308 eP P 08 50 46.7 +0.9
comp=Z,90nm,1.2s
WAKR **Walker** 40.48 307 eP P 08 50 46.9 +1.0
comp=Z,25nm,1.2s
YBMT **Yellow Bay** 40.61 323 eP P 08 50 46.7 0.0
JTMT **Jette** 40.70 322 eP P 08 50 47.5 0.0
PNTR **Pine Nut** 40.77 308 eP P 08 50 49.1 +0.8
comp=Z,56nm,1.2s
FCC **Fort Churchill** 40.92 347 eP P 08 50 48.8 -0.1
FCC pmax pmax
comp=Z,55nm,1.0s
FCC **Fort Churchill** 40.92 347 eP P 08 50 48.8 -0.1
comp=Z,55nm,1.0s
BSMT **Bassoo Peak** 41.05 322 eP P 08 50 50.5 +0.1
WVOR **Wild Horse Val** 41.15 313 eP P 08 50 51.5 +0.3
WVOR pmax pmax
comp=Z,52nm,1.6s
WVOR **Wild Horse Val** 41.15 313 eP P 08 50 51.5 +0.3
comp=Z,52nm,1.6s
PB01 **IPOC Station P** 41.15 168 eP P 08 50 51.6 +0.3
comp=Z,33nm,0.9s
WALA **Waterton Lakes** 41.19 324 eP P 08 50 51.0 -0.5
comp=Z,15nm,1.1s
BMO **Blue Mountains** 41.20 317 eP P 08 50 50.7 -0.9
BMO pmax pmax
comp=Z,37nm,1.9s
BMO **Blue Mountains** 41.20 317 eP P 08 50 50.6 -0.9
comp=Z,37nm,1.9s
AFDM **Forest Hills D** 41.76 307 eP P 08 50 57.2 +1.0
comp=Z,15nm,1.1s
MOD **Modoc Plateau** 42.13 311 eP P 08 50 59.3 0.0
comp=Z,42nm,1.5s
PB04 **IPOC Station P** 42.28 169 eP P 08 51 01.8 +1.1
comp=Z,106nm,0.9s
ORV **Oroville** 42.31 308 eP P 08 51 02.4 +1.7
ORV pmax pmax
comp=Z,51nm,1.6s
ORV **Oroville** 42.31 308 eP P 08 51 02.1 +1.4
comp=Z,51nm,1.6s
E09A **Wood Farm, Sta** 42.44 319 eP P 08 51 00.8 -0.8
comp=Z,10nm,0.8s
NEW **Newport** 42.62 321 P P 08 51 01.9 -1.2
comp=Z,4.1nm,0.8s,baz=124,slow=7.4,SNR=6.0
NEW **Newport** 42.62 321 P P 08 51 02.4 -0.6
baz=118
NEW **Newport** 42.62 321 eP P 08 51 02.5 -0.6
NEW pmax pmax
comp=Z,43nm,1.7s
NEW **Newport** 42.62 321 eP P 08 51 02.5 -0.6
comp=Z,43nm,1.8s
LVC **Limon Verde** 42.79 168 eP P 08 51 06.7 +1.7
comp=Z,14nm,0.8s
K05A **Summer Lake** 42.81 312 eP P 08 51 05.2 +0.3
comp=Z,26nm,1.3s
D08A **Wollman Farm,** 43.15 319 eP P 08 51 06.9 -0.5
comp=Z,11nm,1.0s
M04C **Macdoel** 43.18 311 P P 08 51 06.9 -1.0
baz=107
J05D **Fort Rock, OR** 43.23 313 P P 08 51 07.2 -1.1
baz=109,SNR=7.9
EDM **Edmonton** 43.30 330 eP P 08 51 08.3 -0.2
EDM pmax pmax
comp=Z,85nm,1.1s
EDM **Edmonton** 43.30 330 eP P 08 51 07.9 -0.6
comp=Z,85nm,1.1s
WDC **Whiskeytown Da** 43.35 309 eP P 08 51 10.2 +1.1
WDC pmax pmax
comp=Z,17nm,1.3s
WDC **Whiskeytown Da** 43.35 309 eP P 08 51 09.4 +0.3
comp=Z,17nm,1.3s
G06A **Carlson Farm,** 43.52 316 eP P 08 51 10.8 +0.4
comp=Z,22nm,1.3s
J04D **Umpqua Nationa** 43.82 313 P P 08 51 12.7 -0.4
baz=108,SNR=8.7
G05D **Wamic, OR** 43.97 316 P P 08 51 13.5 -0.5
baz=111
B08A **Colville Reser** 43.97 321 eP P 08 51 13.3 -0.7
comp=Z,24nm,1.2s
I04A **Tendick Farm,** 44.21 313 P P 08 51 15.3 -0.7
baz=109
LTY **Liberty** 44.32 319 eP P 08 51 16.7 -0.2
comp=Z,16nm,1.1s
C06D **Leavenworth** 44.73 319 P P 08 51 19.0 -1.1
baz=114
I03D **Drain, OR** 44.82 313 P P 08 51 20.2 -0.6
baz=108,SNR=6.9
NRS **Narsarsuaq** 47.49 21 *i* P P 08 51 43.0 +1.5
comp=Z,94nm,1.1s
NRS **Narsarsuaq** 47.49 21 *i* P P 08 51 43.0 +1.5
NRS pmax pmax
comp=Z,94nm,1.1s
RCBR **Riachuelo** 48.48 117 P P 08 51 51.8 +1.9
comp=Z,42nm,0.9s,baz=266,slow=12,SNR=11
RCBR **Riachuelo** 48.48 117 eP P 08 51 51.7 +1.9
comp=Z,47nm,0.9s
CPUP **Villa Florida** 49.78 155 P P 08 51 59.0 -0.6
comp=Z,5.7nm,1.0s,baz=331,slow=7.1,SNR=5.7
CPUP **Villa Florida** 49.78 155 P P 08 51 59.0 -0.6
CPUP pmax pmax
comp=Z,6.0nm,1.0s
CPUP **Villa Florida** 49.78 155 eP P 08 51 58.9 -0.7
YKA **Yellowknife Ar** 49.79 339 P P 08 51 59.0 -0.2
comp=Z,8.7nm,0.8s,baz=132,slow=8.3,SNR=45
YKA LR LR 09 13 52.0
comp=Z,554nm,18.0s,baz=180,slow=37
YKA **Yellowknife Ar** 49.79 339 P P 08 51 59.0 -0.2
YKA pmax pmax
comp=Z,9.0nm,0.8s
YKA MLR MLR
comp=Z,554nm,18.0s
YKB5 **Yellowknife Ar** 49.79 339 eP P 08 51 58.7 -0.5
YKW3 **Yellowknife Ar** 49.84 339 eP P 08 51 59.5 -0.1
comp=Z,75nm,1.6s
SFJD **Kangerlussuaq** 50.62 14 P P 08 52 04.5 -0.9
comp=Z,43nm,0.9s,baz=198,slow=7.4,SNR=17
SFJD **Kangerlussuaq** 50.62 14 *i* P P 08 52 06.0 +0.6
comp=Z,48nm,0.9s
SFJD **Kangerlussuaq** 50.62 14 eP P 08 52 06.3 +0.8
SFJD pmax pmax
comp=Z,69nm,1.0s
SFJD **Kangerlussuaq** 50.62 14 eP P 08 52 06.3 +0.8
ILULI **Ilulissat** 52.38 12 *i* P P 08 52 19.0 +0.4
comp=Z,44nm,0.8s
ILULI **Ilulissat** 52.38 12 *i* P P 08 52 19.0 +0.4
ILULI pmax pmax
comp=Z,44nm,0.8s
DLBC **Dease Lake** 54.02 329 eP P 08 52 32.1 +1.2
comp=Z,50nm,1.0s
WRAK **Wrangell Islan** 54.45 326 eP P 08 52 35.2 +1.2
comp=Z,20nm,0.9s
WHY **Whitehorse** 57.13 331 eP P 08 52 53.5 +0.2
comp=Z,11nm,0.9s
SUMG **Summit** 57.61 13 ⇓ *i* P P 08 52 57.1 +0.2
comp=Z,63nm,0.9s
SUMG **Summit** 57.61 13 eP P 08 52 57.1 +0.2
SUMG pmax pmax
comp=Z,67nm,0.9s
SUMG **Summit** 57.61 13 eP P 08 52 57.1 +0.2
comp=Z,66nm,0.9s
HYT **Haines Junctio** 58.41 330 eP P 08 53 03.2 +0.9
comp=Z,14nm,1.0s
BORG **Borgarnes** 58.52 25 P P 08 53 02.5 -0.4
comp=Z,28nm,0.9s,baz=72,slow=1.1,SNR=6.4
BORG **Borgarnes** 58.52 25 eP P 08 53 03.4 +0.5
BORG pmax pmax
comp=Z,103nm,1.4s
BORG **Borgarnes** 58.52 25 eP P 08 53 03.4 +0.5
comp=Z,103nm,1.4s
INK **Inuvik** 59.56 339 P P 08 53 09.9 -0.1
comp=Z,17nm,1.3s,baz=81,slow=9.8,SNR=6.8
INK **Inuvik** 59.56 339 eP P 08 53 10.3 +0.3
INK pmax pmax
comp=Z,38nm,1.2s
INK **Inuvik** 59.56 339 eP P 08 53 10.2 +0.3
comp=Z,38nm,1.3s
DAWY **Dawson** 60.22 334 eP P 08 53 14.7 0.0
comp=Z,14nm,1.0s

PLCA **Paso Flores** 60.33 173 P P 08 53 17.4 +1.7
comp=Z,6.4nm,0.8s,baz=9.5,slow=7.1,SNR=11
PLCA **Paso Flores** 60.33 173 *e*P P 08 53 17.5 +1.8
PLCA pmax pmax
comp=Z,29nm,1.1s
PLCA **Paso Flores** 60.33 173 *e*P P 08 53 17.4 +1.8
comp=Z,29nm,1.1s
EGAK **Eagle** 61.16 334 *e*P P 08 53 23.8 +2.7
comp=Z,11nm,1.0s
BMRM **Bremner River** 61.81 329 *e*P P 08 53 26.4 +0.9
comp=Z,19nm,0.9s
DOT **Dot Lake** 62.11 333 *e*P P 08 53 28.1 +0.6
comp=Z,28nm,1.0s
PNCL **Nicolau / Gran** 62.29 57 *e*P P 08 53 30.8 +1.7
comp=Z,51nm,1.7s
PGAV **Gavieira, Arco** 62.30 52 *e*P P 08 53 31.0 +1.8
comp=Z,67nm,1.6s
DIV **Divide** 62.40 330 *e*P P 08 53 30.0 +0.5
comp=Z,39nm,1.0s
PCAB **Cabril** 62.49 52 *e*P P 08 53 33.6 +3.2
comp=Z,52nm,1.6s
KLU **Klutina** 62.53 330 *e*P P 08 53 31.2 +0.8
comp=Z,26nm,0.9s
MESJ **Messejana** 62.55 57 *e*P P 08 53 32.6 +1.7
comp=Z,62nm,1.5s
PVIS **Viseu** 62.63 54 *e*P P 08 53 32.3 +0.9
comp=Z,46nm,1.8s
EVO **Evora** 62.67 56 *e*P P 08 53 33.3 +1.7
FID **Port Fidalgo** 62.67 329 *e*P P 08 53 32.6 +1.3
comp=Z,47nm,0.9s
POLO **Lamas de Olo** 62.68 53 *e*P P 08 53 33.3 +1.5
comp=Z,24nm,1.5s
PCVE **Castro Verde** 62.71 57 *e*P P 08 53 33.6 +1.6
comp=Z,46nm,1.8s
PVRL **Vila Real** 62.74 53 *e*P P 08 53 33.8 +1.7
PBEJ **Beja** 62.82 57 *e*P P 08 53 35.4 +2.7
comp=Z,37nm,1.7s
PBDV **Barranco-do-Ve** 62.83 57 *e*P P 08 53 35.3 +2.5
comp=Z,112nm,1.5s
MTE **Manteigas** 62.91 54 *e*P P 08 53 34.8 +1.4
comp=Z,45nm,1.7s
MTE **Manteigas** 62.91 54 *e*P P 08 53 34.7 +1.3
comp=Z,24nm,1.0s
PESTR **Estremoz** 62.98 56 *e*P P 08 53 35.6 +1.9
comp=Z,42nm,1.7s
PVAQ **Vaqueiros** 62.98 57 *e*P P 08 53 35.8 +2.0
comp=Z,78nm,1.6s
PCBR **Castelo Branco** 63.00 55 *e*P P 08 53 35.6 +1.8
comp=Z,39nm,1.6s
PMRV **Marv??o** 63.09 55 *e*P P 08 53 36.1 +1.6
comp=Z,44nm,1.5s
FYU **Fort Yukon** 63.24 336 *e*P P 08 53 35.5 +0.6
comp=Z,28nm,0.9s
SCM **Sheep Creek Mo** 63.25 330 *e*P P 08 53 36.4 +1.2
SCM **Sheep Creek Mo** 63.25 330 *e*P P 08 53 35.9 +0.7
comp=Z,52nm,1.2s
MVO **Moncorvo** 63.26 53 *e*P P 08 53 37.4 +1.7
PBRG **Braganca** 63.45 52 *e*P P 08 53 38.5 +1.7
comp=Z,32nm,1.3s
PBAR **Barrancos** 63.46 56 *e*P P 08 53 38.9 +2.0
comp=Z,84nm,1.4s
HDA **Harding Lake** 63.51 333 *e*P P 08 53 37.0 +0.2
comp=Z,37nm,1.3s
IL1 **Eielson Array** 63.55 333 *e*P P 08 53 36.5 -0.5
ILAR **Eielson Array** 63.55 333 P P 08 53 36.6 -0.4
comp=Z,2.9nm,0.8s,baz=110,slow=4.8,SNR=34
ILAR LR LR 09 21 36.6
comp=Z,2μm,20.3s,baz=96,slow=36
ILB **Eielson Array** 63.55 333 *e*P P 08 53 36.7 -0.3
SML **Sawmill** 63.72 330 *e*P P 08 53 38.9 +0.7
SML **Sawmill** 63.72 330 *e*P P 08 53 38.9 +0.7
comp=Z,37nm,0.9s
CCB **Clear Creek Bu** 63.91 333 *e*P P 08 53 39.2 -0.2
comp=Z,9.6nm,0.9s
COLA **College** 63.97 334 *e*P P 08 53 40.2 +0.4
COLA pmax pmax
comp=Z,13nm,1.0s
COLA **College** 63.97 334 *e*P P 08 53 40.2 +0.4
comp=Z,13nm,1.0s
WRH **Wood River Hil** 64.00 333 *e*P P 08 53 40.3 +0.3
comp=Z,14nm,1.2s
PMR **Palmer** 64.06 330 *e*P P 08 53 41.2 +0.8
PMR pmax pmax
comp=Z,22nm,1.0s
PMR **Palmer** 64.06 330 *e*P P 08 53 41.2 +0.8
comp=Z,22nm,1.0s
RND **Reindeer** 64.18 332 *e*P P 08 53 42.1 +0.8
RND pmax pmax
comp=Z,80nm,1.0s
RND **Reindeer** 64.18 332 *e*P P 08 53 42.1 +0.8
comp=Z,80nm,1.0s
MCK **McKinley** 64.26 332 *e*P P 08 53 42.8 +1.0
MCK **McKinley** 64.26 332 *e*P P 08 53 42.8 +1.0
comp=Z,31nm,0.9s
KPL **Plockton** 64.28 35 *e*P P 08 53 42.5 +0.6
DAG **Danmarks Havn** 64.29 13 ⇓*i*P P 08 53 41.1 -0.6
comp=Z,40nm,1.1s
DAG **Danmarks Havn** 64.29 13 ⇓*i*P P 08 53 41.1 -0.6
DAG pmax pmax
comp=Z,51nm,1.1s
GAL1 **Galloway** 64.68 38 *e*P P 08 53 45.3 +0.7
BRLK **Bradley Lake** 64.74 328 *e*P P 08 53 45.4 +0.4
comp=Z,62nm,1.3s
TRF **Thorofare Moun** 64.82 332 *e*P P 08 53 46.0 +0.4
comp=Z,48nm,1.0s
PGBU **Glenifferbraes** 64.84 37 *e*P P 08 53 46.5 +0.9
PGBU AMB AMB 08 53 50.9
comp=Z,92nm,3.4s
CNPM **China Poot** 64.90 327 *e*P P 08 53 46.6 +0.6
comp=Z,39nm,1.1s
KTH **Kantishna Hill** 65.12 332 *e*P P 08 53 47.7 +0.3
comp=Z,30nm,0.9s
TOLK **Toolik Lake Re** 65.29 338 P P 08 53 48.0 -0.4
baz=100
COLD **Coldfoot** 65.30 336 *e*P P 08 53 49.1 +0.6
comp=Z,15nm,0.9s
SPU **Mount Spurr** 65.42 329 *e*P P 08 53 50.1 +0.6
PAB **San Pablo** 65.43 55 *e*P P 08 53 51.6 +1.7
PAB pmax pmax
comp=Z,52nm,1.6s
PAB **San Pablo** 65.43 55 *e*P P 08 53 51.5 +1.7
comp=Z,52nm,1.6s
ESK **Eskdalemuir** 65.56 37 *e*P P 08 53 50.3 0.0
EKA **Eskdalemuir Ar** 65.58 37 P P 08 53 51.1 +0.7
comp=Z,8.4nm,0.7s,baz=266,slow=6.4,SNR=27
CAST **Castle Rocks** 65.62 332 *e*P P 08 53 50.5 -0.2
comp=Z,23nm,1.1s
MCH1 **Michaelchurch** 65.68 41 *e*P P 08 53 51.9 +0.8
MCH1 AMB AMB 08 54 05.3
comp=Z,54nm,3.7s
ESDC **Sonseca Array** 65.71 54 P P 08 53 52.7 +1.0
comp=Z,6.8nm,0.9s,baz=283,slow=6.0,SNR=12
ESLA **Sonseca Array** 65.71 54 *e*P P 08 53 53.2 +1.5
comp=Z,75nm,1.8s
RSO **Redoubt South** 65.72 328 *e*P P 08 53 51.7 +0.2
HLM1 **Long Mynd** 65.75 40 *e*P P 08 53 52.7 +1.1
HLM1 AMB AMB 08 53 58.4
comp=Z,80nm,4.1s
ES19 **SONSECA Array** 65.76 54 *e*P P 08 53 52.6 +0.6
MONM **Monmouth** 65.80 41 *e*P P 08 53 52.8 +0.9
MONM AMB AMB 08 54 05.1
comp=Z,66nm,2.9s
DRUM **Mains of Drumt** 65.98 36 *e*P P 08 53 53.9 +0.9
CHRN **Cochrane** 66.62 176 *e*P P 08 53 57.5 +0.5
comp=Z,13nm,0.9s
TTA **Tatalina** 67.37 331 *e*P P 08 54 01.6 -0.3
TTA pmax pmax
comp=Z,20nm,1.0s
TTA **Tatalina** 67.37 331 *e*P P 08 54 01.6 -0.3
comp=Z,20nm,1.0s
TT01 **Tatalina** 67.38 331 *e*P P 08 54 01.7 -0.1
SALF **Salau** 69.21 51 *e*P P 08 54 16.3 +2.5
VALF **Valcebollere** 69.87 51 *e*P P 08 54 20.1 +2.1
LBL **Lubilhac** 70.35 48 *e*P P 08 54 22.6 +1.8
AKN **Aaknes** 70.63 30 *e*P P 08 54 23.0 +1.0
KBS **Kingsbay** 70.98 12 *e*P P 08 54 25.5 +1.5
KBS IAmb IAmb 08 54 27.3
comp=Z,97nm,1.7s
KBS **Kingsbay** 70.98 12 *e*P P 08 54 25.6 +1.6
KBS **Kingsbay** 70.98 12 *e*P P 08 54 25.6 +1.6
comp=Z,90nm,1.6s
SSB **Saint Sauveur** 71.24 48 *e*P P 08 54 28.1 +1.9
SSB pmax pmax
comp=Z,11nm,1.0s
SSB **Saint Sauveur** 71.24 48 *e*P P 08 54 28.1 +1.9
comp=Z,11nm,1.0s

DOMB **Dombas** 71.61 30 *e*P P 08 54 27.3 -0.7
THEF **They Montfort** 71.77 44 *e*P P 08 54 30.7 +1.5
TIC **Toumodi** 71.79 89 *e*P P 08 54 27.8 -2.2
LIC **Lamto** 71.91 90 *e*P P 08 54 30.2 -0.5
comp=Z,52nm,1.1s
HSPB **Hornsund (broa** 71.93 14 *e*P P 08 54 31.8 +2.1
DBIC **Dimbokro** 71.94 89 P P 08 54 30.5 -0.3
comp=Z,15nm,1.1s,baz=257,slow=9.0,SNR=5.4
DBIC **Dimbokro** 71.94 89 *e*P P 08 54 31.0 +0.2
comp=Z,23nm,1.3s
SPA0 **Spitsbergen Ar** 71.94 12 *e*P P 08 54 30.3 +0.5
SPA0 IAmb IAmb 08 54 43.1
comp=Z,85nm,1.4s
SPA0 **Spitsbergen Ar** 71.94 12 *e*P P 08 54 30.2 +0.5
SPITS **Spitsbergen Ar** 71.94 12 P P 08 54 29.5 -0.3
comp=Z,15nm,0.7s,baz=186,slow=5.0,SNR=10
SPITS **Spitsbergen Ar** 71.94 12 P P 08 54 29.5 -0.3
SPITS pmax pmax
comp=Z,16nm,0.7s
KIC **Kosan Boka** 72.14 89 *e*P P 08 54 31.5 -0.6
comp=Z,32nm,0.8s
LOMF **Lomont** 72.47 45 *e*P P 08 54 35.2 +1.6
ECH **Echery** 72.54 44 *e*P P 08 54 35.4 +1.5
MOF **Molkenrain** 72.59 45 *e*P P 08 54 35.0 +0.7
NBO02 **NORSAR Array S** 72.59 31 *e*P P 08 54 35.0 +1.0
NAO01 **NORSAR Array S** 72.64 31 *e*P P 08 54 36.0 +1.7
NB2 **NORSAR Subarra** 72.77 31 P P 08 54 36.2 +1.2
baz=282,slow=6.2
NB2 **NORSAR Subarra** 72.77 31 P P 08 54 36.2 +1.2
comp=Z,30nm,1.2s,baz=282,slow=6.2
NB200 **NORSAR Array S** 72.77 31 *e*P P 08 54 34.8 -0.3
NOA **NORSAR Array B** 72.77 31 P P 08 54 34.8 -0.3
comp=Z,17nm,1.1s,baz=281,slow=6.0,SNR=6.5
BNI **Bardonecchia** 72.77 48 *e*P P 08 54 36.2 +0.7
BNI pmax pmax
comp=Z,13nm,1.0s
BNI **Bardonecchia** 72.77 48 *e*P P 08 54 36.2 +0.7
comp=Z,13nm,1.0s
SENIN **Lac Senin/Sane** 72.96 46 *e*P P 08 54 37.0 +0.3
comp=Z,20nm,1.0s
NC602 **NORSAR Array S** 72.97 31 *e*P P 08 54 37.4 +1.2
NC602 *e*S SKiKP 09 04 06.6 -2.7
BFO **Black Forest** 73.29 44 *ce*P P 08 54 40.0 +1.7
STEI **Steigen** 73.31 23 *e*P P 08 54 39.0 +1.0
STEI IAmb IAmb 08 54 39.4
comp=Z,48nm,1.3s
MOR8 **Moi Rana** 73.32 25 *e*P P 08 54 39.5 +1.3
DFRA **Djebel Bou Aff** 73.87 56 P P 08 54 44.3 +2.2
TUE **Stuetta** 74.33 46 *e*P P 08 54 46.8 +2.1
comp=Z,27nm,1.3s
CTEI **Djebel Teioual** 74.39 57 P P 08 54 46.6 +1.4
DAVOX **Davos/Dischmat** 74.62 45 P P 08 54 46.1 -0.3
comp=Z,1.4nm,0.4s,baz=266,slow=5.3,SNR=4.6
FUORN **Ofenpass-Fuorn** 74.92 46 *e*P P 08 54 50.6 +2.4
comp=Z,43nm,1.0s
CMAH **Djebel Manchou** 75.06 56 P P 08 54 50.1 +1.1
RETA **Reutte** 75.06 45 *i* pP P 08 54 50.8 +2.1
comp=Z,22nm,1.3s
FETA **Feichten** 75.14 45 *i* pP P 08 54 51.7 +2.3
comp=Z,15nm,1.3s
ABSA **Djebel Ababsia** 75.19 56 P P 08 54 51.3 +1.6
MOTA **Moosalm** 75.32 45 *i* pP P 08 54 52.9 +2.5
comp=Z,8.4nm,1.0s
NKC **Novy Kostel** 75.54 42 *e*P P 08 54 53.0 +1.6
NKC *ex* x 08 55 00.5
NKC **Novy Kostel** 75.54 42 *e*P P 08 54 53.0 +1.6
NKC *e* 08 55 00.5
HAMF **Hammerfest** 75.57 20 *e*P P 08 54 51.3 +0.2
CLL **Collm** 75.64 40 *e*P P 08 54 54.0 +2.1
CLL *e* 08 55 01.0
CLL *e* 08 55 06.0
CLL **Collm** 75.64 40 *e*P P 08 54 54.0 +2.1
CLL *e* 08 55 06.0
CLL *e* 08 55 23.0
VSL **Villasalto** 75.89 53 *e*P P 08 54 55.4 +1.8
comp=Z,25nm,1.0s
KTK1 **Kautokeino** 75.91 21 *e*P P 08 54 53.7 +0.6
TOA1 **Torodi Ar. Sit** 76.14 81 *e*P P 08 54 55.1 -0.3
TOA0 **Torodi Ar. Sit** 76.14 81 *e*P P 08 54 55.2 -0.2
TORD **Torodi Ar. Bea** 76.14 81 P P 08 54 55.1 -0.3
comp=Z,17nm,0.7s,baz=290,slow=4.0,SNR=11
BRG **Berggiesshubel** 76.32 41 *e*P P 08 54 56.8 +1.0
comp=Z,10nm,1.3s
BRG *i* 08 55 07.7
comp=Z,24nm,1.5s
BRG **Berggiesshubel** 76.32 41 *e*P P 08 54 56.8 +1.0
BRG *i* 08 55 07.7
BRG pmax pmax
comp=Z,37nm,1.3s
ABTA **Abfaltersbach** 76.39 45 *i* pP P 08 54 58.0 +1.5
comp=Z,6.8nm,0.9s
ARA0 **ARCESS Array S** 76.51 21 *e*P P 08 54 56.8 +0.2
ARCES **ARCESS Array B** 76.51 21 P P 08 54 56.6 +0.1
comp=Z,16nm,0.7s,baz=287,slow=4.9,SNR=36
ARE0 **ARCESS Array S** 76.51 21 *e*P P 08 54 56.8 +0.3
ARE0 IAmb IAmb 08 55 20.1
comp=Z,518nm,2.9s
ARE0 **ARCESS Array S** 76.51 21 *e*P P 08 54 56.8 +0.3
comp=Z,24nm,1.0s
KHC **Kasperske Hory** 76.51 42 *e*P P 08 54 59.3 +2.3
KHC *e*PCP PcP 08 55 07.3 -1.3
KHC **Kasperske Hory** 76.51 42 *e*P P 08 54 59.3 +2.3
KHC *e* 08 55 07.3
GEC2 **GERESS Array S** 76.66 43 *e*P P 08 54 58.5 +0.6
GEC2 pmax pmax
comp=Z,29nm,1.4s
GEC2 **GERESS Array S** 76.66 43 *e*P P 08 54 58.5 +0.6
comp=Z,29nm,1.4s
GERES **GERESS Array B** 76.66 43 P P 08 54 58.3 +0.4
comp=Z,4.0nm,0.9s,baz=266,slow=3.7,SNR=17
GEA0 **GERESS Array S** 76.66 43 *e*P P 08 54 58.8 +0.9
VAH **Vaihoa** 76.69 248 *e*P P 08 54 58.0 -0.4
comp=Z,78nm,1.3s
KEST **Kesra** 76.79 57 P P 08 55 00.6 +1.8
comp=Z,15nm,0.9s,baz=306,slow=1.9,SNR=15
KEST **Kesra** 76.79 57 *e*P P 08 55 00.6 +1.8
comp=Z,55nm,1.2s
KBA **Koelnbreinsper** 76.87 45 *i* pP P 08 55 00.9 +1.6
comp=Z,14nm,1.3s
PRU **Pruhonice** 76.91 41 *e*P P 08 55 02.0 +2.9
PRU **Pruhonice** 76.91 41 *e*P P 08 55 02.0 +2.9
MYKA **Terra Mystica** 77.18 45 *i* pP P 08 55 03.1 +2.3
comp=Z,15nm,1.2s
MOA **Molln** 77.28 44 *i* pP P 08 55 02.4 +1.1
comp=Z,11nm,1.2s
DPC **Dobruska-Polom** 77.92 41 *e*P P 08 55 06.5 +1.7
DPC *e*PCP PcP 08 55 14.7 0.0
DPC *ex* x 08 55 23.9
DPC **Dobruska-Polom** 77.92 41 *e*P P 08 55 06.5 +1.7
DPC *e* 08 55 14.7
CONA **Conrad Observa** 78.29 43 *i* pP P 08 55 09.4 +2.3
comp=Z,7.4nm,1.0s
VRAC **Vranov** 78.37 42 P P 08 55 07.9 +0.5
comp=Z,2.3nm,0.4s,baz=293,slow=7.6,SNR=5.0
VRAC **Vranov** 78.37 42 ⇑*i*P P 08 55 09.8 +2.4
MORC **Moravsky Berou** 78.83 41 ⇑*i*P P 08 55 11.1 +1.2
MORC **Moravsky Berou** 78.83 41 ⇑P P 08 55 11.1 +1.2
TIAR **Tiarei** 79.15 247 *e*P P 08 55 11.5 -0.6
comp=Z,17nm,1.3s
TVO **Taravao** 79.16 247 *e*P P 08 55 11.6 -0.6
comp=Z,12nm,1.4s
OKC **Ostrava-Krasne** 79.19 41 *e*P P 08 55 14.4 +2.6
OKC **Ostrava-Krasne** 79.19 41 *e*P P 08 55 14.4 +2.6
PPT2 **Papeete2** 79.36 247 *e*P P 08 55 12.7 -0.6
comp=Z,28nm,1.4s
PAE **Paea** 79.39 247 *e*P P 08 55 12.9 -0.5
comp=Z,6.7nm,1.2s
FIA0 **FINESS Array S** 79.58 28 *e*P P 08 55 14.7 +1.0
FIA0 **FINESS Array S** 79.58 28 *e*P P 08 55 14.7 +1.0
FINES **FINESS Array B** 79.58 28 P P 08 55 14.7 +1.0
comp=Z,5.2nm,0.6s,baz=268,slow=3.0,SNR=19
VYHS **Vyhne** 80.03 42 *e*P P 08 55 18.3 +1.9
VYHS pmax pmax
comp=Z,13nm,1.3s
VYHS **Vyhne** 80.03 42 *e*P P 08 55 18.3 +1.9
LANS **Liptovska Anna** 80.22 41 *e*P P 08 55 20.1 +2.6
LANS **Liptovska Anna** 80.22 41 *e*P P 08 55 20.1 +2.6
LVZ **Lovozero** 80.23 21 ⇑*i*P P 08 55 18.0 +0.9
LVZ pmax pmax
comp=Z,36nm,1.1s
LVZ **Lovozero** 80.23 21 *e*P P 08 55 17.8 +0.6
comp=Z,34nm,1.1s
CUC **Castrocucco** 80.54 51 *e*P P 08 55 17.8 -1.6
comp=Z,12nm,1.0s
PSZ **Piszkesteto** 80.88 42 ⇑*i*P P 08 55 24.7 +3.6

PSZ **Piszkesteto** 80.88 42 *e*P P 08 55 21.2 +0.1
PSZ pmax pmax
comp=Z,29nm,1.0s
PSZ **Piszkesteto** 80.88 42 *e*P P 08 55 21.2 +0.1
comp=Z,29nm,1.0s
VSU **Vasula** 81.01 31 ⇑*i*P P 08 55 23.8 +2.4
VSU pmax pmax
comp=Z,97nm,1.1s
KECS **Kecovo** 81.07 42 *e*P P 08 55 23.7 +1.7
KECS pmax pmax
comp=Z,6.0nm,1.1s
KECS **Kecovo** 81.07 42 *e*P P 08 55 23.7 +1.7
BILL **Bilibino** 81.17 340 ⇑*e*P P 08 55 22.5 +0.3
BILL *e**PP sP 08 55 26.2 -0.5
BILL SSS SSS 09 14 08.0
BILL pmax pmax
comp=Z,6.0nm,0.8s
BILL MLR MLR
comp=Z,3μm,18.0s
STHS **Stebnicka Huta** 81.23 41 *e*P P 08 55 25.7 +2.8
STHS pmax pmax
comp=Z,7.0nm,0.9s
STHS **Stebnicka Huta** 81.23 41 *e*P P 08 55 25.7 +2.8
UZH **Uzhgorod** 82.15 41 *e*P P 08 55 25.6 -2.1
UZH *e* 08 55 29.8
PDG **Podgorica** 82.24 48 ⇓*i*P P 08 55 28.8 +0.5
SIRR **Siria** 82.57 44 ⇓*i*P P 08 55 32.6 +2.6
BZS **Buzias** 82.77 44 ⇓*i*P P 08 55 32.6 +1.6
BZS **Buzias** 82.77 44 ⇓P P 08 55 32.6 +1.6
LVV **L'vov** 82.79 40 *e*P P 08 55 34.5 +3.5
DRGR 83.07 43 ⇑*i*P P 08 55 34.2 +1.6
DRGR 83.07 43 ⇑P P 08 55 34.2 +1.6
TMCR **Tamitsa** 83.28 23 *e*P P 08 55 34.1 +0.9
TMCR pmax pmax
comp=Z,48nm,1.5s
BURAR **Bucovina Array** 84.35 41 ⇑*i*P P 08 55 42.0 +2.8
BURAR **Bucovina Array** 84.35 41 ⇑P P 08 55 42.0 +2.8
ARR **Arges** 84.84 44 ⇓*i*P P 08 55 43.1 +1.4
VTS **Vitosha** 84.93 47 *e*P P 08 55 44.6 +2.3
VTS pmax pmax
comp=Z,57nm,0.9s
VTS **Vitosha** 84.93 47 *e*P P 08 55 44.6 +2.3
comp=Z,57nm,0.9s
VOIR 85.08 44 ⇑*i*P P 08 55 45.1 +2.2
VOIR 85.08 44 ⇑P P 08 55 45.1 +2.2
DOPR **Dopca** 85.09 43 ⇑*i*P P 08 55 45.7 +2.8
AK11 **Malin Array Si** 85.47 38 *e*P P 08 55 44.6 0.0
KIEV **Kiev** 85.49 38 ⇑*i*P P 08 55 45.3 +0.6
KIEV pmax pmax
comp=Z,9.0nm,0.9s
AKASG **Malin Array Be** 85.49 38 P P 08 55 45.5 +0.7
comp=Z,7.4nm,1.0s,baz=283,slow=4.0,SNR=17
AKBB **Malin Array Si** 85.49 38 *e*P P 08 55 45.4 +0.7
AKBB pmax pmax
comp=Z,22nm,1.4s
AKBB **Malin Array Si** 85.49 38 *e*P P 08 55 45.4 +0.7
comp=Z,22nm,1.4s
AGG **Agios Georgios** 85.62 50 *e*P P 08 55 46.6 +0.9
AGG pmax pmax
comp=Z,81nm,1.1s
AGG **Agios Georgios** 85.62 50 *e*P P 08 55 46.6 +0.9
comp=Z,81nm,1.1s
KLMR **Klimovskoe** 85.64 26 *e*P P 08 55 44.5 -0.7
KLMR *e* 08 59 03.6
KLMR pmax pmax
comp=Z,58nm,1.2s
MLR **Muntele Rosu** 85.64 43 P P 08 55 47.5 +1.7
comp=Z,5.1nm,0.8s,baz=314,slow=3.7,SNR=28
MLR **Muntele Rosu** 85.64 43 ⇑*i*P P 08 55 48.2 +2.4
MLR **Muntele Rosu** 85.64 43 *e*P P 08 55 47.4 +1.7
MLR **Muntele Rosu** 85.64 43 *e*P P 08 55 47.4 +1.7
comp=Z,78nm,1.0s
PLOR **Plostina** 85.95 43 ⇓*i*P P 08 55 50.2 +3.0
PLOR **Plostina** 85.95 43 ⇓P P 08 55 50.2 +3.0
SORM **Soroca** 86.07 40 ⇑*i*P P 08 55 48.1 +0.5
SORM **Soroca** 86.07 40 ⇑P P 08 55 48.1 +0.5
KIS **Kishinev** 86.84 41 *e*P P 08 56 02.0 +11
comp=Z,600nm,2.5s
KIS LRM MLR 09 45 40.0
comp=Z,2μm,19.0s
KIS **Kishinev** 86.84 41 *e*P P 08 56 02.0 +11
KIS *e* 08 56 11.0
CFR **Carcaliu** 87.18 43 ⇓*i*P P 08 55 54.1 +1.0
CFR **Carcaliu** 87.18 43 ⇓P P 08 55 54.1 +1.0
OBN **Obninsk** 87.34 32 P P 08 55 54.5 +0.8
comp=Z,15nm,0.4s,baz=280,slow=14,SNR=4.7
OBN **Obninsk** 87.34 32 ⇑*i*P P 08 55 54.2 +0.5
OBN *e* 08 56 01.6
OBN pmax pmax
comp=Z,32nm,1.2s
OBN MLR MLR
comp=Z,1μm,19.0s
OBN **Obninsk** 87.34 32 *e*P P 08 55 54.9 +1.2
comp=Z,46nm,1.2s
MOS **Moscow** 87.53 31 *e*P P 08 55 53.1 -1.5
MOS *e* 08 56 02.2
TLCR 87.61 43 ⇑*i*P P 08 55 57.5 +2.3
TLCR 87.61 43 ⇑P P 08 55 57.5 +2.3
TIRR **Tirgusor** 87.66 43 ⇑*i*P P 08 55 57.9 +2.4
TIRR **Tirgusor** 87.66 43 ⇑P P 08 55 57.9 +2.4
SEY **Seymchan** 88.86 339 P P 08 56 00.9 +0.1
comp=Z,6.8nm,1.0s,baz=101,slow=3.4,SNR=8.5
IDI **Anoyia** 88.92 53 P P 08 56 02.6 +0.8
comp=Z,12nm,0.8s,baz=286,slow=4.0,SNR=8.8
IDI **Anoyia** 88.92 53 *e*P P 08 56 03.3 +1.5
comp=Z,24nm,0.8s
LPSR **Galich'ya Gora** 89.86 33 *e*P P 08 56 05.2 -0.5
LPSR pmax pmax
comp=Z,10.0nm,0.6s
VSR **Storozhevoye** 90.73 34 *e*P P 08 56 08.7 -1.1
VSR pmax pmax
comp=Z,10.0nm,1.1s
NRIK **Noril'sk** 90.80 5 P P 08 56 10.1 +0.3
comp=Z,3.9nm,0.5s,baz=135,slow=2.0,SNR=4.3
BR231 **Keskin MP Arra** 92.62 46 *e*P P 08 56 22.2 +3.3
BR101 **Keskin Array S** 93.27 46 *e*P P 08 56 23.6 +1.6
BRTR **Keskin Array B** 93.27 46 P P 08 56 23.6 +1.6
comp=Z,2.4nm,1.0s,baz=292,slow=3.3,SNR=6.7
ARU **Arti** 96.00 23 P P 08 56 34.8 +0.9
comp=Z,1.8nm,0.3s,baz=317,slow=1.6,SNR=4.1
ARU **Arti** 96.00 23 P P 08 56 34.1 +0.2
ARU **Arti** 96.00 23 *e*P P 08 56 34.8 +0.9
comp=Z,13nm,1.3s
KIV **Kislovodsk** 96.78 39 *e*P P 08 56 39.1 +1.2
KIV pmax pmax
comp=Z,12nm,1.0s
VNA2 **Neumayer--Watz** 102.15 162 PKiKP PKiKP 09 01 23.1 0.0
baz=331,slow=1.2
SONM **Songino Array** 112.86 357 PKKPbc PKKPbc 09 12 39.1 +6.4
comp=Z,1.1nm,0.7s,baz=178,slow=2.8,SNR=5.3
WMQ **Urumqi** 115.63 11 PKP PKPdf 09 01 49.6 +0.2
WMQ LR LR
comp=Z,690nm,14.5s
WMQ LR LR
comp=Z,300nm,18.5s
KSH **Kashi** 116.44 22 *e*PKP PKPdf 09 01 52.0 +0.8
KSRS **Korea Array** 118.31 337 PKP PKPdf 09 01 56.8 +2.2
comp=Z,0.4nm,0.3s,baz=27,slow=1.8,SNR=2.6
HHC **Hu-ho-hao-te** 119.30 352 *e*PKP PKPdf 09 01 52.4 -4.2
LZH **Lanzhou** 124.68 358 *e*PKP PKPdf 09 02 03.3 -3.9
LZH PP PP 09 03 56.0 +3.4
LZH LR LR
comp=Z,1μm,19.0s
GYA **Guiyang** 134.09 354 *e*Pdif Pdif 08 59 23.0 -1.4
GYA PKP PKPdf 09 02 24.6 -0.6
GYA PP PP 09 04 58.3 +4.3
GYA AMB AMB
comp=Z,120nm,7.9s
QIZ **Qiongzhong** 140.94 348 PKPbc PKPdf 09 02 44.8 +6.9
QIZ PP PP 09 05 35.3 -1.4
CMAR **Chiang Mai Arr** 142.15 5 PKP PKPdf 09 02 42.5 +2.5
comp=Z,1.0nm,0.3s,baz=336,slow=2.0,SNR=2.7
STKA **Stephens Creek** 142.46 243 PKP PKPdf 09 02 42.1 +1.9
comp=Z,1.5nm,0.3s,baz=286,slow=1.8,SNR=4.2
STKA **Stephens Creek** 142.46 243 *e*PKIKP PKPdf 09 02 40.8 +0.6
STKA **Stephens Creek** 142.46 243 *e*PKPdf PKPdf 09 02 40.8 +0.6
WB2 **Warramunga Arr** 149.57 264 *e*PKPdf PKPdf 09 02 51.5 -1.1
WB2 *e*PKPbc PKPbc 09 02 56.6 -0.5
WB2 *e*PKPab PKPab 09 03 02.5 +0.3
WR1 **Warramunga Arr** 149.58 264 *e*PKPdf PKPbc 09 02 56.0 -1.2
WRA **Warramunga Arr** 149.58 264 PKPbc PKPbc 09 02 56.0 -1.2
comp=Z,7.7nm,1.0s,baz=86,slow=1.8,SNR=12
WRA **Warramunga Arr** 149.58 264 PKP2 PKPbc 09 02 56.0 -1.2
WRA pmax pmax

	comp=Z,8.0nm,1.0s							
AS31	**Alice Springs**	**150.08**	**256**	*e*PKPdf	**PKPbc**	09 02 57.0	**-1.4**
AS31				*e*PKPbc	**PKPab**	09 03 03.9	**-0.3**
ASAR	**Alice Springs**	**150.09**	**256**	PKPbc	**PKPbc**	09 02 57.1	**-1.3**
	comp=Z,4.1nm,0.8s,baz=86,slow=2.2,SNR=9.7							
MTN	**Manton Dam**	**151.28**	**279**	*e*PKPbc	**PKPbc**	09 03 00.4	**-0.9**
PSI	**Prapat**	**157.63**	**8**	*e*PKP2	**PKPab**	09 03 35.7	**-0.5**
PSI	**Prapat**	**157.63**	**8**	*e*PKPab	**PKPab**	09 03 35.7	**-0.5**

ISCJB ***15*** *08:44:05.7±0.8, 36°.26N±0°.05×141°.66E±0°.08, h26km, mb3.7/4, Error ellipse: s-maj=8.9km s-min=6.4km az=11.4*
IDC ***15*** *08:44:05.3±1.4, 36°.52N×141°.58E, h0km, mb3.7/4, mb1 3.8/7, mb1mx3.5/58, mbtmp3.7/7, ML2.9/3, Error ellipse: s-maj=28.4km s-min=24.7km az=31.0*
JMA ***15*** *08:44:07.1±0.2, 36°.24N×141°.51E, h50km±4km, M3.7*
ISC 15 08:44:07.0±1.1**, 36°.23N**±0°.05×**141°.62E**±0°.08**, h26**km**, n24,** σ**1°.25/21, mb3.7/4, Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHOJ	**Chosi**	**0.81**	**230**	P	**Pb**	08 44 21.5	**-0.9**
CHOJ				S	**Sb**	08 44 32.5	**-0.4**
JHO	**Hitachi**	**0.93**	**295**	P	**Pn**	08 44 22.6	**-1.7**
JFK	**Kawauchi**	**1.28**	**332**	P	**Pn**	08 44 28.1	**-1.2**
JFT	**Otama**	**1.65**	**322**	P	**Pn**	08 44 34.2	**0.0**
BSO1	**Boso 1**	**1.66**	**199**	P	**Pn**	08 44 34.3	**+0.5**
BSO3	**Boso 3**	**1.69**	**213**	P	**Pb**	08 44 36.1	**-1.0**
JAG	**Ashikaga**	**1.76**	**277**	P	**Pn**	08 44 34.5	**-1.3**
JMM	**Marumori**	**1.76**	**338**	P	**Pn**	08 44 35.3	**-0.5**
JFY	**Yanaizu**	**1.94**	**308**	P	**Pn**	08 44 38.1	**-0.1**
MJAR	**Matsushiro Arr**	**2.77**	**277**	Pn	**Pn**	08 44 48.8	**-0.9**
	15nm,0.3s,baz=208,slow=14,SNR=108						
MJAR				Sn	**Sn**	08 45 24.2	**+1.9**
	9.1nm,0.3s,baz=85,slow=32,SNR=5.8						
MAT	**Matsushiro**	**2.77**	**278**	P	**Pn**	08 44 50.1	**+0.4**
MAT				S	**Sn**	08 45 24.4	**+2.1**
JHJ	**Hachijo jima 2**	**3.45**	**207**	Pn	**Pn**	08 44 59.6	**+0.6**
	49nm,0.3s,baz=254,slow=22,SNR=22						
JHJ				Sn	**Sn**	08 45 37.3	**-1.7**
	25nm,0.3s,baz=70,slow=22,SNR=6.5						
USRK	**Ussuriysk Ar.**	**10.84**	**320**	Pn	**Pn**	08 46 39.4	**-1.0**
	0.2nm,0.3s,baz=126,slow=9.7,SNR=4.8						
KSRS	**Korea Array**	**11.05**	**280**	Pn	**Pn**	08 46 45.6	**+2.5**
	0.1nm,0.3s,baz=92,slow=13,SNR=4.2						
H11N2	**WAKE ISLAND Hy**	**27.60**	**120**	T	T	09 19 12.5	
	baz=311,slow=75,SNR=5.3						
H11N1	**WAKE ISLAND Hy**	**27.61**	**120**	T	T	09 19 20.4	
	baz=311,slow=75,SNR=5.1						
H11N3	**WAKE ISLAND Hy**	**27.62**	**120**	T	T	09 19 08.8	
	baz=311,slow=75,SNR=5.7						
H11S1	**WAKE ISLAND Hy**	**28.29**	**122**	T	T	09 20 04.1	
	baz=314,slow=76,SNR=7.1						
H11S3	**WAKE ISLAND Hy**	**28.29**	**122**	T	T	09 20 00.1	
	baz=314,slow=76,SNR=6.7						
H11S2	**WAKE ISLAND Hy**	**28.30**	**122**	T	T	09 20 01.4	
	baz=314,slow=76,SNR=6.2						
SONM	**Songino Array**	**28.38**	**305**	P	**P**	08 49 58.9	**-0.2**
	0.9nm,0.6s,baz=105,slow=9.0,SNR=6.1						
ZALV	**Zalesovo Beam**	**42.58**	**313**	P	**P**	08 52 00.8	**+0.3**
	0.8nm,0.3s,baz=90,slow=7.2,SNR=3.1						
ILAR	**Eielson Array**	**50.09**	**32**	P	**P**	08 52 59.8	**+0.5**
	0.4nm,0.8s,baz=275,slow=4.2,SNR=4.1						
WRA	**Warramunga Arr**	**56.29**	**188**	P	P	08 53 49.7	**+4.4**
	0.5nm,0.5s,baz=3.9,slow=7.4,SNR=9.6						

CSEM ***15*** *08:47:16.9±0.1, 37°.00N×28°.30E, h5km, ML3.3, Error ellipse: s-maj=2.2km s-min=1.7km az=18.0*
ISK ***15*** *08:47:16.2, 37°.01N×28°.30E, h7km, ML3.1*
DDA ***15*** *08:47:16.6, 36°.94N×28°.29E, h23km, Ml3.3*
THE ***15*** *08:47:18.2, 36°.91N×28°.28E, h8km±1km, Error ellipse: s-maj=2.0km s-min=0.6km az=208.0*
ISC 15 08:47:16.9±1.0**, 37°.00N**±0°.02×**28°.29E**±0°.02**, h5**km±9km**, n106,** σ**0°.61/132, Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TURN	**Turunc**	**0.28**	**117**	*i* P	**Pg**	08 47 21.4	**-0.9**
TURN				*i* S	**Sg**	08 47 24.7	**-1.3**
TURN	**Turunc**	**0.28**	**117**	P	**Pg**	08 47 21.4	**-0.9**
TURN				S	**Sg**	08 47 24.7	**-1.3**
MRSB	**Marmaris-Mugla**	**0.29**	**195**	*e*PG	**Pg**	08 47 22.3	**-0.3**
MRSB				*e*SG	**Sg**	08 47 27.5	**+1.1**
MRSB	**Marmaris-Mugla**	**0.29**	**195**	*e*Pg	**Pg**	08 47 22.3	**-0.3**
MRSB				*e*Sg	**Sg**	08 47 27.5	**+1.1**
DALY	**Dalyan (Mu¨la**	**0.34**	**122**	*e*PG	**Pg**	08 47 23.4	**0.0**
DALY				*e*SG	**Sg**	08 47 28.8	**+0.8**
DALY	**Dalyan (Mu¨la**	**0.34**	**122**	*i* P	**Pg**	08 47 23.5	**0.0**
DALY				*i* S	**Sg**	08 47 29.2	**+1.2**
DALY	**Dalyan (Mu¨la**	**0.34**	**122**	P	**Pg**	08 47 23.5	**0.0**
DALY				*e*Sg	**Sg**	08 47 28.8	**+0.8**
DALY				S	**Sg**	08 47 29.2	**+1.2**
MLSB	**Milas**	**0.51**	**306**	*e*PG	**Pg**	08 47 27.1	**+0.5**
MLSB				*e*SG	**Sg**	08 47 33.9	**+0.7**
MLSB	**Milas**	**0.51**	**306**	*e*Pg	**Pg**	08 47 27.1	**+0.5**
MLSB				*e*Sg	**Sg**	08 47 33.9	**+0.7**
DAT	**Datca**	**0.63**	**245**	*e*PG	**Pg**	08 47 29.1	**+0.1**
DAT				*e*SG	**Sb**	08 47 38.6	**-1.1**
DAT	**Datca**	**0.63**	**245**	*i* P	**Pg**	08 47 28.9	**-0.2**
DAT				*i* S	**Sb**	08 47 38.5	**-1.1**
DAT	**Datca**	**0.63**	**245**	*e*Pg	**Pg**	08 47 29.1	**+0.1**
DAT				S	**Sb**	08 47 38.5	**-1.1**
BDRM	**Kayabasi**	**0.68**	**276**	*i* P	**Pb**	08 47 30.9	**-0.4**
BDRM	**Kayabasi**	**0.68**	**276**	P	**Pb**	08 47 30.9	**-0.4**
FETI	**Fethiye-Mugla**	**0.72**	**115**	*e*PG	**Pg**	08 47 30.4	**-0.1**
FETI				*e*SG	**Sb**	08 47 40.9	**-1.1**
FETI	**Fethiye-Mugla**	**0.72**	**115**	*e*Pg	**Pg**	08 47 30.5	**-0.1**
FETI				*e*Sg	**Sb**	08 47 40.9	**-1.1**
FETY	**Fethiye**	**0.73**	**120**	*e*PG	**Pg**	08 47 30.8	**-0.1**
FETY	**Fethiye**	**0.73**	**120**	P	**Pg**	08 47 30.9	**-0.1**
FETY				S	**Sg**	08 47 41.1	**+0.6**
BODT	**Bodrum**	**0.79**	**275**	*e*PG	**Pg**	08 47 32.3	**+0.3**
BODT	**Bodrum**	**0.79**	**275**	*e*Pg	**Pg**	08 47 32.3	**+0.3**
ARG	**Arkhangelos**	**0.80**	**190**	P	**Pg**	08 47 31.6	**-0.5**
ARG				S	**Sg**	08 47 42.4	**0.0**
ARG	**Arkhangelos**	**0.80**	**190**	P	**Pg**	08 47 31.6	**-0.5**
ARG				S	**Sg**	08 47 42.4	**0.0**
YKAV	**Yalikavak-Bodr**	**0.82**	**279**	*e*PG	**Pg**	08 47 32.6	**0.0**
YKAV	**Yalikavak-Bodr**	**0.82**	**279**	*e*Pg	**Pg**	08 47 32.6	**0.0**
DIDI	**Didim-Aydin**	**0.92**	**294**	*e*PG	**Pg**	08 47 34.6	**+0.1**
DIDI	**Didim-Aydin**	**0.92**	**294**	*e*Pg	**Pg**	08 47 34.6	**+0.1**
DENT	**Denizli**	**0.96**	**38**	*e*PG	**Pg**	08 47 34.6	**-0.6**
DENT	**Denizli**	**0.96**	**38**	*e*Pg	**Pg**	08 47 34.6	**-0.6**
NIS1	**Nisyros Isl.**	**0.98**	**246**	*e*PG	**Pg**	08 47 35.5	**-0.1**
NIS1	**Nisyros Isl.**	**0.98**	**246**	P	**Pg**	08 47 35.8	**+0.2**
NIS1				S	**Sb**	08 47 49.5	**0.0**
NIS1	**Nisyros Isl.**	**0.98**	**246**	*e*Pg	**Pg**	08 47 35.5	**-0.1**
NIS1	**Nisyros Isl.**	**0.98**	**246**	P	**Pg**	08 47 35.8	**+0.2**
NIS1				S	**Sb**	08 47 49.5	**0.0**
AYDB	**Zeytinkoy-Aydi**	**1.00**	**341**	*e*PG	**Pg**	08 47 35.6	**-0.4**
AYDB	**Zeytinkoy-Aydi**	**1.00**	**341**	*e*Pg	**Pg**	08 47 35.6	**-0.4**
NISR	**Nisiros**	**1.01**	**248**	P	**Pg**	08 47 36.4	**+0.2**
NISR	**Nisiros**	**1.01**	**248**	P	**Pg**	08 47 36.4	**+0.2**
GOLH	**Golhisar**	**1.04**	**77**	*i* P	**Pn**	08 47 38.6	**+0.3**
GOLH				*i* S	**Sn**	08 47 55.3	**+2.1**
GOLH	**Golhisar**	**1.04**	**77**	P	**Pn**	08 47 38.6	**+0.3**
GCAM	**G?zelcaml?**	**1.09**	**310**	*i* P	**Pn**	08 47 39.0	**+0.1**
GCAM				*i* S	**Sn**	08 47 53.9	**-0.5**
GCAM	**G?zelcaml?**	**1.09**	**310**	P	**Pn**	08 47 39.0	**+0.1**
GCAM				S	**Sn**	08 47 53.9	**-0.5**
KUSD	**Kusadasi-Aydin**	**1.17**	**317**	*e*PN	**Pb**	08 47 38.7	**-0.9**
KUSD	**Kusadasi-Aydin**	**1.17**	**317**	*e*Pn	**Pb**	08 47 38.7	**-0.9**
AKAS	**Kas**	**1.31**	**126**	*e*PN	**Pg**	08 47 41.9	**0.0**
AKAS	**Kas**	**1.31**	**126**	*i* P	**Pg**	08 47 41.9	**0.0**
AKAS	**Kas**	**1.31**	**126**	*e*Pn	**Pg**	08 47 41.9	**0.0**
ELL	**Elmali**	**1.32**	**101**	*e*PN	**Pg**	08 47 42.1	**-0.1**
ELL	**Elmali**	**1.32**	**101**	*e*Pn	**Pg**	08 47 42.1	**-0.1**
KSL	**Kastellorizon**	**1.34**	**129**	P	**Pn**	08 47 41.3	**-1.0**
KSL				S	**Sb**	08 47 58.7	**-1.3**
SMG	**Samos**	**1.36**	**302**	P	**Pn**	08 47 42.3	**-0.2**
SMG				S	**Sg**	08 48 00.7	**+0.2**
SMG	**Samos**	**1.36**	**302**	P	**Pn**	08 47 42.3	**-0.2**
SMG				S	**Sg**	08 48 00.7	**+0.2**
DGB	**¨zmir**	**1.53**	**314**	*i* P	**Pn**	08 47 45.1	**+0.2**
KULA	**Kula-Manisa**	**1.54**	**11**	*e*PN	**Pn**	08 47 44.6	**-0.5**
KULA	**Kula-Manisa**	**1.54**	**11**	P	**Pb**	08 47 45.4	**-0.5**
KULA	**Kula-Manisa**	**1.54**	**11**	*e*Pn	**Pn**	08 47 44.6	**-0.5**
KULA	**Kula-Manisa**	**1.54**	**11**	P	**Pb**	08 47 45.4	**-0.5**
KHL	**Karahalli**	**1.64**	**36**	*e*PN	**Pn**	08 47 46.2	**-0.2**
KHL	**Karahalli**	**1.64**	**36**	*e*Pn	**Pn**	08 47 46.3	**-0.2**
KORT	**Korkueli**	**1.65**	**89**	*e*PN	**Pn**	08 47 46.2	**-0.4**
KORT	**Korkueli**	**1.65**	**89**	*i* P	**Pg**	08 47 50.5	**+2.0**
KORT	**Korkueli**	**1.65**	**89**	*e*Pn	**Pn**	08 47 46.3	**-0.4**
KARP	**Karpathos**	**1.71**	**213**	*e*PN	**Pn**	08 47 47.6	**+0.2**
KARP	**Karpathos**	**1.71**	**213**	*e*Pn	**Pn**	08 47 47.6	**+0.2**
ZEY	**¨zmir**	**1.88**	**312**	*i* P	**Pn**	08 47 49.6	**-0.1**
URLA	**Izmir**	**1.91**	**316**	*e*PN	**Pn**	08 47 49.6	**-0.5**
URLA	**Izmir**	**1.91**	**316**	*i* P	**Pb**	08 47 52.5	**+0.2**
URLA	**Izmir**	**1.91**	**316**	*e*Pn	**Pn**	08 47 49.6	**-0.5**
URLA	**Izmir**	**1.91**	**316**	P	**Pb**	08 47 52.5	**+0.2**
AKHS	**Akhisar**	**1.91**	**349**	*i* P	**Pn**	08 47 50.3	**+0.2**
AKHS	**Akhisar**	**1.91**	**349**	P	**Pn**	08 47 50.3	**+0.2**
AKS	**Akhisar**	**1.91**	**349**	*e*PN	**Pn**	08 47 49.8	**-0.3**
AKS	**Akhisar**	**1.91**	**349**	*e*Pn	**Pn**	08 47 49.8	**-0.3**
SIMA	**Simav-Kutahya**	**2.15**	**15**	*e*PN	**Pn**	08 47 53.2	**+0.2**
SIMA	**Simav-Kutahya**	**2.15**	**15**	*e*Pn	**Pn**	08 47 53.3	**-0.2**
SHUT	**Suhut-Afyon**	**2.37**	**48**	*e*PN	**Pn**	08 47 56.3	**-0.2**
SHUT	**Suhut-Afyon**	**2.37**	**48**	*e*Pn	**Pn**	08 47 56.3	**-0.2**
TVSB	**Tavsanli**	**2.61**	**20**	*e*PN	**Pn**	08 47 59.6	**-0.3**
TVSB	**Tavsanli**	**2.61**	**20**	*e*Pn	**Pn**	08 47 59.6	**-0.3**
SIGR	**SIGRI**	**2.93**	**320**	*e*PN	**Pn**	08 48 04.2	**+0.2**
SIGR	**SIGRI**	**2.93**	**320**	*e*Pn	**Pn**	08 48 04.2	**+0.2**
EZN	**Ezine**	**3.21**	**332**	*e*PN	**Pn**	08 48 08.6	**+0.6**
EZN	**Ezine**	**3.21**	**332**	*e*Pn	**Pn**	08 48 08.6	**+0.6**
KCTX	**Karacabey (Bur**	**3.26**	**1**	*e*PN	**Pn**	08 48 08.6	**-0.1**
KCTX	**Karacabey (Bur**	**3.26**	**1**	*e*Pn	**Pn**	08 48 08.6	**-0.1**
HDMB	**Hadim**	**3.36**	**89**	*e*PN	**Pn**	08 48 10.6	**+0.4**
HDMB	**Hadim**	**3.36**	**89**	*e*Pn	**Pn**	08 48 10.6	**+0.4**
KONT	**Konya--Tatoy**	**3.37**	**73**	*e*PN	**Pn**	08 48 10.6	**+0.3**
KONT	**Konya--Tatoy**	**3.37**	**73**	*e*Pn	**Pn**	08 48 10.6	**+0.3**
KRBG	**Karabiga-Canak**	**3.48**	**347**	*e*PN	**Pn**	08 48 12.2	**+0.6**
KRBG	**Karabiga-Canak**	**3.48**	**347**	*e*Pn	**Pn**	08 48 12.2	**+0.6**
ARMT	**Armutlu**	**3.59**	**7**	*e*PN	**Pn**	08 48 13.6	**+0.4**
ARMT	**Armutlu**	**3.59**	**7**	*e*Pn	**Pn**	08 48 13.6	**+0.4**
ADVT	**Abdulvahap**	**3.61**	**18**	*e*PN	**Pn**	08 48 13.9	**+0.5**
ADVT	**Abdulvahap**	**3.61**	**18**	*e*Pn	**Pn**	08 48 13.9	**+0.5**
TEKE	**Tekeli-Mersin**	**3.98**	**101**	*e*PN	**Pn**	08 48 19.6	**+1.1**
TEKE	**Tekeli-Mersin**	**3.98**	**101**	*e*Pn	**Pn**	08 48 19.6	**+1.1**
BERE	**Bereket-Mersin**	**4.02**	**98**	*e*PN	**Pn**	08 48 19.9	**+0.7**
BERE	**Bereket-Mersin**	**4.02**	**98**	*e*Pn	**Pn**	08 48 19.9	**+0.7**
IKL	**Isikli**	**4.41**	**98**	*e*PN	**Pn**	08 48 25.6	**+1.2**
IKL	**Isikli**	**4.41**	**98**	*e*Pn	**Pn**	08 48 25.6	**+1.2**

CSEM ***15*** *08:48:54.5±0.7, 50°.07N×18°.98E, h2km, Error ellipse: s-maj=15.0km s-min=9.7km az=9.0*
PRU 15 08:48:55.5, 50°.18N×19°.06E, h0km**, Poland**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OKC	**Ostrava-Krasne**	**0.68**	**240**	*e*SG	Sg	08 49 18.0	+0.6
LANS	**Liptovska Anna**	**1.06**	**165**	*e*Pg	Pg	08 49 13.8	-2.1
LANS				*e*Sg	Sg	08 49 27.2	-2.4
LANS	**Liptovska Anna**	**1.06**	**165**	*e*PG	Pg	08 49 13.8	-2.1
LANS				*e*SG	Sg	08 49 27.2	-2.4
STHS	**Stebnicka Huta**	**1.61**	**118**	*e*Pg	Pn	08 49 25.1	-0.1
STHS				*e*Sn	Sn	08 49 46.5	-0.1
STHS	**Stebnicka Huta**	**1.61**	**118**	*e*PG	Pn	08 49 25.1	-0.1
STHS				*e*SN	Sn	08 49 46.5	-0.1
STHS				*e*LG	Lg	08 49 51.5	
VYHS	**Vyhne**	**1.69**	**185**	*e*Pg	Pn	08 49 24.0	-2.3
VYHS				*e*Sn	Sn	08 49 44.9	-3.8
VYHS	**Vyhne**	**1.69**	**185**	*e*PG	Pn	08 49 24.0	-2.3
VYHS				*e*SN	Sn	08 49 44.9	-3.8
DPC	**Dobruska-Polom**	**1.77**	**277**	*e*SG	Sn	08 49 51.0	+0.5
	comp=Z,2.4nm,0.2s						
DPC	**Dobruska-Polom**	**1.77**	**277**	Sg	Sn	08 49 51.0	+0.5
	2.4nm,0.2s						

CSEM ***15*** *08:52:15.3, 43°.67N×21°.22E, h0km, ML1.4*
BEO 15 08:52:15.3±0.2**, 43°.67N×21°.22E, h0**km**, M1.4/8, Northwestern Balkan Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BOVS	**Bovan**	**0.35**	**95**	*e*Pg	Pg	08 52 22.0	-0.1
BOVS				*e*Sg	Sg	08 52 26.8	+0.1
BOVS	**Bovan**	**0.35**	**95**	*e*PG	Pg	08 52 22.0	-0.1
BOVS				*e*SG	Sg	08 52 26.8	+0.1
GRUS	**Gruza**	**0.43**	**301**	*e*Pg	Pg	08 52 22.5	-1.0
GRUS				*e*Sg	Sg	08 52 28.3	-0.7
GRUS	**Gruza**	**0.43**	**301**	*e*Pg	Pg	08 52 22.5	-1.0
GRUS				*e*Sg	Sg	08 52 28.3	-0.7
SELS	**Selova**	**0.46**	**189**	*e*Pg	Pg	08 52 22.5	-1.5
SELS				*e*Sg	Sg	08 52 28.9	-1.0
ZAGS	**Zajecar**	**0.75**	**79**	*e*Pg	Pg	08 52 28.5	-1.1
ZAGS				*e*Sg	Sg	08 52 38.7	-0.6
ZAGS	**Zajecar**	**0.75**	**79**	*e*Pg	Pg	08 52 28.5	-1.1
ZAGS				*e*Sg	Sg	08 52 38.7	-0.6
IVAS	**Ivanjica**	**0.78**	**263**	*e*Sg	Sg	08 52 38.6	-1.8
IVAS	**Ivanjica**	**0.78**	**263**	*e*Sg	Sg	08 52 38.6	-1.8
TRUS	**Trudelj**	**0.81**	**314**	*e*Pg	Pg	08 52 29.6	-1.2
TRUS				*e*Sg	Sg	08 52 42.4	+1.2
TRUS	**Trudelj**	**0.81**	**314**	*e*Pg	Pg	08 52 29.6	-1.2
TRUS				*e*Sg	Sg	08 52 42.4	+1.2
KUBS	**Kucevo**	**0.81**	**24**	*e*Sg	Sg	08 52 39.1	-2.3
KUBS	**Kucevo**	**0.81**	**24**	*e*Sg	Sg	08 52 39.1	-2.3
DIVS	**Divibare**	**0.99**	**296**	*e*Pg	Pg	08 52 31.9	-2.3
DIVS				*e*Sg	Sg	08 52 47.9	+0.9
DIVS	**Divibare**	**0.99**	**296**	*e*Pg	Pg	08 52 31.9	-2.3
DIVS				*e*Sg	Sg	08 52 47.9	+0.9
SJES	**Sjenica**	**0.99**	**246**	*e*Pg	Pg	08 52 34.6	+0.2
SJES				*e*Sg	Sg	08 52 47.2	-0.1
ZAPS	**Zavoj**	**1.10**	**111**	*e*Pg	Pg	08 52 36.7	+0.3
BBLS	**Lazići**	**1.33**	**279**	*e*Sg	Sg	08 52 56.6	-1.4
BBLS	**Lazići**	**1.33**	**279**	*e*Sg	Sg	08 52 56.6	-1.4

ISCJB ***15*** *08:52:29.9±0.8, 40°.03N±0°.03×31°.69E±0°.05, h4km±7km, Error ellipse: s-maj=7.3km s-min=5.1km az=158.5*
CSEM ***15*** *08:52:29.7±0.3, 40°.04N×31°.69E, h5km, MD2.6, Error ellipse: s-maj=6.4km s-min=5.2km az=55.0*
DDA ***15*** *08:52:29.5, 40°.08N×31°.63E, h7km, Md2.8*
ISK ***15*** *08:52:29.4, 40°.00N×31°.66E, h2km, MD2.6*
ISC 15 08:52:29.5±1.3**, 40°.05N**±0°.02×**31°.64E**±0°.03**, h1**km±11km**, n26,** σ**0°.92/41, Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MDUB	**Mudurnu**	**0.54**	**321**	*e*PG	**Pb**	08 52 41.7	**-0.2**
MDUB				*e*SG	**Sb**	08 52 50.8	**+0.6**
MDUB	**Mudurnu**	**0.54**	**321**	*e*Pg	**Pb**	08 52 41.7	**-0.2**
MDUB				*e*Sg	**Sb**	08 52 50.8	**+0.6**
SVRH	**Sivrihisar-ESK**	**0.61**	**189**	*e*PG	**Pg**	08 52 41.4	**+0.3**
SVRH				*e*SG	**Sg**	08 52 50.0	**+1.0**
SVRH	**Sivrihisar-ESK**	**0.61**	**189**	*e*Pg	**Pg**	08 52 41.4	**+0.3**
SVRH				*e*Sg	**Sg**	08 52 50.0	**+1.0**
ESKT	**Eskisehir**	**0.81**	**229**	*e*PG	**Pg**	08 52 45.5	**+0.6**
ESKT				*e*SG	**Sb**	08 52 57.4	**-0.4**
ESKT	**Eskisehir**	**0.81**	**229**	*i* P	**Pg**	08 52 45.2	**+0.3**
ESKT	**Eskisehir**	**0.81**	**229**	*e*Pg	**Pg**	08 52 45.5	**+0.6**
ESKT				*e*Sg	**Sb**	08 52 57.4	**-0.4**
SEYT	**Eskypehyr**	**0.81**	**229**	P	**Pg**	08 52 45.2	**+0.3**
BCAM	**Yenicaga**	**0.83**	**23**	*i* P	**Pg**	08 52 44.2	**-1.2**
BCAM				*i* S	**Sn**	08 53 03.1	**+1.5**
BCAM	**Yenicaga**	**0.83**	**23**	P	**Pg**	08 52 44.2	**-1.2**
BORA	**Eskisehir**	**0.93**	**260**	*i* P	**Pg**	08 52 46.7	**-0.5**
BORA				*i* S	**Sn**	08 53 02.8	**-0.9**
BORA	**Eskisehir**	**0.93**	**260**	P	**Pg**	08 52 46.7	**-0.5**
BORA				S	**Sn**	08 53 02.8	**-0.9**
GULT	**Gulveren**	**0.94**	**294**	*e*PG	**Pb**	08 52 49.0	**+0.3**
GULT	**Gulveren**	**0.94**	**294**	*e*Pg	**Pb**	08 52 49.0	**+0.3**
SAHE	**Sakarya_HENDEK**	**1.00**	**324**	*i* P	**Pb**	08 52 49.3	**-0.4**
SAHE				*i* S	**Sn**	08 53 07.8	**+2.2**
SAHE	**Sakarya_HENDEK**	**1.00**	**324**	P	**Pb**	08 52 49.3	**-0.4**
SAHE				S	**Sn**	08 53 07.8	**+2.2**
KIZT	**Kizilcal**	**1.18**	**171**	*e*PN	**Pg**	08 52 51.9	**-0.2**
KIZT				*e*SN	**Sn**	08 53 08.6	**-1.4**
KIZT	**Kizilcal**	**1.18**	**171**	*e*Pn	**Pg**	08 52 51.9	**-0.2**
KIZT				*e*Sn	**Sn**	08 53 08.6	**-1.4**
AFSR	**Af¨ar-Bala (A**	**1.25**	**118**	*e*PN	**Pn**	08 52 53.7	**-0.6**
AFSR	**Af¨ar-Bala (A**	**1.25**	**118**	*e*Pn	**Pn**	08 52 53.7	**-0.6**
KKUL	**Konya-Kulu**	**1.32**	**131**	*i* P	**Pb**	08 52 55.4	**+0.3**
KKUL				*i* S	**Sn**	08 53 14.6	**+1.2**
KKUL	**Konya-Kulu**	**1.32**	**131**	P	**Pb**	08 52 55.4	**+0.3**
KKUL				S	**Sn**	08 53 14.6	**+1.2**
KULU	**Kulu**	**1.46**	**133**	*e*PN	**Pg**	08 52 57.1	**-0.3**
KULU	**Kulu**	**1.46**	**133**	*e*Pn	**Pg**	08 52 57.1	**-0.3**
TVSB	**Tavsanli**	**1.78**	**251**	*e*PN	**Pb**	08 53 02.2	**-0.8**
TVSB	**Tavsanli**	**1.78**	**251**	*e*Pn	**Pb**	08 53 02.2	**-0.8**

ISK ***15*** *08:58:22.8, 40°.60N×37°.70E, h6km, MD2.1*
ISCJB ***15*** *08:58:23.4±0.8, 40°.61N±0°.05×37°.67E±0°.06, h10km±8km, Error ellipse: s-maj=10.5km s-min=4.8km az=144.3*
CSEM ***15*** *08:58:23.5±0.2, 40°.60N×37°.68E, h15km, MD2.6, Error ellipse: s-maj=6.9km s-min=3.1km az=147.0*
DDA ***15*** *08:58:28.3, 40°.60N×38°.17E, h14km, Md2.6*
ISC 15 08:58:23.5±1.1**, 40°.58N**±0°.05×**37°.73E**±0°.05**, h9**km±13km**, n12,** σ**0°.24/24, Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RSDY	**Resadiye-TOKAT**	**0.35**	**239**	*e*PG	**Pg**	08 58 30.2	**-0.3**
RSDY				*e*SG	**Sg**	08 58 35.5	**+0.3**
RSDY	**Resadiye-TOKAT**	**0.35**	**239**	*e*Pg	**Pg**	08 58 30.2	**-0.3**
RSDY				*e*Sg	**Sg**	08 58 35.5	**+0.3**
SUSE	**Susehri**	**0.52**	**135**	*i* P	**Pb**	08 58 34.7	**-0.1**
SUSE				*i* S	**Sb**	08 58 42.8	**+0.3**
SUSE	**Susehri**	**0.52**	**135**	P	**Pb**	08 58 34.7	**-0.1**
SUSE				S	**Sb**	08 58 42.8	**+0.3**
GRSN	**GIRESUNGRSN**	**0.54**	**50**	*i* P	**Pb**	08 58 35.1	**0.0**
GRSN				*i* S	**Sb**	08 58 43.2	**+0.2**
GRSN	**GIRESUNGRSN**	**0.54**	**50**	P	**Pb**	08 58 35.1	**0.0**
GRSN				S	**Sb**	08 58 43.2	**+0.2**
ESPY	**Espiye-Giresun**	**0.83**	**66**	*e*PG	**Pg**	08 58 39.4	**-0.1**
ESPY				*e*SG	**Sb**	08 58 51.5	**+0.1**
ESPY	**Espiye-Giresun**	**0.83**	**66**	*e*Pg	**Pg**	08 58 39.4	**-0.1**
ESPY				*e*Sg	**Sb**	08 58 51.5	**+0.1**
SVSK	**Karacayir**	**0.86**

*ISCJB **15** 09:56:40.4±0.4,33°.64N±0°.02×117°.86W±0°.02,h6km±3km, Error ellipse: s-maj=3.0km s-min=2.2km az=23.2*
*NEIC **15** 09:56:42.0±0.0,33°.63N×117°.82W,h12km,ML3.5(PAS), After PAS.*
NEIC Felt [IV] at Santa Ana and [III] at Costa Mesa, Garden Grove, Irvine and Newport Beach. Felt throughout Orange County and in parts of Los Angeles and San Diego Counties.

ISC 15 09:56:41.1±0.8,33°.63N±0°.02×117°.86W±0°.02,h11km±7km, n70,σ1§36/94,Southern California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FMP	**Fort Macarthur**	**0.38**	**282**	P	**Pg**	**09 56 48.6**	**0.0**
	baz=102,SNR=45						
FMP				S	**Sg**	**09 56 54.1**	**+0.5**
	baz=102						
CIS	**Catalina Islan**	**0.52**	**244**	P	**Pg**	**09 56 51.6**	**+0.3**
	baz=65,SNR=110						
CIS				S	**Sg**	**09 56 59.2**	**+1.0**
	baz=65						
MURC	**Murrieta**	**0.55**	**93**	P	**Pg**	**09 56 51.6**	**-0.3**
	baz=273,SNR=112						
MURC				S	**Sg**	**09 56 58.5**	**-0.7**
	baz=273						
PASC	**Pasadena Art C**	**0.60**	**333**	*e*Pg	**Pg**	**09 56 51.6**	**-1.3**
PASC				*e*Sg	Sg	09 56 52.5	-8.4
MWC	**Mount Wilson**	**0.61**	**344**	*e*Pg	**Pg**	**09 56 52.6**	**-0.5**
MWC				*e*Sg	Sg	09 56 52.8	-8.4
BFSC	**Mount Baldy Ra**	**0.63**	**15**	P	**Pg**	**09 56 53.0**	**-0.3**
	baz=193,SNR=380						
BFSC				S	**Sg**	**09 57 01.1**	**-0.5**
	baz=193						
DECC	**Green Verdugo**	**0.74**	**327**	P	**Pg**	**09 56 54.7**	**-0.7**
	baz=146,SNR=52						
DECC				S	**Sg**	**09 57 04.9**	**-0.1**
	baz=146						
SCI	**San Clemente I**	**0.87**	**222**	P	**Pg**	**09 56 58.1**	**+0.2**
	baz=43,SNR=30						
SCI				S	**Sg**	**09 57 10.8**	**+1.5**
	baz=43						
109C	**Camp Elliot, M**	**0.97**	**140**	P	**Pg**	**09 56 58.9**	**-1.0**
	baz=321,SNR=35						
109C				S	**Sg**	**09 57 12.3**	**-0.2**
	baz=321						
BBRC	**Big Bear Solar**	**1.00**	**51**	P	**Pg**	**09 56 59.7**	**-0.7**
	baz=230,SNR=71						
BBRC				S	**Sg**	**09 57 12.4**	**-1.1**
	baz=230						
BLG	**Laguna Peak, P**	**1.11**	**296**	P	**Pb**	**09 57 01.2**	**-1.3**
	baz=115,SNR=35						
BLG				S	**Sb**	**09 57 16.2**	**-0.8**
	baz=115						
PFO	**Pinyon Flats O**	**1.17**	**91**	P	**Pb**	**09 57 02.1**	**-1.3**
	baz=271,SNR=244						
PFO				S	**Sb**	**09 57 17.6**	**-0.9**
	baz=271						
PFO	**Pinyon Flats O**	**1.17**	**91**	*e*Pg	**Pb**	**09 57 02.3**	**-1.1**
PFO				*e*Pn	**Pg**	**09 57 02.6**	**-1.0**
PFO				*e*Sg	**Sg**	**09 57 19.0**	**+0.3**
TPFO	**Pinon Flats**	**1.17**	**91**	P	**Pb**	**09 57 02.3**	**-1.2**
	baz=272,SNR=262						
TPFO				S	**Sb**	**09 57 17.9**	**-0.8**
	baz=272						
OSI	**Osito Audit: C**	**1.22**	**324**	P	**Pn**	**09 57 02.9**	**-1.3**
	baz=143,SNR=15						
OSI				S	**Sb**	**09 57 19.7**	**-0.2**
	baz=143						
OSI	**Osito Audit: C**	**1.22**	**324**	*e*Pg	**Pn**	**09 57 04.0**	**-0.2**
OSI				*e*Pn	**Pb**	**09 57 04.2**	**0.0**
OSI				*e*Sg	**Sb**	**09 57 20.5**	**+0.5**
EDW2	**Edwards Air Fo**	**1.25**	**355**	Pb	**Pn**	**09 57 04.0**	**-0.7**
	baz=174,SNR=258						
EDW2				S	**Sb**	**09 57 20.4**	**-0.6**
	baz=174						
BAR	**Barrett**	**1.37**	**133**	*e*Pn	**Pn**	**09 57 05.3**	**-1.0**
BAR				*e*Pg	**Pb**	**09 57 05.8**	**-1.1**
BAR				*e*Sn	**Sb**	**09 57 23.8**	**-0.7**
MONP	**Monument Peak,**	**1.41**	**121**	Pb	**Pn**	**09 57 06.1**	**-0.8**
	baz=303,SNR=143						
MONP				S	**Sb**	**09 57 24.7**	**-1.0**
	baz=303						
RRX	**Edison Barstow**	**1.43**	**30**	Pb	**Pn**	**09 57 06.9**	**-0.2**
	baz=209,SNR=31						
RRX				Sb	**Sn**	**09 57 25.9**	**0.0**
	baz=209						
SNCC	**San Nicolas Is**	**1.45**	**255**	P	**Pn**	**09 57 06.3**	**-1.0**
	baz=74						
SNCC				S	**Sn**	**09 57 24.7**	**-1.6**
	baz=74						
SNCC	**San Nicolas Is**	**1.45**	**255**	*e*Pn	**Pn**	**09 57 06.7**	**-0.6**
BSC	**Santa Cruz Isl**	**1.52**	**284**	P	**Pn**	**09 57 07.2**	**-1.2**
	baz=103,SNR=17						
BSC				S	**Sn**	**09 57 27.4**	**-0.8**
	baz=103						
BELC	**Belle Mtn. Jos**	**1.59**	**76**	Pb	**Pn**	**09 57 09.9**	**+0.5**
	baz=257,SNR=170						
BELC				Sb	**Sn**	**09 57 30.2**	**+0.2**
	baz=257						
ARVC	**Arvin**	**1.69**	**332**	Pb	**Pn**	**09 57 11.0**	**+0.3**
	baz=151,SNR=34						
ARVC				S	**Sn**	**09 57 31.9**	**-0.5**
	baz=151						
HEC	**Hector,Ludlow**	**1.73**	**46**	Pb	**Pn**	**09 57 11.8**	**+0.5**
	baz=226,SNR=49						
HEC				Sb	**Sb**	**09 57 34.8**	**-0.2**
	baz=226						
SBC	**Santa Barbara**	**1.74**	**298**	Pb	**Pn**	**09 57 12.0**	**+0.7**
	baz=117						
IKP	**In-Ko-Pah, Jac**	**1.76**	**123**	Pb	**Pn**	**09 57 12.3**	**+0.6**
	baz=305,SNR=133						
IKP				Sb	**Sb**	**09 57 35.8**	**+0.1**
	baz=305						
LRMC	**Laurel Mtn Rad**	**1.85**	**4**	Pb	**Pn**	**09 57 13.3**	**+0.3**
	baz=184,SNR=98						
LRMC				S	**Sn**	**09 57 35.0**	**-1.4**
	baz=184						
SWSC	**Sam W. Stewart**	**1.85**	**111**	Pb	**Pn**	**09 57 14.2**	**+1.3**
	baz=293						
SWSC				Sb	**Sb**	**09 57 38.9**	**+0.6**
	baz=293						
GSC	**Goldstone, Bar**	**1.88**	**27**	Pb	**Pn**	**09 57 13.6**	**+0.3**
	baz=207,SNR=293						
GSC				Sb	**Sb**	**09 57 38.9**	**-0.1**
	baz=207						
GSC	**Goldstone, Bar**	**1.88**	**27**	*e*Pn	**Pn**	**09 57 13.7**	**+0.3**
PKM	**Mcpherson Peak**	**2.05**	**308**	P	**Pn**	**09 57 14.7**	**-1.1**
	baz=127,SNR=26						
ISA	**Isabella, Lake**	**2.09**	**346**	P	**Pn**	**09 57 14.5**	**-1.7**
	baz=165,SNR=8.8						
ISA	**Isabella, Lake**	**2.09**	**346**	*e*Pn	**Pn**	**09 57 18.5**	**+2.3**
ISA				*e*Sn	**Sn**	**09 57 42.2**	**-0.1**
GMRC	**Granite Mounta**	**2.15**	**57**	P	**Pn**	**09 57 15.4**	**-1.7**
	baz=238,SNR=50						
TUQ	**Turquoise Moun**	**2.40**	**41**	P	**Pn**	**09 57 19.7**	**-0.8**
	baz=221						
VES	**Vestal, Richgr**	**2.42**	**336**	P	**Pn**	**09 57 20.6**	**-0.2**
	baz=154,SNR=7.7						
MPMC	**Manual Prospec**	**2.44**	**7**	P	**Pn**	**09 57 20.8**	**-0.4**
	baz=186,SNR=57						
GLA	**Glamis**	**2.60**	**102**	*e*Pn	**Pb**	**09 57 27.4**	**-0.4**
SHOC	**Shoshone, Teco**	**2.61**	**29**	P	**Pn**	**09 57 23.1**	**-0.2**
	baz=210,SNR=38						
DAC	**Darwin (Calif)**	**2.65**	**5**	*e*Pn	**Pn**	**09 57 27.0**	**+3.0**
LDFC	**Landfair**	**2.69**	**57**	*e*Pn	**Pn**	**09 57 26.9**	**+2.4**
Y12C	**Blythe**	**2.78**	**87**	P	**Pn**	**09 57 26.4**	**+0.7**
	baz=268,SNR=13						
Y12C	**Blythe**	**2.78**	**87**	*e*Pn	**Pn**	**09 57 27.3**	**+1.7**
PAGB	**Antelope Grade**	**2.88**	**317**	*e*Pn	**Pb**	**09 57 34.0**	**+1.5**
RCTC	**Rector, Farmer**	**2.90**	**337**	P	**Pn**	**09 57 26.6**	**-0.7**
	baz=156						
GRAC	**Grapevine Rang**	**3.38**	**7**	P	**Pn**	**09 57 33.8**	**-0.2**
	baz=186,SNR=7.5						
113A	**Mohawk Valley,**	**3.53**	**103**	*e*Pg	**Pb**	**09 57 44.0**	**+0.3**
PMPB	**Monarch Peak**	**3.54**	**318**	*e*Pn	**Pb**	**09 57 43.6**	**-0.2**
TPNV	**Topopah Spring**	**3.56**	**21**	P	**Pn**	**09 57 37.1**	**+0.6**
	baz=202,SNR=14						
TPNV	**Topopah Spring**	**3.56**	**21**	*e*Pn	**Pn**	**09 57 37.7**	**+1.2**
W13A	**Hualapai Mount**	**3.59**	**65**	*e*Pn	**Pn**	**09 57 38.2**	**+1.2**
SHPR	**Sheep Range**	**3.62**	**37**	*e*Pn	**Pn**	**09 57 39.4**	**+2.1**
Y14A	**Wickenburg**	**4.05**	**84**	*e*Pn	**Pn**	**09 57 45.6**	**+2.4**
TVH3	**East Aurora ar**	**4.78**	**351**	*e*Pn	Pn	09 57 58.2	+5.0
TVH2	**Borealis Mine**	**4.79**	**351**	*e*Pn	**Pn**	**09 57 57.7**	**+4.2**
CMB	**Columbia Colle**	**4.85**	**336**	*e*Pn	**Pn**	**09 57 58.2**	**+4.1**
TVH1	**TV Hill, Hawth**	**4.87**	**352**	*e*Pn	Pb	09 58 01.8	-4.9
WAKR	**Walker**	**5.03**	**346**	*e*Pn	Pn	09 58 01.3	+4.5
LCMT	**Little Creek M**	**5.06**	**47**	*e*Pn	**Pn**	**09 57 59.5**	**+2.4**
U15A	**North Rim**	**5.35**	**57**	*e*Pn	**Pn**	**09 58 04.4**	**+3.2**
CCUT	**Cedar City**	**5.35**	**42**	*e*Pn	**Pn**	**09 58 03.1**	**+1.9**
X16A	**Lo Mia Camp, P**	**5.38**	**80**	*e*Pn	**Pn**	**09 58 03.4**	**+1.8**
YERR	**Yerington**	**5.46**	**349**	*e*Pn	Pn	09 58 07.6	+4.9
SZCU	**Shurtz Canyon**	**5.54**	**43**	*e*Pn	Pn	09 58 09.1	+5.3
PNTR	**Pine Nut**	**5.62**	**346**	*e*Pn	Pn	09 58 10.2	+5.3
WUAZ	**Wupatki**	**5.67**	**69**	*e*Pn	Pn	09 58 10.2	+4.8
TCRU	**Three Creeks R**	**6.62**	**40**	*e*Pn	**Pn**	**09 58 15.6**	**-3.0**
X18A	**Snowflake**	**6.62**	**80**	*e*Pn	**Pn**	**09 58 22.4**	**+3.8**

IDC 15 09:58:40.7±2.6,21°.05S×176°.02W,h0km,mb4.2/4, mb1 4.3/6,mb1mx3.9/37,mbtmp4.3/6,ML4.2/2,Error ellipse: s-maj=65.8km s-min=34.0km az=126.0,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**8.17**	**30**	Pn	Pn	10 00 40.8	+0.1
	2.2nm,0.3s,baz=198,slow=8.1,SNR=1.6						
AFI				Sn	Sn	10 02 03.2	-11
	1.3nm,0.3s,baz=46,slow=22,SNR=1.5						
URZ	**Urewera**	**18.15**	**198**	P	Pn	10 02 53.6	-0.6
	0.9nm,0.3s,baz=301,slow=4.3,SNR=2.5						
URZ				S	Sn	10 06 02.1	-15
	0.3nm,0.3s,baz=1.0,slow=14,SNR=1.7						
CTA	**Charters Tower**	**35.28**	**265**	P	P	10 05 38.9	+1.3
	2.2nm,0.5s,baz=98,slow=7.1,SNR=1.5						
STKA	**Stephens Creek**	**39.23**	**245**	P	P	10 06 11.4	+0.5
	1.3nm,0.5s,baz=86,slow=11,SNR=2.6						
ASAR	**Alice Springs**	**46.20**	**257**	P	P	10 07 07.2	-0.5
	1.6nm,0.5s,baz=87,slow=8.6,SNR=9.2						
WRA	**Warramunga Arr**	**46.36**	**262**	P	P	10 07 08.1	-0.9
	1.3nm,0.4s,baz=99,slow=8.6,SNR=8.8						

*ISCJB **15** 09:59:14.5±0.6,8°.49S±0°.08×160°.0E±0°.1,h33km, mb3.9/10,Error ellipse: s-maj=20.4km s-min=10.9km az=1.8*
*IDC **15** 09:59:18.9±0.9,8°.49S×160°.02E,h58km±7km,mb3.8/10, mb1 3.9/10,mb1mx3.7/36,mbtmp4.0/10,Error ellipse: s-maj=24.5km s-min=10.3km az=87.0*

ISC 15 09:59:16.3±0.7,8°.44S±0°.07×160°.1E±0°.2,h35km,n21, σ1§28/19,mb3.9/10,Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**1.00**	**189**	P	**Pn**	**09 59 35.8**	**+1.9**
	337nm,0.3s,baz=200,slow=4.6,SNR=106						
HNR				S	**Sn**	**09 59 49.6**	**+2.8**
	6µm,0.3s,baz=358,slow=23,SNR=110						
HNR	**Honiara**	**1.00**	**189**	*i* P	**Pn**	**09 59 35.0**	**+1.1**
HNR				*i* S	**Sn**	**09 59 47.0**	**+0.2**
DZM	**Mont Dzumac**	**14.86**	**156**	P	**Pn**	**10 02 42.9**	**-1.2**
	0.3nm,0.3s,baz=90,slow=18,SNR=5.7						
WRA	**Warramunga Arr**	**27.43**	**243**	P	**P**	**10 04 58.8**	**-0.3**
	1.3nm,0.6s,baz=68,slow=9.2,SNR=15						
WRA				pP	**sP**	**10 05 13.1**	**-0.3**
	2.4nm,0.5s,baz=67,slow=8.9,SNR=9.3						
H11S2	**WAKE ISLAND Hy**	**27.54**	**14**	T	T	10 33 35.6	
	baz=194,slow=76,SNR=1685						
H11S3	**WAKE ISLAND Hy**	**27.54**	**14**	T	T	10 33 34.4	
	baz=194,slow=76,SNR=2461						
H11S1	**WAKE ISLAND Hy**	**27.55**	**14**	T	T	10 33 35.6	
	baz=194,slow=76,SNR=1307						
H11N1	**WAKE ISLAND Hy**	**28.76**	**13**	T	T	10 35 07.0	
	baz=194,slow=76,SNR=1408						
H11N3	**WAKE ISLAND Hy**	**28.77**	**13**	T	T	10 35 07.7	
	baz=194,slow=76,SNR=1369						
H11N2	**WAKE ISLAND Hy**	**28.78**	**13**	T	T	10 35 08.4	
	baz=194,slow=76,SNR=1208						
STKA	**Stephens Creek**	**28.99**	**214**	P	**P**	**10 05 10.8**	**-2.0**
	1.0nm,0.7s,baz=54,slow=18,SNR=3.3						
ASAR	**Alice Springs**	**29.30**	**236**	P	**P**	**10 05 14.8**	**-0.9**
	0.8nm,0.6s,baz=64,slow=9.7,SNR=10						
ASAR				pP	**sP**	**10 05 29.6**	**-0.5**
	1.2nm,0.8s,baz=68,slow=9.5,SNR=6.8						
USRK	**Ussuriysk Ar.**	**58.25**	**337**	P	**P**	**10 09 08.3**	**+1.1**
	2.1nm,0.7s,baz=121,slow=7.4,SNR=4.1						
CMAR	**Chiang Mai Arr**	**65.98**	**294**	pP	pP	10 10 14.8	+4.2
	1.8nm,0.7s,baz=116,slow=5.0,SNR=4.6						
VNDA	**Vanda**	**69.06**	**180**	P	**P**	**10 10 17.4**	**-0.8**
	0.7nm,0.7s,baz=350,slow=8.3,SNR=4.5						
SONM	**Songino Array**	**73.34**	**325**	P	**P**	**10 10 45.8**	**+1.1**
	2.6nm,0.9s,baz=137,slow=4.8,SNR=8.1						
SONM				pP	**sP**	**10 10 59.9**	**+0.3**
	1.7nm,0.8s,baz=146,slow=6.4,SNR=6.4						
ILAR	**Eielson Array**	**82.91**	**20**	P	**P**	**10 11 37.5**	**+0.4**
	0.8nm,1.0s,baz=237,slow=5.6,SNR=4.6						
ZALV	**Zalesovo Beam**	**88.23**	**325**	P	**P**	**10 12 03.6**	**-0.2**
	1.2nm,0.3s,baz=84,slow=28,SNR=3.9						
YKA	**Yellowknife Ar**	**95.24**	**28**	P	**P**	**10 12 36.2**	**0.0**
	0.5nm,0.8s,baz=280,slow=12,SNR=4.0						
PDAR	**Pinedale Array**	**95.90**	**48**	P	**P**	**10 12 40.5**	**+0.5**
	0.5nm,0.3s,baz=204,slow=3.3,SNR=5.9						
ESDC	**Sonseca Array**	**145.79**	**338**	PKPbc	**PKPdf**	**10 18 50.0**	**-1.7**
	0.3nm,0.3s,baz=43,slow=38,SNR=3.3						

*CSEM **15** 10:06:35.9,38°.75N×45°.08E,h20km,ML2.6*
TEH 15 10:06:35.9,38°.75N×45°.08E,h20km,ML2.6,1C-2D, Iran-Armenia-Azerbaijan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IMRD	**Marand**	**0.49**	**95**	*e*Pg	Pg	10 06 45.1	-0.9
IMRD				*e*Sg	Sg	10 06 52.6	-0.2
IMRD				*e*AMB	AMB	10 06 54.0	
	comp=Z,50µm,0.1s						
IMRD	**Marand**	**0.49**	**95**	*e*Pg	Pg	10 06 45.1	-0.9
IMRD				*e*Sg	Sg	10 06 52.6	-0.2
ISHB	**Shabestar**	**0.63**	**138**	*e*Pg	Pb	10 06 48.0	-0.4
ISHB				*e*AMB	AMB	10 06 48.4	
	comp=Z,7µm,0.0s						
ITBZ	**Tabriz**	**0.99**	**121**	*e*Pg	Pb	10 06 53.8	-0.7
ITBZ				*e*AMB	AMB	10 06 54.0	
	comp=Z,1µm,0.0s						
ITBZ				*e*Sg	Sb	10 07 07.1	0.0
ITBZ	**Tabriz**	**0.99**	**121**	*e*Pg	Pb	10 06 53.8	-0.7
ITBZ				*e*Sg	Sb	10 07 07.1	0.0
IHRS	**Heris**	**1.60**	**105**	*e*AMB	AMB	10 07 07.0	
	comp=Z,614nm,0.1s						
IHRS				*e*Pn	Pn	10 07 03.7	+0.4
IBST	**Bostanabad**	**1.77**	**126**	*e*AMB	AMB	10 07 08.7	
	comp=Z,208nm,0.1s						
IBST				*e*Pn	Pn	10 07 06.6	+0.9

*DDA **15** 10:08:52.6,38°.43N×40°.29E,h7km,Md2.6*
*ISK **15** 10:08:54.6,38°.38N×40°.58E,h8km,MD2.4*
*CSEM **15** 10:08:55.4±0.2,38°.37N×40°.57E,h10km,MD2.4,Error ellipse: s-maj=5.0km s-min=4.2km az=41.0*

ISC 15 10:08:54.5±1.4,38°.39N±0°.03×40°.57E±0°.03,h8km±12km, n22,σ0§58/33,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BINT	**Bingol**	**0.49**	**353**	*e*Pg	**Pb**	**10 09 06.2**	**+0.7**
SVAN	**Silvan-Diyarba**	**0.55**	**115**	*e*PG	**Pg**	**10 09 05.7**	**+0.5**
SVAN				*e*SG	**Sb**	**10 09 13.7**	**-0.8**
SVAN	**Silvan-Diyarba**	**0.55**	**115**	*i* P	Pg	10 08 59.1	-6.0
SVAN				*i* S	**Sb**	**10 09 13.7**	**-0.8**
SVAN	**Silvan-Diyarba**	**0.55**	**115**	*e*Pg	**Pg**	**10 09 05.7**	**+0.5**
SVAN				S	**Sb**	**10 09 13.7**	**-0.8**
DYBB	**Diyarbakir**	**0.55**	**218**	*e*PG	**Pb**	**10 09 05.9**	**-0.6**
DYBB				*e*SG	**Sb**	**10 09 14.0**	**-0.5**
DIY	**Diyarbakir**	**0.56**	**209**	*e*Pg	**Pg**	**10 09 05.9**	**+0.5**
DIY				*e*Sg	**Sb**	**10 09 14.0**	**-0.9**
DIYA	**Diyarbakir**	**0.58**	**217**	*i* P	**Pb**	**10 09 07.3**	**+0.3**
DIYA	**Diyarbakir**	**0.58**	**217**	P	**Pb**	**10 09 07.3**	**+0.3**
BNGB	**Bing¶ll**	**0.61**	**8**	*e*PG	**Pg**	**10 09 06.2**	**-0.1**
BNGB				*e*SG	**Sb**	**10 09 16.2**	**-0.1**
BNGL	**BINGOL**	**0.72**	**39**	*i* P	**Pg**	**10 09 08.4**	**-0.1**
BNGL				*i* S	**Sn**	**10 09 22.2**	**-0.5**
BTMN	**Batman**	**0.74**	**132**	*i* P	**Pb**	**10 09 09.5**	**-0.3**
BTMN				*i* S	**Sn**	**10 09 23.9**	**+0.9**
BTMN	**Batman**	**0.74**	**132**	P	**Pb**	**10 09 09.5**	**-0.3**
BTMN				S	**Sn**	**10 09 23.9**	**+0.9**
MAZI	**Mazidag**	**0.93**	**186**	*e*PG	**Pg**	**10 09 12.2**	**-0.2**
MAZI				*e*SG	**Sb**	**10 09 26.2**	**+0.6**
MAZI	**Mazidag**	**0.93**	**186**	*e*Pg	**Pg**	**10 09 12.2**	**-0.2**
MAZI				*e*Sg	**Sb**	**10 09 26.2**	**+0.6**
SVRC	**Sivrice-ELAZID**	**0.99**	**270**	*e*PG	**Pb**	**10 09 14.3**	**+0.2**
SVRC	**Sivrice-ELAZID**	**0.99**	**270**	*e*Pg	**Pb**	**10 09 14.3**	**+0.2**
PTK	**Pertek**	**1.05**	**299**	*e*PG	**Pn**	**10 09 15.6**	**-0.2**
PTK	**Pertek**	**1.05**	**299**	*e*Pg	**Pn**	**10 09 15.6**	**-0.2**
MARD	**Mardin**	**1.08**	**171**	*i* P	**Pg**	**10 09 15.3**	**0.0**
MARD				*i* S	**Sn**	**10 09 32.6**	**+1.1**
URFA	**Urfa**	**1.67**	**236**	*e*PN	**Pb**	**10 09 25.1**	**-0.6**
URFA	**Urfa**	**1.67**	**236**	*e*Pn	**Pb**	**10 09 25.1**	**-0.6**
SFNV	**Sufian**	**2.00**	**191**	*e*P	**Pg**	**10 09 32.6**	**-0.3**
	SNR=90						

*CSEM **15** 10:08:52.4±0.9,34°.92N×37°.48E,h30km,ML2.2,Error ellipse: s-maj=150.2km s-min=26.0km az=142.0*

GRAL 15 10:09:02.9±0.3,34°.44N×36°.85E,h0km±10km,MD2.7, Jordan-Syria region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FKH	**Fakeheh**	**0.42**	**242**	*e*P	Pg	10 09 10.4	-0.5
MARH	**Ras Al Marh**	**0.52**	**217**	*e*P	Pn	10 09 18.9	+1.0
HWQ	**Hawqa**	**0.77**	**258**	*e*P	Pg	10 09 16.8	-0.9
HWQ				*e*S	Sg	10 09 26.9	-0.7
HWQ	**Hawqa**	**0.77**	**258**	*e*P	Pg	10 09 16.8	-0.8
HWQ				*e*S	Sg	10 09 26.9	-0.7
RCY	**Rachaya**	**1.27**	**222**	*e*P	Pg	10 09 25.5	-1.7
RCY				*e*S	Sg	10 09 42.4	-1.3
BRBR	**Barbar**	**1.27**	**216**	*e*P	Pg	10 09 23.4	-3.9
	SNR=90						
BRBR				*e*S	Sg	10 09 43.8	-0.1
	15nm,0.3s,SNR=90						

*ISCJB **15** 10:20:56.8±0.9,11°.38N±0°.05×62°.17W±0°.07,h71km±14km, Error ellipse: s-maj=12.8km s-min=5.2km az=34.3*
*TRN **15** 10:20:56.5,11°.37N×62°.30W,h47km,MD3.0*
*FUNV **15** 10:21:00.3,11°.06N×62°.15W,h84km,MW2.0*

ISC 15 10:20:57.5±1.7,11°.38N±0°.06×62°.16W±0°.07,h67km±24km, n10,σ1§02/17,Windward Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUIV	**Guiria**	**0.73**	**185**	*e*P	**Pn**	**10 21 12.9**	**+0.4**
GUIV				*e*S	**Sn**	**10 21 23.9**	**+0.2**
GRGR	**Grenville**	**0.89**	**34**	*e*P	**Pn**	**10 21 13.7**	**-0.8**
GRGR				*e*S	**Sn**	**10 21 27.4**	**+0.3**
TRN	**Trinidad (W)**	**1.04**	**134**	*e*P	**Pn**	**10 21 16.7**	**+0.4**
TRN				*e*S	**Sn**	**10 21 30.5**	**+0.1**
CRUV	**Carupano**	**1.27**	**236**	*e*P	**Pn**	**10 21 20.1**	**+0.8**
CRUV				*e*S	**Sn**	**10 21 35.5**	**-0.1**
GUNV	**Guanoco**	**1.44**	**212**	*e*P	**Pn**	**10 21 22.1**	**+0.6**
GUNV				*e*S	**Sn**	**10 21 37.0**	**-2.6**
SVB	**Belmont**	**2.08**	**25**	*e*P	**Pn**	**10 21 30.7**	**+0.6**
SVB				*e*S	**Sn**	**10 21 55.3**	**+0.3**
SVV	**Soufriere Volc**	**2.13**	**26**	*e*P	**Pn**	**10 21 30.7**	**-0.1**
SVV				*e*S	**Sn**	**10 21 56.2**	**-0.1**
PCRV	**Puerto La Cruz**	**2.71**	**244**	*e*P	**Pn**	**10 21 39.5**	**+0.7**
CUPV	**Cœpira**	**3.80**	**250**	*e*P	**Pn**	**10 21 55.2**	**+1.5**
BAUV	**El Baul**	**6.28**	**248**	*e*P	**Pn**	**10 22 26.4**	**-1.1**

IDC 15 10:21:33.1±1.9,2°.92S×131°.80E,h0km,mb3.5/2, mb1 3.8/5,mb1mx3.5/47,mbtmp3.6/5,ML3.3/3,Error ellipse: s-maj=109.4km s-min=21.0km az=79.0,Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIJI	**Sorong**	**2.10**	**345**	Pn	Pn	10 22 09.7	0.0
	15nm,0.3s,baz=24,slow=2.6,SNR=1.4						
SIJI				Sn	Sb	10 22 38.0	-1.0
	22nm,0.3s,baz=271,slow=20,SNR=1.9						
FITZ	**Fitzroy Crossi**	**16.25**	**201**	Pn	Pn	10 25 23.7	+0.8
	0.1nm,0.3s,baz=14,slow=12,SNR=2.9						
WRA	**Warramunga Arr**	**17.10**	**172**	P	Pn	10 25 33.6	-0.1
	0.1nm,0.3s,baz=349,slow=11,SNR=2.6						
ASAR	**Alice Springs**	**20.73**	**175**	P	P	10 26 15.7	+0.3
	0.9nm,0.5s,baz=349,slow=9.6,SNR=8.6						
STKA	**Stephens Creek**	**30.25**	**163**	P	P	10 27 45.2	-0.5
	0.8nm,0.8s,baz=339,slow=14,SNR=1.7						

*ISCJB **15** 10:25:02.8±0.4,41°.87N±0°.02×22°.99E±0°.04,h8km±4km, Error ellipse: s-maj=5.1km s-min=2.7km az=160.8*
*IASPEI **15** 10:25:03.5±0.9,41°.85N±0°.02×23°.08E±0°.03,h14km±7km, Error ellipse: s-maj=4.5km s-min=3.1km az=77.4,GT5 selection from ISC bulletin GT5 identified by Bond¨ jr and McLaughlin (2009) selection criteria Bond¨ jr and McLaughlin, A new ground truth data set for seismic studies, Seism. Res. Let., 80, 465-472, 2009*
*CSEM **15** 10:25:03.4±0.1,41°.87N×23°.07E,h10km,ML2.1,Error ellipse: s-maj=4.5km s-min=2.4km az=70.0*
*SKO **15** 10:25:03.1,41°.85N×23°.10E,h23km,M1.9,ML2.1*
*BEO **15** 10:25:04.3±0.5,41°.89N×23°.03E,h6km,3km,M2.3/1*
*SOF **15** 10:25:04.3,41°.91N×23°.17E,h2km,MD3.0*
*THE **15** 10:25:05.8,41°.76N×23°.10E,h19km±1km,Error ellipse: s-maj=1.5km s-min=0.7km az=97.0*

**ISC 15 10:25:03.6±0.9,41°.85N±0°.02×23

MPEP	**Malo Peshtene**	**1.58**	**18**	*i* P	**Pg**	**10 25 34.2**	**+0.1**
OUR	**Ouranopolis**	**1.66**	**155**	P	**Pn**	**10 25 31.7**	**-0.8**
OUR	**Ouranopolis**	**1.66**	**155**	P	**Pn**	**10 25 31.7**	**-0.8**
KDZ	**Kurdzhali**	**1.76**	**96**	P	**Pb**	**10 25 35.8**	**-0.1**
RDO	**Rodhopi**	**1.98**	**110**	P	**Pn**	**10 25 38.1**	**+1.2**
RDO	**Rodhopi**	**1.98**	**110**	P	**Pn**	**10 25 38.1**	**+1.2**
SELS	**Selova**	**1.99**	**314**	*e*Pg	**Pb**	**10 25 39.8**	**0.0**
SELS				*e*Sg	**Sb**	**10 26 06.3**	**+1.7**
BOVS	**Bovan**	**2.05**	**331**	*e*Pg	**Pn**	**10 25 39.2**	**+1.3**
BOVS				*e*Sg	**Sg**	**10 26 08.4**	**-1.2**
BOVS	**Bovan**	**2.05**	**331**	*e*Pg	**Pn**	**10 25 39.2**	**+1.3**
BOVS				*e*Sg	**Sg**	**10 26 08.4**	**-1.2**
ZAGS	**Zajecar**	**2.06**	**343**	*e*Pn	**Pn**	**10 25 38.5**	**+0.5**
ZAGS				*e*Sn	**Sn**	**10 26 04.2**	**+0.6**
ZAGS	**Zajecar**	**2.06**	**343**	*e*Pn	**Pn**	**10 25 38.5**	**+0.5**
ZAGS				*e*Sn	**Sn**	**10 26 04.2**	**+0.6**
GRUS	**Gruza**	**2.68**	**320**	*e*Pn	**Pn**	**10 25 47.5**	**+1.0**
GRUS	**Gruza**	**2.68**	**320**	*e*Pn	**Pn**	**10 25 47.5**	**+1.0**
IVAS	**Ivanjica**	**2.76**	**310**	*e*Pg	**Pb**	**10 25 52.4**	**-0.5**
IVAS	**Ivanjica**	**2.76**	**310**	*e*Pg	**Pb**	**10 25 52.4**	**-0.5**
TRUS	**Trudelj**	**3.08**	**321**	*e*Sn	**Sn**	**10 26 30.2**	**+1.5**
TRUS	**Trudelj**	**3.08**	**321**	*e*Sn	**Sn**	**10 26 30.2**	**+1.5**
DIVS	**Divibare**	**3.19**	**316**	*e*Sn	**Sn**	**10 26 30.1**	**-1.5**
DIVS	**Divibare**	**3.19**	**316**	*e*Sn	**Sn**	**10 26 30.1**	**-1.5**

GUC 15 10:40:12.2±0.5, 22°.95S×67°.11W, h242km±21km, ML3.9, 8C, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
PB06	**IPOC Station P**	**2.29**	**276**	⇑*i* P		Pn	10 40 58.5	+1.5
PB06				*i* S		S	10 41 34.0	+1.9
PB06				IAML			10 41 40.0	
	comp=E,96nm,0.1s							
PB07	**IPOC Station P**	**2.85**	**295**	⇑*i* P		Pn	10 41 04.9	+2.1
PB07				*i* S		S	10 41 44.5	+2.0
PB07				IAML			10 41 45.8	
	comp=E,196nm,0.2s							
PB04	**IPOC Station P**	**2.88**	**282**	⇑*i* P		Pn	10 41 05.1	+2.0
PB04				*i* S		S	10 41 45.3	+2.2
PB04				IAML			10 41 49.5	
	comp=N,142nm,0.6s							
PB01	**IPOC Station P**	**2.91**	**310**	⇑*i* P		Pn	10 41 05.3	+1.9
PB01				*i* S		S	10 41 46.3	+2.6
PB01				IAML			10 41 48.8	
	comp=N,276nm,0.2s							
ANCH	**Antofagasta**	**3.12**	**256**	⇑*i* P		Pn	10 41 08.1	+2.5
ANCH				*i* S		S	10 41 49.9	+2.3
PB08	**IPOC Station P**	**3.38**	**325**	⇑*i* P		Pn	10 41 11.6	+2.6
PB08				*i* S		S	10 41 57.0	+3.3
HMBC	**Humberstone**	**3.71**	**315**	⇑*i* P		Pn	10 41 13.6	+1.1
HMBC				*i* S		S	10 42 01.5	+1.4
PSGC	**Pisagua**	**4.37**	**319**	⇑*i* P		Pn	10 41 21.0	+0.8
PSGC				*i* S		S	10 42 14.6	+0.5

*BJI **15** 10:46:23.6, 3°.14N×126°.69E, h10km, mb4.7/47, mB4.9/28, Ms4.6/15, Ms7 4.2/15*
*ISCJB **15** 10:46:28.8±0.2, 3°.39N±0°.03×126°.65E±0°.04, h33km, mb4.8/78, MS4.4/3, Error ellipse: s-maj=6.8km s-min=4.0km az=150.0*
*MOS **15** 10:46:29.5±0.9, 3°.33N×126°.51E, h41km, mb5.3/27, Error ellipse: s-maj=14.5km s-min=6.6km az=111.6*
*NEIC **15** 10:46:31.4±1.0, 3°.34N×126°.65E, h45km±9km, mb4.9/31, Error ellipse: s-maj=9.6km s-min=4.6km az=64.0*
*IDC **15** 10:46:32.9±3.0, 3°.34N×126°.62E, h58km±29km, mb4.3/23, mb1 4.4/24, mb1mx4.2/52, mbtmp4.6/24, ML4.7/1, Error ellipse: s-maj=24.2km s-min=10.7km az=75.0*
*DJA **15** 10:46:32.8±2.0, 4°.N±26°×12°.6E±°, h104km±16km, M4.9/4, mB5.4/1, mb5.0/3, MLv4.9/4, Mw(mB)4.8/1*

ISC 15 10:46:30.1±1.0, 3°.45N±0°.05×126°.72E±0°.06, h28km±7km, n145, σ1°51/160, mb4.8/77, MS4.3/4, 8C-1D, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
SGSI	**Sangihe**	**1.21**	**281**	P		**Pn**	**10 46 52.0**	**+0.8**
SGSI				S		**Sb**	**10 47 09.6**	**+1.9**
KMSI	**Cibinong**	**3.95**	**224**	P		**Pn**	**10 47 31.6**	**+2.6**
GTOI	**Gorontalo**	**4.64**	**233**	P		**Pn**	**10 47 40.5**	**+2.1**
MRSI	**Marisa**	**5.61**	**238**	P		**Pn**	**10 47 53.9**	**+2.1**
SIJI	**Sorong**	**6.25**	**133**	P		**Pn**	**10 48 02.5**	**+1.9**
	16nm,0.3s,baz=168,slow=6.5,SNR=1.4							
SIJI				S		**Sn**	**10 49 15.0**	**+3.9**
	18nm,0.3s,baz=223,slow=2.5,SNR=1.6							
MYLDM	**Lahad Datu**	**8.38**	**282**	*e*Pn		**Pn**	**10 48 30.6**	**+0.9**
FAKI	**Fak Fak**	**8.40**	**139**	*e*Pn		**Pn**	**10 48 31.9**	**+1.8**
TTSI	**Tana Toraja**	**9.44**	**227**	P		Pn	10 48 49.0	+4.6
KKM	**Kota Kinabalu**	**10.78**	**284**	*e*Pn		**Pn**	**10 49 02.9**	**+0.1**
SOEI	**Soe**	**13.34**	**191**	P		**P**	**10 49 47.9**	**+0.7**
BATI	**Baumata**	**13.90**	**193**	P		Pn	10 49 36.8	-8.6
SBUM	**Sibu**	**14.51**	**266**	*e*Pn		**Pn**	**10 49 53.4**	**-0.5**
GENI	**Genyem**	**14.72**	**114**	P		**P**	**10 50 03.9**	**+1.5**
PLAI	**Plampang**	**15.11**	**216**	P		**P**	**10 50 06.9**	**+0.2**
JAY	**Jayapura**	**15.18**	**113**	P		**P**	**10 50 08.4**	**+0.8**
	0.3nm,0.3s,baz=99,slow=24,SNR=2.6							
MTN	**Manton Dam**	**16.77**	**165**	*e*Pn		**Pn**	**10 50 20.2**	**-3.0**
	38nm,0.4s							
YULB	**Yu-li**	**20.51**	**346**	*e*P		**P**	**10 51 03.2**	**-3.0**
	20nm,1.0s							
TPUB	**Ta-pu**	**20.60**	**344**	*e*P		**P**	**10 51 05.6**	**-1.6**
	34nm,0.7s							
SSLB	**Suanglung**	**20.97**	**345**	*e*P		**P**	**10 51 10.1**	**-1.2**
	21nm,0.8s							
FITZ	**Fitzroy Crossi**	**21.44**	**183**	P		**P**	**10 51 14.6**	**-1.7**
	11nm,0.7s,baz=15,slow=9.2,SNR=7.8							
FITZ	**Fitzroy Crossi**	**21.44**	**183**	*e*P		**P**	**10 51 15.0**	**-1.3**
	12nm,0.8s							
YHNB	**Yeheng**	**21.72**	**347**	*e*P		**P**	**10 51 18.1**	**-1.2**
	22nm,0.8s							
QIZ	**Qiongzhong**	**22.63**	**314**	P		**P**	**10 51 29.5**	**+0.5**
QIZ				S		**S**	**10 55 41.8**	**+6.4**
QIZ				pmax	pmax			
	comp=Z,11nm,1.6s							
QIZ				LR	LR			
	comp=N,240nm,16.8s							
QIZ				LR	LR			
	comp=E,210nm,19.3s							
QIZ				LR	LR			
	comp=Z,410nm,19.4s							
PMG	**Port Moresby**	**24.04**	**122**	*i* P		**P**	**10 51 44.2**	**+1.1**
PMG				pmax	pmax			
	comp=Z,39nm,0.9s							
WRAB	**Tennant Creek**	**24.41**	**162**	*d i* P		**P**	**10 51 44.5**	**-2.0**
WRAB				pmax	pmax			
	comp=Z,87nm,0.9s							
WRAB	**Tennant Creek**	**24.41**	**162**	*e*P		**P**	**10 51 44.6**	**-1.9**
	comp=Z,30nm,0.6s							
WRA	**Warramunga Arr**	**24.42**	**162**	P		**P**	**10 51 44.2**	**-2.3**
	comp=Z,20nm,0.7s,baz=339,slow=10,SNR=99							
WB2	**Warramunga Arr**	**24.42**	**162**	*e*P		**P**	**10 51 44.0**	**-2.6**
WB2				*e*P		**P**	**10 51 44.4**	**-2.2**
MBWA	**Marble Bar**	**25.40**	**195**	*e*P		**P**	**10 51 54.8**	**-0.6**
	comp=Z,68nm,2.0s							
AS31	**Alice Springs**	**27.84**	**166**	*e*P		**P**	**10 52 15.4**	**-2.1**
	comp=Z,2.9nm,0.6s							
ASAR	**Alice Springs**	**27.84**	**166**	P		**P**	**10 52 15.8**	**-1.7**
	comp=Z,2.4nm,0.5s,baz=352,slow=7.8,SNR=19							
ASAR				PcP		**PcP**	**10 55 33.3**	**0.0**
	comp=Z,0.8nm,0.6s,baz=354,slow=3.0,SNR=4.2							
AS01	**Alice Springs**	**27.86**	**166**	*e*P		**P**	**10 52 15.1**	**-2.4**
JNU	**Nakatsue**	**29.78**	**7**	P		**P**	**10 52 34.6**	**0.0**
	comp=Z,6.6nm,0.8s,baz=296,slow=7.1,SNR=3.7							
GYA	**Guiyang**	**29.88**	**322**	P		**P**	**10 52 36.8**	**+1.1**
GYA				pmax	pmax			
	comp=Z,10.0nm,0.9s							
CM01	**Chiang Mai Arr**	**30.98**	**301**	*e*P		**P**	**10 52 46.8**	**+1.5**
CMAR	**Chiang Mai Arr**	**31.01**	**301**	P		**P**	**10 52 46.3**	**+0.7**
	comp=Z,2.8nm,0.8s,baz=110,slow=6.9,SNR=6.4							
CHTO	**Chiang Mai**	**31.16**	**301**	*e*P		**P**	**10 52 47.1**	**+0.2**
CHTO				pmax	pmax			
	comp=Z,6.0nm,0.7s							
CHTO	**Chiang Mai**	**31.16**	**301**	*e*P		**P**	**10 52 47.1**	**+0.2**
	comp=Z,5.5nm,0.7s							
ENH	**Enshi**	**31.27**	**330**	*e*P		**P**	**10 52 46.8**	**-0.9**
	comp=Z,12nm,0.7s							
KMI	**Kunming**	**31.57**	**315**	P		**P**	**10 52 48.4**	**-2.3**
KMI				pmax	pmax			
	comp=Z,8.0nm,0.8s							
TIA	**Tai'an**	**33.79**	**346**	*e*P		**P**	**10 53 10.1**	**+0.4**
TIA				pmax	pmax			
	comp=Z,20nm,0.9s							
KS15	**Wonju Array Si**	**33.85**	**2**	*e*P		**P**	**10 53 10.3**	**+0.1**
KSAR	**Wonju Array Be**	**33.85**	**2**	P		**P**	**10 53 11.5**	**+1.3**
KSAR							10 55 48.3	
KSAR	**Wonju Array Be**	**33.85**	**2**	P		**P**	**10 53 11.4**	**+1.3**
KSAR				PcP		**PcP**	**10 55 48.2**	**-0.5**
KSRS	**Korea Array**	**33.86**	**2**	P		**P**	**10 53 11.4**	**+1.1**
	comp=Z,4.7nm,0.7s,baz=182,slow=9.5,SNR=12							
KSRS				PcP		**PcP**	**10 55 48.2**	**-0.6**
	comp=Z,1.7nm,0.7s,baz=208,slow=2.3,SNR=4.3							
FORT	**Forrest**	**34.06**	**178**	*e*P		**P**	**10 53 11.0**	**-1.1**
	comp=Z,192nm,0.8s							
MAJO	**Matsushiro**	**34.59**	**16**	*e*P		**P**	**10 53 18.9**	**+2.2**
MAJO				pmax	pmax			
	comp=Z,70nm,1.1s							
XAN	**Xi'an**	**34.66**	**333**	P		**P**	**10 53 16.3**	**-1.1**
XAN				pP	pP		10 53 26.0	+0.4
XAN				sP	sP		10 53 29.1	+0.1
XAN				pmax	pmax			
	comp=Z,14nm,0.7s							
XAN				pmax	pmax			
	comp=Z,47nm,4.3s							
CD2	**Chengdu**	**34.86**	**324**	*e*P		**P**	**10 53 18.9**	**-0.3**
CD2				pP	pP		10 53 25.3	-2.1
CD2				pmax	pmax			
	comp=Z,10.0nm,0.9s							
BBOO	**Buckleboo**	**37.13**	**167**	*e*P		**P**	**10 53 36.9**	**-1.6**
	comp=Z,78nm,1.8s							
EIDS	**Eidsvold**	**37.14**	**142**	*e*P		**P**	**10 53 37.3**	**-1.4**
	comp=Z,11nm,0.9s							
BJT	**Baijiatuan**	**37.64**	**347**	*e*P		**P**	**10 53 43.3**	**+0.6**
BJT				pmax	pmax			
	comp=Z,50nm,1.2s							
BJT	**Baijiatuan**	**37.64**	**347**	*e*P		**P**	**10 53 43.3**	**+0.6**
	comp=Z,50nm,1.2s							
BJI	**Beijing**	**37.66**	**347**	P		**P**	**10 53 43.3**	**+0.5**
BJI				pmax	pmax			
	comp=Z,10.0nm,0.7s							
STKA	**Stephens Creek**	**37.87**	**159**	P		**P**	**10 53 43.8**	**-1.0**
	comp=Z,22nm,0.8s,baz=337,slow=8.2,SNR=22							
STKA				PcP		**PcP**	**10 56 00.5**	**-0.3**
	comp=Z,2.4nm,0.7s,baz=336,slow=6.3,SNR=2.4							
STKA	**Stephens Creek**	**37.87**	**159**	*e*P		**P**	**10 53 43.5**	**-1.2**
	comp=Z,4.1nm,0.8s							
STKA				PcP		**PcP**	**10 56 00.5**	**-0.3**
LZH	**Lanzhou**	**38.74**	**330**	*e*P		**P**	**10 53 52.1**	**-0.2**
LZH				pP	pP		10 53 57.9	-2.7
LZH				sP	sP		10 54 00.3	-3.6
LZH				PP	**PnPn**		**10 55 25.4**	**+1.8**
LZH				*e*S	**S**		**10 59 46.8**	**-1.2**
LZH				sS	ScP		10 59 58.3	+8.1
LZH				SS	**SnSn**		**11 02 32.0**	**-6.1**
LZH				pmax	pmax			
	comp=Z,22nm,1.0s							
LZH				pmax	pmax			
	comp=Z,140nm,4.7s							
LZH				LR	LR			
	comp=Z,1μm,18.1s							
LZH				LR	LR			
	comp=Z,1μm,15.0s							
LZH				LR	LR			
	comp=Z,1μm,19.4s							
HHC	**Hu-ho-hao-te**	**39.66**	**342**	*e*P		**P**	**10 54 02.4**	**+2.6**
HHC				pmax	pmax			
	comp=Z,12nm,1.1s							
HHC				pmax	pmax			
	comp=Z,120nm,5.3s							
VLA	**Vladivostok**	**39.77**	**6**	*i* P		P	10 54 06.5	+6.0
VLA				pmax	pmax			
	comp=Z,10.0nm,0.3s							
USRK	**Ussuriysk Ar.**	**40.85**	**6**	P		**P**	**10 54 10.1**	**+0.7**
	comp=Z,3.1nm,0.7s,baz=185,slow=8.7,SNR=5.4							
MDJ	**Mudanjiang**	**41.08**	**3**	P		**P**	**10 54 12.9**	**+1.6**
MDJ				pP	pP		10 54 15.8	-3.9
MDJ				sP	sP		10 54 16.8	-6.2
MDJ				pmax	pmax			
	comp=Z,14nm,1.0s							
MDJ				pmax	pmax			
	comp=Z,110nm,5.3s							
MDJ	**Mudanjiang**	**41.08**	**3**	*e*P		**P**	**10 54 12.4**	**+1.1**
	comp=Z,12nm,0.8s							
ERM	**Erimo**	**41.12**	**19**	*i* P		**P**	**10 54 13.2**	**+1.5**
ERM				pmax	pmax			
	comp=Z,5.0nm,0.8s							
GTA	**Gaotai**	**43.33**	**329**	*e*P		**P**	**10 54 30.8**	**+0.8**
GTA				pP	pP		10 54 37.0	-1.4
GTA				sP	sP		10 54 39.5	-2.2
GTA				pmax	pmax			
	comp=Z,6.0nm,0.8s							
ODAN	**Odare**	**44.22**	**306**	*e*P		**P**	**10 54 37.2**	**-0.3**
RAMN	**Ramite**	**44.90**	**305**	*e*P		**P**	**10 54 42.9**	**0.0**
	comp=Z,11nm,0.5s							
YSS	**Yuzh-Sakhalins**	**45.52**	**15**	*i* P		**P**	**10 54 47.7**	**+0.6**
YSS				pmax	pmax			
	comp=Z,12nm,0.9s							
JIRN	**Jiri**	**45.53**	**306**	*e*P		**P**	**10 54 47.3**	**-0.7**
	comp=Z,17nm,0.5s							
GUN	**Gumba**	**45.88**	**306**	*e*P		**P**	**10 54 50.9**	**+0.1**
	comp=Z,26nm,0.6s							
PKIN	**Phulchoki**	**46.14**	**306**	*e*P		**P**	**10 54 53.1**	**+0.4**
	comp=Z,13nm,0.6s							
ULN	**Ulaanbaatar**	**47.38**	**342**	*ce*P		**P**	**10 55 02.3**	**+0.3**
ULN				pmax	pmax			
	comp=Z,5.0nm,0.7s							
ULN	**Ulaanbaatar**	**47.38**	**342**	*e*P		**P**	**10 55 02.6**	**+0.6**
	comp=Z,5.2nm,0.7s							
SONM	**Songino Array**	**47.56**	**342**	P		**P**	**10 55 03.1**	**-0.2**
	comp=Z,2.4nm,0.6s,baz=162,slow=8.6,SNR=8.8							
SONM				PcP		**PcP**	**10 56 31.7**	**-1.3**
	comp=Z,1.9nm,0.7s,baz=159,slow=3.8,SNR=4.2							
SONA1	**Songino Array**	**47.57**	**342**	*e*P		**P**	**10 55 03.2**	**-0.2**
KOLN	**Koldanda**	**47.68**	**305**	*e*P		**P**	**10 55 03.9**	**-0.8**
	comp=Z,28nm,0.6s							
PYUN	**Piuthan**	**48.30**	**305**	*e*P		**P**	**10 55 09.0**	**-0.5**
WMQ	**Urumqi**	**52.95**	**325**	P		**P**	**10 55 45.6**	**+1.4**
WMQ				pP	pP		10 55 53.6	+0.9
WMQ				S	**S**		**11 03 09.6**	**-2.4**
WMQ				pmax	pmax			
	comp=Z,11nm,0.7s							
WMQ				pmax	pmax			
	comp=Z,440nm,11.6s							
WMQ				LR	LR			
	comp=Z,190nm,13.3s							
WMQ				LR	LR			
	comp=Z,140nm,7.9s							
WMQ				LR	LR			
	comp=Z,170nm,25.1s							
MSVF	**Nonsavu**	**54.80**	**114**	*e*P		**P**	**10 55 59.7**	**+1.5**
MSVF				pmax	pmax			
	comp=Z,26nm,1.1s							
MSVF	**Nonsavu**	**54.80**	**114**	*e*P		**P**	**10 55 59.7**	**+1.5**
	comp=Z,26nm,1.1s							
BOD	**Bodaibo**	**55.14**	**352**	*e*P		**P**	**10 55 59.7**	**-0.1**
BOD				pmax	pmax			
	comp=Z,9.0nm,1.6s							
PETK	**Petropavlovsk-**	**55.69**	**22**	P		**P**	**10 56 03.4**	**-0.5**
	comp=Z,8.0nm,1.0s,baz=204,slow=3.3,SNR=4.1							
PDGK	**Podgornoye**	**57.62**	**321**	P		**P**	**10 56 18.6**	**+0.6**
PDGK				pmax	pmax			
	comp=Z,7.0nm,0.8s							
MK01	**Makanchi Array**	**57.76**	**325**	*e*P		**P**	**10 56 17.8**	**-0.9**
MK31	**Makanchi Array**	**57.78**	**325**	*e*P		**P**	**10 56 18.4**	**-0.5**
MK31	**Makanchi Array**	**57.78**	**325**	*e*P		**P**	**10 56 18.4**	**-0.5**
MKAR	**Makanchi Array**	**57.78**	**325**	*e*P		**P**	**10 56 18.4**	**-0.5**
MKAR				pmax	pmax			
	comp=Z,38nm,0.6s							
MKAR	**Makanchi Array**	**57.78**	**325**	*e*P		**P**	**10 56 18.4**	**-0.5**
	comp=Z,38nm,0.6s							
MAKZ	**Makanchi**	**57.97**	**325**	*e*P		**P**	**10 56 19.7**	**-0.5**
MAKZ				pmax	pmax			
	comp=Z,7.0nm,0.8s							
MAKZ	**Makanchi**	**57.97**	**325**	*e*P		**P**	**10 56 19.7**	**-0.5**
	comp=Z,7.1nm,0.8s							
KSH	**Kashi**	**58.23**	**315**	*e*P		**P**	**10 56 25.1**	**+2.8**
KSH				pP	pP		10 56 31.0	0.0
KSH				S	**S**		**11 04 25.4**	**+2.6**
KSH				sS	pS		11 04 35.4	+2.2
KSH				SS	**SS**		**11 08 19.3**	**+4.4**
KSH				pmax	pmax			
	comp=Z,10.0nm,1.2s							
KSH				pmax	pmax			
	comp=Z,56nm,4.8s							
KSH				LR	LR			
	comp=Z,230nm,12.6s							
KSH				LR	LR			
	comp=Z,220nm,13.1s							
KSH				LR	LR			
	comp=Z,170nm,5.6s							
ZAA0	**Zalesovo Array**	**60.83**	**333**	*e*P		**P**	**10 56 38.2**	**-1.6**
ZAA0				*e*P		**P**	**10 56 38.8**	**-1.0**
ZALV	**Zalesovo Beam**	**60.83**	**333**	P		**P**	**10 56 38.9**	**-0.9**
	comp=Z,3.7nm,0.6s,baz=120,slow=5.6,SNR=5.3							
MNAS	**Manas**	**61.84**	**317**	P		**P**	**10 56 47.7**	**+0.7**
MNAS				pmax	pmax			
	comp=Z,4.0nm,0.8s							
KURBB	**Kurchatov Arra**	**61.97**	**327**	P		**P**	**10 56 46.7**	**-0.8**
	comp=Z,19nm,0.7s,baz=127,slow=6.4,SNR=25							
KURK	**Kurchatov**	**61.97**	**328**	*c i*P		**P**	**10 56 46.8**	**-0.7**
KURK				pmax	pmax			
	comp=Z,125nm,0.8s							
KURK	**Kurchatov**	**61.97**	**328**	*e*P		**P**	**10 56 47.1**	**-0.4**
	comp=Z,33nm,0.8s							
NVS	**Novosibirsk**	**62.12**	**333**	*e*P		**P**	**10 56 47.3**	**-1.1**
NVS				pmax	pmax			
	comp=Z,8.0nm,0.7s							
NVS				pmax	pmax			
	comp=N,5.0nm,0.7s							
NVS				pmax	pmax			
	comp=E,7.0nm,0.8s							
SEY	**Seymchan**	**62.31**	**13**	⇑*i* P		**P**	**10 56 51.3**	**+1.7**
DZET	**Dzherino**	**63.14**	**312**	P		**P**	**10 56 55.4**	**-0.4**
DZET				pmax	pmax			
	comp=Z,7.0nm,0.7s							
KKAR	**Karatay Array**	**63.43**	**317**	*e*P		**P**	**10 56 57.0**	**-0.5**
KKAR				pmax	pmax			
	comp=Z,26nm,0.8s							
KKAR	**Karatay Array**	**63.43**	**317**	*e*P		**P**	**10 56 57.0**	**-0.5**
	comp=Z,26nm,0.8s							
BVAR	**Borovoye Array**	**67.55**	**327**	P		**P**	**10 57 23.3**	**-0.6**
	comp=Z,10nm,0.9s,baz=124,slow=7.4,SNR=24							
BRVK	**Borovoye**	**67.62**	**327**	*c i*P		**P**	**10 57 23.4**	**-0.9**
BRVK				pmax	pmax			
	comp=Z,33nm,1.0s							
BRVK	**Borovoye**	**67.62**	**327**	*e*P		**P**	**10 57 23.9**	**-0.4**
	comp=Z,26nm,1.4s							
TIXI	**Tiksi**	**68.12**	**1**	P		**P**	**10 57 27.3**	**+0.1**
	comp=Z,14nm,0.6s,baz=208,slow=3.8,SNR=4.3							
TIXI	**Tiksi**	**68.12**	**1**	⇑*i* P		**P**	**10 57 27.5**	**+0.4**
TIXI				pmax	pmax			
	comp=Z,14nm,0.6s							
NRIK	**Noril'sk**	**70.70**	**346**	P		**P**	**10 57 43.6**	**+0.5**
	comp=Z,6.6nm,0.6s,baz=130,slow=6.8,SNR=6.8							
ABKAR	**Akbulak array**	**72.36**	**321**	*e*P		**P**	**10 57 52.7**	**-0.8**
	comp=Z,50nm,0.9s							
AKTO	**Aktyubinsk**	**73.87**	**322**	P		**P**	**10 58 01.9**	**-0.5**
	comp=Z,8.0nm,0.7s,baz=99,slow=6.6,SNR=12							
AKTO	**Aktyubinsk**	**73.87**	**322**	P		**P**	**10 58 02.0**	**-0.5**
ARU	**Arti**	**75.17**	**328**	P		**P**	**10 58 09.1**	**-0.7**
	comp=Z,6.8nm,0.4s,baz=93,slow=5.3,SNR=1.1							
KDAK	**Kodiak Island**	**82.13**	**32**	*ce*P		**P**	**10 58 49.6**	**+1.5**
ZEI	**Tsey**	**82.40**	**313**	*e*P		**P**	**10 58 48.2**	**-2.0**
CAST	**Castle Rocks**	**82.99**	**27**	*e*P		**P**	**10 58 53.1**	**+0.6**
	comp=Z,31nm,1.9s							
VNDA	**Vanda**	**83.15**	**173**	P		**P**	**10 58 52.7**	**-0.4**
	comp=Z,0.9nm,0.5s,baz=323,slow=8.5,SNR=4.2							
KIV	**Kislovodsk**	**83.32**	**314**	*e*P		**P**	**10 58 53.5**	**-1.3**
KIV				pmax	pmax			
	comp=Z,5.0nm,1.0s							
ARTV	**Artvin**	**83.82**	**311**	*e*P		**P**	**10 58 57.7**	**+0.1**
	comp=Z,2.7nm,0.6s							
COLD	**Coldfoot**	**84.15**	**23**	*e*P		**P**	**10 59 00.3**	**+1.9**
	comp=Z,6.9nm,1.0s							
PMR	**Palmer**	**84.20**	**29**	*e*P		**P**	**10 58 58.8**	**+0.1**
PMR				pmax	pmax			
	comp=Z,40nm,1.5s							
PMR	**Palmer**	**84.20**	**29**	*e*P		**P**	**10 58 58.8**	**+0.1**
	comp=Z,40nm,1.5s							
SML	**Sawmill**	**84.59**	**28**	*e*P		**P**	**10 59 01.0**	**+0.2**
SML				pmax	pmax			
	comp=Z,14nm,0.7s							
SML	**Sawmill**	**84.59**	**28**	*e*P		**P**	**10 59 01.0**	**+0.2**
	comp=Z,14nm,0.7s							
COLA	**College**	**84.95**	**25**	*i* P		**P**	**10 59 03.1**	**+0.6**
COLA				pmax	pmax			
	comp=Z,8.0nm,1.8s							
CCB	**Clear Creek Bu**	**84.96**	**26**	*e*P		**P**	**10 59 03.8**	**+1.2**
	comp=Z,17nm,1.7s							
ILAR	**Eielson Array**	**85.36**	**25**	P		**P**	**10 59 03.8**	**-0.8**
	comp=Z,0.6nm,0.6s,baz=246,slow=5.1,SNR=5.5							
KLMR	**Klimovskoe**	**85.64**	**331**	*e*P		**P**	**10 59 04.8**	**-1.2**
KLMR				pmax	pmax			
	comp=Z,29nm,1.0s							
VSR	**Storozhevoye**	**85.80**	**321**	*e*P		**P**	**10 59 06.0**	**-1.0**
VSR				pmax	pmax			
	comp=Z,10.0nm,0.5s							
LPSR	**Galich'ya Gora**	**85.94**	**322**	*e*P		**P**	**10 59 07.0**	**-0.7**
LPSR				pmax	pmax			
	comp=Z,30nm,0.8s							
PAX	**Paxson**	**85.95**	**27**	*e*P		**P**	**10 59 07.3**	**-0.4**
PAX

*ISCJB **15** 10:54:09.9±0.5,35°.81N±0".02×25°.69E±0".05,h25km±5km, Error ellipse: s-maj=6.4km s-min=3.6km az=176.5*
*THE **15** 10:54:09.7,35°.80N×25°.66E,h8km±1km,ML2.9/9, Error ellipse: s-maj=1.9km s-min=0.6km az=94.0*
*CSEM **15** 10:54:09.8±0.1,35°.81N×25°.68E,h20km,ML2.9, Error ellipse: s-maj=3.3km s-min=1.7km az=87.0*
*ATH **15** 10:54:09.6,35°.78N×25°.64E,h25km±2km, ML2.9/11, Error ellipse: s-maj=2.1km s-min=0.9km az=103.0*
ISC 15 10:54:09.9±1.1,**35°.80N**±0".02×**25°.68E**±0".03,**h23**km±13km, **n41**,σ**0 949/73**,**Crete**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NPS	**Neapolis**	**0.54**	**185**	P	**Pb**	**10 54 20.6**	**-0.1**
NPS				S	**Sb**	**10 54 28.2**	**+0.2**
NPS	**Neapolis**	**0.54**	**185**	P	**Pb**	**10 54 20.9**	**+0.2**
NPS				S	**Sb**	**10 54 28.2**	**+0.2**
NPS	**Neapolis**	**0.54**	**185**	P	**Pb**	**10 54 20.9**	**+0.2**
NPS				S	**Sb**	**10 54 28.3**	**+0.2**
NPS				AML	AML	10 54 29.4	
	comp=N,2608μm,0.3s						
NPS				AML	AML	10 54 31.0	
	comp=E,3017μm,0.3s						
SANT	**Santorini**	**0.60**	**343**	P	**Pb**	**10 54 21.4**	**-0.4**
SANT				S	**Sb**	**10 54 30.1**	**+0.2**
SANT	**Santorini**	**0.60**	**343**	P	**Pb**	**10 54 21.2**	**-0.6**
SANT				S	**Sb**	**10 54 30.1**	**+0.2**
SANT	**Santorini**	**0.60**	**343**	P	**Pb**	**10 54 21.2**	**-0.6**
SANT				AML	AML	10 54 32.3	
	comp=N,655μm,0.1s						
SANT				AML	AML	10 54 32.5	
	comp=E,979μm,0.3s						
THR6	**Thira Island,**	**0.60**	**338**	P	**Pb**	**10 54 21.3**	**-0.5**
THR6	**Thira Island,**	**0.60**	**338**	P	**Pb**	**10 54 21.3**	**-0.5**
SAP1	**Santorini-Akro**	**0.60**	**338**	P	**Pb**	**10 54 20.9**	**-1.0**
SAP1				S	**Sb**	**10 54 30.9**	**+0.9**
SAP1	**Santorini-Akro**	**0.60**	**338**	P	**Pb**	**10 54 20.9**	**-1.0**
SAP1				S	**Sb**	**10 54 30.9**	**+0.9**
SAP1				AML	AML	10 54 31.0	
	comp=E,5864μm,0.5s						
SAP1				AML	AML	10 54 31.5	
	comp=N,5124μm,0.6s						
THT1	**Athinios (Pele**	**0.62**	**341**	P	**Pb**	**10 54 21.6**	**-0.5**
THT1				S	**Sb**	**10 54 30.6**	**+0.2**
THT1	**Athinios (Pele**	**0.62**	**341**	P	**Pb**	**10 54 21.6**	**-0.5**
THT1				S	**Sb**	**10 54 30.6**	**+0.2**
THR3	**Thira Island,**	**0.65**	**340**	P	**Pb**	**10 54 22.3**	**-0.3**
THR3	**Thira Island,**	**0.65**	**340**	P	**Pb**	**10 54 22.3**	**-0.3**
LAST	**Lasithi**	**0.65**	**194**	P	**Pb**	**10 54 22.4**	**-0.4**
LAST				S	**Sb**	**10 54 31.5**	**0.0**
LAST	**Lasithi**	**0.65**	**194**	P	**Pb**	**10 54 22.7**	**-0.1**
LAST				S	**Sb**	**10 54 31.5**	**0.0**
LAST	**Lasithi**	**0.65**	**194**	P	**Pb**	**10 54 22.7**	**-0.1**
LAST				S	**Sb**	**10 54 30.8**	**-0.7**
LAST				AML	AML	10 54 32.2	
	comp=E,872μm,0.4s						
LAST				AML	AML	10 54 33.4	
	comp=N,1371μm,0.5s						
IACM	**Heraklion**	**0.69**	**225**	P	**Pb**	**10 54 23.3**	**-0.1**
IACM				S	**Sb**	**10 54 33.3**	**+0.8**
IACM	**Heraklion**	**0.69**	**225**	P	**Pb**	**10 54 23.3**	**-0.1**
IACM				S	**Sb**	**10 54 33.3**	**+0.8**
IACM	**Heraklion**	**0.69**	**225**	P	**Pn**	**10 54 24.0**	**-0.3**
IACM				S	**Sn**	**10 54 33.7**	**-0.6**
IACM				AML	AML	10 54 35.1	
	comp=E,7070μm,0.3s						
IACM				AML	AML	10 54 35.2	
	comp=N,6506μm,0.3s						
ZKR	**Zakros**	**0.81**	**147**	P	**Pn**	**10 54 26.0**	**+0.1**
ZKR				S	**Sb**	**10 54 36.2**	**+0.3**
ZKR	**Zakros**	**0.81**	**147**	P	**Pn**	**10 54 26.1**	**+0.1**
ZKR				S	**Sb**	**10 54 36.2**	**+0.3**
ZKR				AML	AML	10 54 37.4	
	comp=E,1721μm,0.3s						
ZKR				AML	AML	10 54 40.2	
	comp=N,801μm,0.3s						
IDI	**Anoyia**	**0.82**	**232**	P	**Pb**	**10 54 24.8**	**-0.7**
IDI				S	**Sb**	**10 54 36.3**	**+0.2**
IDI	**Anoyia**	**0.82**	**232**	P	**Pb**	**10 54 25.0**	**-0.5**
IDI				S	**Sb**	**10 54 36.3**	**+0.2**
IDI	**Anoyia**	**0.82**	**232**	P	**Pb**	**10 54 25.0**	**-0.5**
IDI				S	**Sb**	**10 54 36.0**	**-0.2**
IDI				AML	AML	10 54 37.0	
	comp=E,2738μm,0.5s						
IDI				AML	AML	10 54 37.8	
	comp=N,2374μm,0.3s						
SIVA	**Sivas**	**1.05**	**223**	P	**Pn**	**10 54 29.1**	**-0.1**
SIVA				S	**Sn**	**10 54 43.4**	**+0.2**
SIVA	**Sivas**	**1.05**	**223**	P	**Pn**	**10 54 29.3**	**+0.1**
SIVA				S	**Sn**	**10 54 43.3**	**+0.2**
SIVA	**Sivas**	**1.05**	**223**	P	**Pn**	**10 54 29.3**	**+0.1**
SIVA				S	**Sn**	**10 54 43.3**	**+0.2**
SIVA				AML	AML	10 54 45.9	
	comp=E,1767μm,0.4s						
SIVA				AML	AML	10 54 50.8	
	comp=N,1416μm,0.5s						
KARP	**Karpathos**	**1.23**	**101**	P	**Pn**	**10 54 31.6**	**-0.2**
VAM	**Vamos**	**1.26**	**252**	P	**Pb**	**10 54 32.8**	**-0.3**
VAM				S	**Sb**	**10 54 49.6**	**+0.7**
VAM	**Vamos**	**1.26**	**252**	P	**Pn**	**10 54 32.5**	**+0.4**
VAM				S	**Sb**	**10 54 49.2**	**+0.3**
VAM	**Vamos**	**1.26**	**252**	P	**Pn**	**10 54 32.5**	**+0.4**
VAM				S	**Sb**	**10 54 49.2**	**+0.3**
VAM				AML	AML	10 54 52.8	
	comp=N,874μm,0.4s						
VAM				AML	AML	10 54 55.2	
	comp=E,536μm,0.3s						
MHLO	**Agia Marina, M**	**1.36**	**311**	P	**Pb**	**10 54 36.4**	**+1.7**
MHLO				AML	AML	10 54 56.9	
	comp=E,1605μm,0.5s						
MHLO				AML	AML	10 54 57.6	
	comp=N,1384μm,0.4s						
IMMV	**Iera Moni Meta**	**1.42**	**257**	P	**Pn**	**10 54 34.2**	**-0.1**
IMMV				S	**Sb**	**10 54 53.5**	**+0.1**
IMMV	**Iera Moni Meta**	**1.42**	**257**	P	**Pn**	**10 54 34.2**	**-0.1**
IMMV				S	**Sb**	**10 54 53.5**	**+0.1**
IMMV	**Iera Moni Meta**	**1.42**	**257**	P	**Pn**	**10 54 34.1**	**-0.1**
IMMV				AML	AML	10 55 00.3	
	comp=N,653μm,0.3s						
IMMV				AML	AML	10 55 07.2	
	comp=E,625μm,0.5s						
ANKY	**Antikythira Is**	**1.93**	**273**	P	**Pn**	**10 54 41.4**	**+0.1**
ANKY				S	**Sb**	**10 55 07.0**	**-1.1**
ANKY	**Antikythira Is**	**1.93**	**273**	P	**Pn**	**10 54 41.4**	**+0.1**
ANKY				S	**Sb**	**10 55 07.0**	**-1.1**
VLI	**Veliai**	**2.40**	**293**	P	**Pn**	**10 54 48.0**	**+0.3**
VLI				S	**Sn**	**10 55 16.3**	**-0.1**
VLI	**Veliai**	**2.40**	**293**	P	**Pn**	**10 54 48.0**	**+0.3**
VLI				S	**Sn**	**10 55 16.3**	**-0.1**
VLI	**Veliai**	**2.40**	**293**	P	**Pn**	**10 54 47.6**	**-0.2**

*NEIC **15** 11:02:09.1±0.0,49°.42N×127°.19W,h35km,mb4.1/41, MW4.1(OTT), After OTT.*
*IDC **15** 11:02:09.8±1.6,49°.72N×126°.69W,h0km,mb3.8/2, mb1 4.0/6,mb1mx3.6/38,mbtmp3.7/6,ML3.4/5,MS3.5/2, Ms1 3.5/2,ms1mx3.0/39, Error ellipse: s-maj=30.3km s-min=7.4km az=52.0*
*PGC **15** 11:02:09.1±0.0,49°.42N×127°.19W,h35km,ML4.0/39, Mw4.1/39,84km Wsw of Gold R., Bc Vancouver Island, Canada Region*
*ISCJB **15** 11:02:10.3±0.4,49°.56N±0".02×127°.09W±0".04,h25km±3km, mb4.3/12,MS3.9/1, Error ellipse: s-maj=4.3km s-min=2.6km az=159.3*
ISC 15 11:02:10.3±0.8,**49°.54N**±0".03×**127°.13W**±0".03,**h14**km±5km, **n346**,σ**2 802**/351,**mb4.5**/12,**1C**,**Vancouver Island region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EDB	**Eliza Dome**	**0.33**	**1**	P	**Pb**	**11 02 18.4**	**+0.3**
EDB				S	**Sn**	**11 02 24.9**	**-2.5**
ETB	**Estevan Point**	**0.42**	**113**	P	**Pg**	**11 02 18.4**	**-0.3**
ETB				S	**Sg**	**11 02 25.0**	**+0.6**
WOSB	**Woss**	**0.72**	**30**	P	**Pb**	**11 02 24.4**	**-0.3**
WOSB				S	**Sn**	**11 02 35.4**	**-1.7**
BPBC	**Brooks Peninsu**	**0.74**	**326**	P	**Pg**	**11 02 24.0**	**-0.7**
GDR	**Gold River**	**0.75**	**71**	P	**Pg**	**11 02 23.7**	**-1.2**
GDR				S	**Sb**	**11 02 34.9**	**-0.5**
MAYB	**Maynard**	**0.86**	**358**	P	**Pb**	**11 02 26.5**	**-0.7**
TOFB	**Tofino**	**0.89**	**115**	P	**Pg**	**11 02 24.6**	**-2.9**
TOFB				S	**Sg**	**11 02 35.8**	**-3.4**
NC89	**ODP889**	**0.89**	**168**	P	**Pb**	**11 02 23.5**	**-3.9**
NC89				S	Sb	11 02 31.1	-8.0
SPLB	**Strathcona Par**	**1.02**	**69**	P	**Pb**	**11 02 28.4**	**-1.4**
TLCB	**Telegraph Cove**	**1.02**	**11**	P	**Pb**	**11 02 29.2**	**-0.6**
TLCB				S	**Sn**	**11 02 43.9**	**-0.6**
BTB	**Buttle Lake**	**1.05**	**93**	P	**Pb**	**11 02 27.9**	**-2.5**
NCRB	**Newcastle Ridg**	**1.11**	**38**	P	**Pb**	**11 02 30.4**	**-1.0**
NCRB				S	**Sn**	**11 02 46.0**	**-0.7**
PHC	**Port Hardy**	**1.18**	**351**	P	**Pb**	**11 02 31.1**	**-1.4**
PHC				S	**Sb**	**11 02 46.6**	**-1.0**
PHC	**Port Hardy**	**1.18**	**351**	IP	**Pb**	**11 02 31.1**	**-1.4**
MWAB	**Mount Washingt**	**1.21**	**80**	P	**Pn**	**11 02 30.5**	**-2.4**
MWAB				S	**Sb**	**11 02 46.7**	**-1.8**
B012	**Ucluelet**	**1.21**	**120**	P	**Pn**	**11 02 28.8**	**-4.0**
OZB	**Mount Ozzard**	**1.22**	**118**	P	**Pn**	**11 02 29.2**	**-3.9**
CBB	**Campbell River**	**1.25**	**66**	P	**Pn**	**11 02 31.5**	**-1.8**
CBB				S	**Sb**	**11 02 48.7**	**-0.8**
HOLB	**Holberg**	**1.27**	**330**	P	**Pn**	**11 02 31.8**	**-2.0**
HOLB				S	**Sb**	**11 02 47.7**	**-2.8**
BMSB	**Bamfield Mari**	**1.49**	**118**	P	**Pn**	**11 02 33.2**	**-3.5**
B928	**Bamfield**	**1.49**	**118**	P	**Pn**	**11 02 33.6**	**-3.1**
B928	**Bamfield**	**1.49**	**118**	*e*Pn	**Pn**	**11 02 36.0**	**-0.6**
ALB	**Alberni**	**1.53**	**99**	P	**Pn**	**11 02 34.2**	**-3.0**
B927	**Port Alberni**	**1.55**	**101**	P	**Pn**	**11 02 34.3**	**-3.2**
B927	**Port Alberni**	**1.55**	**101**	*e*Pn	**Pn**	**11 02 34.3**	**-3.2**
MGB	**Mount Grey**	**1.69**	**108**	P	**Pn**	**11 02 35.8**	**-3.8**
MGB	**Mount Grey**	**1.69**	**108**	P	**Pn**	**11 02 36.7**	**-2.9**
TXB	**Texada**	**1.76**	**84**	P	**Pn**	**11 02 38.0**	**-2.4**
NC27	**ODP1027**	**1.83**	**193**	P	Pn	11 02 35.0	-6.0
NC27				S	Sn	11 02 53.9	-10
YOUB	**Youbou, Lake C**	**1.99**	**108**	P	**Pn**	**11 02 40.0**	**-3.6**
PFB	**Port Renfrew**	**2.02**	**118**	P	**Pn**	**11 02 40.2**	**-3.8**
OCP	**Olym-Cheeka Pk**	**2.07**	**126**	P	**Pn**	**11 02 42.3**	**-2.4**
OCP	**Olym-Cheeka Pk**	**2.07**	**126**	P	**Pn**	**11 02 42.6**	**-2.1**
NLLB	**Nanaimo Lost L**	**2.08**	**98**	P	**Pn**	**11 02 42.3**	**-2.4**
NLLB	**Nanaimo Lost L**	**2.08**	**98**	P	**Pn**	**11 02 42.4**	**-2.4**
SHB	**Sechelt**	**2.12**	**87**	P	**Pn**	**11 02 43.1**	**-2.4**
BPCB	**Bare Point**	**2.33**	**104**	P	**Pn**	**11 02 46.4**	**-1.8**
C03A	**Quillayute Air**	**2.33**	**132**	*e*Pn	**Pg**	**11 02 56.7**	**+1.8**
LZB	**Mount Lazard**	**2.37**	**112**	P	**Pn**	**11 02 45.4**	**-3.4**
OFR	**Olym-F Res Ctr**	**2.42**	**131**	P	**Pn**	**11 02 47.2**	**-2.3**
GOBB	**Galiano Island**	**2.45**	**103**	P	**Pn**	**11 02 48.2**	**-1.6**
BIB	**Bowen Island**	**2.50**	**92**	P	**Pn**	**11 02 47.6**	**-2.9**
WPB	**Watts Point**	**2.55**	**86**	P	**Pn**	**11 02 49.5**	**-1.8**
B009	**North Saanich**	**2.58**	**109**	P	**Pn**	**11 02 49.1**	**-2.5**
B010	**North Saanich**	**2.58**	**109**	P	**Pn**	**11 02 49.0**	**-2.7**
PGC	**Sidney**	**2.58**	**109**	P	**Pn**	**11 02 49.2**	**-2.4**
PGC	**Sidney**	**2.58**	**109**	*e*Pn	**Pn**	**11 02 53.9**	**+2.2**
B011	**North Saanich**	**2.58**	**109**	P	**Pn**	**11 02 48.5**	**-3.1**
SNB	**Saturna Island**	**2.71**	**105**	P	**Pn**	**11 02 51.6**	**-1.9**
BBB	**Bella Bella**	**2.72**	**347**	Pn	**Pn**	**11 02 52.4**	**-1.1**
	4.5nm,0.3s,baz=92,slow=23,SNR=154						
BBB				Sn	**Sn**	**11 03 23.6**	**-2.6**
	45nm,0.3s,baz=281,slow=20,SNR=13						
BBB				Lg	Lg	11 03 33.4	
	32nm,0.3s,baz=92,slow=10.0,SNR=8.3						
BBB	**Bella Bella**	**2.72**	**347**	P	**Pn**	**11 02 52.1**	**-1.4**
BBB				S	**Sn**	**11 03 23.5**	**-2.7**
BBB	**Bella Bella**	**2.72**	**347**	*e*Pn	**Pn**	**11 02 54.3**	**+0.8**
BBB				Sn	**Sn**	**11 03 23.6**	**-2.6**
BBB				Lg	Lg	11 03 33.4	
VGZ	**Gonzales**	**2.75**	**113**	P	**Pn**	**11 02 52.0**	**-2.0**
WSLR	**Whistler**	**2.79**	**76**	P	**Pn**	**11 02 52.9**	**-1.7**
BCBC	**Bella Coola**	**2.84**	**5**	P	**Pn**	**11 02 56.6**	**+1.3**
A04D	**Lummi Island**	**3.02**	**104**	P	**Pn**	**11 02 56.0**	**-1.7**
	baz=285,SNR=17						
NLWA	**Neilton Lookou**	**3.06**	**134**	*e*Pn	**Pn**	**11 02 57.4**	**-0.9**
BLN	**Blyn Mountain**	**3.15**	**118**	P	**Pn**	**11 02 57.5**	**-2.0**
HDW	**Hoodsport**	**3.30**	**123**	P	**Pn**	**11 02 59.3**	**-2.4**
WISH	**Wishkah**	**3.31**	**136**	P	**Pn**	**11 02 58.9**	**-2.7**
CMW	**Cultus Mountai**	**3.49**	**107**	P	**Pn**	**11 03 03.1**	**-1.2**
MBW	**Mount Baker**	**3.52**	**100**	P	**Pn**	**11 03 03.0**	**-1.7**
LLLB	**Lillooet**	**3.55**	**70**	P	**Pn**	**11 03 04.0**	**-1.0**
LLLB	**Lillooet**	**3.55**	**70**	*e*Pn	**Pn**	**11 03 04.7**	**-0.3**
B05A	**Bryant**	**3.56**	**109**	P	**Pn**	**11 03 04.0**	**-1.1**
	baz=291,SNR=34						
JCW	**Jim Creek**	**3.69**	**109**	P	**Pn**	**11 03 05.1**	**-1.9**
HOPB	**Hope**	**3.73**	**90**	P	**Pn**	**11 03 06.3**	**-1.1**
E03A	**Lebam**	**3.84**	**140**	*e*Pn	**Pn**	**11 03 11.8**	**+2.8**
B06A	**Marblemount**	**3.85**	**103**	P	**Pn**	**11 03 07.5**	**-1.7**
B06A	**Marblemount**	**3.85**	**103**	*e*Pn	**Pn**	**11 03 10.5**	**+1.3**
B06A				*e*Pg	Pb	11 03 12.2	-5.9
RPW	**Rockport**	**3.86**	**104**	P	**Pn**	**11 03 07.6**	**-1.7**
D05A	**Enumclaw**	**4.16**	**123**	P	**Pn**	**11 03 12.7**	**-0.7**
D05A	**Enumclaw**	**4.16**	**123**	*e*Pn	**Pn**	**11 03 16.2**	**+2.8**
BNB	**Barry Inlet**	**4.21**	**318**	P	**Pn**	**11 03 12.2**	**-1.9**
C06D	**Leavenworth**	**4.43**	**109**	P	**Pn**	**11 03 17.2**	**0.0**
	baz=292,SNR=15						
F04D	**Rainier, OR**	**4.44**	**140**	P	**Pn**	**11 03 16.4**	**-0.8**
	baz=321						
FMW	**Mount Fremont**	**4.49**	**124**	P	**Pn**	**11 03 15.7**	**-2.4**
LON	**Longmire**	**4.53**	**126**	*e*Pn	**Pn**	**11 03 18.5**	**0.0**
FL2	**Flat Top 2**	**4.64**	**134**	*e*Pn	**Pn**	**11 03 19.5**	**-0.7**
MOBC	**Moresby Island**	**4.71**	**322**	P	**Pn**	**11 03 18.7**	**-2.3**
MOBC				S	**Sn**	**11 04 10.4**	**-5.0**
LVP	**Lakeview Peak**	**4.71**	**136**	*e*Pn	**Pn**	**11 03 20.5**	**-0.6**
F04A	**Amboy**	**4.81**	**137**	*e*Pn	**Pn**	**11 03 22.1**	**-0.2**
LTY	**Liberty**	**4.87**	**116**	P	**Pn**	**11 03 22.3**	**-1.0**
LTY	**Liberty**	**4.87**	**116**	*e*Pn	**Pn**	**11 03 22.5**	**-0.8**
LTY				*e*		11 03 23.0	
PNT	**Penticton**	**4.91**	**90**	P	**Pn**	**11 03 22.1**	**-1.6**
DIB	**Dawson Inlet,**	**4.96**	**320**	P	**Pn**	**11 03 21.7**	**-2.7**
VIB	**Van Inlet**	**5.03**	**320**	P	**Pn**	**11 03 22.8**	**-2.6**
VIB				S	**Sn**	**11 04 18.1**	**-5.2**
G03D	**McMinnville, O**	**5.07**	**147**	P	**Pn**	**11 03 24.4**	**-1.4**
	baz=329						
B08A	**Colville Reser**	**5.27**	**100**	P	**Pn**	**11 03 26.9**	**-1.8**
B08A	**Colville Reser**	**5.27**	**100**	*e*Pn	**Pn**	**11 03 30.0**	**+1.3**
COR	**Corvallis**	**5.61**	**151**	*e*Pn	**Pn**	**11 03 35.3**	**+2.0**
NDB	**Naden**	**5.70**	**323**	P	**Pn**	**11 03 32.6**	**-2.0**
E07A	**Sunnyside**	**5.72**	**119**	*e*Pn	Pn	11 03 40.2	+5.4
G05D	**Wamic, OR**	**5.84**	**135**	P	**Pn**	**11 03 36.7**	**+0.2**
	baz=318						
DOWB	**Downie Slide**	**5.84**	**67**	P	**Pn**	**11 03 35.7**	**-0.7**
HAWA	**Hanford**	**6.00**	**119**	*e*Pn	**Pn**	**11 03 43.0**	**+4.3**
D08A	**Wollman Farm,**	**6.02**	**111**	*e*Pn	**Pn**	**11 03 41.5**	**+2.6**
MNB	**Mounoet Dainar**	**6.14**	**61**	P	**Pn**	**11 03 41.1**	**+0.3**
G06A	**Carlson Farm,**	**6.17**	**132**	*e*Pn	Pn	11 03 47.5	+6.6
I03D	**Drain, OR**	**6.40**	**155**	P	**Pn**	**11 03 42.5**	**-1.6**
	baz=337						
I05D	**Terrebonne, OR**	**6.54**	**141**	P	**Pn**	**11 03 45.1**	**-1.1**
	baz=324						
I04A	**Tendick Farm,**	**6.60**	**149**	P	**Pn**	**11 03 45.8**	**-1.2**
	baz=331						
NEW	**Newport**	**6.72**	**97**	Pn	**Pn**	**11 03 47.2**	**-1.5**
	0.6nm,0.3s,baz=292,slow=13,SNR=12						
NEW				Lg	Lg	11 05 29.8	
	0.5nm,0.3s,baz=35,slow=14,SNR=3.6						
NEW				LR	LR	11 05 45.6	
	comp=Z,121nm,20.0s,baz=203,slow=33						
NEW	**Newport**	**6.72**	**97**	P	**Pn**	**11 03 47.6**	**-1.0**
	baz=284						
NEW	**Newport**	**6.72**	**97**	*e*Pn	**Pn**	**11 03 50.2**	**+1.6**
NEW				Lg	Lg	11 05 29.8	
E09A	**Wood Farm, Sta**	**6.75**	**113**	*e*Pn	**Pn**	**11 03 53.2**	**+4.3**
J04D	**Umpqua Nationa**	**7.20**	**149**	P	**Pn**	**11 03 55.4**	**+0.1**
	baz=332						
J05D	**Fort Rock, OR**	**7.47**	**145**	P	**Pn**	**11 03 59.5**	**+0.6**
	baz=328						
HUMO	**Hull Mountain**	**7.52**	**156**	*e*Pn	**Pn**	**11 04 01.7**	**+2.2**
F10A	**Beach Ranch, E**	**7.57**	**114**	*e*Pn	**Pn**	**11 04 03.3**	**+3.0**
L02D	**Cave Junction,**	**7.79**	**160**	P	**Pn**	**11 04 03.8**	**+0.6**
	baz=342,SNR=6.2						
K05A	**Summer Lake**	**8.07**	**145**	*e*Pn	**Pn**	**11 04 10.2**	**+2.8**
BMO	**Blue Mountains**	**8.17**	**121**	*e*Pn	**Pn**	**11 04 12.1**	**+3.5**
BSMT	**Bassoo Peak**	**8.34**	**97**	*e*Pn	**Pn**	**11 04 15.3**	**+4.3**
PRDA	**Priddis**	**8.35**	**76**	P	**Pn**	**11 04 13.9**	**+3.0**
YBH	**Yreka Blue Hor**	**8.40**	**157**	*e*Pn	**Pn**	**11 04 14.6**	**+2.9**
M04C	**Macdoel**	**8.60**	**153**	P	**Pn**	**11 04 15.2**	**+0.7**
	baz=336,SNR=9.2						
WALA	**Waterton Lakes**	**8.66**	**88**	P	**Pn**	**11 04 15.6**	**+0.4**
WALA	**Waterton Lakes**	**8.66**	**88**	*e*Pn	Pn	11 04 21.6	+6.4
M02C	**Callahan**	**8.69**	**158**	P	**Pn**	**11 04 16.5**	**+0.9**
	baz=341,SNR=6.8						
JTMT	**Jette**	**8.70**	**97**	*e*Pn	**Pn**	**11 04 19.3**	**+3.5**
YBMT	**Yellow Bay**	**8.84**	**96**	*e*Pn	**Pn**	**11 04 22.4**	**+4.6**
SWMT	**Swartz Lake**	**8.95**	**98**	*e*Pn	**Pn**	**11 04 23.2**	**+3.9**
KHMM	**Horse Mountain**	**8.99**	**163**	*e*Pn	**Pn**	**11 04 22.0**	**+2.1**
MOD	**Modoc Plateau**	**9.01**	**145**	*e*Pn	**Pn**	**11 04 22.3**	**+2.2**
DLBC	**Dease Lake**	**9.07**	**350**	Pn	**Pn**	**11 04 23.8**	**+3.0**
	0.1nm,0.3s,baz=163,slow=17,SNR=2.5						
DLBC				Lg	Lg	11 06 47.0	
	0.1nm,0.3s,baz=112,slow=19,SNR=3.0						
DLBC	**Dease Lake**	**9.07**	**350**	P	**Pn**	**11 04 23.9**	**+3.0**
N02D	**Trinity Center**	**9.12**	**158**	P	**Pn**	**11 04 22.7**	**+1.1**
	baz=341,SNR=10						
MSO	**Missoula**	**9.22**	**102**	P	**Pn**	**11 04 24.2**	**+1.3**
	baz=291						
MSO	**Missoula**	**9.22**	**102**	*e*Pn	**Pn**	**11 04 26.1**	**+3.1**
WVOR	**Wild Horse Val**	**9.24**	**137**	*e*Pn	**Pn**	**11 04 25.4**	**+2.1**
SLMT	**Seeley Lake**	**9.36**	**99**	*e*Pn	**Pn**	**11 04 27.9**	**+3.0**
EDM	**Edmonton**	**9.37**	**62**	*e*Pn	**Pn**	**11 04 24.9**	**0.0**
WDC	**Whiskeytown Da**	**9.53**	**158**	*e*Pn	**Pn**	**11 04 29.5**	**+2.4**
CHMT	**Chamberlain Mo**	**9.63**	**101**	*e*Pn	**Pn**	**11 04 31.8**	**+3.2**
FNBB	**Fort Nelson**	**9.67**	**13**	P	Pn	11 04 34.2	+5.2
HLID	**Hailey**	**10.60**	**120**	P	**Pn**	**11 04 43.1**	**+1.2**
	baz=308,SNR=5.5						
HLID	**Hailey**	**10.60**	**120**	*e*Pn	**Pn**	**11 04 42.9**	**+1.0**
DLMT	**Dillon**	**10.69**	**108**	*e*Pn	**Pn**	**11 04 46.5**	**+3.3**
ORV	**Oroville**	**10.76**	**156**	*e*Pn	**Pn**	**11 04 46.3**	**+2.4**
MCMT	**McKenzie Canyo**	**10.80**	**110**	*e*Pn	**Pn**	**11 04 48.3**	**+3.5**
PAHR	**Pah Rah Range**	**11.27**	**148**	*e*Pn	**Pn**	**11 04 54.0**	**+2.9**
BMN	**Battle Mountai**	**11.49**	**139**	*e*Pn	**Pn**	**11 04 58.4**	**+4.3**
PNTR	**Pine Nut**	**11.75**	**150**	*e*Pn	**Pn**	**11 05 01.0**	**+3.3**
YHB	**Horse Butte**	**11.86**	**108**	*e*Pn	Pn	11 05 05.0	+5.8
YERR	**Yerington**	**11.97**	**149**	*e*Pn	Pn	11 05 09.0	+8.4
YMR	**Madison River**	**12.04**	**108**	*e*Pn	**P**	**11 05 10.1**	**-4.5**
YHH	**Holmes Hill**	**12.05**	**107**	*e*Pn	**Pn**	**11 05 06.0**	**+4.1**
WAKR	**Walker**	**12.34**	**151**	*e*Pn	Pn	11 05 11.9	+6.2
IMW	**Indian Meadow**	**12.46**	**111**	*e*Pn	Pn	11 05 13.1	+5.7
TVH1	**TV Hill, Hawth**	**12.60**	**148**	*e*Pn	**Pn**	**11 05 12.0**	**+2.5**
TPAW	**Teton Pass**	**12.67**	**112**	*e*Pn	**P**	**11 05 18.1**	**-3.6**
TVH2	**Borealis Mine**	**12.68**	**149**	*e*Pn	**Pn**	**11 05 13.2**	**+2.8**
TVH3	**East Aurora ar**	**12.68**	**149**	*e*Pn	**Pn**	**11 05 12.8**	**+2.5**
HVU	**Hansel Valley**	**12.68**	**122**	*e*Pn	Pn	11 05 15.5	+5.2
REDW	**Red Top Meadow**	**12.80**	**113**	*e*Pn	**Pn**	**11 05 15.9**	**+3.8**
SNOW	**Snow King Moun**	**12.81**	**112**	*e*Pn	**Pn**	**11 05 15.3**	**+3.1**
BGU	**Big Grassy Mou**	**13.13**	**126**	*e*Pn	**Pn**	**11 05 20.0**	**+3.4**
SLD	**San Luis Dam**	**13.18**	**159**	*e*Sn	**Sn**	**11 07 49.8**	**+6.4**
HWUT	**Hardware Ranch**	**13.47**	**120**	*e*Pn	**Pn**	**11 05 22.6**	**+1.5**
HWUT				*e*Pn	**P**	**11 05 28.5**	**-2.0**
DUG	**Dugway, Tooele**	**13.78**	**127**	P	**Pn**	**11 05 27.0**	**+1.6**
	baz=317						
DUG	**Dugway, Tooele**	**13.78**	**127**	*e*Pn	**P**	**11 05 30.5**	**-3.3**
BW06	**Boulder Array**	**13.92**	**112**	P	**Pn**	**11 05 28.4**	**+1.1**
	baz=305						
BW06	**Boulder Array**	**13.92**	**112**	*e*Pn	**Pn**	**11 05 29.1**	**+1.7**
BW06				*e*Pn	**P**	**11 05 31.1**	**-4.5**
PD31	**Pinedale Array**	**13.92**	**112**	*e*Pn	**Pn**	**11 05 29.6**	**+2.2**
PDAR	**Pinedale Array**	**13.92**	**112**	Pn	**Pn**	**11 05 28.5**	**+1.1**
	0.1nm,0.3s,baz=301,slow=10,SNR=7.9

WRH	Wood River Hil 6.9nm,1.0s	18.67	331	eP	Pn	11 06 30.8	+2.8
BTCC	Brunts Corner	18.75	147	eP	Pn	11 06 29.8	+0.6
BTCC				epP	sP	11 06 36.1	+1.8
S22A	4UR Ranch, Cre baz=315	18.77	121	P	Pn	11 06 30.3	+0.5
S22A	4UR Ranch, Cre 6.9nm,0.9s	18.77	121	eP	Pn	11 06 30.2	+0.5
IKP	In-Ko-Pah, Jac baz=337	18.77	150	P	Pn	11 06 29.9	+0.3
X16A	Lo Mia Camp, P 3.4nm,0.9s	19.03	137	eP	Pn	11 06 33.5	+0.7
B31A	Greenbush Farm baz=284	19.33	82	P	Pn	11 06 36.4	+0.3
113A	Mohawk Valley, 46nm,0.5s	19.50	144	eP	Pn	11 06 38.9	+0.7
SDCO	Great Sand Dun baz=314	19.52	119	P	P	11 06 37.7	+0.2
SDCO	Great Sand Dun 4.8nm,0.8s	19.52	119	eP	P	11 06 38.1	+0.6
X18A	Snowflake 15nm,1.0s	19.62	133	eP	Pn	11 06 40.3	+0.3
D31A	Mcclaflin, Tow baz=288	19.67	86	P	Pn	11 06 40.1	-0.1
ULM	Lac du Bonnet 0.5nm,0.3s,baz=293,slow=10,SNR=5.0	20.08	76	P	P	11 06 41.4	-1.8
ULM	Lac du Bonnet 49nm,1.9s	20.08	76	eP	Pn	11 06 44.2	-0.8
KSCO	Kaye Shedlock' baz=309	20.37	112	P	P	11 06 46.8	+0.2
KSCO	Kaye Shedlock' 18nm,1.0s	20.37	112	eP	Pn	11 06 48.2	-0.5
AGMN	Agassiz Nation baz=285	20.52	81	P	P	11 06 48.3	+0.3
AGMN	Agassiz Nation 27nm,1.6s	20.52	81	eP	Pn	11 06 54.2	+4.1
T25A	Trinidad baz=314,SNR=7.3	20.56	119	P	P	11 06 49.6	+0.8
T25A	Trinidad 15nm,0.9s	20.56	119	eP	P	11 06 49.5	+0.7
214A	Organ Pipe Nat baz=332	20.59	143	P	P	11 06 49.4	+0.6
214A	Organ Pipe Nat 55nm,1.3s	20.59	143	eP	Pn	11 06 50.6	-0.5
H32A	Carlson Farm, baz=294	20.79	93	P	P	11 06 51.5	+0.6
E33A	Westby DABS, E baz=290	20.96	86	P	P	11 06 53.4	+0.5
ANMO	Albuquerque 1.3nm,0.7s,baz=319,slow=10,SNR=7.5	21.04	126	P	P	11 06 54.4	+0.4
ANMO	Albuquerque baz=320	21.04	126	P	P	11 06 55.1	+1.2
ANMO	Albuquerque 5.7nm,1.1s	21.04	126	eP	P	11 06 54.8	+0.9
TUC	Tucson baz=329	21.11	139	P	P	11 06 55.0	+0.4
TUC	Tucson 12nm,1.3s	21.11	139	eP	P	11 06 55.2	+0.6
H33A	Prehn Over Nor baz=294,SNR=5.0	21.16	92	P	P	11 06 55.0	0.0
I33A	Coleman baz=295	21.39	93	P	P	11 06 57.1	-0.4
ECSD	EROS Data Cent baz=296	21.65	94	P	P	11 06 59.7	-0.6
ECSD	EROS Data Cent 8.1nm,1.1s	21.65	94	eP	P	11 06 59.9	-0.3
H34A	Spellman Lake, baz=294	21.80	91	P	P	11 07 03.0	+1.2
121A	Cookes Peak, D baz=325	22.29	132	P	P	11 07 07.1	-0.2
121A	Cookes Peak, D 22nm,1.0s	22.29	132	eP	P	11 07 07.4	0.0
H35A	Sunnyside Ranc baz=294	22.40	90	P	P	11 07 07.4	-0.8
G35A	Watkins baz=293	22.42	89	P	P	11 07 09.3	+0.9
319A	Douglas 23nm,1.2s	22.57	137	eP	P	11 07 11.3	+1.1
F36A	Milaca baz=291	22.80	86	P	P	11 07 12.4	-0.1
J36A	Seneca 1, Swea baz=297,SNR=6.4	23.31	93	P	P	11 07 16.2	-1.6
M35A	Neola baz=301	23.33	98	P	P	11 07 16.0	-2.0
O34A	Beatrice baz=304	23.38	102	P	P	11 07 17.4	-1.0
EYMN	Ely baz=287	23.42	80	P	P	11 07 18.6	-0.2
K36A	Gilmore City baz=298	23.56	95	P	P	11 07 17.1	-3.1
P34A	Walnut Farm, R baz=305,SNR=6.2	23.65	103	P	P	11 07 20.6	-0.5
N35A	Tabor baz=302	23.68	99	P	P	11 07 21.0	-0.4
AMTX	Amarillo baz=316	23.72	119	P	P	11 07 20.6	-1.4
AMTX	Amarillo 24nm,0.9s	23.72	119	eP	P	11 07 21.9	0.0
MSTX	Muleshoe baz=318	23.77	122	P	P	11 07 21.8	-0.6
MSTX	Muleshoe 11nm,1.0s	23.77	122	eP	P	11 07 22.8	+0.3
J37A	Redenius Farm, baz=297	23.83	92	P	P	11 07 22.3	-0.6
F38A	Pierce - Schro baz=291	23.84	85	P	P	11 07 21.6	-1.3
Q34A	Chapman baz=306	23.94	105	P	P	11 07 23.8	-0.2
K37A	Belmond baz=298	24.03	94	P	P	11 07 24.5	-0.2
KSU1	Kansas State U 28nm,0.9s	24.05	104	eP	P	11 07 29.4	+4.5
R34A	Isabella, Hill baz=307	24.12	106	P	P	11 07 26.1	+0.5
MNTX	Cornudas Mount baz=324,SNR=5.6	24.15	129	P	P	11 07 25.4	-0.5
MNTX	Cornudas Mount 16nm,1.3s	24.15	129	eP	P	11 07 27.1	+1.2
I38A	Scanlan Farm, baz=295	24.31	90	P	P	11 07 27.6	+0.3
J38A	Wedel Dairy, R baz=297	24.53	91	P	P	11 07 29.2	-0.1
K38A	Parkersburg baz=298	24.65	93	P	P	11 07 30.1	-0.3
H39A	Augusta baz=294	24.72	88	P	P	11 07 29.3	-1.7
I39A	Houston baz=296	24.91	90	P	P	11 07 32.0	-0.7
T34A	McClaskey Farm baz=309	24.95	109	P	P	11 07 33.1	-0.1
M38A	Pleasantville baz=300	24.97	96	P	P	11 07 33.1	-0.2
J39A	Decorah baz=297	25.02	91	P	P	11 07 33.1	-0.7
P37A	Lathrop baz=304	25.21	101	P	P	11 07 35.7	+0.2
N38A	Joes South For baz=302	25.27	97	P	P	11 07 36.4	+0.4
L39A	Vinton baz=299	25.40	94	P	P	11 07 37.7	+0.5
T35A	Sooner Cattle baz=309	25.44	108	P	P	11 07 38.1	+0.5
O38A	Galt baz=303	25.48	99	P	P	11 07 38.1	+0.2
I40A	Norwalk baz=296	25.49	89	P	P	11 07 38.8	+0.8
M39A	Webster baz=300	25.61	95	P	P	11 07 39.5	+0.5
J40A	Soldiers Grove baz=296	25.62	90	P	P	11 07 39.3	+0.1
R37A	Teagarden Farm baz=306	25.64	104	P	P	11 07 39.5	+0.2
N39A	Derby Farms, D baz=301	25.70	96	P	P	11 07 39.7	-0.2
P38A	Dawn baz=304	25.71	100	P	P	11 07 39.4	-0.6
I41A	Arkdale baz=295	25.90	88	P	P	11 07 41.3	-0.4
L40A	Anamosa baz=299	25.93	93	P	P	11 07 42.7	+0.7
S37A	Fort Scott baz=307	25.97	105	P	P	11 07 42.8	+0.5
V35A	Meyer Ranch, C baz=311	25.98	111	P	P	11 07 43.1	+0.6
Q38A	Cooks Store, C baz=305	26.03	101	P	P	11 07 43.7	+0.8
P39B	Salisbury baz=304,SNR=5.8	26.29	99	P	P	11 07 44.8	-0.4
R38A	Fenwick Farm, baz=306	26.30	103	P	P	11 07 45.0	-0.3
T37A	Cheneyville 18 baz=308	26.30	106	P	P	11 07 45.9	+0.5
O40A	La Belle baz=302	26.51	97	P	P	11 07 47.0	-0.2
S38A	Stockton baz=307	26.63	104	P	P	11 07 46.0	-2.3
P40A	Paris baz=303	26.72	99	P	P	11 07 47.7	-1.4
R39A	Chumby, Stover baz=306	26.77	102	P	P	11 07 50.1	+0.4
TX31	Lajitas Ar. Si	26.93	130	eP	P	11 07 51.3	+0.1
TX31				eP	P	11 07 53.3	+2.0
TXAR	Lajitas Array 3.0nm,0.8s,baz=334,slow=8.3,SNR=16	26.93	130	P	P	11 07 51.4	+0.1
S39A	Bolivar baz=307	26.96	103	P	P	11 07 51.0	-0.4
Q40A	Laux Farm, Aux baz=304	27.00	100	P	P	11 07 50.9	-0.8
O41A	Passleys Farm, baz=302	27.15	96	P	P	11 07 52.6	-0.5
P41A	Barry, Barry baz=303	27.27	97	P	P	11 07 54.5	+0.3
R40A	Maddies Statio baz=306	27.28	101	P	P	11 07 54.7	+0.5
T39A	Clever baz=308	27.33	104	P	P	11 07 54.9	+0.2
S40A	Lebanon baz=307	27.54	103	P	P	11 07 56.7	+0.1
Q41A	Truxton baz=304	27.56	99	P	P	11 07 57.1	+0.4
R41A	Rosebud baz=305	27.84	100	P	P	11 07 58.2	-1.0
V39A	Pettigrew baz=310	27.91	107	P	P	11 08 00.1	+0.2
HPIG	15nm,1.6s	27.99	136	eP	P	11 08 04.3	+3.5
JCT	Junction City baz=320	28.05	123	P	P	11 08 00.2	-1.0
U40A	Yellville baz=309	28.08	105	P	P	11 08 00.8	-0.6
W39A	Magazine baz=311	28.23	108	P	P	11 08 02.3	-0.5
T41A	Mountain View baz=307	28.34	103	P	P	11 08 02.7	-1.0
S42A	Caledonia baz=306	28.53	101	P	P	11 08 03.7	-1.6
U41A	Viola baz=308	28.67	104	P	P	11 08 05.7	-1.0
MIAR	Mount Ida baz=312	28.79	109	P	P	11 08 06.6	-1.1
V41A	Mountainview baz=309	28.87	105	P	P	11 08 06.6	-1.9
V42A	Cord baz=309	29.34	104	P	P	11 08 11.4	-1.2
S44A	Carbondale baz=306	29.56	99	P	P	11 08 13.5	-1.0
ZAIG	Zacatecas 14nm,1.2s	32.99	135	eP	P	11 08 48.7	+3.6
SCHQ	Schefferville comp=Z,209nm,19.1s,baz=42,slow=38	36.33	58	LR	LR	11 24 41.9	

MAN 15 11:07:46,12°.68N×122°.96E,h1km,mb3.8,ML2.6,MS2.2, 1C,Luzon

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
AUQP	San Andres	0.69	336	eP		Pg		11 07 59.5	+0.2
AUQP				eS		Sn		11 08 14.4	+0.1
OTRP	Odiongan	0.97	251	eP		Pg		11 08 03.1	-1.6
OTRP				eS		Sn		11 08 13.0	-0.2
RCP	Roxas	1.14	191	⇑eP		Pb		11 08 08.8	+0.3
BOAC	Boac	1.33	305	eP		Pb		11 08 12.7	+0.9
BOAC				eS		Sn		11 08 38.8	+8.7

*NEIC **15** 11:12:07.2±0.0,37°.49S×176°.53E,h179km,MG4.0(WEL), After WEL.*

WEL 15 11:12:06.3±0.3,37°.48S×176°.51E,h187km±2km,ML4.0/50, 3C-9D,Error ellipse: s-maj=1.8km s-min=1.5km az=90.0, North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
OPRZ	Ohinepanea	0.36	174			Pn	Pn	11 12 31.6	+0.2
OPRZ	Ohinepanea	0.36	174			PN	Pn	11 12 31.6	+0.2
URZ	Urewera	0.91	149			Pn	Pn	11 12 33.8	-0.2
URZ	Urewera	0.91	149	⇑		PN	Pn	11 12 33.8	-0.2
URZ						SN	Sn	11 12 55.2	-0.4
URZ						AML	AML	11 12 56.4	
KUZ	Kuaotunu	0.97	319			Pn	Pn	11 12 34.6	+0.1
KUZ	Kuaotunu	0.97	319	⇓		PN	Pn	11 12 34.6	+0.1
MUGZ	Murupara	1.01	168			PN	Pn	11 12 34.8	0.0
MUGZ						SN	Sn	11 12 57.0	-0.1
RUGZ	Raukumara Rang	1.04	118			PN	Pn	11 12 34.3	-0.9
RUGZ						SN	Sn	11 12 56.6	-0.9
HAZ	Te Kaha	1.05	105	⇑		PN	Pn	11 12 34.7	-0.3
HAZ						SN	Sn	11 12 56.9	-0.3
HAZ						AML	AML	11 13 02.4	
HAZ						AML	AML	11 13 02.4	
HAZ						AML	AML	11 13 04.3	
ALRZ	Allen Road	1.08	187			Pn	Pn	11 12 35.6	+0.3
ALRZ	Allen Road	1.08	187			PN	Pn	11 12 35.6	+0.3
MWZ	Matawai	1.17	137			Pn	Pn	11 12 36.1	+0.1
MWZ	Matawai	1.17	137			PN	Pn	11 12 36.1	+0.1
MWZ						SN	Sn	11 12 59.4	+0.3
MWZ						AML	AML	11 13 04.0	
RTZ	Ruatahuna	1.19	162			PN	Pn	11 12 36.0	-0.2
RAGZ	Rawiri	1.24	145			Pn	Pn	11 12 36.8	+0.2
RAGZ	Rawiri	1.24	145			PN	Pn	11 12 36.8	+0.2
RAGZ						AML	AML	11 13 03.1	
RAGZ						AML	AML	11 13 07.2	
PKGZ	Pakihiroa	1.31	108	⇓		PN	Pn	11 12 37.4	+0.2
MRHZ	Matea Rd	1.35	183			PN	Pn	11 12 37.3	-0.2
MRHZ						SN	Sn	11 13 01.7	-0.2
MRHZ						AML	AML	11 13 03.1	
TWGZ	Tauwhareparae	1.36	121			Pn	Pn	11 12 37.8	+0.2
TWGZ	Tauwhareparae	1.36	121			PN	Pn	11 12 37.8	+0.2
TWGZ						SN	Sn	11 13 03.7	+1.9
TWGZ						AML	AML	11 13 07.8	
TKGZ	Te Karaka	1.43	132			Pn	Pn	11 12 38.2	+0.1
TKGZ	Te Karaka	1.43	132			PN	Pn	11 12 38.2	+0.1
TKGZ						SN	Sn	11 13 01.8	-1.0
TKGZ						AML	AML	11 13 05.7	
MXZ	Matakaoa Point	1.43	94			Pn	Pn	11 12 38.3	+0.1
MXZ						Sn	Sn	11 13 02.6	-0.2
MXZ	Matakaoa Point	1.43	94	⇓		PN	Pn	11 12 38.3	+0.1
MXZ						SN	Sn	11 13 03.4	+0.6
MXZ						AML	AML	11 13 09.1	
SNGZ	Shannon Statio	1.45	153			Pn	Pn	11 12 38.5	0.0
SNGZ	Shannon Statio	1.45	153			PN	Pn	11 12 38.4	0.0
SNGZ						SN	Sn	11 13 03.3	-0.1
SNGZ						AML	AML	11 13 07.8	
PUZ	Puketiti	1.50	113			Pn	Pn	11 12 38.5	-0.4
PUZ	Puketiti	1.50	113	⇓		PN	Pn	11 12 38.5	-0.4
PUZ						AML	AML	11 13 05.2	
PUZ						AML	AML	11 13 07.2	
WMGZ	Waiomatatini S	1.55	103			Pn	Pn	11 12 39.2	0.0
WMGZ	Waiomatatini S	1.55	103			PN	Pn	11 12 39.2	0.0
WMGZ						AML	AML	11 13 06.5	
WMGZ						AML	AML	11 13 08.0	
RIGZ	Rimuhau	1.57	141			PN	Pn	11 12 39.7	+0.2
RIGZ						AML	AML	11 13 08.2	
RIGZ						AML	AML	11 13 08.5	
NMHZ	Naumai	1.63	172			Pn	Pn	11 12 40.5	+0.3
NMHZ	Naumai	1.63	172			PN	Pn	11 12 40.4	+0.3
NMHZ						AML	AML	11 13 12.2	
NMHZ						AML	AML	11 13 13.1	
CNGZ	Carnagh Statio	1.67	127			Pn	Pn	11 12 41.0	+0.5
CNGZ	Carnagh Statio	1.67	127			PN	Pn	11 12 41.0	+0.5
CNGZ						AML	AML	11 13 11.3	
CNGZ						AML	AML	11 13 11.5	
BKZ	Black Stump Fm	1.68	180	eP		Pn	Pn	11 12 40.9	+0.3
BKZ						AML	AML	11 13 07.9	
BKZ						AML	AML	11 13 09.0	
WHHZ	Waihua	1.69	160			PN	Pn	11 12 40.8	+0.1
WHHZ						AML	AML	11 13 12.0	
WHHZ						AML	AML	11 13 13.6	
KNZ	Kokohu	1.79	149			Pn	Pn	11 12 41.4	-0.2
KNZ	Kokohu	1.79	149	⇑		PN	Pn	11 12 41.4	-0.2
KNZ						SN	Sn	11 13 07.9	-1.2
KNZ						AML	AML	11 13 11.7	
PRGZ	Paritu Road	1.80	143			Pn	Pn	11 12 41.8	0.0
PRGZ	Paritu Road	1.80	143	⇓		PN	Pn	11 12 41.8	0.0
PRGZ						AML	AML	11 13 11.7	
PRGZ						AML	AML	11 13 14.3	
OTVZ	Oturere	1.80	201			Pn	Pn	11 12 42.0	+0.1
OTVZ	Oturere	1.80	201			PN	Pn	11 12 41.8	-0.1
ARHZ	Aropaoanui	1.82	168			Pn	Pn	11 12 42.0	+0.1
ARHZ	Aropaoanui	1.82	168	⇓		PN	Pn	11 12 42.0	+0.1
ARHZ						SN	Sn	11 13 09.2	-0.5
ARHZ						AML	AML	11 13 11.8	
NGZ	Ngauruhoe	1.83	203			Pn	Pn	11 12 42.2	-0.1
NGZ	Ngauruhoe	1.83	203			PN	Pn	11 12 42.1	-0.1
FWVZ	Far West T-bar	1.92	203			Pn	Pn	11 12 42.8	-0.4
FWVZ	Far West T-bar	1.92	203			PN	Pn	11 12 42.8	-0.4
FWVZ						SN	Sn	11 13 11.6	-0.5
WHVZ	Whangaehu Hut	1.94	202			Pn	Pn	11 12 42.9	-0.5
WHVZ	Whangaehu Hut	1.94	202	⇓		PN	Pn	11 12 42.9	-0.5
WHVZ						SN	Sn	11 13 11.6	-0.7
MCHZ	McNeill Hill	1.96	176			Pn	Pn	11 12 43.3	-0.1
MCHZ	McNeill Hill	1.96	176			PN	Pn	11 12 43.3	-0.1
MCHZ						AML	AML	11 13 14.9	
MCHZ						AML	AML	11 13 31.0	
WNVZ	Wahianoa	1.97	201			Pn	Pn	11 12 43.1	-0.6
WNVZ	Wahianoa	1.97	201	⇓		PN	Pn	11 12 43.1	-0.6
MHGZ	Mahia Peninsul	2.00	147			Pn	Pn	11 12 43.7	-0.1
MHGZ	Mahia Peninsul	2.00	147			PN	Pn	11 12 43.7	-0.1
MHGZ						AML	AML	11 13 12.8	
MHGZ						AML	AML	11 13 13.3	
MOVZ	Moawhango	2.01	197			Pn	Pn	11 12 43.0	-1.0
MOVZ	Moawhango	2.01	197			PN	Pn	11 12 43.0	-1.0
PKVZ	Pokaka	2.02	206			Pn	Pn	11 12 43.7	-0.4
PKVZ	Pokaka	2.02	206			PN	Pn	11 12 43.7	-0.4
BHHZ	Black Hill Sta	2.03	190			Pn	Pn	11 12 43.1	-1.1
BHHZ	Black Hill Sta	2.03	190			PN	Pn	11 12 43.1	-1.1
BHHZ						SN	Sn	11 13 11.5	-2.4
BHHZ						AML	AML	11 13 23.3	
VRZ	Vera Road	2.14	219			Pn	Pn	11 12 45.5	+0.2
VRZ	Vera Road	2.14	219			PN	Pn	11 12 45.4	+0.1
KRHZ	Kereru	2.16	183			PN	Pn	11 12 44.7	-0.8
KRHZ						AML	AML	11 13 15.5	
KRHZ						AML	AML	11 13 17.7	
CKHZ	Cape Kidnapper	2.22	169			Pn	Pn	11 12 45.7	-0.5
CKHZ	Cape Kidnapper	2.22	169			PN	Pn	11 12 45.7	-0.5
CKHZ						SN	Sn	11 13 16.1	-1.2
CKHZ						AML	AML	11 13 18.8	
KAHZ	Kahuranaki	2.33	173			Pn	Pn	11 12 46.7	-0.7
KAHZ	Kahuranaki	2.33	173			PN	Pn	11 12 46.7	-0.7
KAHZ						AML	AML	11 13 22.3	
KAHZ						AML	AML	11 13 22.6	
PNHZ	Pukenui	2.44	186			Pn	Pn	11 12 44.6	-4.1
PXZ	Pawanui	2.56	174			Pn	Pn	11 12 48.6	-1.4
PXZ	Pawanui	2.56	174			PN	Pn	11 12 48.5	-1.5
PXZ						AML	AML	11 13 24.8	
PXZ						AML	AML	11 13 24.9	
PXZ						AML	AML	11 13 26.1	
PXZ						AML	AML	11 13 26.2	
WAZ	Wanganui	2.56	207			Pn	Pn	11 12 49.0	-1.1
WAZ	Wanganui	2.56	207			PN	Pn	11 12 48.9	-1.2
WPHZ	Waipukurau	2.58	181			Pn	Pn	11 12 49.0	-1.2
WPHZ	Waipukurau	2.58	181			PN	Pn	11 12 48.7	-1.5
WPHZ						AML	AML	11 13 29.3	
WPHZ						AML	AML	11 13 29.6	
TSZ	Takapari Road	2.61	189			Pn	Pn	11 12 48.8	-1.8
TSZ	Takapari Road	2.61	189			PN	Pn	11 12 48.8	-1.8
TSZ						SN	Sn	11 13 21.9	-3.4
TSZ						AML	AML	11 13 28.0	
PRHZ	Porangahau	2.78	178			Pn	Pn	11 12 51.0	-1.6
PRHZ	Porangahau	2.78	178			PN	Pn	11 12 50.9	-1.7
PRHZ						AML	AML	11 13 29.5	
PRHZ						AML	AML	11 13 30.6	
DVHZ	Dannevirke	2.82	185			Pn	Pn	11 12 51.1	-2.0
DVHZ	Dannevirke	2.82	185			PN	Pn	11 12 51.0	-2.1
DVHZ						AML	AML	11 13 29.0	
DVHZ						AML	AML	11 13 29.3	
OHWZ	Ohakea	2.87	199	e		PN	Pn	11 12 52.5	-1.2
POWZ	Post Office Ro	2.96	191			Pn	Pn	11 12 52.5	-2.2
POWZ	Post Office Ro	2.96	191			PN	Pn	11 12 52.5	-2.2
POWZ						AML	AML	11 13 31.3	
POWZ						AML	AML	11 13 32.4	
ANWZ	Angora Road	2.97	180			PN	Pn	11 12 53.0	-1.8
ANWZ						SN	Sn	11 13 28.8	-4.1
ANWZ						AML	AML	11 13 32.5	
PRWZ	Pori Road	3.10	188			Pn	Pn	11 12 54.3	-2.1
PRWZ	Pori Road	3.10	188			PN	Pn	11 12 54.7	-2.1
PRWZ						AML	AML	11 13 35.6	
PRWZ						AML	AML	11 13 38.7	
BFZ	Birch Farm	3.20	184			Pn	Pn	11 12 55.0	-2.6
BFZ	Birch Farm	3.20	184			PN	Pn	11 12 55.0	-2.6
BFZ						SN	Sn	11 13 33.7	-4.2
BFZ						AML	AML	11 13 35.8	
MRZ	Mangatainoka R	3.25	193			Pn	Pn	11 12 55.3	-3.0
MRZ	Mangatainoka R	3.25	193			PN	Pn	11 12 55.3	-3.0
MRZ						AML	AML	11 13 36.4	
MRZ						AML	AML	11 13 36.7	
TIWZ	Tintock	3.32	188			Pn	Pn	11 12 56.4	-2.7
TIWZ	Tintock	3.32	188			PN	Pn	11 12 56.4	-2.7
TIWZ						AML	AML	11 13 39.2	
TIWZ						AML	AML	11 13 40.5	
OGWZ	Otaki Gorge	3.49	197			Pn	Pn	11 12 58.2	-2.9
OGWZ	Otaki Gorge	3.49	197			PN	Pn	11 12 58.2	-2.9
OGWZ						AML	AML	11 13 42.2	
OGWZ						AML	AML	11 13 42.3	
HOWZ	Holdsworth Sta	3.50	192			Pn	Pn	11 12 57.6	-3.7
HOWZ	Holdsworth Sta	3.50	192			PN	Pn	11 12 57.6	-3.7
HOWZ						AML	AML	11 13 42.0	
HOWZ						AML	AML	11 13 43.6	
KIW	Kapiti Island	3.59	200			Pn	Pn	11 12 59.1	-3.4
KIW	Kapiti Island	3.59	200			PN	Pn	11 12 59.1	-3.4
KIW						AML	AML	11 13 44.0	
KIW						AML	AML	11 13 50.5	
TMWZ	Te Maipa	3.65	187			Pn	Pn	11 13 00.0	-3.2
TMWZ	Te Maipa	3.65	187			PN	Pn	11 13 00.0	-3.2
TMWZ						AML	AML	11 13 44.2	
TMWZ						AML	AML	11 13 45.6	
MTW	Mount Morrison	3.75	192			Pn	Pn	11 13 00.7	-3.7
MTW	Mount Morrison	3.75	192			PN	Pn	11 13 00.7	-3.7
MTW						AML	AML	11 13 46.9	
MTW						AML	AML	11 13 49.6	
CAW	Cannon Point	3.79	197			Pn	Pn	11 13 01.4	-3.5
CAW	Cannon Point	3.79	197			PN	Pn	11 13 01.4	-3.5
CAW						AML	AML	11 13 47.0	
CAW						AML	AML	11 13 50.3	
TRWZ	Traveller	3.96	189			Pn	Pn	11 13 03.6	-3.5
TRWZ	Traveller	3.96	189			PN	Pn	11 13 03.6	-3.5
TRWZ						AML	AML	11 13 51.7	
TRWZ						AML	AML	11 13 52.0	
PAWZ	Paruwai Farm	3.98	192			Pn	Pn	11 13 03.5	-3.9
PAWZ	Paruwai Farm	3.98	192			PN	Pn	11 13 03.5	-3.9
PAWZ						AML	AML	11 13 51.1	
PAWZ						AML	AML	11 13 51.6	
WEL	Wellington	4.03	199			Pn	Pn	11 13 04.1	-3.8
WEL	Wellington	4.03	199			PN	Pn	11 13 04.1	-3.8
WEL						AML	AML	11 13 51.8	
WEL						AML	AML	11 13 51.8	
WEL						AML	AML	11 13 52.6	
MSWZ	Moikau Station	4.05	194			Pn	Pn	11 13 04.1	-4.0
MSWZ	Moikau Station	4.05	194			PN	Pn	11 13 04.1	-4.1
MSWZ						AML	AML	11 13 51.0	
MSWZ						AML	AML	11 13 54.1	
TCW	Tory Channel	4.10	204			Pn	Pn	11 13 04.9	-4.0
TCW	Tory Channel	4.10	204			PN	Pn	11 13 04.9	-4.0
TCW						AML	AML	11 13 54.7	
TCW						AML	AML	11 13 56.6	
PLWZ	Palliser	4.19	193			Pn	Pn	11 13 05.8	-4.3
PLWZ	Palliser	4.19	193			PN	Pn	11 13 05.8	-4.3
PLWZ						AML	AML	11 13 57.7	
PLWZ						AML	AML	11 13 58.9	
TUWZ	Tuamarina	4.41	206			Pn	Pn	11 13 08.4	-4.4

THZ	**Tophouse**	**5.10**	**212**	Pn	Pn	11 13 17.1	-4.6
THZ	**Tophouse**	**5.10**	**212**	PN	Pn	11 13 17.1	-4.6
THZ				SN	Sn	11 14 15.4	-5.6
KHZ	**Kahutara**	**5.43**	**204**	Pn	Pn	11 13 21.1	-4.8
KHZ	**Kahutara**	**5.43**	**204**	⇓PN	Pn	11 13 21.1	-4.8
KHZ				SN	Sn	11 14 20.4	-8.2
KHZ				AML	AML	11 14 23.0	
DSZ	**Denniston Nort**	**5.59**	**219**	SN	Sn	11 14 24.6	-8.0
LTZ	**Lake Taylor**	**6.21**	**210**	Pn	Pn	11 13 30.6	-5.5
LTZ	**Lake Taylor**	**6.21**	**210**	PN	Pn	11 13 31.2	-4.8
INZ	**Inchbonnie**	**6.51**	**215**	PN	Pn	11 13 34.5	-5.6
OXZ	**Oxford**	**6.76**	**209**	Pn	Pn	11 13 37.3	-5.9
OXZ	**Oxford**	**6.76**	**209**	PN	Pn	11 13 37.1	-6.1
OXZ				SN	Sn	11 14 48.6	-11
MQZ	**McQueen's Vall**	**6.87**	**204**	Pn	Pn	11 13 38.0	-6.6
MQZ	**McQueen's Vall**	**6.87**	**204**	PN	Pn	11 13 37.8	-6.8
ODZ	**Otahua Downs**	**8.75**	**208**	Pn	Pn	11 14 03.9	-5.3
ODZ	**Otahua Downs**	**8.75**	**208**	PN	Pn	11 14 03.5	-5.7

*CSEM **15** 11:12:09.8, 40˚.41N×21˚.88E, h10km, ML1.9/5*
THE 15 11:12:09.8, 40˚.41N×21˚.88E, h10km±2km, ML1.9/5, Error ellipse: s-maj=2.9km s-min=0.7km az=198.0, Greece

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KZN	**Kozani**	**0.13**	**219**	P	Pg	11 12 12.4	-0.6
KZN				S	Sg	11 12 15.2	0.0
KZN	**Kozani**	**0.13**	**219**	P	Pg	11 12 12.4	-0.6
KZN				S	Sg	11 12 15.2	0.0
KTI	**Kastanea**	**0.18**	**95**	P	Pg	11 12 13.9	+0.1
KTI	**Kastanea**	**0.18**	**95**	P	Pg	11 12 13.9	+0.1
FNA	**Florina**	**0.54**	**314**	P	Pg	11 12 19.6	-0.6
FNA				S	Sb	11 12 28.2	-0.9
FNA	**Florina**	**0.54**	**314**	P	Pg	11 12 19.6	-0.6
FNA				S	Sb	11 12 28.2	-0.9
LIT	**Litokhoron**	**0.56**	**123**	P	Pg	11 12 20.9	+0.2
LIT				S	Sg	11 12 28.6	+0.5
LIT	**Litokhoron**	**0.56**	**123**	P	Pg	11 12 20.9	+0.2
LIT				S	Sg	11 12 28.6	+0.5
KPRO	**Kipourio**	**0.60**	**221**	P	Pg	11 12 21.4	-0.1
KPRO				S	Sb	11 12 30.6	-0.4
KPRO	**Kipourio**	**0.60**	**221**	P	Pg	11 12 21.4	-0.1
KPRO				S	Sb	11 12 30.6	-0.4
PENT	**Pentalofos**	**0.60**	**250**	P	Pg	11 12 21.0	-0.6
PENT	**Pentalofos**	**0.60**	**250**	P	Pg	11 12 21.0	-0.6
NEST	**Nestorio**	**0.63**	**271**	P	Pg	11 12 21.1	-1.0
NEST				S	Sb	11 12 31.6	-0.3
NEST	**Nestorio**	**0.63**	**271**	P	Pg	11 12 21.1	-1.0
NEST				S	Sb	11 12 31.6	-0.3
THL	**Klokotos Trika**	**0.85**	**173**	P	Pg	11 12 25.7	-0.5
THL	**Klokotos Trika**	**0.85**	**173**	P	Pg	11 12 25.7	-0.5

*CSEM **15** 11:13:05.1, 40˚.39N×27˚.40E, h8km, MD2.6*
ISK 15 11:13:05.1, 40˚.39N×27˚.40E, h8km, MD2.6, Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KRBG	**Karabiga-Canak**	**0.08**	**276**	*e*PG	Pg	11 13 07.3	+0.2
KRBG	**Karabiga-Canak**	**0.08**	**276**	*e*Pg	Pg	11 13 07.4	+0.3
MRMT	**Marmara Adasi**	**0.27**	**34**	*e*PG	Pg	11 13 10.9	+0.5
MRMT	**Marmara Adasi**	**0.27**	**34**	*e*Pg	Pg	11 13 10.9	+0.5
EDC	**Edincik**	**0.36**	**96**	*e*PG	Pg	11 13 12.6	+0.5
EDC				*e*SG	Sg	11 13 18.1	+1.2
EDC	**Edincik**	**0.36**	**96**	*e*Pg	Pg	11 13 12.6	+0.5
EDC				*e*Sg	Sg	11 13 18.1	+1.3
LPK	**Lapseki**	**0.49**	**269**	*e*PG	Pg	11 13 15.1	+0.5
LPK	**Lapseki**	**0.49**	**269**	*e*Pg	Pg	11 13 15.1	+0.5
SBT3	**Marmara-Eregli**	**0.66**	**41**	*e*PG	Pb	11 13 18.4	-0.4
SBT3	**Marmara-Eregli**	**0.66**	**41**	*e*Pg	Pb	11 13 18.4	-0.4
ERIK	**Erikli-Kesan**	**0.73**	**293**	*e*PG	Pb	11 13 19.7	-0.4
ERIK	**Erikli-Kesan**	**0.73**	**293**	*e*Pg	Pb	11 13 19.7	-0.4
KCTX	**Karacabey (Bur**	**0.74**	**99**	*e*PG	Pg	11 13 19.7	+0.3
KCTX	**Karacabey (Bur**	**0.74**	**99**	*e*Pg	Pg	11 13 19.7	+0.3
BALB	**Balikesir**	**0.83**	**153**	*e*PG	Pg	11 13 21.2	+0.2
BALB	**Balikesir**	**0.83**	**153**	*e*Pg	Pg	11 13 21.3	+0.2
SBT2	**Guzelce-Avcila**	**0.98**	**59**	*e*PG	Pb	11 13 24.5	+0.2
SBT2	**Guzelce-Avcila**	**0.98**	**59**	*e*Pg	Pb	11 13 24.5	+0.2
EZN	**Ezine**	**0.99**	**236**	*e*PG	Pb	11 13 24.6	0.0
EZN	**Ezine**	**0.99**	**236**	*e*Pg	Pb	11 13 24.6	0.0
ENEZ	**Enez**	**1.01**	**291**	*e*PG	Pb	11 13 25.0	+0.1
ENEZ	**Enez**	**1.01**	**291**	*e*Pg	Pb	11 13 25.0	+0.1
SLVT	**Silivri**	**1.04**	**36**	*e*PG	Pb	11 13 25.6	+0.2
SLVT	**Silivri**	**1.04**	**36**	*e*Pg	Pb	11 13 25.6	+0.2
ARMT	**Armutlu**	**1.13**	**80**	*e*PN	Pn	11 13 27.2	-0.1
ARMT	**Armutlu**	**1.13**	**80**	*e*PN	Pn	11 13 27.2	0.0
MDNY	**Mudanya-Bursa**	**1.14**	**90**	*e*PN	Pn	11 13 27.2	-0.1
MDNY	**Mudanya-Bursa**	**1.14**	**90**	*e*Pn	Pn	11 13 27.2	-0.1
ALN	**Alexandroupoli**	**1.15**	**297**	*e*PN	Pn	11 13 28.1	+0.6
ALN	**Alexandroupoli**	**1.15**	**297**	*e*Pn	Pn	11 13 28.1	+0.6
SBT5	**Esenkoy-Cinarc**	**1.16**	**77**	*e*PN	Pn	11 13 27.7	+0.2
SBT5	**Esenkoy-Cinarc**	**1.16**	**77**	*e*Pn	Pn	11 13 27.7	+0.2
GADA	**Gvkgeada**	**1.16**	**261**	*e*PN	Pn	11 13 28.1	+0.4
GADA	**Gvkgeada**	**1.16**	**261**	*e*Pn	Pn	11 13 28.1	+0.4
BOZC	**Bozcaada**	**1.17**	**243**	*e*PN	Pn	11 13 27.9	+0.2
BOZC	**Bozcaada**	**1.17**	**243**	*e*Pn	Pn	11 13 27.9	+0.2
ORLT	**Orhaneli**	**1.20**	**106**	*e*PN	Pn	11 13 28.4	+0.2
ORLT	**Orhaneli**	**1.20**	**106**	*e*Pn	Pn	11 13 28.4	+0.2
CTKS	**Kestanelik-??a**	**1.20**	**44**	*e*PN	Pn	11 13 28.5	+0.3
CTKS	**Kestanelik-??a**	**1.20**	**44**	*e*Pn	Pn	11 13 28.5	+0.4
KAVV	**Kandilli-Istan**	**1.43**	**61**	*e*PN	Pb	11 13 31.9	-0.2
KAVV	**Kandilli-Istan**	**1.43**	**61**	*e*Pn	Pb	11 13 31.9	-0.1
KLYT	**Kilyos**	**1.52**	**55**	*e*PN	Pn	11 13 32.9	+0.4
KLYT	**Kilyos**	**1.52**	**55**	*e*Pn	Pn	11 13 32.9	+0.4
EDRB	**Edirne**	**1.54**	**341**	*e*PN	Pb	11 13 33.5	-0.4
EDRB	**Edirne**	**1.54**	**341**	*e*Pn	Pb	11 13 33.5	-0.4

*SJA **15** 11:25:53.4±1.0, 32˚.74S×71˚.68W, h10km±8km, ML3.6, MW3.8*
*GUC **15** 11:25:54.8±0.5, 32˚.75S×71˚.68W, h21km±9km, ML3.8*
ISC 15 11:25:54.2±3.3, 32˚.77S±0˚.09×71˚.7W±0˚.1, h15km±12km, n11, σ0s71/18, 5D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ROC1	**El Roble**	**0.59**	**111**	*e*P	**Pb**	**11 26 07.0**	**+0.6**
ROC1				*e*S	**Sn**	**11 26 16.4**	**-1.4**
ROCH	**El Roble**	**0.59**	**110**	⇓*i*P	**Pb**	**11 26 07.0**	**+0.5**
ROCH				*i* S	**Sb**	**11 26 16.2**	**+1.4**
PEL	**Peldehue**	**0.91**	**115**	⇓*i*P	**Pg**	**11 26 11.9**	**0.0**
PEL				*i* S	**Sn**	**11 26 25.5**	**+0.1**
PEL				IAML		11 26 27.6	
	comp=E,10μm,0.2s						
RCDM	**Rinconada Maip**	**1.02**	**135**	⇓*i*P	**Pb**	**11 26 13.3**	**-0.4**
RCDM				*i* S	**Sg**	**11 26 27.4**	**0.0**
CLCH	**Cerro Calan**	**1.14**	**124**	⇓*i*P	**Pb**	**11 26 15.5**	**-0.3**
CLCH				*i* S	**Sg**	**11 26 31.2**	**0.0**
CLCH				IAML		11 26 34.0	
	comp=N,4μm,0.5s						
ANTU	**Antumapu**	**1.18**	**133**	*e*P	**Pn**	**11 26 16.3**	**0.0**
ANTU				IAML		11 26 36.5	
	comp=N,3μm,0.4s						
FCH	**Farellones**	**1.29**	**116**	⇓*i*P	**Pn**	**11 26 18.0**	**0.0**
FCH				*i* S	**Sg**	**11 26 36.3**	**+0.3**
FCH				IAML		11 26 37.2	
	comp=E,3μm,0.2s						
AUSP	**Uspallata**	**2.00**	**75**	*e*P	**Pb**	**11 26 31.0**	**+0.4**
ARCO	**CERRO ARCO**	**2.31**	**93**	*e*P	**Pb**	**11 26 35.5**	**-0.2**
ARCO				*e*S	**Sg**	**11 27 07.1**	**-1.4**
ARCO				IAML		11 27 17.7	
	comp=Z,360nm,0.6s						
ASAL	**Salagasta**	**2.40**	**87**	*e*P	**Pb**	**11 26 37.2**	**0.0**
AAGR	**Agrelo**	**2.41**	**98**	*e*P	**Pb**	**11 26 37.0**	**-0.4**

*ISK **15** 11:33:57.5, 39˚.87N×35˚.21E, h6km, MD2.6*
*ISCJB **15** 11:33:58.5±0.6, 39˚.82N±0˚.04×35˚.12E±0˚.06, h12km, Error ellipse: s-maj=7.1km s-min=4.4km az=144.3*
*CSEM **15** 11:33:58.4±0.1, 39˚.82N×35˚.12E, h2km, MD2.6, Error ellipse: s-maj=4.3km s-min=2.8km az=51.0*
*DDA **15** 11:33:58.3, 39˚.82N×35˚.07E, h7km, Md2.7*
ISC 15 11:33:58.6±1.0, 39˚.81N±0˚.03×35˚.11E±0˚.03, h12km, n17, σ0s54/25, Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
YOZ	**Yozgat**	**0.23**	**135**	*e*PG	**Pg**	**11 34 03.0**	**-0.7**
YOZ				*e*SG	**Sg**	**11 34 06.8**	**-0.3**
YOZ	**Yozgat**	**0.23**	**135**	*e*Pg	**Pg**	**11 34 03.0**	**-0.7**
YOZ				*e*Sg	**Sg**	**11 34 06.8**	**-0.3**
COAL	**Corum-Alaca**	**0.46**	**348**	*i* P	**Pg**	**11 34 06.8**	**-0.9**
COAL				*i* S	**Sg**	**11 34 13.9**	**+0.1**
COAL	**Corum-Alaca**	**0.46**	**348**	P	**Pg**	**11 34 06.8**	**-0.9**
COAL				S	**Sg**	**11 34 13.9**	**+0.1**
CORM	**Corum**	**0.52**	**316**	*e*PG	**Pg**	**11 34 08.5**	**-0.4**
CORM				*e*SG	**Sg**	**11 34 16.4**	**+0.6**
CORM	**Corum**	**0.52**	**316**	*e*Pg	**Pg**	**11 34 08.5**	**-0.4**
CORM				*e*Sg	**Sg**	**11 34 16.4**	**+0.6**
CDAG	**Cicekdag**	**0.59**	**252**	*i* P	**Pg**	**11 34 09.6**	**-0.7**
CDAG				*i* S	**Sg**	**11 34 18.1**	**0.0**
CDAG	**Cicekdag**	**0.59**	**252**	P	**Pg**	**11 34 09.6**	**-0.7**
CDAG				S	**Sg**	**11 34 18.1**	**0.0**
CTAK	**Corum_Osmancik**	**0.87**	**344**	*i* P	**Pg**	**11 34 14.8**	**-0.7**
CTAK	**Corum_Osmancik**	**0.87**	**344**	P	**Pg**	**11 34 14.8**	**-0.7**
CUSAR	**Sarkisla-SIVAS**	**0.96**	**113**	*i* P	**Pg**	**11 34 17.2**	**0.0**
CUSAR	**Sarkisla-SIVAS**	**0.96**	**113**	P	**Pg**	**11 34 17.2**	**0.0**
CANT	**Cankiri**	**1.39**	**305**	*e*PN	**Pn**	**11 34 24.4**	**+0.4**
GULA	**Gulagac**	**1.61**	**205**	*e*PN	**Pb**	**11 34 28.7**	**+0.3**
GULA	**Gulagac**	**1.61**	**205**	*e*Pn	**Pb**	**11 34 28.7**	**+0.3**
AFSR	**Af˘ar-Bala (A**	**1.61**	**258**	*e*PN	**Pb**	**11 34 28.6**	**+0.2**
AFSR	**Af˘ar-Bala (A**	**1.61**	**258**	*e*Pn	**Pb**	**11 34 28.6**	**+0.2**

*ATH **15** 11:36:30.0, 37˚.21N×22˚.00E, h6km±3km, ML1.7/13, Error ellipse: s-maj=3.3km s-min=0.7km az=238.0*
*CSEM **15** 11:36:29.8±0.3, 37˚.22N×22˚.01E, h2km, ML1.7, Error ellipse: s-maj=5.7km s-min=4.8km az=84.0*
THE 15 11:36:30.2, 37˚.20N×22˚.01E, h2km±6km, Error ellipse: s-maj=6.9km s-min=0.4km az=234.0, Southern Greece

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ITM	**Ithomi**	**0.07**	**253**	P	Pg	11 36 31.5	-0.1
ITM				S	Sg	11 36 32.9	+0.4
ITM	**Ithomi**	**0.07**	**253**	P	Pg	11 36 31.5	-0.1
ITM				S	Sg	11 36 32.9	+0.4
ITM	**Ithomi**	**0.07**	**253**	P	Pg	11 36 31.4	-0.2
ITM				S	Sg	11 36 32.9	+0.5
ITM				AML	AML	11 36 33.0	
	comp=N,3583μm,0.2s						
ITM				AML	AML	11 36 33.5	
	comp=E,8989μm,0.4s						
VLX	**Vlachokerasia**	**0.34**	**60**	P	Pg	11 36 36.7	-0.1
VLX				S	Sg	11 36 42.1	+0.8
VLX	**Vlachokerasia**	**0.34**	**60**	P	Pg	11 36 36.7	-0.1
VLX				S	Sg	11 36 41.4	+0.1
VLX	**Vlachokerasia**	**0.34**	**60**	P	Pg	11 36 36.9	0.0
VLX				S	Sg	11 36 41.4	+0.2
VLX				AML	AML	11 36 44.8	
	comp=N,335μm,0.2s						
VLX				AML	AML	11 36 46.6	
	comp=E,520μm,0.5s						
PYL	**PYLOS**	**0.37**	**215**	P	Pg	11 36 37.0	-0.3
PYL				S	Sg	11 36 43.1	+1.0
PYL	**PYLOS**	**0.37**	**215**	P	Pg	11 36 37.0	-0.3
PYL				S	Sg	11 36 43.1	+1.0
PYL	**PYLOS**	**0.37**	**215**	P	Pg	11 36 36.8	-0.5
PYL				S	Sg	11 36 43.7	+1.6
PYL				AML	AML	11 36 45.3	
	comp=N,460μm,0.3s						
PYL				AML	AML	11 36 45.8	
	comp=E,531μm,0.2s						
TRIP	**Tripoli**	**0.39**	**33**	P	Pg	11 36 37.5	-0.2
TRIP				S	Sg	11 36 44.4	+1.6
TRIP	**Tripoli**	**0.39**	**33**	P	Pg	11 36 37.5	-0.2
TRIP				S	Sg	11 36 44.4	+1.6
TRIP				AML	AML	11 36 45.4	
	comp=N,140μm,0.4s						
TRIP				AML	AML	11 36 45.8	
	comp=E,171μm,0.4s						
AMT	**Artemida-Makis**	**0.41**	**325**	P	Pg	11 36 38.0	-0.1
AMT				S	Sg	11 36 44.1	+0.7
AMT	**Artemida-Makis**	**0.41**	**325**	P	Pg	11 36 38.0	-0.1
AMT				S	Sg	11 36 44.1	+0.7
AMT	**Artemida-Makis**	**0.41**	**325**	P	Pg	11 36 38.7	+0.7
AMT				S	Sg	11 36 44.2	+0.9
AMT				AML	AML	11 36 45.0	
	comp=N,937μm,0.2s						
AMT				AML	AML	11 36 46.6	
	comp=E,772μm,0.3s						
DRO	**Drossia**	**0.79**	**343**	P	Pg	11 36 44.8	-0.5
DRO				S	Sb	11 36 56.7	-1.1
DRO	**Drossia**	**0.79**	**343**	P	Pg	11 36 44.8	-0.5
DRO				S	Sg	11 36 55.6	+0.1
DRO	**Drossia**	**0.79**	**343**	P	Pg	11 36 45.6	+0.3
DRO				S	Sg	11 36 55.6	+0.1
DRO				AML	AML	11 37 01.0	
	comp=N,282μm,0.3s						
DRO				AML	AML	11 37 05.6	
	comp=E,247μm,0.5s						
KLV	**Kalavryta, Ach**	**0.85**	**8**	P	Pg	11 36 45.2	-1.3
KLV				S	Sg	11 36 58.5	+0.9
KLV	**Kalavryta, Ach**	**0.85**	**8**	P	Pg	11 36 45.2	-1.3
KLV				S	Sg	11 36 57.9	+0.3
KLV	**Kalavryta, Ach**	**0.85**	**8**	P	Pg	11 36 44.8	-1.7
KLV				S	Sg	11 36 57.9	+0.3
KLV				AML	AML	11 36 59.9	
	comp=E,60μm,0.3s						
KLV				AML	AML	11 37 00.6	
	comp=N,37μm,0.2s						
VLI	**Veliai**	**0.89**	**123**	P	Pg	11 36 47.1	-0.1
VLI	**Veliai**	**0.89**	**123**	P	Pg	11 36 47.1	-0.1
VLI				AML	AML	11 37 04.2	
	comp=N,84μm,0.5s						
VLI				AML	AML	11 37 05.4	
	comp=E,94μm,0.5s						
RLS	**Riolos of Patr**	**0.96**	**334**	P	Pg	11 36 48.2	-0.4
RLS				S	Sg	11 37 00.7	-0.3
RLS	**Riolos of Patr**	**0.96**	**334**	P	Pg	11 36 48.2	-0.4
RLS				S	Sg	11 37 00.7	-0.3
RLS				AML	AML	11 37 05.8	
	comp=E,93μm,0.2s						
RLS				AML	AML	11 37 05.9	
	comp=N,101μm,0.4s						
TRAZ	**Trapeza**	**0.98**	**9**	P	Pg	11 36 47.1	-1.9
TRAZ				S	Sg	11 37 02.2	+0.5
TRAZ	**Trapeza**	**0.98**	**9**	P	Pg	11 36 47.1	-1.9
TRAZ				S	Sg	11 37 02.2	+0.4
TRAZ				AML	AML	11 37 04.5	
	comp=E,136μm,0.2s						
TRAZ				AML	AML	11 37 08.6	
	comp=N,155μm,0.4s						
DID	**Didima**	**1.03**	**72**	P	Pg	11 36 48.8	-1.1
DID	**Didima**	**1.03**	**72**	P	Pg	11 36 48.8	-1.1
DID				AML	AML	11 37 09.4	
	comp=N,66μm,0.5s						
DID				AML	AML	11 37 09.7	
	comp=E,80μm,0.3s						
LAKA	**Lakka**	**1.04**	**359**	P	Pg	11 36 48.8	-1.3
LAKA				S	Sg	11 37 03.6	0.0
LAKA	**Lakka**	**1.04**	**359**	P	Pg	11 36 48.8	-1.3
LAKA				S	Sg	11 37 03.6	0.0
LAKA				AML	AML	11 37 07.1	
	comp=N,50μm,0.7s						
LAKA				AML	AML	11 37 11.7	
	comp=E,34μm,0.4s						
LTK	**Loutraki**	**1.12**	**43**	P	Pg	11 36 50.4	-1.3
LTK	**Loutraki**	**1.12**	**43**	P	Pg	11 36 50.4	-1.3
TRIZ	**Trizonia**	**1.17**	**3**	P	Pg	11 36 50.3	-2.2
TRIZ				S	Sg	11 37 08.1	+0.4
TRIZ	**Trizonia**	**1.17**	**3**	P	Pg	11 36 50.3	-2.3
TRIZ				S	Sg	11 37 08.1	+0.4
KALE	**Kalithea**	**1.19**	**5**	P	Pg	11 36 49.9	-3.2
KALE	**Kalithea**	**1.19**	**5**	P	Pg	11 36 50.0	-3.2
KALE				AML	AML	11 37 16.2	
	comp=E,41μm,0.4s						
KALE				AML	AML	11 37 19.0	
	comp=N,56μm,0.5s						
DSF	**Desfina**	**1.28**	**19**	P	Pg	11 36 54.0	-0.7
DSF	**Desfina**	**1.28**	**19**	P	Pg	11 36 53.9	-0.8
VILL	**Villia**	**1.41**	**47**	P	Pb	11 36 57.9	+0.6
VIL2	**Platees**	**1.42**	**44**	P	Pg	11 36 57.9	+0.4
LKD2	**Lefkada island**	**1.91**	**327**	P	Pn	11 37 04.1	+0.3
LKD2	**Lefkada island**	**1.91**	**327**	P	Pn	11 37 04.0	+0.3

*ATH **15** 11:36:32.2, 35˚.82N×25˚.71E, h32km±1km, ML2.6/14, Error ellipse: s-maj=1.4km s-min=1.0km az=64.0*
*ISCJB **15** 11:36:33.3±0.4, 35˚.82N±0˚.02×25˚.70E±0˚.04, h19km±7km, Error ellipse: s-maj=5.1km s-min=3.8km az=177.3*

*THE **15** 11:36:33.5, 35˚.81N×25˚.65E, h31km±17km, Error ellipse: s-maj=17.1km s-min=0.6km az=92.0*
*CSEM **15** 11:36:33.3±0.3, 35˚.83N×25˚.70E, h20km, ML2.6, Error ellipse: s-maj=7.7km s-min=5.3km az=83.0*
ISC 15 11:36:32.9±0.9, 35˚.81N±0˚.02×25˚.71E±0˚.03, h30km±10km, n43, σ0s76/77, Crete

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
NPS	**Neapolis**	**0.55**	**188**	P	**Pb**	**11 36 44.2**	**0.0**
NPS				S	**Sb**	**11 36 51.9**	**0.0**
NPS	**Neapolis**	**0.55**	**188**	P	**Pb**	**11 36 44.2**	**0.0**
NPS				S	**Sb**	**11 36 52.1**	**+0.2**
NPS	**Neapolis**	**0.55**	**188**	P	**Pb**	**11 36 44.2**	**0.0**
NPS				S	**Sb**	**11 36 52.1**	**+0.2**
NPS	**Neapolis**	**0.55**	**188**	P	**Pb**	**11 36 44.6**	**+0.5**
NPS				S	**Sb**	**11 36 52.1**	**+0.2**
NPS				AML	AML	11 36 52.8	
	comp=E,1245μm,0.5s						
NPS				AML	AML	11 36 53.5	
	comp=N,982μm,0.4s						
SANT	**Santorini**	**0.59**	**340**	P	**Pb**	**11 36 44.8**	**-0.1**
SANT				S	**Sb**	**11 36 53.2**	**+0.1**
SANT	**Santorini**	**0.59**	**340**	P	**Pb**	**11 36 44.8**	**-0.1**
SANT				S	**Sb**	**11 36 53.2**	**+0.1**
SANT	**Santorini**	**0.59**	**340**	P	**Pb**	**11 36 44.8**	**-0.1**
SANT				S	**Sb**	**11 36 53.2**	**0.0**
SANT	**Santorini**	**0.59**	**340**	P	**Pb**	**11 36 44.9**	**-0.1**
SANT				S	**Sb**	**11 36 53.1**	**0.0**
SANT				AML	AML	11 36 54.9	
	comp=N,1854μm,0.3s						
SANT				AML	AML	11 36 55.1	
	comp=E,3006μm,0.3s						
THR6	**Thira Island,**	**0.60**	**335**	P	**Pb**	**11 36 44.6**	**-0.4**
THR6	**Thira Island,**	**0.60**	**335**	P	**Pb**	**11 36 44.6**	**-0.4**
THR6	**Thira Island,**	**0.60**	**335**	P	**Pb**	**11 36 44.6**	**-0.4**
SAP1	**Santorini-Akro**	**0.60**	**335**	P	**Pb**	**11 36 44.7**	**-0.3**
SAP1				S	**Sn**	**11 36 54.0**	**-0.1**
SAP1	**Santorini-Akro**	**0.60**	**335**	P	**Pb**	**11 36 44.8**	**-0.3**
SAP1				S	**Sn**	**11 36 54.1**	**-0.1**
SAP1				AML	AML	11 36 54.3	
	comp=E,6087μm,0.5s						
SAP1				AML	AML	11 36 55.5	
	comp=N,6456μm,0.6s						
LAST	**Lasithi**	**0.68**	**196**	P	**Pb**	**11 36 45.9**	**-0.4**
LAST				S	**Sb**	**11 36 54.8**	**-0.6**
LAST	**Lasithi**	**0.68**	**196**	P	**Pb**	**11 36 45.9**	**-0.4**
LAST				S	**Sb**	**11 36 55.2**	**-0.2**
LAST	**Lasithi**	**0.68**	**196**	P	**Pb**	**11 36 45.9**	**-0.4**
LAST				S	**Sb**	**11 36 55.2**	**-0.2**
LAST	**Lasithi**	**0.68**	**196**	P	**Pb**	**11 36 44.7**	**-1.5**
LAST				S	**Sb**	**11 36 54.5**	**-0.9**
LAST				AML	AML	11 36 57.1	
	comp=N,572μm,0.4s						
LAST				AML	AML	11 36 57.3	
	comp=E,430μm,0.6s						
ZKR	**Zakros**	**0.81**	**149**	P	**Pb**	**11 36 50.2**	**+1.7**
ZKR				S	**Sb**	**11 36 59.8**	**+0.8**
ZKR	**Zakros**	**0.81**	**149**	P	**Pb**	**11 36 50.1**	**+1.7**
ZKR				S	**Sb**	**11 36 59.8**	**+0.8**
ZKR				AML	AML	11 37 00.8	
	comp=E,1279μm,0.5s						
ZKR				AML	AML	11 37 03.6	
	comp=N,532μm,0.4s						
IDI	**Anoyia**	**0.85**	**232**	P	**Pn**	**11 36 48.2**	**-0.6**
IDI				S	**Sn**	**11 36 59.4**	**-0.9**
IDI	**Anoyia**	**0.85**	**232**	P	**Pn**	**11 36 48.2**	**-0.6**
IDI				S	**Sn**	**11 36 58.9**	**-1.4**
IDI	**Anoyia**	**0.85**	**232**	P	**Pn**	**11 36 47.8**	**-1.0**
IDI				S	**Sn**	**11 36 58.9**	**-1.4**
IDI	**Anoyia**	**0.85**	**232**	P	**Pn**	**11 36 47.8**	**-1.0**
IDI				S	**Sn**	**11 36 59.4**	**-0.8**
IDI				AML	AML	11 37 00.4	
	comp=E,1263μm,0.5s						
IDI				AML	AML	11 37 00.7	
	comp=N,1194μm,0.5s						
SIVA	**Sivas**	**1.08**	**223**	P	**Pb**	**11 36 52.9**	**-0.1**
SIVA				S	**Sb**	**11 37 06.7**	**0.0**
SIVA	**Sivas**	**1.08**	**223**	P	**Pn**	**11 36 52.2**	**+0.3**
SIVA				S	**Sn**	**11 37 04.4**	**-1.5**
SIVA	**Sivas**	**1.08**	**223**	P	**Pn**	**11 36 52.2**	**+0.3**
SIVA				S	**Sn**	**11 37 04.4**	**-1.5**
SIVA	**Sivas**	**1.08**	**223**	P	**Pb**	**11 36 53.0**	**0.0**
SIVA				S	**Sb**	**11 37 07.0**	**+0.3**
SIVA				AML	AML	11 37 09.9	
	comp=E,1150μm,0.5s						
SIVA				AML	AML	11 37 14.1	
	comp=N,739μm,0.5s						
KARP	**Karpathos**	**1.21**	**102**	P	**Pb**	**11 36 55.3**	**+0.1**
KARP				S	**Sb**	**11 37 10.4**	**-0.1**
KARP	**Karpathos**	**1.21**	**102**	P	**Pb**

RCDM eS Sb 11 48 11.6 +1.0
CLCH Cerro Calan 1.13 120 eP Pn 11 47 59.7 -0.4
CLCH eS Sn 11 48 15.8 +0.7
CLCH IAML 11 48 19.8
comp=E,204nm,0.7s
FCH Farellones 1.29 112 eP Pn 11 48 02.3 -0.2
FCH eS Sg 11 48 20.6 -0.5
AUSP Uspallata 2.06 73 eP Pb 11 48 15.0 -1.2
ARCO CERRO ARCO 2.34 91 eP Pb 11 48 19.9 -1.0
ARCO IAML 11 49 00.3
comp=Z,16nm,0.7s
ASAL Salagasta 2.44 85 eP Pb 11 48 21.5 -1.1
ASAL eS Sb 11 48 51.9 -0.4
TLL Tololo Astrono 2.78 16 eP Pn 11 48 23.2 +0.2
AMOG MOGNA 3.33 56 eP Pn 11 48 32.1 +1.6

---

*IDC **15** 11:52:21.6±1.6, 36°.17N×141°.80E, h0km, mb3.4/2, mb1 3.7/4, mb1mx3.3/56, mbtmp3.5/4, ML3.4/2, Error ellipse: s-maj=43.3km s-min=29.1km az=125.0*
*ISCJB **15** 11:52:23.2±1.0, 36°.20N±0°.06×141°.69E±0°.09, h26km, mb3.6/2, Error ellipse: s-maj=10.2km s-min=8.6km az=169.9*
*JMA **15** 11:52:23.9±0.3, 36°.24N×141°.62E, h65km, M3.2*
ISC 15 11:52:24.8±1.2, 36°.28N±0°.07×141°.65E±0°.09, h26km, n12, σ1§24/12, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
JHO	**Hitachi**	**0.93**	**291**	P		**Pn**		**11 52 40.9**	**-1.4**
ONAJ	**Iwakimizuishiy**	**1.07**	**321**	P		**Pn**		**11 52 43.4**	**-0.8**
JYT	**Yasato**	**1.18**	**268**	P		**Pn**		**11 52 44.2**	**-1.4**
JFK	**Kawauchi**	**1.25**	**331**	P		**Pn**		**11 52 46.1**	**-0.6**
MJAR	**Matsushiro Arr**	**2.79**	**276**	Pn		**Pn**		**11 53 08.5**	**+0.7**
	3.7nm,0.3s,baz=87,slow=9.5,SNR=14								
MJAR						Sn		**11 53 41.5**	**+0.9**
	3.1nm,0.3s,baz=113,slow=13,SNR=3.6								
MAT	**Matsushiro**	**2.79**	**277**	P		**Pn**		**11 53 08.8**	**+1.0**
MAT				S		**Sn**		**11 53 41.4**	**+0.8**
JHJ	**Hachijo jima 2**	**3.50**	**207**	Pn		**Pn**		**11 53 18.5**	**+0.9**
	13nm,0.3s,baz=109,slow=22,SNR=1.5								
JHJ						Sn		**11 53 56.5**	**-1.8**
	7.7nm,0.3s,baz=247,slow=23,SNR=1.8								
H11S1	**WAKE ISLAND Hy**	**28.29**	**122**	T		T		12 28 18.1	
	baz=323								
H11S3	**WAKE ISLAND Hy**	**28.29**	**122**	T		T		12 28 24.0	
	baz=323								
H11S2	**WAKE ISLAND Hy**	**28.31**	**122**	T		T		12 28 22.2	
	baz=323								
ILAR	**Eielson Array**	**50.03**	**32**	P		**P**		**12 01 17.9**	**+1.2**
	0.6nm,0.8s,baz=263,slow=7.1,SNR=4.3								
WRA	**Warramunga Arr**	**56.34**	**188**	P		**P**		**12 02 02.8**	**-0.8**
	0.5nm,1.0s,baz=6.2,slow=7.5,SNR=1.9								

---

*ISCJB **15** 11:57:39.6±0.6, 39°.39N±0°.03×37°.10E±0°.04, h4km±6km, Error ellipse: s-maj=5.7km s-min=4.6km az=149.0*
*CSEM **15** 11:57:39.6±0.2, 39°.41N×37°.14E, h5km, MD2.6, Error ellipse: s-maj=4.8km s-min=4.0km az=38.0*
*DDA **15** 11:57:39.3, 39°.38N×37°.17E, h7km, Md2.6*
*ISK **15** 11:57:39.4, 39°.41N×37°.10E, h6km, MD2.7*
ISC 15 11:57:39.8±1.0, 39°.42N±0°.03×37°.16E±0°.02, h8km±9km, n23, σ0§82/36, Turkey

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
CUKAN	**kangal_SIVAS**	**0.26**	**113**	*i* P		**Pg**		**11 57 44.5**	**-0.5**
CUKAN				*i* S		**Sg**		**11 57 49.9**	**+1.4**
CUKAN	**kangal_SIVAS**	**0.26**	**113**	P		**Pg**		**11 57 44.5**	**-0.5**
CUKAN				S		**Sg**		**11 57 49.9**	**+1.4**
CUALT	**Altinyayla-SIV**	**0.34**	**245**	*i* P		**Pg**		**11 57 46.0**	**-0.5**
CUALT				*i* S		**Sb**		**11 57 55.9**	**+2.0**
CUALT	**Altinyayla-SIV**	**0.34**	**245**	P		**Pg**		**11 57 46.0**	**-0.5**
SCER	**sogukcermik**	**0.45**	**357**	*i* P		**Pg**		**11 57 48.1**	**-0.4**
SCER				*i* S		**Sb**		**11 57 56.3**	**-0.6**
SCER	**sogukcermik**	**0.45**	**357**	P		**Pg**		**11 57 48.1**	**-0.4**
SCER				S		**Sb**		**11 57 56.3**	**-0.6**
SVSK	**Karacayir**	**0.52**	**346**	*e*PG		**Pg**		**11 57 49.7**	**-0.1**
SVSK				*e*SG		**Sg**		**11 57 57.3**	**+0.8**
SVSK	**Karacayir**	**0.52**	**346**	*e*Pg		**Pg**		**11 57 49.7**	**-0.1**
SVSK				*e*Sg		**Sg**		**11 57 57.3**	**+0.8**
CUSAR	**Sarkisla-SIVAS**	**0.71**	**270**	*i* P		**Pb**		**11 57 53.5**	**-1.0**
CUSAR				*i* S		**Sn**		**11 58 07.8**	**+0.4**
CUSAR	**Sarkisla-SIVAS**	**0.71**	**270**	P		**Pb**		**11 57 53.5**	**-1.0**
DARE	**Darende-Malaty**	**0.88**	**163**	*e*PG		**Pb**		**11 57 56.9**	**-0.5**
DARE				*e*SG		**Sb**		**11 58 09.7**	**+0.3**
DARE	**Darende-Malaty**	**0.88**	**163**	*e*Pg		**Pb**		**11 57 56.9**	**-0.5**
DARE				*e*Sg		**Sb**		**11 58 09.7**	**+0.3**
KEMA	**Kemaliye**	**1.05**	**98**	*i* P		**Pg**		**11 57 59.1**	**-0.8**
KEMA				*i* S		**Sn**		**11 58 15.8**	**0.0**
KEMA	**Kemaliye**	**1.05**	**98**	P		**Pg**		**11 57 59.1**	**-0.8**
KEMA				S		**Sn**		**11 58 15.8**	**0.0**
SUSE	**Susehri**	**1.13**	**45**	*i* P		**Pg**		**11 58 01.3**	**-0.2**
SUSE				*i* S		**Sn**		**11 58 19.9**	**+2.0**
SUSE	**Susehri**	**1.13**	**45**	P		**Pg**		**11 58 01.3**	**-0.2**
SARI	**SarD1z-Kayseri**	**1.16**	**210**	*e*PN		**Pg**		**11 58 01.5**	**-0.6**
YOZ	**Yozgat**	**1.44**	**280**	*e*PN		**Pn**		**11 58 06.0**	**-0.3**
YOZ	**Yozgat**	**1.44**	**280**	*e*Pn		**Pn**		**11 58 06.1**	**-0.3**
PTK	**Pertek**	**1.81**	**106**	*e*PN		**Pb**		**11 58 12.4**	**-0.9**
PTK	**Pertek**	**1.81**	**106**	*e*Pn		**Pb**		**11 58 12.5**	**-0.9**
CORM	**Corum**	**2.09**	**292**	*e*PN		**Pn**		**11 58 15.2**	**-0.1**
CORM	**Corum**	**2.09**	**292**	*e*Pn		**Pn**		**11 58 15.2**	**-0.1**

---

*ISCJB **15** 11:59:49.4±0.6, 15°.00S±0°.02×177°.90W±0°.02, h357km±6km, mb5.5/366, Error ellipse: s-maj=4.3km s-min=2.9km az=141.6*
*IDC **15** 11:59:50.9±0.5, 15°.03S×177°.79W, h361km±3km, mb4.8/29, mb1 4.9/31, mb1mx4.9/33, mbtmp5.5/31, Error ellipse: s-maj=9.8km s-min=7.2km az=154.0*
*MOS **15** 11:59:52.7±1.0, 14°.82S×177°.95W, h383km, mb5.6/43, Error ellipse: s-maj=7.6km s-min=6.5km az=52.3*
*NEIC **15** 11:59:52.8±0.5, 14°.96S×177°.96W, h378km±4km, mb5.6/294, MW5.5, Error ellipse: s-maj=3.8km s-min=2.4km az=136.0*
*BJI **15** 11:59:52.3, 14°.32S×177°.52W, h373km, mb4.9/42, mB4.9/39*
*NEIC **15** 11:59:52.0±0.0, 14°.65S×177°.71W, h370km, Moment Tensor Solution. s7 Moment tensor: Scale 10^{17}Nm; M_{rr}=1.53; $M_{\theta\theta}$=0.21; $M_{\phi\phi}$=1.74; $M_{r\theta}$=0.61; $M_{r\phi}$=0.33; $M_{\theta\phi}$=1.27; Best double couple: $M_0$2.20000×10^{17} NP1:φs201.00000°, δ65.00000°, λ-79.00000°. NP2:φs356.00000°, δ27.00000°, λ-112.00000°. Principal axes: T 2.2900, Plg19.0000°, Azm282.0000°; N -0.2000, Plg9.0000°, Azm16.0000°; P -2.0900, Plg67.0000°, Azm131.0000°;*
*GCMT **15** 11:59:52.8±0.2, 14°.89S×177°.77W, h376km±1km, MW5.6/114, Moment Tensor Solution. s114,c195; s44,c46; Duration: 1§5 Moment tensor: Scale 10^{17}Nm; M_{rr}=2.17±.04; $M_{\theta\theta}$=0.23±.08; $M_{\phi\phi}$=2.41±.07; $M_{r\theta}$=1.46±.06; $M_{\theta\phi}$=0.25±.06; $M_{r\phi}$=1.59±.06; Best double couple: $M_0$3.15900×10^{17} NP1:φs209.00000°, δ67.00000°, λ-70.00000°. NP2:φs345.00000°, δ30.00000°, λ-130.00000°. Principal axes: T 3.0610, Plg20.0000°, Azm284.0000°; N 0.2010, Plg19.0000°, Azm21.0000°; P -3.2570, Plg62.0000°, Azm151.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to mantle waves, cutoff=125s.*
ISC 15 11:59:51.9±0.3, 14°.87S±0°.04×177°.86W±0°.04, h369km±2km, h370km: pP-P, n1605, σ1§22/1620, mb5.6/364, 43C-60D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**4.85**	**234**	*e*P		**Pn**		**12 01 13.1**	**+2.2**
MSVF	**Nonsavu**	**4.85**	**234**	*e*Pn		**Pn**		**12 01 13.0**	**+2.1**
AFI	**Afiamalu**	**5.97**	**82**	P		**Pn**		**12 01 20.9**	**-2.2**
	119nm,0.3s,baz=234,slow=0.7,SNR=317								
AFI				S		**S**		**12 02 41.8**	**+4.6**
	baz=20,slow=23,SNR=1.2								
FUNA	**Funafuti**	**6.94**	**335**	*e*Pn		**Pn**		**12 01 33.4**	**-0.7**
RAO	**Raoul Island**	**14.31**	**180**	P		**P**		**12 02 56.2**	**-1.8**
	110nm,0.3s,baz=277,slow=22,SNR=5.5								
DZM	**Mont Dzumac**	**16.52**	**242**	P		**P**		**12 03 23.5**	**+1.3**
	19nm,0.3s,baz=65,slow=17,SNR=151								
DZM	**Mont Dzumac**	**16.52**	**242**	*e*P		**P**		**12 03 22.6**	**+0.4**
	1µm,1.4s								
DZM	**Mont Dzumac**	**16.52**	**242**	*e*P		**P**		**12 03 22.3**	**+0.1**
	1µm,1.6s								
RAR	**Rarotonga**	**18.31**	**113**	P		**P**		**12 03 41.7**	**+0.5**
	1.6nm,0.3s,baz=250,slow=6.7,SNR=14								
RAR	**Rarotonga**	**18.31**	**113**	*e*P		**P**		**12 03 42.8**	**+1.6**
RAR					pmax	pmax			
	comp=Z,220nm,1.0s								
RAR	**Rarotonga**	**18.31**	**113**	*e*P		**P**		**12 03 42.8**	**+1.6**
	comp=Z,216nm,1.0s								
TARA	**Tarawa**	**18.53**	**330**	*e*P		**P**		**12 03 43.8**	**+0.2**
	comp=Z,72nm,1.1s								
OUZ	**Omahuta**	**21.67**	**199**	*e*P		**P**		**12 04 14.9**	**+1.3**
	comp=Z,1µm,1.5s								
OUZ	**Omahuta**	**21.67**	**199**		PN	**P**		**12 04 15.0**	**+1.3**
WCZ	**Waipu Caves**	**22.11**	**197**		PN	**P**		**12 04 18.6**	**+1.0**
HNR	**Honiara**	**22.36**	**281**	P		**P**		**12 04 20.0**	**-0.1**
	comp=Z,403nm,0.7s,baz=142,slow=1.4,SNR=10								
HNR	**Honiara**	**22.36**	**281**	*e*P		**P**		**12 04 19.0**	**-1.1**
HNR	**Honiara**	**22.36**	**281**	*e*P		**P**		**12 04 21.3**	**+1.2**
HNR					pmax	pmax			
	comp=Z,500nm,0.8s								
HNR	**Honiara**	**22.36**	**281**	*e*P		**P**		**12 04 21.1**	**+1.0**
	comp=Z,498nm,0.8s								
KUZ	**Kuaotunu**	**22.52**	**194**	*e*PN		**P**		**12 04 21.1**	**-0.2**
MXZ	**Matakaoa Point**	**22.85**	**188**	*e*P		**P**		**12 04 22.3**	**-2.0**
	comp=Z,198nm,1.0s								
ETAZ	**East Tamaki Re**	**22.91**	**195**	*e*PN		**P**		**12 04 25.1**	**+0.2**
MKAZ	**Moumakai**	**23.00**	**194**		PN	**P**		**12 04 25.6**	**-0.1**
AWAZ	**Awhitu Peninsu**	**23.09**	**195**		PN	**P**		**12 04 26.3**	**-0.1**
WMGZ	**Waiomatatini S**	**23.09**	**188**		PN	**P**		**12 04 24.4**	**-2.1**
HAZ	**Te Kaha**	**23.12**	**189**		PN	**P**		**12 04 23.6**	**-3.1**
TGRZ	**Tauranga**	**23.36**	**192**	*e*PN		**P**		**12 04 28.6**	**-0.3**
PUZ	**Puketiti**	**23.36**	**188**		PN	**P**		**12 04 26.1**	**-2.9**
OPRZ	**Ohinepanea**	**23.41**	**191**		PN	**P**		**12 04 27.8**	**-1.6**
TWGZ	**Tauwhareparae**	**23.50**	**188**		PN	**P**		**12 04 27.9**	**-2.4**
TOZ	**Tahuroa Road**	**23.52**	**193**		PN	**P**		**12 04 30.0**	**-0.3**
URZ	**Urewera**	**23.71**	**190**	*e*P		**P**		**12 04 28.4**	**-3.7**
	comp=Z,237nm,0.8s,baz=9.0,slow=1.1,SNR=89								
URZ	**Urewera**	**23.71**	**190**	*e*P		**P**		**12 04 28.9**	**-3.2**
	comp=Z,320nm,0.9s								
URZ	**Urewera**	**23.71**	**190**		PN	**P**		**12 04 27.4**	**-4.8**
MWZ	**Matawai**	**23.72**	**189**		PN	**P**		**12 04 27.7**	**-4.5**
RIGZ	**Rimuhau**	**24.05**	**188**		PN	**P**		**12 04 32.7**	**-2.5**
HIZ	**Hauiti**	**24.41**	**194**	*e*P		**P**		**12 04 39.9**	**+1.5**
	comp=Z,1µm,1.9s								
BKZ	**Black Stump Fm**	**24.70**	**191**	*e*P		**P**		**12 04 38.1**	**-3.0**
	comp=Z,70nm,0.9s								
BHHZ	**Black Hill Sta**	**25.10**	**191**		PN	**P**		**12 04 40.7**	**-3.9**
BFZ	**Birch Farm**	**26.22**	**190**	*e*P		**P**		**12 04 53.6**	**-0.9**
	comp=Z,72nm,0.7s								
BFZ	**Birch Farm**	**26.22**	**190**		PN	**P**		**12 04 51.2**	**-3.3**
XMAS	**Kiritimati**	**26.29**	**52**	*e*P		**P**		**12 04 55.7**	**+0.3**
	comp=Z,537nm,0.8s								
CAW	**Cannon Point**	**26.85**	**192**		PN	**P**		**12 04 56.9**	**-3.2**
TCW	**Tory Channel**	**27.12**	**193**		PN	**P**		**12 05 00.0**	**-2.4**
SNZO	**South Karori**	**27.12**	**192**	*e*P		**P**		**12 05 00.3**	**-2.1**
	comp=Z,213nm,1.1s								
PAE	**Paea**	**27.27**	**100**	↓*i* P		**P**		**12 05 03.5**	**-0.6**
	comp=Z,32nm,1.1s								
PPT	**Papeete**	**27.27**	**100**	P		**P**		**12 05 03.9**	**-0.2**
	comp=Z,113nm,0.9s,baz=274,slow=2.9,SNR=20								
PPT	**Papeete**	**27.27**	**100**	*e*P		**P**		**12 05 04.3**	**+0.1**
PPT	**Papeete**	**27.27**	**100**	*e*P		**P**		**12 05 04.3**	**+0.1**
PPT2	**Papeete2**	**27.28**	**100**	↓*i* P		**P**		**12 05 03.9**	**-0.3**
	comp=Z,134nm,1.2s								
NNZ	**Nelson**	**27.33**	**194**		PN	**P**		**12 05 02.0**	**-2.3**
TIAR	**Tiarei**	**27.50**	**99**	*e*P		**P**		**12 05 05.9**	**-0.2**
	comp=Z,20nm,0.9s								
TVO	**Taravao**	**27.59**	**100**	↓*i* P		**P**		**12 05 06.9**	**-0.1**
	comp=Z,53nm,1.0s								
THZ	**Tophouse**	**27.96**	**195**	*e*P		**P**		**12 05 08.8**	**-1.1**
	comp=Z,136nm,1.2s								
THZ	**Tophouse**	**27.96**	**195**		PN	**P**		**12 05 07.8**	**-2.1**
TBI	**Tubuai**	**28.08**	**112**	↓*i* P		**P**		**12 05 11.8**	**+0.6**
	comp=Z,285nm,1.0s								
DSZ	**Denniston Nort**	**28.23**	**196**		PN	**P**		**12 05 09.4**	**-2.9**
KHZ	**Kahutara**	**28.43**	**193**	*e*P		**P**		**12 05 11.5**	**-2.4**
	comp=Z,70nm,0.6s								
KHZ	**Kahutara**	**28.43**	**193**		PN	**P**		**12 05 10.7**	**-3.3**
LTZ	**Lake Taylor**	**29.08**	**195**	*e*P		**P**		**12 05 17.6**	**-2.2**
	comp=Z,149nm,0.6s								
LTZ	**Lake Taylor**	**29.08**	**195**		PN	**P**		**12 05 16.9**	**-2.9**
VAH	**Vaihoa**	**29.18**	**95**	↓*i* P		**P**		**12 05 20.6**	**-0.4**
	comp=Z,207nm,1.1s								
INZ	**Inchbonnie**	**29.24**	**196**		PN	**P**		**12 05 17.4**	**-3.7**
OXZ	**Oxford**	**29.65**	**195**	*e*P		**P**		**12 05 21.6**	**-3.2**
	comp=Z,330nm,1.1s								
OXZ	**Oxford**	**29.65**	**195**		PN	**P**		**12 05 21.2**	**-3.5**
CRLZ	**Canterbury Las**	**29.74**	**194**	*e*P		**P**		**12 05 23.1**	**-2.4**
	comp=Z,146nm,1.2s								
MQZ	**McQueen's Vall**	**29.86**	**194**	*e*P		**P**		**12 05 24.2**	**-2.3**
	comp=Z,90nm,1.1s								
MQZ	**McQueen's Vall**	**29.86**	**194**		PN	**P**		**12 05 23.5**	**-3.0**
RPZ	**Rata Peaks**	**30.27**	**196**	P		**P**		**12 05 27.7**	**-2.5**
	comp=Z,36nm,0.5s,baz=28,slow=0.4,SNR=46								
RPZ	**Rata Peaks**	**30.27**	**196**	*e*P		**P**		**12 05 28.7**	**-1.4**
	comp=Z,48nm,0.8s								
FOZ	**Fox Glacier**	**30.45**	**198**	*e*P		**P**		**12 05 30.3**	**-1.3**
	comp=Z,110nm,0.7s								
FOZ	**Fox Glacier**	**30.45**	**198**		PN	**P**		**12 05 29.1**	**-2.5**
EIDS	**Eidsvold**	**30.91**	**245**	*e*P		**P**		**12 05 34.8**	**-1.1**
	comp=Z,31nm,1.1s								
LBZ	**Lake Benmore**	**31.12**	**197**	*e*P		**P**		**12 05 35.3**	**-2.3**
	comp=Z,64nm,0.5s								
LBZ	**Lake Benmore**	**31.12**	**197**		PN	**P**		**12 05 33.8**	**-3.7**
JCZ	**Jackson Bay**	**31.25**	**199**		PN	**P**		**12 05 36.6**	**-2.2**
ODZ	**Otahua Downs**	**31.61**	**196**	*e*P		**P**		**12 05 39.6**	**-2.1**
	comp=Z,56nm,1.2s								
WKZ	**Wanaka**	**31.86**	**198**	*e*P		**P**		**12 05 42.0**	**-2.1**
	comp=Z,173nm,0.6s								
WKZ	**Wanaka**	**31.86**	**198**		PN	**P**		**12 05 41.1**	**-2.9**
PATS	**Pohnpei**	**31.99**	**311**	*e*P		**P**		**12 05 46.0**	**+0.5**
	comp=Z,233nm,1.4s								
ARMA	**Armidale**	**32.00**	**236**	*e*P		**P**		**12 05 46.0**	**+0.5**
	comp=Z,58nm,1.0s								
MLZ	**Mavora Lakes**	**32.62**	**198**	*e*P		**P**		**12 05 49.2**	**-1.3**
	comp=Z,598nm,1.3s								
TUZ	**Tuapeka**	**32.72**	**196**		PN	**P**		**12 05 49.5**	**-1.8**
DCZ	**Deep Cove**	**33.02**	**200**	*e*P		**P**		**12 05 53.1**	**-0.8**
	comp=Z,156nm,1.3s								
WHZ	**Wether Hill Ro**	**33.15**	**198**	*e*P		**P**		**12 05 54.0**	**-1.1**
	comp=Z,757nm,1.3s								
WHZ	**Wether Hill Ro**	**33.15**	**198**		PN	**P**		**12 05 53.7**	**-1.3**
CTA	**Charters Tower**	**34.58**	**256**	P		**P**		**12 06 07.3**	**-0.2**
	comp=Z,21nm,0.5s,baz=94,slow=12								
CTA					PcP	**PcP**		**12 08 33.2**	**+0.4**
	comp=Z,30nm,0.9s,baz=43,slow=3.0,SNR=6.7								
CTAO	**Charters Tower**	**34.58**	**256**	*e*P		**P**		**12 06 06.4**	**-1.2**
CTAO					pmax	pmax			
	comp=Z,63nm,1.1s								
CTAO	**Charters Tower**	**34.58**	**256**	*e*P		**P**		**12 06 06.4**	**-1.2**
	comp=Z,63nm,1.1s								
PMG	**Port Moresby**	**34.60**	**275**	P		**P**		**12 06 08.5**	**+0.7**
	comp=Z,142nm,1.0s,baz=58,slow=9.5,SNR=12								
PMG	**Port Moresby**	**34.60**	**275**	*e*/*i*P		**P**		**12 06 08.9**	**+1.1**
PMG					pmax	pmax			
	comp=Z,2µm,1.7s								
PMG	**Port Moresby**	**34.60**	**275**	*e*P		**P**		**12 06 09.0**	**+1.2**
	comp=Z,337nm,1.3s								
COEN	**Coen**	**37.72**	**266**	*e*P		**P**		**12 06 34.8**	**+0.8**
	comp=Z,225nm,1.3s								
MWH	**Moku'aweowe**	**40.57**	**33**	*e*P		**P**		**12 06 58.0**	**+0.2**
	comp=Z,172nm,0.9s								
STKA	**Stephens Creek**	**40.61**	**238**	P		**P**		**12 06 57.6**	**+0.2**
	comp=Z,33nm,0.8s,baz=63,slow=8.2,SNR=32								
STKA					PcP	**sP**		**12 08 52.0**	**+0.6**
	comp=Z,27nm,0.8s,baz=67,slow=4.1,SNR=6.7								
STKA					ScP	**ScP**		**12 12 07.8**	**+2.7**
	comp=Z,6.9nm,0.8s,baz=66,slow=6.4,SNR=6.2								
STKA	**Stephens Creek**	**40.61**	**238**	*e*P		**P**		**12 06 58.2**	**+0.7**
	comp=Z,17nm,1.2s								
STKA					PcP	**sP**		**12 08 52.0**	**+0.6**
MLOA	**Mauna Loa Obse**	**40.62**	**33**	*e*P		**P**		**12 06 58.9**	**+0.9**
	comp=Z,241nm,1.0s								
SDHHI	**Sand Hill**	**40.65**	**34**	*e*P		**P**		**12 06 58.8**	**+0.9**
	comp=Z,188nm,1.2s								
WRMHI	**West Rim**	**40.66**	**34**	*e*P		**P**		**12 06 59.0**	**+0.9**
	comp=Z,160nm,1.0s								
RIM	**Rim**	**40.66**	**34**	*e*P		**P**		**12 06 59.1**	**+1.0**
	comp=Z,199nm,1.3s								
KKO	**Keanakako'i**	**40.67**	**34**	*e*P		**P**		**12 06 59.5**	**+1.4**
	comp=Z,181nm,1.2s								
PUH	**Pauahi**	**40.68**	**34**	*e*P		**P**		**12 06 59.1**	**+0.9**
BYL	**Byron's Ledge**	**40.69**	**34**	*e*P		**P**		**12 06 59.3**	**+1.0**
	comp=Z,104nm,1.0s								
MLH	**Mauna Loa**	**40.69**	**34**	*e*P		**P**		**12 06 59.4**	**+1.0**
MLH					pmax	pmax			
	comp=Z,130nm,0.8s								
MLH	**Mauna Loa**	**40.69**	**34**	*e*P		**P**		**12 06 59.4**	**+1.0**
	comp=Z,130nm,0.8s								
UWB	**Uwekahuna B**	**40.69**	**34**	*e*P		**P**		**12 06 59.2**	**+1.0**
	comp=Z,150nm,1.2s								
SBLHI	**Steaming Bluff**	**40.69**	**34**	*e*P		**P**		**12 06 59.0**	**+0.7**
	comp=Z,210nm,1.4s								
HATHI	**Halema'uma'u T**	**40.70**	**34**	*e*P		**P**		**12 06 59.3**	**+1.0**
	comp=Z,137nm,1.1s								
KEKH	**Kekaha**	**40.72**	**26**	*e*P		**P**		**12 06 59.1**	**+0.7**
	comp=Z,300nm,1.1s								
STCH	**Steam Cracks**	**40.74**	**34**	*e*P		**P**		**12 06 59.7**	**+1.1**
	comp=Z,308nm,1.0s								
JCUZ	**Jacuzzi**	**40.75**	**34**	*e*P		**P**		**12 06 59.5**	**+0.8**
	comp=Z,337nm,0.9s								
NPOC	**North of Pu'u**	**40.75**	**34**	*e*P		**P**		**12 06 59.9**	**+1.2**
	comp=Z,356nm,0.9s								
POHA	**Pohakuloa**	**40.82**	**33**	*e*P		**P**		**12 07 00.3**	**+0.8**
	comp=Z,276nm,0.9s								
HPAH	**Hawaii Prepara**	**40.96**	**33**	*e*P		**P**		**12 07 01.3**	**+0.9**
	comp=Z,638nm,0.8s								
KIP	**Kipapa**	**40.99**	**29**	*e*P		**P**		**12 07 00.9**	**+0.4**
KIP					pmax	pmax			
	comp=Z,130nm,0.9s								
KIP	**Kipapa**	**40.99**	**29**	*e*P		**P**		**12 07 00.9**	**+0.4**
	comp=Z,127nm,0.8s								
RKT	**Rikitea**	**41.25**	**108**	↓*i*P		**P**		**12 07 02.2**	**-0.5**
	comp=Z,147nm,0.9s								
HLK	**Haleakala**	**41.28**	**31**	*e*P		**P**		**12 07 04.1**	**+0.9**
	comp=Z,250nm,0.8s								
JAY	**Jayapura**	**42.67**	**283**	P		**P**		**12 07 14.7**	**+0.5**
	comp=Z,123nm,0.7s,comp=Z,1µm								
GENI	**Genyem**	**43.15**	**282**	P		**P**		**12 07 18.8**	**+0.8**
	comp=Z,380nm,0.7s,comp=Z,4µm								
SMPI	**Sarmi**	**44.72**	**282**	P		**P**		**12 07 31.7**	**+1.4**
	comp=Z,107nm,0.9s,comp=Z,3µm								
BBOO	**Buckleboo**	**45.39**	**238**	*e*P		**P**		**12 07 35.1**	**-0.1**
	comp=Z,95nm,1.3s								
WB2	**Warramunga Arr**	**45.77**	**257**	*e*P		**P**		**12 07 37.4**	**-1.1**
WB2				*e*S		**S**		**12 13 51.5**	**-2.2**
WB2				*e*S		S		12 13 52.4	-1.4
WRAB	**Tennant Creek**	**45.77**	**257**	*c i*P		**P**		**12 07 37.3**	**-1.1**
WRAB					pmax	pmax			
	comp=Z,128nm,1.2s								
WRAB	**Tennant Creek**	**45.77**	**257**	*e*P		**P**		**12 07 37.4**	**-1.0**
	comp=Z,34nm,0.9s								
WRAB				*e*S		**S**		**12 13 51.7**	**-2.1**
WRA	**Warramunga Arr**	**45.78**	**257**	P		**P**		**12 07 37.4**	**-1.1**
	comp=Z,22nm,0.8s,baz=77,slow=5.9,SNR=420								
WRA					PcP	**PcP**		**12 09 09.4**	**+0.2**
	comp=Z,27nm,0.9s,baz=85,slow=3.7,SNR=14								
WRA					PP	**sP**		**12 09 33.0**	**-0.8**
	comp=Z,9.4nm,1.0s,baz=90,slow=9.6,SNR=5.1								
WRA					ScP	**ScP**		**12 12 28.6**	**+2.2**
	comp=Z,11nm,1.0s,baz=84,slow=4.3,SNR=9.5								
WRA				S		**S**		**12 13 50.9**	**-3.0**
	comp=Z,6.3nm,0.9s,baz=93,slow=15,SNR=8.0								
AS01	**Alice Springs**	**46.15**	**251**	*e*P		**P**		**12 07 40.6**	**-0.7**
AS31	**Alice Springs**	**46.19**	**251**	*e*P		**P**		**12 07 41.3**	**-0.4**
	comp=Z,70nm,0.5s								
AS31				*e*S		S		**12 13 57.2**	**-2.6**
ASAR	**Alice Springs**	**46.19**	**251**	P		**

PET **Petropavlovsk** 70.59 345 *e*P P 12 10 27.4 -0.3
comp=Z,36nm,1.1s
PEA0 **Petropavlovsk-** 70.90 345 *e*P P 12 10 30.0 +0.3
PEA0B **Petropavlovsk-** 70.90 345 *e*P P 12 10 30.1 +0.3
comp=Z,89nm,0.9s
PETK **Petropavlovsk-** 70.90 345 P P 12 10 29.9 +0.2
comp=Z,69nm,0.8s,baz=124,slow=8.5,SNR=58
PETK pP **pP** 12 11 51.5 +0.1
comp=Z,11nm,0.9s,baz=112,slow=5.5,SNR=3.0
YSS **Yuzh-Sakhalins** 70.97 333 *i* P P 12 10 31.2 +1.0
YSS pmax pmax
comp=Z,52nm,1.0s
YSS **Yuzh-Sakhalins** 70.97 333 *e*P P 12 10 31.2 +1.0
comp=Z,45nm,1.0s
SBUM **Sibu** 71.29 278 *e*P P 12 10 32.6 -0.3
comp=Z,11nm,0.9s
STKI **Sintang** 71.35 275 P P 12 10 34.8 +1.6
SDPT **Sand Point** 71.48 10 *e*P P 12 10 32.5 -0.5
comp=Z,240nm,0.8s
CHGN **Chignik** 72.76 11 *e*P P 12 10 39.7 -0.8
comp=Z,137nm,0.7s
KSRS **Korea Array** 72.82 317 P P 12 10 42.6 +1.3
comp=Z,2.2nm,0.9s,baz=132,slow=6.7,SNR=7.7
KSRS pP **pP** 12 12 03.1 -0.4
comp=Z,1.4nm,0.9s,baz=124,slow=7.4,SNR=3.0
KSRS PKPPKP **P'P'df** 12 38 13.6 -7.1
comp=Z,5.9nm,1.2s,baz=317,slow=3.0,SNR=11
KSAR **Wonju Array Be** 72.84 317 P P 12 10 42.6 +1.2
KSAR **Wonju Array Be** 72.84 317 P P 12 10 42.6 +1.2
KSAR pP **pP** 12 12 03.1 -0.5
KS01 **Wonju Array Si** 72.85 317 *e*P P 12 10 42.2 +0.7
KSM **Kuching** 72.85 276 *e*P P 12 10 42.1 0.0
comp=Z,27nm,1.1s
SNCC **San Nicolas Is** 73.37 48 P P 12 10 45.9 +1.2
baz=239
SNCC **San Nicolas Is** 73.37 48 *e*P P 12 10 46.1 +1.4
comp=Z,223nm,1.3s
QZH **Quanzhou** 73.50 302 *e*P P 12 10 53.8 +8.3
QZH S **S** 12 19 47.8 +3.1
QZH ScS **ScS** 12 20 20.4 +1.0
BSC **Santa Cruz Isl** 73.67 47 P P 12 10 47.6 +1.1
baz=239
MCCM **Marconi Confer** 73.70 42 *e*P P 12 10 47.7 +1.3
comp=Z,224nm,0.9s
SBC **Santa Barbara** 73.85 47 P P 12 10 48.4 +1.1
baz=239
SAO **San Andreas Ge** 73.89 44 *e*P P 12 10 48.6 +1.1
SAO pmax pmax
comp=Z,200nm,0.9s
SAO **San Andreas Ge** 73.89 44 *e*P P 12 10 48.6 +1.1
comp=Z,201nm,0.9s
SCI **San Clemente I** 73.94 49 P P 12 10 48.9 +0.9
baz=240
PKM **Mcpherson Peak** 74.01 47 P P 12 10 49.8 +1.3
baz=238
PMPB **Monarch Peak** 74.03 45 *e*P P 12 10 49.9 +1.5
comp=Z,467nm,1.4s
HOPS **Hopland Field** 74.06 41 *e*P P 12 10 49.6 +1.2
comp=Z,360nm,1.1s
SMMC **Simmler** 74.11 46 P P 12 10 50.3 +1.4
baz=238
KCPM **Cahto Peak** 74.13 41 *e*P P 12 10 50.7 +1.7
comp=Z,278nm,1.2s
BLG **Laguna Peak, P** 74.14 48 P P 12 10 49.4 +0.4
baz=239
PAGB **Antelope Grade** 74.15 46 *e*P P 12 10 50.4 +1.3
comp=Z,350nm,1.6s
CIS **Catalina Islan** 74.25 48 P P 12 10 50.2 +0.5
baz=240
KMRM **Mail Ridge** 74.36 40 *e*P P 12 10 52.0 +1.8
comp=Z,646nm,1.0s
USRK **Ussuriysk Ar.** 74.43 325 P P 12 10 51.1 +0.7
comp=Z,5.4nm,0.8s,baz=151,slow=4.4,SNR=14
USRK pP **pP** 12 12 12.5 -0.6
comp=Z,1.4nm,0.7s,baz=116,slow=4.4,SNR=1.9
FMP **Fort Macarthur** 74.49 48 P P 12 10 51.9 +0.9
baz=240
JCC **Jacoby Creek,** 74.51 39 *e*P P 12 10 52.5 +1.5
comp=Z,161nm,1.0s
OSI **Osito Audit: C** 74.64 47 P P 12 10 52.8 +0.8
baz=239
OSI **Osito Audit: C** 74.64 47 *e*P P 12 10 53.4 +1.5
comp=Z,152nm,1.2s
OHAK **Old Harbor** 74.67 14 *e*P P 12 10 51.7 +0.2
comp=Z,153nm,0.9s
KHMM **Horse Mountain** 74.73 40 *e*P P 12 10 54.1 +1.6
comp=Z,273nm,1.1s
DECC **Green Verdugo** 74.73 48 P P 12 10 53.0 +0.5
baz=240
PASC **Pasadena Art C** 74.80 48 *e*P P 12 10 53.5 +0.7
comp=Z,128nm,1.0s
ARVC **Arvin** 74.82 47 P P 12 10 53.8 +0.9
baz=239
STTC **Scott Ranch** 74.91 47 *e*P P 12 10 55.0 +1.4
MWC **Mount Wilson** 74.92 48 *e*P P 12 10 54.3 +0.6
MWC pmax pmax
comp=Z,150nm,1.0s
MWC **Mount Wilson** 74.92 48 *e*P P 12 10 54.3 +0.6
comp=Z,146nm,0.9s
109C **Camp Elliot, M** 74.95 49 P P 12 10 54.3 +0.6
baz=241
KRMB **Red Mountain** 75.00 39 *e*P P 12 10 55.6 +1.7
comp=Z,230nm,1.0s
VES **Vestal, Richgr** 75.01 46 P P 12 10 54.7 +0.7
baz=239
FOXC **Fox Airport** 75.05 47 *e*P P 12 10 55.5 +1.2
RCTC **Rector, Farmer** 75.14 46 P P 12 10 55.0 +0.4
baz=239
BAR **Barrett** 75.17 50 *e*P P 12 10 55.4 +0.4
comp=Z,36nm,1.0s
BFSC **Mount Baldy Ra** 75.21 48 P P 12 10 55.8 +0.5
baz=240
KBO **Bosley Butte** 75.21 38 *e*P P 12 10 56.3 +1.2
comp=Z,248nm,1.3s
MURC **Murrieta** 75.23 49 P P 12 10 56.0 +0.7
baz=240
CMB **Columbia Colle** 75.28 43 *e*P P 12 10 56.2 +0.7
CMB pmax pmax
comp=Z,160nm,1.0s
CMB **Columbia Colle** 75.28 43 *e*P P 12 10 56.2 +0.7
comp=Z,163nm,0.9s
EDW2 **Edwards Air Fo** 75.29 47 P P 12 10 56.6 +0.9
baz=240
WDC **Whiskeytown Da** 75.30 40 *e*P P 12 10 56.6 +1.1
WDC pmax pmax
comp=Z,240nm,1.2s
WDC **Whiskeytown Da** 75.30 40 *e*P P 12 10 56.6 +1.1
comp=Z,243nm,1.2s
KDAK **Kodiak Island** 75.34 14 *e*P P 12 10 55.7 +0.4
KDAK pmax pmax
comp=Z,240nm,1.0s
KDAK **Kodiak Island** 75.34 14 *e*P P 12 10 55.7 +0.4
comp=Z,243nm,0.9s
ISA **Isabella, Lake** 75.35 46 P P 12 10 56.9 +1.0
baz=239
ISA **Isabella, Lake** 75.35 46 *e*P P 12 10 56.8 +0.8
ISA pmax pmax
comp=Z,190nm,1.1s
ISA **Isabella, Lake** 75.35 46 *e*P P 12 10 56.8 +0.8
comp=Z,186nm,1.1s
ORV **Oroville** 75.38 42 *e*P P 12 10 56.7 +0.7
ORV pmax pmax
comp=Z,140nm,1.0s
ORV **Oroville** 75.38 42 *e*P P 12 10 56.7 +0.7
comp=Z,141nm,1.0s
AFDM **Forest Hills D** 75.39 42 *e*P P 12 10 56.8 +0.7
comp=Z,151nm,1.0s
N02D **Trinity Center** 75.42 40 P P 12 10 57.7 +1.5
baz=235,SNR=93
MONP **Monument Peak,** 75.46 50 P P 12 10 57.8 +1.0
baz=241
KEBM **Edson Butte** 75.54 38 *e*P P 12 10 58.6 +1.7
comp=Z,137nm,1.0s
L02D **Cave Junction,** 75.56 39 P P 12 10 58.3 +1.4
baz=234,SNR=32
M02C **Callahan** 75.57 40 P P 12 10 58.7 +1.6
baz=235,SNR=9.1
IKP **In-Ko-Pah, Jac** 75.57 50 P P 12 10 58.4 +1.1
baz=242
HABR **Khabarovsk** 75.66 330 *e*P P 12 10 56.5 -0.8
HABR *e* 12 11 07.0
HABR *e**PP **pP** 12 12 21.0 +0.8
HABR *e**SP **sP** 12 13 01.6 +2.4
HABR *e* 12 13 51.4
HABR *e*PPP PPP 12 15 39.5
HABR *e*S **S** 12 20 05.7 -1.7
HABR *e* 12 20 33.1
HABR *e*SS **SS** 12 25 06.8 -1.7
HABR *e*SSS SSS 12 28 31.0
HABR pmax pmax
comp=Z,59nm,1.5s
HABR pmax pmax
comp=N,9.0nm,1.5s
HABR pmax pmax
comp=E,27nm,1.5s
BBRC **Big Bear Solar** 75.75 48 P P 12 10 59.2 +0.7
baz=241
PFO **Pinyon Flats O** 75.77 49 P P 12 10 59.1 +0.6
comp=E,29nm,0.9s,baz=256,slow=4.4,SNR=59
PFO **Pinyon Flats O** 75.77 49 P P 12 10 59.2 +0.6
baz=241
PFO **Pinyon Flats O** 75.77 49 *e*P P 12 10 59.1 +0.6
PFO pmax pmax
comp=Z,260nm,1.8s
PFO **Pinyon Flats O** 75.77 49 *e*P P 12 10 59.1 +0.6
comp=Z,261nm,1.8s
TPFO **Pinon Flats** 75.78 49 P P 12 10 59.3 +0.8
baz=241
LRMC **Laurel Mtn Rad** 75.81 47 P P 12 10 59.5 +0.8
baz=240
YBH **Yreka Blue Hor** 75.85 39 *e*P P 12 11 00.0 +1.3
YBH pmax pmax
comp=Z,150nm,1.0s
YBH **Yreka Blue Hor** 75.85 39 *e*P P 12 10 60.0 +1.3
comp=Z,146nm,0.9s
SWSC **Sam W. Stewart** 75.94 50 P P 12 11 00.1 +0.9
baz=242
RRX **Edison Barstow** 76.00 48 P P 12 11 00.4 +0.8
baz=240
CWC **Cottonwood Cre** 76.02 46 P P 12 11 00.7 +0.9
baz=239
MDJ **Mudanjiang** 76.03 324 P P 12 11 00.8 +1.3
MDJ pmax pmax
comp=Z,14nm,0.9s
MDJ pmax pmax
comp=Z,49nm,6.5s
MDJ **Mudanjiang** 76.03 324 P P 12 11 01.1 +1.6
MDJ pP pP 12 12 22.8 +0.3
MDJ sP sP 12 13 03.8 +2.3
MDJ S **S** 12 20 14.9 +3.2
MDJ ScS **ScS** 12 20 37.8 -1.2
MDJ pmax pmax
comp=Z,14nm,0.9s
MDJ pmax pmax
comp=Z,49nm,7.2s
MDJ LR LR
comp=Z,140nm,15.9s
MDJ LR LR
comp=Z,190nm,19.0s
MDJ LR LR
comp=Z,160nm,15.9s
MLAC **Mammoth, Mammo** 76.11 45 P P 12 11 01.6 +1.1
baz=239
MIR **Mirnyy** 76.13 204 *i* P P 12 11 00.0 +0.3
MIR pmax pmax
comp=Z,20nm,1.8s
WAKR **Walker** 76.16 44 *e*P P 12 11 01.8 +1.2
comp=Z,162nm,1.0s
SRIG **Santa Rosalia** 76.19 57 *e*P P 12 11 00.8 +0.1
comp=Z,182nm,1.1s
HUMO **Hull Mountain** 76.21 38 *e*P P 12 11 01.7 +1.2
comp=Z,240nm,1.4s
TIN **Tinemaha, Big** 76.23 45 P P 12 11 02.0 +1.1
baz=239
MPMC **Manual Prospec** 76.24 46 P P 12 11 02.1 +1.0
baz=240
DAC **Darwin (Calif)** 76.27 46 *e*P P 12 11 01.9 +0.6
DAC pmax pmax
comp=Z,96nm,1.3s
DAC **Darwin (Calif)** 76.27 46 *e*P P 12 11 01.9 +0.6
comp=Z,96nm,1.3s
BELC **Belle Mtn. Jos** 76.30 49 P P 12 11 02.3 +0.9
baz=241
GSC **Goldstone, Bar** 76.34 47 P P 12 11 02.4 +0.8
baz=240
GSC **Goldstone, Bar** 76.34 47 *e*P P 12 11 02.2 +0.6
GSC pmax pmax
comp=Z,140nm,1.1s
GSC **Goldstone, Bar** 76.34 47 *e*P P 12 11 02.2 +0.6
comp=Z,136nm,1.1s
PNTR **Pine Nut** 76.37 43 *e*P P 12 11 02.9 +1.1
comp=Z,258nm,0.9s
M04C **Macdoel** 76.42 40 P P 12 11 03.0 +1.1
baz=236
NJ2 **Nanjing** 76.45 309 *e*P P 12 11 03.6 +1.5
HEC **Hector,Ludlow** 76.45 48 P P 12 11 03.0 +0.8
baz=241
LPIG **La Paz** 76.47 60 P P 12 11 03.2 +0.8
comp=Z,85nm,0.9s,baz=151,slow=2.2,SNR=7.9
TVH3 **East Aurora ar** 76.50 44 *e*P P 12 11 03.4 +0.9
comp=Z,159nm,1.3s
YERR **Yerington** 76.55 43 *e*P P 12 11 03.6 +0.9
comp=Z,222nm,1.1s
TVH2 **Borealis Mine** 76.55 44 *e*P P 12 11 03.8 +0.9
comp=Z,120nm,1.3s
TVH1 **TV Hill, Hawth** 76.59 44 *e*P P 12 11 04.0 +0.8
comp=Z,175nm,1.2s
I03D **Drain, OR** 76.61 37 P P 12 11 03.6 +0.9
baz=234,SNR=27
SLBS **Sierra La Lagu** 76.62 61 *e*P P 12 11 04.5 +1.1
comp=Z,207nm,1.3s
GLA **Glamis** 76.71 50 P P 12 11 05.0 +1.4
baz=242
GLA **Glamis** 76.71 50 *e*P P 12 11 04.8 +1.2
GLA pmax pmax
comp=Z,175nm,1.0s
GLA **Glamis** 76.71 50 *e*P P 12 11 04.8 +1.2
comp=Z,175nm,1.0s
GRAC **Grapevine Rang** 76.79 46 P P 12 11 05.4 +1.4
baz=240
PAHR **Pah Rah Range** 76.84 42 *e*P P 12 11 05.1 +0.8
comp=Z,164nm,1.2s
FURC **Furnace Creek,** 76.88 46 P P 12 11 05.4 +1.1
baz=240
GMRC **Granite Mounta** 76.92 48 P P 12 11 05.6 +0.8
baz=241
K04D **Chiloquin, OR** 76.94 39 P P 12 11 05.7 +0.9
baz=235,SNR=23
IRM **Iron Mountain** 76.99 49 P P 12 11 06.3 +1.1
baz=242
SHOC **Shoshone, Teco** 77.01 47 P P 12 11 05.9 +0.7
baz=241
TUQ **Turquoise Moun** 77.04 48 P P 12 11 06.3 +0.8
baz=241
J04D **Umpqua Nationa** 77.08 38 P P 12 11 06.7 +1.1
baz=235,SNR=82
COR **Corvallis** 77.16 37 *e*P P 12 11 07.0 +1.3
COR pmax pmax
comp=Z,83nm,1.0s
COR **Corvallis** 77.16 37 *e*P P 12 11 07.0 +1.3
comp=Z,83nm,1.0s
I04A **Tendick Farm,** 77.22 38 P P 12 11 06.7 +0.5
baz=235
CNPM **China Poot** 77.23 14 *e*P P 12 11 06.3 +0.5
comp=Z,210nm,0.9s
HOM **Homer** 77.25 13 *e*P P 12 11 06.8 +0.9
comp=Z,280nm,1.0s
Y12C **Blythe** 77.26 50 P P 12 11 07.7 +1.2
baz=242
Y12C **Blythe** 77.26 50 *e*P P 12 11 07.6 +1.0
comp=Z,110nm,0.8s
113A **Mohawk Valley,** 77.38 51 *e*P P 12 11 08.3 +1.1
comp=Z,141nm,0.9s
IRO **Indian Ridge** 77.43 38 *e*P P 12 11 08.1 +0.6
MOD **Modoc Plateau** 77.44 40 *e*P P 12 11 08.3 +0.8
comp=Z,140nm,1.1s
LDFC **Landfair** 77.45 48 *e*P P 12 11 09.0 +1.3
comp=Z,465nm,1.1s
BRLK **Bradley Lake** 77.52 14 *e*P P 12 11 07.7 +0.2
comp=Z,227nm,0.9s
K05A **Summer Lake** 77.53 39 *e*P P 12 11 09.3 +1.2
comp=Z,172nm,0.9s
TPNV **Topopah Spring** 77.55 46 P P 12 11 09.3 +0.9
baz=240
TPNV **Topopah Spring** 77.55 46 *e*P P 12 11 09.2 +0.9
TPNV pmax pmax
comp=Z,140nm,1.0s
TPNV **Topopah Spring** 77.55 46 *e*P P 12 11 09.2 +0.9
comp=Z,136nm,0.9s
G03D **McMinnville, O** 77.55 36 P P 12 11 08.9 +1.0
baz=234,SNR=33
J05D **Fort Rock, OR** 77.63 39 P P 12 11 09.8 +1.3
baz=236
NEE2 **Needles Airpor** 77.66 49 P P 12 11 09.9 +1.2
baz=242
KMOR **Kings Mountain** 77.67 36 P P 12 11 09.6 +0.9
214A **Organ Pipe Nat** 77.74 52 P P 12 11 10.6 +1.3
baz=244
RSO **Redoubt South** 77.74 12 *e*P P 12 11 08.6 -0.2
PDMCI **Parker Dam,Lak** 77.80 49 P P 12 11 10.6 +1.1
baz=242
DSRI **Dabo** 77.86 273 P P 12 11 12.3 +2.0
HSIG 77.93 55 *e*P P 12 11 10.9 +0.5
comp=Z,76nm,0.9s
CN2 **Changchun** 77.97 322 *e*P P 12 11 10.8 +0.6
CN2 *e*pP pP 12 12 37.3 +3.6
CN2 *e*S **S** 12 20 32.6 +0.2
CN2 SS **SS** 12 25 47.4 +4.1
CN2 pmax pmax
comp=Z,10.0nm,0.6s
CN2 pmax pmax
comp=Z,200nm,4.0s
SHPR **Sheep Range** 78.10 47 *e*P P 12 11 12.4 +1.1
comp=Z,177nm,1.3s
I05D **Terrebonne, OR** 78.16 38 P P 12 11 12.1 +0.8
baz=235,SNR=84
E03A **Lebam** 78.17 35 *e*P P 12 11 12.2 +1.0
comp=Z,277nm,0.9s
DIB **Dawson Inlet,** 78.18 26 *e*P P 12 11 12.1 +1.0
comp=Z,113nm,1.2s
F04D **Rainier, OR** 78.21 36 P P 12 11 12.8 +1.3
baz=234,SNR=12
W13A **Hualapai Mount** 78.35 49 *e*P P 12 11 13.7 +0.9
comp=Z,78nm,0.9s
MA2 **Magadan** 78.43 344 *d*P P 12 11 11.7 -0.7
F04A **Amboy** 78.45 36 *e*P P 12 11 13.3 +0.5
comp=Z,501nm,1.8s
Y14A **Wickenburg** 78.47 50 *e*P P 12 11 14.2 +0.9
comp=Z,344nm,1.0s
NLWA **Neilton Lookou** 78.52 34 *e*P P 12 11 13.6 +0.5
comp=Z,143nm,1.1s
LVP **Lakeview Peak** 78.54 36 *e*P P 12 11 14.2 +0.8
SPU **Mount Spurr** 78.54 12 *e*P P 12 11 12.5 -0.5
GAMB **Gambell** 78.55 3 *e*P P 12 11 12.7 -0.1
comp=Z,92nm,1.0s
BMN **Battle Mountai** 78.63 43 *e*P P 12 11 15.0 +0.9
BMN pmax pmax
comp=Z,440nm,1.6s
BMN **Battle Mountai** 78.63 43 *e*P P 12 11 15.0 +0.9
comp=Z,441nm,1.6s
R11A **Troy Canyon, C** 78.69 45 P P 12 11 15.1 +0.6
baz=241
R11A **Troy Canyon, C** 78.69 45 *e*P P 12 11 15.0 +0.5
comp=Z,121nm,1.4s
G05D **Wamic, OR** 78.69 37 P P 12 11 14.8 +0.7
baz=235,SNR=5.0
QIZ **Qiongzhong** 78.73 293 P P 12 11 00.8 -14
QIZ sP pP 12 12 38.8 +0.3
QIZ S **S** 12 20 47.3 +5.8
QIZ ScS **ScS** 12 21 00.8 -1.2
QIZ **Qiongzhong** 78.73 293 SS SS 12 25 59.8 +4.2
QIZ pmax pmax
comp=Z,69nm,5.7s
WVOR **Wild Horse Val** 78.77 40 *e*P P 12 11 15.6 +0.9
WVOR pmax pmax
comp=Z,120nm,1.0s
WVOR **Wild Horse Val** 78.77 40 *e*P P 12 11 15.6 +0.9
comp=Z,120nm,0.9s
TDL **Tradedollar La** 78.81 36 P P 12 11 15.9 +1.0
RC01 **Rabbit Creek A** 78.96 13 *e*P P 12 11 15.1 -0.1
comp=Z,118nm,1.0s
SUA **Susitna One** 79.08 13 *e*P P 12 11 15.6 -0.4
comp=Z,126nm,0.8s
G06A **Carlson Farm,** 79.08 37 *e*P P 12 11 16.5 +0.2
comp=Z,64nm,0.9s
HDW **Hoodsport** 79.11 34 P P 12 11 17.5 +1.1
WHN **Wuhan** 79.26 306 *e*P P 12 11 06.1 -11
WHN pP pP 12 12 34.6 -6.7
WHN S **S** 12 20 46.3 -0.3
LON **Longmire** 79.27 35 *e*P P 12 11 17.5 +0.2
LON pmax pmax
comp=Z,41nm,0.8s
LON **Longmire** 79.27 35 *e*P P 12 11 17.5 +0.2
comp=Z,41nm,0.8s
TTA **Tatalina** 79.41 10 *e*P P 12 11 18.2 +0.5
TTA **Tatalina** 79.41 10 *e*P P 12 11 18.2 +0.5
comp=Z,259nm,1.0s
BBB **Bella Bella** 79.42 29 *e*P P 12 11 18.5 +0.8
comp=Z,120nm,0.8s
D05A **Enumclaw** 79.43 35 *e*P P 12 11 19.2 +1.2
comp=Z,306nm,1.1s
TUC **Tucson** 79.44 52 P P 12 11 20.1 +1.6
baz=245
TUC **Tucson** 79.44 52 *e*P P 12 11 20.1 +1.6
TUC pmax pmax
comp=Z,190nm,1.0s
TUC **Tucson** 79.44 52 *e*P P 12 11 20.1 +1.6
comp=Z,191nm,1.0s
FID **Port Fidalgo** 79.44 15 *e*P P 12 11 17.6 -0.1
comp=Z,117nm,1.2s
FMW **Mount Fremont** 79.45 35 P P 12 11 19.1 +0.7
EYAK **Cordova Ski Ar** 79.46 15 *e*P P 12 11 17.8 0.0
comp=Z,52nm,0.9s
PGC **Sidney** 79.50 33 *e*P P 12 11 18.8 +0.6
comp=Z,187nm,1.0s
PMR **Palmer** 79.55 14 *e*P P 12 11 18.1 -0.2
PMR **Palmer** 79.55 14 *e*P P 12 11 18.1 -0.2
comp=Z,124nm,1.1s
CRAG **Craig** 79.55 24 *e*P P 12 11 19.1 +0.7
comp=Z,91nm,1.0s
RAGM **Ragged Mountai** 79.60 16 *e*P P 12 11 19.1 +0.4
comp=Z,101nm,1.1s
TIA **Tai'an** 79.62 312 ⇑P P 12 11 20.3 +1.0
TIA pmax pmax
comp=Z,10.0nm,1.1s
JBO **Jordan Butte** 79.68 37 P P 12 11 19.9 +0.5
LCMT **Little Creek M** 79.69 47 *e*P P 12 11 20.8 +0.9
comp=Z,53nm,0.8s
TRW **Toppenish Ridg** 79.73 36 P P 12 11 20.4 +0.7
X16A **Lo Mia Camp, P** 79.84 50 *e*P P 12 11 22.0 +1.2
comp=Z,103nm,0.9s
CCUT **Cedar City** 79.86 47 *e*P P 12 11 21.1 +0.2
comp=Z,79nm,0.9s
SML **Sawmill** 79.92 14 *e*P P 12 11 20.1 -0.2
SML **Sawmill** 79.92 14 *e*P P 12 11 20.1 -0.2
comp=Z,105nm,1.3s
A04D **Lummi Island** 79.94 34 P P 12 11 21.6 +1.0
baz=234,SNR=25
DIV **Divide** 79.95 15 *e*P P 12 11 20.5 -0.1
comp=Z,134nm,1.0s
PSUT **Pine Spring** 79.97 46 *e*P P 12 11 22.3 +0.9
comp=Z,46nm,0.8s
B05A **Bryant** 80.00 34 P P 12 11 21.7 +0.8
baz=234,SNR=62
SZCU **Shurtz Canyon** 80.07 47 *e*P P 12 11 23.0 +1.1
comp=Z,64nm,0.9s
PPLA **Purkeypile** 80.07 12 *e*P P 12 11 20.0 -1.3
comp=Z,34nm,0.9s
U15A **North Rim** 80.11 48 *e*P P 12 11 23.5 +1.3
comp=Z,154nm,0.9s
BMRM **Bremner River** 80.11 16 *e*P P 12 11 21.3 -0.1
comp=Z,273nm,1.3s
SCM **Sheep Creek Mo** 80.17 14 *e*P P 12 11 21.6 -0.1
SCM **Sheep Creek Mo** 80.17 14 *e*P P 12 11 21.6 -0.1
comp=Z,175nm,1.0s
319A **Douglas** 80.22 54 *e*P P 12 11 24.5 +1.7
comp=Z,326nm,1.0s
KLU **Klutina** 80.22 15 *e*P P 12 11 21.9 -0.1
comp=Z,72nm,1.2s
EKU **East Kanab** 80.25 48 *e*P P 12 11 24.0 +1.1
E07A **Sunnyside** 80.27 36 *e*P P 12 11 23.4 +0.8
comp=Z,174nm,0.9s
CRQM **Cirque** 80.33 16 *e*P P 12 11 22.8 +0.1
comp=Z,171nm,1.1s
HAWA **Hanford** 80.37 37 *e*P P 12 11 23.8 +0.8
comp=Z,176nm,0.8s
WUAZ **Wupatki** 80.37 49 P P 12 11 24.7 +1.2
baz=244
WUAZ **Wupatki** 80.37 49 *e*P P 12 11 24.6 +1.2
comp=Z,105nm,1.0s
MBW **Mount Baker** 80.40 34 P P 12 11 23.6 +0.3
WRW **Wenatchee Ridg** 80.43 35 P P 12 11 23.7 +0.2
DHAK **Deception Hill** 80.45 20 *e*P P 12 11 23.9 +0.7
comp=Z,334nm,1.4s
C06D **Leavenworth** 80.46 35 P P 12 11 23.7 +0.2
baz=235,SNR=12
WRAK **Wrangell Islan** 80.53 24 *e*P P 12 11 24.4 +0.8
comp=Z,172nm,0.8s
CAST **Castle Rocks** 80.57 11 *e*P P 12 11 22.5 -1.2
comp=Z,128nm,0.9s

ETW	**Entiat**	80.59	35	*e*P		P		12 11 24.8	+0.5	
FSU	**Fish Springs**	80.85	45	*e*P		P		12 11 26.9	+1.0	
NLW	**Nelson Butte**	80.85	35	P		P		12 11 25.8	+0.1	
WTV	**Waterville**	80.85	35	P		P		12 11 25.8	+0.2	
BMO	**Blue Mountains**	80.86	39	*e*P		P		12 11 25.9	+0.1	
BMO	comp=Z,100nm,1.1s				pmax	pmax				
BMO	**Blue Mountains**	80.86	39	*e*P		P		12 11 25.9	+0.1	
MTPU	comp=Z,102nm,1.1s **Mount Pierson**	80.91	47	*e*P		P		12 11 28.3	+1.8	
KTH	comp=Z,154nm,1.2s **Kantishna Hill**	80.92	12	*e*P		P		12 11 24.8	-0.8	
TRF	comp=Z,128nm,1.0s **Thorofare Moun**	80.95	12	*e*P		P		12 11 25.3	-0.6	
SEY	comp=Z,180nm,0.9s **Seymchan**	80.96	347	P		P		12 11 25.6	-0.1	
X18A	comp=Z,58nm,0.9s,baz=146,slow=5.8,SNR=88 **Snowflake**	81.01	51	*e*P		P		12 11 27.9	+1.0	
D08A	comp=Z,240nm,1.7s **Wollman Farm,**	81.08	36	*e*P		P		12 11 27.5	+0.8	
MSU	comp=Z,122nm,0.9s **Marysvale**	81.13	46	*e*P		P		12 11 28.9	+1.4	
MSU	**Marysvale**	81.13	46	*e*P		P		12 11 28.9	+1.4	
SAW	**Saint Andrews**	81.17	36	P		P		12 11 27.6	+0.3	
HARP	**HAARP**	81.19	15	*e*P		P		12 11 27.2	+0.2	
RND	comp=Z,133nm,0.8s **Reindeer**	81.21	13	*e*P		P		12 11 24.8	-2.3	
RND	**Reindeer**	81.21	13	*e*P		P		12 11 27.3	+0.1	
E09A	comp=Z,189nm,0.8s **Wood Farm, Sta**	81.24	37	*e*P		P		12 11 27.9	+0.3	
DHY	comp=Z,72nm,0.8s **Denali Highway**	81.25	14	*e*P		P		12 11 27.2	-0.3	
W18A	comp=Z,51nm,0.6s **Petrified Fore**	81.41	50	P		P		12 11 29.9	+1.0	
W18A	baz=245 **Petrified Fore**	81.41	50	*e*P		P		12 11 30.0	+1.0	
HPIG	comp=Z,125nm,1.1s	81.43	59	*e*P		P		12 11 30.1	+0.8	
DUG	comp=Z,73nm,1.0s **Dugway, Tooele**	81.46	45	P		P		12 11 29.8	+0.7	
DUG	baz=242 **Dugway, Tooele**	81.46	45	*e*P		P		12 11 29.6	+0.5	
DUG	**Dugway, Tooele**	81.46	45	*e*P		P		12 11 29.6	+0.5	
MCK	comp=Z,95nm,1.1s **McKinley**	81.48	13	*e*P		P		12 11 28.1	-0.4	
MCK	**McKinley**	81.48	13	*e*P		P		12 11 28.4	0.0	
LLLB	comp=Z,189nm,0.9s **Lillooet**	81.48	32	*e*P		P		12 11 29.1	+0.3	
F10A	comp=Z,94nm,0.9s **Beach Ranch, E**	81.49	38	*e*P		P		12 11 29.2	+0.2	
B08A	comp=Z,160nm,0.8s **Colville Reser**	81.57	35	*e*P		P		12 11 29.2	-0.1	
PAX	comp=Z,131nm,1.0s **Paxson**	81.60	14	*e*P		P		12 11 28.6	-0.6	
PAX	comp=Z,28nm,0.8s				pmax	pmax				
PAX	**Paxson**	81.60	14	*e*P		P		12 11 28.6	-0.6	
MMU	comp=Z,28nm,0.8s **Miners Mountai**	81.61	47	*e*P		P		12 11 31.0	+0.9	
BGU	**Big Grassy Mou**	81.65	44	*e*P		P		12 11 30.6	+0.5	
SKAG	comp=Z,192nm,1.8s **Skagway**	81.69	20	*e*P		P		12 11 30.7	+1.1	
SGU	comp=Z,378nm,0.8s **Sterling**	81.80	46	*e*P		P		12 11 32.8	+1.8	
LEVU	**Levan**	81.83	46	*e*P		P		12 11 32.3	+1.2	
121A	**Cookes Peak, D**	81.84	53	P		P		12 11 32.9	+1.6	
NLU	baz=247 **North Lily Min**	81.85	45	*e*P		P		12 11 31.9	+0.7	
SNO	comp=Z,43nm,1.0s **Snow College**	81.93	46	*e*P		P		12 11 33.5	+1.8	
MENT	**Mentasta**	82.00	15	*e*P		P		12 11 31.4	+0.3	
HLID	comp=Z,116nm,1.1s **Hailey**	82.00	41	P		P		12 11 33.0	+1.1	
HLID	baz=241 **Hailey**	82.00	41	*e*P		P		12 11 32.8	+1.0	
BJT	comp=Z,164nm,0.8s **Baijiatuau**	82.01	315	*e*P		P		12 11 31.6	-0.1	
BJT				*e*				12 12 57.1		
BJT	comp=Z,43nm,1.1s				pmax	pmax				
BJT	**Baijiatuau**	82.01	315	*e*P		P		12 11 31.6	-0.1	
BJT	comp=Z,43nm,1.1s			*e*				12 12 57.1		
HYT	**Haines Junctio**	82.03	19	*e*P		P		12 11 32.0	+0.5	
TMUT	comp=Z,92nm,1.0s **Trail Mountain**	82.16	46	*e*P		P		12 11 34.2	+1.3	
MPU	comp=Z,285nm,0.9s **Maple Canyon**	82.18	45	*e*P		P		12 11 33.7	+0.8	
SPUT	comp=Z,112nm,1.0s **South Promonto**	82.22	44	*e*P		P		12 11 34.3	+1.3	
HVU	comp=Z,154nm,1.0s **Hansel Valley**	82.22	43	*e*P		P		12 11 33.8	+0.8	
HVU	**Hansel Valley**	82.22	43	*e*P		P		12 11 33.8	+0.8	
WRH	comp=Z,145nm,0.9s **Wood River Hil**	82.31	13	*e*P		P		12 11 32.4	-0.3	
GMU	comp=Z,371nm,1.2s **Granite Mounta**	82.35	45	*e*P		P		12 11 34.4	+0.7	
MTUT	**Morton Thiokol**	82.40	43	*e*P		P		12 11 34.5	+0.7	
LTU	**Little Mountai**	82.48	44	*e*P		P		12 11 35.0	+0.6	
DOT	**Dot Lake**	82.51	14	*e*P		P		12 11 33.7	-0.1	
CCB	comp=Z,361nm,0.8s **Clear Creek Bu**	82.52	13	*e*P		P		12 11 33.2	-0.6	
SRU	comp=Z,227nm,0.8s **San Rafael Swe**	82.55	46	*e*P		P		12 11 35.5	+0.7	
SRU	**San Rafael Swe**	82.55	46	*e*P		P		12 11 35.5	+0.7	
JLU	comp=Z,225nm,0.9s **Jordanelle**	82.57	45	*e*P		P		12 11 35.7	+0.7	
IPM	comp=Z,151nm,0.9s **Ipoh**	82.59	277	*e*P		P		12 11 35.6	+0.3	
IPM	comp=Z,36nm,1.3s				*e*pP		pP	12 12 59.9	+0.1	
GZU	**Grizzly Peak**	82.59	44	*e*P		P		12 11 35.8	+0.7	
HLJ	**Hailstone**	82.61	45	*e*P		P		12 11 35.9	+0.8	
KLJ	**Keetly**	82.61	45	*e*P		P		12 11 35.9	+0.8	
ZAIG	**Zacatecas**	82.62	64	*e*P		P		12 11 37.4	+1.8	
MDM	comp=Z,65nm,1.1s **Murphy Dome**	82.71	12	*e*P		P		12 11 33.8	-1.0	
HONU	comp=Z,356nm,1.2s **Honeyville**	82.71	44	*e*P		P		12 11 35.8	+0.3	
COLA	**College**	82.71	12	*e*P		P		12 11 34.3	-0.4	
COLA	**College**	82.71	12	*e*P		P		12 11 34.3	-0.4	
WHY	comp=Z,358nm,0.8s **Whitehorse**	82.74	20	*e*P		P		12 11 35.6	+0.5	
NEW	comp=Z,142nm,1.0s **Newport**	82.76	36	P		P		12 11 35.4	0.0	
NEW	baz=238 **Newport**	82.76	36	*e*P		P		12 11 35.4	0.0	
NEW	**Newport**	82.76	36	*e*P		P		12 11 35.4	0.0	
MLI	comp=Z,79nm,1.0s **Malad Range**	82.76	43	*e*P		P		12 11 37.3	+1.5	
IL1	**Eielson Array**	82.83	13	*e*P		P		12 11 34.9	-0.5	
ILAR	**Eielson Array**	82.83	13	P		P		12 11 34.8	-0.6	
ILAR	comp=Z,158nm,1.0s,baz=216,slow=5.9,SNR=672				PKKP	PKKPbc		12 29 55.4	-4.6	
ILAR	comp=Z,1.0nm,0.8s,baz=337,slow=2.3,SNR=9.5 **Eielson Array**	82.83	13	P		P		12 11 34.8	-0.6	
ILAR	comp=Z,165nm,1.0s				pmax	pmax				
ILB	**Eielson Array**	82.83	13	*e*P		P		12 11 34.7	-0.6	
ARGU	**Argyle Ridge**	82.85	46	*e*P		P		12 11 37.5	+1.0	
DLBC	**Dease Lake**	82.85	23	*e*P		P		12 11 36.2	+0.6	
HDU	comp=Z,289nm,0.8s **Hyde Park**	82.90	44	*e*P		P		12 11 37.9	+1.4	
HWUT	**Hardware Ranch**	82.94	44	*e*P		P		12 11 37.1	+0.3	
ENH	comp=Z,93nm,0.8s **Enshi**	83.03	304	*e*P		P		12 11 38.5	+1.3	
BEI	comp=Z,69nm,1.5s **Bear River Ran**	83.03	43	*e*P		P		12 11 38.8	+1.7	
Y22D	**IRIS PASSCAL I**	83.11	52	P		P		12 11 39.2	+1.5	
Y22D	baz=247 **IRIS PASSCAL I**	83.11	52	*e*P		P		12 11 39.4	+1.7	
PV05	comp=Z,320nm,1.1s **Paradox Valley**	83.12	48	*e*P		P		12 11 39.0	+1.2	
KULM	**Kulim**	83.16	277	*e*P		P		12 11 38.5	+0.3	
MVCO	comp=Z,31nm,1.7s **Mesa Verde**	83.19	49	P		P		12 11 38.8	+0.6	
MVCO	baz=246 **Mesa Verde**	83.19	49	*e*P		P		12 11 38.7	+0.5	
PV09	comp=Z,150nm,1.5s **Paradox Valley**	83.27	47	*e*P		P		12 11 39.6	+1.0	
PV10	**Paradox Valley**	83.29	48	*e*P		P		12 11 39.1	+0.5	
BMUT	**Black Mountain**	83.32	44	*e*P		P		12 11 40.0	+1.2	
PV04	**Paradox Valley**	83.39	48	*e*P		P		12 11 39.8	+0.8	
MNTX	**Cornudas Mount**	83.41	55	P		P		12 11 40.2	+1.1	
MNTX	baz=248 **Cornudas Mount**	83.41	55	*e*P		P		12 11 40.0	+0.9	
	comp=Z,144nm,1.1s									
BILL	**Bilibino**	83.48	354	*d* iP		P		12 11 38.3	-0.3	
BILL				S		S		12 21 27.0	-1.1	
BILL				SSS		SSS		12 30 35.0		
BILL				pmax		pmax				
	comp=Z,104nm,1.6s									
PV01	**Paradox Valley**	83.52	48	*e*P		P		12 11 40.3	+0.5	
MCMT	**McKenzie Canyo**	83.60	40	*e*P		P		12 11 41.0	+0.9	
ANMO	**Albuquerque**	83.81	52	P		P		12 11 41.9	+0.7	
	comp=Z,98nm,0.9s,baz=237,slow=4.8,SNR=230									
ANMO	**Albuquerque**	83.81	52	P		P		12 11 42.0	+0.7	
	baz=247									
ANMO	**Albuquerque**	83.81	52	*d* iP		P		12 11 42.0	+0.7	
ANMO					pmax	pmax				
	comp=Z,211nm,1.2s									
ANMO	**Albuquerque**	83.81	52	*e*P		P		12 11 41.9	+0.7	
	comp=Z,151nm,1.0s									
MSO	**Missoula**	83.89	38	P		P		12 11 41.1	-0.2	
	baz=241									
MSO	**Missoula**	83.89	38	*e*P		P		12 11 40.9	-0.4	
	comp=Z,88nm,1.1s									
BSMT	**Bassoo Peak**	83.89	37	*e*P		P		12 11 41.4	0.0	
TX31	**Lajitas Ar. Si**	83.93	58	*e*P		P		12 11 43.0	+1.1	
TX31				*e*P		PcP		12 11 43.5	-1.5	
TXAR	**Lajitas Array**	83.93	58	P		P		12 11 43.0	+1.2	
	comp=Z,102nm,0.8s,baz=223,slow=6.1,SNR=706									
TXAR					PKKPbc	PKKPbc		12 29 55.1	-0.4	
	comp=Z,1.5nm,0.8s,baz=96,slow=2.5,SNR=8.7									
TXAR					PKPPKP	P'P'df		12 38 02.0	+1.1	
	comp=Z,0.7nm,0.8s,baz=50,slow=2.0,SNR=4.3									
TXAR	**Lajitas Array**	83.93	58	P		P		12 11 43.1	+1.2	
TXAR					pmax	pmax				
	comp=Z,101nm,0.8s									
DLMT	**Dillon**	84.01	40	*e*P		P		12 11 42.9	+0.9	
	comp=Z,198nm,1.0s									
GYA	**Guiyang**	84.01	299	P		P		12 11 44.3	+1.9	
GYA				pP		pP		12 13 10.8	+3.6	
GYA				sP		sP		12 13 47.4	+1.6	
GYA				PP		PP		12 15 06.0	+3.5	
GYA				SKS		S		12 21 28.3	-7.0	
GYA				S		SKSac		12 21 36.8	+0.6	
GYA				pmax		pmax				
	comp=Z,30nm,1.0s									
GYA				pmax		pmax				
	comp=Z,120nm,8.1s									
DAWY	**Dawson**	84.04	16	*e*P		P		12 11 41.9	+0.3	
	comp=Z,192nm,0.9s									
JTMT	**Jette**	84.14	37	*e*P		P		12 11 41.9	-0.6	
EGAK	**Eagle**	84.16	15	*e*P		P		12 11 42.1	+0.1	
	comp=Z,221nm,0.9s									
PSI	**Prapat**	84.17	274	P		P		12 11 43.0	-0.5	
	comp=Z,9.5nm,0.9s,baz=202,slow=5.8,SNR=5.2									
PSI				pP		pP		12 13 06.9	-1.4	
	comp=Z,2.3nm,0.3s,baz=178,slow=4.1,SNR=2.5									
PSI				PP		PP		12 15 01.1	-2.8	
	comp=Z,5.1nm,0.9s,baz=96,slow=10,SNR=4.0									
PSI	**Prapat**	84.17	274	*e*P		P		12 11 43.4	0.0	
PSI								12 15 01.1		
PSI				pmax		pmax				
	comp=Z,16nm,1.0s									
PSI	**Prapat**	84.17	274	*e*P		P		12 11 43.4	0.0	
	comp=Z,16nm,1.0s									
PSI				*e*				12 13 06.6		
PSI				PP		PP		12 15 01.1	-2.8	
SWMT	**Swartz Lake**	84.19	38	*e*P		P		12 11 42.0	-0.8	
TPAW	**Teton Pass**	84.20	42	*e*P		P		12 11 44.1	+1.0	
	comp=Z,200nm,1.1s									
REDW	**Red Top Meadow**	84.20	42	*e*P		P		12 11 43.9	+0.8	
	comp=Z,304nm,1.1s									
BLMT	**Blacktail Moun**	84.22	37	*e*P		P		12 11 42.6	-0.4	
SNOW	**Snow King Moun**	84.31	42	*e*P		P		12 11 44.7	+1.1	
	comp=Z,285nm,1.1s									
LRM	**Limekiln Ridge**	84.31	40	*e*P		P		12 11 44.0	+0.4	
CHMT	**Chamberlain Mo**	84.34	38	*e*P		P		12 11 43.5	-0.2	
COLD	**Coldfoot**	84.35	10	*e*P		P		12 11 43.5	+0.6	
	comp=Z,137nm,1.0s									
YBMT	**Yellow Bay**	84.35	37	*e*P		P		12 11 43.3	-0.3	
SLMT	**Seeley Lake**	84.36	38	*e*P		P		12 11 43.0	-0.7	
MCID	**Moose Creek**	84.36	42	*e*P		P		12 11 45.2	+1.4	
IMW	**Indian Meadow**	84.39	42	*e*P		P		12 11 45.1	+1.0	
	comp=Z,203nm,0.9s									
MOOW	**Moose Ponds**	84.45	42	*e*P		P		12 11 44.9	+0.6	
	comp=Z,78nm,1.0s									
LOHW	**Long Hollow**	84.48	42	*e*P		P		12 11 45.1	+0.7	
	comp=Z,69nm,0.8s									
QLMT	**Earthquake Lak**	84.50	41	*e*P		P		12 11 45.9	+1.4	
TLIG	**Tlapa**	84.55	70	*e*P		P		12 11 47.2	+2.0	
	comp=Z,111nm,1.1s									
O20A	**White River Ci**	84.58	46	P		P		12 11 45.6	+0.6	
	baz=246									
O20A	**White River Ci**	84.58	46	*e*P		P		12 11 45.6	+0.6	
	comp=Z,106nm,1.0s									
YHB	**Horse Butte**	84.61	41	*e*P		P		12 11 46.5	+1.5	
	comp=Z,316nm,0.9s									
S22A	**4UR Ranch, Cre**	84.62	49	P		P		12 11 46.4	+1.0	
	baz=247									
S22A	**4UR Ranch, Cre**	84.62	49	*e*P		P		12 11 46.2	+0.8	
	comp=Z,129nm,1.1s									
YPP	**Pitchstone Pla**	84.64	42	*e*P		P		12 11 46.5	+1.2	
	comp=Z,192nm,1.9s									
YFT	**Old Faithful**	84.70	41	*e*P		P		12 11 47.5	+1.9	
	comp=Z,129nm,0.9s									
YMR	**Madison River**	84.72	41	*e*P		P		12 11 47.1	+1.6	
	comp=Z,265nm,0.9s									
BOZ	**Bozeman (W)**	84.72	40	P		P		12 11 46.4	+0.9	
	baz=243									
BOZ	**Bozeman (W)**	84.72	40	*e*P		P		12 11 46.3	+0.9	
BOZ	**Bozeman (W)**	84.72	40	*e*P		P		12 11 46.3	+0.8	
	comp=Z,158nm,1.3s									
FYU	**Fort Yukon**	84.73	13	*e*P		P		12 11 44.3	-0.4	
	comp=Z,34nm,0.8s									
SLVN	**Son La**	84.75	294	*e*P		P		12 11 47.8	+1.7	
SLVN				*e*pP		pP		12 13 12.8	+1.8	
YPM	**Purple Mountai**	84.77	41	*e*P		P		12 11 47.8	+1.9	
BW06	**Boulder Array**	84.80	43	P		P		12 11 46.3	+0.3	
	baz=244									
BW06	**Boulder Array**	84.80	43	*e*P		P		12 11 46.1	0.0	
	comp=Z,166nm,1.3s									
BW06				*e*P		PcP		12 11 46.2	-2.5	
PD31	**Pinedale Array**	84.80	43	*e*P		P		12 11 46.1	+0.1	
PDAR	**Pinedale Array**	84.80	43	P		P		12 11 46.1	+0.1	
	comp=Z,63nm,0.8s,baz=215,slow=3.1,SNR=464									
PDAR					PP	PP		12 15 04.7	-3.9	
	comp=Z,3.7nm,1.0s,baz=255,slow=5.7,SNR=4.1									
PDAR					PKKP	PKKPbc		12 29 52.2	-2.2	
	comp=Z,1.5nm,0.8s,baz=87,slow=4.4,SNR=11									
PDAR					PKPPKP	P'P'df		12 37 56.0	-3.4	
	comp=Z,0.2nm,0.3s,baz=93,slow=3.0,SNR=3.8									
H17A	**Grant Village**	84.84	42	P		P		12 11 48.3	+2.1	
	baz=244									
H17A	**Grant Village**	84.84	42	*e*P		P		12 11 48.0	+1.8	
	comp=Z,170nm,0.9s									
YHH	**Holmes Hill**	84.84	41	*e*P		P		12 11 47.6	+1.3	
	comp=Z,91nm,1.0s									
XAN	**Xi'an**	84.86	307	P		P		12 11 47.3	+1.0	
XAN					pmax	pmax				
	comp=Z,150nm,1.3s									
XAN					pmax	pmax				
	comp=Z,34nm,6.1s									
YNR	**Norris Junctio**	84.92	41	*e*P		P		12 11 48.3	+1.7	
	comp=Z,124nm,1.0s									
WALA	**Waterton Lakes**	85.00	36	*e*P		P		12 11 47.0	+0.3	
	comp=Z,95nm,1.0s									
YMV	**Mammoth Vault**	85.03	41	*e*P		P		12 11 48.7	+1.6	
LKWY	**Lake**	85.03	42	*e*P		P		12 11 49.1	+1.9	
LKWY	**Lake**	85.03	42	*e*P		P		12 11 49.1	+1.9	
	comp=Z,187nm,0.9s									
SMCO	**Snowmass**	85.09	47	*e*P		P		12 11 48.2	+0.5	
	comp=Z,132nm,1.5s									
HRY	**Holter Researc**	85.11	39	*e*P		P		12 11 47.9	+0.6	
HHC	**Hu-ho-hao-te**	85.55	314	*e*P		P		12 11 50.1	+0.5	
HHC				sP		sP		12 13 54.8	+1.6	
HHC				SKS		S		12 21 39.8	-10	
HHC				S		SKSac		12 21 44.4	-2.7	
HHC				pmax		pmax				
	comp=Z,26nm,1.1s									
HHC					pmax	pmax				
	comp=Z,120nm,4.9s									
SDCO	**Great Sand Dun**	85.59	49	P		P		12 11 50.3	+0.2	
	baz=248									
SDCO	**Great Sand Dun**	85.59	49	*e*P		P		12 11 50.3	+0.2	
	comp=Z,42nm,1.0s									
TOLK	**Toolik Lake Re**	85.72	10	P		P		12 11 49.8	0.0	
	baz=207									
LNIG	**Linares**	85.99	63	*e*P		P		12 11 52.4	+0.4	
	comp=Z,260nm,0.9s									
RLMT	**Red Lodge**	86.00	41	P		P		12 11 52.9	+1.1	
	baz=244									
RLMT	**Red Lodge**	86.00	41	*e*P		P		12 11 52.9	+1.1	
	comp=Z,152nm,0.9s									
GCMT	**Greycliff**	86.04	41	*e*P		P		12 11 53.0	+1.0	
T25A	**Trinidad**	86.17	50	P		P		12 11 52.8	0.0	
	baz=248									
T25A	**Trinidad**	86.17	50	*e*P		P		12 11 52.9	0.0	
	comp=Z,42nm,0.9s									
MSTX	**Muleshoe**	86.28	54	P		P		12 11 53.4	+0.1	
	baz=249									
MSTX	**Muleshoe**	86.28	54	*e*P		P		12 11 53.2	-0.1	
	comp=Z,100nm,0.9s									
ISCO	**Idaho Springs**	86.30	47	P		P		12 11 54.0	+0.5	
	baz=247									
ISCO	**Idaho Springs**	86.30	47	*e*P		P		12 11 54.0	+0.5	
ISCO	**Idaho Springs**	86.30	47	*e*P		P		12 11 54.0	+0.5	
	comp=Z,21nm,1.0s									
Q24A	**Divide**	86.31	48	P		P		12 11 54.1	+0.5	
	baz=248									
Q24A	**Divide**	86.31	48	*e*P		P		12 11 54.1	+0.5	
	comp=Z,38nm,1.0s									
PMSA	**Palmer Station**	86.38	157	*e*P		P		12 11 54.1	+1.1	
	comp=Z,120nm,1.0s									
N23A	**Red Feather La**	86.49	46	P		P		12 11 55.1	+0.8	
	baz=247									
N23A	**Red Feather La**	86.49	46	*e*P		P		12 11 55.0	+0.6	
	comp=Z,57nm,1.0s									
832A	**Faith Ranch, C**	86.63	60	P		P		12 11 55.9	+1.0	
	baz=251,SNR=70									
K22A	**Casper**	86.78	44	P		P		12 11 55.9	+0.3	
	baz=246									
K22A	**Casper**	86.78	44	*e*P		P		12 11 55.8	+0.2	
	comp=Z,139nm,1.4s									
MAW	**Mawson**	86.88	200	P		P		12 11 55.9	+0.6	
	comp=Z,144nm,0.9s,baz=140,slow=4.5,SNR=515									
MAW					PKKP	PKKPbc		12 29 45.5	-3.9	
	comp=Z,2.5nm,0.9s,baz=298,slow=1.3,SNR=7.3									
MAW	**Mawson**	86.88	200	*e*P		P		12 11 56.0	+0.6	
	comp=Z,45nm,1.0s									
KMI	**Kunming**	86.94	297	P		P		12 11 58.9	+2.1	
KMI				pP		pP		12 13 22.5	+0.2	
KMI				sP		sP		12 14 02.8	+2.1	
KMI				SKS		SKSac		12 21 51.4	+2.9	
KMI				S		S		12 22 05.1	+1.3	
KMI				pmax		pmax				
	comp=Z,23nm,1.1s									
KMI				pmax		pmax				
	comp=Z,100nm,3.1s									
KMI				LR		LR				
	comp=Z,61nm,16.2s									
KMI				LR		LR				
	comp=Z,80nm,17.4s									
KMI				LR		LR				
	comp=Z,130nm,21.6s									
EGMT	**Eagleton**	86.96	39	P		P		12 11 56.7	+0.5	
	baz=244									
EGMT	**Eagleton**	86.96	39	*e*P		P		12 11 56.5	+0.3	
	comp=Z,125nm,1.1s									
PHWY	**Pilot Hill**	86.99	46	*e*P		P		12 11 56.8	+0.1	
	comp=Z,26nm,0.9s									
933A	**Laredo**	87.00	61	P		P		12 11 58.2	+1.4	
	baz=252,SNR=32									
833A	**Chaparral WMA,**	87.13	60	P		P		12 11 58.5	+1.1	
	baz=251,SNR=14									
LVIG	**Laguna Verde**	87.13	69	*e*P		P		12 11 58.6	+1.2	
	comp=Z,101nm,1.0s									
034A	**Hebbronville**	87.33	61	P		P		12 12 00.5	+2.1	
	baz=252,SNR=30									
733A	**Divot King Ran**	87.34	60	P		P		12 11 59.4	+1.1	
	baz=252,SNR=14									
EDM	**Edmonton**	87.34	33	*e*P		P		12 11 57.8	0.0	
EDM	**Edmonton**	87.34	33	*e*P		P		12 11 57.8	0.0	
	comp=Z,367nm,1.4s									
AMTX	**Amarillo**	87.44	53	P		P		12 11 58.7	0.0	
	baz=250									
AMTX	**Amarillo**	87.44	53	*e*P		P		12 11 58.1	-0.7	
	comp=Z,68nm,1.0s									
JCT	**Junction City**	87.48	58	P		P		12 11 59.0	0.0	
	baz=251									
JCT	**Junction City**	87.48	58	*e*P		P		12 11 59.1	+0.1	
JCT	**Junction City**	87.48	58	*e*P		P		12 11 59.1	+0.1	
	comp=Z,27nm,0.9s									
PAYG	**Puerto Ayora**	87.48	90	*e*P		P		12 11 58.9	-0.4	
	comp=Z,292nm,1.6s									
934A	**Benavides**	87.64	61	P		P		12 12 02.0	+2.2	
	baz=252,SNR=12									
633A	**Saathoff Ranch**	87.67	59	P		P		12 12 01.1	+1.2	
	baz=252,SNR=27									
035Z	**Hargill**	87.67	62	P		P		12

535A	**Dale**	**89.17**	**59**	P		**P**		**12 12 07.8 +0.9**
	baz=252							
CHRN	**Cochrane**	**89.24**	**139**	*eP*		**P**		**12 12 09.3 +2.4**
	comp=Z,12nm,0.9s							
OGNE	**Ogallala**	**89.26**	**47**	P		**P**		**12 12 07.3 +0.1**
	baz=250							
OGNE	**Ogallala**	**89.26**	**47**	*eP*		**P**		**12 12 07.9 +0.7**
	comp=Z,41nm,1.0s							
736A	**Circle Diamond**	**89.27**	**60**	P		**P**		**12 12 09.6 +2.2**
	baz=253,SNR=8.9							
234A	**Clairette**	**89.31**	**57**	P		**P**		**12 12 07.9 +0.4**
	baz=252,SNR=15							
435B	**Jarrell**	**89.39**	**58**	P		**P**		**12 12 08.5 +0.6**
	baz=252							
636A	**Smothers Creek**	**89.43**	**59**	P		**P**		**12 12 10.0 +1.9**
	baz=253,SNR=25							
LZH	**Lanzhou**	**89.47**	**308**	*eP*		**P**		**12 12 10.0 +1.6**
LZH				pP		pP		12 13 35.8 +1.5
LZH				sP		sP		12 14 11.1 -1.5
LZH				PP		**PP**		**12 15 43.0 -2.9**
LZH				SKS		**SKSac**		**12 22 04.0 +1.1**
LZH				S		**ScS**		**12 22 31.4 +1.1**
LZH				sS		sS		12 24 58.3 -1.3
LZH				SS		**SS**		**12 28 31.1 -1.7**
LZH				pmax		pmax		
	comp=Z,26nm,1.0s							
LZH				pmax		pmax		
	comp=Z,160nm,4.3s							
536A	**Bastrop**	**89.60**	**59**	P		**P**		**12 12 10.2 +1.3**
	baz=252,SNR=6.3							
WMOK	**Wichita Mounta**	**89.64**	**54**	P		**P**		**12 12 08.6 -0.5**
	baz=252							
WMOK	**Wichita Mounta**	**89.64**	**54**	*eP*		**P**		**12 12 08.8 -0.2**
WMOK	**Wichita Mounta**	**89.64**	**54**	*eP*		**P**		**12 12 08.8 -0.2**
	comp=Z,16nm,1.0s							
335A	**Moody**	**89.67**	**58**	P		**P**		**12 12 09.5 +0.3**
	baz=252,SNR=6.7							
WHTX	**Lake Whitney,**	**89.86**	**57**	P		**P**		**12 12 10.2 +0.2**
	baz=252,SNR=10							
WHTX	**Lake Whitney,**	**89.86**	**57**	*eP*		**P**		**12 12 10.3 +0.3**
	comp=Z,208nm,1.8s							
U32A	**Winter Ranch,**	**89.99**	**52**	P		**P**		**12 12 10.9 +0.3**
	baz=252							
637A	**Eagle Lake**	**90.02**	**60**	P		**P**		**12 12 12.7 +1.8**
	baz=253,SNR=11							
436A	**Wall Ranch, Ga**	**90.03**	**58**	P		**P**		**12 12 11.8 +1.0**
	baz=253							
CCIG	**Comitan**	**90.10**	**73**	*eP*		**P**		**12 12 13.5 +1.8**
	comp=Z,125nm,1.1s							
336A	**Riesel**	**90.17**	**58**	P		**P**		**12 12 11.8 +0.3**
	baz=253							
CBKS	**Cedar Bluff**	**90.21**	**50**	P		**P**		**12 12 11.6 +0.1**
	baz=251							
CBKS	**Cedar Bluff**	**90.21**	**50**	*eP*		**P**		**12 12 12.7 +1.1**
CBKS	**Cedar Bluff**	**90.21**	**50**	*eP*		**P**		**12 12 12.7 +1.1**
	comp=Z,28nm,0.8s							
537A	**Green Hill Far**	**90.22**	**59**	P		**P**		**12 12 13.5 +1.8**
	baz=253,SNR=21							
DGMT	**Dagmar**	**90.54**	**40**	P		**P**		**12 12 13.6 +0.7**
	baz=248							
DGMT	**Dagmar**	**90.54**	**40**	*eP*		**P**		**12 12 13.5 +0.7**
	comp=Z,248nm,0.9s							
437A	**Phantom Ranch,**	**90.59**	**58**	P		**P**		**12 12 14.7 +1.2**
	baz=253,SNR=8.1							
236A	**Katherine and**	**90.61**	**57**	P		**P**		**12 12 13.9 +0.4**
	baz=253,SNR=7.0							
136A	**Ennis**	**90.75**	**57**	P		**P**		**12 12 14.5 +0.4**
	baz=253,SNR=7.3							
638A	**Rosharon**	**90.76**	**60**	P		**P**		**12 12 16.5 +2.3**
	baz=253							
Y35A	**Marietta**	**90.76**	**55**	P		**P**		**12 12 14.7 +0.5**
	baz=253							
337A	**Centerville**	**90.94**	**58**	P		**P**		**12 12 16.4 +1.4**
	baz=253							
538A	**Harpers Horsep**	**90.95**	**59**	P		**P**		**12 12 17.2 +2.1**
	baz=253							
X35A	**Drake**	**90.96**	**55**	P		**P**		**12 12 15.2 +0.1**
	baz=253,SNR=24							
Z36A	**Blue Ridge**	**91.06**	**56**	P		**P**		**12 12 16.0 +0.4**
	baz=253,SNR=8.8							
438A	**Sam Houston St**	**91.11**	**59**	P		**P**		**12 12 17.7 +1.8**
	baz=253,SNR=34							
237A	**Washetta, Mont**	**91.20**	**57**	P		**P**		**12 12 17.1 +0.8**
	baz=253,SNR=5.4							
ULN	**Ulaanbaatar**	**91.21**	**319**	*d iP*		**P**		**12 12 16.4 +0.3**
ULN				*i* *PP		**pP**		**12 13 41.4 -0.8**
ULN				pmax		pmax		
	comp=Z,29nm,1.7s							
ULN	**Ulaanbaatar**	**91.21**	**319**	*eP*		**P**		**12 12 16.5 +0.3**
ULN				*ep*	P	**pP**		**12 13 41.9 -0.4**
W35A	**Tecumseh**	**91.26**	**54**	P		**P**		**12 12 16.8 +0.4**
	baz=253,SNR=24							
BOD	**Bodaibo**	**91.31**	**330**	*eP*		**P**		**12 12 15.0 -1.1**
BOD				*e*				12 22 06.5
BOD				pmax		pmax		
	comp=Z,10.0nm,1.8s							
Y36A	**Durant**	**91.36**	**55**	P		**P**		**12 12 17.5 +0.6**
	baz=253,SNR=29							
YKA	**Yellowknife Ar**	**91.37**	**25**	P		**P**		**12 12 16.0 -0.3**
	comp=Z,6.2nm,0.5s,baz=237,slow=4.6,SNR=95							
YKA				PP		**PP**		**12 15 55.7 -4.2**
	comp=Z,1.5nm,0.9s,baz=240,slow=8.3,SNR=4.3							
YKA				PKiKP		**PKiKP**		**12 17 05.5 -0.4**
	comp=Z,0.3nm,0.5s,baz=250,slow=1.5,SNR=5.7							
YKA				PKKP		**PKKPdf**		**12 29 35.3 +0.1**
	comp=Z,0.4nm,0.4s,baz=44,slow=2.0,SNR=19							
YKA				PKPPKP		**P'P'df**		**12 37 48.0 +1.3**
	comp=Z,1.3nm,0.9s,baz=40,slow=4.0,SNR=3.9							
YKB5	**Yellowknife Ar**	**91.37**	**25**	*eP*		**P**		**12 12 15.6 -0.7**
YKW3	**Yellowknife Ar**	**91.40**	**24**	*eP*		**P**		**12 12 16.2 -0.2**
	comp=Z,34nm,1.1s							
137A	**Heron Place, G**	**91.41**	**57**	P		**P**		**12 12 18.2 +1.0**
	baz=253,SNR=5.3							
338A	**Crockett**	**91.42**	**58**	P		**P**		**12 12 18.4 +1.1**
	baz=253,SNR=8.9							
V35A	**Meyer Ranch, C**	**91.47**	**53**	P		**P**		**12 12 17.3 -0.1**
	baz=253							
X36A	**Centrahoma**	**91.50**	**55**	P		**P**		**12 12 17.7 +0.1**
	baz=253,SNR=24							
539A	**Cross D Ranch,**	**91.56**	**59**	P		**P**		**12 12 19.7 +1.8**
	baz=254							
T34A	**McClaskey Farm**	**91.57**	**52**	P		**P**		**12 12 18.1 +0.3**
	baz=253							
SONA1	**Songino Array**	**91.61**	**319**	*eP*		**P**		**12 12 17.9 0.0**
SONM	**Songino Array**	**91.61**	**319**	P		**P**		**12 12 18.0 +0.1**
	comp=Z,4.0nm,0.9s,baz=106,slow=3.4,SNR=19							
SONM				pP		**pP**		**12 13 43.3 -0.8**
	comp=Z,5.9nm,1.1s,baz=109,slow=2.9,SNR=9.6							
SONM				PP		**PP**		**12 15 58.7 -3.7**
	comp=Z,1.6nm,1.0s,baz=125,slow=7.8,SNR=4.9							
SONM				PKKP		**PKKPdf**		**12 29 35.1 +0.6**
	comp=Z,1.9nm,0.9s,baz=242,slow=2.5,SNR=7.2							
SONM				PKPPKP		**P'P'df**		**12 37 43.2 -3.3**
	comp=Z,0.3nm,0.6s,baz=204,slow=3.3,SNR=3.9							
SCIG	**Sabancuy**	**91.68**	**71**	*eP*		**P**		**12 12 20.3 +1.6**
	comp=Z,104nm,0.9s							
Z37A	**Pogue Cattle C**	**91.69**	**56**	P		**P**		**12 12 19.2 +0.7**
	baz=253,SNR=7.1							
439A	**Center Grove,**	**91.71**	**59**	P		**P**		**12 12 20.1 +1.5**
	baz=254,SNR=7.6							
U35A	**Pawnee**	**91.73**	**53**	P		**P**		**12 12 18.8 +0.2**
	baz=253							
238A	**Jacksonville**	**91.76**	**57**	P		**P**		**12 12 20.3 +1.5**
	baz=254,SNR=9.9							
W36A	**Wetumka**	**91.77**	**54**	P		**P**		**12 12 19.0 +0.2**
	baz=253,SNR=15							
S34A	**Willow Spring**	**91.83**	**52**	P		**P**		**12 12 19.1 +0.1**
	baz=253							
R34A	**Isabella, Hill**	**91.91**	**51**	P		**P**		**12 12 19.6 +0.2**
	baz=253							
Y37A	**Hugo**	**91.91**	**55**	P		**P**		**12 12 20.1 +0.6**
	baz=253,SNR=22							
138A	**Matatall Enter**	**91.97**	**57**	P		**P**		**12 12 21.0 +1.3**
	baz=254,SNR=7.2							
339A	**Huntington**	**92.03**	**58**	P		**P**		**12 12 21.2 +1.1**
	baz=254,SNR=6.4							
T35A	**Sooner Cattle**	**92.06**	**52**	P		**P**		**12 12 20.4 +0.3**
	baz=253							
NATX	**Nacogdoches**	**92.06**	**58**	P		**P**		**12 12 21.2 +1.0**
	baz=254,SNR=5.5							
NATX	**Nacogdoches**	**92.06**	**58**	*eP*		**P**		**12 12 21.8 +1.5**
	comp=Z,96nm,0.9s							
K31A	**O'Neill**	**92.13**	**46**	P		**P**		**12 12 20.7 +0.4**
	baz=252							
V36A	**Jenks**	**92.17**	**54**	P		**P**		**12 12 20.9 +0.3**
	baz=253,SNR=27							
BGNE	**Belgrade**	**92.18**	**48**	P		**P**		**12 12 21.3 +0.7**
	baz=252							
BGNE	**Belgrade**	**92.18**	**48**	*eP*		**P**		**12 12 21.4 +0.8**
	comp=Z,259nm,1.0s							
O33A	**Hebron**	**92.19**	**49**	P		**P**		**12 12 20.7 0.0**
	baz=252							
SYO	**Syowa Base**	**92.22**	**193**	*i* *iP*		**P**		**12 12 18.0 -2.2**
SYO	**Syowa Base**	**92.22**	**193**	*ep*	CP	**P**		**12 12 20.0 -0.2**
Z38A	**Mt. Pleasant**	**92.22**	**56**	P		**P**		**12 12 21.8 +0.9**
	baz=254							
X37A	**Clayton**	**92.28**	**55**	P		**P**		**12 12 21.2 +0.1**
	baz=254,SNR=26							
239A	**Gary**	**92.29**	**58**	P		**P**		**12 12 22.3 +1.0**
	baz=254,SNR=12							
Q34A	**Chapman**	**92.32**	**50**	P		**P**		**12 12 21.6 +0.4**
	baz=253							
TUL1	**Leonard**	**92.33**	**54**	P		**P**		**12 12 21.5 +0.2**
	baz=253,SNR=17							
TUL1	**Leonard**	**92.33**	**54**	*eP*		**P**		**12 12 21.6 +0.2**
	comp=Z,125nm,1.1s							
J31A	**Geddes**	**92.35**	**46**	P		**P**		**12 12 21.2 -0.1**
	baz=252							
440A	**Kirbyville**	**92.36**	**59**	P		**P**		**12 12 23.1 +1.4**
	baz=254,SNR=5.1							
W37B	**Quinton**	**92.39**	**54**	P		**P**		**12 12 22.0 +0.3**
	baz=254,SNR=34							
S35A	**Otter Creek Ra**	**92.43**	**52**	P		**P**		**12 12 21.8 0.0**
	baz=253							
L32A	**Elgin**	**92.47**	**47**	P		**P**		**12 12 22.2 +0.3**
	baz=252							
N33A	**J Bar K, Exete**	**92.49**	**49**	P		**P**		**12 12 22.3 +0.3**
	baz=253							
U36A	**Oologah**	**92.51**	**53**	P		**P**		**12 12 22.5 +0.3**
	baz=253,SNR=16							
139A	**Bunkhouse Ranc**	**92.54**	**57**	P		**P**		**12 12 23.1 +0.8**
	baz=254,SNR=5.4							
SUSD	**Miller**	**92.56**	**45**	P		**P**		**12 12 22.0 -0.3**
	baz=252							
T36A	**Boggs Farm, Ca**	**92.59**	**52**	P		**P**		**12 12 22.8 +0.2**
	baz=253,SNR=26							
P34A	**Walnut Farm, R**	**92.59**	**50**	P		**P**		**12 12 22.8 +0.3**
	baz=253							
340A	**Bronson**	**92.60**	**58**	P		**P**		**12 12 23.6 +0.9**
	baz=254,SNR=5.6							
Y38A	**Idabel**	**92.61**	**56**	P		**P**		**12 12 22.5 -0.2**
	baz=254							
KSU1	**Kansas State U**	**92.62**	**50**	P		**P**		**12 12 23.0 +0.3**
	baz=253							
KSU1	**Kansas State U**	**92.62**	**50**	*eP*		**P**		**12 12 23.6 +1.0**
	comp=Z,77nm,0.9s							
K32A	**Verdigre**	**92.69**	**47**	P		**P**		**12 12 22.4 -0.5**
	baz=252							
R35A	**Emporia Munici**	**92.70**	**51**	P		**P**		**12 12 23.5 +0.4**
	baz=253							
I31A	**Royce, Wessing**	**92.72**	**45**	P		**P**		**12 12 22.7 -0.3**
	baz=252							
X38A	**Whitesboro**	**92.73**	**55**	P		**P**		**12 12 23.6 +0.4**
	baz=254,SNR=72							
V37A	**Hulbert**	**92.83**	**54**	P		**P**		**12 12 23.9 +0.3**
	baz=254,SNR=48							
Z39A	**Irene McRaven,**	**92.86**	**57**	P		**P**		**12 12 25.0 +1.1**
	baz=254,SNR=8.2							
O34A	**Beatrice**	**92.87**	**49**	P		**P**		**12 12 23.8 0.0**
	baz=253							
240A	**Hunter Patters**	**92.88**	**58**	P		**P**		**12 12 24.9 +0.9**
	baz=254							
H31A	**Wolsey**	**92.90**	**45**	P		**P**		**12 12 23.5 -0.3**
	baz=252							
M33A	**Taylor Creek F**	**92.92**	**48**	P		**P**		**12 12 24.2 +0.2**
	baz=253							
Q35A	**Mercer Eighty,**	**92.98**	**51**	P		**P**		**12 12 24.7 +0.4**
	baz=253							
U37A	**Salina**	**92.99**	**53**	P		**P**		**12 12 24.7 +0.3**
	baz=254,SNR=29							
J32A	**Parkston**	**92.99**	**46**	P		**P**		**12 12 23.5 -0.7**
	baz=252							
S36A	**Lake Cedric, C**	**92.99**	**52**	P		**P**		**12 12 24.7 +0.3**
	baz=254,SNR=19							
441A	**DeRidder**	**93.00**	**59**	P		**P**		**12 12 26.0 +1.5**
	baz=254							
PLCA	**Paso Flores**	**93.02**	**133**	P		**P**		**12 12 25.3 +0.6**
	comp=Z,16nm,1.0s,baz=260,slow=5.3,SNR=12							
PLCA	**Paso Flores**	**93.02**	**133**	P		**P**		**12 12 25.3 +0.6**
PLCA				pmax		pmax		
	comp=Z,17nm,1.1s							
PLCA	**Paso Flores**	**93.02**	**133**	*eP*		**P**		**12 12 24.9 +0.2**
	comp=Z,63nm,1.5s							
L33A	**Hoskins**	**93.04**	**47**	P		**P**		**12 12 24.4 -0.1**
	baz=253							
W38A	**Poteau**	**93.09**	**55**	P		**P**		**12 12 25.5 +0.6**
	baz=254,SNR=23							
Y39A	**Lockesburg**	**93.12**	**56**	P		**P**		**12 12 25.2 +0.1**
	baz=254,SNR=8.0							
341A	**Kurthwood**	**93.18**	**59**	P		**P**		**12 12 26.2 +0.8**
	baz=254							
P35A	**Duane Minner,**	**93.18**	**50**	P		**P**		**12 12 25.8 +0.5**
	baz=253							
140A	**Cam and Jess,**	**93.19**	**57**	P		**P**		**12 12 26.4 +1.0**
	baz=254,SNR=6.6							
N34A	**Lincoln**	**93.20**	**49**	P		**P**		**12 12 25.5 +0.2**
	baz=253							
MDND	**Maddock**	**93.21**	**41**	P		**P**		**12 12 25.2 0.0**
	baz=251							
MDND	**Maddock**	**93.21**	**41**	*eP*		**P**		**12 12 25.1 0.0**
	comp=Z,199nm,0.9s							
R36A	**Gordon, Harris**	**93.23**	**51**	P		**P**		**12 12 25.6 +0.2**
	baz=254,SNR=14							
X39A	**Fountain Ranch**	**93.26**	**55**	P		**P**		**12 12 26.1 +0.4**
	baz=254,SNR=18							
G31A	**Conde**	**93.31**	**44**	P		**P**		**12 12 25.1 -0.5**
	baz=252							
M34A	**Aspy Farms, Fr**	**93.34**	**48**	P		**P**		**12 12 26.2 +0.3**
	baz=253							
T37A	**Cheneyville 18**	**93.34**	**53**	P		**P**		**12 12 26.4 +0.4**
	baz=254,SNR=100							
K33A	**Hardington**	**93.36**	**47**	P		**P**		**12 12 25.7 -0.3**
	baz=253							
TIXI	**Tiksi**	**93.37**	**345**	*d iP*		**P**		**12 12 25.6 +0.3**
TIXI				pmax		pmax		
	comp=Z,18nm,1.0s							
V38A	**Canehill**	**93.39**	**54**	P		**P**		**12 12 26.4 +0.1**
	baz=254,SNR=49							
Q36A	**Arnold C. Orve**	**93.44**	**51**	P		**P**		**12 12 26.7 +0.3**
	baz=254,SNR=12							
I32A	**Karley and Nic**	**93.45**	**45**	P		**P**		**12 12 25.9 -0.4**
	baz=253							
F31A	**Hecla**	**93.47**	**44**	P		**P**		**12 12 25.9 -0.5**
	baz=252							
O35A	**Humboldt**	**93.47**	**49**	P		**P**		**12 12 27.2 +0.7**
	baz=254							
Z40A	**Long Farm, Mag**	**93.50**	**57**	P		**P**		**12 12 27.6 +0.8**
	baz=254							
GTA	**Gaotai**	**93.52**	**310**	*eP*		**P**		**12 12 27.8 +0.9**
GTA				pP		pP		12 13 52.8 -0.3
GTA				sP		sP		12 14 27.8 -3.5
GTA				SKS		**SKSac**		**12 22 23.3 -2.1**
GTA				S		**S**		**12 23 02.4 -0.3**
GTA				pmax		pmax		
	comp=Z,16nm,1.0s							
GTA				pmax		pmax		
	comp=Z,95nm,6.4s							
GTA				LR		LR		
	comp=Z,180nm,21.6s							
GTA				LR		LR		
	comp=Z,240nm,21.4s							
GTA				LR		LR		
	comp=Z,160nm,17.1s							
241A	**Mo Tay, Goldon**	**93.56**	**58**	P		**P**		**12 12 28.3 +1.2**
	baz=255							
U38A	**Gravette**	**93.57**	**53**	P		**P**		**12 12 27.2 +0.1**
	baz=254,SNR=35							
S37A	**Fort Scott**	**93.58**	**52**	P		**P**		**12 12 27.3 +0.2**
	baz=254,SNR=38							
J33A	**Davis**	**93.59**	**46**	P		**P**		**12 12 26.4 -0.6**
	baz=253,SNR=5.9							
SNAA	**Sanae**	**93.60**	**178**	P		**P**		**12 12 25.9 -0.8**
SNAA	**Sanae**	**93.60**	**178**	*d iP*		**P**		**12 12 26.1 -0.5**
SNAA	**Sanae**	**93.60**	**178**	*eP*		**P**		**12 12 25.9 -0.8**
	comp=Z,60nm,1.1s							
H32A	**Carlson Farm,**	**93.61**	**45**	P		**P**		**12 12 26.7 -0.4**
	baz=253							
L34A	**Svendsen Farm,**	**93.62**	**48**	P		**P**		**12 12 26.7 -0.5**
	baz=253							
MIAR	**Mount Ida**	**93.69**	**55**	P		**P**		**12 12 28.0 +0.3**
	baz=254,SNR=22							
MIAR	**Mount Ida**	**93.69**	**55**	*eP*		**P**		**12 12 28.0 +0.3**
MIAR	**Mount Ida**	**93.69**	**55**	*eP*		**P**		**12 12 28.0 +0.3**
	comp=Z,40nm,1.0s							
W39A	**Magazine**	**93.70**	**55**	P		**P**		**12 12 28.1 +0.4**
	baz=254,SNR=34							
VNA3	**Neumayer Olymp**	**93.72**	**176**	P		**P**		**12 12 26.2 -0.9**
141A	**Papa Simpson,**	**93.72**	**57**	P		**P**		**12 12 28.8 +0.9**
	baz=255,SNR=7.5							
R37A	**Teagarden Farm**	**93.73**	**51**	P		**P**		**12 12 28.0 +0.2**
	baz=254,SNR=22							
Y40A	**Okolona**	**93.79**	**56**	P		**P**		**12 12 28.8 +0.7**
	baz=255,SNR=10							
G32A	**Webster**	**93.79**	**44**	P		**P**		**12 12 27.4 -0.5**
	baz=253							
T38A	**Diamond**	**93.80**	**53**	P		**P**		**12 12 28.5 +0.4**
	baz=254,SNR=86							
P36A	**Good Intent, A**	**93.81**	**50**	P		**P**		**12 12 28.5 +0.5**
	baz=254							
N35A	**Tabor**	**93.83**	**49**	P		**P**		**12 12 28.9 +0.7**
	baz=254,SNR=9.8							
WLAR	**White Oak Lake**	**93.84**	**56**	*eP*		**P**		**12 12 29.9 +1.5**
	comp=Z,142nm,1.0s							
HHAR	**Hobbs**	**93.87**	**54**	*eP*		**P**		**12 12 28.8 +0.4**
	comp=Z,57nm,1.0s							
HHAR				*eS*		**S**		**12 23 09.7 +4.0**
342A	**Flagon Creek P**	**93.88**	**59**	P		**P**		**12 12 29.8 +1.3**
	baz=255							
I33A	**Coleman**	**93.92**	**46**	P		**P**		**12 12 28.1 -0.4**
	baz=253							
E31A	**Nome**	**93.92**	**43**	P		**P**		**12 12 27.9 -0.5**
	baz=253,SNR=10							
ECSD	**EROS Data Cent**	**93.96**	**46**	P		**P**		**12 12 28.4 -0.3**
	baz=253							
ECSD	**EROS Data Cent**	**93.96**	**46**	*eP*		**P**		**12 12 28.3 -0.3**
	comp=Z,69nm,1.1s							
M35A	**Neola**	**93.97**	**48**	P		**P**		**12 12 28.8 +0.1**
	baz=254,SNR=5.2							
Z41A	**Richland Creek**	**93.98**	**57**	P		**P**		**12 12 29.9 +0.9**
	baz=255							
V39A	**Pettigrew**	**93.98**	**54**	P		**P**		**12 12 29.2 +0.1**
	baz=255,SNR=62							
K34A	**Le Mars**	**94.02**	**47**	P		**P**		**12 12 28.5 -0.5**
	baz=254							
FFC	**Flin Flon**	**94.07**	**34**	*eP*		**P**		**12 12 28.4 -0.5**
FFC	**Flin Flon**	**94.07**	**34**	*eP*		**P**		**12 12 28.4 -0.5**
	comp=Z,60nm,1.9s							
TGUH	**Tegucigalpa,Un**	**94.08**	**77**	*eP*		**P**		**12 12 31.4 +1.6**
	comp=Z,43nm,1.1s							
O36A	**Bolckow**	**94.13**	**50**	P		**P**		**12 12 30.1 +0.6**
	baz=254							
GO05	**HualaæØ**	**94.14**	**128**	*eP*		**P**		**12 12 31.1 +1.2**
	comp=Z,924nm,0.6s							
H33A	**Prehn Over Nor**	**94.14**	**45**	P		**P**		**12 12 29.0 -0.5**
	baz=253,SNR=18							
VNA2	**Neumayer--Watz**	**94.16**	**177**	P		**P**		**12 12 29.2 +0.1**
	baz=180,slow=4.3							
Q37A	**Longview Farm,**	**94.17**	**51**	P		**P**		**12 12 29.7 -0.1**
	baz=254,SNR=7.2							
D31A	**Mcclaflin, Tow**	**94.18**	**42**	P		**P**		**12 12 28.9 -0.7**
	baz=253,SNR=11							
443A	**Delano Plantat**	**94.18**	**59**	P		**P**		**12 12 31.8 +1.8**
	baz=255							
242A	**Grayson**	**94.20**	**58**	P		**P**		**12 12 31.4 +1.3**
	baz=255							
F32A	**Veblen**	**94.22**	**44**	P		**P**		**12 12 29.2 -0.7**
	baz=253							
S38A	**Stockton**	**94.25**	**52**	P		**P**		**12 12 30.3 +0.1**
	baz=255,SNR=37							
L35A	**Bielow Farm, R**	**94.25**	**48**	P		**P**		**12 12 29.9 -0.1**
	baz=254,SNR=17							
U39A	**Green Forest**	**94.25**	**54**	P		**P**		**12 12 30.0 -0.2**
	baz=255,SNR=39							
W40A	**Ferguson Farm,**	**94.27**	**55**	P		**P**		**12 12 30.8 +0.5**
	baz=255,SNR=17							
X40A	**Basin Creek Fa**	**94.27**	**56**	P		**P**		**12 12 30.4 +0.1**
	baz=255							
J34A	**George**	**94.29**	**46**	P		**P**		**12 12 29.4 -0.8**
	baz=254,SNR=6.5							
Y41A	**Eaglette Beard**	**94.29**	**56**	P		**P**		**12 12 31.0 +0.6**
	baz=255,SNR=6.0							
NVL	**N'lazarevskaya**	**94.31**	**183**	*eP*		**P**		**12 12 30.6 +0.8**
N36A	**Muff Farm, Cla**	**94.32**	**49**	P		**P**		**12 12 30.9 +0.5**
	baz=254,SNR=29							
ZAK	**Zakamensk**	**94.38**	**321**	*eP*		**P**		**12 12 28.4 -2.2**
ZAK				*e*				12 13 54.8
ZAK				pmax		pmax		
	comp=Z,5.0nm,1.2s							
ZAK				pmax		pmax		
	comp=Z,5.0nm,1.8s							
VNA1	**Neumayer--Stat**	**94.39**	**177**	P		**P**		**12 12 30.2 0.0**
C31A	**Landman Farms,**	**94.39**	**42**	P		**P**		**12 12 30.1 -0.5**
	baz=253,SNR=31							
R38A	**Fenwick Farm,**	**94.40**	**52**	P		**P**		**12 12 30.9 +0.1**
	baz=255,SNR=98							
P37A	**Lathrop**	**94.44**	**50**	P		**P**		**12 12 31.0 +0.1**
	baz=254,SNR=27							
E32A	**Braaten, Kindr**	**94.47**	**43**	P		**P**		**12 12 30.0 -0.9**
	baz=253							
G33A	**Ortonville**	**94.49**	**45**	P		**P**		**12 12 30.2 -0.8**
	baz=254,SNR=9.2							
T39A	**Clever**	**94.50**	**53**	P		**P**		**12 12 31.5 +0.2**
	baz=255,SNR=61							
X41A	**Kaden, Bauxite**	**94.53**	**56**	P		**P**		**12 12 31.8 +0.3**
	baz=255,SNR=7.2							
TLY	**Talaya**	**94.56**	**322**	*eP*		**P**		**12 12 31.4 +0.1**
TLY				pmax		pmax		
	comp=Z,10.0nm,0.9s							
I34A	**Hadley**	**94.57**	**46**	P		**P**		**12 12 31.0 -0.5**
	baz=254							
M36A	**Felix, Anita**	**94.61**	**48**	P		**P**		**12 12 31.5 -0.2**
	baz=254,SNR=9.2							
V40A	**Witts Springs**	**94.62**	**54**	P		**P**		**12

baz=254
T40A Mansfield 95.20 53 P P 12 12 34.5 0.0
baz=255,SNR=45
344A Westbrook Farm 95.22 59 P P 12 12 36.1 +1.5
baz=256
Z43A Armstrong Fami 95.23 57 P P 12 12 35.4 +0.7
baz=256
O38A Galt 95.23 50 P P 12 12 34.3 -0.2
baz=255,SNR=15
X42A Stuttgart 95.25 56 P P 12 12 35.2 +0.5
baz=256
S40A Lebanon 95.32 53 P P 12 12 35.1 +0.1
baz=255,SNR=40
Q39A Willow Grove F 95.33 51 P P 12 12 34.7 -0.3
baz=255,SNR=9.9
B32A Ashes, Strandq 95.33 41 P P 12 12 33.6 -1.2
baz=254,SNR=6.7
JTS JuntasAbangare 95.36 81 *e*P P 12 12 37.7 +1.9
JTS JuntasAbangare 95.36 81 *e*P P 12 12 37.7 +1.9
D33A AnnSam, Waubun 95.43 43 P P 12 12 34.5 -0.8
baz=254,SNR=5.8
J36A Seneca 1, Swea 95.44 47 P P 12 12 34.7 -0.7
baz=255,SNR=16
H35A Sunnyside Ranc 95.46 45 P P 12 12 34.8 -0.7
baz=255,SNR=7.8
F34A Alexandria 95.46 44 P P 12 12 34.8 -0.6
baz=254,SNR=8.0
U41A Viola 95.46 54 P P 12 12 35.8 +0.1
baz=256,SNR=35
A32A Rocking H Ranc 95.50 41 P P 12 12 34.8 -0.8
baz=254,SNR=5.9
W42A Bald Knob 95.51 55 P P 12 12 36.4 +0.5
baz=256
L37A Phoenix Point, 95.54 48 P P 12 12 35.7 -0.2
baz=255,SNR=13
N38A Joes South For 95.58 49 P P 12 12 36.1 0.0
baz=255,SNR=14
ROC1 El Roble 95.58 126 *e*P P 12 12 40.0 +3.2
VBMS Vicksburg 95.58 58 P P 12 12 37.6 +1.3
baz=256
P39B Salisbury 95.61 51 P P 12 12 36.2 -0.1
baz=255,SNR=41
C33A Trail 95.65 42 P P 12 12 35.4 -0.9
baz=254
Y43A Makayla and Ka 95.66 57 P P 12 12 37.6 +1.0
baz=256
R40A Maddies Statio 95.67 52 P P 12 12 36.5 -0.1
baz=256,SNR=50
E34A Wadena 95.71 44 P P 12 12 35.9 -0.7
baz=254,SNR=6.9
EFI East Falkland 95.71 147 *d i*P P 12 12 36.8 +0.3
EFI pmax pmax
comp=Z,116nm,1.3s
AGMN Agassiz Nation 95.74 42 P P 12 12 35.6 -1.0
baz=254,SNR=7.7
AGMN Agassiz Nation 95.74 42 *e*P P 12 12 35.7 -1.0
comp=Z,29nm,1.1s
V42A Cord 95.75 55 P P 12 12 36.9 -0.1
baz=256,SNR=18
T41A Mountain View 95.76 53 P P 12 12 37.0 -0.1
baz=256,SNR=17
144A Alexander Plac 95.76 58 P P 12 12 38.0 +0.9
baz=256
M38A Pleasantville 95.76 49 P P 12 12 36.8 -0.1
baz=255,SNR=37
345A Thompson Farm, 95.77 59 P P 12 12 38.4 +1.2
baz=256
K37A Belmond 95.79 47 P P 12 12 36.6 -0.5
baz=255,SNR=9.4
G35A Watkins 95.83 45 P P 12 12 37.2 +0.1
baz=255
X43A Marvell 95.84 56 P P 12 12 38.4 +0.9
baz=256
I36A Fitzsimmons Fa 95.84 46 P P 12 12 36.7 -0.5
baz=255
D34A Park Rapids 95.84 43 P P 12 12 36.3 -0.9
baz=255
SCIA State Center 95.87 48 *e*P P 12 12 37.8 +0.4
comp=Z,85nm,0.8s
S41A Jillco Farms, 95.90 53 P P 12 12 37.4 -0.3
baz=256,SNR=57
B33A Robert and Kas 95.91 42 P P 12 12 36.7 -0.7
baz=254
Z44A Pea Ridge, Bel 95.91 57 P P 12 12 38.3 +0.5
baz=256
F35A Swanville 95.94 44 P P 12 12 37.5 -0.1
baz=255,SNR=22
O39A Kirksville 95.95 50 P P 12 12 37.6 -0.3
baz=256,SNR=12
J37A Redenius Farm, 95.99 47 P P 12 12 37.2 -0.7
baz=255,SNR=5.4
Q40A Laux Farm, Aux 96.00 51 P P 12 12 37.6 -0.4
baz=256,SNR=22
U42A Revenden 96.00 54 P P 12 12 37.9 -0.2
baz=256,SNR=15
H36A Jessenland, He 96.05 46 P P 12 12 38.3 +0.2
baz=255
245A Little AP, Sta 96.05 59 P P 12 12 39.8 +1.4
baz=256
L38A Oak Wood Farm, 96.12 48 P P 12 12 38.4 -0.1
baz=256,SNR=14
W43A Forest City 96.12 55 P P 12 12 39.1 +0.5
baz=256
N39A Derby Farms, D 96.14 49 P P 12 12 38.4 -0.3
baz=256,SNR=23
P40A Paris 96.14 51 P P 12 12 38.4 -0.3
baz=256,SNR=21
C34A RKJ Ranch, Bem 96.18 42 P P 12 12 38.1 -0.6
baz=255
446A Poplarville 96.20 60 P P 12 12 38.2 -0.9
baz=256
A33A Warroad 96.21 41 P P 12 12 37.8 -0.9
baz=255,SNR=9.3
E35A Pequot Lakes 96.23 44 P P 12 12 38.2 -0.7
baz=255
Y44A Strider, Charl 96.25 57 P P 12 12 39.8 +0.5
baz=256
ULM Lac du Bonnet 96.26 40 P P 12 12 37.9 -1.0
comp=Z,14nm,0.8s,baz=270,slow=5.2,SNR=15
ULM Lac du Bonnet 96.26 40 *e*P P 12 12 38.0 -1.0
comp=Z,17nm,0.8s
I37A Lemond, Waseca 96.27 46 P P 12 12 39.1 -0.1
baz=256
T42A Van Buren 96.27 53 P P 12 12 38.8 -0.5
baz=256,SNR=11
G36A St. Michael 96.33 45 P P 12 12 39.4 0.0
baz=255
R41A Rosebud 96.36 52 P P 12 12 39.0 -0.7
baz=256,SNR=21
K38A Parkersburg 96.38 48 P P 12 12 39.4 -0.3
baz=256
V43A Jonesboro 96.41 55 P P 12 12 40.8 +0.8
baz=256
O40A La Belle 96.42 50 P P 12 12 39.7 -0.2
baz=256,SNR=30
X44A Crenshaw 96.43 56 P P 12 12 40.3 +0.2
baz=256
M39A Webster 96.53 49 P P 12 12 40.1 -0.3
baz=256,SNR=13
Z45A Winona 96.53 57 P P 12 12 41.3 +0.7
baz=256
B34A Aery, Baudette 96.57 42 P P 12 12 39.4 -1.0
baz=255,SNR=8.7
D35A Remer 96.60 43 P P 12 12 39.7 -0.9
baz=255,SNR=9.7
Q41A Truxton 96.62 52 P P 12 12 40.6 -0.2
baz=256,SNR=26
F36A Milaca 96.65 44 P P 12 12 40.5 -0.3
baz=256,SNR=25
U43A Rector 96.66 54 P P 12 12 41.2 +0.1
baz=256
S42A Caledonia 96.68 53 P P 12 12 40.5 -0.6
baz=256,SNR=11
PBMO Poplar Bluff 96.73 54 *e*P P 12 12 41.6 +0.2
comp=Z,27nm,1.4s
H37A Dierke Farm, C 96.75 46 P P 12 12 41.5 +0.2
baz=256
J38A Wedel Dairy, R 96.75 47 P P 12 12 40.8 -0.5
baz=256
Y45A Yeager Farm, C 96.77 57 P P 12 12 42.7 +1.1
baz=257
R42A Luebbering 96.80 52 P P 12 12 41.4 -0.3
baz=256
C35A Jirik Farms, M 96.80 43 P P 12 12 40.3 -1.2
baz=256,SNR=7.8
L39A Vinton 96.80 48 P P 12 12 41.3 -0.3
baz=256,SNR=9.8
N40A Mertquake, Sal 96.81 50 P P 12 12 41.6 -0.1
baz=256,SNR=14
146A Union 96.88 58 P P 12 12 43.3 +1.2
baz=257
T43A Greenville 96.91 54 P P 12 12 42.2 0.0
baz=257
P41A Barry, Barry 96.92 51 P P 12 12 42.5 +0.3
baz=256
V44A Blytheville 96.93 55 P P 12 12 42.8 +0.5
baz=257
SPMN Marine on St. 96.98 45 P P 12 12 42.0 -0.3
baz=256,SNR=7.8
SPMN Marine on St. 96.98 45 *e*P P 12 12 42.3 0.0
comp=Z,41nm,0.9s
E36A McGregor 96.99 44 P P 12 12 41.7 -0.7
baz=256,SNR=14
M40A Post Highland 96.99 49 P P 12 12 42.0 -0.4
baz=256,SNR=11
OXF Oxford 97.02 56 *e*P Pdif 12 12 43.9 +1.1
OXF pmax pmax
comp=Z,56nm,1.0s
OXF Oxford 97.02 56 *e*P Pdif 12 12 43.9 +1.1
comp=Z,56nm,1.0s
K39A Oelwein 97.02 48 P P 12 12 42.1 -0.5
baz=256
I38A Scanlan Farm, 97.03 46 P P 12 12 42.1 -0.5
baz=256,SNR=12
347A Saraland 97.03 59 P Pdif 12 12 44.0 +1.1
baz=257
Z46A Louisville 97.10 58 P Pdif 12 12 44.3 +1.2
baz=257
B35A Bob, Littlefor 97.13 42 Pdiff P 12 12 41.7 -1.2
baz=256
Q42A Golden Eagle 97.14 52 Pdiff Pdif 12 12 43.7 +0.4
baz=257
O41A Passleys Farm, 97.16 51 Pdiff Pdif 12 12 43.3 0.0
baz=257
S43A Fulton Ridge, 97.19 53 Pdiff P 12 12 43.3 -0.1
baz=257
D36A Goodland 97.21 43 Pdiff P 12 12 42.7 -0.7
baz=256
H38A Maiden Rock 97.21 46 Pdiff P 12 12 42.9 -0.4
baz=256
F37A Hinrichs Farm, 97.22 45 Pdiff P 12 12 43.2 -0.1
baz=256
U44A Portageville 97.25 54 Pdiff Pdif 12 12 43.8 +0.1
baz=257
LCO Las Campanas 97.28 122 *e*P Pdif 12 12 46.2 +1.7
comp=Z,26nm,1.3s
J39A Decorah 97.30 47 Pdiff P 12 12 42.9 -0.9
baz=256
N41A Harden Midland 97.31 50 Pdiff P 12 12 43.9 -0.1
baz=257
Y46A Houston 97.33 57 Pdiff Pdif 12 12 44.4 +0.2
baz=257
W45A Hickory Valley 97.34 56 Pdiff Pdif 12 12 44.3 +0.1
baz=257
L40A Anamosa 97.35 49 Pdiff Pdif 12 12 44.1 0.0
baz=257
P42A Winchester 97.44 51 Pdiff Pdif 12 12 44.8 +0.3
baz=257
T44A Benton 97.46 54 Pdiff Pdif 12 12 45.0 +0.4
baz=257
R43A Red Bud 97.46 52 Pdiff Pdif 12 12 44.9 +0.2
baz=257
U44B Burton Farm, H 97.48 54 Pdiff P 12 12 44.6 -0.2
baz=257
147A Livingston 97.54 58 Pdiff P 12 12 44.8 -0.3
baz=257
I39A Houston 97.55 47 Pdiff P 12 12 44.2 -0.8
baz=257
K40A Colesburg 97.56 48 Pdiff P 12 12 44.5 -0.5
baz=257
C36A Pine Crest Far 97.56 43 Pdiff P 12 12 44.0 -0.8
baz=256
348A Jackson 97.56 60 Pdiff P 12 12 43.5 -1.8
baz=257
E37A Wrenshall 97.57 44 Pdiff P 12 12 44.6 -0.4
baz=256
G38A Ridgeland 97.62 45 Pdiff P 12 12 44.7 -0.5
baz=257
V45A Humboldt 97.65 55 Pdiff Pdif 12 12 45.7 +0.1
baz=257
M41A Milan 97.69 49 Pdiff P 12 12 45.4 -0.2
baz=257
D37A Cotton 97.69 43 Pdiff P 12 12 45.1 -0.4
baz=256
O42A Bath 97.77 51 Pdiff P 12 12 45.8 -0.2
baz=257
Q43A New Douglas 97.78 52 Pdiff Pdif 12 12 46.2 +0.1
baz=257
F38A Pierce - Schro 97.79 45 Pdiff Pdif 12 12 46.0 0.0
baz=257
Z47A Carrollton 97.82 58 Pdiff P 12 12 46.1 -0.2
baz=257
248A Dixon Mills 97.85 59 Pdiff Pdif 12 12 46.7 +0.2
baz=257
S44A Carbondale 97.85 53 Pdiff Pdif 12 12 46.5 +0.1
baz=257
L41A Preston 97.88 49 Pdiff P 12 12 46.2 -0.3
baz=257
H39A Augusta 97.90 46 Pdiff P 12 12 46.0 -0.4
baz=257
N42A Yates City 97.95 50 Pdiff P 12 12 46.6 -0.2
baz=257
C37A Embarrass 97.98 43 Pdiff Pdif 12 12 47.3 +0.6
baz=257
J40A Soldiers Grove 98.00 47 Pdiff P 12 12 46.5 -0.5
baz=257
P43A Skaggs, Pawnee 98.07 51 Pdiff Pdif 12 12 47.9 +0.6
baz=257
R44A Waltonville 98.11 53 Pdiff Pdif 12 12 47.5 0.0
baz=258
G39A Holcombe 98.12 45 Pdiff P 12 12 46.9 -0.5
baz=257
K41A Shullsburg 98.14 48 Pdiff Pdif 12 12 47.2 -0.3
baz=257
Y47A UCPARC, Winfie 98.15 57 Pdiff P 12 12 47.9 +0.1
baz=258
E38A The Farm, Brul 98.15 44 Pdiff Pdif 12 12 47.0 -0.5
baz=257
I40A Norwalk 98.20 47 Pdiff Pdif 12 12 47.2 -0.6
baz=257
JFWS Jewell Farm 98.25 48 *e*P Pdif 12 12 48.0 -0.1
JFWS Jewell Farm 98.25 48 *e*P Pdif 12 12 48.0 -0.1
comp=Z,34nm,0.9s
Z48A Northport 98.28 58 Pdiff Pdif 12 12 48.1 -0.3
baz=258
M42A Sheffield 98.29 49 Pdiff Pdif 12 12 47.8 -0.4
baz=258
Q44A Meyer Farm, Va 98.29 52 Pdiff Pdif 12 12 48.1 -0.3
baz=258
O43A Sugar Creek Fa 98.37 51 Pdiff P 12 12 48.8 +0.2
baz=258
S45A Carrier Mills 98.37 53 Pdiff Pdif 12 12 48.4 -0.3
baz=258
F39A Loretta 98.43 45 Pdiff Pdif 12 12 48.6 -0.2
baz=257
HDIL Hopedale 98.44 50 Pdiff Pdif 12 12 48.2 -0.7
baz=258
EYMN Ely 98.49 43 Pdiff Pdif 12 12 48.1 -0.9
baz=257
J41A Loganville 98.51 47 Pdiff Pdif 12 12 48.8 -0.4
baz=258
H40A Chili 98.51 46 Pdiff Pdif 12 12 48.8 -0.4
baz=258
C38A Sawbill Land. 98.58 43 Pdiff Pdif 12 12 48.4 -1.1
baz=257
WVT Waverly 98.63 55 *e*P P 12 12 51.8 +1.9
WVT pmax pmax
comp=Z,9.0nm,0.8s
WVT Waverly 98.63 55 *e*Pdif P 12 12 51.8 +1.9
comp=Z,8.8nm,0.8s
P44A Sand Creek, Wi 98.71 52 Pdiff Pdif 12 12 49.3 -0.9
baz=258
I41A Arkdale 98.76 47 Pdiff Pdif 12 12 50.1 -0.2
baz=258
E39A Mellen 98.77 44 Pdiff Pdif 12 12 49.5 -0.8
baz=258
G40A Rib Lake 98.78 46 Pdiff Pdif 12 12 50.2 -0.2
baz=258
OLIL Olney 98.96 52 *e*Pdif P 12 12 52.8 +1.5
comp=Z,58nm,1.6s
F40A Park Falls 98.97 45 Pdiff Pdif 12 12 50.6 -0.6
baz=258
H41A Junction City 99.03 46 Pdiff **Pdif** 12 12 51.0 -0.5
baz=258
E40A Wakefield 99.23 44 Pdiff **Pdif** 12 12 52.4 +0.1
baz=258
C39A Grand Marais 99.36 43 Pdiff **Pdif** 12 12 53.3 +0.4
baz=258
G41A Antigo 99.47 46 Pdiff **Pdif** 12 12 52.8 -0.6
baz=258
F41A Three Lakes 99.63 45 Pdiff **Pdif** 12 12 50.6 -3.5
baz=259
PB11 IPOC Station P 101.46 114 *e*Pdif **Pdif** 12 13 03.7 +0.6
LPAZ La Paz 104.02 111 Pdiff **Pdif** 12 13 16.9 +1.7
comp=Z,0.9nm,0.8s,baz=300,slow=8.1,SNR=3.3
ZALV Zalesovo Beam 106.18 322 PKKPbc PKKPbc 12 28 56.3 -0.7
comp=Z,3.3nm,0.5s,baz=240,slow=5.0,SNR=4.2
MK01 Makanchi Array 107.39 315 *e*Pdif **Pdif** 12 13 28.7 0.0
KURK Kurchatov 109.92 319 PKiKP **PKiKP** 12 17 38.8 -0.9
KURBB Kurchatov Arra 109.97 319 PKiKP **PKiKP** 12 17 38.8 -1.0
comp=Z,8.8nm,0.9s,baz=94,slow=1.8,SNR=52
KURBB PKKPbc **PKKPbc** 12 28 43.8 -1.2
comp=Z,7.7nm,0.8s,baz=267,slow=3.9,SNR=38
KSH Kashi 111.71 307 *e*PKP 12 17 45.9
KSH PP **PP** 12 18 40.1 +7.6
KSH PKS **PKSdf** 12 21 21.3 +0.9
KSH SKS **SKSdf** 12 24 23.1 +2.9
KSH AMB AMB
comp=Z,120nm,6.1s
KSH LR LR
comp=Z,170nm,8.4s
KSH LR LR
comp=Z,150nm,6.4s
KSH LR LR
comp=Z,100nm,6.2s
AAK Ala-Archa 112.86 310 PKiKP **PKiKP** 12 17 45.3 -0.5
comp=Z,2.3nm,0.5s,baz=138,slow=2.7,SNR=7.9
AAK PKKPbc **PKKPbc** 12 28 34.4 -1.1
comp=Z,4.2nm,0.8s,baz=205,slow=5.7,SNR=6.9
BVAR Borovoye Array 114.82 322 PKP PKPdf 12 17 48.4 -0.6
comp=Z,7.0nm,0.4s,baz=120,slow=2.3,SNR=66
BRVK Borovoye 114.88 322 *d i*PKiKP PKPdf 12 17 48.4 -0.7
BRVK Borovoye 114.88 322 *e*PKPdf PKPdf 12 17 48.5 -0.6
HUMP Col San Antoni 115.05 77 *e*PKPdf **PKPdf** 12 17 49.5 -0.9
KBS Kingsbay 115.75 358 *e*SP SP 12 28 01.9 +0.6
KBS Kingsbay 115.75 358 *i* PKiKP **PKPdf** 12 17 50.8 +0.7
KKAR Karatay Array 115.77 311 *e*PKiKP **PKPdf** 12 17 50.5 -0.7
KKAR Karatay Array 115.77 311 *e*PKPdf **PKPdf** 12 17 50.5 -0.7
SPA0 Spitsbergen Ar 116.29 357 *e*PKPdf **PKPdf** 12 17 50.7 -0.5
SPA0 *e*SP SP 12 28 07.1 +0.9
SPA0 *e*SS **SS** 12 34 38.1 +1.4
SPA0 Spitsbergen Ar 116.29 357 *e*PKPdf **PKPdf** 12 17 51.0 -0.3
SPITS Spitsbergen Ar 116.29 357 PKP **PKPdf** 12 17 50.4 -0.8
comp=Z,26nm,0.9s,baz=118,slow=9.8,SNR=12
LMN Caledonia Moun 116.55 46 *e*PKPdf **PKPdf** 12 17 52.1 -0.5
PTGA Pitinga 116.68 98 *e*PKPdf **PKPdf** 12 17 53.5 -0.3
DAG Danmarks Havn 117.16 5 *i* P **PKPdf** 12 17 51.3 -1.5
DAG Danmarks Havn 117.16 5 *i* PKiKP **PKPdf** 12 17 51.3 -1.5
KBL Kabul 117.20 301 *e*PKiKP **PKPdf** 12 17 54.6 +0.2
KBL Kabul 117.20 301 *e*PKPdf **PKPdf** 12 17 54.6 +0.2
SUMG Summit 117.67 13 *i* P **PKPdf** 12 17 53.6 -0.9
SUMG Summit 117.67 13 *e*PKiKP **PKPdf** 12 17 54.0 -0.5
SUMG Summit 117.67 13 *e*PKPdf **PKPdf** 12 17 54.0 -0.5
SFJD Kangerlussuaq 117.68 21 *i* P **PKPdf** 12 17 53.1 -1.0
SFJD Kangerlussuaq 117.68 21 *e*PKiKP **PKPdf** 12 17 53.4 -0.7
SFJD Kangerlussuaq 117.68 21 *e*PKPdf **PKPdf** 12 17 53.4 -0.7
SVE Sverdlovsk 119.40 327 *e*PKiKP **PKPdf** 12 17 57.3 -0.4
SVE pmax pmax
comp=Z,24nm,1.1s
SOKR Solikamsk 120.28 331 *d i*PKiKP **PKPdf** 12 17 56.5 -2.7
SOKR pmax pmax
comp=Z,46nm,1.1s
ARU Arti 120.61 327 PKP **PKPdf** 12 17 59.7 -0.4
comp=Z,22nm,0.5s,baz=95,slow=1.1,SNR=25
ARU Arti 120.61 327 *i* PKiKP **PKPdf** 12 17 59.5 -0.5
ARU 12 19 32.1
ARU 12 24 34.2
ARU SS SS 12 35 26.0 -7.2
ABKAR Akbulak array 122.03 319 *e*PKPdf **PKPdf** 12 18 02.5 -0.5
SCO Scoresbysund 122.47 9 *i* P **PKPdf** 12 18 01.7 -1.5
SCO Scoresbysund 122.47 9 *e*PKiKP **PKPdf** 12 18 01.7 -1.5
NRS Narsarsuaq 122.65 25 *i* P **PKPdf** 12 18 02.6 -1.2
NRS Narsarsuaq 122.65 25 *i* PKiKP **PKPdf** 12 18 02.6 -1.2
HAMF Hammerfest 122.71 352 *e*PKPdf **PKPdf** 12 18 02.7 -0.9
AKTO Aktyubinsk 122.89 321 PKP **PKPdf** 12 18 04.3 -0.3
comp=Z,16nm,0.9s,baz=77,slow=3.5,SNR=44
LVZ Lovozero 123.00 346 *d i*PKiKP **PKPdf** 12 18 03.4 -1.0
ARA0 ARCESS Array S 123.43 350 *e*PKPdf **PKPdf** 12 18 04.5 -0.6
ARCES ARCESS Array B 123.43 350 PKP **PKPdf** 12 18 04.6 -0.5
comp=Z,23nm,0.5s,baz=23,slow=1.4,SNR=93
ARCES PKKPbc **PKKPab** 12 27 54.6 -0.8
comp=Z,6.3nm,0.9s,baz=189,slow=4.7,SNR=10
ARE0 ARCESS Array S 123.43 350 *e*PKPdf **PKPdf** 12 18 04.6 -0.5
ARE0 ARCESS Array S 123.43 350 *e*PKPdf **PKPdf** 12 18 04.7 -0.5
KTK1 Kautokeino 124.26 351 *e*PKPdf **PKPdf** 12 18 05.7 -1.1
TRO Tromso 124.27 353 *e*PKPdf **PKPdf** 12 18 08.6 +1.9
ABPO Ambohimpanom 124.28 234 *e*PKiKP **PKPdf** 12 18 09.0 +0.5
ABPO Ambohimpanom 124.28 234 *e*PKPdf **PKPdf** 12 18 09.0 +0.5
TMCR Tamitsa 124.93 342 *e*PKiKP **PKPdf** 12 18 06.9 -1.1
TMCR pmax pmax
comp=Z,37nm,1.3s
GEYT Alibeck 125.73 306 PKP **PKPdf** 12 18 10.5 0.0
comp=Z,26nm,0.9s,baz=259,slow=1.5,SNR=36
LOF Lofoten 126.27 355 *e*PKPdf **PKPdf** 12 18 10.5 0.0
STEI Steigen 126.30 354 *e*PKPdf **PKPdf** 12 18 10.3 -0.3
KLMR Klimovskoe 126.77 338 *e*PKiKP **PKPdf** 12 18 09.1 -2.6
KLMR *e* 12 19 40.3
KLMR pmax pmax
comp=Z,93nm,1.4s
KONS Konsvik 127.90 354 *e*PKPdf **PKPdf** 12 18 13.6 0.0
STOK Stokkvaagen 128.08 354 *e*PKPdf **PKPdf** 12 18 13.5 -0.5
MOR8 Moi Rana 128.09 354 *e*PKPdf **PKPdf** 12 18 13.6 -0.5
UOSS Minazif 128.47 290 *e*PKPdf **PKPdf** 12 18 15.2 -0.9
SUR Sutherland 129.73 201 *e*PKPdf **PKPdf** 12 18 19.5 +0.9
FIA1 FINESS Array S 130.42 345 *e*PKPdf **PKPdf** 12 18 17.9 -0.7
FIA1 *e*PKPdf **PKiKP** 12 18 19.2 -0.3
FINES FINESS Array B 130.42 345 PKP **PKPdf** 12 18 17.9 -0.8
comp=Z,18nm,0.9s,baz=81,slow=1.8,SNR=16
FINES SKPbc **SKPab** 12 21 08.3 +1.3
comp=Z,21nm,1.1s,baz=46,slow=5.5,SNR=11
MOS Moscow 130.97 334 *i* PKiKP **PKPdf** 12 18 18.5 -1.3
MOS pmax pmax
comp=Z,53nm,0.8s
BOSA Boshof 131.33 207 PKP **PKPdf** 12 18 21.3 -0.3
comp=Z,19nm,0.8s,baz=143,slow=2.5,SNR=17
BOSA PP **PP** 12 20 47.2 +3.7
comp=Z,21nm,1.0s,baz=140,slow=8.3,SNR=9.8
BOSA SKP 12 21 14.1
comp=Z,9.3nm,1.0s,baz=140,slow=4.6,SNR=5.6
BOSA Boshof 131.33 207 *e*PKPdf **PKPdf** 12 18 22.1 +0.5
BOSA PP **PP** 12 20 47.2 +3.7
OBN Obninsk 131.84 334 PKP **PKPdf** 12 18 21.9 +0.4
comp=Z,25nm,0.4s,baz=112,slow=3.7,SNR=8.2
OBN SKPbc **SKPab** 12 21 13.9 +0.6
comp=Z,18nm,0.4s,baz=52,slow=3.0,SNR=20
OBN Obninsk 131.84 334 *i* PKiKP **PKPdf** 12 18 21.1 -0.4
OBN *e* 12 19 53.1
OBN pmax pmax
comp=Z,6.0nm,0.4s
AKN Aaknes 132.63 357 *e*PKPdf **PKPdf** 12 18 23.5 +0.7
NC303 NORSAR Array S 133.24 354 *e*PKPdf **PKPdf** 12 18 24.0 0.0
NB2 NORSAR Subarra 133.44 354 PKP **PKPdf** 12 18 24.1 -0.3
baz=17,slow=2.6
NB2 NORSAR Subarra 133.44 354 PKP **PKPdf** 12 18 24.1 -0.3
comp=Z,7.9nm,0.8s,baz=17,slow=2.6
NOA NORSAR Array B 133.44 354 PKP **PKPdf** 12 18 24.2 -0.2
comp=Z,14nm,0.8s,baz=13,slow=4.0,SNR=22
NOA SKPbc **SKPab** 12 21 19.4 -0.8
comp=Z,3.1nm,0.9s,baz=3.0,slow=2.4,SNR=3.3
NOA SKKPbc SKKPbc 12 30 54.9 +17
comp=Z,1.7nm,0.9s,baz=339,slow=4.1,SNR=3.3
NBO02 NORSAR Array S 133.46 354 *e*PKPdf **PKPdf** 12 18 24.1 -0.3
NBO00 NORSAR Array S 133.49 354 *e*PKPdf **PKPdf** 12 18 24.7 +0.2
NAO01 NORSAR Array S 133.66 354 *e*PKPdf **PKPdf** 12 18 24.9 +0.1
NC602 NORSAR Array S 133.70 354 *e*PKPdf **PKPdf** 12 18 24.6 -0.3
NC602 NORSAR Array S 133.70 354 *e*PKPdf **PKPdf** 12 18 24.9 +0.1
HFS Hagfors 134.03 352 PKP **PKPdf** 12 18 25.2 -0.3
comp=Z,23nm,0.9s,baz=243,slow=1.3,SNR=11
GOF Gofitskoye 134.26 320 *e*PKiKP **PKPdf** 12 18 26.7 +0.3
GOF pmax pmax
comp=Z,25nm,1.1s
ZEI Tsey 134.72 316 *i* PKiKP **PKPdf** 12 18 27.0 -0.6
ZEI pmax pmax
comp=Z,45nm,1.0s
ODD1 Odda 134.91 357 *e*PKPdf **PKPdf** 12 18 27.4 +0.2
KONO Kongsberg 134.96 355 *e*PKPdf **PKPdf** 12 18 27.5 +0.3
KONO Kongsberg 134.96 355 *e*PKiKP **PKPdf** 12 18 27.5 +0.3
KONO Kongsberg 134.96 355 *e*PKPdf **PKPdf** 12 18 27.5 +0.3
KBZ Khabaz 134.97 318 PKP **PKPdf** 12 18 28.8 +1.1
comp=Z,7.3nm,1.0s,baz=336,slow=1.3,SNR=10.0

KBZ SKPbc **SKPab 12 21 26.2 -1.1**
comp=Z,16nm,1.0s,baz=122,slow=1.9,SNR=12
KIV Kislovodsk 135.00 318 *e*PKIKP **PKPdf 12 18 29.5 +1.6**
KIV pmax pmax
comp=Z,15nm,1.0s
GNI Garni 135.19 313 SKPbc **SKPab 12 21 27.5 -1.3**
comp=Z,8.5nm,0.4s,baz=86,slow=4.6,SNR=3.9
BLS5 Blasjo 135.41 357 *e*PKPdf **PKPdf 12 18 29.0 +0.9**
AKH Akhalkalaki 135.57 315 ⇓*i*P **PKPdf 12 18 29.4 +0.2**
MICGM Minsk 135.66 339 *e* **SKPdf 12 21 27.0 -1.0**
ARTV Artvin 136.73 315 *e*PKPdf **PKPdf 12 18 32.0 +0.6**
SOC Sochi 137.07 319 *i* PKIKP **PKPdf 12 18 32.3 +0.7**
SOC *e* 12 25 05.4
SOC pmax pmax
comp=Z,25nm,0.7s
AKASG **Malin Array Be 138.10 334** PKhKP PKPpre 12 18 29.1
comp=Z,2.9nm,0.5s,baz=39,slow=2.5,SNR=14
AKASG pPKP pPKPdf 12 20 02.9 -1.4
comp=Z,1.2nm,0.5s,baz=38,slow=1.7,SNR=2.4
AKASG SKPbc **SKPbc 12 21 33.5 +1.5**
comp=Z,11nm,0.9s,baz=36,slow=3.5,SNR=13
AKASG SKKPbc SKKPbc 12 30 31.3 +12
comp=Z,0.3nm,0.4s,baz=232,slow=4.9,SNR=4.3
KIEV Kiev 138.11 334 *e*PKIKP **PKPdf 12 18 32.6 -0.7**
KIEV Kiev 138.11 334 *e*PKPpre **PKPdf 12 18 32.6 -0.7**
AK11 Malin Array Si 138.14 334 *e*P **PKPdf 12 18 32.5 -0.9**
MARD Mardin 139.13 310 *e*PKPdf **PKPdf 12 18 36.0 +0.2**
SORM Soroca 140.40 332 ⇑*i*P **PKPdf 12 18 36.4 -1.2**
SORM Soroca 140.40 332 ⇑PKIKP **PKPdf 12 18 36.4 -1.2**
LSZ Lusaka 140.50 222 PKhKP PKPpre 12 18 32.6
comp=Z,4.5nm,0.5s,baz=342,slow=1.2,SNR=8.4
LSZ SKPbc **SKPbc 12 21 39.9 +0.1**
comp=Z,3.1nm,1.0s,baz=138,slow=8.3,SNR=6.1
LSZ Lusaka 140.50 222 *e*PKIKP **PKPdf 12 18 37.3 -1.6**
LSZ Lusaka 140.50 222 *e*P **PKPdf 12 18 37.3 -1.6**
LVV L'vov 140.85 338 *e*PKHKP PKPpre 12 18 32.3
KWP Kalwaria Pacla 141.49 338 *e*PKP PKPpre 12 18 34.8
KWP Kalwaria Pacla 141.49 338 *e*PKHKP PKPpre 12 18 34.8
KMBO Kilima Mbogo 141.80 248 PKhKP PKPpre 12 18 37.5
comp=Z,8.0nm,0.7s,baz=70,slow=4.7,SNR=21
KMBO SKPbc **SKiKP 12 21 45.0 0.0**
comp=Z,0.8nm,0.3s,baz=215,slow=23,SNR=3.4
H07N1 FLORES T-PHASB 141.82 43 *e*PKPdf **PKPdf 12 18 38.0 -2.5**
H07S1 FLORES T-PHASB 141.92 44 *e*PKPdf **PKPdf 12 18 39.0 -1.6**
OJC Ojcow 141.94 342 *e*PKPdf PKPpre 12 18 36.0
OJC *e*PKPab **PKPpre 12 18 40.8 +0.5**
OJC Ojcow 141.94 342 *e*PKIKP **PKPdf 12 18 40.8 +0.5**
OJC Ojcow 141.94 342 *e*PKPpre PKPpre 12 18 39.7
BUR08 Bucovina Ar. S 142.14 334 *e*PKPdf **PKPdf 12 18 39.0 -1.9**
BURAR Bucovina Array 142.16 334 ⇑*i*P **PKPdf 12 18 38.0 -2.9**
BURAR Bucovina Array 142.16 334 ⇑PKIKP **PKPdf 12 18 38.0 -2.9**
STHS Stebnicka Huta 142.17 340 *e*PKIKP **PKPdf 12 18 37.2 -3.6**
STHS Stebnicka Huta 142.17 340 *e*PKP **PKPdf 12 18 37.2 -3.6**
STHS *e* 12 18 40.8
ILGA Ilgaz 142.18 320 *e*PKPdf **PKPdf 12 18 42.1 +0.8**
TLCR 142.31 329 ⇑*i*P **PKPdf 12 18 41.5 +0.4**
TLCR 142.31 329 ⇑PKIKP **PKPdf 12 18 41.5 +0.4**
KSP Ksiaz 142.34 345 *e*PKP **PKPdf 12 18 37.4 -3.6**
KSP Ksiaz 142.34 345 *e*PKIKP **PKPdf 12 18 37.4 -3.6**
TESR Tescani 142.38 332 ⇓*i*P **PKPdf 12 18 38.1 -3.1**
UZH Uzhgorod 142.47 338 *e*PKHKP PKPpre 12 18 36.8
UZH *i* 12 21 49.4
NIE Niedzica 142.49 340 *e*PKP **PKPdf 12 18 38.4 -2.9**
NIE Niedzica 142.49 340 *e*PKIKP **PKPdf 12 18 38.4 -2.9**
CRVS Cervenica-Dubn 142.54 339 *e*PKIKP **PKPdf 12 18 47.0 +5.6**
CRVS *e* 12 21 56.7
CRVS Cervenica-Dubn 142.54 339 *e* **PKPdf 12 18 47.0 +5.6**
CRVS *e* 12 21 56.7
CLL Collm 142.62 349 *e*PKHKP PKPpre 12 18 37.0
CLL *e* 12 18 41.0
CLL *e* 12 20 12.0
CLL Collm 142.62 349 *e*PKPpre PKPpre 12 18 37.0
CLL *e*PKPdf **PKPdf 12 18 41.0 -0.4**
CLL *i* PKiKP **PKiKP 12 18 44.7 0.0**
comp=Z,33nm,1.0s
CLL *e*pPKPdf pPKPdf 12 20 12.0 -0.5
CLL *i* SKPbc **SKiKP 12 21 46.8 +1.7**
comp=Z,16nm,0.9s
CLL Collm 142.62 349 *e*PKPpre PKPpre 12 18 40.3
CFR Carcaliu 142.66 329 ⇑*i*P PKPpre 12 18 34.5
CFR Carcaliu 142.66 329 ⇑PKHKP PKPpre 12 18 34.5
UPC Upice 142.72 345 ⇓*e*PKP **PKPdf 12 18 38.7 -3.0**
UPC *ex* x 12 18 41.8
UPC Upice 142.72 345 *e*PKIKP **PKPdf 12 18 38.7 -3.0**
OKC Ostrava-Krasne 142.77 343 ⇓*e*PKP **PKPdf 12 18 38.8 -3.0**
OKC Ostrava-Krasne 142.77 343 *e*PKIKP **PKPdf 12 18 38.8 -3.0**
DPC Dobruska-Polom 142.79 345 *e*PKP **PKPdf 12 18 39.3 -2.6**
DPC *ex* x 12 18 42.5
DPC *e*SKP 12 21 47.9
DPC Dobruska-Polom 142.79 345 *e*PKIKP **PKPdf 12 18 39.3 -2.6**
TRPA Tarpa 142.80 337 ⇑*ex* **PKPdf 12 18 39.0 -2.8**
WTSB Winterswijk 142.81 355 *e*PKPbc **PKPdf 12 18 38.5 -3.2**
comp=Z,77nm,1.0s
BRG Berggiesshubel 142.85 348 *e*PKP **PKPdf 12 18 38.7 -3.2**
comp=Z,6.4nm,0.9s
BRG *i* 12 18 41.4
comp=Z,31nm,1.0s
BRG *i* 12 18 44.7
comp=Z,48nm,1.1s
BRG *i* 12 18 45.6
comp=Z,41nm,1.1s
BRG *e*pPKP **pPKPdf 12 20 14.1 +1.2**
comp=Z,5.4nm,1.1s
BRG *i* SKP 12 21 48.0
comp=Z,19nm,1.3s
BRG Berggiesshubel 142.85 348 *e*PKIKP **PKPdf 12 18 38.7 -3.2**
BRG *e* 12 20 14.1
BRG pmax pmax
comp=Z,4.0nm,0.9s
PLOR Plostina 142.88 331 ⇑*i*P **PKPdf 12 18 39.6 -2.6**
PLOR Plostina 142.88 331 ⇑PKIKP **PKPdf 12 18 39.6 -2.6**
BR131 Keskin Array S 142.96 318 *e*PKPpre **PKPdf 12 18 40.4 -2.3**
BRTR Keskin Array B 142.96 318 PKP **PKPdf 12 18 40.4 -2.3**
comp=Z,46nm,0.9s,baz=122,slow=1.6,SNR=139
BRTR SKPbc **SKiKP 12 21 47.5 +1.1**
comp=Z,5.9nm,1.0s,baz=124,slow=2.2,SNR=6.0
BRTR SKKPbc SKKPbc 12 30 12.9 +13
comp=Z,1.6nm,0.9s,baz=212,slow=4.4,SNR=4.6
LANS Liptovska Anna 142.98 341 *e*PKIKP **PKPdf 12 18 40.4 -1.8**
LANS Liptovska Anna 142.98 341 *e*PKP **PKPdf 12 18 40.4 -1.8**
LANS *e*PP **PP 12 21 48.9 -6.5**
MORC Moravsky Berou 142.99 343 ⇓*i*P PKPpre 12 18 37.5
MORC Moravsky Berou 142.99 343 ⇓PKHKP PKPpre 12 18 37.5
MORC Moravsky Berou 142.99 343 *e*PKPpre PKPpre 12 18 39.6
TIRR Tirgusor 143.03 328 ⇑*i*P PKPbc 12 18 39.8 -0.3
TIRR Tirgusor 143.03 328 ⇑PKIKP PKPbc 12 18 39.8 -0.3
TIRR Tirgusor 143.03 328 *e*PKPpre PKPbc 12 18 39.5 -0.6
HARR Harsova 143.11 329 ⇓*i*P PKPab 12 18 39.2 0.0
HARR Harsova 143.11 329 ⇓PKIKP PKPab 12 18 39.2 0.0
TLB Topalu 143.13 329 ⇑*i*P PKPbc 12 18 40.8 +0.4
TLB Topalu 143.13 329 ⇑PKIKP PKPbc 12 18 40.8 +0.4
KECS Kecovo 143.23 340 *e*PKIKP PKPbc 12 18 40.5 -0.1
KECS Kecovo 143.23 340 *e*PKP PKPbc 12 18 40.5 -0.1
DOPR Dopca 143.37 333 ⇓*i*P PKPbc 12 18 40.8 -0.3
ANTO Ankara 143.43 319 *e*PKIKP PKPbc 12 18 42.0 +0.5
ANTO Ankara 143.43 319 *e*PKPdf PKPbc 12 18 42.0 +0.5
BR231 Keskin MP Arra 143.45 319 *e*PKPdf PKPbc 12 18 42.5 +0.8
ISR Istrita 143.47 331 ⇓*i*P PKPbc 12 18 41.4 -0.1
ISR Istrita 143.47 331 ⇓PKIKP PKPbc 12 18 41.4 -0.1
MLR Muntele Rosu 143.48 332 PKP PKPbc 12 18 41.4 -0.2
comp=Z,14nm,1.1s,baz=14,slow=3.1,SNR=56
MLR SKPbc **SKiKP 12 21 48.4 +1.1**
comp=Z,3.9nm,1.1s,baz=47,slow=1.9,SNR=6.8
MLR Muntele Rosu 143.48 332 ⇑*i*P PKPbc 12 18 41.9 +0.3
MLR Muntele Rosu 143.48 332 ⇑PKIKP PKPbc 12 18 41.9 +0.3
MLR Muntele Rosu 143.48 332 *e*PKPdf PKPbc 12 18 41.5 -0.1
PRA Prague 143.50 347 ⇓*e*PKP PKPbc 12 18 41.3 0.0
PRA Prague 143.50 347 *e*PKIKP PKPbc 12 18 41.3 0.0
PRA MLR MLR
comp=Z,2µm,16.9s
CJR Cluj-Napoca 143.54 335 ⇑*i*P PKPab 12 18 40.3 -0.6
CJR Cluj-Napoca 143.54 335 ⇑PKIKP PKPab 12 18 40.3 -0.6
PRU Pruhonice 143.55 347 ⇓*e*PKP PKPbc 12 18 41.2 -0.3
PRU *ex* x 12 18 46.0
PRU *e*SKP 12 21 49.9
PRU Pruhonice 143.55 347 *e*PKIKP PKPbc 12 18 41.2 -0.3
GOPC GO Pecny, Ondr 143.57 346 *e*PKP PKPbc 12 18 41.4 -0.1
GOPC *e*SKP 12 21 49.4
GOPC GO Pecny, Ondr 143.57 346 *e*PKIKP PKPbc 12 18 41.4 -0.1
VRAC Vranov 143.68 344 PKP PKPbc 12 18 41.8 0.0
comp=Z,38nm,1.0s,baz=27,slow=3.4,SNR=49
VRAC SKPbc **SKiKP 12 21 48.8 +1.4**
comp=Z,1.7nm,0.3s,baz=91,slow=1.2,SNR=3.3
VRAC Vranov 143.68 344 ⇑*i*P PKPbc 12 18 42.2 +0.3
VRAC Vranov 143.68 344 ⇑PKIKP PKPbc 12 18 42.2 +0.3
PSN Preselentsi 143.69 327 *i* P PKPbc 12 18 42.2 +0.1
NKC Novy Kostel 143.75 349 ⇓*e*PKP PKPbc 12 18 42.0 -0.1
NKC *ex* x 12 18 46.0
NKC Novy Kostel 143.75 349 *e*PKIKP PKPbc 12 18 42.0 -0.1
VYHS Vyhne 143.76 341 *e*PKIKP PKPbc 12 18 42.2 0.0
VYHS Vyhne 143.76 341 *e*PKP PKPbc 12 18 42.2 0.0
VYHS *e* 12 18 42.2
VYHS *e*PP PP 12 21 49.8 -10
FURI Furi 143.79 265 *e*PKPdf **PKPdf 12 18 46.1 +1.1**
DRGR 143.84 336 ⇓*i*P PKPab 12 18 42.2 +0.1
DRGR 143.84 336 ⇓PKIKP PKPab 12 18 42.2 +0.1
PSZ Piszkesteto 143.92 340 ⇑*i*P PKPab 12 18 41.8 -0.6
PSZ Piszkesteto 143.92 340 *e*PKIKP PKPbc 12 18 42.5 -0.2
PSZ Piszkesteto 143.92 340 ⇓*ex* PKPab 12 18 42.5 +0.1
PSZ Piszkesteto 143.92 340 *e*PKPdf PKPbc 12 18 42.5 -0.2
VOIR 143.93 332 ⇑*i*P PKPbc 12 18 43.3 +0.5
VOIR 143.93 332 ⇑PKIKP PKPbc 12 18 43.3 +0.5
HWQ Hawqa 143.93 309 *e*P PKPbc 12 18 43.4 +0.1
TREC Trest 143.97 345 ⇓*e*PKP PKPbc 12 18 42.7 -0.1
TREC Trest 143.97 345 *e*PKIKP PKPbc 12 18 42.7 -0.1
PCED Cedros 143.98 43 *e*PKPdf PKPbc 12 18 43.4 +0.3
ASF Jabal al Asfar 143.99 305 PKP PKPbc 12 18 43.8 +0.3
comp=Z,45nm,0.8s,baz=22,slow=1.7,SNR=60
ASF SKPbc **SKiKP 12 21 50.6 +1.9**
comp=Z,1.2nm,0.4s,baz=291,slow=3.9,SNR=3.3
CALA Caldeira 144.00 43 *e*PKPdf **PKPab 12 18 42.9 -0.1**
HGN Heimansgroeve 144.07 356 *e*PKPbc **PKPab 12 18 42.7 0.0**
comp=Z,113nm,0.9s
HOR Horta 144.08 43 *e*PKPdf **PKPab 12 18 43.0 -0.2**
MTUR Matau 144.08 332 ⇑*i*P **PKPdf 12 18 44.2 -0.1**
MTUR Matau 144.08 332 ⇑PKIKP **PKPdf 12 18 44.2 -0.1**
ARR Arges 144.16 333 ⇓*i*P **PKPdf 12 18 44.7 +0.2**
SMOL Smolenice 144.17 343 *e*PKIKP **PKPdf 12 18 44.4 +0.1**
SMOL Smolenice 144.17 343 *e*PKP **PKPdf 12 18 44.4 +0.1**
DYA Yadsworthy 144.19 7 *e*PKPbc **PKPab 12 18 43.1 -0.1**
PCAN Candelaria 144.21 43 *e*PKPdf PKPbc 12 18 43.9 0.0
PICO Pico 144.23 43 *e*PKPdf **PKPab 12 18 43.8 -0.1**
PGRA Graciosa 144.23 42 *e*PKPdf **PKPab 12 18 43.6 -0.1**
ROSA Rosais 144.23 43 *e*PKPdf **PKPab 12 18 43.5 -0.3**
ROSA Rosais 144.23 43 *e*PKPbc **PKPdf 12 18 44.4 -0.3**
BHL Bhannes 144.31 308 *e*P **PKPdf 12 18 44.7 -0.4**
RCY Rachaya 144.33 307 *e*P **PKPdf 12 18 45.2 0.0**
PMAN Manadas 144.38 43 *e*PKPdf PKPbc 12 18 44.3 0.0
PRD Provadia 144.44 328 *i* P **PKPdf 12 18 44.8 -0.1**
DQRL Deir Qamar 144.45 308 *e*P **PKPdf 12 18 45.7 +0.3**
LOT Lotru 144.48 333 ⇓*i*P PKPbc 12 18 43.9 -0.7
GRFO Grafenberg 144.50 350 *e*PKIKP **PKPab 12 18 44.4 0.0**
GRFO Grafenberg 144.50 350 *e*PKPbc **PKPab 12 18 44.4 0.0**
DEV Deva 144.50 335 ⇑*i*P PKPbc 12 18 44.4 -0.1
DEV Deva 144.50 335 ⇑PKIKP PKPbc 12 18 44.4 -0.1
KHC Kasperske Hory 144.57 347 ⇓*i*PKP **PKPdf 12 18 44.9 -0.1**
KHC *e*SKP 12 21 52.2
KHC Kasperske Hory 144.57 347 *e*PKIKP **PKPdf 12 18 44.9 -0.1**
KHC Kasperske Hory 144.57 347 *e*PKPbc **PKPab 12 18 44.8 0.0**
BUD Budapest 144.59 340 ⇓*ex* PKPbc 12 18 44.7 0.0
HUMR Humele 144.65 331 ⇑*i*P PKPbc 12 18 43.5 -1.5
SIRR Siria 144.68 336 ⇓*i*P **PKPdf 12 18 45.3 0.0**
GEC2 GERESS Array S 144.81 347 *e*PKIKP PKPbc 12 18 45.4 -0.1
GEC2 GERESS Array S 144.81 347 *e*PKPbc PKPbc 12 18 45.4 0.0
GERES GERESS Array B 144.81 347 PKP PKPbc 12 18 45.4 -0.1
comp=Z,41nm,0.8s,baz=29,slow=3.0,SNR=221
GERES SKPbc **SKiKP 12 21 51.5 +1.7**
comp=Z,3.7nm,0.9s,baz=0.0,slow=0.4,SNR=5.1
GEA0 GERESS Array S 144.82 347 *e*PKPbc PKPbc 12 18 45.4 -0.1
MMAI Mount Meron Ar 144.85 307 PKPbc **PKPab 12 18 47.0 +0.6**
comp=Z,75nm,0.6s,baz=60,slow=4.9,SNR=154
MMAI pPKP **pPKPdf 12 20 15.9 -1.2**
comp=Z,31nm,1.1s,baz=180,slow=0.1,SNR=3.9
ADH Angra Heroismo 144.92 42 *e*PKPdf **PKPab 12 18 46.3 -0.1**
CSKK Cs˘‡kako 144.94 341 ⇓*ex* **PKPab 12 18 46.6 +0.4**
ZIMR 145.13 330 ⇓*i*P **PKPbc 12 18 46.6 +0.2**
ZIMR 145.13 330 ⇓PKP2 **PKPbc 12 18 46.6 +0.2**
SZH Strazhica 145.13 329 *i* P **PKPab 12 18 46.9 -0.1**
CONA Conrad Observa 145.14 344 *i* PKPab **PKPdf 12 18 46.0 0.0**
comp=Z,183nm,1.3s,SNR=80
CONA *i* pPKPdf pPKPbc 12 20 16.6 +0.6
comp=Z,22nm,1.4s
WLF Walferdange 145.15 355 *e*PKP2 **PKPab 12 18 47.1 +0.2**
WLF Walferdange 145.15 355 *e*PKPdf **PKPab 12 18 47.1 +0.2**
SOP Sopron 145.17 343 ⇓*ex* **PKPdf 12 18 46.9 +0.9**
BZS Buzias 145.24 336 ⇓*i*P **PKPdf 12 18 45.8 -0.4**
BZS Buzias 145.24 336 ⇓PKIKP **PKPdf 12 18 45.8 -0.4**
BOLV Bolvadin 145.25 319 *e*PKPdf **PKPbc 12 18 47.0 -0.2**
TIM Timisoara 145.29 336 ⇑*i*P **PKPbc 12 18 46.8 -0.1**
TIM Timisoara 145.29 336 ⇑PKP2 **PKPbc 12 18 46.8 -0.1**
SRE Strehaia 145.35 333 ⇓*i*P **PKPab 12 18 47.4 -0.4**
SRE Strehaia 145.35 333 ⇓PKP2 **PKPab 12 18 47.4 -0.4**
CSS Mathiatis 145.58 311 P **PKPdf 12 18 46.5 -0.6**
CSS Mathiatis 145.58 311 *e*PKPdf **PKPdf 12 18 47.4 +0.2**
CSS Mathiatis 145.58 311 P **PKPbc 12 18 48.4 +0.3**
MOA Molln 145.62 345 *i* PKPbc **PKPdf 12 18 46.8 0.0**
comp=Z,120nm,1.1s,SNR=39
MOA *i* PKPab **PKPab 12 18 48.3 -0.5**
comp=Z,114nm,1.1s
MOA *i* pPKPab **pPKPdf 12 20 18.1 +0.2**
comp=Z,37nm,1.4s
LANF Langenberg 145.67 353 PKP **PKPbc 12 18 47.7 -0.2**
STU Stuttgart 145.70 352 *e*PKP2 **PKPbc 12 18 47.6 -0.4**
STU Stuttgart 145.70 352 *e*PKPdf **PKPbc 12 18 47.6 -0.4**
EDRB Edirne 145.73 326 P **PKPbc 12 18 48.4 +0.1**
EDRB Edirne 145.73 326 P **PKPbc 12 18 48.4 +0.1**
ARSA Arzberg 145.85 344 *i* PKPbc **PKPdf 12 18 47.2 -0.1**
comp=Z,6.9nm,0.9s,SNR=29
ARSA *i* PKPab **PKPab 12 18 49.3 -0.4**
comp=Z,89nm,1.1s
SZAC Souni 146.00 311 P **PKPbc 12 18 49.4 0.0**
ALFC Alefka 146.02 312 P **PKPbc 12 18 49.0 -0.4**
MPEP Malo Peshtene 146.13 331 *i* P **PKPbc 12 18 47.3 -0.5**
BEHE Becsehely 146.20 342 ⇓*ex* **PKPdf 12 18 49.7 +1.9**
BFO Black Forest 146.25 353 *e*PKIKP **PKPdf 12 18 48.1 +0.2**
BFO Black Forest 146.25 353 *e*PKPdf **PKPdf 12 18 48.1 +0.2**
AKMC Akamas 146.27 312 P **PKPbc 12 18 49.2 -0.9**
PPCY Paphos 146.33 312 P **PKPbc 12 18 49.4 -0.9**
PSET Sete Cidades 146.38 42 *e*PKPdf **PKPbc 12 18 50.3 -0.1**
EIL Elat 146.40 302 PKPbc **PKPdf 12 18 49.1 +0.5**
comp=Z,92nm,1.1s,baz=347,slow=2.3,SNR=37
EIL pPKPbc **pPKPdf 12 20 19.4 -0.3**
comp=Z,50nm,1.1s,baz=77,slow=3.0,SNR=5.9
PDA Ponta Delgada 146.46 42 *e*PKPdf **PKPbc 12 18 50.5 0.0**
ECH Echery 146.50 354 PKP **PKPbc 12 18 50.1 -0.3**
SOKA Soboth 146.51 344 *i* PKPdf **PKPdf 12 18 47.9 -0.5**
comp=Z,110nm,1.1s,SNR=55
SOKA *i* PKPbc **PKPbc 12 18 50.3 -0.3**
comp=Z,110nm,1.1s
PERS Pernice 146.53 344 *e*PKPdf **PKPdf 12 18 47.7 -0.7**
PERS *e*PKPbc **PKPbc 12 18 50.0 -0.5**
PERS *e*pPKPbc **pPKPdf 12 20 18.3 -1.2**
PGB Panagyurishte 146.54 330 *i* P **PKPab 12 18 51.6 -1.0**
CMLA Cha da Macela 146.54 42 *e*PKIKP **PKPbc 12 18 49.8 -1.0**
CMLA Cha da Macela 146.54 42 *e*PKPdf **PKPbc 12 18 50.3 -0.5**
CMLA Cha da Macela 146.54 42 *e*PKPdf **PKPbc 12 18 49.8 -1.0**
KBA Koelnbreinsper 146.56 346 *i* PKPdf **PKPdf 12 18 48.2 -0.4**
comp=Z,103nm,1.1s,SNR=38
KBA *i* PKPbc **PKPbc 12 18 50.3 -0.4**
comp=Z,48nm,0.6s
KBA *i* pPKPdf **pPKPdf 12 20 18.9 -0.9**
KDZ Kurdzhali 146.57 327 *i* P **PKPbc 12 18 51.2 +0.4**
THEF They Montfort 146.59 355 PKP **PKPbc 12 18 50.6 0.0**
WATA Walderalm 146.69 348 *i* PKPbc **PKPdf 12 18 49.6 +0.8**
comp=Z,8.0nm,0.6s,SNR=18
RETA Reutte 146.70 349 *i* PKPbc **PKPdf 12 18 48.9 +0.2**
comp=Z,22nm,2.0s
RETA *i* PKPab **PKPbc 12 18 51.1 +0.1**
comp=Z,103nm,1.0s,SNR=33
RETA *i* pPKPbc pPKPab 12 20 21.0 0.0
comp=Z,37nm,1.3s
WTTA Wattenberg 146.75 348 *i* PKPbc **PKPdf 12 18 49.1 +0.1**
comp=Z,15nm,0.9s
WTTA *i* PKPab **PKPbc 12 18 51.5 +0.2**
comp=Z,53nm,0.6s,SNR=20
ALN Alexandroupoli 146.77 326 P **PKPbc 12 18 50.5 -0.8**
ALN Alexandroupoli 146.77 326 PKP2 **PKPbc 12 18 50.5 -0.8**
ALN Alexandroupoli 146.77 326 P **PKPbc 12 18 50.5 -0.8**
MOTA Moosalm 146.78 349 *i* PKPbc **PKPdf 12 18 48.9 0.0**
comp=Z,16nm,1.0s,SNR=36
MOTA *i* PKPab **PKPbc 12 18 51.5 +0.2**
comp=Z,73nm,1.0s
OBKA Obir 146.79 344 *i* PKPdf **PKPdf 12 18 48.6 -0.3**
comp=Z,3.5nm,0.7s,SNR=20
OBKA *i* PKPbc **PKPbc 12 18 50.7 -0.6**
comp=Z,60nm,1.2s
KULA Kula-Manisa 146.82 320 P **PKPdf 12 18 48.7 -0.5**
KULA Kula-Manisa 146.82 320 P **PKPdf 12 18 48.7 -0.5**
MOF Molkenrain 146.86 354 PKP **PKPdf 12 18 49.3 +0.3**
RDO Rodhopi 146.87 327 P **PKPdf 12 18 48.0 -1.1**
RDO Rodhopi 146.87 327 *e*PKPdf **PKPdf 12 18 48.0 -1.1**
MYKA Terra Mystica 146.91 345 *i* PKPdf **PKPdf 12 18 48.5 -0.6**
comp=Z,105nm,1.0s,SNR=36
MYKA *i* PKPbc **PKPbc 12 18 50.9 -0.7**
VTS Vitosha 146.96 331 P **PKPdf 12 18 45.1 -4.3**
VTS Vitosha 146.96 331 ⇑*i*P **PKPdf 12 18 49.4 0.0**
VTS Vitosha 146.96 331 ⇑PKIKP **PKPdf 12 18 49.4 0.0**
VTS Vitosha 146.96 331 *i* P **PKPbc 12 18 52.0 0.0**
VTS Vitosha 146.96 331 *e*PKPdf **PKPdf 12 18 49.4 0.0**
DAVA Damuels 147.05 350 *i* PKPbc **PKPdf 12 18 49.8 +0.4**
comp=Z,2.6nm,0.4s,SNR=34
DAVA *i* PKPab **PKPbc 12 18 52.6 +0.5**
comp=Z,139nm,1.0s
ABTA Abfaltersbach 147.06 347 *i* PKPdf **PKPdf 12 18 48.9 -0.4**
comp=Z,30nm,1.0s,SNR=59
ABTA *i* PKPbc **PKPbc 12 18 51.9 -0.1**
comp=Z,129nm,0.9s
ABTA *i* pPKPdf **pPKPdf 12 20 20.4 -0.1**
comp=Z,20nm,1.0s
DIVS Divibare 147.14 336 P **PKPdf 12 18 49.1 -0.5**
FETA Feichten 147.16 349 *i* PKPbc **PKPdf 12 18 50.0 +0.4**
comp=Z,33nm,1.0s,SNR=46
FETA *i* PKiKP **PKPbc 12 18 52.9 +0.5**
comp=Z,114nm,1.1s
LJU Ljubljana 147.23 344 *i* PKPdf **PKPdf 12 18 49.4 -0.2**
LJU *i* PKPbc **PKPbc 12 18 52.2 -0.2**
LJU *e*pPKPbc **pPKPdf 12 20 21.0 +0.4**
PSMA Santa Maria 147.24 43 *e*PKPdf **PKPbc 12 18 51.4 -1.3**
PSMN Pico do Norte, 147.28 43 *e*PKPdf **PKPdf 12 18 49.8 -0.1**
GADA Gvkgeada 147.34 325 P **PKPbc 12 18 52.2 -0.7**
GADA Gvkgeada 147.34 325 *e*PKPdf **PKPbc 12 18 52.2 -0.7**
SMTH Samothraki Isl 147.35 326 P **PKPdf 12 18 48.3 -1.6**
SMTH Samothraki Isl 147.35 326 *e*PKPdf **PKPdf 12 18 48.3 -1.6**
OZLJ Ozalj 147.36 343 P **PKPdf 12 18 50.0 +0.3**
LOMF Lomont 147.39 354 PKP **PKPdf 12 18 50.3 +0.4**
MMB Musomiste 147.47 329 *i* P **PKPbc 12 18 53.3 +0.1**
KAVA Kavala 147.51 328 P **PKPdf 12 18 50.0 -0.2**
KAVA Kavala 147.51 328 *e*PKPdf **PKPdf 12 18 50.0 -0.2**
BOJS Bojanci 147.52 343 *i* PKPdf **PKPdf 12 18 50.1 0.0**
BOJS *i* PKPbc **PKPbc 12 18 53.3 +0.1**
AKAS Kas 147.54 316 *e*PKPdf **PKPdf 12 18 50.8 +0.2**
NVR Nevrokopi 147.59 329 P **PKPdf 12 18 49.1 -1.2**
NVR Nevrokopi 147.59 329 P **PKPdf 12 18 49.1 -1.2**
FUORN Ofenpass-Fuorn 147.63 350 *e*PKPdf **PKPdf 12 18 50.6 +0.1**
TRI Trieste 147.74 345 *e*PKP2 **PKPbc 12 18 53.2 -0.5**
TRI Trieste 147.74 345 *e*PKPbc **PKPbc 12 18 53.2 -0.5**
PRK Paraskevi 147.78 323 P **PKPbc 12 18 53.7 -0.3**
PRK Paraskevi 147.78 323 PKP2 **PKPbc 12 18 53.7 -0.3**
PRK Paraskevi 147.78 323 P **PKPbc 12 18 53.7 -0.3**
SRS Serrai 147.89 329 P **PKPbc 12 18 52.9 -1.4**
SRS Serrai 147.89 329 *e*PKIKP **PKPbc 12 18 52.9 -1.4**
SRS Serrai 147.89 329 *e*PKPdf **PKPbc 12 18 52.9 -1.4**
TUE Stuetta 147.93 351 *e*PKPdf **PKPdf 12 18 51.2 +0.3**
LIA Limnos Island 147.94 325 P **PKPbc 12 18 53.8 -0.6**
LIA Limnos Island 147.94 325 P **PKPbc 12 18 53.8 -0.6**
PLE Pljevlja 148.02 336 *e*PKP **PKPdf 12 18 50.3 -0.8**
IVA Berane 148.20 335 ⇓*i*PKP **PKPdf 12 18 50.7 -0.7**
KNT Kendrikon 148.21 329 P **PKPbc 12 18 54.0 -1.1**
KNT Kendrikon 148.21 329 PKIKP **PKPbc 12 18 54.0 -1.1**
KNT Kendrikon 148.21 329 P **PKPbc 12 18 54.0 -1.1**
VAT Valandovo 148.24 330 *i* P **PKPbc 12 18 54.7 -0.4**
UDBI Udbina 148.26 341 P **PKPdf 12 18 50.1 -0.5**
SKO Skopje 148.26 332 *i* P **PKPdf 12 18 51.4 0.0**
SENIN Lac Senin/Sane 148.31 353 *e*PKPdf **PKPdf 12 18 52.3 +0.7**
UPM Unac-Piva 148.32 336 *e*PKP **PKPdf 12 18 50.5 -1.2**
PVY Plav 148.41 334 *e*PKP **PKPdf 12 18 50.8 -1.0**
CHOS Chios island 148.47 322 P **PKPbc 12 18 55.6 -0.4**
CHOS Chios island 148.47 322 P **PKPbc 12 18 55.6 -0.4**
NVLJ Novalja 148.49 342 P **PKPdf 12 18 50.0 -1.7**
BODT Bodrum 148.55 319 P **PKPdf 12 18 51.4 -0.6**
BODT Bodrum 148.55 319 *e*PKPdf **PKPdf 12 18 51.4 -0.6**
NKY Niksic 148.62 336 *e*PKP **PKPdf 12 18 51.5 -0.6**
NKME Niksic 148.67 336 ⇓*i*PKP **PKPdf 12 18 51.3 -0.8**
BRY Bratogost 148.72 336 *e*PKP **PKPdf 12 18 51.3 -1.0**
PDG Podgorica 148.83 335 ⇑*i*P **PKPdf 12 18 52.1 -0.1**
TTG Podgorica 148.83 335 ⇓*i*PKP **PKPdf 12 18 51.5 -0.7**
CEME Cevo 148.87 336 ⇓*i*PKP **PKPdf 12 18 51.1 -1.3**
AGO Saint Agoulin 148.91 359 PKP **PKPbc 12 18 57.9 +1.2**
PLDF La Plantade 148.98 358 PKP **PKPbc 12 18 58.2 +1.2**
DRME Dracevica, Mon 149.06 335 ⇓*i*PKP **PKPbc 12 18 52.2 -0.5**
BIA Bitola 149.07 331 *i* P **PKPdf 12 18 52.6 -0.1**
BUM Brajici-Budva 149.09 335 ⇓*i*PKP **PKPdf 12 18 51.8 -1.0**
HCY Herceg Novi 149.12 336 ⇓*i*PKP **PKPdf 12 18 51.6 -1.1**
AOS Alonnisos 149.17 326 P **PKPdf 12 18 52.1 -0.8**
AOS Alonnisos 149.17 326 *e*PKPdf **PKPdf 12 18 52.1 -0.8**
LIT Litokhoron 149.21 329 P **PKPdf 12 18 51.7 -1.3**
LIT Litokhoron 149.21 329 *e*PKIKP **PKPdf 12 18 51.7 -1.3**
LIT Litokhoron 149.21 329 *e*PKPdf **PKPdf 12 18 51.7 -1.3**
PYM Petit Puy Mans 149.21 359 PKP **PKPbc 12 18 58.7 +1.1**
ULC Ulcinj 149.22 335 ⇓*i*PKP **PKPdf 12 18 52.2 -0.8**
FNA Florina 149.23 331 P **PKPdf 12 18 52.0 -1.0**
FNA Florina 149.23 331 PKIKP **PKPdf 12 18 52.0 -1.0**
FNA Florina 149.23 331 P **PKPdf 12 18 52.0 -1.0**
OHR Ohrid 149.24 332 *i* P **PKPdf 12 18 52.9 -0.1**
SKIA Skiathos 149.39 326 P **PKPdf 12 18 51.3 -2.0**
COLF Collangettes 149.43 358 PKP **PKPbc 12 18 58.4 +0.3**
TIR Tirane 149.47 333 ⇓*

LAKA	Lakka	150.86	327	ePKPdf	PKPdf	12 18 55.5	-0.1
LAST	Lasithi	150.89	318	P	PKPdf	12 18 54.9	-0.9
LAST	Lasithi	150.89	318	P	PKPdf	12 18 54.9	-0.9
KLV	Kalavryta, Ach	150.91	326	P	PKPdf	12 18 55.0	-0.8
KLV	Kalavryta, Ach	150.91	326	ePKPdf	PKPdf	12 18 55.0	-0.8
AQU	L'Aquila	150.94	343	ePKIKP	PKPdf	12 18 55.8	+0.2
AQU	L'Aquila	150.94	343	eP	PKPdf	12 18 55.8	+0.2
AQU				e		12 19 01.4	
PDO	Prodromos	151.01	328	P	PKPdf	12 18 56.1	+0.3
LKD2	Lefkada island	151.13	329	P	PKPdf	12 18 55.2	-0.8
LKD2	Lefkada island	151.13	329	P	PKPdf	12 18 55.2	-0.8
IDI	Anoyia	151.19	319	PKP	PKPdf	12 18 56.3	0.0
	comp=Z,11nm,0.9s,baz=35,slow=8.2,SNR=6.9						
IDI				PKPbc	PKPbc	12 19 01.8	-0.7
	comp=Z,95nm,1.0s,baz=294,slow=12,SNR=46						
IDI	Anoyia	151.19	319	P	PKPdf	12 18 55.4	-0.9
IDI	Anoyia	151.19	319	ePKPdf	PKPdf	12 18 55.4	-0.9
IDI				e		12 19 02.6	
AXS	Araxos	151.21	327	P	PKPbc	12 19 02.2	-0.2
DRO	Drossia	151.22	327	P	PKPbc	12 19 02.5	0.0
RLS	Riolos of Patr	151.27	327	P	PKPbc	12 19 02.5	0.0
VLX	Vlachokerasia	151.28	325	P	PKPdf	12 18 56.2	-0.2
VLX	Vlachokerasia	151.28	325	ePKPdf	PKPdf	12 18 56.2	-0.2
SIVA	Sivas	151.41	319	P	PKPdf	12 18 56.4	-0.1
SIVA	Sivas	151.41	319	P	PKPdf	12 18 56.4	-0.1
VLI	Veliai	151.42	323	P	PKPdf	12 18 54.8	-1.7
VLI	Veliai	151.42	323	ePKPdf	PKPdf	12 18 54.8	-1.7
PGAV	Gavieira, Arco	151.54	16	ePKPdf	PKPdf	12 18 56.8	+0.2
PGAV	Gavieira, Arco	151.54	16	ePKPbc	PKPbc	12 19 03.1	-0.1
PGAV	Gavieira, Arco	151.54	16	ePKPab	PKPab	12 19 13.2	+0.1
VAM	Vamos	151.54	320	P	PKPdf	12 18 57.1	+0.4
VAM	Vamos	151.54	320	PKIKP	PKPdf	12 18 57.1	+0.4
VAM	Vamos	151.54	320	P	PKPdf	12 18 57.1	+0.4
OSSF	Osses	151.56	5	PKP	PKPbc	12 19 02.7	-0.3
VLS	Valsamata	151.63	328	P	PKPbc	12 19 02.6	-0.8
VLS	Valsamata	151.63	328	PKIKP	PKPbc	12 19 02.6	-0.8
VLS	Valsamata	151.63	328	P	PKPbc	12 19 02.6	-0.8
ORDF	Ordiarp	151.63	5	PKP	PKPbc	12 19 03.2	0.0
IMMV	Iera Moni Meta	151.65	320	P	PKPdf	12 18 57.3	+0.4
ITM	Ithomi	151.66	325	P	PKPbc	12 19 02.9	-0.6
KYTH	Kithira	151.67	323	P	PKPbc	12 19 02.8	-0.8
KYTH	Kithira	151.67	323	ePKPbc	PKPbc	12 19 02.8	-0.8
ATE	Arette	151.78	4	PKP	PKPbc	12 19 03.4	-0.2
ANKY	Antikythira Is	151.79	322	P	PKPdf	12 18 56.6	-0.4
ANKY	Antikythira Is	151.79	322	ePKPdf	PKPdf	12 18 56.6	-0.4
LARF	Larrau	151.80	5	PKP	PKPbc	12 19 04.2	+0.5
REYF	Montagne du Re	151.82	4	PKP	PKPbc	12 19 02.6	-1.1
PCAB	Cabril	151.85	16	ePKPdf	PKPdf	12 18 58.5	+1.5
PCAB	Cabril	151.85	16	ePKPbc	PKPbc	12 19 05.0	+1.2
PCAB	Cabril	151.85	16	ePKPab	PKPab	12 19 15.6	+1.3
LABF	Labassere	151.87	3	PKP	PKPbc	12 19 03.7	-0.1
PYL	PYLOS	151.97	325	P	PKPdf	12 18 55.6	-1.7
PYL	PYLOS	151.97	325	ePKPdf	PKPdf	12 18 55.6	-1.7
VIEF	Viey	152.03	3	PKP	PKPbc	12 19 04.7	+0.5
LRDF	Laroque-de-Fa	152.03	359	PKP	PKPbc	12 19 04.6	+0.5
ASCN	Ascension	152.05	143	eP	PKPbc	12 19 05.6	+0.6
MELF	Melles	152.07	2	PKP	PKPbc	12 19 04.7	+0.4
PBRG	Braganca	152.08	14	ePKPdf	PKPdf	12 18 57.3	-0.1
PBRG	Braganca	152.08	14	ePKPbc	PKPbc	12 19 04.1	-0.2
PBRG	Braganca	152.08	14	ePKPab	PKPab	12 19 15.2	-0.2
RESF	Ens	152.12	3	PKP	PKPbc	12 19 05.3	+0.8
SALF	Salau	152.20	2	PKP	PKPbc	12 19 04.0	-0.6
PTO	Porto	152.21	18	ePKPbc	PKPbc	12 19 04.6	+0.1
PTO	Porto	152.21	18	ePKPab	PKPab	12 19 16.0	+0.2
POLO	Lamas de Olo	152.22	16	ePKPdf	PKPdf	12 18 57.8	+0.1
POLO	Lamas de Olo	152.22	16	ePKPbc	PKPbc	12 19 04.9	+0.2
POLO	Lamas de Olo	152.22	16	ePKPab	PKPab	12 19 16.0	0.0
CUC	Castrocucco	152.26	337	ePKPdf	PKPdf	12 18 57.7	0.0
CUC				e		12 19 03.3	
PVRL	Vila Real	152.34	16	ePKPdf	PKPdf	12 18 57.3	-0.5
PVRL	Vila Real	152.34	16	ePKPbc	PKPbc	12 19 05.1	+0.2
PVRL	Vila Real	152.34	16	ePKPab	PKPab	12 19 16.3	-0.1
FILF	Fillols	152.41	359	PKP	PKPbc	12 19 05.2	+0.1
SJAF	Saint Jean de	152.48	359	PKP	PKPbc	12 19 04.8	-0.3
VALF	Valcebollere	152.57	0	PKP	PKPbc	12 19 05.8	+0.3
MVO	Moncorvo	152.62	15	ePKPdf	PKPdf	12 18 58.5	+0.3
MVO	Moncorvo	152.62	15	ePKPbc	PKPbc	12 19 05.8	+0.2
MVO	Moncorvo	152.62	15	ePKPab	PKPab	12 19 18.1	+0.4
PVIS	Viseu	152.81	17	ePKPdf	PKPdf	12 18 58.7	+0.2
PVIS	Viseu	152.81	17	ePKPbc	PKPbc	12 19 06.0	0.0
PVIS	Viseu	152.81	17	ePKPab	PKPab	12 19 18.4	-0.1
MTE	Manteigas	153.20	17	ePKPdf	PKPdf	12 18 59.3	+0.2
MTE	Manteigas	153.20	17	ePKPbc	PKPbc	12 19 07.0	+0.2
MTE	Manteigas	153.20	17	ePKPdf	PKPdf	12 18 59.4	+0.3
MTE				e		12 19 07.0	
PCAS	Casmilo, Conde	153.24	18	ePKPdf	PKPdf	12 18 59.1	0.0
PCAS	Casmilo, Conde	153.24	18	ePKPbc	PKPbc	12 19 06.9	0.0
PCAS	Casmilo, Conde	153.24	18	ePKPab	PKPab	12 19 20.1	-0.2
CEL	Celeste	153.72	335	eP	PKPdf	12 18 59.3	-0.6
CEL				e		12 19 06.8	
PCBR	Castelo Branco	153.74	17	ePKPdf	PKPdf	12 19 00.3	+0.5
PCBR	Castelo Branco	153.74	17	ePKPbc	PKPbc	12 19 07.9	0.0
PCBR	Castelo Branco	153.74	17	ePKPab	PKPab	12 19 22.2	-0.1
PMAFR	Mafra	153.99	21	ePKPdf	PKPdf	12 19 03.3	+3.1
PMAFR	Mafra	153.99	21	ePKPbc	PKPbc	12 19 08.7	+0.2
PMAFR	Mafra	153.99	21	ePKPab	PKPab	12 19 23.3	-0.2
PMRV	Marv??o	154.15	17	ePKPdf	PKPdf	12 19 00.3	-0.1
PMRV	Marv??o	154.15	17	ePKPbc	PKPbc	12 19 09.0	+0.2
PMRV	Marv??o	154.15	17	ePKPab	PKPab	12 19 24.1	0.0
PESTR	Estremoz	154.61	18	ePKPdf	PKPdf	12 19 00.7	-0.3
PESTR	Estremoz	154.61	18	ePKPbc	PKPbc	12 19 09.7	-0.1
PESTR	Estremoz	154.61	18	ePKPab	PKPab	12 19 26.0	-0.1
VSL	Villasalto	154.66	347	ePKPdf	PKPdf	12 19 01.1	0.0
VSL				e		12 19 09.9	
ES19	SONSECA Array	154.71	11	ePKPdf	PKPdf	12 19 01.3	+0.1
ES19				e		12 19 09.6	
ES19				e		12 19 25.2	
ESDC	Sonseca Array	154.72	11	PKP	PKPdf	12 19 01.2	0.0
	comp=Z,3.7nm,0.9s,baz=357,slow=2.7,SNR=23						
ESDC				PKPbc	PKiKP	12 19 09.3	-0.8
	comp=Z,5.1nm,0.8s,baz=334,slow=2.6,SNR=16						
ESDC				PKPab	PKPab	12 19 24.9	-1.7
	comp=Z,5.6nm,0.8s,baz=330,slow=3.4,SNR=6.5						
ESDC				PP	PP	12 23 02.8	-0.1
	comp=Z,0.9nm,0.8s,baz=340,slow=3.3,SNR=4.5						
ESLA	Sonseca Array	154.72	11	ePKPdf	PKPdf	12 19 01.9	+0.7
ESLA				ePKPbc	PKPbc	12 19 10.2	+0.1
PAB	San Pablo	154.77	12	ePKIKP	PKPdf	12 19 02.2	+0.9
PAB	San Pablo	154.77	12	ePKPdf	PKPdf	12 19 02.2	+0.9
PAB				e		12 19 10.5	
PNCL	Nicolau / Gran	155.00	20	ePKPdf	PKPdf	12 19 02.5	+1.0
PNCL	Nicolau / Gran	155.00	20	ePKPab	PKPab	12 19 27.9	+0.1
PBEJ	Beja	155.29	19	ePKPdf	PKPdf	12 19 02.6	+0.6
PBEJ				i P	PKPab	12 19 11.6	-17
PBEJ	Beja	155.29	19	ePKPab	PKPab	12 19 29.0	-0.1
CLTB	Caltabellotta	155.34	339	ePKPdf	PKPdf	12 19 02.1	0.0
MESJ	Messejana	155.35	20	eP	PKPdf	12 19 01.6	-0.5
MESJ	Messejana	155.35	20	ePKPdf	PKPdf	12 19 02.0	0.0
MESJ				i P	PKPab	12 19 12.0	-17
MESJ	Messejana	155.35	20	ePKPab	PKPab	12 19 29.2	-0.1
PBAR	Barrancos	155.41	18	ePKPdf	PKPdf	12 19 02.8	+0.7
PBAR				i P	PKPab	12 19 11.0	-19
PBAR	Barrancos	155.41	18	ePKPab	PKPab	12 19 29.6	+0.1
PCVE	Castro Verde	155.60	20	ePKPdf	PKPdf	12 19 02.6	+0.2
PCVE	Castro Verde	155.60	20	ePKPab	PKPab	12 19 30.2	-0.2
PFVI	Vila Bisbo	155.78	22	ePKPdf	PKPdf	12 19 02.9	+0.3
PFVI				i P	PKPab	12 19 13.3	-18
PFVI	Vila Bisbo	155.78	22	ePKPab	PKPab	12 19 31.5	+0.3
PFVI	Vila Bisbo	155.78	22	ePKPdf	PKPdf	12 19 03.1	+0.5
PVAQ	Vaqueiros	155.91	20	i P	PKPdf	12 19 12.8	+10
PVAQ	Vaqueiros	155.91	20	ePKPab	PKPab	12 19 31.6	-0.1
PBDV	Barranco-do-Ve	155.99	20	ePKPdf	PKPdf	12 19 02.6	-0.3
PBDV				i P	PKPab	12 19 13.6	-19
PBDV	Barranco-do-Ve	155.99	20	ePKPab	PKPab	12 19 32.1	0.0
KEST	Kesra	158.25	344	PKP	PKPdf	12 19 06.2	+0.3
	comp=Z,5.5nm,0.9s,baz=4.1,slow=3.4,SNR=7.0						
KEST				PKPab	PKPab	12 19 42.3	+0.3
	comp=Z,20nm,1.0s,baz=6.9,slow=1.2,SNR=11						
LIC	Lamto	168.89	140	ePKIKP	PKPdf	12 19 14.6	-1.6
	comp=Z,147nm,1.4s						
LIC	Lamto	168.89	140	eP	PKPab	12 20 28.5	-0.7
	comp=Z,105nm,1.4s						
KIC	Kosan Boka	169.17	141	ePKIKP	PKPdf	12 19 14.6	-1.8
	comp=Z,76nm,1.1s						
KIC	Kosan Boka	169.17	141	eP	PKPab	12 20 30.0	-0.5
	comp=Z,64nm,1.4s						
TIC	Toumodi	169.21	139	ePKIKP	PKPdf	12 19 14.9	-1.5
TIC	Toumodi	169.21	139	eP	PKPab	12 20 30.2	-0.5
DBIC	Dimbokro	169.34	139	PKP	PKPdf	12 19 15.0	-1.5
	comp=Z,23nm,1.1s,baz=205,slow=2.9,SNR=9.1						
DBIC				PKPab	PKPab	12 20 30.8	-0.4
	comp=Z,10nm,0.8s,baz=200,slow=7.1,SNR=6.5						
DBIC				PP	PP	12 24 21.6	+0.9
	comp=Z,14nm,1.2s,baz=174,slow=8.4,SNR=4.4						
DBIC	Dimbokro	169.34	139	ePKPdf	PKPdf	12 19 16.0	-0.5
DBIC				PKPab	PKPab	12 20 30.8	-0.4
DBIC				PP	PP	12 24 21.6	+0.9
TAM	Tamanrasset	171.50	338	ePKIKP	PKPdf	12 19 17.8	+0.2
TAM	Tamanrasset	171.50	338	ePKPdf	PKPdf	12 19 17.8	+0.2
TOA0	Torodi Ar. Sit	178.23	166	ePKPdf	PKPdf	12 19 18.3	-1.3
TOA0				ePKPdf	PKPdf	12 19 18.6	-1.0
TORD	Torodi Ar. Bea	178.23	166	PKP	PKPdf	12 19 18.4	-1.2
	comp=Z,20nm,1.0s,baz=333,slow=1.1,SNR=66						
TORD				PKPab	PKPab	12 21 10.8	
	comp=Z,27nm,1.0s,baz=235,slow=3.8,SNR=24						
TORD				PP	PP	12 25 04.0	+1.3
	comp=Z,9.7nm,1.0s,baz=178,slow=4.0,SNR=14						
TORD				SKKPab		12 28 04.1	
	comp=Z,8.3nm,1.2s,baz=180,slow=1.7,SNR=10						

NEIC ***15*** *12:11:46.4±0.0, 58°.22N×133°.57W, h1km, ML3.0(AEIC), ML3.3(OTT), After OTT.*
PGC ***15*** *12:11:46.4±18.0, 58°.22N×133°.57W, h1km, ML3.3/5, 50km east of Juneau, Ak Southeastern Alaska*

ISC 15 12:11:48.4±1.4, 58°.21N±0°.06×133°.63W±0°.04, h22km±6km, n15, σ2ˢ64/29, Southeastern Alaska

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
					Op			
JIS	Juneau Island	0.40	280	P		Pb	12 11 55.6	-1.2
JIS				S		Sb	12 12 02.1	-0.4
BESE	Bessie Mountai	0.74	301	P		Pb	12 12 00.6	-2.1
BESE				S		Sb	12 12 09.5	-2.9
BESE	Bessie Mountai	0.74	301	P		Pb	12 12 00.7	-2.1
BESE				S		Sb	12 12 09.1	-3.4
SKAG	Skagway	1.53	326	P		Pn	12 12 13.3	-1.2
PLBC	Pleasant Camp	1.89	313	Pg		Pn	12 12 20.2	+0.8
PLBC				Sg		Sb	12 12 46.0	+0.5
PLBC	Pleasant Camp	1.89	313	P		Pn	12 12 20.4	+1.0
PLBC				S		Sb	12 12 45.8	+0.4
DLBC	Dease Lake	1.92	82	P		Pn	12 12 18.6	-1.2
DLBC				Pg		Pn	12 12 20.2	+0.5
DLBC				Sn		Sn	12 12 42.2	-1.1
DLBC				Sg		Sb	12 12 45.4	-0.8
DLBC	Dease Lake	1.92	82	P		Pn	12 12 20.3	+0.5
WRAK	Wrangell Islan	1.93	158	P		Pn	12 12 20.9	+1.1
WHY	Whitehorse	2.54	346	Pn		Pn	12 12 27.4	-1.0
WHY				Pg		Pb	12 12 31.9	-1.5
WHY				Sg		Sb	12 13 02.6	-1.6
YUK7	Dusty Glacier	3.28	317	Pg		Pb	12 12 45.9	-0.1
YUK7				Sg		Sb	12 13 29.6	+4.2
HYT	Haines Junctio	3.28	325	Pn		Pn	12 12 39.5	+0.9
HYT				Pg		Pb	12 12 45.2	-0.8
HYT				Sg		Sb	12 13 26.8	+1.3
YUK6	Outpost Mounta	3.65	321	Sg		Sb	12 13 39.0	+2.8
YUK2	White River	5.09	318	Pg		Pb	12 13 17.1	+0.3
YUK2				Sg		Sb	12 14 25.0	+7.4
FNBB	Fort Nelson	5.61	78	Sg		Sb	12 14 38.9	+6.7

ISCJB ***15*** *12:15:47.3±0.7, 6°.84N±0°.03×73°.10W±0°.04, h153km±6km, Error ellipse: s-maj=7.2km s-min=4.3km az=29.1*
FUNV ***15*** *12:15:48.9, 6°.97N×73°.12W, h178km, MW2.4*
RSNC ***15*** *12:15:49.3±1.1, 6°.81N×73°.12W, h144km±5km, ML2.9*

ISC 15 12:15:47.0±1.4, 6°.84N±0°.04×73°.09W±0°.05, h158km±8km, n20, σ1ˢ24/36, 1C, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
GIRC	Giron, Santand	0.26	337	*i* P		Pn	12 16 08.7	+0.1
GIRC				eS		Sn	12 16 24.2	-0.8
BARC	Barichara	0.26	200	*i* P		Pn	12 16 08.8	0.0
BARC				eS		Sn	12 16 23.4	-1.8
BARC				*i*			12 16 24.7	
	comp=Z,240nm,0.3s							
PAMC	Pamplona, Colo	0.63	38	eS		Sn	12 16 28.5	0.0
BRRC	Barranca, Sant	0.67	293	*i* P		Pn	12 16 10.5	+0.3
BRRC				*i*			12 16 10.6	
	comp=Z,397nm,0.1s							
BRRC				eS		Sn	12 16 27.6	-0.2
RUSC	La Rusia	0.94	179	eP		Pn	12 16 12.7	+0.1
RUSC				eS		Sn	12 16 30.8	-1.5
RUSC				*i*			12 16 33.0	
	comp=Z,48nm,0.3s							
CAPV	Capacho	1.28	37	eP		Pn	12 16 17.4	+2.2
CAPV				eS		Sn	12 16 38.4	+1.4
OCAC	Ocana	1.41	351	eP		Pn	12 16 17.2	+0.8
OCAC				eS		Sn	12 16 39.6	+0.5
OCAC				*i*			12 16 47.2	
	comp=Z,75nm,0.3s							
YOPC	Yopal, Colombi	1.62	156	eP		Pn	12 16 19.5	+0.9
YOPC				eS		Sn	12 16 43.0	+0.1
ZARC	Zaragoza, Cauc	1.87	290	eP		Pn	12 16 21.5	+0.4
ZARC				eS		Sn	12 16 46.5	-0.9
ZARC				*i*			12 16 51.9	
	comp=Z,68nm,0.6s							
NORC	Norcasia	2.17	234	eP		Pn	12 16 24.9	+0.2
CHIC	Chingaza	2.29	196	eP		Pn	12 16 26.8	+0.4
CHIC				eS		Sn	12 16 56.4	-0.4
CHIC				*i*			12 16 58.8	
	comp=Z,26nm,0.4s							
ROSC	El Rosal	2.33	212	eP		Pn	12 16 28.6	+1.6
ROSC				eS		Sn	12 16 56.8	-0.9
ROSC				*i*			12 17 02.8	
	comp=Z,51nm,0.3s							
HELC	Santa Helena	2.50	255	eP		Pn	12 16 30.3	+1.4
HELC				eS		Sn	12 17 01.1	-0.1
HELC				*i*			12 17 07.0	
	comp=Z,32nm,0.3s							
VIGV	El Vigia	2.62	41	eP		Pn	12 16 30.8	+0.7
VIGV				eS		Sn	12 17 02.7	-0.7
SOCV	Socops	2.64	57	eP		Pn	12 16 31.3	+1.0
SOCV				eS		Sn	12 17 03.5	-0.3
CODC	Agust`n Codaz	3.09	354	eP		Pn	12 16 36.7	+0.8
CODC				eS		Sn	12 17 14.2	+0.4
CODC				*i*			12 17 23.3	
	comp=Z,31nm,0.5s							
PRAC	Prado	3.58	210	eP		Pn	12 16 42.8	+0.6
PRAC				eS		Sn	12 17 24.5	-0.6
VIRV	Villa del Rosa	3.70	11	eP		Pn	12 16 44.4	+0.7
VIRV				eS		Sn	12 17 23.0	-4.8
CURV	Curarigua	4.42	44	eP		Pn	12 16 53.5	+0.5
BAUV	El Baul	5.42	67	eP		Pn	12 17 05.7	-0.5

NEIC 15 12:16:23.3±0.0, 63°.26N×151°.44W, h11km, ML3.5(AEIC), After AEIC., Central Alaska

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
					Op			
CAST	Castle Rocks	0.33	299	P		Pg	12 16 29.9	0.0
CAST				S		Sg	12 16 34.2	-0.2
KTH	Kantishna Hill	0.37	39	P		Pg	12 16 30.9	+0.1
KTH				S		Sg	12 16 36.1	+0.3
PPLA	Purkeypile	0.50	223	P		Pg	12 16 32.4	-0.8
PPLA				S		Sg	12 16 39.3	-0.5
PPLA				eSg		Sb	12 16 39.9	-1.6
TRF	Thorofare Moun	0.55	70	P		Pg	12 16 34.1	-0.1
TRF				S		Sg	12 16 41.8	+0.3
CHUM	Lake Minchumin	0.73	328	P		Pb	12 16 37.9	-0.2
CHUM				S		Sb	12 16 48.3	+0.2
HUR	Hurricane	0.87	108	P		Pg	12 16 39.5	-0.6
CUT	Chulitna	1.02	147	P		Pg	12 16 42.4	-0.4
RND	Reindeer	1.18	82	P		Pb	12 16 45.0	-0.7
RND				S		Sb	12 17 00.6	-0.4
MCK	McKinley	1.22	66	P		Pn	12 16 45.9	-0.4
SKT	Skwentna	1.29	182	P		Pn	12 16 46.7	-0.5
SKT				S		Sb	12 17 02.8	-1.3
STLK	Strandline Lak	1.78	186	P		Pn	12 16 54.3	+0.2
SUA	Susitna One	1.84	169	P		Pn	12 16 55.2	+0.4
DHY	Denali Highway	1.86	94	P		Pn	12 16 55.5	+0.4
GHO	Glory Hole Cre	1.90	141	P		Pn	12 16 55.7	0.0
WRH	Wood River Hil	1.92	49	P		Pn	12 16 54.9	-1.0
PMR	Palmer	1.99	146	P		Pn	12 16 57.3	+0.4
SML	Sawmill	2.05	134	P		Pn	12 16 58.0	+0.2
SPWE	Spurr West	2.06	195	P		Pn	12 16 59.2	+1.2
SPCR	Spurr Chakacha	2.10	190	P		Pn	12 16 59.3	+0.9
TTA	Tatalina	2.10	263	P		Pn	12 16 57.6	-0.9
TT01	Tatalina	2.11	262	P		Pn	12 16 57.7	-0.8
CCB	Clear Creek Bu	2.12	48	P		Pn	12 16 57.7	-1.0
MDM	Murphy Dome	2.21	38	P		Pn	12 16 59.0	-0.9
COLA	College	2.26	43	P		Pn	12 16 59.7	-0.8
HDA	Harding Lake	2.30	58	P		Pn	12 17 00.2	-0.9
KNK	Knik Glacier	2.32	142	P		Pn	12 17 02.3	+0.9
RC01	Rabbit Creek A	2.33	159	P		Pn	12 17 01.8	+0.3
SCM	Sheep Creek Mo	2.39	125	P		Pn	12 17 02.2	-0.2
ILB	Eielson Array	2.51	51	P		Pn	12 17 03.1	-0.9
PS06	TAPS Pump Stn6	2.70	15	P		Pn	12 17 07.2	+0.6
PAX	Paxson	2.73	94	P		Pn	12 17 08.2	+1.1
PWL	Port Wells	2.82	147	P		Pn	12 17 09.9	+1.6
SLKM	Skilak Lake	2.83	168	P		Pn	12 17 09.6	+1.3
IM3	Indian Mountai	2.91	341	P		Pn	12 17 09.8	+0.4
HARP	HAARP	3.01	104	P		Pn	12 17 12.7	+1.8
JPK	Jack Peak	3.17	132	P		Pn	12 17 14.7	+1.5
VLZ	Valdez	3.21	129	P		Pn	12 17 14.9	+1.3
DOT	Dot Lake	3.34	80	P		Pn	12 17 15.5	+0.1
DIV	Divide	3.41	126	ePn		Pn	12 17 17.5	+1.0
DIV				P		Pb	12 17 17.7	-6.1
FID	Port Fidalgo	3.44	135	P		Pn	12 17 18.4	+1.6
MENT	Mentasta	3.53	92	P		Pn	12 17 20.0	+2.1
CNPM	China Poot	3.75	178	P		Pn	12 17 22.6	+1.5
EYAK	Cordova Ski Ar	3.83	133	P		Pn	12 17 23.6	+1.5
BMRM	Bremner River	3.95	123	ePn		Pn	12 17 24.8	+0.9
COLD	Coldfoot	4.01	7	ePn		Pn	12 17 25.4	+0.7
COLD				P		Pb	12 17 25.7	-8.3
BCA3	Beaver Creek A	4.38	88	P		Pn	12 17 30.3	+0.5
EGAK	Eagle	4.77	67	ePn		Pn	12 17 35.5	+0.5
BM3	Burnt Mountain	5.06	31	P		Pn	12 17 38.4	-0.6
GRNC	Granite Creek	5.22	115	P		Pn	12 17 42.5	+1.0
CTGM	Chitina Glacie	5.28	111	P		Pn	12 17 44.0	+1.9
DAWY	Dawson	5.43	76	P		Pn	12 17 43.8	-0.3

IDC ***15*** *12:16:44.6±2.1, 39°.93N×142°.98E, h0km, mb3.5/3, mb1 3.7/5, mb1mx3.3/63, mbtmp3.7/5, ML3.6/2, Error ellipse: s-maj=48.2km s-min=31.3km az=82.0*
ISCJB ***15*** *12:16:53.1±1.1, 39°.69N±0°.04×142°.3E±0°.1, h57km±6km, mb3.6/3, Error ellipse: s-maj=16.8km s-min=6.0km az=174.3*
JMA ***15*** *12:16:54.8, 39°.70N×142°.16E, h51km±1km, M3.6*
JMA Felt I J1.

ISC 15 12:16:53.3±1.6, 39°.68N±0°.04×142°.3E±0°.1, h49km±11km, n17, σ1ˢ21/27, mb3.6/3, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
					Op			
MIYJ	Miyakonagasawa	0.42	256	P		Pn	12 17 03.9	+0.4
MIYJ				*i* S		Sn	12 17 10.3	-0.6
JTH	Tanohata	0.45	305	P		Pn	12 17 04.3	+0.3
JTH				S		Sn	12 17 11.0	-0.6
OFUJ	Ofunato	0.79	221	P		Pn	12 17 08.6	+0.4
OFUJ				S		Sn	12 17 18.7	-0.4
JOM	Ohasama	0.84	256	P		Pn	12 17 08.8	0.0
JKZ	Kuzumaki	0.84	292	P		Pn	12 17 08.8	-0.1
JKZ				S		Sn	12 17 18.4	-1.9
JANG	Nango	0.94	318	P		Pn	12 17 10.2	0.0
JANG				S		Sn	12 17 21.5	-1.2
JMK	Ichinoseki	1.13	231	P		Pn	12 17 13.1	+0.3
JMK				S		Sn	12 17 26.5	-0.7
JRG	Rokugo	1.35	259	P		Pn	12 17 15.5	-0.2
JAH	Hinai	1.41

DAT				*i* S	**Sg**	**12 22 54.6 +0.1**		
DAT	**Datca**	**0.64**	**248**	P	**Pg**	**12 22 46.0 -0.2**		
DAT				S	**Sg**	**12 22 54.6 +0.1**		
DAT				*e*Sg	**Sg**	**12 22 55.6 +1.1**		
FETY	**Fethiye**	**0.70**	**119**	*e*PG	**Pg**	**12 22 47.6 +0.4**		
FETY				*e*SG	**Sb**	**12 22 57.8 -1.3**		
FETY	**Fethiye**	**0.70**	**119**	P	**Pg**	**12 22 46.2 -1.0**		
FETY	**Fethiye**	**0.70**	**119**	*e*Pg	**Pg**	**12 22 47.6 +0.4**		
FETY				*e*Sg	**Sb**	**12 22 57.8 -1.3**		
FETY				S	**Sg**	**12 22 58.2 +1.9**		
BDRM	**Kayabasi**	**0.71**	**278**	*i* P	**Pb**	**12 22 49.2 +0.1**		
BDRM				*i* S	**Sb**	**12 22 57.8 -1.5**		
BDRM	**Kayabasi**	**0.71**	**278**	P	**Pb**	**12 22 49.2 +0.1**		
BDRM				S	**Sb**	**12 22 57.8 -1.5**		
BODT	**Bodrum**	**0.81**	**276**	*e*PG	**Pg**	**12 22 49.5 +0.1**		
BODT				*e*SG	**Sb**	**12 23 01.2 -1.2**		
BODT	**Bodrum**	**0.81**	**276**	*e*Pg	**Pg**	**12 22 49.5 +0.1**		
BODT				*e*Sg	**Sb**	**12 23 01.2 -1.2**		
NIS1	**Nisyros Isl.**	**0.99**	**248**	*e*PG	**Pg**	**12 22 52.8 0.0**		
NIS1	**Nisyros Isl.**	**0.99**	**248**	*e*Pg	**Pg**	**12 22 52.8 0.0**		
AYDB	**Zeytinkoy-Aydi**	**1.03**	**341**	*e*PG	**Pg**	**12 22 53.8 +0.2**		
AYDB	**Zeytinkoy-Aydi**	**1.03**	**341**	*e*Pg	**Pg**	**12 22 53.8 +0.2**		

MAN 15 12:24:59, 18.′12N×122.′12E, h2km, mb4.9, ML3.9, MS4.4, 2C-1D, Luzon

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SGCP	**Mt. Cagua**	**0.14**	**329**	*e*P	Pg	12 25 02.3	+0.5
CVP	**Callao Caves**	**0.50**	**215**	⇑*i*P	Pb	12 25 10.4	-0.2
CVP				*i* S	Sn	12 25 22.6	+0.1
CAUP	**Cauayan**	**1.21**	**194**	*e*P	Pn	12 25 23.3	+0.5
CAUP				*e*S	Sn	12 25 55.3	+16
ABRA	**Dolores**	**1.42**	**251**	*e*P	Pn	12 25 24.4	-1.4
ABRA				*e*S	Sn	12 25 47.2	+2.0
PCPH	**Palayan**	**2.73**	**201**	⇑*e*P	Sg	12 26 26.8	0.0
BOLP	**Bolinao**	**2.73**	**231**	*e*P	Pb	12 25 46.9	-1.7
BOLP				*e*S	Sg	12 26 25.9	-0.8
GQP	**Guinayangan**	**4.20**	**176**	⇓*e*P	Sn	12 26 52.7	-1.2

KRNET 15 12:32:26.3±0.1, 40.′43N×72.′15E, mb2.3, 10C-3D, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ARSB	**Arslanbob**	**1.09**	**35**	⇑*i*P	Pg	12 32 46.4	-0.8
	baz=34						
ARSB				⇑*e*S	Sg	12 33 00.7	-0.7
	baz=34						
ARK	**Arkit**	**1.37**	**354**	⇑*e*P	Pg	12 32 50.0	-2.6
	baz=355						
ARK				⇑*e*S	Sg	12 33 07.8	-2.6
	baz=355						
AML	**Almayashu**	**2.06**	**34**	⇑*i*P	Pg	12 33 12.8	+7.0
	baz=65						
AML				⇑*i*S	Sg	12 33 36.6	+4.1
	baz=65						
MNAS	**Manas**	**2.07**	**7**	⇓*e*P	Pn	12 33 01.2	-1.3
	baz=7.0						
MNAS				⇓*i*S	Sn	12 33 25.6	-3.5
	baz=7.0						
UCH	**Uchtor**	**2.53**	**44**	⇑*i*P	Pg	12 33 21.0	+6.2
	baz=69						
UCH				⇑*i*S	Sg	12 33 51.9	+4.4
	baz=69						
EKS2	**Erkin-Say**	**2.54**	**28**	⇑*i*P	Pg	12 33 17.4	+2.4
	baz=53						
EKS2				⇑*i*S	Sb	12 33 45.2	+0.5
	baz=53						
AAK	**Ala-Archa**	**2.82**	**38**	⇓Lg	Lg	12 34 00.5	
	2.1nm,0.4s						
KK31	**Karatay Array**	**2.94**	**336**	Pg	Pb	12 33 19.6	+0.1
	0.6nm,0.2s,baz=142,slow=15,SNR=23						
KK31				Lg	Lg	12 33 46.7	
	1.9nm,0.3s,baz=141,slow=27,SNR=8.5						

IDC 15 12:37:57.3±16.0, 0.′04N×125.′83E, h0km, mb3.8/3, mb1 4.0/3, mb1mx3.4/37, mbtmp3.8/3, MS3.3/2, Ms1 3.3/2, ms1mx2.7/28, Error ellipse: s-maj=256.7km s-min=168.2km az=162.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**21.54**	**158**	P	P	12 42 48.3	-0.1
	2.3nm,0.5s,baz=336,slow=10,SNR=34						
GUMO	**Guam**	**23.17**	**54**	LR	LR	12 51 06.8	
	comp=Z,38nm,21.8s,baz=186,slow=34						
ASAR	**Alice Springs**	**24.84**	**162**	P	P	12 43 21.6	0.0
	0.9nm,0.6s,baz=340,slow=7.0,SNR=17						
STKA	**Stephens Creek**	**35.08**	**156**	P	P	12 44 52.2	-0.1
	1.2nm,0.7s,baz=342,slow=7.5,SNR=3.7						
VNDA	**Vanda**	**79.91**	**173**	LR	LR	13 26 45.1	
	comp=Z,31nm,18.6s,baz=330,slow=37						

*ISK **15** 12:37:58.2, 38.′76N×39.′13E, h6km, MD2.5*
*DDA **15** 12:37:59.3, 38.′74N×39.′34E, h3km, Ml2.7*
*ISCJB **15** 12:38:00.1±0.6, 38.′72N±0.′03×39.′34E±0.′07, h8km±6km, Error ellipse: s-maj=9.3km s-min=4.4km az=17.8*
*CSEM **15** 12:38:00.1±0.3, 38.′73N×39.′32E, h5km, MD2.5, Error ellipse: s-maj=7.5km s-min=4.5km az=99.0*
ISC 15 12:38:00.3±0.9, 38.′73N±0.′02×39.′34E±0.′04, h12km±7km, n17, σ0°90/29, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PTK	**Pertek**	**0.16**	**15**	*e*PG	**Pg**	**12 38 03.7**	**-0.5**
PTK				*e*SG	**Sg**	**12 38 07.5**	**+0.5**
PTK	**Pertek**	**0.16**	**15**	*e*Pg	**Pg**	**12 38 03.7**	**-0.5**
PTK				*e*Sg	**Sg**	**12 38 07.5**	**+0.5**
SVRC	**Sivrice-ELAZID**	**0.35**	**184**	*e*PG	**Pg**	**12 38 06.6**	**-0.9**
SVRC				*e*SG	**Sg**	**12 38 12.9**	**+0.6**
SVRC	**Sivrice-ELAZID**	**0.35**	**184**	*e*Pg	**Pg**	**12 38 06.6**	**-0.9**
SVRC				*e*Sg	**Sg**	**12 38 12.9**	**+0.6**
ELZG	**Elazig**	**0.36**	**230**	*i* P	**Pg**	**12 38 06.9**	**-0.8**
ELZG				*i* S	**Sg**	**12 38 13.7**	**+1.2**
ELZG	**Elazig**	**0.36**	**230**	P	**Pg**	**12 38 06.9**	**-0.8**
ELZG				S	**Sg**	**12 38 13.7**	**+1.2**
TNCL	**Tunceli-Merkez**	**0.41**	**23**	*i* P	**Pg**	**12 38 07.7**	**-0.8**
TNCL				*i* S	**Sb**	**12 38 15.8**	**-0.1**
TNCL	**Tunceli-Merkez**	**0.41**	**23**	P	**Pg**	**12 38 07.7**	**-0.8**
TNCL				S	**Sb**	**12 38 15.8**	**-0.1**
KEMA	**Kemaliye**	**0.85**	**309**	*i* P	**Pg**	**12 38 15.5**	**-1.2**
KEMA				*i* S	**Sg**	**12 38 28.4**	**+0.6**
KEMA	**Kemaliye**	**0.85**	**309**	P	**Pg**	**12 38 15.5**	**-1.2**
KEMA				S	**Sg**	**12 38 28.4**	**+0.6**
ERZN	**Erzincan**	**0.90**	**19**	*e*PG	**Pg**	**12 38 16.8**	**-1.0**
KELT	**Kelkit**	**1.42**	**357**	*i* P	**Pb**	**12 38 26.3**	**-0.5**
KELT				*i* S	**Sg**	**12 38 47.6**	**+1.7**
KELT	**Kelkit**	**1.42**	**357**	P	**Pb**	**12 38 26.3**	**-0.5**
KELT				S	**Sg**	**12 38 47.6**	**+1.7**
MAZI	**Mazidag**	**1.54**	**145**	*e*PN	**Pb**	**12 38 28.7**	**-0.2**
MAZI	**Mazidag**	**1.54**	**145**	*e*Pn	**Pb**	**12 38 28.7**	**-0.2**
CUKAN	**kangal_SIVAS**	**1.57**	**292**	*i* P	**Pn**	**12 38 28.7**	**+0.6**
CUKAN	**kangal_SIVAS**	**1.57**	**292**	P	**Pn**	**12 38 28.7**	**+0.6**

*NIED **15** 12:39:00, 37.′00N×141.′50E, h41km, Mw4.1 Best double couple: M₀1.87000×10¹⁵ NP1:φ₁232.00000°, δ10.00000°, λ150.00000°. NP2:φ₂351.00000°, δ85.00000°, λ81.00000°.*
*JMA **15** 12:39:14.7±0.2, 37.′02N×141.′52E, h49km±2km, M4.1*
*IDC **15** 12:39:15.8±2.8, 36.′90N×141.′78E, h43km±26km, mb3.6/7, mb1 3.9/12, mb1mx3.6/41, mbtmp4.0/12, ML3.6/4, MS3.2/5, Ms1 3.3/5, ms1mx2.9/34, Error ellipse: s-maj=22.0km s-min=12.7km az=79.0*
ISC 15 12:39:11.9±1.9, 37.′02N±0.′04×141.′71E±0.′07, h14km±10km, n30, σ1°29/31, mb3.9/7, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ONAJ	**Iwakimizuishiy**	**0.74**	**276**	P	**Pg**	**12 39 26.8**	**+0.5**
ONAJ				S	**Sg**	**12 39 35.5**	**-0.5**
JFK	**Kawauchi**	**0.75**	**297**	P	**Pg**	**12 39 27.1**	**+0.5**
JFK				S	**Sg**	**12 39 35.8**	**-0.7**
JHO	**Hitachi**	**1.01**	**246**	P	**Pb**	**12 39 30.2**	**-0.9**
JHO				S	**Sb**	**12 39 42.2**	**-2.1**
JMM	**Marumori**	**1.11**	**319**	P	**Pb**	**12 39 32.6**	**-0.4**
JMM				S	**Sb**	**12 39 45.1**	**-2.3**
JFT	**Otama**	**1.21**	**295**	P	**Pn**	**12 39 34.4**	**0.0**
JFT				S	**Sb**	**12 39 48.4**	**-1.6**
JIO	**Ouri**	**1.46**	**349**	P	**Pn**	**12 39 37.8**	**0.0**
JIO				*e*S	**Sn**	**12 39 57.1**	**+0.4**
JOU	**Okura**	**1.58**	**328**	P	**Pn**	**12 39 40.1**	**+0.6**
JOU				*e*S	**Sn**	**12 39 59.1**	**-0.6**
JFY	**Yanaizu**	**1.65**	**284**	P	**Pn**	**12 39 40.5**	**0.0**
JYS	**Shirataka**	**1.77**	**313**	P	**Pn**	**12 39 42.8**	**+0.6**
MJAR	**Matsushiro Arr**	**2.85**	**261**	P	**Pn**	**12 39 57.8**	**+0.7**
	12nm,0.3s,baz=89,slow=15,SNR=103						
MJAR				S	**Sn**	**12 40 33.1**	**+1.8**
	14nm,0.3s,baz=84,slow=26,SNR=8.0						
MJAR				LR	LR	12 41 21.2	
	comp=Z,515nm,19.6s,baz=65,slow=44						
MAT	**Matsushiro**	**2.86**	**261**	P	**Pn**	**12 39 58.1**	**+1.0**
MAT				S	**Sn**	**12 40 31.8**	**+0.5**
JHJ	**Hachijo jima 2**	**4.21**	**203**	P	**Pn**	**12 40 16.4**	**+0.8**
	36nm,0.3s,baz=342,slow=23,SNR=30						
JHJ				S	**Sn**	**12 41 02.8**	**-1.8**
	67nm,0.3s,baz=85,slow=24,SNR=14						
JNU	**Nakatsue**	**9.70**	**250**	P	**Pn**	**12 41 33.4**	**+2.4**
	0.3nm,0.3s,baz=61,slow=6.4,SNR=4.4						
USRK	**Ussuriysk Ar.**	**10.29**	**317**	P	Pn	12 41 43.6	+4.5
	0.2nm,0.3s,baz=135,slow=14,SNR=12						
USRK				LR	LR	12 45 02.1	
	comp=Z,123nm,21.6s,baz=111,slow=33						
KSRS	**Korea Array**	**11.01**	**276**	P	**Pn**	**12 41 52.2**	**+3.4**
	0.2nm,0.3s,baz=94,slow=14,SNR=11						
KSRS				LR	LR	12 45 48.5	
	comp=Z,151nm,18.6s,baz=112,slow=35						
JOW	**Kunigami**	**15.26**	**232**	LR	LR	12 48 10.5	
	comp=Z,92nm,20.6s,baz=215,slow=35						
H11N2	**WAKE ISLAND Hy**	**27.94**	**121**	T	T	13 14 25.0	
	baz=314,slow=75,SNR=65						
H11N1	**WAKE ISLAND Hy**	**27.94**	**121**	T	T	13 14 27.1	
	baz=314,slow=75,SNR=71						
H11N3	**WAKE ISLAND Hy**	**27.95**	**121**	T	T	13 14 29.0	
	baz=314,slow=75,SNR=57						
SONM	**Songino Array**	**27.99**	**304**	P	**P**	**12 45 02.0**	**-0.3**
	2.6nm,0.8s,baz=105,slow=8.5,SNR=9.7						
H11S1	**WAKE ISLAND Hy**	**28.65**	**123**	T	T	13 15 15.1	
	baz=315,slow=76,SNR=42						
H11S3	**WAKE ISLAND Hy**	**28.65**	**123**	T	T	13 15 16.1	
	baz=315,slow=76,SNR=39						
H11S2	**WAKE ISLAND Hy**	**28.67**	**123**	T	T	13 15 16.7	
	baz=315,slow=76,SNR=37						
CMAR	**Chiang Mai Arr**	**41.73**	**256**	LR	LR	13 06 18.9	
	comp=Z,32nn,18.2s,baz=130,slow=39						
ILAR	**Eielson Array**	**49.37**	**32**	P	**P**	**12 48 01.1**	**+0.5**
	1.7nm,0.7s,baz=267,slow=6.5,SNR=22						
FITZ	**Fitzroy Crossi**	**56.89**	**198**	P	**P**	**12 48 56.0**	**-0.4**
	0.9nm,0.7s,baz=29,slow=10,SNR=3.2						
WRA	**Warramunga Arr**	**57.09**	**188**	P	**P**	**12 48 56.9**	**-0.9**
	0.6nm,0.5s,baz=6.8,slow=7.3,SNR=16						
ASAR	**Alice Springs**	**60.81**	**188**	P	**P**	**12 49 23.1**	**-0.6**
	0.3nm,0.6s,baz=1.6,slow=6.5,SNR=4.7						
AKASG	**Malin Array Be**	**74.45**	**322**	P	**P**	**12 50 50.6**	**+1.1**
	0.3nm,0.4s,baz=56,slow=7.0,SNR=4.4						
TXAR	**Lajitas Array**	**89.94**	**53**	P	**P**	**12 52 10.6**	**-0.5**
	0.7nm,0.7s,baz=258,slow=3.6,SNR=5.7						

*DDA **15** 12:51:49.5, 37.′02N×35.′77E, h7km, Ml2.7*
*CSEM **15** 12:51:50.4±0.2, 37.′09N×35.′84E, h28km±2km, MD2.5, Error ellipse: s-maj=4.5km s-min=4.1km az=94.0*
ISK 15 12:51:50.0, 37.′10N×35.′83E, h26km, MD2.5, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CEYT	**Ceyhan**	**0.11**	**216**	*e*PG	Pn	12 51 55.7	-0.4
CEYT				*e*SG	Sb	12 51 59.0	+0.8
CEYT	**Ceyhan**	**0.11**	**216**	*e*Pg	Pn	12 51 55.7	-0.4
CEYT				*e*Sg	Sb	12 51 59.0	+0.9
YURE	**YUREGIR**	**0.31**	**210**	*i* P	Pn	12 51 58.3	-0.7
YURE				*i* S	Sn	12 52 04.0	-0.7
YURE	**YUREGIR**	**0.31**	**210**	P	Pn	12 51 58.3	-0.6
YURE				S	Sn	12 52 04.0	-0.7
KOZT	**Kozan**	**0.38**	**360**	*e*PG	Pb	12 51 59.1	+0.7
KOZT				*e*SG	Sb	12 52 04.7	+0.7
KOZT	**Kozan**	**0.38**	**360**	*e*Pg	Pb	12 51 59.1	+0.7
KOZT				*e*Sg	Sb	12 52 04.7	+0.6
AKO	**Adana**	**0.47**	**320**	*i* P	Pb	12 52 00.5	+0.6
AKO				*i* S	Sn	12 52 07.9	-0.8
ANDN	**Andirin**	**0.63**	**40**	*i* P	Pb	12 52 02.5	0.0
ANDN				*i* S	Sn	12 52 13.4	+0.6
ANDN	**Andirin**	**0.63**	**40**	P	Pb	12 52 02.5	-0.1
ANDN				S	Sn	12 52 13.4	+0.7
KRTS	**Karatas**	**0.64**	**215**	*e*PG	Pn	12 52 03.1	-0.2
KRTS	**Karatas**	**0.64**	**215**	*e*Pg	Pn	12 52 03.1	-0.3
KAMA	**Osmaniye**	**0.68**	**82**	*i* P	Pn	12 52 04.6	+0.6
KAMA				*i* S	Sn	12 52 14.6	+0.9
TAHT	**Tahtakopru-Hat**	**0.78**	**158**	*e*PG	Pn	12 52 05.6	+0.3
TAHT				*e*SG	Sn	12 52 16.6	+0.5
TAHT	**Tahtakopru-Hat**	**0.78**	**158**	*e*Pg	Pn	12 52 05.6	+0.3
TAHT				*e*Sg	Sn	12 52 16.6	+0.5
GULE	**Gulek**	**0.86**	**283**	*i* P	Pb	12 52 06.4	0.0
GULE				*i* S	Sb	12 52 16.9	-0.7
GULE	**Gulek**	**0.86**	**283**	P	Pb	12 52 06.4	0.0
GULE				S	Sb	12 52 17.0	-0.6
KMRS	**Kahramanmaras**	**0.95**	**64**	*e*PG	Pb	12 52 08.2	+0.4
KMRS	**Kahramanmaras**	**0.95**	**64**	*e*Pg	Pb	12 52 08.2	+0.4
MERS	**Mersin**	**1.07**	**258**	*e*PG	Pn	12 52 09.5	+0.1
MERS	**Mersin**	**1.07**	**258**	*e*Pg	Pn	12 52 09.5	+0.1
YAYL	**Yayladag**	**1.09**	**168**	*e*PN	Pn	12 52 09.7	0.0
YAYL	**Yayladag**	**1.09**	**168**	*i* P	Pn	12 52 08.3	-1.4
YAYL				*i* S	Sb	12 52 24.2	+0.2
YAYL	**Yayladag**	**1.09**	**168**	P	Pn	12 52 08.3	-1.4
YAYL	**Yayladag**	**1.09**	**168**	*e*Pn	Pn	12 52 09.7	0.0
YAYL				S	Sb	12 52 24.2	+0.2
GAZ	**Gaziantep**	**1.11**	**86**	*e*PN	Pb	12 52 10.3	-0.2
GAZ	**Gaziantep**	**1.11**	**86**	*e*Pn	Pb	12 52 10.3	-0.2
SARI	**SarD1z-Kayseri**	**1.39**	**20**	*e*PN	Pb	12 52 14.6	-0.8
KERG	**Konya-Eregli**	**1.40**	**284**	*i* P	Pb	12 52 15.3	-0.2
KERG				*i* S	Sb	12 52 34.5	+1.6
KERG	**Konya-Eregli**	**1.40**	**284**	P	Pb	12 52 15.3	-0.2
KERG				S	Sb	12 52 34.5	+1.6
NIG	**Nigde**	**1.40**	**317**	*e*PN	Pn	12 52 14.6	+0.5
NIG	**Nigde**	**1.40**	**317**	*e*Pn	Pn	12 52 14.6	+0.5

GRAL 15 12:52:41.2±0.3, 33.′82N×35.′75E, h25km±3km, MD2.5, Jordan-Syria region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BHL	**Bhannes**	**0.12**	**318**	*e*P	Pb	12 52 45.7	-0.4
BHL				*e*S	Sb	12 52 49.0	-0.4
DQRL	**Deir Qamar**	**0.19**	**234**	*e*P	Pb	12 52 46.4	-0.4
DQRL	**Deir Qamar**	**0.19**	**234**	*e*P	Pb	12 52 46.3	-0.5
RCY	**Rachaya**	**0.33**	**168**	*e*P	Pb	12 52 48.1	-0.6
RCY				*e*S	Sb	12 52 53.3	-0.4
RCY	**Rachaya**	**0.33**	**168**	*e*P	Pb	12 52 48.2	-0.5

*NEIC **15** 12:52:49.3±0.0, 36.′01S×178.′09E, h199km, MG4.0(WEL), After WEL.*
WEL 15 12:52:49.7±0.6, 36.′05S×178.′12E, h199km±6km, ML4.1/29, 9C-5D, Error ellipse: s-maj=5.7km s-min=5.6km az=0.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MXZ	**Matakaoa Point**	**1.52**	**174**	Pn	Pn	12 53 23.3	-0.1
MXZ	**Matakaoa Point**	**1.52**	**174**	⇑PN	Pn	12 53 23.3	-0.1
MXZ				AML	AML	12 53 49.4	
HAZ	**Te Kaha**	**1.73**	**189**	⇑PN	Pn	12 53 25.0	-0.3
HAZ				AML	AML	12 53 54.6	
HAZ				AML	AML	12 53 57.6	
WMGZ	**Waiomatatini S**	**1.78**	**172**	Pn	Pn	12 53 26.3	+0.4
WMGZ				Sn	Sn	12 53 53.9	-0.3
WMGZ	**Waiomatatini S**	**1.78**	**172**	⇑PN	Pn	12 53 26.3	+0.4
WMGZ				SN	Sn	12 53 53.9	-0.3
WMGZ				AML	AML	12 53 55.7	
PKGZ	**Pakihiroa**	**1.84**	**181**	PN	Pn	12 53 26.6	+0.1
RUGZ	**Raukumara Rang**	**1.94**	**190**	PN	Pn	12 53 27.3	-0.4
RUGZ				SN	Sn	12 53 55.7	-1.6
PUZ	**Puketiti**	**2.02**	**177**	Pn	Pn	12 53 28.2	-0.1
PUZ	**Puketiti**	**2.02**	**177**	⇑PN	Pn	12 53 28.2	-0.1
PUZ				AML	AML	12 54 07.2	
PUZ				AML	AML	12 54 08.6	
TWGZ	**Tauwhareparae**	**2.13**	**183**	Pn	Pn	12 53 30.2	+0.8
TWGZ	**Tauwhareparae**	**2.13**	**183**	PN	Pn	12 53 30.2	+0.8
TWGZ				SN	Sn	12 54 01.3	+0.7
TWGZ				AML	AML	12 54 12.0	
OPRZ	**Ohinepanea**	**2.19**	**215**	Pn	Pn	12 53 31.1	+1.1
OPRZ	**Ohinepanea**	**2.19**	**215**	PN	Pn	12 53 30.5	+0.5
MWZ	**Matawai**	**2.33**	**192**	Pn	Pn	12 53 31.6	0.0
MWZ	**Matawai**	**2.33**	**192**	PN	Pn	12 53 31.6	0.0
MWZ				AML	AML	12 54 06.2	
MWZ				AML	AML	12 54 10.5	
URZ	**Urewera**	**2.35**	**200**	Pn	Pn	12 53 31.9	+0.1
URZ	**Urewera**	**2.35**	**200**	PN	Pn	12 53 31.9	+0.1
URZ				AML	AML	12 54 08.2	
URZ				AML	AML	12 54 09.4	
TKGZ	**Te Karaka**	**2.40**	**185**	Pn	Pn	12 53 32.6	+0.3
TKGZ	**Te Karaka**	**2.40**	**185**	⇑PN	Pn	12 53 32.6	+0.3
TKGZ				SN	Sn	12 54 04.8	-0.9
TKGZ				AML	AML	12 54 07.1	
CNGZ	**Carnagh Statio**	**2.43**	**178**	Pn	Pn	12 53 33.1	+0.5
CNGZ	**Carnagh Statio**	**2.43**	**178**	⇑PN	Pn	12 53 33.1	+0.5
RAGZ	**Rawiri**	**2.51**	**193**	Pn	Pn	12 53 34.1	+0.5
RAGZ	**Rawiri**	**2.51**	**193**	PN	Pn	12 53 34.1	+0.5
RAGZ				SN	Sn	12 54 07.2	-0.9
RAGZ				AML	AML	12 54 09.9	
TARZ	**Mount Tarawera**	**2.54**	**210**	Pn	Pn	12 53 35.9	+1.9
TARZ	**Mount Tarawera**	**2.54**	**210**	PN	Pn	12 53 35.8	+1.8
RRRZ	**Republican Roa**	**2.62**	**209**	Pn	Pn	12 53 36.2	+1.4
RRRZ	**Republican Roa**	**2.62**	**209**	PN	Pn	12 53 36.2	+1.4
MUGZ	**Murupara**	**2.65**	**204**	PN	Pn	12 53 35.5	+0.4
MUGZ				SN	Sn	12 54 09.0	-1.8
RIGZ	**Rimuhau**	**2.67**	**186**	⇑PN	Pn	12 53 35.4	0.0
RIGZ				AML	AML	12 54 12.2	
RIGZ				AML	AML	12 54 14.0	
RTZ	**Ruatahuna**	**2.72**	**199**	PN	Pn	12 53 35.7	-0.3
SNGZ	**Shannon Statio**	**2.80**	**193**	Pn	Pn	12 53 37.2	+0.3
SNGZ	**Shannon Statio**	**2.80**	**193**	⇓PN	Pn	12 53 37.2	+0.3
SNGZ				AML	AML	12 54 16.7	
SNGZ				AML	AML	12 54 18.2	
PRRZ	**Plateau Road**	**2.81**	**209**	Pn	Pn	12 53 37.8	+0.8
PRRZ	**Plateau Road**	**2.81**	**209**	PN	Pn	12 53 37.8	+0.8
PRGZ	**Paritu Road**	**2.87**	**184**	Pn	Pn	12 53 37.4	-0.4
PRGZ	**Paritu Road**	**2.87**	**184**	PN	Pn	12 53 37.3	-0.4
ALRZ	**Allen Road**	**2.88**	**209**	Pn	Pn	12 53 38.7	+0.9
ALRZ	**Allen Road**	**2.88**	**209**	PN	Pn	12 53 38.7	+0.8
KNZ	**Kokohu**	**2.99**	**187**	Pn	Pn	12 53 38.6	-0.5
KNZ	**Kokohu**	**2.99**	**187**	⇑PN	Pn	12 53 38.6	-0.5
KNZ				AML	AML	12 54 19.7	
MHGZ	**Mahia Peninsul**	**3.10**	**183**	Pn	Pn	12 53 40.4	0.0
MHGZ	**Mahia Peninsul**	**3.10**	**183**	PN	Pn	12 53 40.4	0.0
MHGZ				AML	AML	12 54 22.5	
WHHZ	**Waihua**	**3.10**	**193**	PN	Pn	12 53 40.4	0.0
WHHZ				AML	AML	12 54 21.3	
WHHZ				AML	AML	12 54 23.5	
NMHZ	**Naumai**	**3.22**	**199**	Pn	Pn	12 53 42.2	+0.4
NMHZ	**Naumai**	**3.22**	**199**	PN	Pn	12 53 42.2	+0.4
NMHZ				AML	AML	12 54 25.6	
NMHZ				AML	AML	12 54 39.9	
ARHZ	**Aropaoanui**	**3.33**	**195**	Pn	Pn	12 53 43.1	0.0
ARHZ	**Aropaoanui**	**3.33**	**195**	PN	Pn	12 53 43.1	0.0
ARHZ				AML	AML	12 53 44.4	
ARHZ				AML	AML	12 54 28.5	
BKZ	**Black Stump Fm**	**3.37**	**202**	Pn	Pn	12 53 43.4	-0.3
BKZ	**Black Stump Fm**	**3.37**	**202**	PN	Pn	12 53 43.4	-0.3
MCHZ	**McNeill Hill**	**3.57**	**198**	Pn	Pn	12 53 46.2	+0.1
MCHZ	**McNeill Hill**	**3.57**	**198**	⇓PN	Pn	12 53 46.2	+0.1
MCHZ				AML	AML	12 54 35.8	
MCHZ				AML	AML	12 54 36.4	
CKHZ	**Cape Kidnapper**	**3.70**	**193**	Pn	Pn	12 53 47.2	-0.4
CKHZ	**Cape Kidnapper**	**3.70**	**193**	PN	Pn	12 53 47.2	-0.4
CKHZ				AML	AML	12 54 34.0	
CKHZ				AML	AML	12 54 34.5	
NGZ	**Ngauruhoe**	**3.71**	**212**	Pn	Pn	12 53 48.6	+0.7
NGZ	**Ngauruhoe**	**3.71**	**212**	PN	Pn	12 53 48.6	+0.7
BHHZ	**Black Hill Sta**	**3.80**	**205**	PN	Pn	12 53 48.1	-0.9
WHVZ	**Whangaehu Hut**	**3.80**	**211**	Pn	Pn	12 53 49.4	+0.2
WHVZ	**Whangaehu Hut**	**3.80**	**211**	⇓PN	Pn	12 53 49.4	+0.2
WNVZ	**Wahianoa**	**3.83**	**211**	Pn	Pn	12 53 49.4	0.0
WNVZ	**Wahianoa**	**

CRLZ	**Canterbury Las**	**8.62**	**208**	Pn	Pn	12 54 47.1	-3.8
CRLZ	**Canterbury Las**	**8.62**	**208**	PN	Pn	12 54 47.1	-3.8
OXZ	**Oxford**	**8.65**	**211**	Pn	Pn	12 54 46.8	-4.4
OXZ	**Oxford**	**8.65**	**211**	PN	Pn	12 54 46.8	-4.4
CTZ	**Chatham Island**	**8.67**	**154**	*e*PN	Pn	12 54 56.7	+5.1
MQZ	**McQueen's Vall**	**8.72**	**207**	Pn	Pn	12 54 47.5	-4.7
MQZ	**McQueen's Vall**	**8.72**	**207**	PN	Pn	12 54 47.5	-4.7
ODZ	**Otahua Downs**	**10.63**	**210**	*e*PN	Pn	12 55 13.5	-3.4

*ISK **15** 12:56:52.9, 39.07N×27.54E, h13km, MD2.6*
*ISCJB **15** 12:56:53.2±0.5, 39.07N±0.03×27.53E±0.03, h4km±5km, Error ellipse: s-maj=5.3km s-min=4.4km az=174.0*
*CSEM **15** 12:56:53.1±0.2, 39.08N×27.53E, h10km, ML2.6, Error ellipse: s-maj=4.5km s-min=3.6km az=166.0*
*DDA **15** 12:56:54.9, 38.83N×27.63E, h7km, Ml2.6*

ISC 15 12:56:52.2±1.2, 39.09N±0.03×27.57E±0.02, h7km±10km, n26, σ0.9 79/41, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AKS	**Akhisar**	**0.28**	**137**	*e*PG	**Pg**	**12 56 59.1**	**+1.4**
AKS				*e*SG	**Sb**	**12 57 03.9**	**-0.7**
AKS	**Akhisar**	**0.28**	**137**	*e*Pg	**Pg**	**12 56 59.1**	**+1.4**
AKS				*e*Sg	**Sb**	**12 57 03.9**	**-0.7**
AKHS	**Akhisar**	**0.28**	**137**	*i* P	**Pg**	**12 56 58.3**	**+0.5**
AKHS				*i* S	**Sb**	**12 57 04.4**	**-0.2**
AKHS	**Akhisar**	**0.28**	**137**	P	**Pg**	**12 56 58.3**	**+0.5**
AKHS				S	**Sb**	**12 57 04.4**	**-0.2**
DKL	**Dikili**	**0.52**	**269**	*e*PG	**Pg**	**12 57 02.9**	**+0.7**
DKL	**Dikili**	**0.52**	**269**	*e*Pg	**Pg**	**12 57 02.9**	**+0.7**
BALB	**Balikesir**	**0.60**	**23**	*e*PG	**Pb**	**12 57 05.5**	**+0.4**
BALB	**Balikesir**	**0.60**	**23**	*e*Pg	**Pb**	**12 57 05.6**	**+0.4**
BALY	**Balya**	**0.65**	**3**	*i* P	**Pg**	**12 57 05.3**	**+0.5**
BALY				*i* S	**Sn**	**12 57 17.9**	**-0.8**
BALY	**Balya**	**0.65**	**3**	P	**Pg**	**12 57 05.3**	**+0.5**
FOCM	**Foça**	**0.75**	**241**	*e*PG	**Pg**	**12 57 07.5**	**+0.8**
FOCM	**Foça**	**0.75**	**241**	*e*Pg	**Pg**	**12 57 07.5**	**+0.8**
DEMI	**Demirci**	**0.89**	**92**	*i* P	**Pn**	**12 57 11.8**	**+0.5**
DEMI				*i* S	**Sn**	**12 57 25.1**	**+0.5**
DEMI	**Demirci**	**0.89**	**92**	P	**Pn**	**12 57 11.8**	**+0.5**
DEMI				S	**Sn**	**12 57 25.1**	**+0.5**
MANT	**Manisa**	**0.97**	**127**	*i* P	Pg	12 57 05.0	-6.0
MANT				*i* S	**Sg**	**12 57 20.9**	**-2.7**
KULA	**Kula-Manisa**	**1.03**	**123**	*e*PG	**Pb**	**12 57 12.6**	**+0.2**
KULA				*e*SG	**Sn**	**12 57 28.0**	**+0.1**
KULA	**Kula-Manisa**	**1.03**	**123**	*e*Pg	**Pb**	**12 57 12.6**	**+0.2**
KULA				*e*Sg	**Sn**	**12 57 28.0**	**+0.1**
URLA	**Izmir**	**1.05**	**227**	*e*PG	**Pb**	**12 57 13.0**	**+0.2**
URLA				*e*SG	**Sn**	**12 57 27.7**	**-0.8**
URLA	**Izmir**	**1.05**	**227**	*i* P	**Pb**	**12 57 12.7**	**-0.1**
URLA				*i* S	**Sn**	**12 57 29.5**	**+1.1**
URLA	**Izmir**	**1.05**	**227**	P	**Pb**	**12 57 12.7**	**-0.1**
URLA	**Izmir**	**1.05**	**227**	*e*Pg	**Pb**	**12 57 13.0**	**+0.2**
URLA				*e*Sg	**Sn**	**12 57 27.7**	**-0.8**
AYDB	**Zeytinkoy-Aydi**	**1.17**	**167**	*e*PN	**Pn**	**12 57 15.2**	**+0.1**
AYDB				*e*SN	**Sn**	**12 57 31.6**	**+0.2**
AYDB	**Zeytinkoy-Aydi**	**1.17**	**167**	*e*Pn	**Pn**	**12 57 15.2**	**+0.1**
AYDB				*e*Sn	**Sn**	**12 57 31.6**	**+0.2**
ZEY	**˙zmir**	**1.19**	**225**	*i* P	**Pn**	**12 57 14.8**	**-0.5**
ZEY				*i* S	**Sn**	**12 57 33.4**	**+1.7**
TVSB	**Tavsanli**	**1.51**	**76**	*e*PN	**Pb**	**12 57 20.8**	**+0.1**
TVSB	**Tavsanli**	**1.51**	**76**	*e*Pn	**Pb**	**12 57 20.8**	**+0.1**

*ISK **15** 13:03:35.4, 39.70N×34.72E, h5km, MD2.7*
*CSEM **15** 13:03:36.3±0.1, 39.68N×34.72E, h2km, ML2.8, Error ellipse: s-maj=3.9km s-min=3.3km az=130.0*
*DDA **15** 13:03:36.0, 39.70N×34.72E, h15km, Ml2.8*

ISC 15 13:03:36.6±1.2, 39.69N±0.02×34.72E±0.02, h5km±10km, n36, σ1.9 05/50, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CDAG	**Cicekdag**	**0.28**	**257**	*i* P	**Pg**	**13 03 41.7**	**-0.3**
CDAG				*i* S	**Sg**	**13 03 46.6**	**+0.9**
CDAG	**Cicekdag**	**0.28**	**257**	P	**Pg**	**13 03 41.7**	**-0.3**
CDAG				S	**Sg**	**13 03 46.6**	**+0.9**
YOZ	**Yozgat**	**0.46**	**95**	*e*PG	**Pg**	**13 03 45.6**	**+0.1**
YOZ				*e*SG	**Sb**	**13 03 53.1**	**-1.4**
YOZ	**Yozgat**	**0.46**	**95**	*e*Pg	**Pg**	**13 03 45.6**	**+0.1**
YOZ				*e*Sg	**Sb**	**13 03 53.1**	**-1.4**
CORM	**Corum**	**0.50**	**352**	*e*PG	**Pg**	**13 03 46.0**	**-0.2**
CORM				*e*SG	**Sb**	**13 03 53.9**	**-1.7**
CORM	**Corum**	**0.50**	**352**	*e*Pg	**Pg**	**13 03 46.0**	**-0.2**
CORM				*e*Sg	**Sb**	**13 03 53.9**	**-1.7**
COAL	**Corum-Alaca**	**0.60**	**19**	*i* P	**Pg**	**13 03 47.7**	**-0.5**
COAL				*i* S	**Sg**	**13 03 56.4**	**+0.3**
COAL	**Corum-Alaca**	**0.60**	**19**	P	**Pg**	**13 03 47.7**	**-0.5**
COAL				S	**Sg**	**13 03 56.4**	**+0.3**
AVNS	**Nevsehir-Avano**	**0.88**	**174**	*i* P	**Pg**	**13 03 52.2**	**-1.3**
AVNS				*i* S	**Sb**	**13 04 06.6**	**0.0**
AVNS	**Nevsehir-Avano**	**0.88**	**174**	P	**Pg**	**13 03 52.2**	**-1.3**
AVNS				S	**Sb**	**13 04 06.6**	**0.0**
SERE	**Sereflikochisa**	**1.16**	**231**	*e*PN	**Pb**	**13 03 58.9**	**-0.3**
SERE	**Sereflikochisa**	**1.16**	**231**	*e*Pn	**Pb**	**13 03 58.9**	**-0.3**
CUSAR	**Sarkisla-SIVAS**	**1.21**	**102**	*i* P	**Pg**	**13 03 59.1**	**-0.6**
CUSAR				*i* S	**Sn**	**13 04 18.5**	**+1.5**
CUSAR	**Sarkisla-SIVAS**	**1.21**	**102**	P	**Pg**	**13 03 59.1**	**-0.6**
AKSY	**AKSARAY - Alti**	**1.28**	**216**	*i* P	**Pg**	**13 03 59.9**	**-1.2**
AKSY				*i* S	**Sn**	**13 04 20.4**	**+1.7**
AKSY	**AKSARAY - Alti**	**1.28**	**216**	P	**Pg**	**13 03 59.9**	**-1.2**
AFSR	**Afˇar-Bala (A**	**1.30**	**260**	*e*PN	**Pb**	**13 04 01.2**	**-0.4**
AFSR	**Afˇar-Bala (A**	**1.30**	**260**	*e*Pn	**Pb**	**13 04 01.2**	**-0.4**
GULA	**Gulagac**	**1.39**	**196**	*e*PN	**Pn**	**13 04 02.1**	**-0.6**
GULA	**Gulagac**	**1.39**	**196**	*e*Pn	**Pn**	**13 04 02.1**	**-0.6**
TOS	**Tosya**	**1.45**	**339**	*e*PN	**Pg**	**13 04 03.7**	**-0.7**
TOS	**Tosya**	**1.45**	**339**	*e*Pn	**Pg**	**13 04 03.7**	**-0.7**
KULU	**Kulu**	**1.48**	**245**	*e*PN	**Pb**	**13 04 04.3**	**-0.3**
KULU	**Kulu**	**1.48**	**245**	*e*Pn	**Pb**	**13 04 04.3**	**-0.3**
KKUL	**Konya-Kulu**	**1.49**	**250**	*i* P	**Pg**	**13 04 04.9**	**-0.2**
KKUL				*i* S	**Sg**	**13 04 26.7**	**+2.2**
KKUL	**Konya-Kulu**	**1.49**	**250**	P	**Pg**	**13 04 04.9**	**-0.2**
NIG	**Nigde**	**1.57**	**183**	*e*PN	**Pb**	**13 04 05.9**	**-0.5**
NIG	**Nigde**	**1.57**	**183**	*e*Pn	**Pb**	**13 04 05.9**	**-0.5**
SULT	**Sultanhani-AKS**	**1.76**	**213**	*e*PN	**Pb**	**13 04 08.2**	**-1.2**
SULT	**Sultanhani-AKS**	**1.76**	**213**	*e*Pn	**Pb**	**13 04 08.2**	**-1.2**
SARI	**SarD1z-Kayseri**	**1.83**	**134**	*e*PN	**Pb**	**13 04 09.8**	**-1.0**
SARI	**SarD1z-Kayseri**	**1.83**	**134**	*e*Pn	**Pb**	**13 04 09.8**	**-1.0**
SCER	**sogukcermik**	**1.86**	**84**	*i* P	**Pn**	**13 04 09.7**	**+0.4**
SCER				*i* S	**Sg**	**13 04 39.9**	**+3.5**
SCER	**sogukcermik**	**1.86**	**84**	P	**Pn**	**13 04 09.6**	**+0.4**
KDHN	**Kadinhani**	**2.34**	**241**	*i* P	**Pn**	**13 04 16.5**	**+0.7**
KDHN				*i* S	Sg	13 05 01.3	+10
KDHN	**Kadinhani**	**2.34**	**241**	P	**Pn**	**13 04 16.5**	**+0.7**

*IDC **15** 13:20:58.1±1.5, 37.97N×144.75E, h0km, mb3.5/2, mb1 4.0/6, mb1mx3.5/34, mbtmp3.9/6, ML3.5/4, MS3.4/3, Ms1 3.4/3, ms1mx2.6/40, Error ellipse: s-maj=36.0km s-min=24.9km az=154.0*
*ISCJB **15** 13:21:00.4±0.7, 38.13N±0.04×144.60E±0.06, h33km, mb3.5/2, MS3.8/2, Error ellipse: s-maj=6.3km s-min=5.1km az=10.6*
*NIED **15** 13:21:00, 38.30N×144.50E, h20km, Mw3.6 Best double couple: M0 2.92000×10^14 NP1:φs 341.00000°, δ 19.00000°, λ -108.00000°. NP2:φs 180.00000°, δ 72.00000°, λ -84.00000°.*
*JMA **15** 13:21:02.8±0.2, 38.26N×144.51E, h39km, M4.0*

ISC 15 13:21:02.7±1.2, 38.18N±0.05×144.59E±0.09, h35km, n29, σ2.8 15/40, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OFUJ	**Ofunato**	**2.46**	**292**	P	**Pn**	**13 21 40.5**	**+0.3**
OFUJ				*e*S	**Sn**	**13 22 08.3**	**-0.7**
JIO	**Ouri**	**2.56**	**277**	S	**Sn**	**13 22 10.6**	**-1.0**
MIYJ	**Miyakonagasawa**	**2.57**	**304**	P	**Pn**	**13 21 41.9**	**+0.1**
MIYJ				S	**Sn**	**13 22 11.1**	**-0.8**
JMK	**Ichinoseki**	**2.75**	**287**	S	**Sn**	**13 22 16.9**	**+0.6**
JOM	**Ohasama**	**2.88**	**298**	P	**Pn**	**13 21 46.8**	**+0.7**
JOM				S	**Sn**	**13 22 20.2**	**+0.7**
JANG	**Nango**	**3.24**	**314**	P	**Pn**	**13 21 51.4**	**+0.4**
JANG				*e*S	**Sn**	**13 22 27.9**	**-0.4**
JYK	**Kaneyama**	**3.40**	**284**	P	**Pn**	**13 21 54.5**	**+1.3**
JYK				*e*S	**Sn**	**13 22 33.1**	**+0.9**
JFT	**Otama**	**3.43**	**260**	P	**Pn**	**13 21 54.3**	**+0.7**
JFT				*e*S	**Sn**	**13 22 32.7**	**-0.4**
JOT	**Ohata**	**4.20**	**321**	S	**Sn**	**13 22 50.9**	**-1.2**
JCH	**Churui**	**4.53**	**348**	P	**Pn**	**13 22 08.7**	**0.0**
JCH				S	**Sn**	**13 22 57.4**	**-2.7**
BSO1	**Boso 1**	**4.57**	**221**	P	**Pn**	**13 22 07.5**	**-1.3**
BSO1				*e*S	**Sn**	**13 22 58.9**	**-1.4**
JKB	**Kayabe**	**4.60**	**325**	P	**Pn**	**13 22 10.8**	**+1.1**
JKB				S	**Sn**	**13 23 00.3**	**-1.6**
JRY	**Ryogami san**	**5.03**	**246**	P	**Pn**	**13 22 15.5**	**-0.2**
JRY				*e*S	**Sn**	**13 23 09.6**	**-3.0**
NEM2	**Nemuro 2**	**5.25**	**9**	P	**Pn**	**13 22 16.7**	**-2.0**
NEM2				*e*S	**Sn**	**13 23 12.3**	**-5.7**
JOD2	**Odawara 2**	**5.29**	**238**	P	**Pn**	**13 22 18.4**	**-0.8**
JOD2				*e*S	**Sn**	**13 23 14.8**	**-4.2**
MJAR	**Matsushiro Arr**	**5.34**	**254**	Pn	**Pn**	**13 22 21.0**	**+1.1**
	6.9nm,0.3s,baz=77,slow=15,SNR=51						
MJAR				Sn	**Sn**	**13 23 21.6**	**+1.4**
	0.3nm,0.3s,baz=87,slow=29,SNR=3.0						
MAT	**Matsushiro**	**5.34**	**254**	P	**Pn**	**13 22 21.3**	**+1.4**
MAT				S	**Sn**	**13 23 18.1**	**-2.1**
JOSM	**Okushiri--Mats**	**5.53**	**316**	P	**Pn**	**13 22 23.8**	**+1.4**
JTKR	**Abashiri--Toko**	**5.81**	**355**	P	**Pn**	**13 22 26.3**	**0.0**
JTKR				*e*S	**Sn**	**13 23 28.2**	**-3.4**
JHJ	**Hachijo jima 2**	**6.39**	**219**	Pn	**Pn**	**13 22 32.2**	**-2.1**
	14nm,0.3s,baz=69,slow=19,SNR=9.3						
JHJ				Sn	**Sn**	**13 23 38.9**	**-7.0**
	29nm,0.3s,baz=85,slow=22,SNR=7.5						
USRK	**Ussuriysk Ar.**	**11.23**	**306**	Pn	**Pn**	**13 23 41.9**	**+1.3**
	0.4nm,0.3s,baz=111,slow=15,SNR=3.8						
KSRS	**Korea Array**	**13.20**	**272**	Pn	**Pn**	**13 24 09.6**	**+2.1**
	0.2nm,0.3s,baz=80,slow=14,SNR=6.2						
KSRS				LR	LR	13 29 22.6	
	comp=Z,24nm,18.9s,baz=350,slow=38						
H11N2	**WAKE ISLAND Hy**	**26.70**	**127**	T	T	13 54 09.9	
	baz=318						
H11N1	**WAKE ISLAND Hy**	**26.70**	**127**	T	T	13 54 09.9	
	baz=318						
H11N3	**WAKE ISLAND Hy**	**26.71**	**127**	T	T	13 54 08.2	
	baz=318						
WRA	**Warramunga Arr**	**58.61**	**191**	P	**P**	**13 30 55.5**	**-0.7**
	0.4nm,0.7s,baz=14,slow=7.7,SNR=4.6						
AFI	**Afiamalu**	**65.99**	**133**	LR	LR	13 58 06.6	
	comp=Z,22nm,19.8s,baz=53,slow=34						
PDAR	**Pinedale Array**	**75.05**	**47**	P	**P**	**13 32 42.4**	**+1.3**
	0.3nm,0.6s,baz=292,slow=0.8,SNR=4.7						
RAR	**Rarotonga**	**78.84**	**128**	LR	LR	13 58 44.2	
	comp=Z,164nm,21.8s,baz=132,slow=29						

GUC 15 13:26:43.4±0.5, 34.60S×73.62W, h30km±3km, ML3.6, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHPI	**Pichilemu**	**1.35**	**82**	*e*P	Pn	13 27 06.1	0.0
CHPI				*e*S	Sn	13 27 23.2	+0.3
GO05	**HualaæØ**	**1.45**	**107**	*e*P	Pn	13 27 07.8	+0.3
GO05				*e*S	Sn	13 27 26.0	+0.5
GO05				IAML		13 27 26.9	
	comp=E,1μm,0.6s						
TALC	**Talca**	**1.81**	**117**	*e*P	Pn	13 27 13.4	+0.9
TALC				*e*S	Sn	13 27 36.0	+1.5
NICH	**Los Niches**	**2.00**	**102**	*e*P	Pn	13 27 16.2	+1.0
NICH				*e*S	Sn	13 27 41.0	+1.8
RCDM	**Rinconada Maip**	**2.58**	**65**	*e*S	Sn	13 27 54.2	+0.8
ROCH	**El Roble**	**2.71**	**54**	*e*P	Pn	13 27 25.7	+0.6
ROCH				*e*S	Sn	13 27 57.2	+0.4
ROCH				IAML		13 28 01.4	
	comp=N,232nm,0.4s						
PEL	**Peldehue**	**2.83**	**60**	*e*P	Pn	13 27 27.6	+1.0
PEL				*e*S	Sn	13 28 01.4	+1.6
PEL				IAML		13 28 03.1	
	comp=N,332nm,0.4s						

*MOS **15** 13:28:52.0±1.2, 45.32N×148.91E, h98km, mb4.1/3, Error ellipse: s-maj=14.8km s-min=11.2km az=88.9*
*SKHL **15** 13:28:53.1±0.7, 45.05N×148.89E, h109km±9km, mb4.5/2, msh5.3/3*

ISC 15 13:28:50.3±1.4, 45.07N±0.06×149.3E±0.1, h94km±7km, n39, σ2.8 32/52, 1C-2D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**1.00**	**280**	*e*PN	**Pn**	**13 29 11.5**	**+1.4**
KUR				*i* S	**Sn**	**13 29 25.7**	**+0.6**
KUR				pmax	pmax		
	comp=N,31nm,0.1s						
KUR				pmax	pmax		
	comp=E,28nm,0.1s						
KUR				pmax	pmax		
	comp=Z,161nm,0.1s						
KUR				smax	smax		
	comp=N,512nm,0.2s						
KUR				smax	smax		
	comp=E,838nm,0.2s						
KUR				smax	smax		
	comp=N,639nm,0.2s						
KUR				smax	smax		
	comp=E,773nm,0.2s						
KUR	**Kuril'sk**	**1.00**	**280**	*i* P	**Pn**	**13 29 11.5**	**+1.4**
KUR				AMB	AMB	13 29 12.5	
	comp=E,30nm,0.3s						
KUR				AMB	AMB	13 29 12.5	
	comp=E,160nm,0.3s						
KUR				*i* S	**Sn**	**13 29 25.7**	**+0.6**
KUR				A	A	13 29 28.1	
	comp=E,510nm,0.3s						
KUR				A	A	13 29 28.1	
	comp=E,840nm,0.3s						
KUR				A	A	13 29 29.1	
	comp=E,640nm,0.2s						
KUR				A	A	13 29 29.1	
	comp=E,770nm,0.2s						
SHO	**Shikotan**	**2.11**	**236**	*d* iPN	**Pn**	**13 29 23.4**	**-0.6**
SHO				*i* S	**Sn**	**13 29 46.1**	**-3.6**
SHO				smax	smax		
	comp=N,175nm,0.4s						
SHO				smax	smax		
	comp=E,95nm,0.5s						
SHO	**Shikotan**	**2.11**	**236**	*e*P	**Pn**	**13 29 23.8**	**-0.2**
SHO				*i* S	**Sn**	**13 29 46.2**	**-3.5**
SHO				A	A	13 29 51.7	
	comp=E,180nm,0.2s						
SHO				A	A	13 29 51.7	
	comp=E,100nm,0.2s						
YUK	**Yuzh-Kuril'sk**	**2.64**	**248**	*e*PN	**Pn**	**13 29 33.2**	**+2.3**
YUK				*i* S	**Sn**	**13 30 03.1**	**+0.9**
YUK				pmax	pmax		
	comp=N,17nm,0.2s						
YUK				pmax	pmax		
	comp=E,20nm,0.2s						
YUK				pmax	pmax		
	comp=Z,82nm,0.2s						
YUK				smax	smax		
	comp=E,90nm,0.2s						
YUK				smax	smax		
	comp=N,278nm,0.3s						
YUK	**Yuzh-Kuril'sk**	**2.64**	**248**	*e*P	**Pn**	**13 29 32.1**	**+1.2**
YUK				AMB	AMB	13 29 34.8	
	comp=N,80nm,0.4s						
YUK				*i* S	**Sn**	**13 30 01.6**	**-0.6**
YUK				A	A	13 30 10.6	
	comp=N,280nm,0.3s						
YUK				A	A	13 30 10.6	
	comp=N,90nm,0.3s						
NEM2	**Nemuro 2**	**3.04**	**237**	P	Pn	**13 29 36.5**	**+0.1**
NEM2				*e*S	Sn	**13 30 08.9**	**-3.1**
JRA	**Rausu**	**3.17**	**251**	P	Pn	**13 29 41.3**	**+3.3**
JNK	**Nakash**	**3.58**	**247**	P	Pn	**13 29 46.1**	**+2.5**
JNK				*e*S	Sn	**13 30 26.1**	**+1.3**
JAK	**Akkeshi**	**3.88**	**239**	P	Pn	**13 29 48.9**	**+1.2**
JAR	**Ashorobuto**	**4.32**	**248**	P	Pn	**13 29 57.3**	**+3.6**
YSS	**Yuzh-Sakhalins**	**4.91**	**295**	*e*PN	Pn	**13 30 02.1**	**+0.5**
YSS	**Yuzh-Sakhalins**	**4.91**	**295**	*e*P	Pn	**13 30 02.1**	**+0.5**
JCH	**Churui**	**4.92**	**242**	P	Pn	**13 30 04.0**	**+2.3**
JEM	**Erimo**	**5.38**	**238**	P	Pn	**13 30 10.6**	**+2.6**
ERM	**Erimo**	**5.38**	**238**	*i* PN	Pn	**13 30 10.8**	**+2.8**
ERM				*i* S	Sn	**13 31 11.7**	**+3.1**
ERM	**Erimo**	**5.38**	**238**	*e*P	Pn	**13 30 10.8**	**+2.8**
JNBK	**Urakawa-nobuka**	**5.48**	**242**	P	Pn	**13 30 10.6**	**+1.3**
UGL	**Uglegorsk**	**6.34**	**312**	*e*PN	Pn	**13 30 18.7**	**-2.3**
UGL				*e*S	Sn	**13 31 27.6**	**-4.3**
UGL	**Uglegorsk**	**6.34**	**312**	*e*P	Pn	**13 30 21.1**	**+0.1**
JKB	**Kayabe**	**6.77**	**245**	P	Pn	**13 30 28.8**	**+1.9**
JKB				*e*S	Sn	**13 31 40.3**	**-2.2**
JYM2	**Yakumo 2**	**7.09**	**249**	P	Pn	**13 30 34.1**	**+2.8**
JANG	**Nango**	**7.38**	**233**	*e*S	Sn	**13 31 51.0**	**-6.4**
JTH	**Tanohata**	**7.49**	**229**	*e*S	Sn	13 31 52.1	-7.9
JRG	**Rokugo**	**8.54**	**231**	*e*S	Sn	**13 32 19.9**	**-5.8**
MAJO	**Matsushiro**	**11.93**	**228**	*i* PN	Pn	**13 31 40.6**	**+3.5**
MA2	**Magadan**	**14.56**	**3**	*i* P	Pn	**13 32 11.4**	**0.0**
MA2	**Magadan**	**14.56**	**3**	*e*P	Pn	**13 32 11.4**	**0.0**
SEY	**Seymchan**	**17.99**	**5**	*i* P	Pn	**13 32 54.3**	**+0.4**
SEY	**Seymchan**	**17.99**	**5**	*e*P	Pn	**13 32 54.3**	**+0.4**
TIXI	**Tiksi**	**28.41**	**347**	*i* P	P	**13 34 35.3**	**-0.1**
TIXI	**Tiksi**	**28.41**	**347**	*e*P	P	**13 34 35.3**	**-0.1**
ULN	**Ulaanbaatar**	**28.94**	**291**	††P	P	**13 34 41.3**	**+0.6**
ULN	**Ulaanbaatar**	**28.94**	**291**	*e*P	P	**13 34 41.3**	**+0.6**
TLY	**Talaya**	**30.60**	**299**	*i* P	P	**13 34 55.8**	**+0.7**
TLY				pmax	pmax		
	comp=Z,2.0nm,0.9s						
TLY	**Talaya**	**30.60**	**299**	*e*P	P	**13 34 55.8**	**+0.7**
ARU	**Arti**	**54.42**	**317**	*d i*P	P	**13 38 07.1**	**-0.2**
ARU				*PP	pP	**13 38 28.2**	**-2.0**
ARU						13 39 07.3	
ARU						13 40 07.0	
ARU				S	S	**13 45 37.4**	**-0.9**
ARU				SS	SS	**13 49 19.6**	**-1.5**
ARU				pmax	pmax		
	comp=Z,4.0nm,1.7s						
ARU	**Arti**	**54.42**	**317**	*e*P	P	**13 38 07.1**	**-0.2**
AKASG	**Malin Array Be**	**71.40**	**324**	*i* P	P	**13 40 01.7**	**+1.8**
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.6s						

*CSEM **15** 13:31:52.3±0.3, 45.42N×11.15E, h10km, ML2.5/7, Error ellipse: s-maj=5.3km s-min=2.8km az=23.0*
*ROM **15** 13:31:52.8±0.5, 45.40N×11.13E, h10km, Md2.3/6, Ml2.0/6, Error ellipse: s-maj=6.6km s-min=2.9km az=31.0*

ISC 15 13:31:53.2±1.1, 45.45N±0.04×11.15E±0.03, h14km±8km, n53, σ0.9 37/72, 1C-4D, Northern Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MARN	**Marana (Italy)**	**0.20**	**13**	↓*e*Pg	**Pg**	**13 31 57.6**	**-0.2**
MARN				*e*Sg	**Sg**	**13 32 00.8**	**0.0**
BALD	**Monte Baldo**	**0.33**	**316**	↓*e*Pg	**Pg**	**13 31 59.8**	**-0.3**
BALD				*e*Sg	**Sg**	**13 32 04.8**	**+0.1**
BALD	**Monte Baldo**	**0.33**	**316**	*e*Pg	**Pg**	**13 31 59.8**	**-0.3**
BALD				*e*Sg	**Sg**	**13 32 04.8**	**+0.1**
TEOL	**Teolo**	**0.38**	**103**	Pg	**Pg**	**13 32 00.6**	**-0.2**
TEOL				Sg	**Sg**	**13 32 06.2**	**+0.2**
	189nm,0.6s						
TEOL	**Teolo**	**0.38**	**103**	↑*e*Pg	**Pg**	**13 32 00.6**	**-0.2**
TEOL				*e*Sg	**Sg**	**13 32 06.2**	**+0.2**
TEOL	**Teolo**	**0.38**	**103**	Pg	**Pg**	**13 32 00.6**	**-0.2**
TEOL				Sg	**Sg**	**13 32 06.2**	**+0.2**
	189nm,0.6s						
DDS	**Dosso del Somm**	**0.43**	**4**	↓*e*Pg	**Pg**	**13 32 01.8**	**-0.2**
DDS				*e*Sg	**Sg**	**13 32 08.2**	**+0.3**
MAGA	**Magasa**	**0.49**	**312**	Pg	**Pg**	**13 32 02.6**	**-0.3**
MAGA				Sg	**Sg**	**13 32 09.7**	**+0.2**
	144nm,0.4s						
MAGA	**Magasa**	**0.49**	**312**	Pg	**Pg**	**13 32 02.6**	**-0.3**
MAGA				Sg	**Sg**	**13 32 09.7**	**+0.2**
	144nm,0.4s						
PANI	**Panarotta**	**0.62**	**12**	↓*e*Pg	**Pg**	**13 32 05.1**	**-0.2**
PANI				*e*Sg	**Sb**	**13 32 14.2**	**-0.3**
CGRP	**Cima Grappa**	**0.63**	**46**	Pg	**Pb**	**13 32 05.8**	**-0.3**
CGRP	**Cima Grappa**	**0.63**	**46**	*e*Pg	**Pg**	**13 32 05.6**	**0.0**
CGRP	**Cima Grappa**	**0.63**	**46**	Pg	**Pb**	**13 32 05.8**	**-0.3**
RNI	**Roncone**	**0.65**	**326**	*e*Pg	**Pg**	**13 32 05.7**	**-0.2**
RNI	**Roncone**	**0.65**	**326**	*e*Pg	**Pg**	**13 32 05.7**	**-0.2**
OZOL	**Ozolo**	**0.96**	**356**	*e*Pg	**Pg**	**13 32 11.9**	**+0.1**
OZOL	**Ozolo**	**0.96**	**356**	*e*Pg	**Pg**	**13 32 11.9**	**+0.1**
CARE	**Lago del Cares**	**1.03**	**342**	*e*Pg	**Pb**	**13 32 12.8**	**-0.1**
CARE	**Lago del Cares**	**1.03**	**342**	*e*Pg	**Pb**	**13 32 12.8**	**-0.1**
KOSI	**Kohlern**	**1.03**	**9**	Pg	**Pn**	**13 32 13.2**	**-0.1**
KOSI				Sg	**Sg**	**13 32 26.9**	**+0.3**
	19nm,0.7s						
KOSI	**Kohlern**	**1.03**	**9**	Pg	**Pn**	**13 32 13.2**	**-0.1**
KOSI				Sg	**Sg**	**13 32 26.9**	**+0.3**
	19nm,0.7s						
APPI	**Appiano**	**1.03**	**3**	Pg	**Pg**	**13 32 13.4**	**+0.2**
APPI				Sg	**Sg**	**13 32 26.8**	**+0.1**
	5μm,8.5s						
APPI	**Appiano**	**1.03**	**3**	Pg	**Pg

comp=Z,43nm,18.9s,baz=242,slow=47
DZM Mont Dzumac 17.44 291 LR LR 13 47 57.6
comp=Z,162nm,19.2s,baz=110,slow=35
RPZ Rata Peaks 17.59 213 P **Pn** **13 41 57.2 -0.8**
0.9nm,0.3s,baz=30,slow=20,SNR=4.3
ARMA Armidale 28.02 260 *eP* **P** **13 43 40.9 -3.0**
CTA Charters Tower 35.40 277 P **P** **13 44 49.6 +1.1**
2.1nm,0.5s,baz=96,slow=14,SNR=5.1
STKA Stephens Creek 36.39 255 P **P** **13 44 58.1 +1.1**
1.8nm,0.5s,baz=105,slow=11,SNR=6.4
ASAR Alice Springs 44.91 265 P **P** **13 46 07.3 -0.2**
1.8nm,0.6s,baz=104,slow=6.9,SNR=33
ASAR LR LR 14 03 35.0
comp=Z,74nm,18.2s,baz=146,slow=34
WRAB Tennant Creek 45.81 270 *eP* **P** **13 46 13.8 -0.9**
1.0nm,0.4s
WRA Warramunga Arr 45.82 270 P **P** **13 46 13.8 -0.9**
2.7nm,0.5s,baz=108,slow=7.9,SNR=24
FITZ Fitzroy Crossi 54.12 268 P **P** **13 47 17.2 -0.5**
1.1nm,0.6s,baz=129,slow=10,SNR=5.6
MBWA Marble Bar 58.07 262 P **P** **13 47 45.8 -0.1**
ILAR Eielson Array 96.64 12 P **P** **13 51 22.5 +0.8**
0.3nm,0.7s,baz=222,slow=5.8,SNR=4.6
FINES FINESS Array B 144.84 342 PKP **PKPab** **13 57 27.0 -0.6**
3.4nm,0.9s,baz=68,slow=4.9,SNR=3.2
NB2 NORSAR Subarra1 48.06 353 PKP **PKPbc** **13 57 38.2 +0.9**
comp=Z,1.5nm,0.7s,baz=91,slow=2.9
NOA NORSAR Array B 148.06 353 PKPbc **PKPbc** **13 57 37.5 +0.2**
comp=Z,2.6nm,0.8s,baz=14,slow=4.4,SNR=3.8
AKASG Malin Array Be 151.57 325 PKPbc **PKPbc** **13 57 45.2 -0.9**
comp=Z,0.8nm,0.6s,baz=42,slow=2.6,SNR=3.5

IDC 15 13:38:33.7±3.1, 2.01°S×138.95°E, h0km, mb2.9/1, mb1 3.5/2, mb1mx3.2/29, mbtmp3.2/2, ML3.4/1, Error ellipse: s-maj=57.6km s-min=28.1km az=164.0, Irian Jaya

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JAY	**Jayapura**	**1.82**	**106**	Pn	Pn	13 39 07.0	+0.6
	0.2nm,0.3s,baz=262,slow=22,SNR=9.6						
JAY				Sn	Sn	13 39 30.4	+0.2
	0.3nm,0.3s,baz=93,slow=23,SNR=6.9						
WRA	**Warramunga Arr**	**18.39**	**194**	P	P	13 42 50.8	+0.4
	0.1nm,0.3s,baz=18,slow=11,SNR=7.9						
ASAR	**Alice Springs**	**22.08**	**192**	P	P	13 43 30.6	0.0
	0.4nm,0.7s,baz=16,slow=11,SNR=7.6						
H11S3	**WAKE ISLAND Hy**	**34.06**	**52**	T	T	14 21 06.0	
	baz=236,slow=75,SNR=14						
H11S2	**WAKE ISLAND Hy**	**34.07**	**52**	T	T	14 21 06.9	
	baz=236,slow=75,SNR=19						
H11S1	**WAKE ISLAND Hy**	**34.07**	**52**	T	T	14 21 07.5	
	baz=236,slow=75,SNR=19						
CPUP	**Villa Florida**	**147.73**	**152**	PKPbc	PKPbc	13 58 20.0	-1.3
	1.7nm,0.4s,baz=163,slow=1.3,SNR=6.9						

*DDA **15** 13:46:25.6, 38°.49N×38°.79E, h7km, Ml2.6*
*ISCJB **15** 13:46:27.7±0.6, 38°.53N±0°.06×39°.01E±0°.07, h9km±5km, Error ellipse: s-maj=10.9km s-min=7.3km az=35.4*
*CSEM **15** 13:46:27.7±0.2, 38°.49N×38°.99E, h8km, MD2.6, Error ellipse: s-maj=6.3km s-min=5.3km az=50.0*
*ISK **15** 13:46:27.3, 38°.49N×39°.02E, h3km, MD2.6*
ISC 15 13:46:27.5±0.9, 38°.52N±0°.04×38°.94E±0°.04, h9km±6km, n15, σ1s16/21, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ELZG	**Elazig**	**0.04**	**120**	*i* P	**Pg**	**13 46 28.8**	**-0.6**
ELZG				*i* S	**Sg**	**13 46 31.4**	**+0.6**
ELZG	**Elazig**	**0.04**	**120**	P	**Pg**	**13 46 28.8**	**-0.6**
ELZG				S	**Sg**	**13 46 31.4**	**+0.6**
SVRC	**Sivrice-ELAZID**	**0.32**	**116**	*e*PG	**Pg**	**13 46 33.5**	**-0.4**
SVRC				*e*SG	**Sg**	**13 46 37.5**	**-0.7**
SVRC	**Sivrice-ELAZID**	**0.32**	**116**	*e*Pg	**Pg**	**13 46 33.5**	**-0.4**
SVRC				*e*Sg	**Sg**	**13 46 37.5**	**-0.7**
PTK	**Pertek**	**0.51**	**43**	*e*PG	**Pg**	**13 46 37.7**	**+0.2**
PTK	**Pertek**	**0.51**	**43**	*e*Pg	**Pg**	**13 46 37.7**	**+0.2**
KEMA	**Kemaliye**	**0.83**	**335**	*i* P	**Pg**	**13 46 41.1**	**-2.4**
KEMA				*i* S	**Sg**	**13 46 55.2**	**+1.0**
KEMA	**Kemaliye**	**0.83**	**335**	P	**Pg**	**13 46 41.1**	**-2.4**
KEMA				S	**Sg**	**13 46 55.2**	**+1.0**
URFA	**Urfa**	**1.08**	**185**	*e*PG	**Pg**	**13 46 47.6**	**-0.7**
URFA	**Urfa**	**1.08**	**185**	*e*Pg	**Pg**	**13 46 47.6**	**-0.7**
DARE	**Darende-Malaty**	**1.14**	**273**	*e*PN	**Pn**	**13 46 51.3**	**+1.5**
DARE	**Darende-Malaty**	**1.14**	**273**	*e*Pn	**Pn**	**13 46 51.3**	**+1.5**
MAZI	**Mazidag**	**1.59**	**131**	*e*PN	**Pb**	**13 46 56.2**	**-1.0**
MAZI	**Mazidag**	**1.59**	**131**	*e*Pn	**Pb**	**13 46 56.2**	**-1.0**
SARI	**SarD1z-Kayseri**	**1.98**	**268**	*e*PN	**Pb**	**13 47 04.0**	**+0.1**

PGC 15 13:48:28.2±0.8, 59°.07N×137°.97W, h1km, ML2.2/7, 89km east of Yakutat, Ak Southeastern Alaska, Southeastern Alaska

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PLBC	**Pleasant Camp**	**0.91**	**64**	P	Pg	13 48 44.6	-1.1
PLBC				S	Sg	13 48 56.9	-0.5
PNL	**Peninsula**	**0.94**	**310**	P	Pg	13 48 44.8	-1.5
PNL				S	Sg	13 48 57.2	-1.2
YUK7	**Dusty Glacier**	**1.47**	**357**	Pn	Pn	13 48 53.8	-2.2
YUK7				Sg	Sg	13 49 13.1	-2.1
BESE	**Bessie Mountai**	**1.70**	**106**	Pn	Pn	13 48 57.8	-1.2
BESE				Sg	Sn	13 49 20.2	-1.1
HYT	**Haines Junctio**	**1.77**	**7**	Pn	Pn	13 48 59.2	-0.9
HYT				Sg	Sn	13 49 22.9	-0.5
YUK6	**Outpost Mounta**	**1.89**	**354**	Pn	Pn	13 49 01.0	-0.8
YUK6				Sg	Sn	13 49 26.0	-0.4
WHY	**Whitehorse**	**2.23**	**43**	Pn	Pn	13 49 05.5	-0.9
WHY				Pg	Pb	13 49 08.4	-0.9
WHY				Sn	Sn	13 49 34.7	+0.1
WHY				Sg	Sb	13 49 37.8	+0.4
YUK3	**Moose Creek**	**2.98**	**337**	Pg	Pb	13 49 22.3	+0.1
DLBC	**Dease Lake**	**4.19**	**95**	Pn	Pn	13 49 33.2	0.0
DLBC				Sn	Sn	13 50 22.3	-0.5
DLBC				Sg	Sb	13 50 37.3	+3.6
DAWY	**Dawson**	**5.06**	**353**	Pn	Pn	13 49 45.0	-0.2

*NIED **15** 13:50:00, 37°.90N×143°.30E, h14km, Mw3.9 Best double couple: M0 7.27000×10^14 NP1:φs334.00000°, δ81.00000°, λ177.00000°. NP2:φs64.00000°, δ87.00000°, λ9.00000°.*
*IDC **15** 13:50:39.5±0.9, 37°.73N×143°.53E, h0km, mb3.7/7, mb1 3.8/11, mb1mx3.6/43, mbtmp3.7/11, ML2.8/3, MS2.5/3, Ms1 2.5/3, ms1mx2.4/34, Error ellipse: s-maj=22.8km s-min=18.0km az=110.0*
*ISCJB **15** 13:50:41.2±0.7, 37°.89N±0°.04×143°.34E±0°.05, h19km, mb3.7/7, Error ellipse: s-maj=6.1km s-min=5.6km az=36.2*
*JMA **15** 13:50:42.5±0.2, 37°.93N×143°.33E, h37km, M4.0*
ISC 15 13:50:42.5±0.9, 37°.92N±0°.04×143°.29E±0°.07, h19km, n34, σ2s27/39, mb3.8/7, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JIO	**Ouri**	**1.62**	**290**	P	**Pb**	**13 51 10.0**	**-1.7**
JIO				*e*S	**Sb**	**13 51 30.1**	**-1.6**
OFUJ	**Ofunato**	**1.72**	**313**	P	**Pb**	**13 51 11.0**	**-2.4**
OFUJ				S	**Sn**	**13 51 32.1**	**-0.7**
JMK	**Ichinoseki**	**1.92**	**303**	P	**Pb**	**13 51 14.3**	**-2.6**
JMK				*e*S	**Sn**	**13 51 37.5**	**-0.3**
JMM	**Marumori**	**1.97**	**269**	P	**Pn**	**13 51 14.9**	**0.0**
JMM				S	**Sn**	**13 51 39.0**	**0.0**
JFK	**Kawauchi**	**1.99**	**255**	P	**Pn**	**13 51 14.7**	**-0.5**
JOU	**Okura**	**2.11**	**283**	P	**Pb**	**13 51 17.6**	**-2.6**
JOM	**Ohasama**	**2.20**	**315**	P	**Pb**	**13 51 18.4**	**-3.2**
JOM				S	**Sn**	**13 51 44.9**	**+0.2**
JFT	**Otama**	**2.37**	**261**	P	**Pb**	**13 51 21.3**	**-3.3**
JFT				*e*S	**Sn**	**13 51 50.4**	**+1.4**
JYK	**Kaneyama**	**2.50**	**294**	P	**Pn**	**13 51 23.0**	**+0.8**
JRG	**Rokugo**	**2.55**	**306**	P	**Pn**	**13 51 23.5**	**+0.7**
JRG				*e*S	**Sb**	**13 51 55.2**	**-3.3**
JYS	**Shirataka**	**2.56**	**278**	P	**Pn**	**13 51 23.8**	**+0.9**
JYS				*e*S	**Sn**	**13 51 54.7**	**+1.1**
JANG	**Nango**	**2.81**	**331**	P	**Pb**	**13 51 27.7**	**-4.4**
JANG				*e*S	**Sn**	**13 51 58.7**	**-1.1**
JAW	**Awa shima**	**3.23**	**281**	P	**Pn**	**13 51 33.6**	**+1.5**
JAG	**Ashikaga**	**3.41**	**245**	P	**Pn**	**13 51 34.7**	**+0.1**
JAG				S	**Sn**	**13 52 13.9**	**-0.5**
MJAR	**Matsushiro Arr**	**4.28**	**253**	Pn	**Pn**	**13 51 48.0**	**+1.4**
	1.5nm,0.3s,baz=42,slow=11,SNR=43						
MJAR				Sn	**Sn**	**13 52 39.3**	**+3.3**
	2.1nm,0.3s,baz=91,slow=32,SNR=6.4						
MAT	**Matsushiro**	**4.28**	**253**	P	**Pn**	**13 51 48.5**	**+1.9**
MAT				S	**Sn**	**13 52 37.2**	**+1.2**
JHJ	**Hachijo jima 2**	**5.58**	**212**	Pn	**Pn**	**13 52 02.3**	**-2.1**
	75nm,0.3s,baz=45,slow=9.0,SNR=31						
JHJ				Sn	**Sn**	**13 53 01.8**	**-6.2**
	42nm,0.3s,baz=90,slow=20,SNR=9.9						
JHJ				LR	LR	13 54 45.5	
	comp=Z,39nm,18.6s,baz=290,slow=45						
ASAJ	**Asahikawa**	**6.21**	**355**	Sn	**Sn**	**13 53 19.9**	**-3.6**
	3.4nm,0.3s,baz=90,slow=20,SNR=8.5						
USRK	**Ussuriysk Ar.**	**10.58**	**310**	Pn	Pn	13 53 18.1	+5.0
	0.2nm,0.3s,baz=121,slow=14,SNR=3.1						
KSRS	**Korea Array**	**12.18**	**273**	Pn	**Pn**	**13 53 37.8**	**+2.9**
	0.1nm,0.3s,baz=77,slow=13,SNR=3.7						
KSRS				LR	LR	13 58 30.6	
	comp=Z,28nm,20.3s,baz=358,slow=38						
PETK	**Petropavlovsk-**	**18.18**	**29**	LR	LR	14 00 29.7	
	comp=Z,15nm,21.9s,baz=129,slow=32						
H11N2	**WAKE ISLAND Hy**	**27.38**	**125**	T	T	14 25 04.7	
	baz=317,slow=76,SNR=15						
H11N1	**WAKE ISLAND Hy**	**27.39**	**125**	T	T	14 25 05.8	
	baz=317,slow=76,SNR=8.9						
H11N3	**WAKE ISLAND Hy**	**27.39**	**125**	T	T	14 25 08.1	
	baz=317,slow=76,SNR=18						
H11S1	**WAKE ISLAND Hy**	**28.14**	**127**	T	T	14 26 01.3	
	baz=318,slow=74,SNR=3.7						
H11S3	**WAKE ISLAND Hy**	**28.15**	**127**	T	T	14 26 06.3	
	baz=318,slow=74,SNR=4.4						
H11S2	**WAKE ISLAND Hy**	**28.16**	**127**	T	T	14 26 04.0	
	baz=318						
SONM	**Songino Array**	**28.55**	**302**	P	**P**	**13 56 39.7**	**+2.6**
	0.5nm,0.5s,baz=111,slow=8.1,SNR=4.6						
ZALV	**Zalesovo Beam**	**42.43**	**312**	P	**P**	**13 58 38.5**	**+2.8**
	1.0nm,0.5s,baz=103,slow=8.6,SNR=4.0						
ILAR	**Eielson Array**	**47.95**	**33**	P	**P**	**13 59 19.9**	**+0.6**
	0.3nm,0.8s,baz=262,slow=5.7,SNR=3.8						
INK	**Inuvik**	**52.92**	**28**	P	**P**	**13 59 57.8**	**+0.9**
	1.3nm,0.7s,baz=291,slow=8.6,SNR=3.4						
WRA	**Warramunga Arr**	**58.17**	**190**	P	**P**	**14 00 34.2**	**-1.0**
	0.9nm,0.6s,baz=8.6,slow=7.2,SNR=25						
ASAR	**Alice Springs**	**61.89**	**190**	P	**P**	**14 00 59.9**	**-0.8**
	0.4nm,1.0s,baz=4.2,slow=6.8,SNR=9.9						
AKASG	**Malin Array Be**	**74.50**	**323**	P	**P**	**14 02 19.4**	**-0.1**
	0.9nm,0.4s,baz=33,slow=16,SNR=5.2						

JMA 15 13:56:40.3±0.1, 38°.54N×144°.53E, h41km, M3.6, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OFUJ	**Ofunato**	**2.30**	**284**	P	Pn	13 57 17.0	+1.3
MIYJ	**Miyakonagasawa**	**2.35**	**297**	P	Pn	13 57 17.6	+1.2
MIYJ				*e*S	Sn	13 57 45.3	+1.3
JMK	**Ichinoseki**	**2.62**	**280**	S	Sn	13 57 53.2	+2.5
JOM	**Ohasama**	**2.69**	**291**	P	Pn	13 57 22.8	+1.8
JOM				*e*S	Sn	13 57 54.9	+2.5
JFT	**Otama**	**3.46**	**254**	S	Sn	13 58 12.5	+1.0
JCH	**Churui**	**4.17**	**348**	P	Pn	13 57 42.9	+1.6
JCH				*e*S	Sn	13 58 29.0	+0.3
BSO1	**Boso 1**	**4.82**	**217**	S	Sn	13 58 42.0	-2.1
NEM2	**Nemuro 2**	**4.91**	**10**	P	Pn	13 57 50.0	-1.5
NEM2				*e*S	Sn	13 58 42.8	-4.1
JRY	**Ryogami san**	**5.15**	**242**	P	Pn	13 57 55.1	+0.3
JRY				S	Sn	13 58 50.4	-2.6
JTKR	**Abashiri--Toko**	**5.45**	**355**	P	Pn	13 57 59.5	+0.6
JTKR				*e*S	Sn	13 58 58.9	-1.3

*IDC **15** 14:03:21.9±3.3, 21°.56S×176°.30W, h145km±28km, mb3.9/11, mb1 4.1/13, mb1mx3.8/32, mbtmp4.4/13, Error ellipse: s-maj=31.3km s-min=14.8km az=142.0*
ISC 15 14:03:21.5±0.7, 21°.58S±0°.09×176°.1W±0°.1, h150km, n20, σ1s81/23, mb4.1/11, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**7.83**	**192**	S	**Sn**	**14 06 37.9**	**-1.9**
	39nm,0.3s,baz=53,slow=20,SNR=2.5						
AFI	**Afiamalu**	**8.64**	**29**	P	**Pn**	**14 05 24.8**	**+1.3**
	3.8nm,0.3s,baz=204,slow=2.4,SNR=7.6						
AFI				S	**Sn**	**14 06 54.4**	**-5.3**
	3.2nm,0.3s,baz=210,slow=20,SNR=4.7						
DZM	**Mont Dzumac**	**16.27**	**265**	P	**P**	**14 07 05.4**	**+3.6**
	1.3nm,0.3s,baz=70,slow=20,SNR=15						
URZ	**Urewera**	**17.64**	**198**	P	**Pn**	**14 07 17.7**	**-0.2**
	4.0nm,0.3s,baz=287,slow=2.4,SNR=16						
URZ				S	S	14 10 17.9	-14
	1.3nm,0.3s,baz=46,slow=22,SNR=7.6						
CTA	**Charters Tower**	**35.21**	**265**	P	**P**	**14 10 01.2**	**-0.3**
	6.8nm,0.5s,baz=90,slow=11,SNR=28						
PMG	**Port Moresby**	**37.36**	**283**	P	**P**	**14 10 19.5**	**-0.3**
	12nm,0.7s,baz=59,slow=5.9,SNR=5.2						
STKA	**Stephens Creek**	**38.99**	**246**	P	**P**	**14 10 32.5**	**-0.8**
	1.0nm,0.4s,baz=102,slow=12,SNR=7.5						
ASAR	**Alice Springs**	**46.06**	**257**	P	**P**	**14 11 29.1**	**-1.4**
	6.9nm,0.7s,baz=98,slow=7.2,SNR=102						
ASAR				PcP	**PcP**	**14 13 04.1**	**-0.4**
	2.2nm,0.6s,baz=106,slow=4.0,SNR=13						
JAY	**Jayapura**	**46.11**	**288**	P	**P**	**14 11 29.6**	**-1.4**
	1.0nm,0.5s,baz=90,slow=20,SNR=5.8						
WRA	**Warramunga Arr**	**46.27**	**263**	P	**P**	**14 11 30.3**	**-1.9**
	1.9nm,0.3s,baz=92,slow=6.0,SNR=221						
WRA				PcP	**PcP**	**14 13 05.1**	**-0.1**
	1.3nm,0.5s,baz=97,slow=3.6,SNR=7.4						
MJAR	**Matsushiro Arr**	**72.16**	**323**	P	**P**	**14 14 29.6**	**-0.2**
	2.2nm,0.6s,baz=151,slow=6.0,SNR=11						
SEY	**Seymchan**	**87.84**	**346**	P	**P**	**14 15 54.0**	**+0.7**
	4.4nm,0.7s,baz=132,slow=4.9,SNR=8.2						
PDAR	**Pinedale Array**	**88.50**	**42**	P	**P**	**14 15 59.3**	**+2.1**
	0.3nm,0.6s,baz=205,slow=6.6,SNR=3.6						
ILAR	**Eielson Array**	**88.97**	**12**	P	**P**	**14 15 59.6**	**+1.1**
	0.6nm,0.5s,baz=218,slow=5.9,SNR=15						
CMAR	**Chiang Mai Arr**	**92.19**	**289**	P	**P**	**14 16 15.3**	**+0.7**
	0.4nm,0.6s,baz=84,slow=3.7,SNR=4.2						
FINES	**FINESS Array B**	**137.30**	**345**	PKP	**PKPdf**	**14 22 27.1**	**+0.6**
	3.2nm,0.9s,baz=42,slow=2.3,SNR=4.9						
AKASG	**Malin Array Be**	**144.83**	**332**	PKP	**PKPdf**	**14 22 39.6**	**-0.7**
	6.6nm,0.6s,baz=42,slow=4.3,SNR=50						
BRTR	**Keskin Array B**	**148.91**	**312**	PKPbc	**PKPbc**	**14 22 52.0**	**0.0**
	2.6nm,0.6s,baz=131,slow=2.8,SNR=13						
GERES	**GERESS Array B**	**151.70**	**346**	PKPbc	**PKPbc**	**14 22 58.3**	**+0.1**
	0.5nm,0.4s,baz=50,slow=2.1,SNR=7.7						
ESDC	**Sonseca Array**	**160.73**	**19**	PKPab	**PKPab**	**14 23 48.3**	**+1.9**
	0.2nm,0.3s,baz=344,slow=5.1,SNR=3.0						

DJA 15 14:09:17.1±0.7, 9°S±7°×117°6E±°, h42km±22km, M3.5/7, MLv3.5/7, South of Bali

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IGBI	**Denpasar**	**0.85**	**315**	P	Pn	14 09 33.6	+0.9
IGBI				S	Sn	14 09 45.2	+1.2
DNP	**Denpasar**	**0.92**	**324**	P	Pn	14 09 30.6	-2.9
DNP				S	Sn	14 09 47.8	+2.2
TWSI	**Taliwang, Sumb**	**1.30**	**59**	P	Pn	14 09 38.9	+0.1
TWSI				S	Sn	14 09 55.0	0.0
JAGI	**Jajag, Banyuwa**	**1.85**	**301**	P	Pn	14 09 46.8	+0.5
JAGI				S	Sn	14 10 08.1	-0.4
PLAI	**Plampang**	**2.08**	**74**	P	Pn	14 09 50.1	+0.6
GMJI	**Gumukmas**	**2.56**	**296**	P	Pn	14 09 57.1	+1.0

*NIED **15** 14:14:00, 39°.00N×143°.10E, h8km, Mw3.6 Best double couple: M0 2.84000×10^14 NP1:φs164.00000°, δ59.00000°, λ16.00000°. NP2:φs66.00000°, δ76.00000°, λ148.00000°.*
*ISCJB **15** 14:14:29.4±0.4, 39°.01N±0°.03×143°.27E±0°.04, h10km, mb4.1/15, MS2.9/1, Error ellipse: s-maj=5.2km s-min=3.8km az=156.9*
*JMA **15** 14:14:31.4±0.1, 39°.02N×143°.10E, h7km±2km, M4.1*
*MOS **15** 14:14:32.5±1.0, 39°.07N×143°.36E, h33km, mb4.5/10, Error ellipse: s-maj=12.2km s-min=7.2km az=78.9*
*IDC **15** 14:14:35.8±4.0, 38°.99N×143°.12E, h40km±37km, mb3.7/8, mb1 3.8/10, mb1mx3.5/41, mbtmp3.9/10, ML3.7/2, MS2.7/3, Ms1 2.7/3, ms1mx2.5/36, Error ellipse: s-maj=33.4km s-min=17.7km az=93.0*
ISC 15 14:14:30.5±0.7, 39°.02N±0°.05×143°.25E±0°.05, h10km, n50, σ1s88/55, mb4.2/15, 7C-2D, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OFUJ	**Ofunato**	**1.23**	**273**	P	**Pn**	**14 14 52.4**	**-1.3**
OFUJ				S	**Sb**	**14 15 07.2**	**-2.5**
MIYJ	**Miyakonagasawa**	**1.24**	**297**	P	**Pn**	**14 14 52.7**	**-1.2**
MIYJ				S	**Sb**	**14 15 08.1**	**-1.9**
JTH	**Tanohata**	**1.41**	**311**	P	**Pb**	**14 14 55.9**	**-1.0**
JTH				S	**Sn**	**14 15 13.7**	**-1.2**
JMK	**Ichinoseki**	**1.58**	**268**	P	**Pb**	**14 14 58.2**	**-1.6**
JMK				S	**Sn**	**14 15 17.2**	**-1.8**
JOM	**Ohasama**	**1.58**	**287**	P	**Pn**	**14 14 58.1**	**-0.5**
JOM				*e*S	**Sn**	**14 15 17.4**	**-1.7**
JIO	**Ouri**	**1.59**	**250**	P	**Pn**	**14 14 58.1**	**-0.5**
JIO				*e*S	**Sn**	**14 15 16.8**	**-2.4**
JANG	**Nango**	**1.90**	**316**	P	**Pb**	**14 15 03.5**	**-1.8**
JANG				S	**Sn**	**14 15 26.9**	**-0.1**
JRG	**Rokugo**	**2.06**	**281**	P	**Pn**	**14 15 06.1**	**-1.9**
JOU	**Okura**	**2.12**	**253**	*e*S	**Sn**	**14 15 32.5**	**0.0**
JYK	**Kaneyama**	**2.25**	**268**	P	**Pb**	**14 15 08.9**	**-2.4**
JYK				*e*S	**Sn**	**14 15 36.1**	**+0.5**
JAH	**Hinai**	**2.33**	**301**	P	**Pb**	**14 15 10.0**	**-2.6**
JAH				S	**Sb**	**14 15 39.2**	**-2.2**
JTM	**Tenmabayashi**	**2.43**	**317**	P	**Pb**	**14 15 11.9**	**-2.5**
JTM				*e*S	**Sb**	**14 15 41.7**	**-2.7**
ERM	**Erimo**	**3.00**	**359**	*c* *i*P	**Pn**	**14 15 18.2**	**+0.2**
MJA0	**Matsu Arr-Jizo**	**4.67**	**240**	*e*P	**Pn**	**14 15 44.2**	**+3.1**
MJA0				pmax	pmax		
	comp=Z,2.0nm,0.3s						
MJAR	**Matsushiro Arr**	**4.69**	**240**	Pn	**Pn**	**14 15 44.0**	**+2.6**
	comp=Z,1.6nm,0.3s,baz=49,slow=10,SNR=19						
MAJO	**Matsushiro**	**4.69**	**240**	*c* *i*P	**Pn**	**14 15 44.3**	**+2.9**
MAT	**Matsushiro**	**4.69**	**240**	P	**Pn**	**14 15 44.3**	**+2.9**
MAT				*e*S	**Sn**	**14 16 36.1**	**+0.2**
YUK	**Yuzh-Kuril'sk**	**5.38**	**21**	⇑ *i*P	**Pn**	**14 15 50.1**	**-0.7**
JHJ	**Hachijo jima 2**	**6.52**	**207**	Pn	**Pn**	**14 16 06.2**	**-0.3**
	comp=Z,11nm,0.3s,baz=77,slow=14,SNR=7.0						
JHJ				Sn	**Sn**	**14 17 15.3**	**-5.6**
	comp=Z,4.3nm,0.3s,baz=73,slow=19,SNR=2.3						
JHJ				LR	LR	14 19 08.3	
	comp=Z,46nm,18.2s,baz=301,slow=42						
KUR	**Kuril'sk**	**7.10**	**27**	⇓ *i*P	**Pn**	**14 16 14.0**	**-0.3**
KUR				*e*S	**Sn**	**14 17 30.9**	**-4.1**
KUR				smax	smax		
	comp=E,34nm,0.5s						
KUR				smax	smax		
	comp=N,12nm,0.3s						
YSS	**Yuzh-Sakhalins**	**7.94**	**358**	⇑ *i*P	**Pn**	**14 16 26.8**	**+0.9**
VLA	**Vladivostok**	**9.51**	**299**	*e*P	**Pn**	**14 16 49.7**	**+2.3**
KSRS	**Korea Array**	**12.15**	**267**	LR	LR	14 21 53.6	
	comp=N,26nm,19.8s,baz=48,slow=36						
SKR	**Severo-Kuril's**	**14.78**	**34**	*e*P	**Pn**	**14 17 58.8**	**-0.7**
PET	**Petropavlovsk**	**17.57**	**32**	*e*P	**Pn**	**14 18 34.5**	**-0.8**
MA2	**Magadan**	**21.13**	**11**	*e*P	**P**	**14 19 16.3**	**+1.1**
SEY	**Seymchan**	**24.58**	**10**	P	**P**	**14 19 52.2**	**+1.9**
	comp=N,3.5nm,0.6s,baz=183,slow=9.8,SNR=9.3						
ULN	**Ulaanbaatar**	**27.51**	**301**	⇑ *i*P	**P**	**14 20 18.5**	**+1.2**
ULN				pmax	pmax		
	comp=Z,6.0nm,2.3s						
SONM	**Songino Array**	**27.95**	**300**	P	**P**	**14 20 22.0**	**+0.9**
	comp=Z,0.6nm,0.7s,baz=85,slow=8.6,SNR=4.3						
SONM	**Songino Array**	**27.95**	**300**	*e*P	**P**	**14 20 22.3**	**+1.2**
SONM				pmax	pmax		
	comp=Z,1.0nm,0.7s						
H11N2	**WAKE ISLAND Hy**	**28.04**	**126**	T	T	14 49 38.0	
	baz=319,slow=74,SNR=82						
H11N1	**WAKE ISLAND Hy**	**28.05**	**127**	T	T	14 49 38.0	
	baz=319,slow=74,SNR=60						
H11N3	**WAKE ISLAND Hy**	**28.06**	**126**	T	T	14 49 38.9	
	baz=319,slow=74,SNR=86						
H11S1	**WAKE ISLAND Hy**	**28.84**	**128**	T	T	14 50 40.6	
	baz=321,slow=76,SNR=8.1						
H11S3	**WAKE ISLAND Hy**	**28.84**	**128**	T	T	14 50 39.5	
	baz=321,slow=76,SNR=6.0						
H11S2	**WAKE ISLAND Hy**	**28.86**	**128**	T	T	14 50 40.6	
	baz=321,slow=76,SNR=7.3						
TLY	**Talaya**	**30.19**	**308**	LR	LR	14 33 06.8	
	comp=Z,25nm,18.6s,baz=148,slow=37						
TLY	**Talaya**	**30.19**	**308**	*e*P	**P**	**14 20 41.4**	**+0.6**
TLY				pmax	pmax		
	comp=Z,6.0nm,0.6s						
TIXI	**Tiksi**	**33.52**	**352**	⇑ *i*P	**P**	**14 21 11.2**	**+1.5**
TIXI				pmax	pmax		
	comp=Z,16nm,1.7s						
ZALV	**Zalesovo Beam**	**41.68**	**311**	P	**P**	**14 22 19.4**	**+0.4**
	comp=Z,9.9nm,0.4s,baz=86,slow=8.0,SNR=3.7						
KURK	**Kurchatov**

ASAJ S **Sn** **14 27 08.7 +6.0**
comp=Z,4.9nm,0.3s,baz=270,slow=34,SNR=1.9
ASAJ **Asahikawa** **4.40 2** *e*Pn **Pn** **14 26 13.9 +1.1**
ASAJ *e*Sn **Sn** **14 27 00.1 -2.6**
ASAJ S **Sn** **14 27 08.7 +6.0**
MJAR **Matsushiro Arr** **4.56 227** P **Pn** **14 26 17.7 +2.6**
comp=Z,7.2nm,0.3s,baz=30,slow=13,SNR=110
MJAR LR LR 14 28 19.4
comp=Z,198nm,20.7s,baz=55,slow=42
MJB9 **Matsu-Tunnel** **4.56 227** *e*Pn **Pn** **14 26 16.5 +1.4**
MAJO **Matsushiro** **4.56 227** *d iP* **Pn** **14 26 16.7 +1.6**
MAJO **Matsushiro** **4.56 227** *e*Pn **Pn** **14 26 15.7 +0.6**
MAJO *e*Sn **Sn** **14 27 06.5 -0.2**
MAT **Matsushiro** **4.56 227** P **Pn** **14 26 16.9 +1.8**
MAT *e*S **Sn** **14 27 12.7 +5.9**
YUK **Yuzh-Kuril'sk** **5.04 30** *i* P **Pn** **14 26 22.6 +1.0**
YUK *i* S **Sn** **14 27 17.0 -1.6**
INU **Inuyama** **6.09 226** *e*Pn **Pn** **14 26 37.8 +1.7**
KUR **Kuril'sk** **6.85 35** *e*P **Pn** **14 26 46.6 +0.2**
KUR *e*S **Sn** **14 28 00.7 -2.3**
KUR smax smax
comp=N,77nm,0.6s
KUR smax smax
comp=E,32nm,0.6s
JHJ **Hachijo jima 2** **6.91 198** P **Pn** **14 26 49.5 +2.2**
comp=E,12nm,0.3s,baz=92,slow=21,SNR=5.4
JHJ S **Sn** **14 27 59.4 -5.2**
comp=E,15nm,0.3s,baz=53,slow=20,SNR=2.9
YSS **Yuzh-Sakhalins** **7.24 2** *e*P **Pn** **14 26 49.0 -2.7**
YSS *e* 14 28 14.9
YSS **Yuzh-Sakhalins** **7.24 2** Pn **Pn** **14 26 49.7 -2.0**
comp=E,12nm,0.6s
VLA **Vladivostok** **8.57 297** *i* P **Pn** **14 27 12.0 +2.0**
MSHR **Mys Shultsa** **8.92 292**⇑ *iP* **Pn** **14 27 17.0 +2.2**
USRK **Ussuriysk Ar.** **8.93 303** P **Pn** **14 27 17.1 +2.3**
comp=E,1.3nm,0.3s,baz=112,slow=15,SNR=16
USRK LR LR 14 30 35.0
comp=E,195nm,18.8s,baz=140,slow=36
HABR **Khabarovsk** **10.20 331** *e*P **Pn** **14 27 30.0 -2.3**
HABR *e*S **Sn** **14 29 21.4 -3.8**
HABR pmax pmax
comp=N,9.0nm,1.4s
HABR pmax pmax
comp=E,8.0nm,1.4s
HABR pmax pmax
comp=E,12nm,1.2s
HABR MLR MLR
comp=Z,99nm,14.0s
MDJ **Mudanjiang** **10.66 301** P **Pn** **14 27 36.0 -2.6**
MDJ ScP **ScP** **14 37 10.0 +3.4**
MDJ pmax pmax
comp=Z,1.0nm,0.5s
MDJ pmax pmax
comp=Z,61nm,4.3s
MDJ **Mudanjiang** **10.66 301** *e*Pn **Pn** **14 27 37.5 -1.2**
JNU **Nakatsue** **11.35 238** P **Pn** **14 27 48.3 +0.2**
comp=Z,0.3nm,0.3s,baz=131,slow=7.4,SNR=3.0
KSRS **Korea Array** **11.52 263** P **Pn** **14 27 52.8 +2.4**
comp=Z,1.6nm,0.3s,baz=73,slow=14,SNR=20
KSRS LR LR 14 31 52.6
comp=Z,100nm,20.4s,baz=92,slow=35
KS01 **Wonju Array Si** **11.54 263** *e*Pn **Pn** **14 27 53.3 +2.6**
KS15 **Wonju Array Si** **11.56 263** *e*Pn **Pn** **14 27 50.0 -0.9**
KSAR **Wonju Array Be** **11.56 263** P **Pn** **14 27 52.8 +1.9**
KSAR **Wonju Array Be** **11.56 263** P **Pn** **14 27 52.8 +1.9**
PETK **Petropavlovsk-** **17.01 33** LR LR 14 35 28.9
comp=Z,34nm,21.7s,baz=224,slow=36
PET **Petropavlovsk** **17.36 35**⇑ *iP* **Pn** **14 29 05.3 -2.0**
PET pmax pmax
comp=Z,23nm,1.5s
BJI **Beijing** **20.08 279** P **P** **14 29 36.0 -2.0**
BJI pmax pmax
comp=Z,9.0nm,0.8s
TIA **Tai'an** **20.18 268** *e*P **P** **14 29 38.3 -0.8**
TIA pmax pmax
comp=Z,20nm,1.0s
NJ2 **Nanjing** **20.49 255** *e*P **P** **14 29 40.8 -1.6**
NJ2 pmax pmax
comp=Z,17nm,0.7s
MA2 **Magadan** **20.57 12** P **P** **14 29 43.2 0.0**
comp=Z,7.9nm,0.8s,baz=209,slow=7.8,SNR=5.4
HHC **Hu-ho-hao-te** **23.46 283** *e*P **P** **14 30 12.3 -1.6**
HHC pmax pmax
comp=Z,13nm,0.9s
HHC pmax pmax
comp=Z,93nm,5.0s
SEY **Seymchan** **24.02 11** P **P** **14 30 19.3 +0.7**
comp=Z,11nm,1.0s,baz=197,slow=7.9,SNR=13
BOD **Bodaibo** **25.72 324** *e*P **P** **14 30 32.1 -2.1**
BOD pmax pmax
comp=Z,8.0nm,1.0s
ULN **Ulaanbaatar** **26.57 300**⇑ *e*P **P** **14 30 42.0 -0.2**
ULN pmax pmax
comp=Z,3.0nm,0.7s
SONA1 **Songino Array** **27.00 299** *e*P **P** **14 30 44.5 -1.6**
SONM **Songino Array** **27.01 299** P **P** **14 30 46.5 +0.4**
comp=Z,2.8nm,0.7s,baz=88,slow=9.0,SNR=14
SONM LR LR 14 41 57.9
comp=Z,112nm,18.7s,baz=74,slow=37
H11N2 **WAKE ISLAND Hy** **29.01 126** T T 15 01 37.0
baz=318,slow=75,SNR=913
H11N1 **WAKE ISLAND Hy** **29.02 126** T T 15 01 36.7
baz=318,slow=75,SNR=970
H11N3 **WAKE ISLAND Hy** **29.03 126** T T 15 01 38.4
baz=318,slow=75,SNR=779
TLY **Talaya** **29.22 307** P **P** **14 31 05.4 -0.2**
comp=Z,2.5nm,0.8s,baz=82,slow=4.6,SNR=4.4
TLY **Talaya** **29.22 307** *e*P **P** **14 31 06.6 +1.0**
TLY pmax pmax
comp=Z,6.0nm,0.5s
TLY MLR MLR
comp=Z,69nm,19.0s
ZAK **Zakamensk** **29.27 304** *e*P **P** **14 31 05.9 -0.4**
ZAK pmax pmax
comp=Z,6.0nm,1.1s
H11S1 **WAKE ISLAND Hy** **29.81 128** T T 15 02 39.3
baz=320,slow=76,SNR=87
H11S3 **WAKE ISLAND Hy** **29.82 128** T T 15 02 37.5
baz=320,slow=76,SNR=76
H11S2 **WAKE ISLAND Hy** **29.83 128** T T 15 02 38.6
baz=320,slow=76,SNR=84
LZH **Lanzhou** **30.45 276** *e*P **P** **14 31 21.0 +4.2**
LZH pP pP 14 31 30.3 +0.9
LZH sP sP 14 31 33.5 -1.6
LZH pmax pmax
comp=Z,20nm,1.3s
LZH pmax pmax
comp=Z,96nm,4.5s
BILL **Bilibino** **31.24 17**⇓ *e*P **P** **14 31 23.7 +0.4**
BILL *PP **pP** **14 31 38.0 +2.2**
BILL *SP **sP** **14 31 47.0 +5.4**
BILL *e* 14 32 28.3
BILL S S 14 36 15.0 -11
BILL pmax pmax
comp=Z,4.0nm,0.4s
GYA **Guiyang** **32.48 257** *e*P **P** **14 31 35.0 +0.3**
GYA pmax pmax
comp=Z,10.0nm,0.9s
CD2 **Chengdu** **32.50 266** *e*P **P** **14 31 36.0 +1.2**
CD2 pmax pmax
comp=Z,10.0nm,1.0s
GTA **Gaotai** **32.57 283** *e*P **P** **14 31 36.1 +0.6**
GTA pP pP 14 31 45.8 -2.2
GTA sP sP 14 31 50.0 -3.7
GTA S **S** **14 36 45.3 -2.4**
GTA pmax pmax
comp=Z,4.0nm,1.1s
GTA pmax pmax
comp=Z,53nm,6.4s
GTA LR LR
comp=Z,67nm,14.5s
GTA LR LR
comp=Z,130nm,16.4s
GTA LR LR
comp=Z,170nm,16.2s
TIXI **Tiksi** **32.72 352**⇑ *iP* **P** **14 31 35.5 -0.7**
TIXI pmax pmax
comp=Z,6.0nm,0.8s
KMI **Kunming** **36.16 258** P **P** **14 32 07.4 +0.6**
KMI pmax pmax
comp=Z,6.0nm,0.7s
KMI LR LR
comp=Z,72nm,10.0s
KMI LR LR
comp=Z,86nm,13.1s

SLVN **Son La** **37.50 252** *e*P **P** **14 32 17.0 -1.0**
comp=Z,4.3nm,0.9s
WMQ **Urumqi** **40.35 294** P **P** **14 32 42.3 +0.7**
WMQ pP pP 14 32 52.8 -1.6
WMQ sP sP 14 32 55.8 -4.3
WMQ PcP **PcP** **14 34 41.4 -2.7**
WMQ S **S** **14 38 47.3 +1.2**
WMQ pmax pmax
comp=Z,16nm,0.9s
WMQ pmax pmax
comp=Z,65nm,4.9s
WMQ LR LR
comp=Z,110nm,5.9s
WMQ LR LR
comp=Z,85nm,5.9s
ZAA0 **Zalesovo Array** **40.70 310** *e*P **P** **14 32 43.7 -0.6**
ZALV **Zalesovo Beam** **40.70 310** P **P** **14 32 44.3 0.0**
comp=Z,4.1nm,0.4s,baz=90,slow=8.1,SNR=16
ZALV PcP **PcP** **14 34 45.2 +0.3**
comp=Z,0.9nm,0.4s,baz=74,slow=2.3,SNR=3.3
ZALV LR LR 14 50 23.5
comp=Z,63nm,18.2s,baz=255,slow=37
NRIK **Noril'sk** **41.16 334** LR LR 14 50 42.7
comp=Z,84nm,19.7s,baz=127,slow=37
CMAR **Chiang Mai Arr** **42.94 253** P **P** **14 33 02.9 0.0**
comp=Z,1.0nm,0.6s,baz=44,slow=6.9,SNR=8.3
MK01 **Makanchi Array** **43.37 300** *e*P **P** **14 33 05.8 -0.4**
MK31 **Makanchi Array** **43.37 300** *ce*P **P** **14 33 05.5 -0.7**
MK31 pmax pmax
comp=Z,5.0nm,0.7s
MK31 **Makanchi Array** **43.37 300** *e*P **P** **14 33 05.2 -1.0**
MKAR **Makanchi Array** **43.37 300** *e*P **P** **14 33 05.5 -0.7**
MKAR pmax pmax
comp=Z,35nm,0.6s
MKAR **Makanchi Array** **43.37 300** *e*P **P** **14 33 05.5 -0.7**
comp=Z,34nm,0.6s
MAKZ **Makanchi** **43.58 300** *i* P **P** **14 33 06.6 -1.2**
MAKZ pmax pmax
comp=Z,6.0nm,0.8s
MAKZ **Makanchi** **43.58 300** *e*P **P** **14 33 07.6 -0.2**
comp=Z,10nm,1.3s
KURK **Kurchatov** **44.90 306** *ce*P **P** **14 33 18.0 -0.3**
KURK pmax pmax
comp=Z,45nm,1.1s
KURK **Kurchatov** **44.90 306** *e*P **P** **14 33 17.5 -0.8**
PDGK **Podgornoye** **46.22 296** *i* P **P** **14 33 28.2 -0.8**
PDGK pmax pmax
comp=Z,4.0nm,0.6s
COLA **College** **46.42 34** *e*P **P** **14 33 28.3 -1.8**
COLA pmax pmax
comp=Z,2.0nm,1.1s
ILAR **Eielson Array** **46.84 34** P **P** **14 33 34.5 +1.1**
comp=Z,0.9nm,0.7s,baz=265,slow=5.8,SNR=19
ILB **Eielson Array** **46.84 34** *e*P **P** **14 33 35.0 +1.6**
ODAN **Odare** **47.03 272** *e*P **P** **14 33 35.7 0.0**
RAMN **Ramite** **47.60 272** *e*P **P** **14 33 40.2 +0.1**
GUN **Gumba** **47.68 274** *e*P **P** **14 33 40.9 +0.1**
KKN **Kakani** **48.20 274** *e*P **P** **14 33 44.8 +0.1**
comp=Z,25nm,0.8s
PKIN **Phulchoki** **48.21 274** *e*P **P** **14 33 44.5 -0.4**
RAGM **Ragged Mountai** **48.34 39** *e*P **P** **14 33 48.8 +3.7**
comp=Z,106nm,0.7s
DMN **Daman** **48.42 274** *e*P **P** **14 33 46.8 +0.3**
GKN **Gorkha** **48.59 275** *e*P **P** **14 33 47.5 -0.1**
comp=Z,111nm,0.3s
TKM2 **Tokmak 2** **49.05 297** *i* P **P** **14 33 50.0 -1.0**
TKM2 pmax pmax
comp=Z,5.0nm,0.6s
BRVK **Borovoye** **49.40 311** *ce*P **P** **14 33 53.4 +0.1**
BRVK pmax pmax
comp=Z,14nm,1.1s
BRVK **Borovoye** **49.40 311** *e*P **P** **14 33 53.0 -0.4**
comp=Z,6.4nm,1.1s
KOLN **Kolanda** **49.50 275** *e*P **P** **14 33 54.6 -0.1**
comp=Z,13nm,0.6s
PYUN **Piuthan** **49.80 276** *e*P **P** **14 33 57.1 +0.1**
comp=Z,21nm,0.5s
AAK **Ala-Archa** **49.91 297**⇑ *iP* **P** **14 33 56.0 -1.5**
AAK pmax pmax
comp=Z,7.0nm,0.7s
KSH **Kashi** **50.03 292** *e*P **P** **14 34 01.3 +2.8**
KSH sP sP 14 34 15.3 -1.9
KSH PP **PP** **14 35 57.5 +3.9**
KSH S **S** **14 41 07.8 +1.8**
KSH sS sS 14 41 24.8 -3.2
KSH pmax pmax
comp=Z,65nm,5.1s
KSH LR LR
comp=Z,190nm,6.0s
KSH LR LR
comp=Z,110nm,7.6s
KSH LR LR
comp=Z,120nm,5.1s
MNAS **Manas** **51.33 297** *i* P **P** **14 34 07.9 -0.3**
MNAS pmax pmax
comp=Z,7.0nm,0.5s
INK **Inuvik** **51.67 28** P **P** **14 34 11.9 +1.8**
comp=Z,1.0nm,0.4s,baz=306,slow=4.1,SNR=6.6
KK31 **Karatay Array** **52.46 299** *ce*P **P** **14 34 16.1 -0.4**
KK31 pmax pmax
comp=Z,4.0nm,0.7s
KKAR **Karatay Array** **52.46 299** *e*P **P** **14 34 16.0 -0.5**
KKAR pmax pmax
comp=Z,39nm,0.8s
KKAR **Karatay Array** **52.46 299** *e*P **P** **14 34 16.0 -0.5**
comp=Z,38nm,0.8s
SVE **Sverdlovsk** **53.65 318** *e*P **P** **14 34 25.6 +0.6**
SVE pmax pmax
comp=Z,20nm,0.8s
ARU **Arti** **54.86 318** *c iP* **P** **14 34 33.8 0.0**
ARU *PP **sP** **14 34 50.8 -1.8**
ARU 14 35 30.8
ARU 14 36 34.2
ARU S **S** **14 42 11.7 +0.4**
ARU SS **SS** **14 45 53.1 -1.4**
ARU pmax pmax
comp=Z,20nm,1.0s
ARU **Arti** **54.86 318** *e*P **P** **14 34 33.3 -0.5**
comp=Z,15nm,0.8s
AB31 **Akbulak array** **56.80 309** *ce*P **P** **14 34 47.3 -0.5**
AB31 pmax pmax
comp=Z,5.0nm,0.5s
ABKAR **Akbulak array** **56.80 309** *e*P **P** **14 34 46.4 -1.4**
comp=Z,81nm,0.6s
KBL **Kabul** **57.18 290** *e*P **P** **14 34 50.7 -0.3**
KBL pmax pmax
comp=Z,8.0nm,0.9s
KBL **Kabul** **57.18 290** *e*P **P** **14 34 50.6 -0.3**
comp=Z,8.0nm,0.9s
WRAB **Tennant Creek** **59.81 189**⇑ *iP* **P** **14 35 07.2 -1.8**
WRA **Warramunga Arr** **59.82 189** P **P** **14 35 08.8 -0.3**
comp=Z,2.8nm,0.6s,baz=6.4,slow=7.0,SNR=52
YKA **Yellowknife Ar** **61.12 31** P **P** **14 35 18.4 +0.9**
comp=Z,0.3nm,0.7s,baz=304,slow=5.9,SNR=3.3
ARCES **ARCESS Array B** **61.75 339** LR LR 15 05 42.8
comp=Z,32nm,18.7s,baz=268,slow=39
GEYT **Alibeck** **63.20 298** P **P** **14 35 31.5 -0.4**
comp=Z,6.2nm,0.7s,baz=37,slow=7.6,SNR=5.0
ASAR **Alice Springs** **63.55 189** P **P** **14 35 34.4 +0.2**
comp=Z,1.4nm,0.7s,baz=6.0,slow=7.0,SNR=24
OBN **Obninsk** **66.40 323**⇓ *e*P **P** **14 35 52.5 +0.2**
OBN *e* 14 45 16.1
OBN pmax pmax
comp=Z,17nm,1.2s
OBN MLR MLR
comp=Z,48nm,15.0s
FINES **FINESS Array B** **66.79 332** P **P** **14 35 54.8 +0.1**
comp=Z,3.1nm,0.6s,baz=90,slow=5.7,SNR=13
FINES LR LR 15 06 10.6
comp=Z,40nm,18.2s,baz=46,slow=37
KIV **Kislovodsk** **69.72 311** *e*P **P** **14 36 14.0 +0.5**
KIV pmax pmax
comp=Z,17nm,0.9s
KIV MLR MLR
comp=Z,22nm,17.0s
KIV **Kislovodsk** **69.72 311** *e*P **P** **14 36 14.0 +0.5**
comp=Z,20nm,1.0s
KBZ **Khabaz** **69.72 310** P **P** **14 36 14.4 +1.0**
comp=Z,5.2nm,0.9s,baz=11,slow=3.4,SNR=10
NB2 **NORSAR Subarra** **72.00 337** P **P** **14 36 27.1 +0.2**
comp=Z,1.0nm,0.5s,baz=36,slow=6.5
NOA **NORSAR Array B** **72.00 337** P **P** **14 36 27.2 +0.2**
comp=Z,0.9nm,0.4s,baz=49,slow=5.5,SNR=4.7
NOA LR LR 15 10 45.3
comp=Z,20nm,21.9s,baz=50,slow=38
AKASG **Malin Array Be** **72.63 322** P **P** **14 36 30.8 0.0**
comp=Z,4.1nm,0.4s,baz=44,slow=6.3,SNR=27
AKBB **Malin Array Si** **72.63 322** *e*P **P** **14 36 30.9 +0.1**
AKBB pmax pmax
comp=Z,9.0nm,1.1s
AKBB **Malin Array Si** **72.63 322** *e*P **P** **14 36 30.9 +0.1**
comp=Z,9.1nm,1.1s
KIEV **Kiev** **72.64 322**⇑ *iP* **P** **14 36 30.8 -0.1**
KIEV pmax pmax
comp=Z,8.0nm,1.1s
KIEV **Kiev** **72.64 322** *e*P **P** **14 36 30.8 -0.1**
comp=Z,8.7nm,1.1s
AK11 **Malin Array Si** **72.67 322** *e*P **P** **14 36 30.8 -0.3**
PDAR **Pinedale Array** **75.27 46** P **P** **14 36 47.4 +0.7**
comp=Z,0.4nm,0.6s,baz=260,slow=0.7,SNR=5.4
BUR08 **Bucovina Ar. S** **76.65 322** *e*P **P** **14 36 54.4 0.0**
BRTR **Keskin Array B** **77.63 312** P **P** **14 37 00.2 +0.2**
comp=Z,0.7nm,0.5s,baz=56,slow=4.6,SNR=3.6
BRTR **Keskin Array B** **77.63 312** *ce*P **P** **14 36 59.7 -0.3**
BRTR pmax pmax
comp=Z,1.0nm,0.5s
CLL **Collm** **79.14 330** *e*P **P** **14 37 08.0 +0.1**
KHC **Kasperske Hory** **80.64 329** *e*P **P** **14 37 16.8 +0.6**
KHC **Kasperske Hory** **80.64 329** *e*P **P** **14 37 16.8 +0.6**
GERES **GERESS Array B** **80.82 328** P **P** **14 37 17.5 +0.3**
comp=Z,0.4nm,0.3s,baz=37,slow=5.0,SNR=5.0
PPT **Papeete** **85.19 117** LR LR 15 05 56.0
comp=Z,21nm,22.0s,baz=352,slow=29
SNAA **Sanae** **143.53 198** PKP PKPbc 14 44 34.0 -0.3
VNA2 **Neumayer--Watz** **145.10 197** PKP **PKPdf** **14 44 39.7 +0.2**
baz=92,slow=1.7
VNA3 **Neumayer Olymp** **145.35 195** PKP **PKPbc** **14 44 39.2 -0.7**

*ATH **15** 14:44:58.6, 38°.75N×21°.09E, h17km±4km, ML1.9/3, Error ellipse: s-maj=4.2km s-min=1.4km az=202.0*
*CSEM **15** 14:44:58.4±0.2, 38°.79N×21°.08E, h2km, ML1.9, Error ellipse: s-maj=4.7km s-min=3.4km az=149.0*
THE 15 14:44:58.8, 38°.76N×21°.07E, h5km±9km, ML1.8/4, Error ellipse: s-maj=9.6km s-min=0.6km az=170.0, Greece

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PDO	**Prodromos**	**0.18**	**152**	P	Pg	14 45 02.0	-0.4
PDO				S	Sg	14 45 05.2	+0.4
PDO	**Prodromos**	**0.18**	**152**	P	Pg	14 45 02.0	-0.4
PDO				S	Sg	14 45 05.2	+0.4
PDO	**Prodromos**	**0.18**	**152**	P	Pg	14 45 01.0	-1.4
PDO				S	Sg	14 45 07.5	+2.7
LKD2	**Lefkada island**	**0.33**	**275**	P	Pg	14 45 05.3	+0.2
LKD2				S	Sg	14 45 09.9	+0.5
LKD2	**Lefkada island**	**0.33**	**275**	P	Pg	14 45 04.9	-0.2
LKD2				S	Sg	14 45 09.9	+0.5
LKD2	**Lefkada island**	**0.33**	**275**	P	Pg	14 45 04.9	-0.2
LKD2				S	Sb	14 45 12.1	-0.7
PVO	**Paravola**	**0.38**	**112**	P	Pg	14 45 06.0	-0.2
PVO				S	Sg	14 45 11.8	+0.6
PVO	**Paravola**	**0.38**	**112**	P	Pg	14 45 05.6	-0.6
PVO				S	Sg	14 45 11.8	+0.6
PVO	**Paravola**	**0.38**	**112**	P	Pg	14 45 05.6	-0.6
PVO				S	Sg	14 45 12.6	+1.4
PVO				AML	AML	14 45 12.9	
	comp=E,835μm,0.3s						
PVO				AML	AML	14 45 13.9	
	comp=N,641μm,0.4s						
EVR	**Evrytania**	**0.59**	**75**	P	Pg	14 45 09.4	-0.8
EVR				S	Sg	14 45 19.1	+1.1
EVR	**Evrytania**	**0.59**	**75**	P	Pg	14 45 09.4	-0.8
EVR				S	Sg	14 45 19.1	+1.1
EVR	**Evrytania**	**0.59**	**75**	P	Pg	14 45 11.0	+0.7
AXS	**Araxos**	**0.61**	**157**	P	Pg	14 45 10.6	+0.1
AXS	**Araxos**	**0.61**	**157**	P	Pg	14 45 10.7	+0.1
AXS	**Araxos**	**0.61**	**157**	P	Pg	14 45 10.7	+0.1
KFL	**Anninata**	**0.69**	**199**	P	Pg	14 45 13.4	+0.1
KFL	**Anninata**	**0.69**	**199**	P	Pb	14 45 13.3	0.0
VLS	**Valsamata**	**0.70**	**213**	P	Pg	14 45 11.3	-0.9
VLS				S	Sb	14 45 22.5	-0.9
VLS	**Valsamata**	**0.70**	**213**	P	Pg	14 45 11.3	-0.9
VLS				S	Sg	14 45 22.0	+0.8
VLS	**Valsamata**	**0.70**	**213**	P	Pg	14 45 10.6	-1.6
VLS				S	Sg	14 45 22.0	+0.8
VLS				AML	AML	14 45 23.1	
	comp=E,121μm,0.3s						
VLS				AML	AML	14 45 24.6	
	comp=N,120μm,0.2s						
RLS	**Riolos of Patr**	**0.77**	**156**	P	Pg	14 45 13.8	+0.3
RLS	**Riolos of Patr**	**0.77**	**156**	P	Pg	14 45 13.8	+0.2
DRO	**Drossia**	**0.95**	**148**	P	Pg	14 45 17.0	0.0
DRO				S	Sg	14 45 28.4	-0.9
DRO	**Drossia**	**0.95**	**148**	P	Pg	14 45 16.9	-0.1
DRO				S	Sg	14 45 28.4	-0.9
DRO				AML	AML	14 45 33.9	
	comp=E,252μm,0.4s						
DRO				AML	AML	14 45 34.2	
	comp=N,182μm,0.5s						
AGG	**Agios Georgios**	**1.01**	**75**	P	Pg	14 45 18.2	-0.1
AGG	**Agios Georgios**	**1.01**	**75**	P	Pg	14 45 18.2	0.0
THL	**Klokotos Trika**	**1.08**	**42**	P	Pg	14 45 18.5	-1.1
THL	**Klokotos Trika**	**1.08**	**42**	P	Pg	14 45 18.5	-1.1
KLV	**Kalavryta, Ach**	**1.11**	**130**	P	Pg	14 45 20.0	-0.1
KLV	**Kalavryta, Ach**	**1.11**	**130**	P	Pg	14 45 20.0	-0.1

*CSEM **15** 14:45:16.5±0.7, 37°.16N×37°.30E, h2km, MD2.8, Error ellipse: s-maj=25.3km s-min=14.4km az=3.0*
*ISK **15** 14:45:16.2, 37°.18N×37°.27E, h5km, MD2.8*
*DDA **15** 14:45:19.4, 37°.11N×37°.13E, h7km, Md2.4*
ISC 15 14:45:16.7±1.4, 37°.17N±0°.07×37°.25E±0°.04, h1km±10km, n12, σ0°.62/19, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GAZ	**Gaziantep**	**0.03**	**272**	*e*PG	**Pg**	**14 45 17.3**	**0.0**
GAZ				*e*SG	**Sg**	**14 45 18.0**	**+0.3**
GAZ	**Gaziantep**	**0.03**	**272**	*e*Pg	**Pg**	**14 45 17.3**	**0.0**
GAZ				*e*Sg	**Sg**	**14 45 18.0**	**+0.3**
GZT	**Gaziantep**	**0.31**	**54**	*i* P	**Pn**	**14 45 28.1**	**-0.4**
HCB	**Kahramanmara¸**	**0.32**	**303**	*i* P	**Pb**	**14 45 24.2**	**-1.0**
KAMA	**Osmaniye**	**0.46**	**272**	*i* P	**Pb**	**14 45 26.9**	**-0.8**
KAMA				*i* S	**Sg**	**14 45 32.9**	**+1.3**
ANDN	**Andirin**	**0.83**	**300**	*i* P	**Pn**	**14 45 35.0**	**-0.6**
ANDN				*i* S	**Sb**	**14 45 46.3**	**+0.7**
ANDN	**Andirin**	**0.83**	**300**	P	**Pn**	**14 45 35.0**	**-0.6**
ANDN				S	**Sb**	**14 45 46.3**	**+0.7**
TAHT	**Tahtakopru-Hat**	**1.17**	**227**	*e*PN	**Pn**	**14 45 40.0**	**-0.1**
TAHT	**Tahtakopru-Hat**	**1.17**	**227**	*e*Pn	**Pn**	**14 45 40.0**	**-0.1**
URFA	**Urfa**	**1.28**	**77**	*e*PN	**Pn**	**14 45 41.6**	**-0.2**
URFA				*e*SN	**Sn**	**14 46 00.0**	**+0.4**
URFA	**Urfa**	**1.28**	**77**	*e*Pn	**Pn**	**14 45 41.6**	**-0.2**
URFA				*e*Sn	**Sn**	**14 46 00.0**	**+0.4**
SARI	**SarD1z-Kayseri**	**1.40**	**332**	*e*PN	**Pg**	**14 45 44.0**	**+0.4**

*ISCJB **15** 14:46:56.5±0.6, 39°.13N±0°.05×28°.95E±0°.07, h11km±6km, Error ellipse: s-maj=11.2km s-min=5.7km az=138.9*
*CSEM **15** 14:46:56.7±0.1, 39°.13N×28°.93E, h8km, MD2.4, Error ellipse: s-maj=2.7km s-min=2.1km az=125.0*
*ISK **15** 14:46:56.0, 39°.14N×28°.92E, h7km, MD2.2*
*DDA **15** 14:47:00.3, 38°.98N×28°.71E, h6km, Md2.4*
ISC 15 14:46:56.2±1.1, 39°.09N±0°.03×28°.95E±0°.04, h16km±5km, n18, σ2°.07/26, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SIMA	**Simav-Kutahya**	**0.03**	**105**	*e*PG	**Pg**	**14 46 58.7**	**-0.5**
SIMA				*e*SG	**Sg**	**14 47 00.4**	**-0.7**
SIMA	**Simav-Kutahya**	**0.03**	**105**	*e*Pg	**Pg**	**14 46 58.7**	**-0.4**
SIMA				*e*Sg	**Sg**	**14 47 00.4**	**-0.7**
DEMI	**Demirci**	**0.19**	**256**	*i* P	**Pg**	**14 47 01.4**	**+0.6**
DEMI				*i* S	**Sg**	**14 47 04.6**	**+0.7**
DEMI	**Demirci**	**0.19**	**256**	P	**Pg**	**14 47 01.4**	**+0.6**
DEMI				S	**Sg**	**14 47 04.6**	**+0.7**
TVSB	**Tavsanli**	**0.54**	**48**	*e*PG	**Pg**	**14 47 06.7**	**-0.3**
TVSB				*e*SG	**Sg**	**14 47 13.5**	**-0.6**
TVSB	**Tavsanli**	**0.54**	**48**	*e*Pg	**Pg**	**14 47 06.7**	**-0.2**
TVSB				*e*Sg	**Sg**	**14 47 13.5**	**-0.6**
KULA	**Kula-Manisa**	**0.62**	**202**	*e*PG	**Pg**	**14 47 09.2**	**+0.8**
KULA				*e*SG	**Sg**	**14 47 18.1**	**+1.4**
KULA	**Kula-Manisa**	**0.62**	**202**	*e*Pg	**Pg**	**14 47 09.2**	**+0.8**
KULA				*e*Sg	**Sg**	**14 47 18.1**	**+1.4**
MANT	**Manisa**	**0.67**	**207**	*i* P	**Pg**	14 47 03.3	-6.2
MANT				*i* S	**Sg**	**14 47 12.2**	**-6.2**

MANT	**Manisa**	**0.67**	**207**	P	Pg	14 47 03.3	-6.2
MANT				S	**Sg**	**14 47 12.2**	**-6.2**
BALB	**Balikesir**	**0.99**	**304**	*e*PG	**Pg**	**14 47 15.1**	**-0.4**
BALB	**Balikesir**	**0.99**	**304**	*e*Pg	**Pg**	**14 47 15.1**	**-0.4**
KCTX	**Karacabey (Bur**	**1.26**	**339**	*e*PN	**Pg**	**14 47 19.7**	**-0.9**
KCTX	**Karacabey (Bur**	**1.26**	**339**	*e*Pn	**Pg**	**14 47 19.7**	**-0.9**
ARMT	**Armutlu**	**1.48**	**357**	*e*PN	**Pn**	**14 47 23.1**	**+0.9**
ARMT	**Armutlu**	**1.48**	**357**	*e*Pn	**Pn**	**14 47 23.1**	**+0.9**
GULT	**Gulveren**	**1.80**	**41**	*e*PN	**Pn**	**14 47 28.3**	**+1.5**
GULT	**Gulveren**	**1.80**	**41**	*e*Pn	**Pn**	**14 47 28.3**	**+1.5**

IDC 15 14:48:17.2±7.3, 21°.15S×172°.60W, h0km, mb3.4/3, mb1 3.7/3, mb1mx3.4/40, mbtmp3.4/3, Error ellipse: s-maj=310.0km s-min=41.8km az=143.0, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ASAR	**Alice Springs**	**49.28**	**256**	P	P	14 57 07.3	-0.9
	0.2nm,0.6s,baz=95,slow=6.6,SNR=7.9						
WRA	**Warramunga Arr**	**49.51**	**261**	P	P	14 57 10.5	+0.6
	0.2nm,0.3s,baz=100,slow=8.5,SNR=15						
ILAR	**Eielson Array**	**87.92**	**11**	P	P	15 01 08.2	-0.1
	0.1nm,0.5s,baz=205,slow=5.2,SNR=4.1						

IDC 15 14:56:18.1±1.1, 7°.95N×137°.44E, h0km, mb3.6/6, mb1 3.8/7, mb1mx3.5/35, mbtmp3.7/7, ML3.5/1, MS3.0/4, Ms1 3.0/4, ms1mx2.7/38, Error ellipse: s-maj=67.1km s-min=18.6km az=82.0

ISCJB 15 14:56:20.5±0.8, 7°.9N±0°.1×137°.5E±0°.3, h30km, mb3.6/6, MS2.8/2, Error ellipse: s-maj=47.3km s-min=12.3km az=167.2

ISC 15 14:56:22.6±0.9, 7°.9N±0°.1×137°.5E±0°.4, h30km, n17, σ1♀15/9, mb3.7/6, Western Caroline Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GUMO	**Guam**	**9.17**	**51**	LR	LR	15 02 13.3	
	comp=Z,38nm,18.2s,baz=207,slow=39						
JAY	**Jayapura**	**10.83**	**163**	Pn	**Pn**	**14 58 57.3**	**+1.6**
	0.3nm,0.3s,baz=268,slow=22,SNR=26						
JAY				Sn	**Sn**	**15 00 54.0**	**-2.1**
	0.1nm,0.3s,baz=270,slow=20,SNR=4.0						
PMG	**Port Moresby**	**19.70**	**151**	LR	LR	15 07 51.1	
	comp=Z,102nm,21.4s,baz=262,slow=35						
WRA	**Warramunga Arr**	**27.85**	**186**	P	**P**	**15 02 09.7**	**+0.1**
	0.7nm,0.6s,baz=5.0,slow=10,SNR=12						
HNR	**Honiara**	**28.22**	**127**	LR	LR	15 11 39.9	
	comp=Z,55nm,18.9s,baz=162,slow=33						
H11S3	**WAKE ISLAND Hy**	**30.25**	**67**	T	T	15 34 42.0	
	baz=253,slow=75,SNR=251						
H11S1	**WAKE ISLAND Hy**	**30.26**	**67**	T	T	15 34 43.0	
	baz=253,slow=75,SNR=146						
H11S2	**WAKE ISLAND Hy**	**30.26**	**67**	T	T	15 34 43.0	
	baz=253,slow=75,SNR=242						
KSRS	**Korea Array**	**30.68**	**345**	LR	LR	15 13 05.6	
	comp=Z,12nm,21.4s,baz=125,slow=33						
H11N1	**WAKE ISLAND Hy**	**30.79**	**65**	T	T	15 35 26.2	
	baz=254						
H11N2	**WAKE ISLAND Hy**	**30.80**	**65**	T	T	15 35 25.8	
	baz=254						
H11N3	**WAKE ISLAND Hy**	**30.81**	**65**	T	T	15 35 22.5	
	baz=254						
ASAR	**Alice Springs**	**31.57**	**186**	P	**P**	**15 02 42.2**	**-0.4**
	0.3nm,0.8s,baz=19,slow=12,SNR=9.4						
ASAR				PcP	**PcP**	**15 05 35.1**	**+0.2**
	0.2nm,0.7s,baz=26,slow=2.7,SNR=4.9						
STKA	**Stephens Creek**	**39.75**	**175**	P	**P**	**15 03 53.2**	**+0.5**
	1.9nm,1.0s,baz=343,slow=14,SNR=2.4						
SONM	**Songino Array**	**47.75**	**332**	P	**P**	**15 04 57.3**	**+0.3**
	0.6nm,0.6s,baz=135,slow=8.7,SNR=5.1						
ZALV	**Zalesovo Beam**	**62.28**	**328**	P	**P**	**15 06 41.0**	**-0.8**
	0.5nm,0.5s,baz=115,slow=6.7,SNR=4.0						
ILAR	**Eielson Array**	**76.76**	**25**	P	**P**	**15 08 10.7**	**-0.3**
	0.2nm,0.7s,baz=243,slow=6.0,SNR=2.9						

NEIC 15 15:06:00.4±0.0, 19°.33N×155°.18W, h9km, ML3.2(HVO), **After HVO., Hawaiian Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PUH	**Pauahi**	**0.06**	**319**	*e*Pg	Pg	15 06 02.4	-0.1
STCH	**Steam Cracks**	**0.07**	**43**	*e*Pg	Pg	15 06 02.7	0.0
JCUZ	**Jacuzzi**	**0.09**	**54**	*e*Pg	Pg	15 06 02.9	0.0
NPOC	**North of Pu'u**	**0.09**	**46**	*e*Pg	Pg	15 06 03.0	+0.1
KKO	**Keanakako'i**	**0.11**	**308**	*e*Pg	Pg	15 06 03.2	+0.1
RIM	**Rim**	**0.11**	**305**	*e*Pg	Pg	15 06 03.3	+0.1
BYL	**Byron's Ledge**	**0.11**	**315**	*e*Pg	Pg	15 06 03.2	0.0
HATHI	**Halema'uma'u T**	**0.12**	**319**	*e*Pg	Pg	15 06 03.3	0.0
SDHHI	**Sand Hill**	**0.12**	**297**	*e*Pg	Pg	15 06 03.5	+0.1
NPH	**North Pit**	**0.13**	**309**	*e*Pg	Pg	15 06 03.3	-0.1
SBLHI	**Steaming Bluff**	**0.13**	**318**	*e*Pg	Pg	15 06 03.4	0.0
HLP	**Hilina Pali**	**0.13**	**254**	*e*Pg	Pg	15 06 03.8	+0.4
OBL	**Observatory Le**	**0.13**	**310**	*e*Pg	Pg	15 06 03.6	+0.1
UWB	**Uwekahuna B**	**0.13**	**314**	*e*Pg	Pg	15 06 03.5	0.0
WRMHI	**West Rim**	**0.14**	**303**	*e*Pg	Pg	15 06 03.6	0.0
UWE	**Uwekahuna**	**0.14**	**309**	*e*Pg	Pg	15 06 03.7	+0.1
MLH	**Mauna Loa**	**0.26**	**309**	*e*Pg	Pg	15 06 05.7	+0.1
AIN	**Ainahou**	**0.27**	**279**	*e*Pg	Pg	15 06 06.0	+0.1
MWH	**Moku'aweowe**	**0.42**	**291**	*e*Pg	Pg	15 06 08.7	-0.2
MLOA	**Mauna Loa Obse**	**0.43**	**296**	*e*Pg	Pg	15 06 08.6	-0.4
POHA	**Pohakuloa**	**0.54**	**322**	*e*Pg	Pg	15 06 10.4	-0.5
POHA				*e*Sg	Sg	15 06 17.9	-0.2
HPAH	**Hawaii Prepara**	**0.85**	**325**	*e*Pg	Pg	15 06 14.5	-2.3
HPAH				*e*Sn	Sg	15 06 24.5	-3.4
HLK	**Haleakala**	**1.74**	**325**	*e*Pn	Pn	15 06 26.6	-4.5
HON	**Honolulu**	**3.31**	**307**	*e*Pn	Pn	15 06 49.2	-3.2
KIP	**Kipapa**	**3.38**	**308**	*e*Pn	Pn	15 06 49.8	-3.5
OPA	**Opana**	**3.54**	**312**	*e*Pn	Pn	15 06 51.6	-4.0
KEKH	**Kekaha**	**5.00**	**303**	*e*Pn	Pn	15 07 13.3	-2.2

CSEM 15 15:18:22.4±0.2, 39°.08N×29°.16E, h2km, MD2.2, Error ellipse: s-maj=5.4km s-min=2.3km az=138.0

DDA 15 15:18:27.1, 38°.92N×28°.71E, h7km, Md2.3

ISK 15 15:18:21.9, 39°.11N×29°.15E, h6km, MD2.2, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SIMA	**Simav-Kutahya**	**0.14**	**259**	*e*PG	Pg	15 18 25.3	+0.6
SIMA				*e*SG	Sg	15 18 27.3	+0.7
SIMA	**Simav-Kutahya**	**0.14**	**259**	*e*Pg	Pg	15 18 25.3	+0.6
SIMA				*e*Sg	Sg	15 18 27.3	+0.7
DEMI	**Demirci**	**0.35**	**259**	*i* P	Pg	15 18 28.7	+0.1
DEMI				*i* S	Sg	15 18 33.5	+0.3
DEMI	**Demirci**	**0.35**	**259**	P	Pg	15 18 28.7	0.0
DEMI				S	Sg	15 18 33.5	+0.3
TVSB	**Tavsanli**	**0.42**	**35**	*e*PG	Pg	15 18 30.9	+0.9
TVSB				*e*SG	Sg	15 18 36.4	+0.9
TVSB	**Tavsanli**	**0.42**	**35**	*e*Pg	Pb	15 18 30.9	-0.8
TVSB				*e*Sg	Sg	15 18 36.4	+0.9
KULA	**Kula-Manisa**	**0.71**	**213**	*e*PG	Pg	15 18 35.8	+0.3
KULA	**Kula-Manisa**	**0.71**	**213**	*e*Pg	Pg	15 18 35.8	+0.3
MANT	**Manisa**	**0.77**	**217**	*i* P	Pg	15 18 29.7	-7.1
MANT				*i* S	Sg	15 18 39.6	-7.2
ARMT	**Armutlu**	**1.47**	**351**	*e*PN	Pg	15 18 50.5	+0.4
ARMT	**Armutlu**	**1.47**	**351**	*e*Pn	Pg	15 18 50.5	+0.4

BJI 15 15:26:58.9, 36°.40N×82°.40E, h6km, mb5.0/61, mB5.4/62, ML5.7/8, Ms5.5/79, Ms7 5.2/74

IDC 15 15:27:00.5±0.3, 36°.29N×82°.53E, h0km, mb5.0/39, mb1 5.1/42, mb1mx5.0/51, mbtmp5.0/42, ML4.6/3, MS4.8/43, Ms1 4.8/43, ms1mx4.7/54, Error ellipse: s-maj=11.3km s-min=8.9km az=39.0

MOS 15 15:27:01.7±1.0, 36°.33N×82°.56E, h17km, mb5.4/97, MS4.9/59, Error ellipse: s-maj=5.8km s-min=3.4km az=128.7

ISCJB 15 15:27:02.2±0.1, 36°.32N±0°.01×82°.53E±0°.02, h18km, mb5.2/281, MS5.0/98, Error ellipse: s-maj=2.2km s-min=1.6km az=41.8

NEIC 15 15:27:03.5±0.7, 36°.36N×82°.51E, h18km±4km, mb5.3/168, Error ellipse: s-maj=3.5km s-min=2.3km az=203.0

GCMT 15 15:27:03.5±0.1, 36°.45N×82°.46E, h12km, MW5.3/100, Moment Tensor Solution. s71,c106; s100,c186; Duration: 1♀1 Moment tensor: Scale 10^17 Nm; Mrr=0.38±.02; Mθθ=0.79±.02; Mφφ 1.17±.02; Mrθ 0.14±.05; Mθφ 0.82±.02; Mφr 0.13±.04; Best double couple: M0 1.28900×10^17 NP1♂θ 245.00000°, δ89.00000°, λ-8.00000°. NP2♂φ 335.00000°, δ82.00000°, λ-179.00000°. Principal axes: T 1.4810, Plg5.0000°, Azm290.0000°; N -0.3830, Plg82.0000°, Azm58.0000°; P -1.0970, Plg7.0000°, Azm199.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.

NNC 15 15:27:05.2±1.9, 36°.65N×82°.52E, h0km, mb5.7, mpv5.5 Error ellipse: s-maj=17.6km s-min=13.8km az=97.0

ISC 15 15:27:02.8±0.4, 36°.32N±0°.03×82°.50E±0°.02, h12km±2km, h11km:pP-P, n925, σ1♀83/1074, mb5.3/303, MS5.0/107, 66C-59D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KSH	**Kashi**	**6.07**	**304**	⇑*i* Pn	**Pn**	**15 28 32.8**	**+0.3**
KSH				Sn	**Sn**	**15 29 44.8**	**+2.9**
KSH				smax	smax		
	comp=N,6μm,0.9s						
KSH				smax	smax		
	comp=E,10μm,1.0s						
SDNR	**Sundarnagar**	**6.65**	**225**	*e*P	**Pn**	**15 28 43.0**	**+2.6**
SMLA	**Simla**	**6.82**	**222**	*e*P	**Pn**	**15 28 44.1**	**+1.4**
SMLA				*e*S	**Sn**	**15 29 55.8**	**-4.5**
PTH	**Pithoragarh**	**7.02**	**197**	*ex*	Pn	15 28 52.0	+6.4
BHK	**Bhakra**	**7.04**	**228**	*ex*	Pn	15 28 50.8	+5.1
BHK				*ex*	x	15 31 06.4	
DDI	**Dehra Dun**	**7.04**	**213**	*e*P	**Pn**	**15 28 46.4**	**+0.6**
DDI				IAmb	IAmb	15 29 20.4	
	comp=Z,946nm,0.1s						
PDGK	**Podgornoye**	**7.37**	**343**	⇓Pn	**Pn**	**15 28 49.9**	**-0.5**
	comp=Z,444nm,0.7s						
PDGK				⇑Sn	**Sn**	**15 30 12.0**	**-2.1**
	comp=Z,2μm,0.5s						
PDGK				⇓Lg	Lg	15 30 50.9	
	comp=Z,6μm,0.9s						
PDGK	**Podgornoye**	**7.37**	**343**	P	**Pn**	**15 28 49.9**	**-0.5**
PDGK				S	**Sn**	**15 30 12.0**	**-2.1**
PDGK				pmax	pmax		
	comp=Z,444nm,0.7s						
PDGK				smax	smax		
	comp=Z,6μm,0.9s						
MDOK	**Medeo**	**8.02**	**330**	Pn	**Pn**	**15 28 59.4**	**+0.1**
MDOK				⇓Sn	**Sn**	**15 30 30.0**	**0.0**
MDOK				⇓Lg	Lg	15 31 10.3	
KNDC	**Almaty**	**8.10**	**330**	⇓Pn	**Pn**	**15 29 00.9**	**+0.6**
	comp=Z,292nm,1.1s						
KNDC				⇓Lg	Lg	15 31 13.8	
	comp=Z,4μm,0.8s						
AAA	**Alma-Ata**	**8.11**	**330**	*e*P	**Pn**	**15 29 01.5**	**+1.0**
AAA				*e*S	**Sn**	**15 30 40.2**	**+8.1**
AAA				pmax	pmax		
	comp=Z,257nm,0.7s						
AAA				smax	smax		
	comp=N,842nm,0.8s						
PYUN	**Piuthan**	**8.21**	**177**	*e*P	**Pn**	**15 29 00.7**	**-1.2**
	comp=N,182nm,0.8s						
TKM2	**Tokmak 2**	**8.47**	**323**	⇓Pn	**Pn**	**15 29 06.7**	**+1.2**
	comp=N,163nm,0.7s						
TKM2				⇑Lg	Lg	15 31 23.2	
	comp=N,801nm,0.7s						
WMQ	**Urumqi**	**8.48**	**26**	P	**Pn**	**15 29 04.6**	**-0.9**
WMQ				pP	pP	15 29 08.5	
WMQ				sP	sP	15 29 12.8	
WMQ				sS	Sn	15 30 47.3	+6.1
WMQ				SS	**SnSn**	**15 30 55.3**	**+2.3**
WMQ				pmax	pmax		
	comp=N,100nm,0.7s						
WMQ				pmax	pmax		
	comp=N,120nm,3.8s						
WMQ				smax	smax		
	comp=N,2μm,0.7s						
WMQ				smax	smax		
	comp=N,2μm,0.7s						
WMQ				LR	LR		
	comp=N,22μm,14.9s						
WMQ				LR	LR		
	comp=N,11μm,7.1s						
WMQ				LR	LR		
	comp=N,7μm,19.9s						
GKN	**Gorkha**	**8.49**	**167**	*e*P	**Pn**	**15 29 07.0**	**+1.3**
	comp=N,54nm,0.5s						
KOLN	**Koldanda**	**8.57**	**173**	*e*P	**Pn**	**15 29 07.3**	**+0.3**
	comp=N,260nm,0.9s						
NDI	**New Delhi**	**8.82**	**212**	*e*P	**Pn**	**15 29 11.0**	**+0.8**
KKN	**Kakani**	**8.82**	**164**	*e*P	**Pn**	**15 29 12.4**	**+2.0**
	comp=N,74nm,0.6s						
AAK	**Ala-Archa**	**8.84**	**318**	Pn	**Pn**	**15 29 11.8**	**+1.3**
	comp=N,7.4nm,0.3s,baz=139,slow=8.2,SNR=28						
AAK				Sn	**Sn**	**15 30 55.8**	**+5.8**
	comp=N,18nm,0.3s,baz=114,slow=10.0,SNR=2.1						
AAK				Lg	Lg	15 31 34.6	
	comp=N,19nm,0.3s,baz=30,slow=20,SNR=3.3						
AAK				LR	LR	15 33 02.4	
	comp=N,8μm,21.1s,baz=120,slow=41						
AAK	**Ala-Archa**	**8.84**	**318**	⇓Pn	**Pn**	**15 29 11.5**	**+1.0**
	comp=N,69nm,0.9s						
AAK				⇓Pg	Pg	15 29 41.6	-10
	comp=N,125nm,0.5s						
AAK				⇑Lg	Lg	15 31 36.4	
	comp=N,2μm,1.1s						
AAK	**Ala-Archa**	**8.84**	**318**	*d iP*	**Pn**	**15 29 11.8**	**+1.3**
AAK				MLR	MLR		
	comp=Z,12μm,17.0s						
AAK	**Ala-Archa**	**8.84**	**318**	*e*Pn	**Pn**	**15 29 11.4**	**+0.9**
AAK				Sn	**Sn**	**15 30 55.8**	**+5.8**
AAK				Lg	Lg	15 31 34.6	
AAK	**Ala-Archa**	**8.84**	**318**	P	**Pn**	**15 29 11.7**	**+1.3**
SNR=40							
GUN	**Gumba**	**8.86**	**160**	*e*P	**Pn**	**15 29 12.5**	**+1.5**
	comp=Z,456nm,0.9s						
FRU	**Bishkek**	**8.90**	**319**	*e*P	**Pn**	**15 29 12.0**	**+0.7**
FRU				pmax	pmax		
	comp=Z,2μm,1.6s						
DMN	**Daman**	**8.96**	**165**	*e*P	**Pn**	**15 29 13.5**	**+1.2**
	comp=Z,104nm,0.6s						
CEP	**Cherat**	**9.03**	**257**	P	**Pn**	**15 29 11.3**	**-1.9**
CEP				S	**Sn**	**15 30 48.0**	**-6.9**
PKIN	**Phulchoki**	**9.06**	**163**	*e*P	**Pn**	**15 29 15.2**	**+1.5**
	comp=Z,182nm,0.6s						
PKI	**Pulchoki**	**9.06**	**163**	*e*P	**Pn**	**15 29 15.3**	**+1.5**
	comp=Z,136nm,0.5s						
JIRN	**Jiri**	**9.18**	**159**	*e*P	**Pn**	**15 29 17.2**	**+1.7**
	comp=Z,208nm,0.5s						
SARP	**Sargodha**	**9.25**	**245**	P	**Pn**	**15 29 17.4**	**+1.3**
THW	**Thamme Wali**	**9.54**	**251**	P	**Pn**	**15 29 21.6**	**+1.5**
LSA	**Lhasa**	**9.81**	**130**	P	**Pn**	**15 29 27.8**	**+3.6**
LSA	**Lhasa**	**9.81**	**130**	*e*P	**Pn**	**15 29 26.7**	**+2.6**
LSA	**Lhasa**	**9.81**	**130**	*e*Pn	**Pn**	**15 29 26.7**	**+2.6**
MNAS	**Manas**	**9.88**	**312**	⇓Pn	**Pn**	**15 29 27.5**	**+2.7**
	comp=Z,112nm,1.3s						
MNAS				⇓Lg	Lg	15 32 09.2	
	comp=Z,742nm,1.2s						
MNAS	**Manas**	**9.88**	**312**	P	**Pn**	**15 29 27.5**	**+2.7**
MNAS				pmax	pmax		
	comp=Z,112nm,1.3s						
RAMN	**Ramite**	**9.97**	**158**	*e*P	**Pn**	**15 29 26.2**	**0.0**
	comp=Z,346nm,0.9s						
TAPN	**Taplejung**	**9.98**	**152**	*e*P	**Pn**	**15 29 26.6**	**+0.3**
	comp=Z,60nm,0.7s						
ODAN	**Odare**	**10.31**	**155**	*e*P	**Pn**	**15 29 30.4**	**-0.4**
	comp=Z,214nm,0.8s						
MK01	**Makanchi Array**	**10.44**	**359**	*e*Pn	**Pn**	**15 29 30.5**	**-1.8**
MK31	**Makanchi Array**	**10.47**	**359**	Pn	**Pn**	**15 29 31.4**	**-1.3**
	comp=Z,98nm,0.5s,baz=185,slow=12,SNR=1962						
MK31				Sn	**Sn**	**15 31 29.5**	**-0.4**
	comp=Z,166nm,0.6s,baz=179,slow=25,SNR=6.2						
MK31				⇑Lg	Lg	15 32 30.7	
	comp=Z,359nm,0.7s						
MK31	**Makanchi Array**	**10.47**	**359**	*e*P	**Pn**	**15 29 30.6**	**-2.1**
MK31	**Makanchi Array**	**10.47**	**359**	*e*Pn	**Pn**	**15 29 30.6**	**-2.1**
MKAR	**Makanchi Array**	**10.47**	**359**	*e*P	**Pn**	**15 29 30.5**	**-2.2**
MKAR	**Makanchi Array**	**10.47**	**359**	*e*Pn	**Pn**	**15 29 30.5**	**-2.2**
MAKZ	**Makanchi**	**10.49**	**358**	⇓Pn	**Pn**	**15 29 31.6**	**-1.3**
	comp=Z,247nm,0.9s						
MAKZ				⇓Sn	**Sn**	**15 31 25.5**	**-4.9**
	comp=Z,316nm,0.8s						
MAKZ				⇑Lg	Lg	15 32 29.7	
	comp=Z,664nm,1.1s						
MAKZ	**Makanchi**	**10.49**	**358**	*e*P	**Pn**	**15 29 30.5**	**-2.4**
MAKZ	**Makanchi**	**10.49**	**358**	*e*Pn	**Pn**	**15 29 30.5**	**-2.4**
KBL	**Kabul**	**11.12**	**265**	*e*P	**Pn**	**15 29 41.5**	**-0.4**
KBL	**Kabul**	**11.12**	**265**	*e*Pn	**Pn**	**15 29 41.5**	**-0.4**
KK31	**Karatay Array**	**11.45**	**310**	Pn	**Pn**	**15 29 44.1**	**-2.0**
	comp=Z,11nm,0.5s,baz=121,slow=11,SNR=70						
KK31				⇓Lg	Lg	15 33 03.1	
	comp=Z,263nm,0.8s						
KKAR	**Karatay Array**	**11.45**	**310**	*e*P	**Pn**	**15 29 44.6**	**-1.5**
KKAR	**Karatay Array**	**11.45**	**310**	*e*Pn	**Pn**	**15 29 44.6**	**-1.5**
BOK	**Bokaro**	**12.82**	**166**	*e*P	**Pn**	**15 30 03.2**	**-1.8**
BOK				IAmb	IAmb	15 30 04.7	
	comp=Z,55nm,0.6s						
JBP	**Jabalpur**	**13.29**	**190**	*e*P	**Pn**	**15 30 10.0**	**-1.3**
JBP				IAmb	IAmb	15 30 21.7	
	comp=Z,588nm,1.0s						
JBP				*ex*	x	15 33 34.2	
SHL	**Shillong**	**13.40**	**141**	*e*P	**Pn**	**15 30 11.0**	**-2.0**
SHL				IAmb	IAmb	15 30 17.0	
	comp=Z,13nm,0.3s						
SHL				*ex*	x	15 32 31.4	
BHPL	**Bhopal**	**13.76**	**200**	*e*P	**Pn**	**15 30 17.6**	**-0.2**
BHPL				IAmb	IAmb	15 30 28.8	
	comp=Z,79nm,0.6s						
GTA	**Gaotai**	**14.02**	**72**	*e*P	**Pn**	**15 30 20.6**	**-0.8**
GTA				pP	P	15 30 25.3	-4.1
GTA				sP		15 30 28.3	
GTA				S	**Sn**	**15 32 55.8**	**-1.3**
GTA				SS	**SnSn**	**15 33 11.9**	**+2.6**
GTA				pmax	pmax		
	comp=Z,9.0nm,1.1s						
GTA				pmax	pmax		
	comp=Z,440nm,7.8s						
GTA				LR	LR		
	comp=Z,7μm,8.3s						
GTA				LR	LR		
	comp=Z,6μm,10.0s						
GTA				LR	LR		
	comp=Z,6μm,10.0s						
KURBB	**Kurchatov Arra**	**14.58**	**350**	Pn	**Pn**	**15 30 25.1**	**-3.8**
	comp=Z,0.4nm,0.3s,baz=172,slow=12,SNR=100						
KURBB				Sn	**Sn**	**15 33 14.1**	**+3.8**
	comp=Z,0.7nm,0.3s,baz=168,slow=30,SNR=4.1						
KURBB				Lg	Lg	15 34 41.7	
	comp=Z,0.9nm,0.3s,baz=176,slow=28,SNR=4.3						
KURK	**Kurchatov**	**14.66**	**350**	*c iP*	**Pn**	**15 30 26.2**	**-3.7**
KURK				pmax	pmax		
	comp=Z,183nm,0.8s						
KURK				MLR	MLR		
	comp=Z,27μm,15.0s						
KURK	**Kurchatov**	**14.66**	**350**	*e*Pn	**Pn**	**15 30 25.5**	**-4.4**
KURK				Sn	**Sn**	**15 33 14.1**	**+1.9**
KURK				Lg	Lg	15 34 41.7	
NGP	**Nagpur**	**15.41**	**192**	*e*P	**Pn**	**15 30 40.4**	**+0.3**
BHJ	**Bhuj**	**17.12**	**224**	*e*P	**P**	**15 31 02.9**	**-0.8**
BHJ				IAmb	IAmb	15 31 07.7	
	comp=Z,259nm,1.4s						
LZH	**Lanzhou**	**17.23**	**84**	⇑P	**P**	**15 31 04.6**	**-0.4**
LZH				pP	pP	15 31 06.9	-1.4
LZH				sP	sP	15 31 08.3	-1.5
LZH				PP	**PnPn**	**15 31 16.0**	**+2.7**
LZH				S	**Sn**	**15 34 19.5**	**+4.4**
LZH				sS	sS	15 34 27.0	-2.5
LZH				SS	**SnSn**	**15 34 36.3**	**+8.0**
LZH				pmax	pmax		
	comp=Z,250nm,1.5s						
LZH				pmax	pmax		
	comp=Z,1μm,4.6s						
LZH				LR	LR		
	comp=Z,8μm,12.6s						
LZH				LR	LR		
	comp=Z,4μm,11.4s						
LZH				LR	LR		
	comp=Z,6μm,12.4s						
RPR	**Rampur**	**17.62**	**190**	*e*Pn	**Pn**	**15 31 08.4**	**+0.1**
RPR				IAmb	IAmb	15 31 10.1	
	comp=Z,132nm,0.8s						
RPR				IVMs_BB	IVMs_BB	15 38 04.0	
	comp=Z,6μm,10.8s						
ZALV	**Zalesovo Beam**	**17.70**	**5**	P	**Pn**	**15 31 04.6**	**-4.4**
	comp=Z,4.0nm,0.3s,baz=190,slow=12,SNR=279						
ZALV				S	**Sn**	**15 34 27.9**	**+1.8**
	comp=Z,1.6nm,0.3s,baz=200,slow=17,SNR=3.2						
ZALV				Lg	Lg	15 36 20.3	
	baz=181,slow=28,SNR=2.0						
ZALV				LR	LR	15 38 25.0	
	comp=Z,1μm,21.6s,baz=237,slow=39						
SRSP	**Sriramsagar**	**17.71**	**193**	*e*P	**Pn**	**15 31 08.7**	**-0.7**
SRSP				IAmb	IAmb	15 31 12.5	
	comp=Z,154nm,1.3s						
SRSP				*e*Sn	**Sn**	**15 34 27.4**	**+0.7**
SRSP				IVMs_BB	IVMs_BB	15 38 05.4	
	comp=Z,9μm,10.7s						
CHLP	**Challavanipeta**	**17.80**	**175**	*e*Pn	**Pn**	**15 31 10.4**	**0.0**
CHLP				IAmb	IAmb	15 31 14.8	
	comp=Z,465nm,2.5s						
CHLP				*e*Sn	**Sn**	**15 34 28.5**	**-0.3**
CHLP				IVMs_BB	IVMs_BB	15 40 06.5	
	comp=Z,4μm,5.8s						
CD2	**Chengdu**	**18.50**	**101**	⇓*i* P	**Pn**	**15 31 20.4**	**+1.4**
CD2				sP	sP	15 31 26.4	+2.7
CD2				PP	**PnPn**	**15 31 34.8**	**+4.2**
CD2				S	**Sn**	**15 34 45.3**	**-0.4**
CD2				pmax	pmax		
	comp=Z,40nm,1.2s						
CD2				LR	LR		
	comp=Z,13μm,9.5s						
CD2				LR	LR		
	comp=Z,9μm,8.5s						
CD2				LR	LR		
	comp=Z,7μm,11.4s						
NVS	**Novosibirsk**	**18.53**	**1**	⇓*i* P	**P**	**15 31 15.4**	**-3.6**
NVS				*e*S	**Sn**	**15 34 44.7**	**-1.3**
NVS				pmax	pmax		
	comp=N,69nm,1.0s						
NVS				pmax	pmax		
	comp=Z,100nm,1.0s						
NVS				smax	smax		
	comp=E,272nm,2.5s						
NVS	

comp=Z,7µm,19.6s,baz=70,slow=42
NJS Nagarjunasagar 19.89 189 IAmb IAmb 15 31 35.0
comp=Z,110nm,1.0s
NJS *e*P **Pn** **15 31 35.8 0.0**
NJS IVMs_BB IVMs_BB 15 39 22.3
comp=Z,4µm,11.9s
MOY Mondy 20.22 35 *e*P **P** **15 31 37.4 -0.2**
MOY pmax pmax
comp=Z,297nm,3.3s
SRLM Srisailam 20.39 190 *e*P **P** **15 31 38.3 -1.4**
SRLM IAmb IAmb 15 31 46.2
comp=Z,275nm,1.1s
SRLM *e*S **S** **15 35 28.6 +0.6**
SRLM IVMs_BB IVMs_BB 15 40 29.1
comp=Z,6µm,7.0s
ADKI Addanki 20.52 187 *e*P **P** **15 31 40.2 -0.8**
ADKI IAmb IAmb 15 31 44.2
comp=Z,230nm,1.0s
ADKI *e*Sn Sn 15 35 34.8 +0.4
ADKI IVMs_BB IVMs_BB 15 39 41.4
comp=Z,4µm,13.1s
ZAK Zakamensk 20.54 40 *e*P **P** **15 31 40.4 -0.8**
ZAK pmax pmax
comp=Z,55nm,1.0s
KMI Kunming 20.63 117 P **P** **15 31 42.9 +0.5**
KMI pP pP 15 31 46.0 +0.3
KMI sP sP 15 31 47.9 +0.7
KMI S **S** **15 35 28.9 -4.1**
KMI sS Sn 15 35 34.8 -2.6
KMI SS **SnSn** **15 36 00.8 +8.7**
KMI pmax pmax
comp=Z,42nm,1.0s
KMI pmax pmax
comp=Z,450nm,3.7s
KMI LR LR
comp=Z,5µm,13.0s
KMI LR LR
comp=Z,6µm,13.6s
KMI LR LR
comp=Z,5µm,15.7s
ABKAR Akbulak array 20.91 315 *e*P **P** **15 31 43.0 -1.9**
comp=Z,506nm,0.8s
RCLA Racherla 21.02 190 *e*P **P** **15 31 45.1 -1.3**
RCLA IAmb IAmb 15 31 50.4
comp=Z,185nm,1.1s
RCLA *e*S **S** **15 35 41.0 +0.6**
RCLA IVMs_BB IVMs_BB 15 39 57.7
comp=Z,4µm,13.8s
SONM Songino Array 21.05 49 P **P** **15 31 47.0 +0.3**
comp=Z,294nm,0.7s,baz=242,slow=12,SNR=700
SONM S Sn 15 35 44.8 -2.4
comp=Z,5.6nm,1.0s,baz=243,slow=25,SNR=2.0
SONM Lg Lg 15 38 08.8
comp=Z,12nm,0.9s,baz=243,slow=29,SNR=3.6
SONM LR LR 15 40 33.7
comp=Z,3µm,20.1s,baz=242,slow=39
SONA1 Songino Array 21.06 49 *e*P **P** **15 31 46.6 -0.2**
ULN Ulaanbaatar 21.47 50*d i*P **P** **15 31 51.6 +0.4**
ULN pmax pmax
comp=Z,431nm,0.8s
ULN MLR MLR
comp=Z,2µm,17.0s
ULN Ulaanbaatar 21.47 50 *e*P **P** **15 31 51.3 0.0**
comp=Z,414nm,0.8s
ULN Ulaanbaatar 21.47 50 P **P** **15 31 52.0 +0.7**
SNR=214
ULN P **P** **15 31 52.0 +0.7**
SNR=214
TLY Talaya 21.50 38 P **P** **15 31 50.9 -0.4**
comp=Z,30nm,0.8s,baz=229,slow=10.0,SNR=26
TLY Lg Lg 15 38 19.5
comp=Z,10nm,0.9s,baz=143,slow=20,SNR=2.8
TLY LR LR 15 41 01.3
comp=Z,3µm,22.0s,baz=233,slow=39
TLY Talaya 21.50 38*ce*P **P** **15 31 51.1 -0.2**
TLY *e*PPP PPP 15 32 12.6
TLY *e*S **S** **15 35 48.5 -1.0**
TLY *e*SS Sn 15 36 01.5 +3.9
TLY *e*SSS SSS 15 36 23.2
TLY pmax pmax
comp=Z,37nm,0.9s
TLY MLR MLR
comp=Z,3µm,19.0s
TLY Talaya 21.50 38 *e*P **P** **15 31 50.7 -0.6**
comp=Z,41nm,0.9s
TLY Lg Lg 15 38 19.5
TLY Talaya 21.50 38 P **P** **15 31 51.4 +0.1**
SNR=13
XAN Xi'an 21.70 88 P **P** **15 31 54.0 +0.3**
XAN pP sP 15 32 03.4 +4.9
XAN S **S** **15 35 55.8 +2.1**
XAN LR LR
comp=Z,5µm,11.8s
XAN LR LR
comp=Z,4µm,15.0s
XAN LR LR
comp=Z,4µm,11.8s
URV Uravakonda 21.79 194 *e*P **P** **15 31 53.9 -0.9**
URV IAmb IAmb 15 31 58.8
comp=Z,144nm,1.0s
URV *e*S **S** **15 35 57.2 +1.5**
URV IVMs_BB IVMs_BB 15 40 29.2
comp=Z,6µm,11.1s
BTO Baotou 21.93 70 *e*P **P** **15 31 56.1 -0.1**
GOA Goa 22.14 203 *e*P **P** **15 31 58.9 +0.4**
GOA IAmb IAmb 15 32 03.4
comp=Z,377nm,1.2s
IRK Irkutsk 22.15 37 *e*P **P** **15 31 58.3 0.0**
IRK pmax pmax
comp=Z,289nm,1.8s
AKTO Aktyubinsk 22.57 316 P **P** **15 32 01.1 -1.8**
comp=Z,18nm,0.6s,baz=115,slow=11,SNR=33
AKTO S **S** **15 36 09.0 -1.1**
comp=Z,4.3nm,0.8s,baz=126,slow=17,SNR=2.7
AKTO LR LR 15 40 50.4
comp=Z,2µm,21.0s,baz=124,slow=37
SKHT Srikalahasti 22.62 187 *e*P **P** **15 32 02.4 -1.2**
SKHT IAmb IAmb 15 32 09.1
comp=Z,82nm,1.1s
SKHT *e*S **S** **15 36 13.5 +2.2**
SKHT IVMs_BB IVMs_BB 15 42 33.2
comp=Z,3µm,6.0s
CHTO Chiang Mai 22.67 136 P **P** **15 32 04.0 -0.1**
comp=Z,238nm,0.8s,comp=Z,3µm
CHTO Chiang Mai 22.67 136 *e*P **P** **15 32 03.3 -0.8**
CHTO pmax pmax
comp=Z,39nm,0.9s
CHTO Chiang Mai 22.67 136 *e*P **P** **15 32 03.3 -0.8**
comp=Z,39nm,0.9s
GYA Guiyang 22.80 109⇑ *i*P **P** **15 32 06.5 +0.9**
GYA PP **PnPn** **15 32 35.0 +5.3**
GYA PcP **PcP** **15 35 58.8 +1.8**
GYA S **S** **15 36 04.6 -10**
GYA SS **SnSn** **15 36 52.5 +7.4**
GYA pmax pmax
comp=Z,70nm,0.8s
GYA pmax pmax
comp=Z,550nm,8.4s
GYA LR LR
comp=Z,3µm,9.3s
GYA LR LR
comp=Z,5µm,10.3s
GYA LR LR
comp=Z,4µm,12.5s
CM31 Chiang Mai Arr 22.95 136 *e*P **P** **15 32 05.4 -1.7**
CMAR Chiang Mai Arr 22.95 136 P **P** **15 32 05.8 -1.3**
comp=Z,18nm,0.9s,baz=317,slow=9.2,SNR=52
CMAR S **S** **15 36 17.2 -0.1**
comp=Z,2.1nm,0.9s,baz=328,slow=9.6,SNR=3.0
CM01 Chiang Mai Arr 22.99 136 *e*P **P** **15 32 03.8 -3.8**
HHC Hu-ho-hao-te 23.11 70 *e*P **P** **15 32 08.4 -0.3**
HHC PP **PnPn** **15 32 42.3 +8.5**
HHC S **S** **15 36 21.4 +1.5**
HHC SS **SnSn** **15 37 04.5 +12**
HHC pmax pmax
comp=Z,57nm,1.3s
HHC pmax pmax
comp=Z,1µm,4.5s
HHC LR LR
comp=Z,3µm,11.4s
HHC LR LR
comp=Z,4µm,13.3s
HHC LR LR
comp=Z,4µm,15.5s
MDRS Chennai 23.24 186 *e*P **P** **15 32 09.8 -0.2**
LAMP Lampang 23.29 135 P **P** **15 32 11.7 +1.1**

comp=Z,21nm,0.8s
ENH Enshi 23.31 97 *e*P **P** **15 32 11.4 +0.7**
comp=Z,63nm,0.9s
SLVN Son La 23.89 123 *e*P **P** **15 32 16.5 0.0**
comp=Z,24nm,0.8s
TIY Taiyuan 23.90 78 *e*P **P** **15 32 16.3 -0.2**
TIY S **S** **15 36 34.4 +1.8**
TIY pmax pmax
comp=Z,59nm,0.6s
TIY pmax pmax
comp=Z,1µm,5.8s
TIY LR LR
comp=Z,2µm,10.6s
TIY LR LR
comp=Z,4µm,10.3s
TIY LR LR
comp=Z,5µm,12.2s
SUKH Sukhothai 24.12 137 P **P** **15 32 20.0 +1.4**
comp=Z,11nm,1.0s,comp=Z,96nm
WSAR Wadi Sarin 24.40 244 P **P** **15 32 22.6 +1.4**
comp=Z,24nm,0.6s,baz=100,slow=6.6,SNR=45
WSAR S **S** **15 36 43.7 +3.0**
comp=Z,8.3nm,1.2s,baz=111,slow=8.6,SNR=2.3
WSAR LR LR 15 43 31.2
comp=Z,5µm,21.4s,baz=66,slow=41
UTTA Uttaradit 24.44 134 P **P** **15 32 22.3 +0.8**
comp=Z,12nm,1.1s,comp=Z,132nm
BIDO Bidbid 24.60 246 P **P** **15 32 24.9 +2.0**
SNR=12
BANOM Banah 24.64 253 P **P** **15 32 25.4 +2.0**
UMPA Umpang Tak 24.76 140 P P 15 32 32.5 +8.0
DGPR DIGLIPUR 24.88 155 *e*P **P** **15 32 25.8 +0.4**
DGPR IAmb IAmb 15 32 27.3
comp=Z,142nm,0.7s
HOQ Hoqain 25.16 247 P **P** **15 32 30.8 +2.7**
SNR=24
SVE Sverdlovsk 25.22 331⇓ *i*P **P** **15 32 28.7 +0.4**
SVE *e*S **S** **15 36 52.1 -1.3**
SVE pmax pmax
comp=Z,108nm,1.4s
SVE MLR MLR
comp=Z,3µm,17.0s
UOSS Minazif 25.23 251 *e*P **P** **15 32 30.2 +1.6**
comp=Z,68nm,1.4s
JMDO Jabal Madar 25.32 243 P **P** **15 32 32.9 +3.4**
SNR=14
HATD Hatta, Dubai 25.35 251 *i* P **P** **15 32 32.2 +2.5**
SNR=13
HATD Hatta, Dubai 25.35 251 P **P** **15 32 33.7 +3.9**
SNR=9.9
HATD P **P** **15 32 33.7 +3.9**
SNR=9.9
UTHA Uthaitani 25.61 139 P **P** **15 32 33.3 +1.2**
comp=Z,13nm,1.0s,comp=Z,101nm
PBKT Sadao Pong 25.61 135 P **P** **15 32 33.6 +1.5**
comp=Z,59nm,0.9s
NAZ Nazwa, Dubai 25.62 251 *i* P **P** **15 32 34.3 +2.1**
SNR=27
NAZ Nazwa, Dubai 25.62 251 P **P** **15 32 36.8 +4.6**
SNR=29
NAZ P **P** **15 32 36.8 +4.6**
SNR=29
ARU Arti 25.79 329 P **P** **15 32 33.4 -0.1**
comp=Z,16nm,0.5s,baz=121,slow=5.2,SNR=44
ARU S **S** **15 37 05.4 +3.1**
comp=Z,5.6nm,0.8s,baz=86,slow=14,SNR=1.6
ARU LR LR 15 43 17.8
comp=Z,3µm,20.0s,baz=126,slow=38
ARU Arti 25.79 329*d i*P **P** **15 32 33.0 -0.5**
ARU 15 33 09.4
ARU PPP PPP 15 33 18.9
ARU S **S** **15 37 04.0 +1.7**
ARU SSS SSS 15 38 16.1
ARU pmax pmax
comp=Z,43nm,1.2s
ARU Arti 25.79 329 *e*P **P** **15 32 32.9 -0.5**
comp=Z,109nm,1.2s
ARU S **S** **15 37 05.4 +3.1**
FAQ Al Faqa, Dubai 25.80 251 *i* P **P** **15 32 36.4 +2.6**
SNR=27
FAQ Al Faqa, Dubai 25.80 251 P **P** **15 32 37.5 +3.6**
SNR=38
ARQ Araqi 25.89 247 P **P** **15 32 37.1 +2.4**
SNR=15
BJT Baijiatuau 26.63 72 *e*P **P** **15 32 40.7 -0.6**
BJT pmax pmax
comp=Z,114nm,2.0s
BJT Baijiatuau 26.63 72 *e*P **P** **15 32 40.7 -0.6**
comp=Z,114nm,2.0s
BJI Beijing 26.64 72 P **P** **15 32 42.3 +1.0**
BJI pmax pmax
comp=Z,19nm,1.4s
BJI pmax pmax
comp=Z,550nm,5.1s
BJI LR LR
comp=Z,5µm,17.2s
BJI LR LR
comp=Z,730nm,17.2s
BJI LR LR
comp=Z,4µm,19.4s
CHAI Chaiyaphum 26.73 134 P **P** **15 32 42.8 +0.6**
comp=Z,18nm,1.0s,comp=Z,172nm
CIT Chita 26.98 45 *e*P **P** **15 32 44.1 -0.2**
CIT *e* 15 33 22.4
CIT *e* 15 33 37.6
CIT pmax pmax
comp=Z,96nm,1.5s
SKNT Sakolnakorn 27.09 130 P **P** **15 32 45.9 +0.4**
comp=Z,64nm,1.1s
WHN Wuhan 27.12 93 P **P** **15 32 48.1 +2.4**
WHN S **S** **15 37 22.8 -1.0**
WHN LR LR
comp=Z,14µm,13.8s
WHN LR LR
comp=Z,11µm,14.4s
WHN LR LR
comp=Z,12µm,17.2s
MAK Makhachkala 27.61 295 *e*P **P** **15 32 48.8 -1.2**
MAK *e*S **S** **15 37 29.5 -1.8**
MAK *e*SS **SnSn** **15 38 43.6 +1.3**
NAYO Nakonayok 27.64 138 P **P** **15 32 53.4 +3.0**
comp=Z,114nm,1.6s
TIA Tai'an 27.83 80⇑ P **P** **15 32 53.4 +1.3**
TIA pmax pmax
comp=Z,30nm,0.9s
TIA pmax pmax
comp=Z,480nm,4.5s
TIA LR LR
comp=Z,4µm,12.0s
TIA LR LR
comp=Z,4µm,13.1s
TIA LR LR
comp=Z,5µm,12.9s
SRAK Srakaew 28.28 137 P P 15 33 02.3 +6.1
SOKR Solikamsk 28.62 333*d i*P **P** **15 32 57.4 -1.3**
SOKR pmax pmax
comp=Z,23nm,0.8s
SOKR MLR MLR
comp=Z,3µm,18.0s
PALK Pallekele 28.96 184 P **P** **15 33 00.3 -1.9**
comp=Z,24nm,0.9s,baz=112,slow=1.7,SNR=5.2
PALK LR LR 15 45 15.7
comp=Z,2µm,19.7s,baz=296,slow=38
PALK Pallekele 28.96 184 *e*P **P** **15 33 02.3 +0.1**
PALK pmax pmax
comp=Z,151nm,1.8s
PALK Pallekele 28.96 184 *e*P **P** **15 33 02.3 +0.1**
comp=Z,151nm,1.8s
QIZ Qiongzhong 29.57 118 P **P** **15 33 08.3 +0.7**
QIZ S **S** **15 38 03.5 +1.0**
QIZ LR LR
comp=Z,5µm,15.7s
QIZ LR LR
comp=Z,5µm,17.2s
QIZ LR LR
comp=Z,5µm,15.8s
TBLG Delisi 29.66 292 P **P** **15 33 10.9 +2.6**
GZH Guangzhou 29.72 108 *e*P **P** **15 33 09.0 +0.1**
GZH S **S** **15 38 03.1 -1.8**
GZH pmax pmax
comp=Z,550nm,12.0s
GNI Garni 29.76 289 LR LR 15 47 13.1
comp=Z,2µm,21.2s,baz=88,slow=41
GNI Garni 29.76 289⇑ *i*P **P** **15 33 09.4 +0.1**
GNI pmax pmax
comp=Z,153nm,1.6s
GNI MLR MLR

comp=Z,6µm,20.0s
HIA Hailar 29.92 53 *e*P **P** **15 33 11.0 +0.5**
HIA pmax pmax
comp=Z,29nm,0.8s
HIA Hailar 29.92 53 *e*P **P** **15 33 11.0 +0.5**
comp=Z,29nm,0.8s
BOD Bodaibo 29.93 34 *e*P **P** **15 33 09.0 -1.4**
BOD pmax pmax
comp=Z,26nm,1.6s
ZEI Tsey 30.26 294 *e*P **P** **15 33 13.5 -0.3**
ZEI pmax pmax
comp=Z,13nm,0.5s
NJ2 Nanjing 30.26 87 *e*P **P** **15 33 13.8 +0.2**
NJ2 S **S** **15 38 15.4 +2.2**
NJ2 LR LR
comp=Z,3µm,15.9s
NJ2 LR LR
comp=Z,2µm,15.9s
NJ2 LR LR
comp=Z,2µm,15.9s
NCK Nalchik 30.48 296⇑ *i*P **P** **15 33 16.5 +1.0**
NCK pmax pmax
comp=Z,15nm,0.6s
NCK MLR MLR
comp=Z,5µm,19.0s
ONI Oni 30.59 294 P **P** **15 33 18.1 +1.5**
AKH Akhalkalaki 30.61 292⇓ *i*P **P** **15 33 21.0 +4.1**
GOF Gofitskoye 30.91 299‖ *e*P P 15 33 24.3 +5.0
GOF pmax pmax
comp=Z,46nm,1.1s
DL2 Dalian 30.94 73⇓ *i*P **P** **15 33 20.3 +0.7**
DL2 S **S** **15 38 23.8 0.0**
DL2 pmax pmax
comp=Z,37nm,0.8s
DL2 pmax pmax
comp=Z,320nm,5.9s
DL2 LR LR
comp=Z,3µm,15.8s
DL2 LR LR
comp=Z,4µm,14.8s
DL2 LR LR
comp=Z,5µm,15.7s
KBZ Khabaz 30.99 296 P **P** **15 33 20.6 +0.7**
comp=Z,0.7nm,0.6s,baz=80,slow=12,SNR=4.3
KBZ LR LR 15 48 37.1
comp=Z,4µm,19.9s,baz=92,slow=42
NEY Neytrino 31.12 295*d i*P **P** **15 33 22.8 +1.5**
NEY pmax pmax
comp=Z,14nm,2.5s
NEY MLR MLR
comp=Z,3µm,20.0s
KIV Kislovodsk 31.14 297 P **P** **15 33 20.6 -0.8**
KIV Kislovodsk 31.14 297 *e*P **P** **15 33 20.7 -0.8**
KIV *e*S **S** **15 38 27.2 +0.2**
KIV pmax pmax
comp=Z,10.0nm,1.0s
KIV MLR MLR
comp=Z,3µm,15.0s
KIV Kislovodsk 31.14 297 *e*P **P** **15 33 20.8 -0.7**
comp=Z,41nm,0.7s
ARTV Artvin 31.80 291 *e*P **P** **15 33 28.7 +1.2**
comp=Z,17nm,1.4s
SNY Shenyang 32.13 67⇑ P **P** **15 33 30.8 +0.7**
SNY S **S** **15 38 45.8 +3.5**
SNY pmax pmax
comp=Z,24nm,1.7s
SNY pmax pmax
comp=Z,480nm,4.7s
SNY LR LR
comp=N,2µm,13.1s
SNY LR LR
comp=E,2µm,11.4s
SNY LR LR
comp=Z,3µm,9.4s
QZH Quanzhou 32.88 100⇑ P **P** **15 33 38.8 +2.0**
QZH S **S** **15 38 54.9 +0.6**
QZH LR LR
comp=Z,3µm,9.1s
QZH LR LR
comp=Z,7µm,9.7s
QZH LR LR
comp=Z,8µm,12.5s
NRIK Noril'sk 33.19 3 P **P** **15 33 39.1 +0.1**
comp=Z,40nm,0.8s,baz=181,slow=12,SNR=104
NRIK S **S** **15 39 01.4 +3.1**
comp=Z,1.3nm,0.6s,baz=300,slow=20,SNR=2.4
NRIK LR LR 15 50 13.1
comp=Z,1µm,18.3s,baz=200,slow=42
MARD Mardin 33.22 284 *e*P **P** **15 33 40.5 +0.7**
comp=Z,75nm,1.6s
SOC Sochi 33.30 296 *e*P **P** **15 33 40.0 -0.2**
SOC *e* 15 34 46.5
SOC *e*S **S** **15 38 58.4 -2.0**
SOC *e*SS **SnSn** **15 40 58.4 -2.3**
SOC pmax pmax
comp=Z,12nm,0.7s
SOC MLR MLR
comp=Z,2µm,17.0s
CN2 Changchun 33.41 64 *e*P **P** **15 33 40.4 -0.8**
CN2 *e*sP sP 15 33 47.4 +1.2
CN2 *e*S **S** **15 38 58.8 -3.3**
CN2 pmax pmax
comp=Z,10.0nm,0.7s
CN2 pmax pmax
comp=Z,200nm,5.0s
CN2 LR LR
comp=Z,1µm,12.0s
CN2 LR LR
comp=Z,3µm,12.0s
CN2 LR LR
comp=Z,4µm,14.0s
LHMI Lhok Sumawe 33.67 153 *e*P **P** **15 33 42.4 -1.3**
DLV T Lat 33.73 129 *e*P **P** **15 33 44.6 +0.2**
comp=Z,49nm,1.2s
VSR Storozhevoye 34.11 310 *e*P **P** **15 33 46.9 -0.3**
VSR pmax pmax
comp=Z,40nm,1.3s
VSR MLR MLR
comp=Z,5µm,16.0s
LPSR Galich'ya Gora 34.49 312 *e*P **P** **15 33 51.5 +1.0**
LPSR pmax pmax
comp=Z,10.0nm,0.4s
CLNS Chul'man 34.87 40 *e*P **P** **15 33 52.3 -1.5**
CLNS *e**PP **sP** **15 34 01.1 +2.3**
CLNS *e* 15 35 06.2
CLNS *e* 15 36 27.7
CLNS *e*S **S** **15 39 18.4 -6.1**
CLNS *e*SS **SnSn** **15 41 30.0 -8.5**
CLNS pmax pmax
comp=E,10.0nm,1.0s
CLNS pmax pmax
comp=Z,24nm,0.8s
CLNS pmax pmax
comp=N,9.0nm,0.9s
CLNS pmax pmax
comp=N,10.0nm,0.8s
CLNS pmax pmax
comp=E,7.0nm,1.0s
CLNS pmax pmax
comp=Z,5.0nm,0.8s
CLNS smax smax
comp=N,94nm,12.6s
CLNS smax smax
comp=E,150nm,13.8s
CLNS MLR MLR
comp=Z,2µm,11.0s
CLNS MLR MLR
comp=E,913nm,11.0s
CLNS MLR MLR
comp=N,2µm,11.0s
ANN Anapa 34.89 298 *e*P **P** **15 33 53.5 -0.6**
ANN *e**PP **pP** **15 33 56.3 -1.3**
ANN *e* 15 35 09.0
ANN *e*S **S** **15 39 26.1 +1.1**
ANN pmax pmax
comp=Z,63nm,1.4s
ANN MLR MLR
comp=Z,2µm,15.0s
ANN MLR MLR
comp=N,1µm,15.0s
ANN MLR MLR
comp=E,2µm,15.0s
INCN Inchon 35.07 75 *e*P **P** **15 33 55.1 -0.6**
comp=E,51nm,0.9s
KULM Kulim 35.09 147 *e*P **P** **15 33 55.9 -0.1**
comp=E,62nm,1.2s

KULM	Kulim	35.09	147	⇓P		P		15 33 57.2	+1.1
YHNB	Yeheng	35.23	98	*e*P		P		15 33 57.2	-0.2
	comp=E,79nm,1.7s								
TPUB	Ta-pu	35.31	101	*e*P		P		15 33 59.2	+1.3
	comp=E,26nm,1.1s								
SSLB	Suanglung	35.33	100	*e*P		P		15 33 58.8	+0.7
	comp=E,17nm,1.0s								
TPTI		35.58	154	P		P		15 34 00.8	+0.6
NACB	Ninganchiao	35.65	99	*e*P		P		15 34 01.7	+0.9
	comp=E,53nm,1.0s								
YULB	Yu-li	35.80	100	*e*P		P		15 34 03.6	+1.5
	comp=E,35nm,1.2s								
MOS	Moscow	35.90	317	*e*P		P		15 34 01.9	-0.7
MOS				*e*				15 35 23.3	
MOS					pmax	pmax			
	comp=Z,118nm,1.6s								
MOS					MLR	MLR			
	comp=Z,3μm,15.0s								
TWG	Pinlang	35.91	101	*e*P		P		15 34 04.2	+1.1
	comp=Z,278nm,1.1s								
IPM	Ipoh	35.98	147	*e*P		P		15 34 02.3	-1.4
	comp=Z,69nm,1.7s								
IPM	Ipoh	35.98	147	⇓P		P		15 34 03.8	+0.1
TOKA	Tokat	36.02	291	*e*P		P		15 34 04.3	+0.5
	comp=Z,32nm,1.2s								
KS01	Wonju Array Si	36.05	74	*e*P		P		15 34 03.9	-0.3
KS15	Wonju Array Si	36.05	74	*e*P		P		15 34 04.5	+0.3
KSAR	Wonju Array Be	36.05	74	P		P		15 34 04.8	+0.7
KSAR								15 36 29.6	
KSAR	Wonju Array Be	36.05	74	P		P		15 34 04.8	+0.7
KSAR				PcP		PcP		15 36 29.6	-0.7
KSRS	Korea Array	36.08	74	P		P		15 34 04.8	+0.5
	comp=Z,8.9nm,0.7s,baz=281,slow=8.2,SNR=62								
KSRS				PcP		PcP		15 36 29.6	-0.8
	comp=Z,2.0nm,0.8s,baz=264,slow=2.4,SNR=6.0								
KSRS				LR		LR		15 49 43.0	
	comp=Z,1μm,20.7s,baz=282,slow=38								
MDJ	Mudanjiang	36.34	62	P		P		15 34 07.8	+1.2
MDJ				S		S		15 39 51.1	+3.7
MDJ				ScP		ScP		15 40 20.3	+3.0
MDJ				ScS		ScS		15 44 24.5	+1.2
MDJ					pmax	pmax			
	comp=Z,31nm,1.0s								
MDJ					pmax	pmax			
	comp=Z,310nm,5.2s								
MDJ					LR	LR			
	comp=Z,3μm,10.6s								
MDJ					LR	LR			
	comp=Z,2μm,14.8s								
MDJ					LR	LR			
	comp=Z,2μm,14.8s								
MDJ	Mudanjiang	36.34	62	*e*P		P		15 34 07.2	+0.7
	comp=Z,46nm,0.9s								
OBN	Obninsk	36.35	316	*d*P		P		15 34 06.6	+0.1
OBN				*e**PP		sP		15 34 11.3	-0.2
OBN				*e**SP		pP		15 34 12.3	+2.3
OBN				*e*				15 35 32.0	
OBN				*e*				15 36 32.4	
OBN				*i*S		S		15 39 48.1	+1.0
OBN					pmax	pmax			
	comp=Z,62nm,1.7s								
OBN					MLR	MLR			
	comp=Z,1μm,15.0s								
OBN	Obninsk	36.35	316	*e*P		P		15 34 06.5	+0.1
	comp=Z,108nm,1.5s								
KLMR	Klimovskoe	36.54	326	*e*P		P		15 34 06.9	-1.1
KLMR					pmax	pmax			
	comp=Z,46nm,0.9s								
KLMR					MLR	MLR			
	comp=Z,1μm,12.0s								
PSI	Prapat	36.64	152	P		P		15 34 08.0	-1.5
	comp=Z,12nm,0.8s,baz=305,slow=5.5,SNR=13								
PSI				PcP		PcP		15 36 31.6	-0.9
	comp=Z,3.2nm,0.4s,baz=277,slow=2.9,SNR=3.4								
PSI	Prapat	36.64	152	*e*P		P		15 34 07.9	-1.6
	comp=Z,54nm,1.6s								
PSI				PcP		PcP		15 36 31.6	-0.9
YOJ	Yonaguni jima	36.64	97	*e*P		P		15 34 07.6	-1.7
YOJ					pmax	pmax			
	comp=Z,191nm,1.3s								
YOJ	Yonaguni jima	36.64	97	*e*P		P		15 34 07.6	-1.7
	comp=Z,190nm,1.3s								
SIM	Simferopol'	37.24	299	*de*P		P		15 34 15.2	+1.0
SIM								15 35 39.9	
SIM				S		S		15 40 03.9	+2.9
SIM					pmax	pmax			
	comp=Z,49nm,0.9s								
SIM					MLR	MLR			
	comp=Z,1μm,15.0s								
FRIM	Kepong	37.35	147	⇓P		P		15 34 19.0	+3.6
MSHR	Mys Shultsa	37.67	65	⇑*i*P		P		15 34 19.2	+1.4
ILGA	Ilgaz	37.98	292	*e*P		P		15 34 20.2	-0.5
	comp=Z,172nm,1.9s								
USRK	Ussuriysk Ar.	38.09	62	P		P		15 34 21.6	+0.2
	comp=Z,3.2nm,0.7s,baz=279,slow=6.6,SNR=10								
USRK				LR		LR		15 51 31.5	
	comp=Z,2μm,18.2s,baz=269,slow=39								
BHL	Bhannes	38.11	281	*e*P		P		15 34 23.1	+1.3
VLA	Vladivostok	38.13	64	*d*P		P		15 34 22.1	+0.4
VLA					pmax	pmax			
	comp=Z,114nm,2.0s								
VLA					MLR	MLR			
	comp=Z,1μm,15.0s								
BR131	Keskin Array S	38.27	290	*e*P		P		15 34 22.9	-0.2
BRTR	Keskin Array B	38.27	290	P		P		15 34 23.3	+0.2
	comp=Z,17nm,0.9s,baz=104,slow=5.2,SNR=42								
BRTR				LR		LR		15 52 35.2	
	comp=Z,962nm,21.0s,baz=82,slow=40								
BRTR	Keskin Array B	38.27	290	*i*P		P		15 34 23.6	+0.5
BRTR					pmax	pmax			
	comp=Z,17nm,0.9s								
SZP	Santa	38.35	109	*e*P		P		15 34 23.5	-0.2
	comp=Z,76nm,1.1s								
TMCR	Tamitsa	38.50	330	*e*P		P		15 34 24.1	-0.4
TMCR				*e*S		S		15 40 21.2	+1.7
TMCR					pmax	pmax			
	comp=Z,72nm,0.6s								
YAK	Yakutsk	38.84	33	*e*P		P		15 34 24.0	-3.4
YAK					pmax	pmax			
	comp=Z,5.0nm,0.8s								
YAK	Yakutsk	38.84	33	*e*P		P		15 34 24.0	-3.4
	comp=Z,4.6nm,0.8s								
ANTO	Ankara	38.88	291	*e*P		P		15 34 27.7	-0.5
ANTO					pmax	pmax			
	comp=Z,58nm,1.2s								
ANTO	Ankara	38.88	291	*e*P		P		15 34 27.6	-0.5
	comp=Z,58nm,1.2s								
ANTO	Ankara	38.88	291	P		P		15 34 28.7	+0.6
	SNR=14								
BR231	Keskin MP Arra	38.90	291	*e*P		P		15 34 28.2	-0.2
PBSI	Pulau Batu	39.05	154	P		P		15 34 29.3	-0.3
JNU	Nakatsue	39.57	80	*e*P		P		15 34 33.5	-0.4
	comp=Z,19nm,1.0s								
MYKOM	Kota Tinggi	39.63	145	*e*P		P		15 34 34.8	+0.2
	comp=Z,43nm,1.2s								
MYKOM	Kota Tinggi	39.63	145	⇑P		P		15 34 36.3	+1.7
CSS	Mathiatis	39.64	283	*e*P		P		15 34 34.6	+0.1
BKNI	Bangkinang	39.73	150	*e*P		P		15 34 34.5	-0.8
HABR	Khabarovsk	39.92	55	*ce*P		P		15 34 34.7	-1.9
HABR				*e**PP		pP		15 34 37.7	-2.5
HABR				*e**SP		sP		15 34 39.1	-2.6
HABR				*e*				15 36 06.1	
HABR				*e*				15 36 40.1	
HABR				*e*S		S		15 40 40.2	-1.1
HABR				*e**SS		pS		15 40 45.4	+0.1
HABR				*e*				15 44 42.0	
HABR					pmax	pmax			
	comp=E,26nm,1.5s								
HABR					pmax	pmax			
	comp=Z,45nm,1.5s								
HABR					pmax	pmax			
	comp=N,7.0nm,1.1s								
HABR					MLR	MLR			
	comp=Z,1μm,12.0s								
AKASG	Malin Array Be	40.34	308	P		P		15 34 39.5	-0.6
	comp=Z,12nm,0.9s,baz=75,slow=7.3,SNR=26								
AKASG				PP		PnPn		15 36 21.0	+4.5
	comp=Z,4.7nm,0.8s,baz=90,slow=10,SNR=5.2								
AKASG				LR		LR		15 54 52.0	
	comp=Z,2μm,18.1s,baz=85,slow=41								
AKBB	Malin Array Si	40.34	308	*e*P		P		15 34 38.9	-1.2
AKBB					pmax	pmax			
	comp=Z,40nm,1.1s								
AKBB	Malin Array Si	40.34	308	*e*P		P		15 34 38.9	-1.2
	comp=Z,40nm,1.1s								
KIEV	Kiev	40.35	308	*d*P		P		15 34 40.0	-0.2
KIEV					pmax	pmax			
	comp=Z,72nm,2.5s								
KIEV					MLR	MLR			
	comp=Z,2μm,23.0s								
KIEV	Kiev	40.35	308	*e*P		P		15 34 39.2	-1.0
	comp=Z,26nm,0.9s								
AK11	Malin Array Si	40.38	308	*e*P		P		15 34 39.6	-0.7
BOLV	Bolvadin	40.52	289	*e*P		P		15 34 42.3	+0.5
	comp=Z,14nm,0.8s								
PDSI	Padang	40.64	152	P		P		15 34 41.6	-1.3
	comp=Z,39nm,1.0s								
TPRI	Tanjung Pinang	40.72	145	P		P		15 34 47.4	+3.9
KIS	Kishinev	40.77	302	⇓*e*P		P		15 34 43.0	-0.7
	comp=Z,300nm,2.0s								
KIS	Kishinev	40.77	302	*e*PP		PP		15 36 18.0	+0.5
KIS	Kishinev	40.77	302	*e*P		P		15 34 43.0	-0.7
KIS				*e*				15 36 18.0	
KIS				*e**PPP		PPP		15 36 55.0	
KIS				*e*S		S		15 40 50.0	-4.1
KIS					pmax	pmax			
	comp=Z,300nm,2.5s								
KIS					pmax	pmax			
	comp=Z,600nm,6.0s								
KIS					MLR	MLR			
	comp=Z,3μm,22.0s								
KIS					MLR	MLR			
	comp=Z,3μm,22.0s								
MILM	Milestii Mici	40.78	302	⇑*i*P		P		15 34 46.2	+2.4
SDSI	Sungai Dareh	41.03	150	P		P		15 34 44.7	-1.4
	comp=Z,53nm,0.5s,comp=Z,26μm								
ISP	Isparta	41.06	288	*e*P		P		15 34 46.1	-0.2
ISP	Isparta	41.06	288	*e*P		P		15 34 46.1	-0.2
EFOR	EFORIE	41.23	298	⇑*i*P		P		15 34 49.4	+1.9
MICGM	Minsk	41.26	314	*e*		P		15 34 47.0	-0.6
MICGM				*e*LR		LR		15 50 24.0	
MICGM					LRM	MLR		15 55 22.0	
	comp=Z,3.3nm,14.0s								
MNK	Minsk	41.26	314	*e*P		P		15 34 47.0	-0.6
MNK					MLR	MLR			
	comp=Z,3μm,14.0s								
MANR	Mangalia	41.30	298	⇑*i*P		P		15 34 50.2	+2.1
LVZ	Lovozero	41.33	335	*ce*P		P		15 34 47.8	-0.3
LVZ					pmax	pmax			
	comp=Z,46nm,0.9s								
LVZ					MLR	MLR			
	comp=Z,2μm,17.0s								
LVZ	Lovozero	41.33	335	*e*P		P		15 34 47.4	-0.6
	comp=Z,55nm,1.0s								
TIRR	Tirgusor	41.34	299	⇑*i*P		P		15 34 51.0	+2.6
TIRR	Tirgusor	41.34	299	*e*P		P		15 34 47.1	-1.3
TIRR					pmax	pmax			
	comp=Z,83nm,2.0s								
TIRR	Tirgusor	41.34	299	*e*P		P		15 34 47.1	-1.3
	comp=Z,83nm,2.0s								
CFR	Carcaliu	41.44	300	⇑*i*P		P		15 34 51.1	+1.9
CFR	Carcaliu	41.44	300	⇑P		P		15 34 51.1	+1.9
TLB	Topalu	41.58	299	⇑*i*P		P		15 34 53.1	+2.7
TLB	Topalu	41.58	299	⇑P		P		15 34 53.1	+2.7
APA	Apatity	41.63	334	⇓*i*P		P		15 34 52.4	+2.0
APA					pmax	pmax			
	comp=Z,9.0nm,0.7s								
APA					MLR	MLR			
	comp=Z,3μm,18.0s								
HARR	Harsova	41.65	299	⇓*i*P		P		15 34 53.9	+3.0
HARR	Harsova	41.65	299	⇓P		P		15 34 53.9	+3.0
IDID	Didziasalis	41.96	315	*e*P		P		15 34 53.2	-0.1
IDID					IAmb	IAmb		15 34 59.4	
	comp=Z,16nm,1.0s								
AKAS	Kas	42.19	286	*e*P		P		15 34 54.2	-1.4
	comp=Z,17nm,0.8s								
IIGN	Ignalina	42.26	315	*e*P		P		15 34 55.6	-0.2
IIGN					IAmb	IAmb		15 34 59.7	
	comp=Z,12nm,0.7s								
PRD	Provadia	42.26	297	P		P		15 34 56.5	+0.6
IZAR	Zarasai	42.26	316	*e*P		P		15 34 55.7	-0.1
IZAR					IAmb	IAmb		15 35 00.2	
	comp=Z,29nm,0.6s								
TESR	Tescani	42.30	302	⇑*i*P		P		15 34 58.7	+2.4
ISAL	Salakas	42.32	315	*e*P		P		15 34 56.2	-0.1
ISAL					IAmb	IAmb		15 35 00.7	
	comp=Z,20nm,0.7s								
PLOR	Plostina	42.39	301	⇓*i*P		P		15 34 58.9	+1.9
PLOR	Plostina	42.39	301	⇓P		P		15 34 58.9	+1.9
MANT	Manisa	42.39	290	*e*P		P		15 34 51.1	-6.3
ISR	Istrita	42.56	300	⇓*i*P		P		15 35 00.9	+2.4
ISR	Istrita	42.56	300	⇓P		P		15 35 00.9	+2.4
TIXI	Tiksi	42.62	20	*c*P		P		15 34 58.6	+0.1
TIXI					pmax	pmax			
	comp=Z,52nm,2.5s								
TIXI					MLR	MLR			
	comp=Z,4μm,18.0s								
TIXI	Tiksi	42.62	20	*e*P		P		15 34 57.1	-1.4
	comp=Z,18nm,0.8s								
MLR	Muntele Rosu	42.92	300	⇓*i*P		P		15 35 03.4	+1.9
MLR	Muntele Rosu	42.92	300	*e*P		P		15 35 01.9	+0.4
MLR					pmax	pmax			
	comp=Z,58nm,0.8s								
MLR	Muntele Rosu	42.92	300	*e*P		P		15 35 01.9	+0.4
	comp=Z,58nm,0.8s								
FIA1	FINESS Array S	42.96	324	*e*P		P		15 35 01.2	-0.2
	comp=Z,44nm,1.0s								
FINES	FINESS Array B	42.96	324	P		P		15 35 01.6	+0.2
	comp=Z,17nm,0.6s,baz=102,slow=7.8,SNR=53								
FINES					LR	LR		15 53 44.3	
	comp=Z,2μm,19.3s,baz=99,slow=37								
KKM	Kota Kinabalu	43.13	126	*e*P		P		15 35 04.1	+0.7
	comp=Z,43nm,0.8s								
KKM	Kota Kinabalu	43.13	126	⇓P		P		15 35 05.7	+2.2
BURAR	Bucovina Array	43.15	304	⇓*i*P		P		15 35 06.5	+3.2
BURAR	Bucovina Array	43.15	304	⇓P		P		15 35 06.5	+3.2
BUR08	Bucovina Ar. S	43.16	304	*e*P		P		15 35 03.6	+0.3
KSM	Kuching	43.18	137	*e*P		P		15 35 04.7	+1.0
	comp=Z,109nm,1.7s								
KSM	Kuching	43.18	137	⇑P		P		15 35 07.4	+3.8
DOPR	Dopca	43.24	301	⇓*i*P		P		15 35 06.0	+2.1
SZH	Strazhica	43.30	297	P		P		15 35 04.5	+0.1
NKL	Nikolayevsk	43.35	48	*e*P		P		15 35 10.0	+5.4
MASI	Maura Aman, Be	43.37	151	P		P		15 35 01.1	-4.1
SBUM	Sibu	43.47	134	*e*P		P		15 35 06.9	+0.9
	comp=Z,40nm,1.4s								
SBUM	Sibu	43.47	134	⇑P		P		15 35 08.7	+2.7
VOIR		43.56	301	⇓*i*P		P		15 35 08.6	+2.0
VOIR		43.56	301	⇓P		P		15 35 08.6	+2.0
ALN	Alexandroupoli	43.70	294	P		P		15 35 08.3	+0.6
ALN	Alexandroupoli	43.70	294	P		P		15 35 08.3	+0.6
ALN	Alexandroupoli	43.70	294	P		P		15 35 08.3	+0.6
INU	Inuyama	43.71	74	*e*P		P		15 35 06.7	-1.1
	comp=Z,14nm,0.9s								
LVV	L'vov	43.71	307	*e*P		P		15 35 07.1	-0.5
LVV				*e*				15 36 56.5	
LVV				*e*S		S		15 41 39.2	+1.8
LVV				*e*SS		SS		15 44 43.1	-9.4
LVV					MLR	MLR			
	comp=Z,2μm,17.0s								
ARCR	ARCALIA	43.80	303	⇑*i*P		P		15 35 11.4	+3.0
ARR	Arges	43.86	301	⇓*i*P		P		15 35 11.3	+2.3
KSI	Kapahiang	43.98	150	P		P		15 35 10.4	+0.3
KDZ	Kurdzhali	44.00	295	P		P		15 35 10.5	+0.4
MJB9	Matsu-Tunnel	44.27	72	*e*P		P		15 35 11.5	-0.8
	comp=Z,6.2nm,0.8s								
MAJO	Matsushiro	44.27	72	*d*P		P		15 35 11.2	-1.1
MAJO					pmax	pmax			
	comp=Z,164nm,0.8s								
MAJO					MLR	MLR			
	comp=Z,5μm,15.0s								
MAJO	Matsushiro	44.27	72	*e*P		P		15 35 11.1	-1.3
	comp=Z,24nm,0.8s								
MAT	Matsushiro	44.27	72	P		P		15 35 11.4	-0.9
MAT				S		S		15 41 46.2	+0.2
MJAR	Matsushiro Arr	44.27	72	P		P		15 35 12.1	-0.3
	comp=Z,14nm,0.7s,baz=288,slow=10.0,SNR=46								
MJAR				PcP		PcP		15 36 56.2	-0.4
	comp=Z,3.9nm,0.8s,baz=264,slow=4.2,SNR=6.2								
MJAR				LR		LR		15 54 01.1	
	comp=Z,922nm,21.1s,baz=280,slow=37								
KARP	Karpathos	44.28	286	*e*P		P		15 35 12.2	-0.3
	comp=Z,49nm,1.1s								
CJR	Cluj-Napoca	44.36	303	⇑*i*P		P		15 35 14.5	+1.5
CJR	Cluj-Napoca	44.36	303	⇑P		P		15 35 14.5	+1.5
LOT	Lotru	44.44	301	⇑*i*P		P		15 35 16.1	+2.4
RZN	Rozhen	44.50	295	P		P		15 35 14.5	+0.2
KWP	Kalwaria Pacla	44.58	307	*e*P		P		15 35 15.7	+1.0
KWP	Kalwaria Pacla	44.58	307	*e*P		P		15 35 15.7	+1.0
PGB	Panagyurishte	44.71	297	P		P		15 35 17.0	+1.1
KAVA	Kavala	44.81	294	P		P		15 35 16.7	+0.2
KAVA	Kavala	44.81	294	*e*P		P		15 35 16.7	+0.2
MPEP	Malo Peshtene	44.85	298	P		P		15 35 18.0	+1.1
DRGR		44.95	303	⇑*i*P		P		15 35 19.9	+2.2
DRGR		44.95	303	⇑P		P		15 35 19.9	+2.2
UZH	Uzhgorod	44.97	305	*e*P		P		15 35 17.0	-0.7
UZH				*e*				15 35 23.6	
UZH				*e*				15 37 02.0	
UZH				*e*PPP		PPP		15 37 49.4	
UZH				*e*S		S		15 41 52.2	-3.5
UZH				*e*SSS		SSS		15 46 13.2	
UZH					MLR	MLR			
	comp=N,490nm,14.0s								
UZH					MLR	MLR			
	comp=E,1μm,14.0s								
UZH					MLR	MLR			
	comp=Z,380nm,14.0s								
STKI	Sintang	44.99	137	P		P		15 35 21.5	+3.3
	comp=Z,46nm,0.9s,comp=Z,8μm								
ARA0	ARCESS Array S	45.03	335	*e*P		P		15 35 17.4	-0.5
ARCES	ARCESS Array B	45.03	335	P		P		15 35 18.1	+0.2
	comp=Z,23nm,0.7s,baz=98,slow=8.7,SNR=47								
ARCES				PcP		PcP		15 36 59.1	+0.4
	comp=Z,6.0nm,0.7s,baz=116,slow=2.1,SNR=4.1								
ARCES				LR		LR		15 55 37.9	
	comp=Z,2μm,18.1s,baz=108,slow=38								
ARE0	ARCESS Array S	45.03	335	*e*P		P		15 35 18.2	+0.3
ARE0				IAmb		IAmb		15 35 22.6	
	comp=Z,26nm,0.8s								
ARE0				*e*S		S		15 41 58.2	+2.1
ARE0				*e*SS		SS		15 45 20.3	+2.7
ARE0				IAMs_20		IAMs_20		15 55 19.7	
	comp=Z,2μm,19.1s								
ARE0	ARCESS Array S	45.03	335	*e*P		P		15 35 17.7	-0.2
	comp=Z,24nm,0.7s								
APE	Apeiranthos	45.09	289	P		P		15 35 18.3	-0.6
APE	Apeiranthos	45.09	289	*e*P		P		15 35 18.3	-0.6
APE	Apeiranthos	45.09	289	*e*P		P		15 35 18.3	-0.6
NVR	Nevrokopi	45.20	295	P		P		15 35 18.2	-1.6
NVR	Nevrokopi	45.20	295	P		P		15 35 18.2	-1.6
YSS	Yuzh-Sakhalins	45.24	57	*e*P		P		15 35 18.3	-1.6
YSS				*e*				15 37 10.0	
YSS				*e*S		S		15 41 52.0	-7.7
YSS					pmax	pmax			
	comp=Z,40nm,2.3s								
YSS					pmax	pmax			
	comp=Z,500nm,4.0s								
YSS					MLR	MLR			
	comp=Z,2μm,19.0s								
YSS					MLR	MLR			
	comp=E,2μm,13.0s								
YSS	Yuzh-Sakhalins	45.24	57	*e*P		P		15 35 19.6	-0.3
	comp=E,64nm,1.2s								
MYLDM	Lahad Datu	45.28	125	*e*P		P		15 35 20.4	-0.2
	comp=E,136nm,1.5s								
MYLDM	Lahad Datu	45.28	125	⇑P		P		15 35 23.7	+3.1
OUR	Ouranopolis	45.36	294	P		P		15 35 21.6	+0.7
OUR	Ouranopolis	45.36	294	*e*P		P		15 35 21.6	+0.7
OUR	Ouranopolis	45.36	294	*e*P		P		15 35 21.6	+0.7
VTS	Vitosha	45.40	297	⇑*i*P		P		15 35 22.8	+1.4
VTS	Vitosha	45.40	297	*e*P		P		15 35 21.7	+0.3
VTS					pmax	pmax			
	comp=Z,37nm,1.3s								
VTS	Vitosha	45.40	297	P		P		15 35 21.5	+0.1
VTS	Vitosha	45.40	297	*e*P		P		15 35 21.7	+0.3
	comp=Z,37nm,1.3s								
CRVS	Cervenica-Dubn	45.48	306	*e*P		P		15 35 23.8	+2.0
CRVS	Cervenica-Dubn	45.48	306	*e*P		P		15 35 23.8	+2.0
CRVS				*e*PP		PP		15 37 26.0	+18
CRVS				*e*SS		SS		15 45 30.8	+4.4
STHS	Stebnicka Huta	45.55	307	*e*P		P		15 35 23.3	+0.9
STHS					pmax	pmax			
	comp=Z,7.0nm,0.9s								
STHS	Stebnicka Huta	45.55	307	*e*P		P		15 35 23.3	+0.9
ASAJ	Asahikawa	45.65	61	*e*P		P		15 35 23.4	+0.2
KKB	Krupnik	45.65	296	P		P		15 35 23.5	+0.2
KTK1	Kautokeino	45.67	334	*e*P		P		15 35 22.2	-0.8
KTK1				IAmb		IAmb		15 35 42.2	
	comp=Z,29nm,0.9s								
PAIG	Paliouri	45.69	293	P		P		15 35 23.7	+0.1
PAIG	Paliouri	45.69	293	*e*P		P		15 35 23.7	+0.1
PAIG	Paliouri	45.69	293	*e*P		P		15 35 23.7	+0.1
LAST	Lasithi	45.71	286	P		P		15 35 24.8	+0.9
LAST	Lasithi	45.71	286	P		P		15 35 24.8	+0.9
KLNR	Kaliningrad	45.72	314	*i*P		P		15 35 23.5	-0.1
KLNR					pmax	pmax			
	comp=Z,335nm,1.4s								
KLNR					MLR	MLR			
	comp=Z,2μm,17.0s								
AOS	Alonnisos	45.74	292	P		P		15 35 23.8	-0.2
AOS	Alonnisos	45.74	292	*e*P		P		15 35 23.8	-0.2
SIRR	Siria	45.76	302	⇑*i*P		P		15 35 25.9	+1.9
BZS	Buzias	45.90	301	⇑*i*P		P		15 35 26.6	+1.4
BZS	Buzias	45.90	301	⇑P		P		15 35 26.6	+1.4
EREA	Eretria	45.91	291	P		P		15 35 25.6	+0.2
HAMF	Hammerfest	45.94	337	*e*P		P		15 35 25.7	+0.6
HAMF				IAmb		IAmb		15 35 44.6	
	comp=Z,54nm,0.7s								
HAMF				*e*S		S		15 42 08.1	-1.1
HORT	Hortiatis	45.95	294	P		P		15 35 26.1	+0.4
HORT	Hortiatis	45.95	294	P		P		15 35 26.1	+0.4
K

IMMV	Iera Moni Meta	46.77 287	P	P	15 35 32.9	+0.8		
SKO	Skopje	46.82 296	*i* P	P	15 35 32.9	+0.5		
AGG	Agios Georgios	46.94 292	P	P	15 35 32.2	-1.3		
AGG	Agios Georgios	46.94 292	P	P	15 35 32.2	-1.3		
AGG	Agios Georgios	46.94 292	P	P	15 35 32.2	-1.3		
DSF	Desfina	46.97 291	P	P	15 35 33.6	-0.1		
DSF	Desfina	46.97 291	*e*P	P	15 35 33.6	-0.1		
KZN	Kozani	47.00 294	P	P	15 35 33.3	-0.7		
KZN	Kozani	47.00 294	P	P	15 35 33.3	-0.7		
KZN	Kozani	47.00 294	P	P	15 35 33.3	-0.7		
THL	Klokotos Trika	47.03 293	P	P	15 35 33.7	-0.3		
BIA	Bitola	47.14 295	*i* P	P	15 35 36.7	+1.6		
ANKY	Antikythira Is	47.16 288	P	P	15 35 35.7	+0.5		
ANKY	Antikythira Is	47.16 288	*e*P	P	15 35 35.7	+0.5		
FNA	Florina	47.17 295	P	P	15 35 35.1	-0.1		
FNA	Florina	47.17 295	P	P	15 35 35.1	-0.1		
FNA	Florina	47.17 295	P	P	15 35 35.1	-0.1		
VLI	Veliai	47.17 289	P	P	15 35 32.7	-2.5		
VLI	Veliai	47.17 289	*e*P	P	15 35 32.7	-2.5		
KYTH	Kithira	47.23 289	P	P	15 35 34.6	-1.2		
KYTH	Kithira	47.23 289	*e*P	P	15 35 34.6	-1.2		
VYHS	Vyhne	47.26 306	*e*P	P	15 35 36.4	+0.6		
VYHS			pmax	pmax				
	comp=Z,45nm,1.7s							
VYHS	Vyhne	47.26 306	*e*P	P	15 35 36.4	+0.6		
VYHS			*e*SS	SS	15 45 36.9	-19		
VYHS			*e*L	L	15 56 09.0			
KALE	Kalithea	47.27 292	P	P	15 35 35.0	-1.1		
KALE	Kalithea	47.27 292	*e*P	P	15 35 35.0	-1.1		
TRO	Tromso	47.30 335	*e*P	P	15 35 38.5	+2.9		
TRO			IAmb	IAmb	15 35 58.8			
	comp=Z,210nm,2.1s							
TRO			*e*S	S	15 42 29.4	+0.9		
TRO			*e*SS	SS	15 46 01.6	+6.1		
DIVS	Divibare	47.35 300	P	P	15 35 37.2	+0.6		
EVR	Evrytania	47.36 292	P	P	15 35 36.7	-0.1		
EVR	Evrytania	47.36 292	P	P	15 35 36.7	-0.1		
KLV	Kalavryta, Ach	47.36 291	P	P	15 35 34.3	-2.5		
KLV	Kalavryta, Ach	47.36 291	*e*P	P	15 35 34.3	-2.5		
VLX	Vlachokerasia	47.39 290	P	P	15 35 35.9	-1.2		
VLX	Vlachokerasia	47.39 290	*e*P	P	15 35 35.9	-1.2		
KPRO	Kipourio	47.40 294	P	P	15 35 36.7	-0.4		
LAKA	Lakka	47.43 291	P	P	15 35 36.7	-0.6		
LAKA	Lakka	47.43 291	*e*P	P	15 35 36.7	-0.6		
OKC	Ostrava-Krasne	47.49 308	*e*P	P	15 35 38.3	+0.8		
OKC			*e*PP	PP	15 37 30.9	+2.2		
OKC			*e*S	S	15 42 31.0	-0.9		
OKC			AMS	AMS	15 59 40.0			
	comp=Z,1μm,14.7s							
OKC	Ostrava-Krasne	47.49 308	*e*P	P	15 35 38.3	+0.8		
OKC			*e*		15 37 30.9			
OKC			*e*S	S	15 42 31.0	-0.9		
OKC			MLR	MLR				
	comp=Z,1μm,14.7s							
PENT	Pentalofos	47.50 294	P	P	15 35 37.7	-0.2		
OHR	Ohrid	47.50 296	*i* P	P	15 35 36.9	-1.0		
NEST	Nestorio	47.51 295	P	P	15 35 38.5	+0.6		
HOPEN	Hopen	47.54 344	*e*PP	PP	15 37 28.5	-0.2		
HOPEN			*e*SS	SS	15 46 01.3	+2.0		
HOPEN			IAMs_20	IAMs_20	15 58 45.6			
	comp=Z,3μm,19.1s							
PVO	Paravola	47.66 292	P	P	15 35 39.4	+0.4		
DRO	Drossia	47.72 291	P	P	15 35 38.6	-0.9		
MTKI	Muara Teweh, K	47.76 134	P	P	15 35 41.9	+1.9		
	comp=Z,26nm,1.2s							
ITM	Ithomi	47.80 290	P	P	15 35 39.6	-0.5		
ITM	Ithomi	47.80 290	P	P	15 35 39.6	-0.5		
DSL	Palaion Diasel	47.83 293	P	P	15 35 39.6	-0.8		
DSL	Palaion Diasel	47.83 293	*e*P	P	15 35 39.6	-0.8		
JAN	Janina	47.86 294	P	P	15 35 40.8	+0.2		
JAN	Janina	47.86 294	P	P	15 35 40.8	+0.2		
JAN	Janina	47.86 294	P	P	15 35 40.8	+0.2		
MORC	Moravsky Berou	47.88 308	*i* P	P	15 35 42.5	+1.8		
MORC	Moravsky Berou	47.88 308	*e*P	P	15 35 40.7	0.0		
MORC			pmax	pmax				
	comp=Z,416nm,2.0s							
MORC	Moravsky Berou	47.88 308	*e*P	P	15 35 40.7	0.0		
	comp=Z,416nm,2.0s							
TIR	Tirane	48.12 296	*e*P	P	15 35 41.5	-1.1		
TIR	Tirane	48.12 296	*e*P	P	15 35 41.5	-1.1		
LKD2	Lefkada island	48.26 293	P	P	15 35 42.6	-1.1		
LKD2	Lefkada island	48.26 293	P	P	15 35 42.6	-1.1		
BJO	Bjornoya	48.28 341	*e*P	P	15 35 43.9	+0.6		
BJO			IAmb	IAmb	15 35 46.8			
	comp=Z,49nm,0.9s							
IGT	Igoumenitsa	48.28 294	P	P	15 35 42.9	-0.9		
IGT	Igoumenitsa	48.28 294	*e*P	P	15 35 42.9	-0.9		
IGT	Igoumenitsa	48.28 294	*e*P	P	15 35 42.9	-0.9		
STEI	Steigen	48.40 332	*e*P	P	15 35 43.4	-0.8		
KSP	Ksiaz	48.50 309	*e*P	P	15 35 46.6	+1.3		
KSP	Ksiaz	48.50 309	*e*P	P	15 35 46.6	+1.3		
DPC	Dobruska-Polom	48.56 309	*e*P	P	15 35 47.0	+1.1		
DPC			*e*pP	sP	15 35 53.3	+2.3		
DPC			*e*x	x	15 36 02.5			
DPC			*e*PP	PP	15 37 42.1	+3.6		
DPC			*e*S	S	15 42 46.2	-1.0		
DPC			*e*SS	SS	15 46 14.2	-2.6		
DPC			AMS	AMS	16 00 00.0			
	comp=Z,2μm,16.6s							
DPC	Dobruska-Polom	48.56 309	*e*P	P	15 35 47.0	+1.1		
DPC			*e*		15 35 53.3			
DPC			*e*		15 37 42.1			
DPC			*e*S	S	15 42 46.2	-1.0		
DPC			*e*SS	SS	15 46 14.2	-2.6		
DPC			MLR	MLR				
	comp=Z,2μm,16.6s							
VRAC	Vranov	48.58 307	‖ *i* P	P	15 35 47.9	+1.9		
VRAC	Vranov	48.58 307	‖ P	P	15 35 47.9	+1.9		
MOR8	Moi Rana	48.59 330	*e*P	P	15 35 44.9	-0.9		
MOR8			IAmb	IAmb	15 36 03.9			
	comp=Z,60nm,1.1s							
KEK	Kerkira	48.62 294	P	P	15 35 45.2	-1.3		
KEK	Kerkira	48.62 294	P	P	15 35 45.2	-1.3		
MA2	Magadan	48.72 39	*c* *i* P	P	15 35 47.9	+1.0		
UPC	Upice	48.73 309	*e*P	P	15 35 48.2	+1.1		
UPC			*e*pP	sP	15 35 54.8	+2.5		
UPC			*e*x	x	15 36 04.3			
UPC			*e*PP	PP	15 37 41.8	+1.8		
UPC			*e*S	S	15 42 48.1	-1.4		
UPC			*e*SS	SS	15 46 16.5	-3.0		
UPC			AMS	AMS	16 00 10.0			
	comp=Z,2μm,17.7s							
UPC	Upice	48.73 309	*e*P	P	15 35 48.2	+1.1		
UPC			*e*		15 35 54.8			
UPC			*e*		15 37 41.8			
UPC			*e*S	S	15 42 48.1	-1.4		
UPC			*e*SS	SS	15 46 16.5	-3.0		
UPC			MLR	MLR				
	comp=Z,2μm,17.7s							
SOP	Sopron	48.91 305	‖ *e*PKKPab	P	15 35 49.8	+1.2		
LOF	Lofoten	49.05 332	*e*P	P	15 35 48.7	-0.6		
LOF			*e*S	S	15 42 52.7	-0.7		
LOF			IAMs_20	IAMs_20	15 57 25.7			
	comp=Z,3μm,18.2s							
KONS	Konsvik	49.14 330	*e*P	P	15 35 49.9	0.0		
STOK	Stokkvaagen	49.17 330	*e*P	P	15 35 50.3	+0.1		
TREC	Trest	49.29 307	*e*P	P	15 35 52.5	+1.0		
TREC			*e*PP	PP	15 37 50.0	+4.9		
TREC			AMS	AMS	15 59 10.0			
	comp=Z,2μm,19.0s							
TREC	Trest	49.29 307	*e*P	P	15 35 52.5	+1.0		
TREC			*e*		15 37 50.0			
TREC			MLR	MLR				
	comp=Z,2μm,19.0s							
CONA	Conrad Observa	49.32 306	*i* P	P	15 35 52.5	+0.7		
	comp=Z,56nm,1.6s,SNR=28							
SEY	Seymchan	49.35 34	*d* *i* P	P	15 35 51.7	+0.1		
KOGS	Kog	49.39 304	*e*P	P	15 35 52.9	+0.6		
GOPC	GO Pecny, Ondr	49.62 308	*e*P	P	15 35 54.5	+0.6		
GOPC			*e*PP	PP	15 37 52.8	+4.7		
GOPC			*e*S	S	15 43 02.4	+0.5		
GOPC			*e*SS	SS	15 46 29.6	-4.1		
GOPC			AMS	AMS	16 00 50.0			
	comp=Z,2μm,18.4s							
GOPC	GO Pecny, Ondr	49.62 308	*e*P	P	15 35 54.5	+0.6		
GOPC			*e*		15 37 52.8			
GOPC			*e*S	S	15 43 02.4	+0.5		
GOPC			*e*SS	SS	15 46 29.6	-4.1		
GOPC			MLR	MLR				
	comp=Z,2μm,18.4s							
PVCC	Panska Ves	49.64 309	*e*PP	PP	15 37 53.4	+5.2		
PVCC			AMS	AMS	16 00 40.0			
	comp=Z,2μm,17.1s							
ARSA	Arzberg	49.69 305	*i* P	P	15 35 55.3	+0.7		
	comp=Z,10.0nm,0.9s,SNR=8.1							
PRU	Pruhonice	49.76 308	*e*P	P	15 35 55.9	+0.9		
PRU			*e*pP	sP	15 36 02.2	+2.1		
PRU			*e*x	x	15 36 13.2			
PRU			*e*PP	PP	15 37 54.5	+5.2		
PRU			*e*S	S	15 43 03.7	-0.2		
PRU			*e*SS	SS	15 46 32.9	-3.0		
PRU			AMS	AMS	16 01 00.0			
	comp=Z,2μm,17.2s							
PRU	Pruhonice	49.76 308	*e*P	P	15 35 55.9	+0.9		
PRU			*e*		15 36 02.2			
PRU			*e*		15 37 54.5			
PRU			*e*S	S	15 43 03.7	-0.2		
PRU			*e*SS	SS	15 46 32.9	-3.0		
PRU			MLR	MLR				
	comp=Z,2μm,17.2s							
HSPB	Hornsund (broa	49.77 344	*e*P	P	15 35 55.4	+0.8		
HSPB			IAMs_20	IAMs_20	15 59 51.2			
	comp=Z,3μm,19.1s							
PRA	Prague	49.81 309	*e*SS	SS	15 46 35.3	-1.4		
PRA			AMS	AMS	16 01 10.0			
	comp=Z,2μm,16.9s							
NC405	NORSAR Array S	49.87 323	*e*P	P	15 35 55.7	0.0		
SPB1	Spitsbergen Ar	49.87 346	*e*P	P	15 35 52.6	-2.9		
SPB2	Spitsbergen Ar	49.87 346	*e*P	P	15 35 52.5	-3.0		
SPA2	Spitsbergen Ar	49.88 346	*e*P	P	15 35 52.1	-3.4		
SPA1	Spitsbergen Ar	49.88 346	*e*P	P	15 35 52.6	-2.9		
SPA0	Spitsbergen Ar	49.88 346	*e*P	P	15 35 54.9	-0.6		
SPA0			IAmb	IAmb	15 36 31.6			
	comp=Z,109nm,1.6s							
SPA0			*e*S	S	15 43 06.5	+1.6		
SPA0	Spitsbergen Ar	49.88 346	*e*P	P	15 35 52.4	-3.1		
SPB3	Spitsbergen Ar	49.88 346	*e*P	P	15 35 51.7	-3.8		
SPB5	Spitsbergen Ar	49.88 346	*e*P	P	15 35 52.2	-3.3		
SPA3	Spitsbergen Ar	49.88 346	*e*P	P	15 35 51.3	-4.2		
BRG	Berggiesshubel	49.96 310	*e*P	P	15 35 58.1	+1.6		
	comp=Z,81nm,1.8s							
BRG			*e*PCP	PcP	15 37 18.5	+2.0		
	comp=Z,15nm,1.3s							
BRG			PP	PP	15 37 52.0	+0.8		
BRG			S	S	15 43 09.0	+2.3		
BRG			SS	SS	15 46 35.0	-4.2		
	comp=N,1μm,10.4s							
	comp=E,3μm,15.4s							
	comp=Z,3μm,16.8s							
BRG	Berggiesshubel	49.96 310	*e*P	P	15 35 58.1	+1.6		
BRG			*e*		15 37 18.5			
BRG					15 37 52.0			
BRG			S	S	15 43 09.0	+2.3		
BRG			SS	SS	15 46 35.0	-4.2		
BRG			pmax	pmax				
	comp=Z,19nm,1.8s							
BRG			MLR	MLR				
	comp=N,15μm,10.4s							
BRG			MLR	MLR				
	comp=E,1μm,15.4s							
BRG			MLR	MLR				
	comp=Z,3μm,16.8s							
NC602	NORSAR Array S	49.98 323	*e*P	P	15 35 56.5	+0.1		
NC602			IAmb	IAmb	15 36 13.4			
	comp=Z,479nm,2.6s							
NC602			*e*S	S	15 43 08.3	+1.6		
NC602			*e*SS	SS	15 46 40.8	+1.7		
NC602	NORSAR Array S	49.98 323	*e*P	P	15 35 56.5	+0.1		
NC303	NORSAR Array S	50.02 323	*e*P	P	15 35 57.0	+0.2		
NB201	NORSAR Array S	50.07 323	*e*P	P	15 35 56.6	-0.7		
PERS	Pernice	50.11 304	*i* P	P	15 35 58.6	+0.8		
COCO	West Island	50.11 162	*e*P	P	15 35 56.1	-1.8		
COCO	West Island	50.11 162	*e*P	P	15 35 56.1	-1.8		
NB2	NORSAR Subarra	50.11 323	P	P	15 35 57.2	-0.4		
	baz=86,slow=7.9							
NB2	NORSAR Subarra	50.11 323	P	P	15 35 57.2	-0.4		
	comp=Z,21nm,0.7s,baz=86,slow=7.9							
NOA	NORSAR Array B	50.11 323	P	P	15 35 57.5	-0.1		
	comp=Z,21nm,0.9s,baz=86,slow=7.5,SNR=32							
NOA			LR	LR	15 59 41.4			
	comp=Z,1μm,19.3s,baz=85,slow=39							
OZLJ	Ozalj	50.12 303	P	P	15 35 58.0	+0.3		
SOKA	Sobothi	50.15 304	*i* P	P	15 35 59.0	+0.9		
	comp=Z,40nm,1.0s,SNR=45							
UDBI	Udbina	50.19 301	P	P	15 35 58.6	+0.2		
NBO02	NORSAR Array S	50.29 323	*e*P	P	15 35 57.1	-1.7		
NAO01	NORSAR Array S	50.29 323	*e*P	P	15 35 58.4	-0.5		
NC204	NORSAR Array S	50.31 323	*e*P	P	15 35 58.5	-0.6		
NBO00	NORSAR Array S	50.33 323	*e*P	P	15 35 58.6	-0.5		
MOA	Molln	50.39 306	*i* P	P	15 36 00.3	+0.5		
	comp=Z,21nm,1.3s,SNR=9.6							
TBLU	Trondheim	50.41 326	*e*P	P	15 35 59.9	+0.2		
TBLU			IAmb	IAmb	15 36 06.9			
	comp=Z,35nm,1.0s							
CLL	Collm	50.46 310	*e*P	P	15 35 59.7	-0.6		
CLL			pmax	pmax				
	comp=Z,91nm,1.9s							
CLL	Collm	50.46 310	*i* P	P	15 36 00.9	+0.6		
	comp=Z,86nm,2.0s							
CLL			*i* pP	sP	15 36 06.3	+0.9		
CLL			*e*PP	PP	15 37 54.0	-1.7		
CLL			*e*S	S	15 43 15.0	+1.4		
CLL			*e*SS	SS	15 46 48.0	+0.9		
CLL			*e*SSS	SSS	15 48 12.0			
CLL			Lm	MLR	16 01 00.0			
	comp=Z,4μm,18.1s							
CLL	Collm	50.46 310	*e*P	P	15 35 59.7	-0.6		
	comp=Z,90nm,1.9s							
OBKA	Obir	50.52 304	*i* pP	P	15 36 02.5	+1.6		
	comp=Z,41nm,1.7s,SNR=8.6							
GEC2	GERESS Array S	50.53 307	*e*P	P	15 36 01.1	+0.1		
GEC2	GERESS Array S	50.53 307	*e*P	P	15 36 01.1	+0.1		
GERES	GERESS Array B	50.53 307	P	P	15 36 01.9	+0.9		
	comp=Z,16nm,0.8s,baz=76,slow=5.9,SNR=70							
GERES			LR	LR	16 00 22.6			
	comp=Z,2μm,21.1s,baz=78,slow=40							
GEA0	GERESS Array S	50.53 307	*e*P	P	15 36 01.2	+0.2		
KHC	Kasperske Hory	50.55 307	*e*P	P	15 36 02.0	+1.0		
KHC			*e*pP	sP	15 36 08.2	+2.0		
KHC			*e*PP	PP	15 37 59.3	+2.7		
KHC			*e*S	S	15 43 15.6	+0.6		
KHC			*e*SS	SS	15 46 47.4	-1.3		
KHC			AMS	AMS	15 58 30.0			
	comp=Z,2μm,20.3s							
KHC	Kasperske Hory	50.55 307	*e*P	P	15 36 02.0	+1.0		
KHC			*e*		15 36 08.2			
KHC			*e*		15 37 59.3			
KHC			*e*S	S	15 43 15.6	+0.6		
KHC			*e*SS	SS	15 46 47.4	-1.3		
KHC			MLR	MLR				
	comp=Z,2μm,20.3s							
KHC	Kasperske Hory	50.55 307	*e*P	P	15 36 01.5	+0.4		
	comp=Z,34nm,1.7s							
LJU	Ljubljana	50.65 303	*i* P	P	15 36 03.0	+1.3		
LJU			*e*S	S	15 43 17.8	+1.4		
PCI	Palu	50.74 128	P	P	15 36 05.0	+2.2		
	comp=Z,45nm,1.1s,comp=Z,732nm							
NVLJ	Novalja	50.79 301	P	P	15 36 02.3	-0.5		
KBS	Kingsbay	50.91 346	*e*P	P	15 36 03.4	+0.1		
KBS			IAmb	IAmb	15 36 23.3			
	comp=Z,74nm,1.7s							
KBS			*e*PP	PP	15 38 01.2	+1.9		
KBS			*e*S	S	15 43 21.0	+1.8		
KBS	Kingsbay	50.91 346	*e*P	P	15 36 03.1	-0.2		
KBS			pmax	pmax				
	comp=Z,48nm,1.4s							
KBS	Kingsbay	50.91 346	*e*P	P	15 36 03.1	-0.2		
	comp=Z,48nm,1.4s							
NKC	Novy Kostel	51.02 309	*e*P	P	15 36 05.8	+1.2		
NKC			*e*PP	PP	15 38 06.9	+6.0		
NKC			*e*SS	SS	15 46 55.9	-0.3		
NKC			AMS	AMS	16 01 50.0			
	comp=Z,2μm,19.8s							
NKC	Novy Kostel	51.02 309	*e*P	P	15 36 05.8	+1.2		
NKC			*e*		15 38 06.9			
NKC			*e*SS	SS	15 46 55.9	-0.3		
NKC			MLR	MLR				
	comp=Z,2μm,19.8s							
DOMB	Dombas	51.05 324	*e*P	P	15 36 05.2	+0.5		
DOMB			IAmb	IAmb	15 36 05.4			
	comp=Z,30nm,0.9s							
KONO	Kongsberg	51.05 321	*e*S	S	15 43 23.0	+1.4		
KONO			*e*SS	SS	15 46 58.3	+2.1		
KONO	Kongsberg	51.05 321	‖ *i* P	P	15 36 03.9	-0.7		
KONO			pmax	pmax				
	comp=Z,270nm,2.0s							
KONO			MLR	MLR				
	comp=Z,9μm,16.0s							
KONO	Kongsberg	51.05 321	*e*P	P	15 36 04.2	-0.5		
MRSI	Marisa	51.06 125	P	P	15 36 06.5	+1.3		
	comp=Z,40nm,0.8s							
KBA	Koelnbreinsper	51.18 305	*e*pP	P	15 36 07.1	+1.1		
	comp=Z,32nm,1.4s							
TRI	Trieste	51.25 303	*e*P	P	15 36 05.4	-0.9		
TRI			pmax	pmax				
	comp=Z,69nm,0.9s							
TRI	Trieste	51.25 303	*e*P	P	15 36 05.4	-0.9		
	comp=Z,69nm,0.9s							
XMIS	Christmas Isla	51.41 150	*e*P	P	15 36 06.4	-1.4		
CUC	Castrocucco	51.46 296	*e*P	P	15 36 07.7	-0.3		
	comp=Z,26nm,0.9s							
GTOI	Gorontalo	51.65 124	P	P	15 36 09.1	-0.5		
	comp=Z,37nm,1.3s,comp=Z,434nm							
MOL	Molde	51.70 325	*e*P	P	15 36 10.2	+0.8		
HOMB	Homborsund	51.81 320	IAMs_20	IAMs_20	16 04 10.3			
	comp=Z,3μm,18.8s							
ABTA	Abfaltersbach	51.81 305	*i* P	P	15 36 10.8	+0.1		
	comp=Z,9.4nm,1.0s,SNR=5.2							
GRFO	Grafenberg	51.92 309	*e*P	P	15 36 13.0	+1.7		
GRFO			pmax	pmax				
	comp=Z,144nm,1.7s							
GRFO	Grafenberg	51.92 309	*e*P	P	15 36 13.0	+1.7		
	comp=Z,144nm,1.7s							
CEL	Celeste	51.97 293	*e*P	P	15 36 11.9	0.0		
	comp=Z,85nm,1.2s							
AKN	Aaknes	52.00 325	*e*P	P	15 36 12.5	+0.8		
WTTA	Wattenberg	52.26 306	*i* P	P	15 36 15.0	+1.0		
	comp=Z,13nm,0.8s,SNR=6.9							
TTSI	Tana Toraja	52.39 130	P	P	15 36 16.3	+1.2		
	comp=Z,54nm,1.4s,comp=Z,811nm							
SNART	Snartemo	52.47 320	*e*P	P	15 36 15.9	+0.7		
SNART			IAmb	IAmb	15 36 22.9			
	comp=Z,39nm,1.0s							
ODD1	Odda	52.50 322	*e*P	P	15 36 16.3	+0.8		
ODD1			IAmb	IAmb	15 36 17.9			
	comp=Z,31nm,0.9s							
MOTA	Moosalm	52.59 306	*i* P	P	15 36 17.3	+0.8		
	comp=Z,15nm,0.9s,SNR=8.7							
BLS5	Blasjo	52.67 321	*e*S	S	15 43 43.6	-0.3		
RETA	Reutte	52.77 306	*i* pP	P	15 36 19.1	+1.4		
	comp=Z,40nm,1.2s,SNR=13							
FETA	Feichten	52.92 305	*i* P	P	15 36 19.6	+0.7		
	comp=Z,31nm,1.3s,SNR=12							
FOO	Floro	53.00 324	*e*S	S	15 43 49.9	+1.6		
FOO			IAMs_20	IAMs_20	15 59 29.5			
	comp=Z,2μm,18.7s							
BER	Bergen	53.06 323	*e*P	P	15 36 20.4	+0.8		
SPSI	Sidrap Palu	53.08 131	P	P	15 36 22.5	+2.3		
	comp=Z,22nm,1.1s							
ASK	Askoy	53.12 323	*e*P	P	15 36 21.0	+1.1		
FUORN	Ofenpass-Fuorn	53.34 305	*e*P	P	15 36 21.6	-0.5		
	comp=Z,23nm,0.6s							
DAVA	Damuels	53.40 306	*i* pP	P	15 36 23.7	+1.2		
	comp=Z,40nm,1.1s,SNR=12							
STU	Stuttgart	53.44 308	*e*P	P	15 36 23.4	+0.9		
STU			pmax	pmax				
	comp=Z,77nm,1.4s							
STU	Stuttgart	53.44 308	*e*P	P	15 36 23.4	+0.9		
	comp=Z,77nm,1.4s							
PEA0	Petropavlovsk-	53.50 46	*e*P	P	15 36 22.7	-0.2		
PEA0B	Petropavlovsk-	53.50 46	*e*P	P	15 36 23.1	+0.2		
	comp=Z,89nm,1.2s							
PETK	Petropavlovsk-	53.50 46	P	P	15 36 23.0	+0.1		
	comp=Z,22nm,0.9s,baz=327,slow=1.7,SNR=21							
PETK			LR	LR	15 59 27.4			
	comp=Z,702nm,18.1s,baz=287,slow=36							
PETK	Petropavlovsk-	53.50 46	P	P	15 36 23.0	+0.1		
PETK			pmax	pmax				
	comp=Z,20nm,0.8s							
PETK			MLR	MLR				
	comp=Z,702nm,18.2s							
WDD	Wied Dalam	53.85 291	*e*P	P	15 36 24.5	-1.3		
TUE	Stuetta	53.99 305	*e*P	P	15 36 27.0	+0.2		
	comp=Z,16nm,0.8s							
VLC	Villacollemand	53.99 302	*e*P	P	15 36 27.5	+0.8		
	comp=Z,36nm,1.0s							
PET	Petropavlovsk	54.08 46	*e*P	P	15 36 25.9	-1.2		
PET			*e*		15 38 33.0			
PET			*e*S	S	15 43 55.2	-7.9		
PET			pmax	pmax				
	comp=Z,500nm,4.2s							
PET			pmax	pmax				
	comp=Z,200nm,4.5s							
PET			pmax	pmax				
	comp=Z,42nm,1.1s							
PET			pmax	pmax				
	comp=Z,100nm,13.8s							
PET			MLR	MLR				
	comp=Z,900nm,18.0s							
PET			MLR	MLR				
	comp=Z,1μm,18.0s							
PET	Petropavlovsk	54.08 46	*e*P	P	15 36 25.6	-1.5		
	comp=Z,43nm,1.1s							
BFO	Black Forest	54.11 308	*e*P	P	15 36 27.9	+0.4		
BFO			pmax	pmax				
	comp=Z,108nm,2.0s							
BFO	Black Forest	54.11 308	*e*P	P	15 36 27.9	+0.4		
	comp=Z,108nm,2.0s							
CLTB	Caltabellotta	54.19 294	*e*P	P	15 36 27.6	-0.7		
	comp=Z,57nm,1.4s							
BILL	Bilibino	54.59 27	*d* *i* P	P	15 36 30.7	0.0		
BILL			*e*		15 36 35.8			
BILL			*e*		15 36 40.9			
BILL			*i*		15 37 34.2			
BILL			*e*		15 38 29.9			
BILL			PPP	PPP	15 39 43.0			
BILL			*e*S	S	15 44 17.0	+7.3		
BILL			*e*SSS	SSS	15 49 43.4			
BILL			pmax	pmax				
	comp=Z,25nm,1.7s							
BILL			MLR	MLR				
	comp=Z,993nm,16.0s							
ECH	Echery	54.89 308	‖ *e*P	P	15 36 34.5	+1.3		
MOF	Molkenrain	55.02 307	‖ *e*

KEST Kesra 57.77 293 *e*P P 15 36 53.4 -0.5
comp=Z,31nm,1.1s
DRUM Mains of Drumt 57.87 320 *e*P P 15 36 53.4 -0.8
MLA1 Latheron 57.89 322 *e*P P 15 36 54.5 +0.2
PLDF La Plantade 57.91 306⇑*e*P P 15 36 56.8 +2.0
BIGH Upper Bighouse 58.10 322 *e*P P 15 36 55.8 0.0
AGO Saint Agoulin 58.20 306⇑*e*P P 15 36 59.1 +2.4
MMRI Maumere 58.26 132 P P 15 36 55.5 -1.9
comp=Z,57nm,0.9s
MMRI Maumere 58.26 132 *e*P P 15 36 54.7 -2.7
comp=Z,48nm,0.9s
ESY Stoneypath 58.26 319⇑*e*P P 15 36 57.0 +0.1
EDU Dundee 58.27 320⇑*e*P P 15 36 57.3 +0.3
LBL Lubilhac 58.42 305⇑*e*P P 15 37 00.7 +2.3
SKP1 Kophill 58.65 314 *e*P P 15 37 00.3 +0.6
MDO Dochfour 58.67 321 *e*P P 15 37 00.1 +0.2
ESK Eskdalemuir 58.77 318⇑*e*P P 15 37 00.5 0.0
ESK Eskdalemuir 58.77 318 *e*P P 15 36 59.9 -0.6
ESK pmax pmax
comp=Z,31nm,0.9s
ESK Eskdalemuir 58.77 318 *e*P P 15 36 59.9 -0.6
comp=Z,31nm,0.9s
CMAH Djebel Manchou 58.83 295 P P 15 37 01.8 +0.4
ABSA Djebel Ababsia 58.93 294 P P 15 37 02.6 +0.5
KESW Keswick, Cumbr 58.97 317 *e*P P 15 37 02.2 +0.3
WOL Wolverton 59.03 313 *e*P P 15 37 03.0 +0.5
WOL AMB AMB 15 37 04.6
comp=Z,136nm,1.6s
PGBU Glenifferbraes 59.29 319 *e*P P 15 37 04.6 +0.5
KPL Plockton 59.36 321⇑*e*P P 15 37 04.6 +0.1
KPL AMB AMB 15 37 14.6
comp=Z,76nm,2.7s
STRD Stroud 59.42 314 *e*P P 15 37 05.2 +0.1
STRD AMB AMB 15 37 06.2
comp=Z,91nm,1.1s
CKFL Kef-Lekhel 59.44 295 P P 15 37 05.9 +0.3
HLM1 Long Mynd 59.57 315⇑*e*P P 15 37 06.8 +0.7
HLM1 AMB AMB 15 37 08.4
comp=Z,39nm,1.3s
FOEL Foel Wylfa 59.62 316⇑*e*P P 15 37 07.2 +0.7
FOEL AMB AMB 15 37 08.8
comp=Z,88nm,1.1s
CASM Ain Smara 59.66 295 P P 15 37 07.7 +0.6
MONM Monmouth 59.77 314 *e*P P 15 37 07.8 +0.3
MONM AMB AMB 15 37 11.3
comp=Z,77nm,1.5s
CTEI Djebel Teioual 59.81 295 P P 15 37 09.8 +1.6
MCH1 Michaelchurch 59.82 315⇑*e*P P 15 37 08.2 +0.3
MCH1 AMB AMB 15 37 09.8
comp=Z,88nm,1.4s
HGH Gray Hill 59.84 314⇑*e*P P 15 37 08.3 +0.3
GUMO Guam 59.88 95 LR LR 16 04 04.7
comp=Z,440nm,19.3s,baz=282,slow=37
WPM1 Penmaenmawr 59.88 316 *e*P P 15 37 09.0 +0.7
LLW Llanuwchllyn 59.89 316⇑*e*P P 15 37 08.9 +0.6
DFRA Djebel Bou Aff 59.99 295 P P 15 37 10.2 +0.7
GMK Mull of Kintyr 60.04 319⇑*e*P P 15 37 10.6 +1.3
VALF Valcebollere 60.32 303⇑*e*P P 15 37 11.5 -0.2
SOEI Soe 60.36 131 P P 15 37 11.3 -0.8
comp=Z,102nm,1.6s,comp=Z,2um
SOEI Soe 60.36 131 *e*P P 15 37 10.5 -1.6
comp=Z,412nm,1.8s
LPW Lampeter 60.39 315⇑*e*P P 15 37 12.4 +0.7
CKHR Kef el Ahmar 60.48 295 P P 15 37 14.3 +1.5
SET Setif 60.49 295 P P 15 37 13.0 +0.2
GMM Mts of Mourne 60.64 318 *e*P P 15 37 12.8 -0.6
DYA Yadsworthy 60.95 313 *e*P P 15 37 16.0 +0.4
HTL Hartland 61.06 314 *e*P P 15 37 17.2 +0.9
RESF Ens 61.29 304 *e*P P 15 37 19.3 +1.1
BORG Borgarnes 63.26 332 *e*P P 15 37 32.1 +1.2
BORG Borgarnes 63.26 332 *e*P P 15 37 32.1 +1.2
SAUI Saumlaki 63.54 124 *e*P P 15 37 31.6 -1.8
SUMG Summit 64.08 343 *i*P P 15 37 37.2 +0.6
comp=Z,26nm,0.9s
SUMG Summit 64.08 343 *e*P P 15 37 36.4 -0.2
SUMG pmax pmax
comp=Z,22nm,0.8s
SUMG Summit 64.08 343 *e*P P 15 37 36.4 -0.2
comp=Z,22nm,0.8s
ES19 SONSECA Array 65.52 302 *e*P P 15 37 45.9 -0.3
ESDC Sonseca Array 65.58 302 P P 15 37 46.5 -0.1
comp=Z,4.0nm,0.7s,baz=57,slow=6.7,SNR=31
ESDC LR LR 16 09 05.1
comp=Z,568nm,19.8s,baz=50,slow=38
ESLA Sonseca Array 65.58 302 *e*P P 15 37 46.7 +0.2
comp=Z,88nm,1.9s
PAB San Pablo 65.90 302 *e*P P 15 37 48.8 +0.1
PAB pmax pmax
comp=Z,113nm,2.0s
PAB San Pablo 65.90 302 *e*P P 15 37 48.8 +0.1
comp=Z,112nm,2.0s
PBRG Braganca 66.44 305 *e*P P 15 37 53.0 +0.9
comp=Z,26nm,1.7s
JAY Jayapura 66.46 112 LR LR 16 07 02.0
comp=Z,12nm,21.8s,slow=36
TAM Tamanrasset 66.73 282 *e*P P 15 37 54.5 +0.2
TAM pmax pmax
comp=Z,10.0nm,1.0s
TAM Tamanrasset 66.73 282 *e*P P 15 37 54.5 +0.2
comp=Z,10nm,1.0s
MVO Moncorvo 66.94 305 *e*P P 15 37 56.8 +1.5
comp=Z,35nm,1.3s
MVO *e*S S 15 46 54.9 +6.6
MVO Moncorvo 66.94 305 *e*LR LR 16 00 10.4
comp=Z,637nm,18.0s
MTN Manton Dam 67.03 127 *e*P P 15 37 57.7 +1.7
MBWA Marble Bar 67.13 142 *e*P P 15 37 56.2 -0.3
comp=Z,35nm,1.0s
PCAB Cabril 67.33 306 *e*P P 15 38 00.7 +3.0
comp=Z,45nm,1.3s
POLO Lamas de Olo 67.34 305 *e*P P 15 37 59.7 +1.8
comp=Z,15nm,1.4s
POLO *e*S S 15 46 59.0 +5.8
PGAV Gavieira, Arco 67.37 306 *e*P P 15 37 58.2 +0.2
comp=Z,42nm,1.7s
PGAV *e*S S 15 47 00.1 +6.6
PGAV Gavieira, Arco 67.37 306 *e*LR LR 16 00 25.1
comp=Z,900nm,20.0s
MTE Manteigas 67.65 304 *e*P P 15 38 01.6 +1.8
comp=Z,56nm,1.5s
MTE *e*S S 15 47 01.0 +4.1
MTE Manteigas 67.65 304 *e*LR LR 16 00 18.4
comp=Z,647nm,20.0s
MTE Manteigas 67.65 304 *e*P P 15 38 00.4 +0.6
comp=Z,51nm,1.3s
PVIS Viseu 67.73 305 *e*P P 15 38 02.2 +1.9
comp=Z,50nm,1.4s
FITZ Fitzroy Crossi 67.77 135 P P 15 38 00.6 +0.1
comp=Z,9.9nm,0.6s,baz=328,slow=6.2,SNR=23
FITZ LR LR 16 10 34.9
comp=Z,253nm,19.7s,slow=39
FITZ Fitzroy Crossi 67.77 135 *e*P P 15 38 00.3 -0.3
comp=Z,85nm,1.8s
PCBR Castelo Branco 67.88 304 *e*P P 15 38 03.2 +2.1
comp=Z,16nm,1.0s
PMRV Marv??o 68.02 303 *e*P P 15 38 03.9 +1.8
comp=Z,34nm,1.2s
PMRV *e*S S 15 47 06.3 +5.0
PMRV Marv??o 68.02 303 *e*LR LR 16 00 50.8
comp=Z,571nm,20.0s
PBAR Barrancos 68.40 302 *e*P P 15 38 04.9 +0.4
comp=Z,83nm,1.4s
PBAR *e*S S 15 47 08.0 +2.2
PESTR Estremoz 68.44 303 *e*S S 15 47 07.9 +1.7
PCAS Casmilo, Conde 68.46 304 *e*S S 15 47 08.1 +1.7
TOLK Toolik Lake Re 68.48 18 P P 15 38 04.5 0.0
baz=317
EVO Evora 68.89 303 *e*P P 15 38 09.3 +1.8
comp=Z,40nm,1.4s
PBEJ Beja 69.04 302 *e*P P 15 38 10.2 +1.7
comp=Z,25nm,1.5s
PVAQ Vaqueiros 69.25 302 *e*P P 15 38 11.3 +1.5
comp=Z,36nm,1.2s
PVAQ *e*S S 15 47 16.4 +0.5
PVAQ Vaqueiros 69.25 302 *e*LR LR 16 01 32.2
comp=Z,532nm,20.0s
COLD Coldfoot 69.35 19 *e*P P 15 38 10.1 +0.3
comp=Z,31nm,1.0s
PCVE Castro Verde 69.36 302 *e*P P 15 38 12.2 +1.8
comp=Z,37nm,1.3s
PCVE *e*S S 15 47 19.4 +2.3
MESJ Messejana 69.38 302 *e*P P 15 38 10.4 -0.2
MESJ *e*S S 15 47 17.3 -0.1
MESJ AMS AMS 16 15 24.2
comp=Z,724nm,19.6s

MESJ Messejana 69.38 302 *e*P P 15 38 12.7 +2.2
comp=Z,38nm,1.3s
MESJ Messejana 69.38 302 *e*P P 15 38 10.3 -0.2
MESJ *e*S S 15 47 17.2 -0.1
PBDV Barranco-do-Ve 69.48 302 *e*P P 15 38 12.0 +0.8
comp=Z,77nm,1.4s
PBDV *e*S S 15 47 19.1 +0.5
ATKA Atka Island 69.49 40 *e*P P 15 38 10.7 -0.2
PMAFR Mafra 69.53 304 *e*S S 15 47 23.7 +4.5
LIS Lisbon 69.56 303 *e*P P 15 38 11.4 -0.3
LIS Lisbon 69.56 303 *e*P P 15 38 11.3 -0.3
MORF Marmelete 69.94 302 *e*P P 15 38 13.8 -0.3
MORF *e*S S 15 47 23.9 -0.2
MORF AMS AMS 16 07 58.4
comp=N,851nm,22.1s
MORF Marmelete 69.94 302 *e*S S 15 47 26.5 +2.4
MORF Marmelete 69.94 302 *e*P P 15 38 13.8 -0.3
MORF *e*S S 15 47 23.9 -0.2
PFVI Vila Bisbo 70.15 302 *e*P P 15 38 15.8 +0.5
comp=N,79nm,1.8s
PFVI *e*S S 15 47 29.2 +2.7
TTA Tatalina 70.65 24 *e*P P 15 38 18.0 0.0
TTA pmax pmax
comp=Z,52nm,1.7s
TTA Tatalina 70.65 24 *e*P P 15 38 18.0 0.0
comp=Z,52nm,1.7s
TT01 Tatalina 70.66 24 *e*P P 15 38 17.8 -0.2
SFJD Kangerlussuaq 71.02 342 P P 15 38 19.3 -0.7
comp=Z,20nm,0.7s,baz=44,slow=6.6,SNR=10
SFJD LR LR 16 13 23.6
comp=Z,831nm,21.2s,baz=39,slow=39
SFJD Kangerlussuaq 71.02 342 *i*P P 15 38 19.7 -0.3
comp=Z,21nm,0.8s
SFJD Kangerlussuaq 71.02 342 *e*P P 15 38 19.5 -0.6
comp=Z,48nm,1.3s
FYU Fort Yukon 71.14 18 *e*P P 15 38 21.0 +0.2
comp=Z,77nm,1.6s
CAST Castle Rocks 71.57 23 *e*P P 15 38 23.3 -0.2
comp=Z,35nm,1.0s
MDM Murphy Dome 71.58 20 *e*P P 15 38 23.6 +0.1
comp=Z,54nm,1.4s
COLA College 71.75 20 *e*P P 15 38 24.1 -0.4
COLA pmax pmax
comp=Z,35nm,0.8s
COLA College 71.75 20 *e*P P 15 38 24.1 -0.4
comp=Z,35nm,0.8s
KTH Kantishna Hill 71.83 22 *e*P P 15 38 24.8 -0.4
comp=Z,35nm,1.0s
PPLA Purkeypile 71.92 23 *e*P P 15 38 25.8 0.0
comp=Z,188nm,1.9s
CCB Clear Creek Bu 71.93 20 *e*P P 15 38 24.4 -1.2
comp=Z,24nm,1.2s
WRH Wood River Hil 71.98 21 *e*P P 15 38 24.8 -1.1
comp=Z,21nm,1.2s
SVW2 Sparrevohn 72.06 26 *e*P P 15 38 26.5 0.0
comp=Z,37nm,1.2s
IL1 Eielson Array 72.09 20 *e*P P 15 38 25.8 -0.8
ILAR Eielson Array 72.09 20 P P 15 38 26.1 -0.6
comp=Z,12nm,1.0s,baz=312,slow=4.6,SNR=67
ILAR LR LR 16 14 55.1
comp=Z,581nm,19.2s,baz=330,slow=40
ILB Eielson Array 72.09 20 *e*P P 15 38 25.6 -1.0
INK Inuvik 72.27 13 P P 15 38 27.1 -0.4
comp=Z,6.7nm,0.6s,baz=323,slow=5.4,SNR=16
INK Inuvik 72.27 13 *e*P P 15 38 27.1 -0.4
comp=Z,87nm,1.8s
MCK McKinley 72.30 21 *e*P P 15 38 28.7 +0.8
MCK pmax pmax
comp=Z,60nm,1.8s
MCK McKinley 72.30 21 *e*P P 15 38 28.7 +0.8
comp=Z,60nm,1.8s
LSZ Lusaka 72.52 235 *e*P P 15 38 29.2 -0.8
LSZ pmax pmax
comp=Z,8.0nm,0.9s
LSZ Lusaka 72.52 235 *e*P P 15 38 29.2 -0.8
comp=Z,8.4nm,0.9s
RND Reindeer 72.57 22 *e*P P 15 38 29.7 +0.1
RND pmax pmax
comp=Z,10.0nm,0.8s
RND Reindeer 72.57 22 *e*P P 15 38 29.7 +0.1
comp=Z,10nm,0.8s
DHY Denali Highway 73.25 21 *e*P P 15 38 32.3 -1.5
comp=Z,25nm,1.2s
RSO Redoubt South 73.49 25 *e*P P 15 38 35.3 +0.1
EGAK Eagle 73.59 18 *e*P P 15 38 35.2 -0.2
comp=Z,37nm,1.3s
DOT Dot Lake 73.75 20 *e*P P 15 38 35.5 -1.0
comp=Z,47nm,1.0s
PMR Palmer 73.85 23 *e*P P 15 38 36.1 -0.9
PMR pmax pmax
comp=Z,20nm,0.9s
PMR Palmer 73.85 23 *e*P P 15 38 36.1 -0.9
comp=Z,20nm,0.9s
SML Sawmill 73.94 23 *e*P P 15 38 37.1 -0.5
SML pmax pmax
comp=Z,60nm,1.0s
SML Sawmill 73.94 23 *e*P P 15 38 37.1 -0.5
comp=Z,60nm,1.0s
RC01 Rabbit Creek A 74.03 24 *e*P P 15 38 36.9 -1.2
comp=Z,40nm,1.0s
SCM Sheep Creek Mo 74.22 22 *e*P P 15 38 39.0 -0.4
SCM pmax pmax
comp=Z,54nm,1.2s
SCM Sheep Creek Mo 74.22 22 *e*P P 15 38 39.0 -0.4
comp=Z,54nm,1.2s
WRA Warramunga Arr 74.36 130 P P 15 38 40.2 -0.4
comp=Z,41nm,0.8s,baz=325,slow=5.9,SNR=96
WRA LR LR 16 15 03.2
comp=Z,256nm,21.5s,baz=300,slow=39
WRA Warramunga Arr 74.36 130 *i*P P 15 38 40.2 -0.4
WRA pmax pmax
comp=Z,43nm,0.8s
WRAB Tennant Creek 74.36 130*d i*P P 15 38 40.6 0.0
WRAB pmax pmax
comp=Z,122nm,0.9s
WRAB Tennant Creek 74.36 130 *e*P P 15 38 40.5 -0.1
comp=Z,61nm,0.8s
WB2 Warramunga Arr 74.37 130 *e*P P 15 38 40.2 -0.4
MENT Mentasta 74.41 20 *e*P P 15 38 38.4 -1.9
comp=Z,8.4nm,0.7s
HARP HAARP 74.42 21 *e*P P 15 38 41.3 +0.9
comp=Z,119nm,1.2s
DAWY Dawson 74.62 18 *e*P P 15 38 41.4 -0.2
comp=Z,29nm,1.1s
BRLK Bradley Lake 74.64 25 *e*P P 15 38 41.7 -0.1
comp=Z,55nm,1.0s
CNPM China Poot 74.70 25 *e*P P 15 38 43.6 +1.5
comp=Z,51nm,1.0s
KLU Klutina 74.91 22 *e*P P 15 38 44.3 +1.0
comp=Z,27nm,1.2s
TORD Torodi Ar. Bea 74.99 275 P P 15 38 44.1 -0.4
comp=Z,20nm,0.7s,baz=46,slow=4.7,SNR=46
TORD LR LR 16 14 40.2
comp=Z,574nm,20.1s,baz=75,slow=38
DIV Divide 75.24 22 *e*P P 15 38 43.8 -1.5
comp=Z,55nm,1.6s
FID Port Fidalgo 75.32 23 *e*P P 15 38 46.3 +0.7
comp=Z,59nm,1.2s
BMRM Bremner River 75.72 22 *e*P P 15 38 49.1 +1.1
comp=Z,25nm,1.1s
NWAO Narrogin (SRO) 76.16 150 LR LR 16 17 02.1
comp=Z,345nm,18.2s,slow=39
NWAO Narrogin (SRO) 76.16 150 *e*P P 15 38 49.8 -0.8
NWAO pmax pmax
comp=Z,57nm,1.0s
NWAO Narrogin (SRO) 76.16 150 *e*P P 15 38 49.8 -0.8
comp=Z,58nm,1.0s
CRQM Cirque 76.32 21 *e*P P 15 38 50.5 -1.1
comp=Z,27nm,1.0s
AS31 Alice Springs 76.91 133 *e*P P 15 38 55.0 -0.1
comp=Z,8.9nm,0.9s
ASAR Alice Springs 76.91 133 P P 15 38 55.4 +0.2
comp=Z,24nm,0.8s,baz=319,slow=4.9,SNR=91
ASAR LR LR 16 18 01.8
comp=Z,328nm,18.7s,baz=310,slow=40
AS01 Alice Springs 76.93 133 *e*P P 15 38 55.0 -0.2
FRB Frobisher Bay 77.65 347 P P 15 38 58.1 -0.5
comp=Z,5.2nm,0.5s,baz=28,slow=7.4,SNR=4.4
HYT Haines Junctio 77.82 19 *e*P P 15 39 00.2 +0.2
comp=Z,26nm,0.9s
WHY Whitehorse 78.63 18 *e*P P 15 39 04.1 -0.3
comp=Z,16nm,1.0s
FORT Forrest 79.26 141 *e*P P 15 39 08.0 0.0
comp=Z,323nm,0.9s
SKAG Skagway 79.56 19 *e*P P 15 39 10.0 +0.7
comp=Z,42nm,1.0s
YKW3 Yellowknife Ar 80.50 8 *e*P P 15 39 13.3 -1.0
comp=Z,34nm,1.1s
YKA Yellowknife Ar 80.57 8 P P 15 39 14.2 -0.5
comp=Z,17nm,0.8s,baz=342,slow=5.2,SNR=67
YKA LR LR 16 18 24.8
comp=Z,62nm,19.4s,baz=0.0,slow=38
YKA Yellowknife Ar 80.57 8 *i*P P 15 39 14.1 -0.6
YKA pmax pmax
comp=Z,17nm,0.8s
YKB5 Yellowknife Ar 80.57 8 *e*P P 15 39 13.7 -1.0
DLBC Dease Lake 81.76 17 P P 15 39 21.9 +0.7
comp=Z,15nm,1.0s,baz=326,slow=6.4,SNR=13
DLBC LR LR 16 21 37.2
comp=Z,444nm,18.1s,slow=40
DLBC Dease Lake 81.76 17 *e*P P 15 39 20.7 -0.5
comp=Z,30nm,1.1s
CTA Charters Tower 82.28 122 P P 15 39 23.6 -0.8
comp=Z,18nm,0.8s,baz=289,slow=7.6,SNR=4.9
CTAO Charters Tower 82.28 122 *e*P P 15 39 23.4 -1.0
CTAO pmax pmax
comp=Z,22nm,0.8s
CTAO Charters Tower 82.28 122 *e*P P 15 39 23.4 -1.0
comp=Z,22nm,0.8s
DBIC Dimbokro 83.97 274 P P 15 39 33.1 -0.2
comp=Z,10nm,0.7s,baz=30,slow=7.2,SNR=16
DBIC LR LR 16 20 03.8
comp=Z,589nm,18.6s,baz=56,slow=38
DBIC Dimbokro 83.97 274 *e*P P 15 39 31.8 -1.6
comp=Z,29nm,1.2s
BOSA Boshof 84.07 228 P P 15 39 32.6 -1.0
comp=Z,5.2nm,0.7s,baz=45,slow=5.5,SNR=8.3
BBOO Buckleboo 85.07 137 *e*P P 15 39 38.0 -0.4
comp=Z,53nm,1.3s
SCHQ Schefferville 85.47 343 P P 15 39 39.2 -1.0
comp=Z,9.5nm,0.7s,baz=40,slow=5.7,SNR=4.1
SCHQ LR LR 16 22 23.5
comp=Z,455nm,18.7s,baz=23,slow=39
STKA Stephens Creek 87.54 133 P P 15 39 49.5 -1.1
comp=Z,2.2nm,0.7s,baz=341,slow=2.9,SNR=8.9
STKA LR LR 16 24 42.1
comp=Z,324nm,18.4s,baz=304,slow=40
BBB Bella Bella 87.89 18 LR LR 16 24 43.9
comp=Z,431nm,19.0s,slow=39
EIDS Eidsvold 89.11 123 *e*P P 15 39 57.2 -1.0
comp=Z,65nm,1.8s
FFC Flin Flon 89.24 3 *e*P P 15 39 57.6 -0.9
FFC pmax pmax
comp=Z,34nm,1.0s
FFC Flin Flon 89.24 3 *e*P P 15 39 57.6 -0.9
comp=Z,34nm,1.0s
EDM Edmonton 89.77 9 *e*P P 15 40 00.2 -0.8
EDM pmax pmax
comp=Z,66nm,1.4s
EDM Edmonton 89.77 9 *e*P P 15 40 00.2 -0.8
comp=Z,66nm,1.4s
LLLB Lillooet 90.81 15 *e*P P 15 40 05.3 -0.6
comp=Z,36nm,1.3s
MCW Mount Constitu 92.42 16 P P 15 40 14.7 +1.3
MCW Mount Constitu 92.42 16 P P 15 40 14.7 +1.3
RPW Rockport 92.93 16 P P 15 40 15.9 +0.1
B05A Bryant 92.98 16 P P 15 40 16.2 +0.3
baz=340
LMQ La Malbaie 93.03 342 *e*P P 15 40 17.0 +0.8
comp=Z,29nm,1.0s
LMN Caledonia Moun 93.05 338 *e*P P 15 40 16.7 +0.4
comp=Z,19nm,0.9s
JCW Jim Creek 93.08 16 P P 15 40 17.2 +0.7
PQI Presque Isle 93.24 340 *e*P P 15 40 17.2 0.0
comp=Z,20nm,1.0s
NLWA Neilton Lookou 93.38 18 *e*P P 15 40 18.1 +0.3
comp=Z,48nm,1.2s
B08A Colville Reser 93.48 14 *e*P P 15 40 18.3 0.0
comp=Z,26nm,1.4s
WALA Waterton Lakes 93.75 11 *e*P P 15 40 19.2 -0.5
comp=Z,22nm,1.4s
ULM Lac du Bonnet 93.79 359 P P 15 40 18.6 -1.1
comp=Z,12nm,1.0s,baz=342,slow=4.5,SNR=10.0
ULM LR LR 16 27 49.5
comp=Z,645nm,18.3s,baz=6.0,slow=39
ULM Lac du Bonnet 93.79 359 *e*P P 15 40 18.6 -1.1
comp=Z,20nm,1.1s
NEW Newport 93.99 13 P P 15 40 19.9 -0.7
comp=Z,10nm,1.0s,baz=21,slow=3.8,SNR=11
NEW LR LR 16 25 32.9
comp=Z,732nm,21.2s,slow=37
NEW Newport 93.99 13 P P 15 40 20.3 -0.3
baz=344
NEW Newport 93.99 13 *e*P P 15 40 19.5 -1.2
NEW pmax pmax
comp=Z,20nm,1.2s
NEW Newport 93.99 13 *e*P P 15 40 19.5 -1.2
comp=Z,20nm,1.2s
D05A Enumclaw 94.02 16 *e*P P 15 40 20.1 -0.6
comp=Z,38nm,1.1s
VLDQ Val d'Or 94.06 347 *e*P P 15 40 20.7 -0.2
comp=Z,12nm,1.0s
LTY Liberty 94.24 16 *e*P P 15 40 21.6 -0.3
comp=Z,7.6nm,0.8s
LON Longmire 94.47 16 *e*P P 15 40 22.5 -0.4
LON pmax pmax
comp=Z,11nm,1.0s
LON Longmire 94.47 16 *e*P P 15 40 22.5 -0.4
comp=Z,11nm,1.0s
VT2 Vantage 2 94.66 15 *e*P P 15 40 23.9 +0.1
BLMT Blacktail Moun 94.70 11 *e*P P 15 40 24.0 -0.2
TDL Tradedollar La 94.75 17 P P 15 40 25.2 +0.9
BSMT Bassoo Peak 94.79 12 P P 15 40 25.2 +0.6
D08A Wollman Farm, 94.80 15 *e*P P 15 40 24.0 -0.4
comp=Z,16nm,1.5s
PKME Peaks-Kenny Pk 94.88 340 *e*P P 15 40 24.3 -0.4
comp=Z,16nm,0.9s
JTMT Jette 94.97 11 *e*P P 15 40 24.5 -0.8
A33A Warroad 95.10 359 P P 15 40 25.1 -0.6
baz=1.7
A32A Rocking H Ranc 95.13 359 P P 15 40 25.7 -0.1
baz=0.8
SWMT Swartz Lake 95.25 11 *e*P P 15 40 26.7 +0.2
TRQ Mont Tremblant 95.28 344 *e*P P 15 40 25.2 -1.4
EGMT Eagleton 95.32 8 P P 15 40 26.3 -0.5
baz=350
EGMT Eagleton 95.32 8 *e*P P 15 40 26.0 -0.8
comp=Z,20nm,1.1s
E09A Wood Farm, Sta 95.48 14 *e*P P 15 40 26.0 -1.4
comp=Z,20nm,1.2s
B34A Aery, Baudette 95.53 358 P P 15 40 26.7 -0.9
baz=2.3
SLMT Seeley Lake 95.59 11 *e*P P 15 40 27.9 -0.3
B35A Bob, Littlefor 95.63 357 P P 15 40 27.1 -1.0
baz=3.0
AGMN Agassiz Nation 95.75 359 *e*P P 15 40 27.4 -1.2
comp=Z,11nm,0.9s
MSO Missoula 95.92 11 P P 15 40 28.6 -1.0
baz=347
MSO Missoula 95.92 11 *e*P P 15 40 29.0 -0.6
comp=Z,9.7nm,1.2s
EYMN Ely 95.94 356 P P 15 40 28.4 -1.1
baz=4.8
EYMN Ely 95.94 356 *e*P P 15 40 28.0 -1.5
comp=Z,18nm,0.9s
CHMT Chamberlain Mo 95.94 11 *e*P P 15 40 29.2 -0.6
F10A Beach Ranch, E 96.17 14 *e*P P 15 40 29.3 -1.4
comp=Z,15nm,1.1s
C36A Pine Crest Far 96.19 357 P P 15 40 29.8 -0.9
baz=3.8
HRY Holter Researc 96.35 10 *e*P P 15 40 30.5 -1.0
LONY Lake Ozonia 96.80 344 *e*P P 15 40 33.5 -0.1
comp=Z,17nm,1.0s
D34A Park Rapids 96.94 358 P P 15 40 32.9 -1.2
baz=1.9
BMO Blue Mountains 97.24 14 *e*P P 15 40 35.4 -0.2
BMO pmax pmax
comp=Z,15nm,1.8s
BMO Blue Mountains 97.24 14 *e*P P 15 40 35.4 -0.2
comp=Z,15nm,1.8s
BOZ Bozeman (W) 97.47 10 P P 15 40 36.1 -0.6
baz=349
BOZ Bozeman (W) 97.47 10 *e*P P 15 40 35.8 -0.9
BOZ pmax pmax
comp=Z,8.0nm,1.0s
BOZ Bozeman (W) 97.47 10 *e*P P 15 40 35.8 -0.9
comp=Z,8.1nm,1.0s
GCMT Greycliff 97.53 9 *e*P P 15 40 36.3 -0.7
DLMT Dillon 97.56 11 *e*P P 15 40 34.2 -2.9
comp=Z,17nm,1.4s
SADO Sadowa 97.59 347 LR LR 16 28 19.3
comp=Z,800nm,20.4s,baz=1.5,slow=38
F39A Loretta 97.93 355 P P 15 40 38.1 -0.5
baz=5.3

F38A	**Pierce - Schro**	**97.94**	**356**	P		**P**	**15 40 37.9**	**-0.7**
	baz=4.6							
MCMT	**McKenzie Canyo**	**98.04**	**11**	*e*P		**P**	**15 40 39.0**	**-0.4**
DZM	**Mont Dzumac**	**98.12**	**111**	*e*LR		LR	16 12 40.0	
	comp=Z,748nm,24.4s							
YHH	**Holmes Hill**	**98.37**	**10**	*e*P		**P**	**15 40 39.8**	**-1.2**
	comp=Z,6.3nm,1.5s							
H17A	**Grant Village**	**98.79**	**9**	*e*P		**P**	**15 40 42.5**	**-0.3**
	comp=Z,6.6nm,1.1s							
YPP	**Pitchstone Pla**	**98.88**	**10**	*e*P		Pdif	15 40 44.2	+1.0
	comp=Z,18nm,1.8s							
IMW	**Indian Meadow**	**99.23**	**10**	*e*P		**Pdif**	**15 40 45.0**	**+0.2**
	comp=Z,6.4nm,1.1s							
RSSD	**Black Hills**	**99.72**	**5**	*e*P		**Pdif**	**15 40 46.8**	**-0.1**
RSSD				pmax		pmax		
	comp=Z,5.0nm,0.8s							
RSSD	**Black Hills**	**99.72**	**5**	*e*Pdif		**Pdif**	**15 40 46.8**	**-0.1**
	comp=Z,4.9nm,0.8s							
PDAR	**Pinedale Array**	**100.52**	**9**	PKiKP		**PKiKP**	**15 45 17.6**	**+0.6**
	comp=Z,0.5nm,0.6s,baz=45,slow=1.8,SNR=3.7							
SDCO	**Great Sand Dun**	**105.93**	**7**	*e*Pdif		**Pdif**	**15 41 12.8**	**-2.0**
TXAR	**Lajitas Array**	**114.44**	**6**	PKP		PKPdf	15 45 40.9	-2.2
	comp=Z,0.3nm,0.6s,baz=281,slow=0.5,SNR=3.1							
SNAA	**Sanae**	**122.59**	**202**	PKP		**PKPdf**	**15 45 56.0**	**-1.2**
SNAA	**Sanae**	**122.59**	**202**	*e*PKIKP		**PKPdf**	**15 45 56.1**	**-1.2**
SNAA	**Sanae**	**122.59**	**202**	*e*PKPdf		**PKPdf**	**15 45 56.1**	**-1.2**
VNA2	**Neumayer--Watz**	**123.81**	**203**	PKP		**PKPdf**	**15 45 58.7**	**-0.9**
	baz=33,slow=3.5							
VNA1	**Neumayer--Stat**	**124.03**	**204**	PKP		**PKPdf**	**15 45 59.6**	**-0.3**
VNA3	**Neumayer Olymp**	**124.60**	**203**	PKP		**PKPdf**	**15 45 58.2**	**-2.8**
QSPA	**South Pole Qui**	**126.10**	**180**	*e*PKPdf		**PKPdf**	**15 46 03.1**	**-1.0**
TGUH	**Tegucigalpa,Un**	**128.97**	**347**	*e*PKPdf		**PKPdf**	**15 46 10.4**	**-0.7**
PTGA	**Pitinga**	**130.38**	**307**	*e*PKPdf		**PKPdf**	**15 46 10.4**	**-3.5**
PPT2	**Papeete2**	**130.59**	**82**	*e*LR		LR	16 27 35.5	
	comp=Z,578nm,26.0s							
RUSC	**La Rusia**	**132.18**	**326**	*e*PKPdf		**PKPdf**	**15 46 13.4**	**-4.4**
TAOE	**Nuku Hiva Isla**	**132.63**	**65**	*e*LR		LR	16 28 22.7	
	comp=Z,443nm,30.8s							
TBI	**Tubuai**	**133.61**	**89**	*e*LR		LR	16 29 01.8	
	comp=Z,227nm,35.0s							
OTAV	**Otavalo**	**139.55**	**330**	*e*PKPdf		**PKPdf**	**15 46 28.3**	**-3.3**
CPUP	**Villa Florida**	**144.49**	**275**	PKP		**PKPab**	**15 46 37.2**	**-0.4**
	comp=Z,25nm,1.1s,baz=62,slow=4.3,SNR=22							
CPUP	**Villa Florida**	**144.49**	**275**	*e*PKIKP		**PKPab**	**15 46 37.0**	**-0.7**
CPUP	**Villa Florida**	**144.49**	**275**	*e*PKPdf		**PKPab**	**15 46 37.0**	**-0.7**
RKT	**Rikitea**	**145.12**	**78**	*e*LR		LR	16 34 18.0	
	comp=Z,372nm,33.0s							
LPAZ	**La Paz**	**147.17**	**300**	PKPbc		**PKPdf**	**15 46 45.3**	**+0.3**
	comp=Z,14nm,1.1s,baz=24,slow=6.5,SNR=15							
LPAZ	**La Paz**	**147.17**	**300**	*e*PKPdf		**PKPdf**	**15 46 44.2**	**-0.7**
NNA	**Nana**	**149.44**	**317**	*i* PKP2		**PKPab**	**15 46 56.3**	**-0.9**
PB11	**IPOC Station P**	**150.55**	**297**	*e*PKPdf		**PKPdf**	**15 46 51.2**	**+1.4**
PB11				*e*PKPbc		**sPKPdf**	**15 46 55.1**	**0.0**
PB11	**IPOC Station P**	**151.23**	**294**	*e*pPKPdf		**PKPbc**	**15 46 57.0**	**+0.3**
LVC	**Limon Verde**	**151.73**	**291**	*e*PKPdf		**PKPdf**	**15 46 52.5**	**+0.7**
LVC				*e*PKPbc		**PKPbc**	**15 46 58.2**	**+0.1**
TRQA	**Tornquist**	**151.75**	**256**	*e*PKPbc		**PKPbc**	**15 46 56.4**	**-0.9**

*ISCJB **15** 15:46:21.1±0.6,50.°23N×0.°04×19.°17E±0.°04,h0km, Error ellipse: s-maj=6.7km s-min=2.7km az=19.0*
*CSEM **15** 15:46:22.1±0.4,50.°26N×19.°23E,h2km,ML3.0/5, Error ellipse: s-maj=9.1km s-min=3.7km az=14.0*
*WAR **15** 15:46:23.9,50.°18N×19.°36E,h1km,Mw2.4*
*PRU **15** 15:46:23.0,50.°31N×19.°25E,h0km*
ISC 15 15:46:22.4±0.9,50.°16N±0.°05×19.°23E±0.°02,h0km,n27,
σ0.°79/43,Poland

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
OJC	**Ojcow**	**0.37**	**81**	*e*Pg	**Pg**	**15 46 29.3**	**-0.1**
OJC				*e*Sg	**Sg**	**15 46 33.7**	**-0.5**
OJC	**Ojcow**	**0.37**	**81**	*e*Pg	**Pg**	**15 46 29.3**	**-0.1**
OJC				*e*Sg	**Sg**	**15 46 33.7**	**-0.5**
OJC	**Ojcow**	**0.37**	**81**	*e*Pg	**Pg**	**15 46 29.3**	**-0.1**
OJC				*e*Sg	**Sg**	**15 46 33.7**	**-0.5**
OKC	**Ostrava-Krasne**	**0.77**	**245**	*e*PG	**Pn**	**15 46 39.8**	**-0.7**
OKC				*e*SG	**Sn**	**15 46 51.7**	**-1.1**
	comp=Z,22nm,0.4s						
OKC	**Ostrava-Krasne**	**0.77**	**245**	Pg	**Pn**	**15 46 39.8**	**-0.7**
NIE	**Niedzica**	**1.02**	**137**	*e*Pg	**Pb**	**15 46 43.1**	**+0.2**
NIE				*e*Sg	**Sb**	**15 46 57.0**	**+0.2**
NIE	**Niedzica**	**1.02**	**137**	*e*Pg	**Pb**	**15 46 43.1**	**+0.2**
NIE				*e*Sg	**Sb**	**15 46 57.0**	**+0.2**
NIE	**Niedzica**	**1.02**	**137**	*e*Pg	**Pb**	**15 46 43.1**	**+0.2**
NIE				*e*Sg	**Sb**	**15 46 57.0**	**+0.2**
LANS	**Liptovska Anna**	**1.03**	**171**	*e*Pg	**Pb**	**15 46 43.2**	**+0.2**
LANS				*e*Sg	**Sn**	**15 46 58.7**	**-0.5**
LANS	**Liptovska Anna**	**1.03**	**171**	*e*PG	**Pb**	**15 46 43.2**	**+0.2**
LANS				*e*SG	**Sn**	**15 46 58.7**	**-0.5**
STHS	**Stebnicka Huta**	**1.50**	**119**	*e*PG	**Pg**	**15 46 51.8**	**+0.6**
STHS				*e*SN	**Sn**	**15 47 12.7**	**+1.8**
STHS				*e*LG	Lg	15 47 13.8	
KRLC	**Kraliky**	**1.58**	**268**	*e*PG	**Pg**	**15 46 52.6**	**0.0**
KRLC				*e*SG	**Sg**	**15 47 14.4**	**+1.3**
KRLC	**Kraliky**	**1.58**	**268**	Pg	**Pg**	**15 46 52.6**	**0.0**
KRLC				Sg	**Sg**	**15 47 14.4**	**+1.3**
VYHS	**Vyhne**	**1.69**	**189**	*e*PG	**Pn**	**15 46 53.6**	**+0.4**
VYHS				*e*SN	**Sn**	**15 47 15.6**	**+0.1**
VYHS				*e*LG	Lg	15 47 19.0	
KECS	**Kecovo**	**1.87**	**153**	*e*Sn	**Sb**	**15 47 21.4**	**0.0**
KECS	**Kecovo**	**1.87**	**153**	*e*SN	**Sb**	**15 47 21.3**	**-0.1**
KECS				*e*LG	Lg	15 47 29.0	
DPC	**Dobruska-Polom**	**1.88**	**277**	*e*PG	**Pb**	**15 46 57.2**	**-0.3**
DPC				*e*SG	**Sg**	**15 47 22.5**	**-0.1**
	comp=Z,24nm,0.4s						
DPC	**Dobruska-Polom**	**1.88**	**277**	Pg	**Pb**	**15 46 57.2**	**-0.3**
DPC				Sg	**Sg**	**15 47 22.5**	**-0.1**
	24nm,0.4s						
UPC	**Upice**	**2.09**	**281**	*e*SG	**Sg**	**15 47 29.2**	**-0.3**
	comp=Z,7.4nm,0.5s						
UPC	**Upice**	**2.09**	**281**	Sg	**Sg**	**15 47 29.2**	**-0.3**
	7.4nm,0.5s						
GOPC	**GO Pecny, Ondr**	**2.88**	**267**	*e*SG	**Sg**	**15 47 53.8**	**-0.9**
	comp=Z,7.5nm,0.4s						
GOPC	**GO Pecny, Ondr**	**2.88**	**267**	Sg	**Sg**	**15 47 53.8**	**-0.9**
	7.5nm,0.4s						
PRU	**Pruhonice**	**3.02**	**268**	*e*SG	**Sg**	**15 47 58.8**	**-0.7**
	comp=Z,6.2nm,0.4s						
PRU	**Pruhonice**	**3.02**	**268**	Sg	**Sg**	**15 47 58.8**	**-0.7**
	6.2nm,0.4s						
BRG	**Berggiesshubel**	**3.45**	**284**	PG	**Pg**	**15 47 30.9**	**+2.4**
BRG				SG	**Sg**	**15 48 13.7**	**+0.6**
	5.7nm,0.5s						
KHC	**Kasperske Hory**	**3.81**	**256**	*e*SG	**Sg**	**15 48 23.4**	**-1.5**
	comp=Z,5.6nm,0.4s						
KHC	**Kasperske Hory**	**3.81**	**256**	Sg	**Sg**	**15 48 23.4**	**-1.5**
	5.6nm,0.4s						

*ISCJB **15** 16:08:29.7±0.3,53.°97S±0.°05×1.°8W±0.°1,h10km,mb5.0/30, MS4.4/15, Error ellipse: s-maj=9.3km s-min=7.3km az=176.6*
*IDC **15** 16:08:29.7±0.6,53.°94S×1.°58W,h0km,mb4.3/9, mb1 4.4/10,mb1mx4.2/25,mbtmp4.4/10,ML4.4/1,MS4.4/15, Ms1 4.4/15,ms1mx4.2/25, Error ellipse: s-maj=21.7km s-min=18.0km az=78.0*
*GCMT **15** 16:08:31.5±0.2,54.°10S×1.°20W,h12km,MW5.1/102, Moment Tensor Solution. s56,c75; s102,c169; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}=1.57±.11; $M_{\theta\theta}$4.36±.11; $M_{\phi\phi}$-2.79±.11; $M_{r\theta}$-0.57±.29; $M_{r\phi}$-3.64±.09; $M_{\theta\phi}$0.68±.30; Best double couple: M_o5.17300×10^{16} NP1:ϕ_s157.00000°,δ88.00000°,λ-10.00000°. NP2: ϕ_s248.00000°,δ80.00000°,λ-178.00000°. Principal axes: T 5.9700, Plg6.0000°, Azm203.0000°; N -1.5950, Plg80.0000°, Azm328.0000°; P -4.3760, Plg8.0000°, Azm112.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*NEIC **15** 16:08:31.5±0.3,54.°01S×1.°85W,h10km,mb4.9/22 Error ellipse: s-maj=9.5km s-min=9.1km az=76.0*
*BJI **15** 16:08:34.6,54.°00S×1.°80W,h17km,mB5.6/8,Ms5.5/7, Ms7 5.1/6*
ISC 15 16:08:32.0±0.4,54.°04S±0.°07×1.°92W±0.°08,h10km,n79,
σ1.°75/61,mb4.8/30,MS4.4/15,1C,Bouvet Island region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
VNA1	**Neumayer--Stat**	**16.91**	**187**	P	**P**	**16 12 30.0**	**-0.4**
VNA2	**Neumayer--Watz**	**17.13**	**186**	P	**P**	**16 12 32.2**	**-0.6**
	baz=4.6,slow=15						
VNA3	**Neumayer Olymp**	**17.61**	**188**	P	**Pn**	**16 12 36.7**	**-0.4**
SNAA	**Sanae**	**17.71**	**181**	P	**Pn**	**16 12 38.3**	**0.0**
SNAA	**Sanae**	**17.71**	**181**	P	**Pn**	**16 12 38.6**	**+0.3**
	1.2nm,0.3s,baz=30,slow=15,SNR=77						
SNAA				LR	LR	16 18 07.0	
	comp=Z,2μm,19.0s,baz=12,slow=32						
SNAA	**Sanae**	**17.71**	**181**	*e*Pn	**Pn**	**16 12 37.0**	**-1.4**
	139nm,1.6s						
H09N1	**TRISTAN DA CUN**	**18.43**	**333**	T	T	16 31 03.9	
	SNR=13						
SYO	**Syowa Base**	**24.16**	**144↑**	*e*P	**P**	**16 13 44.9**	**-2.9**
SUR	**Sutherland**	**27.04**	**46**	LR	LR	16 22 48.3	
	comp=Z,129nm,18.6s,baz=176,slow=32						
PMSA	**Palmer Station**	**32.03**	**226**	*e*P	**P**	**16 14 58.6**	**+0.5**
	77nm,1.4s						
BOSA	**Boshof**	**32.21**	**49**	P	**P**	**16 14 57.1**	**-3.1**
	3.3nm,1.0s,baz=239,slow=5.9,SNR=2.8						
BOSA				LR	LR	16 25 21.1	
	comp=Z,985nm,19.6s,baz=200,slow=32						
BOSA	**Boshof**	**32.21**	**49**	*e*P	**P**	**16 15 01.0**	**+0.7**
	21nm,1.3s						
MAW	**Mawson**	**32.63**	**140**	P	**P**	**16 15 02.5**	**-0.9**
	3.0nm,0.9s,baz=265,slow=11,SNR=7.6						
MAW	**Mawson**	**32.63**	**140**	*e*P	**P**	**16 15 03.0**	**-0.4**
	1.2nm,1.1s						
EFI	**East Falkland**	**33.23**	**251**	*e*P	**P**	**16 15 09.9**	**+1.1**
	143nm,1.5s						
CRZF	**Crozet Islands**	**34.48**	**100**	*e*P	**P**	**16 15 21.2**	**+1.5**
	141nm,1.3s						
QSPA	**South Pole Qui**	**36.21**	**180**	*e*P	**P**	**16 15 34.4**	**-0.2**
	19nm,1.0s						
MATP	**Matopo**	**40.78**	**47**	P	**P**	**16 16 10.8**	**-2.5**
	2.7nm,1.0s,baz=173,slow=6.7,SNR=3.7						
LSZ	**Lusaka**	**45.26**	**43**	*e*P	**P**	**16 16 47.3**	**-2.4**
	7.5nm,1.1s						
H10S2	**ASCENSION HYDR**	**46.10**	**342**	T	T	17 06 21.9	
	baz=169,slow=74,SNR=53						
H10S3	**ASCENSION HYDR**	**46.11**	**342**	T	T	17 06 22.6	
	baz=169,slow=74,SNR=34						
H10S1	**ASCENSION HYDR**	**46.12**	**342**	T	T	17 06 23.3	
	baz=169,slow=74,SNR=37						
ASCN	**Ascension**	**47.06**	**343**	*e*P	**P**	**16 17 05.1**	**+1.4**
	246nm,1.3s						
SBA	**Scott Base**	**48.19**	**177**	*e*P	**P**	**16 17 12.2**	**+0.4**
	11nm,1.1s						
VNDA	**Vanda**	**48.32**	**175**	P	**P**	**16 17 13.3**	**+0.5**
	6.6nm,0.8s,baz=215,slow=7.5,SNR=40						
VNDA				LR	LR	16 36 54.0	
	comp=Z,1μm,20.7s,baz=204,slow=35						
VNDA	**Vanda**	**48.32**	**175**	*e*P	**P**	**16 17 12.6**	**-0.2**
	8.9nm,0.8s						
CPUP	**Villa Florida**	**48.95**	**282**	P	**P**	**16 17 18.9**	**+0.7**
	6.2nm,0.9s,baz=126,slow=8.2,SNR=12						
CPUP	**Villa Florida**	**48.95**	**282**	*e*P	**P**	**16 17 18.1**	**-0.1**
BDFB	**Brasilia**	**52.38**	**299**	*e*P	**P**	**16 17 43.7**	**-0.7**
RER	**Riviere de l'E**	**54.25**	**76**	*e*P	**P**	**16 17 57.9**	**-0.2**
LCO	**Las Campanas**	**54.79**	**268**	*e*P	**P**	**16 18 01.3**	**-0.8**
	9.4nm,1.2s						
RCBR	**Riachuelo**	**55.39**	**317**	*e*P	**P**	**16 18 05.3**	**-0.9**
	31nm,1.2s						
LVC	**Limon Verde**	**58.55**	**274**	*e*P	**P**	**16 18 27.8**	**-1.3**
	7.4nm,0.8s						
DBIC	**Dimbokro**	**60.53**	**357**	P	**P**	**16 18 41.8**	**-0.4**
	9.6nm,0.7s,baz=140,slow=7.3,SNR=13						
DBIC				LR	LR	16 38 22.2	
	comp=Z,211nm,20.3s,baz=116,slow=30						
DBIC	**Dimbokro**	**60.53**	**357**	*e*P	**P**	**16 18 41.8**	**-0.4**
	16nm,0.9s						
PB11	**IPOC Station P**	**61.20**	**276**	*e*P	**P**	**16 18 50.7**	**+3.7**
	9.8nm,1.1s						
KMBO	**Kilima Mbogo**	**61.77**	**46**	LR	LR	16 43 25.0	
	comp=Z,1μm,19.9s,baz=170,slow=34						
LPAZ	**La Paz**	**63.03**	**280**	P	**P**	**16 19 00.7**	**+0.8**
	3.7nm,1.0s,baz=124,slow=5.9,SNR=9.0						
LPAZ	**La Paz**	**63.03**	**280**	*e*P	**P**	**16 19 00.1**	**+0.2**
	7.4nm,1.1s						
SAML	**Samuel**	**66.11**	**289**	*e*P	**P**	**16 19 19.1**	**-0.2**
	5.9nm,1.0s						
TOA0	**Torodi Ar. Sit**	**66.99**	**4**	*e*P	**P**	**16 19 23.9**	**-0.8**
TORD	**Torodi Ar. Bea**	**66.99**	**4**	P	**P**	**16 19 23.9**	**-0.9**
	1.7nm,0.7s,baz=187,slow=6.6,SNR=12						
TORD				LR	LR	16 42 21.4	
	comp=Z,560nm,21.9s,baz=180,slow=30						
MSEY	**Mahe Island**	**67.53**	**65**	*e*P	**P**	**16 19 27.6**	**-0.8**
	148nm,1.4s						
MCQ	**Macquarie Isla**	**70.68**	**168**	*e*P	**P**	**16 19 49.2**	**+1.9**
	260nm,1.3s						
PTGA	**Pitinga**	**71.20**	**296**	*e*P	**P**	**16 19 51.0**	**0.0**
	9.1nm,1.2s						
H08N3	**Diego Garcia H**	**74.87**	**80**	T	T	17 42 34.7	
	baz=216,slow=75,SNR=69						
H08N1	**Diego Carcia H**	**74.89**	**80**	T	T	17 42 35.9	
	baz=216,slow=75,SNR=63						
H08N2	**Diego Garcia H**	**74.89**	**80**	T	T	17 42 36.9	
	baz=216,slow=75,SNR=56						
H01W2	**Cape Leeuwin H**	**75.70**	**130**	T	T	17 44 01.9	
	baz=212,slow=75,SNR=13						
H01W1	**Cape Leeuwin H**	**75.71**	**130**	T	T	17 44 02.1	
	baz=212,slow=75,SNR=12						
H01W3	**Cape Leeuwin H**	**75.71**	**130**	T	T	17 44 01.0	
	baz=212,slow=75,SNR=14						
TAM	**Tamanrasset**	**76.78**	**7**	*e*P	**P**	**16 20 23.4**	**-0.2**
	1.2nm,2.0s						
RPN	**Rapa Nui**	**77.94**	**240**	*e*P	**P**	**16 20 29.9**	**-0.2**
	377nm,1.8s						
NWAO	**Narrogin (SRO)**	**78.74**	**132**	LR	LR	16 50 26.6	
	comp=Z,181nm,18.7s,slow=32						
WKZ	**Wanaka**	**81.21**	**173**	*e*P	P	16 20 40.7	-6.9
	129nm,1.4s						
OTAV	**Otavalo**	**82.30**	**281**	*e*P	**P**	**16 20 54.3**	**0.0**
	5.2nm,1.0s						
BBGH	**Gun Hill**	**82.82**	**304**	*e*P	**P**	**16 20 56.6**	**+0.3**
	964nm,1.4s						
RUSC	**La Rusia**	**83.85**	**289**	*e*P	**P**	**16 21 03.3**	**+1.0**
	4.1nm,1.2s						
URZ	**Urewera**	**88.07**	**179**	LR	LR	16 56 48.5	
	comp=Z,295nm,21.0s,baz=176,slow=33						
STKA	**Stephens Creek**	**88.80**	**150**	LR	LR	17 00 24.3	
	comp=Z,79nm,18.2s,baz=200,slow=35						
KEST	**Kesra**	**89.93**	**9**	LR	LR	16 56 35.9	
	comp=Z,195nm,21.2s,baz=202,slow=32						
PALK	**Palkekele**	**91.51**	**80**	LR	LR	16 53 34.9	
	comp=Z,89nm,20.2s,baz=295,slow=30						
ESDC	**Sonseca Array**	**93.36**	**358**	LR	LR	17 01 14.8	
	comp=Z,86nm,18.2s,baz=45,slow=34						
ASAR	**Alice Springs**	**93.76**	**140**	P	**P**	**16 21 46.9**	**-2.3**
	0.6nm,1.1s,baz=190,slow=2.6,SNR=3.1						
AS01	**Alice Springs**	**93.78**	**140**	*e*P	**P**	**16 21 46.2**	**-3.0**
BRTR	**Keskin Array B**	**98.28**	**27**	LR	LR	17 06 14.3	
	comp=Z,141nm,21.2s,baz=182,slow=35						
PSI	**Prapat**	**98.63**	**97**	LR	LR	16 58 34.0	
	comp=Z,104nm,18.5s,baz=240,slow=30						
KSH	**Kashi**	**114.58**	**56**	*e*PKP	PKPdf	16 27 15.1	+3.3
KSH				PP	**PP**	**16 28 16.1**	**+6.5**
KSH				PKS	**PKSdf**	**16 30 50.1**	**+1.6**
KSH				SKS	**SKSdf**	**16 34 26.0**	**+2.3**
KSH				AMB	AMB		
	comp=Z,79nm,5.0s						
KSH				LR	LR		
	comp=N,120nm,6.3s						
KSH				LR	LR		
	comp=E,58nm,5.5s						
KSH				LR	LR		
	comp=Z,170nm,7.4s						
KMI	**Kunming**	**118.44**	**86**	PKP	**PKPdf**	**16 27 18.8**	**-1.0**
GYA	**Guiyang**	**121.76**	**88**	*e*Pdif	**Pdif**	**16 23 55.0**	**+1.1**
GYA				PKP	**PKiKP**	**16 27 26.4**	**+0.3**
GYA				PP	**PP**	**16 29 03.3**	**+3.9**
GYA				AMB	AMB		
	comp=Z,120nm,7.8s						
WMQ	**Urumqi**	**123.66**	**60**	PKP	**PKPdf**	**16 27 28.9**	**-0.1**
WMQ				LR	LR		
	comp=N,190nm,8.3s						
WMQ				LR	LR		
	comp=E,160nm,7.3s						
LZH	**Lanzhou**	**127.11**	**78**	*e*PKP	**PKPdf**	**16 27 33.1**	**-2.9**
LZH				sPKP		16 27 45.3	
LZH				LR	LR		
	comp=N,93nm,17.2s						
LZH				LR	LR		
	comp=E,100nm,18.0s						
LZH				LR	LR		
	comp=Z,160nm,20.0s						
FOXC	**Fox Airport**	**132.34**	**273**	*e*PKPpre	PKPpre	16 27 37.4	
HHC	**Hu-ho-hao-te**	**134.78**	**79**	*e*PKP	**PKPdf**	**16 27 53.5**	**+3.2**
YKA	**Yellowknife Ar**	**145.17**	**311**	PKPbc	**PKPbc**	**16 28 06.6**	**-1.2**
	2.0nm,0.8s,baz=104,slow=4.1,SNR=11						
YKB5	**Yellowknife Ar**	**145.17**	**311**	*e*PKPbc	**PKPbc**	**16 28 06.3**	**-1.6**
MJAR	**Matsushiro Arr**	**147.49**	**106**	PKPbc	**PKPbc**	**16 28 14.9**	**-0.7**
	1.8nm,0.8s,baz=216,slow=1.8,SNR=4.3						
DLBC	**Dease Lake**	**151.43**	**300**	PKPbc	**PKPbc**	**16 28 23.8**	**-1.0**
	0.9nm,0.3s,baz=139,slow=20,SNR=2.7						
ILAR	**Eielson Array**	**159.49**	**315**	PKPab	**PKPab**	**16 29 05.1**	**-2.3**
	0.6nm,1.0s,baz=64,slow=2.1,SNR=3.6						

*ISK **15** 16:09:54.4,36.°80N×36.°88E,h3km,MD3.1*
*DDA **15** 16:09:54.8,36.°83N×36.°85E,h22km, MI3.2*
*ISCJB **15** 16:09:55.5±0.4,36.°81N±0.°02×36.°84E±0.°02,h6km±3km, Error ellipse: s-maj=3.7km s-min=2.7km az=144.7*
*CSEM **15** 16:09:55.9±0.2,36.°80N×36.°84E,h10km,ML3.2, Error ellipse: s-maj=5.6km s-min=3.5km az=147.0*
ISC 15 16:09:55.7±0.9,36.°80N±0.°02×36.°85E±0.°02,h10km±7km,
n71,σ0.°90/97,Jordan-Syria region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KUZU	**Kuzuini**	**0.18**	**100**	*i* P	**Pg**	**16 09 59.8**	**+0.1**
KUZU				*i* S	**Sg**	**16 10 01.9**	**-0.5**
KUZU	**Kuzuini**	**0.18**	**100**	P	**Pg**	**16 09 59.8**	**+0.1**
KUZU				S	**Sg**	**16 10 01.9**	**-0.5**
DRWC	**Darouich**	**0.24**	**219**	*e*P	**Pg**	**16 10 01.3**	**+0.6**
	SNR=117						
DRWC				*e*S	**Sg**	**16 10 05.6**	**+1.6**
	3μm,0.3s,SNR=118						
KAMA	**Osmaniye**	**0.41**	**339**	*i* P	**Pg**	**16 10 02.9**	**-1.0**
KAMA				*i* S	**Sg**	**16 10 08.6**	**-0.7**
GAZ	**Gaziantep**	**0.47**	**38**	*e*PG	**Pg**	**16 10 04.2**	**-0.7**
GAZ				*e*SG	**Sg**	**16 10 10.5**	**-0.6**
GAZ	**Gaziantep**	**0.47**	**38**	*e*Pg	**Pg**	**16 10 04.2**	**-0.7**
GAZ				*e*Sg	**Sg**	**16 10 10.5**	**-0.6**
HCB	**Kahramanmara~**	**0.54**	**5**	*i* P	**Pg**	**16 10 05.2**	**-1.1**
HCB				*i* S	**Sg**	**16 10 12.4**	**-1.0**
TAHT	**Tahtakopru-Hat**	**0.69**	**232**	*e*PG	**Pg**	**16 10 09.0**	**0.0**
TAHT				*e*SG	**Sb**	**16 10 19.5**	**+0.2**
TAHT	**Tahtakopru-Hat**	**0.69**	**232**	*e*Pg	**Pg**	**16 10 09.0**	**0.0**
TAHT				*e*Sg	**Sb**	**16 10 19.5**	**+0.2**
KMRS	**Kahramanmaras**	**0.70**	**3**	*e*PG	**Pg**	**16 10 08.7**	**-0.6**
KMRS				*e*SG	**Sg**	**16 10 19.1**	**+0.6**
KMRS	**Kahramanmaras**	**0.70**	**3**	*e*Pg	**Pg**	**16 10 08.7**	**-0.6**
KMRS				*e*Sg	**Sg**	**16 10 19.1**	**+0.6**
GZT	**Gaziantep**	**0.79**	**46**	*i* P	**Pg**	**16 10 10.5**	**-0.6**
GZT				*i* S	**Sb**	**16 10 23.4**	**+0.9**
ANDN	**Andirin**	**0.87**	**333**	*i* P	**Pg**	**16 10 12.0**	**-0.6**
ANDN				*i* S	**Sg**	**16 10 22.5**	**-1.6**
ANDN	**Andirin**	**0.87**	**333**	P	**Pg**	**16 10 12.0**	**-0.6**
ANDN				S	**Sg**	**16 10 22.5**	**-1.6**
CEYT	**Ceyhan**	**0.91**	**283**	*e*PG	**Pg**	**16 10 13.1**	**-0.1**
CEYT	**Ceyhan**	**0.91**	**283**	*e*Pg	**Pg**	**16 10 13.1**	**-0.1**
YAYL	**Yayladag**	**0.97**	**218**	*e*PG	**Pg**	**16 10 13.1**	**-1.4**
YAYL	**Yayladag**	**0.97**	**218**	*i* P	**Pg**	**16 10 12.4**	**-2.1**
YAYL				*i* S	**Sg**	**16 10 27.0**	**-0.2**
YAYL	**Yayladag**	**0.97**	**218**	P	**Pg**	**16 10 12.4**	**-2.1**
YAYL	**Yayladag**	**0.97**	**218**	*e*Pg	**Pg**	**16 10 13.1**	**-1.4**
YAYL				S	**Sg**	**16 10 27.0**	**-0.2**
YURE	**YUREGIR**	**0.98**	**272**	*i* P	**Pn**	**16 10 15.7**	**+0.2**
YURE				*i* S	**Sn**	**16 10 31.0**	**+1.5**
YURE	**YUREGIR**	**0.98**	**272**	P	**Pn**	**16 10 15.7**	**+0.2**
KOZT	**Kozan**	**1.06**	**310**	*e*PN	**Pb**	**16 10 15.8**	**-0.4**
KOZT				*e*SN	**Sn**	**16 10 32.0**	**+0.5**
KOZT	**Kozan**	**1.06**	**310**	*e*Pn	**Pb**	**16 10 15.8**	**-0.4**
KOZT				*e*Sn	**Sn**	**16 10 32.0**	**+0.5**
KRTD	**Karatas-Adana**	**1.17**	**260**	*e*PN	**Pn**	**16 10 17.9**	**-0.2**
KRTD	**

MDOK	**Medeo**	**0.18**	**57**	⇓*e*P	**Pg**	**16 15 02.9**	**-0.2**
	12nm,0.3s							
MDOK				⇓*i*S	**Sg**	**16 15 05.7**	**-0.4**
	217nm,0.2s							
KOTS	**Kotyrbulak**	**0.26**	**49**	*e*P	**Pg**	**16 15 04.5**	**0.0**
	16nm,0.1s							
KOTS				*e*S	**Sg**	**16 15 08.1**	**-0.2**
	59nm,0.1s							
MTBS	**Maitube**	**0.31**	**282**	*e*P	**Pg**	**16 15 05.5**	**+0.1**
	30nm,0.1s							
MTBS				*e*S	**Sg**	**16 15 10.1**	**+0.4**
	17nm,0.2s							
KST	**Kastek**	**0.65**	**268**	⇑*i*P	**Pg**	**16 15 11.8**	**+0.2**
	3.8nm,0.4s							
KST				⇓*i*S	**Sb**	**16 15 21.0**	**-0.3**
	9.8nm,0.2s							
KTBS	**Karatobe**	**0.66**	**350**	*e*P	**Pg**	**16 15 11.5**	**-0.3**
	2.6nm,0.2s							
KTBS				*e*S	**Sg**	**16 15 20.2**	**-0.3**
	4.8nm,0.3s							
ANVS	**Anan'yevo**	**0.67**	**115**	⇑*i*P	**Pg**	**16 15 11.2**	**-0.8**
	baz=114							
ANVS				⇑*i*S	**Sg**	**16 15 20.4**	**-0.4**
	baz=114							
CHKK	**Chushkaly**	**0.80**	**8**	*e*P	**Pg**	**16 15 13.8**	**-0.6**
	23nm,0.1s							
CHKK				*e*S	**Sg**	**16 15 24.1**	**-0.8**
	47nm,0.1s							
DGS	**Degeres**	**0.80**	**283**	*e*P	**Pg**	**16 15 14.3**	**-0.2**
	7.0nm,0.1s							
DGS				*e*S	**Sg**	**16 15 25.0**	**-0.1**
	10nm,0.1s							
BOOM	**Boomskoye usch**	**0.88**	**230**	⇑*i*P	**Pg**	**16 15 15.8**	**-0.2**
	baz=230							
BOOM				⇑*i*S	**Sb**	**16 15 27.6**	**-0.4**
	baz=230							
TKM2	**Tokmak 2**	**0.93**	**261**	⇑*i*P	**Pg**	**16 15 16.5**	**-0.4**
	baz=262							
TKM2				⇑*i*S	**Sg**	**16 15 29.2**	**+0.2**
	baz=262							
TKM2	**Tokmak 2**	**0.93**	**261**	⇑P	**Pg**	**16 15 16.6**	**-0.3**
	3.1nm,0.5s							
TKM2				⇑S	**Sb**	**16 15 29.6**	**+0.2**
	2.3nm,0.3s							
ULHL	**Ulahol**	**0.93**	**209**	⇓*i*P	**Pb**	**16 15 16.8**	**-0.4**
	baz=209							
ULHL				⇓*i*S	**Sb**	**16 15 29.4**	**-0.2**
	baz=209							
KDJ	**Kajisay**	**0.97**	**165**	⇑*e*P	**Pg**	**16 15 17.1**	**-0.6**
	baz=164							
KDJ				⇑*i*S	**Sb**	**16 15 30.6**	**+0.1**
	baz=164							
KURS	**Kuram**	**1.06**	**66**	*e*P	**Pn**	**16 15 19.5**	**-0.2**
	1.5nm,0.1s							
KURS				*e*S	**Sn**	**16 15 34.3**	**-0.1**
	4.2nm,0.2s							
PRZ	**Przheval'sk**	**1.28**	**116**	⇓*e*P	**Pg**	**16 15 23.8**	**+0.1**
	baz=116							
PRZ				⇓*i*S	**Sn**	**16 15 41.2**	**+1.1**
	baz=116							
ARXS	**Arharly**	**1.35**	**32**	*e*P	**Pn**	**16 15 23.5**	**-0.2**
	6.7nm,0.1s							
ARXS				*e*S	**Sb**	**16 15 40.9**	**-0.6**
	11nm,0.1s							
KPKS	**Kokpek**	**1.40**	**73**	*e*P	**Pn**	**16 15 24.4**	**0.0**
	15nm,0.1s							
KPKS				*e*S	**Sn**	**16 15 42.9**	**0.0**
	33nm,0.3s							
KBK	**Karagaybulak**	**1.45**	**254**	⇑*i*P	**Pb**	**16 15 25.9**	**-0.1**
	baz=255							
KBK				⇑*i*S	**Sg**	**16 15 45.5**	**-0.3**
	baz=255							
MNBS	**Baschi**	**1.52**	**48**	*e*P	**Pn**	**16 15 26.4**	**+0.3**
MNBS				*e*S	**Sn**	**16 15 46.0**	**+0.2**
CHMS	**Chumysh**	**1.54**	**268**	⇑*i*P	**Pn**	**16 15 26.8**	**+0.6**
	baz=269							
CHMS				⇑*i*S	**Sb**	**16 15 47.5**	**+0.7**
	baz=269							
UZB	**Uzynbulak**	**1.60**	**86**	*e*P	**Pb**	**16 15 27.7**	**-0.8**
	3.6nm,0.1s							
UZB				*e*S	**Sb**	**16 15 48.8**	**+0.1**
	8.8nm,0.2s							
USP	**Ospenovka**	**1.73**	**278**	⇑*i*P	**Pb**	**16 15 30.0**	**-0.7**
	baz=278							
USP				⇑*i*S	**Sb**	**16 15 52.7**	**+0.4**
	baz=278							
AAK	**Ala-Archa**	**1.78**	**257**	⇑Lg	Lg	16 15 55.3		
	2.4nm,0.5s							
SHLS	**Shalkode**	**1.92**	**86**	*e*P	**Pg**	**16 15 39.9**	**+4.0**
	3.4nm,0.4s							
SHLS				*e*S	Sg	16 16 09.1	+8.4
	6.0nm,0.5s							
PDGK	**Podgornoye**	**1.95**	**81**	⇓*i*P	**Pb**	**16 15 33.8**	**-0.8**
	baz=81							
PDGK				⇓*i*S	**Sg**	**16 16 00.8**	**-1.0**
	baz=81							
PDGK	**Podgornoye**	**1.95**	**81**	⇓Pn	**Pb**	**16 15 33.5**	**-1.0**
	2.0nm,0.3s							
PDGK				⇑Lg	Lg	16 16 00.1		
	5.5nm,0.4s							
DJR	**Jarkent**	**2.48**	**58**	*e*P	**Pb**	**16 15 43.3**	**-0.3**
	1.6nm,0.4s							
DJR				⇓*i*S	**Sb**	**16 16 14.8**	**+0.6**
	3.5nm,0.5s							
KAPS	**Kapalarasan**	**2.86**	**38**	⇑*i*P	**Pb**	**16 15 49.5**	**-0.6**
	0.6nm,0.2s							
KAPS				*e*S	**Sb**	**16 16 26.0**	**+1.0**
	4.4nm,0.3s							

IDC 15 16:26:52.5±1.8,**9°.81S**×**159°.97E**,**h0**km,**mb3.6**/3,
mb1 3.8/3,**mb1mx3.4**/27,**mbtmp3.6**/3,**Error ellipse:**
s-maj=39.9km s-min=12.0km az=106.0,
Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**0.38**	**357**	Pn	Pn	16 27 05.4	+0.1
	142nm,0.3s,baz=176,slow=7.2,SNR=53						
HNR				Sn	Sb	16 27 13.7	+5.2
	510nm,0.3s,baz=212,slow=19,SNR=43						
HNR	**Honiara**	**0.38**	**357**	*i* P	Pn	16 27 04.5	-0.8
HNR				*i* S	Sb	16 27 12.5	+4.0
WRA	**Warramunga Arr**	**26.70**	**245**	P	P	16 32 34.2	+0.4
	1.3nm,0.9s,baz=74,slow=9.3,SNR=6.8						
STKA	**Stephens Creek**	**27.79**	**215**	P	P	16 32 43.6	+0.3
	0.6nm,0.5s,baz=56,slow=15,SNR=3.8						
ASAR	**Alice Springs**	**28.44**	**238**	P	P	16 32 48.6	-0.7
	0.1nm,0.3s,baz=63,slow=10,SNR=8.1						

NIED ***15*** *16:38:00,38°.40N×142°.10E,h65km,Mw3.6 Best double couple: M₀2.87000×10¹⁴ NP1:φs122.00000°,δ48.00000°, λ-169.00000°. NP2:φs25.00000°,δ82.00000°, λ-42.00000°.*

JMA 15 16:38:47.5±0.1,**38°.39N**×**142°.09E**,**h31**km±1km,**M3.5,**
Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIO	**Ouri**	**0.59**	**277**	P	Pb	16 38 59.1	-0.3
JIO				S	Sb	16 39 06.8	-0.7
OFUJ	**Ofunato**	**0.76**	**335**	P	Pn	16 39 01.8	-0.4
OFUJ				S	Sb	16 39 12.0	-0.4
JMK	**Ichinoseki**	**0.88**	**310**	P	Pn	16 39 03.8	0.0
JMK				S	Sn	16 39 15.4	-0.1
JOU	**Okura**	**1.12**	**269**	P	Pn	16 39 07.5	+0.4
JOU				S	Sn	16 39 21.7	+0.2
JMM	**Marumori**	**1.15**	**243**	P	Pn	16 39 06.8	-0.6
JOM	**Ohasama**	**1.25**	**330**	P	Pn	16 39 09.3	+0.5
JOM				S	Sn	16 39 25.3	+0.7
JFK	**Kawauchi**	**1.40**	**224**	P	Pn	16 39 10.2	-0.8
JYK	**Kaneyama**	**1.45**	**292**	P	Pn	16 39 12.3	+0.7
JYK				S	Sb	16 39 31.0	-1.1
JRG	**Rokugo**	**1.52**	**312**	P	Pb	16 39 13.8	-1.2
JYS	**Shirataka**	**1.60**	**265**	P	Pn	16 39 14.1	+0.4
JYS				*e*S	Sn	16 39 33.9	+0.6
JFT	**Otama**	**1.64**	**238**	P	Pn	16 39 14.8	+0.6

IDC ***15*** *16:41:42.3±4.4,5°.57S×109°.82E,h445km±50km,mb3.2/9, mb1 3.3/10,mb1mx3.0/51,mbtmp4.1/10,Error ellipse: s-maj=35.4km s-min=12.9km az=66.0*
DJA ***15*** *16:41:44.5±0.6,6°.5S×116°.1E±°,h450km±8km,M3.9/12, mB4.8/2,mb4.0/3,MLv3.8/12,Mw(mB)4.0/2*

ISC 15 16:41:43.5±1.0,**6°.0S**±0°.2×**109°.63E**±0°.09,**h450**km,**n25,**
σ1ᵖ**33**/28,**mb3.5**/9,**Java Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCJI	**Jatiwangi**	**1.43**	**250**	P	**P**	**16 42 42.9**	**+1.6**
KPJI	**Karang Pucung**	**1.49**	**207**	P	**P**	**16 42 42.5**	**+1.0**
KPJI				S	**S**	**16 43 29.6**	**+1.1**
UGM	**Wanagama**	**2.10**	**155**	P	**P**	**16 42 44.4**	**-0.2**
UGM				S	**S**	**16 43 33.2**	**-1.0**
CMJI	**Cimerak**	**2.12**	**213**	P	**P**	**16 42 44.3**	**-0.4**
LEM	**Lembang**	**2.16**	**248**	P	P	16 42 52.1	+7.0
WOJI	**Wonogiri, Jawa**	**2.23**	**145**	P	**P**	**16 42 45.0**	**-0.4**
NGJI	**Ngawi**	**2.27**	**127**	P	**P**	**16 42 46.7**	**+1.1**
PCJI	**Pacitan**	**2.67**	**145**	P	**P**	**16 42 47.4**	**-0.8**
PCJI				S	**S**	**16 43 39.1**	**-1.5**
CNJI	**Cibinong**	**2.80**	**242**	P	**P**	**16 42 49.7**	**+0.6**
CNJI				S	**S**	**16 43 41.0**	**-1.3**
PWJI	**Pagerwojo**	**2.95**	**133**	P	**P**	**16 42 49.4**	**-0.8**
CGJI	**Cibinong**	**3.96**	**261**	P	**P**	**16 42 58.2**	**-0.1**
CGJI				S	**S**	**16 43 55.0**	**-4.1**
KASI	**Kota Agung**	**5.12**	**275**	P	**P**	**16 43 09.6**	**+0.5**
	116nm,0.9s,2μm						
LWLI	**Liwa**	**5.63**	**280**	P	**P**	**16 43 15.3**	**+1.1**
	56nm,0.8s,2μm						
MDSI	**Maura Dua**	**5.63**	**285**	P	**P**	**16 43 15.0**	**+0.9**
STKI	**Sintang**	**6.30**	**17**	P	P	16 43 17.3	-3.7
FITZ	**Fitzroy Crossi**	**19.72**	**129**	P	**P**	**16 45 42.4**	**-0.1**
	0.8nm,0.3s,baz=334,slow=8.8,SNR=23						
WRA	**Warramunga Arr**	**27.73**	**122**	P	**P**	**16 46 53.6**	**-0.7**
	1.5nm,0.8s,baz=314,slow=9.3,SNR=11						
WRA				PcP	**PcP**	**16 49 56.3**	**-1.0**
	0.3nm,0.3s,baz=306,slow=2.0,SNR=10						
ASAR	**Alice Springs**	**29.22**	**129**	P	**P**	**16 47 07.4**	**0.0**
	0.7nm,0.3s,baz=305,slow=7.7,SNR=70						
ASAR				PcP	**PcP**	**16 50 00.3**	**-0.8**
	0.3nm,0.5s,baz=320,slow=2.5,SNR=7.7						
STKA	**Stephens Creek**	**39.43**	**135**	P	**P**	**16 48 34.0**	**+0.7**
	3.0nm,0.4s,baz=319,slow=8.2,SNR=31						
STKA				PcP	**PcP**	**16 50 30.1**	**-0.6**
	1.2nm,0.7s,baz=299,slow=3.0,SNR=2.8						
SONM	**Songino Array**	**53.68**	**357**	P	P	16 50 18.7	-3.0
	0.8nm,0.5s,baz=179,slow=8.9,SNR=5.9						
KURBB	**Kurchatov Arra**	**62.45**	**338**	P	P	16 51 18.1	-3.3
	1.1nm,0.5s,baz=152,slow=6.2,SNR=4.6						
ZALV	**Zalesovo Beam**	**63.26**	**344**	P	P	16 51 22.9	-3.7
	1.2nm,0.3s,baz=156,slow=5.9,SNR=7.4						
MAW	**Mawson**	**69.08**	**197**	P	**P**	**16 52 05.1**	**+2.3**
	0.7nm,0.5s,baz=35,slow=6.8,SNR=5.6						
VNDA	**Vanda**	**76.47**	**170**	P	**P**	**16 52 46.6**	**+1.2**
	0.3nm,0.4s,baz=309,slow=4.3,SNR=5.3						
BRTR	**Keskin Array B**	**83.13**	**311**	P	**P**	**16 53 19.7**	**-1.8**
	0.6nm,0.7s,baz=117,slow=7.1,SNR=4.3						

SOME ***15*** *16:43:45.8,41°.52N×83°.27E,h20km*
NNC ***15*** *16:43:46.1±5.4,41°.65N×83°.08E,h0km,mb3.9,mpv3.5, Error ellipse: s-maj=46.4km s-min=23.4km az=162.0*

ISC 15 16:43:46.9±2.4,**41°.6N**±0°.1×**83°.30E**±0°.07,**h10**km,**n20,**
σ2ᵖ**27**/38,**7C-1D,Southern Xinjiang**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KTMS	**Ketmen**	**2.84**	**311**	*e*P	**Pb**	**16 44 36.9**	**-0.9**
	35nm,0.3s						
KTMS				*e*S	**Sb**	**16 45 14.1**	**+1.4**
	159nm,0.3s						
SHLS	**Shalkode**	**3.23**	**300**	*e*P	**Pn**	**16 44 39.7**	**+1.9**
	60nm,0.5s						
SHLS				*e*S	**Sn**	**16 45 18.9**	**+2.5**
	205nm,0.4s						
PDGK	**Podgornoye**	**3.29**	**303**	⇑Pg	**Pb**	**16 44 42.0**	**-3.5**
	15nm,0.6s						
PDGK				⇑Lg	Lg	16 45 27.5	
	141nm,0.8s						
UZB	**Uzynbulak**	**3.52**	**297**	*e*P	**Pb**	**16 44 49.2**	**-0.1**
	7.1nm,0.4s						
UZB				*e*S	**Sb**	**16 45 34.7**	**+2.6**
	46nm,0.7s						
DJR	**Jarkent**	**3.74**	**318**	*e*P	**Pb**	**16 44 52.2**	**-0.9**
	41nm,0.4s						
DJR				*e*S	**Sb**	**16 45 40.5**	**+2.1**
	33nm,0.5s						
KPKS	**Kokpek**	**3.88**	**300**	*e*P	**Pb**	**16 44 53.5**	**-2.0**
	18nm,0.4s						
KPKS				*e*S	**Sb**	**16 45 42.1**	**-0.3**
	72nm,0.4s						
SATY	**Saty**	**3.90**	**293**	*e*P	**Pg**	**16 44 58.4**	**-3.3**
	31nm,0.1s						
SATY				*e*S	**Sg**	**16 45 50.2**	**-1.9**
	56nm,0.5s						
KURS	**Kuram**	**4.22**	**298**	*e*P	**Pg**	**16 45 05.3**	**-2.5**
	5.6nm,0.3s						
KURS				*e*S	**Sg**	**16 46 02.7**	**+0.2**
	9.6nm,0.3s						
KAPS	**Kapalarasan**	**4.65**	**323**	*e*P	**Pb**	**16 45 10.6**	**+2.0**
	13nm,0.3s						
KAPS				*e*S	**Sg**	**16 46 11.5**	**-4.8**
	18nm,0.5s						
KOTS	**Kotyrbulak**	**4.85**	**291**	*e*P	**Pb**	**16 45 12.0**	**-0.1**
	10nm,0.5s						
KOTS				*e*S	**Sb**	**16 46 14.0**	**+3.4**
	26nm,0.6s						
MDOK	**Medeo**	**4.88**	**291**	Pg	**Pb**	**16 45 10.8**	**-1.7**
MDOK				Lg	Lg	16 46 18.8	
MDOK	**Medeo**	**4.88**	**291**	*e*P	**Pb**	**16 45 15.3**	**+2.8**
	7.9nm,0.5s						
MDOK				*e*S	**Sg**	**16 46 19.9**	**-3.6**
	15nm,1.2s						
TNSS	**Tian-Shan**	**4.92**	**289**	*e*P	**Pb**	**16 45 12.6**	**-0.8**
	5.7nm,0.4s						
TNSS				*e*S	**Sb**	**16 46 14.7**	**+2.1**
	12nm,0.4s						
CHKK	**Chushkaly**	**5.16**	**298**	*e*P	**Pb**	**16 45 16.9**	**-0.3**
	3.7nm,0.5s						
CHKK				*e*S	**Sb**	**16 46 21.9**	**+2.8**
	13nm,0.5s						
MK31	**Makanchi Array**	**5.22**	**352**	⇑Pn	**Pn**	**16 45 06.0**	**+0.9**
	0.5nm,0.3s,baz=154,slow=12,SNR=127						
MK31				⇑Pg	**Pb**	**16 45 20.1**	**+1.8**
	21nm,0.6s,baz=166,slow=15,SNR=74						
MK31				⇑Lg	Lg	16 46 27.7	
	19nm,0.6s,baz=166,slow=26,SNR=5.1						
MAKZ	**Makanchi**	**5.27**	**350**	⇑Pn	**Pn**	**16 45 07.0**	**+1.2**
	1.8nm,0.6s						
MAKZ				⇑Pg	**Pb**	**16 45 20.7**	**+1.5**
	6.9nm,0.6s						
MAKZ				⇓Lg	Lg	16 46 30.2	
	18nm,0.8s						
KTBS	**Karatobe**	**5.31**	**295**	*e*P	**Pg**	**16 45 26.2**	**-2.3**
	3.1nm,0.5s						
KTBS				*e*S	**Sg**	**16 46 38.9**	**+1.7**
	12nm,0.6s						
KST	**Kastek**	**5.62**	**287**	*e*P	**Pg**	**16 45 31.5**	**-3.1**
	2.8nm,0.6s						
KST				*e*S	**Sg**	**16 46 47.7**	**+0.4**
	13nm,0.7s						
DGS	**Degeres**	**5.80**	**289**	*e*P	**Pg**	**16 45 35.8**	**-2.1**
	3.6nm,0.5s						
DGS				*e*S	**Sg**	**16 46 54.8**	**+1.7**
	18nm,0.4s						
ZSN	**Zaisan**	**5.94**	**10**	*e*P	**Pg**	**16 45 37.3**	**-3.3**
	2.5nm,0.6s						
ZSN				*e*S	**Sg**	**16 46 56.9**	**-0.6**
	7.4nm,0.7s						

PGC 15 16:44:10.3±3.7,**59°.04N**×**137°.97W**,**h1**km,**ML2.1**/4,**91km**
east of Yakutat, Ak Southeastern Alaska,Southeastern
Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLBC	**Pleasant Camp**	**0.93**	**62**	P	Pg	16 44 26.9	-1.1
PLBC				S	Sg	16 44 39.3	-0.8
PNL	**Peninsula**	**0.97**	**312**	P	Pg	16 44 27.5	-1.4
HYT	**Haines Junctio**	**1.81**	**7**	Pn	Pn	16 44 42.1	-0.7
HYT				Sn	Sn	16 45 05.6	-0.8
YUK6	**Outpost Mounta**	**1.93**	**354**	Pn	Pn	16 44 43.5	-0.9
YUK6				Sg	Sn	16 45 10.0	+0.7
YUK5	**Granite Creek**	**2.10**	**2**	Pg	Pb	16 44 48.1	-1.2
WHY	**Whitehorse**	**2.26**	**42**	Pn	Pn	16 44 48.1	-0.8
WHY				Pg	Pb	16 44 50.8	-1.1

WEL 15 16:45:47.7±0.3,**36°.99S**×**177°.22E**,**h141**km±3km,**ML3.5**/10,
4C,Error ellipse: s-maj=4.0km s-min=3.8km az=0.0,Off
east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HAZ	**Te Kaha**	**0.89**	**150**	PN	Pn	16 46 10.8	+0.1
HAZ				SN	Sn	16 46 28.1	-0.1
HAZ				AML	AML	16 46 33.1	
HAZ				AML	AML	16 46 33.1	
MXZ	**Matakaoa Point**	**1.04**	**124**	PN	Pn	16 46 11.8	-0.2
MXZ				SN	Sn	16 46 30.8	+0.3
RUGZ	**Raukumara Rang**	**1.04**	**160**	PN	Pn	16 46 11.7	-0.4
PKGZ	**Pakihiroa**	**1.13**	**143**	PN	Pn	16 46 13.1	+0.3
PKGZ				SN	Sn	16 46 32.0	-0.1
WMGZ	**Waiomatatini S**	**1.27**	**131**	⇑PN	Pn	16 46 14.0	-0.1
WMGZ				SN	Sn	16 46 34.2	-0.1
WMGZ				AML	AML	16 46 35.5	
URZ	**Urewera**	**1.27**	**184**	⇑PN	Pn	16 46 14.5	+0.3
URZ				AML	AML	16 46 35.9	
TWGZ	**Tauwhareparae**	**1.33**	**153**	PN	Pn	16 46 15.4	+0.5
TWGZ				AML	AML	16 46 38.2	
TWGZ				AML	AML	16 46 41.8	
PUZ	**Puketiti**	**1.36**	**143**	⇑PN	Pn	16 46 14.9	-0.3
PUZ				SN	Sn	16 46 34.9	-1.2
PUZ				AML	AML	16 46 36.6	
MWZ	**Matawai**	**1.37**	**170**	⇑PN	Pn	16 46 15.2	0.0
MWZ				SN	Sn	16 46 36.1	-0.2
MWZ				AML	AML	16 46 37.5	
MUGZ	**Murupara**	**1.53**	**193**	PN	Pn	16 46 17.3	+0.4
TKGZ	**Te Karaka**	**1.54**	**161**	PN	Pn	16 46 16.7	-0.2
TKGZ				AML	AML	16 46 39.6	
TKGZ				AML	AML	16 46 40.2	
CNGZ	**Carnagh Statio**	**1.69**	**153**	PN	Pn	16 46 18.6	-0.1
RIGZ	**Rimuhau**	**1.77**	**166**	PN	Pn	16 46 19.5	-0.1
RIGZ				AML	AML	16 46 45.8	
RIGZ				AML	AML	16 46 46.0	
SNGZ	**Shannon Statio**	**1.79**	**177**	PN	Pn	16 46 19.6	-0.3
SNGZ				AML	AML	16 46 45.3	
SNGZ				AML	AML	16 46 49.0	
KNZ	**Kokohu**	**2.06**	**170**	PN	Pn	16 46 22.1	-0.9
WHHZ	**Waihua**	**2.09**	**180**	SN	Sn	16 46 49.5	-1.2
WHHZ				AML	AML	16 46 51.6	
MHGZ	**Mahia Peninsul**	**2.23**	**166**	*e*PN	Pn	16 46 24.2	-0.8
BKZ	**Black Stump Fm**	**2.25**	**194**	PN	Pn	16 46 24.5	-0.8
ARHZ	**Aropaoanui**	**2.28**	**184**	PN	Pn	16 46 25.0	-0.7
ARHZ				SN	Sn	16 46 54.0	-0.9
MCHZ	**McNeill Hill**	**2.49**	**189**	PN	Pn	16 46 27.5	-0.7
CKHZ	**Cape Kidnapper**	**2.67**	**182**	SN	Sn	16 47 01.4	-2.1
PXZ	**Pawanui**	**3.05**	**185**	PN	Pn	16 46 33.1	-2.2
TSZ	**Takapari Road**	**3.22**	**197**	PN	Pn	16 46 35.2	-2.3
BFZ	**Birch Farm**	**3.77**	**191**	PN	Pn	16 46 41.6	-3.0
BFZ				SN	Sn	16 47 24.4	-4.4
TIWZ	**Tintock**	**3.92**	**195**	PN	Pn	16 46 43.5	-3.2
OGWZ	**Otaki Gorge**	**4.14**	**202**	PN	Pn	16 46 46.2	-3.4

CSEM ***15*** *16:52:52.7±0.4,37°.66N×36°.30E,h10km,ML2.6,Error ellipse: s-maj=9.6km s-min=7.5km az=7.0*
ISK ***15*** *16:52:52.7,37°.36N×36°.30E,h16km,MD2.4*
DDA ***15*** *16:52:53.6,37°.51N×36°.32E,h7km,Ml2.6*

ISC 15 16:52:53.1±1.1,**37°.48N**±0°.05×**36°.30E**±0°.03,**h7**km±9km,
n14,σ0ᵖ**74**/24,**Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ANDN	**Andirin**	**0.10**	**21**	*i* P	**Pg**	**16 52 55.4**	**-0.2**
ANDN				*i* S	**Sg**	**16 52 57.5**	**+0.3**
ANDN	**Andirin**	**0.10**	**21**	P	**Pg**	**16 52 55.4**	**-0.2**
KOZT	**Kozan**	**0.38**	**270**	*e*PG	**Pg**	**16 53 00.6**	**+0.1**
KOZT				*e*SG	**Sb**	**16 53 08.0**	**-0.3**
KOZT	**Kozan**	**0.38**	**270**	*e*Pg	**Pg**	**16 53 00.6**	**+0.1**
KOZT				*e*Sg	**Sb**	**16 53 08.0**	**-0.3**
KAMA	**Osmaniye**	**0.42**	**135**	*i* P	**Pg**	**16 53 01.5**	**+0.2**
KAMA				*i* S	**Sb**	**16 53 08.2**	**-1.3**
KMRS	**Kahramanmaras**	**0.48**	**87**	*e*PG	**Pg**	**16 53 03.0**	**+0.6**
KMRS				*e*SG	**Sb**	**16 53 10.4**	**-0.8**
KMRS	**Kahramanmaras**	**0.48**	**87**	*e*Pg	**Pg**	**16 53 03.0**	**+0.6**
KMRS				*e*Sg	**Sb**	**16 53 10.4**	**-0.8**
HCB	**Kahramanmara¯**	**0.50**	**106**	*i* P	**Pb**	**16 53 03.7**	**-0.7**
HCB				*i* S	**Sb**	**16 53 10.7**	**-1.2**
AKO	**Adana**	**0.68**	**268**	*i* P	**Pg**	**16 53 05.2**	**-1.1**
AKO				*i* S	**Sb**	**16 53 17.6**	**+0.6**
GAZ	**Gaziantep**	**0.79**	**113**	*e*PG	**Pg**	**16 53 08.3**	**0.0**
GAZ	**Gaziantep**	**0.79**	**113**	*e*Pg	**Pg**	**16 53 08.3**	**0.0**
SARI	**SarD1z-Kayseri**	**0.93**	**6**	*e*PG	**Pn**	**16 53 13.5**	**+0.7**
KUZU	**Kuzuini**	**0.94**	**139**	*i* P	**Pn**	**16 53 14.1**	**+1.3**
KUZU				*i* S	**Sn**	**16 53 26.4**	**-0.2**
KUZU	**Kuzuini**	**0.94**	**139**	P	**Pn**	**16 53 14.1**	**+1.3**
KUZU				S	**Sn**	**16 53 26.4**	**-0.2**

ISCJB ***15*** *16:54:48.0±0.3,54°.05S±0°.05×1°.6W±0°.1,h10km,mb4.9/27, MS4.7/23,Error ellipse: s-maj=10.9km s-min=7.3km az=5.1*
IDC ***15*** *16:54:48.3±0.5,54°.03S×1°.55W,h0km,mb4.5/11, mb1 4.6/12,mb1mx4.4/22,mbtmp4.5/12,ML4.3/1,MS4.6/17, Ms1 4.6/17,ms1mx4.6/21,Error ellipse: s-maj=17.5km s-min=12.1km az=99.0*
NEIC ***15*** *16:54:49.6±0.3,54°.07S×1°.56W,h10km,mb5.2/16,Error ellipse: s-maj=10.2km s-min=9.1km az=112.0*
GCMT ***15*** *16:54:49.6±0.1,54°.17S×1°.17W,h12km,MW5.3/121, Moment Tensor Solution. s79,c120; s121,c224; Duration: 1ꜱ1 Moment tensor: Scale 10¹⁷Nm; Mrr-0.24±.01; Mθθ0.91±.01; Mφφ-0.67±.01; Mrθ-0.01±.04; Mθφ-0.62±.01; Mφr0.19±.04; Best double couple: M₀1.03200×10¹⁷ NP1:φs153.00000°,δ82.00000°, λ-12.00000°. NP2:φs245.00000°,δ78.00000°, λ-172.00000°. Principal axes: T 1.1320, Plg3.0000°, Azm199.0000°; N -0.1990, Plg76.0000°, Azm300.0000°; P -0.9330, Plg14.0000°, Azm109.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
BJI ***15*** *16:54:50.5,54°.10S×1°.

LSZ	**Lusaka**	**45.14**	**43**	*e*P		**P**	**17 03 05.7**	**-0.9**
	15nm,1.4s							
H10S2	**ASCENSION HYDR**	**46.17**	**342**	T		T	17 52 53.8	
	baz=169,slow=75,SNR=29							
H10S3	**ASCENSION HYDR**	**46.18**	**342**	T		T	17 52 54.6	
	baz=169,slow=75,SNR=34							
H10S1	**ASCENSION HYDR**	**46.19**	**342**	T		T	17 52 55.3	
	baz=169,slow=75,SNR=40							
PLCA	**Paso Flores**	**46.69**	**257**	LR		LR	17 23 00.1	
	comp=Z,144nm,18.7s,baz=159,slow=36							
ASCN	**Ascension**	**47.12**	**343**	*e*P		**P**	**17 03 21.3**	**-0.7**
	409nm,1.6s							
VNDA	**Vanda**	**48.29**	**175**	P		**P**	**17 03 30.6**	**+0.1**
	9.2nm,0.8s,baz=216,slow=7.1,SNR=53							
VNDA				LR		LR	17 23 21.3	
	comp=Z,3µm,19.8s,baz=186,slow=36							
VNDA	**Vanda**	**48.29**	**175**	*e*P		**P**	**17 03 30.4**	**0.0**
	63nm,1.8s							
CPUP	**Villa Florida**	**49.13**	**281**	P		**P**	**17 03 37.1**	**-0.4**
	8.8nm,1.0s,baz=122,slow=6.7,SNR=9.9							
CPUP				LR		LR	17 20 44.6	
	comp=Z,322nm,20.9s,baz=148,slow=32							
CPUP	**Villa Florida**	**49.13**	**281**	*e*P		**P**	**17 03 36.7**	**-0.8**
PB04	**IPOC Station P**	**59.68**	**273**	*e*P		**P**	**17 04 54.2**	**-0.3**
	45nm,1.5s							
LIC	**Lamto**	**60.12**	**356**	*e*PKP2		**P**	**17 04 59.3**	**+2.1**
	112nm,0.9s							
KIC	**Kosan Boka**	**60.24**	**356**	*e*PKP2		**P**	**17 05 00.0**	**+1.9**
	55nm,1.2s							
TIC	**Toumodi**	**60.53**	**356**	*e*PKP2		**P**	**17 05 01.0**	**+0.9**
DBIC	**Dimbokro**	**60.55**	**356**	P		**P**	**17 05 00.0**	**-0.2**
	27nm,1.0s,baz=159,slow=9.9,SNR=14							
DBIC				LR		LR	17 24 42.3	
	comp=Z,473nm,21.3s,baz=153,slow=30							
DBIC	**Dimbokro**	**60.55**	**356**	*e*P		**P**	**17 05 00.0**	**-0.2**
	32nm,1.0s							
PB11	**IPOC Station P**	**61.38**	**276**	*e*P		**P**	**17 05 04.9**	**-1.2**
	13nm,1.1s							
KMBO	**Kilima Mbogo**	**61.65**	**45**	LR		LR	17 29 42.8	
	comp=Z,2µm,20.0s,baz=220,slow=34							
LPAZ	**La Paz**	**63.21**	**279**	P		**P**	**17 05 19.1**	**+0.2**
	4.4nm,1.0s,baz=127,slow=9.1,SNR=12							
LPAZ				LR		LR	17 29 52.5	
	comp=Z,269nm,21.4s,baz=132,slow=33							
LPAZ	**La Paz**	**63.21**	**279**	*e*P		**P**	**17 05 18.9**	**0.0**
	22nm,1.3s							
SAML	**Samuel**	**66.29**	**288**	*e*P		**P**	**17 05 37.5**	**-0.8**
	14nm,1.1s							
TOA0	**Torodi Ar. Sit**	**66.99**	**3**	*e*P		**P**	**17 05 42.3**	**-0.3**
	9.8nm,1.1s							
TORD	**Torodi Ar. Bea**	**66.99**	**3**	P		**P**	**17 05 42.1**	**-0.5**
	3.8nm,1.0s,baz=181,slow=6.3,SNR=14							
TORD				LR		LR	17 28 50.4	
	comp=Z,1µm,21.4s,baz=160,slow=30							
PTGA	**Pitinga**	**71.37**	**296**	*e*P		**P**	**17 06 09.4**	**-0.5**
	24nm,1.4s							
H08N3	**Diego Garcia H**	**74.69**	**80**	T		T	18 28 47.8	
	baz=216,slow=76,SNR=47							
H08N1	**Diego Garcia H**	**74.71**	**80**	T		T	18 28 48.3	
	baz=216,slow=76,SNR=45							
H08N2	**Diego Garcia H**	**74.71**	**80**	T		T	18 28 50.3	
	baz=216,slow=76,SNR=57							
H01W2	**Cape Leeuwin H**	**75.55**	**130**	T		T	18 30 12.3	
	baz=212,slow=75,SNR=16							
H01W1	**Cape Leeuwin H**	**75.57**	**130**	T		T	18 30 14.0	
	baz=212,slow=75,SNR=19							
H01W3	**Cape Leeuwin H**	**75.57**	**130**	T		T	18 30 13.4	
	baz=212,slow=75,SNR=17							
TAM	**Tamanrasset**	**76.77**	**7**	*e*P		**P**	**17 06 42.4**	**+1.0**
	7.6nm,1.2s							
OTAV	**Otavalo**	**82.48**	**281**	*e*P		**P**	**17 07 12.2**	**-0.9**
	17nm,0.6s							
PRAC	**Prado**	**83.26**	**286**	*e*P		**P**	**17 07 15.3**	**-1.4**
	17nm,0.3s							
ROSC	**El Rosal**	**83.86**	**287**	LR		LR	17 43 15.2	
	comp=Z,607nm,18.5s,baz=112,slow=35							
RUSC	**La Rusia**	**84.03**	**288**	*e*P		**P**	**17 07 20.0**	**-1.1**
	15nm,1.7s							
STKA	**Stephens Creek**	**88.70**	**149**	P		**P**	**17 07 42.4**	**-1.0**
	2.7nm,0.7s,baz=123,slow=2.3,SNR=5.4							
KEST	**Kesra**	**89.91**	**9**	LR		LR	17 45 56.3	
	comp=Z,414nm,18.8s,baz=168,slow=34							
RKT	**Rikitea**	**93.30**	**222**	*e*LR		LR	17 38 08.8	
	629nm,33.8s							
ESDC	**Sonseca Array**	**93.37**	**358**	LR		LR	17 47 33.3	
	comp=Z,246nm,18.7s,baz=230,slow=34							
ASAR	**Alice Springs**	**93.63**	**140**	P		**P**	**17 08 05.3**	**-1.0**
	0.6nm,0.8s,baz=198,slow=4.6,SNR=4.0							
ASAR				LR		LR	17 47 03.7	
	comp=Z,153nm,18.3s,baz=194,slow=34							
FITZ	**Fitzroy Crossi**	**95.17**	**131**	LR		LR	17 45 53.0	
	comp=Z,299nm,19.4s,slow=32							
TBI	**Tubuai**	**98.08**	**210**	*e*SS		SS	17 26 32.0	-2.2
	256nm,29.2s							
TBI	**Tubuai**	**98.08**	**210**	*e*LR		LR	17 40 13.0	
	521nm,24.0s							
BRTR	**Keskin Array B**	**98.20**	**27**	LR		LR	17 52 43.2	
	comp=Z,310nm,21.2s,baz=187,slow=35							
DZM	**Mont Dzumac**	**103.50**	**169**	*e*LR		LR	17 42 52.7	
	1µm,20.6s							
PPT2	**Papeete2**	**103.55**	**211**	*e*SS		SS	17 27 50.2	-0.3
	419nm,26.5s							
PPT2	**Papeete2**	**103.55**	**211**	*e*LR		LR	17 42 48.0	
	370nm,23.0s							
KHC	**Kasperske Hory**	**103.60**	**10**	AMS		AMS	17 53 20.0	
	comp=Z,400nm,19.7s							
VYHS	**Vyhne**	**103.62**	**14**	*e*PDIFF		**Pdif**	**17 08 54.3**	**+3.9**
TREC	**Trest**	**103.97**	**11**	AMS		AMS	17 52 30.0	
	comp=Z,300nm,19.8s							
PRU	**Pruhonice**	**104.55**	**11**	AMS		AMS	17 54 00.0	
	comp=Z,400nm,17.5s							
PVCC	**Panska Ves**	**105.08**	**11**	AMS		AMS	17 53 40.0	
	comp=Z,400nm,19.0s							
CLL	**Collm**	**105.69**	**9**	*e*SS		SS	17 28 24.0	+2.9
CLL				LmH			17 52 00.0	
	comp=N,100nm,19.2s							
CLL				LmH			17 52 00.0	
	comp=E,300nm,20.6s							
CLL				LmV			17 58 00.0	
	comp=N,200nm,20.0s							
CLL				LmV			17 58 00.0	
	comp=E,100nm,19.9s							
CLL				LmV			17 58 00.0	
	comp=Z,200nm,18.9s							
KSH	**Kashi**	**114.44**	**56**	*e*PKP		PKPdf	17 13 34.1	+4.8
KSH				PKS		**PKSdf**	**17 17 06.8**	**+0.8**
KSH				SKS		**SKSdf**	**17 20 43.0**	**+1.8**
KSH				SS		**SS**	**17 30 18.1**	**-1.0**
KSH				AMB		AMB		
	comp=Z,100nm,6.0s							
KSH				LR		LR		
	comp=Z,200nm,9.7s							
KSH				LR		LR		
	comp=Z,120nm,8.6s							
KSH				LR		LR		
	comp=Z,250nm,20.9s							
GYA	**Guiyang**	**121.57**	**88**	*e*Pdif		**Pdif**	**17 10 11.0**	**0.0**
GYA				PKP		**PKPdf**	**17 13 42.6**	**-0.9**
GYA				PP		**PP**	**17 15 20.8**	**+4.8**
GYA				AMB		AMB		
	comp=Z,120nm,7.8s							
WMQ	**Urumqi**	**123.50**	**60**	PKP		**PKPdf**	**17 13 46.5**	**0.0**
WMQ				LR		LR		
	comp=Z,280nm,14.1s							
WMQ				LR		LR		
	comp=Z,260nm,17.3s							
ARCES	**ARCESS Array B**	**124.85**	**11**	PKP		**PKPdf**	**17 13 48.7**	**+0.5**
	comp=Z,2.4nm,0.9s,baz=202,slow=1.0,SNR=2.9							
LZH	**Lanzhou**	**126.93**	**78**	*e*PKP		**PKPdf**	**17 13 51.3**	**-2.2**
LZH				sPKP			17 14 03.4	
LZH				LR		LR		
	comp=Z,88nm,15.4s							
LZH				LR		LR		
	comp=Z,98nm,17.6s							
PDAR	**Pinedale Array**	**132.86**	**287**	PKP		**PKPdf**	**17 14 06.2**	**+1.6**
	comp=Z,0.2nm,0.6s,baz=98,slow=3.7,SNR=2.7							
HHC	**Hu-ho-hao-te**	**134.60**	**78**	*e*PKP		**PKPdf**	**17 14 10.9**	**+3.1**
YKA	**Yellowknife Ar**	**145.31**	**311**	PKPbc		**PKPbc**	**17 14 24.8**	**-1.4**
	comp=Z,16nm,1.1s,baz=104,slow=3.6,SNR=17							
MJAR	**Matsushiro Arr**	**147.31**	**106**	PKPbc		**PKPbc**	**17 14 31.9**	**-1.1**
	comp=Z,1.2nm,0.7s,baz=184,slow=3.6,SNR=4.3							
USRK	**Ussuriysk Ar.**	**148.60**	**89**	PKPbc		**PKPbc**	**17 14 34.2**	**-1.9**
	comp=Z,0.8nm,0.6s,baz=125,slow=7.6,SNR=2.4							
DLBC	**Dease Lake**	**151.60**	**300**	PKPbc		**PKPbc**	**17 14 43.1**	**+0.1**
	comp=Z,1.6nm,0.3s,baz=78,slow=4.0,SNR=3.8							
ILAR	**Eielson Array**	**159.62**	**315**	PKPab		**PKPab**	**17 15 25.8**	**-0.1**
	comp=Z,2.7nm,1.1s,baz=84,slow=2.8,SNR=3.6							

NIED ***15*** *17:21:00,36.°60N×141.°60E,h26km,Mw4.0 Best double couple: Mo1.11000×10*^{15} *NP1:*ϕ_s*21.00000°,*δ*43.00000°,* λ*-103.00000°. NP2:*ϕ_s*219.00000°,*δ*48.00000°,* λ*-78.00000°.*

JMA ***15*** *17:21:09.1*±*0.2,36.°60N×141.°65E,h42km*±*4km,M4.0*

NEIC ***15*** *17:21:11.8*±*1.5,36.°59N×141.°60E,h45km*±*13km,mb4.7/3, Error ellipse: s-maj=13.1km s-min=9.6km az=101.0*

IDC ***15*** *17:21:12.1*±*2.6,36.°58N×141.°59E,h47km*±*25km,mb3.7/13, mb1 3.9/15,mb1mx3.7/41,mbtmp3.9/15,ML4.1/2,MS3.8/3, Ms1 3.8/3,ms1mx3.1/43,Error ellipse: s-maj=21.7km s-min=15.7km az=93.0*

ISC 15 17:21:07.0±2.1,**36.°62N**±0.°05×**141.°63E**±0.°06,**h11**km±12km, **n42,**σ**1°914/40,mb4.0/16,Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ONAJ	**Iwakimizuishiy**	**0.82**	**306**	P	**Pn**	**17 21 24.7**	**+0.1**
JHO	**Hitachi**	**0.85**	**270**	P	**Pn**	**17 21 24.8**	**-0.2**
JHO				*e*S	**Sb**	**17 21 36.3**	**+1.0**
JFK	**Kawauchi**	**0.96**	**321**	P	**Pn**	**17 21 26.4**	**-0.1**
JFT	**Otama**	**1.37**	**311**	P	**Pg**	**17 21 33.7**	**+0.4**
JMM	**Marumori**	**1.41**	**332**	P	**Pb**	**17 21 33.0**	**-0.3**
JMM				*e*S	**Sn**	**17 21 51.3**	**+0.1**
JFY	**Yanaizu**	**1.73**	**298**	P	**Pb**	**17 21 38.2**	**-0.2**
JFY				*e*S	**Sg**	**17 22 01.5**	**-1.1**
JAG	**Ashikaga**	**1.77**	**264**	P	**Pn**	**17 21 38.2**	**+0.7**
JAG				*e*S	**Sn**	**17 21 59.7**	**-0.3**
JIO	**Ouri**	**1.84**	**353**	P	**Pn**	**17 21 38.7**	**+0.1**
JOU	**Okura**	**1.90**	**336**	P	**Pb**	**17 21 40.9**	**-0.9**
JOU				*e*S	**Sb**	**17 22 04.1**	**-1.5**
JKT	**Katashina**	**1.92**	**275**	P	**Pb**	**17 21 41.2**	**-0.9**
MJAR	**Matsushiro Arr**	**2.75**	**269**	P	**Pn**	**17 21 52.7**	**+1.6**
	26nm,0.3s,baz=60,slow=8.1,SNR=204						
MJAR				S	**Sb**	**17 22 29.1**	**-1.0**
	20nm,0.3s,baz=85,slow=26,SNR=10						
MJAR				LR	LR	17 23 10.2	
	comp=Z,203nm,19.0s,baz=120,slow=44						
MAJO	**Matsushiro**	**2.76**	**269**	*e*Pn	**Pn**	**17 21 53.3**	**+2.2**
MAT	**Matsushiro**	**2.76**	**269**	P	**Pn**	**17 21 53.4**	**+2.2**
MAT				S	**Sb**	**17 22 28.8**	**-1.3**
JHJ	**Hachijo jima 2**	**3.81**	**204**	P	**Pn**	**17 22 06.5**	**+0.9**
	42nm,0.3s,baz=343,slow=22,SNR=44						
JHJ				S	**Sn**	**17 22 47.2**	**-3.2**
	60nm,0.3s,baz=236,slow=22,SNR=8.3						
USRK	**Ussuriysk Ar.**	**10.55**	**319**	P	Pn	17 23 46.0	+8.0
	0.5nm,0.3s,baz=134,slow=13,SNR=24						
KSRS	**Korea Array**	**10.99**	**278**	P	Pn	17 23 51.7	+7.6
	0.1nm,0.3s,baz=92,slow=14,SNR=9.8						
KSAR	**Wonju Array Be**	**11.02**	**278**	P	Pn	17 23 51.7	+7.2
SEY	**Seymchan**	**27.16**	**11**	P	**P**	**17 26 51.5**	**+1.4**
	2.0nm,0.6s,baz=92,slow=3.3,SNR=4.7						
H11N2	**WAKE ISLAND Hy**	**27.79**	**120**	T	T	17 56 19.8	
	baz=313,slow=75,SNR=42						
H11N1	**WAKE ISLAND Hy**	**27.80**	**120**	T	T	17 56 15.2	
	baz=313,slow=75,SNR=42						
H11N3	**WAKE ISLAND Hy**	**27.80**	**120**	T	T	17 56 19.0	
	baz=313,slow=75,SNR=39						
SONM	**Songino Array**	**28.16**	**305**	P	**P**	**17 27 00.9**	**+1.5**
	1.5nm,0.5s,baz=110,slow=8.6,SNR=11						
H11S1	**WAKE ISLAND Hy**	**28.49**	**123**	T	T	17 57 15.5	
	baz=314,slow=75,SNR=35						
H11S3	**WAKE ISLAND Hy**	**28.49**	**123**	T	T	17 57 11.6	
	baz=314,slow=75,SNR=27						
H11S2	**WAKE ISLAND Hy**	**28.50**	**123**	T	T	17 57 13.5	
	baz=314,slow=75,SNR=21						
CMAR	**Chiang Mai Arr**	**41.56**	**256**	P	**P**	**17 28 55.5**	**+0.6**
	0.4nm,0.4s,baz=33,slow=5.5,SNR=4.2						
ZALV	**Zalesovo Beam**	**42.32**	**313**	P	**P**	**17 29 01.5**	**+0.8**
	1.4nm,0.5s,baz=87,slow=7.0,SNR=6.2						
ZALV				PcP	**PcP**	**17 30 51.7**	**-2.3**
	1.0nm,0.6s,baz=49,slow=2.4,SNR=3.7						
KURK	**Kurchatov**	**46.33**	**308**	*e*P	**P**	**17 29 32.7**	**0.0**
	20nm,0.5s						
ILAR	**Eielson Array**	**49.75**	**32**	P	**P**	**17 29 59.6**	**+0.6**
	0.7nm,1.0s,baz=297,slow=6.0,SNR=3.7						
CTA	**Charters Tower**	**56.57**	**175**	LR	LR	17 53 21.9	
	comp=Z,436nm,21.7s,baz=180,slow=34						
WRA	**Warramunga Arr**	**56.68**	**188**	P	**P**	**17 30 50.1**	**-0.3**
	1.7nm,0.6s,baz=6.2,slow=7.3,SNR=30						
ABKAR	**Akbulak array**	**58.34**	**310**	*e*P	**P**	**17 31 02.0**	**0.0**
	1.5nm,0.6s						
ASAR	**Alice Springs**	**60.40**	**188**	P	**P**	**17 31 16.5**	**+0.1**
	1.4nm,0.8s,baz=9.6,slow=6.4,SNR=16						
MBWA	**Marble Bar**	**61.08**	**203**	*e*P	**P**	**17 31 21.2**	**+0.2**
	3.3nm,0.5s						
YKA	**Yellowknife Ar**	**64.08**	**30**	P	**P**	**17 31 40.5**	**-0.1**
	0.5nm,0.7s,baz=304,slow=6.4,SNR=4.0						
ARCES	**ARCESS Array B**	**64.44**	**340**	LR	LR	18 04 23.0	
	comp=Z,130nm,21.6s,baz=217,slow=40						
NOA	**NORSAR Array B**	**74.63**	**337**	P	**P**	**17 32 46.0**	**0.0**
	2.0nm,0.9s,baz=40,slow=5.6,SNR=3.5						
AKASG	**Malin Array Be**	**74.73**	**322**	P	**P**	**17 32 46.4**	**-0.3**
	1.3nm,0.6s,baz=46,slow=6.2,SNR=6.9						
BRTR	**Keskin Array B**	**79.26**	**312**	P	**P**	**17 33 11.1**	**-1.5**
	0.7nm,0.9s,baz=44,slow=5.8,SNR=3.4						
GERES	**GERESS Array B**	**83.15**	**328**	P	**P**	**17 33 33.4**	**+0.3**
	0.4nm,0.6s,baz=50,slow=6.5,SNR=4.7						
TXAR	**Lajitas Array**	**90.23**	**52**	P	**P**	**17 34 08.4**	**+0.3**
	0.3nm,0.6s,baz=264,slow=1.8,SNR=2.9						
LPAZ	**La Paz**	**146.75**	**60**	PKPbc	**PKPbc**	**17 40 50.5**	**+0.3**
	1.8nm,0.5s,baz=333,slow=3.4,SNR=8.5						

NEIC ***15*** *17:23:00.1*±*0.0,59.°10N×137.°99W,h3km,ML3.2(OTT), ML3.2(AEIC),After AEIC.*

PGC 15 17:23:00.2±0.7,**59.°07N×137.°97W,h1km,ML3.2/9,90km east of Yakutat, Ak Southeastern Alaska,Southeastern Alaska**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DHAK	**Deception Hill**	**0.13**	**281**	P	Pg	17 23 02.5	-0.3
DHAK				S	Sg	17 23 04.7	+0.3
PLBC	**Pleasant Camp**	**0.91**	**64**	P	Pg	17 23 16.6	-1.0
PLBC				S	Sg	17 23 28.9	-0.6
PLBC	**Pleasant Camp**	**0.91**	**64**	P	Pg	17 23 16.6	-1.1
PLBC				S	Sg	17 23 28.8	-0.7
PNL	**Peninsula**	**0.95**	**310**	P	Pg	17 23 16.9	-1.5
PNL				S	Sg	17 23 29.3	-1.4
PNL	**Peninsula**	**0.95**	**310**	P	Pg	17 23 16.9	-1.6
PNL				S	Sg	17 23 29.6	-1.1
YKU2	**Yakutat**	**0.98**	**298**	P	Pg	17 23 18.3	-0.7
YKU2				S	Sb	17 23 33.0	-0.4
BCPM	**Bancas Point**	**1.23**	**317**	P	Pg	17 23 21.2	-2.6
SKAG	**Skagway**	**1.41**	**73**	P	Pn	17 23 25.3	-1.7
SKAG				S	Sg	17 23 43.9	-1.6
YUK7	**Dusty Glacier**	**1.47**	**357**	Pn	Pn	17 23 26.0	-2.0
YUK7				Sg	Sg	17 23 46.0	-1.5
BESE	**Bessie Mountai**	**1.69**	**105**	Pn	Pn	17 23 29.6	-1.4
BESE				Sg	Sn	17 23 52.5	-0.7
BESE	**Bessie Mountai**	**1.69**	**105**	P	Pn	17 23 29.5	-1.4
HYT	**Haines Junctio**	**1.78**	**7**	Pn	Pn	17 23 31.0	-1.3
HYT				Sg	Sn	17 23 54.7	-0.8
HYT	**Haines Junctio**	**1.78**	**7**	P	Pn	17 23 30.9	-1.4
SAMH	**Samovar Hills**	**1.79**	**308**	P	Pn	17 23 29.6	-2.6
YUK6	**Outpost Mounta**	**1.89**	**354**	Pn	Pn	17 23 32.8	-1.1
YUK6				Sg	Sb	17 23 59.8	-0.1
JIS	**Juneau Island**	**2.03**	**111**	P	Pn	17 23 33.7	-1.8
JIS				S	Sn	17 24 00.3	-1.2
YUK5	**Granite Creek**	**2.07**	**1**	Pn	Pn	17 23 35.6	-0.7
YUK5				Sg	Sn	17 24 03.9	+1.1
RKAV	**Rock Avalanche**	**2.11**	**307**	P	Pn	17 23 35.7	-1.2
TABL	**Table Mountain**	**2.12**	**312**	P	Pn	17 23 34.6	-2.4
WHY	**Whitehorse**	**2.23**	**43**	Pn	Pn	17 23 37.6	-0.8
WHY				Pg	Pb	17 23 40.4	-1.0
WHY				Sg	Sb	17 24 09.6	+0.1
WHY	**Whitehorse**	**2.23**	**43**	P	Pn	17 23 37.5	-0.9
MESA	**MESA**	**2.31**	**301**	P	Pn	17 23 36.6	-3.0
LOGN	**Logan Glacier**	**2.33**	**320**	P	Pn	17 23 38.1	-1.8
GRNC	**Granite Creek**	**2.54**	**313**	P	Pn	17 23 40.3	-2.4
CTGM	**Chitina Glacie**	**2.55**	**320**	Pn	Pn	17 23 41.4	-1.4
CTGM				Sn	Sn	17 24 13.8	-0.7
CTGM	**Chitina Glacie**	**2.55**	**320**	P	Pn	17 23 41.3	-1.5
CTGM				S	Sn	17 24 13.0	-1.5
BARK	**Barkley Ridge**	**2.66**	**302**	P	Pn	17 23 41.9	-2.3
KULT	**Kultieth River**	**2.69**	**298**	P	Pn	17 23 42.2	-2.5
WAX	**Waxell Ridge**	**2.83**	**301**	P	Pn	17 23 43.7	-3.0
TGL	**Tana Glacier**	**2.98**	**307**	P	Pn	17 23 47.2	-1.4
YUK3	**Moose Creek**	**2.99**	**337**	Pn	Pn	17 23 48.9	0.0
YUK3				Sg	Sb	17 24 32.3	+1.0
KHIT	**Khitrov Hills**	**3.01**	**300**	P	Pn	17 23 46.7	-2.4
YUK2	**White River**	**3.08**	**334**	Pn	Pn	17 23 50.0	0.0
YUK2				Sg	Sb	17 24 35.3	+1.4
MCARA	**McCarthy VSAT**	**3.43**	**315**	P	Pn	17 23 52.3	-2.4
BMRM	**Bremner River**	**3.84**	**303**	*e*Pn	Pn	17 23 58.9	-1.5
WRAK	**Wrangell Islan**	**4.01**	**129**	*e*Pn	Pn	17 24 05.5	+2.7
DLBC	**Dease Lake**	**4.18**	**95**	Pn	Pn	17 24 04.7	-0.5
DLBC				Sn	Sn	17 24 53.5	-1.3
DLBC				Sg	Sb	17 25 09.1	+3.5
DLBC	**Dease Lake**	**4.18**	**95**	*e*Pn	Pn	17 24 04.4	-0.8
DAWY	**Dawson**	**5.06**	**353**	Pn	Pn	17 24 17.2	0.0
DAWY				Sn	Sn	17 25 13.1	-3.2
DAWY	**Dawson**	**5.06**	**353**	*e*Pn	Pn	17 24 17.0	-0.2
	10nm,0.6s						
EGAK	**Eagle**	**5.93**	**347**	*e*Pn	Pn	17 24 28.7	-0.3
	8.7nm,0.8s						
TRF	**Thorofare Moun**	**7.38**	**312**	*e*Pn	Pn	17 24 49.0	-0.2
	8.1nm,0.5s						
KTH	**Kantishna Hill**	**7.68**	**311**	*e*Pn	Pn	17 24 52.6	-0.5
	7.3nm,0.7s						

MAN 15 17:24:10,8.°92N×122.°63E,h42km,mb4.3,ML3.1,MS2.9, 2C-1D,Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SNPH	**Sibulan**	**0.73**	**55**	*j*P	Pn	17 24 23.9	-0.1
SNPH				*i* S	Sn	17 24 36.5	+2.4
DCPH	**Dipolog City**	**0.79**	**115**	*e*P	Pn	17 24 22.8	-1.8
DCPH				*e*S	Sn	17 24 34.6	-0.7
PAGZ	**Pagadian**	**1.30**	**145**	*e*P	Pn	17 24 31.8	+0.1
PAGZ				*e*S	Sn	17 24 50.1	+2.3
TBP	**Tagbilaran**	**1.44**	**58**	*i*P	Pn	17 24 34.5	+0.9
GUIM	**Jordan**	**1.70**	**359**	*e*P	Pn	17 24 38.3	+1.1
GUIM				*e*S	Sn	17 24 59.6	+1.8

IDC 15 17:32:09.6±7.6,**9.°89S×161.°07E,h0km,mb3.6/3, mb1 3.7/3,mb1mx3.4/22,mbtmp3.6/3,Error ellipse: s-maj=208.0km s-min=38.7km az=116.0, Bougainville-Solomon Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**1.20**	**292**	*e*P	Pn	17 32 46.0	+12
HNR				*e*S	Sn	17 33 07.0	+16
WRA	**Warramunga Arr**	**27.65**	**246**	P	P	17 38 00.0	+0.6
	0.5nm,0.8s,baz=74,slow=9.2,SNR=31						
ASAR	**Alice Springs**	**29.32**	**239**	P	P	17 38 13.2	-1.0
	0.2nm,0.7s,baz=62,slow=11,SNR=4.1						
SONM	**Songino Array**	**75.06**	**325**	P	P	17 43 53.5	+0.1
	1.2nm,0.8s,baz=138,slow=5.0,SNR=7.8						

IDC 15 17:39:56.0±7.2,**5.°19S×148.°26E,h0km,mb4.2/3, mb1 4.2/5,mb1mx3.7/30,mbtmp4.1/5,ML3.8/1,MS4.7/1, Ms1 4.7/1,ms1mx3.0/23,Error ellipse: s-maj=108.5km s-min=57.1km az=46.0,New Britain region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**4.33**	**195**	Pn	Pn	17 41 02.4	-0.8
	6.3nm,0.3s,baz=22,slow=5.4,SNR=15						
PMG				Sn	Sn	17 41 43.3	-11
	10.0nm,0.3s,baz=123,slow=8.2,SNR=6.9						
WRA	**Warramunga Arr**	**19.97**	**222**	P	P	17 44 28.1	-2.0
	0.3nm,0.3s,baz=46,slow=12,SNR=16						
ASAR	**Alice Springs**	**23.00**	**216**	P	P	17 45 01.4	-1.3
	1.7nm,0.6s,baz=53,slow=8.8,SNR=76						
FITZ	**Fitzroy Crossi**	**25.56**	**238**	P	P	17 45 27.7	+0.8
	7.9nm,0.5s,baz=57,slow=7.5,SNR=67						
STKA	**Stephens Creek**	**27.28**	**192**	P	P	17 45 43.9	+1.6
	0.9nm,0.4s,baz=14,slow=8.4,SNR=5.6						
KAPI	**Kappang**	**28.40**	**269**	LR	LR	17 59 41.2	
	comp=Z,2µm,21.9s,baz=128,slow=42						

CSEM ***15*** *18:08:34.7,39.°51N×29.°71W,h10km,ML2.6*

PDA 15 18:08:34.7±0.9,**39.°51N×29.°71W,h10km,MD3.5,ML2.6, Error ellipse: s-maj=16.6km s-min=7.7km az=48.0, Azores Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCED	**Cedros**	**1.18**	**138**	*e*S	Sb	18 09 05.6	-6.9
PCED				A	A	18 09 08.8	
	42nm,0.3s						
PCED	**Cedros**	**1.18**	**138**	*e*S	Sb	18 09 05.6	-6.9
CALA	**Caldeira**	**1.22**	**140**	*e*P	Pn	18 08 53.5	-4.3
CALA				*e*S	Sb	18 09 07.2	-6.4
CALA	**Caldeira**	**1.22**	**140**	*e*P	Pn	18 08 53.5	-4.3
CALA				*e*S	Sb	18 09 07.2	-6.4
ROSA

PCAN	**Candelaria**	**1.46**	**139**	*e*P	Pn	18 15 11.9	-4.7
PCAN				*e*S	Sn	18 15 28.2	-7.5
PICO	**Pico**	**1.46**	**137**	*e*P	Pn	18 15 11.9	-4.8
PICO				*e*S	Sn	18 15 28.5	-7.4
PICO				A	A	18 15 32.1	
	77nm,0.3s						
PICO	**Pico**	**1.46**	**137**	*e*P	Pn	18 15 11.9	-4.8
PICO				*e*S	Sn	18 15 28.5	-7.4

*ISCJB **15** 18:23:43.7±0.3,38°.96N±0°.05×140°.42E±0°.07, h135km±3km, mb3.6/12, Error ellipse: s-maj=10.5km s-min=5.5km az=34.3*
*JMA **15** 18:23:44.7±0.1,38°.98N×140°.37E, h130km±1km, M3.3*
*IDC **15** 18:23:44.5±2.4,38°.86N×140°.34E, h132km±23km, mb3.4/12, mb1 3.7/14, mb1mx3.4/39, mbtmp3.9/14, Error ellipse: s-maj=20.9km s-min=13.9km az=94.0*
ISC 15 18:23:44.8±0.7,38°.91N±0°.05×140°.45E±0°.06, h135km±5km, n33, σ1§11/43, mb3.7/12, Eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
JYK	**Kaneyama**	**0.07**	**279**	P		**Pn**	**18 24 02.3**	**-0.7**
JYK				*e*S		**Sn**	**18 24 15.4**	**-1.3**
JRG	**Rokugo**	**0.51**	**17**	P		**Pn**	**18 24 03.8**	**-0.6**
JRG				S		**Sn**	**18 24 17.9**	**-1.5**
JOU	**Okura**	**0.57**	**162**	P		**Pn**	**18 24 05.1**	**+0.3**
JOU				S		**Sn**	**18 24 20.5**	**+0.6**
JMK	**Ichinoseki**	**0.60**	**86**	P		**Pn**	**18 24 04.9**	**-0.1**
JMK				S		**Sn**	**18 24 20.2**	**0.0**
JYA	**Atsumi**	**0.65**	**241**	P		**Pn**	**18 24 04.8**	**-0.5**
JYA				S		**Sn**	**18 24 19.9**	**-0.9**
JYS	**Shirataka**	**0.75**	**204**	P		**Pn**	**18 24 06.0**	**0.0**
JYS				*e*S		**Sn**	**18 24 22.1**	**0.0**
JIO	**Ouri**	**0.84**	**122**	P		**Pn**	**18 24 06.7**	**0.0**
JIO				S		**Sn**	**18 24 23.0**	**-0.3**
JOM	**Ohasama**	**0.87**	**49**	P		**Pn**	**18 24 06.8**	**-0.1**
JOM				S		**Sn**	**18 24 23.4**	**-0.4**
JAW	**Awa shima**	**1.04**	**245**	P		**Pn**	**18 24 08.0**	**-0.4**
JFT	**Otama**	**1.39**	**184**	P		**Pn**	**18 24 12.7**	**+0.7**
JFT				*e*S		**Sn**	**18 24 34.8**	**+2.0**
JNS	**Sasagawa**	**1.40**	**220**	P		**Pn**	**18 24 12.2**	**+0.1**
JNS				S		**Sn**	**18 24 33.0**	**0.0**
JANG	**Nango**	**1.68**	**29**	P		**Pn**	**18 24 14.7**	**-0.5**
JANG				S		**Sn**	**18 24 37.3**	**-1.2**
JSD	**Sado**	**1.92**	**244**	P		**Pn**	**18 24 17.5**	**-0.6**
MAT	**Matsushiro**	**2.95**	**218**	P		**Pn**	**18 24 31.5**	**+0.5**
MAT				S		**Sn**	**18 25 07.8**	**+1.2**
MJAR	**Matsushiro Arr**	**2.95**	**218**	P		**Pn**	**18 24 32.2**	**+1.2**
	3.7nm,0.3s,baz=40,slow=11,SNR=33							
JHJ	**Hachijo jima 2**	**5.80**	**186**	P		**Pn**	**18 25 06.3**	**-2.4**
	47nm,0.3s,baz=321,slow=19,SNR=34							
JHJ				S		**Sn**	**18 26 09.6**	**-4.5**
	33nm,0.3s,baz=48,slow=21,SNR=6.6							
USRK	**Ussuriysk Ar.**	**8.25**	**313**	P		**Pn**	**18 25 42.2**	**+0.7**
	1.5nm,0.3s,baz=134,slow=14,SNR=16							
MA2	**Magadan**	**21.71**	**14**	P		**P**	**18 28 25.3**	**+0.5**
	8.2nm,0.8s,baz=168,slow=16,SNR=4.5							
SEY	**Seymchan**	**25.12**	**13**	P		**P**	**18 28 58.1**	**+1.3**
	1.0nm,0.4s,baz=225,slow=8.6,SNR=4.9							
SONM	**Songino Array**	**26.13**	**301**	P		**P**	**18 29 05.6**	**-0.7**
	0.4nm,0.4s,baz=100,slow=9.1,SNR=4.5							
H11S1	**WAKE ISLAND Hy**	**30.53**	**124**	T		T	19 01 20.3	
	baz=317,slow=75,SNR=13							
H11S3	**WAKE ISLAND Hy**	**30.53**	**124**	T		T	19 01 18.4	
	baz=317,slow=75,SNR=15							
H11S2	**WAKE ISLAND Hy**	**30.55**	**124**	T		T	19 01 21.2	
	baz=317,slow=75,SNR=11							
ZALV	**Zalesovo Beam**	**40.10**	**311**	P		**P**	**18 31 05.8**	**-1.1**
	1.8nm,0.5s,baz=84,slow=7.1,SNR=8.8							
ILAR	**Eielson Array**	**48.34**	**33**	P		**P**	**18 32 12.7**	**+0.4**
	1.9nm,0.6s,baz=297,slow=5.2,SNR=8.8							
INK	**Inuvik**	**53.08**	**28**	P		**P**	**18 32 48.1**	**+0.4**
	1.2nm,0.4s,baz=240,slow=8.1,SNR=7.7							
WRA	**Warramunga Arr**	**58.82**	**187**	P		**P**	**18 33 28.7**	**-0.4**
	0.3nm,0.6s,baz=346,slow=7.9,SNR=5.9							
ASAR	**Alice Springs**	**62.55**	**187**	P		**P**	**18 33 54.6**	**+0.4**
	0.2nm,0.8s,baz=0.7,slow=6.9,SNR=5.9							
YKA	**Yellowknife Ar**	**62.58**	**30**	P		**P**	**18 33 54.1**	**+0.1**
	0.2nm,0.5s,baz=302,slow=6.1,SNR=3.5							
FINES	**FINESS Array B**	**66.80**	**332**	P		**P**	**18 34 21.3**	**-0.1**
	1.5nm,0.8s,baz=17,slow=15,SNR=3.0							
PDAR	**Pinedale Array**	**76.90**	**45**	P		**P**	**18 35 23.1**	**+0.7**
	0.6nm,0.5s,baz=270,slow=1.8,SNR=5.2							
TXAR	**Lajitas Array**	**89.57**	**52**	P		**P**	**18 36 28.0**	**+0.7**
	0.5nm,0.7s,baz=242,slow=2.7,SNR=3.9							
LPAZ	**La Paz**	**146.34**	**56**	PKPbc		**PKPdf**	**18 43 09.8**	**+0.3**
	0.5nm,0.4s,baz=330,slow=4.1,SNR=4.7							

MAN 15 18:27:08,12°.57N×123°.50E, h19km, mb4.2, ML3.0, MS2.8, 2C-1D, Luzon

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
MMPH	**Masbate**	**0.24**	**150**	⇑*i*P		Pg	18 27 14.6	+0.9
MMPH				*i* S		Sg	18 27 19.9	+2.2
AUQP	**San Andres**	**1.10**	**313**	*e*P		Pb	18 27 28.4	0.0
AUQP				*e*S		Sg	18 27 45.7	+2.0
PVCP	**Virac**	**1.20**	**32**	*e*P		Pn	18 27 29.6	-0.2
PVCP				*e*S		Sg	18 27 46.8	-0.4
RCP	**Roxas**	**1.24**	**216**	⇓*e*P		Pb	18 27 31.0	+0.1
RCP				*e*S		Sn	18 27 47.4	+0.8
OTRP	**Odiongan**	**1.46**	**262**	*e*P		Pb	18 27 34.6	+0.1
OTRP				*e*S		Sb	18 27 52.8	+0.1
GQP	**Guinayangan**	**1.68**	**322**	⇑*e*P		Pn	18 27 36.3	-0.1
GQP				*e*S		Sb	18 27 58.4	-0.6
BOAC	**Boac**	**1.84**	**299**	*e*P		Pn	18 27 38.3	-0.3
BOAC				*e*S		Sg	18 28 09.8	+2.4
BUSP	**Coron**	**3.27**	**260**	*e*P		Pn	18 27 58.5	+0.2

*CSEM **15** 18:28:15.3,39°.44N×29°.89W, h15km, ML2.6*
PDA 15 18:28:15.3±0.8,39°.44N×29°.89W, h15km, MD3.5, ML2.6, 2C, Error ellipse: s-maj=16.9km s-min=6.7km az=40.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
PCED	**Cedros**	**1.23**	**131**	*e*P		Pn	18 28 33.5	-4.4
PCED				*e*S		Sb	18 28 47.1	-6.7
PCED				A		A	18 28 50.5	
	69nm,0.3s							
PCED	**Cedros**	**1.23**	**131**	*e*P		Pn	18 28 33.5	-4.4
PCED				*e*S		Sb	18 28 47.1	-6.7
CALA	**Caldeira**	**1.26**	**132**	*e*P		Pn	18 28 34.3	-4.1
CALA				*e*S		Sb	18 28 48.1	-6.7
CALA	**Caldeira**	**1.26**	**132**	*e*P		Pn	18 28 34.3	-4.1
CALA				*e*S		Sb	18 28 48.1	-6.7
PCAN	**Candelaria**	**1.46**	**131**	⇑*i*P		Pn	18 28 36.9	-4.3
PCAN				*e*S		Sn	18 28 52.8	-7.3
PCAN				A		A	18 28 56.2	
	178nm,0.2s							
PCAN	**Candelaria**	**1.46**	**131**	⇑*i*P		Pn	18 28 36.9	-4.3
PCAN				*e*S		Sn	18 28 52.8	-7.3
ROSA	**Rosais**	**1.47**	**119**	*e*S		Sn	18 28 53.1	-7.1
ROSA				A		A	18 28 54.1	
	20nm,0.1s							
ROSA	**Rosais**	**1.47**	**119**	*e*S		Sn	18 28 53.1	-7.1
PICO	**Pico**	**1.47**	**129**	*e*P		Pn	18 28 36.9	-4.5
PICO				*e*S		Sn	18 28 54.0	-6.4
PICO	**Pico**	**1.47**	**129**	*e*P		Pn	18 28 36.9	-4.5
PICO				*e*S		Sn	18 28 54.0	-6.4
PMAN	**Manadas**	**1.61**	**119**	*e*S		Sn	18 28 56.6	-7.2
PMAN				A		A	18 28 58.1	
	17nm,0.1s							
PMAN	**Manadas**	**1.61**	**119**	*e*S		Sn	18 28 56.6	-7.2

*ISCJB **15** 18:30:05.7±0.6,6°.82N±0°.03×73°.07W±0°.04, h160km±5km, Error ellipse: s-maj=7.6km s-min=4.5km az=29.8*
*RSNC **15** 18:30:08.0±1.0,6°.80N×73°.12W, h149km±5km, ML3.1*
*FUNV **15** 18:30:09.1,7°.02N×73°.00W, h175km, MW2.8*
ISC 15 18:30:05.2±1.4,6°.84N±0°.04×73°.06W±0°.05, h165km±8km, n24, σ1§41/39, 1D, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
BARC	**Barichara**	**0.27**	**207**	*i* P		**Pn**	**18 30 27.9**	**+0.1**
BARC				*i*			18 30 28.1	
	comp=Z,234nm,0.4s							
BARC				*e*S		**Sn**	**18 30 42.9**	**-2.2**
GIRC	**Giron, Santand**	**0.27**	**331**	*e*P		**Pn**	**18 30 27.9**	**+0.3**
GIRC				*e*S		**Sn**	**18 30 43.3**	**-1.6**
PAMC	**Pamplona, Colo**	**0.61**	**36**	*i* P		**Pn**	**18 30 30.7**	**+1.3**
PAMC				*e*S		**Sn**	**18 30 48.0**	**+0.1**
BRRC	**Barranca, Sant**	**0.70**	**293**	*e*P		**Pn**	**18 30 30.0**	**+0.7**
BRRC				*e*S		**Sn**	**18 30 47.3**	**-0.5**
BRRC				*i*			18 30 49.5	
	comp=Z,218nm,0.1s							
RUSC	**La Rusia**	**0.94**	**181**	⇓*i*P		**Pn**	**18 30 31.8**	**+0.2**
RUSC				*e*S		**Sn**	**18 30 50.5**	**-1.2**
RUSC				*i*			18 30 53.3	
	comp=Z,100nm,0.5s							
CAPV	**Capacho**	**1.26**	**36**	*e*P		**Pn**	**18 30 35.8**	**+1.9**
CAPV				*e*S		**Sn**	**18 30 56.9**	**+0.8**
OCAC	**Ocana**	**1.42**	**350**	*e*P		**Pn**	**18 30 36.5**	**+1.2**
OCAC				*e*S		**Sn**	**18 30 59.1**	**+0.6**
OCAC				*i*			18 31 03.2	
	comp=Z,199nm,0.5s							
YOPC	**Yopal, Colombi**	**1.60**	**157**	*e*P		**Pn**	**18 30 38.4**	**+1.2**
YOPC				*e*S		**Sn**	**18 31 02.5**	**+0.7**
ZARC	**Zaragoza, Cauc**	**1.90**	**290**	*e*P		**Pn**	**18 30 40.7**	**+0.6**
NORC	**Norcasia**	**2.20**	**235**	*e*P		**Pn**	**18 30 43.9**	**+0.2**
NORC				*e*S		**Sn**	**18 31 11.6**	**-1.8**
CHIC	**Chingaza**	**2.29**	**197**	*e*P		**Pn**	**18 30 46.0**	**+0.9**
CHIC				*i*			18 30 47.8	
	comp=Z,44nm,0.1s							
CHIC				*e*S		**Sn**	**18 31 15.5**	**-0.4**
HELC	**Santa Helena**	**2.54**	**255**	*e*S		**Sn**	**18 31 20.6**	**-0.2**
HELC				*i*			18 31 28.2	
	comp=Z,34nm,0.2s							
VIGV	**El Vigia**	**2.60**	**40**	*e*P		**Pn**	**18 30 50.2**	**+1.8**
VIGV				*e*S		**Sn**	**18 31 19.1**	**-2.8**
SOCV	**Socops**	**2.62**	**57**	*e*P		**Pn**	**18 30 50.2**	**+1.6**
SOCV				*e*S		**Sn**	**18 31 20.9**	**-1.1**
VILC	**Villavicencio,**	**2.78**	**193**	*e*P		**Pn**	**18 30 51.4**	**+0.7**
CODC	**Agust´›n Codaz**	**3.10**	**353**	*e*P		**Pn**	**18 30 55.2**	**+0.8**
CODC				*i*			18 30 58.1	
	comp=Z,60nm,0.3s							
CODC				*e*S		**Sn**	**18 31 34.2**	**+1.4**
DBBC	**Dabeiba**	**3.13**	**273**	*e*P		**Pn**	**18 30 56.0**	**+1.1**
TOLC	**Tolima**	**3.17**	**225**	*e*P		**Pn**	**18 30 57.6**	**+1.9**
PRAC	**Prado**	**3.60**	**210**	*e*P		**Pn**	**18 31 01.2**	**+0.4**
PRAC				*e*S		**Sn**	**18 31 43.2**	**-0.9**
VIRV	**Villa del Rosa**	**3.70**	**10**	*e*P		**Pn**	**18 31 02.5**	**+0.5**
VIRV				*e*S		**Sn**	**18 31 42.0**	**-4.4**
CURV	**Curarigua**	**4.40**	**44**	*e*P		**Pn**	**18 31 12.5**	**+1.3**
DABV	**Dabajuro**	**4.71**	**30**	*e*P		**Pn**	**18 31 15.6**	**+0.4**
BAUV	**El Baul**	**5.39**	**67**	*e*P		**Pn**	**18 31 24.1**	**-0.1**
MAPV	**Macapo**	**5.44**	**57**	*e*P		**Pn**	**18 31 24.7**	**0.0**

*NIED **15** 18:36:00,35°.90N×141°.20E, h68km, Mw4.4 Best double couple: M0=4.97000×10^15 NP1:φs=311.00000°,δ11.00000°, λ148.00000°. NP2:φs72.00000°,δ84.00000°,λ80.00000°.*
JMA 15 18:36:14.1±0.1,35°.93N×141°.16E, h23km±2km, M3.6, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
CHOJ	**Chosi**	**0.33**	**227**	P		Pb	18 36 21.3	-0.2
CHOJ				S		Sb	18 36 26.5	0.0
JHO	**Hitachi**	**0.83**	**325**	P		Pb	18 36 29.3	-0.6
JHO				S		Sb	18 36 40.3	-0.3
JYT	**Yasato**	**0.84**	**291**	P		Pb	18 36 29.3	-0.7
JYT				S		Sb	18 36 40.5	-0.3
ONAJ	**Iwakimizuishiy**	**1.21**	**346**	P		Pn	18 36 34.6	-1.0
ONAJ				*e*S		Sn	18 36 50.2	-1.1
BSO2	**Boso 2**	**1.22**	**196**	*e*S		Sn	18 36 50.8	-0.3
BSO3	**Boso 3**	**1.25**	**205**	P		Pb	18 36 36.6	-0.1
BSO3				*e*S		Sn	18 36 51.6	-0.1
MAT	**Matsushiro**	**2.46**	**285**	P		Pn	18 36 53.7	+0.8
MAT				S		Sn	18 37 24.7	+2.4

JMA 15 18:40:23.6,38°.45N×141°.83E, h55km±1km, M3.5, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
JIO	**Ouri**	**0.38**	**271**	P		Pn	18 40 34.0	+0.1
JIO				S		Sn	18 40 41.2	-0.1
OFUJ	**Ofunato**	**0.64**	**349**	P		Pn	18 40 36.9	0.0
OFUJ				S		Sn	18 40 46.5	0.0
JMK	**Ichinoseki**	**0.69**	**317**	P		Pn	18 40 37.8	+0.3
JMK				S		Sn	18 40 47.9	+0.3
JOU	**Okura**	**0.92**	**265**	P		Pn	18 40 40.5	+0.1
JOU				S		Sn	18 40 53.2	+0.4
JMM	**Marumori**	**1.00**	**235**	P		Pn	18 40 41.3	-0.2
JMM				S		Sn	18 40 54.2	-0.5
JOM	**Ohasama**	**1.10**	**338**	P		Pn	18 40 43.2	+0.3
JOM				S		Sn	18 40 58.1	+1.0
JYK	**Kaneyama**	**1.24**	**293**	P		Pn	18 40 45.1	+0.4
JYK				S		Sn	18 41 01.0	+0.6
JFK	**Kawauchi**	**1.32**	**215**	P		Pn	18 40 45.9	+0.1
JFK				S		Sn	18 41 02.0	-0.3
JRG	**Rokugo**	**1.33**	**316**	P		Pn	18 40 46.2	+0.3
JYS	**Shirataka**	**1.41**	**261**	P		Pn	18 40 47.4	+0.5
JYS				S		Sn	18 41 05.5	+1.1
JFT	**Otama**	**1.50**	**232**	P		Pn	18 40 48.9	+0.7
JFT				S		Sn	18 41 07.0	+0.3
JYA	**Atsumi**	**1.67**	**276**	P		Pn	18 40 50.9	+0.5
MAT	**Matsushiro**	**3.45**	**238**	P		Pn	18 41 16.8	+1.9
MAT				*e*S		Sn	18 41 57.5	+2.9

*ISCJB **15** 18:51:34.5±0.3,51°.51N±0°.02×16°.09E±0°.02, h0km, mb3.6/2, Error ellipse: s-maj=2.6km s-min=1.7km az=11.4*
*CSEM **15** 18:51:35.7±0.2,51°.56N×16°.10E, h0km, 1km, ML3.9/16, Error ellipse: s-maj=3.1km s-min=1.7km az=13.0*
*IDC **15** 18:51:36.6±0.6,51°.54N×16°.00E, h0km, mb3.6/2, mb1 3.6/10, mb1mx3.4/47, mbtmp3.5/10, ML3.4/7, Error ellipse: s-maj=11.0km s-min=6.5km az=109.0*
*IPEC **15** 18:51:36.1±0.5,51°.56N×16°.21E, h0km±2km, ML2.9/3, Error ellipse: s-maj=4.2km s-min=2.6km az=76.0*
*BGR **15** 18:51:36.8±0.3,51°.54N×16°.11E, h1km, ML3.5/18, Error ellipse: s-maj=3.3km s-min=1.1km az=13.0*
*PRU **15** 18:51:37.4,51°.51N×16°.13E, h0km*
*WAR **15** 18:51:37.0,51°.55N×16°.09E, h1km, Mw3.0*
ISC 15 18:51:34.5±0.6,51°.62N±0°.02×16°.12E±0°.02, h0km, n133, σ1§49/241, 2C-19D, Poland

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.79**	**172**	*i* Pg		**Pb**	**18 51 50.5**	**-0.5**
KSP				*e*Sg		**Sg**	**18 51 59.9**	**+0.2**
KSP	**Ksiaz**	**0.79**	**172**	*e*Pg		**Pb**	**18 51 50.5**	**-0.5**
KSP				*e*Sg		**Sg**	**18 51 59.9**	**+0.2**
KSP	**Ksiaz**	**0.79**	**172**	Pg		**Pb**	**18 51 50.5**	**-0.5**
KSP				Sg		**Sg**	**18 51 59.9**	**+0.2**
KSP	**Ksiaz**	**0.79**	**172**	*i* Pg		**Pb**	**18 51 50.5**	**-0.5**
KSP				*e*Sg		**Sg**	**18 51 59.9**	**+0.2**
UPC	**Upice**	**1.12**	**183**	⇓*e*PG		**Pb**	**18 51 56.5**	**-0.1**
UPC				*e*SG		**Sg**	**18 52 10.3**	**0.0**
	comp=Z,354nm,0.4s							
UPC	**Upice**	**1.12**	**183**	Pg		**Pb**	**18 51 56.5**	**-0.1**
UPC				Sg		**Sg**	**18 52 10.3**	**0.0**
	354nm,0.4s							
DPC	**Dobruska-Polom**	**1.28**	**174**	⇓*e*PG		**Pb**	**18 51 59.3**	**-0.1**
DPC				*e*SG		**Sg**	**18 52 14.7**	**-0.8**
	comp=Z,110nm,0.3s							
DPC	**Dobruska-Polom**	**1.28**	**174**	*e*Pg		**Pb**	**18 51 59.3**	**-0.1**
DPC				*e*Sg		**Sg**	**18 52 14.9**	**-0.6**
DPC	**Dobruska-Polom**	**1.28**	**174**	*i* Pg		**Pb**	**18 51 59.3**	**-0.1**
DPC				Sg		**Sg**	**18 52 14.9**	**-0.6**
PVCC	**Panska Ves**	**1.47**	**222**	⇓*e*PG		**Pg**	**18 52 02.7**	**+0.2**
PVCC				*e*SG		**Sn**	**18 52 22.4**	**+0.4**
	comp=Z,695nm,0.3s							
PVCC	**Panska Ves**	**1.47**	**222**	Pg		**Pg**	**18 52 02.7**	**+0.2**
PVCC				Sg		**Sn**	**18 52 22.4**	**+0.4**
	695nm,0.3s							
BRG	**Berggiesshubel**	**1.56**	**242**	PN		Pn	**18 52 03.7**	**+0.2**
BRG				PG		**Pg**	**18 52 05.3**	**+1.0**
BRG				SG		**Sg**	**18 52 25.6**	**+1.1**
	289nm,0.4s							
BRG	**Berggiesshubel**	**1.56**	**242**	*e*Pn		**Pn**	**18 52 03.6**	**+0.2**
BRG				*e*Pg		**Pg**	**18 52 05.2**	**+0.9**
BRG				*e*Sg		**Sg**	**18 52 25.6**	**+1.1**
BRG	**Berggiesshubel**	**1.56**	**242**	Pn		**Pn**	**18 52 03.6**	**+0.2**
KRLC	**Kraliky**	**1.60**	**165**	⇓*e*PG		**Pn**	**18 52 04.5**	**+0.4**
KRLC				*e*SG		**Sn**	**18 52 25.1**	**-0.4**
KRLC	**Kraliky**	**1.60**	**165**	Pg		**Pn**	**18 52 04.5**	**+0.4**
KRLC				Sg		**Sn**	**18 52 25.1**	**-0.4**
RUE	**Ruedersdorf**	**1.68**	**302**	*e*Pn		**Pb**	**18 52 06.2**	**0.0**
RUE	**Ruedersdorf**	**1.68**	**302**	Pn		**Pb**	**18 52 06.2**	**0.0**
FBE	**Freiberg**	**1.87**	**249**	*e*Pg		**Pg**	**18 52 10.7**	**+0.4**
FBE				*e*Sg		**Sg**	**18 52 35.3**	**+0.8**
FBE	**Freiberg**	**1.87**	**249**	Pg		**Pg**	**18 52 10.7**	**+0.4**
FBE				Sg		**Sg**	**18 52 35.3**	**+0.8**
PRA	**Prague**	**1.88**	**215**	⇓*e*PN		**Pn**	**18 52 08.4**	**+0.5**
PRA				*e*SG		**Sb**	**18 52 34.2**	**+0.4**
	comp=Z,148nm,0.5s							
PRA	**Prague**	**1.88**	**215**	Pn		**Pn**	**18 52 08.4**	**+0.5**
PRA				Sg		**Sb**	**18 52 34.2**	**+0.4**
	148nm,0.5s							
GOPC	**GO Pecny, Ondr**	**1.91**	**207**	⇓*e*PN		**Pn**	**18 52 08.4**	**+0.2**
GOPC				*e*PG		**Pb**	**18 52 10.5**	**+0.4**
GOPC				*e*SG		**Sb**	**18 52 34.6**	**+0.2**
	comp=Z,67nm,0.3s							
GOPC	**GO Pecny, Ondr**	**1.91**	**207**	Pn		**Pn**	**18 52 08.4**	**+0.2**
PRU	**Pruhonice**	**1.92**	**212**	⇓*e*PN		**Pn**	**18 52 08.6**	**+0.3**
PRU				*e*PG		**Pg**	**18 52 11.7**	**+0.6**
PRU				*ex*		x	18 52 27.8	
PRU				*e*SG		**Sb**	**18 52 34.4**	**-0.3**
	comp=Z,141nm,0.3s							
PRU	**Pruhonice**	**1.92**	**212**	Pn		**Pn**	**18 52 08.6**	**+0.3**
CLL	**Collm**	**1.97**	**262**	*e*Pn		**Pn**	**18 52 09.6**	**+0.5**
CLL				*e*Sg		**Sg**	**18 52 38.7**	**+0.9**
CLL	**Collm**	**1.97**	**262**	Pn		**Pn**	**18 52 09.6**	**+0.5**
CLL				Sg		**Sg**	**18 52 38.7**	**+0.9**
CLL	**Collm**	**1.97**	**262**	*i* Pn		**Pn**	**18 52 09.5**	**+0.4**
CLL				*e*Pg		**Pg**	**18 52 13.0**	**+0.7**
CLL				*i*			18 52 16.4	
CLL				*e*Sg		**Sg**	**18 52 38.0**	**+0.2**
	comp=Z,107nm,0.5s							
RAC	**Raciborz**	**2.02**	**139**	*e*Pg		**Pg**	**18 52 14.2**	**+1.0**
RAC				*e*Sg		**Sg**	**18 52 39.6**	**+0.1**
MORC	**Moravsky Berou**	**2.06**	**153**	⇓*i*P		**Pn**	**18 52 10.6**	**+0.3**
MORC	**Moravsky Berou**	**2.06**	**153**	S		**Sg**	**18 52 40.1**	**-0.4**
MORC	**Moravsky Berou**	**2.06**	**153**	*e*Pn		**Pn**	**18 52 10.7**	**+0.3**
MORC				*e*Sg		**Sg**	**18 52 40.1**	**-0.4**
MORC	**Moravsky Berou**	**2.06**	**153**	Pn		**Pn**	**18 52 10.7**	**+0.4**
MORC				Sg		**Sg**	**18 52 40.1**	**-0.4**
OKC	**Ostrava-Krasne**	**2.20**	**143**	⇓*e*PN		**Pn**	**18 52 12.1**	**-0.1**
OKC				*e*PG		**Pb**	**18 52 15.6**	**+0.5**
OKC				*e*SG		**Sb**	**18 52 43.6**	**+0.7**
	comp=Z,121nm,0.5s							
OKC	**Ostrava-Krasne**	**2.20**	**143**	*e*Pn		**Pn**	**18 52 12.2**	**-0.1**
OKC				*e*Pg		**Pg**	**18 52 16.9**	**+0.3**
OKC				*e*Sg		**Sb**	**18 52 43.7**	**+0.8**
OKC	**Ostrava-Krasne**	**2.20**	**143**	Pn		**Pn**	**18 52 12.2**	**-0.1**
VRAC	**Vranov**	**2.33**	**172**	Pn		**Pn**	**18 52 14.9**	**+0.8**
	comp=Z,8.8nm,0.3s,baz=341,slow=15,SNR=56							
VRAC				Lg		Lg	18 52 47.9	
	comp=Z,18nm,0.3s,baz=256,slow=23,SNR=8.0							
VRAC	**Vranov**	**2.33**	**172**	⇓*i*P		**Pn**	**18 52 14.6**	**+0.5**
VRAC	**Vranov**	**2.33**	**172**	⇓*i*P		**Pn**	**18 52 14.6**	**+0.5**
VRAC				*e*Sg		**Sb**	**18 52 47.1**	**+0.3**
	comp=Z,59nm,0.3s							
VRAC				S		**Sg**	**18 52 48.0**	**-1.4**
TREC	**Trest**	**2.36**	**190**	⇓*e*PN		**Pn**	**18 52 15.3**	**+0.8**
TREC				*e*PG		**Pb**	**18 52 18.8**	**+0.9**
TREC				*e*SG		**Sb**	**18 52 48.5**	**+0.9**
	comp=Z,81nm,0.4s							
TREC	**Trest**	**2.36**	**190**	Pn		**Pn**	**18 52 15.3**	**+0.8**
KRUC	**Moravsky**	**2.57**	**176**	*e*Pn		**Pn**	**18 52 18.1**	**+0.8**
KRUC				*e*Sg		**Sb**	**18 52 54.3**	**+0.9**
	comp=Z,57nm,0.4s							
WERD	**Werda**	**2.68**	**245**	*e*Pn		**Pn**	**18 52 19.5**	**+0.7**
WERD				*e*Pg		**Pg**	**18 52 26.0**	**+0.2**
WERD				*e*Sg		**Sg**	**18 52 59.5**	**-0.9**
WERD	**Werda**	**2.68**	**245**	Pn		**Pn**	**18 52 19.5**	**+0.7**
WERD	**Werda**	**2.68**	**245**	Pg		**Pg**	**18 52 26.0**	**+0.2**
WERD				Sg		**Sg**	**18 52 59.5**	**-0.9**
GUNZ	**Gunzen**	**2.70**	**244**	*e*Pn		**Pn**	**18 52 20.0**	**+0.8**
GUNZ				*e*Pg		**Pg**	**18 52 27.4**	**+1.2**
GUNZ				*e*Sg		**Sg**	**18 53 01.5**

	comp=Z,11nm,0.3s								
CONA					Sg		**Sg**	**18 53 33.8**	**+0.6**
	comp=Z,65nm,0.5s								
CONA	**Conrad Observa**	**3.70**	**183**		Pn		**Pn**	**18 52 33.8**	**+0.9**
	comp=Z,4.9nm,0.3s,SNR=7.5								
STHS	**Stebnicka Huta**	**3.94**	**122**	*e*	Pg		**Pg**	**18 52 51.6**	**+1.6**
STHS					*e*Sg		**Sg**	**18 53 44.2**	**+3.1**
STHS	**Stebnicka Huta**	**3.94**	**122**	*e*			**Pn**	**18 52 37.7**	**+1.5**
STHS	**Stebnicka Huta**	**3.94**	**122**	*e*	PG		**Pg**	**18 52 51.6**	**+1.6**
STHS					*e*SG		**Sg**	**18 53 44.2**	**+3.1**
STHS					*e*LG		Lg	18 53 50.0	
SOP	**Sopron**	**3.95**	**176**	*ex*			**Sg**	**18 53 40.2**	**-1.1**
MOA	**Molln**	**3.96**	**198**	*i*	Pn		**Pn**	**18 52 37.4**	**+0.9**
	comp=Z,21nm,0.3s,SNR=25								
MOA					*e*Sg		**Sg**	**18 53 40.5**	**-1.1**
	comp=Z,28nm,0.4s								
MOA	**Molln**	**3.96**	**198**		Pn		**Pn**	**18 52 37.4**	**+0.9**
	comp=Z,21nm,0.3s,SNR=25								
MOA					Sg		**Sg**	**18 53 40.5**	**-1.1**
	comp=Z,28nm,0.4s								
KECS	**Kecovo**	**4.22**	**136**	*e*	Pg		**Pg**	**18 52 56.5**	**+1.3**
KECS					*e*Sg		**Sg**	**18 53 46.7**	**-3.1**
KECS	**Kecovo**	**4.22**	**136**	*e*			**Pn**	**18 52 39.9**	**-0.1**
KECS	**Kecovo**	**4.22**	**136**	*e*	PG		**Pg**	**18 52 56.5**	**+1.3**
KECS					*e*SG		**Sg**	**18 53 46.7**	**-3.1**
KECS					*e*LG		Lg	18 54 04.6	
CRVS	**Cervenica-Dubn**	**4.38**	**126**	*e*	PG		**Pb**	**18 52 52.8**	**+0.6**
CRVS					*e*SG		**Sg**	**18 54 03.7**	**+8.7**
ARSA	**Arzberg**	**4.39**	**185**	*e*	Pn		**Pn**	**18 52 44.4**	**+2.0**
	comp=Z,7.1nm,0.3s,SNR=6.5								
ARSA					Sg		**Sg**	**18 53 55.2**	**-0.2**
	comp=Z,80nm,1.0s								
ARSA	**Arzberg**	**4.39**	**185**		Pn		**Pn**	**18 52 44.4**	**+2.0**
	comp=Z,7.1nm,0.3s,SNR=6.5								
ARSA					Sg		**Sg**	**18 53 55.2**	**-0.2**
	comp=Z,80nm,1.0s								
KBA	**Koelnbreinsper**	**4.89**	**203**	*i*	Pn		**Pn**	**18 52 50.6**	**+1.2**
	comp=Z,11nm,0.4s,SNR=19								
KBA					Sg		**Sg**	**18 54 15.6**	**+4.0**
	comp=Z,30nm,0.7s								
KBA	**Koelnbreinsper**	**4.89**	**203**		Pn		**Pn**	**18 52 50.6**	**+1.2**
	comp=Z,11nm,0.4s,SNR=19								
KBA					Sg		**Sg**	**18 54 15.6**	**+4.0**
	comp=Z,30nm,0.7s								
SOKA	**Soboth**	**5.00**	**189**	*e*	Pn		**Pn**	**18 52 52.2**	**+1.4**
	comp=Z,2.4nm,0.3s								
SOKA					Sg		**Sb**	**18 54 04.9**	**+1.4**
	comp=Z,6.6nm,0.4s								
SOKA	**Soboth**	**5.00**	**189**		Pn		**Pn**	**18 52 52.2**	**+1.4**
	comp=Z,2.4nm,0.3s								
OBKA	**Obir**	**5.22**	**192**	*e*	Pn		**Pn**	**18 52 54.7**	**+0.9**
	comp=Z,1.6nm,0.3s								
OBKA					Sg		**Sg**	**18 54 16.1**	**-5.9**
	comp=Z,24nm,0.8s								
OBKA	**Obir**	**5.22**	**192**		Pn		**Pn**	**18 52 54.7**	**+0.9**
	comp=Z,1.6nm,0.3s								
WTTA	**Wattenberg**	**5.25**	**216**	*e*	Pn		**Pn**	**18 52 56.3**	**+2.0**
	comp=Z,3.4nm,0.4s								
WTTA					Sg		**Sg**	**18 54 26.1**	**+3.1**
	comp=Z,9.0nm,0.5s								
WTTA	**Wattenberg**	**5.25**	**216**		Pn		**Pn**	**18 52 56.3**	**+2.0**
	comp=Z,3.4nm,0.4s								
WTTA					Sg		**Sg**	**18 54 26.1**	**+3.1**
	comp=Z,9.0nm,0.5s								
MYKA	**Terra Mystica**	**5.25**	**199**		Sg		**Sg**	**18 54 21.6**	**-1.5**
	comp=Z,6.0nm,0.4s								
MYKA	**Terra Mystica**	**5.25**	**199**		Sg		**Sg**	**18 54 21.6**	**-1.5**
	comp=Z,6.0nm,0.4s								
MOTA	**Moosalm**	**5.38**	**219**	*e*	Pn		**Pn**	**18 52 57.1**	**+1.0**
	comp=Z,1.9nm,0.2s,SNR=6.6								
MOTA					Sg		**Sg**	**18 54 26.9**	**-0.4**
	comp=Z,9.4nm,0.4s								
MOTA	**Moosalm**	**5.38**	**219**		Pn		**Pn**	**18 52 57.1**	**+1.0**
	comp=Z,1.9nm,0.2s,SNR=6.6								
MOTA					Sg		**Sg**	**18 54 26.9**	**-0.4**
	comp=Z,9.4nm,0.4s								
RETA	**Reutte**	**5.41**	**222**	*i*	Sg		**Sg**	**18 54 29.4**	**+1.3**
	comp=Z,16nm,0.6s								
RETA	**Reutte**	**5.41**	**222**		Sg		**Sg**	**18 54 29.4**	**+1.3**
	comp=Z,16nm,0.6s								
ABTA	**Abfaltersbach**	**5.42**	**207**	*e*	Pn		**Pn**	**18 52 58.1**	**+1.5**
	comp=Z,2.3nm,0.4s								
ABTA					Sg		**Sg**	**18 54 25.0**	**-3.5**
	comp=Z,29nm,0.9s								
ABTA	**Abfaltersbach**	**5.42**	**207**		Pn		**Pn**	**18 52 58.1**	**+1.5**
	comp=Z,2.3nm,0.4s								
ABTA					Sg		**Sg**	**18 54 25.0**	**-3.5**
	comp=Z,29nm,0.9s								
FETA	**Feichten**	**5.79**	**220**	*i*	Pn		**Pn**	**18 53 03.0**	**+1.2**
	comp=Z,0.7nm,0.2s								
FETA				*i*	Sg		**Sg**	**18 54 35.4**	**-5.1**
	comp=Z,8.4nm,0.5s								
FETA	**Feichten**	**5.79**	**220**		Pn		**Pn**	**18 53 03.0**	**+1.2**
	comp=Z,0.7nm,0.2s								
DAVA	**Damuels**	**5.94**	**226**	*e*	Pn		**Pn**	**18 53 04.2**	**+0.3**
	comp=Z,1.7nm,0.3s								
DAVA					Sg		**Sg**	**18 54 48.6**	**+3.3**
	comp=Z,17nm,0.6s								
DAVA	**Damuels**	**5.94**	**226**		Pn		**Pn**	**18 53 04.2**	**+0.3**
	comp=Z,1.7nm,0.3s								
DAVOX	**Davos/Dischmat**	**6.34**	**223**		Pn		**Pn**	**18 53 11.2**	**+2.0**
	comp=Z,0.7nm,0.3s,baz=16,slow=16,SNR=8.4								
DAVOX					Lg		Lg	18 54 48.4	
	comp=Z,0.5nm,0.3s,baz=17,slow=19,SNR=3.2								
ARCR	**ARCALIA**	**7.04**	**127**	⇓	*i*P		Pn	18 53 24.5	+5.8
BURAR	**Bucovina Array**	**7.14**	**121**	⇓	*i*P		**Pn**	**18 53 21.3**	**+1.1**
BURAR	**Bucovina Array**	**7.14**	**121**	⇓	*i*P		**Pn**	**18 53 21.3**	**+1.1**
AKASG	**Malin Array Be**	**8.29**	**91**		Pn		**Pn**	**18 53 35.7**	**-0.2**
	comp=Z,9nm,0.3s,baz=279,slow=12,SNR=12								
AKASG					Sn		**Sn**	**18 55 06.7**	**-3.4**
	comp=Z,0.9nm,0.3s,baz=271,slow=23,SNR=3.1								
TESR	**Tescani**	**8.60**	**122**	⇓	*i*P		**Pn**	**18 53 41.7**	**+1.6**
TESR	**Tescani**	**8.60**	**122**	⇓	*i*P		**Pn**	**18 53 41.7**	**+1.6**
HFS	**Hagfors**	**8.64**	**352**		Pn		**Pn**	**18 53 41.9**	**+1.2**
	comp=Z,0.1nm,0.3s,baz=158,slow=16,SNR=4.0								
NOA	**NORSAR Array B**	**9.82**	**346**		Pn		**Pn**	**18 53 56.2**	**-0.7**
	comp=Z,0.2nm,0.3s,baz=157,slow=13,SNR=4.0								
FINES	**FINESS Array B**	**11.26**	**25**		Pn		**Pn**	**18 54 16.0**	**-0.5**
	comp=Z,0.4nm,0.3s,baz=211,slow=11,SNR=12								
FINES					Sn		**Sn**	**18 56 15.5**	**-7.4**
	comp=Z,0.7nm,0.3s,baz=213,slow=22,SNR=7.4								
EKA	**Eskdalemuir Ar**	**12.06**	**295**		Pn		**Pn**	**18 54 24.6**	**-2.8**
	baz=104,slow=14,SNR=4.5								
ARCES	**ARCESS Array B**	**18.51**	**10**		Pn		**P**	**18 55 51.8**	**-0.2**
	comp=Z,0.2nm,0.3s,baz=187,slow=14,SNR=2.8								
AKTO	**Aktyubinsk**	**26.12**	**76**		P		**P**	**18 57 11.4**	**+1.6**
	comp=Z,0.8nm,0.6s,baz=282,slow=9.0,SNR=5.1								
YKA	**Yellowknife Ar**	**59.76**	**336**		P		**P**	**19 01 42.9**	**+2.3**
	comp=Z,0.4nm,0.6s,baz=30,slow=6.1,SNR=3.9								

GUC 15 18:56:57.0±0.5, 20.71S×68.96W, h99km±3km, ML3.9, 4C, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PB08	**IPOC Station P**	**0.59**	**342**	*e*P			Pn	18 57 14.4	+0.5
PB08				*e*S			Sn	18 57 27.6	+1.1
PB08				IAML				18 57 28.4	
	comp=E,5μm,0.3s								
HMBC	**Humberstone**	**0.97**	**296**	*e*P			Pn	18 57 17.4	+0.3
HMBC				*e*S			Sn	18 57 33.3	+0.9
HMBC				IAML				18 57 35.0	
	comp=N,4μm,0.3s								
PB02	**IPOC Station P**	**1.07**	**235**	⇑	*i*P		Pn	18 57 18.8	+0.5
PB02				*e*S			Sn	18 57 35.1	+0.9
PB02				IAML				18 57 37.6	
	comp=E,5μm,0.6s								
PB09	**IPOC Station P**	**1.12**	**194**	⇑	*i*P		Pn	18 57 19.2	+0.3
PB09				*e*S			Sn	18 57 36.5	+1.1
PB09				IAML				18 57 40.8	
	comp=E,4μm,0.3s								
PB11	**IPOC Station P**	**1.15**	**325**	⇑	*i*P		Pn	18 57 19.6	+0.4
PB11				*e*S			Sn	18 57 36.8	+0.9
PSGC	**Pisagua**	**1.55**	**315**	⇑	*i*P		Pn	18 57 24.2	+0.2
PSGC				*e*S			Sn	18 57 45.5	+1.0
MNMC	**Minye Minye**	**1.68**	**339**	*e*P			Pn	18 57 26.6	+0.8
MNMC				*e*S			Sn	18 57 48.7	+1.2

*SOME **15** 19:02:06.0, 39.58N×72.30E, h15km*
*KRNET **15** 19:02:06.3±0.1, 39.66N×72.17E, mb3.2*
*NNC **15** 19:02:14.1±3.5, 40.06N×72.42E, h0km, mb3.4, mpv3.1, Error ellipse: s-maj=31.6km s-min=22.4km az=178.0*
ISC 15 19:02:03.6±1.7, 39.51N±0.08×72.45E±0.03, h10km, n27, σ1s81/50, 26C-8D, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
BTK	**Batken**	**1.37**	**294**		*e*P		**Pn**	**19 02 28.1**	**-0.8**
	baz=291								
BTK				⇑	*e*S		**Sb**	**19 02 44.0**	**-3.1**
	baz=291								
ARSB	**Arslanbob**	**1.86**	**12**	⇑	*e*P		**Pg**	**19 02 39.5**	**+0.3**
	baz=20								
ARSB				⇑	*e*S		**Sg**	**19 03 03.9**	**+0.6**
	baz=20								
ARK	**Arkit**	**2.31**	**351**	⇑	*e*P		**Pb**	**19 02 46.3**	**+0.8**
	baz=356								
ARK				⇑	*i*S		**Sb**	**19 03 13.7**	**-0.5**
	baz=356								
TOKL	**Toktogul**	**2.45**	**7**	⇑	*e*P		**Pg**	**19 02 49.3**	**-1.2**
	baz=13								
TOKL				⇑	*e*S		**Sb**	**19 03 20.0**	**+2.0**
	baz=13								
AML	**Almayashu**	**2.78**	**19**	⇑	*i*P		**Pb**	**19 02 54.3**	**+0.6**
	baz=24								
AML				⇑	*i*S		**Sb**	**19 03 29.2**	**+1.2**
	baz=24								
MNAS	**Manas**	**2.97**	**1**	⇓	*e*P		**Pb**	**19 02 54.9**	**-1.9**
	baz=5.0								
MNAS				⇓	*e*S		**Sb**	**19 03 30.7**	**-2.5**
	baz=5.0								
MNAS	**Manas**	**2.97**	**1**	⇑	Pn		**Pb**	**19 02 54.7**	**-2.0**
	3.7nm,0.6s								
MNAS				⇓	Lg		Lg	19 03 30.2	
	19nm,0.6s								
UCH	**Uchtor**	**3.13**	**29**	⇑	*i*P		**Pb**	**19 02 59.7**	**0.0**
	baz=34								
UCH				⇑	*i*S		**Sb**	**19 03 38.7**	**+0.6**
	baz=34								
IUG	**Iuzhnay**	**3.21**	**326**		*e*P		**Pb**	**19 03 01.3**	**+0.5**
	11nm,0.4s								
IUG					*e*S		**Sb**	**19 03 40.9**	**+0.9**
	90nm,0.7s								
MRKS	**Merke**	**3.28**	**10**		*e*P		**Pb**	**19 03 01.1**	**-1.0**
	12nm,0.3s								
MRKS					*e*S		**Sb**	**19 03 40.4**	**-1.7**
	25nm,0.3s								
EKS2	**Erkin-Say**	**3.30**	**17**	⇓	*i*P		**Pb**	**19 03 01.5**	**-0.9**
	baz=22								
EKS2				⇓	*i*S		**Sb**	**19 03 41.6**	**-1.1**
	baz=22								
NRN	**Naryn**	**3.32**	**54**	⇑	*e*P		**Pb**	**19 03 02.7**	**-0.1**
	baz=58								
NRN				⇑	*e*S		**Sb**	**19 03 44.4**	**+1.1**
	baz=58								
KZA	**Kyzart**	**3.33**	**39**	⇑	*i*P		**Pb**	**19 03 02.8**	**-0.2**
	baz=43								
KZA				⇑	*i*S		**Sb**	**19 03 43.8**	**+0.1**
	baz=43								
DZA	**Taraz**	**3.48**	**346**		*e*P		**Pb**	**19 03 05.8**	**+0.4**
	33nm,0.1s								
DZA					*e*S		**Sb**	**19 03 48.5**	**+0.8**
	48nm,0.3s								
AAK	**Ala-Archa**	**3.48**	**26**	⇑	*i*P		**Pb**	**19 03 04.3**	**-1.2**
	baz=30								
AAK				⇑	*i*S		**Sb**	**19 03 46.6**	**-1.4**
	baz=30								
AAK	**Ala-Archa**	**3.48**	**26**	⇑	Pn		**Pb**	**19 03 05.2**	**-0.3**
	7.3nm,0.5s								
AAK				⇓	Lg		Lg	19 03 49.4	
	21nm,0.6s								
CHM	**Chimkent**	**3.54**	**323**		*e*P		**Pb**	**19 03 08.0**	**+1.7**
	32nm,0.1s								
CHM					*e*S		**Sb**	**19 03 52.9**	**+3.5**
	121nm,0.3s								
KBK	**Karagaybulak**	**3.67**	**30**	⇑	*i*P		**Pb**	**19 03 06.7**	**-1.9**
	baz=34								
KBK				⇑	*i*S		**Sb**	**19 03 50.5**	**-2.7**
	baz=34								
KK31	**Karatay Array**	**3.88**	**338**		Pn		**Pn**	**19 03 06.5**	**+3.2**
	1.0nm,0.3s,baz=148,slow=12,SNR=34								
KK31				⇑	Pg		**Pg**	**19 03 17.7**	**-0.1**
	1.7nm,0.3s,baz=157,slow=16,SNR=7.1								
KK31				⇑	Lg		Lg	19 03 59.5	
	19nm,0.7s,baz=154,slow=29								
BRLS	**Borolday**	**4.03**	**332**		*e*P		**Pb**	**19 03 13.9**	**-0.8**
	0.4nm,0.2s								
BRLS					*e*S		**Sb**	**19 04 02.7**	**-0.8**
	14nm,0.6s								
TKM2	**Tokmak 2**	**4.15**	**34**	⇓	Pn		**Pb**	**19 03 14.2**	**-2.7**
	3.8nm,0.6s								
TKM2				⇓	Lg		Lg	19 04 14.4	
	9.8nm,0.8s								
KST	**Kastek**	**4.41**	**36**		*e*P		**Pb**	**19 03 23.3**	**+2.1**
	3.4nm,0.4s								
KST					*e*S		**Sb**	**19 04 19.2**	**+4.6**
	5.9nm,0.5s								
DGS	**Degeres**	**4.49**	**33**		*e*P		**Pg**	**19 03 27.5**	**-2.1**
	4.7nm,0.4s								
DGS					*e*S		**Sg**	**19 04 25.9**	**-1.8**
	8.9nm,0.5s								
TNSS	**Tian-Shan**	**4.89**	**42**		*e*P		**Pg**	**19 03 35.9**	**-1.3**
	4.0nm,0.3s								
TNSS					*e*S		**Sg**	**19 04 40.2**	**-0.4**
	5.9nm,0.6s								
KOTS	**Kotyrbulak**	**5.11**	**42**		*e*P		**Pg**	**19 03 41.0**	**-0.5**
	10.0nm,0.4s								
KOTS					*e*S		**Sg**	**19 04 49.9**	**+2.1**
	11nm,0.4s								
KTBS	**Karatobe**	**5.26**	**36**		*e*P		**Pg**	**19 03 41.4**	**-3.0**
	2.2nm,0.5s								
KTBS					*e*S		**Sg**	**19 04 49.7**	**-2.8**
	6.8nm,0.7s								
PDGK	**Podgornoye**	**6.52**	**52**	⇑	Pn		**Pn**	**19 03 42.3**	**+2.5**
	4.1nm,1.4s								
PDGK				⇑	Lg		Lg	19 05 29.9	
	8.2nm,1.2s								

*IDC **15** 19:06:49.2±2.7, 36.40N×71.11E, h185km±23km, mb3.5/11, mb1 3.5/17, mb1mx3.3/48, mbtmp4.0/17, Error ellipse: s-maj=19.3km s-min=15.4km az=179.0*
*ISCJB **15** 19:06:50.3±0.4, 36.54N±0.05×71.01E±0.07, h200km, mb3.6/11, Error ellipse: s-maj=9.6km s-min=4.5km az=147.1*
*NNC **15** 19:06:53.7±8.6, 37.19N×70.48E, h0km, mb4.2, mpv3.8, Error ellipse: s-maj=69.2km s-min=62.5km az=123.0*
ISC 15 19:06:51.1±0.6, 36.56N±0.06×71.12E±0.08, h200km, n34, σ1s43/40, mb3.7/11, 6C-3D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
THN	**Thein Dam**	**5.59**	**136**		*e*P		**Pn**	**19 08 14.4**	**+1.3**
THN					*e*S		**Sn**	**19 09 17.0**	**-0.9**
MNAS	**Manas**	**6.02**	**10**	⇑	Pn		**Pn**	**19 08 19.1**	**+0.5**
	6.2nm,0.5s								
MNAS				⇓	Pg			19 08 29.5	
	4.9nm,0.4s								
MNAS				⇑	Sn		**Sn**	**19 09 24.1**	**-3.8**
	207nm,1.0s								
KK31	**Karatay Array**	**6.56**	**356**	⇓	Pn		**Pn**	**19 08 25.4**	**-0.1**
	1.7nm,0.2s,baz=184,slow=12,SNR=99								
KK31				⇑	Pg			19 08 36.0	
	5.7nm,0.4s,baz=172,slow=12,SNR=12								
KK31				⇑	Sn		Sn	19 09 32.9	-7.4
	34nm,0.6s,baz=184,slow=22,SNR=24								
AAK	**Ala-Archa**	**6.61**	**22**		P		**Pn**	**19 08 27.5**	**+1.2**
	2.7nm,0.3s,baz=187,slow=6.7,SNR=16								
AAK					S		**Sn**	**19 09 41.1**	**-0.6**
	4.3nm,0.3s,baz=315,slow=23,SNR=22								
AAK	**Ala-Archa**	**6.61**	**22**	⇑	Pn		**Pn**	**19 08 27.0**	**+0.7**
	4.5nm,0.4s								
AAK				⇑	Pg			19 08 43.6	
	2.8nm,0.4s								
AAK				⇓	Sn		**Sn**	**19 09 40.2**	**-1.6**
	28nm,0.6s								
SDNR	**Sundarnagar**	**7.00**	**134**		*e*P		**Pn**	**19 08 32.0**	**+0.6**
SDNR					*e*S		**Sn**	**19 09 46.6**	**-4.3**
GEYT	**Alibeck**	**10.46**	**281**		P		**Pn**	**19 09 15.2**	**-1.1**
	0.6nm,0.3s,baz=97,slow=12,SNR=7.2								
PYUN	**Piuthan**	**13.10**	**127**		*e*P		**P**	**19 09 50.4**	**-2.7**
	47nm,0.4s								
KOLN	**Koldanda**	**13.72**	**126**		*e*P		**P**	**19 09 58.3**	**-1.7**
	12nm,0.3s								
GKN	**Gorkha**	**14.25**	**123**		*e*P		**P**	**19 10 05.2**	**-0.7**
	40nm,0.5s								
DMN	**Daman**	**14.82**	**123**		*e*P		**P**	**19 10 12.6**	**+0.3**
	31nm,0.4s								
KKN	**Kakani**	**14.82**	**122**		*e*P		**P**	**19 10 12.2**	**-0.1**
	36nm,0.5s								

KURBB	**Kurchatov Arra**	**15.04**	**18**		P		**P**	**19 10 14.8**	**+0.6**
	0.1nm,0.3s,baz=205,slow=11,SNR=7.6								
PKIN	**Phulchoki**	**15.04**	**122**		*e*P		**P**	**19 10 15.6**	**+0.9**
	47nm,0.6s								
PKI	**Pulchoki**	**15.05**	**122**		*e*P		**P**	**19 10 15.5**	**+0.6**
	17nm,0.3s								
JIRN	**Jiri**	**15.53**	**121**		*e*P		**P**	**19 10 21.7**	**+1.5**
	116nm,0.4s								
RAMN	**Ramite**	**16.26**	**122**		*e*P		**Pn**	**19 10 29.9**	**+1.1**
	31nm,0.4s								
BVAR	**Borovoye Array**	**16.48**	**358**		P		**Pn**	**19 10 31.5**	**+0.6**
	0.5nm,0.3s,baz=161,slow=11,SNR=10								
BVAR					S		**S**	**19 13 30.2**	**-1.9**
	0.1nm,0.3s,baz=162,slow=20,SNR=3.8								
AKTO	**Aktyubinsk**	**16.78**	**330**		P		**Pn**	**19 10 34.9**	**+0.3**
	0.4nm,0.3s,baz=147,slow=11,SNR=11								
TAPN	**Taplejung**	**16.79**	**118**		*e*P		**Pn**	**19 10 37.2**	**+2.1**
	29nm,0.4s								
ODAN	**Odare**	**16.86**	**120**		*e*P		**Pn**	**19 10 37.8**	**+1.8**
	12nm,0.4s								
ZALV	**Zalesovo Beam**	**19.82**	**24**		P		**P**	**19 11 06.8**	**+0.5**
	0.7nm,0.3s,baz=216,slow=11,SNR=11								
ARU	**Arti**	**21.61**	**341**		P		**P**	**19 11 25.0**	**-0.1**
	1.4nm,0.6s,baz=108,slow=15,SNR=2.4								
AKASG	**Malin Array Be**	**32.99**	**309**		P		**P**	**19 13 07.9**	**+1.0**
	0.6nm,0.4s,baz=81,slow=6.8,SNR=4.2								
FINES	**FINESS Array B**	**37.49**	**326**		P		**P**	**19 13 45.7**	**+0.6**
	3.3nm,0.9s,baz=118,slow=9.0,SNR=6.9								
ARCES	**ARCESS Array B**	**41.13**	**338**		P		**P**	**19 14 16.1**	**+1.0**
	1.3nm,0.4s,baz=108,slow=7.8,SNR=4.7								
NB2	**NORSAR Subarra**	**44.39**	**323**		P		**P**	**19 14 41.7**	**+0.2**
	comp=Z,1.5nm,0.5s,baz=94,slow=7.9								
NOA	**NORSAR Array B**	**44.39**	**323**		P		**P**	**19 14 42.0**	**+0.5**
	comp=Z,2.2nm,0.5s,baz=97,slow=7.8,SNR=7.8								
TORD	**Torodi Ar. Bea**	**65.82**	**269**		P		**P**	**19 17 14.1**	**-1.1**
	comp=Z,1.0nm,0.6s,baz=48,slow=5.6,SNR=16								
INK	**Inuvik**	**73.83**	**9**		P		**P**	**19 18 04.4**	**+1.2**
	comp=Z,2.6nm,0.5s,baz=323,slow=6.7,SNR=9.8								
ILAR	**Eielson Array**	**74.70**	**16**		P		**P**	**19 18 08.0**	**-0.3**
	comp=Z,0.5nm,0.8s,baz=314,slow=4.8,SNR=5.0								
YKA	**Yellowknife Ar**	**81.18**	**3**		P		**P**	**19 18 44.6**	**+0.7**
	comp=Z,1.0nm,0.5s,baz=351,slow=5.3,SNR=8.7								
WRA	**Warramunga Arr**	**81.94**	**122**		P		**P**	**19 18 48.0**	**-0.5**
	comp=Z,0.6nm,0.7s,baz=330,slow=5.0,SNR=5.2								
ASAR	**Alice Springs**	**84.21**	**125**		P		**P**	**19 18 59.8**	**-0.4**
	comp=Z,0.8nm,0.7s,baz=310,slow=4.7,SNR=15								

*DDA **15** 19:17:37.6, 37.11N×35.68E, h7km, Ml3.2*
*CSEM **15** 19:17:39.9±0.2, 37.18N×35.76E, h20km, MD3.0, Error ellipse: s-maj=4.1km s-min=3.9km az=85.0*
ISK 15 19:17:39.4, 37.20N×35.75E, h21km, MD3.0, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CEYT	**Ceyhan**	**0.19**	**180**		*e*PG		Pb	19 17 44.8	-0.5
CEYT					*e*SG		Sb	19 17 49.7	+0.2
CEYT	**Ceyhan**	**0.19**	**180**		*e*Pg		Pb	19 17 44.8	-0.5
CEYT					*e*Sg		Sb	19 17 49.7	+0.3
KOZT	**Kozan**	**0.29**	**12**		*e*PG		Pb	19 17 45.9	-0.1
KOZT					*e*SG		Sb	19 17 51.5	+0.9
KOZT	**Kozan**	**0.29**	**12**		*e*Pg		Pb	19 17 45.9	-0.1
KOZT					*e*Sg		Sb	19 17 51.5	+0.9
AKO	**Adana**	**0.36**	**318**		*i*P		Pb	19 17 46.6	-0.4
AKO					*i*S		Sb	19 17 52.0	-0.2
YURE	**YUREGIR**	**0.38**	**194**		*i*P		Pb	19 17 47.4	+0.1
YURE					*i*S		Sb	19 17 54.2	+1.4
YURE	**YUREGIR**	**0.38**	**194**		P		Pb	19 17 47.4	+0.1
YURE					S		Sb	19 17 54.2	+1.4
ANDN	**Andirin**	**0.61**	**51**		*i*P		Pb	19 17 51.6	+0.1
ANDN					*i*S		Sn	19 18 02.6	+0.3
ANDN	**Andirin**	**0.61**	**51**		P		Pb	19 17 51.7	+0.1
ANDN					S		Sn	19 18 02.6	+0.4
KRTD	**Karatas-Adana**	**0.66**	**204**		*e*PG		Pb	19 17 52.5	+0.3
KRTD	**Karatas-Adana

CDAG *i* S Sb 19 19 04.2 +5.8

ISCJB ***15*** *19:18:21.7±0.4,39˚.71N±0˚.03×27˚.65E±0˚.03,h7km±3km, Error ellipse: s-maj=4.5km s-min=3.7km az=11.4*
CSEM ***15*** *19:18:21.9±0.1,39˚.71N×27˚.67E,h5km,MD2.6,Error ellipse: s-maj=2.1km s-min=2.1km az=177.0*
DDA ***15*** *19:18:21.6,39˚.74N×27˚.65E,h10km,Md2.6*
ISK ***15*** *19:18:21.2,39˚.72N×27˚.66E,h3km,MD2.9*
ISC 15 19:18:21.8±0.8,39˚.72N±0˚.02×27˚.65E±0˚.02,h10km±5km, n61,σ0ş42/72,Turkey

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time h m s	Res
BALY	**Balya**	**0.04**	**314**	*i*	P	**Pg**	**19 18 23.7**	**-0.2**
BALY				*i*	S	**Sg**	**19 18 25.2**	**-0.1**
BALY	**Balya**	**0.04**	**314**		P	**Pg**	**19 18 23.7**	**-0.2**
BALY					S	**Sg**	**19 18 25.2**	**-0.1**
BALB	**Balikesir**	**0.19**	**113**	*e*	PG	**Pg**	**19 18 25.5**	**-0.4**
BALB				*e*	SG	**Sg**	**19 18 28.6**	**0.0**
BALB	**Balikesir**	**0.19**	**113**	*e*	Pg	**Pg**	**19 18 25.5**	**-0.4**
BALB				*e*	Sg	**Sg**	**19 18 28.7**	**0.0**
KNL	**Bal˙–kesir**	**0.56**	**350**	*i*	P	**Pg**	**19 18 32.5**	**-0.2**
KNL				*i*	S	**Sg**	**19 18 40.5**	**+0.3**
EDC	**Edincik**	**0.65**	**14**	*e*	PG	**Pg**	**19 18 34.2**	**-0.2**
EDC	**Edincik**	**0.65**	**14**	*e*	Pg	**Pg**	**19 18 34.2**	**-0.2**
KRBG	**Karabiga-Canak**	**0.73**	**338**	*e*	PG	**Pg**	**19 18 35.7**	**-0.2**
KRBG	**Karabiga-Canak**	**0.73**	**338**	*e*	Pg	**Pg**	**19 18 35.7**	**-0.2**
KCTX	**Karacabey (Bur**	**0.77**	**44**	*e*	PG	**Pg**	**19 18 36.3**	**-0.4**
KCTX	**Karacabey (Bur**	**0.77**	**44**	*e*	Pg	**Pg**	**19 18 36.3**	**-0.4**
AKS	**Akhisar**	**0.84**	**171**	*e*	PG	**Pg**	**19 18 37.7**	**-0.4**
AKS	**Akhisar**	**0.84**	**171**	*e*	Pg	**Pg**	**19 18 37.7**	**-0.4**
AYVA	**Ayvalik**	**0.85**	**242**	*i*	P	**Pg**	**19 18 38.1**	**0.0**
AYVA				*i*	S	**Sg**	**19 18 48.0**	**-1.2**
AYVA	**Ayvalik**	**0.85**	**242**		P	**Pg**	**19 18 38.1**	**0.0**
AYVA					S	**Sg**	**19 18 48.0**	**-1.2**
DKL	**Dikili**	**0.87**	**222**	*e*	PG	**Pb**	**19 18 38.9**	**0.0**
DKL	**Dikili**	**0.87**	**222**	*e*	Pg	**Pb**	**19 18 38.9**	**0.0**
MRMT	**Marmara Adasi**	**0.89**	**357**	*e*	PG	**Pb**	**19 18 39.4**	**0.0**
MRMT	**Marmara Adasi**	**0.89**	**357**	*e*	Pg	**Pb**	**19 18 39.4**	**0.0**
LPK	**Lapseki**	**0.95**	**314**	*e*	PG	**Pb**	**19 18 40.5**	**+0.2**
LPK	**Lapseki**	**0.95**	**314**	*e*	Pg	**Pb**	**19 18 40.5**	**+0.2**
ORLT	**Orhaneli**	**1.01**	**71**	*e*	PG	**Pb**	**19 18 41.6**	**+0.1**
ORLT	**Orhaneli**	**1.01**	**71**	*e*	Pg	**Pb**	**19 18 41.6**	**+0.1**
DEMI	**Demirci**	**1.06**	**129**	*i*	P	**Pg**	**19 18 42.1**	**-0.2**
DEMI				*i*	S	**Sg**	**19 18 55.6**	**-0.4**
DEMI	**Demirci**	**1.06**	**129**		P	**Pg**	**19 18 42.1**	**-0.2**
DEMI					S	**Sg**	**19 18 55.7**	**-0.4**
MDNY	**Mudanya-Bursa**	**1.15**	**55**	*e*	PN	**Pb**	**19 18 44.0**	**+0.3**
MDNY	**Mudanya-Bursa**	**1.15**	**55**	*e*	Pn	**Pb**	**19 18 44.0**	**+0.3**
SBT3	**Marmara-Eregli**	**1.19**	**12**	*e*	PN	**Pn**	**19 18 44.8**	**+0.4**
SBT3	**Marmara-Eregli**	**1.19**	**12**	*e*	Pn	**Pn**	**19 18 44.8**	**+0.4**
SIMA	**Simav-Kutahya**	**1.21**	**121**	*e*	PN	**Pb**	**19 18 44.8**	**0.0**
SIMA	**Simav-Kutahya**	**1.21**	**121**	*e*	Pn	**Pb**	**19 18 44.8**	**0.0**
BOZC	**Bozcaada**	**1.24**	**276**	*e*	PN	**Pg**	**19 18 45.0**	**-0.6**
BOZC	**Bozcaada**	**1.24**	**276**	*i*	P	**Pg**	**19 18 45.5**	**-0.1**
BOZC				*i*	S	**Sg**	**19 19 00.8**	**-1.0**
BOZC	**Bozcaada**	**1.24**	**276**	*e*	Pn	**Pg**	**19 18 45.0**	**-0.6**
ARMT	**Armutlu**	**1.26**	**47**	*e*	PN	**Pg**	**19 18 45.3**	**-0.7**
ARMT	**Armutlu**	**1.26**	**47**	*e*	Pn	**Pg**	**19 18 45.3**	**-0.7**
ERIK	**Erikli-Kesan**	**1.29**	**318**	*e*	PN	**Pn**	**19 18 46.1**	**+0.2**
ERIK	**Erikli-Kesan**	**1.29**	**318**	*e*	Pn	**Pn**	**19 18 46.1**	**+0.2**
IGD	**Bursa**	**1.31**	**65**	*i*	P	**Pn**	**19 18 45.8**	**-0.4**
IGD				*i*	S	**Sn**	**19 19 04.2**	**+0.6**
SBT2	**Guzelce-Avcila**	**1.34**	**29**	*e*	PN	**Pg**	**19 18 47.3**	**-0.2**
SBT2	**Guzelce-Avcila**	**1.34**	**29**	*e*	Pn	**Pg**	**19 18 47.3**	**-0.2**
TVSB	**Tavsanli**	**1.42**	**100**	*e*	PN	**Pn**	**19 18 48.3**	**+0.5**
TVSB	**Tavsanli**	**1.42**	**100**	*e*	Pn	**Pn**	**19 18 48.3**	**+0.5**
GADA	**Gvkgeada**	**1.43**	**290**	*e*	PN	**Pg**	**19 18 49.2**	**-0.1**
GADA	**Gvkgeada**	**1.43**	**290**	*e*	Pn	**Pg**	**19 18 49.2**	**-0.1**
KULA	**Kula-Manisa**	**1.43**	**147**	*e*	PN	**Pb**	**19 18 48.8**	**+0.2**
KULA	**Kula-Manisa**	**1.43**	**147**	*e*	Pn	**Pb**	**19 18 48.8**	**+0.2**
SIGR	**SIGRI**	**1.48**	**251**	*e*	PN	**Pb**	**19 18 49.9**	**+0.5**
SIGR	**SIGRI**	**1.48**	**251**	*e*	Pn	**Pb**	**19 18 49.9**	**+0.5**
ENEZ	**Enez**	**1.54**	**312**	*e*	PN	**Pb**	**19 18 50.5**	**+0.2**
ENEZ	**Enez**	**1.54**	**312**	*e*	Pn	**Pb**	**19 18 50.5**	**+0.2**
URLA	**Izmir**	**1.58**	**212**	*e*	PN	**Pb**	**19 18 51.2**	**+0.1**
URLA	**Izmir**	**1.58**	**212**	*e*	Pn	**Pb**	**19 18 51.3**	**+0.1**
CTKS	**Kestanelik-??a**	**1.65**	**23**	*e*	PN	**Pn**	**19 18 51.4**	**+0.5**
CTKS	**Kestanelik-??a**	**1.65**	**23**	*e*	Pn	**Pn**	**19 18 51.4**	**+0.5**
ALN	**Alexandroupoli**	**1.70**	**314**	*e*	PN	**Pb**	**19 18 52.9**	**-0.3**
ALN	**Alexandroupoli**	**1.70**	**314**	*e*	Pn	**Pb**	**19 18 52.9**	**-0.3**
ISK	**Istanbul-Kandi**	**1.72**	**38**	*e*	PN	**Pb**	**19 18 53.1**	**-0.4**
ISK	**Istanbul-Kandi**	**1.72**	**38**	*e*	Pn	**Pb**	**19 18 53.1**	**-0.4**
CHOS	**Chios island**	**1.82**	**224**	*e*	PN	**Pn**	**19 18 53.9**	**+0.7**
CHOS	**Chios island**	**1.82**	**224**	*e*	Pn	**Pn**	**19 18 53.9**	**+0.7**

ISCJB ***15*** *19:30:58.0±0.3,21˚.58S±0˚.02×179˚.46W±0˚.02, h579km±4km,mb6.5/181,Error ellipse: s-maj=3.2km s-min=2.2km az=161.6*
NEIC ***15*** *19:30:59.0±0.0,21˚.60S×179˚.49W,h630km Best double couple: NP1:φs50.00000°,δ86.00000°,λ-129.00000°. NP2:φs315.00000°,δ39.00000°,λ-6.00000°. Principal axes: T 1.1300, Plg30.0000°, Azm170.0000°; N 0.1200, Plg38.0000°, Azm52.0000°; P -1.2500, Plg36.0000°, Azm286.0000°;*
MOS ***15*** *19:31:00.2±0.8,21˚.48S×179˚.41W,h604km,mb6.5/23, MS6.2/5 Error ellipse: s-maj=7.3km s-min=6.0km az=68.0*
BJI ***15*** *19:31:02.0,21˚.50S×179˚.30W,h630km,mb6.4/74, mB6.9/24*
IDC ***15*** *19:31:04.4±0.3,21˚.62S×179˚.50W,h639km±3km,mb5.8/43, mb1 5.8/44,mb1mx5.8/45,mbtmp6.7/44,Error ellipse: s-maj=6.5km s-min=5.2km az=11.0*
NEIC ***15*** *19:31:04.1±0.1,21˚.61S×179˚.53W,mb6.1/19,MW7.3, MW7.3,MW7.3,Error ellipse: s-maj=4.2km s-min=2.8km az=142.0 Best double couple: NP1:φs52.00000°, δ84.00000°,λ-130.00000°. NP2:φs314.00000°, δ41.00000°,λ-10.00000°. Principal axes: T 1.0100, Plg27.0000°, Azm173.0000°; N 0.0900, Plg40.0000°, Azm57.0000°; P -1.1000, Plg38.0000°, Azm286.0000°;*
NEIC Felt [II] at Nandi. Also felt at Suva. Felt [II] at Nuku'alofa, Tonga. Also felt at Neiafu.
GCMT ***15*** *19:31:04.1±0.1,21˚.61S×179˚.21W,h625km±1km, MW7.3/146,Moment Tensor Solution. s146,c406; s143,c356; Duration: 11ş1 Moment tensor: Scale 10^{20} Nm; M_{rr}-0.14±.00; $M_{\theta\theta}$0.79±.01; $M_{\phi\phi}$-0.64±.00; $M_{r\theta}$-0.59±.00; $M_{\theta\phi}$-0.05±.00; $M_{\phi r}$-0.73±.00; Best double couple: $M_0$1.18600×10^{20} NP1:φs48.00000°,δ85.00000°, λ-128.00000°. NP2:φs312.00000°,δ38.00000°, λ-7.00000°. Principal axes: T 1.1240, Plg30.0000°, Azm168.0000°; N 0.1240, Plg38.0000°, Azm51.0000°; P -1.2480, Plg38.0000°, Azm284.0000°; nsta1 refers to body waves, cutoff=50s. nsta2 refers to mantle waves, cutoff=150s.*
NEIC ***15*** *19:31:22.3±0.0,21˚.70S×179˚.56W,h652km Best double couple: NP1:φs310.00000°,δ36.00000°,λ-7.00000°. NP2:φs45.00000°,δ86.00000°,λ-126.00000°. Principal axes: T 1.2000, Plg32.0000°, Azm164.0000°; N 0.1800, Plg35.0000°, Azm48.0000°; P -1.3800, Plg39.0000°, Azm283.0000°;*
ISC 15 19:31:03.2±0.2,21˚.59S±0˚.03×179˚.32W±0˚.02, h629km±1km,h630km:pP-P,n2327,σ1ş78/2796,mb6.6/180, 81C-57D,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time h m s	Res
MSVF	**Nonsavu**	**4.57**	**327**	*e*	P	**P**	**19 32 31.5**	**-3.4**
MSVF	**Nonsavu**	**4.57**	**327**	*e*	P	**P**	**19 32 31.5**	**-3.4**
RAO	**Raoul Island**	**7.73**	**171**		P	**P**	**19 32 57.2**	**-3.7**
	6µm,0.3s,baz=79,slow=22,SNR=90							
RAO					S	**S**	**19 34 31.2**	**-6.2**
	4µm,0.3s,baz=280,slow=24,SNR=7.5							
RAO					ScS	**ScS**	**19 44 35.4**	**+2.9**
	30nm,0.3s,baz=105,slow=20,SNR=5.5							
NIUE	**Niue**	**9.16**	**76**		P	**P**	**19 33 10.8**	**-3.7**
	baz=9.1,SNR=252							
AFI	**Afiamalu**	**10.49**	**44**		P	P	19 33 22.6	-5.0
	445nm,0.3s,baz=31,slow=3.0,SNR=243							
AFI					S	**S**	**19 35 17.7**	**-8.2**
	346nm,0.3s,baz=228,slow=22,SNR=6.0							
I22FR	**PORTLAGUERRE I**	**12.85**	**265**		P	**P**	**19 33 49.4**	**-0.8**
	baz=216,slow=42							
FUNA	**Funafuti**	**13.07**	**354**	*e*	P	**P**	**19 33 49.0**	**-3.3**
DZM	**Mont Dzumac**	**13.23**	**265**		P	**P**	**19 33 51.9**	**-1.9**
	169nm,0.3s,baz=85,slow=16,SNR=568							
DZM					S	**S**	**19 36 14.3**	**+0.9**
	baz=171,slow=14,SNR=5.3							
DZM					ScP	**ScP**	**19 41 10.0**	**+3.8**
	5.4nm,0.3s,baz=101,slow=5.7,SNR=10							
DZM					ScS	**ScS**	**19 44 42.0**	**-1.5**
	0.3nm,0.3s,baz=256,slow=4.2,SNR=2.0							
DZM	**Mont Dzumac**	**13.23**	**265**	*e*	P	**P**	**19 33 50.5**	**-3.3**
	13µm,0.9s							
DZM	**Mont Dzumac**	**13.23**	**265**	*e*	P	**P**	**19 33 50.9**	**-2.9**
DZM					S	**S**	**19 36 14.3**	**+0.9**
DZM					ScP	**ScP**	**19 41 10.0**	**+3.8**
DZM					ScS	**ScS**	**19 44 42.0**	**-1.5**
NFK	**Norfolk Island**	**13.69**	**235**		P	**P**	**19 33 58.5**	**+0.4**
	baz=14,SNR=253							
OUZ	**Omahuta**	**14.93**	**203**	*e*	P	**P**	**19 34 10.3**	**+0.9**
OUZ	**Omahuta**	**14.93**	**203**		PN	**P**	**19 34 10.3**	**+0.9**
OUZ					SN	S	19 36 51.1	+10
GRZ	**Great Barrier**	**15.30**	**196**		PN	**P**	**19 34 12.9**	**+0.2**
GRZ					SN	**S**	**19 36 51.6**	**+4.6**
WCZ	**Waipu Caves**	**15.33**	**200**	*e*	PN	**P**	**19 34 14.2**	**+1.3**
WCZ					SN	S	**19 36 55.7**	**+8.2**
KUZ	**Kuaotunu**	**15.70**	**195**		PN	**P**	**19 34 16.4**	**+0.1**
ABAZ	**Army Bay**	**15.80**	**198**		PN	**P**	**19 34 18.8**	**+1.6**
WIAZ	**Waiheke Island**	**15.89**	**196**		PN	**P**	**19 34 18.7**	**+0.6**
MTAZ	**Motutapu**	**15.95**	**197**		PN	**P**	**19 34 20.2**	**+1.6**
RVAZ	**Riverhead Bore**	**16.03**	**198**		PN	**P**	**19 34 20.5**	**+1.2**
MXZ	**Matakaoa Point**	**16.05**	**187**	*e*	P	**P**	**19 34 16.9**	**-2.5**
MXZ	**Matakaoa Point**	**16.05**	**187**		PN	**P**	**19 34 17.0**	**-2.5**
HBAZ	**Herne Bay Bore**	**16.06**	**197**		PN	**P**	**19 34 19.7**	**+0.1**
ETAZ	**East Tamaki Re**	**16.10**	**197**		PN	**P**	**19 34 21.1**	**+1.1**
WTAZ	**Waiatarua**	**16.18**	**198**		PN	**P**	**19 34 20.5**	**-0.3**
MKAZ	**Moumakai**	**16.18**	**196**		PN	**P**	**19 34 21.2**	**+0.4**
KBAZ	**Karaka Road Bo**	**16.24**	**197**		PN	**P**	**19 34 22.4**	**+1.1**
AWAZ	**Awhitu Peninsu**	**16.28**	**197**		PN	**P**	**19 34 22.1**	**+0.5**
WMGZ	**Waiomatatini S**	**16.29**	**186**		PN	**P**	**19 34 18.6**	**-3.1**
WMGZ					ScS	ScS	19 44 53.0	+2.1
HAZ	**Te Kaha**	**16.30**	**188**		PN	**P**	**19 34 18.8**	**-3.0**
HAZ					ScS	ScS	19 44 49.4	-1.5
PKGZ	**Pakihiroa**	**16.39**	**187**		PN	**P**	**19 34 19.7**	**-3.0**
WHRZ	**Whale Island**	**16.52**	**190**		PN	**P**	**19 34 20.7**	**-1.2**
RUGZ	**Raukumara Rang**	**16.52**	**188**		PN	**P**	**19 34 20.1**	**-3.9**
TGRZ	**Tauranga**	**16.53**	**192**		PN	**P**	**19 34 23.5**	**-0.4**
PUZ	**Puketiti**	**16.55**	**187**		PN	**P**	**19 34 21.5**	**-2.7**
PUZ					ScS	ScS	19 44 52.8	+1.1
OPRZ	**Ohinepanea**	**16.58**	**191**		PN	**P**	**19 34 22.7**	**-1.7**
TWGZ	**Tauwhareparae**	**16.69**	**187**		PN	**P**	**19 34 22.9**	**-2.5**
TOZ	**Tahuroa Road**	**16.69**	**194**		PN	**P**	**19 34 25.7**	**+0.3**
KMRZ	**Kaimai**	**16.71**	**193**		PN	**P**	**19 34 25.7**	**+0.1**
LIRZ	**Lichensteins R**	**16.77**	**192**		PN	**P**	**19 34 25.1**	**-1.0**
KARZ	**Kaharoa**	**16.81**	**192**		PN	**P**	**19 34 25.2**	**-1.3**
OMRZ	**Omania**	**16.87**	**192**	*e*	PN	**P**	**19 34 25.7**	**-1.4**
URZ	**Urewera**	**16.89**	**190**		P	**P**	**19 34 23.6**	**-3.6**
	671nm,0.3s,baz=300,slow=1.9,SNR=478							
URZ					S	**S**	**19 37 09.0**	**-4.1**
	94nm,0.3s,baz=41,slow=19,SNR=6.5							
URZ					ScP	**ScP**	**19 41 13.6**	**+1.1**
	22nm,0.3s,baz=350,slow=6.2,SNR=4.0							
URZ					ScS	**ScS**	**19 44 47.8**	**-4.9**
	9.0nm,0.3s,baz=129,slow=21,SNR=14							
URZ	**Urewera**	**16.89**	**190**		PN	**P**	**19 34 22.9**	**-4.3**
URZ					ScS	ScS	19 44 48.3	-4.4
MWZ	**Matawai**	**16.90**	**189**		PN	**P**	**19 34 23.7**	**-3.6**
MWZ					ScS	ScS	19 44 50.2	-2.6
TKGZ	**Te Karaka**	**16.97**	**188**		PN	**P**	**19 34 24.7**	**-3.1**
CNGZ	**Carnagh Statio**	**16.97**	**187**		PN	**P**	**19 34 26.0**	**-1.9**
CNGZ					ScS	ScS	19 44 56.3	+3.4
TARZ	**Mount Tarawera**	**16.97**	**191**		PN	**P**	**19 34 26.0**	**-2.1**
UTU	**Utuhina**	**16.97**	**192**		PN	**P**	**19 34 27.0**	**-1.0**
HLRZ	**Highlands Stat**	**17.02**	**192**		PN	**P**	**19 34 26.7**	**-1.7**
RRRZ	**Republican Roa**	**17.07**	**191**		PN	**P**	**19 34 27.3**	**-1.6**
RAGZ	**Rawiri**	**17.08**	**189**		PN	**P**	**19 34 25.5**	**-3.5**
HSRZ	**Hossack Road**	**17.09**	**192**	*e*	PN	**P**	**19 34 27.4**	**-1.7**
MUGZ	**Murupara**	**17.16**	**190**		PN	**P**	**19 34 26.3**	**-3.4**
HRRZ	**Handcock Road**	**17.16**	**192**		PN	**P**	**19 34 27.5**	**-2.3**
RIGZ	**Rimuhau**	**17.24**	**188**		PN	**P**	**19 34 27.8**	**-2.6**
RIGZ					ScS	ScS	19 44 56.0	+2.2
PRRZ	**Plateau Road**	**17.25**	**191**		PN	**P**	**19 34 27.6**	**-2.9**
RTZ	**Ruatahuna**	**17.26**	**190**		PN	**P**	**19 34 26.6**	**-4.0**
WPRZ	**Whakapapatarin**	**17.31**	**192**		PN	**P**	**19 34 29.6**	**-1.5**
ALRZ	**Allen Road**	**17.32**	**191**		PN	**P**	**19 34 28.7**	**-2.4**
KUTZ	**Kaahu Road**	**17.35**	**193**		PN	**P**	**19 34 30.1**	**-1.3**
SNGZ	**Shannon Statio**	**17.37**	**189**		PN	**P**	**19 34 28.1**	**-3.5**
PRGZ	**Paritu Road**	**17.44**	**187**		PN	**P**	**19 34 30.1**	**-2.1**
KNZ	**Kokohu**	**17.56**	**188**		PN	**P**	**19 34 30.0**	**-3.3**
MRHZ	**Matea Rd**	**17.57**	**191**		PN	**P**	**19 34 30.3**	**-3.2**
WATZ	**Wairara**	**17.58**	**193**		PN	**P**	**19 34 31.8**	**-1.8**
HIZ	**Hauiti**	**17.59**	**195**	*e*	P	**P**	**19 34 33.7**	**+0.1**
HIZ	**Hauiti**	**17.59**	**195**		PN	**P**	**19 34 35.0**	**+1.4**
MHGZ	**Mahia Peninsul**	**17.66**	**187**		PN	**P**	**19 34 31.7**	**-2.5**
WHHZ	**Waihua**	**17.68**	**189**		PN	**P**	**19 34 31.1**	**-3.3**
RATZ	**Rangitukua**	**17.73**	**193**		PN	**P**	**19 34 32.4**	**-2.5**
NMHZ	**Naumai**	**17.76**	**190**		PN	**P**	**19 34 31.9**	**-3.3**
BKZ	**Black Stump Fm**	**17.88**	**191**	*e*	P	**P**	**19 34 31.9**	**-4.3**
BKZ	**Black Stump Fm**	**17.88**	**191**		PN	**P**	**19 34 32.0**	**-4.3**
BKZ					ScS	ScS	19 44 54.2	-1.7
ARHZ	**Aropaoanui**	**17.89**	**189**		PN	**P**	**19 34 33.2**	**-3.1**
KRVZ	**Karewarewa**	**17.97**	**193**		PN	**P**	**19 34 34.4**	**-2.8**
TWVZ	**Taurewa**	**17.99**	**193**		PN	**P**	**19 34 36.0**	**-1.4**
WTVZ	**West Tongariro**	**18.00**	**193**		PN	**P**	**19 34 34.8**	**-2.6**
OTVZ	**Oturere**	**18.03**	**193**		PN	**P**	**19 34 34.7**	**-3.1**
NGZ	**Ngauruhoe**	**18.06**	**193**		PN	**P**	**19 34 35.2**	**-2.8**
MCHZ	**McNeill Hill**	**18.12**	**190**		PN	**P**	**19 34 35.1**	**-3.3**
TUVZ	**Tukino**	**18.14**	**193**		PN	**P**	**19 34 36.0**	**-2.8**
KWHZ	**Kaweka Forest**	**18.14**	**191**		PN	**P**	**19 34 36.3**	**-2.4**
FWVZ	**Far West T-bar**	**18.14**	**193**		PN	**P**	**19 34 36.1**	**-2.7**
DRZ	**Dome Shelter**	**18.16**	**193**		PN	**P**	**19 34 37.2**	**-2.0**
WHVZ	**Whangaehu Hut**	**18.16**	**193**		PN	**P**	**19 34 36.1**	**-3.0**
TRVZ	**Turoa**	**18.19**	**193**		PN	**P**	**19 34 36.6**	**-2.7**
VRZ	**Vera Road**	**18.20**	**195**		PN	**P**	**19 34 38.6**	**-0.5**
WNVZ	**Wahianoa**	**18.20**	**193**		PN	**P**	**19 34 36.0**	**-3.3**
RAR	**Rarotonga**	**18.21**	**92**		P	**P**	**19 34 39.4**	**-0.1**
	16nm,0.3s,baz=244,slow=6.5,SNR=97							
RAR					S	**S**	**19 37 35.4**	**+0.6**
	5.1nm,0.3s,baz=108,slow=19,SNR=3.0							
RAR					ScP	**ScP**	**19 41 17.5**	**+1.8**
	baz=297,slow=11,SNR=1.8							
RAR	**Rarotonga**	**18.21**	**92**	*e*	P	**P**	**19 34 37.7**	**-1.8**
RAR					S	**S**	**19 37 35.4**	**+0.6**
RAR					ScP	**ScP**	**19 41 17.5**	**+1.8**
PKVZ	**Pokaka**	**18.22**	**193**	*e*	PN	**P**	**19 34 36.9**	**-2.5**
MOVZ	**Moawhango**	**18.25**	**192**		PN	**P**	**19 34 36.1**	**-3.6**
CKHZ	**Cape Kidnapper**	**18.27**	**189**		PN	**P**	**19 34 37.0**	**-2.8**
BHHZ	**Black Hill Sta**	**18.27**	**191**		PN	**P**	**19 34 35.9**	**-3.9**
MTVZ	**Mangateitei**	**18.29**	**193**		PN	**P**	**19 34 37.3**	**-2.7**
KRHZ	**Kereru**	**18.36**	**191**		PN	**P**	**19 34 37.0**	**-3.7**
KRHZ					ScS	ScS	19 44 56.5	-0.8
KAHZ	**Kahuranaki**	**18.43**	**189**		PN	**P**	**19 34 38.4**	**-2.9**
NEZ	**North Egmont**	**18.50**	**196**		PN	**P**	**19 34 43.1**	**+1.2**
KHEZ	**Kahui Hut**	**18.54**	**196**		PN	**P**	**19 34 43.9**	**+1.5**
LREZ	**Lake Rotokare**	**18.60**	**195**		PN	**P**	**19 34 42.5**	**-0.3**
PNHZ	**Pukenui**	**18.66**	**191**		PN	**P**	**19 34 40.5**	**-2.8**
PXZ	**Pawanui**	**18.66**	**189**		PN	**P**	**19 34 40.2**	**-3.1**
NMEZ	**Namu Road**	**18.68**	**197**		PN	**P**	**19 34 45.2**	**+1.7**
WAZ	**Wanganui**	**18.75**	**194**		PN	**P**	**19 34 41.9**	**-2.2**
WPHZ	**Waipukurau**	**18.76**	**190**		PN	**P**	**19 34 41.7**	**-2.5**
TSZ	**Takapari Road**	**18.84**	**191**		PN	**P**	**19 34 41.4**	**-3.6**
TSZ					ScS	ScS	19 44 59.0	+0.1
PRHZ	**Porangahau**	**18.93**	**190**		PN	**P**	**19 34 43.4**	**-2.4**
DVHZ	**Dannevirke**	**19.04**	**191**		PN	**P**	**19 34 43.8**	**-3.0**
OHWZ	**Ohakea**	**19.11**	**193**		PN	**P**	**19 34 45.6**	**-1.7**
ANWZ	**Angora Road**	**19.14**	**190**		PN	**P**	**19 34 45.3**	**-2.3**
POWZ	**Post Office Ro**	**19.20**	**191**		PN	**P**	**19 34 45.6**	**-2.5**
POWZ					ScS	ScS	19 45 00.5	+0.5
PRWZ	**Pori Road**	**19.32**	**191**		PN	**P**	**19 34 46.6**	**-2.6**
PRWZ					ScP	**ScP**	**19 41 20.2**	**+2.3**
BFZ	**Birch Farm**	**19.40**	**190**	*e*	P	**P**	**19 34 46.6**	**-3.3**
BFZ	**Birch Farm**	**19.40**	**190**		PN	**P**	**19 34 47.1**	**-2.9**
BFZ					ScP	**ScP**	**19 41 20.2**	**+2.2**
BFZ					ScS	**ScS**	**19 45 03.6**	**+2.9**
MRZ	**Mangatainoka R**	**19.50**	**192**		PN	**P**	**19 34 47.6**	**-3.3**
MRZ					ScP	**ScP**	**19 41 21.7**	**+1.4**
TIWZ	**Tintock**	**19.55**	**191**		PN	**P**	**19 34 48.4**	**-3.0**
TIWZ					ScP	**ScP**	**19 41 20.6**	**+2.2**
CPWZ	**Castlepoint**	**19.63**	**190**		PN	**P**	**19 34 50.8**	**-1.2**
OGWZ	**Otaki Gorge**	**19.73**	**192**		PN	**P**	**19 34 49.6**	**-3.3**
HOWZ	**Holdsworth Sta**	**19.74**	**192**		PN	**P**	**19 34 50.4**	**-2.6**
HOWZ					ScS	ScS	19 45 03.1	+1.2
KIW	**Kapiti Island**	**19.82**	**193**		PN	**P**	**19 34 50.5**	**-3.3**
TMWZ	**Te Maipa**	**19.87**	**191**		PN	**P**	**19 34 51.9**	**-2.3**
DUWZ	**D'Urville Isla**	**19.99**	**195**		PN	**P**	**19 34 52.8**	**-2.5**
DUWZ					ScS	ScS	19 45 00.7	-2.1
MTW	**Mount Morrison**	**19.99**	**191**		PN	**P**	**19 34 52.4**	**-2.9**
MTW					ScS	ScS	19 45 04.1	+1.4
CAW	**Cannon Point**	**20.03**	**192**		PN	**P**	**19 34 52.5**	**-3.1**
CAW					ScP	**ScP**	**19 41 21.1**	**+1.6**
TRWZ	**Traveller**	**20.19**	**191**		PN	**P**	**19 34 54.6**	**-2.5**
PAWZ	**Paruwai Farm**	**20.22**	**191**		PN	**P**	**19 34 54.7**	**-2.7**
WEL	**Wellington**	**20.26**	**193**		PN	**P**	**19 34 55.8**	**-1.8**
MSWZ	**Moikau Station**	**20.29**	**192**		PN	**P**	**19 34 55.2**	**-2.7**
MSWZ					ScS	ScS	19 45 04.9	+1.1
TCW	**Tory Channel**	**20.29**	**194**		PN	**P**	**19 34 55.3**	**-2.7**
SNZO	**South Karori**	**20.30**	**193**	*e*	P	**P**	**19 34 55.0**	**-3.0**
BHW	**Baring Head**	**20.36**	**193**		PN	**P**	**19 34 55.8**	**-2.7**
QRZ	**Quartz Range**	**20.38**	**198**	*e*	PN	**P**	**19 34 58.1**	**-0.7**
PLWZ	**Palliser**	**20.43**	**192**		PN	**P**	**19 34 56.5**	**-2.8**
NNZ	**Nelson**	**20.52**	**196**		PN	**P**	**19 34 57.6**	**-2.3**
TUWZ	**Tuamarina**	**20.58**	**195**		PN	**P**	**19 34 58.0**	**-2.6**
CMWZ	**Cape Campbell**	**20.82**	**194**		PN	**P**	**19 35 01.1**	**-1.6**
BSWZ	**Blackbirch Sta**	**20.87**	**194**		PN	**P**	**19 35 00.5**	**-2.6**
THZ	**Tophouse**	**21.15**	**196**	*e*	P	**P**	**19 35 03.2**	**-2.5**
THZ	**Tophouse**	**21.15**	**196**		PN	**P**	**19 35 03.1**	**-2.6**
DSZ	**Denniston Nort**	**21.44**	**198**		PN	**P**	**19 35 06.7**	**-1.6**
KHZ	**Kahutara**	**21.61**	**194**	*e*	P	**P**	**19 35 07.4**	**-2.3**
KHZ	**Kahutara**	**21.61**	**194**		PN	**P**	**19 35 07.0**	**-2.7**
KHZ					ScP	**ScP**	**19 41 25.2**	**+1.8**
LHI	**Lord Howe Isla**	**21.68**	**238**		P	**P**	**19 35 12.0**	**+1.5**
	baz=22,SNR=291							
LHI	**Lord Howe Isla**	**21.68**	**238**	*

CTAO **Charters Tower** 32.17 266 *e*P P 19 36 41.1 -0.9
CTAO **Charters Tower** 32.17 266 *e*P P 19 36 41.1 -0.9
RABL **Rabaul** 32.63 298 *e*P P 19 36 42.9 -3.0
CMSA **Cobar Meteorol** 32.70 245 P P 19 36 45.6 -0.6
baz=33,SNR=1000
KWAJ **Kwajalein Atol** 32.81 336 *e*P P 19 36 46.3 -1.1
KWAJ pmax pmax
comp=Z,4μm,1.0s
KWAJ **Kwajalein Atol** 32.81 336 *e*P P 19 36 46.3 -1.1
QLP **Quilpie** 33.56 254 P P 19 36 52.7 -0.8
baz=34,SNR=1000
TOO **Toolangi** 34.26 234 P P 19 36 58.8 -0.4
baz=34,SNR=583
MTSU **Mount Surprise** 34.32 269 P P 19 36 59.0 -1.0
baz=34,SNR=1000
PMG **Port Moresby** 34.41 285 P P 19 36 59.3 -1.4
comp=Z,2μm,0.6s,baz=75,slow=6.6,SNR=758
PMG S S 19 41 45.9 -0.4
comp=Z,152nm,0.8s,baz=280,slow=6.1,SNR=3.1
PMG ScP ScP 19 42 07.9 +3.8
comp=Z,498nm,1.1s,baz=58,slow=8.9,SNR=7.9
PMG **Port Moresby** 34.41 285*d* *i*P P 19 37 00.5 -0.2
PMG **Port Moresby** 34.41 285 *e*P P 19 37 00.2 -0.6
PMG S S 19 41 45.9 -0.4
PMG ScP ScP 19 42 07.9 +3.8
MOO **Moorlands** 34.86 226 P P 19 37 04.6 +0.5
baz=35,SNR=111
TAU **Tasmania Unive** 34.98 225 *e*P P 19 37 04.3 -0.8
TAU **Tasmania Unive** 34.98 225 *e*P P 19 37 04.2 -0.8
PATS **Pohnpei** 35.77 320 P P 19 37 12.0 +0.1
baz=36,SNR=88
PATS **Pohnpei** 35.77 320 *e*P P 19 37 11.2 -0.7
STKA **Stephens Creek** 36.20 245 P P 19 37 14.9 -0.4
comp=Z,2μm,0.8s,baz=92,slow=11,SNR=1270
STKA S S 19 42 11.3 -1.3
comp=Z,182nm,0.8s,baz=322,slow=15,SNR=3.1
STKA PKKP PKKPdf 20 01 26.2 -2.9
comp=Z,2.7nm,0.7s,baz=156,slow=1.1,SNR=3.9
STKA P3KPbc 20 07 37.9
comp=Z,16nm,0.7s,baz=290,slow=4.0,SNR=24
STKA **Stephens Creek** 36.20 245 P P 19 37 14.9 -0.4
baz=36,SNR=1000
STKA **Stephens Creek** 36.20 245 *e*P P 19 37 15.6 +0.3
STKA S S 19 42 11.3 -1.3
STKA **Stephens Creek** 36.20 245 *e*P P 19 37 15.6 +0.3
STKA S S 19 42 11.3 -1.3
STKA PKKP PKKPdf 20 01 26.2 -2.9
STKA *e* 20 07 37.9
COEN **Coen** 36.44 276 P P 19 37 16.7 -0.7
baz=36,SNR=1000
COEN **Coen** 36.44 276 *e*P P 19 37 17.1 -0.3
MCQ **Macquarie Isla** 36.73 201 *e*P P 19 37 20.0 +0.9
MCQ **Macquarie Isla** 36.73 201 *e*P P 19 37 20.0 +0.9
MANU **Manus Island** 37.79 296 *e*P P 19 37 27.5 -0.9
QIS **Mount Isa** 38.26 264 P P 19 37 30.5 -1.6
baz=38,SNR=1000
HTT **Hallett** 38.63 243 P P 19 37 34.2 -0.8
baz=39,SNR=910
JOHN **Johnston Islan** 39.28 15 *e*P P 19 37 39.9 -0.3
TAOE **Nuku Hiva Isla** 39.74 78 *e*P P 19 37 42.9 -1.3
comp=Z,5μm,1.1s
TAOE *e*pP **pP** 19 39 25.6 -3.9
comp=Z,1μm,1.3s
TAOE *e*ScP **ScP** 19 42 26.8 +2.4
comp=Z,619nm,0.9s
TAOE **Nuku Hiva Isla** 39.74 78 *e*P P 19 37 43.7 -0.4
RKT **Rikitea** 40.93 101 *e*P P 19 37 52.4 -0.9
comp=Z,2μm,1.2s
RKT *e*pP **PcP** 19 39 36.2 -1.8
comp=Z,372nm,1.1s
RKT *e*ScP **ScP** 19 42 31.6 +2.7
comp=Z,273nm,0.9s
RKT **Rikitea** 40.93 101 *e*T T 20 18 15.0
comp=Z,16nm,0.3s
BBOO **Buckleboo** 40.96 244 P P 19 37 52.5 -1.0
baz=41,SNR=1000
BBOO **Buckleboo** 40.96 244 *e*P P 19 37 52.3 -1.1
H11S2 **WAKE ISLAND Hy** 42.12 340 P P 19 38 01.9 -0.5
baz=201,slow=5.9,SNR=70
H11S3 **WAKE ISLAND Hy** 42.13 340 P P 19 38 02.0 -0.5
baz=201,slow=5.9,SNR=53
H11S1 **WAKE ISLAND Hy** 42.14 340 P P 19 38 02.3 -0.3
baz=201,slow=5.9,SNR=64
WAKE **Wake Island** 42.88 340 *e*P P 19 38 07.3 -1.2
AS01 **Alice Springs** 43.03 258 *e*P P 19 38 08.9 -0.9
AS31 **Alice Springs** 43.07 258 *e*P P 19 38 09.7 -0.4
ASAR **Alice Springs** 43.07 258 P P 19 38 08.9 -1.2
comp=Z,2μm,0.6s,baz=94,slow=7.2,SNR=2055
ASAR ScP **ScP** 19 42 41.5 +3.8
comp=Z,305nm,1.0s,baz=104,slow=4.8,SNR=6.0
ASAR S S 19 43 51.2 -1.3
comp=Z,636nm,0.8s,baz=95,slow=16,SNR=14
ASAR ScS **ScS** 19 47 03.5 +2.7
comp=Z,141nm,0.9s,baz=88,slow=6.3,SNR=7.2
ASAR P3KPbc 20 07 08.2
comp=Z,2.8nm,0.6s,baz=282,slow=3.8,SNR=16
ASAR P3KP 20 08 23.4
comp=Z,3.0nm,0.9s,baz=357,slow=2.1,SNR=4.2
ASAR P4KPbc 20 15 56.4
comp=Z,4.5nm,0.9s,baz=107,slow=4.5,SNR=22
H11N3 **WAKE ISLAND Hy** 43.21 341 P P 19 38 10.5 -0.3
baz=178,slow=9.8,SNR=277
H11N1 **WAKE ISLAND Hy** 43.21 341 P P 19 38 10.4 -0.4
baz=178,slow=9.8,SNR=159
H11N2 **WAKE ISLAND Hy** 43.23 341 P P 19 38 10.7 -0.2
baz=178,slow=9.8,SNR=198
WB2 **Warramunga Arr** 43.23 263 *e*P P 19 38 08.8 -2.6
WRAB **Tennant Creek** 43.23 263*d* *i*P P 19 38 10.7 -0.6
WRAB **Tennant Creek** 43.23 263 *e*P P 19 38 09.5 -1.9
WRA **Warramunga Arr** 43.24 263 P P 19 38 09.4 -2.0
comp=Z,2μm,0.6s,baz=92,slow=5.2,SNR=1534
WRA ScP **ScP** 19 42 42.7 +4.3
comp=Z,438nm,1.0s,baz=97,slow=4.5,SNR=10
WRA S S 19 43 51.8 -3.0
comp=Z,226nm,0.8s,baz=99,slow=16,SNR=4.7
WRA ScS **ScS** 19 47 05.3 +3.5
comp=Z,122nm,1.1s,baz=101,slow=7.5,SNR=5.6
WRA P3KPbc 20 07 07.5
comp=Z,3.9nm,0.5s,baz=295,slow=2.8,SNR=28
WRA P3KP 20 08 30.9
comp=Z,4.7nm,1.0s,baz=357,slow=2.5,SNR=5.5
WRA PKPPKP P'P'df 20 10 11.7 +21
comp=Z,31nm,1.0s,baz=299,slow=3.4,SNR=13
WRA P4KPbc 20 15 59.2
comp=Z,5.8nm,0.9s,baz=100,slow=4.0,SNR=11
JAY **Jayapura** 43.24 290 P P 19 38 10.2 -1.4
comp=Z,357nm,0.5s,baz=266,slow=24,SNR=1027
JAY S S 19 43 55.4 +0.4
comp=Z,7.2nm,1.0s,baz=264,slow=24,SNR=7.1
JAY **Jayapura** 43.24 290 P P 19 38 10.4 -1.1
comp=Z,5μm,0.6s,comp=Z,59μmcomp=Z,78μm
I07AU **WARRAMUNGA INI** 43.25 263 P P 19 38 11.1 -0.4
baz=57,slow=30
GENI **Genyem** 43.67 290 P P 19 38 14.3 -0.5
comp=Z,7μm,1.0s,comp=Z,118μmcomp=Z,302μm
PTCN **Pitcairn Islan** 45.14 104 *e*P P 19 38 26.4 +0.5
SMPI **Sarmi** 45.23 290 P P 19 38 25.6 -1.1
comp=Z,4μm,1.1s,comp=Z,54μmcomp=Z,226μm
KDU **Kakadu** 46.75 273 P P 19 38 36.5 -1.7
baz=47,SNR=1000
I59US **HAWAII INFRASO** 46.91 31 P P 19 38 40.0 +0.7
baz=240,slow=11,SNR=0.6
AIN **Ainahou** 46.93 32 *e*P P 19 38 39.5 -0.1
MWH **Moku'aweowe** 46.96 31 *e*P P 19 38 39.4 -0.8
MLOA **Mauna Loa Obse** 47.02 31 *e*P P 19 38 40.1 -0.4
SDHHI **Sand Hill** 47.03 32 *e*P P 19 38 39.9 -0.3
WRMHI **West Rim** 47.04 32 *e*P P 19 38 39.9 -0.4
RIM **Rim** 47.04 32 *e*P P 19 38 39.9 -0.5
RIM *e*pP **pP** 19 40 33.4 +1.9
KKO **Keanakako'i** 47.05 32 *e*P P 19 38 40.0 -0.4
NPH **North Pit** 47.05 32 *e*P P 19 38 40.1 -0.3
NPH **North Pit** 47.05 32 *e*P P 19 38 40.1 -0.3
PUH **Pauahi** 47.05 32 *e*P P 19 38 39.8 -0.6
UWE **Uwekahuna** 47.05 32 *e*P P 19 38 40.1 -0.3
OBL **Observatory Le** 47.06 32 *e*P P 19 38 39.8 -0.6
BYL **Byron's Ledge** 47.06 32 *e*P P 19 38 40.0 -0.4
UWB **Uwekahuna B** 47.07 32 *e*P P 19 38 39.9 -0.6
HATHI **Halema'uma'u T** 47.07 32 *e*P P 19 38 39.8 -0.8
MLH **Mauna Loa** 47.07 32 *e*P P 19 38 40.2 -0.5
MLH **Mauna Loa** 47.07 32 *e*P P 19 38 40.2 -0.5
SBLHI **Steaming Bluff** 47.07 32 *e*P P 19 38 40.0 -0.5
STCH **Steam Cracks** 47.11 32 *e*P P 19 38 40.3 -0.4
JCUZ **Jacuzzi** 47.12 32 *e*P P 19 38 40.4 -0.4
NPOC **North of Pu'u** 47.12 32 *e*P P 19 38 40.5 -0.3
POHA **Pohakuloa** 47.23 31 *e*P P 19 38 41.4 -0.4

KEKH **Kekaha** 47.35 25 *e*P P 19 38 42.1 -0.3
HPAH **Hawaii Prepara** 47.38 31 *e*P P 19 38 42.6 -0.2
HON **Honolulu** 47.47 27 *e*P P 19 38 43.0 -0.3
HON **Honolulu** 47.47 27 *e*P P 19 38 43.0 -0.3
HON *es*P **sP** 19 41 48.3 +4.6
KIP **Kipapa** 47.55 27*c* *i*P P 19 38 43.8 -0.1
KIP **Kipapa** 47.55 27 *e*P P 19 38 43.4 -0.5
FORT **Forrest** 47.73 248 P P 19 38 43.7 -1.5
baz=48,SNR=1000
FORT **Forrest** 47.73 248 *e*P P 19 38 43.8 -1.5
HLK **Haleakala** 47.75 30 *e*P P 19 38 45.6 -0.2
OPA **Opana** 47.78 27 *e*P P 19 38 45.5 -0.1
OPA **Opana** 47.78 27 *e*P P 19 38 45.5 -0.1
MTN **Manton Dam** 47.95 272 P P 19 38 45.0 -2.0
baz=48,SNR=1000
MTN **Manton Dam** 47.95 272 *e*P P 19 38 45.1 -2.0
WRKA **Warakurna** 47.98 255 P P 19 38 45.9 -1.4
baz=48,SNR=1000
KNRA **Kununurra** 49.36 268 P P 19 38 56.2 -1.3
baz=49,SNR=1000
SAUI **Saumlaki** 49.41 278 P P 19 38 58.2 +0.3
comp=Z,17μm,1.1s,comp=Z,141μmcomp=Z,319μm
SAUI **Saumlaki** 49.41 278 *e*P P 19 38 58.1 +0.3
MIDW **Midway** 49.55 2 *e*P P 19 38 58.8 +0.3
GUMO **Guam** 49.57 312 P P 19 38 57.6 -1.3
comp=Z,4μm,0.8s,baz=97,slow=2.6,SNR=250
GUMO ScP **ScP** 19 43 07.4 +2.5
comp=Z,1μm,1.1s,baz=141,slow=8.0,SNR=5.2
GUMO S S 19 45 23.2 +0.9
comp=Z,150nm,1.0s,baz=229,slow=20,SNR=2.3
FAKI **Fak Fak** 50.56 285 P P 19 39 05.1 -1.1
comp=Z,4μm,1.2s,comp=Z,94μmcomp=Z,267μm
FAKI **Fak Fak** 50.56 285 *e*P P 19 39 04.3 -1.9
FITZ **Fitzroy Crossi** 51.67 264 P P 19 39 12.9 -1.2
comp=Z,652nm,0.4s,baz=82,slow=5.5,SNR=1100
FITZ **Fitzroy Crossi** 51.67 264 P P 19 39 12.9 -1.2
baz=52,SNR=1000
SIJI **Sorong** 52.34 286 S S 19 45 59.1 -0.3
comp=Z,62nm,0.3s,baz=356,slow=19,SNR=3.3
KMBL **Kambalda** 52.99 246 P P 19 39 22.9 -0.4
baz=53,SNR=313
MSAI **Masohi** 53.38 282 P P 19 39 25.2 -1.2
comp=Z,1μm,0.5s,comp=Z,21μmcomp=Z,151μm
PALU **Palau** 53.67 297 P P 19 39 27.9 -0.4
baz=54,SNR=255
I39PW **PALAU INFRASON** 53.71 298 P P 19 39 28.7 +0.1
baz=110,slow=12,SNR=0.5
AAI **Ambon** 53.91 282 P P 19 39 28.2 -1.9
comp=Z,7μm,0.9s,comp=Z,98μmcomp=Z,244μm
SOEI **Soe** 55.31 273 P P 19 39 40.0 +0.1
comp=Z,25μm,1.1s,comp=Z,243μmcomp=Z,321μm
SOEI **Soe** 55.31 273 *e*P P 19 39 40.0 +0.1
BATI **Baumata** 55.72 272 P P 19 39 43.1 +0.4
comp=Z,2μm,0.8s,comp=Z,23μm
LBMI **Labuha** 55.82 285 P P 19 39 43.5 +0.2
comp=Z,7μm,1.4s,comp=Z,87μm
MEEK **Meekatharra** 56.40 252 P P 19 39 45.3 -1.8
baz=56,SNR=1000
MBWA **Marble Bar** 56.41 258 *e*P P 19 39 45.6 -1.7
MBWA **Marble Bar** 56.41 258 P P 19 39 46.6 -0.7
SNR=603
KLBR **Kellerberrin** 56.48 246 P P 19 39 46.1 -1.5
baz=56,SNR=1000
SANI **Sanana** 56.59 282 P P 19 39 47.7 -0.9
comp=Z,5μm,1.2s,comp=Z,65μmcomp=Z,219μm
VNDA **Vanda** 56.72 185 P P 19 39 49.4 +1.0
comp=Z,495nm,0.8s,baz=18,slow=7.1,SNR=623
VNDA S S 19 47 00.1 +5.7
comp=Z,27nm,1.1s,baz=310,slow=7.9,SNR=5.5
VNDA P3KP 20 08 24.7
comp=Z,1.5nm,1.0s,baz=135,slow=1.4,SNR=2.3
VNDA PKPPKP P'P'df 20 09 13.9 -17
comp=Z,10nm,1.0s,baz=284,slow=5.0,SNR=3.7
VNDA P4KPbc 20 16 55.4
comp=Z,9.4nm,0.9s,baz=12,slow=4.2,SNR=17
VNDA **Vanda** 56.72 185 *e*P P 19 39 48.8 +0.4
VNDA S S 19 47 00.1 +5.7
VNDA PKKKP 20 08 24.7
VNDA P'P' 20 09 13.9
VNDA *e* 20 16 55.4
NWAO **Narrogin (SRO)** 56.78 244 P P 19 39 49.1 -0.4
comp=Z,622nm,0.6s,baz=342,slow=6.9,SNR=192
NWAO **Narrogin (SRO)** 56.78 244 P P 19 39 48.5 -1.0
baz=57,SNR=306
NWAO P P 19 39 48.5 -1.0
baz=57,SNR=306
NWAO **Narrogin (SRO)** 56.78 244 *e*P P 19 39 48.7 -0.9
NWAO **Narrogin (SRO)** 56.78 244 P P 19 39 49.4 -0.2
SNR=78
RKGY **Rocky Gully** 56.84 242 P P 19 39 49.2 -0.7
baz=57,SNR=159
BLDU **Baldu** 57.48 247 P P 19 39 53.0 -1.4
baz=58,SNR=1000
MMRI **Maumere** 57.57 273 P P 19 39 53.8 -1.4
comp=Z,6μm,1.0s,comp=Z,81μmcomp=Z,223μm
MMRI **Maumere** 57.57 273 *e*P P 19 39 52.9 -2.3
MORW **Morawa** 58.27 248 P P 19 39 58.6 -1.2
baz=58,SNR=456
BBSI **Bau Bau** 58.38 277 P P 19 40 00.5 -0.2
comp=Z,905nm,1.0s,comp=Z,13μm
BASI **Baing, Sumba** 58.59 271 P P 19 40 01.5 -0.5
comp=Z,15μm,1.5s,comp=Z,161μm
KDI **Kendari** 58.91 279 P P 19 40 03.2 -1.0
comp=Z,2μm,1.2s,comp=Z,32μmcomp=Z,272μm
WSI **Waingapu** 59.03 272 P P 19 40 04.1 -0.9
comp=Z,26μm,1.2s,comp=Z,226μmcomp=Z,268μm
H01W1 **Cape Leeuwin H** 59.13 241 P P 19 40 07.0 +2.0
baz=122,slow=6.7,SNR=414
H01W2 **Cape Leeuwin H** 59.14 241 P P 19 40 07.3 +2.1
baz=122,slow=6.7,SNR=162
H01W3 **Cape Leeuwin H** 59.14 241 P P 19 40 06.7 +1.6
baz=122,slow=6.7,SNR=246
SGSI **Sangihe** 59.51 288 P P 19 40 07.7 -0.5
comp=Z,5μm,1.1s,comp=Z,66μm
KMSI **Cibinong** 59.51 284 P P 19 40 07.3 -0.9
comp=Z,7μm,1.1s,comp=Z,76μm
BSSI **Bau Bau, Buton** 60.07 275 P P 19 40 10.8 -1.1
comp=Z,3μm,1.5s,comp=Z,57μmcomp=Z,169μm
GTOI **Gorontalo** 60.41 284 P P 19 40 13.9 -0.2
comp=Z,3μm,1.0s,comp=Z,40μmcomp=Z,187μm
MATI **Mati** 60.42 292 *e*P P 19 40 11.6 -2.6
BIPH **Bislig** 60.94 293 *e*P P 19 40 16.1 -1.5
BIPH **Bislig** 60.94 293 *e*P P 19 40 21.4 +3.9
DAV **Davao City (W)** 61.07 292 *e*P P 19 40 17.1 -1.3
DAV **Davao City (W)** 61.07 292 *e*P P 19 40 18.6 +0.2
DAV **Davao City (W)** 61.07 292 P P 19 40 18.0 -0.3
SNR=151
GIRL **Giralia** 61.07 255 P P 19 40 18.2 -0.1
baz=61,SNR=587
CBIJ **Chichi jima** 61.08 321 *e*P P 19 40 18.0 -0.1
GSPH **General Santos** 61.14 290 *e*P P 19 40 16.9 -2.2
KAPI **Kappang** 61.16 276 *e*P P 19 40 17.5 -1.6
comp=Z,1μm,0.9s
MRSI **Marisa** 61.32 283 P P 19 40 18.9 -1.1
comp=Z,2μm,0.7s,comp=Z,26μm
KCP **Kidapawan** 61.46 291 *e*P P 19 40 19.5 -1.5
SPSI **Sidrap Palu** 61.54 277 P P 19 40 19.4 -2.1
comp=Z,2μm,1.2s,comp=Z,24μm
PLAI **Plampang** 61.65 271 P P 19 40 20.8 -1.4
comp=Z,9μm,1.0s,comp=Z,84μmcomp=Z,201μm
TTSI **Tana Toraja** 61.84 278 P P 19 40 22.4 -1.0
comp=Z,2μm,0.9s,comp=Z,24μmcomp=Z,185μm
CTBH **Cotabato--PC H** 62.30 291 *e*P P 19 40 26.3 0.0
CGP **Cagayan de Oro** 62.51 292 *e*P P 19 40 29.4 +1.7
TWSI **Taliwang, Sumb** 62.52 271 P P 19 40 26.3 -1.5
comp=Z,6μm,0.8s,comp=Z,69μm
PCI **Palu** 62.67 281 P P 19 40 28.8 0.0
comp=Z,8μm,1.2s,comp=Z,82μmcomp=Z,291μm
RPN **Rapa Nui** 63.27 110 P P 19 40 34.3 +1.9
comp=Z,1μm,0.8s,baz=291,slow=5.3,SNR=52
PAGZ **Pagadian** 63.35 291 *e*P P 19 40 32.7 -0.3
PLP **Palo** 63.62 295 *i*P P 19 40 32.0 -2.7
DCPH **Dipolog City** 63.73 292 *e*P P 19 40 34.8 -0.6
LLP **Lapu-Lapu** 64.05 294 *e*P P 19 40 36.9 -0.6
LLP *e*S S 19 48 25.6 -1.3
DNP **Denpasar** 64.09 271 P P 19 40 37.2 -0.6
comp=Z,12μm,0.6s,comp=Z,118μmcomp=Z,187μm
IGBI **Denpasar** 64.11 271 P P 19 40 37.1 -0.8
comp=Z,10μm,1.2s,comp=Z,102μmcomp=Z,108μm
SNPH **Sibulan** 64.20 292 *e*P P 19 40 37.5 -1.0
SRBI **Singaraja** 64.29 271 P P 19 40 37.9 -1.1
comp=Z,6μm,1.1s,comp=Z,68μmcomp=Z,162μm
JAGI **Jajag, Banyuwa** 65.15 271 P P 19 40 42.2 -2.2
comp=Z,9μm,1.1s,comp=Z,85μmcomp=Z,169μm
JAGI **Jajag, Banyuwa** 65.15 271 *e*P P 19 40 42.0 -2.5
ABJI **Asem Bagus** 65.30 271 P P 19 40 45.0 -0.4

comp=Z,5μm,1.1s,comp=Z,68μmcomp=Z,181μm
MMPH **Masbate** 65.37 296 *i*P P 19 40 45.2 -0.5
GUIM **Jordan** 65.38 293 *e*P P 19 40 43.8 -2.0
PVCP **Virac** 65.56 297 *e*P P 19 40 46.8 -0.1
RCP **Roxas** 65.71 294 *e*P P 19 40 46.5 -1.4
RCP **Roxas** 65.71 294 *e*P pP 19 42 55.6 +4.3
KMMI **Kalianget** 65.81 272 P P 19 40 48.0 -0.5
comp=Z,4μm,1.2s,comp=Z,60μmcomp=Z,168μm
GMJI **Gumukmas** 65.87 270 P P 19 40 47.3 -1.6
comp=Z,5μm,1.0s,comp=Z,57μmcomp=Z,157μm
BLJI **Banyuglugur** 65.91 271 P P 19 40 48.1 -1.1
comp=Z,6μm,0.7s,comp=Z,72μmcomp=Z,157μm
JAP **San Jose, Anti** 65.99 293 *e*P P 19 40 48.2 -1.4
KALP **Kalibo** 66.11 294 *i*P P 19 40 49.6 -0.7
MYLDM **Lahad Datu** 66.43 286 *e*P P 19 40 53.5 +1.2
AUQP **San Andres** 66.65 296 *e*P P 19 40 54.5 +0.9
OTRP **Odiongan** 66.72 295 *e*P P 19 40 53.2 -0.8
JHJ2 **Mitsune** 66.93 323 *e*P P 19 40 54.0 -1.0
JHJ **Hachijo jima 2** 66.96 323 P P 19 40 55.2 +0.1
comp=Z,4μm,0.5s,baz=175,slow=7.6,SNR=124
JHJ S S 19 49 02.1 +1.6
comp=Z,140nm,1.0s,baz=81,slow=19,SNR=3.1
GQP **Guinayangan** 67.14 296 *i*P P 19 40 55.1 -1.5
MTKI **Muara Teweh, K** 67.19 278 P P 19 40 56.7 -0.3
comp=Z,2μm,1.1s,comp=Z,32μmcomp=Z,169μm
BOAC **Boac** 67.42 296 *e*P P 19 40 58.1 -0.2
PWJI **Pagerwojo** 67.48 270 P P 19 40 57.5 -1.3
comp=Z,6μm,0.9s,comp=Z,79μmcomp=Z,154μm
TBJI **Tambak Boyo** 67.86 271 P P 19 41 01.7 +0.6
comp=Z,6μm,1.1s,comp=Z,71μm
LQP **Lukban** 68.00 296 *i*P P 19 41 00.8 -1.3
PCJI **Pacitan** 68.01 270 P P 19 41 01.1 -0.9
comp=Z,22μm,0.8s,comp=Z,198μmcomp=Z,161μm
NGJI **Ngawi** 68.03 271 P P 19 41 03.4 +1.3
comp=Z,4μm,0.8s,comp=Z,64μmcomp=Z,182μm
BUSP **Coron** 68.09 293 *e*P P 19 41 02.3 -0.1
PPR **Puerto Princes** 68.30 291 *e*P P 19 41 04.9 +1.2
I30JP **ISUMI INFRASON** 68.32 325 P P 19 41 04.2 +0.9
baz=198,slow=6.9,SNR=0.9
WOJI **Wonogiri, Jawa** 68.37 270 P P 19 41 03.6 -0.5
comp=Z,8μm,1.1s,comp=Z,76μm
ENPP **El Nido** 68.37 292 *e*P P 19 41 03.9 -0.2
QSPA **South Pole Qui** 68.48 180 *e*P P 19 41 04.0 -0.1
comp=Z,0.2nm,0.6s
BATP **Bataraza** 68.67 289 *e*P P 19 41 04.7 -1.2
UGM **Wanagama** 68.71 270 P P 19 41 05.2 -1.1
comp=Z,9μm,0.9s,comp=Z,80μmcomp=Z,177μm
UGM **Wanagama** 68.71 270 *e*P P 19 41 04.8 -1.5
UGM *e*PcP P 19 41 05.6 -0.7
UGM *e*S S 19 49 24.1 +2.4
KKM **Kota Kinabalu** 68.85 286 *e*P P 19 41 05.8 -1.3
KKM *e*PcP P 19 41 06.8 -0.4
LUBP **Lubang** 68.90 295 *e*P P 19 41 05.3 -1.9
SMRI **Semarang** 69.09 271 *e*P P 19 41 07.0 -1.5
PCPH **Palayan** 69.11 297 *e*P P 19 41 07.8 -0.6
CAUP **Cauayan** 69.22 299 *e*P P 19 41 09.0 -0.1
MIR **Mirnyy** 69.48 205 *i*P P 19 41 10.0 +0.2
MIR *i* S S 19 49 30.0 +1.5
MIR pmax pmax
comp=Z,164nm,2.0s
MIR pmax pmax
comp=Z,8μm,7.0s
MIR smax smax
comp=E,45μm,12.0s
PBKI **Pangkalan Bun** 69.50 275 P P 19 41 11.2 +0.3
comp=E,7μm,1.2s,comp=E,68μmcomp=E,177μm
CVP **Callao Caves** 69.62 300 *e*P P 19 41 11.6 +0.1
SGCP **Mt. Cagua** 69.72 300 *e*P P 19 41 11.9 -0.1
JOW **Kunigami** 69.93 311 P P 19 41 14.0 +0.8
comp=E,2μm,0.8s,baz=137,slow=6.5,SNR=94
JOW PP PP 19 44 01.2 +1.2
comp=E,350nm,1.2s,baz=131,slow=10,SNR=4.1
JOW S S 19 49 37.7 +2.7
comp=E,32nm,0.9s,baz=307,slow=23,SNR=6.8
JOW **Kunigami** 69.93 311 *e*P P 19 41 12.8 -0.4
JOW *e*PcP P 19 41 13.7 +0.5
JOW PP PP 19 44 01.2 +1.2
JOW S S 19 49 37.7 +2.7
INU **Inuyama** 70.14 323 *e*P P 19 41 13.9 -0.4
INU *e*PcP P 19 41 14.2 -0.1
SCZP **Santa Cruz** 70.20 297 *e*P P 19 41 13.0 -1.9
MJAR **Matsushiro Arr** 70.37 325 P P 19 41 13.8 -1.8
comp=E,623nm,0.8s,baz=158,slow=5.4,SNR=568
MJAR pP **pP** 19 43 23.4 +1.8
comp=E,34nm,0.8s,baz=158,slow=6.1,SNR=1.7
MJAR S S 19 49 41.8 +2.3
comp=E,5.4nm,0.9s,baz=76,slow=4.8,SNR=2.9
MJAR PKPPKP **P'P'df** 20 09 05.8 -1.5
comp=E,75nm,1.2s,baz=308,slow=3.1,SNR=11
MAJO **Matsushiro** 70.37 325*d* *i*P P 19 41 13.8 -1.8
MAJO pmax pmax
comp=Z,8μm,1.2s
MAJO **Matsushiro** 70.37 325 *e*P P 19 41 14.0 -1.5
MAJO *e*PcP P 19 41 15.0 -0.6
MJB9 **Matsu-Tunnel** 70.37 325 *e*P P 19 41 14.1 -1.5
MJB9 *e*PcP P 19 41 15.2 -0.4
KPJI **Karang Pucung** 70.39 270 P P 19 41 15.1 -1.1
comp=Z,6μm,0.7s,comp=Z,55μmcomp=Z,155μm
ABRA **Dolores** 70.49 299 *e*P P 19 41 15.2 -1.4
BOLP **Bolinao** 70.50 297 *e*P P 19 41 14.9 -1.8
SZP **Santa** 70.65 299 *e*P P 19 41 17.6 +0.1
CMJI **Cimerak** 70.69 269 P P 19 41 16.9 -1.0
comp=Z,5μm,1.0s,comp=Z,37μmcomp=Z,134μm
STKI **Sintang** 70.73 278 P P 19 41 18.1 -0.1
comp=Z,3μm,1.2s,comp=Z,34μmcomp=Z,142μm
SBUM **Sibu** 70.98 281 *e*P P 19 41 18.8 -0.8
JCJI **Jatiwangi** 71.30 270 P P 19 41 20.7 -0.8
comp=Z,10μm,1.1s,comp=Z,88μmcomp=Z,154μm
CISI **Cisompet, Garu** 71.36 269 *e*P P 19 41 19.6 -2.2
CNJI **Cibinong** 72.08 269 P P 19 41 24.9 -1.1
comp=Z,5μm,1.1s,comp=Z,44μmcomp=Z,132μm
ERM **Erimo** 72.18 332 *e*P P 19 41 27.0 +1.1
ERM pmax pmax
comp=Z,764nm,1.2s
ERM **Erimo** 72.18 332 *e*P P 19 41 26.4 +0.5
JNU **Nakatsue** 72.23 318 P P 19 41 26.4 0.0
comp=Z,866nm,1.0s,baz=97,slow=3.0,SNR=210
JNU S S 19 50 02.5 +2.0
comp=Z,11nm,0.9s,baz=14,slow=7.2,SNR=7.5
JNU **Nakatsue** 72.23 318 *e*P P 19 41 25.5 -1.0
JNU S S 19 50 02.5 +2.0
YOJ **Yonaguni jima** 72.36 306 *e*P P 19 41 26.2 -1.1
YOJ **Yonaguni jima** 72.36 306 *e*P P 19 41 26.2 -1.1
XMIS **Christmas Isla** 72.38 265 *e*P P 19 41 27.0 -0.7
YUK **Yuzh-Kuril'sk** 72.68 334 *i*P P 19 41 29.3 +0.6
KUR **Kuril'sk** 72.91 336 *d* *i*P P 19 41 30.3 +0.3
KUR *i* 19 41 42.9
KUR *i* PPP PPP 19 44 36.4
KUR *i* S S 19 50 10.8 +3.5
KUR *i* SSS SSS 19 58 27.0
KUR pmax pmax
comp=Z,3μm,1.5s
KUR pmax pmax
comp=N,1μm,1.1s
KUR pmax pmax
comp=E,622nm,1.1s
KUR pmax pmax
comp=Z,14μm,4.8s
KUR pmax pmax
comp=N,5μm,3.6s
KUR pmax pmax
comp=E,3μm,1.4s
TNG **Tangerang** 72.92 270 P P 19 41 33.4 +2.6
comp=E,8μm,1.6s,comp=E,119μmcomp=E,175μm
TWG **Pinlang** 72.94 304 *e*P P 19 41 27.5 -3.2
YULB **Yu-li** 73.08 304 *e*P P 19 41 29.2 -2.3
NACB **Ninganchiao** 73.28 305 *e*P P 19 41 31.1 -1.5
SBJI **Serang** 73.42 270 P P 19 41 33.0 -0.6
comp=E,5μm,1.3s,comp=E,46μm
TPUB **Ta-pu** 73.54 304 *e*P P 19 41 31.6 -2.5
SSLB **Suanglung** 73.56 304 *e*P P 19 41 31.9 -2.3
ATKA **Atka Island** 73.61 3 *e*P P 19 41 32.8 -1.0
CGJI **Cibinong** 73.66 269 P P 19 41 33.5 -1.5
comp=E,4μm,1.0s,comp=E,62μmcomp=E,132μm
YHNB **Yeheng** 73.72 305 *e*P P 19 41 33.4 -1.8
YHNB *e*S S 19 50 19.1 +2.0
TATO **Taipei** 73.80 306 P P 19 41 35.0 -0.5
SNR=80
ASAJ **Asahikawa** 74.11 332 P P 19 41 37.7 +0.9
baz=270,slow=20
ASAJ **Asahikawa** 74.11 332 *e*P P 19 41 37.0 +0.2
SMY **Shemya** 74.23 356 *e*P P 19 41 35.1 -2.1
SMY **Shemya** 74.23 356 *e*P P 19 41 35.1 -2.1
BLSI **Bandar Lampung** 74.51 270 P P 19 41 38.7 -1.1

comp=E,2µm,1.1s,comp=E,29µmcomp=E,113µm
NIKH Nikolski High 74.81 7 *e*P **P** 19 41 39.6 -0.9
PPBI Pangkal Pinang 74.83 274 P **P** 19 41 41.6 0.0
comp=E,2µm,1.7s,comp=E,30µmcomp=E,130µm
KASI Kota Agung 75.15 270 P **P** 19 41 42.0 -1.3
comp=E,3µm,1.2s,comp=E,43µmcomp=E,126µm
SKR Severo-Kuril's 75.16 344 *d* iP **P** 19 41 45.5 +3.0
SKR *e* 19 41 55.2
SKR *e*S **S** 19 50 34.3 +2.9
SKR *e* 19 51 20.2
SKR 19 59 08.4
SKR pmax pmax
comp=Z,2µm,0.9s
SKR pmax pmax
comp=Z,5µm,1.2s
LWLI Liwa 75.74 270 P **P** 19 41 45.4 -1.3
comp=Z,4µm,0.8s,comp=Z,31µm
PMBI Palembang 75.82 272 P **P** 19 41 47.8 +0.7
comp=Z,4µm,1.2s,comp=Z,48µm
UNV Unalaska Valle 75.94 *e*P **P** 19 41 44.5 -2.2
QZH Quanzhou 75.99 304 ⇓ *i* P **P** 19 41 47.6 -0.1
QZH pP **pP** 19 43 56.8 +0.3
QZH S **S** 19 50 38.8 -2.6
QZH pmax pmax
comp=Z,4µm,0.9s
AKUT Akutan 76.31 8 *e*P **P** 19 41 48.0 -0.8
YSS Yuzh-Sakhalins 76.33 334 K *i* P **P** 19 41 50.1 +1.1
YSS *e*S **S** 19 50 48.8 +4.7
YSS *e*SS **SS** 19 56 04.0 +6.2
YSS pmax pmax
comp=Z,2µm,0.6s
YSS pmax pmax
comp=Z,11µm,3.0s
YSS Yuzh-Sakhalins 76.33 334 *e*P **P** 19 41 48.5 -0.5
PET Petropavlovsk 76.73 347 *d* iP **P** 19 41 50.8 -0.2
PET *e**SP **sP** 19 45 00.7 -3.3
PET *e*S **S** 19 50 47.5 -0.6
PET pmax pmax
comp=Z,1µm,1.2s
PET pmax pmax
comp=Z,10µm,15.9s
PET pmax pmax
comp=Z,15µm,15.7s
PET MLR MLR
comp=Z,9µm,19.0s
PET MLR MLR
comp=Z,7µm,18.0s
PET Petropavlovsk 76.73 347 *e*P **P** 19 41 49.2 -1.8
KSRS Korea Array 76.90 319 P **P** 19 41 52.7 +0.4
comp=Z,355nm,1.0s,baz=142,slow=6.0,SNR=581
KSRS pP **pP** 19 44 06.6 +4.9
comp=Z,49nm,1.0s,baz=126,slow=9.2,SNR=2.1
KSRS PKKP PKKPdf 20 00 33.6 -10
comp=Z,3.0nm,0.8s,baz=297,slow=5.5,SNR=4.1
KSRS PKPPKP **P'P'df** 20 09 01.0 +4.9
comp=Z,1.6nm,0.8s,baz=0.0,slow=2.5,SNR=4.3
DSRI Dabo 76.90 275 P **P** 19 41 53.2 +0.2
comp=Z,4µm,1.0s,comp=Z,50µmcomp=Z,223µm
KS15 Wonju Array Si 76.91 319 *e*P **P** 19 41 52.1 -0.3
KSAR Wonju Array Be 76.91 319 P **P** 19 41 52.7 +0.3
KSAR Wonju Array Be 76.91 319 P **P** 19 41 52.7 +0.3
KSAR pP **pP** 19 44 06.6 +4.8
KSAR PKKP PKKPdf 20 00 33.6 -10
KSAR P'P' 20 09 01.0
KS01 Wonju Array Si 76.93 319 *e*P **P** 19 41 51.6 -0.9
MNAI Manna 77.00 270 P **P** 19 41 53.4 -0.1
comp=Z,4µm,1.5s,comp=Z,70µmcomp=Z,141µm
MNAI Manna 77.00 270 *e*P **P** 19 41 53.1 -0.4
I44RU PETROPAVLOVSK 77.01 346 P **P** 19 41 52.9 +0.3
baz=91,slow=11,SNR=0.8
PEA0 Petropavlovsk- 77.02 346 *e*P **P** 19 41 51.2 -1.5
PEA0B Petropavlovsk- 77.02 346 *e*P **P** 19 41 51.1 -1.5
PETK Petropavlovsk- 77.02 346 P **P** 19 41 53.0 +0.4
comp=Z,1µm,0.6s,baz=118,slow=4.7,SNR=454
PETK PKiKP **PKiKP** 19 47 26.4 -1.0
comp=Z,18nm,0.6s,baz=135,slow=2.6,SNR=6.1
PETK S **S** 19 50 52.2 +1.1
comp=Z,11nm,0.9s,baz=117,slow=5.0,SNR=2.2
PETK PKKP **PKKPdf** 20 00 40.9 -3.4
comp=Z,6.9nm,0.9s,baz=80,slow=9.2,SNR=3.7
PETK PKPPKP **P'P'df** 20 09 02.3 +7.8
comp=Z,18nm,1.1s,baz=101,slow=1.5,SNR=5.3
JMBI JAMBI 77.34 273 P **P** 19 41 56.8 +1.5
comp=Z,12µm,1.3s,comp=Z,130µm
TPRI Tanjung Pinang 77.47 276 P **P** 19 41 55.9 -0.1
comp=Z,1µm,1.5s,comp=Z,27µmcomp=Z,139µm
KSI Kapahiang 77.59 271 P **P** 19 41 55.2 -1.5
comp=Z,6µm,1.0s,comp=Z,68µm
INCN Inchon 77.70 319 *e*P **P** 19 41 57.4 +0.7
H06S1 SOCORRO T 77.97 64 P **P** 19 42 00.2 +1.7
H06N1 SOCORRO T-PHAS 78.01 64 P **P** 19 42 00.1 +1.4
H06E1 SOCORRO T-PHAS 78.02 64 P **P** 19 42 00.8 +2.0
MASI Maura Aman, Be 78.10 271 P **P** 19 41 58.6 -0.9
comp=Z,7µm,1.4s,comp=Z,70µm
HKC Hong Kong Obse 78.14 300 ⇑ P **P** 19 42 01.0 +1.7
DLV T Lat 78.27 288 *e*P **P** 19 42 00.6 +0.1
MYKOM Kota Tinggi 78.42 277 *e*P **P** 19 42 00.4 -0.7
VLA Vladivostok 78.48 326 *d* iP **P** 19 42 01.6 +0.9
VLA pmax pmax
comp=Z,1µm,0.9s
MSHR Mys Shultsa 78.49 325 *ce*P **P** 19 42 01.6 +0.9
MCO Taipa Grande 78.55 299 P **P** 19 42 04.0 +2.5
SPIA Saint Paul Isl 78.83 5 *e*P **P** 19 42 02.8 +0.5
SNCC San Nicolas Is 78.89 48 P **P** 19 42 04.6 +1.5
baz=235,SNR=15
SNCC SKSac **SKSac** 19 51 19.7 0.0
baz=235
SNCC San Nicolas Is 78.89 48 *e*P **P** 19 42 05.3 +2.1
RGRI Rengat 79.03 274 P **P** 19 42 05.4 +1.1
comp=Z,8µm,1.2s,comp=Z,82µmcomp=Z,120µm
USRK Usuriysk Ar. 79.18 327 P **P** 19 42 04.3 -0.1
comp=Z,1µm,1.0s,baz=115,slow=2.3,SNR=718
USRK pP **pP** 19 44 17.2 +2.5
comp=Z,93nm,1.1s,baz=160,slow=4.6,SNR=2.3
USRK S **S** 19 51 17.7 +3.7
comp=Z,7.4nm,1.0s,baz=29,slow=3.6,SNR=2.2
USRK PKKPbc **PKKPbc** 20 00 49.2 -2.0
comp=Z,3.5nm,0.5s,baz=352,slow=2.0,SNR=5.9
USRK PKPPKP **P'P'df** 20 08 58.1 +6.5
comp=Z,7.1nm,1.0s,baz=232,slow=2.2,SNR=4.4
GZH Guangzhou 79.19 300 P **P** 19 42 04.3 -0.6
GZH S **S** 19 51 15.8 +0.9
BSC Santa Cruz Isl 79.25 47 P **P** 19 42 06.3 +1.3
baz=235,SNR=36
SCI San Clemente I 79.42 48 P **P** 19 42 07.1 +1.2
baz=236,SNR=49
SBC Santa Barbara 79.45 46 P **P** 19 42 07.4 +1.4
baz=235,SNR=13
TYV Tymovskoe 79.54 337 *e*P **P** 19 42 06.4 +0.3
TYV *e*S **S** 19 51 18.3 +1.0
TYV pmax pmax
comp=Z,3µm,1.3s
TYV smax smax
comp=E,20µm,20.6s
CHGN Chignik 79.58 12 *e*P **P** 19 42 04.8 -1.4
MCCM Marconi Confer 79.60 42 *e*P **P** 19 42 08.7 +2.0
NJ2 Nanjing 79.63 310 *e*P **P** 19 42 07.6 +0.6
NJ2 PcP **PcP** 19 42 16.3 +4.0
NJ2 pP **pP** 19 44 20.3 +2.7
NJ2 sP **sP** 19 45 20.8 -0.2
NJ2 S **S** 19 51 13.8 -5.3
NJ2 SS **SS** 19 56 45.3 -2.0
NJ2 pmax pmax
comp=E,900nm,0.6s
PKM Mcpherson Peak 79.64 46 P **P** 19 42 08.5 +1.3
baz=235,SNR=63
SDSI Sungai Dareh 79.66 273 P **P** 19 42 06.9 -0.7
comp=E,673nm,1.1s,comp=E,17µm
BLG Laguna Peak, P 79.70 47 P **P** 19 42 08.2 +0.9
baz=235,SNR=19
CIS Catalina Islan 79.74 48 P **P** 19 42 08.5 +0.8
baz=236,SNR=54
PMPB Monarch Peak 79.76 44 *e*P **P** 19 42 09.3 +1.6
SMMC Simmler 79.76 46 P **P** 19 42 09.2 +1.4
baz=234,SNR=31
PAGB Antelope Grade 79.84 45 *e*P **P** 19 42 09.6 +1.6
COCO West Island 79.96 261 *ce*P **P** 19 42 10.6 +1.5
COCO West Island 79.96 261 *e*P **P** 19 42 10.2 +1.1
FMP Fort Macarthur 80.00 48 P **P** 19 42 10.1 +1.2
baz=236,SNR=15
HOPS Hopland Field 80.00 41 *e*P **P** 19 42 09.7 +0.9
MAW Mawson 80.12 200 P **P** 19 42 08.4 -0.5
comp=E,206nm,0.7s,baz=123,slow=6.2,SNR=264
MAW S **S** 19 51 23.3 +0.3
comp=E,49nm,1.0s,baz=204,slow=20,SNR=3.7
MAW PKKPbc **PKKPbc** 20 00 46.6 -2.7
comp=E,8.7nm,0.7s,baz=241,slow=0.4,SNR=6.1
MAW PKPPKP **P'P'df** 20 08 49.3 -2.3
comp=E,11nm,1.1s,baz=54,slow=6.2,SNR=3.9
MAW Mawson 80.12 200 P **P** 19 42 08.3 -0.7
baz=80,SNR=569
KCPM Cahto Peak 80.12 40 *e*P **P** 19 42 11.2 +1.6
QIZ Qiongzhong 80.18 295 P **P** 19 42 10.8 +0.6
QIZ pP **pP** 19 44 25.6 +4.6
QIZ sP **PP** 19 45 28.3 +3.3
QIZ S **S** 19 51 28.0 +2.7
QIZ pmax pmax
comp=E,270nm,1.6s
QIZ Qiongzhong 80.18 295 *e*P **P** 19 42 10.2 0.0
OSI Osito Audit: C 80.22 47 P **P** 19 42 11.0 +0.9
baz=235
OSI Osito Audit: C 80.22 47 *e*P **P** 19 42 12.2 +2.1
DECC Green Verdugo 80.28 47 P **P** 19 42 11.3 +0.9
baz=236,SNR=21
PPSI Pulau Pagai 80.31 271 P **P** 19 42 12.1 +1.1
comp=E,2µm,0.7s,comp=E,44µm
PASC Pasadena Art C 80.33 47 *e*P **P** 19 42 11.0 +0.3
109C Camp Elliot, M 80.37 49 P **P** 19 42 11.9 +1.0
baz=237,SNR=32
KMRM Mail Ridge 80.38 40 *e*P **P** 19 42 11.8 +1.0
ARVC Arvin 80.44 46 P **P** 19 42 12.5 +1.3
baz=235,SNR=25
MWC Mount Wilson 80.45 47 *e*P **P** 19 42 11.3 -0.2
MWC Mount Wilson 80.45 47 *e*P **P** 19 42 11.3 -0.2
BKNI Bangkinang 80.48 274 P **P** 19 42 11.8 -0.1
comp=E,2µm,0.9s,comp=E,37µmcomp=E,140µm
BKNI Bangkinang 80.48 274 *e*P **P** 19 42 11.8 -0.1
BAR Barrett 80.56 49 *e*P **P** 19 42 11.9 0.0
PDSI Padang 80.56 273 P **P** 19 42 09.8 -2.6
comp=E,722nm,1.1s,comp=E,11µm
JCC Jacoby Creek, 80.56 39 *e*P **P** 19 42 13.4 +1.8
VES Vestal, Richgr 80.67 46 P **P** 19 42 13.3 +0.9
baz=235,SNR=146
MURC Murrieta 80.70 48 P **P** 19 42 13.6 +1.0
baz=236,SNR=94
MDJ Mudanjiang 80.71 326 P **P** 19 42 13.4 +1.1
MDJ sP sP 19 45 23.3 -3.4
MDJ S **S** 19 51 32.3 +2.7
MDJ pmax pmax
comp=E,910nm,1.1s
MDJ Mudanjiang 80.71 326 *e*P **P** 19 42 12.3 -0.1
BFSC Mount Baldy Ra 80.73 48 P **P** 19 42 13.1 +0.2
baz=236,SNR=191
PMSA Palmer Station 80.78 157 P **P** 19 42 13.5 +1.1
comp=E,956nm,0.6s,baz=220,slow=3.2,SNR=201
PMSA pP **pP** 19 44 25.7 +2.4
comp=E,55nm,0.9s,baz=173,slow=3.5,SNR=1.1
PMSA S **S** 19 51 32.7 +3.0
comp=E,34nm,1.0s,baz=40,slow=22,SNR=19
PMSA PKKPbc **PKKPbc** 20 00 44.3 -3.4
comp=E,21nm,0.7s,baz=360,slow=3.0,SNR=6.4
PMSA PKPPKP **P'P'df** 20 08 46.6 -3.9
comp=E,20nm,1.0s,baz=92,slow=6.0,SNR=2.5
PMSA Palmer Station 80.78 157 *e*P **P** 19 42 12.8 +0.4
PMSA pP **pP** 19 44 25.7 +2.4
PMSA S **S** 19 51 32.7 +3.0
PMSA PKKPbc **PKKPbc** 20 00 44.3 -3.4
PMSA P'P' 20 08 46.6
KHMM Horse Mountain 80.78 39 *e*P **P** 19 42 14.5 +1.5
PPI Padang Panjang 80.79 273 P **P** 19 42 11.9 -1.6
comp=E,478nm,1.6s,comp=E,20µmcomp=E,161µm
HABR Khabarovsk 80.79 331 *d* iP **P** 19 42 11.5 -1.1
HABR *e**PP **pP** 19 44 20.6 -3.1
HABR *e*SP **sP** 19 45 23.5 -3.5
HABR *e* 19 45 26.9
HABR *e*PPP PPP 19 47 22.0
HABR *e*S **S** 19 51 29.3 -0.8
HABR *e*SS **SS** 19 57 00.9 -2.8
HABR *e*SSS SSS 20 00 34.4
HABR pmax pmax
comp=Z,4µm,0.9s
HABR pmax pmax
comp=Z,5µm,1.7s
HABR MLR MLR
comp=Z,10µm,20.0s
RCTC Rector, Farmer 80.83 45 P **P** 19 42 13.7 +0.5
baz=235,SNR=20
MONP Monument Peak, 80.86 49 P **P** 19 42 14.4 +0.7
baz=237,SNR=627
EDW2 Edwards Air Fo 80.86 47 P **P** 19 42 14.7 +1.3
baz=236,SNR=353
IKP In-Ko-Pah, Jac 80.95 50 P **P** 19 42 15.3 +1.4
baz=237,SNR=278
ISA Isabella, Lake 80.98 46 P **P** 19 42 15.7 +1.7
baz=235,SNR=305
ISA Isabella, Lake 80.98 46 *e*P **P** 19 42 13.8 -0.2
ISA Isabella, Lake 80.98 46 *e*P **P** 19 42 13.8 -0.2
LPIG La Paz 81.03 60 P **P** 19 42 15.5 +1.1
comp=Z,171nm,0.8s,baz=234,slow=0.4,SNR=34
LPIG pP **pP** 19 44 29.7 +4.2
comp=Z,17nm,0.3s,baz=180,slow=3.0,SNR=1.3
LPIG S **S** 19 51 39.8 +6.3
comp=Z,22nm,0.3s,baz=158,slow=5.4,SNR=3.0
SRIG Santa Rosalia 81.06 56 *e*P **P** 19 42 15.8 +1.3
KRMB Red Mountain 81.08 39 *e*P **P** 19 42 15.4 +1.0
CMB Columbia Colle 81.10 43 *e*P **P** 19 42 14.1 -0.5
CMB Columbia Colle 81.10 43 *e*P **P** 19 42 14.1 -0.5
PFO Pinyon Flats O 81.22 49 P **P** 19 42 16.4 +1.0
comp=Z,104nm,0.7s,baz=242,slow=3.9,SNR=132
PFO pP **pP** 19 44 32.8 +6.1
comp=Z,52nm,1.1s,baz=235,slow=5.9,SNR=3.2
PFO S **S** 19 51 42.4 +6.9
comp=Z,4.6nm,0.9s,baz=94,slow=19,SNR=8.1
PFO PKKPbc **PKKPbc** 20 00 47.0 +0.8
comp=Z,11nm,0.9s,baz=43,slow=0.4,SNR=5.3
PFO PKPPKP **P'P'df** 20 08 47.5 -1.7
comp=Z,3.8nm,0.8s,baz=180,slow=2.0,SNR=3.4
PFO Pinyon Flats O 81.22 49 P **P** 19 42 16.2 +0.9
baz=237,SNR=127
PFO Pinyon Flats O 81.22 49 *e*P **P** 19 42 15.5 +0.1
PFO pP **pP** 19 44 32.8 +6.1
PFO S **S** 19 51 42.4 +6.9
PFO PKKPbc **PKKPbc** 20 00 47.0 +0.8
PFO P'P' 20 08 47.5
TPFO Pinon Flats 81.22 49 P **P** 19 42 16.4 +1.0
baz=237,SNR=148
BBRC Big Bear Solar 81.25 48 P **P** 19 42 16.4 +0.7
baz=237,SNR=14
AFDM Forest Hills D 81.27 42 *e*P **P** 19 42 15.4 0.0
WDC Whiskeytown Da 81.30 40 *e*P **P** 19 42 15.9 +0.5
WDC Whiskeytown Da 81.30 40 *e*P **P** 19 42 15.9 +0.5
ORV Oroville 81.31 41 *e*P **P** 19 42 15.4 -0.1
ORV Oroville 81.31 41 *e*P **P** 19 42 15.4 -0.1
SWSC Sam W. Stewart 81.32 50 P **P** 19 42 16.9 +1.1
baz=237,SNR=115
KBO Bosley Butte 81.33 38 *e*P **P** 19 42 17.2 +1.5
LRMC Laurel Mtn Rad 81.41 47 P **P** 19 42 16.9 +0.6
baz=236,SNR=385
N02D Trinity Center 81.45 40 P **P** 19 42 18.2 +1.9
baz=232
OHAK Old Harbor 81.50 14 *e*P **P** 19 42 15.8 -0.2
OHAK *e*S **S** 19 51 38.5 +1.7
RRX Edison Barstow 81.54 47 P **P** 19 42 17.9 +1.0
baz=236
M02C Callahan 81.62 39 P **P** 19 42 18.5 +1.4
baz=232,SNR=851
L02D Cave Junction, 81.66 38 P **P** 19 42 18.7 +1.5
baz=231,SNR=165
CWC Cottonwood Cre 81.68 46 P **P** 19 42 18.8 +1.0
baz=236
DL2 Dalian 81.69 317 ⇓ *i* P **P** 19 42 16.4 -1.0
DL2 PP **PP** 19 45 36.5 -0.3
DL2 S **S** 19 51 36.5 -3.0
DL2 pmax pmax
comp=Z,860nm,1.1s
DL2 pmax pmax
comp=Z,28µm,7.1s
SISI Saibi 81.69 272 P **P** 19 42 18.8 +0.7
comp=Z,1µm,1.5s,comp=Z,41µmcomp=Z,125µm
KEBM Edson Butte 81.69 37 *e*P **P** 19 42 19.2 +1.7
BELC Belle Mtn. Jos 81.75 49 P **P** 19 42 19.2 +1.1
baz=237,SNR=606
MLAC Mammoth, Mammo 81.86 44 P **P** 19 42 20.1 +1.4
baz=235,SNR=103
MPMC Manual Prospec 81.86 46 P **P** 19 42 19.9 +1.2
baz=236,SNR=326
GSC Goldstone, Bar 81.91 47 P **P** 19 42 19.9 +1.2
baz=236,SNR=265
GSC Goldstone, Bar 81.91 47 *e*P **P** 19 42 18.4 -0.4
GSC Goldstone, Bar 81.91 47 *e*P **P** 19 42 18.4 -0.4
YBH Yreka Blue Hor 81.91 39 *e*P **P** 19 42 19.1 +0.5
YBH Yreka Blue Hor 81.91 39 *e*P **P** 19 42 19.1 +0.5
DAC Darwin (Calif) 81.92 46 *e*P **P** 19 42 18.5 -0.5
DAC Darwin (Calif) 81.92 46 *e*P **P** 19 42 18.4 -0.5
TIN Tinemaha, Big 81.93 45 P **P** 19 42 20.1 +1.2
baz=235,SNR=101
BC3 Big Chuckawall 81.95 49 P **P** 19 42 20.4 +1.3
baz=238,SNR=397
HEC Hector,Ludlow 81.97 48 P **P** 19 42 20.2 +1.1
baz=237,SNR=479
WAKR Walker 81.98 43 *e*P **P** 19 42 19.2 0.0
IPM Ipoh 82.05 278 *e*P **P** 19 42 18.8 -1.1
IPM *e*S **S** 19 51 43.5 -0.8
GLA Glamis 82.07 50 P **P** 19 42 21.3 +1.7
baz=238
GLA Glamis 82.07 50 *e*P **P** 19 42 20.3 +0.7
GLA Glamis 82.07 50 *e*P **P** 19 42 20.3 +0.7
WHN Wuhan 82.10 307 ⇓ P **P** 19 42 20.5 +0.8
WHN pP **pP** 19 44 30.9 -0.5
WHN sP **sP** 19 45 35.8 +1.3
WHN S **S** 19 51 44.1 +0.1
NKL Nikolayevsk 82.11 337 *i* P **P** 19 42 20.0 +0.8
NKL *e*S **pP** 19 44 32.0 +1.1
NKL pmax pmax
comp=N,330nm,2.0s
NKL pmax pmax
comp=Z,10µm,2.0s
NKL pmax pmax
comp=N,4µm,6.0s
NKL pmax pmax
comp=E,4µm,6.0s
NKL pmax pmax
comp=Z,18µm,6.0s
KDAK Kodiak Island 82.17 14 *ce*P **P** 19 42 19.2 -0.1
KDAK Kodiak Island 82.17 14 *e*P **P** 19 42 19.3 -0.1
KDAK *e*S **S** 19 51 44.0 +0.5
PNTR Pine Nut 82.22 43 *e*P **P** 19 42 20.4 0.0
SNY Shenyang 82.26 321 ⇓ P **P** 19 42 20.3 +0.1
SNY pP **pP** 19 44 27.3 -4.7
SNY sP sP 19 45 23.8 -11
SNY PP **PP** 19 45 40.4 -0.9
SNY S **S** 19 51 40.8 -4.3
TVH3 East Aurora ar 82.29 44 *e*P **P** 19 42 21.0 +0.2
HUMO Hull Mountain 82.31 38 *e*P **P** 19 42 20.9 +0.4
TVH2 Borealis Mine 82.34 44 *e*P **P** 19 42 21.9 +0.8
TVH1 TV Hill, Hawth 82.38 44 *e*P **P** 19 42 21.6 +0.1
YERR Yerington 82.39 43 *e*P **P** 19 42 21.0 -0.3
GMRC Granite Mounta 82.41 48 P **P** 19 42 22.8 +1.4
baz=237,SNR=353
CN2 Changchun 82.42 323 ⇓ P **P** 19 42 21.0 0.0
CN2 *ep*P pP 19 44 29.3 -3.5
CN2 *e*S **S** 19 51 48.9 +2.3
CN2 SS **SS** 19 57 33.3 +5.5
IRM Iron Mountain 82.43 49 P **P** 19 42 22.6 +1.2
baz=238,SNR=279
M04C Macdoel 82.46 40 P **P** 19 42 22.9 +1.4
baz=232,SNR=273
GRAC Grapevine Rang 82.47 45 P **P** 19 42 23.1 +1.6
baz=236,SNR=130
FURC Furnace Creek, 82.51 46 P **P** 19 42 22.6 +1.0
baz=236,SNR=212
TUQ Turquoise Moun 82.58 47 P **P** 19 42 23.3 +1.1
baz=237,SNR=364
SHOC Shoshone, Teco 82.59 47 P **P** 19 42 23.1 +0.9
baz=237,SNR=162
Y12C Blythe 82.66 49 P **P** 19 42 23.8 +1.4
baz=238,SNR=189
Y12C Blythe 82.66 49 *e*P **P** 19 42 22.5 0.0
113A Mohawk Valley, 82.68 51 *e*P **P** 19 42 22.5 -0.1
KULM Kulim 82.70 279 *e*P **P** 19 42 22.7 -0.4
I03D Drain, OR 82.77 37 P **P** 19 42 24.1 +1.3
baz=231,SNR=378
HSIG 82.89 55 *e*P **P** 19 42 23.6 -0.2
PBSI Pulau Batu 82.91 273 P **P** 19 42 25.5 +1.3
comp=Z,1µm,1.5s,comp=Z,40µmcomp=Z,114µm
LDFC Landfair 82.95 48 *e*P **P** 19 42 24.3 +0.2
214A Organ Pipe Nat 82.96 52 P **P** 19 42 25.8 +1.7
baz=239
214A Organ Pipe Nat 82.96 52 *e*P **P** 19 42 24.3 +0.3
comp=Z,9µm,1.5s
K04D Chiloquin, OR 83.02 39 P **P** 19 42 25.9 +1.6
baz=232,SNR=85
TIA Tai'an 83.11 313 ⇓ P **P** 19 42 24.1 -0.6
TIA pP **pP** 19 44 36.8 0.0
TIA SKS **S** 19 51 48.4 -5.4
TIA pmax pmax
comp=Z,2µm,1.4s
NEE2 Needles Airpor 83.13 49 P **P** 19 42 26.1 +1.3
baz=238,SNR=53
MPOR Mary's Peak 83.17 37 P **P** 19 42 26.5 +1.6
TPNV Topopah Spring 83.19 46 P **P** 19 42 26.2 +1.0
baz=237,SNR=363
TPNV Topopah Spring 83.19 46 *e*P **P** 19 42 24.9 -0.4
TPNV Topopah Spring 83.19 46 *e*P **P** 19 42 24.9 -0.4
J04D Umpqua Nationa 83.19 38 P **P** 19 42 26.8 +1.6
baz=232,SNR=404
PDMCI Parker Dam,Lak 83.22 49 P **P** 19 42 26.7 +1.4
baz=238,SNR=246
GO10 Punta Arenas 83.32 145 *e*P **P** 19 42 27.4 +1.8
COR Corvallis 83.36 37 *e*P **P** 19 42 27.1 +1.4
COR Corvallis 83.36 37 *e*P **P** 19 42 27.1 +1.4
I04A Tendick Farm, 83.36 38 P **P** 19 42 27.0 +1.2
baz=232,SNR=598
PSI Prapat 83.36 276 P **P** 19 42 25.6 -1.0
comp=Z,918nm,0.9s,baz=178,slow=2.8,SNR=8.7
PSI pP **pP** 19 44 38.2 -0.5
comp=Z,147nm,1.0s,baz=90,slow=5.4,SNR=4.0
PSI PP **PP** 19 45 52.2 +1.5
comp=Z,335nm,1.1s,baz=132,slow=4.6,SNR=4.9
PSI S **S** 19 51 49.6 -7.9
comp=Z,5.0nm,0.4s,baz=342,slow=21,SNR=9.0
PSI Prapat 83.36 276 *e*P **P** 19 42 24.6 -2.0
PSI pP **pP** 19 44 38.2 -0.5
PSI PP **PP** 19 45 52.2 +1.5
PSI S **S** 19 51 49.6 -7.9
MOD Modoc Plateau 83.44 40 *e*P **P** 19 42 26.5 +0.1
SKLT Songkhla 83.45 280 P **P** 19 42 27.0 +0.2
comp=Z,3µm,1.2s,comp=Z,35µm
GO09 Cerro Castillo 83.46 143 *e*P **P** 19 42 27.4 +1.2
K05A Summer Lake 83.59 39 *e*P **P** 19 42 27.4 +0.2
SHPR Sheep Range 83.68 47 *e*P **P** 19 42 27.9 +0.2
J05D Fort Rock, OR 83.73 39 P **P** 19 42 29.6 +1.8
baz=233,SNR=689
G03D McMinnville, O 83.77 36 P **P** 19 42 29.3 +1.7
baz=231,SNR=59
W13A Hualapai Mount 83.81 49 *e*P **P** 19 42 28.3 -0.2
Y14A Wickenburg 83.83 50 *e*P **P** 19 42 28.2 -0.2
USHA Ushuaia 83.89 147 P **P** 19 42 29.2 +1.0
comp=Z,2µm,0.8s,baz=232,slow=4.8,SNR=82
USHA pP **pP** 19 44 43.1 +2.6
comp=Z,450nm,1.0s,baz=266,slow=9.2,SNR=2.6
USHA PP **PP** 19 45 53.5 +0.2
comp=Z,284nm,1.0s,baz=192,slow=11,SNR=3.6
USHA S **S** 19 51 53.1 -7.7
comp=Z,46nm,0.9s,baz=56,slow=22,SNR=6.5
USHA PKKPbc **PKKPbc** 20 00 38.5 -1.9
comp=Z,137nm,0.9s,baz=3.2,slow=5.5,SNR=5.1
USHA PKPPKP **P'P'df** 20 08 38.0 -7.1
comp=Z,64nm,0.9s,baz=105,slow=5.4,SNR=3.9
CNPM China Poot 84.05 14 *e*P **P** 19 42 28.8 0.0
CNPM *e*S **S** 19 52 03.7 +1.8
HOM Homer 84.08 14 *e*P **P** 19 42 29.6 +0.8
I05D Terrebonne, OR 84.31 38 P **P** 19 42 31.9 +1.5
baz=232,SNR=68
BRLK Bradley Lake 84.34 14 *e*P **P** 19 42 29.7 -0.4
R11A Troy Canyon, C 84.39 45 P **P** 19 42 32.1 +0.9
baz=237,SNR=204
R11A Troy Canyon, C 84.39 45 *e*P **P** 19 42 30.3 -0.9
E03A Lebam 84.45 35 *e*P **P** 19 42 32.0 +1.1
F04D Rainier, OR 84.46 36 P **P** 19 42 33.1 +2.0
baz=231,SNR=44
BMN Battle Mountai 84.49 43 *e*P **P** 19 42 32.5 +1.0
BMN Battle Mountai 84.49 43 *e*P **P** 19 42 32.5 +1.0
MA2 Magadan 84.51 345 P **P** 19 42 30.3 -0.7
comp=Z,884nm,1.0s,baz=142,slow=5.2,SNR=181
MA2 PKKPbc **PKKPbc** 20 00 38.1 -1.5
comp=Z,17nm,0.9s,baz=165,slow=2.7,SNR=4.4
MA2 Magadan 84.51 345 *d* iP **P** 19 42 30.2 -0.8
ON2 Olympics--Nort 84.55 35 P **P** 19 42 33.4 +1.9
RSO Redoubt South 84.57 13 *e*P **P** 19 42 31.1 -0.4
SVW2 Sparrevohn 84.60 11 *e*P **P** 19 42 30.2 -1.2
TUC Tucson 84.62 52 P **P** 19 42 33.9 +1.6
baz=240
TUC Tucson 84.62 52 *e*P **P** 19 42 32.7 +0.4

TUC Tucson 84.62 52 eP P 19 42 32.7 +0.4
TDH Tom, Dick, Har 84.64 37 P P 19 42 33.1 +1.0
F04A Amboy 84.69 36 eP P 19 42 33.3 +1.2
WVOR Wild Horse Val 84.76 40 eP P 19 42 33.1 +0.3
WVOR Wild Horse Val 84.76 40 eP P 19 42 33.1 +0.3
LVP Lakeview Peak 84.78 36 P P 19 42 34.0 +1.3
DIB Dawson Inlet, 84.80 26 eP P 19 42 33.7 +1.2
H02S1 DAWSON INLET T 84.80 26 P P 19 42 33.8 +1.4
H02N1 VAN INLET T-PH 84.81 26 P P 19 42 34.2 +1.6
C03A Quillayute Air 84.83 33 eP P 19 42 35.4 +2.6
NLWA Neilton Lookou 84.83 34 eP P 19 42 33.3 +0.5
VFP Flag Point 84.83 37 P P 19 42 34.1 +1.0
SRAK Srakaew 84.84 287 P P 19 42 31.9 -1.7
comp=Z,3µm,1.5s,comp=Z,30µm
G05D Wamic, OR 84.87 37 P P 19 42 34.4 +1.3
baz=232,SNR=82
SEW Seward 84.97 15 eP P 19 42 33.2 +0.1
OCP Olym-Cheeka Pk 85.02 33 P P 19 42 35.3 +1.6
CHRN Cochrane 85.11 139 eP P 19 42 36.2 +1.8
GULW Guler Mountain 85.13 36 P P 19 42 35.9 +1.4
TPTI 85.15 275 P P 19 42 34.7 -0.4
comp=Z,2µm,0.9s,comp=Z,30µm
MID Middleton Isla 85.15 16 eP P 19 42 34.7 +0.7
MID Middleton Isla 85.15 16 eP P 19 42 34.6 +0.7
X16A Lo Mia Camp, P 85.19 50 eP P 19 42 35.3 +0.1
G06A Carlson Farm, 85.25 37 eP P 19 42 35.5 +0.6
LCMT Little Creek M 85.25 47 eP P 19 42 35.6 +0.3
VTHM Trough 85.26 37 P P 19 42 36.2 +1.2
319A Douglas 85.29 54 eP P 19 42 36.0 +0.4
GAMB Gambell 85.30 3 eP P 19 42 35.6 +1.1
SPU Mount Spurr 85.37 13 eP P 19 42 33.3 -1.8
CCUT Cedar City 85.45 47 eP P 19 42 35.7 -0.7
PATY Pattaya 85.46 286 P P 19 42 38.1 +1.6
comp=Z,518nm,1.0s,comp=Z,5µm
GNW Green Mountain 85.49 35 P P 19 42 37.2 +1.3
C04A Brinnon 85.51 34 P P 19 42 37.6 +1.6
LON Longmire 85.52 36 P P 19 42 37.1 +0.9
LON Longmire 85.52 36 P P 19 42 37.1 +0.9
KNB Kanab 85.55 47 eP P 19 42 37.1 +0.4
KNB Kanab 85.55 47 eP P 19 42 37.1 +0.4
ENH Enshi 85.64 305 eP P 19 42 36.7 -0.4
PSUT Pine Spring 85.64 46 eP P 19 42 38.7 +1.5
CHAI Chaiyaphum 85.64 289 P P 19 42 37.4 0.0
comp=Z,356nm,0.8s,comp=Z,3µm
SZCU Shurtz Canyon 85.66 47 eP P 19 42 38.1 +0.8
D05A Enumclaw 85.70 35 eP P 19 42 38.2 +1.2
RC01 Rabbit Creek A 85.78 14 eP P 19 42 36.5 -0.5
WUAZ Wupatki 85.79 49 P P 19 42 39.4 +1.5
baz=240
WUAZ Wupatki 85.79 49 eP P 19 42 36.1 -1.8
BJT Baijiatuau 85.80 316 eP P 19 42 37.3 -0.3
BJT Baijiatuau 85.80 316 eP P 19 42 37.3 -0.3
BJI Beijing 85.81 316 P P 19 42 38.1 +0.5
BJI pP pP 19 44 49.9 -1.0
BJI PP PP 19 46 07.3 -2.4
BJI SS SS 19 58 17.8 +0.7
BJI pmax pmax
comp=Z,710nm,1.3s
PGC Sidney 85.85 33 eP P 19 42 38.7 +1.1
SUA Susitna One 85.90 13 eP P 19 42 36.4 -1.3
BBB Bella Bella 85.95 29 P P 19 42 39.4 +1.4
comp=Z,410nm,0.9s,baz=268,slow=5.9
BBB S S 19 52 11.3 -8.9
comp=Z,14nm,1.1s,baz=319,slow=20,SNR=2.0
HPIG 86.05 59 eP P 19 42 40.3 +0.9
LHMI Lhok Sumawe 86.09 277 P P 19 42 40.7 +1.1
comp=Z,3µm,1.1s,comp=Z,50µmcomp=Z,122µm
LHMI Lhok Sumawe 86.09 277 eP P 19 42 40.0 +0.4
PKCU Pink Cliffs 86.11 47 eP P 19 42 41.8 +2.2
GYA Guiyang 86.12 300 ⇓iP P 19 42 40.3 +0.7
GYA pP pP 19 44 58.3 +5.2
GYA sP sP 19 45 54.8 -1.0
GYA PP PP 19 46 16.3 +3.6
GYA SKS SKSac 19 52 07.3 +0.3
GYA S S 19 52 22.1 -1.3
GYA sS sS 19 56 18.0 -3.0
GYA SS SS 19 58 24.6 +2.2
GYA pmax pmax
comp=Z,910nm,1.2s
SLVN Son La 86.20 295 eP P 19 42 40.3 +0.3
TT01 Tatalina 86.21 10 eP P 19 42 38.0 -1.0
CRAG Craig 86.21 20 eP P 19 42 39.9 +0.8
TTA Tatalina 86.23 10 eP P 19 42 38.0 -1.2
TTA Tatalina 86.23 10 eP P 19 42 38.0 -1.2
FID Port Fidalgo 86.26 15 eP P 19 42 39.2 0.0
EYAK Cordova Ski Ar 86.27 16 eP P 19 42 39.4 +0.1
EYAK eS S 19 52 26.9 +4.0
A04D Lummi Island 86.28 34 P P 19 42 41.0 +1.4
baz=231,SNR=89
B05A Bryant 86.31 34 P P 19 42 41.3 +1.5
baz=232,SNR=177
X18A Snowflake 86.32 51 eP P 19 42 40.9 +0.4
PAF Port-aux-Franc 86.33 218 eP P 19 42 44.0 +4.0
PAF e*PP pP 19 44 53.6 +0.1
PAF pmax pmax
comp=Z,867nm,0.9s
PAF Port-aux-Franc 86.33 218 eP P 19 42 44.0 +4.0
comp=Z,867nm,0.9s
PAF epP pP 19 44 53.6 +0.1
PMR Palmer 86.37 14 eP P 19 42 38.0 -1.8
PMR Palmer 86.37 14 eP P 19 42 38.0 -1.8
RAGM Ragged Mountai 86.41 16 eP P 19 42 40.7 +0.7
LTY Liberty 86.45 36 eP P 19 42 41.1 +0.5
MTPU Mount Pierson 86.51 47 eP P 19 42 43.3 +1.8
HAWA Hanford 86.56 37 eP P 19 42 41.3 +0.2
PHET Kaeng Krachan 86.56 285 P P 19 42 42.8 +1.1
comp=Z,982nm,1.1s,comp=Z,8µm
MOIG Morelia 86.68 67 eP P 19 42 43.5 +0.9
WIW Wooded Island 86.72 37 P P 19 42 43.5 +1.8
RPW Rockport 86.73 34 P P 19 42 42.3 +0.5
C06D Leavenworth 86.73 35 P P 19 42 42.9 +1.1
baz=233,SNR=56
SML Sawmill 86.74 14 eP P 19 42 40.2 -1.4
SML Sawmill 86.74 14 eP P 19 42 40.2 -1.4
W18A Petrified Fore 86.76 50 P P 19 42 43.7 +1.2
baz=241,SNR=75
W18A Petrified Fore 86.76 50 eP P 19 42 43.1 +0.5
DIV Divide 86.76 16 eP P 19 42 40.3 -1.4
ZAIG Zacatecas 86.79 64 eP P 19 42 43.5 +0.4
PPLA Purkeypile 86.90 12 eP P 19 42 41.0 -1.4
BMRM Bremner River 86.92 16 eP P 19 42 41.0 -1.5
BMO Blue Mountains 86.94 39 eP P 19 42 42.8 -0.2
BMO Blue Mountains 86.94 39 eP P 19 42 42.8 -0.2
SNAA Sanae 86.95 179 P P 19 42 42.0 -0.7
comp=Z,147nm,0.5s,baz=208,slow=5.0,SNR=640
SNAA pP pP 19 44 58.4 +2.1
comp=Z,94nm,0.9s,baz=27,slow=2.3,SNR=2.3
SNAA S SKSac 19 52 09.7 -0.7
comp=Z,66nm,0.9s,baz=188,slow=21,SNR=14
SNAA PKKPbc PKKPbc 20 00 30.7 -3.3
comp=Z,21nm,0.6s,baz=343,slow=4.7,SNR=18
SNAA Sanae 86.95 179c iP P 19 42 42.0 -0.7
SNAA Sanae 86.95 179 eP P 19 42 40.8 -1.9
SNAA pP pP 19 44 58.4 +2.1
SNAA S SKSac 19 52 09.7 -0.7
SNAA PKKPbc PKKPbc 20 00 30.7 -3.3
121A Cookes Peak, D 86.95 53 P P 19 42 44.3 +0.8
baz=242
121A Cookes Peak, D 86.95 53 eP P 19 42 45.1 +1.6
comp=Z,571nm,1.3s
SCM Sheep Creek Mo 86.99 15 eP P 19 42 41.6 -1.2
SCM Sheep Creek Mo 86.99 15 eP P 19 42 41.6 -1.2
MFID Camas Ranch 87.02 41 eP P 19 42 43.2 -0.2
comp=Z,2µm,1.0s
KLU Klutina 87.04 15 eP P 19 42 41.7 -1.3
TIY Taiyuan 87.09 312 eP P 19 42 44.6 +0.7
TIY pP pP 19 44 56.0 -1.7
TIY SKS SKSac 19 52 12.3 +0.1
TIY S S 19 52 34.4 +2.5
TIY pmax pmax
comp=Z,2µm,1.4s
TIY pmax pmax
comp=Z,8µm,4.0s
YKU2 Yakutat 87.10 19 eP P 19 42 44.6 +1.4
CRQM Cirque 87.13 17 eP P 19 42 41.2 -2.4
SEY Seymchan 87.16 347 P P 19 42 43.5 +0.1
comp=Z,1µm,1.0s,baz=149,slow=5.1,SNR=660
SEY pP pP 19 44 59.8 +2.4
comp=Z,250nm,1.2s,baz=117,slow=6.8,SNR=2.6
SEY PKKPbc PKKPbc 20 00 32.0 -1.4
comp=Z,16nm,0.9s,baz=115,slow=1.9,SNR=6.2
SEY Seymchan 87.16 347 ceP P 19 42 43.4 0.0

DUG Dugway, Tooele 87.20 45 P P 19 42 45.2 +0.8
baz=239
DUG Dugway, Tooele 87.20 45 eP P 19 42 45.0 +0.6
DUG Dugway, Tooele 87.20 45 eP P 19 42 45.0 +0.6
DHAK Deception Hill 87.21 20 eP P 19 42 45.1 +1.2
D08A Wollman Farm, 87.29 37 eP P 19 42 44.6 +0.1
CAST Castle Rocks 87.39 12 eP P 19 42 41.9 -2.7
E09A Wood Farm, Sta 87.41 37 P P 19 42 46.0 +1.0
SAW Saint Andrews 87.41 36 P P 19 42 45.6 +0.6
BGU Big Grassy Mou 87.43 44 eP P 19 42 46.4 +0.9
NLU North Lily Min 87.56 45 eP P 19 42 47.2 +1.0
NVL N'lazarevskaya 87.56 184 ⇑iP P 19 42 46.5 +1.1
NVL e*PP pP 19 44 58.0 -1.3
NVL e*SP sP 19 46 00.2 -1.9
NVL eS SKSac 19 52 13.2 -0.7
NVL smax smax
comp=N,22µm,14.0s
F10A Beach Ranch, E 87.62 38 eP P 19 42 45.8 -0.3
UTTA Uttaradit 87.63 290 P P 19 42 47.7 +1.0
comp=N,371nm,1.2s,comp=N,3µm
KTH Kantishna Hill 87.74 12 eP P 19 42 44.1 -2.2
UTHA Uthaitani 87.75 288 P P 19 42 48.6 +1.3
comp=N,430nm,1.3s
TRF Thorofare Moun 87.78 13 eP P 19 42 44.5 -2.1
TMUT Trail Mountain 87.80 46 eP P 19 42 48.5 +1.1
XAN Xi'an 87.82 308 P P 19 42 47.1 -0.2
XAN pmax pmax
comp=N,1µm,1.1s
B08A Colville Reser 87.83 35 eP P 19 42 46.3 -0.7
LLLB Lillooet 87.87 33 eP P 19 42 47.6 +0.4
NANT Nan 87.92 291 P P 19 42 48.8 +0.7
comp=N,364nm,1.2s,comp=N,3µm
HLID Hailey 87.96 41 P P 19 42 49.4 +1.5
baz=238
HLID Hailey 87.96 41 eP P 19 42 48.0 +0.1
SPUT South Promonto 88.01 44 eP P 19 42 49.2 +1.0
HARP HAARP 88.01 15 eP P 19 42 47.4 -0.1
RND Reindeer 88.03 13 eP P 19 42 45.7 -1.9
RND Reindeer 88.03 13 eP P 19 42 45.7 -1.9
HVU Hansel Valley 88.04 43 eP P 19 42 48.9 +0.5
HVU Hansel Valley 88.04 43 eP P 19 42 48.9 +0.5
DHY Denali Highway 88.07 14 eP P 19 42 46.3 -1.7
TLIG Tlapa 88.12 70 eP P 19 42 50.8 +1.7
SRU San Rafael Swe 88.17 47 eP P 19 42 50.0 +1.0
SRU San Rafael Swe 88.17 47 eP P 19 42 50.0 +1.0
UNM Universidad Na 88.28 69 eP P 19 42 53.2 +3.1
UNM Universidad Na 88.28 69 eP P 19 42 53.2 +3.1
JLU Jordanelle 88.30 45 eP P 19 42 50.6 +1.0
MCK McKinley 88.31 13 eP P 19 42 47.9 -0.9
MCK McKinley 88.31 13 eP P 19 42 47.9 -0.9
Y22D IRIS PASSCAL I 88.31 52 P P 19 42 51.5 +1.8
baz=243
Y22D IRIS PASSCAL I 88.31 52 eP P 19 42 52.1 +2.3
SUKH Sukhothai 88.34 289 P P 19 42 50.5 +0.5
comp=N,428nm,1.1s,comp=N,3µm
MNTX Cornudas Mount 88.39 55 P P 19 42 51.4 +1.4
baz=243,SNR=708
MNTX Cornudas Mount 88.39 55 eP P 19 42 49.9 -0.1
PAX Paxson 88.42 15 eP P 19 42 49.4 -0.1
PAX Paxson 88.42 15 eP P 19 42 49.4 -0.1
UMPA Umpang Tak 88.52 288 P P 19 42 52.3 +1.4
comp=N,266nm,1.2s,comp=N,2µm
PV05 Paradox Valley 88.64 48 eP P 19 42 52.5 +1.2
MVCO Mesa Verde 88.64 49 P P 19 42 52.1 +0.8
baz=242,SNR=26
MVCO Mesa Verde 88.64 49 eP P 19 42 52.3 +0.9
TX31 Lajitas Ar. Si 88.68 58 eP P 19 42 51.0 -0.5
TXAR Lajitas Array 88.68 58 P P 19 42 53.1 +1.6
comp=N,185nm,0.7s,baz=219,slow=7.5,SNR=439
TXAR pP pP 19 45 09.6 +3.6
comp=N,74nm,1.0s,baz=225,slow=8.5,SNR=2.4
TXAR PKKPbc PKKPbc 20 00 30.3 +1.9
comp=N,37nm,0.8s,baz=142,slow=2.5,SNR=20
TXAR PKPPKP P'P'df 20 08 33.6 -2.4
comp=N,5.9nm,0.9s,baz=96,slow=2.8,SNR=7.3
HWUT Hardware Ranch 88.73 44 eP P 19 42 51.7 +0.1
LAMP Lampang 88.74 290 P P 19 42 53.1 +1.2
comp=N,851nm,1.0s,comp=N,6µm
KMI Kunming 88.75 298 ⇓P P 19 42 53.6 +1.5
KMI pP pP 19 45 10.8 +4.3
KMI PP PP 19 46 37.3 +3.8
KMI SKS SKSac 19 52 23.9 +1.1
KMI S S 19 52 51.8 +3.9
KMI sS sS 19 56 43.3 -4.3
KMI SS SS 19 59 05.8 +5.5
KMI pmax pmax
comp=N,800nm,1.2s
HYT Haines Junctio 88.80 19 eP P 19 42 51.5 +0.2
MENT Mentasta 88.81 15 eP P 19 42 50.1 -1.1
PV09 Paradox Valley 88.82 48 eP P 19 42 53.2 +1.1
PV10 Paradox Valley 88.82 48 eP P 19 42 53.0 +0.9
PAYG Puerto Ayora 88.86 90 eP P 19 42 55.3 +2.7
HIA Hailar 88.87 325 eP P 19 42 51.8 0.0
HIA Hailar 88.87 325 eP P 19 42 51.8 0.0
PV04 Paradox Valley 88.92 48 eP P 19 42 52.9 +0.4
NEW Newport 88.98 36 P P 19 42 53.0 +0.6
comp=N,102nm,0.7s,baz=234,slow=4.3,SNR=86
NEW Newport 88.98 36 P P 19 42 53.1 +0.8
baz=236,SNR=79
NEW Newport 88.98 36 P P 19 42 53.0 +0.6
NEW pmax pmax
comp=Z,102nm,0.7s
NEW Newport 88.98 36 eP P 19 42 51.8 -0.5
PV01 Paradox Valley 89.03 48 eP P 19 42 53.6 +0.5
ANMO Albuquerque 89.05 52 P P 19 42 53.7 +0.5
comp=Z,144nm,0.7s,baz=228,slow=4.4,SNR=253
ANMO pP pP 19 45 09.8 +2.1
comp=Z,50nm,1.1s,baz=217,slow=3.7,SNR=3.3
ANMO PKPPKP P'P'df 20 08 42.4 +7.3
comp=Z,14nm,1.1s,baz=142,slow=2.4,SNR=7.9
ANMO Albuquerque 89.05 52 P P 19 42 54.3 +1.1
baz=243
ANMO Albuquerque 89.05 52 ceP P 19 42 54.3 +1.1
ANMO pmax pmax
comp=Z,453nm,1.5s
WRH Wood River Hil 89.14 13 eP P 19 42 50.5 -2.1
WRH eS S 19 52 54.1 +4.9
HHC Hu-ho-hao-te 89.24 315 eP P 19 42 54.8 +1.0
HHC pP pP 19 45 08.0 -0.4
HHC sP sP 19 46 07.3 -3.4
HHC PP PP 19 46 43.0 +6.2
HHC SKS SKSac 19 52 26.0 +1.3
HHC S S 19 52 50.3 -1.1
HHC pmax pmax
comp=Z,810nm,1.1s
HHC pmax pmax
comp=Z,9µm,5.8s
CM01 Chiang Mai Arr 89.29 290 eP P 19 42 54.7 +0.3
CM01 eS S 19 52 54.9 +2.3
CMAR Chiang Mai Arr 89.32 290 P P 19 42 55.0 +0.5
comp=Z,1µm,0.9s,baz=124,slow=2.9,SNR=1016
CMAR pP pP 19 45 10.4 +1.3
comp=Z,34nm,1.0s,baz=123,slow=3.4,SNR=1.9
CMAR PP PP 19 46 36.2 -1.5
comp=Z,40nm,1.0s,baz=119,slow=4.6,SNR=3.8
CMAR PKKPbc PKKPbc 20 00 27.4 +1.1
comp=Z,17nm,0.6s,baz=280,slow=4.4,SNR=38
CMAR SKKP 20 02 57.8
comp=Z,7.1nm,1.0s,baz=285,slow=3.8,SNR=4.4
CMAR SKKPbc SKKPbc 20 03 07.4 +0.7
comp=Z,22nm,0.9s,baz=289,slow=4.3,SNR=12
CMAR PKPPKP P'P'df 20 08 24.2 -11
comp=Z,3.5nm,0.8s,baz=279,slow=3.9,SNR=5.4
CM31 Chiang Mai Arr 89.32 290 eP P 19 42 55.5 +0.9
DOT Dot Lake 89.33 15 eP P 19 42 52.2 -1.4
CCB Clear Creek Bu 89.35 13 eP P 19 42 51.2 -2.4
CCB eS S 19 52 53.8 +2.7
PLCA Paso Flores 89.41 134 P P 19 42 55.4 +0.6
comp=Z,439nm,0.8s,baz=251,slow=5.0,SNR=191
PLCA pP pP 19 45 10.1 +0.8
comp=Z,140nm,1.4s,baz=241,slow=4.8,SNR=1.6
PLCA PKKPbc PKKPbc 20 00 26.4 -0.5
comp=Z,16nm,0.7s,baz=44,slow=1.7,SNR=10
PLCA SKKPbc SKKPbc 20 03 07.6 +3.5
comp=Z,13nm,1.0s,baz=167,slow=1.3,SNR=3.4
PLCA PKPPKP P'P'df 20 08 14.9 -21
comp=Z,5.8nm,0.9s,baz=116,slow=5.3,SNR=2.9
CHTO Chiang Mai 89.46 290 P P 19 42 55.2 0.0
comp=Z,7µm,1.2s,comp=Z,108µm
CHTO Chiang Mai 89.46 290 eP P 19 42 55.4 +0.2
CHTO eS S 19 52 57.1 +3.0
CHTO Chiang Mai 89.46 290 eP P 19 42 55.4 +0.2
CHTO eS S 19 52 57.1 +3.0
CHTO Chiang Mai 89.46 290 P P 19 42 55.3 0.0

SNR=662
MDM Murphy Dome 89.54 13 eP P 19 42 52.3 -2.2
MDM eS S 19 52 53.1 +0.2
DLBC Dease Lake 89.54 24 P P 19 42 56.0 +1.3
comp=Z,178nm,0.8s,baz=215,slow=5.6,SNR=33
DLBC pP pP 19 45 13.1 +3.7
comp=Z,43nm,1.0s,baz=302,slow=9.5,SNR=1.0
DLBC PP PP 19 46 37.4 -1.4
comp=Z,41nm,0.8s,baz=253,slow=2.2,SNR=3.9
DLBC PKKPbc PKKPdf 20 00 24.9 +1.9
comp=Z,13nm,0.9s,baz=244,slow=1.6,SNR=4.8
DLBC PKPPKP P'P'df 20 08 36.6 +4.5
comp=Z,5.6nm,0.9s,baz=350,slow=1.0,SNR=4.3
COLA College 89.54 13 eP P 19 42 52.6 -1.8
COLA College 89.54 13 eP P 19 42 52.6 -1.8
CMBY CAMPBELL BAY 89.54 278 eP P 19 42 55.8 +0.1
CMBY IAMs_20 IAMs_20 20 25 03.6
comp=Z,11µm,22.0s
MCMT McKenzie Canyo 89.58 41 eP P 19 42 55.9 +0.3
IL1 Eielson Array 89.65 13 eP P 19 42 51.9 -3.1
IL1 eS S 19 52 54.8 +1.0
ILAR Eielson Array 89.65 13 P P 19 42 54.4 -0.6
comp=Z,239nm,0.9s,baz=218,slow=4.7,SNR=667
ILAR pP pP 19 45 13.9 +4.1
comp=Z,79nm,1.0s,baz=238,slow=5.2,SNR=3.0
ILAR PKiKP PKiKP 19 47 47.4 +0.1
comp=Z,16nm,0.6s,baz=325,slow=2.4,SNR=6.8
ILAR PKPPKP P'P'df 20 08 26.8 -4.6
comp=Z,4.0nm,0.8s,baz=334,slow=2.9,SNR=5.2
ILB Eielson Array 89.65 13 eP P 19 42 52.9 -2.2
ILB eS S 19 52 58.0 +4.1
MSO Missoula 89.99 39 P P 19 42 57.4 +0.2
baz=238,SNR=84
MSO Missoula 89.99 39 eP P 19 42 57.0 -0.2
BILL Bilibino 90.00 355 diP P 19 42 56.4 -0.1
BILL e*PP pP 19 45 09.4 -2.0
BILL i 19 46 37.5
BILL i 19 52 28.6
BILL i S S 19 53 00.4 +3.6
BILL eSS SS 19 59 15.6 -0.4
BILL eSSS SSS 20 02 58.2
BILL pmax pmax
comp=Z,1µm,1.1s
BILL pmax pmax
comp=Z,900nm,1.0s
DLMT Dillon 90.01 40 eP P 19 42 58.3 +1.0
BSMT Bassoo Peak 90.05 37 eP P 19 42 57.1 -0.5
S22A 4UR Ranch, Cre 90.06 49 P P 19 42 59.2 +1.2
baz=243,SNR=276
S22A 4UR Ranch, Cre 90.06 49 eP P 19 42 58.0 0.0
REDW Red Top Meadow 90.07 43 eP P 19 42 57.8 0.0
TPAW Teton Pass 90.07 43 eP P 19 42 58.4 +0.6
SNOW Snow King Moun 90.18 43 eP P 19 42 59.0 +0.7
O20A White River Ci 90.21 46 P P 19 42 59.3 +0.8
baz=242,SNR=131
O20A White River Ci 90.21 46 eP P 19 42 58.7 +0.2
LNIG Linares 90.25 63 eP P 19 42 57.4 -1.4
JTMT Jette 90.28 38 eP P 19 42 58.3 -0.2
IMW Indian Meadow 90.28 42 eP P 19 42 59.4 +0.6
SWMT Swartz Lake 90.32 38 eP P 19 42 58.3 -0.4
MOOW Moose Ponds 90.33 42 eP P 19 42 59.2 +0.2
LRM Limekiln Ridge 90.34 40 eP P 19 42 59.6 +0.6
CD2 Chengdu 90.34 303 ⇓iP P 19 43 00.1 +1.0
CD2 SKS SKSac 19 52 30.3 -1.0
CD2 S S 19 53 06.3 +4.7
CD2 SS SS 19 59 22.5 0.0
CD2 pmax pmax
comp=Z,450nm,1.0s
CD2 pmax pmax
comp=Z,22µm,8.5s
LOHW Long Hollow 90.35 43 eP P 19 43 00.0 +0.9
BLMT Blacktail Moun 90.38 37 eP P 19 42 58.9 -0.2
CHMT Chamberlain Mo 90.44 39 eP P 19 42 59.0 -0.4
QLMT Earthquake Lak 90.45 41 eP P 19 43 00.9 +1.4
SLMT Seeley Lake 90.47 38 eP P 19 42 59.2 -0.2
YBMT Yellow Bay 90.50 38 eP P 19 42 59.3 -0.3
YHB Horse Butte 90.56 41 eP P 19 43 01.5 +1.5
YPP Pitchstone Pla 90.56 42 eP P 19 43 01.6 +1.5
BW06 Boulder Array 90.60 44 P P 19 43 00.8 +0.5
baz=241,SNR=165
BW06 Boulder Array 90.60 44 eP P 19 42 59.6 -0.7
PD31 Pinedale Array 90.60 44 eP P 19 43 00.1 -0.2
PDAR Pinedale Array 90.60 44 P P 19 42 59.5 -0.7
comp=Z,112nm,0.8s,baz=195,slow=2.5,SNR=140
PDAR pP pP 19 45 22.8 +7.6
comp=Z,30nm,0.9s,baz=214,slow=4.0,SNR=3.7
PDAR PKKPbc PKKPbc 20 00 24.6 +0.2
comp=Z,18nm,0.8s,baz=74,slow=4.9,SNR=8.6
PDAR PKPPKP P'P'df 20 08 31.6 0.0
comp=Z,8.9nm,0.9s,baz=93,slow=3.2,SNR=7.0
SMCO Snowmass 90.62 48 eP P 19 43 00.5 -0.2
YFT Old Faithful 90.63 42 eP P 19 43 02.6 +2.3
YMR Madison River 90.66 42 eP P 19 43 02.0 +1.6
BOZ Bozeman (W) 90.70 41 P P 19 43 01.6 +1.0
baz=240,SNR=379
BOZ Bozeman (W) 90.72 41 eP P 19 43 01.0 +0.4
BOZ Bozeman (W) 90.72 41 eP P 19 43 01.0 +0.4
H17A Grant Village 90.76 42 P P 19 43 02.7 +1.7
baz=240,SNR=79
H17A Grant Village 90.76 42 eP P 19 43 03.0 +2.0
YHH Holmes Hill 90.79 41 eP P 19 43 02.6 +1.5
EFI East Falkland 90.83 148 ciP P 19 43 01.6 +0.7
EFI pmax pmax
comp=Z,854nm,0.8s
EFI East Falkland 90.83 148 eP P 19 43 01.3 +0.4
LVIG Laguna Verde 90.83 69 eP P 19 43 02.0 +0.5
DAWY Dawson 90.85 16 eP P 19 42 59.3 -1.3
YNR Norris Junctio 90.86 42 eP P 19 43 03.4 +2.0
LKWY Lake 90.95 42 eP P 19 43 04.9 +3.0
LKWY Lake 90.95 42 eP P 19 43 04.9 +3.0
EGAK Eagle 90.98 15 eP P 19 42 59.9 -1.3
SDCO Great Sand Dun 91.00 50 P P 19 43 02.7 +0.4
baz=243,SNR=476
SDCO Great Sand Dun 91.00 50 eP P 19 43 01.8 -0.5
CLNS Chul'man 91.03 333 iP P 19 43 02.0 +0.4
CLNS e 19 46 49.4
CLNS eS SKSac 19 52 40.7 +6.7
CLNS e 19 53 11.6
CLNS eSS SS 19 59 28.7 -2.6
CLNS eSSS SSS 20 03 21.9
CLNS pmax pmax
comp=Z,374nm,1.1s
CLNS pmax pmax
comp=N,166nm,1.3s
CLNS pmax pmax
comp=E,74nm,1.0s
CLNS pmax pmax
comp=E,60nm,1.3s
CLNS pmax pmax
comp=Z,81nm,1.4s
CLNS pmax pmax
comp=N,130nm,1.2s
CLNS smax smax
comp=N,4µm,11.5s
CLNS smax smax
comp=E,3µm,12.9s
GO05 HualaæØ 91.11 128 eP P 19 43 03.1 +0.4
HRY Holter Researc 91.17 39 eP P 19 43 03.4 +0.8
COLD Coldfoot 91.18 11 eP P 19 43 01.8 -0.3
CMIG Matias Romero 91.18 72 S SKSac 19 52 40.8 +4.3
comp=E,7.3nm,1.1s,baz=9.7,slow=22,SNR=13
CMIG PKKPbc PKKPbc 20 00 22.5 +0.8
comp=E,11nm,0.9s,baz=29,slow=5.0,SNR=4.5
CMIG PKPPKP P'P'df 20 08 27.9 -4.3
comp=E,3.3nm,0.8s,baz=103,slow=2.6,SNR=3.8
832A Faith Ranch, C 91.19 60 P P 19 43 03.7 +0.7
baz=246,SNR=115
WALA Waterton Lakes 91.19 37 eP P 19 43 03.0 +0.3
MSTX Muleshoe 91.35 54 P P 19 43 04.2 +0.4
baz=245,SNR=87
MSTX Muleshoe 91.35 54 eP P 19 43 03.2 -0.5
933A Laredo 91.49 61 P P 19 43 05.4 +1.1
baz=246,SNR=75
T25A Trinidad 91.51 51 P P 19 43 05.0 +0.4
baz=244,SNR=119
T25A Trinidad 91.51 51 eP P 19 43 04.8 +0.2
FYU Fort Yukon 91.55 13 eP P 19 43 03.1 -0.6
RWWY Rawlins 91.62 45 eP P 19 43 05.4 +0.4
833A Chaparral WMA, 91.67 60 P P 19 43 06.0 +0.8
baz=246,SNR=38
034A Hebbronville 91.75 62 P P 19 43 06.9 +1.3
baz=247,SNR=102
Q24A Divide 91.79 49 P P 19 43 06.6 +0.7
baz=244,SNR=83

Q24A	**Divide**	91.79	49	*e*P		P		19 43 06.5	+0.7
ISCO	**Idaho Springs**	91.84	48	P		P		19 43 06.8	+0.7
	baz=243,SNR=92								
ISCO	**Idaho Springs**	91.84	48	*e*P		P		19 43 06.8	+0.7
ISCO	**Idaho Springs**	91.84	48	*e*P		P		19 43 06.8	+0.7
733A	**Divot King Ran**	91.91	60	P		P		19 43 07.0	+0.7
	baz=246,SNR=27								
RLMT	**Red Lodge**	91.93	42	P		P		19 43 07.2	+1.0
	baz=241,SNR=74								
RLMT	**Red Lodge**	91.93	42	*e*P		P		19 43 07.1	+0.8
GCMT	**Greycliff**	92.01	41	*e*P		P		19 43 07.5	+0.9
035Z	**Hargill**	92.03	62	P		P		19 43 07.6	+0.8
	baz=247,SNR=12								
934A	**Benavides**	92.10	61	P		P		19 43 08.2	+1.1
	baz=247,SNR=45								
N23A	**Red Feather La**	92.11	47	P		P		19 43 08.1	+0.8
	baz=243,SNR=68								
N23A	**Red Feather La**	92.11	47	*e*P		P		19 43 08.1	+0.8
035A	**Encino**	92.18	62	P		P		19 43 09.2	+1.7
	baz=247,SNR=34								
JCT	**Junction City**	92.21	58	P		P		19 43 07.8	+0.1
	baz=246,SNR=86								
JCT	**Junction City**	92.21	58	*e*P		P		19 43 07.8	+0.1
JCT	**Junction City**	92.21	58	*e*P		P		19 43 07.8	+0.1
834A	**Tilden**	92.28	61	P		P		19 43 09.4	+1.4
	baz=247,SNR=32								
633A	**Saathoff Ranch**	92.30	59	P		P		19 43 09.0	+0.9
	baz=247,SNR=132								
LZH	**Lanzhou**	92.45	308	⇓P		P		19 43 09.8	+1.0
LZH				pP		pP		19 45 24.1	+0.2
LZH				sP		sP		19 46 25.3	-0.7
LZH				PP		PP		19 47 08.3	+6.3
LZH				SKS		SKSac		19 52 43.0	-0.1
LZH				S		S		19 53 27.1	+6.9
LZH				pmax		pmax			
	comp=E,710nm,1.0s								
LZH				pmax		pmax			
	comp=E,4μm,4.3s								
K22A	**Casper**	92.52	45	P		P		19 43 09.4	+0.4
	baz=243,SNR=47								
K22A	**Casper**	92.52	45	*e*P		P		19 43 09.4	+0.4
TOLK	**Toolik Lake Re**	92.55	10	P		P		19 43 08.4	0.0
	baz=208								
AMTX	**Amarillo**	92.56	54	P		P		19 43 09.2	0.0
	baz=246								
AMTX	**Amarillo**	92.56	54	*e*P		P		19 43 08.9	-0.3
734A	**La Parita Cree**	92.56	60	P		P		19 43 10.2	+0.9
	baz=247,SNR=19								
KVTX	**Kingsville**	92.59	62	*e*P		P		19 43 12.3	+2.9
PHWY	**Pilot Hill**	92.62	46	*e*P		P		19 43 09.8	+0.2
533A	**Kerrville**	92.66	59	P		P		19 43 10.4	+0.7
	baz=247,SNR=150								
DGPR	**DIGLIPUR**	92.71	283	*e*P		P		19 43 10.1	-0.2
DGPR				IAMs_20		IAMs_20		20 28 25.8	
	comp=Z,11μm,24.2s								
ROC1	**El Roble**	92.72	127	*e*P		P		19 43 10.3	-0.1
433A	**Art**	92.88	58	P		P		19 43 11.1	+0.4
	baz=247,SNR=295								
835A	**Beeville**	92.93	61	P		P		19 43 12.0	+1.1
	baz=247,SNR=23								
634A	**China Grove, S**	92.93	60	P		P		19 43 12.0	+1.0
	baz=247								
936A	**North Padre Is**	93.02	62	P		P		19 43 13.1	+1.7
	baz=247								
EGMT	**Eagleton**	93.04	39	P		P		19 43 12.0	+0.9
	baz=241								
534A	**Blanco**	93.08	59	P		P		19 43 12.3	+0.6
	baz=247,SNR=219								
735A	**Kenedy**	93.17	60	P		P		19 43 13.4	+1.3
	baz=247,SNR=14								
ABTX	**Abilene, Hawle**	93.19	56	P		P		19 43 12.4	+0.3
	baz=246,SNR=54								
ABTX	**Abilene, Hawle**	93.19	56	*e*P		P		19 43 12.4	+0.3
333A	**Richland Sprin**	93.19	58	P		P		19 43 12.3	+0.1
	baz=247,SNR=59								
CCIG	**Comitan**	93.33	74	*e*P		P		19 43 14.4	+1.1
635A	**Leesville**	93.40	60	P		P		19 43 13.9	+0.8
	baz=247,SNR=35								
233A	**Rising Star**	93.53	57	P		P		19 43 14.1	+0.4
	baz=247,SNR=42								
434A	**Burnet**	93.56	58	P		P		19 43 14.2	+0.4
	baz=247,SNR=114								
KSCO	**Kaye Shedlock'**	93.58	49	P		P		19 43 14.7	+0.8
	baz=245,SNR=34								
KSCO	**Kaye Shedlock'**	93.58	49	*e*P		P		19 43 14.7	+0.8
CIT	**Chita**	93.67	325	*e*P		P		19 43 13.5	-0.4
CIT				*e*				19 47 12.8	
CIT				*e*S		SKSac		19 52 48.6	0.0
CIT				pmax		pmax			
	comp=Z,455nm,1.4s								
EDM	**Edmonton**	93.70	33	*e*P		P		19 43 14.0	+0.1
EDM	**Edmonton**	93.70	33	*e*P		P		19 43 14.0	+0.1
334A	**Lometa**	93.78	58	P		P		19 43 15.1	+0.3
	baz=247,SNR=68								
736A	**Circle Diamond**	93.80	60	P		P		19 43 16.2	+1.3
	baz=248,SNR=18								
535A	**Dale**	93.81	59	P		P		19 43 15.6	+0.7
	baz=247,SNR=22								
636A	**Smothers Creek**	94.01	60	P		P		19 43 17.4	+1.5
	baz=248,SNR=25								
435B	**Jarrell**	94.08	59	P		P		19 43 16.6	+0.4
	baz=247,SNR=14								
234A	**Clairette**	94.12	57	P		P		19 43 16.7	+0.4
	baz=247,SNR=22								
536A	**Bastrop**	94.23	59	P		P		19 43 17.7	+0.8
	baz=248,SNR=19								
737A	**Port Lavaca**	94.24	61	P		P		19 43 18.8	+1.9
	baz=248								
335A	**Moody**	94.40	58	P		P		19 43 17.8	+0.2
	baz=248,SNR=21								
LAO	**LASA Array**	94.54	41	P		P		19 43 19.5	+1.5
	baz=243								
LAO	**LASA Array**	94.54	41	*e*P		P		19 43 19.6	+1.6
637A	**Eagle Lake**	94.58	60	P		P		19 43 19.9	+1.4
	baz=248,SNR=16								
WHTX	**Lake Whitney,**	94.65	58	P		P		19 43 18.9	+0.3
	baz=248,SNR=16								
WHTX	**Lake Whitney,**	94.65	58	*e*P		P		19 43 19.0	+0.3
WMOK	**Wichita Mounta**	94.68	55	P		P		19 43 18.5	-0.3
	baz=247,SNR=42								
WMOK	**Wichita Mounta**	94.68	55	*e*P		P		19 43 18.5	-0.3
WMOK	**Wichita Mounta**	94.68	55	*e*P		P		19 43 18.5	-0.3
436A	**Wall Ranch, Ga**	94.71	59	P		P		19 43 19.9	+0.9
	baz=248,SNR=17								
RSSD	**Black Hills**	94.80	44	P		P		19 43 19.8	+0.4
	baz=245								
RSSD	**Black Hills**	94.80	44	*e*P		P		19 43 19.3	-0.1
RSSD	**Black Hills**	94.80	44	*e*P		P		19 43 19.3	-0.1
OGNE	**Ogallala**	94.81	48	P		P		19 43 19.5	+0.2
	baz=246								
LCO	**Las Campanas**	94.81	124	*e*P		P		19 43 19.9	-0.1
537A	**Green Hill Far**	94.83	60	P		P		19 43 20.8	+1.3
	baz=248,SNR=15								
336A	**Riesel**	94.90	58	P		P		19 43 19.9	+0.1
	baz=248,SNR=15								
738A	**Farr-Stevens R**	94.91	61	P		P		19 43 21.7	+1.7
	baz=248								
U32A	**Winter Ranch,**	95.15	53	P		P		19 43 21.4	+0.4
	baz=247,SNR=16								
437A	**Phantom Ranch,**	95.25	59	P		P		19 43 22.5	+1.0
	baz=248,SNR=14								
638A	**Rosharon**	95.29	61	P		P		19 43 22.1	+0.5
	baz=248								
236A	**Katherine and**	95.38	58	P		P		19 43 22.4	+0.4
	baz=248,SNR=21								
ULN	**Ulaanbaatar**	95.38	320	*ce*P		P		19 43 21.5	-0.4
ULN				pmax		pmax			
	comp=Z,234nm,0.8s								
ULN	**Ulaanbaatar**	95.38	320	*e*P		P		19 43 19.8	-2.0
ULN	**Ulaanbaatar**	95.38	320	P		P		19 43 21.4	-0.4
	SNR=139								
538A	**Harpers Horsep**	95.55	60	P		P		19 43 24.3	+1.5
	baz=248								
136A	**Ennis**	95.56	57	P		P		19 43 23.3	+0.5
	baz=248								
CBKS	**Cedar Bluff**	95.56	51	P		P		19 43 23.2	+0.4
	baz=247								
CBKS	**Cedar Bluff**	95.56	51	*e*P		P		19 43 23.8	+1.1
CBKS	**Cedar Bluff**	95.56	51	*e*P		P		19 43 23.8	+1.1
337A	**Centerville**	95.64	59	P		P		19 43 24.2	+1.0
	baz=248,SNR=12								
INK	**Inuvik**	95.65	16	P		P		19 43 22.1	-0.2
	comp=Z,130nm,1.0s,baz=195,slow=6.4,SNR=94								
INK				pP		pP		19 45 39.9	+2.2
	comp=Z,42nm,1.2s,baz=189,slow=4.7,SNR=1.7								
INK				PP		PP		19 47 29.1	+3.7
	comp=Z,109nm,0.9s,baz=206,slow=4.4,SNR=5.7								
INK				PKiKP		PKiKP		19 47 58.0	+0.5
	comp=Z,11nm,0.5s,baz=272,slow=6.7,SNR=7.1								
INK				S		SKSac		19 52 57.9	-0.3
	comp=Z,25nm,1.2s,baz=334,slow=32,SNR=8.0								
INK				PKPPKP		P'P'df		20 08 20.2	+0.1
	comp=Z,11nm,1.0s,baz=69,slow=5.2,SNR=4.4								
Y35A	**Marietta**	95.70	56	P		P		19 43 23.8	+0.4
	baz=248,SNR=8.2								
438A	**Sam Houston St**	95.76	59	P		P		19 43 24.8	+1.1
	baz=248,SNR=17								
SONA1	**Songino Array**	95.77	319	*e*P		P		19 43 21.6	-2.0
SONM	**Songino Array**	95.77	319	P		P		19 43 22.8	-0.7
	comp=Z,104nm,1.0s,baz=126,slow=3.7,SNR=193								
SONM				pP		pP		19 45 41.2	+2.2
	comp=Z,33nm,1.1s,baz=152,slow=6.5,SNR=2.8								
SONM				PP		PP		19 47 24.2	-2.8
	comp=Z,125nm,1.2s,baz=117,slow=6.1,SNR=5.0								
SONM				PKiKP		PKiKP		19 47 59.2	+0.6
	comp=Z,38nm,1.1s,baz=83,slow=1.0,SNR=8.8								
SONM				S		SKSac		19 53 00.3	+0.3
	comp=Z,32nm,1.0s,baz=163,slow=5.7,SNR=9.3								
SONM				PKKPbc		PKKPbc		20 00 11.2	+0.1
	comp=Z,17nm,0.6s,baz=273,slow=2.9,SNR=12								
SONM				PKPPKP		P'P'df		20 08 25.0	+3.5
	comp=Z,7.1nm,1.0s,baz=298,slow=1.2,SNR=4.4								
Z36A	**Blue Ridge**	95.93	57	Pdiff		P		19 43 25.1	+0.6
	baz=248								
X35A	**Drake**	95.93	55	Pdiff		P		19 43 24.6	+0.1
	baz=248								
237A	**Washetta, Mont**	95.95	58	Pdiff		P		19 43 25.3	+0.8
	baz=248								
338A	**Crockett**	96.11	59	Pdiff		P		19 43 25.9	+0.6
	baz=249								
539A	**Cross D Ranch,**	96.13	60	Pdiff		P		19 43 26.9	+1.5
	baz=249								
137A	**Heron Place, G**	96.21	58	Pdiff		P		19 43 26.8	+1.0
	baz=248								
Y36A	**Durant**	96.28	56	Pdiff		P		19 43 26.6	+0.6
	baz=248								
W35A	**Tecumseh**	96.29	55	Pdiff		P		19 43 26.5	+0.5
	baz=248								
439A	**Center Grove,**	96.34	60	Pdiff		P		19 43 27.1	+0.8
	baz=249								
BOD	**Bodaibo**	96.42	330	*e*P		P		19 43 24.3	-1.7
BOD				pmax		pmax			
	comp=Z,128nm,1.4s								
X36A	**Centrahoma**	96.47	56	Pdiff		P		19 43 27.0	+0.2
	baz=248								
TRQA	**Tornquist**	96.48	135	*e*P		P		19 43 27.5	+0.5
238A	**Jacksonville**	96.50	58	Pdiff		P		19 43 28.1	+1.1
	baz=249								
Z37A	**Pogue Cattle C**	96.53	57	Pdiff		P		19 43 27.7	+0.5
	baz=249								
V35A	**Meyer Ranch, C**	96.54	54	Pdiff		P		19 43 27.3	+0.1
	baz=248								
DGMT	**Dagmar**	96.55	40	Pdiff		P		19 43 27.8	+0.9
	baz=245								
DGMT	**Dagmar**	96.55	40	*e*P		P		19 43 28.1	+1.2
339A	**Huntington**	96.70	59	Pdiff		P		19 43 28.7	+0.8
	baz=249								
GTA	**Gaotai**	96.71	310	⇓P		P		19 43 28.3	+0.3
GTA				pP		pP		19 45 39.8	-3.7
GTA				PP		PP		19 47 37.8	+3.5
GTA				SKS		SKSac		19 53 03.9	-1.3
GTA				S		S		19 53 55.8	-0.6
GTA				SS		SS		20 00 54.0	+2.2
GTA				pmax		pmax			
	comp=Z,150nm,1.3s								
T34A	**McClaskey Farm**	96.75	53	Pdiff		P		19 43 28.5	+0.5
	baz=248								
138A	**Matatall Enter**	96.76	58	Pdiff		P		19 43 29.5	+1.4
	baz=249								
540A	**Vidor**	96.76	60	Pdiff		P		19 43 29.6	+1.4
	baz=249								
NATX	**Nacogdoches**	96.77	59	Pdiff		P		19 43 29.1	+0.9
	baz=249								
W36A	**Wetumka**	96.78	55	Pdiff		P		19 43 28.7	+0.5
	baz=248								
Y37A	**Hugo**	96.82	56	Pdiff		P		19 43 29.0	+0.6
	baz=249								
U35A	**Pawnee**	96.84	54	Pdiff		P		19 43 28.8	+0.3
	baz=248								
NNA	**Nana**	96.97	106	S		SKSac		19 53 09.8	+2.3
	comp=Z,3.5nm,0.3s,baz=315,slow=23,SNR=5.6								
NNA				PKKPbc		PKKPbc		20 00 01.2	-5.6
	comp=Z,14nm,0.8s,baz=253,slow=11,SNR=1.8								
NNA				PKPPKP		P'P'df		20 08 19.8	-2.4
	comp=Z,6.3nm,0.5s,baz=0.0,slow=6.1,SNR=3.7								
NNA	**Nana**	96.97	106	*ce*P		P		19 43 31.9	+2.3
NNA	**Nana**	96.97	106	*e*P		P		19 43 31.9	+2.3
NNA				S		SKSac		19 53 09.8	+2.3
NNA				PKKPbc		PKKPbc		20 00 01.2	-5.6
NNA				P'P'				20 08 19.8	
440A	**Kirbyville**	96.97	60	Pdiff		P		19 43 30.4	+1.2
	baz=249								
239A	**Gary**	97.02	58	Pdiff		Pdif		19 43 30.0	+0.6
	baz=249								
Z38A	**Mt. Pleasant**	97.05	57	Pdiff		Pdif		19 43 30.4	+1.0
	baz=249								
S34A	**Willow Spring**	97.05	52	Pdiff		Pdif		19 43 29.6	+0.2
	baz=248								
R34A	**Isabella, Hill**	97.17	52	Pdiff		P		19 43 30.5	+0.6
	baz=248								
T35A	**Sooner Cattle**	97.21	53	Pdiff		P		19 43 30.5	+0.4
	baz=249								
V36A	**Jenks**	97.23	54	Pdiff		P		19 43 30.7	+0.5
	baz=249								
X37A	**Clayton**	97.23	56	Pdiff		Pdif		19 43 30.2	0.0
	baz=249								
340A	**Bronson**	97.26	59	Pdiff		P		19 43 31.1	+0.6
	baz=249								
139A	**Bunkhouse Ranc**	97.31	58	Pdiff		P		19 43 31.3	+0.6
	baz=249								
541A	**Lake Charles**	97.35	61	Pdiff		P		19 43 31.9	+1.0
	baz=249								
W37B	**Quinton**	97.38	55	Pdiff		P		19 43 31.3	+0.3
	baz=249								
TUL1	**Leonard**	97.39	54	Pdiff		P		19 43 31.3	+0.4
	baz=249								
TUL1	**Leonard**	97.39	54	*e*Pdif		P		19 43 31.8	+0.9
ATAH	**Atahualpa**	97.47	101	P		P		19 43 34.7	+2.4
	comp=Z,20nm,0.6s,baz=283,slow=3.3,SNR=28								
ATAH				pP		pP		19 45 51.0	+3.1
	comp=Z,18nm,1.0s,baz=274,slow=8.1,SNR=2.9								
ATAH				S		SKSac		19 53 14.2	+3.4
	comp=Z,17nm,1.0s,baz=69,slow=21,SNR=6.1								
ATAH				PKKPbc		PKKPdf		20 00 07.1	+0.2
	comp=Z,21nm,0.8s,baz=54,slow=4.7,SNR=5.0								
Y38A	**Idabel**	97.49	57	Pdiff		Pdif		19 43 31.1	-0.3
	baz=249								
240A	**Hunter Patters**	97.58	59	Pdiff		P		19 43 32.7	+0.9
	baz=249								
O33A	**Hebron**	97.59	50	Pdiff		P		19 43 32.4	+0.7
	baz=248								
441A	**DeRidder**	97.59	60	Pdiff		P		19 43 33.3	+1.4
	baz=250								
U36A	**Oologah**	97.60	54	Pdiff		P		19 43 32.2	+0.4
	baz=249								
Q34A	**Chapman**	97.63	51	Pdiff		P		19 43 32.7	+0.8
	baz=249								
S35A	**Otter Creek Ra**	97.63	53	Pdiff		P		19 43 32.4	+0.4
	baz=249								
Z39A	**Irene McRaven,**	97.68	57	Pdiff		P		19 43 33.1	+0.8
	baz=249								
X38A	**Whitesboro**	97.68	56	Pdiff		P		19 43 32.7	+0.5
	baz=249								
BGNE	**Belgrade**	97.68	49	Pdiff		P		19 43 33.1	+0.9
	baz=248								
BGNE	**Belgrade**	97.68	49	*e*P		P		19 43 33.5	+1.3
	comp=Z,752nm,1.2s								
K31A	**O'Neill**	97.72	47	Pdiff		P		19 43 33.0	+0.7
	baz=248								
T36A	**Boggs Farm, Ca**	97.73	53	Pdiff		P		19 43 32.6	+0.2
	baz=249								
JTS	**JuntasAbangare**	97.74	82	S		SKSac		19 53 14.7	+3.4
	comp=Z,10nm,1.0s,baz=30,slow=20,SNR=4.3								
341A	**Kurthwood**	97.81	60	Pdiff		P		19 43 33.9	+1.0
	baz=250								
V37A	**Hulbert**	97.87	55	Pdiff		P		19 43 33.2	+0.2
	baz=249								
542A	**Morse**	97.89	61	Pdiff		P		19 43 35.2	+1.9
	baz=250								
N33A	**J Bar K, Exete**	97.93	49	Pdiff		P		19 43 34.1	+0.8
	baz=248								
KSU1	**Kansas State U**	97.93	51	Pdiff		P		19 43 34.2	+0.9
	baz=249								
P34A	**Walnut Farm, R**	97.94	51	Pdiff		P		19 43 34.0	+0.7
	baz=249								
140A	**Cam and Jess,**	97.94	58	Pdiff		P		19 43 34.4	+1.0
	baz=250								
R35A	**Emporia Munici**	97.95	52	Pdiff		P		19 43 33.8	+0.4
	baz=249								
HOPE	**Hope Point**	97.96	159	*e*P		P		19 43 33.7	+0.6
	comp=Z,897nm,1.3s								
HOPE				*ep*P		pP		19 45 53.1	+4.4
J31A	**Geddes**	97.98	47	Pdiff		P		19 43 33.7	+0.3
	baz=248								
Y39A	**Lockesburg**	97.99	57	Pdiff		P		19 43 33.9	+0.3
	baz=250								
L32A	**Elgin**	98.00	48	Pdiff		P		19 43 34.3	+0.8
	baz=248								
SHL	**Shillong**	98.01	294	*i* P		Pdif		19 43 32.5	-1.6
SHL				*ex*		x		19 53 16.0	
YKA	**Yellowknife Ar**	98.02	25	P		P		19 43 33.2	+0.2
	comp=Z,38nm,0.7s,baz=245,slow=4.5,SNR=161								
YKA				pP		pP		19 45 53.6	+4.8
	comp=Z,27nm,0.9s,baz=241,slow=4.5,SNR=2.8								
YKA				PP		PP		19 47 39.8	-3.5
	comp=Z,21nm,0.9s,baz=241,slow=7.0,SNR=5.5								
YKA				PKiKP		PKiKP		19 48 02.2	+0.3
	comp=Z,13nm,0.7s,baz=262,slow=1.5,SNR=8.6								
YKA				PKKPbc		PKKPbc		20 00 02.2	-3.1
	comp=Z,4.7nm,0.4s,baz=41,slow=2.5,SNR=6.4								
YKA				SKKPbc		SKKPbc		20 02 52.8	+3.7
	comp=Z,11nm,1.0s,baz=52,slow=4.6,SNR=5.0								
YKA				PKPPKP		P'P'df		20 08 12.3	-3.7
	comp=Z,1.8nm,0.9s,baz=63,slow=3.7,SNR=3.7								
YKA	**Yellowknife Ar**	98.02	25	P		P		19 43 33.2	+0.2
YKA								19 47 39.8	
YKA				pmax		pmax			
	comp=Z,45nm,0.7s								
YKA				pmax		pmax			
	comp=Z,21nm,0.9s								
W38A	**Poteau**	98.06	56	Pdiff		P		19 43 34.5	+0.6
	baz=249								
U37A	**Salina**	98.07	54	Pdiff		P		19 43 34.2	+0.3
	baz=249								
X39A	**Fountain Ranch**	98.17	56	Pdiff		P		19 43 34.8	+0.3
	baz=250								
S36A	**Lake Cedric, C**	98.18	53	Pdiff		P		19 43 34.8	+0.4
	baz=249								
442A	**Mamou**	98.19	60	Pdiff		P		19 43 35.7	+1.1
	baz=250								
241A	**Mo Tay, Goldon**	98.25	59	Pdiff		P		19 43 35.8	+0.9
	baz=250								
Q35A	**Mercer Eighty,**	98.26	52	Pdiff		P		19 43 35.3	+0.5
	baz=249								
O34A	**Beatrice**	98.26	50	Pdiff		P		19 43 35.0	+0.3
	baz=249								
SUSD	**Miller**	98.27	46	Pdiff		P		19 43 34.7	0.0
	baz=248								
K32A	**Verdigre**	98.27	47	Pdiff		P		19 43 34.7	0.0
	baz=248								
Z40A	**Long Farm, Mag**	98.30	58	Pdiff		P		19 43 35.9	+0.9
	baz=250								
I31A	**Royce, Wessing**	98.39	46	Pdiff		P		19 43 35.4	+0.1
	baz=248								
M33A	**Taylor Creek F**	98.41	49	Pdiff		P		19 43 35.9	+0.6
	baz=249								
V38A	**Canehill**	98.42	55	Pdiff		P		19 43 35.7	+0.1
	baz=250								
543A	**St. Martinvill**	98.44	61	Pdiff		P		19 43 37.5	+1.8
	baz=250								
R36A	**Gordon, Harris**	98.46	52	Pdiff		P		19 43 35.9	+0.2
	baz=249								
141A	**Papa Simpson,**	98.46	58	Pdiff		P		19 43 37.0	+1.2
	baz=250								
T37A	**Cheneyville 18**	98.47	54	Pdiff		P		19 43 36.1	+0.4
	baz=250								
342A	**Flagon Creek P**	98.50	60	Pdiff		P		19 43 37.4	+1.4
	baz=250								
P35A	**Duane Minner,**	98.51	51	Pdiff		P		19 43 36.5	+0.6
	baz=249								
L33A	**Hoskins**	98.57	48	Pdiff		P		19 43 36.6	+0.5
	baz=249								
H31A	**Wolsey**	98.60	46	Pdiff		P		19 43 36.3	+0.1
	baz=248								
MIAR	**Mount Ida**	98.60	56	Pdiff		P		19 43 36.7	+0.4
	baz=250								
MIAR	**Mount Ida**	98.60	56	*e*P		Pdif		19 43 36.3	0.0
MIAR				pmax		pmax			
	comp=Z,53nm,1.2s								
MIAR	**Mount Ida**	98.60	56	*e*Pdif		Pdif		19 43 36.3	0.0
	comp=Z,53nm,1.2s								
J32A	**Parkston**	98.61	47	Pdiff		Pdif		19 43 36.1	-0.1
	baz=249								
N34A	**Lincoln**	98.63	50	Pdiff		P		19 43 36.6	+0.2
	baz=249								
U38A	**Gravette**	98.64	54	Pdiff		P		19 43 36.8	+0.3
	baz=250								
Y40A	**Okolona**	98.65	57	Pdiff		P		19 43 37.1	+0.5
	baz=250								
W39A	**Magazine**	98.67	56	Pdiff		P		19 43 37.1	+0.5
	baz=250								
ZAK	**Zakamensk**	98.69	321	*e*P		Pdif		19 43 34.8	-1.7
ZAK				*e*				19 47 44.4	
ZAK				pmax		pmax			
	comp=Z,69nm,1.1s								
ZAK				pmax		pm

baz=249
645A **Chauvin** 99.26 62 Pdiff **Pdif** 19 43 41.1 +1.8
baz=250
H32A **Carlson Farm,** 99.30 46 Pdiff **Pdif** 19 43 39.3 0.0
baz=249
U39A **Green Forest** 99.30 55 Pdiff **Pdif** 19 43 39.6 +0.1
baz=250
243A **Waterproof** 99.35 59 Pdiff **Pdif** 19 43 40.5 +0.8
baz=250
S38A **Stockton** 99.40 53 Pdiff **Pdif** 19 43 40.0 +0.2
baz=250
X41A **Kaden, Bauxite** 99.41 57 Pdiff **Pdif** 19 43 40.1 +0.2
baz=250
M35A **Neola** 99.42 49 Pdiff **Pdif** 19 43 40.4 +0.6
baz=250
Q37A **Longview Farm,** 99.43 52 Pdiff **Pdif** 19 43 39.9 0.0
baz=250
Z42A **Norrel Spur, H** 99.44 58 Pdiff **Pdif** 19 43 40.6 +0.5
baz=250
O36A **Bolckow** 99.48 51 Pdiff **Pdif** 19 43 40.7 +0.6
baz=250
TIXI **Tiksi** 99.48 345 P **Pdif** 19 43 38.8 -0.6
comp=Z,73nm,0.9s,baz=153,slow=4.3,SNR=18
TIXI pP **pP** 19 45 57.4 +2.1
comp=Z,17nm,0.8s,baz=128,slow=6.4,SNR=2.5
TIXI PP **PP** 19 47 49.0 -5.1
comp=Z,90nm,1.1s,baz=137,slow=6.5,SNR=6.3
TIXI S **SKSac** 19 53 16.0 -1.2
comp=Z,12nm,0.8s,baz=292,slow=11,SNR=4.3
TIXI PKKPbc **PKKPbc** 19 59 57.2 -4.2
comp=Z,11nm,0.4s,baz=328,slow=3.2,SNR=12
TIXI **Tiksi** 99.48 345 *ce*P **Pdif** 19 43 38.3 -1.1
TIXI pmax pmax
comp=Z,69nm,1.2s
G32A **Webster** 99.53 45 Pdiff **Pdif** 19 43 40.2 0.0
baz=249
545A **Edgard** 99.55 62 Pdiff **Pdif** 19 43 42.2 +1.6
baz=251
444A **Pine Grove** 99.56 61 Pdiff **Pdif** 19 43 41.7 +1.1
baz=251
I33A **Coleman** 99.57 46 Pdiff **Pdif** 19 43 40.6 +0.2
baz=249
K34A **Le Mars** 99.57 48 Pdiff **Pdif** 19 43 40.6 +0.1
baz=250
ECSD **EROS Data Cent** 99.58 47 Pdiff **Pdif** 19 43 40.8 +0.3
baz=250
ECSD **EROS Data Cent** 99.58 47 *e*Pdif **Pdif** 19 43 39.9 -0.6
R38A **Fenwick Farm,** 99.59 53 Pdiff **Pdif** 19 43 40.7 +0.1
baz=250
T39A **Clever** 99.60 54 Pdiff **Pdif** 19 43 40.8 +0.1
baz=250
V40A **Witts Springs** 99.61 55 Pdiff **Pdif** 19 43 40.9 +0.1
baz=250
143A **Socs Landing,** 99.69 59 Pdiff **Pdif** 19 43 42.2 +1.1
baz=251
N36A **Muff Farm, Cla** 99.72 50 Pdiff **Pdif** 19 43 42.0 +0.8
baz=250
E31A **Nome** 99.74 44 Pdiff **Pdif** 19 43 41.0 -0.2
baz=249
P37A **Lathrop** 99.74 51 Pdiff **Pdif** 19 43 41.4 +0.1
baz=250
L35A **Bielow Farm, R** 99.75 49 Pdiff **Pdif** 19 43 41.7 +0.4
baz=250
Y42A **Garnett, Star** 99.76 58 Pdiff **Pdif** 19 43 42.4 +0.9
baz=251
U40A **Yellville** 99.77 55 Pdiff **Pdif** 19 43 41.6 +0.1
baz=250
344A **Westbrook Farm** 99.81 60 Pdiff **Pdif** 19 43 43.7 +1.9
baz=251
H33A **Prehn Over Nor** 99.83 46 Pdiff **Pdif** 19 43 41.7 +0.1
baz=250
W41B **Gary Mavity, V** 99.84 56 Pdiff **Pdif** 19 43 42.7 +0.9
baz=251
S39A **Bolivar** 99.86 53 Pdiff **Pdif** 19 43 41.9 0.0
baz=250
J34A **George** 99.87 47 Pdiff **Pdif** 19 43 41.7 -0.1
baz=250
445A **Amite** 99.90 61 Pdiff **Pdif** 19 43 43.1 +0.9
baz=251
646A **Port Sulphur** 99.94 62 Pdiff **Pdif** 19 43 43.6 +1.2
baz=251
Z43A **Armstrong Fami** 99.98 58 Pdiff **Pdif** 19 43 43.2 +0.7
baz=251
F32A **Veblen** 99.99 45 Pdiff **Pdif** 19 43 41.8 -0.4
baz=250
LSA **Lhasa** 100.00 298 P **Pdif** 19 43 43.8 +0.5
D31A **Mcclaflin, Tow** 100.02 43 Pdiff **Pdif** 19 43 42.0 -0.3
baz=249
244A **Avery, Jackson** 100.04 60 Pdiff **Pdif** 19 43 43.8 +1.0
baz=251
M36A **Felix, Anita** 100.05 49 Pdiff **Pdif** 19 43 43.0 +0.4
baz=250
Q38A **Cooks Store, C** 100.07 52 Pdiff **Pdif** 19 43 42.9 +0.2
baz=250
O37A **Wolven Farm, M** 100.08 51 Pdiff **Pdif** 19 43 42.9 +0.1
baz=250
V41A **Mountainview** 100.11 56 Pdiff **Pdif** 19 43 43.3 +0.2
baz=251
X42A **Stuttgart** 100.12 57 Pdiff **Pdif** 19 43 44.1 +1.0
baz=251
K35A **Storm Lake** 100.18 48 Pdiff **Pdif** 19 43 43.3 +0.2
baz=250
I34A **Hadley** 100.20 47 Pdiff **Pdif** 19 43 43.5 +0.3
baz=250
OTAV **Otavalo** 100.20 94 *e*Pdif **Pdif** 19 43 46.9 +2.4
comp=Z,18nm,0.9s
G33A **Ortonville** 100.21 45 Pdiff **Pdif** 19 43 43.2 0.0
baz=250
VBMS **Vicksburg** 100.24 59 Pdiff **Pdif** 19 43 44.6 +0.9
baz=251
N37A **Lee Faris, Mou** 100.24 50 Pdiff **Pdif** 19 43 43.8 +0.3
baz=250
546A **Slidell** 100.24 62 Pdiff **Pdif** 19 43 45.1 +1.4
baz=251
C31A **Landman Farms,** 100.28 43 Pdiff **Pdif** 19 43 43.5 +0.1
baz=249
E32A **Braaten, Kindr** 100.28 44 Pdiff **Pdif** 19 43 43.1 -0.4
baz=250
R39A **Chumby, Stover** 100.28 53 Pdiff **Pdif** 19 43 44.1 +0.4
baz=251
T40A **Mansfield** 100.29 54 Pdiff **Pdif** 19 43 44.1 +0.3
baz=251
345A **Thompson Farm,** 100.33 60 Pdiff **Pdif** 19 43 45.2 +1.1
baz=251
P38A **Dawn** 100.35 52 Pdiff **Pdif** 19 43 44.1 +0.1
baz=251
FFC **Flin Flon** 100.36 35 *e*P **Pdif** 19 43 43.6 -0.1
FFC pmax pmax
comp=Z,18nm,0.9s
FFC **Flin Flon** 100.36 35 *e*Pdif **Pdif** 19 43 43.6 -0.1
comp=Z,18nm,0.9s
L36A **Harm Buss Farm** 100.36 49 Pdiff **Pdif** 19 43 44.4 +0.4
baz=250
J35A **Milford** 100.41 48 Pdiff **Pdif** 19 43 44.1 -0.1
baz=250
W42A **Bald Knob** 100.44 56 Pdiff **Pdif** 19 43 45.4 +0.9
baz=251
144A **Alexander Plac** 100.44 59 Pdiff **Pdif** 19 43 45.2 +0.7
baz=251
S40A **Lebanon** 100.45 54 Pdiff **Pdif** 19 43 44.8 +0.3
baz=251
Y43A **Makayla and Ka** 100.46 58 Pdiff **Pdif** 19 43 45.6 +1.0
baz=251
H34A **Spellman Lake,** 100.47 46 Pdiff **Pdif** 19 43 44.6 +0.2
baz=250
U41A **Viola** 100.48 55 Pdiff **Pdif** 19 43 44.9 +0.2
baz=251
D32A **Dogwood Acres,** 100.50 43 Pdiff **Pdif** 19 43 44.3 -0.2
baz=250
MOY **Mondy** 100.51 321 *e*P **Pdif** 19 43 43.8 -0.8
MOY *e* 19 48 00.0
MOY pmax pmax
comp=Z,140nm,2.9s
F33A **5 Mile Ranch,** 100.53 45 Pdiff **Pdif** 19 43 45.0 +0.4
baz=250
B31A **Greenbush Farm** 100.55 42 Pdiff **Pdif** 19 43 44.3 -0.4
baz=250
O38A **Galt** 100.56 51 Pdiff **Pdif** 19 43 44.5 -0.4
baz=251
M37A **Trindle Farm,** 100.56 50 Pdiff **Pdif** 19 43 45.4 +0.5
baz=251
Q39A **Willow Grove F** 100.57 52 Pdiff **Pdif** 19 43 44.2 -0.7
baz=251
Z44A **Pea Ridge, Bel** 100.65 58 Pdiff **Pdif** 19 43 46.0 +0.6
baz=251
245A **Little AP, Sta** 100.67 60 Pdiff **Pdif** 19 43 46.9 +1.3
baz=251
X43A **Marvell** 100.69 57 Pdiff **Pdif** 19 43 46.3 +0.7
baz=251
K36A **Gilmore City** 100.69 48 Pdiff **Pdif** 19 43 45.8 +0.3
baz=251
446A **Poplarville** 100.71 61 Pdiff **Pdif** 19 43 46.7 +0.9
baz=251
V42A **Cord** 100.71 56 Pdiff **Pdif** 19 43 45.8 +0.1
baz=251
I35A **Creekview Farm** 100.73 47 Pdiff **Pdif** 19 43 45.6 0.0
baz=251
G34A **Benson** 100.76 46 Pdiff **Pdif** 19 43 45.8 +0.2
baz=250
346A **Big Creek Wild** 100.82 61 Pdiff **Pdif** 19 43 47.3 +1.1
baz=251
T41A **Mountain View** 100.82 54 Pdiff **Pdif** 19 43 46.1 0.0
baz=251
145A **Houston Renfro** 100.83 59 Pdiff **Pdif** 19 43 47.0 +0.7
baz=251
R40A **Maddies Statio** 100.85 53 Pdiff **Pdif** 19 43 46.2 -0.1
baz=251
P39B **Salisbury** 100.87 52 Pdiff **Pdif** 19 43 46.4 +0.1
baz=251
E33A **Westby DABS, E** 100.94 44 Pdiff **Pdif** 19 43 46.5 0.0
baz=250
N38A **Joes South For** 100.95 50 Pdiff **Pdif** 19 43 46.6 0.0
baz=251
J36A **Seneca 1, Swea** 101.00 48 Pdiff **Pdif** 19 43 47.1 +0.3
baz=251
U42A **Revenden** 101.00 55 Pdiff **Pdif** 19 43 47.3 +0.3
baz=251
W43A **Forest City** 101.01 57 Pdiff **Pdif** 19 43 47.2 +0.2
baz=251
S41A **Jillco Farms,** 101.01 54 Pdiff **Pdif** 19 43 47.0 0.0
baz=251
L37A **Phoenix Point,** 101.01 49 Pdiff **Pdif** 19 43 47.1 +0.2
baz=251
A31A **Linda, St. Vin** 101.02 42 Pdiff **Pdif** 19 43 46.6 -0.1
baz=250
Y44A **Strider, Charl** 101.04 58 Pdiff **Pdif** 19 43 47.2 0.0
baz=252
C32A **Crookston** 101.05 43 Pdiff **Pdif** 19 43 46.6 -0.3
baz=250
H35A **Sunnyside Ranc** 101.11 46 Pdiff **Pdif** 19 43 47.5 +0.2
baz=251
M38A **Pleasantville** 101.18 50 Pdiff **Pdif** 19 43 48.1 +0.5
baz=251
F34A **Alexandria** 101.19 45 Pdiff **Pdif** 19 43 47.8 +0.1
baz=251
Q40A **Laux Farm, Aux** 101.22 53 Pdiff **Pdif** 19 43 47.7 -0.1
baz=251
B32A **Ashes, Strandq** 101.24 42 Pdiff **Pdif** 19 43 47.4 -0.3
baz=250
D33A **AnnSam, Waubun** 101.26 44 Pdiff **Pdif** 19 43 47.8 -0.1
baz=251
X44A **Crenshaw** 101.26 57 Pdiff **Pdif** 19 43 48.6 +0.5
baz=252
Z45A **Winona** 101.26 59 Pdiff **Pdif** 19 43 49.2 +1.0
baz=252
O39A **Kirksville** 101.27 51 Pdiff **Pdif** 19 43 48.1 0.0
baz=251
246A **Jackson Lee, B** 101.29 60 Pdiff **Pdif** 19 43 48.6 +0.3
baz=252
447A **Lucedale** 101.29 61 Pdiff **Pdif** 19 43 49.3 +1.0
baz=252
K37A **Belmond** 101.30 48 Pdiff **Pdif** 19 43 48.1 0.0
baz=251
SCIA **State Center** 101.32 49 *e*Pdif **Pdif** 19 43 50.3 +2.1
comp=Z,36nm,0.7s
T42A **Van Buren** 101.33 55 Pdiff **Pdif** 19 43 48.2 -0.2
baz=252
V43A **Jonesboro** 101.36 56 Pdiff **Pdif** 19 43 48.5 0.0
baz=252
P40A **Paris** 101.40 52 Pdiff **Pdif** 19 43 48.6 -0.1
baz=252
A32A **Rocking H Ranc** 101.44 42 Pdiff **Pdif** 19 43 48.4 -0.2
baz=250
I36A **Fitzsimmons Fa** 101.45 47 Pdiff **Pdif** 19 43 48.7 -0.1
baz=251
E34A **Wadena** 101.49 45 Pdiff **Pdif** 19 43 49.0 +0.1
baz=251
N39A **Derby Farms, D** 101.50 51 Pdiff **Pdif** 19 43 49.0 -0.1
baz=252
C33A **Trail** 101.51 43 Pdiff **Pdif** 19 43 48.8 -0.2
baz=251
R41A **Rosebud** 101.51 53 Pdiff **Pdif** 19 43 48.9 -0.3
baz=252
G35A **Watkins** 101.52 46 Pdiff **Pdif** 19 43 49.5 +0.4
baz=251
J37A **Redenius Farm,** 101.54 48 Pdiff **Pdif** 19 43 49.3 +0.2
baz=251
Y45A **Yeager Farm, C** 101.54 58 Pdiff **Pdif** 19 43 49.9 +0.5
baz=252
146A **Union** 101.54 59 Pdiff **Pdif** 19 43 50.4 +1.0
baz=252
347A **Saraland** 101.57 61 Pdiff **Pdif** 19 43 50.6 +1.0
baz=252
L38A **Oak Wood Farm,** 101.58 49 Pdiff **Pdif** 19 43 49.6 +0.2
baz=252
AGMN **Agassiz Nation** 101.63 43 Pdiff **Pdif** 19 43 49.3 -0.1
baz=251
AGMN **Agassiz Nation** 101.63 43 *e*Pdif **Pdif** 19 43 48.6 -0.9
comp=Z,54nm,1.1s
U43A **Rector** 101.64 55 Pdiff **Pdif** 19 43 49.9 +0.1
baz=252
D34A **Park Rapids** 101.66 44 Pdiff **Pdif** 19 43 49.6 0.0
baz=251
F35A **Swanville** 101.67 45 Pdiff **Pdif** 19 43 50.2 +0.5
baz=251
H36A **Jessenland, He** 101.69 47 Pdiff **Pdif** 19 43 50.3 +0.5
baz=251
247A **Quitman** 101.72 60 Pdiff **Pdif** 19 43 51.6 +1.4
baz=252
O40A **La Belle** 101.72 51 Pdiff **Pdif** 19 43 50.0 0.0
baz=252
W44A **Shelby Farms P** 101.72 57 Pdiff **Pdif** 19 43 50.2 0.0
baz=252
S42A **Caledonia** 101.78 54 Pdiff **Pdif** 19 43 50.5 +0.1
baz=252
B33A **Robert and Kas** 101.80 43 Pdiff **Pdif** 19 43 49.9 -0.3
baz=251
Z46A **Louisville** 101.81 59 Pdiff **Pdif** 19 43 51.4 +0.8
baz=252
Q41A **Truxton** 101.83 53 Pdiff **Pdif** 19 43 50.5 -0.1
baz=252
OXF **Oxford** 101.84 58 *e*P **Pdif** 19 43 50.5 -0.2
OXF pmax pmax
comp=Z,88nm,1.2s
OXF **Oxford** 101.84 58 *e*Pdif **Pdif** 19 43 50.5 -0.2
comp=Z,88nm,1.2s
I37A **Lemond, Waseca** 101.86 47 Pdiff **Pdif** 19 43 51.2 +0.5
baz=252
V44A **Blytheville** 101.87 56 Pdiff **Pdif** 19 43 51.6 +0.8
baz=252
K38A **Parkersburg** 101.87 49 Pdiff **Pdif** 19 43 50.8 +0.1
baz=252
PALK **Pallekele** 101.88 273 P **Pdif** 19 43 52.8 +1.3
comp=Z,26nm,0.7s,baz=117,slow=4.6,SNR=18
PALK PKiKP **PKiKP** 19 48 10.4 +0.1
comp=Z,164nm,0.9s,baz=116,slow=9.3,SNR=9.2
PALK **Pallekele** 101.88 273 P **Pdif** 19 43 51.1 -0.4
PALK **Pallekele** 101.88 273 P **Pdif** 19 43 51.9 +0.4
M39A **Webster** 101.93 50 Pdiff **Pdif** 19 43 51.2 +0.3
baz=252
R42A **Luebbering** 101.94 54 Pdiff **Pdif** 19 43 51.3 +0.2
baz=252
T43A **Greenville** 101.96 55 Pdiff **Pdif** 19 43 51.5 +0.3
baz=252
448A **Bay Minette** 101.98 61 Pdiff **Pdif** 19 43 52.8 +1.4
baz=252
E35A **Pequot Lakes** 102.00 45 Pdiff **Pdif** 19 43 51.4 +0.2
baz=252
G36A **St. Michael** 102.01 46 Pdiff **Pdif** 19 43 51.3 0.0
baz=252
C34A **RKJ Ranch, Bem** 102.02 43 Pdiff **Pdif** 19 43 50.9 -0.4
baz=251
Y46A **Houston** 102.08 58 Pdiff **Pdif** 19 43 51.9 +0.1
baz=252
348A **Jackson** 102.09 61 Pdiff **Pdif** 19 43 53.0 +1.1
baz=252
TAPN **Taplejung** 102.12 295 *e*P **Pdif** 19 43 52.6 0.0
comp=Z,351nm,1.3s
TAPN **Taplejung** 102.12 295 *e*P **PKiKP** 19 48 08.8 -2.0
comp=Z,1μm,1.1s
A33A **Warroad** 102.14 42 Pdiff **Pdif** 19 43 51.6 -0.1
baz=251
N40A **Mertquake, Sal** 102.17 51 Pdiff **Pdif** 19 43 51.8 -0.2
baz=252
P41A **Barry, Barry** 102.17 52 Pdiff **Pdif** 19 43 52.1 0.0
baz=252
147A **Livingston** 102.18 60 Pdiff **Pdif** 19 43 53.0 +0.7
baz=252
W45A **Hickory Valley** 102.21 57 Pdiff **Pdif** 19 43 52.6 +0.2
baz=252
U44A **Portageville** 102.24 56 Pdiff **Pdif** 19 43 52.5 +0.1
baz=252
ODAN **Odare** 102.24 294 *e*P **Pdif** 19 43 53.1 +0.1
comp=Z,226nm,0.8s
ODAN **Odare** 102.24 294 *e*P **PKiKP** 19 48 11.2 +0.3
comp=Z,990nm,1.1s
L39A **Vinton** 102.25 50 Pdiff **Pdif** 19 43 52.7 +0.3
baz=252
ULM **Lac du Bonnet** 102.26 41 P **Pdif** 19 43 52.6 +0.4
comp=Z,12nm,0.6s,baz=256,slow=4.9,SNR=11
ULM PKiKP **PKiKP** 19 48 09.4 -0.5
comp=Z,39nm,0.7s,baz=282,slow=3.6,SNR=9.6
ULM S **SKSac** 19 53 29.9 -1.4
comp=Z,8.7nm,0.9s,baz=265,slow=12,SNR=2.2
ULM PKKPbc **PKKPbc** 19 59 50.3 -2.6
comp=Z,18nm,0.8s,baz=82,slow=6.0,SNR=6.1
ULM **Lac du Bonnet** 102.26 41 *e*P **Pdif** 19 43 52.2 0.0
ULM S **SKSac** 19 53 29.9 -1.4
ULM **Lac du Bonnet** 102.26 41 *e*Pdif **Pdif** 19 43 52.1 0.0
ULM PKiKP **PKiKP** 19 48 09.4 -0.5
ULM S **SKSac** 19 53 29.9 -1.4
ULM PKKPbc **PKKPbc** 19 59 50.3 -2.6
S43A **Fulton Ridge,** 102.27 54 Pdiff **Pdif** 19 43 52.5 0.0
baz=252
J38A **Wedel Dairy, R** 102.28 48 Pdiff **Pdif** 19 43 52.4 -0.1
baz=252
Q42A **Golden Eagle** 102.33 53 Pdiff **Pdif** 19 43 52.5 -0.3
baz=252
F36A **Milaca** 102.36 46 Pdiff **Pdif** 19 43 53.2 +0.4
baz=252
H37A **Dierke Farm, C** 102.37 47 Pdiff **Pdif** 19 43 53.1 +0.3
baz=252
M40A **Post Highland** 102.38 50 Pdiff **Pdif** 19 43 53.1 +0.1
baz=252
D35A **Remer** 102.40 44 Pdiff **Pdif** 19 43 52.9 0.0
baz=252
248A **Dixon Mills** 102.43 60 Pdiff **Pdif** 19 43 54.4 +1.0
baz=252
O41A **Passleys Farm,** 102.44 52 Pdiff **Pdif** 19 43 53.4 +0.2
baz=252
U44B **Burton Farm, H** 102.44 56 Pdiff **Pdif** 19 43 53.9 +0.5
baz=252
B34A **Aery, Baudette** 102.46 43 Pdiff **Pdif** 19 43 53.0 -0.1
baz=252
T44A **Benton** 102.49 55 Pdiff **Pdif** 19 43 54.0 +0.4
baz=252
Z47A **Carrollton** 102.50 59 Pdiff **Pdif** 19 43 53.6 -0.1
baz=252
K39A **Oelwein** 102.51 49 Pdiff **Pdif** 19 43 53.3 -0.2
baz=252
CHLP **Challavanipeta** 102.55 285 *e*Pdif **Pdif** 19 43 54.2 0.0
CHLP *ep*Pdif **pPdif** 19 46 08.7 -1.2
CHLP *es*Pdif **sPdif** 19 47 11.7 -0.2
CHLP *e*PP **PP** 19 48 18.2 +0.3
CHLP *e*SKSac **SKSac** 19 53 30.4 -3.6
CHLP *e* 19 59 52.5
CHLP *e*PKKPdf **PKKPdf** 19 59 56.2 -1.5
V45A **Humboldt** 102.57 56 Pdiff **Pdif** 19 43 54.0 +0.1
baz=252
R43A **Red Bud** 102.59 54 Pdiff **Pdif** 19 43 54.2 +0.3
baz=252
BOK **Bokaro** 102.59 291 *e*P **Pdif** 19 43 52.4 -1.9
I38A **Scanlan Farm,** 102.61 48 Pdiff **Pdif** 19 43 54.0 +0.1
baz=252
N41A **Harden Midland** 102.64 51 Pdiff **Pdif** 19 43 54.5 +0.3
baz=252
C35A **Jirik Farms, M** 102.64 44 Pdiff **Pdif** 19 43 53.5 -0.5
baz=252
SPMN **Marine on St.** 102.65 46 Pdiff **Pdif** 19 43 54.3 +0.2
baz=252
SPMN **Marine on St.** 102.65 46 *e*Pdif **Pdif** 19 43 54.4 +0.4
comp=Z,38nm,0.6s
P42A **Winchester** 102.67 52 Pdiff **Pdif** 19 43 54.6 +0.3
baz=253
E36A **McGregor** 102.74 45 Pdiff **Pdif** 19 43 54.6 +0.1
baz=252
LPAZ **La Paz** 102.78 113 P **Pdif** 19 43 56.9 +0.8
comp=Z,36nm,0.9s,baz=236,slow=2.0,SNR=79
LPAZ PKiKP **PKiKP** 19 48 13.2 +0.5
comp=Z,18nm,0.9s,baz=218,slow=3.4,SNR=3.3
LPAZ S **SKSac** 19 53 35.4 -1.3
comp=Z,36nm,0.9s,baz=146,slow=25,SNR=12
LPAZ PKKPbc **PKKPbc** 19 59 50.1 -1.4
comp=Z,18nm,0.6s,baz=26,slow=5.0,SNR=11
LPAZ PKPPKP **P'P'df** 20 08 10.4 -1.4
comp=Z,4.9nm,0.9s,baz=360,slow=5.8,SNR=3.7
L40A **Anamosa** 102.78 50 Pdiff **Pdif** 19 43 54.9 +0.2
baz=253
J39A **Decorah** 102.83 48 Pdiff **Pdif** 19 43 55.0 0.0
baz=252
H38A **Maiden Rock** 102.83 47 Pdiff **Pdif** 19 43 55.1 +0.2
baz=252
Y47A **UCPAR, Winfie** 102.89 59 Pdiff **Pdif** 19 43 55.2 -0.2
baz=253
U45A **Rockin P Farm,** 102.90 56 Pdiff **Pdif** 19 43 55.5 +0.1
baz=253
F37A **Hinrichs Farm,** 102.92 46 Pdiff **Pdif** 19 43 55.1 -0.1
baz=252
S44A **Carbondale** 102.92 54 Pdiff **Pdif** 19 43 55.7 +0.3
baz=253
RAMN **Ramite** 102.94 294 *e*P **Pdif** 19 43 56.1 0.0
comp=Z,112nm,0.8s
RAMN **Ramite** 102.94 294 *e*P **PKiKP** 19 48 12.0 -0.2
comp=Z,396nm,0.6s
VIS **Vishakhapatnam** 102.95 284 *e*P **Pdif** 19 43 54.6 -1.4
Q43A **New Douglas** 102.96 53 Pdiff **Pdif** 19 43 55.7 +0.1
baz=253
Z48A **Northport** 102.97 59 Pdiff **Pdif** 19 43 55.5 -0.2
baz=253
B35A **Bob, Littlefor** 103.00 43 Pdiff **Pdif** 19 43 55.5 -0.1
baz=252
D36A **Goodland** 103.00 44 Pdiff **Pdif** 19 43 55.7 +0.1
baz=252
K40A **Colesburg** 103.03 49 Pdiff **Pdif** 19 43 56.1 +0.3
baz=253
O42A **Bath** 103.05 52 Pdiff **Pdif** 19 43 56.0 +0.1
baz=253
M41A **Milan** 103.06 51 Pdiff **Pdif** 19 43 56.0 0.0
baz=253
I39A **Houston** 103.11 48 Pdiff **Pdif** 19 43 55.9 -0.3
baz=253
R44A **Waltonville** 103.22 54 Pdiff **Pdif** 19 43 56.9 +0.2
baz=253
G38A **Ridgeland** 103.27 47 Pdiff **Pdif** 19 43 56.8 -0.1
baz=253
N42A **Yates City** 103.27 51 Pdiff **Pdif** 19 43 57.0 +0.1
baz=253
P43A **Skaggs, Pawnee** 103.30 53 Pdiff **Pdif** 19 43 57.7 +0.6
baz=253
L41A **Preston** 103.30 50 Pdiff **Pdif** 19 43 57.3 +0.3
baz=253
LRAL **Lakeview Retre** 103.31 60 *e*Pdif **Pdif** 19 43 56.0 -1.3
comp=Z,7.6nm,0.6s
E37A **Wrenshall** 103.32 45 Pdiff **Pdif** 19 43 57.1 +0.1
baz=253
C36A **Pine Crest Far** 103.39 44 Pdiff **Pdif** 19 43 57.2 -0.1
baz=253
S45A **Carrier Mills** 103.43 55 Pdiff **Pdif** 19 43 57.9 +0.2
baz=253
Q44A **Meyer Farm, Va** 103.46 53 Pdiff **Pdif** 19 43 57.8 0.0
baz=253
D37A **Cotton** 103.48 44 Pdiff **Pdif** 19 43 58.0 +0.3
baz=253
F38A **Pierce - Schro** 103.49 46 Pdiff **Pdif** 19 43 58.4 +0.7
baz=253
JIRN **Jiri** 103.50 295 *e*P **Pdif** 19 43 59.0 +0.2
comp=Z,132nm,0.7s
JIRN **Jiri** 103.50 295 *e*P **PKiKP** 19 48 11.5 -1.9
comp=Z,4μm,1.5s
H39A **Augusta** 103.51 47 Pdiff **Pdif** 19 43 57.9 0.0
baz=253
J40A **Soldiers Grove** 103.52 49 Pdiff **Pdif** 19 43 57.7 -0.2
baz=253
K41A **Shullsburg** 103.59 49 Pdiff **Pdif** 19 43 58.4 0.0
baz=253
O43A **Sugar Creek Fa** 103.64 52 Pdiff **Pdif** 19 43 58.4 -0.2
baz=253
M42A **Sheffield** 103.65 51 Pdiff **Pdif** 19 43 58.7 +0.1
baz=253
JFWS **Jewell Farm** 103.72 49 *e*P **Pdif** 19 43 58.6 -0.3
JFWS pmax pmax
comp=Z,31nm,0.6s
JFWS **Jewell Farm** 103.72 49 *e*Pdif **Pdif** 19 43 58.6 -0.3
comp=Z,31nm,0.6s

HDIL Hopedale 103.73 52 Pdiff **Pdif** 19 43 58.9 -0.1
baz=253
I40A Norwalk 103.74 48 Pdiff **Pdif** 19 43 58.7 -0.3
baz=253
G39A Holcombe 103.77 47 Pdiff **Pdif** 19 43 58.9 -0.2
baz=253
C37A Embarrass 103.80 44 Pdiff **Pdif** 19 43 58.8 -0.3
baz=253
GUN Gumba 103.84 295 *e*P **Pdif** 19 44 01.0 +0.8
comp=Z,60nm,0.4s
GUN Gumba 103.84 295 *e*P **PKiKP** 19 48 11.4 -2.6
comp=Z,2μm,1.3s
E38A The Farm, Brul 103.89 45 Pdiff **Pdif** 19 43 59.3 -0.2
baz=253
BETC Betania 103.89 93 *e*P **Pdif** 19 44 02.3 +1.9
P44A Sand Creek, Wi 103.92 53 Pdiff **Pdif** 19 44 00.1 +0.3
baz=254
J41A Loganville 104.01 49 Pdiff **Pdif** 19 44 00.3 +0.1
baz=254
H40A Chili 104.11 47 Pdiff **Pdif** 19 44 00.6 +0.1
baz=254
F39A Loretta 104.11 46 Pdiff **Pdif** 19 44 00.9 +0.3
baz=254
PKI Pulchoki 104.14 294 *e*P **Pdif** 19 44 01.4 -0.2
comp=Z,123nm,0.7s
PKI Pulchoki 104.14 294 *e*P **PKiKP** 19 48 12.3 -2.2
comp=Z,2μm,1.5s
PKIN Phulchoki 104.15 294 *e*P **Pdif** 19 44 01.4 -0.1
comp=Z,181nm,0.9s
PKIN Phulchoki 104.15 294 *e*P **PKiKP** 19 48 11.7 -2.8
comp=Z,461nm,0.9s
MDRS Chennai 104.26 279 *e*P **Pdif** 19 44 00.7 -1.2
EYMN Ely 104.31 44 Pdiff **Pdif** 19 44 01.4 -0.1
baz=254
I41A Arkdale 104.31 48 Pdiff **Pdif** 19 44 01.4 0.0
baz=254
KKN Kakani 104.31 294 *e*P **Pdif** 19 44 02.3 +0.1
comp=Z,146nm,0.8s
KKN Kakani 104.31 294 *e*P **PKiKP** 19 48 12.4 -2.3
comp=Z,638nm,1.1s
PVM Polavaram 104.34 283 *e*Pdif **Pdif** 19 43 58.7 -3.5
PVM *ep*Pdif **pPdif** 19 46 20.9 +3.0
PVM *es*Pdif **sPdif** 19 47 19.9 0.0
PVM *e*PP **PP** 19 48 31.0 0.0
PVM *e*SKSac **SKSac** 19 53 39.5 -2.7
PVM *e* 19 59 46.5
PVM *e*PKKPdf **PKKPdf** 19 59 52.7 -1.7
C38A Sawbill Land. 104.39 44 Pdiff **Pdif** 19 44 01.4 -0.3
baz=254
DMN Daman 104.41 294 *e*P **Pdif** 19 44 02.9 +0.2
comp=Z,240nm,0.7s
DMN Daman 104.41 294 *e*P **PKiKP** 19 48 13.0 -1.9
comp=Z,747nm,1.1s
G40A Rib Lake 104.42 47 Pdiff **Pdif** 19 44 01.8 -0.1
baz=254
E39A Mellen 104.49 46 Pdiff **Pdif** 19 44 02.2 0.0
baz=254
H41A Junction City 104.61 48 Pdiff **Pdif** 19 44 02.8 0.0
baz=254
F40A Park Falls 104.65 46 Pdiff **Pdif** 19 44 03.1 +0.1
baz=254
PRAC Prado 104.78 92 *e*P **PKKPbc** 19 59 48.6 +4.0
GKN Gorkha 104.92 294 *e*P **Pdif** 19 44 04.5 -0.3
comp=Z,175nm,0.8s
GKN Gorkha 104.92 294 *e*P **PKiKP** 19 48 12.6 -3.1
comp=Z,2μm,1.6s
E40A Wakefield 104.94 46 Pdiff **Pdif** 19 44 04.9 +0.6
baz=254
SKHT Srikalahasti 104.97 279 *e*Pdif **Pdif** 19 44 01.7 -3.4
SKHT *ep*Pdif **pPdif** 19 46 25.6 +4.8
SKHT *es*Pdif **sPdif** 19 47 23.4 +0.7
SKHT *e*PP **PP** 19 48 37.4 +1.8
SKHT *e*SKSac **SKSac** 19 53 43.2 -2.0
HELC Santa Helena 105.06 89 *e*P **PKKPbc** 19 59 46.6 +2.4
G41A Antigo 105.10 47 Pdiff **Pdif** 19 44 05.0 +0.1
baz=255
C39A Grand Marais 105.16 44 Pdiff **Pdif** 19 44 05.1 -0.1
baz=255
F41A Three Lakes 105.29 47 Pdiff **Pdif** 19 44 04.7 -1.2
baz=255
SFIN Lafayette 105.29 52 Pdiff **Pdif** 19 44 06.2 +0.3
baz=255
WCI Wyandotte Cave 105.32 55 *e*PKiKP **PKiKP** 19 48 15.8 -0.1
ADKI Addanki 105.41 281 *e*Pdif **Pdif** 19 44 03.8 -3.2
ADKI *ep*Pdif **pPdif** 19 46 22.7 0.0
ADKI *es*Pdif **sPdif** 19 47 25.4 +0.8
ADKI *e*PP **PP** 19 48 34.4 -4.4
ADKI *e*SKSac **SKSac** 19 53 44.4 -2.6
ADKI *e*PKKPbc **PKKPbc** 19 59 39.2 -3.5
ADKI *e*PKKPdf **PKKPdf** 19 59 49.3 -3.1
NORC Norcasia 105.45 90 *e*P **PKKPbc** 19 59 45.0 +2.3
E41A Kenton 105.57 46 Pdiff **Pdif** 19 44 07.1 0.0
baz=255
TIGA Tifton 105.63 62 Pdiff **Pdif** 19 44 08.3 +0.7
baz=254
ROSC El Rosal 105.71 91 PKiKP **PKiKP** 19 48 18.9 +1.1
comp=Z,8.3nm,0.4s,baz=273,slow=8.0,SNR=3.6
ROSC PP **PP** 19 48 42.6 +1.3
comp=Z,8.6nm,0.4s,baz=234,slow=4.2,SNR=5.7
ROSC S **SKSac** 19 53 49.1 -0.2
comp=Z,24nm,0.8s,baz=180,slow=20,SNR=4.3
ROSC PKKPbc **PKKPbc** 19 59 44.2 +1.9
comp=Z,35nm,0.6s,baz=103,slow=20,SNR=8.9
KOLN Koldanda 105.73 294 *e*P **Pdif** 19 44 07.8 -0.7
comp=Z,67nm,0.5s
KOLN Koldanda 105.73 294 *e*P **PKiKP** 19 48 15.0 -2.3
comp=Z,2μm,1.5s
FCC Fort Churchill 105.78 33 *e*P **Pdif** 19 44 08.6 +0.9
FCC pmax pmax
comp=Z,37nm,0.8s
FCC Fort Churchill 105.78 33 *e*Pdif **Pdif** 19 44 08.6 +0.9
comp=Z,37nm,0.8s
TRD Trivandrum 105.79 273 *e*P **Pdif** 19 44 05.7 -3.0
MOTC Monteria, Cord 105.83 87 *e*P **PKKPbc** 19 59 43.3 +1.8
F42A Maple Grove Fa 105.95 47 Pdiff **Pdif** 19 44 08.8 +0.1
baz=256
D41A Chassel 105.99 45 Pdiff **Pdif** 19 44 09.7 +0.9
baz=256
ZARC Zaragoza, Cauc 106.14 88 *e*P **Pdif** 19 44 11.3 +1.0
ZARC Zaragoza, Cauc 106.14 88 *e*P **PKKPbc** 19 59 42.5 +2.0
CHIC Chingaza 106.18 91 *e*P **Pdif** 19 44 22.1 +11
RCLA Racherla 106.21 280 *e*Pdif **Pdif** 19 44 06.5 -4.1
RCLA *ep*Pdif **pPdif** 19 46 30.4 +4.1
RCLA *es*Pdif **sPdif** 19 47 29.4 +1.2
RCLA *e*PP **PP** 19 48 46.6 +2.0
RCLA *e*SKSac **SKSac** 19 53 48.2 -2.4
RCLA *e*PKKPbc **PKKPbc** 19 59 39.9 -0.4
NJS Nagarjunasagar 106.23 282 *e*Pdif **Pdif** 19 44 06.3 -4.3
NJS *ep*Pdif **pPdif** 19 46 30.1 +3.7
NJS *es*Pdif **sPdif** 19 47 29.0 +0.7
NJS *e*PP **PP** 19 48 45.8 +1.0
NJS *e*SKSac **SKSac** 19 53 46.7 -3.9
NJS *e* 19 59 40.2
NJS *e*PKKPdf **PKKPdf** 19 59 48.6 -2.3
GOGA Godfrey 106.26 60 *e*P **Pdif** 19 44 10.4 0.0
GOGA pmax pmax
comp=Z,11nm,0.7s
GOGA Godfrey 106.26 60 *e*Pdif **Pdif** 19 44 10.4 0.0
comp=Z,11nm,0.7s
CPUP Villa Florida 106.33 128 Pdiff **Pdif** 19 44 12.2 +1.2
comp=Z,8.7nm,0.8s,baz=254,slow=4.8,SNR=9.7
CPUP PKiKP **PKiKP** 19 48 18.3 +0.1
comp=Z,6.8nm,0.6s,baz=300,slow=0.6,SNR=6.4
CPUP PP **PP** 19 48 43.6 -0.8
comp=Z,41nm,1.1s,baz=259,slow=6.1,SNR=7.4
CPUP PKKPbc **PKKPbc** 19 59 38.9 -1.7
comp=Z,15nm,0.9s,baz=50,slow=6.0,SNR=5.7
CPUP PKPPKP P'P'df 20 07 54.5 -9.4
comp=Z,4.9nm,0.8s,baz=7.5,slow=4.1,SNR=4.2
PYUN Piuthan 106.34 294 *e*P **Pdif** 19 44 10.6 -0.6
comp=Z,229nm,1.0s
PYUN Piuthan 106.34 294 *e*P **PKiKP** 19 48 15.5 -2.9
comp=Z,2μm,1.2s
SRLM Srisailam 106.47 281 *e*Pdif **Pdif** 19 44 08.2 -3.5
SRLM *ep*Pdif **pPdif** 19 46 31.6 +4.1
SRLM *es*Pdif **sPdif** 19 47 28.6 -0.7
SRLM *e*PP **PP** 19 48 47.0 +0.5
SRLM *e*SKSac **SKSac** 19 53 48.3 -3.4
SRLM *e*PKKPbc **PKKPbc** 19 59 40.1 +0.5
TKL Tuckaleechee C 106.60 58 Pdiff **Pdif** 19 44 13.6 +1.7
comp=Z,2.7nm,0.6s,baz=174,slow=6.4,SNR=2.2
TKL PKiKP **PKiKP** 19 48 18.3 -0.1
comp=Z,28nm,0.7s,baz=246,slow=4.3,SNR=7.3
TKL PKKPbc **PKKPbc** 19 59 44.4 +4.7
comp=Z,5.0nm,0.4s,baz=121,slow=1.4,SNR=3.7
TKL SKKPbc SKKPbc 20 02 16.5 -7.7
comp=Z,15nm,0.6s,baz=142,slow=20,SNR=6.2
SJCC San Jacinto, C 106.65 86 *e*P **PKKPbc** 19 59 42.5 +3.5
WMQ Urumqi 106.71 311 Pdif **Pdif** 19 44 11.9 -0.4
WMQ AMB AMB
comp=Z,10μm,7.3s
RPR Rampur 106.95 284 *e*Pdif **Pdif** 19 44 09.9 -3.9
RPR *ep*Pdif **pPdif** 19 46 33.5 +3.9
RPR *es*Pdif **sPdif** 19 47 32.8 +1.4
RPR *e*PP **PP** 19 48 50.9 +1.1
RPR *e*SKSac **SKSac** 19 53 48.7 -5.0
RPR *e*PKKPbc **PKKPbc** 19 59 37.9 -0.3
RPR *e*PKKPdf **PKKPdf** 19 59 46.8 -2.9
HYB Hyderabad 107.18 282 *i* Pdiff **Pdif** 19 44 18.0 +3.1
HYB *e*PP **PP** 19 48 50.0 -1.6
HYB *e*SKS **SKSac** 19 53 52.0 -2.8
HYB *e*SP **SP** 19 57 10.0 -3.3
HYB *e* 20 06 40.0
HYB LR LR
comp=Z,27nm,12.0s
HYB Hyderabad 107.18 282 *e*P **Pdif** 19 44 13.0 -1.9
HYBB Hyderabad (bro 107.19 282 *e*Pdif **Pdif** 19 44 11.3 -3.7
HYBB *ep*Pdif **pPdif** 19 46 33.9 +3.2
HYBB *es*Pdif **sPdif** 19 47 32.6 +0.1
HYBB *e*PP **PP** 19 48 50.7 -1.0
HYBB *e*SKSac **SKSac** 19 53 51.1 -3.7
HYBB *e* 19 59 38.0
JBP Jabalpur 107.58 288↓ *e*P **Pdif** 19 44 16.4 -0.1
JBP *ex* x 19 48 06.8
URV Uravakonda 107.61 279 *e*Pdif **Pdif** 19 44 12.7 -4.1
URV *ep*Pdif **pPdif** 19 46 34.9 +2.3
URV *es*Pdif **sPdif** 19 47 34.7 +0.3
URV *e*PP **PP** 19 48 54.9 +0.3
URV *e*SKSac **SKSac** 19 53 53.6 -3.0
URV *e*PKKPbc **PKKPbc** 19 59 36.5 +0.3
SRSP Sriramsagar 107.83 284 *e*Pdif **Pdif** 19 44 13.3 -4.4
SRSP *ep*Pdif **pPdif** 19 46 37.4 +3.9
SRSP *es*Pdif **sPdif** 19 47 33.9 -1.4
SRSP *e*PP **PP** 19 48 57.6 +1.4
SRSP *e*SKSac **SKSac** 19 53 52.6 -4.8
SRSP *e*PKKPbc **PKKPbc** 19 59 35.6 +0.1
NGP Nagpur 107.84 286 *e*P **Pdif** 19 44 15.4 -2.4
PAMC Pamplona, Colo 108.09 89 *e*P **Pdif** 19 44 23.8 +4.2
AAM Ann Arbor 108.27 51 *e*PKiKP **PKiKP** 19 48 20.6 -0.7
ACSO Alum Creek Sta 108.31 53 *e*PKiKP **PKiKP** 19 48 20.6 -0.9
KMSC Kings Mountain 108.40 59 Pdiff **Pdif** 19 44 20.2 +0.3
baz=256
KMSC Kings Mountain 108.40 59 *e*PKiKP **PKiKP** 19 48 21.2 -0.6
NHSC New Hope 108.85 61 *e*PKiKP **PKiKP** 19 48 16.2 -6.4
SIV San Ignacio 108.88 116 Pdiff **Pdif** 19 44 24.9 +2.4
comp=Z,4.8nm,0.8s,baz=248,slow=9.3,SNR=4.6
SIV PKiKP **PKiKP** 19 48 22.9 -0.3
comp=Z,4.8nm,0.5s,baz=250,slow=7.4,SNR=9.8
SIV PP **PP** 19 49 01.9 -1.3
comp=Z,27nm,1.0s,baz=268,slow=9.2,SNR=5.4
SIV S **SKSac** 19 54 01.6 -0.6
comp=Z,6.7nm,0.7s,baz=70,slow=23,SNR=17
SIV PKKPbc **PKKPbc** 19 59 33.0 +0.4
comp=Z,19nm,0.6s,baz=80,slow=4.8,SNR=18
SIV SKKP 20 02 16.8
comp=Z,13nm,0.8s,baz=59,slow=5.6,SNR=4.5
PTH Pithoragarh 109.07 295 *e*P **Pdif** 19 44 23.3 0.0
PTH *ex* x 19 54 04.8
KLRI Killari 109.16 282 *e*Pdif **Pdif** 19 44 19.9 -3.8
KLRI *ep*Pdif **pPdif** 19 46 42.8 +3.3
KLRI *es*Pdif **sPdif** 19 47 41.5 -0.1
KLRI *e*PP **PP** 19 49 09.9 +4.2
KLRI *e*SKSac **SKSac** 19 53 59.0 -4.1
KLRI *e*PKKPbc **PKKPbc** 19 59 27.7 -3.7
KLRI *e*PKKPdf **PKKPdf** 19 59 42.9 -2.7
RES Resolute Bay 109.19 16 PKiKP **PKiKP** 19 48 22.2 +0.1
comp=Z,93nm,0.6s,baz=282,slow=3.0,SNR=13
BLA Blacksburg 109.59 57 *e*PKiKP **PKiKP** 19 48 23.4 -0.7
BHPL Bhopal 109.86 288 *e*P **Pdif** 19 44 24.8 -1.9
URIC Uribia, Colomb 110.20 85 *e*P **PKKPbc** 19 59 29.6 +1.6
SAML Samuel 110.40 109 *e*Pdif **Pdif** 19 44 31.5 +2.2
SDV Santo Domingo 110.54 88 *e*PKiKP **PKiKP** 19 48 24.6 -2.1
ZAA0 Zalesovo Array 110.56 321 *e*Pdif **Pdif** 19 44 28.6 -0.4
ZALV Zalesovo Beam 110.56 321 Pdiff **Pdif** 19 44 28.6 -0.5
comp=Z,7.2nm,0.6s,baz=98,slow=4.5,SNR=30
ZALV PKiKP **PKiKP** 19 48 24.7 -0.5
comp=Z,104nm,0.6s,baz=166,slow=1.5,SNR=32
ZALV PKKPbc **PKKPbc** 19 59 25.7 -2.0
comp=Z,11nm,0.6s,baz=262,slow=4.6,SNR=9.3
N54A Moraine State 110.69 53 Pdiff **Pdif** 19 44 27.8 -2.1
baz=259
GOA Goa 110.93 279 *e*P **PKiKP** 19 48 26.1 -1.0
M54A Oil Creek Stat 111.03 52 Pdiff **Pdif** 19 44 30.1 -1.4
baz=260
MK31 Makanchi Array 111.05 313 PKiKP **PKiKP** 19 48 25.4 -1.1
MK31 pmax pmax
comp=Z,52nm,0.6s
DDI Dehra Dun 111.08 295 *e*P **PKiKP** 19 48 26.9 -0.2
DDI IAMs_20 IAMs_20 20 22 07.7
comp=Z,8μm,15.6s
NRIK Noril'sk 111.10 338 Pdiff **Pdif** 19 44 30.8 -0.3
comp=Z,12nm,0.7s,baz=96,slow=3.6,SNR=10
NRIK PKiKP **PKiKP** 19 48 25.6 -0.3
comp=Z,69nm,0.7s,baz=80,slow=4.1,SNR=10
NRIK PP **PP** 19 49 12.8 -5.3
comp=Z,111nm,1.1s,baz=115,slow=3.0,SNR=5.7
NRIK PKKPbc **PKKPab** 19 59 36.2 +0.3
comp=Z,35nm,0.9s,baz=18,slow=1.3,SNR=5.9
MAKZ Makanchi 111.26 313 PKiKP **PKiKP** 19 48 25.3 -1.6
MAKZ pmax pmax
comp=Z,201nm,1.1s
MAKZ Makanchi 111.26 313 *e*Pdif **Pdif** 19 44 32.9 +0.6
NDI New Delhi 111.41 293 *e*P **PKiKP** 19 48 26.0 -1.7
NVS Novosibirsk 111.60 322 *i* PKiKP **PKiKP** 19 48 26.0 -1.2
NVS *e* 19 54 10.5
NVS pmax pmax
comp=Z,245nm,1.3s
O56A Blue Knob Stat 111.62 54 Pdiff **Pdif** 19 44 33.5 -0.7
baz=260
POO Poona 111.79 282 *e*P **PKiKP** 19 48 25.8 -2.9
SADO Sadowa 111.96 49 PKiKP **PKiKP** 19 48 27.3 -0.9
comp=Z,22nm,0.7s,baz=284,slow=2.7,SNR=10
SADO PP **PP** 19 49 23.5 -1.4
comp=Z,26nm,0.8s,baz=288,slow=16,SNR=3.4
SADO PKKPbc **PKKPbc** 19 59 24.6 +1.6
comp=Z,17nm,0.6s,baz=108,slow=3.9,SNR=7.6
SMLA Simla 112.00 296 *e*P **PKiKP** 19 48 28.5 -0.2
SMLA IAMs_20 IAMs_20 20 33 15.4
comp=Z,10μm,26.9s
SSPA Standing Stone 112.20 54 *e*PKiKP **PKiKP** 19 48 27.9 -0.9
PDGK Podgornoye 112.45 309 P **Pdif** 19 44 39.6 +1.7
PDGK pmax pmax
comp=Z,25nm,0.8s
BHK Bhakra 112.69 296 *e*P **PKiKP** 19 48 28.0 -2.1
BHK *ex* x 19 49 32.0
UZB Uzynbulak 112.76 309 *i* Pdif **Pdif** 19 44 37.6 -1.7
UZB *i* PKiKP **PKiKP** 19 48 29.1 -0.9
UZB *i* PP **PP** 19 49 28.0 -2.7
UZB *i* PS **PS** 19 59 13.7 -3.4
SEM Semipalatinsk 112.89 317 *i* Pdif **Pdif** 19 44 38.2 -1.6
SEM *i* PP **PP** 19 49 29.2 -2.2
SEM *i* PS **PS** 19 59 12.9 -5.2
SEM *i* SSS SSS 20 08 49.0
SDDR Presa de Saban 113.02 78 *e*P **PP** 19 49 30.4 -2.5
SDDR Presa de Saban 113.02 78 *e*PKiKP **PKiKP** 19 48 30.2 -0.8
THN Thein Dam 113.48 297 *ex* **Pdif** 19 44 42.0 -0.5
THN *ex* x 19 56 36.0
N59A State Game Lan 113.83 54 Pdiff **Pdif** 19 44 41.6 -2.4
baz=262
BINY Binghamton 113.85 52 *e*PKiKP **PKiKP** 19 48 29.9 -2.0
KURK Kurchatov 113.95 317 *i* PKiKP **PKiKP** 19 48 31.2 -0.6
KURK pmax pmax
comp=Z,68nm,0.6s
KURK Kurchatov 113.95 317 Pdif **Pdif** 19 44 44.4 +0.2
KURK PKiKP **PKiKP** 19 48 31.2 -0.6
KURK PP **PP** 19 49 32.7 -5.8
KURK PKKPbc **PKKPbc** 19 59 11.1 -5.4
KURK SKKPbc SKKPbc 20 02 01.1 -2.8
KURBB Kurchatov Arra 114.00 317 Pdiff **Pdif** 19 44 44.4 0.0
comp=Z,4.8nm,0.9s,baz=96,slow=4.2,SNR=21
KURBB PKiKP PKPdf 19 48 31.2 -0.7
comp=Z,68nm,0.6s,baz=112,slow=1.8,SNR=48
KURBB PP **PP** 19 49 32.7 -6.2
comp=Z,91nm,1.1s,baz=93,slow=6.5,SNR=7.2
KURBB PKKPbc **PKKPbc** 19 59 11.1 -5.3
comp=Z,10nm,0.7s,baz=263,slow=4.4,SNR=12
KURBB SKKPbc SKKPbc 20 02 01.1 -2.6
comp=Z,20nm,0.9s,baz=275,slow=3.7,SNR=8.7
MDOK Medeo 114.19 309 *i* Pdif **Pdif** 19 44 44.0 -1.7
MDOK *i* PP **PP** 19 49 37.8 -2.9
MDOK *i* SS SS 20 04 46.6 +0.4
AAA Alma-Ata 114.30 309 *e*P **Pdif** 19 44 52.6 +6.6
AAA *e*S **SKSac** 19 54 19.9 -2.6
AAA pmax pmax
comp=Z,2μm,16.4s
AAA smax smax
comp=E,7μm,8.6s
AAA Alma-Ata 114.30 309 *e*Pdif **Pdif** 19 44 44.5 -1.5
AAA *i* PKiKP PKPdf 19 48 32.1 -0.7
AAA *i* PP **PP** 19 49 38.9 -2.4
KSH Kashi 114.49 305↑ *i* PKP PKPdf 19 48 34.3 +0.9
KSH PP **PP** 19 49 49.0 +6.2
KSH sPKP 19 51 49.6
KSH PKS **PKSdf** 19 52 09.1 -1.1
KSH SKS **SKSdf** 19 54 49.1 +2.1
KSH SS **SS** 20 04 56.0 +5.8
KSH AMB AMB
comp=E,8μm,8.5s
BRNJ Basking Ridge 114.70 54 *e*PKPdf PKPdf 19 48 33.5 0.0
ODNJ Ogdensburg 114.72 54 *e*PKPdf PKPdf 19 48 33.3 -0.3
SPB Sao Paulo 115.12 131 *e*PKPdf **PKPdf** 19 48 35.1 +0.1
LONY Lake Ozonia 115.17 50 *e*PKPdf **PKPdf** 19 48 33.6 -0.8
CPNY Central Park 115.17 54 *e*PKPdf **PKPdf** 19 48 34.4 0.0
TKM2 Tokmak 2 115.22 308 PKiKP **PKPdf** 19 48 33.5 -1.3
TKM2 pmax pmax
comp=Z,122nm,0.8s
PAL Palisades 115.24 54 *e*PKiKP **PKPdf** 19 48 34.3 -0.3
PAL Palisades 115.24 54 *e*PKPdf **PKPdf** 19 48 34.3 -0.3
TRQ Mont Tremblant 115.34 48 *e*PKPdf **PKPdf** 19 48 33.9 -0.9
NCB Newcomb 115.35 50 *e*PKPdf **PKPdf** 19 48 34.4 -0.4
TRY Troy 115.62 52 *e*PKPdf **PKPdf** 19 48 35.4 +0.1
ACCN Adirondack Com 115.69 51 *e*PKPdf **PKPdf** 19 48 34.8 -0.7
FRNY Flat Rock 115.89 50 *e*PKPdf **PKPdf** 19 48 35.0 -0.7
FRU Bishkek 115.93 308 *e*P **Pdif** 19 44 56.0 +2.8
FRU *i* 19 48 34.0
FRU *e* 19 54 24.0
AAK Ala-Arcba 116.00 308 Pdiff **Pdif** 19 44 57.7 +3.9
comp=Z,21nm,0.9s,baz=119,slow=3.3,SNR=28
AAK PKP **PKPdf** 19 48 36.0 -0.2
comp=Z,80nm,0.9s,baz=134,slow=1.1,SNR=26
AAK PP **PP** 19 49 51.4 -1.7
comp=Z,23nm,0.8s,baz=73,slow=7.5,SNR=4.0
AAK PKKPbc **PKKPbc** 19 59 09.5 -0.1
comp=Z,83nm,0.7s,baz=188,slow=2.7,SNR=28
AAK Ala-Arcba 116.00 308 PKiKP **PKPdf** 19 48 35.6 -0.7
AAK pmax pmax
comp=Z,96nm,1.0s
YLE Yale 116.00 54 *e*PKPdf **PKPdf** 19 48 35.9 -0.1
MDV Middlebury 116.10 51 *e*PKPdf **PKPdf** 19 48 35.8 -0.4
QUA2 Belchertown 116.54 53 *e*PKPdf **PKPdf** 19 48 36.9 -0.1
PCRV Puerto La Cruz 116.55 89 PKKPbc PKKPbc 19 59 08.3 +1.2
comp=Z,18nm,0.5s,baz=209,slow=2.9,SNR=8.3
AGP Aguadilla 116.64 80 *e*PKPdf **PKPdf** 19 48 38.7 +0.8
HNH Hanover 116.72 51 *e*PKPdf **PKPdf** 19 48 37.6 +0.2
BHJ Bhuj 116.79 286 *e*P **PKPdf** 19 48 37.1 -1.1
BHJ IAmb IAmb 19 48 39.1
comp=Z,181nm,0.7s
PTGA Pitinga 116.85 102 PKP **PKPdf** 19 48 38.2 -0.3
comp=Z,38nm,0.5s,baz=269,slow=3.7,SNR=50
PTGA PP **PP** 19 49 58.2 -0.9
comp=Z,7.3nm,0.5s,baz=244,slow=8.6,SNR=5.9
PTGA SKP 19 51 13.5
comp=Z,98nm,0.9s,baz=251,slow=2.6,SNR=9.2
PTGA PKKPbc **PKKPbc** 19 59 07.5 +1.4
comp=Z,32nm,0.8s,baz=60,slow=4.4,SNR=12
PTGA Pitinga 116.85 102 *e*PKPdf **PKPdf** 19 48 37.7 -0.8
PTGA PP **PP** 19 49 58.2 -0.9
PTGA SKP 19 51 13.5
PTGA PKKPbc **PKKPbc** 19 59 07.5 +1.4
LBNH Lisbon 117.03 50 *e*PKiKP **PKPdf** 19 48 38.2 +0.2
LBNH Lisbon 117.03 50 *e*PKPdf **PKPdf** 19 48 38.1 +0.2
CELP Cerrillos 117.07 80 *e*PKPdf **PKPdf** 19 48 37.2 -1.6
BRYW Bryant College 117.11 53 *e*PKPdf **PKPdf** 19 48 37.7 -0.5
HRV Adam Dziewonsk 117.15 52 *e*PKiKP **PKPdf** 19 48 38.1 -0.1
HRV Adam Dziewonsk 117.15 52 *e*PKPdf **PKPdf** 19 48 38.1 -0.1
FFD Franklin Falls 117.16 51 *e*PKPdf **PKPdf** 19 48 38.5 +0.2
WES Weston 117.31 52 *e*PKiKP **PKPdf** 19 48 38.6 0.0
WES Weston 117.31 52 *e*PKPdf **PKPdf** 19 48 38.5 0.0
BCX Boston College 117.42 53 *e*PKPdf **PKPdf** 19 48 38.5 -0.2
MNAS Manas 117.45 308 PKiKP **PKPdf** 19 48 37.9 -1.1
MNAS pmax pmax
comp=Z,238nm,0.8s
SJG San Juan 117.47 80 SKP **SKPdf** 19 51 14.6 -1.9
comp=Z,108nm,0.8s,baz=252,slow=2.4,SNR=5.5
SJG PKKPbc PKKPbc 19 59 04.9 +1.1
comp=Z,15nm,0.4s,baz=18,slow=9.6,SNR=5.2
SJG San Juan 117.47 80 *e*PKiKP **PKPdf** 19 48 38.8 -0.8
SJG San Juan 117.47 80 *e*PKPdf **PKPdf** 19 48 38.8 -0.8
SJG SKP 19 51 14.6
SJG PKKPbc **PKKPbc** 19 59 04.9 +1.0
BRZS Berezniki 117.71 316 *i* PKiKP **PKPdf** 19 48 38.5 -0.7
BRZS *i* PP **PP** 19 50 02.3 -2.1
BRZS *i* SKP 19 51 17.6
BRZS *e*SS SS 20 05 31.0 +0.3
HUMP Col San Antoni 117.76 80 *e*PKPdf **PKPdf** 19 48 39.2 -0.9
CBYP Canovanas 117.79 80 *e*PKPdf **PKPdf** 19 48 39.2 -1.0
LMQ La Malbaie 118.32 47 *e*PKPdf **PKPdf** 19 48 39.6 -0.7
FRB Frobisher Bay 118.33 28 PKP **PKPdf** 19 48 39.2 -0.6
comp=Z,152nm,0.6s,baz=281,slow=2.1,SNR=64
FRB PKKPbc **PKKPbc** 19 59 00.0 -1.8
comp=Z,18nm,0.6s,baz=137,slow=4.8,SNR=3.2
STVI Saint Thomas 118.64 80 *e*PKPdf **PKPdf** 19 48 40.6 -1.2
CDVI St. Croix 118.65 81 *e*PKPdf **PKPdf** 19 48 41.4 -0.4
WVL Waterville 118.67 50 *e*PKPdf **PKPdf** 19 48 40.8 -0.3
KK31 Karatay Array 118.95 308 *i* PKiKP **PKPdf** 19 48 40.8 -1.0
KK31 pmax pmax
comp=Z,231nm,0.9s
KKAR Karatay Array 118.95 308 *e*PKiKP **PKPdf** 19 48 41.4 -0.3
KKAR Karatay Array 118.95 308 *e*PKPdf **PKPdf** 19 48 41.4 -0.3
PKME Peaks-Kenny Pk 118.96 49 *e*PKPdf **PKPdf** 19 48 41.5 -0.1
KULLO Kullorsuaq 119.00 15 *i* PKiKP **PKPdf** 19 48 40.2 -0.7
KULLO pmax pmax
comp=Z,310nm,0.9s
BVAR Borovoye Array 119.11 320 Pdiff **Pdif** 19 45 08.4 +1.3
comp=Z,6.4nm,1.0s,baz=83,slow=4.6,SNR=18
BVAR PKP **PKPdf** 19 48 41.2 -0.5
comp=Z,170nm,0.4s,baz=124,slow=2.1,SNR=146
BVAR PP **PP** 19 50 10.5 -3.3
comp=Z,68nm,0.9s,baz=117,slow=5.5,SNR=3.8
BVAR PKKPbc **PKKPbc** 19 58 59.0 +0.2
comp=Z,21nm,0.5s,baz=270,slow=2.7,SNR=28
ABPO Ambohimpanom 119.14 232 *e*PKiKP **PKPdf** 19 48 44.1 +1.0
ABPO Ambohimpanom 119.14 232 *e*PKPdf **PKPdf** 19 48 44.1 +1.0
BRVK Borovoye 119.17 320 PKiKP **PKPdf** 19 48 40.6 -1.2
BRVK pmax pmax
comp=Z,435nm,1.1s
BRVK Borovoye 119.17 320 *e*Pdif **Pdif** 19 45 08.0 +0.6
IUG luzhnay 119.25 307 *i* Pdif **Pdif** 19 45 06.7 -1.5
IUG *i* PKiKP **PKPdf** 19 48 41.6 -0.9
IUG *i* PP **PP** 19 50 12.5 -2.7
KBL Kabul 119.32 298 *e*PKiKP **PKPdf** 19 48 42.0 -1.0
KBL Kabul 119.32 298 *e*PKPdf **PKPdf** 19 48 42.0 -1.0
OPO Ambohidratompo 119.45 232 PKKPbc PKKPbc 19 59 00.7 +3.0
comp=Z,6.2nm,0.9s,baz=320,slow=14,SNR=6.5
BDFB Brasilia 119.59 124 PKP **PKPdf** 19 48 44.3 +0.4
comp=Z,4μm,0.4s,baz=351,slow=0.0,SNR=4.8
PQI Presque Isle 119.88 48 *e*PKPdf **PKPdf** 19 48 42.3 -1.1
GRGR Grenville 119.94 88 *e* **PP** 19 50 16.1 -4.2
GRGR Grenville 119.94 88 *e* **PKSdf** 19 52 24.7 +3.3
GRGR Grenville 119.94 88 *e*PKPdf **PKPdf** 19 48 42.8 -1.7
SABA Saba 120.02 82 *e*P **PP** 19 50 18.8 -2.0
EMMW East Machias 120.24 50 *e*PKPdf **PKPdf** 19 48 44.0 -0.1
SMRT St. Maarten 120.28 81 *e* **PP** 19 50 19.2 -3.4
SMRT St. Maarten 120.28 81 *e*PKPdf **PKPdf** 19 48 43.7 -1.3
SCHQ Schefferville 120.29 38 PKP **PKPdf** 19 48 43.4 -0.6
comp=Z,51nm,0.6s,baz=276,slow=2.1,SNR=17
SCHQ PP **PP** 19 50 20.3 -1.3
comp=Z,31nm,0.6s,baz=279,slow=7.8,SNR=4.1
SCHQ PKKPab **PKKPab** 19 58 56.4 +0.8
comp=Z,23nm,0.8s,baz=65,slow=5.8,SNR=3.7
MSEY Mahe Island 120.33 251 *e*PKiKP **PKPdf** 19 48 46.1 +0.8
MSEY Mahe Island 120.33 251 *e*PKPdf **PKPdf** 19 48 46.1 +0.8
SVB Belmont 120.66 87 *e* **PP** 19 50 17.6 -7.5
SVB Belmont 120.66 87 *e* **PKSdf** 19 52 25.9 +3.1
SVB Belmont 120.66 87 *e*PKPdf **PKPdf** 19 48 44.0 -1.8
GGN Saint George 120.69 50 *e*PKPdf **PKPdf** 19 48 44.8 -0.2
TOSP Speyside 120.72 89 *e* **PP** 19 50 20.1 -5.3
TOSP Speyside 120.72 89 *e* **PKSdf** 19 52 25.9 +3.0
MLYT Lee's Yard 120.75 83 *e* **PP** 19 50 23.6 -2.2
GDHS Morne Mazeau, 121.03 84 *e*PKPdf **PKPdf** 19 48 46.3 -0.2
MCLT Moule a Chique 121.07 87 *e* **PKSdf** 19 52 28.0 +4.5

PCM Pelee Case Pet 121.14 85 eP PKKPbc 19 58 53.0 +2.1
PCM Pelee Case Pet 121.14 85 eP PKKPbc 19 58 53.3 +2.4
PML Morne Lenard 121.16 85 eP PKKPbc 19 58 53.4 +2.5
FDF Fort de France 121.17 85 e PP 19 50 32.5 +3.9
FDF Fort de France 121.17 85 eP PKKPbc 19 58 52.9 +2.1
FDF Fort de France 121.17 85 ePKIKP PKPdf 19 48 46.3 -0.5
FDF Fort de France 121.17 85 ePKPdf PKPdf 19 48 46.3 -0.5
CXM Morne La Croix 121.18 85 eP PKKPbc 19 58 54.6 +3.7
GBMF Grand Be 121.18 85 eP PKKPbc 19 58 53.8 +2.9
TRMF Trois Ilets 121.21 86 eP PKKPbc 19 58 52.7 +2.1
ZAM Aeronautique 121.24 86 eP PKKPbc 19 58 53.4 +2.9
DLPL La Plaine 121.25 85 e PP 19 50 21.2 -7.9
DWS Wesley 121.25 84 eP PP 19 50 26.1 -3.0
ANWB Willy Bob 121.37 82 e PP 19 50 25.9 -3.9
ANWB Willy Bob 121.37 82 ePKPdf PKPdf 19 48 46.5 -0.5
H05S1 Guadeloupe/Mar 121.38 86 PKP PKPdf 19 48 46.3 -0.8
BBSR BB Station 121.54 65 ePKPdf PKPdf 19 48 47.4 +0.4
H05N1 Guadeloupe/Mar 121.69 84 PKP PKPdf 19 48 46.6 -1.1
LMN Caledonia Moun 122.11 49 ePKPdf PKPdf 19 48 46.1 -1.6
KBS Kingsbay 122.37 357 ePdif Pdif 19 45 21.1 0.0
KBS ePKPdf PKiKP 19 48 47.8 +0.2
KBS ePP PP 19 50 33.5 -1.2
KBS eSS SS 20 06 29.1 +1.4
KBS Kingsbay 122.37 357 ePKIKP PKPdf 19 48 47.5 +0.2
SPA0 Spitsbergen Ar 122.87 356 ePdif Pdif 19 45 22.8 -0.5
SPA0 e 19 48 46.5
SPA0 ePKPdf PKPdf 19 48 48.3 -0.1
SPA0 ePP PP 19 50 37.5 -0.6
SPA0 eSKSac SKSac 19 54 52.9 +1.7
SPA0 Spitsbergen Ar 122.87 356 ePKPdf PKPdf 19 48 46.9 -1.4
SPITS Spitsbergen Ar 122.87 356 PKP PKPdf 19 48 48.2 -0.1
comp=Z,506nm,0.6s,baz=66,slow=3.6,SNR=6.5
SPITS PKKPbc PKKPab 19 58 44.1 +0.2
comp=Z,24nm,0.5s,baz=156,slow=6.9,SNR=35
SUR Sutherland 122.98 200 PKP PKPdf 19 48 50.3 +0.1
comp=Z,22nm,0.8s,baz=122,slow=2.3,SNR=80
SUR PP PP 19 50 38.5 -0.2
comp=Z,5.4nm,0.9s,baz=157,slow=5.5,SNR=4.1
SUR PKKPbc PKKPbc 19 58 44.3 -1.2
comp=Z,4.6nm,0.8s,baz=336,slow=4.1,SNR=15
SUR SKKPbc SKKPbc 20 01 35.4 +3.1
comp=Z,1.4nm,0.7s,baz=259,slow=1.2,SNR=5.5
SUR Sutherland 122.98 200 ePKPdf PKPdf 19 48 50.8 +0.7
SUR PP PP 19 50 38.5 -0.2
SUR PKKPbc PKKPbc 19 58 44.3 -1.2
SUR SKKPbc SKKPbc 20 01 35.4 +3.1
ILULI Ilulissat 123.18 20⇑ iPKIKP PKPdf 19 48 48.6 -0.4
ILULI pmax pmax
comp=Z,510nm,0.9s
HOPEN Hopen 123.69 353 ePKPdf PKPdf 19 48 49.7 -0.2
HOPEN eSS SS 20 06 48.2 +4.2
DAG Danmarks Havn 123.94 5 i PKIKP PKPdf 19 48 49.2 -1.1
DAG pmax pmax
comp=Z,150nm,0.7s
HSPB Hornsund (broa 124.06 356 ePKPdf PKPdf 19 48 50.5 0.0
HSPB ePP PP 19 50 44.3 -1.5
HSPB eSS SS 20 06 49.8 +1.3
HSPB Hornsund (broa 124.06 356 ePKIKP PKPdf 19 48 50.7 +0.2
HSPB e 19 50 46.7
HSPB eSS SS 20 06 55.3 +6.7
SVE Sverdlovsk 124.18 325c iPKIKP PKPdf 19 48 50.7 -0.6
SVE pmax pmax
comp=Z,612nm,1.0s
SFJD Kangerlussuaq 124.41 22 PP PP 19 50 43.9 -4.5
baz=297,slow=8.5
SFJD PKKPbc PKKPab 19 58 35.2 -2.2
comp=Z,9.0nm,0.5s,baz=180,slow=4.0,SNR=4.4
SFJD SKKPbc SKKPbc 20 01 28.8 -2.5
comp=Z,15nm,0.8s,baz=323,slow=2.7,SNR=4.0
SFJD Kangerlussuaq 124.41 22⇑ iPKIKP PKPdf 19 48 50.7 -0.7
SFJD pmax pmax
comp=Z,170nm,0.8s
SFJD Kangerlussuaq 124.41 22 ePKPdf PKPdf 19 48 50.0 -1.4
SFJD PP PP 19 50 43.9 -4.5
SFJD PKKPbc PKKPab 19 58 35.2 -2.2
SFJD SKKPbc SKKPbc 20 01 28.8 -2.5
SUMG Summit 124.50 13⇑ iPKIKP PKPdf 19 48 52.3 +0.3
BOSA Boshof 124.74 206 PKHKP PKPpre 19 48 42.2
comp=Z,4.9nm,0.7s,baz=166,slow=3.5,SNR=4.3
BOSA PKP PKPdf 19 48 53.2 -0.3
comp=Z,119nm,0.8s,baz=162,slow=2.2,SNR=5.0
BOSA PP PP 19 50 46.5 -3.9
comp=Z,42nm,0.8s,baz=152,slow=6.8,SNR=2.1
BOSA PKKPbc PKKPbc 19 58 37.6 -1.0
comp=Z,81nm,0.9s,baz=332,slow=4.2,SNR=22
BOSA Boshof 124.74 206 PKIKP PKPdf 19 48 53.2 -0.3
BOSA pmax pmax
comp=Z,51nm,0.7s
BOSA Boshof 124.74 206 PKPpre PKPpre 19 48 42.2
BOSA ePKPdf PKiKP 19 48 54.5 +0.5
BOSA PP PP 19 50 46.5 -3.9
BOSA PKKPbc PKKPbc 19 58 37.6 -1.0
SOKR Solikamsk 125.38 329c iPKIKP PKPdf 19 48 51.9 -1.5
SOKR pmax pmax
comp=Z,1μm,1.1s
ARU Arti 125.39 325 Pdiff Pdif 19 45 39.4 +4.5
comp=Z,1.1nm,0.5s,baz=252,slow=13,SNR=2.5
ARU PKP PKPdf 19 48 53.7 0.0
comp=Z,306nm,0.6s,baz=98,slow=1.5,SNR=112
ARU PP PP 19 50 50.4 -4.8
comp=Z,141nm,0.9s,baz=51,slow=4.3,SNR=4.0
ARU PKKPbc PKKPbc 19 58 35.4 0.0
comp=Z,92nm,0.6s,baz=264,slow=3.0,SNR=32
ARU SKKPbc SKKPbc 20 01 24.7 -2.9
comp=Z,28nm,0.7s,baz=309,slow=2.3,SNR=4.8
ARU Arti 125.39 325 i PKIKP PKPdf 19 48 53.5 -0.1
ARU 19 50 54.1
ARU PPP PPP 19 53 47.9
ARU 19 54 59.7
ARU Arti 125.39 325 Pdif Pdif 19 45 39.4 +4.5
ARU ePKPdf sPdif 19 48 51.5 -1.1
ARU PP PP 19 50 50.4 -4.8
ARU PKKPbc PKKPbc 19 58 35.4 0.0
ARU SKKPbc SKKPbc 20 01 24.7 -2.9
AB31 Akbulak array 126.02 316 i PKIKP PKPdf 19 48 54.8 -0.3
AB31 pmax pmax
comp=Z,345nm,1.1s
BJO Bjornoya 126.13 354 ePKPdf PKPdf 19 48 54.3 -0.3
WSAR Wadi Sarin 126.71 283 PKhKP PKPpre 19 48 45.5
comp=Z,8.1nm,0.7s,baz=196,slow=3.9,SNR=5.4
WSAR PKP PKiKP 19 48 57.5 -0.2
comp=Z,164nm,0.9s,baz=199,slow=1.5,SNR=31
WSAR PP PP 19 50 56.4 -8.6
comp=Z,110nm,1.0s,baz=114,slow=5.6,SNR=3.6
WSAR PKKPbc PKKPbc 19 58 30.9 +1.3
comp=Z,26nm,0.7s,baz=277,slow=8.5,SNR=27
WSAR SKKPbc SKKPbc 20 01 12.0 -9.0
comp=Z,6.9nm,0.8s,baz=238,slow=9.2,SNR=2.8
DRLN Deer Lake 126.72 44 ePKPdf PKPdf 19 48 55.7 -0.7
AKTO Aktyubinsk 127.05 318 Pdiff Pdif 19 45 46.8 +4.3
comp=Z,1.1nm,0.7s,baz=72,slow=6.4,SNR=2.1
AKTO PKhKP PKPpre 19 48 45.5
comp=Z,3.8nm,0.5s,baz=77,slow=3.3,SNR=4.3
AKTO PKP PKPdf 19 48 56.6 -0.4
comp=Z,163nm,0.7s,baz=86,slow=3.0,SNR=62
AKTO PKKPbc PKKPbc 19 58 28.7
comp=Z,26nm,0.8s,baz=283,slow=4.1,SNR=10.0
AKTO SKKPbc SKKPbc 20 01 17.1 -4.5
comp=Z,16nm,0.8s,baz=293,slow=4.0,SNR=4.6
LBTB Lobatse 127.73 209 PKhKP PKPpre 19 48 53.1
comp=Z,9.5nm,0.6s,baz=142,slow=2.9,SNR=9.1
LBTB PKP PKiKP 19 49 00.5 +0.5
comp=Z,92nm,0.9s,baz=157,slow=3.7,SNR=40
GEYT Alibeck 128.32 302 PKhKP PKPpre 19 48 48.0
comp=Z,14nm,0.4s,baz=200,slow=2.8,SNR=16
GEYT PKP PKPdf 19 49 00.2 +0.3
comp=Z,186nm,0.7s,baz=287,slow=1.3,SNR=44
GEYT PP PP 19 51 13.8 -1.2
comp=Z,124nm,1.1s,baz=96,slow=4.5,SNR=3.7
GEYT pPKP pPKPdf 19 51 24.6 +0.5
comp=Z,363nm,1.1s,baz=256,slow=0.6,SNR=11
GEYT SKKPbc SKKPbc 20 01 27.1 +11
comp=Z,25nm,1.1s,baz=208,slow=8.0,SNR=4.9
HAMF Hammerfest 129.09 350 e PKPpre 19 48 50.0
HAMF ePKPdf PKPdf 19 48 59.8 -0.5
HAMF ePP PP 19 51 17.9 -0.6
HAMF eSS SS 20 07 53.3 +3.0
LVZ Lovozero 129.10 344⇑ iPKIKP PKPdf 19 49 00.7 +0.2
LVZ Lovozero 129.10 344 ePKPpre PKPpre 19 48 50.4
NRS Narsarsuaq 129.27 27 i PKIKP PKPdf 19 49 01.0 +0.2
NRS i 19 51 23.4
SCO Scoresbysund 129.29 10 i PKIKP PKPdf 19 49 00.8 +0.1
SCO i 19 51 16.4
APA Apatity 129.67 344⇓ iPKIKP PKPdf 19 49 01.5 0.0
APA i *PP pPKPdf 19 51 27.3 +1.5
APA i PPP PPP 19 54 18.0
APA pmax pmax
comp=Z,15nm,0.8s
ARCES ARCESS Array B 129.76 349 PKhKP PKPpre 19 48 48.4
comp=Z,9.7nm,0.7s,baz=22,slow=3.1,SNR=7.3
ARCES PKP PKPdf 19 49 01.5 -0.2
comp=Z,468nm,0.6s,baz=17,slow=0.9,SNR=43
ARCES pPKP pPKPdf 19 51 28.4 +2.4
comp=Z,989nm,1.0s,baz=22,slow=4.2,SNR=30
ARCES PKKPbc PKKPbc 19 58 21.6
comp=Z,9.0nm,0.6s,baz=212,slow=3.2,SNR=6.8
ARCES SKKPbc SKKPbc 20 01 09.2 -4.0
comp=Z,6.6nm,0.7s,baz=188,slow=2.7,SNR=4.1
ARCES SKKP 20 01 54.4
comp=Z,17nm,0.7s,baz=203,slow=1.9,SNR=4.6
ARE0 ARCESS Array S 129.76 349 ePdif Pdif 19 45 53.6 -0.5
ARE0 e 19 48 51.7
ARE0 ePKPdf PKPdf 19 49 01.3 -0.4
ARE0 ePS PS 20 01 41.4 -2.7
ARE0 eSS SS 20 08 03.6 +5.1
ARE0 ARCESS Array S 129.76 349 ePKPpre PKPpre 19 48 49.0
MATP Matopo 130.17 215 PKhKP PKPpre 19 48 51.2
comp=Z,19nm,0.6s,baz=142,slow=4.5,SNR=9.7
MATP PKP PKPdf 19 49 04.3 +0.3
comp=Z,97nm,0.7s,baz=147,slow=1.8,SNR=21
MATP pPKP pPKPdf 19 51 31.4 +3.1
comp=Z,2μm,1.1s,baz=151,slow=4.4,SNR=49
JMIC Jan Mayen 130.30 4 PKP PKPdf 19 49 03.4 +0.9
comp=Z,315nm,0.6s,baz=302,slow=3.4,SNR=5.5
JMIC pPKP pPKPdf 19 51 30.6 +3.7
comp=Z,374nm,0.9s,baz=110,slow=3.7,SNR=12
JMIC Jan Mayen 130.30 4 ePKPdf PKPdf 19 49 03.3 +0.7
JMIC eSS SS 20 08 09.9 +5.1
KTK1 Kautokeino 130.61 350 e PKPpre 19 48 54.1
KTK1 ePKPdf PKiKP 19 49 05.0 +0.8
TRO Tromso 130.70 352 e PKPpre 19 48 50.7
TRO ePKPdf PKPdf 19 49 02.6 -0.8
TRO ePP PP 19 51 29.1 +0.3
TRO eSKPdf SKiKP 19 51 42.6 +0.9
TRO ePS PS 20 01 50.9 -1.1
TRO eSS SS 20 08 14.4 +4.6
TMCR Tamitsa 130.77 339 ePKIKP PKPpre 19 48 58.6
TMCR pmax pmax
comp=Z,248nm,0.8s
KLMR Klimovskoe 132.37 335 ePKIKP PKPpre 19 48 58.9
KLMR pmax pmax
comp=Z,719nm,1.3s
LOF Lofoten 132.78 353 ePdif Pdif 19 46 05.6 -1.9
LOF e 19 48 58.3
LOF ePKPdf PKPdf 19 49 07.5 +0.2
LOF eSS SS 20 08 39.0 +4.5
STEI Steigen 132.78 353 e PKPpre 19 48 55.3
STEI ePKPdf PKPdf 19 49 06.9 -0.4
KONS Konsvik 134.40 353 e PKPpre 19 48 58.9
KONS ePKPdf PKPdf 19 49 08.1 -2.3
KONS ePP PP 19 51 51.4 -0.5
BORG Borgarnes 134.48 13 SKPbc SKPab 19 51 46.0 -1.1
comp=Z,306nm,1.0s,baz=354,slow=0.7,SNR=18
BORG Borgarnes 134.48 13 ePKHKP PKPpre 19 49 02.4
BORG Borgarnes 134.48 13 ePKPpre PKPpre 19 49 02.4
BORG SKPbc SKPab 19 51 46.0 -1.1
LSZ Lusaka 134.49 219 PKhKP PKPpre 19 49 00.3
comp=Z,12nm,0.6s,baz=134,slow=2.2,SNR=12
LSZ PKP PKPdf 19 49 13.0 +0.7
comp=Z,250nm,0.9s,baz=159,slow=2.8,SNR=25
LSZ SKPab SKPab 19 51 46.8 -2.0
comp=Z,85nm,0.6s,baz=170,slow=3.8,SNR=14
MOR8 Moi Rana 134.55 352 ePdif Pdif 19 46 14.4 -1.1
MOR8 e 19 48 59.2
MOR8 ePKPdf PKPdf 19 49 10.4 -0.3
MOR8 eSKPdf SKPbc 19 51 44.3 +1.3
MOR8 eSS SS 20 08 57.5 +1.9
STOK Stokkvaagen 134.57 353 e PKPpre 19 48 59.5
STOK ePKPdf PKPdf 19 49 09.9 -0.8
RCBR Riachuelo 134.96 123 PKhKP PKPpre 19 49 00.7
comp=Z,39nm,0.5s,baz=233,slow=2.8,SNR=33
RCBR PKP PKPdf 19 49 13.1 0.0
comp=Z,52nm,0.7s,baz=266,slow=3.7,SNR=9.8
RCBR SKP 19 51 45.2
comp=Z,259nm,1.0s,baz=207,slow=3.4,SNR=16
RCBR SKKPbc SKKPbc 20 00 54.5 +3.9
comp=Z,17nm,0.9s,baz=57,slow=6.2,SNR=2.9
RCBR Riachuelo 134.96 123 ePKPpre PKPpre 19 49 01.1
RCBR PKP PKPdf 19 49 13.1 0.0
RCBR SKP 19 51 45.2
RCBR SKKPbc SKKPbc 20 00 54.5 +3.9
MAK Makhachkala 135.72 310 eP Pdif 19 46 19.5 -1.6
MAK e 19 49 12.1
MAK e 19 51 58.8
MAK pmax pmax
comp=Z,8μm,0.6s
TSUM Tsumeb 136.21 203 PKhKP PKPpre 19 49 05.8
comp=Z,16nm,0.6s,baz=155,slow=3.1,SNR=19
TSUM PKP PKiKP 19 49 16.6 -0.7
comp=Z,58nm,0.7s,baz=178,slow=3.3,SNR=22
TSUM SKP 19 51 48.1
comp=Z,257nm,1.0s,baz=146,slow=4.0,SNR=13
MOS Moscow 136.25 331 i PKIKP PKPdf 19 49 12.1 -2.0
MOS ePPP PPP 19 55 08.6
MOS e 19 55 26.6
MOS eSSS SSS 20 14 35.1
MOS pmax pmax
comp=Z,592nm,0.9s
FIA1 FINESS Array S 136.45 343 ePKPpre PKPpre 19 49 02.0
FIA1 ePKPpre PKPpre 19 49 03.0
FINES FINESS Array B 136.46 343 PKhKP PKPpre 19 49 04.2
comp=Z,47nm,0.4s,baz=72,slow=2.4,SNR=46
FINES PKP PKPdf 19 49 14.8 +0.4
comp=Z,192nm,0.5s,baz=60,slow=3.4,SNR=34
FINES SKPab SKPbc 19 51 50.4 +1.6
comp=Z,735nm,0.9s,baz=61,slow=4.8,SNR=19
FINES SKKPbc SKKPbc 20 00 43.4 -5.0
comp=Z,15nm,0.8s,baz=173,slow=4.3,SNR=5.2
FINES PKPPKP 20 07 06.0
comp=Z,8.2nm,0.8s,baz=151,slow=3.2,SNR=6.4
PUL Pulkovo 136.46 339 ePKIKP PKPdf 19 49 14.5 +0.1
GROC Groznyy 136.87 311 ePKHKP PKPpre 19 49 06.1
GROC i 19 49 14.0
GROC e 19 52 27.5
GROC e 19 55 23.1
OBN Obninsk 137.11 330 PKhKP PKPpre 19 49 04.8
comp=Z,164nm,0.6s,baz=7.9,slow=5.4,SNR=14
OBN PKP PKPdf 19 49 15.8 +0.1
comp=Z,266nm,0.5s,baz=74,slow=1.9,SNR=30
OBN SKPab SKPbc 19 51 52.6 +1.7
comp=Z,714nm,1.0s,baz=28,slow=3.0,SNR=22
OBN Obninsk 137.11 330c iP Pdif 19 46 33.8 +6.8
OBN e 19 49 04.9
OBN i 19 49 15.7
OBN e 19 52 05.6
OBN ePPP PPP 19 55 17.0
OBN i SS SS 20 09 30.2 +3.8
OBN pmax pmax
comp=Z,222μm,19.5s
OBN pmax pmax
comp=Z,47nm,0.7s
OBN pmax pmax
comp=Z,890nm,1.0s
OBN pmax pmax
comp=Z,788nm,1.1s
LPSR Galich'ya Gora 137.37 326 ePKHKP PKPpre 19 49 08.5
LPSR pmax pmax
comp=Z,200nm,0.8s
VORR Voronezh 137.70 325 ePKHKP PKPpre 19 49 05.0
VORR pmax pmax
comp=Z,1μm,1.5s
KMBO Kilima Mbogo 137.74 242 PKhKP PKPpre 19 49 09.6
comp=Z,77nm,0.9s,baz=60,slow=3.9,SNR=37
KMBO SKPab SKiKP 19 51 56.7 -1.5
comp=Z,205nm,1.0s,baz=63,slow=2.7,SNR=11
KMBO SKKPbc SKKPbc 20 00 44.9 +4.2
comp=Z,18nm,0.9s,baz=300,slow=3.5,SNR=8.3
TBLU Trondheim 137.86 354 e PKPpre 19 49 07.8
TBLU eSKPdf SKPdf 19 51 54.0 +0.8
TBLU eSS SS 20 09 38.1 +3.7
DUS Dusheti 137.94 309 P PKPdf 19 49 16.5 -1.4
DUS Dusheti 137.94 309 PKiKP PKPdf 19 49 16.4 -1.4
VSR Storozhevoye 137.95 324 ePKHKP PKPpre 19 49 08.0
VSR pmax pmax
comp=Z,100nm,0.7s
TBLG Delisi 138.00 309 PKHKP PKPpre 19 49 09.5
GOF Gofitskoye 138.20 314⇑ iPKHKP PKPpre 19 49 09.2
GOF pmax pmax
comp=Z,492nm,1.0s
ZEI Tsey 138.32 311 i PKHKP PKPpre 19 49 09.5
ZEI pmax pmax
comp=Z,401nm,0.7s
GNI Garni 138.38 307 PKhKP PKPpre 19 49 10.6
comp=Z,56nm,0.8s,baz=330,slow=2.4,SNR=3.7
GNI PKP PKPdf 19 49 19.8 +1.0
comp=Z,344nm,1.0s,baz=0.1,slow=5.0,SNR=11
GNI SKPbc SKPbc 19 51 51.9 -3.3
comp=Z,106nm,1.0s,baz=45,slow=10.0,SNR=3.6
GNI SKKPbc SKKPbc 20 00 43.8 +3.7
comp=Z,31nm,0.8s,baz=324,slow=9.2,SNR=6.0
GNI Garni 138.38 307 i P PKPdf 19 49 18.8 0.0
SNR=44
ATD Arta Tunnel 138.48 263 SKPbc SKPbc 19 51 53.0 -3.1
comp=Z,120nm,1.1s,baz=42,slow=2.5,SNR=4.9
ATD SKPab SKiKP 19 52 00.2 +0.9
comp=Z,304nm,1.1s,baz=91,slow=1.3,SNR=10
ATD SKKPbc SKKPbc 20 00 41.2 +3.2
comp=Z,11nm,0.8s,baz=286,slow=14,SNR=3.6
ONI Oni 138.69 311 PKHKP PKPpre 19 49 11.5
KBZ Khabaz 138.73 312 PKhKP PKPpre 19 49 11.6
comp=Z,26nm,0.7s,baz=168,slow=2.7,SNR=19
KBZ SKPbc SKPbc 19 51 52.7 -3.2
comp=Z,52nm,0.9s,baz=0.0,slow=1.0,SNR=3.2
KBZ SKPab SKiKP 19 52 01.6 +2.7
comp=Z,106nm,1.0s,baz=2.3,slow=3.6,SNR=8.7
KBZ SKKPbc SKKPbc 20 00 38.1 -0.6
comp=Z,25nm,0.9s,baz=249,slow=8.3,SNR=5.9
MOL Molde 138.78 355 e PKPpre 19 49 11.4
MOL eSKPdf SKiKP 19 51 57.1 -1.3
KVAR Kislovodsk Arr 138.80 313 PKhKP PKPpre 19 49 10.8
comp=Z,2.0nm,0.4s,baz=252,slow=16,SNR=3.2
KVAR SKPbc SKiKP 19 51 58.2 -1.1
comp=Z,778nm,1.2s,baz=32,slow=4.1,SNR=17
KVAR SKKPbc SKKPbc 20 00 40.4 +1.7
comp=Z,112nm,1.2s,baz=226,slow=5.1,SNR=5.7
KIV Kislovodsk 138.81 313 i P PKPdf 19 49 19.3 0.0
SNR=54
KIV Kislovodsk 138.81 313 i PKIKP PKPdf 19 49 19.7 +0.3
KIV e*PP pPKPdf 19 51 33.3 -11
KIV e 19 52 17.2
KIV e 19 55 29.2
KIV e 20 04 55.1
KIV eSS SS 20 09 45.7 -1.8
KIV eSSS SSS 20 15 07.1
KIV pmax pmax
comp=Z,419nm,1.0s
KIV Kislovodsk 138.81 313 ePKPpre PKPpre 19 49 11.4
BGD Bogdanovka 138.95 309 P PKPdf 19 49 29.5 +10
AKH Akhalkalaki 138.99 309 PKHKP PKPpre 19 49 13.5
DOMB Dombas 139.17 354 e PKPpre 19 49 11.6
DOMB ePKPdf PKPdf 19 49 18.0 -1.4
DOMB eSKPdf SKPbc 19 51 57.8 +1.3
DOMB eSKSdf SKSac 19 55 34.0 -2.0
DOMB eSS SS 20 09 54.5 +4.9
AKN Aaknes 139.21 355 e PKPpre 19 49 12.0
AKN ePKPdf PKPdf 19 49 18.8 -0.6
AKN eSKPdf SKPbc 19 51 57.7 +1.1
AKN eSS SS 20 09 52.0 +1.9
NC303 NORSAR Array S 139.70 352 ePKPpre PKPpre 19 49 11.7
NC204 NORSAR Array S 139.73 352 ePKPpre PKPpre 19 49 12.7
NC405 NORSAR Array S 139.76 352 ePKPpre PKPpre 19 49 12.9
NB201 NORSAR Array S 139.88 352 ePKPpre PKPpre 19 49 12.6
NB2 NORSAR Subarra1 139.90 352 PKP PKPpre 19 49 13.8
baz=17,slow=2.6
NOA NORSAR Array B 139.90 352 PKHKP PKPpre 19 49 12.0
comp=Z,249nm,0.8s,baz=16,slow=4.5,SNR=204
NOA SKPbc SKPbc 19 51 57.1 -1.3
comp=Z,275nm,0.9s,baz=15,slow=4.4,SNR=8.7
NOA SKKPbc SKKPbc 20 00 32.9 -2.4
comp=Z,24nm,1.0s,baz=191,slow=4.2,SNR=7.9
NOA SKKP 20 01 18.7
comp=Z,15nm,0.8s,baz=210,slow=3.6,SNR=4.0
FOO Floro 139.91 357 e PKPpre 19 49 14.3
FOO ePKPdf PKPdf 19 49 20.0 -0.7
FOO eSKPdf SKiKP 19 52 00.0 -0.7
FOO eSKSdf SKSac 19 55 35.1 -2.4
FOO eSS SS 20 09 60.0 +2.0
NBO02 NORSAR Array S 139.94 352 ePKPpre PKPpre 19 49 13.2
NBO00 NORSAR Array S 139.97 352 ePKPpre PKPpre 19 49 13.9
NAO01 NORSAR Array S 140.13 352 ePKPpre PKPpre 19 49 13.8
NC602 NORSAR Array S 140.15 352 e PKPpre 19 49 14.0
NC602 eSS SS 20 10 07.1 +6.2
NC602 NORSAR Array S 140.15 352 ePKPpre PKPpre 19 49 14.0
ARTV Artvin 140.19 309 i P PKPpre 19 49 16.6
ARTV Artvin 140.19 309 ePKPpre PKPpre 19 49 15.8
DAGI Agillar 140.23 309 i P PKPpre 19 49 16.3
HYA Hoyanger 140.27 356 e PKPpre 19 49 15.3
HYA ePKPdf PKPdf 19 49 20.6 -0.7
HYA eSKPdf SKPbc 19 52 00.0 +0.7
DBOC Borcka 140.33 309 i P PKPpre 19 49 16.6
DDEM Demirkent 140.40 309 i P PKPpre 19 49 17.0
HFS Hagfors 140.41 350 PKHKP PKPpre 19 49 14.8
comp=Z,551nm,0.7s,baz=72,slow=4.7,SNR=283
SUE Sulen 140.46 357 e PKPpre 19 49 15.3
SUE ePKPdf PKPdf 19 49 21.1 -0.5
SUE eSKPdf SKPbc 19 51 59.7 -0.1
SUE eSKSac SKSac 19 55 40.9 +2.1
SUE eSS SS 20 10 08.2 +3.8
HOMI Horasan 140.51 307 i P PKPpre 19 49 17.7
EKAR Karacoban 140.60 306 i P PKPpre 19 49 19.0
SIRN S¨–rnak 140.73 303 i P PKPpre 19 49 18.1
IZAR Zarasai 140.94 337 eP SKKPbc 20 00 28.7 -2.2
IZAR lAmb lAmb 20 00 32.8
comp=Z,94nm,1.0s
ERZM Erzurum 140.95 307 i P PKPpre 19 49 18.8
SOC Sochi 140.95 313 i PKHKP PKPpre 19 49 18.6
SOC e 19 52 32.9
SOC e 19 55 37.1
SOC ePPP PPP 19 55 49.3
SOC pmax pmax
comp=Z,77nm,0.6s
ASK Askoy 141.01 356 e PKPpre 19 49 17.0
ASK ePKPdf PKPdf 19 49 22.0 -0.7
OSL Oslo 141.03 352 e PKPpre 19 49 17.3
OSL ePKPdf PKPdf 19 49 22.1 -0.6
OSL eSKSdf SKSdf 19 55 35.9 +2.0
OSL eSS SS 20 10 14.7 +3.8
YEL1 Yell 141.06 1 eP PKPpre 19 49 17.3
IDID Didziasalis 141.09 336 eP SKKPbc 20 00 28.2 -2.1
IDID lAmb lAmb 20 00 32.1
comp=Z,96nm,1.1s
BER Bergen 141.10 356 e PKPpre 19 49 17.8
BER ePKPdf PKPdf 19 49 23.0 +0.2
BER eSKPdf SKPbc 19 52 01.5 0.0
BER eSKSdf SKSdf 19 55 35.9 +1.9
BER eSS SS 20 10 15.1 +3.4
ISAL Salakas 141.12 337 eP SKKPbc 20 00 28.1 -2.1
ISAL lAmb lAmb 20 00 32.0
comp=Z,82nm,1.0s
IIGN Ignalina 141.25 337 eP SKKPbc 20 00 27.3 -2.3
IIGN lAmb lAmb 20 00 31.0
comp=Z,147nm,1.1s
MNK Minsk 141.26 335 d iPKHKP PKPpre 19 49 18.0
MNK e 19 52 36.0
MNK ePPP PPP 19 55 42.0
MNK eSS SS 20 10 12.0 -2.2
MNK pmax pmax
comp=Z,7μm,4.0s
MNK pmax pmax
comp=Z,3μm,0.6s
MNK pmax pmax
comp=Z,15μm,20.0s
ECAT Cat-ERZURUM 141.32 307 i P PKPpre 19 49 20.3
FURI Furi 141.34 257 ePKPdf PKPdf 19 49 23.8 -1.3
BNGL BINGOL 141.36 306 i P PKPpre 19 49 20.1
KONO Kongsberg 141.45 353 ePdif Pdif 19 46 45.4 -0.9
KONO e 19 49 18.8
KONO ePKPdf PKPdf 19 49 23.8 +0.3
KONO eSKPdf SKPdf 19 51 54.6 -5.0
KONO eSS SS 20 10 19.9 +4.2
KONO Kongsberg 141.45 353 ce PKHKP PKPpre 19 49 18.9
KONO pmax pmax
comp=Z,3μm,0.8s
LRW Lerwick 141.47 1 eP PKPpre 19 49 17.7
LRW e 19 51 32.4
ODD1 Odda 141.48 355 e PKPpre 19 49 19.0
ODD1 ePKPdf PKPdf 19 49 22.8 -0.8
SVAN Silvan-Diyarba 141.52 305 i P PKPpre 19 49 20.8
BTMN Batman 141.53 304 i P PKPpre 19 49 20.8
KOPT Kop Dagi 141.56 308 i P PKPpre 19 49 22.0
SAN1 Sandwick 141.59 2 eP PKPpre 19 49 18.5

MACK	Trabzon	141.81	309	*i* P		PKPpre	19 49 21.6		
ANN	Anapa	141.98	316	*de*PKHKP		PKPpre	19 49 20.4		
ANN				*e*			19 52 41.3		
ANN				*e*			19 55 52.0		
ANN				*e*SS	SS		20 10 21.7	-1.8	
ANN				pmax	pmax				
	comp=Z,1μm,1.4s								
ANN				pmax	pmax				
	comp=N,326nm,1.5s								
ANN				pmax	pmax				
	comp=E,190nm,1.5s								
ANN				pmax	pmax				
	comp=E,479nm,4.2s								
ANN				pmax	pmax				
	comp=Z,2μm,4.2s								
ANN				pmax	pmax				
	comp=N,862nm,4.2s								
BLS5	Blasjo	141.98	355	*e*PKPdf		PKPdf	19 49 20.7	-3.8	
BLS5				*e*SKPdf		SKPdf	19 52 01.9	+1.5	
MARD	Mardin	142.04	303	*i* P		PKPpre	19 49 21.2		
MARD	Mardin	142.04	303	*e*PKPpre		PKPpre	19 49 21.3		
SHEL	Horse Pasture	142.15	170	*e*PKIKP		PKPdf	19 49 24.0	-2.2	
SHEL	Horse Pasture	142.15	170	*e*PKPdf		PKPdf	19 49 24.0	-2.2	
EUZM	Uzumlu	142.24	308	*i* P		PKPdf	19 49 23.4	-2.3	
KMY	Karmoy	142.28	356	*e*		PKPdf	19 49 22.0	-3.0	
KMY				*e*PKPdf		PKiKP	19 49 23.4	-4.8	
KMY				*e*SKSdf		SKSdf	19 55 38.5	+2.6	
DIYA	Diyarbakir	142.40	305	*i* P		PKPdf	19 49 23.7	-2.3	
KELT	Kelkit	142.43	308	*i* P		PKPdf	19 49 22.9	-3.3	
STAV	Stavanger	142.52	356	*e*		PKPdf	19 49 22.1	-3.3	
STAV				*e*SKPdf		SKPbc	19 52 03.8	-1.3	
STAV				*e*SS		SS	20 10 33.4	+5.5	
TNCL	Tunceli-Merkez	142.53	307	*i* P		PKPdf	19 49 24.6	-1.7	
GRSN	GIRESUNGRSN	142.90	310	*i* P		PKPdf	19 49 22.9	-3.8	
HOMB	Homborsund	142.93	353	*e*PKPbc		PKPdf	19 49 22.7	-3.4	
BIGH	Upper Bighouse	142.99	4	*e*P		PKPpre	19 49 21.6		
BIGH				*e*			19 51 32.1		
SNART	Snartemo	142.99	354	*e*PKPbc		PKPpre	19 49 22.6		
SNART				*e*PKPdf		PKPdf	19 49 24.6	-1.6	
SNART				*e*SKPdf		SKPdf	19 52 03.8	+1.6	
REFA	Refahiye_ERZ¯	143.02	307	*i* P		PKPab	19 49 24.6	-0.6	
RSC	Scourie	143.04	5	*e*P		PKPab	19 49 22.8	-1.5	
ELZG	Elazig	143.12	306	*i* P		PKPab	19 49 25.7	+0.1	
ORDU	Ordu-Boztepe	143.17	310	*i* P		PKPab	19 49 24.7	-0.8	
SUSE	Susehri	143.18	309	*i* P		PKPab	19 49 25.1	-0.6	
MLA1	Latheron	143.21	4	*e*P		PKPab	19 49 23.2	-1.8	
KEMA	Kemaliye	143.26	307	*i* P		PKPab	19 49 25.6	-0.3	
RRH	Rhenigidale	143.32	7	*e*P		PKPab	19 49 23.8	-1.6	
AKASG	Malin Array Be	143.34	329	PKP		PKPab	19 49 25.4	-0.3	
	comp=N,1μm,0.6s,baz=42,slow=4.6,SNR=1104								
AKASG				SKPbc		SKiKP	19 52 08.3	+0.2	
	comp=N,330nm,1.0s,baz=45,slow=2.9,SNR=6.7								
AKASG				SKKPbc		SKKPab	20 00 18.3	-1.7	
	comp=N,13nm,0.7s,baz=236,slow=3.5,SNR=7.9								
KIEV	Kiev	143.36	329	*e*PKIKP		PKPab	19 49 25.5	-0.3	
KIEV	Kiev	143.36	329	*e*PKPbc		PKPab	19 49 25.5	-0.3	
SUW	Suwalki	143.40	338	*e*PKIKP		PKPab	19 49 25.4	-0.4	
SUW				*e*			19 55 33.0		
SUW				*e*SS		SS	20 10 42.0	+3.6	
RRR	Rubha Reidh	143.47	6	*e*P		PKPab	19 49 25.2	-0.7	
CUZAR	Zara_SIVAS	143.60	309	*i* P		PKPbc	19 49 26.9	-0.4	
SURC	SANLIURFA_SURC	143.82	303	*i* P		PKPbc	19 49 27.2	-0.8	
KAC	Achnashellach	143.87	5	*e*P		PKPbc	19 49 25.7	-1.6	
ATAB	Bozova	143.92	304	*i* P		PKPbc	19 49 27.7	-0.5	
MCD	Coleburn Disti	143.94	4	*e*P		PKPbc	19 49 25.5	-2.0	
KPL	Plockton	144.00	6	*e*P		PKPbc	19 49 22.6	-5.0	
KPL				*e*			19 51 36.8		
CUKAN	kangal_SIVAS	144.00	308	*i* P		PKPbc	19 49 28.1	-0.5	
MDO	Dochfour	144.00	5	*e*P		PKPbc	19 49 26.2	-1.6	
SIM	Simferopol'	144.01	318	*de*PKIKP		PKPbc	19 49 27.1	-1.1	
SIM							19 52 53.3		
SIM				SSS		SSS	20 16 21.8		
SIM				pmax	pmax				
	comp=Z,3.0nm,1.0s								
SCER	sogukcermik	144.07	309	*i* P		PKPbc	19 49 28.5	-0.2	
SAMS	Samsun-Alacam	144.21	312	*i* P		PKPbc	19 49 28.4	-0.5	
MME1	Meikle Cairn	144.22	3	*e*P		PKPbc	19 49 26.0	-2.5	
CUGUR	Gurin_S¯VAS	144.33	307	*i* P		PKPab	19 49 31.2	+1.0	
TOKA	Tokat	144.38	310	*i* P		PKPbc	19 49 29.8	+0.3	
TOKA	Tokat	144.38	310	*e*PKPdf		PKPdf	19 49 29.2	-0.2	
GZT	Gaziantep	144.51	305	*i* P		PKPdf	19 49 29.7	-0.1	
CUALT	Altinyayla-SIV	144.54	308	*i* P		PKPdf	19 49 29.9	+0.1	
MUD	Monsted U'grnd	144.62	352	⇓*i*PKIKP		PKPbc	19 49 29.6	0.0	
MUD				pmax	pmax				
	comp=Z,1μm,0.8s								
HAVZ	Havza	144.64	311	*i* P		PKPdf	19 49 29.5	-0.2	
DRUM	Mains of Drumt	144.65	3	*e*P		PKPdf	19 49 28.2	-0.9	
DRUM				*e*			19 51 43.1		
COP	Copenhagen	144.84	348	*i* PKIKP		PKPbc	19 49 30.2	-0.1	
COP				pmax	pmax				
	comp=Z,1μm,0.9s								
BSD	Bornholm Skovb	144.86	346	*i* PKIKP		PKPdf	19 49 29.9	+0.3	
BSD				pmax	pmax				
	comp=Z,3μm,0.9s								
CUSAR	Sarkisla-SIVAS	144.87	308	*i* P		PKPdf	19 49 30.5	+0.2	
EDU	Dundee	144.99	4	*e*P		PKPdf	19 49 29.0	-0.7	
HCB	Kahramanmara¯	145.01	305	*i* P		PKPdf	19 49 30.6	+0.1	
KUZU	Kuzuini	145.04	304	*i* P		PKPdf	19 49 31.0	+0.4	
BOYT	Boyabat	145.07	312	*i* P		PKPab	19 49 33.1	+0.3	
LLD	Lille Linde	145.21	348	*i* PKIKP		PKPbc	19 49 30.8	-0.6	
LLD				pmax	pmax				
	comp=Z,2μm,0.9s								
KAMA	Osmaniye	145.24	305	*i* P		PKPdf	19 49 31.0	0.0	
EAB	Aberfoyle	145.25	5	*e*P		PKPdf	19 49 29.8	-0.5	
ANDN	Andirin	145.37	305	*i* P		PKPdf	19 49 31.6	+0.4	
CTAK	Corum_Osmancik	145.46	311	*i* P		PKPdf	19 49 32.0	+0.6	
SORM	Soroca	145.46	327	⇑PKIKP		PKPdf	19 49 30.3	-0.5	
COAL	Corum-Alaca	145.47	310	*i* P		PKPdf	19 49 31.6	+0.3	
EDI	Edinburgh	145.60	4	*e*P		PKPdf	19 49 30.3	-0.5	
EDI				*e*			19 51 44.0		
PGBU	Glenifferbraes	145.61	5	*e*P		PKPdf	19 49 30.2	-0.6	
PGBU				*e*			19 51 41.5		
ESY	Stoneypath	145.63	3	*e*P		PKPdf	19 49 30.6	-0.3	
KAST	KASTAMONU	145.71	313	*i* P		PKPab	19 49 34.6	-0.8	
RGN	Rugen	145.73	347	*e*PKPbc		PKPbc	19 49 33.3	+0.4	
GKP	Gorka Klasztor	145.93	342	*e*PKIKP		PKPdf	19 49 31.6	+0.2	
KIS	Kishinev	145.94	325	*i* PKIKP		PKPdf	19 49 30.5	-1.2	
KIS				*i*			19 49 32.5		
KIS				*i*			19 51 50.0		
KIS				*e*			19 52 48.0		
KIS				*e*			19 52 58.0		
KIS				*e*PPP		PPP	19 56 24.0		
KIS				*e*			20 05 56.0		
KIS				pmax	pmax				
	comp=Z,8μm,1.0s								
KIS				pmax	pmax				
	comp=Z,24μm,14.0s								
KIS				pmax	pmax				
	comp=Z,26μm,18.0s								
KIS				pmax	pmax				
	comp=Z,30μm,14.0s								
KIS				pmax	pmax				
	comp=Z,31μm,17.0s								
YAHY	KAYSERI_Yahyal	145.95	307	*i* P		PKPdf	19 49 32.1	-0.1	
GMK	Mull of Kintyr	145.97	6	*e*P		PKPdf	19 49 31.1	-0.4	
YAYL	Yayladag	145.99	303	*i* P		PKPdf	19 49 29.6	-2.7	
IDGL	Inch Island, C	146.01	8	*e*P		PKPdf	19 49 30.9	-0.6	
BEL	Belsk	146.01	338	*e*PKP2		PKPbc	19 49 34.4	+0.6	
BEL				*e*			19 53 00.7		
BEL				*e*SS		SS	20 11 07.9	+0.1	
BEL				*e*SSS		SSS	20 16 49.4		
ILGA	Ilgaz	146.04	312	*i* P		PKPdf	19 49 32.8	+0.4	
ILGA	Ilgaz	146.04	312	*e*PKPdf		PKPdf	19 49 32.7	+0.3	
AKO	Adana	146.09	306	*i* P		PKPdf	19 49 32.4	+0.1	
AVNS	Nevsehir-Avano	146.09	308	*i* P		PKPdf	19 49 32.3	-0.1	
H10S3	ASCENSION HYDR	146.12	152	PKPbc		PKPbc	19 49 35.2	+0.3	
	baz=247,slow=4.6,SNR=20								
H10S2	ASCENSION HYDR	146.12	152	PKPbc		PKPbc	19 49 35.5	+0.6	
	baz=247,slow=4.6,SNR=32								
H10S1	ASCENSION HYDR	146.13	152	PKPbc		PKPbc	19 49 35.5	+0.5	
	baz=247,slow=4.6,SNR=54								
YURE	YUREGIR	146.14	304	*i* P		PKPdf	19 49 33.2	+0.8	
CDAG	Cicekdag	146.14	310	*i* P		PKPdf	19 49 32.0	-0.4	
ASF	Jabal al Asfar	146.16	296	PKPbc		PKPdf	19 49 33.6	+1.0	
	comp=Z,601nm,0.9s,baz=53,slow=1.9,SNR=5.0								
ASF				pPKPbc		pPKPdf	19 52 02.3	+5.0	
	comp=Z,95nm,1.0s,baz=144,slow=3.2,SNR=2.1								
ASF				SKKPbc	SKKPbc		20 00 06.5	-2.0	
	comp=Z,47nm,1.0s,baz=352,slow=0.8,SNR=9.4								
FKH	Fakeheh	146.18	300	*e*P		PKPdf	19 49 32.3	-0.3	
EKA	Eskdalemuir Ar	146.19	4	PKPbc		PKPbc	19 49 34.1	0.0	
	comp=Z,890nm,0.8s,baz=340,slow=2.5,SNR=490								
EKA				pPKPbc		pPKPdf	19 51 59.8	+3.3	
	comp=Z,54nm,0.9s,baz=12,slow=3.8,SNR=2.2								
EKA				SKKPab	SKKPab		20 00 02.8	-4.6	
	comp=Z,20nm,0.9s,baz=158,slow=6.6,SNR=3.4								
ESK	Eskdalemuir	146.20	4	*e*P		PKPdf	19 49 31.3	-0.5	
ESK				*e*			19 51 46.5		
ESK	Eskdalemuir	146.20	4	*e*PKIKP		PKPdf	19 49 31.2	-0.7	
ESK	Eskdalemuir	146.20	4	*e*PKPdf		PKPdf	19 49 31.2	-0.7	
LVV	L'vov	146.32	332	*e*PKIKP		PKPbc	19 49 34.0	-0.7	
LVV				*e*			19 52 59.7		
LVV				*e*PPP		PPP	19 56 32.2		
LVV				pmax	pmax				
	comp=Z,5μm,1.6s								
ECK	Cauldkaine Hil	146.34	4	*e*P		PKPdf	19 49 30.8	-1.3	
BHH	Howats Hill	146.42	4	*e*P		PKPdf	19 49 32.0	-0.3	
IAS	Iasi	146.48	326	⇓PKIKP		PKPdf	19 49 32.6	0.0	
GAL1	Galloway	146.53	6	*e*P		PKPdf	19 49 31.9	-0.5	
GAL1				*e*			19 51 49.1		
HWQ	Hawqa	146.54	300	*e*P		PKPdf	19 49 33.2	-0.1	
LEOM	Leova	146.57	325	⇓PKIKP		PKPdf	19 49 32.9	+0.2	
BRTR	Keskin Array B	146.63	310	PKP		PKPdf	19 49 32.8	-0.5	
	comp=Z,440nm,0.8s,baz=91,slow=0.5,SNR=298								
BRTR				PKPbc		PKPbc	19 49 36.1	0.0	
	comp=Z,616nm,0.6s,baz=136,slow=4.3,SNR=305								
BRTR				pPKPbc		pPKPdf	19 51 59.5	+1.5	
	comp=Z,86nm,0.9s,baz=86,slow=2.0,SNR=3.1								
BRTR				SKKPbc	SKKPbc		20 00 06.7	-0.4	
	comp=Z,26nm,0.8s,baz=235,slow=4.3,SNR=11								
GULE	Gulek	146.65	306	*i* P		PKPdf	19 49 33.3	-0.2	
DED	Mersin	146.74	305	*i* P		PKPdf	19 49 33.0	-0.4	
BTIN	Bart¯–n	146.77	314	*i* P		PKPdf	19 49 32.7	-0.6	
RCY	Rachaya	146.80	298	*e*P		PKPdf	19 49 34.1	+0.4	
BHL	Bhannes	146.86	299	*e*P		PKPdf	19 49 33.7	-0.1	
KESW	Keswick, Cumbr	146.93	4	*e*P		PKPdf	19 49 33.0	-0.1	
KESW				*e*			19 51 49.0		
BSTP	Nigde	146.93	307	*i* P		PKPbc	19 49 37.7	+0.8	
AKSY	AKSARAY - Alti	146.94	308	*i* P		PKPdf	19 49 33.4	-0.4	
DQRL	Deir Qamar	146.97	299	*e*P		PKPdf	19 49 34.5	+0.5	
BEYL	Beirut	147.00	299	*e*P		PKPdf	19 49 33.9	0.0	
GMM	Mts of Mourne	147.02	7	*e*P		PKPdf	19 49 32.7	-0.6	
KWP	Kalwaria Pacla	147.03	333	*e*PKP2		PKPbc	19 49 37.3	+0.7	
KWP				*e*			19 53 03.7		
KWP				*e*SSS		SSS	20 17 01.6		
TLCR		147.04	322	⇓*i*P		PKPdf	19 49 33.7	+0.1	
TLCR		147.04	322	⇓PKIKP		PKPdf	19 49 33.7	+0.1	
SLPK	Sellapark	147.06	4	*e*P		PKPdf	19 49 32.9	-0.4	
BBAL	Bala	147.07	310	*i* P		PKPdf	19 49 33.9	-0.1	
KERG	Konya-Eregli	147.10	306	*i* P		PKPdf	19 49 33.1	-1.0	
CMDR	Camlidere-ANKA	147.13	312	*i* P		PKPdf	19 49 33.8	-0.3	
ASCN	Ascension	147.16	152	*e*PKPdf		PKPbc	19 49 37.0	-1.0	
ANTO	Ankara	147.17	311	*e*PKIKP		PKPdf	19 49 33.6	-0.5	
ANTO	Ankara	147.17	311	*e*PKPdf		PKPdf	19 49 33.6	-0.5	
ANTO	Ankara	147.17	311	P		PKPdf	19 49 33.9	-0.2	
	SNR=801								
H10N3	ASCENSION HYDR	147.18	151	PKPbc		PKPbc	19 49 37.9	+0.2	
	baz=214,slow=3.1,SNR=43								
H10N1	ASCENSION HYDR	147.18	151	PKPbc		PKPbc	19 49 37.6	-0.1	
	baz=214,slow=3.1,SNR=53								
H10N2	ASCENSION HYDR	147.19	151	PKPbc		PKPbc	19 49 39.2	+1.5	
	baz=214,slow=3.1,SNR=50								
WIM	Isle of Man	147.24	6	*e*P		PKPdf	19 49 33.5	-0.2	
MMAI	Mount Meron Ar	147.25	298	PKPbc		PKPbc	19 49 38.6	+0.8	
	comp=Z,1μm,0.8s,baz=75,slow=5.7,SNR=24								
MMAI				SKKPbc			20 00 04.4		
	comp=Z,66nm,0.8s,baz=305,slow=1.7,SNR=23								
BCAM	Yenicaga	147.27	313	*i* P		PKPdf	19 49 33.7	-0.6	
IGLA	Glengowla, Co	147.31	11	*e*P		PKPdf	19 49 33.4	-0.4	
KKUL	Konya-Kulu	147.36	310	*i* P		PKPdf	19 49 34.5	0.0	
BUR08	Bucovina Ar. S	147.36	329	*e*PKPdf		PKPdf	19 49 34.1	-0.1	
BURAR	Bucovina Array	147.37	329	⇓PKIKP		PKPdf	19 49 35.2	+1.0	
KIZK	Mersin	147.38	304	*i* P		PKPdf	19 49 34.6	+0.2	
CFR	Carcaliu	147.43	323	⇑*i*P		PKPdf	19 49 34.1	-0.1	
CFR	Carcaliu	147.43	323	⇑PKIKP		PKPdf	19 49 34.1	-0.1	
NAQL	Naqoura	147.45	298	*e*P		PKPdf	19 49 34.7	+0.1	
H07N1	FLORES T-PHASE	147.47	49	PKPbc		PKPdf	19 49 36.3	+1.8	
H07N1	FLORES T-PHASE	147.47	49	*e*PKPdf		PKPdf	19 49 33.5	-1.0	
H07S1	FLORES T-PHASE	147.53	50	PKPbc		PKPdf	19 49 36.4	+1.7	
H07S1	FLORES T-PHASE	147.53	50	*e*PKPdf		PKPdf	19 49 34.2	-0.4	
PETR	Petresti	147.59	324	⇑*i*P		PKPbc	19 49 39.4	+1.2	
ODBI	Odobesti	147.66	324	⇑*i*P		PKPbc	19 49 39.8	+1.4	
TIRR	Tirgusor	147.70	321	⇓*i*P		PKPdf	19 49 34.2	-0.5	
TIRR	Tirgusor	147.70	321	*e*PKPdf		PKPdf	19 49 33.5	-1.2	
OJC	Ojcow	147.70	337	*e*PKP2		PKPbc	19 49 38.8	+0.5	
OJC				*e*SSS		SSS	20 17 18.3		
OJC	Ojcow	147.70	337	*e*PKPdf		PKPdf	19 49 34.0	-0.5	
STHS	Stebnicka Huta	147.79	335	*e*PKIKP		PKPdf	19 49 35.1	+0.4	
STHS				*e*			19 49 39.8		
PLOR	Plostina	147.83	325	⇑PKIKP		PKPdf	19 49 34.2	-0.7	
TLB	Topalu	147.84	322	⇓*i*P		PKPdf	19 49 34.7	-0.2	
TLB	Topalu	147.84	322	⇑PKIKP		PKPdf	19 49 35.4	+0.5	
HARR	Harsova	147.84	322	⇓PKIKP		PKPdf	19 49 35.4	+0.5	
PHNC	Paralimni	147.90	302	P		PKPbc	19 49 39.6	+0.3	
DSB	Dublin	147.94	8	*e*PKPdf		PKPdf	19 49 34.5	-0.3	
UZH	Uzhgorod	147.97	333	*e*PKIKP		PKPdf	19 49 35.5	+0.5	
UZH				*i*			19 49 45.0		
UZH				pmax	pmax				
	comp=Z,7μm,1.2s								
CVDA	Cernavoda	147.99	322	⇑*i*P		PKPbc	19 49 39.9	+0.7	
WPS	Cemaes, Angles	148.00	6	*e*P		PKPdf	19 49 34.2	-0.7	
WPS				*e*			19 51 52.8		
WME	Myndd Eilian	148.02	6	*e*P		PKPdf	19 49 33.8	-1.1	
SAHE	Sakarya_HENDEK	148.07	314	*i* P		PKPdf	19 49 34.9	-0.6	
WLF1	Llynfaes	148.12	6	*e*P		PKPdf	19 49 34.6	-0.5	
WLF1				*e*			19 51 54.2		
BMR	Baia Mare	148.15	330	⇑PKHKP		PKPpre	19 49 36.1		
EIL	Elat	148.16	292	PKPbc		PKPbc	19 49 41.1	+1.0	
	comp=Z,919nm,0.9s,baz=26,slow=3.4,SNR=4.7								
EIL				pPKPbc		pPKPab	19 52 07.6	+4.1	
	comp=Z,508nm,1.2s,baz=51,slow=6.5,SNR=3.8								
EIL				SKKPbc			20 00 00.2		
	comp=Z,40nm,0.8s,baz=322,slow=5.0,SNR=9.5								
NIE	Niedzica	148.16	335	*e*PKHKP		PKPpre	19 49 35.5		
LMK	Market Rasen	148.18	1	*e*P		PKPdf	19 49 34.8	-0.4	
LMK				*e*			19 51 52.1		
KDHN	Kadinhani	148.19	309	*i* P		PKPdf	19 49 35.1	-0.8	
WPM1	Penmaenmawr	148.19	5	*e*P		PKPdf	19 49 34.1	-1.1	
AMRR	Amara	148.23	323	⇓PKHKP		PKPdf	19 49 36.4	+0.9	
KONT	Konya--Tatoy	148.23	308	*i* P		PKPdf	19 49 35.1	-0.7	
TRPA	Tarpa	148.24	332	*ex*		PKPbc	19 49 40.0	+0.3	
ERMK	Ermenek	148.27	305	*i* P		PKPdf	19 49 36.4	+0.2	
YLL	Llanberis	148.29	6	*e*P		PKPdf	19 49 34.0	-1.3	
KMER	Konya-Meram	148.29	308	*i* P		PKPdf	19 49 35.8	-0.2	
KSP	Ksiaz	148.34	341	*e*PKHKP		PKPdf	19 49 35.5	0.0	
ISP	Istrita	148.35	324	⇓PKHKP		PKPdf	19 49 36.1	+0.3	
RAC	Raciborz	148.38	338	*e*PKHKP		PKPdf	19 49 35.6	0.0	
KAND	Kocaeli-Kandir	148.40	315	*i* P		PKPdf	19 49 35.8	-0.1	
MLR	Muntele Rosu	148.44	325	PKP		PKPdf	19 49 35.6	-0.4	
	comp=Z,96nm,1.1s,baz=8.1,slow=2.9,SNR=87								
MLR				PKPbc		PKPbc	19 49 40.9	+0.4	
	comp=Z,274nm,1.1s,baz=304,slow=7.3,SNR=139								
MLR				SKP			19 52 08.1		
	comp=Z,91nm,1.2s,baz=34,slow=3.4,SNR=6.3								
MLR				SKKPbc			19 59 57.3		
	comp=Z,7.2nm,0.7s,baz=144,slow=15,SNR=7.0								
MLR	Muntele Rosu	148.44	325	*e*PKPdf		PKPdf	19 49 34.0	-2.1	
MLR				PKPbc		PKPbc	19 49 40.9	+0.4	
MLR				SKP			19 52 08.1		
MLR				SKKPbc			19 59 57.3		
CSS	Mathiatis	148.46	302	P		PKPdf	19 49 35.2	-1.1	
CSS	Mathiatis	148.46	302	*e*PKPdf		PKPdf	19 49 35.8	-0.5	
CSS	Mathiatis	148.46	302	P		PKPbc	19 49 41.4	+0.7	
STNC	Stoke	148.48	3	*e*P		PKPdf	19 49 35.6	0.0	
STNC				*e*			19 51 54.6		
MAMC	Mammari	148.49	303	P		PKPbc	19 49 40.9	+0.1	
OKC	Ostrava-Krasne	148.61	338	*e*PKPDF		PKPdf	19 49 35.9	-0.1	
OKC				⇑*e*PKP		PKiKP	19 49 41.1	-0.5	
OKC				*e*PKPAB		PKPab	19 49 46.4	-0.4	
OKC				*ep*PKP		pPKPdf	19 52 02.0	+1.2	
OKC				*e*SKP			19 52 08.0		
OKC				*es*PKP			19 53 06.8		
OKC				*ex*	x		19 55 36.8		
OKC				*ex*	x		20 01 35.5		
FOEL	Foel Wylfa	148.62	5	*e*P		PKPdf	19 49 35.9	0.0	
FOEL				*e*			19 51 53.5		
LLW	Llanuwychllyn	148.62	5	*e*P		PKPdf	19 49 35.7	-0.2	
LLW				*e*			19 51 54.3		
SECR		148.66	324	⇑*i*P		PKPbc	19 49 41.8	+0.9	
LANS	Liptovska Anna	148.70	336	*e*PKHKP		PKPpre	19 49 36.8		
LANS				*e*			19 49 42.7		
UPC	Upice	148.72	341	*e*PKPDF		PKPdf	19 49 36.4	+0.2	
UPC				⇑*e*PKP		PKiKP	19 49 41.6	-0.2	
UPC				*e*PKPAB		PKPab	19 49 44.9	-2.3	
UPC				*ep*PKP		pPKPbc	19 52 02.9	-0.8	
UPC				*e*SKP			19 52 11.2		
UPC				*es*PKP			19 53 07.6		
UPC				*e*SS	SS		20 11 42.8	+5.1	
IWEX	Carrickbyrne,	148.74	9	*e*P		PKPdf	19 49 35.0	-1.1	
DPC	Dobruska-Polom	148.77	341	*e*PKPDF		PKPdf	19 49 36.2	-0.1	
DPC				⇑*e*PKP		PKiKP	19 49 41.9	-0.1	
DPC				*e*PKPAB		PKPab	19 49 47.0	-0.5	
DPC				*ep*PKP		pPKPbc	19 52 03.2	-0.7	
DPC				*e*SKP			19 52 11.7		
DPC				*es*PKP			19 53 07.8		
DPC				*ex*	x		19 55 32.8		
DPC				*ex*	x		20 06 01.8		
DPC				*e*SS	SS		20 11 43.5	+5.2	
DPC	Dobruska-Polom	148.77	341	*e*PKHKP		PKPpre	19 49 36.2		
DPC				*e*			19 49 47.0		
DPC				*e*SS	SS		20 11 43.5	+5.2	
BORA	Eskisehir	148.79	312	*i* P		PKPdf	19 49 36.2	-0.5	
CJR	Cluj-Napoca	148.79	329	⇑PKHKP		PKPdf	19 49 37.6	+1.1	
CLL	Collm	148.82	345	*e*PKPdf		PKPdf	19 49 35.9	-0.4	
KECS	Kecovo	148.84	334	*e*PKIKP		PKPdf	19 49 35.8	-0.6	
KRLC	Kraliky	148.86	340	*e*PKPDF		PKPdf	19 49 36.4	-0.1	
KRLC				⇑*e*PKP		PKiKP	19 49 42.3	+0.1	
KRLC				*e*PKPAB		PKPab	19 49 47.3	-0.6	
KRLC				*e*SKP			19 52 11.4		
MORC	Moravsky Berou	148.87	339	*e*PKPdf		PKPdf	19 49 36.1	-0.4	
CWF	Charnwood Fore	148.87	2	*e*P		PKPdf	19 49 35.0	-1.3	
CWF				*e*			19 51 53.3		
SZAC	Souni	148.87	302	P		PKPbc	19 49 42.1	+0.3	
WACR	West Acre	148.92	0	*e*P		PKPdf	19 49 36.8	+0.4	
WACR				*e*			19 51 55.5		
BOLV	Bolvadin	148.94	310	*i* P		PKPbc	19 49 42.1	+0.2

EDRB	Edirne	150.20	319	P	PKPdf	19 49 37.1	-1.6
SRO2	Moca	150.25	336	*e*PKIKP	PKPbc	19 49 44.1	-0.4
SRO2	Moca	150.25	336	*e*PKP	PKPbc	19 49 44.1	-0.4
SRO2				*e*		19 52 11.1	
WOL	Wolverton	150.30	2	*e*P	PKPdf	19 49 38.4	-0.2
WOL				*e*		19 51 56.8	
CRAR	CRAIOVA	150.35	325⇑	*i*P	PKPbc	19 49 46.0	+1.1
CRAR	CRAIOVA	150.35	325 ⇑	PKIKP	PKPbc	19 49 46.0	+1.1
HTL	Hartland	150.38	7	*e*P	PKPdf	19 49 38.8	+0.1
HTL				*e*		19 51 57.3	
SRE	Strehaia	150.43	326⇑	*i*P	PKPbc	19 49 45.9	+0.8
SRE	Strehaia	150.43	326 ⇑	PKIKP	PKPbc	19 49 45.9	+0.8
ELSH	Elham, Standar	150.50	359	*e*P	PKPdf	19 49 38.8	-0.1
ELSH				*e*		19 51 57.4	
BZS	Buzias	150.54	329 ⇑	PKIKP	PKPdf	19 49 39.0	-0.1
SART	Tekirdag	150.57	316	*i* P	PKPbc	19 49 45.5	-0.1
TIM	Timisoara	150.63	330⇑	*i*P	PKPbc	19 49 46.6	+1.1
TIM	Timisoara	150.63	330 ⇑	PKIKP	PKPbc	19 49 46.6	+1.1
ADH	Angra Heroismo	150.63	48	*e*PKPdf	PKPdf	19 49 38.4	-1.1
KULA	Kula-Manisa	150.65	311	P	PKPdf	19 49 38.8	-0.9
KHC	Kasperske Hory	150.66	343	*e*PKPDF	PKPdf	19 49 39.0	-0.3
KHC			⇑	*e*PKP	PKiKP	19 49 46.5	+0.6
KHC				*e*PKPAB	PKPab	19 49 54.4	-1.0
KHC				*e*pPKP	pPKPbc	19 52 07.3	-1.5
KHC				*e*sPKP		19 53 10.7	
KHC				*e*x	x	19 55 39.8	
KHC				*e*x	x	20 05 51.7	
KHC				*e*SS	SS	20 12 04.7	+5.8
KHC	Kasperske Hory	150.66	343	*e*PKIKP	PKPdf	19 49 39.0	-0.3
KHC				*e*		19 49 54.4	
KHC				*e*SS	SS	20 12 04.7	+5.8
KHC	Kasperske Hory	150.66	343	*e*PKPdf	PKPdf	19 49 39.0	-0.3
MANT	Manisa	150.73	311	*i* P	PKPdf	19 49 32.4	-7.6
GRFO	Grafenberg	150.74	346	*e*PKIKP	PKPdf	19 49 39.2	-0.2
GRFO	Grafenberg	150.74	346	*e*PKPdf	PKPdf	19 49 39.1	-0.2
HMNX	Herstmonceux	150.78	0	*e*P	PKPdf	19 49 39.6	+0.3
HMNX				*e*		19 51 56.7	
GEC2	GERESS Array S	150.89	342	*e*PKIKP	PKPdf	19 49 39.2	-0.5
GEC2	GERESS Array S	150.89	342	*e*PKPdf	PKPdf	19 49 39.2	-0.5
GERES	GERESS Array B	150.89	342	PKP	PKPdf	19 49 39.4	-0.3
	comp=Z,35nm,0.9s,baz=68,slow=0.7,SNR=162						
GERES				PKPbc	PKiKP	19 49 46.5	+0.1
	comp=Z,473nm,0.8s,baz=36,slow=1.8,SNR=195						
GERES				pPKPbc	pPKPab	19 52 13.3	-0.5
	comp=Z,127nm,1.0s,baz=359,slow=5.1,SNR=2.4						
GEA0	GERESS Array S	150.89	342	*e*PKPdf	PKPdf	19 49 38.0	-1.7
AKAS	Kas	150.91	306	*e*PKPdf	PKPdf	19 49 39.6	-0.6
KSL	Kastellorizon	150.96	306	P	PKPdf	19 49 38.9	-1.2
DYA	Yadsworthy	150.99	6	*e*P	PKPdf	19 49 39.4	-0.3
DYA				*e*		19 51 56.6	
DYA	Yadsworthy	150.99	6	*e*PKPdf	PKPdf	19 49 39.4	-0.3
CONA	Conrad Observa	151.02	339	*i* PKPdf	PKPdf	19 49 39.3	-0.6
	comp=Z,138nm,1.3s,SNR=71						
CONA				*i* PKiKP	PKiKP	19 49 47.0	+0.3
	comp=Z,1μm,1.0s						
CONA				*i* pPKiKP	pPKPab	19 52 14.0	-0.4
	comp=Z,1μm,1.4s						
CCA1	Carnmenellis	151.09	8	*e*P	PKPdf	19 49 39.5	-0.3
ALN	Alexandroupoli	151.17	318	PKIKP	PKPdf	19 49 38.3	-1.9
ALN	Alexandroupoli	151.17	318	P	PKPdf	19 49 38.3	-1.9
DALY	Dalyan (Mu˘la	151.39	308	*i* P	PKPbc	19 49 46.0	-1.5
MOA	Molln	151.61	341	*i* PKPdf	PKPdf	19 49 40.3	-0.5
	comp=Z,58nm,1.2s,SNR=37						
MOA				*i* PKiKP	PKiKP	19 49 48.1	+0.2
	comp=Z,386nm,1.0s						
MOA				*i* pPKPab	pPKPab	19 52 20.7	+4.0
	comp=Z,484nm,1.4s						
WLF	Walferdange	151.65	352	*e*PKIKP	PKPdf	19 49 41.3	+0.6
WLF	Walferdange	151.65	352	*e*PKPdf	PKPdf	19 49 41.2	+0.6
GADA	Gvkgeada	151.66	317	P	PKPdf	19 49 40.0	-1.0
ARSA	Arzberg	151.72	338	*i* PKPdf	PKPdf	19 49 40.4	-0.5
	comp=Z,78nm,1.2s,SNR=43						
ARSA				*i* pPKPab	pPKPab	19 52 18.7	+1.5
	comp=Z,401nm,1.9s						
SMTH	Samothraki Isl	151.74	317	P	PKPdf	19 49 38.8	-2.3
VTS	Vitosha	151.82	323	*e*PKIKP	PKPdf	19 49 40.5	-0.9
VTS	Vitosha	151.82	323	*e*PKPdf	PKPdf	19 49 40.5	-0.9
PRK	Paraskevi	151.92	315	PKIKP	PKPdf	19 49 40.7	-0.7
PRK	Paraskevi	151.92	315	P	PKPdf	19 49 40.7	-0.7
ARG	Arkhangelos	152.02	307	PKIKP	PKPdf	19 49 41.3	-0.4
ARG	Arkhangelos	152.02	307	P	PKPdf	19 49 41.3	-0.4
STU	Stuttgart	152.04	348	*e*PKIKP	PKPdf	19 49 41.6	+0.3
STU	Stuttgart	152.04	348	*e*PKPdf	PKPdf	19 49 41.5	+0.3
KAVA	Kavala	152.06	319	P	PKPdf	19 49 39.3	-2.3
LANF	Langenberg	152.09	350	PKP	PKPdf	19 49 41.9	+0.5
PDA	Ponta Delgada	152.15	49	*e*PKPdf	PKPdf	19 49 43.3	+1.5
MMB	Musomiste	152.17	321	*e*P	PKPbc	19 49 47.0	-2.1
SIGR	SIGRI	152.21	315	P	PKPdf	19 49 40.0	-1.8
NVR	Nevrokopi	152.24	320	P	PKPdf	19 49 39.2	-2.7
CMLA	Cha da Macela	152.24	49	*e*PKIKP	PKPdf	19 49 43.1	+1.1
CMLA	Cha da Macela	152.24	49	*e*PKPdf	PKPdf	19 49 41.0	-1.0
CMLA	Cha da Macela	152.24	49	*e*PKPdf	PKPdf	19 49 43.0	+1.1
PCALD	Caldeiras da R	152.25	49	*e*PKPdf	PKPdf	19 49 42.8	+0.8
BODT	Bodrum	152.25	310	P	PKPdf	19 49 39.4	-2.6
LIA	Limnos Island	152.28	317	P	PKPdf	19 49 40.0	-1.9
SMG	Samos	152.29	311	P	PKPdf	19 49 41.1	-0.9
JSA	Saint Aubin	152.37	4	*e*P	PKPdf	19 49 41.2	-0.5
JSA				*e*		19 51 58.6	
JRS	Jersey	152.37	4	*e*P	PKPdf	19 49 41.7	0.0
JRS				*e*P	PKPdf	19 49 41.8	0.0
SOKA	Soboth	152.39	338	*i* PKPdf	PKPdf	19 49 41.2	-0.7
	comp=Z,144nm,1.8s,SNR=71						
SOKA				*i* PKiKP	PKPbc	19 49 49.5	0.0
	comp=Z,522nm,1.1s						
SOKA				*i* pPKPab	pPKPab	19 52 21.0	+1.0
	comp=Z,612nm,1.6s						
SRS	Serrai	152.54	320	PKIKP	PKPdf	19 49 39.8	-2.5
SRS	Serrai	152.54	320	P	PKPdf	19 49 39.8	-2.5
NIS1	Nisyros Isl.	152.55	309	P	PKPdf	19 49 41.4	-1.1
KBA	Koelnbreinsper	152.58	341	*i* PKPdf	PKPdf	19 49 41.4	-0.9
	comp=Z,98nm,1.4s,SNR=54						
KBA				*i* PKiKP	PKPbc	19 49 49.8	-0.2
	comp=Z,295nm,0.7s						
KBA				*i* pPKPab	pPKPab	19 52 22.0	+1.1
	comp=Z,208nm,0.9s						
NISR	Nisiros	152.58	309	P	PKPdf	19 49 41.3	-1.1
BFO	Black Forest	152.62	349	*e*PKIKP	PKPdf	19 49 41.1	-1.1
BFO	Black Forest	152.62	349	*e*PKPdf	PKPdf	19 49 41.1	-1.1
OBKA	Obir	152.70	339	*i* PKPdf	PKPdf	19 49 41.7	-0.8
	comp=Z,80nm,1.8s,SNR=18						
OBKA				*i* PKiKP	PKPbc	19 49 49.8	-0.4
	comp=Z,257nm,1.4s						
OBKA				*i* pPKPab	pPKPab	19 52 22.4	+1.1
	comp=Z,282nm,1.7s						
OUR	Ouranopolis	152.78	319	PKIKP	PKPdf	19 49 40.0	-2.6
OUR	Ouranopolis	152.78	319	P	PKPdf	19 49 40.0	-2.6
WATA	Walderalm	152.85	344	*i* PKPdf	PKPdf	19 49 42.3	-0.4
	comp=Z,66nm,0.9s,SNR=60						
WATA				*i* PKiKP	PKiKP	19 49 50.6	0.0
	comp=Z,78nm,0.5s						
WATA				*i* pPKPab	pPKPab	19 52 24.1	+2.2
	comp=Z,294nm,1.0s						
SOH	Sokhos	152.87	320	PKIKP	PKPdf	19 49 41.1	-1.7
SOH	Sokhos	152.87	320	P	PKPdf	19 49 41.1	-1.7
PSMA	Santa Maria	152.88	50	*e*PKPdf	PKPdf	19 49 42.5	-0.4
MYKA	Terra Mystica	152.89	340	*i* PKPdf	PKPdf	19 49 41.6	-1.1
	comp=Z,71nm,1.2s,SNR=43						
MYKA				*i* PKiKP	PKPbc	19 49 50.1	-0.4
	comp=Z,371nm,1.0s						
MYKA				*i* pPKPab	pPKPab	19 52 22.3	+0.2
	comp=Z,569nm,1.7s						
WTTA	Wattenberg	152.90	343	*i* PKPdf	PKPdf	19 49 42.4	-0.4
	comp=Z,84nm,0.9s,SNR=61						
WTTA				*i* PKiKP	PKiKP	19 49 51.2	+0.4
	comp=Z,219nm,0.6s						
WTTA				*i* pPKPab	pPKPab	19 52 24.5	+2.3
	comp=Z,996nm,1.8s						
RETA	Reutte	152.91	345	*i* PKPdf	PKPdf	19 49 41.9	-0.8
	comp=Z,54nm,0.9s,SNR=44						
RETA				*i* PKiKP	PKiKP	19 49 50.7	+0.1
	comp=Z,246nm,0.9s						
RETA				*i* PKPab	PKPab	19 50 05.4	+0.4
RETA				*i* pPKPab	pPKPab	19 52 21.4	-0.7
	comp=Z,497nm,2.0s						
PSMN	Pico do Norte,	152.92	50	*e*PKPdf	PKPdf	19 49 41.8	-1.2
KNT	Kendrikon	152.92	321	PKIKP	PKPdf	19 49 41.5	-1.3
KNT	Kendrikon	152.92	321	P	PKPdf	19 49 41.5	-1.3
ECH	Echery	152.93	350	PKP	PKPdf	19 49 42.6	0.0
MOTA	Moosalm	152.96	344	*i* PKPdf	PKPdf	19 49 42.4	-0.5
	comp=Z,94nm,0.8s,SNR=91						
MOTA				*i* PKiKP	PKiKP	19 49 51.3	+0.4
	comp=Z,407nm,1.0s						
KARP	Karpathos	153.01	307	*e*PKPdf	PKPdf	19 49 42.1	-1.1
VAY	Valandovo	153.01	322	*e*P	PKPbc	19 49 50.4	-0.4
VAY	Valandovo	153.01	322	PKIKP	PKPdf	19 49 41.5	-1.4
VAY	Valandovo	153.01	322	P	PKPdf	19 49 41.5	-1.4
SQTA	Sankt Quirin	153.05	344	*e*PKPdf	PKPdf	19 49 42.4	-0.6
	comp=Z,66nm,0.6s						
SQTA				*e*PKiKP	PKiKP	19 49 51.6	+0.6
	comp=Z,196nm,0.6s						
PLG	Polygyros	153.09	319	PKIKP	PKPdf	19 49 41.4	-1.7
PLG	Polygyros	153.09	319	P	PKPdf	19 49 41.4	-1.7
THEF	They Montfort	153.09	352	PKP	PKPdf	19 49 43.0	+0.2
ABTA	Abfaltersbach	153.13	342	*i* PKPdf	PKPdf	19 49 42.1	-1.0
	comp=Z,242nm,0.9s,SNR=164						
ABTA				*i* PKPab	PKPab	19 50 06.2	+0.2
	comp=Z,1μm,1.2s						
ABTA				*i* pPKPab	pPKPab	19 52 22.5	-0.5
	comp=Z,691nm,1.3s						
HORT	Hortiatis	153.16	320	P	PKPdf	19 49 41.8	-1.5
THE	Thessaloniki	153.22	320	PKIKP	PKPdf	19 49 41.6	-1.6
THE	Thessaloniki	153.22	320	P	PKPdf	19 49 41.6	-1.6
MOF	Molkenrain	153.29	350	PKP	PKPdf	19 49 43.2	-0.1
PLE	Pljevlja	153.30	329⇑	*i* PKP	PKPdf	19 49 42.4	-1.1
DAVA	Damuels	153.31	346	*i* PKPdf	PKPdf	19 49 43.3	-0.1
	comp=Z,118nm,1.0s,SNR=57						
DAVA				*i* pPKPab	pPKPab	19 52 23.2	-0.6
	comp=Z,550nm,1.7s						
FETA	Feichten	153.35	345	*i* PKPdf	PKPdf	19 49 43.4	-0.1
	comp=Z,289nm,0.9s,SNR=214						
FETA				*i* pPKPab	pPKPab	19 52 25.6	+1.5
	comp=Z,545nm,1.7s						
IVA	Berane	153.39	327⇑	*i* PKP	PKPdf	19 49 42.6	-1.0
APE	Apeiranthos	153.51	311	⇑PKIKP	PKPdf	19 49 42.0	-1.9
APE	Apeiranthos	153.51	311	P	PKPdf	19 49 41.2	-2.7
AOS	Alonnisos	153.52	317	P	PKPdf	19 49 41.5	-2.2
PVY	Plav	153.56	327⇑	*i* PKP	PKPdf	19 49 42.5	-1.4
UPM	Unac-Piva	153.63	329	*e*PKP	PKPdf	19 49 42.8	-1.2
TRI	Trieste	153.66	339	*e*PKIKP	PKPdf	19 49 43.2	-0.5
TRI	Trieste	153.66	339	*e*PKPdf	PKPdf	19 49 43.2	-0.5
KARY	Karystos	153.78	314	P	PKPbc	19 49 49.2	-3.4
DAVOX	Davos/Dischmat	153.78	346	PKP	PKPdf	19 49 44.2	+0.1
	comp=Z,139nm,0.8s,baz=280,slow=0.4,SNR=148						
DAVOX				PKPbc	PKiKP	19 49 53.0	+0.4
	comp=Z,395nm,0.9s,baz=27,slow=6.8,SNR=39						
DAVOX				PKPab	PKPab	19 50 09.7	+0.8
	comp=Z,464nm,0.6s,baz=236,slow=6.6,SNR=8.2						
DAVOX				pPKPbc	pPKPbc	19 52 18.1	+1.7
	comp=Z,111nm,0.9s,baz=292,slow=5.4,SNR=2.2						
LOMF	Lomont	153.82	350	PKP	PKPdf	19 49 44.3	+0.3
LIT	Litokhoron	153.83	320	PKIKP	PKPdf	19 49 42.1	-2.1
LIT	Litokhoron	153.83	320	P	PKPdf	19 49 42.1	-2.1
XOR	Xorichti	153.84	318	P	PKPdf	19 49 42.3	-1.9
FUORN	Ofenpass-Fuorn	153.84	345	*e*PKPdf	PKPdf	19 49 43.9	-0.4
NEO	Neokhori	153.86	318	P	PKPdf	19 49 42.8	-1.4
NKY	Niksic	153.88	328⇑	*i* PKP	PKPdf	19 49 43.5	-0.8
SANT	Santorini	153.89	310	*e*PKPdf	PKPdf	19 49 42.8	-1.6
THR3	Thira Island,	153.92	310	P	PKPdf	19 49 42.8	-1.5
NKME	Niksic	153.94	328⇑	*i* PKP	PKPdf	19 49 43.4	-0.9
THR6	Thira Island,	153.94	310	P	PKPdf	19 49 42.0	-2.4
FYTO	Fytoko, Volos	153.97	318	P	PKPbc	19 49 49.8	-3.2
FYTO	Fytoko, Volos	153.97	318	P	PKPbc	19 49 49.8	-3.2
BRY	Bratogost	154.03	326	*e*PKP	PKPdf	19 49 43.1	-1.4
PDG	Podgorica	154.03	327⇑	*i* PKP	PKPdf	19 49 43.2	-1.1
FNA	Florina	154.05	322	PKIKP	PKPdf	19 49 42.6	-1.9
FNA	Florina	154.05	322	P	PKPdf	19 49 42.6	-1.9
CEME	Cevo	154.12	328⇑	*i* PKP	PKPdf	19 49 43.2	-1.3
PTL	Penteli	154.15	315	P	PKPdf	19 49 43.2	-1.5
LRSO	Larissa Observ	154.15	319	P	PKPbc	19 49 55.7	+2.4
TUE	Stuetta	154.20	346	*e*PKPdf	PKPdf	19 49 43.7	-1.1
DRME	Dracevica, Mon	154.25	327⇑	*i* PKP	PKPdf	19 49 43.6	-1.1
ATHU	Athens Univers	154.25	314	P	PKPdf	19 49 41.1	-3.7
NPS	Neapolis	154.27	307	PKIKP	PKPdf	19 49 43.7	-1.2
NPS	Neapolis	154.27	307	P	PKPdf	19 49 43.7	-1.2
ATH	Athens Observa	154.29	315	PKIKP	PKPdf	19 49 43.2	-1.6
ATH	Athens Observa	154.29	315	P	PKPdf	19 49 43.2	-1.6
VLY	Voula,Athens	154.31	314	P	PKPdf	19 49 42.3	-2.6
BUM	Brajici-Budva	154.31	328⇑	*i* PKP	PKPdf	19 49 43.7	-1.1
LKR	Lokris	154.38	317	P	PKPdf	19 49 43.5	-1.4
ULC	Ulcinj	154.38	327⇑	PKP	PKPdf	19 49 44.0	-0.9
HCY	Herceg Novi	154.40	328⇑	*i* PKP	PKPdf	19 49 43.5	-1.4
LAST	Lasithi	154.42	307	P	PKPdf	19 49 44.0	-1.2
TIR	Tirane	154.50	325	⇑PKIKP	PKPdf	19 49 44.7	-0.3
TIR	Tirane	154.50	325	*e*PKPdf	PKPdf	19 49 45.2	+0.2
AGG	Agios Georgios	154.59	318	*e*PKIKP	PKPdf	19 49 43.9	-1.4
AGG	Agios Georgios	154.59	318	*e*PKPdf	PKPdf	19 49 43.9	-1.4
SENIN	Lac Senin/Sane	154.71	349	*e*PKPdf	PKPdf	19 49 45.6	+0.1
LTK	Loutraki	154.76	315	P	PKPdf	19 49 42.7	-2.8
IDI	Anoyia	154.79	308	PKP	PKPdf	19 49 45.8	+0.1
	comp=Z,252nm,1.0s,baz=131,slow=2.8,SNR=52						
IDI				pPKPbc	pPKPbc	19 52 19.6	+0.7
	comp=Z,135nm,1.1s,baz=212,slow=3.0,SNR=1.9						
IDI	Anoyia	154.79	308	*e*PKPdf	PKPdf	19 49 45.0	-0.7
IDI				pPKPbc	pPKPbc	19 52 19.6	+0.7
DSF	Desfina	154.82	317	P	PKPdf	19 49 43.8	-2.2
DID	Didima	154.86	314	P	PKPdf	19 49 43.2	-2.5
EVR	Evrytania	154.97	318	P	PKPdf	19 49 45.4	-0.5
SIVA	Sivas	154.97	308	P	PKPdf	19 49 44.7	-1.1
TMBK	Timbaki Herakl	154.98	308	P	PKPbc	19 49 58.8	+3.6
KALE	Kalithea	155.08	317	P	PKPdf	19 49 45.1	-0.9
JAN	Janina	155.09	321	PKIKP	PKPdf	19 49 45.6	-0.3
JAN	Janina	155.09	321	P	PKPdf	19 49 45.6	-0.3
VAM	Vamos	155.25	309	PKIKP	PKPdf	19 49 45.4	-0.8
VAM	Vamos	155.25	309	P	PKPdf	19 49 45.4	-0.8
LAKA	Lakka	155.27	317	P	PKPdf	19 49 45.9	-0.3
DSL	Palaion Diasel	155.27	320	P	PKPdf	19 49 44.9	-1.3
KLV	Kalavryta, Ach	155.28	316	P	PKPdf	19 49 44.8	-1.5
UPR	University Cam	155.37	317	P	PKPdf	19 49 56.6	+10
IGT	Igoumenitsa	155.47	321	PKIKP	PKPdf	19 49 45.5	-0.9
IGT	Igoumenitsa	155.47	321	P	PKPdf	19 49 45.5	-0.9
VLI	Veliai	155.49	313	P	PKPdf	19 49 44.6	-1.9
VLX	Vlachokerasia	155.51	315	P	PKPdf	19 49 46.0	-0.6
AGO	Saint Agoulin	155.52	356	PKP	PKPdf	19 49 47.7	+1.4
PLDF	La Plantade	155.56	355	PKP	PKPdf	19 49 47.8	+1.4
KYTH	Kithira	155.65	312	P	PKPdf	19 49 45.9	-0.8
KEK	Kerkira	155.66	322	P	PKPdf	19 49 45.3	-1.3
ANKY	Antikythira Is	155.67	311	P	PKPdf	19 49 46.6	-0.1
RLS	Riolos of Patr	155.70	317	P	PKPdf	19 49 46.3	-0.4
LKD2	Lefkada island	155.76	319	P	PKPdf	19 49 46.4	-0.4
PYM	Petit Puy Mans	155.83	356	PKP	PKPdf	19 49 48.4	+1.6
ITM	Ithomi	155.91	315	P	PKPdf	19 49 46.0	-1.1
COLF	Collangettes	156.01	355	PKP	PKPdf	19 49 47.5	+0.5
SACV	Santiago Islan	156.04	102	*e*PKPdf	PKPdf	19 49 47.3	-0.5
BNI	Bardonecchia	156.09	349	*e*PKIKP	PKPdf	19 49 45.8	-1.4
BNI	Bardonecchia	156.09	349	*e*PKPdf	PKPdf	19 49 45.8	-1.4
VLC	Villacollemand	156.10	343	*e*PKPdf	PKPdf	19 49 45.6	-1.4
SSB	Saint Sauveur	156.16	353	PKP	PKPdf	19 49 47.6	+0.4
SSB	Saint Sauveur	156.16	353	*e*PKIKP	PKPdf	19 49 47.4	+0.3
SSB	Saint Sauveur	156.16	353	*e*PKPdf	PKPdf	19 49 47.4	+0.3
VLS	Valsamata	156.18	318	PKIKP	PKPdf	19 49 46.1	-1.3
VLS	Valsamata	156.18	318	P	PKPdf	19 49 46.1	-1.3
OG22	Abries	156.26	349	PKP	PKPdf	19 49 47.6	+0.1
LBL	Lubilhac	156.33	355	PKP	PKPdf	19 49 49.2	+1.8
AQU	L'Aquila	156.71	336	*e*PKIKP	PKPdf	19 49 47.4	-0.5
AQU	L'Aquila	156.71	336	*e*PKPdf	PKPdf	19 49 47.4	-0.5
CUC	Castrocucco	157.57	328	*e*PKPdf	PKPdf	19 49 46.7	-2.4
OSSF	Osses	158.34	4	PKP	PKPdf	19 49 49.8	0.0
PGAV	Gavieira, Arco	158.34	18	*e*PKPdf	PKPdf	19 49 49.0	-1.0
PGAV	Gavieira, Arco	158.34	18	*e*PKPab	PKPab	19 50 27.7	-1.0
ORDF	Ordiarp	158.40	3	PKP	PKPdf	19 49 49.6	-0.3
ATE	Arette	158.54	3	PKP	PKPdf	19 49 50.6	+0.5
REYF	Montagne du Re	158.56	2	PKP	PKPdf	19 49 50.6	+0.4
LARF	Larrau	158.57	3	PKP	PKPdf	19 49 51.0	+0.8
LABF	Labassere	158.60	1	PKP	PKPdf	19 49 50.6	+0.4
PCAB	Cabril	158.64	18	*e*PKPdf	PKPdf	19 49 50.1	-0.2
PCAB	Cabril	158.64	18	*e*PKPab	PKPab	19 50 31.1	+1.2
LRDF	Laroque-de-Fa	158.66	356	PKP	PKPdf	19 49 50.4	+0.2
LRDF	Laroque-de-Fa	158.66	356	PKP	PKPdf	19 49 50.5	+0.6
VIEF	Viey	158.76	1	PKP	PKPdf	19 49 51.2	+0.7
MELF	Melles	158.78	360	PKP	PKPdf	19 49 50.8	+0.3
CEL	Celeste	158.84	325	*e*PKPdf	PKPdf	19 49 49.3	-1.3
RESF	Ens	158.84	1	PKP	PKPdf	19 49 51.0	+0.4
SALF	Salau	158.89	359	PKP	PKPdf	19 49 50.8	+0.2
PBRG	Braganca	158.90	16	*e*PKPdf	PKPdf	19 49 50.6	0.0
PBRG	Braganca	158.90	16	*e*PKPab	PKPab	19 50 30.9	-0.1
POLO	Lamas de Olo	159.02	18	*e*PKPdf	PKPdf	19 49 51.1	+0.3
POLO	Lamas de Olo	159.02	18	*e*PKPab	PKPab	19 50 30.6	-1.1
FILF	Fillols	159.03	356	PKP	PKPdf	19 49 51.0	+0.2
SJAF	Saint Jean de	159.09	355	PKP	PKPdf	19 49 50.6	-0.2
PVRL	Vila Real	159.13	18	*e*PKPdf	PKPdf	19 49 51.4	+0.5
PVRL	Vila Real	159.13	18	*e*PKPab	PKPab	19 50 32.5	+0.4
VALF	Valcebollere	159.22	357	PKP	PKPdf	19 49 51.6	+0.5
MVO	Moncorvo	159.43	17	*e*PKPdf	PKPdf	19 49 51.2	-0.1
MVO	Moncorvo	159.43	17	*e*PKPab	PKPab	19 50 33.6	+0.2
PVIS	Viseu	159.60	19	*e*PKPdf	PKPdf	19 49 51.4	0.0
PVIS	Viseu	159.60	19	*e*PKPab	PKPab	19 50 34.2	+0.1
MTE	Manteigas	159.99	19	*e*PKPdf	PKPdf	19 49 52.1	+0.2
MTE	Manteigas	159.99	19	*e*PKPab	PKPab	19 50 35.7	-0.2
MTE	Manteigas	159.99	19	*e*PKPdf	PKPdf	19 49 52.3	+0.4
PCAS	Casmilo, Conde	160.01	21	*e*PKPdf	PKPdf	19 49 52.0	+0.1
PCAS	Casmilo, Conde	160.01	21	*e*PKPab	PKPab	19 50 34.7	-1.2
VAE	Valguarnera	160.20	326	PKP	PKPdf	19 49 52.8	+0.5
	comp=Z,27nm,1.0s,baz=350,slow=3.2,SNR=10						
VAE				PKPab	PKPab	19 50 36.2	-0.7
	comp=Z,68nm,0.9s,baz=207,slow=6.8,SNR=4.9						
PTOM	Tomar	160.43	21	*e*PKPdf	PKPdf	19 49 53.0	+0.7
PTOM	Tomar	160.43	21	*e*PKPab	PKPab	19 50 36.6	-1.1
PCBR	Castelo Branco	160.53	19	*e*PKPdf	PKPdf	19 49 52.2	-0.2
PCBR	Castelo Branco	160.53	19	*e*PKPab	PKPab	19 50 37.9	-0.2
PMOZ	Porto Moniz, M	160.59	51	*e*PKPdf	PKPdf	19 49 52.2	-0.6
PMOZ	Porto Moniz, M	160.59	51	*e*PKPab	PKPab	19 50 37.3	-1.6
VSL	Villasalto	160.66	339	*e*PKPdf	PKPdf	19 49 52.5	-0.1
PMAFR	Mafra	160.70	24	*e*PKPdf	PKPdf	19 49 52.6	0.0
PMAFR	Mafra	160.70	24	*e*PKPab	PKPab	19 50 38.4	-0.6
CLTB	Caltabellotta	160.73	328	*e*PKPdf	PKPdf	19 49 52.1	-0.7
PMAR	Madeira	160.85	51	*e*PKPdf	PKPdf	19 49 53.5	+0.3
PMAR	Madeira	160.85	51	*e*PKPab	PKPab	19 50 40.

JMM				*e*S	**Sn**	**20 23 25.0**	**-1.5**
JFT	**Otama**	**2.88**	**288**	P	**Pn**	**20 22 59.1**	**+0.7**
JFT				*e*S	**Sn**	**20 23 31.4**	**-0.5**
JOU	**Okura**	**3.00**	**305**	P	**Pn**	**20 23 00.1**	**0.0**
JOU				*e*S	**Sn**	**20 23 33.2**	**-1.7**
JMK	**Ichinoseki**	**3.05**	**319**	P	Pn	20 22 59.9	-0.8
JOM	**Ohasama**	**3.42**	**326**	S	Sn	20 23 41.7	-3.5
JAG	**Ashikaga**	**3.49**	**267**	P	**Pn**	**20 23 07.7**	**+0.9**
JYK	**Kaneyama**	**3.52**	**311**	P	**Pn**	**20 23 07.2**	**0.0**
JRG	**Rokugo**	**3.69**	**319**	P	**Pn**	**20 23 10.0**	**+0.5**
JRY	**Ryogami san**	**3.99**	**262**	P	**Pn**	**20 23 14.5**	**+0.8**
JRY				S	**Sn**	**20 23 58.4**	**-0.8**
MJAR	**Matsushiro Arr**	**4.48**	**270**	Pn	**Pn**	**20 23 23.4**	**+2.9**
	1.5nm,0.3s,baz=89,slow=15,SNR=13						
MJAR				Sn	**Sn**	**20 24 13.3**	**+1.9**
	1.1nm,0.3s,baz=109,slow=26,SNR=4.1						
JHJ	**Hachijo jima 2**	**4.83**	**224**	Pn	**Pn**	**20 23 24.3**	**-0.8**
	11nm,0.3s,baz=29,slow=16,SNR=19						
JHJ				Sn	**Sn**	**20 24 15.4**	**-4.4**
	17nm,0.3s,baz=92,slow=24,SNR=6.4						
JCH	**Churui**	**5.95**	**357**	P	Pn	20 23 37.5	-3.1
KSRS	**Korea Array**	**12.69**	**278**	LR	LR	20 28 50.6	
	comp=Z,3µm,20.9s,baz=0.0,slow=31						
H11N2	**WAKE ISLAND Hy**	**26.34**	**124**	T	T	20 54 53.6	
	baz=313,slow=76,SNR=5.7						
H11N3	**WAKE ISLAND Hy**	**26.36**	**124**	T	T	20 54 53.0	
	baz=321,slow=76,SNR=4.5						
ZALV	**Zalesovo Beam**	**43.56**	**313**	P	P	20 30 26.2	+11
	0.8nm,0.7s,baz=97,slow=6.1,SNR=2.4						
KURBB	**Kurchatov Arra**	**47.72**	**309**	P	P	20 30 56.9	+8.8
	0.9nm,0.6s,baz=81,slow=8.1,SNR=7.5						
WRA	**Warramunga Arr**	**57.00**	**191**	P	**P**	**20 31 58.1**	**+0.9**
	0.3nm,0.5s,baz=10.0,slow=7.2,SNR=6.8						
ASAR	**Alice Springs**	**60.73**	**190**	P	**P**	**20 32 24.5**	**+1.5**
	0.2nm,0.5s,baz=7.5,slow=8.5,SNR=4.9						

IDC ***15*** *20:26:16.8±0.4,36°.20N×141°.67E,h0km,mb4.2/36, mb1 4.4/43,mb1mx4.3/82,mbtmp4.3/43,ML4.1/5,MS5.2/2, Ms1 5.2/2,ms1mx4.0/61,Error ellipse: s-maj=12.1km s-min=10.7km az=110.0*

ISCJB ***15*** *20:26:17.4±1.3,36°.22N±0°.03×141°.67E±0°.04,h14km±8km, mb4.4/64,MS5.2/2,Error ellipse: s-maj=5.2km s-min=4.6km az=3.3*

NEIC ***15*** *20:26:18.4±0.2,36°.21N×141°.63E,h10km,mb4.7/13,Error ellipse: s-maj=6.3km s-min=4.7km az=126.0*

NEIC Recorded [1 JMA] in Chiba, Fukushima, Ibaraki, Miyagi, Saitama and Tochigi.

MOS ***15*** *20:26:19.1±1.2,36°.25N×141°.61E,h26km,mb4.7/18,Error ellipse: s-maj=9.2km s-min=6.7km az=101.0*

JMA ***15*** *20:26:20.3±0.2,36°.28N×141°.56E,h54km±4km,M4.6*

JMA Felt I J1.

ISC 15 20:26:17.8±1.9,36°.23N±0°.04×141°.66E±0°.06,h5km±11km, n154,σ1§16/128,mb4.5/68,MS5.2/3,8C-1D,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHOJ	**Chosi**	**0.84**	**231**	P	**Pb**	**20 26 35.9**	**+1.2**
CHOJ				S	**Sn**	**20 26 47.7**	**-1.1**
JHO	**Hitachi**	**0.96**	**294**	P	**Pg**	**20 26 36.2**	**0.0**
ONAJ	**Iwakimizuishiy**	**1.11**	**322**	P	**Pb**	**20 26 38.4**	**-1.1**
ONAJ				*e*S	**Sb**	**20 26 53.3**	**-1.1**
JFK	**Kawauchi**	**1.30**	**331**	P	**Pn**	**20 26 41.2**	**-1.4**
BSO1	**Boso 1**	**1.67**	**200**	P	**Pb**	**20 26 48.6**	**0.0**
JFT	**Otama**	**1.67**	**321**	P	**Pn**	**20 26 47.5**	**-0.1**
JFT				S	**Sn**	**20 27 07.5**	**-1.9**
BSO3	**Boso 3**	**1.71**	**214**	P	**Pn**	**20 26 48.9**	**+1.0**
JMM	**Marumori**	**1.78**	**337**	P	**Pn**	**20 26 48.3**	**-0.8**
JMM				*e*S	**Sn**	**20 27 09.4**	**-2.6**
JAG	**Ashikaga**	**1.79**	**277**	P	**Pn**	**20 26 48.2**	**-1.1**
JFY	**Yanaizu**	**1.96**	**307**	P	**Pn**	**20 26 51.5**	**-0.2**
JKT	**Katashina**	**2.02**	**286**	P	**Pn**	**20 26 52.2**	**-0.3**
MJAR	**Matsushiro Arr**	**2.80**	**277**	Pn	**Pn**	**20 27 03.3**	**0.0**
	74nm,0.3s,baz=114,slow=9.2,SNR=320						
MJAR				Sn	**Sn**	**20 27 38.5**	**+1.1**
	65nm,0.3s,baz=94,slow=16,SNR=8.4						
MAJO	**Matsushiro**	**2.81**	**277**	*d* P	**Pn**	**20 27 03.7**	**+0.4**
MAJO	**Matsushiro**	**2.81**	**277**	*e*Pn	**Pn**	**20 27 03.3**	**0.0**
MAT	**Matsushiro**	**2.81**	**277**	P	**Pn**	**20 27 03.4**	**+0.1**
MAT				S	**Sn**	**20 27 38.7**	**+1.2**
JHJ2	**Mitsune**	**3.46**	**207**	*e*Pn	**Pn**	**20 27 12.7**	**+0.5**
JHJ	**Hachijo jima 2**	**3.47**	**207**	Pn	**Pn**	**20 27 12.7**	**+0.3**
	202nm,0.3s,baz=296,slow=12,SNR=98						
JHJ				Sn	**Sn**	**20 27 51.0**	**-2.7**
	288nm,0.3s,baz=115,slow=23,SNR=11						
ERM	**Erimo**	**5.89**	**11**	*e*P	**Pn**	**20 27 44.3**	**-1.4**
ERM				pmax	pmax		
	comp=Z,40nm,0.6s						
ERM	**Erimo**	**5.89**	**11**	*e*Pn	**Pn**	**20 27 44.3**	**-1.4**
	comp=Z,40nm,0.6s						
ASAJ	**Asahikawa**	**7.91**	**5**	Pn	**Pn**	**20 28 12.8**	**-0.6**
CBIJ	**Chichi jima**	**9.12**	**177**	Pn	**Pn**	**20 28 29.0**	**-0.9**
JNU	**Nakatsue**	**9.40**	**254**	Pn	**Pn**	**20 28 33.7**	**-0.3**
	comp=Z,0.7nm,0.3s,baz=119,slow=1.8,SNR=7.5						
JNU	**Nakatsue**	**9.40**	**254**	*e*Pn	**Pn**	**20 28 34.8**	**+0.9**
KUR	**Kuril'sk**	**10.15**	**26**	P	**Pn**	**20 28 41.6**	**-2.4**
YSS	**Yuzh-Sakhalins**	**10.75**	**4**	*e*P	**Pn**	**20 28 52.1**	**-0.1**
YSS				pmax	pmax		
	comp=Z,13nm,0.7s						
YSS	**Yuzh-Sakhalins**	**10.75**	**4**	*e*Pn	**Pn**	**20 28 51.4**	**-0.8**
	comp=Z,15nm,0.6s						
USRK	**Ussuriysk Ar.**	**10.86**	**320**	Pn	**Pn**	**20 28 53.6**	**-0.2**
	comp=Z,0.2nm,0.3s,baz=133,slow=12,SNR=5.6						
KSRS	**Korea Array**	**11.08**	**280**	Pn	**Pn**	**20 28 58.0**	**+1.3**
	comp=Z,0.5nm,0.3s,baz=93,slow=13,SNR=25						
KSAR	**Wonju Array Be**	**11.11**	**280**	P	**Pn**	**20 28 58.1**	**+0.9**
KSAR	**Wonju Array Be**	**11.11**	**280**	Pn	**Pn**	**20 28 58.0**	**+0.9**
CN2	**Changchun**	**14.53**	**306**	*e*P	P	20 29 59.4	+8.7
CN2				pmax	pmax		
	comp=Z,10.0nm,1.0s						
JOW	**Kunigami**	**14.75**	**234**	Pn	**Pn**	**20 29 47.8**	**+0.7**
	comp=Z,1.5nm,0.3s,baz=38,slow=14,SNR=2.2						
PETK	**Petropavlovsk-**	**20.29**	**29**	P	Pn	20 30 55.5	-0.7
	comp=Z,4.9nm,0.8s,baz=180,slow=5.9,SNR=4.9						
PET	**Petropavlovsk**	**20.61**	**30**	*i* P	Pn	20 30 59.8	0.0
PET				pmax	pmax		
	comp=Z,21nm,1.3s						
CLNS	**Chul'man**	**23.50**	**337**	*e*P	P	20 31 36.0	+7.7
CLNS				pmax	pmax		
	comp=Z,13nm,0.9s						
CLNS				pmax	pmax		
	comp=E,5.0nm,1.0s						
MA2	**Magadan**	**24.10**	**11**	*i* P	**P**	**20 31 34.1**	**+0.1**
ENH	**Enshi**	**27.48**	**267**	*e*P	**P**	**20 32 03.1**	**-1.8**
	comp=E,16nm,0.8s						
SEY	**Seymchan**	**27.54**	**11**	P	**P**	**20 32 06.0**	**+0.9**
	comp=E,3.8nm,0.7s,baz=201,slow=3.8,SNR=6.9						
SEY	**Seymchan**	**27.54**	**11**	*i* P	**P**	**20 32 07.4**	**+2.3**
H11N2	**WAKE ISLAND Hy**	**27.57**	**120**	T	T	21 01 22.4	
	baz=312,slow=75,SNR=209						
H11N1	**WAKE ISLAND Hy**	**27.58**	**120**	T	T	21 01 40.7	
	baz=312,slow=75,SNR=91						
H11N3	**WAKE ISLAND Hy**	**27.59**	**120**	T	T	21 01 25.8	
	baz=312,slow=75,SNR=118						
ULN	**Ulaanbaatar**	**27.98**	**305**	*c* P	**P**	**20 32 08.6**	**-0.8**
ULN	**Ulaanbaatar**	**27.98**	**305**	*e*P	**P**	**20 32 08.6**	**-0.8**
	comp=E,8.6nm,0.9s						
H11S1	**WAKE ISLAND Hy**	**28.26**	**122**	T	T	21 02 10.5	
	baz=313,slow=76,SNR=111						
H11S3	**WAKE ISLAND Hy**	**28.26**	**122**	T	T	21 02 10.6	
	baz=313,slow=76,SNR=75						
H11S2	**WAKE ISLAND Hy**	**28.28**	**122**	T	T	21 02 18.2	
	baz=313,slow=76,SNR=54						
BOD	**Bodaibo**	**28.32**	**328**	*e*P	**P**	**20 32 11.6**	**-0.5**
BOD				pmax	pmax		
	comp=E,15nm,1.2s						
SONM	**Songino Array**	**28.41**	**305**	P	**P**	**20 32 12.7**	**-0.4**
	comp=Z,3.2nm,0.6s,baz=106,slow=8.9,SNR=14						
ZAK	**Zakamensk**	**30.93**	**309**	*e*P	P	20 32 41.5	+6.0
ZAK				pmax	pmax		
	comp=Z,3.0nm,1.5s						
TLY	**Talaya**	**31.01**	**312**	P	**P**	**20 32 35.9**	**-0.2**
	comp=Z,3.1nm,0.6s,baz=12,slow=0.1,SNR=3.3						
TLY	**Talaya**	**31.01**	**312**	*e*P	**P**	**20 32 35.8**	**-0.3**
TLY				pmax	pmax		
	comp=Z,6.0nm,1.0s						
GTA	**Gaotai**	**33.00**	**288**	*e*P	**P**	**20 32 52.9**	**-0.9**
GTA				pP	pP	20 32 57.4	+2.0
GTA				sP	sP	20 33 00.8	+4.7
GTA				pmax	pmax		
	comp=Z,5.0nm,0.9s						
KMI	**Kunming**	**35.05**	**263**	P	**P**	**20 33 10.5**	**-1.3**
KMI				pP	pP	20 33 15.5	+2.1
KMI				sP	sP	20 33 18.3	+4.2
KMI				pmax	pmax		
	comp=Z,10.0nm,1.1s						
TIXI	**Tiksi**	**36.11**	**353**	*c e*P	**P**	**20 33 22.6**	**+2.4**
TIXI				pmax	pmax		
	comp=Z,13nm,1.8s						
CHTO	**Chiang Mai**	**41.29**	**257**	*e*P	**P**	**20 34 03.1**	**-1.2**
CHTO				pmax	pmax		
	comp=Z,4.0nm,0.9s						
CHTO	**Chiang Mai**	**41.29**	**257**	*e*P	**P**	**20 34 03.1**	**-1.2**
	comp=Z,3.6nm,0.9s						
CMAR	**Chiang Mai Arr**	**41.49**	**256**	P	**P**	**20 34 05.3**	**-0.6**
	comp=Z,2.6nm,0.7s,baz=47,slow=6.4,SNR=19						
LSA	**Lhasa**	**42.49**	**276**	*e*P	**P**	**20 34 14.5**	**0.0**
LSA				pmax	pmax		
	comp=Z,6.0nm,0.6s						
LSA	**Lhasa**	**42.49**	**276**	*e*P	**P**	**20 34 14.5**	**0.0**
	comp=Z,5.8nm,0.6s						
ZALV	**Zalesovo Beam**	**42.61**	**313**	P	**P**	**20 34 14.4**	**-0.2**
	comp=Z,3.2nm,0.6s,baz=95,slow=7.8,SNR=9.4						
NVS	**Novosibirsk**	**43.54**	**314**	*e*P	P	20 34 31.1	+9.0
NVS				pmax	pmax		
	comp=Z,27nm,1.2s						
NVS				pmax	pmax		
	comp=N,8.0nm,1.3s						
NVS				pmax	pmax		
	comp=E,23nm,1.2s						
KAPI	**Kappang**	**45.87**	**211**	*e*P	**P**	**20 34 41.0**	**-0.1**
	comp=E,35nm,1.1s						
TAPN	**Taplejung**	**46.20**	**275**	*e*P	**P**	**20 34 43.5**	**-0.6**
KURK	**Kurchatov**	**46.59**	**309**	*i* P	**P**	**20 34 45.7**	**-0.7**
KURK				pmax	pmax		
	comp=Z,28nm,0.8s						
KURK	**Kurchatov**	**46.59**	**309**	P	**P**	**20 34 46.1**	**-0.3**
KURBB	**Kurchatov Arra**	**46.66**	**309**	P	**P**	**20 34 46.1**	**-0.8**
	comp=Z,4.3nm,0.5s,baz=85,slow=8.0,SNR=26						
ODAN	**Odare**	**46.67**	**274**	*e*P	**P**	**20 34 46.9**	**-0.8**
	comp=Z,13nm,0.6s						
RAMN	**Ramite**	**47.27**	**275**	*e*P	**P**	**20 34 51.9**	**-0.5**
	comp=Z,65nm,0.7s						
JIRN	**Jiri**	**47.29**	**276**	*e*P	**P**	**20 34 52.9**	**+0.2**
	comp=Z,50nm,0.7s						
GUN	**Gumba**	**47.44**	**277**	*e*P	**P**	**20 34 54.3**	**+0.5**
PKI	**Pulchoki**	**47.96**	**276**	*e*P	**P**	**20 34 57.3**	**-0.6**
PKIN	**Phulchoki**	**47.97**	**276**	*e*P	**P**	**20 34 57.1**	**-0.7**
	comp=Z,14nm,0.9s						
KKN	**Kakani**	**47.97**	**277**	*e*P	**P**	**20 34 57.5**	**-0.3**
	comp=Z,22nm,0.9s						
DMN	**Daman**	**48.19**	**277**	*e*P	**P**	**20 34 59.0**	**-0.5**
	comp=Z,9.9nm,0.7s						
GKN	**Gorkha**	**48.40**	**277**	*e*P	**P**	**20 35 00.4**	**-0.6**
	comp=Z,39nm,0.9s						
SOEI	**Soe**	**48.58**	**203**	*e*P	**P**	**20 34 59.9**	**-2.5**
	comp=Z,34nm,0.8s						
KOLN	**Koldanda**	**49.33**	**277**	*e*P	**P**	**20 35 07.8**	**-0.4**
	comp=Z,11nm,0.5s						
PYUN	**Piuthan**	**49.68**	**278**	*e*P	**P**	**20 35 10.5**	**-0.4**
	comp=Z,15nm,0.8s						
ILAR	**Eielson Array**	**50.07**	**32**	P	**P**	**20 35 13.3**	**+0.2**
	comp=Z,7.7nm,0.7s,baz=267,slow=6.3,SNR=44						
KSH	**Kashi**	**50.92**	**295**	*e*P	**P**	**20 35 20.3**	**+0.2**
KSH				pP	sP	20 35 53.4	+31
KSH				PP	**PP**	**20 37 20.8**	**+4.6**
KSH				S	S	20 42 19.8	-17
KSH				sS	sS	20 43 17.8	+38
KSH	**Kashi**	**50.92**	**295**	SS	SS	20 45 54.8	-17
KSH				pmax	pmax		
	comp=Z,10.0nm,1.5s						
KSH				pmax	pmax		
	comp=Z,410nm,7.4s						
KSH				LR	LR		
	comp=N,680nm,11.2s						
KSH				LR	LR		
	comp=E,430nm,9.8s						
KSH				LR	LR		
	comp=Z,2µm,17.5s						
AAK	**Ala-Archa**	**51.05**	**299**	P	**P**	**20 35 20.5**	**-0.6**
	comp=Z,1.9nm,0.5s,baz=90,slow=2.0,SNR=4.6						
BVAR	**Borovoye Array**	**51.26**	**313**	P	**P**	**20 35 21.7**	**-0.6**
	comp=Z,0.7nm,0.4s,baz=96,slow=7.0,SNR=8.9						
BRVK	**Borovoye**	**51.32**	**313**	*c e*P	**P**	**20 35 23.0**	**+0.3**
BRVK				pmax	pmax		
	comp=Z,33nm,0.7s						
INK	**Inuvik**	**55.01**	**27**	P	**P**	**20 35 49.6**	**-0.1**
	comp=Z,6.5nm,0.6s,baz=299,slow=6.8,SNR=18						
SVE	**Sverdlovsk**	**55.88**	**319**	*e*P	P	20 36 06.2	+10
SVE				pmax	pmax		
	comp=Z,22nm,1.1s						
FITZ	**Fitzroy Crossi**	**56.12**	**198**	P	**P**	**20 35 57.5**	**-0.6**
	comp=Z,4.5nm,1.0s,baz=10,slow=8.3,SNR=8.7						
CTA	**Charters Tower**	**56.18**	**175**	P	**P**	**20 35 58.0**	**-0.6**
	comp=Z,4.5nm,0.8s,baz=322,slow=12,SNR=2.5						
CTA	**Charters Tower**	**56.18**	**175**	P	**P**	**20 35 58.0**	**-0.6**
WRA	**Warramunga Arr**	**56.29**	**188**	P	**P**	**20 35 58.5**	**-0.9**
	comp=Z,2.2nm,0.8s,baz=7.7,slow=7.1,SNR=23						
ARU	**Arti**	**57.10**	**319**	*c i* P	P	20 36 14.4	+10
ARU					P	20 38 18.8	
ARU				S	S	20 44 12.6	+13
ARU				pmax	pmax		
	comp=Z,29nm,1.2s						
ABKAR	**Akbulak array**	**58.61**	**311**	*e*P	**P**	**20 36 14.4**	**-1.1**
	comp=Z,11nm,0.8s						
DLBC	**Dease Lake**	**59.14**	**38**	P	**P**	**20 36 20.0**	**+0.9**
	comp=Z,2.6nm,0.8s,baz=332,slow=4.9,SNR=3.7						
DLBC				LR	LR	21 02 14.4	
	comp=Z,2µm,19.9s,baz=19,slow=36						
AKTO	**Aktyubinsk**	**59.36**	**312**	P	**P**	**20 36 20.2**	**-0.6**
	comp=Z,1.0nm,0.5s,baz=91,slow=3.6,SNR=3.9						
ASAR	**Alice Springs**	**60.02**	**188**	P	**P**	**20 36 26.2**	**+0.7**
	comp=Z,0.3nm,0.4s,baz=16,slow=7.1,SNR=9.5						
KBS	**Kingsbay**	**61.48**	**350**	*i* P	**P**	**20 36 36.5**	**+1.7**
KBS				pmax	pmax		
	comp=Z,29nm,1.3s						
GEYT	**Alibeck**	**64.40**	**299**	P	**P**	**20 36 54.8**	**-0.1**
	comp=Z,5.0nm,0.6s,baz=81,slow=31,SNR=3.3						
YKA	**Yellowknife Ar**	**64.40**	**30**	P	**P**	**20 36 54.6**	**+0.2**
	comp=Z,1.7nm,0.7s,baz=302,slow=6.5,SNR=11						
ARCES	**ARCESS Array B**	**64.82**	**340**	P	**P**	**20 36 56.9**	**-0.2**
	comp=Z,1.6nm,0.8s,baz=52,slow=6.4,SNR=2.6						
AFI	**Afiamalu**	**66.47**	**130**	LR	LR	21 01 08.8	
	comp=Z,2µm,21.6s,baz=214,slow=32						
STKA	**Stephens Creek**	**67.75**	**180**	P	**P**	**20 37 15.7**	**-0.5**
	comp=Z,0.9nm,0.5s,baz=356,slow=15,SNR=2.4						
OBN	**Obninsk**	**68.86**	**324**	*e*P	**P**	**20 37 23.9**	**+0.9**
OBN				pmax	pmax		
	comp=Z,4.0nm,0.8s						
FINES	**FINESS Array B**	**69.62**	**332**	P	**P**	**20 37 26.6**	**-1.0**
	comp=Z,3.8nm,1.0s,baz=46,slow=5.5,SNR=7.0						
NEW	**Newport**	**70.57**	**44**	P	**P**	**20 37 32.9**	**-0.9**
	comp=Z,3.2nm,0.7s,baz=0.0,slow=4.0,SNR=3.7						
KBZ	**Khabaz**	**71.58**	**311**	P	**P**	**20 37 41.3**	**+1.5**
	comp=Z,1.1nm,0.7s,baz=45,slow=2.9,SNR=3.0						
KVAR	**Kislovodsk Arr**	**71.58**	**311**	P	**P**	**20 37 41.1**	**+1.0**
	comp=Z,1.8nm,0.7s,baz=283,slow=12,SNR=1.9						
KIV	**Kislovodsk**	**71.58**	**311**	*e*P	**P**	**20 37 42.2**	**+2.1**
KIV				pmax	pmax		
	comp=Z,14nm,1.0s						
BMO	**Blue Mountains**	**72.33**	**47**	*e*P	**P**	**20 37 45.6**	**+1.1**
BMO				pmax	pmax		
	comp=Z,2.0nm,1.1s						
BMO	**Blue Mountains**	**72.33**	**47**	*e*P	**P**	**20 37 45.6**	**+1.1**
	comp=Z,2.5nm,1.1s						
FFC	**Flin Flon**	**74.27**	**33**	*e*P	**P**	**20 38 00.4**	**+4.7**
NB2	**NORSAR Subarra**	**75.00**	**337**	P	**P**	**20 37 59.7**	**-0.2**
	comp=Z,10nm,0.8s,baz=40,slow=6.2						
NOA	**NORSAR Array B**	**75.00**	**337**	P	**P**	**20 37 59.2**	**-0.7**
	comp=Z,1.9nm,0.9s,baz=39,slow=5.7,SNR=3.4						
AKASG	**Malin Array Be**	**75.06**	**323**	P	**P**	**20 37 59.7**	**-0.6**
	comp=Z,1.7nm,0.6s,baz=45,slow=5.9,SNR=6.8						
AKASG	**Malin Array Be**	**75.06**	**323**	*i* P	**P**	**20 38 00.5**	**+0.2**
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.3s						
BOZ	**Bozeman (W)**	**75.18**	**44**	*e*P	**P**	**20 38 01.7**	**+0.4**
BOZ				pmax	pmax		
	comp=Z,19nm,1.5s						
BOZ	**Bozeman (W)**	**75.18**	**44**	*e*P	**P**	**20 38 01.7**	**+0.4**
	comp=Z,19nm,1.5s						
HWUT	**Hardware Ranch**	**77.63**	**47**	*e*P	**P**	**20 38 16.6**	**+1.3**
	comp=Z,17nm,1.5s						
DUG	**Dugway, Tooele**	**77.73**	**49**	*e*P	**P**	**20 38 17.1**	**+1.2**
DUG				pmax	pmax		
	comp=Z,9.0nm,1.0s						
DUG	**Dugway, Tooele**	**77.73**	**49**	*e*P	**P**	**20 38 17.1**	**+1.2**
	comp=Z,9.4nm,1.0s						
PDAR	**Pinedale Array**	**78.09**	**45**	P	**P**	**20 38 18.4**	**+0.5**
	comp=Z,2.7nm,0.7s,baz=254,slow=2.5,SNR=8.9						
KWP	**Kalwaria Pacla**	**78.90**	**325**	*e*P	P	20 38 33.2	+11
BRTR	**Keskin Array B**	**79.53**	**312**	P	**P**	**20 38 26.4**	**+0.6**
	comp=Z,0.3nm,0.4s,baz=124,slow=5.4,SNR=3.0						
MLR	**Muntele Rosu**	**80.13**	**320**	P	**P**	**20 38 30.2**	**+1.2**
	comp=Z,0.1nm,0.4s,baz=298,slow=13,SNR=3.6						
NIE	**Niedzica**	**80.17**	**326**	*e*P	P	20 38 40.0	+11
LANS	**Liptovska Anna**	**80.74**	**326**	*e*P	P	20 38 44.0	+12
KSP	**Ksiaz**	**80.89**	**328**	*e*P	P	20 38 44.3	+12
DPC	**Dobruska-Polom**	**81.25**	**328**	*e*P	P	20 38 46.4	+12
UPC	**Upice**	**81.26**	**328**	*e*P	P	20 38 45.7	+11
WUAZ	**Wupatki**	**81.50**	**52**	*e*P	**P**	**20 38 37.7**	**+1.2**
	comp=Z,7.3nm,0.9s						
VYHS	**Vyhne**	**81.50**	**326**	*e*P	P	20 38 46.8	+11
BRG	**Berggiesshubel**	**81.85**	**330**	*i* P	P	20 38 48.1	+10
	comp=Z,6.9nm,1.0s						
BRG	**Berggiesshubel**	**81.85**	**330**	*i* P	P	20 38 48.1	+10
BRG				pmax	pmax		
	comp=Z,6.0nm,1.0s						
PVCC	**Panska Ves**	**81.85**	**329**	*e*P	P	20 38 49.4	+12
CLL	**Colm**	**81.89**	**330**	*i* pP	pP	20 38 48.4	+8.7
	comp=Z,12nm,1.2s						
GOPC	**GO Pecny, Ondr**	**82.22**	**329**	*e*P	P	20 38 51.3	+11
PRU	**Pruhonice**	**82.27**	**329**	*e*P	P	20 38 51.4	+11
MMAI	**Mount Meron Ar**	**82.59**	**306**	P	**P**	**20 38 42.7**	**+0.5**
	comp=Z,0.6nm,0.4s,baz=12,slow=7.4,SNR=3.2						
NKC	**Novy Kostel**	**82.95**	**330**	*e*P	P	20 38 54.9	+11
CONA	**Conrad Observa**	**83.26**	**327**	*i* PcP	P	20 38 56.6	+11
	comp=Z,9.0nm,1.2s						
KHC	**Kasperske Hory**	**83.33**	**329**	*e*P	P	20 38 56.5	+11
GERES	**GERESS Array B**	**83.50**	**328**	P	**P**	**20 38 45.8**	**-0.7**
	comp=Z,0.4nm,0.6s,baz=40,slow=7.0,SNR=4.2						
SDCO	**Great Sand Dun**	**83.69**	**47**	*e*P	**P**	**20 38 49.0**	**+1.0**
	comp=Z,3.2nm,1.3s						
EKA	**Eskdalemuir Ar**	**83.96**	**341**	P	**P**	**20 38 48.8**	**+0.2**
	comp=Z,0.7nm,0.6s,baz=41,slow=6.6,SNR=2.8						
SOKA	**Soboth**	**84.57**	**326**	*i* PcP	P	20 39 03.4	+11
	comp=Z,11nm,1.3s						
ANMO	**Albuquerque**	**84.95**	**50**	P	**P**	**20 38 54.2**	**-0.2**
	comp=Z,1.4nm,0.7s,baz=297,slow=7.7,SNR=4.1						
ANMO	**Albuquerque**	**84.95**	**50**	*e*P	**P**	**20 38 55.2**	**+0.9**
SCHQ	**Schefferville**	**86.06**	**16**	P	**P**	**20 38 59.7**	**+0.5**
	comp=Z,3.5nm,0.5s,baz=338,slow=16,SNR=1.7						
DAVA	**Samuels**	**86.32**	**329**	*i* pP	P	20 39 12.1	+11
	comp=Z,6.9nm,1.1s						
TXAR	**Lajitas Array**	**90.45**	**53**	P	**P**	**20 39 18.8**	**-2.1**
	comp=Z,1.5nm,0.7s,baz=300,slow=3.0,SNR=15						
TORD	**Torodi Ar. Bea**	**118.04**	**315**	PKP	**PKPdf**	**20 45 05.0**	**-1.3**
	comp=Z,0.2nm,0.6s,baz=6.9,slow=3.1,SNR=2.9						
MAW	**Mawson**	**118.90**	**205**	PKP	**PKPdf**	**20 45 05.0**	**-1.2**
	comp=Z,0.5nm,0.5s,baz=28,slow=18,SNR=5.9						
MAW	**Mawson**	**118.90**	**205**	PKIKP	**PKPdf**	**20 45 05.0**	**-1.2**
LPAZ	**La Paz**	**146.92**	**61**	PKPbc	**PKPbc**	**20 46 02.2**	**-0.3**
	comp=Z,3.1nm,0.6s,baz=345,slow=2.2,SNR=17						

ISCJB ***15*** *20:27:10.8±0.5,53°.99S±0°.07×1°.7W±0°.2,h10km,mb4.3/12, Error ellipse: s-maj=17.5km s-min=9.6km az=171.5*

IDC ***15*** *20:27:11.3±0.8,54°.03S×1°.79W,h0km,mb4.3/10, mb1 4.4/11,mb1mx4.1/42,mbtmp4.2/11,ML4.2/1,Error ellipse: s-maj=25.8km s-min=18.7km az=69.0*

NEIC ***15*** *20:27:12.9±0.5,54°.08S×1°.84W,h10km,mb4.7/2,Error ellipse: s-maj=17.5km s-min=11.1km az=74.0*

ISC 15 20:27:12.7±0.7,54°.08S±0°.09×1°.8W±0°.2,h10km,n30, σ1§07/20,mb4.5/12,1C-1D,Bouvet Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNA1	**Neumayer--Stat**	**16.88**	**187**	P	**P**	**20 31 11.1**	**

s-min=4.3km az=1.3
*JMA **15** 20:36:00.9±0.2,36°.22N×141°.59E,h60^{km}±4^{km},M4.6*
JMA Felt I J1.
*MOS **15** 20:36:01.3±0.9,36°.26N×141°.55E,h33^{km},mb5.1/33,Error ellipse: s-maj=9.4km s-min=5.7km az=116.7*
*NEIC **15** 20:36:03.6±2.1,36°.31N×141°.53E,h33^{km}±14^{km},mb4.8/6, Error ellipse: s-maj=8.7km s-min=5.8km az=120.0*
NEIC Recorded [1 JMA] in Chiba, Fukushima, Gumma, Ibaraki, Miyagi and Tochigi.

ISC 15 20:36:02.5±0.8,36°.24N±0°.04×141°.54E±0°.05,h27^{km}±5^{km}, n161,σ1^{s}10/173,mb4.7/67,19C-6D,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
CHOJ	**Chosi**	**0.77**	**226**	P			**Pb**	**20 36 16.3**	**-0.9**
CHOJ				S			**Sb**	**20 36 27.6**	**+0.3**
JHO	**Hitachi**	**0.87**	**296**	P			**Pb**	**20 36 17.6**	**-1.3**
JHO				*e*S			**Sn**	**20 36 30.9**	**+0.2**
JFK	**Kawauchi**	**1.25**	**335**	P			**Pn**	**20 36 23.0**	**-1.2**
JFK				*e*S			**Sn**	**20 36 39.9**	**-0.3**
JFT	**Otama**	**1.60**	**323**	P			**Pn**	**20 36 29.2**	**+0.1**
JFT				S			**Sn**	**20 36 49.8**	**+0.9**
BSO1	**Boso 1**	**1.65**	**196**	P			**Pn**	**20 36 28.7**	**-0.4**
BSO1				*e*S			**Sn**	**20 36 49.0**	**-0.1**
BSO3	**Boso 3**	**1.66**	**211**	P			**Pn**	**20 36 29.5**	**-0.1**
JAG	**Ashikaga**	**1.70**	**277**	P			**Pn**	**20 36 29.5**	**-0.8**
JMM	**Marumori**	**1.73**	**340**	P			**Pn**	**20 36 30.1**	**-0.7**
JMM				S			**Sn**	**20 36 51.8**	**-0.2**
JFY	**Yanaizu**	**1.88**	**309**	P			**Pn**	**20 36 32.9**	**0.0**
JKT	**Katashina**	**1.92**	**287**	P			**Pn**	**20 36 33.5**	**0.0**
JKT				S			**Sn**	**20 36 57.4**	**+0.6**
MJAR	**Matsushiro Arr**	**2.71**	**277**	Pn			**Pn**	**20 36 44.2**	**0.0**
	124nm,0.3s,baz=116,slow=8.2,SNR=587								
MJAR				Sn			**Sb**	**20 37 19.7**	**-3.3**
	47nm,0.3s,baz=92,slow=29,SNR=7.0								
MAJO	**Matsushiro**	**2.71**	**277**	*d*	*i*P		**Pn**	**20 36 45.1**	**+0.8**
MAJO	**Matsushiro**	**2.71**	**277**	*e*	Pn		**Pn**	**20 36 44.9**	**+0.6**
MAT	**Matsushiro**	**2.71**	**277**	P			**Pn**	**20 36 44.5**	**+0.2**
MAT				S			**Sn**	**20 37 19.2**	**+3.1**
JHJ	**Hachijo jima 2**	**3.43**	**205**	Pn			**Pn**	**20 36 52.9**	**-1.3**
	155nm,0.3s,baz=41,slow=20,SNR=47								
JHJ				Sn			**Sn**	**20 37 31.5**	**-2.4**
	180nm,0.3s,baz=55,slow=23,SNR=11								
ERM	**Erimo**	**5.91**	**12**	*ce*	P		**Pn**	**20 37 26.8**	**-1.3**
ERM					pmax	pmax			
	comp=Z,24nm,0.6s								
ASAJ	**Asahikawa**	**7.91**	**6**	Pn			**Pn**	**20 37 55.1**	**-0.6**
JNU	**Nakatsue**	**9.31**	**254**	Pn			**Pn**	**20 38 14.5**	**-0.5**
	comp=Z,0.6nm,0.3s,baz=76,slow=9.3,SNR=6.1								
JNU	**Nakatsue**	**9.31**	**254**	*e*	Pn		**Pn**	**20 38 16.9**	**+1.9**
YSS	**Yuzh-Sakhalins**	**10.75**	**4**	*e*	P		**Pn**	**20 38 33.8**	**-0.7**
YSS	**Yuzh-Sakhalins**	**10.75**	**4**	*e*	Pn		**Pn**	**20 38 31.9**	**-2.6**
	comp=Z,13nm,0.6s								
USRK	**Ussuriysk Ar.**	**10.79**	**320**	Pn			**Pn**	**20 38 34.8**	**-0.3**
	comp=Z,1.5nm,0.3s,baz=134,slow=13,SNR=21								
KSRS	**Korea Array**	**10.98**	**280**	Pn			**Pn**	**20 38 39.5**	**+1.7**
	comp=Z,0.9nm,0.3s,baz=98,slow=13,SNR=37								
KSAR	**Wonju Array Be**	**11.01**	**280**	P			**Pn**	**20 38 39.5**	**+1.3**
KSAR	**Wonju Array Be**	**11.01**	**280**	Pn			**Pn**	**20 38 39.5**	**+1.3**
MDJ	**Mudanjiang**	**12.36**	**316**	*e*	Pn		**Pn**	**20 38 56.0**	**-0.5**
	comp=Z,18nm,0.9s								
CN2	**Changchun**	**14.45**	**306**	*e*	P		**P**	**20 39 31.4**	**-0.2**
CN2					pmax	pmax			
	comp=Z,20nm,1.0s								
JOW	**Kunigami**	**14.68**	**234**	Pn			**Pn**	**20 39 30.6**	**+2.3**
	comp=Z,1.9nm,0.3s,baz=28,slow=15,SNR=2.5								
TIA	**Tai'an**	**19.69**	**277**	*e*	P		**P**	**20 40 27.8**	**-1.8**
TIA					pmax	pmax			
	comp=Z,10.0nm,1.4s								
PETK	**Petropavlovsk-**	**20.33**	**29**	P			Pn	20 40 37.7	-0.8
	comp=Z,2.7nm,0.9s,baz=224,slow=10,SNR=1.8								
CLNS	**Chul'man**	**23.45**	**337**	*e*	P		**P**	**20 41 06.4**	**-3.1**
CLNS					pmax	pmax			
	comp=Z,16nm,0.9s								
CLNS					pmax	pmax			
	comp=N,11nm,0.9s								
MA2	**Magadan**	**24.11**	**12**	P			**P**	**20 41 15.6**	**-0.1**
	comp=N,7.1nm,0.7s,baz=221,slow=21,SNR=3.6								
XAN	**Xi'an**	**26.70**	**275**	P			**P**	**20 41 38.8**	**-0.7**
XAN					pP		pP	20 41 48.0	+0.6
XAN					sP		sP	20 41 52.0	+1.3
XAN					pmax	pmax			
	comp=N,21nm,0.9s								
ENH	**Enshi**	**27.38**	**267**	*e*	P		**P**	**20 41 44.4**	**-1.2**
	comp=N,46nm,0.9s								
SEY	**Seymchan**	**27.55**	**11**	P			**P**	**20 41 46.2**	**-0.6**
	comp=N,4.8nm,0.9s,baz=215,slow=5.0,SNR=5.7								
SEY	**Seymchan**	**27.55**	**11**	*i*	P		**P**	**20 41 47.3**	**+0.5**
H11N2	**WAKE ISLAND Hy**	**27.66**	**120**	T			T	21 11 03.1	
	baz=311,slow=75,SNR=50								
H11N1	**WAKE ISLAND Hy**	**27.67**	**120**	T			T	21 11 03.7	
	baz=311,slow=75,SNR=63								
H11N3	**WAKE ISLAND Hy**	**27.68**	**120**	T			T	21 11 00.2	
	baz=311,slow=75,SNR=69								
ULN	**Ulaanbaatar**	**27.89**	**305**	*d*	*i*P		**P**	**20 41 49.8**	**-0.4**
ULN					pmax	pmax			
	comp=Z,4.0nm,0.6s								
ULN	**Ulaanbaatar**	**27.89**	**305**	*e*	P		**P**	**20 41 49.6**	**-0.6**
	comp=Z,6.3nm,0.8s								
BOD	**Bodaibo**	**28.26**	**328**	*e*	P		**P**	**20 41 52.3**	**-0.8**
BOD					pmax	pmax			
	comp=Z,17nm,0.8s								
SONM	**Songino Array**	**28.32**	**305**	P			**P**	**20 41 53.6**	**-0.4**
	comp=Z,7.2nm,0.6s,baz=106,slow=8.9,SNR=72								
SONM					PcP		**PcP**	**20 45 06.0**	**-0.4**
	comp=Z,0.7nm,0.6s,baz=112,slow=2.5,SNR=4.3								
H11S1	**WAKE ISLAND Hy**	**28.35**	**122**	T			T	21 12 07.5	
	baz=313,slow=76,SNR=112								
H11S3	**WAKE ISLAND Hy**	**28.35**	**122**	T			T	21 11 52.0	
	baz=313,slow=76,SNR=80								
H11S2	**WAKE ISLAND Hy**	**28.36**	**122**	T			T	21 11 56.5	
	baz=313,slow=76,SNR=49								
ZAK	**Zakamensk**	**30.85**	**309**	*e*	P		**P**	**20 42 13.7**	**-2.6**
ZAK					pmax	pmax			
	comp=Z,9.0nm,1.2s								
TLY	**Talaya**	**30.93**	**312**	P			**P**	**20 42 17.1**	**+0.2**
	comp=Z,9.6nm,0.8s,baz=21,slow=6.5,SNR=6.5								
TLY	**Talaya**	**30.93**	**312**	*i*	P		**P**	**20 42 17.7**	**+0.7**
TLY					pmax	pmax			
	comp=Z,18nm,0.9s								
TLY	**Talaya**	**30.93**	**312**	*e*	P		**P**	**20 42 17.0**	**0.0**
	comp=Z,14nm,1.0s								
GTA	**Gaotai**	**32.90**	**288**	*e*	P		**P**	**20 42 34.1**	**-0.4**
GTA					pP		pP	20 42 43.3	+0.8
GTA					sP		sP	20 42 48.0	+2.2
GTA					pmax	pmax			
	comp=Z,7.0nm,1.0s								
BILL	**Bilibino**	**34.76**	**16**	*e*	P		P	20 43 06.5	+16
BILL					pmax	pmax			
	comp=Z,17nm,1.2s								
KMI	**Kunming**	**34.95**	**263**	P			**P**	**20 42 51.8**	**-0.8**
KMI					sP		sP	20 43 03.1	-0.7
KMI					pmax	pmax			
	comp=Z,9.0nm,1.1s								
TIXI	**Tiksi**	**36.09**	**353**	P			**P**	**20 43 01.3**	**-0.2**
	comp=Z,5.0nm,0.7s,baz=175,slow=4.4,SNR=3.6								
CMAR	**Chiang Mai Arr**	**41.40**	**256**	P			**P**	**20 43 46.6**	**0.0**
	comp=Z,2.4nm,0.8s,baz=50,slow=6.5,SNR=12								
ZALV	**Zalesovo Beam**	**42.53**	**313**	P			**P**	**20 43 55.6**	**+0.1**
	comp=Z,12nm,0.6s,baz=91,slow=6.5,SNR=45								
ZALV					PcP		**PcP**	**20 45 47.6**	**0.0**
	comp=Z,2.4nm,0.7s,baz=94,slow=2.5,SNR=3.6								
NVS	**Novosibirsk**	**43.47**	**314**	*e*	P		**P**	**20 44 03.1**	**+0.1**
NVS				*e*				20 44 14.3	
NVS					pmax	pmax			
	comp=Z,11nm,0.9s								
NVS					pmax	pmax			
	comp=E,7.0nm,1.0s								
MK31	**Makanchi Array**	**44.63**	**303**	*ce*	P		**P**	**20 44 12.4**	**-0.2**
MK31					pmax	pmax			
	comp=Z,17nm,0.8s								
MAKZ	**Makanchi**	**44.84**	**303**	*i*	P		**P**	**20 44 12.9**	**-1.3**
MAKZ					pmax	pmax			
	comp=Z,17nm,0.9s								
TAPN	**Taplejung**	**46.10**	**275**	*e*	P		**P**	**20 44 24.9**	**+0.2**
	comp=Z,12nm,0.4s								
TAPN	**Taplejung**	**46.10**	**275**	*e*	P		**P**	**20 44 25.0**	**+0.2**
	comp=Z,12nm,0.4s								
KURK	**Kurchatov**	**46.51**	**309**	*c*	*i*P		**P**	**20 44 26.9**	**-0.4**
KURK					pmax	pmax			
	comp=Z,124nm,1.0s								
KURK	**Kurchatov**	**46.51**	**309**	*e*	P		**P**	**20 44 26.8**	**-0.5**
	comp=Z,124nm,0.5s								
KURK					PcP		**PcP**	**20 46 01.4**	**+0.1**
ODAN	**Odare**	**46.57**	**274**	*e*	P		**P**	**20 44 28.2**	**-0.2**
	comp=Z,21nm,0.6s								
ODAN	**Odare**	**46.57**	**274**	*e*	P		**P**	**20 44 28.2**	**-0.2**
	comp=Z,21nm,0.6s								
KURBB	**Kurchatov Arra**	**46.58**	**309**	P			**P**	**20 44 27.5**	**-0.3**
	comp=Z,17nm,0.7s,baz=85,slow=7.9,SNR=104								
KURBB					PcP		**PcP**	**20 46 01.4**	**-0.2**
	comp=Z,1.3nm,0.8s,baz=79,slow=4.8,SNR=2.7								
RAMN	**Ramite**	**47.17**	**275**	*e*	P		**P**	**20 44 33.1**	**0.0**
	comp=Z,106nm,0.8s								
RAMN	**Ramite**	**47.17**	**275**	*e*	P		**P**	**20 44 33.1**	**0.0**
	comp=Z,106nm,0.8s								
JIRN	**Jiri**	**47.20**	**276**	*e*	P		**P**	**20 44 33.8**	**+0.4**
	comp=Z,107nm,0.8s								
JIRN	**Jiri**	**47.20**	**276**	*e*	P		**P**	**20 44 33.9**	**+0.5**
	comp=Z,107nm,0.8s								
PDGK	**Podgornoye**	**47.24**	**299**	*i*	P		**P**	**20 44 33.0**	**-0.3**
PDGK					pmax	pmax			
	comp=Z,21nm,0.6s								
GUN	**Gumba**	**47.34**	**276**	*e*	P		**P**	**20 44 35.1**	**+0.6**
	comp=Z,29nm,0.5s								
PKI	**Pulchoki**	**47.86**	**276**	*e*	P		**P**	**20 44 38.4**	**-0.2**
	comp=Z,47nm,0.9s								
PKI	**Pulchoki**	**47.86**	**276**	*e*	P		**P**	**20 44 38.4**	**-0.2**
	comp=Z,47nm,0.9s								
PKIN	**Phulchoki**	**47.87**	**276**	*e*	P		**P**	**20 44 38.2**	**-0.3**
	comp=Z,31nm,1.0s								
PKIN	**Phulchoki**	**47.87**	**276**	*e*	P		**P**	**20 44 38.2**	**-0.3**
	comp=Z,24nm,0.8s								
KKN	**Kakani**	**47.87**	**277**	*e*	P		**P**	**20 44 38.6**	**+0.1**
	comp=Z,52nm,1.0s								
KKN	**Kakani**	**47.87**	**277**	*e*	P		**P**	**20 44 38.6**	**+0.1**
	comp=Z,52nm,1.0s								
DMN	**Daman**	**48.09**	**276**	*e*	P		**P**	**20 44 40.1**	**-0.1**
	comp=Z,13nm,0.7s								
DMN	**Daman**	**48.09**	**276**	*e*	P		**P**	**20 44 40.2**	**0.0**
	comp=Z,13nm,0.7s								
GKN	**Gorkha**	**48.30**	**277**	*e*	P		**P**	**20 44 41.8**	**+0.1**
	comp=Z,108nm,1.0s								
GKN	**Gorkha**	**48.30**	**277**	*e*	P		**P**	**20 44 41.8**	**+0.1**
	comp=Z,108nm,1.0s								
KOLN	**Koldanda**	**49.23**	**277**	*e*	P		**P**	**20 44 49.0**	**+0.1**
	comp=Z,14nm,0.6s								
KOLN	**Koldanda**	**49.23**	**277**	*e*	P		**P**	**20 44 49.0**	**+0.1**
	comp=Z,14nm,0.6s								
PYUN	**Piuthan**	**49.58**	**278**	*e*	P		**P**	**20 44 51.8**	**+0.1**
	comp=Z,84nm,0.8s								
PYUN	**Piuthan**	**49.58**	**278**	*e*	P		**P**	**20 44 51.7**	**+0.1**
	comp=Z,84nm,0.8s								
TKM2	**Tokmak 2**	**50.10**	**299**	*i*	P		**P**	**20 44 55.8**	**+0.4**
TKM2					pmax	pmax			
	comp=Z,14nm,0.9s								
ILAR	**Eielson Array**	**50.11**	**32**	P			**P**	**20 44 55.3**	**+0.4**
	comp=Z,2.7nm,0.8s,baz=266,slow=6.4,SNR=27								
KSH	**Kashi**	**50.83**	**295**	*e*	P		**P**	**20 45 04.8**	**+4.0**
KSH					PP		**PP**	**20 47 02.8**	**+5.8**
KSH					pmax	pmax			
	comp=Z,9.0nm,1.1s								
KSH					LR		LR		
	comp=Z,2μm,16.0s								
KSH					LR		LR		
	comp=Z,2μm,17.5s								
KSH					LR		LR		
	comp=Z,2μm,17.0s								
AAK	**Ala-Archa**	**50.96**	**299**	P			**P**	**20 45 02.3**	**+0.5**
	comp=Z,4.2nm,0.5s,baz=94,slow=3.2,SNR=9.7								
BVAR	**Borovoye Array**	**51.19**	**313**	P			**P**	**20 45 03.1**	**0.0**
	comp=Z,4.3nm,0.6s,baz=69,slow=8.1,SNR=25								
BRVK	**Borovoye**	**51.24**	**313**	*c*	*i*P		**P**	**20 45 03.5**	**-0.1**
BRVK					pmax	pmax			
	comp=Z,25nm,0.8s								
BRVK	**Borovoye**	**51.24**	**313**	*e*	P		**P**	**20 45 03.4**	**-0.1**
	comp=Z,12nm,0.6s								
MNAS	**Manas**	**52.41**	**299**	*i*	P		**P**	**20 45 13.1**	**+0.5**
MNAS					pmax	pmax			
	comp=Z,15nm,0.9s								
KK31	**Karatay Array**	**53.62**	**301**	*ce*	P		**P**	**20 45 21.4**	**0.0**
KK31					pmax	pmax			
	comp=Z,7.0nm,0.7s								
KKAR	**Karatay Array**	**53.62**	**301**	*e*	P		**P**	**20 45 21.4**	**0.0**
KKAR					pmax	pmax			
	comp=Z,15nm,1.0s								
KKAR	**Karatay Array**	**53.62**	**301**	*e*	P		**P**	**20 45 21.4**	**0.0**
	comp=Z,15nm,1.0s								
INK	**Inuvik**	**55.05**	**27**	P			**P**	**20 45 32.2**	**+0.9**
	comp=Z,1.9nm,0.5s,baz=358,slow=1.0,SNR=4.0								
SVE	**Sverdlovsk**	**55.81**	**319**	*e*	P		**P**	**20 45 36.5**	**-0.5**
SVE					pmax	pmax			
	comp=Z,29nm,0.9s								
WRAB	**Tennant Creek**	**56.28**	**188**	*e*	P		**P**	**20 45 41.5**	**+0.8**
WRAB					pmax	pmax			
	comp=Z,9.0nm,1.0s								
WRAB	**Tennant Creek**	**56.28**	**188**	*e*	P		**P**	**20 45 41.5**	**+0.8**
	comp=Z,8.6nm,1.0s								
WRA	**Warramunga Arr**	**56.29**	**188**	P			**P**	**20 45 39.5**	**-1.2**
	comp=Z,1.0nm,0.6s,baz=4.2,slow=7.1,SNR=11								
ARU	**Arti**	**57.03**	**319**	*c*	*i*P		**P**	**20 45 45.5**	**-0.2**
ARU								20 47 52.0	
ARU					S		**S**	**20 53 40.4**	**+2.1**
ARU					SS		**SS**	**20 57 28.4**	**+1.9**
ARU					pmax	pmax			
	comp=Z,23nm,1.0s								
AB31	**Akbulak array**	**58.53**	**311**	*ce*	P		**P**	**20 45 56.0**	**-0.4**
AB31					pmax	pmax			
	comp=Z,7.0nm,0.5s								
AKTO	**Aktyubinsk**	**59.28**	**312**	P			**P**	**20 46 01.0**	**-0.5**
	comp=Z,7.3nm,0.7s,baz=73,slow=5.3,SNR=20								
ASAR	**Alice Springs**	**60.01**	**188**	P			**P**	**20 46 05.6**	**-1.2**
	comp=Z,0.4nm,0.5s,baz=358,slow=6.3,SNR=7.2								
MBWA	**Marble Bar**	**60.70**	**203**	*e*	P		**P**	**20 46 14.0**	**+2.6**
PALK	**Pallekele**	**62.30**	**258**	*ce*	P		**P**	**20 46 21.0**	**-1.6**
DZM	**Mont Dzumac**	**62.59**	**154**	P			**P**	**20 46 25.9**	**+1.5**
	comp=Z,4.1nm,0.9s,baz=320,slow=16,SNR=2.6								
GEYT	**Alibeck**	**64.31**	**299**	P			**P**	**20 46 36.1**	**+0.4**
	comp=Z,10nm,1.0s,baz=352,slow=3.3,SNR=9.6								
YKA	**Yellowknife Ar**	**64.44**	**30**	P			**P**	**20 46 36.6**	**+0.6**
	comp=Z,0.7nm,0.7s,baz=304,slow=7.3,SNR=4.2								
KLMR	**Klimovskoe**	**64.48**	**328**	*e*	P		**P**	**20 46 34.8**	**-1.5**
KLMR					*e*			20 47 09.6	
KLMR					pmax	pmax			
	comp=Z,15nm,1.1s								
ARCES	**ARCESS Array B**	**64.78**	**340**	P			**P**	**20 46 38.6**	**+0.4**
	comp=Z,3.6nm,0.8s,baz=66,slow=9.4,SNR=6.7								
DAG	**Danmarks Havn**	**66.58**	**355**	*i*	P		**P**	**20 46 48.6**	**-1.0**
	comp=Z,4.8nm,0.6s								
DAG	**Danmarks Havn**	**66.58**	**355**	*i*	P		**P**	**20 46 48.6**	**-1.0**
DAG					pmax	pmax			
	comp=Z,3.0nm,0.6s								
STKA	**Stephens Creek**	**67.76**	**180**	P			**P**	**20 46 57.2**	**-0.4**
	comp=Z,0.8nm,0.7s,baz=343,slow=14,SNR=2.5								
OBN	**Obninsk**	**68.80**	**323**	*i*	*i*P		**P**	**20 47 03.5**	**-0.4**
OBN					*e*			20 47 24.0	
OBN					SS		SS	21 00 24.0	-6.0
OBN					pmax	pmax			
	comp=Z,13nm,0.9s								
OBN					MLR		MLR		
	comp=Z,3μm,17.0s								
LPSR	**Galich'ya Gora**	**68.98**	**320**	*e*	P		**P**	**20 47 04.3**	**-0.8**
LPSR					pmax	pmax			
	comp=Z,10.0nm,0.8s								
FINES	**FINESS Array B**	**69.57**	**332**	P			**P**	**20 47 08.7**	**+0.1**
	comp=Z,6.9nm,0.8s,baz=91,slow=8.0,SNR=10								
FINES	**FINESS Array B**	**69.57**	**332**	*ce*	P		**P**	**20 47 08.5**	**-0.1**
FINES					pmax	pmax			
	comp=Z,7.0nm,0.8s								
VSR	**Storozhevoye**	**69.60**	**319**	*e*	P		**P**	**20 47 08.4**	**-0.6**
VSR					pmax	pmax			
	comp=Z,10.0nm,0.9s								
GOF	**Gofitskoye**	**70.70**	**312**	*e*	P		**P**	**20 47 15.0**	**-0.9**
GOF					pmax	pmax			
	comp=Z,9.0nm,0.6s								
ZEI	**Tsey**	**71.39**	**310**	*e*	P		**P**	**20 47 18.9**	**-1.4**
ZEI					pmax	pmax			
	comp=Z,8.0nm,0.6s								
KBZ	**Khabaz**	**71.50**	**311**	P			**P**	**20 47 21.3**	**+0.6**
	comp=Z,6.9nm,0.9s,baz=39,slow=3.6,SNR=15								
KIV	**Kislovodsk**	**71.51**	**311**	*e*	P		**P**	**20 47 21.4**	**+0.5**
KIV					pmax	pmax			
	comp=Z,15nm,0.9s								
SOC	**Sochi**	**73.51**	**312**	*e*	P		**P**	**20 47 30.1**	**-2.6**
SOC					*e*			20 47 35.7	
SOC					*e*S		**SKiKP**	**20 57 01.4**	**+0.2**
SOC					pmax	pmax			
	comp=Z,29nm,1.1s								
NB2	**NORSAR Subarra**	**74.96**	**337**	P			**P**	**20 47 40.8**	**-0.1**
	comp=Z,2.3nm,0.6s,baz=38,slow=5.9								
NOA	**NORSAR Array B**	**74.96**	**337**	P			**P**	**20 47 41.2**	**+0.3**
	comp=Z,4.6nm,0.8s,baz=39,slow=5.7,SNR=9.8								
AKASG	**Malin Array Be**	**74.99**	**322**	P			**P**	**20 47 41.0**	**-0.1**
	comp=Z,8.6nm,0.6s,baz=47,slow=6.1,SNR=26								
AKASG	**Malin Array Be**	**74.99**	**322**	*ce*	P		**P**	**20 47 40.7**	**-0.5**
AKASG					pmax	pmax			
	comp=Z,9.0nm,0.6s								
PDAR	**Pinedale Array**	**78.15**	**45**	P			**P**	**20 48 00.0**	**+0.4**
	comp=Z,1.0nm,0.7s,baz=253,slow=1.5,SNR=5.3								
BURAR	**Bucovina Array**	**79.00**	**322**	*i*	P		**P**	**20 48 04.3**	**+0.3**
TESR	**Tescani**	**79.01**	**320**	*i*	P		**P**	**20 48 03.9**	**0.0**
BRTR	**Keskin Array B**	**79.46**	**312**	P			**P**	**20 48 07.1**	**+0.5**
	comp=Z,3.4nm,1.0s,baz=93,slow=4.9,SNR=16								
BRTR	**Keskin Array B**	**79.46**	**312**	*ce*	P		**P**	**20 48 06.9**	**+0.2**
BRTR					pmax	pmax			
	comp=Z,3.0nm,1.0s								
STHS	**Stebnicka Huta**	**79.67**	**325**	*e*	P		**P**	**20 48 07.2**	**-0.3**
STHS	**Stebnicka Huta**	**79.67**	**325**	*e*	P		**P**	**20 48 07.2**	**-0.3**
UZH	**Uzhgorod**	**79.73**	**324**	*e*	P		**P**	**20 48 07.0**	**-0.7**
UZH				*e*				20 48 15.0	
UZH				*e*				20 48 23.7	
MLR	**Muntele Rosu**	**80.06**	**320**	*i*	P		**P**	**20 48 10.4**	**+0.6**
VOIR		**80.56**	**320**	*i*	P		**P**	**20 48 10.1**	**-2.3**
ARR	**Arges**	**80.82**	**320**	*i*	P		**P**	**20 48 15.0**	**+1.2**
DPC	**Dobruska-Polom**	**81.19**	**328**	*e*	P		**P**	**20 48 16.3**	**+0.7**
DPC	**Dobruska-Polom**	**81.19**	**328**	*e*	P		**P**	**20 48 16.3**	**+0.7**
VYHS	**Vyhne**	**81.44**	**326**	*e*	P		**P**	**20 48 17.2**	**+0.2**
VYHS					pmax	pmax			
	comp=Z,3.0nm,1.3s								
VYHS	**Vyhne**	**81.44**	**326**	*e*	P		**P**	**20 48 17.2**	**+0.2**
BRG	**Berggiesshubel**	**81.79**	**330**	*e*	P		**P**	**20 48 18.5**	**-0.2**
	comp=Z,3.2nm,0.8s								
BRG				*e*				20 48 32.5	
	comp=Z,2.8nm,0.9s								
BRG	**Berggiesshubel**	**81.79**	**330**	*e*	P		**P**	**20 48 18.5**	**-0.2**
BRG				*e*				20 48 32.5	
BRG					pmax	pmax			
	comp=Z,7.0nm,0.8s								
BRG					pmax	pmax			
	comp=Z,3.0nm,0.9s								
CLL	**Collm**	**81.84**	**330**	*e*	P		**P**	**20 48 18.0**	**-1.0**
CLL				*i*	*SP		**sP**	**20 48 32.6**	**+1.8**
CLL					pmax	pmax			
	comp=Z,5.0nm,1.0s								
CLL	**Collm**	**81.84**	**330**	*e*	P		**P**	**20 48 18.0**	**-1.0**
	comp=Z,5.0nm,1.0s								
CLL				*i*	sP		**sP**	**20 48 32.6**	**+1.8**
PRU	**Pruhonice**	**82.22**	**329**	*e*	P		**P**	**20 48 21.5**	**+0.5**
PRU	**Pruhonice**	**82.22**	**329**	*e*	P		**P**	**20 48 21.5**	**+0.5**
CONA	**Conrad Observa**	**83.20**	**327**	*i*	P		**P**	**20 48 26.3**	**0.0**
	comp=Z,3.4nm,1.1s								
KHC	**Kasperske Hory**	**83.28**	**329**	*e*	P		**P**	**20 48 26.5**	**-0.1**
KHC	**Kasperske Hory**	**83.28**	**329**	*e*	P		**P**	**20 48 26.5**	**-0.1**
GERES	**GERESS Array B**	**83.44**	**328**	P			**P**	**20 48 27.2**	**-0.3**
	comp=Z,1.1nm,0.6s,baz=33,slow=5.0,SNR=12								
VTS	**Vitosha**	**83.48**	**319**	*i*	P		**P**	**20 48 28.6**	**+0.7**
EKA	**Eskdalemuir Ar**	**83.92**	**341**	P			**P**	**20 48 29.8**	**+0.1**
	comp=Z,0.5nm,0.5s,baz=40,slow=5.6,SNR=4.8								
SOKA	**Soboth**	**84.51**	**326**	*i*	P		**P**	**20 48 32.5**	**-0.5**
	comp=Z,4.6nm,1.2s								
BFO	**Black Forest**	**86.05**	**331**	*ce*	P		**P**	**20 48 41.2**	**+0.6**
TXAR	**Lajitas Array**	**90.53**	**52**	P			**P**	**20 49 02.8**	**+0.5**
	comp=Z,0.4nm,0.8s,baz=303,slow=2.6,SNR=5.5								
LPAZ	**La

	baz=190,slow=74,SNR=11							
H10S3	**ASCENSION HYDR**	**48.35**	**16**	T	T	21 41 05.8		
	baz=190,slow=74,SNR=12							
H10S1	**ASCENSION HYDR**	**48.37**	**16**	T	T	21 41 06.5		
	baz=190,slow=74,SNR=10							
PB11	**IPOC Station P**	**48.48**	**301**	*e*P	**P**	**20 48 52.5**	**-0.6**	
	49nm,1.4s							
LBTB	**Lobatse**	**48.94**	**72**	P	**P**	**20 48 55.8**	**-0.6**	
	9.1nm,0.5s,baz=180,slow=24,SNR=22							
LBTB				ScP	**ScP**	**20 54 04.5**	**-0.1**	
	5.5nm,1.0s,baz=180,slow=24,SNR=2.5							
LBTB	**Lobatse**	**48.94**	**72**	*e*P	**P**	**20 48 55.8**	**-0.6**	
	47nm,1.3s							
LBTB				ScP	**ScP**	**20 54 04.5**	**-0.1**	
H10N1	**ASCENSION HYDR**	**49.47**	**16**	T	T	21 42 49.3		
	baz=193							
H10N3	**ASCENSION HYDR**	**49.47**	**16**	T	T	21 42 49.1		
	baz=193							
H10N2	**ASCENSION HYDR**	**49.49**	**16**	T	T	21 42 50.9		
	baz=193							
LPAZ	**La Paz**	**50.79**	**305**	P	**P**	**20 49 11.1**	**0.0**	
	13nm,0.6s,baz=137,slow=5.8,SNR=42							
LPAZ				ScP	**ScP**	**20 54 12.4**	**-0.9**	
	1.4nm,0.7s,baz=179,slow=6.6,SNR=5.0							
LPAZ	**La Paz**	**50.79**	**305**	*e*P	**P**	**20 49 10.9**	**-0.3**	
	14nm,0.6s							
LPAZ				ScP	**ScP**	**20 54 12.4**	**-0.9**	
SAML	**Samuel**	**55.25**	**315**	*e*P	**P**	**20 49 42.5**	**-0.7**	
	6.3nm,0.9s							
LSZ	**Lusaka**	**58.34**	**68**	*e*P	**P**	**20 50 04.4**	**-0.7**	
	4.5nm,0.5s							
RPN	**Rapa Nui**	**63.78**	**260**	P	**P**	**20 50 43.9**	**+2.2**	
	57nm,0.9s,baz=140,slow=17							
LIC	**Lamto**	**65.00**	**24**	*e*P	**P**	**20 50 48.7**	**-0.9**	
	75nm,1.6s							
KIC	**Kosan Boka**	**65.20**	**24**	*e*P	**P**	**20 50 50.5**	**-0.4**	
	24nm,1.0s							
TIC	**Toumodi**	**65.41**	**24**	*e*P	**P**	**20 50 51.2**	**-1.1**	
DBIC	**Dimbokro**	**65.47**	**24**	P	**P**	**20 50 51.8**	**-0.9**	
	2.7nm,0.5s,baz=170,slow=7.1,SNR=11							
DBIC	**Dimbokro**	**65.47**	**24**	*e*P	**P**	**20 50 51.4**	**-1.3**	
	30nm,1.5s							
TOA0	**Torodi Ar. Sit**	**73.33**	**29**	*e*P	**P**	**20 51 40.3**	**-0.6**	
	17nm,1.1s							
TORD	**Torodi Ar. Bea**	**73.33**	**29**	P	**P**	**20 51 40.2**	**-0.7**	
	5.1nm,0.5s,baz=200,slow=6.6,SNR=135							
RPZ	**Rata Peaks**	**79.05**	**193**	P	**P**	**20 52 16.1**	**+2.9**	
	15nm,1.1s,baz=272,slow=4.2,SNR=2.5							
TAU	**Tasmania Unive**	**80.86**	**176**	*e*P	**P**	**20 52 23.9**	**+1.0**	
	58nm,1.0s							
NWAO	**Narrogin (SRO)**	**85.85**	**150**	P	**P**	**20 52 50.1**	**+1.3**	
	4.6nm,0.6s,baz=169,slow=7.1,SNR=3.6							
STKA	**Stephens Creek**	**91.44**	**170**	P	**P**	**20 53 17.2**	**+1.9**	
	2.1nm,0.7s,baz=165,slow=7.1,SNR=7.9							
ASAR	**Alice Springs**	**98.52**	**162**	P	**P**	**20 53 48.0**	**+0.3**	
	1.9nm,0.6s,baz=184,slow=3.7,SNR=9.2							
ASAR				pP	**pP**	**20 54 14.6**	**+0.3**	
	1.3nm,1.0s,baz=194,slow=4.6,SNR=3.0							
ASAR				PP	**PP**	**20 57 49.4**	**+1.1**	
	1.4nm,0.9s,baz=189,slow=6.3,SNR=4.0							
AS01	**Alice Springs**	**98.53**	**162**	*e*P	**P**	**20 53 47.8**	**+0.1**	
WRA	**Warramunga Arr**	**102.24**	**162**	P	**Pdif**	**20 54 04.5**	**+0.3**	
	0.5nm,0.6s,baz=198,slow=4.5,SNR=7.0							
WRA				PP	**PKiKP**	**20 58 25.6**	**-0.1**	
	0.7nm,0.8s,baz=187,slow=6.1,SNR=4.6							
FINES	**FINESS Array B**	**124.67**	**28**	PKP	**PKPdf**	**20 59 05.6**	**-1.0**	
	1.4nm,0.6s,baz=134,slow=3.3,SNR=14							
KSH	**Kashi**	**128.48**	**75**	*e*PKP	**PKPdf**	**20 59 14.3**	**-0.5**	
KSH				sPKP		20 59 52.3		
KSH				PP	**PP**	**21 01 23.1**	**+1.2**	
KSH				PKS	**PKSdf**	**21 02 49.3**	**-2.1**	
KSH				SKS	**SKSdf**	**21 06 14.1**	**-2.9**	
KSH				SS	**SS**	**21 18 26.6**	**-3.8**	
KSH				AMB	AMB			
	comp=Z,260nm,9.3s							
KSH				LR	LR			
	comp=N,120nm,7.0s							
KSH				LR	LR			
	comp=E,350nm,13.7s							
KSH				LR	LR			
	comp=Z,1μm,19.5s							
ARCES	**ARCESS Array B**	**131.26**	**22**	PKP	**PKPdf**	**20 59 19.2**	**+0.2**	
	1.0nm,0.5s,baz=204,slow=2.0,SNR=3.4							
KMI	**Kunming**	**132.19**	**109**	PKP	**PKPdf**	**20 59 25.3**	**+2.8**	
BVAR	**Borovoye Array**	**134.84**	**58**	PKP	**PKPdf**	**20 59 27.0**	**+0.8**	
	0.6nm,0.5s,baz=189,slow=3.1,SNR=6.3							
GYA	**Guiyang**	**135.31**	**112**	*e*Pdif	**Pdif**	**20 56 31.0**	**-0.1**	
GYA				PP	**PP**	**21 02 10.0**	**+4.4**	
GYA				AMB	AMB			
	comp=Z,120nm,8.0s							
YKA	**Yellowknife Ar**	**136.63**	**318**	PKP	**PKPdf**	**20 59 29.1**	**-0.1**	
	0.9nm,0.6s,baz=123,slow=2.4,SNR=3.7							
YKA				SKPbc	**SKPbc**	**21 02 51.2**	**-1.1**	
	2.9nm,0.9s,baz=124,slow=1.9,SNR=12							
KURBB	**Kurchatov Arra**	**137.30**	**65**	SKPab	**SKPab**	**21 03 01.8**	**-0.2**	
	0.1nm,0.4s,baz=222,slow=3.5,SNR=4.4							
KURK	**Kurchatov**	**137.40**	**65**	SKPab	**SKPab**	**21 03 01.8**	**-0.6**	
LZH	**Lanzhou**	**141.33**	**100**	*e*PKP	**PKPdf**	**20 59 41.3**	**+2.4**	
LZH				sPKP		21 00 18.0		
LZH				LR	LR			
	comp=N,90nm,15.0s							
LZH				LR	LR			
	comp=E,120nm,17.8s							
LZH				LR	LR			
	comp=Z,170nm,20.0s							
ZALV	**Zalesovo Beam**	**142.37**	**64**	PKP	**PKPdf**	**20 59 39.3**	**-0.6**	
	0.3nm,0.4s,baz=90,slow=1.4,SNR=2.3							
INK	**Inuvik**	**146.26**	**320**	PKPbc	**PKPbc**	**20 59 47.5**	**-0.2**	
	4.6nm,0.6s,baz=35,slow=3.3,SNR=10							
INK	**Inuvik**	**146.26**	**320**	*e*PKPdf	**PKPbc**	**20 59 47.1**	**-0.5**	
INK				PKPbc	**PKPbc**	**20 59 47.5**	**-0.2**	
DAWY	**Dawson**	**147.23**	**311**	*e*PKPbc	**PKPbc**	**20 59 50.2**	**-0.4**	
HHC	**Hu-ho-hao-te**	**148.95**	**102**	*e*PKPbc	**PKPdf**	**20 59 53.3**	**+1.5**	
SONM	**Songino Array**	**150.55**	**87**	PKPbc	**PKPbc**	**20 59 59.3**	**-0.3**	
	3.5nm,0.6s,baz=225,slow=3.2,SNR=26							
SONM				pPKPbc	**pPKPbc**	**21 00 26.4**	**-0.7**	
	3.9nm,0.7s,baz=231,slow=2.8,SNR=3.8							
ILAR	**Eielson Array**	**150.55**	**311**	PKPbc	**PKPbc**	**20 59 59.3**	**+0.4**	
	2.3nm,0.5s,baz=141,slow=4.8,SNR=26							
ILAR				pPKPbc	**pPKPdf**	**21 00 23.7**	**+2.6**	
	5.2nm,0.8s,baz=125,slow=1.7,SNR=5.5							

*CSEM **15** 20:46:08.5, 44.71N×10.28E, h18km, ML1.4*

GEN 15 20:46:08.5, 44.71N×10.28E, h18km, ML1.4, Northern Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GRAM	**Graiana**	**0.26**	**216**	P	Pg	20 46 14.0	-0.4
GRAM				S	Sg	20 46 17.9	-0.6
CODM	**Codolo**	**0.44**	**224**	P	Pb	20 46 17.7	-0.1
CODM				S	Sg	20 46 23.4	-0.1
SARO	**Sassorosso**	**0.53**	**170**	P	Pg	20 46 18.4	-0.7
SARO				S	Sg	20 46 25.7	-0.5
SC2M	**Scurtabo**	**0.61**	**241**	P	Pg	20 46 20.1	-0.5
SC2M				S	Sb	20 46 29.2	+0.2
POPM	**Popiglio**	**0.74**	**152**	P	Pb	20 46 22.8	-0.2
POPM				S	Sb	20 46 32.3	-0.5

IDC 15 20:53:17.6±65.0, 16.99S×176.71W, h0km, mb3.4/3, mb1 3.6/3, mb1mx3.4/38, mbtmp3.4/3, Error ellipse: s-maj=1216.0km s-min=168.9km az=79.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**40.50**	**241**	P	P	21 00 59.1	+0.6
	1.0nm,0.8s,baz=90,slow=9.1,SNR=1.9						
WRA	**Warramunga Arr**	**46.40**	**258**	P	P	21 01 46.5	+0.2
	0.3nm,0.9s,baz=96,slow=7.4,SNR=5.7						
ASAR	**Alice Springs**	**46.61**	**253**	P	P	21 01 46.5	-1.4
	0.2nm,0.5s,baz=100,slow=8.2,SNR=4.3						

IDC 15 21:04:23.9±6.8, 6.20S×11.54W, h0km, mb3.7/4, mb1 3.8/4, mb1mx3.4/42, mbtmp3.7/4, Error ellipse: s-maj=218.9km s-min=115.1km az=140.0, Ascension Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H10N2	**ASCENSION HYDR**	**3.34**	**241**	T	T	21 09 14.7	
	baz=55,slow=74						
H10N1	**ASCENSION HYDR**	**3.34**	**241**	T	T	21 09 15.0	
	baz=55,slow=74						
H10N3	**ASCENSION HYDR**	**3.36**	**241**	T	T	21 09 16.1	
	baz=55,slow=74						
H10S1	**ASCENSION HYDR**	**4.11**	**228**	T	T	21 10 18.6	
	baz=43,slow=75,SNR=220						
H10S2	**ASCENSION HYDR**	**4.12**	**228**	T	T	21 10 19.4	
	baz=43,slow=75,SNR=177						
H10S3	**ASCENSION HYDR**	**4.13**	**228**	T	T	21 10 20.0	
	baz=43,slow=75,SNR=145						
TORD	**Torodi Ar. Bea**	**23.29**	**34**	P	P	21 09 33.3	-0.2
	2.1nm,0.5s,baz=216,slow=10,SNR=39						
GERES	**GERESS Array B**	**59.10**	**19**	P	P	21 14 27.1	+0.9
	0.4nm,0.8s,baz=208,slow=5.5,SNR=4.1						
BRTR	**Keskin Array B**	**61.83**	**38**	P	P	21 14 45.9	+0.9
	0.7nm,0.7s,baz=221,slow=8.4,SNR=4.2						
AKASG	**Malin Array Be**	**66.67**	**27**	P	P	21 15 14.8	-1.6
	0.2nm,0.3s,baz=226,slow=6.2,SNR=4.2						

IDC 15 21:28:09.0±2.8, 35.06S×178.46W, h0km, mb3.3/2, mb1 3.6/3, mb1mx3.4/34, mbtmp3.4/3, ML3.5/1, Error ellipse: s-maj=67.7km s-min=45.5km az=34.0, East of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**4.78**	**227**	Pn	Pn	21 29 21.8	-0.6
	1.9nm,0.3s,baz=250,slow=4.3,SNR=8.4						
URZ				Sn	Sn	21 30 11.7	-6.8
	1.4nm,0.3s,baz=302,slow=21,SNR=6.4						
ASAR	**Alice Springs**	**42.68**	**272**	P	P	21 36 07.8	0.0
	0.3nm,0.6s,baz=116,slow=8.0,SNR=4.6						
WRA	**Warramunga Arr**	**44.09**	**277**	P	P	21 36 19.1	0.0
	0.1nm,0.3s,baz=118,slow=7.7,SNR=4.8						
TORD	**Torodi Ar. Bea**	**158.19**	**180**	PKPab	PKPab	21 48 41.8	-0.4
	2.0nm,0.7s,baz=177,slow=4.0,SNR=12						

*ISCJB **15** 21:34:30.7±0.3, 40.09N±0.02×27.64E±0.03, h10km±4km, Error ellipse: s-maj=3.7km s-min=3.5km az=172.1*
*CSEM **15** 21:34:30.9±0.1, 40.08N×27.63E, h12km, MD2.6, Error ellipse: s-maj=1.7km s-min=1.5km az=134.0*
*DDA **15** 21:34:30.4, 40.09N×27.63E, h16km, Md2.7*
*ISK **15** 21:34:30.4, 40.08N×27.64E, h12km, MD2.6*

ISC 15 21:34:30.8±0.9, 40.08N±0.02×27.64E±0.02, h19km±2km, n55, σ0.66/73, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KNL	**Bal¯–kesir**	**0.22**	**335**	*i* P	**Pb**	**21 34 35.6**	**0.0**
KNL				*i* S	**Sg**	**21 34 39.0**	**-0.7**
EDC	**Edincik**	**0.32**	**32**	*e*PG	**Pg**	**21 34 37.3**	**-0.5**
EDC				*e*SG	**Sb**	**21 34 42.3**	**-0.4**
EDC	**Edincik**	**0.32**	**32**	*e*Pg	**Pg**	**21 34 37.3**	**-0.5**
EDC				*e*Sg	**Sb**	**21 34 42.3**	**-0.4**
BALY	**Balya**	**0.34**	**183**	*i* P	**Pb**	**21 34 38.0**	**-0.2**
BALY				*i* S	**Sg**	**21 34 42.7**	**-0.2**
BALY	**Balya**	**0.34**	**183**	P	**Pb**	**21 34 38.0**	**-0.2**
BALY				S	**Sg**	**21 34 42.7**	**-0.2**
KRBG	**Karabiga-Canak**	**0.41**	**320**	*e*PG	**Pb**	**21 34 39.1**	**-0.5**
KRBG				*e*SG	**Sb**	**21 34 44.9**	**-0.6**
KRBG	**Karabiga-Canak**	**0.41**	**320**	*e*Pg	**Pb**	**21 34 39.1**	**-0.5**
KRBG				*e*Sg	**Sb**	**21 34 44.9**	**-0.6**
BALB	**Balikesir**	**0.47**	**157**	*e*PG	**Pg**	**21 34 40.0**	**-0.4**
BALB				*e*SG	**Sb**	**21 34 47.0**	**+0.1**
BALB	**Balikesir**	**0.47**	**157**	*e*Pg	**Pg**	**21 34 40.0**	**-0.4**
BALB				*e*Sg	**Sb**	**21 34 47.1**	**+0.1**
MRMT	**Marmara Adasi**	**0.53**	**356**	*e*PG	**Pb**	**21 34 41.3**	**-0.2**
MRMT				*e*SG	**Sb**	**21 34 49.2**	**+0.5**
MRMT	**Marmara Adasi**	**0.53**	**356**	*e*Pg	**Pb**	**21 34 41.3**	**-0.2**
MRMT				*e*Sg	**Sb**	**21 34 49.2**	**+0.5**
KCTX	**Karacabey (Bur**	**0.58**	**71**	*e*PG	**Pg**	**21 34 41.9**	**-0.5**
KCTX				*e*SG	**Sg**	**21 34 50.2**	**0.0**
KCTX	**Karacabey (Bur**	**0.58**	**71**	*e*Pg	**Pg**	**21 34 41.9**	**-0.5**
KCTX				*e*Sg	**Sg**	**21 34 50.2**	**0.0**
LPK	**Lapseki**	**0.74**	**294**	*e*PG	**Pb**	**21 34 44.9**	**-0.1**
LPK	**Lapseki**	**0.74**	**294**	*e*Pg	**Pb**	**21 34 44.9**	**-0.1**
SBT3	**Marmara-Eregli**	**0.85**	**17**	*e*PG	**Pb**	**21 34 47.0**	**+0.3**
SBT3	**Marmara-Eregli**	**0.85**	**17**	*e*Pg	**Pb**	**21 34 47.1**	**+0.3**
TKR	**Tekirdag**	**0.92**	**355**	*e*PG	**Pb**	**21 34 48.4**	**+0.3**
TKR	**Tekirdag**	**0.92**	**355**	*e*Pg	**Pb**	**21 34 48.4**	**+0.3**
MDNY	**Mudanya-Bursa**	**0.99**	**72**	*e*PG	**Pn**	**21 34 50.8**	**+1.1**
MDNY	**Mudanya-Bursa**	**0.99**	**72**	*e*Pg	**Pn**	**21 34 50.8**	**+1.1**
SBT2	**Guzelce-Avcila**	**1.04**	**39**	*e*PG	**Pn**	**21 34 51.2**	**+1.0**
SBT2	**Guzelce-Avcila**	**1.04**	**39**	*e*Pg	**Pn**	**21 34 51.2**	**+1.0**
EZN	**Ezine**	**1.04**	**257**	*e*PG	**Pn**	**21 34 51.0**	**+0.6**
EZN	**Ezine**	**1.04**	**257**	*e*Pg	**Pn**	**21 34 51.0**	**+0.6**
ERIK	**Erikli-Kesan**	**1.05**	**305**	*e*PG	**Pg**	**21 34 50.4**	**-0.7**
ERIK	**Erikli-Kesan**	**1.05**	**305**	*e*Pg	**Pg**	**21 34 50.4**	**-0.7**
ARMT	**Armutlu**	**1.05**	**62**	*e*PG	**Pn**	**21 34 51.5**	**+1.0**
ARMT	**Armutlu**	**1.05**	**62**	*e*Pg	**Pn**	**21 34 51.5**	**+1.0**
AYVA	**Ayvalik**	**1.06**	**224**	*i* P	**Pb**	**21 34 50.5**	**0.0**
AYVA				*i* S	**Sn**	**21 35 06.1**	**+1.3**
AYVA	**Ayvalik**	**1.06**	**224**	P	**Pb**	**21 34 50.5**	**0.0**
AYVA				S	**Sn**	**21 35 06.1**	**+1.3**
DKL	**Dikili**	**1.15**	**210**	*e*PN	**Pg**	**21 34 52.8**	**-0.3**
DKL	**Dikili**	**1.15**	**210**	*e*Pn	**Pg**	**21 34 52.8**	**-0.3**
IGD	**Bursa**	**1.21**	**80**	*i* P	**Pn**	**21 34 52.8**	**+0.1**
IGD				*i* S	**Sg**	**21 35 09.4**	**-0.6**
BOZC	**Bozcaada**	**1.25**	**260**	*e*PN	**Pb**	**21 34 53.9**	**+0.3**
BOZC	**Bozcaada**	**1.25**	**260**	*e*Pn	**Pb**	**21 34 53.9**	**+0.3**
ENEZ	**Enez**	**1.32**	**301**	*e*PN	**Pb**	**21 34 54.7**	**-0.1**
ENEZ	**Enez**	**1.32**	**301**	*e*Pn	**Pb**	**21 34 54.7**	**-0.1**
DEMI	**Demirci**	**1.32**	**141**	*i* P	**Pb**	**21 34 55.3**	**+0.3**
DEMI				*i* S	**Sg**	**21 35 13.5**	**-0.1**
DEMI	**Demirci**	**1.32**	**141**	P	**Pb**	**21 34 55.3**	**+0.3**
DEMI				S	**Sg**	**21 35 13.5**	**-0.1**
CTKS	**Kestanelik-??a**	**1.33**	**29**	*e*PN	**Pb**	**21 34 55.3**	**+0.1**
CTKS	**Kestanelik-??a**	**1.33**	**29**	*e*Pn	**Pb**	**21 34 55.3**	**+0.1**
GADA	**Gvkgeada**	**1.34**	**276**	*e*PN	**Pb**	**21 34 55.5**	**+0.2**
GADA	**Gvkgeada**	**1.34**	**276**	*e*Pn	**Pb**	**21 34 55.5**	**+0.2**
ISK	**Istanbul-Kandi**	**1.46**	**47**	*e*PN	**Pn**	**21 34 56.9**	**+0.7**
ISK	**Istanbul-Kandi**	**1.46**	**47**	*e*Pn	**Pn**	**21 34 56.9**	**+0.7**
ALN	**Alexandroupoli**	**1.47**	**304**	*e*PN	**Pb**	**21 34 57.8**	**+0.3**
ALN	**Alexandroupoli**	**1.47**	**304**	*e*Pn	**Pb**	**21 34 57.8**	**+0.3**
TVSB	**Tavsanli**	**1.53**	**113**	*e*PN	**Pb**	**21 34 58.7**	**+0.1**
TVSB	**Tavsanli**	**1.53**	**113**	*e*Pn	**Pb**	**21 34 58.7**	**+0.1**
KLYT	**Kilyos**	**1.59**	**42**	*e*PN	**Pn**	**21 34 58.4**	**+0.6**
KLYT	**Kilyos**	**1.59**	**42**	*e*Pn	**Pn**	**21 34 58.4**	**+0.6**
SIGR	**SIGRI**	**1.63**	**239**	*e*PN	**Pb**	**21 35 00.2**	**0.0**
SIGR	**SIGRI**	**1.63**	**239**	*e*Pn	**Pb**	**21 35 00.2**	**0.0**
MANT	**Manisa**	**1.73**	**156**	*i* P	Pn	21 34 55.6	-4.4
MANT				*i* S	**Sn**	**21 35 18.4**	**-3.3**

*ISCJB **15** 21:40:19.6±1.6, 34.20N±0.06×23.52E±0.05, h15km±11km, mb3.9/7, Error ellipse: s-maj=10.5km s-min=6.4km az=11.6*
*IDC **15** 21:40:20.2±1.5, 34.39N×23.57E, h0km, mb3.9/4, mb1 3.7/9, mb1mx3.5/36, mbtmp3.6/9, ML3.2/5, Error ellipse: s-maj=28.5km s-min=16.7km az=166.0*
*CSEM **15** 21:40:21.1±0.4, 34.28N×23.58E, h10km, ML2.8, Error ellipse: s-maj=8.9km s-min=5.6km az=11.0*
*THE **15** 21:40:23.7, 34.46N×23.60E, h0km±2km, ML3.1/4, Error ellipse: s-maj=3.2km s-min=1.0km az=235.0*
*ATH **15** 21:40:29.3, 34.73N×23.98E, h28km, ML2.8/5, Error ellipse: s-maj=3.1km s-min=1.2km az=31.0*
*NEIC **15** 21:40:29.2±0.0, 34.72N×23.98E, h28km, mb4.2/5, After ATH.*

ISC 15 21:40:22.5±1.1, 34.39N±0.06×23.65E±0.03, h15km±5km, n66, σ1.34/86, mb4.0/7, Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GVD	**Gavdhos**	**0.57**	**39**	P	**Pb**	**21 40 34.6**	**+0.3**
GVD				S	**Sb**	**21 40 43.0**	**+0.7**
GVD	**Gavdhos**	**0.57**	**39**	P	**Pb**	**21 40 34.6**	**+0.3**
GVD				S	**Sb**	**21 40 43.0**	**+0.7**
GVD	**Gavdhos**	**0.57**	**39**	P	**Pb**	**21 40 34.6**	**+0.3**
GVD				S	**Sg**	**21 40 38.4**	**-3.1**
GVD				AML	AML	21 40 52.6	
	comp=E,4229μm,0.4s						
GVD				AML	AML	21 40 54.9	
	comp=N,4684μm,0.4s						
IMMV	**Iera Moni Meta**	**1.10**	**14**	P	**Pn**	**21 40 43.6**	**+0.2**
IMMV				S	**Sn**	**21 40 59.1**	**+0.7**
IMMV	**Iera Moni Meta**	**1.10**	**14**	P	**Pn**	**21 40 43.6**	**+0.2**
IMMV				S	**Sn**	**21 40 59.1**	**+0.7**
IMMV	**Iera Moni Meta**	**1.10**	**14**	P	**Pn**	**21 40 43.4**	**-0.1**
IMMV				S	**Sb**	**21 40 53.7**	**-3.7**
IMMV				AML	AML	21 41 09.7	
	comp=N,2486μm,0.6s						
IMMV				AML	AML	21 41 11.8	
	comp=E,2983μm,1.0s						
SIVA	**Sivas**	**1.14**	**57**	P	**Pg**	**21 40 45.2**	**+0.6**
SIVA				S	**Sn**	**21 41 01.6**	**+2.2**
SIVA	**Sivas**	**1.14**	**57**	P	**Pg**	**21 40 45.2**	**+0.6**
SIVA				S	**Sn**	**21 41 01.6**	**+2.2**
SIVA	**Sivas**	**1.14**	**57**	P	**Pg**	**21 40 45.7**	**+1.1**
SIVA				S	**Sb**	**21 40 55.7**	**-2.9**
SIVA				AML	AML	21 41 20.0	
	comp=N,1792μm,0.7s						
SIVA				AML	AML	21 41 21.9	
	comp=E,3233μm,0.7s						
IDI	**Anoyia**	**1.36**	**49**	Pn	**Pg**	**21 40 48.9**	**+0.2**
	comp=E,4.1nm,0.3s,baz=228,slow=12,SNR=33						
IDI				Sn	**Sg**	**21 41 05.6**	**-0.8**
	comp=E,14nm,0.3s,baz=333,slow=14,SNR=8.6						
IDI	**Anoyia**	**1.36**	**49**	P	**Pg**	**21 40 48.8**	**+0.1**
IDI	**Anoyia**	**1.36**	**49**	P	**Pb**	**21 40 48.2**	**+0.5**
IDI	**Anoyia**	**1.36**	**49**	Pn	**Pg**	**21 40 48.9**	**+0.2**
IDI				S	**Sb**	**21 41 00.2**	**-4.7**
IDI				Sn	**Sg**	**21 41 05.6**	**-0.8**
IDI	**Anoyia**	**1.36**	**49**	P	**Pb**	**21 40 48.2**	**+0.5**
IDI				S	**Sb**	**21 41 00.2**	**-4.7**
IDI				AML	AML	21 41 16.9	
	comp=N,367μm,0.9s						
IDI				AML	AML	21 41 20.4	
	comp=E,380μm,1.0s						
ANKY	**Antikythira Is**	**1.50**	**349**	P	**Pg**	**21 40 50.9**	**-0.4**
ANKY				S	**Sg**	**21 41 11.4**	**+0.6**
ANKY	**Antikythira Is**	**1.50**	**349**	P	**Pg**	**21 40 50.9**	**-0.4**
ANKY				S	**Sg**	**21 41 10.8**	**0.0**
ANKY	**Antikythira Is**	**1.50**	**349**	P	**Pg**	**21 40 53.2**	**+1.9**
ANKY				S	**Sg**	**21 41 10.8**	**0.0**
ANKY				AML	AML	21 41 38.4	
	comp=E,624μm,0.9s						
ANKY				AML	AML	21 41 44.2	
	comp=N,516μm,0.8s						
LAST	**Lasithi**	**1.69**	**63**	P	**Pb**	**21 40 53.5**	**+0.1**
LAST				S	**Sg**	**21 41 16.9**	**-0.1**
LAST	**Lasithi**	**1.69**	**63**	P	**Pn**	**21 40 53.0**	**+1.3**
LAST				S	**Sg**	**21 41 16.9**	**-0.1**
LAST	**Lasithi**	**1.69**	**63**	P	**Pn**	**21 40 53.0**	**+1.3**
NPS	**Neapolis**	**1.83**	**61**	P	**Pn**	**21 40 55.6**	**+2.0**
NPS	**Neapolis**	**1.83**	**61**	P	**Pn**	**21 40 55.5**	**+2.0**
NPS	**Neapolis**	**1.83**	**61**	P	**Pn**	**21 40 55.5**	**+2.0**
ZKR	**Zakros**	**2.24**	**71**	P	**Pn**	**21 41 00.3**	**+1.2**
ZKR	**Zakros**	**2.24**	**71**	P	**Pn**	**21 41 00.3**	**+1.2**
VLI	**Veliai**	**2.39**	**346**	P	**Pg**	**21 41 07.5**	**-0.9**
VLI	**Veliai**	**2.39**	**346**	P	**Pn**	**21 41 07.5**	**-0.9**
THR5	**Thira Island,**	**2.45**	**34**	P	**Pn**	**21 41 03.3**	**+1.3**
THR5	**Thira Island,**	**2.45**	**34**	P	**Pn**	**21 41 03.3**	**+1.3**
SANT	**Santorini**	**2.47**	**36**	*e*Pn	**Pn**	**21 41 02.7**	**+0.4**
SANT	**Santorini**	**2.47**	**36**	*e*Pn	**Pn**	**21 41 02.7**	**+0.4**
THR3	**Thira Island,**	**2.47**	**35**	P	**Pn**	**21 41 03.2**	**+0.9**
THR3	**Thira Island,**	**2.47**	**35**	P	**Pn**	**21 41 03.2**	**+0.9**
APE	**Apeiranthos**	**3.08**	**29**	P	**Pn**	**21 41 10.1**	**-0.6**
APE	**Apeiranthos**	**3.08**	**29**	P	**Pn**	**21 41 10.1**	**-0.6**
VLY	**Voula,Athens**	**3.45**	**2**	P	**Pn**	**21 41 16.1**	**+0.3**
VLY	**Voula,Athens**	**3.45**	**2**	P	**Pn**	**21 41 16.1**	**+0.3**
VILL	**Villia**	**3.77**	**356**	P	**Pn**	**21 41 20.5**	**+0.3**
VIL2	**Platees**	**3.82**	**356**	P	**Pn**	**21 41 20.5**	**-0.4**
KLV	**Kalavryta, Ach**	**3.84**	**342**	P	**Pn**	**21 41 22.9**	**+1.8**
KLV	**Kalavryta, Ach**	**3.84**	**342**	P	**Pn**	**21 41 22.9**	**+1.8**
CSS	**Mathiatis**	**8.00**	**83**	*e*Pn	**Pn**	**21 42 17.5**	**-0.8**
CSS	**Mathiatis**	**8.00**	**83**	*e*Pn	**Pn**	**21 42 17.5**	**-0.8**
VAE	**Valgurnera**	**8.10**	**295**	Pn	**Pn**	**21 42 19.0**	**-0.7**
	comp=N,1.1nm,0.3s,baz=347,slow=18,SNR=3.2						
VAE				Sn	**Sn**	**21 43 50.6**	**-0.3**
	comp=N,0.6nm,0.3s,baz=168,slow=14,SNR=2.0

NEIC ***15*** *22:03:37.3±0.7, 36˚.38N×70˚.57E, h141km±7km, mb4.3/22, Error ellipse: s-maj=7.3km s-min=6.3km az=157.0*

NEIC Felt at Pul-e 'Alam.

NNC ***15*** *22:03:38.0±3.1, 36˚.80N×70˚.62E, h0km, mb5.2, mpv5.0, Error ellipse: s-maj=25.2km s-min=23.4km az=80.0*

ISC 15 22:03:37.1±0.5, 36˚.32N±0˚.04×70˚.64E±0˚.04, h142km±4km, h142km:pP-P, n146, σ2s02/179, mb4.1/49, 12C-10D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KBL	**Kabul**	**2.21**	**217**	*e*PN	**Pn**	**22 04 14.9**	**+0.4**
KBL				*e*		22 04 42.9	
KBL	**Kabul**	**2.21**	**217**	*e*Pn	**Pn**	**22 04 14.9**	**+0.4**
KBL				*e*Sn	**Sn**	**22 04 42.9**	**-0.2**
CEP	**Cherat**	**2.70**	**157**	P	**Pn**	**22 04 22.2**	**+1.7**
CEP				S	**Sn**	**22 04 55.0**	**+1.1**
THW	**Thamme Wali**	**3.63**	**165**	P	**Pn**	**22 04 33.6**	**+1.2**
KSH	**Kashi**	**5.29**	**51**	P	**Pn**	**22 04 51.8**	**-2.5**
KSH				S	Sn	22 05 44.8	-10
KSH				smax	smax		
	comp=N,670nm,0.6s						
KSH				smax	smax		
	comp=E,510nm,0.7s						
THN	**Thein Dam**	**5.71**	**131**	*e*P	**Pn**	**22 05 00.0**	**+0.1**
THN				*e*S	**Sn**	**22 06 03.2**	**-1.3**
MNAS	**Manas**	**6.32**	**13**	⇓Pn	**Pn**	**22 05 07.3**	**-0.8**
	136nm,0.8s						
MNAS				⇓Sn	**Sn**	**22 06 15.9**	**-3.4**
	152nm,0.8s						
MNAS	**Manas**	**6.32**	**13**	PN	**Pn**	**22 05 07.3**	**-0.8**
MNAS				pmax	pmax		
	comp=Z,137nm,0.8s						
KK31	**Karatay Array**	**6.78**	**359**	⇑Pn	**Pn**	**22 05 13.0**	**-1.0**
	comp=Z,56nm,0.4s,baz=182,slow=14						
KK31				⇓Sn	**Sn**	**22 06 24.5**	**-5.5**
	comp=Z,111nm,0.4s,baz=180,slow=24						
KK31	**Karatay Array**	**6.78**	**359**	PN	**Pn**	**22 05 13.2**	**-0.8**
KK31				pmax	pmax		
	comp=Z,56nm,0.4s						
KKAR	**Karatay Array**	**6.78**	**359**	*e*PN	**Pn**	**22 05 13.2**	**-0.8**
KKAR	**Karatay Array**	**6.78**	**359**	*e*Pn	**Pn**	**22 05 13.2**	**-0.8**
KKAR				*e*Sn	**Sn**	**22 06 24.7**	**-5.2**
BHK	**Bhakra**	**6.85**	**134**	*e*P	**Pn**	**22 05 14.8**	**-0.4**
BHK				*e*S	**Sn**	**22 06 28.2**	**-3.8**
AAK	**Ala-Archa**	**6.97**	**24**	P	**Pn**	**22 05 17.0**	**+0.1**
	comp=Z,29nm,0.3s,baz=194,slow=9.0,SNR=253						
AAK				S	**Sn**	**22 06 32.5**	**-2.4**
	comp=Z,8.6nm,0.3s,baz=331,slow=23,SNR=11						
AAK	**Ala-Archa**	**6.97**	**24**	⇑Pn	**Pn**	**22 05 16.8**	**-0.1**
	comp=Z,84nm,0.5s						
AAK				⇓Sn	**Sn**	**22 06 33.8**	**-1.2**
	comp=Z,128nm,0.6s						
AAK	**Ala-Archa**	**6.97**	**24**	PN	**Pn**	**22 05 16.8**	**-0.1**
AAK				pmax	pmax		
	comp=Z,84nm,0.5s						
AAK	**Ala-Archa**	**6.97**	**24**	*e*Pn	**Pn**	**22 05 16.8**	**-0.1**
	comp=Z,134nm,0.6s						
AAK				*e*S	Sn	22 06 17.9	-17
SDNR	**Sundarnagar**	**7.12**	**131**	*e*P	**Pn**	**22 05 18.6**	**-0.2**
SDNR				*e*S	**Sn**	**22 06 34.0**	**-4.5**
FRU	**Bishkek**	**7.19**	**24**	*e*PN	**Pn**	**22 05 20.0**	**+0.4**
FRU				*i* S	**Sn**	**22 06 40.0**	**0.0**
FRU				pmax	pmax		
	comp=Z,60nm,1.2s						
FRU				smax	smax		
	comp=N,280nm,1.2s						
SMLA	**Simla**	**7.50**	**132**	*e*P	**Pn**	**22 05 23.2**	**-0.6**
SMLA				*e*S	**Sn**	**22 06 43.6**	**-4.0**
SMLA				IAML		22 06 48.4	
	comp=N,192nm,0.2s						
SMLA				IAML		22 06 50.0	
	comp=E,216nm,0.8s						
TKM2	**Tokmak 2**	**7.62**	**29**	⇓Pn	**Pn**	**22 05 24.9**	**-0.6**
	comp=E,44nm,0.6s						
TKM2				⇓Sn	**Sn**	**22 06 50.0**	**-0.5**
	comp=E,61nm,0.7s						
TKM2	**Tokmak 2**	**7.62**	**29**	PN	**Pn**	**22 05 24.9**	**-0.6**
TKM2				pmax	pmax		
	comp=Z,44nm,0.6s						
MDOK	**Medeo**	**8.43**	**34**	⇑Pn	**Pn**	**22 05 35.9**	**-0.4**
MDOK				⇑Lg	Lg	22 07 28.9	
KNDC	**Almaty**	**8.43**	**33**	⇓Pn	**Pn**	**22 05 36.1**	**-0.2**
	comp=Z,27nm,0.7s						
KNDC				⇑Lg	Lg	22 07 30.5	
	comp=Z,46nm,0.7s						
DDI	**Dehra Dun**	**8.61**	**132**	*e*P	**Pn**	**22 05 38.7**	**-0.1**
DDI				*ex*	x	22 07 11.5	
DDI				IAML		22 07 20.8	
	comp=E,137nm,1.2s						
DDI				IAML		22 07 25.6	
	comp=N,149nm,0.2s						
NDI	**New Delhi**	**9.42**	**142**	*e*P	**Pn**	**22 05 49.0**	**-0.5**
NDI				*e*S	**Sn**	**22 07 27.0**	**-6.9**
PDGK	**Podgornoye**	**9.76**	**41**	⇓Pn	**Pn**	**22 05 53.0**	**-1.0**
	comp=N,8.5nm,0.7s						
PDGK				⇑Sn	**Sn**	**22 07 39.3**	**-2.7**
	comp=N,33nm,0.9s						
PDGK	**Podgornoye**	**9.76**	**41**	P	**Pn**	**22 05 53.4**	**-0.6**
PDGK				S	**Sn**	**22 07 39.3**	**-2.7**
PDGK				pmax	pmax		
	comp=Z,9.0nm,0.7s						
PDGK				smax	smax		
	comp=Z,33nm,0.9s						
GEYT	**Alibeck**	**10.13**	**283**	P	**Pn**	**22 05 55.8**	**-3.2**
	comp=Z,3.3nm,0.3s,baz=94,slow=9.9,SNR=28						
GEYT				S	**Sn**	**22 07 45.8**	**-5.2**
	comp=Z,7.6nm,0.3s,baz=110,slow=18,SNR=8.7						
MAKZ	**Makanchi**	**13.47**	**35**	*e*P	**Pn**	**22 06 42.0**	**-0.4**
MAKZ	**Makanchi**	**13.47**	**35**	*e*Pn	**Pn**	**22 06 42.0**	**-0.4**
MK01	**Makanchi Array**	**13.59**	**36**	*e*Pn	**Pn**	**22 06 43.0**	**-1.1**
MK31	**Makanchi Array**	**13.60**	**36**	*e*P	**Pn**	**22 06 43.9**	**-0.3**
MK31	**Makanchi Array**	**13.60**	**36**	*e*Pn	**Pn**	**22 06 43.9**	**-0.3**
MKAR	**Makanchi Array**	**13.60**	**36**	*e*P	**Pn**	**22 06 43.9**	**-0.3**
MKAR	**Makanchi Array**	**13.60**	**36**	*e*Pn	**Pn**	**22 06 43.9**	**-0.3**
BHPL	**Bhopal**	**14.30**	**154**	*e*P	**Pn**	**22 06 53.4**	**+0.3**
BHPL				*ex*	x	22 09 19.1	
WMQ	**Urumqi**	**15.04**	**55**	P	**P**	**22 07 03.8**	**-0.4**
WMQ				pmax	pmax		
	comp=Z,11nm,0.9s						
WMQ				pmax	pmax		
	comp=Z,210nm,4.7s						
WMQ				LR	LR		
	comp=Z,580nm,27.1s						
WMQ				LR	LR		
	comp=Z,610nm,19.9s						
ABKAR	**Akbulak array**	**15.11**	**332**	*e*Pn	**Pn**	**22 07 02.1**	**-0.9**
ABKAR				*e*Sn	Sn	22 09 38.0	-13
KURBB	**Kurchatov Arra**	**15.38**	**19**	P	**Pn**	**22 07 04.3**	**-2.2**
	comp=Z,0.2nm,0.3s,baz=210,slow=10,SNR=14						
KURBB				S	**S**	**22 10 00.5**	**-1.2**
	comp=Z,0.0nm,0.3s,baz=199,slow=19,SNR=4.7						
KURK	**Kurchatov**	**15.49**	**19**	*c i*P	**P**	**22 07 09.8**	**+0.7**
KURK				pmax	pmax		
	comp=Z,25nm,0.6s						
KURK	**Kurchatov**	**15.49**	**19**	*e*Pn	**Pn**	**22 07 06.8**	**-0.9**
	comp=Z,9.3nm,0.8s						
WSAR	**Wadi Sarin**	**16.67**	**222**	P	**Pn**	**22 07 23.5**	**+1.0**
	comp=Z,0.2nm,0.3s,baz=109,slow=18,SNR=2.9						
BVAR	**Borovoye Array**	**16.70**	**359**	P	**P**	**22 07 21.5**	**-0.9**
	comp=Z,2.2nm,0.3s,baz=160,slow=12,SNR=44						
BVAR				S	**S**	**22 10 24.5**	**-4.2**
	comp=Z,0.9nm,0.3s,baz=164,slow=23,SNR=4.9						
BRVK	**Borovoye**	**16.74**	**359**	*c i*P	**P**	**22 07 22.0**	**-0.8**
BRVK				pmax	pmax		
	comp=Z,35nm,0.6s						
BRVK	**Borovoye**	**16.74**	**359**	*e*P	**P**	**22 07 22.3**	**-0.5**
	comp=Z,17nm,0.6s						
BRVK				*e*S	**S**	**22 10 23.2**	**-6.2**
AKTO	**Aktyubinsk**	**16.80**	**331**	P	**P**	**22 07 23.2**	**-0.3**
	comp=Z,2.2nm,0.3s,baz=145,slow=10,SNR=41						
AKTO				S	**S**	**22 10 25.3**	**-5.6**
	comp=Z,1.3nm,0.3s,baz=262,slow=20,SNR=8.0						
LKRN	**Lenkeran, Azer**	**17.51**	**284**	P	**P**	**22 07 28.9**	**-2.5**
BOK	**Bokaro**	**18.13**	**129**	*e*P	**Pn**	**22 07 39.7**	**-0.3**
BOK				IAmb	IAmb	22 07 44.5	
LSA	**Lhasa**	**18.41**	**105**	P	**Pn**	**22 07 45.3**	**+1.7**
LSA				pmax	pmax		
	comp=Z,5.0nm,1.3s						
LSA	**Lhasa**	**18.41**	**105**	*e*P	**Pn**	**22 07 45.5**	**+1.9**
LSA				*e*S	**S**	**22 10 56.8**	**-8.2**
LSA	**Lhasa**	**18.41**	**105**	*e*P	**Pn**	**22 07 45.5**	**+1.9**
LSA				*e*S	**S**	**22 10 56.8**	**-8.2**
SEKA	**Sheki**	**18.90**	**292**	P	**P**	**22 07 44.3**	**-2.4**
MNGR	**Mingechevir, A**	**18.94**	**291**	P	**P**	**22 07 44.6**	**-2.4**
GANJ	**Ganja**	**19.50**	**290**	P	**P**	**22 07 50.7**	**-2.5**
ZAA0	**Zalesovo Array**	**20.20**	**25**	*e*P	**P**	**22 08 00.3**	**-0.1**
ZALV	**Zalesovo Beam**	**20.20**	**25**	P	**P**	**22 08 01.2**	**+0.8**
	comp=Z,130nm,0.5s,baz=222,slow=11,SNR=609						
ZALV				S	**S**	**22 11 39.0**	**-0.2**
	comp=Z,1.1nm,0.6s,baz=216,slow=20,SNR=3.4						
NVS	**Novosibirsk**	**20.45**	**21**	*e*P	**P**	**22 08 03.9**	**+0.7**
NVS				*e*S	**S**	**22 11 43.7**	**-0.5**
NVS				pmax	pmax		
	comp=Z,31nm,0.6s						
NVS				pmax	pmax		
	comp=N,28nm,0.6s						
NVS				pmax	pmax		
	comp=E,5.0nm,0.5s						
NVS				smax	smax		
	comp=N,10.0nm,1.5s						
GNI	**Garni**	**20.68**	**289**	P	**P**	**22 08 06.6**	**+0.7**
	comp=N,24nm,0.9s,baz=187,slow=2.9,SNR=5.7						
GNI	**Garni**	**20.68**	**289**	*c i*P	Pn	22 08 08.5	-1.4
GNI				pmax	pmax		
	comp=Z,120nm,1.2s						
GNI	**Garni**	**20.68**	**289**	*e*P	**P**	**22 08 06.6**	**+0.7**
	comp=Z,37nm,1.1s						
SHL	**Shillong**	**21.09**	**115**	*e*P	**P**	**22 08 12.2**	**+1.6**
ZEI	**Tsey**	**21.55**	**296**	*e*P	**P**	**22 08 15.8**	**+0.4**
ZEI				pmax	pmax		
	comp=Z,16nm,1.0s						
SVE	**Sverdlovsk**	**21.59**	**345**	*e*P	**P**	**22 08 16.3**	**+0.9**
SVE				*e*S	**S**	**22 12 09.0**	**+3.6**
SVE				pmax	pmax		
	comp=Z,14nm,0.6s						
ARU	**Arti**	**21.71**	**342**	P	**P**	**22 08 17.7**	**+1.1**
	comp=Z,11nm,0.6s,baz=132,slow=4.9,SNR=32						
ARU	**Arti**	**21.71**	**342**	*d i*P	**P**	**22 08 17.4**	**+0.8**
ARU						22 08 42.1	
ARU				S	**S**	**22 12 09.3**	**+1.8**
ARU				pmax	pmax		
	comp=Z,43nm,1.7s						
ARU	**Arti**	**21.71**	**342**	*e*P	**P**	**22 08 17.2**	**+0.6**
	comp=Z,22nm,0.9s						
KBZ	**Khabaz**	**22.43**	**298**	P	**P**	**22 08 23.6**	**-0.4**
	comp=Z,1.8nm,0.8s,baz=63,slow=2.3,SNR=3.2						
NEY	**Neytrino**	**22.48**	**297**	*i* P	**P**	**22 08 27.5**	**+2.8**
NEY				pmax	pmax		
	comp=Z,1.0nm,0.8s						
KVAR	**Kislovodsk Arr**	**22.61**	**298**	P	**P**	**22 08 26.5**	**+0.6**
	comp=Z,3.0nm,0.6s,baz=90,slow=2.0,SNR=3.4						
KIV	**Kislovodsk**	**22.62**	**298**	*e*P	**P**	**22 08 29.3**	**+3.4**
KIV				*e**PP	pP	22 09 00.5	+8.2
KIV				*e*S	**S**	**22 12 26.7**	**+3.7**
KIV				pmax	pmax		
	comp=Z,7.0nm,1.1s						
KIV	**Kislovodsk**	**22.62**	**298**	*e*P	**P**	**22 08 27.6**	**+1.6**
	comp=Z,11nm,0.9s						
ARTV	**Artvin**	**22.86**	**291**	*e*P	**P**	**22 08 27.7**	**-0.8**
	comp=Z,3.3nm,1.2s						
GTA	**Gaotai**	**23.19**	**74**	*e*P	**P**	**22 08 33.8**	**+2.4**
GTA				pmax	pmax		
	comp=Z,5.0nm,0.8s						
TLY	**Talaya**	**27.97**	**46**	*e*P	**P**	**22 09 14.3**	**+0.1**
TLY				pmax	pmax		
	comp=Z,3.0nm,0.9s						
TLY	**Talaya**	**27.97**	**46**	*e*P	**P**	**22 09 14.3**	**+0.1**
	comp=Z,3.2nm,0.9s						
SONM	**Songino Array**	**28.67**	**55**	P	**P**	**22 09 21.2**	**+0.6**
	comp=Z,1.5nm,0.9s,baz=260,slow=8.9,SNR=9.8						
SONM	**Songino Array**	**28.67**	**55**	*e*P	**P**	**22 09 22.5**	**+1.9**
SONM				pmax	pmax		
	comp=Z,2.0nm,0.9s						
SONA1	**Songino Array**	**28.68**	**55**	*e*P	**P**	**22 09 21.7**	**+1.0**
ULN	**Ulaanbaatar**	**29.11**	**55**	⇑P	**P**	**22 09 24.9**	**+0.4**
ULN				pmax	pmax		
	comp=Z,2.0nm,1.1s						
ULN	**Ulaanbaatar**	**29.11**	**55**	*e*P	**P**	**22 09 25.4**	**+0.9**
	comp=Z,1.0nm,0.6s						
BR131	**Keskin Array S**	**29.21**	**288**	*e*P	**P**	**22 09 24.0**	**-1.5**
BRTR	**Keskin Array B**	**29.21**	**288**	P	**P**	**22 09 25.6**	**+0.1**
	comp=Z,1.0nm,0.8s,baz=102,slow=8.3,SNR=6.9						
BRTR				pP	**pP**	**22 09 55.4**	**-0.3**
	comp=Z,0.8nm,0.9s,baz=90,slow=6.2,SNR=3.5						
BRTR	**Keskin Array B**	**29.21**	**288**	*e*P	**P**	**22 09 26.4**	**+0.9**
BRTR				pmax	pmax		
	comp=Z,1.0nm,0.5s						
KMI	**Kunming**	**29.64**	**103**	P	**P**	**22 09 32.8**	**+3.4**
KMI				pP	pP	22 10 03.8	+4.1
KMI				sP	sP	22 10 18.4	+2.3
KMI				pmax	pmax		
	comp=Z,6.0nm,0.7s						
BR231	**Keskin MP Arra**	**29.87**	**288**	*e*P	**P**	**22 09 26.9**	**-4.3**
OBN	**Obninsk**	**29.89**	**320**	⇑*e*P	**P**	**22 09 31.7**	**+0.7**
OBN				*PP	**pP**	**22 10 03.0**	**+1.7**
OBN				*SP	**sP**	**22 10 23.0**	**+5.3**
OBN				pmax	pmax		
	comp=Z,10.0nm,0.6s						
CHTO	**Chiang Mai**	**30.39**	**117**	*e*P	**P**	**22 09 37.9**	**+2.0**
CHTO				pmax	pmax		
	comp=Z,1.0nm,0.6s						
CHTO	**Chiang Mai**	**30.39**	**117**	*e*P	**P**	**22 09 37.9**	**+2.0**
	comp=Z,1.5nm,0.6s						
CMAR	**Chiang Mai Arr**	**30.62**	**118**	P	**P**	**22 09 39.2**	**+1.3**
	comp=Z,1.7nm,0.7s,baz=298,slow=8.8,SNR=11						
KLMR	**Klimovskoe**	**31.50**	**331**	*e*P	**P**	**22 09 43.8**	**-1.3**
KLMR				pmax	pmax		
	comp=Z,11nm,1.3s						
HHC	**Hu-ho-hao-te**	**32.09**	**69**	*e*P	**P**	**22 09 53.3**	**+2.5**
HHC				pmax	pmax		
	comp=Z,6.0nm,0.9s						
AKASG	**Malin Array Be**	**32.83**	**309**	P	**P**	**22 09 56.9**	**0.0**
	comp=Z,0.9nm,0.5s,baz=82,slow=7.3,SNR=8.6						
AKASG				pP	**pP**	**22 10 28.0**	**+0.6**
	comp=Z,0.3nm,0.3s,baz=92,slow=7.2,SNR=2.3						
KIEV	**Kiev**	**32.84**	**309**	⇑*i*P	**P**	**22 09 57.2**	**+0.2**
KIEV				pmax	pmax		
	comp=Z,3.0nm,1.0s						
NRIK	**Noril'sk**	**34.35**	**11**	P	**P**	**22 10 11.5**	**+1.7**
	comp=Z,18nm,0.5s,baz=196,slow=5.6,SNR=5.8						
MLR	**Muntele Rosu**	**34.62**	**299**	P	**P**	**22 10 13.3**	**+0.7**
	comp=Z,1.4nm,0.8s,baz=176,slow=4.5,SNR=14						
MLR	**Muntele Rosu**	**34.62**	**299**	*e*P	**P**	**22 10 13.6**	**+1.0**
MLR				pmax	pmax		
	comp=Z,7.0nm,0.9s						
MLR	**Muntele Rosu**	**34.62**	**299**	*e*P	**P**	**22 10 13.6**	**+1.0**
	comp=Z,7.0nm,0.9s						
FIA1	**FINESS Array S**	**37.47**	**326**	*e*P	**P**	**22 10 36.8**	**+0.3**
FINES	**FINESS Array B**	**37.47**	**326**	P	**P**	**22 10 37.3**	**+0.8**
	comp=Z,3.5nm,0.5s,baz=116,slow=7.5,SNR=11						
ARCES	**ARCESS Array B**	**41.20**	**338**	P	**P**	**22 11 08.1**	**+0.8**
	comp=Z,1.2nm,0.3s,baz=118,slow=7.3,SNR=7.3						
ARCES				pP	**pP**	**22 11 40.0**	**+1.2**
	comp=Z,1.6nm,0.6s,baz=106,slow=6.7,SNR=2.1						
IPM	**Ipoh**	**42.24**	**131**	*e*P	**P**	**22 11 16.9**	**+0.6**
	comp=Z,5.1nm,0.7s						
CUC	**Castrocucco**	**42.70**	**292**	*e*P	**P**	**22 11 21.1**	**+1.1**
	comp=Z,2.8nm,0.8s						
GERES	**GERESS Array B**	**42.80**	**305**	P	**P**	**22 11 21.4**	**+0.7**
	comp=Z,0.1nm,0.3s,baz=94,slow=8.9,SNR=3.0						
NC405	**NORSAR Array S**	**44.12**	**323**	*e*P	**P**	**22 11 30.3**	**-0.7**
NC303	**NORSAR Array S**	**44.30**	**323**	*e*P	**P**	**22 11 31.7**	**-0.6**
NB201	**NORSAR Array S**	**44.31**	**323**	*e*P	**P**	**22 11 31.8**	**-0.7**
NB2	**NORSAR Subarra**	**44.35**	**323**	P	**P**	**22 11 32.7**	**-0.1**
NB2				pmax	pmax		
	comp=Z,9.0nm,1.1s						
NB2	**NORSAR Subarra**	**44.35**	**323**	P	**P**	**22 11 32.7**	**-0.1**
	comp=Z,11nm,1.0s,baz=96,slow=7.9						
NOA	**NORSAR Array B**	**44.35**	**323**	P	**P**	**22 11 32.8**	**0.0**
	comp=Z,2.4nm,0.6s,baz=98,slow=7.9,SNR=9.5						
NBO02	**NORSAR Array S**	**44.52**	**323**	*e*P	**P**	**22 11 34.0**	**-0.2**
NBO00	**NORSAR Array S**	**44.56**	**323**	*e*P	**P**	**22 11 34.3**	**-0.2**
NC204	**NORSAR Array S**	**44.59**	**323**	*e*P	**P**	**22 11 34.1**	**-0.7**
KSRS	**Korea Array**	**45.21**	**71**	P	**P**	**22 11 40.5**	**+0.6**
	comp=Z,0.3nm,0.3s,baz=283,slow=5.8,SNR=3.8						
KSRS	**Korea Array**	**45.21**	**71**	P	**P**	**22 11 40.5**	**+0.6**
KSRS				pmax	pmax		
	comp=Z,1.0nm,0.6s						
TIXI	**Tiksi**	**46.05**	**22**	*ce*P	**P**	**22 11 47.0**	**+1.0**
TIXI				pmax	pmax		
	comp=Z,7.0nm,0.3s						
TIXI	**Tiksi**	**46.05**	**22**	*e*P	**P**	**22 11 47.1**	**+1.2**
	comp=Z,16nm,0.9s						
KMBO	**Kilima Mbogo**	**48.50**	**227**	P	**P**	**22 12 05.7**	**-0.2**
	comp=Z,0.5nm,0.3s,baz=229,slow=20,SNR=2.7						
KEST	**Kesra**	**48.82**	**289**	P	**P**	**22 12 08.9**	**+0.8**
	comp=Z,2.4nm,1.0s,baz=326,slow=20,SNR=4.1						
TOA0	**Torodi Ar. Sit**	**65.43**	**268**	*e*P	**P**	**22 14 03.5**	**-1.4**
	comp=Z,3.6nm,0.5s						
TORD	**Torodi Ar. Bea**	**65.43**	**268**	P	**P**	**22 14 03.5**	**-1.4**
	comp=Z,3.7nm,0.6s,baz=52,slow=6.1,SNR=71						
COLD	**Coldfoot**	**72.22**	**16**	*e*P	**P**	**22 14 46.4**	**+0.2**
	comp=Z,6.3nm,1.1s						
INK	**Inuvik**	**74.13**	**9**	P	**P**	**22 14 58.0**	**+0.8**
	comp=Z,5.0nm,0.9s,baz=174,slow=31,SNR=4.7						
INK	**Inuvik**	**74.13**	**9**	*e*P	**P**	**22 14 58.4**	**+1.1**
INK				pmax	pmax		
	comp=Z,6.0nm,0.9s						
INK	**Inuvik**	**74.13**	**9**	*e*P	**P**	**22 14 58.4**	**+1.1**
	comp=Z,5.5nm,0.9s						
LBTB	**Lobatse**	**74.35**	**222**	*e*P	**P**	**22 14 59.3**	**0.0**
LBTB				pmax	pmax		
	comp=Z,47nm,1.8s						
LBTB	**Lobatse**	**74.35**	**222**	*e*P	**P**	**22 14 59.2**	**0.0**
	comp=Z,47nm,1.8s						
DBIC	**Dimbokro**	**74.40**	**267**	P	**P**	**22 14 58.8**	**-1.0**
	comp=Z,4.2nm,0.9s,baz=11,slow=8.1,SNR=4.6						
DBIC	**Dimbokro**	**74.40**	**267**	*e*P	**P**	**22 14 58.3**	**-1.4**
	comp=Z,45nm,1.8s						
KIC	**Kosan Boka**	**74.49**	**266**	*e*P	**P**	**22 14 59.4**	**-0.9**
	comp=Z,144nm,2.0s						
TIC	**Toumodi**	**74.55**	**267**	*e*P	**P**	**22 14 59.6**	**-1.0**
MDM	**Murphy Dome**	**74.57**	**16**	*e*P	**P**	**22 15 01.7**	**+1.7**
	comp=Z,7.2nm,1.0s						
LIC	**Lamto**	**74.80**	**267**	*e*P	**P**	**22 15 01.0**	**-1.1**
	comp=Z,66nm,1.8s						
IL1	**Eielson Array**	**75.03**	**16**	*e*P	**P**	**22 15 02.3**	**-0.3**
ILAR	**Eielson Array**	**75.03**	**16**	P	**P**	**22 15 03.1**	**+0.5**
	comp=Z,1.9nm,0.9s,baz=319,slow=4.1,SNR=14						
ILAR	**Eielson Array**	**75.03**	**16**	*e*P	**P**	**22 15 02.7**	**+0.1**
ILAR				pmax	pmax		
	comp=Z,2.0nm,0.9s						
DHY	**Denali Highway**	**76.38**	**17**	*e*P	**P**	**22 15 10.0**	**-0.4**
	comp=Z,4.1nm,0.8s						
BOSA	**Boshof**	**77.42**	**220**	P	**P**	**22 15 16.9**	**+0.3**
	comp=Z,1.7nm,0.4s,baz=353,slow=3.7,SNR=7.6						
BOSA	**Boshof**	**77.42**	**220**	*e*P	**P**	**22 15 16.7**	**0.0**
	comp=Z,87nm,2.0s						
YKA	**Yellowknife Ar**	**81.44**	**2**	P	**P**	**22 15 38.5**	**+0.7**
	comp=Z,1.1nm,0.5s,baz=351,slow=5.4,SNR=11						
YKA				pP	**pP**	**22 16 14.0**	**+0.7**
	comp=Z,0.9nm,0.6s,baz=350,slow=4.8,SNR=4.2						
WRA	**Warramunga Arr**	**82.14**	**122**	P	**P**	**22 15 41.5**	**-0.6**
	comp=Z,1.6nm,0.7s,baz=324,slow=4.9,SNR=30						
WRAB	**Tennant Creek**	**82.14**	**122**	*e*P	**P**	**22 15 41.6**	**-0.6**
WRAB				pmax	pmax		
	comp=Z,2.0nm,0.4s						
WRAB	**Tennant Creek**	**82.14**	**122**	*e*P	**P**	**22 15 41.6**	**-0.6**
	comp=Z,1.7nm,0.4s						
WB2	**Warramunga Arr**	**82.15**	**122**	*e*P	**P**	**22 15 41.1**	**-1.1**
ASAR	**Alice Springs**	**84.39**	**125**	P	**P**	**22 15 53.2**	**-0.4**
	comp=Z,1.0nm,0.6s,baz=315,slow=5.2,SNR=12						
ASAR	**Alice Springs**	**84.39**	**125**	*e*P	**P**	**22 15 52.0**	**-1.6**
ASAR				pmax	pmax		
	comp=Z,1.0nm,0.8s						

ISCJB ***15*** *22:15:06.0±0.2, 34˚.15N±0˚.03×135˚.59E±0˚.02, h71km±2km, mb4.3/34, Error ellipse: s-maj=4.5km s-min=3.4km az=172.0*

NEIC ***15*** *22:15:06.1±0.7, 34˚.13N×135˚.51E, h53km±7km, mb4.5/10, Error ellipse: s-maj=6.7km s-min=6.0km az=219.0*

NEIC Felt at Izumi, Nagaokakyo, Tanabe, Tsu and Osaka. Recorded [3 JMA] in Nara and Wakayama.

IDC ***15*** *22:15:07.2±0.6, 34˚.18N×135˚.58E, h67km±4km, mb3.9/15, mb1 4.1/21, mb1mx3.9/53, mbtmp4.2/21, Error ellipse: s-maj=13.2km s-min=10.7km az=63.0*

JMA ***15*** *22:15:07.1±0.1, 34˚.16N×135˚.61E, h67km±1km, M4.3 Broadband fault plane solution: P waves. NP1: ϕs=332.00000°, δ56.00000°, λ-62.00000°. NP2: ϕs=109.00000°, δ43.00000°, λ-125.00000°. Principal axes: T Plg7.0000°, Azm43.0000°; N Plg23.0000°, Azm136.0000°; P Plg66.0000°, Azm297.0000°;*

JMA Felt III J1.

ISC 15 22:15:07.3±0.4, 34˚.15N±0˚.03×135˚.59E±0˚.03, h65km±3km, h66km:pP-P, n87, σ1s04/112, mb4.3/37, 8C-6D, Near south coast of western Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JWY	**Kouya**	**0.07**	**2**	⇓P	**Pn**	**22 15 17.1**	**+0.1**
JWY				S	**Sn**	**22 15 24.0**	**-0.1**
JWM	**Minabe**	**0.35**	**214**	⇓P	**Pn**	**22 15 18.3**	**-0.1**
JWM				S	**Sn**	**22 15 26.2**	**-0.2**
JHE	**Heguri**	**0.51**	**9**	⇑P	**Pn**	**22 15 19.5**	**-0.3**
JHE				S	**Sn**	**22 15 28.3**	**-0.7**
**J

SONM				pP		**pP**	**22 20 47.4**	**-0.1**
	comp=Z,1.9nm,0.8s,baz=120,slow=9.4,SNR=4.3							
GYA	**Guiyang**	**26.06 261**	*eP*		**P**		**22 20 34.8**	**0.0**
GYA				pmax		pmax		
	comp=Z,10.0nm,0.8s							
GTA	**Gaotai**	**29.01 291**	*eP*		**P**		**22 21 01.1**	**+0.1**
GTA				pP		pP	22 21 12.6	-4.2
GTA				sP		sP	22 21 19.1	-5.4
GTA				S		**S**	**22 25 48.1**	**+0.5**
GTA				sS		sS	22 26 08.6	-6.1
GTA				SS		**SnSn**	**22 27 14.4**	**-2.1**
GTA				pmax		pmax		
	comp=Z,6.0nm,0.9s							
GTA				pmax		pmax		
	comp=Z,380nm,7.8s							
GTA				LR		LR		
	comp=N,440nm,17.6s							
GTA				LR		LR		
	comp=E,240nm,15.9s							
GTA				LR		LR		
	comp=Z,650nm,19.5s							
KMI	**Kunming**	**29.83 261**		P		**P**	**22 21 08.3**	**-0.3**
KMI				sP		sP	22 21 34.3	+2.2
KMI				pmax		pmax		
	comp=Z,6.0nm,0.6s							
H11N2	**WAKE ISLAND Hy**	**31.24 109**		T		T	22 54 01.3	
	baz=303,slow=75,SNR=39							
H11N1	**WAKE ISLAND Hy**	**31.24 109**		T		T	22 54 02.0	
	baz=303,slow=75,SNR=26							
H11N3	**WAKE ISLAND Hy**	**31.26 109**		T		T	22 54 04.1	
	baz=303,slow=75,SNR=33							
H11S3	**WAKE ISLAND Hy**	**31.77 111**		T		T	22 54 46.3	
	baz=304,slow=75,SNR=77							
H11S1	**WAKE ISLAND Hy**	**31.78 111**		T		T	22 54 47.9	
	baz=304,slow=75,SNR=75							
H11S2	**WAKE ISLAND Hy**	**31.79 111**		T		T	22 54 49.2	
	baz=304,slow=75,SNR=48							
CMAR	**Chiang Mai Arr**	**36.16 254**		P		**P**	**22 22 03.7**	**+0.3**
	comp=Z,0.8nm,0.4s,baz=53,slow=8.8,SNR=6.9							
CMAR				PcP		**PcP**	**22 24 29.1**	**+1.1**
	comp=Z,0.6nm,0.5s,baz=29,slow=2.1,SNR=4.6							
FAKI	**Fak Fak**	**37.00 186**	*eP*		**P**		**22 22 10.7**	**+0.1**
	comp=Z,17nm,0.7s							
TIXI	**Tiksi**	**37.74 357**		P		**P**	**22 22 15.3**	**-0.9**
	comp=Z,2.6nm,0.6s,baz=278,slow=9.4,SNR=3.0							
WMQ	**Urumqi**	**38.00 299**		P		**P**	**22 22 19.3**	**+0.4**
WMQ				pmax		pmax		
	comp=Z,9.0nm,0.6s							
WMQ				pmax		pmax		
	comp=Z,80nm,5.9s							
WMQ				LR		LR		
	comp=Z,650nm,33.3s							
ZALV	**Zalesovo Beam**	**40.48 315**		PcP		**PcP**	**22 24 40.3**	**-0.5**
	comp=Z,2.5nm,0.6s,baz=113,slow=3.3,SNR=12							
MK01	**Makanchi Array**	**41.71 304**	*eP*		**P**		**22 22 48.5**	**-1.1**
MK31	**Makanchi Array**	**41.71 304**	*eP*		**P**		**22 22 49.6**	**0.0**
MKAR	**Makanchi Array**	**41.71 304**	*eP*		**P**		**22 22 49.6**	**0.0**
	comp=Z,16nm,0.6s							
KURK	**Kurchatov**	**44.05 310**	*eP*		**P**		**22 23 08.2**	**-0.3**
	comp=Z,8.6nm,0.5s							
KURK				pP		**pP**	**22 23 26.3**	**+1.4**
KURK				PcP		**PP**	**22 24 52.2**	**+0.3**
KURBB	**Kurchatov Arra**	**44.11 310**		P		**P**	**22 23 08.2**	**-0.7**
	comp=Z,2.4nm,0.2s,baz=91,slow=8.4,SNR=6.2							
KURBB				pP		**pP**	**22 23 26.3**	**+0.9**
	comp=Z,0.7nm,0.2s,baz=95,slow=8.4,SNR=1.4							
KURBB				PcP		**PP**	**22 24 52.2**	**-0.3**
	comp=Z,0.8nm,0.2s,baz=100,slow=3.1,SNR=4.5							
MTN	**Manton Dam**	**46.92 186**	*eP*		**P**		**22 23 30.9**	**-0.4**
	comp=Z,18nm,0.6s							
KSH	**Kashi**	**47.27 295**	*eP*		**P**		**22 23 35.8**	**+1.7**
KSH				pP		pP	22 23 53.8	+3.0
KSH				PP		**PP**	**22 25 26.6**	**+1.0**
KSH				S		**S**	**22 30 22.5**	**-0.2**
KSH				sS		sS	22 30 54.5	+3.6
KSH	**Kashi**	**47.27 295**		SS		SS	22 33 44.9	-5.7
KSH				pmax		pmax		
	comp=Z,2.0nm,0.9s							
KSH				pmax		pmax		
	comp=Z,130nm,7.3s							
KSH				LR		LR		
	comp=N,87nm,5.8s							
KSH				LR		LR		
	comp=E,110nm,5.8s							
KSH				LR		LR		
	comp=Z,460nm,26.1s							
AAK	**Ala-Archa**	**47.71 299**	*eP*		**P**		**22 23 38.0**	**+0.4**
KKAR	**Karatay Array**	**50.48 301**	*eP*		**P**		**22 23 58.6**	**+0.1**
	comp=Z,0.8nm,0.3s							
WRAB	**Tennant Creek**	**53.79 181**	*eP*		**P**		**22 24 22.6**	**-0.6**
	comp=Z,31nm,1.1s							
WRA	**Warramunga Arr**	**53.80 181**		P		**P**	**22 24 22.9**	**-0.3**
	comp=Z,16nm,0.5s,baz=357,slow=7.7,SNR=194							
WRA				pP		**pP**	**22 24 40.4**	**+0.2**
	comp=Z,3.2nm,0.6s,baz=357,slow=7.6,SNR=4.3							
ILAR	**Eielson Array**	**54.44 31**		P		**P**	**22 24 27.2**	**-0.2**
	comp=Z,0.5nm,0.6s,baz=256,slow=6.0,SNR=4.9							
ILAR				pP		**pP**	**22 24 44.1**	**-0.3**
	comp=Z,0.6nm,0.7s,baz=257,slow=6.5,SNR=3.0							
ARU	**Arti**	**55.39 319**	*eP*		**P**		**22 24 35.4**	**+1.0**
	comp=Z,1.2nm,0.7s							
ABKAR	**Akbulak array**	**56.17 310**	*eP*		**P**		**22 24 40.1**	**+0.1**
	comp=Z,1.5nm,0.7s							
ASAR	**Alice Springs**	**57.52 182**		P		**P**	**22 24 49.6**	**-0.2**
	comp=Z,3.3nm,0.6s,baz=12,slow=13,SNR=48							
ARCES	**ARCESS Array B**	**64.98 339**		P		**P**	**22 25 39.0**	**-0.8**
	comp=Z,1.1nm,0.6s,baz=65,slow=9.3,SNR=3.1							
ARCES				pP		**pP**	**22 25 57.1**	**-0.1**
	comp=Z,0.5nm,0.5s,baz=89,slow=12,SNR=1.8							
STKA	**Stephens Creek**	**65.92 174**		P		**P**	**22 25 46.2**	**+0.1**
	comp=Z,3.2nm,0.6s,baz=354,slow=6.5,SNR=6.9							
YKA	**Yellowknife Ar**	**68.63 28**		P		**P**	**22 26 04.0**	**+0.9**
	comp=Z,0.6nm,0.8s,baz=299,slow=7.7,SNR=2.7							
FINES	**FINESS Array B**	**69.09 331**		P		**P**	**22 26 05.0**	**-0.9**
	comp=Z,1.4nm,0.5s,baz=112,slow=2.1,SNR=11							
FINES				pP		**pP**	**22 26 23.1**	**-0.4**
	comp=Z,6.4nm,0.9s,baz=42,slow=3.1,SNR=4.1							
KBZ	**Khabaz**	**69.11 309**		P		**P**	**22 26 06.1**	**-0.2**
	comp=Z,2.5nm,0.8s,baz=47,slow=4.8,SNR=7.1							
AFI	**Afiamalu**	**69.19 124**		P		**P**	**22 26 07.6**	**+0.4**
	comp=Z,12nm,0.2s,baz=180,slow=20,SNR=5.7							
AKASG	**Malin Array Be**	**73.58 321**		P		**P**	**22 26 31.2**	**-2.0**
	comp=Z,0.8nm,0.6s,baz=54,slow=6.7,SNR=5.4							
AKASG				pP		**pP**	**22 26 50.3**	**-0.6**
	comp=Z,0.3nm,0.4s,baz=50,slow=6.5,SNR=2.1							
NOA	**NORSAR Array B**	**74.92 335**		pP		pP	22 26 58.3	-0.4
	comp=Z,1.7nm,0.7s,baz=46,slow=5.7,SNR=4.0							
BRTR	**Keskin Array B**	**77.10 309**		P		**P**	**22 26 53.9**	**0.0**
	comp=Z,1.3nm,0.7s,baz=103,slow=5.3,SNR=8.9							
FFC	**Flin Flon**	**78.63 30**	*eP*		**P**		**22 27 04.2**	**+2.3**
	comp=Z,4.3nm,0.8s							
CLL	**Collm**	**81.11 328**	*eP*		**P**		**22 27 15.0**	**-0.3**
CLL			*i*	pP		**pP**	**22 27 33.0**	**-0.3**
KHC	**Kasperske Hory**	**82.39 326**	*eP*		P		22 27 10.9	-11
KHC			*ex*		P		22 27 40.6	+0.5
GERES	**GERESS Array B**	**82.53 326**		P		**P**	**22 27 22.7**	**-0.2**
	comp=Z,0.2nm,0.4s,baz=64,slow=4.5,SNR=4.2							
GERES				pP		**pP**	**22 27 40.8**	**-0.2**
	comp=Z,0.4nm,0.6s,baz=51,slow=5.3,SNR=3.4							
PDAR	**Pinedale Array**	**83.03 42**		pP		pP	22 27 42.9	-1.0
	comp=Z,0.4nm,0.3s,baz=291,slow=2.8,SNR=2.9							
ULM	**Lac du Bonnet**	**84.45 30**		pP		pP	22 27 49.3	-1.4
	comp=Z,3.6nm,0.9s,baz=353,slow=2.5,SNR=3.4							
TXAR	**Lajitas Array**	**95.62 49**		pP		pP	22 28 44.8	+0.6
	comp=Z,1.9nm,0.8s,baz=292,slow=3.4,SNR=6.4							
ACSO	**Alum Creek Sta**	**97.87 29**	*eP*			Pdif	22 28 38.3	+2.6
	comp=Z,16nm,0.9s							

IDC ***15*** *22:17:37.1±0.6,52°01′N×171°48′W,h0km,mb4.2/22, mb1 4.3/24,mb1mx4.1/57,mbtmp4.2/24,ML3.9/2,Error ellipse: s-maj=20.5km s-min=11.8km az=166.0*

NEIC ***15*** *22:17:40.1±0.0,51°57′N×171°26′W,h26km,mb4.4/55, ML4.2(AEIC),After AEIC.*

ISCJB ***15*** *22:17:41.8±0.3,52°01′N±0°05′×171°42′W±0°04,h44km, mb4.3/57,MS4.7/1,Error ellipse: s-maj=7.0km s-min=3.0km az=161.8*

ISC 15 22:17:42.9±0.5,51°90′N±0°08′×171°39′W±0°04,h44km, n122,σ1s27/120,mb4.4/57,Fox Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
KOSE	**Korovin Southe**	**1.70**	**286**	P		**Pn**	**22 18 11.4**	**+1.3**
KOFP	**Korovin Flat P**	**1.71**	**284**	P		**Pn**	**22 18 11.1**	**+0.8**
KONE	**Korovin Northe**	**1.75**	**287**	P		**Pn**	**22 18 12.2**	**+1.4**
ATKA	**Atka Island**	**1.76**	**281**	P		**Pn**	**22 18 10.5**	**-0.4**
ATKA				S		**Sn**	**22 18 31.3**	**-0.7**
KOKL	**Mount Kliuchef**	**1.79**	**285**	P		**Pn**	**22 18 12.1**	**+0.8**
NIKH	**Nikolski High**	**1.88**	**54**	P		**Pn**	**22 18 12.2**	**-0.3**
NIKH				S		**Sn**	**22 18 33.9**	**-1.2**
OKSO	**Okmok South**	**2.45**	**52**	P		**Pn**	**22 18 21.7**	**+1.4**
OKSO				S		**Sn**	**22 18 50.0**	**+1.0**
OKCE	**Okmok Cone E**	**2.48**	**51**	P		**Pn**	**22 18 22.2**	**+1.3**
OKTU	**Okmok Mt. Tuli**	**2.52**	**53**	P		**Pn**	**22 18 23.1**	**+1.7**
OKFG	**Magazine Ridge**	**2.60**	**53**	P		**Pn**	**22 18 23.1**	**+0.8**
MSOM	**Makushin Julie**	**3.30**	**53**	P		**Pn**	**22 18 33.0**	**+0.9**
MSW	**Makushin Switc**	**3.44**	**52**	P		**Pn**	**22 18 35.0**	**+1.1**
UNV	**Unalaska Valle**	**3.54**	**55**	P		**Pn**	**22 18 36.5**	**+1.2**
UNV				S		**Sn**	**22 19 17.0**	**+1.2**
AKUT	**Akutan**	**4.06**	**54**	*e*Pn		**Pn**	**22 18 41.8**	**-0.6**
AKUT				*e*Sn		**Sn**	**22 19 27.3**	**-1.3**
SPIA	**Saint Paul Isl**	**5.33**	**7**	*e*Pn		**Pn**	**22 18 59.2**	**-0.6**
SPIA				*e*Sn		**Sn**	**22 20 01.6**	**+1.9**
SDPT	**Sand Point**	**7.35**	**58**	*e*Pn		**Pn**	**22 19 25.6**	**-1.8**
CHGN	**Chignik**	**8.80**	**55**	*e*Pn		**Pn**	**22 19 46.3**	**-1.1**
OHAK	**Old Harbor**	**11.76**	**56**	*e*Pn		**Pn**	**22 20 25.3**	**-2.5**
KDAK	**Kodiak Island**	**12.31**	**54**	*e*Pn		**Pn**	**22 20 32.8**	**-2.6**
CNPM	**China Poot**	**13.64**	**48**	*e*Pn		**Pn**	**22 20 50.4**	**-3.2**
TT01	**Tatalina**	**13.74**	**31**	*e*Pn		**Pn**	**22 20 56.5**	**+1.7**
PPLA	**Purkeypile**	**15.04**	**35**	*e*Pn		**Pn**	**22 21 11.7**	**-0.6**
	27nm,1.2s							
CAST	**Castle Rocks**	**15.40**	**34**	*e*Pn		**P**	**22 21 20.7**	**-0.1**
	8.4nm,0.9s							
KTH	**Kantishna Hill**	**15.89**	**35**	*e*Pn		**Pn**	**22 21 23.5**	**+0.2**
	20nm,1.0s							
SML	**Sawmill**	**15.95**	**43**	*e*Pn		**Pn**	**22 21 22.8**	**-1.2**
	23nm,1.2s							
FID	**Port Fidalgo**	**16.31**	**47**	*e*Pn		**Pn**	**22 21 25.2**	**-3.4**
	70nm,1.4s							
SCM	**Sheep Creek Mo**	**16.38**	**43**	*e*Pn		**Pn**	**22 21 26.8**	**-2.7**
	20nm,0.8s							
MCK	**McKinley**	**16.71**	**36**	*e*Pn		**Pn**	**22 21 32.5**	**-1.1**
	9.1nm,0.9s							
KLU	**Kluane**	**16.85**	**45**	*e*Pn		**Pn**	**22 21 31.6**	**-3.7**
	31nm,1.5s							
DHY	**Denali Highway**	**16.95**	**39**	*e*Pn		**Pn**	**22 21 34.9**	**-1.8**
	9.9nm,1.1s							
BMRM	**Bremner River**	**17.25**	**48**	*e*Pn		**Pn**	**22 21 39.7**	**-0.6**
	93nm,1.9s							
WRH	**Wood River Hil**	**17.44**	**35**	*e*Pn		**Pn**	**22 21 42.6**	**0.0**
	14nm,1.2s							
HARP	**HAARP**	**17.55**	**43**	*e*Pn		**Pn**	**22 21 43.9**	**-0.1**
	110nm,1.8s							
CCB	**Clear Creek Bu**	**17.64**	**35**	*e*Pn		**Pn**	**22 21 42.9**	**-2.2**
	5.3nm,1.0s							
MDM	**Murphy Dome**	**17.68**	**33**	*e*Pn		**Pn**	**22 21 44.8**	**-0.8**
	11nm,1.2s							
IL1	**Eielson Array**	**18.04**	**35**	*e*Pn		**Pn**	**22 21 48.6**	**-1.4**
ILAR	**Eielson Array**	**18.04**	**35**	P		**Pn**	**22 21 48.3**	**-1.6**
	0.4nm,0.3s,baz=226,slow=9.6,SNR=19							
ILB	**Eielson Array**	**18.04**	**35**	*e*Pn		**Pn**	**22 21 49.7**	**-0.3**
COLD	**Coldfoot**	**18.57**	**26**	*e*P		**P**	**22 21 54.3**	**-1.5**
	7.4nm,1.1s							
PETK	**Petropavlovsk-**	**18.79**	**286**	P		**P**	**22 21 58.6**	**+0.3**
	0.6nm,0.3s,baz=84,slow=15,SNR=4.9							
FYU	**Fort Yukon**	**19.63**	**32**	*e*P		**P**	**22 22 07.1**	**-0.3**
	11nm,0.8s							
EGAK	**Eagle**	**20.18**	**39**	*e*P		**P**	**22 22 11.8**	**-1.6**
	7.7nm,0.9s							
HYT	**Haines Junctio**	**20.56**	**51**	*e*P		Pn	22 22 19.1	-1.1
	26nm,0.6s							
DAWY	**Dawson**	**20.60**	**41**	*e*P		**P**	**22 22 18.2**	**+0.2**
	31nm,1.7s							
WHY	**Whitehorse**	**21.81**	**52**	*e*P		**P**	**22 22 34.5**	**+3.5**
	12nm,0.9s							
SEY	**Seymchan**	**22.09**	**314**	P		**P**	**22 22 34.1**	**+0.3**
	1.4nm,0.3s,baz=110,slow=9.0,SNR=4.1							
DLBC	**Dease Lake**	**24.19**	**58**	P		**P**	**22 22 56.9**	**+1.9**
	9.6nm,0.6s,baz=274,slow=8.4,SNR=22							
DLBC	**Dease Lake**	**24.19**	**58**	*e*P		**P**	**22 22 56.1**	**+1.1**
	29nm,1.3s							
INK	**Inuvik**	**24.42**	**34**	P		**P**	**22 22 56.3**	**-0.5**
	3.4nm,0.3s,baz=229,slow=7.5,SNR=26							
INK	**Inuvik**	**24.42**	**34**	*e*P		**P**	**22 22 55.7**	**-1.2**
	4.4nm,0.5s							
YKA	**Yellowknife Ar**	**31.48**	**48**	P		**P**	**22 24 00.1**	**+0.1**
	1.7nm,0.5s,baz=273,slow=7.9,SNR=14							
B08A	**Colville Reser**	**32.97**	**75**	*e*P		**P**	**22 24 12.3**	**-1.0**
	4.7nm,0.8s							
NEW	**Newport**	**34.33**	**74**	P		**P**	**22 24 26.0**	**+0.9**
	3.6nm,0.6s,baz=296,slow=5.2,SNR=5.4							
NEW	**Newport**	**34.33**	**74**	*e*P		**P**	**22 24 26.0**	**+0.9**
	3.8nm,0.8s							
EDM	**Edmonton**	**34.47**	**64**	*e*P		**P**	**22 24 27.9**	**+1.7**
	14nm,0.6s							
BSMT	**Bassoo Peak**	**35.91**	**73**	*e*P		**P**	**22 24 40.5**	**+1.7**
H11N2	**WAKE ISLAND Hy**	**36.33**	**216**	T		T	23 03 10.9	
	baz=21,slow=76,SNR=17							
H11N3	**WAKE ISLAND Hy**	**36.34**	**216**	T		T	23 03 10.2	
	baz=21,slow=76,SNR=18							
H11N1	**WAKE ISLAND Hy**	**36.35**	**216**	T		T	23 03 18.0	
	baz=21,slow=76,SNR=16							
H11S1	**WAKE ISLAND Hy**	**37.52**	**216**	T		T	23 05 38.8	
	baz=22,slow=76,SNR=17							
H11S2	**WAKE ISLAND Hy**	**37.54**	**216**	T		T	23 05 39.5	
	baz=22,slow=76,SNR=18							
H11S3	**WAKE ISLAND Hy**	**37.54**	**216**	T		T	23 05 39.4	
	baz=22,slow=76,SNR=11							
MAJO	**Matsushiro**	**38.43**	**267**	*e*P		**P**	**22 25 00.4**	**+0.3**
	6.3nm,0.8s							
MJAR	**Matsushiro Arr**	**38.43**	**267**	P		**P**	**22 25 00.5**	**+0.3**
	1.9nm,0.8s,baz=53,slow=8.8,SNR=5.4							
MCMT	**McKenzie Canyo**	**38.59**	**77**	*e*P		**P**	**22 25 03.0**	**+1.3**
BOZ	**Bozeman (W)**	**38.92**	**75**	*e*P		**P**	**22 25 05.5**	**+1.3**
	16nm,1.8s							
YHH	**Holmes Hill**	**39.81**	**76**	*e*P		**P**	**22 25 13.3**	**+1.4**
	5.0nm,1.0s							
FFC	**Flin Flon**	**40.02**	**58**	*e*P		**P**	**22 25 13.5**	**+0.4**
	9.2nm,0.9s							
RLMT	**Red Lodge**	**40.58**	**74**	*e*P		**P**	**22 25 18.1**	**0.0**
	5.3nm,0.9s							
R11A	**Troy Canyon, C**	**40.64**	**87**	*e*P		**P**	**22 25 19.6**	**+0.9**
	1.6nm,0.9s							
TPNV	**Topopah Spring**	**41.10**	**89**	*e*P		**P**	**22 25 24.6**	**+2.1**
	5.0nm,0.8s							
BW06	**Boulder Array**	**41.71**	**77**	*e*P		**P**	**22 25 28.3**	**+0.8**
PD31	**Pinedale Array**	**41.72**	**77**	*e*P		**P**	**22 25 28.8**	**+1.2**
PDAR	**Pinedale Array**	**41.72**	**77**	P		**P**	**22 25 28.2**	**+0.7**
	1.2nm,0.5s,baz=291,slow=5.9,SNR=15							
FCC	**Fort Churchill**	**42.19**	**49**	*e*P		**P**	**22 25 31.0**	**+0.1**
	10nm,0.7s							
SRU	**San Rafael Swe**	**43.29**	**82**	*e*P		**P**	**22 25 40.4**	**+0.1**
	3.6nm,1.1s							
U15A	**North Rim**	**43.88**	**87**	*e*P		**P**	**22 25 46.4**	**+1.2**
	20nm,1.9s							
KSRS	**Korea Array**	**44.22**	**276**	P		**P**	**22 25 47.8**	**+0.3**
	4.0nm,0.9s,baz=55,slow=7.6,SNR=18							
KS01	**Wonju Array Si**	**44.22**	**276**	*e*P		**P**	**22 25 47.3**	**-0.3**
KSAR	**Wonju Array Be**	**44.25**	**276**	P		**P**	**22 25 47.8**	**0.0**
PV01	**Paradox Valley**	**45.10**	**82**	*e*P		**P**	**22 25 55.1**	**+0.3**
ULM	**Lac du Bonnet**	**45.46**	**61**	P		**P**	**22 25 57.4**	**+0.2**
	2.6nm,0.7s,baz=280,slow=9.5,SNR=3.2							
AGMN	**Agassiz Nation**	**46.55**	**63**	*e*P		**P**	**22 26 05.5**	**-0.3**
	6.4nm,0.9s							
T25A	**Trinidad**	**48.28**	**80**	*e*P		**P**	**22 26 21.0**	**+1.3**
	22nm,1.4s							
FRB	**Frobisher Bay**	**50.07**	**34**	P		**P**	**22 26 32.3**	**-0.4**
	4.9nm,0.7s,baz=298,slow=12,SNR=3.0							
ULN	**Ulaanbaatar**	**50.09**	**300**	*e*P		**P**	**22 26 32.7**	**-0.6**
	1.8nm,0.8s							
SONM	**Songino Array**	**50.46**	**300**	P		**P**	**22 26 35.9**	**-0.2**
	0.8nm,0.6s,baz=45,slow=6.4,SNR=7.6							
SUMG	**Summit**	**51.59**	**16**	*e*P		**P**	**22 26 43.6**	**-0.9**
	6.8nm,1.0s							
HHC	**Hu-ho-hao-te**	**51.92**	**290**	*e*P		**P**	**22 26 46.9**	**-0.2**
HHC					pmax	pmax		
	comp=Z,9.0nm,0.8s							
WMOK	**Wichita Mounta**	**53.29**	**79**	*e*P		**P**	**22 26 57.6**	**+0.5**
	comp=Z,3.9nm,0.9s							
TX31	**Lajitas Ar. Si**	**54.01**	**87**	*e*P		**P**	**22 27 03.2**	**+0.6**
TXAR	**Lajitas Array**	**54.01**	**87**	P		**P**	**22 27 03.5**	**+0.9**
	comp=Z,1.9nm,0.9s,baz=298,slow=5.5,SNR=11							
MIAR	**Mount Ida**	**56.56**	**75**	*e*P		**P**	**22 27 20.2**	**-0.5**
	comp=Z,3.8nm,0.8s							
ZALV	**Zalesovo Beam**	**56.92**	**317**	P		**P**	**22 27 23.7**	**+0.6**
	comp=Z,0.6nm,0.6s,baz=46,slow=8.3,SNR=3.5							
ARCES	**ARCESS Array B**	**58.24**	**353**	P		**P**	**22 27 30.4**	**-1.7**
	comp=Z,0.7nm,0.7s,baz=7.0,slow=8.2,SNR=2.8							
ENH	**Enshi**	**60.34**	**282**	P		**P**	**22 27 47.6**	**+0.4**
	comp=Z,3.9nm,0.6s							
KURK	**Kurchatov**	**61.88**	**317**	P		**P**	**22 27 57.7**	**+0.3**
KURBB	**Kurchatov Arra**	**61.99**	**317**	P		**P**	**22 27 57.7**	**-0.4**
	comp=Z,1.9nm,0.7s,baz=45,slow=6.9,SNR=11							
WMQ	**Urumqi**	**62.83**	**307**	P		**P**	**22 28 05.8**	**+1.9**
WMQ				pP		pP	22 28 15.8	-0.7
WMQ				pmax		pmax		
	comp=Z,7.0nm,0.8s							
WMQ				pmax		pmax		
	comp=Z,250nm,3.8s							
WMQ				LR		LR		
	comp=N,350nm,19.1s							
WMQ				LR		LR		
	comp=E,280nm,17.1s							
WMQ				LR		LR		
	comp=Z,570nm,30.5s							
BRVK	**Borovoye**	**63.36**	**324**	P		**P**	**22 28 07.2**	**+0.1**
	comp=Z,2.4nm,0.4s							
ARU	**Arti**	**64.46**	**332**	*e*P		**P**	**22 28 12.9**	**-1.3**
FINES	**FINESS Array B**	**66.14**	**351**	P		**P**	**22 28 23.3**	**-1.8**
	comp=Z,2.9nm,0.8s,baz=4.8,slow=8.4,SNR=3.3							
NOA	**NORSAR Array B**	**67.39**	**359**	P		**P**	**22 28 32.8**	**-0.3**
	comp=Z,0.7nm,0.6s,baz=4.1,slow=6.3,SNR=2.6							
AAK	**Ala-Archa**	**69.94**	**314**	*e*P		**P**	**22 28 49.4**	**-0.1**
	comp=Z,1.3nm,0.7s							
ABKAR	**Akbulak array**	**70.16**	**327**	*e*P		**P**	**22 28 50.0**	**-0.5**
	comp=Z,9.9nm,0.4s							
SLVN	**Son La**	**70.30**	**280**	*e*P		**P**	**22 28 52.1**	**+0.3**
	comp=Z,1.2nm,0.5s							
PMG	**Port Moresby**	**70.69**	**224**	*e*P		**P**	**22 28 54.9**	**+0.9**
	comp=Z,12nm,0.9s							
LSA	**Lhasa**	**71.52**	**295**	*e*P		**P**	**22 29 00.4**	**+0.7**
	comp=Z,6.4nm,0.8s							
KSH	**Kashi**	**71.76**	**311**	*e*P		P	22 29 06.4	+5.9
KSH				pmax		pmax		
	comp=Z,110nm,5.3s							
CHTO	**Chiang Mai**	**75.23**	**282**	*e*P		**P**	**22 29 20.3**	**-0.7**
	comp=Z,2.6nm,0.8s							
CMAR	**Chiang Mai Arr**	**75.50**	**281**	P		**P**	**22 29 23.1**	**+0.5**
	comp=Z,1.4nm,0.4s,baz=268,slow=32,SNR=5.7							
LUWI	**Luwuk**	**76.15**	**250**	*e*P		**P**	**22 29 27.1**	**+0.9**
	comp=Z,27nm,0.7s							
DZM	**Mont Dzumac**	**76.18**	**201**	*e*P		**P**	**22 29 23.1**	**-3.2**
	comp=Z,6.6nm,1.1s							
MORC	**Moravsky Berou**	**78.41**	**354**	*e*P		**P**	**22 29 38.5**	**-0.1**
	comp=Z,3.8nm,0.7s							
GRFO	**Grafenberg**	**78.76**	**358**	P		**P**	**22 29 40.3**	**-0.1**
	comp=Z,1.8nm,0.7s							
PSZ	**Piszkesteto**	**80.09**	**352**	*e*P		**P**	**22 29 47.4**	**-0.4**
	comp=Z,2.0nm,0.7s							
IPM	**Ipoh**	**85.02**	**271**	*e*P		**P**	**22 30 13.8**	**-0.1**
	comp=Z,2.2nm,0.5s							
WRA	**Warramunga Arr**	**85.75**	**230**	P		**P**	**22 30 16.6**	**-0.6**
	comp=Z,1.4nm,1.0s,baz=36,slow=6.0,SNR=6.2							
ESDC	**Sonseca Array**	**88.14**	**10**	P		**P**	**22 30 27.8**	**-1.0**
	comp=Z,0.4nm,0.6s,baz=345,slow=4.9,SNR=3.9							
ASAR	**Alice Springs**	**89.15**	**228**	P		**P**	**22 30 33.9**	**+0.4**
	comp=Z,3.3nm,0.7s,baz=35,slow=4.8,SNR=35							
STKA	**Stephens Creek**	**93.05**	**219**	P		**P**	**22 30 52.9**	**+1.5**
	comp=Z,1.4nm,0.5s,baz=33,slow=5.0,SNR=3.4							
MAW	**Mawson**	**149.74**	**218**	PKPbc		**PKPbc**	**22 37 26.8**	**+0

CNGZ				AML	AML	22 38 50.1		
CNGZ				AML	AML	22 38 51.9		
WMGZ	**Waiomatatini S**	**1.75**	**94**	PN	Pn	22 38 17.7	0.0	
WMGZ				AML	AML	22 38 18.4		
WMGZ				AML	AML	22 38 45.0		
MCHZ	**McNeill Hill**	**1.76**	**168**	PN	Pn	22 38 17.9	+0.1	
MCHZ				SN	Sn	22 38 43.6	-0.8	
MCHZ				AML	AML	22 38 44.5		
BHHZ	**Black Hill Sta**	**1.77**	**184**	PN	Pn	22 38 16.3	-1.6	
BHHZ				AML	AML	22 38 44.5		
BHHZ				AML	AML	22 38 44.8		
PRGZ	**Paritu Road**	**1.78**	**133**	PN	Pn	22 38 17.9	-0.2	
PRGZ				AML	AML	22 38 46.2		
PRGZ				AML	AML	22 38 46.4		
VRZ	**Vera Road**	**1.81**	**219**	PN	Pn	22 38 19.1	+0.8	
KRHZ	**Kereru**	**1.92**	**176**	PN	Pn	22 38 18.7	-0.8	
KRHZ				AML	AML	22 38 19.2		
KRHZ				AML	AML	22 38 20.1		
MHGZ	**Mahia Peninsul**	**1.95**	**137**	PN	Pn	22 38 19.7	-0.1	
MHGZ				AML	AML	22 38 47.2		
MHGZ				AML	AML	22 38 50.1		
CKHZ	**Cape Kidnapper**	**2.05**	**161**	⇑PN	Pn	22 38 20.5	-0.4	
CKHZ				AML	AML	22 38 50.2		
CKHZ				AML	AML	22 38 50.4		
KAHZ	**Kahuranaki**	**2.13**	**166**	PN	Pn	22 38 21.3	-0.6	
KAHZ				AML	AML	22 38 51.5		
KAHZ				AML	AML	22 38 51.8		
PNHZ	**Pukenui**	**2.19**	**180**	PN	Pn	22 38 21.2	-1.3	
PNHZ				AML	AML	22 38 50.1		
PNHZ				AML	AML	22 38 52.1		
WAZ	**Wanganui**	**2.24**	**205**	PN	Pn	22 38 22.5	-0.6	
TSZ	**Takapari Road**	**2.34**	**185**	PN	Pn	22 38 22.7	-1.5	
TSZ				AML	AML	22 38 23.3		
TSZ				AML	AML	22 38 55.5		
WPHZ	**Waipukurau**	**2.34**	**176**	PN	Pn	22 38 23.2	-1.0	
WPHZ				AML	AML	22 39 04.7		
WPHZ				AML	AML	22 39 08.2		
PXZ	**Pawanui**	**2.36**	**168**	PN	Pn	22 38 22.9	-1.5	
PXZ				AML	AML	22 38 53.7		
PXZ				AML	AML	22 38 55.9		
PRHZ	**Porangahau**	**2.56**	**173**	PN	Pn	22 38 25.2	-1.6	
PRHZ				AML	AML	22 38 59.7		
PRHZ				AML	AML	22 39 01.0		
DVHZ	**Dannevirke**	**2.57**	**181**	PN	Pn	22 38 24.9	-2.0	
OHWZ	**Ohakea**	**2.58**	**195**	PN	Pn	22 38 25.5	-1.4	
POWZ	**Post Office Ro**	**2.69**	**187**	PN	Pn	22 38 26.2	-2.1	
POWZ				AML	AML	22 38 26.9		
POWZ				AML	AML	22 38 30.4		
ANWZ	**Angora Road**	**2.74**	**176**	⇑PN	Pn	22 38 27.2	-1.7	
ANWZ				SN	Sn	22 39 00.1	-4.1	
ANWZ				AML	AML	22 39 00.7		
PRWZ	**Pori Road**	**2.83**	**184**	PN	Pn	22 38 28.0	-2.0	
PRWZ				AML	AML	22 38 28.7		
PRWZ				AML	AML	22 38 28.7		
BFZ	**Birch Farm**	**2.96**	**179**	⇑PN	Pn	22 38 29.0	-2.5	
MRZ	**Mangatainoka R**	**2.97**	**189**	⇑PN	Pn	22 38 29.1	-2.7	
MRZ				AML	AML	22 39 06.6		
MRZ				AML	AML	22 39 07.4		
TIWZ	**Tintock**	**3.06**	**185**	PN	Pn	22 38 30.2	-2.6	
TIWZ				AML	AML	22 39 09.3		
TIWZ				AML	AML	22 39 10.2		
OGWZ	**Otaki Gorge**	**3.19**	**194**	PN	Pn	22 38 31.7	-2.8	
OGWZ				AML	AML	22 39 10.8		
OGWZ				AML	AML	22 39 11.2		
HOWZ	**Holdsworth Sta**	**3.22**	**189**	⇑PN	Pn	22 38 31.6	-3.2	
HOWZ				AML	AML	22 39 11.3		
HOWZ				AML	AML	22 39 11.2		
KIW	**Kapiti Island**	**3.29**	**197**	PN	Pn	22 38 32.5	-3.2	
KIW				AML	AML	22 39 13.5		
TMWZ	**Te Maipa**	**3.39**	**184**	PN	Pn	22 38 33.6	-3.3	
TMWZ				AML	AML	22 39 16.4		
MTW	**Mount Morrison**	**3.47**	**189**	PN	Pn	22 38 34.3	-3.7	
CAW	**Cannon Point**	**3.49**	**194**	PN	Pn	22 38 34.8	-3.4	
CAW				AML	AML	22 38 36.1		
CAW				AML	AML	22 39 17.5		
DUWZ	**D'Urville Isla**	**3.55**	**209**	PN	Pn	22 38 35.6	-3.3	
TRWZ	**Traveller**	**3.69**	**186**	PN	Pn	22 38 37.0	-3.7	
PAWZ	**Paruwai Farm**	**3.70**	**189**	PN	Pn	22 38 37.0	-3.8	
PAWZ				AML	AML	22 39 22.5		
MSWZ	**Moikau Station**	**3.76**	**191**	PN	Pn	22 38 37.5	-4.1	
MSWZ				AML	AML	22 38 39.2		
MSWZ				AML	AML	22 39 22.9		
TCW	**Tory Channel**	**3.79**	**203**	PN	Pn	22 38 38.2	-3.7	
TCW				AML	AML	22 39 23.1		
TCW				AML	AML	22 39 26.7		
BHW	**Baring Head**	**3.82**	**195**	PN	Pn	22 38 38.3	-4.0	
PLWZ	**Palliser**	**3.91**	**191**	PN	Pn	22 38 39.2	-4.3	
TUWZ	**Tuamarina**	**4.09**	**205**	PN	Pn	22 38 42.0	-3.8	
TUWZ				AML	AML	22 39 31.1		
TUWZ				AML	AML	22 39 32.0		
NNZ	**Nelson**	**4.12**	**211**	⇑PN	Pn	22 38 42.2	-4.0	
QRZ	**Quartz Range**	**4.21**	**222**	PN	Pn	22 38 43.9	-3.4	
BSWZ	**Blackbirch Sta**	**4.37**	**204**	PN	Pn	22 38 45.5	-3.9	
THZ	**Tophouse**	**4.77**	**211**	PN	Pn	22 38 50.6	-3.9	
THZ				SN	Sn	22 39 44.0	-6.1	
KHZ	**Kahutara**	**5.12**	**203**	PN	Pn	22 38 54.5	-4.5	
LTZ	**Lake Taylor**	**5.88**	**210**	PN	Pn	22 39 04.4	-4.7	
INZ	**Inchbonnie**	**6.18**	**215**	*e*PN	Pn	22 39 07.2	-5.8	
OXZ	**Oxford**	**6.43**	**208**	PN	Pn	22 39 09.9	-6.4	
MQZ	**McQueen's Vall**	**6.56**	**203**	SN	Sn	22 40 21.0	-11	
RPZ	**Rata Peaks**	**7.15**	**212**	PN	Pn	22 39 20.6	-5.1	
ODZ	**Otahua Downs**	**8.42**	**208**	PN	Pn	22 39 37.0	-5.5	

*IDC **15** 22:39:21.4±1.1, 38˚25N×142˚36E, h0km, mb3.8/5, mb1 3.9/9, mb1mx3.6/49, mbtmp3.9/9, ML3.5/4, Error ellipse: s-maj=25.0km s-min=20.0km az=91.0*
*ISCJB **15** 22:39:27.7±0.7, 38˚23N±0˚03×142˚05E±0˚07, h64km±5km, mb4.0/11, Error ellipse: s-maj=9.2km s-min=4.9km az=19.1*
*NEIC **15** 22:39:27.5±1.0, 38˚26N×142˚22E, h47km±9km, mb4.1/6, Error ellipse: s-maj=13.5km s-min=7.8km az=113.0*
NEIC Recorded [2 JMA] in Iwate and Miyagi.
*JMA **15** 22:39:29.9±0.1, 38˚26N×141˚88E, h64km±1km, M4.0*
JMA Felt II J1.

ISC 15 22:39:28.6±1.4, 38˚24N±0˚05×142˚04E±0˚09, h52km±11km, n41, σ1°53/52, mb3.9/11, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JIO	**Ouri**	**0.58**	**291**	P	**Pn**	**22 39 42.0**	**+1.0**
JIO				S	**Sn**	**22 39 50.4**	**+0.5**
OFUJ	**Ofunato**	**0.88**	**341**	P	**Pn**	**22 39 46.1**	**+1.2**
OFUJ				S	**Sn**	**22 39 57.9**	**+1.1**
JMK	**Ichinoseki**	**0.95**	**318**	P	**Pn**	**22 39 46.7**	**+0.9**
JMK				S	**Sn**	**22 39 58.9**	**+0.5**
JMM	**Marumori**	**1.05**	**249**	P	**Pn**	**22 39 47.2**	**+0.1**
JMM				S	**Sn**	**22 39 59.8**	**-0.9**
JOU	**Okura**	**1.09**	**277**	P	**Pn**	**22 39 47.9**	**+0.3**
JOU				S	**Sn**	**22 40 01.3**	**-0.3**
JFK	**Kawauchi**	**1.27**	**227**	P	**Pn**	**22 39 50.6**	**+0.5**
JFK				S	**Sn**	**22 40 05.5**	**-0.6**
JOM	**Ohasama**	**1.36**	**335**	P	**Pn**	**22 39 52.2**	**+1.0**
JOM				S	**Sn**	**22 40 08.9**	**+0.7**
JYK	**Kaneyama**	**1.48**	**298**	P	**Pn**	**22 39 53.2**	**+0.3**
JYK				S	**Sn**	**22 40 10.8**	**-0.3**
JFT	**Otama**	**1.53**	**242**	P	**Pn**	**22 39 54.2**	**+0.6**
JFT				S	**Sn**	**22 40 11.8**	**-0.5**
JYS	**Shirataka**	**1.55**	**270**	P	**Pn**	**22 39 54.3**	**+0.4**
JYS				S	**Sn**	**22 40 12.7**	**-0.2**
JRG	**Rokugo**	**1.59**	**317**	P	**Pn**	**22 39 55.0**	**+0.6**
JRG				S	**Sn**	**22 40 13.9**	**+0.1**
JYA	**Atsumi**	**1.86**	**282**	P	**Pn**	**22 39 58.3**	**+0.3**
JYA				S	**Sn**	**22 40 18.9**	**-1.5**
JFY	**Yanaizu**	**2.03**	**246**	P	**Pn**	**22 40 01.2**	**+0.8**
JFY				S	**Sn**	**22 40 24.4**	**-0.1**
MJAR	**Matsushiro Arr**	**3.49**	**242**	Pn	**Pn**	**22 40 21.5**	**+1.0**
	5.4nm,0.3s,baz=32,slow=13,SNR=59						
MJAR				Sn	**Sn**	**22 41 06.0**	**+5.5**
	5.6nm,0.3s,baz=28,slow=28,SNR=5.5						
MAJO	**Matsushiro**	**3.49**	**242**	*e*Pn	**Pn**	**22 40 22.0**	**+1.5**
MAT	**Matsushiro**	**3.49**	**242**	P	**Pn**	**22 40 21.9**	**+1.5**
MAT				S	**Sn**	**22 41 03.2**	**+2.7**
ERM	**Erimo**	**3.86**	**12**	*e*Pn	**Pn**	**22 40 25.2**	**-0.3**
ERM				*e*Sn	**Sn**	**22 41 07.0**	**-2.6**
JHJ2	**Mitsune**	**5.43**	**200**	*e*P	**Pn**	**22 40 45.9**	**-1.1**
	461nm,1.6s						
JHJ	**Hachijo jima 2**	**5.43**	**200**	Pn	**Pn**	**22 40 46.5**	**-0.6**
	25nm,0.3s,baz=313,slow=22,SNR=15						
JHJ				Sn	**Sn**	**22 41 43.6**	**-4.6**
	54nm,0.3s,baz=40,slow=22,SNR=19						
YSS	**Yuzh-Sakhalins**	**8.72**	**3**	*e*Pn	**Pn**	**22 41 29.3**	**-2.7**
	13nm,0.6s						
USRK	**Ussuriysk Ar.**	**9.62**	**311**	Pn	**Pn**	**22 41 45.6**	**+1.2**
	0.7nm,0.3s,baz=127,slow=14,SNR=9.4						
KSRS	**Korea Array**	**11.19**	**270**	Pn	**Pn**	**22 42 08.1**	**+2.2**
	0.3nm,0.3s,baz=79,slow=14,SNR=8.3						
KSAR	**Wonju Array Be**	**11.22**	**270**	Pn	**Pn**	**22 42 08.1**	**+1.8**
MDJ	**Mudanjiang**	**11.30**	**308**	*e*P	**Pn**	**22 42 06.7**	**-0.6**
	1.8nm,0.5s						
YAK	**Yakutsk**	**25.01**	**346**	P	**P**	**22 44 46.8**	**-0.5**
	0.5nm,0.5s						
SONM	**Songino Array**	**27.54**	**302**	P	**P**	**22 45 10.6**	**+0.1**
	0.8nm,0.5s,baz=104,slow=9.1,SNR=6.6						
ENH	**Enshi**	**27.95**	**263**	*e*P	**P**	**22 45 13.5**	**-0.6**
	11nm,0.7s						
H11N2	**WAKE ISLAND Hy**	**28.37**	**124**	T	T	23 15 47.5		
	baz=316,slow=75,SNR=347						
H11N1	**WAKE ISLAND Hy**	**28.38**	**124**	T	T	23 15 38.9		
	baz=316,slow=75,SNR=327						
H11N3	**WAKE ISLAND Hy**	**28.39**	**124**	T	T	23 15 53.5		
	baz=316,slow=75,SNR=306						
H11S1	**WAKE ISLAND Hy**	**29.13**	**126**	T	T	23 16 37.6		
	baz=318,slow=76,SNR=93						
H11S3	**WAKE ISLAND Hy**	**29.13**	**126**	T	T	23 16 47.8		
	baz=318,slow=76,SNR=139						
H11S2	**WAKE ISLAND Hy**	**29.15**	**126**	T	T	23 16 38.8		
	baz=318,slow=76,SNR=113						
ZALV	**Zalesovo Beam**	**41.48**	**311**	P	**P**	**22 47 10.3**	**+0.1**
	1.5nm,0.5s,baz=83,slow=7.0,SNR=7.2						
KURK	**Kurchatov**	**45.59**	**307**	*e*P	**P**	**22 47 42.6**	**-0.7**
	16nm,0.8s						
COLA	**College**	**47.79**	**33**	*e*P	**P**	**22 47 58.1**	**-2.2**
	3.7nm,1.4s						
ILAR	**Eielson Array**	**48.21**	**33**	P	**P**	**22 48 03.3**	**-0.3**
	0.3nm,0.7s,baz=270,slow=8.1,SNR=3.0						
AAK	**Ala-Archa**	**50.36**	**298**	*e*P	**P**	**22 48 21.9**	**+1.4**
	0.9nm,0.7s						
ABKAR	**Akbulak array**	**57.54**	**310**	*e*P	**P**	**22 49 14.0**	**+1.4**
	0.7nm,0.6s						
WRA	**Warramunga Arr**	**58.33**	**189**	P	**P**	**22 49 17.7**	**-0.6**
	1.1nm,0.5s,baz=6.5,slow=7.2,SNR=14						
ASAR	**Alice Springs**	**62.05**	**188**	P	**P**	**22 49 43.9**	**+0.2**
	0.5nm,0.7s,baz=15,slow=7.7,SNR=5.5						

*ISN **15** 23:02:21.4±1.5, 37˚28N×43˚09E, h10km±7km, ML3.5*
*DDA **15** 23:02:23.9, 37˚23N×42˚93E, h5km, Ml3.5*
*CSEM **15** 23:02:23.8±0.2, 37˚15N×42˚96E, h2km, ML3.5, Error ellipse: s-maj=5.1km s-min=4.4km az=66.0*
*ISK **15** 23:02:25.3, 37˚31N×42˚78E, h5km, MD3.4*

ISC 15 23:02:24.1±1.3, 37˚24N±0˚05×42˚95E±0˚03, h11km±10km, n39, σ1°41/60, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SIRN	**S˜¬rnak**	**0.49**	**301**	*i* P	**Pg**	**23 02 33.7**	**-0.1**
SIRN				*i* S	**Sg**	**23 02 40.3**	**+0.1**
SIRN	**S˜¬rnak**	**0.49**	**301**	P	**Pg**	**23 02 33.7**	**-0.1**
SIRN				S	**Sg**	**23 02 40.5**	**+0.1**
HAKT	**HAKKARI**	**0.68**	**62**	*i* P	**Pb**	**23 02 38.0**	**-0.2**
HAKT				*i* S	**Sb**	**23 02 47.2**	**-0.5**
HAKT	**HAKKARI**	**0.68**	**62**	P	**Pb**	**23 02 38.0**	**-0.2**
HAKT				S	**Sb**	**23 02 47.2**	**-0.5**
GEVA	**Gevas**	**1.07**	**5**	*i* P	**Pn**	**23 02 44.9**	**-0.5**
GEVA				*i* S	**Sn**	**23 03 01.1**	**+0.8**
GEVA	**Gevas**	**1.07**	**5**	P	**Pn**	**23 02 44.8**	**-0.5**
GEVA				S	**Sn**	**23 03 01.1**	**+0.8**
TATV	**Tatvan**	**1.37**	**337**	*i* P	Pn	23 02 43.1	-6.3
TATV				*i* S	**Sb**	**23 02 59.8**	**-7.8**
VANB	**Van**	**1.39**	**14**	*e*PN	**Pg**	**23 02 50.6**	**-0.2**
VANB				*e*SN	**Sg**	**23 03 10.6**	**+1.6**
VANB	**Van**	**1.39**	**14**	*e*Pn	**Pg**	**23 02 50.7**	**-0.2**
VANB				*e*Sn	**Sg**	**23 03 10.6**	**+1.6**
BTMN	**Batman**	**1.48**	**296**	*i* P	**Pg**	**23 02 52.0**	**-0.5**
BTMN				*i* S	**Sg**	**23 03 12.6**	**+0.8**
BTMN	**Batman**	**1.48**	**296**	P	**Pg**	**23 02 52.0**	**-0.5**
BTMN				S	**Sg**	**23 03 12.6**	**+0.8**
SVAN	**Silvan-Diyarba**	**1.66**	**304**	*e*PN	**Pb**	**23 02 54.8**	**+0.1**
SVAN				*e*SN	**Sb**	**23 03 16.0**	**+0.4**
SVAN	**Silvan-Diyarba**	**1.66**	**304**	*i* P	**Pg**	**23 02 55.1**	**-0.8**
SVAN				*i* S	**Sg**	**23 03 17.5**	**+0.1**
SVAN	**Silvan-Diyarba**	**1.66**	**304**	*e*Pn	**Pb**	**23 02 54.8**	**+0.1**
SVAN	**Silvan-Diyarba**	**1.66**	**304**	P	**Pg**	**23 02 55.1**	**-0.8**
SVAN				*e*Sn	**Sb**	**23 03 16.0**	**+0.4**
SVAN				S	**Sg**	**23 03 17.5**	**+0.1**
MARD	**Mardin**	**1.73**	**273**	*i* P	**Pb**	**23 02 56.0**	**-0.1**
MARD				*i* S	**Sg**	**23 03 19.3**	**-0.5**
MAZI	**Mazidag**	**2.00**	**277**	*e*PN	**Pb**	**23 03 00.2**	**-0.5**
MAZI				*e*SN	**Sb**	**23 03 24.7**	**-1.0**
MAZI	**Mazidag**	**2.00**	**277**	*e*Pn	**Pb**	**23 03 00.2**	**-0.5**
MAZI				*e*Sn	**Sb**	**23 03 24.7**	**-1.0**
CLDR	**Caldiran**	**2.04**	**22**	*e*PN	**Pg**	**23 03 02.0**	**-0.5**
CLDR	**Caldiran**	**2.04**	**22**	*e*Pn	**Pg**	**23 03 02.8**	**-0.5**
EKAR	**Karacoban**	**2.13**	**341**	*i* P	**Pb**	**23 03 03.3**	**+0.5**
EKAR				*i* S	**Sg**	**23 03 34.5**	**+2.0**
EKAR	**Karacoban**	**2.13**	**341**	P	**Pb**	**23 03 03.3**	**+0.5**
TUTA	**Tutak**	**2.16**	**357**	*i* P	**Pb**	**23 03 03.2**	**-0.2**
TUTA				*i* S	**Sg**	**23 03 33.5**	**0.0**
TUTA	**Tutak**	**2.16**	**357**	P	**Pb**	**23 03 03.2**	**-0.2**
BNGL	**BINGOL**	**2.22**	**321**	*i* P	**Pb**	**23 03 04.6**	**+0.2**
BNGL				*i* S	**Sg**	**23 03 35.1**	**-0.3**
AGRB	**Hanur-Agry**	**2.33**	**1**	*e*PN	**Pb**	**23 03 05.5**	**-0.7**
AGRB	**Hanur-Agry**	**2.33**	**1**	*e*Pn	**Pb**	**23 03 05.5**	**-0.7**
DIYA	**Diyarbakir**	**2.35**	**288**	*i* P	**Pb**	**23 03 06.3**	**-0.2**
DIYA				*i* S	**Sb**	**23 03 34.0**	**-1.5**
BNGB	**Bing˜¶l**	**2.50**	**315**	*e*PN	**Pn**	**23 03 06.5**	**+1.6**
BINT	**Bingol**	**2.53**	**311**	*e*Pn	**Pn**	**23 03 06.5**	**+1.1**
YEDI	**Yedisu-Bingol**	**2.89**	**320**	*e*PN	**Pn**	**23 03 12.4**	**+2.1**
YEDI	**Yedisu-Bingol**	**2.89**	**320**	*e*Pn	**Pn**	**23 03 12.4**	**+2.1**
SVRC	**Sivrice-ELAZID**	**3.10**	**293**	*e*PN	**Pn**	**23 03 14.3**	**+1.1**
SVRC	**Sivrice-ELAZID**	**3.10**	**293**	*e*Pn	**Pn**	**23 03 14.3**	**+1.1**
PTK	**Pertek**	**3.25**	**301**	*e*PN	**Pn**	**23 03 16.5**	**+1.2**
PTK	**Pertek**	**3.25**	**301**	*e*Pn	**Pn**	**23 03 16.5**	**+1.2**
URFA	**Urfa**	**3.29**	**275**	*e*PN	**Pn**	**23 03 17.9**	**+2.1**
URFA	**Urfa**	**3.29**	**275**	*e*Pn	**Pn**	**23 03 17.9**	**+2.1**
RTB	**Rutbah**	**4.73**	**208**	*e*Pn	**Pn**	**23 03 35.0**	**-0.5**
	SNR=4.0						

*NNC **15** 23:03:40.4±3.0, 43˚19N×74˚96E, h0km, mb2.7, mpv2.3, Error ellipse: s-maj=34.0km s-min=15.3km az=16.0*
*ISCJB **15** 23:03:44.8±0.5, 43˚14N±0˚03×75˚20E±0˚02, h1km±3km, Error ellipse: s-maj=4.5km s-min=2.3km az=164.6*
*KRNET **15** 23:03:44.9±0.1, 43˚14N×75˚20E, h16km, mb1.9*
*SOME **15** 23:03:45.2, 43˚17N×75˚17E, h5km*

ISC 15 23:03:45.1±1.0, 43˚14N±0˚03×75˚19E±0˚02, h11km±9km, n31, σ0°59/57, 23C-15D, Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CHMS	**Chumysh**	**0.35**	**246**	⇑*i*P	**Pg**	**23 03 52.3**	**+0.2**
	baz=247						
CHMS				⇑*i*S	**Sg**	**23 03 57.5**	**+0.7**
	baz=247						
TKM2	**Tokmak 2**	**0.37**	**127**	⇓*i*P	**Pg**	**23 03 52.4**	**-0.2**
	baz=126						
TKM2				⇓*i*S	**Sg**	**23 03 57.8**	**+0.2**
	baz=126						
TKM2	**Tokmak 2**	**0.37**	**127**	⇑P	**Pg**	**23 03 52.4**	**-0.2**
	2.8nm,0.3s						
TKM2				⇑S	**Sg**	**23 03 57.9**	**+0.3**
	30nm,0.1s						
DGS	**Degeres**	**0.44**	**77**	*e*P	**Pg**	**23 03 53.8**	**+0.1**
	4.1nm,0.1s						
DGS				*e*S	**Sg**	**23 03 60.0**	**+0.4**
	41nm,0.1s						
USP	**Ospenovka**	**0.52**	**284**	⇑*i*P	**Pg**	**23 03 55.1**	**-0.1**
	baz=284						
USP				⇑*i*S	**Sb**	**23 04 02.8**	**-1.0**
	baz=284						
KBK	**Karagaybulak**	**0.52**	**200**	⇓*i*P	**Pg**	**23 03 55.5**	**+0.3**
	baz=201						
KBK				⇓*i*S	**Sg**	**23 04 02.8**	**+0.7**
	baz=201						
FRU1	**Bishkek**	**0.53**	**231**	⇑*i*P	**Pg**	**23 03 55.6**	**+0.2**
	baz=232						
KST	**Kastek**	**0.58**	**100**	*e*P	**Pg**	**23 03 56.4**	**0.0**
	4.5nm,0.2s						
KST				*e*S	**Sg**	**23 04 04.2**	**+0.2**
	44nm,0.2s						
AAK	**Ala-Archa**	**0.72**	**225**	⇓*i*P	**Pg**	**23 03 58.6**	**-0.4**
	baz=226						
AAK				⇓*i*S	**Sg**	**23 04 08.9**	**+0.5**
	baz=226						
BOOM	**Boomskoye usch**	**0.86**	**139**	⇑*i*P	**Pg**	**23 04 00.9**	**-0.7**
	baz=140						
BOOM				⇑*i*S	**Sg**	**23 04 12.5**	**-0.3**
	baz=140						
MTBS	**Maitube**	**0.91**	**90**	*e*P	**Pg**	**23 04 01.9**	**-0.7**
	3.8nm,0.1s						
MTBS				*e*S	**Sg**	**23 04 14.0**	**-0.5**
	9.4nm,0.2s						
UCH	**Uchtor**	**1.04**	**209**	⇑*i*P	**Pg**	**23 04 04.3**	**-0.9**
	baz=209						
UCH				⇑*i*S	**Sg**	**23 04 18.4**	**-0.4**
	baz=209						
IZV	**Izvestkoviy**	**1.05**	**95**	*e*P	**Pg**	**23 04 04.8**	**-0.5**
	14nm,0.1s						
IZV				*e*S	**Sg**	**23 04 18.9**	**0.0**
	18nm,0.2s						
KZA	**Kyzart**	**1.07**	**178**	⇓*i*P	**Pg**	**23 04 05.4**	**-0.3**
	baz=178						
KZA				⇓*i*S	**Sg**	**23 04 19.7**	**+0.1**
	baz=178						
EKS2	**Erkin-Say**	**1.14**	**245**	⇑*i*P	**Pg**	**23 04 06.6**	**-0.5**
	baz=246						
EKS2				⇑*i*S	**Sb**	**23 04 22.0**	**+0.1**
	baz=246						
ULHL	**Ulahol**	**1.19**	**139**	⇑*i*P	**Pg**	**23 04 06.7**	**-1.2**
	baz=140						
ULHL				⇑*i*S	**Sg**	**23 04 22.6**	**-0.8**
	baz=140						
KTBS	**Karatobe**	**1.23**	**62**	*e*P	**Pb**	**23 04 07.8**	**-0.6**
	1.7nm,0.2s						
KTBS				*e*S	**Sb**	**23 04 24.2**	**0.0**
	1.8nm,0.2s						
TNSS	**Tian-Shan**	**1.29**	**94**	*e*P	**Pn**	**23 04 09.2**	**-0.3**
	4.9nm,0.1s						
TNSS				*e*S	**Sg**	**23 04 26.8**	**0.0**
	14nm,0.1s						
MDOK	**Medeo**	**1.36**	**89**	P	**Pn**	**23 04 09.7**	**-0.5**
MDOK				⇓S	**Sb**	**23 04 28.4**	**+0.2**
MDOK	**Medeo**	**1.36**	**89**	*e*P	**Pn**	**23 04 09.8**	**-0.5**
	2.3nm,0.2s						
MDOK				*e*S	**Sb**	**23 04 27.6**	**-0.6**
	14nm,0.3s						
KOTS	**Kotyrbulak**	**1.41**	**86**	*e*P	**Pg**	**23 04 12.0**	**-0.2**
	3.1nm,0.1s						
KOTS				*e*S	**Sg**	**23 04 31.1**	**+0.5**
	12nm,0.2s						
CHKK	**Chushkaly**	**1.49**	**61**	*e*P	**Pn**	**23 04 12.2**	**+0.4**
	1.7nm,0.2s						
CHKK				*e*S	**Sn**	**23 04 31.5**	**+0.2**
	16nm,0.2s						
MRKS	**Merke**	**1.49**	**255**	*e*P	**Pb**	**23 04 12.7**	**-0.2**
	4.6nm,0.2s						
MRKS				*e*S	**Sb**	**23 04 32.4**	**+0.5**
	7.2nm,0.2s						
AML	**Almayashu**	**1.50**	**228**	⇓*e*P	**Pb**	**23 04 13.0**	**-0.1**
	baz=229						
AML				⇓*e*S	**Sg**	**23 04 33.2**	**-0.1**
	baz=229						
KDJ	**Kajisay**	**1.79**	**124**	⇑*i*P	**Pb**	**23 04 17.6**	**-0.4**
	baz=124						
KDJ				⇑*i*S	**Sg**	**23 04 42.0**	**-0.5**
	baz=124						
NRN	**Naryn**	**1.81**	**160**	⇓*e*P	**Pb**	**23 04 19.0**	**+0.5**
	baz=161						
NRN				⇓*e*S	**Sb**	**23 04 42.8**	**+1.4**
	baz=161						
MNAS	**Manas**	**2.08**	**253**	⇑*i*P	**Pb**	**23 04 21.9**	**-1.1**
	baz=253						
MNAS				⇑*i*S	**Sb**	**23 04 48.4**	**-0.5**
	baz=253						
MNAS	**Manas**	**2.08**	**253**	⇓Pg	Pn	23 04 11.2	-8.9
	1.2nm,0.7s						
MNAS				⇑Lg	Lg	23 04 46.3	
	1.4nm,0.4s						
ARXS	**Arharly**	**2.19**	**60**	*e*P	**Pb**	**23 04 24.6**	**-0.3**
	5.8nm,0.1s						
ARXS				*e*S	**Sb**	**23 04 53.1**	**+1.1**
	3.7nm,0.2s						
PDGK	**Podgornoye**	**3.15**	**85**	⇑*e*P	**Pn**	**23 04 36.1**	**+1.3**
	baz=85						
PDGK				⇑*e*S	**Sn**	**23 05 13.6**	**+1.2**
	baz=85						
KK31	**Karatay Array**	**3.42**	**271**	⇓Pn	Pn	23 04 29.7	-8.7
	0.5nm,0.3s,baz=77,slow=13,SNR=3.7						
KK31				⇑Lg	Lg	23 05 27.8	
	0.

1.4nm,0.8s,baz=90,slow=7.9,SNR=12
WRA Warramunga Arr 45.20 262 P P 23 34 14.1 +0.3
0.2nm,0.3s,baz=96,slow=8.1,SNR=24

IDC 16 00:19:08.9±8.3, 23°06N×146°43E, h0km, mb3.4/2, mb1 3.8/3, mb1mx3.4/31, mbtmp3.5/3, ML3.2/1, Error ellipse: s-maj=320.7km s-min=45.5km az=79.0, North Pacific Ocean

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MJAR	**Matsushiro Arr**	**15.20**	**334**	Pn	Pn	00 22 44.6	-0.3
	0.1nm,0.8s,baz=147,slow=14,SNR=3.7						
WRA	**Warramunga Arr**	**44.34**	**196**	P	P	00 27 20.7	-0.2
	0.3nm,0.3s,baz=17,slow=8.7,SNR=9.6						
ASAR	**Alice Springs**	**48.01**	**196**	P	P	00 27 49.9	0.0
	0.2nm,0.5s,baz=19,slow=5.9,SNR=4.1						

NNC 16 00:35:41.3±2.3, 36°93N×70°47E, h237km±34km, mb2.4, mpv3.5, 5C-5D, Error ellipse: s-maj=23.7km s-min=16.7km az=12.0, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MNAS	**Manas**	**5.77**	**15**	⇑P	Pn	00 37 06.5	+0.2
	4.1nm,0.7s						
MNAS				⇓S	S	00 38 15.2	+1.3
	5.1nm,0.7s						
KK31	**Karatay Array**	**6.16**	**0**	⇑P	Pn	00 37 10.9	-0.2
	0.9nm,0.3s,baz=188,slow=13,SNR=49						
KK31				⇑S	S	00 38 23.0	+0.2
	1.9nm,0.5s,baz=194,slow=21,SNR=4.8						
AAK	**Ala-Archa**	**6.49**	**27**	⇑P	Pn	00 37 15.6	+0.2
	3.3nm,0.6s						
AAK				⇑S	S	00 38 31.3	+0.8
	5.0nm,0.7s						
TKM2	**Tokmak 2**	**7.16**	**32**	⇓P	Pn	00 37 23.5	-0.4
	3.7nm,0.8s						
TKM2				⇓S	S	00 38 45.6	-0.6
	4.0nm,0.8s						
MK31	**Makanchi Array**	**13.20**	**38**	P	Pn	00 38 40.8	+0.9
	0.2nm,0.4s,baz=197,slow=8.3,SNR=5.7						
AB31	**Akbulak array**	**14.50**	**331**	⇓P	Pn	00 38 54.7	-1.0
	0.6nm,0.7s,baz=143,slow=12,SNR=7.4						
AKTO	**Aktyubinsk**	**16.19**	**330**	⇓P	Pn	00 39 16.0	0.0
	0.9nm,0.7s						

*SCB **16** 00:42:27.1±0.3, 15°.08S×72°.01W, h126km, Ml3.6/1, Error ellipse: s-maj=8.3km s-min=6.1km az=156.0*
*ISCJB **16** 00:42:30.1±0.6, 15°.2S±0°.1×72°.13W±0°.07, h124km, mb3.6/4, Error ellipse: s-maj=19.0km s-min=5.9km az=26.3*
*IDC **16** 00:42:32.5±1.9, 15°.27S×71°.94W, h132km±16km, mb3.5/4, mb1 3.7/7, mb1mx3.4/26, mbtmp4.0/7, Error ellipse: s-maj=27.7km s-min=16.2km az=27.0*

ISC 16 00:42:31.4±0.7, 15°.2S±0°.1×72°.01W±0°.08, h124km, n20, σ1s53/24, mb3.6/4, 8C, Southern Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BBOD	**La Paz, Gloria**	**3.59**	**115**	⇑*i*Pn	**Pn**	**00 43 27.2**	**+1.1**
BBOB	**La Paz, Bander**	**3.86**	**105**	⇑*i*Pn	**Pn**	**00 43 30.5**	**+0.9**
BBOB				⇑*i*Sn	**Sn**	**00 44 16.9**	**+2.3**
	70nm,0.7s						
LPAZ	**La Paz**	**3.90**	**107**	P	**Pn**	**00 43 31.1**	**+0.9**
	14nm,0.3s,baz=289,slow=8.4,SNR=221						
LPAZ				S	**Sn**	**00 44 15.7**	**-0.1**
	baz=204,slow=20,SNR=1.9						
LPAZ	**La Paz**	**3.90**	**107**	⇑*i*Pn	**Pn**	**00 43 31.1**	**+0.9**
LPAZ				*e*Sn	**Sn**	**00 44 17.2**	**+1.5**
BBOJ	**La Paz, Jacaqu**	**4.09**	**117**	⇑*i*Pn	**Pn**	**00 43 33.9**	**+1.2**
BBOE	**La Paz, Chanca**	**4.21**	**114**	⇑*i*Pn	**Pn**	**00 43 35.5**	**+1.2**
NNA	**Nana**	**5.66**	**303**	P	**Pn**	**00 43 55.0**	**+1.7**
	11nm,0.3s,baz=132,slow=12,SNR=18						
NNA				S	**Sn**	**00 44 56.0**	**-1.3**
	18nm,0.3s,baz=69,slow=16,SNR=18						
MOCB	**Mochara**	**8.56**	**136**	⇑*i*P	**Pn**	**00 44 30.8**	**-2.1**
SIV	**San Ignacio**	**10.57**	**96**	P	**Pn**	**00 44 56.6**	**-3.0**
	1.4nm,0.3s,baz=284,slow=15,SNR=18						
SIV	**San Ignacio**	**10.57**	**96**	⇑*i*P	**Pn**	**00 44 56.5**	**-3.0**
PTGA	**Pitinga**	**18.63**	**41**	P	**Pn**	**00 46 40.7**	**-0.6**
	0.7nm,0.3s,baz=252,slow=19,SNR=9.5						
TORD	**Torodi Ar. Bea**	**78.16**	**73**	P	**P**	**00 54 16.4**	**-1.1**
	0.7nm,0.4s,baz=256,slow=4.7,SNR=19						
VNDA	**Vanda**	**82.54**	**190**	P	**P**	**00 54 38.9**	**-1.0**
	0.6nm,0.7s,baz=126,slow=3.6,SNR=3.7						
YKA	**Yellowknife Ar**	**84.27**	**342**	P	**P**	**00 54 49.3**	**+0.5**
	0.5nm,0.8s,baz=132,slow=6.3,SNR=3.6						
MAW	**Mawson**	**91.21**	**164**	P	**P**	**00 55 21.5**	**-0.6**
	0.6nm,0.7s,baz=158,slow=11,SNR=4.1						
WRA	**Warramunga Arr**	**136.55**	**217**	PKP	**PKPdf**	**01 01 39.5**	**-0.2**
	0.5nm,0.5s,baz=141,slow=1.7,SNR=6.8						
ZALV	**Zalesovo Beam**	**137.25**	**20**	PKP	**PKPdf**	**01 01 41.1**	**+1.2**
	0.5nm,0.5s,baz=310,slow=6.8,SNR=2.4						
MJAR	**Matsushiro Arr**	**145.70**	**314**	PKPbc	**PKPbc**	**01 01 56.0**	**-0.2**
	0.6nm,0.3s,baz=77,slow=1.5,SNR=5.0						
SONM	**Songino Array**	**147.39**	**2**	PKPbc	**PKPbc**	**01 02 01.1**	**+0.2**
	1.0nm,0.6s,baz=322,slow=2.0,SNR=5.3						
KSRS	**Korea Array**	**151.62**	**325**	PKPbc	**PKPbc**	**01 02 13.2**	**+1.7**
	0.9nm,0.5s,baz=16,slow=2.9,SNR=5.4						

GUC 16 00:53:47.1±0.6, 21°.05S×69°.06W, h116km±3km, ML3.5, 9C-3D, Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB01	**IPOC Station P**	**0.40**	**271**	⇓*i*P	Pn	00 54 04.6	+0.4
PB01				*i*S	Sn	00 54 17.4	+0.4
PB01				IAML		00 54 18.2	
	comp=E,2μm,0.2s						
PB09	**IPOC Station P**	**0.76**	**193**	⇑*i*P	Pn	00 54 07.5	+0.7
PB09				*i*S	Sn	00 54 22.7	+1.1
PB09				IAML		00 54 24.9	
	comp=E,4μm,0.3s						
PB02	**IPOC Station P**	**0.83**	**251**	⇓*i*P	Pn	00 54 08.4	+1.2
PB02				*i*S	Sn	00 54 23.9	+1.5
PB02				IAML		00 54 24.5	
	comp=N,3μm,0.2s						
PB08	**IPOC Station P**	**0.91**	**354**	⇑*i*P	Pn	00 54 09.0	+0.6
PB08				*i*S	Sn	00 54 25.0	+0.6
PB08				IAML		00 54 25.3	
	comp=E,3μm,0.7s						
PB07	**IPOC Station P**	**1.02**	**229**	⇑*i*P	Pn	00 54 10.1	+0.9
PB07				*i*S	Sn	00 54 27.1	+1.2
PB07				IAML		00 54 28.3	
	comp=N,941nm,0.1s						
HMBC	**Humberstone**	**1.09**	**315**	⇓*i*P	Pn	00 54 10.7	+0.9
HMBC				*i*S	Sn	00 54 28.3	+1.2
HMBC				IAML		00 54 28.6	
	comp=N,1μm,0.3s						
PB11	**IPOC Station P**	**1.40**	**336**	⇑*i*P	Pn	00 54 13.9	+0.6
PB11				*i*S	Sn	00 54 34.2	+1.0
PB04	**IPOC Station P**	**1.63**	**218**	⇑*i*P	Pn	00 54 16.9	+0.9
PB04				*i*S	Sn	00 54 39.1	+1.1
PB04				IAML		00 54 40.5	
	comp=N,416nm,0.2s						
PB06	**IPOC Station P**	**1.71**	**196**	⇑*i*P	Pn	00 54 17.7	+0.7
PB06				*i*S	Sn	00 54 40.7	+0.9
PB06				IAML		00 54 47.4	
	comp=E,472nm,0.1s						
PSGC	**Pisagua**	**1.76**	**325**	⇑*i*P	Pn	00 54 17.8	+0.3
PSGC				IAML		00 54 43.3	
	comp=N,248nm,0.2s						
MNMC	**Minye Minye**	**1.98**	**345**	⇑*i*P	Pn	00 54 21.1	+0.8
MNMC				*e*S	Sn	00 54 46.6	+0.9
MNMC				IAML		00 54 49.5	
	comp=N,703nm,0.2s						
ANCH	**Antofagasta**	**2.90**	**205**	⇑*i*P	Pn	00 54 33.1	+1.2

*IDC **16** 01:01:41.5±5.2, 21°.15S×169°.66E, h16km±30km, mb4.1/10, mb1 4.3/11, mb1mx4.1/31, mbtmp4.3/11, ML4.3/1, MS3.7/8, Ms1 3.7/8, ms1mx3.4/21, Error ellipse: s-maj=27.8km s-min=23.6km az=131.0*
*ISCJB **16** 01:01:42.1±0.6, 21°.2S±0°.1×169°.61E±0°.08, h30km, mb4.5/18, MS3.8/4, Error ellipse: s-maj=14.7km s-min=10.0km az=173.0*
*NEIC **16** 01:01:44.2±0.3, 21°.17S×169°.64E, h35km, mb4.5/7, Error ellipse: s-maj=10.8km s-min=7.5km az=151.0*

ISC 16 01:01:43.5±0.6, 21°.2S±0°.1×169°.64E±0°.09, h30km, n75, σ0s74/76, mb4.4/18, MS3.8/4, 2C, Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**3.11**	**252**	Pn	**Pn**	**01 02 30.7**	**+0.1**
	40nm,0.3s,baz=126,slow=19,SNR=190						
DZM				Sn	**Sn**	**01 03 05.5**	**-1.4**
	47nm,0.3s,baz=318,slow=21,SNR=7.0						
DZM				LR	LR	01 03 38.9	
	comp=Z,939nm,19.4s,baz=44,slow=38						
DZM	**Mont Dzumac**	**3.11**	**252**	*e*Pn	**Pn**	**01 02 29.4**	**-1.2**
DZM				Sn	**Sn**	**01 03 05.5**	**-1.4**
MSVF	**Nonsavu**	**8.63**	**68**	*e*Pn	Pn	01 03 54.5	+8.1
	60nm,1.0s						
HNR	**Honiara**	**14.93**	**320**	LR	LR	01 10 29.7	
	comp=Z,183nm,18.1s,baz=14,slow=35						
EIDS	**Eidsvold**	**17.56**	**253**	*e*Pn	**P**	**01 05 49.4**	**+2.4**
	15nm,0.8s						
URZ	**Urewera**	**18.23**	**161**	LR	LR	01 11 31.6	
	comp=Z,103nm,20.8s,baz=342,slow=32						
AFI	**Afiamalu**	**19.12**	**71**	LR	LR	01 12 17.2	
	comp=Z,197nm,20.5s,baz=1.0,slow=33						
CTA	**Charters Tower**	**21.91**	**269**	P	**P**	**01 06 34.8**	**+0.3**
	4.5nm,0.8s,baz=106,slow=16,SNR=3.4						
CTAO	**Charters Tower**	**21.91**	**269**	*e*P	**P**	**01 06 34.9**	**+0.5**
	90nm,1.1s						
RPZ	**Rata Peaks**	**22.53**	**177**	LR	LR	01 13 57.9	
	comp=Z,415nm,20.3s,baz=284,slow=33						
CAN	**Canberra**	**22.96**	**228**	*e*P	**P**	**01 06 46.8**	**+1.3**
	5.9nm,0.7s						
PMG	**Port Moresby**	**24.59**	**295**	P	**P**	**01 07 01.0**	**-0.1**
	15nm,0.8s,baz=90,slow=1.0,SNR=3.3						
STKA	**Stephens Creek**	**27.20**	**241**	P	**P**	**01 07 24.1**	**-0.5**
	4.1nm,0.7s,baz=32,slow=4.1,SNR=4.8						
STKA				LR	LR	01 17 09.4	
	comp=Z,234nm,21.6s,baz=51,slow=34						
WRAB	**Tennant Creek**	**33.03**	**266**	*e*P	**P**	**01 08 15.6**	**-0.8**
	2.7nm,0.7s						
WRA	**Warramunga Arr**	**33.04**	**266**	P	**P**	**01 08 15.8**	**-0.6**
	2.7nm,0.9s,baz=96,slow=7.9,SNR=23						
WRA				PcP	**PcP**	**01 10 58.6**	**-1.2**
	0.5nm,0.8s,baz=98,slow=5.8,SNR=3.0						
WRA				LR	LR	01 22 02.6	
	comp=Z,288nm,18.8s,baz=110,slow=37						
ASAR	**Alice Springs**	**33.08**	**259**	P	**P**	**01 08 16.8**	**-0.1**
	5.6nm,0.7s,baz=83,slow=9.2,SNR=65						
ASAR				PcP	**PcP**	**01 10 59.6**	**-0.4**
	0.3nm,0.6s,baz=116,slow=3.0,SNR=3.5						
ASAR				ScP	**ScP**	**01 14 43.5**	**+1.3**
	0.2nm,0.5s,baz=68,slow=3.5,SNR=3.3						
ASAR				LR	LR	01 23 33.3	
	comp=Z,81nm,18.2s,baz=99,slow=40						
FORT	**Forrest**	**38.41**	**247**	*e*P	**P**	**01 09 02.3**	**-0.1**
	78nm,0.7s						
FAKI	**Fak Fak**	**40.64**	**291**	*e*P	**P**	**01 09 21.6**	**+0.4**
FITZ	**Fitzroy Crossi**	**41.46**	**266**	*e*P	**P**	**01 09 28.1**	**+0.3**
	14nm,0.6s						
SOEI	**Soe**	**45.03**	**277**	*e*P	**P**	**01 09 57.1**	**+0.2**
	13nm,0.8s						
MBWA	**Manble Bar**	**46.38**	**261**	*e*P	**P**	**01 10 07.7**	**+0.3**
	35nm,0.8s						
VNDA	**Vanda**	**56.55**	**182**	P	**P**	**01 11 22.7**	**+0.1**
	0.9nm,0.8s,baz=0.4,slow=5.8,SNR=5.1						
QSPA	**South Pole Qui**	**68.92**	**180**	*e*P	**P**	**01 12 45.1**	**-0.3**
	28nm,0.6s						
MAW	**Mawson**	**76.81**	**202**	P	**P**	**01 13 33.1**	**+1.1**
	1.7nm,0.7s,baz=118,slow=8.5,SNR=6.3						
CMAR	**Chiang Mai Arr**	**79.63**	**294**	P	**P**	**01 13 50.6**	**+2.2**
	1.1nm,0.3s,baz=116,slow=4.1,SNR=4.5						
SNAA	**Sanae**	**87.28**	**182**	P	**P**	**01 14 26.2**	**-0.8**
SNAA	**Sanae**	**87.28**	**182**	*e*P	**P**	**01 14 25.9**	**-1.0**
VNA3	**Neumayer Olymp**	**87.85**	**180**	P	**P**	**01 14 29.3**	**-0.3**
VNA2	**Neumayer--Watz**	**88.15**	**181**	P	**P**	**01 14 30.6**	**-0.4**
	baz=180,slow=4.0						
ULN	**Ulaanbaatar**	**88.61**	**323**	*e*P	**P**	**01 14 34.0**	**+0.3**
	1.3nm,0.5s						
SONM	**Songino Array**	**88.97**	**323**	P	**P**	**01 14 36.0**	**+0.7**
	1.4nm,0.9s,baz=141,slow=5.0,SNR=6.5						
ILAR	**Eielson Array**	**91.93**	**17**	P	**P**	**01 14 47.4**	**-1.2**
	0.4nm,0.7s,baz=236,slow=4.2,SNR=5.5						
ARU	**Arti**	**119.00**	**324**	*e*PKPdf	**PKPdf**	**01 20 28.6**	**-0.2**
ARCES	**ARCESS Array B**	**127.00**	**345**	PKP	**PKPdf**	**01 20 43.4**	**-0.5**
	3.3nm,0.6s,baz=40,slow=2.1,SNR=7.9						
FINES	**FINESS Array B**	**132.49**	**337**	PKP	**PKPdf**	**01 20 54.1**	**-0.4**
	1.9nm,0.8s,baz=338,slow=1.5,SNR=8.2						
NOA	**NORSAR Array B**	**137.38**	**345**	PKP	**PKPdf**	**01 21 04.1**	**+0.4**
	0.9nm,0.7s,baz=320,slow=2.8,SNR=3.2						
OKC	**Ostrava-Krasne**	**143.56**	**329**	*e*PKP	**PKPdf**	**01 21 14.0**	**-1.1**
DPC	**Dobruska-Polom**	**144.07**	**331**	*e*PKP	**PKPdf**	**01 21 15.1**	**-1.0**
UPC	**Upice**	**144.10**	**331**	*e*PKP	**PKPdf**	**01 21 15.0**	**-1.1**
PVCC	**Pansala Ves**	**144.72**	**332**	*e*PKP	**PKPdf**	**01 21 17.1**	**-0.1**
BRG	**Berggiesshubel**	**144.74**	**333**	⇑*i*P	**PKPdf**	**01 21 16.6**	**-0.5**
	14nm,0.7s						
CLL	**Collm**	**144.80**	**334**	⇑*i*PKPdf	**PKPdf**	**01 21 16.5**	**-0.7**
	comp=Z,14nm,0.7s						
GOPC	**GO Pecny, Ondr**	**145.08**	**331**	*e*PKP	**PKPdf**	**01 21 18.2**	**+0.4**
PRA	**Prague**	**145.12**	**332**	*e*PKP	**PKPdf**	**01 21 18.2**	**+0.4**
PRU	**Pruhonice**	**145.13**	**332**	*e*PKP	**PKPdf**	**01 21 18.0**	**+0.1**
TREC	**Trest**	**145.20**	**330**	*e*PKP	**PKPdf**	**01 21 18.3**	**+0.2**
ESK	**Eskdalemuir**	**145.46**	**353**	*e*PKPbc	**PKPbc**	**01 21 17.9**	**-0.4**
NKC	**Novy Kostel**	**145.85**	**334**	*e*PKP	**PKPab**	**01 21 20.4**	**+0.2**
CONA	**Conrad Observa**	**145.96**	**328**	*i*PKPab	**PKPab**	**01 21 21.2**	**+0.4**
	comp=Z,7.3nm,0.8s,SNR=6.9						
KHC	**Kasperske Hory**	**146.19**	**331**	*e*PKP	**PKPab**	**01 21 21.6**	**0.0**
KHC				*ex*	x	01 21 39.5	
KHC	**Kasperske Hory**	**146.19**	**331**	*e*PKPbc	**PKPab**	**01 21 21.5**	**0.0**
GERES	**GERESS Array B**	**146.34**	**331**	PKPbc	**PKPab**	**01 21 22.0**	**-0.2**
	comp=Z,9.3nm,0.6s,baz=33,slow=3.2,SNR=108						
ARSA	**Arzberg**	**146.59**	**327**	*e*PKPbc	**PKPbc**	**01 21 21.8**	**-0.3**
	comp=Z,1.7nm,0.8s						
GRFO	**Grafenberg**	**146.77**	**334**	*e*PKPbc	**PKPab**	**01 21 22.9**	**-0.7**
MOA	**Molln**	**146.79**	**329**	*e*PKPab	**PKPab**	**01 21 23.0**	**-0.9**
	comp=Z,2.2nm,0.5s						
SOKA	**Soboth**	**147.22**	**327**	*i*PKPbc	**PKPbc**	**01 21 23.8**	**-0.1**
	comp=Z,4.0nm,0.7s						
OBKA	**Obir**	**147.58**	**327**	*e*PKPbc	**PKPbc**	**01 21 24.7**	**-0.2**
	comp=Z,4.7nm,1.1s						
KBA	**Koelnbreinsper**	**147.78**	**329**	*e*PKPbc	**PKPbc**	**01 21 25.1**	**-0.5**
	comp=Z,8.7nm,0.7s						
MYKA	**Terra Mystica**	**147.95**	**328**	*i*PKPbc	**PKPbc**	**01 21 25.4**	**-0.5**
	comp=Z,4.5nm,0.6s						
ABTA	**Abfaltersbach**	**148.41**	**329**	*i*PKPbc	**PKPbc**	**01 21 26.7**	**-0.5**
	comp=Z,8.8nm,0.7s						
WATA	**Waldcraim**	**148.42**	**331**	*i*PKPbc	**PKPbc**	**01 21 27.0**	**-0.2**
	comp=Z,4.8nm,0.6s						
WTTA	**Wattenberg**	**148.44**	**331**	*i*PKiKP	**PKPbc**	**01 21 27.8**	**+0.4**
	comp=Z,5.1nm,0.7s						
MOTA	**Moosalm**	**148.62**	**331**	*i*PKiKP	**PKPbc**	**01 21 28.0**	**+0.2**
	comp=Z,11nm,0.7s,SNR=7.9						
RETA	**Reutte**	**148.66**	**332**	*i*PKPbc	**PKPbc**	**01 21 27.9**	**+0.2**
	comp=Z,3.9nm,0.6s						
WLF	**Walferdange**	**148.67**	**339**	*e*PKPbc	**PKPbc**	**01 21 28.5**	**+0.9**
FETA	**Feichten**	**149.03**	**331**	*i*PKiKP	**PKPbc**	**01 21 29.1**	**+0.3**
	comp=Z,8.6nm,0.7s,SNR=8.4						
DAVA	**Damuels**	**149.20**	**333**	*e*PKiKP	**PKPbc**	**01 21 29.6**	**+0.4**
	comp=Z,5.2nm,0.7s						
TUE	**Stuetta**	**150.06**	**332**	*e*PKPbc	**PKPbc**	**01 21 31.5**	**+0.1**
CUC	**Castrocucco**	**150.83**	**316**	*e*PKPbc	**PKPbc**	**01 21 32.6**	**-0.7**
AQU	**L'Aquila**	**150.93**	**322**	*e*PKPbc	**PKPbc**	**01 21 33.9**	**+0.5**
VLC	**Villacollemand**	**151.32**	**328**	*e*PKPbc	**PKPbc**	**01 21 33.7**	**-0.5**
CEL	**Celeste**	**151.67**	**313**	*e*PKPbc	**PKPbc**	**01 21 34.1**	**-1.1**
BNI	**Bardonecchia**	**152.33**	**333**	*e*PKPbc	**PKPbc**	**01 21 36.9**	**+0.2**
SSB	**Saint Sauveur**	**152.99**	**336**	*e*PKPbc	**PKPbc**	**01 21 38.0**	**0.0**
SSB				*e*PKPab	**PKPab**	**01 21 49.5**	**+0.3**
ESDC	**Sonseca Array**	**160.74**	**345**	PKPab	**PKPab**	**01 22 22.9**	**+0.1**
	comp=Z,0.5nm,0.6s,baz=20,slow=3.6,SNR=4.6						

IDC 16 01:27:13.7±7.3, 19°.51S×177°.53W, h0km, mb3.5/2, mb1 3.8/2, mb1mx3.5/22, mbtmp3.5/2, Error ellipse: s-maj=319.0km s-min=70.6km az=146.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**45.19**	**256**	P	P	01 35 32.2	-0.5
	0.5nm,0.5s,baz=97,slow=8.1,SNR=6.6						
WRA	**Warramunga Arr**	**45.19**	**261**	P	P	01 35 33.0	+0.3
	0.5nm,0.8s,baz=96,slow=7.6,SNR=9.0						
BRTR	**Keskin Array B**	**146.49**	**314**	PKPbc	PKPdf	01 46 56.5	+0.5
	0.4nm,0.7s,baz=103,slow=3.1,SNR=2.5						

*DDA **16** 01:30:16.5, 36°.36N×30°.89E, h36km, Ml3.4*

*ISK **16** 01:30:17.4, 36°.35N×30°.90E, h29km, MD3.5*
*CSEM **16** 01:30:18.4±0.1, 36°.35N×30°.88E, h30km, MD3.5, Error ellipse: s-maj=4.0km s-min=2.0km az=1.0*

ISC 16 01:30:18.1±1.1, 36°.34N±0°.03×30°.87E±0°.02, h29km±12km, n96, σ1s16/128, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ANTB	**Antalya**	**0.59**	**343**	*e*PG	**Pn**	**01 30 30.1**	**-0.3**
ANTB				*e*SG	**Sn**	**01 30 39.1**	**+0.1**
ANTB	**Antalya**	**0.59**	**343**	*e*Pg	**Pn**	**01 30 30.1**	**-0.3**
ANTB				*e*Sg	**Sn**	**01 30 39.1**	**+0.1**
KORT	**Korkueli**	**0.78**	**328**	*i*P	**Pb**	**01 30 33.8**	**+0.5**
KORT				*i*S	**Sn**	**01 30 47.8**	**+3.7**
KORT	**Korkueli**	**0.78**	**328**	P	**Pb**	**01 30 33.8**	**+0.5**
KORT				S	**Sn**	**01 30 47.8**	**+3.7**
ELL	**Elmali**	**0.88**	**298**	*e*PG	**Pb**	**01 30 35.2**	**+0.4**
ELL	**Elmali**	**0.88**	**298**	*e*Pg	**Pb**	**01 30 35.2**	**+0.4**
AKAS	**Kas**	**1.03**	**265**	*e*PG	**Pb**	**01 30 36.8**	**-0.6**
AKAS	**Kas**	**1.03**	**265**	*i*P	**Pb**	**01 30 36.6**	**-0.8**
AKAS				*i*S	**Sb**	**01 30 50.2**	**-0.4**
AKAS	**Kas**	**1.03**	**265**	P	**Pb**	**01 30 36.6**	**-0.8**
AKAS	**Kas**	**1.03**	**265**	*e*Pg	**Pb**	**01 30 36.8**	**-0.6**
AKAS				S	**Sb**	**01 30 50.2**	**-0.4**
SUTC	**Sutluce-Ispart**	**1.14**	**5**	*e*PN	**Pb**	**01 30 37.9**	**-1.4**
SUTC	**Sutluce-Ispart**	**1.14**	**5**	*e*Pn	**Pb**	**01 30 37.9**	**-1.4**
BCK	**Bucak**	**1.14**	**349**	*e*PN	**Pb**	**01 30 38.0**	**-1.3**
BCK	**Bucak**	**1.14**	**349**	*e*Pn	**Pb**	**01 30 38.0**	**-1.3**
GOLH	**Golhisar**	**1.38**	**311**	*i*P	**Pb**	**01 30 43.7**	**+0.3**
GOLH				*i*S	**Sb**	**01 31 03.3**	**+2.6**
GOLH	**Golhisar**	**1.38**	**311**	P	**Pb**	**01 30 43.7**	**+0.3**
GOLH				S	**Sb**	**01 31 03.3**	**+2.6**
HDMB	**Hadim**	**1.44**	**64**	*e*PN	**Pn**	**01 30 41.1**	**-1.3**
HDMB	**Hadim**	**1.44**	**64**	*e*Pn	**Pn**	**01 30 41.1**	**-1.3**
FETY	**Fethiye**	**1.47**	**282**	*e*PN	**Pb**	**01 30 43.2**	**-1.6**
FETY	**Fethiye**	**1.47**	**282**	P	**Pn**	**01 30 43.0**	**+0.4**
FETY	**Fethiye**	**1.47**	**282**	*e*Pn	**Pb**	**01 30 43.2**	**-1.6**
FETY				S	**Sb**	**01 31 02.2**	**-0.9**
BAGO	**Egridir - ISPA**	**1.65**	**358**	*i*P	**Pn**	**01 30 45.6**	**+0.4**
BAGO				*i*S	**Sb**	**01 31 06.3**	**-2.1**
ERMK	**Ermenek**	**1.67**	**79**	*i*P	**Pn**	**01 30 45.4**	**-0.2**
ERMK				*i*S	**Sb**	**01 31 11.0**	**+1.9**
ERMK	**Ermenek**	**1.67**	**79**	P	**Pn**	**01 30 45.4**	**-0.2**
TEKE	**Tekeli-Mersin**	**1.82**	**95**	*e*PN	**Pn**	**01 30 46.6**	**-0.8**
TEKE	**Tekeli-Mersin**	**1.82**	**95**	*e*Pn	**Pn**	**01 30 46.7**	**-0.8**
DALY	**Dalyan (Mu¨la**	**1.85**	**286**	*e*PN	**Pn**	**01 30 48.3**	**+0.5**
DALY	**Dalyan (Mu¨la**	**1.85**	**286**	*i*P	**Pn**	**01 30 48.2**	**+0.5**
DALY				*i*S	**Sn**	**01 31 11.0**	**+0.9**
DALY	**Dalyan (Mu¨la**	**1.85**	**286**	P	**Pn**	**01 30 48.2**	**+0.5**
DALY	**Dalyan (Mu¨la**	**1.85**	**286**	*e*Pn	**Pn**	**01 30 48.3**	**+0.5**
DALY				S	**Sn**	**01 31 11.0**	**+0.9**
KMER	**Konya-Meram**	**1.86**	**40**	*i*P	**Pn**	**01 30 48.2**	**+0.1**
KMER				*i*S	**Sn**	**01 31 10.2**	**-0.5**
KMER	**Konya-Meram**	**1.86**	**40**	P	**Pn**	**01 30 48.2**	**+0.1**
KMER				S	**Sn**	**01 31 10.2**	**-0.5**
BERE	**Bereket-Mersin**	**1.90**	**89**	*e*PN	**Pn**	**01 30 48.5**	**-0.1**
BERE	**Bereket-Mersin**	**1.90**	**89**	*e*Pn	**Pn**	**01 30 48.5**	**-0.1**
TURN	**Turunc**	**1.90**	**287**	*i*P	**Pb**	**01 30 52.4**	**+0.3**
TURN				*i*S	**Sb**	**01 31 18.1**	**+2.7**
TURN	**Turunc**	**1.90**	**287**	P	**Pb**	**01 30 52.4**	**+0.3**
KONT	**Konya--Tatoy**	**2.00**	**36**	*e*PN	**Pn**	**01 30 49.9**	**0.0**
KONT	**Konya--Tatoy**	**2.00**	**36**	*i*P	**Pn**	**01 30 49.8**	**-0.1**
KONT				*i*S	**Sb**	**01 31 15.6**	**-2.7**
KONT	**Konya--Tatoy**	**2.00**	**36**	*e*Pn	**Pn**	**01 30 49.9**	**0.0**
LEF	**Lefka**	**2.04**	**126**	P	**Pn**	**01 30 47.6**	**-2

PB09 *i* S **Sn** **01 46 03.1 +1.9**
PB09 IAML 01 46 07.3
comp=E,329nm,0.4s
AHML **Horco Molle** **3.21 157** *e*P **Pn** **01 45 23.5 +0.1**
AHML *e*S **Sn** **01 46 02.8 -1.4**
ANCH **Antofagasta** **3.36 272** ⇑*i*P **Pn** **01 45 26.8 +1.6**
ANCH *i* S **Sn** **01 46 07.8 +0.5**
PB14 **IPOC Station P** **3.44 256** *e*P **Pn** **01 45 27.0 +0.6**
PB14 *i* S **Sn** **01 46 08.4 -1.0**
PB04 **IPOC Station P** **3.47 295** ⇓*i*P **Pn** **01 45 27.5 +0.7**
PB04 *e*S **Sn** **01 46 09.1 -0.9**
PB04 IAML 01 46 18.4
comp=N,158nm,0.4s
PB07 **IPOC Station P** **3.57 305** ⇓*i*P **Pn** **01 45 28.7 +0.6**
PB07 *i* S **Sn** **01 46 11.5 -0.8**
PB07 IAML 01 46 13.4
comp=E,227nm,0.1s
PB01 **IPOC Station P** **3.76 317** ⇓*i*P **Pn** **01 45 31.0 +0.8**
PB01 *e*S **Sn** **01 46 15.8 -0.4**
PB01 IAML 01 46 18.5
comp=E,144nm,0.2s
PB02 **IPOC Station P** **3.83 310** *e*P **Pn** **01 45 31.4 +0.2**
PB02 *e*S **Sn** **01 46 16.6 -1.4**
PB02 IAML 01 46 18.7
comp=E,195nm,0.3s
PB08 **IPOC Station P** **4.29 328** ⇑*i*P **Pn** **01 45 38.5 +1.2**
PB08 *i* S **Sn** **01 46 29.0 +0.2**
HMBC **Humberstone** **4.58 320** *e*P **Pn** **01 45 39.8 -0.8**
HMBC *e*S **Sn** **01 46 32.0 -2.9**
PB11 **IPOC Station P** **4.87 326** ⇑*i*P **Pn** **01 45 43.6 -0.7**
PB11 *i* S **Sn** **01 46 39.7 -1.8**
MNMC **Minye Minye** **5.37 330** ⇑*i*P **Pn** **01 45 50.7 -0.2**
MNMC *i* S **Sn** **01 46 51.2 -2.2**

IDC ***16*** *01:48:08.3±1.4, 3°.23S×143°.16E, h0km, mb3.4/4, mb1 3.7/5, mb1mx3.5/22, mbtmp3.5/5, ML3.8/1, Error ellipse: s-maj=31.4km s-min=22.6km az=111.0*
ISCJB ***16*** *01:48:10.1±1.2, 3°.3S±0°.1×143°.2E±0°.1, h23km, mb3.4/4, Error ellipse: s-maj=18.8km s-min=12.5km az=37.5*
ISC 16 01:48:12.3±1.3, 3°.2S±0°.1×143°.0E±0°.1, h23km, n9, σ0§78/7, mb3.6/4, Near north coast of New Guinea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JAY	**Jayapura**	**2.41**	**287**	Pn	**Pn**	**01 48 50.8**	**+0.3**
JAY	0.3nm,0.3s,baz=97,slow=21,SNR=7.2			Sn	**Sb**	**01 49 24.4**	**-0.2**
WRA	0.4nm,0.3s,baz=90,slow=20,SNR=3.4 **Warramunga Arr**	**18.65**	**206**	P	**Pn**	**01 52 29.0**	**-0.1**
ASAR	0.3nm,0.3s,baz=30,slow=12,SNR=15 **Alice Springs**	**22.15**	**203**	P	**P**	**01 53 06.2**	**-0.6**
FITZ	0.3nm,0.7s,baz=32,slow=12,SNR=3.1 **Fitzroy Crossi**	**22.55**	**228**	P	**P**	**01 53 11.9**	**+0.8**
H11S3	1.4nm,0.6s,baz=41,slow=11,SNR=4.8 **WAKE ISLAND Hy**	**31.77**	**46**	T	T	02 28 18.2	
H11S2	baz=229,slow=76,SNR=8.0 **WAKE ISLAND Hy**	**31.78**	**46**	T	T	02 28 17.9	
H11S1	baz=229,slow=76,SNR=10 **WAKE ISLAND Hy**	**31.79**	**46**	T	T	02 28 18.5	
ZALV	baz=229,slow=76,SNR=11 **Zalesovo Beam**	**74.58**	**329**	P	**P**	**01 59 48.4**	**-0.9**
ILAR	0.4nm,0.3s,baz=117,slow=5.0,SNR=1.4 **Eielson Array**	**84.53**	**24**	P	**P**	**02 00 43.9**	**+0.6**
	0.2nm,0.6s,baz=268,slow=4.2,SNR=3.0						

MEX 16 01:55:23.4±0.6, 13°.52N×90°.46W, h15km, MD3.6, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CCIG	**Comitan**	**3.19**	**330**	*e*P	Pn	01 56 09.8	-3.5
CCIG				*i* S	Sn	01 56 48.0	-3.2

NIED ***16*** *02:03:00, 37°.00N×140°.70E, h5km, Mw4.2 Best double couple: M0 2.04000×10^15 NP1:φs 52.00000°, δ43.00000°, λ-89.00000°. NP2:φs 231.00000°, δ47.00000°, λ-91.00000°.*
JMA ***16*** *02:03:17.7, 37°.03N×140°.60E, h4km±1km, M4.4 Broadband fault plane solution: P waves. NP1: φs 108.00000°, δ51.00000°, λ-64.00000°. NP2: φs 250.00000°, δ46.00000°, λ-118.00000°. Principal axes: T Plg3.0000°, Azm180.0000°; N Plg20.0000°, Azm271.0000°; P Plg70.0000°, Azm82.0000°.*
JMA Felt III J1.
ISCJB ***16*** *02:03:17.8±0.4, 37°.03N±0°.03×140°.64E±0°.04, h17km±3km, mb4.2/38, MS3.5/7 Error ellipse: s-maj=5.2km s-min=3.8km az=36.4*
MOS ***16*** *02:03:21.1±1.1, 37°.04N×140°.59E, h43km, mb4.4/32, Error ellipse: s-maj=9.0km s-min=6.8km az=82.1*
IDC ***16*** *02:03:22.2±3.1, 37°.02N×140°.41E, h35km±24km, mb3.9/19, mb1 4.1/20, mb1mx4.0/34, mbtmp4.1/20, ML3.8/1, MS3.4/6, Ms1 3.4/6, ms1mx3.0/44, Error ellipse: s-maj=17.1km s-min=14.0km az=102.0*
NEIC ***16*** *02:03:22.0±0.8, 37°.03N×140°.48E, h35km±7km, mb4.4/15, Error ellipse: s-maj=8.6km s-min=5.7km az=140.0*
NEIC Recorded [3 JMA] in Fukushima.
ISC 16 02:03:18.3±0.9, 37°.04N±0°.03×140°.59E±0°.03, h10km±6km, n94, σ1§06/93, mb4.3/38, MS3.6/7, 21C-1D, Eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ONAJ	**Iwakimizuishiy**	**0.17**	**70**	⇑P	**Pg**	**02 03 21.3**	**-0.7**
ONAJ				S	**Sg**	**02 03 24.3**	**-0.3**
JFK	**Kawauchi**	**0.39**	**35**	⇑P	**Pg**	**02 03 25.5**	**-0.5**
JFK				S	**Sg**	**02 03 31.1**	**-0.2**
JHO	**Hitachi**	**0.43**	**183**	⇑P	**Pg**	**02 03 25.9**	**-0.8**
JHO				S	**Sg**	**02 03 31.8**	**-0.6**
JFT	**Otama**	**0.52**	**337**	⇑P	**Pg**	**02 03 28.2**	**-0.2**
JFT				S	**Sg**	**02 03 35.6**	**+0.4**
JSB	**Shiboa**	**0.55**	**262**	⇑P	**Pg**	**02 03 29.3**	**+0.4**
JSB				S	**Sb**	**02 03 37.3**	**-0.6**
JFY	**Yanaizu**	**0.80**	**297**	⇑P	**Pg**	**02 03 33.4**	**-0.3**
JFY				S	**Sg**	**02 03 44.0**	**-0.1**
JMM	**Marumori**	**0.84**	**11**	⇑P	**Pg**	**02 03 33.3**	**-1.1**
JMM				S	**Sg**	**02 03 45.1**	**-0.2**
MJA0	**Matsu Arr-Jizo**	**1.95**	**256**	*e*P	**Pb**	**02 03 52.8**	**-1.1**
MJA0	comp=Z,65nm,0.3s			pmax	pmax		
MJAR	**Matsushiro Arr**	**1.98**	**256**	Pn	**Pn**	**02 03 52.3**	**+0.4**
MJAR	comp=Z,64nm,0.3s,baz=72,slow=15,SNR=266			Lg	Lg	02 04 19.1	
MJAR	comp=Z,80nm,0.3s,baz=80,slow=27,SNR=18			LR	LR	02 04 54.2	
MAJO	comp=Z,451nm,18.9s,baz=55,slow=51 **Matsushiro**	**1.98**	**256**	*i*P	**Pn**	**02 03 52.9**	**+1.0**
MAJO	**Matsushiro**	**1.98**	**256**	*e*Pn	**Pn**	**02 03 52.1**	**+0.2**
MAT	**Matsushiro**	**1.98**	**256**	P	**Pn**	**02 03 52.8**	**+0.9**
MAT				S	**Sb**	**02 04 19.4**	**+0.2**
JHJ	**Hachijo jima 2**	**3.97**	**190**	Pn	**Pn**	**02 04 21.2**	**+1.9**
JHJ	comp=Z,18nm,0.3s,baz=92,slow=22,SNR=5.3			Sn	**Sn**	**02 05 06.1**	**+0.2**
ERM	comp=Z,30nm,0.3s,baz=64,slow=24,SNR=6.5 **Erimo**	**5.35**	**21**	*ce*P	**Pn**	**02 04 41.5**	**+3.4**
ERM	comp=Z,28nm,1.0s			pmax	pmax		
ERM	**Erimo**	**5.35**	**21**	*e*Pn	**Pn**	**02 04 37.9**	**-0.2**
ERM				eSn	**Sn**	**02 05 36.8**	**-3.0**
YUK	**Yuzh-Kuril'sk**	**8.05**	**28**	⇑*i*P	**Pn**	**02 05 18.1**	**+2.8**
JNU	**Nakatsue**	**8.87**	**247**	*e*Pn	**Pn**	**02 05 26.6**	**0.0**
MSHR	**Mys Shultsa**	**9.12**	**310**	⇑*e*P	**Pn**	**02 05 30.9**	**+0.9**
USRK	**Ussuriysk Ar.**	**9.69**	**320**	Pn	Pn	02 05 43.8	+6.1
USRK	comp=Z,0.3nm,0.3s,baz=132,slow=12,SNR=27			LR	LR	02 09 13.8	
KUR	comp=Z,261nm,19.3s,baz=162,slow=37 **Kuril'sk**	**9.85**	**32**	*e*P	**Pn**	**02 05 41.6**	**+1.7**
YSS	**Yuzh-Sakhalins**	**10.03**	**9**	*e*P	**Pn**	**02 05 43.3**	**+0.9**
YSS	comp=Z,30nm,1.0s			pmax	pmax		
YSS	comp=Z,300nm,13.0s			MLR	MLR		
KSRS	**Korea Array**	**10.11**	**276**	Pn	Pn	02 05 49.2	+5.7
KSRS	comp=Z,0.3nm,0.3s,baz=94,slow=13,SNR=18			LR	LR	02 09 20.5	
KSAR	comp=Z,150nm,19.9s,baz=82,slow=36 **Wonju Array Be**	**10.14**	**276**	P	Pn	02 05 49.2	+5.2
KSAR	**Wonju Array Be**	**10.14**	**276**	Pn	Pn	02 05 49.2	+5.3
PETK	**Petropavlovsk-**	**20.01**	**31**	P	Pn	02 07 53.1	+0.3
PETK	comp=Z,6.8nm,0.9s,baz=298,slow=3.2,SNR=5.1			LR	LR	02 16 26.4	
PET	comp=Z,44nm,19.9s,baz=173,slow=39 **Petropavlovsk**	**20.36**	**33**	⇑*e*P	Pn	02 07 56.5	-0.3
PET	comp=Z,13nm,1.1s			pmax	pmax		
MA2	**Magadan**	**23.49**	**13**	P	**P**	**02 08 29.9**	**+1.9**
ENH	comp=Z,6.5nm,0.5s,baz=203,slow=15,SNR=4.4 **Enshi**	**26.68**	**265**	*e*P	**P**	**02 08 57.5**	**-0.1**
ULN	comp=Z,9.4nm,0.7s **Ulaanbaatar**	**26.81**	**304**	⇑*i*P	**P**	**02 08 59.3**	**+0.6**
ULN	comp=Z,5.0nm,1.8s			pmax	pmax		
ULN	**Ulaanbaatar**	**26.81**	**304**	*e*P	**P**	**02 08 58.8**	**+0.1**
SEY	comp=Z,2.2nm,0.7s **Seymchan**	**26.91**	**12**	P	**P**	**02 09 01.0**	**+1.7**
SEY	comp=Z,3.0nm,0.7s,baz=208,slow=9.9,SNR=6.5 **Seymchan**	**26.91**	**12**	P	**P**	**02 09 01.0**	**+1.7**
SEY	comp=Z,3.0nm,0.7s			pmax	pmax		
SONM	**Songino Array**	**27.24**	**304**	P	**P**	**02 09 02.5**	**0.0**
SONM	comp=Z,2.0nm,0.7s,baz=104,slow=8.3,SNR=10 **Songino Array**	**27.24**	**304**	*e*P	**P**	**02 09 02.8**	**+0.2**
SONM	comp=Z,2.0nm,0.7s			pmax	pmax		
H11N2	**WAKE ISLAND Hy**	**28.72**	**120**	T	T	02 39 06.0	
H11N1	baz=313,slow=75,SNR=368 **WAKE ISLAND Hy**	**28.73**	**120**	T	T	02 39 06.6	
H11N3	baz=313,slow=75,SNR=345 **WAKE ISLAND Hy**	**28.74**	**120**	T	T	02 39 07.4	
H11S1	baz=313,slow=75,SNR=252 **WAKE ISLAND Hy**	**29.42**	**122**	T	T	02 39 57.2	
H11S3	baz=316,slow=74,SNR=650 **WAKE ISLAND Hy**	**29.42**	**122**	T	T	02 40 01.0	
H11S2	baz=316,slow=74,SNR=291 **WAKE ISLAND Hy**	**29.43**	**122**	T	T	02 39 56.4	
TLY	baz=316 **Talaya**	**29.83**	**311**	⇑*i*P	**P**	**02 09 25.5**	**0.0**
TLY	comp=Z,5.0nm,0.6s			pmax	pmax		
BILL	**Bilibino**	**34.21**	**17**	⇑*e*P	**P**	**02 10 04.4**	**+0.8**
BILL				*e*		02 11 20.5	
BILL	comp=Z,5.0nm,1.1s			pmax	pmax		
BILL	comp=Z,269nm,21.0s			MLR	MLR		
TIXI	**Tiksi**	**35.20**	**354**	*e*P	**P**	**02 10 12.6**	**+0.4**
TIXI	comp=Z,4.0nm,0.7s			pmax	pmax		
ZALV	**Zalesovo Beam**	**41.42**	**312**	P	**P**	**02 11 04.6**	**-0.2**
ZALV	comp=Z,0.8nm,0.4s,baz=77,slow=4.5,SNR=4.0			PcP	**PcP**	**02 13 02.3**	**-0.3**
ZALV	comp=Z,1.2nm,0.5s,baz=108,slow=4.7,SNR=4.7			LR	LR	02 28 51.8	
KURK	**Kurchatov**	**45.41**	**308**	*c i*P	**P**	**02 11 36.2**	**-0.8**
KURK	comp=Z,15nm,0.7s			pmax	pmax		
KURK	**Kurchatov**	**45.41**	**308**	*e*P	**P**	**02 11 36.0**	**-1.0**
ILAR	comp=Z,33nm,0.7s **Eielson Array**	**49.84**	**32**	P	**P**	**02 12 11.3**	**+0.2**
ILAR	comp=Z,1.4nm,0.8s,baz=268,slow=6.9,SNR=13 **Eielson Array**	**49.84**	**32**	*e*P	**P**	**02 12 11.5**	**+0.3**
ILAR	comp=Z,1.0nm,0.8s			pmax	pmax		
AAK	**Ala-Archa**	**49.91**	**298**	⇑*i*P	**P**	**02 12 11.9**	**-0.3**
AAK	comp=Z,10.0nm,1.2s			pmax	pmax		
AAK	**Ala-Archa**	**49.91**	**298**	*e*P	**P**	**02 12 11.2**	**-1.1**
BRVK	comp=Z,2.4nm,0.8s **Borovoye**	**50.14**	**312**	⇑*i*P	**P**	**02 12 13.3**	**-0.3**
BRVK	comp=Z,12nm,2.2s			pmax	pmax		
BRVK	**Borovoye**	**50.14**	**312**	*e*P	**P**	**02 12 13.0**	**-0.6**
ARU	comp=Z,4.9nm,0.7s **Arti**	**55.92**	**318**	LR	LR	02 38 52.6	
ARU	comp=Z,38nm,19.3s,baz=270,slow=38 **Arti**	**55.92**	**318**	*c i*P	**P**	**02 12 55.6**	**-0.6**
ARU				S	**S**	**02 20 42.4**	**-1.3**
ARU	comp=Z,4.0nm,0.7s			pmax	pmax		
ARU	**Arti**	**55.92**	**318**	*e*P	**P**	**02 12 55.3**	**-0.9**
WRAB	comp=Z,4.3nm,0.8s **Tennant Creek**	**56.97**	**187**	*e*P	**P**	**02 13 03.3**	**-0.8**
WRAB	comp=Z,5.0nm,0.7s			pmax	pmax		
WRAB	**Tennant Creek**	**56.97**	**187**	*e*P	**P**	**02 13 03.3**	**-0.8**
WRA	comp=Z,5.4nm,0.7s **Warramunga Arr**	**56.98**	**187**	P	**P**	**02 13 03.4**	**-0.8**
ABKAR	comp=Z,6.2nm,0.7s,baz=4.6,slow=7.4,SNR=62 **Akbulak array**	**57.43**	**310**	*e*P	**P**	**02 13 06.1**	**-0.9**
ASAR	comp=Z,2.8nm,0.7s **Alice Springs**	**60.71**	**187**	P	**P**	**02 13 29.7**	**-0.3**
ASAR	comp=Z,2.3nm,0.7s,baz=10,slow=7.4,SNR=24 **Alice Springs**	**60.71**	**187**	P	**P**	**02 13 29.7**	**-0.3**
ASAR	comp=Z,3.0nm,0.7s			pmax	pmax		
GEYT	**Alibeck**	**63.26**	**299**	P	**P**	**02 13 47.1**	**0.0**
YKA	comp=Z,2.3nm,0.6s,baz=75,slow=7.8,SNR=5.3 **Yellowknife Ar**	**64.13**	**30**	P	**P**	**02 13 52.1**	**-0.3**
YKA	comp=Z,0.7nm,0.8s,baz=303,slow=7.0,SNR=4.2 **Yellowknife Ar**	**64.13**	**30**	*e*P	**P**	**02 13 52.4**	**0.0**
YKA	comp=Z,1.0nm,0.7s			pmax	pmax		
OBN	**Obninsk**	**67.69**	**323**	⇑*e*P	**P**	**02 14 14.9**	**-0.6**
OBN				*e*		02 14 44.9	
OBN				*e*		02 16 45.6	
OBN				eS	S	02 23 25.7	+13
OBN	comp=Z,3.0nm,0.7s			pmax	pmax		
OBN	comp=Z,33nm,14.0s			MLR	MLR		
FINES	**FINESS Array B**	**68.50**	**332**	P	**P**	**02 14 19.7**	**-0.7**
FINES	comp=Z,3.6nm,0.7s,baz=108,slow=6.2,SNR=7.1			LR	LR	02 45 18.3	
KBZ	comp=Z,46nm,19.0s,baz=105,slow=37 **Khabaz**	**70.40**	**310**	P	**P**	**02 14 32.3**	**-0.1**
KIV	comp=Z,1.0nm,0.7s,baz=359,slow=5.7,SNR=5.1 **Kislovodsk**	**70.40**	**311**	⇑*e*P	**P**	**02 14 32.4**	**-0.3**
KIV				*e*		02 14 53.1	
KIV	comp=Z,8.0nm,1.2s			pmax	pmax		
KIV	comp=Z,22nm,16.0s			MLR	MLR		
SUMG	**Summit**	**70.67**	**360**	*e*P	**P**	**02 14 34.4**	**+0.2**
SUMG	comp=Z,4.0nm,0.8s			pmax	pmax		
SUMG	**Summit**	**70.67**	**360**	*e*P	**P**	**02 14 34.4**	**+0.2**
BMO	comp=Z,3.8nm,0.8s **Blue Mountains**	**72.40**	**47**	*e*P	**P**	**02 14 45.5**	**+0.7**
BMO	comp=Z,3.0nm,1.0s			pmax	pmax		
BMO	**Blue Mountains**	**72.40**	**47**	*e*P	**P**	**02 14 45.5**	**+0.7**
AKASG	comp=Z,2.8nm,1.0s **Malin Array Be**	**73.89**	**322**	P	**P**	**02 14 52.2**	**-1.1**
AKASG	comp=Z,0.7nm,0.5s,baz=48,slow=6.3,SNR=4.0 **Malin Array Be**	**73.89**	**322**	*e*P	**P**	**02 14 49.5**	**-3.8**
AKASG	comp=Z,1.0nm,0.5s			pmax	pmax		
NOA	**NORSAR Array B**	**73.92**	**337**	P	**P**	**02 14 52.9**	**-0.5**
FFC	comp=Z,0.8nm,0.7s,baz=41,slow=5.4,SNR=4.1 **Flin Flon**	**74.05**	**32**	*e*P	**P**	**02 14 54.1**	**-0.1**
FFC	comp=Z,3.0nm,0.8s			pmax	pmax		
FFC	**Flin Flon**	**74.05**	**32**	*e*P	**P**	**02 14 54.0**	**-0.1**
R11A	comp=Z,3.4nm,0.8s **Troy Canyon, C**	**77.27**	**52**	*e*P	**P**	**02 15 13.6**	**+0.5**
PDAR	comp=Z,2.9nm,1.0s **Pinedale Array**	**78.12**	**45**	P	**P**	**02 15 18.3**	**+0.4**
BRTR	comp=Z,0.7nm,0.7s,baz=263,slow=2.2,SNR=6.3 **Keskin Array B**	**78.35**	**311**	P	**P**	**02 15 18.6**	**-0.5**
BRTR	comp=Z,0.8nm,0.8s,baz=108,slow=4.5,SNR=5.1 **Keskin Array B**	**78.35**	**311**	*e*P	**P**	**02 15 21.5**	**+2.4**
BRTR	comp=Z,1.0nm,0.8s			pmax	pmax		
PSZ	**Piszkesteto**	**80.27**	**324**	*e*P	**P**	**02 15 28.3**	**-1.0**
PSZ	comp=Z,3.0nm,0.8s			pmax	pmax		
PSZ	**Piszkesteto**	**80.27**	**324**	*e*P	**P**	**02 15 28.3**	**-1.0**
VYHS	comp=Z,3.1nm,0.8s **Vyhne**	**80.34**	**325**	*e*P	**P**	**02 15 29.8**	**+0.2**
VYHS	**Vyhne**	**80.34**	**325**	*e*P	**P**	**02 15 29.8**	**+0.2**
ISCO	**Idaho Springs**	**82.31**	**45**	*e*P	**P**	**02 15 41.4**	**+0.7**
ISCO	comp=Z,1.0nm,0.8s			pmax	pmax		
ISCO	**Idaho Springs**	**82.31**	**45**	*e*P	**P**	**02 15 41.4**	**+0.7**
	comp=Z,1.1nm,0.8s						
GERES	**GERESS Array B**	**82.36**	**328**	P	**P**	**02 15 39.9**	**-0.5**
SDCO	comp=Z,0.6nm,0.6s,baz=36,slow=7.0,SNR=6.0 **Great Sand Dun**	**83.76**	**47**	*e*P	**P**	**02 15 48.1**	**-0.1**
ANMO	comp=Z,0.8nm,0.8s **Albuquerque**	**85.08**	**49**	P	**P**	**02 15 56.6**	**+1.8**
ANMO	comp=Z,1.7nm,1.1s,baz=320,slow=1.8,SNR=5.0 **Albuquerque**	**85.08**	**49**	*ce*P	**P**	**02 15 57.2**	**+2.4**
ANMO	comp=Z,2.0nm,1.7s			pmax	pmax		
TXAR	**Lajitas Array**	**90.63**	**52**	P	**P**	**02 16 22.0**	**+0.6**
SAML	comp=Z,0.7nm,0.7s,baz=300,slow=3.2,SNR=9.4 **Samuel**	**144.70**	**44**	*e*PKPdf	**PKPab**	**02 22 54.3**	**-0.3**
LPAZ	**La Paz**	**147.25**	**59**	PKPbc	**PKPbc**	**02 23 03.5**	**+0.4**
	comp=Z,2.8nm,0.8s,baz=12,slow=2.7,SNR=12						

IDC 16 02:18:19.7±2.2, 12°.15N×141°.41E, h0km, mb3.5/3, mb1 3.8/3, mb1mx3.5/42, mbtmp3.5/3, Error ellipse: s-maj=263.8km s-min=28.7km az=108.0, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**32.64**	**192**	P	P	02 24 53.2	-0.3
ASAR	0.5nm,0.5s,baz=14,slow=9.7,SNR=12 **Alice Springs**	**36.35**	**192**	P	P	02 25 25.9	+0.2
ILAR	0.3nm,0.5s,baz=18,slow=12,SNR=6.5 **Eielson Array**	**71.31**	**25**	P	P	02 29 40.9	0.0
	0.3nm,0.7s,baz=239,slow=6.4,SNR=4.1						

ISCJB ***16*** *02:47:50.3±0.6, 16°.87N±0°.06×146°.5E±0°.2, h68km, mb4.1/15, Error ellipse: s-maj=23.0km s-min=7.5km az=14.3*
NEIC ***16*** *02:47:52.4±1.9, 16°.88N×146°.45E, h70km±17km, mb4.3/4, Error ellipse: s-maj=20.3km s-min=10.0km az=95.0*
IDC ***16*** *02:47:52.2±3.2, 16°.86N×146°.38E, h69km±31km, mb3.7/9, mb1 4.0/10, mb1mx3.6/58, mbtmp4.1/10, ML4.4/1, MS3.4/5, Ms1 3.4/5, ms1mx2.8/41, Error ellipse: s-maj=35.3km s-min=17.3km az=98.0*
ISC 16 02:47:52.1±0.7, 16°.87N±0°.08×146°.5E±0°.2, h68km, n29, σ0§81/20, mb4.2/14, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GUMO	**Guam**	**3.61**	**206**	P	**Pn**	**02 48 45.8**	**+0.1**
GUMO	32nm,0.3s,baz=60,slow=9.4,SNR=9.7			S	**Sn**	**02 49 26.4**	**-0.7**
H11S3	31nm,0.3s,baz=168,slow=22,SNR=4.1 **WAKE ISLAND Hy**	**19.33**	**82**	T	T	03 13 14.1	
H11S1	baz=277,slow=74 **WAKE ISLAND Hy**	**19.34**	**82**	T	T	03 13 08.3	
H11S2	baz=277,slow=74,SNR=3.0 **WAKE ISLAND Hy**	**19.35**	**82**	T	T	03 13 15.7	
H11N1	baz=277 **WAKE ISLAND Hy**	**19.59**	**79**	T	T	03 13 21.0	
H11N2	baz=264,slow=74,SNR=8.2 **WAKE ISLAND Hy**	**19.60**	**79**	T	T	03 13 23.1	
H11N3	baz=264,slow=74,SNR=7.8 **WAKE ISLAND Hy**	**19.61**	**79**	T	T	03 13 27.9	
COEN	baz=264,slow=74,SNR=7.4 **Coen**	**30.80**	**186**	*e*P	**P**	**02 54 01.8**	**+0.3**
KKM	2.8nm,0.6s **Kota Kinabalu**	**31.49**	**254**	*e*P	**P**	**02 54 08.6**	**+0.7**
WRAB	5.1nm,0.4s **Tennant Creek**	**38.46**	**199**	*e*P	**P**	**02 55 07.6**	**0.0**
WRA	2.7nm,0.5s **Warramunga Arr**	**38.48**	**199**	P	**P**	**02 55 07.4**	**-0.3**
ASAR	2.1nm,0.7s,baz=31,slow=9.0,SNR=26 **Alice Springs**	**42.12**	**197**	P	**P**	**02 55 37.5**	**-0.3**
ASAR	0.7nm,0.8s,baz=16,slow=12,SNR=8.5			LR	LR	03 15 28.2	
MA2	comp=Z,47nm,18.3s,baz=135,slow=39 **Magadan**	**42.76**	**3**	P	**P**	**02 55 44.2**	**+1.7**
SONM	4.2nm,0.3s,baz=179,slow=9.0,SNR=5.5 **Songino Array**	**45.03**	**322**	P	**P**	**02 56 01.7**	**+0.7**
BBOO	1.7nm,0.7s,baz=135,slow=7.1,SNR=6.6 **Buckleboo**	**50.39**	**191**	*e*P	**P**	**02 56 43.1**	**+0.6**
FORT	5.2nm,0.6s **Forrest**	**50.58**	**201**	*e*P	**P**	**02 56 44.4**	**+0.5**
KURK	**Kurchatov**	**63.12**	**319**	P	**P**	**02 58 11.8**	**-0.7**
KURBB	**Kurchatov Arra**	**63.17**	**319**	P	**P**	**02 58 11.8**	**-1.1**
ILAR	0.3nm,0.5s,baz=100,slow=6.7,SNR=6.0 **Eielson Array**	**64.96**	**26**	P	**P**	**02 58 23.2**	**-1.2**
INK	0.7nm,0.7s,baz=247,slow=5.9,SNR=12 **Inuvik**	**70.76**	**23**	P	**P**	**02 59 01.3**	**+0.6**
ABKAR	2.1nm,0.7s,baz=304,slow=3.9,SNR=3.1 **Akbulak array**	**75.17**	**317**	*e*P	**P**	**02 59 26.9**	**-0.3**
YKA	0.5nm,0.6s **Yellowknife Ar**	**79.25**	**28**	P	**P**	**02 59 49.5**	**-0.2**
ARCES	0.5nm,0.6s,baz=280,slow=6.2,SNR=3.8 **ARCESS Array B**	**84.45**	**342**	LR	LR	03 41 44.2	
OBN	comp=Z,12nm,19.2s,baz=299,slow=38 **Obninsk**	**87.20**	**327**	LR	LR	03 41 30.4	
KVAR	comp=Z,27nm,19.9s,baz=88,slow=37 **Kislovodsk Arr**	**88.00**	**315**	LR	LR	03 43 25.2	
FINES	comp=Z,12nm,19.2s,slow=38 **FINESS Array B**	**88.84**	**336**	P	**P**	**03 00 36.9**	**-1.5**
AKASG	2.4nm,1.0s,baz=93,slow=5.6,SNR=3.4 **Malin Array Be**	**93.22**	**326**	LR	LR	03 44 25.4	
MORC	comp=Z,16nm,19.9s,baz=335,slow=36 **Moravsky Berou**	**99.81**	**329**	*e*P	**Pdif**	**03 01 29.4**	**+0.3**
LPAZ	8.4nm,0.9s **La Paz**	**146.85**	**94**	PKPbc	**PKPab**	**03 07 29.7**	**-0.1**
	1.7nm,1.0s,baz=1.1,slow=3.8,SNR=4.9						

ISCJB ***16*** *02:51:42.2±0.2, 20°.54S±0°.04×179°.07W±0°.03, h645km, mb4.7/122, Error ellipse: s-maj=5.9km s-min=3.4km az=161.6*
MOS ***16*** *02:51:42.3±1.0, 20°.47S×179°.03W, h646km, mb4.9/15, Error ellipse: s-maj=9.5km s-min=8.7km az=79.6*
IDC ***16*** *02:51:42.8±0.9, 20°.50S×178°.95W, h641km±10km, mb4.0/25, mb1 4.2/30, mb1mx4.0/47, mbtmp5.0/30, Error ellipse: s-maj=10.7km s-min=9.5km az=153.0*
NEIC ***16*** *02:51:43.5±0.5, 20°.51S×179°.05W, h648km±5km, mb4.7/67, Error ellipse: s-maj=7.0km s-min=4.0km az=159.0*
ISC 16 02:51:42.7±0.3, 20°.54S±0°.05×178°.90W±0°.05, h645km, n555, σ1§19/607, mb4.7/122, 45C-30D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MSVF	**Nonsavu**	**4.01**	**314**	*e*P	**P**	**02 53 12.7**	**+0.9**
MSVF	**Nonsavu**	**4.01**	**314**	*e*P	**P**	**02 53 12.7**	**+0.9**
RAO	**Raoul Island**	**8.72**	**174**	P	**P**	**02 53 48.6**	**-1.5**
RAO	104nm,0.3s,baz=66,slow=22,SNR=5.3			S	**S**	**02 55 32.3**	**-2.4**
RAO	36nm,0.3s,baz=99,slow=22,SNR=2.4 **Raoul Island**	**8.72**	**174**	*e*P	**P**	**02 53 49.0**	**-1.2**
RAO				S	**S**	**02 55 32.3**	**-2.4**
RAO	**Raoul Island**	**8.72**	**174**	*e*P	**P**	**02 53 49.0**	**-1.2**
RAO				S	**S**	**02 55 32.3**	**-2.4**
AFI	**Afiamalu**	**9.48**	**47**	P	**P**	**02 53 56.9**	**-0.7**
AFI	9.8nm,0.3s,baz=136,slow=4.1,SNR=9.9			S	**S**

CTAO pmax pmax
comp=Z,62nm,0.7s
CTAO Charters Tower 32.64 265 *eP* **P 02 57 24.5 -0.2**
comp=Z,62nm,0.7s
PMG Port Moresby 34.53 284 *eP* **P 02 57 40.5 +0.1**
PMG pmax pmax
comp=Z,27nm,0.9s
PMG Port Moresby 34.53 284 *eP* **P 02 57 40.5 +0.1**
comp=Z,27nm,0.9s
COEN Coen 36.74 274 *eP* **P 02 57 58.4 -0.2**
comp=Z,15nm,0.8s
STKA Stephens Creek 37.01 244 P **P 02 58 01.4 +0.9**
comp=Z,4.5nm,0.4s,baz=92,slow=10,SNR=14
STKA PcP **PcP 03 00 03.8 +0.5**
comp=Z,4.3nm,0.7s,baz=75,slow=7.6,SNR=3.9
STKA Stephens Creek 37.01 244 *eP* **P 02 58 01.4 +0.9**
comp=Z,1.4nm,0.6s
STKA PcP **PcP 03 00 03.8 +0.5**
MANU Manus Island 37.69 295 *eP* **P 02 58 07.2 +0.9**
comp=Z,126nm,1.3s
BBOO Buckleboo 41.77 243 *eP* **P 02 58 38.7 +0.2**
comp=Z,28nm,0.7s
JAY Jayapura 43.25 289 P **P 02 58 50.6 +0.3**
comp=Z,9.6nm,0.6s,baz=269,slow=23,SNR=48
AS01 Alice Springs 43.64 257 *eP* **P 02 58 52.9 -0.2**
AS01 *eS* **S 03 04 34.4 -3.9**
AS31 Alice Springs 43.68 257 *eP* **P 02 58 53.5 +0.1**
comp=Z,13nm,0.8s
AS31 *eS* **S 03 04 37.0 -1.9**
ASAR Alice Springs 43.68 257 P **P 02 58 53.5 +0.1**
comp=Z,37nm,0.6s,baz=96,slow=7.4,SNR=389
ASAR PcP **PcP 03 00 25.4 -0.1**
comp=Z,9.5nm,0.6s,baz=109,slow=3.6,SNR=13
ASAR S **S 03 04 36.1 -2.9**
comp=Z,5.5nm,0.5s,baz=92,slow=15,SNR=32
WB2 Warramunga Arr 43.74 262 *eP* **P 02 58 53.5 -0.5**
comp=Z,59nm,1.0s
WRAB Tennant Creek 43.75 262 *i* P **P 02 58 53.3 -0.6**
WRAB pmax pmax
comp=Z,100nm,1.0s
WRAB Tennant Creek 43.75 262 *eP* **P 02 58 53.4 -0.6**
comp=Z,25nm,0.6s
WRA Warramunga Arr 43.76 262 P **P 02 58 53.2 -0.7**
comp=Z,24nm,0.3s,baz=97,slow=7.0,SNR=1040
WRA PcP **PcP 03 00 25.8 0.0**
comp=Z,4.7nm,0.7s,baz=95,slow=4.0,SNR=6.4
WRA S **S 03 04 36.6 -3.3**
comp=Z,3.3nm,0.8s,baz=101,slow=12,SNR=8.8
MTN Manton Dam 48.32 271 *eP* **P 02 59 27.5 -0.8**
comp=Z,72nm,0.5s
MTN *eS* **S 03 05 41.3 -1.8**
FORT Forrest 48.50 247 *eP* **P 02 59 28.9 -0.5**
comp=Z,636nm,0.6s
FORT *eS* **S 03 05 43.4 -1.8**
GUMO Guam 49.18 311 P **P 02 59 34.9 +0.3**
comp=Z,72nm,0.5s,baz=173,slow=23,SNR=4.8
GUMO Guam 49.18 311 *eP* **P 02 59 34.5 -0.1**
GUMO pmax pmax
comp=Z,103nm,0.6s
GUMO Guam 49.18 311 *eP* **P 02 59 34.5 -0.1**
comp=Z,103nm,0.6s
FAKI Fak Fak 50.69 284 *eP* **P 02 59 44.8 -0.8**
comp=Z,24nm,0.9s
FITZ Fitzroy Crossi 52.18 263 *eP* **P 02 59 55.6 -0.7**
comp=Z,23nm,0.4s
SOEI Soe 55.66 272 *eP* **P 03 00 21.2 +0.5**
comp=Z,143nm,0.7s
MBWA Marble Bar 57.02 258 *eP* **P 03 00 29.4 -0.4**
comp=Z,41nm,0.6s
VNDA Vanda 57.79 185 P **P 03 00 36.0 +1.9**
comp=Z,0.7nm,0.4s,baz=20,slow=6.4,SNR=8.1
VNDA Vanda 57.79 185 P **P 03 00 36.0 +1.9**
MMRI Maumere 57.91 273 *eP* **P 03 00 35.1 -0.8**
comp=Z,93nm,0.6s
LUWI Luwuk 60.11 281 *eP* **P 03 00 50.8 +0.2**
comp=Z,57nm,0.8s
KAPI Kappang 61.45 276 *eP* **P 03 00 58.9 -0.3**
comp=Z,11nm,0.7s
JAGI Jajag, Banyuwa 65.54 270 *eP* **P 03 01 24.0 -1.2**
comp=Z,66nm,1.0s
JHJ Hachijo jima 2 66.36 323 P **P 03 01 30.0 +0.2**
comp=Z,85nm,0.4s,baz=67,slow=22,SNR=15
MYLDM **Lahad Datu 66.53 285** *eP* **P 03 01 33.3 +2.0**
KKM Kota Kinabalu 68.95 285 *eP* **P 03 01 46.3 +0.2**
comp=Z,33nm,0.9s
UGM Wanagama 69.11 269 *eP* **P 03 01 45.6 -1.4**
comp=Z,261nm,1.6s
QSPA South Pole Qui 69.53 180 *eP* **P 03 01 49.2 +0.6**
comp=Z,19nm,0.9s
MJAR Matsushiro Arr 69.75 324 P **P 03 01 49.9 -0.3**
comp=Z,16nm,0.6s,baz=156,slow=6.0,SNR=39
MAJO Matsushiro 69.75 324*d i* P **P 03 01 50.0 -0.2**
MAJO pmax pmax
comp=Z,112nm,0.6s
MAJO Matsushiro 69.75 324 *eP* **P 03 01 50.1 -0.1**
comp=Z,24nm,0.7s
MAT Matsushiro 69.75 324 P **P 03 01 49.8 -0.4**
MJB9 Matsu-Tunnel 69.75 324 *eP* **P 03 01 50.4 +0.1**
comp=Z,6.0nm,0.7s
ERM Erimo 71.45 331 *eP* **P 03 02 01.4 +1.4**
ERM pmax pmax
comp=Z,35nm,1.7s
JNU Nakatsue 71.73 317 P **P 03 02 02.0 +0.1**
comp=Z,15nm,0.6s,baz=108,slow=5.4,SNR=9.9
KUR Kuril'sk 72.12 336⇑ *i* P **P 03 02 03.8 +0.1**
KSM Kuching 72.58 278 *eP* **P 03 02 07.5 +0.3**
comp=Z,51nm,0.9s
TWG Pinlang 72.69 303 *eP* **P 03 02 06.1 -1.5**
comp=Z,172nm,0.6s
YULB Yu-li 72.82 304 *eP* **P 03 02 06.8 -1.5**
comp=Z,20nm,0.5s
NACB Ninganchiao 73.00 305 *eP* **P 03 02 08.6 -0.7**
comp=Z,32nm,0.8s
TPUB Ta-pu 73.29 303 *eP* **P 03 02 09.7 -1.3**
comp=Z,83nm,0.7s
SSLB Suanglung 73.29 304 *eP* **P 03 02 09.3 -1.7**
comp=Z,37nm,0.5s
YHNB Yeheng 73.43 305 *eP* **P 03 02 11.5 -0.3**
comp=Z,20nm,0.8s
YSS Yuzh-Sakhalins 75.56 334 *eP* **P 03 02 23.5 +0.4**
YSS pmax pmax
comp=Z,30nm,0.6s
YSS Yuzh-Sakhalins 75.56 334 *eP* **P 03 02 23.6 +0.6**
PET Petropavlovsk 75.80 346 *i* P **P 03 02 23.8 -0.5**
PET pmax pmax
comp=Z,12nm,0.7s
PEA0 Petropavlovsk- 76.10 346 *eP* **P 03 02 25.9 -0.1**
PEA0B Petropavlovsk- 76.10 346 *eP* **P 03 02 26.0 +0.1**
comp=Z,115nm,1.5s
PETK Petropavlovsk- 76.10 346 P **P 03 02 26.0 +0.1**
comp=Z,29nm,0.6s,baz=125,slow=6.8,SNR=36
PETK Petropavlovsk- 76.10 346 P **P 03 02 26.0 +0.1**
KSRS Korea Array 76.36 319 P **P 03 02 28.6 +0.9**
comp=Z,6.1nm,0.7s,baz=132,slow=6.1,SNR=17
KSAR Wonju Array Be 76.38 319 P **P 03 02 28.6 +0.8**
KSAR Wonju Array Be 76.38 319 P **P 03 02 28.6 +0.8**
KS01 Wonju Array Si 76.39 319 *eP* **P 03 02 27.9 +0.1**
SDPT Sand Point 77.20 11 *eP* **P 03 02 30.6 -1.2**
comp=Z,88nm,0.8s
VLA Vladivostok 77.84 325⇑ *i* P **P 03 02 35.2 -0.3**
VLA pmax pmax
comp=Z,39nm,0.7s
MSHR Mys Shultsa 77.86 325⇑ *i* P **P 03 02 37.1 +1.5**
DLV T Lat 78.32 288 *eP* **P 03 02 40.2 +1.2**
CHGN Chignik 78.48 11 *eP* **P 03 02 38.7 +0.1**
comp=Z,33nm,0.7s
USRK Ussuriysk Ar. 78.53 326 P **P 03 02 40.5 +1.4**
comp=Z,19nm,0.7s,baz=129,slow=2.6,SNR=46
MYKOM **Kota Tinggi 78.70 276** *eP* **P 03 02 41.5 +0.7**
comp=Z,28nm,0.8s
NJ2 Nanjing 79.26 310 *eP* **P 03 02 43.8 +0.5**
NJ2 pmax pmax
comp=Z,28nm,0.5s
KMRM Mail Ridge 79.33 40 *eP* **P 03 02 46.5 +2.9**
comp=Z,35nm,0.9s
VES Vestal, Richgr 79.66 46 P **P 03 02 47.0 +1.7**
baz=235
BFSC Mount Baldy Ra 79.74 48 P **P 03 02 47.3 +1.3**
baz=237
EDW2 Edwards Air Fo 79.86 47 P **P 03 02 47.7 +1.2**
baz=236
MONP Monument Peak, 79.88 49 P **P 03 02 48.3 +1.5**
baz=238
IKP In-Ko-Pah, Jac 79.97 50 P **P 03 02 48.4 +1.3**
baz=238
ISA Isabella, Lake 79.97 46 P **P 03 02 48.5 +1.4**
baz=236

CMB Columbia Colle 80.07 43 *eP* **P 03 02 47.6 +0.1**
CMB pmax pmax
comp=Z,13nm,1.4s
CMB Columbia Colle 80.07 43 *eP* **P 03 02 47.6 +0.1**
comp=Z,13nm,1.4s
MDJ Mudanjiang 80.07 325 P **P 03 02 48.4 +1.1**
MDJ pmax pmax
comp=Z,28nm,0.8s
MDJ pmax pmax
comp=Z,53nm,3.8s
MDJ Mudanjiang 80.07 325 *eP* **P 03 02 48.1 +0.8**
comp=Z,32nm,1.0s
TPFO Pinon Flats 80.24 49 P **P 03 02 49.8 +1.3**
baz=238
WDC Whiskeytown Da 80.25 40 *eP* **P 03 02 50.3 +2.0**
WDC pmax pmax
comp=Z,8.0nm,0.9s
WDC Whiskeytown Da 80.25 40 *eP* **P 03 02 50.3 +2.0**
comp=Z,7.9nm,0.9s
ORV Oroville 80.27 41 *eP* **P 03 02 50.1 +1.7**
ORV pmax pmax
comp=Z,6.0nm,0.9s
ORV Oroville 80.27 41 *eP* **P 03 02 50.1 +1.7**
comp=Z,5.5nm,0.9s
N02D Trinity Center 80.39 40 P **P 03 02 51.1 +2.0**
baz=232,SNR=5.8
M02C Callahan 80.56 39 P **P 03 02 52.1 +2.1**
baz=232,SNR=9.3
L02D Cave Junction, 80.59 38 P **P 03 02 51.9 +1.9**
baz=231
CWC Cottonwood Cre 80.67 46 P **P 03 02 52.2 +1.4**
baz=236
BELC Belle Mtn. Jos 80.77 49 P **P 03 02 52.7 +1.3**
baz=238
YBH Yreka Blue Hor 80.85 39 *eP* **P 03 02 53.4 +1.9**
YBH pmax pmax
comp=Z,10.0nm,0.8s
YBH Yreka Blue Hor 80.85 39 *eP* **P 03 02 53.4 +1.9**
comp=Z,9.8nm,0.8s
MPMC Manual Prospec 80.86 46 P **P 03 02 53.1 +1.3**
baz=236
DAC Darwin (Calif) 80.91 46 *eP* **P**
DAC pmax pmax
comp=Z,3.0nm,0.6s
DAC Darwin (Calif) 80.91 46 *eP* **P 03 02 53.6 +1.6**
comp=Z,3.0nm,0.6s
GSC Goldstone, Bar 80.91 47 P **P 03 02 53.1 +1.2**
baz=237
WAKR Walker 80.95 43 *eP* **P 03 02 54.3 +2.1**
comp=Z,13nm,1.1s
BC3 Big Chuckawall 80.97 49 P **P 03 02 53.7 +1.4**
baz=238
HEC Hector,Ludlow 80.98 48 P **P 03 02 53.6 +1.3**
baz=237
KDAK Kodiak Island 81.06 14 P **P 03 02 52.1 +0.1**
comp=Z,10nm,0.7s,baz=290,slow=6.4,SNR=8.9
KDAK Kodiak Island 81.06 14*c eP* **P 03 02 52.3 +0.3**
GLA Glamis 81.10 50 P **P 03 02 54.9 +2.0**
baz=239
PNTR Pine Nut 81.18 43 *eP* **P 03 02 55.4 +2.0**
comp=Z,20nm,0.8s
MAW Mawson 81.24 200 P **P 03 02 53.5 +0.6**
comp=Z,2.2nm,0.6s,baz=132,slow=5.8,SNR=13
MAW pP **pP 03 05 10.6 +3.9**
comp=Z,3.7nm,1.1s,baz=103,slow=6.9,SNR=6.1
HUMO Hull Mountain 81.25 38 *eP* **P 03 02 55.2 +1.8**
comp=Z,11nm,1.0s
M04C Macdoel 81.40 39 P **P 03 02 56.1 +1.7**
baz=233
GMRC Granite Mounta 81.42 48 P **P 03 02 56.1 +1.5**
baz=238
IRM Iron Mountain 81.45 49 P **P 03 02 56.1 +1.4**
baz=238
GRAC Grapevine Rang 81.46 45 P **P 03 02 56.2 +1.6**
baz=236
FURC Furnace Creek, 81.50 46 P **P 03 02 56.7 +1.9**
baz=237
TUQ Turquoise Moun 81.59 47 P **P 03 02 56.8 +1.3**
baz=238
Y12C Blythe 81.68 49 P **P 03 02 57.5 +1.7**
baz=239
I03D Drain, OR 81.70 37 P **P 03 02 57.3 +1.7**
baz=231
CN2 Changchun 81.82 323 *eP* **P 03 02 56.5 +0.3**
CN2 pmax pmax
comp=Z,20nm,0.9s
LDFC Landfair 81.96 48 *eP* **P 03 02 59.1 +1.8**
214A Organ Pipe Nat 82.00 52 P **P 03 02 59.3 +1.8**
baz=240
J04D Umpqua Nationa 82.13 38 P **P 03 02 59.7 +1.6**
baz=232,SNR=7.5
TPNV Topopah Spring 82.18 46 P **P 03 02 59.8 +1.4**
baz=237
TPNV Topopah Spring 82.18 46 *eP* **P 03 02 59.8 +1.4**
TPNV pmax pmax
comp=Z,6.0nm,0.8s
TPNV Topopah Spring 82.18 46 *eP* **P 03 02 59.8 +1.4**
comp=Z,6.3nm,0.8s
PDMCI Parker Dam,Lak 82.24 49 P **P 03 03 00.3 +1.8**
baz=239
I04A Tendick Farm, 82.30 38 P **P 03 02 59.9 +1.2**
baz=232
MOD Modoc Plateau 82.39 40 *eP* **P 03 03 00.8 +1.4**
comp=Z,14nm,0.6s
K05A Summer Lake 82.53 39 *eP* **P 03 03 01.9 +1.8**
J05D Fort Rock, OR 82.66 38 P **P 03 03 02.5 +1.8**
baz=233
SHPR Sheep Range 82.68 47 *eP* **P 03 03 02.9 +1.9**
comp=Z,2.4nm,0.9s
G03D McMinnville, O 82.69 36 P **P 03 03 02.1 +1.5**
baz=231
W13A Hualapai Mount 82.83 49 *eP* **P 03 03 03.4 +1.6**
KULM Kulim 82.94 278 *eP* **P 03 03 03.0 +0.4**
comp=Z,18nm,0.9s
I05D Tebonna, OR 83.24 38 P **P 03 03 04.7 +1.3**
baz=233,SNR=6.9
E03A Lebam 83.37 35 *eP* **P 03 03 05.5 +1.6**
R11A Troy Canyon, C 83.38 45 P **P 03 03 05.6 +1.2**
baz=238
MA2 Magadan 83.60 345 P **P 03 03 04.4 -0.4**
comp=Z,7.5nm,0.6s,baz=116,slow=5.0,SNR=5.6
MA2 Magadan 83.60 345*d i* P **P 03 03 04.2 -0.5**
SKLT Songkhla 83.65 280 P **P 03 03 07.2 +1.2**
comp=Z,48nm,0.9s
PSI Prapat 83.65 275 P **P 03 03 05.2 -1.0**
comp=Z,14nm,0.8s,baz=75,slow=0.7,SNR=15
TUC Tucson 83.67 52 P **P 03 03 07.2 +1.3**
baz=241
TUC Tucson 83.67 52 *eP* **P 03 03 08.0 +2.1**
TUC Tucson 83.67 52 *eP* **P 03 03 08.0 +2.1**
WVOR Wild Horse Val 83.71 40 *eP* **P 03 03 06.8 +0.9**
WVOR pmax pmax
comp=Z,7.0nm,0.8s
WVOR Wild Horse Val 83.71 40 *eP* **P 03 03 06.8 +0.9**
comp=Z,7.3nm,0.8s
FL2 Flat Top 2 83.81 36 P **P 03 03 08.1 +1.8**
LCMT Little Creek M 84.26 47 *eP* **P 03 03 10.4 +1.7**
HDW Hoodsport 84.33 34 P **P 03 03 10.4 +1.6**
LON Longmire 84.44 35 *eP* **P 03 03 10.3 +1.0**
LON Longmire 84.44 35 *eP* **P 03 03 10.3 +1.0**
CCUT Cedar City 84.45 47 *eP* **P 03 03 10.7 +0.9**
KNB Kanab 84.55 47 *eP* **P 03 03 12.0 +1.9**
KNB Kanab 84.55 47 *eP* **P 03 03 12.0 +1.9**
D05A Enumclaw 84.62 35 *eP* **P 03 03 12.1 +2.1**
U15A North Rim 84.62 48 *eP* **P 03 03 12.5 +1.8**
TRTT Trang 84.75 280 P **P 03 03 12.7 +1.3**
comp=Z,35nm,1.0s
WUAZ Wupatki 84.81 49 P **P 03 03 12.7 +1.3**
baz=240
B05A Brent 85.22 34 P **P 03 03 14.2 +1.4**
baz=232
PMR Palmer 85.26 14 *eP* **P 03 03 12.5 -0.2**
PMR Palmer 85.26 14 *eP* **P 03 03 12.5 -0.2**
BJI Beijing 85.33 316 P **P 03 03 14.0 +0.4**
BJI pmax pmax
comp=Z,18nm,0.6s
ENH Enshi 85.36 305 *eP* **P 03 03 14.5 +0.5**
comp=Z,33nm,0.8s
LTY Liberty 85.37 36 *eP* **P 03 03 14.7 +1.0**
E07A Sunnyside 85.40 36 *eP* **P 03 03 15.6 +1.8**
HAWA Hanford 85.49 37 *eP* **P 03 03 15.6 +1.4**
DIV Divide 85.65 15 *eP* **P 03 03 15.0 +0.3**
CHAI Chaiyaphum 85.68 289 P **P 03 03 16.4 +0.6**
comp=Z,6.8nm,0.7s,comp=Z,517nm
BMO Blue Mountains 85.88 39 *eP* **P 03 03 17.2 +1.0**
BMO Blue Mountains 85.88 39 *eP* **P 03 03 17.2 +1.0**

SCM Sheep Creek Mo 85.88 14 *eP* **P 03 03 16.0 +0.2**
SCM Sheep Creek Mo 85.88 14 *eP* **P 03 03 16.0 +0.2**
KLU Klutina 85.92 15 *eP* **P 03 03 16.3 +0.3**
GYA Guiyang 85.94 300 *eP* **P 03 03 18.0 +1.1**
GYA pP pP 03 05 35.4 +2.4
GYA sP sP 03 06 39.6 +2.5
GYA PP **PP 03 06 53.3 +3.5**
GYA SKS **SKSac 03 12 42.0 -0.8**
GYA S **S 03 12 58.9 +0.1**
GYA pmax pmax
comp=Z,10.0nm,1.0s
MFID Camas Ranch 85.97 41 *eP* **P 03 03 17.7 +1.0**
comp=Z,16nm,1.3s
WTV Waterville 86.03 35 P **P 03 03 17.7 +0.9**
WRAK Wrangell Islan 86.10 24 *eP* **P 03 03 18.3 +1.6**
comp=Z,12nm,0.8s
SLVN Son La 86.13 294 *eP* **P 03 03 19.1 +1.2**
comp=Z,5.4nm,0.9s
D08A Wollman Farm, 86.22 36 *eP* **P 03 03 19.1 +1.4**
comp=Z,16nm,1.3s
SEY Seymchan 86.23 347 P **P 03 03 17.5 +0.2**
comp=Z,12nm,0.4s,baz=158,slow=5.3,SNR=31
CAST Castle Rocks 86.29 12 *eP* **P 03 03 16.6 -1.0**
E09A Wood Farm, Sta 86.34 37 *eP* **P 03 03 19.4 +1.3**
SYO Syowa Base 86.50 193⇓ *eP* **P 03 03 16.8 -1.8**
SYO Syowa Base 86.50 193⇓ *e*PcP **P 03 03 17.8 -0.8**
F10A Beach Ranch, E 86.56 38 *eP* **P 03 03 20.2 +0.8**
KTH Kantishna Hill 86.64 12 *eP* **P 03 03 18.4 -0.9**
PHET Kaeng Krachan 86.67 285 P **P 03 03 22.5 +2.1**
comp=Z,13nm,1.0s
TRF Thorofare Moun 86.67 12 *eP* **P 03 03 18.8 -0.8**
comp=Z,32nm,0.6s
B08A Colville Reser 86.75 35 *eP* **P 03 03 20.9 +0.7**
LLLB Lillooet 86.78 32 *eP* **P 03 03 21.3 +1.0**
TMUT Trail Mountain 86.79 46 *eP* **P 03 03 23.0 +2.0**
PBKT Sadao Pong 86.83 289 P **P 03 03 22.6 +1.4**
comp=Z,17nm,1.2s
HLID Hailey 86.91 41 P **P 03 03 22.8 +1.6**
baz=238
HLID Hailey 86.91 41 *eP* **P 03 03 23.1 +1.9**
comp=Z,7.1nm,0.9s
RND Reindeer 86.93 13 *eP* **P 03 03 20.6 -0.1**
RND Reindeer 86.93 13 *eP* **P 03 03 20.6 -0.1**
SRU San Rafael Swe 87.16 46 *eP* **P 03 03 24.0 +1.5**
SRU San Rafael Swe 87.16 46 *eP* **P 03 03 24.0 +1.5**
MCK McKinley 87.20 13 *eP* **P 03 03 21.4 -0.5**
MCK pmax pmax
comp=Z,31nm,0.9s
MCK McKinley 87.20 13 *eP* **P 03 03 21.4 -0.5**
comp=Z,31nm,0.9s
Y22D IRIS PASSCAL I 87.36 52 P **P 03 03 24.8 +1.3**
baz=243
MNTX Cornudas Mount 87.47 55 P **P 03 03 25.1 +1.2**
baz=244
UTTA Uttaradit 87.64 290 P **P 03 03 26.8 +1.9**
comp=Z,3.3nm,1.1s
HYT Haines Junctio 87.69 19 *eP* **P 03 03 25.5 +1.1**
MENT Mentasta 87.70 15 *eP* **P 03 03 25.0 +0.7**
TX31 Lajitas Ar. Si 87.79 58 *eP* **P 03 03 27.7 +2.1**
TXAR Lajitas Array 87.79 58 P **P 03 03 27.6 +2.0**
comp=Z,1.8nm,0.9s,baz=217,slow=5.7,SNR=22
TXAR pP **pP 03 05 46.6 +4.1**
comp=Z,1.7nm,1.0s,baz=216,slow=4.5,SNR=8.4
TXAR PKKPbc **PKKPbc 03 21 08.5 -0.1**
comp=Z,0.3nm,0.5s,baz=187,slow=2.4,SNR=5.8
UTHA Uthaitani 87.81 287 P **P 03 03 27.4 +1.6**
comp=Z,8.4nm,0.9s,comp=Z,96nm
PV10 Paradox Valley 87.83 48 *eP* **P 03 03 28.3 +2.5**
NEW Newport 87.91 36 P **P 03 03 26.0 +0.4**
comp=Z,2.6nm,0.6s,baz=248,slow=4.9,SNR=6.5
NEW Newport 87.91 36 P **P 03 03 26.2 +0.7**
baz=236
NEW Newport 87.91 36 *eP* **P 03 03 26.1 +0.5**
NEW Newport 87.91 36 *eP* **P 03 03 26.1 +0.5**
NANT Nan 87.92 291 P **P 03 03 27.8 +1.6**
comp=Z,5.1nm,1.0s,comp=Z,739nm
SNAA Sanae 87.99 179⇑ *i* P **P 03 03 25.4 -0.3**
SNAA Sanae 87.99 179 *eP* **P 03 03 25.3 -0.3**
WRH Wood River Hil 88.03 13 *eP* **P 03 03 25.1 -0.5**
ANMO Albuquerque 88.09 52 P **P 03 03 28.2 +1.2**
comp=Z,1.1nm,1.0s,baz=226,slow=3.0,SNR=6.2
ANMO Albuquerque 88.09 52*c i* P **P 03 03 27.9 +1.0**
baz=243
ANMO Albuquerque 88.09 52*c i* P **P 03 03 27.6 +0.6**
ANMO pmax pmax
comp=Z,4.0nm,1.2s
ANMO Albuquerque 88.09 52 *eP* **P 03 03 28.3 +1.4**
DOT Dot Lake 88.22 15 *eP* **P 03 03 27.1 +0.5**
CCB Clear Creek Bu 88.24 13 *eP* **P 03 03 26.1 -0.6**
WHY Whitehorse 88.38 20 *eP* **P 03 03 28.7 +1.2**
MDM Murphy Dome 88.43 13 *eP* **P 03 03 26.8 -0.8**
COLA College 88.43 13 *i* P **P 03 03 26.8 -0.7**
COLA pmax pmax
comp=Z,41nm,1.0s
MCMT McKenzie Canyo 88.53 41 P **P 03 03 30.5 +1.6**
ILAR Eielson Array 88.55 13 P **P 03 03 27.4 -0.6**
comp=Z,8.2nm,0.6s,baz=218,slow=5.3,SNR=67
ILAR PKiKP **PKiKP 03 08 22.5 -1.0**
comp=Z,0.3nm,0.4s,baz=276,slow=3.2,SNR=5.1
ILAR PKPPKP **P'P'df 03 29 13.3 +1.9**
comp=Z,0.5nm,1.0s,baz=336,slow=1.6,SNR=4.1
ILB Eielson Array 88.55 13 *eP* **P 03 03 27.5 -0.6**
IL1 Eielson Array 88.55 13 *eP* **P 03 03 26.7 -1.4**
KMI Kunming 88.61 297 P **P 03 03 31.5 +1.9**
KMI pmax pmax
comp=Z,19nm,0.8s
LAMP Lampang 88.75 290 P **P 03 03 32.0 +1.9**
comp=Z,12nm,0.9s
HHC Hu-ho-hao-te 88.78 315 *eP* **P 03 03 30.1 +0.2**
HHC S **S 03 13 22.8 -1.6**
HHC pmax pmax
comp=Z,31nm,1.6s
HHC pmax pmax
comp=Z,89nm,4.9s
HHC LR LR
comp=N,130nm,14.9s
HHC LR LR
comp=E,130nm,14.9s
MSO Missoula 88.93 38 P **P 03 03 31.6 +1.1**
baz=238
DLMT Dillon 88.96 40 *eP* **P 03 03 32.0 +1.3**
BSMT Bassoo Peak 88.98 37 P **P 03 03 31.3 +0.5**
BILL Bilibino 88.99 354⇓ *eP* **P 03 03 29.8 -0.3**
BILL *e*PP **pP 03 05 46.0 -1.4**
BILL *e* 03 07 12.0
BILL *e*PPP PPP 03 09 14.0
BILL *e*SS SS 03 19 42.3 +2.7
BILL pmax pmax
comp=Z,10.0nm,1.1s
REDW Red Top Meadow 89.04 43 *eP* **P 03 03 32.4 +1.2**
comp=Z,9.3nm,1.0s
TPAW Teton Pass 89.04 42 *eP* **P 03 03 32.9 +1.6**
comp=Z,4.4nm,0.9s
S22A 4UR Ranch, Cre 89.08 49 P **P 03 03 32.8 +1.2**
baz=243
SNOW Snow King Moun 89.15 43 *eP* **P 03 03 33.5 +1.8**
O20A White River Ci 89.20 46 P **P 03 03 33.2 +1.3**
baz=242
O20A White River Ci 89.20 46 *eP* **P 03 03 33.3 +1.3**
IMW Indian Meadow 89.25 42 *eP* **P 03 03 33.7 +1.5**
comp=Z,4.8nm,0.8s
MOOW Moose Ponds 89.30 42 *eP* **P 03 03 33.7 +1.4**
CM01 Chiang Mai Arr 89.30 290 *eP* **P 03 03 34.2 +1.5**
LOHW Long Hollow 89.32 42 *eP* **P 03 03 33.6 +1.1**
CMAR Chiang Mai Arr 89.33 290 P **P 03 03 34.3 +1.5**
comp=Z,10nm,0.7s,baz=126,slow=2.9,SNR=52
CMMT Chiang Mai 89.46 290 P **P 03 03 34.4 +1.0**
CHTO Chiang Mai 89.46 290 P **P 03 03 34.4 +1.0**
comp=Z,12nm,0.9s
CHTO Chiang Mai 89.46 290 *eP* **P 03 03 34.7 +1.3**
CHTO pmax pmax
comp=Z,19nm,0.7s
CHTO Chiang Mai 89.46 290 *eP* **P 03 03 34.7 +1.3**
comp=Z,19nm,0.7s
BW06 Boulder Array 89.58 44 P **P 03 03 34.6 +0.9**
baz=241
BW06 Boulder Array 89.58 44 *eP* **P 03 03 34.4 +0.7**
PD31 Pinedale Array 89.58 44 *eP* **P 03 03 34.5 +0.8**
PDAR Pinedale Array 89.58 44 P **P 03 03 34.5 +0.8**
comp=Z,2.7nm,0.7s,baz=209,slow=3.9,SNR=30
SMCO Snowmass 89.63 48 *eP* **P 03 03 35.5 +1.2**
comp=Z,2.9nm,0.7s
BOZ Bozeman (W) 89.67 40 P **P 03 03 35.3 +1.4**
baz=240
BOZ Bozeman (W) 89.67 40 *eP* **P 03 03 35.5 +1.5**
BOZ Bozeman (W) 89.67 40 *eP* **P 03 03 35.5 +1.5**

H17A	**Grant Village**	**89.72**	**42**	P	**P**	**03 03 36.1**	**+1.7**
	baz=241								
DAWY	**Dawson**	**89.73**	**16**	*e*P	**P**	**03 03 34.2**	**+0.5**
	comp=Z,14nm,0.8s								
EGAK	**Eagle**	**89.87**	**15**	*e*P	**P**	**03 03 34.5**	**+0.3**
	comp=Z,20nm,1.0s								
SDCO	**Great Sand Dun**	**90.03**	**49**	P	**P**	**03 03 37.0**	**+1.0**
	baz=244								
COLD	**Coldfoot**	**90.08**	**11**	*e*P	**P**	**03 03 35.1**	**0.0**
	comp=Z,8.2nm,1.0s								
T25A	**Trinidad**	**90.54**	**50**	P	**P**	**03 03 39.2**	**+0.9**
	baz=245								
N23A	**Red Feather La**	**91.11**	**46**	P	**P**	**03 03 41.8**	**+0.9**
	baz=244								
N23A	**Red Feather La**	**91.11**	**46**	*e*P	**P**	**03 03 42.8**	**+2.0**
433A	**Art**	**92.00**	**58**	P	**P**	**03 03 45.5**	**+0.7**
	baz=247								
LZH	**Lanzhou**	**92.12**	**308**	*e*P	P	03 03 38.4	-7.1
LZH				pP	pP	03 05 57.6	-5.8
LZH				sP	sP	03 07 01.8	-5.0
LZH				pmax	pmax		
	comp=Z,18nm,1.0s						
LZH				pmax	pmax		
	comp=Z,97nm,4.6s						
RSSD	**Black Hills**	**93.77**	**44**	P	**P**	**03 03 53.3**	**+0.4**
	baz=245						
INK	**Inuvik**	**94.54**	**15**	P	**P**	**03 03 55.2**	**-0.3**
	comp=Z,2.4nm,0.7s,baz=275,slow=0.4,SNR=5.3						
INK	**Inuvik**	**94.54**	**15**	*e*P	**P**	**03 03 55.0**	**-0.5**
INK				pmax	pmax		
	comp=Z,2.0nm,0.6s						
INK	**Inuvik**	**94.54**	**15**	*e*P	**P**	**03 03 55.0**	**-0.5**
	comp=Z,2.4nm,0.6s						
ULN	**Ulaanbaatar**	**94.84**	**319**	*d i*P	**P**	**03 03 57.2**	**-0.4**
ULN				pmax	pmax		
	comp=Z,2.0nm,0.7s						
ULN	**Ulaanbaatar**	**94.84**	**319**	*e*P	**P**	**03 03 57.1**	**-0.5**
	comp=Z,2.3nm,0.7s						
SONM	**Songino Array**	**95.23**	**319**	P	**P**	**03 03 59.0**	**-0.3**
	comp=Z,0.8nm,0.7s,baz=64,slow=3.4,SNR=4.1						
SONM	**Songino Array**	**95.23**	**319**	P	**P**	**03 03 59.0**	**-0.3**
YKA	**Yellowknife Ar**	**96.91**	**25**	P	**P**	**03 04 05.6**	**-0.6**
	comp=Z,1.2nm,0.6s,baz=243,slow=4.6,SNR=9.3						
YKA				PKKPbc	**PKKPbc**	**03 20 43.5**	**-2.9**
	comp=Z,0.4nm,0.5s,baz=48,slow=2.3,SNR=9.0						
X39A	**Fountain Ranch**	**97.27**	**56**	Pdiff	**P**	**03 04 08.9**	**+0.3**
	baz=250						
TLY	**Talaya**	**98.41**	**322**	⇑*i*P	Pdif	03 04 12.5	-0.8
TLY				pmax	pmax		
	comp=Z,6.0nm,0.5s						
TIXI	**Tiksi**	**98.57**	**345**	⇑*i*P	**P**	**03 04 13.8**	**+0.3**
TIXI				pmax	pmax		
	comp=Z,4.0nm,0.7s						
N39A	**Derby Farms, D**	**100.53**	**50**	Pdiff	**Pdif**	**03 04 24.0**	**+1.1**
	baz=252						
AGMN	**Agassiz Nation**	**100.59**	**42**	Pdiff	**Pdif**	**03 04 24.2**	**+1.2**
	baz=251						
LPAZ	**La Paz**	**102.83**	**113**	PKKPbc	PKKPbc	03 20 29.2	-0.3
	comp=Z,0.7nm,0.6s,baz=261,slow=1.8,SNR=4.9						
ZALV	**Zalesovo Beam**	**110.00**	**321**	PKiKP	**PKiKP**	**03 09 00.7**	**-1.5**
	comp=Z,3.9nm,0.5s,baz=170,slow=0.7,SNR=7.3						
KURK	**Kurchatov**	**113.45**	**317**	*d i*PKIKP	**PKiKP**	**03 09 07.6**	**-1.3**
KURK				pmax	pmax		
	comp=Z,25nm,1.7s						
KURK	**Kurchatov**	**113.45**	**317**	*e*PKP	**PKiKP**	**03 09 07.1**	**-1.8**
KURBB	**Kurchatov Arra**	**113.50**	**317**	PKiKP	**PKiKP**	**03 09 07.8**	**-1.2**
	comp=Z,5.0nm,0.6s,baz=114,slow=1.8,SNR=24						
KSH	**Kashi**	**114.22**	**305**	*e*PKP	PKPdf	03 09 10.1	-0.8
KSH				PP	**PP**	**03 10 25.3**	**+5.9**
KSH				PKS	**PKSdf**	**03 12 46.1**	**-1.6**
KSH				SKS	**SKSdf**	**03 15 21.0**	**-2.3**
KSH	**Kashi**	**114.22**	**305**	SS	SS	03 25 27.1	+2.9
KSH				AMB	AMB		
	comp=Z,48nm,4.8s						
KSH				LR	LR		
	comp=N,46nm,4.7s						
KSH				LR	LR		
	comp=E,48nm,4.7s						
KSH				LR	LR		
	comp=Z,77nm,9.1s						
AAK	**Ala-Archa**	**115.66**	**308**	PKP	**PKPdf**	**03 09 12.6**	**-1.1**
	comp=Z,2.0nm,0.5s,baz=217,slow=19,SNR=4.3						
AAK	**Ala-Archa**	**115.66**	**308**	*d i*PKIKP	**PKPdf**	**03 09 12.7**	**-1.0**
FRB	**Frobisher Bay**	**117.22**	**28**	PKP	**PKPdf**	**03 09 14.8**	**-0.9**
	comp=Z,8.4nm,0.8s,baz=21,slow=2.4,SNR=5.7						
KKAR	**Karatay Array**	**118.61**	**309**	*e*PKIKP	**PKPdf**	**03 09 18.2**	**-0.9**
KKAR	**Karatay Array**	**118.61**	**309**	*e*PKPdf	**PKPdf**	**03 09 18.2**	**-0.9**
BRVK	**Borovoye**	**118.63**	**320**	*d i*PKIKP	**PKPdf**	**03 09 17.9**	**-0.9**
BRVK				pmax	pmax		
	comp=Z,12nm,0.5s						
BRVK	**Borovoye**	**118.63**	**320**	*e*PKPdf	**PKPdf**	**03 09 17.6**	**-1.2**
SPA0	**Spitsbergen Ar**	**121.85**	**356**	*e*P	**PKPdf**	**03 09 23.8**	**-0.6**
SPITS	**Spitsbergen Ar**	**121.85**	**356**	PKP	**PKPdf**	**03 09 23.8**	**-0.6**
	comp=Z,12nm,0.7s,baz=46,slow=3.6,SNR=25						
DAG	**Danmarks Havn**	**122.86**	**5**	*i*P	**PKPdf**	**03 09 24.6**	**-1.7**
DAG	**Danmarks Havn**	**122.86**	**5**	*i*PKIKP	**PKPdf**	**03 09 24.6**	**-1.7**
HSPB	**Hornsund (broa**	**123.04**	**356**	*e*P	**PKPdf**	**03 09 26.2**	**-0.4**
SUMG	**Summit**	**123.39**	**13**	*i*P	**PKPdf**	**03 09 28.3**	**+0.4**
	comp=Z,15nm,1.2s						
SUMG	**Summit**	**123.39**	**13**	*i*PKIKP	**PKPdf**	**03 09 28.3**	**+0.4**
SUMG				pmax	pmax		
	comp=Z,15nm,1.2s						
SVE	**Sverdlovsk**	**123.54**	**325**	*e*PKIKP	**PKPdf**	**03 09 27.9**	**-0.2**
SVE				pmax	pmax		
	comp=Z,16nm,0.8s						
ARU	**Arti**	**124.75**	**325**	PKP	**PKPdf**	**03 09 30.2**	**-0.3**
	comp=Z,21nm,0.5s,baz=95,slow=1.7,SNR=32						
ARU	**Arti**	**124.75**	**325**	*i*PKIKP	**PKPdf**	**03 09 30.1**	**-0.3**
ARU						03 11 28.0	
ARU						03 15 40.8	
ARU				SS	SS	03 27 31.4	-4.5
ARU	**Arti**	**124.75**	**325**	*e*PKPdf	**PKPdf**	**03 09 29.9**	**-0.5**
ABKAR	**Akbulak array**	**125.53**	**316**	*e*PKPdf	**PKPdf**	**03 09 31.7**	**-0.5**
BOSA	**Boshof**	**125.85**	**206**	PKP	**PKPdf**	**03 09 34.4**	**+0.7**
	comp=Z,5.0nm,1.1s,baz=216,slow=2.2,SNR=6.9						
GEYT	**Alibeck**	**128.09**	**303**	PKP	**PKPdf**	**03 09 37.9**	**+0.4**
	comp=Z,5.1nm,0.6s,baz=260,slow=0.9,SNR=10						
GEYT				PP	**PP**	**03 11 49.5**	**-2.4**
	comp=Z,1.2nm,0.3s,baz=349,slow=3.0,SNR=3.7						
HAMF	**Hammerfest**	**128.13**	**351**	*e*P	**PKPdf**	**03 09 36.0**	**-0.5**
ARCES	**ARCESS Array B**	**128.81**	**349**	PKP	**PKPdf**	**03 09 37.4**	**-0.5**
	comp=Z,9.2nm,0.6s,baz=52,slow=1.0,SNR=26						
ARE0	**ARCESS Array S**	**128.81**	**349**	*e*P	**PKPdf**	**03 09 37.4**	**-0.4**
KTK1	**Kautokeino**	**129.66**	**350**	*e*P	**PKPdf**	**03 09 38.5**	**-1.0**
TRO	**Tromso**	**129.72**	**352**	*e*P	**PKPdf**	**03 09 40.8**	**+1.3**
KLMR	**Klimovskoe**	**131.58**	**336**	*e*PKIKP	**PKPdf**	**03 09 42.4**	**-0.9**
KLMR				*e*		03 12 07.9	
KLMR				pmax	pmax		
	comp=Z,14nm,1.5s						
KONS	**Konsvik**	**133.40**	**353**	*e*P	**PKPdf**	**03 09 46.9**	**+0.3**
STOK	**Stokkvaagen**	**133.58**	**353**	*e*P	**PKPdf**	**03 09 47.4**	**+0.5**
LSZ	**Lusaka**	**135.55**	**219**	*e*PKIKP	**PKPdf**	**03 09 53.8**	**+1.5**
LSZ	**Lusaka**	**135.55**	**219**	*e*PKPdf	**PKPdf**	**03 09 53.8**	**+1.5**
FINES	**FINESS Array B**	**135.57**	**343**	PKhKP	PKPpre	03 09 37.2	
	comp=Z,1.3nm,0.6s,baz=58,slow=4.7,SNR=8.3						
FINES				PKP	**PKPdf**	**03 09 50.5**	**-0.2**
	comp=Z,3.9nm,0.3s,baz=34,slow=3.7,SNR=16						
FINES				SKPbc	**SKPbc**	**03 12 23.4**	**+0.4**
	comp=Z,13nm,1.0s,baz=52,slow=3.1,SNR=7.5						
OBN	**Obninsk**	**136.39**	**331**	⇓*i*PKIKP	**PKPdf**	**03 09 52.5**	**+0.1**
OBN				*e*		03 12 44.2	
OBN				*e*PPP	PPP	03 15 51.3	
OBN				pmax	pmax		
	comp=Z,15nm,0.6s						
ZEI	**Tsey**	**137.92**	**312**	*i*PKIKP	**PKPdf**	**03 09 56.9**	**+0.9**
GNI	**Garni**	**138.06**	**308**	⇑*i*PKIKP	**PKPdf**	**03 09 57.1**	**+0.8**
GNI				pmax	pmax		
	comp=Z,45nm,1.7s						
GNI	**Garni**	**138.06**	**308**	*e*PKPdf	**PKPdf**	**03 09 56.6**	**+0.3**
DOMB	**Dombas**	**138.17**	**354**	*e*P	PKPpre	03 09 47.6	
AKN	**Aaknes**	**138.20**	**356**	*e*P	PKPpre	03 09 48.7	
KIV	**Kislovodsk**	**138.37**	**314**	⇑*i*PKIKP	**PKPdf**	**03 09 56.4**	**-0.2**
KIV				*e*		03 12 54.8	
KIV				*e*PPP	PPP	03 16 02.1	
KIV				pmax	pmax		
	comp=Z,8.0nm,1.7s						
NB2	**NORSAR Subarra**	**138.92**	**353**	PKP	PKPpre	03 09 47.9	
	baz=10,slow=3.2						
NB2	**NORSAR Subarra**	**138.92**	**353**	PKP	PKPpre	03 09 47.9	
	comp=Z,1.2nm,0.5s,baz=10,slow=3.2						
NOA	**NORSAR Array B**	**138.92**	**353**	PKhKP	PKPpre	03 09 48.1	
	comp=Z,1.2nm,0.6s,baz=40,slow=1.2,SNR=19						
NOA				PKP	**PKiKP**	**03 09 58.8**	**-0.6**
	comp=Z,2.6nm,0.5s,baz=13,slow=4.0,SNR=8.0						
NOA				SKPbc	**SKPbc**	**03 12 34.0**	**+1.3**
	comp=Z,3.7nm,0.8s,baz=16,slow=4.3,SNR=6.6						
NC602	**NORSAR Array S**	**139.17**	**352**	*e*P	PKPpre	03 09 48.5	
SUE	**Sulen**	**139.44**	**357**	*e*P	PKPpre	03 09 50.6	
ASK	**Askoy**	**139.99**	**357**	*e*	PKPpre	03 09 54.5	
BER	**Bergen**	**140.08**	**357**	*e*P	PKPpre	03 09 52.7	
KONO	**Kongsberg**	**140.46**	**353**	*e*P	PKPpre	03 09 54.1	
BLS5	**Blasjo**	**140.97**	**356**	*e*P	PKPpre	03 09 55.3	
BLS5				*e*		03 10 00.2	
KMY	**Karmoy**	**141.26**	**357**	*e*P	PKPpre	03 09 56.9	
STAV	**Stavanger**	**141.51**	**356**	*e*P	PKPpre	03 09 57.4	
HOMB	**Homborsund**	**141.93**	**354**	*e*P	PKPpre	03 09 58.5	
SNART	**Snartemo**	**141.99**	**355**	*e*P	PKPpre	03 09 58.6	
SFNV	**Sufian**	**142.52**	**303**	*e*P	**PKPdf**	**03 10 02.1**	**-2.1**
SUW	**Suwalki**	**142.57**	**339**	*e*PKPdf	**PKPdf**	**03 10 01.1**	**-2.6**
SUW	**Suwalki**	**142.57**	**339**	*e*PKIKP	**PKPdf**	**03 10 01.1**	**-2.6**
AKASG	**Malin Array Be**	**142.64**	**330**	PKhKP	PKPpre	03 10 00.6	
	comp=Z,28nm,0.3s,baz=43,slow=4.5,SNR=178						
KIEV	**Kiev**	**142.65**	**330**	*e*PKHKP	PKPpre	03 10 00.4	
KIEV	**Kiev**	**142.65**	**330**	*e*PKPpre	PKPpre	03 10 00.4	
SIM	**Simferopol'**	**143.48**	**319**	*de*PKIKP	PKPab	03 10 04.4	-0.2
SIM				pmax	pmax		
	comp=Z,97nm,0.8s						
KSRV	**Kasrt alli**	**143.52**	**303**	*e*P	**PKPdf**	**03 10 05.7**	**-0.3**
MUD	**Monsted U'grnd**	**143.64**	**352**	*i*P	PKPbc	03 10 04.5	-0.2
MUD	**Monsted U'grnd**	**143.64**	**352**	*i*PKIKP	PKPbc	03 10 04.5	-0.2
COP	**Copenhagen**	**143.89**	**349**	*i*P	PKPbc	03 10 05.2	-0.3
COP	**Copenhagen**	**143.89**	**349**	*i*PKIKP	PKPbc	03 10 05.2	-0.3
BSD	**Bornholm Skovb**	**143.94**	**347**	⇓*i*P	PKPbc	03 10 05.1	-0.6
	comp=Z,66nm,0.6s						
BSD	**Bornholm Skovb**	**143.94**	**347**	⇓*i*PKIKP	PKPbc	03 10 05.1	-0.6
BSD				pmax	pmax		
	comp=Z,66nm,0.6s						
SORM	**Soroca**	**144.79**	**328**	⇑*i*P	**PKPdf**	**03 10 05.7**	**-2.0**
GKP	**Gorka Klasztor**	**145.05**	**343**	*e*PKPdf	**PKPbc**	**03 10 08.9**	**-0.1**
GKP	**Gorka Klasztor**	**145.05**	**343**	*e*PKIKP	**PKPbc**	**03 10 08.9**	**-0.1**
ESK	**Eskdalemuir**	**145.13**	**4**	*e*PKIKP	**PKPdf**	**03 10 08.4**	**+0.3**
ESK	**Eskdalemuir**	**145.13**	**4**	*e*PKPbc	**PKPdf**	**03 10 08.3**	**+0.3**
DRWC	**Darouich**	**145.13**	**305**	*e*P	**PKPbc**	**03 10 10.2**	**+0.2**
BEL	**Belsk**	**145.19**	**339**	*e*PKPdf	**PKPab**	**03 10 10.4**	**-0.6**
BEL	**Belsk**	**145.19**	**339**	*e*PKPbc	**PKPab**	**03 10 10.4**	**-0.6**
MILM	**Milestii Mici**	**145.35**	**326**	⇑*i*P	**PKPdf**	**03 10 08.7**	**0.0**
BTCH	**Batrach**	**145.46**	**304**	*e*P	**PKPbc**	**03 10 10.8**	**-0.2**
LVV	**L'vov**	**145.57**	**333**	*e*PKP2	**PKPbc**	**03 10 11.3**	**+0.6**
ARNB	**Al Arnab**	**145.89**	**304**	*e*P	**PKPbc**	**03 10 12.5**	**+0.3**
LEOM	**Leova**	**145.94**	**326**	⇑*i*P	**PKPdf**	**03 10 10.1**	**+0.4**
LEOM	**Leova**	**145.94**	**326**	⇑*i*PKIKP	**PKPdf**	**03 10 10.1**	**+0.4**
MARH	**Ras Al Marh**	**145.98**	**301**	*e*P	**PKPab**	**03 10 14.0**	**-1.2**
SALA	**Sala**	**146.07**	**298**	*e*P	**PKPbc**	**03 10 13.4**	**+0.5**
BRTR	**Keskin Array B**	**146.24**	**312**	PKP	**PKPdf**	**03 10 10.0**	**-0.6**
	comp=Z,14nm,0.6s,baz=84,slow=2.5,SNR=82						
BRTR				PKPbc	**PKPbc**	**03 10 12.5**	**-0.6**
	comp=Z,15nm,0.6s,baz=130,slow=2.7,SNR=81						
BRTR				SKKPbc	SKKPbc	03 20 44.2	-1.4
	comp=Z,0.9nm,0.8s,baz=235,slow=4.4,SNR=6.3						
KWP	**Kalwaria Pacla**	**146.26**	**334**	*e*PKPdf	**PKPbc**	**03 10 12.7**	**+0.1**
KWP	**Kalwaria Pacla**	**146.26**	**334**	*e*PKP2	**PKPbc**	**03 10 12.7**	**+0.1**
TLCR		**146.44**	**323**	⇑*i*P	**PKPbc**	**03 10 12.2**	**-1.0**
TLCR		**146.44**	**323**	⇑*i*PKIKP	**PKPbc**	**03 10 12.2**	**-1.0**
BRBR	**Barbar**	**146.56**	**300**	*e*P	**PKPbc**	**03 10 14.7**	**+0.4**
BURAR	**Bucovina Array**	**146.68**	**330**	⇑*i*P	**PKPbc**	**03 10 13.9**	**-0.1**
BURAR	**Bucovina Array**	**146.68**	**330**	⇑*i*PKP2	**PKPbc**	**03 10 13.9**	**-0.1**
TESR	**Tescani**	**146.74**	**327**	⇑*i*P	**PKPdf**	**03 10 10.4**	**-0.7**
ANTO	**Ankara**	**146.76**	**312**	*e*PKIKP	**PKPdf**	**03 10 11.6**	**+0.2**
ANTO	**Ankara**	**146.76**	**312**	*e*PKPdf	**PKPdf**	**03 10 11.6**	**+0.2**
ANTO				*e*PKPbc	**PKPbc**	**03 10 14.0**	**-0.5**
KERG	**Konya-Eregli**	**146.79**	**308**	*i*P	**PKPbc**	**03 10 13.8**	**-0.9**
CFR	**Carcaliu**	**146.82**	**324**	⇓*i*P	**PKPdf**	**03 10 11.0**	**-0.2**
CFR	**Carcaliu**	**146.82**	**324**	⇓*i*PKIKP	**PKPdf**	**03 10 11.0**	**-0.2**
OJC	**Ojcow**	**146.89**	**338**	*e*PKPdf	**PKPbc**	**03 10 14.4**	**+0.1**
OJC				*e*PKPab	**PKPab**	**03 10 18.5**	**+0.7**
OJC	**Ojcow**	**146.89**	**338**	*e*PKP2	**PKPab**	**03 10 18.5**	**+0.7**
STHS	**Stebnicka Huta**	**147.01**	**336**	*e*PKP2	**PKPbc**	**03 10 15.3**	**+0.6**
STHS	**Stebnicka Huta**	**147.01**	**336**	*e*PKP	**PKPbc**	**03 10 15.2**	**+0.6**
PLOR	**Plostina**	**147.19**	**326**	⇑*i*P	**PKPdf**	**03 10 11.0**	**-0.9**
PLOR	**Plostina**	**147.19**	**326**	⇑*i*PKIKP	**PKPdf**	**03 10 11.0**	**-0.9**
UZH	**Uzhgorod**	**147.21**	**334**	⇓*i*PKP2	**PKPbc**	**03 10 15.5**	**+0.3**
HARR	**Harsova**	**147.24**	**323**	⇓*i*P	**PKPdf**	**03 10 10.5**	**-1.4**
TLB	**Topalu**	**147.25**	**323**	⇓*i*P	**PKPbc**	**03 10 15.2**	**-0.2**
TLB	**Topalu**	**147.25**	**323**	⇓*i*PKP2	**PKPbc**	**03 10 15.2**	**-0.2**
NIE	**Niedzica**	**147.37**	**337**	*e*PKPdf	**PKPbc**	**03 10 16.3**	**+0.7**
NIE				*e*PKPab	**PKPab**	**03 10 20.8**	**+0.9**
NIE	**Niedzica**	**147.37**	**337**	*e*PKP2	**PKPbc**	**03 10 16.3**	**+0.7**
MANR	**Mangalia**	**147.40**	**322**	⇓*i*P	**PKPdf**	**03 10 13.9**	**+1.7**
KSP	**Ksiaz**	**147.48**	**342**	*e*PKPdf	**PKPbc**	**03 10 16.3**	**+0.5**
KSP				*e*PKPab	**PKPab**	**03 10 21.1**	**+0.9**
KSP	**Ksiaz**	**147.48**	**342**	*e*PKP2	**PKPbc**	**03 10 16.3**	**+0.5**
TRPA	**Tarpa**	**147.50**	**333**	⇓*ex*	**PKPbc**	**03 10 15.8**	**-0.1**
PSN	**Preselentsi**	**147.72**	**322**	*i*P	**PKPbc**	**03 10 17.3**	**+0.7**
DOPR	**Dopca**	**147.75**	**327**	⇑*i*P	**PKPdf**	**03 10 14.2**	**+1.4**
OKC	**Ostrava-Krasne**	**147.78**	**339**	⇑*e*PKP	**PKPbc**	**03 10 16.7**	**+0.1**
OKC				*e*PKPAB	**PKPab**	**03 10 21.9**	**+0.4**
OKC	**Ostrava-Krasne**	**147.78**	**339**	*e*PKP2	**PKPbc**	**03 10 16.7**	**+0.1**
MLR	**Muntele Rosu**	**147.79**	**326**	⇑*i*P	**PKPdf**	**03 10 10.8**	**-2.2**
KDHN	**Kadinhani**	**147.82**	**311**	*i*P	**PKPbc**	**03 10 16.8**	**-0.4**
UPC	**Upice**	**147.86**	**342**	⇑*e*PKP	**PKPbc**	**03 10 17.1**	**+0.3**
UPC				*e*PKPAB	**PKPab**	**03 10 22.2**	**+0.4**
UPC	**Upice**	**147.86**	**342**	*e*PKP2	**PKPbc**	**03 10 17.1**	**+0.3**
LANS	**Liptovska Anna**	**147.90**	**337**	*e*PKP2	**PKPbc**	**03 10 18.0**	**+1.0**
LANS	**Liptovska Anna**	**147.90**	**337**	*e*PKP	**PKPbc**	**03 10 18.0**	**+1.0**
LANS				*e*		03 10 23.3	
CLL	**Collm**	**147.91**	**346**	*e*PKPdf	**PKPdf**	**03 10 13.0**	**+0.2**
CLL				⇓*i*PKPbc	**PKPbc**	**03 10 16.9**	**+0.1**
	comp=Z,55nm,0.9s						
CLL				⇑*i*PKPab	**PKPab**	**03 10 21.8**	**-0.1**
	comp=Z,21nm,0.7s						
CLL				*ep*PKPab	**pPKPab**	**03 12 44.0**	**+1.0**
DPC	**Dobruska-Polom**	**147.91**	**342**	⇑*e*PKP	**PKPbc**	**03 10 17.4**	**+0.4**
DPC				*e*PKPAB	**PKPab**	**03 10 22.3**	**+0.2**
DPC	**Dobruska-Polom**	**147.91**	**342**	*e*PKP2	**PKPbc**	**03 10 17.4**	**+0.4**
ERMK	**Ermenek**	**147.97**	**307**	*i*P	**PKPbc**	**03 10 18.4**	**+0.6**
KRLC	**Kraliky**	**148.01**	**341**	⇑*e*PKP	**PKPbc**	**03 10 17.5**	**+0.3**
KRLC				*e*PKPAB	**PKPab**	**03 10 23.1**	**+0.6**
KRLC	**Kraliky**	**148.01**	**341**	*e*PKP2	**PKPbc**	**03 10 17.5**	**+0.3**
MORC	**Moravsky Berou**	**148.03**	**340**	*e*PKP2	**PKPbc**	**03 10 17.4**	**+0.1**
MORC	**Moravsky Berou**	**148.03**	**340**	*e*PKPbc	**PKPbc**	**03 10 17.4**	**+0.1**
MORC				*e*PKPab	**PKPab**	**03 10 22.7**	**+0.1**
KECS	**Kecovo**	**148.06**	**335**	*e*PKP2	**PKPbc**	**03 10 17.5**	**+0.1**
KECS	**Kecovo**	**148.06**	**335**	*e*PKP	**PKPbc**	**03 10 17.5**	**+0.1**
KECS				*e*		03 10 23.1	
BRG	**Berggiesshubel**	**148.08**	**345**	*e*PKP	**PKPdf**	**03 10 11.3**	**-1.8**
	comp=Z,3.7nm,1.0s						
BRG				*i*		03 10 17.4	
	comp=Z,24nm,0.7s						
BRG				*i*		03 10 22.8	
	comp=Z,12nm,0.7s						
BRG	**Berggiesshubel**	**148.08**	**345**	*e*PKIKP	**PKPdf**	**03 10 11.4**	**-1.8**
BRG				*i*		03 10 22.8	
BRG				pmax	pmax		
	comp=Z,14nm,1.0s						
BRG				pmax	pmax		
	comp=Z,24nm,0.7s						
CJR	**Cluj-Napoca**	**148.09**	**330**	⇑*i*P	**PKPdf**	**03 10 11.7**	**-1.7**
CJR	**Cluj-Napoca**	**148.09**	**330**	⇑*i*PKIKP	**PKPdf**	**03 10 11.7**	**-1.7**
CSS	**Mathiatis**	**148.22**	**304**	*e*PKPbc	**PKPbc**	**03 10 17.5**	**-0.7**
PVCC	**Panska Ves**	**148.24**	**344**	⇑*e*PKP	**PKPbc**	**03 10 18.1**	**+0.4**
PVCC	**Panska Ves**	**148.24**	**344**	*e*PKP2	**PKPbc**	**03 10 18.1**	**+0.4**
ESKT	**Eskisehir**	**148.26**	**313**	*i*P	**PKPbc**	**03 10 18.3**	**0.0**
VOIR		**148.29**	**327**	⇓*i*P	**PKPdf**	**03 10 14.9**	**+1.1**
WTSB	**Winterswijk**	**148.32**	**353**	*e*PKPdf	**PKPdf**	**03 10 13.3**	**-0.1**
	comp=Z,7.7nm,0.5s						
WTSB				*e*PKPbc	**PKPbc**	**03 10 17.9**	**0.0**
	comp=Z,60nm,0.6s						
DRGR		**148.44**	**331**	⇑*i*P	**PKPdf**	**03 10 14.8**	**+0.8**
ARR	**Arges**	**148.55**	**327**	⇓*i*P	**PKPdf**	**03 10 15.5**	**+1.3**
SZAC	**Souni**	**148.64**	**304**	P	**PKPbc**	**03 10 19.3**	**0.0**
VYHS	**Vyhne**	**148.68**	**337**	*e*PKP	**PKPbc**	**03 10 19.0**	**+0.1**
VYHS				*e*		03 10 25.9	
PRA	**Prague**	**148.69**	**343**	⇑*e*PKP	**PKPbc**	**03 10 19.1**	**+0.3**
GOPC	**GO Pecny, Ondr**	**148.74**	**343**	⇑*e*PKP	**PKPbc**	**03 10 19.1**	**+0.1**
GOPC				*e*PKPAB	**PKPab**	**03 10 25.9**	**+0.4**
PRU	**Pruhonice**	**148.74**	**343**	⇑*e*PKP	**PKPbc**	**03 10 19.2**	**+0.3**
PRU				*e*PKPAB	**PKPab**	**03 10 25.5**	**+0.1**
VRAC	**Vranov**	**148.74**	**340**	⇑*i*P	**PKPbc**	**03 10 18.4**	**-0.6**
PSZ	**Piszkesteto**	**148.75**	**335**	⇓*i*P	**PKPbc**	**03 10 18.1**	**-1.1**
PSZ	**Piszkesteto**	**148.75**	**335**	⇓*ex*	**PKPbc**	**03 10 18.9**	**-0.3**
PSZ	**Piszkesteto**	**148.75**	**335**	*e*PKPbc	**PKPbc**	**03 10 19.1**	**-0.1**
LOT	**Lotru**	**148.93**	**328**	⇑*i*P	**PKPdf**	**03 10 14.6**	**-0.2**
AKMC	**Akamas**	**148.98**	**304**	P	**PKPbc**	**03 10 19.2**	**-0.9**
NKC	**Novy Kostel**	**149.03**	**346**	⇑*e*PKP	**PKPbc**	**03 10 20.0**	**+0.3**
TREC	**Trest**	**149.09**	**342**	⇑*e*PKP	**PKPbc**	**03 10 19.9**	**0.0**
TREC				*e*PKPAB	**PKPab**	**03 10 26.9**	**-0.1**
SMOL	**Smolenice**	**149.16**	**339**	*e*PKP	**PKPbc**	**03 10 20.8**	**+0.8**
SIRR	**Siria**	**149.31**	**331**	⇓*i*P	**PKPbc**	**03 10 19.3**	**-1.2**
BEBN	**Eben Emael**	**149.59**	**354**	PKPbc	**PKPbc**	**03 10 21.1**	**+0.2**
BEBN				PKPab	**PKPab**	**03 10 28.6**	**-0.3**
HGN	**Heimansgroeve**	**149.60**	**354**	*e*PKPbc	**PKPbc**	**03 10 20.7**	**-0.2**
	comp=Z,22nm,1.0s						
HGN				*e*PKPab	**PKPab**	**03 10 28.4**	**-0.6**
KORT	**Korkueli**	**149.73**	**309**	*i*P	**PKPbc**	**03 10 21.8**	**-0.2**
MEM	**Membach**	**149.75**	**354**	PKPbc	**PKPbc**	**03 10 21.3**	**0.0**
MEM				PKPab	**PKPab**	**03 10 29.7**	**+0.1**
SRE	**Strehaia**	**149.77**	**328**	⇑*i*P	**PKPbc**	**03 10 19.3**	**-2.3**
KHC	**Kasperske Hory**	**149.78**	**344**	*e*PKPDF	**PKPbc**	**03 10 15.2**	**-0.8**
KHC				⇑*e*PKP	**PKPbc**	**03 10 21.6**	**+0.1**
KHC				*e*PKPAB	**PKPab**	**03 10 30.4**	**+0.5**
KHC	**Kasperske Hory**	**149.78**	**344**	*e*PKIKP	**PKPdf**	**03 10 15.8**	**-0.2**
KHC				*e*		03 10 30.0	
**

TAM			*e*PKPab	**PKPab**	03 12 22.9	+0.2

*BUC **16** 03:02:45.8±1.0,45.64N×26.41E,h162km±10km,MD4.1/5, Error ellipse: s-maj=5.8km s-min=5.2km az=68.0*
*ISCJB **16** 03:02:46.2±0.7,45.64N±0.03×26.49E±0.04,h152km±6km, Error ellipse: s-maj=5.3km s-min=4.5km az=150.4*
*CSEM **16** 03:02:46.1±0.2,45.64N×26.46E,h153km±2km,MD4.1, Error ellipse: s-maj=3.3km s-min=3.2km az=167.0*

ISC 16 03:02:45.3±1.5,45.64N±0.03×26.45E±0.03,h163km±8km, n97,σ0979/144,48C-32D,Romania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLOR	**Plostina**	**0.25**	**34**	P	**Pn**	**03 03 07.0**	**-0.2**
PLOR				S	**Sn**	**03 03 22.8**	**-1.4**
PLOR	**Plostina**	**0.25**	**34**	⇓P	**Pn**	**03 03 07.1**	**-0.2**
PLOR	**Plostina**	**0.25**	**34**	⇓P	**Pn**	**03 03 07.1**	**-0.2**
PLOR				*i* S	**Sn**	**03 03 24.0**	**-0.2**
PLOR	**Plostina**	**0.25**	**34**	⇓P	**Pn**	**03 03 07.1**	**-0.2**
PLOR				*i* S	**Sn**	**03 03 24.0**	**-0.2**
MLR	**Muntele Rosu**	**0.39**	**247**	P	**Pn**	**03 03 07.7**	**-0.1**
MLR				S	**Sn**	**03 03 23.6**	**-1.4**
MLR	**Muntele Rosu**	**0.39**	**247**	⇓P	**Pn**	**03 03 07.8**	**-0.1**
MLR	**Muntele Rosu**	**0.39**	**247**	⇓P	**Pn**	**03 03 07.8**	**-0.1**
MLR				*i* S	**Sn**	**03 03 24.7**	**-0.3**
MLR	**Muntele Rosu**	**0.39**	**247**	P	**Pn**	**03 03 07.7**	**-0.1**
MLR				*i* S	**Sn**	**03 03 24.7**	**-0.3**
ODBI	**Odobesti**	**0.44**	**74**	⇓P	**Pn**	**03 03 08.9**	**+1.1**
ODBI	**Odobesti**	**0.44**	**74**	⇓P	**Pn**	**03 03 08.9**	**+1.1**
ODBI	**Odobesti**	**0.44**	**74**	⇓P	**Pn**	**03 03 08.9**	**+1.1**
PETR	**Petresti**	**0.55**	**82**	P	**Pn**	**03 03 09.1**	**+0.8**
PETR				S	**Sn**	**03 03 26.0**	**+0.1**
PETR	**Petresti**	**0.55**	**82**	⇑P	**Pn**	**03 03 09.1**	**+0.8**
PETR	**Petresti**	**0.55**	**82**	⇑P	**Pn**	**03 03 09.1**	**+0.8**
PETR				*i* S	**Sn**	**03 03 26.1**	**+0.1**
PETR	**Petresti**	**0.55**	**82**	⇑P	**Pn**	**03 03 09.1**	**+0.8**
PETR				S	**Sn**	**03 03 26.0**	**+0.1**
SECR		**0.67**	**204**	⇑P	**Pn**	**03 03 09.5**	**+0.5**
SECR		**0.67**	**204**	⇑P	**Pn**	**03 03 09.5**	**+0.5**
SECR				*i* S	**Sn**	**03 03 27.2**	**+0.1**
SECR		**0.67**	**204**	⇑P	**Pn**	**03 03 09.5**	**+0.5**
SECR				*i* S	**Sn**	**03 03 27.2**	**+0.1**
DOPR	**Dopca**	**0.81**	**294**	⇓P	**Pn**	**03 03 09.8**	**-0.1**
DOPR	**Dopca**	**0.81**	**294**	⇓P	**Pn**	**03 03 09.8**	**-0.1**
DOPR				*i* S	**Sn**	**03 03 28.9**	**+0.1**
DOPR	**Dopca**	**0.81**	**294**	⇓P	**Pn**	**03 03 09.8**	**-0.1**
DOPR				*i* S	**Sn**	**03 03 28.9**	**+0.1**
PGOR	**Pogoanele**	**0.83**	**153**	S	**Sn**	**03 03 29.4**	**+0.5**
PGOR	**Pogoanele**	**0.83**	**153**	*i* S	**Sn**	**03 03 29.4**	**+0.5**
PGOR	**Pogoanele**	**0.83**	**153**	*i* S	**Sn**	**03 03 29.4**	**+0.5**
TESR	**Tescani**	**0.88**	**9**	⇓P	**Pn**	**03 03 10.3**	**0.0**
TESR	**Tescani**	**0.88**	**9**	⇓P	**Pn**	**03 03 10.3**	**0.0**
TESR				*i* S	**Sn**	**03 03 28.9**	**-0.8**
TESR	**Tescani**	**0.88**	**9**	⇓P	**Pn**	**03 03 10.3**	**0.0**
TESR				*i* S	**Sn**	**03 03 28.9**	**-0.8**
SULR		**0.97**	**188**	⇑P	**Pn**	**03 03 11.5**	**+0.4**
SULR		**0.97**	**188**	⇑P	**Pn**	**03 03 11.5**	**+0.4**
SULR				*i* S	**Sn**	**03 03 30.9**	**+0.1**
SULR		**0.97**	**188**	⇑P	**Pn**	**03 03 11.5**	**+0.4**
SULR				*i* S	**Sn**	**03 03 30.9**	**+0.1**
VOIR		**1.01**	**259**	⇓P	**Pn**	**03 03 11.3**	**-0.1**
VOIR		**1.01**	**259**	⇓P	**Pn**	**03 03 11.3**	**-0.1**
VOIR				*i* S	**Sn**	**03 03 31.6**	**+0.2**
VOIR		**1.01**	**259**	⇓P	**Pn**	**03 03 11.3**	**-0.1**
VOIR				*i* S	**Sn**	**03 03 31.6**	**+0.2**
MTUR	**Matau**	**1.06**	**247**	⇓P	**Pn**	**03 03 12.7**	**+0.8**
MTUR	**Matau**	**1.06**	**247**	⇓P	**Pn**	**03 03 12.7**	**+0.8**
MTUR	**Matau**	**1.06**	**247**	⇓P	**Pn**	**03 03 12.7**	**+0.8**
AMRR	**Amara**	**1.21**	**148**	⇑P	**Pn**	**03 03 13.7**	**+0.7**
AMRR	**Amara**	**1.21**	**148**	⇑P	**Pn**	**03 03 13.7**	**+0.7**
AMRR				*i* S	**Sn**	**03 03 33.8**	**-0.5**
AMRR	**Amara**	**1.21**	**148**	⇑P	**Pn**	**03 03 13.7**	**+0.7**
AMRR				*i* S	**Sn**	**03 03 33.8**	**-0.5**
GIUM	**Giurgiulesti**	**1.25**	**97**	P	**Pn**	**03 03 14.2**	**+0.9**
GIUM				S	**Sn**	**03 03 33.7**	**-1.2**
GIUM	**Giurgiulesti**	**1.25**	**97**	P	**Pn**	**03 03 14.2**	**+0.9**
GIUM				S	**Sn**	**03 03 33.7**	**-1.2**
CFR	**Carcaliu**	**1.28**	**111**	⇓P	**Pn**	**03 03 13.9**	**+0.3**
CFR	**Carcaliu**	**1.28**	**111**	⇓P	**Pn**	**03 03 13.9**	**+0.3**
CFR				*i* S	**Sn**	**03 03 34.2**	**-1.2**
CFR	**Carcaliu**	**1.28**	**111**	⇓P	**Pn**	**03 03 13.9**	**+0.3**
CFR				*i* S	**Sn**	**03 03 34.2**	**-1.2**
ARR	**Arges**	**1.31**	**258**	⇑P	**Pn**	**03 03 14.0**	**0.0**
ARR	**Arges**	**1.31**	**258**	⇑P	**Pn**	**03 03 14.0**	**0.0**
ARR				*i* S	**Sn**	**03 03 36.4**	**+0.3**
ARR	**Arges**	**1.31**	**258**	⇑P	**Pn**	**03 03 14.0**	**0.0**
ARR				*i* S	**Sn**	**03 03 36.4**	**+0.3**
BUC1	**Bucharest**	**1.33**	**193**	⇑P	**Pn**	**03 03 14.6**	**+0.4**
BUC1	**Bucharest**	**1.33**	**193**	⇑P	**Pn**	**03 03 14.6**	**+0.4**
BUC1				*i* S	**Sn**	**03 03 35.5**	**-0.8**
BUC1	**Bucharest**	**1.33**	**193**	⇑P	**Pn**	**03 03 14.6**	**+0.4**
BUC1				*i* S	**Sn**	**03 03 35.5**	**-0.8**
HARR	**Harsova**	**1.42**	**132**	⇑P	**Pn**	**03 03 15.6**	**+0.6**
HARR	**Harsova**	**1.42**	**132**	⇑P	**Pn**	**03 03 15.6**	**+0.6**
HARR	**Harsova**	**1.42**	**132**	⇑P	**Pn**	**03 03 15.6**	**+0.6**
LEOM	**Leova**	**1.50**	**56**	P	**Pn**	**03 03 16.6**	**+0.8**
LEOM				S	**Sn**	**03 03 37.9**	**-1.4**
LEOM	**Leova**	**1.50**	**56**	⇑P	**Pn**	**03 03 16.5**	**+0.8**
LEOM	**Leova**	**1.50**	**56**	⇑P	**Pn**	**03 03 16.5**	**+0.8**
LEOM				*i* S	**Sn**	**03 03 38.5**	**-0.8**
LEOM	**Leova**	**1.50**	**56**	⇑P	**Pn**	**03 03 16.5**	**+0.8**
LEOM				*i* S	**Sn**	**03 03 38.5**	**-0.8**
HUMR	**Humele**	**1.53**	**224**	⇑P	**Pn**	**03 03 16.2**	**+0.1**
HUMR	**Humele**	**1.53**	**224**	⇑P	**Pn**	**03 03 16.2**	**+0.1**
HUMR				*i* S	**Sn**	**03 03 38.9**	**-0.9**
HUMR	**Humele**	**1.53**	**224**	⇑P	**Pn**	**03 03 16.2**	**+0.1**
HUMR				*i* S	**Sn**	**03 03 38.9**	**-0.9**
TLB	**Topalu**	**1.55**	**133**	⇑P	**Pn**	**03 03 16.9**	**+0.6**
TLB	**Topalu**	**1.55**	**133**	⇑P	**Pn**	**03 03 16.9**	**+0.6**
TLB				*i* S	**Sn**	**03 03 39.6**	**-0.5**
TLB	**Topalu**	**1.55**	**133**	⇑P	**Pn**	**03 03 16.9**	**+0.6**
TLB				*i* S	**Sn**	**03 03 39.6**	**-0.5**
PRAR	**RASCA**	**1.73**	**355**	⇓P	**Pn**	**03 03 19.2**	**+1.1**
PRAR	**RASCA**	**1.73**	**355**	⇓P	**Pn**	**03 03 19.2**	**+1.1**
PRAR	**RASCA**	**1.73**	**355**	⇓P	**Pn**	**03 03 19.2**	**+1.1**
CVDA	**Cernavoda**	**1.73**	**139**	⇑P	**Pn**	**03 03 18.6**	**+0.4**
CVDA	**Cernavoda**	**1.73**	**139**	⇑P	**Pn**	**03 03 18.6**	**+0.4**
CVDA	**Cernavoda**	**1.73**	**139**	⇑P	**Pn**	**03 03 18.6**	**+0.4**
TLCR		**1.73**	**105**	⇑P	**Pn**	**03 03 18.7**	**+0.6**
TLCR		**1.73**	**105**	⇑P	**Pn**	**03 03 18.7**	**+0.6**
TLCR				*i* S	**Sn**	**03 03 43.3**	**-0.2**
TLCR		**1.73**	**105**	⇑P	**Pn**	**03 03 18.7**	**+0.6**
TLCR				*i* S	**Sn**	**03 03 43.3**	**-0.2**
IAS	**Iasi**	**1.73**	**26**	⇑P	**Pn**	**03 03 18.7**	**+0.5**
IAS	**Iasi**	**1.73**	**26**	⇑P	**Pn**	**03 03 18.7**	**+0.5**
IAS	**Iasi**	**1.73**	**26**	⇑P	**Pn**	**03 03 18.7**	**+0.5**
TIRR	**Tirgusor**	**1.83**	**130**	⇑P	**Pn**	**03 03 19.9**	**+0.6**
TIRR	**Tirgusor**	**1.83**	**130**	⇑P	**Pn**	**03 03 19.9**	**+0.6**
TIRR				*i* S	**Sn**	**03 03 44.7**	**-0.7**
TIRR	**Tirgusor**	**1.83**	**130**	⇑P	**Pn**	**03 03 19.9**	**+0.6**
TIRR				*i* S	**Sn**	**03 03 44.7**	**-0.7**
MILM	**Milestii Mici**	**2.08**	**51**	P	**Pn**	**03 03 22.8**	**+0.8**
MILM				S	**Sn**	**03 03 49.0**	**-1.4**
MILM	**Milestii Mici**	**2.08**	**51**	⇓P	**Pn**	**03 03 22.8**	**+0.8**
MILM	**Milestii Mici**	**2.08**	**51**	⇓P	**Pn**	**03 03 22.8**	**+0.8**
MILM				*i* S	**Sn**	**03 03 50.2**	**-0.2**
MILM	**Milestii Mici**	**2.08**	**51**	⇓P	**Pn**	**03 03 22.8**	**+0.8**
MILM				*i* S	**Sn**	**03 03 50.2**	**-0.2**
KIS	**Kishinev**	**2.13**	**50**	P	**Pn**	**03 03 24.0**	**+1.4**
KIS				*i* S	**Sn**	**03 03 50.0**	**-1.5**
	720nm,0.5s						
KIS	**Kishinev**	**2.13**	**50**	P	**Pn**	**03 03 24.0**	**+1.4**
KIS				*i* S	**Sn**	**03 03 50.0**	**-1.5**
	720nm,0.5s						
ZIMR		**2.13**	**202**	S	**Sn**	**03 03 49.7**	**-1.9**
ZIMR		**2.13**	**202**	*i* S	**Sn**	**03 03 49.7**	**-1.9**
BURAR	**Bucovina Array**	**2.15**	**337**	⇑P	**Pn**	**03 03 24.8**	**+1.9**
BURAR	**Bucovina Array**	**2.15**	**337**	⇑P	**Pn**	**03 03 24.8**	**+1.9**
BURAR	**Bucovina Array**	**2.15**	**337**	⇑P	**Pn**	**03 03 24.8**	**+1.9**
CJR	**Cluj-Napoca**	**2.25**	**299**	⇓P	**Pn**	**03 03 24.4**	**+0.3**
CJR	**Cluj-Napoca**	**2.25**	**299**	⇓P	**Pn**	**03 03 24.4**	**+0.3**
CJR	**Cluj-Napoca**	**2.25**	**299**	⇓P	**Pn**	**03 03 24.4**	**+0.3**
MANR	**Mangalia**	**2.38**	**139**	⇑P	**Pn**	**03 03 26.5**	**+0.9**
MANR	**Mangalia**	**2.38**	**139**	⇑P	**Pn**	**03 03 26.5**	**+0.9**
MANR	**Mangalia**	**2.38**	**139**	⇑P	**Pn**	**03 03 26.5**	**+0.9**
SORM	**Soroca**	**2.81**	**27**	P	**Pn**	**03 03 31.2**	**+0.5**
SORM				S	**Sn**	**03 04 04.1**	**-2.0**
SORM	**Soroca**	**2.81**	**27**	P	**Pn**	**03 03 31.2**	**+0.5**
SORM				S	**Sn**	**03 04 04.1**	**-2.0**

MEX 16 03:15:19.8±0.8,17.45N×97.31W,h69km±9km,MD3.7, Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VHO	**Vista Hermosa**	**0.66**	**125**	*e*P	Pn	03 15 33.2	-1.2
VHO				*e*S	Sn	03 15 43.6	-1.6
TPIG	**Tehuac#an**	**0.96**	**357**	*e*P	Pn	03 15 36.7	-1.3
TPIG				*e*S	Sn	03 15 49.3	-2.2
TLIG	**Tlapa**	**1.21**	**275**	*e*P	Pn	03 15 40.3	-0.8
TLIG				*e*S	Sn	03 15 55.6	-1.3
PNIG	**Pinotepa**	**1.31**	**217**	*e*P	Pn	03 15 40.4	-2.0
PNIG				*e*S	Sn	03 15 57.3	-1.9
PPM	**Popocatepetl**	**2.04**	**322**	*i* P	Pn	03 15 50.8	-1.6
PPM				*i* S	Sn	03 16 15.4	-1.8
YAIG	**Yautepec**	**2.19**	**310**	*e*P	Pn	03 15 53.2	-0.9
YAIG				*i* S	Sn	03 16 18.8	-1.4
CAIG	**El Cayaco**	**2.86**	**262**	*e*P	Pn	03 16 01.0	-2.1
CAIG				*i* S	Sn	03 16 34.1	-2.3

IDC 16 03:28:03.9±5.9,5.41S×151.73E,h61km±49km,mb3.6/4, mb1 3.9/5,mb1mx3.4/43,mbtmp3.9/5,ML1.7/1,Error ellipse: s-maj=103.1km s-min=32.1km az=130.0,New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**6.02**	**228**	P	Pn	03 29 31.8	+1.3
	1.1nm,0.3s,baz=346,slow=7.8,SNR=3.4						
PMG				S	Sn	03 30 36.4	-1.7
	2.4nm,0.3s,baz=175,slow=20,SNR=3.8						
WRA	**Warramunga Arr**	**22.25**	**228**	P	P	03 32 55.2	-0.7
	1.8nm,0.6s,baz=52,slow=9.8,SNR=7.1						
ASAR	**Alice Springs**	**24.99**	**222**	P	P	03 33 22.1	-0.1
	1.3nm,0.6s,baz=58,slow=8.7,SNR=15						
FITZ	**Fitzroy Crossi**	**28.43**	**241**	P	P	03 33 52.8	-0.4
	1.3nm,0.3s,baz=54,slow=10,SNR=16						
ILAR	**Eielson Array**	**83.12**	**22**	P	P	03 40 22.3	-0.6
	0.3nm,0.6s,baz=254,slow=4.9,SNR=3.7						
GERES	**GERESS Array B**	**124.00**	**328**	PKP	PKPdf	03 46 56.3	+0.7
	0.3nm,0.6s,baz=100,slow=1.6,SNR=3.8						
TORD	**Torodi Ar. Bea**	**149.47**	**287**	PKPbc	PKPbc	03 47 47.4	+0.1
	2.3nm,0.7s,baz=92,slow=2.8,SNR=17						

WEL 16 03:28:56.7±0.8,46.99S×166.30E,h33km,ML3.5/7,2C-2D, Error ellipse: s-maj=7.6km s-min=4.5km az=90.0,Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PYZ	**Puysegur Point**	**0.86**	**18**	⇑PN	Pn	03 29 12.5	0.0
PYZ				SN	Sb	03 29 24.8	+0.3
PYZ				AML	AML	03 29 25.0	
PYZ				AML	AML	03 29 25.1	
PYZ				AML	AML	03 29 25.8	
APZ	**The Paps**	**1.17**	**83**	⇓PN	Pn	03 29 16.8	0.0
APZ				AML	AML	03 29 17.8	
APZ				SN	Sn	03 29 30.8	-0.8
WHZ	**Wether Hill Ro**	**1.58**	**47**	PN	Pn	03 29 21.7	-0.7
WHZ				SN	Sn	03 29 40.3	-1.4
WHZ				AML	AML	03 29 43.1	
DCZ	**Deep Cove**	**1.63**	**22**	PN	Pn	03 29 22.1	-1.1
DCZ				AML	AML	03 29 44.8	
DCZ				AML	AML	03 29 44.8	
SYZ	**Scrubby Hill**	**2.00**	**78**	PN	Pn	03 29 27.6	-0.6
MLZ	**Mavora Lakes**	**2.06**	**39**	⇑PN	Pn	03 29 28.1	-0.9
MLZ				AML	AML	03 29 53.8	
MLZ				AML	AML	03 29 54.0	
TUZ	**Tuapeka**	**2.52**	**67**	⇓PN	Pn	03 29 34.1	-1.3
TUZ				AML	AML	03 30 03.6	
MSZ	**Milford Sound**	**2.58**	**27**	PN	Pn	03 29 34.6	-1.6
MSZ				AML	AML	03 30 02.0	
MSZ				AML	AML	03 30 14.7	
EAZ	**Earnscleugh**	**2.73**	**51**	PN	Pn	03 29 36.4	-1.9
WKZ	**Wanaka**	**2.88**	**42**	PN	Pn	03 29 39.4	-0.9
JCZ	**Jackson Bay**	**3.40**	**32**	PN	Pn	03 29 46.0	-1.5
ODZ	**Otahua Downs**	**3.60**	**59**	PN	Pn	03 29 46.8	-3.3
LBZ	**Lake Benmore**	**3.77**	**48**	PN	Pn	03 29 49.1	-3.4

*IDC **16** 03:35:19.8±2.1,4.19S×129.64E,h0km,mb4.3/2, mb1 4.2/5,mb1mx3.7/42,mbtmp4.0/5,ML3.5/3,Error ellipse: s-maj=85.7km s-min=27.0km az=72.0*
*ISCJB **16** 03:35:22.9±0.5,4.27S±0.05×129.51E±0.07,h33km, mb4.4/4,Error ellipse: s-maj=10.7km s-min=7.2km az=20.9*
*NEIC **16** 03:35:25.9±0.9,4.33S×129.56E,h46km±13km,mb4.0/1, Error ellipse: s-maj=10.1km s-min=9.3km az=204.0*

ISC 16 03:35:24.5±0.9,4.28S±0.09×129.7E±0.1,h35km,n13, σ0971/12,mb4.3/4,Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FAKI	**Fak Fak**	**2.92**	**63**	*e*Pn	Pn	03 36 11.4	+2.8
SIJI	**Sorong**	**3.75**	**26**	Pn	Pn	03 36 21.7	+1.8
	baz=3.7,slow=5.9,SNR=6.6						
SIJI				Sn	**Sn**	**03 37 03.2**	**+0.3**
	17nm,0.3s,baz=96,slow=24,SNR=4.2						
SOEI	**Soe**	**7.62**	**224**	*e*Pn	**Pn**	**03 37 12.4**	**-0.8**
KAPI	**Kappang**	**9.89**	**265**	*e*Pn	**Pn**	**03 37 44.6**	**+0.4**
FITZ	**Fitzroy Crossi**	**14.29**	**196**	Pn	**Pn**	**03 38 45.1**	**+0.7**
	0.1nm,0.3s,baz=351,slow=12,SNR=2.9						
WRAB	**Tennant Creek**	**16.22**	**164**	*e*Pn	**Pn**	**03 39 09.8**	**-0.1**
WRA	**Warramunga Arr**	**16.23**	**164**	Pn	**Pn**	**03 39 09.4**	**-0.6**
	0.2nm,0.3s,baz=346,slow=13,SNR=6.8						
COEN	**Coen**	**16.45**	**127**	*e*Pn	**P**	**03 39 14.5**	**-0.7**
ASAR	**Alice Springs**	**19.71**	**168**	Pn	**Pn**	**03 39 54.2**	**+1.5**
	0.3nm,0.3s,baz=346,slow=11,SNR=20						
CMAR	**Chiang Mai Arr**	**37.76**	**308**	P	**P**	**03 42 37.6**	**+0.2**
	0.9nm,0.3s,baz=132,slow=7.3,SNR=4.1						
KURBB	**Kurchatov Arra**	**70.02**	**328**	P	**P**	**03 46 32.8**	**+0.1**
	3.5nm,0.7s,baz=130,slow=5.5,SNR=28						
KURK	**Kurchatov**	**70.03**	**328**	*e*P	**P**	**03 46 32.7**	**0.0**
	35nm,0.9s						
ABKAR	**Akbulak array**	**80.17**	**321**	*e*P	**P**	**03 47 30.9**	**-0.3**
	0.9nm,0.5s						

*ISCJB **16** 03:41:14.4±0.8,35.85N±0.07×77.8E±0.1,h10km,mb3.5/5, Error ellipse: s-maj=15.5km s-min=10.2km az=0.6*
*BJI **16** 03:41:14.6,35.98N×77.73E,h6km,ML3.5/4*
*IDC **16** 03:41:14.3±1.6,35.90N×77.74E,h0km,mb3.6/6, mb1 3.8/7,mb1mx3.5/52,mbtmp3.7/7,ML3.3/1,Error ellipse: s-maj=33.1km s-min=26.6km az=54.0*

ISC 16 03:41:16.4±0.9,35.84N±0.07×77.8E±0.1,h10km,n11, σ1994/14,mb3.6/5,Eastern Kashmir

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THN	**Thein Dam**	**3.81**	**208**	*e*P	**Pn**	**03 42 15.0**	**-0.2**
THN				*e*S	**Pb**	**03 42 24.9**	**+1.1**
KSH	**Kashi**	**3.94**	**339**	Pg	**Pn**	**03 42 17.8**	**+0.7**
KSH				Sn	**Sn**	**03 42 59.8**	**-3.7**
KSH				smax	smax		
	comp=N,87nm,0.6s						
KSH				smax	smax		
	comp=E,140nm,1.1s						
AAK	**Ala-Archa**	**7.25**	**340**	Pn	**Pn**	**03 43 04.0**	**+1.4**
	0.5nm,0.3s,baz=184,slow=11,SNR=2.4						
AAK				Sn	**Sn**	**03 44 28.7**	**+3.5**
	0.2nm,0.3s,baz=286,slow=12,SNR=2.9						
AAK				Lg	Lg	03 45 03.0	
	0.4nm,0.3s,baz=299,slow=12,SNR=5.8						
WMQ	**Urumqi**	**11.01**	**41**	*e*P	**Pn**	**03 43 54.3**	**+0.3**
BVAR	**Borovoye Array**	**17.96**	**345**	P	**P**	**03 45 28.8**	**+2.2**
	0.0nm,0.3s,baz=148,slow=8.7,SNR=4.5						
AKTO	**Aktyubinsk**	**20.43**	**322**	P	**P**	**03 45 54.0**	**+0.3**
	1.8nm,0.5s,baz=116,slow=12,SNR=6.9						
SONM	**Songino Array**	**24.30**	**52**	P	**P**	**03 46 33.5**	**-0.6**
	0.4nm,0.5s,baz=260,slow=8.3,SNR=3.7						
FINES	**FINESS Array B**	**41.14**	**325**	P	**P**	**03 48 58.7**	**-1.8**
	2.0nm,0.8s,baz=125,slow=12,SNR=5.3						
ARCES	**ARCESS Array B**	**43.91**	**336**	P	**P**	**03 49 21.4**	**-1.4**
	0.7nm,0.4s,baz=102,slow=8.4,SNR=2.7						
TORD	**Torodi Ar. Bea**	**71.23**	**273**	P	**P**	**03 52 35.2**	**-0.9**
	0.3nm,0.9s,baz=61,slow=6.9,SNR=4.1						
YKA	**Yellowknife Ar**	**81.50**	**6**	P	**P**	**03 53 33.2**	**-0.4**
	0.4nm,0.7s,baz=349,slow=4.9,SNR=3.5						

*ISCJB **16** 03:58:02.3±0.4,37.24N±0.02×21.98E±0.04,h4km±4km, Error ellipse: s-maj=5.2km s-min=3.8km az=13.1*
*CSEM **16** 03:58:02.3±0.2,37.25N×21.97E,h2km,ML2.1,Error ellipse: s-maj=4.7km s-min=3.6km az=77.0*
*ATH **16** 03:58:02.0,37.23N×21.99E,h8km±2km,ML2.1/5,Error ellipse: s-maj=2.7km s-min=1.2km az=218.0*
*THE **16** 03:58:02.2,37.23N×22.01E,h0km±1km,ML2.5/7,Error ellipse: s-maj=1.6km s-min=0.4km az=241.0*

ISC 16 03:58:02.4±0.9,37.24N±0.02×21.99E±0.02,h5km±8km, n59,σ0967/77,Southern Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ITM	**Ithomi**	**0.08**	**217**	P	**Pg**	**03 58 04.1**	**-0.1**
ITM				S	**Sg**	**03 58 05.6**	**+0.1**
ITM	**Ithomi**	**0.08**	**217**	P	**Pg**	**03 58 04.1**	**-0.1**
ITM				S	**Sg**	**03 58 05.3**	**-0.2**
ITM	**Ithomi**	**0.08**	**217**	P	**Pg**	**03 58 04.1**	**-0.1**
ITM				S	**Sg**	**03 58 05.3**	**-0.2**
ITM				AML	AML	03 58 06.2	
	comp=E,7842μm,0.2s						
ITM				AML	AML	03 58 08.2	
	comp=N,5608μm,0.4s						
VLX	**Vlachokerasia**	**0.34**	**68**	P	**Pg**	**03 58 08.9**	**-0.1**
VLX				S	**Sg**	**03 58 13.5**	**+0.1**
VLX	**Vlachokerasia**	**0.34**	**68**	P	**Pg**	**03 58 08.9**	**-0.1**
VLX				S	**Sg**	**03 58 13.5**	**+0.1**
TRIP	**Tripoli**	**0.36**	**38**	P	**Pg**	**03 58 09.8**	**+0.3**
TRIP				S	**Sg**	**03 58 14.7**	**+0.5**
TRIP	**Tripoli**	**0.36**	**38**	P	**Pg**	**03 58 09.8**	**+0.3**
TRIP				S	**Sg**	**03 58 14.7**	**+0.5**
PYL	**PYLOS**	**0.40**	**210**	P	**Pg**	**03 58 09.6**	**-0.5**
PYL				S	**Sg**	**03 58 16.3**	**+0.9**
PYL	**PYLOS**	**0.40**	**210**	P	**Pg**	**03 58 09.6**	**-0.5**
PYL				S	**Sg**	**03 58 16.3**	**+0.9**
DRO	**Drossia**	**0.74**	**343**	P	**Pg**	**03 58 16.8**	**+0.2**
DRO				S	**Sg**	**03 58 27.5**	**+1.2**
DRO	**Drossia**	**0.74**	**343**	P	**Pg**	**03 58 16.8**	**+0.2**
DRO				S	**Sg**	**03 58 27.5**	**+1.2**
KLV	**Kalavryta, Ach**	**0.81**	**9**	P	**Pg**	**03 58 17.4**	**-0.5**
KLV				S	**Sb**	**03 58 29.9**	**-0.4**
KLV	**Kalavryta, Ach**	**0.81**	**9**	P	**Pg**	**03 58 17.4**	**-0.5**
KLV				S	**Sb**	**03 58 29.9**	**-0.4**
KLV	**Kalavryta, Ach**	**0.81**	**9**	P	**Pg**	**03 58 16.9**	**-1.1**
KLV				S	**Sb**	**03 58 30.5**	**+0.3**
KLV				AML	AML	03 58 33.6	
	comp=N,147μm,0.2s						
KLV				AML	AML	03 58 33.7	
	comp=E,304μm,0.5s						
RLS	**Riolos of Patr**	**0.91**	**333**	P	**Pg**	**03 58 20.0**	**+0.1**
RLS	**Riolos of Patr**	**0.91**	**333**	P	**Pg**	**03 58 20.0**	**+0.1**
RLS	**Riolos of Patr**	**0.91**	**333**	P	**Pb**	**03 58 20.6**	**-0.1**
VLI	**Veliai**	**0.92**	**124**	P	**Pg**	**03 58 19.7**	**-0.4**
VLI				S	**Sb**	**03 58 32.5**	**-1.0**
VLI	**Veliai**	**0.92**	**124**	P	**Pg**	**03 58 19.8**	**-0.4**
VLI				S	**Sb**	**03 58 32.5**	**-1.0**
VLI	**Veliai**	**0.92**	**124**	P	**Pg**	**03 58 19.9**	**-0.2**
VLI				AML	AML	03 58 37.2	
	comp=N,232μm,0.4s						
VLI				AML	AML	03 58 37.5	
	comp=E,404μm,0.8s						
TRAZ	**Trapeza**	**0.94**	**11**	P	**Pg**	**03 58 18.9**	**-1.6**
TRAZ	**Trapeza**	**0.94**	**11**	P	**Pg**	**03 58 18.8**	**-1.6**
LAKA	**Lakka**	**0.99**	**360**	P	**Pg**	**03 58 20.8**	**-0.7**
LAKA				S	**Sb**	**03 58 36.3**	**+0.7**
LAKA	**Lakka**	**0.99**	**360**	P	**Pg**	**03 58 20.8**	**-0.7**
LAKA				S	**Sb**	**03 58 36.3**	**+0.7**
LAKA	**Lakka**	**0.99**	**360**

IDC 16 04:44:15.3±3.4, 30°13′N×139°75′E, h0km, mb3.8/2, mb1 3.9/3, mb1mx3.4/42, mbtmp3.7/3, ML3.5/1, Error ellipse: s-maj=281.5km s-min=33.5km az=85.0, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MJAR	**Matsushiro Arr**	**6.53**	**349**	Pn	Pn	04 45 52.4	-0.1
	0.9nm,0.3s,baz=186,slow=11,SNR=4.3						
WRA	**Warramunga Arr**	**50.05**	**187**	P	P	04 53 11.9	0.0
	0.7nm,0.4s,baz=5.2,slow=7.5,SNR=19						
ASAR	**Alice Springs**	**53.78**	**187**	P	P	04 53 39.4	-0.3
	0.4nm,0.4s,baz=0.8,slow=5.8,SNR=10.0						

IDC 16 04:48:00.7±54.0, 17°59S×175°49W, h0km, mb4.0/3, mb1 4.2/3, mb1mx3.7/27, mbtmp4.0/3, Error ellipse: s-maj=1012.0km s-min=162.1km az=80.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**41.23**	**242**	P	P	04 55 48.0	+0.4
	1.4nm,0.6s,baz=100,slow=6.1,SNR=3.1						
WRA	**Warramunga Arr**	**47.43**	**259**	P	P	04 56 37.2	-0.2
	1.0nm,0.4s,baz=98,slow=7.3,SNR=14						
ASAR	**Alice Springs**	**47.55**	**254**	P	P	04 56 37.9	-0.5
	1.5nm,0.4s,baz=89,slow=7.8,SNR=22						

*KRNET **16** 05:07:10.7±0.1, 39°54N×72°26E, mb2.3*
*NNC **16** 05:07:13.1±2.1, 39°58N×72°05E, h0km, mb3.1, mpv2.8, Error ellipse: s-maj=16.0km s-min=14.1km az=32.0*
*SOME **16** 05:07:25.5, 40°25N×72°28E, h10km*
ISC 16 05:07:18.0±2.3, 39°6N±0°1×72°04E±0°04, h27km±15km, n16, σ1§86/32, 17C-9D, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BTK	**Batken**	**1.03**	**295**	⇓*eP*	**Pn**	**05 07 34.6**	**-2.2**
	baz=296						
BTK				⇓*iS*	**Sb**	**05 07 51.7**	**+1.2**
	baz=296						
ARSB	**Arslanbob**	**1.84**	**23**	⇑*eP*	**Pn**	**05 07 45.1**	**-2.9**
	baz=17						
ARSB				⇑*iS*	**Sn**	**05 08 10.9**	**+0.4**
	baz=17						
ARK	**Arkit**	**2.17**	**359**	⇑*eP*	**Pn**	**05 07 51.3**	**-1.2**
	baz=355						
ARK				⇑*eS*	**Sn**	**05 08 20.6**	**+2.0**
	baz=355						
TOKL	**Toktogul**	**2.40**	**15**	⇑*eP*	**Pn**	**05 07 53.7**	**-1.9**
	baz=11						
TOKL				⇑*eS*	**Sn**	**05 08 25.5**	**+1.4**
	baz=11						
AML	**Almayashu**	**2.80**	**26**	⇑*iP*	**Pn**	**05 07 58.8**	**-2.6**
	baz=22						
AML				⇑*iS*	**Sn**	**05 08 34.5**	**0.0**
	baz=22						
MNAS	**Manas**	**2.88**	**7**	⇓*eP*	**Pn**	**05 08 00.7**	**-1.6**
	baz=4.0						
MNAS				⇓*eS*	**Sn**	**05 08 37.6**	**+1.5**
	baz=4.0						
MNAS	**Manas**	**2.88**	**7**	⇑Pn	**Pn**	**05 08 00.2**	**-2.1**
	0.8nm,0.3s						
MNAS				⇑Pg	**Pb**	**05 08 06.6**	**-2.2**
	4.0nm,0.6s						
MNAS				⇓Sn	**Sn**	**05 08 39.0**	**+2.9**
	2.1nm,0.4s						
MNAS				⇓Lg	Lg	05 08 46.4	
	3.3nm,0.5s						
IUG	**Iuzhnay**	**2.94**	**330**	*eP*	**Pb**	**05 08 12.1**	**+2.3**
	8.1nm,0.7s						
IUG				*eS*	**Sb**	**05 08 45.6**	**+0.3**
	29nm,0.4s						
MRKS	**Merke**	**3.24**	**16**	*eP*	**Pb**	**05 08 12.1**	**-2.8**
	9.5nm,0.5s						
MRKS				*eS*	**Sn**	**05 08 46.0**	**+1.0**
	6.8nm,0.7s						
EKS2	**Erkin-Say**	**3.30**	**23**	⇑*iP*	**Pn**	**05 08 06.5**	**-1.6**
	baz=20						
EKS2				⇑*iS*	**Sn**	**05 08 48.2**	**+1.7**
	baz=20						
AAK	**Ala-Archa**	**3.53**	**31**	⇑Pn	**Pn**	**05 08 11.5**	**+0.2**
	2.4nm,0.7s						
AAK				⇑Lg	Lg	05 09 03.8	
	2.9nm,0.3s						
KK31	**Karatay Array**	**3.66**	**342**	⇓Pn	**Pn**	**05 08 11.4**	**-1.4**
	0.2nm,0.2s,baz=153,slow=12,SNR=8.6						
KK31				⇑Pg	**Pb**	**05 08 21.0**	**-0.9**
	0.9nm,0.5s,baz=148,slow=14,SNR=3.3						
KK31				⇓Sn	**Sn**	**05 08 56.5**	**+1.4**
	0.4nm,0.3s						
KK31				⇓Lg	Lg	05 09 12.0	
	1.5nm,0.4s,baz=165,slow=28,SNR=4.3						
TKM2	**Tokmak 2**	**4.25**	**38**	⇑Pg	**Pb**	**05 08 30.2**	**-1.9**
	2.0nm,0.8s						
TKM2				⇑Lg	Lg	05 09 28.2	
	1.9nm,0.4s						
DGS	**Degeres**	**4.57**	**37**	*eP*	**Pb**	**05 08 39.9**	**+2.3**
	1.5nm,0.6s						
DGS				*eS*	**Sb**	**05 09 33.4**	**+1.1**
	5.5nm,0.7s						
IZV	**Izvestkoviy**	**4.84**	**44**	*eP*	**Pb**	**05 08 44.3**	**+2.0**
	3.1nm,0.5s						
IZV				*eS*	**Sb**	**05 09 41.1**	**+1.0**
	8.9nm,0.9s						
MDOK	**Medeo**	**5.17**	**45**	*eP*	**Pb**	**05 08 49.1**	**+1.4**
	3.2nm,1.8s						
MDOK				*eS*	**Sb**	**05 09 48.9**	**-0.4**
	5.0nm,1.4s						

IDC 16 05:09:42.8±6.1, 5°44S×151°58E, h80km±48km, mb3.8/6, mb1 4.0/7, mb1mx3.5/42, mbtmp4.2/7, ML1.9/1, MS3.5/1, Ms1 3.5/1, ms1mx2.7/30, Error ellipse: s-maj=53.5km s-min=30.2km az=109.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**5.90**	**228**	P	Pn	05 11 07.3	-0.4
	2.1nm,0.3s,baz=19,slow=12,SNR=6.3						
PMG				S	Sn	05 12 15.6	+1.7
	3.0nm,0.3s,baz=50,slow=22,SNR=4.2						
DZM	**Mont Dzumac**	**21.92**	**140**	LR	LR	05 22 10.9	
	comp=Z,137nm,20.6s,baz=190,slow=34						
WRA	**Warramunga Arr**	**22.12**	**228**	P	P	05 14 31.7	-0.2
	3.2nm,0.6s,baz=52,slow=10,SNR=22						
ASAR	**Alice Springs**	**24.87**	**221**	P	P	05 14 58.2	0.0
	2.9nm,0.7s,baz=56,slow=9.0,SNR=30						
FITZ	**Fitzroy Crossi**	**28.29**	**241**	P	P	05 15 28.5	-0.5
	5.5nm,0.8s,baz=59,slow=11,SNR=11						
CMAR	**Chiang Mai Arr**	**57.05**	**296**	P	P	05 19 20.5	-0.6
	0.7nm,0.3s,baz=144,slow=6.7,SNR=4.3						
SONM	**Songino Array**	**66.22**	**329**	P	P	05 20 23.1	+0.7
	0.8nm,0.6s,baz=125,slow=4.3,SNR=4.8						
BVAR	**Borovoye Array**	**89.02**	**323**	P	P	05 22 28.3	-0.5
	0.9nm,0.7s,baz=116,slow=6.8,SNR=4.5						
PDAR	**Pinedale Array**	**100.17**	**48**	P	Pdif	05 23 19.6	-0.8
	0.4nm,0.8s,baz=202,slow=4.5,SNR=3.7						
GERES	**GERESS Array B**	**123.95**	**328**	PKP	PKPdf	05 28 32.1	0.0
	0.7nm,0.7s,baz=222,slow=1.3,SNR=3.3						
TORD	**Torodi Ar. Bea**	**149.33**	**287**	PKPbc	PKPbc	05 29 23.5	-0.1
	3.5nm,0.7s,baz=78,slow=3.1,SNR=28						

*IDC **16** 05:11:36.8±2.9, 15°34N×95°02W, h0km, mb3.5/2, mb1 3.9/3, mb1mx3.5/42, mbtmp3.5/3, ML3.4/1, MS3.3/4, Ms1 3.3/4, ms1mx2.8/24, Error ellipse: s-maj=74.4km s-min=22.7km az=102.0*
*ISCJB **16** 05:11:37.2±0.7, 14°97N±0°07×95°37W±0°04, h22km, mb4.1/17, MS3.2/4, Error ellipse: s-maj=10.0km s-min=4.9km az=23.5*
*NEIC **16** 05:11:38.8±0.0, 15°03N×95°21W, h20km, mb4.2/24, MD4.2(MEX), After MEX.*
*MEX **16** 05:11:38.9±0.7, 15°03N×95°21W, h21km±27km, MD4.2*
ISC 16 05:11:37.3±0.9, 14°93N±0°07×95°23W±0°03, h22km, n56, σ2§34/67, mb4.2/17, MS3.2/4, Off coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PANG	**Puerto Angel**	**1.41**	**302**	*eP*	**Pn**	**05 11 59.6**	**-2.1**
PANG				*iS*	**Sn**	**05 12 15.5**	**-4.0**
CMIG	**Matias Romero**	**2.18**	**9**	Pn	**Pn**	**05 12 08.9**	**-3.4**
	22nm,0.3s,baz=185,slow=12,SNR=310						
CMIG				Lg	Lg	05 12 32.2	
	60nm,0.3s,baz=215,slow=14,SNR=16						
CMIG				LR	LR	05 12 38.1	
	comp=Z,239nm,19.5s,baz=254,slow=35						
VHO	**Vista Hermosa**	**2.58**	**326**	*eP*	**Pn**	**05 12 16.9**	**-1.1**
VHO				*iS*	**Sn**	**05 12 45.6**	**-3.1**
VHO	**Vista Hermosa**	**2.58**	**326**	*eP*	**Pn**	**05 12 16.9**	**-1.1**
VHO				*iS*	**Sn**	**05 12 45.6**	**-3.1**
TGIG		**2.74**	**48**	*eP*	**Pn**	**05 12 18.1**	**-2.0**
TGIG				*eS*	**Sn**	**05 12 48.9**	**-3.6**
TGIG		**2.74**	**48**	*eP*	**Pn**	**05 12 18.1**	**-2.0**
TGIG				*eS*	**Sn**	**05 12 48.9**	**-3.6**
PNIG	**Pinotepa**	**3.15**	**298**	*eP*	**Pn**	**05 12 25.2**	**-0.5**
PNIG				*eS*	**Sn**	**05 13 00.3**	**-2.3**
PNIG	**Pinotepa**	**3.15**	**298**	*eP*	**Pn**	**05 12 25.2**	**-0.5**
PNIG				*eS*	**Sn**	**05 13 00.3**	**-2.3**
TUIG	**Tuzandepetl**	**3.19**	**14**	*ePn*	**Pn**	**05 12 28.4**	**+2.3**
TUIG				*ePg*	**Pb**	**05 12 31.0**	**-2.3**
CCIG	**Comitan**	**3.27**	**65**	*ePn*	**Pn**	**05 12 27.5**	**0.0**
CCIG				*eS*	**Sn**	**05 13 03.2**	**-2.7**
CCIG				*eSn*	**Sb**	**05 13 08.3**	**-6.1**
CCIG	**Comitan**	**3.27**	**65**	*eP*	**Pn**	**05 12 26.3**	**-1.2**
CCIG				*eS*	**Sn**	**05 13 03.2**	**-2.7**
TPIG	**Tehuac#an**	**4.03**	**330**	*eP*	**Pn**	**05 12 35.8**	**-2.1**
TPIG				*iS*	**Sn**	**05 13 21.9**	**-2.6**
TPIG	**Tehuac#an**	**4.03**	**330**	*eP*	**Pn**	**05 12 35.8**	**-2.1**
TPIG				*iS*	**Sn**	**05 13 21.9**	**-2.6**
TLIG	**Tlapa**	**4.14**	**310**	*ePn*	**Pn**	**05 12 40.9**	**+1.5**
TLIG				*eSn*	**Sn**	**05 13 24.1**	**-3.1**
TLIG	**Tlapa**	**4.14**	**310**	*eP*	**Pn**	**05 12 38.9**	**-0.5**
TLIG				*eS*	**Sn**	**05 13 24.7**	**-2.5**
LVIG	**Laguna Verde**	**4.90**	**347**	*ePn*	**Pn**	**05 12 49.9**	**+0.2**
LVIG				*eSg*	Sb	05 14 16.9	+16
YAIG	**Yautepec**	**5.37**	**317**	*iP*	**Pn**	**05 12 55.3**	**-1.0**
YAIG				*iS*	**Sn**	**05 13 55.8**	**-1.7**
YAIG	**Yautepec**	**5.37**	**317**	*iP*	**Pn**	**05 12 55.3**	**-1.0**
YAIG				*iS*	**Sn**	**05 13 55.8**	**-1.7**
SCIG	**Sabancuy**	**5.58**	**43**	*ePn*	**Pn**	**05 12 57.0**	**-2.0**
SCIG				*eSg*	**Sb**	**05 14 28.1**	**+7.5**
TEIG	**Tepich**	**8.47**	**51**	*ePn*	**Pn**	**05 13 41.5**	**+2.7**
JCT	**Junction City**	**16.04**	**346**	*ePn*	**Pn**	**05 15 22.9**	**+1.3**
	6.3nm,0.8s						
PAYG	**Puerto Ayora**	**16.25**	**162**	*ePn*	**Pn**	**05 15 24.4**	**-0.1**
	36nm,1.0s						
TX31	**Lajitas Ar. Si**	**16.32**	**333**	*ePn*	**Pn**	**05 15 26.4**	**+1.1**
TXAR	**Lajitas Array**	**16.32**	**333**	Pn	**Pn**	**05 15 25.6**	**+0.3**
	0.0nm,0.3s,baz=152,slow=11,SNR=7.9						
WHTX	**Lake Whitney,**	**17.11**	**354**	*ePn*	**P**	**05 15 36.8**	**+0.1**
	16nm,0.8s						
BRAL	**Brewton**	**17.82**	**23**	*eP*	**P**	**05 15 46.5**	**+1.9**
	199nm,1.8s						
ABTX	**Abilene, Hawle**	**18.07**	**348**	*ePn*	**P**	**05 15 48.7**	**+1.3**
	9.4nm,0.8s						
MIAR	**Mount Ida**	**19.59**	**4**	*eP*	**P**	**05 16 03.0**	**-1.1**
	7.4nm,1.1s						
WMOK	**Wichita Mounta**	**19.98**	**351**	*eP*	**Pn**	**05 16 11.6**	**+1.4**
	3.2nm,0.8s						
MSTX	**Muleshoe**	**20.15**	**342**	*eP*	Pn	05 16 11.8	-0.4
	6.9nm,0.8s						
TUL1	**Leonard**	**20.90**	**359**	*eP*	Pn	05 16 21.9	+1.1
	6.8nm,0.8s						
HBAR	**Harrisburg**	**20.95**	**10**	*eP*	Pn	05 16 21.5	+0.1
HHAR	**Hobbs**	**21.30**	**3**	*eP*	**P**	**05 16 24.1**	**+1.5**
	3.9nm,0.8s						
Y22D	**IRIS PASSCAL I**	**21.80**	**333**	*eP*	**P**	**05 16 29.3**	**+1.3**
	20nm,0.4s						
UTMT	**University of**	**22.07**	**14**	*eP*	**P**	**05 16 32.9**	**+2.1**
	19nm,0.8s						
RUSC	**La Rusia**	**23.54**	**110**	*eP*	**P**	**05 16 48.2**	**+1.4**
	5.5nm,1.2s						
T25A	**Trinidad**	**23.58**	**341**	*eP*	**P**	**05 16 48.1**	**+1.4**
	17nm,1.0s						
X18A	**Snowflake**	**23.60**	**328**	*eP*	**P**	**05 16 49.6**	**+2.7**
	2.9nm,0.8s						
SDCO	**Great Sand Dun**	**24.48**	**340**	*eP*	**P**	**05 16 57.3**	**+2.0**
	2.5nm,1.1s						
KSCO	**Kaye Shedlock'**	**24.86**	**346**	*eP*	**P**	**05 17 00.1**	**+1.6**
	5.5nm,0.8s						
WUAZ	**Wupatki**	**25.10**	**328**	*eP*	**P**	**05 17 02.2**	**+1.5**
	8.5nm,1.2s						
MVCO	**Mesa Verde**	**25.13**	**334**	*eP*	**P**	**05 17 03.0**	**+1.8**
	11nm,1.5s						
GLA	**Glamis**	**25.34**	**319**	*eP*	**P**	**05 17 02.7**	**-0.1**
	3.9nm,0.9s						
PV09	**Paradox Valley**	**26.49**	**335**	*eP*	**P**	**05 17 14.6**	**+1.1**
BGNE	**Belgrade**	**26.51**	**355**	*eP*	**P**	**05 17 15.0**	**+1.8**
	11nm,0.9s						
PFO	**Pinyon Flats O**	**26.75**	**318**	LR	LR	05 28 56.4	
	comp=Z,51nm,18.2s,baz=146,slow=39						
LCMT	**Little Creek M**	**27.22**	**327**	*eP*	**P**	**05 17 21.4**	**+1.5**
	2.7nm,1.3s						
HTU	**Hoyt Peak**	**29.19**	**335**	*eP*	**P**	**05 17 33.8**	**-3.8**
PDAR	**Pinedale Array**	**30.36**	**339**	LR	LR	05 31 53.9	
	comp=Z,27nm,18.4s,baz=161,slow=40						
DLMT	**Dillon**	**33.70**	**338**	*eP*	**P**	**05 18 19.4**	**+2.4**
	11nm,1.4s						
F10A	**Beach Ranch, E**	**36.05**	**334**	*eP*	**P**	**05 18 38.0**	**+0.8**
	6.3nm,1.0s						
BLMT	**Blacktail Moun**	**36.59**	**338**	*eP*	**P**	**05 18 41.4**	**-0.6**
SCHQ	**Schefferville**	**45.51**	**23**	LR	LR	05 40 03.3	
	comp=Z,69nm,19.1s,baz=324,slow=38						
YKA	**Yellowknife Ar**	**49.45**	**348**	P	**P**	**05 20 25.2**	**-0.3**
	1.4nm,0.8s,baz=152,slow=7.3,SNR=4.2						
INK	**Inuvik**	**58.69**	**344**	LR	LR	05 49 34.7	
	comp=Z,23nm,19.8s,baz=36,slow=39						
ILAR	**Eielson Array**	**60.77**	**337**	P	**P**	**05 21 48.5**	**+1.2**
	0.8nm,0.9s,baz=138,slow=5.6,SNR=5.6						

*NIED **16** 05:22:00, 36°80N×141°20E, h56km, Mw3.6 Best double couple: M0 3.18000×10^14 NP1:φs272.00000°, δ36.00000°, λ116.00000°. NP2:φs61.00000°, δ58.00000°, λ72.00000°.*
JMA 16 05:22:44.4±0.1, 36°86N×141°11E, h50km±1km, M3.6, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ONAJ	**Iwakimizuishiy**	**0.35**	**314**	P	Pn	05 22 53.9	-0.2
ONAJ				S	Sn	05 23 00.4	-0.5
JHO	**Hitachi**	**0.50**	**240**	P	Pn	05 22 55.6	-0.1
JHO				S	Sn	05 23 03.4	-0.3
JFK	**Kawauchi**	**0.54**	**340**	P	Pn	05 22 56.0	-0.2
JFK				S	Sn	05 23 03.9	-0.8
JFT	**Otama**	**0.90**	**317**	P	Pn	05 23 01.8	+1.0
JFT				S	Sn	05 23 13.9	+1.0
JMM	**Marumori**	**1.03**	**346**	P	Pn	05 23 02.5	-0.1
JMM				S	Sn	05 23 15.7	-0.3
JFY	**Yanaizu**	**1.25**	**296**	P	Pn	05 23 06.0	+0.5
JFY				*eS*	Sn	05 23 21.8	+0.6
JAG	**Ashikaga**	**1.40**	**252**	P	Pn	05 23 07.9	+0.3
JAG				*eS*	Sn	05 23 25.2	+0.3
MAT	**Matsushiro**	**2.35**	**263**	P	Pn	05 23 22.2	+1.6
MAT				S	Sn	05 23 51.0	+2.7

*NIED **16** 05:27:00, 35°60N×141°10E, h41km, Mw4.7 Best double couple: M0 1.07000×10^16 NP1:φs249.00000°, δ45.00000°, λ102.00000°. NP2:φs53.00000°, δ46.00000°, λ78.00000°.*
*ISCJB **16** 05:27:08.2±0.2, 35°47N±0°03×140°86E±0°03, h33km, mb4.7/134, MS3.9/20, Error ellipse: s-maj=3.9km s-min=3.2km az=147.9*
*JMA **16** 05:27:08.3±0.2, 35°57N×141°04E, h33km±1km, M4.5*
JMA Felt II J1.
*MOS **16** 05:27:10.8±1.0, 35°49N×140°84E, h58km, mb4.7/59, Error ellipse: s-maj=8.2km s-min=6.3km az=112.6*
*IDC **16** 05:27:10.4±2.2, 35°47N×140°87E, h40km±20km, mb4.3/28, mb1 4.4/31, mb1mx4.2/49, mbtmp4.5/31, ML4.0/2, MS3.9/17, Ms1 3.9/17, ms1mx3.6/37, Error ellipse: s-maj=14.8km s-min=10.9km az=106.0*
*NEIC **16** 05:27:11.1±0.4, 35°44N×140°81E, h46km±3km, mb4.9/85, Error ellipse: s-maj=3.4km s-min=2.6km az=126.0*
NEIC Felt at Chiba and Yokohama. Recorded [2 JMA] in Chiba and Ibaraki.
ISC 16 05:27:09.5±0.3, 35°50N±0°03×140°97E±0°04, h33km, n280, σ1§47/285, mb4.7/134, MS3.9/23, 13C-6D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CHOJ	**Chosi**	**0.22**	**337**	⇑P	**Pn**	**05 27 14.7**	**-1.4**
CHOJ				S	**Sn**	**05 27 18.9**	**-0.5**

JCN	**Nagara**	**0.63**	**263**	P	**Pb**	**05 27 23.0**	**+0.9**
KTR	**Katsuura**	**0.64**	**237**	⇑P	**Pn**	**05 27 22.2**	**+0.1**
KTR				*eS*	**Sn**	**05 27 32.9**	**+1.8**
BSO4	**Boso 4**	**0.72**	**225**	⇑P	**Pn**	**05 27 23.4**	**+0.2**
BSO3	**Boso 3**	**0.79**	**208**	⇓P	**Pn**	**05 27 23.9**	**-0.1**
BSO3				X		05 27 35.8	
BSO1	**Boso 1**	**0.84**	**179**	⇓P	**Pn**	**05 27 23.9**	**-0.6**
JYT	**Yasato**	**0.96**	**320**	⇓P	**Pn**	**05 27 25.2**	**-1.4**
MJAR	**Matsushiro Arr**	**2.46**	**296**	P	**Pn**	**05 27 47.8**	**+0.5**
	44nm,0.3s,baz=96,slow=11,SNR=181						
MJAR				LR	LR	05 29 00.8	
	comp=Z,2μm,19.6s,baz=115,slow=46						
MAJO	**Matsushiro**	**2.47**	**296**	*eP*	**Pn**	**05 27 48.5**	**+1.1**
MAJO	**Matsushiro**	**2.47**	**296**	*ePn*	**Pn**	**05 27 48.5**	**+1.1**
MAT	**Matsushiro**	**2.47**	**296**	P	**Pn**	**05 27 48.3**	**+0.9**
MAT				*eS*	**Sb**	**05 28 21.2**	**-1.9**
MJB9	**Matsu-Tunnel**	**2.47**	**296**	*ePn*	**Pn**	**05 27 48.6**	**+1.1**
JHJ2	**Mitsune**	**2.56**	**202**	*ePn*	**Pn**	**05 27 48.2**	**-0.5**
JHJ	**Hachijo jima 2**	**2.57**	**203**	P	**Pn**	**05 27 47.6**	**-1.2**
	50nm,0.3s,baz=347,slow=19,SNR=23						
JHJ				S	**Sn**	**05 28 20.7**	**+1.9**
	143nm,0.3s,baz=86,slow=22,SNR=7.3						
INU	**Inuyama**	**3.23**	**268**	*ePn*	**Pn**	**05 27 59.5**	**+1.7**
ERM	**Erimo**	**6.73**	**14**	*eP*	**Pn**	**05 28 43.5**	**-2.4**
ERM	**Erimo**	**6.73**	**14**	*ePn*	**Pn**	**05 28 43.5**	**-2.4**
CBIJ	**Chichi jima**	**8.44**	**173**	*ePn*	**Pn**	**05 29 09.0**	**-0.5**
CBIJ				*eSn*	**Sn**	**05 30 39.7**	**-3.9**
ASAJ	**Asahikawa**	**8.70**	**8**	*ePn*	**Pn**	**05 29 10.4**	**-2.5**
YUK	**Yuzh-Kuril'sk**	**9.32**	**22**	*eP*	**Pn**	**05 29 17.7**	**-3.7**
KSRS	**Korea Array**	**10.68**	**284**	P	**Pn**	**05 29 44.1**	**+4.0**
	0.4nm,0.3s,baz=100,slow=13,SNR=13						
KSRS				LR	LR	05 33 47.5	
	comp=Z,742nm,21.3s,baz=87,slow=37						
KSAR	**Wonju Array Be**	**10.71**	**284**	P	**Pn**	**05 29 44.1**	**+3.6**
KSAR	**Wonju Array Be**	**10.71**	**284**	P	**Pn**	**05 29 44.1**	**+3.6**
KUR	**Kuril'sk**	**11.05**	**26**	*eP*	**Pn**	**05 29 43.2**	**-1.9**
USRK	**Ussuriysk Ar.**	**11.09**	**324**	P	**Pn**	**05 29 47.0**	**+1.4**
	0.2nm,0.3s,baz=116,slow=12,SNR=7.2						
USRK				LR	LR	05 33 49.4	
	comp=Z,760nm,19.4s,baz=140,slow=36						
YSS	**Yuzh-Sakhalins**	**11.52**	**6**	*eP*	**Pn**	**05 29 48.5**	**-3.1**
YSS				MLR	MLR		
	comp=Z,600nm,15.0s						
YSS	**Yuzh-Sakhalins**	**11.52**	**6**	*ePn*	**Pn**	**05 29 52.7**	**+1.1**
MDJ	**Mudanjiang**	**12.59**	**320**	P	**Pn**	**05 30 07.6**	**+1.4**
MDJ				S	**Sn**	**05 32 26.8**	**+1.6**
MDJ				PcP	**PcP**	**05 35 42.8**	**-0.3**
MDJ				ScP	**ScP**	**05 39 07.6**	**-6.1**
MDJ	**Mudanjiang**	**12.59**	**320**	ScS	ScS	05 42 50.8	+1.0
MDJ				pmax	pmax		
	comp=Z,6.0nm,0.7s						
MDJ				pmax	pmax		
	comp=Z,61nm,5.6s						
MDJ				LR	LR		
	comp=N,340nm,16.0s						
MDJ				LR	LR		
	comp=E,280nm,13.9s						
MDJ				LR	LR		
	comp=Z,420nm,19.8s						
JOW	**Kunigami**	**13.87**	**235**	*ePn*	**Pn**	**05 30 22.4**	**-1.3**
NJ2	**Nanjing**	**18.69**	**266**	*eP*	**P**	**05 31 23.4**	**-1.6**
NJ2				pmax	pmax		
	comp=Z,38nm,0.5s						
TATO	**Taipei**	**19.79**	**243**	*eP*	**P**	**05 31 36.1**	**-0.9**
	comp=Z,44nm,1.0s						
BJI	**Beijing**	**20.09**	**290**	P	**P**	**05 31 39.3**	**-0.9**
BJI				S	**S**	**05 35 22.8**	**-1.3**
BJI				pmax	pmax		
	comp=Z,10.0nm,0.9s						
BJI				LR	LR		
	comp=N,120nm,10.5s						
BJI				LR	LR		
	comp=E,290nm,20.6s						
BJI				LR	LR		
	comp=Z,270nm,25.1s						
NACB	**Ninganchiao**	**20.20**	**241**	*eP*	**P**	**05 31 40.9**	**-0.6**
	comp=Z,52nm,0.5s						
PEA0	**Petropavlovsk-**	**21.20**	**29**	*eP*	**P**	**05 31 54.7**	**+2.6**
PETK	**Petropavlovsk-**	**21.20**	**29**	P	**P**	**05 31 52.2**	**+0.1**
	comp=Z,6.2nm,0.8s,baz=208,slow=5.9,SNR=5.9						
PETK				LR	LR	05 41 20.3	
	comp=Z,83nm,18.8s,baz=219,slow=40						
PET	**Petropavlovsk**	**21.52**	**30**	*iP*	**P**	**05 31 55.9**	**+0.5**
HHC	**Hu-ho-hao-te**	**23.66**	**292**	*eP*	**P**	**05 32 17.3**	**-0.7**
HHC				sP	sP	05 32 34.9	+3.5
HHC				PP	**PnPn**	**05 32 51.0**	**+5.2**
HHC				S	**S**	**05 36 25.4**	**-5.3**
HHC				sS	sS	05 36 45.0	-1.3
HHC				SS	**SnSn**	**05 37 16.1**	**+6.7**
HHC				pmax	pmax		
	comp=Z,22nm,1.3s						
HHC				pmax	pmax		
	comp=Z,110nm,5.1s						
HHC				LR	LR		
	comp=N,150nm,12.4s						
HHC				LR	LR		
	comp=E,180nm,13.7s						
HHC				LR	LR		
	comp=Z,130nm,13.7s						
MA2	**Magadan**	**24.93**	**12**	P	**P**	**05 32 30.0**	**+0.7**
	comp=Z,9.5nm,0.6s,baz=200,slow=8.7,SNR=7.8						
MA2				LR	LR	05 43 13.2	
	comp=Z,156nm,19.6s,baz=208,slow=38						
XAN	**Xi'an**	**26.30**	**276**	P	**P**	**05 32 40.5**	**-1.6**
XAN				S	**S**	**05 37 08.1**	**-4.7**
XAN				SS	**SnSn**	**05 38 19.8**	**+5.7**
XAN				pmax	pmax		
	comp=Z,8.0nm,0.9s						
XAN				LR	LR		
	comp=N,150nm,23

comp=N,120nm,16.9s
QIZ LR LR
comp=E,130nm,12.9s
QIZ LR LR
comp=Z,130nm,15.8s
QIZ Qiongzhong 31.99 247 *e*P **P 05 33 30.9 -1.8**
comp=Z,91nm,1.8s
GTA Gaotai 32.70 289 *e*P **P 05 33 38.3 -0.6**
GTA pP pP 05 33 49.4 +0.9
GTA sP sP 05 33 54.6 +2.1
GTA S **S 05 38 50.1 -3.1**
GTA sS sS 05 39 11.5 +2.5
GTA SS **SnSn 05 40 51.3 +1.5**
GTA pmax pmax
comp=Z,3.0nm,0.9s
GTA pmax pmax
comp=Z,62nm,7.1s
GTA LR LR
comp=N,120nm,18.2s
GTA LR LR
comp=E,210nm,17.5s
GTA LR LR
comp=Z,260nm,19.2s
KMI Kunming 34.40 263 P **P 05 33 55.0 +1.1**
KMI sP sP 05 34 10.8 +3.3
KMI pmax pmax
comp=Z,4.0nm,0.7s
KMI LR LR
comp=N,120nm,16.8s
KMI LR LR
comp=E,230nm,14.9s
KMI LR LR
comp=Z,220nm,16.1s
BILL Bilibino 35.60 16⇑ *e*P **P 05 34 03.6 +0.1**
BILL *e* 05 35 24.2
BILL *e*PPP PPP 05 35 40.7
BILL pmax pmax
comp=Z,4.0nm,1.0s
BILL MLR MLR
comp=Z,308nm,20.0s
ATKA Atka Island 35.73 48 *e*P **P 05 34 05.7 +0.8**
comp=Z,68nm,1.2s
TIXI Tiksi 36.77 354⇑ *i*P **P 05 34 12.1 -1.4**
TIXI pmax pmax
comp=Z,6.0nm,1.2s
FAKI Fak Fak 39.08 194 *e*P **P 05 34 33.2 -0.4**
comp=Z,75nm,1.4s
CHTO Chiang Mai 40.58 257 *e*P **P 05 34 44.9 -1.2**
CHTO pmax pmax
comp=Z,3.0nm,0.8s
CHTO Chiang Mai 40.58 257 *e*P **P 05 34 44.9 -1.2**
comp=Z,2.7nm,0.8s
CMAR Chiang Mai Arr 40.77 257 P **P 05 34 47.9 +0.2**
comp=Z,1.0nm,0.3s,baz=50,slow=7.8,SNR=5.7
CMAR LR LR 05 52 57.7
comp=Z,91nm,18.7s,baz=52,slow=38
WMQ Urumqi 41.23 298 P **P 05 34 52.3 +1.0**
WMQ pP sP 05 35 03.5 -1.4
WMQ pmax pmax
comp=Z,21nm,0.7s
WMQ pmax pmax
comp=Z,68nm,3.7s
WMQ LR LR
comp=N,130nm,29.1s
WMQ LR LR
comp=Z,98nm,22.7s
ZAA0 Zalesovo Array 42.69 314 *e*P **P 05 35 03.0 0.0**
ZALV Zalesovo Beam 42.69 314 P **P 05 35 02.7 -0.3**
comp=Z,5.7nm,0.6s,baz=101,slow=7.7,SNR=13
NVS Novosibirsk 43.65 315 *e*P **P 05 35 09.5 -1.2**
NVS pmax pmax
comp=Z,11nm,1.2s
NVS pmax pmax
comp=E,8.0nm,1.4s
NRIK Noril'sk 44.51 336 LR LR 05 54 48.7
comp=E,183nm,19.2s,baz=91,slow=37
MK01 Makanchi Array 44.64 303 *e*P **P 05 35 18.4 -0.4**
MK31 Makanchi Array 44.64 303 *i*P **P 05 35 18.4 -0.4**
MK31 pmax pmax
comp=Z,2.0nm,0.5s
MK31 Makanchi Array 44.64 303 *e*P **P 05 35 19.0 +0.2**
MKAR Makanchi Array 44.64 303 *e*P **P 05 35 19.0 +0.2**
MKAR pmax pmax
comp=Z,38nm,0.7s
MKAR Makanchi Array 44.64 303 *e*P **P 05 35 19.0 +0.2**
comp=Z,38nm,0.7s
KURK Kurchatov 46.61 309 *c i*P **P 05 35 33.5 -0.7**
KURK pmax pmax
comp=Z,68nm,1.2s
KURK Kurchatov 46.61 309 *e*P **P 05 35 33.8 -0.4**
comp=Z,17nm,0.8s
KURBB Kurchatov Arra 46.67 309 P **P 05 35 34.1 -0.7**
comp=Z,5.1nm,0.6s,baz=83,slow=7.8,SNR=31
RAMN Ramite 46.77 275 *e*P **P 05 35 35.0 -1.1**
comp=Z,31nm,0.6s
JIRN Jiri 46.81 276 *e*P **P 05 35 36.1 -0.5**
TT01 Tatalina 46.88 34 *e*P **P 05 35 37.7 +1.5**
GUN Gumba 46.96 277 *e*P **P 05 35 38.1 +0.4**
SVW2 Sparrevohn 46.96 36 *e*P **P 05 35 38.7 +1.8**
comp=Z,42nm,1.7s
PDGK Podgornoye 47.19 299 P **P 05 35 39.2 +0.2**
PDGK pmax pmax
comp=Z,4.0nm,0.4s
PKIN Phulchoki 47.49 277 *e*P **P 05 35 40.5 -1.2**
KKN Kakani 47.50 277 *e*P **P 05 35 41.3 -0.4**
GKN Gorkha 47.93 278 *e*P **P 05 35 44.1 -0.9**
OHAK Old Harbor 48.13 42 *e*P **P 05 35 46.5 +0.5**
comp=Z,163nm,1.8s
KDAK Kodiak Island 48.49 41 P **P 05 35 49.1 +0.5**
comp=Z,12nm,0.7s,baz=284,slow=4.8,SNR=9.0
KDAK Kodiak Island 48.49 41 *e*P **P 05 35 49.2 +0.5**
comp=Z,197nm,1.8s
PPLA Purkeypile 48.64 34 *e*P **P 05 35 51.7 +1.7**
comp=Z,71nm,1.8s
MTN Manton Dam 48.97 193 *e*P **P 05 35 51.9 -1.0**
comp=Z,11nm,0.5s
PYUN Piuthan 49.22 278 *e*P **P 05 35 55.0 0.0**
comp=Z,69nm,0.9s
TRF Thorofare Moun 49.51 33 *e*P **P 05 35 57.6 +1.0**
comp=Z,48nm,1.9s
SEW Seward 49.99 38 *e*P **P 05 36 00.8 +0.6**
comp=Z,158nm,1.7s
TKM2 Tokmak 2 50.05 299 P **P 05 36 01.3 +0.1**
TKM2 pmax pmax
comp=Z,6.0nm,0.8s
PMR Palmer 50.08 36 *e*P **P 05 36 01.2 +0.5**
PMR pmax pmax
comp=Z,77nm,1.9s
PMR Palmer 50.08 36 *e*P **P 05 36 01.2 +0.5**
comp=Z,77nm,1.9s
RND Reindeer 50.15 33 *e*P **P 05 36 02.4 +0.9**
RND pmax pmax
comp=Z,15nm,1.3s
RND Reindeer 50.15 33 *e*P **P 05 36 02.4 +0.9**
comp=Z,15nm,1.3s
MDM Murphy Dome 50.41 31 *e*P **P 05 36 04.6 +1.3**
comp=Z,14nm,0.7s
SML Sawmill 50.45 36 *e*P **P 05 36 04.6 +0.9**
SML pmax pmax
comp=Z,47nm,1.4s
SML Sawmill 50.45 36 *e*P **P 05 36 04.6 +0.9**
comp=Z,47nm,1.4s
WRH Wood River Hil 50.47 32 *e*P **P 05 36 04.4 +0.6**
comp=Z,23nm,1.7s
COLA College 50.57 32 *i*P **P 05 36 06.0 +1.5**
COLA pmax pmax
comp=Z,8.0nm,0.8s
CCB Clear Creek Bu 50.59 32 *e*P **P 05 36 05.9 +1.3**
comp=Z,13nm,1.6s
PSI Prapat 50.70 240 P **P 05 36 04.8 -1.5**
comp=Z,3.5nm,0.6s,baz=59,slow=5.9,SNR=4.8
PSI Prapat 50.70 240 *e*P **P 05 36 05.1 -1.2**
PSI pmax pmax
comp=Z,4.0nm,0.7s
PSI Prapat 50.70 240 *e*P **P 05 36 05.1 -1.2**
comp=Z,4.3nm,0.7s
KSH Kashi 50.71 295 *e*P **P 05 36 08.6 +2.5**
KSH pP sP 05 36 20.8 +0.8
KSH PP **PP 05 38 06.1 +3.9**
KSH S **S 05 43 18.9 -0.4**
KSH sS sS 05 43 39.9 +4.3
KSH Kashi 50.71 295 SS **SS 05 46 51.8 -1.8**
KSH pmax pmax
comp=Z,58nm,3.9s
KSH LR LR
comp=N,140nm,9.4s
KSH LR LR
comp=E,96nm,7.8s
KSH LR LR
comp=Z,110nm,5.1s
DHY Denali Highway 50.83 34 *e*P **P 05 36 08.2 +1.5**
comp=Z,40nm,2.0s
AAK Ala-Archa 50.91 299⇓ *i*P **P 05 36 07.9 +0.3**
AAK pmax pmax
comp=Z,5.0nm,0.9s
SCM Sheep Creek Mo 50.92 35 *e*P **P 05 36 08.5 +1.2**
SCM pmax pmax
comp=Z,171nm,2.0s
SCM Sheep Creek Mo 50.92 35 *e*P **P 05 36 08.5 +1.2**
comp=Z,171nm,2.0s
HDA Harding Lake 50.97 32 *e*P **P 05 36 08.0 +0.5**
comp=Z,33nm,1.2s
IL1 Eielson Array 50.99 32 *e*P **P 05 36 07.9 +0.3**
ILAR Eielson Array 50.99 32 P **P 05 36 08.0 +0.3**
comp=Z,6.0nm,0.6s,baz=264,slow=5.9,SNR=73
ILAR Eielson Array 50.99 32 P **P 05 36 08.0 +0.3**
ILAR pmax pmax
comp=Z,6.0nm,0.6s
ILB Eielson Array 50.99 32 *e*P **P 05 36 08.2 +0.6**
BRVK Borovoye 51.40 313⇑ *i*P **P 05 36 10.6 -0.3**
BRVK pmax pmax
comp=Z,11nm,1.0s
BRVK Borovoye 51.40 313 *e*P **P 05 36 10.7 -0.2**
comp=Z,7.2nm,1.0s
KLU Klutina 51.62 36 *e*P **P 05 36 13.6 +1.1**
comp=Z,26nm,1.4s
FYU Fort Yukon 51.62 29 *e*P **P 05 36 14.7 +2.4**
comp=Z,31nm,1.6s
HARP HAARP 51.90 35 *e*P **P 05 36 15.9 +1.4**
comp=Z,104nm,1.7s
DOT Dot Lake 52.28 33 *e*P **P 05 36 18.0 +0.6**
comp=Z,38nm,1.4s
MNAS Manas 52.37 300 P **P 05 36 18.6 +0.1**
MNAS pmax pmax
comp=Z,3.0nm,0.6s
MENT Mentasta 52.51 34 *e*P **P 05 36 20.6 +1.5**
comp=Z,17nm,1.3s
CRQM Cirque 53.04 37 *e*P **P 05 36 25.3 +2.1**
comp=Z,88nm,1.8s
EGAK Eagle 53.43 31 *e*P **P 05 36 26.5 +0.7**
comp=Z,5.7nm,0.9s
KK31 Karatay Array 53.59 301 *i*P **P 05 36 26.2 -1.1**
KK31 pmax pmax
comp=Z,3.0nm,0.8s
KKAR Karatay Array 53.59 301 *e*P **P 05 36 27.1 -0.2**
KKAR pmax pmax
comp=Z,34nm,0.9s
KKAR Karatay Array 53.59 301 *e*P **P 05 36 27.1 -0.2**
comp=Z,34nm,0.9s
DAWY Dawson 54.29 32 *e*P **P 05 36 33.9 +1.7**
comp=Z,8.3nm,1.4s
FITZ Fitzroy Crossi 55.25 198 P **P 05 36 39.9 +0.4**
comp=Z,4.0nm,0.5s,baz=17,slow=5.7,SNR=5.9
FITZ Fitzroy Crossi 55.25 198 *e*P **P 05 36 39.4 0.0**
comp=Z,27nm,1.6s
WRAB Tennant Creek 55.48 188 *e*P **P 05 36 40.8 -0.3**
WRAB pmax pmax
comp=Z,14nm,0.8s
WRAB Tennant Creek 55.48 188 *e*P **P 05 36 40.8 -0.3**
comp=Z,14nm,0.8s
WB2 Warramunga Arr 55.49 188 *e*P **P 05 36 41.1 -0.1**
comp=Z,15nm,0.8s
WRA Warramunga Arr 55.49 188 P **P 05 36 40.6 -0.6**
comp=Z,13nm,0.7s,baz=6.1,slow=7.6,SNR=27
HYT Haines Junctio 55.75 36 *e*P **P 05 36 45.1 +2.3**
comp=Z,25nm,1.7s
DHAK Deception Hill 55.78 38 *e*P **P 05 36 43.2 +0.2**
comp=Z,100nm,1.4s
INK Inuvik 55.92 27 P **P 05 36 44.5 +0.8**
comp=Z,2.9nm,0.5s,baz=314,slow=2.1,SNR=13
INK Inuvik 55.92 27 *e*P **P 05 36 44.6 +0.9**
INK pmax pmax
comp=Z,9.0nm,1.3s
INK Inuvik 55.92 27 *e*P **P 05 36 44.6 +0.9**
comp=Z,9.3nm,1.3s
DZET Dzherino 56.20 296 P **P 05 36 45.7 -0.7**
DZET pmax pmax
comp=Z,6.0nm,0.4s
WHY Whitehorse 57.04 36 *e*P **P 05 36 53.4 +1.4**
comp=Z,4.4nm,0.8s
ARU Arti 57.27 319 *d i*P **P 05 36 53.4 -0.2**
ARU 05 37 47.1
ARU 05 38 58.2
ARU S **S 05 44 46.2 -1.0**
ARU SS **SS 05 48 32.3 -3.8**
ARU pmax pmax
comp=Z,9.0nm,0.8s
ARU Arti 57.27 319 *e*P **P 05 36 53.6 0.0**
comp=Z,18nm,1.1s
AB31 Akbulak array 58.66 311 P **P 05 37 02.2 -1.2**
AB31 pmax pmax
comp=Z,3.0nm,0.5s
ABKAR Akbulak array 58.66 311 *e*P **P 05 37 03.0 -0.4**
comp=Z,36nm,0.6s
AS01 Alice Springs 59.22 187 *e*P **P 05 37 07.0 -0.4**
AS31 Alice Springs 59.22 188 *e*P **P 05 37 07.5 0.0**
comp=Z,2.4nm,0.6s
ASAR Alice Springs 59.22 188 P **P 05 37 07.1 -0.4**
comp=Z,1.8nm,0.7s,baz=6.8,slow=6.8,SNR=8.8
AKTO Aktyubinsk 59.44 313 P **P 05 37 07.3 -1.5**
AKTO pmax pmax
comp=Z,3.0nm,0.7s
MBWA Marble Bar 59.84 203 *e*P **P 05 37 11.5 -0.2**
comp=Z,13nm,0.6s
DLBC Dease Lake 60.06 37 *e*P **P 05 37 14.9 +1.9**
comp=Z,25nm,2.0s
EIDS Eidsvold 61.29 170 *e*P **P 05 37 23.4 +1.8**
comp=Z,33nm,0.6s
GEYT Alibeck 64.27 299 P **P 05 37 42.0 +0.5**
comp=Z,1.4nm,0.3s,baz=305,slow=5.2,SNR=3.9
GEYT LR LR 06 07 27.6
comp=Z,101nm,20.3s,baz=95,slow=38
ARA0 ARCESS Array S 65.30 340 *e*P **P 05 37 48.2 +0.5**
ARCES ARCESS Array B 65.30 340 P **P 05 37 47.9 +0.2**
comp=Z,1.8nm,0.6s,baz=55,slow=7.8,SNR=4.5
ARCES LR LR 06 09 33.3
comp=Z,129nm,19.8s,baz=66,slow=39
YKA Yellowknife Ar 65.32 30 P **P 05 37 48.0 +0.1**
comp=Z,2.1nm,0.7s,baz=299,slow=6.6,SNR=13
YKA Yellowknife Ar 65.32 30 P **P 05 37 48.0 +0.1**
YKA pmax pmax
comp=Z,2.0nm,0.7s
AFI Afiamalu 66.44 129 LR LR 06 02 17.9
comp=Z,62nm,21.5s,baz=338,slow=32
STKA Stephens Creek 67.02 179 P **P 05 37 59.3 +0.2**
comp=Z,2.4nm,0.6s,baz=16,slow=8.3,SNR=5.6
STKA Stephens Creek 67.02 179 *e*P **P 05 37 59.4 +0.3**
STKA pmax pmax
comp=Z,2.0nm,1.4s
STKA Stephens Creek 67.02 179 *e*P **P 05 37 59.4 +0.3**
comp=Z,2.2nm,1.4s
FORT Forrest 67.04 192 *e*P **P 05 37 59.1 0.0**
comp=Z,155nm,0.6s
NLWA Neilton Lookou 68.02 47 *e*P **P 05 38 07.7 +2.2**
comp=Z,20nm,1.4s
BBOO Buckleboo 68.11 184 *e*P **P 05 38 05.9 0.0**
comp=Z,39nm,1.7s
FIA1 FINESS Array S 70.00 332 *e*P **P 05 38 17.1 -0.3**
comp=Z,78nm,1.6s
FINES FINESS Array B 70.00 332 P **P 05 38 17.1 -0.3**
comp=Z,2.5nm,0.4s,baz=60,slow=6.3,SNR=20
FINES LR LR 06 11 06.4
comp=Z,85nm,18.4s,baz=40,slow=38
NEW Newport 71.48 44 *e*P **P 05 38 27.8 +1.1**
NEW pmax pmax
comp=Z,16nm,1.8s
NEW Newport 71.48 44 *e*P **P 05 38 27.8 +1.1**
comp=Z,16nm,1.8s
YBH Yreka Blue Hor 71.57 52 *e*P **P 05 38 28.2 +0.7**
YBH pmax pmax
comp=Z,12nm,1.7s
YBH Yreka Blue Hor 71.57 52 *e*P **P 05 38 28.2 +0.7**
comp=Z,12nm,1.7s
KBZ Khabaz 71.63 311 P **P 05 38 27.9 +0.3**
comp=Z,4.2nm,0.7s,baz=41,slow=3.2,SNR=8.7
KIV Kislovodsk 71.64 311 *d i*P **P 05 38 28.5 +0.7**
KIV *e* 05 38 44.4
KIV *e* 05 41 02.0
KIV pmax pmax
comp=Z,12nm,0.8s
NEY Neytrino 71.99 311⇑ *i*P **P 05 38 32.2 +2.2**
NEY pmax pmax
comp=Z,1.0nm,1.2s
K05A Summer Lake 72.20 50 *e*P **P 05 38 32.4 +1.1**
comp=Z,14nm,1.3s
SUMG Summit 72.22 360 *i*P **P 05 38 31.6 +0.4**
comp=Z,9.8nm,1.0s
SUMG Summit 72.22 360 *e*P **P 05 38 31.8 +0.7**
SUMG pmax pmax
comp=Z,11nm,1.0s
SUMG Summit 72.22 360 *e*P **P 05 38 31.8 +0.7**
comp=Z,11nm,1.0s
SWMT Swartz Lake 73.65 43 *e*P **P 05 38 40.3 +0.6**
CMB Columbia Colle 75.06 54 *e*P **P 05 38 48.8 +0.7**
CMB pmax pmax
comp=Z,3.0nm,0.8s
CMB Columbia Colle 75.06 54 *e*P **P 05 38 48.8 +0.7**
comp=Z,2.5nm,0.8s
FFC Flin Flon 75.19 32 *e*P **P 05 38 49.1 +0.7**
FFC pmax pmax
comp=Z,29nm,1.7s
FFC Flin Flon 75.19 32 *e*P **P 05 38 49.1 +0.7**
comp=Z,29nm,1.7s
NC405 NORSAR Array S 75.25 337 *e*P **P 05 38 49.0 +0.4**
AKASG Malin Array Be 75.29 322 P **P 05 38 48.5 -0.5**
comp=Z,2.9nm,0.4s,baz=47,slow=6.3,SNR=19
AKASG LR LR 06 14 48.8
comp=Z,165nm,19.2s,baz=70,slow=38
AKBB Malin Array Si 75.29 322 *e*P **P 05 38 48.6 -0.4**
AKBB pmax pmax
comp=Z,6.0nm,0.6s
AKBB Malin Array Si 75.29 322 *e*P **P 05 38 48.5 -0.4**
comp=Z,5.8nm,0.6s
KIEV Kiev 75.30 322 *c i*P **P 05 38 48.4 -0.7**
KIEV pmax pmax
comp=Z,4.0nm,0.9s
KIEV Kiev 75.30 322 *e*P **P 05 38 48.5 -0.6**
comp=Z,5.4nm,0.6s
HRY Holter Researc 75.32 43 *e*P **P 05 38 50.8 +1.3**
AK11 Malin Array Si 75.33 322 *e*P **P 05 38 48.9 -0.3**
NC204 NORSAR Array S 75.42 338 *e*P **P 05 38 49.6 -0.1**
NB201 NORSAR Array S 75.43 337 *e*P **P 05 38 49.6 -0.1**
NB2 NORSAR Subarra 75.46 337 P **P 05 38 49.8 -0.1**
comp=Z,3.8nm,0.6s,baz=41,slow=5.9
NOA NORSAR Array B 75.46 337 P **P 05 38 49.9 0.0**
comp=Z,3.7nm,0.6s,baz=41,slow=5.8,SNR=13
NOA LR LR 06 14 55.6
comp=Z,142nm,20.0s,baz=55,slow=38
LRM Limekiln Ridge 75.50 44 *e*P **P 05 38 51.7 +1.0**
NBO02 NORSAR Array S 75.56 337 *e*P **P 05 38 51.1 +0.6**
EGMT Eagleton 75.66 41 *e*P **P 05 38 52.1 +0.7**
DLMT Dillon 75.69 44 *e*P **P 05 38 53.1 +1.4**
comp=Z,3.7nm,0.8s
NAO01 NORSAR Array S 75.71 337 *e*P **P 05 38 51.1 -0.2**
TVH3 East Aurora ar 75.91 53 *e*P **P 05 38 54.9 +1.8**
comp=Z,4.4nm,1.0s
BOZ Bozeman (W) 76.10 44 *e*P **P 05 38 54.8 +0.8**
BOZ pmax pmax
comp=Z,4.0nm,0.9s
BOZ Bozeman (W) 76.10 44 *e*P **P 05 38 54.8 +0.8**
comp=Z,3.6nm,0.9s
H17A Grant Village 77.42 44 *e*P **P 05 39 04.0 +2.4**
comp=Z,6.4nm,1.1s
IMW Indian Meadow 77.51 45 *e*P **P 05 39 03.3 +1.1**
comp=Z,4.4nm,1.1s
HVU Hansel Valley 77.71 47 *e*P **P 05 39 04.9 +1.8**
HVU pmax pmax
comp=Z,11nm,1.4s
HVU Hansel Valley 77.71 47 *e*P **P 05 39 04.9 +1.8**
comp=Z,11nm,1.4s
MOOW Moose Ponds 77.72 45 *e*P **P 05 39 04.6 +1.4**
comp=Z,7.5nm,1.8s
TPAW Teton Pass 77.75 45 *e*P **P 05 39 04.5 +1.0**
comp=Z,9.0nm,1.5s
R11A Troy Canyon, C 78.00 51 *e*P **P 05 39 06.0 +1.2**
comp=Z,2.2nm,0.9s
TPNV Topopah Spring 78.38 53 *e*P **P 05 39 07.5 +0.5**
TPNV pmax pmax
comp=Z,26nm,2.0s
TPNV Topopah Spring 78.38 53 *e*P **P 05 39 07.5 +0.5**
comp=Z,26nm,2.0s
HWUT Hardware Ranch 78.54 47 *e*P **P 05 39 09.4 +1.6**
comp=Z,5.4nm,1.0s
DUG Dugway, Tooele 78.64 49 *e*P **P 05 39 09.0 +0.7**
DUG pmax pmax
comp=Z,3.0nm,0.8s
DUG Dugway, Tooele 78.64 49 *e*P **P 05 39 09.0 +0.7**
comp=Z,2.6nm,0.8s
BW06 Boulder Array 79.00 45 *e*P **P 05 39 11.1 +0.7**
comp=Z,1.7nm,0.6s
PD31 Pinedale Array 79.00 45 *e*P **P 05 39 11.1 +0.7**
PDAR Pinedale Array 79.00 45 P **P 05 39 11.0 +0.7**
comp=Z,1.6nm,0.5s,baz=270,slow=1.8,SNR=26
NLU North Lily Min 79.23 48 *e*P **P 05 39 12.1 +0.4**
comp=Z,1.8nm,0.8s
RAR Rarotonga 79.56 125 LR LR 06 06 09.7
comp=Z,57nm,20.8s,baz=302,slow=29
BR131 Keskin Array S 79.60 312 *e*P **P 05 39 13.2 -0.3**
BRTR Keskin Array B 79.60 312 P **P 05 39 13.4 -0.2**
comp=Z,2.6nm,0.9s,baz=85,slow=4.0,SNR=9.2
BRTR Keskin Array B 79.60 312 *c e*P **P 05 39 14.3 +0.8**
BRTR pmax pmax
comp=Z,3.0nm,0.9s
BR231 Keskin MP Arra 80.05 312 *e*P **P 05 39 14.4 -1.6**
SRU San Rafael Swe 80.70 48 *e*P **P 05 39 20.1 +0.6**
SRU pmax pmax
comp=Z,5.0nm,0.8s
SRU San Rafael Swe 80.70 48 *e*P **P 05 39 20.1 +0.6**
comp=Z,4.7nm,0.8s
ULM Lac du Bonnet 80.98 33 P **P 05 39 20.0 -0.6**
comp=Z,3.1nm,0.8s,baz=0.0,slow=2.0,SNR=3.9
DPC Dobruska-Polom 81.56 328 *e*P **P 05 39 24.5 +0.8**
DPC Dobruska-Polom 81.56 328 *e*P **P 05 39 24.5 +0.8**
PV10 Paradox Valley 82.06 48 *e*P **P 05 39 28.6 +1.7**
BRG Berggiesshubel 82.19 329 *e*(P) P 05 39 38.5 +12
comp=Z,1.6nm,0.9s
BRG Berggiesshubel 82.19 329 *e*P P 05 39 38.5 +12
BRG pmax pmax
comp=Z,12nm,1.0s
PV05 Paradox Valley 82.21 48 *e*P **P 05 39 28.8 +1.2**
CLL Collm 82.24 330 *i*P **P 05 39 27.0 -0.2**
CLL pmax pmax
comp=Z,8.0nm,0.9s
CLL Collm 82.24 330 *i*P **P 05 39 27.0 -0.2**
comp=Z,8.0nm,0.9s
CLL *e* 05 39 36.0
CLL Lm MLR 06 20 00.0
comp=N,100nm,18.9s
CLL Lm MLR 06 20 00.0
comp=E,100nm,18.6s
PV01 Paradox Valley 82.50 48 *e*P **P 05 39 30.5 +1.4**
GOPC GO Pecny, Ondr 82.55 328 *e*P **P 05 39 29.4 +0.5**
GOPC GO Pecny, Ondr 82.55 328 *e*P **P 05 39 29.4 +0.5**
PRU Pruhonice 82.60 328 *e*P **P 05 39 29.1 0.0**
PRU Pruhonice 82.60 328 *e*P **P 05 39 29.1 0.0**
SMCO Snowmass 82.79 47 *e*P **P 05 39 32.1 +1.2**
comp=E,11nm,1.8s
X16A Lo Mia Camp, P 83.03 53 *e*P **P 05 39 33.1 +1.1**
comp=E,3.7nm,1.3s
KHC Kasperske Hory 83.66 328 *e*P **P 05 39 35.2 +0.5**
KHC Kasperske Hory 83.66 328 *e*P **P 05 39 35.2 +0.5**
S22A 4UR Ranch, Cre 83.80 48 *e*P **P 05 39 37.7 +1.7**
comp=E,9.4nm,1.5s
GERES GERESS Array B 83.82 328 P **P 05 39 35.2 -0.4**
comp=E,1.1nm,0.7s,baz=34,slow=5.2,SNR=4.6
GERES LR LR 06 19 10.5
comp=E,72nm,19.7s,baz=13,slow=37
GEA0 GERESS Array S 83.83 328 *e*P **P 05 39 35.2 -0.4**
PPT Papeete 84.28 116 LR LR 06 07 50.4
comp=E,52nm,21.8s,baz=322,slow=29
PPT2 Papeete2 84.29 116 *e*LR LR 06 06 22.2
comp=E,130nm,24.8s
PPT2 Papeete2 84.29 116 *e*T T 07 12 33.5
comp=E,2.3nm,0.3s
SDCO Great Sand Dun 84.60 47 *e*P **P 05 39 41.0 +1.0**
comp=E,3.9nm,1.1s
TUC Tucson 84.77 54 *e*P **P 05 39 41.8 +1.1**
TUC pmax pmax
comp=Z,2.0nm,0.8s
TUC Tucson 84.77 54 *e*P **P 05 39 41.8 +1.1**
comp=Z,2.1nm,0.8s
ECSD EROS Data Cent 85.35 38 *e*P **P 05 39 44.0 +0.8**
comp=Z,21nm,1.9s
ANMO Albuquerque 85.86 50 *c e*P **P 05 39 47.4 +1.2**
ANMO pmax pmax
comp=Z,3.0nm,1.0s
ANMO Albuquerque 85.86 50 *e*P **P 05 39 46.7 +0.4**
comp=Z,3.0nm,1.0s
TAOE Nuku Hiva Isla 86.16 104 *e*LR LR 06 07 19.6

comp=Z,96nm,24.8s
BFO Black Forest 86.46 331 *ce*P **P 05 39 49.6 +0.9**
SCHQ Schefferville 86.91 16 P **P 05 39 51.7 +1.0**
comp=Z,9.6nm,1.0s,baz=1.8,slow=3.4,SNR=4.8
TBI Tubuai 88.06 120 *e*T T 07 17 15.0
comp=Z,4.8nm,0.3s
TXAR Lajitas Array 91.35 52 P **P 05 40 13.4 +1.1**
comp=Z,0.8nm,0.7s,baz=310,slow=4.7,SNR=4.2
MIAR Mount Ida 93.69 42 *e*P **P 05 40 24.1 +1.2**
MIAR pmax pmax
comp=Z,6.0nm,1.0s
MIAR Mount Ida 93.69 42 *e*P **P 05 40 24.1 +1.2**
comp=Z,6.0nm,1.0s
TOA0 Torodi Ar. Sit 118.14 314 *e*PKPdf **PKPdf 05 45 53.0 -0.7**
TORD Torodi Ar. Bea 118.14 314 PKP **PKPdf 05 45 52.8 -0.9**
comp=Z,0.8nm,0.7s,baz=347,slow=2.5,SNR=4.5
STVI Saint Thomas 121.07 29 *e*PKPdf **PKPdf 05 45 58.6 -0.6**
SAML Samuel 145.58 46 *e*PKPdf **PKPbc 05 46 45.0 0.0**
LPAZ La Paz 147.77 61 PKPbc **PKPbc 05 46 52.7 +0.6**
comp=Z,4.2nm,0.7s,baz=335,slow=3.6,SNR=18
LPAZ La Paz 147.77 61 *e*PKPbc **PKPbc 05 46 52.4 +0.3**
PB11 IPOC Station P 148.83 68 *e*PKPbc **PKPbc 05 46 55.3 +1.1**
CPUP Villa Florida 161.86 65 PKPbc **PKPab 05 47 51.6 -1.7**
comp=Z,0.8nm,0.4s,baz=245,slow=0.5,SNR=6.1
CPUP Villa Florida 161.86 65 PKP2 **PKPab 05 47 51.6 -1.7**
CPUP pmax pmax
comp=Z,1.0nm,0.4s

NEIC ***16*** *05:27:55.7±0.0, 41.13S×174.69E, h54km, ML4.3(WEL), After WEL.*
NEIC Felt at Algies Bay, Mahurangi, Porirua and Wellington.
WEL 16 05:27:55.8±0.1, 41.14S×174.69E, h53km±1km, ML4.2/44, 13C-12D, Error ellipse: s-maj=0.8km s-min=0.8km az=90.0, Cook Strait

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WEL	**Wellington**	**0.16**	**159**	Pn	Pn	05 28 04.2	0.0
WEL				Sn	Sn	05 28 10.6	+0.3
WEL	**Wellington**	**0.16**	**159**	PN	Pn	05 28 04.2	-0.1
WEL				SN	Sn	05 28 10.6	+0.3
WEL				AML	AML	05 28 11.2	
WEL				AML	AML	05 28 11.3	
WEL				AML	AML	05 28 11.3	
SNZO	**South Karori**	**0.17**	**177**	*e*Pn	Pn	05 28 04.0	-0.2
SNZO				*e*Sn	Sn	05 28 10.4	+0.1
CAW	**Cannon Point**	**0.28**	**84**	Pn	Pn	05 28 05.0	-0.1
CAW	**Cannon Point**	**0.28**	**84**	PN	Pn	05 28 05.0	-0.1
CAW				AML	AML	05 28 13.2	
CAW				AML	AML	05 28 13.3	
BHW	**Baring Head**	**0.30**	**154**	Pn	Pn	05 28 05.1	-0.2
BHW				Sn	Sn	05 28 12.1	+0.1
BHW	**Baring Head**	**0.30**	**154**	⇑PN	Pn	05 28 05.1	-0.2
BHW				SN	Sn	05 28 12.1	+0.1
BHW				AML	AML	05 28 12.9	
KIW	**Kapiti Island**	**0.32**	**31**	Pn	Pn	05 28 05.2	-0.2
KIW	**Kapiti Island**	**0.32**	**31**	⇓PN	Pn	05 28 05.2	-0.2
KIW				AML	AML	05 28 12.1	
KIW				AML	AML	05 28 12.7	
TCW	**Tory Channel**	**0.32**	**257**	Pn	Pn	05 28 05.1	-0.3
TCW	**Tory Channel**	**0.32**	**257**	⇓PN	Pn	05 28 05.1	-0.3
TCW				AML	AML	05 28 12.9	
TCW				AML	AML	05 28 12.9	
OGWZ	**Otaki Gorge**	**0.48**	**49**	Pn	Pn	05 28 08.8	-0.3
OGWZ	**Otaki Gorge**	**0.48**	**49**	⇓PN	Pn	05 28 06.8	-0.3
OGWZ				AML	AML	05 28 15.1	
OGWZ				AML	AML	05 28 15.2	
MSWZ	**Moikau Station**	**0.50**	**124**	Pn	Pn	05 28 07.2	-0.1
MSWZ	**Moikau Station**	**0.50**	**124**	⇑PN	Pn	05 28 07.2	-0.1
MSWZ				AML	AML	05 28 16.7	
MSWZ				AML	AML	05 28 17.0	
PAWZ	**Paruwai Farm**	**0.60**	**114**	Pn	Pn	05 28 08.2	-0.3
PAWZ	**Paruwai Farm**	**0.60**	**114**	⇑PN	Pn	05 28 08.2	-0.3
PAWZ				AML	AML	05 28 17.8	
PAWZ				AML	AML	05 28 18.3	
PLWZ	**Palliser**	**0.60**	**136**	Pn	Pn	05 28 08.3	-0.2
PLWZ	**Palliser**	**0.60**	**136**	⇑PN	Pn	05 28 08.3	-0.2
PLWZ				AML	AML	05 28 18.7	
PLWZ				AML	AML	05 28 19.0	
MTW	**Mount Morrison**	**0.61**	**92**	Pn	Pn	05 28 08.2	-0.4
MTW	**Mount Morrison**	**0.61**	**92**	⇑PN	Pn	05 28 08.2	-0.4
MTW				AML	AML	05 28 18.0	
MTW				AML	AML	05 28 18.3	
TUWZ	**Tuamarina**	**0.64**	**242**	Pn	Pn	05 28 08.3	-0.6
TUWZ	**Tuamarina**	**0.64**	**242**	⇓PN	Pn	05 28 08.3	-0.6
TUWZ				AML	AML	05 28 18.4	
TUWZ				AML	AML	05 28 18.6	
HOWZ	**Holdsworth Sta**	**0.67**	**69**	Pn	Pn	05 28 08.8	-0.5
HOWZ	**Holdsworth Sta**	**0.67**	**69**	PN	Pn	05 28 08.8	-0.5
HOWZ				AML	AML	05 28 20.1	
HOWZ				AML	AML	05 28 21.0	
DUWZ	**D'Urville Isla**	**0.67**	**300**	Pn	Pn	05 28 09.0	-0.3
DUWZ	**D'Urville Isla**	**0.67**	**300**	⇓PN	Pn	05 28 09.0	-0.3
CMWZ	**Cape Campbell**	**0.71**	**210**	Pn	Pn	05 28 10.1	+0.3
CMWZ	**Cape Campbell**	**0.71**	**210**	⇑PN	Pn	05 28 10.1	+0.3
CMWZ				AML	AML	05 28 23.3	
CMWZ				AML	AML	05 28 28.7	
TRWZ	**Traveller**	**0.79**	**110**	Pn	Pn	05 28 10.4	-0.4
TRWZ	**Traveller**	**0.79**	**110**	⇑PN	Pn	05 28 10.4	-0.4
TRWZ				AML	AML	05 28 21.8	
TRWZ				AML	AML	05 28 22.4	
MRZ	**Mangatainoka R**	**0.82**	**55**	Pn	Pn	05 28 10.6	-0.7
MRZ	**Mangatainoka R**	**0.82**	**55**	⇓PN	Pn	05 28 10.5	-0.7
MRZ				AML	AML	05 28 23.3	
MRZ				AML	AML	05 28 29.3	
BSWZ	**Blackbirch Sta**	**0.84**	**227**	Pn	Pn	05 28 11.2	-0.3
BSWZ	**Blackbirch Sta**	**0.84**	**227**	PN	Pn	05 28 11.2	-0.3
BSWZ				AML	AML	05 28 24.7	
BSWZ				AML	AML	05 28 24.8	
TMWZ	**Te Maipa**	**0.90**	**88**	Pn	Pn	05 28 11.7	-0.6
TMWZ	**Te Maipa**	**0.90**	**88**	⇑PN	Pn	05 28 11.7	-0.7
TMWZ				AML	AML	05 28 24.6	
TMWZ				AML	AML	05 28 25.1	
TIWZ	**Tintock**	**0.97**	**69**	Pn	Pn	05 28 12.4	-0.8
TIWZ	**Tintock**	**0.97**	**69**	⇑PN	Pn	05 28 12.4	-0.8
TIWZ				AML	AML	05 28 26.3	
TIWZ				AML	AML	05 28 26.6	
NNZ	**Nelson**	**1.00**	**265**	Pn	Pn	05 28 12.7	-0.8
NNZ	**Nelson**	**1.00**	**265**	PN	Pn	05 28 12.7	-0.8
OHWZ	**Ohakea**	**1.04**	**27**	Pn	Pn	05 28 14.4	+0.2
POWZ	**Post Office Ro**	**1.10**	**48**	Pn	Pn	05 28 13.4	-1.5
POWZ	**Post Office Ro**	**1.10**	**48**	PN	Pn	05 28 13.4	-1.6
POWZ				AML	AML	05 28 39.3	
POWZ				AML	AML	05 28 39.8	
PRWZ	**Pori Road**	**1.13**	**59**	Pn	Pn	05 28 14.5	-0.8
PRWZ	**Pori Road**	**1.13**	**59**	PN	Pn	05 28 14.5	-0.8
PRWZ				AML	AML	05 28 30.9	
PRWZ				AML	AML	05 28 31.2	
CPWZ	**Castlepoint**	**1.16**	**79**	Pn	Pn	05 28 15.4	-0.4
CPWZ	**Castlepoint**	**1.16**	**79**	PN	Pn	05 28 15.4	-0.4
CPWZ				AML	AML	05 28 33.8	
CPWZ				AML	AML	05 28 50.2	
BFZ	**Birch Farm**	**1.26**	**69**	Pn	Pn	05 28 15.8	-1.3
BFZ	**Birch Farm**	**1.26**	**69**	PN	Pn	05 28 15.8	-1.3
BFZ				AML	AML	05 28 33.1	
BFZ				AML	AML	05 28 33.1	
BFZ				AML	AML	05 28 33.7	
BFZ				AML	AML	05 28 33.7	
DVHZ	**Dannevirke**	**1.40**	**54**	Pn	Pn	05 28 17.5	-1.4
WAZ	**Wanganui**	**1.40**	**9**	Pn	Pn	05 28 19.4	+0.5
WAZ	**Wanganui**	**1.40**	**9**	⇑PN	Pn	05 28 19.4	+0.5
TSZ	**Takapari Road**	**1.45**	**42**	Pn	Pn	05 28 18.5	-1.1
TSZ	**Takapari Road**	**1.45**	**42**	⇑PN	Pn	05 28 18.5	-1.1
TSZ				AML	AML	05 28 44.4	
TSZ				AML	AML	05 28 45.3	
THZ	**Tophouse**	**1.48**	**244**	Pn	Pn	05 28 19.1	-1.0
THZ	**Tophouse**	**1.48**	**244**	⇓PN	Pn	05 28 19.1	-1.0
ANWZ	**Angora Road**	**1.51**	**64**	PN	Pn	05 28 19.2	-1.3
ANWZ				AML	AML	05 28 42.1	
ANWZ				AML	AML	05 28 42.2	
KHZ	**Kahutara**	**1.54**	**214**	Pn	Pn	05 28 20.0	-0.8
KHZ	**Kahutara**	**1.54**	**214**	PN	Pn	05 28 20.0	-0.8
KHZ				AML	AML	05 28 38.0	
KHZ				AML	AML	05 28 38.2	
KHZ				AML	AML	05 28 39.4	
KHZ				AML	AML	05 28 39.4	
QRZ	**Quartz Range**	**1.67**	**280**	Pn	Pn	05 28 22.0	-0.6
QRZ	**Quartz Range**	**1.67**	**280**	PN	Pn	05 28 22.0	-0.6
PNHZ	**Pukenui**	**1.68**	**44**	Pn	Pn	05 28 21.3	-1.5
PNHZ	**Pukenui**	**1.68**	**44**	PN	Pn	05 28 21.3	-1.5
PNHZ				AML	AML	05 28 44.2	
PNHZ				AML	AML	05 28 46.4	
LREZ	**Lake Rotokare**	**1.69**	**352**	PN	Pn	05 28 23.5	+0.6
WPHZ	**Waipukurau**	**1.71**	**52**	Pn	Pn	05 28 22.0	-1.2
WPHZ	**Waipukurau**	**1.71**	**52**	PN	Pn	05 28 22.0	-1.2
WPHZ				AML	AML	05 28 59.3	
WPHZ				AML	AML	05 29 01.4	
PRHZ	**Porangahau**	**1.71**	**60**	Pn	Pn	05 28 21.7	-1.5
NMEZ	**Namu Road**	**1.83**	**340**	Pn	Pn	05 28 25.3	+0.5
NMEZ	**Namu Road**	**1.83**	**340**	PN	Pn	05 28 25.3	+0.5
PREZ	**Palmer Road**	**1.84**	**347**	Pn	Pn	05 28 25.9	+0.9
PREZ	**Palmer Road**	**1.84**	**347**	PN	Pn	05 28 25.9	+0.9
MTVZ	**Mangateitei**	**1.85**	**19**	Pn	Pn	05 28 25.3	+0.1
MOVZ	**Moawhango**	**1.91**	**25**	Pn	Pn	05 28 25.0	-1.0
MOVZ	**Moawhango**	**1.91**	**25**	PN	Pn	05 28 25.0	-1.0
PKVZ	**Pokaka**	**1.91**	**15**	Pn	Pn	05 28 25.8	-0.2
PKVZ	**Pokaka**	**1.91**	**15**	PN	Pn	05 28 25.8	-0.2
KHEZ	**Kahui Hut**	**1.91**	**344**	Pn	Pn	05 28 26.7	+0.6
KHEZ	**Kahui Hut**	**1.91**	**344**	PN	Pn	05 28 26.7	+0.6
NEZ	**North Egmont**	**1.92**	**346**	Pn	Pn	05 28 26.5	+0.4
NEZ	**North Egmont**	**1.92**	**346**	PN	Pn	05 28 26.5	+0.4
WNVZ	**Wahianoa**	**1.94**	**21**	Pn	Pn	05 28 26.0	-0.4
WNVZ	**Wahianoa**	**1.94**	**21**	⇓PN	Pn	05 28 26.0	-0.4
TRVZ	**Turoa**	**1.95**	**20**	Pn	Pn	05 28 26.4	-0.3
TRVZ	**Turoa**	**1.95**	**20**	PN	Pn	05 28 26.3	-0.3
BHHZ	**Black Hill Sta**	**1.95**	**33**	Pn	Pn	05 28 25.9	-0.6
BHHZ	**Black Hill Sta**	**1.95**	**33**	PN	Pn	05 28 25.9	-0.6
NWEZ	**Newall Road**	**1.96**	**341**	Pn	Pn	05 28 27.3	+0.6
NWEZ	**Newall Road**	**1.96**	**341**	PN	Pn	05 28 27.3	+0.6
KRHZ	**Kereru**	**1.97**	**41**	PN	Pn	05 28 25.2	-1.5
KRHZ				AML	AML	05 28 50.5	
KRHZ				AML	AML	05 28 50.7	
DRZ	**Dome Shelter**	**1.98**	**20**	Pn	Pn	05 28 26.9	-0.2
DRZ	**Dome Shelter**	**1.98**	**20**	PN	Pn	05 28 26.9	-0.2
WHVZ	**Whangaehu Hut**	**1.98**	**21**	Pn	Pn	05 28 26.6	-0.4
WHVZ	**Whangaehu Hut**	**1.98**	**21**	⇓PN	Pn	05 28 26.6	-0.4
DREZ	**Durham Road**	**1.98**	**349**	Pn	Pn	05 28 27.8	+0.8
DREZ	**Durham Road**	**1.98**	**349**	PN	Pn	05 28 27.7	+0.8
FWVZ	**Far West T-bar**	**1.99**	**20**	Pn	Pn	05 28 26.8	-0.5
FWVZ	**Far West T-bar**	**1.99**	**20**	PN	Pn	05 28 26.7	-0.5
TUVZ	**Tukino**	**2.01**	**22**	Pn	Pn	05 28 27.1	-0.3
TUVZ	**Tukino**	**2.01**	**22**	PN	Pn	05 28 27.1	-0.3
VRZ	**Vera Road**	**2.01**	**1**	Pn	Pn	05 28 27.6	+0.4
VRZ	**Vera Road**	**2.01**	**1**	PN	Pn	05 28 27.7	+0.4
PKE	**Pukeiti**	**2.02**	**344**	Pn	Pn	05 28 27.9	+0.5
PKE	**Pukeiti**	**2.02**	**344**	PN	Pn	05 28 27.9	+0.5
MHEZ	**Mangahewa**	**2.08**	**352**	Pn	Pn	05 28 29.1	+0.9
MHEZ	**Mangahewa**	**2.08**	**352**	PN	Pn	05 28 29.1	+0.9
NGZ	**Ngauruhoe**	**2.08**	**20**	Pn	Pn	05 28 28.2	-0.2
NGZ	**Ngauruhoe**	**2.08**	**20**	PN	Pn	05 28 28.2	-0.2
OTVZ	**Oturere**	**2.11**	**21**	Pn	Pn	05 28 28.5	-0.2
OTVZ	**Oturere**	**2.11**	**21**	PN	Pn	05 28 28.5	-0.2
WTVZ	**West Tongariro**	**2.13**	**19**	Pn	Pn	05 28 28.9	-0.2
WTVZ	**West Tongariro**	**2.13**	**19**	PN	Pn	05 28 28.9	-0.2
KAHZ	**Kahuranaki**	**2.14**	**52**	Pn	Pn	05 28 27.1	-2.0
KAHZ	**Kahuranaki**	**2.14**	**52**	PN	Pn	05 28 27.1	-2.0
KAHZ				AML	AML	05 28 56.9	
KAHZ				AML	AML	05 28 59.3	
TWVZ	**Taurewa**	**2.14**	**16**	Pn	Pn	05 28 28.6	-0.6
TWVZ	**Taurewa**	**2.14**	**16**	PN	Pn	05 28 28.6	-0.6
KWHZ	**Kaweka Forest**	**2.16**	**38**	PN	Pn	05 28 28.3	-1.2
KWHZ				AML	AML	05 28 59.9	
KWHZ				AML	AML	05 29 22.3	
KRVZ	**Karewarewa**	**2.17**	**20**	Pn	Pn	05 28 29.6	0.0
KRVZ	**Karewarewa**	**2.17**	**20**	PN	Pn	05 28 29.5	0.0
DSZ	**Denniston Nort**	**2.26**	**253**	Pn	Pn	05 28 29.7	-0.9
DSZ	**Denniston Nort**	**2.26**	**253**	PN	Pn	05 28 29.7	-0.9
MCHZ	**McNeill Hill**	**2.28**	**43**	Pn	Pn	05 28 29.9	-1.1
MCHZ	**McNeill Hill**	**2.28**	**43**	PN	Pn	05 28 29.9	-1.1
MCHZ				AML	AML	05 29 03.1	
MCHZ				AML	AML	05 29 18.1	
KATZ	**Kakaramea**	**2.29**	**20**	Pn	Pn	05 28 31.0	-0.2
KATZ	**Kakaramea**	**2.29**	**20**	PN	Pn	05 28 31.0	-0.3
CKHZ	**Cape Kidnapper**	**2.34**	**52**	Pn	Pn	05 28 29.5	-2.4
CKHZ	**Cape Kidnapper**	**2.34**	**52**	PN	Pn	05 28 29.5	-2.4
CKHZ				AML	AML	05 28 33.0	
CKHZ				AML	AML	05 29 04.5	
BKZ	**Black Stump Fm**	**2.40**	**36**	Pn	Pn	05 28 30.7	-2.0
BKZ	**Black Stump Fm**	**2.40**	**36**	PN	Pn	05 28 30.7	-2.0
BKZ				AML	AML	05 29 02.3	
BKZ				AML	AML	05 29 28.6	
RATZ	**Rangitukua**	**2.41**	**20**	Pn	Pn	05 28 33.3	+0.4
RATZ	**Rangitukua**	**2.41**	**20**	PN	Pn	05 28 33.3	+0.4
LTZ	**Lake Taylor**	**2.44**	**227**	Pn	Pn	05 28 31.8	-1.4
LTZ	**Lake Taylor**	**2.44**	**227**	PN	Pn	05 28 31.8	-1.4
HATZ	**Hinemaiaia**	**2.49**	**26**	Pn	Pn	05 28 32.2	-1.7
HATZ	**Hinemaiaia**	**2.49**	**26**	PN	Pn	05 28 32.2	-1.7
WATZ	**Wairara**	**2.55**	**19**	Pn	Pn	05 28 35.5	+0.7
WATZ	**Wairara**	**2.55**	**19**	PN	Pn	05 28 35.5	+0.7
ARHZ	**Aropaoanui**	**2.57**	**44**	Pn	Pn	05 28 32.5	-2.4
ARHZ	**Aropaoanui**	**2.57**	**44**	PN	Pn	05 28 32.5	-2.4
ARHZ				AML	AML	05 29 07.3	
ARHZ				AML	AML	05 29 09.0	
NMHZ	**Naumai**	**2.60**	**39**	Pn	Pn	05 28 33.6	-1.8
NMHZ	**Naumai**	**2.60**	**39**	PN	Pn	05 28 33.6	-1.8
NMHZ				AML	AML	05 29 06.8	
NMHZ				AML	AML	05 29 07.7	
HIZ	**Hauiti**	**2.62**	**3**	Pn	Pn	05 28 36.4	+0.7
HIZ	**Hauiti**	**2.62**	**3**	⇓PN	Pn	05 28 36.4	+0.7
MRHZ	**Matea Rd**	**2.65**	**30**	PN	Pn	05 28 34.0	-2.2
MRHZ				AML	AML	05 29 05.5	
MRHZ				AML	AML	05 29 08.7	
ALRZ	**Allen Road**	**2.87**	**27**	Pn	Pn	05 28 36.9	-2.2
ALRZ	**Allen Road**	**2.87**	**27**	PN	Pn	05 28 36.9	-2.2
CRLZ	**Canterbury Las**	**2.88**	**212**	Pn	Pn	05 28 36.8	-2.4
CRLZ	**Canterbury Las**	**2.88**	**212**	PN	Pn	05 28 36.8	-2.4
INZ	**Inchbonnie**	**2.90**	**236**	⇑PN	Pn	05 28 37.9	-1.5
PRRZ	**Plateau Road**	**2.94**	**27**	Pn	Pn	05 28 38.1	-2.0
PRRZ	**Plateau Road**	**2.94**	**27**	PN	Pn	05 28 38.1	-2.0
OXZ	**Oxford**	**2.94**	**221**	Pn	Pn	05 28 37.4	-2.7
OXZ	**Oxford**	**2.94**	**221**	PN	Pn	05 28 37.4	-2.7
MQZ	**McQueen's Vall**	**2.98**	**210**	Pn	Pn	05 28 37.5	-3.0
MQZ	**McQueen's Vall**	**2.98**	**210**	⇑PN	Pn	05 28 37.5	-3.0
RTZ	**Ruatahuna**	**3.07**	**36**	PN	Pn	05 28 39.7	-2.2
MUGZ	**Murupara**	**3.10**	**32**	PN	Pn	05 28 39.1	-3.1
SNGZ	**Shannon Statio**	**3.11**	**42**	AML	AML	05 29 17.7	
SNGZ				AML	AML	05 29 21.4	
KNZ	**Kokohu**	**3.11**	**48**	PN	Pn	05 28 39.7	-2.6
KNZ				AML	AML	05 29 22.0	
MHGZ	**Mahia Peninsul**	**3.16**	**52**	Pn	Pn	05 28 40.8	-2.3
MHGZ	**Mahia Peninsul**	**3.16**	**52**	PN	Pn	05 28 40.8	-2.3
RAGZ	**Rawiri**	**3.37**	**39**	Pn	Pn	05 28 43.3	-2.7
RAGZ	**Rawiri**	**3.37**	**39**	PN	Pn	05 28 43.3	-2.7
RAGZ				AML	AML	05 29 23.5	
RAGZ				AML	AML	05 29 26.1	
URZ	**Urewera**	**3.42**	**34**	Pn	Pn	05 28 43.4	-3.2
URZ	**Urewera**	**3.42**	**34**	⇓PN	Pn	05 28 43.4	-3.2
URZ				AML	AML	05 29 23.2	
URZ				AML	AML	05 29 25.1	
TOZ	**Tahuroa Road**	**3.46**	**11**	Pn	Pn	05 28 46.5	-0.6
TOZ	**Tahuroa Road**	**3.46**	**11**	PN	Pn	05 28 46.5	-0.6
WVZ	**Waitaha Valley**	**3.52**	**235**	Pn	Pn	05 28 46.0	-2.0
WVZ	**Waitaha Valley**	**3.52**	**235**	PN	Pn	05 28 46.0	-2.0
MWZ	**Matawai**	**3.55**	**39**	Pn	Pn	05 28 45.3	-3.1
MWZ	**Matawai**	**3.55**	**39**	PN	Pn	05 28 45.3	-3.1
MWZ				AML	AML	05 29 28.2	
MWZ				AML	AML	05 29 28.7	
TKGZ	**Te Karaka**	**3.63**	**43**	AML	AML	05 29 28.5	
TKGZ				AML	AML	05 29 28.6	
RPZ	**Rata Peaks**	**3.73**	**225**	Pn	Pn	05 28 48.8	-2.0
RPZ	**Rata Peaks**	**3.73**	**225**	PN	Pn	05 28 48.8	-2.0
RUGZ	**Raukumara Rang**	**3.92**	**37**	PN	Pn	05 28 50.2	-3.3
KBAZ	**Karaka Road Bo**	**4.04**	**2**	Pn	Pn	05 28 55.2	+0.1
KBAZ	**Karaka Road Bo**	**4.04**	**2**	PN	Pn	05 28 55.2	+0.1
MKAZ	**Moumakai**	**4.04**	**5**	Pn	Pn	05 28 54.5	-0.7
MKAZ	**Moumakai**	**4.04**	**5**	PN	Pn	05 28 54.4	-0.7
AWAZ	**Awhitu Peninsu**	**4.07**	**359**	PN	Pn	05 28 55.4	0.0
HAZ	**Te Kaha**	**4.14**	**36**	PN	Pn	05 28 52.5	-3.8
HAZ				AML	AML	05 29 47.5	
HAZ				AML	AML	05 29 47.9	
PKGZ	**Pakihiroa**	**4.17**	**40**	PN	Pn	05 28 54.4	-2.5
ETAZ	**East Tamaki Re**	**4.18**	**3**	Pn	Pn	05 28 56.8	-0.2
ETAZ	**East Tamaki Re**	**4.18**	**3**	PN	Pn	05 28 56.8	-0.2
WTAZ	**Waiatarua**	**4.20**	**359**	Pn	Pn	05 28 57.3	0.0
WTAZ	**Waiatarua**	**4.20**	**359**	PN	Pn	05 28 57.3	0.0
FOZ	**Fox Glacier**	**4.34**	**235**	Pn	Pn	05 28 57.0	-2.1
FOZ	**Fox Glacier**	**4.34**	**235**	PN	Pn	05 28 57.0	-2.1
WIAZ	**Waiheke Island**	**4.35**	**5**	PN	Pn	05 28 58.9	-0.4
RVAZ	**Riverhead Bore**	**4.36**	**359**	Pn	Pn	05 28 59.2	-0.2
RVAZ	**Riverhead Bore**	**4.36**	**359**	PN	Pn	05 28 59.2	-0.2
WMGZ	**Waiomatatini S**	**4.39**	**42**	Pn	Pn	05 28 56.4	-3.4
WMGZ	**Waiomatatini S**	**4.39**	**42**	PN	Pn	05 28 56.4	-3.4
WMGZ				AML	AML	05 29 46.6	
WMGZ				AML	AML	05 29 48.1	
KUZ	**Kuaotunu**	**4.46**	**11**	Pn	Pn	05 28 59.7	-1.1
KUZ	**Kuaotunu**	**4.46**	**11**	⇓PN	Pn	05 28 59.7	-1.1
LBZ	**Lake Benmore**	**4.64**	**224**	Pn	Pn	05 29 01.3	-2.0
LBZ	**Lake Benmore**	**4.64**	**224**	PN	Pn	05 29 01.3	-2.0
ODZ	**Otahua Downs**	**4.90**	**216**	Pn	Pn	05 29 03.6	-3.3
ODZ	**Otahua Downs**	**4.90**	**216**	PN	Pn	05 29 03.6	-3.3
WCZ	**Waipu Caves**	**5.20**	**357**	Pn	Pn	05 29 10.6	-0.4
WCZ	**Waipu Caves**	**5.20**	**357**	PN	Pn	05 29 10.5	-0.4
JCZ	**Jackson Bay**	**5.25**	**234**	Pn	Pn	05 29 09.3	-2.5
JCZ	**Jackson Bay**	**5.25**	**234**	PN	Pn	05 29 09.3	-2.5
TUZ	**Tuapeka**	**6.06**	**216**	Pn	Pn	05 29 20.2	-2.5
CTZ	**Chatham Island**	**6.93**	**115**	Pn	Pn	05 29 32.8	-1.9
CTZ	**Chatham Island**	**6.93**	**115**	PN	Pn	05 29 32.8	-1.9

IDC 16 05:28:23.4±21.0, 7.52S×127.72E, h99km±139km, mb3.7/1, mb1 4.1/4, mb1mx3.4/36, mbtmp4.3/4, ML4.5/3, Error ellipse: s-maj=212.5km s-min=72.6km az=21.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**10.72**	**191**	P	Pn	05 30 54.1	+0.2
	2.0nm,0.3s,baz=26,slow=10,SNR=58						
FITZ				S	Sn	05 32 44.5	-7.4
	1.3nm,0.3s,baz=44,slow=12,SNR=4.9						
WRA	**Warramunga Arr**	**13.92**	**153**	P	Pn	05 31 34.7	-1.8
	3.5nm,0.3s,baz=325,slow=13,SNR=69						
WRA				S	Sn	05 33 59.9	-10
	1.0nm,0.3s,baz=329,slow=22,SNR=7.9						
ASAR	**Alice Springs**	**17.12**	**160**	P	P	05 32 17.4	+0.6
	1.2nm,0.3s,baz=336,slow=9.8,SNR=67						
STKA	**Stephens Creek**	**27.47**	**154**	P	P	05 34 00.5	+0.2
	1.3nm,0.6s,baz=318,slow=9.5,SNR=3.1						

ISCJB ***16*** *05:30:08.7±0.6, 6.83N±0.05×73.09W±0.06, h153km±6km, Error ellipse: s-maj=11.7km s-min=4.7km az=35.8*
FUNV ***16*** *05:30:10.6, 6.77N×73.06W, h158km, MW2.5*
RSNC ***16*** *05:30:11.3±0.8, 6.77N×73.14W, h141km±5km, ML2.5*
ISC 16 05:30:08.5±1.4, 6.80N±0.05×73.08W±0.06, h157km±8km, n19, σ1805/31, 1D, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BARC	**Barichara**	**0.23**	**205**	*i* P	Pn	**05 30 30.6**	**+0.6**
BARC				*e*S	Sn	**05 30 45.2**	**-1.3**
BARC				*i*		05 30 46.8	
	comp=Z,80nm,0.2s						
GIRC	**Giron, Santand**	**0.29**	**338**	*e*P	Pn	**05 30 30.6**	**+0.6**
GIRC				*e*S	Sn	**05 30 44.8**	**-1.7**
PAMC	**Pamplona, Colo**	**0.65**	**35**	*e*P	Pn	**05 30 33.4**	**+1.3**
PAMC				*e*S	Sn	**05 30 49.6**	**-0.5**
BRRC	**Barranca, Sant**	**0.69**	**296

SMLT	**Sun Moon Lake**	**1.94**	**231**	*e*P	**Pn**	**05 31 41.9**	**+0.6**
	baz=224						
SMLT				*e*S	**Sn**	**05 32 08.9**	**+0.3**
	baz=224						
TYC	**Yuchr**	**1.96**	**232**	*e*P	**Pn**	**05 31 41.9**	**+0.6**
	baz=225						
TYC				*e*S	**Sn**	**05 32 08.5**	**-0.2**
	baz=225						
JTJ	**Tarama**	**2.02**	**103**	P	**Pn**	**05 31 42.7**	**+0.8**
JTJ				S	**Sn**	**05 32 09.3**	**-0.4**
TWF1	**Yuli**	**2.10**	**213**	*e*P	**Pn**	**05 31 44.9**	**+2.0**
	baz=207						
TWF1				*e*S	**Sn**	**05 32 12.1**	**+0.4**
	baz=207						
ALS	**Alishan**	**2.26**	**225**	*e*P	**Pn**	**05 31 45.6**	**+0.6**
	baz=219						
ALS				*e*S	**Sn**	**05 32 15.3**	**0.0**
	baz=219						
CHN5	**Tsauling**	**2.29**	**229**	*e*P	**Pn**	**05 31 45.6**	**+0.5**
	baz=223						
CHN5				*e*S	**Sn**	**05 32 14.9**	**-0.6**
	baz=223						
WTP	**Ta-pu**	**2.57**	**224**	*e*P	**Pn**	**05 31 48.6**	**+0.1**
	baz=218						
CHN1	**Nanshi**	**2.67**	**224**	*e*P	**Pn**	**05 31 50.2**	**+0.5**
	baz=219						
SGST	**Jiashian**	**2.71**	**222**	*e*P	**Pn**	**05 31 48.6**	**-1.6**
	baz=216						

NIED ***16*** *05:31:00,38.°30N×141.°90E,h50km,Mw4.1 Best double couple: M₀1.58000×10¹⁵ NP1:φ₀216.00000°,δ13.00000°, λ109.00000°. NP2:φ₀17.00000°,δ78.00000°,λ86.00000°.*

ISCJB ***16*** *05:31:57.5±0.7,38.°27N±0.°03×141.°93E±0.°08,h51km±4km, mb4.2/16, Error ellipse: s-maj=10.2km s-min=4.8km az=15.4*

JMA ***16*** *05:31:58.5±0.1,38.°29N×141.°88E,h47km±1km,M4.0*

JMA Felt II J1.

NEIC ***16*** *05:31:59.6±0.5,38.°27N×141.°99E,h54km±4km,mb4.7/3, Error ellipse: s-maj=10.0km s-min=5.8km az=125.0*

NEIC Recorded [2 JMA] in Iwate and Miyagi.

IDC ***16*** *05:32:00.6±2.8,38.°26N×141.°80E,h62km±25km,mb3.9/13, mb1 4.0/16,mb1mx3.8/44,mbtmp4.2/16,ML3.7/3, Error ellipse: s-maj=23.8km s-min=17.7km az=72.0*

ISC 16 05:31:59.1±1.0,38.°30N±0.°05×141.°91E±0.°07,h48km±8km, n59,σ1°24/61,mb4.2/16,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIO	**Ouri**	**0.47**	**289**	P	**Pn**	**05 32 09.0**	**-0.9**
JIO				S	**Sn**	**05 32 16.0**	**-1.5**
OFUJ	**Ofunato**	**0.80**	**346**	P	**Pn**	**05 32 13.5**	**-0.7**
OFUJ				*e*S	**Sn**	**05 32 24.0**	**-1.1**
JMK	**Ichinoseki**	**0.85**	**320**	P	**Pn**	**05 32 14.3**	**-0.4**
JMK				S	**Sn**	**05 32 25.4**	**-0.7**
JMM	**Marumori**	**0.98**	**244**	P	**Pn**	**05 32 15.2**	**-1.4**
JMM				S	**Sn**	**05 32 26.5**	**-2.9**
JOU	**Okura**	**0.98**	**274**	P	**Pn**	**05 32 16.0**	**-0.6**
JOU				S	**Sn**	**05 32 28.5**	**-1.0**
JFK	**Kawauchi**	**1.24**	**222**	P	**Pn**	**05 32 18.8**	**-1.4**
JFK				*e*S	**Sn**	**05 32 33.4**	**-2.4**
JOM	**Ohasama**	**1.27**	**338**	P	**Pn**	**05 32 20.2**	**-0.2**
JYK	**Kaneyama**	**1.36**	**297**	P	**Pn**	**05 32 21.3**	**-0.5**
JYS	**Shirataka**	**1.46**	**267**	P	**Pn**	**05 32 22.5**	**-0.5**
JFT	**Otama**	**1.47**	**238**	P	**Pn**	**05 32 22.7**	**-0.5**
JRG	**Rokugo**	**1.48**	**318**	P	**Pn**	**05 32 23.2**	**-0.2**
JYA	**Atsumi**	**1.75**	**280**	P	**Pn**	**05 32 26.9**	**-0.1**
MJAR	**Matsushiro Arr**	**3.43**	**240**	P	**Pn**	**05 32 51.0**	**+0.9**
	8.3nm,0.3s,baz=15,slow=15,SNR=16						
MAJO	**Matsushiro**	**3.43**	**240**	*e*Pn	**Pn**	**05 32 51.0**	**+0.9**
MAT	**Matsushiro**	**3.43**	**240**	P	**Pn**	**05 32 50.9**	**+0.8**
MAT				*e*S	**Sn**	**05 33 34.8**	**+5.2**
ERM	**Erimo**	**3.83**	**14**	*e*Pn	**Pn**	**05 32 55.8**	**+0.2**
JHJ2	**Mitsune**	**5.45**	**199**	*e*Pn	**Pn**	**05 33 17.8**	**0.0**
JHJ2				*e*Sn	**Sn**	**05 34 19.1**	**-0.2**
JHJ	**Hachijo jima 2**	**5.45**	**199**	P	**Pn**	**05 33 17.2**	**-0.7**
	34nm,0.3s,baz=334,slow=21,SNR=10.0						
YSS	**Yuzh-Sakhalins**	**8.67**	**4**	*e*Pn	**Pn**	**05 34 03.0**	**+1.1**
USRK	**Ussuriysk Ar.**	**9.51**	**311**	P	**Pn**	**05 34 14.0**	**+0.6**
	1.3nm,0.3s,baz=122,slow=13,SNR=8.4						
JNU	**Nakatsue**	**10.35**	**243**	P	**Pn**	**05 34 27.5**	**+2.5**
	0.4nm,0.3s,baz=63,slow=8.9,SNR=4.0						
KSRS	**Korea Array**	**11.09**	**270**	P	**Pn**	**05 34 38.0**	**+3.0**
	0.3nm,0.3s,baz=79,slow=14,SNR=4.8						
KSAR	**Wonju Array Be**	**11.12**	**270**	P	**Pn**	**05 34 38.0**	**+2.6**
SEY	**Seymchan**	**25.47**	**11**	P	**P**	**05 37 23.1**	**+0.7**
	0.8nm,0.3s,baz=195,slow=22,SNR=4.6						
SONM	**Songino Array**	**27.43**	**302**	P	**P**	**05 37 41.0**	**+0.6**
	1.1nm,0.5s,baz=93,slow=9.3,SNR=6.1						
ENH	**Enshi**	**27.86**	**263**	*e*P	**P**	**05 37 43.4**	**-0.9**
	15nm,0.6s						
H11N2	**WAKE ISLAND Hy**	**28.48**	**123**	T	T	06 08 03.1	
	baz=316,slow=75,SNR=216						
H11N1	**WAKE ISLAND Hy**	**28.49**	**123**	T	T	06 08 03.7	
	baz=316,slow=75,SNR=248						
H11N3	**WAKE ISLAND Hy**	**28.50**	**123**	T	T	06 08 04.4	
	baz=316,slow=75,SNR=262						
H11S1	**WAKE ISLAND Hy**	**29.24**	**125**	T	T	06 09 03.7	
	baz=318,slow=76,SNR=390						
H11S3	**WAKE ISLAND Hy**	**29.24**	**126**	T	T	06 09 03.9	
	baz=318,slow=76,SNR=537						
H11S2	**WAKE ISLAND Hy**	**29.26**	**125**	T	T	06 09 05.0	
	baz=318,slow=76,SNR=237						
TLY	**Talaya**	**29.82**	**309**	P	**P**	**05 38 01.6**	**+0.2**
	2.4nm,0.6s,baz=31,slow=18,SNR=5.0						
ZALV	**Zelesovo Beam**	**41.37**	**311**	P	**P**	**05 39 39.7**	**-0.6**
	4.3nm,0.5s,baz=85,slow=7.8,SNR=11						
KURK	**Kurchatov**	**45.47**	**307**	P	**P**	**05 40 13.3**	**-0.1**
KURBB	**Kurchatov Arra**	**45.55**	**307**	P	**P**	**05 40 13.3**	**-0.6**
	9.2nm,0.8s,baz=82,slow=8.2,SNR=34						
ODAN	**Odare**	**46.74**	**273**	*e*P	**P**	**05 40 23.8**	**-0.1**
	9.3nm,0.5s						
JIRN	**Jiri**	**47.31**	**274**	*e*P	**P**	**05 40 28.7**	**+0.2**
	13nm,0.4s						
RAMN	**Ramite**	**47.32**	**273**	*e*P	**P**	**05 40 28.1**	**-0.3**
	12nm,0.6s						
GUN	**Gumba**	**47.44**	**275**	*e*P	**P**	**05 40 29.4**	**-0.1**
	22nm,0.5s						
KKN	**Kakani**	**47.96**	**275**	*e*P	**P**	**05 40 33.4**	**0.0**
ILAR	**Eielson Array**	**48.22**	**33**	P	**P**	**05 40 35.4**	**+0.8**
	0.3nm,0.7s,baz=267,slow=7.3,SNR=4.4						
GKN	**Gorkha**	**48.37**	**276**	*e*P	**P**	**05 40 36.2**	**-0.2**
	16nm,0.6s						
KOLN	**Koldanda**	**49.29**	**276**	*e*P	**P**	**05 40 43.3**	**-0.3**
	5.4nm,0.3s						
PYUN	**Piuthan**	**49.61**	**277**	*e*P	**P**	**05 40 45.9**	**-0.1**
	10nm,0.4s						
WRAB	**Tennant Creek**	**58.36**	**188**	*e*P	**P**	**05 41 48.8**	**-0.7**
	2.7nm,0.8s						
ASAR	**Alice Springs**	**62.10**	**188**	P	**P**	**05 42 14.6**	**-0.4**
	1.4nm,0.7s,baz=14,slow=6.0,SNR=11						
ARCES	**ARCESS Array B**	**62.95**	**339**	P	**P**	**05 42 20.1**	**-0.1**
	1.5nm,0.6s,baz=57,slow=7.6,SNR=5.7						
FINES	**FINESS Array B**	**67.88**	**332**	P	**P**	**05 42 51.6**	**-0.6**
	3.3nm,0.7s,baz=32,slow=7.5,SNR=6.3						
SUMG	**Summit**	**69.42**	**0**	*e*P	**P**	**05 43 02.7**	**+0.6**
	15nm,1.4s						
KBZ	**Khabaz**	**70.38**	**311**	P	**P**	**05 43 07.8**	**-0.2**
	3.2nm,0.9s,baz=10,slow=4.6,SNR=5.1						
NB2	**NORSAR Subarra**	**73.17**	**337**	P	**P**	**05 43 23.9**	**-0.6**
	comp=Z,1.8nm,0.7s,baz=40,slow=6.2						
NOA	**NORSAR Array B**	**73.17**	**337**	P	**P**	**05 43 24.5**	**0.0**
	comp=Z,2.7nm,0.7s,baz=38,slow=5.9,SNR=8.9						
AKASG	**Malin Array Be**	**73.54**	**322**	P	**P**	**05 43 25.9**	**-0.9**
	comp=Z,0.9nm,0.3s,baz=46,slow=6.8,SNR=12						
PDAR	**Pinedale Array**	**76.50**	**46**	P	**P**	**05 43 44.5**	**+0.3**
	comp=Z,0.4nm,0.6s,baz=66,slow=1.8,SNR=4.3						
PDAR				pP	**pP**	**05 43 59.0**	**+0.8**
	comp=Z,1.4nm,0.6s,baz=270,slow=2.0,SNR=12						
CLL	**Collm**	**80.19**	**330**	*e*P	**P**	**05 44 03.0**	**-1.2**
KHC	**Kasperske Hory**	**81.67**	**329**	*e*P	**P**	**05 44 11.5**	**-0.7**
TXAR	**Lajitas Array**	**89.04**	**53**	pP	pP	05 45 03.8	+0.3
	comp=Z,0.7nm,0.6s,baz=286,slow=3.3,SNR=6.7						
LPAZ	**La Paz**	**145.70**	**59**	PKPbc	**PKPab**	**05 51 34.2**	**0.0**
	comp=Z,1.2nm,0.8s,baz=288,slow=2.5,SNR=5.8						
LPAZ				pPKPbc	pPKPbc	05 51 49.0	+0.6
	comp=Z,1.3nm,0.5s,baz=49,slow=1.8,SNR=5.4						

ISK ***16*** *05:34:53.0,40.°31N×43.°32E,h8km,MD2.4*

ISCJB ***16*** *05:34:57.5±1.0,40.°63N±0.°08×43.°24E±0.°07,h15km±7km, Error ellipse: s-maj=14.3km s-min=8.3km az=178.9*

CSEM ***16*** *05:34:57.2±0.4,40.°67N×43.°17E,h10km,MD2.7,Error ellipse: s-maj=8.0km s-min=7.3km az=37.0*

DDA ***16*** *05:35:01.7,40.°82N×42.°93E,h7km,Md2.7*

ISC 16 05:34:58.5±1.0,40.°69N±0.°04×43.°13E±0.°04,h16km±6km, n15,σ1°32/26,Turkey-Georgia-Armenia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KARS	**Kars**	**0.08**	**213**	*e*PG	**Pg**	**05 35 00.4**	**-1.4**
KARS				*e*SG	**Sg**	**05 35 05.9**	**+1.9**
KARS	**Kars**	**0.08**	**213**	*e*Pg	**Pg**	**05 35 00.4**	**-1.4**
KARS				*e*Sg	**Sg**	**05 35 05.9**	**+1.9**
DIGO	**Kars**	**0.33**	**146**	*i* P	**Pg**	**05 35 04.0**	**-1.5**
DIGO				*i* S	Sb	05 35 20.4	+9.0
DIGO	**Kars**	**0.33**	**146**	P	**Pg**	**05 35 04.0**	**-1.5**
SENK	**Senkaya-Erzuru**	**0.61**	**258**	*e*PG	**Pg**	**05 35 08.6**	**-2.0**
SENK				*e*SG	**Sb**	**05 35 19.9**	**+0.6**
SENK	**Senkaya-Erzuru**	**0.61**	**258**	*e*Pg	**Pg**	**05 35 08.6**	**-2.0**
SENK				*e*Sg	**Sb**	**05 35 19.9**	**+0.6**
AKH	**Akhalkalaki**	**0.77**	**21**	*e*PN	**Pn**	**05 35 14.7**	**-0.1**
AKH	**Akhalkalaki**	**0.77**	**21**	*e*Pn	**Pn**	**05 35 14.7**	**-0.1**
EPOS	**Posof**	**0.87**	**339**	*i* P	**Pg**	**05 35 14.4**	**-0.9**
EPOS				*i* S	**Sg**	**05 35 26.4**	**-0.3**
EPOS	**Posof**	**0.87**	**339**	P	**Pg**	**05 35 14.4**	**-0.9**
EPOS				S	**Sg**	**05 35 26.5**	**-0.3**
DAGI	**Agillar**	**1.00**	**293**	*i* P	**Pb**	**05 35 17.6**	**+0.1**
DAGI				*i* S	**Sn**	**05 35 33.5**	**+1.7**
ARTV	**Artvin**	**1.04**	**299**	*i* P	**Pg**	**05 35 17.4**	**-1.2**
ARTV				*i* S	**Sn**	**05 35 34.2**	**+1.3**
ARTV	**Artvin**	**1.04**	**299**	P	**Pg**	**05 35 17.4**	**-1.2**
ARTV				S	**Sn**	**05 35 34.2**	**+1.3**
DDEM	**Demirkent**	**1.07**	**281**	*i* P	**Pg**	**05 35 18.2**	**-0.9**
DDEM				*i* S	**Sg**	**05 35 32.5**	**-0.7**
DDEM	**Demirkent**	**1.07**	**281**	P	**Pg**	**05 35 18.2**	**-0.9**
DDEM				S	**Sg**	**05 35 32.5**	**-0.7**

WEL 16 05:42:30.0±0.5,38.°56S×175.°73E,h165km±4km,ML3.4/16, 4C-5D,Error ellipse: s-maj=3.5km s-min=2.8km az=90.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FWVZ	**Far West T-bar**	**0.71**	**191**	⇓PN	Pn	05 42 54.3	0.0
TRVZ	**Turoa**	**0.75**	**191**	⇓PN	Pn	05 42 54.6	0.0
WNVZ	**Wahianoa**	**0.77**	**188**	PN	Pn	05 42 54.7	0.0
MUGZ	**Murupara**	**0.82**	**85**	PN	Pn	05 42 55.0	+0.2
MOVZ	**Moawhango**	**0.85**	**179**	PN	Pn	05 42 54.7	-0.3
BKZ	**Black Stump Fm**	**0.85**	**136**	⇓PN	Pn	05 42 55.2	+0.1
BKZ				SN	Sn	05 43 14.0	-0.5
BKZ				AML	AML	05 43 16.1	
BHHZ	**Black Hill Sta**	**0.96**	**165**	PN	Pn	05 42 55.7	-0.2
BHHZ				AML	AML	05 43 16.9	
BHHZ				AML	AML	05 43 19.1	
RTZ	**Ruatahuna**	**0.98**	**94**	⇑PN	Pn	05 42 56.2	+0.1
KWHZ	**Kaweka Forest**	**1.02**	**148**	PN	Pn	05 42 56.7	+0.3
KWHZ				AML	AML	05 43 19.1	
KWHZ				AML	AML	05 43 21.9	
URZ	**Urewera**	**1.12**	**75**	⇑PN	Pn	05 42 56.8	-0.3
URZ				AML	AML	05 43 19.4	
KRHZ	**Kereru**	**1.19**	**156**	⇓PN	Pn	05 42 57.7	0.0
KRHZ				SN	Sn	05 43 18.6	-0.7
KRHZ				AML	AML	05 43 19.4	
ARHZ	**Aropaoanui**	**1.21**	**126**	PN	Pn	05 42 58.6	+0.7
ARHZ				AML	AML	05 43 20.5	
ARHZ				AML	AML	05 43 21.7	
MWZ	**Matawai**	**1.43**	**82**	⇑PN	Pn	05 42 59.8	-0.2
MWZ				SN	Sn	05 43 22.4	-0.7
TSZ	**Takapari Road**	**1.51**	**173**	⇓PN	Pn	05 43 00.0	-0.7
TSZ				AML	AML	05 43 00.7	
TSZ				AML	AML	05 43 00.7	
KAHZ	**Kahuranaki**	**1.52**	**145**	PN	Pn	05 43 01.1	+0.2
KNZ	**Kokohu**	**1.59**	**108**	PN	Pn	05 43 01.6	+0.1
RIGZ	**Rimuhau**	**1.60**	**96**	PN	Pn	05 43 01.8	+0.2
RIGZ				AML	AML	05 43 26.8	
RIGZ				AML	AML	05 43 27.5	
WPHZ	**Waipukurau**	**1.60**	**160**	PN	Pn	05 43 01.1	-0.5
WPHZ				AML	AML	05 43 30.8	
RUGZ	**Raukumara Rang**	**1.64**	**69**	PN	Pn	05 43 01.2	-1.0
MHGZ	**Mahia Peninsul**	**1.80**	**110**	PN	Pn	05 43 04.0	+0.3
HAZ	**Te Kaha**	**1.81**	**64**	PN	Pn	05 43 03.0	-0.8
HAZ				AML	AML	05 43 29.3	
HAZ				AML	AML	05 43 30.1	
ANWZ	**Angora Road**	**1.98**	**163**	PN	Pn	05 43 04.8	-0.9
ANWZ				AML	AML	05 43 33.6	
ANWZ				AML	AML	05 43 39.7	
PRWZ	**Pori Road**	**2.00**	**175**	PN	Pn	05 43 04.7	-1.3
MRZ	**Mangatainoka R**	**2.10**	**183**	PN	Pn	05 43 05.2	-1.9
BFZ	**Birch Farm**	**2.16**	**170**	PN	Pn	05 43 05.1	-1.7
TIWZ	**Tintock**	**2.22**	**177**	PN	Pn	05 43 06.5	-1.9
OGWZ	**Otaki Gorge**	**2.30**	**191**	PN	Pn	05 43 07.4	-1.9
OGWZ				AML	AML	05 43 08.0	
HOWZ	**Holdsworth Sta**	**2.34**	**184**	PN	Pn	05 43 07.7	-2.2
KIW	**Kapiti Island**	**2.38**	**195**	PN	Pn	05 43 07.9	-2.5
TMWZ	**Te Maipa**	**2.55**	**177**	PN	Pn	05 43 09.9	-2.5
MTW	**Mount Morrison**	**2.60**	**184**	PN	Pn	05 43 10.2	-2.8
DUWZ	**D'Urville Isla**	**2.64**	**211**	PN	Pn	05 43 10.5	-2.9
PAWZ	**Paruwai Farm**	**2.83**	**185**	PN	Pn	05 43 12.7	-3.1
TRWZ	**Traveller**	**2.84**	**181**	PN	Pn	05 43 13.0	-2.8
TCW	**Tory Channel**	**2.88**	**202**	PN	Pn	05 43 13.3	-3.0
TCW				AML	AML	05 43 48.3	
TCW				AML	AML	05 43 50.2	
MSWZ	**Moikau Station**	**2.88**	**187**	PN	Pn	05 43 13.2	-3.2
BHW	**Baring Head**	**2.92**	**193**	PN	Pn	05 43 13.7	-3.2
PLWZ	**Palliser**	**3.03**	**187**	PN	Pn	05 43 14.8	-3.4
TUWZ	**Tuamarina**	**3.18**	**205**	PN	Pn	05 43 16.7	-3.3
TUWZ				AML	AML	05 43 54.3	
NNZ	**Nelson**	**3.21**	**214**	PN	Pn	05 43 16.8	-3.7
QRZ	**Quartz Range**	**3.35**	**226**	PN	Pn	05 43 17.3	-5.0
BSWZ	**Blackbirch Sta**	**3.46**	**204**	PN	Pn	05 43 19.8	-3.8
THZ	**Tophouse**	**3.86**	**213**	PN	Pn	05 43 25.5	-3.3
DSZ	**Denniston Nort**	**4.38**	**222**	PN	Pn	05 43 31.6	-3.9
LTZ	**Lake Taylor**	**4.97**	**211**	PN	Pn	05 43 38.3	-4.9
INZ	**Inchbonnie**	**5.29**	**217**	PN	Pn	05 43 41.5	-5.8
OXZ	**Oxford**	**5.52**	**209**	PN	Pn	05 43 43.9	-6.5
MQZ	**McQueen's Vall**	**5.64**	**203**	⇑PN	Pn	05 43 46.0	-6.0

WEL 16 05:43:19.0±0.2,40.°89S×176.°06E,h29km±1km,ML2.5/5, 1D,Error ellipse: s-maj=1.4km s-min=0.8km az=90.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TIWZ	**Tintock**	**0.18**	**310**	P*	Pb	05 43 24.5	-0.4
TIWZ				S*	Sb	05 43 29.0	+0.1
TIWZ				AML	AML	05 43 29.1	
TMWZ	**Te Maipa**	**0.25**	**212**	P*	Pb	05 43 25.5	-0.2
TMWZ				S*	Sb	05 43 30.8	+0.5
BFZ	**Birch Farm**	**0.25**	**33**	⇓P*	Pb	05 43 25.5	-0.2
BFZ				S*	Sb	05 43 30.7	+0.5
BFZ				AML	AML	05 43 31.2	
PRWZ	**Pori Road**	**0.34**	**348**	P*	Pb	05 43 26.1	+0.2
PRWZ				AML	AML	05 43 35.0	
PRWZ				AML	AML	05 43 35.3	
HOWZ	**Holdsworth Sta**	**0.42**	**269**	P*	Pb	05 43 28.1	+0.1
MRZ	**Mangatainoka R**	**0.43**	**302**	P*	Pb	05 43 28.1	-0.2
MTW	**Mount Morrison**	**0.50**	**238**	P*	Pb	05 43 29.3	-0.1
MTW				S*	Sn	05 43 37.3	-0.6
OGWZ	**Otaki Gorge**	**0.68**	**276**	P*	Pb	05 43 32.0	-0.3
OGWZ				AML	AML	05 43 42.3	
OGWZ				AML	AML	05 43 42.4	

IDC 16 06:00:18.1±4.7,32.°64S×179.°96W,h272km±44km, mb3.2/2,mb1 3.5/4,mb1mx3.2/26,mbtmp4.0/4,Error ellipse: s-maj=48.4km s-min=41.0km az=47.0,South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**6.10**	**202**	P	Pn	06 01 48.6	+0.9
	1.3nm,0.3s,baz=268,slow=5.6,SNR=23						
URZ				S	S	06 02 59.2	-0.6
	6.2nm,0.3s,baz=45,slow=22,SNR=11						
DZM	**Mont Dzumac**	**16.00**	**308**	P	P	06 03 48.1	+0.3
	0.2nm,0.3s,baz=126,slow=19,SNR=5.6						
ASAR	**Alice Springs**	**41.38**	**270**	P	P	06 07 38.4	+0.1
	1.1nm,0.8s,baz=112,slow=7.7,SNR=9.6						
WRA	**Warramunga Arr**	**42.57**	**276**	P	P	06 07 47.5	-0.3
	1.2nm,0.4s,baz=114,slow=8.0,SNR=24						

FINES	**FINESS Array B**	**146.61**	**337**	PKPbc	PKPbc	06 19 26.0	-0.9
	3.2nm,1.0s,baz=29,slow=4.4,SNR=4.9						

ISCJB ***16*** *06:08:20.8±0.4,5.°33N±0.°04×82.°57W±0.°04,h12km, mb4.1/23,MS3.2/9,Error ellipse: s-maj=6.4km s-min=3.9km az=44.9*

IDC ***16*** *06:08:20.7±1.2,5.°36N×82.°61W,h0km,mb3.6/6,mb1 3.9/7, mb1mx3.8/24,mbtmp3.6/7,ML4.0/2,MS3.3/12,Ms1 3.3/12, ms1mx3.1/32,Error ellipse: s-maj=45.1km s-min=19.2km az=50.0*

NEIC ***16*** *06:08:22.1±0.5,5.°24N×82.°61W,h10km,mb4.2/18,Error ellipse: s-maj=13.1km s-min=5.7km az=212.0*

ISC 16 06:08:21.8±0.8,5.°24N±0.°08×82.°66W±0.°07,h12km,n70, σ1°37/68,mb4.1/23,MS3.3/9,2D,South of Panama

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MAPC	**Malpelo**	**1.61**	**139**	*e*P	Pn	06 08 42.0	-8.1
AZU	**Azuero**	**3.47**	**43**	*e*P	**Pn**	**06 09 13.2**	**-2.5**
TBS2		**3.53**	**0**	*e*P	**Pn**	**06 09 15.3**	**-1.3**
TBS2				*e*S	**Sn**	**06 09 57.8**	**-0.7**
BRU2	**Volcan**	**3.53**	**359**	⇓*i*P	**Pn**	**06 09 15.0**	**-1.6**
BRU2				*e*S	**Sn**	**06 09 57.0**	**-1.4**
BRU	**Baru**	**3.54**	**2**	*e*P	**Pn**	**06 09 16.8**	**-0.3**
BRU				*e*S	**Sn**	**06 09 59.7**	**+0.5**
PNME	**Penonome**	**3.97**	**36**	*e*P	**Pn**	**06 09 20.6**	**-2.0**
PNME				*e*P	**Pn**	**06 09 20.6**	**-2.0**
QCR1	**Quepos**	**4.42**	**340**	⇓*e*P	**Pn**	**06 09 26.3**	**-2.4**
BUS	**Buena Vista**	**4.42**	**346**	*e*P	**Pn**	**06 09 28.0**	**-1.2**
BUS				*e*S	**Sn**	**06 10 21.1**	**+0.2**
ZANG	**Zanguenga, Cho**	**4.62**	**37**	*e*P	**Pn**	**06 09 31.1**	**-0.4**
ZANG				*e*S	**Sn**	**06 10 22.4**	**-2.6**
LCR2	**La Lucha 2**	**4.67**	**343**	*e*P	**Pn**	**06 09 30.7**	**-1.6**
LCR2				*e*S	**Sn**	**06 10 26.2**	**-0.4**
URSC	**Urasca**	**4.70**	**346**	*e*P	**Pn**	**06 09 31.3**	**-1.4**
SJS	**Escuela Geolog**	**4.87**	**344**	*e*P	**Pn**	**06 09 33.1**	**-1.9**
SJS				*e*S	**Sn**	**06 10 31.4**	**-0.1**
CVTR	**Volcan Turrial**	**4.87**	**347**	*e*P	**Pn**	**06 09 34.6**	**-0.7**
HDC	**Heredia**	**4.95**	**343**	*e*Pn	**Pn**	**06 09 35.1**	**-1.0**
HDC				*e*		06 10 32.9	
CGA2	**Cerro Gallo 2**	**5.07**	**339**	*e*P	**Pn**	**06 09 36.3**	**-1.5**
SOLC	**Bahia Solano**	**5.32**	**79**	*e*P	**Pn**	**06 09 38.8**	**-2.2**
JTS	**JuntasAbangare**	**5.51**	**336**	Pn	**Pn**	**06 09 41.9**	**-1.8**
	28nm,0.3s,baz=169,slow=6.3,SNR=171						
JTS				Sn	**Sn**	**06 10 45.5**	**-1.6**
	41nm,0.3s,baz=357,slow=22,SNR=21						
JTS	**JuntasAbangare**	**5.51**	**336**	*e*P	**Pn**	**06 09 42.6**	**-1.2**
JTS				*e*S	**Sn**	**06 10 44.1**	**-3.0**
VCR	**Vista de Mar**	**5.68**	**329**	*e*P	**Pn**	**06 09 44.4**	**-1.7**
CAPC	**Capurgana**	**6.25**	**57**	*e*P	**Pn**	**06 09 54.8**	**+0.8**
CRZ1	**La Cruz**	**6.50**	**333**	*e*P	**Pn**	**06 09 56.1**	**-0.5**
OTAV	**Otavalo**	**6.51**	**140**	*e*Pn	**Pn**	**06 09 56.1**	**-1.7**
HELC	**Santa Helena**	**7.16**	**82**	*e*Pn	**Pn**	**06 10 06.5**	**-0.2**
HELC				*e*		06 11 30.0	
TOLC	**Tolima**	**7.34**	**95**	*e*P	**Pn**	**06 10 09.4**	**+0.2**
PRAC	**Prado**	**7.90**	**101**	*e*Pn	**Pn**	**06 10 16.9**	**+0.3**
ZARC	**Zaragoza, Cauc**	**8.07**	**73**	*e*P	**Pn**	**06 10 20.1**	**+1.2**
ROSC	**El Rosal**	**8.32**	**92**	*e*Pn	**Pn**	**06 10 24.6**	**+1.9**
RUSC	**La Rusia**	**9.55**	**86**	*e*Pn	**Pn**	**06 10 40.5**	**+0.8**
TGUH	**Tegucigalpa,Un**	**9.87**	**333**	*e*Pn	**Pn**	**06 10 44.9**	**+1.3**
ATAH	**Atahualpa**	**13.01**	**161**	LR	LR	06 15 59.9	
	comp=Z,352nm,19.8s,baz=340,slow=35						
CMIG	**Matias Romero**	**16.79**	**315**	Pn	**P**	**06 12 19.0**	**-0.2**
	0.1nm,0.3s,baz=112,slow=12,SNR=2.7						
CMIG				LR	LR	06 17 37.7	
	comp=Z,131nm,20.6s,baz=112,slow=33						
CMIG	**Matias Romero**	**16.79**	**315**	Pn	**P**	**06 12 19.0**	**-0.2**
NNA	**Nana**	**18.07**	**161**	LR	LR	06 18 53.3	
	comp=Z,78nm,18.9s,baz=320,slow=35						
LVIG	**Laguna Verde**	**19.

BOLP eS Sn 06 23 45.1 +1.8

IDC ***16*** *06:43:15.4±0.6, 7°.76N×37°.00W, h0km, mb4.4/24, mb1 4.5/25, mb1mx4.3/51, mbtmp4.4/25, ML4.5/1, MS3.8/26, Ms1 3.8/26, ms1mx3.8/30, Error ellipse: s-maj=21.6km s-min=11.3km az=156.0*

BJI ***16*** *06:43:15.1, 7°.50N×36°.90W, h10km, mB5.2/2, Ms5.0/2, Ms7 4.7/3*

ISCJB ***16*** *06:43:16.1±0.2, 7°.57N±0°.05×36°.94W±0°.03, h20km, mb4.7/132, MS3.9/27, Error ellipse: s-maj=7.4km s-min=4.4km az=167.5*

NEIC ***16*** *06:43:16.4±0.2, 7°.59N×36°.96W, h10km, mb4.9/108, Error ellipse: s-maj=5.3km s-min=3.7km az=174.0*

ISC 16 06:43:17.7±0.3, 7°.46N±0°.06×36°.96W±0°.06, h20km, n210, σ1°34/194, mb4.8/132, MS3.9/28, 5C-1D, Central Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RCBR	**Riachuelo**	**13.24**	**175**	Pn	**Pn**	**06 46 27.1**	**+2.3**
	2.3nm,0.3s,baz=358,slow=14,SNR=14						
RCBR				Sn	**Sn**	**06 48 45.7**	**-5.9**
	3.4nm,0.3s,baz=71,slow=23,SNR=6.5						
RCBR				LR	LR	06 50 18.8	
	comp=Z,418nm,20.4s,baz=354,slow=31						
SACV	**Santiago Islan**	**15.06**	**59**	*e*Pn	Pn	06 46 40.8	-8.8
BBTS	**Babate**	**21.27**	**69**	P	**P**	**06 48 03.1**	**+0.1**
	28nm,1.0s,baz=226,slow=2.0,SNR=2.8						
BBTS				LR	LR	06 54 02.1	
	comp=Z,518nm,21.9s,baz=256,slow=30						
PTGA	**Pitinga**	**24.35**	**251**	P	**P**	**06 48 34.9**	**+0.3**
	15nm,0.8s,baz=75,slow=11,SNR=32						
PTGA				LR	LR	06 57 53.6	
	comp=Z,190nm,21.6s,baz=70,slow=36						
PTGA	**Pitinga**	**24.35**	**251**	*e*P	**P**	**06 48 35.1**	**+0.5**
	16nm,0.8s						
H05S1	**Guadeloupe/Mar**	**24.43**	**288**	T	T	07 13 43.5	
	SNR=59						
SVB	**Belmont**	**24.57**	**286**	*e*P	**P**	**06 48 34.3**	**-2.3**
	124nm,1.4s						
H10N3	**ASCENSION HYDR**	**27.06**	**124**	T	T	07 17 45.9	
	baz=304,slow=75,SNR=56						
H10N2	**ASCENSION HYDR**	**27.07**	**124**	T	T	07 17 46.1	
	baz=304,slow=75,SNR=39						
H10N1	**ASCENSION HYDR**	**27.08**	**124**	T	T	07 17 47.3	
	baz=304,slow=75,SNR=39						
ASCN	**Ascension**	**27.23**	**124**	*e*P	**P**	**06 49 00.4**	**-0.3**
	184nm,1.1s						
SABA	**Saba**	**27.54**	**294**	*e*P	**P**	**06 49 02.9**	**-0.4**
	89nm,1.0s						
H10S3	**ASCENSION HYDR**	**27.56**	**126**	T	T	07 18 12.0	
	baz=306,slow=75,SNR=84						
H10S1	**ASCENSION HYDR**	**27.56**	**126**	T	T	07 18 24.0	
	baz=306,slow=75,SNR=106						
H10S2	**ASCENSION HYDR**	**27.58**	**126**	T	T	07 18 24.5	
	baz=306,slow=75,SNR=71						
ABVI	**Anegada Island**	**28.87**	**296**	*e*P	**P**	**06 49 16.1**	**+0.8**
	1.5nm,0.7s						
SJG	**San Juan**	**30.32**	**293**	P	**P**	**06 49 27.9**	**-0.2**
	8.0nm,0.5s,baz=114,slow=12,SNR=3.9						
SJG				LR	LR	06 59 17.8	
	comp=Z,272nm,20.7s,baz=102,slow=32						
CELP	**Cerrillos**	**30.70**	**293**	*e*P	**P**	**06 49 31.4**	**-0.1**
SAML	**Samuel**	**30.80**	**238**	*e*P	**P**	**06 49 33.6**	**+1.2**
	13nm,0.8s						
DBIC	**Dimbokro**	**31.86**	**89**	P	**P**	**06 49 43.1**	**+1.3**
	3.4nm,0.8s,baz=261,slow=9.4,SNR=4.3						
SIV	**San Ignacio**	**33.36**	**226**	P	**P**	**06 49 58.0**	**+3.0**
	10.0nm,0.8s,baz=78,slow=10,SNR=22						
RUSC	**La Rusia**	**35.91**	**270**	*e*P	**P**	**06 50 16.1**	**-1.4**
RUSC	**La Rusia**	**35.91**	**270**	*e*P	**P**	**06 50 18.1**	**+0.5**
	13nm,1.3s						
CHIC	**Chingaza**	**36.67**	**268**	*e*P	**P**	**06 50 21.1**	**-2.9**
ROSC	**El Rosal**	**37.23**	**268**	P	**P**	**06 50 30.5**	**+1.8**
	6.7nm,0.6s,baz=105,slow=16,SNR=9.7						
ROSC	**El Rosal**	**37.23**	**268**	*e*P	**P**	**06 50 27.7**	**-1.0**
	12nm,0.6s						
HELC	**Santa Helena**	**38.31**	**271**	*e*P	P	06 50 28.8	-9.0
HELC	**Santa Helena**	**38.31**	**271**	*e*P	**P**	**06 50 37.6**	**-0.2**
	17nm,0.9s						
TOA0	**Torodi Ar. Sit**	**38.41**	**78**	*e*P	**P**	**06 50 38.6**	**+0.3**
	6.1nm,1.0s						
TORD	**Torodi Ar. Bea**	**38.41**	**78**	P	**P**	**06 50 37.5**	**-0.8**
	3.0nm,0.9s,baz=272,slow=8.7,SNR=13						
TORD				LR	LR	07 04 36.7	
	comp=Z,222nm,20.8s,baz=260,slow=33						
LPAZ	**La Paz**	**38.84**	**232**	P	**P**	**06 50 44.9**	**+2.4**
	24nm,0.7s,baz=55,slow=5.6,SNR=142						
LPAZ				LR	LR	07 06 05.9	
	comp=Z,199nm,20.5s,baz=60,slow=35						
LPAZ	**La Paz**	**38.84**	**232**	*e*P	**P**	**06 50 44.9**	**+2.4**
	26nm,0.7s						
CPUP	**Villa Florida**	**38.98**	**210**	LR	LR	07 06 25.1	
	comp=Z,237nm,20.1s,baz=34,slow=35						
MDT	**Midelt**	**39.19**	**45**	P	**P**	**06 50 44.0**	**-0.7**
	2.3nm,0.7s,baz=242,slow=6.2,SNR=11						
PBDV	**Barranco-do-Ve**	**39.67**	**37**	*e*P	**P**	**06 50 48.4**	**-0.1**
PVAQ	**Vaqueiros**	**39.91**	**37**	*e*LR	LR	07 01 33.5	
	240nm,22.0s						
PBAR	**Barrancos**	**40.82**	**37**	*e*P	**P**	**06 50 58.0**	**0.0**
PMRV	**Marv??o**	**41.44**	**35**	*e*P	**P**	**06 51 03.2**	**+0.1**
PMRV	**Marv??o**	**41.44**	**35**	*e*LR	LR	07 02 21.2	
	205nm,22.0s						
OTAV	**Otavalo**	**41.99**	**262**	*e*P	**P**	**06 51 09.8**	**+1.3**
	5.2nm,0.7s						
MTE	**Manteigas**	**42.01**	**34**	*e*LQ	LQ	07 01 19.7	
MTE				*e*LR	LR	07 02 26.5	
	278nm,22.0s						
PB11	**IPOC Station P**	**42.05**	**229**	*e*P	**P**	**06 51 08.0**	**-0.5**
	8.0nm,0.9s						
PB01	**IPOC Station P**	**42.70**	**228**	*e*P	**P**	**06 51 13.9**	**+0.2**
	6.4nm,0.8s						
PGAV	**Gavieira, Arco**	**42.72**	**32**	*e*LR	LR	07 02 54.8	
	149nm,22.0s						
MVO	**Moncorvo**	**42.82**	**34**	*e*LQ	LQ	07 01 40.1	
MVO				*e*LR	LR	07 02 58.3	
	231nm,20.0s						
TAM	**Tamanrasset**	**43.56**	**65**	*e*P	**P**	**06 51 20.7**	**-0.1**
	15nm,1.5s						
ESDC	**Sonseca Array**	**43.62**	**38**	P	**P**	**06 51 20.7**	**-0.2**
	0.5nm,0.5s,baz=232,slow=9.2,SNR=5.9						
ESDC				LR	LR	07 06 26.2	
	comp=Z,191nm,20.1s,baz=225,slow=32						
TRQ	**Mont Tremblant**	**50.33**	**327**	*e*P	**P**	**06 52 13.2**	**-0.1**
KEST	**Kesra**	**50.77**	**49**	LR	LR	07 14 39.1	
	comp=Z,270nm,18.7s,baz=204,slow=37						
ROC1	**El Roble**	**51.63**	**217**	*e*P	**P**	**06 52 24.4**	**+1.0**
	13nm,0.6s						
SWET	**Sewanee**	**52.63**	**309**	*e*P	**P**	**06 52 31.0**	**+0.4**
	10nm,1.7s						
LRAL	**Lakeview Retre**	**52.77**	**306**	*e*P	**P**	**06 52 32.0**	**+0.4**
	7.0nm,0.8s						
SCHQ	**Schefferville**	**52.94**	**339**	LR	LR	07 12 12.6	
	comp=Z,49nm,18.7s,baz=132,slow=33						
GO05	**HualaæØ**	**53.61**	**216**	*e*P	**P**	**06 52 38.8**	**+1.0**
	105nm,1.7s						
WCI	**Wyandotte Cave**	**53.96**	**312**	*e*P	**P**	**06 52 41.0**	**+0.6**
	14nm,1.0s						
WVT	**Waverly**	**54.38**	**309**	*e*P	**P**	**06 52 43.2**	**-0.2**
	8.2nm,0.7s						
CCIG	**Comitan**	**54.57**	**285**	*e*P	**P**	**06 52 43.4**	**-1.9**
	8.0nm,0.9s						
OXF	**Oxford**	**55.12**	**307**	*e*P	**P**	**06 52 48.0**	**-0.8**
	12nm,0.8s						
BFO	**Black Forest**	**55.83**	**35**	*e*P	**P**	**06 52 52.0**	**-1.7**
	13nm,1.3s						
DAVOX	**Davos/Dischmat**	**55.95**	**37**	P	**P**	**06 52 54.2**	**-0.6**
	2.8nm,0.7s,baz=230,slow=9.7,SNR=3.6						
DAVA	**Damuels**	**56.20**	**37**	*i* P	**P**	**06 52 56.0**	**-0.5**
FETA	**Feichten**	**56.58**	**37**	*i* P	**P**	**06 52 59.3**	**0.0**
RETA	**Reutte**	**56.82**	**37**	*i* P	**P**	**06 53 00.9**	**+0.1**
MOTA	**Moosalm**	**56.95**	**37**	*i* P	**P**	**06 53 02.3**	**+0.4**
PLCA	**Paso Flores**	**57.05**	**210**	LR	LR	07 17 45.1	
	comp=Z,228nm,18.8s,baz=79,slow=36						
CUC	**Castrocucco**	**57.08**	**47**	*e*P	**P**	**06 53 02.6**	**-0.2**
	16nm,0.6s						
ABTA	**Abfaltersbach**	**57.53**	**38**	*i* P	**P**	**06 53 06.6**	**+0.7**
WHAR	**Wooly Hollow**	**57.61**	**307**	*e*P	**P**	**06 53 06.1**	**-0.5**
	12nm,1.2s						
X301	**Greenbrier Sit**	**57.69**	**307**	*e*P	**P**	**06 53 06.4**	**-0.7**
	6.0nm,0.9s						
WLAR	**White Oak Lake**	**57.88**	**305**	*e*P	**P**	**06 53 08.7**	**+0.2**
	22nm,0.8s						
JAVS	**Javornik**	**58.13**	**40**	*i* P	**P**	**06 53 10.3**	**+0.1**
MYKA	**Terra Mystica**	**58.18**	**39**	*i* P	**P**	**06 53 09.6**	**-0.8**
KBA	**Koelnbreinsper**	**58.19**	**38**	*i* P	**P**	**06 53 10.2**	**-0.5**
MIAR	**Mount Ida**	**58.45**	**306**	*e*P	**P**	**06 53 11.9**	**-0.6**
	10nm,1.2s						
VISS	**Visnje**	**58.59**	**40**	*i* P	**P**	**06 53 13.2**	**0.0**
BOJS	**Bojanci**	**58.73**	**41**	*i* P	**P**	**06 53 14.6**	**+0.3**
SOKA	**Soboth**	**59.07**	**39**	*i* P	**P**	**06 53 16.1**	**-0.6**
MOA	**Molln**	**59.09**	**38**	*i* P	**P**	**06 53 16.3**	**-0.4**
GEA0	**GERESS Array S**	**59.19**	**37**	*e*P	**P**	**06 53 16.9**	**-0.6**
GERES	**GERESS Array B**	**59.19**	**36**	P	**P**	**06 53 16.6**	**-0.9**
	0.9nm,0.7s,baz=238,slow=7.6,SNR=6.5						
GERES				LR	LR	07 15 07.4	
	comp=Z,122nm,21.7s,baz=252,slow=32						
KHC	**Kasperske Hory**	**59.25**	**36**	*e*P	**P**	**06 53 19.2**	**+1.4**
ARSA	**Arzberg**	**59.61**	**39**	*i* pP	**P**	**06 53 21.8**	**+1.5**
CLL	**Collm**	**59.94**	**34**	*e*P	**P**	**06 53 20.0**	**-2.5**
CLL				*e*S	S	07 01 48.0	+14
CLL				*e*SSS	SSS	07 08 12.0	
CLL				Lm	MLR	07 14 00.0	
	comp=N,100nm,18.7s						
CLL				Lm	MLR	07 14 00.0	
	comp=E,100nm,21.6s						
CLL				Lm	MLR	07 14 00.0	
	comp=Z,100nm,21.5s						
CONA	**Conrad Observa**	**60.10**	**38**	*i* P	**P**	**06 53 24.5**	**+0.8**
SPMN	**Marine on St.**	**61.01**	**318**	*e*P	**P**	**06 53 29.1**	**-0.8**
	comp=Z,11nm,0.6s						
WMOK	**Wichita Mounta**	**62.69**	**305**	*e*P	**P**	**06 53 40.0**	**-1.5**
	comp=Z,9.9nm,1.4s						
IDI	**Anoyia**	**62.81**	**54**	*e*P	**P**	**06 53 42.2**	**-0.1**
	comp=Z,19nm,0.7s						
JCT	**Junction City**	**62.88**	**300**	*e*P	**P**	**06 53 42.0**	**-0.9**
	comp=Z,9.3nm,1.0s						
ABTX	**Abilene, Hawle**	**63.05**	**303**	*e*P	**P**	**06 53 42.9**	**-1.0**
	comp=Z,23nm,1.4s						
ECSD	**EROS Data Cent**	**63.13**	**315**	*e*P	**P**	**06 53 43.0**	**-1.2**
	comp=Z,9.9nm,1.0s						
BGNE	**Belgrade**	**63.61**	**313**	*e*P	**P**	**06 53 46.5**	**-1.0**
	comp=Z,38nm,0.8s						
NAO01	**NORSAR Array S**	**64.00**	**24**	*e*P	**P**	**06 53 49.1**	**-0.5**
DRGR		**64.03**	**41**	⇑*i*P	**P**	**06 53 50.7**	**+0.5**
NB2	**NORSAR Subarra**	**64.24**	**24**	P	**P**	**06 53 50.7**	**-0.5**
	comp=Z,2.5nm,0.7s,baz=236,slow=6.9						
NOA	**NORSAR Array B**	**64.24**	**24**	P	**P**	**06 53 51.0**	**-0.2**
	comp=Z,2.4nm,0.8s,baz=234,slow=6.6,SNR=3.8						
NOA				LR	LR	07 16 28.6	
	comp=Z,79nm,21.9s,baz=230,slow=31						
KARP	**Karpathos**	**64.68**	**54**	*e*P	**P**	**06 53 53.3**	**-1.3**
	comp=Z,90nm,0.7s						
ULM	**Lac du Bonnet**	**64.69**	**323**	P	**P**	**06 53 52.8**	**-1.5**
	comp=Z,2.7nm,0.6s,baz=109,slow=7.7,SNR=5.4						
ULM				LR	LR	07 17 02.5	
	comp=Z,92nm,21.9s,baz=178,slow=32						
ULM	**Lac du Bonnet**	**64.69**	**323**	*e*P	**P**	**06 53 54.2**	**-0.1**
	comp=Z,9.4nm,0.9s						
AMTX	**Amarillo**	**65.07**	**305**	*e*P	**P**	**06 53 56.6**	**-0.6**
	comp=Z,30nm,1.8s						
VOIR		**65.21**	**43**	⇑*i*P	**P**	**06 53 56.3**	**-1.6**
MLR	**Muntele Rosu**	**65.83**	**43**	*e*P	**P**	**06 54 01.1**	**-0.8**
	comp=Z,44nm,1.4s						
BUR08	**Bucovina Ar. S**	**65.91**	**41**	*e*P	**P**	**06 54 02.8**	**+0.5**
BURAR	**Bucovina Array**	**65.91**	**41**	⇑*i*P	**P**	**06 54 03.1**	**+0.7**
GO09	**Cerro Castillo**	**65.95**	**203**	*e*P	**P**	**06 54 02.4**	**+0.1**
	comp=Z,176nm,1.8s						
TXAR	**Lajitas Array**	**66.09**	**299**	P	**P**	**06 54 03.5**	**-0.4**
	comp=Z,1.0nm,0.5s,baz=103,slow=6.0,SNR=25						
TXAR				LR	LR	07 20 42.9	
	comp=Z,61nm,21.8s,baz=0.0,slow=34						
TX31	**Lajitas Ar. Si**	**66.09**	**299**	*e*P	**P**	**06 54 03.5**	**-0.4**
AKAS	**Kas**	**66.75**	**54**	*e*P	**P**	**06 54 06.5**	**-1.5**
	comp=Z,45nm,0.9s						
TLB	**Topalu**	**67.06**	**45**	⇑*i*P	**P**	**06 54 09.4**	**-0.3**
T25A	**Trinidad**	**67.58**	**307**	*e*P	**P**	**06 54 13.8**	**+0.4**
	comp=Z,18nm,1.4s						
MNTX	**Cornudas Mount**	**67.77**	**301**	*e*P	**P**	**06 54 13.9**	**-0.5**
	comp=Z,5.6nm,1.0s						
SORM	**Soroca**	**68.08**	**41**	⇑*i*P	**P**	**06 54 12.5**	**-3.5**
LSZ	**Lusaka**	**68.38**	**110**	*e*P	**P**	**06 54 17.2**	**-1.4**
	comp=Z,12nm,1.2s						
SDCO	**Great Sand Dun**	**68.52**	**308**	*e*P	**P**	**06 54 18.6**	**-0.8**
	comp=Z,4.6nm,0.8s						
ISCO	**Idaho Springs**	**68.88**	**310**	*e*P	**P**	**06 54 20.5**	**-1.2**
	comp=Z,8.3nm,1.1s						
KIEV	**Kiev**	**69.24**	**38**	*e*P	**P**	**06 54 22.5**	**-0.7**
	comp=Z,8.2nm,1.2s						
AKASG	**Malin Array Be**	**69.25**	**38**	P	**P**	**06 54 22.2**	**-1.1**
	comp=Z,3.7nm,0.7s,baz=261,slow=5.7,SNR=11						
AKASG				LR	LR	07 22 15.2	
	comp=Z,56nm,21.4s,baz=250,slow=34						
DGMT	**Dagmar**	**69.41**	**319**	*e*P	**P**	**06 54 24.8**	**+0.4**
	comp=Z,22nm,1.1s						
S22A	**4UR Ranch**	**69.56**	**307**	*e*P	**P**	**06 54 25.9**	**0.0**
	comp=Z,14nm,1.8s						
FFC	**Flin Flon**	**69.64**	**326**	*e*P	**P**	**06 54 25.8**	**+0.2**
	comp=Z,17nm,1.0s						
BR231	**Keskin MP Arra**	**69.71**	**50**	*e*P	**P**	**06 54 29.5**	**+3.0**
BOSA	**Boshof**	**69.82**	**124**	LR	LR	07 18 17.5	
	comp=Z,103nm,21.1s,baz=298,slow=30						
SMCO	**Snowmass**	**69.84**	**309**	*e*P	**P**	**06 54 27.2**	**-0.5**
	comp=Z,12nm,1.6s						
BR131	**Keskin Array S**	**70.35**	**51**	*e*P	**P**	**06 54 30.0**	**-0.5**
BRTR	**Keskin Array B**	**70.35**	**51**	P	**P**	**06 54 30.2**	**-0.3**
	comp=Z,6.7nm,1.1s,baz=242,slow=5.7,SNR=8.8						
BRTR				LR	LR	07 25 02.0	
	comp=Z,80nm,21.8s,baz=242,slow=36						
LAO	**LASA Array**	**70.41**	**317**	*e*P	**P**	**06 54 31.0**	**+0.3**
	comp=Z,24nm,1.0s						
FINES	**FINESS Array B**	**70.78**	**27**	P	**P**	**06 54 32.1**	**-0.4**
	comp=Z,6.1nm,1.1s,baz=246,slow=14,SNR=3.9						
FINES				LR	LR	07 22 11.7	
	comp=Z,118nm,20.5s,baz=234,slow=33						
O20A	**White River Ci**	**70.93**	**310**	*e*P	**P**	**06 54 34.3**	**+0.2**
	comp=Z,13nm,1.0s						
PV01	**Paradox Valley**	**70.97**	**308**	*e*P	**P**	**06 54 34.1**	**-0.3**
X18A	**Snowflake**	**71.81**	**304**	*e*P	**P**	**06 54 38.1**	**-1.4**
	comp=Z,9.5nm,1.0s						
BW06	**Boulder Array**	**72.20**	**312**	*e*P	**P**	**06 54 41.1**	**-0.6**
	comp=Z,7.2nm,1.4s						
PD31	**Pinedale Array**	**72.20**	**312**	*e*P	**P**	**06 54 41.8**	**0.0**
PDAR	**Pinedale Array**	**72.20**	**312**	P	**P**	**06 54 40.9**	**-0.9**
	comp=Z,0.4nm,0.6s,baz=89,slow=6.7,SNR=6.4						
PDAR				LR	LR	07 22 13.7	
	comp=Z,100nm,21.9s,baz=118,slow=32						
RLMT	**Red Lodge**	**72.28**	**315**	*e*P	**P**	**06 54 42.5**	**+0.4**
	comp=Z,19nm,1.1s						
TUC	**Tucson**	**72.39**	**301**	*e*P	**P**	**06 54 43.3**	**+0.3**
	comp=Z,3.4nm,0.8s						
SRU	**San Rafael Swe**	**72.58**	**309**	*e*P	**P**	**06 54 44.0**	**-0.1**
	comp=Z,14nm,1.3s						
EGMT	**Eagleton**	**72.99**	**318**	*e*P	**P**	**06 54 46.1**	**-0.1**
	comp=Z,6.8nm,0.9s						
WUAZ	**Wupatki**	**73.03**	**305**	*e*P	**P**	**06 54 47.1**	**+0.4**
	comp=Z,7.3nm,0.8s						
X16A	**Lo Mia Camp, P**	**73.03**	**304**	*e*P	**P**	**06 54 47.0**	**+0.2**
	comp=Z,4.1nm,1.0s						
LOHW	**Long Hollow**	**73.05**	**313**	*e*P	**P**	**06 54 46.7**	**-0.1**
	comp=Z,20nm,1.2s						
TMUT	**Trail Mountain**	**73.13**	**309**	*e*P	**P**	**06 54 46.9**	**-0.5**
	comp=Z,6.3nm,1.3s						
SNOW	**Snow King Moun**	**73.15**	**313**	*e*P	**P**	**06 54 45.5**	**-1.9**
	comp=Z,17nm,1.0s						
MOOW	**Moose Ponds**	**73.17**	**313**	*e*P	**P**	**06 54 47.2**	**-0.2**
	comp=Z,12nm,1.1s						
FLWY	**Flagg Ranch**	**73.17**	**314**	*e*P	**P**	**06 54 48.2**	**+0.7**
	comp=Z,38nm,1.1s						
REDW	**Red Top Meadow**	**73.21**	**313**	*e*P	**P**	**06 54 47.7**	**0.0**
	comp=Z,20nm,1.0s						
YPP	**Pitchstone Pla**	**73.27**	**314**	*e*P	**P**	**06 54 48.0**	**-0.1**
	comp=Z,6.5nm,1.0s						
TPAW	**Teton Pass**	**73.29**	**313**	*e*P	**P**	**06 54 48.3**	**0.0**
	comp=Z,18nm,1.0s						
YFT	**Old Faithful**	**73.31**	**314**	*e*P	**P**	**06 54 50.2**	**+1.9**
	comp=Z,28nm,1.2s						
IMW	**Indian Meadow**	**73.32**	**314**	*e*P	**P**	**06 54 48.6**	**+0.1**
	comp=Z,30nm,1.3s						
AHID	**Auburn Hatcher**	**73.33**	**312**	*e*P	**P**	**06 54 48.6**	**+0.2**
	comp=Z,0.2nm,1.0s						
YHH	**Holmes Hill**	**73.35**	**314**	*e*P	**P**	**06 54 49.5**	**+0.8**
	comp=Z,16nm,1.3s						
JLU	**Jordanelle**	**73.41**	**310**	*e*P	**P**	**06 54 48.9**	**-0.1**
	comp=Z,12nm,1.2s						
YMR	**Madison River**	**73.42**	**314**	*e*P	**P**	**06 54 49.9**	**+0.9**
	comp=Z,36nm,0.9s						
HWUT	**Hardware Ranch**	**73.58**	**311**	*e*P	**P**	**06 54 49.9**	**0.0**
	comp=Z,23nm,1.0s						
YHB	**Horse Butte**	**73.59**	**314**	*e*P	**P**	**06 54 50.5**	**+0.5**
	comp=Z,14nm,1.0s						
ARCES	**ARCESS Array B**	**73.62**	**19**	P	**P**	**06 54 50.1**	**+0.8**
	comp=Z,3.8nm,0.9s,baz=268,slow=6.1,SNR=4.1						
ARCES				LR	LR	07 22 56.4	
	comp=Z,80nm,19.8s,baz=258,slow=32						
U15A	**North Rim**	**73.81**	**306**	*e*P	**P**	**06 54 52.0**	**+0.5**
	comp=Z,6.0nm,1.1s						
MSU	**Marysvale**	**73.83**	**308**	*e*P	**P**	**06 54 52.2**	**+0.7**
NLU	**North Lily Min**	**73.84**	**309**	*e*P	**P**	**06 54 51.8**	**+0.3**
	comp=Z,11nm,1.2s						
MLI	**Malad Range**	**74.03**	**311**	*e*P	**P**	**06 54 52.9**	**+0.4**
Y14A	**Wickenburg**	**74.31**	**303**	*e*P	**P**	**06 54 54.1**	**-0.1**
	comp=Z,39nm,1.4s						
DUG	**Dugway, Tooele**	**74.42**	**310**	*e*P	**P**	**06 54 54.4**	**-0.4**
	comp=Z,8.2nm,1.3s						
SZCU	**Shurtz Canyon**	**74.50**	**307**	*e*P	**P**	**06 54 54.9**	**-0.6**
	comp=Z,10nm,1.3s						
BGU	**Big Grassy Mou**	**74.63**	**310**	*e*P	**P**	**06 54 55.7**	**-0.4**
	comp=Z,19nm,1.2s						
DLMT	**Dillon**	**74.64**	**315**	*e*P	**P**	**06 54 56.2**	**+0.2**
	comp=Z,21nm,1.2s						
CCUT	**Cedar City**	**74.72**	**307**	*e*P	**P**	**06 54 56.7**	**0.0**
	comp=Z,7.7nm,1.1s						
W13A	**Hualapai Mount**	**75.06**	**304**	*e*P	**P**	**06 54 59.7**	**+1.0**
	comp=Z,11nm,1.7s						
CHMT	**Chamberlain Mo**	**75.23**	**316**	*e*P	**P**	**06 54 59.4**	**-0.1**
SLMT	**Seeley Lake**	**75.42**	**317**	*e*P	**P**	**06 55 00.5**	**+0.1**
Y12C	**Blythe**	**75.57**	**303**	*e*P	**P**	**06 55 01.6**	**+0.3**
	comp=Z,5.5nm,1.0s						
SWMT	**Swartz Lake**	**75.78**	**317**	*e*P	**P**	**06 55 02.4**	**-0.1**
HLID	**Hailey**	**75.81**	**313**	*e*P	**P**	**06 55 03.2**	**+0.4**
	comp=Z,9.0nm,1.0s						
WALA	**Waterton Lakes**	**75.85**	**319**	*e*P	**P**	**06 55 02.9**	**0.0**
	comp=Z,15nm,1.0s						
EDM	**Edmonton**	**75.92**	**323**	*e*P	**P**	**06 55 03.0**	**-0.1**
	comp=Z,21nm,1.0s						
FRK	**Frink**	**76.50**	**302**	*e*P	**P**	**06 55 06.5**	**-0.1**
R11A	**Troy Canyon, C**	**76.50**	**308**	*e*P	**P**	**06 55 07.1**	**+0.3**
	comp=Z,5.2nm,1.3s						
TPNV	**Topopah Spring**	**77.01**	**306**	*e*P	**P**	**06 55 09.9**	**+0.2**
	comp=Z,3.8nm,0.9s						
KBZ	**Khabaz**	**77.56**	**47**	P	**P**	**06 55 14.3**	**+1.9**
	comp=Z,5.8nm,1.0s,baz=346,slow=2.7,SNR=9.2						
KBZ				LR	LR	07 29 28.8	
	comp=Z,35nm,21.5s,baz=265,slow=36						
YKA	**Yellowknife Ar**	**77.72**	**332**	P	**P**	**06 55 11.5**	**-1.3**
	comp=Z,0.8nm,0.6s,baz=108,slow=6.4,SNR=12						
YKA				LR	LR	07 25 30.1	
	comp=Z,7.8nm,20.9s,baz=180,slow=33						
YKB5	**Yellowknife Ar**	**77.72**	**332**	*e*P	**P**	**06 55 11.3**	**-1.6**
BMN	**Battle Mountai**	**77.80**	**310**	*e*P	**P**	**06 55 13.5**	**-0.6**
	comp=Z,8.2nm,1.0s						
F10A	**Beach Ranch, E**	**77.92**	**315**	*e*P	**P**	**06 55 13.6**	**-0.9**
	comp=Z,9.3nm,1.5s						
BMO	**Blue Mountains**	**77.94**	**314**	*e*P	**P**	**06 55 14.5**	**-0.2**
	comp=Z,9.2nm,1.4s						
E09A	**Wood Farm, Sta**	**78.57**	**316**	*e*P	**P**	**06 55 17.6**	**-0.4**
	comp=Z,6.6nm,0.8s						
WVOR	**Wild Horse Val**	**78.87**	**312**	*e*P	**P**	**06 55 19.8**	**-0.1**
	comp=Z,9.2nm,1.3s						
TVH2	**Borealis Mine**	**78.99**	**308**	*e*P	**P**	**06 55 20.5**	**-0.3**
	comp=Z,4.4nm,1.0s						
TVH1	**TV Hill, Hawth**	**79.00**	**308**	*e*P	**P**	**06 55 20.5**	**-0.5**
	comp=Z,12nm,1.1s						
TVH3	**East Aurora ar**	**79.04**	**308**	*e*P	**P**	**06 55 21.4**	**+0.4**
	comp=Z,12nm,1.2s						
MOD	**Modoc Plateau**	**80.12**	**311**	*e*P	**P**	**06 55 28.0**	**+1.2**
	comp=Z,39nm,1.4s						
BEKR	**Beckworth**	**80.21**	**309**	*e*P	**P**	**06 55 27.9**	**+0.5**
	comp=Z,14nm,1.2s						
K05A	**Summer Lake**	**80.54**	**312**	*e*P	**P**	**06 55 29.9**	**+0.8**

MWZ					AML	AML	08 01 22.7		
MWZ					AML	AML	08 01 22.8		
KWHZ	**Kaweka Forest**	**1.31**	**163**		PN	Pn	08 00 59.6	-0.2	
KWHZ					AML	AML	08 01 25.1		
KWHZ					AML	AML	08 01 27.5		
VRZ	**Vera Road**	**1.32**	**224**	⇑	PN	Pn	08 01 00.2	+0.5	
WHHZ	**Waihua**	**1.36**	**132**		PN	Pn	08 01 00.4	+0.2	
WHHZ					AML	AML	08 01 24.5		
ARHZ	**Aropaoanui**	**1.37**	**143**	⇑	PN	Pn	08 01 00.4	+0.2	
ARHZ					AML	AML	08 01 22.6		
ARHZ					AML	AML	08 01 22.8		
RUGZ	**Raukumara Rang**	**1.40**	**82**		PN	Pn	08 01 00.1	-0.5	
MCHZ	**McNeill Hill**	**1.40**	**155**	⇑	PN	Pn	08 01 00.9	+0.3	
MCHZ					AML	AML	08 01 22.9		
MCHZ					AML	AML	08 01 34.6		
KRHZ	**Kereru**	**1.51**	**167**		PN	Pn	08 01 01.2	-0.4	
KRHZ					AML	AML	08 01 02.5		
KRHZ					AML	AML	08 01 27.2		
HAZ	**Te Kaha**	**1.52**	**75**	⇑	PN	Pn	08 01 01.6	-0.2	
HAZ					AML	AML	08 01 27.2		
HAZ					AML	AML	08 01 27.2		
HAZ					AML	AML	08 01 28.8		
HAZ					AML	AML	08 01 28.8		
TKGZ	**Te Karaka**	**1.53**	**101**		PN	Pn	08 01 02.1	+0.3	
TKGZ					AML	AML	08 01 27.3		
TKGZ					AML	AML	08 01 28.2		
RIGZ	**Rimuhau**	**1.54**	**111**		PN	Pn	08 01 02.1	+0.2	
RIGZ					AML	AML	08 01 28.3		
RIGZ					AML	AML	08 01 30.7		
KNZ	**Kokohu**	**1.61**	**122**	⇑	PN	Pn	08 01 02.4	-0.2	
TWGZ	**Tauwhareparae**	**1.62**	**91**		PN	Pn	08 01 03.1	+0.4	
TWGZ					AML	AML	08 01 30.7		
TWGZ					AML	AML	08 01 32.5		
PRGZ	**Paritu Road**	**1.71**	**117**		PN	Pn	08 01 03.5	-0.1	
PKGZ	**Pakihiroa**	**1.72**	**81**		PN	Pn	08 01 04.1	+0.3	
CKHZ	**Cape Kidnapper**	**1.73**	**149**	⇑	PN	Pn	08 01 03.7	-0.1	
CKHZ					AML	AML	08 01 04.5		
WAZ	**Wanganui**	**1.74**	**205**		PN	Pn	08 01 03.6	-0.4	
PNHZ	**Pukenui**	**1.75**	**173**		PN	Pn	08 01 03.2	-0.9	
PNHZ					AML	AML	08 01 30.3		
KAHZ	**Kahuranaki**	**1.78**	**156**		PN	Pn	08 01 04.1	-0.3	
KAHZ					AML	AML	08 01 30.4		
KAHZ					AML	AML	08 01 33.1		
CNGZ	**Carnagh Statio**	**1.82**	**101**		PN	Pn	08 01 05.3	+0.6	
MHGZ	**Mahia Peninsul**	**1.83**	**123**	⇑	PN	Pn	08 01 04.9	0.0	
PUZ	**Puketiti**	**1.84**	**88**		PN	Pn	08 01 04.9	-0.1	
PUZ					AML	AML	08 01 31.5		
PUZ					AML	AML	08 01 32.3		
TSZ	**Takapari Road**	**1.88**	**179**	⇑	PN	Pn	08 01 04.5	-1.0	
TSZ					AML	AML	08 01 31.4		
TSZ					AML	AML	08 01 33.3		
WPHZ	**Waipukurau**	**1.93**	**168**	⇑	PN	Pn	08 01 05.1	-0.9	
WPHZ					AML	AML	08 01 36.7		
MXZ	**Matakaoa Point**	**1.98**	**73**		PN	Pn	08 01 07.2	+0.6	
PXZ	**Pawanui**	**1.99**	**159**		PN	Pn	08 01 05.8	-0.8	
PXZ					AML	AML	08 01 34.5		
WMGZ	**Waiomatatini S**	**2.00**	**81**		PN	Pn	08 01 07.0	+0.3	
WMGZ					AML	AML	08 01 33.8		
WMGZ					AML	AML	08 01 34.6		
DVHZ	**Dannevirke**	**2.13**	**175**		PN	Pn	08 01 06.8	-1.4	
PRHZ	**Porangahau**	**2.16**	**165**		PN	Pn	08 01 07.5	-1.1	
PRHZ					AML	AML	08 01 37.5		
PRHZ					AML	AML	08 01 37.7		
POWZ	**Post Office Ro**	**2.22**	**183**		PN	Pn	08 01 07.7	-1.5	
POWZ					AML	AML	08 01 42.5		
POWZ					AML	AML	08 01 44.5		
ANWZ	**Angora Road**	**2.32**	**170**		PN	Pn	08 01 09.2	-1.2	
ANWZ					AML	AML	08 01 40.6		
ANWZ					AML	AML	08 01 40.7		
PRWZ	**Pori Road**	**2.38**	**179**		PN	Pn	08 01 09.7	-1.4	
PRWZ					AML	AML	08 01 41.6		
PRWZ					AML	AML	08 01 41.9		
MRZ	**Mangatainoka R**	**2.50**	**186**	⇑	PN	Pn	08 01 10.6	-1.9	
MRZ					AML	AML	08 01 42.5		
MRZ					AML	AML	08 01 42.5		
BFZ	**Birch Farm**	**2.52**	**174**		PN	Pn	08 01 10.9	-1.8	
BFZ					AML	AML	08 01 43.1		
BFZ					AML	AML	08 01 43.2		
BFZ					AML	AML	08 01 43.2		
TIWZ	**Tintock**	**2.60**	**181**		PN	Pn	08 01 11.9	-1.9	
TIWZ					AML	AML	08 01 44.3		
TIWZ					AML	AML	08 01 46.6		
OGWZ	**Otaki Gorge**	**2.70**	**192**		PN	Pn	08 01 13.1	-1.9	
OGWZ					AML	AML	08 01 46.7		
OGWZ					AML	AML	08 01 47.1		
HOWZ	**Holdsworth Sta**	**2.74**	**187**		PN	Pn	08 01 13.1	-2.4	
HOWZ					AML	AML	08 01 47.0		
HOWZ					AML	AML	08 01 47.2		
CPWZ	**Castlepoint**	**2.74**	**176**		PN	Pn	08 01 13.8	-1.6	
CPWZ					AML	AML	08 01 48.8		
CPWZ					AML	AML	08 01 49.3		
KIW	**Kapiti Island**	**2.80**	**196**		PN	Pn	08 01 13.8	-2.3	
KIW					AML	AML	08 01 49.4		
KIW					AML	AML	08 01 53.1		
TMWZ	**Te Maipa**	**2.93**	**181**		PN	Pn	08 01 15.3	-2.4	
TMWZ					AML	AML	08 01 51.1		
TMWZ					AML	AML	08 01 51.7		
MTW	**Mount Morrison**	**3.00**	**186**		PN	Pn	08 01 15.8	-2.7	
MTW					AML	AML	08 01 52.3		
MTW					AML	AML	08 01 52.6		
CAW	**Cannon Point**	**3.00**	**193**		PN	Pn	08 01 16.2	-2.4	
CAW					AML	AML	08 01 52.6		
CAW					AML	AML	08 01 52.7		
DUWZ	**D'Urville Isla**	**3.05**	**210**		PN	Pn	08 01 17.1	-2.2	
TRWZ	**Traveller**	**3.23**	**183**		PN	Pn	08 01 18.8	-2.6	
TRWZ					AML	AML	08 01 57.7		
PAWZ	**Paruwai Farm**	**3.23**	**187**		PN	Pn	08 01 18.5	-2.9	
MSWZ	**Moikau Station**	**3.28**	**189**		PN	Pn	08 01 19.1	-3.0	
MSWZ					AML	AML	08 01 57.6		
MSWZ					AML	AML	08 01 58.6		
TCW	**Tory Channel**	**3.29**	**202**		PN	Pn	08 01 19.6	-2.6	
TCW					AML	AML	08 01 58.7		
TCW					AML	AML	08 01 59.5		
PLWZ	**Palliser**	**3.43**	**188**		PN	Pn	08 01 20.8	-3.2	
PLWZ					AML	AML	08 02 01.7		
TUWZ	**Tuamarina**	**3.59**	**205**		PN	Pn	08 01 23.2	-2.8	
NNZ	**Nelson**	**3.62**	**212**		PN	Pn	08 01 23.5	-2.9	
QRZ	**Quartz Range**	**3.73**	**224**		PN	Pn	08 01 24.6	-3.2	
THZ	**Tophouse**	**4.27**	**212**		PN	Pn	08 01 31.7	-3.1	
KHZ	**Kahutara**	**4.62**	**203**		PN	Pn	08 01 35.8	-3.3	
KHZ					AML	AML	08 02 27.9		
KHZ					AML	AML	08 02 28.0		
LTZ	**Lake Taylor**	**5.38**	**210**		PN	Pn	08 01 43.8	-5.4	
OXZ	**Oxford**	**5.93**	**209**		PN	Pn	08 01 51.0	-5.4	
MQZ	**McQueen's Vall**	**6.06**	**203**	⇓	PN	Pn	08 01 52.7	-5.4	

IDC 16 08:01:10.2±4.1, 52°75N×35°50E, h0km, mb1 3.8/3, mb1mx3.2/61, mbtmp3.6/3, ML3.3/3, Error ellipse: s-maj=56.6km s-min=16.2km az=103.0, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
OBN	**Obninsk**	**2.46**	**15**	Lg	Lg	08 02 29.2	
	6.8nm,0.3s,baz=7.1,slow=22,SNR=8.9						
AKASG	**Malin Array Be**	**4.40**	**245**	Pn	Pn	08 02 16.9	-1.3
	1.8nm,0.3s,baz=58,slow=16,SNR=6.8						
AKASG				Sn	Sn	08 02 58.1	-12
	2.4nm,0.3s,baz=60,slow=20,SNR=5.3						
FINES	**FINESS Array B**	**10.10**	**333**	Pn	Pn	08 03 30.5	-5.8
	0.2nm,0.3s,baz=148,slow=15,SNR=4.7						
FINES				Sn	Sn	08 05 22.0	-8.2
	0.2nm,0.3s,baz=153,slow=24,SNR=4.1						
ARCES	**ARCESS Array B**	**17.48**	**348**	Pn	Pn	08 05 09.7	-5.3
	0.5nm,0.3s,baz=164,slow=10.0,SNR=7.1						

IDC 16 08:03:01.4±8.1, 15°57S×172°84W, h0km, mb3.5/2, mb1 3.8/2, mb1mx3.4/40, mbtmp3.5/2, Error ellipse: s-maj=341.7km s-min=26.5km az=137.0, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**1.94**	**32**	Pn	Pn	08 03 35.0	-0.7
	25nm,0.3s,baz=198,slow=2.8,SNR=33						
AFI				Sn	Sn	08 03 53.4	-7.5
	86nm,0.3s,baz=90,slow=12,SNR=17						
H11S2	**WAKE ISLAND Hy**	**39.39**	**328**	T	T	08 51 47.8	
	baz=149,slow=76,SNR=3.7						
H11S3	**WAKE ISLAND Hy**	**39.40**	**328**	T	T	08 51 56.0	
	baz=149,slow=76,SNR=2.7						
H11S1	**WAKE ISLAND Hy**	**41.38**	**328**	T	T	08 51 39.2	
	baz=149,slow=76,SNR=4.0						
WRA	**Warramunga Arr**	**50.33**	**257**	P	P	08 11 59.6	-0.8
	0.2nm,0.4s,baz=94,slow=6.6,SNR=8.2						
ASAR	**Alice Springs**	**50.57**	**252**	P	P	08 12 02.1	-0.1
	0.7nm,0.5s,baz=86,slow=8.2,SNR=21						
BRTR	**Keskin Array B**	**146.63**	**321**	PKPbc	PKPab	08 22 46.1	-0.4
	0.8nm,0.7s,baz=70,slow=1.4,SNR=3.9						

*ISCJB **16** 08:04:15.4±0.8, 55°.9S±0°.1×27°.9W±0°.3, h121km, mb4.1/6, Error ellipse: s-maj=25.2km s-min=11.4km az=139.7*
*NEIC **16** 08:04:17.1±2.2, 55°.92S×28°.00W, h123km±20km, mb4.6/2, Error ellipse: s-maj=29.8km s-min=12.4km az=61.0*
*IDC **16** 08:04:18.8±7.5, 55°.93S×27°.97W, h136km±69km, mb3.8/5, mb1 3.9/6, mb1mx3.6/30, mbtmp4.2/6, Error ellipse: s-maj=32.8km s-min=21.5km az=65.0*

ISC 16 08:04:16.9±0.9, 55°.9S±0°.1×28°.2W±0°.1, h121km, n18, σ1§20/16, mb4.1/5, 1C, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
HOPE	**Hope Point**	**5.05**	**286**	*e*Pn	**Pn**	**08 05 31.7**	**+1.3**
HOPE				*e*Sn	**Sn**	**08 06 25.1**	**-2.6**
VNA3	**Neumayer Olymp**	**17.28**	**160**	P	**Pn**	**08 08 10.4**	**+0.1**
VNA2	**Neumayer--Watz**	**17.50**	**157**	P	**P**	**08 08 12.5**	**+0.1**
	baz=318,slow=13						
SNAA	**Sanae**	**19.07**	**156**	P	**P**	**08 08 29.2**	**-0.3**
SNAA	**Sanae**	**19.07**	**156**	P	**P**	**08 08 29.2**	**-0.3**
	3.2nm,0.3s,baz=313,slow=12,SNR=392						
SNAA	**Sanae**	**19.07**	**156**	*e*P	**P**	**08 08 29.0**	**-0.5**
	27nm,0.5s						
SYO	**Syowa Base**	**32.02**	**141**	⇑ *e*P	**P**	**08 10 29.0**	**-2.2**
QSPA	**South Pole Qui**	**34.31**	**180**	*e*P	**P**	**08 10 52.0**	**+0.6**
	3.9nm,0.5s						
MAW	**Mawson**	**40.56**	**144**	P	**P**	**08 11 43.5**	**-0.2**
	2.3nm,0.7s,baz=227,slow=8.3,SNR=12						
VNDA	**Vanda**	**46.66**	**183**	P	**P**	**08 12 33.6**	**+1.3**
	3.1nm,0.6s,baz=184,slow=6.8,SNR=17						
H10S2	**ASCENSION HYDR**	**48.06**	**18**	T	T	09 04 53.4	
	baz=189						
H10S3	**ASCENSION HYDR**	**48.06**	**18**	T	T	09 04 50.2	
	baz=189						
H10S1	**ASCENSION HYDR**	**48.08**	**18**	T	T	09 05 01.9	
	baz=189						
LPAZ	**La Paz**	**49.86**	**306**	P	**P**	**08 12 59.2**	**+0.8**
	0.6nm,0.5s,baz=207,slow=4.5,SNR=6.4						
TORD	**Torodi Ar. Bea**	**73.24**	**30**	P	**P**	**08 15 34.9**	**+0.3**
	1.5nm,0.6s,baz=203,slow=6.7,SNR=12						
ASAR	**Alice Springs**	**99.26**	**163**	P	**Pdif**	**08 17 43.6**	**-1.4**
	0.3nm,0.8s,baz=177,slow=4.4,SNR=4.8						
ILAR	**Eielson Array**	**149.63**	**312**	PKPbc	**PKPbc**	**08 23 50.2**	**-0.4**
	1.4nm,0.6s,baz=128,slow=2.0,SNR=19						
SONM	**Songino Array**	**151.28**	**87**	PKPbc	**PKPbc**	**08 23 54.7**	**-0.6**
	1.6nm,0.4s,baz=251,slow=2.7,SNR=5.0						

*ISCJB **16** 08:07:35.1±0.6, 39°.05N±0°.04×29°.18E±0°.04, h4km±6km, Error ellipse: s-maj=6.6km s-min=5.5km az=160.2*
*ISK **16** 08:07:35.0, 39°.06N×29°.15E, h8km, MD2.8*
*CSEM **16** 08:07:35.3±0.1, 39°.05N×29°.15E, h5km, MD2.5, Error ellipse: s-maj=2.3km s-min=2.0km az=131.0*
*DDA **16** 08:07:38.4, 39°.03N×28°.67E, h25km, Md2.5*

ISC 16 08:07:35.0±1.0, 39°.01N±0°.04×29°.17E±0°.03, h8km±9km, n41, σ0§87/48, Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SIMA	**Simav-Kutahya**	**0.16**	**299**	*e*PG	**Pg**	**08 07 38.7**	**+0.2**
SIMA				*e*SG	**Sg**	**08 07 40.6**	**-0.2**
SIMA	**Simav-Kutahya**	**0.16**	**299**	*e*Pg	**Pg**	**08 07 38.7**	**+0.2**
SIMA				*e*Sg	**Sg**	**08 07 40.6**	**-0.2**
GEDZ	**Gediz**	**0.19**	**78**	*e*PG	**Pg**	**08 07 39.6**	**+0.6**
GEDZ	**Gediz**	**0.19**	**78**	*e*Pg	**Pg**	**08 07 39.6**	**+0.6**
DEMI	**Demirci**	**0.35**	**276**	*i* P	**Pg**	**08 07 42.3**	**+0.3**
DEMI				*i* S	**Sg**	**08 07 46.6**	**-0.1**
DEMI	**Demirci**	**0.35**	**276**	P	**Pg**	**08 07 42.3**	**+0.3**
DEMI				S	**Sg**	**08 07 46.6**	**-0.1**
TVSB	**Tavsanli**	**0.50**	**27**	*e*PG	**Pg**	**08 07 44.6**	**-0.1**
TVSB	**Tavsanli**	**0.50**	**27**	*e*Pg	**Pg**	**08 07 44.6**	**-0.1**
KULA	**Kula-Manisa**	**0.63**	**219**	*e*PG	**Pb**	**08 07 48.2**	**-0.1**
KULA				*e*SG	**Sb**	**08 07 57.8**	**+0.5**
KULA	**Kula-Manisa**	**0.63**	**219**	*e*Pg	**Pb**	**08 07 48.2**	**-0.1**
MANT	**Manisa**	**0.70**	**223**	*i* P	Pg	08 07 43.4	-5.1
MANT				*i* S	**Sg**	**08 07 53.0**	**-4.7**
KHL	**Karahalli**	**0.73**	**158**	*e*PG	**Pb**	**08 07 50.6**	**+0.5**
KHL	**Karahalli**	**0.73**	**158**	*e*Pg	**Pb**	**08 07 50.6**	**+0.5**
ORLT	**Orhaneli**	**1.06**	**348**	*e*PG	**Pg**	**08 07 54.0**	**-1.4**
ORLT	**Orhaneli**	**1.06**	**349**	*e*Pg	**Pg**	**08 07 54.0**	**-1.4**
BALB	**Balikesir**	**1.18**	**303**	*e*PN	**Pn**	**08 07 57.6**	**-0.3**
BALB	**Balikesir**	**1.18**	**303**	*e*Pn	**Pn**	**08 07 57.6**	**-0.3**
MDNY	**Mudanya-Bursa**	**1.38**	**351**	*e*PN	**Pn**	**08 08 00.4**	**-0.2**
MDNY	**Mudanya-Bursa**	**1.38**	**351**	*e*Pn	**Pn**	**08 08 00.4**	**-0.2**
KCTX	**Karacabey (Bur**	**1.41**	**334**	*e*PN	**Pn**	**08 08 00.9**	**-0.1**
KCTX	**Karacabey (Bur**	**1.41**	**334**	*e*Pn	**Pn**	**08 08 00.9**	**-0.1**
BALY	**Balya**	**1.41**	**302**	*i* P	**Pg**	**08 08 03.3**	**+1.3**
BALY				*i* S	**Sg**	**08 08 20.2**	**0.0**
BALY	**Balya**	**1.41**	**302**	P	**Pg**	**08 08 03.3**	**+1.3**
BALY				S	**Sg**	**08 08 20.2**	**0.0**
AYDB	**Zeytinkoy-Aydi**	**1.46**	**224**	*e*PN	**Pb**	**08 08 02.4**	**0.0**
AYDB	**Zeytinkoy-Aydi**	**1.46**	**224**	*e*Pn	**Pb**	**08 08 02.4**	**0.0**
ADVT	**Abdulvahap**	**1.49**	**17**	*e*PN	**Pn**	**08 08 02.2**	**+0.1**
ADVT	**Abdulvahap**	**1.49**	**17**	*e*Pn	**Pn**	**08 08 02.3**	**+0.1**
ARMT	**Armutlu**	**1.58**	**351**	*e*PN	**Pn**	**08 08 03.2**	**-0.1**
ARMT	**Armutlu**	**1.58**	**351**	*e*Pn	**Pn**	**08 08 03.2**	**-0.1**
EDC	**Edincik**	**1.68**	**324**	*e*PN	**Pn**	**08 08 04.7**	**0.0**
EDC	**Edincik**	**1.68**	**324**	*e*Pn	**Pn**	**08 08 04.7**	**0.0**
GULT	**Gulveren**	**1.76**	**36**	*e*PN	**Pn**	**08 08 06.4**	**+0.4**
GULT	**Gulveren**	**1.76**	**36**	*e*Pn	**Pn**	**08 08 06.4**	**+0.4**
FOCM	**Fo¯ça**	**1.93**	**262**	*e*PN	**Pn**	**08 08 08.7**	**+0.6**
FOCM	**Fo¯ça**	**1.93**	**262**	*e*Pn	**Pn**	**08 08 08.7**	**+0.6**
SBT2	**Guzelce-Avcila**	**1.94**	**345**	*e*PN	**Pn**	**08 08 08.2**	**+0.1**
SBT2	**Guzelce-Avcila**	**1.94**	**345**	*e*Pn	**Pn**	**08 08 08.3**	**+0.1**
MRMT	**Marmara Adasi**	**2.00**	**323**	*e*PN	**Pn**	**08 08 09.3**	**+0.1**
MRMT	**Marmara Adasi**	**2.00**	**323**	*e*Pn	**Pn**	**08 08 09.3**	**+0.1**
SBT3	**Marmara-Eregli**	**2.09**	**334**	*e*PN	**Pn**	**08 08 10.5**	**+0.3**
SBT3	**Marmara-Eregli**	**2.09**	**334**	*e*Pn	**Pn**	**08 08 10.5**	**+0.3**

*ISCJB **16** 08:22:10.2±0.7, 37°.77N±0°.04×37°.85E±0°.03, h3km±6km, Error ellipse: s-maj=6.8km s-min=4.1km az=169.6*
*CSEM **16** 08:22:10.4±0.2, 37°.77N×37°.85E, h5km, MD2.7, Error ellipse: s-maj=4.2km s-min=3.1km az=165.0*
*ISK **16** 08:22:10.2, 37°.74N×37°.83E, h8km, MD2.7*
*DDA **16** 08:22:10.6, 37°.73N×37°.84E, h5km, Md2.6*

ISC 16 08:22:10.0±1.5, 37°.76N±0°.04×37°.85E±0°.02, h3km±13km, n27, σ0§44/39, Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GAZ	**Gaziantep**	**0.78**	**221**	*e*PG	**Pg**	**08 22 25.2**	**+0.3**
GAZ				*e*SG	**Sb**	**08 22 36.3**	**-0.9**
GAZ	**Gaziantep**	**0.78**	**221**	*e*Pg	**Pg**	**08 22 25.2**	**+0.3**
GAZ				*e*Sg	**Sb**	**08 22 36.3**	**-0.9**
KMRS	**Kahramanmaras**	**0.79**	**251**	*e*PG	**Pg**	**08 22 25.3**	**+0.1**
KMRS				*e*SG	**Sb**	**08 22 36.8**	**-0.9**
KMRS	**Kahramanmaras**	**0.79**	**251**	*e*Pg	**Pg**	**08 22 25.3**	**+0.1**
KMRS				*e*Sg	**Sb**	**08 22 36.8**	**-0.9**
URFA	**Urfa**	**0.84**	**112**	*e*PG	**Pg**	**08 22 26.3**	**+0.2**
URFA				*e*SG	**Sb**	**08 22 39.2**	**+0.2**
URFA	**Urfa**	**0.84**	**112**	*e*Pg	**Pg**	**08 22 26.3**	**+0.2**
URFA				*e*Sg	**Sb**	**08 22 39.2**	**+0.2**
HCB	**Kahramanmara¯**	**0.85**	**241**	*i* P	**Pb**	**08 22 27.3**	**-0.2**
HCB				*i* S	**Sb**	**08 22 40.1**	**+0.8**
DARE	**Darende-Malaty**	**0.86**	**341**	*e*PG	**Pb**	**08 22 27.8**	**+0.2**
DARE	**Darende-Malaty**	**0.86**	**341**	*e*Pg	**Pb**	**08 22 27.8**	**+0.2**
SURC	**SANLIURFA_SURC**	**1.07**	**145**	*i* P	**Pn**	**08 22 31.7**	**-0.3**
SURC				*i* S	**Sb**	**08 22 45.2**	**-0.5**
SURC	**SANLIURFA_SURC**	**1.07**	**145**	P	**Pn**	**08 22 31.7**	**-0.3**
SURC				S	**Sb**	**08 22 45.2**	**-0.5**
KAMA	**Osmaniye**	**1.10**	**239**	*i* P	**Pg**	**08 22 31.3**	**+0.2**
KAMA				*i* S	**Sb**	**08 22 46.4**	**-0.1**
ELZG	**Elazig**	**1.16**	**50**	*i* P	**Pg**	**08 22 31.7**	**-0.6**
ELZG	**Elazig**	**1.16**	**50**	P	**Pg**	**08 22 31.7**	**-0.6**
ANDN	**Andirin**	**1.21**	**262**	*i* P	**Pg**	**08 22 32.8**	**-0.3**
ANDN				*i* S	**Sn**	**08 22 50.9**	**+0.1**
ANDN	**Andirin**	**1.21**	**262**	P	**Pg**	**08 22 32.8**	**-0.3**
ANDN				S	**Sn**	**08 22 50.9**	**+0.1**
SARI	**SarD1z-Kayseri**	**1.30**	**300**	*e*PN	**Pg**	**08 22 35.2**	**+0.3**
SVRC	**Sivrice-ELAZID**	**1.31**	**61**	*e*PN	**Pn**	**08 22 35.6**	**+0.3**
SVRC	**Sivrice-ELAZID**	**1.31**	**61**	*e*Pn	**Pn**	**08 22 35.6**	**+0.3**
KOZT	**Kozan**	**1.63**	**261**	*e*PN	**Pn**	**08 22 39.6**	**0.0**
KOZT	**Kozan**	**1.63**	**261**	*e*Pn	**Pn**	**08 22 39.6**	**0.0**
PTK	**Pertek**	**1.66**	**47**	*e*PN	**Pn**	**08 22 40.5**	**+0.4**
PTK	**Pertek**	**1.66**	**47**	*e*Pn	**Pn**	**08 22 40.6**	**+0.4**
TAHT	**Tahtakopru-Hat**	**1.92**	**224**	*e*PN	**Pn**	**08 22 43.9**	**+0.3**
TAHT	**Tahtakopru-Hat**	**1.92**	**224**	*e*Pn	**Pn**	**08 22 43.9**	**+0.3**
YAYL	**Yayladag**	**2.22**	**219**	*e*PN	**Pn**	**08 22 48.3**	**+0.5**
YAYL	**Yayladag**	**2.22**	**219**	*e*Pn	**Pn**	**08 22 48.3**	**+0.5**

*CSEM **16** 08:47:17.7, 39°.61N×29°.85W, h10km, ML2.5*

PDA 16 08:47:17.7±0.9, 39°.61N×29°.85W, h10km, MD3.6, ML2.5, Error ellipse: s-maj=17.2km s-min=3.8km az=32.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
H07S1	**FLORES T-PHASE**	**1.07**	**258**	*e*P	Pg	08 47 34.1	-4.2
PCED	**Cedros**	**1.33**	**137**	*e*S	Sb	08 47 52.4	-7.4
PCED				A	A	08 47 52.6	
	27nm,0.2s						
PCED	**Cedros**	**1.33**	**137**	*e*S	Sb	08 47 52.4	-7.4
CALA	**Caldeira**	**1.36**	**139**	*e*S	Sb	08 47 53.5	-7.4
CALA	**Caldeira**	**1.36**	**139**	*e*S	Sb	08 47 53.5	-7.4
ROSA	**Rosais**	**1.54**	**125**	*e*S	Sn	08 47 57.4	-7.8
ROSA				A	A	08 47 59.2	
	6.9nm,0.2s						
ROSA	**Rosais**	**1.54**	**125**	*e*S	Sn	08 47 57.4	-7.8
PCAN	**Candelaria**	**1.56**	**137**	*e*P	Pn	08 47 41.4	-4.2
PCAN				*e*S	Sn	08 47 58.4	-7.5
PCAN				A	A	08 48 00.4	
	40nm,0.1s						
PCAN	**Candelaria**	**1.56**	**137**	*e*P	Pn	08 47 41.4	-4.2
PCAN				*e*S	Sn	08 47 58.4	-7.5
PICO	**Pico**	**1.57**	**135**	*e*P	Pn	08 47 40.8	-4.9
PICO				*e*S	Sn	08 47 59.0	-7.1
PICO				A	A	08 47 59.9	
	37nm,0.2s						
PICO	**Pico**	**1.57**	**135**	*e*P	Pn	08 47 40.8	-4.9
PICO				*e*S	Sn	08 47 59.0	-7.1

IDC 16 08:55:08.6±4.0, 18°.87S×174°.99E, h0km, mb3.7/3, mb1 4.0/3, mb1mx3.6/23, mbtmp3.6/3, MS4.3/1, Ms1 4.3/1, ms1mx2.7/22, Error ellipse: s-maj=303.5km s-min=36.2km az=157.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**12.19**	**149**	LR	LR	09 01 20.5	
	comp=Z,2μm,21.6s,baz=336,slow=30						
WRA	**Warramunga Arr**	**38.29**	**262**	P	P	09 02 30.9	-0.3
	0.2nm,0.5s,baz=95,slow=7.0,SNR=9.9						
ASAR	**Alice Springs**	**38.49**	**256**	P	P	09 02 32.8	0.0
	0.7nm,0.5s,baz=87,slow=8.9,SNR=24						
PDAR	**Pinedale Array**	**92.43**	**46**	P	P	09 08 21.7	0.0
	0.4nm,0.6s,baz=222,slow=2.0,SNR=4.0						

*IDC **16** 08:58:00.6±1.4, 0°.17N×98°.78E, h0km, mb3.9/6, mb1 3.9/7, mb1mx3.7/33, mbtmp3.8/7, ML3.4/1, MS3.2/5, Ms1 3.3/5, ms1mx2.8/29, Error ellipse: s-maj=45.1km s-min=19.6km az=71.0*
*ISCJB **16** 08:58:05.3±0.6, 0°.31N±0°.05×98°.52E±0°.05, h48km, mb3.9/6, MS3.5/3, Error ellipse: s-maj=6.9km s-min=6.2km az=143.1*
*DJA **16** 08:58:06.1±0.4, 0°.N±3°×9°9E±°, h27km±7km, M4.3/9, mb4.5/1, MLv4.2/9*

**ISC 16 08:58:06.7±0.8, 0°.24N±0°.05×98°.54E±0°.05, h48km, n27, σ1§34/24, mb3.9/6, MS3.5/3, Northern S

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BTK	**Batken**	**1.28**	**128**	⇑*iP*	**Pn**	**09 05 57.9**	**-1.2**
BTK	baz=118			⇑*iS*	**Sg**	**09 06 17.0**	**+1.9**
ARK	**Arkit**	**2.08**	**62**	⇑*eP*	**Pn**	**09 06 10.8**	**+0.6**
ARK	baz=64			⇑*iS*	**Sb**	**09 06 39.7**	**+0.6**
DZET	**Dzherino**	**2.11**	**195**	⇑P	**Pg**	**09 06 14.1**	**-0.3**
DZET	1.1nm,0.3s 3.8nm,0.2s			⇑S	**Sg**	**09 06 43.4**	**+1.6**
KK31	**Karatay Array**	**2.38**	**18**	⇓P	**Pg**	**09 06 19.1**	**-0.5**
KK31	0.8nm,0.2s,baz=194,slow=17,SNR=74 1.2nm,0.2s,baz=192,slow=26,SNR=11			⇑S	**Sg**	**09 06 51.0**	**+0.6**
ARSB	**Arslanbob**	**2.67**	**79**	⇑*iP*	**Pn**	**09 06 19.0**	**+0.7**
ARSB	baz=78 baz=78			⇑*iS*	**Sb**	**09 06 53.5**	**-2.6**
MNAS	**Manas**	**2.78**	**53**	⇓*eP*	**Pn**	**09 06 20.2**	**+0.4**
MNAS	baz=55 baz=55			⇓*eS*	**Sn**	**09 06 55.6**	**+1.5**
MNAS	**Manas**	**2.78**	**53**	⇑P	**Pb**	**09 06 23.2**	**-1.4**
MNAS	1.1nm,0.8s 0.8nm,0.3s			⇑S	**Sb**	**09 07 00.0**	**+0.8**

NIED ***16*** *09:08:00.37˚40N×142˚40E.h8km.Mw3.4 Best double couple: M₀1.43000×10¹⁴ NP1:φ₅5.00000°, δ33.00000°, λ-83.00000°. NP2:φ₅178.00000°, δ57.00000°, λ-94.00000°.*

JMA 16 09:08:58.9±0.3,37˚37N×142˚37E,h15km,M3.5,Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JFK	**Kawauchi**	**1.19**	**270**	P	Pn	09 09 20.9	-0.2
JFK				*e*S	Sb	09 09 35.9	-0.5
ONAJ	**Iwakimizuishiy**	**1.28**	**258**	P	Pn	09 09 22.1	-0.2
JMM	**Marumori**	**1.35**	**292**	P	Pn	09 09 23.3	+0.2
JMM				*e*S	Sn	09 09 40.2	-0.6
JIO	**Ouri**	**1.35**	**324**	P	Pn	09 09 22.4	-0.8
JFT	**Otama**	**1.62**	**276**	P	Pb	09 09 28.2	-0.4
JFT				*e*S	Sn	09 09 48.2	+0.5
JOU	**Okura**	**1.68**	**307**	P	Pb	09 09 29.2	-0.3
JOU				*e*S	Sb	09 09 50.2	-0.2
JYS	**Shirataka**	**2.01**	**296**	P	Pn	09 09 33.7	+1.4
JYS				*e*S	Sb	09 09 59.6	-0.5
JFY	**Yanaizu**	**2.12**	**272**	P	Pb	09 09 35.5	-1.6
JFY				*e*S	Sb	09 10 01.7	-1.6
JAG	**Ashikaga**	**2.52**	**249**	P	Pn	09 09 40.3	+1.0
MAT	**Matsushiro**	**3.44**	**257**	P	Pn	09 09 55.3	+3.4
MAT				S	Sb	09 10 39.4	-1.6

DJA 16 09:35:36.5±0.6,9˚S±5˚×11˚0E±˚,h10km,M3.7/6,MLv3.7/6, Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
UGM	**Wanagama**	**0.99**	**30**	P	Pg	09 35 55.4	-0.2
UGM				S	Sb	09 36 09.5	+0.6
UGM	**Wanagama**	**0.99**	**30**	P	Pb	09 35 56.0	+0.2
UGM				S	Sb	09 36 09.3	+0.4
PCJI	**Pacitan**	**1.27**	**63**	P	Pn	09 35 59.7	-0.7
PCJI				S	Sb	09 36 15.3	-1.8
PCJI	**Pacitan**	**1.27**	**63**	P	Pn	09 35 59.7	-0.7
PCJI				S	Sb	09 36 15.1	-2.0
WOJI	**Wonogiri, Jawa**	**1.29**	**43**	P	Pn	09 35 59.6	-1.0
WOJI				S	Sb	09 36 16.4	-1.1
WOJI	**Wonogiri, Jawa**	**1.29**	**43**	P	Pn	09 36 00.1	-0.5
WOJI				S	Sb	09 36 16.5	-1.0
SMRI	**Semarang**	**1.77**	**13**	P	Pb	09 36 08.6	-0.4
KPJI	**Karang Pucung**	**1.80**	**323**	P	Pn	09 36 07.6	-0.1
KPJI				S	Sb	09 36 32.3	0.0
KPJI	**Karang Pucung**	**1.80**	**323**	P	Pn	09 36 07.5	-0.2
KPJI				S	Sb	09 36 32.5	+0.2
CMJI	**Cimerak**	**1.85**	**302**	P	Pn	09 36 06.1	-2.2
CMJI				S	Sn	09 36 27.6	-4.2
CMJI	**Cimerak**	**1.85**	**302**	P	Pn	09 36 07.8	-0.5
CMJI				S	Sn	09 36 27.6	-4.2
PWJI	**Pagerwojo**	**1.91**	**67**	P	Pn	09 36 09.1	0.0
PWJI				S	Sn	09 36 31.8	-1.4
PWJI	**Pagerwojo**	**1.91**	**67**	P	Pn	09 36 09.2	+0.1
PWJI				S	Sn	09 36 31.7	-1.5
NGJI	**Ngawi**	**1.99**	**45**	P	Pb	09 36 12.9	0.0
NGJI				S	Sg	09 36 40.0	-0.7
NGJI	**Ngawi**	**1.99**	**45**	P	Pb	09 36 13.3	+0.4
CISI	**Cisompet, Garu**	**2.51**	**299**	P	Pn	09 36 16.8	-0.6
CISI				S	Sn	09 36 44.5	-3.6
CISI	**Cisompet, Garu**	**2.51**	**299**	P	Pn	09 36 16.9	-0.5
CISI				S	Sn	09 36 44.7	-3.4

CSEM ***16*** *09:40:23.4±0.2,31˚46N×59˚67E,h10km,ML3.6, Error ellipse: s-maj=5.2km s-min=2.6km az=116.0*

TEH 16 09:40:25.2,31˚47N×59˚71E,h26km,ML3.6,Northern and central Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IDAH	**Dahanechah**	**1.28**	**6**	*e*Pn	Pn	09 40 47.4	-0.3
IDAH	comp=Z,13μm,0.2s			*e*AMB	AMB	09 40 50.8	
IDAH				*e*Sg	Sb	09 41 05.7	+0.8
IDAH	**Dahanechah**	**1.28**	**6**	*e*Pn	Pn	09 40 47.4	-0.3
IDAH				*e*Sg	Sb	09 41 05.7	+0.8
ITEG	**Tejag**	**1.64**	**331**	*e*Pn	Pn	09 40 52.4	-0.2
ITEG				*e*Sg	Sb	09 41 17.3	+2.1
ITEG	comp=Z,6μm,0.3s			*e*AMB	AMB	09 41 26.1	
ITEG	**Tejag**	**1.64**	**331**	*e*Pn	Pn	09 40 52.4	-0.2
ITEG				*e*Sg	Sb	09 41 17.3	+2.1
ZHSF	**Zahedan**	**2.07**	**153**	*e*Pn	Pn	09 40 53.4	-5.0
SHRT	**Shahrakht**	**2.23**	**13**	*e*Pn	Pn	09 41 00.4	-0.2
SHRT				*e*Sg	Sb	09 41 35.3	+3.2
CHMN	**Cheshme madani**	**2.46**	**230**	*e*Pn	Pn	09 41 03.6	-0.4
CHMN	**Cheshme madani**	**2.46**	**230**	*e*Pn	Pn	09 41 03.6	-0.4
TVBK	**TV Kerman**	**2.93**	**241**	*e*Pn	Pn	09 41 10.2	-0.3
TVBK	**TV Kerman**	**2.93**	**241**	*e*Pn	Pn	09 41 10.2	-0.3
KHGB	**Koh Gabri**	**2.98**	**249**	*e*Pn	Pn	09 41 11.1	+0.1
KHGB	**Koh Gabri**	**2.98**	**249**	*e*Pn	Pn	09 41 11.1	+0.1
TABS	**Tabas**	**3.08**	**316**	*e*Pn	Pn	09 41 12.6	+0.3
TABS				*e*Sg	Sb	09 42 01.6	+5.0
NGRK	**Negar Kerman**	**3.14**	**235**	*e*Pn	Pn	09 41 13.3	-0.1
NGRK	**Negar Kerman**	**3.14**	**235**	*e*Pn	Pn	09 41 13.3	-0.1
IBAF	**Bafgh**	**3.54**	**273**	*e*Pn	Pn	09 41 18.2	-0.4
IBAF				*e*Sg	Sb	09 42 15.2	+5.5
IBAF	comp=Z,1μm,0.3s			*e*AMB	AMB	09 42 21.9	
IBAF	**Bafgh**	**3.54**	**273**	*e*Pn	Pn	09 41 18.2	-0.4
IBAF				*e*Sg	Sb	09 42 15.2	+5.5
IMEH	**Mehriz**	**4.35**	**270**	*e*Pn	Pn	09 41 29.2	-0.7
IMEH	comp=Z,782nm,0.3s			*e*AMB	AMB	09 42 44.9	
IMEH	**Mehriz**	**4.35**	**270**	*e*Pn	Pn	09 41 29.2	-0.7
ICHK	**Chekchek**	**4.57**	**281**	*e*Pn	Pn	09 41 32.4	-0.6
ICHK	comp=Z,697nm,0.3s			*e*AMB	AMB	09 43 01.4	
ICHK	**Chekchek**	**4.57**	**281**	*e*Pn	Pn	09 41 32.4	-0.6
BNDS	**Bandar-Abbas**	**5.09**	**218**	*e*Pn	Pn	09 41 36.4	-3.6

NNC ***16*** *09:44:54.8±1.7,41˚75N×82˚09E,h0km,mb3.2,mpv2.8, Error ellipse: s-maj=13.1km s-min=7.8km az=157.0*
SOME ***16*** *09:44:56.2,41˚88N×82˚28E,h5km*

ISC 16 09:45:00.3±3.2,42˚0N±0˚1×82˚01E±0˚09,h1km±17km,n12, σ1§60/24,6C-3D,Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KTMS	**Ketmen**	**1.89**	**320**	*e*P	**Pb**	**09 45 35.0**	**-0.6**
KTMS	40nm,0.5s 53nm,0.4s			*e*S	**Sg**	**09 46 02.9**	**+2.0**
SHLS	**Shalkode**	**2.21**	**302**	*e*P	**Pn**	**09 45 36.9**	**-1.2**
SHLS	14nm,0.2s			*e*S	**Sb**	**09 46 06.2**	**-2.6**
	48nm,0.4s						
PDGK	**Podgornoye**	**2.28**	**306**	⇑Pg	**Pn**	**09 45 40.1**	**+0.9**
PDGK	3.1nm,0.4s			⇑Lg	Lg	09 46 14.5	
UZB	**Uzynbulak**	**2.48**	**298**	*e*P	**Pb**	**09 45 46.0**	**+0.2**
UZB	5.3nm,0.4s 18nm,0.4s			*e*S	**Sg**	**09 46 21.4**	**+1.3**
DJR	**Jarkent**	**2.84**	**326**	*e*P	**Pb**	**09 45 52.0**	**+0.3**
DJR	5.9nm,0.5s 6.9nm,0.3s			*e*S	**Sg**	**09 46 31.9**	**+0.5**
KPKS	**Kokpek**	**2.85**	**302**	*e*P	**Pb**	**09 45 52.5**	**+0.6**
KPKS	16nm,0.3s 45nm,0.4s			*e*S	**Sg**	**09 46 32.2**	**+0.4**
SATY	**Saty**	**2.86**	**293**	*e*P	**Pg**	**09 45 54.3**	**-0.8**
SATY	6.7nm,0.2s 18nm,0.2s			*e*S	**Sg**	**09 46 35.9**	**+3.7**
ARXS	**Arharly**	**3.77**	**307**	*e*P	**Pb**	**09 46 08.4**	**+0.7**
ARXS	2.2nm,0.3s 5.0nm,0.6s			*e*S	**Sg**	**09 46 60.0**	**-1.5**
KOTS	**Kotyrbulak**	**3.82**	**290**	*e*P	**Pb**	**09 46 10.2**	**+1.7**
KOTS				*e*S	**Sg**	**09 47 03.3**	**+0.5**
MDOK	**Medeo**	**3.84**	**289**	*e*P	**Pb**	**09 46 09.8**	**+0.9**
MDOK	3.8nm,0.7s 6.3nm,0.8s			*e*S	**Sg**	**09 47 02.5**	**-1.1**
MK31	**Makanchi Array**	**4.79**	**2**	⇑Pn	**Pn**	**09 46 12.5**	**-1.1**
MK31	0.1nm,0.2s,baz=181,slow=14,SNR=4.8 0.4nm,0.3s,baz=179,slow=21,SNR=4.2 0.3nm,0.3s			⇑Pg	**Pb**	**09 46 26.4**	**+1.4**
MK31				⇓Sn	**Sn**	**09 47 12.3**	**+2.5**
MK31	1.5nm,0.6s			⇓Lg	Lg	09 47 34.7	
MAKZ	**Makanchi**	**4.80**	**360**	⇑Pn	**Pn**	**09 46 12.0**	**-1.7**
MAKZ	1.2nm,0.5s 4.1nm,1.1s			⇑Pg	**Pb**	**09 46 25.7**	**+0.5**
MAKZ	3.2nm,0.7s			⇓Lg	Lg	09 47 34.7	

NAO ***16*** *09:51:44.5±1.9,67˚50N×33˚95E,ML2.6*
HEL ***16*** *09:51:47.5±0.5,67˚55N×34˚22E,h0km,ML2.1,Explosion*
CSEM ***16*** *09:51:47.6±1.0,67˚67N×33˚51E,h2km,ML2.6,Error ellipse: s-maj=21.5km s-min=12.8km az=76.0,Mining explosion.*

ISC 16 09:51:47.1±1.9,67˚65N±0˚05×33˚53E±0˚09,h0km,n24, σ1§11/31,Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
APZ9	**Apatity**	**0.09**	**212**	Pg	**Pg**	**09 51 49.4**	**+0.6**
APZ9				Lg	Lg	09 51 51.9	
APZ9	**Apatity**	**0.09**	**212**	Pg	**Pg**	**09 51 49.4**	**+0.6**
APZ9				Lg	Lg	09 51 51.9	
APZ9	**Apatity**	**0.09**	**212**	Pg	**Pg**	**09 51 49.4**	**+0.6**
APZ9	SNR=91			Lg	Lg	09 51 51.9	
APA0	**Apatity Array**	**0.21**	**259**	Pg	**Pg**	**09 51 51.5**	**+0.4**
APA0	baz=106,slow=18 baz=82,slow=37			Lg	Lg	09 51 57.5	
APA0	**Apatity Array**	**0.21**	**259**	Pg	**Pg**	**09 51 51.5**	**+0.4**
APA0	baz=106,slow=18 baz=82,slow=37			Lg	Lg	09 51 57.5	
APA0	**Apatity Array**	**0.21**	**259**	Pg	**Pg**	**09 51 51.5**	**+0.4**
APA0	SNR=90 SNR=7.4			Lg	Lg	09 51 57.5	
KU6	**Riekki**	**2.17**	**223**	PN	**Pn**	**09 52 25.4**	**+0.9**
KU6	baz=53 comp=Z,9.2nm,0.2s			MSG		09 52 55.4	
KU6				SG	**Sg**	**09 52 57.1**	**+0.3**
KU6	**Riekki**	**2.17**	**223**	Pn	**Pn**	**09 52 25.4**	**+0.9**
KU6				Sg	**Sg**	**09 52 57.1**	**+0.3**
MSF	**Maaselka**	**2.49**	**228**	PN	**Pb**	**09 52 31.4**	**-1.4**
MSF	baz=42			SB	**Sg**	**09 53 06.7**	**-0.4**
MSF	**Maaselka**	**2.49**	**228**	Pn	**Pb**	**09 52 31.3**	**-1.4**
MSF				Sb	**Sg**	**09 53 06.6**	**-0.4**
SGF	**Sodankyl**	**2.70**	**269**	PN	**Pb**	**09 52 35.3**	**-0.9**
SGF				SN	**Sg**	**09 53 13.9**	**+0.3**
SGF	**Sodankyl**	**2.70**	**269**	Pn	**Pb**	**09 52 35.3**	**-0.9**
RNF	**Rovaniemi**	**3.12**	**254**	PN	**Pb**	**09 52 41.1**	**-2.2**
RNF	baz=71			SN	**Sb**	**09 53 22.0**	**+0.2**
RNF	**Rovaniemi**	**3.12**	**254**	Pn	**Pb**	**09 52 41.1**	**-2.2**
ARA0	**ARCESS Array S**	**3.50**	**306**	Pn	**Pn**	**09 52 42.4**	**-0.3**
ARA0	baz=122,slow=16 baz=119,slow=28			Sn	**Sn**	**09 53 26.8**	**+2.0**
ARA0	baz=117,slow=37			Lg	Lg	09 53 38.9	
ARA0	**ARCESS Array S**	**3.50**	**306**	Pn	**Pn**	**09 52 42.4**	**-0.3**
ARA0	baz=122,slow=16 baz=119,slow=28			Sn	**Sn**	**09 53 26.8**	**+2.0**
ARA0	baz=117,slow=37			Lg	Lg	09 53 38.9	
ARA0	**ARCESS Array S**	**3.50**	**306**	Pn	**Pn**	**09 52 42.4**	**-0.3**
ARA0	SNR=50 SNR=50			Sn	**Sn**	**09 53 26.8**	**+2.0**
ARA0	SNR=8.7			Lg	Lg	09 53 38.8	
TOF	**Tornio**	**3.96**	**251**	PG	**Pg**	**09 53 01.8**	**-1.1**
TOF	**Tornio**	**3.96**	**251**	Pg	**Pg**	**09 53 01.8**	**-1.1**
OUL	**Oulu**	**4.01**	**234**	SG	**Sg**	**09 53 56.9**	**+1.2**
JOF	**Joensuu**	**4.84**	**192**	PN	**Pn**	**09 53 01.0**	**-0.1**
JOF	**Joensuu**	**4.84**	**192**	Pn	**Pn**	**09 53 01.0**	**-0.1**
FIA0	**FINESS Array S**	**7.00**	**211**	Lg	Lg	09 55 23.9	
FIA0	baz=24,slow=28 **FINESS Array S** baz=24,slow=28	**7.00**	**211**	Lg	Lg	09 55 23.9	

ISCJB ***16*** *09:56:31.3±1.1,9˚55S±0˚07×111˚4E±0˚1,h33km,mb3.3/2, Error ellipse: s-maj=17.4km s-min=7.8km az=152.3*
DJA ***16*** *09:56:33.1±1.7,9˚S±9˚×111˚1E±˚,h23km±22km,M3.6/5, MLv3.6/5*
IDC ***16*** *09:57:05.7±20.0,10˚73S×114˚09E,h98km±194km, mb3.2/3,mb1 3.4/3,mb1mx3.1/36,mbtmp3.6/3,Error ellipse: s-maj=119.7km s-min=46.9km az=53.0*

ISC 16 09:56:33.7±1.6,9˚5S±0˚1×111˚40E±0˚09,h35km,n8, σ2§51/12,South of Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCJI	**Pacitan**	**1.27**	**350**	P	**Pn**	**09 56 52.8**	**-2.3**
PCJI				S	**Sn**	**09 57 09.7**	**-1.2**
WOJI	**Wonogiri, Jawa**	**1.68**	**344**	P	**Pn**	**09 56 58.3**	**-2.3**
WOJI				S	**Sn**	**09 57 22.8**	**+1.9**
UGM	**Wanagama**	**1.76**	**330**	P	**Pn**	**09 57 00.5**	**-1.3**
UGM				S	**Sn**	**09 57 28.8**	**+5.7**
NGJI	**Ngawi**	**2.08**	**2**	P	**Pn**	**09 57 06.7**	**+0.6**
NGJI				S	**Sn**	**09 57 31.4**	**+0.6**
JAGI	**Jajag, Banyuwa**	**2.89**	**70**	P	**Pn**	**09 57 18.6**	**+1.3**
KPJI	**Karang Pucung**	**3.23**	**311**	P	**Pn**	**09 57 22.7**	**+0.7**
WRA	**Warramunga Arr**	**24.48**	**118**	P	**P**	**10 01 48.2**	**-1.6**
ASAR	**Alice Springs**	**25.73**	**126**	P	**P**	**10 02 00.0**	**-1.1**
	1.1nm,0.8s,baz=292,slow=11,SNR=7.8 0.8nm,0.8s,baz=303,slow=9.7,SNR=12						

IDC ***16*** *09:59:45.5±1.3,35˚06S×178˚92W,h0km,mb4.3/4, mb1 4.5/6,mb1mx4.0/27,mbtmp4.4/6,ML4.1/2,MS3.0/1, Ms1 3.0/1,ms1mx2.4/26,Error ellipse: s-maj=41.4km s-min=26.6km az=132.0*
ISCJB ***16*** *09:59:47.7±0.9,35˚20S±0˚07×178˚7W±0˚2,h42km, mb4.5/7,MS2.9/1,Error ellipse: s-maj=19.8km s-min=5.4km az=24.0*
NEIC ***16*** *09:59:50.8±0.8,34˚98S×179˚00W,h35km,mb4.8/3,Error ellipse: s-maj=24.0km s-min=12.0km az=114.0*

ISC 16 09:59:51.0±0.9,35˚19S±0˚08×178˚8W±0˚1,h42km,n44, σ1§22/49,mb4.3/7,1C,East of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**3.35**	**224**	PN	**Pn**	**10 00 39.7**	**-1.1**
MXZ				SN	**Sn**	**10 01 19.7**	**+0.4**
WMGZ	**Waiomatatini S**	**3.47**	**220**	PN	**Pn**	**10 00 42.1**	**-0.4**
PKGZ	**Pakihiroa**	**3.71**	**222**	PN	**Pn**	**10 00 45.1**	**-0.7**
PUZ	**Puketiti**	**3.74**	**219**	PN	**Pn**	**10 00 45.1**	**-1.3**
PUZ				SN	**Sn**	**10 01 28.2**	**-1.0**
HAZ	**Te Kaha**	**3.78**	**226**	PN	**Pn**	**10 00 47.2**	**+0.4**
TWGZ	**Tauwhareparae**	**3.97**	**220**	PN	**Pn**	**10 00 49.2**	**-0.2**
RUGZ	**Raukumara Rang**	**3.98**	**225**	PN	**Pn**	**10 00 49.6**	**-0.1**
CNGZ	**Carnagh Statio**	**4.09**	**216**	PN	**Pn**	**10 00 50.4**	**-0.6**
TKGZ	**Te Karaka**	**4.23**	**219**	PN	**Pn**	**10 00 51.9**	**-1.0**
MWZ	**Matawai**	**4.33**	**222**	PN	**Pn**	**10 00 53.1**	**-1.3**
MWZ				SN	**Sn**	**10 01 43.5**	**0.0**
RIGZ	**Rimuhau**	**4.48**	**217**	PN	**Pn**	**10 00 55.2**	**-1.2**
RAGZ	**Rawiri**	**4.50**	**222**	PN	**Pn**	**10 00 56.2**	**-0.6**
URZ	**Urewera**	**4.51**	**226**	Pn	**Pn**	**10 00 56.7**	**-0.1**
URZ	12nm,0.3s,baz=358,slow=1.8,SNR=79 28nm,0.3s,baz=159,slow=20,SNR=14			Sn	**Sn**	**10 01 48.1**	**+0.1**
URZ	**Urewera**	**4.51**	**226**	PN	**Pn**	**10 00 55.9**	**-0.9**
PRGZ	**Paritu Road**	**4.59**	**215**	PN	**Pn**	**10 00 56.5**	**-1.4**
SNGZ	**Shannon Statio**	**4.75**	**220**	PN	**Pn**	**10 00 59.8**	**-0.4**
MHGZ	**Mahia Peninsul**	**4.77**	**213**	PN	**Pn**	**10 00 58.7**	**-1.6**
KNZ	**Kokohu**	**4.77**	**216**	PN	**Pn**	**10 00 58.3**	**-2.1**
RTZ	**Ruatahuna**	**4.83**	**224**	PN	**Pn**	**10 01 00.7**	**-0.6**
MUGZ	**Murupara**	**4.86**	**226**	PN	**Pn**	**10 01 00.2**	**-1.4**
RRRZ	**Republican Roa**	**4.92**	**229**	PN	**Pn**	**10 01 02.2**	**-0.3**
PRRZ	**Plateau Road**	**5.10**	**228**	PN	**Pn**	**10 01 04.6**	**-0.3**
NMHZ	**Naumai**	**5.27**	**221**	PN	**Pn**	**10 01 07.1**	**-0.1**
MKAZ	**Moumakai**	**5.27**	**247**	PN	**Pn**	**10 01 07.5**	**+0.2**
ARHZ	**Aropaoanui**	**5.29**	**219**	PN	**Pn**	**10 01 07.3**	**-0.2**
BKZ	**Black Stump Fm**	**5.49**	**222**	PN	**Pn**	**10 01 08.7**	**-1.5**
MCHZ	**McNeill Hill**	**5.58**	**219**	PN	**Pn**	**10 01 10.5**	**-0.9**
KAHZ	**Kahuranaki**	**5.76**	**216**	PN	**Pn**	**10 01 10.7**	**-3.2**
PXZ	**Pawanui**	**5.95**	**214**	PN	**Pn**	**10 01 13.5**	**-3.1**
RAO	**Raoul Island**	**5.96**	**7**	*e*Pn	Pn	10 01 12.0	-4.8
RAO				*e*Sn	**Sn**	**10 02 22.3**	**-1.5**
RPZ	**Rata Peaks**	**11.59**	**220**	Pn	**Pn**	**10 02 31.6**	**-2.2**
RPZ	0.8nm,0.3s,baz=24,slow=16,SNR=4.1 1.3nm,0.3s,baz=144,slow=22,SNR=14			Sn	Sn	10 04 31.1	-11
PPT	**Papeete**	**31.32**	**63**	LR	LR	10 15 46.1	
ASAR	comp=Z,27nm,20.3s,baz=164,slow=31 **Alice Springs**	**42.44**	**273**	P	**P**	**10 07 41.4**	**-0.6**
ASAR	5.0nm,0.8s,baz=115,slow=7.8,SNR=64 0.4nm,0.7s,baz=115,slow=4.5,SNR=2.9			PcP	**PcP**	**10 09 34.2**	**-0.2**
WRAB	**Tennant Creek**	**43.85**	**278**	*e*P	**P**	**10 07 52.5**	**-0.9**
WRA	3.0nm,0.5s **Warramunga Arr** 2.1nm,0.4s,baz=118,slow=7.7,SNR=63	**43.86**	**278**	P	**P**	**10 07 52.5**	**-1.0**
WRA	0.4nm,0.7s,baz=119,slow=2.9,SNR=2.9			PcP	**PcP**	**10 09 39.1**	**-0.1**
FITZ	**Fitzroy Crossi**	**51.88**	**274**	P	**P**	**10 08 54.9**	**-0.6**
NWAO	1.2nm,0.7s,baz=130,slow=4.2,SNR=5.8 **Narrogin (SRO)** 91nm,1.0s	**52.24**	**253**	*e*P	**P**	**10 08 58.2**	**+0.2**
QSPA	**South Pole Qui** 4.6nm,0.6s	**54.93**	**180**	*e*P	**P**	**10 09 20.6**	**+3.1**
SYO	**Syowa Base**	**72.32**	**194**	*e*P	**P**	**10 11 11.6**	**-0.2**
PETK	**Petropavlovsk-** 2.8nm,0.6s,baz=174,slow=8.4,SNR=4.0	**90.29**	**346**	P	**P**	**10 12 47.2**	**+0.4**
KBZ	**Khabaz** 2.3nm,0.7s,baz=194,slow=7.4,SNR=6.5	**147.01**	**298**	PKPbc	**PKPbc**	**10 19 28.1**	**-0.8**
FINES	**FINESS Array B** 1.7nm,0.5s,baz=45,slow=2.8,SNR=12	**149.35**	**337**	PKPbc	**PKPbc**	**10 19 35.0**	**+0.6**
BRTR	**Keskin Array B** 0.6nm,0.8s,baz=107,slow=3.5,SNR=2.9	**153.97**	**290**	PKPbc	**PKPbc**	**10 19 46.8**	**+0.8**
TORD	**Torodi Ar. Bea** 0.2nm,0.5s,baz=184,slow=2.6,SNR=3.8	**158.05**	**181**	PKPab	**PKPab**	**10 20 18.4**	**+1.2**

ISCJB ***16*** *10:28:18.6±0.4,47˚73N±0˚04×152˚98E±0˚06,h100km, mb4.0/21,Error ellipse: s-maj=8.3km s-min=3.1km az=135.6*
SKHL ***16*** *10:28:18.3±1.2,47˚31N×153˚66E,h108km±11km,mb5.1/7, msh5.5/4*
MOS ***16*** *10:28:19.9±0.8,47˚80N×152˚87E,h109km,mb4.3/14, Error ellipse: s-maj=10.2km s-min=7.0km az=70.2*
IDC ***16*** *10:28:21.9±2.8,47˚73N×152˚95E,h118km±25km, mb3.7/18,mb1 3.9/21,mb1mx3.8/38,mbtmp4.1/21,MS2.6/1, Ms1 2.6/1,ms1mx2.1/30,Error ellipse: s-maj=16.9km s-min=11.8km az=140.0*
JMA ***16*** *10:28:24.9±0.6,46˚39N×153˚37E,h170km,M4.3*

ISC 16 10:28:19.8±0.6,47˚65N±0˚06×152˚99E±0˚05,h100km, n112,σ1§92/119,mb4.1/21,14C-7D,Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**3.66**	**33**	*e*PN	**Pn**	**10 29 14.7**	**+0.4**
SKR				*e*S	**Sn**	**10 29 56.4**	**-0.1**
SKR	comp=Z,592nm,0.8s			pmax	pmax		
SKR	comp=E,216nm,0.5s			smax	smax		
SKR	comp=N,152nm,0.4s			smax	smax		
SKR	**Severo-Kuril's**	**3.66**	**33**	*e*P	**Pn**	**10 29 14.7**	**+0.4**
SKR	comp=N,600nm,0.8s			AMB	AMB	10 29 17.8	
SKR				*e*S	**Sn**	**10 29 56.4**	**-0.1**
SKR	comp=N,150nm,0.5s			A	A	10 29 58.1	
SKR	comp=N,220nm,0.5s			A	A	10 29 58.1	
KUR	**Kuril'sk**	**4.29**	**238**	*c i*PN	**Pn**	**10 29 26.8**	**+4.0**
KUR	comp=Z,169nm,0.3s			pmax	pmax		
KUR	comp=N,83nm,0.2s			pmax	pmax		
KUR	comp=E,52nm,0.2s			pmax	pmax		
KUR	**Kuril'sk**	**4.29**	**238**	*i*P	**Pn**	**10 29 26.7**	**+4.0**
KUR	comp=E,170nm,0.3s			AMB	AMB	10 29 29.2	
KUR	comp=E,100nm,0.3s			*e*S	**Sn**	**10 30 16.6**	**+4.9**
KUR	comp=E,40nm,0.3s			A	A	10 30 27.4	
PAU	**Pauzhetka**	**4.56**	**32**	*e*P	**Pn**	**10 29 24.8**	**-1.6**
PAU	comp=E,100nm,0.4s			AMB	AMB	10 29 25.9	
PAU				*e*S	**Sn**	**10 30 15.0**	**-3.1**
PAU	comp=E,200nm,0.3s			A	A	10 30 16.9	
SHO	**Shikotan**	**5.73**	**231**	*e*PN	**Pn**	**10 29 42.3**	**-0.1**
SHO				*e*S	**Sn**	**10 30 46.5**	**-0.3**
SHO	comp=Z,91nm,0.2s			pmax	pmax		
SHO	comp=N,53nm,0.5s			smax	smax		
SHO	comp=E,108nm,0.5s			smax	smax		
SHO	**Shikotan**	**5.73**	**231**	*e*P	**Pn**	**10 29 42.7**	**+0.3**
SHO	comp=E,110nm,1.0s			AMB	AMB	10 29 43.7	
SHO				*e*S	**Sn**	**10 30 47.1**	**+0.3**
SHO	comp=E,100nm,0.5s			A	A	10 30 49.3	
SHO	comp=E,50nm,0.5s			A	A	10 30 49.3	
YUK	**Yuzh-Kuril'sk**	**6.15**	**237**	*d i*PN

	comp=N,60nm,0.2s							
YUK				*i* S		**Sn**	**10 31 01.3**	**+4.3**
YUK				A		A	10 31 10.2	
	comp=N,100nm,0.4s							
YUK				A		A	10 31 10.2	
	comp=N,40nm,0.4s							
PETK	**Petropavlovsk-**	**6.24**	**27**	P		**Pn**	**10 29 50.0**	**+0.8**
	comp=N,3.2nm,0.3s,baz=186,slow=11,SNR=47							
PETK				LR		LR	10 32 17.2	
	comp=N,52nm,20.8s,baz=231,slow=38							
PETK	**Petropavlovsk-**	**6.24**	**27**	PN		**Pn**	**10 29 50.0**	**+0.8**
PETK				pmax		pmax		
	comp=Z,3.0nm,0.3s							
PET	**Petropavlovsk**	**6.48**	**32**	*i* PN		**Pn**	**10 29 52.8**	**+0.3**
PET	**Petropavlovsk**	**6.48**	**32**	*e*P		**Pn**	**10 29 52.7**	**+0.3**
PET				AMB		AMB	10 30 05.2	
	comp=Z,40nm,1.0s							
PET				*e*S		**Sn**	**10 31 02.6**	**-2.3**
PET				A		A	10 31 05.5	
	comp=Z,30nm,1.0s							
JRA	**Rausu**	**6.64**	**239**	P		**Pn**	**10 29 57.1**	**+2.5**
NEM2	**Nemuro 2**	**6.66**	**233**	P		**Pn**	**10 29 55.0**	**+0.1**
NEM2				*e*S		**Sn**	**10 31 05.4**	**-3.8**
YSS	**Yuzh-Sakhalins**	**7.00**	**268**	*e*PN		Pn	10 30 05.7	+6.2
YSS				pmax		pmax		
	comp=Z,30nm,1.0s							
YSS	**Yuzh-Sakhalins**	**7.00**	**268**	*e*P		Pn	10 30 04.7	+5.2
YSS				AMB		AMB	10 30 06.8	
	comp=Z,30nm,1.0s							
YSS				*e*S		**Sn**	**10 31 25.8**	**+8.3**
YSS				A		A	10 31 26.8	
	comp=Z,20nm,1.0s							
JNK	**Nakash**	**7.08**	**238**	P		**Pn**	**10 30 02.3**	**+1.6**
JTKR	**Abashiri--Toko**	**7.34**	**243**	P		**Pn**	**10 30 07.0**	**+2.9**
UGL	**Uglegorsk**	**7.42**	**285**	*e*PN		**Pn**	**10 30 05.1**	**-0.1**
UGL				*e*S		**Sn**	**10 31 28.1**	**+0.4**
JAK	**Akkeshi**	**7.47**	**234**	P		**Pn**	**10 30 05.7**	**-0.3**
JAK				*e*S		**Sn**	**10 31 25.3**	**-3.7**
TYV	**Tymovskoe**	**7.49**	**299**	*e*P		Pn	10 30 12.3	+6.2
JMP	**Maruseppu**	**7.65**	**245**	P		**Pn**	**10 30 11.8**	**+3.3**
JSE	**Soyaes**	**7.69**	**253**	P		Pn	10 30 15.3	+6.3
JAR	**Ashorobuto**	**7.81**	**239**	P		**Pn**	**10 30 12.4**	**+1.8**
JWK2	**Keihoku**	**8.01**	**257**	P		Pn	10 30 20.2	+7.0
JOB	**Onbets**	**8.01**	**237**	P		**Pn**	**10 30 13.8**	**+0.5**
JOB				*e*S		**Sn**	**10 31 39.5**	**-2.7**
ASAJ	**Asahikawa**	**8.07**	**248**	P		**Pn**	**10 30 18.4**	**+4.3**
JKK2	**Kamakawa 2**	**8.10**	**246**	P		**Pn**	**10 30 18.1**	**+3.6**
JCH	**Churui**	**8.46**	**237**	P		**Pn**	**10 30 19.6**	**+0.1**
JCH				*e*S		**Sn**	**10 31 48.8**	**-4.5**
JBT2	**Biratori 2**	**8.94**	**241**	P		**Pn**	**10 30 26.6**	**+0.6**
ERM	**Erimo**	**8.97**	**235**	⇑PN		**Pn**	**10 30 28.0**	**+1.6**
ERM				pmax		pmax		
	comp=Z,47nm,1.7s							
ERM	**Erimo**	**8.97**	**235**	*e*P		**Pn**	**10 30 28.0**	**+1.6**
JNBK	**Urakawa-nobuka**	**9.03**	**237**	P		**Pn**	**10 30 26.0**	**-1.1**
JNBK				*e*S		Sn	10 32 00.3	-6.6
JNB	**Noboribetsu**	**9.91**	**243**	P		**Pn**	**10 30 39.4**	**+0.2**
JNB				*e*S		**Sn**	**10 32 26.3**	**-2.2**
JKB	**Kayabe**	**10.27**	**240**	P		**Pn**	**10 30 43.1**	**-0.9**
JKB				*e*S		Sn	10 32 29.8	-7.3
JSH	**Shimam**	**10.42**	**246**	P		**Pn**	**10 30 48.0**	**+1.9**
JYM2	**Yakumo 2**	**10.52**	**243**	P		**Pn**	**10 30 47.9**	**+0.4**
JSR	**Shiriuchi**	**10.85**	**240**	P		**Pn**	**10 30 50.5**	**-1.4**
JTM	**Tenmabayashi**	**10.96**	**236**	P		Pn	10 30 50.6	-2.8
JTM				*e*S		Sn	10 32 44.5	-9.4
JANG	**Nango**	**11.00**	**233**	P		Pn	10 30 48.0	-6.0
JANG				*e*S		Sn	10 32 43.6	-11
JOSM	**Okushiri--Mats**	**11.09**	**245**	P		**Pn**	**10 30 54.5**	**-0.6**
HABR	**Khabarovsk**	**12.04**	**281**	*e*PN		**Pn**	**10 31 07.1**	**-0.6**
HABR				*e*S		**Sn**	**10 33 19.7**	**-0.2**
HABR				pmax		pmax		
	comp=E,8.0nm,0.7s							
HABR				pmax		pmax		
	comp=N,15nm,1.4s							
HABR				pmax		pmax		
	comp=Z,15nm,1.4s							
HABR				MLR		MLR		
	comp=Z,24nm,13.0s							
EKMR	**Ekimchan**	**13.88**	**300**	*e*P		**P**	**10 31 37.2**	**+0.4**
EKMR				AMB		AMB	10 31 43.7	
	comp=Z,6.0nm,0.8s							
USRK	**Ussuriysk Ar.**	**15.01**	**264**	P		**Pn**	**10 31 49.1**	**+2.6**
	comp=Z,0.5nm,0.3s,baz=70,slow=12,SNR=6.9							
MJA0	**Matsu Arr-Jizo**	**15.56**	**230**	*e*P		**Pn**	**10 31 53.9**	**+0.4**
MJAR	**Matsushiro Arr**	**15.58**	**230**	P		**Pn**	**10 31 53.9**	**+0.2**
	comp=Z,0.4nm,0.3s,baz=26,slow=14,SNR=9.2							
MAJO	**Matsushiro**	**15.58**	**230**	*i* P		**Pn**	**10 31 54.4**	**+0.7**
BMKR	**Bomnak**	**16.65**	**304**	*e*P		**P**	**10 32 11.0**	**+3.5**
KROS	**Kirovskiy**	**17.65**	**302**	*e*P		**Pn**	**10 32 22.7**	**+3.7**
KROS				AMB		AMB	10 32 24.0	
	comp=Z,2.0nm,0.6s							
KSRS	**Korea Array**	**21.01**	**250**	P		**P**	**10 32 57.4**	**+2.3**
	comp=Z,3.6nm,0.8s,baz=58,slow=11,SNR=14							
H11N2	**WAKE ISLAND Hy**	**30.06**	**153**	T		T	11 06 04.5	
	baz=341,slow=76,SNR=492							
H11N1	**WAKE ISLAND Hy**	**30.07**	**153**	T		T	11 06 04.5	
	baz=341,slow=76,SNR=680							
H11N3	**WAKE ISLAND Hy**	**30.08**	**153**	T		T	11 06 10.6	
	baz=341,slow=76,SNR=437							
SONM	**Songino Array**	**30.97**	**288**	P		**P**	**10 34 26.7**	**-0.6**
	comp=Z,0.3nm,0.4s,baz=99,slow=7.4,SNR=2.6							
H11S1	**WAKE ISLAND Hy**	**31.15**	**154**	T		T	11 07 34.0	
	baz=339,slow=76							
H11S3	**WAKE ISLAND Hy**	**31.16**	**154**	T		T	11 07 34.9	
	baz=339							
H11S2	**WAKE ISLAND Hy**	**31.17**	**154**	T		T	11 07 35.6	
	baz=339,slow=76							
ILAR	**Eielson Array**	**35.90**	**39**	P		**P**	**10 35 10.7**	**+0.9**
	comp=Z,1.4nm,1.1s,baz=260,slow=9.8,SNR=6.1							
INK	**Inuvik**	**40.94**	**33**	P		**P**	**10 35 52.0**	**+0.2**
	comp=Z,1.7nm,0.6s,baz=259,slow=10.0,SNR=4.6							
ZALV	**Zalesovo Beam**	**42.02**	**305**	P		**P**	**10 36 00.2**	**-0.7**
	comp=Z,0.9nm,0.3s,baz=59,slow=6.0,SNR=3.8							
KURK	**Kurchatov**	**46.80**	**303**⇑	*e*P		**P**	**10 36 38.5**	**-0.5**
KURK				pmax		pmax		
	comp=Z,12nm,0.9s							
YKA	**Yellowknife Ar**	**50.25**	**37**	P		**P**	**10 37 05.3**	**0.0**
	comp=Z,1.5nm,0.7s,baz=295,slow=7.1,SNR=5.7							
YKA	**Yellowknife Ar**	**50.25**	**37**	*e*P		**P**	**10 37 05.2**	**0.0**
YKA				pmax		pmax		
	comp=Z,1.0nm,0.7s							
CMAR	**Chiang Mai Arr**	**52.51**	**256**	P		**P**	**10 37 23.6**	**+0.9**
	comp=Z,0.5nm,0.3s,baz=27,slow=8.1,SNR=3.3							
ARU	**Arti**	**54.29**	**317**	*d* /P		**P**	**10 37 34.3**	**-0.9**
ARU				*PP		**pP**	**10 37 57.8**	**-1.6**
ARU							10 38 06.9	
ARU							10 39 35.7	
ARU				S		**S**	**10 45 03.9**	**-1.0**
ARU				SS		**SS**	**10 48 45.7**	**-1.8**
ARU				pmax		pmax		
	comp=Z,5.0nm,1.2s							
ARCES	**ARCESS Array B**	**56.97**	**341**	P		**P**	**10 37 54.3**	**+0.1**
	comp=Z,2.4nm,0.8s,baz=24,slow=5.3,SNR=3.0							
FINES	**FINESS Array B**	**63.19**	**335**	P		**P**	**10 38 36.0**	**-0.7**
	comp=Z,4.5nm,0.3s,baz=37,slow=7.3,SNR=61							
PDAR	**Pinedale Array**	**64.28**	**54**	P		**P**	**10 38 44.4**	**-0.2**
	comp=Z,0.7nm,0.7s,baz=264,slow=1.5,SNR=8.2							
NB2	**NORSAR Subarra**	**67.35**	**341**	P		**P**	**10 39 03.2**	**-0.4**
NB2				pmax		pmax		
	comp=Z,2.0nm,0.5s							
NB2	**NORSAR Subarra**	**67.35**	**341**	P		**P**	**10 39 03.3**	**-0.4**
	comp=Z,1.9nm,0.5s,baz=26,slow=6.5							
NOA	**NORSAR Array B**	**67.35**	**341**	P		**P**	**10 39 03.5**	**-0.1**
	comp=Z,3.7nm,0.7s,baz=27,slow=6.3,SNR=12							
WRA	**Warramunga Arr**	**69.34**	**199**	P		**P**	**10 39 16.1**	**-0.4**
	comp=Z,0.2nm,0.6s,baz=18,slow=6.7,SNR=6.2							
WRA	**Warramunga Arr**	**69.34**	**199**	*e*P		**P**	**10 39 19.4**	**+3.0**
WRA	**Warramunga Arr**	**69.34**	**199**	*e*P		**P**	**10 39 19.4**	**+3.0**
KBZ	**Khabaz**	**70.18**	**314**	P		**P**	**10 39 20.9**	**-0.4**
	comp=Z,1.6nm,0.6s,baz=241,slow=11,SNR=4.1							
AKASG	**Malin Array Be**	**70.75**	**326**	P		**P**	**10 39 23.9**	**-0.9**
	comp=Z,2.9nm,0.4s,baz=33,slow=6.1,SNR=9.0							
AKASG	**Malin Array Be**	**70.75**	**326**	*e*P		**P**	**10 39 23.8**	**-0.9**
AKASG				pmax		pmax		
	comp=Z,4.0nm,0.4s							
ASAR	**Alice Springs**	**73.04**	**198**	P		**P**	**10 39 39.1**	**+0.5**
	comp=Z,1.4nm,0.7s,baz=13,slow=5.7,SNR=23							
STHS	**Stebnicka Huta**	**74.69**	**330**	*e*P		**P**	**10 39 48.8**	**+0.6**
STHS	**Stebnicka Huta**	**74.69**	**330**	*e*P		**P**	**10 39 48.8**	**+0.6**
BURAR	**Bucovina Array**	**74.79**	**326**	⇓*i* P		**P**	**10 39 48.6**	**-0.3**
BURAR	**Bucovina Array**	**74.79**	**326**	⇓P		**P**	**10 39 48.6**	**-0.3**
CRVS	**Cervenica-Dubn**	**75.06**	**329**	*e*P		**P**	**10 39 48.7**	**-1.6**
CRVS	**Cervenica-Dubn**	**75.06**	**329**	*e*P		**P**	**10 39 48.7**	**-1.6**
TESR	**Tescani**	**75.16**	**325**	⇓*i* P		**P**	**10 39 50.6**	**-0.3**
DPC	**Dobruska-Polom**	**75.48**	**333**	*e*P		**P**	**10 39 53.7**	**+1.0**
DPC	**Dobruska-Polom**	**75.48**	**333**	*e*P		**P**	**10 39 53.7**	**+1.0**
MORC	**Moravsky Berou**	**75.60**	**332**⇑	*i* P		**P**	**10 39 53.8**	**+0.4**
MORC	**Moravsky Berou**	**75.60**	**332**	⇑P		**P**	**10 39 53.8**	**+0.4**
CLL	**Collm**	**75.61**	**335**	*i* P		**P**	**10 39 52.7**	**-0.6**
CLL				pmax		pmax		
	comp=Z,7.0nm,0.8s							
CLL	**Collm**	**75.61**	**335**	*e*P		**P**	**10 39 52.7**	**-0.6**
CLL	**Collm**	**75.61**	**335**	*i* P		**P**	**10 39 52.7**	**-0.6**
	comp=Z,7.0nm,0.8s							
TLB	**Topalu**	**76.19**	**323**⇑	*i* P		**P**	**10 39 57.1**	**+0.4**
TLB	**Topalu**	**76.19**	**323**	⇑P		**P**	**10 39 57.1**	**+0.4**
DRGR		**76.41**	**327**⇑	*i* P		**P**	**10 39 57.6**	**-0.5**
DRGR		**76.41**	**327**	⇑P		**P**	**10 39 57.6**	**-0.5**
VOIR		**76.67**	**325**⇑	*i* P		**P**	**10 40 00.2**	**+0.6**
VOIR		**76.67**	**325**	⇑P		**P**	**10 40 00.2**	**+0.6**
ARR	**Arges**	**76.89**	**325**⇑	*i* P		**P**	**10 40 01.9**	**+1.1**
TXAR	**Lajitas Array**	**77.12**	**61**	P		**P**	**10 40 01.9**	**-0.6**
	comp=Z,1.5nm,0.7s,baz=300,slow=4.3,SNR=25							
KHC	**Kasperske Hory**	**77.39**	**334**	*e*P		**P**	**10 40 03.9**	**+0.4**
KHC	**Kasperske Hory**	**77.39**	**334**	*e*P		**P**	**10 40 03.9**	**+0.4**
GERES	**GERESS Array B**	**77.61**	**334**	P		**P**	**10 40 03.0**	**-1.8**
	comp=Z,0.5nm,0.4s,baz=2.9,slow=5.3,SNR=4.7							
GERES	**GERESS Array B**	**77.61**	**334**	*e*P		**P**	**10 40 03.6**	**-1.2**
GERES	**GERESS Array B**	**77.61**	**334**	*e*P		**P**	**10 40 03.5**	**-1.2**
BRTR	**Keskin Array B**	**77.68**	**317**	P		**P**	**10 40 05.7**	**+0.3**
	comp=Z,2.0nm,0.8s,baz=68,slow=3.8,SNR=10.0							
BZS	**Buzias**	**77.81**	**327**⇓	*i* P		**P**	**10 40 05.5**	**-0.3**
BZS	**Buzias**	**77.81**	**327**	⇓P		**P**	**10 40 05.5**	**-0.3**
VTS	**Vitosha**	**79.78**	**325**⇑	*i* P		**P**	**10 40 17.1**	**+0.2**
VTS	**Vitosha**	**79.78**	**325**	⇑P		**P**	**10 40 17.1**	**+0.2**
PLCA	**Paso Flores**	**148.36**	**94**	PKPbc		**PKPbc**	**10 47 55.8**	**+1.7**
	comp=Z,4.6nm,1.0s,baz=270,slow=3.0,SNR=3.3							
ARIG	**Puente Sto Nin**	**2.50**	**314**	*i* P		Pn	11 11 48.3	-3.8
ARIG				*e*S		Sn	11 12 18.6	-4.5

DDA ***16*** *10:30:06.8, 40.°55N×37.°23E, h6km, Ml2.8*
CSEM ***16*** *10:30:08.8±0.3, 40.°47N×37.°28E, h5km, MD2.8, Error ellipse: s-maj=7.6km s-min=6.8km az=39.0*
ISK ***16*** *10:30:08.0, 40.°51N×37.°28E, h3km, MD2.8*
ISC 16 10:30:08.1±1.0, 40.°52N±0.°03×37.°26E±0.°04, h8km±7km, n32, σ0.°91/46, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
RSDY	**Resadiye-TOKAT**	**0.14**	**157**	*e*PG		**Pg**	**10 30 10.8**	**-0.2**
RSDY				*e*SG		**Sg**	**10 30 13.3**	**+0.2**
RSDY	**Resadiye-TOKAT**	**0.14**	**157**	*e*Pg		**Pg**	**10 30 10.8**	**-0.2**
RSDY				*e*Sg		**Sg**	**10 30 13.3**	**+0.2**
SVSK	**Karacayir**	**0.64**	**198**	*e*PG		**Pg**	**10 30 20.1**	**-0.3**
SVSK	**Karacayir**	**0.64**	**198**	*e*Pg		**Pg**	**10 30 20.1**	**-0.3**
ORDU	**Ordu-Boztepe**	**0.65**	**44**	*i* P		**Pg**	**10 30 21.0**	**+0.3**
ORDU				*i* S		**Sn**	**10 30 34.0**	**-0.3**
ORDU	**Ordu-Boztepe**	**0.65**	**44**	S		**Sn**	**10 30 34.0**	**-0.3**
SCER	**sogukcermik**	**0.67**	**189**	*i* P		**Pg**	**10 30 20.0**	**-1.0**
SCER				*i* S		**Sb**	**10 30 30.6**	**-1.0**
SCER	**sogukcermik**	**0.67**	**189**	P		**Pg**	**10 30 20.0**	**-1.0**
SCER				S		**Sb**	**10 30 30.6**	**-1.0**
CUZAR	**Zara_SIVAS**	**0.74**	**148**	*i* P		**Pg**	**10 30 21.3**	**-1.2**
CUZAR				*i* S		**Sb**	**10 30 35.0**	**+1.2**
CUZAR	**Zara_SIVAS**	**0.74**	**148**	P		**Pg**	**10 30 21.3**	**-1.2**
CUZAR				S		**Sb**	**10 30 35.0**	**+1.2**
SUSE	**Susehri**	**0.79**	**113**	*i* P		**Pg**	**10 30 23.0**	**-0.3**
SUSE				*i* S		**Sb**	**10 30 34.8**	**-0.2**
SUSE	**Susehri**	**0.79**	**113**	P		**Pg**	**10 30 23.0**	**-0.3**
SUSE				S		**Sb**	**10 30 34.8**	**-0.2**
KVT	**Kavak**	**1.08**	**302**	*e*PN		**Pb**	**10 30 29.7**	**+0.7**
KVT	**Kavak**	**1.08**	**302**	*e*Pn		**Pb**	**10 30 29.7**	**+0.7**
ESPY	**Espiye-Giresun**	**1.19**	**70**	*e*PN		**Pn**	**10 30 31.0**	**0.0**
ESPY	**Espiye-Giresun**	**1.19**	**70**	*e*Pn		**Pn**	**10 30 31.0**	**0.0**
CUKAN	**kangal_SIVAS**	**1.22**	**172**	*i* P		**Pg**	**10 30 29.6**	**-1.8**
CUKAN				*i* S		**Sn**	**10 30 48.6**	**+0.3**
CUKAN	**kangal_SIVAS**	**1.22**	**172**	P		**Pg**	**10 30 29.6**	**-1.8**
CUKAN				S		**Sn**	**10 30 48.6**	**+0.3**
KELT	**Kelkit**	**1.57**	**103**	*i* P		**Pn**	**10 30 35.5**	**-1.1**
KELT				*i* S		**Sg**	**10 30 58.2**	**-0.4**
KEMA	**Kemaliye**	**1.57**	**142**	*i* P		**Pn**	**10 30 36.6**	**+0.2**
KEMA				*i* S		**Sg**	**10 31 00.4**	**+1.8**
KEMA	**Kemaliye**	**1.57**	**142**	P		**Pn**	**10 30 36.6**	**+0.2**
KEMA				S		**Sg**	**10 31 00.4**	**+1.8**
YOZ	**Yozgat**	**1.73**	**240**	*e*PN		**Pb**	**10 30 40.5**	**+0.3**
YOZ	**Yozgat**	**1.73**	**240**	*e*Pn		**Pb**	**10 30 40.5**	**+0.3**
DARE	**Darende-Malaty**	**1.96**	**175**	*e*PN		**Pb**	**10 30 43.6**	**-0.4**
DARE	**Darende-Malaty**	**1.96**	**175**	*e*Pn		**Pb**	**10 30 43.6**	**-0.4**
CORM	**Corum**	**2.04**	**261**	*e*PN		**Pb**	**10 30 44.7**	**-0.8**
CORM	**Corum**	**2.04**	**261**	*e*Pn		**Pb**	**10 30 44.7**	**-0.8**
SNOP	**Sinop**	**2.15**	**315**	*e*PN		**Pb**	**10 30 46.4**	**-0.9**
SNOP	**Sinop**	**2.15**	**315**	*e*Pn		**Pb**	**10 30 46.4**	**-0.9**
SARI	**SarD1z-Kayseri**	**2.21**	**197**	*e*PN		**Pn**	**10 30 46.8**	**+1.5**
PTK	**Pertek**	**2.31**	**134**	*e*PN		**Pn**	**10 30 48.1**	**+1.3**
PTK	**Pertek**	**2.31**	**134**	*e*Pn		**Pn**	**10 30 48.1**	**+1.3**

NIED ***16*** *10:36:00, 39.°00N×142.°60E, h17km, Mw3.3 Best double couple: M0 1.18000×10^14 NP1:φs66.00000°, δ31.00000°, λ13.00000°. NP2:φs325.00000°, δ83.00000°, λ121.00000°.*
IDC ***16*** *10:36:21.5±7.1, 40.°72N×142.°55E, h0km, mb3.4/2, mb1 3.7/3, mb1mx3.4/45, mbtmp3.4/3, ML3.4/1, MS2.3/2, Ms1 2.3/2, ms1mx2.2/20, Error ellipse: s-maj=194.5km s-min=51.3km az=147.0*
ISCJB ***16*** *10:36:36.4±1.5, 38.°93N±0.°04×142.°61E±0.°09, h24km±8km, mb3.6/2, Error ellipse: s-maj=11.3km s-min=6.4km az=7.2*
JMA ***16*** *10:36:37.5±0.1, 38.°96N×142.°57E, h30km±2km, M3.5*
ISC 16 10:36:37.7±2.2, 38.°98N±0.°04×142.°53E±0.°10, h25km±14km, n18, σ1.°59/27, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
OFUJ	**Ofunato**	**0.68**	**279**	P		**Pn**	**10 36 51.2**	**-0.5**
OFUJ				S		**Sn**	**10 37 00.8**	**-0.7**
MIYJ	**Miyakonagasawa**	**0.81**	**318**	P		**Pb**	**10 36 52.9**	**-0.2**
MIYJ				S		**Sb**	**10 37 03.9**	**+0.2**
JMK	**Ichinoseki**	**1.02**	**269**	P		**Pb**	**10 36 56.4**	**-0.2**
JMK				S		**Sn**	**10 37 09.9**	**0.0**
JIO	**Ouri**	**1.06**	**241**	P		**Pn**	**10 36 56.1**	**-0.8**
JIO				S		**Sn**	**10 37 09.3**	**-1.6**
JOM	**Ohasama**	**1.08**	**298**	P		**Pb**	**10 36 57.5**	**-0.2**
JOM				S		**Sn**	**10 37 12.2**	**+0.8**
JTH	**Tanohata**	**1.09**	**332**	P		**Pn**	**10 36 57.2**	**-0.2**
JKZ	**Kuzumaki**	**1.37**	**318**	P		**Pn**	**10 37 01.9**	**+0.6**
JKZ				*e*S		**Sb**	**10 37 19.4**	**-0.3**
JRG	**Rokugo**	**1.53**	**287**	P		**Pb**	**10 37 04.4**	**-0.9**
JRG				*e*S		**Sb**	**10 37 24.2**	**-0.1**
JOU	**Okura**	**1.58**	**248**	P		**Pb**	**10 37 05.0**	**-1.2**
JANG	**Nango**	**1.60**	**331**	P		**Pn**	**10 37 05.1**	**+0.7**
JANG				*e*S		**Sn**	**10 37 25.6**	**+1.3**
JYK	**Kaneyama**	**1.69**	**269**	P		**Pb**	**10 37 06.7**	**-1.4**
JMM	**Marumori**	**1.75**	**231**	P		**Pn**	**10 37 06.6**	**+0.1**
JMM				*e*S		**Sb**	**10 37 28.7**	**-2.0**
MJAR	**Matsushiro Arr**	**4.20**	**236**	Pn		**Pn**	**10 37 43.8**	**+3.6**
	1.1nm,0.3s,baz=32,slow=15,SNR=10							
MJAR				Sn		**Sb**	**10 38 45.4**	**+4.4**
	0.2nm,0.3s,baz=52,slow=28,SNR=2.6							
MAT	**Matsushiro**	**4.20**	**236**	P		**Pn**	**10 37 43.0**	**+2.9**
MAT				*e*S		**Sn**	**10 38 28.5**	**+0.1**
JHJ	**Hachijo jima 2**	**6.25**	**202**	LR		LR	10 41 44.4	
	comp=Z,19nm,18.9s,baz=136,slow=41							
KSRS	**Korea Array**	**11.59**	**267**	LR		LR	10 43 53.8	
	comp=Z,14nm,18.4s,baz=100,slow=38							
WRA	**Warramunga Arr**	**59.11**	**189**	P		**P**	**10 46 35.0**	**-1.1**
	0.4nm,0.5s,baz=7.1,slow=7.0,SNR=8.8							
ASAR	**Alice Springs**	**62.83**	**189**	P		**P**	**10 47 00.8**	**-0.5**
	0.4nm,1.1s,baz=17,slow=9.7,SNR=3.3							

MEX 16 11:11:10.7±0.7, 16.°56N×98.°44W, h5km±11km, MD3.6, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
PNIG	**Pinotepa**	**0.34**	**118**	*e*P		Pg	11 11 16.8	-0.6
PNIG				*e*S		Sg	11 11 21.9	0.0
TLIG	**Tlapa**	**1.01**	**353**	*e*P		Pg	11 11 27.7	-2.4
TLIG				*e*S		Sg	11 11 40.6	-2.6
VHO	**Vista Hermosa**	**1.72**	**72**	*e*P		Pn	11 11 38.0	-3.5
VHO				*e*S		Sn	11 11 59.5	-4.4
CAIG	**El Cayaco**	**1.82**	**286**	*i* P		Pn	11 11 39.0	-3.6
CAIG				*e*S		Sn	11 12 02.2	-3.9
PLIG	**Platanillo**	**2.09**	**331**	*i* P		Pn	11 11 42.9	-3.7
PLIG				*i* S		Sn	11 12 08.7	-4.3
YAIG	**Yautepec**	**2.37**	**346**	*e*P		Pn	11 11 48.1	-2.4
YAIG				*i* S		Sn	11 12 15.0	-5.1

MEX 16 11:15:15.9±0.5, 28.°72N×113.°26W, h5km, MD3.5, Baja California

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
SRIG	**Santa Rosalia**	**1.66**	**147**	*e*P		Pn	11 15 42.1	-3.6
SRIG				*e*S		Sn	11 16 02.6	-4.7
HSIG		**2.05**	**81**	*e*P		Pn	11 15 47.6	-3.4
HSIG				*e*S		Sn	11 16 12.6	-4.5

IDC ***16*** *11:16:33.8±2.4, 36.°55N×82.°38E, h0km, mb3.3/2, mb1 3.6/4, mb1mx3.3/34, mbtmp3.5/4, ML3.4/2, MS2.8/1, Ms1 2.8/1, ms1mx2.1/25, Error ellipse: s-maj=62.7km s-min=32.1km az=72.0*
ISCJB ***16*** *11:16:35.0±1.4, 36.°74N±0.°12×82.°6E±0.°2, h10km, mb3.3/1, MS2.6/1, Error ellipse: s-maj=25.4km s-min=10.5km az=157.3*
BJI ***16*** *11:16:34.9, 36.°37N×82.°48E, h6km, ML3.7/8*
NNC ***16*** *11:16:39.0±2.9, 36.°94N×82.°84E, h0km, mb4.2, mpv3.7, Error ellipse: s-maj=40.7km s-min=22.1km az=69.0*
ISC 16 11:16:37.7±1.4, 36.°7N±0.°1×82.°7E±0.°1, h10km, n9, σ1.°9/96/12, 4C-3D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
KSH	**Kashi**	**6.00**	**300**	Pg		**Pb**	**11 18 24.9**	**+2.5**
KSH				smax		smax		
	comp=N,36nm,0.5s							
KSH				smax		smax		
	comp=E,90nm,1.1s							
PDGK	**Podgornoye**	**7.07**	**341**	⇑Pn		**Pn**	**11 18 21.5**	**+0.1**
	4.4nm,0.8s							
PDGK				⇑Sn		**Sn**	**11 19 41.6**	**-0.2**
	14nm,0.4s							
PDGK				⇓Lg		Lg	11 20 17.3	
	63nm,1.1s							
WMQ	**Urumqi**	**8.09**	**27**	P		**Pn**	**11 18 38.3**	**+3.1**
WMQ				smax		smax		
	comp=N,10.0nm,0.5s							
WMQ				smax		smax		
	comp=E,13nm,0.5s							
MK31	**Makanchi Array**	**10.10**	**358**	⇑Pn		**Pn**	**11 19 02.6**	**-0.2**
	5.5nm,0.9s,baz=182,slow=13,SNR=5.9							
MK31				⇓Sn		**Sn**	**11 20 54.1**	**-2.0**
	6.4nm,1.1s							
MAKZ	**Makanchi**	**10.12**	**357**	⇑Pn		**Pn**	**11 19 01.4**	**-1.7**
	11nm,1.2s							
MAKZ				⇓Sn		**Sn**	**11 20 56.2**	**-0.4**
	4.2nm,0.9s							
ZALV	**Zalesovo Beam**	**17.32**	**4**	P		**Pn**	**11 20 37.3**	**-2.2**
	0.3nm,0.3s,baz=186,slow=12,SNR=5.5							
BVAR

4.4990, Plg6.0000°, Azm313.0000°; N -0.7490, Plg0.0000°, Azm223.0000°; P -3.7510, Plg84.0000°, Azm130.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.

NEIC ***16*** *11:52:17.2ₛ1.5, 18°.22N×119°.37E, h8^{km}ₛ9^{km}, mb5.2/83 Error ellipse: s-maj=4.2km s-min=3.1km az=91.0*

BKK ***16*** *11:52:18.6ₛ0.4, 18°.N±5°×12°.0E±°, h10^{km}, M4.6/35, mB5.2/24, mb4.8/35, Mw(mB)4.5/24, Mwp5.4/1*

MOS ***16*** *11:52:19.6ₛ0.9, 18°.27N×119°.39E, h36^{km}, mb5.4/57, MS4.4/14, Error ellipse: s-maj=8.3km s-min=4.4km az=118.5*

BJI ***16*** *11:52:19.4, 18°.59N×119°.17E, h10^{km}, mb4.6/60, mB5.0/50, ML4.5/5, Ms4.8/72, Ms7 4.7/69*

IDC ***16*** *11:52:20.6ₛ4.3, 18°.21N×119°.43E, h33^{km}ₛ33^{km}, mb4.6/30, mb1 4.7/32, mb1mx4.6/40, mbtmp4.7/32, ML4.0/2, MS4.2/38, Ms1 4.2/38, ms1mx4.0/54, Error ellipse: s-maj=13.7km s-min=9.1km az=77.0*

KLM ***16*** *11:52:21.6, 18°.38N×119°.42E, h52^{km}, mb5.1*

ISC 16 11:52:20.3±0.4, 18°.24N±0°.03×119°.36E±0°.03, h26^{km}±2^{km}, h26^{km}:pP-P, n520, σ1§67/568, mb5.1/170, MS4.4/61, 57C-35D, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SZP	**Santa**	**1.25**	**123**	*e*Pn	**Pn**	**11 52 40.1**	**-1.9**
SZP				*e*Sn	**Sn**	**11 52 51.1**	**-6.9**
BOLP	**Bolinao**	**1.92**	**164**	*e*P	**Pn**	**11 52 49.5**	**-1.7**
BOLP				*e*S	**Sn**	**11 53 12.6**	**-2.0**
CVP	**Callao Caves**	**2.40**	**102**	↑*i*P	**Pn**	**11 52 57.5**	**-0.5**
CVP				*i* S	**Sn**	**11 53 27.6**	**+1.0**
SCZP	**Santa Cruz**	**2.50**	**168**	*e*P	**Pn**	**11 52 57.7**	**-1.6**
SCZP				*e*S	**Sn**	**11 53 27.3**	**-1.7**
SGCP	**Mt. Cagua**	**2.55**	**89**	*e*P	**Pn**	**11 52 60.0**	**0.0**
SGCP				*e*S	**Sn**	**11 53 29.3**	**-0.9**
CAUP	**Cauayan**	**2.68**	**118**	*e*P	**Pn**	**11 53 01.6**	**-0.1**
CAUP				*e*S	**Sb**	**11 53 41.3**	**+1.3**
PCPH	**Palayan**	**3.14**	**148**	↓*e*P	**Pn**	**11 53 07.9**	**-0.1**
PCPH				*e*S	**Sn**	**11 53 45.8**	**+1.1**
TGY	**Tagaytay City**	**4.38**	**160**	Pn	**Pn**	**11 53 26.4**	**+1.1**
	160nm,0.3s,baz=301,slow=2.3,SNR=26						
TGY				Sn	**Sn**	**11 54 20.0**	**+4.5**
	166nm,0.3s,baz=321,slow=12,SNR=3.8						
TGY				LR	LR	11 55 39.1	
	comp=Z,6μm,18.5s,baz=354,slow=46						
LUBP	**Lubang**	**4.56**	**169**	*e*P	**Pn**	**11 53 27.9**	**+0.3**
LQP	**Lukban**	**4.61**	**153**	↓*e*P	**Pn**	**11 53 30.3**	**+1.9**
TWG	**Pinlang**	**4.84**	**19**	*e*Pn	**Pn**	**11 53 30.1**	**-1.4**
TWG				*e*Sn	**Sn**	**11 54 19.0**	**-7.6**
TPUB	**Ta-pu**	**5.18**	**13**	*e*Pn	**Pn**	**11 53 33.0**	**-3.2**
TPUB				*e*Sn	**Sn**	**11 54 30.2**	**-4.8**
GQP	**Guinayangan**	**5.23**	**145**	↑*e*P	**Pn**	**11 53 35.9**	**-1.0**
BOAC	**Boac**	**5.32**	**153**	*e*P	**Pn**	**11 53 42.5**	**+4.5**
YULB	**Yu-li**	**5.44**	**19**	*e*Pn	**Pn**	**11 53 38.6**	**-1.1**
YULB				*e*Sn	**Sn**	**11 54 38.6**	**-3.0**
SSLB	**Suanglung**	**5.72**	**15**	*e*Pn	**Pn**	**11 53 41.4**	**-2.2**
SSLB				*e*Sn	**Sn**	**11 54 43.6**	**-4.8**
AUQP	**San Andres**	**5.84**	**146**	*e*P	Pn	11 53 52.9	+7.7
BUSP	**Coron**	**6.25**	**172**	*e*P	**Pn**	**11 53 49.6**	**-1.3**
NACB	**Ninganchiao**	**6.26**	**19**	*e*Pn	**Pn**	**11 53 49.1**	**-2.0**
YHNB	**Yeheng**	**6.67**	**16**	*e*Pn	**Pn**	**11 53 55.4**	**-1.3**
YHNB				*e*Sn	**Sn**	**11 55 09.6**	**-2.3**
QZH	**Quanzhou**	**6.71**	**354**	*i* Pn	**Pn**	**11 53 52.8**	**-4.4**
QZH				Sn	Sn	11 55 03.4	-9.4
QZH				smax	smax		
	comp=N,240nm,0.4s						
QZH				smax	smax		
	comp=E,360nm,0.4s						
QZH				LR	LR		
	comp=N,6μm,14.0s						
QZH				LR	LR		
	comp=E,3μm,12.5s						
QZH				LR	LR		
	comp=Z,5μm,14.9s						
ENPP	**El Nido**	**6.99**	**179**	*e*P	**Pn**	**11 53 59.3**	**-1.7**
TATO	**Taipei**	**6.99**	**16**	*e*Sn	**Sn**	**11 55 22.2**	**+2.5**
YOJ	**Yonaguni jima**	**7.07**	**28**	*e*P	**Pn**	**11 54 01.4**	**-0.6**
YOJ	**Yonaguni jima**	**7.07**	**28**	*e*Pn	**Pn**	**11 54 01.4**	**-0.6**
GZH	**Guangzhou**	**7.42**	**312**	Pn	**Pn**	**11 54 04.9**	**-1.9**
GZH				Sn	**Sn**	**11 55 25.4**	**-4.7**
GZH				smax	smax		
	comp=E,540nm,0.9s						
QIZ	**Qiongzhong**	**9.06**	**276**	P	**Pn**	**11 54 25.9**	**-3.5**
QIZ				S	**Sn**	**11 56 12.0**	**+1.4**
QIZ				LR	LR		
	comp=N,2μm,14.5s						
QIZ				LR	LR		
	comp=E,3μm,15.3s						
QIZ				LR	LR		
	comp=Z,4μm,15.7s						
QIZ	**Qiongzhong**	**9.06**	**276**	*e*Pn	**Pn**	**11 54 26.0**	**-3.4**
SDKM	**Sandakan**	**12.70**	**190**	↑P	**Pn**	**11 55 23.0**	**+3.7**
MYLDM	**Lahad Datu**	**13.00**	**184**	*e*Pn	**Pn**	**11 55 24.2**	**+0.7**
MYLDM	**Lahad Datu**	**13.00**	**184**	↑P	**Pn**	**11 55 25.7**	**+2.2**
WHN	**Wuhan**	**13.07**	**341**	↑P	**Pn**	**11 55 23.3**	**-1.0**
UBPT	**Khong Chiam**	**13.62**	**260**	P	**Pn**	**11 55 33.6**	**+1.7**
	28nm,1.1s						
NJ2	**Nanjing**	**13.76**	**358**	*e*P	**Pn**	**11 55 33.1**	**-0.6**
NJ2				S	**Sn**	**11 58 10.5**	**+4.7**
NJ2				pmax	pmax		
	comp=Z,18nm,0.5s						
NJ2				LR	LR		
	comp=N,2μm,13.4s						
NJ2				LR	LR		
	comp=E,2μm,14.4s						
NJ2				LR	LR		
	comp=Z,2μm,15.0s						
TSM	**Tawau**	**13.93**	**186**	↓P	**Pn**	**11 55 38.7**	**+2.6**
GYA	**Guiyang**	**14.30**	**307**	↑*i*P	**Pn**	**11 55 37.8**	**-3.5**
GYA				S	**Sn**	**11 58 21.6**	**+2.4**
GYA				pmax	pmax		
	comp=Z,30nm,1.0s						
GYA				pmax	pmax		
	comp=Z,140nm,4.8s						
GYA				LR	LR		
	comp=N,2μm,14.8s						
GYA				LR	LR		
	comp=E,3μm,15.0s						
GYA				LR	LR		
	comp=Z,2μm,15.6s						
SLVN	**Son La**	**14.87**	**284**	*e*Pn	**Pn**	**11 55 45.7**	**-3.2**
SLVN				*e*Sn	**Sn**	**11 58 30.8**	**-2.1**
ENH	**Enshi**	**14.97**	**325**	*e*Pn	**Pn**	**11 55 49.6**	**-0.7**
ENH				*e*Sn	**Sn**	**11 58 33.1**	**-2.3**
BTM	**Bintulu**	**16.16**	**203**	↓P	**P**	**11 56 08.9**	**+0.1**
CHAI	**Chaiyaphum**	**16.77**	**265**	P	**Pn**	**11 56 13.7**	**+0.2**
	11nm,1.0s,132nm						
KMI	**Kunming**	**16.89**	**297**	P	**Pn**	**11 56 15.0**	**-0.2**
KMI				sP	P	11 56 19.9	+2.9
KMI				PP	**sP**	**11 56 28.8**	**+1.2**
KMI				S	**Sn**	**11 59 22.3**	**0.0**
KMI				SS	**SnSn**	**11 59 41.0**	**+5.4**
KMI				pmax	pmax		
	comp=Z,17nm,0.6s						
KMI				pmax	pmax		
	comp=Z,140nm,3.4s						
KMI				LR	LR		
	comp=N,4μm,11.8s						
KMI				LR	LR		
	comp=E,3μm,13.8s						
KMI				LR	LR		
	comp=Z,4μm,12.6s						
SRAK	**Srakaew**	**17.16**	**258**	P	**Pn**	**11 56 13.2**	**-5.1**
	77nm,1.6s,927nm						
SBUM	**Sibu**	**17.18**	**205**	*e*P	**P**	**11 56 19.6**	**-0.5**
	49nm,1.2s						
SBUM	**Sibu**	**17.18**	**205**	↓P	**P**	**11 56 20.4**	**+0.4**
PBKT	**Sadao Pong**	**17.63**	**267**	P	**P**	**11 56 24.9**	**-0.1**
	53nm,1.6s,1μm						
NAYO	**Nakonayok**	**17.75**	**260**	P	**P**	**11 56 27.5**	**+1.2**
	30nm,1.7s,841nm						
MRSI	**Marisa**	**17.83**	**172**	P	**P**	**11 56 27.3**	**+0.1**
	140nm,1.0s,2μm						
UTTA	**Uttaradit**	**17.89**	**271**	P	**P**	**11 56 29.1**	**+1.1**
	6.5nm,1.0s,71nm						
TIA	**Tai'an**	**18.01**	**354**	↓P	**P**	**11 56 29.3**	**+0.1**
TIA				pmax	pmax		
	comp=Z,20nm,1.2s						
TIA				pmax	pmax		
	comp=Z,430nm,4.4s						
TIA				LR	LR		
	comp=N,2μm,14.3s						
TIA				LR	LR		
	comp=E,2μm,14.7s						
TIA				LR	LR		
	comp=Z,2μm,14.1s						
JNU	**Nakatsue**	**18.07**	**33**	*e*P	**Pn**	**11 56 29.6**	**-0.1**
	0.3nm,0.3s,baz=157,slow=9.5,SNR=5.7						
JNU	**Nakatsue**	**18.07**	**33**	*e*P	**Pn**	**11 56 29.1**	**-0.5**
	32nm,0.9s						
KMSI	**Cibinong**	**18.13**	**165**	P	**P**	**11 56 34.5**	**+4.0**
XAN	**Xi'an**	**18.30**	**331**	P	**P**	**11 56 30.8**	**-1.5**
XAN				pmax	pmax		
	comp=Z,110nm,1.5s						
XAN				pmax	pmax		
	comp=Z,410nm,5.8s						
XAN				LR	LR		
	comp=N,1μm,16.1s						
XAN				LR	LR		
	comp=E,2μm,16.1s						
XAN				LR	LR		
	comp=Z,3μm,14.2s						
PATY	**Pattaya**	**18.57**	**256**	P	**Pn**	**11 56 41.4**	**+5.6**
	15nm,0.8s						
SUKH	**Sukhothai**	**18.80**	**271**	P	**Pn**	**11 56 39.4**	**+0.9**
	11nm,1.1s,101nm						
KSM	**Kuching**	**18.88**	**209**	*e*P	**P**	**11 56 38.7**	**-0.1**
	150nm,1.1s						
KSM	**Kuching**	**18.88**	**209**	↑P	**Pn**	**11 56 40.2**	**+0.7**
CD2	**Chengdu**	**18.96**	**315**	↓*i*P	**P**	**11 56 39.4**	**-0.2**
CD2				pP	pP	11 56 44.0	-2.8
CD2				sP	sP	11 56 48.0	-2.2
CD2				PP	**PnPn**	**11 56 59.3**	**+6.2**
CD2				S	**Sn**	**12 00 10.9**	**-1.1**
CD2				SS	**SnSn**	**12 00 29.4**	**+3.1**
CD2				pmax	pmax		
	comp=Z,50nm,2.1s						
CD2				pmax	pmax		
	comp=Z,520nm,7.6s						
CD2				LR	LR		
	comp=N,3μm,10.8s						
CD2				LR	LR		
	comp=E,3μm,11.4s						
CD2				LR	LR		
	comp=Z,2μm,13.3s						
UTHA	**Uthaitani**	**19.24**	**265**	P	**Pn**	**11 56 44.6**	**+0.8**
	33nm,0.8s,581nm						
CMMT	**Chiang Mai**	**19.36**	**275**	P	**P**	**11 56 44.7**	**+0.6**
	24nm,1.2s,719nm						
CHTO	**Chiang Mai**	**19.37**	**275**	P	**P**	**11 56 44.8**	**+0.6**
	92nm,1.2s,3μm						
CHTO	**Chiang Mai**	**19.37**	**275**	*e*P	**Pn**	**11 56 45.1**	**-0.3**
CHTO				pmax	pmax		
	comp=Z,18nm,0.9s						
CHTO	**Chiang Mai**	**19.37**	**275**	*e*P	**Pn**	**11 56 45.1**	**-0.3**
	comp=Z,18nm,0.9s						
CHTO				*e*PcP	**PcP**	**12 01 05.9**	**+0.1**
CHTO	**Chiang Mai**	**19.37**	**275**	P	**Pn**	**11 56 45.0**	**-0.3**
	SNR=9.3						
CM01	**Chiang Mai Arr**	**19.37**	**274**	*e*P	**Pn**	**11 56 44.9**	**-0.5**
CM31	**Chiang Mai Arr**	**19.38**	**274**	*e*P	**Pn**	**11 56 47.2**	**+1.6**
CM31				*e*PcP	**PcP**	**12 01 06.5**	**+0.7**
CMAR	**Chiang Mai Arr**	**19.38**	**274**	P	**Pn**	**11 56 45.1**	**-0.4**
	comp=Z,0.3nm,0.3s,baz=91,slow=8.6,SNR=39						
CMAR				PcP	**PcP**	**12 01 06.7**	**+0.9**
	comp=Z,0.5nm,0.3s,baz=56,slow=0.4,SNR=25						
CMAR				LR	LR	12 03 50.4	
	comp=Z,623nm,19.6s,baz=90,slow=36						
MTKI	**Muara Teweh, K**	**19.56**	**193**	P	**Pn**	**11 56 54.6**	**+7.0**
STKI	**Sintang**	**19.65**	**204**	P	**P**	**11 56 47.6**	**+0.4**
	comp=Z,104nm,1.0s,comp=Z,13μm						
UMPA	**Umpang Tak**	**19.68**	**267**	P	**Pn**	**11 56 50.3**	**+1.1**
	comp=Z,21nm,1.1s,comp=Z,727nm						
PHET	**Kaeng Krachan**	**19.72**	**257**	P	**Pn**	**11 56 50.3**	**+0.7**
	comp=Z,23nm,1.0s,comp=Z,215nm						
SRDT	**SRDT**	**19.80**	**262**	P	**Pn**	**11 56 52.3**	**+1.7**
	comp=Z,159nm,1.3s						
KTGM	**Kuala Trenggan**	**20.39**	**233**	↑P	Pn	11 56 57.0	-0.5
KSRS	**Korea Array**	**20.57**	**20**	P	**P**	**11 56 56.5**	**-0.6**
	comp=Z,13nm,0.7s,baz=203,slow=11,SNR=69						
KSRS				LR	LR	12 05 58.3	
	comp=Z,240nm,18.7s,baz=206,slow=40						
KS01	**Wonju Array Si**	**20.58**	**20**	*e*P	**P**	**11 56 56.2**	**-1.0**
TTSI	**Tana Toraja**	**21.15**	**179**	P	**P**	**11 57 07.5**	**+4.0**
SANI	**Sanana**	**21.19**	**161**	P	**P**	**11 56 59.6**	**-4.3**
SKLT	**Songkhla**	**21.31**	**241**	P	**P**	**11 57 05.9**	**+0.7**
	comp=Z,136nm,1.1s,comp=Z,1μm						
TRTT	**Trang**	**21.75**	**244**	P	**P**	**11 57 11.0**	**+1.1**
	comp=Z,72nm,1.1s,comp=Z,1μm						
BJT	**Baijiatuan**	**21.88**	**353**	*e*P	**P**	**11 57 12.1**	**+0.9**
BJT				pmax	pmax		
	comp=Z,173nm,1.3s						
BJT	**Baijiatuan**	**21.88**	**353**	*e*P	**P**	**11 57 12.1**	**+0.9**
	comp=Z,173nm,1.3s						
BJI	**Beijing**	**21.90**	**353**	P	**P**	**11 57 11.5**	**+0.1**
BJI				pmax	pmax		
	comp=Z,27nm,1.4s						
BJI				pmax	pmax		
	comp=Z,300nm,4.0s						
BJI				LR	LR		
	comp=Z,380nm,18.6s						
BJI				LR	LR		
	comp=Z,1μm,18.2s						
BJI				LR	LR		
	comp=Z,440nm,23.8s						
SPSI	**Sidrap Palu**	**22.06**	**179**	P	**P**	**11 57 15.9**	**+2.6**
	comp=Z,53nm,0.9s,comp=Z,1μm						
PBKI	**Pangkalan Bun**	**22.14**	**201**	P	**P**	**11 57 12.9**	**-1.3**
KDI	**Kendari**	**22.29**	**171**	P	**P**	**11 57 16.0**	**+0.3**
MYKOM	**Kota Tinggi**	**22.33**	**225**	*e*P	**P**	**11 57 15.9**	**-0.3**
	comp=Z,29nm,0.7s						
MYKOM	**Kota Tinggi**	**22.33**	**225**	↓P	**P**	**11 57 16.6**	**+0.4**
KULM	**Kulim**	**22.35**	**237**	*e*P	**P**	**11 57 16.8**	**+0.3**
	comp=Z,82nm,1.4s						
KULM	**Kulim**	**22.35**	**237**	↑P	**P**	**11 57 16.9**	**+0.5**
LZH	**Lanzhou**	**22.45**	**325**	↑P	**P**	**11 57 19.6**	**+2.0**
LZH				pP	pP	11 57 23.8	-1.0
LZH				sP	sP	11 57 26.3	-1.9
LZH				PP	**PnPn**	**11 57 45.1**	**+4.0**
LZH				pmax	pmax		
	comp=Z,47nm,1.2s						
LZH				pmax	pmax		
	comp=Z,180nm,4.1s						
LZH				LR	LR		
	comp=Z,2μm,13.0s						
LZH				LR	LR		
	comp=Z,2μm,11.7s						
LZH				LR	LR		
	comp=Z,3μm,13.6s						
KGM	**Kluang**	**22.53**	**226**	↓P	**P**	**11 57 18.5**	**+0.2**
IPM	**Ipoh**	**22.55**	**235**	*e*P	**P**	**11 57 17.7**	**-0.8**
	comp=Z,49nm,1.0s						
IPM	**Ipoh**	**22.55**	**235**	↓P	**P**	**11 57 18.4**	**-0.2**
TPRI	**Tanjung Pinang**	**22.55**	**222**	P	**P**	**11 57 18.7**	**+0.2**
NLAI	**Namlea**	**22.66**	**160**	P	**P**	**11 57 19.1**	**-0.6**
FRIM	**Kepong**	**22.89**	**231**	↓P	**P**	**11 57 21.9**	**-0.3**
INU	**Inuyama**	**23.15**	**39**	*e*P	**P**	**11 57 24.8**	**+0.2**
	comp=Z,76nm,1.1s						
AAI	**Ambon**	**23.46**	**157**	P	**P**	**11 57 28.4**	**+0.5**
AAI	**Ambon**	**23.46**	**157**	P	**P**	**11 57 29.0**	**+1.1**
AAI				pmax	pmax		
	comp=Z,153nm,0.9s						
HHC	**Hu-ho-hao-te**	**23.51**	**345**	↓P	**P**	**11 57 28.4**	**+0.1**
HHC				sP	pP	11 57 35.9	0.0
HHC				PP	**PnPn**	**11 58 00.4**	**+4.9**
HHC				S	**S**	**12 01 40.4**	**-0.2**
HHC				sS	pS	12 01 46.6	-2.1
HHC				pmax	pmax		
	comp=Z,26nm,1.3s						
HHC				pmax	pmax		
	comp=Z,270nm,5.1s						
HHC				LR	LR		
	comp=Z,770nm,14.9s						
HHC				LR	LR		
	comp=Z,1μm,14.9s						
HHC				LR	LR		
	comp=Z,780nm,16.2s						
JHJ	**Hachijo jima 2**	**23.57**	**47**	LR	LR	12 05 14.5	
	comp=Z,313nm,20.0s,baz=237,slow=33						
BTO	**Baotou**	**23.70**	**342**	*e*P	**P**	**11 57 29.4**	**-0.7**
BBSI	**Bau Bau**	**23.79**	**172**	P	**P**	**11 57 32.3**	**+1.3**
BSSI	**Bau Bau, Buton**	**24.25**	**177**	P	P	11 57 46.5	+11
FAKI	**Fak Fak**	**24.56**	**148**	P	**P**	**11 57 36.8**	**-1.4**
	comp=Z,305nm,1.1s,comp=Z,3μm						
FAKI	**Fak Fak**	**24.56**	**148**	*e*P	**P**	**11 57 36.6**	**-1.6**
	comp=Z,270nm,1.0s						
MAJO	**Matsushiro**	**24.67**	**39**	↑*i*P	**P**	**11 57 39.7**	**+0.7**
MAJO				*i* *PP	**pP**	**11 57 47.4**	**+0.6**
MAJO				pmax	pmax		
	comp=Z,58nm,1.1s						
MAT	**Matsushiro**	**24.67**	**39**	P	**P**	**11 57 37.7**	**-1.3**
MAT				S	**S**	**12 02 00.0**	**+0.8**
MJAR	**Matsushiro Arr**	**24.67**	**39**	P	**P**	**11 57 37.4**	**-1.7**
	comp=Z,6.8nm,1.2s,baz=224,slow=9.6,SNR=7.5						
GUMO	**Guam**	**24.95**	**97**	P	**P**	**11 57 39.2**	**-2.5**
	comp=Z,50nm,0.9s,baz=262,slow=6.7,SNR=3.2						
GUMO				LR	LR	12 06 31.8	
	comp=Z,405nm,19.0s,baz=304,slow=34						
PSI	**Prapat**	**25.23**	**235**	P	**P**	**11 57 43.7**	**-0.7**
	comp=Z,27nm,0.9s,baz=28,slow=6.0,SNR=18						
PSI				PcP	**PcP**	**12 01 17.3**	**-0.4**
	comp=Z,4.5nm,0.8s,baz=246,slow=2.8,SNR=5.6						
PSI	**Prapat**	**25.23**	**235**	*e*P	**P**	**11 57 43.8**	**-0.6**
PSI				*e*		12 01 17.4	
PSI				pmax	pmax		
	comp=Z,32nm,0.9s						
PSI	**Prapat**	**25.23**	**235**	*e*P	**P**	**11 57 43.8**	**-0.6**
	comp=Z,32nm,0.9s						
PSI				*e*PcP	**PcP**	**12 01 17.4**	**-0.3**
KCSI	**Kotacane, Aceh**	**25.70**	**238**	P	**P**	**11 57 46.8**	**-1.8**
	comp=Z,28nm,0.9s,comp=Z,951nm						
SDSI	**Sungai Dareh**	**25.96**	**225**	P	**P**	**11 57 50.9**	**0.0**
	comp=Z,22nm,0.6s						
CN2	**Changchun**	**26.00**	**10**	*e*P	P	11 57 58.8	+7.8
CN2				*e*S	**S**	**12 02 15.5**	**-4.6**
MNSI	**Mandailing Nat**	**26.03**	**230**	P	**P**	**11 57 51.0**	**-0.6**
	comp=Z,63nm,1.2s						
PPI	**Padang Panjang**	**26.32**	**227**	P	**P**	**11 57 54.2**	**+0.1**
	comp=Z,137nm,1.3s,comp=Z,2μm						
BLJI	**Banyuglugur**	**26.44**	**193**	P	P	11 58 03.6	+8.5
SHL	**Shillong**	**26.48**	**291**	↓*i*P	**P**	**11 57 55.5**	**-0.3**
NGJI	**Ngawi**	**26.61**	**198**	P	**P**	**11 57 59.3**	**+2.6**
TWSI	**Taliwang, Sumb**	**26.91**	**185**	P	P	11 58 13.1	+14
PLAI	**Plampang**	**26.94**	**183**	P	**P**	**11 58 02.0**	**+2.3**
	comp=Z,68nm,1.1s,comp=Z,997nm						
KLSI		**26.96**	**214**	P	**P**	**11 58 00.3**	**+0.4**
	comp=Z,68nm,1.4s,comp=Z,5μm						
GTA	**Gaotai**	**27.06**	**325**	P	**P**	**11 58 00.6**	**-0.2**
GTA				pP	pP	11 58 04.6	-3.9
GTA				sP	sP	11 58 07.6	-4.2
GTA				PcP	**PcP**	**12 01 21.8**	**+0.2**
GTA				S	**S**	**12 02 37.9**	**+0.7**
GTA				sS	pS	12 02 44.0	-1.8
GTA				pmax	pmax		
	comp=Z,8.0nm,1.6s						
GTA				pmax	pmax		
	comp=Z,130nm,6.2s						
GTA				LR	LR		
	comp=Z,750nm,15.7s						
GTA				LR	LR		
	comp=Z,1μm,13.3s						
GTA				LR	LR		
	comp=Z,1μm,14.7s						
MASI	**Maura Aman, Be**	**27.12**	**220**	P	**P**	**11 58 06.1**	**+4.6**
WOJI	**Wonogiri, Jawa**	**27.21**	**199**	P	**P**	**11 58 04.0**	**+1.9**
	comp=Z,53nm,1.3s						
KPJI	**Karang Pucung**	**27.41**	**203**	P	**P**	**11 58 10.1**	**+6.2**
PCJI	**Pacitan**	**27.48**	**198**	P	**P**	**11 58 10.5**	**+6.0**
LWLI	**Liwa**	**27.60**	**215**	P	**P**	**11 58 06.9**	**+1.1**
	comp=Z,203nm,0.9s						
MDJ	**Mudanjiang**	**27.66**	**16**	P	**P**	**11 58 05.8**	**-0.2**
MDJ				pmax	pmax		
	comp=Z,17nm,1.1s						
MDJ				pmax	pmax		
	comp=Z,50nm,4.3s						
MDJ	**Mudanjiang**	**27.66**	**16**	*e*P	**P**	**11 58 05.3**	**-0.6**
	comp=Z,26nm,1.0s						
KASI	**Kota Agung**	**27.79**	**213**	P	**P**	**11 58 13.5**	**+6.2**
SISI	**Saibi**	**27.85**	**228**	P	**P**	**11 58 07.1**	**-0.8**
	comp=Z,123nm,1.2s						
USRK	**Ussuriysk Ar.**	**27.98**	**20**	P	**P**	**11 58 09.4**	**+0.6**
	comp=Z,3.7nm,0.7s,baz=213,slow=8.6,SNR=6.9						
LSA	**Lhasa**	**28.11**	**299**	P	**P**	**11 58 11.3**	**+0.6**
LSA				pmax	pmax		
	comp=Z,30nm,1.2s						
LSA	**Lhasa**	**28.11**	**299**	*e*P	**P**	**11 58 11.9**	**+1.2**
LSA				pmax	pmax		
	comp=Z,47nm,1.0s						
LSA	**Lhasa**	**28.11**	**299**	*e*P	**P**	**11 58 11.9**	**+1.2**
	comp=Z,47nm,1.0s						
SOEI	**Soe**	**28.23**	**170**	P	P	11 58 23.6	+12
TAPN	**Taplejung**	**30.48**	**293**	*e*P	**P**	**11 58 31.6**	**0.0**
	comp=Z,130nm,1.3s						
ODAN	**Odare**	**30.68**	**292**	*e*P	**P**	**11 58 33.2**	**-0.1**
ULN	**Ulaanbaatar**	**31.22**	**344**	*c i*P	**P**	**11 58 38.3**	**+0.7**
ULN				*i* *PP	**sP**	**11 58 48.2**	**-0.5**
ULN				pmax	pmax		
	comp=Z,17nm,1.7s						
ULN	**Ulaanbaatar**	**31.22**	**344**	*e*P	**P**	**11 58 37.8**	**+0.2**
	comp=Z,15nm,1.0s						
ULN	**Ulaanbaatar**	**31.22**	**344**	P	**P**	**11 58 37.8**	**+0.2**
	SNR=11						
SONA0	**Songino Array**	**31.37**	**343**	*e*P	**P**	**11 58 38.5**	**-0.5**
	comp=Z,17nm,1.0s						
SONA0				*e*PcP	**PcP**	**12 01 31.7**	**-0.6**
SONM	**Songino Array**	**31.37**	**343**	P	**P**	**11 58 38.5**	**-0.5**
	comp=Z,2.2nm,0.6s,baz=165,slow=11,SNR=13						
SONM				PcP	**PcP**	**12 01 31.7**	**-0.6**
	comp=Z,2.1nm,0.8s,baz=164,slow=3.8,SNR=3.9						
SONM				LR	LR	12 11 04.5	
	comp=Z,470nm,19.2s,baz=160,slow=36						
SONA1	**Songino Array**	**31.38**	**343**	*e*P	**P**	**11 58 38.6**	**-0.4**
RAMN	**Ramite**	**31.39**	**292**	*e*P	**P**	**11 58 39.6**	**+0.1**
	comp=Z,116nm,0.9s						
JIRN	**Jiri**	**31.87**	**293**	*e*P	**P**	**11 58 44.0**	**+0.1**
GUN	**Gumba**	**32.18**	**294**	*e*P	**P**	**11 58 46.5**	**-0.1**
	comp=Z,199nm,1.0s						
ASAJ	**Asahikawa**	**32.35**	**32**	P	**P**	**11 58 47.3**	**-0.1**
	baz=90,slow=0.0						
PKI	**Pulchoki**	**32.53**	**293**	*e*P	**P**	**11 58 49.3**	**-0.4**
	comp=Z,91nm,1.1s						
PKIN	**Phulchoki**	**32.55**	**293**	*e*P	**P**	**11 58 49.2**	**-0.5**
	comp=Z,56nm,0.9s

TLY MLR MLR
comp=Z,364nm,16.0s
TLY Talaya 35.61 343 P **P 11 59 16.8 +1.1**
SNR=6.8
KUR Kuril'sk 35.88 35 *i* P **P 11 59 18.7 +0.7**
IRK Irkutsk 35.95 344 *e*P **P 11 59 18.4 -0.2**
IRK pmax pmax
comp=Z,45nm,1.9s
MOY Mondy 36.38 341 *e*P **P 11 59 23.2 +0.8**
MOY pmax pmax
comp=Z,29nm,1.8s
FITZ Fitzroy Crossi 36.63 170 P **P 11 59 23.3 -1.4**
comp=Z,7.9nm,0.9s,baz=357,slow=5.0,SNR=20
FITZ Fitzroy Crossi 36.63 170 *e*P **P 11 59 23.3 -1.4**
comp=Z,20nm,0.9s
WMQ Urumqi 36.86 321 P **P 11 59 27.8 +1.3**
WMQ pP pP 11 59 32.1 -2.3
WMQ sP sP 11 59 37.3 -0.3
WMQ PP **PnPn 12 00 53.4 +2.6**
WMQ S **S 12 05 12.1 +2.5**
WMQ sS sS 12 05 18.8 +0.4
WMQ PcS **PcS 12 05 36.5 +0.5**
WMQ ScS **ScS 12 09 41.1 +0.8**
WMQ pmax pmax
comp=Z,9.0nm,0.7s
WMQ pmax pmax
comp=Z,200nm,5.1s
WMQ LR LR
comp=Z,1μm,13.1s
WMQ LR LR
comp=Z,2μm,13.9s
WMQ LR LR
comp=Z,820nm,15.7s
CLNS Chul'man 38.76 5 *e*P P 11 59 34.8 -7.6
CLNS pmax pmax
comp=Z,17nm,1.1s
CLNS pmax pmax
comp=N,10.0nm,1.0s
CLNS pmax pmax
comp=E,5.0nm,1.0s
HYB Hyderabad 38.80 275 *i* P **P 11 59 43.0 -0.2**
PMG Port Moresby 38.83 133 P **P 11 59 41.2 -2.1**
comp=E,37nm,1.0s,baz=259,slow=9.3,SNR=4.6
PMG Port Moresby 38.83 133⇑ *i*P **P 11 59 42.8 -0.6**
PMG pmax pmax
comp=Z,184nm,1.2s
MBWA Marble Bar 39.15 179 *e*P **P 11 59 44.8 -1.1**
comp=Z,23nm,1.2s
RABL Rabaul 39.27 121 *e*P **P 11 59 48.0 +0.8**
comp=Z,200nm,0.7s
PATS Pohnpei 39.59 102 *e*P **P 11 59 50.4 +0.6**
comp=Z,392nm,1.8s
COEN Coen 39.69 142 *e*P **P 11 59 48.6 -1.9**
comp=Z,54nm,1.0s
BOD Bodaibo 39.72 356 *e*P **P 11 59 48.7 -1.6**
BOD pmax pmax
comp=Z,16nm,1.6s
WRAB Tennant Creek 40.69 158 *e*P **P 11 59 56.9 -1.8**
WRAB pmax pmax
comp=Z,27nm,0.8s
WRAB Tennant Creek 40.69 158 *e*P **P 11 59 56.9 -1.8**
comp=Z,27nm,0.8s
WR1 Warramunga Arr 40.69 158 *e*P **P 11 59 56.6 -2.2**
WR1 *e*PcP **PcP 12 01 59.5 -0.8**
WRA Warramunga Arr 40.69 158 P **P 11 59 56.6 -2.2**
comp=Z,18nm,0.7s,baz=341,slow=9.0,SNR=94
WRA PcP **PcP 12 01 59.5 -0.8**
comp=Z,5.6nm,0.9s,baz=342,slow=3.6,SNR=5.7
WRA LR LR 12 19 03.7
comp=Z,130nm,21.3s,baz=330,slow=39
WRA Warramunga Arr 40.69 158 *c*eP **P 11 59 57.0 -1.8**
WRA pmax pmax
comp=Z,18nm,0.7s
WB2 Warramunga Arr 40.69 158 *e*P **P 11 59 56.3 -2.5**
MK01 Makanchi Array 41.65 321 *e*P **P 12 00 06.7 +0.2**
MK31 Makanchi Array 41.67 321 *i* P **P 12 00 05.8 -0.8**
MK31 pmax pmax
comp=Z,51nm,1.3s
MK31 Makanchi Array 41.67 321 *e*P **P 12 00 07.5 +0.9**
MKAR Makanchi Array 41.67 321 *e*P **P 12 00 07.5 +0.9**
MKAR pmax pmax
comp=Z,144nm,1.1s
MKAR Makanchi Array 41.67 321 *e*P **P 12 00 07.5 +0.9**
comp=Z,144nm,1.1s
PDGK Podgornoye 41.84 315 *i* P **P 12 00 07.9 -0.3**
PDGK pmax pmax
comp=Z,56nm,1.3s
KSH Kashi 43.00 309⇑ *i*P **P 12 00 20.3 +2.6**
KSH pP pP 12 00 24.3 -1.4
KSH sP sP 12 00 27.8 -1.1
KSH S **S 12 06 46.6 +4.9**
KSH sS sS 12 06 54.6 -0.2
KSH SS **SS 12 09 53.6 -0.5**
KSH pmax pmax
comp=Z,11nm,1.0s
KSH pmax pmax
comp=Z,140nm,5.3s
KSH LR LR
comp=Z,380nm,12.6s
KSH LR LR
comp=Z,920nm,14.1s
KSH LR LR
comp=Z,1μm,14.4s
AS31 Alice Springs 44.00 161 *e*P **P 12 00 24.6 -1.1**
comp=Z,6.8nm,0.7s
ASAR Alice Springs 44.00 161 P **P 12 00 24.1 -1.6**
comp=Z,16nm,0.7s,baz=339,slow=6.7,SNR=169
ASAR PcP **PcP 12 02 10.2 -1.0**
comp=Z,5.7nm,0.9s,baz=349,slow=7.4,SNR=4.4
ASAR LR LR 12 20 53.9
comp=Z,143nm,21.5s,baz=348,slow=39
AS01 Alice Springs 44.02 161 *e*P **P 12 00 24.1 -1.7**
ZAA0 Zalesovo Array 44.47 331 *e*P **P 12 00 28.9 -0.2**
ZALV Zalesovo Beam 44.47 331 P **P 12 00 29.1 +0.1**
comp=Z,2.6nm,0.4s,baz=116,slow=6.8,SNR=8.2
ZALV LR LR 12 18 45.6
comp=Z,237nm,19.0s,baz=70,slow=36
ZAA1 Zalesovo Array 44.47 331 *e*P **P 12 00 29.1 0.0**
AAK Ala-Archa 45.01 313 *e*P **P 12 00 34.9 +1.1**
AAK pmax pmax
comp=Z,20nm,1.3s
AAK Ala-Archa 45.01 313 *e*P **P 12 00 34.9 +1.1**
comp=Z,20nm,1.3s
KURK Kurchatov 45.74 325 *d i*P **P 12 00 39.7 +0.4**
KURK *i* *PP **sP 12 00 50.2 -0.3**
KURK pmax pmax
comp=Z,253nm,1.2s
KURK Kurchatov 45.74 325 *e*P **P 12 00 39.3 0.0**
comp=Z,215nm,1.8s
NVS Novosibirsk 45.75 332 *e*P P 12 00 31.9 -7.4
NVS *e* 12 02 15.3
NVS pmax pmax
comp=N,13nm,1.5s
NVS pmax pmax
comp=E,21nm,1.5s
NVS pmax pmax
comp=Z,26nm,1.5s
PETK Petropavlovsk- 45.77 31 P **P 12 00 39.0 -0.5**
comp=Z,1.7nm,0.4s,baz=239,slow=11,SNR=2.2
PETK LR LR 12 21 38.3
comp=Z,152nm,18.6s,baz=224,slow=38
PEA1 Petropavlovsk- 45.77 31 *e*P **P 12 00 39.0 -0.5**
PET Petropavlovsk 46.20 32 *e*P **P 12 00 42.1 -0.7**
PET *e*S **S 12 07 34.1 +6.6**
PET *e*SS **ScS 12 10 42.8 +6.4**
PET MLR MLR
comp=Z,200nm,19.0s
CTA Charters Tower 46.33 144 P **P 12 00 44.0 -0.3**
comp=Z,87nm,0.9s,baz=314,slow=9.0,SNR=62
CTA LR LR 12 19 15.5
comp=Z,160nm,21.0s,baz=22,slow=35
CTAO Charters Tower 46.33 144 *e*P **P 12 00 44.0 -0.3**
CTAO pmax pmax
comp=Z,93nm,0.8s
CTAO Charters Tower 46.33 144 *e*P **P 12 00 44.0 -0.3**
comp=Z,93nm,0.8s
MNAS Manas 46.37 312 *i* P **P 12 00 44.0 -0.5**
MNAS pmax pmax
comp=Z,38nm,1.2s
MA2 Magadan 47.11 21 P **P 12 00 50.0 +0.1**
comp=Z,13nm,0.8s,baz=213,slow=8.0,SNR=16
MA2 Magadan 47.11 21 *c i*P **P 12 00 49.8 -0.1**
MA2 *i* *PP **sP 12 00 59.7 -1.4**
KBL Kabul 47.43 300 *e*P **P 12 00 53.3 +0.3**
KBL pmax pmax
comp=Z,26nm,1.0s
KBL Kabul 47.43 300 *e*P **P 12 00 53.3 +0.3**
comp=Z,26nm,1.0s
KK31 Karatay Array 47.95 312 *i* P **P 12 00 55.9 -0.8**
KK31 pmax pmax
comp=Z,40nm,1.4s
KKAR Karatay Array 47.95 312 *e*P **P 12 00 57.1 +0.4**
KKAR pmax pmax
comp=Z,121nm,1.0s
KKAR Karatay Array 47.95 312 *e*P **P 12 00 57.1 +0.4**
comp=Z,121nm,1.0s
FORT Forrest 49.45 170 *e*P **P 12 01 08.5 +0.3**
comp=Z,465nm,0.7s
SEY Seymchan 50.12 19⇓ *i*P **P 12 01 13.7 +0.7**
SEY *i* *PP **sP 12 01 24.0 -0.3**
BRVK Borovoye 51.41 324 *d i*P **P 12 01 23.4 +0.6**
BRVK pmax pmax
comp=Z,168nm,1.7s
BRVK Borovoye 51.41 324 *e*P **P 12 01 23.0 +0.2**
comp=Z,95nm,1.5s
BRVK Borovoye 51.41 324 P **P 12 01 23.5 +0.6**
SNR=22
BBOO Buckleboo 53.21 162 *e*P **P 12 01 36.5 +0.1**
comp=Z,28nm,0.7s
EIDS Eidsvold 53.22 144 *e*P **P 12 01 36.1 -0.5**
comp=Z,38nm,1.2s
TIXI Tiksi 53.71 4 *e*P **P 12 01 38.7 -0.9**
TIXI pmax pmax
comp=Z,42nm,1.2s
TIXI Tiksi 53.71 4 *e*P **P 12 01 38.7 -0.9**
comp=Z,42nm,1.2s
STKA Stephens Creek 54.20 157 P **P 12 01 43.3 -0.4**
comp=Z,17nm,0.7s,baz=334,slow=7.2,SNR=59
STKA LR LR 12 27 08.9
comp=Z,87nm,18.8s,baz=3.2,slow=39
STKA Stephens Creek 54.20 157 *e*P **P 12 01 43.5 -0.2**
STKA pmax pmax
comp=Z,6.0nm,1.0s
STKA Stephens Creek 54.20 157 *e*P **P 12 01 43.5 -0.2**
comp=Z,6.1nm,1.0s
NRIK Noril'sk 54.73 347 P **P 12 01 47.0 0.0**
comp=Z,51nm,0.8s,baz=131,slow=6.7,SNR=41
NRIK LR LR 12 25 42.6
comp=Z,283nm,20.1s,baz=151,slow=37
GEYT Alibeck 56.50 304 P **P 12 02 01.0 +0.7**
comp=Z,25nm,0.7s,baz=108,slow=4.8,SNR=46
GEYT LR LR 12 28 39.5
comp=Z,444nm,21.2s,baz=85,slow=38
AB31 Akbulak array 56.51 317 *i* P **P 12 01 59.4 -0.8**
AB31 pmax pmax
comp=Z,23nm,0.7s
ABKAR Akbulak array 56.51 317 *e*P **P 12 01 60.0 -0.2**
comp=Z,182nm,0.7s
BILL Bilibino 57.83 19⇑ *e*P **P 12 02 09.1 -0.1**
BILL *e* 12 03 02.1
BILL *e* 12 04 19.0
BILL *e*S **S 12 10 09.2 +2.4**
BILL pmax pmax
comp=Z,5.0nm,0.9s
BILL MLR MLR
comp=Z,189nm,18.0s
SVE Sverdlovsk 57.92 326 *c e*P **P 12 02 10.1 +0.1**
SVE *e*S **S 12 10 06.9 -1.4**
SVE *e* 12 13 57.2
SVE pmax pmax
comp=Z,136nm,1.0s
SVE MLR MLR
comp=Z,514nm,15.0s
AKTO Aktyubinsk 57.95 319 LR LR 12 28 46.7
comp=Z,659nm,18.1s,slow=38
AKTO Aktyubinsk 57.95 319 *i* P **P 12 02 09.1 -1.3**
AKTO pmax pmax
comp=Z,61nm,1.1s
BANOM Banah 58.47 290 P **P 12 02 13.9 -0.6**
HATD Hatta, Dubai 58.74 288 P **P 12 02 15.8 -0.5**
ASHO Ashiyiah 58.83 288 *i* P **P 12 02 16.8 -0.2**
SNR=6.8
ARU Arti 58.92 326 LR LR 12 29 09.9
comp=Z,189nm,18.3s,baz=102,slow=38
ARU Arti 58.92 326 *c i*P **P 12 02 15.8 -1.2**
ARU 12 03 07.0
ARU 12 04 25.3
ARU S **S 12 10 21.0 -0.3**
ARU SS **SS 12 14 14.2 -0.7**
ARU pmax pmax
comp=Z,126nm,1.7s
ARU MLR MLR
comp=Z,344nm,15.0s
ARU Arti 58.92 326 *e*P **P 12 02 16.4 -0.5**
comp=Z,73nm,1.0s
NAZ Nazwa, Dubai 59.15 289 P **P 12 02 18.2 -0.9**
FAQ Al Faqa, Dubai 59.24 288 P **P 12 02 18.2 -1.5**
SOKR Solikamsk 60.63 329 *c i*P **P 12 02 26.5 -2.1**
SOKR pmax pmax
comp=Z,50nm,1.2s
SOKR MLR MLR
comp=Z,267nm,15.0s
DZM Mont Dzumac 61.05 129 *e*P **P 12 02 31.2 -1.0**
comp=Z,43nm,1.0s
DZM Mont Dzumac 61.05 129 *e*P **P 12 02 31.7 -0.5**
comp=Z,18nm,0.9s
DGRG David-gareji 66.28 308 P **P 12 03 07.2 +0.7**
DGRG David-gareji 66.28 308 P **P 12 03 07.2 +0.7**
GNI Garni 66.86 307 LR LR 12 37 46.7
comp=Z,133nm,18.1s,baz=108,slow=41
GNI Garni 66.86 307 *i* P **P 12 03 11.1 +0.7**
SNR=7.7
GNI Garni 66.86 307 *c i*P **P 12 03 11.8 +1.4**
GNI pmax pmax
comp=Z,146nm,1.2s
GNI Garni 66.86 307 *e*P **P 12 03 11.4 +1.0**
comp=Z,72nm,1.4s
GNI Garni 66.86 307 P **P 12 03 11.8 +1.4**
SNR=14
ZEI Tsey 67.28 309 *e*P **P 12 03 09.9 -3.2**
ZEI pmax pmax
comp=Z,76nm,1.1s
ONI Oni 67.63 309 P **P 12 03 15.8 +0.7**
ONI Oni 67.63 309 P **P 12 03 15.7 +0.7**
BGD Bogdanovka 67.63 308 P **P 12 03 15.8 +0.6**
AKH Akhalkalaki 67.69 308 P **P 12 03 16.2 +0.5**
AKH Akhalkalaki 67.69 308⇓ *i*P **P 12 03 16.4 +0.7**
AKH Akhalkalaki 67.69 308 P **P 12 03 16.1 +0.5**
GOF Gofitskoye 67.74 312⇑ *e*P **P 12 03 15.7 0.0**
MSVF Nonsavu 67.88 118 *e*P **P 12 03 18.2 +1.2**
MSVF pmax pmax
comp=Z,68nm,1.3s
MSVF Nonsavu 67.88 118 *e*P **P 12 03 18.2 +1.2**
comp=Z,68nm,1.3s
KBZ Khabaz 67.94 310 P **P 12 03 17.1 +0.3**
comp=Z,18nm,1.0s,baz=86,slow=4.8,SNR=27
KBZ LR LR 12 36 24.0
comp=Z,235nm,18.0s,baz=80,slow=39
KVAR Kislovodsk Arr 68.07 311 LR LR 12 36 15.6
comp=Z,220nm,18.4s,slow=39
KIV Kislovodsk 68.08 311 *i* P **P 12 03 17.8 -0.2**
SNR=10
KIV Kislovodsk 68.08 311 *d i*P **P 12 03 17.6 -0.3**
KIV *e* 12 03 43.1
KIV *e* 12 05 44.6
KIV *e*S **S 12 12 11.7 -4.4**
KIV pmax pmax
comp=Z,57nm,1.0s
KIV MLR MLR
comp=Z,354nm,16.0s
KIV Kislovodsk 68.08 311 *e*P **P 12 03 18.4 +0.5**
comp=Z,58nm,0.9s
KIV Kislovodsk 68.08 311 P **P 12 03 17.9 0.0**
SNR=16
KIV P **P 12 03 17.9 0.0**
SNR=16
NEY Neytrino 68.11 310⇑ *i*P **P 12 03 20.0 +1.8**
NEY pmax pmax
comp=Z,2.0nm,0.9s
KLMR Klimovskoe 69.31 329 *e*P **P 12 03 23.0 -2.1**
KLMR *e* 12 03 46.6
KLMR pmax pmax
comp=Z,79nm,1.4s
VSR Storozhevoye 69.90 319 *e*P **P 12 03 27.3 -1.7**
VSR *e* *PP **pP 12 03 38.1 +0.8**
VSR pmax pmax
comp=Z,10.0nm,0.7s
LPSR Galich'ya Gora 69.95 320 *e*P **P 12 03 28.3 -0.9**
LPSR *e* *PP **sP 12 03 38.9 -1.8**
LPSR pmax pmax
comp=Z,30nm,0.8s
TMCR Tamitsa 69.98 333 *e*P **P 12 03 28.6 -0.5**
TMCR pmax pmax
comp=Z,23nm,0.8s
SOC Sochi 70.25 311 *e*P **P 12 03 29.0 -2.3**
SOC *e* *PP **pP 12 03 39.5 -0.2**
SOC *e*S **S 12 12 38.6 -3.0**
SOC pmax pmax
comp=Z,24nm,0.9s
SOC MLR MLR
comp=Z,362nm,13.0s
KBSD Kabsdagh 70.49 304 *e*P **P 12 03 32.7 -0.2**
MOS Moscow 70.50 324 *e*P **P 12 03 31.0 -1.5**
MOS *e* 12 03 41.3
MOS pmax pmax
comp=Z,51nm,1.0s
MZRK Al-Mazaregh 70.58 302⇑ *e*P **P 12 03 33.8 +0.4**
SFNV Sufian 70.92 303 *e*P **P 12 03 34.6 -1.0**
OBN Obninsk 71.15 323 LR LR 12 34 22.7
comp=Z,176nm,19.0s,baz=92,slow=35
OBN Obninsk 71.15 323⇑ *e*P **P 12 03 35.7 -0.8**
OBN *e* 12 03 57.6
OBN *e* 12 06 16.4
OBN *e*SS SS 12 17 24.6 -0.4
OBN pmax pmax
comp=Z,46nm,1.7s
OBN MLR MLR
comp=Z,217nm,16.0s
LVZ Lovozero 71.27 337 P **P 12 03 36.8 -0.3**
LVZ pmax pmax
comp=Z,14nm,1.1s
TT01 Tatalina 71.50 29 *e*P **P 12 03 39.0 +0.5**
TTA Tatalina 71.50 29 *e*P **P 12 03 38.6 0.0**
TTA pmax pmax
comp=Z,16nm,1.0s
TTA Tatalina 71.50 29 *e*P **P 12 03 38.6 0.0**
comp=Z,16nm,1.0s
ANN Anapa 71.73 312 *e*P **P 12 03 38.6 -1.6**
ANN pmax pmax
comp=Z,44nm,1.1s
APA Apatity 71.76 336⇑ *i*P **P 12 03 38.6 -1.4**
APA pmax pmax
comp=Z,13nm,0.8s
APA MLR MLR
comp=Z,600nm,12.0s
KSRV Kasrt alli 71.89 303 *e*P **P 12 03 36.9 -4.6**
JHLN Al Jahlan 72.38 302 *e*P **P 12 03 47.4 +3.1**
SLMH Al Salmeh 72.69 303 *e*P **P 12 03 45.8 -0.4**
CAST Castle Rocks 73.23 28 *e*P **P 12 03 49.0 +0.2**
comp=Z,34nm,1.0s
PPLA Purkeypile 73.25 29 *e*P **P 12 03 49.5 +0.4**
comp=Z,45nm,1.5s
COLD Coldfoot 73.52 24 *e*P **P 12 03 50.9 +0.5**
comp=Z,15nm,1.2s
RABH Abou Rabah 73.60 301 *e*P **P 12 03 53.1 +1.5**
DRWC Darouich 73.62 304 *e*P **P 12 03 50.1 -1.7**
KTH Kantishna Hill 73.73 28 *e*P **P 12 03 52.0 +0.1**
comp=Z,32nm,1.4s
KDAK Kodiak Island 73.75 34 *c e*P **P 12 03 54.5 +2.6**
BTCH Batrach 73.89 303 *e*P **P 12 03 52.3 -1.0**
TRF Thorofare Moun 74.02 28 *e*P **P 12 03 53.5 -0.2**
comp=Z,40nm,1.6s
SIM Simferopol' 74.04 313 *e*P **P 12 03 53.5 -0.4**
SIM *e*S **S 12 13 32.0 +7.0**
SIM pmax pmax
comp=Z,21nm,1.0s
SIM MLR MLR
comp=Z,110nm,16.8s
SUA Susitna One 74.12 30 *e*P **P 12 03 54.1 -0.2**
comp=Z,43nm,0.9s
MARH Ras Al Marh 74.27 301 *e*P **P 12 03 55.1 -0.8**
ARNB Al Arnab 74.32 303 *e*P **P 12 03 54.5 -1.3**
SALA Sala 74.33 300 *e*P **P 12 03 55.8 -0.3**
ARA0 ARCESS Array S 74.41 339 *e*P **P 12 03 55.5 -0.2**
ARCES ARCESS Array B 74.41 339 P **P 12 03 55.5 -0.2**
comp=Z,4.1nm,0.7s,baz=76,slow=7.6,SNR=8.5
ARCES LR LR 12 38 44.8
comp=Z,74nm,18.3s,baz=86,slow=37
TOTH TOTAH 74.45 300 *e*P **P 12 03 56.5 -0.1**
MCK McKinley 74.58 27 *e*P **P 12 03 56.1 -0.7**
MCK pmax pmax
comp=Z,37nm,1.0s
MCK McKinley 74.58 27 *e*P **P 12 03 56.0 -0.7**
comp=Z,37nm,1.0s
MDM Murphy Dome 74.67 26 *e*P **P 12 03 57.1 -0.1**
comp=Z,40nm,1.1s
RND Reindeer 74.67 28 *e*P **P 12 03 56.7 -0.6**
RND pmax pmax
comp=Z,31nm,0.9s
RND Reindeer 74.67 28 *e*P **P 12 03 56.7 -0.6**
comp=Z,31nm,0.9s
WRH Wood River Hil 74.81 27 *e*P **P 12 03 58.4 +0.3**
comp=Z,18nm,0.9s
BRBR Barbar 74.83 301 *e*P **P 12 03 58.1 -0.9**
COLA College 74.84 26⇓ *i*P **P 12 03 59.2 +1.1**
COLA *i* PP **sP 12 04 09.4 -0.3**
PMR Palmer 74.86 30 *e*P **P 12 03 57.6 -0.7**
PMR pmax pmax
comp=Z,20nm,0.8s
PMR Palmer 74.86 30 *e*P **P 12 03 57.6 -0.7**
comp=Z,20nm,0.8s
SPITS Spitsbergen Ar 74.91 348 LR LR 12 41 31.1
comp=Z,212nm,18.7s,baz=60,slow=39
TCHB Talchebab 74.97 300 *e*P **P 12 03 59.3 -0.3**
AFI Afiamalu 75.02 110 LR LR 12 33 11.2
comp=Z,80nm,19.4s,baz=324,slow=33
SML Sawmill 75.19 29 *e*P **P 12 04 00.0 -0.3**
SML pmax pmax
comp=Z,26nm,1.0s
SML Sawmill 75.19 29 *e*P **P 12 04 00.0 -0.3**
comp=Z,26nm,1.0s
ILAR Eielson Array 75.27 26 P **P 12 03 59.0 -1.6**
comp=Z,2.3nm,0.8s,baz=261,slow=5.3,SNR=24
BR101 Keskin Array S 75.36 307 *e*P **P 12 04 00.9 -0.9**
BRTR Keskin Array B 75.36 307 P **P 12 04 00.9 -0.9**
comp=Z,1.5nm,0.6s,baz=134,slow=7.0,SNR=11
FIA0 FINESS Array S 75.72 330 *e*P **P 12 04 01.5 -1.8**
FIA0 FINESS Array S 75.72 330 *e*P **P 12 04 01.5 -1.8**
FINES FINESS Array B 75.72 330 P **P 12 04 01.5 -1.8**
comp=Z,7.6nm,0.6s,baz=64,slow=6.3,SNR=4.6
FINES LR LR 12 37 52.0
comp=Z,228nm,18.6s,baz=76,slow=36
VSU Vasula 76.01 327 *c i*P **P 12 04 04.6 -0.4**
AKASG Malin Array Be 76.19 319 P **P 12 04 04.8 -1.4**
comp=Z,10nm,0.7s,baz=62,slow=5.7,SNR=20
AKASG LR LR 12 38 20.6
comp=Z,178nm,19.1s,baz=45,slow=36
AKBB Malin Array Si 76.19 319 *e*P **P 12 04 05.0 -1.2**
AKBB pmax pmax
comp=Z,14nm,0.8s
AKBB Malin Array Si 76.19 319 *e*P **P 12 04 05.0 -1.2**
comp=Z,14nm,0.8s
KIEV Kiev 76.20 319 *e*P **P 12 04 05.1 -1.2**
KIEV pmax pmax
comp=Z,14nm,0.8s
KIEV Kiev 76.20 319 *e*P **P 12 04 05.1 -1.2**
comp=Z,14nm,0.8s
AK11 Malin Array Si 76.23 319 *e*P **P 12 04 05.2 -1.3**
PAX Paxson 76.26 28 *e*P **P 12 04 06.4 -0.1**
PAX pmax pmax
comp=Z,12nm,1.0s
PAX Paxson 76.26 28 *e*P **P 12 04 06.3 -0.1**
comp=Z,12nm,1.0s
KLU Klutina 76.39 29 *e*P **P 12 04 07.2 -0.1**
comp=Z,24nm,1.1s
CSS Mathiatis 76.61 303 *e*P **P 12 04 08.4 -0.6**
comp=Z,8.8nm,0.9s
DOT Dot Lake 76.72 27 *e*P **P 12 04 08.8 -0.2**
comp=Z,40nm,1.1s
RAO Raoul Island 76.74 127 LR LR 12 30 56.9
comp=Z,244nm,21.2s,baz=42,slow=30
MENT Mentasta 77.04 28 *e*P **P 12 04 11.2 +0.4**
comp=Z,14nm,1.1s
KIS Kishinev 77.25 315 *e*P **P 12 04 09.0 -3.3**
KIS LRM MLR 12 42 20.0
comp=Z,300nm,16.0s
KIS Kishinev 77.25 315 *e*P **P 12 04 09.0 -3.3**
KIS MLR MLR
comp=Z,300nm,16.0s
KIS MLR MLR
comp=Z,300nm,16.0s
SORM Soroca 77.31 317⇑ *i*P **P 12 04 11.3 -1.2**
SORM Soroca 77.31 317⇑ P **P 12 04 11.3 -1.2**
EGAK Eagle 77.65 26 *e*P **P 12 04 13.6 -0.6**
comp=Z,14nm,0.9s
TIRR Tirgusor 78.12 313⇑ *i*P **P 12 04 16.7 -0.4**
TIRR Tirgusor 78.12 313⇑ P **P 12 04 16.7 -0.4**

CFR	**Carcaliu**	**78.14**	**314**	⇑	*i*	P	**P**	**12 04 16.7**	**-0.5**
CFR	**Carcaliu**	**78.14**	**314**	⇑		P	**P**	**12 04 16.7**	**-0.5**
ISP	**Isparta**	**78.16**	**306**	⇑	*i*	P	**P**	**12 04 16.6**	**-1.1**
TLB	**Topalu**	**78.35**	**313**	⇑	*i*	P	**P**	**12 04 17.6**	**-0.8**
TLB	**Topalu**	**78.35**	**313**	⇑		P	**P**	**12 04 17.6**	**-0.8**
HARR	**Harsova**	**78.40**	**313**	⇓	*i*	P	**P**	**12 04 18.1**	**-0.6**
HARR	**Harsova**	**78.40**	**313**	⇓		P	**P**	**12 04 18.1**	**-0.6**
DAWY	**Dawson**	**78.59**	**26**		*e*	P	**P**	**12 04 19.5**	**0.0**
	comp=Z,17nm,1.0s								
PETR	**Petresti**	**78.62**	**314**	⇑	*i*	P	**P**	**12 04 21.4**	**+1.5**
ODBI	**Odobesti**	**78.73**	**315**	⇑	*i*	P	**P**	**12 04 21.0**	**+0.5**
TESR	**Tescani**	**78.82**	**315**	⇑	*i*	P	**P**	**12 04 20.3**	**-0.7**
PRAR	**RASCA**	**78.88**	**316**	⇑	*i*	P	**P**	**12 04 20.9**	**-0.4**
PLOR	**Plostina**	**78.98**	**315**	⇑	*i*	P	**P**	**12 04 22.2**	**+0.2**
PLOR	**Plostina**	**78.98**	**315**	⇑		P	**P**	**12 04 22.2**	**+0.2**
SUW	**Suwalki**	**79.00**	**323**		*e*	P	**P**	**12 04 21.2**	**-0.6**
SUW	**Suwalki**	**79.00**	**323**		*e*	P	**P**	**12 04 21.2**	**-0.6**
INK	**Inuvik**	**79.36**	**21**		*e*	P	**P**	**12 04 22.9**	**-0.6**
INK						pmax	pmax		
	comp=Z,15nm,1.0s								
INK	**Inuvik**	**79.36**	**21**		*e*	P	**P**	**12 04 22.9**	**-0.6**
	comp=Z,15nm,1.0s								
BURAR	**Bucovina Array**	**79.48**	**317**	⇑	*i*	P	**P**	**12 04 24.4**	**-0.3**
BURAR	**Bucovina Array**	**79.48**	**317**	⇑		P	**P**	**12 04 24.4**	**-0.3**
BUR08	**Bucovina Ar. S**	**79.48**	**317**		*e*	P	**P**	**12 04 24.4**	**-0.3**
MLR	**Muntele Rosu**	**79.56**	**314**			LR	LR	12 43 52.7	
	comp=Z,68nm,19.2s,baz=66,slow=39								
MLR	**Muntele Rosu**	**79.56**	**314**	⇓	*i*	P	**P**	**12 04 25.3**	**+0.1**
MLR	**Muntele Rosu**	**79.56**	**314**		*e*	P	**P**	**12 04 24.9**	**-0.3**
MLR						pmax	pmax		
	comp=Z,45nm,0.9s								
MLR	**Muntele Rosu**	**79.56**	**314**		*e*	P	**P**	**12 04 24.9**	**-0.3**
	comp=Z,45nm,0.9s								
LVV	**L'vov**	**79.64**	**319**		*e*	P	**P**	**12 04 26.1**	**+0.7**
ABPO	**Ambohimpanom**	**79.91**	**246**		*e*	P	**P**	**12 04 27.3**	**-0.3**
ABPO						pmax	pmax		
	comp=Z,18nm,1.0s								
ABPO	**Ambohimpanom**	**79.91**	**246**		*e*	P	**P**	**12 04 27.3**	**-0.3**
	comp=Z,18nm,1.0s								
VOIR		**80.18**	**315**	⇓	*i*	P	**P**	**12 04 27.5**	**-1.0**
VOIR		**80.18**	**315**	⇓		P	**P**	**12 04 27.5**	**-1.0**
ARCR	**ARCALIA**	**80.19**	**316**	⇓	*i*	P	**P**	**12 04 29.3**	**+0.9**
HUMR	**Humele**	**80.47**	**314**	⇓	*i*	P	**P**	**12 04 29.1**	**-0.9**
ARR	**Arges**	**80.48**	**315**	⇑	*i*	P	**P**	**12 04 29.6**	**-0.5**
HYT	**Haines Junctio**	**80.48**	**29**		*e*	P	**P**	**12 04 30.7**	**+0.8**
	comp=Z,24nm,1.1s								
KWP	**Kalwaria Pacla**	**80.52**	**319**		*e*	P	**P**	**12 04 29.6**	**-0.6**
KWP	**Kalwaria Pacla**	**80.52**	**319**		*e*	P	**P**	**12 04 29.6**	**-0.6**
CJR	**Cluj-Napoca**	**80.79**	**316**	⇑	*i*	P	**P**	**12 04 32.3**	**+0.6**
CJR	**Cluj-Napoca**	**80.79**	**316**	⇑		P	**P**	**12 04 32.3**	**+0.6**
UZH	**Uzhgorod**	**81.07**	**318**	⇑	*i*	P	**P**	**12 04 31.8**	**-1.3**
UZH						*e*		12 04 42.3	
DRGR		**81.35**	**316**	⇑	*i*	P	**P**	**12 04 34.6**	**-0.2**
DRGR		**81.35**	**316**	⇑		P	**P**	**12 04 34.6**	**-0.2**
KARP	**Karpathos**	**81.36**	**304**		*e*	P	**P**	**12 04 34.2**	**-0.7**
	comp=Z,34nm,1.1s								
STHS	**Stebnicka Huta**	**81.49**	**319**		*e*	P	**P**	**12 04 35.4**	**0.0**
STHS						pmax	pmax		
	comp=Z,5.0nm,0.9s								
STHS	**Stebnicka Huta**	**81.49**	**319**		*e*	P	**P**	**12 04 35.4**	**0.0**
WHY	**Whitehorse**	**81.75**	**29**		*e*	P	**P**	**12 04 37.3**	**+0.7**
	comp=Z,23nm,1.0s								
HFS	**Hagfors**	**81.90**	**331**			LR	LR	12 41 25.1	
	comp=Z,144nm,18.9s,baz=64,slow=36								
SKAG	**Skagway**	**82.00**	**30**		*e*	P	**P**	**12 04 38.0**	**+0.2**
	comp=Z,18nm,1.0s								
NIE	**Niedzica**	**82.08**	**319**		*e*	P	**P**	**12 04 38.8**	**+0.3**
NIE	**Niedzica**	**82.08**	**319**		*e*	P	**P**	**12 04 38.8**	**+0.3**
OJC	**Ojcow**	**82.13**	**320**		*e*	P	**P**	**12 04 38.4**	**-0.3**
OJC	**Ojcow**	**82.13**	**320**		*e*	P	**P**	**12 04 38.4**	**-0.3**
OJC	**Ojcow**	**82.13**	**320**		*e*	P	**P**	**12 04 38.4**	**-0.3**
	comp=Z,21nm,0.9s								
SIRR	**Siria**	**82.20**	**316**	⇓	*i*	P	**P**	**12 04 39.4**	**+0.2**
KECS	**Kecovo**	**82.26**	**318**		*e*	P	**P**	**12 04 38.8**	**-0.6**
KECS					*e*			12 04 49.1	
KECS						pmax	pmax		
	comp=Z,7.0nm,1.0s								
KECS	**Kecovo**	**82.26**	**318**		*e*	P	**P**	**12 04 38.8**	**-0.6**
KECS					*e*			12 04 49.1	
VTS	**Vitosha**	**82.27**	**312**	⇓	*i*	P	**P**	**12 04 37.2**	**-2.6**
VTS	**Vitosha**	**82.27**	**312**	⇓		P	**P**	**12 04 37.2**	**-2.6**
NC405	**NORSAR Array S**	**82.41**	**332**		*e*	P	**P**	**12 04 38.6**	**-1.3**
NB201	**NORSAR Array S**	**82.62**	**332**		*e*	P	**P**	**12 04 39.9**	**-1.2**
NB2	**NORSAR Subarra**	**82.66**	**332**			P	**P**	**12 04 38.4**	**-2.9**
NB2						pmax	pmax		
	comp=Z,10.0nm,1.0s								
NB2	**NORSAR Subarra**	**82.66**	**332**			P	**P**	**12 04 39.7**	**-1.6**
	comp=Z,12nm,0.9s,baz=66,slow=5.6								
NOA	**NORSAR Array B**	**82.66**	**332**			P	**P**	**12 04 39.5**	**-1.8**
	comp=Z,7.6nm,0.9s,baz=67,slow=5.3,SNR=14								
NOA						LR	LR	12 43 50.6	
	comp=Z,138nm,19.0s,baz=65,slow=37								
PSZ	**Piszkesteto**	**82.82**	**318**	⇓	*i*	P	**P**	**12 04 42.4**	**0.0**
PSZ	**Piszkesteto**	**82.82**	**318**	⇓		P	**P**	**12 04 42.4**	**0.0**
KMBO	**Kilima Mbogo**	**82.85**	**266**			P	**P**	**12 04 44.1**	**+0.7**
	comp=Z,16nm,0.9s,baz=48,slow=8.3,SNR=28								
KMBO						LR	LR	12 38 28.7	
	comp=Z,89nm,20.7s,baz=90,slow=33								
KMBO	**Kilima Mbogo**	**82.85**	**266**		*e*	P	**P**	**12 04 44.4**	**+1.0**
VYHS	**Vyhne**	**83.29**	**319**		*e*	P	**P**	**12 04 44.5**	**-0.3**
VYHS					*e*			12 04 54.7	
VYHS						pmax	pmax		
	comp=Z,9.0nm,1.4s								
VYHS	**Vyhne**	**83.29**	**319**		*e*	P	**P**	**12 04 44.5**	**-0.3**
VYHS					*e*			12 04 54.7	
MORC	**Moravsky Berou**	**83.65**	**320**	⇓	*i*	P	**P**	**12 04 46.1**	**-0.5**
MORC	**Moravsky Berou**	**83.65**	**320**		*e*	P	**P**	**12 04 46.2**	**-0.4**
MORC						pmax	pmax		
	comp=Z,61nm,1.4s								
MORC	**Moravsky Berou**	**83.65**	**320**		*e*	P	**P**	**12 04 46.2**	**-0.4**
	comp=Z,61nm,1.4s								
KSP	**Ksiaz**	**84.01**	**322**		*e*	P	**P**	**12 04 48.5**	**+0.1**
KSP	**Ksiaz**	**84.01**	**322**		*e*	P	**P**	**12 04 48.5**	**+0.1**
JMIC	**Jan Mayen**	**84.11**	**345**			LR	LR	12 44 26.6	
	comp=Z,75nm,20.7s,baz=56,slow=37								
DPC	**Dobruska-Polom**	**84.17**	**321**		*e*	P	**P**	**12 04 49.3**	**0.0**
DPC					*ex*		x	12 04 59.4	
DPC						AMS	AMS	12 44 10.0	
	comp=Z,300nm,17.7s								
DPC	**Dobruska-Polom**	**84.17**	**321**		*e*	P	**P**	**12 04 49.3**	**0.0**
DPC					*e*			12 04 59.4	
DPC						MLR	MLR		
	comp=Z,300nm,17.7s								
UPC	**Upice**	**84.30**	**321**			AMS	AMS	12 47 00.0	
	comp=Z,300nm,12.9s								
VRAC	**Vranov**	**84.39**	**320**			LR	LR	12 42 38.6	
	comp=Z,136nm,20.3s,baz=80,slow=36								
VRAC	**Vranov**	**84.39**	**320**	⇑	*i*	P	**P**	**12 04 50.5**	**+0.1**
VRAC	**Vranov**	**84.39**	**320**	⇑		P	**P**	**12 04 50.5**	**+0.1**
DLBC	**Dease Lake**	**84.92**	**30**		*e*	P	**P**	**12 04 54.0**	**+1.0**
	comp=Z,26nm,1.2s								
TIR	**Tirane**	**85.03**	**312**	⇑	*i*	P	**P**	**12 04 52.9**	**-0.9**
TIR	**Tirane**	**85.03**	**312**	⇑		P	**P**	**12 04 52.9**	**-0.9**
TREC	**Trest**	**85.07**	**320**		*e*	P	**P**	**12 04 53.5**	**-0.3**
TREC	**Trest**	**85.07**	**320**		*e*	P	**P**	**12 04 53.5**	**-0.3**
PDG	**Podgorica**	**85.09**	**313**	⇑	*i*	P	**P**	**12 04 52.7**	**-1.3**
PVCC	**Panska Ves**	**85.15**	**322**		*e*	P	**P**	**12 04 54.0**	**-0.2**
PVCC						AMS	AMS	12 46 40.0	
	comp=Z,200nm,15.2s								
PVCC	**Panska Ves**	**85.15**	**322**		*e*	P	**P**	**12 04 54.0**	**-0.2**
PVCC						MLR	MLR		
	comp=Z,200nm,15.2s								
GOPC	**GO Pecny, Ondr**	**85.25**	**321**		*e*	P	**P**	**12 04 54.3**	**-0.4**
GOPC						AMS	AMS	12 45 00.0	
	comp=Z,200nm,14.6s								
GOPC	**GO Pecny, Ondr**	**85.25**	**321**		*e*	P	**P**	**12 04 54.3**	**-0.4**
GOPC						MLR	MLR		
	comp=Z,200nm,14.6s								
CONA	**Conrad Observa**	**85.35**	**319**		*i*	P	**P**	**12 04 54.5**	**-0.9**
	comp=Z,11nm,1.1s,SNR=7.4								
PRU	**Pruhonice**	**85.37**	**321**		*e*	P	**P**	**12 04 54.9**	**-0.4**
PRU					*ex*		x	12 05 05.0	
PRU						AMS	AMS	12 47 50.0	
	comp=Z,300nm,15.4s								
PRU	**Pruhonice**	**85.37**	**321**		*e*	P	**P**	**12 04 54.9**	**-0.4**
PRU					*e*			12 05 05.0	
PRU						MLR	MLR		
	comp=Z,300nm,15.4s								
BRG	**Berggiesshubel**	**85.38**	**322**		*i*	P	**P**	**12 04 54.5**	**-0.8**
	comp=Z,27nm,1.1s								
BRG					*i*			12 05 05.0	
	comp=Z,20nm,1.2s								
BRG	**Berggiesshubel**	**85.38**	**322**		*i*	P	**P**	**12 04 54.5**	**-0.8**
BRG					*i*			12 05 05.0	
BRG						pmax	pmax		
	comp=Z,4.0nm,1.1s								
BRG						pmax	pmax		
	comp=Z,27nm,1.2s								
BRG						MLR	MLR		
	comp=N,20μm,10.4s								
BRG						MLR	MLR		
	comp=E,147nm,14.7s								
BRG						MLR	MLR		
	comp=Z,168nm,12.7s								
PRA	**Prague**	**85.40**	**321**		*e*	P	**P**	**12 04 55.6**	**+0.2**
PRA	**Prague**	**85.40**	**321**		*e*	P	**P**	**12 04 55.6**	**+0.2**
CLL	**Collm**	**85.75**	**323**	⇓	*i*	P	**P**	**12 04 55.8**	**-1.3**
CLL					*i*			12 05 06.6	
CLL					*e*		**S**	**12 15 26.0**	**-2.2**
CLL						pmax	pmax		
	comp=Z,28nm,1.3s								
CLL	**Collm**	**85.75**	**323**	⇓	*i*	P	**P**	**12 04 55.8**	**-1.3**
	comp=Z,28nm,1.3s								
CLL					*i*			12 05 06.6	
CLL					*e*			12 08 33.0	
CLL					*e*		**S**	**12 15 28.0**	**-0.2**
CLL					*e*	PS	**PnS**	**12 16 26.0**	**-0.7**
CLL					*e*	SS	**SS**	**12 21 05.0**	**+0.7**
CLL					*e*	SSS	SSS	12 24 36.0	
CLL					*e*	SSSS		12 27 30.0	
CLL						LmH		12 43 00.0	
	comp=N,100nm,19.4s								
CLL						LmH		12 43 00.0	
	comp=E,200nm,18.7s								
CLL	**Collm**	**85.75**	**323**		*e*	P	**P**	**12 04 56.5**	**-0.7**
	comp=E,31nm,1.3s								
ARSA	**Arzberg**	**85.82**	**318**		*i*	P	**P**	**12 04 56.8**	**-0.9**
	comp=E,9.3nm,1.0s,SNR=5.7								
KHC	**Kasperske Hory**	**86.29**	**321**		*e*	P	**P**	**12 04 59.3**	**-0.6**
KHC					*ex*		x	12 05 09.6	
KHC						AMS	AMS	12 47 30.0	
	comp=E,300nm,14.5s								
KHC	**Kasperske Hory**	**86.29**	**321**		*e*	P	**P**	**12 04 59.4**	**-0.5**
KHC						pmax	pmax		
	comp=Z,4.0nm,1.1s								
KHC	**Kasperske Hory**	**86.29**	**321**		*e*	P	**P**	**12 04 59.4**	**-0.5**
	comp=Z,3.7nm,1.1s								
PERS	**Pernice**	**86.31**	**318**		*i*	P	**P**	**12 04 59.6**	**-0.5**
GEC2	**GERESS Array S**	**86.33**	**320**		*e*	P	**P**	**12 04 59.8**	**-0.4**
GEC2						pmax	pmax		
	comp=Z,13nm,1.0s								
GEC2	**GERESS Array S**	**86.33**	**320**		*e*	P	**P**	**12 04 59.8**	**-0.4**
	comp=Z,13nm,1.0s								
GERES	**GERESS Array B**	**86.33**	**320**			P	**P**	**12 04 59.3**	**-0.9**
	comp=Z,3.9nm,0.8s,baz=57,slow=4.9,SNR=32								
GERES						LR	LR	12 46 01.6	
	comp=Z,154nm,18.0s,baz=108,slow=37								
GEA0	**GERESS Array S**	**86.33**	**320**		*e*	P	**P**	**12 04 59.0**	**-1.2**
SOKA	**Soboth**	**86.35**	**318**		*i*	P	**P**	**12 04 59.3**	**-1.0**
	comp=Z,12nm,1.0s,SNR=8.7								
MOA	**Molln**	**86.38**	**319**		*i*	P	**P**	**12 04 59.5**	**-0.8**
	comp=Z,33nm,1.1s,SNR=13								
NKC	**Novy Kostel**	**86.51**	**322**		*e*	P	**P**	**12 05 00.4**	**-0.6**
NKC					*ex*		x	12 05 10.5	
NKC	**Novy Kostel**	**86.51**	**322**		*e*	P	**P**	**12 05 00.4**	**-0.6**
NKC					*e*			12 05 10.5	
BOJS	**Bojanci**	**86.66**	**317**		*i*	P	**P**	**12 05 01.8**	**0.0**
OBKA	**Obir**	**86.72**	**318**		*i*	P	**P**	**12 05 01.3**	**-0.9**
	comp=Z,11nm,1.1s								
KBA	**Koelnbreinsper**	**87.26**	**319**		*i*	P	**P**	**12 05 03.2**	**-1.7**
	comp=Z,10.0nm,1.4s								
JAVS	**Javornik**	**87.28**	**318**		*i*	P	**P**	**12 05 04.2**	**-0.7**
ABTA	**Abfaltersbach**	**87.91**	**319**		*e*	P	**P**	**12 05 06.0**	**-1.9**
	comp=Z,8.7nm,1.2s								
WTTA	**Wattenberg**	**88.24**	**320**		*i*	P	**P**	**12 05 08.2**	**-1.4**
	comp=Z,15nm,1.3s								
WATA	**Walderalm**	**88.25**	**320**		*i*	P	**P**	**12 05 08.4**	**-1.2**
	comp=Z,19nm,1.4s								
MOTA	**Moosalm**	**88.53**	**320**		*e*	P	**P**	**12 05 09.4**	**-1.5**
	comp=Z,10nm,0.9s								
RETA	**Reutte**	**88.68**	**320**		*i*	P	**P**	**12 05 08.3**	**-3.2**
	comp=Z,9.8nm,1.7s								
FETA	**Feichten**	**88.90**	**320**		*i*	P	**P**	**12 05 11.5**	**-1.2**
	comp=Z,13nm,1.1s,SNR=6.7								
CEL	**Celeste**	**88.99**	**310**		*e*	P	**P**	**12 05 12.5**	**-0.6**
	comp=Z,25nm,1.0s								
YKW3	**Yellowknife Ar**	**89.04**	**22**		*e*	P	**P**	**12 05 12.3**	**-0.4**
	comp=Z,12nm,0.8s								
YKA	**Yellowknife Ar**	**89.09**	**22**		P		P	**12 05 12.4**	**-0.5**
	comp=Z,8.6nm,0.8s,baz=317,slow=4.5,SNR=38								
YKA	**Yellowknife Ar**	**89.09**	**22**		*i*	P	**P**	**12 05 12.1**	**-0.9**
YKA						pmax	pmax		
	comp=Z,9.0nm,0.8s								
YKB5	**Yellowknife Ar**	**89.09**	**22**		*e*	P	**P**	**12 05 12.6**	**-0.4**
DAVA	**Damuels**	**89.31**	**320**		*i*	P	**P**	**12 05 13.5**	**-1.1**
	comp=Z,11nm,1.1s								
FUORN	**Ofenpass-Fuorn**	**89.37**	**319**		*e*	P	**P**	**12 05 14.4**	**-0.6**
	comp=Z,38nm,1.4s								
DAVOX	**Davos/Dischmat**	**89.53**	**320**			LR	LR	12 49 44.6	
	comp=Z,173nm,18.2s,baz=90,slow=38								
BFO	**Black Forest**	**89.77**	**321**		*ce*	P	**P**	**12 05 16.5**	**0.0**
TUE	**Stuetta**	**90.00**	**320**		*e*	P	**P**	**12 05 17.3**	**-0.6**
	comp=Z,24nm,1.3s								
SENIN	**Lac Senin/Sane**	**91.31**	**320**		*e*	P	**P**	**12 05 23.3**	**-0.7**
	comp=Z,13nm,1.1s								
EKA	**Eskdalemuir Ar**	**92.10**	**331**			LR	LR	12 52 39.1	
	comp=Z,79nm,18.6s,baz=35,slow=39								
BNI	**Bardonecchia**	**92.31**	**319**		*e*	P	**P**	**12 05 27.5**	**-1.1**
BNI						pmax	pmax		
	comp=Z,25nm,1.3s								
BNI	**Bardonecchia**	**92.31**	**319**		*e*	P	**P**	**12 05 27.5**	**-1.1**
	comp=Z,25nm,1.3s								
SFJD	**Kangerlussuaq**	**94.69**	**356**			LR	LR	12 51 18.1	
	comp=Z,63nm,18.6s,baz=12,slow=37								
KEST	**Kesra**	**94.81**	**310**			LR	LR	12 55 34.2	
	comp=Z,69nm,19.6s,baz=260,slow=40								
MAW	**Mawson**	**94.95**	**199**			P	**P**	**12 05 39.0**	**-0.7**
	comp=Z,1.3nm,0.6s,baz=71,slow=1.6,SNR=6.3								
MAW	**Mawson**	**94.95**	**199**		*e*	P	**P**	**12 05 39.0**	**-0.7**
MAW						pmax	pmax		
	comp=Z,2.0nm,1.5s								
MAW	**Mawson**	**94.95**	**199**		*e*	P	**P**	**12 05 39.0**	**-0.7**
	comp=Z,1.8nm,1.5s								
LSZ	**Lusaka**	**95.75**	**256**		*e*	P	**P**	**12 05 44.3**	**-0.5**
LSZ						pmax	pmax		
	comp=Z,19nm,1.3s								
LSZ	**Lusaka**	**95.75**	**256**		*e*	P	**P**	**12 05 44.3**	**-0.5**
	comp=Z,19nm,1.3s								
PPT	**Papeete**	**96.33**	**106**			LR	LR	12 39 53.5	
	comp=Z,43nm,20.9s,baz=312,slow=30								
PPT2	**Papeete2**	**96.33**	**106**		*e*	LR	LR	12 36 50.0	
	comp=Z,257nm,27.0s								
TBI	**Tubuai**	**98.08**	**112**		*e*	LR	LR	12 37 41.6	
	comp=Z,221nm,36.0s								
VNDA	**Vanda**	**98.69**	**171**			P	**P**	**12 05 56.4**	**-0.2**
	comp=Z,0.6nm,0.7s,baz=328,slow=4.7,SNR=3.1								
SYO	**Syowa Base**	**103.26**	**201**	⇓	*ep*	Pdiff	pPdif	12 06 24.2	-1.4
RKT	**Rikitea**	**110.96**	**108**		*e*	LR	LR	12 43 27.3	
	comp=Z,109nm,26.0s								
TORD	**Torodi Ar. Bea**	**111.07**	**292**		PKiKP		**PKiKP**	**12 10 51.0**	**-1.4**
	comp=Z,1.2nm,0.7s,baz=26,slow=2.1,SNR=8.0								
TOA1	**Torodi Ar. Sit**	**111.07**	**292**		*e*PKiKP		**PKiKP**	**12 10 51.0**	**-1.4**
LTX	**Lajitas**	**117.07**	**42**		*e*PKiKP		**PKPdf**	**12 11 03.0**	**-0.7**
LTX	**Lajitas**	**117.07**	**42**		*e*PKPdf		**PKPdf**	**12 11 03.0**	**-0.7**
LTX					*e*PKKPbc		**PKKPab**	**12 21 32.0**	**-2.0**
TXAR	**Lajitas Array**	**117.07**	**42**		PKP		**PKPdf**	**12 11 03.0**	**-0.7**
	comp=Z,0.8nm,0.6s,baz=252,slow=0.7,SNR=12								
TXAR					PKKPab		**PKKPab**	**12 21 32.0**	**-2.0**
	comp=Z,0.2nm,0.7s,baz=148,slow=9.8,SNR=3.4								
DBIC	**Dimbokro**	**119.67**	**289**		PKP		**PKPdf**	**12 11 07.8**	**-1.0**
	comp=Z,3.3nm,0.6s,baz=35,slow=4.6,SNR=6.3								
DBIC	**Dimbokro**	**119.67**	**289**		*e*PKIKP		**PKPdf**	**12 11 06.9**	**-2.0**
DBIC	**Dimbokro**	**119.67**	**289**		*e*PKPdf		**PKPdf**	**12 11 06.9**	**-2.0**
KIC	**Kosan Boka**	**119.69**	**289**		*e*PKIKP		**PKPdf**	**12 11 07.8**	**-1.1**
	comp=Z,14nm,0.7s								
TIC	**Toumodi**	**119.82**	**289**		*e*PKIKP		**PKPdf**	**12 11 07.8**	**-1.4**
LIC	**Lamto**	**120.01**	**289**		*e*PKIKP		**PKPdf**	**12 11 08.2**	**-1.3**
	comp=Z,26nm,0.8s								
GDHS	**Morne Mazeau,**	**145.69**	**2**		*e*PKPdf		**PKPdf**	**12 11 57.2**	**-0.2**
SDV	**Santo Domingo**	**151.30**	**21**		*e*PKPbc		**PKPbc**	**12 12 12.3**	**-0.5**
RUSC	**La Rusia**	**153.06**	**28**		*e*PKPdf		**PKPdf**	**12 12 09.4**	**-0.4**
RUSC					*e*PKPbc		**PKPbc**	**12 12 16.3**	**-0.8**
LPAZ	**La Paz**	**172.59**	**76**		PKP		**PKPdf**	**12 12 28.0**	**-0.6**
	comp=Z,1.2nm,1.0s,baz=64,slow=3.2,SNR=4.7								
LPAZ	**La Paz**	**172.59**	**76**		*e*PKIKP		**PKPdf**	**12 12 28.7**	**+0.1**
LPAZ	**La Paz**	**172.59**	**76**		*e*PKPdf		**PKPdf**	**12 12 28.7**	**+0.1**

MEX 16 11:52:20.6±0.8, 16°.79N×99°.62W, h8km±4km, MD3.6, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
ACX	**Acapulco**	**0.24**	**289**	*eP*		Pg	11 52 24.2	-1.3
ACX				*eS*		Sg	11 52 28.5	-0.4
ACP2	**Acapulco**	**0.27**	**288**	*eP*		Pg	11 52 25.5	-0.6
ACP2				*eS*		Sg	11 52 30.1	+0.4
CAIG	**El Cayaco**	**0.67**	**292**	*eP*		Pg	11 52 32.0	-1.6
CAIG				*eS*		Sg	11 52 41.6	-0.9
MEIG	**Mezcala**	**1.13**	**360**	*eP*		Pg	11 52 38.5	-3.9
MEIG				*eS*		Sg	11 52 53.5	-3.5
TLIG	**Tlapa**	**1.26**	**52**	*eP*		Pn	11 52 40.4	-4.3
TLIG				*eS*		Sb	11 52 56.5	-4.8
PNIG	**Pinotepa**	**1.48**	**105**	*eP*		Pn	11 52 44.3	-3.3
PNIG				*eS*		Sn	11 53 02.4	-4.8
PLIG	**Platanillo**	**1.60**	**4**	*eP*		Pn	11 52 46.3	-3.0
PLIG				*eS*		Sn	11 53 05.5	-4.7
ARIG	**Puente Sto Nin**	**1.64**	**335**	*eP*		Pn	11 52 47.1	-2.7
ARIG				*eS*		Sn	11 53 06.2	-4.9
YAIG	**Yautepec**	**2.13**	**14**	*eP*		Pn	11 52 53.7	-2.9
YAIG				*eS*		Sn	11 53 19.1	-4.3
TPIG	**Tehuac#an**	**2.69**	**53**	*eP*		Pn	11 53 01.1	-3.4
TPIG				*i S*		Sn	11 53 32.4	-4.9
VHO	**Vista Hermosa**	**2.77**	**84**	*i P*		Pn	11 53 02.2	-3.4
VHO				*i S*		Sn	11 53 36.3	-3.1

BUC 16 11:56:50.9±0.6, 46°.29N×23°.12E, h0km, MD2.4/2, 4C-4D, Error ellipse: s-maj=5.5km s-min=3.9km az=39.0, Romania

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
DRGR		**0.57**	**331**	⇑	*iP*	Pb	11 57 02.9	-1.0
DRGR					S	Sg	11 57 10.6	+1.3
DRGR		**0.57**	**331**	⇑	*iP*	Pb	11 57 02.9	-1.0
DRGR					*i* S	Sg	11 57 10.6	+1.3
SIRR	**Siria**	**1.01**	**269**	⇓	*iP*	Pb	11 57 11.7	+0.4
SIRR	**Siria**	**1.01**	**269**	⇓	*iP*	Pb	11 57 11.7	+0.4
SIRR					*i* S	Sn	11 57 26.5	-0.8
BZS	**Buzias**	**1.25**	**238**	⇓	*iP*	Pn	11 57 15.7	+0.2
BZS	**Buzias**	**1.25**	**238**	⇓	*iP*	Pn	11 57 15.7	+0.2
BZS					*i* S	Sn	11 57 32.8	-0.2
VOIR		**1.60**	**122**	⇑	*iP*	Pb	11 57 21.3	0.0
VOIR		**1.60**	**122**	⇑	*iP*	Pb	11 57 21.3	0.0
BURAR	**Bucovina Array**	**1.95**	**47**		*i* S	Sb	11

STKA	**Stephens Creek**	**35.59**	**255**	P		**P**	**12 35 46.5**	**+1.1**
	0.9nm,0.3s,baz=82,slow=12,SNR=3.8							
ASAR	**Alice Springs**	**44.08**	**265**	P		**P**	**12 36 56.2**	**+0.1**
	1.2nm,0.6s,baz=101,slow=6.3,SNR=33							
WRAB	**Tennant Creek**	**44.98**	**271**	*eP*		**P**	**12 37 03.3**	**+0.1**
	1.6nm,0.7s							
WRA	**Warramunga Arr**	**44.98**	**271**	P		**P**	**12 37 02.9**	**-0.3**
	2.0nm,0.7s,baz=110,slow=8.1,SNR=23							
MBWA	**Marble Bar**	**57.24**	**263**	*eP*		**P**	**12 38 34.8**	**-0.5**
	8.0nm,0.7s							
MAW	**Mawson**	**73.53**	**200**	P		**P**	**12 40 22.5**	**+2.5**
	0.8nm,0.7s,baz=129,slow=8.9,SNR=6.9							
MAJO	**Matsushiro**	**77.97**	**325**	*eP*		**P**	**12 40 45.3**	**-0.4**
	1.5nm,0.4s							
PETK	**Petropavlovsk-**	**85.11**	**345**	P		**P**	**12 41 23.3**	**+0.2**
	0.8nm,0.6s,baz=114,slow=6.5,SNR=4.1							
SDCO	**Great Sand Dun**	**94.47**	**49**	*eP*		**P**	**12 42 08.5**	**+0.4**
	0.3nm,0.4s							
LPAZ	**La Paz**	**97.70**	**113**	LR		LR	13 19 23.3	
	comp=Z,42nm,19.7s,baz=16,slow=31							
KURK	**Kurchatov**	**121.03**	**314**	PKP		**PKPdf**	**12 47 38.9**	**-0.7**
KURBB	**Kurchatov Arra**	**121.07**	**314**	PKP		**PKPdf**	**12 47 38.9**	**-0.8**
	0.3nm,0.3s,baz=114,slow=2.0,SNR=4.7							
FINES	**FINESS Array B**	**144.54**	**341**	PKP		**PKPab**	**12 48 20.7**	**-1.0**
	3.2nm,0.8s,baz=26,slow=3.5,SNR=6.3							
NB2	**NORSAR Subarra**	**147.92**	**353**	PKP		**PKPab**	**12 48 34.0**	**-0.7**
	comp=Z,0.6nm,0.6s,baz=16,slow=2.9							
AKASG	**Malin Array Be**	**151.06**	**325**	PKPbc		**PKPbc**	**12 48 39.5**	**-0.6**
	comp=Z,1.1nm,0.5s,baz=44,slow=2.7,SNR=4.2							
MMAI	**Mount Meron Ar**	**152.16**	**286**	PKPbc		**PKPbc**	**12 48 45.3**	**+1.9**
	comp=Z,5.0nm,0.7s,baz=104,slow=1.7,SNR=4.1							
TORD	**Torodi Ar. Bea**	**163.75**	**175**	PKPab		**PKPab**	**12 49 44.8**	**+1.7**
	comp=Z,0.5nm,0.8s,baz=180,slow=3.6,SNR=3.0							

SJA 16 12:30:24.9±1.1,**31°28S**×**68°82W**,**h105**km±4km,**ML3.2, MW3.5,9D,San Juan Province**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RTLL	**Cerro Villicun**	**0.30**	**99**	*e*P	Pn	12 30 41.0	+0.8
RTLL				*e*S	Sn	12 30 52.1	+0.5
SJA	**San Juan**	**0.33**	**137**	‖*e*P	Pn	12 30 41.6	+1.3
SJA				*e*S	Sn	12 30 53.6	+1.7
AMOG	**MOGNA**	**0.45**	**40**	*e*P	Pn	12 30 42.1	+1.1
AMOG				‖*e*S	Sn	12 30 53.7	+0.7
RTCV	**Cerro Valdivia**	**0.63**	**157**	‖*e*P	Pn	12 30 43.2	+0.9
RTCV				*e*S	Sn	12 30 55.9	+0.6
ACCO	**Cerro Coronel**	**0.72**	**343**	*e*P	Pn	12 30 44.8	+1.4
ACCO				*e*S	Sn	12 30 59.3	+2.1
ACCO				IAML		12 31 00.1	
	comp=Z,434nm,0.3s						
AUSP	**Uspallata**	**1.05**	**207**	‖*e*P	Pn	12 30 47.8	+1.2
AUSP				*e*S	Sn	12 31 04.3	+1.4
AROD	**Rodeo**	**1.25**	**333**	‖*e*P	Pn	12 30 50.2	+1.4
AROD				*e*S	Sn	12 31 08.4	+1.6
ASAL	**Salagasta**	**1.30**	**180**	*e*P	Pn	12 30 50.4	+1.2
ASAL				*e*S	Sn	12 31 08.7	+1.1
AVFE	**Valle Fertil**	**1.33**	**62**	‖*e*P	Pn	12 30 50.4	+0.9
AVFE				*e*S	Sn	12 31 09.3	+1.2
AVFE				IAML		12 31 11.6	
	comp=Z,246nm,0.3s						
ARCO	**CERRO ARCO**	**1.56**	**183**	‖*e*P	Pn	12 30 53.6	+1.3
ARCO				*e*S	Sn	12 31 14.3	+1.2
ARCO				IAML		12 31 17.1	
	comp=Z,384nm,0.6s						
AAGR	**Agrelo**	**1.80**	**180**	*e*P	Pn	12 30 56.2	+1.0
AAGR				*e*S	Sn	12 31 19.8	+1.4
AGUA	**GUANDACOL**	**1.81**	**9**	*e*P	Pn	12 30 57.1	+1.6
AGUA				*e*S	Sn	12 31 19.1	+0.4
ROC1	**El Roble**	**2.51**	**227**	‖*e*P	Pn	12 31 04.5	0.0
VCA	**Vinchina**	**2.59**	**12**	*e*P	Pn	12 31 07.1	+1.5
VCA				*e*S	Sn	12 31 33.8	-3.0
MRA	**San Martin**	**2.88**	**114**	*e*P	Pn	12 31 09.9	+0.7
TCA	**Tanti**	**3.62**	**92**	*e*P	Pn	12 31 19.2	+0.1
TCA				*e*S	Sn	12 31 59.1	-2.0

*ISCJB **16** 12:33:28.7±1.1,52°.53N±0°.08×169°.34W±0°.08,h9km±6km, mb3.7/8,Error ellipse: s-maj=14.8km s-min=4.4km az=148.1*
*NEIC **16** 12:33:30.2±0.0,52°.72N×169°.42W,h6km,ML3.7(AEIC), After AEIC.*
*IDC **16** 12:33:33.4±5.7,53°.00N×169°.90W,h41km±53km,mb3.4/8, mb1 3.7/11,mb1mx3.4/63,mbtmp3.6/11,ML3.3/3,Error ellipse: s-maj=42.1km s-min=20.1km az=177.0*

ISC 16 12:33:29.9±1.8,**52°.7N**±0°.1×**169°.42W**±0°.07,**h10**km±11km, **n39,σ1$33/43,mb3.7/8,Fox Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIKH	**Nikolski High**	**0.44**	**51**	P	**Pb**	**12 33 39.9**	**+0.1**
NIKH				S	**Sb**	**12 33 46.8**	**+0.4**
OKSO	**Okmok South**	**1.01**	**49**	P	**Pg**	**12 33 48.9**	**-0.3**
OKSO				S	**Sb**	**12 34 03.8**	**+1.0**
OKCE	**Okmok Cone E**	**1.05**	**46**	P	**Pg**	**12 33 50.0**	**-0.1**
OKCE				S	**Sb**	**12 34 04.9**	**+0.8**
OKTU	**Okmok Mt. Tuli**	**1.08**	**50**	P	**Pg**	**12 33 50.9**	**+0.2**
OKFG	**Magazine Ridge**	**1.16**	**51**	P	**Pg**	**12 33 51.5**	**-0.5**
OKFG				S	**Sb**	**12 34 07.4**	**+0.4**
MGOD	**Makushin Gods**	**1.89**	**53**	P	**Pn**	**12 34 02.3**	**+0.1**
MCIR	**Makushin Cirqu**	**1.97**	**49**	P	**Pn**	**12 34 03.7**	**+0.4**
MSW	**Makushin Switc**	**2.00**	**51**	P	**Pn**	**12 34 04.0**	**+0.3**
MSW				S	**Sn**	**12 34 30.4**	**+1.7**
MTBL	**Makushin Table**	**2.08**	**51**	P	**Pn**	**12 34 05.6**	**+0.7**
UNV	**Unalaska Valle**	**2.10**	**56**	P	**Pn**	**12 34 05.2**	**+0.2**
UNV				S	**Sn**	**12 34 31.2**	**+0.1**
AKRB	**Akutan Reef Bi**	**2.47**	**53**	P	**Pn**	**12 34 10.9**	**+0.8**
AKMO	**Akutan Morgan**	**2.48**	**54**	P	**Pn**	**12 34 11.6**	**+1.4**
AKMO				S	**Sb**	**12 34 43.6**	**-1.3**
AKLV	**Akutan Long Va**	**2.54**	**53**	P	**Pn**	**12 34 12.0**	**+0.8**
AKGG	**Akutan Green G**	**2.54**	**52**	P	**Pn**	**12 34 11.7**	**+0.5**
AKUT	**Akutan**	**2.62**	**55**	*e*Pn	**Pn**	**12 34 13.0**	**+0.9**
AKUT				*e*Sn	**Sn**	**12 34 45.1**	**+1.2**
AKSA	**Akutan Strait**	**2.66**	**56**	P	**Pn**	**12 34 13.7**	**+1.0**
AKSA				S	**Sb**	**12 34 48.6**	**-1.4**
KOSE	**Korovin Southe**	**2.85**	**265**	P	**Pn**	**12 34 16.8**	**+1.4**
KOFP	**Korovin Flat P**	**2.89**	**263**	P	**Pn**	**12 34 16.9**	**+0.9**
ATKA	**Atka Island**	**2.96**	**262**	P	**Pn**	**12 34 16.9**	**0.0**
ATKA				S	**Sn**	**12 34 55.5**	**+3.1**
WESP	**Westdahl Peak**	**3.33**	**55**	P	**Pn**	**12 34 23.1**	**+1.0**
SPIA	**Saint Paul Isl**	**4.52**	**354**	P	**Pn**	**12 34 39.4**	**+1.2**
DRIA	**Deer Island**	**4.81**	**59**	P	**Pn**	**12 34 44.4**	**+2.1**
KDAK	**Kodiak Island**	**10.87**	**55**	P	**Pn**	**12 36 05.6**	**+0.4**
	0.3nm,0.3s,baz=224,slow=5.2,SNR=6.1						
KDAK				S	**Sn**	**12 38 03.4**	**-3.4**
	0.1nm,0.3s,baz=293,slow=21,SNR=2.1						
ILAR	**Eielson Array**	**16.70**	**35**	P	**Pn**	**12 37 23.5**	**-0.1**
	0.1nm,0.3s,baz=227,slow=12,SNR=9.2						
PETK	**Petropavlovsk-**	**19.75**	**284**	P	**P**	**12 37 56.1**	**-3.5**
	0.1nm,0.3s,baz=70,slow=14,SNR=3.3						
DLBC	**Dease Lake**	**22.75**	**60**	P	**P**	**12 38 34.0**	**+2.0**
	2.2nm,0.8s,baz=208,slow=5.2,SNR=3.8						
INK	**Inuvik**	**23.09**	**34**	P	**P**	**12 38 34.0**	**-1.3**
	1.3nm,0.6s,baz=270,slow=6.1,SNR=3.0						
YKA	**Yellowknife Ar**	**30.05**	**49**	P	**P**	**12 39 39.2**	**+0.6**
	0.3nm,0.4s,baz=276,slow=7.0,SNR=4.7						
H11N2	**WAKE ISLAND Hy**	**37.69**	**218**	T	T	13 20 54.2	
	baz=24,slow=76,SNR=92						
H11N3	**WAKE ISLAND Hy**	**37.70**	**218**	T	T	13 20 54.2	
	baz=24,slow=76,SNR=150						
H11N1	**WAKE ISLAND Hy**	**37.71**	**218**	T	T	13 20 54.2	
	baz=24,slow=76,SNR=123						
H11S1	**WAKE ISLAND Hy**	**38.88**	**218**	T	T	13 22 17.6	
	baz=23,slow=76,SNR=1355						
H11S2	**WAKE ISLAND Hy**	**38.90**	**218**	T	T	13 22 17.1	
	baz=23,slow=76,SNR=1164						
H11S3	**WAKE ISLAND Hy**	**38.90**	**218**	T	T	13 22 17.1	
	baz=23,slow=76,SNR=887						
PDAR	**Pinedale Array**	**40.37**	**79**	P	**P**	**12 41 08.6**	**+0.6**
	1.1nm,0.8s,baz=297,slow=4.1,SNR=9.1						
TXAR	**Lajitas Array**	**52.77**	**89**	P	**P**	**12 42 45.8**	**+0.7**
	1.1nm,0.7s,baz=303,slow=5.5,SNR=15						
KURBB	**Kurchatov Arra**	**62.22**	**318**	P	P	12 43 46.5	-4.7
	0.5nm,0.6s,baz=66,slow=2.3,SNR=4.8						
WRA	**Warramunga Arr**	**87.18**	**232**	P	**P**	**12 46 14.9**	**-1.2**
	0.3nm,0.8s,baz=34,slow=5.8,SNR=3.7						
ASAR	**Alice Springs**	**90.58**	**230**	P	**P**	**12 46 31.3**	**-0.8**
	0.4nm,0.7s,baz=48,slow=3.9,SNR=4.8						

IDC 16 12:37:17.0±5.7,**61°88S**×**161°75E**,**h0**km,**mb3.6**/3, **mb1 3.9**/4,**mb1mx3.8**/13,**mbtmp3.7**/4,**ML3.6**/1,**MS3.8**/5,

Ms1 3.8/5,**ms1mx3.4**/17,**Error ellipse: s-maj=177.1km s-min=28.9km az=85.0,Balleny Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNDA	**Vanda**	**15.72**	**180**	Pn	Pn	12 40 58.0	-1.4
	0.2nm,0.3s,baz=352,slow=12,SNR=13						
VNDA				LR	LR	12 46 09.3	
	comp=Z,439nm,18.1s,baz=358,slow=34						
RPZ	**Rata Peaks**	**19.01**	**21**	LR	LR	12 47 35.5	
	comp=Z,240nm,19.2s,baz=181,slow=32						
URZ	**Urewera**	**25.48**	**29**	LR	LR	12 51 44.8	
	comp=Z,232nm,18.4s,baz=204,slow=34						
STKA	**Stephens Creek**	**32.73**	**327**	LR	LR	12 54 19.9	
	comp=Z,117nm,18.1s,baz=191,slow=31						
MAW	**Mawson**	**38.24**	**218**	P	P	12 44 38.6	+0.6
	0.9nm,0.8s,baz=139,slow=7.4,SNR=3.7						
MAW				LR	LR	13 00 39.7	
	comp=Z,167nm,18.2s,baz=62,slow=37						
H01W1	**Cape Leeuwin H**	**40.17**	**290**	T	T	13 27 41.1	
	baz=147,slow=75,SNR=206						
H01W2	**Cape Leeuwin H**	**40.17**	**290**	T	T	13 27 41.4	
	baz=147,slow=75,SNR=231						
H01W3	**Cape Leeuwin H**	**40.19**	**290**	T	T	13 27 42.3	
	baz=147,slow=75,SNR=216						
ASAR	**Alice Springs**	**42.64**	**321**	P	P	12 45 16.0	+1.0
	0.8nm,0.8s,baz=163,slow=8.4,SNR=12						
WRA	**Warramunga Arr**	**46.03**	**323**	P	P	12 45 40.4	-1.7
	0.6nm,1.0s,baz=170,slow=11,SNR=2.6						
H08S2	**Diego Garcia H**	**82.96**	**267**	T	T	14 21 21.4	
	baz=151,slow=76,SNR=53						
H08S1	**Diego Garcia H**	**82.97**	**267**	T	T	14 21 23.1	
	baz=151,slow=76,SNR=53						
H08S3	**Diego Garcia H**	**82.98**	**267**	T	T	14 21 23.0	
	baz=151,slow=76,SNR=61						

*CSEM **16** 12:44:06.5±0.2,37°.22N×38°.96E,h2km,MD2.9,Error ellipse: s-maj=5.8km s-min=4.7km az=12.0*
*NSSC **16** 12:44:06.4±1.4,37°.16N×38°.94E,h0km±8km,ML1.9*
*ISK **16** 12:44:07.9,37°.34N×38°.96E,h6km,MD2.9*
ISC 16 12:44:06.5±1.2,**37°21N**±0°.03×**38°95E**±0°.03,**h1**km±11km, **n20,σ0$72/32,Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URFA	**Urfa**	**0.25**	**335**	*e*PG	**Pg**	**12 44 11.2**	**0.0**
URFA	**Urfa**	**0.25**	**335**	*e*Pg	**Pg**	**12 44 11.3**	**0.0**
SVRC	**Sivrice-ELAZID**	**1.20**	**13**	*e*PG	**Pg**	**12 44 29.0**	**-0.4**
SVRC				*e*SG	**Sg**	**12 44 44.1**	**-0.8**
SVRC	**Sivrice-ELAZID**	**1.20**	**13**	*e*Pg	**Pg**	**12 44 29.0**	**-0.4**
SVRC				*e*Sg	**Sg**	**12 44 44.1**	**-0.8**
MAZI	**Mazidag**	**1.22**	**78**	*e*PN	**Pn**	**12 44 31.4**	**+0.8**
MAZI				*e*SN	**Sn**	**12 44 47.6**	**-0.2**
MAZI	**Mazidag**	**1.22**	**78**	*e*Pn	**Pn**	**12 44 31.5**	**+0.8**
MAZI				*e*Sn	**Sn**	**12 44 47.6**	**-0.2**
SFNV	**Sufian**	**1.22**	**130**	*e*P	**Pg**	**12 44 29.7**	**-0.2**
SFNV				*e*S	**Sg**	**12 44 45.8**	**0.0**
SFNV				AML	AML	12 44 49.8	
	comp=Z,57nm,0.5s						
SFNV	**Sufian**	**1.22**	**130**	*e*P	**Pg**	**12 44 29.7**	**-0.2**
	SNR=57						
SFNV				*e*S	**Sg**	**12 44 45.8**	**0.0**
	comp=Z,57nm,0.5s,SNR=49						
KBSD	**Kabsdagh**	**1.29**	**99**	*e*P	**Pg**	**12 44 30.6**	**-0.6**
KBSD				*e*S	**Sb**	**12 44 48.4**	**-0.2**
KBSD				AML	AML	12 44 52.5	
	comp=Z,37nm,0.6s						
KBSD	**Kabsdagh**	**1.29**	**99**	*e*P	**Pg**	**12 44 30.6**	**-0.6**
	SNR=57						
KBSD				*e*S	**Sb**	**12 44 48.3**	**-0.2**
	comp=Z,37nm,0.6s,SNR=49						
GAZ	**Gaziantep**	**1.39**	**269**	*e*PN	**Pb**	**12 44 34.7**	**+1.4**
GAZ	**Gaziantep**	**1.39**	**269**	*e*Pn	**Pb**	**12 44 34.7**	**+1.4**
PTK	**Pertek**	**1.71**	**12**	*e*PN	**Pn**	**12 44 37.4**	**-0.2**
PTK	**Pertek**	**1.71**	**12**	*e*Pn	**Pn**	**12 44 37.4**	**-0.2**
DARE	**Darende-Malaty**	**1.79**	**320**	*e*PN	**Pn**	**12 44 38.6**	**+0.1**
DARE	**Darende-Malaty**	**1.79**	**320**	*e*Pn	**Pn**	**12 44 38.6**	**+0.1**
DRWC	**Darouich**	**1.93**	**253**	*e*P	**Pn**	**12 44 41.1**	**+0.7**
DRWC				*e*S	**Sn**	**12 45 05.1**	**-0.2**
DRWC				AML	AML	12 45 20.8	
	comp=N,7.2nm,0.5s						
DRWC				AML	AML	12 45 21.5	
	comp=E,12nm,0.6s						
DRWC	**Darouich**	**1.93**	**253**	*e*P	**Pn**	**12 44 41.1**	**+0.7**
	SNR=45						
DRWC				*e*S	**Sn**	**12 45 05.1**	**-0.2**
	comp=E,12nm,0.6s,SNR=40						
BTCH	**Batrach**	**2.32**	**240**	*e*P	**Pn**	**12 44 44.5**	**-1.3**
BTCH				*e*S	**Sn**	**12 45 14.1**	**-1.0**
BTCH				AML	AML	12 45 31.8	
	comp=E,24nm,0.5s						
BTCH				AML	AML	12 45 33.5	
	comp=N,31nm,0.6s						
BTCH	**Batrach**	**2.32**	**240**	*e*P	**Pn**	**12 44 44.5**	**-1.3**
	SNR=45						
BTCH				*e*S	**Sn**	**12 45 14.1**	**-1.0**
	comp=N,31nm,0.6s,SNR=40						

*CSEM **16** 12:44:07.2±0.3,34°.18N×23°.51E,h10km,ML3.9,Error ellipse: s-maj=10.2km s-min=5.2km az=62.0*
*IDC **16** 12:44:07.1±0.8,34°.32N×23°.80E,h0km,mb4.0/16, mb1 4.1/23,mb1mx4.0/41,mbtmp4.0/23,ML4.2/6,MS3.5/6, Ms1 3.5/6,ms1mx3.0/40,Error ellipse: s-maj=19.9km s-min=15.2km az=15.0*
*ISCJB **16** 12:44:08.3±1.0,34°.12N±0°.03×23°.79E±0°.05,h25km±8km, mb3.9/16,MS3.5/4,Error ellipse: s-maj=7.3km s-min=4.0km az=150.1*
*ATH **16** 12:44:09.2,34°.38N×23°.47E,h27km±1km,ML3.9/3,Error ellipse: s-maj=3.3km s-min=1.8km az=19.0*
*HLW **16** 12:44:10.9,34°.45N×23°.95E,h19km±10km,Md3.8,Ml3.9*
*THE **16** 12:44:11.7,34°.33N×23°.80E,h0km±6km,ML3.9/4,Error ellipse: s-maj=8.1km s-min=2.0km az=200.0*
ISC 16 12:44:07.8±1.6,**34°26N**±0°.05×**23°79E**±0°.04,**h8**km±9km, **n149,σ1$92/157,mb4.0/16,MS3.6/4,4C-3D,Crete**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GVD	**Gavdhos**	**0.63**	**23**	P	**Pn**	**12 44 22.4**	**-0.6**
GVD				S	**Sn**	**12 44 32.3**	**-0.9**
GVD	**Gavdhos**	**0.63**	**23**	P	**Pn**	**12 44 22.4**	**-0.6**
GVD				S	**Sn**	**12 44 33.9**	**+0.7**
GVD	**Gavdhos**	**0.63**	**23**	P	**Pn**	**12 44 22.0**	**-1.0**
GVD				S	**Sn**	**12 44 33.9**	**+0.7**
GVD				AML	AML	12 44 39.9	
	comp=E,24436μm,0.5s						
GVD				AML	AML	12 44 42.1	
	comp=N,19888μm,0.6s						
SIVA	**Sivas**	**1.13**	**48**	P	**Pn**	**12 44 33.2**	**+3.3**
SIVA	**Sivas**	**1.13**	**48**	P	**Pn**	**12 44 33.2**	**+3.3**
SIVA				S	**Sn**	**12 44 50.1**	**+4.5**
SIVA	**Sivas**	**1.13**	**48**	P	**Pn**	**12 44 33.5**	**+3.6**
SIVA				S	**Sn**	**12 44 50.1**	**+4.5**
SIVA				AML	AML	12 44 56.8	
	comp=N,8895μm,1.3s						
SIVA				AML	AML	12 44 58.4	
	comp=E,10586μm,0.5s						
VAM	**Vamos**	**1.19**	**16**	P	**Pn**	**12 44 31.8**	**+1.0**
VAM				S	**Sn**	**12 44 49.6**	**+2.4**
VAM	**Vamos**	**1.19**	**16**	P	**Pn**	**12 44 31.8**	**+1.0**
VAM				S	**Sn**	**12 44 49.6**	**+2.4**
VAM	**Vamos**	**1.19**	**16**	P	**Pn**	**12 44 31.6**	**+0.8**
VAM				S	**Sn**	**12 44 48.0**	**+0.8**
VAM				AML	AML	12 45 01.7	
	comp=N,5772μm,1.0s						
VAM				AML	AML	12 45 03.2	
	comp=E,6108μm,0.8s						
IMMV	**Iera Moni Meta**	**1.21**	**7**	P	**Pn**	**12 44 31.6**	**+0.6**
IMMV				S	**Sn**	**12 44 49.6**	**+2.0**
IMMV	**Iera Moni Meta**	**1.21**	**7**	P	**Pn**	**12 44 31.6**	**+0.6**
IMMV				S	**Sn**	**12 44 49.6**	**+2.0**
IMMV	**Iera Moni Meta**	**1.21**	**7**	P	**Pn**	**12 44 31.8**	**+0.8**
IDI	**Anoyia**	**1.37**	**41**	Pn	**Pn**	**12 44 36.7**	**+3.5**
	comp=E,21nm,0.3s,baz=237,slow=12,SNR=72						
IDI				Sn	**Sn**	**12 44 56.1**	**+4.5**
	comp=E,30nm,0.3s,baz=270,slow=14,SNR=8.0						
IDI	**Anoyia**	**1.37**	**41**	P	**Pn**	**12 44 35.7**	**+2.4**
IDI				S	**Sn**	**12 44 54.6**	**+3.0**
IDI	**Anoyia**	**1.37**	**41**	P	**Pn**	**12 44 36.8**	**+3.5**
ANKY	**Antikythira Is**	**1.65**	**346**	P	**Pg**	**12 44 40.4**	**+0.9**
ANKY	**Antikythira Is**	**1.65**	**346**	P	**Pn**	**12 44 35.0**	**-2.1**
ANKY	**Antikythira Is**	**1.65**	**346**	P	**Pn**	**12 44 35.0**	**-2.1**

LAST	**Lasithi**	**1.66**	**57**	P		**Pg**	**12 44 40.7**	**+1.1**
LAST	**Lasithi**	**1.66**	**57**	P		**Pg**	**12 44 40.7**	**+1.1**
LAST	**Lasithi**	**1.66**	**57**	P		**Pg**	**12 44 41.1**	**+1.5**
NPS	**Neapolis**	**1.80**	**56**	P		**Pg**	**12 44 43.0**	**+0.6**
NPS	**Neapolis**	**1.80**	**56**	P		**Pg**	**12 44 43.0**	**+0.6**
NPS	**Neapolis**	**1.80**	**56**	P		**Pg**	**12 44 43.6**	**+1.2**
KYTH	**Kithira**	**2.09**	**343**	P		**Pg**	**12 44 46.8**	**-1.1**
KYTH	**Kithira**	**2.09**	**343**	P		**Pn**	**12 44 40.9**	**-2.3**
ZKR	**Zakros**	**2.17**	**66**	P		**Pg**	**12 44 48.5**	**-1.0**
ZKR	**Zakros**	**2.17**	**66**	P		**Pg**	**12 44 48.5**	**-1.0**
THR6	**Thira Island,**	**2.47**	**32**	P		**Pb**	**12 44 51.1**	**-1.3**
THR6	**Thira Island,**	**2.47**	**32**	P		**Pb**	**12 44 51.1**	**-1.3**
MHLO	**Agia Marina, M**	**2.48**	**11**	P		**Pb**	**12 44 50.0**	**-2.5**
MHLO	**Agia Marina, M**	**2.48**	**11**	P		**Pb**	**12 44 50.0**	**-2.5**
THR5	**Thira Island,**	**2.50**	**30**	P		**Pb**	**12 44 50.9**	**-2.1**
THR5	**Thira Island,**	**2.50**	**30**	P		**Pb**	**12 44 50.9**	**-2.1**
SANT	**Santorini**	**2.51**	**32**	P		**Pb**	**12 44 51.3**	**-1.9**
SANT	**Santorini**	**2.51**	**32**	P		**Pb**	**12 44 51.3**	**-1.9**
MHLA	**Plaka, Milos I**	**2.53**	**12**	P		**Pb**	**12 44 50.5**	**-3.0**
MHLA	**Plaka, Milos I**	**2.53**	**12**	P		**Pb**	**12 44 50.5**	**-3.0**
VLI	**Veliai**	**2.55**	**344**	P		**Pb**	**12 44 53.1**	**-0.7**
VLI	**Veliai**	**2.55**	**344**	P		**Pb**	**12 44 51.4**	**-2.4**
SLUM	**Salum**	**3.01**	**156**	P		**Pn**	**12 44 57.5**	**+1.8**
	baz=159							
SLUM				S		**Sn**	**12 45 32.7**	**+0.8**
	baz=159							
SLUM	**Salum**	**3.01**	**156**	P		**Pn**	**12 44 57.5**	**+1.8**
SLUM				S		**Sn**	**12 45 32.7**	**+0.8**
KARP	**Karpathos**	**3.05**	**64**	P		**Pn**	**12 45 00.2**	**-2.2**
KARP	**Karpathos**	**3.05**	**64**	P		**Pb**	**12 45 00.2**	**-2.2**
KARP	**Karpathos**	**3.05**	**64**	P		**Pb**	**12 45 00.1**	**-2.3**
PYL	**PYLOS**	**3.12**	**328**	P		**Pn**	**12 44 55.6**	**-1.6**
PYL	**PYLOS**	**3.12**	**328**	P		**Pn**	**12 44 55.6**	**-1.6**
APE	**Apeiranthos**	**3.14**	**26**	‖*i*P		**Pn**	**12 44 58.6**	**+1.0**
APE				S		**Pg**	**12 45 08.3**	**+0.3**
APE	**Apeiranthos**	**3.14**	**26**	P		**Pn**	**12 44 57.9**	**+0.3**
APE	**Apeiranthos**	**3.14**	**26**	P		**Pn**	**12 44 57.9**	**+0.3**
ITM	**Ithomi**	**3.29**	**333**	P		**Pn**	**12 45 00.4**	**+0.8**
ITM	**Ithomi**	**3.29**	**333**	P		**Pn**	**12 45 00.5**	**+0.8**
TRIP	**Tripoli**	**3.49**	**340**	P		**Pn**	**12 45 03.8**	**+1.4**
TRIP	**Tripoli**	**3.49**	**340**	P		**Pn**	**12 45 03.8**	**+1.4**
VLY	**Voula,Athens**	**3.58**	**0**	P		**Pn**	**12 45 03.0**	**-0.7**
VLY	**Voula,Athens**	**3.58**	**0**	P		**Pn**	**12 45 03.0**	**-0.7**
PTL	**Penteli**	**3.78**	**1**	P		**Pn**	**12 45 09.3**	**+2.9**
PTL	**Penteli**	**3.78**	**1**	P		**Pn**	**12 45 09.3**	**+2.9**
ARG	**Arkhangelos**	**4.05**	**60**	P		**Pn**	**12 45 13.2**	**+3.1**
ARG	**Arkhangelos**	**4.05**	**60**	P		**Pn**	**12 45 13.2**	**+3.1**
ARG	**Arkhangelos**	**4.05**	**60**	P		**Pn**	**12 45 12.4**	**+2.3**
MATC	**Matruh**	**4.10**	**134**	P		**Pn**	**12 45 11.3**	**+0.5**
	baz=137							
HMAT	**Matruh**	**4.21**	**138**	P		**Pn**	**12 45 11.3**	**-1.0**
SMG	**Samos**	**4.24**	**35**	P		**Pn**	**12 45 15.2**	**+2.5**
SMG	**Samos**	**4.24**	**35**	P		**Pn**	**12 45 15.2**	**+2.5**
SWA2		**5.20**	**164**	P		**Pn**	**12 45 27.8**	**+1.9**
	baz=165							
SWA2				AMP			12 46 00.0	
	comp=E,210μm,0.6s,logA/T=5.5,baz=165							
SWA2		**5.20**	**164**	P		**Pn**	**12 45 27.8**	**+1.9**
HMYD	**Mayadein**	**7.43**	**125**	P		**Pn**	**12 45 56.7**	**+0.1**
	baz=126							
HMYD	**Mayadein**	**7.43**	**125**	P		**Pn**	**12 45 56.7**	**+0.1**
KOT	**Kottamia**	**8.07**	**120**	P		**Pn**	**12 46 05.2**	**-0.1**
	baz=121							
KOT	**Kottamia**	**8.07**	**120**	P		**Pn**	**12 46 05.2**

NKC	**Novy Kostel**	**18.00 336**	AMS	AMS	12 56 40.0	
	comp=E,400nm,9.8s					
CLL	**Collm**	**18.75 339**	*e*(P)	**Pn**	**12 48 29.0**	**+1.6**
CLL			*e*		12 48 52.0	
ESDC	**Sonseca Array**	**22.78 292**	P	**P**	**12 49 10.6**	**-0.1**
	comp=E,0.3nm,0.4s,baz=99,slow=12,SNR=2.6					
HFS	**Hagfors**	**26.72 349**	P	**P**	**12 49 47.2**	**-0.2**
	comp=E,2.1nm,0.4s,baz=161,slow=9.2,SNR=11					
FINES	**FINESS Array B**	**27.24 2**	P	**P**	**12 49 50.9**	**-1.1**
	comp=E,1.1nm,0.5s,baz=163,slow=12,SNR=6.0					
FINES			LR	LR	13 02 02.1	
	comp=E,145nm,18.1s,baz=222,slow=40					
NB2	**NORSAR Subarra**	**28.00 347**	P	**P**	**12 49 58.4**	**-0.5**
	comp=E,0.8nm,0.5s,SNR=4.8					
NB2	**NORSAR Subarra**	**28.00 347**	P	**P**	**12 49 58.4**	**-0.5**
	comp=Z,0.8nm,0.5s,baz=154,slow=9.3					
NOA	**NORSAR Array B**	**28.00 347**	P	**P**	**12 49 58.7**	**-0.2**
	comp=Z,0.7nm,0.5s,baz=155,slow=8.9,SNR=5.4					
EKA	**Eskdalemuir Ar**	**28.15 327**	P	**P**	**12 50 00.4**	**+0.2**
	comp=Z,2.3nm,0.5s,baz=121,slow=8.1,SNR=12					
TORD	**Torodi Ar. Bea**	**29.05 229**	P	**P**	**12 50 09.9**	**+1.3**
	comp=Z,1.0nm,0.6s,baz=39,slow=8.6,SNR=6.8					
AKTO	**Aktyubinsk**	**29.69 47**	P	**P**	**12 50 13.9**	**-0.1**
	comp=Z,2.9nm,0.7s,baz=272,slow=8.3,SNR=11					
ARCES	**ARCESS Array B**	**35.34 1**	P	**P**	**12 51 01.5**	**-1.7**
	comp=Z,1.8nm,0.6s,baz=171,slow=8.6,SNR=4.1					
ARCES			LR	LR	13 06 52.5	
	comp=Z,128nm,18.0s,baz=230,slow=39					
DBIC	**Dimbokro**	**38.13 230**	LR	LR	13 10 08.7	
	comp=Z,79nm,18.8s,baz=30,slow=41					
ZALV	**Zalesovo Beam**	**46.44 46**	P	**P**	**12 52 34.9**	**+0.1**
	comp=Z,4.0nm,0.3s,baz=266,slow=8.7,SNR=2.0					
ZALV			LR	LR	13 14 40.8	
	comp=Z,22nm,19.4s,baz=250,slow=40					
SONM	**Songino Array**	**60.93 50**	P	**P**	**12 54 22.0**	**+0.7**
	comp=Z,0.9nm,0.8s,baz=290,slow=8.6,SNR=4.7					
CMAR	**Chiang Mai Arr**	**67.80 82**	P	**P**	**12 55 07.7**	**+1.0**
	comp=Z,0.8nm,0.8s,baz=306,slow=9.5,SNR=4.5					
INK	**Inuvik**	**76.34 352**	P	**P**	**12 55 57.6**	**+0.7**
	comp=Z,2.4nm,0.8s,baz=47,slow=6.8,SNR=3.9					
YKA	**Yellowknife Ar**	**77.95 342**	P	**P**	**12 56 06.2**	**+0.1**
	comp=Z,0.3nm,0.6s,baz=34,slow=5.4,SNR=3.4					
USRK	**Ussuriysk Ar.**	**78.27 44**	P	**P**	**12 56 08.8**	**+0.6**
	comp=Z,2.2nm,0.5s,baz=305,slow=4.1,SNR=10					
KSRS	**Korea Array**	**79.72 52**	P	**P**	**12 56 17.2**	**+1.0**
	comp=Z,1.6nm,0.5s,baz=307,slow=4.5,SNR=7.3					
ILAR	**Eielson Array**	**81.03 356**	P	**P**	**12 56 23.6**	**+0.8**
	comp=Z,0.4nm,0.6s,baz=338,slow=3.4,SNR=7.3					
WRA	**Warramunga Arr**	**117.61 96**	PKP	**PKPdf**	**13 02 54.7**	**-0.2**
	comp=Z,0.1nm,0.4s,baz=325,slow=1.3,SNR=5.6					
ASAR	**Alice Springs**	**119.00 100**	PKP	**PKPdf**	**13 02 57.5**	**+0.1**
	comp=Z,0.2nm,0.8s,baz=284,slow=0.6,SNR=4.2					

CSEM ***16*** *13:02:44.5, 43.38N×12.75E, h15km, MD1.5/4*
ROM 16 13:02:44.5±0.0, 43.38N×12.75E, h15km, Md1.5/4, Error ellipse: s-maj=1.0km s-min=0.4km az=51.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SSFR	**Montelago di S**	**0.06**	**20**	Pg	Pg	13 02 47.7	+0.2
SSFR				Sg	Sg	13 02 49.9	+0.4
SSFR	**Montelago di S**	**0.06**	**20**	Pg	Pg	13 02 47.7	+0.2
SSFR				Sg	Sg	13 02 49.9	+0.4
SNTG	**Esanatoglia**	**0.18**	**131**	Pg	Pb	13 02 49.3	-0.3
SNTG				Sg	Sb	13 02 52.6	-0.4
SNTG	**Esanatoglia**	**0.18**	**131**	Pg	Pb	13 02 49.3	-0.3
SNTG				Sg	Sb	13 02 52.6	-0.4
ARVD	**Arcevia**	**0.18**	**48**	Pg	Pg	13 02 49.2	+0.3
ARVD				Sg	Sb	13 02 52.6	-0.5
ARVD	**Arcevia**	**0.18**	**48**	Pg	Pg	13 02 49.2	+0.3
ARVD				Sg	Sb	13 02 52.6	-0.5
PIEI	**Pieia**	**0.23**	**315**	Pg	Pg	13 02 49.8	+0.2
PIEI				Sg	Sb	13 02 53.8	-0.5
PIEI	**Pieia**	**0.23**	**315**	Pg	Pg	13 02 49.8	+0.2
PIEI				Sg	Sb	13 02 53.8	-0.5

CSEM ***16*** *13:03:23.9, 42.46N×13.30E, h12km, MD2.3/7*
ROM 16 13:03:23.9±0.1, 42.46N×13.30E, h12km±1km, Md2.3/7, MI1.9/4, Error ellipse: s-maj=1.8km s-min=0.8km az=79.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
T0104	**Madonna delle**	**0.11**	**165**	Pg	Pg	13 03 27.2	+0.4
T0104				Sg	Sg	13 03 29.6	+0.6
AQU	**L'Aquila**	**0.13**	**145**	Pg	Pb	13 03 27.9	-0.5
AQU				Sg	Sg	13 03 30.3	+0.8
AQU	**L'Aquila**	**0.13**	**145**	Pg	Pb	13 03 27.9	-0.5
AQU				Sg	Sg	13 03 30.3	+0.8
SMA1	**SAN MARTINO**	**0.17**	**9**	Pg	Pg	13 03 28.2	+0.4
SMA1				Sg	Sg	13 03 31.6	+1.0
SMA1	**SAN MARTINO**	**0.17**	**9**	Pg	Pg	13 03 28.2	+0.4
SMA1				Sg	Sg	13 03 31.6	+1.0
FIAM	**Fiamignano**	**0.24**	**215**	Pg	Pg	13 03 29.2	+0.3
FIAM				Sg	Sg	13 03 33.0	+0.7
FIAM	**Fiamignano**	**0.24**	**215**	Pg	Pg	13 03 29.2	+0.3
FIAM				Sg	Sg	13 03 33.0	+0.7
TERO	**Teramo**	**0.28**	**54**	Pg	Pg	13 03 29.7	+0.1
TERO				Sg	Sg	13 03 34.1	+0.7
TERO	**Teramo**	**0.28**	**54**	Pg	Pg	13 03 29.7	+0.1
TERO				Sg	Sg	13 03 34.1	+0.7
FAGN	**Fagnano**	**0.29**	**133**	Pg	Pg	13 03 30.3	+0.5
FAGN				Sg	Sb	13 03 35.1	-0.8
FAGN	**Fagnano**	**0.29**	**133**	Pg	Pg	13 03 30.3	+0.5
FAGN				Sg	Sb	13 03 35.1	-0.8
NRCA	**Norcia**	**0.40**	**340**	Pg	Pg	13 03 31.8	0.0
NRCA				Sg	Sg	13 03 38.0	+0.9
NRCA	**Norcia**	**0.40**	**340**	Pg	Pg	13 03 31.8	0.0
NRCA				Sg	Sg	13 03 38.0	+0.9
PTQR	**Pietraquaria**	**0.45**	**170**	Pg	Pg	13 03 32.8	+0.1
PTQR				Sg	Sg	13 03 39.0	+0.3
PTQR	**Pietraquaria**	**0.45**	**170**	Pg	Pg	13 03 32.8	+0.1
PTQR				Sg	Sg	13 03 39.0	+0.3
CERT	**Cerreto**	**0.56**	**205**	Pg	Pg	13 03 35.3	+0.4
	72nm,0.4s						
CERT	**Cerreto**	**0.56**	**205**	Pg	Pg	13 03 35.3	+0.4
	72nm,0.4s						
FDMO	**Fiordimonte**	**0.59**	**345**	Pg	Pg	13 03 35.2	-0.3
FDMO				Sg	Sb	13 03 44.4	-0.3
FDMO	**Fiordimonte**	**0.59**	**345**	Pg	Pg	13 03 35.2	-0.3
FDMO				Sg	Sb	13 03 44.4	-0.3
CESI	**CESI - Serrava**	**0.61**	**332**	Pg	Pg	13 03 36.0	+0.1
CESI				Sg	Sb	13 03 45.5	+0.2
CESI	**CESI - Serrava**	**0.61**	**332**	Pg	Pg	13 03 36.0	+0.1
CESI				Sg	Sb	13 03 45.5	+0.2
INTR	**Introdacqua**	**0.64**	**135**	Pg	Pg	13 03 35.9	-0.4
INTR				Sg	Sb	13 03 45.5	-0.4
INTR	**Introdacqua**	**0.64**	**135**	Pg	Pg	13 03 35.9	-0.4
INTR				Sg	Sb	13 03 45.5	-0.4
VVLD	**Villa Vallelon**	**0.64**	**158**	Pg	Pb	13 03 37.4	+0.3
	28nm,0.5s						
VVLD	**Villa Vallelon**	**0.64**	**158**	Pg	Pb	13 03 37.4	+0.3
	28nm,0.5s						
GUAR	**Guarcino**	**0.67**	**179**	Pg	Pb	13 03 37.7	+0.1
	43nm,0.3s						
GUAR	**Guarcino**	**0.67**	**179**	Pg	Pb	13 03 37.7	+0.1
	43nm,0.3s						
POFI	**Posta Fibreno**	**0.81**	**157**	Pg	Pg	13 03 39.2	-0.3
POFI	**Posta Fibreno**	**0.81**	**157**	Pg	Pg	13 03 39.2	-0.3
MGAB	**Montegabbione**	**0.98**	**298**	Pg	Pg	13 03 42.5	-0.4
	41nm,0.4s						
MGAB	**Montegabbione**	**0.98**	**298**	Pg	Pg	13 03 42.5	-0.4
	41nm,0.4s						

CSEM ***16*** *13:15:08.7, 39.72N×30.07W, h10km, ML2.6*
PDA 16 13:15:08.7±0.7, 39.72N×30.07W, h10km, MD3.5, ML2.6, Error ellipse: s-maj=21.5km s-min=6.3km az=47.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CALA	**Caldeira**	**1.56**	**136**	*e*P	Pn	13 15 31.7	-4.8
CALA				*e*S	Sn	13 15 49.6	-7.2
CALA	**Caldeira**	**1.56**	**136**	*e*P	Pn	13 15 31.7	-4.8
CALA				*e*S	Sn	13 15 49.6	-7.2
ROSA	**Rosais**	**1.74**	**124**	*e*S	Sn	13 15 53.5	-7.6
ROSA				A	A	13 15 55.0	
	6.5nm,0.1s						
ROSA	**Rosais**	**1.74**	**124**	*e*S	Sn	13 15 53.5	-7.6
PCAN	**Candelaria**	**1.76**	**135**	*e*P	Pn	13 15 34.7	-4.5
PCAN				*e*S	Sn	13 15 54.0	-7.7
PCAN				A	A	13 15 56.2	
	39nm,0.2s						
PCAN	**Candelaria**	**1.76**	**135**	*e*P	Pn	13 15 34.7	-4.5
PCAN				*e*S	Sn	13 15 54.0	-7.7
PICO	**Pico**	**1.77**	**133**	*e*P	Pn	13 15 35.1	-4.3
PICO				*e*S	Sn	13 15 54.4	-7.5
PICO				A	A	13 15 56.9	
	30nm,0.2s						
PICO	**Pico**	**1.77**	**133**	*e*P	Pn	13 15 35.1	-4.3
PICO				*e*S	Sn	13 15 54.4	-7.5

IDC ***16*** *13:16:26.9±0.7, 6.96S×144.04E, h0km, mb4.3/14, mb1 4.4/17, mb1mx4.3/28, mbtmp4.3/17, ML2.5/3, MS3.7/19, Ms1 3.7/19, ms1mx3.5/41, Error ellipse: s-maj=17.7km s-min=11.9km az=107.0*
ISCJB ***16*** *13:16:29.3±0.4, 7.01S±0.05×143.97E±0.07, h30km, mb4.2/13, MS3.7/15, Error ellipse: s-maj=10.6km s-min=6.5km az=153.8*
NEIC ***16*** *13:16:31.8±0.5, 7.01S×143.96E, h35km, mb4.0/2, Error ellipse: s-maj=13.0km s-min=7.6km az=81.0*
ISC 16 13:16:31.2±0.6, 6.93S±0.07×144.06E±0.09, h30km, n26, σ1§90/25, mb4.2/14, MS3.8/15, New Guinea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.93**	**129**	Pn	**Pn**	**13 17 30.4**	**+0.9**
	16nm,0.3s,baz=2.7,slow=5.0,SNR=45						
PMG				Sn	**Sn**	**13 18 15.0**	**+0.2**
	6.9nm,0.3s,baz=48,slow=23,SNR=9.0						
PMG				LR	LR	13 19 23.8	
	comp=Z,637nm,20.8s,baz=282,slow=45						
JAY	**Jayapura**	**5.51**	**323**	Pn	**Pn**	**13 17 49.9**	**-1.5**
	0.0nm,0.3s,baz=90,slow=20,SNR=2.5						
JAY				Lg	Lg	13 19 13.7	
	0.1nm,0.3s,baz=270,slow=20,SNR=2.7						
CTA	**Charters Tower**	**13.25**	**171**	Pn	**Pn**	**13 19 36.5**	**-1.0**
	0.1nm,0.3s,baz=307,slow=20,SNR=2.6						
CTA				Lg	Lg	13 23 27.6	
	0.1nm,0.3s,baz=330,slow=8.8,SNR=3.0						
CTA				LR	LR	13 25 00.2	
	comp=Z,745nm,19.3s,baz=349,slow=39						
WRAB	**Tennant Creek**	**15.99**	**215**	Pn	**Pn**	**13 20 13.1**	**-1.1**
	16nm,1.1s						
WRA	**Warramunga Arr**	**16.01**	**215**	Pn	**Pn**	**13 20 10.3**	**-4.0**
	0.3nm,0.3s,baz=33,slow=12,SNR=17						
WRA				Lg	Lg	13 24 51.2	
	0.2nm,0.3s,baz=37,slow=23,SNR=5.3						
WRA				LR	LR	13 26 57.9	
	comp=Z,679nm,21.1s,baz=30,slow=40						
ASAR	**Alice Springs**	**19.29**	**209**	P	**Pn**	**13 20 53.8**	**-1.2**
	1.3nm,0.3s,baz=40,slow=9.1,SNR=223						
ASAR				S	**S**	**13 24 37.3**	**+6.7**
	0.1nm,0.3s,baz=46,slow=20,SNR=4.6						
ASAR				Lg	Lg	13 26 37.0	
	0.1nm,0.3s,baz=19,slow=25,SNR=4.7						
ASAR				LR	LR	13 28 51.3	
	comp=Z,536nm,20.1s,baz=31,slow=39						
EIDS	**Eidsvold**	**19.52**	**161**	*e*P	**P**	**13 20 54.3**	**-2.0**
	7.3nm,0.9s						
FITZ	**Fitzroy Crossi**	**21.11**	**237**	P	**P**	**13 21 12.9**	**-0.7**
	10nm,1.0s,baz=62,slow=8.8,SNR=19						
FITZ				S	Sn	13 25 09.6	-4.7
	4.2nm,1.1s,baz=343,slow=14,SNR=2.4						
FITZ				LR	LR	13 30 04.7	
	comp=Z,418nm,19.6s,baz=60,slow=39						
STKA	**Stephens Creek**	**24.93**	**185**	P	**P**	**13 21 51.2**	**-0.6**
	3.3nm,0.9s,baz=357,slow=10,SNR=5.1						
STKA				LR	LR	13 32 23.6	
	comp=Z,481nm,19.5s,baz=22,slow=38						
DZM	**Mont Dzumac**	**26.32**	**127**	LR	LR	13 31 10.1	
	comp=Z,180nm,21.6s,baz=314,slow=34						
MJAR	**Matsushiro Arr**	**43.59**	**353**	P	**P**	**13 24 32.6**	**-0.2**
	4.8nm,1.1s,baz=174,slow=11,SNR=6.4						
MJAR				LR	LR	13 42 03.5	
	comp=Z,48nm,21.8s,baz=180,slow=35						
RPZ	**Rata Peaks**	**43.62**	**152**	LR	LR	13 41 54.9	
	comp=Z,134nm,18.8s,baz=306,slow=35						
KSRS	**Korea Array**	**46.66**	**342**	P	**P**	**13 24 57.5**	**+0.5**
	6.2nm,1.0s,baz=160,slow=9.0,SNR=18						
KSRS				LR	LR	13 42 10.4	
	comp=Z,102nm,21.1s,baz=145,slow=33						
KSAR	**Wonju Array Ma**	**46.66**	**342**	P	**P**	**13 24 57.5**	**+0.5**
CMAR	**Chiang Mai Arr**	**51.15**	**300**	P	**P**	**13 25 32.8**	**+0.9**
	4.6nm,0.9s,baz=125,slow=5.7,SNR=20						
CMAR				LR	LR	13 46 36.3	
	comp=Z,25nm,21.0s,baz=136,slow=35						
USRK	**Ussuriysk Ar.**	**52.05**	**349**	P	**P**	**13 25 39.4**	**+1.3**
	2.5nm,0.9s,baz=191,slow=6.6,SNR=3.6						
USRK				LR	LR	13 45 04.0	
	comp=Z,57nm,21.7s,baz=163,slow=33						
PETK	**Petropavlovsk-**	**60.92**	**9**	P	**P**	**13 26 41.8**	**+0.7**
	2.1nm,0.8s,baz=196,slow=7.0,SNR=2.9						
PETK				LR	LR	13 53 59.3	
	comp=Z,21nm,18.6s,baz=204,slow=37						
SONM	**Songino Array**	**63.84**	**333**	P	**P**	**13 27 01.8**	**+0.9**
	1.6nm,0.9s,baz=157,slow=7.9,SNR=6.7						
SONM				LR	LR	13 54 13.0	
	comp=Z,54nm,20.2s,baz=88,slow=36						
MA2	**Magadan**	**66.51**	**4**	LR	LR	13 55 28.9	
	comp=Z,15nm,19.4s,baz=170,slow=35						
VNDA	**Vanda**	**71.18**	**176**	P	**P**	**13 27 47.2**	**+0.5**
	1.7nm,1.0s,baz=335,slow=6.5,SNR=4.0						
VNDA				LR	LR	13 58 31.0	
	comp=Z,59nm,18.5s,baz=352,slow=36						
ZALV	**Zalesovo Beam**	**78.26**	**329**	P	**P**	**13 28 27.0**	**-1.1**
	2.3nm,0.8s,baz=108,slow=4.8,SNR=5.9						
ZALV				LR	LR	14 02 42.9	
	comp=Z,60nm,21.0s,baz=70,slow=36						
MAW	**Mawson**	**80.27**	**203**	P	**P**	**13 28 38.4**	**-0.4**
	2.3nm,1.0s,baz=65,slow=1.3,SNR=5.5						
MAW				LR	LR	14 01 26.1	
	comp=Z,41nm,19.4s,baz=60,slow=34						
QSPA	**South Pole Qui**	**83.04**	**180**	*e*P	**P**	**13 28 53.5**	**-0.2**
NRIK	**Noril'sk**	**85.28**	**343**	P	**P**	**13 29 05.7**	**+1.0**
	9.1nm,0.9s,baz=105,slow=5.9,SNR=5.5						
NRIK				LR	LR	14 05 55.2	
	comp=Z,67nm,20.6s,baz=115,slow=35						
BVAR	**Borovoye Array**	**85.81**	**324**	P	**P**	**13 29 08.0**	**+0.3**
	1.7nm,0.8s,baz=115,slow=6.7,SNR=9.1						
ILAR	**Eielson Array**	**87.49**	**24**	P	**P**	**13 29 15.5**	**-0.2**
	2.9nm,0.9s,baz=248,slow=5.1,SNR=18						

IDC ***16*** *13:31:14.5±2.3, 24.16N×94.64E, h95km±19km, mb3.6/7, mb1 3.7/8, mb1mx3.3/50, mbtmp3.9/8, Error ellipse: s-maj=32.9km s-min=15.0km az=66.0*
ISCJB ***16*** *13:31:15.2±0.7, 24.45N±0.05×94.22E±0.04, h114km±5km, mb3.9/7, Error ellipse: s-maj=7.9km s-min=6.0km az=160.3*
ISC 16 13:31:15.0±1.0, 24.34N±0.06×94.27E±0.07, h101km±7km, n31, σ2§02/56, mb3.7/7, Myanmar-India border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IMP	**Imphal**	**0.57**	**329**	*e*P	**Pn**	**13 31 31.0**	**-0.6**
IMP				*e*S	**Sn**	**13 31 42.0**	**-2.0**
IMP				*e*S	**Sn**	**13 31 43.2**	**-0.7**
IMP				AML	AML	13 31 47.4	
	comp=N,4μm,0.3s						
IMP				AML	AML	13 31 47.7	
	comp=E,3μm,0.4s						
MOKO	**MOKOCHONG**	**1.99**	**6**	*e*P	**Pn**	**13 31 47.0**	**-0.6**
MOKO				*e*S	**Sn**	**13 32 12.1**	**-0.3**
SHL	**Shillong**	**2.49**	**300**	*e*PN	**Pn**	**13 31 55.5**	**+1.3**
SHL				*e*SN	**Sn**	**13 32 24.5**	**+0.3**
TEZP	**TEZPUR**	**2.63**	**330**	*e*P	**Pn**	**13 31 55.5**	**-0.4**
TEZP				*e*S	**Sn**	**13 32 26.2**	**-1.0**
TEZP				AML	AML	13 32 28.6	
	comp=N,2μm,0.1s						
TEZP				AML	AML	13 32 28.6	
	comp=E,2μm,0.2s						
AGT	**Agartala**	**2.80**	**261**	*e*P	**Pn**	**13 31 58.6**	**+0.5**
AGT				*e*S	**Sn**	**13 32 33.8**	**+2.6**
AGT				AML	AML	13 32 35.9	
	comp=E,2μm,0.2s						
AGT				AML	AML	13 32 36.0	
	comp=N,1μm,0.5s						
BELO	**BELONIA**	**2.81**	**248**	*ex*	**Pn**	**13 31 55.5**	**-2.7**
BELO				*e*S	**Sn**	**13 32 33.5**	**+2.1**
ITAN	**ITANAGAR**	**2.84**	**350**	*e*P	**Pn**	**13 31 58.4**	**-0.3**
ITAN				*e*S	**Sn**	**13 32 31.7**	**-0.5**
GUWA	**GUWAHATI**	**2.98**	**309**	*e*P	**Pn**	**13 32 00.3**	**-0.1**
GUWA				*ex*	**Sn**	**13 32 33.7**	**-1.8**

ZIRO	**ZIRO**	**3.20**	**353**	*e*P	**Pn**	**13 32 02.8**	**-0.8**
ZIRO				*e*S	**Sn**	**13 32 37.8**	**-3.3**
ZIRO				AML	AML	13 32 52.2	
	comp=E,1μm,0.6s						
ZIRO				AML	AML	13 32 54.6	
	comp=N,1μm,0.6s						
TURI	**Tura**	**3.77**	**289**	*e*P	**Pn**	**13 32 12.4**	**+1.3**
TURI				*e*S	**Sn**	**13 32 56.7**	**+2.1**
GTK	**Tadong**	**5.91**	**301**	*e*P	**Pn**	**13 32 42.1**	**+1.9**
GTK				*e*S	**Sn**	**13 33 47.2**	**+0.5**
TAPN	**Taplejung**	**6.63**	**298**	*e*Pn	**Pn**	**13 32 51.7**	**+1.6**
TAPN				*e*Sn	**Sn**	**13 34 05.4**	**+1.0**
	comp=N,88nm,0.2s						
ODAN	**Odare**	**6.70**	**293**	*e*Pn	**Pn**	**13 32 51.6**	**+0.6**
ODAN				*e*Sn	**Sn**	**13 34 04.3**	**-1.7**
	comp=N,178nm,0.2s						
CMAR	**Chiang Mai Arr**	**7.29**	**142**	P	Pn	13 32 53.5	-5.4
	comp=N,0.5nm,0.3s,baz=317,slow=14,SNR=12						
RAMN	**Ramite**	**7.39**	**292**	*e*Pn	**Pn**	**13 33 00.9**	**+0.4**
RAMN				*e*Sn	**Sn**	**13 34 19.5**	**-3.5**
	comp=N,173nm,0.3s						
JIRN	**Jiri**	**7.99**	**296**	*e*Pn	**Pn**	**13 33 09.7**	**+1.0**
JIRN				*e*Sn	**Sn**	**13 34 35.9**	**-1.7**
	comp=N,197nm,0.2s						
GUN	**Gumba**	**8.34**	**297**	*e*Pn	**Pn**	**13 33 14.2**	**+0.8**
GUN				*e*Sn	**Sn**	**13 34 45.4**	**-0.7**
	comp=N,125nm,0.4s						
PKI	**Pulchoki**	**8.60**	**294**	*e*Pn	**Pn**	**13 33 17.1**	**+0.1**
PKI				*e*Sn	**Sn**	**13 34 49.9**	**-2.5**
	comp=N,84nm,0.3s						
PKIN	**Phulchoki**	**8.61**	**294**	*e*Pn	**Pn**	**13 33 17.4**	**+0.3**
PKIN				*e*Sn	**Sn**	**13 34 49.8**	**-2.9**
	comp=N,64nm,0.4s						
KKN	**Kakani**	**8.79**	**295**	*e*Pn	**Pn**	**13 33 20.0**	**+0.6**
KKN				*e*Sn	**Sn**	**13 34 53.9**	**-2.9**
	comp=N,49nm,0.2s						
DMN	**Daman**	**8.87**	**293**	*e*Pn	**Pn**	**13 33 20.3**	**-0.2**
DMN				*e*Sn	**Sn**	**13 34 54.9**	**-3.9**
GKN	**Gorkha**	**9.39**	**295**	*e*Pn	**Pn**	**13 33 27.3**	**-0.3**
GKN				*e*Sn	**Sn**	**13 35 09.1**	**-2.4**
	comp=N,105nm,0.3s						
KOLN	**Koldanda**	**10.19**	**292**	*e*Pn	**Pn**	**13 33 37.6**	**-0.8**
KOLN				*e*Sn	**Sn**	**13 35 26.2**	**-4.6**
	comp=N,104nm,0.4s						
PYUN	**Piuthan**	**10.80**	**293**	*e*Pn	**Pn**	**13 33 45.7**	**-1.1**
	comp=N,12nm,0.2s						
PYUN				*e*Sn	**Sn**	**13 35 40.8**	**-4.9**
	comp=N,61nm,0.5s						
PSI	**Prapat**	**21.88**	**167**	P	**P**	**13 35 58.1**	**-1.9**
	comp=N,2.7nm,0.7s,baz=298,slow=11,SNR=4.5						
SONM	**Songino Array**	**25.35**	**19**	P	**P**	**13 36 33.5**	**+0.9**
	comp=N,2.3nm,0.6s,baz=201,slow=9.0,SNR=12						
BVAR	**Borovoye Array**	**33.86**	**334**	P	**P**	**13 37 50.5**	**+2.8**
	comp=N,0.4nm,0.4s,baz=115,slow=8.2,SNR=3.1						
BVAR				ScP	**ScP**	**13 44 02.7**	**+2.9**
	comp=N,0.6nm,0.5s,baz=145,slow=5.3,SNR=4.8						
FINES	**FINESS Array B**	**58.52**	**328**	P	**P**	**13 41 01.8**	**+1.4**
	comp=N,1.9nm,0.7s,baz=112,slow=8.8,SNR=5.2						
WRA	**Warramunga Arr**	**58.82**	**135**	P	**P**	**13 41 00.6**	**-2.5**
	comp=N,0.2nm,0.3s,baz=322,slow=7.5,SNR=14						
WRA				ScP	**ScP**	**13 45 40.0**	**-3.0**
	comp=N,0.3nm,0.5s,baz=332,slow=4.6,SNR=5.7						
ASAR	**Alice Springs**	**61.28**	**138**	P	**P**	**13 41 18.0**	**-1.9**
	comp=N,0.3nm,0.3s,baz=317,slow=6.5,SNR=18						
BOSA	**Boshof**	**84.72**	**236**	P	**P**	**13 43 39.8**	**+1.6**
	comp=N,3.1nm,0.4s,baz=47,slow=2.6,SNR=9.1						

JMA 16 13:49:07.6, 37.64N×141.73E, h45km±2km, M3.5, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JFK	**Kawauchi**	**0.73**	**248**	P	Pn	13 49 21.7	+0.1
JFK				S	Sn	13 49 31.6	-0.2
JMM	**Marumori**	**0.78**	**287**	P	Pn	13 49 22.3	+0.1
JMM				S	Sn	13 49 32.7	0.0
JIO	**Ouri**	**0.87**	**340**	P	Pn	13 49 23.6	+0.2
JIO				S	Sn	13 49 34.6	-0.3
ONAJ	**Iwakimizuishiy**	**0.92**	**234**	P	Pn	13 49 24.1	0.0
ONAJ				*e*S	Sn	13 49 36.4	+0.2
JOU	**Okura**	**1.11**	**311**	P	Pn	13 49 27.1	+0.3
JOU				S	Sn	13 49 41.5	+0.6
JFT	**Otama**	**1.11**	**264**	P	Pn	13 49 27.6	+0.8
JFT				S	Sn	13 49 42.2	+1.2
JMK	**Ichinoseki**	**1.37**	**343**	P	Pn	13 49 30.8	+0.5
JMK				S	Sn	13 49 47.6	+0.4
JYS	**Shirataka**	**1.44**	**294**	P	Pn	13 49 31.9	+0.7
JYS				S	Sn	13 49 50.0	+1.1
JFY	**Yanaizu**	**1.63**	**262**	P	Pn	13 49

DIV	Divide	0.65	100	*e*Pg	Pg	14 00 21.3 -0.8
KNK	Knik Glacier	0.68	285	P	Pb	14 00 24.3 +0.3
KNK				S	Sb	14 00 33.4 -0.4
PWL	Port Wells	0.72	238	P	Pg	14 00 23.5 -0.1
PWL				S	Sb	14 00 34.1 -0.7
SML	Sawmill	0.82	314	*e*Pg	Pb	14 00 25.6 -0.8
HIN	Hinchinbrook I	0.90	161	P	Pg	14 00 26.9 0.0
EYAK	Cordova Ski Ar	0.95	136	*e*Pg	Pg	14 00 27.4 -0.6
PS12	TAPS Pump St12	0.96	75	P	Pg	14 00 27.0 -1.1
GHO	Glory Hole Cre	1.03	302	P	Pb	14 00 29.5 -0.5
PMR	Palmer	1.04	290	*e*Pg	Pb	14 00 29.9 -0.2
PS11	TAPS Pump St11	1.14	42	P	Pg	14 00 31.0 -0.5
SGAM	Sherman Glacie	1.18	128	P	Pg	14 00 31.8 -0.6
SGAM				S	Sn	14 00 49.9 +0.8
BMRM	Bremner River	1.23	102	*e*Pn	Pg	14 00 31.5 -1.8
RC01	Rabbit Creek A	1.30	264	*e*Pn	Pn	14 00 34.9 +0.6
GOAT	Goat Mountain	1.33	119	P	Pg	14 00 34.6 -0.6
GOAT				S	Sn	14 00 53.8 +1.0
RAGM	Ragged Mountai	1.46	125	*e*Pn	Pn	14 00 35.9 -0.7
HARP	HAARP	1.48	37	*e*Pn	Pn	14 00 36.1 -0.8
FIB	Fire Island	1.50	268	P	Pg	14 00 38.4 0.0
SEW	Seward	1.63	227	*e*Pn	Pn	14 00 39.2 +0.3
HMT	Hamilton	1.66	122	P	Pn	14 00 39.4 +0.1
SLKM	Skilak Lake	1.70	246	P	Pb	14 00 41.0 -0.5
SUA	Susitna One	1.78	279	*e*Pn	Pb	14 00 42.4 -0.4
NICHA	Nichawak Mount	1.83	122	P	Pn	14 00 42.0 +0.3
DHY	Denali Highway	1.84	356	*e*Pn	Pn	14 00 41.5 -0.5
MID	Middleton Isla	1.86	168	*e*Pn	Pn	14 00 42.7 +0.7
BERG	Berg Lake	1.86	116	P	Pn	14 00 42.0 -0.1
BERG				S	Sn	14 01 07.9 +1.9
KAIM	Kayak Island	1.86	134	P	Pn	14 00 41.9 -0.2
PAX	Paxson	1.89	23	*e*Pn	Pn	14 00 42.3 -0.2
MCARA	McCarthy VSAT	1.96	84	P	Pn	14 00 43.9 +0.4
CRQM	Cirque	1.98	103	*e*Pn	Pn	14 00 44.6 +0.7
SUCK	Suckling Hills	2.01	124	P	Pn	14 00 44.2 +0.1
KHIT	Khitrov Hills	2.04	112	P	Pn	14 00 44.9 +0.3
GRIN	Grindle Hills	2.08	116	P	Pn	14 00 45.5 +0.3
TGL	Tana Glacier	2.13	101	P	Pn	14 00 46.5 +0.6
PTPK	Patty Peak	2.23	89	P	Pn	14 00 48.0 +0.6
SKT	Skwentna	2.25	291	P	Pb	14 00 48.9 -1.8
PS10	TAPS Pump St10	2.27	15	P	Pn	14 00 49.3 +1.6
MENT	Mentasta	2.32	41	*e*Pn	Pn	14 00 49.3 +0.8
RND	Reindeer	2.32	340	*e*Pn	Pb	14 00 50.1 -1.8
KULT	Kultieth River	2.36	113	P	Pn	14 00 49.2 +0.2
BRLK	Bradley Lake	2.40	233	*e*Pn	Pn	14 00 50.3 +0.8
BARK	Barkley Ridge	2.40	109	P	Pn	14 00 50.2 +0.6
SPU	Mount Spurr	2.41	271	*e*Pn	Pn	14 00 50.9 +1.3
BAGL	Bagley Icefiel	2.56	105	P	Pn	14 00 52.2 +0.6
MCK	McKinley	2.64	342	*e*Pn	Pn	14 00 54.5 +1.7
BGRM	Barrier Glacie	2.65	262	P	Pn	14 00 54.3 +1.4
GRNC	Granite Creek	2.65	99	P	Pn	14 00 53.6 +0.5
TRF	Thorofare Moun	2.67	327	*e*Pn	Pn	14 00 55.4 +2.0
CNPM	China Poot	2.69	232	*e*Pn	Pn	14 00 54.2 +0.7
MESA	MESA	2.74	111	P	Pn	14 00 55.5 +1.2
HOM	Homer	2.76	237	*e*Pn	Pn	14 00 56.1 +1.7
DOT	Dot Lake	2.79	29	*e*Pn	Pn	14 00 57.0 +2.1
CTGM	Chitina Glacie	2.81	93	P	Pn	14 00 55.8 +0.6
RDJH	Redoubt Jeurge	2.87	259	P	Pn	14 00 57.1 +1.1
RSO	Redoubt South	2.88	257	*e*Pn	Pn	14 00 57.5 +1.2
RED	Redoubt Volcan	2.91	256	P	Pn	14 00 57.4 +0.8
RDWB	Redoubt West	2.92	257	P	Pn	14 00 57.7 +0.9
PPLA	Purkeypile	2.92	307	*e*Pn	Pn	14 00 58.9 +2.2
KTH	Kantishna Hill	2.93	324	*e*Pn	Pn	14 00 58.9 +2.1
RKAV	Rock Avalanche	2.97	106	P	Pn	14 00 58.5 +1.0
LOGN	Logan Glacier	2.99	95	P	Pn	14 00 58.8 +1.1
TABL	Table Mountain	3.02	103	P	Pn	14 00 59.0 +0.9
BCA3	Beaver Creek A	3.08	51	P	Pn	14 01 00.7 +1.8
HDA	Harding Lake	3.18	1	*e*Pn	Pn	14 01 02.4 +2.3
CAST	Castle Rocks	3.19	315	*e*Pn	Pn	14 01 02.0 +1.6
WRH	Wood River Hil	3.27	352	*e*Pn	Pn	14 01 03.2 +1.7
PS08	TAPS Pump Stn8	3.31	2	P	Pn	14 01 04.3 +2.3
CCB	Clear Creek Bu	3.43	355	*e*Pn	Pn	14 01 05.1 +1.5
IL1	Eielson Array	3.54	1	*e*Pn	Pn	14 01 06.3 +1.2
ILAR	Eielson Array	3.54	1	Pn	Pn	14 01 06.3 +1.2
	14nm,0.3s,baz=186,slow=12,SNR=484					
ILAR				Lg	Lg	14 01 52.5
	6.8nm,0.3s,baz=180,slow=21,SNR=14					
ILB	Eielson Array	3.54	1	*e*Pn	Pn	14 01 06.4 +1.2
COLA	College	3.66	355	*e*Pn	Pn	14 01 08.4 +1.7
MDM	Murphy Dome	3.77	353	*e*Pn	Pn	14 01 10.0 +1.7
BCPM	Bancas Point	3.89	106	P	Pn	14 01 10.0 0.0
CDD	Cape Douglas	4.02	238	P	Pn	14 01 13.2 +1.4
FOPK	Fourpeaked Vol	4.06	235	P	Pn	14 01 13.2 +0.9
SVW2	Sparrevohn	4.12	272	*e*Pn	Pn	14 01 13.4 +0.3
PNL	Peninsula	4.12	109	P	Pn	14 01 14.0 +0.9
EGAK	Eagle	4.46	35	*e*Pn	Pn	14 01 20.2 +2.5
KDAK	Kodiak Island	4.46	221	Pn	Pn	14 01 17.8 0.0
	13nm,0.3s,baz=49,slow=8.4,SNR=201					
KDAK				Sn	Sn	14 02 06.8 -3.1
	10nm,0.3s,baz=130,slow=23,SNR=11					
KDAK				Lg	Lg	14 02 34.4
	baz=135,slow=20,SNR=2.1					
TT01	Tatalina	4.52	296	*e*Pn	Pn	14 01 19.0 +0.4
TTA	Tatalina	4.53	296	*e*Pn	Pn	14 01 19.2 +0.5
DAWY	Dawson	4.54	48	*e*Pn	Pn	14 01 21.1 +2.2
HYT	Haines Junctio	4.68	91	*e*Pn	Pn	14 01 22.9 +2.0
PS06	TAPS Pump Stn6	4.78	347	P	Pn	14 01 23.9 +1.8
DHAK	Deception Hill	4.93	112	*e*Pn	Pn	14 01 24.5 +0.3
KABR	Katmai Barrier	5.07	235	P	Pn	14 01 27.2 +1.0
OHAK	Old Harbor	5.14	221	*e*Pn	Pn	14 01 26.5 -0.6
FYU	Fort Yukon	5.41	8	*e*Pn	Pn	14 01 33.1 +2.4
PLBC	Pleasant Camp	5.62	104	P	Pn	14 01 34.2 +0.6
PS05	TAPS Pump Stn5	5.81	346	P	Pn	14 01 38.2 +2.0
WHY	Whitehorse	5.97	90	*e*Pn	Pn	14 01 40.3 +1.6
SKAG	Skagway	6.10	102	*e*Pn	Pn	14 01 41.9 +1.7
COLD	Coldfoot	6.16	349	*e*Pn	Pn	14 01 42.9 +1.9
BM3	Burnt Mountain	6.29	9	P	Pn	14 01 44.4 +1.4
BESE	Bessie Mountai	6.70	108	*e*Pn	Pn	14 01 49.1 +0.5
CHGN	Chignik	7.69	235	*e*Pn	Pn	14 02 03.0 +0.9
DLBC	Dease Lake	9.03	101	Pn	Pn	14 02 24.2 +3.7
	0.5nm,0.3s,baz=277,slow=19,SNR=3.5					
INK	Inuvik	9.13	33	Pn	Pn	14 02 23.2 +1.5
	0.4nm,0.3s,baz=250,slow=15,SNR=7.9					
INK				Lg	Lg	14 04 55.7
	0.1nm,0.3s,baz=278,slow=19,SNR=2.6					
YKA	Yellowknife Ar	15.28	71	Pn	Pn	14 03 45.7 +0.1
	0.1nm,0.3s,baz=278,slow=10,SNR=2.8					
MA2	Magadan	29.72	295	LR	LR	14 17 31.8
	comp=Z,13nm,19.6s,baz=298,slow=35					
PFO	Pinyon Flats O	33.39	130	LR	LR	14 20 03.5
	comp=Z,53nm,18.1s,baz=316,slow=35					
TXAR	Lajitas Array	42.83	118	P	P	14 08 10.2 +1.9
	0.6nm,0.9s,baz=329,slow=5.9,SNR=6.3					
NRIK	Noril'sk	44.03	335	P	P	14 08 15.8 -1.6
	2.7nm,0.5s,baz=66,slow=5.9,SNR=3.4					
SONM	Songino Array	56.35	309	P	P	14 09 50.9 -0.3
	1.6nm,0.8s,baz=35,slow=8.4,SNR=9.3					
NB2	NORSAR Subarra	56.91	12	P	P	14 09 54.3 -0.6
	comp=Z,1.2nm,0.7s,baz=350,slow=7.4					
NOA	NORSAR Array B	56.91	12	P	P	14 09 54.0 -0.8
	comp=Z,1.5nm,0.8s,baz=350,slow=7.1,SNR=4.8					
FINES	FINESS Array B	57.52	4	P	P	14 09 59.0 -0.2
	comp=Z,4.2nm,1.0s,baz=14,slow=8.6,SNR=9.3					
ZALV	Zalesovo Beam	58.02	327	P	P	14 10 01.6 -1.1
	comp=Z,1.1nm,0.6s,baz=55,slow=5.6,SNR=3.9					
WMQ	Urumqi	66.29	320	*e*P	P	14 11 01.3 +2.8
WMQ				pmax	pmax	
	comp=Z,9.0nm,0.7s					
WMQ				pmax	pmax	
	comp=Z,35nm,4.7s					
WMQ				LR	LR	
	comp=N,22nm,17.7s					
WMQ				LR	LR	
	comp=Z,19nm,27.3s					
AKASG	Malin Array Be	68.37	3	P	P	14 11 11.0 -0.4
	comp=Z,1.9nm,0.6s,baz=359,slow=6.2,SNR=8.5					
GERES	GERESS Array B	69.18	13	P	P	14 11 15.9 -0.7
	comp=Z,0.2nm,0.3s,baz=317,slow=4.2,SNR=3.2					
ESDC	Sonseca Array	75.04	29	P	P	14 11 52.5 +0.6
	comp=Z,1.4nm,0.6s,baz=341,slow=5.7,SNR=9.8					
KBZ	Khabaz	75.07	353	P	P	14 11 52.0 +0.2
	comp=Z,1.0nm,0.5s,baz=22,slow=4.4,SNR=4.1					
BRTR	Keskin Array B	79.38	359	P	P	14 12 15.9 -0.4
	comp=Z,0.9nm,0.7s,baz=2.9,slow=4.9,SNR=6.4					
CMAR	Chiang Mai Arr	84.90	299	P	P	14 12 44.0 -1.4
	comp=Z,0.8nm,0.7s,baz=6.2,slow=7.1,SNR=4.4					

*CSEM **16** 14:00:33.5, 39.56N×29.76W, h10km, ML2.3*
PDA 16 14:00:33.5±0.9, 39.56N×29.76W, h10km, MD3.5, ML2.3, Error ellipse: s-maj=23.4km s-min=8.2km az=52.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PCED	Cedros	1.24	138	A	A	14 01 06.0	
	24nm,0.2s						
PCED				*e*S	Sb	14 01 06.1	-7.1
PCED	Cedros	1.24	138	*e*S	Sb	14 01 06.1	-7.1
CALA	Caldeira	1.28	140	*e*P	Pn	14 00 52.7	-4.8
CALA				*e*S	Sb	14 01 07.7	-6.6
CALA	Caldeira	1.28	140	*e*P	Pn	14 00 52.7	-4.8
CALA				*e*S	Sb	14 01 07.7	-6.6
HOR	Horta	1.36	139	*e*P	Pg	14 01 08.8	+9.2
ROSA	Rosais	1.45	125	*e*S	Sn	14 01 11.2	-7.7
ROSA				A	A	14 01 14.1	
	5.0nm,0.2s						
ROSA	Rosais	1.45	125	*e*S	Sn	14 01 11.2	-7.7
PCAN	Candelaria	1.48	138	*e*P	Pn	14 00 55.3	-4.9
PCAN				*e*S	Sn	14 01 12.2	-7.4
PCAN				A	A	14 01 14.4	
	68nm,0.1s						
PCAN	Candelaria	1.48	138	*e*P	Pn	14 00 55.3	-4.9
PCAN				*e*S	Sn	14 01 12.2	-7.4
PICO	Pico	1.48	135	*e*P	Pn	14 00 56.2	-4.1
PICO				*e*S	Sn	14 01 12.4	-7.4
PICO				A	A	14 01 15.9	
	56nm,0.1s						
PICO	Pico	1.48	135	*e*P	Pn	14 00 56.2	-4.1
PICO				*e*S	Sn	14 01 12.4	-7.4

*CSEM **16** 14:06:29.3, 39.57N×29.75W, h10km, ML3.0*
PDA 16 14:06:29.3±0.6, 39.57N×29.75W, h10km, MD3.6, ML3.0, Error ellipse: s-maj=50.0km s-min=5.2km az=57.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PCED	Cedros	1.24	139	*e*P	Pn	14 06 48.2	-4.5
PCED				*e*S	Sb	14 07 01.8	-7.0
PCED				A	A	14 07 02.6	
	60nm,0.3s						
PCED	Cedros	1.24	139	*e*P	Pn	14 06 48.2	-4.5
PCED				*e*S	Sb	14 07 01.8	-7.0
CALA	Caldeira	1.28	140	*e*S	Sb	14 07 03.2	-6.8
CALA	Caldeira	1.28	140	*e*S	Sb	14 07 03.2	-6.8
HOR	Horta	1.35	140	*e*S	Sb	14 07 04.5	-7.6
HOR				A	A	14 07 08.3	
	174nm,0.2s						
HOR	Horta	1.35	140	*e*S	Sb	14 07 04.5	-7.6
PCAN	Candelaria	1.48	138	*e*P	Pn	14 06 51.1	-4.9
PCAN				*e*S	Sn	14 07 07.9	-7.4
PCAN				A	A	14 07 08.5	
	91nm,0.3s						
PCAN	Candelaria	1.48	138	*e*P	Pn	14 06 51.1	-4.9
PCAN				*e*S	Sn	14 07 07.9	-7.4
PICO	Pico	1.48	135	*e*P	Pn	14 06 51.3	-4.8
PICO				*e*S	Sn	14 07 08.0	-7.5
PICO				A	A	14 07 10.8	
	117nm,0.2s						
PICO	Pico	1.48	135	*e*P	Pn	14 06 51.3	-4.8
PICO				*e*S	Sn	14 07 08.0	-7.5

*IDC **16** 14:09:39.9±1.5, 43.77N×138.53E, h244km±17km, mb3.0/7, mb1 3.3/13, mb1mx3.1/45, mbtmp3.8/13, Error ellipse: s-maj=23.7km s-min=11.7km az=103.0*
*ISCJB **16** 14:09:40.8±0.5, 43.76N±0.04×138.19E±0.06, h264km, mb3.1/6, Error ellipse: s-maj=6.1km s-min=5.6km az=136.2*
*JMA **16** 14:09:41.4±0.4, 43.74N×138.25E, h278km, M2.5*
ISC 16 14:09:41.6±0.7, 43.72N±0.06×138.32E±0.07, h264km, n30, σ1s57/39, mb3.1/6, Eastern Sea of Japan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JOSM	Okushiri--Mats	1.84	152	P	Pn	14 10 25.1	+1.1
JKB	Kayabe	2.71	132	P	Pn	14 10 33.2	+1.2
JWK2	Keihoku	3.02	57	P	Pn	14 10 36.6	+1.5
JFR	Furan	3.16	99	P	Pn	14 10 38.4	+1.7
JKK2	Kamakawa 2	3.21	86	P	Pn	14 10 38.9	+1.7
JKK2				*e*S	S	14 11 23.2	+1.8
JSE	Soyaes	3.30	66	P	Pn	14 10 39.2	+1.1
JSE				*e*S	S	14 11 24.4	+1.3
JNBK	Urakawa-nobuka	3.56	112	*e*S	S	14 11 31.2	+3.0
JCH	Churui	3.85	105	P	Pn	14 10 45.3	+1.0
JCH				*e*S	S	14 11 31.8	-2.4
JAR	Ashorobuto	3.99	94	P	Pn	14 10 46.9	+1.0
JAR				*e*S	S	14 11 37.5	+0.4
JTKR	Abashiri--Toko	4.05	84	P	Pn	14 10 47.2	+0.6
JANG	Nango	4.10	143	P	Pn	14 10 47.7	+0.4
JANG				*e*S	S	14 11 38.4	-1.2
USRK	Ussuriysk Ar.	4.59	278	P	Pn	14 10 51.8	-1.1
	1.1nm,0.3s,baz=89,slow=13,SNR=14						
JAK	Akkeshi	4.71	97	P	Pn	14 10 54.8	+0.5
JOM	Ohasama	4.79	151	P	Pn	14 10 56.5	+1.1
JOM				*e*S	S	14 11 54.3	0.0
JRA	Rausu	4.93	85	P	Pn	14 10 58.9	+2.0
JMK	Ichinoseki	5.24	154	P	Pn	14 11 01.1	+0.3
JMK				*e*S	S	14 12 03.0	-1.0
NEM2	Nemuro 2	5.41	91	P	Pn	14 11 02.0	-0.7
NEM2				*e*S	S	14 12 02.8	-4.9
MAT	Matsushiro	7.17	181	P	Pn	14 11 25.6	+1.0
MJAR	Matsushiro Arr	7.17	181	P	Pn	14 11 25.7	+1.1
	3.0nm,0.3s,baz=8.0,slow=12,SNR=26						
KSRS	Korea Array	10.08	235	P	Pn	14 12 01.1	+0.1
	0.1nm,0.3s,baz=46,slow=12,SNR=4.2						
JHJ	Hachijo jima 2	10.64	173	P	Pn	14 12 05.8	-2.3
	9.4nm,0.3s,baz=66,slow=12,SNR=4.9						
JNU	Nakatsue	12.07	211	P	Pn	14 12 27.3	+1.4
	0.3nm,0.3s,baz=9.9,slow=6.6,SNR=4.1						
MA2	Magadan	17.61	21	P	P	14 13 27.1	-1.7
	0.4nm,0.3s,baz=205,slow=11,SNR=4.9						
SEY	Seymchan	20.91	18	P	P	14 14 01.7	-2.2
	1.1nm,0.4s,baz=252,slow=17,SNR=5.2						
ILAR	Eielson Array	45.27	36	P	P	14 17 32.1	-0.6
	0.3nm,0.8s,baz=289,slow=8.2,SNR=3.2						
INK	Inuvik	49.61	29	P	P	14 18 05.2	-0.7
	1.7nm,0.7s,baz=265,slow=7.1,SNR=8.0						
FINES	FINESS Array B	61.83	330	P	P	14 19 33.3	+0.9
	0.8nm,0.4s,baz=54,slow=6.7,SNR=10						
WRA	Warramunga Arr	63.45	184	P	P	14 19 43.5	-0.1
	0.4nm,1.0s,baz=2.7,slow=6.9,SNR=4.6						
WRA				PcP	PcP	14 20 18.0	+0.2
	0.4nm,0.7s,baz=359,slow=4.8,SNR=6.8						
ASAR	Alice Springs	67.17	184	P	P	14 20 08.5	+1.2
	0.1nm,0.5s,baz=355,slow=5.3,SNR=5.3						
PDAR	Pinedale Array	74.64	45	P	P	14 20 51.7	-0.6
	0.1nm,0.3s,baz=298,slow=3.2,SNR=3.7						

*ISCJB **16** 14:25:02.1±0.4, 21.07S±0.03×68.36W±0.05, h150km±5km, mb3.7/5, Error ellipse: s-maj=7.3km s-min=5.2km az=163.4*
*IDC **16** 14:25:04.0±2.0, 21.04S×67.97W, h147km±18km, mb3.5/5, mb1 3.6/9, mb1mx3.4/31, mbtmp3.9/9, Error ellipse: s-maj=21.4km s-min=15.1km az=66.0*
*SJA **16** 14:25:03.2±0.5, 21.05S×67.85W, h209km±58km, ML3.1, MW3.4*
*GUC **16** 14:25:03.4±0.7, 21.03S×68.52W, h149km±5km, ML4.1*
ISC 16 14:25:02.5±0.8, 21.04S±0.04×68.24W±0.06, h139km±8km, n26, σ1s52/40, mb4.0/5, 4D, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PB01	IPOC Station P	1.17	269	*e*P	Pn	14 25 27.8	-0.1
PB01				*e*S	Sn	14 25 46.5	-0.7
PB01				IAML		14 25 49.7	
	comp=E,2μm,0.2s						
PB09	IPOC Station P	1.21	231	*e*P	Pn	14 25 29.1	+0.7
PB09				*e*S	Sn	14 25 48.5	+0.4
PB09				IAML		14 25 49.6	
	comp=N,4μm,0.3s						
PB09				IAML		14 25 50.9	
	comp=E,5μm,0.4s						
PB08	IPOC Station P	1.24	316	*e*P	Pn	14 25 30.0	+1.1
PB08				*e*S	Sn	14 25 50.2	+1.2
PB02	IPOC Station P	1.58	259	*e*P	Pn	14 25 32.0	-0.1
PB02				*e*S	Sn	14 25 53.8	-1.0
PB02				IAML		14 25 55.0	
	comp=N,6μm,0.4s						
PB07	IPOC Station P	1.69	246	*e*P	Pn	14 25 33.3	-0.2
PB07				*e*S	Sn	14 25 56.1	-1.0
PB07				IAML		14 25 57.2	
	comp=E,4μm,0.3s						
HMBC	Humberstone	1.72	296	*e*P	Pn	14 25 33.6	-0.2
HMBC				*e*S	Sn	14 25 56.6	-1.2
HMBC				IAML		14 25 58.9	
	comp=N,2μm,0.4s						
PB11	IPOC Station P	1.84	313	*e*P	Pn	14 25 35.5	+0.3
PB11				*e*S	Sn	14 26 00.0	-0.2
PB06	IPOC Station P	2.08	217	⇓*i*P	Pn	14 25 38.1	+0.1
PB06				*i* S	Sn	14 26 04.6	-0.7
PB06				IAML		14 26 05.1	
	comp=E,820nm,0.1s						
PB04	IPOC Station P	2.20	234	*e*P	Pn	14 25 39.5	-0.1
PB04				*e*S	Sn	14 26 05.8	-2.2
PSGC	Pisagua	2.28	309	⇓*i*P	Pn	14 25 39.9	-0.6
PSGC				*i* S	Sn	14 26 08.0	-1.5
MNMC	Minye Minye	2.29	326	*e*P	Pn	14 25 41.7	+0.9
YJA	Yavi	2.77	115	*e*P	Pn	14 25 48.6	+1.6
YJA				*e*S	Sn	14 26 22.3	+1.1
PB12	IPOC Station P	3.11	320	⇓*i*P	Pn	14 25 49.9	-1.1
PB12				*i* S	Sn	14 26 25.9	-2.5
ANCH	Antofagasta	3.31	217	⇓*i*P	Pn	14 25 52.6	-0.8
ANCH				*i* S	Sn	14 26 30.7	-2.3
HJA	Humahuaca	3.40	130	*e*P	Pn	14 25 56.6	+1.7
HJA				IAML		14 25 57.3	
	comp=Z,62nm,0.3s						
AZAP	Zapla	4.32	138	*e*P	Pn	14 26 07.4	+0.5
LPAZ	La Paz	4.72	1	P	Pn	14 26 14.8	+2.1
	comp=Z,2.2nm,0.3s,baz=168,slow=7.6,SNR=47						
LPAZ				S	Sn	14 27 10.8	+3.6
	baz=90,slow=20,SNR=3.0						
FSA	Cafayete	5.46	158	*e*P	Pn	14 26 22.9	+0.9
FSA				IAML		14 26 26.8	
	comp=Z,5.3nm,0.3s						
SIV	San Ignacio	8.45	55	P	Pn	14 26 59.9	-2.1
	comp=Z,4.2nm,0.3s,baz=250,slow=12,SNR=30						
SIV				S	Sn	14 28 32.0	-3.8
	comp=Z,0.3nm,0.3s,baz=248,slow=19,SNR=3.2						
CPUP	Villa Florida	11.30	120	P	Pn	14 27 37.0	-2.8
	comp=Z,0.2nm,0.3s,baz=292,slow=16,SNR=2.7						
PLCA	Paso Flores	19.73	185	P	P	14 29 22.4	+1.0
	comp=Z,0.3nm,0.3s,baz=25,slow=9.9,SNR=4.8						
TXAR	Lajitas Array	60.61	324	P	P	14 34 59.6	+0.8
	comp=Z,0.1nm,0.4s,baz=111,slow=6.8,SNR=2.4						
SNAA	Sanae	62.51	161	P	P	14 35 11.6	+0.6
	comp=Z,0.3nm,0.6s,baz=225,slow=10,SNR=5.9						
DBIC	Dimbokro	68.00	73	P	P	14 35 46.2	-1.0
	comp=Z,1.5nm,0.4s,baz=216,slow=8.7,SNR=5.8						
TORD	Torodi Ar. Bea	76.61	70	P	P	14 36 38.1	-0.2
	comp=Z,2.6nm,0.5s,baz=253,slow=5.5,SNR=35						
YKA	Yellowknife Ar	90.96	340	P	P	14 37 50.6	+0.4
	comp=Z,0.8nm,0.7s,baz=144,slow=4.0,SNR=3.5						

*DDA **16** 14:30:37.8, 40.70N×35.26E, h7km, Md2.8*
*ISK **16** 14:30:41.6, 40.66N×34.97E, h6km, MD2.7*
*ISCJB **16** 14:30:42.1±0.8, 40.60N±0.04×35.08E±0.06, h6km±9km, Error ellipse: s-maj=7.8km s-min=6.9km az=33.1*
*CSEM **16** 14:30:42.1±0.2, 40.61N×35.04E, h5km, MD2.8, Error ellipse: s-maj=6.2km s-min=5.5km az=126.0*
ISC 16 14:30:41.9±1.1, 40.56N±0.03×35.01E±0.04, h16km±8km, n15, σ0s59/23, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CTAK	Corum_Osmancik	0.19	298	*i* P	Pg	14 30 46.5	-0.1
CTAK				*i* S	Sb	14 30 50.5	-0.2
CTAK	Corum_Osmancik	0.19	298	P	Pg	14 30 46.5	-0.1
CTAK				S	Sb	14 30 50.5	-0.2
COAL	Corum-Alaca	0.30	184	*i* P	Pg	14 30 48.2	-0.2
COAL				*i* S	Sb	14 30 54.0	+0.2
COAL	Corum-Alaca	0.30	184	P	Pg	14 30 48.2	-0.2
COAL				S	Sb	14 30 54.0	+0.2
CORM	Corum	0.48	218	*e*PG	Pb	14 30 52.5	+0.5
CORM				*e*SG	Sn	14 31 00.9	-1.5
CORM	Corum	0.48	218	*e*Pg	Pb	14 30 52.5	+0.5
CORM				*e*Sg	Sn	14 31 00.9	-1.5
HAVZ	Havza	0.74	46	*i* P	Pg	14 30 47.5	-8.9
HAVZ				*i* S	Sn	14 31 08.8	0.0
KVT	Kavak	0.94	56	*e*PG	Pb	14 30 59.5	-0.4
KVT	Kavak	0.94	56	*e*Pg	Pb	14 30 59.5	-0.4
ILGA	Ilgaz	1.10	297	*i* P	Pg	14 31 03.4	+0.2
ILGA				*i* S	Sn	14 31 18.0	+0.1
ILGA	Ilgaz	1.10	297	P	Pg	14 31 03.4	+0.2
ILGA				S	Sn	14 31 18.0	+0.1
SNOP	Sinop	1.47	6	*e*PN	Pn	14 31

JMK	**Ichinoseki**	**2.50**	**297**	P	**Pn**	**14 43 37.1 +0.1**
JMK				S	**Sn**	**14 44 06.7 +0.4**
JOM	**Ohasama**	**2.72**	**308**	P	**Pn**	**14 43 40.4 +0.4**
JOM				S	**Sn**	**14 44 11.8 +0.1**
JFT	**Otama**	**2.98**	**265**	P	**Pn**	**14 43 44.2 +0.5**
JFT				S	**Sn**	**14 44 18.1 -0.1**
JYK	**Kaneyama**	**3.11**	**291**	P	**Pn**	**14 43 46.2 +0.8**
JYK				S	**Sn**	**14 44 21.9 +0.5**
JANG	**Nango**	**3.22**	**323**	P	**Pn**	**14 43 47.3 +0.4**
JANG				*e*S	**Sn**	**14 44 23.2 -0.8**
JAG	**Ashikaga**	**3.96**	**250**	P	**Pn**	**14 43 57.2 +0.2**
JAG				S	**Sn**	**14 44 39.9 -2.3**
MJAR	**Matsushiro Arr**	**4.86**	**256**	Pn	**Pn**	**14 44 11.8 +2.3**
	0.3nm,0.3s,baz=114,slow=10,SNR=4.7					
WRA	**Warramunga Arr**	**58.20**	**191**	P	**P**	**14 52 49.0 -0.5**
	0.8nm,0.7s,baz=13,slow=7.5,SNR=8.2					
ASAR	**Alice Springs**	**61.93**	**191**	P	**P**	**14 53 15.1 +0.1**
	0.1nm,0.4s,baz=7.0,slow=8.4,SNR=2.7					

IDC ***16*** *14:51:49.7±0.9,36°.90N×104°.92W,h0km,mb3.6/1, mb1 4.2/6,mb1mx3.7/44,mbtmp3.9/6,ML3.9/5,MS3.0/10, Ms1 3.0/10,ms1mx2.8/38,Error ellipse: s-maj=17.8km s-min=9.1km az=84.0*

NEIC ***16*** *14:51:51.3±0.3,36°.88N×104°.74W,h5km,MN3.8,MW3.9, Error ellipse: s-maj=3.8km s-min=3.5km az=214.0, Moment Tensor Solution. s21 Moment tensor: Scale 10¹⁴Nm; Mrr-0.53; Mθθ-2.94; Mφφ3.47; Mrθ-1.75; Mθφ-8.03; Mφr-1.17; Best double couple: M₀8.90000×10¹⁴ NP1:φs102.00000°,δ80.00000°,λ-10.00000°. NP2: φs102.00000°,δ80.00000°,λ-170.00000°. Principal axes: T 8.9100, Plg0.0000°, Azm236.0000°; N 0.0000, Plg76.0000°, Azm146.0000°; P -8.9100, Plg14.0000°, Azm326.0000°;*

NEIC Felt [II] at Raton. Also felt at Cimarron, Eagle Nest and Springer. Felt [III] at Aguilar and Trinidad, Colorado. Also felt at Walsenburg and Weston.

ISC 16 14:51:50.9±1.3,36°.88N±0°.03×104°.77W±0°.03,h3km±10km, n282,σ1§10/247,MS3.0/5,New Mexico

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
T25A	**Trinidad**	**0.39**	**48**	P	**Pg**	**14 51 58.9**	**+0.4**
	baz=230						
T25A				S	**Sg**	**14 52 04.3**	**+0.6**
	baz=230						
T25A	**Trinidad**	**0.39**	**48**	*e*Pg	**Pg**	**14 51 58.7**	**+0.2**
SDCO	**Great Sand Dun**	**1.04**	**326**	P	Pg	14 52 08.7	-2.3
	baz=144						
SDCO	**Great Sand Dun**	**1.04**	**326**	*e*Pg	Pg	14 52 08.5	-2.4
SDCO				*e*Sg	**Sg**	**14 52 21.8**	**-2.7**
S22A	**4UR Ranch, Cre**	**1.86**	**299**	P	**Pn**	**14 52 23.5**	**-0.4**
	baz=116						
S22A				S	**Sn**	**14 52 47.7**	**-0.3**
	baz=116						
S22A	**4UR Ranch, Cre**	**1.86**	**299**	*e*Pn	**Pn**	**14 52 23.6**	**-0.4**
Q24A	**Divide**	**2.11**	**352**	P	**Pn**	**14 52 28.3**	**+0.9**
	baz=171						
Q24A				S	**Sn**	**14 52 55.3**	**+1.0**
	baz=171						
Q24A	**Divide**	**2.11**	**352**	*e*Pn	**Pn**	**14 52 28.1**	**+0.8**
ANMO	**Albuquerque**	**2.36**	**216**	Pn	**Pn**	**14 52 30.6**	**-0.1**
	44nm,0.3s,baz=35,slow=13,SNR=231						
ANMO				Lg	Lg	14 53 01.8	
	125nm,0.3s,baz=313,slow=23,SNR=15						
ANMO	**Albuquerque**	**2.36**	**216**	P	**Pn**	**14 52 30.6**	**-0.1**
	baz=35						
ANMO				S	**Sn**	**14 53 01.7**	**+1.4**
	baz=35						
ANMO	**Albuquerque**	**2.36**	**216**	*e*Pn	**Pn**	**14 52 30.7**	**-0.1**
ANMO				*e*Sn	**Sn**	**14 53 00.6**	**+0.2**
KSCO	**Kaye Shedlock'**	**2.73**	**38**	P	**Pn**	**14 52 37.1**	**+1.4**
	baz=219						
KSCO				Sb	**Sb**	**14 53 15.7**	**+1.4**
	baz=219						
KSCO	**Kaye Shedlock'**	**2.73**	**38**	*e*Pn	**Pn**	**14 52 37.2**	**+1.4**
KSCO				*e*Sn	**Sn**	**14 53 09.3**	**0.0**
SMCO	**Snowmass**	**2.88**	**324**	*e*Pn	**Pn**	**14 52 38.8**	**+0.6**
SMCO				*e*Sn	**Sb**	**14 53 22.8**	**+3.8**
LPM	**Los Pinos Moun**	**2.97**	**211**	*e*Pn	**Pn**	**14 52 39.8**	**+0.6**
ISCO	**Idaho Springs**	**2.99**	**348**	P	**Pn**	**14 52 40.4**	**+0.9**
	baz=166						
ISCO				Sb	**Sb**	**14 53 22.6**	**+0.4**
	baz=166						
ISCO	**Idaho Springs**	**2.99**	**348**	*e*Pn	**Pn**	**14 52 40.7**	**+1.1**
ISCO				*e*Sn	**Sn**	**14 53 18.4**	**+2.2**
MVCO	**Mesa Verde**	**3.00**	**278**	P	**Pn**	**14 52 39.1**	**-0.5**
	baz=95						
MVCO	**Mesa Verde**	**3.00**	**278**	*e*Pn	**Pn**	**14 52 39.7**	**+0.2**
MVCO				*e*Sn	**Sn**	**14 53 15.0**	**-1.2**
BNM	**Barren Site**	**3.11**	**210**	*e*Pn	**Pn**	**14 52 41.7**	**+0.6**
LAZ	**Ladron**	**3.13**	**219**	*e*Pn	**Pn**	**14 52 41.7**	**+0.4**
AMTX	**Amarillo**	**3.20**	**127**	P	**Pn**	**14 52 43.3**	**+1.0**
	baz=310						
AMTX	**Amarillo**	**3.20**	**127**	*e*Pn	**Pn**	**14 52 43.3**	**+1.0**
AMTX				*e*Sn	**Sn**	**14 53 20.4**	**-0.6**
PV01	**Paradox Valley**	**3.27**	**294**	*e*Pn	**Pn**	**14 52 43.2**	**-0.1**
Y22D	**IRIS PASSCAL I**	**3.30**	**213**	P	**Pn**	**14 52 43.4**	**-0.2**
	baz=31						
Y22D	**IRIS PASSCAL I**	**3.30**	**213**	*e*Pn	**Pn**	**14 52 43.4**	**-0.2**
MSTX	**Muleshoe**	**3.33**	**150**	P	**Pn**	**14 52 44.6**	**+0.6**
	baz=332						
MSTX				Sb	**Sb**	**14 53 34.5**	**+3.0**
	baz=332						
MSTX	**Muleshoe**	**3.33**	**150**	*e*Pn	**Pn**	**14 52 44.6**	**+0.6**
MSTX				*e*Sg	**Sg**	**14 53 37.5**	**-0.3**
PV04	**Paradox Valley**	**3.61**	**296**	*e*Sn	**Sn**	**14 53 32.0**	**+0.8**
PV05	**Paradox Valley**	**3.65**	**291**	*e*Pn	**Pn**	**14 52 47.7**	**-0.8**
PV10	**Paradox Valley**	**3.70**	**295**	*e*Pn	**Pn**	**14 52 50.4**	**+1.1**
PV09	**Paradox Valley**	**3.82**	**296**	*e*Pn	**Pn**	**14 52 52.8**	**+1.8**
N23A	**Red Feather La**	**4.12**	**348**	P	**Pn**	**14 52 55.5**	**+0.6**
	baz=166						
N23A	**Red Feather La**	**4.12**	**348**	*e*Pn	**Pn**	**14 52 57.5**	**+2.6**
O20A	**White River Ci**	**4.24**	**321**	P	**Pn**	**14 52 57.6**	**+0.9**
	baz=139						
O20A	**White River Ci**	**4.24**	**321**	*e*Pn	**Pn**	**14 52 57.9**	**+1.3**
W18A	**Petrified Fore**	**4.39**	**248**	P	**Pn**	**14 52 58.2**	**-0.4**
	baz=65						
W18A	**Petrified Fore**	**4.39**	**248**	*e*Pn	**Pn**	**14 52 59.3**	**+0.7**
W18A				*e*Sn	**Sn**	**14 53 50.6**	**+0.3**
CBKS	**Cedar Bluff**	**4.43**	**63**	P	**Pn**	**14 52 59.2**	**+0.2**
	baz=246						
CBKS	**Cedar Bluff**	**4.43**	**63**	*e*Pn	**Pn**	**14 52 59.4**	**+0.3**
CBKS				*e*Sn	**Sn**	**14 53 51.8**	**+0.6**
PHWY	**Pilot Hill**	**4.45**	**353**	*e*Pn	**Pn**	**14 53 00.9**	**+1.3**
OGNE	**Ogallala**	**4.59**	**27**	P	**Pn**	**14 53 02.2**	**+0.9**
	baz=208						
OGNE	**Ogallala**	**4.59**	**27**	*e*Pn	**Pn**	**14 53 02.5**	**+1.1**
OGNE				*e*Sn	**Sn**	**14 53 56.1**	**+0.8**
U32A	**Winter Ranch,**	**4.67**	**94**	P	**Pn**	**14 53 03.1**	**+0.8**
	baz=278						
X18A	**Snowflake**	**4.82**	**242**	*e*Pn	**Pn**	**14 53 05.0**	**+0.5**
121A	**Cookes Peak, D**	**4.99**	**211**	P	**Pn**	**14 53 06.9**	**0.0**
	baz=29						
121A	**Cookes Peak, D**	**4.99**	**211**	*e*Pn	**Pn**	**14 53 06.8**	**-0.2**
121A				*e*Sn	**Sn**	**14 54 05.8**	**+0.5**
SRU	**San Rafael Swe**	**5.06**	**298**	*e*Pn	**Pn**	**14 53 08.4**	**+0.5**
RWWY	**Rawlins**	**5.17**	**339**	*e*Pn	**Pn**	**14 53 10.7**	**+1.3**
MNTX	**Cornudas Mount**	**5.19**	**186**	P	**Pn**	**14 53 11.2**	**+1.7**
	baz=5.5						
MNTX	**Cornudas Mount**	**5.19**	**186**	Pn	**Pn**	**14 53 12.3**	**+2.8**
WMOK	**Wichita Mounta**	**5.32**	**112**	P	**Pn**	**14 53 11.4**	**+0.2**
	baz=296						
WMOK	**Wichita Mounta**	**5.32**	**112**	*e*Pn	**Pn**	**14 53 11.9**	**+0.7**
WMOK				*e*Sn	**Sn**	**14 54 12.5**	**-0.5**
WUAZ	**Wupatki**	**5.51**	**258**	P	**Pn**	**14 53 13.9**	**-0.1**
	baz=73						
WUAZ	**Wupatki**	**5.51**	**258**	*e*Pn	**Pn**	**14 53 13.7**	**-0.2**
WUAZ				*e*Sg	**Sg**	**14 54 48.2**	**+0.4**
TMUT	**Trail Mountain**	**5.62**	**297**	*e*Pn	**Pn**	**14 53 16.1**	**+0.4**
K22A	**Casper**	**5.92**	**347**	Pn	**Pn**	**14 53 22.0**	**+2.3**
X16A	**Lo Mia Camp, P**	**5.96**	**248**	*e*Pn	**Pn**	**14 53 20.5**	**+0.3**
ABTX	**Abilene, Hawle**	**5.98**	**134**	P	**Pn**	**14 53 20.4**	**0.0**
	baz=317						
ABTX	**Abilene, Hawle**	**5.98**	**134**	*e*Pn	**Pn**	**14 53 19.1**	**-1.3**
ABTX				*e*Sg	**Sg**	**14 55 02.8**	**-0.3**
U15A	**North Rim**	**6.06**	**268**	*e*Pn	**Pn**	**14 53 22.4**	**+0.7**
T34A	**McClaskey Farm**	**6.08**	**86**	P	**Pn**	**14 53 21.6**	**0.0**
	baz=271						
MSU	**Marysvale**	**6.09**	**288**	*e*Pn	**Pn**	**14 53 24.1**	**+2.0**
R34A	**Isabella, Hill**	**6.14**	**74**	P	**Pn**	**14 53 21.6**	**-0.9**
	baz=259						
S34A	**Willow Spring**	**6.17**	**80**	P	**Pn**	**14 53 21.7**	**-1.2**
	baz=265,SNR=5.4						
O33A	**Hebron**	**6.48**	**58**	P	**Pn**	**14 53 25.8**	**-1.4**
	baz=243						
U35A	**Pawnee**	**6.49**	**92**	P	**Pn**	**14 53 27.3**	**0.0**
	baz=277						
V35A	**Meyer Ranch, C**	**6.50**	**97**	P	**Pn**	**14 53 27.2**	**-0.3**
	baz=283						
Q34A	**Chapman**	**6.52**	**69**	P	**Pn**	**14 53 27.0**	**-0.7**
	baz=254						
T35A	**Sooner Cattle**	**6.62**	**87**	P	**Pn**	**14 53 29.1**	**0.0**
	baz=272						
W35A	**Tecumseh**	**6.63**	**103**	P	**Pn**	**14 53 28.9**	**-0.3**
	baz=288						
319A	**Douglas**	**6.64**	**216**	*e*Pn	**Pn**	**14 53 29.0**	**-0.5**
TUC	**Tucson**	**6.73**	**229**	Pn	**Pn**	**14 53 33.3**	**+2.6**
S35A	**Otter Creek Ra**	**6.79**	**81**	P	**Pn**	**14 53 30.8**	**-0.6**
	baz=266						
P34A	**Walnut Farm, R**	**6.80**	**64**	P	**Pn**	**14 53 29.8**	**-1.8**
	baz=250						
X35A	**Drake**	**6.81**	**109**	P	**Pn**	**14 53 31.3**	**-0.5**
	baz=294						
KSU1	**Kansas State U**	**6.82**	**69**	Pn	**Pn**	**14 53 32.6**	**+0.8**
BGNE	**Belgrade**	**6.85**	**47**	P	**Pn**	**14 53 32.1**	**-0.3**
	baz=231						
BGNE	**Belgrade**	**6.85**	**47**	*e*Pn	**Pn**	**14 53 31.6**	**-0.7**
BGNE				*e*Sg	**Sg**	**14 55 31.3**	**+0.4**
233A	**Rising Star**	**6.86**	**133**	P	**Pn**	**14 53 31.8**	**-0.6**
	baz=317						
PDAR	**Pinedale Array**	**6.94**	**329**	Pn	**Pn**	**14 53 33.9**	**+0.1**
	0.6nm,0.3s,baz=134,slow=14,SNR=11						
PDAR				Lg	Lg	14 55 25.9	
	2.4nm,0.3s,baz=134,slow=25,SNR=3.6						
BW06	**Boulder Array**	**6.94**	**329**	P	Pn	14 53 31.1	-2.6
	baz=146						
BW06	**Boulder Array**	**6.94**	**329**	*e*Pn	**Pn**	**14 53 32.7**	**-1.0**
R35A	**Emporia Munici**	**6.96**	**75**	P	**Pn**	**14 53 32.1**	**-1.6**
	baz=261						
HWUT	**Hardware Ranch**	**7.08**	**314**	*e*Pn	**Pn**	**14 53 33.4**	**-2.1**
DUG	**Dugway, Tooele**	**7.12**	**300**	Pn	**Pn**	**14 53 34.9**	**-1.2**
T36A	**Boggs Farm, Ca**	**7.12**	**86**	P	**Pn**	**14 53 35.5**	**-0.5**
	baz=272						
W36A	**Wetumka**	**7.14**	**102**	P	**Pn**	**14 53 36.5**	**+0.2**
	baz=287						
O34A	**Beatrice**	**7.14**	**60**	P	Pn	14 53 33.3	-3.0
	baz=245						
Q35A	**Mercer Eighty,**	**7.19**	**71**	P	**Pn**	**14 53 35.6**	**-1.4**
	baz=257						
V36A	**Jenks**	**7.21**	**96**	P	**Pn**	**14 53 36.7**	**-0.5**
	baz=282						
X36A	**Centrahoma**	**7.22**	**106**	P	**Pn**	**14 53 37.4**	**0.0**
	baz=291						
RSSD	**Black Hills**	**7.26**	**4**	P	**Pn**	**14 53 37.5**	**-0.7**
	baz=184						
RSSD	**Black Hills**	**7.26**	**4**	*e*Pn	**Pn**	**14 53 37.4**	**-0.7**
RSSD				*e*Sg	**Sg**	**14 55 44.5**	**+0.5**
U36A	**Oologah**	**7.29**	**91**	P	**Pn**	**14 53 37.3**	**-0.9**
	baz=277						
TUL1	**Leonard**	**7.31**	**95**	P	**Pn**	**14 53 37.4**	**-1.2**
	baz=281						
TUL1	**Leonard**	**7.31**	**95**	*e*Pn	**Pn**	**14 53 38.2**	**-0.3**
L32A	**Elgin**	**7.32**	**44**	P	**Pn**	**14 53 38.6**	**-0.1**
	baz=228						
333A	**Richland Sprin**	**7.33**	**137**	P	**Pn**	**14 53 38.3**	**-0.6**
	baz=321						
S36A	**Lake Cedric, C**	**7.37**	**81**	P	**Pn**	**14 53 39.1**	**-0.3**
	baz=266						
K31A	**O'Neill**	**7.38**	**37**	P	**Pn**	**14 53 39.6**	**+0.1**
	baz=221						
P35A	**Duane Minner,**	**7.38**	**66**	P	Pn	14 53 37.3	-2.4
	baz=252						
R36A	**Gordon, Harris**	**7.50**	**76**	P	**Pn**	**14 53 41.1**	**-0.1**
	baz=262,SNR=15						
M33A	**Taylor Creek F**	**7.52**	**49**	P	**Pn**	**14 53 40.8**	**-0.7**
	baz=234						
N34A	**Lincoln**	**7.57**	**56**	P	**Pn**	**14 53 41.2**	**-1.0**
	baz=241						
TXAR	**Lajitas Array**	**7.58**	**173**	Pn	**Pn**	**14 53 43.4**	**+1.1**
	2.0nm,0.3s,baz=0.1,slow=11,SNR=51						
TXAR				Lg	Lg	14 55 45.1	
	11nm,0.3s,baz=360,slow=24,SNR=15						
JCT	**Junction City**	**7.60**	**146**	P	**Pn**	**14 53 42.7**	**0.0**
	baz=329						
JCT	**Junction City**	**7.60**	**146**	*e*Pn	**Pn**	**14 53 42.1**	**-0.5**
Q36A	**Arnold C. Orve**	**7.65**	**71**	P	**Pn**	**14 53 42.8**	**-0.5**
	baz=257						
433A	**Art**	**7.72**	**141**	P	**Pn**	**14 53 43.5**	**-0.8**
	baz=324						
O35A	**Humboldt**	**7.72**	**61**	P	Pn	14 53 42.0	-2.2
	baz=247						
334A	**Lometa**	**7.74**	**134**	P	**Pn**	**14 53 43.8**	**-0.7**
	baz=318						
WHTX	**Lake Whitney,**	**7.76**	**127**	P	**Pn**	**14 53 44.7**	**0.0**
	baz=311						
WHTX	**Lake Whitney,**	**7.76**	**127**	*e*Pn	**Pn**	**14 53 44.9**	**+0.1**
W37B	**Quinton**	**7.77**	**100**	P	**Pn**	**14 53 44.0**	**-0.8**
	baz=286						
U37A	**Salina**	**7.78**	**91**	P	**Pn**	**14 53 44.8**	**-0.2**
	baz=277						
K32A	**Verdigre**	**7.80**	**40**	P	**Pn**	**14 53 44.5**	**-0.7**
	baz=224						
V37A	**Hulbert**	**7.83**	**94**	P	**Pn**	**14 53 45.1**	**-0.6**
	baz=280						
L33A	**Hoskins**	**7.84**	**45**	P	**Pn**	**14 53 45.5**	**-0.4**
	baz=230						
T37A	**Cheneyville 18**	**7.89**	**85**	P	**Pn**	**14 53 46.2**	**-0.4**
	baz=271						
J31A	**Geddes**	**7.90**	**34**	P	**Pn**	**14 53 46.8**	**0.0**
	baz=218						
S37A	**Fort Scott**	**7.97**	**81**	P	**Pn**	**14 53 46.9**	**-0.8**
	baz=267,SNR=10						
REDW	**Red Top Meadow**	**7.98**	**326**	*e*Pn	**Pn**	**14 53 49.1**	**+1.2**
X37A	**Clayton**	**7.98**	**104**	P	**Pn**	**14 53 47.5**	**-0.3**
	baz=290						
Y37A	**Hugo**	**8.01**	**108**	P	**Pn**	**14 53 47.2**	**-0.9**
	baz=294						
P36A	**Good Intent, A**	**8.01**	**67**	P	**Pn**	**14 53 47.9**	**-0.3**
	baz=253						
R37A	**Teagarden Farm**	**8.02**	**77**	P	**Pn**	**14 53 47.7**	**-0.7**
	baz=263,SNR=19						
434A	**Burnet**	**8.11**	**136**	P	**Pn**	**14 53 48.6**	**-1.0**
	baz=320						
TPAW	**Teton Pass**	**8.12**	**326**	*e*Pn	**Pn**	**14 53 49.9**	**-0.1**
N35A	**Tabor**	**8.16**	**58**	P	**Pn**	**14 53 49.6**	**-0.6**
	baz=244						
MOOW	**Mose Ponds**	**8.24**	**328**	*e*Pn	**Pn**	**14 53 52.3**	**+0.7**
L34A	**Svendsen Farm,**	**8.25**	**49**	P	**Pn**	**14 53 50.3**	**-1.2**
	baz=235						
214A	**Organ Pipe Nat**	**8.26**	**236**	*e*Pn	**Pn**	**14 53 51.6**	**0.0**
533A	**Kerrville**	**8.30**	**143**	P	**Pn**	**14 53 51.4**	**-0.9**
	baz=327						
O36A	**Bolckow**	**8.35**	**64**	P	**Pn**	**14 53 51.5**	**-1.3**
	baz=250						
Z37A	**Pogue Cattle C**	**8.35**	**113**	P	**Pn**	**14 53 51.8**	**-1.1**
	baz=299						
U38A	**Lawrette**	**8.36**	**90**	P	**Pn**	**14 53 52.7**	**-0.3**
	baz=276						
X38A	**Whitesboro**	**8.38**	**102**	P	**Pn**	**14 53 52.5**	**-0.7**
	baz=288						
J32A	**Parkston**	**8.38**	**37**	P	**Pn**	**14 53 52.3**	**-0.9**
	baz=222						
T38A	**Diamond**	**8.39**	**86**	P	**Pn**	**14 53 53.5**	**+0.1**
	baz=272						
Q37A	**Longview Farm,**	**8.40**	**73**	P	**Pn**	**14 53 52.7**	**-0.9**
	baz=260,SNR=7.9						
V38A	**Canehill**	**8.42**	**94**	P	**Pn**	**14 53 53.4**	**-0.5**
	baz=280						
W38A	**Poteau**	**8.51**	**99**	P	**Pn**	**14 53 54.9**	**-0.1**
	baz=286						
435B	**Jarrell**	**8.52**	**133**	P	**Pn**	**14 53 56.0**	**+0.8**
	baz=318						
534A	**Blanco**	**8.62**	**141**	P	**Pn**	**14 53 55.5**	**-1.1**
	baz=324						
P37A	**Lathrop**	**8.64**	**69**	P	**Pn**	**14 53 55.7**	**-1.1**
	baz=255						
S38A	**Stockton**	**8.70**	**82**	P	**Pn**	**14 53 56.8**	**-0.8**
	baz=268,SNR=13						
R11A	**Troy Canyon, C**	**8.71**	**283**	P	**Pn**	**14 53 56.8**	**-1.2**
	baz=96						
R11A	**Troy Canyon, C**	**8.71**	**283**	*e*Pn	**Pn**	**14 53 56.7**	**-1.2**
R38A	**Fenwick Farm,**	**8.73**	**78**	P	**Pn**	**14 53 57.2**	**-0.9**
	baz=265,SNR=18						
633A	**Saathoff Ranch**	**8.76**	**146**	P	**Pn**	**14 53 59.5**	**+1.1**
	baz=329						
J33A	**Davis**	**8.78**	**40**	P	**Pn**	**14 53 59.0**	**+0.2**
	baz=226						
L35A	**Bielow Farm, R**	**8.84**	**51**	P	**Pn**	**14 53 58.4**	**-1.2**
	baz=237						
K34A	**Le Mars**	**8.85**	**46**	P	**Pn**	**14 53 59.3**	**-0.4**
	baz=232						
RLMT	**Red Lodge**	**8.91**	**339**	P	**Pn**	**14 54 02.0**	**+1.2**
	baz=156						
X39A	**Fountain Ranch**	**8.99**	**102**	P	**Pn**	**14 54 01.1**	**-0.5**
	baz=289						
V39A	**Pettigrew**	**9.04**	**93**	P	**Pn**	**14 54 01.1**	**-1.2**
	baz=280						
W39A	**Magazine**	**9.06**	**97**	P	**Pn**	**14 54 02.1**	**-0.4**
	baz=284						
Q38A	**Cooks Store, C**	**9.06**	**73**	P	**Pn**	**14 54 01.7**	**-0.8**
	baz=260,SNR=12						
U39A	**Green Forest**	**9.09**	**90**	P	**Pn**	**14 54 02.6**	**-0.4**
	baz=277						
T39A	**Clever**	**9.12**	**86**	P	**Pn**	**14 54 03.4**	**-0.1**
	baz=273						
S39A	**Bolivar**	**9.16**	**81**	P	**Pn**	**14 54 03.0**	**-1.0**
	baz=269,SNR=14						
337A	**Centerville**	**9.22**	**124**	P	**Pn**	**14 54 03.8**	**-0.9**
	baz=310						
ECSD	**EROS Data Cent**	**9.26**	**40**	P	**Pn**	**14 54 04.2**	**-1.2**
	baz=225						
ECSD	**EROS Data Cent**	**9.26**	**40**	*e*Pn	**Pn**	**14 54 04.1**	**-1.2**
P38A	**Dawn**	**9.26**	**69**	P	**Pn**	**14 54 04.1**	**-1.2**
	baz=256						
J34A	**George**	**9.30**	**44**	P	**Pn**	**14 54 05.0**	**-0.9**
	baz=229						
K35A	**Storm Lake**	**9.38**	**49**	P	**Pn**	**14 54 06.0**	**-0.9**
	baz=235						
I33A	**Coleman**	**9.39**	**38**	P	**Pn**	**14 54 06.7**	**-0.4**
	baz=223						
MIAR	**Mount Ida**	**9.40**	**101**	P	**Pn**	**14 54 06.7**	**-0.5**
	baz=288						
MIAR	**Mount Ida**	**9.40**	**101**	*e*Pn	**Pn**	**14 54 06.3**	**-0.9**
R39A	**Chumby, Stover**	**9.43**	**78**	P	**Pn**	**14 54 06.4**	**-1.2**
	baz=265,SNR=9.5						
O38A	**Galt**	**9.43**	**66**	P	**Pn**	**14 54 06.7**	**-1.0**
	baz=254						
H32A	**Carlson Farm,**	**9.44**	**34**	P	**Pn**	**14 54 07.4**	**-0.4**
	baz=219						
Q39A	**Willow Grove F**	**9.57**	**73**	P	**Pn**	**14 54 08.3**	**-1.2**
	baz=261,SNR=13						
U40A	**Yellville**	**9.60**	**90**	P	**Pn**	**14 54 09.3**	**-0.7**
	baz=277						
W40A	**Ferguson Farm,**	**9.63**	**97**	P	**Pn**	**14 54 10.1**	**-0.2**
	baz=284						
V40A	**Witts Springs**	**9.70**	**93**	P	**Pn**	**14 54 10.5**	**-0.9**
	baz=280						
NATX	**Nacogdoches**	**9.79**	**118**	P	**Pn**	**14 54 12.4**	**-0.2**
	baz=304						
T40A	**Mansfield**	**9.81**	**85**	P	**Pn**	**14 54 12.0**	**-0.8**
	baz=272,SNR=11						
N38A	**Joes South For**	**9.81**	**63**	P	**Pn**	**14 54 12.3**	**-0.6**
	baz=250						
S40A	**Lebanon**	**9.81**	**82**	P	**Pn**	**14 54 12.3**	**-0.6**
	baz=270,SNR=11						
P39B	**Salisbury**	**9.82**	**71**	P	**Pn**	**14 54 11.5**	**-1.4**
	baz=258						
H33A	**Prehn Over Nor**	**9.89**	**35**	P	**Pn**	**14 54 13.4**	**-0.6**
	baz=221						
HLID	**Hailey**	**9.94**	**315**	Pn	**Pn**	**14 54 15.9**	**+1.1**
L37A	**Phoenix Point,**	**10.00**	**55**	P	**Pn**	**14 54 14.3**	**-1.1**
	baz=242						
R40A	**Maddies Statio**	**10.03**	**78**	P	**Pn**	**14 54 14.6**	**-1.2**
	baz=266,SNR=29						
M38A	**Pleasantville**	**10.07**	**60**	P	**Pn**	**14 54 15.5**	**-0.9**
	baz=247						
PFO	**Pinyon Flats O**	**10.10**	**255**	LR	LR	14 58 23.8	
	comp=Z,124nm,18.8s,baz=76,slow=40						
O39A	**Kirksville**	**10.15**	**67**	P	**Pn**	**14 54 15.9**	**-1.7**
	baz=255						
Q40A	**Laux Farm, Aux**	**10.25**	**74**	P	Pn	14 54 15.8	-3.2
	baz=262						
J36A	**Seneca 1, Swea**	**10.26**	**48**	P	Pn	14 54 16.8	-2.2
	baz=235						
W41B	**Gary Mavity, V**	**10.29**	**96**	P	**Pn**	**14 54 18.3**	**-1.0**
	baz=283						
H34A	**Spellman Lake,**	**10.35**	**38**	P	**Pn**	**14 54 18.8**	**-1.3**
	baz=224						
P40A	**Paris**	**10.36**	**71**	P	**Pn**	**14 54 18.9**	**-1.5**
	baz=259						
N39A	**Derby Farms, D**	**10.37**	**64**	P	**Pn**	**14 54 19.3**	**-1.2**
	baz=251						
K37A	**Belmond**	**10.39**	**52**	P	**Pn**	**14 54 19.0**	**-1.8**
	baz=239						
S41A	**Jillco Farms,**	**10.41**	**82**	P	**Pn**	**14 54 20.1**	**-1.1**
	baz=270						
T41A	**Mountain View**	**10.41**	**85**	P	**Pn**	**14 54 20.2**	**-1.0**
	baz=273						
G33A	**Ortonville**	**10.42**	**35**	P	**Pn**	**14 54 20.2**	**-1.0**
	baz=220						
L38A	**Oak Wood Farm,**	**10.53**	**56**	P	**Pn**	**14 54 21.6**	**-1.1**
	baz=244						
O40A	**La Belle**	**10.62**	**68**	P	**Pn**	**14 54 22.1**	**-1.8**
	baz=256						
R41A	**Rosebud**	**10.72**

	baz=244							
Q44A	**Meyer Farm, Va**	**12.61**	**76**	P	Pn	14 54 47.6		-3.7
	baz=266							
HDIL	**Hopedale**	**12.64**	**68**	P	Pn	14 54 48.2		-3.3
	baz=258							
OXF	**Oxford**	**12.71**	**96**	*e*Pn	**Pn**	**14 54 50.6**		**-2.0**
G38A	**Ridgeland**	**12.79**	**46**	P	Pn	14 54 50.3		-3.3
	baz=234							
H39A	**Augusta**	**12.85**	**48**	P	Pn	14 54 51.9		-2.5
	baz=237							
I40A	**Norwalk**	**12.86**	**53**	P	Pn	14 54 51.5		-3.1
	baz=242							
E36A	**McGregor**	**12.90**	**38**	P	Pn	14 54 53.0		-2.2
	baz=226							
D35A	**Remer**	**12.93**	**35**	P	Pn	14 54 53.1		-2.4
	baz=222							
P44A	**Sand Creek, Wi**	**12.97**	**74**	P	**Pn**	**14 54 54.2**		**-1.9**
	baz=264							
AGMN	**Agassiz Nation**	**13.16**	**27**	P	Pn	14 54 55.1		-3.5
	baz=213							
G39A	**Holcombe**	**13.25**	**46**	P	Pn	14 54 56.1		-3.8
	baz=235							
F38A	**Pierce - Schro**	**13.25**	**43**	P	Pn	14 54 57.2		-2.7
	baz=231							
H40A	**Chili**	**13.36**	**50**	P	Pn	14 54 58.1		-3.3
	baz=240							
I41A	**Arkdale**	**13.41**	**53**	P	Pn	14 54 59.1		-3.1
	baz=243							
D36A	**Goodland**	**13.42**	**36**	P	**Pn**	**14 55 00.1**		**-2.1**
	baz=224							
C35A	**Jirik Farms, M**	**13.44**	**33**	P	Pn	14 54 58.3		-4.1
	baz=220							
LPIG	**La Paz**	**13.59**	**202**	LR	LR	15 00 44.7		
	comp=Z,35nm,19.0s,baz=10,slow=39							
F39A	**Loretta**	**13.76**	**45**	P	Pn	14 55 02.8		-4.0
	baz=234							
D37A	**Cotton**	**13.76**	**38**	P	Pn	14 55 03.4		-3.5
	baz=226							
B34A	**Aery, Baudette**	**13.77**	**29**	P	Pn	14 55 03.3		-3.6
	baz=216							
G40A	**Rib Lake**	**13.81**	**48**	P	Pn	14 55 04.7		-2.8
	baz=238							
H41A	**Junction City**	**13.81**	**51**	P	Pn	14 55 04.8		-2.8
	baz=241							
A33A	**Warroad**	**13.86**	**27**	P	Pn	14 55 05.0		-3.3
	baz=213							
C36A	**Pine Crest Far**	**13.99**	**35**	P	Pn	14 55 07.4		-2.6
	baz=223							
B35A	**Bob, Littlefor**	**14.05**	**32**	P	Pn	14 55 06.6		-4.2
	baz=219							
E39A	**Mellen**	**14.23**	**44**	P	Pn	14 55 10.6		-2.8
	baz=233							
SFIN	**Lafayette**	**14.25**	**70**	P	Pn	14 55 11.0		-2.6
	baz=262							
C37A	**Embarrass**	**14.28**	**37**	P	Pn	14 55 11.4		-2.5
	baz=225							
NEW	**Newport**	**14.55**	**325**	LR	LR	15 00 53.7		
	comp=Z,45nm,19.4s,baz=119,slow=38							
E40A	**Wakefield**	**14.64**	**45**	P	Pn	14 55 16.0		-3.0
	baz=234							
C38A	**Sawbill Land.**	**14.71**	**38**	P	Pn	14 55 16.0		-3.9
	baz=227							
EYMN	**Ely**	**14.76**	**37**	P	Pn	14 55 16.2		-4.3
	baz=226							
EYMN	**Ely**	**14.76**	**37**	*e*Pn	Pn	14 55 16.0		-4.6
ULM	**Lac du Bonnet**	**14.83**	**23**	Pn	Pn	14 55 18.8		-2.6
	1.1nm,0.3s,baz=203,slow=12,SNR=7.7							
ULM				LR	LR	15 01 09.8		
	comp=Z,87nm,20.0s,baz=32,slow=38							
C39A	**Grand Marais**	**15.36**	**40**	P	Pn	14 55 23.8		-4.8
	baz=230							
D41A	**Chassel**	**15.75**	**45**	P	**Pn**	**14 55 30.4**		**-3.2**
	baz=236							
TKL	**Tuckaleechee C**	**16.98**	**88**	Pn	**Pn**	**14 55 47.9**		**-1.6**
	0.6nm,0.3s,baz=243,slow=9.3,SNR=4.4							
TKL				LR	LR	15 02 37.6		
	comp=Z,57nm,20.2s,baz=312,slow=38							
SADO	**Sadowa**	**20.88**	**60**	LR	LR	15 05 08.0		
	comp=Z,70nm,20.9s,baz=5.5,slow=38							
CMIG	**Matias Romero**	**21.56**	**153**	LR	LR	15 05 41.4		
	comp=Z,26nm,18.1s,baz=339,slow=38							
YKA	**Yellowknife Ar**	**26.36**	**350**	LR	LR	15 07 57.1		
	comp=Z,6.4nm,19.8s,baz=180,slow=37							
ILAR	**Eielson Array**	**37.37**	**332**	P	**P**	**14 59 04.6**		**+0.1**
	0.8nm,0.9s,baz=143,slow=7.4,SNR=7.0							
ILAR				LR	LR	15 15 02.1		
	comp=Z,35nm,21.5s,baz=87,slow=37							
GERES	**GERESS Array B**	**78.70**	**36**	LR	LR	15 38 30.8		
	comp=Z,17nm,18.5s,baz=324,slow=36							

MEX 16 14:53:41.3±0.6, 28°.44N×113°.65W, h4km±11km, MD3.8, Baja California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SRIG	**Santa Rosalia**	**1.67**	**131**	*e*P	Pn	14 54 07.0	-4.3
SRIG				*e*S	Sn	14 54 28.7	-4.5
CBX	**Cerro Bola**	**4.66**	**327**	*i* P	Pn	14 54 49.7	-2.8
CBX				*e*S	Sn	14 55 43.1	-4.0

*ISCJB **16** 14:54:06.9±1.4, 37°.21N±0°.08×28°.35E±0°.06, h0km, Error ellipse: s-maj=12.4km s-min=5.2km az=23.7*
*ISK **16** 14:54:06.5, 37°.21N×28°.35E, h6km, MD2.3*
*CSEM **16** 14:54:07.3±0.5, 37°.22N×28°.34E, h2km, MD2.6, Error ellipse: s-maj=10.3km s-min=3.5km az=22.0*
*DDA **16** 14:54:11.6, 36°.83N×28°.32E, h21km, Md2.6, Suspected Mining explosion.*

ISC 16 14:54:03.6±1.4, 37°.28N±0°.07×28°.39E±0°.04, h0km, n19, σ0s65/27, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TURN	**Turunc**	**0.44**	**157**	*i* P	**Pb**	**14 54 15.1**	**+0.8**
TURN				*i* S	**Sg**	**14 54 18.8**	**+0.9**
TURN	**Turunc**	**0.44**	**157**	P	**Pb**	**14 54 15.1**	**+0.8**
TURN				S	**Sg**	**14 54 18.8**	**+0.9**
MLSB	**Milas**	**0.49**	**271**	*e*PG	**Pb**	**14 54 15.7**	**+0.5**
MLSB	**Milas**	**0.49**	**271**	*e*Pg	**Pb**	**14 54 15.7**	**+0.5**
DALY	**Dalyan (Mu˘la**	**0.51**	**156**	*e*PG	**Pb**	**14 54 16.0**	**+0.5**
DALY				*e*SG	**Sb**	**14 54 22.5**	**-0.9**
DALY	**Dalyan (Mu˘la**	**0.51**	**156**	*i* P	**Pn**	**14 54 17.4**	**-0.8**
DALY				*i* S	**Sb**	**14 54 23.0**	**-0.4**
DALY	**Dalyan (Mu˘la**	**0.51**	**156**	*e*Pg	**Pb**	**14 54 16.0**	**+0.5**
DALY	**Dalyan (Mu˘la**	**0.51**	**156**	P	**Pn**	**14 54 17.4**	**-0.8**
DALY				*e*Sg	**Sb**	**14 54 22.5**	**-0.9**
DALY				S	**Sb**	**14 54 23.0**	**-0.4**
MRSB	**Marmaris-Mugla**	**0.59**	**195**	*e*PG	**Pb**	**14 54 16.5**	**-0.3**
MRSB	**Marmaris-Mugla**	**0.59**	**195**	*e*Pg	**Pb**	**14 54 16.5**	**-0.3**
FETY	**Fethiye**	**0.85**	**139**	*e*PG	**Pn**	**14 54 23.6**	**+0.6**
FETY	**Fethiye**	**0.85**	**139**	*e*Pg	**Pn**	**14 54 23.6**	**+0.6**
DAT	**Datca**	**0.85**	**230**	*e*PG	**Pn**	**14 54 22.5**	**-0.5**
DAT	**Datca**	**0.85**	**230**	*i* P	**Pn**	**14 54 23.1**	**+0.1**
DAT				*i* S	**Sb**	**14 54 33.2**	**-0.3**
DAT	**Datca**	**0.85**	**230**	*e*Pg	**Pn**	**14 54 22.5**	**-0.5**
DAT	**Datca**	**0.85**	**230**	P	**Pn**	**14 54 23.1**	**+0.1**
DAT				S	**Sb**	**14 54 33.2**	**-0.3**
BODT	**Bodrum**	**0.89**	**256**	*e*PG	**Pn**	**14 54 23.4**	**-0.1**
BODT	**Bodrum**	**0.89**	**256**	*e*Pg	**Pn**	**14 54 23.4**	**-0.1**
GOLH	**Golhisar**	**0.94**	**93**	*i* P	**Sg**	**14 54 32.6**	**-1.1**

PGC 16 15:02:00.0±0.0, 60°.74N×137°.82W, h1km, ML2.0/10, 15km west of Haines Jct., Yt Southern Yukon Territory, Canada, Southern Yukon Territory

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HYT	**Haines Junctio**	**0.18**	**61**	P	Pg	15 02 03.1	-0.3
HYT				S	Sg	15 02 05.9	+0.1
YUK7	**Dusty Glacier**	**0.26**	**217**	P	Pg	15 02 04.7	-0.4
YUK7				S	Sg	15 02 08.6	+0.1
YUK6	**Outpost Mounta**	**0.33**	**308**	P	Pg	15 02 05.6	-0.8
YUK6				S	Sg	15 02 10.6	-0.1
YUK5	**Granite Creek**	**0.39**	**357**	P	Pg	15 02 07.1	-0.5
YUK5				S	Sg	15 02 12.3	-0.3
PNL	**Peninsula**	**1.33**	**217**	P	Pg	15 02 23.6	-1.9
PNL				S	Sg	15 02 42.2	-0.5
WHY	**Whitehorse**	**1.45**	**92**	Pn	Pn	15 02 25.3	-2.2
WHY				Sg	Sg	15 02 45.2	-1.4
PLBC	**Pleasant Camp**	**1.48**	**150**	Pn	Pn	15 02 25.8	-2.0
PLBC				Sg	Sg	15 02 45.5	-2.0
YUK3	**Moose Creek**	**1.64**	**310**	Pn	Pn	15 02 28.5	-1.8
YUK3				Sg	Sn	15 02 51.0	-1.1
CTGM	**Chitina Glacie**	**1.73**	**279**	Pn	Pn	15 02 31.1	-0.4
CTGM				Sg	Sn	15 02 53.9	-0.4
YUK2	**White River**	**1.80**	**307**	Pn	Pn	15 02 31.6	-0.7
YUK2				Sg	Sn	15 02 55.1	-0.7
BVCY	**Beaver Creek**	**2.22**	**320**	Pg	Pb	15 02 40.2	-0.8
BVCY				Sg	Sb	15 03 09.0	+0.1
BESE	**Bessie Mountai**	**2.64**	**144**	Sg	Sb	15 03 22.3	+1.3
DAWY	**Dawson**	**3.42**	**348**	Sg	Sb	15 03 46.5	+3.2
DLBC	**Dease Lake**	**4.59**	**117**	Sg	Sg	15 04 23.1	-4.1

*ISK **16** 15:14:00.8, 38°.12N×27°.04E, h6km, MD2.7*
*ISCJB **16** 15:14:01.1±0.5, 38°.13N±0°.04×27°.06E±0°.04, h6km±8km, Error ellipse: s-maj=7.1km s-min=4.0km az=42.0*
*CSEM **16** 15:14:01.4±0.1, 38°.12N×27°.04E, h10km, MD2.7, Error ellipse: s-maj=3.2km s-min=2.1km az=47.0*
*DDA **16** 15:14:01.6, 38°.08N×26°.99E, h7km, Md2.6*

ISC 16 15:14:00.6±1.2, 38°.15N±0°.03×27°.06E±0°.02, h3km±13km, n28, σ1s33/37, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GMLD	**Gumuldur**	**0.14**	**238**	*e*PG	**Pg**	**15 14 03.4**	**+0.2**
GMLD	**Gumuldur**	**0.14**	**238**	*e*Pg	**Pg**	**15 14 03.4**	**+0.2**
DGB	**˘zmir**	**0.17**	**236**	*i* P	**Pg**	**15 14 04.0**	**+0.2**
URLA	**Izmir**	**0.42**	**300**	*i* P	**Pg**	**15 14 09.9**	**+1.2**
URLA				*i* S	**Sb**	**15 14 16.7**	**-0.8**
URLA	**Izmir**	**0.42**	**300**	P	**Pg**	**15 14 09.9**	**+1.2**
URLA				S	**Sb**	**15 14 16.7**	**-0.8**
ZEY	**˘zmir**	**0.45**	**282**	*i* P	**Pg**	**15 14 09.8**	**+0.6**
ZEY				*i* S	**Sb**	**15 14 17.3**	**-0.9**
GCAM	**G?zelcaml?**	**0.47**	**163**	*i* P	**Pg**	**15 14 10.1**	**+0.6**
GCAM				*i* S	**Sg**	**15 14 16.7**	**+1.1**
GCAM	**G?zelcaml?**	**0.47**	**163**	P	**Pg**	**15 14 10.1**	**+0.6**
GCAM				S	**Sg**	**15 14 16.7**	**+1.1**
KRBN	**Karaburun**	**0.60**	**318**	*e*PG	**Pg**	**15 14 13.3**	**+1.3**
KRBN				*e*SG	**Sb**	**15 14 22.1**	**-0.4**
KRBN	**Karaburun**	**0.60**	**318**	*e*Pg	**Pg**	**15 14 13.3**	**+1.3**
KRBN				*e*Sg	**Sb**	**15 14 22.1**	**-0.4**
AYDB	**Zeytinkoy-Aydi**	**0.69**	**107**	*e*PG	**Pg**	**15 14 14.7**	**+1.0**
AYDB				*e*SG	**Sb**	**15 14 24.9**	**-0.2**
AYDB	**Zeytinkoy-Aydi**	**0.69**	**107**	*e*Pg	**Pg**	**15 14 14.7**	**+1.0**
AYDB				*e*Sg	**Sb**	**15 14 24.9**	**-0.2**
CHOS	**Chios island**	**0.83**	**287**	*e*PG	**Pg**	**15 14 17.1**	**+0.7**
CHOS	**Chios island**	**0.83**	**287**	*e*Pg	**Pg**	**15 14 17.1**	**+0.7**
CAND	**Candarli**	**0.83**	**346**	*e*PG	**Pg**	**15 14 17.5**	**+1.0**
DKL	**Dikili**	**0.93**	**352**	*e*PG	**Pg**	**15 14 19.3**	**+0.9**
DKL	**Dikili**	**0.93**	**352**	*e*Pg	**Pg**	**15 14 19.3**	**+0.9**
AKS	**Akhisar**	**0.94**	**39**	*e*PG	**Pg**	**15 14 19.9**	**+1.3**
AKS	**Akhisar**	**0.94**	**39**	*e*Pg	**Pg**	**15 14 19.9**	**+1.3**
BODT	**Bodrum**	**1.10**	**170**	*e*PG	**Pg**	**15 14 22.2**	**+0.5**
BODT	**Bodrum**	**1.10**	**170**	*e*Pg	**Pg**	**15 14 22.2**	**+0.5**
MANT	**Manisa**	**1.23**	**73**	*i* P	Pg	15 14 18.1	-5.9
MANT				*i* S	**Sg**	**15 14 34.0**	**-5.9**
KULA	**Kula-Manisa**	**1.31**	**73**	*e*PN	**Pn**	**15 14 26.5**	**+0.7**
KULA	**Kula-Manisa**	**1.31**	**73**	*e*Pn	**Pn**	**15 14 26.5**	**+0.7**
SIGR	**SIGRI**	**1.42**	**319**	*e*PN	**Pn**	**15 14 27.5**	**+0.2**
SIGR	**SIGRI**	**1.42**	**319**	*e*Pn	**Pn**	**15 14 27.5**	**+0.2**
DAT	**Datca**	**1.48**	**164**	*e*PN	**Pn**	**15 14 28.2**	**+0.1**
DAT	**Datca**	**1.48**	**164**	*e*Pn	**Pn**	**15 14 28.2**	**+0.1**

*ISCJB **16** 15:14:13.7±0.8, 20°.3S±0°.2×177°.8W±0°.2, h500km, mb3.5/6, Error ellipse: s-maj=27.4km s-min=10.6km az=137.6*
*IDC **16** 15:14:15.7±2.3, 20°.40S×177°.62W, h521km, 28km, mb3.1/6, mb1 3.4/8, mb1mx3.1/42, mbtmp4.1/8, Error ellipse: s-maj=31.8km s-min=18.4km az=140.0*

ISC 16 15:14:14.2±0.9, 20°.3S±0°.2×177°.8W±0°.2, h500km, n11, σ1s89/12, mb3.6/6, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**8.54**	**43**	P	**P**	**15 16 18.1**	**+1.7**
	1.4nm,0.3s,baz=327,slow=9.9,SNR=4.4						
AFI				S	**S**	**15 17 53.7**	**-2.9**
	2.5nm,0.3s,baz=217,slow=12,SNR=6.4						
URZ	**Urewera**	**18.47**	**193**	P	**P**	**15 17 58.5**	**-0.2**
	1.5nm,0.3s,baz=270,slow=2.1,SNR=12						
ASAR	**Alice Springs**	**44.76**	**256**	P	**P**	**15 21 43.5**	**+0.6**
	1.2nm,0.5s,baz=98,slow=7.6,SNR=14						
ASAR				S	**S**	**15 27 39.8**	**-3.4**
	1.1nm,0.9s,baz=93,slow=15,SNR=8.7						
WRA	**Warramunga Arr**	**44.83**	**262**	P	**P**	**15 21 43.6**	**+0.3**
	0.7nm,0.5s,baz=97,slow=8.4,SNR=5.9						
MJAR	**Matsushiro Arr**	**70.13**	**324**	P	**P**	**15 24 37.1**	**+1.2**
	1.9nm,0.6s,baz=162,slow=6.3,SNR=6.4						
TXAR	**Lajitas Array**	**86.76**	**57**	P	**P**	**15 26 05.2**	**0.0**
	0.4nm,0.7s,baz=228,slow=4.9,SNR=5.0						
ILAR	**Eielson Array**	**88.04**	**13**	P	**P**	**15 26 09.2**	**-1.0**
	0.6nm,0.8s,baz=222,slow=4.8,SNR=5.7						
CMAR	**Chiang Mai Arr**	**90.22**	**289**	P	**P**	**15 26 23.6**	**+2.1**
	0.8nm,0.8s,baz=107,slow=4.8,SNR=4.1						
AKASG	**Malin Array Be**	**142.90**	**331**	PKP	PKPbc	15 32 47.5	
	0.2nm,0.2s,baz=42,slow=4.7,SNR=5.2						
BRTR	**Keskin Array B**	**146.82**	**313**	PKPbc	**PKPbc**	**15 32 59.6**	**-0.7**
	0.7nm,0.6s,baz=145,slow=4.5,SNR=3.8						
GERES	**GERESS Array B**	**150.02**	**345**	PKPbc	**PKPbc**	**15 33 06.8**	**-1.1**
	0.3nm,0.4s,baz=43,slow=2.7,SNR=4.8						

*TAP **16** 15:24:28.9, 23°.53N×120°.56E, h10km, ML3.4, B*
*JMA **16** 15:24:28.2±0.1, 23°.57N×120°.55E, h0km, M3.5*
*IASPEI **16** 15:24:29.4±0.8, 23°.54N±0°.02×120°.54E±0°.02, h13km±5km, Error ellipse: s-maj=3.0km s-min=2.1km az=111.7, GT5 selection from ISC bulletin GT5 identified by Bond˘jr and McLaughlin (2009) selection criteria Bond˘jr and McLaughlin, A new ground truth data set for seismic studies, Seism. Res. Let., 80, 465-472, 2009*
*ISCJB **16** 15:24:29.9±0.2, 23°.54N±0°.01×120°.54E±0°.02, h12km±1km, Error ellipse: s-maj=2.6km s-min=1.8km az=17.7*

ISC 16 15:24:29.6±0.8, 23°.54N±0°.02×120°.54E±0°.02, h16km±4km, n65, σ0s86/116, 13C-16D, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHN2	**Minshiung**	**0.06**	**258**	⇓*i* P	**Pg**	**15 24 31.9**	**-0.6**
	baz=274						
CHN2				S	**Sg**	**15 24 34.2**	**-0.3**
	baz=274						
CHY	**Chiayi**	**0.11**	**246**	⇓*i* P	**Pg**	**15 24 32.7**	**-0.4**
	baz=255						
CHY				S	**Sg**	**15 24 35.3**	**-0.1**
	baz=255						
CHN5	**Tsauling**	**0.14**	**68**	⇓*i* P	**Pg**	**15 24 32.8**	**-0.8**
	baz=58						
CHN5				S	**Sg**	**15 24 35.5**	**-0.7**
	baz=58						
WGK	**Gukeng**	**0.14**	**10**	⇓*i* P	**Pg**	**15 24 33.5**	**0.0**
	baz=5.0						
WGK				S	**Sg**	**15 24 37.0**	**+0.9**
	baz=5.0						
ALS	**Alishan**	**0.25**	**98**	⇑*i* P	**Pg**	**15 24 35.0**	**-0.3**
	baz=94						
ALS				*e*S	**Sg**	**15 24 39.1**	**-0.1**
	baz=94						
TWK	**Hsinying**	**0.28**	**189**	⇓*i* P	**Pb**	**15 24 35.5**	**-0.8**
	baz=191						
TWK				*i* S	**Sb**	**15 24 40.2**	**-0.7**
	baz=191						
WSF	**Szhu**	**0.30**	**288**	⇑*i* P	**Pb**	**15 24 36.2**	**-0.5**
	baz=290						
WSF				*i* S	**Sb**	**15 24 42.0**	**+0.5**
	baz=290						
WTP	**Ta-pu**	**0.30**	**166**	⇑*i* P	**Pb**	**15 24 35.6**	**-1.2**
	baz=168						
WTP				S	**Sb**	**15 24 40.6**	**-1.0**
	baz=168						
CHN1	**Nanshi**	**0.36**	**181**	⇑*i* P	**Pb**	**15 24 36.8**	**-0.9**
	baz=184						
CHN1				*i* S	**Sb**	**15 24 42.3**	**-0.8**
	baz=184						
CHN8	**Yiju**	**0.36**	**237**	⇓*i* P	**Pb**	**15 24 37.1**	**-0.6**
	baz=240						
CHN8				S	**Sb**	**15 24 43.6**	**+0.5**
	baz=240						
WNT	**Mingjian**	**0.36**	**22**	⇓*i* P	**Pb**	**15 24 37.5**	**-0.2**
	baz=20						
WNT				S	**Sb**	**15 24 43.5**	**+0.4**
	baz=20						
WTCT	**Ta-ch'eng**	**0.40**	**324**	⇑*i* P	**Pb**	**15 24 37.9**	**-0.4**
	baz=324						
WTCT				S	**Sb**	**15 24 44.7**	**+0.5**
	baz=324						
STYT	**Tauyuan**	**0.43**	**152**	⇑*i* P	**Pb**	**15 24 38.0**	**-1.0**
	baz=152						
STYT				*i* S	**Sb**	**15 24 44.5**	**-0.7**
	baz=152						
SGST	**Jiashian**	**0.46**	**175**	⇑*i* P	**Pb**	**15 24 38.8**	**-0.7**
	baz=176						
SGST				S	**Sb**	**15 24 46.0**	**-0.1**
	baz=176						
TYC	**Yuchr**	**0.46**	**39**	⇓*i* P	**Pb**	**15 24 39.3**	**-0.2**
	baz=37						
TYC				S	**Sb**	**15 24 46.4**	**+0.3**
	baz=37						
SMLT	**Sun Moon Lake**	**0.47**	**45**	⇓*i* P	**Pb**	**15 24 39.4**	**-0.4**
	baz=42						
SMLT				*e*S	**Sb**	**15 24 46.1**	**-0.5**
	baz=42						
SCLT	**Jiali**	**0.48**	**221**	*e*P	**Pb**	**15 24 39.5**	**-0.3**
	baz=223						
CHN3	**Shinhua**	**0.49**	**199**	*e*P	**Pb**	**15 24 40.0**	**0.0**
	baz=201						
ELDTW	**Lidau**	**0.57**	**129**	⇑*i* P	**Pb**	**15 24 40.4**	**-0.9**
	baz=128						
ELDTW				S	**Sb**	**15 24 48.8**	**-0.4**
	baz=128						
TAI1	**Yung-k'ang**	**0.58**	**209**	*e*P	**Pb**	**15 24 41.7**	**+0.4**
	baz=211						
TAI1				*e*S	**Sb**	**15 24 50.4**	**+1.1**
	baz=211						
TCU	**Taichung**	**0.61**	**12**	⇓*i* P	**Pb**	**15 24 42.1**	**0.0**
	baz=11						
TCU				*e*S	**Sb**	**15 24 50.7**	**+0.2**
	baz=11						
EHY	**Hungye**	**0.72**	**93**	P	**Pb**	**15 24 43.7**	**-0.2**
	baz=92						
EHY				*i* S	**Sb**	**15 24 53.7**	**+0.1**
	baz=92						
TWF1	**Yuli**	**0.72**	**105**	⇑*i* P	**Pb**	**15 24 43.6**	**-0.4**
	baz=115						
TWF1				*i* S	**Sb**	**15 24 53.4**	**-0.3**
	baz=115						
TWM1	**Shoushan**	**0.72**	**188**	*e*P	**Pn**	**15 24 45.1**	**-0.2**
	baz=175						
SSD	**Sandimen**	**0.80**	**174**	⇑*i* P	**Pb**	**15 24 45.1**	**-0.1**
	baz=174						
SSD				*e*S	**Sb**	**15 24 56.3**	**+0.5**
	baz=174						
SGLT	**Jiouru**	**0.82**	**183**	*e*P	**Pb**	**15 24 45.0**	**-0.5**
	baz=171						
TWQ1	**Liyutan**	**0.83**	**15**	⇓*i* P	**Pb**	**15 24 46.0**	**+0.2**
	baz=14						
TWQ1				S	**Sb**	**15 24 57.9**	**+1.2**
	baz=14						
WDGT	**Dungji**	**0.85**	**251**	*e*P	**Pg**	**15 24 45.3**	**-0.9**
	baz=252						
WDGT				*e*S	**Sg**	**15 24 56.7**	**-0.8**
	baz=252						
TWG	**Pinlang**	**0.87**	**145**	⇑P	**Pb**	**15 24 46.1**	**-0.4**
	baz=146						
TWG				S	**Sb**	**15 24 58.4**	**+0.5**
	baz=146						
CHKT	**Chengkung**	**0.88**	**120**	*e*P	**Pb**	**15 24 46.3**	**-0.3**
	baz=120						
CHKT				*e*S	**Sb**	**15 24 58.8**	**+0.6**
	baz=120						
NSY	**Sanyi**	**0.89**	**13**	P	**Pn**	**15 24 47.2**	**-0.4**
	baz=12						
NSY				*e*S	**Sn**	**15 24 59.8**	**-0.4**
	baz=12						
WHF	**Hehuan Shan**	**0.90**	**48**	⇓P	**Pb**	**15 24 46.9**	**-0.3**
	baz=47						
WHF				*e*S	**Sb**	**15 24 58.9**	**-0.1**
	baz=47						
PNG	**Penghu**	**0.90**	**272**	⇑*i* P	**Pg**	**15 24 45.8**	**-1.3**
	baz=273						
PNG				*e*S	**Sg**	**15 24 58.0**	**-0.9**
	baz=273						
TWT	**Tachien**	**0.92**	**40**	⇓*i* P	**Pb**	**15 24 46.5**	**-0.8**
	baz=37						
TWT				S	**Sb**	**15 24 59.1**	**-0.3**
	baz=37						
TTN	**Taitung**	**0.97**	**144**	*e*P	**Pb**	**15 24 47.8**	**-0.2**
	baz=144						
TTN				*e*S	**Sb**	**15 25 01.5**	**+0.9**
	baz=144						
ECL	**Taimali**	**1.02**	**158**	P	**Pb**	**15 24 48.5**	**-0.4**
	baz=147						
ECL				*e*S	**Sb**	**15 25 02.8**	**+0.7**
	baz=147						
HWA	**Hwalien**	**1.07**	**66**	P	**Pb**	**15 24 49.6**	**-0.2**
	baz=65						
TWD	**Chiawan**	**1.11**	**61**	P	**Pb**	**15 24 50.1**	**-0.4**
	baz=59						
TWD				*e*S	**Sb**	**15 25 04.8**	**+0.1**
	baz=59						
NSTT	**Nanjuang**	**1.16**	**21**	⇓P	**Pb**	**15 24 51.0**	**-0.4**
	baz=20						
NSTT				*i* S	**Sn**	**15 25 07.0**	**+0.1**
	baz=20						
SCZT	**Fangliau**	**1.17**	**176**	⇑P	**Pb**	**15 24 51.6**	**+0.2**
	baz=167						
SCZT				*e*S	**Sb**	**15 25 07.2**	**+0.8**
	baz=167						
NNS	**Nan Shan**	**1.18**	**40**	⇓P	**Pb**	**15 24 51.1**	**-0.6**
	baz=28						
NNS				*e*S	**Sn**	**15 25 07.8**	**+0.5**
	baz=28						
EAST	**Anshuo**	**1.19**	**166**	*e*P	**Pb**	**15 24 51.7**	**-0.2**
	baz=174						
EAST				*e*S	**Sb**	**15 25 08.0**	**+0.9**
	baz=174						
TWP	**Hsiaoliuchiu**	**1.20**	**188**	*e*P	**Pn**	**15 24 52.4**	**+0.6**
	baz=210						
TAW	**Tawu**	**1.23**	**164**	*e*P	**Pg**	**15 24 52.1**	**-1.2**
	baz=165						
NSK	**Sanguang**	**1.35**	**34**	⇓P	**Pb**	**15 24 54.1**	**+0.1**
	baz=16						
NSK				S	**Sn**	**15 25 12.3**	**+0.6**
	baz=16						
ENA	**Nanau**	**1.41**	**51**	*e

JIJ	**Ishigaki jima**	**3.40**	**75**	P		**Pn**	**15 25 22.6**	**+0.5**
JIJ				S		**Sn**	**15 26 02.8**	**+0.7**
JISG	**Ishigakijimahi**	**3.60**	**72**	P		**Pn**	**15 25 25.8**	**+0.9**
JISG				*e*S		**Sn**	**15 26 08.2**	**+1.1**

MEX 16 15:47:12.9±0.7, 19°.56N × 104°.69W, h7km±10km, MD3.9, Near coast of Jalisco

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
R15V		**0.78**	**120**	*i* P	Pg	15 47 25.5	-2.3
R15V				*i* S	Sg	15 47 36.3	-1.6
EZ5V		**1.03**	**94**	*i* P	Pg	15 47 30.4	-2.4
EZ5V				*e*S	Sg	15 47 43.7	-2.5
PUVA	**Puert Vallarta**	**1.17**	**335**	*e*P	Pg	15 47 31.8	-3.6
PUVA				*e*S	Sg	15 47 46.5	-4.2
ANIG	**Ahuacatlan**	**1.50**	**6**	*e*P	Pn	15 47 36.9	-3.4
ANIG				*i* S	Sn	15 47 55.5	-4.6
MMIG	**Aquila**	**1.80**	**134**	*e*P	Pn	15 47 41.2	-3.1
MMIG				*e*S	Sn	15 48 03.3	-4.0

IDC 16 15:54:59.7±60.0, 22°.10S × 179°.31W, h0km, mb4.2/3, mb1 4.4/3, mb1mx3.8/28, mbtmp4.2/3, Error ellipse: s-maj=1075.0km s-min=145.4km az=85.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**36.01**	**246**	P	P	16 02 02.2	-0.5
	3.1nm,0.6s,baz=89,slow=11,SNR=18						
ASAR	**Alice Springs**	**42.99**	**259**	P	P	16 03 00.8	-0.3
	2.9nm,0.8s,baz=106,slow=7.9,SNR=32						
WRA	**Warramunga Arr**	**43.20**	**264**	P	P	16 03 03.1	+0.4
	1.2nm,0.3s,baz=95,slow=8.3,SNR=163						

*ISK **16** 16:08:34.8, 38°.64N × 32°.23E, h8km, MD2.7*
*ISCJB **16** 16:08:35.3±0.5, 38°.63N±0°.03 × 32°.22E±0°.03, h6km±5km, Error ellipse: s-maj=4.9km s-min=4.5km az=176.9*
*CSEM **16** 16:08:35.2±0.2, 38°.62N × 32°.22E, h5km, MD2.3, Error ellipse: s-maj=3.7km s-min=3.2km az=17.0*
*DDA **16** 16:08:36.1, 38°.61N × 32°.17E, h7km, Md2.3*

ISC 16 16:08:35.5±0.9, 38°.63N±0°.03 × 32°.22E±0°.02, h9km±7km, n27, σ0°.41/41, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KDHN	**Kadinhani**	**0.13**	**218**	*i* P	**Pg**	**16 08 38.2**	**-0.4**
KDHN				*i* S	**Sg**	**16 08 40.8**	**+0.1**
KDHN	**Kadinhani**	**0.13**	**218**	P	**Pg**	**16 08 38.2**	**-0.4**
KDHN				S	**Sg**	**16 08 40.8**	**+0.1**
KIZT	**Kizilcal**	**0.37**	**314**	*e*PG	**Pg**	**16 08 42.5**	**-0.3**
KIZT				*e*SG	**Sg**	**16 08 47.8**	**+0.1**
KIZT	**Kizilcal**	**0.37**	**314**	*e*Pg	**Pg**	**16 08 42.5**	**-0.3**
KIZT				*e*Sg	**Sg**	**16 08 47.8**	**+0.1**
CHBY	**Cihanbeyli**	**0.53**	**95**	*e*PG	**Pg**	**16 08 45.3**	**-0.4**
CHBY				*e*SG	**Sg**	**16 08 53.0**	**+0.4**
CHBY	**Cihanbeyli**	**0.53**	**95**	*e*Pg	**Pg**	**16 08 45.3**	**-0.4**
CHBY				*e*Sg	**Sg**	**16 08 53.0**	**+0.4**
KONT	**Konya--Tatoy**	**0.69**	**171**	*e*PG	**Pg**	**16 08 48.6**	**-0.2**
KONT				*e*SG	**Sb**	**16 08 58.5**	**-0.7**
KONT	**Konya--Tatoy**	**0.69**	**171**	*i* P	**Pg**	**16 08 48.5**	**-0.2**
KONT				*i* S	**Sb**	**16 08 59.4**	**+0.1**
KONT	**Konya--Tatoy**	**0.69**	**171**	*e*Pg	**Pg**	**16 08 48.6**	**-0.2**
KONT				*e*Sg	**Sb**	**16 08 58.5**	**-0.7**
KULU	**Kulu**	**0.74**	**55**	*e*PG	**Pg**	**16 08 49.4**	**-0.3**
KULU	**Kulu**	**0.74**	**55**	*e*Pg	**Pg**	**16 08 49.4**	**-0.3**
KKUL	**Konya-Kulu**	**0.77**	**45**	*i* P	**Pb**	**16 08 51.9**	**+0.7**
KKUL				*i* S	**Sn**	**16 09 03.3**	**-1.1**
KKUL	**Konya-Kulu**	**0.77**	**45**	P	**Pb**	**16 08 51.8**	**+0.7**
SVRH	**Sivrihisar-ESK**	**0.98**	**327**	*e*PG	**Pg**	**16 08 53.9**	**-0.5**
SVRH	**Sivrihisar-ESK**	**0.98**	**327**	*e*Pg	**Pg**	**16 08 53.9**	**-0.5**
BOLV	**Bolvadin**	**1.00**	**276**	*i* P	**Pg**	**16 08 54.6**	**-0.1**
BOLV				*i* S	**Sg**	**16 09 07.5**	**-0.2**
BOLV	**Bolvadin**	**1.00**	**276**	P	**Pg**	**16 08 54.6**	**-0.1**
BOLV				S	**Sg**	**16 09 07.5**	**-0.2**
AFSR	**Af¨ar-Bala (A**	**1.05**	**39**	*e*PG	**Pg**	**16 08 55.3**	**-0.4**
AFSR	**Af¨ar-Bala (A**	**1.05**	**39**	*e*Pg	**Pg**	**16 08 55.3**	**-0.4**
SERE	**Sereflikochisa**	**1.10**	**73**	*e*PN	**Pg**	**16 08 56.4**	**-0.2**
SERE	**Sereflikochisa**	**1.10**	**73**	*e*Pn	**Pg**	**16 08 56.4**	**-0.2**
ESKT	**Eskisehir**	**1.39**	**310**	*i* P	**Pg**	**16 09 02.2**	**0.0**
ESKT				*i* S	**Sb**	**16 09 19.6**	**0.0**
SEYT	**Eskypehyr**	**1.39**	**310**	P	**Pg**	**16 09 02.2**	**0.0**
SEYT				S	**Sb**	**16 09 19.6**	**0.0**
SUTC	**Sutluce-Ispart**	**1.50**	**220**	*e*PN	**Pn**	**16 09 02.9**	**+0.3**
SUTC	**Sutluce-Ispart**	**1.50**	**220**	*e*Pn	**Pn**	**16 09 02.9**	**+0.3**
HDMB	**Hadim**	**1.67**	**173**	*e*PN	**Pn**	**16 09 05.3**	**+0.2**
HDMB	**Hadim**	**1.67**	**173**	*e*Pn	**Pn**	**16 09 05.3**	**+0.2**

*IDC **16** 16:12:34.8±1.6, 43°.40S × 171°.92E, h0km, mb3.6/2, mb1 3.8/3, mb1mx3.6/23, mbtmp3.6/3, ML2.7/1, MS3.3/1, Ms1 3.3/1, ms1mx2.7/12, Error ellipse: s-maj=43.7km s-min=10.9km az=146.0*
*ISCJB **16** 16:12:35.6±0.4, 43°.64S±0°.04 × 171°.92E±0°.06, h16km, mb3.5/2, MS3.3/1, Error ellipse: s-maj=7.2km s-min=3.6km az=40.0*
*WEL **16** 16:12:36.4±0.1, 43°.59S × 171°.89E, h5km, ML3.8/20, Error ellipse: s-maj=0.9km s-min=0.9km az=90.0*
WEL Felt in the Canterbury region, maximum reported intensity MM 5.

ISC 16 16:12:35.9±0.8, 43°.59S±0°.04 × 171°.90E±0°.04, h16km, n37, σ1°.07/38, 5C-2D, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OXZ	**Oxford**	**0.29**	**21**	PG	**Pg**	**16 12 41.7**	**-0.4**
OXZ				AML	AML	16 12 46.1	
OXZ				AML	AML	16 12 46.1	
OXZ				AML	AML	16 12 48.4	
OXZ				AML	AML	16 12 48.5	
CRLZ	**Canterbury Las**	**0.53**	**88**	PG	**Pg**	**16 12 47.0**	**+0.6**
CRLZ				AML	AML	16 12 58.1	
CRLZ				AML	AML	16 12 59.4	
MQZ	**McQueen's Vall**	**0.56**	**102**	PG	**Pg**	**16 12 47.4**	**+0.4**
MQZ				AML	AML	16 12 58.6	
MQZ				AML	AML	16 12 58.7	
RPZ	**Rata Peaks**	**0.62**	**258**	Pg	**Pb**	**16 12 48.5**	**+0.1**
	144nm,0.3s,baz=108,slow=4.0,SNR=585						
RPZ				Lg	Lg	16 12 57.6	
	178nm,0.3s,baz=7.0,slow=18,SNR=38						
RPZ	**Rata Peaks**	**0.62**	**258**	⇑P*	**Pb**	**16 12 48.4**	**-0.1**
RPZ				AML	AML	16 13 00.4	
RPZ				AML	AML	16 13 00.4	
LTZ	**Lake Taylor**	**0.85**	**19**	P*	**Pb**	**16 12 52.8**	**+0.4**
LTZ				S*	**Sg**	**16 13 04.8**	**+1.0**
INZ	**Inchbonnie**	**0.93**	**339**	⇓P*	**Pb**	**16 12 53.8**	**+0.2**
WVZ	**Waitaha Valley**	**0.99**	**301**	⇓P*	**Pg**	**16 12 55.1**	**0.0**
WVZ				AML	AML	16 13 11.4	
WVZ				AML	AML	16 13 11.4	
LBZ	**Lake Benmore**	**1.47**	**237**	PN	**Pb**	**16 13 02.4**	**-0.4**
LBZ				AML	AML	16 13 26.2	
LBZ				AML	AML	16 13 26.2	
LBZ				AML	AML	16 13 27.8	
LBZ				AML	AML	16 13 31.8	
FOZ	**Fox Glacier**	**1.52**	**272**	⇑PN	**Pb**	**16 13 04.2**	**+0.6**
FOZ				AML	AML	16 13 30.1	
FOZ				AML	AML	16 13 30.1	
FOZ				AML	AML	16 13 31.8	
FOZ				AML	AML	16 13 31.8	
KHZ	**Kahutara**	**1.68**	**46**	⇑PN	**Pn**	**16 13 04.6**	**0.0**
ODZ	**Otahua Downs**	**1.71**	**211**	⇑PN	**Pn**	**16 13 05.1**	**+0.1**
ODZ				AML	AML	16 13 32.5	
ODZ				AML	AML	16 13 32.5	
ODZ				AML	AML	16 13 35.7	
ODZ				AML	AML	16 13 35.8	
DSZ	**Denniston Nort**	**1.85**	**358**	PN	**Pn**	**16 13 08.1**	**+1.2**
DSZ				AML	AML	16 13 35.8	
DSZ				AML	AML	16 13 35.8	
DSZ				AML	AML	16 13 47.1	
DSZ				AML	AML	16 13 47.1	
THZ	**Tophouse**	**1.97**	**22**	PN	**Pn**	**16 13 09.0**	**+0.2**
THZ				AML	AML	16 13 49.2	
THZ				AML	AML	16 13 50.9	
JCZ	**Jackson Bay**	**2.30**	**257**	PN	**Pn**	**16 13 13.9**	**+0.6**
JCZ				AML	AML	16 14 01.4	
JCZ				AML	AML	16 14 03.8	
BSWZ	**Blackbirch Sta**	**2.38**	**39**	PN	**Pn**	**16 13 14.7**	**+0.5**
WKZ	**Wanaka**	**2.41**	**238**	PN	**Pn**	**16 13 14.6**	**-0.1**
WKZ				AML	AML	16 14 00.1	
WKZ				AML	AML	16 14 00.8	
HHSZ	**Highcliff Hill**	**2.47**	**202**	PN	**Pn**	**16 13 16.8**	**+1.3**
HHSZ				AML	AML	16 13 59.7	
HHSZ				AML	AML	16 14 01.8	
EAZ	**Earnscleugh**	**2.48**	**228**	⇑PN	**Pn**	**16 13 15.7**	**+0.2**
EAZ				AML	AML	16 14 02.4	
EAZ				AML	AML	16 14 02.5	
EAZ				AML	AML	16 14 02.5	
EAZ				AML	AML	16 14 02.6	
NNZ	**Nelson**	**2.62**	**25**	PN	**Pn**	**16 13 18.3**	**+0.9**
TUWZ	**Tuamarina**	**2.64**	**36**	PN	**Pn**	**16 13 18.5**	**+0.7**
QRZ	**Quartz Range**	**2.81**	**10**	PN	**Pn**	**16 13 20.9**	**+0.8**
QRZ				AML	AML	16 13 31.7	
QRZ				AML	AML	16 14 14.4	
TUZ	**Tuapeka**	**2.86**	**214**	PN	**Pn**	**16 13 21.0**	**+0.2**
TUZ				AML	AML	16 14 13.3	
TUZ				AML	AML	16 14 13.3	
TUZ				AML	AML	16 14 16.7	
TUZ				AML	AML	16 14 16.7	
TCW	**Tory Channel**	**2.96**	**37**	PN	**Pn**	**16 13 22.1**	**-0.1**
MSZ	**Milford Sound**	**3.06**	**248**	PN	**Pn**	**16 13 23.3**	**-0.2**
MSZ				AML	AML	16 14 16.1	
MSZ				AML	AML	16 14 18.2	
DUWZ	**D'Urville Isla**	**3.17**	**29**	PN	**Pn**	**16 13 26.2**	**+1.1**
MLZ	**Mavora Lakes**	**3.23**	**235**	PN	**Pn**	**16 13 26.1**	**+0.1**
MLZ				AML	AML	16 14 29.0	
MLZ				AML	AML	16 14 32.1	
CAW	**Cannon Point**	**3.42**	**44**	PN	**Pn**	**16 13 27.5**	**-1.0**
SYZ	**Scrubby Hill**	**3.53**	**213**	PN	**Pn**	**16 13 30.4**	**+0.3**
SYZ				AML	AML	16 14 37.1	
SYZ				AML	AML	16 14 46.7	
WHZ	**Wether Hill Ro**	**3.63**	**229**	PN	**Pn**	**16 13 30.6**	**-0.9**
APZ	**The Paps**	**4.26**	**219**	PN	**Pn**	**16 13 40.0**	**-0.1**
URZ	**Urewera**	**6.63**	**38**	Pn	**Pn**	**16 14 09.6**	**-3.1**
	0.1nm,0.3s,baz=185,slow=19,SNR=4.3						
URZ				Sn	**Sn**	**16 15 24.2**	**-3.6**
	0.5nm,0.3s,baz=36,slow=19,SNR=4.0						
ASAR	**Alice Springs**	**36.94**	**290**	P	**P**	**16 19 45.2**	**+0.9**
	0.4nm,0.6s,baz=128,slow=7.4,SNR=12						
WRA	**Warramunga Arr**	**39.21**	**295**	P	**P**	**16 20 04.4**	**+1.0**
	0.7nm,0.6s,baz=132,slow=7.6,SNR=12						
NWAO	**Narrogin (SRO)**	**43.52**	**265**	LR	LR	16 34 24.7	
	comp=Z,41nm,21.2s,baz=40,slow=30						
TORD	**Torodi Ar. Bea**	**148.51**	**198**	PKPbc	**PKPbc**	**16 32 23.3**	**+1.2**
	0.2nm,0.4s,baz=177,slow=2.6,SNR=3.9						
BRTR	**Keskin Array B**	**148.81**	**277**	PKPbc	**PKPab**	**16 32 24.8**	**-1.6**
	0.6nm,0.8s,baz=132,slow=1.8,SNR=4.0						

DJA 16 16:16:12.4±0.4, 5°.5S±5°.5 × 10°.6E±°, h51km±46km, M4.0/8, mB5.4/1, mb4.6/1, MLv3.7/8, Mw(mB)4.9/1, Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CGJI	**Cibinong**	**1.35**	**201**	P	Pn	16 16 35.2	+0.2
CGJI				S	Sn	16 16 51.5	-0.3
KASI	**Kota Agung**	**1.69**	**264**	P	Pn	16 16 39.9	+0.4
KASI				S	Sn	16 17 00.0	+0.1
CNJI	**Cibinong**	**2.17**	**154**	P	Pn	16 16 46.0	-0.1
CNJI				S	Sn	16 17 12.7	+0.8
CISI	**Cisompet, Garu**	**2.74**	**144**	P	Pn	16 16 54.1	+0.2
CISI				S	Sn	16 17 26.0	+0.2
PPBI	**Pangkal Pinang**	**3.16**	**359**	P	Pn	16 16 59.7	0.0
CMJI	**Cimerak**	**3.31**	**137**	P	Pn	16 17 01.4	-0.4
CMJI				S	Sn	16 17 40.5	+0.6
MNAI	**Manna**	**3.36**	**287**	P	Pn	16 17 02.5	+0.1
MNAI				S	Sn	16 17 41.5	+0.5
KPJI	**Karang Pucung**	**3.38**	**126**	P	Pn	16 17 02.3	-0.3

*CSEM **16** 16:24:10.6±0.1, 41°.84N × 22°.73E, h2km, ML2.6, Error ellipse: s-maj=5.4km s-min=2.5km az=67.0*
*SKO **16** 16:24:10.7, 41°.82N × 22°.77E, h16km, M2.3, ML2.8*
*THE **16** 16:24:11.8, 41°.80N × 22°.79E, h2km±3km, ML2.6/4, Error ellipse: s-maj=3.3km s-min=0.8km az=110.0*
*BEO **16** 16:24:11.7±0.3, 41°.82N × 22°.71E, h4km±2km, M2.7/1*
*ATH **16** 16:24:12.2, 41°.74N × 22°.79E, h27km±2km, ML2.6/2, Error ellipse: s-maj=4.7km s-min=1.6km az=152.0*

ISC 16 16:24:11.0±1.1, 41°.82N±0°.02 × 22°.77E±0°.03, h6km±10km, n63, σ0°.81/99, 5C-2D, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VAY	**Valandovo**	**0.52**	**197**	P	**Pg**	**16 24 21.4**	**+0.4**
VAY				S	**Sg**	**16 24 28.3**	**+0.6**
VAY	**Valandovo**	**0.52**	**197**	⇑*i*Pg	**Pg**	**16 24 21.4**	**+0.4**
VAY				*i* Sg	**Sg**	**16 24 28.6**	**+0.9**
VAY				*e*Lg	Lg	16 24 28.8	
	comp=E,184nm,0.3s						
VAY				*e*Lg	Lg	16 24 28.8	
	comp=N,257nm,0.2s						
VAY	**Valandovo**	**0.52**	**197**	*i* Pg	**Pg**	**16 24 21.0**	**+0.1**
VAY	**Valandovo**	**0.52**	**197**	*i* Pg	**Pg**	**16 24 21.0**	**+0.1**
VAY	**Valandovo**	**0.52**	**197**	P	**Pg**	**16 24 21.4**	**+0.4**
VAY				S	**Sg**	**16 24 28.3**	**+0.6**
VAY				*e*Lg	Lg	16 24 28.7	
	comp=N,257nm,0.2s						
KNT	**Kendrikon**	**0.66**	**172**	P	**Pg**	**16 24 24.0**	**+0.3**
KNT				S	**Sg**	**16 24 32.7**	**+0.5**
KNT	**Kendrikon**	**0.66**	**172**	P	**Pg**	**16 24 24.0**	**+0.3**
KNT				S	**Sg**	**16 24 32.8**	**+0.5**
KNT	**Kendrikon**	**0.66**	**172**	P	**Pg**	**16 24 24.0**	**+0.3**
KNT				S	**Sg**	**16 24 32.8**	**+0.5**
KNT				AML	AML	16 24 33.2	
	comp=E,1448μm,0.2s						
KNT				AML	AML	16 24 33.4	
	comp=N,3380μm,0.2s						
VTS	**Vitosha**	**0.84**	**22**	P	**Pg**	**16 24 27.3**	**+0.2**
VTS				S	**Sb**	**16 24 39.6**	**-0.1**
VTS	**Vitosha**	**0.84**	**22**	⇑*i*Pg	**Pg**	**16 24 27.0**	**-0.1**
VTS				*e*Sg	**Sb**	**16 24 39.4**	**-0.3**
VTS	**Vitosha**	**0.84**	**22**	⇑*i*P	**Pg**	**16 24 27.2**	**+0.2**
VTS	**Vitosha**	**0.84**	**22**	⇑*i*Pg	**Pg**	**16 24 27.0**	**-0.1**
VTS	**Vitosha**	**0.84**	**22**	P	**Pg**	**16 24 27.3**	**+0.2**
VTS				*e*Sg	**Sb**	**16 24 39.4**	**-0.3**
SRS	**Serrai**	**0.93**	**138**	P	**Pg**	**16 24 29.1**	**+0.3**
SRS				S	**Sb**	**16 24 41.6**	**-0.6**
SRS	**Serrai**	**0.93**	**138**	P	**Pg**	**16 24 29.2**	**+0.4**
SRS				S	**Sb**	**16 24 41.6**	**-0.6**
SRS	**Serrai**	**0.93**	**138**	P	**Pg**	**16 24 29.2**	**+0.4**
NVR	**Nevrokopi**	**0.94**	**119**	P	**Pb**	**16 24 29.6**	**-0.1**
NVR				S	**Sb**	**16 24 42.3**	**-0.2**
NVR	**Nevrokopi**	**0.94**	**119**	P	**Pb**	**16 24 29.6**	**-0.1**
NVR				S	**Sb**	**16 24 42.0**	**-0.5**
NVR	**Nevrokopi**	**0.94**	**119**	P	**Pb**	**16 24 29.8**	**0.0**
NVR				S	**Sb**	**16 24 42.0**	**-0.5**
NVR				AML	AML	16 24 43.6	
	comp=N,488μm,0.2s						
NVR				AML	AML	16 24 45.6	
	comp=E,470μm,0.4s						
SOH	**Sokhos**	**1.09**	**156**	P	**Pb**	**16 24 32.2**	**0.0**
SOH	**Sokhos**	**1.09**	**156**	P	**Pb**	**16 24 32.2**	**0.0**
SOH	**Sokhos**	**1.09**	**156**	P	**Pn**	**16 24 32.7**	**-0.1**
THE	**Thessaloniki**	**1.19**	**173**	P	**Pg**	**16 24 32.8**	**-1.0**
THE	**Thessaloniki**	**1.19**	**173**	P	**Pg**	**16 24 32.9**	**-1.0**
BARS	**Barje**	**1.23**	**325**	⇓*i*Pg	**Pg**	**16 24 33.9**	**-0.6**
BARS				*e*Sg	**Sg**	**16 24 50.1**	**-0.3**
BARS	**Barje**	**1.23**	**325**	⇓*i*Pg	**Pg**	**16 24 33.9**	**-0.6**
BARS				*e*Sg	**Sg**	**16 24 50.1**	**-0.3**
HORT	**Hortiatis**	**1.24**	**169**	P	**Pg**	**16 24 34.5**	**-0.3**
HORT				S	**Sn**	**16 24 51.7**	**-0.4**
HORT	**Hortiatis**	**1.24**	**169**	P	**Pn**	**16 24 35.0**	**0.0**
HORT				S	**Sn**	**16 24 51.7**	**-0.4**
HORT	**Hortiatis**	**1.24**	**169**	P	**Pn**	**16 24 35.0**	**0.0**
ZAPS	**Zavoj**	**1.46**	**356**	⇑*i*Pn	**Pg**	**16 24 38.8**	**-0.1**
ZAPS				*e*Sg	**Sg**	**16 24 57.9**	**+0.1**
FNA	**Florina**	**1.48**	**226**	P	**Pn**	**16 24 38.3**	**+0.1**
FNA	**Florina**	**1.48**	**226**	P	**Pn**	**16 24 38.3**	**+0.1**
FNA	**Florina**	**1.48**	**226**	P	**Pn**	**16 24 38.2**	**+0.1**
PLG	**Polygyros**	**1.53**	**160**	P	**Pb**	**16 24 39.3**	**-0.5**
PLG	**Polygyros**	**1.53**	**160**	P	**Pb**	**16 24 39.3**	**-0.5**
KAVA	**Kavala**	**1.54**	**122**	P	**Pb**	**16 24 39.6**	**-0.4**
KAVA	**Kavala**	**1.54**	**122**	P	**Pb**	**16 24 39.8**	**-0.2**
KAVA	**Kavala**	**1.54**	**122**	P	**Pb**	**16 24 39.8**	**-0.2**
OUR	**Ouranopolis**	**1.74**	**148**	P	**Pn**	**16 24 41.9**	**+0.2**
OUR	**Ouranopolis**	**1.74**	**148**	P	**Pn**	**16 24 41.9**	**+0.2**
SELS	**Selova**	**1.86**	**319**	*e*Pg	**Pb**	**16 24 44.7**	**-0.7**
SELS				*e*Sg	**Sg**	**16 25 09.9**	**-0.8**
BOVS	**Bovan**	**1.98**	**337**	*e*Pg	**Pb**	**16 24 47.0**	**-0.4**
BOVS				*e*Sg	**Sg**	**16 25 13.5**	**-1.0**
BOVS	**Bovan**	**1.98**	**337**	*e*Pg	**Pb**	**16 24 47.0**	**-0.4**
BOVS				*e*Sg	**Sg**	**16 25 13.5**	**-1.0**
PAIG	**Paliouri**	**2.01**	**160**	P	**Pn**	**16 24 45.0**	**-0.4**
PAIG	**Paliouri**	**2.01**	**160**	P	**Pn**	**16 24 45.0**	**-0.4**
ZAGS	**Zajecar**	**2.03**	**349**	*e*Pg	**Pb**	**16 24 47.9**	**-0.4**
ZAGS				*e*Sg	**Sb**	**16 25 14.6**	**+0.7**
ZAGS	**Zajecar**	**2.03**	**349**	*e*Pg	**Pb**	**16 24 47.9**	**-0.4**
BOLS	**Boljevac**	**2.10**	**344**	*e*Pg	**Pn**	**16 24 47.9**	**+1.2**
BOLS				*e*Sn	**Sn**	**16 25 14.0**	**+0.9**
BOLS	**Boljevac**	**2.10**	**344**	*e*Pg	**Pn**	**16 24 47.9**	**+1.2**
RDO	**Rodhopi**	**2.18**	**107**	P	**Pn**	**16 24 47.9**	**+0.1**
RDO	**Rodhopi**	**2.18**	**107**	P	**Pn**	**16 24 47.9**	**+0.1**
GRUS	**Gruza**	**2.56**	**324**	*e*Pg	**Pb**	**16 24 57.1**	**-0.3**
GRUS				*e*Sg	**Sg**	**16 25 32.3**	**-1.0**
GRUS	**Gruza**	**2.56**	**324**	*e*Pg	**Pb**	**16 24 57.1**	**-0.3**
GRUS				*e*Sg	**Sg**	**16 25 32.3**	**-1.0**
IVAS	**Ivanjica**	**2.61**	**313**	*e*Pn	**Pn**	**16 24 53.0**	**-0.8**
IVAS				*e*Sg	**Sg**	**16 25 34.7**	**-0.2**
IVAS	**Ivanjica**	**2.61**	**313**	*e*Pn	**Pn**	**16 24 53.0**	**-0.8**
IVAS				*e*Sg	**Sg**	**16 25 34.7**	**-0.2**
KUBS	**Kucevo**	**2.71**	**343**	*e*Pn	**Pn**	**16 24 57.0**	**+1.8**
KUBS				*e*Sn	**Sn**	**16 25 28.6**	**+0.2**
KUBS	**Kucevo**	**2.71**	**343**	*e*Pn	**Pn**	**16 24 57.0**	**+1.8**
KUBS				*e*Sn	**Sn**	**16 25 28.6**	**+0.2**
TRUS	**Trudelj**	**2.97**	**325**	*e*Pn	**Pn**	**16 25 00.9**	**+2.3**
TRUS				*e*Sg	**Sg**	**16 25 45.0**	**-1.2**
TRUS	**Trudelj**	**2.97**	**325**	*e*Pn	**Pn**	**16 25 00.9**	**+2.3**
TRUS				*e*Sg	**Sg**	**16 25 45.0**	**-1.2**
DIVS	**Divibare**	**3.06**	**319**	*e*Pn	**Pn**	**16 24 59.3**	**-0.7**
DIVS				*e*Sg	**Sb**	**16 25 46.3**	**+2.8**
DIVS	**Divibare**	**3.06**	**319**	*e*Pn	**Pn**	**16 24 59.3**	**-0.7**
DIVS				*e*Sg	**Sb**	**16 25 46.3**	**+2.8**
BBLS	**Lazići**	**3.21**	**311**	*e*Pn	**Pn**	**16 25 01.6**	**-0.5**
BBLS				*e*Sg	**Sg**	**16 25 52.8**	**-1.4**
BBLS	**Lazići**	**3.21**	**311**	*e*Pn	**Pn**	**16 25 01.6**	**-0.5**
BBLS				*e*Sg	**Sg**	**16 25 52.8**	**-1.4**

IDC 16 16:24:56.5±45.0, 16°.04S × 177°.35W, h0km, mb4.5/3, mb1 4.7/3, mb1mx3.9/18, mbtmp4.5/3, Error ellipse: s-maj=845.7km s-min=144.2km az=77.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**40.44**	**239**	P	P	16 32 36.2	-0.6
	1.9nm,0.5s,baz=94,slow=8.4,SNR=13						
WRA	**Warramunga Arr**	**46.00**	**258**	P	P	16 33 22.2	+0.2
	2.0nm,0.5s,baz=90,slow=7.7,SNR=102						
ASAR	**Alice Springs**	**46.30**	**252**	P	P	16 33 24.3	-0.1
	18nm,0.5s,baz=88,slow=8.2,SNR=606						

*ISCJB **16** 16:27:22.6±0.9, 39°.07N±0°.05 × 29°.10E±0°.07, h6km±7km, Error ellipse: s-maj=11.1km s-min=5.8km az=44.5*
*CSEM **16** 16:27:22.8±0.2, 39°.08N × 29°.09E, h5km, MD2.6, Error ellipse: s-maj=5.8km s-min=2.7km az=128.0*
*ISK **16** 16:27:22.2, 39°.07N × 29°.10E, h5km, MD2.6*
*DDA **16** 16:27:26.9, 38°.95N × 28°.71E, h7km, Md2.4*

ISC 16 16:27:21.5±1.4, 39°.00N±0°.04 × 29°.14E±0°.05, h4km±17km, n15, σ1°.19/23, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIMA	**Simav-Kutahya**	**0.15**	**305**	*e*PG	**Pg**	**16 27 25.0**	**+0.4**
SIMA				*e*SG	**Sg**	**16 27 26.0**	**-0.6**
SIMA	**Simav-Kutahya**	**0.15**	**305**	*e*Pg	**Pg**	**16 27 25.0**	**+0.4**
SIMA				*e*Sg	**Sg**	**16 27 26.0**	**-0.6**
DEMI	**Demirci**	**0.34**	**278**	*i* P	**Pg**	**16 27 28.9**	**+0.9**
DEMI				*i* S	**Sg**	**16 27 33.0**	**+0.5**
DEMI	**Demirci**	**0.34**	**278**	P	**Pg**	**16 27 28.9**	**+0.9**
DEMI				S	**Sg**	**16 27 33.0**	**+0.5**
TVSB	**Tavsanli**	**0.52**	**28**	*e*PG	**Pg**	**16 27 31.8**	**+0.3**
TVSB				*e*SG	**Sg**	**16 27 38.7**	**+0.5**
TVSB	**Tavsanli**	**0.52**	**28**	*e*Pg	**Pg**	**16 27 31.8**	**+0.3**
TVSB				*e*Sg	**Sg**	**16 27 38.7**	**+0.5**
KULA	**Kula-Manisa**	**0.61**	**218**	*e*PG	**Pb**	**16 27 35.1**	**+0.3**
KULA				*e*SG	**Sb**	**16 27 44.8**	**+1.0**
KULA	**Kula-Manisa**	**0.61**	**218**	*e*Pg	**Pb**	**16 27 35.2**	**+0.

WRA	**Warramunga Arr**	**70.20**	**131**	P		**P**	**16 39 29.2**	**0.0**
	comp=Z,0.6nm,0.5s,baz=325,slow=6.5,SNR=12							
ASAR	**Alice Springs**	**72.69**	**134**	P		**P**	**16 39 44.5**	**+0.3**
	comp=Z,1.5nm,1.1s,baz=314,slow=5.9,SNR=9.9							
ILAR	**Eielson Array**	**74.58**	**21**	P		**P**	**16 39 54.2**	**-0.5**
	comp=Z,0.4nm,0.7s,baz=296,slow=4.8,SNR=3.8							
TORD	**Torodi Ar. Bea**	**77.83**	**278**	P		**P**	**16 40 13.8**	**-0.2**
	comp=Z,0.4nm,0.6s,baz=61,slow=5.7,SNR=4.0							
YKA	**Yellowknife Ar**	**83.72**	**9**	P		**P**	**16 40 44.0**	**-0.7**
	comp=Z,0.9nm,0.6s,baz=333,slow=5.4,SNR=3.7							

*ISCJB **16** 16:40:23.1±0.7,56°.05N±0°.04×11°.41E±0°.07, h0km, Error ellipse: s-maj=7.1km s-min=4.5km az=32.8*
*UPP **16** 16:40:23.4±0.7,56°.00N×11°.43E, h0km, ML2.7, Suspected explosion*
*CSEM **16** 16:40:24.4±0.2,56°.06N×11°.53E, h1km, ML2.7, Error ellipse: s-maj=5.3km s-min=3.7km az=32.0, Suspected Mining explosion.*
*BER **16** 16:40:25.6±2.5,56°.05N×11°.62E, h0km±17km, MD2.3, ML1.9(NAO)*
*NAO **16** 16:40:27.9±2.1,56°.29N×11°.34E, ML1.9*

ISC 16 16:40:23.7±1.1, 56°.02N±0°.05×11°.51E±0°.05, h0km, n51, σ0°74/59, Denmark

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LLD	**Lille Linde**	**0.80**	**149**	*i* P	**Pb**	**16 40 41.0**	**+0.6**
LLD	**Lille Linde**	**0.80**	**149**	*i* P	**Pb**	**16 40 41.0**	**+0.6**
BJUU	**Bjuv**	**0.85**	**86**	P	**Pg**	**16 40 40.3**	**+0.3**
BJUU				S	**Sb**	**16 40 53.5**	**+0.2**
BJUU	**Bjuv**	**0.85**	**86**	P	**Pg**	**16 40 40.3**	**+0.3**
BJUU				S	**Sb**	**16 40 53.5**	**+0.2**
FABU	**Falkenberg**	**1.19**	**34**	P	**Pg**	**16 40 46.2**	**-0.3**
FABU				S	**Sg**	**16 41 02.4**	**+0.5**
FABU	**Falkenberg**	**1.19**	**34**	P	**Pg**	**16 40 46.2**	**-0.3**
FABU				S	**Sg**	**16 41 02.4**	**+0.5**
MUD	**Monsted U'grnd**	**1.37**	**289**	*i* P	**Pb**	**16 40 51.5**	**+1.3**
MUD	**Monsted U'grnd**	**1.37**	**289**	*e*P	**Pb**	**16 40 51.5**	**+1.3**
ONSU	**Onsala**	**1.40**	**9**	P	**Pn**	**16 40 50.1**	**-0.3**
ONSU				S	**Sg**	**16 41 08.9**	**+0.3**
BORU	**Boraas**	**1.76**	**23**	P	**Pn**	**16 40 55.6**	**+0.2**
BORU	**Boraas**	**1.76**	**23**	P	**Pn**	**16 40 55.6**	**+0.2**
GNOU	**Gnosjoe**	**1.78**	**43**	P	**Pn**	**16 40 56.1**	**+0.4**
GNOU	**Gnosjoe**	**1.78**	**43**	P	**Pn**	**16 40 56.1**	**+0.4**
TJOU	**Tjoern**	**2.02**	**2**	P	**Pn**	**16 40 59.4**	**+0.5**
TJOU	**Tjoern**	**2.02**	**2**	P	**Pn**	**16 40 59.4**	**+0.5**
VXJU	**Vaexsjoe**	**2.11**	**63**	P	**Pn**	**16 41 00.4**	**+0.2**
VXJU	**Vaexsjoe**	**2.11**	**63**	P	**Pn**	**16 41 00.4**	**+0.2**
BSD	**Bornholm Skovb**	**2.14**	**114**	*i* P	**Pn**	**16 41 00.0**	**-0.6**
BSD	**Bornholm Skovb**	**2.14**	**114**	*e*P	**Pn**	**16 41 00.0**	**-0.6**
BLEU	**Blekinge**	**2.43**	**81**	P	**Pn**	**16 41 04.5**	**0.0**
BLEU	**Blekinge**	**2.43**	**81**	P	**Pn**	**16 41 04.5**	**0.0**
FKPU	**Falk**	**2.46**	**29**	P	**Pn**	**16 41 06.3**	**+1.2**
FKPU	**Falk**	**2.46**	**29**	P	**Pn**	**16 41 06.3**	**+1.2**
VANU	**Vaenersborg**	**2.50**	**7**	P	**Pn**	**16 41 06.1**	**+0.6**
VANU	**Vaenersborg**	**2.50**	**7**	P	**Pn**	**16 41 06.1**	**+0.6**
HOMB	**Homborsund**	**2.79**	**325**	*e*P	**Pn**	**16 41 09.2**	**-0.3**
HOMB				*e*S	**Sn**	**16 41 41.6**	**-2.1**
HOMB	**Homborsund** SNR=50	**2.79**	**325**	*e*P	**Pn**	**16 41 09.2**	**-0.3**
HOMB	SNR=50			*e*S	**Sn**	**16 41 41.6**	**-2.1**
STRU	**Stroemstad**	**3.03**	**357**	P	**Pn**	**16 41 13.3**	**+0.5**
STRU	**Stroemstad**	**3.03**	**357**	P	**Pn**	**16 41 13.3**	**+0.5**
NASU	**Vaermlandsnaes**	**3.05**	**17**	P	**Pn**	**16 41 13.4**	**+0.3**
NASU	**Vaermlandsnaes**	**3.05**	**17**	P	**Pn**	**16 41 13.4**	**+0.3**
SNART	**Snartemo**	**3.30**	**317**	*e*P	**Pn**	**16 41 16.6**	**+0.1**
SNART	**Snartemo** SNR=50	**3.30**	**317**	*e*P	**Pn**	**16 41 16.6**	**+0.1**
KON	**Kongsberg**	**3.78**	**345**	Pn	**Pn**	**16 41 22.8**	**-0.3**
KON				Sn	**Sn**	**16 42 07.1**	**-1.2**
KONO	**Kongsberg**	**3.78**	**345**	Pn	**Pn**	**16 41 22.8**	**-0.3**
KONO				Sn	**Sn**	**16 42 07.1**	**-1.2**
KONO	**Kongsberg**	**3.78**	**345**	Pn	**Pn**	**16 41 22.8**	**-0.3**
KONO				Sn	**Sn**	**16 42 07.1**	**-1.2**
HFS	**Hagfors** baz=209,slow=12	**4.29**	**15**	Pn	**Pn**	**16 41 29.7**	**-0.4**
HFS	baz=197,slow=37			Lg	Lg	16 42 35.2	
HFS	**Hagfors** baz=209,slow=12	**4.29**	**15**	Pn	**Pn**	**16 41 29.7**	**-0.4**
HFS	baz=197,slow=37			Lg	Lg	16 42 35.2	
HFS	**Hagfors** baz=209,slow=12,SNR=3.4	**4.29**	**15**	Pn	**Pn**	**16 41 29.7**	**-0.4**
HFS	SNR=7.3			Lg	Lg	16 42 35.2	
BLS5	**Blasjo**	**4.36**	**324**	*e*P	**Pn**	**16 41 30.6**	**-0.4**
BLS5	**Blasjo** SNR=49	**4.36**	**324**	*e*P	**Pn**	**16 41 30.6**	**-0.4**
KMY	**Karmoy**	**4.64**	**316**	*e*P	**Pn**	**16 41 36.1**	**+1.2**
KMY	**Karmoy** SNR=49	**4.64**	**316**	*e*P	**Pn**	**16 41 36.1**	**+1.2**
NB2	**NORSAR Subarra** baz=183,slow=14	**5.04**	**358**	Pn	**Pn**	**16 41 40.1**	**-0.4**
NB2	baz=176,slow=37			Lg	Lg	16 43 00.6	
NB2	**NORSAR Subarra** baz=183,slow=14	**5.04**	**358**	Pn	**Pn**	**16 41 40.1**	**-0.4**
NB2	baz=176,slow=37			Lg	Lg	16 43 00.6	
NB2	**NORSAR Subarra** baz=183,slow=14,SNR=7.2	**5.04**	**358**	Pn	**Pn**	**16 41 40.1**	**-0.4**
NB2	SNR=3.2			Lg	Lg	16 43 00.6	
FIA0	**FINESS Array S** baz=242,slow=12	**9.31**	**48**	Pn	**Pn**	**16 42 38.3**	**-0.7**
FIA0	**FINESS Array S** baz=242,slow=12	**9.31**	**48**	Pn	**Pn**	**16 42 38.3**	**-0.7**
FIA0	**FINESS Array S** baz=242,slow=12,SNR=5.4	**9.31**	**48**	Pn	**Pn**	**16 42 38.3**	**-0.7**
ARA0	**ARCESS Array S** baz=208,slow=14	**14.93**	**19**	Pn	Pn	16 43 51.0	-4.7
ARA0	**ARCESS Array S** baz=208,slow=14	**14.93**	**19**	P	Pn	16 43 51.0	-4.7

*IDC **16** 17:49:24.9±3.1, 20°.74S×178°.43W, h566km±33km, mb3.2/10, mb1 3.4/10, mb1mx3.3/20, mbtmp4.1/10, Error ellipse: s-maj=25.4km s-min=18.6km az=117.0*
*ISCJB **16** 17:49:25.8±0.9, 20°.8S±0°.2×178°.6W±0°.2, h587km, mb3.6/10, Error ellipse: s-maj=25.5km s-min=15.3km az=144.8*

ISC 16 17:49:26.9±0.9, 20°.7S±0°.2×178°.6W±0°.2, h587km, n14, σ1°40/18, mb3.6/10, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek** 1.5nm,0.8s,baz=80,slow=18,SNR=3.4	**37.20**	**244**	P	**P**	**17 55 49.9**	**+0.2**
ASAR	**Alice Springs** 4.3nm,0.5s,baz=94,slow=7.6,SNR=167	**43.94**	**257**	P	**P**	**17 56 43.5**	**+0.2**
ASAR	0.5nm,0.6s,baz=91,slow=4.2,SNR=5.3			PcP	**PcP**	**17 58 15.5**	**-0.6**
ASAR	0.3nm,0.7s,baz=105,slow=4.7,SNR=5.3			ScP	**ScP**	**18 01 14.5**	**+2.0**
ASAR	0.8nm,0.8s,baz=93,slow=16,SNR=7.3			S	**S**	**18 02 31.6**	**-1.8**
WRA	**Warramunga Arr** 3.3nm,0.5s,baz=97,slow=8.6,SNR=66	**44.04**	**262**	P	**P**	**17 56 43.8**	**-0.3**
WRA	0.5nm,0.7s,baz=99,slow=13,SNR=3.3			S	**S**	**18 02 34.0**	**-0.8**
VNDA	**Vanda** 0.8nm,0.7s,baz=2.8,slow=5.9,SNR=6.2	**57.63**	**185**	P	**P**	**17 58 21.4**	**0.0**
MJAR	**Matsushiro Ar** 1.3nm,0.6s,baz=163,slow=6.3,SNR=6.1	**70.08**	**324**	P	**P**	**17 59 41.6**	**+0.5**
PETK	**Petropavlovsk-** 2.6nm,0.7s,baz=130,slow=7.9,SNR=6.1	**76.37**	**346**	P	**P**	**18 00 16.1**	**-0.3**
KSRS	**Korea Array** 0.8nm,0.7s,baz=118,slow=8.1,SNR=3.4	**76.71**	**319**	P	**P**	**18 00 19.9**	**+1.2**
ILAR	**Eielson Array** 0.5nm,0.5s,baz=225,slow=5.9,SNR=6.2	**88.67**	**13**	P	**P**	**18 01 16.2**	**-1.7**
PDAR	**Pinedale Array** 0.4nm,0.7s,baz=204,slow=2.0,SNR=3.0	**89.50**	**43**	P	**P**	**18 01 23.0**	**+0.3**
CMAR	**Chiang Mai Arr** 1.2nm,0.8s,baz=132,slow=3.2,SNR=6.6	**89.69**	**290**	P	**P**	**18 01 26.1**	**+2.2**
FINES	**FINESS Array B** 3.9nm,1.0s,baz=200,slow=22,SNR=3.4	**135.85**	**343**	PKP	**PKPdf**	**18 07 43.0**	**+1.8**
AKASG	**Malin Array Be** 3.3nm,0.5s,baz=43,slow=4.5,SNR=13	**142.96**	**331**	PKP	**PKPdf**	**18 07 51.7**	**-2.6**
BRTR	**Keskin Array B** 0.8nm,0.6s,baz=127,slow=4.9,SNR=5.9	**146.60**	**312**	PKPbc	**PKPbc**	**18 08 03.5**	**-0.4**
GERES	**GERESS Array B** 0.5nm,0.6s,baz=349,slow=1.4,SNR=6.5	**150.28**	**344**	PKPbc	**PKPbc**	**18 08 12.0**	**-0.6**

*ISCJB **16** 17:59:00.4±0.7,56°.18N±0°.05×11°.33E±0°.08, h0km, Error ellipse: s-maj=8.1km s-min=5.6km az=36.1*
*UPP **16** 17:59:00.7±0.8,56°.09N×11°.43E, h0km, ML2.7, Suspected explosion*
*CSEM **16** 17:59:01.9±0.2,56°.20N×11°.48E, h1km, ML2.7, Error ellipse: s-maj=5.4km s-min=4.1km az=31.0, Suspected Mining explosion.*
*BER **16** 17:59:02.9±2.5,56°.14N×11°.61E, h5km±15km, ML1.6, ML1.9(NAO)*
*NAO **16** 17:59:04.7±2.0,56°.31N×11°.46E, ML1.9*

ISC 16 17:59:01.0±0.9, 56°.25N±0°.04×11°.58E±0°.04, h0km, n57, σ1°06/63, Denmark

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FABU	**Falkenberg**	**0.98**	**39**	P	**Pn**	**17 59 22.2**	**+0.3**
FABU	**Falkenberg**	**0.98**	**39**	P	**Pn**	**17 59 22.2**	**+0.3**
LLD	**Lille Linde**	**0.99**	**158**	*i* P	**Pb**	**17 59 21.2**	**+0.3**
LLD	**Lille Linde**	**0.99**	**158**	*i* P	**Pb**	**17 59 21.2**	**+0.3**
ONSU	**Onsala**	**1.16**	**9**	P	**Pn**	**17 59 25.7**	**+1.2**
ONSU				S	**Sn**	**17 59 42.9**	**+1.9**
MUD	**Monsted U'grnd**	**1.35**	**280**	*e*P	**Pb**	**17 59 28.2**	**+1.0**
MUD	comp=Z,21nm,0.7s			IAML		17 59 53.4	
MUD	**Monsted U'grnd**	**1.35**	**280**	*i* P	**Pb**	**17 59 27.9**	**+0.7**
MUD	**Monsted U'grnd**	**1.35**	**280**	*i* P	**Pb**	**17 59 27.9**	**+0.7**
BORU	**Boraas**	**1.53**	**25**	P	**Pg**	**17 59 31.9**	**+1.6**
BORU	**Boraas**	**1.53**	**25**	P	**Pg**	**17 59 31.9**	**+1.6**
GNOU	**Gnosjoe**	**1.59**	**48**	P	**Pg**	**17 59 32.6**	**+1.2**
GNOU	**Gnosjoe**	**1.59**	**48**	P	**Pg**	**17 59 32.6**	**+1.2**
TJOU	**Tjoern**	**1.79**	**1**	P	**Pg**	**17 59 35.2**	**0.0**
TJOU	**Tjoern**	**1.79**	**1**	P	**Pg**	**17 59 35.2**	**0.0**
VXJU	**Vaexsjoe**	**1.98**	**69**	P	**Pb**	**17 59 37.9**	**+0.1**
VXJU	**Vaexsjoe**	**1.98**	**69**	P	**Pb**	**17 59 37.9**	**+0.1**
BSD	**Bornholm Skovb**	**2.21**	**120**	*i* P	**Pn**	**17 59 38.5**	**-0.3**
BSD	**Bornholm Skovb**	**2.21**	**120**	*i* P	**Pn**	**17 59 38.5**	**-0.3**
FKPU	**Falk**	**2.24**	**30**	P	**Pb**	**17 59 42.1**	**-0.2**
FKPU	**Falk**	**2.24**	**30**	P	**Pb**	**17 59 42.1**	**-0.2**
VANU	**Vaenersborg**	**2.26**	**7**	P	**Pb**	**17 59 42.0**	**-0.6**
VANU	**Vaenersborg**	**2.26**	**7**	P	**Pb**	**17 59 42.0**	**-0.6**
BLEU	**Blekinge**	**2.36**	**87**	P	**Pn**	**17 59 42.1**	**+1.2**
BLEU	**Blekinge**	**2.36**	**87**	P	**Pn**	**17 59 42.2**	**+1.2**
HOMB	**Homborsund**	**2.62**	**322**	*e*P	**Pn**	**17 59 45.0**	**+0.5**
HOMB				*e*S	**Sn**	**18 00 16.4**	**-0.6**
HOMB	comp=Z,4.9nm,0.6s			IAML		18 00 31.9	
HOMB	**Homborsund** SNR=50	**2.62**	**322**	*e*P	**Pn**	**17 59 45.0**	**+0.5**
HOMB	SNR=50			*e*S	**Sn**	**18 00 16.4**	**-0.6**
SNART	**Snartemo**	**3.16**	**313**	*e*P	**Pn**	**17 59 52.5**	**+0.6**
SNART	**Snartemo** SNR=50	**3.16**	**313**	*e*P	**Pn**	**17 59 52.5**	**+0.6**
KON	**Kongsberg**	**3.57**	**344**	Pn	**Pn**	**17 59 58.6**	**+1.1**
KONO	**Kongsberg**	**3.57**	**344**	*e*P	**Pn**	**17 59 58.4**	**+0.9**
KONO	comp=Z,2.1nm,0.5s			IAML		18 01 00.7	
KONO	**Kongsberg**	**3.57**	**344**	Pn	**Pn**	**17 59 58.6**	**+1.1**
HFS	**Hagfors** baz=204,slow=16	**4.05**	**15**	Pn	**Pn**	**18 00 06.1**	**+1.9**
HFS	baz=203,slow=28			Sn	**Sn**	**18 00 52.1**	**-0.1**
HFS	baz=194,slow=37			Lg	Lg	18 01 10.8	
HFS	**Hagfors** baz=204,slow=16	**4.05**	**15**	Pn	**Pn**	**18 00 06.1**	**+1.9**
HFS	baz=203,slow=28			Sn	**Sn**	**18 00 52.1**	**-0.1**
HFS	baz=194,slow=37			Lg	Lg	18 01 10.8	
BLS5	**Blasjo**	**4.20**	**321**	*e*P	**Pn**	**18 00 06.8**	**+0.6**
BLS5	**Blasjo** SNR=49	**4.20**	**321**	*e*P	**Pn**	**18 00 06.8**	**+0.6**
NC602	**NORSAR Array S**	**4.50**	**360**	*e*P	**Pn**	**18 00 11.9**	**+1.6**
NC602	comp=Z,3.2nm,0.3s			IAML		18 01 29.3	
NC602	**NORSAR Array S** SNR=49	**4.50**	**360**	*e*P	**Pn**	**18 00 11.9**	**+1.6**
KMY	**Karmoy**	**4.51**	**314**	*e*P	**Pn**	**18 00 11.3**	**+0.9**
KMY	**Karmoy** SNR=49	**4.51**	**314**	*e*P	**Pn**	**18 00 11.3**	**+0.9**
ODD1	**Odda**	**4.51**	**326**	*e*P	**Pn**	**18 00 11.8**	**+1.2**
ODD1	comp=Z,2.5nm,0.4s			IAML		18 01 33.5	
ODD1	**Odda** SNR=49	**4.51**	**326**	*e*P	**Pn**	**18 00 11.8**	**+1.2**
NB2	**NORSAR Subarra** baz=185,slow=14	**4.81**	**358**	Pn	**Pn**	**18 00 15.2**	**+0.6**
NB2	baz=173,slow=37			Lg	Lg	18 01 35.3	
NB2	**NORSAR Subarra** baz=185,slow=14	**4.81**	**358**	Pn	**Pn**	**18 00 15.2**	**+0.6**
NB2	baz=173,slow=37			Lg	Lg	18 01 35.3	
NB2	**NORSAR Subarra** baz=185,slow=14,SNR=7.6	**4.81**	**358**	Pn	**Pn**	**18 00 15.2**	**+0.6**
NB2	SNR=3.1			Lg	Lg	18 01 35.3	
ASK	**Askoy**	**5.41**	**324**	*e*P	**Pn**	**18 00 23.5**	**+0.7**
HYA	**Hoyanger**	**5.67**	**333**	*e*P	**Pn**	**18 00 27.1**	**+0.7**
HYA	**Hoyanger** SNR=49	**5.67**	**333**	*e*P	**Pn**	**18 00 27.1**	**+0.7**
SUE	**Sulen**	**5.99**	**326**	*e*P	**Pn**	**18 00 31.3**	**+0.6**
SUE	**Sulen** SNR=49	**5.99**	**326**	*e*P	**Pn**	**18 00 31.3**	**+0.6**
AKN	**Aaknes**	**6.39**	**340**	*e*P	**Pn**	**18 00 36.6**	**+0.3**
AKN	**Aaknes** SNR=47	**6.39**	**340**	*e*P	**Pn**	**18 00 36.6**	**+0.3**
FIA0	**FINESS Array S** baz=233,slow=12	**9.13**	**49**	Pn	**Pn**	**18 01 14.3**	**+0.5**
FIA0	**FINESS Array S** baz=233,slow=12	**9.13**	**49**	Pn	**Pn**	**18 01 14.3**	**+0.5**
FIA0	**FINESS Array S** baz=233,slow=12,SNR=4.9	**9.13**	**49**	Pn	**Pn**	**18 01 14.3**	**+0.5**
ARA0	**ARCESS Array S** baz=206,slow=14	**14.70**	**19**	Pn	**Pn**	**18 02 27.1**	**-2.8**
ARA0	**ARCESS Array S** baz=206,slow=14	**14.70**	**19**	Pn	**Pn**	**18 02 27.1**	**-2.8**

*SJA **16** 17:59:09.9±0.9, 29°.63S×71°.29W, h10km±20km, ML3.0, MW3.0*
*GUC **16** 17:59:10.1±0.3, 29°.56S×71°.23W, h37km±4km, ML3.0*

ISC 16 17:59:11.8±2.2, 29°.54S±0°.04×71°.1W±0°.1, h7km±13km, n12, σ1°17/18, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LCO	**Las Campanas**	**0.65**	**36**	*e*P	**Pg**	**17 59 25.1**	**+0.8**
LCO				*e*S	**Sb**	**17 59 36.4**	**+1.4**
LCO	comp=E,1μm,0.2s			IAML		17 59 40.4	
LCO	**Las Campanas**	**0.65**	**36**	*e*P	**Pb**	**17 59 25.8**	**+0.2**
LCO				*e*S	**Sn**	**17 59 37.2**	**-1.1**
TLL	**Tololo Astrono**	**0.69**	**155**	*e*P	**Pb**	**17 59 25.2**	**-1.1**
TLL				*e*S	**Sb**	**17 59 36.5**	**+0.4**
TLL	comp=E,1μm,0.7s			IAML		17 59 37.0	
VACH	**Vallenar**	**1.02**	**19**	*e*P	**Pn**	**17 59 32.9**	**+0.4**
VACH				*i* S	**Sn**	**17 59 48.0**	**+1.0**
ACCO	**Cerro Coronel**	**2.08**	**121**	*e*P	**Pb**	**17 59 49.2**	**-0.7**
ACCO				*e*S	**Sg**	**18 00 17.7**	**-0.8**
ACCO	comp=Z,72nm,0.2s			IAML		18 00 21.8	
CPCH	**Copiapo**	**2.28**	**18**	*e*P	**Pn**	**17 59 48.4**	**-1.5**
CPCH				*i* S	**Sn**	**18 00 17.8**	**-0.5**
AGUA	**GUANDACOL**	**2.31**	**89**	*e*P	**Pb**	**17 59 52.5**	**-1.3**
AMOG	**MOGNA**	**2.68**	**122**	*e*P	**Pn**	**17 59 56.8**	**+1.4**
VCA	**Vinchina**	**2.68**	**73**	*e*P	**Pb**	**17 59 58.4**	**-1.9**
AUSP	**Uspallata**	**3.07**	**151**	*e*P	**Pn**	**18 00 01.4**	**+0.4**
AVFE	**Valle Fertil**	**3.38**	**110**	*e*P	**Pn**	**18 00 06.1**	**+1.1**
AVFE	comp=Z,50nm,0.3s			IAML		18 01 00.0	

ASAL	**Salagasta**	**3.62**	**148**	*e*P		**Pn**	**18 00 09.2**	**+0.8**

IDC 16 18:07:40.9±4.0, 18°.69N×148°.04E, h0km, mb3.4/3, mb1 3.7/4, mb1mx3.4/39, mbtmp3.6/4, ML4.2/1, MS2.9/2, Ms1 2.9/2, ms1mx2.5/35, Error ellipse: s-maj=132.0km s-min=27.6km az=84.0, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GUMO	**Guam** 5.9nm,0.3s,baz=87,slow=2.3,SNR=9.3	**5.92**	**211**	Pn	Pn	18 09 09.6	-0.2
GUMO	3.8nm,0.3s,baz=303,slow=23,SNR=3.5			Sn	Sn	18 10 11.2	-7.2
JHJ	**Hachijo jima 2** comp=Z,71nm,20.2s,baz=298,slow=36	**16.17**	**334**	LR	LR	18 17 15.1	
KSRS	**Korea Array** comp=Z,21nm,21.1s,baz=135,slow=34	**25.68**	**321**	LR	LR	18 22 26.9	
WRA	**Warramunga Arr** 0.7nm,0.9s,baz=24,slow=8.8,SNR=4.1	**40.68**	**200**	P	P	18 15 23.0	-0.3
ASAR	**Alice Springs** 0.1nm,0.4s,baz=22,slow=6.8,SNR=10	**44.30**	**199**	P	P	18 15 52.9	+0.1
SONM	**Songino Array** 0.5nm,0.7s,baz=117,slow=8.4,SNR=3.2	**44.55**	**320**	P	P	18 15 54.5	-0.2

JMA 16 18:14:23.1±0.1, 27°.07N×130°.00E, h55km, M3.5, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JTK	**Tokunoshima**	**1.17**	**308**	P	Pn	18 14 43.7	+0.4
JTK				S	Sn	18 14 58.6	+0.3
JZK	**Kikaishima**	**1.24**	**359**	P	Pn	18 14 45.3	+1.1
JZK				S	Sn	18 15 01.8	+1.9
JOKE	**Okinoerabujima**	**1.30**	**283**	P	Pn	18 14 45.8	+0.7
JOKE				S	Sn	18 15 02.2	+0.7
JAMN	**Amaminishikomi**	**1.38**	**328**	P	Pn	18 14 46.2	+0.2
JAMN				S	Sn	18 15 03.0	-0.2
JAM	**Amami Oshima**	**1.38**	**345**	P	Pn	18 14 46.5	+0.4
JAM				S	Sn	18 15 03.0	-0.3
JOW	**Kunigami**	**1.56**	**262**	P	Pn	18 14 49.5	+1.0
JOW				*e*S	Sn	18 15 07.8	+0.2
JMZ	**Minamidaito 2**	**1.66**	**138**	P	Pn	18 14 50.0	+0.2
JMZ				S	Sn	18 15 09.1	-0.9
JIH	**Iheya**	**1.81**	**269**	P	Pn	18 14 53.1	+1.2
JIH				S	Sn	18 15 15.0	+1.2
JNTH	**Nagotoyohara**	**1.85**	**253**	P	Pn	18 14 53.2	+0.7
JNTH				S	Sn	18 15 14.8	+0.1
JTAJ	**Takarajima**	**2.19**	**341**	P	Pn	18 14 57.2	+0.1
JTAJ				S	Sn	18 15 22.1	-1.0
JJT2	**Tamagusuku 2**	**2.22**	**246**	P	Pn	18 14 58.4	+0.9
JAGN	**Aguni-jima**	**2.51**	**260**	P	Pn	18 15 02.5	+1.0
JAGN				S	Sn	18 15 31.5	+0.6
JKE	**Kume jima 2**	**2.97**	**256**	P	Pn	18 15 08.1	+0.4

*BJI **16** 18:23:23.3, 20°.55S×170°.21E, h110km, mb4.9/54, mB5.0/43*
*GCMT **16** 18:23:24.7±0.1, 20°.69S×169°.82E, h123km, MW5.5/129, Moment Tensor Solution. s116,c224; s129,c242; Duration: 1s3 Moment tensor: Scale 10^17 Nm; Mrr=0.89±.02; Mθθ=0.29±.03; Mϕϕ=0.60±.03; Mrθ=0.93±.02; Mθϕ=0.34±.03; Mϕr=1.59±.02; Best double couple: M=2.03300×10^17 NP1:ϕs=211.00000°, δ=78.00000°, λ=-91.00000°. NP2:ϕs=34.00000°, δ=12.00000°, λ=-86.00000°. Principal axes: T 1.9960, Plg33.0000°, Azm301.0000°; N 0.0750, Plg1.0000°, Azm211.0000°; P -2.0700, Plg57.0000°, Azm120.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*MOS **16** 18:23:24.2±1.0, 20°.68S×169°.80E, h110km, mb5.4/26 Error ellipse: s-maj=7.1km s-min=6.9km az=78.0*
*NEIC **16** 18:23:24.7±0.1, 20°.68S×169°.79E, mb5.5/62, MW5.5, MW5.5, Error ellipse: s-maj=3.7km s-min=3.3km az=138.0, Moment Tensor Solution. s18 Moment tensor: Scale 10^17 Nm; Mrr=1.90; Mθθ=0.81; Mϕϕ 1.09; Mrθ=0.76; Mθϕ=0.92; Mϕr=1.55; Best double couple: M=2.60000×10^17 NP1: ϕs=50.00000°, δ=25.00000°, λ=-73.00000°. NP2:ϕs=211.00000°, δ=66.00000°, λ=-98.00000°. Principal axes: T 2.5200, Plg21.0000°, Azm307.0000°; N 0.0700, Plg7.0000°, Azm214.0000°; P -2.5900, Plg68.0000°, Azm107.0000°;*
*ISCJB **16** 18:23:24.4±0.8, 20°.69S±0°.02×169°.75E±0°.02, h110km±7km, mb5.3/143 Error ellipse: s-maj=4.1km s-min=3.2km az=18.3*
*IDC **16** 18:23:25.5±0.5, 20°.68S×169°.88E, h112km±3km, mb5.0/27, mb1 5.2/31, mb1mx5.0/40, mbtmp5.4/31, MS4.2/13, Ms1 4.1/13, ms1mx3.9/32, Error ellipse: s-maj=10.5km s-min=9.3km az=130.0*
*NEIC **16** 18:23:26.0±0.0, 20°.63S×169°.72E, h120km, Moment Tensor Solution. s13 Moment tensor: Scale 10^17 Nm; Mrr=1.01; Mθθ=0.53; Mϕϕ=0.48; Mrθ=0.84; Mθϕ=0.30; Mϕr=1.49; Best double couple: M=1.90000×10^17 NP1:ϕs=212.00000°, δ=76.00000°, λ=-95.00000°. NP2:ϕs=52.00000°, δ=14.00000°, λ=-70.00000°. Principal axes: T 1.8100, Plg31.0000°, Azm305.0000°; N 0.2500, Plg4.0000°, Azm213.0000°; P -2.0600, Plg58.0000°, Azm115.0000°;*

ISC 16 18:23:24.8±0.2, 20°.75S±0°.04×169°.86E±0°.04, h110km±1km, h110km:pP-P, n1227, σ1°24/1337, mb5.4/140, 62C-34D, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac** 655nm,0.3s,baz=63,slow=17,SNR=3088	**3.44**	**247**	P	**Pn**	**18 24 17.7**	**+0.9**
DZM	2μm,0.3s,baz=117,slow=19,SNR=16			S	**Sn**	**18 24 56.4**	**-0.5**
DZM	comp=Z,9μm,19.6s,baz=6.0,slow=38			LR	LR	18 25 36.5	
DZM	**Mont Dzumac** 6μm,0.7s	**3.44**	**247**	*e*Pn	**Pn**	**18 24 16.5**	**-0.3**
DZM	21μm,0.8s			*e*Sn	**Sn**	**18 24 54.5**	**-2.4**
DZM	**Mont Dzumac**	**3.44**	**247**	*e*Pn	**Pn**	**18 24 16.8**	**0.0**
DZM				*e*Sn	**Sn**	**18 24 53.5**	**-3.5**
MSVF	**Nonsavu**	**8.30**	**70**	*e*P	Pn	18 25 27.7	+5.2
MSVF	**Nonsavu**	**8.30**	**70**	*e*Pn	Pn	18 25 27.7	+5.3
RAO	**Raoul Island** comp=Z,990nm,20.6s,baz=302,slow=27	**13.94**	**130**	LR	LR	18 29 41.5	
RAO	**Raoul Island**	**13.94**	**130**	*e*P	**Pn**	**18 26 39.6**	**+2.1**
RAO	**

FWVZ **Far West T-bar** 19.08 166 PN **Pn** 18 27 43.1 +2.2
CNGZ **Carnagh Statio** 19.09 160 *e*PN **Pn** 18 27 41.0 +0.3
RIGZ **Rimuhau** 19.15 161 PN **Pn** 18 27 41.8 +0.3
BKZ **Black Stump Fm** 19.22 164 *e*P **Pn** 18 27 42.6 +0.2
NMHZ **Naumai** 19.24 163 *e*PN **Pn** 18 27 43.5 +1.0
WHHZ **Waihua** 19.34 162 PN **Pn** 18 27 44.1 +0.4
KNZ **Kokohu** 19.41 161 PN **Pn** 18 27 44.0 -0.5
BHHZ **Black Hill Sta** 19.42 165 PN **Pn** 18 27 45.3 +0.6
MCHZ **McNeill Hill** 19.53 164 PN **Pn** 18 27 46.5 +0.5
KRHZ **Kereru** 19.64 165 PN **Pn** 18 27 47.0 -0.2
PNHZ **Pukenui** 19.86 166 PN **Pn** 18 27 49.2 -0.6
KAHZ **Kahuranaki** 19.91 164 *e*PN **Pn** 18 27 49.5 -0.9
TSZ **Takapari Road** 19.94 166 PN **Pn** 18 27 50.2 -0.5
PXZ **Pawanui** 20.13 164 PN Pn 18 27 51.6 -1.3
QRZ **Quartz Range** 20.14 174 PN Pn 18 27 53.7 +0.7
DVHZ **Dannevirke** 20.22 166 *e*PN **P** 18 27 52.1 +1.1
DUWZ **D'Urville Isla** 20.28 171 PN Pn 18 27 54.4 -0.3
MRZ **Mangatainoka R** 20.43 167 PN **P** 18 27 54.7 +1.3
OGWZ **Otaki Gorge** 20.51 168 *e*PN Pn 18 27 55.9 -1.3
BFZ **Birch Farm** 20.60 166 *e*P **P** 18 27 56.1 +1.0
BFZ **Birch Farm** 20.60 166 PN **P** 18 27 56.1 +1.0
NNZ **Nelson** 20.62 172 PN Pn 18 27 57.9 -0.7
HOWZ **Holdsworth Sta** 20.65 168 PN **P** 18 27 56.6 +1.0
MTW **Mount Morrison** 20.90 168 *e*PN **P** 18 27 59.0 +0.7
SNZO **South Karori** 20.90 170 *e*P **P** 18 27 59.8 +1.5
607nm,0.6s
MSWZ **Moikau Station** 21.10 169 *e*PN **P** 18 28 01.1 +0.6
PAWZ **Paruwai Farm** 21.10 168 *e*PN **P** 18 28 01.1 +0.6
THZ **Tophouse** 21.11 174 *e*P **P** 18 28 01.4 +0.8
THZ **Tophouse** 21.11 174 PN **P** 18 28 02.5 +1.9
BSWZ **Blackbirch Sta** 21.17 172 *e*PN **P** 18 28 03.3 +2.1
PLWZ **Palliser** 21.25 169 *e*PN **P** 18 28 02.3 +0.2
KHZ **Kahutara** 21.82 173 *e*P **P** 18 28 09.0 +0.9
KHZ **Kahutara** 21.82 173 PN **P** 18 28 09.0 +0.9
INZ **Inchbonnie** 21.95 177 PN **P** 18 28 11.4 +2.0
LTZ **Lake Taylor** 22.06 175 *e*P **P** 18 28 12.3 +1.6
CTA **Charters Tower** 22.13 268 P **P** 18 28 12.7 +1.1
208nm,0.7s,baz=94,slow=11,SNR=235
CTA PcP **PcP** 18 32 04.6 -0.3
7.5nm,0.7s,baz=288,slow=0.6,SNR=2.9
CTAO Charters Tower 22.13 268 *e*P **P** 18 28 12.0 +0.4
CTAO pmax pmax
comp=Z,230nm,0.7s
CTAO Charters Tower 22.13 268 *e*P **P** 18 28 12.0 +0.4
comp=Z,1µm,0.6s
WVZ **Waitaha Valley** 22.27 178 PN **P** 18 28 14.5 +1.7
OXZ **Oxford** 22.58 176 *e*P **P** 18 28 16.6 +0.6
OXZ **Oxford** 22.58 176 PN **P** 18 28 17.3 +1.3
FOZ **Fox Glacier** 22.71 180 *e*P **P** 18 28 19.2 +1.9
CRLZ **Canterbury Las** 22.88 175 *e*P **P** 18 28 19.4 +0.6
RPZ **Rata Peaks** 22.92 178 P **P** 18 28 20.9 +1.5
comp=Z,70nm,0.5s,baz=336,slow=1.1,SNR=59
RPZ PcP **PcP** 18 32 06.4 +0.4
comp=Z,9.0nm,0.6s,baz=254,slow=1.4,SNR=4.2
RPZ LR LR 18 35 59.2
comp=Z,570nm,20.8s,baz=3.0,slow=33
RPZ Rata Peaks 22.92 178 PN **P** 18 28 20.5 +1.2
MQZ **McQueen's Vall** 23.01 175 *e*P **P** 18 28 20.6 +0.5
MQZ **McQueen's Vall** 23.01 175 PN **P** 18 28 20.9 +0.7
JCZ **Jackson Bay** 23.27 182 PN **P** 18 28 25.0 +2.3
CAN **Canberra** 23.38 227 *e*P **P** 18 28 25.2 +1.4
CAN pmax pmax
comp=Z,120nm,0.8s
CAN Canberra 23.38 227 *e*P **P** 18 28 25.2 +1.4
comp=Z,168nm,0.9s
LBZ **Lake Benmore** 23.57 179 *e*P **P** 18 28 26.2 +0.9
LBZ **Lake Benmore** 23.57 179 PN **P** 18 28 25.9 +0.5
RABL **Rabaul** 23.82 311 *e*P **P** 18 28 26.6 -1.2
WKZ **Wanaka** 24.02 181 *e*P **P** 18 28 30.8 +1.4
WKZ **Wanaka** 24.02 181 PN **P** 18 28 30.6 +1.2
ODZ **Otahua Downs** 24.23 179 *e*P **P** 18 28 31.9 +0.6
ODZ **Otahua Downs** 24.23 179 PN **P** 18 28 32.2 +0.9
EAZ **Earnscleugh** 24.42 181 PN **P** 18 28 34.3 +1.3
MLZ **Mavora Lakes** 24.59 183 *e*P **P** 18 28 36.4 +1.8
MLZ **Mavora Lakes** 24.59 183 PN **P** 18 28 36.6 +2.0
PMG **Port Moresby** 24.61 294 P **P** 18 28 35.9 +0.9
comp=Z,410nm,0.7s,baz=106,slow=5.4,SNR=92
PMG LR LR 18 37 05.1
comp=Z,2µm,18.7s,baz=160,slow=33
PMG Port Moresby 24.61 294*c i*P **P** 18 28 35.6 +0.6
PMG Port Moresby 24.61 294 *e*P **P** 18 28 35.8 +0.8
comp=Z,426nm,0.7s
DCZ **Deep Cove** 24.75 185 *e*P **P** 18 28 37.7 +1.7
WHZ **Wether Hill Ro** 25.12 183 *e*P **P** 18 28 40.7 +1.3
TUZ **Tuapeka** 25.14 180 PN **P** 18 28 41.3 +1.8
PYZ **Puysegur Point** 25.48 185 *e*P **P** 18 28 45.6 +3.0
SYZ **Scrubby Hill** 25.73 181 PN **P** 18 28 46.5 +1.7
COEN **Coen** 26.33 281 *e*P **P** 18 28 51.9 +1.3
comp=Z,288nm,0.9s
STKA Stephens Creek 27.57 241 P **P** 18 29 03.5 +1.9
comp=Z,10nm,0.6s,baz=96,slow=12,SNR=32
STKA pP **pP** 18 29 27.1 +1.4
comp=Z,28nm,0.7s,baz=77,slow=8.7,SNR=7.2
STKA PcP **PcP** 18 32 17.8 +1.0
comp=Z,56nm,1.0s,baz=84,slow=3.6,SNR=8.9
STKA ScP **ScP** 18 35 49.1 +1.7
comp=Z,14nm,0.8s,baz=30,slow=3.2,SNR=11
STKA PKiKP **PKiKP** 18 39 52.0 -1.4
comp=Z,2.4nm,0.8s,baz=2.4,slow=1.4,SNR=4.5
STKA LR LR 18 40 08.8
comp=Z,369nm,18.0s,baz=74,slow=36
STKA Stephens Creek 27.57 241 *e*P **P** 18 29 02.9 +1.3
STKA pP **pP** 18 29 27.1 +1.4
STKA PcP **PcP** 18 32 17.8 +1.0
STKA ScP **ScP** 18 35 49.1 +1.7
STKA PKiKP **PKiKP** 18 39 52.0 -1.4
MANU **Manus Island** 28.76 307 *e*P **P** 18 29 12.7 +0.4
TAU **Tasmania Unive** 29.07 215 *e*P **P** 18 29 16.3 +1.6
TAU pmax pmax
comp=Z,75nm,1.0s
TAU Tasmania Unive 29.07 215 *e*P **P** 18 29 16.3 +1.6
comp=Z,89nm,1.1s
BBOO **Buckleboo** 32.34 241 *e*P **P** 18 29 44.2 +0.5
WB2 **Warramunga Arr** 33.26 265 *e*P **P** 18 29 51.3 -0.6
WRAB **Tennant Creek** 33.27 265*c i*P **P** 18 29 51.3 -0.7
WRAB pmax pmax
comp=Z,513nm,1.2s
WRAB Tennant Creek 33.27 265 *e*P **P** 18 29 51.2 -0.7
comp=Z,89nm,0.5s
WRA Warramunga Arr 33.27 265 P **P** 18 29 51.9 -0.2
comp=Z,122nm,0.6s,baz=91,slow=8.4,SNR=244
WRA PcP **PcP** 18 32 32.4 +0.4
comp=Z,18nm,0.7s,baz=95,slow=2.6,SNR=6.8
WRA S **S** 18 35 01.0 -3.5
comp=Z,4.9nm,1.0s,baz=89,slow=20,SNR=10.0
WRA ScP **ScP** 18 36 06.4 0.0
comp=Z,6.4nm,0.9s,baz=100,slow=3.1,SNR=4.8
WRA PKiKP **PKiKP** 18 39 56.2 -1.4
comp=Z,3.4nm,0.8s,baz=49,slow=0.3,SNR=27
WRA LR LR 18 43 21.8
comp=Z,499nm,18.5s,baz=85,slow=36
AS01 Alice Springs 33.32 258 *e*P **P** 18 29 52.0 -0.4
AS31 Alice Springs 33.36 258 *e*P **P** 18 29 52.3 -0.4
ASAR Alice Springs 33.36 258 P **P** 18 29 53.1 +0.4
comp=Z,178nm,0.8s,baz=90,slow=8.9,SNR=3005
ASAR pP **pP** 18 30 19.2 +2.0
comp=Z,29nm,0.6s,baz=73,slow=9.6,SNR=3.2
ASAR PcP **PcP** 18 32 32.4 +0.2
comp=Z,32nm,0.7s,baz=102,slow=3.2,SNR=18
ASAR S **S** 18 35 03.0 -2.8
comp=Z,6.2nm,1.0s,baz=88,slow=16,SNR=4.6
ASAR ScP **ScP** 18 36 06.8 +0.2
comp=Z,4.1nm,0.7s,baz=104,slow=3.8,SNR=8.0
ASAR PKiKP **PKiKP** 18 39 56.2 -1.4
comp=Z,1.9nm,0.6s,baz=106,slow=1.4,SNR=21
ASAR LR LR 18 42 53.0
comp=Z,702nm,18.1s,baz=96,slow=35
JAY Jayapura 33.70 299 P **P** 18 29 56.0 +0.2
comp=Z,23nm,0.7s,baz=125,slow=22,SNR=131
JAY LR LR 18 43 27.1
comp=Z,26nm,19.3s,baz=108,slow=36
JAY Jayapura 33.70 299 P **P** 18 29 54.3 -1.5
JAY Jayapura 33.70 299 P **P** 18 29 56.0 +0.2
JAY pmax pmax
comp=Z,23nm,0.7s
MCQ **Macquarie Isla 34.70 191** *e*P **P** 18 30 05.9 +2.1
MCQ **Macquarie Isla 34.70 191** *e*P **P** 18 30 05.9 +2.1
comp=Z,2µm,0.9s
TBI **Tubuai 37.71 102** *e*LR LR 18 40 52.7
comp=Z,2µm,34.0s
MTN **Manton Dam 37.82 276** *e*P **P** 18 30 30.5 -0.4
PAE **Paea 38.36 93** *e*P **P** 18 30 35.6 +0.2
comp=Z,12nm,0.8s
PPT2 Papeete2 38.38 92 *e*P **P** 18 30 36.3 +0.6
comp=Z,3µm,35.0s
PPT Papeete 38.38 92 *e*P **P** 18 30 37.3 +1.7
PPT Papeete 38.38 92 *e*P **P** 18 30 37.3 +1.7
TIAR Tiarei 38.60 92 *e*P **P** 18 30 37.9 +0.4
comp=Z,40nm,1.0s
FORT Forrest 38.75 246 *e*P **P** 18 30 39.1 +0.5
comp=Z,288nm,0.6s
FORT *e*S **S** 18 36 27.8 -0.1
XMAS Kiritimati 39.23 59 *e*P **P** 18 30 43.5 +0.9
FAKI Fak Fak 40.69 291 P **P** 18 30 54.6 -0.2
comp=Z,304nm,0.9s,comp=Z,3µm
FAKI Fak Fak 40.69 291 *e*P **P** 18 30 54.3 -0.5
comp=Z,167nm,0.7s
VAH Vaihoa 40.72 89 *e*P **P** 18 30 55.2 +0.2
comp=Z,257nm,1.3s
FITZ Fitzroy Crossi 41.69 266 P **P** 18 31 03.5 +0.6
comp=Z,221nm,0.7s,baz=105,slow=8.3,SNR=823
FITZ PKiKP **PKiKP** 18 40 03.5 -0.9
comp=Z,4.6nm,1.1s,baz=207,slow=2.3,SNR=3.6
FITZ Fitzroy Crossi 41.69 266 *e*P **P** 18 31 03.4 +0.4
comp=Z,176nm,0.6s
FITZ PKiKP **PKiKP** 18 40 03.5 -0.9
GUMO Guam 42.05 322 *e*P **P** 18 31 05.1 -0.7
GUMO pmax pmax
comp=Z,120nm,1.1s
GUMO Guam 42.05 322 *e*P **P** 18 31 05.1 -0.7
JOHN Johnston Islan 42.39 30 *e*P **P** 18 31 09.7 +1.2
AAI Ambon 43.92 287 P **P** 18 31 22.6 +1.5
comp=Z,121nm,0.5s,comp=Z,2µm
NLAI Namlea 45.10 287 P **P** 18 31 31.5 +1.1
comp=Z,245nm,1.4s,comp=Z,3µm
SOEI Soe 45.18 277 P **P** 18 31 32.6 +1.4
comp=Z,116nm,1.1s,comp=Z,2µm
SOEI Soe 45.18 277 *e*P **P** 18 31 31.4 +0.2
comp=Z,109nm,1.1s
BATI Baumata 45.59 276 P **P** 18 31 38.1 +3.8
comp=Z,30nm,1.3s
SANI Sanana 46.62 288 P **P** 18 31 43.4 +1.0
comp=Z,368nm,0.8s,comp=Z,3µm
MBWA Marble Bar 46.65 260 *e*P **P** 18 31 42.5 -0.1
comp=Z,332nm,0.8s
MMRI Maumere 47.44 277 P **P** 18 31 48.9 +0.1
comp=Z,182nm,0.9s,comp=Z,2µm
MMRI Maumere 47.44 277 *e*P **P** 18 31 48.8 0.0
comp=Z,94nm,0.6s
NWAO Narrogin (SRO) 48.06 244 P **P** 18 31 53.6 +0.3
comp=Z,26nm,0.7s,baz=320,slow=4.6,SNR=15
NWAO Narrogin (SRO) 48.06 244 *e*P **P** 18 31 53.8 +0.5
NWAO pmax pmax
comp=Z,43nm,0.9s
NWAO Narrogin (SRO) 48.06 244 *e*P **P** 18 31 53.8 +0.5
comp=Z,128nm,0.8s
BBSI Bau Bau 48.28 282 P **P** 18 31 57.5 +2.2
comp=Z,32nm,1.1s,comp=Z,358nm
KDI Kendari 48.85 283 P **P** 18 32 00.5 +0.9
comp=Z,115nm,1.1s,comp=Z,2µm
WSI Waingapu 48.90 275 P **P** 18 31 57.8 -2.2
comp=Z,296nm,0.7s,comp=Z,3µm
TAOE Nuku Hiva Isla 49.57 84 *e*P **P** 18 32 06.2 +1.0
comp=Z,774nm,1.1s
TAOE Nuku Hiva Isla 49.57 84 *e*LR LR 18 46 26.1
comp=Z,2µm,33.6s
TAOE Nuku Hiva Isla 49.57 84 *e*P **P** 18 32 06.2 +1.0
KMSI Cibinong 49.61 290 P P 18 32 12.5 +7.2
BSSI Bau Bau, Buton 49.95 280 P P 18 32 13.3 +5.3
comp=Z,90nm,0.8s
MRSI Marisa 51.37 288 P **P** 18 32 18.4 -0.2
comp=Z,66nm,0.7s,comp=Z,3µm
SPSI Sidrap Palu 51.45 282 P **P** 18 32 18.5 -0.7
comp=Z,80nm,0.9s,comp=Z,985nm
PLAI Plampang 51.53 275 P **P** 18 32 20.8 +1.0
comp=Z,90nm,1.1s,comp=Z,2µm
TTSI Tana Toraja 51.77 283 P **P** 18 32 22.6 +1.0
comp=Z,74nm,0.9s,comp=Z,894nm
HPO Honuapo 52.11 43 *e*P **P** 18 32 27.0 +3.1
TWSI Taliwang, Sumb 52.39 275 P **P** 18 32 27.1 +0.9
comp=Z,60nm,1.1s,comp=Z,2µm
UWE Uwekahuna 52.52 43 *e*P **P** 18 32 26.6 -0.5
OPA Opana 52.58 39 *e*P **P** 18 32 27.7 +0.3
OPA Opana 52.58 39 *e*P **P** 18 32 27.7 +0.3
STCH Steam Cracks 52.60 43 *e*P **P** 18 32 27.6 0.0
JCUZ Jacuzzi 52.62 43 *e*P **P** 18 32 29.9 +2.1
POHA Pohakuloa 52.62 42 *e*P **P** 18 32 29.8 +1.8
PCI Palu 52.64 285 P **P** 18 32 28.8 +0.7
comp=Z,311nm,1.1s,comp=Z,4µm
HPAH Hawaii Prepara 52.72 42 *e*P **P** 18 32 28.9 +0.4
IGBI Denpasar 53.99 274 P **P** 18 32 39.1 +1.2
comp=Z,168nm,1.4s,comp=Z,2µm
SRBI Singaraja 54.17 275 P **P** 18 32 42.5 +3.3
comp=Z,74nm,0.9s
JAGI Jajag, Banyuwa 55.03 274 P **P** 18 32 45.2 -0.2
comp=Z,80nm,1.1s
JAGI Jajag, Banyuwa 55.03 274 *e*P **P** 18 32 44.7 -0.8
comp=Z,43nm,0.7s
MYLDM **Lahad Datu 56.60 291** *e*P **P** 18 32 57.9 +1.3
VNDA Vanda 56.95 182 P **P** 18 32 58.8 +0.6
comp=Z,30nm,0.6s,baz=358,slow=7.8,SNR=214
VNDA LR LR 18 53 48.1
comp=Z,84nm,20.4s,baz=14,slow=32
VNDA Vanda 56.95 182 *e*P **P** 18 32 58.5 +0.4
MTKI Muara Teweh, K 57.11 283 P **P** 18 33 00.8 +0.5
comp=Z,91nm,0.9s,comp=Z,830nm
SBA Scott Base 57.17 181 *e*P **P** 18 33 01.3 +1.6
SBA Scott Base 57.17 181 *e*P **P** 18 33 01.2 +1.6
comp=Z,317nm,0.9s
PWJI Pagerwojo 57.37 274 P **P** 18 33 02.9 +0.8
comp=Z,46nm,0.8s
PCJI Pacitan 57.90 273 P **P** 18 33 07.2 +1.4
comp=Z,110nm,0.9s
NGJI Ngawi 57.91 274 P P 18 33 18.4 +13
WOJI Wonogiri, Jawa 58.25 274 P **P** 18 33 09.3 +1.1
comp=Z,118nm,1.0s,comp=Z,4µm
UGM Wanagama 58.60 273 *e*P **P** 18 33 10.7 0.0
KKM Kota Kinabalu 59.01 291 *e*P **P** 18 33 14.4 +0.8
comp=Z,62nm,0.8s
TGY Tagaytay City 59.24 302 LR LR 18 54 59.6
comp=Z,124nm,20.8s,baz=92,slow=32
KPJI Karang Pucung 60.28 273 P **P** 18 33 23.6 +1.4
comp=Z,32nm,0.8s
STKI Sintang 60.64 282 P **P** 18 33 26.1 +1.4
comp=Z,111nm,1.0s,comp=Z,2µm
SBUM Sibu 60.95 285 *e*P **P** 18 33 26.6 -0.2
SBUM *e*pP **pP** 18 33 53.8 +0.1
CISI Cisompet, Garu 61.25 273 *e*P **P** 18 33 27.9 -1.0
SZP Santa 61.61 305 *e*P **P** 18 33 30.9 -0.2
JOW Kunigami 62.14 318 *e*P **P** 18 33 34.9 +0.5
KSM Kuching 62.28 283 *e*P **P** 18 33 36.0 +0.3
comp=Z,44nm,0.6s
KSM *e*pP **pP** 18 34 02.2 -0.5
CGJI Cibinong 63.55 273 P **P** 18 33 44.3 +0.2
comp=Z,102nm,0.7s,comp=Z,2µm
TWG Pintang 64.34 310 *e*P **P** 18 33 48.8 -0.3
MJAR Matsushiro Arr 64.36 332 P **P** 18 33 48.5 -0.5
comp=Z,7.1nm,0.8s,baz=167,slow=6.8,SNR=25
MJAR pP **pP** 18 34 15.2 -0.9
comp=Z,10.0nm,1.0s,baz=163,slow=7.3,SNR=5.2
MJAR sP **sP** 18 34 28.3 +0.2
comp=Z,14nm,0.9s,baz=168,slow=6.6,SNR=4.8
MJAR PKP2bc 19 02 39.3
comp=Z,4.2nm,1.0s,baz=294,slow=2.9,SNR=9.9
MJAR LR LR 19 04 18.5
comp=Z,33nm,18.2s,baz=175,slow=38
MAJO Matsushiro 64.36 332 *e*P **P** 18 33 49.3 +0.4
MAJO pmax pmax
comp=Z,39nm,1.2s
MAJO Matsushiro 64.36 332 *e*P **P** 18 33 48.5 -0.5
comp=Z,10nm,0.6s
MAJO *e*pP **pP** 18 34 14.9 -1.2
MJB9 Matsu-Tunnel 64.36 332 *e*P **P** 18 33 48.9 -0.1
MJB9 *e*pP **pP** 18 34 15.0 -1.1
BLSI Bandar Lampung 64.39 274 P **P** 18 33 49.7 0.0
comp=Z,73nm,0.4s
YULB Yu-li 64.53 310 *e*pP pP 18 34 16.6 -0.9
PPBI Pangkal Pinang 64.71 278 P **P** 18 33 52.7 +1.0
comp=Z,31nm,1.1s,comp=Z,681nm
NACB Ninganchiao 64.81 311 *e*P **P** 18 33 51.3 -0.8
TPUB Ta-pu 64.95 310 *e*P **P** 18 33 52.1 -0.9
comp=Z,22nm,0.6s
TPUB *e*pP **pP** 18 34 19.1 -1.2
SSLB Suanglung 65.02 310 *e*P **P** 18 33 52.5 -1.1
comp=Z,20nm,0.6s
SSLB *e*pP **pP** 18 34 18.6 -2.1
KASI Kota Agung 65.03 274 P **P** 18 33 53.8 0.0
comp=Z,87nm,0.9s,comp=Z,1µm
KLSI 65.11 275 P pP 18 34 20.3 -1.2
JNU Nakatsue 65.23 324 *e*P **P** 18 33 53.7 -1.0
JNU *e*pP **pP** 18 34 19.3 -2.6
YHNB Yeheng 65.28 311 *e*P **P** 18 33 54.8 -0.4
comp=Z,28nm,0.7s
YHNB *e*pP **pP** 18 34 20.4 -2.0
TATO Taipei 65.39 312 *e*P **P** 18 33 55.8 -0.1
TATO *e*pP **pP** 18 34 21.4 -1.7
MIR Mirnyy 65.92 205 *i* P **P** 18 34 00.0 +1.4
MIR pmax pmax
comp=Z,18nm,1.5s
TPRI Tanjung Pinang 67.36 280 P **P** 18 34 09.9 +1.2
comp=Z,94nm,1.4s,comp=Z,1µm
QZH **Quanzhou 67.43 310** *e*P P 18 34 15.6 +6.8
QZH S **S** 18 42 57.5 +1.3
QZH LR LR
comp=Z,2µm,36.3s
MYKOM **Kota Tinggi 68.32 281** *e*P **P** 18 34 15.0 +0.3
MYKOM *e*pP **pP** 18 34 41.7 -0.4
DLV T Lat 68.51 293 *e*P **P** 18 34 15.2 -0.8
comp=Z,64nm,1.4s
ASAJ Asahikawa 69.22 339 *e*P **P** 18 34 19.8 +0.2
ASAJ *e*pP **pP** 18 34 48.1 +1.0
QSPA South Pole Qui 69.31 180 *e*P **P** 18 34 20.2 +0.1
comp=Z,1µm,0.7s
KSRS Korea Array 70.08 326 P **P** 18 34 26.1 +1.1
comp=Z,3.9nm,0.9s,baz=154,slow=6.6,SNR=13
KS15 Wonju Array Si 70.09 326 *e*P **P** 18 34 25.7 +0.7
KS15 *e*pP **pP** 18 34 51.9 -0.8
KSAR Wonju Array Be 70.09 326 P **P** 18 34 26.1 +1.0
KSAR Wonju Array Be 70.09 326 P **P** 18 34 26.1 +1.0
KS01 Wonju Array Si 70.11 326 *e*P **P** 18 34 25.7 +0.5
KS01 *e*pP **pP** 18 34 52.1 -0.7
BKNI Bangkinang 70.36 278 *e*P **P** 18 34 27.8 +0.5
BKNI *e*pP **pP** 18 34 54.5 -0.3
INCN Inchon 70.79 325 *e*P **P** 18 34 30.1 +0.7
INCN *e*pP **pP** 18 34 56.9 -0.1
QIZ Qiongzhong 70.83 300 P **P** 18 34 30.8 +0.8
QIZ pP **pP** 18 34 57.1 -0.5
QIZ S **S** 18 43 36.3 -0.3
QIZ sS **ScS** 18 44 23.9 -0.2
QIZ SS **SS** 18 48 12.9 +1.3
QIZ pmax pmax
comp=Z,14nm,0.9s
QIZ Qiongzhong 70.83 300 *e*P **P** 18 34 30.6 +0.6
comp=Z,9.5nm,0.7s
YSS Yuzh-Sakhalins 71.69 341 *e*P **P** 18 34 37.4 +2.9
YSS *e**PP **pP** 18 35 02.4 +0.2
YSS *e**SP **sP** 18 35 13.5 -0.6
YSS *e*S **S** 18 43 47.8 +2.4
YSS *e* 18 44 10.0
YSS *e*SS **SS** 18 48 24.0 +0.1
YSS pmax pmax
comp=Z,20nm,0.9s
YSS pmax pmax
comp=Z,200nm,6.1s
YSS Yuzh-Sakhalins 71.69 341 *e*P **P** 18 34 36.5 +1.9
YSS *e*PcP **PcP** 18 34 54.5 +1.5
YSS *e*pP **pP** 18 35 03.4 +1.2
NJ2 Nanjing 71.70 316 *e*P **P** 18 34 36.3 +1.4
NJ2 pmax pmax
comp=Z,16nm,0.5s
IPM Ipoh 71.97 282 *e*P **P** 18 34 37.1 +0.1
comp=Z,23nm,0.6s
IPM *e*pP **pP** 18 35 03.6 -1.0
IPM *e*sP **sP** 18 35 12.3 -4.3
KULM Kulim 72.63 283 *e*P **P** 18 34 41.2 +0.3
KULM *e*pP **pP** 18 35 07.5 -1.1
KULM *e*sP **sP** 18 35 15.7 -4.8
RPN Rapa Nui 72.96 113 *e*P **P** 18 34 43.7 +1.0
RPN Rapa Nui 72.96 113 *e*P **P** 18 34 43.7 +1.0
PSI Prapat 73.25 280 *e*P **P** 18 34 44.4 -0.3
PSI *e**PP **pP** 18 35 10.8 -1.7
PSI Prapat 73.25 280 *e*P **P** 18 34 44.1 -0.7
PSI *e*pP **pP** 18 35 10.3 -2.1
USRK Ussuriysk Ar. 73.34 333 P **P** 18 34 45.4 +1.0
comp=Z,7.0nm,0.9s,baz=116,slow=5.0,SNR=8.5
ATKA Atka Island 73.97 10 *e*P **P** 18 34 48.7 +0.9
PET Petropavlovsk 74.11 353 *e*P **P** 18 34 48.7 0.0
PET *e**PP **pP** 18 35 15.6 -0.8
PET Petropavlovsk 74.11 353 *e*P **P** 18 34 48.7 0.0
PET *e*pP **pP** 18 35 15.6 -0.8
PEA0 Petropavlovsk- 74.30 352 *e*P **P** 18 34 50.8 +0.9
PEA0 *e*PcP **PcP** 18 35 02.8 -1.2
PEA0 *e*pP **pP** 18 35 18.2 +0.6
PEA0B Petropavlovsk- 74.30 352 *e*P **P** 18 34 50.5 +0.7
PEA0B *e*PcP **PcP** 18 35 03.6 -0.5
PEA0B *e*pP **pP** 18 35 17.8 +0.2
PETK Petropavlovsk- 74.30 352 P **P** 18 34 50.4 +0.6
comp=Z,9.3nm,0.8s,baz=158,slow=7.3,SNR=13
TRTT Trang 74.52 285 P **P** 18 34 55.6 +3.6
comp=Z,41nm,1.4s
SKNT Sakolnakorn 74.70 295 P **P** 18 34 53.8 +0.9
comp=Z,46nm,0.8s
MDJ Mudanjiang 74.72 331 P **P** 18 34 53.8 +1.3
MDJ pP pP 18 35 19.6 -0.7
MDJ sP sP 18 35 32.9 +0.8
MDJ PP **PP** 18 37 41.3 0.0
MDJ S **S** 18 44 19.8 0.0
MDJ sS sS 18 45 06.9 -0.8
MDJ SS **SS** 18 49 05.8 -4.4
MDJ pmax pmax
comp=Z,6.0nm,0.9s
MDJ pmax pmax
comp=Z,29nm,3.2s
MDJ LR LR
comp=Z,190nm,24.1s
MDJ LR LR
comp=Z,160nm,22.4s
MDJ LR LR
comp=Z,220nm,20.8s
MDJ Mudanjiang 74.72 331 *e*P **P** 18 34 52.7 +0.3
MDJ *e*pP **pP** 18 35 20.2 -0.1
TIA Tai'an 75.46 318 P **P** 18 34 57.5 +0.6
TIA pmax pmax
comp=Z,30nm,1.3s
HABR Khabarovsk 75.61 337 *e*P **P** 18 34 56.5 -0.9
HABR *e* 18 35 09.0
HABR *e**PP **pP** 18 35 24.6 -0.7
HABR *e**SP **sP** 18 35 36.7 -0.5
HABR *e* 18 37 47.1
HABR *e*PPP PPP 18 39 33.9
HABR *e*S **S** 18 44 28.7 -0.7
HABR *e* 18 44 59.9
HABR *e**SS **sS** 18 45 17.6 +0.2
HABR *e*SS **SS** 18 49 23.1 -0.4
HABR *e*SSS SSS 18 52 46.2
HABR pmax pmax
comp=N,20nm,1.9s
HABR pmax pmax
comp=Z,43nm,1.9s
HABR pmax pmax
comp=E,33nm,1.6s
HABR MLR MLR
comp=Z,62nm,18.0s
NIKH Nikolski High 75.71 13 *e*P **P** 18 34 57.6 -0.3
CHAI Chaiyaphum 75.92 293 P **P** 18 35 00.9 +1.0
comp=Z,6.1nm,0.7s,comp=Z,81nm
LHMI Lhok Sumawe 76.00 281 *e*P **P** 18 35 00.1 -0.4
CN2 Changchun 76.05 329 *e*P **P** 18 35 01.3 +1.3
CN2 pmax pmax
comp=Z,10.0nm,0.6s
SLVN Son La 76.81 299 *e*P **P** 18 35 05.9 +1.0
comp=Z,27nm,1.3s
UNV Unalaska Valle 77.04 14 *e*P **P** 18 35 05.0 -0.4
comp=Z,23nm,0.6s
ENH Enshi 77.08 310 *e*P **P** 18 35 06.3 +0.1
ENH *e*pP **pP** 18 35 33.0 -1.2
PBKT Sadao Pong 77.09 293 P **P** 18 35 08.2 +1.7
comp=Z,19nm,0.9s,comp=Z,743nm
GYA Guiyang 77.16 305 P **P** 18 35 08.0 +1.1
GYA pP pP 18 35 37.3 +2.4
GYA sP sP 18 35 49.4 +2.7
GYA PP **PP** 18 38 04.5 +2.2
GYA S **S** 18 44 47.0 -0.6
GYA pmax pmax
comp=Z,40nm,1.0s
GYA pmax pmax
comp=Z,180nm,6.2s
MAW Mawson 77.26 202 P **P** 18 35 07.7 +1.2
comp=Z,87nm,0.7s,baz=111,slow=6.2,SNR=479
MAW LR LR 19 07 15.0
comp=Z,50nm,18.2s,baz=66,slow=34
MAW Mawson 77.26 202 *e*P **P** 18 35 07.4 +0.9

AKUT **Akutan** 77.47 14 *e*P P 18 35 08.1 +0.3
SRDT **SRDT** 77.73 291 P P 18 35 15.4 +5.3
comp=Z,97nm,1.6s,comp=Z,4µm
UTTA **Uttaradit** 77.97 294 P P 18 35 13.1 +1.8
comp=Z,5.2nm,0.8s,comp=Z,76nm
BJT **Baijiatuau** 78.46 321 *e*P P 18 35 14.2 +0.6
BJT **Baijiatuau** 78.46 321 *e*P P 18 35 14.2 +0.6
BJI **Beijing** 78.47 321 P P 18 35 14.8 +1.1
BJI pP **pP** 18 35 42.3 +0.6
BJI sP **sP** 18 35 54.6 +1.1
BJI S **S** 18 45 01.9 +1.1
BJI pmax pmax
comp=Z,11nm,0.7s
SUKH **Sukhothai** 78.64 294 P P 18 35 17.0 +1.9
comp=Z,6.6nm,0.8s,comp=Z,96nm
UMPA **Umpang Tak** 78.75 292 P P 18 35 19.2 +3.4
comp=Z,9.9nm,1.0s,comp=Z,818nm
LAMP **Lampang** 79.09 295 P P 18 35 20.2 +2.6
comp=Z,10nm,0.9s
XAN **Xi'an** 79.56 312 P P 18 35 20.6 +0.8
XAN pP pP 18 35 48.0 0.0
XAN S **S** 18 45 11.4 -1.4
XAN pmax pmax
comp=Z,19nm,1.0s
XAN LR LR
comp=Z,130nm,22.4s
XAN LR LR
comp=Z,150nm,21.9s
XAN LR LR
comp=Z,250nm,24.2s
KMI **Kunming** 79.56 302 P P 18 35 22.0 +1.7
KMI pP pP 18 35 50.8 +2.4
KMI sP sP 18 36 00.9 +0.7
KMI PP **PP** 18 38 23.8 +1.2
KMI S **S** 18 45 12.5 -1.1
KMI sS sS 18 45 59.6 -2.3
KMI SS **SS** 18 50 25.5 +1.2
KMI pmax pmax
comp=Z,33nm,1.4s
KMI pmax pmax
comp=Z,150nm,5.4s
KMI LR LR
comp=Z,140nm,19.0s
KMI LR LR
comp=Z,65nm,17.6s
KMI LR LR
comp=Z,270nm,39.4s
CM01 **Chiang Mai Arr** 79.62 294 *e*P P 18 35 21.6 +1.1
CM01 *e*pP **pP** 18 35 48.0 -0.6
CM31 **Chiang Mai Arr** 79.65 294 *e*P P 18 35 21.6 +1.0
CM31 *e*pP **pP** 18 35 48.0 -0.8
CMAR **Chiang Mai Arr** 79.65 294 P P 18 35 22.4 +1.7
comp=Z,8.5nm,0.8s,baz=134,slow=4.3,SNR=47
CMAR pP **pP** 18 35 49.4 +0.7
comp=Z,14nm,0.8s,baz=129,slow=3.7,SNR=9.4
CMAR PKiKP **PKiKP** 18 40 51.1 -0.4
comp=Z,0.7nm,0.6s,baz=209,slow=1.3,SNR=5.2
CMAR PKKPbc **PKKPbc** 18 54 07.8 +0.2
comp=Z,2.6nm,0.7s,baz=277,slow=3.8,SNR=12
CMMT **Chiang Mai** 79.80 295 P P 18 35 23.1 +1.7
comp=Z,22nm,0.9s,comp=Z,568nm
CHTO **Chiang Mai** 79.81 295 P P 18 35 23.2 +1.8
comp=Z,101nm,0.9s,comp=Z,3µm
CHTO **Chiang Mai** 79.81 295 *e*P P 18 35 23.2 +1.8
CHTO pmax pmax
comp=Z,100nm,1.5s
CHTO **Chiang Mai** 79.81 295 *e*P P 18 35 23.0 +1.5
CHTO *e*pP **pP** 18 35 49.0 -0.6
CHTO **Chiang Mai** 79.81 295 P P 18 35 23.2 +1.8
SNR=5.9
CHTO **Chiang Mai** 79.81 295 P P 18 35 23.2 +1.8
SNR=5.9
SDPT **Sand Point** 79.90 17 *e*P P 18 35 23.1 +2.0
PAF **Port-aux-Franc** 80.56 221 *e*P P 18 35 27.4 +2.4
PAF **Port-aux-Franc** 80.56 221 *e*P P 18 35 26.4 +1.5
CD2 **Chengdu** 81.61 307 *j*i*P* P 18 35 32.6 +1.7
CD2 pP pP 18 35 58.9 -0.2
CD2 sP sP 18 36 14.4 +3.5
CD2 PP **PP** 18 38 39.3 +0.1
CD2 S **S** 18 45 34.4 0.0
CD2 SS **SS** 18 50 59.3 +4.9
CD2 pmax pmax
comp=Z,10.0nm,1.0s
CD2 pmax pmax
comp=Z,360nm,12.8s
CD2 LR LR
comp=Z,260nm,24.2s
CD2 LR LR
comp=Z,510nm,32.3s
HHC **Hu-ho-hao-te** 81.74 319 *e*P P 18 35 33.3 +1.9
HHC pP pP 18 36 00.4 +0.7
HHC sP sP 18 36 15.0 +3.6
HHC S **S** 18 45 37.8 +2.4
HHC SS **SS** 18 51 00.4 +4.3
HHC pmax pmax
comp=Z,15nm,1.4s
HHC pmax pmax
comp=Z,70nm,5.3s
HIA **Hailar** 82.71 330 *e*P P 18 35 35.2 -0.9
HIA *e**PP **pP** 18 36 03.9 -0.6
HIA **Hailar** 82.71 330 *e*P P 18 35 35.1 -0.9
HIA *e*pP **pP** 18 36 03.9 -0.6
OHAK **Old Harbor** 83.58 19 *e*P P 18 35 41.2 +0.9
comp=Z,111nm,1.3s
OHAK *e*pP **pP** 18 36 09.0 +0.2
SYO **Syowa Base** 83.65 196 *j*i*P* P 18 35 39.0 -1.7
SYO **Syowa Base** 83.65 196 *j*i*PcP* **PcP** 18 35 44.4 -0.3
SYO **Syowa Base** 83.65 196 *j*i*eX* pP 18 36 05.2 -3.9
LZH **Lanzhou** 84.17 312 *e*P P 18 35 45.6 +1.5
LZH pP pP 18 36 12.0 -0.5
LZH sP sP 18 36 24.9 +0.7
LZH SKS **S** 18 45 57.5 -2.8
LZH S **SKKSac** 18 46 04.0 +0.8
LZH sS sS 18 46 48.1 -1.1
LZH SS **SS** 18 51 38.1 +5.8
LZH pmax pmax
comp=Z,37nm,1.0s
LZH pmax pmax
comp=Z,130nm,4.1s
KDAK **Kodiak Island** 84.26 19 P P 18 35 43.5 -0.3
comp=Z,58nm,1.1s,baz=220,slow=3.3,SNR=8.0
KDAK pP **pP** 18 36 13.2 +1.0
comp=Z,32nm,1.0s,baz=194,slow=3.3,SNR=4.6
KDAK **Kodiak Island** 84.26 19 *e*P P 18 35 45.4 +1.6
KDAK **Kodiak Island** 84.26 19 *e*P P 18 35 45.0 +1.3
comp=Z,145nm,1.2s
KDAK pP **pP** 18 36 13.2 +1.0
SEY **Seymchan** 84.54 352 P P 18 35 45.2 +0.1
comp=Z,3.7nm,0.8s,baz=159,slow=7.2,SNR=9.4
PMSA **Palmer Station** 85.30 160 P P 18 35 49.4 +0.4
comp=Z,99nm,0.8s,baz=214,slow=4.2,SNR=28
PMSA **Palmer Station** 85.30 160 *e*P P 18 35 49.3 +0.3
comp=Z,110nm,0.7s
SNCC **San Nicolas Is** 86.10 52 P P 18 35 55.2 +1.6
baz=242,SNR=5.2
SNCC **San Nicolas Is** 86.10 52 *e*P P 18 35 54.3 +0.7
BSC **Santa Cruz Isl** 86.36 52 P P 18 35 56.2 +1.2
baz=242,SNR=5.7
HOPS **Hopland Field** 86.36 46 *e*P P 18 35 56.4 +1.6
comp=Z,150nm,1.3s
KCPM **Cahto Peak** 86.37 45 *e*P P 18 35 56.4 +1.5
SBC **Santa Barbara** 86.51 51 P P 18 35 57.1 +1.5
baz=242
KMRM **Mail Ridge** 86.56 45 *e*P P 18 35 57.7 +1.9
PMPB **Monarch Peak** 86.57 49 *e*P P 18 35 57.8 +1.9
PKM **Mcpherson Peak** 86.65 51 P P 18 35 58.0 +1.5
baz=242,SNR=18
JCC **Jacoby Creek,** 86.66 44 *e*P P 18 35 57.8 +1.7
SCI **San Clemente I** 86.70 53 P P 18 35 57.9 +1.4
baz=243,SNR=5.6
SMMC **Simmler** 86.72 50 P P 18 35 58.2 +1.6
baz=242,SNR=8.5
PAGB **Antelope Grade** 86.73 50 *e*P P 18 35 58.1 +1.4
BLG **Laguna Peak, P** 86.83 52 P P 18 35 58.0 +0.8
baz=242
KHMM **Horse Mountain** 86.88 44 *e*P P 18 35 59.5 +2.1
CIS **Catalina Islan** 86.99 53 P P 18 35 58.8 +0.9
baz=243
KRMB **Red Mountain** 87.10 43 *e*P P 18 35 59.6 +1.2
FMP **Fort Macarthur** 87.22 52 P P 18 35 60.0 +0.9
baz=243
KBO **Bosley Butte** 87.25 43 *e*P P 18 36 00.8 +1.7
NVL **N'lazarevskaya** 87.44 187 *j*i*P* P 18 36 01.2 +1.7
NVL *e**PP **pP** 18 36 28.8 +0.8
NVL *e**SP **sP** 18 36 40.3 +0.5
NVL *eS* **SKSac** 18 46 16.9 +0.1
DECC **Green Verdugo** 87.44 52 P P 18 36 01.0 +0.9
baz=243
ARVC **Arvin** 87.47 51 P P 18 36 01.7 +1.5
baz=242
PASC **Pasadena Art C** 87.51 52 *e*P P 18 36 01.6 +1.1
comp=Z,58nm,0.8s
WDC **Whiskeytown Da** 87.51 45 *e*P P 18 36 01.8 +1.5
WDC **Whiskeytown Da** 87.51 45 *e*P P 18 36 01.5 +1.2
KEBM **Edson Butte** 87.53 42 *e*P P 18 36 01.9 +1.6
N02D **Trinity Center** 87.60 44 P P 18 36 02.8 +2.0
baz=240,SNR=62
TT01 **Tatalina** 87.62 15 *e*P P 18 36 00.7 +0.5
TT01 *e*pP **pP** 18 36 30.4 +1.5
L02D **Cave Junction,** 87.62 43 P P 18 36 02.5 +1.7
baz=239,SNR=9.7
VES **Vestal, Richgr** 87.62 50 P P 18 36 01.6 +0.7
baz=242
MWC **Mount Wilson** 87.63 52 *e*P P 18 36 02.0 +0.8
MWC **Mount Wilson** 87.63 52 *e*P P 18 36 01.6 +0.4
MWC *e*pP **pP** 18 36 30.6 +0.7
TTA **Tatalina** 87.64 15 *e*P P 18 36 01.4 +0.9
TTA *e**PP **pP** 18 36 29.7 +0.6
TTA **Tatalina** 87.64 15 *e*P P 18 36 01.4 +0.9
TTA *e*pP **pP** 18 36 29.6 +0.6
SNAA **Sanae** 87.68 182 P P 18 36 00.7 -0.1
SNAA **Sanae** 87.68 182 *d*i*P* P 18 36 00.1 -0.6
SNAA **Sanae** 87.68 182 *e*P P 18 36 00.2 -0.5
ORV **Oroville** 87.70 46 *e*P P 18 36 02.4 +1.2
ORV **Oroville** 87.70 46 *e*P P 18 36 02.0 +0.8
ORV *e*pP **pP** 18 36 29.8 -0.1
M02C **Callahan** 87.72 44 P P 18 36 03.5 +2.1
baz=240,SNR=44
RCTC **Rector, Farmer** 87.72 50 P P 18 36 02.3 +0.9
baz=242
CMB **Columbia Colle** 87.73 48 *e*P P 18 36 02.2 +0.7
CMB **Columbia Colle** 87.73 48 *e*P P 18 36 02.2 +0.7
comp=Z,306nm,0.8s
109C **Camp Elliot, M** 87.74 54 P P 18 36 02.7 +1.2
baz=244,SNR=6.7
AFDM **Forest Hills D** 87.77 47 *e*P P 18 36 02.3 +0.8
AFDM *e*pP **pP** 18 36 30.6 +0.4
BFSC **Mount Baldy Ra** 87.93 52 P P 18 36 03.5 +0.9
baz=243,SNR=26
EDW2 **Edwards Air Fo** 87.97 52 P P 18 36 03.9 +1.2
baz=243,SNR=37
BAR **Barrett** 87.98 54 *e*P P 18 36 03.3 +0.5
BAR *e*pP **pP** 18 36 30.9 -0.5
ISA **Isabella, Lake** 87.98 51 P P 18 36 04.2 +1.5
baz=243,SNR=22
ISA **Isabella, Lake** 87.98 51 *e*P P 18 36 04.2 +1.5
ISA **Isabella, Lake** 87.98 51 *e*P P 18 36 03.8 +1.1
YBH **Yreka Blue Hor** 87.98 44 *e*P P 18 36 04.1 +1.5
YBH **Yreka Blue Hor** 87.98 44 *e*P P 18 36 03.7 +1.1
MURC **Murrieta** 87.99 53 P P 18 36 03.8 +1.1
baz=244,SNR=14
VNA3 **Neumayer Olymp** 88.25 180 P P 18 36 03.0 -0.3
MONP **Monument Peak,** 88.26 54 P P 18 36 05.7 +1.4
baz=244,SNR=54
HUMO **Hull Mountain** 88.26 43 *e*P P 18 36 04.8 +0.9
comp=Z,185nm,0.8s
HUMO *e*pP **pP** 18 36 32.0 -0.5
PMR **Palmer** 88.37 18 *e*P P 18 36 03.1 -0.7
PMR *e**PP **pP** 18 36 32.2 -0.3
PMR **Palmer** 88.37 18 *e*P P 18 36 03.1 -0.7
PMR *e*pP **pP** 18 36 32.2 -0.3
IKP **In-Ko-Pah, Jac** 88.39 54 P P 18 36 06.1 +1.4
baz=244,SNR=31
ULN **Ulaanbaatar** 88.42 323 *d*i*P* P 18 36 05.0 +0.4
ULN pmax pmax
comp=Z,28nm,1.2s
ULN **Ulaanbaatar** 88.42 323 *e*P P 18 36 04.4 -0.2
comp=Z,31nm,1.2s
ULN *e*pP **pP** 18 36 31.9 -1.4
ULN **Ulaanbaatar** 88.42 323 P P 18 36 05.3 +0.7
SNR=13
ULN **Ulaanbaatar** 88.42 323 P P 18 36 05.3 +0.7
SNR=13
LRMC **Laurel Mtn Rad** 88.47 51 P P 18 36 06.4 +1.3
baz=243,SNR=12
BBRC **Big Bear Solar** 88.49 52 P P 18 36 06.2 +0.8
baz=244
PFO **Pinyon Flats O** 88.55 53 P P 18 36 06.6 +1.1
comp=Z,31nm,0.9s,baz=246,slow=3.9,SNR=36
PFO **Pinyon Flats O** 88.55 53 P P 18 36 06.6 +1.1
baz=244,SNR=27
PFO **Pinyon Flats O** 88.55 53 *e*P P 18 36 06.7 +1.2
PFO **Pinyon Flats O** 88.55 53 *e*P P 18 36 06.0 +0.4
comp=Z,78nm,1.2s
TPFO **Pinon Flats** 88.55 53 P P 18 36 06.7 +1.2
baz=244,SNR=26
VNA2 **Neumayer--Watz** 88.55 181 P P 18 36 05.0 +0.2
baz=178,slow=4.0
I03D **Drain, OR** 88.57 42 P P 18 36 06.4 +1.2
baz=239,SNR=11
BILL **Bilibino** 88.57 359 *j*i*eP* P 18 36 04.8 +0.2
BILL *e**PP **pP** 18 36 37.4 +4.1
BILL *e* 18 39 32.2
BILL pmax pmax
comp=Z,11nm,1.0s
M04C **Macdoel** 88.57 44 P P 18 36 06.8 +1.4
baz=240,SNR=15
GTA **Gaotai** 88.58 313 P P 18 36 06.5 +0.9
GTA pP pP 18 36 34.0 -0.2
GTA sP sP 18 36 45.8 -0.1
GTA SKS **SKSac** 18 46 21.8 -3.0
GTA S **S** 18 46 42.3 -0.6
GTA sS sS 18 47 32.5 +0.3
GTA SS **SS** 18 52 39.4 +2.6
GTA pmax pmax
comp=Z,16nm,1.3s
GTA pmax pmax
comp=Z,62nm,7.1s
GTA LR LR
comp=Z,82nm,20.0s
GTA LR LR
comp=Z,84nm,18.5s
GTA LR LR
comp=Z,230nm,21.2s
WAKR **Walker** 88.61 48 *e*P P 18 36 07.0 +1.2
CWC **Cottonwood Cre** 88.62 50 P P 18 36 06.9 +1.1
baz=243
MLAC **Mammoth, Mammo** 88.62 49 P P 18 36 07.0 +1.1
baz=242
RRX **Edison Barstow** 88.70 52 P P 18 36 07.4 +1.3
baz=244
SWSC **Sam W. Stewart** 88.75 54 P P 18 36 07.7 +1.3
baz=244,SNR=26
PNTR **Pine Nut** 88.77 47 *e*P P 18 36 07.6 +1.0
SONM **Songino Array** 88.77 323 P P 18 36 06.5 +0.3
comp=Z,13nm,1.0s,baz=136,slow=4.6,SNR=63
SONM pP **pP** 18 36 35.2 +0.3
comp=Z,12nm,0.9s,baz=134,slow=4.3,SNR=7.9
SONM PKKPbc **PKKPbc** 18 53 45.9 -1.9
comp=Z,2.3nm,0.8s,baz=280,slow=3.0,SNR=12
SONA1 **Songino Array** 88.78 323 *e*P P 18 36 06.6 +0.3
TIN **Tinemaha, Big** 88.79 50 P P 18 36 07.9 +1.3
baz=243,SNR=8.8
VNA1 **Neumayer--Stat** 88.84 181 P P 18 36 06.3 +0.2
DIB **Dawson Inlet,** 88.87 31 *e*P P 18 36 07.9 +1.6
MPMC **Manual Prospec** 88.87 51 P P 18 36 08.3 +1.2
baz=243,SNR=86
TVH3 **East Aurora ar** 88.97 48 *e*P P 18 36 08.4 +0.9
YERR **Yerington** 88.97 47 *e*P P 18 36 08.1 +0.7
TVH2 **Borealis Mine** 89.03 48 *e*P P 18 36 09.2 +1.4
CAST **Castle Rocks** 89.03 16 *e*P P 18 36 05.5 -1.4
GSC **Goldstone, Bar** 89.03 52 P P 18 36 09.0 +1.3
baz=244,SNR=28
GSC **Goldstone, Bar** 89.03 52 *e*P P 18 36 08.5 +0.8
GSC **Goldstone, Bar** 89.03 52 *e*P P 18 36 08.4 +0.8
K04D **Chiloquin, OR** 89.04 43 P P 18 36 08.9 +1.3
baz=240
COR **Corvallis** 89.05 41 *e*P P 18 36 09.5 +2.1
COR **Corvallis** 89.05 41 *e*P P 18 36 08.1 +0.7
comp=Z,53nm,1.0s
TVH1 **TV Hill, Hawth** 89.06 48 *e*P P 18 36 08.2 +0.2
BELC **Belle Mtn. Jos** 89.06 53 P P 18 36 09.4 +1.5
baz=244,SNR=93
J04D **Umpqua Nationa** 89.12 43 P P 18 36 09.3 +1.3
baz=240,SNR=26
HEC **Hector,Ludlow** 89.17 52 P P 18 36 09.4 +1.0
baz=244,SNR=32
I04A **Tendick Farm,** 89.20 42 P P 18 36 09.2 +0.9
baz=240,SNR=28
PAHR **Pah Rah Range** 89.21 47 *e*P P 18 36 09.0 +0.5
SRIG **Santa Rosalia** 89.21 60 *e*P P 18 36 09.5 +0.9
BC3 **Big Chuckawall** 89.32 54 P P 18 36 10.8 +1.7
baz=244,SNR=31
GRAC **Grapevine Rang** 89.38 50 P P 18 36 10.9 +1.6
baz=243,SNR=19
G03D **McMinnville, O** 89.39 41 P P 18 36 10.4 +1.4
baz=239,SNR=7.6
KMOR **Kings Mountain** 89.47 40 P P 18 36 10.8 +1.3
FURC **Furnace Creek,** 89.51 51 P P 18 36 11.0 +1.3
baz=244
GLA **Glamis** 89.54 54 P P 18 36 11.9 +1.9
baz=245,SNR=54
GLA **Glamis** 89.54 54 *e*P P 18 36 12.0 +1.9
GLA **Glamis** 89.54 54 *e*P P 18 36 11.4 +1.3
LPIG **La Paz** 89.55 64 P P 18 36 12.3 +2.1
comp=Z,21nm,0.3s,baz=265,slow=1.6,SNR=12
K05A **Summer Lake** 89.64 44 *e*P P 18 36 11.2 +0.7
GMRC **Granite Mounta** 89.65 52 P P 18 36 12.0 +1.3
baz=244,SNR=60
SHOC **Shoshone, Teco** 89.68 51 P P 18 36 11.8 +1.2
baz=244,SNR=8.6
SLBS **Sierra La Lagu** 89.69 65 *e*P P 18 36 12.7 +1.7
J05D **Fort Rock, OR** 89.70 43 P P 18 36 12.2 +1.5
baz=241,SNR=17
TUQ **Turquoise Moun** 89.74 52 P P 18 36 12.4 +1.3
baz=244,SNR=41
IRM **Iron Mountain** 89.77 53 P P 18 36 12.8 +1.7
baz=245,SNR=60
RND **Reindeer** 89.89 17 *e*P P 18 36 11.4 +0.4
RND **Reindeer** 89.89 17 *e*P P 18 36 10.6 -0.4
E03A **Lebam** 89.89 39 *e*P P 18 36 11.9 +0.7
E03A *e*pP **pP** 18 36 44.3 +4.3
F04D **Rainier, OR** 89.99 40 P P 18 36 13.1 +1.3
baz=240
Y12C **Blythe** 90.06 54 P P 18 36 14.1 +1.6
baz=245,SNR=29
Y12C **Blythe** 90.06 54 *e*P P 18 36 13.4 +1.0
MCK **McKinley** 90.12 17 *e*P P 18 36 12.2 +0.2
MCK **McKinley** 90.12 17 *e*P P 18 36 11.2 -0.9
I05D **Terrebonne, OR** 90.14 42 P P 18 36 13.7 +1.1
baz=241,SNR=6.1
NLWA **Neilton Lookou** 90.15 38 *e*P P 18 36 13.7 +1.1
comp=Z,76nm,1.2s
NLWA *e*pP **pP** 18 36 44.8 +3.5
TPNV **Topopah Spring** 90.16 50 P P 18 36 14.4 +1.3
baz=244,SNR=54
TPNV **Topopah Spring** 90.16 50 *e*P P 18 36 14.1 +1.1
TPNV **Topopah Spring** 90.16 50 *e*P P 18 36 13.6 +0.5
113A **Mohawk Valley,** 90.23 55 *e*P P 18 36 14.2 +1.0
113A *e*pP **pP** 18 36 42.6 +0.7
F04A **Amboy** 90.27 40 *e*P P 18 36 14.1 +1.0
F04A *e*pP **pP** 18 36 45.5 +3.7
LVP **Lakeview Peak** 90.34 40 P P 18 36 15.1 +1.5
VBEM **Beaver Butte** 90.34 41 P P 18 36 15.1 +1.4
NEE2 **Needles Airpor** 90.42 53 P P 18 36 15.6 +1.5
baz=245,SNR=9.9
ERK **Elk Rock** 90.50 40 P P 18 36 16.1 +1.7
PDMCI **Parker Dam,Lak** 90.58 53 P P 18 36 16.5 +1.7
baz=245,SNR=68
TDL **Tradedollar La** 90.60 40 P P 18 36 16.1 +1.3
G05D **Wamic, OR** 90.60 41 P P 18 36 15.9 +1.2
baz=241,SNR=6.2
SHPR **Sheep Range** 90.76 51 *e*P P 18 36 16.4 +0.5
LSA **Lhasa** 90.81 301 *e*P P 18 36 17.1 +0.5
LSA pmax pmax
comp=Z,11nm,0.9s
LSA **Lhasa** 90.81 301 *e*P P 18 36 17.1 +0.5
comp=Z,11nm,0.9s
WRAK **Wrangell Islan** 90.90 28 *e*P P 18 36 15.8 +0.1
comp=Z,34nm,0.9s
WRAK *e*pP **pP** 18 36 46.3 +1.8
HSIG 90.93 59 *e*P P 18 36 17.8 +1.2
WRH **Wood River Hil** 90.94 17 *e*P P 18 36 14.7 -1.1
BOD **Bodaibo** 90.94 334 *e*P P 18 36 13.8 -2.1
BOD pmax pmax
comp=Z,19nm,1.6s
WVOR **Wild Horse Val** 90.97 45 *e*P P 18 36 17.3 +0.7
WVOR pmax pmax
comp=Z,62nm,1.1s
WVOR **Wild Horse Val** 90.97 45 *e*P P 18 36 17.3 +0.7
comp=Z,62nm,1.1s
BMN **Battle Mountai** 91.02 47 *e*P P 18 36 18.1 +1.2
BMN **Battle Mountai** 91.02 47 *e*P P 18 36 17.8 +0.8
comp=Z,27nm,0.7s
G06A **Carlson Farm,** 91.02 41 *e*P P 18 36 16.5 -0.1
PGC **Sidney** 91.03 38 *e*P P 18 36 16.4 -0.1
PGC *e*pP **pP** 18 36 47.4 +2.1
VTHM **Trough** 91.04 42 P P 18 36 17.5 +0.7
LON **Longmire** 91.04 40 *e*P P 18 36 17.7 +1.0
LON **Longmire** 91.04 40 *e*P P 18 36 17.4 +0.7
MENT **Mentasta** 91.04 19 *e*P P 18 36 16.4 +0.1
W13A **Hualapai Mount** 91.11 53 *e*P P 18 36 18.4 +0.8
CCB **Clear Creek Bu** 91.15 17 *e*P P 18 36 15.7 -1.0
D05A **Enumclaw** 91.15 39 *e*P P 18 36 18.7 +1.6
D05A *e*pP **pP** 18 36 48.5 +2.6
BESE **Bessie Mountai** 91.19 26 *e*P P 18 36 17.7 +0.5
BESE *e*pP **pP** 18 36 46.1 +0.2
R11A **Troy Canyon, C** 91.24 49 P P 18 36 19.0 +0.9
baz=244,SNR=41
R11A **Troy Canyon, C** 91.24 49 *e*P P 18 36 18.9 +0.8
comp=Z,18nm,0.8s
MDM **Murphy Dome** 91.28 17 *e*P P 18 36 16.7 -0.7
Y14A **Wickenburg** 91.29 54 *e*P P 18 36 19.5 +1.3
MCW **Mount Constitu** 91.40 38 P P 18 36 20.1 +1.7
MCW **Mount Constitu** 91.40 38 P P 18 36 20.1 +1.7
DOT **Dot Lake** 91.46 19 *e*P P 18 36 17.4 -0.9
DOT *e*pP **pP** 18 36 46.6 -0.4
A04D **Lummi Island** 91.50 38 P P 18 36 20.2 +1.5
baz=240,SNR=6.7
IL1 **Eielson Array** 91.50 17 *e*P P 18 36 17.2 -1.1
IL1 *e*pP **pP** 18 36 45.2 -1.8
ILAR **Eielson Array** 91.50 17 P P 18 36 16.9 -1.4
comp=Z,2.0nm,0.6s,baz=235,slow=4.8,SNR=34
ILAR PKiKP **PKiKP** 18 41 09.2 -0.2
comp=Z,0.6nm,0.5s,baz=264,slow=2.3,SNR=6.3
ILAR PKKP **PKKPdf** 18 53 33.4 -5.1
comp=Z,0.7nm,0.5s,baz=42,slow=1.5,SNR=7.1
ILAR **Eielson Array** 91.50 17 P P 18 36 17.0 -1.4
ILAR pmax pmax
comp=Z,2.0nm,0.6s
ILB **Eielson Array** 91.50 17 *e*P P 18 36 17.6 -0.8
SKAG **Skagway** 91.57 25 *e*P P 18 36 19.0 +0.2
SKAG *e*pP **pP** 18 36 47.5 0.0
B05A **Bryant** 91.62 38 P P 18 36 20.6 +1.3
baz=240,SNR=10.0
B05A **Bryant** 91.62 38 P P 18 36 20.4 +1.2
HYT **Haines Junctio** 91.65 23 *e*P P 18 36 19.1 -0.3
HYT *e*pP **pP** 18 36 47.2 -0.6
PALK **Pallekele** 91.75 277 *j*i*P* P 18 36 23.5 +2.7
ZAK **Zakamensk** 91.86 324 *e*P P 18 36 20.3 -0.2
ZAK pmax pmax
comp=Z,18nm,1.3s
LTY **Liberty** 91.97 40 *e*P P 18 36 21.4 +0.3
LTY *e*pP **pP** 18 36 51.8 +2.0
E07A **Sunnyside** 92.13 41 *e*P P 18 36 22.9 +1.2
HAWA **Hanford** 92.25 41 *e*P P 18 36 23.5 +1.2
comp=Z,32nm,1.1s
HAWA *e*pP **pP** 18 36 52.2 +1.2
TLY **Talaya** 92.33 325 P P 18 36 23.0 +0.4
comp=Z,8.0nm,0.8s,baz=188,slow=2.3,SNR=17
TLY **Talaya** 92.33 325 *e*P P 18 36 22.9 +0.4
TLY *e* 18 36 51.1
TLY *eS* **SKSac** 18 46 43.4 -2.2
TLY pmax pmax
comp=Z,18nm,1.1s
TLY **Talaya** 92.33 325 *e*P P 18 36 22.3 -0.2
comp=Z,13nm,0.9s
TLY *e*pP **pP** 18 36 50.5 -0.8
TLY **Talaya** 92.33 325 P P 18 36 22.5 0.0
SNR=6.8
TLY **Talaya** 92.33 325 P P 18 36 22.5 0.0
SNR=6.8
TUC **Tucson** 92.35 56 P P 18 36 24.8 +1.6
baz=247
TUC **Tucson** 92.35 56 *e*P P 18 36 24.1 +0.9
TUC pmax pmax
comp=Z,80nm,1.0s
TUC **Tucson** 92.35 56 *e*P P 18 36 24.1 +0.9
comp=Z,80nm,1.0s
LCMT **Little Creek M** 92.37 51 *e*P P 18 36 24.3 +1.0
CCUT **Cedar City** 92.50 51 *e*P P 18 36 23.9 0.0
WHY **Whitehorse** 92.52 24 *e*P P 18 36 23.2 -0.1
WHY *e*pP **pP** 18 36 50.7 -1.3
X16A **Lo Mia Camp, P** 92.67 54 *e*P P 18 36 26.1 +1.3

KNB **Kanab** 92.68 51 *e*P P 18 36 26.1 +1.4
KNB **Kanab** 92.68 51 *e*P P 18 36 25.8 +1.1
TAPN **Taplejung** 92.71 298 *e*P P 18 36 25.4 +0.2
comp=Z,19nm,0.9s
SZCU **Shurtz Canyon** 92.72 51 *e*P P 18 36 26.6 +1.6
ODAN **Odare** 92.79 298 *e*P P 18 36 25.9 +0.3
comp=Z,36nm,0.9s
U15A **North Rim** 92.83 52 *e*P P 18 36 26.8 +1.2
LLLB **Lillooet** 92.90 36 *e*P P 18 36 24.8 -0.4
LLLB *e*pP pP 18 36 54.1 +0.1
D08A **Wollman Farm,** 92.93 40 *e*P P 18 36 25.4 0.0
BMO **Blue Mountains** 92.93 43 *e*P P 18 36 25.9 +0.3
BMO **Blue Mountains** 92.93 43 *e*P P 18 36 25.3 -0.3
comp=Z,12nm,1.0s
DLBC **Dease Lake** 93.11 27 P P 18 36 27.2 +1.1
comp=Z,11nm,1.1s,baz=263,slow=5.5,SNR=6.9
DLBC *e*pP pP 18 36 55.7 +0.9
comp=Z,22nm,1.0s,baz=231,slow=7.0,SNR=8.5
DLBC **Dease Lake** 93.11 27 *e*P P 18 36 26.5 +0.5
DLBC *e*pP pP 18 36 55.1 +0.3
E09A **Wood Farm, Sta** 93.15 41 *e*P P 18 36 26.9 +0.4
WUAZ **Wupatki** 93.15 53 P P 18 36 28.3 +1.3
baz=247
WUAZ **Wupatki** 93.15 53 *e*P P 18 36 27.9 +1.0
comp=Z,73nm,1.0s
EGAK **Eagle** 93.16 19 *e*P P 18 36 25.7 -0.3
319A **Douglas** 93.17 58 *e*P P 18 36 28.4 +1.4
DAWY **Dawson** 93.21 20 *e*P P 18 36 25.9 -0.4
DAWY *e*pP pP 18 36 53.2 -1.9
PKCU **Pink Cliffs** 93.22 51 *e*P P 18 36 27.8 +0.4
B08A **Colville Reser** 93.28 39 *e*P P 18 36 26.6 -0.4
F10A **Beach Ranch, E** 93.48 42 *e*P P 18 36 28.4 +0.3
RAMN **Ramite** 93.48 297 *e*P P 18 36 29.0 +0.3
comp=Z,13nm,0.7s
MTPU **Mount Pierson** 93.55 51 *e*P P 18 36 30.4 +1.4
X18A **Snowflake** 93.85 55 *e*P P 18 36 31.1 +0.9
DUG **Dugway, Tooele** 93.97 49 P P 18 36 31.4 +0.8
baz=246
DUG **Dugway, Tooele** 93.97 49 *e*P P 18 36 31.6 +1.1
DUG **Dugway, Tooele** 93.97 49 *e*P P 18 36 30.8 +0.2
comp=Z,9.5nm,1.0s
BGU **Big Grassy Mou** 94.11 48 *e*P P 18 36 31.4 +0.2
W18A **Petrified Fore** 94.23 54 P P 18 36 32.6 +0.7
baz=248
HLID **Hailey** 94.25 45 P P 18 36 32.8 +0.9
baz=246
HLID **Hailey** 94.25 45 *e*P P 18 36 32.2 +0.4
comp=Z,7.8nm,0.9s
NLU **North Lily Min** 94.39 49 *e*P P 18 36 32.9 +0.3
HPIG 94.49 63 *e*P P 18 36 33.7 +0.4
HVU **Hansel Valley** 94.63 47 *e*P P 18 36 34.8 +1.2
HVU **Hansel Valley** 94.63 47 *e*P P 18 36 34.2 +0.7
PKI **Pulchoki** 94.69 298 *e*P P 18 36 33.9 -0.5
comp=Z,32nm,1.0s
PKIN **Phulchoki** 94.71 298 *e*P P 18 36 33.8 -0.6
comp=Z,11nm,0.7s
MPU **Maple Canyon** 94.73 49 *e*P P 18 36 34.8 +0.7
TMUT **Trail Mountain** 94.75 50 *e*P P 18 36 35.6 +1.2
121A **Cookes Peak, D** 94.78 57 P P 18 36 35.8 +1.3
baz=249
KKN **Kakani** 94.88 298 *e*P P 18 36 35.4 +0.3
comp=Z,18nm,0.7s
DMN **Daman** 94.96 298 *e*P P 18 36 35.8 +0.3
JLU **Jordanelle** 95.08 49 *e*P P 18 36 36.5 +0.7
SRU **San Rafael Swe** 95.17 50 *e*P P 18 36 37.4 +1.3
SRU **San Rafael Swe** 95.17 50 *e*P P 18 36 36.9 +0.7
HWUT **Hardware Ranch** 95.39 48 *e*P P 18 36 36.6 -0.5
comp=Z,5.0nm,0.8s
GKN **Gorkha** 95.48 298 *e*P P 18 36 37.4 -0.4
comp=Z,22nm,0.8s
ZAIG **Zacatecas** 95.68 68 *e*P P 18 36 39.8 +0.8
MCMT **McKenzie Canyo** 95.80 44 *e*P P 18 36 39.2 +0.3
PV05 **Paradox Valley** 95.82 52 *e*P P 18 36 40.8 +1.6
PV09 **Paradox Valley** 95.95 51 *e*P P 18 36 40.5 +0.7
LAZ **Ladron** 95.96 56 *e*P P 18 36 42.7 +2.8
PV10 **Paradox Valley** 95.97 51 *e*P P 18 36 40.5 +0.6
DLMT **Dillon** 96.17 44 *e*P P 18 36 40.3 -0.2
comp=Z,8.8nm,1.1s
PV01 **Paradox Valley** 96.22 52 *e*P P 18 36 41.7 +0.6
BNM **Barren Site** 96.27 56 *e*P P 18 36 43.1 +1.8
KOLN **Koldanda** 96.27 297 *e*P P 18 36 40.6 -0.8
comp=Z,9.3nm,0.8s
TIXI **Tiksi** 96.34 348 *c*eP P 18 36 40.9 +0.5
TIXI pmax pmax
comp=Z,4.0nm,1.2s
MNTX **Cornudas Mount** 96.39 59 P P 18 36 42.4 +0.7
baz=250
MNTX **Cornudas Mount** 96.39 59 *e*P P 18 36 42.2 +0.6
comp=Z,14nm,0.9s
TPAW **Teton Pass** 96.54 46 *e*P P 18 36 42.5 +0.1
REDW **Red Top Meadow** 96.55 46 *e*P P 18 36 42.7 +0.3
comp=Z,20nm,1.2s
ANMO **Albuquerque** 96.68 55 P P 18 36 43.6 +0.5
baz=250
ANMO **Albuquerque** 96.68 55 *e*P P 18 36 44.1 +1.0
ANMO **Albuquerque** 96.68 55 *e*P P 18 36 43.3 +0.2
comp=Z,7.0nm,0.9s
IMW **Indian Meadow** 96.70 46 *e*P P 18 36 42.8 -0.3
comp=Z,9.8nm,1.0s
QLMT **Earthquake Lak** 96.73 45 *e*P P 18 36 43.6 +0.5
MOOW **Moose Ponds** 96.77 46 *e*P P 18 36 43.2 -0.2
PYUN **Piuthan** 96.89 297 *e*P P 18 36 43.4 -0.8
BOZ **Bozeman (W)** 96.89 44 P P 18 36 44.2 +0.4
baz=248
BOZ **Bozeman (W)** 96.89 44 *e*P P 18 36 44.2 +0.4
BOZ pmax pmax
comp=Z,11nm,1.3s
BOZ **Bozeman (W)** 96.89 44 *e*P P 18 36 44.1 +0.4
comp=Z,11nm,1.3s
TXAR **Lajitas Array** 96.97 61 P P 18 36 45.8 +1.3
comp=Z,8.4nm,0.9s,baz=223,slow=5.8,SNR=72
TXAR PKKPbc **PKKPbc** 18 53 26.1 +0.7
comp=Z,1.9nm,0.8s,baz=107,slow=3.0,SNR=12
TXAR **Lajitas Array** 96.97 61 P P 18 36 45.8 +1.3
TXAR pmax pmax
comp=Z,9.0nm,0.9s
PLCA **Paso Flores** 97.02 138 P Pdif 18 36 44.8 +0.2
comp=Z,8.8nm,1.0s,baz=255,slow=5.1,SNR=6.8
YHH **Holmes Hill** 97.09 45 *e*P Pdif 18 36 45.8 +0.9
H17A **Grant Village** 97.13 45 Pdiff Pdif 18 36 45.3 +0.3
baz=248
H17A **Grant Village** 97.13 45 *e*P P 18 36 44.4 -0.6
O20A **White River Ci** 97.18 50 Pdiff Pdif 18 36 45.6 +0.3
baz=249
O20A **White River Ci** 97.18 50 *e*P Pdif 18 36 45.7 +0.4
BW06 **Boulder Array** 97.21 47 Pdiff Pdif 18 36 45.7 +0.2
baz=249
BW06 **Boulder Array** 97.21 47 *e*P P 18 36 44.6 -0.8
comp=Z,16nm,1.5s
PD31 **Pinedale Array** 97.21 47 *e*P P 18 36 44.4 -1.0
PDAR **Pinedale Array** 97.21 47 P Pdif 18 36 45.5 0.0
comp=Z,2.1nm,0.6s,baz=217,slow=3.7,SNR=8.2
PDAR PKiKP **PKiKP** 18 41 21.2 +0.8
comp=Z,0.5nm,0.6s,baz=224,slow=3.4,SNR=3.0
PDAR PKKPbc **PKKPbc** 18 53 24.1 -1.5
comp=Z,2.8nm,0.8s,baz=78,slow=5.0,SNR=14
S22A **4UR Ranch, Cre** 97.37 53 Pdiff Pdif 18 36 46.7 +0.3
baz=250
S22A **4UR Ranch, Cre** 97.37 53 *e*P Pdif 18 36 47.0 +0.6
INK **Inuvik** 97.79 18 PKiKP **PKiKP** 18 41 19.7 -0.5
comp=Z,4.9nm,1.0s,baz=203,slow=3.1,SNR=5.8
INK PKKPbc **PKKPbc** 18 53 22.1 -2.5
comp=Z,4.7nm,0.5s,baz=0,slow=3.2,SNR=12
INK **Inuvik** 97.79 18 *e*P P 18 36 46.4 -0.6
INK *e**PP pP 18 37 14.4 -1.4
INK **Inuvik** 97.79 18 *e*P P 18 36 46.4 -0.6
INK *e*pP pP 18 37 14.4 -1.4
INK PKiKP **PKiKP** 18 41 19.7 -0.5
INK PKKPbc **PKKPbc** 18 53 22.1 -2.5
RLMT **Red Lodge** 98.26 45 Pdiff Pdif 18 36 50.4 +0.3
baz=249
SDCO **Great Sand Dun** 98.36 53 Pdiff Pdif 18 36 51.1 +0.4
baz=250
SDCO **Great Sand Dun** 98.36 53 *e*P P 18 36 50.6 -0.1
WMQ **Urumqi** 98.67 314 P Pdif 18 36 53.3 +1.6
WMQ pP pP 18 37 23.0 +2.5
WMQ PP **PP** 18 40 52.8 -1.5
WMQ SKS **SKSac** 18 47 17.5 -2.1
WMQ S **S** 18 48 10.1 -1.6
WMQ SS **SS** 18 55 00.3 -0.1
WMQ pmax pmax
comp=Z,22nm,0.7s
WMQ pmax pmax
comp=Z,120nm,6.9s
WMQ LR LR
comp=Z,62nm,25.7s
WMQ LR LR
comp=Z,140nm,28.1s
WMQ LR LR
comp=Z,140nm,28.1s
ISCO **Idaho Springs** 98.97 51 Pdiff Pdif 18 36 53.9 +0.5
baz=251
T25A **Trinidad** 98.98 54 Pdiff Pdif 18 36 53.9 +0.4
baz=251
LNIG **Linares** 99.06 67 *e*P **Pdif** 18 36 52.4 -1.4
N23A **Red Feather La** 99.09 50 *e*P **Pdif** 18 36 54.3 +0.4
MSTX **Muleshoe** 99.22 57 Pdiff **Pdif** 18 36 54.9 +0.4
baz=251
MSTX **Muleshoe** 99.22 57 *e*P **Pdif** 18 36 53.4 -1.0
comp=Z,13nm,0.8s
K22A **Casper** 99.27 48 Pdiff **Pdif** 18 36 55.4 +0.8
baz=250
832A **Faith Ranch, C** 99.70 63 Pdiff **Pdif** 18 36 57.2 +0.6
baz=252
933A **Laredo** 100.08 64 Pdiff **Pdif** 18 36 58.7 +0.4
baz=252
AMTX **Amarillo** 100.36 57 Pdiff **Pdif** 18 36 59.7 +0.2
baz=252
AMTX **Amarillo** 100.36 57 *e*Pdif **Pdif** 18 36 59.6 +0.1
034A **Hebbronville** 100.41 65 Pdiff **Pdif** 18 36 60.0 +0.2
baz=252
433A **Art** 101.19 61 Pdiff **Pdif** 18 37 04.0 +0.8
baz=252
ABTX **Abilene, Hawle** 101.30 59 Pdiff **Pdif** 18 37 04.3 +0.7
baz=253
ABTX **Abilene, Hawle** 101.30 59 *e*Pdif **Pdif** 18 37 02.8 -0.8
333A **Richland Sprin** 101.44 61 Pdiff **Pdif** 18 37 05.1 +0.8
baz=253
RSSD **Black Hills** 101.45 47 Pdiff **Pdif** 18 37 05.0 +0.7
baz=252
534A **Blanco** 101.48 62 Pdiff **Pdif** 18 37 04.7 +0.3
baz=253
YKA **Yellowknife Ar** 101.74 27 P **Pdif** 18 37 06.2 +1.4
comp=Z,1.7nm,0.7s,baz=248,slow=4.5,SNR=5.7
YKA PKiKP **PKiKP** 18 41 27.6 +0.1
comp=Z,1.1nm,0.6s,baz=250,slow=1.0,SNR=3.9
434A **Burnet** 101.88 61 Pdiff **Pdif** 18 37 06.3 +0.1
baz=253
334A **Lometa** 102.06 61 Pdiff **Pdif** 18 37 07.3 +0.3
baz=253
MK01 **Makanchi Array** 103.20 315 *e*Pdif **Pdif** 18 37 10.9 -0.8
ZAA0 **Zalesovo Array** 103.67 323 *e*Pdif **Pdif** 18 37 12.5 -1.1
ZAA0 *e* 18 37 41.2
ZALV **Zalesovo Beam** 103.67 323 Pdiff **Pdif** 18 37 13.5 0.0
comp=Z,1.0nm,0.5s,baz=108,slow=4.8,SNR=6.0
ZALV PKiKP **PKiKP** 18 41 30.6 -0.7
comp=Z,0.8nm,0.5s,baz=136,slow=2.5,SNR=4.8
ZALV PKKPbc **PKKPbc** 18 53 04.8 -2.3
comp=Z,1.1nm,0.5s,baz=295,slow=5.1,SNR=4.4
X37A **Clayton** 105.26 58 PKiKP **PKiKP** 18 41 34.3 -0.5
baz=255
TUL1 **Leonard** 105.27 57 PKiKP **PKiKP** 18 41 34.1 -0.6
baz=255
W37B **Quinton** 105.36 58 PKiKP **PKiKP** 18 41 34.9 -0.1
baz=255
X38A **Whitesboro** 105.72 58 PKiKP **PKiKP** 18 41 35.6 -0.1
baz=256
KSH **Kashi** 105.80 307 Pdif **Pdif** 18 37 25.0 +1.4
KSH PP **PP** 18 41 52.1 +4.1
KSH S **Sdif** 18 49 18.1 +6.5
KSH SS **SS** 18 56 42.0 +2.7
KSH AMB AMB
comp=Z,120nm,5.4s
W38A **Poteau** 106.06 58 PKiKP **PKiKP** 18 41 35.6 -0.6
baz=256
R36A **Gordon, Harris** 106.08 55 PKiKP **PKiKP** 18 41 35.7 -0.5
baz=256
H32A **Carlson Farm,** 106.12 48 PKiKP **PKiKP** 18 41 35.9 -0.2
baz=257
T37A **Cheneyville 18** 106.25 56 PKiKP **PKiKP** 18 41 35.8 -0.8
baz=256
V38A **Canehill** 106.34 57 PKiKP **PKiKP** 18 41 36.0 -0.8
baz=256
S37A **Fort Scott** 106.47 55 PKiKP **PKiKP** 18 41 36.1 -0.9
baz=256
U38A **Gravette** 106.50 57 PKiKP **PKiKP** 18 41 36.3 -0.8
baz=256
KURK **Kurchatov** 106.55 318 PKKPbc PKKPbc 18 52 56.2 -2.0
KURK PKKPab **PKKPdf** 18 53 09.2 -1.0
KURBB **Kurchatov Arra** 106.58 318 PKiKP **PKiKP** 18 41 35.6 -1.1
comp=Z,2.7nm,0.6s,baz=96,slow=1.9,SNR=12
KURBB PKKPbc **PKKPbc** 18 52 56.2 -1.9
comp=Z,0.8nm,0.3s,baz=282,slow=3.6,SNR=8.0
KURBB PKKPab **PKKPdf** 18 53 09.2 -0.9
comp=Z,1.2nm,0.2s,baz=279,slow=5.1,SNR=8.3
S38A **Stockton** 107.15 56 PKiKP **PKiKP** 18 41 37.2 -1.1
baz=257
R38A **Fenwick Farm,** 107.28 55 PKiKP **PKiKP** 18 41 37.0 -1.5
baz=257
T39A **Clever** 107.42 56 PKiKP **PKiKP** 18 41 37.8 -0.9
baz=257
S39A **Bolivar** 107.61 56 PKiKP **PKiKP** 18 41 38.3 -0.8
baz=257
U40A **Yellville** 107.68 57 PKiKP **PKiKP** 18 41 38.5 -0.8
baz=257
A32A **Rocking H Ranc** 107.70 44 PKiKP **PKiKP** 18 41 38.0 -0.8
baz=259
M37A **Trindle Farm,** 107.86 52 PKiKP **PKiKP** 18 41 38.6 -0.8
baz=258
W41B **Gary Mavity, V** 107.90 59 PKiKP **PKiKP** 18 41 38.5 -1.2
baz=257
R39A **Chumby, Stover** 107.97 55 PKiKP **PKiKP** 18 41 38.7 -1.0
baz=258
V41A **Mountainview** 108.11 58 PKiKP **PKiKP** 18 41 38.4 -1.7
baz=257
T40A **Mansfield** 108.12 56 PKiKP **PKiKP** 18 41 38.7 -1.3
baz=258
Q39A **Willow Grove F** 108.17 54 PKiKP **PKiKP** 18 41 38.8 -1.3
baz=258
S40A **Lebanon** 108.23 56 PKiKP **PKiKP** 18 41 38.8 -1.4
baz=258
ULM **Lac du Bonnet** 108.35 42 PKiKP **PKiKP** 18 41 38.5 -1.6
comp=Z,5.4nm,0.6s,baz=243,slow=2.5,SNR=9.6
U41A **Viola** 108.42 57 PKiKP **PKiKP** 18 41 39.2 -1.4
baz=258
A33A **Warroad** 108.42 44 PKiKP **PKiKP** 18 41 38.5 -1.7
baz=260
P39B **Salisbury** 108.44 54 PKiKP **PKiKP** 18 41 39.5 -1.1
baz=258
K37A **Belmond** 108.44 50 PKiKP **PKiKP** 18 41 39.3 -1.2
baz=259
VBMS **Vicksburg** 108.63 62 PKiKP **PKiKP** 18 41 39.9 -1.2
baz=257
V42A **Cord** 108.72 58 PKiKP **PKiKP** 18 41 39.6 -1.6
baz=258
S41A **Jillco Farms,** 108.81 56 PKiKP **PKiKP** 18 41 40.1 -1.3
baz=258
B34A **Aery, Baudette** 108.82 44 PKiKP **PKiKP** 18 41 39.7 -1.3
baz=260
Q40A **Laux Farm, Aux** 108.85 55 PKiKP **PKiKP** 18 41 40.5 -0.9
baz=258
U42A **Revenden** 108.95 57 PKiKP **PKiKP** 18 41 40.4 -1.2
baz=258
D35A **Remer** 108.97 46 PKiKP **PKiKP** 18 41 40.6 -0.8
baz=260
P40A **Paris** 108.98 54 PKiKP **PKiKP** 18 41 40.1 -1.4
baz=258
F36A **Milaca** 109.11 47 PKiKP **PKiKP** 18 41 40.1 -1.5
baz=260
T42A **Van Buren** 109.21 57 PKiKP **PKiKP** 18 41 40.3 -1.8
baz=258
O40A **La Belle** 109.23 53 PKiKP **PKiKP** 18 41 41.0 -1.0
baz=259
R41A **Rosebud** 109.24 55 PKiKP **PKiKP** 18 41 40.7 -1.4
baz=258
M39A **Webster** 109.26 52 PKiKP **PKiKP** 18 41 41.3 -0.8
baz=259
B35A **Bob, Littlefor** 109.40 45 PKiKP **PKiKP** 18 41 40.5 -1.6
baz=260
Q41A **Truxton** 109.49 55 PKiKP **PKiKP** 18 41 41.1 -1.4
baz=259
D36A **Goodland** 109.58 46 PKiKP **PKiKP** 18 41 41.1 -1.4
baz=260
N40A **Mertquake, Sal** 109.59 53 PKiKP **PKiKP** 18 41 41.4 -1.2
baz=259
U43A **Rector** 109.61 58 PKiKP **PKiKP** 18 41 41.5 -1.3
baz=258
J39A **Decorah** 109.94 50 PKiKP **PKiKP** 18 41 41.7 -1.6
baz=260
D37A **Cotton** 110.07 46 PKiKP **PKiKP** 18 41 42.0 -1.4
baz=261
N41A **Harden Midland** 110.10 53 PKiKP **PKiKP** 18 41 42.2 -1.4
baz=260
S43A **Fulton Ridge,** 110.11 56 PKiKP **PKiKP** 18 41 42.3 -1.5
baz=259
G38A **Ridgeland** 110.14 48 PKiKP **PKiKP** 18 41 42.3 -1.3
baz=261
K40A **Colesburg** 110.24 51 PKiKP **PKiKP** 18 41 42.5 -1.3
baz=260
F38A **Pierce - Schro** 110.26 47 PKiKP **PKiKP** 18 41 42.5 -1.2
baz=261
C37A **Embarrass** 110.32 45 PKiKP **PKiKP** 18 41 42.5 -1.4
baz=261
U44B **Burton Farm, H** 110.44 58 PKiKP **PKiKP** 18 41 42.7 -1.7
baz=259
H39A **Augusta** 110.47 49 PKiKP **PKiKP** 18 41 42.9 -1.3
baz=261
G39A **Holcombe** 110.64 48 PKiKP **PKiKP** 18 41 43.1 -1.4
baz=261
J40A **Soldiers Grove** 110.64 50 PKiKP **PKiKP** 18 41 43.2 -1.4
baz=261
S44A **Carbondale** 110.77 56 PKiKP **PKiKP** 18 41 44.3 -0.7
baz=260
EYMN **Ely** 110.81 45 PKiKP **PKiKP** 18 41 43.7 -1.1
baz=262
K41A **Shullsburg** 110.83 51 PKiKP **PKiKP** 18 41 43.4 -1.6
baz=261
F39A **Loretta** 110.91 48 PKiKP **PKiKP** 18 41 43.6 -1.4
baz=262
C38A **Sawbill Land.** 110.93 46 PKiKP **PKiKP** 18 41 43.2 -1.8
baz=262
J41A **Loganville** 111.16 50 PKiKP **PKiKP** 18 41 44.2 -1.3
baz=261
Y47A **UCPARC, Winfie** 111.18 61 PKiKP **PKiKP** 18 41 44.6 -1.3
baz=259
E39A **Mellen** 111.23 47 PKiKP **PKiKP** 18 41 44.2 -1.4
baz=262
G40A **Rib Lake** 111.31 48 PKiKP **PKiKP** 18 41 44.4 -1.4
baz=262
Z48A **Northport** 111.32 61 PKiKP **PKiKP** 18 41 44.8 -1.3
baz=259
F40A **Park Falls** 111.46 48 PKiKP **PKiKP** 18 41 44.7 -1.4
baz=262
P44A **Sand Creek, Wi** 111.57 55 PKiKP **PKiKP** 18 41 45.0 -1.5
baz=260
H41A **Junction City** 111.61 49 PKiKP **PKiKP** 18 41 44.8 -1.6
baz=262
E40A **Wakefield** 111.69 47 PKiKP **PKiKP** 18 41 45.2 -1.3
baz=262
C39A **Grand Marais** 111.71 46 PKiKP **PKiKP** 18 41 44.8 -1.6
baz=263
BVAR **Borovoye Array** 111.95 320 PKiKP **PKiKP** 18 41 46.2 -0.6
comp=Z,3.9nm,0.5s,baz=81,slow=1.9,SNR=18
BVAR SKP 18 45 11.3
comp=Z,1.6nm,0.7s,baz=121,slow=0.8,SNR=5.8
BVAR PKKPbc **PKKPbc** 18 52 38.8 -2.1
comp=Z,1.6nm,0.5s,baz=273,slow=2.7,SNR=11
BRVK **Borovoye** 112.01 320 *i* PKiKP **PKiKP** 18 41 45.4 -1.5
F41A **Three Lakes** 112.14 48 PKiKP **PKiKP** 18 41 45.3 -2.1
baz=263
LPAZ **La Paz** 112.23 118 PKiKP **PKiKP** 18 41 48.8 -0.4
comp=Z,1.9nm,0.9s,baz=254,slow=3.7,SNR=5.4
E41A **Kenton** 112.33 47 PKiKP **PKiKP** 18 41 46.0 -1.7
baz=263
D41A **Chassel** 112.67 47 PKiKP **PKiKP** 18 41 47.1 -1.2
baz=264
F42A **Maple Grove Fa** 112.82 48 PKiKP **PKiKP** 18 41 47.4 -1.3
baz=263
CPUP **Villa Florida** 114.55 134 PKP PKPdf 18 41 52.0 -0.6
comp=Z,2.8nm,0.7s,baz=313,slow=5.5,SNR=5.0
KMSC **Kings Mountain** 116.69 60 PKiKP **PKPdf** 18 41 55.1 -1.4
baz=263
WSAR **Wadi Sarin** 116.74 286 PKKPab PKKPab 18 52 23.4 -4.1
comp=Z,5.9nm,0.9s,baz=278,slow=10,SNR=4.6
RUSC **La Rusia** 117.35 94 *e*PKPdf **PKPdf** 18 41 57.3 -1.6
RUSC *e*PP **PP** 18 43 06.9 -4.6
SVE **Sverdlovsk** 117.62 324 *e*PKiKP **PKPdf** 18 41 57.2 -0.3
SVE pmax pmax
comp=Z,13nm,0.9s
N54A **Moraine State** 118.31 54 PKiKP **PKPdf** 18 41 58.5 -0.9
baz=266
ABKAR **Akbulak array** 118.36 316 *e*PKPdf **PKPdf** 18 41 58.1 -1.1
M54A **Oil Creek Stat** 118.58 53 PKiKP **PKPdf** 18 41 58.7 -1.2
baz=267
ARU **Arti** 118.80 324 PKP **PKPdf** 18 41 59.2 -0.6
comp=Z,17nm,0.5s,baz=87,slow=2.3,SNR=40
ARU SKP 18 45 24.1
comp=Z,4.5nm,0.8s,baz=79,slow=3.9,SNR=5.8
ARU PKKPbc **PKKPab** 18 52 15.1 -1.7
comp=Z,4.0nm,0.5s,baz=275,slow=4.7,SNR=10
ARU **Arti** 118.80 324 *i* PKiKP **PKPdf** 18 41 59.2 -0.6
ARU 18 43 17.1
ARU 18 49 00.8
ARU SP SP 18 52 50.8 -4.0
UOSS **Minazif** 119.25 288 *e*PKPdf **PKPdf** 18 42 00.2 -1.5
HATD **Hatta, Dubai** 119.29 287 *i* P **PKPdf** 18 42 01.2 -0.5
SNR=12
HATD **Hatta, Dubai** 119.29 287 *i* PKPdf **PKPdf** 18 42 01.2 -0.5
SNR=12
GEYT **Alibeck** 119.33 303 PKP **PKPdf** 18 42 01.0 -0.5
comp=Z,10nm,0.7s,baz=180,slow=0.4,SNR=26
GEYT SKP 18 45 26.4
comp=Z,2.9nm,0.8s,baz=325,slow=1.8,SNR=5.2
GEYT PKKPbc **PKKPbc** 18 52 13.6 -1.2
comp=Z,3.3nm,0.9s,baz=267,slow=5.6,SNR=8.0
SOKR **Solikamsk** 119.33 328 *c i* PKiKP **PKPdf** 18 41 58.3 -2.3
SOKR pmax pmax
comp=Z,28nm,0.9s
ASHO **Ashiyiah** 119.33 287 P **PKPdf** 18 42 00.9 -0.9
ASHO **Ashiyiah** 119.33 287 PKPdf **PKPdf** 18 42 00.9 -0.9
O56A **Blue Knob Stat** 119.35 55 PKiKP **PKPdf** 18 42 00.5 -1.0
baz=267
AKTO **Aktyubinsk** 119.57 317 PKP **PKPdf** 18 42 01.1 -0.3
comp=Z,12nm,0.8s,baz=77,slow=1.8,SNR=47
AKTO PKKPbc **PKKPab** 18 52 12.6 -1.2
comp=Z,3.4nm,0.7s,baz=261,slow=4.5,SNR=14
NAZ **Nazwa, Dubai** 119.74 288 P **PKPdf** 18 42 02.1 -0.5
NAZ **Nazwa, Dubai** 119.74 288 PKPdf **PKPdf** 18 42 02.1 -0.5
FAQ **Al Faqa, Dubai** 119.76 287 P **PKPdf** 18 42 01.7 -0.9
FAQ **Al Faqa, Dubai** 119.76 287 PKPdf **PKPdf** 18 42 01.7 -0.9
SSPA **Standing Stone** 119.88 54 *e*PKPdf **PKPdf** 18 42 01.0 -1.3
SAML **Samuel** 120.10 114 *e*PKPdf **PKPdf** 18 42 02.0 -1.6
BOSA **Boshof** 120.19 216 PKP **PKPdf** 18 42 03.6 0.0
comp=Z,13nm,0.8s,baz=159,slow=1.6,SNR=15
VLDQ **Val d'Or** 120.22 46 *e*PKPdf **PKPdf** 18 42 00.5 -2.3
PLVO **Plevna** 120.56 49 *e*PKPdf **PKPdf** 18 42 02.0 -1.5
SDMD **Soldier's Deli** 120.63 56 *e*PKPdf **PKPdf** 18 42 02.8 -1.1
KBS **Kingsbay** 120.88 355 *e*PKPdf **PKPdf** 18 42 03.0 -0.2
MVL **Millersville** 121.03 55 *e*PKPdf **PKPdf** 18 42 03.7 -0.9
SPA0 **Spitsbergen Ar** 121.16 354 *e*PKPdf **PKPdf** 18 42 03.2 -0.7
SPA0 *e*SS SS 19 00 01.6 +2.3
SPA0 **Spitsbergen Ar** 121.16 354 PKP **PKPdf** 18 42 03.1 -0.7
comp=Z,20nm,0.6s,baz=79,slow=3.1,SNR=32
SPITS PKKPbc **PKKPab** 18 52 06.5 +0.5
comp=Z,3.0nm,0.5s,baz=186,slow=8.3,SNR=14
BINY **Binghamton** 121.35 53 *e*PKPdf **PKPdf** 18 42 03.9 -1.3
N59A **State Game Lan** 121.50 54 PKiKP **PKPdf** 18 42 04.9 -0.7
baz=269
LONY **Lake Ozonia** 122.34 50 *e*PKPdf **PKPdf** 18 42 05.6 -1.4
ODNJ **Ogdensburg** 122.38 54 *e*PKPdf **PKPdf** 18 42 05.8 -1.3
BRNJ **Basking Ridge** 122.41 54 *e*PKPdf **PKPdf** 18 42 04.8 -2.4
NCB **Newcomb** 122.62 50 *e*PKPdf **PKPdf** 18 42 06.3 -1.3
LBTB **Lobatse** 122.76 219 *e*PKiKP **PKPdf** 18 42 07.5 -1.1
LBTB **Lobatse** 122.76 219 *e*PKPdf **PKPdf** 18 42 07.5 -1.1
SDDR **Presa de Saban** 122.77 80 *e*PKPdf **PKPdf** 18 42 07.1 -1.5
PAL **Palisades** 122.91 54 *e*PKiKP **PKPdf** 18 42 07.0 -1.2
PAL **Palisades** 122.91 54 *e*PKPdf **PKPdf** 18 42 07.0 -1.2
TRY **Troy** 123.06 52 *e*PKPdf **PKPdf** 18 42 07.5 -0.9
MDV **Middlebury** 123.37 50 *e*PKPdf **PKPdf** 18 42 07.9 -1.1
DAG **Danmarks Havn** 123.78 2 *i* P **PKPdf** 18 42 07.1 -1.7
comp=Z,18nm,0.7s
DAG **Danmarks Havn** 123.78 2 *i* PKiKP **PKPdf** 18 42 07.1 -1.7
DAG pmax pmax
comp=Z,12nm,0.7s
QUA2 **Belchertown** 124.05 52 *e*PKPdf **PKPdf** 18 42 09.2 -1.1
BRYW **Bryant College** 124.67 53 *e*PKPdf **PKPdf** 18 42 10.8 -0.8
ILULI **Ilulissat** 125.55 17 *i* P **PKPdf** 18 42 11.6 -0.8
comp=Z,26nm,0.7s
ILULI **Ilulissat** 125.55 17 *i* PKiKP **PKPdf** 18 42 11.6 -0.8
ILULI pmax pmax
comp=Z,26nm,0.7s
SUMG **Summit** 125.74 10 *i* P **PKPdf** 18 42 12.5 -0.7
comp=Z,63nm,1.5s
SUMG **Summit** 125.74 10 *i* PKiKP **PKPdf** 18 42 12.5 -0.7
SUMG pmax pmax
comp=Z,63nm,1.5s
SUMG **Summit** 125.74 10 *e*PKPdf **PKPdf** 18 42 12.8 -0.4
SCHQ **Schefferville** 125.78 37 PKP **PKPdf** 18 42 12.7 -0.6

comp=Z,8.7nm,0.6s,baz=247,slow=5.1,SNR=3.9
PKME Peaks-Kenny Pk 126.04 49 *e*PKPdf **PKPdf** **18 42 13.4 -0.7**
TMCR Tamitsa 126.16 336 *e*PKIKP **PKPdf** **18 42 12.7 -1.0**
TMCR pmax pmax
comp=Z,13nm,0.6s
IDE Isla Desecheo 126.17 82 *e*PKPdf **PKPdf** **18 42 13.7 -1.3**
ARA0 ARCESS Array S 126.67 345 *e*PKPdf **PKPdf** **18 42 13.8 -0.8**
ARCES ARCESS Array B 126.67 345 PKP **PKPdf** **18 42 14.4 -0.1**
comp=Z,13nm,0.7s,baz=90,slow=1.2,SNR=28
ARE0 ARCESS Array S 126.67 345 *e*PKPdf **PKPdf** **18 42 14.6 +0.1**
PQI Presque Isle 126.74 47 *e*PKPdf **PKPdf** **18 42 14.2 -1.2**
PTGA Pitinga 126.82 107 *e*PKPdf **PKPdf** **18 42 16.0 -0.6**
SFJD Kangerlussuaq 127.13 19 PKP **PKPdf** **18 42 14.7 -0.8**
comp=Z,4.7nm,0.7s,baz=85,slow=8.2,SNR=4.0
KLMR Klimovskoe 127.14 332 *e*PKIKP **PKPdf** **18 42 12.6 -3.0**
KLMR *e* 18 42 44.2
KLMR *e* 18 42 57.1
KLMR pmax pmax
comp=Z,28nm,0.8s
SJG San Juan 127.33 83 *e*PKIKP **PKPdf** **18 42 16.4 -0.9**
SJG San Juan 127.33 83 *e*PKPdf **PKPdf** **18 42 16.4 -0.9**
KTK1 Kautokeino 127.60 346 *e*PKPdf **PKPdf** **18 42 16.7 +0.4**
HUMP Col San Antoni 127.62 83 *e*PKPdf **PKPdf** **18 42 16.8 -1.1**
CBYP Canovanas 127.64 83 *e*PKPdf **PKPdf** **18 42 16.3 -1.7**
LSZ Lusaka 128.05 229 *e*PKIKP **PKPdf** **18 42 19.1 +0.1**
LSZ Lusaka 128.05 229 *e*PKPdf **PKPdf** **18 42 19.1 +0.1**
LSZ Lusaka 128.05 229 P **PKPdf** **18 42 19.2 +0.3**
SNR=6.4
LSZ Lusaka 128.05 229 PKPdf **PKPdf** **18 42 19.2 +0.3**
SNR=6.4
TRO Tromso 128.05 348 *e*PKPdf **PKPdf** **18 42 19.8 +2.7**
CDVI St. Croix 128.54 83 *e*PKPdf **PKPdf** **18 42 19.3 -0.3**
KMBO Kilima Mbogo 128.80 251 PKP **PKPdf** **18 42 22.2 +1.6**
comp=Z,10nm,0.8s,baz=76,slow=2.8,SNR=28
KMBO Kilima Mbogo 128.80 251 *e*PKPdf **PKPdf** **18 42 21.2 +0.6**
GUDG Gudauri 129.64 308 P **PKPdf** **18 42 23.0 +1.7**
GNI Garni 129.71 305 PKP **PKPdf** **18 42 22.7 +1.3**
comp=Z,9.2nm,0.7s,baz=15,slow=2.4,SNR=8.5
GNI Garni 129.71 305 P **PKPdf** **18 42 21.3 -0.1**
GNI Garni 129.71 305 PKPdf **PKPdf** **18 42 21.3 -0.1**
GNI Garni 129.71 305 *e*PKPdf **PKPdf** **18 42 19.9 -1.5**
GNI Garni 129.71 305 P **PKPdf** **18 42 20.2 -1.2**
SNR=5.4
GNI Garni 129.71 305 PKPdf **PKPdf** **18 42 20.2 -1.2**
SNR=5.4
ZEI Tsey 130.01 309 *e*PKIKP **PKPdf** **18 42 22.4 +0.4**
ZEI pmax pmax
comp=Z,22nm,0.8s
NCK Nalchik 130.12 310 *ce*PKIKP **PKPdf** **18 42 23.0 +1.1**
SMRT St. Maarten 130.18 84 *e*PKPdf **PKPdf** **18 42 19.5 -3.2**
STEI Steigen 130.22 348 *e*PKPdf **PKPdf** **18 42 20.8 -0.5**
GOF Gofitskoye 130.24 312⇑ *e*PKIKP **PKPdf** **18 42 21.0 -1.1**
GOF pmax pmax
comp=Z,19nm,1.2s
ONI Oni 130.37 309 P **PKPdf** **18 42 22.8 +0.2**
ONI Oni 130.37 309 PKIKP **PKPdf** **18 42 22.7 +0.2**
BGD Bogdanovka 130.45 307 P **PKPdf** **18 42 24.2 +1.3**
AKH Akhalkalaki 130.51 307⇑ *i*P **PKPdf** **18 42 24.2 +1.3**
AKH Akhalkalaki 130.51 307⇑ *i*P **SKPbc** **18 45 37.4 +0.8**
KBZ Khabaz 130.59 310 PKP **PKPdf** **18 42 22.9 +0.2**
comp=Z,5.4nm,1.0s,baz=113,slow=4.8,SNR=10.0
KIV Kislovodsk 130.70 311 P **PKPdf** **18 42 22.8 -0.3**
KIV Kislovodsk 130.70 311 PKPdf **PKPdf** **18 42 22.8 -0.3**
KIV Kislovodsk 130.70 311⇓ *i*PKIKP **PKPdf** **18 42 22.8 -0.3**
KIV *e* 18 42 53.4
KIV *e* 18 44 36.1
KIV *e*PPP PPP 18 47 30.8
KIV pmax pmax
comp=Z,1.0nm,1.4s
LPSR Galich'ya Gora 130.78 323 *e*PKIKP **PKPdf** **18 42 22.6 -0.2**
LPSR pmax pmax
comp=Z,20nm,0.8s
NEY Neytrino 130.79 310⇓ *i*PKIKP **PKPdf** **18 42 25.2 +1.8**
OBN Obninsk 131.07 326⇓ *i*PKIKP **PKPdf** **18 42 22.0 -1.3**
OBN *e* 18 42 55.1
OBN *e* 18 44 40.2
OBN pmax pmax
comp=Z,4.0nm,1.3s
VSR Storozhevoye 131.12 321 *e*PKIKP **PKPdf** **18 42 23.2 -0.3**
VSR pmax pmax
comp=Z,10.0nm,0.5s
FIA1 FINESS Array S 132.20 337 *e*PKPdf **PKPdf** **18 42 23.9 -1.3**
FINES FINESS Array B 132.20 337 PKhKP PKPpre 18 42 12.5
comp=Z,2.4nm,0.9s,baz=58,slow=3.9,SNR=5.1
FINES PKP **PKPdf** **18 42 24.1 -1.1**
comp=Z,5.3nm,0.6s,baz=90,slow=3.3,SNR=18
FINES SKPbc **SKPbc** **18 45 40.1 -1.6**
comp=Z,25nm,0.8s,baz=46,slow=4.0,SNR=32
NRS Narsarsuaq 132.73 22 *i* P **PKPdf** **18 42 25.1 -1.1**
comp=Z,28nm,0.9s
NRS Narsarsuaq 132.73 22 *i* PKIKP **PKPdf** **18 42 25.1 -1.1**
NRS pmax pmax
comp=Z,28nm,0.9s
SOC Sochi 132.88 311 *i* PKIKP **PKPdf** **18 42 27.4 +0.3**
SOC *e* 18 44 56.4
SOC pmax pmax
comp=Z,10.0nm,0.4s
MZRK Al-Mazaregh 133.32 300 *e*P **PKPdf** **18 42 26.8 -1.4**
SFNV Sufian 133.70 301 *e*P PKPpre 18 42 23.5
ANN Anapa 134.18 313 *i* PKIKP **PKPdf** **18 42 27.9 -1.6**
ANN pmax pmax
comp=Z,66nm,1.4s
KSRV Kasrt alli 134.65 300 *e*P PKPpre 18 42 25.0
SLMH Al Salmeh 135.48 301 *e*P PKPpre 18 42 29.0
NACGM Naroch 136.03 330 *e* **PKPdf** **18 42 32.0 -0.6**
ROOS tl_alroos 136.21 298 *e*P PKPpre 18 42 28.9
RABH Abou Rabah 136.25 298 *e*P PKPpre 18 42 29.8
DRWC Darouich 136.43 302 *e*P PKPpre 18 42 26.9
DOMB Dombas 136.65 347 *e*PKPdf **PKPdf** **18 42 32.2 -1.5**
SALA Sala 136.79 296 *e*P **PKPdf** **18 42 35.2 +0.2**
NC303 NORSAR Array S 136.85 345 *e*PKPdf **PKPdf** **18 42 32.3 -1.7**
MARH Ras Al Marh 136.89 298 *e*P **PKPdf** **18 42 32.9 -2.4**
AKN Aaknes 136.94 348 *e*PKPdf **PKPdf** **18 42 34.2 +0.1**
TOTH TOTAH 136.99 297 *e*P **PKPdf** **18 42 33.5 -1.7**
NB2 NORSAR Subarra 137.05 345 PKPdf PKPpre 18 42 23.7
baz=27,slow=1.8
NB2 NORSAR Subarra 137.05 345 PKPdf PKPpre 18 42 23.7
comp=Z,6.5nm,0.9s,baz=27,slow=1.8
NOA NORSAR Array B 137.05 345 PKhKP PKPpre 18 42 24.1
comp=Z,0.9nm,0.8s,baz=60,slow=1.8,SNR=4.6
NOA PKP **PKPdf** **18 42 34.2 -0.2**
comp=Z,5.5nm,0.8s,baz=36,slow=1.9,SNR=8.9
NOA SKPbc **SKPbc** **18 45 55.5 -1.9**
comp=Z,3.5nm,0.9s,baz=18,slow=4.2,SNR=6.9
AKASG Malin Array Be 137.05 324 PKhKP PKPpre 18 42 24.2
comp=Z,0.2nm,0.3s,baz=53,slow=3.6,SNR=3.5
AKASG PKP **PKPdf** **18 42 34.5 -0.1**
comp=Z,4.7nm,0.6s,baz=56,slow=2.1,SNR=12
AKASG SKPbc **SKPbc** **18 45 56.8 -0.9**
comp=Z,21nm,1.0s,baz=50,slow=2.6,SNR=33
AKBB Malin Array Si 137.05 324 *e*PKIKP **PKPdf** **18 42 33.6 -1.0**
AKBB Malin Array Si 137.05 324 *e*PKPdf **PKPdf** **18 42 33.6 -1.0**
KIEV Kiev 137.06 324 *e*PKIKP **PKPdf** **18 42 32.3 -2.4**
KIEV Kiev 137.06 324 *e*PKPdf **PKPdf** **18 42 32.2 -2.4**
ARNB Al Arnab 137.09 301 *e*P PKPpre 18 42 28.3
AK11 Malin Array Si 137.09 324 *e*PKPpre PKPpre 18 42 29.5
AK11 *e*PKPdf **PKPdf** **18 42 33.8 -0.9**
NBO02 NORSAR Array S 137.13 345 *e*PKPpre PKPpre 18 42 28.9
NBO02 *e*PKPdf **PKPdf** **18 42 34.5 -0.1**
NC602 NORSAR Array S 137.23 344 *e*PKPdf **PKPdf** **18 42 35.3 +0.6**
TCHB Talchebab 137.43 296 *e*P **PKPdf** **18 42 35.5 -0.5**
FOO Floro 137.84 349 *e*PKPdf **PKPdf** **18 42 37.2 +1.4**
MMAI Mount Meron Ar 137.88 297 PKhKP PKPpre 18 42 29.9
comp=Z,2.0nm,0.5s,baz=97,slow=3.6,SNR=7.1
MMAI SKPbc **SKPbc** **18 46 01.2 +0.4**
comp=Z,11nm,0.7s,baz=70,slow=4.7,SNR=19
HYA Hoyanger 138.03 348 *e*PKPdf **PKPdf** **18 42 35.3 -0.8**
BR131 Keskin Array S 138.19 307 *e*PKPpre PKPpre 18 42 26.1
BR131 *e*PKPdf **PKPdf** **18 42 35.7 -1.6**
BRTR Keskin Array B 138.19 307 PKhKP PKPpre 18 42 28.6
comp=Z,1.5nm,1.0s,baz=133,slow=2.9,SNR=5.2
BRTR PKP **PKPdf** **18 42 37.2 -0.1**
comp=Z,6.6nm,0.9s,baz=90,slow=2.0,SNR=16
BRTR SKPbc **SKPbc** **18 46 00.5 -1.1**
comp=Z,5.1nm,1.0s,baz=114,slow=2.9,SNR=13
BRTR Keskin Array B 138.19 307 *i* PKHKP PKPpre 18 42 28.6
BRTR 18 42 37.2
BRTR pmax pmax
comp=Z,2.0nm,1.0s
BRTR pmax pmax
comp=Z,6.0nm,0.9s
BRTR pmax pmax
comp=N,5.0nm,1.0s
SUW Suwalki 138.24 331 *e*P **SKPbc** **18 45 59.7 -1.3**

SORM Soroca 138.78 321⇑ *i*P PKPpre 18 42 28.4
SORM Soroca 138.78 321⇓ *i*P **SKPbc** **18 46 01.9 -0.9**
SORM Soroca 138.78 321⇑⇑PKHKP PKPpre 18 42 28.4
ANTO Ankara 138.79 307 *e*PKHKP PKPpre 18 42 28.4
ANTO *e* 18 42 37.7
ANTO Ankara 138.79 307 *e*PKPpre PKPpre 18 42 28.4
ANTO *e*PKPdf **PKPdf** **18 42 37.7 -0.6**
BR231 Keskin MP Arra 138.81 307 *e*PKPpre PKPpre 18 42 26.6
BR231 *e*PKPdf **PKPdf** **18 42 37.9 -0.5**
KIS Kishinev 139.02 319 *e*PKP PKPpre 18 42 31.0
KIS Kishinev 139.02 319 *e*PKHKP PKPpre 18 42 31.0
ODD1 Odda 139.09 347 *e*PKPdf **PKPdf** **18 42 39.4 +1.2**
CSS Mathiatis 139.36 300 *e*PKPpre PKPpre 18 42 29.5
CSS *e*PKPdf **PKPdf** **18 42 38.9 -0.5**
BLS5 Blasjo 139.58 347 *e*PKPdf **PKPdf** **18 42 40.2 +1.1**
TLCR 139.79 316⇓ *i*P **PKPdf** **18 42 39.3 -0.6**
TLCR 139.79 316⇑ *i*P **SKPbc** **18 46 03.5 -2.1**
TLCR 139.79 316⇓⇓PKIKP **PKPdf** **18 42 39.3 -0.6**
STAV Stavanger 140.18 347 *e*PKPdf **PKPdf** **18 42 41.7 +1.6**
CFR Carcaliu 140.23 317⇓ *i*P **PKPdf** **18 42 37.0 -3.6**
CFR Carcaliu 140.23 317⇓ *i*P **SKPbc** **18 46 06.1 -0.7**
CFR Carcaliu 140.23 317⇓⇓PKIKP **PKPdf** **18 42 37.0 -3.6**
LVV L'vov 140.35 325 *e*PKIKP **PKPdf** **18 42 41.1 +0.4**
TIRR Tirgusor 140.35 316⇑ *i*P **SKPbc** **18 46 03.7 -3.5**
TLB Topalu 140.54 316⇑ *i*P **SKPbc** **18 46 06.9 -0.7**
TESR Tescani 140.57 319⇓ *i*P **SKPbc** **18 46 04.9 -2.8**
HARR Harsova 140.57 316⇑ *i*P **SKPbc** **18 46 07.1 -0.6**
BEL Belsk 140.75 330 *e*P **SKPbc** **18 46 07.5 -0.5**
BUR08 Bucovina Ar. S 140.87 322 *e*PKPpre PKPpre 18 42 32.4
PLOR Plostina 140.88 318⇓ *i*P PKPpre 18 42 31.4
PLOR Plostina 140.88 318⇑ *i*P **SKPbc** **18 46 07.6 -1.0**
PLOR Plostina 140.88 318⇓⇓PKHKP PKPpre 18 42 31.4
BURAR Bucovina Array 140.88 322⇓ *i*P PKPpre 18 42 37.4
BURAR Bucovina Array 140.88 322⇑ *i*P **SKPbc** **18 46 08.7 +0.1**
BURAR Bucovina Array 140.88 322⇓⇓PKIKP PKPpre 18 42 37.4
KWP Kalwaria Pacla 141.16 326 *e*PKP **PKPdf** **18 42 42.3 +0.1**
KWP Kalwaria Pacla 141.16 326 *e*P **SKPbc** **18 46 08.4 -0.7**
KWP Kalwaria Pacla 141.16 326 *e*PKIKP **PKPdf** **18 42 42.3 +0.1**
GKP Gorka Klasztor 141.33 334 *e*P **SKPbc** **18 46 08.5 -0.9**
MLR Muntele Rosu 141.48 318⇑ *i*P PKPpre 18 42 37.4
MLR Muntele Rosu 141.48 318⇑ *i*P **SKPbc** **18 46 09.4 -0.9**
MLR Muntele Rosu 141.48 318 *e*PKIKP PKPpre 18 42 38.6
MLR Muntele Rosu 141.48 318 *e*PKPpre PKPpre 18 42 38.6
DOPR Dopca 141.60 319⇓ *i*P PKPpre 18 42 37.4
DOPR Dopca 141.60 319⇑ *i*P **SKPbc** **18 46 10.5 +0.1**
ARCR ARCALIA 141.65 321⇓ *i*P **SKPbc** **18 46 10.8 +0.3**
UZH Uzhgorod 141.96 325 *e*PKHKP PKPpre 18 42 37.5
UZH *i* 18 42 45.5
STHS Stebnicka Huta 142.05 326 *e*PKIKP PKPpre 18 42 40.2
STHS Stebnicka Huta 142.05 326 *e*PKP PKPpre 18 42 40.2
STHS *e* 18 42 44.4
STHS *e* 18 46 11.0
VOIR 142.06 319⇑ *i*P PKPpre 18 42 39.9
VOIR 142.06 319⇑ *i*P **SKPbc** **18 46 09.6 -2.1**
VOIR 142.06 319⇑⇑PKIKP PKPpre 18 42 39.9
OJC Ojcow 142.27 328 *e*PKP PKPpre 18 42 40.6
OJC Ojcow 142.27 328 *e*P **SKPbc** **18 46 10.9 -1.0**
OJC Ojcow 142.27 328 *e*PKHKP PKPpre 18 42 39.9
OJC Ojcow 142.27 328 *e*PKPpre PKPpre 18 42 39.9
CJR Cluj-Napoca 142.29 321⇑ *i*P **SKPbc** **18 46 11.1 -1.0**
ARR Arges 142.35 319⇓ *i*P PKPpre 18 42 41.4
ARR Arges 142.35 319⇓ *i*P **SKPbc** **18 46 12.4 0.0**
HUMR Humele 142.53 317⇑ *i*P PKPpre 18 42 41.7
HUMR Humele 142.53 317⇑ *i*P **SKPbc** **18 46 11.4 -1.3**
NIE Niedzica 142.53 327 *e*PKP PKPpre 18 42 41.6
NIE Niedzica 142.53 327 *e*P **SKPbc** **18 46 09.5 -3.2**
NIE Niedzica 142.53 327 *e*PKIKP PKPpre 18 42 41.6
DRGR 142.76 322⇑ *i*P PKPpre 18 42 41.7
DRGR 142.76 322⇓ *i*P **SKPbc** **18 46 11.1 -2.2**
DRGR 142.76 322⇑⇑PKIKP PKPpre 18 42 41.7
LOT Lotru 142.84 319⇑ *i*P PKPpre 18 42 41.8
KECS Kecovo 143.01 326 *e*PKIKP PKPbc 18 42 43.3 +0.6
KECS Kecovo 143.01 326 *e*PKP PKPbc 18 42 43.3 +0.6
KECS *e* 18 42 45.1
LANS Liptovska Anna 143.12 327 *e*PKIKP PKPbc 18 42 43.3 +0.3
LANS Liptovska Anna 143.12 327 *e*PKP PKPbc 18 42 43.3 +0.3
LANS *e* 18 46 14.3
SHEL Horse Pasture 143.26 187 *e*PKIKP PKPbc 18 42 45.0 +0.7
SHEL Horse Pasture 143.26 187 *e*PKPdf PKPbc 18 42 45.0 +0.7
KPL Plockton 143.31 356 *e*P PKPab 18 42 41.7 -0.2
OKC Ostrava-Krasne 143.33 329 *e*PKP **PKPdf** **18 42 46.3 +0.2**
OKC *ex* x 18 43 32.8
OKC *ex* x 18 46 05.6
OKC Ostrava-Krasne 143.33 329 *e*PKIKP **PKPdf** **18 42 46.3 +0.2**
OKC *e* 18 48 05.9
RCBR Riachuelo 143.43 133 *e*PKPpre PKPpre 18 42 42.9
KSP Ksiaz 143.49 332 *e*PKP PKPbc 18 42 43.7 -0.2
KSP Ksiaz 143.49 332 *e*P **SKPbc** **18 46 14.4 -0.4**
KSP Ksiaz 143.49 332 *e*PKIKP PKPbc 18 42 43.7 -0.2
RDO Rodhopi 143.61 312 P PKPab 18 42 42.3 -1.3
RDO Rodhopi 143.61 312 P PKPab 18 42 42.3 -1.3
MORC Moravsky Berou 143.66 329⇑ *i*P PKPbc 18 42 44.5 0.0
MORC Moravsky Berou 143.66 329⇑ *i*P **SKPbc** **18 46 10.9 -4.5**
MORC Moravsky Berou 143.66 329 *e*PKIKP PKPab 18 42 43.8 +0.2
MORC Moravsky Berou 143.66 329 *e*PKPpre PKPbc 18 42 43.8 -0.7
SIRR Siria 143.66 322⇑ *i*P PKPbc 18 42 45.2 +0.6
SIRR Siria 143.66 322⇓ *i*P **SKPbc** **18 46 11.6 -3.8**
PSZ Piszkesteto 143.67 325⇑ *i*P PKPbc 18 42 44.9 +0.3
PSZ Piszkesteto 143.67 325⇑ *i*P **SKPbc** **18 46 14.8 -0.7**
PSZ Piszkesteto 143.67 325 *e*PKIKP PKPbc 18 42 44.5 -0.1
PSZ Piszkesteto 143.67 325⇓ *e*PKPdf PKPbc 18 42 44.3 -0.3
PSZ Piszkesteto 143.67 325⇓ *e*PKPdf PKPbc 18 42 44.3 -0.3
PSZ Piszkesteto 143.67 325 *e*PKPpre PKPbc 18 42 44.5 -0.1
BODT Bodrum 143.68 305 P PKPab 18 42 44.4 +0.3
BODT Bodrum 143.68 305 P PKPab 18 42 44.4 +0.3
KRLC Kraliky 143.81 330 *e*PKP PKPbc 18 42 44.9 0.0
KRLC *ep*PKP pPKPdf 18 43 14.9 -2.1
KRLC *e*SKP 18 46 15.0
KRLC Kraliky 143.81 330 *e*PKIKP PKPbc 18 42 44.9 0.0
KRLC *e* 18 43 14.9
DPC Dobruska-Polom 143.82 331 *e*PKP PKPbc 18 42 45.3 +0.3
DPC *ep*PKP pPKPdf 18 43 14.5 -2.5
DPC *es*PKP 18 43 29.7
DPC *e*SKP 18 46 10.5
DPC *ex* x 18 46 15.3
DPC Dobruska-Polom 143.82 331 *e*PKIKP PKPbc 18 42 45.3 +0.3
DPC *e* 18 43 14.5
DPC *e* 18 43 29.7
DPC *e* 18 46 10.5
UPC Upice 143.85 332 *e*PKP PKPbc 18 42 45.2 +0.2
UPC *ep*PKP pPKPdf 18 43 15.1 -1.9
UPC *es*PKP 18 43 30.3
UPC *e*SKP 18 46 15.3
UPC Upice 143.85 332 *e*PKIKP PKPbc 18 42 45.2 +0.2
UPC *e* 18 43 15.1
UPC *e* 18 43 30.3
VYHS Vyhne 143.87 327 *e*PKIKP PKPbc 18 42 45.5 +0.4
VYHS Vyhne 143.87 327 *e*PKP PKPbc 18 42 45.5 +0.4
VYHS *e* 18 46 15.1
MPEP Malo Peshtene 143.87 316 P PKPab 18 42 44.5 -0.1
MPEP Malo Peshtene 143.87 316 P **SKPbc** **18 46 15.5 -0.5**
SMTH Samothraki Isl 143.88 311 P PKPab 18 42 44.5 -0.2
SMTH Samothraki Isl 143.88 311 P PKPab 18 42 44.5 -0.2
PGB Panagyurishte 143.96 315 P PKPbc 18 42 45.5 -0.1
PGB Panagyurishte 143.96 315 P **SKPbc** **18 46 15.6 -0.7**
RZN Rozhen 143.96 313 P PKPab 18 42 45.0 -0.2
BZS Buzias 144.04 321⇓ *i*P PKPbc 18 42 45.8 +0.1
BZS Buzias 144.04 321⇑ *i*P **SKPbc** **18 46 12.9 -3.4**
BZS Buzias 144.04 321⇓⇓PKIKP PKPbc 18 42 45.8 +0.1
KARP Karpathos 144.19 302 P PKPbc 18 42 46.8 +0.3
KARP Karpathos 144.19 302 *e*PKPdf PKPbc 18 42 46.6 +0.1
TIM Timisoara 144.21 321⇑ *i*P **PKPdf** **18 42 47.2 -0.5**
TIM Timisoara 144.21 321⇑⇑PKIKP **PKPdf** **18 42 47.2 -0.5**
KAVA Kavala 144.38 312 P **PKPab** **18 42 46.6 0.0**
KAVA Kavala 144.38 312 P **PKPab** **18 42 46.6 0.0**
BUD Budapest 144.41 325⇓ *e*PKPdf PKPbc 18 42 46.7 0.0
VRAC Vranov 144.43 330⇑ *i*P PKPbc 18 42 46.9 +0.1
VRAC Vranov 144.43 330⇑ *i*P **SKPbc** **18 46 16.6 -0.6**
VRAC Vranov 144.43 330⇑⇑PKIKP PKPbc 18 42 46.9 +0.1
PVCC Panska Ves 144.47 333 *e*PKP PKPbc 18 42 47.3 +0.5
PVCC *ep*PKP pPKPdf 18 43 17.1 -0.9
PVCC *e*SKP 18 46 16.5
PVCC Panska Ves 144.47 333 *e*PKIKP PKPbc 18 42 47.3 +0.5
PVCC *e* 18 43 17.1
BRG Berggiesshubel 144.48 334 *i* PKP PKPbc 18 42 47.1 +0.2
comp=N,89nm,0.9s
BRG *i* pPKP pPKPdf 18 43 15.7 -2.3
comp=N,40nm,0.9s
BRG *i* SKP 18 46 16.4
comp=N,91nm,1.7s
BRG SS SS 19 04 42.0 -0.1
BRG Berggiesshubel 144.48 334 *i* PKIKP PKPbc 18 42 47.1 +0.3
BRG *i* 18 43 15.7
BRG SS SS 19 04 42.0 -0.1
BRG pmax pmax
comp=Z,3.0nm,0.9s
BRG pmax pmax
comp=Z,89nm,0.9s
BRG pmax pmax
comp=N,40nm,1.7s
CLL Collm 144.53 335 *i* PKIKP PKPbc 18 42 47.2 +0.2
CLL *e* 18 43 17.0
CLL pmax pmax
comp=Z,79nm,0.8s
CLL Collm 144.53 335 *i* PKPdf PKPbc 18 42 47.2 +0.2
comp=Z,79nm,0.8s
CLL *ep*PKPdf pPKPdf 18 43 17.0 -1.1
CLL *e*(sPKPdf) 18 43 31.0
CLL *e*SKPbc **SKPbc** **18 46 16.0 -1.3**
CLL Collm 144.53 335 *e*PKPdf **PKPab** **18 42 46.8 +0.1**
VTS Vitosha 144.57 316 P PKPbc 18 42 47.6 0.0
VTS Vitosha 144.57 316⇑ *i*P PKPbc 18 42 48.1 +0.5
VTS Vitosha 144.57 316⇑⇑PKIKP PKPbc 18 42 48.1 +0.5
VTS Vitosha 144.57 316 P **PKPab** **18 42 47.0 -0.5**
VTS Vitosha 144.57 316 *e*PKPdf **PKPab** **18 42 47.4 -0.1**
MMB Musomiste 144.67 314 P **PKPab** **18 42 47.5 -0.2**
NVR Nevrokopi 144.68 313 P **PKPab** **18 42 47.3 -0.5**
NVR Nevrokopi 144.68 313 P **PKPab** **18 42 47.3 -0.5**
PGBU Glenifferbraes 144.74 354 *e*P **PKPab** **18 42 46.7 -0.7**
GOPC GO Pecny, Ondr 144.83 332 *e*PKP PKPbc 18 42 48.3 +0.3
GOPC *ep*PKP pPKPdf 18 43 17.6 -1.1
GOPC *es*PKP 18 43 31.4
GOPC *e*SKP 18 46 16.3
GOPC GO Pecny, Ondr 144.83 332 *e*PKIKP PKPbc 18 42 48.3 +0.3
GOPC *e* 18 43 17.6
GOPC *e* 18 43 31.4
GOPC *e* 18 46 16.3
PRA Prague 144.87 332 *e*PKP PKPbc 18 42 48.4 +0.3
PRA *ep*PKP pPKPdf 18 43 17.9 -0.8
PRA *e*SKP 18 46 17.3
PRA Prague 144.87 332 *e*PKIKP PKPbc 18 42 48.4 +0.3
PRA *e* 18 43 17.9
PRA *e* 18 46 17.3
PRU Pruhonice 144.88 332 *e*PKP **PKPab** **18 42 48.1 0.0**
PRU *ep*PKP **pPKPdf** **18 43 16.0 -2.8**
PRU *es*PKP 18 43 31.7
PRU *e*SKP 18 46 17.1
PRU AMS AMS 19 37 10.0
comp=Z,300nm,31.5s
PRU Pruhonice 144.88 332 *e*PKIKP **PKPab** **18 42 48.1 0.0**
PRU *e* 18 43 16.0
PRU *e* 18 43 31.7
PRU *e* 18 46 17.1
CSKK Cs˘ŧkako 144.88 326⇑ *e*PKPbc **PKPdf** **18 42 49.0 +0.1**
CSKK Cs˘ŧkako 144.88 326⇑ *e*PKPbc **PKPdf** **18 42 48.6 -0.3**
TREC Trest 144.96 330 *e*PKP PKPbc 18 42 48.3 -0.2
TREC *ep*PKP pPKPdf 18 43 17.7 -1.3
TREC Trest 144.96 330 *e*PKIKP PKPbc 18 42 48.3 -0.2
TREC *e* 18 43 17.7
SRS Serrai 144.97 313 P PKPbc 18 42 47.8 -0.9
SRS Serrai 144.97 313 PKIKP PKPbc 18 42 47.8 -0.9
SRS Serrai 144.97 313 P PKPbc 18 42 47.8 -0.9
KKB Krupnik 144.98 315 P PKPbc 18 42 48.5 -0.3
APE Apeiranthos 145.04 306⇑ *i*P **PKPbc** **18 42 48.0 -1.1**
APE Apeiranthos 145.04 306⇑⇑PKIKP **PKPbc** **18 42 48.0 -1.1**
ESK Eskdalemuir 145.09 353 *e*P **PKPbc** **18 42 48.2 -0.4**
ESK Eskdalemuir 145.09 353 *e*PKP2 **PKPbc** **18 42 47.6 -1.0**
ESK Eskdalemuir 145.09 353 *e*PKPbc **PKPbc** **18 42 47.6 -1.0**
ECK Cauldkaine Hil 145.22 353 *e*P **PKPbc** **18 42 48.5 -0.5**
GMK Mull of Kintyr 145.29 355 *e*P **PKPbc** **18 42 48.9 -0.4**
SANT Santorini 145.30 304 *e*PKPbc **PKPbc** **18 42 48.3 -1.5**
BHH Howats Hill 145.32 353 *e*P **PKPdf** **18 42 48.9 -0.5**
THR3 Thira Island, 145.34 304 P **PKPdf** **18 42 49.3 -0.7**
THR3 Thira Island, 145.34 304 P **PKPdf** **18 42 49.3 -0.7**
THR5 Thira Island, 145.37 305 P **PKPdf** **18 42 49.8 -0.2**
PAIG Paliouri 145.40 311 P **PKPdf** **18 42 49.3 -0.7**
PAIG Paliouri 145.40 311 PKP2 **PKPdf** **18 42 49.3 -0.7**
PAIG Paliouri 145.40 311 P **PKPdf** **18 42 49.3 -0.7**
KNT Kendrikon 145.42 314 P **PKPdf** **18 42 49.5 -0.5**
KNT Kendrikon 145.42 314 PKIKP **PKPdf** **18 42 49.5 -0.5**
KNT Kendrikon 145.42 314 P **PKPdf** **18 42 49.5 -0.5**
LCP Cassop 145.44 351 *e*P **PKPbc** **18 42 49.7 -0.1**
NPS Neapolis 145.49 302 P **PKPab** **18 42 51.3 +0.4**
NPS Neapolis 145.49 302 PKP2 **PKPab** **18 42 51.3 +0.4**
NPS Neapolis 145.49 302 P **PKPab** **18 42 51.3 +0.4**
SOP Sopron 145.55 328⇓ *e*PKPbc **PKPab** **18 42 50.7 0.0**
SOP Sopron 145.55 328⇓ *e*PKPbc **PKPbc** **18 42 50.5 +0.2**
VAV Valandovo 145.57 314 *i* PKP **PKPdf** **18 42 50.1 0.0**
NKC Novy Kostel 145.58 334 *e*PKP **PKPbc** **18 42 50.5 +0.1**
NKC *ep*PKP pPKPbc 18 43 19.2 -0.8
NKC *es*PKP 18 43 34.0
NKC *e*SKP 18 46 18.7
NKC Novy Kostel 145.58 334 *e*PKP2 **PKPbc** **18 42 50.5 +0.1**
NKC *e* 18 46 18.7
LAST Lasithi 145.62 302 P **PKPbc** **18 42 51.1 0.0**
LAST Lasithi 145.62 302 P **PKPbc** **18 42 51.1 0.0**
GAL1 Galloway 145.69 354 *e*P **PKPdf** **18 42 49.9 -0.1**
CONA Conrad Observa 145.73 328 *i* PKPbc **PKPdf** **18 42 50.1 -0.3**
comp=Z,65nm,0.9s,SNR=58
CONA *ep*PKPab **pPKPdf** **18 43 20.4 0.0**
comp=Z,115nm,1.3s
CONA *e*SKPbc **SKPbc** **18 46 19.5 -0.8**
comp=Z,31nm,1.7s
KESW Keswick, Cumbr 145.80 353 *e*P **PKPbc** **18 42 50.7 -0.2**
DIVS Divibare 145.84 320 P **PKPab** **18 42 51.8 -0.2**
KHC Kasperske Hory 145.94 332 *e*PKP **PKPdf** **18 42 49.7 -1.0**
KHC *ex* x 18 42 52.0
KHC *ex* x 18 43 05.5
KHC *ep*PKP pPKPab 18 43 21.6 +0.2
KHC *es*PKP 18 43 35.1
KHC *e*PP **PP** **18 46 13.1 -0.3**
KHC *e*SKP 18 46 19.7
KHC Kasperske Hory 145.94 332 *e*PKIKP **PKPdf** **18 42 49.7 -1.0**
KHC *e* 18 42 52.0
KHC *e* 18 43 21.6
KHC *e* 18 43 35.1
KHC *e* 18 46 13.1
KHC Kasperske Hory 145.94 332 *e*PKPdf **PKPdf** **18 42 50.3 -0.4**
KHC *ep*PKPdf **pPKPdf** **18 43 20.5 -0.2**
XOR Xorichti 145.96 310 P **PKPdf** **18 42 51.0 0.0**
XOR Xorichti 145.96 310 P **PKPdf** **18 42 51.0 0.0**
PTL Penteli 145.97 308 P **PKPdf** **18 42 51.5 +0.4**
PTL Penteli 145.97 308 P **PKPdf** **18 42 51.5 +0.4**
SKO Skopje 146.02 316 *i* PKP **PKPab** **18 42 52.5 -0.2**
IDI Anoyia 146.05 303 P **PKPdf** **18 42 51.0 -0.4**
IDI Anoyia 146.05 303 *e*PKPdf **PKPdf** **18 42 50.9 -0.4**
IDI *ep*PKPdf **pPKPdf** **18 43 20.4 -0.9**
ATHU Athens Univers 146.06 308 P **PKPdf** **18 42 50.4 -0.8**
ATHU Athens Univers 146.06 308 P **PKPdf** **18 42 50.4 -0.8**
GEC2 GERESS Array S 146.09 331 *e*PKIKP **PKPdf** **18 42 50.6 -0.4**
GEC2 *e* 18 43 20.8
GEC2 GERESS Array S 146.09 331 *e*PKPdf **PKPdf** **18 42 50.6 -0.4**
GEC2 *ep*PKPdf **pPKPdf** **18 43 20.8 -0.3**
GERES GERESS Array B 146.09 331 PKPbc **PKPbc

WIM	Isle of Man	146.40 354	eP	PKPbc	18 42 52.4	-0.3	
GRFO	Grafenberg	146.50 335	ePKP2	PKPbc	18 42 53.2	0.0	
GRFO	Grafenberg	146.50 335	ePKPdf	PKPbc	18 42 53.2	0.0	
GRFO			epPKPdf	pPKPbc	18 43 23.1	+0.3	
BIA	Bitola	146.55 314	i PKP	PKPbc	18 42 54.0	+0.4	
MOA	Molln	146.55 330	i PKPdf	PKPdf	18 42 51.2	-0.6	
	comp=Z,18nm,0.7s,SNR=19						
MOA			i PKPab	PKPbc	18 42 53.4	+0.1	
	comp=Z,13nm,0.5s						
MOA			epPKPab	pPKPbc	18 43 22.9	-0.1	
	comp=Z,31nm,1.0s						
MOA			i SKPbc	SKPbc	18 46 21.1	-1.0	
	comp=Z,12nm,1.2s						
IVA	Berane	146.56 318⇑	i PKP	PKPdf	18 42 51.1	-0.9	
VAM	Vamos	146.56 303	P	PKPdf	18 42 52.9	+0.8	
VAM	Vamos	146.56 303	PKP2	PKPdf	18 42 52.9	+0.8	
VAM	Vamos	146.56 303	P	PKPdf	18 42 52.9	+0.8	
FNA	Florina	146.62 314	P	PKPdf	18 42 51.7	-0.4	
FNA	Florina	146.62 314	PKIKP	PKPdf	18 42 51.7	-0.4	
FNA	Florina	146.62 314	P	PKPdf	18 42 51.7	-0.4	
DID	Didima	146.62 307	P	PKPdf	18 42 52.4	+0.2	
DID	Didima	146.62 307	P	PKPdf	18 42 52.4	+0.2	
PLE	Pljevlja	146.62 319⇑	i PKP	PKPdf	18 42 52.1	0.0	
LTK	Loutraki	146.64 308	P	PKPdf	18 42 52.7	+0.5	
LTK	Loutraki	146.64 308	P	PKPdf	18 42 52.7	+0.5	
PVY	Plav	146.66 318⇑	i PKP	PKPdf	18 42 52.1	-0.1	
AGG	Agios Georgios	146.71 310	P	PKPdf	18 42 52.7	+0.4	
AGG	Agios Georgios	146.71 310	PKIKP	PKPdf	18 42 52.7	+0.4	
AGG	Agios Georgios	146.71 310	P	PKPdf	18 42 52.7	+0.4	
THL	Kiokotos Trika	146.72 311	P	PKPdf	18 42 51.4	-0.8	
DSF	Desfina	146.81 309	P	PKPdf	18 42 51.9	-0.6	
DSF	Desfina	146.81 309	P	PKPdf	18 42 51.9	-0.6	
OHR	Ohrid	146.85 315	i PKP	PKPbc	18 42 54.6	+0.1	
PERS	Pernice	146.98 327	i PKPdf	PKPdf	18 42 51.4	-1.2	
PERS			i PKPbc	PKPbc	18 42 54.2	-0.5	
PERS			i PKPab	PKiKP	18 43 01.0	+3.9	
PERS			i pPKPbc	sPKPab	18 43 37.2	+0.2	
UPM	Unac-Piva	146.99 319	ePKP	PKPdf	18 42 52.8	0.0	
SOKA	Soboth	147.00 327	i PKPdf	PKPdf	18 42 51.9	-0.7	
	comp=Z,10.0nm,1.1s,SNR=22						
SOKA			i PKPbc	PKPbc	18 42 54.3	-0.5	
	comp=Z,21nm,0.7s						
SOKA			i pPKiKP	pPKPab	18 43 25.2	-0.4	
	comp=Z,28nm,1.1s						
SOKA			i SKPbc	SKPbc	18 46 22.0	-1.1	
	comp=Z,11nm,1.1s						
NEST	Nestorio	147.01 313	P	PKPdf	18 42 51.6	-1.2	
KALE	Kalithea	147.10 309	P	PKPdf	18 42 52.3	-0.7	
KALE	Kalithea	147.10 309	P	PKPdf	18 42 52.3	-0.7	
ANKY	Antikythira Is	147.12 304	P	PKPbc	18 42 55.4	+0.1	
ANKY	Antikythira Is	147.12 304	P	PKPbc	18 42 55.4	+0.1	
WPS	Cemaes, Angles	147.12 354	eP	PKPbc	18 42 54.1	-0.6	
EVR	Evrytania	147.13 310	P	PKPdf	18 42 54.0	+0.9	
EVR	Evrytania	147.13 310	P	PKPdf	18 42 54.0	+0.9	
NKY	Niksic	147.15 319⇑	i PKP	PKPdf	18 42 53.2	+0.2	
SERG	Sergoula	147.15 309	P	PKPdf	18 42 53.8	+0.8	
PDG	Podgorica	147.19 318⇑	i P	PKPbc	18 42 55.4	+0.1	
TTG	Podgorica	147.19 318⇑	i PKP	PKPdf	18 42 53.0	+0.1	
NKME	Niksic	147.20 319⇑	i PKP	PKPdf	18 42 53.2	+0.2	
WPM1	Penmaenmawr	147.20 353	eP	PKPbc	18 42 54.7	-0.3	
WLF1	Llynfaes	147.22 354	eP	PKPbc	18 42 54.7	-0.3	
KLV	Kalavryta, Ach	147.23 309	P	PKPbc	18 42 55.5	-0.2	
KLV	Kalavryta, Ach	147.23 309	P	PKPbc	18 42 55.5	-0.2	
LAKA	Lakka	147.28 309	P	PKPbc	18 42 55.6	-0.1	
LAKA	Lakka	147.28 309	P	PKPbc	18 42 55.6	-0.1	
VLX	Vlachokerasia	147.31 308	P	PKPbc	18 42 55.6	-0.3	
VLX	Vlachokerasia	147.31 308	P	PKPbc	18 42 55.6	-0.3	
CEME	Cevo	147.34 318⇑	i PKP	PKPdf	18 42 53.6	+0.3	
YLL	Llanberis	147.34 353	eP	PKPdf	18 42 53.5	+0.7	
CWF	Charnwood Fore	147.35 353	eP	PKPbc	18 42 54.9	-0.4	
CWF	Charnwood Fore	147.35 350	ePKPdf	PKPbc	18 42 55.0	-0.4	
CWF			epPKPdf	pPKPbc	18 43 24.9	-0.1	
TIR	Tirane	147.35 316	‖ i P	PKPbc	18 42 56.1	+0.3	
TIR	Tirane	147.35 316	ePKHKP	PKPpre	18 42 51.5		
TIR			e		18 42 55.8		
TIR	Tirane	147.35 316	ePKPdf	PKPdf	18 42 51.5	-1.8	
TIR			ePKPbc	PKPbc	18 42 55.8	0.0	
OBKA	Obir	147.36 328	i PKPdf	PKPdf	18 42 52.4	-0.8	
	comp=Z,8.0nm,1.4s,SNR=8.8						
OBKA			i PKPbc	PKPbc	18 42 55.0	-0.8	
	comp=Z,15nm,0.8s						
DRME	Dracevica, Mon	147.36 318⇑	i PKP	PKPdf	18 42 54.3	+1.1	
BRY	Bratogost	147.38 319⇑	i PKP	PKPdf	18 42 53.7	+0.3	
ULC	Ulcinj	147.44 317	ePKP	PKPdf	18 42 54.5	+1.1	
PVO	Paravola	147.45 310	P	PKPbc	18 42 56.2	-0.3	
HGN	Heimansgroeve	147.48 341	ePKPbc	PKPbc	18 42 55.2	-0.6	
	comp=Z,63nm,1.3s						
HGN			epPKPbc	pPKPab	18 43 26.9	-0.3	
HGN			esPKPbc	sPKPab	18 43 39.2	+0.5	
BUM	Brajici-Budva	147.49 318⇑	i PKP	PKPdf	18 42 54.6	+1.1	
OZLJ	Ozalj	147.49 326	P	PKPbc	18 42 56.0	0.0	
DSL	Palaion Diasel	147.54 311	P	PKPbc	18 42 56.2	-0.2	
DSL	Palaion Diasel	147.54 311	P	PKPbc	18 42 56.2	-0.2	
KBA	Koelnbreinsper	147.54 330	i PKPdf	PKPdf	18 42 52.3	-1.3	
	comp=Z,11nm,1.0s,SNR=33						
KBA			i PKPbc	PKPbc	18 42 55.5	-0.9	
	comp=Z,37nm,0.6s						
KBA			i SKPbc	SKPbc	18 46 22.6	-1.9	
	comp=Z,9.7nm,1.2s						
LLW	Llanuwchllyn	147.57 353	eP	PKPbc	18 42 55.1	-0.9	
DRO	Drossia	147.58 309	P	PKPbc	18 42 56.8	+0.2	
MEM	Membach	147.59 341	PKPbc	PKPbc	18 42 56.2	+0.1	
MEM			APKPbc		18 43 26.3		
MEM			SPKiKP		18 43 39.9		
HCY	Herceg Novi	147.66 318⇑	i PKP	PKPdf	18 42 54.9	+1.2	
BOJS	Bojanci	147.67 326	ePKPdf	PKPdf	18 42 53.2	-0.4	
BOJS			i PKPbc	PKPbc	18 42 56.6	+0.1	
BOJS			i PKPab	PKPab	18 43 02.3	+3.3	
BOJS			i pPKPbc	sPKPab	18 43 39.8	0.0	
ITM	Ithomi	147.72 307	P	PKPbc	18 42 55.8	-1.1	
ITM	Ithomi	147.72 307	P	PKPbc	18 42 55.8	-1.1	
RLS	Riolos of Patr	147.72 309	P	PKPbc	18 42 56.2	-0.1	
RLS	Riolos of Patr	147.72 309	P	PKPbc	18 42 56.8	+0.1	
MYKA	Terra Mystica	147.72 329	i PKPdf	PKPdf	18 42 52.8	-0.9	
	comp=Z,5.3nm,0.9s,SNR=13						
MYKA			i PKPbc	PKPbc	18 42 55.9	-0.8	
	comp=Z,29nm,0.5s						
AXS	Araxos	147.73 310	P	PKPbc	18 42 57.3	+0.4	
AMT	Artemida-Makis	147.75 308	P	PKPbc	18 42 56.7	-0.3	
IGT	Igoumenitsa	147.90 312	P	PKPbc	18 42 55.9	-1.4	
IGT	Igoumenitsa	147.90 312	PKIKP	PKPbc	18 42 55.9	-1.4	
IGT	Igoumenitsa	147.90 312	P	PKPbc	18 42 55.9	-1.4	
STON	Ston	147.91 320	P	PKPbc	18 42 56.5	-0.7	
SGD	Sagiada	147.93 313	P	PKPbc	18 42 56.4	-1.0	
BCLA	Clavier	147.98 341	PKPbc	PKPbc	18 42 56.9	-0.3	
BCLA			PKPab	PKPab	18 43 00.3	+0.3	
BCLA			APKPbc		18 43 27.8		
LKD2	Lefkada island	148.00 311	P	PKPbc	18 42 57.5	-0.2	
LKD2	Lefkada island	148.00 311	P	PKPbc	18 42 57.5	-0.2	
JAVS	Javornik	148.03 327	i PKPdf	PKPdf	18 42 53.3	-1.0	
JAVS			i PKPbc	PKPbc	18 42 57.1	-0.5	
JAVS			i pPKPbc	sPKPab	18 43 39.5	-1.8	
UDBI	Udbina	148.03 324	P	PKPbc	18 42 57.2	-0.4	
STU	Stuttgart	148.04 336	ePKIKP	PKPdf	18 42 53.8	-0.3	
STU			e		18 42 57.6		
STU			e		18 43 26.6		
STU	Stuttgart	148.04 336	ePKPdf	PKPdf	18 42 53.8	-0.3	
STU			ePKPbc	PKPbc	18 42 57.6	+0.2	
STU			epPKPdf	pPKPbc	18 43 26.6	-0.6	
WATA	Walderalm	148.17 331	i PKPdf	PKPdf	18 42 54.3	-0.3	
	comp=Z,12nm,1.1s						
WATA			i PKPbc	PKPbc	18 42 57.6	-0.4	
	comp=Z,16nm,0.5s,SNR=15						
ABTA	Abfaltersbach	148.18 330	i PKPdf	PKPdf	18 42 53.3	-1.3	
	comp=Z,19nm,0.8s,SNR=31						
ABTA			i PKPbc	PKPbc	18 42 57.0	-1.0	
	comp=Z,36nm,0.6s						
SSW	Stow on the Wo	148.18 350	eP	PKPbc	18 42 57.6	-0.1	
SNF	Seneffe	148.19 342	PKPbc	PKPbc	18 42 57.7	0.0	
SNF			PKPab	PKPab	18 43 01.2	+0.3	
WTTA	Wattenberg	148.20 331	i PKPdf	PKPdf	18 42 54.4	-0.3	
	comp=Z,12nm,1.1s						
WTTA			i PKPbc	PKPbc	18 42 57.7	-0.4	
	SNR=14						
VLS	Valsamata	148.30 310	P	PKPbc	18 42 58.2	-0.3	
VLS	Valsamata	148.30 310	PKP2	PKPbc	18 42 58.2	-0.3	
VLS	Valsamata	148.30 310	P	PKPbc	18 42 58.2	-0.3	
TRI	Trieste	148.30 327	ePKPdf	PKPdf	18 42 53.3	-1.4	
TRI			ePKPbc	PKPbc	18 42 57.9	-0.3	
TRI			epPKPdf	pPKPdf	18 43 26.3	+1.7	
MCH1	Michaelchurch	148.32 352	eP	PKPbc	18 42 57.2	-0.8	
MOTA	Moosalm	148.37 332	i PKPdf	PKPdf	18 42 54.2	-0.7	
	comp=Z,8.3nm,0.9s,SNR=57						
MOTA			i PKPbc	PKPbc	18 42 58.1	-0.4	
	comp=Z,34nm,0.6s						
MOTA			i sPKPab	sPKPbc	18 43 40.9	+1.2	
	comp=Z,79nm,0.9s						
WLF	Walferdange	148.37 340	PKPbc	PKPbc	18 42 58.5	+0.2	
WLF			PKPab	PKPab	18 43 01.6	-0.1	
WLF			APKPbc		18 43 28.8		
WLF			SPKiKP		18 43 42.9		
WLF	Walferdange	148.37 340	ePKIKP	PKPdf	18 42 54.9	+0.3	
WLF			e		18 42 59.1		
WLF			e		18 43 29.2		
WLF	Walferdange	148.37 340	ePKPdf	PKPdf	18 42 54.9	+0.3	
WLF			ePKPbc	PKiKP	18 42 59.1	-0.6	
WLF			epPKPab	pPKPbc	18 43 29.1	+1.2	
LANF	Langenberg	148.38 337	PKP	PKPbc	18 42 58.3	0.0	
RETA	Reutte	148.41 332	i PKPbc	PKPbc	18 42 58.1	-0.4	
	comp=Z,19nm,0.5s,SNR=12						
RETA			i sPKPab	sPKPab	18 43 41.7	-1.0	
	comp=Z,43nm,1.1s						
STRD	Stroud	148.41 351	eP	PKPab	18 43 01.5	-0.3	
MONM	Monmouth	148.45 351	eP	PKPbc	18 42 57.7	-0.6	
DOU	Dourbes	148.47 342	PKPbc	PKPbc	18 42 58.5	0.0	
DOU			SPKiKP		18 43 42.1		
NVLJ	Novalja	148.50 325	P	PKPbc	18 42 57.9	-0.8	
BFO	Black Forest	148.73 336	ePKP2	PKPbc	18 42 59.3	0.0	
BFO	Black Forest	148.73 336	ePKPbc	PKPbc	18 42 59.3	0.0	
FETA	Feichten	148.78 332	i PKPdf	PKPdf	18 42 54.9	-0.7	
	comp=Z,15nm,1.0s,SNR=48						
FETA			i PKPbc	PKPbc	18 42 59.6	0.0	
	comp=Z,46nm,0.7s						
FETA			i sPKPab	sPKPbc	18 43 42.5	+1.7	
	comp=Z,106nm,1.0s						
DAVA	Damuels	148.94 333	i PKPdf	PKPdf	18 42 55.4	-0.4	
	comp=Z,6.3nm,1.1s						
DAVA			i PKPbc	PKPbc	18 42 59.7	-0.3	
	comp=Z,24nm,0.7s,SNR=15						
DAVA			i sPKPab	sPKPab	18 43 43.4	-1.6	
	comp=Z,70nm,1.0s						
ECH	Echery	149.26 337	PKP	PKPbc	18 42 59.9	-0.7	
FUORN	Ofenpass-Fuorn	149.30 332	ePKPdf	PKPdf	18 42 55.9	-0.7	
FUORN			ePKPbc	PKPbc	18 43 01.4	+0.4	
MOF	Molkenrain	149.57 337	PKP	PKPbc	18 43 00.9	-0.6	
THEF	They Montfort	149.67 338	PKP	PKPbc	18 43 01.6	0.0	
TUE	Stuetta	149.81 333	ePKPdf	PKPdf	18 42 55.8	-1.6	
TUE			ePKPbc	PKPbc	18 43 02.0	-0.3	
LOMF	Lomont	150.11 337	PKP	PKPbc	18 43 02.7	0.0	
AQU	L'Aquila	150.74 323	ePKIKP	PKPdf	18 42 56.5	-2.2	
AQU	L'Aquila	150.74 323	ePKPdf	PKPdf	18 42 56.5	-2.2	
AQU			ePKPbc	PKPbc	18 43 04.0	-0.4	
SENIN	Lac Senin/Sane	150.74 335	ePKPdf	PKPdf	18 42 58.2	-0.7	
SENIN			ePKPbc	PKPbc	18 43 04.4	-0.1	
VLC	Villacollemand	151.09 329	ePKPdf	PKPdf	18 42 55.9	-3.3	
VLC			ePKPbc	PKPbc	18 43 04.0	-1.1	
ASCN	Ascension	151.19 171	ePKPbc	PKPbc	18 43 07.0	+0.8	
CEL	Celeste	151.55 314	ePKPdf	PKPdf	18 42 59.2	-0.9	
CEL			ePKPbc	PKPbc	18 43 05.5	-0.9	
CEL			ePKPab	PKPab	18 43 15.5	+0.3	
BNI	Bardonecchia	152.07 334	ePKIKP	PKPdf	18 43 00.3	-0.5	
BNI	Bardonecchia	152.07 334	ePKPdf	PKPdf	18 43 00.3	-0.5	
BNI			ePKPbc	PKiKP	18 43 07.7	0.0	
PLDF	La Plantade	152.43 339	PKP	PKPdf	18 43 01.4	+0.2	
AGO	Saint Agoulin	152.52 340	PKP	PKPdf	18 43 01.4	+0.1	
SSB	Saint Sauveur	152.71 337	ePKIKP	PKPdf	18 43 01.3	-0.3	
SSB			e		18 43 20.1		
SSB	Saint Sauveur	152.71 337	ePKPdf	PKPdf	18 43 01.3	-0.3	
SSB			ePKPbc	PKPbc	18 43 08.5	-0.2	
SSB			ePKPab	PKPab	18 43 20.1	+0.3	
PYM	Petit Puy Mans	152.82 340	PKP	PKPdf	18 43 01.7	-0.1	
LBL	Lubilhac	153.20 339	PKP	PKPdf	18 43 02.8	+0.4	
CLTB	Caltabellotta	153.71 315	ePKPdf	PKPdf	18 43 03.6	+0.3	
CLTB			ePKPbc	PKPbc	18 43 10.4	-0.9	
VSL	Villasalto	154.92 322	ePKPdf	PKPdf	18 43 04.0	-0.9	
VSL			ePKPbc	PKPbc	18 43 13.0	-0.6	
KEST	Kesra	157.32 315	PKP	PKPdf	18 43 08.1	-0.1	
	comp=Z,4.5nm,0.8s,baz=44,slow=2.8,SNR=6.7						
KEST			PKPab	PKPab	18 43 41.2	+1.4	
	comp=Z,11nm,0.8s,baz=5.9,slow=3.5,SNR=8.9						
POLO	Lamas de Olo	159.35 355	ePKPdf	PKPdf	18 43 10.5	0.0	
MVO	Moncorvo	159.48 353	ePKPdf	PKPdf	18 43 10.9	+0.3	
MTE	Manteigas	160.29 354	ePKPdf	PKPdf	18 43 11.0	-0.6	
ES19	SONSECA Array	160.37 346	ePKPdf	PKPdf	18 43 10.8	-0.9	
ES19			ePKPab	PKPab	18 43 52.2	-0.7	
ESDC	Sonseca Array	160.41 346	PKP	PKPdf	18 43 11.0	-0.7	
	comp=Z,1.1nm,0.7s,baz=345,slow=3.0,SNR=5.1						
ESDC			PKPab	PKPab	18 43 52.9	-0.1	
	comp=Z,2.0nm,0.7s,baz=14,slow=3.8,SNR=7.8						
PAB	San Pablo	160.62 346	ePKIKP	PKPdf	18 43 11.6	-0.4	
PAB	San Pablo	160.62 346	ePKPdf	PKPdf	18 43 11.6	-0.4	
PCBR	Castelo Branco	160.84 354	ePKPdf	PKPdf	18 43 11.4	-0.7	
PMRV	Marv??o	161.24 353	ePKPdf	PKPdf	18 43 12.5	-0.1	
EVO	Evora	162.19 355	ePKPdf	PKPdf	18 43 13.0	-0.5	
PBAR	Barrancos	162.43 352	ePKPdf	PKPdf	18 43 13.4	-0.4	
PNCL	Nicolau / Gran	162.64 356	ePKPdf	PKPdf	18 43 14.2	+0.2	
PBEJ	Beja	162.67 354	ePKPdf	PKPdf	18 43 14.2	+0.1	
MESJ	Messejana	162.89 355	ePKPdf	PKPdf	18 43 13.9	-0.3	
PCVE	Castro Verde	163.08 354	ePKPdf	PKPdf	18 43 15.0	+0.5	
PVAQ	Vaqueiros	163.27 353	ePKPdf	PKPdf	18 43 14.6	0.0	
PBDV	Barranco-do-Ve	163.46 354	ePKPdf	PKPdf	18 43 15.0	+0.1	
LIC	Lamto	164.73 200	ePKIKP	PKPdf	18 43 15.4	-1.3	
	comp=Z,89nm,1.4s						
LIC	Lamto	164.73 200	eP	PKPab	18 44 12.2	-0.3	
	comp=Z,414nm,0.9s						
LIC	Lamto	164.73 200	eP	PP	18 47 55.8	-1.8	
	comp=Z,83nm,1.5s						
KIC	Kosan Boka	164.77 201	ePKIKP	PKPdf	18 43 15.4	-1.3	
	comp=Z,134nm,1.6s						
KIC	Kosan Boka	164.77 201	eP	PKPab	18 44 12.5	-0.2	
	comp=Z,359nm,1.1s						
KIC	Kosan Boka	164.77 201	eP	PP	18 47 56.9	-0.9	
	comp=Z,115nm,1.7s						
DBIC	Dimbokro	165.09 201	PKP	PKPdf	18 43 16.4	-0.6	
	comp=Z,10.0nm,0.8s,baz=89,slow=2.1,SNR=11						
DBIC			PKPab	PKPab	18 44 15.0	+0.9	
	comp=Z,125nm,0.9s,baz=150,slow=4.8,SNR=58						
DBIC	Dimbokro	165.09 201	ePKPdf	PKPdf	18 43 15.5	-1.4	
DBIC			ePKPab	PKPab	18 44 14.4	+0.3	
TIC	Toumodi	165.12 200	ePKIKP	PKPdf	18 43 15.6	-1.4	
TIC	Toumodi	165.12 200	eP	PKPab	18 44 15.1	+0.9	
TIC	Toumodi	165.12 200	eP	PP	18 47 53.0	-6.7	
TAM	Tamanrasset	165.31 281	ePKIKP	PKPdf	18 43 16.9	-0.2	
TAM	Tamanrasset	165.31 281	ePKPdf	PKPdf	18 43 16.9	-0.2	
TAM			ePKPab	PKPab	18 44 16.5	+1.1	
TOA0	Torodi Ar. Sit	166.39 238	ePKPdf	PKPdf	18 43 16.4	-1.6	
TOA0			ePKPdf	PKPdf	18 43 17.1	-0.9	
TOA0			ePKPab	PKPab	18 44 19.3	-0.7	
TOA0			ePKPab	PKPab	18 44 19.6	-0.5	
TORD	Torodi Ar. Bea	166.39 238	PKP	PKPdf	18 43 17.2	-0.7	
	comp=Z,7.9nm,0.8s,baz=104,slow=0.4,SNR=48						
TORD			PKPab	PKPab	18 44 19.9	-0.1	
	comp=Z,6.0nm,0.7s,baz=104,slow=4.5,SNR=8.4						

*ISK **16** 18:26:26.3,39°.46N×40°.08E,h5km,MD2.5*
*CSEM **16** 18:26:27.5±0.2,39°.44N×40°.06E,h2km,MD2.7,Error ellipse: s-maj=4.4km s-min=4.0km az=173.0*
*DDA **16** 18:26:28.2,39°.45N×39°.97E,h3km,Md2.7*
ISC 16 18:26:27.3±1.2,**39.46N**±0.03×**40.09E**±0.03,**h3**km±13km,
n22,σ0**958**/38,**Turkey**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
ERZN	Erzincan	0.31	294	ePg		Pg	18 26 33.0	-0.3
ERZN				eSG		Sg	18 26 37.8	+0.5
EUZM	Uzumlu	0.39	309	i P		Pg	18 26 35.0	+0.2
EUZM				i S		Sg	18 26 40.3	+0.5
EUZM	Uzumlu	0.39	309	P		Pg	18 26 35.0	+0.2
EUZM				S		Sg	18 26 40.3	+0.5
TNCL	Tunceli-Merkez	0.55	231	i P		Pg	18 26 37.7	-0.1
TNCL				i S		Sg	18 26 45.0	+0.1
TNCL	Tunceli-Merkez	0.55	231	P		Pg	18 26 37.7	-0.1
TNCL				S		Sg	18 26 45.0	+0.1
BNGB	Bing¨¶l	0.66	136	ePG		Pg	18 26 39.4	-0.5
BNGB				eSG		Sg	18 26 49.2	+0.7
BINT	Bingol	0.67	152	ePg		Pg	18 26 39.4	-0.6
BINT				eSg		Sg	18 26 49.2	+0.6
PTK	Pertek	0.79	224	ePG		Pg	18 26 41.9	-0.4
PTK	Pertek	0.79	224	ePg		Pg	18 26 41.9	-0.4
KELT	Kelkit	0.94	317	i P		Pg	18 26 44.6	-0.6
KELT				i S		Sb	18 26 58.7	-0.5
KELT	Kelkit	0.94	317	P		Pg	18 26 44.6	-0.6
KELT				S		Sb	18 26 58.7	-0.5
EZM	Erzurum	1.08	65	ePG		Pg	18 26 46.7	-1.3
ERZM	Erzurum	1.08	66	i P		Pn	18 26 50.7	+1.2
ERZM	Erzurum	1.08	66	P		Pn	18 26 50.7	+1.2
KEMA	Kemaliye	1.25	262	i P		Pg	18 26 50.4	-0.8
KEMA				i S		Sg	18 27 07.6	+0.1
KEMA	Kemaliye	1.25	262	P		Pg	18 26 50.4	-0.8
KEMA				S		Sg	18 27 07.6	+0.1
ELZG	Elazig	1.29	222	i P		Pg	18 26 52.0	0.0
ELZG				i S		Sb	18 27 09.0	-0.3
ELZG	Elazig	1.29	222	P		Pg	18 26 52.0	0.0
ELZG				S		Sb	18 27 09.0	-0.3
SUSE	Susehri	1.63	298	i P		Pb	18 26 57.6	-0.4
SUSE				i S		Sg	18 27 20.2	+0.6
SUSE	Susehri	1.63	298	P		Pb	18 26 57.6	-0.4
SUSE				S		Sg	18 27 20.2	+0.6
CUKAN	kangal_SIVAS	2.04	267	i P		Pn	18 27 02.9	+0.4
CUKAN				i S		Sg	18 27 32.8	+0.1
CUKAN	kangal_SIVAS	2.04	267	P		Pn	18 27 02.9	+0.4

TAP 16 18:33:15.3,22°.54N×122°.82E,h135km±2km,ML3.6,D,
Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
EAST	Anshuo	1.83	266	eP		Pn	18 33 48.7	+1.2
	baz=265							
EAST				eS		Sn	18 34 13.0	+0.8
	baz=265							
TWD	Chiawan	1.90	324	eP		Pn	18 33 49.3	+1.0
	baz=329							
TWD				eS		Sn	18 34 13.6	-0.1
	baz=329							
STYT	Tauyuan	2.00	289	eP		Pn	18 33 51.1	+1.6
	baz=291							
STYT				eS		Sn	18 34 19.2	+3.3
	baz=291							
SSD	Sandimen	2.03	276	eP		Pn	18 33 50.9	+1.1
	baz=271							
SSD				eS		Sn	18 34 18.3	+1.9
	baz=271							
SCZT	Fangliau	2.04	266	eP		Pn	18 33 50.0	0.0
	baz=262							
SCZT				eS		Sn	18 34 16.2	-0.4
	baz=262							
ALS	Alishan	2.09	298	eP		Pn	18 33 52.3	+1.4
	baz=298							
ENA	Nanau	2.12	332	eP		Pn	18 33 53.0	+2.0
	baz=326							
SGST	Jiashian	2.13	285	eP		Pn	18 33 52.3	+1.2
	baz=285							
WTP	Ta-pu	2.15	290	eP		Pn	18 33 52.6	+1.2
	baz=294							
WTP				eS		Sn	18 34 20.1	+1.0
	baz=294							
CHN1	Nanshi	2.21	287	eP		Pn	18 33 52.9	+0.9
	baz=275							
CHN1				eS		Sn	18 34 21.7	+1.4
	baz=275							
SMLT	Sun Moon Lake	2.21	308	eP		Pn	18 33 53.4	+1.1
	baz=311							
TWM1	Shoushan	2.23	278	eP		Pn	18 33 53.2	+0.8
	baz=277							
TWM1				eS		Sn	18 34 21.1	+0.3
	baz=277							
CHN5	Tsauling	2.23	299	eP		Pn	18 33 54.3	+1.8
	baz=305							
CHN5				eS		Sn	18 34 22.5	+1.5
	baz=305							
TYC	Yuchr	2.26	307	eP		Pn	18 33 54.0	+1.4
	baz=312							
TYC				eS		Sn	18 34 21.9	+0.5
	baz=312							
TWK	Hsinying	2.27	289	eP		Pn	18 33 53.6	+0.7
	baz=278							
TWK				eS		Sn	18 34 23.4	+1.8
	baz=278			

H11S2	**WAKE ISLAND Hy**	**34.83**	**190**	T	T	19 22 25.5		
	baz=6.0,slow=76,SNR=150							
SONM	**Songino Array**	**41.17**	**290**	P	**P**	**18 46 33.9**	**+1.4**	
	0.8nm,0.7s,baz=58,slow=7.8,SNR=5.7							
PDAR	**Pinedale Array**	**50.67**	**68**	P	**P**	**18 47 46.4**	**-1.2**	
	0.6nm,0.5s,baz=313,slow=3.1,SNR=7.3							
KURK	**Kurchatov**	**53.95**	**308**	P	**P**	**18 48 12.9**	**+1.4**	
KURK				pmax	pmax			
	comp=Z,1.0nm,0.3s							
KURBB	**Kurchatov Arra**	**54.06**	**308**	P	**P**	**18 48 12.9**	**+0.6**	
	comp=Z,0.9nm,0.2s,baz=48,slow=7.4,SNR=6.6							
BVAR	**Borovoye Array**	**56.08**	**315**	P	**P**	**18 48 27.1**	**+0.2**	
	comp=Z,0.6nm,0.4s,baz=57,slow=8.1,SNR=3.8							
FINES	**FINESS Array B**	**62.78**	**343**	P	**P**	**18 49 12.3**	**-0.6**	
	comp=Z,1.8nm,0.8s,baz=35,slow=7.0,SNR=4.1							
TXAR	**Lajitas Array**	**63.45**	**76**	P	**P**	**18 49 17.1**	**-0.9**	
	comp=Z,1.6nm,0.7s,baz=307,slow=3.3,SNR=21							
TXAR				LR	LR	19 15 15.3		
	comp=Z,146nm,18.4s,baz=0.0,slow=35							
NOA	**NORSAR Array B**	**65.28**	**350**	P	**P**	**18 49 29.0**	**-0.4**	
	comp=Z,0.4nm,0.5s,baz=12,slow=6.4,SNR=3.4							
NOA	**NORSAR Array B**	**65.28**	**350**	P	**P**	**18 49 29.0**	**-0.4**	
NOA				pmax	pmax			
	comp=Z,1.0nm,0.6s							
CMAR	**Chiang Mai Arr**	**65.71**	**269**	P	**P**	**18 49 34.4**	**+1.6**	
	comp=Z,1.0nm,0.6s,baz=23,slow=7.0,SNR=5.1							
HFS	**Hagfors**	**65.89**	**349**	P	**P**	**18 49 32.6**	**-0.7**	
	comp=Z,0.5nm,0.4s,baz=90,slow=1.5,SNR=6.6							
EKA	**Eskdalemuir Ar**	**71.90**	**358**	P	**P**	**18 50 10.2**	**-0.5**	
	comp=Z,1.1nm,0.6s,baz=2.4,slow=5.1,SNR=3.8							
AKASG	**Malin Array Be**	**72.11**	**337**	P	**P**	**18 50 12.0**	**0.0**	
	comp=Z,0.4nm,0.4s,baz=25,slow=6.3,SNR=2.5							
AKASG	**Malin Array Be**	**72.11**	**337**	P	**P**	**18 50 12.0**	**0.0**	
WRA	**Warramunga Arr**	**79.93**	**216**	P	**P**	**18 50 57.0**	**+0.1**	
	comp=Z,0.7nm,0.8s,baz=31,slow=6.0,SNR=19							
ASAR	**Alice Springs**	**83.52**	**215**	P	**P**	**18 51 16.6**	**+0.9**	
	comp=Z,0.7nm,1.0s,baz=20,slow=5.5,SNR=7.5							
MAW	**Mawson**	**144.58**	**218**	PKP	**PKPab**	**18 58 21.6**	**+0.1**	
	comp=Z,3.6nm,0.7s,baz=102,slow=3.5,SNR=18							

IDC ***16*** *19:39:13.0±3.0,34°.66N×141°.25E, h0km, mb3.1/2, mb1 3.3/3, mb1mx3.0/62, mbtmp3.0/3, ML2.8/1, Error ellipse: s-maj=65.8km s-min=33.9km az=61.0*
ISCJB ***16*** *19:39:19.1±0.9,34°.63N±0°.06×140°.7E±0°.1, h60km±8km, mb3.2/2, Error ellipse: s-maj=17.5km s-min=9.2km az=161.1*
JMA ***16*** *19:39:19.4±0.2,34°.56N×140°.66E, h53km±3km, M2.3*
ISC 16 18:39:20.1±1.3, 34°.67N±0°.06×140°.7E±0°.1, h56km±11km, n10, σ2s02/14, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
BSO3	**Boso 3**	**0.18**	**319**	P		**Pn**	**18 39 28.5**	**-0.2**
BSO1	**Boso 1**	**0.27**	**93**	P		**Pn**	**18 39 28.4**	**-0.5**
BSO1				X			18 39 35.0	
BSO4	**Boso 4**	**0.41**	**321**	P		**Pn**	**18 39 31.4**	**+0.6**
BSO4				*eX*			18 39 40.1	
KTR	**Katsuura**	**0.55**	**330**	P		**Pn**	**18 39 32.9**	**+0.5**
KTR				S		**Sn**	**18 39 41.9**	**+0.6**
TATJ	**Tateyama 2**	**0.72**	**300**	P		**Pn**	**18 39 35.1**	**+0.7**
JHJ	**Hachijo jima 2**	**1.71**	**205**	Pn		**Pn**	**18 39 47.5**	**0.0**
	4.6nm,0.3s,baz=328,slow=19,SNR=8.1							
JHJ				Sn		**Sn**	**18 40 07.5**	**-0.8**
	26nm,0.3s,baz=111,slow=22,SNR=11							
MJAR	**Matsushiro Arr**	**2.73**	**314**	Pn		**Pn**	**18 40 02.7**	**+1.2**
	1.1nm,0.3s,baz=152,slow=13,SNR=9.6							
MJAR				Sn		**Sn**	**18 40 35.3**	**+1.9**
	1.1nm,0.3s,baz=155,slow=21,SNR=5.0							
MAT	**Matsushiro**	**2.73**	**314**	P		**Pn**	**18 39 59.2**	**-2.4**
MAT				*eS*		**Sn**	**18 40 28.7**	**-4.7**
WRA	**Warramunga Arr**	**54.64**	**187**	P		**P**	**18 48 42.4**	**-0.8**
	0.1nm,0.3s,baz=5.0,slow=7.6,SNR=6.4							
ASAR	**Alice Springs**	**58.37**	**187**	P		**P**	**18 49 11.8**	**+2.2**
	0.2nm,0.9s,baz=22,slow=12,SNR=3.9							

HEL 16 18:40:12.4±0.3, 67°.93N×20°.02E, h0km, ML1.5, Explosion, Sweden

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
LANU	**Lannavaara**	**0.75**	**80**	PG		Pg	18 40 26.2	-0.6
LANU				SG		Sg	18 40 36.4	-0.1
KIF	**Kilpisjarvi**	**1.12**	**15**	PN		Pn	18 40 36.0	+0.7
KIF				SN		Sn	18 40 52.2	+0.8
HEF	**Hetta**	**1.45**	**69**	PG		Pn	18 40 38.8	-1.0
HEF				MSG			18 40 56.0	
	comp=Z,4.3nm,0.2s							
HEF				SN		Sn	18 41 01.3	+1.9
TOF	**Tornio**	**2.51**	**136**	PN		Pn	18 40 54.0	-0.4
TOF				SB		Sn	18 41 26.0	+0.4
SGF	**Sodankyl**	**2.53**	**98**	PB		Pn	18 40 56.1	+1.5
	baz=279							
ARE0	**ARCESS Array S**	**2.57**	**49**	PB		Pn	18 40 56.7	+1.5
	baz=231							
ARE0				SG		Sb	18 41 30.6	-0.8
RNF	**Rovaniemi**	**2.68**	**117**	PB		Pn	18 40 58.3	+1.6
RNF				SG		Sb	18 41 33.0	-1.5
BURU	**Burvik**	**3.40**	**170**	PN		Pn	18 41 07.5	+0.8
UMAU	**Umeaa**	**4.07**	**176**	SN		Sn	18 42 02.4	-1.6
MSF	**Maaselka**	**4.09**	**115**	SG		Sb	18 42 17.1	+2.1
KU6	**Riekki**	**4.32**	**112**	PG		Pb	18 41 28.8	-0.3
KU6				SB		Sb	18 42 16.4	-5.3

NNC ***16*** *18:45:22.8±3.6,40°.93N×72°.33E, h22km±12km, mb2.9, mpv2.3, Error ellipse: s-maj=26.8km s-min=18.5km az=9.0*
KRNET ***16*** *18:45:23.3±0.1,41°.06N×72°.32E, h12km, mb2.1*
SOME ***16*** *18:45:24.0,40°.88N×72°.43E, h15km*
ISC 16 18:45:23.7±1.2, 41°.05N±0°.04×72°.34E±0°.03, h8km±12km, n15, σ0s95/28, 17C-11D, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
ARSB	**Arslanbob**	**0.56**	**60**	⇓*i*P		**Pg**	**18 45 34.1**	**-0.4**
ARSB				⇓*i*S		**Sg**	**18 45 43.1**	**+1.3**
	baz=61							
ARK	**Arkit**	**0.80**	**339**	⇑*e*P		**Pg**	**18 45 37.8**	**-1.3**
	baz=340							
ARK				⇑*e*S		**Sb**	**18 45 50.6**	**-0.4**
	baz=340							
TOKL	**Toktogul**	**0.98**	**24**	⇑*e*P		**Pg**	**18 45 41.8**	**-0.7**
	baz=25							
TOKL				⇑*i*S		**Sb**	**18 45 57.1**	**+1.1**
	baz=25							
MNAS	**Manas**	**1.44**	**5**	⇓*e*P		**Pn**	**18 45 49.4**	**-0.8**
	baz=6.0							
MNAS				⇓*e*S		**Sb**	**18 46 10.5**	**+1.0**
	baz=6.0							
MNAS	**Manas**	**1.44**	**5**	⇓Pn		**Pn**	**18 45 49.7**	**-0.6**
	0.3nm,0.2s							
MNAS				⇑Pg		**Pg**	**18 45 53.3**	**+2.0**
	1.4nm,0.5s							
MNAS				⇓Sn		**Sn**	**18 46 09.9**	**+0.4**
	6.7nm,0.3s							
MNAS				⇑Lg		Lg	18 46 13.7	
	6.7nm,0.3s							
AML	**Almayashu**	**1.48**	**43**	⇑*i*P		**Pb**	**18 45 51.4**	**-0.3**
	baz=43							
AML				⇑*i*S		**Sb**	**18 46 11.7**	**+0.8**
	baz=43							
BTK	**Batken**	**1.52**	**230**	⇑*i*P		**Pg**	**18 45 52.8**	**-0.1**
	baz=229							
BTK				⇑*i*S		**Sg**	**18 46 14.2**	**+1.6**
	baz=229							
MRKS	**Merke**	**1.82**	**21**	*e*P		**Pg**	**18 45 58.4**	**-0.2**
	3.8nm,0.3s							
MRKS				*e*S		**Sg**	**18 46 23.0**	**+0.8**
	30nm,0.3s							
EKS2	**Erkin-Say**	**1.94**	**33**	⇑*i*P		**Pb**	**18 45 59.7**	**+0.4**
	baz=34							
EKS2				⇑*i*S		**Sg**	**18 46 26.0**	**0.0**
	baz=34							
UCH	**Uchtor**	**2.01**	**53**	⇑*i*P		**Pb**	**18 46 00.7**	**0.0**
	baz=54							
UCH				⇑*i*S		**Sg**	**18 46 28.2**	**-0.1**
	baz=54							
IUG	**Iuzhnay**	**2.05**	**303**	*e*P		**Pg**	**18 46 02.4**	**-0.6**
	7.1nm,0.2s							
IUG				*e*S		**Sg**	**18 46 29.8**	**+0.2**
	23nm,0.2s							
AAK	**Ala-Archa**	**2.26**	**45**	⇓Pg		**Pg**	**18 46 06.0**	**-1.0**
	1.9nm,0.7s							
AAK				⇑Lg		Lg	18 46 36.6	
	5.5nm,0.5s							
KZA	**Kyzart**	**2.41**	**64**	⇑*i*P		**Pb**	**18 46 05.7**	**-1.9**
	baz=64							
KZA				⇑*i*S		**Sb**	**18 46 38.3**	**+0.7**
	baz=64							
KK31	**Karatay Array**	**2.46**	**327**	⇓Pg		**Pb**	**18 46 07.8**	**-0.4**
	0.2nm,0.2s,baz=129,slow=12,SNR=7.5							
KK31				⇓Lg		Lg	18 46 42.8	
	1.4nm,0.3s,baz=144,slow=28,SNR=7.4							
TKM2	**Tokmak 2**	**3.07**	**51**	⇓Pg		**Pb**	**18 46 19.2**	**+0.7**
	2.1nm,0.8s							
TKM2				⇓Lg		Lg	18 47 00.7	
	2.8nm,0.5s							

IDC ***16*** *19:01:45.0±1.5, 17°.79S×176°.02W, h0km, mb4.2/5, mb1 4.4/6, mb1mx3.9/33, mbtmp4.2/6, ML4.4/1, Error ellipse: s-maj=50.3km s-min=24.9km az=137.0*
ISCJB ***16*** *19:01:47.6±0.9, 17°.9S±0°.2×176°.0W±0°.2, h33km, mb4.2/6, Error ellipse: s-maj=35.0km s-min=14.5km az=139.2*
NEIC ***16*** *19:01:49.8±0.7, 17°.82S×175°.99W, h35km, mb4.2/1, Error ellipse: s-maj=24.9km s-min=10.8km az=138.0*
ISC 16 19:01:49.9±1.1, 17°.8S±0°.2×176°.0W±0°.2, h35km, n7, σ0s33/7, mb4.1/6, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
AFI	**Afiamalu**	**5.61**	**47**	Pn		**Pn**	**19 03 10.9**	**0.0**
	11nm,0.3s,baz=212,slow=15,SNR=5.8							
AFI				Sn		Sn	19 04 03.1	-11
	13nm,0.3s,baz=263,slow=17,SNR=6.3							
URZ	**Urewera**	**21.24**	**195**	P		**P**	**19 06 32.7**	**-0.1**
	2.2nm,0.3s,baz=90,slow=15,SNR=6.5							
WRAB	**Tennant Creek**	**46.91**	**259**	*e*P		**P**	**19 10 16.9**	**-0.5**
	0.8nm,0.3s							
WRA	**Warramunga Arr**	**46.92**	**259**	P		**P**	**19 10 17.4**	**0.0**
	2.4nm,0.7s,baz=96,slow=6.8,SNR=63							
ASAR	**Alice Springs**	**47.04**	**254**	P		**P**	**19 10 18.7**	**+0.3**
	11nm,0.6s,baz=90,slow=9.4,SNR=359							
FITZ	**Fitzroy Crossi**	**55.33**	**260**	P		**P**	**19 11 20.3**	**-0.2**
	0.6nm,0.3s,baz=89,slow=8.3,SNR=14							
ILAR	**Eielson Array**	**85.30**	**12**	P		**P**	**19 14 22.7**	**0.0**
	0.3nm,0.5s,baz=210,slow=5.5,SNR=5.2							

KRNET ***16*** *19:02:06.5±0.1, 40°.93N×72°.27E, h16km, mb2.2*
NNC ***16*** *19:02:07.2±2.8, 40°.99N×72°.21E, h0km, mb2.8, mpv2.5, Error ellipse: s-maj=22.9km s-min=11.4km az=13.0*
SOME ***16*** *19:02:09.4, 40°.95N×72°.38E, h10km*
ISC 16 19:02:08.2±1.9, 41°.01N±0°.09×72°.30E±0°.03, h9km±11km, n19, σ1s02/35, 19C-10D, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
ARSB	**Arslanbob**	**0.60**	**58**	⇑*i*P		**Pg**	**19 02 19.7**	**-0.1**
ARSB				⇑*i*S		**Sg**	**19 02 28.7**	**+0.9**
	baz=53							
ARK	**Arkit**	**0.83**	**342**	⇓*i*P		**Pg**	**19 02 23.3**	**-0.8**
	baz=346							
ARK				⇓*e*S		**Sb**	**19 02 36.1**	**-0.1**
	baz=346							
TOKL	**Toktogul**	**1.02**	**25**	⇑*i*P		**Pg**	**19 02 27.5**	**-0.3**
	baz=24							
TOKL				⇑*e*S		**Sn**	**19 02 43.3**	**-0.1**
	baz=24							
MNAS	**Manas**	**1.48**	**6**	⇑*e*P		**Pn**	**19 02 35.3**	**+0.1**
	baz=7.0							
MNAS				⇑*e*S		**Sg**	**19 02 56.4**	**+0.5**
MNAS	**Manas**	**1.48**	**6**	⇑P		**Pn**	**19 02 35.2**	**-0.1**
	0.8nm,0.3s							
MNAS				⇑S		**Sg**	**19 02 57.0**	**+1.1**
	6.0nm,0.3s							
AML	**Almayashu**	**1.53**	**43**	⇓*i*P		**Pb**	**19 02 37.3**	**+0.3**
	baz=41							
AML				⇓*i*S		**Sg**	**19 02 58.2**	**+0.7**
	baz=41							
MRKS	**Merke**	**1.87**	**21**	*e*P		**Pg**	**19 02 43.8**	**-0.1**
	5.7nm,0.4s							
MRKS				*e*S		**Sg**	**19 03 08.9**	**+0.7**
	22nm,0.3s							
EKS2	**Erkin-Say**	**1.98**	**33**	⇑*i*P		**Pb**	**19 02 45.2**	**+0.6**
	baz=33							
EKS2				⇑*i*S		**Sg**	**19 03 12.7**	**+0.7**
	baz=33							
IUG	**Iuzhnay**	**2.05**	**304**	*e*P		**Pg**	**19 02 47.4**	**-0.1**
	7.3nm,0.2s							
IUG				*e*S		**Sg**	**19 03 15.1**	**+1.1**
	33nm,0.2s							
UCH	**Uchtor**	**2.06**	**53**	⇓*i*P		**Pb**	**19 02 46.2**	**+0.2**
	baz=52							
UCH				⇓*i*S		**Sg**	**19 03 15.4**	**+1.1**
	baz=52							
AAK	**Ala-Archa**	**2.31**	**45**	⇓*i*P		**Pb**	**19 02 49.9**	**-0.2**
	baz=44							
AAK				⇓*i*S		**Sg**	**19 03 21.2**	**-1.1**
	baz=44							
AAK	**Ala-Archa**	**2.31**	**45**	⇑Pg		**Pb**	**19 02 50.5**	**+0.4**
	2.2nm,0.5s							
KZA	**Kyzart**	**2.46**	**63**	⇑*i*P		**Pb**	**19 02 52.5**	**-0.3**
	baz=62							
KZA				⇑*i*S		**Sg**	**19 03 26.0**	**-1.1**
	baz=62							
KK31	**Karatay Array**	**2.48**	**328**	⇓Pg		**Pb**	**19 02 52.1**	**-0.9**
	0.5nm,0.2s,baz=157,slow=17,SNR=7.0							
KK31				⇑Lg		Lg	19 03 24.2	
	1.3nm,0.3s,baz=146,slow=29,SNR=6.8							
KBK	**Karagaybulak**	**2.57**	**49**	⇑*i*P		**Pb**	**19 02 53.7**	**-0.9**
	baz=48							
KBK				⇑*i*S		**Sb**	**19 03 27.8**	**+1.4**
	baz=48							
USP	**Ospenovka**	**2.79**	**35**	⇑*i*P		**Pb**	**19 02 56.0**	**-2.2**
	baz=35							
USP				⇑*i*S		**Sb**	**19 03 32.3**	**-0.1**
	baz=35							
TKM2	**Tokmak 2**	**3.11**	**51**	⇓Pg		**Pb**	**19 03 05.8**	**+2.0**
	1.2nm,0.5s							
TKM2				⇑Lg		Lg	19 03 45.4	
	3.1nm,0.5s							
KST	**Kastek**	**3.40**	**52**	*e*P		**Pg**	**19 03 11.9**	**-1.4**
	1.5nm,0.1s							
KST				*e*S		**Sg**	**19 03 57.3**	**-0.1**
	3.6nm,0.9s							
DGS	**Degeres**	**3.41**	**48**	*e*P		**Pb**	**19 03 11.2**	**+2.3**
	1.3nm,0.5s							
DGS				*e*S		**Sg**	**19 03 56.1**	**-1.6**
	3.9nm,0.3s							

NNC 16 19:15:39.4±3.9, 38°.91N×73°.20E, h0km, mb3.5, mpv3.2, 3C-5D, Error ellipse: s-maj=28.4km s-min=23.5km az=177.0, Tajikistan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
MNAS	**Manas**	**3.61**	**352**	⇑P		Pn	19 16 37.6	+0.8
	5.0nm,0.3s							
MNAS				⇓S		Sn	19 17 21.9	+1.7
	7.5nm,0.4s							
AAK	**Ala-Archa**	**3.85**	**14**	⇓P		Pn	19 16 40.8	+0.8
	3.3nm,0.4s							
AAK				⇓S		Sn	19 17 28.4	+2.4
	5.9nm,0.5s							
TKM2	**Tokmak 2**	**4.40**	**24**	⇓P		Pn	19 16 46.4	-1.2
	1.5nm,0.8s							
TKM2				⇑S		Sn	19 17 38.9	-0.8
	2.7nm,0.8s							
KK31	**Karatay Array**	**4.65**	**335**	⇑P		Pn	19 16 51.0	0.0
	0.5nm,0.2s,baz=151,slow=12,SNR=19							
KK31				⇓S		Sn	19 17 45.4	-0.3
	2.8nm,0.4s,baz=162,slow=28,SNR=13							

IDC 16 19:18:55.1±11.0, 4°.89S×12°.21W, h0km, mb3.9/3, mb1 4.1/3, mb1mx3.5/41, mbtmp3.9/3, MS4.0/4, Ms1 4.0/4, ms1mx3.8/49, Error ellipse: s-maj=390.3km s-min=103.3km az=149.0, North of Ascension Island

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
DBIC	**Dimbokro**	**13.63**	**33**	LR		LR	19 26 32.4	
	comp=Z,467nm,20.1s,baz=173,slow=34							
BBTS	**Babate**	**19.89**	**348**	LR		LR	19 30 37.7	
	comp=Z,188nm,19.3s,baz=194,slow=35							
TORD	**Torodi Ar. Bea**	**22.63**	**37**	P		P	19 23 57.9	0.0
	4.0nm,0.9s,baz=217,slow=11,SNR=14							
TORD				LR		LR	19 31 51.4	
	comp=Z,560nm,20.0s,baz=220,slow=34							
RCBR	**Riachuelo**	**23.61**	**267**	LR		LR	19 31 13.0	
	comp=Z,700nm,21.0s,baz=111,slow=31							
GERES	**GERESS Array B**	**58.10**	**20**	P		P	19 28 50.4	-0.1
	1.1nm,0.8s,baz=187,slow=6.9,SNR=9.2							
AKASG	**Malin Array Be**	**65.82**	**27**	P		P	19 29 42.2	0.0
	0.3nm,0.2s,baz=229,slow=8.0,SNR=7.6							

LJU 16 19:24:47.1, 46°.15N×14°.84E, h5km, ML0.4, 1C-1D, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
VNDS	**Vrh nad Dolski**	**0.11**	**245**	⇑*i*Pg		Pg	19 24 49.4	+0.1
VNDS				*i* Sg		Sg	19 24 51.1	+0.2
	comp=Z,4.0nm,0.1s							
PDKS	**Podkum**	**0.14**	**127**	⇓*i*Pg		Pg	19 24 50.1	+0.1
PDKS				*i* Sg		Sg	19 24 52.1	+0.3
	comp=Z,6.0nm,0.1s							
MOZS	**Mozjanca**	**0.31**	**298**	*i* Pg		Pg	19 24 53.3	+0.1
MOZS				*i* Sg		Sg	19 24 57.8	+0.4

NIED ***16*** *19:26:00,40°.30N×143°.10E, h20km, Mw6.7 Best double couple: M0 1.07000×10^19 NP1:φs168.00000°, δ16.00000°, λ53.00000°. NP2:φs26.00000°, δ77.00000°, λ100.00000°.*
JMA ***16*** *19:26:35.8±0.3,40°.26N×143°.09E, h7km±3km, M6.6*
JMA Felt IV J1.
IDC ***16*** *19:26:35.8±0.3,40°.30N×142°.88E, h0km, mb5.3/33, mb1 5.4/37, mb1mx5.3/42, mbtmp5.3/37, ML5.1/4, MS6.6/40, Ms1 6.6/40, ms1mx6.5/43, Error ellipse: s-maj=10.2km s-min=6.3km az=92.0*
ISCJB ***16*** *19:26:38.4±0.5,40°.28N±0°.01×142°.87E±0°.01, h26km±3km, mb6.0/663, MS6.7/645, Error ellipse: s-maj=2.4km s-min=1.6km az=155.2*
BJI ***16*** *19:26:39.8,40°.30N×142°.70E, h30km, mb5.9/71, mB6.5/68, Ms6.9/94, Ms7 6.9/86*
MOS ***16*** *19:26:39.7±0.9,40°.36N×142°.82E, h35km, mb6.2/159, MS6.7/95, Error ellipse: s-maj=5.8km s-min=4.1km az=93.1*
MOS Felt (II) at Yuzhno-Kuril'sk.
NEIC ***16*** *19:26:40.3±0.1,40°.27N×142°.78E, h30km, mb6.1/299, ME6.9, MS6.5/299, MW6.7, MW6.7, MW6.7, Error ellipse: s-maj=2.4km s-min=1.8km az=142.0, Moment Tensor Solution. s12 Moment tensor: Scale 10^19Nm; Mrr0.12; Mθθ-0.05; Mφφ-0.08; Mrθ0.51; Mθφ-0.15; Mφr1.19; Best double couple: M0 1.30000×10^19 NP1:φs254.00000°, δ5.00000°, λ141.00000°. NP2:φs23.00000°, δ87.00000°, λ86.00000°. Principal axes: T 1.2800, Plg48.0000°, Azm289.0000°; N 0.0600, Plg4.0000°, Azm23.0000°; P -1.3400, Plg41.0000°, Azm117.0000°; Broadband fault plane solution: P waves. NP1:φs273.00000°, δ31.00000°, λ161.00000°. NP2:φs20.00000°, δ80.00000°, λ60.00000°. Principal axes: T Plg47.0000°, Azm259.0000°; N Plg0.0000°, Azm0.0000°; P Plg29.0000°, Azm134.0000°; Complex earthquake, with at least two other events occurring about 5 and 8 seconds after the onset observed on broadband displacement seismograms. Depth from synthetics of broadband displacement seismograms based on averaged depth of 3 events. Energy computed from BB mechanism.*
NEIC Felt [III] at Misawa. Also felt at Ichinoseki, Narita and Tokyo. Felt at Sapporo, Hokkaido. Recorded [4 JMA] in Iwate, Honshu.
GCMT ***16*** *19:26:41.0±0.0,40°.20N×143°.22E, h22km, MW6.7/148, Moment Tensor Solution. s145,c358; s148,c662; Duration: 5s3 Moment tensor: Scale 10^19Nm; Mrr0.71±.00; Mθθ-0.00±.00; Mφφ-0.71±.00; Mrθ0.43±.01; Mθφ-0.13±.00; Mφr0.94±.01; Best double couple: M0 1.26300×10^19 NP1:φs22.00000°, δ73.00000°, λ97.00000°. NP2:φs179.00000°, δ19.00000°, λ68.00000°. Principal axes: T 1.2680, Plg62.0000°, Azm303.0000°; N -0.0090, Plg7.0000°, Azm200.0000°; P -1.2580, Plg27.0000°, Azm106.0000°; nsta1 refers to body waves, cutoff=50s. nsta2 refers to surface/mantle waves, cutoff=50s.*
NEIC ***16*** *19:26:42.0±0.0,40°.29N×143°.25E, h15km, Moment Tensor Solution. s44 Moment tensor: Scale 10^19Nm; Mrr0.72; Mθθ-0.04; Mφφ-0.67; Mrθ0.44; Mθφ-0.20; Mφr1.02; Best double couple: M0 1.30000×10^19 NP1:φs22.00000°, δ73.00000°, λ93.00000°. NP2:φs190.00000°, δ17.00000°, λ79.00000°. Principal axes: T 1.3200, Plg61.0000°, Azm297.0000°; N 0.0100, Plg3.0000°, Azm201.0000°; P -1.3300, Plg28.0000°, Azm109.0000°;*
NEIC ***16*** *19:27:06.3±0.0,40°.21N×143°.01E, h26km, Moment Tensor Solution. s99 Moment tensor: Scale 10^19Nm; Mrr0.78; Mθθ-0.05; Mφφ-0.73; Mrθ0.66; Mθφ-0.12; Mφr1.00; Best double couple: M0 1.40000×10^19 NP1:φs176.00000°, δ19.00000°, λ59.00000°. NP2:φs29.00000°, δ74.00000°, λ100.00000°. Principal axes: T 1.4800, Plg60.0000°, Azm313.0000°; N -0.1200, Plg9.0000°, Azm206.0000°; P -1.3600, Plg29.0000°, Azm111.0000°;*
ISC 16 19:26:40.7±0.2, 40°.30N±0°.02×142°.92E±0°.02, h30km±1km, h29km:pP-P, n2261, σ1s71/2382, mb6.1/683, MS6.6/647, 138C-61D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
JTH	**Tanohata**	**0.89**	**247**	⇓P		**Pn**	**19 26 54.9**	**-2.3**
JTH				S		**Sn**	**19 27 08.4**	**-0.7**
JANG	**Nango**	**1.08**	**275**	⇓P		**Pn**	**19 26 58.3**	**-1.5**
MIYJ	**Miyakonagasawa**	**1.11**	**230**	⇓P		**Pn**	**19 26 57.9**	**-2.4**
MIYJ				S		**Sn**	**19 27 14.6**	**0.0**
JKZ	**Kuzumaki**	**1.26**	**256**	⇓P		**Pn**	**19 27 00.7**	**-1.7**
JTM	**Tenmabayashi**	**1.50**	**290**	⇓P		**Pn**	**19 27 05.2**	**-0.4**
JTM				S		**Sb**	**19 27 26.4**	**-0.1**
JOM	**Ohasama**	**1.50**	**237**	⇓P		**Pn**	**19 27 04.2**	**-1.4**
ERM	**Erimo**	**1.73**	**6**	*d*iP		**Pn**	**19 27 08.3**	**-0.4**
ERM				pmax	pmax			
	comp=Z,2μm,1.2s							
ERM	**Erimo**	**1.73**	**6**	*e*Pn		**Pn**	**19 27 08.1**	**-0.6**
JEM	**Erimo**	**1.73**	**6**	⇑P		**Pn**	**19 27 08.2**	**-0.5**
JAH	**Hinai**	**1.75**	**267**	⇓P		**Pn**	**19 27 08.9**	**-0.2**
JAH				S		**Sb**	**19 27 33.1**	**-0.8**
JOT	**Ohata**	**1.79**	**308**	⇓P		**

JJN	**Nakama**	**4.90**	**231**	⇑P		**Pn**	**19 27 53.9**	**+1.5**
JGK	**Kuni**	**5.02**	**223**	P		**Pn**	**19 27 55.3**	**+1.2**
MAJO	**Matsushiro**	**5.27**	**226**	*e*P		**Pn**	**19 27 58.7**	**+1.2**
MAJO	**Matsushiro**	**5.27**	**226**	*e*Pn		**Pn**	**19 27 58.1**	**+0.7**
MAT	**Matsushiro**	**5.27**	**226**	P		**Pn**	**19 27 58.5**	**+1.0**
MAT				S		**Sn**	**19 29 00.0**	**+2.8**
MAT	**Matsushiro**	**5.27**	**226**	P		**Pn**	**19 27 58.5**	**+1.0**
MJAR	**Matsushiro Arr**	**5.27**	**226**	Pn		**Pn**	**19 27 58.5**	**+1.0**
	comp=E,44nm,0.3s,baz=30,slow=13,SNR=307							
MJAR				Sn		**Sb**	**19 29 15.9**	**+1.0**
	baz=48,slow=16,SNR=2.5							
MJB9	**Matsu-Tunnel**	**5.27**	**226**	*e*Pn		**Pn**	**19 27 58.0**	**+0.6**
I30JP	**ISUMI INFRASON**	**5.39**	**203**	Pn		**Pn**	**19 28 00.0**	**+0.9**
	baz=32,slow=12							
JOD2	**Odawara 2**	**5.87**	**212**	P		**Pn**	**19 28 03.7**	**-2.0**
JGN	**Niukaw**	**6.00**	**229**	P		**Pn**	**19 28 09.0**	**+1.4**
KUR	**Kuril'sk**	**6.13**	**35***d*	*i*P		**Pn**	**19 28 07.4**	**-1.8**
KUR				*i* S		**Sn**	**19 29 16.3**	**-2.0**
KUR				pmax	pmax			
	comp=Z,6μm,0.6s							
KUR				pmax	pmax			
	comp=N,702nm,0.3s							
KUR				pmax	pmax			
	comp=Z,52μm,3.6s							
KUR				pmax	pmax			
	comp=N,51μm,3.7s							
KUR				pmax	pmax			
	comp=E,27μm,2.7s							
KUR				smax	smax			
	comp=N,11μm,0.7s							
KUR				smax	smax			
	comp=E,6μm,0.6s							
KUR				smax	smax			
	comp=E,168μm,4.2s							
KUR				smax	smax			
	comp=N,137μm,3.5s							
KUR				MLR	MLR			
	comp=Z,507μm,14.0s							
KUR				MLR	MLR			
	comp=N,231μm,13.0s							
KUR				MLR	MLR			
	comp=E,359μm,16.0s							
JNY	**Yasuok**	**6.35**	**221**	P		**Pn**	**19 28 12.8**	**+0.4**
JIZS	**Izushimoda**	**6.43**	**211**	P		**Pn**	**19 28 11.4**	**-2.0**
YSS	**Yuzh-Sakhalins**	**6.66**	**359**	⇑*i*P		**Pn**	**19 28 16.6**	**+0.2**
YSS				*e*S		**Sn**	**19 29 30.5**	**-0.7**
YSS				pmax	pmax			
	comp=Z,460nm,0.9s							
YSS				pmax	pmax			
	comp=Z,9μm,4.9s							
YSS				smax	smax			
	comp=N,2μm,1.3s							
YSS				smax	smax			
	comp=E,570nm,1.6s							
YSS				MLR	MLR			
	comp=Z,861μm,14.0s							
YSS				MLR	MLR			
	comp=N,669μm,15.0s							
YSS				MLR	MLR			
	comp=E,185μm,11.0s							
YSS	**Yuzh-Sakhalins**	**6.66**	**359**	*e*Pn		**Pn**	**19 28 15.9**	**-0.5**
INU	**Inuyama**	**6.80**	**225**	*e*Pn		**Pn**	**19 28 18.4**	**-0.1**
JHJ2	**Mitsune**	**7.59**	**200**	*e*Pn		**Pn**	**19 28 27.3**	**-2.0**
JHJ	**Hachijo jima 2**	**7.59**	**200**	Pn		**Pn**	**19 28 26.5**	**-2.8**
	comp=E,90nm,0.3s,baz=30,slow=3.8,SNR=41							
JHJ				Sn		**Sn**	**19 29 49.6**	**-4.8**
	comp=E,154nm,0.3s,baz=66,slow=20,SNR=2.3							
JHJ				LR	LR		19 31 40.2	
	comp=E,193μm,20.9s,baz=48,slow=40							
VLA	**Vladivostok**	**8.73**	**292**	⇑*i*P		**Pn**	**19 28 46.6**	**+1.8**
USRK	**Ussuriysk Ar.**	**9.00**	**299**	Pn		**Pn**	**19 28 51.1**	**+2.6**
	comp=E,3.3nm,0.3s,baz=102,slow=14,SNR=106							
USRK				LR		LR	19 32 34.0	
	comp=E,624μm,19.6s,baz=83,slow=40							
MSHR	**Mys Shultsa**	**9.13**	**288**	*d*iP		**Pn**	**19 28 52.9**	**+2.5**
JHS	**Saijyo**	**9.40**	**239**	P		**Pn**	**19 28 55.6**	**+1.4**
HABR	**Khabarovsk**	**9.92**	**328**	*c i*P		**Pn**	**19 28 58.3**	**-2.9**
HABR				*e*S		**Sn**	**19 30 47.5**	**-4.0**
HABR				pmax	pmax			
	comp=E,35nm,1.4s							
HABR				pmax	pmax			
	comp=N,34nm,1.4s							
HABR				pmax	pmax			
	comp=Z,50nm,1.4s							
HABR				MLR	MLR			
	comp=E,481μm,14.0s							
HABR				MLR	MLR			
	comp=N,163μm,16.0s							
HABR				MLR	MLR			
	comp=Z,564μm,16.0s							
TYV	**Tymovskoe**	**10.57**	**359**	*e*P		Pn	19 29 19.0	+8.9
TYV				*e*S		Sn	19 31 17.5	+10
TYV				pmax	pmax			
	comp=Z,21μm,12.9s							
TYV				smax	smax			
	comp=E,89μm,11.9s							
MDJ	**Mudanjiang**	**10.75**	**298**	P		**Pn**	**19 29 14.8**	**+2.2**
MDJ				S		**Sn**	**19 31 14.3**	**+2.4**
MDJ				PcP		**PcP**	**19 35 13.1**	**+0.3**
MDJ				ScP		**ScP**	**19 38 44.6**	**+1.6**
MDJ				ScS		**ScS**	**19 42 17.6**	**-0.4**
MDJ				pmax	pmax			
	comp=E,150nm,1.1s							
MDJ				pmax	pmax			
	comp=E,16μm,6.1s							
MDJ				LR	LR			
	comp=E,386μm,14.2s							
MDJ				LR	LR			
	comp=E,513μm,16.4s							
MDJ				LR	LR			
	comp=E,885μm,16.0s							
MDJ	**Mudanjiang**	**10.75**	**298**	*e*Pn		**Pn**	**19 29 13.7**	**+1.1**
JNU	**Nakatsue**	**12.02**	**237**	Pn		**Pn**	**19 29 29.6**	**-0.5**
	comp=E,2.2nm,0.3s,baz=61,slow=8.3,SNR=23							
JNU				Sn		Sn	19 32 12.1	+29
	comp=E,0.7nm,0.3s,baz=220,slow=16,SNR=1.3							
JNU				LR		LR	19 34 45.2	
	comp=E,2μm,18.1s,baz=63,slow=41							
JNU	**Nakatsue**	**12.02**	**237**	*e*Pn		**Pn**	**19 29 28.5**	**-1.6**
JNU				Sn		Sn	19 32 12.1	+29
KSRS	**Korea Array**	**12.03**	**261**	Pn		**Pn**	**19 29 31.6**	**+1.5**
	comp=E,1.4nm,0.3s,baz=70,slow=11,SNR=30							
KSRS				LR		LR	19 34 13.2	
	comp=E,489μm,18.6s,baz=72,slow=38							
KS01	**Wonju Array Si**	**12.05**	**261**	*e*Pn		**Pn**	**19 29 30.3**	**-0.1**
KS15	**Wonju Array Si**	**12.06**	**261**	*e*Pn		**Pn**	**19 29 30.9**	**+0.3**
KSAR	**Wonju Array Be**	**12.06**	**261**	P		**Pn**	**19 29 31.7**	**+1.1**
KSAR	**Wonju Array Be**	**12.06**	**261**	Pn		**Pn**	**19 29 31.6**	**+1.1**
NKL	**Nikolayevsk**	**12.95**	**354**	*e*P		**Pn**	**19 29 42.0**	**-0.6**
NKL				pmax	pmax			
	comp=N,4μm,3.0s							
NKL				pmax	pmax			
	comp=Z,6μm,3.0s							
NKL				pmax	pmax			
	comp=N,16μm,8.0s							
NKL				pmax	pmax			
	comp=Z,16μm,8.0s							
INCN	**Inchon**	**13.00**	**263**	*e*Pn		**Pn**	**19 29 43.1**	**-0.2**
CBIJ	**Chichi jima**	**13.18**	**183**	*e*Pn		**Pn**	**19 29 44.8**	**-1.1**
OKH	**Okha**	**13.26**	**0**‖	*e*P		**Pn**	**19 29 47.5**	**+0.7**
OKH				*e*S		**Sn**	**19 32 09.6**	**-3.4**
OKH				pmax	pmax			
	comp=Z,11μm,14.0s							
OKH				smax	smax			
	comp=E,13μm,14.0s							
OKH				MLR	MLR			
	comp=Z,297μm,18.0s							
CN2	**Changchun**	**13.45**	**291**	*e*P		**Pn**	**19 29 49.8**	**+0.3**
CN2				*e*pP		P	19 29 57.3	-1.1
CN2				*e*S		**Sn**	**19 32 15.8**	**-2.1**
CN2				pmax	pmax			
	comp=Z,60nm,1.2s							
CN2				pmax	pmax			
	comp=Z,21μm,9.0s							
SKR	**Severo-Kuril's**	**13.89**	**37**	*e*P		**Pn**	**19 29 53.0**	**-2.4**
SKR				*e*S		**Sn**	**19 32 22.9**	**-5.5**
SKR				pmax	pmax			
	comp=Z,861nm,0.7s							
SKR				pmax	pmax			
	comp=Z,7μm,7.3s							
SKR				MLR	MLR			
	comp=Z,177μm,19.0s							
SNY	**Shenyang**	**14.68**	**282**	⇑P		**Pn**	**19 30 06.0**	**-0.2**
SNY				pmax	pmax			
	comp=Z,160nm,2.1s							
SNY				pmax	pmax			
	comp=Z,73μm,11.4s							
SNY				LR	LR			
	comp=Z,502μm,16.6s							
SNY				LR	LR			
	comp=Z,714μm,17.2s							
PEA0	**Petropavlovsk-**	**16.29**	**33**	*e*Pn		**Pn**	**19 30 20.5**	**-6.7**
PEA0B	**Petropavlovsk-**	**16.29**	**33**	*e*Pn		**Pn**	**19 30 21.2**	**-6.0**
	comp=Z,275nm,1.0s							
PETK	**Petropavlovsk-**	**16.29**	**33**	Pn		**Pn**	**19 30 21.1**	**-6.1**
	comp=Z,0.8nm,0.3s,baz=196,slow=9.8,SNR=16							
PETK				Sn		**S**	**19 33 33.5**	**-5.5**
	comp=Z,0.7nm,0.3s,baz=246,slow=14,SNR=2.4							
PETK				LR	LR		19 37 37.1	
	comp=Z,165μm,19.0s,baz=221,slow=40							
DL2	**Dalian**	**16.47**	**272**	⇑*i*P		**Pn**	**19 30 29.1**	**-0.5**
DL2				S		**Sn**	**19 33 29.5**	**-1.9**
DL2				pmax	pmax			
	comp=Z,340nm,1.3s							
DL2				pmax	pmax			
	comp=Z,16μm,8.8s							
DL2				LR	LR			
	comp=Z,163μm,14.3s							
DL2				LR	LR			
	comp=Z,82μm,15.9s							
DL2				LR	LR			
	comp=Z,193μm,19.8s							
PET	**Petropavlovsk**	**16.64**	**35**	*d i*P		**Pn**	**19 30 31.6**	**0.0**
PET				pmax	pmax			
	comp=Z,98nm,1.5s							
PET				pmax	pmax			
	comp=Z,2μm,3.9s							
PET				MLR	MLR			
	comp=Z,168μm,19.0s							
PET				MLR	MLR			
	comp=Z,148μm,19.0s							
PET	**Petropavlovsk**	**16.64**	**35**	*e*Pn		**Pn**	**19 30 27.8**	**-3.9**
	comp=Z,575nm,1.2s							
JOW	**Kunigami**	**18.11**	**227**	P		**Pn**	**19 30 47.6**	**-2.5**
	comp=Z,4.4nm,0.3s,baz=40,slow=11,SNR=8.9							
JOW				S		**S**	**19 34 14.9**	**-1.4**
	comp=Z,1.3nm,0.3s,baz=75,slow=19,SNR=3.2							
JOW	**Kunigami**	**18.11**	**227**	*e*Pn		**Pn**	**19 30 45.1**	**-5.0**
	comp=Z,1μm,1.3s							
JOW				S		**S**	**19 34 14.9**	**-1.4**
HIA	**Hailar**	**18.68**	**306**	*e*P		**P**	**19 30 52.9**	**-3.5**
HIA				pmax	pmax			
	comp=Z,3μm,1.9s							
HIA	**Hailar**	**18.68**	**306**	*e*P		**P**	**19 30 52.9**	**-3.5**
	comp=Z,3μm,1.9s							
MA2	**Magadan**	**19.92**	**12**	P		**P**	**19 31 07.7**	**-2.1**
	comp=Z,3.5nm,0.3s,baz=201,slow=11,SNR=42							
MA2				S		**Sn**	**19 34 54.5**	**0.0**
	comp=Z,0.6nm,0.3s,baz=252,slow=20,SNR=1.7							
MA2				LR		LR	19 39 41.3	
	comp=Z,27μm,20.6s,baz=194,slow=39							
CLNS	**Chul'man**	**20.30**	**331**	*e*P		**P**	**19 31 12.4**	**-1.6**
CLNS				*e*PP		**sP**	**19 31 26.3**	**+0.6**
CLNS				*e*			19 31 33.9	
CLNS				*e*			19 35 41.6	
CLNS				pmax	pmax			
	comp=Z,359nm,1.0s							
CLNS				pmax	pmax			
	comp=N,214nm,1.3s							
CLNS				pmax	pmax			
	comp=E,209nm,1.5s							
CLNS				pmax	pmax			
	comp=E,322nm,0.8s							
CLNS				pmax	pmax			
	comp=Z,570nm,1.2s							
CLNS				pmax	pmax			
	comp=N,1μm,1.2s							
CLNS				MLR	MLR			
	comp=Z,223μm,17.0s							
CLNS				MLR	MLR			
	comp=E,187μm,15.0s							
CLNS				MLR	MLR			
	comp=N,113μm,12.0s							
BJI	**Beijing**	**20.42**	**278**	P		**P**	**19 31 12.3**	**-3.1**
BJI				S		**S**	**19 34 53.0**	**-9.5**
BJI				LR	LR			
	comp=N,149μm,13.4s							
BJI				LR	LR			
	comp=N,303μm,17.4s							
BJI				LR	LR			
	comp=N,238μm,19.2s							
BJT	**Baijiatuau**	**20.43**	**278**	*e*P		**P**	**19 31 12.7**	**-2.8**
BJT				pmax	pmax			
	comp=Z,1μm,1.1s							
BJT				MLR	MLR			
	comp=Z,365μm,19.0s							
BJT	**Baijiatuau**	**20.43**	**278**	*e*P		**P**	**19 31 12.7**	**-2.8**
	comp=Z,1μm,1.1s							
BJT				LR	LR			
	comp=Z,365μm,19.0s							
TIA	**Tai'an**	**20.64**	**267**	⇑P		**P**	**19 31 14.8**	**-3.0**
TIA				pP		Pn	19 31 22.6	+2.4
TIA				sP		**sP**	**19 31 28.1**	**-1.5**
TIA				pmax	pmax			
	comp=Z,140nm,1.9s							
TIA				pmax	pmax			
	comp=Z,6μm,5.2s							
TIA				LR	LR			
	comp=Z,141μm,12.8s							
TIA				LR	LR			
	comp=Z,519μm,16.1s							
NJ2	**Nanjing**	**21.05**	**255**	*e*P		**P**	**19 31 19.8**	**-2.5**
NJ2				pP		**pP**	**19 31 29.8**	**-0.5**
NJ2				sP		**sP**	**19 31 34.3**	**+0.2**
NJ2				pmax	pmax			
	comp=Z,410nm,1.2s							
NJ2				pmax	pmax			
	comp=Z,15μm,4.5s							
NJ2				LR	LR			
	comp=Z,243μm,16.0s							
NJ2				LR	LR			
	comp=Z,218μm,16.6s							
NJ2				LR	LR			
	comp=Z,280μm,17.1s							
YOJ	**Yonaguni jima**	**22.99**	**233**	*e*P		**P**	**19 31 41.8**	**-1.1**
YOJ				pmax	pmax			
	comp=Z,268nm,0.9s							
YOJ				MLR	MLR			
	comp=Z,105μm,21.0s							
YOJ	**Yonaguni jima**	**22.99**	**233**	*e*P		**P**	**19 31 41.8**	**-1.1**
	comp=Z,268nm,0.9s							
YOJ				LR	LR			
	comp=Z,105μm,21.0s							
CIT	**Chita**	**23.31**	**310**	*e*P		**P**	**19 31 43.8**	**-2.3**
CIT				*e*			19 31 57.5	
CIT				*e*			19 32 16.3	
CIT				*e*			19 32 22.9	
CIT				pmax	pmax			
	comp=Z,2μm,2.0s							
SEY	**Seymchan**	**23.37**	**11**	P		**P**	**19 31 44.4**	**-2.1**
	comp=Z,204nm,1.0s,baz=197,slow=9.7,SNR=78							
SEY				S		**S**	**19 35 56.9**	**-0.2**
	comp=Z,18nm,0.9s,baz=231,slow=20,SNR=3.0							
SEY				LR	LR		19 41 52.3	
	comp=Z,47μm,20.0s,baz=194,slow=39							
TATO	**Taipei**	**23.56**	**236**	*e*P		**P**	**19 31 44.8**	**-3.8**
	comp=Z,672nm,1.0s							
TATO				LR	LR			
	comp=Z,304μm,19.0s							
HHC	**Hu-ho-hao-te**	**23.77**	**282**	*e*P		**P**	**19 31 47.8**	**-2.9**
HHC				sP		sP	19 32 01.8	-1.0
HHC				S		**S**	**19 35 56.8**	**-7.5**
HHC				sS		pS	19 36 10.6	-2.7
HHC				SS		**SnSn**	**19 36 46.5**	**+2.9**
HHC				pmax	pmax			
	comp=Z,1μm,4.2s							
HHC				LR	LR			
	comp=Z,95μm,14.9s							
HHC				LR	LR			
	comp=Z,334μm,14.9s							
HHC				LR	LR			
	comp=Z,395μm,14.9s							
TIY	**Taiyuan**	**23.78**	**274**	*e*P		**P**	**19 31 44.5**	**-6.3**
TIY				pP		**pP**	**19 31 57.8**	**-1.4**
TIY				S		**S**	**19 35 57.4**	**-7.0**
TIY				sS		**pS**	**19 36 14.8**	**+1.3**
TIY				SS		**SnSn**	**19 36 46.1**	**+2.3**
TIY				pmax	pmax			
	comp=Z,9μm,11.0s							
TIY				LR	LR			
	comp=Z,112μm,15.2s							
TIY				LR	LR			
	comp=Z,96μm,15.9s							
TIY				LR	LR			
	comp=Z,124μm,15.8s							
YHNB	**Yeheng**	**23.85**	**236**	*e*P		**P**	**19 31 47.5**	**-4.0**
	comp=Z,590nm,1.3s							
YHNB				LR	LR			
	comp=Z,298μm,19.0s							
NACB	**Ninganchiao**	**24.07**	**235**	*e*P		**P**	**19 31 50.6**	**-2.9**
	comp=Z,309nm,0.9s							
NACB				LR	LR			
	comp=Z,89μm,20.0s							
SMY	**Shemya**	**24.58**	**49**	*e*P		**P**	**19 31 59.5**	**+1.6**
SMY				pmax	pmax			
	comp=Z,922nm,1.1s							
SMY				MLR	MLR			
	comp=Z,79μm,20.0s							
SMY	**Shemya**	**24.58**	**49**	*e*P		**P**	**19 31 59.5**	**+1.6**
	comp=Z,922nm,1.1s							
SMY				LR	LR			
	comp=Z,79μm,20.0s							
SSLB	**Suanglung**	**24.75**	**235**	*e*P		**P**	**19 31 55.5**	**-4.2**
	comp=Z,263nm,1.0s							
SSLB				LR	LR			
	comp=Z,185μm,18.0s							
YULB	**Yu-li**	**24.83**	**234**	*e*P		**P**	**19 31 58.3**	**-2.1**
	comp=Z,306nm,0.9s							
YULB				LR	LR			
	comp=Z,70μm,20.0s							
BTO	**Baotou**	**24.96**	**281**	*e*P		**P**	**19 31 58.4**	**-3.2**
BTO				LR	LR			
	comp=Z,30μm,14.2s							
BTO				LR	LR			
	comp=Z,122μm,16.7s							
WHN	**Wuhan**	**25.14**	**256**	⇑P		**P**	**19 32 00.9**	**-2.3**
WHN				S		**S**	**19 36 30.5**	**+4.3**
WHN				LR	LR			
	comp=Z,463μm,13.6s							
WHN				LR	LR			
	comp=Z,626μm,14.4s							
WHN				LR	LR			
	comp=Z,291μm,15.6s							
TPUB	**Ta-pu**	**25.31**	**235**	*e*P		**P**	**19 32 02.0**	**-2.8**
	comp=Z,948nm,1.2s							
TPUB				LR	LR			
	comp=Z,163μm,20.0s							
TWG	**Pinlang**	**25.39**	**233**	*e*P		**P**	**19 32 03.1**	**-2.4**
	comp=Z,3μm,0.9s							
TWG				LR	LR			
	comp=Z,356μm,19.0s							
QZH	**Quanzhou**	**25.47**	**240**	⇑*i*P		**P**	**19 32 03.9**	**-2.3**
QZH				sP		**sP**	**19 32 17.0**	**-1.4**
QZH				S		**S**	**19 36 26.0**	**-5.4**
QZH				pmax	pmax			
	comp=Z,5μm,2.1s							
QZH				pmax	pmax			
	comp=Z,27μm,7.9s							
QZH				LR	LR			
	comp=Z,107μm,13.0s							
QZH				LR	LR			
	comp=Z,137μm,13.0s							
QZH				LR	LR			
	comp=Z,302μm,13.9s							
BOD	**Bodaibo**	**25.52**	**323**	*e*P		**P**	**19 32 06.2**	**-0.1**
BOD				pmax	pmax			
	comp=Z,989nm,1.4s							
GUMO	**Guam**	**26.66**	**176**	P		**P**	**19 32 16.4**	**-0.6**
	comp=Z,45nm,0.9s,baz=322,slow=17,SNR=2.9							
GUMO				S		**S**	**19 36 58.3**	**+8.0**
	comp=Z,7.9nm,0.3s,baz=323,slow=20,SNR=2.4							
GUMO				LR		LR	19 41 53.3	
	comp=Z,86μm,21.8s,baz=11,slow=34							
GUMO	**Guam**	**26.66**	**176**	*e*P		**P**	**19 32 17.6**	**+0.6**
GUMO				S		**S**	**19 36 58.3**	**+8.0**
GUMO				pmax	pmax			
	comp=Z,476nm,1.0s							
GUMO	**Guam**	**26.66**	**176**	*e*P		**P**	**19 32 17.6**	**+0.6**
	comp=Z,476nm,1.0s							
GUMO				S		**S**	**19 36 58.3**	**+8.0**
ULN	**Ulaanbaatar**	**26.67**	**298**	*c i*P		**P**	**19 32 17.1**	**0.0**
ULN				pmax	pmax			
	comp=Z,522nm,2.5s							
ULN				MLR	MLR			
	comp=Z,455μm,15.0s							
ULN	**Ulaanbaatar**	**26.67**	**298**	*e*P		**P**	**19 32 16.1**	**-1.0**
	comp=Z,381nm,1.0s							
ULN				LR	LR			
	comp=Z,471μm,18.0s							
ULN	**Ulaanbaatar**	**26.67**	**298**	P		**P**	**19 32 16.4**	**-0.7**
	SNR=250							
ULN				P		**P**	**19 32 16.4**	**-0.7**
	SNR=250							
ULN				P		**P**	**19 32 16.4**	**-0.7**
	SNR=250							
SONA1	**Songino Array**	**27.11**	**298**	*e*P		**P**	**19 32 19.7**	**-1.3**
SONM	**Songino Array**	**27.11**	**298**	P		**P**	**19 32 20.3**	**-0.8**
	comp=Z,83nm,0.8s,baz=102,slow=8.8,SNR=139							
SONM				S		**S**	**19 37 02.6**	**+5.3**
	comp=Z,9.9nm,1.1s,baz=132,slow=12,SNR=1.8							
SONM				LR		LR	19 44 00.5	
	comp=Z,332μm,19.0s,baz=95,slow=39							
XAN	**Xi'an**	**27.69**	**268**	P		**P**	**19 32 23.9**	**-2.4**
XAN				pP		pP	19 32 33.5	-1.4
XAN				PP		**PnPn**	**19 33 13.3**	**+0.9**
XAN				pmax	pmax			
	comp=Z,42nm,1.0s							
XAN				pmax	pmax			
	comp=Z,24μm,7.3s							
XAN				LR	LR			
	comp=Z,114μm,16.6s							
XAN				LR	LR			
	comp=Z,212μm,15.8s							
XAN				LR	LR			
	comp=Z,281μm,16.1s							
SGCP	**Mt. Cagua**	**28.41**	**225**	*e*P		**P**	**19 32 36.0**	**+3.3**
IRK	**Irkutsk**	**28.92**	**307**	*e*P		**P**	**19 32 36.2**	**-0.8**
IRK				*e*S		**S**	**19 37 21.7**	**-3.8**
ENH	**Enshi**	**28.92**	**260**	*e*P		**P**	**19 32 35.2**	**-2.1**
	comp=Z,867nm,1.0s							
ENH				LR	LR			
	comp=Z,181μm,18.0s							
H11N2	**WAKE ISLAND Hy**	**29.01**	**128**	T		T	20 02 53.3	
	baz=321,slow=75,SNR=2767							
H11N1	**WAKE ISLAND Hy**	**29.02**	**128**	T		T	20 02 50.0	
	baz=321,slow=75,SNR=3565							
H11N3	**WAKE ISLAND Hy**	**29.03**	**128**	T		T	20 02 51.3	
	baz=321,slow=75,SNR=3809							
WAKE	**Wake Island**	**29.21**	**129**	*e*P		**P**	**19 32 40.8**	**+1.0**
	comp=Z,716nm,1.3s							
WAKE				LR	LR			
	comp=Z,189μm,19.0s							
TLY	**Talaya**	**29.22**	**306**	P		**P**	**19 32 40.2**	**+0.5**
	comp=Z,32nm,0.9s,baz=117,slow=8.3,SNR=17							
TLY				LR		LR	19 45 36.7	
	comp=Z,203μm,18.2s,baz=86,slow=39							
TLY	**Talaya**	**29.22**	**306**	*c i*P		**P**	**19 32 39.0**	**-0.7**
TLY				pmax	pmax			
	comp=Z,170nm,1.6s							
TLY				MLR	MLR			
	comp=Z,317μm,18.0s							
TLY	**Talaya**	**29.22**	**306**	*e*P		**P**	**19 32 39.0**	**-0.7**
	comp=Z,354nm,1.2s							
TLY	**Talaya**	**29.22**	**306**	P		**P**	**19 32 39.2**	**-0.5**
	SNR=64							
TLY				P		**P**	**19 32 39.2**	**-0.5**
	SNR=64							
TLY				P		**P**	**19 32 39.2**	**-0.5**
	SNR=64							
ZAK	**Zakamensk**	**29.32**	**303**	*e*P		P	19 32 29.9	-11
CAUP	**Cauayan**	**29.59**	**224**	*e*P		sP	19 32 55.2	-0.2
H11S1	**WAKE ISLAND Hy**	**29.84**	**130**	T		T	20 03 56.8	
	baz=322,slow=76,SNR=263							
H11S3	**WAKE ISLAND Hy**	**29.84**	**130**	T		T	20 03 57.1	
	baz=322,slow=76,SNR=1090							
SZP	**Santa**	**29.84**	**227**	*e*P		**P**	**19 32 43.8**	**-1.6**
	comp=Z,451nm,1.0s							
SZP				LR	LR			
	comp=Z,70μm,19.0s							
H11S2	**WAKE ISLAND Hy**	**29.85**	**130**	T		T	20 03 58.2	
	baz=322,slow=76,SNR=457							
GZH	**Guangzhou**	**30.27**	**244**	⇑*i*P		P	19 32 43.1	-6.0
GZH				sP		pP	19 32 56.0	-1.8
GZH				S		**S**	**19 37 40.9**	**-6.1**
GZH				pmax	pmax			
	comp=Z,9μm,8.9s							
BILL	**Bilibino**	**30.57**	**17**‖	*e*P		**P**	**19 32 51.9**	**+0.5**
BILL				*e*			19 33 54.2	
BILL				*e*S		**S**	**19 37 51.8**	**+0.8**
BILL				*e*SS		**SS**	**19

BILL pmax pmax
comp=Z,169nm,1.1s
BILL MLR MLR
comp=Z,81μm,16.0s
MCO Taipa Grande 30.76 243 P **P 19 32 55.0 +1.5**
LZH Lanzhou 30.83 275 ⇑P **P 19 32 52.8 -1.4**
LZH pP pP 19 33 02.9 0.0
LZH sP sP 19 33 05.8 -0.7
LZH PP **PnPn 19 33 53.0 -1.9**
LZH S **S 19 37 52.0 -4.1**
LZH sS sS 19 38 12.6 +2.2
LZH SS **SnSn 19 39 37.0 +0.9**
LZH pmax pmax
comp=Z,1μm,1.2s
LZH pmax pmax
comp=Z,9μm,5.6s
LZH LR LR
comp=Z,91μm,13.7s
LZH LR LR
comp=Z,107μm,14.0s
LZH LR LR
comp=Z,136μm,14.2s
MOY Mondy 30.86 306 *eP* **P 19 32 53.7 -0.6**
MOY pmax pmax
comp=Z,1μm,3.6s
PCPH Palayan 31.12 224⇓*eP* pP 19 33 04.3 -1.1
PVCP Virac 31.28 217 *eP* **P 19 32 56.4 -1.7**
ATKA Atka Island 31.50 53 *eP* **P 19 32 59.2 -0.5**
comp=Z,502nm,1.0s
ATKA LR LR
comp=Z,114μm,21.0s
TIXI Tiksi 32.22 352 S **S 19 38 18.7 +2.1**
comp=Z,13nm,0.8s,baz=207,slow=14,SNR=2.0
TIXI LR LR 19 48 00.6
comp=Z,80μm,19.1s,baz=146,slow=40
TIXI Tiksi 32.22 352*c i*P **P 19 33 06.0 +0.2**
TIXI pmax pmax
comp=Z,242nm,1.7s
TIXI MLR MLR
comp=Z,116μm,25.0s
TIXI Tiksi 32.22 352 *eP* **P 19 33 04.0 -1.8**
comp=Z,299nm,1.3s
TIXI S **S 19 38 18.7 +2.1**
AUQP San Andres 32.22 219 *eP* pP 19 33 16.4 +1.4
BOAC Boac 32.51 221 *eP* **P 19 33 12.8 +3.9**
GTA Gaotai 32.87 283 ⇑P **P 19 33 11.3 -0.8**
GTA pP pP 19 33 21.6 +0.8
GTA sP sP 19 33 25.3 +0.9
GTA S **S 19 38 26.8 -1.0**
GTA sS sS 19 38 42.4 +0.3
GTA SS **SnSn 19 40 27.4 +1.9**
GTA pmax pmax
comp=Z,2μm,6.0s
GTA LR LR
comp=Z,118μm,18.5s
GTA LR LR
comp=Z,355μm,17.6s
GTA LR LR
comp=Z,431μm,17.1s
CD2 Chengdu 32.97 266⇓*i*P **P 19 33 11.6 -1.3**
CD2 pP pP 19 33 21.6 0.0
CD2 PP **PnPn 19 34 19.4 -3.0**
CD2 S **S 19 38 26.0 -3.3**
CD2 pmax pmax
comp=Z,180nm,0.9s
CD2 pmax pmax
comp=Z,15μm,12.2s
CD2 LR LR
comp=Z,209μm,13.3s
CD2 LR LR
comp=Z,115μm,15.2s
CD2 LR LR
comp=Z,226μm,14.2s
GYA Guiyang 33.03 257⇑*i*P **P 19 33 12.0 -1.6**
GYA pP sP 19 33 25.3 -0.6
GYA PP **PnPn 19 34 25.5 +2.1**
GYA PcP **PcP 19 35 58.8 +1.9**
GYA S **S 19 38 27.8 -2.7**
GYA sS sS 19 38 47.0 +2.1
GYA ScP **ScP 19 39 38.3 -0.5**
GYA SS **SnSn 19 40 28.9 -0.9**
GYA ScS **ScS 19 43 37.6 -1.8**
GYA pmax pmax
comp=Z,280nm,1.0s
GYA pmax pmax
comp=Z,3μm,8.9s
GYA LR LR
comp=Z,175μm,15.3s
GYA LR LR
comp=Z,193μm,15.9s
GYA LR LR
comp=Z,253μm,15.4s
PLP Palo 33.07 214⇓*eP* **P 19 33 10.0 -3.8**
LUBP Lubang 33.09 223 *eP* **P 19 33 17.8 +3.8**
SPIA Saint Paul Isl 34.38 45 *eP* **P 19 33 25.6 +0.8**
comp=Z,774nm,1.4s
BUSP Coron 34.58 222 *eP* **P 19 33 26.1 -0.9**
MIDW Midway 34.69 98 *eP* **P 19 33 27.3 -0.5**
comp=Z,569nm,1.3s
MIDW LR LR
comp=Z,87μm,20.0s
NIKH Nikolski High 34.79 52 *eP* **P 19 33 27.9 -0.5**
comp=Z,135nm,1.0s
NIKH LR LR
comp=Z,72μm,20.0s
GAMB Gambell 35.33 33 *eP* **P 19 33 33.2 +0.3**
comp=Z,274nm,1.5s
GAMB LR LR
comp=Z,64μm,21.0s
QIZ Qiongzhong 35.41 243 P **P 19 33 34.5 +0.4**
QIZ pP **pP 19 33 42.6 -0.2**
QIZ sP **sP 19 33 47.1 +0.7**
QIZ S **S 19 39 12.3 +5.3**
QIZ sS **sS 19 39 25.3 +3.9**
QIZ ScS **ScS 19 43 51.3 -0.5**
QIZ LR LR
comp=Z,69μm,16.7s
QIZ LR LR
comp=Z,86μm,15.4s
QIZ LR LR
comp=Z,110μm,15.6s
QIZ Qiongzhong 35.41 243 *eP* **P 19 33 33.0 -1.1**
comp=Z,128nm,1.0s
QIZ LR LR
comp=Z,96μm,18.0s
SNPH Sibulan 35.45 215 *eP* **P 19 33 34.9 +0.4**
CGP Cagayan de Oro 35.63 212⇓*eP* **P 19 33 37.1 +1.1**
PATS Pohnpei 36.06 153 *eP* **P 19 33 39.5 -0.1**
comp=Z,866nm,1.4s
PATS LR LR
comp=Z,117μm,20.0s
UNV Unalaska Valle 36.22 51 *eP* **P 19 33 43.4 +2.7**
comp=Z,80nm,1.2s
UNV LR LR
comp=Z,43μm,20.0s
DAV Davao City (W) 36.55 210⇑*eP* **P 19 33 45.7 +1.9**
DAV Davao City (W) 36.55 210 ⇑S S 19 39 38.0 +14
DAV Davao City (W) 36.55 210 *eP* **P 19 33 41.9 -1.9**
comp=Z,277nm,0.8s
DAV LR LR
comp=Z,50μm,20.0s
DAV Davao City (W) 36.55 210 P **P 19 33 43.1 -0.8**
SNR=6.2
DAV P **P 19 33 43.1 -0.8**
SNR=6.2
DAV P **P 19 33 43.1 -0.8**
SNR=6.2
AKUT Akutan 36.66 50 *eP* **P 19 33 46.7 +2.3**
comp=Z,397nm,1.8s
AKUT LR LR
comp=Z,62μm,21.0s
KMI Kunming 36.71 258 P **P 19 33 44.5 -1.0**
KMI pP pP 19 33 54.4 +0.2
KMI sP sP 19 33 59.4 +1.6
KMI PP **PnPn 19 35 05.0 -4.2**
KMI S **S 19 39 19.9 -7.4**
KMI sS pS 19 39 37.0 -0.3
KMI pmax pmax
comp=Z,380nm,1.4s
KMI pmax pmax
comp=Z,3μm,3.9s
KMI LR LR
comp=Z,248μm,15.2s
KMI LR LR
comp=Z,231μm,16.3s

KMI LR LR
comp=Z,337μm,16.1s
PAGZ Pagadian 36.73 214 *eP* **P 19 33 43.8 -1.6**
CTBH Cotabato--PC H 36.93 212 *eP* **P 19 33 46.8 -0.3**
SLVN Son La 38.09 252 *eP* **P 19 33 56.2 -0.9**
comp=Z,379nm,1.2s
SLVN LR LR
comp=Z,112μm,18.0s
KWAJ Kwajalein Atol 38.30 138 PFAKE 19 34 10.0 +11
KWAJ LR LR
comp=Z,184μm,21.0s
BATP Bataraza 38.52 222 *eP* **P 19 34 00.8 +0.2**
SGSI Sangihe 39.69 208 P **P 19 34 13.6 +3.3**
SDPT Sand Point 39.71 48 *eP* **P 19 34 12.9 +2.8**
comp=Z,112nm,0.8s
SDPT LR LR
comp=Z,64μm,21.0s
WMQ Urumqi 40.52 294 P **P 19 34 17.0 0.0**
WMQ pP sP 19 34 28.8 -0.7
WMQ sP pP 19 34 33.1 +7.2
WMQ PP **PnPn 19 35 54.8 +0.3**
WMQ PcP **PcP 19 36 21.5 +2.4**
WMQ PcS **PcS 19 40 10.8 +1.1**
WMQ S **S 19 40 23.8 -0.3**
WMQ sS sS 19 40 41.3 +2.6
WMQ SS **SS 19 43 18.3 -5.7**
WMQ pmax pmax
comp=Z,260nm,1.3s
WMQ pmax pmax
comp=Z,5μm,3.7s
WMQ LR LR
comp=Z,76μm,15.7s
WMQ LR LR
comp=Z,53μm,15.7s
WMQ LR LR
comp=Z,94μm,19.1s
KDM Kudat 40.62 222 ⇑P **P 19 34 18.3 +0.3**
ZAA0 Zalesovo Array 40.67 310 *eP* **P 19 34 17.2 -0.9**
ZALV Zalesovo Beam 40.67 310 P **P 19 34 17.2 -0.8**
comp=Z,88nm,0.7s,baz=89,slow=7.8,SNR=99
ZALV PcP **PcP 19 36 18.7 -0.6**
comp=Z,47nm,0.8s,baz=91,slow=3.3,SNR=2.2
ZALV LR LR 19 52 20.2
comp=Z,165μm,19.2s,baz=76,slow=38
CHGN Chignik 40.84 47 *eP* **P 19 34 21.0 +1.6**
comp=Z,84nm,1.0s
CHGN LR LR
comp=Z,56μm,22.0s
NRIK Noril'sk 40.84 333 P **P 19 34 18.4 -0.9**
comp=Z,129nm,1.0s,baz=116,slow=6.6,SNR=68
NRIK S **S 19 40 31.9 +3.8**
comp=Z,5.8nm,0.4s,baz=252,slow=19,SNR=3.1
NRIK LR LR 19 53 18.0
comp=Z,168μm,19.0s,baz=100,slow=39
SKNT Sakolnakorn 40.87 247 P **P 19 34 19.6 -0.5**
comp=Z,284nm,0.9s,comp=Z,10μm
UBPT Khong Chiam 41.00 243 P **P 19 34 21.1 -0.1**
comp=Z,459nm,1.2s,comp=Z,12μm
MYLDM Lahad Datu 41.29 219 *eP* **P 19 34 24.5 +0.9**
comp=Z,1μm,1.2s
MYLDM LR LR
comp=Z,73μm,18.0s
DLV T Lat 41.43 237 *eP* **P 19 34 24.5 -0.5**
comp=Z,456nm,1.0s
DLV LR LR
comp=Z,40μm,18.0s
NVS Novosibirsk 41.52 311⇑*i*P **P 19 34 24.9 -0.1**
NVS pmax pmax
comp=N,138nm,1.7s
NVS pmax pmax
comp=E,337nm,1.7s
NVS pmax pmax
comp=Z,574nm,1.7s
KKM Kota Kinabalu 41.68 222 *eP* **P 19 34 26.2 -0.7**
comp=Z,687nm,1.4s
KKM LR LR
comp=Z,55μm,22.0s
KKM Kota Kinabalu 41.68 222 ⇑P **P 19 34 27.7 +0.8**
TT01 Tatalina 42.08 37 *eP* **P 19 34 30.6 +1.1**
TTA Tatalina 42.09 37 *eP* **P 19 34 29.9 +0.2**
TTA pmax pmax
comp=Z,195nm,1.2s
TTA MLR MLR
comp=Z,61μm,20.0s
TTA Tatalina 42.09 37 *eP* **P 19 34 29.9 +0.2**
comp=Z,195nm,1.2s
TTA LR LR
comp=Z,61μm,20.0s
SVW2 Sparrevohn 42.23 39 *eP* **P 19 34 31.6 +0.8**
comp=Z,149nm,1.0s
SVW2 LR LR
comp=Z,52μm,20.0s
SMPI Sarmi 42.26 186 P **P 19 34 30.2 -1.2**
comp=Z,725nm,1.1s,comp=Z,9μm
MANU Manus Island 42.33 173 *eP* **P 19 34 31.7 -0.4**
comp=Z,136nm,1.0s
MANU LR LR
comp=Z,48μm,21.0s
TSM Tawau 42.36 219 ⇑P **P 19 34 33.6 +1.3**
JAY Jayapura 42.65 183 P **P 19 34 35.1 +0.4**
comp=Z,11nm,1.0s,baz=307,slow=21,SNR=24
JAY S **S 19 41 00.1 +4.1**
comp=Z,0.9nm,1.0s,baz=232,slow=19,SNR=2.1
JAY LR LR 19 57 41.5
comp=Z,364nm,18.1s,baz=356,slow=44
JAY Jayapura 42.65 183 P **P 19 34 38.3 +3.6**
UTTA Uttaradit 42.80 251 P **P 19 34 35.5 -0.4**
comp=Z,112nm,1.0s,comp=Z,858nm
LAMP Lampang 42.98 253 P **P 19 34 38.2 +0.9**
comp=Z,118nm,1.0s,comp=Z,930nm
CHAI Chaiyaphum 43.00 248 P **P 19 34 36.4 -1.1**
comp=Z,210nm,0.9s,comp=Z,1μm
LBMI Labuha 43.10 203 P P 19 34 44.9 +6.6
KMSI Cibinong 43.13 208 P **P 19 34 42.2 +3.7**
LSA Lhasa 43.17 273 P **P 19 34 39.5 +0.1**
LSA pmax pmax
comp=Z,35nm,1.5s
LSA LR LR
comp=Z,40μm,22.5s
LSA LR LR
comp=Z,64μm,17.7s
LSA LR LR
comp=Z,175μm,16.1s
LSA Lhasa 43.17 273 *eP* **P 19 34 38.7 -0.7**
LSA pmax pmax
comp=Z,326nm,1.1s
LSA MLR MLR
comp=Z,183μm,19.0s
LSA Lhasa 43.17 273 *eP* **P 19 34 38.7 -0.7**
comp=Z,326nm,1.1s
LSA LR LR
comp=Z,183μm,19.0s
PBKT Sadao Pong 43.27 249 P **P 19 34 39.0 -0.7**
comp=Z,562nm,0.7s,comp=Z,8μm
CMMT Chiang Mai 43.29 254 P **P 19 34 39.1 -0.8**
comp=Z,321nm,0.8s,comp=Z,7μm
CHTO Chiang Mai 43.30 254 P **P 19 34 39.2 -0.7**
comp=Z,733nm,0.9s,comp=Z,33μm
CHTO Chiang Mai 43.30 254 *eP* **P 19 34 39.0 -0.9**
CHTO pmax pmax
comp=Z,270nm,0.9s
CHTO MLR MLR
comp=Z,34μm,21.0s
CHTO Chiang Mai 43.30 254 *eP* **P 19 34 39.0 -0.9**
comp=Z,270nm,0.9s
CHTO LR LR
comp=Z,34μm,21.0s
CHTO Chiang Mai 43.30 254 P **P 19 34 38.6 -1.3**
SNR=74
CHTO P **P 19 34 38.6 -1.3**
SNR=74
MK01 Makanchi Array 43.47 299 *eP* **P 19 34 40.3 -0.7**
MK31 Makanchi Array 43.47 299 *eP* **P 19 34 40.2 -0.8**
MK31 Makanchi Array 43.47 299 *eP* **P 19 34 40.0 -1.0**
MKAR Makanchi Array 43.47 299 *eP* **P 19 34 39.9 -1.1**
MKAR pmax pmax
comp=Z,2μm,0.9s
MKAR MLR MLR
comp=Z,50μm,18.0s
MKAR Makanchi Array 43.47 299 *eP* **P 19 34 39.9 -1.1**
comp=Z,2μm,0.9s
MKAR LR LR
comp=Z,50μm,18.0s
CM31 Chiang Mai Arr 43.52 253 *eP* **P 19 34 41.0 -0.8**
CMAR Chiang Mai Arr 43.52 253 P **P 19 34 41.2 -0.5**
comp=Z,18nm,0.8s,baz=44,slow=7.1,SNR=74
CMAR S **S 19 41 16.1 +7.3**
comp=Z,3.7nm,1.1s,baz=50,slow=6.0,SNR=2.3
CMAR LR LR 19 55 07.6
comp=Z,53μm,18.8s,baz=66,slow=39
CM01 Chiang Mai Arr 43.53 253 *eP* **P 19 34 40.8 -1.0**
OHAK Old Harbor 43.59 45 *eP* **P 19 34 41.0 -0.7**
comp=Z,322nm,1.3s
OHAK LR LR
comp=Z,72μm,21.0s
RSO Redoubt South 43.63 40 *eP* **P 19 34 43.4 +1.0**
SUKH Sukhothai 43.64 251 P **P 19 34 42.6 -0.1**
comp=Z,112nm,1.0s,comp=Z,827nm
MAKZ Makanchi 43.67 300 *eP* **P 19 34 42.1 -0.6**
MAKZ pmax pmax
comp=Z,600nm,1.0s
MAKZ Makanchi 43.67 300 *eP* **P 19 34 41.8 -0.9**
comp=Z,604nm,1.0s
MAKZ LR LR
comp=Z,241μm,18.0s
PPLA Purkeypile 43.84 37 *eP* **P 19 34 44.1 +0.2**
comp=Z,1μm,1.5s
PPLA LR LR
comp=Z,50μm,18.0s
CAST Castle Rocks 43.88 36 *eP* **P 19 34 45.0 +0.9**
comp=Z,613nm,1.6s
KDAK Kodiak Island 43.91 44 P **P 19 34 44.0 -0.4**
comp=Z,67nm,1.0s,baz=288,slow=6.5
KDAK S **S 19 41 13.3 -0.3**
comp=Z,13nm,1.1s,baz=13,slow=19,SNR=2.1
KDAK LR LR 19 53 04.0
comp=Z,119μm,21.9s,baz=255,slow=36
KDAK Kodiak Island 43.91 44 *eP* **P 19 34 44.2 -0.2**
KDAK S **S 19 41 13.3 -0.3**
KDAK pmax pmax
comp=Z,444nm,1.2s
KDAK Kodiak Island 43.91 44 *eP* **P 19 34 44.2 -0.2**
comp=Z,444nm,1.2s
KDAK S **S 19 41 13.3 -0.3**
SPU Mount Spurr 43.94 39 *eP* **P 19 34 43.3 -1.4**
SEM Semipalatinsk 43.97 305 *i* P **P 19 34 42.9 -2.4**
comp=Z,2μm,1.5s
SEM *i* S **S 19 41 12.3 -2.8**
SEM LR LR 19 52 47.1
comp=Z,48μm,15.8s
MRSI Marisa 43.99 211 P **P 19 34 45.9 +0.4**
comp=Z,738nm,1.3s,comp=Z,10μm
FAKI Fak Fak 44.10 195 P **P 19 34 45.9 -0.5**
comp=Z,372nm,1.2s,comp=Z,8μm
FAKI Fak Fak 44.10 195 *eP* **P 19 34 45.3 -1.1**
comp=Z,376nm,1.1s
FAKI LR LR
comp=Z,47μm,18.0s
HOM Homer 44.24 41 *eP* **P 19 34 46.2 -0.8**
comp=Z,850nm,1.5s
HOM LR LR
comp=Z,38μm,20.0s
SRAK Srakaew 44.25 246 P **P 19 34 44.2 -3.4**
comp=Z,1μm,1.0s,comp=Z,10μm
KTH Kantishna Hill 44.40 36 *eP* **P 19 34 48.5 +0.2**
comp=Z,775nm,1.4s
CNPM China Poot 44.45 42 *eP* **P 19 34 48.7 -0.1**
comp=Z,154nm,1.0s
CNPM LR LR
comp=Z,55μm,21.0s
NAYO Nakonayok 44.55 247 P **P 19 34 50.7 +0.7**
comp=Z,308nm,1.1s,comp=Z,22μm
SUA Susitna One 44.56 39 *eP* **P 19 34 50.7 +1.0**
comp=Z,267nm,1.2s
SUA LR LR
comp=Z,52μm,22.0s
BRLK Bradley Lake 44.61 41 *eP* **P 19 34 50.4 +0.3**
comp=Z,218nm,1.2s
BRLK LR LR
comp=Z,46μm,20.0s
TRF Thorofare Moun 44.69 36 *eP* **P 19 34 51.1 +0.4**
comp=Z,187nm,1.1s
TRF LR LR
comp=Z,46μm,19.0s
SHL Shillong 44.70 267 *i* P **P 19 34 51.0 -0.3**
SHL IAmb IAmb 19 34 57.5
comp=Z,308nm,1.7s
SHL *ex* x 19 41 35.0
COLD Coldfoot 44.74 31 *eP* **P 19 34 51.9 +1.0**
comp=Z,169nm,1.0s
COLD LR LR
comp=Z,59μm,19.0s
SANI Sanana 44.90 204 P **P 19 34 52.2 -0.5**
comp=Z,481nm,1.1s,comp=Z,7μmcomp=Z,21μm
KURK Kurchatov 44.92 306*d i*P **P 19 34 53.0 +0.5**
KURK pmax pmax
comp=Z,2μm,1.2s
KURK MLR MLR
comp=Z,310μm,13.0s
KURK Kurchatov 44.92 306 *eP* **P 19 34 51.5 -1.1**
comp=Z,979nm,0.8s
KURK S S 19 41 44.5 +16
KURK P'P' 20 06 24.4
KURK LR LR
comp=Z,92μm,18.0s
KURK Kurchatov 44.92 306 P **P 19 34 51.6 -0.9**
SNR=257
KURK P **P 19 34 51.6 -0.9**
SNR=257
CHBT CHBT 44.93 244 P P 19 34 58.3 +5.3
comp=Z,514nm,1.2s,comp=Z,11μm
KURBB Kurchatov Arra 44.99 306 S S 19 41 44.5 +15
comp=Z,1.5nm,0.3s,baz=78,slow=8.6,SNR=2.1
KURBB PKPPKP 20 06 24.4
comp=Z,0.4nm,0.3s,baz=254,slow=1.7,SNR=3.5
UMPA Umpang Tak 45.03 251 P **P 19 34 56.2 +2.3**
comp=Z,84nm,1.3s,comp=Z,898nm
UTHA Uthaitani 45.04 250 P **P 19 34 55.1 +1.2**
comp=Z,67nm,0.9s,comp=Z,632nm
TOLK Toolik Lake Re 45.04 29 P **P 19 34 53.4 +0.1**
baz=267,SNR=25
RC01 Rabbit Creek A 45.07 39 *eP* **P 19 34 54.1 +0.5**
comp=Z,228nm,1.0s
RC01 LR LR
comp=Z,39μm,20.0s
RABL Rabaul 45.08 167 *eP* **P 19 34 53.5 -0.7**
comp=Z,803nm,1.1s
RABL LR LR
comp=Z,22μm,20.0s
MCK McKinley 45.28 36 *eP* **P 19 34 55.5 +0.2**
MCK pmax pmax
comp=Z,172nm,1.0s
MCK MLR MLR
comp=Z,49μm,20.0s
MCK McKinley 45.28 36 *eP* **P 19 34 55.5 +0.2**
comp=Z,172nm,1.0s
MCK LR LR
comp=Z,49μm,20.0s
MSAI Masohi 45.29 200 P **P 19 34 54.4 -1.4**
comp=Z,77nm,1.1s,comp=Z,2μm
SEW Seward 45.30 41 *eP* **P 19 34 56.2 +0.8**
comp=Z,264nm,1.0s
SEW LR LR
comp=Z,55μm,21.0s
PMR Palmer 45.32 39 *eP* **P 19 34 55.4 -0.2**
PMR pmax pmax
comp=Z,283nm,1.3s
PMR MLR MLR
comp=Z,62μm,21.0s
PMR Palmer 45.32 39 *eP* **P 19 34 55.4 -0.2**
comp=Z,283nm,1.3s
PMR LR LR
comp=Z,62μm,21.0s
RND Reindeer 45.33 36 *eP* **P 19 34 55.5 -0.3**
RND pmax pmax
comp=Z,383nm,1.2s
RND MLR MLR
comp=Z,52μm,19.0s
RND Reindeer 45.33 36 *eP* **P 19 34 55.5 -0.3**
comp=Z,383nm,1.2s
RND LR LR
comp=Z,52μm,19.0s
MDM Murphy Dome 45.54 34 *eP* **P 19 34 58.1 +0.8**
comp=Z,651nm,1.3s
WRH Wood River Hil 45.62 34 *eP* **P 19 34 58.4 +0.5**
comp=Z,356nm,1.4s
WRH LR LR
comp=Z,47μm,21.0s
SML Sawmill 45.68 38 *eP* **P 19 34 58.6 0.0**
SML pmax pmax
comp=Z,1μm,1.6s
SML MLR MLR
comp=Z,63μm,21.0s
SML Sawmill 45.68 38 *eP* **P 19 34 58.5 0.0**
comp=Z,1μm,1.6s

SML LR LR
comp=Z,63µm,21.0s
NLAI Namlea 45.69 202 P **P** **19 34 58.4 -0.6**
comp=Z,219nm,1.0s,comp=Z,5µm
COLA College 45.70 34 *eP* **P** **19 34 59.3 +0.7**
COLA pmax pmax
comp=Z,241nm,0.9s
COLA College 45.70 34 *eP* **P** **19 34 59.3 +0.7**
comp=Z,240nm,0.9s
BTM Bintulu 45.72 224 ⇑P **P** **19 34 59.8 +0.5**
CCB Clear Creek Bu 45.73 34 *eP* **P** **19 34 59.4 +0.6**
comp=Z,182nm,1.1s
AAI Ambon 45.81 201 P **P** **19 34 59.7 -0.2**
comp=Z,575nm,1.0s,comp=Z,8µm
PATY Pattaya 45.83 246 P **P** **19 35 01.7 +1.6**
comp=Z,94nm,1.0s,comp=Z,825nm
DHY Denali Highway 46.02 36 *eP* **P** **19 35 01.6 +0.3**
comp=Z,557nm,1.4s
DHY LR LR
comp=Z,47µm,20.0s
SRDT SRDT 46.08 249 P **P** **19 35 02.8 +0.7**
comp=Z,516nm,1.6s,comp=Z,22µm
PCI Palu 46.10 213 P **P** **19 35 00.3 -2.0**
comp=Z,502nm,1.1s,comp=Z,8µmcomp=Z,32µm
HDA Harding Lake 46.12 35 *eP* **P** **19 35 01.8 -0.1**
comp=Z,189nm,1.0s
HDA LR LR
comp=Z,67µm,21.0s
IL1 Eielson Array 46.12 34 *eP* **P** **19 35 01.5 -0.4**
ILAR Eielson Array 46.12 34 P **P** **19 35 01.6 -0.2**
comp=Z,40nm,0.8s,baz=265,slow=5.6,SNR=132
ILAR S **S** **19 41 48.9 +3.4**
comp=Z,2.7nm,1.0s,baz=256,slow=7.3,SNR=2.7
ILAR LR LR 19 54 36.7
comp=Z,41µm,21.3s,baz=291,slow=36
ILAR PKPPKP P'P'df 20 06 25.9 -10
comp=Z,2.4nm,1.2s,baz=132,slow=1.3,SNR=4.3
ILAR Eielson Array 46.12 34 P **P** **19 35 01.7 -0.2**
ILAR S **S** **19 41 48.9 +3.4**
ILAR pmax pmax
comp=Z,52nm,0.9s
ILAR smax smax
comp=N,3.0nm,1.0s
ILAR MLR MLR
comp=Z,41µm,21.3s
ILB Eielson Array 46.12 34 *eP* **P** **19 35 01.8 -0.1**
SCM Sheep Creek Mo 46.16 38 *eP* **P** **19 35 03.3 +1.0**
SCM pmax pmax
comp=Z,300nm,1.1s
SCM Sheep Creek Mo 46.16 38 *eP* **P** **19 35 03.0 +0.6**
comp=Z,303nm,1.1s
SCM LR LR
comp=Z,73µm,20.0s
PDGK Podgornoye 46.36 296 *i* P **P** **19 35 02.6 -1.7**
PDGK pmax pmax
comp=Z,315nm,1.5s
SHLS Shalkode 46.44 295 *i* P **P** **19 35 00.4 -4.5**
comp=Z,790nm,1.8s
SHLS *i* S **S** **19 41 44.1 -6.8**
SHLS LR LR 19 53 06.6
comp=Z,105µm,16.0s
TDK Taldyqorghan 46.57 298 *i* P **P** **19 35 03.8 -1.9**
comp=Z,2µm,1.6s
TDK LR LR 19 53 32.3
comp=Z,67µm,17.8s
FID Port Fidalgo 46.69 40 *eP* **P** **19 35 06.8 +0.4**
comp=Z,179nm,1.1s
FID LR LR
comp=Z,54µm,19.0s
PHET Kaeng Krachan 46.70 247 P **P** **19 35 07.7 +0.7**
comp=Z,232nm,0.9s,comp=Z,2µm
FYU Fort Yukon 46.70 31 *eP* **P** **19 35 06.8 +0.3**
comp=Z,951nm,1.3s
SBUM Sibu 46.81 224 *eP* **P** **19 35 06.3 -1.5**
comp=Z,102nm,1.0s
SBUM LR LR
comp=Z,42µm,19.0s
SBUM Sibu 46.81 224 ⇓P **P** **19 35 07.9 0.0**
KLU Klutina 46.86 38 *eP* **P** **19 35 08.3 +0.5**
comp=Z,342nm,1.1s
KLU LR LR
comp=Z,54µm,20.0s
PAX Paxson 46.90 36 *eP* **P** **19 35 09.5 +1.4**
PAX pmax pmax
comp=Z,160nm,1.3s
PAX Paxson 46.90 36 *eP* **P** **19 35 09.3 +1.1**
comp=Z,159nm,1.3s
PAX LR LR
comp=Z,37µm,18.0s
MID Middleton Isla 46.95 41 *eP* **P** **19 35 07.8 -0.6**
MID pmax pmax
comp=Z,469nm,1.0s
MID Middleton Isla 46.95 41 *eP* **P** **19 35 07.8 -0.6**
comp=Z,468nm,1.0s
TAPN Taplejung 46.96 272 *eP* **P** **19 35 09.0 -0.3**
comp=Z,2µm,1.3s
DIV Divide 46.98 39 *eP* **P** **19 35 09.0 +0.2**
comp=Z,1µm,1.7s
DIV LR LR
comp=Z,80µm,22.0s
EYAK Cordova Ski Ar 47.07 40 *eP* **P** **19 35 10.7 +1.3**
comp=Z,277nm,1.1s
EYAK LR LR
comp=Z,100µm,22.0s
HARP HAARP 47.11 37 *eP* **P** **19 35 11.1 +1.4**
comp=Z,513nm,1.2s
HARP LR LR
comp=Z,41µm,21.0s
ZHN Zhinishke 47.14 296 *i* P **P** **19 35 08.0 -2.3**
comp=Z,951nm,1.6s
ZHN *i* S **S** **19 41 58.1 -2.8**
ZHN LR LR 19 54 44.8
comp=Z,93µm,16.0s
JOHN Johnston Islan 47.23 106 *eP* **P** **19 35 10.8 -0.4**
comp=Z,589nm,1.2s
JOHN LR LR
comp=Z,152µm,20.0s
TARA Tarawa 47.36 137 PFAKE 19 35 20.0 +7.9
TARA LR LR
comp=Z,94µm,20.0s
DOT Dot Lake 47.45 35 *eP* **P** **19 35 11.8 -0.5**
comp=Z,2µm,2.0s
DOT LR LR
comp=Z,143µm,20.0s
ODAN Odare 47.45 271 *eP* **P** **19 35 12.5 -0.6**
comp=Z,905nm,1.3s
BMRM Bremner River 47.57 39 *eP* **P** **19 35 12.9 -0.4**
comp=Z,297nm,1.1s
BMRM LR LR
comp=Z,60µm,20.0s
RAGM Ragged Mountai 47.62 40 *eP* **P** **19 35 14.7 +1.0**
comp=Z,453nm,1.3s
RAGM LR LR
comp=Z,72µm,22.0s
MENT Mentasta 47.70 36 *eP* **P** **19 35 15.2 +0.9**
comp=Z,718nm,1.4s
MENT LR LR
comp=Z,52µm,20.0s
KDI Kendari 47.82 208 P **P** **19 35 17.5 +1.9**
comp=Z,215nm,1.4s,comp=Z,5µmcomp=Z,32µm
JIRN Jiri 47.96 273 *eP* **P** **19 35 16.8 -0.4**
comp=Z,2µm,1.0s
RAMN Ramite 48.01 272 *eP* **P** **19 35 16.8 -0.6**
comp=Z,1µm,0.9s
TTSI Tana Toraja 48.05 212 P **P** **19 35 16.4 -1.0**
comp=Z,56nm,1.5s,comp=Z,3µmcomp=Z,25µm
GUN Gumba 48.07 274 *eP* **P** **19 35 17.6 -0.4**
comp=Z,1µm,0.7s
MDOK Medeo 48.10 296 *i* P **P** **19 35 15.7 -2.1**
comp=Z,938nm,1.6s
MDOK *i* PP **PP** **19 37 07.7 -2.3**
MDOK *i* S **S** **19 42 12.1 -2.5**
MDOK *i* SS **SS** **19 45 43.2 -0.2**
MDOK LR LR 19 55 24.4
comp=Z,88µm,14.8s
AAA Alma-Ata 48.17 296 *i* P **P** **19 35 17.9 -0.4**
AAA pmax pmax
comp=Z,3µm,2.6s
AAA MLR MLR
comp=Z,249µm,11.0s
AAA Alma-Ata 48.17 296 *i* P **P** **19 35 16.7 -1.6**
comp=Z,1µm,1.6s
AAA *e*S **S** **19 42 13.2 -2.3**
AAA LR LR 19 56 11.6
comp=Z,79µm,14.6s
CRQM Cirque 48.31 39 *eP* **P** **19 35 20.0 +0.8**
comp=Z,730nm,1.2s
CRQM LR LR
comp=Z,84µm,22.0s
MTKI Muara Teweh, K 48.35 219 P **P** **19 35 19.3 -0.5**
comp=Z,281nm,1.9s,comp=Z,9µmcomp=Z,36µm
EGAK Eagle 48.56 34 *eP* **P** **19 35 20.8 -0.1**
comp=Z,310nm,1.3s
EGAK LR LR
comp=Z,51µm,22.0s
KKN Kakani 48.59 274 *eP* **P** **19 35 21.2 -0.7**
comp=Z,648nm,0.7s
PKI Pulchoki 48.60 273 *eP* **P** **19 35 21.2 -0.9**
comp=Z,902nm,1.1s
PKIN Phulchoki 48.61 273 *eP* **P** **19 35 21.9 -0.2**
comp=Z,336nm,0.7s
KSM Kuching 48.66 226 *eP* **P** **19 35 21.5 -0.7**
comp=Z,202nm,1.1s
KSM LR LR
comp=Z,23µm,21.0s
KSM Kuching 48.66 226 ⇓P **P** **19 35 22.6 +0.4**
BRZS Berezniki 48.79 306 *i* P **P** **19 35 21.1 -1.7**
comp=Z,408nm,0.9s
BRZS *e*S **S** **19 42 20.7 -3.1**
BRZS LR LR 19 56 31.6
comp=Z,2µm,13.5s
DMN Daman 48.82 274 *eP* **P** **19 35 23.1 -0.6**
comp=Z,2µm,1.4s
SPSI Sidrap Palu 48.90 211 P **P** **19 35 22.9 -1.1**
comp=Z,140nm,1.2s,comp=Z,3µm
GKN Gorkha 48.98 274 *eP* **P** **19 35 24.0 -0.7**
comp=Z,624nm,0.8s
TKM2 Tokmak 2 49.18 296 *i* P **P** **19 35 25.7 -0.5**
TKM2 pmax pmax
comp=Z,775nm,1.2s
STKI Sintang 49.21 224 P **P** **19 35 27.8 +1.4**
comp=Z,178nm,1.1s,comp=Z,7µmcomp=Z,31µm
SAUI Saumlaki 49.22 195 P sP 19 35 42.8 +3.9
BBSI Bau Bau 49.26 207 P **P** **19 35 27.5 +0.8**
comp=Z,142nm,1.2s,comp=Z,2µm
BVAR Borovoye Array 49.30 311 S **S** **19 42 38.2 +7.3**
comp=Z,6.5nm,0.9s,baz=92,slow=22,SNR=2.0
BVAR LR LR 19 57 47.9
comp=Z,115µm,19.4s,baz=75,slow=38
BVAR PKPPKP 20 06 17.5
comp=Z,0.5nm,0.8s,baz=219,slow=3.7,SNR=2.0
BRVK Borovoye 49.36 311 P **P** **19 35 26.3 -0.8**
BRVK pmax pmax
comp=Z,667nm,1.4s
BRVK Borovoye 49.36 311 *eP* **P** **19 35 26.5 -0.6**
comp=Z,872nm,1.4s
BRVK LR LR
comp=Z,131µm,20.0s
BRVK Borovoye 49.36 311 P **P** **19 35 26.7 -0.4**
SNR=176
BRVK P **P** **19 35 26.7 -0.4**
SNR=176
BRVK P **P** **19 35 26.7 -0.4**
SNR=176
DAWY Dawson 49.44 34 *eP* **P** **19 35 28.1 +0.5**
comp=Z,103nm,1.1s
DAWY LR LR
comp=Z,59µm,21.0s
PMG Port Moresby 49.61 175 P **P** **19 35 29.8 +0.4**
comp=Z,17nm,0.9s,baz=347,slow=12,SNR=2.7
PMG LR LR 19 54 50.8
comp=Z,18µm,20.0s,baz=1.0,slow=34
PMG Port Moresby 49.61 175 *eP* **P** **19 35 29.0 -0.4**
comp=Z,132nm,1.1s
KAPI Kappang 49.87 211 P **P** **19 35 30.5 -0.9**
SNR=28
KAPI P **P** **19 35 30.5 -0.9**
SNR=28
KAPI P **P** **19 35 30.5 -0.9**
SNR=28
FRU Bishkek 49.88 297⇑ *eP* **P** **19 35 31.0 -0.3**
FRU *i* **19 35 44.0**
FRU *eS* **S** **19 42 41.0 +1.6**
FRU *e* 19 42 46.0
FRU pmax pmax
comp=Z,670nm,2.0s
FRU MLR MLR
comp=Z,155µm,16.0s
KOLN Koldanda 49.88 275 *eP* **P** **19 35 31.3 -0.4**
comp=Z,536nm,0.9s
AAK Ala-Archa 50.04 296 LR LR 19 58 14.3
comp=Z,136µm,19.6s,baz=70,slow=38
AAK Ala-Archa 50.04 296 P **P** **19 35 31.1 -1.6**
AAK pmax pmax
comp=Z,355nm,1.3s
AAK Ala-Archa 50.04 296 *eP* **P** **19 35 31.8 -0.9**
comp=Z,326nm,1.2s
SKLT Songkhla 50.12 240 P **P** **19 35 34.4 +1.1**
comp=Z,359nm,1.2s,comp=Z,7µm
PYUN Piuthan 50.18 275 *eP* **P** **19 35 33.6 -0.4**
comp=Z,2µm,1.1s
KSH Kashi 50.22 292⇑ *iP* **P** **19 35 37.1 +3.1**
KSH pP sP 19 35 47.1 +0.5
KSH sP pP 19 35 51.1 +8.1
KSH PcP **PcP** **19 36 55.1 +2.2**
KSH PP **PP** **19 37 34.0 +4.8**
KSH S **S** **19 42 45.3 +1.0**
KSH sS sS 19 43 01.0 +1.9
KSH SS **SS** **19 46 16.1 -1.4**
KSH pmax pmax
comp=Z,150nm,1.0s
KSH pmax pmax
comp=Z,2µm,4.3s
KSH LR LR
comp=Z,56µm,14.2s
KSH LR LR
comp=Z,43µm,14.8s
KSH LR LR
comp=Z,120µm,13.4s
BOK Bokaro 50.23 269 *eP* **P** **19 35 34.0 -0.2**
BOK IAmb IAmb 19 35 40.2
comp=Z,58nm,0.6s
TRTT Trang 50.26 242 P **P** **19 35 35.2 +0.8**
comp=Z,228nm,1.2s,comp=Z,6µm
KRAB Krabi 50.31 243 P **P** **19 35 32.0 -2.8**
comp=Z,3µm,0.5s
BSSI Bau Bau, Buton 50.62 209 P **P** **19 35 36.6 -0.5**
comp=Z,295nm,1.1s,comp=Z,6µm
INK Inuvik 50.95 28 P **P** **19 35 38.9 -0.1**
baz=284,slow=6.7
INK S **S** **19 42 56.9 +3.4**
comp=Z,1.2nm,0.5s,baz=38,slow=20,SNR=5.7
INK LR LR 19 58 52.4
comp=Z,41µm,21.7s,baz=276,slow=38
INK Inuvik 50.95 28 *eP* **P** **19 35 38.9 -0.1**
comp=Z,142nm,0.8s
INK S **S** **19 42 56.9 +3.4**
HYT Haines Junctio 50.99 38 *eP* **P** **19 35 41.2 +1.6**
comp=Z,636nm,1.1s
HYT LR LR
comp=Z,44µm,21.0s
DHAK Deception Hill 51.10 41 *eP* **P** **19 35 41.1 +0.8**
comp=Z,219nm,1.2s
DHAK LR LR
comp=Z,35µm,20.0s
DGPR DIGLIPUR 51.33 253 *eP* **P** **19 35 42.4 -0.1**
MNAS Manas 51.46 297 *i* P **P** **19 35 42.6 -0.7**
MNAS pmax pmax
comp=Z,693nm,1.1s
PBKI Pangkalan Bun 51.47 221 P **P** **19 35 42.8 -0.7**
comp=Z,328nm,0.9s,comp=Z,5µmcomp=Z,38µm
KEKH Kekaha 51.49 93 *eP* **P** **19 35 44.5 +0.8**
comp=Z,647nm,1.9s
KEKH LR LR
comp=Z,41µm,21.0s
KULM Kulim 51.50 239 *eP* **P** **19 35 43.4 -0.3**
comp=Z,286nm,0.9s
KULM LR LR
comp=Z,28µm,18.0s
IPM Ipoh 51.86 238 *eP* **P** **19 35 45.0 -1.5**
comp=Z,313nm,1.0s
IPM LR LR
comp=Z,66µm,18.0s
IPM Ipoh 51.86 238 ⇓P **P** **19 35 46.8 +0.4**
HNR Honiara 51.92 158 *eP* pP 19 35 56.0 +0.2
HNR Honiara 51.92 158 *eP* **P** **19 35 47.2 +0.4**
HNR pmax pmax
comp=Z,396nm,1.1s
HNR MLR MLR
comp=Z,68µm,21.0s
HNR Honiara 51.92 158 *eP* **P** **19 35 47.2 +0.4**
comp=Z,396nm,1.1s
HNR LR LR
comp=Z,68µm,21.0s
MYKOM **Kota Tinggi 52.16 233** *eP* **P** **19 35 47.7 -0.9**
comp=Z,191nm,1.1s
MYKOM LR LR
comp=Z,30µm,18.0s
MYKOM **Kota Tinggi 52.16 233** ⇑P **P** **19 35 49.5 +0.9**
WHY Whitehorse 52.28 38 *eP* **P** **19 35 50.1 +1.0**
comp=Z,531nm,1.9s
WHY LR LR
comp=Z,39µm,19.0s
MMRI Maumere 52.31 206 P **P** **19 35 48.4 -1.3**
comp=Z,817nm,1.2s,comp=Z,11µmcomp=Z,24µm
MMRI Maumere 52.31 206 *eP* **P** **19 35 47.9 -1.8**
comp=Z,1µm,1.3s
KGM Kluang 52.31 234 ⇓P **P** **19 35 50.8 +1.0**
SKAG Skagway 52.41 40 *eP* **P** **19 35 50.5 +0.5**
comp=Z,172nm,1.2s
SKAG LR LR
comp=Z,48µm,21.0s
TPRI Tanjung Pinang 52.44 232 P **P** **19 35 50.0 -0.7**
comp=Z,277nm,1.2s,comp=Z,7µmcomp=Z,43µm
KK31 Karatay Array 52.56 298 *i* P **P** **19 35 49.7 -1.7**
KK31 pmax pmax
comp=Z,146nm,0.7s
KKAR Karatay Array 52.56 298 *eP* **P** **19 35 50.2 -1.2**
KKAR pmax pmax
comp=Z,1µm,0.8s
KKAR MLR MLR
comp=Z,28µm,21.0s
KKAR Karatay Array 52.56 298 *eP* **P** **19 35 50.2 -1.2**
comp=Z,1µm,0.8s
KKAR LR LR
comp=Z,28µm,21.0s
SOEI Soe 52.71 203 P **P** **19 35 51.4 -1.4**
comp=Z,922nm,1.0s,comp=Z,10µm
SOEI Soe 52.71 203 *eP* **P** **19 35 50.6 -2.1**
comp=Z,1µm,1.1s
SOEI LR LR
comp=Z,25µm,22.0s
DDI Dehra Dun 52.81 281 *eP* **P** **19 35 52.2 -1.2**
DDI IAmb IAmb 19 36 03.4
comp=Z,296nm,1.4s
BESE Bessie Mountai 52.92 41 *eP* **P** **19 35 54.5 +0.6**
comp=Z,194nm,1.4s
BESE LR LR
comp=Z,46µm,19.0s
OPA Opana 52.96 92 *eP* **P** **19 35 56.6 +2.0**
OPA pmax pmax
comp=Z,260nm,0.9s
OPA Opana 52.96 92 *eP* **P** **19 35 55.1 +0.5**
comp=Z,256nm,0.9s
OPA LR LR
comp=Z,46µm,22.0s
SMLA Simla 53.08 282 *eP* **P** **19 35 54.6 -0.7**
KIP Kipapa 53.11 92 *ceP* **P** **19 35 57.2 +1.6**
KIP pmax pmax
comp=Z,970nm,0.9s
KIP MLR MLR
comp=Z,257µm,18.0s
KIP Kipapa 53.11 92 *eP* **P** **19 35 56.3 +0.7**
comp=Z,190nm,0.9s
KIP LR LR
comp=Z,45µm,18.0s
HON Honolulu 53.17 92 *eP* **P** **19 35 56.3 +0.2**
HON pmax pmax
comp=Z,369nm,1.2s
HON MLR MLR
comp=Z,46µm,20.0s
HON Honolulu 53.17 92 *eP* **P** **19 35 56.3 +0.2**
comp=Z,369nm,1.2s
HON LR LR
comp=Z,46µm,20.0s
DHRM DHARAMSHALA 53.18 284 *eP* **P** **19 35 55.6 -0.8**
DHRM IAmb IAmb 19 43 44.1
comp=Z,68nm,0.7s
IUG luzhnay 53.27 298 *i* P **P** **19 35 54.4 -2.4**
comp=Z,952nm,2.0s
IUG *e*S **S** **19 43 23.9 -2.4**
IUG LR LR 19 59 28.6
comp=Z,29µm,13.8s
BATI Baumata 53.32 204 P **P** **19 35 54.9 -2.3**
comp=Z,95nm,0.9s,comp=Z,2µm
BHK Bhakra 53.50 283 *eP* **P** **19 35 57.0 -1.5**
BHK *ex* x 19 36 39.8
SVE Sverdlovsk 53.52 317 *d iP* **P** **19 35 58.3 +0.1**
SVE *e*PPP PPP 19 39 10.3
SVE *e*S **S** **19 43 32.0 +3.1**
SVE pmax pmax
comp=Z,1µm,1.7s
SVE pmax pmax
comp=Z,13µm,19.8s
SVE MLR MLR
comp=E,266µm,15.0s
SVE MLR MLR
comp=Z,363µm,15.0s
THN Thein Dam 53.53 284 *eP* **P** **19 35 55.8 -2.8**
THN *ex* x 19 43 41.6
PONG Pong 53.59 284 *eP* **P** **19 35 59.0 0.0**
PONG *ex* x 19 37 07.0
WSI Waingapu 53.94 208 P sP 19 36 13.4 -0.9
COEN Coen 53.97 180 *eP* **P** **19 36 01.4 -0.6**
comp=Z,268nm,1.0s
COEN LR LR
comp=Z,28µm,22.0s
PPBI Pangkal Pinang 53.99 228 P **P** **19 36 01.5 -0.6**
comp=Z,234nm,1.2s,comp=Z,5µm
MTN Manton Dam 53.99 194 *eP* **P** **19 36 00.6 -1.4**
comp=Z,674nm,1.1s
LHMI Lhok Sumawe 54.01 242 P **P** **19 36 03.5 +1.2**
comp=Z,390nm,1.4s,comp=Z,15µmcomp=Z,73µm
LHMI Lhok Sumawe 54.01 242 *eP* **P** **19 36 02.7 +0.4**
comp=Z,2µm,1.7s
PLAI Plampang 54.12 211 P **P** **19 35 59.2 -3.8**
comp=Z,138nm,1.3s,comp=Z,4µmcomp=Z,28µm
KMMI Kalianget 54.15 216 P **P** **19 36 05.7 +2.5**
comp=Z,156nm,0.9s,comp=Z,6µm
NDI New Delhi 54.26 279 *eP* **P** **19 36 01.0 -3.1**
BASI Baing, Sumba 54.35 207 P sP 19 36 21.7 +4.4
TWSI Taliwang, Sumb 54.40 212 P **P** **19 36 04.0 -1.1**
comp=Z,130nm,1.1s,comp=Z,3µm
SOKR Solikamsk 54.49 321 *c iP* **P** **19 36 02.8 -2.4**
SOKR 19 38 09.3
SOKR S S 19 43 53.7 +12
SOKR pmax pmax
comp=Z,251nm,1.0s
SOKR MLR MLR
comp=Z,121µm,17.0s
PSI Prapat 54.49 238 *eP* **P** **19 36 04.5 -1.5**
PSI pmax pmax
comp=Z,224nm,1.0s
PSI MLR MLR
comp=Z,32µm,20.0s
PSI Prapat 54.49 238 *eP* **P** **19 36 04.5 -1.5**
comp=Z,224nm,1.0s
PSI LR LR
comp=Z,32µm,20.0s
SRBI Singaraja 54.52 214 P **P** **19 36 07.2 +1.3**
comp=Z,228nm,1.6s,comp=Z,10µm
CHLP Challavanipeta 54.66 265 *eP* **P** **19 36 06.6 -0.4**
CHLP IAmb IAmb 19 36 19.2
comp=Z,219nm,1.3s
CHLP *e*S **S** **19 43 42.6 -2.5**
CHLP IVMs_BB IVMs_BB 20 03 10.7
comp=Z,13µm,17.6s
ABJI Asem Bagus 54.69 216 P P 19 36 12.6 +5.5
ARU Arti 54.73 317 LR LR 20 02 21.9
comp=Z,216µm,18.9s,baz=62,slow=39
ARU Arti 54.73 317 *c iP* **P** **19 36 06.5 -0.6**
ARU 19 37 06.3
ARU 19 38 07.4
ARU PPP PPP 19 39 19.0
ARU S **S** **19 43 45.4 +0.1**
ARU 19 45 57.6
ARU SS **SS** **19 47 24.3 -3.6**
ARU pmax pmax
comp=Z,554nm,1.2s
ARU pmax pmax
comp=Z,12µm,17.8s
ARU Arti 54.73 317 *eP* **P** **19 36 06.2 -0.8**
comp=Z,3µm,1.9s
RGRI Rengat 54.77 233 P **P** **19 36 09.5 +1.7**
comp=Z,797nm,1.2s,comp=Z,11µm
CMBY CAMPBELL BAY 54.81 246 *eP* **P** **19 36 07.1 -1.0**
HLK Haleakala 54.84 92 *eP* **P** **19 36 08.9 +0.3**
comp=Z,438nm,1.3s
HLK LR LR
comp=Z,53µm,21.0s

CRAG Craig 54.87 44 *eP* **P 19 36 06.3 -1.7**
comp=Z,132nm,1.1s
CRAG LR LR
comp=Z,33µm,20.0s
WRAK Wrangell Islan 54.93 43 *eP* **P 19 36 08.6 +0.2**
comp=Z,114nm,1.0s
WRAK LR LR
comp=Z,34µm,20.0s
JMBI JAMBI 55.00 231 P P 19 36 15.5 +6.0
BKNI Bangkinang 55.04 235 P **P 19 36 10.5 +0.8**
comp=Z,2µm,1.0s,comp=Z,16µm
BKNI Bangkinang 55.04 235 *eP* **P 19 36 08.9 -0.8**
comp=Z,2µm,1.0s
BKNI LR LR
comp=Z,42µm,18.0s
DNP Denpasar 55.05 214 P **P 19 36 10.9 +1.2**
comp=Z,457nm,1.0s,comp=Z,11µm
JBP Jabalpur 55.09 272 *eP* **P 19 36 10.4 +0.3**
IGBI Denpasar 55.20 214 P **P 19 36 10.3 -0.5**
comp=Z,163nm,1.2s,comp=Z,4µm
TPTI 55.30 240 P **P 19 36 13.2 +1.6**
comp=Z,99nm,1.2s,comp=Z,4µm
JAGI Jajag, Banyuwa 55.32 215 P **P 19 36 11.1 -0.7**
comp=Z,91nm,1.2s,comp=Z,3µm
JAGI Jajag, Banyuwa 55.32 215 *eP* **P 19 36 09.3 -2.4**
comp=Z,125nm,1.0s
JAGI LR LR
comp=Z,14µm,21.0s
DLBC Dease Lake 55.35 40 *eP* **P 19 36 13.5 +1.9**
comp=Z,262nm,1.5s
DLBC LR LR
comp=Z,30µm,20.0s
PMBI Palembang 55.39 229 P **P 19 36 16.1 +3.8**
comp=Z,730nm,1.1s,comp=Z,11µm
NGJI Ngawi 55.60 219 P **P 19 36 15.1 +1.4**
comp=Z,365nm,1.2s,comp=Z,9µm
VIS Vishakhapatnam 55.68 264 *eP* **P 19 36 15.0 +0.6**
VIS IAmb IAmb 19 36 16.5
comp=Z,158nm,1.2s
HPAH Hawaii Prepara 55.68 92 *eP* **P 19 36 14.0 -0.5**
comp=Z,118nm,1.0s
HPAH LR LR
comp=Z,48µm,21.0s
SDSI Sungai Dareh 55.78 233 P **P 19 36 16.5 +1.4**
comp=Z,864nm,1.1s,comp=Z,39µm
SMRI Semarang 55.82 220 P **P 19 36 16.7 +1.4**
comp=Z,450nm,1.1s,comp=Z,14µm
SMRI Semarang 55.82 220 *eP* **P 19 36 14.6 -0.8**
comp=Z,364nm,1.0s
POHA Pohakuloa 55.96 92 *eP* **P 19 36 16.6 -0.1**
comp=Z,419nm,1.3s
POHA LR LR
comp=Z,51µm,21.0s
PWJI Pagerwojo 56.00 218 P **P 19 36 14.8 -1.8**
comp=Z,433nm,0.9s,comp=Z,7µm
PPI Padang Panjang 56.05 235 P **P 19 36 17.2 +0.2**
comp=Z,135nm,1.7s,comp=Z,5µm
MLOA Mauna Loa Obse 56.06 92 *eP* **P 19 36 18.1 +0.5**
comp=Z,194nm,1.0s
MLOA LR LR
comp=Z,51µm,21.0s
MWH Moku'aweowe 56.07 93 *eP* **P 19 36 14.9 -3.0**
comp=Z,244nm,1.1s
MWH LR LR
comp=Z,46µm,21.0s
DIB Dawson Inlet, 56.09 46 *eP* **P 19 36 17.7 +0.9**
comp=Z,237nm,1.4s
DIB LR LR
comp=Z,35µm,21.0s
MLH Mauna Loa 56.23 92 *eP* **P 19 36 20.8 +2.2**
MLH pmax pmax
comp=Z,180nm,0.9s
MLH Mauna Loa 56.23 92 *eP* **P 19 36 16.9 -1.7**
comp=Z,180nm,0.9s
MLH LR LR
comp=Z,53µm,21.0s
AIN Ainahou 56.24 93 *eP* **P 19 36 18.3 -0.4**
comp=Z,433nm,1.1s
AIN LR LR
comp=Z,48µm,21.0s
WOJI Wonogiri, Jawa 56.26 219 P **P 19 36 19.4 +0.9**
comp=Z,235nm,1.5s,comp=Z,7µm
UWE Uwekahuna 56.34 92 *eP* **P 19 36 17.5 -1.8**
comp=Z,180nm,1.0s
UWE LR LR
comp=Z,54µm,21.0s
WRMHI West Rim 56.34 92 *eP* **P 19 36 19.1 -0.2**
comp=Z,196nm,1.0s
WRMHI LR LR
comp=Z,52µm,21.0s
UWB Uwekahuna B 56.35 92 *eP* **P 19 36 17.9 -1.4**
comp=Z,160nm,1.2s
UWB LR LR
comp=Z,51µm,20.0s
NPH North Pit 56.36 92 *eP* **P 19 36 20.0 +0.6**
NPH pmax pmax
comp=Z,326nm,1.4s
NPH MLR MLR
comp=Z,49µm,20.0s
NPH North Pit 56.36 92 *eP* **P 19 36 20.0 +0.6**
comp=Z,326nm,1.4s
NPH LR LR
comp=Z,49µm,20.0s
SBLHI Steaming Bluff 56.36 92 *eP* **P 19 36 17.9 -1.5**
comp=Z,453nm,1.6s
SBLHI LR LR
comp=Z,47µm,20.0s
SDHHI Sand Hill 56.36 92 *eP* **P 19 36 19.9 +0.5**
comp=Z,135nm,0.9s
SDHHI LR LR
comp=Z,52µm,21.0s
HATHI Halema'uma'u T 56.37 92 *eP* **P 19 36 19.1 -0.3**
comp=Z,199nm,1.0s
HATHI LR LR
comp=Z,54µm,21.0s
RIM Rim 56.37 92 *eP* **P 19 36 19.2 -0.3**
comp=Z,183nm,1.0s
RIM LR LR
comp=Z,52µm,21.0s
BYL Byron's Ledge 56.37 92 *eP* **P 19 36 19.0 -0.4**
comp=Z,445nm,1.6s
BYL LR LR
comp=Z,46µm,20.0s
KKO Keanakako'i 56.38 92 *eP* **P 19 36 18.1 -1.4**
comp=Z,208nm,1.1s
KKO LR LR
comp=Z,52µm,21.0s
HLP Hilina Pali 56.40 93 *eP* **P 19 36 17.8 -1.9**
comp=Z,564nm,1.3s
HLP LR LR
comp=Z,49µm,20.0s
PUH Pauahi 56.43 92 *eP* **P 19 36 17.6 -2.3**
PCJI Pacitan 56.45 219 P **P 19 36 23.8 +4.0**
comp=Z,148nm,1.2s,comp=Z,6µm
STCH Steam Cracks 56.49 92 *eP* **P 19 36 19.9 -0.4**
comp=Z,205nm,1.2s
NPOC North of Pu'u 56.50 92 *eP* **P 19 36 19.8 -0.5**
comp=Z,471nm,1.5s
NPOC LR LR
comp=Z,49µm,21.0s
JCUZ Jacuzzi 56.51 92 PFAKE 19 36 30.0 +10
JCUZ LR LR
comp=Z,56µm,22.0s
UGM Wanagama 56.52 220 P **P 19 36 20.2 -0.2**
comp=Z,548nm,1.2s,comp=Z,10µm
UGM Wanagama 56.52 220 *eP* **P 19 36 18.4 -1.9**
comp=Z,2µm,1.6s
UGM LR LR
comp=Z,19µm,22.0s
AB31 Akbulak array 56.78 309 *i* P **P 19 36 20.8 -1.0**
AB31 pmax pmax
comp=Z,714nm,1.1s
ABKAR Akbulak array 56.78 309 *eP* **P 19 36 20.8 -1.0**
comp=Z,3µm,0.9s
ABKAR LR LR
comp=Z,26µm,18.0s
KPJI Karang Pucung 56.81 222 P **P 19 36 21.4 -1.0**
comp=Z,279nm,1.1s,comp=Z,5µm
KLSI 56.85 227 P **P 19 36 22.4 -0.3**
comp=Z,380nm,2.2s,comp=Z,10µm
NGP Nagpur 56.94 271 *eP* **P 19 36 22.6 -0.9**
NGP IAmb IAmb 19 36 38.6
comp=Z,531nm,1.1s
BHPL Bhopal 57.01 274 *eP* **P 19 36 23.0 -0.9**
BHPL IAmb IAmb 19 42 13.3
comp=Z,26nm,0.4s
MASI Maura Aman, Be 57.04 231 P **P 19 36 24.9 +0.8**
comp=Z,746nm,1.3s,comp=Z,13µm

PBSI Pulau Batu 57.07 237 P **P 19 36 26.9 +2.6**
comp=Z,376nm,1.5s,comp=Z,10µm
BLSI Bandar Lampung 57.12 226 P **P 19 36 24.3 -0.3**
comp=Z,233nm,1.1s,comp=Z,6µm
HOPEN Hopen 57.17 346 *eP* **P 19 36 24.7 +0.5**
HOPEN IVmB_BB 19 36 41.5
comp=Z,8µm,3.3s
HOPEN IVMs_BB IVMs_BB 20 03 29.8
comp=Z,24µm,19.7s
KSI Kapahiang 57.24 230 P **P 19 36 26.7 +1.2**
comp=Z,253nm,1.2s,comp=Z,6µmcomp=Z,47µm
PVM Polavaram 57.26 265 *eP* **P 19 36 24.5 -1.1**
PVM IAmb IAmb 19 36 31.1
comp=Z,122nm,1.1s
PVM *eS* **S 19 44 20.2 +0.4**
PVM IVMs_BB IVMs_BB 20 02 41.3
comp=Z,12µm,19.0s
SBJI Serang 57.26 225 P *sP* 19 36 44.4 +6.2
KBL Kabul 57.39 290 *eP* **P 19 36 25.3 -1.4**
KBL pmax pmax
comp=Z,869nm,1.0s
KBL MLR MLR
comp=Z,139µm,18.0s
KBL Kabul 57.39 290 *eP* **P 19 36 25.2 -1.4**
comp=Z,869nm,1.0s
KBL LR LR
comp=Z,139µm,18.0s
AKTO Aktyubinsk 57.41 311 LR LR 20 02 45.7
comp=Z,73µm,21.6s,baz=66,slow=38
AKTO Aktyubinsk 57.41 311 *i* P **P 19 36 25.1 -1.2**
AKTO pmax pmax
comp=Z,351nm,0.9s
LWLI Liwa 57.50 228 P **P 19 36 27.9 +0.5**
comp=Z,195nm,0.9s,comp=Z,5µm
SISI Saibi 57.54 235 P **P 19 36 31.0 +3.4**
comp=Z,354nm,1.2s,comp=Z,7µm
SPB1 Spitsbergen Ar 57.55 349 *eP* **P 19 36 27.5 +0.5**
SPB5 Spitsbergen Ar 57.56 349 *eP* **P 19 36 25.9 -1.1**
SPA1 Spitsbergen Ar 57.56 349 *eP* **P 19 36 27.2 +0.3**
SPA0 Spitsbergen Ar 57.56 349 *eP* **P 19 36 26.2 -0.7**
SPA0 IVmB_BB 19 36 42.4
comp=Z,8µm,3.4s
SPA0 *eS* **S 19 44 22.4 +0.1**
SPA0 IVMs_BB IVMs_BB 20 06 25.7
comp=Z,23µm,16.4s
SPA0 Spitsbergen Ar 57.56 349 *eP* **P 19 36 27.5 +0.5**
SPA2 Spitsbergen Ar 57.56 349 *eP* **P 19 36 26.6 -0.4**
SPB2 Spitsbergen Ar 57.56 349 *eP* **P 19 36 27.0 0.0**
SPA3 Spitsbergen Ar 57.56 349 *eP* **P 19 36 27.5 +0.5**
SPB4 Spitsbergen Ar 57.56 349 *eP* **P 19 36 27.8 +0.8**
SPB3 Spitsbergen Ar 57.56 349 *eP* **P 19 36 27.1 +0.2**
CISI Cisompet, Garu 57.58 222 P **P 19 36 27.5 -0.4**
comp=Z,137nm,1.1s,comp=Z,4µm
CISI Cisompet, Garu 57.58 222 *eP* **P 19 36 24.6 -3.2**
comp=Z,118nm,0.9s
CISI LR LR
comp=Z,22µm,21.0s
MNAI Manna 57.60 229 *eP* **P 19 36 24.8 -3.3**
comp=Z,1µm,1.5s
MNAI LR LR
comp=Z,17µm,19.0s
KBS Kingsbay 57.65 350 *eP* **P 19 36 28.5 +1.0**
KBS IVmB_BB 19 36 45.2
comp=Z,6µm,3.1s
KBS *eS* **S 19 44 25.8 +2.4**
KBS IVMs_BB IVMs_BB 20 07 13.8
comp=Z,12µm,18.3s
KBS Kingsbay 57.65 350 *eP* **P 19 36 28.0 +0.4**
KBS pmax pmax
comp=Z,526nm,1.4s
KBS MLR MLR
comp=Z,31µm,20.0s
KBS Kingsbay 57.65 350 *eP* **P 19 36 27.9 +0.4**
comp=Z,526nm,1.4s
KBS LR LR
comp=Z,31µm,20.0s
KASI Kota Agung 57.67 227 P **P 19 36 28.3 -0.2**
comp=Z,188nm,1.2s,comp=Z,3µmcomp=Z,33µm
CNJI Cibinong 57.72 223 P **P 19 36 30.9 +2.1**
comp=Z,184nm,1.2s,comp=Z,3µm
CGJI Cibinong 57.91 225 P **P 19 36 28.8 -1.3**
comp=Z,88nm,1.3s,comp=Z,3µm
PPSI Pulau Pagai 58.08 233 P **P 19 36 34.0 +2.6**
comp=Z,817nm,1.0s,comp=Z,12µm
RPR Rampur 58.08 268 *eP* **P 19 36 30.6 -0.8**
RPR IAmb IAmb 19 36 36.6
comp=Z,189nm,1.0s
RPR *eS* **S 19 44 31.2 +0.6**
RPR IVMs_BB IVMs_BB 20 10 52.0
comp=Z,13µm,14.6s
HSPB Hornsund (broa 58.51 348 *eP* **P 19 36 34.0 +0.4**
HSPB IVmB_BB 19 36 49.3
comp=Z,7µm,3.3s
HSPB *eS* **S 19 44 36.5 +1.8**
HSPB IVMs_BB IVMs_BB 20 04 41.3
comp=Z,24µm,18.4s
HSPB Hornsund (broa 58.51 348 *eP* **P 19 36 33.9 +0.4**
HSPB *e* 19 36 48.8
HSPB *eS* **S 19 44 40.5 +5.8**
HSPB *eS* **sS 19 44 50.6 +0.9**
HSPB *eSS* **SS 19 48 27.4 +0.8**
HSPB MLR MLR
comp=Z,66µm,25.5s
SRSP Sriramsagar 58.77 269 *eP* **P 19 36 35.1 -1.2**
SRSP IAmb IAmb 19 36 41.2
comp=Z,320nm,1.0s
SRSP IVMs_BB IVMs_BB 20 07 34.4
comp=Z,13µm,15.5s
BBB Bella Bella 58.93 46 *eP* **P 19 36 36.0 -0.8**
comp=Z,291nm,1.5s
FUNA Funafuti 59.00 137 PFAKE 19 36 50.0 +12
FUNA LR LR
comp=Z,133µm,21.0s
RES Resolute Bay 59.15 15 S **S 19 44 48.2 +5.2**
comp=Z,32nm,1.1s,baz=349,slow=10.0,SNR=1.9
RES LR LR 20 07 09.0
comp=Z,22µm,18.1s,baz=320,slow=41
RES Resolute Bay 59.15 15 *eP* **P 19 36 38.4 +0.4**
RES pmax pmax
comp=Z,190nm,1.0s
RES Resolute Bay 59.15 15 *eP* **P 19 36 37.1 -0.9**
comp=Z,188nm,0.9s
RES S **S 19 44 48.2 +5.2**
ADKI Addanki 59.37 265 *eP* **P 19 36 39.2 -1.1**
ADKI IAmb IAmb 19 36 45.5
comp=Z,183nm,1.3s
ADKI *eS* **S 19 44 48.9 +1.6**
ADKI IVMs_BB IVMs_BB 20 04 04.4
comp=Z,12µm,19.6s
NJS Nagarjunasagar 59.44 266 *eP* **P 19 36 36.5 -4.4**
HYB Hyderabad 59.50 267 *i* P **P 19 36 41.0 -0.4**
HYB *eSP* **sP 19 36 56.0 +2.0**
HYB *ePP* **PP 19 38 56.0 +3.2**
HYB *eS* **S 19 44 46.0 -3.2**
HYB *eScS* **ScS 19 46 24.0 -5.8**
HYB LR LR
comp=Z,63nm,20.0s
HYB Hyderabad 59.50 267 *eP* **P 19 36 41.0 -0.4**
HYB *eP* **sS 19 45 08.9 +4.6**
HYB *eP* **sS 19 45 08.9 +4.6**
HYBB Hyderabad (bro 59.50 267 *eP* **P 19 36 40.0 -1.4**
HYBB IAmb IAmb 19 36 53.8
comp=Z,267nm,1.5s
HYBB IVMs_BB IVMs_BB 20 09 39.6
comp=Z,15µm,17.2s
BJO Bjornoya 59.58 345 *eP* **P 19 36 42.1 +1.1**
BJO IVmB_BB 19 36 58.6
comp=Z,5µm,3.2s
BJO IVMs_BB IVMs_BB 20 09 59.6
comp=Z,25µm,13.4s
LVZ Lovozero 59.63 335 ⇑ *iP* **P 19 36 41.7 +0.1**
LVZ pmax pmax
comp=Z,83nm,1.0s
LVZ Lovozero 59.63 335 *eP* **P 19 36 40.2 -1.4**
comp=Z,192nm,1.0s
LVZ LR LR
comp=Z,52µm,18.0s
SRLM Srisailam 60.03 266 *eP* **P 19 36 43.7 -1.3**
SRLM IAmb IAmb 19 36 49.0
comp=Z,142nm,1.4s
SRLM IVMs_BB IVMs_BB 20 10 30.0
comp=Z,11µm,16.3s
CTA Charters Tower 60.15 176 P **P 19 36 46.1 +0.5**
comp=Z,13nm,0.9s,baz=343,slow=8.4,SNR=3.2
CTA S **S 19 45 00.3 +3.2**
comp=Z,4.6nm,0.9s,baz=318,slow=14,SNR=2.1

CTAO Charters Tower 60.15 176 *eP* **P 19 36 44.9 -0.6**
CTAO pmax pmax
comp=Z,186nm,1.5s
CTAO MLR MLR
comp=Z,25µm,22.0s
CTAO Charters Tower 60.15 176 *eP* **P 19 36 44.9 -0.6**
comp=Z,186nm,1.5s
CTAO LR LR
comp=Z,25µm,22.0s
APA Apatity 60.21 335 ⇓ *iP* **P 19 36 45.0 -0.5**
APA *i* S **S 19 44 53.0 -3.9**
APA *i* PS **PnS 19 45 12.0 -0.1**
APA pmax pmax
comp=Z,56nm,0.9s
WB0 Warramunga Arr 60.28 189 PFAKE 19 37 00.0 +14
WB0 LR LR
comp=Z,16µm,20.0s
FITZ Fitzroy Crossi 60.29 199 *eP* **P 19 36 45.6 -0.9**
comp=Z,270nm,1.1s
WB9 Warramunga Arr 60.30 189 PFAKE 19 37 00.0 +13
WB9 LR LR
comp=Z,33µm,20.0s
WB8 Warramunga Arr 60.33 189 PFAKE 19 37 00.0 +13
WB8 LR LR
comp=Z,17µm,21.0s
YKW3 Yellowknife Ar 60.37 31 *eP* **P 19 36 45.7 -0.9**
YKW3 LR LR
comp=Z,34µm,19.0s
WB6 Warramunga Arr 60.37 189 PFAKE 19 37 00.0 +13
WB6 LR LR
comp=Z,16µm,20.0s
RCLA Racherla 60.38 265 *eP* **P 19 36 46.4 -1.0**
RCLA IAmb IAmb 19 36 52.5
comp=Z,208nm,1.4s
RCLA IVMs_BB IVMs_BB 20 09 10.2
comp=Z,14µm,15.3s
YKA Yellowknife Ar 60.40 31 P **P 19 36 46.3 -0.5**
comp=Z,15nm,1.0s,baz=300,slow=6.7,SNR=26
YKA S **S 19 45 03.1 +3.6**
comp=Z,0.7nm,0.7s,baz=312,slow=12,SNR=2.7
YKA PKPPKP **P'P'df 20 06 07.9 -7.3**
comp=Z,0.9nm,0.8s,baz=137,slow=3.2,SNR=4.0
YKA LR LR 20 06 16.6
comp=Z,4µm,20.2s,baz=0.0,slow=39
YKA Yellowknife Ar 60.40 31 *i* P **P 19 36 47.0 +0.1**
YKA pmax pmax
comp=Z,15nm,1.0s
YKB5 Yellowknife Ar 60.40 31 *eP* **P 19 36 46.9 +0.1**
WRAB Tennant Creek 60.45 189 *eP* **P 19 36 45.0 -2.6**
WRAB pmax pmax
comp=Z,437nm,1.0s
WRAB MLR MLR
comp=Z,20µm,21.0s
WRAB Tennant Creek 60.45 189 *eP* **P 19 36 45.0 -2.6**
comp=Z,437nm,1.0s
WRAB LR LR
comp=Z,20µm,21.0s
WB2 Warramunga Arr 60.46 189 *eP* **P 19 36 45.3 -2.4**
WRA Warramunga Arr 60.46 189 P **P 19 36 45.5 -2.1**
comp=Z,111nm,1.0s,baz=7.0,slow=7.0,SNR=116
WRA S **S 19 45 04.7 +3.7**
comp=Z,9.2nm,1.2s,baz=8.3,slow=13,SNR=4.0
WRA LR LR 20 02 46.1
comp=Z,17µm,19.7s,baz=5.0,slow=36
WRA PKPPKP **P'P'df 20 06 07.6 +5.2**
comp=Z,2.1nm,1.0s,baz=186,slow=2.1,SNR=4.7
TMCR Tamitsa 60.47 331 *eP* **P 19 36 43.9 -3.3**
TMCR *eS* **S 19 44 57.1 -3.1**
TMCR pmax pmax
comp=Z,232nm,1.1s
WC3 Warramunga Arr 60.47 189 *eP* **P 19 36 45.5 -2.3**
comp=Z,470nm,1.0s
KLRI Killari 60.61 269 *eP* **P 19 36 47.4 -1.6**
KLRI IAmb IAmb 19 36 53.6
comp=Z,411nm,1.1s
KLRI IVMs_BB IVMs_BB 20 10 03.8
comp=Z,15µm,16.1s
KEV Kevo 60.82 339 PFAKE 19 37 00.0 +10
KEV LR LR
comp=Z,61µm,22.0s
SKHT Srikalahasti 60.86 263 *eP* **P 19 36 50.4 -0.2**
SKHT IAmb IAmb 19 37 04.9
comp=Z,96nm,0.7s
SKHT *eS* **S 19 45 06.9 +0.4**
SKHT IVMs_BB IVMs_BB 20 07 46.3
comp=Z,10µm,18.3s
MDRS Chennai 60.87 262 *eP* **P 19 36 51.8 +1.2**
MDRS *eP* **sS 19 45 25.1 +3.4**
MDRS *eP* **sS 19 45 25.1 +3.4**
HAMF Hammerfest 61.13 341 *eP* **P 19 36 51.6 -0.1**
HAMF IVmB_BB 19 37 08.6
comp=Z,5µm,4.3s
HAMF *eS* **S 19 45 11.1 +2.5**
HAMF IVMs_BB IVMs_BB 20 10 34.4
comp=Z,27µm,16.8s
XMIS Christmas Isla 61.17 223 *eP* **P 19 36 50.2 -2.5**
comp=Z,220nm,1.3s
XMIS LR LR
comp=Z,7µm,19.0s
ARA0 ARCESS Array S 61.37 339 *eP* **P 19 36 52.5 -0.8**
ARCES ARCESS Array B 61.37 339 P **P 19 36 52.7 -0.7**
comp=Z,30nm,0.9s,baz=45,slow=7.0,SNR=20
ARCES S **S 19 45 15.3 +3.6**
comp=Z,2.1nm,0.8s,baz=99,slow=16,SNR=2.3
ARCES LR LR 20 06 21.9
comp=Z,73µm,21.4s,baz=34,slow=39
ARE0 ARCESS Array S 61.37 339 *eP* **P 19 36 53.0 -0.4**
ARE0 IVmB_BB 19 37 08.6
comp=Z,6µm,4.2s
ARE0 IVMs_BB IVMs_BB 20 13 14.2
comp=Z,26µm,15.0s
ARE0 ARCESS Array S 61.37 339 *eP* **P 19 36 52.6 -0.7**
comp=Z,186nm,1.3s
ARE0 LR LR
comp=Z,77µm,21.0s
KLMR Klimovskoe 61.65 327 *i* P **P 19 36 54.3 -1.0**
KLMR *e* 19 37 35.8
KLMR *e* 19 39 09.7
KLMR *eS* **S 19 45 13.8 -1.5**
KLMR *eSS* **SS 19 49 16.7 +0.5**
KLMR pmax pmax
comp=Z,518nm,1.5s
KLMR MLR MLR
comp=Z,37µm,18.0s
URV Uravakonda 61.98 266 *eP* **P 19 36 57.5 -0.8**
URV IAmb IAmb 19 36 59.6
comp=Z,274nm,1.6s
URV *eS* **S 19 45 23.2 +2.3**
URV IVMs_BB IVMs_BB 20 08 56.1
comp=Z,12µm,15.9s
KTK1 Kautokeino 62.32 339 *eP* **P 19 37 01.2 +1.4**
KTK1 IVmB_BB 19 37 16.7
comp=Z,6µm,4.7s
KTK1 IVMs_BB IVMs_BB 20 05 34.7
comp=Z,19µm,22.6s
POO Poona 62.44 272 *eP* **P 19 37 01.3 0.0**
DAG Danmarks Havn 62.63 355 *i* P **P 19 37 01.4 -0.2**
comp=Z,272nm,1.5s
comp=Z,30µm,16.0s
DAG Danmarks Havn 62.63 355 *i* P **P 19 37 01.4 -0.2**
DAG pmax pmax
comp=Z,760nm,1.5s
DAG MLR MLR
comp=Z,30µm,16.0s
BHJ Bhuj 62.91 278 *eP* **P 19 37 03.5 -0.8**
BHJ IAmb IAmb 19 37 09.9
comp=Z,250nm,1.2s
TRO Tromso 63.02 341 *eP* **P 19 37 06.5 +2.2**
TRO IVmB_BB 19 37 22.0
comp=Z,5µm,4.6s
TRO IVMs_BB IVMs_BB 20 13 32.1
comp=Z,28µm,14.9s
LLLB Lillooet 63.10 45 *eP* **P 19 37 05.3 0.0**
comp=Z,120nm,1.1s
LLLB LR LR
comp=Z,41µm,22.0s
ASHT Ashkhabad 63.13 298 P **P 19 37 05.4 -0.2**
ASHT pmax pmax
comp=Z,516nm,1.5s
PGC Sidney 63.25 48 *eP* **P 19 37 06.3 +0.1**
comp=Z,105nm,1.1s
PGC LR LR
comp=Z,33µm,22.0s
GEYT Alibeck 63.32 298 P **P 19 37 06.1 -0.8**
comp=Z,91nm,0.9s,baz=29,slow=3.4,SNR=79
GEYT S **S 19 45 46.0 +8.8**

comp=Z,3.0nm,0.9s,baz=355,slow=9.3,SNR=2.7
GEYT LR LR 20 07 09.9
comp=Z,89µm,18.7s,baz=40,slow=38
A04D Lummi Island 63.63 47 P P 19 37 07.4 -1.3
baz=302
JOF Joensuu 63.65 332 eP P 19 37 08.4 -0.2
NLWA Neilton Lookou 63.67 49 eP P 19 37 10.2 +1.1
comp=Z,181nm,1.1s
NLWA LR LR
comp=Z,30µm,22.0s
MBW Mount Baker 64.05 47 P P 19 37 11.6 -0.2
OUL Oulu 64.13 335 P P 19 37 10.6 -1.1
AS01 Alice Springs 64.18 189 eP P 19 37 10.7 -1.8
AS31 Alice Springs 64.18 189 eP P 19 37 10.5 -2.1
comp=Z,38nm,0.9s
AS31 LR LR
comp=Z,300nm,20.0s
ASAR Alice Springs 64.19 189 P P 19 37 10.9 -1.6
comp=Z,97nm,1.2s,baz=8.9,slow=7.9,SNR=55
ASAR S S 19 45 51.0 +3.1
comp=Z,2.1nm,1.1s,baz=16,slow=11,SNR=4.2
ASAR LR LR 20 04 50.4
comp=Z,23µm,20.4s,baz=5.0,slow=36
ASAR PKPPKP **P'P'df 20 06 02.7 +6.2**
comp=Z,3.4nm,1.1s,baz=152,slow=3.0,SNR=7.1
B05A Bryant 64.22 48 P P 19 37 12.4 -0.2
baz=302
PALK Pallekele 64.24 257 *i* P P 19 37 13.0 -0.3
SNR=6.2
PALK Pallekele 64.24 257 *i* P P 19 37 13.0 -0.3
SNR=6.2
PALK Pallekele 64.24 257 *i* P P 19 37 14.7 +1.4
PALK Pallekele 64.24 257 eP P 19 37 12.3 -1.0
comp=Z,97nm,0.9s
PALK LR LR
comp=Z,37µm,20.0s
PALK Pallekele 64.24 257 P P 19 37 13.7 +0.4
SNR=8.1
PALK P P 19 37 13.7 +0.4
SNR=8.1
PALK P P 19 37 13.7 +0.4
SNR=8.1
GOA Goa 64.27 269 eP P 19 37 13.8 +0.4
E03A Lebam 64.29 50 eP P 19 37 14.9 +1.8
comp=Z,272nm,1.0s
E03A LR LR
comp=Z,27µm,21.0s
TUM Tumwater 64.42 49 PFAKE 19 37 20.0 +6.1
TUM LR LR
comp=Z,16µm,20.0s
B06A Marblemount 64.43 47 eP P 19 37 13.7 -0.3
comp=Z,226nm,1.4s
B06A LR LR
comp=Z,35µm,21.0s
RPW Rockport 64.45 47 P P 19 37 15.2 +0.9
MBWA Marble Bar 64.85 204 eP P 19 37 15.3 -1.6
comp=Z,172nm,1.0s
D05A Enumclaw 64.86 49 eP P 19 37 18.6 +1.8
comp=Z,370nm,1.3s
D05A LR LR
comp=Z,18µm,21.0s
F04D Rainier, OR 64.86 50 P P 19 37 16.0 -0.8
baz=303
C06D Leavenworth 65.08 48 P P 19 37 17.9 -0.4
baz=303
TDL Tradedollar La 65.18 50 P P 19 37 20.6 +1.5
STEI Steigen 65.18 341 eP P 19 37 17.7 -0.8
STEI IVmB_BB 19 37 35.5
comp=Z,5µm,3.9s
G03D McMinnville, O 65.18 51 P P 19 37 19.0 +0.1
baz=303
LON Longmire 65.20 49 eP P 19 37 20.5 +1.4
LON pmax pmax
comp=Z,74nm,1.0s
LON Longmire 65.20 49 eP P 19 37 19.4 +0.2
comp=Z,74nm,1.0s
F04A Amboy 65.29 50 eP P 19 37 20.0 +0.3
comp=Z,159nm,1.0s
F04A LR LR
comp=Z,25µm,22.0s
MOS Moscow 65.34 323α *iP P 19 37 19.3 -0.5**
MOS *e* 19 37 51.2
MOS *e* 19 39 43.6
MOS *e* 19 41 26.0
MOS *e*S **S 19 45 59.6 -2.0**
MOS *e* 19 47 10.4
MOS *e*SS **SS 19 50 15.3 +1.3**
MOS pmax pmax
comp=Z,530nm,1.8s
MOS pmax pmax
comp=Z,2µm,2.9s
MOS MLR MLR
comp=N,139µm,15.0s
MOS MLR MLR
comp=E,121µm,15.0s
MOS MLR MLR
comp=Z,188µm,15.0s
LOF Lofoten 65.45 341 eP P 19 37 20.1 -0.2
LOF IVmB_BB 19 37 35.1
comp=Z,6µm,4.9s
LOF *e*S **S 19 46 04.7 +2.2**
LOF IVMs_BB IVMs_BB 20 11 47.9
comp=Z,19µm,15.5s
COR Corvallis 65.50 52 eP P 19 37 23.5 +2.5
COR pmax pmax
comp=Z,250nm,1.1s
COR Corvallis 65.50 52 eP P 19 37 21.3 +0.3
comp=Z,253nm,1.1s
COR LR LR
comp=Z,25µm,20.0s
LTY Liberty 65.57 48 eP P 19 37 20.9 -0.7
comp=Z,91nm,1.0s
LTY LR LR
comp=Z,30µm,21.0s
ETW Entiat 65.58 48 P P 19 37 22.1 +0.4
B08A Colville Reser 65.72 46 eP P 19 37 22.6 +0.1
comp=Z,256nm,1.5s
B08A LR LR
comp=Z,19µm,20.0s
EIDS Eidsvold 65.77 172 eP P 19 37 22.6 -0.2
comp=Z,188nm,1.2s
EIDS LR LR
comp=Z,28µm,22.0s
NAC Naches 65.77 49 P P 19 37 23.6 +0.7
DZM Mont Dzumac 65.80 156 P P 19 37 23.2 0.0
comp=Z,16nm,1.0s,baz=350,slow=6.6,SNR=4.8
DZM Mont Dzumac 65.80 156 eP P 19 37 26.1 +2.9
comp=Z,544nm,1.4s
DZM *e*S **S 19 46 10.4 +2.4**
comp=Z,55µm,27.4s
DZM Mont Dzumac 65.80 156 eLR LR 19 57 20.8
comp=Z,126µm,22.3s
DZM Mont Dzumac 65.80 156 eP P 19 37 22.4 -0.8
comp=Z,330nm,1.3s
DZM LR LR
comp=Z,67µm,21.0s
KEBM Edson Butte 65.81 54 eP P 19 37 23.1 -0.1
comp=Z,285nm,1.0s
XMAS Kiritimati 65.84 109 eP P 19 37 23.0 -0.6
comp=Z,446nm,1.3s
XMAS LR LR
comp=Z,243µm,20.0s
I03D Drain, OR 65.96 52 P P 19 37 24.1 +0.1
baz=303,SNR=6.8
PUL Pulkovo 65.99 329*ce*P P 19 37 24.1 +0.2
PUL pmax pmax
comp=Z,357nm,1.0s
PUL MLR MLR
comp=Z,60µm,12.0s
EDM Edmonton 66.07 40 eP P 19 37 25.1 +0.5
EDM pmax pmax
comp=Z,550nm,1.5s
EDM Edmonton 66.07 40 eP P 19 37 24.4 -0.3
comp=Z,551nm,1.5s
EDM LR LR
comp=Z,50µm,21.0s
VFP Flag Point 66.19 50 P P 19 37 27.4 +1.7
OBN Obninsk 66.20 323⇑ *eP P 19 37 24.4 -0.9**
OBN *e* 19 37 53.8
OBN *e* 19 39 46.9
OBN *e*PPP PPP 19 41 26.0
OBN *e*S **sS 19 46 31.7 +4.5**
OBN pmax pmax
comp=Z,442nm,1.7s
OBN MLR MLR
comp=Z,225µm,16.0s
OBN Obninsk 66.20 323 *eP P 19 37 24.2 -1.1**
comp=Z,334nm,1.1s
OBN LR LR
comp=Z,143µm,21.0s
KBO Bosley Butte 66.23 54 *eP P 19 37 28.4 +2.4**
comp=Z,343nm,1.4s
KBO LR LR
comp=Z,23µm,21.0s
TRD Trivandrum 66.25 261 eP P 19 37 26.8 +0.6
TRD IAmb IAmb 19 37 29.2
comp=Z,444nm,1.7s
G05D Wamic, OR 66.32 50 P P 19 37 25.4 -0.9
baz=304
MSVF Nonsavu 66.35 143 eP P 19 37 27.8 +1.0
MSVF pmax pmax
comp=Z,130nm,1.2s
MSVF Nonsavu 66.35 143 eP P 19 37 26.3 -0.4
comp=Z,133nm,1.2s
MSVF LR LR
comp=Z,59µm,21.0s
E07A Sunnyside 66.43 48 eP P 19 37 27.8 +0.8
comp=Z,160nm,1.0s
E07A LR LR
comp=Z,23µm,22.0s
I04A Tendick Farm, 66.47 52 P P 19 37 27.5 +0.1
baz=304,SNR=15
FIA1 FINESS Array S 66.48 332 eP P 19 37 26.0 -1.1
comp=Z,428nm,1.0s
FINES FINESS Array B 66.48 332 P P 19 37 26.2 -0.9
comp=Z,124nm,0.9s,baz=55,slow=7.2,SNR=102
FINES S **S 19 46 18.9 +3.7**
comp=Z,4.0nm,0.9s,baz=103,slow=24,SNR=2.1
FINES LR LR 20 09 55.0
comp=Z,156µm,19.0s,baz=32,slow=39
FINES FINESS Array B 66.48 332 P P 19 37 26.2 -0.9
FINES S **S 19 46 18.9 +3.7**
FINES pmax pmax
comp=Z,124nm,0.9s
FINES smax smax
comp=N,4.0nm,0.9s
FINES MLR MLR
comp=Z,156µm,19.0s
VAF Ylistaro 66.56 335 eP P 19 37 27.9 +0.4
LPSR Galich'ya Gora 66.57 320 eP P 19 37 26.8 -0.9
LPSR pmax pmax
comp=Z,210nm,1.0s
LPSR pmax pmax
comp=Z,160nm,0.9s
LPSR MLR MLR
comp=Z,89µm,13.0s
L02D Cave Junction, 66.65 54 P P 19 37 28.2 -0.3
baz=304
D08A Wollman Farm, 66.68 47 eP P 19 37 28.4 -0.1
comp=Z,116nm,1.1s
D08A LR LR
comp=Z,27µm,22.0s
HAWA Hanford 66.70 48 eP P 19 37 29.8 +1.1
comp=Z,140nm,1.2s
HAWA LR LR
comp=Z,24µm,22.0s
MOR8 Moi Rana 66.72 340 eP P 19 37 26.5 -2.0
MOR8 IVmB_BB 19 37 41.8
comp=Z,5µm,5.1s
MOR8 *e*S **S 19 46 18.3 +0.3**
MOR8 IVMs_BB IVMs_BB 20 13 26.6
comp=Z,30µm,15.5s
G06A Carlson Farm, 66.72 50 eP P 19 37 25.8 -3.1
comp=Z,154nm,1.3s
VTHM Trough 66.79 50 P P 19 37 30.1 +0.7
HUMO Hull Mountain 66.80 53 eP P 19 37 30.3 +0.9
comp=Z,83nm,1.3s
HUMO LR LR
comp=Z,32µm,22.0s
I05D Terrebonne, OR 66.81 51 P P 19 37 28.8 -0.7
baz=304
KONS Konsvik 66.81 340 eP P 19 37 29.8 +0.7
KONS IVmB_BB 19 37 43.9
comp=Z,5µm,4.9s
KRMB Red Mountain 66.81 55 eP P 19 37 29.9 +0.2
comp=Z,150nm,1.4s
STOK Stokkvaagen 66.97 340 eP P 19 37 30.4 +0.4
STOK IVmB_BB 19 37 44.5
comp=Z,5µm,4.4s
STOK *e*S **S 19 46 22.4 +1.5**
STOK IVMs_BB IVMs_BB 20 13 46.6
comp=Z,42µm,15.3s
VORR Voronezh 66.98 319 P P 19 37 28.0 -2.3
VORR pmax pmax
comp=Z,600nm,1.4s
NEW Newport 66.99 46 P P 19 37 30.3 -0.2
baz=305,SNR=12
NEW Newport 66.99 46 eP P 19 37 31.3 +0.7
NEW pmax pmax
comp=Z,150nm,1.1s
NEW Newport 66.99 46 eP P 19 37 30.8 +0.2
comp=Z,152nm,1.1s
NEW LR LR
comp=Z,27µm,22.0s
JCC Jacoby Creek, 67.13 55 eP P 19 37 32.2 +0.7
comp=Z,169nm,1.1s
JCC LR LR
comp=Z,19µm,19.0s
JMIC Jan Mayen 67.14 350 eP P 19 37 32.4 +1.3
JMIC IVmB_BB 19 37 47.1
comp=Z,6µm,3.5s
JMIC *e*S **S 19 46 23.7 +0.8**
JMIC IVMs_BB IVMs_BB 20 06 27.0
comp=Z,6µm,22.3s
VSR Storozhevoye 67.27 319 eP P 19 37 31.4 -0.8
VSR *e*S **S 19 46 23.3 -1.7**
VSR *e*SS **SS 19 50 49.7 +5.7**
VSR pmax pmax
comp=Z,230nm,1.0s
VSR pmax pmax
comp=Z,640nm,1.7s
VSR MLR MLR
comp=Z,138µm,17.0s
KHMM Horse Mountain 67.29 55 eP P 19 37 33.9 +1.1
comp=Z,203nm,1.1s
KHMM LR LR
comp=Z,21µm,21.0s
MAK Makhachkala 67.39 308 eP P 19 37 32.6 -0.5
MAK *e* 19 40 00.0
MAK *e*S **S 19 46 27.1 +0.3**
E09A Wood Farm, Sta 67.42 48 eP P 19 37 33.3 0.0
comp=Z,223nm,1.1s
E09A LR LR
comp=Z,25µm,21.0s
SUMG Summit 67.42 0⇓ *iP P 19 37 34.9 +1.5**
comp=Z,42µm,19.0s
SUMG Summit 67.42 0⇓ *iP P 19 37 34.9 +1.5**
SUMG MLR MLR
comp=Z,42µm,19.0s
SUMG Summit 67.42 0 *eP P 19 37 32.8 -0.6**
comp=Z,270nm,0.9s
SUMG LR LR
comp=Z,56µm,22.0s
YBH Yreka Blue Hor 67.44 54 *eP P 19 37 35.2 +1.6**
YBH pmax pmax
comp=Z,81nm,1.0s
YBH Yreka Blue Hor 67.44 54 *eP P 19 37 34.6 +0.9**
comp=Z,81nm,1.0s
COCO West Island 67.45 230 *eP P 19 37 33.6 -0.2**
COCO pmax pmax
comp=Z,1µm,1.7s
COCO MLR MLR
comp=Z,12µm,19.0s
COCO West Island 67.45 230 *eP P 19 37 33.5 -0.2**
comp=Z,1µm,1.7s
COCO LR LR
comp=Z,12µm,19.0s
COCO West Island 67.45 230 P P 19 37 34.8 +1.0
SNR=5.8
COCO P P 19 37 34.8 +1.0
SNR=5.8
COCO P P 19 37 34.8 +1.0
SNR=5.8
J05D Fort Rock, OR 67.46 52 P P 19 37 33.2 -0.7
baz=305,SNR=11
K04D Chiloquin, OR 67.52 53 P P 19 37 29.4 -4.8
baz=305
M02C Callahan 67.54 54 P P 19 37 33.9 -0.4
baz=304,SNR=6.9
KMRM Mail Ridge 67.67 56 eP P 19 37 33.7 -1.4
comp=Z,89nm,1.0s
KMRM LR LR
comp=Z,40µm,20.0s
N02D Trinity Center 67.87 55 P P 19 37 36.2 -0.2
baz=305,SNR=6.1
M04C Macdoel 67.95 53 P P 19 37 36.9 0.0
baz=305,SNR=7.4
K05A Summer Lake 67.99 52 *eP P 19 37 38.0 +0.8**
comp=Z,381nm,1.1s
K05A LR LR
comp=Z,24µm,20.0s
KCPM Cahto Peak 68.05 56 *eP P 19 37 36.9 -0.6**
comp=Z,137nm,1.0s
KCPM LR LR
comp=Z,37µm,21.0s
WDC Whiskeytown Da 68.20 55 *eP P 19 37 39.7 +1.4**
WDC pmax pmax
comp=Z,120nm,1.1s
WDC Whiskeytown Da 68.20 55 *eP P 19 37 38.0 -0.3**
comp=Z,123nm,1.1s
WDC LR LR
comp=Z,19µm,22.0s
WALA Waterton Lakes 68.25 44 *eP P 19 37 38.6 0.0**
comp=Z,184nm,1.3s
WALA LR LR
comp=Z,35µm,20.0s
VSU Vasula 68.25 329⇑ *iP P 19 37 38.5 +0.3**
VSU pmax pmax
comp=Z,487nm,1.0s
VSU MLR MLR
comp=Z,123µm,15.0s
F10A Beach Ranch, E 68.26 48 *eP P 19 37 39.6 +1.0**
comp=Z,106nm,1.2s
F10A LR LR
comp=Z,32µm,21.0s
GROC Groznyy 68.28 309 *eP P 19 37 36.5 -2.3**
GROC *e* 19 38 03.8
GROC pmax pmax
comp=Z,718nm,2.6s
AFI Afiamalu 68.37 132 S **S 19 46 38.1 -1.0**
comp=Z,26nm,0.8s,baz=12,slow=9.3,SNR=3.1
BSMT Bassoo Peak 68.50 45 *eP P 19 37 41.3 +1.0**
BLMT Blacktail Moun 68.63 45 *eP P 19 37 42.4 +1.2**
HOPS Hopland Field 68.77 57 *eP P 19 37 43.0 +1.2**
comp=Z,169nm,1.4s
HOPS LR LR
comp=Z,42µm,20.0s
GOF Gofitskoye 68.81 312 *iP P 19 37 41.9 -0.1**
GOF pmax pmax
comp=Z,1µm,1.2s
MOD Modoc Plateau 68.82 53 *eP P 19 37 42.4 0.0**
comp=Z,96nm,1.0s
MOD LR LR
comp=Z,26µm,21.0s
JTMT Jette 68.83 45 *eP P 19 37 43.0 +0.6**
BMO Blue Mountains 68.87 49 *eP P 19 37 43.6 +1.1**
BMO pmax pmax
comp=Z,100nm,1.1s
BMO Blue Mountains 68.87 49 *eP P 19 37 42.9 +0.3**
comp=Z,104nm,1.1s
BMO LR LR
comp=Z,24µm,22.0s
YBMT Yellow Bay 68.91 45 *eP P 19 37 43.6 +0.9**
SCO Scoresbysund 68.99 355 *i* P P 19 37 44.2 +1.5**
comp=Z,146nm,1.4s
SCO Scoresbysund 68.99 355 *i* P P 19 37 44.2 +1.5**
SCO pmax pmax
comp=Z,150nm,1.4s
GDXM Geysers 69.06 57 *eP P 19 37 44.6 +0.9**
comp=Z,96nm,1.2s
GDXM LR LR
comp=Z,52µm,22.0s
SWMT Swartz Lake 69.13 45 *eP P 19 37 44.5 +0.3**
MCCM Marconi Confer 69.38 57 *eP P 19 37 46.1 +0.5**
comp=Z,147nm,1.1s
MCCM LR LR
comp=Z,31µm,20.0s
NCK Nalchik 69.41 310⇓ *iP P 19 37 46.1 +0.3**
NCK pmax pmax
comp=Z,179nm,1.1s
NCK MLR MLR
comp=Z,42µm,14.0s
ORV Oroville 69.44 55 *eP P 19 37 46.6 +0.5**
ORV pmax pmax
comp=Z,140nm,1.3s
ORV Oroville 69.44 55 *eP P 19 37 46.3 +0.3**
comp=Z,137nm,1.4s
ORV LR LR
comp=Z,27µm,20.0s
GUDG Gudauri 69.50 309 P P 19 37 47.2 +0.6
WVOR Wild Horse Val 69.51 51 *eP P 19 37 47.6 +1.0**
WVOR pmax pmax
comp=Z,130nm,1.1s
WVOR Wild Horse Val 69.51 51 *eP P 19 37 47.1 +0.5**
comp=Z,131nm,1.1s
WVOR LR LR
comp=Z,24µm,20.0s
DGRG David-gareji 69.56 307 P P 19 37 46.8 -0.1
DGRG David-gareji 69.56 307 P P 19 37 46.7 -0.1
SLMT Seeley Lake 69.57 45 *eP P 19 37 47.2 +0.3**
MSO Missoula 69.57 46 P P 19 37 46.6 -0.2
baz=308,SNR=9.4
MSO Missoula 69.57 46 *eP P 19 37 46.7 -0.2**
comp=Z,138nm,1.2s
MSO LR LR
comp=Z,17µm,20.0s
DUS Dusheti 69.59 308 P P 19 37 50.2 +3.2
DUS Dusheti 69.59 308 P P 19 37 50.2 +3.2
ZEI Tsey 69.65 309 *eP P 19 37 44.0 -3.6**
ZEI pmax pmax
comp=Z,546nm,1.0s
ZEI MLR MLR
comp=Z,117µm,14.0s
ZEI MLR MLR
comp=N,71µm,14.0s
ZEI MLR MLR
comp=E,72µm,14.0s
KVAR Kislovodsk Arr 69.67 311 S **S 19 46 57.1 +3.0**
comp=E,6.4nm,1.0s,baz=138,slow=15,SNR=2.3
KIV Kislovodsk 69.67 311 *i* P P 19 37 47.5 0.0
SNR=157
KIV Kislovodsk 69.67 311 *i* P P 19 37 47.5 0.0
SNR=157
KIV Kislovodsk 69.67 311⇑ *eP P 19 37 47.8 +0.3**
KIV *e* 19 40 21.2
KIV *e*S **S 19 46 51.2 -2.9**
KIV pmax pmax
comp=Z,721nm,1.2s
KIV Kislovodsk 69.67 311 *eP P 19 37 47.3 -0.2**
comp=Z,1µm,1.0s
KIV LR LR
comp=Z,168µm,18.0s
KIV Kislovodsk 69.67 311 P P 19 37 47.6 +0.1
SNR=278
KIV P P 19 37 47.6 +0.1
SNR=278
KIV P P 19 37 47.6 +0.1
SNR=278
KBZ Khabaz 69.68 310 P P 19 37 47.6 +0.2
comp=Z,110nm,0.8s,baz=44,slow=7.1,SNR=133
KBZ S **S 19 47 01.4 +7.5**
comp=Z,2.6nm,0.9s,baz=47,slow=17,SNR=1.6
KBZ LR LR 20 11 31.8
comp=Z,67µm,18.6s,baz=30,slow=39
SEAG Tbilisi Sea 69.72 308 P P 19 37 49.0 +1.3
TBLG Delisi 69.78 308 P P 19 37 48.1 0.0
TBLG Delisi 69.78 308 P P 19 37 48.1 0.0
CHMT Chamberlain Mo 69.90 45 *eP P 19 37 48.9 -0.1**
BEKR Beckworth 69.97 54 *eP P 19 37 49.6 0.0**
comp=Z,142nm,1.0s
BEKR LR LR
comp=Z,22µm,22.0s
ONI Oni 70.04 309 P P 19 37 50.1 +0.4
ONI Oni 70.04 309 P P 19 37 50.1 +0.4
NEY Neytrino 70.07 310*d iP P 19 37 52.2 +2.1**
NEY pmax pmax
comp=Z,38nm,1.0s
NEY MLR MLR
comp=Z,30µm,16.0s
TBLU Trondheim 70.13 339 *eP P 19 37 49.2 -0.6**
TBLU IVmB_BB 19 38 03.6
comp=Z,5µm,4.1s
TBLU *e*S **S 19 46 56.9 -1.7**
TBLU IVMs_BB IVMs_BB 20 15 00.0
comp=Z,25µm,15.2s
AFDM Forest Hills D 70.13 56 *eP P 19 37 50.6 +0.3**
comp=Z,97nm,1.2s
AFDM LR LR
comp=Z,33µm,20.0s
ILULI Ilulissat 70.31 5 *i* P P 19 37 50.7 -0.2
comp=Z,232nm,1.5s

	comp=Z,42µm,18.0s									
ILULI	**Ilulissat**	**70.31**	**5**	*i*	P	**P**	**19 37 50.7**	**-0.2**		
ILULI					pmax	pmax				
	comp=Z,230nm,1.5s									
ILULI					MLR	MLR				
	comp=Z,42µm,18.0s									
FFC	**Flin Flon**	**70.33**	**34**	*e*	P	**P**	**19 37 50.9**	**-0.3**		
FFC	**Flin Flon**	**70.33**	**34**	*e*	P	**P**	**19 37 50.4**	**-0.8**		
	comp=Z,424nm,1.6s									
FFC					LR	LR				
	comp=Z,32µm,19.0s									
MICGM	**Minsk**	**70.46**	**326**⇑	*e*	P	**P**	**19 37 50.0**	**-2.0**		
MICGM					PM		19 37 53.0			
	comp=Z,0.7nm,1.0s									
MICGM					PM		19 37 54.0			
	comp=N,0.5nm,1.0s									
MICGM					PM		19 37 55.0			
	comp=E,0.5nm,1.6s									
MICGM					*e*PP	**PP**	**19 40 30.0**	**+2.4**		
MICGM					*e*PPP	PPP	19 41 59.0			
MICGM					*e*S	**S**	**19 46 55.0**	**-7.8**		
MICGM					*e*PS	**PnS**	**19 47 23.0**	**-9.0**		
MICGM					*e*SS	**SS**	**19 51 39.0**	**+6.0**		
MICGM					*e*SSS	SSS	19 54 18.0			
MICGM					*e*LQ	LQ	20 02 40.0			
MICGM					*e*LR	LR	20 03 30.0			
MICGM					LRM	MLR	20 12 04.0			
	comp=N,61nm,16.0s									
MICGM					LRM	MLR	20 12 06.0			
	comp=E,128nm,17.0s									
MICGM					LRM	MLR	20 12 11.0			
	comp=Z,277nm,9.0s									
MICGM					LRM	MLR	20 12 11.0			
	comp=Z,149nm,16.0s									
MICGM					LRM	MLR	20 12 12.0			
	comp=E,78nm,16.0s									
MNK	**Minsk**	**70.46**	**326**⇑	*e*	P	**P**	**19 37 50.0**	**-2.0**		
MNK				*e*			19 40 30.0			
MNK				*e*S		**S**	**19 46 55.0**	**-7.8**		
MNK				*e*PS		**PnS**	**19 47 23.0**	**-9.0**		
MNK				*e*SS		**SS**	**19 51 39.0**	**+6.0**		
MNK					pmax	pmax				
	comp=Z,680nm,1.0s									
MNK					pmax	pmax				
	comp=N,490nm,1.0s									
MNK					pmax	pmax				
	comp=E,480nm,1.0s									
MNK					MLR	MLR				
	comp=N,61µm,16.0s									
MNK					MLR	MLR				
	comp=E,128µm,17.0s									
MNK					MLR	MLR				
	comp=Z,149µm,16.0s									
MNK					MLR	MLR				
	comp=E,78µm,16.0s									
FCC	**Fort Churchill**	**70.56**	**28**	*e*	P	**P**	**19 37 52.9**	**+0.4**		
FCC					pmax	pmax				
	comp=Z,730nm,2.0s									
FCC	**Fort Churchill**	**70.56**	**28**	*e*	P	**P**	**19 37 52.3**	**-0.2**		
	comp=Z,730nm,2.0s									
FCC					LR	LR				
	comp=Z,23µm,20.0s									
NACGM	**Naroch**	**70.65**	**327**	*e*	P	**P**	**19 37 52.0**	**-1.2**		
NACGM				*e*	PcP	**pP**	**19 38 04.0**	**+1.5**		
NACGM				*e*	PP	PP	19 40 42.0	+13		
NACGM				*e*	PPP	PPP	19 42 24.0			
NACGM				*e*	S	**S**	**19 47 10.0**	**+5.0**		
NACGM				*e*	PS	PnS	19 48 04.0	+29		
NACGM				*e*	SS	SS	19 51 10.0	-26		
NACGM				*e*	SSS	SSS	19 55 04.0			
NACGM				*e*	LQ	LQ	20 01 40.0			
NACGM				*e*	LR	LR	20 08 26.0			
PAHR	**Pah Rah Range**	**70.67**	**54**	*e*	P	**P**	**19 37 54.3**	**+0.5**		
	comp=Z,183nm,1.2s									
PAHR					LR	LR				
	comp=Z,24µm,21.0s									
GNI	**Garni**	**70.71**	**307**		S	sS	19 47 21.7	-0.2		
	comp=Z,2.3nm,0.6s,baz=16,slow=18,SNR=2.1									
GNI	**Garni**	**70.71**	**307**	*i*	P	**P**	**19 37 54.6**	**+0.6**		
	SNR=48									
GNI	**Garni**	**70.71**	**307**	*i*	P	**P**	**19 37 54.6**	**+0.6**		
	SNR=48									
GNI	**Garni**	**70.71**	**307**	*e*	P	**P**	**19 37 54.3**	**+0.2**		
GNI					pmax	pmax				
	comp=Z,851nm,1.4s									
GNI					MLR	MLR				
	comp=Z,73µm,18.0s									
GNI	**Garni**	**70.71**	**307**	*e*	P	**P**	**19 37 54.2**	**+0.2**		
	comp=Z,851nm,1.4s									
GNI					S	**sS**	**19 47 21.7**	**-0.2**		
GNI					LR	LR				
	comp=Z,73µm,18.0s									
GNI	**Garni**	**70.71**	**307**		P	**P**	**19 37 54.7**	**+0.6**		
	SNR=64									
GNI					P	**P**	**19 37 54.7**	**+0.6**		
	SNR=64									
AKH	**Akhalkalaki**	**70.72**	**308**		P	**P**	**19 37 54.3**	**+0.3**		
AKH	**Akhalkalaki**	**70.72**	**308**⇑	*i*	P	**P**	**19 37 54.9**	**+0.8**		
AKH	**Akhalkalaki**	**70.72**	**308**		P	**P**	**19 37 54.3**	**+0.3**		
BGD	**Bogdanovka**	**70.74**	**308**		P	**P**	**19 37 54.9**	**+0.6**		
HRY	**Holter Researc**	**70.79**	**45**	*e*	P	**P**	**19 37 55.5**	**+1.1**		
ARMA	**Armidale**	**70.82**	**172**	*e*	P	**P**	**19 37 54.7**	**+0.3**		
	comp=Z,269nm,1.4s									
ARMA					LR	LR				
	comp=Z,28µm,19.0s									
PNTR	**Pine Nut**	**70.91**	**55**	*e*	P	**P**	**19 37 56.0**	**+0.7**		
	comp=Z,154nm,1.1s									
PNTR					LR	LR				
	comp=Z,31µm,21.0s									
LRM	**Limekiln Ridge**	**71.01**	**46**	*e*	P	**P**	**19 37 55.8**	**0.0**		
CMB	**Columbia Colle**	**71.04**	**56**	*e*	P	**P**	**19 37 56.4**	**+0.5**		
CMB					pmax	pmax				
	comp=Z,100nm,1.0s									
CMB	**Columbia Colle**	**71.04**	**56**	*e*	P	**P**	**19 37 56.0**	**+0.1**		
	comp=Z,104nm,1.0s									
CMB					LR	LR				
	comp=Z,42µm,22.0s									
EGMT	**Eagleton**	**71.06**	**43**		P	**P**	**19 37 55.8**	**-0.1**		
	baz=310,SNR=9.2									
EGMT	**Eagleton**	**71.06**	**43**	*e*	P	**P**	**19 37 56.2**	**+0.3**		
	comp=Z,214nm,1.1s									
EGMT					LR	LR				
	comp=Z,28µm,22.0s									
YERR	**Yerington**	**71.19**	**55**	*e*	P	**P**	**19 37 57.3**	**+0.3**		
	comp=Z,240nm,1.1s									
DLMT	**Dillon**	**71.21**	**46**	*e*	P	**P**	**19 37 57.6**	**+0.6**		
	comp=Z,217nm,1.2s									
DLMT					LR	LR				
	comp=Z,18µm,20.0s									
BANOM	**Banah**	**71.30**	**288**		P	**P**	**19 37 57.1**	**-0.5**		
BANOM	**Banah**	**71.30**	**288**		P	**P**	**19 37 57.1**	**-0.5**		
HLID	**Hailey**	**71.31**	**48**		P	**P**	**19 37 58.4**	**+0.8**		
	baz=308,SNR=11									
HLID	**Hailey**	**71.31**	**48**	*e*	P	**P**	**19 37 58.2**	**+0.6**		
	comp=Z,94nm,1.1s									
WAKR	**Walker**	**71.36**	**55**	*e*	P	**P**	**19 37 57.3**	**-0.7**		
	comp=Z,138nm,1.2s									
WAKR					LR	LR				
	comp=Z,34µm,20.0s									
BIDO	**Bidbid**	**71.38**	**285**		P	**P**	**19 37 58.1**	**0.0**		
	SNR=31									
BIDO					P	**P**	**19 37 58.1**	**0.0**		
	SNR=31									
MOL	**Molde**	**71.41**	**340**	*e*	P	**P**	**19 37 57.9**	**+0.3**		
MOL					IVmB_BB		19 38 13.1			
	comp=Z,5µm,3.8s									
MOL				*e*	S	**S**	**19 47 14.3**	**+0.9**		
MOL					IVMs_BB	IVMs_BB	20 15 50.4			
	comp=Z,19µm,14.8s									
MCMT	**McKenzie Canyo**	**71.41**	**47**	*e*	P	**P**	**19 37 59.3**	**+1.0**		
NC405	**NORSAR Array S**	**71.43**	**337**	*e*	P	**P**	**19 37 57.0**	**-0.8**		
DOMB	**Dombas**	**71.43**	**339**	*e*	P	**P**	**19 37 57.2**	**-0.6**		
DOMB					IVmB_BB		19 38 13.1			
	comp=Z,5µm,2.8s									
DOMB				*e*	S	**S**	**19 47 16.8**	**+2.9**		
DOMB					IVMs_BB	IVMs_BB	20 15 19.9			
	comp=Z,32µm,15.7s									
NC303	**NORSAR Array S**	**71.44**	**338**	*e*	P	**P**	**19 37 56.6**	**-1.3**		
BMN	**Battle Mountai**	**71.56**	**52**	*e*	P	**P**	**19 37 59.4**	**+0.2**		
BMN					pmax	pmax				
	comp=Z,178nm,1.2s									
BMN					MLR	MLR				
	comp=Z,24µm,21.0s									
BMN	**Battle Mountai**	**71.56**	**52**	*e*	P	**P**	**19 37 59.4**	**+0.2**		
	comp=Z,178nm,1.2s									
BMN					LR	LR				
	comp=Z,24µm,21.0s									
NC204	**NORSAR Array S**	**71.58**	**338**	*e*	P	**P**	**19 37 57.9**	**-0.8**		
BOZ	**Bozeman (W)**	**71.60**	**45**		P	**P**	**19 37 59.5**	**+0.2**		
	baz=309,SNR=95									
BOZ	**Bozeman (W)**	**71.60**	**45**	*e*	P	**P**	**19 37 59.8**	**+0.5**		
BOZ					pmax	pmax				
	comp=Z,210nm,1.2s									
BOZ	**Bozeman (W)**	**71.60**	**45**	*e*	P	**P**	**19 37 59.5**	**+0.2**		
	comp=Z,207nm,1.2s									
BOZ					LR	LR				
	comp=Z,26µm,20.0s									
NB201	**NORSAR Array S**	**71.60**	**337**	*e*	P	**P**	**19 37 57.4**	**-1.5**		
SOC	**Sochi**	**71.61**	**312**	*c*	P	**P**	**19 37 58.5**	**-0.7**		
SOC				*e*	*PP	**sP**	**19 38 10.4**	**-1.6**		
SOC				*e*	S	**S**	**19 47 14.7**	**-1.7**		
SOC					pmax	pmax				
	comp=Z,383nm,1.9s									
SOC					pmax	pmax				
	comp=Z,3µm,4.3s									
NB2	**NORSAR Subarra**	**71.63**	**337**		P	**P**	**19 37 58.3**	**-0.8**		
	baz=39,slow=6.2									
NB2	**NORSAR Subarra**	**71.63**	**337**		P	**P**	**19 38 00.6**	**+1.5**		
NB2					pmax	pmax				
	comp=Z,132nm,1.0s									
NB2	**NORSAR Subarra**	**71.63**	**337**		P	**P**	**19 37 58.3**	**-0.8**		
	comp=Z,218nm,1.0s,baz=39,slow=6.2									
NOA	**NORSAR Array B**	**71.63**	**337**		P	**P**	**19 37 58.4**	**-0.8**		
	comp=Z,112nm,0.9s,baz=38,slow=6.0,SNR=143									
NOA					PP	**PP**	**19 40 36.7**	**-0.8**		
	comp=Z,25nm,1.0s,baz=36,slow=8.0,SNR=2.7									
NOA					S	**S**	**19 47 21.0**	**+4.7**		
	comp=Z,1.4nm,1.0s,baz=107,slow=9.4,SNR=2.3									
NOA					LR	LR	20 12 53.4			
	comp=Z,80µm,21.6s,baz=25,slow=39									
NBO02	**NORSAR Array S**	**71.73**	**338**	*e*	P	**P**	**19 37 58.2**	**-1.5**		
NBO00	**NORSAR Array S**	**71.77**	**338**	*e*	P	**P**	**19 37 58.9**	**-0.9**		
NC602	**NORSAR Array S**	**71.78**	**337**	*e*	P	**P**	**19 37 58.9**	**-1.0**		
NC602					IVmB_BB		19 38 14.7			
	comp=Z,5µm,3.8s									
NC602				*e*	S	**S**	**19 47 17.5**	**-0.4**		
NC602					IVMs_BB	IVMs_BB	20 12 34.7			
	comp=Z,36µm,20.9s									
NC602	**NORSAR Array S**	**71.78**	**337**	*e*	P	**P**	**19 37 59.4**	**-0.5**		
TVH1	**TV Hill, Hawth**	**71.81**	**55**	*e*	P	**P**	**19 38 01.8**	**+0.8**		
	comp=Z,165nm,1.3s									
TVH1					LR	LR				
	comp=Z,33µm,22.0s									
STKA	**Stephens Creek**	**71.82**	**181**		P	**P**	**19 37 59.9**	**-0.4**		
	comp=Z,8.0nm,0.9s,baz=353,slow=7.7,SNR=6.9									
STKA					LR	LR	20 13 31.4			
	comp=Z,19µm,19.5s,baz=20,slow=39									
STKA	**Stephens Creek**	**71.82**	**181**		P	**P**	**19 37 59.9**	**-0.4**		
STKA					MLR	MLR				
	comp=Z,19µm,19.5s									
STKA	**Stephens Creek**	**71.82**	**181**	*e*	P	**P**	**19 38 00.6**	**+0.3**		
	comp=Z,71nm,2.0s									
TVH3	**East Aurora ar**	**71.84**	**55**	*e*	P	**P**	**19 38 00.9**	**-0.1**		
	comp=Z,139nm,1.1s									
TVH3					LR	LR				
	comp=Z,24µm,22.0s									
PMPB	**Monarch Peak**	**71.86**	**58**	*e*	P	**P**	**19 38 02.0**	**+1.0**		
	comp=Z,250nm,1.4s									
PMPB					LR	LR				
	comp=Z,30µm,22.0s									
TVH2	**Borealis Mine**	**71.86**	**55**	*e*	P	**P**	**19 38 01.4**	**+0.3**		
	comp=Z,101nm,1.2s									
TVH2					LR	LR				
	comp=Z,22µm,22.0s									
AKN	**Aaknes**	**71.88**	**340**	*e*	P	**P**	**19 38 00.1**	**-0.4**		
AKN					IVmB_BB		19 38 16.2			
	comp=Z,5µm,3.7s									
AKN				*e*	PP	**PP**	**19 40 40.6**	**+1.0**		
AKN				*e*	S	**S**	**19 47 20.7**	**+1.8**		
AKN					IVMs_BB	IVMs_BB	20 13 41.5			
	comp=Z,20µm,17.8s									
NAO01	**NORSAR Array S**	**71.89**	**338**	*e*	P	**P**	**19 37 59.1**	**-1.5**		
UOSS	**Minazif**	**71.94**	**288**	*e*	P	**P**	**19 38 00.3**	**-1.3**		
	comp=Z,1µm,2.0s									
UOSS					LR	LR				
	comp=Z,37µm,20.0s									
FORT	**Forrest**	**72.05**	**193**	*e*	P	**P**	**19 38 01.6**	**-0.1**		
	comp=Z,2µm,1.0s									
FORT					LR	LR				
	comp=Z,180µm,21.0s									
HATD	**Hatta, Dubai**	**72.07**	**288**	*i*	P	**P**	**19 38 01.5**	**-0.8**		
	SNR=47									
HATD	**Hatta, Dubai**	**72.07**	**288**	*i*	P	**P**	**19 38 01.5**	**-0.8**		
	SNR=47									
HATD	**Hatta, Dubai**	**72.07**	**288**		P	**P**	**19 38 01.8**	**-0.5**		
	SNR=62									
HATD					P	**P**	**19 38 01.8**	**-0.5**		
	SNR=62									
ANN	**Anapa**	**72.12**	**314**	*e*	P	**P**	**19 38 01.9**	**-0.3**		
ANN				*e*			19 40 41.7			
ANN				*e*	PPP	PPP	19 42 32.3			
ANN				*e*	S	**S**	**19 47 24.5**	**+2.2**		
ANN				*e*	SS	**SS**	**19 52 03.3**	**+4.3**		
ANN					pmax	pmax				
	comp=E,55nm,1.3s									
ANN					pmax	pmax				
	comp=Z,298nm,1.3s									
ANN					pmax	pmax				
	comp=N,52nm,1.3s									
ANN					pmax	pmax				
	comp=N,2µm,7.8s									
ANN					pmax	pmax				
	comp=E,1µm,7.8s									
ANN					pmax	pmax				
	comp=Z,6µm,7.8s									
ANN					smax	smax				
	comp=N,5µm,10.1s									
ANN					smax	smax				
	comp=E,11µm,10.1s									
ANN					smax	smax				
	comp=Z,7µm,10.1s									
QLMT	**Earthquake Lak**	**72.19**	**46**	*e*	P	**P**	**19 38 04.0**	**+1.1**		
MLAC	**Mammoth, Mammo**	**72.26**	**56**		P	**P**	**19 38 03.4**	**-0.1**		
	baz=308,SNR=9.4									
NAZ	**Nazwa, Dubai**	**72.31**	**288**	*i*	P	**P**	**19 38 03.0**	**-0.7**		
	SNR=17									
NAZ	**Nazwa, Dubai**	**72.31**	**288**	*i*	P	**P**	**19 38 03.0**	**-0.7**		
	SNR=17									
NAZ	**Nazwa, Dubai**	**72.31**	**288**		P	**P**	**19 38 02.7**	**-1.0**		
	SNR=18									
NAZ					P	**P**	**19 38 02.7**	**-1.0**		
	SNR=18									
YHB	**Horse Butte**	**72.37**	**46**	*e*	P	**P**	**19 38 04.0**	**0.0**		
	comp=Z,175nm,1.3s									
YHB					LR	LR				
	comp=Z,22µm,20.0s									
AKASG	**Malin Array Be**	**72.44**	**322**		P	**P**	**19 38 03.1**	**-0.9**		
	comp=Z,45nm,0.8s,baz=43,slow=6.5,SNR=111									
AKASG					S	**S**	**19 47 28.9**	**+3.1**		
	comp=Z,0.3nm,0.4s,baz=47,slow=17,SNR=3.1									
AKASG					LR	LR	20 13 46.5			
	comp=Z,96µm,18.4s,baz=25,slow=39									
AKBB	**Malin Array Si**	**72.44**	**322**	*e*	P	**P**	**19 38 03.1**	**-0.9**		
AKBB					pmax	pmax				
	comp=Z,170nm,1.0s									
AKBB	**Malin Array Si**	**72.44**	**322**	*e*	P	**P**	**19 38 02.5**	**-1.6**		
	comp=Z,174nm,0.9s									
AKBB					LR	LR				
	comp=Z,112nm,19.0s									
KIEV	**Kiev**	**72.45**	**322**	*d*	*P	**P**	**19 38 04.1**	**0.0**		
KIEV					pmax	pmax				
	comp=Z,154nm,1.0s									
KIEV					MLR	MLR				
	comp=Z,126µm,16.0s									
KIEV	**Kiev**	**72.45**	**322**	*e*	P	**P**	**19 38 02.3**	**-1.8**		
	comp=Z,187nm,1.0s									
KIEV					LR	LR				
	comp=Z,128µm,18.0s									
AK11	**Malin Array Si**	**72.48**	**322**	*e*	P	**P**	**19 38 02.6**	**-1.7**		
PAGB	**Antelope Grade**	**72.51**	**58**	*e*	P	**P**	**19 38 05.6**	**+0.8**		
	comp=Z,204nm,1.1s									
PAGB					LR	LR				
	comp=Z,31µm,21.0s									
FAQ	**Al Faqa, Dubai**	**72.51**	**288**	*i*	P	**P**	**19 38 03.9**	**-1.0**		
	SNR=29									
FAQ	**Al Faqa, Dubai**	**72.51**	**288**	*i*	P	**P**	**19 38 03.9**	**-1.0**		
	SNR=29									
FAQ	**Al Faqa, Dubai**	**72.51**	**288**		P	**P**	**19 38 03.9**	**-1.0**		
	SNR=19									
FAQ					P	**P**	**19 38 03.9**	**-1.0**		
	SNR=19									
GCMT	**Greycliff**	**72.53**	**44**	*e*	P	**P**	**19 38 05.4**	**+0.5**		
SFJD	**Kangerlussuaq**	**72.53**	**6**	*i*	P	**P**	**19 38 04.7**	**+0.4**		
	comp=Z,49µm,20.0s									
SFJD	**Kangerlussuaq**	**72.53**	**6**	*e*	P	**P**	**19 38 04.7**	**+0.4**		
SFJD					MLR	MLR				
	comp=Z,49µm,20.0s									
SFJD	**Kangerlussuaq**	**72.53**	**6**	*e*	P	**P**	**19 38 03.5**	**-0.8**		
	comp=Z,208nm,1.1s									
SFJD					LR	LR				
	comp=Z,55µm,20.0s									
YHH	**Holmes Hill**	**72.53**	**46**	*e*	P	**P**	**19 38 04.0**	**-1.1**		
	comp=Z,133nm,1.2s									
YHH					LR	LR				
	comp=Z,24µm,20.0s									
YMR	**Madison River**	**72.55**	**46**	*e*	P	**P**	**19 38 05.2**	**+0.1**		
	comp=Z,184nm,1.2s									
YMR					LR	LR				
	comp=Z,25µm,20.0s									
OSL	**Oslo**	**72.67**	**337**	*e*	P	**P**	**19 38 04.8**	**-0.4**		
OSL					IVmB_BB		19 38 20.3			
	comp=Z,6µm,4.5s									
OSL				*e*	PP	**PP**	**19 40 47.3**	**+1.0**		
OSL				*e*	S	**S**	**19 47 27.8**	**-0.2**		
OSL					IVMs_BB	IVMs_BB	20 13 00.5			
	comp=Z,28µm,20.6s									
YNR	**Norris Junctio**	**72.68**	**46**	*e*	P	**P**	**19 38 06.6**	**+0.8**		
	comp=Z,151nm,1.2s									
YNR					LR	LR				
	comp=Z,30µm,20.0s									
YFT	**Old Faithful**	**72.76**	**46**	*e*	P	**P**	**19 38 07.3**	**+0.9**		
	comp=Z,132nm,1.1s									
SUW	**Suwalki**	**72.78**	**328**	*e*	P	**P**	**19 38 06.3**	**+0.3**		
SUW				*e*	PcP	**sP**	**19 38 20.2**	**+1.4**		
SUW				*e*	S	**S**	**19 47 32.4**	**+2.9**		
SUW					LMZ	LR	20 12 40.0			
	comp=Z,78µm,18.8s									
SUW	**Suwalki**	**72.78**	**328**	*e*	P	**P**	**19 38 06.3**	**+0.3**		
SUW				*e*			19 38 20.2			
SUW				*e*	S	**S**	**19 47 32.4**	**+2.9**		
SUW					MLR	MLR				
	comp=Z,78µm,18.8s									
FOO	**Floro**	**72.87**	**340**	*e*	P	**P**	**19 38 06.4**	**0.0**		
FOO					IVmB_BB		19 38 21.7			
	comp=Z,6µm,3.7s									
FOO				*e*	S	**S**	**19 47 31.7**	**+1.5**		
FOO					IVMs_BB	IVMs_BB	20 14 31.8			
	comp=Z,22µm,17.3s									
YPP	**Pitchstone Pla**	**72.89**	**46**	*e*	P	**P**	**19 38 08.7**	**+1.5**		
	comp=Z,298nm,1.6s									
LKWY	**Lake**	**72.92**	**46**	*e*	P	**P**	**19 38 09.1**	**+1.7**		
LKWY					pmax	pmax				
	comp=Z,133nm,1.1s									
LKWY	**Lake**	**72.92**	**46**	*e*	P	**P**	**19 38 09.1**	**+1.7**		
	comp=Z,133nm,1.1s									
SMMC	**Simmler**	**72.92**	**58**		P	**P**	**19 38 07.8**	**+0.5**		
	baz=308,SNR=7.5									
HYA	**Hoyanger**	**72.94**	**340**	*e*	P	**P**	**19 38 06.3**	**-0.4**		
HYA					IVmB_BB		19 38 23.8			
	comp=Z,4µm,3.2s									
HYA				*e*	S	**S**	**19 47 33.4**	**+2.4**		
H17A	**Grant Village**	**72.94**	**46**		P	**P**	**19 38 07.7**	**+0.3**		
	baz=310,SNR=6.7									
H17A	**Grant Village**	**72.94**	**46**	*e*	P	**P**	**19 38 07.9**	**+0.5**		
	comp=Z,226nm,1.2s									
H17A					LR	LR				
	comp=Z,65µm,20.0s									
TIN	**Tinemaha, Big**	**73.00**	**56**		P	**P**	**19 38 07.1**	**-0.6**		
	baz=308									
LHI	**Lord Howe Isla**	**73.00**	**166**	*e*	P	**P**	**19 38 07.4**	**0.0**		
	comp=Z,230nm,1.1s									
LHI					LR	LR				
	comp=Z,35µm,22.0s									
BBOO	**Buckleboo**	**73.02**	**186**	*e*	P	**P**	**19 38 07.2**	**-0.3**		
	comp=Z,199nm,1.1s									
BBOO					LR	LR				
	comp=Z,10µm,20.0s									
IMW	**Indian Meadow**	**73.06**	**47**	*e*	P	**P**	**19 38 09.3**	**+1.1**		
	comp=Z,331nm,1.5s									
RLMT	**Red Lodge**	**73.18**	**45**		P	**P**	**19 38 08.9**	**+0.1**		
	baz=311,SNR=7.0									
RLMT	**Red Lodge**	**73.18**	**45**	*e*	P	**P**	**19 38 09.8**	**+0.9**		
	comp=Z,211nm,1.4s									
RLMT					LR	LR				
	comp=Z,26µm,19.0s									
VES	**Vestal, Richgr**	**73.19**	**57**		P	**P**	**19 38 09.1**	**+0.3**		
	baz=308,SNR=12									
KONO	**Kongsberg**	**73.23**	**337**	*e*	P	**P**	**19 38 08.2**	**-0.4**		
KONO					IVmB_BB		19 38 24.1			
	comp=Z,6µm,4.0s									
KONO				*e*	S	**S**	**19 47 34.7**	**+0.2**		
KONO					IVMs_BB	IVMs_BB	20 14 35.4			
	comp=Z,41µm,18.0s									
KONO	**Kongsberg**	**73.23**	**337**	*d*	*P	**P**	**19 38 09.4**	**+0.8**		
KONO					pmax	pmax				
	comp=Z,1µm,2.5s									
KONO	**Kongsberg**	**73.23**	**337**	*e*	P	**P**	**19 38 07.4**	**-1.2**		
	comp=Z,184nm,1.4s									
KONO					LR	LR				
	comp=Z,120µm,19.0s									
MOOW	**Moose Ponds**	**73.26**	**47**	*e*	P	**P**	**19 38 10.6**	**+1.3**		
	comp=Z,165nm,1.4s									
PKM	**Mcpherson Peak**	**73.30**	**58**		P	**P**	**19 38 09.5**	**-0.1**		
	baz=308,SNR=11									
TPAW	**Teton Pass**	**73.31**	**47**	*e*	P	**P**	**19 38 10.5**	**+0.8**		
	comp=Z,195nm,1.2s									
TPAW					LR	LR				
	comp=Z,20µm,22.0s									
HVU	**Hansel Valley**	**73.36**	**49**	*e*	P	**P**	**19 38 11.7**	**+1.8**		
HVU					pmax	pmax				
	comp=Z,87nm,1.0s									
HVU	**Hansel Valley**	**73.36**	**49**	*e*	P	**P**	**19 38 10.7**	**+0.8**		
	comp=Z,87nm,1.0s									
HVU					LR	LR				
	comp=Z,20µm,22.0s									
SUE	**Sulen**	**73.40**	**340**	*e*	P	**P**	**19 38 09.3**	**-0.2**		
SUE					IVmB_BB	

ASK *eS* **S** **19 47 40.7 +0.2**
ASK IVMs_BB IVMs_BB 20 17 00.9
comp=Z,23µm,16.1s
ARVC Arvin 73.79 58 P **P** **19 38 11.5 -0.8**
baz=308
BER Bergen 73.82 340⇑ *eP* **P** **19 38 12.5 +0.6**
BER IVmB_BB 19 38 27.7
comp=Z,4µm,3.5s
BER *eS* **S** **19 47 42.4 +1.3**
BER IVMs_BB IVMs_BB 20 17 02.5
comp=Z,28µm,15.8s
SIM Simferopol' 73.83 316*c i*P **P** **19 38 11.8 -0.6**
SIM pmax pmax
comp=Z,6µm,16.2s
R11A Troy Canyon, C 73.84 53 P **P** **19 38 13.6 +0.8**
baz=309,SNR=27
R11A Troy Canyon, C 73.84 53 *eP* **P** **19 38 12.8 -0.1**
comp=Z,170nm,1.3s
R11A LR LR
comp=Z,21µm,22.0s
SPUT South Promonto 73.85 49 *eP* **P** **19 38 13.7 +1.0**
comp=Z,237nm,1.5s
SPUT LR LR
comp=Z,17µm,22.0s
ODD1 Odda 73.87 339⇑ *eP* **P** **19 38 12.8 +0.5**
ODD1 IVmB_BB 19 38 29.0
comp=Z,5µm,3.3s
ODD1 *eS* **S** **19 47 43.1 +1.4**
ODD1 IVMs_BB IVMs_BB 20 17 15.7
comp=Z,27µm,14.8s
DAC Darwin (Calif) 73.88 56 *eP* **P** **19 38 13.8 +0.7**
DAC pmax pmax
comp=Z,100nm,1.2s
DAC Darwin (Calif) 73.88 56 *eP* **P** **19 38 13.4 +0.3**
comp=Z,100nm,1.3s
DAC LR LR
comp=Z,25µm,20.0s
BSC Santa Cruz Isl 73.97 59 P **P** **19 38 13.5 +0.1**
baz=308
MPMC Manual Prospec 74.08 56 P **P** **19 38 14.9 +0.7**
baz=308,SNR=14
HWUT Hardware Ranch 74.17 49 *eP* **P** **19 38 15.5 +0.8**
comp=Z,184nm,1.3s
HWUT LR LR
comp=Z,20µm,22.0s
FURC Furnace Creek, 74.22 56 P **P** **19 38 14.5 -0.3**
baz=309,SNR=12
BLG Laguna Peak, P 74.27 59 P **P** **19 38 15.2 +0.1**
baz=308,SNR=8.1
TPNV Topopah Spring 74.31 55 P **P** **19 38 15.2 -0.3**
baz=309,SNR=14
TPNV Topopah Spring 74.31 55 *eP* **P** **19 38 17.5 +2.0**
TPNV pmax pmax
comp=Z,260nm,1.2s
TPNV Topopah Spring 74.31 55 *eP* **P** **19 38 16.3 +0.8**
comp=Z,259nm,1.2s
TPNV LR LR
comp=Z,40µm,22.0s
LRMC Laurel Mtn Rad 74.31 57 P **P** **19 38 15.8 +0.3**
baz=309,SNR=7.7
BLS5 Blasjo 74.33 339 *eP* **P** **19 38 15.0 0.0**
BLS5 IVmB_BB 19 38 32.6
comp=Z,4µm,4.0s
BLS5 *eS* **S** **19 47 47.6 +0.7**
BLS5 IVMs_BB IVMs_BB 20 17 20.6
comp=Z,24µm,15.3s
DUG Dugway, Tooele 74.35 50 P **P** **19 38 16.0 +0.4**
baz=310,SNR=23
DUG Dugway, Tooele 74.35 50 *eP* **P** **19 38 16.9 +1.2**
DUG pmax pmax
comp=Z,160nm,1.2s
DUG Dugway, Tooele 74.35 50 *eP* **P** **19 38 16.4 +0.7**
comp=Z,162nm,1.2s
DUG LR LR
comp=Z,19µm,20.0s
EDW2 Edwards Air Fo 74.49 57 P **P** **19 38 16.7 +0.2**
baz=309,SNR=12
SNCC San Nicolas Is 74.50 60 P **P** **19 38 15.3 -1.1**
baz=308
SNCC San Nicolas Is 74.50 60 *eP* **P** **19 38 14.4 -2.0**
comp=Z,231nm,1.1s
SNCC LR LR
comp=Z,38µm,20.0s
BW06 Boulder Array 74.56 47 P **P** **19 38 16.5 -0.4**
baz=311,SNR=68
BW06 Boulder Array 74.56 47 *eP* **P** **19 38 17.0 +0.1**
BW06 LR LR
comp=Z,27µm,22.0s
PD31 Pinedale Array 74.56 47 *eP* **P** **19 38 16.7 -0.2**
PDAR Pinedale Array 74.56 47 P **P** **19 38 16.9 0.0**
comp=Z,4.7nm,0.8s,baz=27,slow=1.0,SNR=24
PDAR S **S** **19 47 56.9 +6.4**
comp=Z,0.6nm,0.9s,baz=282,slow=0.8,SNR=1.8
PDAR LR LR 20 07 37.6
comp=Z,17µm,21.7s,baz=338,slow=33
BORG Borgarnes 74.56 353 *eP* **P** **19 38 17.9 +1.6**
BORG pmax pmax
comp=Z,286nm,1.4s
BORG MLR MLR
comp=Z,16µm,21.0s
BORG Borgarnes 74.56 353 *eP* **P** **19 38 17.9 +1.6**
comp=Z,286nm,1.4s
BORG LR LR
comp=Z,16µm,21.0s
SORM Soroca 74.62 321⇑ *i*P **P** **19 38 16.0 -0.9**
SORM Soroca 74.62 321⇑ P **P** **19 38 16.0 -0.9**
DECC Green Verdugo 74.65 58 P **P** **19 38 13.6 -3.8**
baz=309
HOMB Homborsund 74.69 337⇑ *eP* **P** **19 38 16.4 -0.7**
HOMB IVmB_BB 19 38 34.5
comp=Z,5µm,4.8s
HOMB *eS* **S** **19 47 51.3 +0.4**
HOMB IVMs_BB IVMs_BB 20 15 18.8
comp=Z,34µm,18.5s
PSUT Pine Spring 74.78 52 *eP* **P** **19 38 18.5 +0.2**
comp=Z,134nm,1.4s
PSUT LR LR
comp=Z,14µm,21.0s
PASC Pasadena Art C 74.80 58 *eP* **P** **19 38 18.1 -0.1**
comp=Z,166nm,1.4s
PASC LR LR
comp=Z,47µm,22.0s
KMY Karmoy 74.84 339 *eP* **P** **19 38 18.5 +0.6**
MWC Mount Wilson 74.85 58 *eP* **P** **19 38 20.7 +2.0**
MWC pmax pmax
comp=Z,290nm,1.3s
MWC Mount Wilson 74.85 58 *eP* **P** **19 38 18.9 +0.2**
comp=Z,293nm,1.3s
MWC LR LR
comp=Z,46µm,22.0s
JLU Jordanelle 74.89 49 *eP* **P** **19 38 19.2 +0.3**
comp=Z,266nm,1.9s
JLU LR LR
comp=Z,19µm,20.0s
NLU North Lily Min 74.94 50 *eP* **P** **19 38 19.5 +0.3**
comp=Z,106nm,1.1s
NLU LR LR
comp=Z,23µm,20.0s
STAV Stavanger 74.95 339 *eP* **P** **19 38 18.3 -0.3**
STAV IVmB_BB 19 38 34.1
comp=Z,4µm,3.6s
STAV *eS* **S** **19 47 52.3 -1.4**
STAV IVMs_BB IVMs_BB 20 18 14.0
comp=Z,27µm,16.1s
GSC Goldstone, Bar 74.98 56 P **P** **19 38 20.1 +0.7**
baz=309,SNR=5.7
GSC Goldstone, Bar 74.98 56 *eP* **P** **19 38 20.3 +0.9**
GSC pmax pmax
comp=Z,130nm,1.2s
GSC Goldstone, Bar 74.98 56 *eP* **P** **19 38 19.7 +0.3**
comp=Z,134nm,1.3s
GSC LR LR
comp=Z,19µm,22.0s
SNART Snartemo 75.02 338 *eP* **P** **19 38 18.6 -0.4**
SNART IVmB_BB 19 38 34.6
comp=Z,3µm,3.6s
SNART IVMs_BB IVMs_BB 20 15 38.4
comp=Z,14µm,16.6s
BFSC Mount Baldy Ra 75.10 58 P **P** **19 38 20.8 +0.7**
baz=309,SNR=6.9
SOFL Sornfelli, Far 75.12 346 AMS AMS 20 12 50.1
comp=Z,34µm,17.0s
BSD Bornholm Skovb 75.13 332 *i*P **P** **19 38 19.5 -0.2**
comp=Z,490nm,1.5s
comp=Z,100µm,16.0s
BSD Bornholm Skovb 75.13 332 *i*P **P** **19 38 19.5 -0.2**
BSD pmax pmax
comp=Z,490nm,1.5s
BSD MLR MLR
comp=Z,100µm,16.0s
CIS Catalina Islan 75.13 59 P **P** **19 38 19.8 -0.3**
baz=309,SNR=7.5
MPU Maple Canyon 75.16 50 *eP* **P** **19 38 20.9 +0.5**
KIS Kishinev 75.18 320⇑ *i*P **P** **19 38 19.0 -1.1**
comp=Z,500nm,2.0s
KIS Kishinev 75.18 320 *i* PcP **PcP** **19 38 33.0 -0.5**
KIS Kishinev 75.18 320 *i* PP PP 19 41 16.0 +8.0
comp=Z,3µm,10.0s
KIS Kishinev 75.18 320α *i*P **P** **19 38 19.0 -1.1**
KIS *i* 19 38 33.0
KIS *i* PP 19 41 16.0 +8.0
KIS *i* 19 48 28.0
KIS *i* PS **PnS** **19 48 39.0 +4.9**
KIS pmax pmax
comp=E,400nm,2.0s
KIS pmax pmax
comp=Z,500nm,2.0s
KIS pmax pmax
comp=N,700nm,4.0s
KIS pmax pmax
comp=E,500nm,4.0s
KIS pmax pmax
comp=Z,2µm,4.0s
KIS pmax pmax
comp=Z,4µm,8.0s
KIS pmax pmax
comp=Z,6µm,12.0s
KIS pmax pmax
comp=N,3µm,10.0s
KIS pmax pmax
comp=E,2µm,8.0s
KIS pmax pmax
comp=Z,7µm,20.0s
KBSD Kabsdagh 75.24 306 *eP* **P** **19 38 21.3 +0.5**
SHPR Sheep Range 75.27 55 *eP* **P** **19 38 22.1 +1.0**
comp=Z,114nm,1.1s
SHPR LR LR
comp=Z,36µm,22.0s
SCI San Clemente I 75.31 59 P **P** **19 38 21.2 +0.1**
baz=309
BEL Belsk 75.36 327 *eP* **P** **19 38 21.2 +0.1**
BEL *eP*cP **PcP** **19 38 36.3 +2.1**
BEL LMZ LR 20 14 25.1
comp=Z,80µm,19.7s
BEL Belsk 75.36 327 *eP* **P** **19 38 21.2 +0.1**
BEL *e* 19 38 36.3
BEL MLR MLR
comp=Z,80µm,19.7s
LVV L'vov 75.44 324 *eP* **P** **19 38 21.6 0.0**
LVV *eS* **S** **19 48 00.0 +0.5**
LVV pmax pmax
comp=Z,700nm,1.3s
CAN Canberra 75.45 175 *eP* **P** **19 38 22.7 +1.0**
CAN pmax pmax
comp=Z,212nm,1.5s
CAN MLR MLR
comp=Z,18µm,18.0s
CAN Canberra 75.45 175 *eP* **P** **19 38 22.7 +1.0**
comp=Z,212nm,1.5s
CAN LR LR
comp=Z,18µm,18.0s
TUQ Turquoise Moun 75.46 56 P **P** **19 38 22.5 +0.4**
baz=309,SNR=6.5
HEC Hector,Ludlow 75.58 57 P **P** **19 38 23.1 +0.3**
baz=309,SNR=12
TCRU Three Creeks R 75.58 52 *eP* **P** **19 38 24.6 +1.6**
comp=Z,117nm,1.1s
TCRU LR LR
comp=Z,28µm,22.0s
LRW Lerwick 75.66 342 AMS AMS 20 13 53.6
comp=Z,30µm,19.2s
GKP Gorka Klasztor 75.70 330 *eP* **P** **19 38 22.7 -0.3**
GKP *e*PcP **sP** **19 38 37.7 +1.9**
GKP *eS* **pS** **19 48 14.7 +0.8**
GKP LMZ LR 20 17 15.4
comp=Z,141µm,16.6s
GKP Gorka Klasztor 75.70 330 *eP* **P** **19 38 22.7 -0.3**
GKP *e* 19 38 37.7
GKP MLR MLR
comp=Z,141µm,16.6s
CCUT Cedar City 75.71 53 *eP* **P** **19 38 23.3 -0.4**
comp=Z,172nm,1.2s
CCUT LR LR
comp=Z,22µm,22.0s
MURC Murrieta 75.80 58 P **P** **19 38 24.4 +0.4**
baz=309,SNR=11
MSU Marysvale 75.81 51 *eP* **P** **19 38 25.3 +1.1**
MSU Marysvale 75.81 51 *eP* **P** **19 38 25.3 +1.1**
LEOM Leova 75.82 320⇑ *i*P **P** **19 38 24.5 +0.7**
LEOM Leova 75.82 320⇑ P **P** **19 38 24.5 +0.7**
SZCU Shurtz Canyon 75.85 53 *eP* **P** **19 38 24.6 +0.2**
comp=Z,122nm,1.3s
SZCU LR LR
comp=Z,17µm,20.0s
TMUT Trail Mountain 75.87 50 *eP* **P** **19 38 24.7 +0.1**
comp=Z,137nm,1.4s
TMUT LR LR
comp=Z,18µm,22.0s
SFNV Sufian 75.88 306 *eP* **P** **19 38 26.9 +2.4**
LLD Lille Linde 75.90 333 *i*P **P** **19 38 23.7 -0.4**
LLD Lille Linde 75.90 333 *i*P **P** **19 38 23.7 -0.4**
MZRK Al-Mazaregh 75.92 305 *eP* **P** **19 38 25.6 +1.0**
MUD Monsted U'grnd 75.98 336 *i*P **P** **19 38 25.1 +0.6**
comp=Z,119nm,1.0s
comp=Z,64µm,19.0s
MUD Monsted U'grnd 75.98 336 *i*P **P** **19 38 25.1 +0.6**
MUD pmax pmax
comp=Z,120nm,1.0s
MUD MLR MLR
comp=Z,64µm,19.0s
GMRC Granite Mounta 76.04 56 P **P** **19 38 26.0 +0.5**
baz=310,SNR=7.5
CUALT Altinyayla-SIV 76.06 310 *i*P **P** **19 38 24.5 -1.1**
MTPU Mount Pierson 76.11 52 *eP* **P** **19 38 26.9 +0.8**
comp=Z,153nm,1.3s
MTPU LR LR
comp=Z,22µm,21.0s
LCMT Little Creek M 76.13 53 *eP* **P** **19 38 27.0 +1.1**
comp=Z,172nm,1.3s
LCMT LR LR
comp=Z,28µm,22.0s
ULM Lac du Bonnet 76.14 34 P **P** **19 38 25.5 -0.1**
comp=Z,22nm,1.0s,baz=320,slow=5.7,SNR=9.9
ULM S **S** **19 48 02.8 -4.5**
comp=Z,4.5nm,0.9s,baz=215,slow=18,SNR=2.2
ULM LR LR 20 13 30.6
comp=Z,17µm,20.1s,baz=326,slow=37
RGN Rugen 76.14 332 *eP* **P** **19 38 25.4 0.0**
comp=Z,355nm,1.0s
RGN LR LR
comp=Z,101µm,19.0s
KWP Kalwaria Pacla 76.16 325 *eP* **P** **19 38 26.0 +0.2**
KWP *e*PcP **sP** **19 38 41.1 +2.5**
KWP *eS* **pS** **19 48 21.8 +2.5**
KWP LMZ LR 20 16 53.4
comp=Z,100µm,16.3s
KWP Kalwaria Pacla 76.16 325 *eP* **P** **19 38 26.0 +0.2**
KWP *e* 19 38 41.1
KWP *eS* **pS** **19 48 21.8 +2.5**
KWP MLR MLR
comp=Z,100µm,16.3s
PRAR RASCA 76.18 321⇓ *i*P **P** **19 38 25.5 -0.4**
LDFC Landfair 76.20 56 *eP* **P** **19 38 27.5 +1.1**
comp=Z,254nm,1.1s
LDFC LR LR
comp=Z,24µm,21.0s
MDND Maddock 76.20 38 P **P** **19 38 26.0 0.0**
baz=316
MDND Maddock 76.20 38 *eP* **P** **19 38 26.4 +0.3**
comp=Z,384nm,1.1s
MDND LR LR
comp=Z,38µm,21.0s
P18A Preston Nutter 76.22 50 *eP* **P** **19 38 26.6 0.0**
comp=Z,228nm,1.3s
P18A LR LR
comp=Z,26µm,21.0s
CUSAR Sarkisla-SIVAS 76.27 310 *i*P P 19 38 20.6 -6.1
PFO Pinyon Flats O 76.27 58 P **P** **19 38 27.9 +1.1**
baz=310,SNR=6.3
PFO Pinyon Flats O 76.27 58 *eP* **P** **19 38 27.4 +0.6**
PFO pmax pmax
comp=Z,126nm,1.2s
PFO MLR MLR
comp=Z,42µm,20.0s
PFO Pinyon Flats O 76.27 58 *eP* **P** **19 38 27.4 +0.6**
comp=Z,126nm,1.2s
PFO LR LR
comp=Z,42µm,20.0s
TPFO Pinon Flats 76.28 58 P **P** **19 38 27.6 +0.8**
baz=310,SNR=6.6
CTAK Corum_Osmancik 76.30 312 *i*P **P** **19 38 27.1 +0.2**
K22A Casper 76.30 45 P **P** **19 38 27.3 +0.4**
baz=313,SNR=6.7
K22A Casper 76.30 45 *eP* **P** **19 38 26.9 +0.1**
comp=Z,302nm,1.5s
K22A LR LR
comp=Z,12µm,20.0s
109C Camp Elliot, M 76.31 59 P **P** **19 38 26.6 -0.3**
baz=309
BELC Belle Mtn. Jos 76.32 57 P **P** **19 38 27.3 +0.2**
baz=310,SNR=9.6
KNB Kanab 76.38 53 *eP* **P** **19 38 28.5 +1.1**
KNB pmax pmax
comp=Z,273nm,1.3s
KNB MLR MLR
comp=Z,28µm,22.0s
KNB Kanab 76.38 53 *eP* **P** **19 38 28.5 +1.1**
comp=Z,273nm,1.3s
KNB LR LR
comp=Z,28µm,22.0s
SRU San Rafael Swe 76.40 50 *eP* **P** **19 38 27.9 +0.4**
SRU pmax pmax
comp=Z,109nm,0.9s
SRU MLR MLR
comp=Z,22µm,21.0s
SRU San Rafael Swe 76.40 50 *eP* **P** **19 38 27.9 +0.4**
comp=Z,109nm,0.9s
SRU LR LR
comp=Z,22µm,21.0s
PKCU Pink Cliffs 76.42 52 *eP* **P** **19 38 26.9 -0.9**
comp=Z,328nm,1.6s
TLCR 76.44 318⇑ *i*P **P** **19 38 27.3 0.0**
TLCR 76.44 318⇑ P **P** **19 38 27.3 0.0**
COAL Corum-Alaca 76.45 311 *i*P **P** **19 38 25.8 -1.9**
BUR08 Bucovina Ar. S 76.47 322 *eP* **P** **19 38 26.8 -0.8**
BURAR Bucovina Array 76.48 322⇑ *i*P **P** **19 38 27.4 -0.3**
BURAR Bucovina Array 76.48 322⇑ P **P** **19 38 27.4 -0.3**
RWWY Rawlins 76.58 46 *eP* **P** **19 38 27.6 -1.0**
comp=Z,138nm,1.1s
RWWY LR LR
comp=Z,26µm,22.0s
TESR Tescani 76.58 320⇑ *i*P **P** **19 38 27.8 -0.4**
RSSD Black Hills 76.62 43 P **P** **19 38 27.9 -0.9**
baz=314
RSSD Black Hills 76.62 43 *eP* **P** **19 38 28.5 -0.2**
RSSD pmax pmax
comp=Z,289nm,1.5s
RSSD MLR MLR
comp=Z,20µm,19.0s
RSSD Black Hills 76.62 43 *eP* **P** **19 38 28.5 -0.2**
comp=Z,289nm,1.5s
RSSD LR LR
comp=Z,20µm,19.0s
ILGA Ilgaz 76.64 313 *i*P **P** **19 38 30.9 +2.1**
NWAO Narrogin (SRO) 76.64 202 *eP* **P** **19 38 28.6 +0.2**
NWAO pmax pmax
comp=Z,160nm,1.1s
NWAO Narrogin (SRO) 76.64 202 *eP* **P** **19 38 27.7 -0.7**
comp=Z,159nm,1.1s
B31A Greenbush Farm 76.69 37 P **P** **19 38 27.6 -1.2**
baz=317
NEE2 Needles Airpor 76.71 56 P **P** **19 38 27.0 -2.1**
baz=310
BAR Barrett 76.72 58 *eP* **P** **19 38 29.2 0.0**
comp=Z,83nm,1.1s
BAR LR LR
comp=Z,24µm,20.0s
MONP Monument Peak, 76.75 58 P **P** **19 38 29.4 -0.2**
baz=310,SNR=12
IRM Iron Mountain 76.77 56 P **P** **19 38 29.9 +0.4**
baz=310,SNR=5.9
CFR Carcaliu 76.78 319⇑ *i*P **P** **19 38 29.0 -0.3**
CFR Carcaliu 76.78 319⇑ P **P** **19 38 29.0 -0.3**
GZT Gaziantep 76.83 308 *i*P **P** **19 38 32.2 +2.3**
A32A Rocking H Ranc 76.85 36 P **P** **19 38 29.3 -0.3**
baz=318
PETR Petresti 76.86 320⇓ *i*P **P** **19 38 30.8 +1.1**
BC3 Big Chuckawall 76.89 57 P **P** **19 38 30.6 +0.3**
baz=310,SNR=6.8
ODBI Odobesti 76.91 320⇑ *i*P **P** **19 38 31.8 +1.8**
KSRV Kasrt alli 76.92 306 *eP* **P** **19 38 30.7 +0.4**
W13A Hualapai Mount 76.96 55 *eP* **P** **19 38 31.6 +0.8**
comp=Z,154nm,1.6s
STHS Stebnicka Huta 76.97 325 *eP* **P** **19 38 30.5 +0.2**
STHS pmax pmax
comp=Z,141nm,1.1s
STHS Stebnicka Huta 76.97 325 *eP* **P** **19 38 30.5 +0.2**
OJC Ojcow 76.98 326 *eP* **P** **19 38 30.2 -0.2**
OJC *e*PcP **sP** **19 38 45.5 +2.2**
OJC *eS* **pS** **19 48 28.8 +0.5**
OJC LMZ LR 20 16 04.2
comp=Z,118µm,16.9s
OJC Ojcow 76.98 326 *eP* **P** **19 38 30.2 -0.2**
OJC *e* 19 38 45.5
OJC *eS* **pS** **19 48 28.8 +0.5**
OJC MLR MLR
comp=Z,118µm,16.9s
OJC Ojcow 76.98 326 *eP* **P** **19 38 30.2 -0.2**
comp=Z,258nm,1.0s
O20A White River Ci 77.04 48 P **P** **19 38 31.1 0.0**
baz=312,SNR=7.5
O20A White River Ci 77.04 48 *eP* **P** **19 38 31.5 +0.4**
comp=Z,114nm,1.1s
O20A LR LR
comp=Z,18µm,20.0s
PLOR Plostina 77.05 320⇑ *i*P **P** **19 38 30.8 -0.1**
PLOR Plostina 77.05 320⇑ P **P** **19 38 30.8 -0.1**
BTIN Bart¯–n 77.06 314 *i*P **P** **19 38 29.6 -1.3**
UZH Uzhgorod 77.08 324 *eP* **P** **19 38 30.0 -0.9**
UZH *eS* **S** **19 48 14.0 -3.6**
UZH MLR MLR
comp=Z,33µm,15.0s
U15A North Rim 77.09 53 *eP* **P** **19 38 32.2 +0.6**
comp=Z,284nm,1.4s
IKP In-Ko-Pah, Jac 77.11 58 P **P** **19 38 31.6 +0.1**
baz=310,SNR=12
C31A Landman Farms, 77.11 37 P **P** **19 38 31.1 -0.1**
baz=317
SWSC Sam W. Stewart 77.12 58 P **P** **19 38 32.1 +0.7**
baz=310,SNR=9.5
TIRR Tirgusor 77.15 318⇑ *i*P **P** **19 38 30.8 -0.6**
TIRR Tirgusor 77.15 318 *eP* **P** **19 38 30.9 -0.5**
TIRR pmax pmax
comp=Z,96nm,1.1s
TIRR Tirgusor 77.15 318 *eP* **P** **19 38 30.6 -0.7**
comp=Z,96nm,1.1s
TIRR LR LR
comp=Z,134µm,19.0s
B32A Ashes, Strandq 77.22 36 P **P** **19 38 31.4 -0.3**
baz=318
CDAG Cicekdag 77.22 311 *i*P **P** **19 38 29.6 -2.4**
GRER 77.22 319⇓ *i*P **P** **19 38 34.1 +2.3**
HARR Harsova 77.23 318⇑ *i*P **P** **19 38 32.1 +0.3**
HARR Harsova 77.23 318⇑ P **P** **19 38 32.1 +0.3**
HCB Kahramanmara¯ 77.24 308 *i*P **P** **19 38 29.6 -2.4**
BMR Baia Mare 77.24 323⇑ *i*P **P** **19 38 32.4 +0.5**
BMR Baia Mare 77.24 323⇑ P **P** **19 38 32.4 +0.5**
TLB Topalu 77.25 318⇑ *i*P **P** **19 38 31.8 -0.1**
TLB Topalu 77.25 318⇑ P **P** **19 38 31.8 -0.1**
ARCR ARCALIA 77.27 322⇓ *i*P **P** **19 38 33.0 +1.0**
PDMCI Parker Dam,Lak 77.31 56 P **P** **19 38 33.1 +0.7**
baz=310,SNR=7.0
A33A Warroad 77.33 35 P **P** **19 38 32.1 -0.2**
baz=318,SNR=16
TRPA Tarpa 77.34 324⇑ *eP* **P** **19 38 33.1 +0.7**
SLMH Al Salmeh 77.36 307 *eP* **P** **19 38 33.1 +0.3**
NIE Niedzica 77.38 326 *eP* **P** **19 38 33.1 +0.5**
NIE *e*PcP **sP** **19 38 48.1 +2.6**
NIE *eS* **sS** **19 48 36.3 -0.1**
NIE LMZ LR 20 16 22.2
comp=Z,97µm,17.6s
NIE Niedzica 77.38 326 *eP* **P** **19 38 33.1 +0.5**
NIE *e* 19 38 48.1
NIE *eS* **sS** **19 48 36.3 -0.1**
NIE MLR MLR
comp=Z,97µm,17.6s
ANDN Andirin 77.42 309 *i*P **P** **19 38 30.9 -2.2**

Y12C Blythe 77.42 56 P P 19 38 33.9 +0.8
baz=310,SNR=7.6
Y12C Blythe 77.42 56 eP P 19 38 33.4 +0.3
comp=Z,144nm,1.1s
Y12C LR LR
comp=Z,35µm,22.0s
KAMA Osmaniye 77.48 308 *i* P P 19 38 28.4 -5.2
KUZU Kuzuini 77.51 308 *i* P **P 19 38 33.5 -0.1**
PGOR Pogoanele 77.55 319⇑ *i* P **P 19 38 34.5 +0.9**
BR131 Keskin Array S 77.57 312 eP P 19 38 33.1 -0.9
BRTR Keskin Array B 77.57 312 P **P 19 38 33.8 -0.3**
comp=Z,124nm,1.2s,baz=42,slow=4.5,SNR=85
BRTR PP **PP 19 41 31.0 +2.5**
comp=Z,9.1nm,0.9s,baz=40,slow=8.5,SNR=2.8
BRTR S **S 19 48 26.6 +3.1**
comp=Z,1.7nm,1.1s,baz=59,slow=5.6,SNR=2.3
BRTR LR LR 20 18 40.2
comp=Z,33µm,18.9s,baz=7.0,slow=40
DOPR Dopca 77.58 321⇓ *i* P **P 19 38 34.7 +0.9**
AMRR Amara 77.59 319⇓ *i* P **P 19 38 33.5 -0.3**
AMRR Amara 77.59 319⇑ P **P 19 38 33.5 -0.3**
AGMN Agassiz Nation 77.59 36 P **P 19 38 33.7 -0.1**
baz=318,SNR=6.6
AGMN Agassiz Nation 77.59 36 eP P 19 38 32.8 -1.0
comp=Z,188nm,1.4s
AGMN LR LR
comp=Z,29µm,21.0s
PV09 Paradox Valley 77.61 50 eP P 19 38 35.3 +0.8
ISR Istrita 77.62 320⇓ *i* P **P 19 38 34.9 +0.8**
ISR Istrita 77.62 320⇓ P **P 19 38 34.9 +0.8**
MLR Muntele Rosu 77.65 320⇑ *i* P **P 19 38 34.3 -0.1**
MLR Muntele Rosu 77.65 320 eP P 19 38 33.6 -0.8
MLR pmax pmax
comp=Z,203nm,1.2s
MLR MLR MLR
comp=Z,75µm,21.0s
MLR Muntele Rosu 77.65 320 eP P 19 38 33.6 -0.8
comp=Z,203nm,1.2s
MLR LR LR
comp=Z,75µm,21.0s
D31A Mcclaflin, Tow 77.66 38 P **P 19 38 34.1 -0.2**
baz=317
GLA Glamis 77.68 57 P **P 19 38 33.7 -0.9**
baz=310
GLA Glamis 77.68 57 eP P 19 38 35.1 +0.5
GLA pmax pmax
comp=Z,127nm,1.1s
GLA MLR MLR
comp=Z,35µm,20.0s
GLA Glamis 77.68 57 eP P 19 38 35.1 +0.5
comp=Z,127nm,1.1s
GLA LR LR
comp=Z,35µm,20.0s
CMDR Camlidere-ANKA 77.71 313 *i* P **P 19 38 32.2 -2.5**
B33A Robert and Kas 77.73 36 P **P 19 38 34.0 -0.6**
baz=318
PV10 Paradox Valley 77.75 50 eP P 19 38 35.9 +0.7
RAC Raciborz 77.76 327 eP P 19 38 35.1 +0.4
RAC *e*S **S 19 48 21.6 -3.3**
RAC MLR MLR
comp=Z,120µm,20.2s
BIGH Upper Bighouse 77.76 343 AMS AMS 20 16 43.8
comp=Z,39µm,19.1s
PHWY Pilot Hill 77.80 46 eP P 19 38 35.9 +0.4
comp=Z,228nm,1.6s
PHWY LR LR
comp=Z,17µm,22.0s
MLA1 Latheron 77.81 343 eP P 19 38 35.2 +0.4
PSN Preselentsi 77.81 318 P **P 19 38 35.2 +0.1**
N23A Red Feather La 77.81 46 P **P 19 38 35.2 -0.4**
baz=313,SNR=11
N23A Red Feather La 77.81 46 eP P 19 38 36.3 +0.7
comp=Z,253nm,1.5s
N23A LR LR
comp=Z,22µm,18.0s
DRWC Darouich 77.86 308 eP P 19 38 35.4 -0.2
CJR Cluj-Napoca 77.90 322⇓ *i* P **P 19 38 36.2 +0.6**
CJR Cluj-Napoca 77.90 322 ⇓ P **P 19 38 36.2 +0.6**
PV05 Paradox Valley 77.92 50 eP P 19 38 36.7 +0.6
D32A Dogwood Acres, 77.93 37 P **P 19 38 34.5 -1.2**
baz=318
LANS Liptovska Anna 77.93 326 eP P 19 38 36.2 +0.4
LANS Liptovska Anna 77.93 326 eP P 19 38 36.2 +0.4
E31A Nome 77.94 38 P **P 19 38 35.0 -0.8**
baz=317
KSP Ksiaz 77.94 329 eP P 19 38 35.9 +0.2
KSP *e*PcP **sP 19 38 50.8 +2.2**
KSP *e*S **sS 19 48 40.2 -2.2**
KSP LMZ LR 20 16 07.5
comp=Z,57µm,20.3s
KSP Ksiaz 77.94 329 eP P 19 38 35.9 +0.2
KSP *e* 19 38 50.8
KSP *e*S **sS 19 48 40.2 -2.2**
KSP MLR MLR
comp=Z,57µm,20.3s
ANTO Ankara 77.95 312 eP P 19 38 36.2 +0.1
ANTO pmax pmax
comp=Z,190nm,1.0s
ANTO Ankara 77.95 312 eP P 19 38 35.7 -0.4
comp=Z,191nm,0.9s
ANTO LR LR
comp=Z,19µm,20.0s
ANTO Ankara 77.95 312 P **P 19 38 36.1 +0.1**
SNR=73
ANTO P **P 19 38 36.1 +0.1**
SNR=73
OKC Ostrava-Krasne 77.97 327⇑ *i* P **P 19 38 35.8 -0.1**
OKC *e*pP **sP 19 38 48.3 -0.4**
OKC *e*x x 19 48 40.2
OKC AMS AMS 20 16 10.0
comp=Z,90µm,19.8s
OKC Ostrava-Krasne 77.97 327⇑ *i* P **P 19 38 35.8 -0.1**
OKC *e* 19 38 48.3
OKC *e*S **sS 19 48 40.2 -2.5**
OKC MLR MLR
comp=Z,90µm,19.8s
BR231 Keskin MP Arra 77.98 312 eP P 19 38 36.1 -0.2
BBAL Bala 77.99 312 *i* P **P 19 38 34.8 -1.5**
B34A Aery, Baudette 77.99 35 P **P 19 38 35.4 -0.6**
baz=319
KECS Kecovo 78.00 325 eP P 19 38 36.3 +0.2
KECS pmax pmax
comp=Z,42nm,1.0s
KECS Kecovo 78.00 325 eP P 19 38 36.2 +0.2
AKO Adana 78.03 309 *i* P **P 19 38 37.4 +1.0**
C33A Trail 78.03 36 P **P 19 38 35.7 -0.6**
baz=318
SULR 78.08 319⇑ *i* P **P 19 38 37.2 +0.6**
PV15 Paradox Valley 78.10 50 eP P 19 38 36.1 -1.0
VOIR 78.13 321⇓ *i* P **P 19 38 37.4 +0.4**
VOIR 78.13 321 ⇓ P **P 19 38 37.4 +0.4**
RAO Raoul Island 78.17 146 PFAKE 19 38 50.0 +13
RAO LR LR
comp=Z,58µm,20.0s
RSC Scourie 78.17 343 eP P 19 38 37.2 +0.4
PV01 Paradox Valley 78.19 50 eP P 19 38 38.1 +0.4
WUAZ Wupatki 78.25 53 P **P 19 38 38.6 +0.7**
baz=311,SNR=14
WUAZ Wupatki 78.25 53 eP P 19 38 38.4 +0.5
comp=Z,150nm,1.1s
WUAZ LR LR
comp=Z,35µm,22.0s
DRGR 78.25 323⇑ *i* P **P 19 38 37.4 -0.2**
DRGR 78.25 323⇑ P **P 19 38 37.4 -0.2**
Y14A Wickenburg 78.26 55 eP P 19 38 38.5 +0.6
comp=Z,491nm,1.1s
Y14A LR LR
comp=Z,74µm,19.0s
MORC Moravsky Berou 78.27 327⇑ *i* P **P 19 38 37.7 +0.1**
MORC Moravsky Berou 78.27 327⇑ P **P 19 38 37.7 +0.1**
MORC Moravsky Berou 78.27 327 eP P 19 38 37.0 -0.6
comp=Z,1µm,1.3s
F31A Hecla 78.28 39 P **P 19 38 37.3 -0.4**
baz=317
E32A Braaten, Kindr 78.30 38 P **P 19 38 38.0 +0.2**
baz=318
DPC Dobruska-Polom 78.32 328⇑ *i* P **P 19 38 38.1 +0.2**
DPC *e*pP **sP 19 38 51.3 +0.6**
DPC *e*S **S 19 48 37.7 +6.7**
DPC MLR MLR
comp=Z,63µm,15.6s
DPC Dobruska-Polom 78.32 328⇑ *i* P **P 19 38 38.1 +0.2**
DPC *e* 19 38 51.3
DPC *e*S **S 19 48 37.7 +6.7**
DPC MLR MLR
comp=Z,63µm,15.6s
UPC Upice 78.32 329⇑ *e*P **P 19 38 37.9 +0.1**
UPC *e*pP **sP 19 38 49.7 -1.0**
UPC *e*SKS **SKSac 19 48 45.4 -4.8**
UPC AMS AMS 20 18 40.0
comp=Z,98µm,15.4s
UPC Upice 78.32 329 eP P 19 38 37.9 +0.1
UPC *e* 19 38 49.7
UPC *e* 19 48 45.4
UPC MLR MLR
comp=Z,98µm,15.4s
YURE YUREGIR 78.34 309 *i* P **P 19 38 36.1 -2.1**
KRLC Kraliky 78.34 328⇑ *e*P **P 19 38 37.7 -0.3**
KRLC *e*pP **sP 19 38 49.9 -1.0**
KRLC Kraliky 78.34 328 eP P 19 38 37.7 -0.3
KRLC *e* 19 38 49.9
KKUL Konya-Kulu 78.36 312 *i* P **P 19 38 38.7 +0.4**
SAHE Sakarya_HENDEK 78.36 314 *i* P **P 19 38 38.7 +0.5**
BTCH Batrach 78.37 307 eP P 19 38 38.4 0.0
ARR Arges 78.38 321⇑ *i* P **P 19 38 39.5 +1.1**
SMCO Snowmass 78.41 48 eP P 19 38 39.4 +0.4
comp=Z,118nm,1.3s
SMCO LR LR
comp=Z,18µm,19.0s
D33A AnnSam, Waubun 78.46 37 P **P 19 38 38.3 -0.3**
baz=318
B35A Bob, Littlefor 78.49 35 P **P 19 38 38.7 -0.1**
baz=320,SNR=19
C34A RKJ Ranch, Bem 78.50 36 P **P 19 38 38.5 -0.4**
baz=319
113A Mohawk Valley, 78.54 57 eP P 19 38 38.8 -0.5
comp=Z,111nm,1.3s
113A LR LR
comp=Z,31µm,20.0s
KAND Kocaeli-Kandir 78.55 315 *i* P **P 19 38 36.1 -3.1**
PRD Provadia 78.56 318 P **P 19 38 39.0 -0.2**
YAYL Yayladag 78.58 308 *i* P **P 19 38 40.0 +0.3**
PSZ Piszkesteto 78.68 325⇓ *i* P **P 19 38 40.5 +0.5**
PSZ Piszkesteto 78.68 325 ⇓ P **P 19 38 40.5 +0.5**
PSZ Piszkesteto 78.68 325⇑ *e*P **P 19 38 39.5 -0.5**
PSZ Piszkesteto 78.68 325 eP P 19 38 39.5 -0.5
comp=Z,251nm,1.1s
PSZ LR LR
comp=Z,147µm,18.0s
VYHS Vyhne 78.70 326 eP P 19 38 40.1 +0.1
VYHS pmax pmax
comp=Z,110nm,1.3s
VYHS Vyhne 78.70 326 eP P 19 38 40.1 +0.1
VYHS Vyhne 78.70 326 eS pS 19 48 45.3 -1.7
VYHS *e*SS SS 19 53 55.1 +17
VYHS *e*L L 20 17 10.1
LOT Lotru 78.74 321⇓ *i* P **P 19 38 40.1 -0.3**
ISCO Idaho Springs 78.75 47 P **P 19 38 41.1 +0.3**
baz=314,SNR=8.8
ISCO Idaho Springs 78.75 47 eP P 19 38 42.4 +1.6
ISCO pmax pmax
comp=Z,210nm,1.6s
ISCO Idaho Springs 78.75 47 eP P 19 38 41.4 +0.6
comp=Z,209nm,1.6s
ISCO LR LR
comp=Z,31µm,22.0s
DED Mersin 78.75 309 *i* P P 19 38 34.8 -5.6
G31A Conde 78.77 39 P **P 19 38 40.2 -0.2**
baz=317
ARNB Al Arnab 78.78 308 eP P 19 38 39.3 -1.5
D34A Park Rapids 78.80 36 P **P 19 38 39.8 -0.7**
baz=319,SNR=5.1
F32A Veblen 78.81 38 P **P 19 38 40.0 -0.6**
baz=318
HUMR Humele 78.82 320⇑ *i* P **P 19 38 40.8 +0.1**
BRG Berggiesshubel 78.84 330⇑ *i* P **P 19 38 40.1 -0.5**
comp=Z,177nm,1.6s
BRG *i* 19 38 51.0
comp=Z,145nm,1.0s
BRG *i* PP PP 19 41 51.6 +13
comp=Z,192nm,1.8s
BRG S **pS 19 48 55.0 +6.7**
BRG SS **SS 19 53 50.0 +10**
comp=N,58µm,15.3s
comp=E,62µm,15.6s
comp=Z,114µm,15.7s
BRG Berggiesshubel 78.84 330⇑ *i* P **P 19 38 40.1 -0.5**
BRG *i* 19 38 51.0
BRG S **pS 19 48 55.0 +6.7**
BRG pmax pmax
comp=Z,91nm,1.6s
BRG MLR MLR
comp=N,192µm,15.3s
BRG MLR MLR
comp=E,58µm,15.6s
BRG MLR MLR
comp=Z,62µm,15.7s
KERG Konya-Eregli 78.84 310 *i* P **P 19 38 37.4 -3.7**
CLL Collm 78.85 331⇑ *i* P **P 19 38 40.0 -0.7**
CLL *i* 19 38 51.4
CLL pmax pmax
comp=Z,280nm,1.6s
CLL MLR MLR
comp=Z,71µm,20.3s
CLL Collm 78.85 331⇑ *i* P **P 19 38 40.0 -0.7**
comp=Z,280nm,1.6s
CLL *i* 19 38 45.0
CLL *i* pP **pP 19 38 51.4 +1.3**
comp=Z,246nm,1.1s
CLL *e*Pmax 19 38 54.0
CLL *e*Plp 19 38 58.0
comp=Z,7µm,23.7s
CLL *i* 19 39 02.5
CLL *e*PP **PP 19 41 40.0 +1.3**
CLL *e* 19 41 56.0
CLL *e*PPP PPP 19 43 36.0
CLL *e*S **S 19 48 36.0 -0.5**
CLL *e* 19 48 49.0
CLL *e*PS **PnS 19 49 15.0 -5.7**
CLL *e*SS **SS 19 53 42.0 +1.6**
CLL *e* 19 54 30.0
CLL LmH 20 14 00.0
comp=N,51µm,18.8s
CLL LmH 20 14 00.0
comp=E,114µm,19.5s
CLL LmV 20 18 00.0
comp=Z,71µm,20.3s
CLL Lmax 20 20 00.0
CLL Collm 78.85 331 *e*P **P 19 38 39.9 -0.8**
comp=Z,179nm,0.9s
CLL LR LR
comp=Z,71µm,20.0s
MVCO Mesa Verde 78.85 50 P **P 19 38 41.9 +0.6**
baz=312,SNR=6.9
MVCO Mesa Verde 78.85 50 eP P 19 38 41.7 +0.4
comp=Z,415nm,1.8s
MVCO LR LR
comp=Z,21µm,21.0s
DRUM Mains of Drumt 78.86 341 AMS AMS 20 20 56.6
comp=Z,30µm,16.0s
E33A Westby DABS, E 78.86 37 P **P 19 38 40.7 -0.2**
baz=318,SNR=6.2
PVCC Panska Ves 78.87 329⇑ *i* P **P 19 38 40.9 +0.1**
PVCC *e*pP **sP 19 38 52.5 -1.2**
PVCC *e*SKS **SKSac 19 48 52.0 -2.1**
PVCC AMS AMS 20 20 00.0
comp=Z,90µm,15.3s
PVCC Panska Ves 78.87 329⇑ *i* P **P 19 38 40.9 +0.1**
PVCC *e* 19 38 52.5
PVCC *e* 19 48 52.0
PVCC MLR MLR
comp=Z,90µm,15.3s
C35A Jirik Farms, M 78.88 35 P **P 19 38 40.3 -0.6**
baz=319,SNR=5.3
RRH Rhenigidale 78.89 344 eP P 19 38 41.0 +0.3
X16A Lo Mia Camp, P 78.93 54 eP P 19 38 41.9 +0.2
comp=Z,114nm,1.1s
X16A LR LR
comp=Z,17µm,22.0s
SUSD Miller 78.97 40 P **P 19 38 40.5 -1.1**
baz=317
KAC Achnashellach 78.97 343 eP P 19 38 40.4 -0.9
VRAC Vranov 79.02 328⇓ *i* P **P 19 38 41.7 0.0**
VRAC Vranov 79.02 328 ⇓ P **P 19 38 41.7 0.0**
G32A Webster 79.08 39 P **P 19 38 40.9 -1.2**
baz=318
ROOS tl_alroos 79.09 306 eP P 19 38 42.9 +0.5
SIRR Siria 79.13 323⇓ *i* P **P 19 38 42.4 0.0**
H31A Wolsey 79.18 40 P **P 19 38 41.5 -1.2**
baz=317
KPL Plockton 79.20 343 eP P 19 38 42.4 -0.1
KPL AMB AMB 19 38 45.8
comp=Z,292nm,1.4s
F33A 5 Mile Ranch, 79.22 38 P **P 19 38 42.9 +0.1**
baz=318,SNR=11
E34A Wadena 79.24 37 P **P 19 38 41.7 -1.2**
baz=319
BORA Eskisehir 79.25 314 *i* P **P 19 38 43.9 +0.7**
KDHN Kadinhani 79.25 312 *i* P **P 19 38 41.3 -2.0**
SZH Strazhica 79.26 319 P **P 19 38 42.8 -0.3**
GOPC GO Pecny, Ondr 79.27 329⇑ *i* P **P 19 38 43.0 -0.1**
GOPC *e*pP **sP 19 38 54.8 -1.2**
GOPC AMS AMS 20 19 30.0
comp=Z,96µm,15.6s
GOPC GO Pecny, Ondr 79.27 329⇑ *i* P **P 19 38 43.0 -0.1**
GOPC *e* 19 38 54.8
GOPC *e* 19 38 55.1
GOPC MLR MLR
comp=Z,96µm,15.6s
ESKT Eskisehir 79.28 313 *i* P **P 19 38 40.0 -3.4**
PRA Prague 79.29 329⇑ *i* P **P 19 38 43.3 +0.2**
PRA *e*pP **sP 19 38 55.1 -0.9**
PRA AMS AMS 20 19 40.0
comp=Z,127µm,15.6s
PRA Prague 79.29 329⇑ *i* P **P 19 38 43.3 +0.2**
PRA *e* 19 38 55.1
PRA MLR MLR
comp=Z,127µm,15.6s
SMOL Smolenice 79.29 327 eP P 19 38 43.5 +0.3
SMOL Smolenice 79.29 327 eP P 19 38 43.5 +0.3
PRU Pruhonice 79.31 329⇑ *i* P **P 19 38 43.2 -0.1**
PRU *e*pP **sP 19 38 56.1 0.0**
PRU *e*S **S 19 48 46.0 +4.5**
PRU AMS AMS 20 19 40.0
comp=Z,113µm,15.6s
PRU Pruhonice 79.31 329⇑ *i* P **P 19 38 43.2 -0.1**
PRU *e* 19 38 56.1
PRU *e*S **S 19 48 46.0 +4.5**
PRU MLR MLR
comp=Z,113µm,15.6s
D35A Remer 79.31 36 P **P 19 38 41.9 -1.5**
baz=319
C36A Pine Crest Far 79.33 35 P **P 19 38 43.2 -0.3**
baz=320,SNR=14
BUD Budapest 79.39 325⇑ *e*P **P 19 38 43.7 -0.1**
KIZK Mersin 79.46 309 *i* P **P 19 38 42.6 -1.7**
S22A 4UR Ranch, Cre 79.46 49 P **P 19 38 45.7 +1.0**
baz=313,SNR=8.4
S22A 4UR Ranch, Cre 79.46 49 eP P 19 38 45.2 +0.5
comp=Z,104nm,1.3s
S22A LR LR
comp=Z,29µm,20.0s
I31A Royce, Wessing 79.48 40 P **P 19 38 43.5 -0.8**
baz=317
TREC Trest 79.48 328⇑ *i* P **P 19 38 44.0 -0.2**
TREC AMS AMS 20 19 30.0
comp=Z,66µm,16.7s
TREC Trest 79.48 328⇑ *i* P **P 19 38 44.0 -0.2**
TREC MLR MLR
comp=Z,66µm,16.7s
KONT Konya--Tatoy 79.51 311 *i* P **P 19 38 42.6 -2.0**
W18A Petrified Fore 79.51 53 P **P 19 38 43.8 -1.1**
baz=312
W18A Petrified Fore 79.51 53 eP P 19 38 45.9 +1.0
comp=Z,97nm,1.3s
W18A LR LR
comp=Z,35µm,22.0s
E35A Pequot Lakes 79.55 36 P **P 19 38 43.6 -1.1**
baz=319
Q24A Divide 79.58 47 eP P 19 38 44.5 -0.9
comp=Z,46nm,1.0s
Q24A LR LR
comp=Z,26µm,20.0s
KMER Konya-Meram 79.63 311 *i* P **P 19 38 44.5 -0.9**
BZS Buzias 79.63 322⇓ *i* P **P 19 38 44.4 -0.7**
BZS Buzias 79.63 322 ⇓ P **P 19 38 44.4 -0.7**
G33A Ortonville 79.63 38 P **P 19 38 45.2 +0.1**
baz=318,SNR=12
D36A Goodland 79.64 35 P **P 19 38 44.0 -1.1**
baz=320
C37A Embarrass 79.64 34 P **P 19 38 45.2 +0.1**
baz=320,SNR=17
H32A Carlson Farm, 79.67 39 P **P 19 38 44.5 -0.8**
baz=318
F34A Alexandria 79.74 37 P **P 19 38 45.0 -0.7**
baz=319
EYMN Ely 79.77 34 P **P 19 38 45.5 -0.3**
baz=321,SNR=24
EYMN Ely 79.77 34 eP P 19 38 44.6 -1.2
comp=Z,197nm,1.3s
EYMN LR LR
comp=Z,23µm,22.0s
X18A Snowflake 79.77 53 eP P 19 38 47.6 +1.3
comp=Z,116nm,1.3s
X18A LR LR
comp=Z,23µm,20.0s
BOLV Bolvadin 79.78 313 *i* P **P 19 38 46.4 +0.2**
ESY Stoneypath 79.78 341 eP P 19 38 46.0 +0.3
CSKK Cs˙‡kako 79.82 325⇑ *e*P **P 19 38 46.1 0.0**
WIT Witteveen 79.83 335 P **P 19 38 48.1 +2.1**
HWQ Hawqa 79.85 306 eP P 19 38 46.1 -0.5
EDRB Edirne 79.86 317 P **P 19 38 46.3 -0.1**
EDRB Edirne 79.86 317 P **P 19 38 46.3 -0.1**
H33A Prehn Over Nor 79.87 39 P **P 19 38 45.1 -1.4**
baz=318
MOX Moxa 79.90 331 P **P 19 38 46.1 -0.4**
OGNE Ogallala 79.90 44 P **P 19 38 46.3 -0.5**
baz=315,SNR=7.3
OGNE Ogallala 79.90 44 eP P 19 38 47.3 +0.5
comp=Z,336nm,1.3s
OGNE LR LR
comp=Z,26µm,20.0s
J31A Geddes 79.92 41 P **P 19 38 45.9 -0.8**
baz=317,SNR=6.2
NKC Novy Kostel 79.92 330⇑ *i* P **P 19 38 46.3 -0.3**
NKC *e*pP **sP 19 38 59.6 +0.1**
NKC *ex* x 19 49 05.5
NKC AMS AMS 20 19 30.0
comp=Z,81µm,15.6s
NKC Novy Kostel 79.92 330⇑ *i* P **P 19 38 46.3 -0.3**
NKC *e* 19 38 59.6
NKC *e* 19 49 05.5
NKC MLR MLR
comp=Z,81µm,15.6s
EAB Aberfoyle 79.95 342 eP P 19 38 46.1 -0.5
D37A Cotton 79.97 35 P **P 19 38 45.7 -1.3**
baz=320
G34A Benson 79.97 38 P **P 19 38 46.0 -0.9**
baz=319
F35A Swanville 80.00 37 P **P 19 38 46.0 -1.1**
baz=319
C38A Sawbill Land. 80.04 34 P **P 19 38 46.9 -0.4**
baz=321,SNR=29
ERMK Ermenek 80.08 310 *i* P **P 19 38 47.4 -0.6**
E36A McGregor 80.10 36 P **P 19 38 47.1 -0.5**
baz=320,SNR=14
QASN Qassioun 80.14 306 eP P 19 38 42.5 -5.7
DGAR Diego Garcia 80.15 252*c* *i* P **P 19 38 48.3 0.0**
DGAR Diego Garcia 80.15 252 eP P 19 38 47.1 -1.2
comp=Z,446nm,0.9s
DGAR LR LR
comp=Z,26µm,18.0s
TOTH TOTAH 80.16 305 eP P 19 38 49.1 +0.8
SDCO Great Sand Dun 80.23 48 P **P 19 38 49.2 +0.3**
baz=314,SNR=9.3
SDCO Great Sand Dun 80.23 48 eP P 19 38 49.1 +0.2
comp=Z,67nm,1.4s
SDCO LR LR
comp=Z,21µm,21.0s
BHL Bhannes 80.28 306 eP P 19 38 48.2 -0.7
OUZ Omahuta 80.28 155 eP P 19 38 48.1 -0.3
comp=Z,210nm,1.5s
OUZ LR LR
comp=Z,64µm,21.0s
MPEP Malo Peshtene 80.29 320 P **P 19 38 48.5 -0.2**
J32A Parkston 80.30 40 P **P 19 38 48.3 -0.4**
baz=318
SOP Sopron 80.30 326 P **P 19 38 49.1 +0.4**
SOP Sopron 80.30 326⇑ *e*P **P 19 38 49.4 +0.7**
I33A Coleman 80.31 39 P **P 19 38 47.9 -1.0**
baz=318
PGBU Glenifferbraes 80.33 342 eP P 19 38 47.8 -0.8
PGBU AMB AMB 19 38 51.3
comp=Z,444nm,1.6s
PGBU AMS AMS 20 22 00.8

comp=Z,29µm,16.4s
H34A Spellman Lake, 80.34 38 P **P** 19 38 48.1 -0.8
baz=319
KHC Kasperske Hory 80.37 329⇑ *i*P **P** 19 38 49.0 -0.1
KHC *ep*P **sP** 19 39 01.6 -0.4
KHC *e*SKS **SKSac** 19 49 07.2 +2.4
KHC AMS AMS 20 20 20.0
comp=Z,98µm,15.6s
KHC Kasperske Hory 80.37 329⇑ *i*P **P** 19 38 49.0 -0.1
KHC *e* 19 39 01.6
KHC MLR MLR
comp=Z,98µm,15.6s
KHC Kasperske Hory 80.37 329 *e*P **P** 19 38 48.8 -0.3
comp=Z,123nm,1.3s
KHC LR LR
comp=Z,32µm,19.0s
BAGO Egridir - ISPA 80.38 312 *i* P **P** 19 38 49.1 -0.3
K31A O'Neill 80.40 41 P **P** 19 38 49.8 +0.4
baz=317,SNR=9.3
CONA Conrad Observa 80.40 327 *i* P **P** 19 38 49.4 +0.1
comp=Z,179nm,1.1s,SNR=97
SALA Sala 80.41 305 *e*P **P** 19 38 49.1 -0.6
E37A Wrenshall 80.44 35 P **P** 19 38 45.2 -4.2
baz=320
C39A Grand Marais 80.44 33 P **P** 19 38 48.6 -0.8
baz=322,SNR=10
RCY Rachaya 80.44 306 *e*P **P** 19 38 49.6 -0.2
DQRL Deir Qamar 80.47 306 *e*P **P** 19 38 50.1 +0.2
ESK Eskdalemuir 80.47 341 *e*P **P** 19 38 48.5 -0.9
ESK AMS AMS 20 19 08.8
comp=Z,29µm,18.8s
ESK Eskdalemuir 80.47 341 *e*P **P** 19 38 49.5 +0.1
ESK pmax pmax
comp=Z,200nm,1.4s
ESK Eskdalemuir 80.47 341 *e*P **P** 19 38 48.9 -0.6
comp=Z,202nm,1.4s
ESK LR LR
comp=Z,38µm,19.0s
F36A Milaca 80.48 36 P **P** 19 38 49.9 +0.3
baz=320
WTSB Winterswijk 80.50 334 *e*P **P** 19 38 49.1 -0.6
comp=Z,349nm,1.6s
PHNC Paralimni 80.53 308 P P 19 38 55.6 +5.5
GEC2 GERESS Array S 80.55 329 *e*P **P** 19 38 49.6 -0.6
GEC2 GERESS Array S 80.55 329 *e*P **P** 19 38 49.1 -1.0
GERES GERESS Array B 80.55 329 P **P** 19 38 49.5 -0.6
comp=Z,24nm,0.8s,baz=35,slow=4.9,SNR=86
GERES S **S** 19 48 55.7 +0.8
comp=Z,1.1nm,0.9s,baz=35,slow=19,SNR=2.6
GERES PKKPbc **PKKPbc** 19 57 31.1 +1.5
comp=Z,2.1nm,1.1s,baz=202,slow=2.9,SNR=4.6
GERES LR LR 20 18 01.9
comp=Z,52µm,20.4s,baz=6.5,slow=38
GEA0 GERESS Array S 80.56 329 *e*P **P** 19 38 49.0 -1.1
ECK Cauldkaine Hil 80.57 341 *e*P **P** 19 38 49.5 -0.5
KESN Edirne-Kesan 80.63 316 *i* P **P** 19 38 47.8 -3.2
ECSD EROS Data Cent 80.64 39 P **P** 19 38 50.6 0.0
baz=318,SNR=15
ECSD EROS Data Cent 80.64 39 *e*P **P** 19 38 50.1 -0.4
comp=Z,237nm,1.5s
ECSD LR LR
comp=Z,41µm,21.0s
WET Wettzell 80.64 329 P **P** 19 38 50.4 -0.1
ISP Isparta 80.64 312⇑ *i*P **P** 19 38 50.6 -0.2
ISP Isparta 80.64 312⇑ *i*P **P** 19 38 51.0 +0.2
ISP pmax pmax
comp=Z,140nm,1.3s
ISP Isparta 80.64 312 *e*P **P** 19 38 49.9 -0.9
comp=Z,194nm,1.4s
ISP LR LR
comp=Z,30µm,19.0s
PGB Panagyurishte 80.67 319 P **P** 19 38 50.5 -0.3
BHH Howats Hill 80.67 341 *e*P **P** 19 38 50.2 -0.3
TUC Tucson 80.74 55 P **P** 19 38 51.5 +0.1
baz=312
TUC Tucson 80.74 55 *e*P **P** 19 38 52.6 +1.2
TUC pmax pmax
comp=Z,81nm,1.2s
TUC Tucson 80.74 55 *e*P **P** 19 38 52.0 +0.6
comp=Z,82nm,1.2s
TUC LR LR
comp=Z,30µm,21.0s
H35A Sunnyside Ranc 80.76 38 P **P** 19 38 51.2 0.0
baz=319,SNR=6.2
K32A Verdigre 80.76 41 P **P** 19 38 51.2 -0.1
baz=318
I34A Hadley 80.77 39 P **P** 19 38 50.6 -0.7
baz=319
J33A Davis 80.77 40 P **P** 19 38 51.4 0.0
baz=318
BEO Beograd 80.78 323 P **P** 19 38 53.1 +1.9
E38A The Farm, Brul 80.78 35 P **P** 19 38 51.0 -0.3
baz=321,SNR=16
BUG Bochum--Univer 80.79 334 P **P** 19 38 51.7 +0.5
DEMI Demirci 80.80 314 *i* P **P** 19 38 49.1 -2.5
GRFO Grafenberg 80.83 331 *e*P **P** 19 38 51.5 +0.1
GRFO pmax pmax
comp=Z,332nm,1.1s
GRFO MLR MLR
comp=Z,70nm,18.0s
GRFO Grafenberg 80.83 331 *e*P **P** 19 38 51.5 +0.1
comp=Z,332nm,1.1s
GRFO LR LR
comp=Z,70nm,18.0s
G36A St. Michael 80.85 37 P **P** 19 38 51.6 -0.1
baz=320
BALY Balya 80.90 315 *i* P **P** 19 38 49.1 -3.0
MAMC Mammari 80.90 309 P **P** 19 38 53.0 +0.9
ALN Alexandroupoli 80.91 317 P **P** 19 38 51.3 -0.7
ALN Alexandroupoli 80.91 317 P **P** 19 38 51.3 -0.7
ALN Alexandroupoli 80.91 317 P **P** 19 38 51.3 -0.7
TCHB Talchebab 80.91 305 *e*P **P** 19 38 53.4 +1.1
KSCO Kaye Shedlock' 80.95 46 P **P** 19 38 52.5 0.0
baz=315,SNR=6.5
KSCO Kaye Shedlock' 80.95 46 *e*P **P** 19 38 53.1 +0.6
comp=Z,277nm,1.4s
ENEZ Enez 80.97 317 P **P** 19 38 51.8 -0.6
CSS Mathiatis 80.98 308 P **P** 19 38 52.0 -0.6
CSS Mathiatis 80.98 308 *e*P **P** 19 38 51.6 -1.0
comp=Z,60nm,1.1s
CSS LR LR
comp=Z,6µm,18.0s
CSS Mathiatis 80.98 308 P **P** 19 38 52.0 -0.6
F37A Hinrichs Farm, 80.99 36 P **P** 19 38 52.3 -0.1
baz=320
RDO Rodhopi 80.99 317 P **P** 19 38 51.9 -0.6
RDO Rodhopi 80.99 317 P **P** 19 38 51.9 -0.6
MMAI Mount Meron Ar 81.03 306 S **S** 19 49 03.4 +3.1
comp=Z,0.1nm,0.2s,baz=261,slow=5.5,SNR=2.8
ARSA Arzberg 81.08 327 *i* P **P** 19 38 52.8 -0.1
comp=Z,85nm,1.0s,SNR=54
KESW Keswick, Cumbr 81.10 341 *e*P **P** 19 38 53.3 +0.5
KESW AMB AMB 19 39 00.0
comp=Z,242nm,2.1s
KESW AMS AMS 20 25 20.4
comp=Z,30µm,15.3s
VTS Vitosha 81.12 320 P **P** 19 38 52.9 -0.4
VTS Vitosha 81.12 320⇑ *i*P **P** 19 38 53.6 +0.2
VTS Vitosha 81.12 320 ⇑P **P** 19 38 53.6 +0.2
VTS Vitosha 81.12 320 P **P** 19 38 53.5 +0.2
VTS Vitosha 81.12 320 *e*P **P** 19 38 52.5 -0.9
comp=Z,249nm,1.2s
VTS LR LR
comp=Z,59µm,21.0s
MOA Molln 81.12 328 *i* P **P** 19 38 52.8 -0.3
comp=Z,189nm,1.7s,SNR=40
F38A Pierce - Schro 81.14 35 P **P** 19 38 52.9 -0.3
baz=321,SNR=25
RAR Rarotonga 81.15 127 P **P** 19 38 54.5 +1.1
comp=Z,7.3nm,0.5s,baz=180,slow=4.0,SNR=1.9
RAR Rarotonga 81.15 127 *e*P **P** 19 38 52.0 -1.4
comp=Z,150nm,1.6s
RAR LR LR
comp=Z,48µm,20.0s
BEHE Becsehely 81.16 326⇑ *e*P **P** 19 38 52.5 -0.8
KULA Kula-Manisa 81.20 314 P **P** 19 38 52.9 -0.9
KULA Kula-Manisa 81.20 314 P **P** 19 38 52.9 -0.9
L32A Elgin 81.23 41 P **P** 19 38 53.2 -0.6
baz=318
GAL1 Galloway 81.25 342 *e*P **P** 19 38 53.0 -0.6
GAL1 AMB AMB 19 39 00.2
comp=Z,100nm,1.5s
GAL1 AMS AMS 20 22 35.7
comp=Z,15µm,16.5s
T25A Trinidad 81.27 48 P **P** 19 38 53.9 -0.5
baz=315,SNR=11
T25A Trinidad 81.27 48 *e*P **P** 19 38 54.4 0.0
comp=Z,105nm,1.1s
T25A LR LR
comp=Z,15µm,21.0s
H36A Jessenland, He 81.27 37 P **P** 19 38 53.8 -0.1
baz=320
MANT Manisa 81.28 314 *i* P P 19 38 46.5 -7.8
ALFC Alefka 81.28 309 P **P** 19 38 54.0 -0.2
K33A Hardington 81.28 40 P **P** 19 38 54.1 0.0
baz=318
J34A George 81.29 39 P **P** 19 38 53.6 -0.5
baz=319
SPMN Marine on St. 81.29 36 *e*P **P** 19 38 53.8 -0.2
comp=Z,117nm,1.4s
SPMN LR LR
comp=Z,30µm,21.0s
KORT Korkueli 81.32 312 *i* P **P** 19 38 53.7 -0.7
I35A Creekview Farm 81.33 38 P **P** 19 38 54.3 0.0
baz=319
SZAC Souni 81.39 309 P **P** 19 38 55.1 +0.3
E39A Mellen 81.39 34 P **P** 19 38 53.6 -0.9
baz=322,SNR=12
AKMC Akamas 81.53 309 P **P** 19 38 55.9 +0.4
DIVS Divibare 81.54 322 P **P** 19 38 54.1 -1.4
LAZ Ladron 81.57 52 *e*P **P** 19 38 56.1 +0.2
J35A Milford 81.59 39 P **P** 19 38 55.4 -0.2
baz=319
BGNE Belgrade 81.59 42 P **P** 19 38 54.7 -1.1
baz=318,SNR=6.6
BGNE Belgrade 81.59 42 *e*P **P** 19 38 55.8 +0.1
comp=Z,434nm,1.2s
BGNE LR LR
comp=Z,25µm,19.0s
F39A Loretta 81.59 35 P **P** 19 38 55.8 +0.2
baz=322,SNR=12
GOLH Golhisar 81.60 312 *i* P **P** 19 38 55.5 -0.4
ANMO Albuquerque 81.60 51 P **P** 19 38 55.1 -1.0
baz=314
ANMO Albuquerque 81.60 51⇓ *i*P **P** 19 38 59.0 +2.9
ANMO pmax pmax
comp=Z,113nm,1.2s
ANMO MLR MLR
comp=Z,21µm,19.0s
ANMO Albuquerque 81.60 51 *e*P **P** 19 38 57.1 +1.0
comp=Z,170nm,1.3s
ANMO LR LR
comp=Z,23µm,20.0s
E40A Wakefield 81.62 34 P **P** 19 38 54.6 -1.2
baz=322,SNR=30
PPCY Paphos 81.62 309 P **P** 19 38 54.9 -1.0
KAVA Kavala 81.63 318 P **P** 19 38 54.7 -1.2
KAVA Kavala 81.63 318 P **P** 19 38 54.7 -1.2
I36A Fitzsimmons Fa 81.66 38 P **P** 19 38 55.1 -0.9
baz=320
K34A Le Mars 81.67 40 P **P** 19 38 55.9 -0.2
baz=319
D41A Chassel 81.69 33 P **P** 19 38 55.3 -0.8
baz=323
NVR Nevrokopi 81.70 318 P **P** 19 38 54.5 -1.8
NVR Nevrokopi 81.70 318 P **P** 19 38 54.5 -1.8
KKB Krupnik 81.72 319 P **P** 19 38 56.5 +0.1
PERS Pernice 81.73 327 *i* P **P** 19 38 56.0 -0.4
H37A Dierke Farm, C 81.73 37 P **P** 19 38 55.4 -1.0
baz=320
SOKA Soboth 81.73 327 *i* P **P** 19 38 56.1 -0.3
comp=Z,249nm,1.0s,SNR=282
G38A Ridgeland 81.76 36 P **P** 19 38 55.4 -1.1
baz=321
HGN Heimansgroeve 81.81 334 *e*P **P** 19 38 55.7 -0.9
comp=Z,218nm,1.4s
HGN *e*PP PP 19 42 24.7 +22
HGN *e*S S 19 49 17.4 +10
BEBN Eben Emael 81.87 334 P **P** 19 38 56.3 -0.6
SCHQ Schefferville 81.88 17 P **P** 19 38 56.9 -0.1
comp=Z,54nm,1.1s,baz=4.1,slow=4.8,SNR=9.1
SCHQ LR LR 20 20 52.9
comp=Z,26µm,18.0s,baz=346,slow=40
SCHQ Schefferville 81.88 17 *e*P **P** 19 38 56.5 -0.4
WIM Isle of Man 81.89 341 *e*P **P** 19 38 56.7 -0.3
MEM Membach 81.92 334 P **P** 19 38 56.6 -0.6
MEM Membach 81.92 334 P **P** 19 38 57.4 +0.2
Y22D IRIS PASSCAL I 81.92 52 *e*P **P** 19 38 56.9 -0.9
comp=Z,614nm,1.8s
Y22D LR LR
comp=Z,40µm,22.0s
F40A Park Falls 81.94 34 P **P** 19 38 57.1 -0.3
baz=322,SNR=11
I37A Lemond, Waseca 81.95 37 P **P** 19 38 56.8 -0.7
baz=320,SNR=8.7
H38A Maiden Rock 81.95 36 P **P** 19 38 56.5 -1.0
baz=321
M33A Taylor Creek F 81.95 41 P **P** 19 38 56.4 -1.2
baz=318
G39A Holcombe 81.97 35 P **P** 19 38 57.2 -0.4
baz=321,SNR=6.1
E41A Kenton 82.00 33 P **P** 19 38 57.0 -0.7
baz=323
SRS Serrai 82.01 318 P **P** 19 38 57.2 -0.7
SRS Serrai 82.01 318 P **P** 19 38 57.2 -0.7
SRS Serrai 82.01 318 P **P** 19 38 57.2 -0.7
J36A Seneca 1, Swea 82.03 38 P **P** 19 38 57.7 -0.2
baz=320
K35A Storm Lake 82.06 39 P **P** 19 38 58.2 0.0
baz=319
L34A Svendsen Farm, 82.07 40 P **P** 19 38 57.5 -0.7
baz=319
OBKA Obir 82.07 327 *i* P **P** 19 38 57.7 -0.6
comp=Z,87nm,0.8s,SNR=72
GMM Mts of Mourne 82.11 342 *e*P **P** 19 38 57.5 -0.7
KBA Koelnbreinsper 82.11 328 *i* P **P** 19 38 58.1 -0.4
comp=Z,263nm,1.5s,SNR=107
KBA Koelnbreinsper 82.11 328 P **P** 19 38 58.4 -0.1
SISC Sisak 82.11 325 P **P** 19 38 59.0 +0.7
AKAS Kas 82.28 311 *i* P **P** 19 38 59.0 -0.5
CWF Charnwood Fore 82.29 339 *e*P **P** 19 38 58.9 -0.2
CWF AMS AMS 20 23 56.1
comp=Z,51µm,16.2s
CWF Charnwood Fore 82.29 339 *e*P **P** 19 38 58.5 -0.6
comp=Z,169nm,1.1s
CWF LR LR
comp=Z,32µm,21.0s
FETY Fethiye 82.30 312 P **P** 19 38 58.2 -1.3
FETY Fethiye 82.30 312 P **P** 19 38 58.2 -1.3
UCC Uccle 82.30 335 AP pP 19 39 11.2 +2.6
319A Douglas 82.31 55 *e*P **P** 19 38 59.2 -0.6
comp=Z,213nm,1.1s
319A LR LR
comp=Z,36µm,21.0s
M34A Aspy Farms, Fr 82.31 41 P **P** 19 38 58.7 -0.8
baz=318
BCLA Clavier 82.31 334 P **P** 19 38 58.5 -0.8
comp=Z,104nm,1.5s
KNT Kendrikon 82.33 319 P **P** 19 38 58.7 -0.9
KNT Kendrikon 82.33 319 P **P** 19 38 58.7 -0.9
KNT Kendrikon 82.33 319 P **P** 19 38 58.7 -0.9
STU Stuttgart 82.34 331 *e*P **P** 19 38 59.6 +0.1
STU pmax pmax
comp=Z,220nm,0.9s
STU Stuttgart 82.34 331 *e*P **P** 19 38 58.9 -0.6
comp=Z,217nm,0.9s
STU LR LR
comp=Z,63µm,18.0s
MYKA Terra Mystica 82.35 327 *i* P **P** 19 38 58.7 -1.0
comp=Z,152nm,1.1s,SNR=35
SOH Sokhos 82.35 318 P **P** 19 39 00.2 +0.4
L35A Bielow Farm, R 82.37 40 P **P** 19 38 59.4 -0.3
baz=319
VAY Valandovo 82.38 319 P **P** 19 38 59.4 -0.4
VAY Valandovo 82.38 319 *i* P **P** 19 39 00.7 +0.9
VAY Valandovo 82.38 319 P **P** 19 38 59.4 -0.4
VAY Valandovo 82.38 319 P **P** 19 38 59.4 -0.4
OUR Ouranopolis 82.39 318 P **P** 19 38 59.1 -0.8
OUR Ouranopolis 82.39 318 P **P** 19 38 59.1 -0.8
OUR Ouranopolis 82.39 318 P **P** 19 38 59.1 -0.8
OZLJ Ozalj 82.39 326 P **P** 19 38 58.9 -0.8
H39A Augusta 82.40 36 P **P** 19 38 59.9 +0.1
baz=321,SNR=5.5
TURN Turunc 82.40 313 *i* P **P** 19 39 03.0 +3.0
PLE Pljevlja 82.41 322 P **P** 19 39 00.1 0.0
PLE Pljevlja 82.41 322 *e*P **P** 19 38 59.2 -0.9
DALY Dalyan (Mu ̆la 82.41 312 *i* P **P** 19 39 00.1 +0.1
G40A Rib Lake 82.41 35 P **P** 19 38 59.6 -0.3
baz=322,SNR=9.8
J37A Redenius Farm, 82.42 38 P **P** 19 38 58.9 -1.1
baz=320
I38A Scanlan Farm, 82.42 37 P **P** 19 38 58.9 -1.1
baz=321
N33A J Bar K, Exete 82.44 42 P **P** 19 38 59.2 -0.9
baz=318
URLA Izmir 82.45 315 *i* P **P** 19 38 59.5 -0.8
121A Cookes Peak, D 82.45 54 P **P** 19 39 01.3 +0.7
baz=313,SNR=9.4
SKO Skopje 82.45 320 *i* P **P** 19 39 01.1 +0.9
K36A Gilmore City 82.50 39 P **P** 19 38 59.0 -1.5
baz=320
WPM1 Penmaenmawr 82.51 341 *e*P **P** 19 39 00.8 +0.5
VISS Visnje 82.51 326 *i* P **P** 19 38 59.4 -1.0
F41A Three Lakes 82.52 34 P **P** 19 38 57.8 -2.7
baz=323,SNR=13
IVA Berane 82.52 322⇑ *i*P **P** 19 39 00.5 -0.1
WPS Cemaes, Angles 82.53 341 AMS AMS 20 21 07.0
comp=Z,27µm,16.1s
GCAM G?zelcaml? 82.57 314 *i* P **P** 19 39 00.8 -0.1
BOJS Bojanci 82.57 326 *i* P **P** 19 39 00.0 -0.7
SNF Seneffe 82.58 335 P **P** 19 39 00.0 -0.6
ZEY ˙zmir 82.58 315 *i* P **P** 19 38 58.2 -2.7
WLF1 Llynfaes 82.61 341 *e*P **P** 19 39 01.5 +0.8
WLF1 AMS AMS 20 20 51.7
comp=Z,55µm,17.3s
WATA Walderalm 82.61 329 *i* P **P** 19 39 00.6 -0.5
comp=Z,230nm,1.2s,SNR=46
PLG Polygyros 82.64 318 P **P** 19 39 00.3 -0.9
PLG Polygyros 82.64 318 P **P** 19 39 00.3 -0.9
PLG Polygyros 82.64 318 P **P** 19 39 00.3 -0.9
WTTA Wattenberg 82.65 329 *i* P **P** 19 39 01.1 -0.3
comp=Z,159nm,1.4s,SNR=37
HORT Hortiatis 82.65 318 P **P** 19 39 00.4 -0.9
HORT Hortiatis 82.65 318 P **P** 19 39 00.4 -0.9
CBKS Cedar Bluff 82.66 44 P **P** 19 39 00.6 -0.8
baz=317
CBKS Cedar Bluff 82.66 44 *e*P **P** 19 39 02.0 +0.6
CBKS pmax pmax
comp=Z,100nm,1.0s
CBKS Cedar Bluff 82.66 44 *e*P **P** 19 39 01.0 -0.4
comp=Z,104nm,0.9s
CBKS LR LR
comp=Z,23µm,20.0s
FOEL Foel Wylfa 82.66 340 *e*P **P** 19 39 00.3 -0.7
FOEL AMB AMB 19 39 07.0
comp=Z,292nm,1.1s
FOEL AMS AMS 20 17 56.1
comp=Z,36µm,20.3s
WLF Walferdange 82.67 333 P **P** 19 39 02.0 +0.8
WLF Walferdange 82.67 333 *e*P **P** 19 39 01.3 +0.1
WLF pmax pmax
comp=Z,130nm,1.1s
WLF Walferdange 82.67 333 *e*P **P** 19 39 00.8 -0.4
comp=Z,133nm,1.1s
WLF LR LR
comp=Z,72µm,19.0s
THE Thessaloniki 82.69 318 P **P** 19 39 02.2 +0.8
PVY Plav 82.70 321 *e*P **P** 19 39 00.7 -0.9
ABTA Abfaltersbach 82.72 328 *i* P **P** 19 39 00.3 -1.2
comp=Z,75nm,1.1s,SNR=48
CHOS Chios island 82.72 315 P **P** 19 39 00.2 -1.5
CHOS Chios island 82.72 315 P **P** 19 39 00.2 -1.5
UPM Unac-Piva 82.73 322 *e*P **P** 19 39 00.7 -1.2
GIVF Givet 82.75 334 *e*P **P** 19 39 00.6 -1.0
GIVF pmax pmax
comp=Z,247nm,1.7s
JAVS Javornik 82.77 327 *i* P **P** 19 39 00.4 -1.5
M35A Neola 82.78 40 P **P** 19 39 01.5 -0.5
baz=319
K37A Belmond 82.79 38 P **P** 19 39 01.6 -0.4
baz=320,SNR=18
MOTA Moosalm 82.79 329 *i* P **P** 19 39 01.5 -0.5
comp=Z,216nm,1.0s,SNR=78
L36A Harm Buss Farm 82.81 39 P **P** 19 39 01.3 -0.7
baz=320
RETA Reutte 82.81 330 *i* P **P** 19 39 01.8 -0.2
comp=Z,249nm,1.4s,SNR=60
LLW Llanuwychllyn 82.82 340 *e*P **P** 19 39 02.3 +0.4
LLW AMB AMB 19 39 07.1
comp=Z,1µm,2.3s
DOU Dourbes 82.83 334 P **P** 19 39 01.3 -0.7
HSIG 82.83 58 *e*P **P** 19 39 02.3 -0.1
comp=Z,133nm,1.3s
HSIG LR LR
comp=Z,25µm,20.0s
H40A Chili 82.84 35 P **P** 19 39 01.5 -0.7
baz=322,SNR=10
PAIG Paliouri 82.85 317 P **P** 19 39 01.3 -1.0
PAIG Paliouri 82.85 317 P **P** 19 39 01.3 -1.0
PAIG Paliouri 82.85 317 P **P** 19 39 01.3 -1.0
N34A Lincoln 82.85 41 P **P** 19 39 01.1 -1.2
baz=319
O33A Hebron 82.87 42 P **P** 19 39 01.6 -0.8
baz=318
F42A Maple Grove Fa 82.91 33 P **P** 19 39 01.8 -0.7
baz=323
BDRM Kayabasi 82.91 313 *i* P **P** 19 39 02.3 -0.4
J38A Wedel Dairy, R 82.91 37 P **P** 19 39 01.7 -0.9
baz=321
HLM1 Long Mynd 82.92 340 *e*P **P** 19 39 02.8 +0.4
HLM1 AMS AMS 20 20 13.8
comp=Z,35µm,19.5s
TAU Tasmania Unive 82.92 177 *e*P **P** 19 39 03.0 +0.8
TAU pmax pmax
comp=Z,145nm,1.3s
TAU MLR MLR
comp=Z,23µm,22.0s
TAU Tasmania Unive 82.92 177 *e*P **P** 19 39 03.0 +0.8
comp=Z,146nm,1.3s
TAU LR LR
comp=Z,23µm,22.0s
I39A Houston 82.93 36 P **P** 19 39 01.8 -0.9
baz=321
BAIF Baives 82.99 335 *e*P **P** 19 39 01.9 -0.9
BAIF pmax pmax
comp=Z,123nm,1.5s
BODT Bodrum 82.99 313 P **P** 19 39 02.4 -0.7
BODT Bodrum 82.99 313 P **P** 19 39 02.4 -0.7
NKY Niksic 82.99 322⇑ *i*P **P** 19 39 02.1 -1.0
BFO Black Forest 83.03 331 *i* P **P** 19 39 02.8 -0.3
BFO Black Forest 83.03 331 *e*P **P** 19 39 02.0 -1.1
comp=Z,135nm,1.1s
BFO LR LR
comp=Z,38µm,18.0s
TRI Trieste 83.04 327 *e*P **P** 19 39 01.5 -1.6
TRI pmax pmax
comp=Z,210nm,1.2s
TRI Trieste 83.04 327 *e*P **P** 19 39 01.3 -1.9
comp=Z,208nm,1.2s
TRI LR LR
comp=Z,68µm,18.0s
NKME Niksic 83.04 322⇑ *i*P **P** 19 39 02.2 -1.1
DAT Datca 83.08 313 *i* P **P** 19 39 03.2 -0.4
SRIG Santa Rosalia 83.12 60 *e*P **P** 19 39 04.6 +0.8
comp=Z,174nm,1.3s
SRIG LR LR
comp=Z,39µm,20.0s
UDBI Udbina 83.12 325 P **P** 19 39 02.7 -1.0
DSB Dublin 83.13 342 *e*P **P** 19 39 03.1 -0.3
comp=Z,586nm,1.9s
DSB LR LR
comp=Z,18µm,20.0s
SSW Stow on the Wo 83.13 339 *e*P **P** 19 39 03.2 -0.3
BRY Bratogost 83.13 322⇑ *i*P **P** 19 39 02.5 -1.4
ARG Arkhangelos 83.14 312 P **P** 19 39 03.5 -0.3
ARG Arkhangelos 83.14 312 P **P** 19 39 03.5 -0.3
ARG Arkhangelos 83.14 312 P **P** 19 39 03.5 -0.3
PDG Podgorica 83.16 322 P **P** 19 39 03.2 -0.6
PDG Podgorica 83.16 322⇓ *i*P **P** 19 39 03.6 -0.2
TTG Podgorica 83.16 322 P **P** 19 39 03.2 -0.6
TTG Podgorica 83.16 322⇑ *i*P **P** 19 39 03.2 -0.6
TTG Podgorica 83.16 322 P **P** 19 39 03.2 -0.6
H41A Junction City 83.17 35 P **P** 19 39 02.7 -1.2
baz=322
FETA Feichten 83.20 329 *i* P **P** 19 39 03.9 -0.3
comp=Z,170nm,1.1s,SNR=88
L37A Phoenix Point, 83.23 39 P **P** 19 39 02.6 -1.6
baz=320
CEME Cevo 83.23 322⇑ *i*P **P** 19 39 03.0 -1.3
M36A Felix, Anita 83.23 40 P **P** 19 39 03.3 -1.0
baz=320
O34A Beatrice 83.24 42 P **P** 19 39 03.5 -0.8
baz=318
J39A Decorah 83.25 37 P **P** 19 39 03.3 -1.0
baz=321,SNR=6.7
N35A Tabor 83.26 41 P **P** 19 39 03.6 -0.8

baz=319
K38A Parkersburg 83.29 38 P P 19 39 03.5 -1.0
baz=321
AOS Alonnisos 83.30 317 P P 19 39 03.7 -0.9
AOS Alonnisos 83.30 317 P P 19 39 03.7 -0.9
DAVA Damuels 83.31 330 *i* P P 19 39 04.3 -0.5
comp=Z,242nm,1.4s,SNR=64
I40A Norwalk 83.31 36 P P 19 39 03.3 -1.3
baz=322
DRME Dracevica, Mon 83.38 322⇑ *i*P P 19 39 04.3 -0.7
FNA Florina 83.38 319 P P 19 39 04.0 -1.1
FNA Florina 83.38 319 P P 19 39 04.0 -1.1
FNA Florina 83.38 319 P P 19 39 04.0 -1.1
STRD Stroud 83.39 339 *e*P P 19 39 05.2 +0.4
STRD AMB AMB 19 39 08.7
comp=Z,403nm,1.1s
STRD AMS AMS 20 24 30.8
comp=Z,45µm,16.4s
MCH1 Michaelchurch 83.42 340 *e*P P 19 39 04.5 -0.5
MCH1 AMB AMB 19 39 08.7
comp=Z,328nm,2.8s
MCH1 AMS AMS 20 20 38.3
comp=Z,36µm,20.0s
OHR Ohrid 83.42 320 *i* P P 19 39 05.0 -0.3
BUM Brajici-Budva 83.43 322⇑ *i*P P 19 39 05.2 -0.1
NVLJ Novalja 83.48 325 P P 19 39 03.9 -1.5
HMNX Herstmonceux 83.49 337 *e*P P 19 39 05.5 +0.2
HMNX AMB AMB 19 39 12.0
comp=Z,378nm,1.1s
HMNX AMS AMS 20 18 32.6
comp=Z,49µm,22.7s
HCY Herceg Novi 83.50 322⇑ *i*P P 19 39 05.2 -0.4
MONM Monmouth 83.51 339 *e*P P 19 39 05.6 +0.1
MONM AMS AMS 20 24 42.8
comp=Z,38µm,15.8s
I41A Arkdale 83.51 35 P P 19 39 04.6 -1.0
baz=322
XOR Xorichti 83.52 317 P P 19 39 04.5 -1.3
XOR Xorichti 83.52 317 P P 19 39 04.5 -1.3
ULC Ulcinj 83.52 321⇑ *i*P P 19 39 05.2 -0.6
SWN1 Swindon 83.53 339 *e*P P 19 39 06.4 +0.8
SWN1 AMB AMB 19 39 12.5
comp=Z,425nm,3.6s
SWN1 AMS AMS 20 25 01.6
comp=Z,31µm,16.1s
KZN Kozani 83.54 319 P P 19 39 04.6 -1.4
KZN Kozani 83.54 319 P P 19 39 04.6 -1.4
KZN Kozani 83.54 319 P P 19 39 04.6 -1.4
WOL Wolverton 83.54 338 *e*P P 19 39 05.2 -0.4
WOL AMB AMB 19 39 09.2
comp=Z,329nm,2.6s
WOL AMS AMS 20 20 45.8
comp=Z,39µm,18.8s
NEO Neokhori 83.55 317 P P 19 39 05.7 -0.2
NEO Neokhori 83.55 317 P P 19 39 05.7 -0.2
ECH Echery 83.55 332 *e*P P 19 39 05.7 -0.1
STON Ston 83.55 323 P P 19 39 03.9 -1.9
EIL Elat 83.58 304 S S 19 49 29.7 +3.3
comp=Z,2.3nm,0.9s,baz=165,slow=20,SNR=2.9
O35A Humboldt 83.58 41 P P 19 39 04.7 -1.3
baz=319
LPW Lampeter 83.59 340 *e*P P 19 39 05.7 -0.2
LPW AMB AMB 19 39 08.4
comp=Z,249nm,1.4s
LPW AMS AMS 20 18 23.3
comp=Z,29µm,20.4s
L38A Oak Wood Farm, 83.59 38 P P 19 39 06.1 0.0
baz=321,SNR=6.9
OLDB Oldbury-Upon-S 83.60 339 AMS AMS 20 24 38.2
comp=Z,43µm,15.6s
FYTO Fytoko, Volos 83.62 318 P P 19 39 05.3 -0.9
FYTO Fytoko, Volos 83.62 318 P P 19 39 05.3 -0.9
M37A Trindle Farm, 83.63 39 P P 19 39 05.7 -0.6
baz=320
N36A Muff Farm, Cla 83.64 40 P P 19 39 06.3 0.0
baz=320
J40A Soldiers Grove 83.64 36 P P 19 39 05.4 -0.9
baz=322
P34A Walnut Farm, R 83.65 42 P P 19 39 05.5 -1.0
baz=318,SNR=6.6
SCIA State Center 83.65 39 *e*P P 19 39 07.2 +0.8
comp=Z,284nm,1.3s
SCIA LR LR
comp=Z,24µm,22.0s
K39A Oelwein 83.66 37 P P 19 39 05.5 -0.9
baz=321,SNR=11
HGH Gray Hill 83.69 339 *e*P P 19 39 05.8 -0.6
TIR Tirane 83.69 321⇑ *i*P P 19 39 05.3 -1.3
TIR Tirane 83.69 321 *e*P P 19 39 06.6 0.0
TIR pmax pmax
comp=Z,230nm,0.9s
TIR Tirane 83.69 321 *e*P P 19 39 05.8 -0.8
comp=Z,233nm,0.9s
TIR LR LR
comp=Z,82µm,18.0s
HIZ Hauiti 83.70 155 PFAKE 19 39 20.0 +14
HIZ LR LR
comp=Z,43µm,22.0s
FUORN Ofenpass-Fuorn 83.71 329 *e*P P 19 39 06.5 -0.4
comp=Z,394nm,1.0s
FUORN LR LR
comp=Z,106µm,19.0s
BATH Bath 83.74 339 AMS AMS 20 24 32.8
comp=Z,43µm,16.3s
NEST Nestorio 83.82 319 P P 19 39 06.5 -0.9
MOF Molkenrain 83.86 332 *e*P P 19 39 07.6 +0.1
SMIA Simia 83.87 317 P P 19 39 06.5 -1.1
PENT Pentalofos 83.94 319 P P 19 39 07.0 -1.0
THEF They Montfort 83.95 333 *e*P P 19 39 07.9 +0.1
APE Apeiranthos 83.96 314⇓ *i*P P 19 39 07.6 -0.5
APE Apeiranthos 83.96 314 ⇓P P 19 39 07.6 -0.5
THL Klokotos Trika 83.97 318 P P 19 39 06.3 -1.8
HINF Hinteralfeld 83.99 332 *e*P P 19 39 06.9 -1.2
HINF pmax pmax
comp=Z,205nm,1.8s
J41A Loganville 84.00 36 P P 19 39 07.7 -0.4
baz=322,SNR=8.6
MXZ Matakaoa Point 84.00 152 *e*P P 19 39 04.4 -3.5
comp=Z,207nm,1.5s
MXZ LR LR
comp=Z,38µm,20.0s
K40A Colesburg 84.01 37 P P 19 39 07.8 -0.4
baz=322,SNR=11
KPRO Kipourio 84.01 319 P P 19 39 06.7 -1.7
IWEX Carrickbyrne, 84.03 342 *e*P P 19 39 07.3 -0.8
M38A Pleasantville 84.04 39 P P 19 39 08.1 -0.2
baz=320,SNR=17
N37A Lee Faris, Mou 84.05 40 P P 19 39 08.6 +0.1
baz=320
Q34A Chapman 84.06 43 P P 19 39 08.3 -0.2
baz=318
L39A Vinton 84.06 38 P P 19 39 08.2 -0.3
baz=321,SNR=20
P35A Duane Minner, 84.08 42 P P 19 39 08.4 -0.2
baz=319
KSU1 Kansas State U 84.09 42 P P 19 39 07.9 -0.8
baz=319
KSU1 Kansas State U 84.09 42 *e*P P 19 39 07.3 -1.4
comp=Z,91nm,1.0s
KSU1 LR LR
comp=Z,27µm,19.0s
LKR Lokris 84.15 317 P P 19 39 07.3 -1.7
LKR Lokris 84.15 317 P P 19 39 07.3 -1.7
O36A Bolckow 84.15 41 P P 19 39 08.5 -0.5
baz=320
KARP Karpathos 84.16 312 P P 19 39 07.2 -1.9
KARP Karpathos 84.16 312 *e*P P 19 39 09.0 -0.1
comp=Z,287nm,1.6s
KARP LR LR
comp=Z,18µm,18.0s
TUE Stuetta 84.19 330 *e*P P 19 39 08.3 -1.1
comp=Z,230nm,1.1s
TUE LR LR
comp=Z,78µm,19.0s
URZ Urewera 84.21 154 P P 19 39 10.2 +1.2
comp=Z,15nm,1.0s,baz=343,slow=11,SNR=2.8
URZ Urewera 84.21 154 *e*P P 19 39 08.6 -0.3
comp=Z,122nm,1.3s
URZ LR LR
comp=Z,38µm,20.0s
AGG Agios Georgios 84.22 318 P P 19 39 07.6 -1.8
AGG Agios Georgios 84.22 318 *e*P P 19 39 07.4 -2.0
AGG pmax pmax
comp=Z,370nm,1.2s
AGG Agios Georgios 84.22 318 *e*P P 19 39 05.5 -3.8
comp=Z,367nm,1.2s
AGG LR LR
comp=Z,210µm,18.0s
JFWS Jewell Farm 84.25 36 *e*P P 19 39 09.6 +0.2
JFWS pmax pmax
comp=Z,360nm,2.0s
JFWS Jewell Farm 84.25 36 *e*P P 19 39 08.8 -0.6
comp=Z,360nm,2.0s
JFWS LR LR
comp=Z,33µm,20.0s
VILL Villia 84.35 316 P P 19 39 08.1 -2.0
R34A Isabella, Hill 84.36 43 P P 19 39 09.1 -0.9
baz=318
LOMF Lomont 84.40 332 *e*P P 19 39 10.7 +0.5
LOMF Lomont 84.40 332 *e*P P 19 39 10.3 +0.1
P36A Good Intent, A 84.42 41 P P 19 39 10.3 -0.1
baz=319,SNR=5.6
AMTX Amarillo 84.43 48 P P 19 39 09.9 -0.7
baz=316
AMTX Amarillo 84.43 48 *e*P P 19 39 11.1 +0.5
comp=Z,139nm,1.1s
AMTX LR LR
comp=Z,22µm,20.0s
MSTX Muleshoe 84.45 50 P P 19 39 09.9 -0.8
baz=316,SNR=12
MSTX Muleshoe 84.45 50 *e*P P 19 39 09.6 -1.1
comp=Z,159nm,1.3s
K41A Shullsburg 84.46 36 P P 19 39 09.5 -1.0
baz=322
L40A Anamosa 84.47 37 P P 19 39 09.4 -1.1
baz=322,SNR=14
M39A Webster 84.48 38 P P 19 39 10.6 0.0
baz=321,SNR=14
MNTX Cornudas Mount 84.50 53 P P 19 39 10.9 0.0
baz=315
MNTX Cornudas Mount 84.50 53 *e*P P 19 39 10.3 -0.6
comp=Z,93nm,1.2s
MNTX LR LR
comp=Z,20µm,20.0s
N38A Joes South For 84.50 39 P P 19 39 10.5 -0.3
baz=320,SNR=8.6
SANT Santorini 84.51 314 *e*P P 19 39 09.0 -1.9
comp=Z,258nm,1.2s
SANT LR LR
comp=Z,42µm,19.0s
O37A Wolven Farm, M 84.53 40 P P 19 39 10.6 -0.4
baz=320,SNR=11
EVR Evrytania 84.57 318 P P 19 39 09.8 -1.4
EVR Evrytania 84.57 318 P P 19 39 09.8 -1.4
Q35A Mercer Eighty, 84.57 42 P P 19 39 10.8 -0.3
baz=319,SNR=9.4
DSF Desfina 84.57 317 P P 19 39 08.7 -2.5
DSF Desfina 84.57 317 P P 19 39 08.7 -2.5
HTL Hartland 84.72 340 *e*P P 19 39 11.3 -0.3
HTL AMS AMS 20 26 02.4
comp=Z,14µm,15.9s
GDL2 Guadalupe Moun 84.76 52 *e*P P 19 39 11.8 -0.6
N39A Derby Farms, D 84.79 39 P P 19 39 11.9 -0.3
baz=321,SNR=8.2
Q36A Arnold C. Orve 84.79 42 P P 19 39 11.6 -0.6
baz=319
KALE Kalithea 84.79 317 P P 19 39 10.2 -2.1
KALE Kalithea 84.79 317 P P 19 39 10.2 -2.1
L41A Preston 84.79 37 P P 19 39 11.6 -0.5
baz=322,SNR=7.8
SERG Sergoula 84.82 317 P P 19 39 10.5 -1.9
BKZ Black Stump Fm 84.82 154 *e*P P 19 39 11.3 -0.8
comp=Z,130nm,1.4s
BKZ LR LR
comp=Z,48µm,21.0s
SGD Sagiada 84.84 319 P P 19 39 11.6 -0.8
U32A Winter Ranch, 84.84 46 P P 19 39 07.6 -5.0
baz=318
M40A Post Highland 84.85 38 P P 19 39 11.9 -0.5
baz=322,SNR=11
IGT Igoumenitsa 84.85 319 P P 19 39 11.2 -1.3
IGT Igoumenitsa 84.85 319 P P 19 39 11.2 -1.3
IGT Igoumenitsa 84.85 319 P P 19 39 11.2 -1.3
P37A Lathrop 84.87 41 P P 19 39 12.5 -0.1
baz=320,SNR=11
S34A Willow Spring 84.88 44 P P 19 39 12.3 -0.4
baz=318
R35A Emporia Munici 84.89 43 P P 19 39 12.5 -0.2
baz=319,SNR=21
O38A Galt 84.90 40 P P 19 39 12.6 -0.1
baz=320
PVO Paravola 84.94 318 P P 19 39 11.5 -1.5
VLDQ Val d'Or 84.97 26 *e*P P 19 39 11.6 -1.3
comp=Z,316nm,1.5s
VLDQ LR LR
comp=Z,30µm,20.0s
LAKA Lakka 84.99 317 P P 19 39 11.6 -1.7
LAKA Lakka 84.99 317 P P 19 39 11.6 -1.7
KLV Kalavryta, Ach 85.05 317 P P 19 39 11.8 -1.8
KLV Kalavryta, Ach 85.05 317 P P 19 39 11.8 -1.8
SENIN Lac Senin/Sane 85.06 331 *e*P P 19 39 12.1 -1.6
comp=Z,128nm,0.9s
SENIN LR LR
comp=Z,63µm,19.0s
PPT Papeete 85.07 118 LR LR 20 11 18.7
comp=Z,88µm,20.4s,baz=276,slow=32
PPT Papeete 85.07 118 *e*P P 19 39 12.6 -1.2
PPT Papeete 85.07 118 *e*P P 19 39 12.6 -1.2
DYA Yadsworthy 85.08 339 *e*P P 19 39 12.7 -0.8
DYA AMB AMB 19 39 16.4
comp=Z,314nm,1.5s
DYA AMS AMS 20 21 39.4
comp=Z,32µm,19.6s
DYA Yadsworthy 85.08 339 *e*P P 19 39 13.3 -0.1
comp=Z,885nm,1.6s
DYA LR LR
comp=Z,41µm,20.0s
PPT2 Papeete2 85.08 118 *e*P P 19 39 14.0 +0.1
comp=Z,174nm,1.5s
PPT2 Papeete2 85.08 118 *e*PP PP 19 42 32.5 +0.9
comp=Z,3µm,24.2s
PPT2 *e*S S 19 49 41.0 -0.6
comp=Z,15µm,25.0s
PPT2 *e*SS SS 19 55 19.4 +3.4
comp=Z,13µm,24.5s
PPT2 Papeete2 85.08 118 *e*LR LR 20 06 04.4
comp=Z,186µm,22.2s,baz=319
PPT2 Papeete2 85.08 118 *e*T T 21 12 40.0
comp=Z,20nm,0.3s
GLMI Grayling 85.11 32 *e*P P 19 39 11.7 -2.1
comp=Z,220nm,0.9s
GLMI LR LR
comp=Z,20µm,21.0s
PDO Prodromos 85.13 318 P P 19 39 09.1 -4.8
VAL Valentia 85.22 344 *e*P P 19 39 14.9 +0.8
VAL Valentia 85.22 344⇓ *i*S S 19 49 50.2 +8.3
TIAR Tiarei 85.22 118 *e*P P 19 39 14.7 +0.2
comp=Z,39nm,1.3s
TIAR Tiarei 85.22 118 *e*T T 21 12 50.0
comp=Z,6.7nm,0.3s
N40A Mertquake, Sal 85.22 38 P P 19 39 14.2 -0.1
baz=322,SNR=12
R36A Gordon, Harris 85.25 42 P P 19 39 14.5 -0.1
baz=319,SNR=31
O39A Kirksville 85.25 39 P P 19 39 14.2 -0.3
baz=321
LKD2 Lefkada island 85.25 318 P P 19 39 13.3 -1.3
LKD2 Lefkada island 85.25 318 P P 19 39 13.3 -1.3
P38A Dawn 85.25 40 P P 19 39 14.4 -0.1
baz=320,SNR=14
CABF La Chapelle 85.29 332 *e*P P 19 39 14.1 -0.6
CABF pmax pmax
comp=Z,172nm,1.4s
S35A Otter Creek Ra 85.31 43 P P 19 39 14.2 -0.7
baz=319,SNR=36
M41A Milan 85.32 37 P P 19 39 14.6 -0.3
baz=322,SNR=6.8
DRO Drossia 85.34 317 P P 19 39 14.1 -0.9
T34A McClaskey Farm 85.34 44 P P 19 39 15.1 +0.1
baz=318,SNR=15
Q37A Longview Farm, 85.36 41 P P 19 39 14.3 -0.9
baz=320
LAST Lasithi 85.38 313 P P 19 39 14.7 -0.7
LAST Lasithi 85.38 313 P P 19 39 14.7 -0.7
RLS Riolos of Patr 85.39 318 P P 19 39 14.1 -1.1
RLS Riolos of Patr 85.39 318 P P 19 39 14.1 -1.1
R37A Teagarden Farm 85.60 42 P P 19 39 15.2 -1.1
baz=320,SNR=9.7
IDI Anoyia 85.62 314 P P 19 39 14.1 -2.4
IDI Anoyia 85.62 314 *e*P P 19 39 15.0 -1.5
comp=Z,597nm,1.6s
IDI LR LR
comp=Z,35µm,21.0s
M42A Sheffield 85.62 37 P P 19 39 15.7 -0.7
baz=323
CCA1 Carnmenellis 85.65 340 AMS AMS 20 19 23.9
comp=Z,26µm,19.9s
S36A Lake Cedric, C 85.66 43 P P 19 39 16.4 -0.2
baz=319,SNR=11
O40A La Belle 85.68 39 P P 19 39 16.5 -0.1
baz=321,SNR=9.1
VLC Villacollemand 85.69 328 *e*P P 19 39 15.5 -1.2
comp=Z,122nm,1.0s
VLC LR LR
comp=Z,59µm,19.0s
N41A Harden Midland 85.70 38 P P 19 39 16.1 -0.7
baz=322
Q38A Cooks Store, C 85.72 41 P P 19 39 16.3 -0.6
baz=320,SNR=15
JSA Saint Aubin 85.72 338 *e*P P 19 39 16.0 -0.6
JSA AMB AMB 19 39 21.2
comp=Z,286nm,1.3s
JSA AMS AMS 20 19 35.7
comp=Z,32µm,19.7s
P39B Salisbury 85.74 40 P P 19 39 16.2 -0.7
baz=321,SNR=7.8
VLS Valsamata 85.75 318 P P 19 39 15.4 -1.7
VLS Valsamata 85.75 318 P P 19 39 15.4 -1.7
VLS Valsamata 85.75 318 P P 19 39 15.4 -1.7
T35A Sooner Cattle 85.78 44 P P 19 39 16.2 -1.1
baz=319,SNR=17
TAOE Nuku Hiva Isla 85.85 105 *e*S S 19 49 47.9 -1.5
comp=Z,39µm,25.4s
TAOE Nuku Hiva Isla 85.85 105 *e*LR LR 20 06 27.5
comp=Z,145µm,21.2s,baz=313
TAOE Nuku Hiva Isla 85.85 105 *e*T T 21 13 41.3
comp=Z,30nm,0.2s
TAOE Nuku Hiva Isla 85.85 105 PFAKE 19 39 30.0 +12
TAOE LR LR
comp=Z,124µm,20.0s
AQU L'Aquila 85.89 325 *e*P P 19 39 17.7 0.0
AQU pmax pmax
comp=Z,260nm,1.1s
AQU L'Aquila 85.89 325 *e*P P 19 39 17.0 -0.7
comp=Z,256nm,1.1s
AQU LR LR
comp=Z,102µm,18.0s
Q39A Willow Grove F 85.97 40 P P 19 39 17.1 -1.0
baz=321,SNR=9.9
LPL La Plagne 85.99 331 *e*P P 19 39 17.8 -0.6
LPL pmax pmax
comp=Z,182nm,1.2s
N42A Yates City 85.99 37 P P 19 39 17.5 -0.7
baz=322,SNR=16
IMMV Iera Moni Meta 85.99 314 P P 19 39 18.1 -0.2
LPG La Plagne 85.99 331 *e*P P 19 39 17.9 -0.6
LPG pmax pmax
comp=Z,179nm,1.1s
T36A Boggs Farm, Ca 86.01 43 P P 19 39 17.9 -0.4
baz=319,SNR=16
S37A Fort Scott 86.02 42 P P 19 39 17.7 -0.7
baz=320,SNR=22
P40A Paris 86.05 39 P P 19 39 17.7 -0.8
baz=321,SNR=21
U35A Pawnee 86.07 44 P P 19 39 18.0 -0.7
baz=319
THZ Tophouse 86.09 158 *e*P P 19 39 20.2 +1.8
comp=Z,206nm,1.4s
THZ LR LR
comp=Z,52µm,21.0s
AVF Avril sur Loir 86.10 333 *e*P P 19 39 18.0 -0.6
AVF pmax pmax
comp=Z,263nm,1.0s
BFZ Birch Farm 86.12 155 *e*P P 19 39 18.5 +0.1
comp=Z,231nm,1.4s
BFZ LR LR
comp=Z,34µm,22.0s
PYL PYLOS 86.12 317 P P 19 39 16.2 -2.7
PYL PYLOS 86.12 317 P P 19 39 16.2 -2.7
O41A Passleys Farm, 86.15 38 P P 19 39 18.3 -0.6
baz=322,SNR=8.2
R38A Fenwick Farm, 86.17 41 P P 19 39 18.1 -1.0
baz=320,SNR=14
WMOK Wichita Mounta 86.17 47 P P 19 39 18.7 -0.6
baz=318,SNR=14
WMOK Wichita Mounta 86.17 47 *e*P P 19 39 18.8 -0.4
WMOK pmax pmax
comp=Z,110nm,1.4s
WMOK Wichita Mounta 86.17 47 *e*P P 19 39 18.3 -0.9
comp=Z,112nm,1.4s
WMOK LR LR
comp=Z,29µm,20.0s
SNZO South Karori 86.21 157 PFAKE 19 39 30.0 +11
SNZO LR LR
comp=Z,65µm,22.0s
BNI Bardonecchia 86.40 331 *e*P P 19 39 19.4 -0.9
BNI pmax pmax
comp=Z,112nm,0.9s
BNI MLR MLR
comp=Z,45µm,20.0s
BNI Bardonecchia 86.40 331 *e*P P 19 39 19.4 -0.9
comp=Z,112nm,0.9s
BNI LR LR
comp=Z,45µm,20.0s
P41A Barry, Barry 86.41 39 P P 19 39 19.3 -1.0
baz=322,SNR=11
Q40A Laux Farm, Aux 86.45 40 P P 19 39 19.4 -1.1
baz=321,SNR=20
T37A Cheneyville 18 86.46 43 P P 19 39 19.7 -0.8
baz=320,SNR=15
O42A Bath 86.47 38 P P 19 39 19.6 -0.9
baz=322
V35A Meyer Ranch, C 86.47 45 P P 19 39 19.7 -0.9
baz=319
GDM Grand'Maison 86.48 331⇑ *e*P P 19 39 22.0 +1.3
OG22 Abries 86.49 330 *e*P P 19 39 21.7 +0.9
R39A Chumby, Stover 86.50 41 P P 19 39 19.5 -1.2
baz=321,SNR=15
HDIL Hopedale 86.55 37 P P 19 39 19.0 -1.9
baz=323
HDIL Hopedale 86.55 37 *e*P P 19 39 20.4 -0.5
comp=Z,278nm,1.4s
HDIL LR LR
comp=Z,26µm,19.0s
GRN Grenoble 86.58 331⇑ *e*P P 19 39 22.7 +1.6
U36A Oologah 86.59 44 P P 19 39 20.6 -0.6
baz=319
S38A Stockton 86.59 42 P P 19 39 19.7 -1.5
baz=320,SNR=15
CUC Castrocucco 86.68 322 *e*P P 19 39 20.6 -1.0
comp=Z,113nm,1.4s
CUC LR LR
comp=Z,50µm,18.0s
PLDF La Plantade 86.72 333 *e*P P 19 39 22.1 +0.3
O43A Sugar Creek Fa 86.75 37 P P 19 39 21.8 -0.2
baz=323
AGO Saint Agoulin 86.82 333 *e*P P 19 39 22.4 +0.2
P42A Winchester 86.83 38 P P 19 39 21.3 -1.0
baz=322,SNR=8.8
S39A Bolivar 86.84 41 P P 19 39 21.7 -0.8
baz=321,SNR=32
T38A Diamond 86.85 42 P P 19 39 21.3 -1.2
baz=320,SNR=35
LTZ Lake Taylor 86.86 159 *e*P P 19 39 20.8 -1.3
comp=Z,90nm,1.3s
LTZ LR LR
comp=Z,34µm,21.0s
KHZ Kahutara 86.88 158 *e*P P 19 39 20.8 -1.3
comp=Z,236nm,1.8s
KHZ LR LR
comp=Z,67µm,22.0s
Q41A Truxton 86.90 39 P P 19 39 21.9 -0.8
baz=322,SNR=22
U37A Salina 86.90 43 P P 19 39 21.5 -1.2
baz=320,SNR=12
FOZ Fox Glacier 86.91 161 *e*P P 19 39 21.4 -0.7
comp=Z,167nm,1.3s
FOZ LR LR
comp=Z,29µm,21.0s
R40A Maddies Statio 86.91 40 P P 19 39 21.7 -1.0
baz=321,SNR=22
W35A Tecumseh 86.91 45 P P 19 39 22.9 +0.1
baz=319
TUL1 Leonard 86.92 44 P P 19 39 22.3 -0.6
baz=319
TUL1 Leonard 86.92 44 *e*P P 19 39 22.4 -0.4
comp=Z,325nm,1.8s
TUL1 LR LR
comp=Z,35µm,20.0s

V36A	**Jenks**	86.93	44	P		P		19 39 22.7	-0.2	
	baz=319									
SSB	**Saint Sauveur**	86.99	332	*e*P		P		19 39 23.4	+0.3	
SSB	**Saint Sauveur**	86.99	332	*e*P		P		19 39 22.6	-0.5	
SSB				pmax		pmax				
	comp=Z,76nm,0.9s									
SSB	**Saint Sauveur**	86.99	332	*e*P		P		19 39 22.2	-0.9	
SSB	comp=Z,76nm,0.9s			LR		LR				
	comp=Z,63µm,18.0s									
COLF	**Collangettes**	87.09	333	*e*P		P		19 39 24.7	+1.2	
SLBS	**Sierra La Lagu**	87.09	61	*e*P		P		19 39 23.7	-0.3	
SLBS	comp=Z,181nm,1.3s			LR		LR				
	comp=Z,20µm,19.0s									
PYM	**Petit Puy Mans**	87.12	333	*e*P		P		19 39 23.7	0.0	
P43A	**Skaggs, Pawnee**	87.17	38	P		P		19 39 23.6	-0.4	
	baz=323									
TX31	**Lajitas Ar. Si**	87.21	53	*e*P		P		19 39 24.2	-0.2	
TXAR	**Lajitas Array**	87.21	53	P		P		19 39 24.8	+0.3	
	comp=Z,11nm,1.0s,baz=296,slow=2.4,SNR=52									
TXAR				PKKPbc		PKKPbc		19 57 15.4	+1.5	
	comp=Z,2.0nm,1.0s,baz=146,slow=5.0,SNR=5.2									
TXAR				PKPPKP		P'P'df		20 05 16.6	-10	
	comp=Z,0.9nm,1.0s,baz=151,slow=2.9,SNR=4.2									
TXAR				LR		LR		20 17 43.1		
	comp=Z,13µm,19.9s,baz=0.0,slow=35									
ABTX	**Abilene, Hawle**	87.23	49	P		P		19 39 23.7	-0.8	
	baz=317,SNR=6.4									
ABTX	**Abilene, Hawle**	87.23	49	*e*P		P		19 39 24.6	+0.1	
	comp=Z,196nm,1.4s									
MON	**Monaco**	87.23	329	*e*P		P		19 39 23.6	-0.5	
U38A	**Gravette**	87.26	43	P		P		19 39 23.7	-0.7	
	baz=320,SNR=12									
Q42A	**Golden Eagle**	87.27	39	P		P		19 39 24.9	+0.5	
	baz=322,SNR=12									
SADO	**Sadowa**	87.27	29	*e*P		P		19 39 24.4	+0.1	
W36A	**Wetumka**	87.27	45	P		P		19 39 23.5	-1.1	
	baz=319,SNR=5.9									
V37A	**Hulbert**	87.28	44	P		P		19 39 23.7	-0.9	
	baz=320,SNR=13									
OXZ	**Oxford**	87.30	159	*e*P		P		19 39 24.4	+0.3	
	comp=Z,172nm,1.2s									
OG26	**St.-Nazaire-De**	87.32	331↑	*e*P		P		19 39 26.2	+1.5	
S40A	**Lebanon**	87.33	41	P		P		19 39 23.4	-1.4	
	baz=321,SNR=16									
T39A	**Clever**	87.33	42	P		P		19 39 23.9	-0.9	
	baz=321,SNR=8.0									
R41A	**Rosebud**	87.34	40	P		P		19 39 24.2	-0.6	
	baz=322,SNR=28									
RPZ	**Rata Peaks**	87.39	160	P		P		19 39 33.2	+8.6	
	comp=Z,25nm,0.9s,baz=194,slow=4.2,SNR=3.0									
RPZ	**Rata Peaks**	87.39	160	*e*P		P		19 39 25.8	+1.2	
RPZ	comp=Z,58nm,1.1s			LR		LR				
	comp=Z,43µm,21.0s									
X35A	**Drake**	87.42	46	P		P		19 39 25.2	-0.1	
	baz=319,SNR=5.3									
LBL	**Lubilhac**	87.49	333	*e*P		P		19 39 26.7	+1.2	
TRQ	**Mont Tremblant**	87.58	25	*e*P		P		19 39 25.8	-0.1	
HHAR	**Hobbs**	87.61	43	*e*P		P		19 39 25.7	-0.5	
	comp=Z,293nm,1.9s									
HHAR				LR		LR				
	comp=Z,26µm,22.0s									
SLM	**Saint Louis**	87.63	39	*e*P		P		19 39 27.5	+1.3	
SLM				pmax		pmax				
	comp=Z,250nm,1.2s									
SLM	**Saint Louis**	87.63	39	*e*P		P		19 39 26.5	+0.3	
	comp=Z,252nm,1.3s									
SLM				LR		LR				
	comp=Z,30µm,21.0s									
X36A	**Centrahoma**	87.63	45	P		P		19 39 26.1	-0.2	
	baz=319,SNR=9.5									
R42A	**Luebbering**	87.64	39	P		P		19 39 26.1	-0.2	
	baz=322,SNR=13									
Q43A	**New Douglas**	87.64	38	P		P		19 39 25.0	-1.3	
	baz=323									
HPIG		87.65	56	*e*P		P		19 39 26.1	-0.7	
	comp=Z,159nm,1.4s									
HPIG				LR		LR				
	comp=Z,29µm,20.0s									
T40A	**Mansfield**	87.67	41	P		P		19 39 25.8	-0.7	
	baz=321,SNR=14									
LMQ	**La Malbaie**	87.68	22	*e*P		P		19 39 26.8	+0.5	
LMQ				LR		LR				
	comp=Z,29µm,20.0s									
V38A	**Canehill**	87.69	43	P		P		19 39 26.3	-0.2	
	baz=320,SNR=24									
CRLZ	**Canterbury Las**	87.69	159	*e*P		P		19 39 26.6	+0.6	
	comp=Z,259nm,1.7s									
CRLZ				LR		LR				
	comp=Z,22µm,22.0s									
SFIN	**Lafayette**	87.69	36	P		P		19 39 26.0	-0.5	
	baz=324,SNR=6.8									
SFIN	**Lafayette**	87.69	36	*e*P		P		19 39 26.0	-0.5	
	comp=Z,96nm,0.6s									
SFIN				LR		LR				
	comp=Z,38µm,21.0s									
W37B	**Quinton**	87.69	44	P		P		19 39 26.3	-0.3	
	baz=320									
S41A	**Jillco Farms,**	87.71	40	P		P		19 39 26.4	-0.3	
	baz=322,SNR=16									
P44A	**Sand Creek, Wi**	87.73	37	P		P		19 39 26.2	-0.4	
	baz=323,SNR=11									
Y35A	**Marietta**	87.75	46	P		P		19 39 26.1	-0.8	
	baz=319									
U39A	**Green Forest**	87.77	42	P		P		19 39 26.6	-0.4	
	baz=321,SNR=29									
PLVO	**Plevna**	87.77	27	*e*P		P		19 39 26.3	-0.4	
	comp=Z,232nm,1.9s									
LBZ	**Lake Benmore**	87.80	161	*e*P		P		19 39 26.4	-0.1	
	comp=Z,145nm,1.2s									
LBZ				LR		LR				
	comp=Z,37µm,21.0s									
MQZ	**McQueen's Vall**	87.82	159	*e*P		P		19 39 24.9	-1.7	
	comp=Z,183nm,1.4s									
MQZ				LR		LR				
	comp=Z,22µm,20.0s									
WKZ	**Wanaka**	87.93	162	PFAKE				19 39 40.0	+13	
WKZ				LR		LR				
	comp=Z,63µm,22.0s									
Q44A	**Meyer Farm, Va**	87.99	38	P		P		19 39 27.6	-0.3	
	baz=323,SNR=9.4									
CEL	**Celeste**	88.02	321	*e*P		P		19 39 26.5	-1.6	
	comp=Z,91nm,1.0s									
CEL				LR		LR				
	comp=Z,49µm,20.0s									
S42A	**Caledonia**	88.04	40	P		P		19 39 28.0	-0.2	
	baz=322,SNR=31									
R43A	**Red Bud**	88.06	39	P		P		19 39 28.1	-0.2	
	baz=323,SNR=11									
DCZ	**Deep Cove**	88.10	163	*e*P		P		19 39 28.5	+0.6	
	comp=Z,166nm,1.5s									
DCZ				LR		LR				
	comp=Z,22µm,21.0s									
V39A	**Pettigrew**	88.10	43	P		P		19 39 28.7	+0.1	
	baz=320,SNR=13									
233A	**Rising Star**	88.10	49	P		P		19 39 29.0	+0.3	
	baz=318,SNR=8.2									
U40A	**Yellville**	88.11	42	P		P		19 39 28.4	-0.1	
	baz=321,SNR=38									
T41A	**Mountain View**	88.13	41	P		P		19 39 28.7	+0.1	
	baz=322,SNR=23									
X37A	**Clayton**	88.14	45	P		P		19 39 28.2	-0.6	
	baz=320									
Y36A	**Durant**	88.17	46	P		P		19 39 28.3	-0.6	
	baz=319									
MLZ	**Mavora Lakes**	88.22	163	*e*P		P		19 39 29.4	+0.8	
	comp=Z,179nm,1.6s									
MLZ				LR		LR				
	comp=Z,45µm,20.0s									
W38A	**Poteau**	88.23	44	P		P		19 39 29.7	+0.5	
	baz=320,SNR=11									
X38A	**Whitesboro**	88.37	44	P		P		19 39 30.4	+0.5	
	baz=320,SNR=10									
Y37A	**Hugo**	88.47	45	P		P		19 39 29.5	-0.8	
	baz=319									
T42A	**Van Buren**	88.47	40	P		P		19 39 29.5	-0.8	
	baz=322									
R44A	**Waltonville**	88.49	38	P		P		19 39 29.8	-0.4	
	baz=323,SNR=9.1									
W39A	**Magazine**	88.52	43	P		P		19 39 30.4	-0.1	
	baz=320,SNR=10									
ODZ	**Otahua Downs**	88.53	161	*e*P		P		19 39 30.4	+0.5	
	comp=Z,308nm,1.6s									
ODZ				LR		LR				
	comp=Z,24µm,21.0s									
S43A	**Fulton Ridge,**	88.54	39	P		P		19 39 30.3	-0.3	
	baz=322,SNR=11									
234A	**Clairette**	88.55	48	P		P		19 39 30.3	-0.4	
	baz=318									
V40A	**Witts Springs**	88.55	42	P		P		19 39 30.3	-0.4	
	baz=321,SNR=7.5									
OLIL	**Olney**	88.56	37	*e*P		P		19 39 30.8	+0.2	
	comp=Z,230nm,1.3s									
OLIL				LR		LR				
	comp=Z,27µm,19.0s									
Z36A	**Blue Ridge**	88.56	46	P		P		19 39 29.9	-0.8	
	baz=319									
333A	**Richland Sprin**	88.56	49	P		P		19 39 31.0	+0.2	
	baz=318,SNR=12									
U41A	**Viola**	88.59	41	P		P		19 39 30.6	-0.3	
	baz=322,SNR=12									
PYZ	**Puysegur Point**	88.66	164	PFAKE				19 39 40.0	+9.4	
PYZ				LR		LR				
	comp=Z,19µm,20.0s									
WHZ	**Wether Hill Ro**	88.68	163	*e*P		P		19 39 30.5	-0.2	
	comp=Z,147nm,1.8s									
WHZ				LR		LR				
	comp=Z,28µm,20.0s									
JCT	**Junction City**	88.71	50	P		P		19 39 30.9	-0.7	
	baz=317									
JCT	**Junction City**	88.71	50	*e*P		P		19 39 31.6	+0.1	
JCT				pmax		pmax				
	comp=Z,210nm,1.5s									
JCT	**Junction City**	88.71	50	*e*P		P		19 39 31.2	-0.3	
	comp=Z,205nm,1.5s									
JCT				LR		LR				
	comp=Z,36µm,22.0s									
T43A	**Greenville**	88.83	40	P		P		19 39 31.5	-0.4	
	baz=322,SNR=15									
S44A	**Carbondale**	88.84	39	P		P		19 39 31.3	-0.7	
	baz=323,SNR=15									
X39A	**Fountain Ranch**	88.87	44	P		P		19 39 31.8	-0.4	
	baz=320,SNR=14									
W40A	**Ferguson Farm,**	88.90	43	P		P		19 39 31.3	-1.0	
	baz=321,SNR=14									
V41A	**Mountainview**	88.91	42	P		P		19 39 31.9	-0.4	
	baz=321,SNR=23									
433A	**Art**	88.92	49	P		P		19 39 32.5	0.0	
	baz=318									
BLO	**Bloomington**	88.93	36	*e*P		P		19 39 33.8	+1.4	
BLO				pmax		pmax				
	comp=Z,150nm,1.3s									
BLO	**Bloomington**	88.93	36	*e*P		P		19 39 33.2	+0.8	
	comp=Z,155nm,1.4s									
BLO				LR		LR				
	comp=Z,33µm,20.0s									
U42A	**Revenden**	88.93	41	P		P		19 39 32.8	+0.4	
	baz=322,SNR=7.0									
WHTX	**Lake Whitney,**	88.94	48	P		P		19 39 32.7	+0.1	
	baz=318									
WHTX	**Lake Whitney,**	88.94	48	*e*P		P		19 39 33.4	+0.8	
	comp=Z,187nm,1.3s									
WHTX				LR		LR				
	comp=Z,26µm,20.0s									
BUF	**Buffalo**	88.96	29	*e*P		P		19 39 31.1	-1.3	
334A	**Lometa**	88.99	49	P		P		19 39 32.8	0.0	
	baz=318,SNR=7.4									
Y38A	**Idabel**	88.99	45	P		P		19 39 32.6	-0.1	
	baz=320									
LONY	**Lake Ozonia**	88.99	26	*e*P		P		19 39 32.3	-0.2	
	comp=Z,42nm,1.3s									
LONY				LR		LR				
	comp=Z,41µm,19.0s									
PBMO	**Poplar Bluff**	89.00	40	*e*P		P		19 39 32.2	-0.5	
	comp=Z,240nm,1.2s									
PBMO				LR		LR				
	comp=Z,25µm,20.0s									
DRLN	**Deer Lake**	89.02	13	*e*P		P		19 39 31.9	-0.7	
	comp=Z,136nm,1.4s									
DRLN				LR		LR				
	comp=Z,40µm,18.0s									
Z37A	**Pogue Cattle C**	89.06	46	P		P		19 39 32.6	-0.4	
	baz=320									
136A	**Ennis**	89.10	47	P		P		19 39 32.6	-0.7	
	baz=319									
PQI	**Presque Isle**	89.12	21	*e*P		P		19 39 32.7	-0.4	
	comp=Z,314nm,1.6s									
PQI				LR		LR				
	comp=Z,92µm,18.0s									
FRNY	**Flat Rock**	89.12	25	*e*P		P		19 39 32.3	-0.9	
	comp=Z,115nm,1.9s									
FRNY				LR		LR				
	comp=Z,34µm,21.0s									
MIAR	**Mount Ida**	89.13	44	P		P		19 39 33.3	-0.1	
	baz=321,SNR=19									
MIAR	**Mount Ida**	89.13	44	*e*P		P		19 39 33.8	+0.4	
MIAR				pmax		pmax				
	comp=Z,110nm,1.0s									
MIAR	**Mont Ida**	89.13	44	*e*P		P		19 39 33.0	-0.3	
	comp=Z,110nm,1.0s									
MIAR				LR		LR				
	comp=Z,36µm,21.0s									
T44A	**Benton**	89.17	39	P		P		19 39 33.2	-0.3	
	baz=323									
S45A	**Carrier Mills**	89.18	38	P		P		19 39 32.9	-0.7	
	baz=323,SNR=11									
TBI	**Tubuai**	89.21	122	*e*PP		PP		19 43 05.4	+0.7	
	comp=Z,2µm,29.0s									
TBI				*e*S		S		19 50 20.2	-0.8	
	comp=Z,21µm,25.5s									
TBI				*e*SS		SS		19 56 18.0	+1.9	
	comp=Z,9µm,26.5s									
TBI	**Tubuai**	89.21	122	*e*LR		LR		20 07 29.0		
	comp=Z,77µm,26.0s,baz=317									
TBI	**Tubuai**	89.21	122	*e*T		T		21 17 47.6		
	comp=Z,58nm,0.3s									
X301	**Greenbrier Sit**	89.21	42	*e*P		P		19 39 33.4	-0.3	
	comp=Z,264nm,1.5s									
X301				LR		LR				
	comp=Z,31µm,20.0s									
ERPA	**Erie**	89.22	30	*e*P		P		19 39 34.1	+0.4	
	comp=Z,191nm,1.3s									
ERPA				LR		LR				
	comp=Z,20µm,20.0s									
WHAR	**Wooly Hollow**	89.22	42	*e*P		P		19 39 33.2	-0.6	
	comp=Z,230nm,1.1s									
WHAR				LR		LR				
	comp=Z,36µm,21.0s									
V42A	**Cord**	89.28	41	P		P		19 39 32.9	-1.1	
	baz=322,SNR=14									
Y39A	**Lockesburg**	89.32	44	P		P		19 39 34.0	-0.3	
	baz=320									
U43A	**Rector**	89.33	40	P		P		19 39 34.3	0.0	
	baz=322									
W41B	**Gary Mavity, V**	89.34	42	P		P		19 39 33.6	-0.7	
	baz=321,SNR=12									
434A	**Burnet**	89.35	49	P		P		19 39 33.9	-0.7	
	baz=318									
Z38A	**Mt. Pleasant**	89.37	45	P		P		19 39 34.0	-0.5	
	baz=320									
USIN	**University of**	89.38	38	*e*P		P		19 39 34.1	-0.4	
	comp=Z,120nm,1.3s									
USIN				LR		LR				
	comp=Z,29µm,22.0s									
PARMO	**Parma**	89.42	40	*e*P		P		19 39 35.4	+0.7	
533A	**Kerrville**	89.46	50	P		P		19 39 35.4	+0.3	
	baz=318									
236A	**Katherine and**	89.46	47	P		P		19 39 30.8	-4.1	
	baz=319									
MMNY	**Mt. Morris Dam**	89.48	29	*e*P		P		19 39 34.9	+0.1	
335A	**Moody**	89.49	48	P		P		19 39 35.0	-0.2	
	baz=318									
ALLY	**Alegheny Colle**	89.56	31	*e*P		P		19 39 35.4	+0.2	
	comp=Z,343nm,1.5s									
X40A	**Basin Creek Fa**	89.56	43	P		P		19 39 35.7	+0.3	
	baz=321,SNR=12									
UALR	**University of**	89.60	43	*e*P		P		19 39 35.2	-0.3	
	comp=Z,119nm,1.4s									
UALR				LR		LR				
	comp=Z,36µm,19.0s									
ACSO	**Alum Creek Sta**	89.60	33	*e*P		P		19 39 35.6	+0.1	
	comp=Z,112nm,1.1s									
ACSO				LR		LR				
	comp=Z,33µm,20.0s									
W42A	**Bald Knob**	89.63	42	P		P		19 39 35.4	-0.2	
	baz=322									
PVMO	**Portageville**	89.64	40	*e*P		P		19 39 35.3	-0.4	
	comp=Z,310nm,0.4s									
PVMO				LR		LR				
	comp=Z,25µm,20.0s									
NCB	**Newcomb**	89.68	26	*e*P		P		19 39 34.4	-1.5	
	comp=Z,1.6nm,1.6s									
NCB				LR		LR				
	comp=Z,500nm,20.0s									
Y40A	**Okolona**	89.70	44	P		P		19 39 35.9	-0.1	
	baz=321									
V43A	**Jonesboro**	89.72	41	P		P		19 39 36.2	+0.1	
	baz=322									
X41A	**Kaden, Bauxite**	89.73	43	P		P		19 39 36.0	-0.1	
	baz=321									
LRDF	**Laroque-de-Fa**	89.74	332	*e*P		P		19 39 36.9	+0.8	
336A	**Riesel**	89.74	48	P		P		19 39 36.4	+0.1	
	baz=319									
435B	**Jarrell**	89.77	49	P		P		19 39 36.2	-0.3	
	baz=318									
WCI	**Wyandotte Cave**	89.80	37	*e*P		P		19 39 37.4	+0.9	
WCI				pmax		pmax				
	comp=Z,140nm,1.3s									
WCI	**Wyandotte Cave**	89.80	37	*e*P		P		19 39 36.0	-0.5	
	comp=Z,143nm,1.4s									
WCI				LR		LR				
	comp=Z,25µm,21.0s									
Z39A	**Irene McRaven,**	89.81	45	P		P		19 39 36.7	+0.2	
	baz=320									
534A	**Blanco**	89.81	50	P		P		19 39 36.7	0.0	
	baz=318,SNR=12									
MIV	**Mineville/With**	89.82	25	*e*P		P		19 39 36.6	+0.2	
633A	**Saathoff Ranch**	89.82	50	P		P		19 39 36.7	0.0	
	baz=318									
CLTB	**Caltabellotta**	89.83	322	*e*P		P		19 39 36.7	0.0	
	comp=Z,29nm,1.1s									
HBAR	**Harrisburg**	89.85	41	*e*P		P		19 39 37.0	+0.2	
237A	**Washetta, Mont**	89.86	47	P		P		19 39 37.2	+0.3	
	baz=319									
M54A	**Oil Creek Stat**	89.86	31	P		P		19 39 36.7	0.0	
	baz=329,SNR=15									
U44B	**Burton Farm, H**	89.87	40	P		P		19 39 36.7	-0.2	
	baz=323									
GLAT	**Glass**	89.96	40	*e*P		P		19 39 37.5	+0.2	
VSL	**Villasalto**	89.98	326	*e*P		P		19 39 35.5	-1.8	
	comp=Z,206nm,1.8s									
VSL				LR		LR				
	comp=Z,45µm,18.0s									
MDV	**Middlebury**	90.00	25	*e*P		P		19 39 35.9	-1.4	
SJAF	**Saint Jean de**	90.01	332	*e*P		P		19 39 37.1	-0.3	
WLAR	**White Oak Lake**	90.04	44	*e*P		P		19 39 37.3	-0.3	
	comp=Z,175nm,1.1s									
WLAR				LR		LR				
	comp=Z,24µm,21.0s									
PKME	**Peaks-Kenny Pk**	90.05	22	*e*P		P		19 39 37.7	+0.2	
	comp=Z,105nm,1.4s									
PKME				LR		LR				
	comp=Z,36µm,18.0s									
FILF	**Fillols**	90.06	332	*e*P		P		19 39 38.1	+0.4	
UTMT	**University of**	90.11	39	*e*P		P		19 39 36.5	-1.4	
	comp=Z,806nm,1.5s									
139A	**Bunkhouse Ranc**	90.12	45	P		P		19 39 37.7	-0.3	
	baz=320									
Y41A	**Eaglette Beard**	90.15	43	P		P		19 39 37.4	-0.7	
	baz=321									
U45A	**Rockin P Farm,**	90.15	39	P		P		19 39 38.4	+0.3	
	baz=323									
LBNH	**Lisbon**	90.19	24	*e*P		P		19 39 39.6	+1.4	
LBNH				pmax		pmax				
	comp=Z,200nm,1.7s									
LBNH	**Lisbon**	90.19	24	*e*P		P		19 39 37.7	-0.5	
	comp=Z,202nm,1.8s									
LBNH				LR		LR				
	comp=Z,40µm,22.0s									
W43A	**Forest City**	90.19	41	P		P		19 39 37.9	-0.4	
	baz=322									
N54A	**Moraine State**	90.20	31	P		P		19 39 38.4	+0.1	
	baz=329,SNR=13									
832A	**Faith Ranch, C**	90.21	52	P		P		19 39 39.1	+0.5	
	baz=317									
Z40A	**Long Farm, Mag**	90.21	44	P		P		19 39 38.2	-0.2	
	baz=321									
436A	**Wall Ranch, Ga**	90.23	48	P		P		19 39 38.9	+0.3	
	baz=319									
238A	**Jacksonville**	90.24	46	P		P		19 39 38.2	-0.4	
	baz=320									
733A	**Divot King Ran**	90.30	51	P		P		19 39 39.3	+0.4	
	baz=318									
337A	**Centerville**	90.33	47	P		P		19 39 39.4	+0.3	
	baz=319									
535A	**Dale**	90.34	49	P		P		19 39 39.3	+0.2	
	baz=318									
SALF	**Salau**	90.37	333	*e*P		P		19 39 41.4	+2.3	
ACCN	**Adirondack Com**	90.39	26	*e*P		P		19 39 38.4	-0.8	
	comp=Z,196nm,1.5s									
ACCN				LR		LR				
	comp=Z,29µm,20.0s									
VALF	**Valcebollere**	90.39	332	*e*P		P		19 39 39.7	+0.3	
MELF	**Melles**	90.42	333	*e*P		P		19 39 40.5	+1.1	
833A	**Chaparral WMA,**	90.53	51	P		P		19 39 40.5	+0.5	
	baz=318									
Z41A	**Richland Creek**	90.53	44	P		P		19 39 40.1	+0.1	
	baz=321									
X43A	**Marvell**	90.55	42	P		P		19 39 40.4	+0.4	
	baz=322									
MET	**Memphis--Engin**	90.55	41	PFAKE				19 39 50.0	+10	
MET				LR		LR				
	comp=Z,22µm,20.0s									
HNH	**Hanover**	90.55	25	*e*P		P		19 39 39.1	-0.7	
	comp=Z,321nm,1.8s									
HNH				LR		LR				
	comp=Z,39µm,20.0s									
437A	**Phantom Ranch,**	90.56	48	P		P		19 39 40.4	+0.3	
	baz=319									
CCAR	**Cane Creek**	90.56	43	*e*P		P		19 39 39.5	-0.6	
	comp=Z,292nm,1.2s									
CCAR				LR		LR				
	comp=Z,42µm,21.0s									
WVL	**Waterville**	90.58	23	*e*P		P		19 39 39.9	-0.1	
	comp=Z,146nm,1.3s									
WVL				LR		LR				
	comp=Z,47µm,19.0s									
239A	**Gary**	90.58	46	P		P		19 39 40.1	-0.1	
	baz=320									
140A	**Cam and Jess,**	90.59	45	P		P		19 39 40.2	-0.1	
	baz=321									
536A	**Bastrop**	90.59	49	P		P		19 39 39.3	-1.0	
	baz=319									
WDD	**Wied Dalam**	90.60	320	*e*P		P		19 39 38.1	-2.1	
	comp=Z,208nm,1.5s									
WDD				LR		LR				
	comp=Z,32µm,20.0s									
Y42A	**Garnett, Star**	90.61	43	P		P		19 39 40.1	-0.2	
	baz=322									
338A	**Crockett**	90.62	47	P	

FFD Franklin Falls 90.97 24 *e*P P 19 39 42.6 +0.8
comp=Z,503nm,1.8s
FFD LR LR
comp=Z,71µm,22.0s
Z42A Norrel Spur, H 90.97 43 P P 19 39 42.6 +0.6
baz=322
TRY Troy 90.97 26 *e*P P 19 39 42.2 +0.4
comp=Z,177nm,1.3s
TRY LR LR
comp=Z,71µm,20.0s
438A Sam Houston St 90.99 47 P P 19 39 41.8 -0.3
baz=320
537A Green Hill Far 91.02 48 P P 19 39 42.2 0.0
baz=319
MSEY Mahe Island 91.04 265 P P 19 39 45.0 +2.4
MSEY Mahe Island 91.04 265 P P 19 39 45.0 +2.4
MSEY Mahe Island 91.04 265 PFAKE 19 39 50.0 +7.4
MSEY LR LR
comp=Z,21µm,20.0s
636A Smothers Creek 91.04 49 P P 19 39 42.4 0.0
baz=319
339A Huntington 91.06 46 P P 19 39 41.9 -0.6
baz=320
735A Kenedy 91.07 50 P P 19 39 41.7 -0.9
baz=318
EMMW East Machias 91.08 21 *e*P P 19 39 42.4 +0.2
comp=Z,139nm,1.3s
EMMW LR LR
comp=Z,57µm,20.0s
933A Laredo 91.12 52 P P 19 39 43.3 +0.5
baz=318,SNR=8.7
834A Tilden 91.17 51 P P 19 39 43.2 +0.1
baz=318
KSPA Keystone Colle 91.28 28 *e*P P 19 39 41.3 -2.0
comp=Z,76nm,1.0s
KSPA LR LR
comp=Z,30µm,19.0s
OXF Oxford 91.30 41 *e*P P 19 39 44.3 +0.8
OXF pmax pmax
comp=Z,270nm,1.1s
OXF Oxford 91.30 41 *e*P P 19 39 43.4 -0.1
comp=Z,273nm,1.1s
OXF LR LR
comp=Z,22µm,20.0s
SSPA Standing Stone 91.30 30 *e*P P 19 39 42.1 -1.2
comp=Z,127nm,1.3s
SSPA LR LR
comp=Z,19µm,20.0s
Y44A Strider, Charl 91.33 42 P P 19 39 43.0 -0.6
baz=322
O56A Blue Knob Stat 91.35 30 P P 19 39 42.8 -0.9
baz=330
439A Center Grove, 91.35 47 P P 19 39 43.7 -0.1
baz=320
MCWV Mont Chateau 91.37 32 *e*P P 19 39 40.9 -2.9
comp=Z,105nm,1.8s
MCWV LR LR
comp=Z,11µm,18.0s
X45A UM Field Stati 91.37 41 P P 19 39 43.8 -0.1
baz=323
538A Harpers Horsep 91.38 48 P P 19 39 43.9 0.0
baz=320
736A Circle Diamond 91.43 49 P P 19 39 44.3 +0.1
baz=319
835A Beeville 91.48 50 P P 19 39 45.4 +1.0
baz=318
934A Benavides 91.58 51 P P 19 39 45.3 +0.4
baz=318
143A Socs Landing, 91.70 43 P P 19 39 45.3 -0.1
baz=322
Y45A Yeager Farm, C 91.74 41 P P 19 39 45.8 +0.2
baz=323,SNR=8.1
QUA2 Belchertown 91.81 25 *e*P P 19 39 44.5 -1.2
comp=Z,74nm,1.3s
QUA2 LR LR
comp=Z,24µm,22.0s
341A Kurthwood 91.82 45 P P 19 39 45.1 -0.9
baz=321
N59A State Game Lan 91.84 28 P P 19 39 45.3 -0.6
baz=332,SNR=12
HRV Adam Dziewonsk 91.86 25 *e*P P 19 39 47.9 +1.9
HRV pmax pmax
comp=Z,130nm,1.3s
HRV Adam Dziewonsk 91.86 25 *e*P P 19 39 44.1 -1.9
HRV *e*pP **sP** 19 39 57.4 -1.5
HRV LR LR
comp=Z,25µm,21.0s
034A Hebbronville 91.88 52 P P 19 39 46.7 +0.4
baz=318,SNR=5.2
KVTX Kingsville 91.99 51 *e*P P 19 39 47.3 +0.5
comp=Z,196nm,1.4s
KVTX LR LR
comp=Z,20µm,20.0s
638A Rosharon 92.01 48 P P 19 39 45.2 -1.6
baz=320
WES Weston 92.05 25 *e*P P 19 39 47.8 +1.0
WES pmax pmax
comp=Z,250nm,1.4s
WES MLR MLR
comp=Z,36µm,20.0s
WES Weston 92.05 25 *e*P P 19 39 47.8 +1.0
comp=Z,250nm,1.4s
WES LR LR
comp=Z,36µm,20.0s
Z45A Winona 92.06 42 P P 19 39 46.7 -0.3
baz=323
Y46A Houston 92.07 41 P P 19 39 47.3 +0.2
baz=323
ODNJ Ogdensburg 92.11 27 *e*P P 19 39 47.4 +0.3
comp=Z,63nm,1.4s
ODNJ LR LR
comp=Z,37µm,20.0s
BCX Boston College 92.14 25 *e*P P 19 39 46.3 -0.9
comp=Z,188nm,1.4s
BCX LR LR
comp=Z,91µm,21.0s
342A Flagon Creek P 92.24 45 P P 19 39 43.7 -4.2
baz=321
441A DeRidder 92.26 46 P P 19 39 46.6 -1.3
baz=321
LUPA Lehigh Univers 92.26 28 *e*P P 19 39 47.3 -0.6
comp=Z,93nm,1.4s
LUPA LR LR
comp=Z,41µm,20.0s
144A Alexander Plac 92.27 43 P P 19 39 42.9 -5.1
baz=322
035A Encino 92.32 51 P P 19 39 46.8 -1.6
baz=318
BRYW Bryant College 92.40 25 *e*P P 19 39 46.6 -1.9
comp=Z,177nm,1.4s
BRYW LR LR
comp=Z,46µm,18.0s
SWET Sewanee 92.42 38 *e*P P 19 39 48.0 -0.7
comp=Z,54nm,1.6s
SWET LR LR
comp=Z,8µm,20.0s
PAL Palisades 92.42 27 *e*P P 19 39 47.6 -0.9
PAL pmax pmax
comp=Z,76nm,1.2s
PAL MLR MLR
comp=Z,40µm,20.0s
PAL Palisades 92.42 27 *e*P P 19 39 47.6 -0.9
comp=Z,76nm,1.2s
PAL LR LR
comp=Z,40µm,20.0s
TZTN Tazewell 92.42 36 *e*P P 19 39 48.3 -0.4
comp=Z,131nm,1.3s
TZTN LR LR
comp=Z,43µm,21.0s
MVL Millersville 92.43 29 *e*P P 19 39 45.6 -3.0
comp=Z,84nm,1.7s
MVL LR LR
comp=Z,20µm,20.0s
BRNJ Basking Ridge 92.48 28 *e*P P 19 39 48.8 0.0
comp=Z,62nm,1.0s
BRNJ LR LR
comp=Z,45µm,20.0s
YLE Yale 92.48 26 PFAKE 19 40 00.0 +11
YLE LR LR
comp=Z,36µm,20.0s
VBMS Vicksburg 92.54 43 P P 19 39 49.1 -0.1
baz=322
VBMS Vicksburg 92.54 43 *e*P P 19 39 49.2 -0.1
comp=Z,102nm,1.1s
145A Houston Renfro 92.54 42 P P 19 39 49.6 +0.3
baz=323
Y47A UCPARC, Winfie 92.56 40 P P 19 39 49.6 +0.3
baz=324

ZAIG Zacatecas 92.58 57 *e*P P 19 39 49.6 -0.3
comp=Z,109nm,1.7s
ZAIG LR LR
comp=Z,39µm,20.0s
Z46A Louisville 92.58 41 P P 19 39 48.6 -0.8
baz=323
244A Avery, Jackson 92.59 43 P P 19 39 48.7 -0.8
baz=322
CPNY Central Park 92.59 27 *e*P P 19 39 49.5 +0.1
comp=Z,265nm,2.0s
CPNY LR LR
comp=Z,38µm,20.0s
035Z Hargill 92.69 52 P P 19 39 50.6 +0.5
baz=318
SDMD Soldier's Deli 92.76 30 *e*P P 19 39 49.3 -0.8
comp=Z,35nm,1.6s
SDMD LR LR
comp=Z,15µm,19.0s
PSUB Penn St. - Bra 92.82 29 *e*P P 19 39 48.9 -1.5
comp=Z,88nm,1.6s
PSUB LR LR
comp=Z,25µm,20.0s
CPCT Cooper Cave 92.89 37 *e*P P 19 39 50.6 -0.2
comp=Z,47nm,1.3s
CPCT LR LR
comp=Z,18µm,18.0s
146A Union 92.96 42 P P 19 39 50.3 -1.0
baz=323
LNIG Linares 92.99 54 *e*P P 19 39 50.1 -1.4
comp=Z,82nm,1.4s
LNIG LR LR
comp=Z,19µm,21.0s
344A Westbrook Farm 93.03 44 P P 19 39 47.3 -4.2
baz=322
TKL Tuckaleechee C 93.06 36 *e*P P 19 39 52.0 +0.4
TKL Tuckaleechee C 93.06 36 *e*P P 19 39 51.2 -0.4
comp=Z,44nm,0.9s
TKL LR LR
comp=Z,30µm,21.0s
KEST Kesra 93.12 324 P P 19 39 50.9 -1.1
comp=Z,12nm,1.1s,baz=249,slow=1.5,SNR=8.8
KEST LR LR 20 27 12.7
comp=Z,76µm,18.1s,baz=326,slow=39
KEST Kesra 93.12 324 *e*P P 19 39 50.4 -1.6
comp=Z,46nm,1.0s
Z48A Northport 93.13 40 P P 19 39 52.6 +0.7
baz=324
BLA Blacksburg 93.22 33 *e*P P 19 39 53.8 +1.4
BLA pmax pmax
comp=Z,79nm,1.1s
BLA Blacksburg 93.22 33 *e*P P 19 39 51.7 -0.7
comp=Z,78nm,1.1s
BLA LR LR
comp=Z,29µm,21.0s
CMAH Djebel Manchou 93.22 326 P P 19 39 50.0 -2.5
147A Livingston 93.33 41 P P 19 39 49.5 -3.4
baz=324
CAEH 'Ain El Ouahch 93.34 326 P P 19 39 52.0 -0.9
VWCC Virginia Weste 93.37 33 *e*P P 19 39 53.1 +0.1
CBN Corbin Frederi 93.60 31 *e*P P 19 39 53.7 -0.3
comp=Z,28nm,0.7s
CBN LR LR
comp=Z,35µm,19.0s
247A Quitman 93.66 42 P P 19 39 55.1 +0.7
baz=323
LRAL Lakeview Retre 93.68 40 *e*P P 19 39 53.6 -0.9
comp=Z,38nm,1.2s
LRAL LR LR
comp=Z,26µm,20.0s
PBRG Braganca 93.77 338 *e*P P 19 39 55.7 +0.9
PBRG *e*pP **sP** 19 40 06.8 -1.0
PBRG Braganca 93.77 338 *e*PP PP 19 43 44.3 +5.0
PBRG *e*SKSac SKSac 19 50 39.1 +12
PBRG *e*SS SS 19 57 44.9 +26
JSRW J. Sargeant Re 93.84 31 *e*P P 19 39 55.8 +0.6
CASM Ain Smara 93.93 326 P P 19 39 54.0 -1.7
DFRA Djebel Bou Aff 93.95 327 P P 19 39 56.0 +0.1
PGAV Gavieira, Arco 94.05 339 *e*P P 19 39 54.5 -1.7
comp=Z,76nm,1.5s
PGAV *e*pP **sP** 19 40 07.6 -1.6
PGAV Gavieira, Arco 94.05 339 *e*PP PP 19 43 45.1 +3.6
PGAV *e*SKSac SKSac 19 50 44.2 +15
PGAV *e*SS SS 19 57 38.4 +15
PGAV Gavieira, Arco 94.05 339 *e*LR LR 20 12 58.4
comp=Z,23µm,20.0s
URVA University of 94.09 31 *e*P P 19 39 56.5 +0.2
PCAB Cabril 94.22 339 *e*P P 19 39 59.0 +2.1
comp=Z,75nm,1.5s
446A Poplarville 94.27 43 P P 19 39 57.1 -0.1
baz=323
MVO Moncorvo 94.44 338 *e*P P 19 39 58.5 +0.5
comp=Z,72nm,2.3s
MVO *e*pP **sP** 19 40 10.4 -0.6
MVO Moncorvo 94.44 338 *e*PP PP 19 43 46.6 +2.0
MVO *e*SKSac SKSac 19 50 42.6 +11
MVO *e*SS SS 19 57 51.8 +23
MVO Moncorvo 94.44 338 *e*LR LR 20 15 21.1
comp=Z,32µm,18.0s
SET Setif 94.44 327 P P 19 39 59.0 +0.9
POLO Lamas de Olo 94.47 338 *e*P P 19 39 58.8 +0.7
comp=Z,43nm,1.3s
POLO *e*pP **sP** 19 40 09.7 -1.4
POLO Lamas de Olo 94.47 338 *e*PP PP 19 43 48.8 +4.0
POLO *e*SKSac SKSac 19 50 45.7 +14
POLO *e*SS SS 19 57 50.3 +21
PVRL Vila Real 94.54 338 *e*P P 19 39 59.0 +0.6
comp=Z,74nm,1.7s
CKHR Kef el Ahmar 94.55 327 P P 19 39 59.0 +0.3
KMSC Kings Mountain 94.58 35 P P 19 39 57.9 -0.7
baz=328
KMSC Kings Mountain 94.58 35 *e*P P 19 39 58.4 -0.2
comp=Z,117nm,1.8s
KMSC LR LR
comp=Z,29µm,20.0s
ES19 SONSECA Array 94.82 335 *e*P P 19 39 57.9 -1.8
ESDC Sonseca Array 94.86 335 P P 19 39 59.0 -0.9
comp=Z,10nm,0.8s,baz=21,slow=3.7,SNR=25
ESDC PP PP 19 43 24.5 -23
comp=Z,7.1nm,0.9s,baz=21,slow=6.8,SNR=4.7
ESDC LR LR 20 28 57.1
comp=Z,62µm,18.9s,baz=30,slow=39
ESLA Sonseca Array 94.86 335 *e*P P 19 39 58.1 -1.9
comp=Z,20nm,0.9s
ESLA LR LR
comp=Z,78µm,19.0s
FURI Furi 94.99 286 *e*P P 19 40 00.5 -0.7
comp=Z,103nm,1.1s
FURI LR LR
comp=Z,20µm,20.0s
GOGA Godfrey 95.06 37 *e*P P 19 40 01.5 +0.7
GOGA Godfrey 95.06 37 *e*P P 19 40 00.6 -0.2
comp=Z,117nm,1.8s
GOGA LR LR
comp=Z,24µm,18.0s
PAB San Pablo 95.11 335 *e*P P 19 40 01.3 +0.2
PAB San Pablo 95.11 335 *e*P P 19 39 58.5 -2.6
comp=Z,34nm,1.1s
PAB LR LR
comp=Z,84µm,19.0s
PVIS Viseu 95.11 338 *e*P P 19 40 03.4 +2.4
comp=Z,60nm,1.9s
PVIS *e*pP **sP** 19 40 15.0 +1.0
PVIS Viseu 95.11 338 *e*PP PP 19 43 44.8 -4.9
BRAL Brewton 95.16 41 *e*P P 19 40 00.6 -0.7
comp=Z,38nm,0.7s
BRAL LR LR
comp=Z,20µm,21.0s
MTE Manteigas 95.30 338 *e*P P 19 40 03.9 +2.0
comp=Z,58nm,1.5s
MTE *e*pP **sP** 19 40 14.6 -0.3
MTE Manteigas 95.30 338 *e*PP PP 19 43 54.2 +3.0
MTE *e*SKSac SKSac 19 50 48.3 +13
MTE *e*SS SS 19 58 01.5 +21
MTE Manteigas 95.30 338 *e*LR LR 20 17 33.5
comp=Z,38µm,18.0s
MTE Manteigas 95.30 338 *e*P P 19 40 00.7 -1.1
comp=Z,33nm,0.9s
MTE LR LR
comp=Z,41µm,19.0s
JSC Jenkinsville 95.33 35 *e*P P 19 40 01.4 -0.7
JSC pmax pmax
comp=Z,62nm,1.6s
JSC MLR MLR
comp=Z,41µm,22.0s
JSC Jenkinsville 95.33 35 *e*P P 19 40 01.4 -0.7
comp=Z,62nm,1.6s

JSC LR LR
comp=Z,41µm,22.0s
JRQG Juriquilla Cam 95.42 57 *e*P P 19 40 03.8 +0.8
comp=Z,191nm,1.3s
EMHD Djebel Mahouad 95.44 328 P P 19 39 52.9 -10
MOIG Morelia 95.68 58 *e*P P 19 40 03.4 -0.8
comp=Z,102nm,1.3s
MOIG LR LR
comp=Z,20µm,20.0s
PCBR Castelo Branco 95.80 338 *e*P P 19 40 05.2 +1.1
PCBR *e*pP **sP** 19 40 18.7 +1.6
PCAS Casmilo, Conde 95.89 338 *e*P P 19 40 05.9 +1.4
PCAS *e*pP **sP** 19 40 16.0 -1.5
PCAS Casmilo, Conde 95.89 338 *e*PP PP 19 43 59.6 +3.9
PCAS *e*SKSac **SKSac** 19 50 48.9 +10
PCAS *e*SS SS 19 58 10.8 +22
EBNR Beni Rached 95.93 330 P P 19 40 00.0 -4.8
CNNC Cliffs of the 95.96 33 *e*P P 19 40 04.8 -0.1
comp=Z,48nm,0.4s
CNNC LR LR
comp=Z,31µm,18.0s
PMRV Marv??o 96.15 337 *e*P P 19 40 06.2 +0.5
PMRV *e*pP **sP** 19 40 17.1 -1.6
PMRV Marv??o 96.15 337 *e*PP PP 19 44 08.7 +11
PMRV *e*SKSac SKSac 19 50 52.9 +13
PMRV *e*SS SS 19 58 13.8 +21
PMRV Marv??o 96.15 337 *e*LR LR 20 14 53.4
comp=Z,43µm,20.0s
PTOM Tomar 96.27 338 *e*P P 19 40 06.5 +0.3
PTOM *e*pP **sP** 19 40 20.5 +1.3
PTOM Tomar 96.27 338 *e*PP PP 19 44 02.4 +3.8
EANR 'Ain N'Sour 96.39 330 P P 19 40 06.3 -0.6
TIGA Tifton 96.64 39 *e*P P 19 40 08.0 0.0
comp=Z,99nm,0.3s
TIGA LR LR
comp=Z,16µm,20.0s
PESTR Estremoz 96.73 337 *e*P P 19 40 11.1 +2.7
PESTR *e*pP **sP** 19 40 20.6 -0.7
PESTR Estremoz 96.73 337 *e*PP PP 19 44 00.8 -1.4
PESTR *e*SKSac SKSac 19 50 59.1 +16
PESTR *e*SS SS 19 58 17.2 +16
ETRT Tiaret 96.81 329 P P 19 40 09.1 +0.2
NHSC New Hope 96.81 35 PFAKE 19 40 20.0 +11
NHSC LR LR
comp=Z,41µm,21.0s
PMAFR Mafra 97.13 339 *e*P Pdif 19 40 12.5 +2.2
PMAFR *e*pP sP 19 40 21.5 -1.7
PMAFR Mafra 97.13 339 *e*PP PP 19 44 12.0 +6.7
PMAFR *e*SKSac **SKSac** 19 50 55.4 +10
PMAFR *e*SS SS 19 58 29.1 +22
EVO Evora 97.16 337 *e*P Pdif 19 40 11.6 +1.2
EVO *e*pP sP 19 40 23.1 -0.2
EVO Evora 97.16 337 *e*PP PP 19 44 04.2 -1.3
PBAR Barrancos 97.20 337 *e*P Pdif 19 40 11.9 +1.3
PBAR *e*pP sP 19 40 23.2 -0.3
PBAR Barrancos 97.20 337 *e*PP PP 19 44 15.5 +10
PBAR *e*SKSac SKSac 19 51 02.0 +16
PBAR *e*SS SS 19 58 31.0 +23
UNM Universidad Na 97.24 57 PFAKE 19 40 20.0 +8.6
UNM LR LR
comp=Z,24µm,21.0s
PMST Lisbon--Monsan 97.31 338 *e*pP pP 19 40 22.2 +1.7
LIS Lisbon 97.32 338 *e*P P 19 40 09.8 -1.2
LIS *e*PP **PP** 19 44 06.4 -0.3
LIS AMS AMS 20 23 49.8
comp=E,56µm,21.9s
LIS Lisbon 97.32 338 *e*P P 19 40 09.7 -1.2
LIS *e* 19 44 06.3
PBEJ Beja 97.59 337 *e*P Pdif 19 40 13.5 +1.2
PBEJ *e*pP sP 19 40 27.1 +1.9
PNCL Nicolau / Gran 97.70 338 *e*P Pdif 19 40 14.3 +1.5
PNCL *e*pP sP 19 40 25.8 +0.1
PNCL Nicolau / Gran 97.70 338 *e*PP PP 19 44 09.3 -0.4
PNCL *e*SKSac SKSac 19 51 06.3 +18
PNCL *e*SS SS 19 58 37.6 +23
MESJ Messejana 97.86 337 *e*P P 19 40 12.1 -1.4
MESJ *e*PP **PP** 19 44 10.6 -0.3
MESJ *e*S **SKSac** 19 50 46.6 -2.5
MESJ AMS AMS 20 29 47.4
comp=Z,50µm,19.9s
MESJ Messejana 97.86 337 *e*P Pdif 19 40 15.5 +2.0
MESJ *e*pP sP 19 40 26.2 -0.3
MESJ Messejana 97.86 337 *e*PP PP 19 44 11.5 +0.6
MESJ Messejana 97.86 337 *e*P P 19 40 12.1 -1.4
MESJ *e* 19 44 10.6
MESJ *e*S **SKSac** 19 50 46.5 -2.5
PCVE Castro Verde 98.00 337 *e*P Pdif 19 40 16.4 +2.3
PCVE *e*pP sP 19 40 25.6 -1.5
PCVE Castro Verde 98.00 337 *e*PP PP 19 44 16.0 +4.0
PCVE *e*SKSac SKSac 19 51 04.8 +15
PCVE *e*SS SS 19 58 32.5 +13
PVAQ Vaqueiros 98.12 337 *e*P Pdif 19 40 17.8 +3.1
PVAQ *e*pP sP 19 40 27.3 -0.3
PVAQ Vaqueiros 98.12 337 *e*PP PP 19 44 14.0 +1.1
PVAQ *e*SKSac SKSac 19 51 06.4 +16
PVAQ *e*SS SS 19 58 39.8 +19
PVAQ Vaqueiros 98.12 337 *e*LR LR 20 15 30.6
comp=Z,77µm,20.0s
PTEO Sao Teotonio 98.28 338 *e*P Pdif 19 40 18.5 +3.1
PTEO *e*pP sP 19 40 29.7 +1.4
PTEO Sao Teotonio 98.28 338 *e*PP PP 19 44 19.2 +5.0
PBDV Barranco-do-Ve 98.33 337 *e*P Pdif 19 40 16.1 +0.5
PBDV *e*pP sP 19 40 27.6 -1.0
PBDV Barranco-do-Ve 98.33 337 *e*PP PP 19 44 16.8 +2.2
PBDV *e*SKSac SKSac 19 51 05.0 +13
PBDV *e*SS **SS** 19 58 28.4 +4.7
MORF Marmelete 98.49 337 *e*P **P** 19 40 15.1 -1.2
MORF *e*PP **PP** 19 44 15.6 -0.1
MORF *e*S **SKSac** 19 50 49.7 -2.7
MORF AMS AMS 20 29 36.4
comp=Z,38µm,19.3s
MORF Marmelete 98.49 337 *e*P Pdif 19 40 20.2 +3.8
MORF *e*pP sP 19 40 29.3 0.0
MORF Marmelete 98.49 337 *e*PP PP 19 44 20.9 +5.1
MORF *e*SKSac SKSac 19 51 11.7 +19
MORF Marmelete 98.49 337 *e*P **P** 19 40 15.1 -1.2
MORF *e* 19 44 15.6
MORF *e*S **SKSac** 19 50 49.6 -2.7
PFVI Vila Bisbo 98.70 338 *e*P Pdif 19 40 17.7 +0.5
PFVI Vila Bisbo 98.70 338 *e*PP PP 19 44 19.6 +2.3
PFVI *e*SKSac SKSac 19 51 10.0 +17
PFVI *e*SS SS 19 58 52.1 +23
PFVI Vila Bisbo 98.70 338 PFAKE 19 40 30.0 +13
PFVI LR LR
comp=Z,54µm,20.0s
LVIG Laguna Verde 98.70 55 PFAKE 19 40 30.0 +12
LVIG LR LR
comp=Z,22µm,20.0s
RKT Rikitea 98.90 113 *e*PP PP 19 44 17.4 -3.1
comp=Z,3µm,28.5s
RKT *e*SKSac **SKSac** 19 50 51.9 -2.4
comp=Z,17µm,28.5s
RKT Rikitea 98.90 113 *e*PS PS 19 53 15.0 -1.1
comp=Z,17µm,30.5s
RKT *e*SS SS 19 58 38.9 +4.4
comp=Z,20µm,26.2s
RKT Rikitea 98.90 113 *e*LR LR 20 12 19.5
comp=Z,75µm,22.8s,baz=304
TLIG Tlapa 98.92 58 PFAKE 19 40 30.0 +11
TLIG LR LR
comp=Z,17µm,19.0s
DWPF Disney Wildern 100.44 39 PFAKE 19 40 30.0 +4.9
DWPF LR LR
comp=Z,25µm,19.0s
PGRA Graciosa 100.62 353 *e*P **Pdif** 19 40 31.9 +6.2
comp=Z,86nm,0.6s
ROSA Rosais 100.95 353 *e*P Pdif 19 40 50.2 +23
comp=Z,211nm,1.5s
ROSA Rosais 100.95 353 PFAKE 19 40 40.0 +13
ROSA LR LR
comp=Z,12µm,20.0s
TUIG Tuzandepetl 101.21 55 PFAKE 19 40 40.0 +11
TUIG LR LR
comp=Z,22µm,21.0s
RER Riviere de l'E 101.31 252 PFAKE 19 40 40.0 +11
RER LR LR
comp=Z,13µm,18.0s
PSET Sete Cidades 101.56 351 *e*P **Pdif** 19 40 44.3 +14
CMLA Cha da Macela 101.60 351 *e*P **Pdif** 19 40 43.1 +13
CMLA Cha da Macela 101.60 351 PFAKE 19 40 40.0 +10
CMLA LR LR
comp=Z,12µm,20.0s

PSMN	**Pico do Norte,**	**102.29**	**350**	*e*P		**Pdif**	**19 40 43.7**	**+10**
	comp=Z,111nm,1.0s							
SCIG	**Sabancuy**	**102.49**	**52**	PFAKE			19 40 40.0	+5.6
SCIG				LR	LR			
	comp=Z,14µm,20.0s							
KMBO	**Kilima Mbogo**	**102.66**	**279**	P		**Pdif**	**19 40 35.1**	**-0.4**
	comp=Z,8.4nm,0.9s,baz=33,slow=6.0,SNR=12							
KMBO				PP		**PP**	**19 44 51.1**	**+2.1**
	comp=Z,2.6nm,0.7s,baz=45,slow=11,SNR=2.6							
KMBO	**Kilima Mbogo**	**102.66**	**279**	*i* P		**Pdif**	**19 40 35.7**	**+0.2**
KMBO				pmax		pmax		
	comp=Z,8.0nm,0.9s							
KMBO	**Kilima Mbogo**	**102.66**	**279**	*e*Pdif		**Pdif**	**19 40 35.1**	**-0.4**
KMBO				PP		**PP**	**19 44 51.1**	**+2.1**
KMBO				LR	LR			
	comp=Z,22µm,19.0s							
TEIG	**Tepich**	**103.22**	**49**	PFAKE			19 40 50.0	+12
TEIG				LR	LR			
	comp=Z,18µm,22.0s							
BBSR	**BB Station**	**103.31**	**24**	PFAKE			19 40 50.0	+12
BBSR				LR	LR			
	comp=Z,15µm,20.0s							
TAM	**Tamanrasset**	**105.75**	**320**	PFAKE			19 45 10.0	
TAM				LR	LR			
	comp=Z,20µm,19.0s							
ABPO	**Ambohimpanom**	**106.29**	**259**	PFAKE			19 45 10.0	
ABPO				LR	LR			
	comp=Z,18µm,19.0s							
TGUH	**Tegucigalpa,Un**	**108.64**	**52**	PFAKE			19 45 20.0	
TGUH				LR	LR			
	comp=Z,18µm,22.0s							
PAF	**Port-aux-Franc**	**109.80**	**222**	PFAKE			19 45 20.0	
PAF				LR	LR			
	comp=Z,11µm,20.0s							
GTBY	**Guantanamo Bay**	**110.40**	**38**	PFAKE			19 45 20.0	
GTBY				LR	LR			
	comp=Z,14µm,20.0s							
MTDJ	**Mount Denham**	**110.66**	**41**	PFAKE			19 45 20.0	
MTDJ				LR	LR			
	comp=Z,15µm,19.0s							
GRTK	**Grand Turk**	**110.81**	**34**	PFAKE			19 45 20.0	
GRTK				LR	LR			
	comp=Z,27µm,22.0s							
SDDR	**Presa de Saban**	**112.97**	**35**	PFAKE			19 45 20.0	
SDDR				LR	LR			
	comp=Z,30µm,20.0s							
JTS	**JuntasAbangare**	**112.99**	**52**	PFAKE			19 45 30.0	
JTS				LR	LR			
	comp=Z,12µm,21.0s							
HDC	**Heredia**	**113.72**	**52**	PFAKE			19 45 30.0	
HDC				LR	LR			
	comp=Z,13µm,20.0s							
AGP	**Aguadilla**	**115.23**	**32**	PFAKE			19 45 30.0	+10
AGP				LR	LR			
	comp=Z,16µm,22.0s							
MPR	**Mayaguez**	**115.41**	**32**	PFAKE			19 45 30.0	+10
MPR				LR	LR			
	comp=Z,17µm,22.0s							
TOC1	**Torodi Ar. Sit**	**115.78**	**317**	PFAKE			19 45 30.0	+9.3
TOC1				LR	LR			
	comp=Z,28µm,18.0s							
TOC2	**Torodi Ar. Sit**	**115.78**	**317**	PFAKE			19 45 30.0	+9.3
TOC2				LR	LR			
	comp=Z,28µm,18.0s							
TOB2	**Torodi Ar. Sit**	**115.79**	**317**	PFAKE			19 45 30.0	+9.2
TOB2				LR	LR			
	comp=Z,27µm,18.0s							
TOC3	**Torodi Ar. Sit**	**115.80**	**317**	PFAKE			19 45 30.0	+9.2
TOC3				LR	LR			
	comp=Z,28µm,18.0s							
TOC7	**Torodi Ar. Sit**	**115.80**	**317**	PFAKE			19 45 30.0	+9.2
TOC7				LR	LR			
	comp=Z,26µm,18.0s							
TOA1	**Torodi Ar. Sit**	**115.80**	**317**	PFAKE			19 45 30.0	+9.2
TOA1				LR	LR			
	comp=Z,27µm,18.0s							
TOA2	**Torodi Ar. Sit**	**115.80**	**317**	PFAKE			19 45 30.0	+9.2
TOA2				LR	LR			
	comp=Z,200nm,18.0s							
TOA0	**Torodi Ar. Sit**	**115.80**	**317**	*e*PKPdf		**PKPdf**	**19 45 20.0**	**-0.7**
TOA0				*e*PKPdf		**PKiKP**	**19 45 20.2**	**-0.6**
TOA0				LR	LR			
	comp=Z,26µm,18.0s							
TORD	**Torodi Ar. Bea**	**115.80**	**317**	Pdiff		**Pdif**	**19 41 41.6**	**+7.9**
	comp=Z,0.3nm,0.8s,baz=23,slow=6.4,SNR=2.1							
TORD				PKP		**PKiKP**	**19 45 19.4**	**-1.4**
	comp=Z,6.3nm,1.0s,baz=22,slow=3.3,SNR=11							
TORD				PP		**PP**	**19 46 20.6**	**-2.8**
	comp=Z,30nm,1.0s,baz=35,slow=4.8,SNR=11							
TORD				PKKPbc		**PKKPbc**	**19 55 52.5**	**+1.5**
	comp=Z,0.7nm,0.9s,baz=214,slow=3.2,SNR=3.5							
TORD				PKKPab		**PKKPab**	**19 56 00.5**	**+1.0**
	comp=Z,2.4nm,0.8s,baz=208,slow=2.7,SNR=5.9							
TOB5	**Torodi Ar. Sit**	**115.81**	**317**	PFAKE			19 45 30.0	+9.2
TOB5				LR	LR			
	comp=Z,28µm,18.0s							
TOB3	**Torodi Ar. Sit**	**115.81**	**317**	PFAKE			19 45 30.0	+9.2
TOB3				LR	LR			
	comp=Z,27µm,18.0s							
TOA3	**Torodi Ar. Sit**	**115.81**	**317**	PFAKE			19 45 30.0	+9.2
TOA3				LR	LR			
	comp=Z,200nm,18.0s							
TOB4	**Torodi Ar. Sit**	**115.82**	**317**	PFAKE			19 45 30.0	+9.2
TOB4				LR	LR			
	comp=Z,26µm,18.0s							
TOC4	**Torodi Ar. Sit**	**115.82**	**317**	PFAKE			19 45 30.0	+9.2
TOC4				LR	LR			
	comp=Z,28µm,18.0s							
TOC5	**Torodi Ar. Sit**	**115.83**	**317**	PFAKE			19 45 30.0	+9.2
TOC5				LR	LR			
	comp=Z,30µm,18.0s							
CBYP	**Canovanas**	**115.86**	**31**	PFAKE			19 45 30.0	+9.1
CBYP				LR	LR			
	comp=Z,18µm,21.0s							
SJG	**San Juan**	**115.89**	**31**	PFAKE			19 45 30.0	+9.1
SJG				LR	LR			
	comp=Z,11µm,20.0s							
HUMP	**Col San Antoni**	**115.98**	**31**	PFAKE			19 45 30.0	+9.0
HUMP				LR	LR			
	comp=Z,17µm,22.0s							
STVI	**Saint Thomas**	**116.14**	**30**	PFAKE			19 45 30.0	+8.7
STVI				LR	LR			
	comp=Z,19µm,22.0s							
BCIP	**Isla Barro Col**	**116.91**	**49**	PFAKE			19 45 30.0	+7.1
BCIP				LR	LR			
	comp=Z,11µm,20.0s							
SMRT	**St. Maarten**	**117.11**	**28**	PFAKE			19 45 30.0	+6.8
SMRT				LR	LR			
	comp=Z,19µm,20.0s							
SABA	**Saba**	**117.44**	**28**	PFAKE			19 45 30.0	+6.1
SABA				LR	LR			
	comp=Z,23µm,21.0s							
SEUS	**St. Eustatius**	**117.65**	**28**	PFAKE			19 45 30.0	+5.7
SEUS				LR	LR			
	comp=Z,20µm,21.0s							
PAYG	**Puerto Ayora**	**117.75**	**65**	PFAKE			19 45 30.0	+5.4
PAYG				LR	LR			
	comp=Z,22µm,19.0s							
ANWB	**Willy Bob**	**117.91**	**27**	PFAKE			19 45 30.0	+5.2
ANWB				LR	LR			
	comp=Z,8µm,20.0s							
VNDA	**Vanda**	**118.12**	**175**	PKP		**PKPdf**	**19 45 22.9**	**-0.4**
	comp=Z,3.6nm,1.0s,baz=303,slow=3.4,SNR=8.6							
VNDA				PKKPbc		**PKKPbc**	**19 55 44.1**	**+0.1**
	comp=Z,3.1nm,1.0s,baz=204,slow=0.9,SNR=4.7							
VNDA	**Vanda**	**118.12**	**175**	PKIKP		**PKPdf**	**19 45 23.0**	**-0.4**
VNDA				pmax		pmax		
	comp=Z,4.0nm,1.0s							
CRZF	**Crozet Islands**	**118.36**	**232**	PFAKE			19 45 30.0	+5.4
CRZF				LR	LR			
	comp=Z,10µm,18.0s							
LSZ	**Lusaka**	**118.53**	**274**	PKP		**PKPdf**	**19 45 26.0**	**0.0**
	comp=Z,2.1nm,0.4s,baz=6.7,slow=3.4,SNR=2.1							
LSZ	**Lusaka**	**118.53**	**274**	*e*PKPdf		**PKPdf**	**19 45 23.5**	**-2.6**
LSZ				LR	LR			
	comp=Z,13µm,21.0s							
SBA	**Scott Base**	**118.78**	**174**	*e*PKIKP		**PKPdf**	**19 45 24.9**	**+0.3**
SBA				MLR	MLR			
	comp=Z,8µm,22.0s							
SBA	**Scott Base**	**118.78**	**174**	*e*PKPdf		**PKPdf**	**19 45 24.9**	**+0.3**
SBA				LR	LR			
	comp=Z,8µm,22.0s							
MOTC	**Monteria, Cord**	**119.56**	**45**	*e*P		PKPdf	19 45 36.1	+8.1
CODC	**Agust`>n Codaz**	**119.76**	**42**	*e*P		PKPdf	19 45 39.5	+11
RPN	**Rapa Nui**	**119.99**	**101**	PFAKE			19 45 40.0	+12
RPN				LR	LR			
	comp=Z,40µm,19.0s							
FDF	**Fort de France**	**120.85**	**27**	PFAKE			19 45 40.0	+9.5
FDF				LR	LR			
	comp=Z,12µm,20.0s							
ZARC	**Zaragoza, Cauc**	**121.06**	**45**	*e*P		**PKPdf**	**19 45 36.7**	**+5.8**
MATP	**Matopo**	**121.34**	**269**	PKP		**PKPdf**	**19 45 31.2**	**-0.2**
	comp=Z,21nm,1.2s,baz=12,slow=1.5,SNR=7.0							
MATP				PKKPbc		**PKKPbc**	**19 55 31.9**	**+0.8**
	comp=Z,1.3nm,0.8s,baz=282,slow=9.3,SNR=2.0							
HELC	**Santa Helena**	**121.77**	**47**	*e*PKPdf		PKPpre	19 45 27.8	
HELC				LR	LR			
	comp=Z,30µm,22.0s							
SDV	**Santo Domingo**	**122.07**	**40**	*e*PKPdf		**PKPdf**	**19 45 30.6**	**-2.5**
SDV				LR	LR			
	comp=Z,16µm,20.0s							
SVB	**Belmont**	**122.17**	**28**	PFAKE			19 45 40.0	+7.0
SVB				LR	LR			
	comp=Z,14µm,20.0s							
GIRC	**Giron, Santand**	**122.30**	**44**	*e*P		PKPdf	19 45 41.8	+8.3
NORC	**Norcasia**	**122.65**	**46**	*e*P		**PKPdf**	**19 45 37.3**	**+3.2**
BARC	**Barichara**	**122.71**	**44**	*e*P		**PKPdf**	**19 45 40.7**	**+6.2**
GRGC	**Isla de Gorgon**	**122.83**	**51**	*e*P		**PKPdf**	**19 45 35.6**	**+1.3**
BBGH	**Gun Hill**	**122.88**	**26**	PFAKE			19 45 40.0	+5.6
BBGH				LR	LR			
	comp=Z,18µm,19.0s							
MAW	**Mawson**	**122.98**	**207**	PKP		**PKPdf**	**19 45 32.9**	**+0.1**
	comp=Z,10nm,1.0s,baz=27,slow=1.9,SNR=14							
MAW				PKKPbc		**PKKPbc**	**19 55 25.1**	**-0.5**
	comp=Z,3.4nm,0.9s,baz=268,slow=11,SNR=4.5							
MAW	**Mawson**	**122.98**	**207**	*e*PKPdf		**PKPdf**	**19 45 32.0**	**-0.9**
MAW				PKKPbc		**PKKPbc**	**19 55 25.1**	**-0.5**
MAW				LR	LR			
	comp=Z,2µm,22.0s							
GRGR	**Grenville**	**123.07**	**29**	PFAKE			19 45 40.0	+5.2
GRGR				LR	LR			
	comp=Z,14µm,20.0s							
RUSC	**La Rusia**	**123.35**	**44**	*e*P		**PKPdf**	**19 45 35.0**	**-0.9**
RUSC	**La Rusia**	**123.35**	**44**	*e*PKPdf		**PKPdf**	**19 45 35.2**	**-0.8**
RUSC				LR	LR			
	comp=Z,5µm,21.0s							
ROSC	**El Rosal**	**123.56**	**46**	PKP		**PKPdf**	**19 45 36.6**	**+0.4**
	comp=Z,6.6nm,0.4s,baz=235,slow=15,SNR=8.3							
ROSC	**El Rosal**	**123.56**	**46**	*e*PKPdf		**PKPdf**	**19 45 37.2**	**+1.0**
ROSC				LR	LR			
	comp=Z,7µm,20.0s							
SACV	**Santiago Islan**	**123.61**	**344**	*e*PKPdf		**PKPdf**	**19 45 35.5**	**-0.3**
SACV				LR	LR			
	comp=Z,8µm,21.0s							
CHIC	**Chingaza**	**124.05**	**46**	*e*P		**PKPdf**	**19 45 37.3**	**+0.1**
PRAC	**Prado**	**124.16**	**48**	*e*PKPdf		**PKPdf**	**19 45 34.8**	**-2.2**
PRAC				LR	LR			
	comp=Z,11µm,22.0s							
VILC	**Villavicencio,**	**124.50**	**46**	*e*P		**PKPdf**	**19 45 40.1**	**+2.4**
DBIC	**Dimbokro**	**124.64**	**320**	PKP		**PKPdf**	**19 45 37.2**	**-0.5**
	comp=Z,17nm,0.9s,baz=92,slow=2.3,SNR=12							
DBIC	**Dimbokro**	**124.64**	**320**	*e*PKPdf		**PKPdf**	**19 45 36.1**	**-1.7**
TIC	**Toumodi**	**124.74**	**320**	*e*PKP1		**PKPdf**	**19 45 37.0**	**-1.0**
OTAV	**Otavalo**	**124.84**	**54**	*e*PKPdf		**PKPdf**	**19 45 37.4**	**-1.3**
OTAV				LR	LR			
	comp=Z,16µm,20.0s							
KIC	**Kosan Boka**	**124.85**	**320**	*e*PKP1		**PKPdf**	**19 45 37.1**	**-1.1**
	comp=Z,60nm,0.9s							
LIC	**Lamto**	**125.11**	**320**	*e*PKP1		**PKPdf**	**19 45 37.8**	**-0.9**
	comp=Z,77nm,0.9s							
LBTB	**Lobatse**	**126.12**	**266**	PKP		**PKPdf**	**19 45 40.0**	**-0.3**
	comp=Z,37nm,1.0s,baz=62,slow=3.0,SNR=9.5							
BOSA	**Boshof**	**128.26**	**263**	PKP		**PKPdf**	**19 45 44.0**	**-0.4**
	comp=Z,22nm,1.2s,baz=55,slow=2.5,SNR=6.2							
BOSA	**Boshof**	**128.26**	**263**	*e*PKIKP		**PKPdf**	**19 45 44.5**	**+0.1**
BOSA	**Boshof**	**128.26**	**263**	*e*PKPdf		**PKPdf**	**19 45 44.5**	**+0.1**
TSUM	**Tsumeb**	**128.96**	**278**	PKP		**PKPdf**	**19 45 46.1**	**+0.1**
	comp=Z,9.5nm,1.1s,baz=91,slow=1.4,SNR=7.1							
QSPA	**South Pole Qui**	**130.03**	**180**	*e*PKPdf		**PKPdf**	**19 45 44.3**	**-2.2**
QSPA				LR	LR			
	comp=Z,13µm,22.0s							
SYO	**Syowa Base**	**131.64**	**208**	*e*X		PKPpre	19 45 43.0	
SUR	**Sutherland**	**133.42**	**261**	PKP		**PKPdf**	**19 45 53.9**	**-0.2**
	comp=Z,0.5nm,0.9s,baz=143,slow=5.1,SNR=2.2							
SUR	**Sutherland**	**133.42**	**261**	PKP		**PKPdf**	**19 45 53.9**	**-0.2**
SUR				LR	LR			
	comp=Z,16µm,18.0s							
NNA	**Nana**	**135.09**	**62**	PKP		**PKPdf**	**19 45 57.4**	**-0.2**
	comp=Z,13nm,0.8s,baz=296,slow=3.1,SNR=3.4							
NNA	**Nana**	**135.09**	**62**	*e*PKPdf		**PKPdf**	**19 45 55.9**	**-1.7**
NNA				LR	LR			
	comp=Z,29µm,19.0s							
PTGA	**Pitinga**	**135.46**	**34**	*e*PKPpre		PKPpre	19 45 48.2	
PTGA				*e*PKPdf		**PKPdf**	**19 45 57.8**	**-0.5**
PTGA				LR	LR			
	comp=Z,14µm,21.0s							
NVL	**N'lazarevskaya**	**140.75**	**203**	*e*PKIKP		**PKPdf**	**19 46 03.0**	**-3.2**
NVL				*e*SS		SS	20 07 30.0	-0.7
NVL				*e*SSS		SSS	20 12 49.1	
NVL				MLR	MLR			
	comp=Z,14µm,20.0s							
SAML	**Samuel**	**141.09**	**44**	*e*PKPpre		PKPpre	19 46 02.5	
SAML				*e*PKPdf		**PKPdf**	**19 46 07.7**	**-0.9**
SAML				LR	LR			
	comp=Z,7µm,20.0s							
ASCN	**Ascension**	**141.92**	**322**	*e*PKPdf		**PKPdf**	**19 46 08.3**	**-1.8**
ASCN				LR	LR			
	comp=Z,12µm,21.0s							
SHEL	**Horse Pasture**	**143.56**	**303**	*e*PKIKP		PKPbc	19 46 10.9	+0.6
SHEL				MLR	MLR			
	comp=Z,12µm,19.0s							
SHEL	**Horse Pasture**	**143.56**	**303**	*e*PKPdf		PKPbc	19 46 10.9	+0.6
SHEL				LR	LR			
	comp=Z,12µm,19.0s							
LPAZ	**La Paz**	**143.98**	**57**	PKhKP		PKPpre	19 46 11.2	
	comp=Z,15nm,1.0s,baz=324,slow=2.3,SNR=20							
LPAZ	**La Paz**	**143.98**	**57**	*e*PKPdf		PKPab	19 46 10.7	-1.0
SNAA	**Sanae**	**144.21**	**198**	PKP		**PKPab**	**19 46 10.2**	**-0.2**
SNAA	**Sanae**	**144.21**	**198**	*e*PKIKP		**PKPab**	**19 46 08.6**	**-1.7**
SNAA				MLR	MLR			
	comp=Z,11µm,20.0s							
SNAA	**Sanae**	**144.21**	**198**	*e*PKPdf		**PKPab**	**19 46 08.6**	**-1.7**
SNAA				LR	LR			
	comp=Z,11µm,20.0s							
PB11	**IPOC Station P**	**145.44**	**63**	*e*PKPdf		**PKPbc**	**19 46 15.3**	**-1.0**
PB11				LR	LR			
	comp=Z,33µm,20.0s							
RCBR	**Riachuelo**	**145.67**	**358**	*e*PKPdf		**PKPdf**	**19 46 16.1**	**-0.6**
RCBR				LR	LR			
	comp=Z,12µm,19.0s							
VNA2	**Neumayer--Watz**	**145.78**	**197**	PKP		**PKPdf**	**19 46 14.7**	**-0.4**
	baz=124,slow=2.5							
VNA3	**Neumayer Olymp**	**146.02**	**195**	PKP		**PKPdf**	**19 46 14.9**	**-0.7**
VNA1	**Neumayer--Stat**	**146.18**	**197**	PKP		**PKPdf**	**19 46 16.1**	**+0.4**
PB01	**IPOC Station P**	**146.42**	**65**	*e*PKPdf		**PKPdf**	**19 46 18.0**	**+0.2**
PB01				LR	LR			
	comp=Z,23µm,20.0s							
PB04	**IPOC Station P**	**146.81**	**67**	*e*PKPdf		**PKPbc**	**19 46 19.8**	**-0.6**
PB04				LR	LR			
	comp=Z,28µm,20.0s							
LVC	**Limon Verde**	**147.85**	**66**	*e*PKPdf		**PKPbc**	**19 46 22.0**	**-1.5**
LVC				LR	LR			
	comp=Z,23µm,21.0s							
SIV	**San Ignacio**	**148.04**	**48**	PKPbc		**PKPdf**	**19 46 21.5**	**+0.9**
	comp=Z,40nm,0.9s,baz=322,slow=0.4,SNR=16							
LCO	**Las Campanas**	**150.30**	**78**	*e*PKPbc		**PKPbc**	**19 46 28.4**	**-1.0**
LCO				LR	LR			
	comp=Z,47µm,20.0s							
TLL	**Tololo Astrono**	**150.81**	**80**	*e*P		**PKPbc**	**19 46 29.3**	**-1.2**
PMSA	**Palmer Station**	**150.95**	**156**	PKPbc		**PKPbc**	**19 46 29.4**	**0.0**
	comp=Z,28nm,1.1s,baz=270,slow=2.0,SNR=4.2							
PMSA	**Palmer Station**	**150.95**	**156**	*e*PKPdf		**PKPdf**	**19 46 21.0**	**-2.6**
PMSA				*e*PKPbc		**PKPbc**	**19 46 29.6**	**+0.3**
PMSA				LR	LR			
	comp=Z,27µm,19.0s							
ROC1	**El Roble**	**151.93**	**86**	*e*PKPbc		**PKPbc**	**19 46 32.5**	**-0.5**
ROC1				LR	LR			
	comp=Z,100nm,21.0s							
ROCH	**El Roble**	**151.93**	**86**	*e*P		**PKPbc**	**19 46 32.4**	**-0.6**
GO05	**HualaæØ**	**152.02**	**90**	*e*PKPbc		**PKPbc**	**19 46 32.9**	**0.0**
GO05				LR	LR			
	comp=Z,42µm,22.0s							
PEL	**Peldehue**	**152.25**	**86**	*e*P		**PKPbc**	**19 46 32.8**	**-0.8**
CLCH	**Cerro Calan**	**152.47**	**86**	*e*P		**PKPbc**	**19 46 34.8**	**+0.8**
GO09	**Cerro Castillo**	**153.32**	**126**	PFAKE			19 46 40.0	+4.8
GO09				LR	LR			
	comp=Z,28µm,22.0s							
CHRN	**Cochrane**	**153.60**	**117**	*e*PKPdf		**PKPdf**	**19 46 26.6**	**-1.6**
CHRN				*e*PKPab		**sPKPbc**	**19 46 49.1**	**0.0**
CHRN				LR	LR			
	comp=Z,100nm,20.0s							
GO10	**Punta Arenas**	**153.67**	**131**	PFAKE			19 46 40.0	+4.0
GO10				LR	LR			
	comp=Z,38µm,21.0s							
USHA	**Ushuaia**	**154.60**	**135**	PKPbc		**PKPbc**	**19 46 38.3**	**+0.5**
	comp=Z,139nm,1.0s,baz=299,slow=2.7,SNR=2.5							
PLCA	**Paso Flores**	**154.63**	**102**	PKP		**PKPdf**	**19 46 29.6**	**-0.4**
	comp=Z,13nm,1.1s,baz=273,slow=3.1,SNR=5.9							
PLCA	**Paso Flores**	**154.63**	**102**	*e*PKPdf		**PKPdf**	**19 46 30.6**	**+0.6**
PLCA				*e*PKPbc		**pPKPdf**	**19 46 40.3**	**+0.5**
CPUP	**Villa Florida**	**158.15**	**57**	PKP		**PKPdf**	**19 46 34.6**	**-0.3**
	comp=Z,17nm,1.3s,baz=218,slow=1.9,SNR=5.0							
CPUP	**Villa Florida**	**158.15**	**57**	*e*PKPdf		**PKPdf**	**19 46 34.9**	**0.0**
TRQA	**Tornquist**	**160.58**	**91**	*e*PKPdf		**PKPdf**	**19 46 38.8**	**+1.4**

IDC ***16*** *19:28:15.1±2.1, 16°.46S×167°.59E, h0km, mb4.5/8, mb1 4.6/9, mb1mx4.2/43, mbtmp4.5/9, ML4.8/1, MS4.2/1, Ms1 4.2/1, ms1mx3.7/39, Error ellipse: s-maj=46.9km s-min=25.6km az=29.0*

ISCJB ***16*** *19:28:18.6±0.4, 16°.69S±0°.06×167°.44E±0°.05, h25km, mb5.1/20, Error ellipse: s-maj=8.4km s-min=7.0km az=21.6*

NEIC ***16*** *19:28:21.9±0.4, 16°.72S×167°.45E, h35km, mb5.0/21, Error ellipse: s-maj=9.1km s-min=7.4km az=175.0*

ISC 16 19:28:20.9±0.5, 16°.80S±0°.06×167°.49E±0°.06, h25km, n53, σ1s31/56, mb5.1/20, 2C-1D, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**5.34**	**190**	Pn		**Pn**		**19 29 39.8**	**+0.7**
	29nm,0.3s,baz=34,slow=16,SNR=204								
DZM				Sn		**Sn**		**19 30 39.3**	**-0.6**
	67nm,0.3s,baz=314,slow=22,SNR=11								
DZM				LR	LR			19 31 44.9	
	comp=Z,2µm,19.7s,baz=12,slow=37								
DZM	**Mont Dzumac**	**5.34**	**190**	*e*Pn		**Pn**		**19 29 37.9**	**-1.2**
DZM				*e*Sn		**Sn**		**19 30 38.6**	**-1.3**
MSVF	**Nonsavu**	**10.14**	**97**	*e*Pn		**Pn**		**19 30 46.3**	**+1.3**
HNR	**Honiara**	**10.37**	**314**	Pn		**Pn**		**19 30 48.2**	**+0.2**
	23nm,0.3s,baz=134,slow=18,SNR=6.0								
HNR				Sn		**Sn**		**19 32 41.8**	**-1.7**
	6.9nm,0.3s,baz=95,slow=18,SNR=4.0								
HNR	**Honiara**	**10.37**	**314**	P		**Pn**		**19 30 48.0**	**-0.1**
HNR				S		Sn		19 32 28.0	-16
FUNA	**Funafuti**	**14.07**	**56**	*e*Pn		**Pn**		**19 31 37.0**	**-1.7**
EIDS	**Eidsvold**	**17.51**	**238**	*e*Pn		**Pn**		**19 32 23.0**	**-0.4**
	70nm,1.4s								
OUZ	**Omahuta**	**19.14**	**165**	*e*P		**Pn**		**19 32 43.9**	**+0.7**
	54nm,1.2s								
RABL	**Rabaul**	**19.57**	**308**	*e*P		**Pn**		**19 32 50.7**	**+2.1**
	170nm,0.3s								
ARMA	**Armidale**	**19.84**	**224**	*e*P		**Pn**		**19 32 53.2**	**+1.5**
	69nm,1.8s								
AFI	**Afiamalu**	**20.20**	**85**	*e*P		**P**		**19 32 54.9**	**+0.8**
	116nm,1.5s								
CTA	**Charters Tower**	**20.40**	**258**	P		**P**		**19 32 56.0**	**-0.3**
	9.4nm,0.7s,baz=88,slow=13,SNR=12								
CTAO	**Charters Tower**	**20.40**	**258**	*e*P		**P**		**19 32 55.9**	**-0.3**
	20nm,0.9s								
CTAO				*e*S		Sn		19 36 46.5	-1.3
URZ	**Urewera**	**22.99**	**160**	P		**P**		**19 33 25.0**	**+1.2**
	8.2nm,0.7s,baz=343,slow=11,SNR=4.0								
COEN	**Coen**	**23.61**	**274**	*e*P		**P**		**19 33 33.4**	**+3.3**
	81nm,1.6s								
BKZ	**Black Stump Fm**	**23.64**	**162**	*e*P		**P**		**19 33 31.9**	**+1.7**
	137nm,1.9s								
MANU	**Manus Island**	**24.63**	**304**	*e*P		**P**		**19 33 43.9**	**+4.3**
	341nm,1.6s								
CAN	**Canberra**	**24.74**	**218**	*e*P		**P**		**19 33 41.3**	**+0.8**
	27nm,1.2s								
BFZ	**Birch Farm**	**24.98**	**164**	*e*P		**P**		**19 33 42.4**	**-0.1**
	74nm,1.3s								
LBZ	**Lake Benmore**	**27.60**	**176**	*e*P		**P**		**19 34 07.1**	**+1.0**
	59nm,1.4s								
STKA	**Stephens Creek**	**27.86**	**233**	P		**P**		**19 34 09.5**	**+0.8**
	7.5nm,0.8s,baz=63,slow=9.4,SNR=13								
STKA	**Stephens Creek**	**27.86**	**233**	*e*P		**P**		**19 34 09.7**	**+1.0**
	7.1nm,1.2s								
WB2	**Warramunga Arr**	**31.57**	**259**	*e*P		**P**		**19 34 40.5**	**-1.2**
WRA	**Warramunga Arr**	**31.58**	**259**	P		**P**		**19 34 41.1**	**-0.7**
	1.6nm,0.8s,baz=91,slow=9.7,SNR=16								
AS01	**Alice Springs**	**32.14**	**252**	*e*P		**P**		**19 34 45.7**	**-1.1**
AS31	**Alice Springs**	**32.19**	**252**	*e*P		**P**		**19 34 46.6**

MIYJ	**Miyakonagasawa**	**1.27**	**246**	P		**Pn**	**19 33 04.5**	**+0.2**
MIYJ				*e*S		**Sb**	**19 33 20.9**	**0.0**
JANG	**Nango**	**1.40**	**281**	P		**Pn**	**19 33 05.4**	**-0.8**
JOM	**Ohasama**	**1.68**	**248**	P		**Pb**	**19 33 11.6**	**-0.1**
JOM				*e*S		**Sb**	**19 33 32.4**	**-0.4**
JTM	**Tenmabayashi**	**1.84**	**292**	P		**Pn**	**19 33 12.1**	**-0.1**
JTM				*e*S		**Sn**	**19 33 33.7**	**-1.7**
JMK	**Ichinoseki**	**1.99**	**235**	P		**Pn**	**19 33 16.0**	**+1.8**
JAH	**Hinai**	**2.05**	**273**	P		**Pn**	**19 33 16.0**	**+0.9**
JAH				*e*S		**Sn**	**19 33 40.5**	**-0.1**
JOT	**Ohata**	**2.14**	**307**	P		**Pn**	**19 33 16.4**	**+0.1**
JKB	**Kayabe**	**2.48**	**317**	P		**Pn**	**19 33 21.1**	**+0.2**
MJAR	**Matsushiro Arr**	**5.37**	**230**	Pn		**Pn**	**19 34 02.8**	**+2.1**
	13nm,0.3s,baz=344,slow=12,SNR=11							
JHJ	**Hachijo jima 2**	**7.53**	**203**	Pn		**Pn**	**19 34 30.8**	**+0.3**
	28nm,0.3s,baz=58,slow=19,SNR=7.1							
JHJ				Sn		**Sn**	**19 35 50.7**	**-5.0**
	15nm,0.3s,baz=72,slow=19,SNR=3.5							
USRK	**Ussuriysk Ar.**	**9.35**	**300**	Pn		**Pn**	**19 34 57.0**	**+1.7**
	0.8nm,0.3s,baz=108,slow=14,SNR=2.6							
KSRS	**Korea Array**	**12.30**	**262**	Pn		**Pn**	**19 35 39.4**	**+3.7**
	0.2nm,0.3s,baz=85,slow=13,SNR=2.5							
KSAR	**Wonju Array Be**	**12.33**	**262**	Pn		**Pn**	**19 35 39.4**	**+3.2**
MA2	**Magadan**	**20.04**	**11**	P		**P**	**19 37 14.5**	**+1.0**
	9.9nm,0.6s,baz=192,slow=11,SNR=5.2							
BJT	**Baijiatuan**	**20.75**	**279**	P		**P**	**19 37 21.7**	**+0.4**
	9.8nm,0.4s							
SEY	**Seymchan**	**23.49**	**10**	P		**P**	**19 37 49.0**	**-1.1**
	15nm,0.7s,baz=217,slow=10,SNR=4.5							
ULN	**Ulaanbaatar**	**27.02**	**299**	P		**P**	**19 38 22.8**	**0.0**
SONM	**Songino Array**	**27.46**	**299**	P		**P**	**19 38 26.4**	**-0.3**
	6.8nm,0.6s,baz=92,slow=8.8,SNR=11							
ZALV	**Zalesovo Beam**	**41.02**	**310**	P		**P**	**19 40 23.0**	**-0.6**
	6.7nm,0.6s,baz=100,slow=9.1,SNR=4.2							
ZALV				PcP		**PcP**	**19 42 23.4**	**+0.1**
	2.6nm,0.5s,baz=91,slow=2.3,SNR=3.9							
CHTO	**Chiang Mai**	**43.53**	**254**	*e*P		**P**	**19 40 44.8**	**+0.3**
	5.0nm,0.8s							
CMAR	**Chiang Mai Arr**	**43.75**	**254**	P		**P**	**19 40 45.8**	**-0.4**
	1.9nm,0.7s,baz=39,slow=6.3,SNR=9.7							
KURK	**Kurchatov**	**45.27**	**306**	P		**P**	**19 40 57.9**	**-0.1**
KURBB	**Kurchatov Arra**	**45.34**	**306**	P		**P**	**19 40 57.9**	**-0.7**
	13nm,0.5s,baz=79,slow=8.8,SNR=6.6							
ILAR	**Eielson Array**	**46.11**	**34**	P		**P**	**19 41 04.4**	**0.0**
	1.7nm,0.6s,baz=264,slow=5.8,SNR=5.5							
BVAR	**Borovoye Array**	**49.65**	**311**	P		**P**	**19 41 31.3**	**-0.7**
	5.1nm,0.5s,baz=83,slow=9.2,SNR=6.6							
INK	**Inuvik**	**50.97**	**28**	P		**P**	**19 41 42.5**	**+0.7**
	4.1nm,0.4s,baz=278,slow=5.7,SNR=5.9							
CTAO	**Charters Tower**	**59.95**	**177**	P		**P**	**19 42 47.0**	**+0.1**
WRAB	**Tennant Creek**	**60.31**	**190**	*e*P		**P**	**19 42 48.7**	**-0.7**
WRA	**Warramunga Arr**	**60.33**	**190**	P		**P**	**19 42 49.9**	**+0.4**
	2.2nm,0.4s,baz=7.3,slow=6.9,SNR=9.4							
GEYT	**Alibeck**	**63.66**	**298**	P		**P**	**19 43 11.4**	**-0.6**
	7.1nm,0.8s,baz=57,slow=4.0,SNR=3.5							
ASAR	**Alice Springs**	**64.05**	**190**	P		**P**	**19 43 14.9**	**+0.5**
	1.2nm,0.5s,baz=4.6,slow=6.9,SNR=4.8							
FINES	**FINESS Array B**	**66.79**	**332**	P		**P**	**19 43 31.2**	**-0.5**
	7.0nm,0.7s,baz=32,slow=8.2,SNR=4.5							
NOA	**NORSAR Array B**	**71.92**	**338**	P		**P**	**19 44 03.2**	**-0.4**
	7.3nm,1.0s,baz=34,slow=6.1,SNR=4.2							
AKASG	**Malin Array Be**	**72.77**	**323**	P		**P**	**19 44 08.0**	**-0.7**
	2.1nm,0.5s,baz=46,slow=6.3,SNR=3.4							
PDAR	**Pinedale Array**	**74.46**	**47**	P		**P**	**19 44 19.7**	**+0.5**
	0.9nm,0.7s,baz=306,slow=3.2,SNR=3.4							
BRTR	**Keskin Array B**	**77.91**	**312**	P		**P**	**19 44 38.5**	**-0.2**
	1.2nm,0.6s,baz=36,slow=7.5,SNR=3.1							
GERES	**GERESS Array B**	**80.86**	**329**	P		**P**	**19 44 54.4**	**-0.2**
	2.6nm,1.0s,baz=37,slow=5.0,SNR=2.5							
SNAA	**Sanae**	**144.12**	**198**	PKP		**PKPab**	**19 52 14.0**	**+1.1**
	10nm,1.1s,baz=196,slow=3.8,SNR=6.1							

IDC 16 19:37:50.0±5.3, 16°48S×176°73W, h0km, mb4.2/3, mb1 4.4/3, mb1mx3.7/44, mbtmp4.2/3, Error ellipse: s-maj=191.8km s-min=66.2km az=134.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**40.73**	**240**	P		P	19 45 33.4	+0.7
	4.2nm,1.0s,baz=102,slow=9.3,SNR=3.5							
WRA	**Warramunga Arr**	**46.49**	**258**	P		P	19 46 19.0	-0.4
	0.9nm,0.7s,baz=97,slow=7.4,SNR=6.2							
ASAR	**Alice Springs**	**46.74**	**253**	P		P	19 46 20.6	-0.7
	5.2nm,0.5s,baz=89,slow=7.9,SNR=71							
MMAI	**Mount Meron Ar**	**146.67**	**306**	PKPbc		PKPdf	19 57 33.5	+0.8
	0.8nm,0.6s,baz=48,slow=2.1,SNR=2.9							

*IDC **16** 19:39:39.3±0.6, 40.°19N×143.°41E, h0km, mb4.4/33, mb1 4.5/36, mb1mx4.3/64, mbtmp4.4/36, ML4.3/3, Error ellipse: s-maj=16.9km s-min=13.7km az=120.0*
*JMA **16** 19:39:39.8±0.3, 40.°25N×143.°44E, h6kmΔ3km*
*BJI **16** 19:39:41.3, 40.°49N×142.°82E, h10km, mb4.9/28, mB4.9/4, Ms5.0/1, Ms7 4.9/2*
*MOS **16** 19:39:42.6±0.8, 40.°28N×143.°42E, h34km, mb5.0/70, Error ellipse: s-maj=9.9km s-min=7.8km az=88.6*
*ISCJB **16** 19:39:47.4±0.2, 40.°60N±0.°03×142.°19E±0.°04, h26km, mb4.8/182, MS5.5/2, Error ellipse: s-maj=4.9km s-min=2.8km az=137.8*
*NEIC **16** 19:39:50.1±0.2, 40.°56N×142.°08E, h35km, mb4.9/100, Error ellipse: s-maj=7.5km s-min=4.2km az=146.0*
NEIC Recorded [2 JMA] in Iwate.

ISC 16 19:39:47.7±0.3, 40.°50N±0.°03×142.°45E±0.°03, h26km, n413, σ1°91/389, mb4.9/182, 38C-11D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
JTH	**Tanohata**	**0.72**	**219**	⇑P		**Pn**	**19 40 03.5**	**+1.3**
JANG	**Nango**	**0.72**	**260**	⇑P		**Pn**	**19 40 06.9**	**+4.7**
MIYJ	**Miyakonagasawa**	**1.04**	**208**	⇑P		**Pn**	**19 40 05.9**	**-0.7**
JTM	**Tenmabayashi**	**1.09**	**286**	⇑P		**Pb**	19 40 13.3	+5.5
JTM				*e*S		Sb	19 40 37.9	+16
JOM	**Ohasama**	**1.36**	**221**	⇑P		**Pb**	**19 40 12.5**	**+0.1**
JOM				*e*S		**Sb**	**19 40 36.1**	**+6.7**
JOT	**Ohata**	**1.38**	**310**	⇑P		**Pb**	**19 40 16.7**	**+3.9**
JAH	**Hinai**	**1.42**	**258**	⇑P		**Pb**	**19 40 17.4**	**+3.9**
ERM	**Erimo**	**1.60**	**19**	⇑*i*P		**Pn**	**19 40 11.4**	**-2.9**
ERM	**Erimo**	**1.60**	**19**	*e*Pn		**Pb**	**19 40 17.4**	**+0.7**
JEM	**Erimo**	**1.60**	**19**	P		**Pn**	**19 40 11.3**	**-3.1**
JKB	**Kayabe**	**1.75**	**323**	P		**Pb**	**19 40 21.2**	**+2.1**
JRG	**Rokugo**	**1.78**	**232**	P		**Pb**	**19 40 19.9**	**+0.3**
JNBK	**Urakawa-nobuka**	**1.79**	**7**	P		**Pn**	**19 40 16.3**	**-0.6**
JMK	**Ichinoseki**	**1.81**	**212**	P		**Pn**	**19 40 16.9**	**-0.3**
JCH	**Churui**	**2.22**	**18**	P		**Pn**	**19 40 19.9**	**-2.9**
JCH				*e*S		**Sn**	**19 40 48.1**	**-1.3**
JYK	**Kaneyama**	**2.26**	**226**	⇑P		**Pn**	**19 40 25.4**	**+2.1**
JOU	**Okura**	**2.54**	**213**	P		**Pn**	**19 40 26.8**	**-0.5**
JFT	**Otama**	**3.40**	**210**	P		**Pn**	**19 40 38.1**	**-1.0**
ASAJ	**Asahikawa**	**3.61**	**2**	*e*Pn		**Pn**	**19 40 42.3**	**+0.3**
MJA0	**Matsu Arr-Jizo**	**5.14**	**221**	*e*P		**Pn**	**19 41 04.6**	**+1.5**
MJA0				pmax	pmax			
	comp=Z,6.0nm,0.3s							
MJB9	**Matsu-Tunnel**	**5.16**	**221**	*e*Pn		**Pn**	**19 41 04.5**	**+1.2**
MAJO	**Matsushiro**	**5.16**	**221**	*e*P		**Pn**	**19 41 04.5**	**+1.2**
MAJO	**Matsushiro**	**5.16**	**221**	*e*Pn		**Pn**	**19 41 04.5**	**+1.2**
MAT	**Matsushiro**	**5.16**	**221**	P		**Pn**	**19 41 04.6**	**+1.3**
MAT				*e*S		**Sb**	**19 42 11.6**	**-7.3**
MJAR	**Matsushiro Arr**	**5.16**	**221**	Pn		**Pn**	**19 41 04.7**	**+1.4**
	comp=Z,5.7nm,0.3s,baz=39,slow=12,SNR=82							
KUR	**Kuril'sk**	**6.18**	**38**	*e*P		Pn	19 41 09.1	-8.1
KUR				*e*S		Sn	19 42 14.5	-13
KUR				pmax	pmax			
	comp=E,53nm,0.5s							
KUR				pmax	pmax			
	comp=Z,190nm,0.5s							
KUR				pmax	pmax			
	comp=N,136nm,0.3s							
KUR				smax	smax			
	comp=N,250nm,0.5s							
KUR				smax	smax			
	comp=E,817nm,0.5s							
YSS	**Yuzh-Sakhalins**	**6.45**	**2**	*e*P		**Pn**	**19 41 20.6**	**-0.4**
YSS				pmax	pmax			
	comp=Z,30nm,1.4s							
YSS	**Yuzh-Sakhalins**	**6.45**	**2**	*e*Pn		**Pn**	**19 41 21.4**	**+0.5**
INU	**Inuyama**	**6.70**	**222**	ePn		**Pn**	**19 41 26.3**	**+1.9**
JHJ	**Hachijo jima 2**	**7.67**	**197**	Pn		Pn	19 41 31.7	-6.1
	comp=Z,11nm,0.3s,baz=273,slow=22,SNR=6.1							
USRK	**Ussuriysk Ar.**	**8.58**	**299**	Pn		Pn	19 41 58.5	+8.4
	comp=Z,1.5nm,0.3s,baz=92,slow=14,SNR=27							
MSHR	**Mys Shultsa**	**8.72**	**287**	⇑*i*P		Pn	19 41 59.6	+7.6
MDJ	**Mudanjiang**	**10.33**	**298**	P		Pn	19 42 21.6	+7.4
MDJ				pmax	pmax			
	comp=Z,27nm,1.0s							
MDJ				pmax	pmax			
	comp=Z,70μm,12.0s							
MDJ	**Mudanjiang**	**10.33**	**298**	*e*Pn		Pn	19 42 10.0	-4.2
KSRS	**Korea Array**	**11.71**	**260**	Pn		Pn	19 42 41.3	+8.3
	comp=Z,0.1nm,0.3s,baz=67,slow=12,SNR=4.5							
KS01	**Wonju Array Si**	**11.72**	**260**	ePn		**Pn**	**19 42 30.6**	**-2.6**
KS15	**Wonju Array Si**	**11.74**	**260**	*e*Pn		Pn	19 42 29.6	-3.9
JNU	**Nakatsue**	**11.83**	**235**	Pn		**Pn**	**19 42 36.1**	**+1.3**
	comp=Z,0.3nm,0.3s,baz=58,slow=9.5,SNR=5.3							
CN2	**Changchun**	**13.04**	**290**	*e*P		**P**	**19 43 05.3**	**+4.1**
CN2				pmax	pmax			
	comp=Z,10.0nm,0.6s							
SKR	**Severo-Kuril's**	**13.95**	**39**	*e*P		**Pn**	**19 43 00.0**	**-3.5**
SKR				*e*S		Sn	19 45 18.6	-19
SKR				pmax	pmax			
	comp=Z,40nm,0.9s							
PEA0	**Petropavlovsk-**	**16.33**	**34**	*e*Pn		**P**	**19 43 43.1**	**+5.4**
PETK	**Petropavlovsk-**	**16.33**	**34**	Pn		**Pn**	**19 43 31.0**	**-4.0**
	comp=Z,0.2nm,0.3s,baz=210,slow=8.5,SNR=2.6							
MA2	**Magadan**	**19.80**	**13**	P		**P**	**19 44 12.1**	**-3.8**
	comp=Z,0.5nm,0.3s,baz=189,slow=13,SNR=5.2							
NJ2	**Nanjing**	**20.76**	**253**	*e*P		**P**	**19 44 23.0**	**-3.5**
NJ2				pmax	pmax			
	comp=Z,27nm,0.6s							
SEY	**Seymchan**	**23.24**	**12**	P		**P**	**19 44 48.4**	**-4.2**
	comp=Z,13nm,0.9s,baz=196,slow=11,SNR=11							
HHC	**Hu-ho-hao-te**	**23.37**	**281**	*e*P		**P**	**19 44 51.6**	**-2.7**
YHNB	**Yeheng**	**23.67**	**235**	*e*P		**P**	**19 44 55.7**	**-1.5**
	comp=Z,15nm,0.8s							
NACB	**Ninganchiao**	**23.90**	**233**	*e*P		**P**	**19 44 56.5**	**-2.8**
	comp=Z,20nm,0.6s							
SSLB	**Suanglung**	**24.57**	**234**	*e*P		**P**	**19 45 04.0**	**-1.5**
	comp=Z,15nm,0.8s							
YULB	**Yu-li**	**24.66**	**233**	*e*P		**P**	**19 45 02.1**	**-4.2**
	comp=Z,16nm,0.8s							
WHN	**Wuhan**	**24.84**	**255**	P		**P**	**19 45 09.8**	**+1.9**
TPUB	**Ta-pu**	**25.13**	**234**	*e*P		**P**	**19 45 08.9**	**-1.7**
	comp=Z,8.1nm,0.8s							
TWG	**Pinlang**	**25.22**	**232**	*e*P		**P**	**19 45 09.9**	**-1.5**
	comp=Z,49nm,0.8s							
ULN	**Ulaanbaatar**	**26.25**	**298**	||*e*P		**P**	**19 45 22.9**	**+2.1**
ULN				pmax	pmax			
	comp=Z,9.0nm,1.0s							
ULN	**Ulaanbaatar**	**26.25**	**298**	*e*P		**P**	**19 45 23.0**	**+2.3**
	comp=Z,6.4nm,0.7s							
SONA1	**Songino Array**	**26.69**	**298**	*e*P		**P**	**19 45 27.3**	**+2.6**
SONM	**Songino Array**	**26.69**	**298**	P		**P**	**19 45 27.5**	**+2.8**
	comp=Z,8.3nm,0.9s,baz=89,slow=8.1,SNR=18							
SONM	**Songino Array**	**26.69**	**298**	*e*P		**P**	**19 45 27.7**	**+3.0**
SONM				pmax	pmax			
	comp=Z,8.0nm,0.9s							
ENH	**Enshi**	**28.60**	**260**	*e*P		**P**	**19 45 42.6**	**+0.8**
	comp=Z,23nm,0.8s							
TLY	**Talaya**	**28.81**	**306**	P		**P**	**19 45 46.1**	**+2.6**
	comp=Z,1.6nm,0.5s,baz=75,slow=16,SNR=2.0							
H11N2	**WAKE ISLAND Hy**	**29.43**	**127**	T		T	20 15 57.9	
	baz=320							
H11N1	**WAKE ISLAND Hy**	**29.43**	**128**	T		T	20 15 57.9	
	baz=320							
H11N3	**WAKE ISLAND Hy**	**29.44**	**127**	T		T	20 15 59.0	
	baz=320							
H11S1	**WAKE ISLAND Hy**	**30.25**	**129**	T		T	20 16 56.6	
	baz=322,slow=76,SNR=17							
H11S3	**WAKE ISLAND Hy**	**30.25**	**129**	T		T	20 16 56.5	
	baz=322,slow=76,SNR=13							
H11S2	**WAKE ISLAND Hy**	**30.27**	**129**	T		T	20 16 58.0	
	baz=322,slow=76,SNR=14							
LZH	**Lanzhou**	**30.45**	**274**	*e*P		**P**	**19 45 58.4**	**+0.1**
LZH				pP		pP	19 46 02.8	-3.2
LZH				sP		sP	19 46 06.3	-2.9
LZH				pmax	pmax			
	comp=Z,21nm,1.0s							
LZH				pmax	pmax			
	comp=Z,91nm,4.5s							
BILL	**Bilibino**	**30.48**	**17**	⇑*e*P		**P**	**19 45 55.0**	**-3.0**
BILL				*e*			19 46 52.1	
BILL				*e*S		**S**	**19 50 54.6**	**-2.8**
BILL				pmax	pmax			
	comp=Z,8.0nm,1.0s							
TIXI	**Tiksi**	**31.96**	**352**	P		**P**	**19 46 09.3**	**-1.7**
	comp=Z,3.2nm,0.6s,baz=132,slow=5.4,SNR=4.2							
GTA	**Gaotai**	**32.47**	**282**	*e*P		**P**	**19 46 18.3**	**+2.3**
GTA				pP		pP	19 46 22.6	-1.1
GTA				sP		sP	19 46 25.3	-1.6
GTA				pmax	pmax			
	comp=Z,17nm,1.4s							
CD2	**Chengdu**	**32.62**	**265**	P		**P**	**19 46 17.9**	**+0.6**
CD2				pmax	pmax			
	comp=Z,20nm,0.6s							
GYA	**Guiyang**	**32.73**	**256**	P		**P**	**19 46 17.0**	**-1.4**
GYA				S		**S**	**19 51 30.3**	**-3.2**
GYA				ScP		**ScP**	**19 52 47.8**	**+2.1**
GYA				pmax	pmax			
	comp=Z,20nm,0.8s							
GYA				pmax	pmax			
	comp=Z,120nm,5.0s							
GYA				LR	LR			
	comp=Z,1μm,17.8s							
GYA				LR	LR			
	comp=Z,2μm,18.0s							
GYA				LR	LR			
	comp=Z,2μm,18.6s							
KMI	**Kunming**	**36.39**	**257**	P		**P**	**19 46 51.0**	**+0.8**
KMI				sP		pP	19 46 57.6	-0.4
KMI				pmax	pmax			
	comp=Z,22nm,1.0s							
SLVN	**Son La**	**37.81**	**251**	*e*P		**P**	**19 47 01.6**	**-0.5**
	comp=Z,4.3nm,0.8s							
WMQ	**Urumqi**	**40.10**	**293**	P		**P**	**19 47 20.9**	**-0.2**
WMQ				pP		pP	19 47 24.3	-4.6
WMQ				sP		sP	19 47 27.9	-4.1
WMQ				PP		**PnPn**	**19 48 56.6**	**-0.3**
WMQ				pmax	pmax			
	comp=Z,8.0nm,0.9s							
ZAA0	**Zalesovo Array**	**40.26**	**309**	*e*P		**P**	**19 47 23.4**	**+1.3**
ZALV	**Zalesovo Beam**	**40.26**	**309**	P		**P**	**19 47 23.7**	**+1.6**
	comp=Z,6.9nm,0.5s,baz=98,slow=8.4,SNR=19							
ZALV				PcP		**PcP**	**19 49 24.2**	**-1.3**
	comp=Z,3.6nm,0.8s,baz=57,slow=5.3,SNR=2.5							
NRIK	**Noril'sk**	**40.49**	**333**	P		**P**	**19 47 26.1**	**+2.2**
	comp=Z,7.7nm,0.5s,baz=114,slow=8.1,SNR=4.6							
MYLDM	**Lahd Datu**	**41.23**	**218**	*e*P		**P**	**19 47 28.1**	**-2.3**
	comp=Z,86nm,1.2s							
DLV	**T Lat**	**41.24**	**236**	*e*P		**P**	**19 47 30.5**	**-0.3**
	comp=Z,12nm,0.9s							
TT01	**Tatalina**	**42.13**	**37**	*e*P		**P**	**19 47 40.7**	**+3.2**
TTA	**Tatalina**	**42.14**	**37**	*e*P		**P**	**19 47 40.5**	**+2.9**
TTA				pmax	pmax			
	comp=Z,58nm,1.9s							
TTA	**Tatalina**	**42.14**	**37**	*e*P		**P**	**19 47 40.5**	**+2.9**
	comp=Z,58nm,1.9s							
SVW2	**Sparrevohn**	**42.31**	**40**	*e*P		**P**	**19 47 41.5**	**+2.6**
	comp=Z,44nm,1.4s							
LSA	**Lhasa**	**42.80**	**272**	*e*P		**P**	**19 47 44.2**	**+0.4**
LSA				pmax	pmax			
	comp=Z,3.0nm,0.6s							
LSA	**Lhasa**	**42.80**	**272**	*e*P		**P**	**19 47 44.2**	**+0.4**
	comp=Z,3.1nm,0.6s							
CHTO	**Chiang Mai**	**43.00**	**253**	*e*P		**P**	**19 47 44.8**	**-0.2**
CHTO				pmax	pmax			
	comp=Z,4.0nm,0.6s							
CHTO	**Chiang Mai**	**43.00**	**253**	*e*P		**P**	**19 47 44.8**	**-0.2**
	comp=Z,3.8nm,0.6s							
MK01	**Makanchi Array**	**43.05**	**299**	*e*P		**P**	**19 47 47.0**	**+1.9**
MK31	**Makanchi Array**	**43.05**	**299**	*i* P		**P**	**19 47 46.5**	**+1.4**
MK31				pmax	pmax			
	comp=Z,19nm,0.6s							
MK31	**Makanchi Array**	**43.05**	**299**	*e*P		**P**	**19 47 47.3**	**+2.1**
MKAR	**Makanchi Array**	**43.05**	**299**	*e*P		**P**	**19 47 47.3**	**+2.2**
MKAR	**Makanchi Array**	**43.05**	**299**	*e*P		**P**	**19 47 47.3**	**+2.2**
	comp=Z,130nm,0.6s							
CM31	**Chiang Mai Arr**	**43.23**	**253**	*e*P		**P**	**19 47 47.4**	**+0.6**
CMAR	**Chiang Mai Arr**	**43.23**	**253**	P		**P**	**19 47 47.8**	**+0.9**
	comp=Z,1.6nm,0.6s,baz=41,slow=6.7,SNR=12							
CMAR	**Chiang Mai Arr**	**43.23**	**253**	*e*P		**P**	**19 47 47.9**	**+1.0**
CMAR				pmax	pmax			
	comp=Z,2.0nm,0.6s							
CM01	**Chiang Mai Arr**	**43.24**	**252**	*e*P		**P**	**19 47 48.2**	**+1.2**
MAKZ	**Makanchi**	**43.25**	**299**	*i* P		**P**	**19 47 47.3**	**+0.5**
MAKZ				pmax	pmax			
	comp=Z,60nm,1.4s							
MAKZ	**Makanchi**	**43.25**	**299**	*e*P		**P**	**19 47 48.6**	**+1.8**
CAST	**Castle Rocks**	**43.93**	**36**	*e*P		**P**	**19 47 54.4**	**+2.4**
	comp=Z,22nm,1.1s							
SPU	**Mount Spurr**	**44.02**	**39**	*e*P		P	19 47 56.6	+3.8
KDAK	**Kodiak Island**	**44.02**	**44**	P		P	19 47 46.3	-6.4
	comp=Z,5.5nm,0.9s,baz=291,slow=8.6,SNR=1.7							
KDAK	**Kodiak Island**	**44.02**	**44**	*e*P		**P**	**19 47 52.0**	**-0.7**
KDAK				pmax	pmax			
	comp=Z,179nm,1.8s							
KDAK	**Kodiak Island**	**44.02**	**44**	*e*P		**P**	**19 47 52.0**	**-0.7**
	comp=Z,179nm,1.8s							
KTH	**Kantishna Hill**	**44.45**	**36**	*e*P		**P**	**19 47 58.5**	**+2.3**
	comp=Z,13nm,1.1s							
KURK	**Kurchatov**	**44.50**	**306**	*e*P		**P**	**19 47 58.2**	**+1.5**
KURK	**Kurchatov**	**44.50**	**306**	*e*P		**P**	**19 47 58.2**	**+1.5**
TRF	**Thorofare Moun**	**44.73**	**36**	*e*P		**P**	**19 48 00.3**	**+1.7**
	comp=Z,59nm,1.8s							
RC01	**Rabbit Creek A**	**45.14**	**39**	*e*P		**P**	**19 48 04.4**	**+2.7**
	comp=Z,62nm,1.3s							
MCK	**McKinley**	**45.33**	**36**	*e*P		**P**	**19 48 06.5**	**+3.4**
MCK				pmax	pmax			
	comp=Z,23nm,1.1s							
MCK	**McKinley**	**45.33**	**36**	*e*P		**P**	**19 48 06.5**	**+3.4**
	comp=Z,23nm,1.1s							
RND	**Reindeer**	**45.38**	**36**	*e*P		**P**	**19 48 06.6**	**+3.0**
RND				pmax	pmax			
	comp=Z,39nm,1.2s							
RND	**Reindeer**	**45.38**	**36**	*e*P		**P**	**19 48 06.6**	**+3.0**
	comp=Z,39nm,1.2s							
WRH	**Wood River Hil**	**45.66**	**35**	*e*P		**P**	**19 48 07.6**	**+1.9**
	comp=Z,16nm,1.0s							
SML	**Sawmill**	**45.75**	**38**	*e*P		**P**	**19 48 09.4**	**+2.9**
SML				pmax	pmax			
	comp=Z,116nm,1.7s							
SML	**Sawmill**	**45.75**	**38**	*e*P		**P**	**19 48 09.4**	**+2.9**
	comp=Z,116nm,1.7s							
CCB	**Clear Creek Bu**	**45.77**	**34**	*e*P		**P**	**19 48 09.3**	**+2.7**
	comp=Z,29nm,1.3s							
HDA	**Harding Lake**	**46.15**	**35**	*e*P		**P**	**19 48 13.0**	**+3.4**
	comp=Z,35nm,1.2s							
ILAR	**Eielson Array**	**46.16**	**34**	P		P	19 48 04.2	-5.4
	comp=Z,1.9nm,0.9s,baz=266,slow=5.7,SNR=8.2							
SCM	**Sheep Creek Mo**	**46.22**	**38**	*e*P		**P**	**19 48 11.2**	**+0.9**
SCM				pmax	pmax			
	comp=Z,29nm,1.0s							
SCM	**Sheep Creek Mo**	**46.22**	**38**	*e*P		**P**	**19 48 11.2**	**+0.9**
	comp=Z,29nm,1.0s							
TAPN	**Taplejung**	**46.59**	**271**	*e*P		**P**	**19 48 15.6**	**+1.7**
SBUM	**Sibu**	**46.71**	**224**	*e*P		**P**	**19 48 15.9**	**+1.4**
	comp=Z,16nm,1.2s							
FYU	**Fort Yukon**	**46.72**	**32**	*e*P		P	19 48 18.6	+4.6
	comp=Z,66nm,1.3s							
KLU	**Klutina**	**46.93**	**39**	*e*P		**P**	**19 48 19.3**	**+3.4**
	comp=Z,37nm,1.2s							
ODAN	**Odare**	**47.09**	**271**	*e*P		**P**	**19 48 19.3**	**+1.6**
	comp=Z,27nm,1.0s							
BMRM	**Bremner River**	**47.64**	**39**	*e*P		P	19 48 25.6	+4.3
	comp=Z,11nm,0.9s							
RAMN	**Ramite**	**47.64**	**272**	*e*P		**P**	**19 48 23.6**	**+1.6**
	comp=Z,48nm,0.8s							
GUN	**Gumba**	**47.70**	**273**	*e*P		**P**	**19 48 24.4**	**+1.8**
MENT	**Mentasta**	**47.75**	**36**	*e*P		P	19 48 26.3	+4.1
	comp=Z,22nm,1.0s							
KKN	**Kakani**	**48.21**	**273**	*e*P		**P**	**19 48 28.0**	**+1.6**
	comp=Z,47nm,0.9s							
PKI	**Pulchoki**	**48.23**	**273**	*e*P		**P**	**19 48 27.6**	**+0.9**
	comp=Z,34nm,1.1s				

ARCES pmax pmax
comp=Z,3.0nm,0.8s
KLMR Klimovskoe 61.27 327 *eP* **P 19 49 57.6 -2.7**
KLMR *e* 19 52 12.8
KLMR pmax pmax
comp=Z,8.0nm,0.8s
GEYT Alibeck 62.90 298 P **P 19 50 12.0 +0.4**
comp=Z,6.1nm,0.8s,baz=25,slow=3.8,SNR=9.4
LLLB Lillooet 63.22 45 *eP* **P 19 50 15.7 +2.1**
comp=Z,24nm,1.4s
ASAR Alice Springs 64.33 189 P P 19 50 15.5 -5.5
comp=Z,0.7nm,0.8s,baz=12,slow=6.3,SNR=3.8
B06A Marblemount 64.56 47 *eP* **P 19 50 25.6 +3.4**
comp=Z,8.7nm,0.8s
D05A Enumclaw 65.00 49 *eP* **P 19 50 27.4 +2.2**
comp=Z,110nm,2.0s
LON Longmire 65.34 49 *eP* **P 19 50 30.7 +3.2**
LON pmax pmax
comp=Z,11nm,1.3s
LON Longmire 65.34 49 *eP* **P 19 50 30.7 +3.2**
comp=Z,11nm,1.3s
F04A Amboy 65.44 50 *eP* **P 19 50 30.9 +2.9**
comp=Z,40nm,1.5s
COR Corvallis 65.66 51 *eP* **P 19 50 31.4 +1.9**
COR pmax pmax
comp=Z,142nm,2.0s
COR Corvallis 65.66 51 *eP* **P 19 50 31.4 +1.9**
comp=Z,142nm,2.0s
LTY Liberty 65.71 48 *eP* P 19 50 34.2 +4.2
comp=Z,16nm,1.1s
OBN Obninsk 65.82 323⇑ *eP* **P 19 50 30.5 +0.2**
OBN *e* 19 52 57.6
OBN *e*SS SS 20 03 34.7 +5.6
OBN pmax pmax
comp=Z,8.0nm,0.9s
B08A Colville Reser 65.84 46 *eP* **P 19 50 34.2 +3.5**
comp=Z,20nm,1.4s
KEBM Edson Butte 65.98 53 *eP* P 19 50 37.9 +6.1
comp=Z,52nm,1.1s
EIDS Eidsvold 66.02 171 *eP* **P 19 50 31.9 0.0**
comp=Z,13nm,1.2s
FIA1 FINESS Array S 66.13 332 *eP* **P 19 50 31.6 -0.6**
FINES FINESS Array B 66.13 332 P **P 19 50 31.7 -0.6**
comp=Z,10nm,0.7s,baz=47,slow=8.4,SNR=18
DZM Mont Dzumac 66.14 156 *eP* **P 19 50 33.9 +1.0**
comp=Z,20nm,1.2s
E07A Sunnyside 66.56 48 *eP* P 19 50 39.7 +4.3
comp=Z,14nm,1.0s
G06A Carlson Farm, 66.86 50 *eP* **P 19 50 39.0 +1.7**
comp=Z,51nm,1.7s
HUMO Hull Mountain 66.97 53 *eP* **P 19 50 39.7 +1.7**
comp=Z,28nm,1.8s
SUMG Summit 67.22 0 *eP* **P 19 50 38.0 -1.6**
SUMG pmax pmax
comp=Z,35nm,1.1s
SUMG Summit 67.22 0 *eP* **P 19 50 38.0 -1.6**
comp=Z,35nm,1.1s
COCO West Island 67.31 229 *eP* **P 19 50 38.9 -1.4**
COCO West Island 67.31 229 *eP* **P 19 50 38.9 -1.4**
comp=Z,420nm,1.7s
E09A Wood Farm, Sta 67.56 47 *eP* **P 19 50 45.0 +3.4**
comp=Z,26nm,1.1s
YBH Yreka Blue Hor 67.61 54 *eP* **P 19 50 44.3 +2.1**
YBH pmax pmax
comp=Z,14nm,1.1s
YBH Yreka Blue Hor 67.61 54 *eP* **P 19 50 44.3 +2.1**
comp=Z,14nm,1.1s
K05A Summer Lake 68.15 52 *eP* **P 19 50 47.1 +1.4**
comp=Z,42nm,1.0s
SEKA Sheki 68.16 306 P **P 19 50 43.6 -2.0**
WDC Whiskeytown Da 68.38 55 *eP* **P 19 50 46.3 -0.6**
WDC pmax pmax
comp=Z,12nm,1.1s
WDC Whiskeytown Da 68.38 55 *eP* **P 19 50 46.3 -0.6**
comp=Z,12nm,1.1s
F10A Beach Ranch, E 68.39 48 *eP* **P 19 50 48.6 +1.6**
comp=Z,54nm,2.0s
MNGR Mingechevir, A 68.48 306 P **P 19 50 45.7 -1.8**
LKRN Lenkeran, Azer 68.61 303 P **P 19 50 46.4 -1.9**
BSMT Bassoo Peak 68.61 45 *eP* **P 19 50 47.9 -0.6**
JTMT Jette 68.94 45 *eP* **P 19 50 52.2 +1.7**
BMO Blue Mountains 69.01 49 P **P 19 50 51.1 +0.2**
BMO pmax pmax
comp=Z,1.0nm,0.8s
BMO Blue Mountains 69.01 49 P **P 19 50 51.1 +0.2**
comp=Z,1.5nm,0.8s
GANJ Ganja 69.03 306 P **P 19 50 49.0 -2.0**
ZEI Tsey 69.24 309 *eP* **P 19 50 51.9 -0.6**
ZEI pmax pmax
comp=Z,15nm,0.4s
SWMT Swartz Lake 69.24 45 *eP* **P 19 50 54.5 +2.2**
KVAR Kislovodsk Arr 69.25 310 P **P 19 50 53.5 +1.1**
comp=Z,14nm,0.8s,baz=206,slow=7.6,SNR=10
KIV Kislovodsk 69.26 310⇓ *eP* **P 19 50 53.4 +0.9**
KIV *e* 19 53 24.6
KIV *e*PPP PPP 19 55 10.7
KIV *e*S **S 19 59 57.7 +0.6**
KIV pmax pmax
comp=Z,24nm,0.8s
KIV Kislovodsk 69.26 310 *eP* **P 19 50 53.9 +1.5**
comp=Z,29nm,0.9s
KBZ Khabaz 69.27 310 P **P 19 50 53.3 +0.9**
comp=Z,10nm,0.9s,baz=67,slow=4.3,SNR=13
ORV Oroville 69.62 55 *eP* **P 19 50 54.7 0.0**
ORV pmax pmax
comp=Z,15nm,1.2s
ORV Oroville 69.62 55 *eP* **P 19 50 54.7 0.0**
comp=Z,14nm,1.2s
WVOR Wild Horse Val 69.67 51 *eP* **P 19 50 58.2 +3.1**
WVOR pmax pmax
comp=Z,2.0nm,0.7s
WVOR Wild Horse Val 69.67 51 *eP* **P 19 50 58.2 +3.1**
comp=Z,1nm,0.7s
SLMT Seeley Lake 69.68 45 *eP* **P 19 50 58.4 +3.3**
MSO Missoula 69.69 45 *eP* P 19 51 01.7 +6.6
comp=Z,14nm,1.2s
GNI Garni 70.30 306 *eP* **P 19 51 00.0 +1.0**
GNI pmax pmax
comp=Z,53nm,1.1s
GNI Garni 70.30 306 *eP* **P 19 51 00.0 +1.0**
comp=Z,53nm,1.1s
AKH Akhalkalaki 70.30 308⇓ *iP* **P 19 51 00.7 +1.7**
AFDM Forest Hills D 70.31 55 *eP* **P 19 51 01.5 +2.5**
comp=Z,27nm,1.8s
NAX Nakhchivan 70.41 305 P **P 19 50 57.6 -2.0**
PAHR Pah Rah Range 70.85 54 *eP* **P 19 51 05.3 +3.0**
comp=Z,25nm,1.2s
HRY Holter Researc 70.90 45 *eP* **P 19 51 03.2 +0.7**
NC405 NORSAR Array S 71.10 337 *eP* **P 19 51 02.2 -1.1**
NC303 NORSAR Array S 71.11 337 *eP* **P 19 51 02.4 -1.0**
LRM Limekiln Ridge 71.12 46 *eP* **P 19 51 06.2 +2.2**
CMB Columbia Colle 71.23 56 *eP* **P 19 51 07.0 +2.4**
CMB pmax pmax
comp=Z,13nm,1.0s
CMB Columbia Colle 71.23 56 *eP* **P 19 51 07.0 +2.4**
comp=Z,13nm,1.0s
NC204 NORSAR Array S 71.25 338 *eP* **P 19 51 03.0 -1.3**
HFS Hagfors 71.26 336 P **P 19 51 03.1 -1.2**
comp=Z,6.3nm,0.7s,baz=64,slow=6.6,SNR=17
NB201 NORSAR Array S 71.27 337 *eP* **P 19 51 03.6 -0.7**
NB2 NORSAR Subarra 71.30 337 P **P 19 51 03.2 -1.3**
NB2 pmax pmax
comp=Z,2.0nm,0.7s
NB2 NORSAR Subarra 71.30 337 P **P 19 51 03.3 -1.3**
comp=Z,13nm,1.0s,baz=37,slow=6.2
NOA NORSAR Array B 71.30 337 P **P 19 51 03.5 -1.1**
comp=Z,6.2nm,0.8s,baz=38,slow=6.0,SNR=20
DLMT Dillon 71.33 46 *eP* **P 19 51 06.1 +0.9**
comp=Z,2.6nm,0.6s
YERR Yerington 71.37 54 *eP* **P 19 51 07.3 +1.7**
comp=Z,20nm,1.0s
NBO02 NORSAR Array S 71.40 337 *eP* **P 19 51 03.5 -1.7**
NBO00 NORSAR Array S 71.44 337 *eP* **P 19 51 04.1 -1.3**
HLID Hailey 71.44 48 *eP* P 19 51 10.1 +4.2
NC602 NORSAR Array S 71.45 337 *eP* **P 19 51 06.2 +0.8**
UOSS Minazif 71.53 287 *eP* **P 19 51 03.3 -3.3**
comp=Z,15nm,0.9s
NAO01 NORSAR Array S 71.56 337 *eP* **P 19 51 04.6 -1.5**
BOZ Bozeman (W) 71.71 45 *eP* **P 19 51 10.5 +3.0**
BOZ pmax pmax
comp=Z,3.0nm,0.7s
BOZ Bozeman (W) 71.71 45 *eP* **P 19 51 10.5 +3.0**
comp=Z,2.5nm,0.7s
BMN Battle Mountai 71.73 52 *eP* **P 19 51 11.3 +3.6**
BMN pmax pmax
comp=Z,2.0nm,0.7s
BMN Battle Mountai 71.73 52 *eP* **P 19 51 11.3 +3.6**
comp=Z,2.4nm,0.7s
TVH1 TV Hill, Hawth 71.99 55 *eP* **P 19 51 10.9 +1.3**
comp=Z,14nm,1.1s
TVH3 East Aurora ar 72.02 55 *eP* **P 19 51 12.3 +2.8**
comp=Z,18nm,1.2s
TVH2 Borealis Mine 72.04 55 *eP* **P 19 51 12.9 +3.2**
comp=Z,24nm,1.5s
AKASG Malin Array Be 72.06 322 P **P 19 51 08.6 -0.6**
comp=Z,6.0nm,0.7s,baz=44,slow=6.0,SNR=17
AKBB Malin Array Si 72.06 322 *eP* **P 19 51 08.7 -0.5**
AKBB pmax pmax
comp=Z,36nm,1.1s
AKBB Malin Array Si 72.06 322 *eP* **P 19 51 08.7 -0.5**
comp=Z,36nm,1.1s
KIEV Kiev 72.07 322 *c iP* **P 19 51 08.7 -0.6**
KIEV pmax pmax
comp=Z,9.0nm,0.8s
KIEV Kiev 72.07 322 *eP* **P 19 51 08.4 -0.9**
comp=Z,11nm,0.9s
AK11 Malin Array Si 72.10 322 *eP* **P 19 51 08.5 -1.0**
QLMT Earthquake Lak 72.31 46 *eP* **P 19 51 12.3 +1.2**
YHB Horse Butte 72.49 46 *eP* **P 19 51 14.6 +2.3**
comp=Z,13nm,1.0s
GCMT Greycliff 72.64 44 *eP* **P 19 51 15.7 +2.6**
YHH Holmes Hill 72.65 46 *eP* P 19 51 18.4 +5.1
comp=Z,7.9nm,1.0s
YMR Madison River 72.67 46 *eP* **P 19 51 15.2 +1.9**
PAGB Antelope Grade 72.71 58 *eP* **P 19 51 16.6 +3.2**
comp=Z,27nm,1.1s
H17A Grant Village 73.06 46 *eP* **P 19 51 18.8 +3.1**
IMW Indian Meadow 73.18 46 *eP* P 19 51 20.6 +4.1
comp=Z,11nm,0.8s
LHI Lord Howe Isla 73.30 165 *eP* **P 19 51 17.4 +0.8**
comp=Z,144nm,1.4s
MOOW Moose Ponds 73.38 46 *eP* **P 19 51 20.0 +2.4**
comp=Z,16nm,1.2s
TPAW Teton Pass 73.44 47 *eP* **P 19 51 20.7 +2.8**
comp=Z,35nm,1.5s
HVU Hansel Valley 73.50 49 *eP* **P 19 51 19.7 +1.5**
HVU pmax pmax
comp=Z,13nm,1.3s
HVU Hansel Valley 73.50 49 *eP* **P 19 51 19.7 +1.5**
comp=Z,13nm,1.3s
LOHW Long Hollow 73.55 46 *eP* **P 19 51 21.8 +3.3**
comp=Z,12nm,1.4s
SNOW Snow King Moun 73.56 47 *eP* **P 19 51 20.6 +2.0**
comp=Z,65nm,1.9s
DAC Darwin (Calif) 74.06 56 *eP* **P 19 51 24.5 +2.8**
DAC pmax pmax
comp=Z,10.0nm,1.1s
DAC Darwin (Calif) 74.06 56 *eP* **P 19 51 24.4 +2.8**
comp=Z,9.7nm,1.1s
SORM Soroca 74.23 321⇑ *iP* **P 19 51 21.4 -0.7**
SORM Soroca 74.23 321 ⇑P **P 19 51 21.4 -0.7**
TPNV Topopah Spring 74.49 55 *eP* **P 19 51 27.6 +3.5**
TPNV pmax pmax
comp=Z,47nm,1.5s
TPNV Topopah Spring 74.49 55 *eP* **P 19 51 27.6 +3.5**
comp=Z,46nm,1.5s
DUG Dugway, Tooele 74.50 50 *eP* **P 19 51 23.4 -0.6**
DUG pmax pmax
comp=Z,1.0nm,0.6s
DUG Dugway, Tooele 74.50 50 *eP* **P 19 51 23.4 -0.6**
comp=Z,1.2nm,0.6s
BW06 Boulder Array 74.68 47 *eP* P 19 51 29.0 +3.8
comp=Z,34nm,1.9s
PDAR Pinedale Array 74.68 47 P P 19 51 19.4 -5.8
comp=Z,0.3nm,0.4s,baz=0.0,slow=1.5,SNR=3.8
JLU Joanelle 75.03 49 *eP* P 19 51 31.2 +4.0
comp=Z,7.7nm,0.7s
NLU North Lily Min 75.08 50 *eP* **P 19 51 29.0 +1.4**
comp=Z,9.4nm,1.1s
CCUT Cedar City 75.88 53 *eP* **P 19 51 33.9 +1.8**
comp=Z,20nm,1.4s
MSU Marysvale 75.96 51 *eP* **P 19 51 35.8 +3.2**
MSU Marysvale 75.96 51 *eP* **P 19 51 35.8 +3.2**
TMUT Trail Mountain 76.02 50 *eP* **P 19 51 33.8 +0.7**
comp=Z,6.6nm,0.7s
BUR08 Bucovina Ar. S 76.08 322 *eP* **P 19 51 32.3 -0.7**
BURAR Bucovina Array 76.09 322⇑ *iP* **P 19 51 32.9 -0.1**
BURAR Bucovina Array 76.09 322 ⇑P **P 19 51 32.9 -0.1**
TESR Tescani 76.19 320⇑ *iP* **P 19 51 33.3 -0.2**
LCMT Little Creek M 76.30 53 *eP* **P 19 51 37.1 +2.7**
comp=Z,43nm,2.0s
CFR Carcaliu 76.39 318⇓ *iP* **P 19 51 34.5 0.0**
CFR Carcaliu 76.39 318 ⇓P **P 19 51 34.6 0.0**
SRU San Rafael Swe 76.54 50 *eP* **P 19 51 37.5 +1.7**
SRU pmax pmax
comp=Z,11nm,0.9s
SRU San Rafael Swe 76.54 50 *eP* **P 19 51 37.5 +1.7**
comp=Z,11nm,0.9s
STHS Stebnicka Huta 76.59 325 *eP* **P 19 51 36.5 +0.8**
STHS pmax pmax
comp=Z,9.0nm,1.0s
STHS Stebnicka Huta 76.59 325 *eP* **P 19 51 36.5 +0.8**
OJC Ojcow 76.61 326 *eP* **P 19 51 35.5 -0.3**
OJC pmax pmax
comp=Z,70nm,1.3s
OJC Ojcow 76.61 326 *eP* **P 19 51 35.5 -0.3**
comp=Z,70nm,1.3s
PLOR Plostina 76.66 320⇑ *iP* **P 19 51 36.1 -0.1**
PLOR Plostina 76.66 320 ⇑P **P 19 51 36.1 -0.1**
TLB Topalu 76.85 318⇑ *iP* **P 19 51 38.6 +1.4**
TLB Topalu 76.85 318 ⇑P **P 19 51 38.6 +1.4**
BR131 Keskin Array S 77.16 312 *eP* **P 19 51 38.8 -0.5**
BRTR Keskin Array B 77.16 312 P **P 19 51 39.2 0.0**
comp=Z,1.2nm,0.8s,baz=75,slow=3.1,SNR=4.8
BRTR Keskin Array B 77.16 312 *eP* **P 19 51 39.4 +0.2**
BRTR pmax pmax
comp=Z,1.0nm,0.7s
DOPR Dopca 77.19 320⇑ *iP* **P 19 51 39.5 +0.3**
ISR Istrita 77.23 319⇓ *iP* **P 19 51 40.5 +1.1**
ISR Istrita 77.23 319 ⇓P **P 19 51 40.5 +1.1**
U15A North Rim 77.26 53 *eP* **P 19 51 43.2 +3.2**
comp=Z,36nm,1.6s
MLR Muntele Rosu 77.26 320 P **P 19 51 39.4 -0.3**
comp=Z,0.2nm,0.4s,baz=358,slow=18,SNR=4.1
MLR Muntele Rosu 77.26 320⇑ *iP* **P 19 51 40.8 +1.1**
MLR Muntele Rosu 77.26 320 ⇑P **P 19 51 40.9 +1.2**
ANTO Ankara 77.54 312 *eP* **P 19 51 40.8 -0.5**
ANTO pmax pmax
comp=Z,32nm,0.9s
ANTO Ankara 77.54 312 *eP* **P 19 51 40.8 -0.5**
comp=Z,32nm,0.9s
LANS Liptovska Anna 77.56 326 *eP* **P 19 51 41.9 +0.7**
LANS Liptovska Anna 77.56 326 *eP* **P 19 51 41.9 +0.7**
BR231 Keskin MP Arra 77.57 312 *eP* **P 19 51 39.6 -1.9**
OKC Ostrava-Krasne 77.59 327 *eP* **P 19 51 41.4 +0.1**
OKC Ostrava-Krasne 77.59 327 *eP* **P 19 51 41.4 +0.1**
KECS Kecovo 77.62 325 *eP* **P 19 51 40.8 -0.7**
KECS pmax pmax
comp=Z,4.0nm,1.0s
KECS Kecovo 77.62 325 *eP* **P 19 51 40.8 -0.7**
VOIR 77.74 320⇑ *iP* **P 19 51 43.2 +0.9**
VOIR 77.74 320 ⇑P **P 19 51 43.2 +0.9**
DRGR 77.87 322⇑ *iP* **P 19 51 44.3 +1.3**
DRGR 77.87 322 ⇑P **P 19 51 44.3 +1.3**
MORC Moravsky Berou 77.89 327⇓ *iP* **P 19 51 42.8 -0.2**
MORC Moravsky Berou 77.89 327 *eP* **P 19 51 42.1 -0.9**
MORC pmax pmax
comp=Z,31nm,0.8s
MORC Moravsky Berou 77.89 327 *eP* **P 19 51 42.1 -0.9**
comp=Z,31nm,0.8s
PV10 Paradox Valley 77.90 50 *eP* **P 19 51 43.0 -0.5**
DPC Dobruska-Polom 77.95 328 *eP* **P 19 51 43.4 +0.1**
DPC Dobruska-Polom 77.95 328 *eP* **P 19 51 43.4 +0.1**
UPC Upice 77.95 328 *eP* **P 19 51 43.4 +0.1**
UPC Upice 77.95 328 *eP* **P 19 51 43.4 +0.1**
KRLC Kraliky 77.98 328 *eP* **P 19 51 43.5 0.0**
KRLC Kraliky 77.98 328 *eP* **P 19 51 43.5 0.0**
ARR Arges 77.99 320⇑ *iP* **P 19 51 45.3 +1.6**
PV05 Paradox Valley 78.06 50 *eP* **P 19 51 45.7 +1.3**
PSZ Piszkesteto 78.30 325⇑ *iP* **P 19 51 45.6 +0.2**
PSZ Piszkesteto 78.30 325 *eP* **P 19 51 44.9 -0.5**
PSZ pmax pmax
comp=Z,7.0nm,0.9s
PSZ Piszkesteto 78.30 325 *eP* **P 19 51 44.9 -0.5**
comp=Z,7.1nm,0.9s
VYHS Vyhne 78.33 326 *eP* **P 19 51 45.3 -0.1**
VYHS Vyhne 78.33 326 *eP* **P 19 51 45.3 -0.1**
CLL Collm 78.49 330 *i* P **P 19 51 45.3 -0.9**
CLL pmax pmax
comp=Z,12nm,0.8s
CLL Collm 78.49 330 *i* P **P 19 51 45.3 -0.9**
comp=Z,12nm,0.8s
CLL Collm 78.49 330 *eP* **P 19 51 45.2 -1.0**
comp=Z,29nm,1.0s
PVCC Panska Ves 78.51 329 *eP* **P 19 51 46.2 -0.1**
PVCC Panska Ves 78.51 329 *eP* **P 19 51 46.2 -0.1**
VRAC Vranov 78.65 327 P **P 19 51 46.4 -0.8**
comp=Z,6.3nm,0.9s,baz=36,slow=2.3,SNR=6.6
VRAC Vranov 78.65 327⇑ *iP* **P 19 51 46.3 -0.9**
VRAC Vranov 78.65 327 ⇑P **P 19 51 46.3 -0.9**
GOPC GO Pecny, Ondr 78.91 329 *eP* **P 19 51 48.7 +0.1**
GOPC GO Pecny, Ondr 78.91 329 *eP* **P 19 51 48.7 +0.1**
PRA Prague 78.92 329 *eP* **P 19 51 48.8 +0.2**
PRA Prague 78.92 329 *eP* **P 19 51 48.8 +0.2**
PRU Pruhonice 78.94 329 *eP* **P 19 51 48.7 -0.1**
PRU Pruhonice 78.94 329 *eP* **P 19 51 48.7 -0.1**
TREC Trest 79.11 328 *eP* **P 19 51 49.7 0.0**
TREC Trest 79.11 328 *eP* **P 19 51 49.7 0.0**
NKC Novy Kostel 79.56 330 *eP* **P 19 51 51.3 -0.9**
NKC Novy Kostel 79.56 330 *eP* **P 19 51 51.3 -0.9**
KHC Kasperske Hory 80.01 329 *eP* **P 19 51 54.3 -0.3**
KHC Kasperske Hory 80.01 329 *eP* **P 19 51 54.3 -0.3**
KHC Kasperske Hory 80.01 329 *eP* **P 19 51 54.0 -0.6**
comp=Z,3.1nm,0.8s
CONA Conrad Observa 80.03 327 *eP* **P 19 51 54.2 -0.7**
comp=Z,11nm,1.4s,SNR=4.7
GERES GERESS Array B 80.19 328 P **P 19 51 54.8 -0.9**
comp=Z,2.1nm,0.6s,baz=38,slow=5.6,SNR=14
GERES GERESS Array B 80.19 328 *eP* **P 19 51 55.0 -0.7**
GERES pmax pmax
comp=Z,2.0nm,0.6s
GEA0 GERESS Array S 80.19 328 *eP* **P 19 51 54.9 -0.8**
GRFO Grafenberg 80.47 330 *eP* **P 19 51 56.5 -0.5**
GRFO pmax pmax
comp=Z,10.0nm,0.8s
GRFO Grafenberg 80.47 330 *eP* **P 19 51 56.5 -0.5**
comp=Z,9.5nm,0.8s
MMAI Mount Meron Ar 80.61 305 P **P 19 51 58.5 +0.3**
comp=Z,3.2nm,0.8s,baz=46,slow=8.4,SNR=7.0
ARSA Arzberg 80.70 327 *eP* **P 19 51 58.2 -0.2**
comp=Z,4.5nm,0.7s,SNR=5.1
VTS Vitosha 80.72 319⇑ *iP* **P 19 51 58.7 0.0**
VTS Vitosha 80.72 319 ⇑P **P 19 51 58.7 0.0**
VTS Vitosha 80.72 319 *eP* **P 19 51 58.1 -0.6**
comp=Z,13nm,0.8s
PERS Pernice 81.36 326 *iP* **P 19 52 01.3 -0.6**
SOKA Soboth 81.36 326 *eP* **P 19 52 01.4 -0.6**
comp=Z,17nm,1.1s,SNR=12
OBKA Obir 81.70 327 *eP* **P 19 52 03.2 -0.6**
comp=Z,7.4nm,0.9s,SNR=5.2
KBA Koelnbreinsper 81.74 328 *iP* **P 19 52 04.4 +0.3**
comp=Z,12nm,1.1s
VISS Visnje 82.14 326 *iP* **P 19 52 04.8 -1.2**
BOJS Bojanci 82.20 326 *iP* **P 19 52 05.4 -0.9**
ABTA Abfaltersbach 82.35 328 *eP* **P 19 52 06.2 -1.0**
comp=Z,8.9nm,1.3s
JAVS Javornik 82.39 326 *iP* **P 19 52 05.9 -1.5**
MOTA Moosalm 82.43 329 *eP* **P 19 52 07.0 -0.7**
comp=Z,14nm,1.0s
RETA Reutte 82.44 329 *eP* **P 19 52 07.0 -0.6**
comp=Z,8.0nm,0.8s,SNR=7.4
TRI Trieste 82.67 327 *eP* **P 19 52 06.9 -1.8**
TRI pmax pmax
comp=Z,3.0nm,0.6s
TRI Trieste 82.67 327 *eP* **P 19 52 06.9 -1.8**
comp=Z,3.2nm,0.6s
BFO Black Forest 82.67 331 *eP* **P 19 52 07.6 -1.2**
BFO pmax pmax
comp=Z,4.0nm,0.7s
BFO Black Forest 82.67 331 *eP* **P 19 52 07.6 -1.2**
comp=Z,4.4nm,0.7s
PDG Podgorica 82.77 321⇓ *iP* **P 19 52 08.6 -0.7**
DAVA Damuels 82.95 330 *eP* **P 19 52 10.2 -0.2**
comp=Z,12nm,1.2s
EIL Elat 83.16 303 P **P 19 52 11.1 -0.5**
comp=Z,3.4nm,0.8s,baz=11,slow=10,SNR=3.6
FUORN Ofenpass-Fuorn 83.35 329 *eP* **P 19 52 11.5 -1.1**
comp=Z,56nm,1.1s
DAVOX Davos/Dischmat 83.37 329 P **P 19 52 11.5 -1.1**
comp=Z,4.4nm,0.7s,baz=28,slow=5.4,SNR=6.6
ORIF Oris-en-Rattie 86.45 331 *eP* **P 19 52 27.8 -0.2**
ORIF pmax pmax
comp=Z,8.0nm,1.0s
ROSF Rostrenen 86.48 338 *eP* **P 19 52 27.1 -0.8**
ROSF pmax pmax
comp=Z,23nm,1.0s
VIVF Saint-Julien-l 86.95 331 *eP* **P 19 52 29.4 -1.0**
VIVF pmax pmax
comp=Z,6.0nm,1.0s
TX31 Lajitas Ar. Si 87.38 53 *eP* **P 19 52 35.0 +2.1**
TXAR Lajitas Array 87.38 53 P P 19 52 26.9 -5.9
comp=Z,0.6nm,0.9s,baz=305,slow=3.2,SNR=3.1
CAF Calviac 87.82 333 *eP* **P 19 52 34.2 -0.4**
CAF pmax pmax
comp=Z,8.0nm,1.0s
ES19 SONSECA Array 94.48 335 *eP* **P 19 53 02.5 -3.2**
ESDC Sonseca Array 94.52 335 P **P 19 53 03.6 -2.3**
comp=Z,0.2nm,0.5s,baz=15,slow=4.7,SNR=4.3
MAW Mawson 123.00 207 PKP **PKPdf 19 58 35.9 -4.5**
comp=Z,1.3nm,0.8s,baz=162,slow=6.4,SNR=5.4
SNAA Sanae 144.29 198 PKP **PKPab 19 59 13.7 -4.5**
comp=Z,5.1nm,0.9s,baz=101,slow=2.7,SNR=8.2
SIV San Ignacio 148.17 47 PKPbc **PKPdf 19 59 26.4 -1.9**
comp=Z,2.3nm,0.8s,baz=280,slow=3.0,SNR=3.6

---

*ISCJB **16** 19:39:54.6±0.2, 40.17N±0.03, 143.45E±0.03, h6km, mb5.0/99, Error ellipse: s-maj=4.6km s-min=2.6km az=148.9*
*IDC **16** 19:39:54.7±0.5, 40.11N, 143.52E, h0km, mb4.8/36, mb1 4.9/42, mb1mx4.7/67, mbtmp4.8/42, ML4.0/6, Error ellipse: s-maj=13.9km s-min=11.4km az=109.0*
*MOS **16** 19:39:57.9±1.1, 40.19N, 143.41E, h33km, mb5.1/48, Error ellipse: s-maj=11.5km s-min=9.9km az=73.6*
*JMA **16** 19:39:58.9±0.3, 40.24N, 143.16E, h6km±3km, M5.2*
JMA Felt II J1.
*NEIC **16** 19:40:00.1±0.2, 40.16N, 143.40E, h35km, mb5.1/40, Error ellipse: s-maj=6.2km s-min=3.9km az=152.0*

ISC 16 19:39:55.6±0.3, 40.16N±0.04, 143.46E±0.05, h6km, n325, σ1ᵗ13/327, mb5.1/99, 1C-1D, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
JTH	**Tanohata**	**1.25**	**260**	P		P	**Pg**	**19 40 18.6**	**-1.0**
MIYJ	**Miyakonagasawa**	**1.39**	**246**	P		P	**Pb**	**19 40 21.8**	**-0.2**
JANG	**Nango**	**1.51**	**279**	P		P	**Pn**	**19 40 22.6**	**-0.6**
JKZ	**Kuzumaki**	**1.65**	**265**	P		P	**Pn**	**19 40 25.5**	**+0.3**
JKZ				*e*S		S	**Sn**	**19 40 44.6**	**-2.0**
JOM	**Ohasama**	**1.81**	**248**	P		P	**Pb**	**19 40 28.4**	**-0.7**
JEM	**Erimo**	**1.87**	**353**	*e*S		S	**Sb**	**19 40 53.4**	**-0.4**
JTM	**Tenmabayashi**	**1.93**	**290**	P		P	**Pn**	**19 40 29.2**	**+0.2**
JAH	**Hinai**	**2.17**	**272**	P		P	**Pn**	**19 40 33.4**	**+1.2**
JNBK	**Urakawa-nobuka**	**2.19**	**346**	*e*S		S	**Sn**	**19 40 59.8**	**-0.1**
JOT	**Ohata**	**2.20**	**304**	*e*S		S	**Sn**	**19 40 58.8**	**-1.5**
JYK	**Kaneyama**	**2.70**	**244**	P		P	**Pn**	**19 40 41.8**	**+2.2**
JYK				*e*S		S	**Sn**	**19 41 12.0**	**-0.6**
JOU	**Okura**	**2.81**	**231**	P		P	**Pn**	**19 40 43.3**	**+2.1**
JOU				*e*S		S	**Sn**	**19 41 17.2**	**+1.8**
JFT	**Otama**	**3.59**	**224**	P		P	**Pn**	**19 40 53.2**	**+1.3**
JFT				*e*S		S	**Sn**	**19 41 36.7**	**+2.1**
MJAR	**Matsushiro Arr**	**5.49**	**230**	Pn		P	**Pn**	**19 41 19.7**	**+1.8**
	23nm,0.3s,baz=42,slow=12,SNR=42								
MJAR	**Matsushiro Arr**	**5.49**	**230**	P		P	**Pn**	**19 41 19.7**	**+1.8**
MJAR				pmax	pmax				
	comp=Z,23nm,0.3s								
JHJ	**Hachijo jima 2**	**7.62**	**204**	Pn		P	**Pn**	**19 41 46.3**	**-0.9**
	comp=Z,61nm,0.3s,baz=85,slow=23,SNR=13								
JHJ						Sn	**Sn**	**19 43 07.2**	**-6.7**
	comp=Z,38nm,0.3s,baz=90,slow=20,SNR=4.5								
USRK	**Ussuriysk Ar.**	**9.43**	**299**	Pn		P	**Pn**	**19 42 14.0**	**+2.1**
	comp=Z,3.2nm,0.3s,baz=97,slow=14,SNR=13								
JNU	**Nakatsue**	**12.30**	**239**	Pn		P	**Pn**	**19 42 51.6**	**+0.3**
	comp=Z,1.0nm,0.3s,baz=38,slow=15,SNR=11								
KSRS	**Korea Array**	**12.42**	**262**	Pn		P	**Pn**	**19 42 53.9**	**+1.0**
	comp=Z,0.4nm,0.3s,baz=59,slow=15,SNR=4.7								
KSRS	**Korea Array**	**12.42**	**262**	P		P	**Pn**	**19 42 53.9**	**+1.0**
KSAR	**Wonju Array Be**	**12.45**	**262**	P		P	**Pn**	**19 42 53.9**	**+0.5**
KSAR	**Wonju Array Be**	**12.45**	**262**	Pn		P	**Pn**	**19 42 53.9**	**+0.5**
PETK	**Petropavlovsk-**	**16.19**	**32**	Pn		P	**Pn**	**19 43 43.4**	**-0.1**
	comp=Z,0.4nm,0.3s,baz=188,slow=9.0,SNR=3.4								
PETK	**Petropavlovsk-**	**16.19**	**32**	P		P	**Pn**	**19 43 43.5**	**-0.1**
PETK	**Petropavlovsk-**	**16.19**	**32**	Pn		P	**Pn**	**19 43 43.5**	**-0.1**
PEA1	**Petropavlovsk-**	**16.19**	**32**	*e*Pn		P	**Pn**	**19 43 43.5**	**-0.2**
HIA	**Hailar**	**19.09**	**306**	*eP*		P	**Pn**	**19 44 17.4**	**-1.5**

HIA pmax pmax
comp=Z,42nm,0.6s
HIA Hailar 19.09 306 *e*P **P 19 44 17.4 -1.5**
comp=Z,42nm,0.6s
MA2 Magadan 19.98 11 P **Pn 19 44 29.5 -0.6**
comp=Z,16nm,0.6s,baz=192,slow=10,SNR=8.1
MA2 Magadan 19.98 11 P **Pn 19 44 29.5 -0.6**
MA2 pmax pmax
comp=Z,16nm,0.6s
SEY Seymchan 23.43 10 P **P 19 45 05.2 0.0**
comp=Z,43nm,0.9s,baz=186,slow=8.2,SNR=8.6
SEY Seymchan 23.43 10 P **P 19 45 05.2 0.0**
SEY pmax pmax
comp=Z,43nm,0.9s
SSLB Suanglung 25.01 236 *e*P **P 19 45 19.2 -1.2**
QZH Quanzhou 25.76 241 P **P 19 45 27.5 +0.4**
BOD Bodaibo 25.87 323 *e*P **P 19 45 27.2 -0.7**
BOD pmax pmax
comp=Z,57nm,1.2s
ULN Ulaanbaatar 27.10 299 *e*P **P 19 45 38.7 -0.5**
ULN pmax pmax
comp=Z,40nm,1.0s
ULN Ulaanbaatar 27.10 299 *e*P **P 19 45 38.7 -0.5**
comp=Z,40nm,1.0s
SONA0 Songino Array 27.54 299 *e*P **P 19 45 43.5 +0.3**
comp=Z,133nm,1.6s
SONM Songino Array 27.54 299 P **P 19 45 43.5 +0.3**
comp=Z,21nm,0.9s,baz=98,slow=7.3,SNR=13
SONM Songino Array 27.54 299 P **P 19 45 43.5 +0.3**
SONM pmax pmax
comp=Z,21nm,0.9s
XAN Xi'an 28.10 268 P **P 19 45 46.8 -1.4**
XAN pmax pmax
comp=Z,33nm,0.7s
H11N2 WAKE ISLAND Hy 28.60 128 T T 20 16 57.4
baz=318,slow=75,SNR=23
H11N1 WAKE ISLAND Hy 28.61 129 T T 20 16 58.1
baz=318,slow=75,SNR=22
H11N3 WAKE ISLAND Hy 28.62 128 T T 20 16 58.8
baz=318,slow=75,SNR=22
ENH Enshi 29.31 261 *e*P **P 19 45 58.2 -0.7**
comp=Z,63nm,0.8s
TLY Talaya 29.64 306 P **P 19 46 03.1 +1.4**
comp=Z,5.3nm,0.5s,baz=63,slow=14,SNR=9.2
TLY Talaya 29.64 306 *e*P **P 19 46 02.6 +0.9**
TLY pmax pmax
comp=Z,52nm,2.0s
KMI Kunming 37.09 259 P **P 19 47 07.6 +0.6**
KMI pmax pmax
comp=Z,59nm,1.4s
ZAA1 Zalesovo Array 41.07 310 *e*P **P 19 47 39.9 +0.1**
ZAA1 *e*PcP **PcP 19 49 39.6 +0.2**
ZALV Zalesovo Beam 41.08 310 P **P 19 47 39.9 +0.1**
comp=Z,20nm,0.5s,baz=90,slow=8.8,SNR=18
ZALV PcP **PcP 19 49 39.6 +0.2**
comp=Z,8.9nm,0.6s,baz=83,slow=3.0,SNR=3.8
ZALV Zalesovo Beam 41.08 310 P **P 19 47 39.9 +0.1**
ZALV 19 49 39.6
ZALV pmax pmax
comp=Z,20nm,0.5s
NRIK Noril'sk 41.15 333 P **P 19 47 42.3 +2.1**
comp=Z,12nm,0.5s,baz=106,slow=9.4,SNR=4.9
NRIK Noril'sk 41.15 333 P **P 19 47 42.3 +2.1**
NRIK pmax pmax
comp=Z,12nm,0.5s
SKNT Sakolnakorn 41.20 247 P **P 19 47 42.2 +1.0**
comp=Z,138nm,0.9s
JAY Jayapura 42.54 184 P **P 19 47 52.2 0.0**
comp=Z,1.2nm,0.8s,baz=253,slow=20,SNR=4.6
JAY Jayapura 42.54 184 P **P 19 47 52.2 0.0**
JAY pmax pmax
comp=Z,1.0nm,0.8s
UTTA Uttaradit 43.15 252 P **P 19 47 57.7 +0.6**
comp=Z,6.8nm,0.9s
CHAI Chaiyaphum 43.33 248 P **P 19 47 58.7 +0.1**
comp=Z,12nm,0.9s,comp=Z,106nm
LAMP Lampang 43.33 253 P **P 19 48 00.2 +1.6**
comp=Z,9.5nm,0.8s
RSO Redoubt South 43.47 40 *e*P **P 19 47 59.0 -0.5**
LSA Lhasa 43.59 273 *e*P **P 19 48 01.7 +0.6**
LSA pmax pmax
comp=Z,11nm,0.6s
LSA Lhasa 43.59 273 *e*P **P 19 48 01.7 +0.6**
comp=Z,11nm,0.6s
PBKT Sadao Pong 43.61 250 P **P 19 48 01.6 +0.7**
comp=Z,162nm,1.6s
CMMT Chiang Mai 43.65 254 P **P 19 48 01.9 +0.7**
comp=Z,55nm,1.2s,comp=Z,7μm
CHTO Chiang Mai 43.65 254 P **P 19 48 02.0 +0.8**
comp=Z,619nm,1.6s
CHTO Chiang Mai 43.65 254 *e*P **P 19 48 00.8 -0.4**
CHTO pmax pmax
comp=Z,10.0nm,0.7s
CHTO Chiang Mai 43.65 254 *e*P **P 19 48 00.8 -0.4**
comp=Z,9.6nm,0.7s
PPLA Purkeypile 43.70 37 *e*P **P 19 48 01.4 +0.2**
KDAK Kodiak Island 43.72 44 P **P 19 48 01.1 -0.2**
comp=Z,9.3nm,0.7s,baz=270,slow=9.0,SNR=3.3
KDAK Kodiak Island 43.72 44 P **P 19 48 01.1 -0.2**
KDAK pmax pmax
comp=Z,9.0nm,0.7s
CMAR Chiang Mai Arr 43.88 254 P **P 19 48 03.2 +0.3**
comp=Z,5.2nm,0.7s,baz=42,slow=7.2,SNR=14
CMAR Chiang Mai Arr 43.88 254 P **P 19 48 03.3 +0.3**
CMAR pmax pmax
comp=Z,6.0nm,0.7s
SUKH Sukhothai 43.99 252 P **P 19 48 04.5 +0.6**
comp=Z,7.3nm,0.8s
MRSI Marisa 44.09 212 P **P 19 48 07.1 +2.4**
KTH Kantishna Hill 44.27 36 *e*P **P 19 48 07.2 +1.5**
comp=Z,56nm,1.2s
SRAK Srakaew 44.57 246 P **P 19 48 06.5 -2.1**
comp=Z,60nm,1.1s,comp=Z,764nm
COLD Coldfoot 44.65 30 *e*P **P 19 48 08.4 -0.2**
comp=Z,18nm,1.1s
PMR Palmer 45.17 38 *e*P **P 19 48 10.3 -2.5**
PMR pmax pmax
comp=Z,20nm,1.0s
PMR Palmer 45.17 38 *e*P **P 19 48 10.3 -2.5**
PMR pmax pmax
comp=Z,20nm,1.0s
PMR Palmer 45.17 38 *e*P **P 19 48 10.3 -2.5**
comp=Z,20nm,1.0s
ILAR Eielson Array 46.01 34 P **P 19 48 19.9 +0.5**
comp=Z,5.9nm,0.7s,baz=257,slow=6.0,SNR=14
ILAR Eielson Array 46.01 34 P **P 19 48 19.9 +0.5**
ILAR pmax pmax
comp=Z,6.0nm,0.7s
ILB Eielson Array 46.01 34 *e*P **P 19 48 19.9 +0.5**
PAX Paxson 46.76 36 *e*P **P 19 48 25.4 -0.1**
PAX pmax pmax
comp=Z,19nm,1.2s
PAX Paxson 46.76 36 *e*P **P 19 48 25.4 -0.1**
comp=Z,19nm,1.2s
PDGK Podgornoye 46.80 296 P **P 19 48 24.7 -1.4**
PDGK pmax pmax
comp=Z,39nm,1.5s
DIV Divide 46.83 39 *e*P **P 19 48 25.8 -0.3**
comp=Z,9.2nm,0.8s
PHET Kaeng Krachan 47.03 247 P **P 19 48 30.5 +2.5**
comp=Z,10nm,0.7s
DOT Dot Lake 47.33 35 *e*P **P 19 48 29.4 -0.4**
comp=Z,42nm,1.1s
EGAK Eagle 48.45 34 *e*P **P 19 48 39.0 +0.6**
comp=Z,30nm,1.3s
MTKI Muara Teweh, K 48.51 220 P **P 19 48 39.6 +0.1**
KSM Kuching 48.87 227 *e*P **P 19 48 42.5 +0.3**
comp=Z,9.5nm,0.7s
STKI Sintang 49.40 224 P **P 19 48 47.6 +1.3**
comp=Z,38nm,0.8s
BRVK Borovoye 49.76 311 *e*P **P 19 48 48.3 -0.3**
BRVK pmax pmax
comp=Z,57nm,0.7s
BRVK Borovoye 49.76 311 *e*P **P 19 48 48.3 -0.3**
comp=Z,57nm,0.7s
AAK Ala-Archa 50.47 297 *e*P **P 19 48 53.4 -1.0**
AAK pmax pmax
comp=Z,10.0nm,0.6s
AAK Ala-Archa 50.47 297 *e*P **P 19 48 53.4 -1.0**
comp=Z,9.8nm,0.6s
TRTT Trang 50.56 243 P **P 19 48 57.3 +2.2**
comp=Z,33nm,1.4s
KSH Kashi 50.65 292 *e*P **P 19 48 56.9 +1.1**
KSH pP sP 19 49 23.8 +25
KSH sP pP 19 49 35.3 +38
KSH PP **PP 19 50 54.4 +2.9**
KSH S S 19 55 55.3 -16
KSH sS sS 19 56 40.3 +26
INK Inuvik 50.88 28 P **P 19 48 58.1 +1.2**
comp=Z,4.4nm,0.5s,baz=335,slow=6.0,SNR=7.0
INK Inuvik 50.88 28 P **P 19 48 58.1 +1.2**
INK pmax pmax
comp=Z,4.0nm,0.5s
IPM Ipoh 52.14 238 *e*P **P 19 49 02.8 -4.2**
MMRI Maumere 52.37 207 *e*P **P 19 49 05.2 -3.4**
KKAR Karatay Array 52.99 299 *e*P **P 19 49 11.8 -1.3**
comp=Z,11nm,0.6s
ARU Arti 55.11 318 P **P 19 49 28.4 +0.1**
comp=Z,12nm,0.6s,baz=64,slow=6.6,SNR=5.2
ARU Arti 55.11 318 P **P 19 49 28.4 +0.1**
ARU pmax pmax
comp=Z,12nm,0.6s
ARU Arti 55.11 318 *e*P **P 19 49 26.5 -1.8**
comp=Z,152nm,1.6s
BKNI Bangkinang 55.29 235 P **P 19 49 31.8 +1.7**
BKNI Bangkinang 55.29 235 *e*P **P 19 49 30.2 +0.1**
comp=Z,178nm,0.6s
PWJI Pagerwojo 56.15 219 P **P 19 49 34.1 -2.1**
KPJI Karang Pucung 56.99 222 P **P 19 49 42.3 +0.2**
comp=Z,55nm,1.2s
KLSI 57.06 228 P **P 19 49 43.8 +1.1**
comp=Z,38nm,1.9s
AB31 Akbulak array 57.18 309 *i* P P 19 49 36.6 -6.6
AB31 pmax pmax
comp=Z,12nm,0.6s
AKTO Aktyubinsk 57.81 311 P **P 19 49 46.7 -0.9**
comp=Z,9.8nm,0.7s,baz=62,slow=11,SNR=7.5
AKTO Aktyubinsk 57.81 311 P **P 19 49 46.7 -0.9**
AKTO pmax pmax
comp=Z,10.0nm,0.7s
KBS Kingsbay 57.86 350 *e*P **P 19 49 46.8 -0.7**
KBS Kingsbay 57.86 350 *e*P **P 19 49 46.8 -0.7**
HYB Hyderabad 59.91 268 *i* P **P 19 50 03.0 +0.3**
YKA Yellowknife Ar 60.31 32 P **P 19 50 04.7 0.0**
comp=Z,2.2nm,0.8s,baz=302,slow=7.0,SNR=4.3
YKA Yellowknife Ar 60.31 32 P **P 19 50 04.7 0.0**
YKA pmax pmax
comp=Z,2.0nm,0.8s
YKB5 Yellowknife Ar 60.31 32 *e*P **P 19 50 04.7 0.0**
WR1 Warramunga Arr 60.39 190 *e*P **P 19 50 05.1 -0.6**
comp=Z,21nm,1.1s
WRA Warramunga Arr 60.39 190 P **P 19 50 05.1 -0.6**
comp=Z,5.5nm,0.7s,baz=8.7,slow=6.9,SNR=14
WRA Warramunga Arr 60.39 190 P **P 19 50 05.1 -0.6**
WRA pmax pmax
comp=Z,6.0nm,0.7s
WRA Warramunga Arr 60.39 190 P **P 19 50 05.1 -0.6**
WRA pmax pmax
comp=Z,6.0nm,0.7s
ARCES ARCESS Array B 61.64 339 P **P 19 50 13.9 +0.2**
comp=Z,5.2nm,0.8s,baz=46,slow=8.7,SNR=3.8
ARCES ARCESS Array B 61.64 339 P **P 19 50 13.9 +0.2**
ARCES pmax pmax
comp=Z,5.0nm,0.8s
DAG Danmarks Havn 62.80 355 *i* P **P 19 50 21.0 -0.3**
DAG Danmarks Havn 62.80 355 *e*P **P 19 50 21.0 -0.3**
LLLB Lillooet 62.91 46 *e*P **P 19 50 20.8 -1.7**
comp=Z,24nm,1.4s
GEYT Alibeck 63.74 298 P **P 19 50 28.0 -0.3**
comp=Z,9.3nm,0.7s,baz=47,slow=2.2,SNR=12
ASAR Alice Springs 64.12 190 P **P 19 50 29.7 -1.0**
comp=Z,2.9nm,0.7s,baz=7.6,slow=5.3,SNR=10
ASAR Alice Springs 64.12 190 P **P 19 50 29.7 -1.0**
ASAR pmax pmax
comp=Z,3.0nm,0.7s
ASAR Alice Springs 64.12 190 P **P 19 50 29.7 -1.0**
ASAR pmax pmax
comp=Z,3.0nm,0.7s
I03D Drain, OR 65.71 53 P **P 19 50 42.1 +1.2**
baz=303
I04A Tendick Farm, 66.23 52 P **P 19 50 45.5 +1.1**
baz=304
L02D Cave Junction, 66.40 54 P **P 19 50 46.5 +1.1**
baz=304
J04D Umpqua Nationa 66.72 52 P **P 19 50 49.1 +1.4**
baz=304
FIA0 FINESS Array S 66.80 332 *e*P **P 19 50 47.5 -0.1**
FIA0 FINESS Array S 66.80 332 *e*P **P 19 50 47.5 -0.1**
FINES FINESS Array B 66.80 332 P **P 19 50 47.5 -0.1**
comp=Z,22nm,0.7s,baz=46,slow=8.2,SNR=17
FINES FINESS Array B 66.80 332 P **P 19 50 47.5 -0.1**
FINES pmax pmax
comp=Z,22nm,0.7s
YBH Yreka Blue Hor 67.19 54 *e*P **P 19 50 49.9 -0.7**
YBH pmax pmax
comp=Z,14nm,1.1s
YBH Yreka Blue Hor 67.19 54 *e*P **P 19 50 49.9 -0.7**
comp=Z,14nm,1.1s
M02C Callahan 67.29 54 P **P 19 50 52.5 +1.3**
baz=304
SUMG Summit 67.56 1 *i* P **P 19 50 53.6 +0.8**
SUMG Summit 67.56 1 *e*P **P 19 50 53.6 +0.8**
N02D Trinity Center 67.62 55 P **P 19 50 55.0 +1.7**
baz=304
M04C Macdoel 67.70 54 P **P 19 50 55.7 +1.8**
baz=304
BMO Blue Mountains 68.65 49 *e*P **P 19 51 00.3 +0.5**
BMO pmax pmax
comp=Z,8.0nm,1.0s
BMO Blue Mountains 68.65 49 *e*P **P 19 51 00.3 +0.5**
comp=Z,8.4nm,1.0s
SWMT Swartz Lake 68.94 45 *e*P **P 19 51 00.5 -1.0**
ORV Oroville 69.18 55 *e*P **P 19 51 01.8 -1.2**
ORV pmax pmax
comp=Z,15nm,1.2s
ORV Oroville 69.18 55 *e*P **P 19 51 01.8 -1.2**
comp=Z,14nm,1.2s
GOF Gofitskoye 69.21 312 *e*P **P 19 51 03.5 +0.4**
GOF pmax pmax
comp=Z,110nm,1.4s
MSO Missoula 69.38 46 P **P 19 51 04.9 +0.6**
baz=307
ZEI Tsey 70.06 309 *e*P **P 19 51 07.9 -0.7**
ZEI pmax pmax
comp=Z,45nm,0.9s
KVAR Kislovodsk Arr 70.07 311 P **P 19 51 09.7 +1.2**
comp=Z,56nm,0.9s,baz=216,slow=4.4,SNR=15
KIV Kislovodsk 70.07 311 *e*P **P 19 51 08.7 +0.1**
KIV pmax pmax
comp=Z,77nm,1.0s
KIV Kislovodsk 70.07 311 *e*P **P 19 51 08.7 +0.1**
comp=Z,77nm,1.0s
KBZ Khabaz 70.09 311 P **P 19 51 09.8 +1.3**
comp=Z,25nm,0.8s,baz=49,slow=5.2,SNR=18
KBZ Khabaz 70.09 311 P **P 19 51 09.8 +1.3**
KBZ pmax pmax
comp=Z,25nm,0.8s
MFID Camas Ranch 70.36 49 *e*P **P 19 51 10.8 +0.4**
comp=Z,23nm,1.3s
CMB Columbia Colle 70.77 56 *e*P **P 19 51 13.4 +0.5**
CMB pmax pmax
comp=Z,217nm,1.5s
CMB Columbia Colle 70.77 56 *e*P **P 19 51 13.4 +0.5**
comp=Z,217nm,1.5s
NACGM Naroch 71.00 327 *e* **P 19 51 14.0 +0.2**
DLMT Dillon 71.01 46 *e*P **P 19 51 14.7 +0.3**
comp=Z,19nm,1.0s
HLID Hailey 71.09 49 P **P 19 51 16.0 +1.1**
baz=308
HLID Hailey 71.09 49 *e*P **P 19 51 13.9 -0.9**
comp=Z,7.7nm,1.0s
GNI Garni 71.13 307 *e*P **P 19 51 13.3 -1.8**
GNI Garni 71.13 307 *e*P **P 19 51 13.3 -1.8**
BOZ Bozeman (W) 71.40 46 P **P 19 51 17.4 +0.7**
baz=309
STKA Stephens Creek 71.69 182 P **P 19 51 18.4 +0.2**
comp=Z,2.1nm,0.6s,baz=350,slow=11,SNR=3.6
STKA Stephens Creek 71.69 182 P **P 19 51 18.4 +0.2**
STKA pmax pmax
comp=Z,2.0nm,0.6s
STKA Stephens Creek 71.69 182 P **P 19 51 18.4 +0.2**
STKA pmax pmax
comp=Z,2.0nm,0.6s
STKA Stephens Creek 71.69 182 *e*P **P 19 51 18.4 +0.2**
comp=Z,8.3nm,2.0s
HFS Hagfors 71.90 336 P **P 19 51 19.0 -0.2**
comp=Z,15nm,0.7s,baz=46,slow=6.4,SNR=14
HFS Hagfors 71.90 336 P **P 19 51 19.0 -0.2**
HFS pmax pmax
comp=Z,15nm,0.7s
NB200 NORSAR Array S 71.92 338 *e*P **P 19 51 19.2 -0.1**
NOA NORSAR Array B 71.92 338 P **P 19 51 19.2 -0.1**
comp=Z,15nm,0.8s,baz=38,slow=6.0,SNR=18
NOA NORSAR Array B 71.92 338 P **P 19 51 19.3 -0.1**
NOA pmax pmax
comp=Z,15nm,0.8s
AKASG Malin Array Be 72.80 323 P **P 19 51 24.5 -0.3**
comp=Z,11nm,0.8s,baz=43,slow=6.7,SNR=8.7
AKASG Malin Array Be 72.80 323 P **P 19 51 24.5 -0.3**
AKASG pmax pmax
comp=Z,11nm,0.8s
KIEV Kiev 72.81 323 *e*P **P 19 51 24.4 -0.4**
KIEV pmax pmax
comp=Z,15nm,0.8s
KIEV Kiev 72.81 323 *e*P **P 19 51 24.4 -0.4**
comp=Z,15nm,0.8s
PKM Mcpherson Peak 73.02 59 P **P 19 51 27.7 +1.1**
baz=307
CWC Cottonwood Cre 73.20 56 P **P 19 51 28.2 +0.6**
baz=308
R11A Troy Canyon, C 73.59 54 P **P 19 51 30.8 +0.9**
baz=308
MPMC Manual Prospec 73.81 56 P **P 19 51 31.1 -0.2**
baz=308
HWUT Hardware Ranch 73.95 49 *e*P **P 19 51 32.5 +0.5**
comp=Z,33nm,1.5s
TPNV Topopah Spring 74.05 55 P **P 19 51 34.1 +1.5**
baz=308
DUG Dugway, Tooele 74.12 51 P **P 19 51 33.7 +0.8**
baz=309
DUG Dugway, Tooele 74.12 51 *e*P **P 19 51 32.9 -0.1**
DUG pmax pmax
comp=Z,28nm,1.4s
DUG Dugway, Tooele 74.12 51 *e*P **P 19 51 32.9 -0.1**
comp=Z,28nm,1.4s
EDW2 Edwards Air Fo 74.21 58 P **P 19 51 34.0 +0.5**
baz=308
SIM Simferopol' 74.22 316 *e*P **P 19 51 34.3 +1.1**
SIM pmax pmax
comp=Z,15nm,0.8s
HRU Hogsback Ridge 74.29 50 *e*P **P 19 51 34.8 +0.8**
RBU Red Butte Cany 74.34 50 *e*P **P 19 51 36.0 +1.8**
BW06 Boulder Array 74.35 47 P **P 19 51 34.0 -0.4**
baz=311
PD31 Pinedale Array 74.35 47 *e*P **P 19 51 34.2 -0.1**
PDAR Pinedale Array 74.35 47 P **P 19 51 34.3 -0.1**
comp=Z,1.8nm,0.6s,baz=259,slow=2.2,SNR=10.0
CHFC Chilao Flat St 74.53 58 *e*P **P 19 51 35.0 -0.4**
BFSC Mount Baldy Ra 74.83 58 P **P 19 51 37.7 +0.6**
baz=308
TUQ Turquoise Moun 75.20 56 P **P 19 51 39.9 +0.7**
baz=309
BBRC Big Bear Solar 75.29 58 *e*P **P 19 51 40.4 +0.5**
GMRC Granite Mounta 75.77 56 P **P 19 51 43.7 +1.1**
baz=309
GMRC Granite Mounta 75.77 56 *e*P **P 19 51 46.2 +3.6**
TPFO Pinon Flats 76.00 58 P **P 19 51 48.4 +4.5**
baz=309
MONP Monument Peak, 76.47 58 P P 19 51 51.9 +5.2
baz=309
BC3 Big Chuckawall 76.62 57 P **P 19 51 48.7 +1.3**
baz=310
A33A Warroad 77.20 35 P **P 19 51 50.2 0.0**
baz=318
STHS Stebnicka Huta 77.31 326 *e*P **P 19 51 52.0 +1.1**
STHS pmax pmax
comp=Z,31nm,1.6s
STHS Stebnicka Huta 77.31 326 *e*P **P 19 51 52.0 +1.1**
BR101 Keskin Array S 77.97 312 *e*P **P 19 51 55.3 +0.5**
BRTR Keskin Array B 77.97 312 P **P 19 51 55.3 +0.4**
comp=Z,4.6nm,1.0s,baz=90,slow=3.7,SNR=9.6
BRTR Keskin Array B 77.97 312 P **P 19 51 55.3 +0.4**
BRTR pmax pmax
comp=Z,5.0nm,1.0s
WUAZ Wupatki 78.00 54 P **P 19 51 56.6 +1.4**
baz=311
WUAZ Wupatki 78.00 54 *e*P **P 19 51 56.1 +1.0**
comp=Z,11nm,1.0s
Y14A Wickenburg 78.00 56 *e*P **P 19 51 56.6 +1.5**
comp=Z,55nm,1.1s
MLR Muntele Rosu 78.02 320 P **P 19 51 55.7 +0.6**
comp=Z,1.3nm,0.9s,baz=356,slow=15,SNR=4.1
MLR Muntele Rosu 78.02 320 P **P 19 51 55.7 +0.6**
MLR pmax pmax
comp=Z,1.0nm,0.9s
MLR Muntele Rosu 78.02 320 *e*P **P 19 51 55.7 +0.6**
comp=Z,27nm,1.3s
LANS Liptovska Anna 78.28 326 *e*P **P 19 51 58.2 +1.9**
LANS Liptovska Anna 78.28 326 *e*P **P 19 51 58.2 +1.9**
OKC Ostrava-Krasne 78.31 327 *e* **P 19 51 57.2 +0.8**
OKC Ostrava-Krasne 78.31 327 *ex* **P 19 51 57.2 +0.8**
ANTO Ankara 78.35 313 *e*P **P 19 51 56.2 -0.7**
ANTO pmax pmax
comp=Z,63nm,1.1s
ANTO Ankara 78.35 313 *e*P **P 19 51 56.2 -0.7**
comp=Z,63nm,1.1s
B35A Bob, Littlefor 78.37 35 P **P 19 51 55.7 -1.0**
baz=319
MORC Moravsky Berou 78.60 328 *e*P **P 19 51 57.9 -0.2**
MORC pmax pmax
comp=Z,100nm,1.1s
MORC Moravsky Berou 78.60 328 *e*P **P 19 51 57.9 -0.2**
comp=Z,100nm,1.1s
DPC Dobruska-Polom 78.65 329 *e* **P 19 51 59.4 +1.1**
DPC Dobruska-Polom 78.65 329 *ex* **P 19 51 59.4 +1.1**
UPC Upice 78.65 329 *ex* **P 19 51 59.3 +1.0**
UPC Upice 78.65 329 *e* **P 19 51 59.3 +1.0**
X16A Lo Mia Camp, P 78.67 54 *e*P **P 19 52 00.6 +1.6**
comp=Z,9.7nm,1.1s
KRLC Kraliky 78.68 328 *ex* **P 19 51 59.1 +0.6**
KRLC Kraliky 78.68 328 *e* **P 19 51 59.1 +0.6**
PSZ Piszkesteto 79.03 325 *e*P **P 19 52 01.4 +0.9**
PSZ pmax pmax
comp=Z,32nm,1.2s
PSZ Piszkesteto 79.03 325 *e*P **P 19 52 01.4 +0.9**
comp=Z,32nm,1.2s
VYHS Vyhne 79.05 326 *e*P **P 19 52 01.5 +1.0**
VYHS pmax pmax
comp=Z,11nm,1.2s
VYHS Vyhne 79.05 326 *e*P **P 19 52 01.5 +1.0**
BRG Berggiesshubel 79.17 330 *e*P **P 19 52 01.6 +0.5**
comp=Z,13nm,1.1s
BRG Berggiesshubel 79.17 330 *e*P **P 19 52 01.6 +0.5**
BRG pmax pmax
comp=Z,114nm,1.1s
CLL Collm 79.17 331 *i* P **P 19 52 01.4 +0.3**
comp=Z,40nm,1.1s
CLL *e*PP **PP 19 55 01.0 +1.3**
CLL Collm 79.17 331 *i* **P 19 52 01.4 +0.3**
PVCC Panska Ves 79.20 330 *ex* **P 19 52 01.8 +0.5**
PVCC Panska Ves 79.20 330 *e* **P 19 52 01.8 +0.5**
S22A 4UR Ranch, Cre 79.24 49 P **P 19 52 02.4 +0.2**
baz=313
VRAC Vranov 79.36 328 P **P 19 52 02.7 +0.5**
comp=Z,16nm,1.0s,baz=43,slow=3.9,SNR=9.6
VRAC Vranov 79.36 328 P **P 19 52 02.7 +0.5**
VRAC pmax pmax
comp=Z,16nm,1.0s
G33A Ortonville 79.49 38 P **P 19 52 03.2 +0.2**
baz=318
C37A Embarrass 79.52 35 P **P 19 52 02.8 -0.3**
baz=320
GOPC GO Pecny, Ondr 79.60 329 *ex* **P 19 52 04.5 +1.0**
GOPC GO Pecny, Ondr 79.60 329 *e* **P 19 52 04.5 +1.0**
PRA Prague 79.62 329 *ex* **P 19 52 04.6 +1.0**
PRA Prague 79.62 329 *e* **P 19 52 04.6 +1.0**
SMOL Smolenice 79.63 327 *eP* **P 19 52 04.8 +1.1**
SMOL Smolenice 79.63 327 *eP* **P 19 52 04.8 +1.1**
PRU Pruhonice 79.64 329 *ex* **P 19 52 04.2 +0.5**
PRU Pruhonice 79.64 329 *e* **P 19 52 04.2 +0.5**
EYMN Ely 79.65 34 P **P 19 52 03.4 -0.4**
baz=320
TREC Trest 79.81 328 *ex* **P 19 52 05.8 +1.1**
TREC Trest 79.81 328 *e* **P 19 52 05.8 +1.1**
E36A McGregor 79.97 36 P **P 19 52 04.2 -1.4**
baz=320
NKC Novy Kostel 80.25 331 *ep*P **P 19 52 07.0 0.0**
NKC Novy Kostel 80.25 331 *e* **P 19 52 07.0 0.0**
KHC Kasperske Hory 80.70 329 *ep*P **P 19 52 09.8 +0.3**
KHC Kasperske Hory 80.70 329 *e* **P 19 52 09.8 +0.3**
GERES GERESS Array B 80.88 329 P **P 19 52 10.7 +0.2**
comp=Z,3.6nm,0.6s,baz=36,slow=4.9,SNR=12
GERES GERESS Array B 80.88 329 P **P 19 52 10.7 +0.2**
GERES pmax pmax
comp=Z,4.0nm,0.6s
F38A Pierce - Schro 81.01 36 P **P 19 52 11.4 +0.3**
baz=320

ASF	**Jabal al Asfar**	**81.08**	**305**	P		**P**	**19 52 12.5**	**+0.6**
	comp=Z,2.4nm,0.6s,baz=354,slow=2.2,SNR=3.3							
ASF	**Jabal al Asfar**	**81.08**	**305**	P		**P**	**19 52 12.5**	**+0.6**
ASF				pmax		pmax		
	comp=Z,3.0nm,0.8s							
ANMO	**Albuquerque**	**81.37**	**51**	*e*P		**P**	**19 52 15.7**	**+2.2**
ANMO				pmax		pmax		
	comp=Z,12nm,1.4s							
ANMO	**Albuquerque**	**81.37**	**51**	*e*P		**P**	**19 52 15.7**	**+2.2**
	comp=Z,12nm,1.4s							
MMAI	**Mount Meron Ar**	**81.45**	**306**	P		**P**	**19 52 14.6**	**+0.7**
	comp=Z,10nm,0.9s,baz=44,slow=6.8,SNR=9.8							
MEM	**Membach**	**82.22**	**334**	AP		**P**	**19 52 18.3**	**+0.9**
BCLA	**Clavier**	**82.62**	**335**	AP		**P**	**19 52 19.6**	**+0.1**
ECH	**Echery**	**83.86**	**332**	*e*P		**P**	**19 52 26.0**	**0.0**
EIL	**Elat**	**84.00**	**304**	P		**P**	**19 52 27.6**	**+0.5**
	comp=Z,10nm,0.7s,baz=21,slow=5.9,SNR=8.7							
DAVOX	**Davos/Dischmat**	**84.06**	**330**	P		**P**	**19 52 27.8**	**+0.5**
	comp=Z,13nm,0.8s,baz=336,slow=4.1,SNR=11							
DAVOX	**Davos/Dischmat**	**84.06**	**330**	P		**P**	**19 52 27.8**	**+0.5**
DAVOX				pmax		pmax		
	comp=Z,13nm,0.8s							
MOF	**Molkenrain**	**84.18**	**332**	*e*P		**P**	**19 52 27.3**	**-0.5**
MNTX	**Cornudas Mount**	**84.25**	**53**	P		**P**	**19 52 29.3**	**+1.0**
	baz=314							
MNTX	**Cornudas Mount**	**84.25**	**53**	*e*P		**P**	**19 52 29.5**	**+1.2**
	comp=Z,4.3nm,1.0s							
THEF	**They Montfort**	**84.26**	**333**	*e*P		**P**	**19 52 27.3**	**-0.8**
R35A	**Emporia Munici**	**84.71**	**43**	P		**P**	**19 52 31.6**	**+1.1**
	baz=318							
R36A	**Gordon, Harris**	**85.07**	**43**	P		**P**	**19 52 32.6**	**+0.3**
	baz=319							
S35A	**Otter Creek Ra**	**85.12**	**43**	P		**P**	**19 52 33.0**	**+0.4**
	baz=318							
T34A	**McClaskey Farm**	**85.15**	**44**	P		**P**	**19 52 33.2**	**+0.5**
	baz=318							
T36A	**Boggs Farm, Ca**	**85.82**	**44**	P		**P**	**19 52 36.6**	**+0.5**
	baz=319							
P40A	**Paris**	**85.89**	**40**	P		**P**	**19 52 36.6**	**+0.2**
	baz=321							
WMOK	**Wichita Mounta**	**85.96**	**47**	P		**P**	**19 52 37.2**	**+0.3**
	baz=317							
IDI	**Anoyia**	**86.01**	**314**	P		**P**	**19 52 37.2**	**0.0**
	comp=Z,4.0nm,0.7s,baz=322,slow=12,SNR=6.7							
IDI	**Anoyia**	**86.01**	**314**	*e*P		**P**	**19 52 37.2**	**0.0**
	comp=Z,68nm,1.7s							
R39A	**Chumby, Stover**	**86.34**	**41**	P		**P**	**19 52 38.4**	**-0.2**
	baz=320							
S39A	**Bolivar**	**86.67**	**42**	P		**P**	**19 52 39.7**	**-0.6**
	baz=320							
T38A	**Diamond**	**86.67**	**43**	P		**P**	**19 52 40.4**	**+0.1**
	baz=320							
R40A	**Maddies Statio**	**86.74**	**41**	P		**P**	**19 52 40.5**	**-0.1**
	baz=321							
LTX	**Lajitas**	**86.96**	**54**	*e*P		**P**	**19 52 41.8**	**-0.1**
LTX	**Lajitas**	**86.96**	**54**	*e*P		**P**	**19 52 41.8**	**-0.1**
TX31	**Lajitas Ar. Si**	**86.96**	**54**	*e*P		**P**	**19 52 43.2**	**+1.3**
TXAR	**Lajitas Array**	**86.96**	**54**	P		**P**	**19 52 41.8**	**-0.1**
	comp=Z,1.5nm,0.6s,baz=286,slow=3.8,SNR=9.5							
TXAR	**Lajitas Array**	**86.96**	**54**	P		**P**	**19 52 41.8**	**-0.1**
TXAR				pmax		pmax		
	comp=Z,2.0nm,0.6s							
PLDF	**La Plantade**	**87.03**	**333**	*e*P		**P**	**19 52 43.0**	**+1.0**
AGO	**Saint Agoulin**	**87.13**	**334**	*e*P		**P**	**19 52 43.0**	**+0.6**
V38A	**Canehill**	**87.50**	**44**	P		**P**	**19 52 44.7**	**+0.4**
	baz=320							
LBL	**Lubilhac**	**87.80**	**333**	*e*P		**P**	**19 52 41.4**	**-4.3**
S42A	**Caledonia**	**87.88**	**40**	P		**P**	**19 52 46.7**	**+0.6**
	baz=322							
U40A	**Yellville**	**87.94**	**42**	P		**P**	**19 52 46.5**	**+0.1**
	baz=320							
333A	**Richland Sprin**	**88.34**	**49**	P		**P**	**19 52 49.0**	**+0.5**
	baz=317							
ESDC	**Sonseca Array**	**95.16**	**335**	P		**P**	**19 53 19.9**	**-0.1**
	comp=Z,1.4nm,0.8s,baz=9.2,slow=4.8,SNR=5.6							
MAW	**Mawson**	**123.05**	**207**	PKP		**PKPdf**	**19 58 52.1**	**+0.3**
	comp=Z,2.9nm,0.9s,baz=78,slow=2.0,SNR=3.9							
MAW	**Mawson**	**123.05**	**207**	PKIKP		**PKPdf**	**19 58 52.1**	**+0.3**
MAW				pmax		pmax		
	comp=Z,3.0nm,0.9s							
SYO	**Syowa Base**	**131.71**	**208**	*e*PKPdf		**PKPdf**	**19 59 10.0**	**+1.7**
LPAZ	**La Paz**	**143.71**	**58**	PKP		**PKPdf**	**19 59 32.4**	**-0.3**
	comp=Z,1.4nm,0.6s,baz=331,slow=5.4,SNR=4.8							
SNAA	**Sanae**	**144.20**	**197**	P		PKPbc	19 59 29.5	+0.1
SNAA	**Sanae**	**144.20**	**197**	PKP		PKPbc	19 59 29.9	+0.4
	comp=Z,18nm,1.0s,baz=155,slow=3.0,SNR=13							
PB11	**IPOC Station P**	**145.13**	**64**	*e*PKPbc		**PKPdf**	**19 59 35.0**	**+0.5**
VNA2	**Neumayer--Watz**	**145.76**	**197**	P		**PKPbc**	**19 59 34.3**	**-0.1**
	baz=52,slow=1.5							
VNA3	**Neumayer Olymp**	**146.00**	**195**	P		**PKPdf**	**19 59 34.0**	**-0.3**
PB01	**IPOC Station P**	**146.10**	**66**	*e*PKPdf		**PKPab**	**19 59 37.5**	**-0.1**
VNA1	**Neumayer--Stat**	**146.16**	**196**	P		**PKPbc**	**19 59 35.2**	**-0.4**
SIV	**San Ignacio**	**147.82**	**49**	PKPbc		**PKPbc**	**19 59 41.9**	**0.0**
	comp=Z,8.9nm,0.8s,baz=332,slow=3.6,SNR=7.6							

IDC 16 19:40:34.5±4.9, 16°.84S×167°.39E, h40km±36km, mb4.0/4, mb1 4.2/6, mb1mx3.8/46, mbtmp4.4/6, ML4.5/2, Error ellipse: s-maj=59.6km s-min=26.1km az=81.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**5.28**	**190**	Pn	Pn	19 41 50.0	-1.0
	13nm,0.3s,baz=17,slow=11,SNR=69						
DZM				Sn	Sn	19 42 52.3	+1.7
	16nm,0.3s,baz=119,slow=23,SNR=9.2						
HNR	**Honiara**	**10.33**	**315**	Pn	Pn	19 43 01.5	+1.2
	4.5nm,0.3s,baz=179,slow=16,SNR=2.9						
HNR				Sn	Sn	19 44 52.8	-2.0
	39nm,0.3s,baz=203,slow=11,SNR=7.2						
STKA	**Stephens Creek**	**27.76**	**233**	P	P	19 46 20.2	+0.5
	3.5nm,0.7s,baz=59,slow=8.9,SNR=3.8						
WRA	**Warramunga Arr**	**31.48**	**259**	P	P	19 46 52.8	-0.1
	1.3nm,1.0s,baz=87,slow=7.5,SNR=3.0						
ASAR	**Alice Springs**	**32.08**	**252**	P	P	19 46 57.7	-0.4
	2.6nm,0.5s,baz=79,slow=8.7,SNR=16						
SONM	**Songino Array**	**84.26**	**324**	P	P	19 53 02.2	0.0
	0.4nm,0.8s,baz=114,slow=6.5,SNR=4.5						

*IDC **16** 19:47:27.2±1.9, 40°.15N×143°.76E, h0km, mb3.7/6, mb1 3.7/7, mb1mx3.4/53, mbtmp3.6/7, ML3.2/1, Error ellipse: s-maj=52.2km s-min=23.5km az=82.0*
*ISCJB **16** 19:47:29.9±1.5, 40°.22N±0°.04×143°.38E±0°.07, h17km±11km, mb3.6/6, Error ellipse: s-maj=9.8km s-min=6.0km az=15.8*
*JMA **16** 19:47:30.3±0.2, 40°.26N×143°.23E, h5km±2km, M4.0*
ISC 16 19:47:30.6±3.5, 40°.25N±0°.05×143°.32E±0°.07, h11km±23km, n32, σ1°13/34, mb3.8/6, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTH	**Tanohata**	**1.16**	**255**	P	**Pb**	**19 47 51.2**	**-1.3**
JTH				*e*S	**Sb**	**19 48 06.0**	**-1.5**
MIYJ	**Miyakonagasawa**	**1.33**	**240**	P	**Pn**	**19 47 54.1**	**-1.0**
MIYJ				*e*S	**Sb**	**19 48 11.1**	**-1.5**
JANG	**Nango**	**1.38**	**276**	P	**Pn**	**19 47 54.8**	**-1.0**
JOM	**Ohasama**	**1.74**	**244**	P	**Pn**	**19 48 00.7**	**0.0**
JOM				*e*S	**Sn**	**19 48 22.7**	**-0.1**
JEM	**Erimo**	**1.77**	**356**	*e*S	**Sn**	**19 48 24.2**	**+0.7**
JTM	**Tenmabayashi**	**1.79**	**288**	P	**Pn**	**19 48 01.3**	**-0.1**
JTM				*e*S	**Sn**	**19 48 24.6**	**+0.4**
JAH	**Hinai**	**2.05**	**269**	P	**Pn**	**19 48 05.7**	**+0.7**
JOT	**Ohata**	**2.06**	**304**	P	**Pn**	**19 48 05.0**	**0.0**
JOT				*e*S	**Sn**	**19 48 31.0**	**+0.3**
JNBK	**Urakawa-nobuka**	**2.07**	**348**	P	**Pn**	**19 48 06.2**	**+1.0**
JNBK				*e*S	**Sn**	**19 48 31.2**	**+0.2**
JMK	**Ichinoseki**	**2.07**	**232**	P	**Pn**	**19 48 05.2**	**0.0**
JRG	**Rokugo**	**2.23**	**248**	P	**Pn**	**19 48 08.6**	**+1.1**
JCH	**Churui**	**2.36**	**1**	P	**Pn**	**19 48 08.3**	**-0.9**
JCH				*e*S	**Sn**	**19 48 35.2**	**-3.0**
JKB	**Kayabe**	**2.38**	**314**	P	**Pn**	**19 48 10.2**	**+0.8**
JKB				*e*S	**Sn**	**19 48 39.0**	**+0.5**
JYK	**Kaneyama**	**2.64**	**241**	P	**Pn**	**19 48 13.6**	**+0.5**
JOU	**Okura**	**2.79**	**228**	P	**Pn**	**19 48 15.1**	**0.0**
JFT	**Otama**	**3.58**	**221**	P	**Pn**	**19 48 26.9**	**+0.9**
ASAJ	**Asahikawa**	**3.90**	**352**	Pn	**Pn**	**19 48 31.3**	**+0.9**
	baz=94,slow=0.0						
MAT	**Matsushiro**	**5.46**	**229**	P	**Pn**	**19 48 53.2**	**+1.4**
MAT	**Matsushiro**	**5.46**	**229**	P	**Pb**	**19 49 07.0**	**+1.1**
MJAR	**Matsushiro Arr**	**5.46**	**229**	Pn	**Pn**	**19 48 52.9**	**+1.1**
	0.7nm,0.3s,baz=36,slow=12,SNR=6.2						
SONM	**Songino Array**	**27.40**	**298**	P	**P**	**19 53 18.3**	**+2.3**
	0.7nm,0.9s,baz=98,slow=8.2,SNR=3.1						
H11N2	**WAKE ISLAND Hy**	**28.75**	**128**	T	T	20 23 34.1	
	baz=321,slow=75,SNR=13						
H11N1	**WAKE ISLAND Hy**	**28.76**	**128**	T	T	20 23 40.9	
	baz=321,slow=75,SNR=10						
H11N3	**WAKE ISLAND Hy**	**28.76**	**128**	T	T	20 23 43.5	
	baz=321,slow=75,SNR=14						
H11S1	**WAKE ISLAND Hy**	**29.58**	**130**	T	T	20 24 38.7	
	baz=322,slow=76,SNR=18						
H11S3	**WAKE ISLAND Hy**	**29.58**	**130**	T	T	20 24 39.2	
	baz=322,slow=76,SNR=16						
H11S2	**WAKE ISLAND Hy**	**29.59**	**130**	T	T	20 24 40.1	
	baz=322,slow=76,SNR=17						
ZALV	**Zalesovo Beam**	**40.93**	**310**	P	**P**	**19 55 13.6**	**+0.9**
	0.3nm,0.4s,baz=100,slow=8.1,SNR=2.2						
KURBB	**Kurchatov Arra**	**45.27**	**306**	P	**P**	**19 55 47.9**	**+0.1**
	0.4nm,0.3s,baz=78,slow=8.5,SNR=3.0						
BVAR	**Borovoye Array**	**49.56**	**311**	P	**P**	**19 56 21.5**	**+0.3**
	1.1nm,0.8s,baz=64,slow=13,SNR=3.9						
WRA	**Warramunga Arr**	**60.46**	**190**	P	**P**	**19 57 38.4**	**-1.9**
	0.4nm,0.7s,baz=7.3,slow=6.8,SNR=4.1						
FINES	**FINESS Array B**	**66.67**	**332**	P	**P**	**19 58 21.3**	**+0.4**
	1.5nm,0.9s,baz=37,slow=7.1,SNR=2.5						

*CSEM **16** 19:50:48.6, 38°.45N×14°.85E, h9km, MD2.0/5*
ROM 16 19:50:48.6±0.3, 38°.45N×14°.85E, h9km±2km, Md2.0/5, Ml2.2/3, Error ellipse: s-maj=4.7km s-min=2.1km az=34.0, Sicily

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VPL	**Vulcano Piano**	**0.13**	**124**	Pg	Pg	19 50 51.5	-0.1
VPL				Sg	Sg	19 50 54.8	+1.2
VPL	**Vulcano Piano**	**0.13**	**124**	Pg	Pg	19 50 51.5	-0.1
VPL				Sg	Sg	19 50 54.8	+1.2
IFIL	**Filicudi I Eol**	**0.25**	**297**	Pg	Pg	19 50 54.6	+1.0
IFIL	**Filicudi I Eol**	**0.25**	**297**	Pg	Pg	19 50 54.6	+1.0
MUR	**Ucria**	**0.41**	**177**	Pg	Pg	19 50 57.2	+0.6
MUCR				Sg	Sb	19 51 04.1	-0.3
	236nm,0.4s						
MUCR	**Ucria**	**0.41**	**177**	Pg	Pg	19 50 57.2	+0.6
MUCR				Sg	Sb	19 51 04.1	-0.3
	236nm,0.4s						
NOV	**Novara**	**0.48**	**152**	Pg	Pg	19 50 58.3	+0.3
NOV				Sg	Sg	19 51 05.2	+0.9
	134nm,0.7s						
NOV	**Novara**	**0.48**	**152**	Pg	Pg	19 50 58.3	+0.3
NOV				Sg	Sg	19 51 05.2	+0.9
	134nm,0.7s						
MCSR	**Castroreale**	**0.50**	**141**	Pg	Pg	19 50 58.5	+0.2
MCSR				Sg	Sb	19 51 06.2	-0.8
	164nm,0.3s						
MCSR	**Castroreale**	**0.50**	**141**	Pg	Pg	19 50 58.5	+0.2
MCSR				Sg	Sb	19 51 06.2	-0.8
	164nm,0.3s						
PLLN	**Pollina**	**0.72**	**231**	Pg	Pg	19 51 02.8	+0.3
PLLN				Sg	Sg	19 51 12.3	+0.4
PLLN	**Pollina**	**0.72**	**231**	Pg	Pg	19 51 02.8	+0.3
PLLN				Sg	Sg	19 51 12.3	+0.4

*JMA **16** 19:51:00.8±0.3, 40°.19N×143°.35E, h10km±4km, M3.5*
*IDC **16** 19:51:02.6±2.7, 40°.33N×142°.89E, h0km, mb3.6/5, mb1 3.7/6, mb1mx3.3/51, mbtmp3.6/6, ML3.0/1, Error ellipse: s-maj=72.6km s-min=25.5km az=72.0*
ISC 16 19:51:03.2±1.4, 40°.29N±0°.08×143°.14E±0°.09, h12km, n15, σ0°.84/18, mb3.6/5, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTH	**Tanohata**	**1.04**	**251**	P	**Pb**	**19 51 22.5**	**-0.6**
JTH				*e*S	**Sn**	**19 51 38.7**	**+0.7**
MIYJ	**Miyakonagasawa**	**1.24**	**235**	P	**Pn**	**19 51 25.4**	**-0.9**
JANG	**Nango**	**1.25**	**274**	P	**Pb**	**19 51 26.7**	**+0.1**
JOM	**Ohasama**	**1.64**	**241**	P	**Pn**	**19 51 31.6**	**-0.2**
JOM				*e*S	**Sg**	**19 51 55.4**	**-0.5**
JTM	**Tenmabayashi**	**1.66**	**288**	*e*S	**Sg**	**19 51 56.5**	**+0.1**
JAH	**Hinai**	**1.92**	**268**	P	**Pb**	**19 51 37.0**	**-1.1**
JAH				*e*S	**Sb**	**19 52 03.2**	**+1.2**
JOT	**Ohata**	**1.93**	**305**	*e*S	**Sg**	**19 52 04.5**	**-0.6**
JMK	**Ichinoseki**	**2.00**	**229**	P	**Pn**	**19 51 35.7**	**-1.0**
JYK	**Kaneyama**	**2.55**	**238**	P	**Pn**	**19 51 45.7**	**+1.4**
MJAR	**Matsushiro Arr**	**5.38**	**228**	Pn	**Pn**	**19 52 22.7**	**-0.6**
	0.5nm,0.3s,baz=41,slow=12,SNR=6.0						
SONM	**Songino Array**	**27.26**	**298**	P	**P**	**19 56 46.8**	**-0.5**
	0.3nm,0.6s,baz=89,slow=7.7,SNR=2.2						
ZALV	**Zalesovo Beam**	**40.80**	**310**	P	**P**	**19 58 44.1**	**0.0**
	0.5nm,0.4s,baz=72,slow=9.3,SNR=2.9						
KURBB	**Kurchatov Arra**	**45.13**	**306**	P	**P**	**19 59 18.6**	**-0.7**
	1.6nm,0.6s,baz=78,slow=8.3,SNR=3.0						
BVAR	**Borovoye Array**	**49.43**	**311**	P	**P**	**19 59 52.8**	**+0.1**
	0.3nm,0.4s,baz=93,slow=8.7,SNR=3.3						
WRA	**Warramunga Arr**	**60.48**	**190**	P	**P**	**20 01 14.2**	**+1.3**
	0.4nm,0.9s,baz=6.2,slow=7.1,SNR=2.5						

*CSEM **16** 19:53:06.6, 36°.85N×27°.49E, h4km, MD2.4*
ISK 16 19:53:06.6, 36°.85N×27°.49E, h4km, MD2.4, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAT	**Datca**	**0.14**	**150**	*e*PG	Pg	19 53 10.2	+0.8
DAT				*e*SG	Sg	19 53 12.5	+1.2
DAT	**Datca**	**0.14**	**150**	*e*Pg	Pg	19 53 10.2	+0.8
DAT				*e*Sg	Sg	19 53 12.5	+1.2
BODT	**Bodrum**	**0.26**	**326**	*e*PG	Pg	19 53 12.3	+0.8
BODT				*e*SG	Sg	19 53 16.7	+1.8
BODT	**Bodrum**	**0.26**	**326**	*e*Pg	Pg	19 53 12.4	+0.8
BODT				*e*Sg	Sg	19 53 16.7	+1.8
NIS1	**Nisyros Isl.**	**0.35**	**225**	*e*PG	Pb	19 53 14.4	-1.0
NIS1				*e*SG	Sb	19 53 19.9	-1.5
NIS1	**Nisyros Isl.**	**0.35**	**225**	*e*Pg	Pg	19 53 14.4	+1.0
NIS1				*e*Sg	Sb	19 53 19.9	-1.5
MLSB	**Milas**	**0.50**	**27**	*e*PG	Pb	19 53 17.1	-0.8
MLSB	**Milas**	**0.50**	**27**	*e*Pg	Pb	19 53 17.2	-0.8
DIDI	**Didim-Aydin**	**0.56**	**339**	*e*PG	Pg	19 53 18.2	+0.8
DIDI	**Didim-Aydin**	**0.56**	**339**	*e*Pg	Pg	19 53 18.2	+0.8
MRSB	**Marmaris-Mugla**	**0.58**	**103**	*e*PG	Pb	19 53 19.0	-0.4
MRSB	**Marmaris-Mugla**	**0.58**	**103**	*e*Pg	Pb	19 53 19.0	-0.4

*IDC **16** 19:53:51.8±1.0, 40°.12N×143°.53E, h0km, mb3.9/13, mb1 3.9/17, mb1mx3.8/46, mbtmp3.9/17, ML3.4/3, Error ellipse: s-maj=24.6km s-min=16.5km az=100.0*
*ISCJB **16** 19:53:53.1±1.4, 40°.12N±0°.03×143°.55E±0°.05, h19km±10km, mb3.8/13, Error ellipse: s-maj=7.4km s-min=5.0km az=30.1*
*JMA **16** 19:53:53.4±0.1, 40°.20N×143°.36E, h2km±2km, M3.9*
ISC 16 19:53:52.9±2.3, 40°.16N±0°.04×143°.40E±0°.08, h3km±12km, n40, σ1°75/47, mb3.9/13, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTH	**Tanohata**	**1.20**	**260**	P	**Pg**	**19 54 15.9**	**0.0**
JTH				*e*S	**Sg**	**19 54 31.9**	**+0.5**
MIYJ	**Miyakonagasawa**	**1.35**	**245**	P	**Pn**	**19 54 18.9**	**+0.3**
MIYJ				*e*S	**Sg**	**19 54 36.9**	**+0.7**
JANG	**Nango**	**1.46**	**279**	P	**Pn**	**19 54 19.9**	**-0.2**
JANG				*e*S	**Sg**	**19 54 39.5**	**-0.2**
JOM	**Ohasama**	**1.76**	**248**	P	**Pn**	**19 54 25.2**	**+0.9**
JOM				*e*S	**Sn**	**19 54 48.4**	**+1.2**
JEM	**Erimo**	**1.86**	**354**	*e*S	**Sn**	**19 54 50.0**	**+0.2**
JTM	**Tenmabayashi**	**1.89**	**290**	P	**Pn**	**19 54 26.6**	**+0.6**
JTM				*e*S	**Sn**	**19 54 50.6**	**+0.3**
JMK	**Ichinoseki**	**2.07**	**235**	P	**Pn**	**19 54 29.1**	**+0.6**
JMK				*e*S	**Sn**	**19 54 56.3**	**+1.5**
JAH	**Hinai**	**2.12**	**272**	P	**Pn**	**19 54 30.2**	**+1.0**
JAH				*e*S	**Sn**	**19 54 57.1**	**+1.1**
JOT	**Ohata**	**2.16**	**305**	P	**Pn**	**19 54 30.3**	**+0.5**
JOT				*e*S	**Sn**	**19 54 58.0**	**+0.9**
JNBK	**Urakawa-nobuka**	**2.17**	**347**	P	**Pn**	**19 54 30.5**	**+0.5**
JNBK				*e*S	**Sn**	**19 54 58.7**	**+1.3**
JRG	**Rokugo**	**2.26**	**251**	P	**Pn**	**19 54 32.8**	**+1.6**
JRG				*e*S	**Sn**	**19 55 01.6**	**+2.0**
JCH	**Churui**	**2.45**	**359**	P	**Pn**	**19 54 34.5**	**+0.7**
JCH				*e*S	**Sn**	**19 55 02.6**	**-1.7**
JKB	**Kayabe**	**2.49**	**315**	P	**Pb**	**19 54 36.7**	**-1.5**
JYK	**Kaneyama**	**2.66**	**243**	P	**Pn**	**19 54 38.0**	**+1.4**
JOU	**Okura**	**2.78**	**231**	P	**Pn**	**19 54 39.3**	**+1.0**
MAT	**Matsushiro**	**5.45**	**230**	P	**Pn**	**19 55 16.8**	**+1.8**
MAT				*e*S	**Sn**	**19 56 24.0**	**+5.8**
MJAR	**Matsushiro Arr**	**5.45**	**230**	Pn	**Pn**	**19 55 16.2**	**+1.2**
	1.1nm,0.3s,baz=41,slow=12,SNR=22						
JHJ	**Hachijo jima 2**	**7.60**	**204**	Pn	**Pn**	**19 55 43.5**	**-1.1**
	8.9nm,0.3s,baz=72,slow=20,SNR=3.6						
JHJ				Sn	**Sn**	**19 57 03.6**	**-7.6**
	5.6nm,0.3s,baz=66,slow=20,SNR=3.0						
USRK	**Ussuriysk Ar.**	**9.38**	**299**	Pn	**Pn**	**19 56 10.3**	**+1.3**
	baz=104,slow=16,SNR=3.9						
KSRS	**Korea Array**	**12.37**	**262**	Pn	**Pn**	**19 56 51.6**	**+1.7**
	0.1nm,0.3s,baz=72,slow=13,SNR=3.1						
SEY	**Seymchan**	**23.43**	**10**	P	**P**	**19 59 02.5**	**-0.4**
	5.0nm,1.0s,baz=200,slow=12,SNR=4.6						
SONM	**Songino Array**	**27.50**	**299**	P	**P**	**19 59 40.9**	**+0.4**
	1.0nm,0.7s,baz=106,slow=8.4,SNR=8.1						
H11N2	**WAKE ISLAND Hy**	**28.64**	**128**	T	T	20 29 53.5	
	baz=321,slow=75,SNR=8.9						
H11N1	**WAKE ISLAND Hy**	**28.65**	**128**	T	T	20 29 56.8	
	baz=321,slow=75,SNR=12						
H11N3	**WAKE ISLAND Hy**	**28.66**	**128**	T	T	20 29 48.3	
	baz=321,slow=75,SNR=11						
H11S1	**WAKE ISLAND Hy**	**29.47**	**130**	T	T	20 30 56.0	
	baz=322,slow=76,SNR=9.7						
H11S3	**WAKE ISLAND Hy**	**29.47**	**130**	T	T	20 31 01.0	
	baz=322,slow=76,SNR=8.0						
H11S2	**WAKE ISLAND Hy**	**29.49**	**130**	T	T	20 30 58.4	
	baz=322,slow=76,SNR=7.5						
ZALV	**Zalesovo Beam**	**41.04**	**310**	P	**P**	**20 01 37.1**	**0.0**
	1.0nm,0.5s,baz=89,slow=7.8,SNR=5.4						
CMAR	**Chiang Mai Arr**	**43.83**	**254**	P	**P**	**20 02 00.3**	**-0.1**
	0.5nm,0.8s,baz=49,slow=7.3,SNR=3.8						
KURBB	**Kurchatov Arra**	**45.37**	**306**	P	**P**	**20 02 12.2**	**-0.1**
	4.4nm,0.7s,baz=78,slow=8.4,SNR=30						
ILAR	**Eielson Array**	**46.03**	**34**	P	**P**	**20 02 17.1**	**-0.3**
	0.5nm,0.8s,baz=257,slow=6.2,SNR=4.6						
BVAR	**Borovoye Array**	**49.67**	**311**	P	**P**	**20 02 45.1**	**-0.6**
	0.7nm,0.5s,baz=78,slow=9.0,SNR=7.6						
WRA	**Warramunga Arr**	**60.38**	**190**	P	**P**	**20 04 02.3**	**-1.1**
	0.7nm,0.7s,baz=7.2,slow=6.8,SNR=6.9						
ASAR	**Alice Springs**	**64.11**	**190**	P	**P**	**20 04 27.6**	**-0.7**
	0.3nm,0.7s,baz=8.1,slow=5.2,SNR=4.3						
FINES	**FINESS Array B**	**66.78**	**332**	P	**P**	**20 04 45.1**	**-0.1**
	2.2nm,0.8s,baz=57,slow=7.0,SNR=5.8						
HFS	**Hagfors**	**71.88**	**336**	P	**P**	**20 05 16.6**	**-0.2**
	2.0nm,0.6s,baz=64,slow=9.8,SNR=4.4						
NB2	**NORSAR Subarra**	**71.90**	**338**	P	**P**	**20 05 17.0**	**0.0**
	comp=Z,0.5nm,0.6s,baz=37,slow=6.2						
NOA	**NORSAR Array B**	**71.90**	**338**	P	**P**	**20 05 16.8**	**-0.2**
	comp=Z,1.5nm,0.9s,baz=36,slow=5.9,SNR=3.7						
AKASG	**Malin Array Be**	**72.77**	**323**	P	**P**	**20 05 22.2**	**-0.1**
	comp=Z,0.3nm,0.3s,baz=34,slow=6.2,SNR=4.2						

*CSEM **16** 20:01:23.4±0.7, 51°.45N×16°.18E, h1km, Error ellipse: s-maj=10.3km s-min=5.4km az=9.0*
*WAR **16** 20:01:24.9, 51°.44N×16°.19E, h1km*
PRU 16 20:01:26.9, 51°.34N×16°.18E, h0km, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.50**	**172**	*e*Pg	Pg	20 01 36.1	-0.4
KSP				*e*Sg	Sg	20 01 44.1	+1.1
KSP	**Ksiaz**	**0.50**	**172**	*e*Pg	Pg	20 01 36.1	-0.4
KSP				*e*Sg	Sg	20 01 44.1	+1.1
KSP	**Ksiaz**	**0.50**	**172**	*e*Pg	Pg	20 01 36.1	-0.4
KSP				*e*Sg	Sg	20 01 44.1	+1.1
UPC	**Upice**	**0.84**	**187**	*e*PG	Pg	20 01 42.3	-0.7
UPC				*e*SG	Sg	20 01 53.9	+0.1
	comp=Z,18nm,0.4s						
UPC	**Upice**	**0.84**	**187**	Pg	Pg	20 01 42.3	-0.7
UPC				Sg

	19nm,0.4s						
MORC	**Moravsky Berou**	**1.92**	**152**	*e*Pn	**Pn**	**20 03 38.4**	**-0.6**
MORC				*e*Sg	**Sn**	**20 04 04.5**	**+0.7**
CLL	**Collm**	**2.00**	**266**	*e*Pg	**Pg**	**20 03 44.0**	**+0.7**
CLL				*e*Sg	**Sg**	**20 04 09.0**	**-0.1**
	comp=Z,15nm,0.5s						
OKC	**Ostrava-Krasne**	**2.07**	**142**	*e*PG	**Pb**	**20 03 43.6**	**+0.1**
OKC				*e*SG	**Sb**	**20 04 08.8**	**-0.9**
	comp=Z,21nm,0.6s						
OKC	**Ostrava-Krasne**	**2.07**	**142**	Pg	**Pb**	**20 03 43.6**	**+0.1**
OKC				Sg	**Sb**	**20 04 08.8**	**-0.9**
	comp=Z,21nm,0.6s						
VRAC	**Vranov**	**2.19**	**173**	*e*Pn	**Pn**	**20 03 42.8**	**+0.1**
VRAC				*e*Sg	**Sb**	**20 04 13.5**	**+0.2**
NKC	**Novy Kostel**	**2.67**	**244**	*e*PN	**Pn**	**20 03 49.8**	**+0.5**
NKC				*e*PG	**Pg**	**20 03 56.6**	**+0.4**
NKC				*e*SG	**Sg**	**20 04 30.7**	**-0.1**
	comp=Z,19nm,0.3s						
NKC	**Novy Kostel**	**2.67**	**244**	Pn	**Pn**	**20 03 49.8**	**+0.5**
KHC	**Kasperske Hory**	**2.88**	**216**	*e*PN	**Pn**	**20 03 52.7**	**+0.4**
KHC				*e*PG	**Pb**	**20 03 58.6**	**+1.3**
KHC				*e*SG	**Sb**	**20 04 35.1**	**+1.9**
KHC	**Kasperske Hory**	**2.88**	**216**	Pn	**Pn**	**20 03 52.7**	**+0.4**
SMOL	**Smolenice**	**3.08**	**164**	*e*Pg	**Pg**	**20 04 04.6**	**+0.6**
SMOL				*e*SG	**Sg**	**20 04 42.6**	**-1.3**
SMOL	**Smolenice**	**3.08**	**164**	*e*PG	**Pg**	**20 04 04.6**	**+0.6**
SMOL				*e*SG	**Sg**	**20 04 42.6**	**-1.3**
LANS	**Liptovska Anna**	**3.15**	**137**	*e*Pg	**Pg**	**20 04 05.9**	**+0.6**
LANS				*e*Sg	**Sg**	**20 04 44.9**	**-1.2**
LANS	**Liptovska Anna**	**3.15**	**137**	*e*PG	**Pg**	**20 04 05.9**	**+0.6**
LANS				*e*SG	**Sg**	**20 04 44.9**	**-1.2**
LANS				*e*PG		20 06 17.7	
LANS				*e*SG		20 06 32.6	
VYHS	**Vyhne**	**3.45**	**149**	*e*Pg	**Pg**	**20 04 12.4**	**+1.3**
VYHS				*e*Sg	**Sg**	**20 04 55.4**	**-0.4**
VYHS	**Vyhne**	**3.45**	**149**	*e*PG	**Pg**	**20 04 12.4**	**+1.3**
VYHS				*e*SG	**Sg**	**20 04 55.4**	**-0.4**
VYHS				*e*PG		20 06 27.8	
VYHS				*e*SN		20 06 50.7	
CONA	**Conrad Observa**	**3.56**	**183**	Pn	**Pn**	**20 04 01.7**	**+0.1**
	comp=Z,0.2nm,0.1s						
CONA				Sg	**Sg**	**20 04 56.7**	**-2.8**
	comp=Z,6.7nm,0.4s						
BSD	**Bornholm Skovb**	**3.72**	**349**	*i* P	**Pn**	**20 04 03.1**	**-0.5**
BSD				*i* S	**Sn**	**20 04 44.2**	**-3.8**
BSD	**Bornholm Skovb**	**3.72**	**349**	*i* P	**Pn**	**20 04 03.1**	**-0.5**
MOA	**Molln**	**3.84**	**200**	Pn	**Pn**	**20 04 05.9**	**+0.5**
	comp=Z,0.6nm,0.2s						
MOA				Sg	**Sg**	**20 05 05.0**	**-3.4**
	comp=Z,3.7nm,0.3s						
STHS	**Stebnicka Huta**	**3.84**	**121**	*e*Pg	**Pg**	**20 04 20.2**	**+1.6**
STHS				*e*Sg	**Sg**	**20 05 10.3**	**+1.9**
STHS	**Stebnicka Huta**	**3.84**	**121**	*e*PG	**Pg**	**20 04 20.2**	**+1.6**
STHS				*e*SG	**Sg**	**20 05 10.3**	**+1.9**
STHS				*e*LG	Lg	20 05 19.8	
ARSA	**Arzberg**	**4.26**	**186**	Sg	**Sg**	**20 05 20.4**	**-1.3**
	comp=Z,1.4nm,0.3s						

IDC **16** *20:09:48.4±1.2,40˙.17N×143˙.58E,h0km,mb3.6/6, mb1 3.8/8,mb1mx3.5/36,mbtmp3.6/8,ML2.7/2,Error ellipse: s-maj=32.0km s-min=23.3km az=85.0*

JMA **16** *20:09:50.7±0.2,40˙.12N×143˙.31E,h8km±2km,M3.7*

ISC 16 20:09:49.9±3.0**,40˙.12N**±0˙.05×**143˙.33E**±0˙.07**,h7**km±18km**, n27**,σ1**908**/28**,mb3.6**/6**, Off east coast of Honshu**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
JTH	**Tanohata**	**1.14**	**261**	P		**Pb**	**Pb**	**20 10 12.1**	**+0.1**
JTH					*e*S		**Sn**	**20 10 27.7**	**-0.5**
MIYJ	**Miyakonagasawa**	**1.29**	**246**	P		**Pn**	**Pn**	**20 10 14.3**	**0.0**
MIYJ					*e*S		**Sb**	**20 10 31.2**	**+0.1**
JANG	**Nango**	**1.42**	**281**	P		**Pn**	**Pn**	**20 10 16.3**	**+0.2**
JANG					*e*S		**Sg**	**20 10 35.3**	**-0.1**
JOM	**Ohasama**	**1.70**	**248**	P		**Pb**	**Pb**	**20 10 21.0**	**-0.5**
JOM					*e*S		**Sb**	**20 10 43.2**	**+0.1**
JTM	**Tenmabayashi**	**1.85**	**292**	P		**Pn**	**Pn**	**20 10 23.3**	**+1.2**
JTM					*e*S		**Sb**	**20 10 47.5**	**+0.1**
JEM	**Erimo**	**1.90**	**356**	P		**Pb**	**Pb**	**20 10 24.3**	**-0.5**
JMK	**Ichinoseki**	**2.01**	**235**	P		**Pn**	**Pn**	**20 10 24.9**	**+0.7**
JAH	**Hinai**	**2.07**	**273**	P		**Pn**	**Pn**	**20 10 26.6**	**+1.6**
JAH					*e*S		**Sb**	**20 10 52.9**	**-0.8**
JOT	**Ohata**	**2.15**	**307**	P		**Pn**	**Pn**	**20 10 27.4**	**+1.3**
JNBK	**Urakawa-nobuka**	**2.20**	**349**	P		**Pn**	**Pn**	**20 10 28.7**	**+1.8**
JNBK					*e*S		**Sb**	**20 10 56.7**	**-0.8**
JRG	**Rokugo**	**2.20**	**252**	P		**Pb**	**Pb**	**20 10 28.9**	**-1.1**
JKB	**Kayabe**	**2.48**	**316**	P		**Pb**	**Pb**	**20 10 33.5**	**-1.2**
JYK	**Kaneyama**	**2.60**	**243**	P		**Pn**	**Pn**	**20 10 33.6**	**+1.3**
MJAR	**Matsushiro Arr**	**5.38**	**230**	Pn		**Pn**	**Pn**	**20 11 12.8**	**+2.1**
	1.2nm,0.3s,baz=41,slow=11,SNR=16								
USRK	**Ussuriysk Ar.**	**9.36**	**300**	Pn		**Pn**	**Pn**	**20 12 07.1**	**+2.0**
	0.2nm,0.3s,baz=122,slow=14,SNR=2.8								
SONM	**Songino Array**	**27.47**	**299**	P		**P**	**P**	**20 15 37.5**	**+0.9**
	0.7nm,0.7s,baz=93,slow=8.1,SNR=6.4								
H11N2	**WAKE ISLAND Hy**	**28.65**	**128**	T		T	T	20 45 42.2	
	baz=324								
H11N1	**WAKE ISLAND Hy**	**28.66**	**128**	T		T	T	20 45 43.4	
	baz=324								
H11N3	**WAKE ISLAND Hy**	**28.67**	**128**	T		T	T	20 45 45.2	
	baz=324								
H11S1	**WAKE ISLAND Hy**	**29.48**	**130**	T		T	T	20 46 45.7	
	baz=325								
H11S3	**WAKE ISLAND Hy**	**29.49**	**130**	T		T	T	20 46 47.3	
	baz=325								
H11S2	**WAKE ISLAND Hy**	**29.50**	**130**	T		T	T	20 46 42.1	
	baz=325								
ZALV	**Zalesovo Beam**	**41.02**	**310**	P		**P**	**P**	**20 17 33.9**	**+0.4**
	1.3nm,0.5s,baz=97,slow=7.8,SNR=5.8								
ILAR	**Eielson Array**	**46.09**	**34**	P		**P**	**P**	**20 18 13.1**	**-1.1**
	0.2nm,0.7s,baz=267,slow=5.4,SNR=3.6								
WRA	**Warramunga Arr**	**60.34**	**190**	P		**P**	**P**	**20 19 59.2**	**-0.3**
	0.3nm,0.5s,baz=9.0,slow=6.9,SNR=4.0								
ASAR	**Alice Springs**	**64.06**	**190**	P		**P**	**P**	**20 20 24.8**	**+0.4**
	0.1nm,0.7s,baz=8.6,slow=7.9,SNR=3.0								
FINES	**FINESS Array B**	**66.79**	**332**	P		**P**	**P**	**20 20 41.0**	**-0.7**
	2.2nm,0.8s,baz=87,slow=7.1,SNR=5.3								

NIED **16** *20:11:00,40˙.30N×143˙.40E,h14km,Mw5.6 Best double couple: M₀3.26000×10¹⁷ NP1:φs154.00000°,δ26.00000°, λ27.00000°. NP2:φs39.00000°,δ79.00000°,λ114.00000°.*

BJI **16** *20:11:09.7,40˙.18N×143˙.37E,h9km,mb5.3/73,mB5.9/12, Ms5.8/50,Ms7 5.7/48*

IDC **16** *20:11:10.7±0.4,40˙.22N×143˙.40E,h0km,mb4.9/28, mb1 5.0/34,mb1mx4.9/40,mbtmp4.9/34,ML4.1/4,MS5.6/9, Ms1 5.6/9,ms1mx5.1/41,Error ellipse: s-maj=13.3km s-min=10.0km az=114.0*

JMA **16** *20:11:10.8±0.2,40˙.27N×143˙.48E,h5km±2km,M5.7*

JMA Felt II J1.

ISCJB **16** *20:11:12.6±0.7,40˙.25N±0˙.02×143˙.32E±0˙.02,h19km±4km, mb5.4/428,MS5.8/22,Error ellipse: s-maj=3.1km s-min=2.1km az=155.8*

MOS **16** *20:11:14.3±1.1,40˙.28N×143˙.27E,h33km,mb5.7/154, MS5.8/11,Error ellipse: s-maj=5.9km s-min=4.3km az=100.2*

NEIC **16** *20:11:16.1±0.1,40˙.24N×143˙.24E,h35km,mb5.5/281, Error ellipse: s-maj=3.2km s-min=1.9km az=144.0*

NEIC Recorded [2 JMA] in Aomori and Iwate.

GCMT **16** *20:11:16.1±0.3,40˙.25N×143˙.82E,h32km±1km,MW5.7/87, Moment Tensor Solution. s27,c32; s87,c160; Duration: 1s7 Moment tensor: Scale 10¹⁷Nm; Mrr3.11±.21; Mθθ-0.43±.11; Mφφ-2.67±.12; Mrθ1.20±.15; Mrφ-0.74±.06; Mθφ2.61±.15; Best double couple: M₀4.15300×10¹⁷ NP1:φs22.00000°,δ67.00000°,λ94.00000°. NP2: φs192.00000°,δ23.00000°,λ81.00000°. Principal axes: T 4.2750, Plg68.0000°, Azm299.0000°; N -0.2390, Plg4.0000°, Azm201.0000°; P -4.0310, Plg22.0000°, Azm109.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*

ISC 16 20:11:13.4±0.7**,40˙.29N**±0˙.03×**143˙.36E**±0˙.03**,h17**km±4km**, n1296**,σ1**933**/1316**,mb5.5**/450**,MS5.8**/22**,105C-21D**,**Off east coast of Honshu**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
JTH	**Tanohata**	**1.20**	**254**	⇑P		**Pn**	**Pn**	**20 11 34.9**	**-0.5**
MIYJ	**Miyakonagasawa**	**1.38**	**240**	⇑P		**Pn**	**Pn**	**20 11 37.6**	**-0.3**
MIYJ					*e*S		**Sb**	**20 11 56.3**	**+0.1**
JANG	**Nango**	**1.42**	**274**	⇑P		**Pn**	**Pn**	**20 11 38.4**	**0.0**
JANG					*e*S		**Sb**	**20 11 57.7**	**+0.6**
ERM	**Erimo**	**1.73**	**355**	*ce*P		**Pn**	**Pn**	**20 11 42.8**	**+0.1**
ERM					pmax		pmax		
	comp=Z,1μm,1.0s								
ERM	**Erimo**	**1.73**	**355**	*e*Pn		**Pn**	**Pn**	**20 11 43.0**	**+0.3**
ERM					*e*Sn		**Sn**	**20 12 04.0**	**-0.4**
JEM	**Erimo**	**1.73**	**355**	P		**Pn**	**Pn**	**20 11 42.8**	**+0.1**
JOM	**Ohasama**	**1.79**	**244**	P		**Pn**	**Pn**	**20 11 43.9**	**+0.4**
JOM					*e*S		**Sb**	**20 12 08.5**	**+0.6**
JTM	**Tenmabayashi**	**1.82**	**287**	⇑P		**Pb**	**Pb**	**20 11 44.9**	**-1.3**
JTM					*e*S		**Sb**	**20 12 08.9**	**+0.2**
JNBK	**Urakawa-nobuka**	**2.04**	**347**	P		**Pn**	**Pn**	**20 11 47.4**	**+0.4**
JOT	**Ohata**	**2.07**	**303**	⇑P		**Pn**	**Pn**	**20 11 48.3**	**+1.0**
JOT					*e*S		**Sb**	**20 12 15.1**	**-0.8**
JAH	**Hinai**	**2.09**	**268**	P		**Pn**	**Pn**	**20 11 48.3**	**+0.7**
JMK	**Ichinoseki**	**2.13**	**232**	P		**Pn**	**Pn**	**20 11 48.3**	**+0.2**
JRG	**Rokugo**	**2.28**	**248**	P		**Pn**	**Pn**	**20 11 51.4**	**+1.1**
JRG					*e*S		**Sb**	**20 12 20.3**	**-1.7**
JCH	**Churui**	**2.33**	**360**	P		**Pn**	**Pn**	**20 11 50.6**	**-0.2**
JCH					*e*S		**Sn**	**20 12 18.6**	**-0.4**
JKB	**Kayabe**	**2.38**	**313**	⇑P		**Pn**	**Pn**	**20 11 52.6**	**+1.0**
JYK	**Kaneyama**	**2.69**	**240**	P		**Pn**	**Pn**	**20 11 57.0**	**+1.1**
JOU	**Okura**	**2.84**	**228**	P		**Pn**	**Pn**	**20 11 58.3**	**+0.3**
JFT	**Otama**	**3.64**	**221**	P		**Pn**	**Pn**	**20 12 09.0**	**+0.1**
ASAJ	**Asahikawa**	**3.87**	**352**	*e*Pn		**Pn**	**Pn**	**20 12 12.9**	**+0.8**
ASAJ					*e*Sn		**Sn**	**20 12 58.1**	**+1.0**
YUK	**Yuzh-Kuril'sk**	**4.18**	**26**	*i* P		**Pn**	**Pn**	**20 12 15.5**	**-0.8**
MAJO	**Matsushiro**	**5.51**	**229**	⇑*i*P		**Pn**	**Pn**	**20 12 35.8**	**+1.1**
MAJO	**Matsushiro**	**5.51**	**229**	*e*Pn		**Pn**	**Pn**	**20 12 35.7**	**+1.1**
MAJO					*e*Sn		**Sn**	**20 13 34.5**	**-3.2**
MAT	**Matsushiro**	**5.51**	**229**	P		**Pn**	**Pn**	**20 12 35.9**	**+1.2**
MAT					*e*S		**Sn**	**20 13 37.8**	**+0.1**
MJAR	**Matsushiro Arr**	**5.51**	**229**	Pn		**Pn**	**Pn**	**20 12 35.2**	**+0.5**
	comp=Z,8.1nm,0.3s,baz=35,slow=12,SNR=70								
MJAR					Sn		**Sn**	**20 13 38.5**	**+0.9**
	comp=Z,2.6nm,0.3s,baz=42,slow=12,SNR=4.2								
MJAR					LR		LR	20 14 23.2	
	comp=Z,7μm,21.9s,baz=30,slow=35								
MJB9	**Matsu-Tunnel**	**5.51**	**229**	*e*Pn		**Pn**	**Pn**	**20 12 35.7**	**+1.0**
KUR	**Kuril'sk**	**5.95**	**32**	*c i*P		**Pn**	**Pn**	**20 12 40.2**	**-0.4**
KUR				*i* S		**Sn**	**Sn**	**20 13 44.4**	**-4.0**
KUR					pmax		pmax		
	comp=Z,1μm,1.1s								
KUR					pmax		pmax		
	comp=N,354nm,0.4s								
KUR					pmax		pmax		
	comp=E,728nm,0.5s								
KUR					smax		smax		
	comp=N,899nm,0.6s								
KUR					smax		smax		
	comp=E,2μm,0.6s								
KUR					smax		smax		
	comp=E,17μm,2.9s								
KUR					smax		smax		
	comp=N,10μm,1.7s								
YSS	**Yuzh-Sakhalins**	**6.68**	**356**	⇓*e*P		**Pn**	**Pn**	**20 12 52.2**	**+1.6**
YSS					pmax		pmax		
	comp=Z,100nm,0.9s								
YSS					MLR		MLR		
	comp=Z,51μm,15.0s								
YSS	**Yuzh-Sakhalins**	**6.68**	**356**	*e*Pn		**Pn**	**Pn**	**20 12 50.0**	**-0.6**
YSS					*e*Sn		**Sn**	**20 14 06.5**	**+0.2**
INU	**Inuyama**	**7.04**	**228**	*e*Pn		**Pn**	**Pn**	**20 12 56.0**	**+0.4**
JHJ2	**Mitsune**	**7.71**	**203**	*e*Pn		**Pn**	**Pn**	**20 13 01.3**	**-3.5**
JHJ	**Hachijo jima 2**	**7.71**	**203**	Pn		**Pn**	**Pn**	**20 13 02.8**	**-2.0**
	comp=Z,30nm,0.3s,baz=154,slow=23,SNR=16								
JHJ					Sn		**Sn**	**20 14 23.6**	**-8.2**
	comp=Z,18nm,0.3s,baz=90,slow=20,SNR=2.9								
VLA	**Vladivostok**	**9.04**	**292**	⇓*i*P		**Pn**	**Pn**	**20 13 26.8**	**+3.8**
USRK	**Ussuriysk Ar.**	**9.30**	**299**	Pn		**Pn**	**Pn**	**20 13 29.5**	**+2.9**
	comp=Z,2.7nm,0.3s,baz=97,slow=16,SNR=54								
USRK					LR		LR	20 17 18.5	
	comp=Z,37μm,18.0s,baz=77,slow=39								
MSHR	**Mys Shultsa**	**9.45**	**288**	*ce*P		**Pn**	**Pn**	**20 13 32.7**	**+4.0**
HABR	**Khabarovsk**	**10.11**	**327**	*e*P		**Pn**	**Pn**	**20 13 35.5**	**-2.2**
HABR					*e*S		**Sn**	**20 15 27.1**	**-3.5**
HABR					pmax		pmax		
	comp=E,144nm,1.9s								
HABR					pmax		pmax		
	comp=N,134nm,1.9s								
HABR					pmax		pmax		
	comp=Z,286nm,1.9s								
HABR					MLR		MLR		
	comp=Z,19μm,13.0s								
MDJ	**Mudanjiang**	**11.05**	**298**	P		**Pn**	**Pn**	**20 13 53.5**	**+2.9**
MDJ					S		**Sn**	**20 15 59.8**	**+6.0**
MDJ					ScP		**ScP**	**20 23 24.0**	**+4.5**
MDJ					ScS		**ScS**	**20 26 58.1**	**+3.5**
MDJ					pmax		pmax		
	comp=Z,85nm,0.9s								
MDJ					LR		LR		
	comp=Z,15μm,13.3s								
MDJ					LR		LR		
	comp=Z,26μm,18.1s								
MDJ					LR		LR		
	comp=Z,48μm,15.8s								
MDJ	**Mudanjiang**	**11.05**	**298**	*e*Pn		**Pn**	**Pn**	**20 13 53.4**	**+2.7**
MDJ					*e*Sn		**Sn**	**20 15 49.9**	**-3.9**
JNU	**Nakatsue**	**12.30**	**238**	Pn		**Pn**	**Pn**	**20 14 07.4**	**-0.4**
	comp=Z,1.0nm,0.3s,baz=53,slow=15,SNR=20								
JNU					LR		LR	20 19 12.7	
	comp=Z,102nm,20.4s,baz=40,slow=39								
JNU	**Nakatsue**	**12.30**	**238**	Pn		**Pn**	**Pn**	**20 14 07.7**	**-0.1**
KSRS	**Korea Array**	**12.36**	**262**	Pn		**Pn**	**Pn**	**20 14 10.2**	**+1.6**
	comp=Z,0.2nm,0.3s,baz=65,slow=12,SNR=22								
KSRS					LR		LR	20 18 31.3	
	comp=Z,25μm,19.6s,baz=68,slow=36								
KS01	**Wonju Array Si**	**12.38**	**262**	*e*Pn		**Pn**	**Pn**	**20 14 08.2**	**-0.6**
KS15	**Wonju Array Si**	**12.40**	**262**	*e*Pn		**Pn**	**Pn**	**20 14 11.2**	**+2.2**
KSAR	**Wonju Array Be**	**12.40**	**262**	P		**Pn**	**Pn**	**20 14 10.2**	**+1.2**
KSAR	**Wonju Array Be**	**12.40**	**262**	Pn		**Pn**	**Pn**	**20 14 10.2**	**+1.2**
CBIJ	**Chichi jima**	**13.19**	**185**	*e*Pn		**Pn**	**Pn**	**20 14 20.9**	**+1.0**
INCN	**Inchon**	**13.33**	**263**	*e*Pn		**Pn**	**Pn**	**20 14 21.8**	**0.0**
SKR	**Severo-Kuril's**	**13.69**	**36**	*e*P		**Pn**	**Pn**	**20 14 24.6**	**-2.0**
SKR					pmax		pmax		
	comp=Z,203nm,0.9s								
SKR					MLR		MLR		
	comp=Z,38μm,12.0s								
CN2	**Changchun**	**13.77**	**291**	*e*P		**Pn**	**Pn**	**20 14 29.3**	**+1.6**
CN2					*e*S		**Sn**	**20 17 00.9**	**+0.7**
CN2					pmax		pmax		
	comp=Z,30nm,1.0s								
CN2					LR		LR		
	comp=Z,8μm,13.0s								
CN2					LR		LR		
	comp=Z,24μm,13.0s								
CN2					LR		LR		
	comp=Z,18μm,18.0s								
SNY	**Shenyang**	**15.01**	**282**	⇑P		**Pn**	**Pn**	**20 14 45.3**	**+0.7**
SNY					S		**Sn**	**20 17 32.8**	**+2.4**
SNY					pmax		pmax		
	comp=Z,70nm,2.0s								
SNY					LR		LR		
	comp=Z,18μm,14.3s								
SNY					LR		LR		
	comp=Z,25μm,17.1s								
SNY					LR		LR		
	comp=Z,35μm,18.2s								
PEA0	**Petropavlovsk-**	**16.12**	**33**	*e*Pn		**Pn**	**Pn**	**20 14 55.5**	**-3.5**
PEA0B	**Petropavlovsk-**	**16.12**	**33**	*e*Pn		**Pn**	**Pn**	**20 14 59.1**	**+0.1**
	comp=Z,113nm,1.2s								
PETK	**Petropavlovsk-**	**16.12**	**33**	Pn		**Pn**	**Pn**	**20 14 54.2**	**-4.8**
	comp=Z,0.2nm,0.3s,baz=192,slow=9.2,SNR=8.2								
PET	**Petropavlovsk**	**16.46**	**34**	*e*P		**P**	**P**	**20 15 08.1**	**+2.1**
PET					pmax		pmax		
	comp=Z,114nm,1.2s								
PET	**Petropavlovsk**	**16.46**	**34**	*e*Pn		**P**	**P**	**20 15 08.8**	**+2.8**
	comp=Z,264nm,1.4s								
DL2	**Dalian**	**16.81**	**272**	P		**P**	**P**	**20 15 09.1**	**-0.8**
DL2					pmax		pmax		
	comp=Z,180nm,1.4s								
JOW	**Kunigami**	**18.36**	**228**	P		**Pn**	**Pn**	**20 15 24.9**	**-2.3**
	baz=24,slow=11,SNR=2.4								
HIA	**Hailar**	**18.96**	**306**	*e*P		**P**	**P**	**20 15 31.6**	**-2.0**
HIA					pmax		pmax		
	comp=Z,110nm,0.9s								
HIA	**Hailar**	**18.96**	**306**	*e*P		**P**	**P**	**20 15 31.6**	**-2.0**
	comp=Z,113nm,0.9s								
MA2	**Magadan**	**19.86**	**11**	P		**P**	**P**	**20 15 42.9**	**-0.5**
	comp=Z,1.6nm,0.3s,baz=191,slow=9.5,SNR=25								
CLNS	**Chul'man**	**20.47**	**330**	*e*P		**P**	**P**	**20 15 49.6**	**-0.5**
CLNS				*e**PP		**sP**	**sP**	**20 15 58.0**	**+0.9**
CLNS				*e*				20 16 06.7	
CLNS				*e*				20 19 37.9	
CLNS				*i* S			Sn	20 19 46.2	+3.8
CLNS				pmax			pmax		
	comp=Z,101nm,0.8s								
CLNS				pmax			pmax		
	comp=E,61nm,0.9s								
CLNS				pmax			pmax		
	comp=N,103nm,1.5s								
CLNS				pmax			pmax		
	comp=Z,130nm,1.0s								
CLNS				pmax			pmax		
	comp=E,110nm,1.0s								
CLNS				pmax			pmax		
	comp=N,122nm,1.0s								
CLNS				smax			smax		
	comp=E,34nm,1.4s								
CLNS				smax			smax		
	comp=N,42nm,1.0s								
CLNS				MLR			MLR		
	comp=E,10μm,19.0s								
CLNS				MLR			MLR		
	comp=Z,15μm,23.0s								
CLNS				MLR			MLR		
	comp=N,4μm,18.0s								
BJI	**Beijing**	**20.76**	**278**	P			**P**	**20 15 51.4**	**-1.8**
BJI				S			**S**	**20 19 42.9**	**-1.3**
BJI				pmax			pmax		
	comp=N,57nm,1.7s								
BJI				LR			LR		
	comp=N,6μm,14.6s								
BJI				LR			LR		
	comp=N,20μm,15.9s								
BJI				LR			LR		
	comp=N,16μm,18.5s								
BJT	**Baijiatuao**	**20.77**	**278**	*e*P			**P**	**20 15 51.4**	**-2.0**
BJT				pmax			pmax		
	comp=Z,135nm,1.0s								
BJT	**Baijiatuao**	**20.77**	**278**	*e*P			**P**	**20 15 51.4**	**-2.0**
	comp=Z,135nm,1.0s								
TIA	**Tai'an**	**20.98**	**267**	⇑P			**P**	**20 15 53.9**	**-1.8**
TIA				pmax			pmax		
	comp=Z,40nm,0.9s								
NJ2	**Nanjing**	**21.38**	**255**	*e*P			**P**	**20 15 58.3**	**-1.7**
NJ2				sP			**pP**	**20 16 05.4**	**+0.6**
NJ2				S			S	20 19 42.4	-14
NJ2				pmax			pmax		
	comp=Z,69nm,0.9s								
NJ2				LR			LR		
	comp=Z,10μm,13.9s								
NJ2				LR			LR		
	comp=Z,19μm,15.0s								
NJ2				LR			LR		
	comp=Z,27μm,16.6s								
SEY	**Seymchan**	**23.31**	**10**	P			**P**	**20 16 19.8**	**-0.5**
	comp=Z,72nm,0.8s,baz=194,slow=6.9,SNR=58								
CIT	**Chita**	**23.57**	**310**	*e*P			**P**	**20 16 21.0**	**-2.0**
CIT				*e*				20 16 31.3	
CIT				*e*				20 16 37.8	
CIT				*e*				20 16 53.4	
CIT				*e*				20 17 04.9	
CIT				*e*S			**S**	**20 20 35.4**	**-1.0**
CIT				pmax			pmax		
	comp=Z,275nm,1.9s								
TATO	**Taipei**	**23.84**	**237**	*e*P			**P**	**20 16 25.0**	**-0.7**
	comp=Z,500nm,1.9s								
HHC	**Hu-ho-hao-te**	**24.10**	**282**	*e*P			**P**	**20 16 26.8**	**-1.4**
HHC				pmax			pmax		
	comp=Z,42nm,1.5s								
HHC				pmax			pmax		
	comp=Z,1μm,5.0s								
YHNB	**Yeheng**	**24.12**	**236**	*e*P			**P**	**20 16 25.3**	**-3.1**
	comp=Z,88nm,1.2s								
SMY	**Shemya**	**24.33**	**49**	*e*P			**P**	**20 16 30.1**	**+0.1**
SMY				pmax			pmax		
	comp=Z,570nm,1.5s								
SMY	**Shemya**	**24.33**	**49**	P			**P**	**20 16 27.7**	**-2.3**
	comp=Z,574nm,1.5s								
NACB	**Ninganchiao**	**24.34**	**235**	*e*P			**P**	**20 16 26.9**	**-3.4**
SSLB	**Suanglung**	**25.02**	**236**	*e*P			**P**	**20 16 33.6**	**-3.0**
	comp=Z,27nm,0.8s								
YULB	**Yu-li**	**25.09**	**234**	*e*P			**P**	**20 16 35.8**	**-1.4**
	comp=Z,48nm,1.0s								
WHN	**Wuhan**	**25.47**	**257**	⇑P			**P**	**20 16 40.4**	**-0.1**
TPUB	**Ta-pu**	**25.58**	**235**	*e*P			**P**	**20 16 39.8**	**-1.9**
	comp=Z,50nm,0.9s								
TWG	**Pinlang**	**25.66**	**234**	*e*P			**P**	**20 16 40.8**	**-1.5**
	comp=Z,327nm,0.9s								
BOD	**Bodaibo**	**25.73**	**323**	*e*P			**P**	**20 16 42.7**	**+

ATKA Atka Island 31.23 53 *e*P P 20 17 31.9 +0.1
comp=Z,149nm,1.2s
TIXI Tiksi 32.27 351 P P 20 17 40.6 -0.1
comp=Z,17nm,0.9s,baz=164,slow=9.9,SNR=16
TIXI Tiksi 32.27 351⇑ *i*P P 20 17 39.9 -0.8
TIXI pmax pmax
comp=Z,96nm,2.5s
TIXI Tiksi 32.27 351 *e*P P 20 17 39.7 -1.0
comp=Z,125nm,1.8s
GTA Gaotai 33.20 283 ⇑P P 20 17 50.0 +0.7
GTA pP sP 20 17 55.5 -1.2
GTA sP pP 20 17 58.6 +4.1
GTA pmax pmax
comp=Z,60nm,1.3s
CD2 Chengdu 33.30 266 P P 20 17 49.8 -0.4
CD2 sP sP 20 18 00.8 +3.2
CD2 PP **PnPn** **20 19 00.5 -0.2**
CD2 S **S** **20 23 13.4 +3.3**
CD2 pmax pmax
comp=Z,60nm,0.9s
GYA Guiyang 33.36 257⇑ *i*P P 20 17 50.4 -0.4
GYA PP **PnPn** **20 19 02.6 +1.0**
GYA S **S** **20 23 10.0 -1.1**
GYA ScP **ScP** **20 24 16.4 +0.4**
GYA SS **SnSn** **20 25 11.3 -1.0**
GYA pmax pmax
comp=Z,60nm,1.0s
GYA pmax pmax
comp=Z,180nm,5.6s
GYA LR LR
comp=Z,4μm,17.8s
GYA LR LR
comp=Z,4μm,18.0s
GYA LR LR
comp=Z,4μm,18.6s
MIDW Midway 34.35 98 *e*P P 20 17 56.7 -2.6
comp=Z,83nm,1.0s
QIZ Qiongzhong 35.70 244 P P 20 18 12.1 +1.1
QIZ S **S** **20 23 48.4 +1.3**
QIZ pmax pmax
comp=Z,21nm,2.0s
QIZ Qiongzhong 35.70 244 *e*P P 20 18 11.4 +0.4
comp=Z,28nm,1.2s
PATS Pohnpei 35.90 154 *e*P P 20 18 13.1 +0.4
comp=Z,190nm,1.5s
KMI Kunming 37.04 258 P P 20 18 22.9 +0.2
KMI pP sP 20 18 30.8 +0.8
KMI sP pP 20 18 32.9 +5.0
KMI pmax pmax
comp=Z,96nm,1.9s
KMI LR LR
comp=Z,14μm,15.6s
KMI LR LR
comp=Z,15μm,16.6s
KMI LR LR
comp=Z,19μm,17.0s
SLVN Son La 38.41 252 *e*P P 20 18 33.5 -0.6
comp=Z,26nm,0.9s
WMQ Urumqi 40.83 294 P P 20 18 55.1 +1.1
WMQ sP sP 20 19 02.4 +1.0
WMQ pmax pmax
comp=Z,26nm,2.1s
WMQ LR LR
comp=Z,14μm,19.7s
WMQ LR LR
comp=Z,13μm,15.1s
WMQ LR LR
comp=Z,9μm,18.5s
ZAA0 Zalesovo Array 40.93 310 *e*P P 20 18 54.6 -0.1
ZALV Zalesovo Beam 40.93 310 P P 20 18 55.0 +0.4
comp=Z,29nm,0.8s,baz=87,slow=7.7,SNR=48
ZALV PcP **PcP** **20 20 55.8 +1.0**
comp=Z,11nm,0.8s,baz=74,slow=2.9,SNR=2.3
ZALV LR LR 20 37 03.1
comp=Z,10μm,18.6s,baz=134,slow=38
NRIK Noril'sk 41.00 333 P P 20 18 54.6 -0.4
comp=Z,9.0nm,0.7s,baz=114,slow=7.1,SNR=23
NRIK LR LR 20 36 09.0
comp=Z,13μm,18.9s,baz=119,slow=36
SKNT Sakolnakorn 41.18 247 P P 20 18 57.6 +0.5
comp=Z,58nm,1.4s
UBPT Khong Chiam 41.30 244 P P 20 18 59.9 +1.8
comp=Z,119nm,1.4s
MYLDM Lahad Datu 41.49 219 *e*P P 20 19 01.1 +1.4
comp=Z,185nm,1.2s
DLV T Lat 41.71 237 *e*P P 20 19 01.1 -0.5
comp=Z,44nm,1.0s
NVS Novosibirsk 41.77 311⇑ *i*P P 20 19 02.5 +1.0
NVS pmax pmax
comp=N,59nm,2.1s
NVS pmax pmax
comp=E,142nm,2.1s
NVS pmax pmax
comp=Z,208nm,2.1s
TT01 Tatalina 41.89 37 *e*P P 20 19 04.6 +2.2
TTA Tatalina 41.89 37 *e*P P 20 19 03.8 +1.3
TTA pmax pmax
comp=Z,43nm,1.2s
TTA Tatalina 41.89 37 *e*P P 20 19 03.8 +1.3
comp=Z,43nm,1.2s
ZSN Zaisan 41.90 300 *i* P P 20 19 03.0 +0.2
comp=Z,202nm,1.9s
ZSN *e*S **S** **20 25 21.5 +1.4**
ZSN LR LR 20 36 52.2
comp=Z,2μm,13.2s
KKM Kota Kinabalu 41.90 223 *e*P P 20 18 59.3 -3.8
comp=Z,45nm,1.0s
SVW2 Sparrevohn 42.03 39 *e*P P 20 19 05.1 +1.5
comp=Z,60nm,1.1s
MANU Manus Island 42.29 174 *e*P P 20 19 05.9 -0.2
comp=Z,279nm,2.0s
SMPI Sarmi 42.29 187 P P 20 19 10.7 +4.6
comp=Z,97nm,1.1s
TSM Tawau 42.57 219 ⇑P P 20 19 10.0 +1.5
JAY Jayapura 42.67 184 P P 20 19 08.6 -0.7
comp=Z,1.6nm,0.9s,baz=307,slow=20,SNR=3.2
JAY Jayapura 42.67 184 P P 20 19 14.0 +4.8
comp=Z,37nm,0.9s
UTTA Uttaradit 43.12 251 P P 20 19 13.7 +0.8
comp=Z,13nm,0.9s,comp=Z,142nm
LAMP Lampang 43.29 253 P P 20 19 16.3 +2.0
comp=Z,13nm,0.9s
CHAI Chaiyaphum 43.31 248 P P 20 19 14.8 +0.4
comp=Z,19nm,1.0s,comp=Z,162nm
OHAK Old Harbor 43.35 45 *e*P P 20 19 14.7 +0.4
comp=Z,75nm,1.2s
RSO Redoubt South 43.42 40 *e*P P 20 19 16.5 +1.4
LSA Lhasa 43.51 273 P P 20 19 17.6 +1.1
LSA pmax pmax
comp=Z,12nm,1.1s
LSA Lhasa 43.51 273 *e*P P 20 19 16.6 +0.1
LSA pmax pmax
comp=Z,46nm,1.1s
LSA Lhasa 43.51 273 *e*P P 20 19 16.6 +0.1
comp=Z,46nm,1.1s
PBKT Sadao Pong 43.59 250 P P 20 19 17.3 +0.6
comp=Z,28nm,1.1s
CMMT Chiang Mai 43.61 254 P P 20 19 17.4 +0.5
comp=Z,187nm,1.1s
CHTO Chiang Mai 43.62 254 P P 20 19 17.5 +0.6
comp=Z,237nm,1.5s
CHTO Chiang Mai 43.62 254 *e*P P 20 19 16.8 -0.2
CHTO pmax pmax
comp=Z,39nm,1.0s
CHTO Chiang Mai 43.62 254 *e*P P 20 19 16.8 -0.2
comp=Z,39nm,1.0s
CHTO Chiang Mai 43.62 254 P P 20 19 16.8 -0.2
SNR=18
PPLA Purkeypile 43.64 37 *e*P P 20 19 18.8 +2.0
comp=Z,192nm,1.4s
KDAK Kodiak Island 43.68 44 P P 20 19 17.4 +0.4
comp=Z,72nm,1.1s,baz=281,slow=5.7,SNR=12
KDAK Kodiak Island 43.68 44 *i* P P 20 19 19.5 +2.5
KDAK Kodiak Island 43.68 44 *e*P P 20 19 17.2 +0.2
comp=Z,92nm,1.1s
CAST Castle Rocks 43.69 36 *e*P P 20 19 18.6 +1.6
comp=Z,65nm,1.1s
SPU Mount Spurr 43.74 39 *e*P P 20 19 17.6 +0.2
MK01 Makanchi Array 43.76 300 *e*P P 20 19 17.9 +0.1
MK31 Makanchi Array 43.76 300 *ce*P P 20 19 17.8 -0.1
MK31 pmax pmax
comp=Z,161nm,1.1s
MK31 Makanchi Array 43.76 300 *e*P P 20 19 18.1 +0.2
MKAR Makanchi Array 43.76 300 *e*P P 20 19 17.8 -0.1
MKAR pmax pmax
comp=Z,640nm,1.1s
MKAR Makanchi Array 43.76 300 *e*P P 20 19 17.8 -0.1
comp=Z,644nm,1.1s
CM31 Chiang Mai Arr 43.84 254 *e*P P 20 19 18.3 -0.4
CMAR Chiang Mai Arr 43.84 254 P P 20 19 19.0 +0.2
comp=Z,8.3nm,0.8s,baz=45,slow=6.8,SNR=48
CM01 Chiang Mai Arr 43.85 254 *e*P P 20 19 18.3 -0.6
SUKH Sukhothai 43.96 252 P P 20 19 20.7 +1.0
comp=Z,9.4nm,1.0s,comp=Z,101nm
MAKZ Makanchi 43.97 300 *i* P P 20 19 19.3 -0.2
MAKZ pmax pmax
comp=Z,189nm,1.3s
MAKZ Makanchi 43.97 300 *e*P P 20 19 19.4 -0.1
comp=Z,173nm,1.2s
MRSI Marisa 44.16 212 P P 20 19 22.5 +1.2
comp=Z,65nm,1.3s,comp=Z,6μm
FAKI Fak Fak 44.19 196 P P 20 19 27.1 +5.6
comp=Z,116nm,1.6s
FAKI Fak Fak 44.19 196 *e*P P 20 19 20.9 -0.6
comp=Z,172nm,1.3s
KTH Kantishna Hill 44.21 36 *e*P P 20 19 22.9 +1.7
comp=Z,172nm,1.2s
CNPM China Poot 44.24 42 *e*P P 20 19 23.4 +2.0
comp=Z,129nm,1.4s
SEM Semipalatinsk 44.25 305 *i* P P 20 19 19.9 -2.0
comp=Z,500nm,0.9s
SEM LR LR 20 38 04.2
comp=Z,4μm,12.8s
SUA Susitna One 44.36 39 *e*P P 20 19 24.2 +1.7
comp=Z,60nm,1.1s
BRLK Bradley Lake 44.40 41 *e*P P 20 19 23.7 +0.9
comp=Z,107nm,1.4s
TRF Thorofare Moun 44.50 36 *e*P P 20 19 26.3 +2.6
comp=Z,49nm,1.2s
SRAK Srakaew 44.55 246 P P 20 19 22.3 -2.2
comp=Z,115nm,1.0s,comp=Z,1μm
COLD Coldfoot 44.57 31 *e*P P 20 19 24.8 +0.7
comp=Z,146nm,1.8s
NAYO Nakonayok 44.85 247 P P 20 19 29.5 +2.7
comp=Z,25nm,1.5s
RC01 Rabbit Creek A 44.86 39 *e*P P 20 19 27.6 +1.2
comp=Z,92nm,1.3s
TOLK Toolik Lake Re 44.88 29 P P 20 19 28.3 +1.7
baz=267
RABL Rabaul 44.99 168 *e*P P 20 19 27.9 0.0
comp=Z,90nm,0.9s
SEW Seward 45.09 41 *e*P P 20 19 30.9 +2.7
comp=Z,110nm,1.4s
MCK McKinley 45.09 36 *e*P P 20 19 29.8 +1.6
MCK pmax pmax
comp=Z,52nm,1.0s
MCK McKinley 45.09 36 *e*P P 20 19 29.8 +1.6
comp=Z,52nm,1.1s
PMR Palmer 45.12 39 *e*P P 20 19 28.9 +0.5
PMR pmax pmax
comp=Z,69nm,1.2s
PMR Palmer 45.12 39 *e*P P 20 19 28.9 +0.5
comp=Z,69nm,1.3s
RND Reindeer 45.14 36 *e*P P 20 19 29.8 +1.1
RND pmax pmax
comp=Z,140nm,1.3s
RND Reindeer 45.14 36 *e*P P 20 19 29.8 +1.1
comp=Z,136nm,1.3s
KURK Kurchatov 45.20 306⇑ *i*P P 20 19 28.7 -0.5
KURK pmax pmax
comp=Z,177nm,1.0s
KURK pmax pmax
comp=Z,475nm,0.8s
KURK Kurchatov 45.20 306 *e*P P 20 19 28.9 -0.3
comp=Z,120nm,0.8s
KURK Kurchatov 45.20 306 P P 20 19 28.9 -0.3
SNR=53
CHBT CHBT 45.23 244 P P 20 19 32.5 +2.7
comp=Z,156nm,0.8s,comp=Z,487μm
UMPA Umpang Tak 45.35 251 P P 20 19 36.1 +5.3
comp=Z,8.9nm,0.9s,comp=Z,121nm
UTHA Uthitani 45.35 250 P P 20 19 33.9 +3.1
comp=Z,7.0nm,0.9s,comp=Z,81nm
MDM Murphy Dome 45.36 34 *e*P P 20 19 32.2 +1.8
comp=Z,148nm,1.3s
WRH Wood River Hil 45.44 34 *e*P P 20 19 33.3 +2.4
comp=Z,30nm,0.9s
SML Sawmill 45.48 38 *e*P P 20 19 32.7 +1.3
SML pmax pmax
comp=Z,110nm,1.2s
SML Sawmill 45.48 38 *e*P P 20 19 32.7 +1.3
comp=Z,110nm,1.2s
COLA College 45.52 34 *e*P P 20 19 33.8 +2.3
COLA pmax pmax
comp=Z,47nm,0.8s
COLA College 45.52 34 *e*P P 20 19 33.8 +2.3
comp=Z,47nm,0.8s
CCB Clear Creek Bu 45.55 34 *e*P P 20 19 34.0 +2.2
comp=Z,55nm,1.3s
DHY Denali Highway 45.83 36 *e*P P 20 19 34.9 +0.6
comp=Z,53nm,1.1s
AAI Ambon 45.92 201 P P 20 19 41.2 +5.9
comp=Z,118nm,1.3s
HDA Harding Lake 45.93 35 *e*P P 20 19 35.1 +0.2
comp=Z,60nm,1.1s
ILAR Eielson Array 45.94 34 P P 20 19 35.2 +0.3
comp=Z,12nm,1.0s,baz=268,slow=5.8,SNR=28
ILB Eielson Array 45.94 34 *e*P P 20 19 35.0 +0.1
IL1 Eielson Array 45.94 34 *e*P P 20 19 34.5 -0.4
SCM Sheep Creek Mo 45.95 38 *e*P P 20 19 36.3 +1.1
SCM pmax pmax
comp=Z,76nm,1.1s
SCM Sheep Creek Mo 45.95 38 *e*P P 20 19 36.3 +1.1
comp=Z,76nm,1.1s
FYU Fort Yukon 46.54 31 *e*P P 20 19 41.0 +1.4
comp=Z,155nm,1.2s
KLU Klutina 46.66 39 *e*P P 20 19 42.3 +1.6
comp=Z,83nm,1.2s
PDGK Podgornoye 46.67 296 *i* P P 20 19 40.7 -0.4
PDGK pmax pmax
comp=Z,95nm,1.5s
PAX Paxson 46.70 36 *e*P P 20 19 43.6 +2.6
PAX pmax pmax
comp=Z,57nm,1.5s
PAX Paxson 46.70 36 *e*P P 20 19 43.6 +2.6
comp=Z,57nm,1.5s
DIV Divide 46.78 39 *e*P P 20 19 42.6 +1.0
comp=Z,92nm,1.1s
EYAK Cordova Ski Ar 46.87 40 *e*P P 20 19 42.8 +0.6
comp=Z,66nm,1.1s
HARP HAARP 46.91 37 *e*P P 20 19 45.2 +2.6
SBUM Sibu 47.04 225 *e*P P 20 19 42.9 -1.2
comp=Z,34nm,1.3s
UZB Uzynbulak 47.05 296 *i* P P 20 19 41.9 -2.3
comp=Z,218nm,1.8s
UZB *e*S **S** **20 26 32.0 -3.4**
UZB LR LR 20 39 43.3
comp=Z,3μm,13.7s
KPKS Kokpek 47.18 296 *i* P P 20 19 43.2 -1.8
comp=Z,777nm,1.8s
KPKS LR LR 20 39 35.0
comp=Z,10μm,14.8s
DOT Dot Lake 47.26 35 *e*P P 20 19 46.2 +0.9
comp=Z,70nm,1.0s
TAPN Taplejung 47.30 272 *e*P P 20 19 47.2 +0.8
comp=Z,393nm,1.5s
BMRM Bremner River 47.36 39 *e*P P 20 19 47.9 +1.7
comp=Z,96nm,1.2s
MENT Mentasta 47.50 36 *e*P P 20 19 49.0 +1.8
comp=Z,52nm,1.0s
ODAN Odare 47.79 272 *e*P P 20 19 50.9 +0.7
comp=Z,180nm,1.1s
CRQM Cirque 48.10 39 *e*P P 20 19 53.8 +1.7
comp=Z,110nm,1.0s
JIRN Jiri 48.30 273 *e*P P 20 19 55.1 +0.8
RAMN Ramite 48.35 272 *e*P P 20 19 54.9 +0.4
comp=Z,212nm,0.9s
EGAK Eagle 48.38 34 *e*P P 20 19 55.4 +1.4
comp=Z,41nm,1.0s
GUN Gumba 48.41 274 *e*P P 20 19 56.0 +0.9
comp=Z,308nm,1.0s
MTKI Muara Teweh, K 48.56 219 P P 20 19 56.7 +0.8
comp=Z,61nm,1.4s,comp=Z,12μm
KSM Kuching 48.90 226 *e*P P 20 19 58.1 -0.4
comp=Z,46nm,1.1s
KKN Kakani 48.93 274 *e*P P 20 19 59.5 +0.6
comp=Z,223nm,1.0s
PKI Pulchoki 48.94 274 *e*P P 20 19 59.5 +0.4
PKIN Phulchoki 48.95 274 *e*P P 20 19 59.3 +0.2
BRZS Berezniki 49.06 306 *i* P P 20 19 58.0 -1.4
comp=Z,166nm,1.1s
BRZS *e*S **S** **20 27 00.9 -2.4**
BRZS LR LR 20 41 20.3
SPSI Sidrap Palu 49.07 212 P P 20 20 06.1 +6.3
DMN Daman 49.15 274 *e*P P 20 20 01.3 +0.6
DAWY Dawson 49.25 34 *e*P P 20 20 02.2 +1.5
comp=Z,18nm,1.1s
GKN Gorkha 49.31 275 *e*P P 20 20 02.1 +0.3
comp=Z,116nm,0.9s
STKI Sintang 49.44 224 P P 20 20 03.6 +1.0
TKM2 Tokmak 2 49.48 297 *i* P P 20 20 02.9 -0.1
TKM2 pmax pmax
comp=Z,147nm,1.1s
BRVK Borovoye 49.62 311⇑ *i*P P 20 20 03.7 +0.1
BRVK pmax pmax
comp=Z,100nm,1.2s
BRVK pmax pmax
comp=Z,197nm,1.1s
BRVK Borovoye 49.62 311 *e*P P 20 20 03.9 +0.4
comp=Z,144nm,1.4s
BRVK Borovoye 49.62 311 P P 20 20 04.5 +1.0
SNR=38
KAPI Kappang 50.03 211 *e*P P 20 20 06.0 -1.1
comp=Z,412nm,2.0s
FRU Bishkek 50.19 297 *e*P P 20 20 08.0 -0.1
FRU *e* 20 27 38.0
FRU pmax pmax
comp=Z,470nm,2.4s
KOLN Koldanda 50.22 275 *e*P P 20 20 09.5 +0.8
comp=Z,91nm,1.0s
AAK Ala-Archa 50.34 297 *i* P P 20 20 08.9 -0.6
AAK pmax pmax
comp=Z,42nm,1.1s
AAK Ala-Archa 50.34 297 *e*P P 20 20 09.1 -0.4
comp=Z,37nm,1.0s
SURT Suratani 50.35 244 P P 20 20 12.1 +2.5
comp=Z,44nm,1.0s
SKLT Songkhla 50.41 241 P P 20 20 13.1 +3.1
comp=Z,156nm,1.0s
PYUN Piuthan 50.52 276 *e*P P 20 20 11.7 +0.7
comp=Z,374nm,1.1s
KSH Kashi 50.53 292⇑ *i*P P 20 20 15.0 +4.1
KSH sP sP 20 20 24.3 +6.0
KSH PcP **PcP** **20 21 32.1 +3.5**
KSH PP **PP** **20 22 11.1 +4.6**
KSH S **S** **20 27 27.8 +3.5**
KSH sS sS 20 27 37.8 +4.7
KSH SS **SS** **20 30 58.8 +0.8**
KSH pmax pmax
comp=Z,48nm,1.2s
KSH pmax pmax
comp=Z,2μm,10.0s
KSH LR LR
comp=Z,3μm,14.4s
KSH LR LR
comp=Z,3μm,12.9s
KSH LR LR
comp=Z,8μm,14.8s
TRTT Trang 50.55 242 P P 20 20 13.3 +2.2
comp=Z,142nm,2.2s
INK Inuvik 50.80 28 P P 20 20 13.0 +0.7
comp=Z,9.7nm,0.8s,baz=284,slow=6.8,SNR=9.0
INK Inuvik 50.80 28 *e*P P 20 20 14.1 +1.8
INK pmax pmax
comp=Z,42nm,1.0s
INK Inuvik 50.80 28 *e*P P 20 20 14.1 +1.8
comp=Z,42nm,1.0s
MNAS Manas 51.76 297 *i* P P 20 20 20.0 -0.1
MNAS pmax pmax
comp=Z,90nm,1.0s
KULM Kulim 51.78 239 *e*P P 20 20 20.1 -0.2
comp=Z,34nm,1.0s
KULM Kulim 51.78 239 ⇓P P 20 20 22.2 +1.8
WHY Whitehorse 52.08 38 *e*P P 20 20 23.9 +1.7
comp=Z,58nm,1.2s
IPM Ipoh 52.14 238 *e*P P 20 20 20.8 -2.2
comp=Z,32nm,1.0s
IPM Ipoh 52.14 238 ⇓P P 20 20 24.1 +1.0
SKAG Skagway 52.21 40 *e*P P 20 20 24.8 +1.9
comp=Z,74nm,1.4s
MYKOM Kota Tinggi 52.42 233 *e*P P 20 20 25.3 +0.2
comp=Z,38nm,1.3s
MMRI Maumere 52.45 207 P P 20 20 28.0 +2.8
comp=Z,126nm,1.6s
MMRI Maumere 52.45 207 *e*P P 20 20 24.8 -0.4
comp=Z,126nm,1.1s
KGM Kluang 52.57 234 ⇑P P 20 20 28.0 +1.8
TPRI Tanjung Pinang 52.70 232 P P 20 20 30.2 +3.1
comp=Z,25nm,1.1s
BESE Bessie Mountai 52.70 41 *e*P P 20 20 28.0 +1.2
comp=Z,68nm,1.3s
SOEI Soe 52.84 204 P P 20 20 32.7 +4.5
comp=Z,129nm,1.1s
SOEI Soe 52.84 204 *e*P P 20 20 27.4 -0.7
comp=Z,114nm,1.0s
KK31 Karatay Array 52.86 299 *ce*P P 20 20 27.4 -0.7
KK31 pmax pmax
comp=Z,37nm,1.0s
KKAR Karatay Array 52.86 299 *e*P P 20 20 28.1 0.0
KKAR pmax pmax
comp=Z,220nm,1.0s
KKAR Karatay Array 52.86 299 *e*P P 20 20 28.1 0.0
comp=Z,223nm,1.0s
BATI Baumata 53.45 204 P P 20 20 45.7 +13
SVE Sverdlovsk 53.75 317⇓ *e*P P 20 20 35.5 +1.1
SVE pmax pmax
comp=Z,160nm,1.1s
SVE MLR MLR
comp=Z,20μm,15.0s
SVE MLR MLR
comp=E,17μm,14.0s
THN Thein Dam 53.86 284 *e*P P 20 20 32.4 -3.1
COEN Coen 53.97 180 *e*P P 20 20 37.6 +1.3
comp=E,40nm,1.1s
MTN Manton Dam 54.07 195 *e*P P 20 20 36.2 -0.9
comp=E,74nm,1.0s
PPBI Pangkal Pinang 54.23 228 P P 20 20 40.5 +2.1
comp=E,29nm,0.9s
LHMI Lhok Sumawe 54.30 243 *e*P P 20 20 38.4 -0.5
comp=E,67nm,1.0s
HLK Haleakala 54.50 92 *e*P P 20 20 42.4 +1.8
comp=E,158nm,1.1s
SOKR Solikamsk 54.70 322 *c i*P P 20 20 40.4 -0.8
SOKR pmax pmax
comp=Z,84nm,1.6s
WRAK Wrangell Islan 54.70 43 *e*P P 20 20 42.5 +1.2
PSI Prapat 54.78 239 *e*P P 20 20 41.6 -0.9
PSI pmax pmax
comp=Z,19nm,0.9s
PSI Prapat 54.78 239 *e*P P 20 20 41.6 -0.9
comp=Z,18nm,0.9s
ARU Arti 54.97 317 LR LR 20 46 56.7
comp=Z,13μm,19.4s,baz=48,slow=39
ARU Arti 54.97 317 *c i*P P 20 20 43.7 +0.5
ARU 20 21 43.8
ARU 20 22 46.3
ARU S **S** **20 28 25.1 +1.0**
ARU SS **SS** **20 32 00.2 -6.9**
ARU pmax pmax
comp=Z,190nm,1.7s
ARU MLR MLR
comp=Z,15μm,16.0s
ARU Arti 54.97 317 *e*P P 20 20 43.1 -0.1
comp=Z,140nm,1.2s
CHLP Challavanipeta 54.99 265 *e*P P 20 20 44.5 +0.6
DLBC Dease Lake 55.14 40 P P 20 20 45.1 +0.6
comp=Z,2.5nm,0.3s,baz=302,slow=9.5,SNR=2.4
DLBC Dease Lake 55.14 40 *e*P P 20 20 46.6 +2.0
comp=Z,73nm,1.5s
BKNI Bangkinang 55.31 235 P P 20 20 48.5 +2.3
comp=Z,81nm,0.8s
BKNI Bangkinang 55.31 235 *e*P P 20 20 46.0 -0.2
comp=Z,232nm,1.4s
POHA Pohakuloa 55.63 93 *e*P P 20 20 47.0 -1.8
comp=Z,143nm,1.3s
PWJI Pagerwojo 56.21 219 P P 20 20 53.3 +0.7
comp=Z,66nm,0.8s
PDSI Padang 56.63 235 P P 20 21 00.6 +4.9
KPJI Karang Pucung 57.03 222 P P 20 20 58.4 -0.1
comp=Z,48nm,1.0s
AB31 Akbulak array 57.04 309 *ce*P P 20 20 57.5 -0.7
AB31 pmax pmax
comp=Z,75nm,1.0s
ABKAR Akbulak array 57.04 309 *e*P P 20 20 58.0 -0.2
comp=Z,369nm,0.8s
KLSI 57.09 228 P P 20 21 00.6 +1.7
comp=Z,44nm,2.0s
PVM Polavaram 57.59 266 *e*P P 20 21 02.8 +0.4
SPA0 Spitsbergen Ar 57.63 349 *e*P P 20 21 02.5 +0.5

SPA0 IAmb IAmb 20 21 33.6
comp=Z,48nm,1.0s
SPA0 Spitsbergen Ar 57.63 349 *eP* **P 20 21 02.0 0.0**
AKTO Aktyubinsk 57.67 311 *i* P P **20 21 02.7 +0.1**
AKTO pmax pmax
comp=Z,56nm,0.9s
KBL Kabul 57.71 290 *eP* **P 20 21 02.6 -0.8**
KBL pmax pmax
comp=Z,65nm,1.0s
KBL Kabul 57.71 290 *eP* **P 20 21 02.6 -0.8**
comp=Z,65nm,1.0s
KBS Kingsbay 57.72 350 *eP* **P 20 21 03.6 +1.1**
KBS IAmb IAmb 20 21 05.7
comp=Z,44nm,0.9s
KBS Kingsbay 57.72 350 *eP* **P 20 21 03.2 +0.7**
KBS pmax pmax
comp=Z,250nm,2.0s
KBS Kingsbay 57.72 350 *eP* **P 20 21 03.2 +0.7**
comp=Z,250nm,2.0s
RPR Rampur 58.42 269 *eP* **P 20 21 08.3 0.0**
HSPB Hornsund (broa 58.59 348 *eP* **P 20 21 09.6 +0.9**
HSPB IAmb IAmb 20 21 11.9
comp=Z,320nm,1.9s
SRSP Sriramsagar 59.11 269 *eP* **P 20 21 12.7 -0.4**
ADKI Addanki 59.70 265 *eP* **P 20 21 17.6 +0.4**
LVZ Lovozero 59.78 335 *eP* **P 20 21 18.0 +0.9**
LVZ pmax pmax
comp=Z,146nm,2.0s
LVZ Lovozero 59.78 335 *eP* **P 20 21 18.0 +0.9**
comp=Z,146nm,2.0s
NJS Nagarjunasagar 59.78 266 *eP* **P 20 21 17.4 -0.3**
HYB Hyderabad 59.84 268 *i* P **P 20 21 18.0 -0.2**
HYBB Hyderabad (bro 59.84 268 *eP* **P 20 21 17.8 -0.4**
YKW3 Yellowknife Ar 60.20 31 *eP* **P 20 21 19.8 -0.1**
comp=Z,73nm,1.4s
YKA Yellowknife Ar 60.24 32 P **P 20 21 20.5 +0.3**
comp=Z,34nm,1.2s,baz=300,slow=6.7,SNR=14
YKB5 Yellowknife Ar 60.24 32 *eP* **P 20 21 21.0 +0.8**
APA Apatity 60.36 335 ⇓*i* P **P 20 21 21.7 +0.7**
APA pmax pmax
comp=Z,16nm,0.7s
APA MLR MLR
comp=Z,6µm,16.0s
SRLM Srisailam 60.37 266 *eP* **P 20 21 21.4 -0.4**
FITZ Fitzroy Crossi 60.39 199 *eP* **P 20 21 21.4 -0.3**
comp=Z,47nm,1.3s
WRAB Tennant Creek 60.49 190 *ceP* **P 20 21 19.3 -3.1**
WRAB pmax pmax
comp=Z,77nm,1.2s
WRAB Tennant Creek 60.49 190 *eP* **P 20 21 21.1 -1.3**
comp=Z,82nm,1.5s
WB2 Warramunga Arr 60.50 190 *eP* **P 20 21 20.8 -1.7**
WRA Warramunga Arr 60.51 190 P **P 20 21 20.9 -1.6**
comp=Z,22nm,1.1s,baz=7.9,slow=6.7,SNR=20
TMCR Tamitsa 60.63 331 *eP* **P 20 21 22.8 -0.1**
TMCR pmax pmax
comp=Z,92nm,1.0s
RCLA Racherla 60.71 266 *eP* **P 20 21 23.9 -0.3**
KLRI Killari 60.95 270 *eP* **P 20 21 25.2 -0.5**
SKHT Srikalahasti 61.19 264 *eP* **P 20 21 27.3 -0.1**
XMIS Christmas Isla 61.40 223 *eP* **P 20 21 26.7 -2.0**
comp=Z,116nm,1.3s
ARA0 ARCESS Array S 61.49 339 *eP* **P 20 21 29.1 +0.4**
ARCES ARCESS Array B 61.49 339 P **P 20 21 29.2 +0.5**
comp=Z,5.5nm,0.8s,baz=52,slow=7.9,SNR=6.6
ARE0 ARCESS Array S 61.49 339 *eP* **P 20 21 28.9 +0.2**
ARE0 IAmb IAmb 20 21 30.4
comp=Z,358nm,2.4s
KLMR Klimovskoe 61.83 327 *eP* **P 20 21 29.3 -1.8**
KLMR *e* 20 23 45.3
KLMR pmax pmax
comp=Z,110nm,1.4s
URV Uravakonda 62.32 266 *eP* **P 20 21 34.9 -0.2**
KTK1 Kautokeino 62.45 339 *eP* **P 20 21 35.4 +0.2**
KTK1 IAmb IAmb 20 21 36.1
comp=Z,288nm,2.1s
DAG Danmarks Havn 62.66 355 *i* P **P 20 21 35.8 -0.6**
DAG Danmarks Havn 62.66 355 *i* P **P 20 21 35.8 -0.6**
LLLB Lillooet 62.87 46 *eP* **P 20 21 39.1 +0.9**
comp=Z,58nm,1.5s
PGC Sidney 63.01 48 *eP* **P 20 21 37.9 -1.2**
comp=Z,95nm,1.6s
TRO Tromso 63.13 341 *eP* **P 20 21 42.1 +2.5**
TRO IAmb IAmb 20 21 57.9
comp=Z,118nm,1.4s
A04D Lummi Island 63.39 48 P **P 20 21 43.3 +1.6**
baz=302
NLWA Neilton Lookou 63.42 49 *eP* **P 20 21 43.0 +1.0**
comp=Z,72nm,1.4s
GEYT Alibeck 63.62 298 P **P 20 21 43.6 +0.2**
comp=Z,23nm,1.0s,baz=32,slow=3.6,SNR=29
JOF Joensuu 63.82 332 P **P 20 21 45.2 +1.0**
JOF pmax pmax
comp=Z,57nm,1.1s
B05A Bryant 63.98 48 P **P 20 21 46.3 +0.8**
baz=302
E03A Lebam 64.04 50 *eP* **P 20 21 47.2 +1.3**
comp=Z,69nm,1.2s
B06A Marblemount 64.19 47 *eP* **P 20 21 47.0 +0.2**
comp=Z,35nm,1.0s
AS01 Alice Springs 64.22 190 *eP* **P 20 21 46.6 -0.7**
AS31 Alice Springs 64.23 190 *eP* **P 20 21 47.0 -0.4**
comp=Z,4.7nm,1.0s
ASAR Alice Springs 64.23 190 P **P 20 21 46.6 -0.8**
comp=Z,2.3nm,0.7s,baz=8.1,slow=5.5,SNR=17
OUL Oulu 64.28 335 P **P 20 21 47.3 +0.1**
OUL pmax pmax
comp=Z,49nm,2.2s
PALK Pallekele 64.56 257 *i* P P 20 21 41.4 -8.5
D05A Enumclaw 64.61 49 *eP* **P 20 21 52.1 +2.4**
comp=Z,62nm,1.1s
C06D Leavenworth 64.84 48 P **P 20 21 52.3 +1.1**
baz=303
TDL Tradedollar La 64.93 50 P **P 20 21 53.7 +1.7**
LON Longmire 64.95 49 *eP* **P 20 21 52.7 +0.7**
LON pmax pmax
comp=Z,60nm,1.9s
LON Longmire 64.95 49 *eP* **P 20 21 52.7 +0.7**
comp=Z,60nm,1.9s
MBWA Marble Bar 64.98 204 *eP* **P 20 21 52.5 +0.3**
comp=Z,30nm,1.3s
F04A Amboy 65.04 50 *eP* **P 20 21 53.2 +0.7**
comp=Z,67nm,1.3s
COR Corvallis 65.24 52 *eP* **P 20 21 55.4 +1.6**
COR pmax pmax
comp=Z,88nm,1.2s
COR Corvallis 65.24 52 *eP* **P 20 21 55.4 +1.6**
comp=Z,88nm,1.2s
STEI Steigen 65.30 341 *eP* **P 20 21 54.1 +0.2**
LTY Liberty 65.33 48 *eP* **P 20 21 54.9 +0.4**
comp=Z,64nm,1.4s
ETW Entiat 65.33 48 P **P 20 21 55.4 +0.7**
B08A Colville Reser 65.48 47 *eP* **P 20 21 56.5 +1.1**
XMAS Kiritimati 65.52 109 *eP* **P 20 21 55.0 -1.1**
comp=Z,160nm,1.4s
KEBM Edson Butte 65.54 54 *eP* **P 20 21 57.4 +1.5**
comp=Z,92nm,1.2s
MOS Moscow 65.55 323 *eP* **P 20 21 54.5 -1.2**
MOS *e* 20 24 18.8
MOS *eS* **S 20 30 39.0 -0.8**
MOS pmax pmax
comp=Z,168nm,1.7s
MOS MLR MLR
comp=Z,13µm,16.0s
LOF Lofoten 65.56 342 *eP* **P 20 21 55.9 +0.4**
DZM Mont Dzumac 65.66 156 *eP* **P 20 21 56.7 -0.1**
comp=Z,60nm,1.3s
I03D Drain, OR 65.69 53 P **P 20 21 57.9 +1.1**
baz=303
EIDS Eidsvold 65.71 172 *eP* **P 20 21 57.0 0.0**
comp=Z,17nm,1.0s
EDM Edmonton 65.86 40 *eP* **P 20 21 57.5 -0.3**
EDM pmax pmax
comp=Z,85nm,1.2s
EDM Edmonton 65.86 40 *eP* **P 20 21 57.5 -0.3**
comp=Z,85nm,1.2s
TRW Toppenish Ridg 65.93 49 P **P 20 21 60.0 +1.6**
G05D Wamic, OR 66.06 50 P **P 20 22 00.5 +1.3**
baz=304
PUL Pulkovo 66.17 329 ⇑*eP* **P 20 22 00.7 +1.1**
PUL pmax pmax
comp=Z,71nm,0.5s
E07A Sunnyside 66.18 49 *eP* **P 20 22 00.5 +0.6**
comp=Z,100nm,1.5s
I04A Tendick Farm, 66.21 52 P **P 20 22 01.3 +1.1**
baz=304,SNR=25

L02D Cave Junction, 66.38 54 P **P 20 22 02.5 +1.2**
baz=304
OBN Obninsk 66.41 323 ⇑*iP* **P 20 22 01.5 +0.3**
OBN *e* 20 22 26.3
OBN *e* 20 24 28.4
OBN *ePPP* PPP 20 26 05.0
OBN *eS* S 20 31 17.3 +27
OBN pmax pmax
comp=Z,117nm,1.3s
OBN MLR MLR
comp=Z,11µm,16.0s
OBN Obninsk 66.41 323 *eP* **P 20 22 01.5 +0.3**
comp=Z,102nm,1.2s
D08A Wollman Farm, 66.43 48 *eP* **P 20 22 02.1 +0.6**
comp=Z,37nm,1.1s
HAWA Hanford 66.46 49 *eP* **P 20 22 02.7 +1.0**
comp=Z,56nm,1.4s
G06A Carlson Farm, 66.47 50 *eP* **P 20 22 01.7 -0.1**
comp=Z,151nm,1.8s
HUMO Hull Mountain 66.53 53 *eP* **P 20 22 03.0 +0.7**
comp=Z,49nm,1.6s
VTHM Trough 66.54 50 P **P 20 22 03.8 +1.5**
KRMB Red Mountain 66.54 55 *eP* **P 20 22 03.9 +1.4**
comp=Z,92nm,1.7s
I05D Terrebonne, OR 66.55 51 P **P 20 22 03.7 +1.3**
baz=304
FIA1 FINESS Array S 66.65 332 *eP* **P 20 22 02.5 -0.1**
FINES FINESS Array B 66.65 332 P **P 20 22 02.9 +0.3**
comp=Z,38nm,0.8s,baz=55,slow=7.2,SNR=59
FINES FINESS Array B 66.65 332 *ceP* **P 20 22 03.2 +0.6**
FINES pmax pmax
comp=Z,38nm,0.8s
J04D Umpqua Nationa 66.70 52 P **P 20 22 04.9 +1.4**
baz=304,SNR=5.6
VAF Ylistaro 66.71 335 *eP* **P 20 22 05.1 +2.1**
VAF pmax pmax
comp=Z,50nm,2.1s
NEW Newport 66.75 46 P **P 20 22 04.3 +0.7**
baz=305,SNR=8.6
NEW Newport 66.75 46 *eP* **P 20 22 04.8 +1.2**
NEW pmax pmax
comp=Z,65nm,1.3s
NEW Newport 66.75 46 *eP* **P 20 22 04.8 +1.2**
comp=Z,65nm,1.3s
LPSR Galich'ya Gora 66.79 320 *eP* **P 20 22 04.0 +0.3**
LPSR pmax pmax
comp=Z,70nm,1.0s
MOR8 Moi Rana 66.84 340 *eP* **P 20 22 03.1 -0.7**
MOR8 IAmb IAmb 20 22 04.2
comp=Z,47nm,0.8s
JCC Jacoby Creek, 66.86 56 *eP* **P 20 22 03.8 -0.5**
comp=Z,58nm,1.1s
KHMM Horse Mountain 67.02 55 *eP* **P 20 22 07.2 +1.6**
comp=Z,52nm,1.1s
STOK Stokkvaagen 67.08 340 *eP* **P 20 22 05.7 +0.4**
STOK IAmb IAmb 20 22 07.7
comp=Z,183nm,2.0s
YBH Yreka Blue Hor 67.17 54 *eP* **P 20 22 08.0 +1.6**
YBH pmax pmax
comp=Z,36nm,1.2s
YBH Yreka Blue Hor 67.17 54 *eP* **P 20 22 08.0 +1.6**
comp=Z,36nm,1.3s
E09A Wood Farm, Sta 67.18 48 *eP* **P 20 22 07.4 +1.1**
comp=Z,80nm,1.2s
VORR Voronezh 67.20 319 P **P 20 22 05.0 -1.3**
VORR pmax pmax
comp=Z,250nm,1.4s
J05D Fort Rock, OR 67.20 52 P **P 20 22 08.1 +1.4**
baz=304,SNR=33
K04D Chiloquin, OR 67.26 53 P **P 20 22 08.4 +1.4**
baz=304
M02C Callahan 67.28 54 P **P 20 22 08.7 +1.6**
baz=304,SNR=14
KMRM Mail Ridge 67.39 56 *eP* **P 20 22 09.5 +1.6**
comp=Z,108nm,1.8s
SUMG Summit 67.43 1 *i* P **P 20 22 08.8 +0.9**
comp=Z,35nm,0.9s
SUMG Summit 67.43 1 *i* P **P 20 22 08.8 +0.9**
SUMG pmax pmax
comp=Z,35nm,0.9s
SUMG Summit 67.43 1 *eP* **P 20 22 08.3 +0.4**
comp=Z,247nm,1.9s
VSR Storozhevoye 67.50 319 *eP* **P 20 22 08.2 0.0**
VSR pmax pmax
comp=Z,70nm,1.0s
N02D Trinity Center 67.60 55 P **P 20 22 10.6 +1.4**
baz=304,SNR=6.9
M04C Macdoel 67.68 54 P **P 20 22 11.1 +1.4**
baz=305,SNR=6.6
K05A Suer Lake 67.73 52 *eP* **P 20 22 11.4 +1.4**
comp=Z,157nm,1.3s
WDC Whiskeytown Da 67.93 55 *eP* **P 20 22 12.5 +1.4**
WDC pmax pmax
comp=Z,36nm,1.2s
WDC Whiskeytown Da 67.93 55 *eP* **P 20 22 12.5 +1.4**
comp=Z,36nm,1.2s
F10A Beach Ranch, E 68.01 48 *eP* **P 20 22 12.8 +1.1**
comp=Z,98nm,2.0s
WALA Waterton Lakes 68.02 44 *eP* **P 20 22 12.4 +0.7**
comp=Z,64nm,1.3s
BSMT Bassoo Peak 68.27 45 *eP* **P 20 22 13.6 +0.2**
BLMT Blacktail Moun 68.40 45 *eP* **P 20 22 14.2 0.0**
VSU Vasula 68.42 330 ⇑*iP* **P 20 22 14.6 +0.7**
VSU pmax pmax
comp=Z,169nm,0.9s
GROC Groznyy 68.55 309 *eP* **P 20 22 15.0 0.0**
GROC *e* 20 22 38.8
GROC pmax pmax
comp=Z,85nm,1.7s
MOD Modoc Plateau 68.56 53 *eP* **P 20 22 15.8 +0.6**
comp=Z,43nm,1.3s
JTMT Jette 68.60 45 *eP* **P 20 22 17.4 +2.0**
BMO Blue Mountains 68.62 49 *eP* **P 20 22 16.3 +0.8**
BMO pmax pmax
comp=Z,34nm,1.2s
BMO Blue Mountains 68.62 49 *eP* **P 20 22 16.3 +0.8**
comp=Z,34nm,1.2s
YBMT Yellow Bay 68.68 45 *eP* **P 20 22 16.9 +1.1**
SEKA Sheki 68.86 306 P **P 20 22 15.1 -1.9**
SWMT Swartz Lake 68.90 45 *eP* **P 20 22 17.9 +0.7**
GOF Gofitskoye 69.07 312 ⇑*iP* **P 20 22 19.2 +1.0**
GOF *eS* **S 20 31 24.1 +1.6**
GOF pmax pmax
comp=Z,138nm,1.0s
MCCM Marconi Confer 69.10 57 *eP* **P 20 22 18.5 0.0**
comp=Z,101nm,1.3s
ORV Oroville 69.17 55 *eP* **P 20 22 18.9 0.0**
ORV pmax pmax
comp=Z,24nm,1.1s
ORV Oroville 69.17 55 *eP* **P 20 22 18.9 0.0**
comp=Z,24nm,1.1s
MNGR Mingechevir, A 69.18 306 P **P 20 22 17.1 -1.8**
WVOR Wild Horse Val 69.25 52 *eP* **P 20 22 20.4 +0.9**
WVOR pmax pmax
comp=Z,59nm,1.3s
WVOR Wild Horse Val 69.25 52 *eP* **P 20 22 20.4 +0.9**
comp=Z,59nm,1.3s
LKRN Lenkeran, Azer 69.31 304 P **P 20 22 17.9 -1.8**
SLMT Seeley Lake 69.33 45 *eP* **P 20 22 21.1 +1.1**
MSO Missoula 69.34 46 P **P 20 22 21.3 +1.4**
baz=307,SNR=10
MSO Missoula 69.34 46 *eP* **P 20 22 20.9 +0.9**
comp=Z,45nm,1.1s
CHMT Chamberlain Mo 69.66 45 *eP* **P 20 22 21.6 -0.5**
NCK Nalchik 69.68 310 ⇑*iP* **P 20 22 23.0 +1.0**
NCK pmax pmax
comp=Z,122nm,2.0s
BEKR Beckworth 69.70 55 *eP* **P 20 22 23.4 +1.0**
comp=Z,42nm,1.2s
GANJ Ganja 69.72 306 P **P 20 22 20.4 -1.9**
GUDG Gudauri 69.77 309 P **P 20 22 25.9 +3.1**
AFDM Forest Hills D 69.86 56 *eP* **P 20 22 24.2 +1.0**
comp=Z,68nm,1.7s
DUS Dusheti 69.86 308 P P 20 22 28.0 +4.8
DUS Dusheti 69.86 308 P P 20 22 28.0 +4.8
ZEI Tsey 69.92 309 *eP* **P 20 22 19.7 -4.0**
ZEI pmax pmax
comp=Z,82nm,0.9s
KIV Kislovodsk 69.93 311 *i* P **P 20 22 24.9 +1.2**
SNR=63
KIV Kislovodsk 69.93 311 ⇑*eP* **P 20 22 24.5 +0.9**
KIV *e* 20 22 46.7
KIV *e* 20 24 59.6
KIV *ePPP* PPP 20 26 42.7
KIV pmax pmax
comp=Z,157nm,1.1s

KIV Kislovodsk 69.93 311 *eP* **P 20 22 24.2 +0.6**
comp=Z,164nm,1.0s
KBZ Khabaz 69.94 311 P **P 20 22 24.6 +1.0**
comp=Z,42nm,0.8s,baz=62,slow=4.3,SNR=72
TBLG Delisi 70.05 308 P **P 20 22 25.1 +0.8**
TBLG Delisi 70.05 308 P **P 20 22 25.1 +0.8**
FFC Flin Flon 70.15 34 *eP* **P 20 22 24.7 0.0**
FFC pmax pmax
comp=Z,49nm,1.1s
FFC Flin Flon 70.15 34 *eP* **P 20 22 24.7 0.0**
comp=Z,49nm,1.1s
TBLU Trondheim 70.25 339 *eP* **P 20 22 24.2 -1.0**
TBLU IAmb IAmb 20 22 44.4
comp=Z,104nm,1.7s
ONI Oni 70.30 309 P **P 20 22 27.4 +1.5**
ONI Oni 70.30 309 P **P 20 22 27.4 +1.5**
MFID Camas Ranch 70.33 49 *eP* **P 20 22 25.2 -0.9**
comp=Z,50nm,1.4s
NEY Neytrino 70.33 310 *diP* **P 20 22 28.6 +2.4**
NEY pmax pmax
comp=Z,7.0nm,0.8s
PAHR Pah Rah Range 70.41 54 *eP* **P 20 22 27.4 +0.7**
comp=Z,59nm,1.3s
FCC Fort Churchill 70.41 28 *eP* **P 20 22 25.9 -0.2**
FCC pmax pmax
comp=Z,87nm,1.5s
FCC Fort Churchill 70.41 28 *eP* **P 20 22 25.9 -0.2**
comp=Z,87nm,1.5s
HRY Holter Researc 70.56 45 *eP* **P 20 22 28.1 +0.6**
PNTR Pine Nut 70.64 55 *eP* **P 20 22 29.0 +0.7**
comp=Z,41nm,1.1s
MICGM Minsk 70.66 326 *eP* **P 20 22 28.0 +0.3**
MICGM PM 20 22 30.0
comp=Z,0.3nm,1.0s
MNK Minsk 70.66 326 *eP* **P 20 22 28.0 +0.3**
MNK pmax pmax
comp=Z,260nm,1.0s
CMB Columbia Colle 70.77 56 *eP* **P 20 22 29.5 +0.7**
CMB pmax pmax
comp=Z,39nm,1.1s
CMB Columbia Colle 70.77 56 *eP* **P 20 22 29.5 +0.7**
comp=Z,38nm,1.1s
ARMA Armidale 70.77 172 *eP* **P 20 22 30.3 +1.6**
comp=Z,90nm,1.9s
LRM Limekiln Ridge 70.77 46 *eP* **P 20 22 29.4 +0.5**
SAO San Andreas Ge 70.83 58 *eP* **P 20 22 30.3 +1.1**
SAO pmax pmax
comp=Z,55nm,1.6s
SAO San Andreas Ge 70.83 58 *eP* **P 20 22 30.3 +1.1**
comp=Z,55nm,1.6s
EGMT Eagleton 70.84 43 P **P 20 22 30.5 +1.5**
baz=309,SNR=8.8
EGMT Eagleton 70.84 43 *eP* **P 20 22 29.8 +0.7**
comp=Z,67nm,1.1s
NACGM Naroch 70.84 327 *e* **P 20 22 29.0 +0.1**
YERR Yerington 70.92 55 *eP* **P 20 22 30.4 +0.5**
comp=Z,72nm,1.2s
DLMT Dillon 70.98 46 *eP* **P 20 22 31.1 +1.0**
comp=Z,82nm,1.3s
AKH Akhalkalaki 70.99 308 ⇓*iP* **P 20 22 32.2 +2.0**
GNI Garni 70.99 307 *i* P **P 20 22 31.9 +1.6**
SNR=12
GNI Garni 70.99 307 ⇑*iP* **P 20 22 31.8 +1.6**
GNI pmax pmax
comp=Z,272nm,1.5s
GNI Garni 70.99 307 *eP* **P 20 22 31.1 +0.8**
comp=Z,122nm,1.3s
BGD Bogdanovka 71.01 308 P **P 20 22 31.5 +1.0**
HLID Hailey 71.06 49 P **P 20 22 31.6 +0.9**
baz=308,SNR=21
HLID Hailey 71.06 49 *eP* **P 20 22 31.9 +1.2**
comp=Z,45nm,1.4s
WAKR Walker 71.09 55 *eP* **P 20 22 32.2 +1.3**
comp=Z,23nm,1.2s
NAX Nakhchivan 71.11 306 P **P 20 22 28.9 -2.0**
MCMT McKenzie Canyo 71.17 47 *eP* **P 20 22 30.6 -0.8**
BMN Battle Mountai 71.30 53 *eP* **P 20 22 32.6 +0.4**
BMN pmax pmax
comp=Z,49nm,1.1s
BMN Battle Mountai 71.30 53 *eP* **P 20 22 32.6 +0.4**
comp=Z,49nm,1.1s
BOZ Bozeman (W) 71.36 46 P **P 20 22 33.3 +0.8**
baz=309,SNR=47
BOZ Bozeman (W) 71.36 46 *eP* **P 20 22 32.8 +0.4**
BOZ pmax pmax
comp=Z,60nm,1.1s
BOZ Bozeman (W) 71.36 46 *eP* **P 20 22 32.4 0.0**
comp=Z,60nm,1.1s
MOL Molde 71.53 340 *eP* **P 20 22 33.9 +1.1**
TVH1 TV Hill, Hawth 71.54 55 *eP* **P 20 22 33.9 0.0**
comp=Z,51nm,1.3s
DOMB Dombas 71.56 339 *eP* **P 20 22 33.7 +0.6**
DOMB IAmb IAmb 20 22 35.6
comp=Z,49nm,1.3s
TVH3 East Aurora ar 71.56 55 *eP* **P 20 22 35.4 +1.5**
comp=Z,44nm,1.2s
NC405 NORSAR Array S 71.57 338 *eP* **P 20 22 33.0 -0.2**
NC303 NORSAR Array S 71.58 338 *eP* **P 20 22 32.5 -0.7**
PMPB Monarch Peak 71.58 58 *eP* **P 20 22 35.8 +2.0**
comp=Z,145nm,2.0s
TVH2 Borealis Mine 71.59 55 *eP* **P 20 22 35.1 +1.1**
comp=Z,30nm,1.3s
BANOM Banah 71.62 289 P **P 20 22 34.8 +0.6**
BIDO Bidbid 71.71 286 P **P 20 22 35.3 +0.7**
SNR=6.5
NC204 NORSAR Array S 71.71 338 *eP* **P 20 22 33.7 -0.4**
NB201 NORSAR Array S 71.74 338 *eP* **P 20 22 34.4 +0.2**
NB2 NORSAR Subarra 71.77 338 P **P 20 22 34.8 +0.3**
baz=37,slow=6.2
NB2 NORSAR Subarra 71.77 338 P **P 20 22 34.7 +0.3**
NB2 pmax pmax
comp=Z,50nm,1.1s
NB2 NORSAR Subarra 71.77 338 P **P 20 22 34.8 +0.3**
comp=Z,59nm,1.1s,baz=37,slow=6.2
NOA NORSAR Array B 71.77 338 P **P 20 22 34.5 +0.1**
comp=Z,16nm,0.8s,baz=37,slow=6.0,SNR=55
STKA Stephens Creek 71.82 182 P **P 20 22 35.5 +0.6**
comp=Z,6.6nm,0.8s,baz=341,slow=8.8,SNR=16
STKA Stephens Creek 71.82 182 *eP* **P 20 22 35.7 +0.8**
comp=Z,1.6nm,0.9s
SOC Sochi 71.86 312 *eP* **P 20 22 35.6 +0.4**
SOC pmax pmax
comp=Z,105nm,1.8s
SOC MLR MLR
comp=Z,6µm,16.0s
NBO02 NORSAR Array S 71.87 338 *eP* **P 20 22 34.7 -0.3**
NBO00 NORSAR Array S 71.90 338 *eP* **P 20 22 34.5 -0.7**
NC602 NORSAR Array S 71.92 337 *eP* **P 20 22 35.9 +0.6**
NC602 IAmb IAmb 20 22 36.6
comp=Z,157nm,1.8s
NC602 NORSAR Array S 71.92 337 *eP* **P 20 22 34.3 -1.0**
QLMT Earthquake Lak 71.95 46 *eP* **P 20 22 37.0 +0.9**
MLAC Mammoth, Mammo 71.99 56 P **P 20 22 36.6 +0.1**
baz=307
AKN Aaknes 72.00 340 *eP* **P 20 22 36.2 +0.4**
AKN IAmb IAmb 20 22 47.1
comp=Z,279nm,2.3s
NAO01 NORSAR Array S 72.02 338 *eP* **P 20 22 35.2 -0.7**
YHB Horse Butte 72.13 46 *eP* **P 20 22 38.2 +1.0**
comp=Z,64nm,1.3s
PAGB Antelope Grade 72.23 58 *eP* **P 20 22 38.3 +0.7**
comp=Z,88nm,1.3s
UOSS Minazif 72.27 288 *eP* **P 20 22 37.6 -0.4**
comp=Z,53nm,1.0s
YHH Holmes Hill 72.30 46 *eP* **P 20 22 39.4 +1.2**
comp=Z,39nm,1.3s
GCMT Greycliff 72.30 45 *eP* **P 20 22 38.6 +0.6**
YMR Madison River 72.31 46 *eP* **P 20 22 39.6 +1.4**
comp=Z,56nm,1.3s
ANN Anapa 72.37 314 *eP* **P 20 22 38.1 -0.1**
ANN pmax pmax
comp=Z,113nm,2.3s
HATD Hatta, Dubai 72.39 288 P **P 20 22 39.2 +0.4**
HATD Hatta, Dubai 72.39 288 P **P 20 22 39.3 +0.6**
SNR=8.5
YNR Norris Junctio 72.44 46 *eP* **P 20 22 40.4 +1.4**
comp=Z,60nm,1.3s
SFJD Kangerlussuaq 72.51 6 *eP* **P 20 22 38.5 -0.2**
SFJD pmax pmax
comp=Z,187nm,1.9s
SFJD Kangerlussuaq 72.51 6 *eP* **P 20 22 38.5 -0.2**
comp=Z,187nm,1.9s
YFT Old Faithful 72.52 46 *eP* **P 20 22 40.8 +1.3**
comp=Z,64nm,1.3s
ASHO Ashiyiah 72.53 288 P **P 20 22 40.2 +0.6**
RCTC Rector, Farmer 72.53 57 P **P 20 22 40.2 +0.9**

baz=307
NAZ Nazwa, Dubai 72.64 288 P P 20 22 41.0 +0.8
SMMC Simmler 72.64 58 P P 20 22 41.7 +1.5
baz=307
AKASG Malin Array Be 72.65 323 P P 20 22 40.0 +0.2
comp=Z,31nm,0.8s,baz=44,slow=6.3,SNR=75
AKBB Malin Array Si 72.65 323 eP P 20 22 40.1 +0.3
AKBB pmax pmax
comp=Z,43nm,0.9s
AKBB Malin Array Si 72.65 323 eP P 20 22 39.5 -0.4
comp=Z,43nm,0.8s
YPP Pitchstone Pla 72.65 46 eP P 20 22 41.5 +1.2
comp=Z,96nm,1.9s
KIEV Kiev 72.67 323 eP P 20 22 40.0 +0.1
KIEV pmax pmax
comp=Z,40nm,0.8s
KIEV Kiev 72.67 323 eP P 20 22 39.6 -0.3
comp=Z,40nm,0.8s
LKWY Lake 72.69 46 eP P 20 22 41.0 +0.5
LKWY pmax pmax
comp=Z,173nm,2.0s
LKWY Lake 72.69 46 eP P 20 22 41.0 +0.5
comp=Z,173nm,2.0s
AK11 Malin Array Si 72.69 323 eP P 20 22 39.2 -0.9
H17A Grant Village 72.70 46 P P 20 22 43.7 +3.1
baz=310,SNR=12
H17A Grant Village 72.70 46 eP P 20 22 42.9 +2.3
comp=Z,60nm,1.0s
TIN Tinemaha, Big 72.72 56 P P 20 22 42.1 +1.4
baz=308
OSL Oslo 72.81 337 eP P 20 22 40.9 +0.4
OSL IAmb IAmb 20 22 43.3
comp=Z,73nm,1.3s
IMW Indian Meadow 72.82 47 eP P 20 22 42.5 +1.2
comp=Z,37nm,1.0s
FAQ Al Faqa, Dubai 72.83 288 i P P 20 22 43.0 +1.6
SNR=6.1
LHI Lord Howe Isla 72.91 166 eP P 20 22 40.5 -0.9
comp=Z,213nm,1.6s
VES Vestal, Richgr 72.91 57 P P 20 22 43.1 +1.5
baz=308
RLMT Red Lodge 72.95 45 P P 20 22 43.3 +1.3
baz=310,SNR=11
RLMT Red Lodge 72.95 45 eP P 20 22 43.1 +1.1
comp=Z,67nm,1.4s
SUW Suwalki 72.96 328 eP P 20 22 41.9 +0.2
SUW Suwalki 72.96 328 eP P 20 22 41.8 +0.2
FOO Floro 72.99 341 eP P 20 22 42.3 +0.7
FOO IAmb IAmb 20 22 43.6
comp=Z,159nm,1.9s
PKM Mcpherson Peak 73.02 59 P P 20 22 43.2 +0.6
baz=308,SNR=7.2
MOOW Moose Ponds 73.02 47 eP P 20 22 44.0 +1.5
comp=Z,53nm,1.3s
BBOO Buckleboo 73.05 186 eP P 20 22 43.3 +1.1
comp=Z,84nm,1.8s
HYA Hoyanger 73.06 340 eP P 20 22 42.7 +0.7
HYA IAmb IAmb 20 22 44.6
comp=Z,32nm,0.9s
TPAW Teton Pass 73.07 47 eP P 20 22 44.1 +1.3
comp=Z,77nm,1.3s
HVU Hansel Valley 73.11 49 eP P 20 22 44.7 +1.7
HVU pmax pmax
comp=Z,37nm,1.1s
HVU Hansel Valley 73.11 49 eP P 20 22 43.9 +0.9
comp=Z,37nm,1.2s
LOHW Long Hollow 73.19 47 eP P 20 22 45.0 +1.5
comp=Z,122nm,2.0s
CWC Cottonwood Cre 73.19 56 P P 20 22 44.6 +1.1
baz=308
SNOW Snow King Moun 73.20 47 eP P 20 22 45.3 +1.8
comp=Z,47nm,1.3s
REDW Red Top Meadow 73.21 47 eP P 20 22 45.2 +1.7
comp=Z,53nm,1.3s
GRAC Grapevine Rang 73.31 56 P P 20 22 45.9 +1.8
baz=308,SNR=5.5
DGMT Dagmar 73.36 40 P P 20 22 45.4 +1.3
baz=313
DGMT Dagmar 73.36 40 eP P 20 22 44.5 +0.4
comp=Z,57nm,0.9s
KONO Kongsberg 73.37 337 eP P 20 22 44.6 +0.7
KONO IAmb IAmb 20 22 45.8
comp=Z,97nm,1.7s
KONO Kongsberg 73.37 337 ceP P 20 22 44.6 +0.7
KONO pmax pmax
comp=Z,260nm,2.5s
KONO Kongsberg 73.37 337 eP P 20 22 43.8 -0.1
comp=Z,36nm,1.2s
ISA Isabella, Lake 73.42 57 P P 20 22 46.6 +1.8
baz=308
ISA Isabella, Lake 73.42 57 eP P 20 22 45.0 +0.3
ISA pmax pmax
comp=Z,16nm,1.0s
ISA Isabella, Lake 73.42 57 eP P 20 22 45.0 +0.3
comp=Z,16nm,1.0s
BGU Big Grassy Mou 73.50 50 eP P 20 22 45.3 0.0
comp=Z,41nm,1.6s
LAO LASA Array 73.53 42 P P 20 22 46.4 +1.2
baz=312,SNR=11
LAO LASA Array 73.53 42 eP P 20 22 46.0 +0.8
comp=Z,100nm,1.3s
R11A Troy Canyon, C 73.58 54 P P 20 22 46.7 +0.9
baz=309,SNR=49
R11A Troy Canyon, C 73.58 54 eP P 20 22 46.6 +0.9
comp=Z,60nm,1.4s
SPUT South Promonto 73.60 50 eP P 20 22 43.5 -2.3
comp=Z,57nm,1.4s
DAC Darwin (Calif) 73.60 56 eP P 20 22 47.5 +1.5
DAC pmax pmax
comp=Z,32nm,1.2s
DAC Darwin (Calif) 73.60 56 eP P 20 22 46.0 0.0
comp=Z,32nm,1.3s
MPMC Manual Prospec 73.80 56 P P 20 22 48.2 +1.0
baz=308,SNR=28
ASK Askoy 73.90 340 eP P 20 22 48.0 +1.0
ASK IAmb IAmb 20 22 49.3
comp=Z,43nm,1.0s
HWUT Hardware Ranch 73.92 49 eP P 20 22 48.5 +0.7
comp=Z,88nm,1.4s
BER Bergen 73.95 340 eP P 20 22 48.0 +0.8
BER IAmb IAmb 20 22 50.0
comp=Z,24nm,0.9s
FURC Furnace Creek, 73.95 56 P P 20 22 48.9 +1.2
baz=308
BLG Laguna Peak, P 73.98 59 P P 20 22 48.6 +0.6
baz=308
ODD1 Odda 74.00 339 eP P 20 22 47.5 -0.1
ODD1 IAmb IAmb 20 22 50.6
comp=Z,60nm,1.4s
TPNV Topopah Spring 74.04 55 P P 20 22 49.9 +1.4
baz=309
TPNV Topopah Spring 74.04 55 eP P 20 22 50.4 +1.9
TPNV pmax pmax
comp=Z,77nm,1.4s
TPNV Topopah Spring 74.04 55 eP P 20 22 49.1 +0.6
comp=Z,77nm,1.4s
LRMC Laurel Mtn Rad 74.04 57 P P 20 22 49.6 +1.1
baz=308
SIM Simferopol' 74.07 316 eP P 20 22 49.3 +1.0
SIM pmax pmax
comp=Z,26nm,0.9s
SIM MLR MLR
comp=Z,7μm,17.0s
DUG Dugway, Tooele 74.09 51 P P 20 22 50.1 +1.4
baz=310,SNR=31
DUG Dugway, Tooele 74.09 51 eP P 20 22 50.4 +1.7
DUG pmax pmax
comp=Z,63nm,1.2s
DUG Dugway, Tooele 74.09 51 eP P 20 22 49.5 +0.8
comp=Z,63nm,1.3s
EDW2 Edwards Air Fo 74.21 58 P P 20 22 50.6 +1.2
baz=308,SNR=9.2
BW06 Boulder Array 74.31 47 P P 20 22 50.7 +0.6
baz=311,SNR=26
BW06 Boulder Array 74.31 47 eP P 20 22 50.5 +0.4
PD31 Pinedale Array 74.32 47 eP P 20 22 50.5 +0.4
PDAR Pinedale Array 74.32 47 P P 20 22 50.7 +0.6
comp=Z,8.9nm,0.8s,baz=300,slow=1.2,SNR=30
DECC Green Verdugo 74.37 58 P P 20 22 51.1 +0.8
baz=308
BLS5 Blasjo 74.46 339 eP P 20 22 51.3 +1.0
BLS5 IAmb IAmb 20 22 53.2
comp=Z,124nm,1.9s
PASC Pasadena Art C 74.52 58 eP P 20 22 51.8 +0.6
comp=Z,85nm,1.5s
PSUT Pine Spring 74.52 53 eP P 20 22 50.9 -0.4
comp=Z,40nm,1.4s

MWC Mount Wilson 74.57 58 eP P 20 22 52.9 +1.2
MWC pmax pmax
comp=Z,77nm,1.4s
MWC Mount Wilson 74.57 58 eP P 20 22 52.9 +1.2
comp=Z,77nm,1.4s
JLU Jordanelle 74.63 50 eP P 20 22 53.3 +1.3
comp=Z,52nm,1.4s
SHOC Shoshone, Teco 74.67 56 P P 20 22 52.9 +0.9
baz=309
NLU North Lily Min 74.68 50 eP P 20 22 53.5 +1.2
comp=Z,26nm,1.1s
GSC Goldstone, Bar 74.71 57 P P 20 22 53.4 +1.1
baz=309,SNR=7.9
GSC Goldstone, Bar 74.71 57 eP P 20 22 53.5 +1.2
GSC pmax pmax
comp=Z,38nm,1.2s
GSC Goldstone, Bar 74.71 57 eP P 20 22 53.1 +0.8
comp=Z,38nm,1.3s
BFSC Mount Baldy Ra 74.82 58 P P 20 22 54.1 +1.0
baz=309,SNR=7.9
HOMB Homborsund 74.83 337 eP P 20 22 53.0 +0.6
HOMB IAmb IAmb 20 22 54.1
comp=Z,102nm,1.6s
SORM Soroca 74.84 321 ⇑iP P 20 22 53.0 +0.3
SORM Soroca 74.84 321 ⇑P P 20 22 53.0 +0.3
CIS Catalina Islan 74.84 59 P P 20 22 54.4 +1.3
baz=308
SHPR Sheep Range 75.00 55 eP P 20 22 55.6 +1.5
comp=Z,57nm,1.3s
SCI San Clemente I 75.02 59 P P 20 22 55.4 +1.4
baz=308
SNART Snartemo 75.15 338 eP P 20 22 55.2 +0.9
SNART IAmb IAmb 20 22 57.1
comp=Z,32nm,1.3s
TUQ Turquoise Moun 75.19 56 P P 20 22 56.4 +1.2
baz=309,SNR=8.3
BSD Bornholm Skovb 75.29 332 i P P 20 22 55.3 +0.1
comp=Z,83nm,1.2s
BSD Bornholm Skovb 75.29 332 i P P 20 22 55.3 +0.1
BSD pmax pmax
comp=Z,83nm,1.2s
HEC Hector,Ludlow 75.31 57 P P 20 22 57.0 +1.2
baz=309,SNR=23
KIS Kishinev 75.40 320 ⇑iP P 20 22 56.0 0.0
comp=Z,200nm,2.0s
KIS Kishinev 75.40 320 ⇑iP P 20 22 56.0 0.0
KIS i 20 23 10.0
KIS e 20 25 45.0
KIS pmax pmax
comp=Z,200nm,2.0s
CCUT Cedar City 75.44 53 eP P 20 22 57.5 +0.8
comp=Z,56nm,1.3s
KBSD Kabsdagh 75.52 306 eP P 20 22 57.5 +0.6
MURC Murrieta 75.52 58 P P 20 22 58.1 +1.2
baz=309
MSU Marysvale 75.55 52 eP P 20 22 58.9 +1.6
MSU Marysvale 75.55 52 eP P 20 22 58.9 +1.6
BEL Belsk 75.55 327 eP P 20 22 58.6 +1.9
BEL Belsk 75.55 327 eP P 20 22 58.6 +1.9
SZCU Shurtz Canyon 75.58 53 eP P 20 23 03.2 +5.7
comp=Z,41nm,1.3s
TMUT Trail Mountain 75.62 51 eP P 20 22 59.4 +1.6
comp=Z,44nm,1.3s
LVV L'vov 75.64 324 eP P 20 22 58.1 +0.8
LVV eS S 20 32 33.0 -4.6
LVV pmax pmax
comp=Z,200nm,2.2s
BHU Blowhard Mount 75.73 53 eP P 20 23 00.3 +1.8
GMRC Granite Mounta 75.76 56 P P 20 22 60.0 +1.5
baz=309,SNR=8.1
MTPU Mount Pierson 75.85 52 eP P 20 23 03.8 +4.6
LCMT Little Creek M 75.86 53 eP P 20 23 00.7 +1.7
comp=Z,53nm,1.2s
GKP Gorka Klasztor 75.87 330 eP P 20 22 59.4 +0.9
GKP Gorka Klasztor 75.87 330 eP P 20 22 59.4 +0.9
ULM Lac du Bonnet 75.95 35 P P 20 22 59.8 +0.7
comp=Z,13nm,0.9s,baz=315,slow=4.8,SNR=7.7
ULM Lac du Bonnet 75.95 35 eP P 20 23 04.1 +5.0
ULM pmax pmax
comp=Z,33nm,1.0s
ULM Lac du Bonnet 75.95 35 eP P 20 23 04.0 +5.0
PFO Pinyon Flats O 75.99 58 P P 20 23 00.8 +1.0
baz=309,SNR=7.7
PFO Pinyon Flats O 75.99 58 eP P 20 23 01.2 +1.4
PFO pmax pmax
comp=Z,39nm,1.2s
PFO Pinyon Flats O 75.99 58 eP P 20 23 00.5 +0.7
comp=Z,39nm,1.2s
TPFO Pinon Flats 76.00 58 P P 20 23 01.0 +1.2
baz=309,SNR=9.1
MDND Maddock 76.00 38 P P 20 23 00.2 +0.8
baz=316
MDND Maddock 76.00 38 eP P 20 23 00.1 +0.6
comp=Z,159nm,1.2s
109C Camp Elliot, M 76.02 59 P P 20 23 00.8 +1.0
baz=309
BELC Belle Mtn. Jos 76.04 57 P P 20 23 01.2 +1.1
baz=309,SNR=5.2
LEOM Leova 76.05 320 ⇑iP P 20 23 00.5 +0.8
LEOM Leova 76.05 320 ⇑P P 20 23 00.5 +0.8
K22A Casper 76.07 46 P P 20 23 00.8 +0.7
baz=312
K22A Casper 76.07 46 eP P 20 23 01.2 +1.0
comp=Z,115nm,1.6s
KNB Kanab 76.12 53 eP P 20 23 03.1 +2.6
KNB pmax pmax
comp=Z,87nm,1.2s
KNB Kanab 76.12 53 eP P 20 23 02.0 +1.5
comp=Z,87nm,1.3s
SRU San Rafael Swe 76.14 50 eP P 20 23 01.9 +1.3
SRU pmax pmax
comp=Z,43nm,1.1s
SRU San Rafael Swe 76.14 50 eP P 20 23 01.3 +0.7
comp=Z,43nm,1.1s
SFNV Sufian 76.16 306 eP P 20 23 01.7 +1.1
MZRK Al-Mazaregh 76.20 305 eP P 20 23 00.9 +0.1
EKU East Kanab 76.28 53 eP P 20 23 00.3 -1.1
KWP Kalwaria Pacla 76.36 325 eP P 20 23 02.9 +1.4
KWP Kalwaria Pacla 76.36 325 eP P 20 23 02.9 +1.4
PRAR RASCA 76.40 322 ⇑iP P 20 23 02.3 +0.6
RSSD Black Hills 76.40 43 P P 20 23 03.2 +1.1
baz=314
RSSD Black Hills 76.40 43 eP P 20 23 05.3 +3.3
RSSD pmax pmax
comp=Z,39nm,1.2s
RSSD Black Hills 76.40 43 eP P 20 23 01.7 -0.3
comp=Z,39nm,1.2s
NEE2 Needles Airpor 76.44 56 P P 20 23 03.5 +1.4
baz=310
BAR Barrett 76.44 59 eP P 20 23 01.5 -0.7
comp=Z,42nm,1.4s
MONP Monument Peak, 76.47 58 P P 20 23 03.7 +1.1
baz=309
IRM Iron Mountain 76.49 57 P P 20 23 03.6 +1.1
baz=310,SNR=17
B31A Greenbush Farm 76.50 37 P P 20 23 03.6 +1.4
baz=317
BC3 Big Chuckawall 76.61 57 P P 20 23 04.4 +1.2
baz=310,SNR=8.5
A32A Rocking H Ranc 76.66 36 P P 20 23 03.8 +0.7
baz=317
TLCR 76.67 319 ⇑iP P 20 23 03.8 +0.6
TLCR 76.67 319 ⇑P P 20 23 03.8 +0.6
BUR08 Bucovina Ar. S 76.68 322 eP P 20 23 04.1 +0.7
W13A Hualapai Mount 76.69 55 eP P 20 23 04.8 +1.0
comp=Z,17nm,1.1s
BURAR Bucovina Array 76.69 322 ⇑iP P 20 23 04.4 +1.0
BURAR Bucovina Array 76.69 322 ⇑P P 20 23 04.5 +1.0
O20A White River Ci 76.79 48 P P 20 23 05.3 +1.0
baz=312,SNR=6.8
O20A White River Ci 76.79 48 eP P 20 23 04.0 -0.2
comp=Z,52nm,1.5s
TESR Tescani 76.80 321 ⇑iP P 20 23 04.7 +0.7
U15A North Rim 76.82 53 eP P 20 23 05.5 +0.8
comp=Z,61nm,1.2s
IKP In-Ko-Pah, Jac 76.82 58 P P 20 23 06.0 +1.6
baz=310,SNR=7.0
SWSC Sam W. Stewart 76.84 58 P P 20 23 05.6 +1.2
baz=310
CFR Carcaliu 77.01 319 ⇑iP P 20 23 05.7 +0.6
CFR Carcaliu 77.01 319 ⇑P P 20 23 05.7 +0.6
B32A Ashes, Strandq 77.03 36 P P 20 23 05.9 +0.7
baz=317
PDMCI Parker Dam,Lak 77.04 56 P P 20 23 06.9 +1.4
baz=310,SNR=6.2
PETR Petresti 77.08 320 ⇑iP P 20 23 05.9 +0.4

ODBI Odobesti 77.14 320 ⇑iP P 20 23 08.7 +2.9
A33A Warroad 77.14 35 P P 20 23 06.5 +0.7
baz=318
Y12C Blythe 77.15 57 P P 20 23 07.7 +1.6
baz=310,SNR=8.5
Y12C Blythe 77.15 57 eP P 20 23 07.0 +0.9
comp=Z,62nm,1.3s
STHS Stebnicka Huta 77.16 325 eP P 20 23 07.4 +1.4
STHS pmax pmax
comp=Z,32nm,1.1s
STHS Stebnicka Huta 77.16 325 eP P 20 23 07.4 +1.4
OJC Ojcow 77.18 327 eP P 20 23 07.0 +1.0
OJC Ojcow 77.18 327 eP P 20 23 07.0 +1.0
OJC Ojcow 77.18 327 eP P 20 23 06.4 +0.4
comp=Z,128nm,1.3s
KSRV Kasrt alli 77.20 306 eP P 20 23 07.2 +0.8
PLOR Plostina 77.27 320 ⇑iP P 20 23 07.7 +1.0
PLOR Plostina 77.27 320 ⇑P P 20 23 07.7 +1.0
UZH Uzhgorod 77.29 324 ⇓iP P 20 23 06.8 +0.2
UZH e 20 23 14.2
UZH MLR MLR
comp=N,9μm,14.5s
UZH MLR MLR
comp=E,8μm,14.5s
UZH MLR MLR
comp=Z,3μm,14.5s
PV09 Paradox Valley 77.36 50 eP P 20 23 13.2 +5.6
GLA Glamis 77.40 57 P P 20 23 08.6 +1.0
baz=310,SNR=6.0
GLA Glamis 77.40 57 eP P 20 23 09.8 +2.2
GLA pmax pmax
comp=Z,53nm,1.3s
GLA Glamis 77.40 57 eP P 20 23 08.6 +1.0
comp=Z,53nm,1.3s
AGMN Agassiz Nation 77.40 36 P P 20 23 08.0 +0.7
baz=318
AGMN Agassiz Nation 77.40 36 eP P 20 23 07.2 -0.1
comp=Z,72nm,1.5s
BMR Baia Mare 77.45 323 ⇑iP P 20 23 09.3 +1.7
BMR Baia Mare 77.45 323 ⇑P P 20 23 09.3 +1.7
D31A Mcclaflin, Tow 77.46 38 P P 20 23 08.5 +0.8
baz=317
TLB Topalu 77.48 319 ⇓iP P 20 23 08.9 +1.1
TLB Topalu 77.48 319 ⇓P P 20 23 08.9 +1.1
ARCR ARCALIA 77.48 322 ⇓iP P 20 23 09.9 +2.1
PV10 Paradox Valley 77.50 50 eP P 20 23 09.2 +0.9
B33A Robert and Kas 77.54 36 P P 20 23 08.3 +0.2
baz=318
TRPA Tarpa 77.55 324 eP P 20 23 09.7 +1.6
PV04 Paradox Valley 77.57 50 eP P 20 23 08.5 -0.2
PHWY Pilot Hill 77.57 46 eP P 20 23 09.2 +0.5
comp=Z,57nm,1.6s
NIE Niedzica 77.57 326 eP P 20 23 09.8 +1.5
NIE Niedzica 77.57 326 eP P 20 23 09.8 +1.5
N23A Red Feather La 77.58 47 P P 20 23 09.6 +0.9
baz=313,SNR=9.3
N23A Red Feather La 77.58 47 eP P 20 23 10.2 +1.4
comp=Z,48nm,1.3s
SLMH Al Salmeh 77.63 307 eP P 20 23 10.9 +2.1
PV05 Paradox Valley 77.66 50 eP P 20 23 09.9 +0.6
E31A Nome 77.74 38 P P 20 23 09.9 +0.7
baz=317
PGOR Pogoanele 77.78 319 iP P 20 23 11.9 +2.5
B34A Aery, Baudette 77.80 35 P P 20 23 09.9 +0.4
baz=318
DOPR Dopca 77.80 321 ⇑iP P 20 23 11.2 +1.6
BR131 Keskin Array S 77.83 312 eP P 20 23 09.7 -0.3
BRTR Keskin Array B 77.83 312 P P 20 23 10.6 +0.6
comp=Z,6.8nm,0.9s,baz=58,slow=2.9,SNR=28
BRTR PP PP 20 26 02.6 -2.5
comp=Z,2.2nm,0.9s,baz=54,slow=6.2,SNR=3.5
C33A Trail 77.84 36 P P 20 23 09.9 +0.2
baz=318
ISR Istrita 77.85 320 ⇑iP P 20 23 11.7 +1.8
ISR Istrita 77.85 320 ⇑P P 20 23 11.7 +1.8
MLR Muntele Rosu 77.88 320 ⇑iP P 20 23 11.1 +0.9
MLR Muntele Rosu 77.88 320 eP P 20 23 11.0 +0.9
MLR pmax pmax
comp=Z,93nm,1.7s
MLR Muntele Rosu 77.88 320 eP P 20 23 10.2 0.0
comp=Z,93nm,1.7s
PV01 Paradox Valley 77.94 50 eP P 20 23 10.5 -0.3
WUAZ Wupatki 77.98 54 P P 20 23 12.2 +1.3
baz=311,SNR=9.2
WUAZ Wupatki 77.98 54 eP P 20 23 10.8 -0.1
comp=Z,53nm,1.2s
Y14A Wickenburg 77.99 56 eP P 20 23 11.7 +0.8
comp=Z,184nm,1.3s
F31A Hecla 78.08 39 P P 20 23 11.8 +0.7
baz=317
CJR Cluj-Napoca 78.11 322 ⇓iP P 20 23 13.0 +1.7
CJR Cluj-Napoca 78.11 322 ⇓P P 20 23 13.0 +1.7
KSP Ksiaz 78.13 329 eP P 20 23 12.6 +1.3
KSP Ksiaz 78.13 329 eP P 20 23 12.6 +1.3
DRWC Darouich 78.13 308 eP P 20 23 12.8 +1.1
LANS Liptovska Anna 78.13 326 eP P 20 23 13.2 +1.8
LANS Liptovska Anna 78.13 326 eP P 20 23 13.2 +1.8
OKC Ostrava-Krasne 78.16 327 ⇑eP P 20 23 12.6 +1.1
OKC Ostrava-Krasne 78.16 327 eP P 20 23 12.6 +1.1
SMCO Snowmass 78.16 48 eP P 20 23 12.6 +0.4
comp=Z,76nm,1.8s
KECS Kecovo 78.20 325 eP P 20 23 12.2 +0.5
KECS pmax pmax
comp=Z,10.0nm,1.1s
KECS Kecovo 78.20 325 eP P 20 23 12.2 +0.5
KECS eP P 20 26 05.9 -1.9
ANTO Ankara 78.21 313 eP P 20 23 13.1 +1.1
ANTO pmax pmax
comp=Z,75nm,1.4s
ANTO Ankara 78.21 313 eP P 20 23 11.9 -0.1
comp=Z,75nm,1.4s
ANTO Ankara 78.21 313 P P 20 23 10.8 -1.2
SNR=12
BR231 Keskin MP Arra 78.23 313 eP P 20 23 10.6 -1.6
113A Mohawk Valley, 78.26 57 eP P 20 23 12.7 +0.3
comp=Z,36nm,1.3s
B35A Bob, Littlefor 78.30 35 P P 20 23 12.8 +0.5
baz=319,SNR=7.8
SULR 78.31 320 ⇑iP P 20 23 14.0 +1.6
VOIR 78.35 321 ⇓iP P 20 23 14.0 +1.3
VOIR 78.35 321 ⇓P P 20 23 14.0 +1.3
MORC Moravsky Berou 78.45 328 ⇑iP P 20 23 14.2 +1.0
MORC Moravsky Berou 78.45 328 eP P 20 23 13.7 +0.5
MORC pmax pmax
comp=Z,149nm,1.0s
MORC Moravsky Berou 78.45 328 eP P 20 23 13.7 +0.5
comp=Z,149nm,1.0s
DRGR 78.46 323 ⇓iP P 20 23 13.4 +0.1
DRGR 78.46 323 ⇓P P 20 23 13.4 +0.1
DPC Dobruska-Polom 78.50 329 ⇑iP P 20 23 14.6 +1.2
DPC ex x 20 23 29.5
DPC Dobruska-Polom 78.50 329 ⇑iP P 20 23 14.6 +1.2
DPC e 20 23 29.5
UPC Upice 78.50 329 ⇑iP P 20 23 14.5 +1.1
UPC Upice 78.50 329 ⇑iP P 20 23 14.5 +1.1
ISCO Idaho Springs 78.51 47 P P 20 23 16.3 +2.3
baz=313
ISCO Idaho Springs 78.51 47 eP P 20 23 16.9 +2.9
ISCO pmax pmax
comp=Z,33nm,1.4s
ISCO Idaho Springs 78.51 47 eP P 20 23 15.5 +1.5
KRLC Kraliky 78.53 328 ⇑iP P 20 23 14.6 +1.0
KRLC ex x 20 23 28.6
KRLC Kraliky 78.53 328 ⇑iP P 20 23 14.6 +1.0
KRLC e 20 23 28.6
G31A Conde 78.56 39 P P 20 23 14.5 +0.7
baz=317
MVCO Mesa Verde 78.59 51 P P 20 23 15.8 +1.3
baz=312,SNR=6.8
MVCO Mesa Verde 78.59 51 eP P 20 23 14.9 +0.5
comp=Z,50nm,1.3s
ARR Arges 78.60 321 ⇓iP P 20 23 16.1 +2.0
D34A Park Rapids 78.61 36 P P 20 23 14.4 +0.4
baz=318
BTCH Batrach 78.64 308 eP P 20 23 15.1 +0.6
X16A Lo Mia Camp, P 78.66 54 eP P 20 23 15.8 +1.0
comp=Z,40nm,1.2s
E33A Westby DABS, E 78.67 37 P P 20 23 15.5 +1.2
baz=318
C35A Jirik Farms, M 78.69 35 P P 20 23 15.2 +0.7
baz=319
SUSD Miller 78.76 40 P P 20 23 15.9 +0.9
baz=316
G32A Webster 78.88 39 P P 20 23 16.6 +1.0
baz=317

PSZ **Piszkesteto** 78.88 325 ⇑*i*P P 20 23 17.4 +1.8
PSZ **Piszkesteto** 78.88 325 *e*P P 20 23 15.9 +0.3
PSZ e pmax pmax
comp=Z,58nm,1.1s
PSZ **Piszkesteto** 78.88 325 *e*P P 20 23 17.3 +1.7
PSZ **Piszkesteto** 78.88 325 *e*P P 20 23 15.5 -0.2
comp=Z,58nm,1.1s
VYHS **Vyhne** 78.90 326 *e*P P 20 23 16.6 +1.0
VYHS pmax pmax
comp=Z,29nm,1.2s
VYHS **Vyhne** 78.90 326 *e*P P 20 23 16.6 +1.0
VYHS *e*PP PP 20 26 09.1 -4.5
LOT **Lotru** 78.96 321 ⇑*i*P P 20 23 16.9 +0.8
H31A **Wolsey** 78.97 40 P P 20 23 17.0 +0.9
baz=317
BRG **Berggiesshubel** 79.02 330 *i* P P 20 23 16.0 -0.2
comp=Z,64nm,1.4s
BRG **Berggiesshubel** 79.02 330 *i* P P 20 23 16.0 -0.2
BRG pmax pmax
comp=Z,32nm,1.4s
CLL **Collm** 79.02 331 ⇑*i*P P 20 23 16.4 +0.2
CLL *i* 20 23 29.3
CLL pmax pmax
comp=Z,59nm,1.0s
CLL **Collm** 79.02 331 ⇑*i*P P 20 23 16.4 +0.2
comp=Z,59nm,1.0s
CLL *i* sP PcP 20 23 31.1 +6.4
CLL **Collm** 79.02 331 *e*P P 20 23 15.7 -0.5
comp=Z,37nm,0.9s
F33A **5 Mile Ranch,** 79.02 38 P P 20 23 17.0 +0.7
baz=318,SNR=5.8
PVCC **Panska Ves** 79.05 330⇑*e*P P 20 23 17.7 +1.3
PVCC *e*pP PcP 20 23 30.5 +5.6
PVCC **Panska Ves** 79.05 330 *e*P P 20 23 17.7 +1.3
PVCC *e* 20 23 30.5
ARNB **Al Arnab** 79.05 308 *e*P P 20 23 17.0 +0.2
D35A **Remer** 79.12 36 P P 20 23 16.9 0.0
baz=319
C36A **Pine Crest Far** 79.15 35 P P 20 23 17.6 +0.6
baz=320,SNR=5.7
VRAC **Vranov** 79.21 328⇑*i*P P 20 23 18.6 +1.3
VRAC **Vranov** 79.21 328 ⇑P P 20 23 18.6 +1.3
S22A **4UR Ranch, Cre** 79.21 49 P P 20 23 18.9 +1.0
baz=313,SNR=8.7
S22A **4UR Ranch, Cre** 79.21 49 *e*P P 20 23 18.9 +1.0
comp=Z,32nm,1.3s
W18A **Petrified Fore** 79.25 53 P P 20 23 18.8 +0.8
baz=312
W18A **Petrified Fore** 79.25 53 *e*P P 20 23 23.8 +5.7
comp=Z,19nm,1.0s
SIRR **Siria** 79.34 323 ⇓*i*P P 20 23 19.5 +1.4
Q24A **Divide** 79.34 48 P P 20 23 19.4 +0.8
baz=314
E35A **Pequot Lakes** 79.36 36 P P 20 23 18.6 +0.4
baz=319
ROOS **tl_alroos** 79.37 306 *e*P P 20 23 18.9 +0.3
G33A **Ortonville** 79.43 38 P P 20 23 19.3 +0.7
baz=318,SNR=5.3
D36A **Goodland** 79.45 35 P P 20 23 19.6 +1.0
baz=320
GOPC **GO Pecny, Ondr** 79.45 329⇑*i*P P 20 23 19.6 +1.0
GOPC **GO Pecny, Ondr** 79.45 329⇑*i*P P 20 23 19.6 +1.0
C37A **Embarrass** 79.45 34 P P 20 23 19.3 +0.6
baz=320,SNR=7.6
H32A **Carlson Farm,** 79.46 39 P P 20 23 18.6 -0.2
baz=317
PRA **Prague** 79.47 329⇑*e*P P 20 23 20.3 +1.6
PRA **Prague** 79.47 329 *e*P P 20 23 20.3 +1.6
SMOL **Smolenice** 79.48 327 *e*P P 20 23 20.3 +1.5
SMOL **Smolenice** 79.48 327 *e*P P 20 23 20.3 +1.5
ZIMR 79.49 319⇑*i*P P 20 23 20.0 +1.1
ZIMR 79.49 319 ⇑P P 20 23 20.0 +1.1
PRU **Pruhonice** 79.49 329⇑*i*P P 20 23 19.8 +1.0
PRU **Pruhonice** 79.49 329⇑*i*P P 20 23 19.8 +1.0
X18A **Snowflake** 79.51 54 *e*P P 20 23 20.2 +0.8
comp=Z,35nm,1.3s
F34A **Alexandria** 79.54 37 P P 20 23 19.6 +0.4
baz=318
EYMN **Ely** 79.58 34 P P 20 23 20.1 +0.7
baz=321,SNR=6.8
EYMN **Ely** 79.58 34 *e*P P 20 23 19.2 -0.2
comp=Z,65nm,1.3s
BUD **Budapest** 79.59 325 P P 20 23 22.1 +2.7
BUD pmax pmax
comp=Z,42nm,2.0s
H33A **Prehn Over Nor** 79.67 39 P P 20 23 20.8 +0.9
baz=318,SNR=7.6
TREC **Trest** 79.67 328⇑*e*P P 20 23 21.3 +1.5
TREC **Trest** 79.67 328 *e*P P 20 23 21.3 +1.5
OGNE **Ogallala** 79.67 44 P P 20 23 21.4 +1.3
baz=315,SNR=9.3
OGNE **Ogallala** 79.67 44 *e*P P 20 23 20.3 +0.2
comp=Z,89nm,1.1s
J31A **Geddes** 79.70 41 P P 20 23 20.6 +0.4
baz=317
G34A **Benson** 79.78 38 P P 20 23 21.2 +0.8
baz=318
D37A **Cotton** 79.79 35 P P 20 23 21.6 +1.1
baz=320
F35A **Swanville** 79.81 37 P P 20 23 21.6 +1.0
baz=319
C38A **Sawbill Land.** 79.86 34 P P 20 23 21.3 +0.5
baz=321,SNR=8.0
E36A **McGregor** 79.91 36 P P 20 23 21.8 +0.6
baz=320,SNR=6.3
SDCO **Great Sand Dun** 79.98 49 P P 20 23 23.2 +1.1
baz=314,SNR=7.4
SDCO **Great Sand Dun** 79.98 49 *e*P P 20 23 22.8 +0.7
comp=Z,40nm,1.7s
CSKK **Cs˙ˇkako** 80.02 326⇑*e*P P 20 23 22.9 +1.2
MOX **Moxa** 80.07 331 P P 20 23 22.7 +0.7
MOX pmax pmax
comp=Z,38nm,1.8s
J32A **Parkston** 80.09 40 P P 20 23 22.4 +0.2
baz=317
NKC **Novy Kostel** 80.10 330⇑*e*P P 20 23 23.1 +1.0
NKC **Novy Kostel** 80.10 330 *e*P P 20 23 23.1 +1.0
I33A **Coleman** 80.11 39 P P 20 23 22.6 +0.3
baz=316
H34A **Spellman Lake,** 80.14 38 P P 20 23 23.3 +0.9
baz=318
K31A **O'Neill** 80.18 41 P P 20 23 23.4 +0.7
baz=317
C39A **Grand Marais** 80.26 33 P P 20 23 22.6 -0.4
baz=322
F36A **Milaca** 80.29 36 P P 20 23 22.8 -0.4
baz=320
G35A **Watkins** 80.33 37 P P 20 23 24.5 +1.0
baz=319
QASN **Qassioun** 80.42 306 *e*P P 20 23 15.6 -8.7
ECSD **EROS Data Cent** 80.43 40 P P 20 23 24.7 +0.7
baz=318,SNR=11
ECSD **EROS Data Cent** 80.43 40 *e*P P 20 23 24.7 +0.7
comp=Z,56nm,1.3s
TOTH **TOTAH** 80.44 306 *e*P P 20 23 19.5 -4.8
TUC **Tucson** 80.46 56 P P 20 23 25.5 +1.0
baz=312
TUC **Tucson** 80.46 56 *e*P P 20 23 26.0 +1.5
TUC pmax pmax
comp=Z,33nm,1.3s
TUC **Tucson** 80.46 56 *e*P P 20 23 24.5 0.0
comp=Z,33nm,1.3s
SOP **Sopron** 80.49 327 P P 20 23 25.8 +1.5
SOP pmax pmax
comp=Z,82nm,1.1s
KHC **Kasperske Hory** 80.55 329⇑*i*P P 20 23 25.4 +0.8
KHC *ex* x 20 23 40.3
KHC **Kasperske Hory** 80.55 329⇑*i*P P 20 23 25.4 +0.8
KHC *e* 20 23 40.3
KHC **Kasperske Hory** 80.55 329 *e*P P 20 23 24.7 +0.1
comp=Z,14nm,0.9s
H35A **Sunnyside Ranc** 80.56 38 P P 20 23 25.6 +0.9
baz=319,SNR=7.6
J33A **Davis** 80.56 40 P P 20 23 25.1 +0.3
baz=318
I34A **Hadley** 80.57 39 P P 20 23 25.5 +0.8
baz=318
CONA **Conrad Observa** 80.59 327 *i*P P 20 23 26.0 +1.0
comp=Z,54nm,1.1s,SNR=38
E38A **The Farm, Brul** 80.59 35 P P 20 23 25.2 +0.4
baz=321
G36A **St. Michael** 80.66 37 P P 20 23 26.3 +1.1
baz=320
SALA **Sala** 80.69 305 *e*P P 20 23 23.7 -2.1
BRBR **Barbar** 80.70 306 *e*P P 20 23 26.2 +0.3
KSCO **Kaye Shedlock'** 80.72 46 P P 20 23 26.4 +0.6
baz=315
KSCO **Kaye Shedlock'** 80.72 46 *e*P P 20 23 26.2 +0.3
comp=Z,70nm,1.4s
GEC2 **GERESS Array S** 80.73 329 *e*P P 20 23 26.1 +0.5
GEC2 pmax pmax
comp=Z,27nm,1.0s
GEC2 **GERESS Array S** 80.73 329 *e*P P 20 23 25.7 0.0
comp=Z,27nm,1.1s
GERES **GERESS Array B** 80.73 329 P P 20 23 26.1 +0.5
comp=Z,9.2nm,0.8s,baz=35,slow=4.9,SNR=58
GERES PKKPbc PKKPbc 20 42 03.1 -0.7
comp=Z,0.1nm,0.4s,baz=232,slow=1.1,SNR=2.4
GEA0 **GERESS Array S** 80.74 329 *e*P P 20 23 25.5 -0.2
F37A **Hinrichs Farm,** 80.80 36 P P 20 23 27.1 +1.1
baz=320
WET **Wettzell** 80.81 330 P P 20 23 27.0 +1.0
WET pmax pmax
comp=Z,75nm,1.3s
BUG **Bochum--Univer** 80.94 334 P P 20 23 28.3 +1.7
BUG pmax pmax
comp=Z,43nm,2.1s
F38A **Pierce - Schro** 80.95 35 P P 20 23 27.5 +0.7
baz=321,SNR=7.1
GRF **Grafenberg Arr** 81.00 331 P P 20 23 28.2 +1.2
GRF pmax pmax
comp=Z,140nm,1.5s
GRFO **Grafenberg** 81.00 331 *e*P P 20 23 28.2 +1.2
GRFO pmax pmax
comp=Z,62nm,1.0s
GRFO **Grafenberg** 81.00 331 *e*P P 20 23 27.4 +0.4
comp=Z,62nm,1.0s
L32A **Elgin** 81.01 41 P P 20 23 28.2 +1.0
baz=317
T25A **Trinidad** 81.03 48 P P 20 23 26.5 -1.1
baz=314,SNR=8.2
T25A **Trinidad** 81.03 48 *e*P P 20 23 28.1 +0.5
comp=Z,36nm,1.1s
H36A **Jessenland, He** 81.08 37 P P 20 23 28.6 +1.1
baz=320
J34A **George** 81.08 39 P P 20 23 28.9 +1.4
baz=318
SPMN **Marine on St.** 81.10 36 P P 20 23 26.9 -0.7
baz=320
I35A **Creekview Farm** 81.12 39 P P 20 23 28.6 +0.9
baz=319
ALN **Alexandroupoli** 81.14 317 P P 20 23 30.9 +3.0
ALN pmax pmax
comp=Z,18nm,1.4s
E39A **Mellen** 81.21 34 P P 20 23 26.7 -1.4
baz=321
ARSA **Arzberg** 81.27 327 *e*P P 20 23 29.5 +1.0
comp=Z,28nm,1.1s,SNR=16
LAZ **Ladron** 81.31 52 *e*P P 20 23 29.1 0.0
MOA **Molln** 81.31 328 *i* P P 20 23 29.4 +0.7
comp=Z,24nm,1.2s,SNR=15
VTS **Vitosha** 81.34 320⇑*i*P P 20 23 30.4 +1.3
VTS **Vitosha** 81.34 320 *e*P P 20 23 29.9 +0.8
VTS pmax pmax
comp=Z,42nm,1.0s
VTS **Vitosha** 81.34 320 *e*P P 20 23 29.2 +0.1
comp=Z,42nm,1.0s
ANMO **Albuquerque** 81.34 51 P P 20 23 30.7 +1.4
baz=314
ANMO **Albuquerque** 81.34 51 *e*P P 20 23 31.3 +2.0
ANMO pmax pmax
comp=Z,53nm,1.3s
ANMO **Albuquerque** 81.34 51 *e*P P 20 23 29.9 +0.6
comp=Z,53nm,1.4s
BGNE **Belgrade** 81.38 42 P P 20 23 29.9 +0.8
baz=317
BGNE **Belgrade** 81.38 42 *e*P P 20 23 34.4 +5.3
comp=Z,112nm,1.1s
F39A **Loretta** 81.41 35 P P 20 23 30.0 +0.8
baz=321
E40A **Wakefield** 81.44 34 P P 20 23 30.4 +1.1
baz=322,SNR=10
K34A **Le Mars** 81.46 40 P P 20 23 30.5 +0.9
baz=318
D41A **Chassel** 81.51 33 P P 20 23 30.5 +0.8
baz=323
H37A **Dierke Farm, C** 81.54 37 P P 20 23 30.3 +0.4
baz=320
G38A **Ridgeland** 81.57 36 P P 20 23 30.9 +0.9
baz=321
LPM **Los Pinos Moun** 81.67 52 *e*P P 20 23 35.3 +4.2
M33A **Taylor Creek F** 81.74 41 P P 20 23 32.9 +1.8
baz=318
I37A **Lemond, Waseca** 81.75 38 P P 20 23 30.7 -0.3
baz=320
F40A **Park Falls** 81.75 35 P P 20 23 31.1 +0.1
baz=322,SNR=5.4
H38A **Maiden Rock** 81.76 37 P P 20 23 32.1 +1.1
baz=320
G39A **Holcombe** 81.79 36 P P 20 23 30.8 -0.4
baz=321
BNM **Barren Site** 81.79 52 *e*P P 20 23 32.5 +0.8
E41A **Kenton** 81.82 34 P P 20 23 31.4 0.0
baz=322
J36A **Seneca 1, Swea** 81.83 39 P P 20 23 32.9 +1.5
baz=319
K35A **Storm Lake** 81.86 39 P P 20 23 31.0 -0.7
baz=319
L34A **Svendsen Farm,** 81.86 41 P P 20 23 31.0 -0.6
baz=318
PERS **Pernice** 81.92 327 *i* P P 20 23 33.0 +1.0
SOKA **Soboth** 81.93 327 *e*P P 20 23 32.7 +0.7
comp=Z,73nm,1.0s,SNR=76
319A **Douglas** 82.04 56 *e*P P 20 23 33.7 +0.8
comp=Z,78nm,1.3s
MEM **Membach** 82.07 334 P P 20 23 33.1 +0.5
MEM **Membach** 82.07 334 P P 20 23 33.6 +1.0
MEM pmax pmax
comp=Z,97nm,1.0s
M34A **Aspy Farms, Fr** 82.10 41 P P 20 23 32.7 -0.3
baz=318
L35A **Bielow Farm, R** 82.16 40 P P 20 23 33.3 +0.1
baz=319
121A **Cookes Peak, D** 82.19 54 P P 20 23 34.5 +0.7
baz=313,SNR=7.3
H39A **Augusta** 82.21 36 P P 20 23 33.8 +0.4
baz=321
J37A **Redenius Farm,** 82.22 38 P P 20 23 31.0 -2.5
baz=320
I38A **Scanlan Farm,** 82.22 37 P P 20 23 31.1 -2.5
baz=320
G40A **Rib Lake** 82.23 35 P P 20 23 32.4 -1.1
baz=322
OBKA **Obir** 82.26 327 *i* P P 20 23 34.2 +0.4
comp=Z,29nm,0.8s,SNR=18
K36A **Gilmore City** 82.30 39 P P 20 23 33.6 -0.3
baz=319
KBA **Koelnbreinsper** 82.30 328 *i* P P 20 23 34.7 +0.6
comp=Z,86nm,1.3s,SNR=42
KBA **Koelnbreinsper** 82.30 328 P P 20 23 34.7 +0.6
KBA pmax pmax
comp=Z,55nm,1.2s
F41A **Three Lakes** 82.33 34 P P 20 23 32.9 -1.2
baz=322,SNR=5.4
CBKS **Cedar Bluff** 82.43 45 P P 20 23 35.0 +0.2
baz=317,SNR=5.1
CBKS **Cedar Bluff** 82.43 45 *e*P P 20 23 38.5 +3.7
CBKS pmax pmax
comp=Z,45nm,1.1s
CBKS **Cedar Bluff** 82.43 45 *e*P P 20 23 34.0 -0.8
comp=Z,45nm,1.1s
BCLA **Clavier** 82.47 334 P P 20 23 35.1 +0.5
STU **Stuttgart** 82.51 331 *e*P P 20 23 36.1 +1.2
STU pmax pmax
comp=Z,69nm,1.2s
STU **Stuttgart** 82.51 331 *e*P P 20 23 35.2 +0.3
comp=Z,69nm,1.2s
MYKA **Terra Mystica** 82.54 328 *e*P P 20 23 35.4 +0.1
comp=Z,47nm,1.4s,SNR=18
HSIG 82.55 58 *e*P P 20 23 35.5 0.0
comp=Z,41nm,1.4s
M35A **Neola** 82.57 41 P P 20 23 34.4 -1.0
baz=319
K37A **Belmond** 82.59 39 P P 20 23 36.0 +0.5
baz=320,SNR=6.5
VAY **Valandovo** 82.61 319 *i* P P 20 23 36.9 +1.3
N34A **Lincoln** 82.64 41 P P 20 23 36.2 +0.4
baz=318
O33A **Hebron** 82.64 43 P P 20 23 35.2 -0.6
baz=318
H40A **Chili** 82.65 35 P P 20 23 34.0 -1.8
baz=322
SKO **Skopje** 82.67 320 *i* P P 20 23 37.7 +1.8
VISS **Visnje** 82.70 327 *i* P P 20 23 36.4 +0.4
J38A **Wedel Dairy, R** 82.71 38 P P 20 23 36.5 +0.4
baz=320
SNF **Seneffe** 82.72 335 P P 20 23 37.6 +1.7
F42A **Maple Grove Fa** 82.73 34 P P 20 23 36.1 0.0
baz=323
I39A **Houston** 82.74 37 P P 20 23 34.8 -1.4
baz=321
BOJS **Bojanci** 82.77 326 *i* P P 20 23 37.0 +0.6
WATA **Waldoralm** 82.79 329 *i* P P 20 23 37.1 +0.5
comp=Z,23nm,0.9s,SNR=15
WTTA **Wattenberg** 82.83 329 *i* P P 20 23 37.4 +0.5
comp=Z,37nm,1.2s,SNR=13
WLF **Walferdange** 82.83 334 P P 20 23 38.4 +1.8
comp=Z,37nm,2.1s
WLF **Walferdange** 82.83 334 *e*P P 20 23 38.9 +2.3
WLF pmax pmax
comp=Z,35nm,1.2s
WLF **Walferdange** 82.83 334 *e*P P 20 23 36.1 -0.5
comp=Z,35nm,1.2s
GIVF **Givet** 82.90 335 *e*P P 20 23 37.8 +0.9
GIVF pmax pmax
comp=Z,57nm,1.4s
ABTA **Abfaltersbach** 82.90 328 *i* P P 20 23 36.9 -0.2
comp=Z,38nm,1.7s,SNR=17
JAVS **Javornik** 82.96 327 *i* P P 20 23 37.3 -0.1
MOTA **Moosalm** 82.97 330 *i* P P 20 23 38.1 +0.6
comp=Z,46nm,0.9s,SNR=33
DOU **Dourbes** 82.98 335 P P 20 23 38.0 +0.7
H41A **Junction City** 82.98 35 P P 20 23 36.4 -1.1
baz=322
RETA **Reutte** 82.98 330 *e*P P 20 23 38.2 +0.7
comp=Z,56nm,1.1s,SNR=22
M36A **Felix, Anita** 83.02 40 P P 20 23 38.1 +0.4
baz=319
L37A **Phoenix Point,** 83.02 39 P P 20 23 38.5 +0.8
baz=320
O34A **Beatrice** 83.02 42 P P 20 23 38.2 +0.4
baz=318
N35A **Tabor** 83.05 41 P P 20 23 38.7 +0.8
baz=319
J39A **Decorah** 83.06 37 P P 20 23 38.2 +0.4
baz=321
K38A **Parkersburg** 83.09 38 P P 20 23 38.1 0.0
baz=320
I40A **Norwalk** 83.12 36 P P 20 23 38.2 0.0
baz=322
BAIF **Baives** 83.14 335 *e*P P 20 23 39.1 +1.0
BAIF pmax pmax
comp=Z,25nm,1.2s
BFO **Black Forest** 83.19 332 *e*P P 20 23 38.8 +0.2
comp=Z,42nm,1.0s
TRI **Trieste** 83.23 327 *e*P P 20 23 38.3 -0.4
TRI pmax pmax
comp=Z,39nm,1.0s
TRI **Trieste** 83.23 327 *e*P P 20 23 37.9 -0.8
comp=Z,39nm,1.0s
I41A **Arkdale** 83.32 36 P P 20 23 39.6 +0.3
baz=322
O35A **Humboldt** 83.36 41 P P 20 23 40.3 +0.8
baz=319
PDG **Podgorica** 83.37 322⇑*i*P P 20 23 39.9 +0.4
FETA **Feichten** 83.38 330 *i* PcP P 20 23 40.3 +0.6
comp=Z,40nm,1.1s,SNR=19
L38A **Oak Wood Farm,** 83.39 39 P P 20 23 40.7 +1.1
baz=320
M37A **Trindle Farm,** 83.42 40 P P 20 23 38.4 -1.4
baz=320
N36A **Muff Farm, Cla** 83.42 41 P P 20 23 40.2 +0.4
baz=319
P34A **Walnut Farm, R** 83.43 42 P P 20 23 40.3 +0.4
baz=318
SCIA **State Center** 83.45 39 *e*P P 20 23 44.6 +4.7
comp=Z,74nm,1.3s
BIA **Bitola** 83.45 320 *i* P P 20 23 41.0 +1.0
J40A **Soldiers Grove** 83.45 36 P P 20 23 40.3 +0.3
baz=322
K39A **Oelwein** 83.46 38 P P 20 23 38.6 -1.4
baz=321
DAVA **Damuels** 83.49 330 *e*PcP P 20 23 41.0 +0.7
comp=Z,50nm,1.3s,SNR=16
FNA **Florina** 83.60 320 *e*P P 20 23 41.4 +0.6
FNA pmax pmax
comp=Z,30nm,2.0s
ECH **Echery** 83.71 332⇑*e*P P 20 23 41.5 +0.3
J41A **Loganville** 83.81 36 P P 20 23 42.1 +0.3
baz=322
K40A **Coleasburg** 83.81 37 P P 20 23 42.0 +0.2
baz=321,SNR=5.6
M38A **Pleasantville** 83.83 39 P P 20 23 41.6 -0.3
baz=320
Q34A **Chapman** 83.83 43 P P 20 23 42.4 +0.4
baz=318
N37A **Lee Faris, Mou** 83.84 40 P P 20 23 42.4 +0.4
baz=320
L39A **Vinton** 83.86 38 P P 20 23 42.3 +0.3
baz=321,SNR=8.9
P35A **Duane Minner,** 83.86 42 P P 20 23 41.1 -1.0
baz=319
KSU1 **Kansas State U** 83.87 43 P P 20 23 43.0 +0.8
baz=318
FUORN **Ofenpass-Fuorn** 83.89 330 *e*P P 20 23 43.0 +0.6
comp=Z,98nm,1.1s
TIR **Tirane** 83.91 321 *e*P P 20 23 44.4 +2.1
TIR pmax pmax
comp=Z,290nm,2.0s
TIR **Tirane** 83.91 321 *e*P P 20 23 42.1 -0.2
comp=Z,288nm,2.0s
O36A **Bolckow** 83.94 41 P P 20 23 44.0 +1.5
baz=319
MOF **Molkenrain** 84.03 332⇑*e*P P 20 23 43.2 +0.3
THEF **They Montfort** 84.11 333⇑*e*P P 20 23 43.6 +0.4
R34A **Isabella, Hill** 84.13 44 P P 20 23 46.1 +2.6
baz=318
HINF **Hinteralfeld** 84.16 332 *e*P P 20 23 43.4 -0.1
HINF pmax pmax
comp=Z,113nm,2.0s
AMTX **Amarillo** 84.18 49 P P 20 23 45.1 +1.1
baz=316
AMTX **Amarillo** 84.18 49 *e*P P 20 23 48.9 +5.0
comp=Z,94nm,1.6s
MSTX **Muleshoe** 84.20 50 P P 20 23 44.4 +0.3
baz=316,SNR=5.9
MSTX **Muleshoe** 84.20 50 *e*P P 20 23 44.8 +0.7
comp=Z,55nm,1.3s
P36A **Good Intent, A** 84.20 41 P P 20 23 44.6 +0.8
baz=319
MNTX **Cornudas Mount** 84.24 53 P P 20 23 44.4 +0.3
baz=314
MNTX **Cornudas Mount** 84.24 53 *e*P P 20 23 44.8 +0.6
comp=Z,45nm,1.3s
K41A **Shullsburg** 84.27 37 P P 20 23 43.0 -1.1
baz=322
L40A **Anamosa** 84.27 38 P P 20 23 44.1 0.0
baz=321
M39A **Webster** 84.28 39 P P 20 23 44.4 +0.3
baz=321,SNR=7.6
N38A **Joes South For** 84.29 40 P P 20 23 45.7 +1.5
baz=320
O37A **Wolven Farm, M** 84.32 41 P P 20 23 43.8 -0.7
baz=320
Q35A **Mercer Eighty,** 84.35 42 P P 20 23 45.4 +0.8
baz=319,SNR=5.2
TUE **Stuetta** 84.37 330 *e*P P 20 23 44.6 -0.2
comp=Z,251nm,2.0s
KARP **Karpathos** 84.41 313 *e*P P 20 23 45.9 +0.8
comp=Z,15nm,0.9s
AGG **Agios Georgios** 84.45 318 *e*P P 20 23 45.1 0.0
AGG pmax pmax
comp=Z,86nm,1.1s
AGG **Agios Georgios** 84.45 318 *e*P P 20 23 45.1 0.0
comp=Z,86nm,1.1s
LOMF **Lomont** 84.56 332⇑*e*P P 20 23 46.2 +0.6
Q36A **Arnold C. Orve** 84.57 42 P P 20 23 46.5 +0.8
baz=319
N39A **Derby Farms, D** 84.58 39 P P 20 23 45.7 0.0
baz=321
L41A **Preston** 84.60 37 P P 20 23 45.4 -0.4
baz=322
U32A **Winter Ranch,** 84.60 46 P P 20 23 47.1 +1.2
baz=317
M40A **Post Highland** 84.64 38 P P 20 23 45.7 -0.3
baz=321
S34A **Willow Spring** 84.65 44 P P 20 23 47.7 +1.5
baz=318
P37A **Lathrop** 84.66 41 P P 20 23 46.6 +0.4
baz=320

R35A	**Emporia Municipal** baz=319,SNR=9.0	84.67	43	P	P	20 23 46.9	+0.7
O38A	**Galt** baz=320	84.69	40	P	P	20 23 46.7	+0.4
PPT	**Papeete** comp=Z,3µm,19.0s,baz=305,slow=32	84.77	118	LR	LR	20 56 39.2	
VLDQ	**Val d'Or** comp=Z,31nm,1.2s	84.83	26	*e*P	P	20 23 45.4	-1.4
N40A	**Mertquake, Sal** baz=321	85.02	39	P	P	20 23 49.0	+1.1
R36A	**Gordon, Harris** baz=319	85.03	43	P	P	20 23 48.4	+0.4
P38A	**Dawn** baz=320,SNR=6.3	85.04	40	P	P	20 23 49.1	+1.0
O39A	**Kirksville** baz=321	85.04	40	P	P	20 23 48.1	0.0
S35A	**Otter Creek Ra** baz=319,SNR=9.9	85.08	43	P	P	20 23 49.1	+0.8
T34A	**McClaskey Farm** baz=318,SNR=7.5	85.11	44	P	P	20 23 49.2	+0.7
M41A	**Milan** baz=322	85.12	38	P	P	20 23 50.2	+1.8
Q37A	**Longview Farm,** baz=320	85.15	42	P	P	20 23 48.7	+0.1
SENIN	**Lac Senin/Sane** comp=Z,38nm,1.0s	85.23	331	*e*P	P	20 23 49.1	0.0
R37A	**Teagarden Farm** baz=319	85.38	42	P	P	20 23 50.2	+0.4
M42A	**Sheffield** baz=322	85.43	37	P	P	20 23 48.5	-1.4
S36A	**Lake Cedric, C** baz=319,SNR=6.1	85.43	43	P	P	20 23 50.2	+0.2
CABF	**La Chapelle**	85.46	332	*e*P	P	20 23 51.3	+1.2
CABF	comp=Z,70nm,1.6s			pmax	pmax		
O40A	**La Belle** baz=321	85.47	39	P	P	20 23 49.1	-1.0
N41A	**Harden Midland** baz=322	85.50	38	P	P	20 23 50.3	0.0
Q38A	**Cooks Store, C** baz=320,SNR=5.9	85.50	41	P	P	20 23 50.7	+0.3
P39B	**Salisbury** baz=321	85.53	40	P	P	20 23 50.5	0.0
T35A	**Sooner Cattle** baz=319,SNR=7.2	85.55	44	P	P	20 23 51.3	+0.6
Q39A	**Willow Grove F** baz=320,SNR=9.0	85.76	41	P	P	20 23 52.0	+0.4
T36A	**Boggs Farm, Ca** baz=319,SNR=6.2	85.78	44	P	P	20 23 52.1	+0.3
N42A	**Yates City** baz=322	85.79	38	P	P	20 23 52.5	+0.7
S37A	**Fort Scott** baz=320,SNR=7.5	85.80	42	P	P	20 23 52.2	+0.3
P40A	**Paris** baz=321,SNR=6.7	85.84	40	P	P	20 23 52.8	+0.8
U35A	**Pawnee** baz=318	85.84	45	P	P	20 23 53.3	+1.2
VLC	**Villacollemand** comp=Z,39nm,1.2s	85.88	328	*e*P	P	20 23 52.5	+0.3
WMOK	**Wichita Mounta** baz=318	85.93	47	P	P	20 23 52.4	-0.2
WMOK	**Wichita Mounta**	85.93	47	*e*P	P	20 23 54.1	+1.5
WMOK	comp=Z,17nm,1.0s			pmax	pmax		
WMOK	**Wichita Mounta** comp=Z,17nm,1.0s	85.93	47	*e*P	P	20 23 52.9	+0.3
R38A	**Fenwick Farm,** baz=320,SNR=5.8	85.95	42	P	P	20 23 49.5	-3.1
O41A	**Passleys Farm,** baz=322	85.95	39	P	P	20 23 52.6	0.0
AQU	**L'Aquila**	86.09	325	*e*P	P	20 23 53.9	+0.6
AQU	comp=Z,180nm,1.9s			pmax	pmax		
AQU	**L'Aquila** comp=Z,176nm,1.9s	86.09	325	*e*P	P	20 23 53.1	-0.2
LPL	**La Plagne**	86.16	331	*e*P	P	20 23 54.3	+0.5
LPL	comp=Z,31nm,0.9s			pmax	pmax		
LPG	**La Plagne** comp=Z,40nm,0.9s	86.17	331	*e*P	P	20 23 54.4	+0.5
LPG				pmax	pmax		
P41A	**Barry, Barry** baz=322	86.21	39	P	P	20 23 53.5	-0.3
T37A	**Chenevville 18** baz=319	86.24	43	P	P	20 23 52.7	-1.3
V35A	**Meyer Ranch, C** baz=318	86.24	45	P	P	20 23 54.2	+0.1
Q40A	**Laux Farm, Aux** baz=321,SNR=6.5	86.25	40	P	P	20 23 54.7	+0.6
AVF	**Avril sur Loir**	86.26	334	*e*P	P	20 23 53.7	-0.2
AVF	comp=Z,107nm,1.0s			pmax	pmax		
R39A	**Chumby, Stover** baz=320,SNR=6.6	86.29	41	P	P	20 23 53.9	-0.3
HDIL	**Hopedale** baz=323	86.35	37	P	P	20 23 55.6	+1.1
U36A	**Oologah** baz=319	86.36	44	P	P	20 23 54.8	+0.1
S38A	**Stockton** baz=320	86.37	42	P	P	20 23 55.8	+1.1
O43A	**Sugar Creek Fa** baz=323	86.56	38	P	P	20 23 56.3	+0.7
BNI	**Bardonecchia**	86.57	331	*e*P	P	20 23 56.7	+1.0
BNI	comp=Z,35nm,1.1s			pmax	pmax		
BNI	**Bardonecchia** comp=Z,35nm,1.1s	86.57	331	*e*P	P	20 23 56.0	+0.3
P42A	**Winchester** baz=322	86.62	39	P	P	20 23 57.0	+1.1
S39A	**Bolivar** baz=320,SNR=6.1	86.62	42	P	P	20 23 56.1	+0.1
T38A	**Diamond** baz=320,SNR=8.9	86.63	43	P	P	20 23 56.5	+0.5
GDM	**Grand'Maison**	86.65	331⇑	*e*P	P	20 23 56.6	+0.5
W35A	**Tecumseh** baz=318	86.67	45	P	P	20 23 56.4	+0.1
U37A	**Salina** baz=319,SNR=5.7	86.67	44	P	P	20 23 56.5	+0.3
Q41A	**Truxton** baz=322,SNR=5.9	86.69	40	P	P	20 23 56.9	+0.6
TUL1	**Leonard** baz=319	86.69	44	P	P	20 23 58.2	+1.9
TUL1	**Leonard** comp=Z,81nm,1.6s	86.69	44	*e*P	P	20 24 02.0	+5.7
R40A	**Maddies Statio** baz=321,SNR=6.4	86.69	41	P	P	20 23 56.5	+0.3
V36A	**Jenks** baz=319	86.70	44	P	P	20 23 57.5	+1.2
GRN	**Grenoble**	86.75	332⇑	*e*P	P	20 23 57.4	+0.8
SLBS	**Sierra La Lagu**	86.80	62	*e*P	P	20 24 01.0	+3.9
MBDF	**Montbardon**	86.81	331	*e*P	P	20 23 57.4	+0.5
MBDF	comp=Z,30nm,1.2s			pmax	pmax		
PLDF	**La Plantade**	86.88	333	*e*P	P	20 23 58.0	+0.9
TX31	**Lajitas Ar. Si**	86.94	54	*e*P	P	20 23 57.5	-0.3
TXAR	**Lajitas Array** comp=Z,14nm,1.2s,baz=282,slow=2.3,SNR=27	86.95	54	P	P	20 23 58.4	+0.6
TXAR				PKKPbc	PKKPbc	20 41 50.5	+1.3
P43A	**Skaggs, Pawnee** baz=322	86.97	38	P	P	20 23 59.0	+1.4
AGO	**Saint Agoulin**	86.98	334⇑	*e*P	P	20 23 58.8	+1.3
ORIF	**Oris-en-Rattie**	86.98	331	*e*P	P	20 23 58.9	+1.2
ORIF	comp=Z,23nm,1.0s			pmax	pmax		
ABTX	**Abilene, Hawle** baz=317	86.98	49	P	P	20 23 58.3	+0.5
ABTX	**Abilene, Hawle** comp=Z,82nm,1.5s	86.98	49	*e*P	P	20 23 57.9	+0.1
U38A	**Gravette** baz=320	87.03	43	P	P	20 23 58.8	+0.8
W36A	**Wetumka** baz=319	87.03	45	P	P	20 23 58.5	+0.5
V37A	**Hulbert** baz=319	87.06	44	P	P	20 23 58.9	+0.8
Q42A	**Golden Eagle** baz=322	87.06	39	P	P	20 23 55.6	-2.5
T39A	**Clever** baz=320	87.11	42	P	P	20 23 57.0	-1.4
S40A	**Lebanon** baz=321	87.11	41	P	P	20 23 58.7	+0.4
R41A	**Rosebud** baz=321,SNR=6.9	87.13	40	P	P	20 23 58.6	+0.3
SSB	**Saint Sauveur**	87.16	332⇑	*e*P	P	20 23 59.1	+0.6
SSB	**Saint Sauveur** comp=Z,26nm,1.0s	87.16	332	*e*P	P	20 23 59.4	+0.9
SSB				pmax	pmax		
SSB	**Saint Sauveur** comp=Z,26nm,1.0s	87.16	332	*e*P	P	20 23 58.6	+0.2
X35A	**Drake** baz=318	87.18	46	P	P	20 23 57.8	-0.9
PYM	**Petit Puy Mans**	87.28	333⇑	*e*P	P	20 24 00.1	+1.0
QUIF	**Quistinic**	87.29	338	*e*P	P	20 24 00.3	+1.4
QUIF	comp=Z,21nm,1.1s			pmax	pmax		
HPIG		87.37	57	*e*P	P	20 23 60.0	-0.1
HHAR	**Hobbs** comp=Z,26nm,1.4s	87.39	43	*e*P	P	20 24 04.8	+5.1
X36A	**Centrahoma** baz=319	87.39	46	P	P	20 23 59.9	+0.1
R42A	**Luebbering** baz=322	87.43	40	P	P	20 24 01.3	+1.4
Q43A	**New Douglas** baz=322	87.44	39	P	P	20 24 00.9	+1.1
T40A	**Mansfield** baz=321	87.45	41	P	P	20 24 01.4	+1.4
V38A	**Canehill** baz=320,SNR=7.7	87.46	43	P	P	20 24 00.5	+0.4
W37B	**Quinton** baz=319	87.46	45	P	P	20 24 02.3	+2.2
VIVF	**Saint-Julien-l**	87.47	332	*e*P	P	20 24 01.3	+1.3
VIVF	comp=Z,36nm,1.2s			pmax	pmax		
S41A	**Jilo Farms,** baz=321	87.50	41	P	P	20 24 00.9	+0.7
SFIN	**Lafayette** baz=324	87.50	36	P	P	20 23 59.4	-0.7
SFIN	**Lafayette** comp=Z,27nm,1.2s	87.50	36	*e*P	P	20 24 05.7	+5.6
Y35A	**Marietta** baz=318	87.51	46	P	P	20 24 01.5	+1.2
P44A	**Sand Creek, Wi** baz=320	87.53	38	P	P	20 24 02.1	+1.8
U39A	**Green Forest** baz=320,SNR=6.2	87.55	43	P	P	20 24 00.5	0.0
LBL	**Lubilhac**	87.65	333	*e*P	P	20 24 02.1	+1.2
Q44A	**Meyer Farm, Va** baz=323	87.79	38	P	P	20 24 02.6	+1.1
S42A	**Caledonia** baz=322,SNR=5.5	87.83	40	P	P	20 24 01.8	0.0
R43A	**Red Bud** baz=322	87.85	39	P	P	20 24 01.9	0.0
233A	**Rising Star** baz=318	87.86	49	P	P	20 24 02.5	+0.5
V39A	**Pettigrew** baz=320	87.88	43	P	P	20 24 02.5	+0.3
U40A	**Yellville** baz=321,SNR=7.9	87.89	42	P	P	20 24 02.1	0.0
X37A	**Clayton** baz=319	87.91	45	P	P	20 24 02.7	+0.5
T41A	**Mountain View** baz=321,SNR=6.6	87.91	41	P	P	20 24 02.7	+0.5
Y36A	**Durant** baz=319	87.93	46	P	P	20 24 03.5	+1.2
W38A	**Poteau** baz=320	88.00	44	P	P	20 24 04.2	+1.5
X38A	**Whitesboro** baz=320	88.14	44	P	P	20 24 03.8	+0.4
CEL	**Celeste** comp=Z,17nm,0.9s	88.23	321	*e*P	P	20 24 02.9	-0.8
T42A	**Van Buren** baz=322	88.26	41	P	P	20 24 04.6	+0.7
R44A	**Waltonville** baz=323	88.28	39	P	P	20 24 05.0	+1.1
W39A	**Magazine** baz=320	88.30	43	P	P	20 24 03.4	-0.6
234A	**Clairette** baz=318	88.30	48	P	P	20 24 04.6	+0.5
333A	**Richland Sprin** baz=318,SNR=5.6	88.31	49	P	P	20 24 04.6	+0.4
Z36A	**Blue Ridge** baz=319	88.32	46	P	P	20 24 03.6	-0.6
CAF	**Calviac**	88.33	334	*e*P	P	20 24 04.5	+0.5
CAF	comp=Z,74nm,1.3s			pmax	pmax		
V40A	**Witts Springs** baz=321	88.33	43	P	P	20 24 03.9	-0.4
S43A	**Fulton Ridge,** baz=322	88.34	40	P	P	20 24 02.8	-1.4
OLIL	**Olney** comp=Z,99nm,1.5s	88.36	38	*e*P	P	20 24 05.2	+0.9
U41A	**Viola** baz=321	88.38	42	P	P	20 24 05.5	+1.1
JCT	**Junction City** baz=317	88.45	50	P	P	20 24 06.1	+1.2
JCT	**Junction City** comp=Z,26nm,1.3s	88.45	50	*e*P	P	20 24 10.5	+5.6
JCT				pmax	pmax		
JCT	**Junction City** comp=Z,26nm,1.4s	88.45	50	*e*P	P	20 24 10.5	+5.5
T43A	**Greenville** baz=322	88.62	40	P	P	20 24 07.3	+1.8
S44A	**Carbondale** baz=323	88.64	39	P	P	20 24 04.5	-1.1
X39A	**Fountain Ranch** baz=320	88.64	44	P	P	20 24 07.9	+2.2
433A	**Art** baz=317	88.67	50	P	P	20 24 05.4	-0.6
W40A	**Ferguson Farm,** baz=321	88.67	43	P	P	20 24 04.8	-1.0
V41A	**Mountainview** baz=321,SNR=6.4	88.69	42	P	P	20 24 06.5	+0.6
WHTX	**Lake Whitney,** baz=318	88.70	48	P	P	20 24 07.6	+1.6
U42A	**Revenden** baz=322	88.72	41	P	P	20 24 04.6	-1.4
334A	**Lometa** baz=318	88.74	49	P	P	20 24 06.4	+0.1
PBMO	**Poplar Bluff** comp=Z,51nm,1.3s	88.78	40	*e*P	P	20 24 06.8	+0.5
Z37A	**Pogue Cattle C** baz=319	88.82	46	P	P	20 24 07.7	+1.2
136A	**Ennis** baz=319	88.86	47	P	P	20 24 06.5	-0.2
MIAR	**Mount Ida** baz=320,SNR=5.5	88.90	44	P	P	20 24 07.7	+0.8
MIAR	**Mount Ida** comp=Z,30nm,1.2s	88.90	44	*e*P	P	20 24 07.3	+0.4
MIAR				pmax	pmax		
MIAR	**Mount Ida** comp=Z,30nm,1.2s	88.90	44	*e*P	P	20 24 07.3	+0.4
T44A	**Benton** baz=322	88.96	40	P	P	20 24 07.1	0.0
S45A	**Carrier Mills** baz=323	88.97	39	P	P	20 24 08.2	+1.1
WHAR	**Wooly Hollow** comp=Z,60nm,1.3s	89.00	42	*e*P	P	20 24 06.6	-0.8
V42A	**Cord** baz=322	89.06	42	P	P	20 24 05.5	-2.1
Y39A	**Lockesburg** baz=320	89.09	45	P	P	20 24 08.2	+0.5
434A	**Burnet** baz=318	89.11	49	P	P	20 24 08.1	+0.1
W41B	**Gary Mavity, V** baz=321	89.12	43	P	P	20 24 08.7	+0.8
U43A	**Rector** baz=322	89.12	41	P	P	20 24 08.6	+0.7
137A	**Heron Place, G** baz=319	89.20	46	P	P	20 24 09.2	+0.8
533A	**Kerrville** baz=318	89.20	50	P	P	20 24 09.7	+1.2
236A	**Katherine and** baz=319	89.22	47	P	P	20 24 08.9	+0.5
335A	**Moody** baz=318	89.24	48	P	P	20 24 09.1	+0.5
X40A	**Basin Creek Fa** baz=321	89.34	43	P	P	20 24 09.7	+0.8
ACSO	**Alum Creek Sta** comp=Z,29nm,1.1s	89.42	34	*e*P	P	20 24 14.2	+5.0
Y40A	**Okolona** baz=320	89.47	44	P	P	20 24 10.4	+0.8
336A	**Riesel** baz=319	89.50	48	P	P	20 24 09.9	+0.2
138A	**Matatall Enter** baz=320	89.52	46	P	P	20 24 11.7	+1.9
435B	**Jarrell** baz=318	89.52	49	P	P	20 24 10.4	+0.5
534A	**Blanco** baz=318,SNR=6.7	89.56	50	P	P	20 24 10.7	+0.6
633A	**Saathoff Ranch** baz=317	89.57	51	P	P	20 24 10.0	-0.2
Z39A	**Irene McRaven,** baz=320	89.58	45	P	P	20 24 11.9	+1.9
M54A	**Oil Creek Stat**	89.70	31	P	P	20 24 09.3	-1.3
	baz=329						
Y41A	**Eaglette Beard** baz=321	89.92	44	P	P	20 24 13.9	+2.2
832A	**Faith Ranch, C** baz=317	89.95	52	P	P	20 24 13.2	+1.3
Z40A	**Long Farm, Mag** baz=320	89.98	44	P	P	20 24 14.2	+2.2
N54A	**Moraine State** baz=328	90.03	31	P	P	20 24 12.6	+0.5
733A	**Divot King Ran** baz=317	90.04	51	P	P	20 24 14.7	+2.3
833A	**Chaparral WMA,** baz=317	90.27	52	P	P	20 24 15.0	+1.6
Z41A	**Richland Creek** baz=321	90.30	44	P	P	20 24 14.3	+0.8
437A	**Phantom Ranch,** baz=319	90.31	48	P	P	20 24 14.4	+0.9
536A	**Bastrop** baz=318	90.35	49	P	P	20 24 13.6	-0.2
734A	**La Parita Cree** baz=318	90.38	51	P	P	20 24 15.6	+1.6
635A	**Leesville** baz=318	90.45	50	P	P	20 24 14.0	-0.2
Z42A	**Norrel Spur, H** baz=321	90.74	44	P	P	20 24 16.6	+1.1
438A	**Sam Houston St** baz=319	90.75	47	P	P	20 24 16.8	+1.2
537A	**Green Hill Far** baz=319	90.78	48	P	P	20 24 15.2	-0.5
RESF	**Ens**	90.78	334⇑	*e*P	P	20 24 17.1	+1.4
636A	**Smothers Creek** baz=318	90.79	49	P	P	20 24 16.4	+0.5
933A	**Laredo** baz=317	90.86	52	P	P	20 24 17.1	+0.9
OXF	**Oxford**	91.08	41	*e*P	P	20 24 18.1	+1.0
OXF	comp=Z,61nm,1.3s			pmax	pmax		
OXF	**Oxford** comp=Z,61nm,1.3s	91.08	41	*e*P	P	20 24 18.1	+1.0
X45A	**UM Field Stati** baz=323	91.16	41	P	P	20 24 17.1	-0.3
O56A	**Blue Knob Stat** baz=329	91.19	31	P	P	20 24 15.5	-2.0
Y45A	**Yeager Farm, C** baz=323	91.53	42	P	P	20 24 19.9	+0.7
341A	**Kurthwood** baz=320	91.59	46	P	P	20 24 21.3	+1.9
034A	**Hebbronville** baz=318	91.62	52	P	P	20 24 20.3	+0.6
N59A	**State Game Lan** baz=331	91.69	29	P	P	20 24 20.2	+0.4
SWET	**Sewanee** comp=Z,7.7nm,0.6s	92.22	38	*e*P	P	20 24 27.4	+5.0
TZTN	**Tazewell** comp=Z,22nm,1.3s	92.23	36	*e*P	P	20 24 20.6	-1.8
LNIG	**Linares** comp=Z,21nm,1.3s	92.72	54	*e*P	P	20 24 29.7	+4.9
KEST	**Kesra** comp=Z,2.8nm,0.7s,baz=294,slow=10.0,SNR=4.8	93.33	324	P	P	20 24 27.8	+0.3
KEST	**Kesra** comp=Z,8.2nm,0.9s	93.33	324	*e*P	P	20 24 28.3	+0.7
ES19	**SONSECA Array**	94.97	335	*e*P	P	20 24 34.4	-0.6
ESDC	**Sonseca Array** comp=Z,2.0nm,0.8s,baz=21,slow=3.6,SNR=10	95.01	335	P	P	20 24 35.3	+0.1
KMBO	**Kilima Mbogo** comp=Z,0.5nm,0.2s,baz=51,slow=4.8,SNR=4.2	102.99	280	Pdiff	Pdif	20 25 11.3	-0.3
TOA0	**Torodi Ar. Sit**	116.04	318	*e*PKPdf	PKPdf	20 29 55.1	-0.8
TORD	**Torodi Ar. Bea** comp=Z,1.2nm,1.0s,baz=16,slow=2.4,SNR=4.8	116.04	318	PKP	PKPdf	20 29 55.2	-0.6
VNDA	**Vanda** comp=Z,1.8nm,0.8s,baz=325,slow=3.7,SNR=11	118.09	176	PKP	PKPdf	20 29 57.5	-0.4
MAW	**Mawson** comp=Z,2.5nm,0.8s,baz=24,slow=2.9,SNR=4.3	123.13	207	PKP	PKPdf	20 30 07.3	-0.5
MAW	**Mawson**	123.13	207	*e*PKIKP	PKPdf	20 30 08.1	+0.3
MAW	**Mawson**	123.13	207	*e*PKPdf	PKPdf	20 30 07.0	-0.7
DBIC	**Dimbokro** comp=Z,4.0nm,0.9s,baz=352,slow=4.7,SNR=3.8	124.86	320	PKP	PKPdf	20 30 12.8	0.0
QSPA	**South Pole Qui**	130.03	180	*e*PKPdf	PKPdf	20 30 21.0	-0.2
SYO	**Syowa Base**	131.79	208‖	*e*PP	PP	20 32 36.4	-9.1
PTGA	**Pitinga** comp=Z,0.8nm,0.3s,baz=37,slow=6.5,SNR=2.6	135.28	34	PKP	PKPdf	20 30 32.9	+0.3
NVL	**N'lazarevskaya**	140.88	203	*e*PKIKP	PKPdf	20 30 37.5	-3.6
LPAZ	**La Paz** comp=Z,3.4nm,0.8s,baz=346,slow=4.6,SNR=8.9	143.70	58	PKP	PKPdf	20 30 48.9	+0.4
LPAZ	**La Paz**	143.70	58	*e*PKPpre	PKPpre	20 30 46.0	
SNAA	**Sanae**	144.30	198	PKP	PKPbc	20 30 45.6	-0.1
SNAA	**Sanae**	144.30	198	*e*PKIKP	PKPab	20 30 44.6	-0.7
SNAA	**Sanae**	144.30	198	*e*PKPdf	PKPab	20 30 44.5	-0.7
PB11	**IPOC Station P**	145.14	64	*e*PKPbc	PKPab	20 30 50.2	+0.2
VNA2	**Neumayer--Watz** baz=112,slow=2.1	145.87	197	PKP	PKPdf	20 30 49.8	-0.1
VNA3	**Neumayer Olymp**	146.10	195	PKP	PKPbc	20 30 51.2	-0.1
PB01	**IPOC Station P**	146.12	65	*e*PKPdf	PKPdf	20 30 50.2	-1.8
VNA1	**Neumayer--Stat**	146.26	197	PKP	PKPab	20 30 53.0	+0.5
LVC	**Limon Verde**	147.55	67	*e*PKPbc	PKPab	20 30 59.6	+0.2
SIV	**San Ignacio** comp=Z,19nm,1.1s,baz=309,slow=4.7,SNR=8.0	147.80	48	PKPbc	PKPbc	20 30 57.5	-0.2
LCO	**Las Campanas**	149.98	79	*e*PKPbc	PKPbc	20 31 02.4	-0.9
PLCA	**Paso Flores** comp=Z,12nm,1.2s,baz=260,slow=5.0,SNR=2.2	154.30	102	PKPbc	PKPbc	20 31 12.4	0.0
CPUP	**Villa Florida**	157.87	57	*e*PKIKP	PKPdf	20 31 06.5	-2.7
CPUP				*e*		20 31 41.4	
CPUP	**Villa Florida**	157.87	57	*e*PKPdf	PKPdf	20 31 06.5	-2.7
CPUP				*e*PKPab	PKPab	20 31 41.4	-0.7

BJI ***16*** *20:16:15.9,39°.78N×143°.74E,h23km,mb5.0/17,Ms5.6/1, Ms7 5.4/2*

ISCJB ***16*** *20:16:17.7±0.3,40°.21N±0°.03×143°.48E±0°.04,h6km, mb4.8/73,MS5.6/1,Error ellipse: s-maj=5.2km s-min=3.0km az=44.4*

IDC ***16*** *20:16:18.3±0.6,40°.23N×143°.45E,h0km,mb4.5/23, mb1 4.6/29,mb1mx4.5/39,mbtmp4.5/29,ML3.7/5,Error ellipse: s-maj=16.2km s-min=12.3km az=117.0*

MOS ***16*** *20:16:20.3±1.0,40°.19N×143°.58E,h33km,mb5.0/37,Error ellipse: s-maj=11.8km s-min=7.5km az=79.0*

JMA ***16*** *20:16:20.0±0.2,40°.24N×143°.39E,h11km±3km,M4.7 JMA Felt I J1.*

NEIC ***16*** *20:16:23.2±0.4,40°.25N×143°.37E,h35km,mb4.9/8,Error ellipse: s-maj=10.0km s-min=5.8km az=128.0*

NEIC Recorded [1 JMA] in Iwate.

ISC 16 20:16:18.6±0.4, 40°.20N±0°.04×143°.51E±0°.05, h6km, n221, σ1§51/231, mb5.0/76, 21C-18D, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time h m s	Res ISC
				Op	ISC		
JTH	**Tanohata**	1.29	259	P	Pn	20 16 42.4	-0.8
MIYJ	**Miyakonagasawa**	1.44	245	P	Pn	20 16 44.9	-0.4
MIYJ				*e*S	Sb	20 17 02.3	-2.2
JANG	**Nango**	1.54	277	P	Pn	20 16 45.9	-0.7
ERM	**Erimo**	1.84	352	*e*P	Pn	20 16 51.6	+0.9
ERM	**Erimo**	1.84	352	*e*Pn	Pn	20 16 50.6	-0.1
JOM	**Ohasama**	1.86	248	P	Pn	20 16 51.5	+0.5
JTM	**Tenmabayashi**	1.96	288	P	Pn	20 16 52.4	0.0
JTM				*e*S	Sn	20 17 15.3	-1.9
JMK	**Ichinoseki**	2.17	236	P	Pn	20 16 55.9	+0.7
JMK				*e*S	Sn	20 17 21.6	-0.8
JAH	**Hinai**	2.21	271	P	Pn	20 16 56.3	+0.5
JOT	**Ohata**	2.21	303	P	Pn	20 16 55.9	0.0
JOT				*e*S	Sn	20 17 23.3	-0.3
JCH	**Churui**	2.42	357	*e*S	Sn	20 17 26.2	-2.4
JKB	**Kayabe**	2.52	313	*e*S	Sn	20 17 30.2	-1.0
JYK	**Kaneyama**	2.75	243	P	Pn	20 17 04.3	+1.0
JOU	**Okura**	2.87	231	P	Pn	20 17 05.8	+0.9
JFT	**Otama**	3.65	224	P	Pn	20 17 16.5	+0.9
JFT				*e*S	Sn	20 17 58.2	-0.8
ASAJ	**Asahikawa** baz=226,slow=0.0	3.98	350	Pn	Pn	20 17 21.9	+1.8
YUK	**Yuzh-Kuril'sk**	4.21	24	*e*P	Pn	20 17 23.5	+0.1
MAJO	**Matsushiro**	5.54	230	‖/P	Pn	20 17 43.1	+1.4
MAJO	**Matsushiro**	5.54	230	*e*Pn	Pn	20 17 43.6	+1.9
MAJO				*e*Sn	Sn	20 18 45.1	-0.5
MJAR	**Matsushiro Arr** 5.0nm,0.3s,baz=40,slow=12,SNR=29	5.54	230	Pn	Pn	20 17 43.4	+1.8
MAT	**Matsushiro**	5.54	230	P	Pn	20 17 43.5	+1.8
MAT				*e*S	Sn	20 18 50.6	+4.9
KUR	**Kuril'sk**	5.97	31	*e*P	Pn	20 17 48.4	+0.9
KUR				*i* S	Sn	20 18 52.7	-3.4
KUR	comp=Z,372nm,0.5s			pmax	pmax		
KUR	comp=E,90nm,0.3s			pmax	pmax		
KUR				pmax	pmax		

comp=N,84nm,0.4s
KUR smax smax
comp=E,680nm,0.7s
KUR smax smax
comp=N,306nm,0.5s
YSS Yuzh-Sakhalins 6.78 356 *eP* **Pn 20 17 59.1 +0.5**
YSS pmax pmax
comp=Z,30nm,1.2s
JHJ Hachijo jima 2 7.67 204 Pn **Pn 20 18 10.2 -0.8**
comp=Z,25nm,0.3s,baz=79,slow=22,SNR=9.7
JHJ Sn **Sn 20 19 32.9 -5.3**
comp=Z,9.0nm,0.3s,baz=66,slow=20,SNR=2.8
VLA Vladivostok 9.18 292 *i* P **Pn 20 18 33.5 +1.9**
USRK Ussuriysk Ar. 9.44 299 Pn **Pn 20 18 35.0 -0.1**
comp=Z,0.9nm,0.3s,baz=96,slow=13,SNR=15
MSHR Mys Shultsa 9.59 288 *eP* **Pn 20 18 38.6 +1.5**
JNU Nakatsue 12.35 239 Pn **Pn 20 19 15.5 +0.4**
comp=Z,0.4nm,0.3s,baz=82,slow=7.0,SNR=6.1
KSRS Korea Array 12.46 262 Pn **Pn 20 19 18.7 +2.2**
comp=Z,0.2nm,0.3s,baz=73,slow=13,SNR=5.7
KSAR Wonju Array Be 12.50 262 P **Pn 20 19 18.7 +1.7**
KSAR Wonju Array Be 12.50 262 Pn **Pn 20 19 18.7 +1.7**
SKR Severo-Kuril's 13.70 36 *i* P **Pn 20 19 34.2 +0.9**
PETK Petropavlovsk- 16.13 32 Pn **Pn 20 20 03.5 -2.4**
comp=Z,0.1nm,0.3s,baz=190,slow=7.3,SNR=3.7
MA2 Magadan 19.93 11 P **P 20 20 51.0 0.0**
comp=Z,0.7nm,0.3s,baz=196,slow=8.6,SNR=7.5
MA2 Magadan 19.93 11 P **P**
MA2 pmax pmax
comp=Z,1.0nm,0.3s
SEY Seymchan 23.38 10 P **P 20 21 27.2 -0.5**
comp=Z,27nm,0.9s,baz=196,slow=9.4,SNR=7.8
TWG Pinlang 25.70 234 P **P 20 21 45.8 -3.8**
ULN Ulaanbaatar 27.11 299 *i* P **P 20 22 02.1 -0.3**
ULN pmax pmax
comp=Z,20nm,1.0s
SONM Songino Array 27.55 298 P **P 20 22 06.2 -0.2**
comp=Z,14nm,1.0s,baz=101,slow=8.2,SNR=10
H11N2 WAKE ISLAND Hy 28.59 129 T T 20 52 19.8
baz=321,slow=75,SNR=31
H11N1 WAKE ISLAND Hy 28.60 129 T T 20 52 21.5
baz=321,slow=75,SNR=29
H11N3 WAKE ISLAND Hy 28.61 129 T T 20 52 16.7
baz=321,slow=75,SNR=36
ENH Enshi 29.35 261 P **P 20 22 20.0 -2.4**
comp=Z,36nm,0.9s
H11S1 WAKE ISLAND Hy 29.43 130 T T 20 53 17.4
baz=322,slow=76,SNR=17
H11S3 WAKE ISLAND Hy 29.43 131 T T 20 53 23.9
baz=322,slow=76,SNR=15
H11S2 WAKE ISLAND Hy 29.44 131 T T 20 53 28.2
baz=322,slow=76,SNR=18
TLY Talaya 29.65 306 *i* P **P 20 22 26.9 +2.1**
TLY pmax pmax
comp=Z,18nm,1.5s
BILL Bilibino 30.53 17⇓ *eP* **P 20 22 33.6 +1.2**
BILL *e* 20 23 31.5
BILL *e*PPP PPP 20 23 41.6
BILL pmax pmax
comp=Z,10.0nm,0.9s
BILL MLR MLR
comp=Z,9μm,14.0s
TIXI Tiksi 32.38 351 *eP* **P 20 22 48.0 -0.6**
TIXI pmax pmax
comp=Z,6.0nm,0.8s
GTA Gaotai 33.33 283 *eP* **P 20 22 57.8 +0.4**
GTA pP sP 20 23 03.9 +3.9
GTA sP pP 20 23 06.8 +7.5
GTA PcP **PcP 20 25 41.3 +2.0**
GTA pmax pmax
comp=Z,25nm,1.2s
GYA Guiyang 33.45 257⇑ *iP* **P 20 22 57.6 -1.0**
GYA pmax pmax
comp=Z,30nm,0.8s
KMI Kunming 37.13 259 P **P 20 23 26.8 -3.6**
KMI pmax pmax
comp=Z,37nm,1.0s
SLVN Son La 38.49 253 *eP* **P 20 23 40.4 -1.4**
comp=Z,7.4nm,0.8s
ZALV Zalesovo Beam 41.08 310 P **P 20 24 02.6 -0.3**
comp=Z,13nm,0.9s,baz=92,slow=7.1,SNR=6.9
ZALV PcP **PcP 20 26 02.7 +0.3**
comp=Z,5.4nm,0.7s,baz=94,slow=3.5,SNR=3.6
NRIK Noril'sk 41.13 333 P **P 20 24 03.4 +0.3**
comp=Z,14nm,1.0s,baz=113,slow=7.5,SNR=2.9
LSA Lhasa 43.63 273 P **P 20 24 23.9 -0.5**
LSA Lhasa 43.63 273 P **P 20 24 23.9 -0.5**
KDAK Kodiak Island 43.67 44 P **P 20 24 24.7 +0.8**
comp=Z,3.8nm,0.8s,baz=270,slow=9.1,SNR=2.9
CHTO Chiang Mai 43.70 254 *eP* **P 20 24 23.0 -1.6**
CHTO Chiang Mai 43.70 254 *eP* **P 20 24 23.0 -1.6**
CMAR Chiang Mai Arr 43.92 254 P **P 20 24 26.8 +0.4**
comp=Z,2.6nm,0.7s,baz=45,slow=7.3,SNR=9.2
KTH Kantishna Hill 44.22 36 *eP* **P 20 24 30.2 +1.9**
comp=Z,28nm,1.2s
KURK Kurchatov 45.34 306⇑ *iP* **P 20 24 37.1 -0.2**
KURK Kurchatov 45.34 306 *eP* **P 20 24 37.0 -0.4**
COLA College 45.53 34 *i* P **P 20 24 40.8 +2.2**
ILAR Eielson Array 45.95 34 P **P 20 24 43.0 +1.1**
comp=Z,3.2nm,0.8s,baz=263,slow=6.4,SNR=9.7
DOT Dot Lake 47.27 35 P **P 20 24 52.6 +0.2**
TAPN Taplejung 47.41 272 *eP* **P 20 24 54.8 +0.5**
comp=Z,38nm,1.0s
ODAN Odare 47.91 272 *eP* **P 20 24 58.5 +0.4**
comp=Z,35nm,0.9s
JIRN Jiri 48.42 274 *eP* **P 20 25 02.5 +0.3**
RAMN Ramite 48.47 272 *eP* **P 20 25 02.5 +0.1**
comp=Z,84nm,0.9s
GUN Gumba 48.53 274 *eP* **P 20 25 03.2 +0.2**
comp=Z,119nm,1.0s
KKN Kakani 49.05 274 *eP* **P 20 25 07.0 +0.2**
comp=Z,68nm,0.9s
PKI Pulchoki 49.06 274 *eP* **P 20 25 06.9 -0.2**
comp=Z,70nm,1.4s
PKIN Phulchoki 49.07 274 *eP* **P 20 25 06.9 -0.1**
comp=Z,17nm,0.7s
DMN Daman 49.27 274 *eP* **P 20 25 08.8 +0.2**
comp=Z,61nm,1.2s
GKN Gorkha 49.43 275 *eP* **P 20 25 09.6 -0.1**
comp=Z,44nm,1.0s
BRVK Borovoye 49.76 311⇑ *eP* **P 20 25 12.0 +0.3**
BRVK pmax pmax
comp=Z,65nm,0.9s
BRVK Borovoye 49.76 311 *eP* **P 20 25 09.6 -2.1**
KOLN Koldanda 50.34 275 *eP* **P 20 25 16.7 0.0**
comp=Z,25nm,1.0s
PYUN Piuthan 50.64 276 *eP* **P 20 25 18.1 -0.8**
comp=Z,103nm,1.0s
KSH Kashi 50.67 292 *eP* **P 20 25 23.1 +4.2**
KSH PP **PP 20 27 21.1 +6.4**
KSH pmax pmax
comp=Z,8.0nm,0.7s
KSH LR LR
comp=Z,2μm,11.7s
INK Inuvik 50.83 28 P **P 20 25 20.8 +1.3**
comp=Z,4.6nm,0.9s,baz=281,slow=4.4,SNR=5.4
INK Inuvik 50.83 28 P **P 20 25 20.8 +1.3**
INK pmax pmax
comp=Z,3.0nm,0.7s
SOEI Soe 52.80 204 *eP* **P 20 25 33.4 -1.5**
KKAR Karatay Array 53.01 299 *eP* **P 20 25 35.5 -0.7**
KKAR pmax pmax
comp=Z,4.0nm,0.7s
KKAR Karatay Array 53.01 299 *eP* **P 20 25 35.5 -0.7**
comp=Z,3.7nm,0.7s
SVE Sverdlovsk 53.90 318⇑ *eP* **P 20 25 43.3 +0.8**
SVE pmax pmax
comp=Z,39nm,1.1s
ARU Arti 55.11 318 *c iP* **P 20 25 51.4 +0.1**
ARU S **S 20 33 33.9 -0.3**
ARU SS **SS 20 37 16.4 -1.0**
ARU pmax pmax
comp=Z,52nm,1.7s
ARU Arti 55.11 318 *eP* **P 20 25 51.4 +0.1**
comp=Z,36nm,1.2s
ABKAR Akbulak array 57.19 309 *eP* **P 20 26 06.0 -0.3**
comp=Z,6.1nm,0.6s
HYB Hyderabad 59.95 268 *i* P **P 20 26 27.0 +1.0**
YKA Yellowknife Ar 60.25 32 P **P 20 26 26.7 -0.6**
comp=Z,1.4nm,0.9s,baz=298,slow=6.6,SNR=3.2
WRA Warramunga Arr 60.44 190 P **P 20 26 28.9 -0.2**
comp=Z,3.5nm,1.0s,baz=7.9,slow=6.7,SNR=7.8
TMCR Tamitsa 60.77 331 *eP* **P 20 26 30.9 +0.1**
TMCR pmax pmax
comp=Z,29nm,0.9s
ARCES ARCESS Array B 61.62 339 P **P 20 26 36.8 +0.2**
comp=Z,2.8nm,0.7s,baz=12,slow=5.7,SNR=4.1
ARCES ARCESS Array B 61.62 339 P **P 20 26 36.8 +0.2**
ARCES pmax pmax
comp=Z,4.0nm,0.8s
KLMR Klimovskoe 61.97 327 *eP* **P 20 26 38.3 -0.7**
KLMR *e* 20 27 17.2
KLMR *e* 20 28 54.5
KLMR pmax pmax
comp=Z,14nm,0.9s
DAG Danmarks Havn 62.76 355 *i* P **P 20 26 44.6 +0.5**
comp=Z,16nm,1.0s
DAG Danmarks Havn 62.76 355 *i* P **P 20 26 44.6 +0.5**
DAG pmax pmax
comp=Z,16nm,1.0s
GEYT Alibeck 63.76 299 P **P 20 26 51.0 -0.4**
comp=Z,10.0nm,0.9s,baz=34,slow=3.6,SNR=9.6
ASAR Alice Springs 64.16 190 P **P 20 26 54.4 +0.4**
comp=Z,1.5nm,0.9s,baz=12,slow=5.4,SNR=4.7
OBN Obninsk 66.55 323⇑ *eP* **P 20 27 08.3 -0.8**
OBN *e* 20 27 38.4
OBN *e* 20 29 37.3
OBN pmax pmax
comp=Z,18nm,0.7s
FINES FINESS Array B 66.78 332 P **P 20 27 10.7 +0.1**
comp=Z,18nm,0.8s,baz=56,slow=7.4,SNR=16
FINES FINESS Array B 66.78 332 *i* P **P 20 27 10.8 +0.3**
FINES pmax pmax
comp=Z,18nm,0.8s
SUMG Summit 67.52 1 *i* P **P 20 27 16.7 +1.2**
comp=Z,16nm,0.8s
SUMG Summit 67.52 1 *i* P **P 20 27 16.7 +1.2**
SUMG pmax pmax
comp=Z,16nm,0.8s
SUMG Summit 67.52 1 P **P 20 27 14.1 -1.4**
GOF Gofitskoye 69.22 312⇑ *eP* **P 20 27 26.6 +0.5**
GOF pmax pmax
comp=Z,56nm,0.9s
ZEI Tsey 70.06 309 *eP* **P 20 27 30.8 -0.9**
ZEI pmax pmax
comp=Z,25nm,0.7s
KIV Kislovodsk 70.08 311⇑ *eP* **P 20 27 32.0 +0.4**
KIV *e* 20 27 51.9
KIV *e* 20 30 04.2
KIV *e*S **SKiKP 20 37 08.1 -10**
KIV *e*SSS SSS 20 44 19.8
KIV pmax pmax
comp=Z,53nm,0.9s
KIV Kislovodsk 70.08 311 P **P 20 27 28.1 -3.5**
comp=Z,49nm,1.0s
KBZ Khabaz 70.09 311 P **P 20 27 32.5 +1.0**
comp=Z,15nm,0.8s,baz=34,slow=7.5,SNR=9.3
NEY Neytrino 70.48 310⇑ *eP* **P 20 27 35.2 +1.0**
NEY pmax pmax
comp=Z,2.0nm,0.8s
NACGM Naroch 70.98 327 *e* **P 20 27 36.0 -0.8**
AKH Akhalkalaki 71.13 308⇓ *iP* **P 20 27 39.9 +1.7**
GNI Garni 71.14 307⇓ *eP* **P 20 27 37.4 -0.8**
GNI pmax pmax
comp=Z,46nm,1.4s
BOZ Bozeman (W) 71.34 46 *eP* **P 20 27 40.2 +0.9**
BOZ Bozeman (W) 71.34 46 *eP* **P 20 27 40.2 +0.9**
STKA Stephens Creek 71.73 182 P **P 20 27 43.3 +1.9**
comp=Z,1.7nm,0.7s,baz=342,slow=9.6,SNR=2.4
NB2 NORSAR Subarra 71.90 338 P **P 20 27 42.1 -0.2**
baz=37,slow=6.2
NB2 NORSAR Subarra 71.90 338 P **P 20 27 42.4 +0.1**
NB2 pmax pmax
comp=Z,15nm,1.0s
NB2 NORSAR Subarra 71.90 338 P **P 20 27 42.1 -0.2**
comp=Z,18nm,0.9s,baz=37,slow=6.2
NOA NORSAR Array B 71.90 338 P **P 20 27 42.5 +0.1**
comp=Z,11nm,0.8s,baz=37,slow=6.0,SNR=18
SOC Sochi 72.01 312 *eP* **P 20 27 41.0 -2.2**
SOC pmax pmax
comp=Z,29nm,1.6s
AKASG Malin Array Be 72.80 323 P **P 20 27 47.6 -0.1**
comp=Z,11nm,0.8s,baz=44,slow=6.0,SNR=18
AKASG PP **PP 20 30 23.2 -5.8**
comp=Z,0.5nm,0.5s,baz=41,slow=9.0,SNR=2.8
KIEV Kiev 72.81 323⇓ *iP* **P 20 27 48.1 +0.3**
KIEV pmax pmax
comp=Z,22nm,0.9s
KIEV Kiev 72.81 323 *eP* **P 20 27 46.5 -1.3**
comp=Z,7.6nm,0.8s
PDAR Pinedale Array 74.29 47 P **P 20 27 57.8 +0.7**
comp=Z,0.7nm,0.7s,baz=266,slow=1.9,SNR=3.8
SORM Soroca 74.98 321⇓ *iP* **P 20 28 00.5 -0.1**
SORM Soroca 74.98 321⇓ *P* **P 20 28 00.5 -0.1**
BURAR Bucovina Array 76.84 322⇑ *iP* **P 20 28 12.2 +0.8**
BURAR Bucovina Array 76.84 322⇑ *P* **P 20 28 12.2 +0.8**
TESR Tescani 76.94 321⇓ *iP* **P 20 28 12.6 +0.7**
CFR Carcaliu 77.16 319⇓ *iP* **P 20 28 13.6 +0.6**
CFR Carcaliu 77.16 319⇓ *P* **P 20 28 13.6 +0.6**
STHS Stebnicka Huta 77.31 326 *eP* **P 20 28 15.6 +1.8**
STHS pmax pmax
comp=Z,9.0nm,0.9s
STHS Stebnicka Huta 77.31 326 *eP* **P 20 28 15.6 +1.8**
TLB Topalu 77.62 319⇓ *iP* **P 20 28 16.2 +0.6**
TLB Topalu 77.62 319⇓ *P* **P 20 28 16.2 +0.6**
BRTR Keskin Array B 77.97 312 P **P 20 28 17.7 -0.2**
comp=Z,2.7nm,0.9s,baz=122,slow=4.6,SNR=4.6
BRTR Keskin Array B 77.97 312 P **P 20 28 17.7 -0.2**
BRTR pmax pmax
comp=Z,2.0nm,0.9s
ISR Istrita 77.99 320⇑ *iP* **P 20 28 19.5 +1.7**
ISR Istrita 77.99 320⇑ *P* **P 20 28 19.5 +1.7**
MLR Muntele Rosu 78.02 320⇑ *iP* **P 20 28 20.0 +2.0**
MLR Muntele Rosu 78.02 320⇑ *P* **P 20 28 20.0 +2.0**
LANS Liptovska Anna 78.27 326 *eP* **P 20 28 20.8 +1.5**
LANS Liptovska Anna 78.27 326 *eP* **P 20 28 20.8 +1.5**
OKC Ostrava-Krasne 78.30 327 *eP* **P 20 28 20.3 +1.0**
OKC Ostrava-Krasne 78.30 327 *eP* **P 20 28 20.3 +1.0**
KECS Kecovo 78.34 325 *eP* **P 20 28 19.7 +0.1**
KECS pmax pmax
comp=Z,3.0nm,0.9s
KECS Kecovo 78.34 325 *eP* **P 20 28 19.7 +0.1**
MORC Moravsky Berou 78.59 328⇑ *iP* **P 20 28 22.1 +1.1**
MORC Moravsky Berou 78.59 328⇑ *P* **P 20 28 22.1 +1.1**
DPC Dobruska-Polom 78.64 329 *eP* **P 20 28 22.5 +1.2**
DPC Dobruska-Polom 78.64 329 *eP* **P 20 28 22.5 +1.2**
UPC Upice 78.64 329 *eP* **P 20 28 22.4 +1.2**
UPC Upice 78.64 329 *eP* **P 20 28 22.4 +1.2**
KRLC Kraliky 78.67 328 *eP* **P 20 28 21.9 +0.5**
KRLC Kraliky 78.67 328 *eP* **P 20 28 21.9 +0.5**
ARR Arges 78.75 321⇓ *iP* **P 20 28 23.6 +1.6**
PSZ Piszkesteto 79.02 325⇑ *iP* **P 20 28 24.7 +1.2**
PSZ Piszkesteto 79.02 325⇑ *P* **P 20 28 24.7 +1.2**
VYHS Vyhne 79.04 326 *eP* **P 20 28 24.5 +1.0**
VYHS pmax pmax
comp=Z,7.0nm,1.1s
VYHS Vyhne 79.04 326 *eP* **P 20 28 24.5 +1.0**
BRG Berggiesshubel 79.15 330 *eP* **P 20 28 24.5 +0.5**
comp=Z,7.4nm,1.0s
BRG Berggiesshubel 79.15 330 *eP* **P 20 28 24.5 +0.5**
BRG pmax pmax
comp=Z,64nm,1.0s
CLL Collm 79.16 331⇓ *iP* **P 20 28 24.7 +0.7**
CLL pmax pmax
comp=Z,23nm,0.9s
CLL Collm 79.16 331⇓ *iP* **P 20 28 24.7 +0.7**
comp=Z,23nm,0.9s
PVCC Panska Ves 79.19 330 *eP* **P 20 28 25.2 +1.0**
PVCC Panska Ves 79.19 330 *eP* **P 20 28 25.2 +1.0**
VRAC Vranov 79.34 328⇓ *iP* **P 20 28 26.5 +1.4**
VRAC Vranov 79.34 328⇓ *P* **P 20 28 26.5 +1.4**
GOPC GO Pecny, Ondr 79.59 329 *eP* **P 20 28 27.7 +1.2**
GOPC GO Pecny, Ondr 79.59 329 *eP* **P 20 28 27.7 +1.2**
PRU Pruhonice 79.63 329 *eP* **P 20 28 27.8 +1.2**
PRU *ex* x 20 28 46.0
PRU Pruhonice 79.63 329 *eP* **P 20 28 27.8 +1.2**
PRU *e* 20 28 46.0
TREC Trest 79.80 328 *eP* **P 20 28 28.8 +1.2**
TREC Trest 79.80 328 *eP* **P 20 28 28.8 +1.2**
NKC Novy Kostel 80.23 331 *eP* **P 20 28 31.0 +1.1**
NKC Novy Kostel 80.23 331 *eP* **P 20 28 31.0 +1.1**
KHC Kasperske Hory 80.69 329 *eP* **P 20 28 33.3 +0.9**
KHC *ep*P **PcP 20 28 41.3 +2.1**
KHC Kasperske Hory 80.69 329 *eP* **P 20 28 33.3 +0.9**
KHC *e* 20 28 41.3
CONA Conrad Observa 80.73 327 *eP* **P 20 28 33.4 +0.7**
comp=Z,9.8nm,0.9s
GERES GERESS Array B 80.87 329 P **P 20 28 33.8 +0.3**
comp=Z,4.0nm,0.8s,baz=35,slow=4.9,SNR=11
GRFO Grafenberg 81.14 331 *eP* **P 20 28 33.7 -1.1**
GRFO Grafenberg 81.14 331 *eP* **P 20 28 33.6 -1.1**
VTS Vitosha 81.48 320⇑ *iP* **P 20 28 37.8 +0.9**
VTS Vitosha 81.48 320⇑ *P* **P 20 28 37.8 +0.9**
PERS Pernice 82.06 327 *eP* **P 20 28 40.5 +0.7**
PERS *i* 20 28 48.3
SOKA Soboth 82.07 327 *eP* **P 20 28 40.5 +0.7**
comp=Z,24nm,1.0s,SNR=6.7
OBKA Obir 82.40 327 *eP* **P 20 28 42.0 +0.4**
comp=Z,9.2nm,0.8s
KBA Koelnbreinsper 82.44 328 *i* PcP **P 20 28 43.5 +1.6**
comp=Z,19nm,1.0s
BOJS Bojanci 82.91 326 *i* P **P 20 28 44.5 +0.3**
BOJS *i* 20 28 53.0
GIVF Givet 83.03 335 *eP* **P 20 28 44.5 -0.2**
GIVF pmax pmax
comp=Z,9.0nm,0.9s
ABTA Abfaltersbach 83.04 328 *i* P **P 20 28 45.4 +0.4**
comp=Z,6.1nm,1.1s
JAVS Javornik 83.10 327 *eP* **P 20 28 44.9 -0.3**
JAVS *i* 20 28 52.9
MOTA Moosalm 83.11 330 *i* P **P 20 28 45.8 +0.4**
comp=Z,14nm,0.9s,SNR=7.3
RETA Reutte 83.12 330 *eP* **P 20 28 45.8 +0.5**
comp=Z,14nm,0.9s
BAIF Baives 83.27 335 *eP* **P 20 28 45.8 -0.1**
BAIF pmax pmax
comp=Z,8.0nm,1.0s
PDG Podgorica 83.52 322⇓ *iP* **P 20 28 47.8 +0.5**
FETA Feichten 83.52 330 *i* PcP **P 20 28 48.1 +0.6**
comp=Z,13nm,1.1s
DAVA Damuels 83.62 330 *e*PcP **P 20 28 48.6 +0.6**
comp=Z,10nm,0.9s
CDF Champ du Feu 83.64 332 *eP* **P 20 28 48.0 0.0**
CDF pmax pmax
comp=Z,11nm,0.9s
FLN La Foliniere 85.87 337 *eP* **P 20 28 59.1 0.0**
FLN pmax pmax
comp=Z,27nm,1.2s
LPL La Plagne 86.29 331 *eP* **P 20 29 01.8 +0.3**
LPL pmax pmax
comp=Z,17nm,0.9s
LPG La Plagne 86.30 331 *eP* **P 20 29 01.9 +0.2**
LPG pmax pmax
comp=Z,19nm,0.9s
GRR Gorron 86.32 337 *eP* **P 20 29 01.6 +0.3**
GRR pmax pmax
comp=Z,34nm,1.0s
AVF Avril sur Loir 86.39 334 *eP* **P 20 29 01.9 +0.2**
AVF pmax pmax
comp=Z,40nm,0.8s
TXAR Lajitas Array 86.91 54 P **P 20 29 05.6 +0.9**
comp=Z,0.7nm,0.8s,baz=298,slow=4.6,SNR=5.0
MBDF Montbardon 86.95 331 *eP* **P 20 29 04.2 -0.5**
MBDF pmax pmax
comp=Z,5.0nm,0.9s
VIVF Saint-Julien-l 87.61 332 *eP* **P 20 29 08.0 +0.3**
VIVF pmax pmax
comp=Z,7.0nm,0.9s
CAF Calviac 88.46 334 *eP* **P 20 29 12.8 +1.0**
CAF pmax pmax
comp=Z,17nm,1.0s
MTLF Montolieu 89.80 333 *eP* **P 20 29 18.5 +0.5**
MTLF pmax pmax
comp=Z,6.0nm,1.1s
ESDC Sonseca Array 95.14 335 P **P 20 29 43.2 +0.3**
comp=Z,1.9nm,0.8s,baz=25,slow=3.5,SNR=5.5
SNAA Sanae 144.25 197 PKP PKPbc 20 35 53.5 +0.9
SNAA Sanae 144.25 197 *e*PKIKP **PKPab 20 35 52.7 +0.4**
SNAA Sanae 144.25 197 *e*PKPdf **PKPab 20 35 52.6 +0.4**
VNA2 Neumayer--Watz 145.81 197 PKP **PKPdf 20 35 57.6 +0.6**
baz=98,slow=2.0
VNA3 Neumayer Olymp 146.04 195 PKP **PKPdf 20 35 58.0 +0.6**
SIV San Ignacio 147.77 49 PKPbc **PKPbc 20 36 04.9 +0.2**
comp=Z,2.8nm,0.7s,baz=318,slow=3.3,SNR=3.8
H11N2 WAKE ISLAND Hy 28.61 129 T T 20 56 45.3
baz=321

JMA 16 20:17:53.5±0.2, 40°.27N×143°.37E, h3km±3km, M4.2, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JTH	**Tanohata**	**1.20**	**254**	P	Pg	20 18 16.4	-0.1
JTH				*e*S	Sb	20 18 33.1	+0.3
MIYJ	**Miyakonagasawa**	**1.38**	**240**	P	Pn	20 18 19.0	-0.6
MIYJ				*e*S	Sg	20 18 36.8	-1.0
JANG	**Nango**	**1.42**	**275**	P	Pn	20 18 19.9	-0.3
JOM	**Ohasama**	**1.79**	**244**	P	Pn	20 18 25.7	+0.5
JOM				*e*S	Sn	20 18 48.7	+0.3
JOT	**Ohata**	**2.08**	**303**	P	Pb	20 18 31.0	-0.9
JOT				*e*S	Sb	20 18 57.4	-0.8
JMK	**Ichinoseki**	**2.12**	**232**	P	Pn	20 18 30.4	+0.6

IDC ***16*** *20:20:44.0±1.0, 40°.20N×143°.66E, h0km, mb4.0/14, mb1 4.2/18, mb1mx4.0/43, mbtmp4.1/18, ML4.4/3, Error ellipse: s-maj=27.1km s-min=16.1km az=98.0*
JMA ***16*** *20:20:45.7±0.2, 40°.24N×143°.40E, h2km±2km, M4.3*
ISCJB ***16*** *20:20:47.4±0.8, 40°.18N±0°.03×143°.57E±0°.06, h35km±6km, mb3.9/18, Error ellipse: s-maj=8.2km s-min=4.4km az=18.0*
NEIC ***16*** *20:20:49.0±0.6, 40°.13N×143°.64E, h35km, mb4.1/5, Error ellipse: s-maj=13.5km s-min=7.2km az=108.0*

ISC 16 20:20:46.8±2.1, 40°.17N±0°.04×143°.46E±0°.07, h15km±12km, n46, σ1s22/62, mb4.1/18, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JTH	**Tanohata**	**1.25**	**260**	P	**Pn**	**20 21 09.0**	**-0.6**
JTH				*e*S	**Sb**	**20 21 25.6**	**-0.2**
MIYJ	**Miyakonagasawa**	**1.40**	**245**	P	**Pn**	**20 21 11.8**	**+0.2**
MIYJ				*e*S	**Sn**	**20 21 29.6**	**-0.1**
JANG	**Nango**	**1.50**	**278**	P	**Pn**	**20 21 12.5**	**-0.6**
JANG				*e*S	**Sn**	**20 21 31.2**	**-1.2**
JOM	**Ohasama**	**1.81**	**248**	P	**Pn**	**20 21 18.0**	**+0.7**
JOM				*e*S	**Sb**	**20 21 42.1**	**+0.1**
ERM	**Erimo**	**1.85**	**353**	*e*Pn	**Pg**	**20 21 22.0**	**-0.4**
JTM	**Tenmabayashi**	**1.92**	**289**	P	**Pn**	**20 21 19.2**	**+0.3**
JTM				*e*S	**Sn**	**20 21 42.1**	**-0.7**
JMK	**Ichinoseki**	**2.12**	**236**	P	**Pn**	**20 21 22.5**	**+0.9**
JMK				*e*S	**Sb**	**20 21 50.4**	**-0.4**
JAH	**Hinai**	**2.16**	**271**	P	**Pn**	**20 21 23.2**	**+1.0**
JAH				*e*S	**Sn**	**20 21 51.1**	**+2.4**
JNBK	**Urakawa-nobuka**	**2.17**	**346**	P	**Pn**	**20 21 22.9**	**+0.6**
JNBK				*e*S	**Sn**	**20 21 49.9**	**+1.0**
JOT	**Ohata**	**2.19**	**304**	P	**Pn**	**20 21 22.5**	**-0.1**
JOT				*e*S	**Sn**	**20 21 49.2**	**-0.2**
JRG	**Rokugo**	**2.31**	**251**	P	**Pn**	**20 21 26.5**	**+2.3**
JRG				*e*S	**Sb**	**20 21 55.8**	**-0.6**
JCH	**Churui**	**2.44**	**358**	P	**Pn**	**20 21 25.5**	**-0.5**
JCH				*e*S	**Sn**	**20 21 53.3**	**-2.3**
JKB	**Kayabe**	**2.51**	**314**	P	**Pn**	**20 21 28.0**	**+1.0**
JKB				*e*S	**Sn**	**20 21 57.2**	**-0.1**
JYK	**Kaneyama**	**2.70**	**243**	P	**Pn**	**20 21 31.1**	**+1.5**
JYK				*e*S	**Sb**	**20 22 06.2**	**-1.6**
JOU	**Okura**	**2.82**	**231**	P	**Pn**	**20 21 33.4**	**+2.1**
JFT	**Otama**	**3.60**	**224**	P	**Pn**	**20 21 44.1**	**+2.1**
JFT				*e*S	**Sn**	**20 22 24.8**	**+0.6**
ASAJ	**Asahikawa**	**3.99**	**351**	Pn	**Pn**	**20 21 48.3**	**+1.0**
	59nm,0.3s,baz=90,slow=32,SNR=3.0						
ASAJ				Sn	**Sn**	**20 22 34.9**	**+1.0**
	20nm,0.3s,baz=258,slow=5.7,SNR=1.4						
MJAR	**Matsushiro Arr**	**5.49**	**230**	Pn	**Pn**	**20 22 10.1**	**+2.1**
	1.8nm,0.3s,baz=40,slow=12,SNR=12						
MAJO	**Matsushiro**	**5.49**	**230**	*e*Pn	**Pn**	**20 22 09.1**	**+1.1**
MAJO				Sn	**Sn**	**20 23 09.5**	**-1.4**
MAT	**Matsushiro**	**5.49**	**230**	P	**Pn**	**20 22 10.2**	**+2.2**
MAT				*e*S	**Sn**	**20 23 10.2**	**-0.7**
JHJ	**Hachijo jima 2**	**7.63**	**204**	Pn	**Pn**	**20 22 37.5**	**+0.2**
	6.2nm,0.3s,baz=65,slow=21,SNR=2.5						
JHJ				Sn	**Sn**	**20 23 58.8**	**-4.8**
	6.2nm,0.3s,baz=240,slow=23,SNR=2.7						
USRK	**Ussuriysk Ar.**	**9.41**	**299**	Pn	**Pn**	**20 23 03.2**	**+1.4**
	0.4nm,0.3s,baz=94,slow=14,SNR=7.7						
BJT	**Baijiatuau**	**20.85**	**278**	*e*P	**P**	**20 25 29.3**	**+1.4**
	3.3nm,0.5s						
SEY	**Seymchan**	**23.41**	**10**	P	**P**	**20 25 53.5**	**-1.4**
	3.9nm,0.9s,baz=185,slow=13,SNR=4.0						
ULN	**Ulaanbaatar**	**27.09**	**299**	*e*P	**P**	**20 26 29.3**	**+0.4**
	3.1nm,0.9s						
SONM	**Songino Array**	**27.53**	**299**	P	**P**	**20 26 33.1**	**+0.3**
	1.3nm,0.7s,baz=91,slow=8.6,SNR=5.0						

H11N1 **WAKE ISLAND Hy** 28.62 129 T T 20 56 47.8
baz=321
H11N3 **WAKE ISLAND Hy** 28.63 129 T T 20 56 46.4
baz=321
ZALV Zalesovo Beam 41.06 310 P **P** **20 28 29.5 +0.2**
2.3nm,0.5s,baz=100,slow=8.3,SNR=5.3
ZALV PcP **PcP** **20 30 29.7 +0.9**
1.4nm,0.7s,baz=64,slow=3.4,SNR=3.7
CHTO Chiang Mai 43.65 254 *eP* **P** **20 28 51.1 +0.2**
1.2nm,0.7s
CMAR Chiang Mai Arr 43.88 254 P **P** **20 28 53.1 +0.4**
0.6nm,0.6s,baz=46,slow=7.7,SNR=3.9
ILAR Eielson Array 45.99 34 P **P** **20 29 07.6 -1.3**
0.6nm,0.7s,baz=273,slow=5.4,SNR=4.7
ABKAR **Akbulak array** 57.17 309 *eP* **P** **20 30 32.4 -0.3**
1.8nm,0.6s
WRAB Tennant Creek 60.39 190 P **P** **20 30 54.5 -0.9**
2.1nm,0.8s
WRA Warramunga Arr 60.41 190 P **P** **20 30 55.4 -0.1**
0.5nm,0.6s,baz=7.5,slow=6.9,SNR=4.6
GEYT Alibeck 63.73 298 P **P** **20 31 17.9 +0.1**
1.9nm,0.8s,baz=11,slow=8.8,SNR=4.2
ASAR Alice Springs 64.13 190 P **P** **20 31 20.5 +0.1**
0.3nm,0.8s,baz=5.4,slow=5.0,SNR=3.1
FINES FINESS Array B 66.78 332 P **P** **20 31 37.0 -0.1**
3.7nm,0.7s,baz=42,slow=6.2,SNR=6.3
KVAR Kislovodsk Arr 70.06 311 P **P** **20 31 58.4 +0.4**
4.4nm,0.9s,baz=78,slow=9.3
KBZ Khabaz 70.08 311 P **P** **20 31 58.2 +0.2**
1.3nm,0.8s,baz=7.9,slow=6.0,SNR=4.0
NB2 NORSAR Subarra 71.90 338 P **P** **20 32 08.5 -0.4**
comp=Z,0.9nm,0.6s,baz=36,slow=6.2
NOA NORSAR Array B 71.90 338 P **P** **20 32 08.7 -0.2**
comp=Z,2.2nm,0.8s,baz=38,slow=6.0,SNR=6.6
AKASG **Malin Array Be** 72.79 323 P **P** **20 32 14.4 +0.1**
comp=Z,0.7nm,0.3s,baz=46,slow=6.6,SNR=5.4
CLL Collm 79.16 331 *i* P **P** **20 32 51.1 +0.5**
GERES GERESS Array B 80.87 329 P **P** **20 33 00.1 +0.1**
comp=Z,0.6nm,0.5s,baz=28,slow=6.0,SNR=4.5

CSEM **16** *20:22:44.0±0.4,34.42N×33.28E,h15km,ML3.2,Error ellipse: s-maj=7.1km s-min=5.0km az=8.0*
ISK **16** *20:22:44.2,34.39N×33.12E,h32km,MD3.0*
NIC **16** *20:22:45.8±0.2,34.52N×33.26E,h10km,ML3.2*
ISC 16 20:22:44.5±2.9,**34.5N**±0.1×**33.27E**±0.06,**h16**km±9km,**n26,**
σ0s34/38,Cyprus region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
SZAC	**Souni**	**0.44**	**314**	P		**Pb**	**20 22 54.3**	**+0.3**
SZAC				S		**Sg**	**20 22 59.8**	**+0.2**
SZAC	**Souni**	**0.44**	**314**	P		**Pb**	**20 22 54.3**	**+0.3**
	baz=126							
SZAC				S		**Sg**	**20 22 59.8**	**+0.2**
CSS	**Mathiatis**	**0.52**	**5**	P		**Pg**	**20 22 54.6**	**-0.2**
CSS				S		**Sg**	**20 23 01.9**	**+0.1**
CSS	**Mathiatis**	**0.52**	**5**	P		**Pg**	**20 22 54.6**	**-0.2**
	baz=187							
CSS				S		**Sg**	**20 23 01.9**	**+0.1**
MAMC	**Mammari**	**0.72**	**357**	P		**Pg**	**20 22 58.3**	**-0.4**
MAMC	**Mammari**	**0.72**	**357**	P		**Pg**	**20 22 58.3**	**-0.4**
	baz=176							
LEF	**Lefka**	**0.74**	**335**	*e*PG		**Pg**	**20 22 58.3**	**-0.7**
LEF				*e*SG		**Sg**	**20 23 09.1**	**+0.3**
LEF	**Lefka**	**0.74**	**335**	*e*Pg		**Pg**	**20 22 58.3**	**-0.7**
LEF				*e*Sg		**Sg**	**20 23 09.1**	**+0.3**
LFK	**Lefkose**	**0.86**	**14**	*e*PG		**Pb**	**20 23 01.2**	**+0.2**
LFK				*e*SG		**Sn**	**20 23 14.1**	**-0.1**
LFK	**Lefkose**	**0.86**	**14**	*e*Pg		**Pb**	**20 23 01.2**	**+0.2**
LFK				*e*Sg		**Sn**	**20 23 14.1**	**-0.1**
AKDN	**Akdeniz- K¯-br**	**0.88**	**344**	*e*PG		**Pb**	**20 23 01.2**	**-0.3**
AKDN				*e*SG		**Sg**	**20 23 13.9**	**+0.6**
AKDN	**Akdeniz- K¯-br**	**0.88**	**344**	*e*Pg		**Pb**	**20 23 01.2**	**-0.3**
AKDN				*e*Sg		**Sg**	**20 23 13.9**	**+0.6**
ALFC	**Alefka**	**0.90**	**322**	P		**Pg**	**20 23 01.9**	**-0.1**
ALFC				S		**Sb**	**20 23 13.7**	**+0.2**
ALFC	**Alefka**	**0.90**	**322**	P		**Pg**	**20 23 01.9**	**-0.1**
	baz=139							
ALFC				S		**Sb**	**20 23 13.7**	**+0.2**
AKKU	**Akkuyu-Mersin**	**1.72**	**8**	*e*PN		**Pn**	**20 23 13.9**	**+0.1**
AKKU	**Akkuyu-Mersin**	**1.72**	**8**	*e*Pn		**Pn**	**20 23 13.9**	**+0.1**
IKL	**Isikli**	**1.82**	**11**	*e*PN		**Pn**	**20 23 15.3**	**+0.2**
IKL	**Isikli**	**1.82**	**11**	*e*Pn		**Pn**	**20 23 15.3**	**+0.2**
BERE	**Bereket-Mersin**	**1.90**	**359**	*e*PN		**Pn**	**20 23 16.0**	**-0.3**
BERE	**Bereket-Mersin**	**1.90**	**359**	*e*Pn		**Pn**	**20 23 16.0**	**-0.3**
TEVE	**Tevekalti-Mers**	**1.99**	**4**	*e*PN		**Pn**	**20 23 17.6**	**0.0**
TEVE	**Tevekalti-Mers**	**1.99**	**4**	*e*Pn		**Pn**	**20 23 17.6**	**0.0**
KEBE	**Keben-Mersin**	**2.03**	**10**	*e*PN		**Pn**	**20 23 18.4**	**+0.3**
KEBE	**Keben-Mersin**	**2.03**	**10**	*e*Pn		**Pn**	**20 23 18.4**	**+0.3**
HDMB	**Hadim**	**2.59**	**346**	*e*PN		**Pn**	**20 23 25.5**	**-0.5**
HDMB	**Hadim**	**2.59**	**346**	*e*Pn		**Pn**	**20 23 25.5**	**-0.5**

IDC **16** *20:25:08.3±0.7,40.14N×143.23E,h0km,mb3.9/19, mb1 4.1/22,mb1mx3.9/44,mbtmp4.0/22,ML3.7/2,Error ellipse: s-maj=18.1km s-min=13.7km az=105.0*
ISCJB **16** *20:25:10.2±1.0,40.16N±0.03×143.32E±0.05,h24km±7km, mb3.9/20,Error ellipse: s-maj=6.8km s-min=4.1km az=32.8*
JMA **16** *20:25:10.2±0.2,40.21N×143.17E,h6km±2km,M4.4*
NEIC **16** *20:25:13.5±0.4,40.16N×143.21E,h35km,mb4.1/2,Error ellipse: s-maj=10.9km s-min=6.0km az=119.0*
ISC 16 20:25:09.6±1.9,**40.15N**±0.04×**143.22E**±0.06,**h10**km±11km,
n55,σ1s57/68,mb4.0/20,Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
JTH	**Tanohata**	**1.06**	**259**	P		**Pg**	**20 25 30.1**	**+0.1**
JTH				*e*S		**Sn**	**20 25 44.8**	**-0.7**
MIYJ	**Miyakonagasawa**	**1.22**	**242**	P		**Pn**	**20 25 32.8**	**0.0**
MIYJ				*e*S		**Sg**	**20 25 49.2**	**+0.3**
JANG	**Nango**	**1.32**	**280**	P		**Pn**	**20 25 33.7**	**-0.5**
JANG				*e*S		**Sb**	**20 25 50.4**	**-1.2**
JKZ	**Kuzumaki**	**1.46**	**264**	P		**Pb**	**20 25 36.8**	**-0.1**
JKZ				*e*S		**Sb**	**20 25 55.2**	**-0.4**
JOM	**Ohasama**	**1.63**	**246**	P		**Pb**	**20 25 39.5**	**-0.3**
JOM				*e*S		**Sb**	**20 26 00.8**	**+0.3**
JTM	**Tenmabayashi**	**1.76**	**292**	P		**Pb**	**20 25 41.1**	**-0.9**
JTM				S		**Sn**	**20 26 02.6**	**-0.1**
ERM	**Erimo**	**1.86**	**359**	*e*Pn		**Pn**	**20 25 41.9**	**+0.3**
JEM	**Erimo**	**1.86**	**359**	P		**Pn**	**20 25 42.4**	**+0.8**
JEM				*e*S		**Sn**	**20 26 04.8**	**-0.4**
JMK	**Ichinoseki**	**1.96**	**233**	P		**Pb**	**20 25 44.6**	**-0.7**
JMK				*e*S		**Sb**	**20 26 10.0**	**+0.2**
JAH	**Hinai**	**1.98**	**272**	P		**Pb**	**20 25 44.7**	**-1.1**
JAH				S		**Sb**	**20 26 09.9**	**-0.6**
JOT	**Ohata**	**2.06**	**307**	P		**Pn**	**20 25 45.1**	**+0.9**
JOT				*e*S		**Sb**	**20 26 11.2**	**-1.5**
JRG	**Rokugo**	**2.13**	**250**	P		**Pb**	**20 25 47.9**	**-0.4**
JRG				*e*S		**Sb**	**20 26 15.6**	**+0.7**
JNBK	**Urakawa-nobuka**	**2.15**	**351**	P		**Pn**	**20 25 46.4**	**+0.8**
JNBK				*e*S		**Sb**	**20 26 15.0**	**-0.5**
JYK	**Kaneyama**	**2.53**	**242**	P		**Pn**	**20 25 52.9**	**+2.1**
JOU	**Okura**	**2.67**	**229**	P		**Pn**	**20 25 54.6**	**+1.9**
JOU				*e*S		**Sn**	**20 26 28.0**	**+2.8**
JFT	**Otama**	**3.46**	**221**	P		**Pn**	**20 26 05.8**	**+2.2**
JFT				*e*S		**Sn**	**20 26 47.1**	**+2.4**
ASAJ	**Asahikawa**	**3.99**	**354**	Pn		**Pn**	**20 26 12.0**	**+1.2**
ASAJ				Sn		**Sn**	**20 26 57.9**	**+0.3**
MJAR	**Matsushiro Arr**	**5.34**	**229**	Pn		**Pn**	**20 26 30.4**	**+1.0**
	2.7nm,0.3s,baz=37,slow=13,SNR=27							
MAJO	**Matsushiro**	**5.34**	**229**	*e*Pn		**Pn**	**20 26 30.5**	**+1.1**
MAJO				*e*Sn		**Sn**	**20 27 31.1**	**+0.1**
MAT	**Matsushiro**	**5.34**	**229**	P		**Pn**	**20 26 32.5**	**+3.1**
MAT				S		**Sb**	**20 27 39.5**	**-7.7**
JHJ	**Hachijo jima 2**	**7.54**	**203**	Pn		**Pn**	**20 26 59.4**	**-0.3**
	4.0nm,0.3s,baz=55,slow=16,SNR=5.9							
JHJ				Sn		**Sn**	**20 28 19.2**	**-6.1**
	15nm,0.3s,baz=73,slow=19,SNR=3.9							
USRK	**Ussuriysk Ar.**	**9.27**	**300**	Pn		**Pn**	**20 27 23.4**	**+0.1**
	0.1nm,0.3s,baz=96,slow=13,SNR=2.5							
MA2	**Magadan**	**20.02**	**11**	P		**P**	**20 29 43.3**	**+1.0**
	4.2nm,0.6s,baz=215,slow=12,SNR=4.8							
SEY	**Seymchan**	**23.46**	**11**	P		**P**	**20 30 17.5**	**-1.5**
	4.4nm,0.7s,baz=193,slow=9.7,SNR=7.6							
ULN	**Ulaanbaatar**	**26.94**	**299**	*e*P		**P**	**20 30 51.3**	**+0.1**
SONM	**Songino Array**	**27.38**	**299**	P		**P**	**20 30 55.2**	**+0.1**
	1.1nm,0.6s,baz=85,slow=8.2,SNR=7.4							
H11N2	**WAKE ISLAND Hy**	**28.74**	**128**	T		T	21 01 56.0	
	baz=318,slow=75,SNR=35							
H11N1	**WAKE ISLAND Hy**	**28.75**	**128**	T		T	21 02 13.0	
	baz=318,slow=75,SNR=44							
H11N3	**WAKE ISLAND Hy**	**28.76**	**128**	T		T	21 02 13.7	
	baz=318,slow=75,SNR=37							
H11S1	**WAKE ISLAND Hy**	**29.57**	**130**	T		T	21 02 15.9	
	baz=322,slow=76,SNR=14							
H11S3	**WAKE ISLAND Hy**	**29.57**	**130**	T		T	21 02 22.7	
	baz=322,slow=76,SNR=12							
H11S2	**WAKE ISLAND Hy**	**29.59**	**130**	T		T	21 02 17.1	
	baz=322,slow=76,SNR=13							
ZALV	**Zalesovo Beam**	**40.94**	**310**	P		**P**	**20 32 52.3**	**+0.2**
	1.0nm,0.5s,baz=95,slow=8.3,SNR=4.8							
ZALV				PcP		**PcP**	**20 34 52.3**	**0.0**
	0.8nm,0.5s,baz=108,slow=3.6,SNR=2.9							
CHTO	**Chiang Mai**	**43.47**	**254**	*e*P		**P**	**20 33 13.0**	**-0.1**
	2.0nm,0.8s							
CMAR	**Chiang Mai Arr**	**43.70**	**254**	P		**P**	**20 33 15.0**	**0.0**
	0.4nm,0.6s,baz=36,slow=7.9,SNR=3.4							
KURK	**Kurchatov**	**45.19**	**306**	P		**P**	**20 33 26.9**	**+0.5**
KURBB	**Kurchatov Arra**	**45.26**	**306**	P		**P**	**20 33 26.9**	**-0.1**
	2.6nm,0.5s,baz=78,slow=8.5,SNR=11							
ILAR	**Eielson Array**	**46.11**	**34**	P		**P**	**20 33 33.8**	**+0.2**
	1.3nm,0.6s,baz=258,slow=6.3,SNR=17							
BVAR	**Borovoye Array**	**49.57**	**311**	P		**P**	**20 34 00.8**	**+0.2**
	0.7nm,0.4s,baz=77,slow=8.8,SNR=7.4							
INK	**Inuvik**	**50.97**	**28**	P		**P**	**20 34 11.7**	**+0.7**
	2.4nm,0.6s,baz=286,slow=6.8,SNR=5.1							
ARU	**Arti**	**54.99**	**318**	P		**P**	**20 34 41.1**	**+0.3**
	0.7nm,0.3s,baz=358,slow=1.8,SNR=3.3							
ABKAR	**Akbulak array**	**57.04**	**309**	*e*P		**P**	**20 34 55.2**	**-0.4**
	1.8nm,0.5s							
AKTO	**Aktyubinsk**	**57.67**	**311**	P		**P**	**20 35 01.7**	**+1.7**
	0.4nm,0.4s,baz=111,slow=8.6,SNR=3.1							
WRA	**Warramunga Arr**	**60.35**	**190**	P		**P**	**20 35 18.5**	**-0.4**
	1.3nm,0.5s,baz=7.4,slow=6.9,SNR=27							
GEYT	**Alibeck**	**63.58**	**298**	P		**P**	**20 35 40.2**	**-0.4**
	0.7nm,0.3s,baz=73,slow=9.8,SNR=3.3							
ASAR	**Alice Springs**	**64.08**	**190**	P		**P**	**20 35 44.0**	**+0.1**
	0.7nm,0.7s,baz=3.4,slow=5.9,SNR=10							
FINES	**FINESS Array B**	**66.72**	**332**	P		**P**	**20 36 00.1**	**-0.3**
	1.7nm,0.7s,baz=15,slow=7.2,SNR=5.1							
KBZ	**Khabaz**	**69.95**	**311**	P		**P**	**20 36 22.1**	**+1.2**
	0.6nm,0.4s,baz=80,slow=6.1,SNR=3.7							
NB2	**NORSAR Subarra**	**71.85**	**338**	P		**P**	**20 36 31.9**	**-0.5**
	comp=Z,0.6nm,0.7s,baz=38,slow=5.9							
NOA	**NORSAR Array B**	**71.85**	**338**	P		**P**	**20 36 32.4**	**+0.1**
	comp=Z,0.8nm,0.7s,baz=39,slow=5.9,SNR=4.7							
PDAR	**Pinedale Array**	**74.49**	**47**	P		**P**	**20 36 49.2**	**+0.7**
	comp=Z,0.3nm,0.4s,baz=289,slow=2.8,SNR=2.2							
TXAR	**Lajitas Array**	**87.11**	**54**	P		**P**	**20 37 56.4**	**+0.4**
	comp=Z,0.3nm,0.6s,baz=318,slow=1.7,SNR=4.2							
SNAA	**Sanae**	**144.14**	**198**	P		**PKPab**	**20 44 42.4**	**+0.3**
VNA2	**Neumayer--Watz**	**145.71**	**197**	P		**PKPdf**	**20 44 47.4**	**+0.3**
	baz=119,slow=2.1							
VNA3	**Neumayer Olymp**	**145.94**	**195**	P		**PKPdf**	**20 44 46.9**	**-0.6**

ISCJB **16** *20:25:57.2±0.7,6.83N±0.04×73.11W±0.05,h157km±6km, Error ellipse: s-maj=9.6km s-min=5.1km az=37.0*
FUNV **16** *20:25:57.4,6.70N×73.06W,h176km,MW2.5*
RSNC **16** *20:26:00.1±0.8,6.79N×73.15W,h140km±6km,ML2.5*
ISC 16 20:25:58.0±1.0,**6.81N**±0.05×**73.09W**±0.05,**h154**km±7km,
n19,σ1s11/31,Northern Colombia

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
BTLC	**Betulia, Santa**	**0.20**	**302**	*e*P		**Pn**	**20 26 19.4**	**+0.4**
BARC	**Barichara**	**0.23**	**203**	*e*P		**Pn**	**20 26 19.1**	**0.0**
BARC				*e*S		**Sn**	**20 26 33.7**	**-1.6**
BARC				*i*			20 26 35.5	
	comp=Z,130nm,0.2s							
GIRC	**Giron, Santand**	**0.29**	**339**	*e*P		**Pn**	**20 26 19.2**	**0.0**
PAMC	**Pamplona, Colo**	**0.66**	**36**	*e*P		**Pn**	**20 26 22.0**	**+0.7**
PAMC				*i*			20 26 22.4	
	comp=Z,48nm,0.2s							
PAMC				*e*S		**Sn**	**20 26 38.2**	**-0.7**
BRRC	**Barranca, Sant**	**0.68**	**296**	*e*P		**Pn**	**20 26 21.0**	**+0.2**
BRRC				*e*S		**Sn**	**20 26 37.2**	**-0.9**
BRRC				*i*			20 26 42.1	
	comp=Z,84nm,0.2s							
RUSC	**La Rusia**	**0.91**	**179**	*e*P		**Pn**	**20 26 23.1**	**+0.1**
RUSC				*e*S		**Sn**	**20 26 41.0**	**-1.1**
RUSC				*i*			20 26 43.1	
	comp=Z,41nm,0.4s							
CAPV	**Capacho**	**1.30**	**36**	*e*P		**Pn**	**20 26 27.1**	**+1.0**
CAPV				*e*S		**Sn**	**20 26 49.5**	**+1.8**
OCAC	**Ocana**	**1.44**	**351**	*e*P		**Pn**	**20 26 27.8**	**+0.4**
OCAC				*e*S		**Sn**	**20 26 49.9**	**-0.1**
OCAC				*i*			20 26 54.2	
	comp=Z,68nm,0.2s							
ZARC	**Zaragoza, Cauc**	**1.88**	**291**	*e*P		**Pn**	**20 26 31.8**	**-0.2**
ZARC				*e*S		**Sn**	**20 26 56.9**	**-1.2**
NORC	**Norcasia**	**2.16**	**235**	*e*P		**Pn**	**20 26 35.7**	**+0.4**
NORC				*e*S		**Sn**	**20 27 01.9**	**-2.0**
CHIC	**Chingaza**	**2.26**	**196**	*e*P		**Pn**	**20 26 37.1**	**+0.2**
CHIC				*e*			20 26 37.1	
CHIC				*i*			20 27 12.7	
	comp=Z,12nm,0.3s							
VIGV	**El Vigia**	**2.65**	**40**	*e*P		**Pn**	**20 26 41.7**	**+0.6**
VIGV				*e*S		**Sn**	**20 27 13.2**	**-1.3**
SOCV	**Socops**	**2.66**	**56**	*e*P		**Pn**	**20 26 41.6**	**+0.3**
SOCV				*e*S		**Sn**	**20 27 13.7**	**-1.0**
PRAC	**Prado**	**3.56**	**210**	*e*P		**Pn**	**20 26 53.3**	**+0.6**
PRAC				*e*S		**Sn**	**20 27 35.4**	**+0.2**
VIRV	**Villa del Rosa**	**3.73**	**10**	*e*P		**Pn**	**20 26 54.4**	**-0.6**
VIRV				*e*S		**Sn**	**20 27 38.0**	**-1.2**
CURV	**Curarigua**	**4.44**	**44**	*e*P		**Pn**	**20 27 04.0**	**-0.2**
BAUV	**El Baul**	**5.43**	**67**	*e*P		**Pn**	**20 27 14.9**	**-2.4**
MCLT	**Moule a Chique**	**13.78**	**59**	*e*		**P**	**20 29 12.8**	**+2.3**
BBGH	**Gun Hill**	**14.73**	**64**	*e*		**Pn**	**20 29 18.1**	**-0.9**

JMA 16 20:26:25.8±0.3,**39.85N**×**143.42E**,**h20**km,**M3.8,Off east coast of Honshu**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
JTH	**Tanohata**	**1.20**	**275**	P		Pn	20 26 47.4	0.0
MIYJ	**Miyakonagasawa**	**1.26**	**258**	P		Pn	20 26 48.5	+0.2
MIYJ				*e*S		Sn	20 27 04.5	-0.2
JANG	**Nango**	**1.55**	**290**	*e*S		Sn	20 27 11.8	0.0
JKZ	**Kuzumaki**	**1.61**	**275**	P		Pb	20 26 54.3	-0.6
JOM	**Ohasama**	**1.69**	**258**	P		Pn	20 26 55.0	+0.9
JOM				*e*S		Sn	20 27 15.9	+0.8

IDC **16** *20:29:40.1±2.1,37.45N×142.25E,h0km,mb3.5/3, mb1 3.5/5,mb1mx3.2/42,mbtmp3.5/5,ML3.2/2,Error ellipse: s-maj=42.9km s-min=26.5km az=71.0*
ISCJB **16** *20:29:44.1±1.6,37.32N±0.04×142.00E±0.08, h28km±10km,mb3.4/3,Error ellipse: s-maj=10.4km s-min=6.5km az=177.9*
JMA **16** *20:29:46.4±0.2,37.38N×141.86E,h37km±4km,M3.4*
ISC 16 20:29:42.6±2.7,**37.38N**±0.04×**142.02E**±0.08,**h10**km±15km,
n16,σ1s43/26,mb3.3/3,Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
JFK	**Kawauchi**	**0.92**	**270**	P		**Pb**	**20 30 01.2**	**+0.6**
JFK				*e*S		**Sg**	**20 30 11.8**	**-0.4**
ONAJ	**Iwakimizuishiy**	**1.02**	**255**	P		**Pb**	**20 30 02.5**	**+0.2**
ONAJ				*e*S		**Sb**	**20 30 13.9**	**-1.9**
JMM	**Marumori**	**1.09**	**297**	P		**Pb**	**20 30 03.9**	**+0.3**
JMM				*e*S		**Sb**	**20 30 15.4**	**-2.5**
JIO	**Ouri**	**1.20**	**334**	P		**Pn**	**20 30 05.9**	**+0.4**
JIO				S		**Sb**	**20 30 19.4**	**-1.6**
JFT	**Otama**	**1.35**	**277**	P		**Pn**	**20 30 08.2**	**+0.7**
JFT				*e*S		**Sn**	**20 30 23.9**	**-1.6**
JOU	**Okura**	**1.46**	**313**	P		**Pn**	**20 30 10.1**	**+1.0**
JOU				*e*S		**Sn**	**20 30 27.5**	**-0.7**
JMK	**Ichinoseki**	**1.69**	**338**	P		**Pn**	**20 30 13.5**	**+1.2**
JYS	**Shirataka**	**1.77**	**299**	P		**Pn**	**20 30 15.0**	**+1.8**
JYS				*e*S		**Sn**	**20 30 36.2**	**+0.4**
JYK	**Kaneyama**	**2.02**	**320**	P		**Pn**	**20 30 18.0**	**+1.2**
JRG	**Rokugo**	**2.29**	**332**	S		**Sn**	**20 30 49.8**	**+1.0**
MJAR	**Matsushiro Arr**	**3.17**	**256**	Pn		**Pn**	**20 30 34.5**	**+1.9**
	1.2nm,0.3s,baz=76,slow=16,SNR=7.9							
MJAR				Sn		**Sn**	**20 31 13.8**	**+3.4**
	1.7nm,0.3s,baz=64,slow=25,SNR=4.6							
MAT	**Matsushiro**	**3.17**	**256**	P		**Pn**	**20 30 34.1**	**+1.6**
MAT				*e*S		**Sn**	**20 31 10.9**	**+0.5**
JHJ	**Hachijo jima 2**	**4.63**	**204**	Pn		**Pn**	**20 30 53.0**	**+0.5**
	5.7nm,0.3s,baz=38,slow=19,SNR=4.3							
JHJ				Sn		**Sn**	**20 31 45.2**	**-1.2**
	6.8nm,0.3s,baz=107,slow=20,SNR=2.9							
SONM	**Songino Array**	**28.00**	**303**	P		**P**	**20 35 33.9**	**+0.2**
	0.3nm,0.6s,baz=95,slow=9.1,SNR=2.7							
KURBB	**Kurchatov Arra**	**46.18**	**308**	P		**P**	**20 38 06.8**	**-0.5**
	0.5nm,0.3s,baz=79,slow=7.8,SNR=3.7							
WRA	**Warramunga Arr**	**57.47**	**189**	P		**P**	**20 39 31.6**	**-0.2**
	0.1nm,0.4s,baz=6.3,slow=7.5,SNR=2.7							

SOME **16** *20:32:30.3,39.48N×73.42E,h15km*
IDC **16** *20:32:31.7±1.0,39.39N×73.78E,h0km,mb3.6/6, mb1 3.7/11,mb1mx3.5/48,mbtmp3.6/11,ML3.2/4,Error ellipse: s-maj=20.9km s-min=15.1km az=87.0*
KRNET **16** *20:32:34.1±0.1,39.57N×73.67E,mb3.5*
NNC **16** *20:32:37.4±1.8,39.65N×73.73E,h0km,mb4.0,mpv3.6, Error ellipse: s-maj=15.4km s-min=9.5km az=24.0*
ISC 16 20:32:30.9±1.7,**39.55N**±0.06×**73.76E**±0.03,**h2**km±11km,
n47,σ1s97/77,mb3.6/6,30C-14D,Tajikistan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
KSH	**Kashi**	**1.71**	**90**	Op		**Pn**	**20 33 00.3**	**-1.6**
KSH				Pg		**Pn**	**20 33 16.0**	**-8.5**
KSH				Sg		**Sn**		
	comp=N,390nm,0.6s			smax		smax		
KSH				smax		smax		
	comp=E,170nm,0.5s							
ARSB	**Arslanbob**	**1.87**	**342**	⇓*e*P		**Pg**	**20 33 08.4**	**+1.6**
	baz=343							
ARSB				⇓*e*S		**Sg**	**20 33 33.7**	**+2.7**
	baz=343							
BTK	**Batken**	**2.32**	**284**	⇓*e*P		**Pg**	**20 33 15.1**	**-0.3**
	baz=284							
BTK				⇓*e*S		**Sg**	**20 33 44.4**	**-1.1**
	baz=284							
TOKL	**Toktogul**	**2.48**	**345**	⇑*e*P		**Pg**	**20 33 17.5**	**-1.0**
	baz=346							
TOKL				⇑*e*S		**Sg**	**20 33 49.1**	**-1.6**
	baz=346							
NRN	**Naryn**	**2.54**	**42**	⇑*e*P		**Pg**	**20 33 18.9**	**-0.8**
	baz=43							
NRN				⇑*e*S		**Sg**	**20 33 51.1**	**-1.6**
	baz=43							
AML	**Almayashu**	**2.58**	**359**	⇑*i*P		**Pg**	**20 33 19.1**	**-1.3**
	baz=0.0							
AML				⇑*i*S		**Sg**	**20 33 54.7**	**+0.8**
	baz=0.0							
ARK	**Arkit**	**2.63**	**329**	⇑*e*P		**Pb**	**20 33 19.1**	**+0.3**
	baz=330							
ARK				⇑*e*S		**Sb**	**20 33 51.5**	**-0.1**
	baz=330							
UCH	**Uchtor**	**2.74**	**12**	⇑*i*P		**Pb**	**20 33 21.6**	**+0.7**
	baz=13							
UCH				⇑*i*S		**Sg**	**20 33 59.4**	**+0.5**
	baz=13							
KZA	**Kyzart**	**2.77**	**24**	⇓*i*P		**Pg**	**20 33 23.2**	**-0.8**
	baz=25							
KZA				⇓*i*S		**Sg**	**20 34 01.3**	**+1.4**
	baz=25							
MNAS	**Manas**	**3.09**	**343**	⇑*i*P		**Pb**	**20 33 25.7**	**-0.9**
	baz=344							
MNAS				⇑*e*S		**Sb**	**20 34 03.4**	**-1.4**
	baz=344							
MNAS	**Manas**	**3.09**	**343**	⇑Pn		**Pb**	**20 33 25.5**	**-1.2**
	comp=E,11nm,0.4s							
MNAS				⇓Sn		**Sb**	**20 34 04.3**	**-0.5**
	comp=E,36nm,0.4s							
MNAS				⇑Lg		Lg	20 34 11.0	
	comp=E,145nm,0.9s							
EKS2	**Erkin-Say**	**3.11**	**0**	⇑*i*P		**Pb**	**20 33 26.7**	**-0.4**
	baz=2.0							
EKS2				⇑*i*S		**Sb**	**20 34 06.9**	**+1.4**
	baz=2.0							
AAK	**Ala-Archa**	**3.14**	**10**	Pn		**Pb**	**20 33 27.5**	**0.0**
	comp=E,5.0nm,0.3s,baz=165,slow=9.4,SNR=33							
AAK				Sn		**Sg**	**20 34 10.1**	**-1.6**
	comp=E,4.6nm,0.3s,baz=288,slow=20,SNR=5.9							
AAK	**Ala-Archa**	**3.14**	**10**	⇑Pn		**Pb**	**20 33 27.6**	**0.0**
	comp=E,34nm,0.7s							
AAK				⇑Lg		Lg	20 34 10.9	

comp=N,3.0nm,0.5s
WMQ smax smax
comp=E,9.0nm,0.3s
KURBB Kurchatov Arra 11.57 15 Lg Lg 20 38 39.4
comp=E,0.1nm,0.3s,baz=203,slow=28,SNR=8.6
GEYT Alibeck 12.32 267 Pn **Pn 20 35 29.5 +2.1**
comp=E,0.2nm,0.3s,baz=96,slow=12,SNR=3.4
BVAR Borovoye Array 13.68 351 Pn **Pn 20 35 47.4 +1.6**
comp=E,0.1nm,0.3s,baz=153,slow=10.0,SNR=4.8
BVAR Lg Lg 20 39 47.1
comp=E,0.1nm,0.3s,baz=164,slow=32,SNR=4.5
AKTO Aktyubinsk 15.54 320 Pn **Pn 20 36 12.4 +1.4**
baz=132,slow=15,SNR=2.3
ZALV Zalesovo Beam 16.25 24 Pn **P 20 36 22.6 -0.7**
comp=E,0.2nm,0.3s,baz=216,slow=10,SNR=5.6
SONM Songino Array 24.86 60 P **P 20 37 57.5 +2.6**
comp=E,0.5nm,0.8s,baz=275,slow=8.5,SNR=3.7
FINES FINESS Array B 36.26 323 P **P 20 39 37.5 +2.3**
comp=E,3.4nm,1.0s,baz=106,slow=10,SNR=3.7
NOA NORSAR Array B 43.32 321 P **P 20 40 35.8 +1.7**
comp=E,0.4nm,0.6s,baz=91,slow=8.2,SNR=2.8
TORD Torodi Ar. Bea 67.96 269 P **P 20 43 32.1 +0.4**
comp=E,0.2nm,0.3s,baz=60,slow=5.4,SNR=4.9
WRA Warramunga Arr 81.82 124 P **P 20 44 52.4 +0.7**
comp=E,0.4nm,0.6s,baz=328,slow=5.0,SNR=8.4
ASAR Alice Springs 84.28 127 P **P 20 45 05.0 +0.7**
comp=E,0.2nm,0.6s,baz=323,slow=5.4,SNR=7.9

*IDC **16** 20:35:50.8±1.4, 40.°24N×143.°92E, h0km, mb3.5/6, mb1 3.6/7, mb1mx3.4/39, mbtmp3.5/7, ML3.3/1, Error ellipse: s-maj=32.0km s-min=25.7km az=87.0*
*JMA **16** 20:35:54.8±0.2, 40.°25N×143.°27E, h6km±2km, M3.8*
*ISCJB **16** 20:35:56.3±1.2, 40.°19N±0.°05×143.°41E±0.°09, h38km±11km, mb3.4/6, Error ellipse: s-maj=11.8km s-min=7.6km az=9.9*
ISC 16 20:35:55.4±3.0, **40.°24N**±0.°06×**143.°48E**±0.°09, **h26**km±22km, **n24**, σ1°**26**/26, **mb3.5**/6, **Off east of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTH	**Tanohata**	**1.27**	**257**	P	**Pn**	**20 36 16.1**	**-1.4**
JTH				S	**Sn**	**20 36 31.8**	**-2.0**
MIYJ	**Miyakonagasawa**	**1.44**	**243**	P	**Pn**	**20 36 19.1**	**-0.7**
MIYJ				*e*S	**Sn**	**20 36 36.1**	**-1.7**
JANG	**Nango**	**1.50**	**276**	P	**Pn**	**20 36 19.6**	**-1.1**
JANG				*e*S	**Sn**	**20 36 38.2**	**-1.3**
JEM	**Erimo**	**1.79**	**352**	*e*S	**Sb**	**20 36 49.1**	**-0.4**
JOM	**Ohasama**	**1.85**	**246**	P	**Pn**	**20 36 25.4**	**-0.1**
JOM				*e*S	**Sn**	**20 36 47.8**	**-0.2**
JTM	**Tenmabayashi**	**1.91**	**287**	P	**Pn**	**20 36 26.6**	**+0.2**
JTM				S	**Sn**	**20 36 48.8**	**-0.8**
JOT	**Ohata**	**2.17**	**303**	P	**Pn**	**20 36 30.5**	**+0.7**
JOT				*e*S	**Sn**	**20 36 56.8**	**+1.0**
JMK	**Ichinoseki**	**2.17**	**234**	P	**Pn**	**20 36 30.3**	**+0.5**
JMK				*e*S	**Sn**	**20 36 56.1**	**+0.3**
JAH	**Hinai**	**2.17**	**270**	P	**Pn**	**20 36 30.3**	**+0.4**
JAH				*e*S	**Sn**	**20 36 55.6**	**-0.4**
JYK	**Kaneyama**	**2.75**	**242**	P	**Pn**	**20 36 38.5**	**+0.7**
JOU	**Okura**	**2.88**	**230**	P	**Pn**	**20 36 40.2**	**+0.6**
MJAR	**Matsushiro Arr**	**5.54**	**230**	Pn	**Pn**	**20 37 17.7**	**+1.4**
	0.8nm,0.3s,baz=40,slow=11,SNR=9.3						
SONM	**Songino Array**	**27.51**	**298**	P	**P**	**20 41 42.0**	**+2.2**
	0.3nm,0.6s,baz=93,slow=8.4,SNR=2.5						
H11N2	**WAKE ISLAND Hy**	**28.64**	**129**	T	T	21 11 55.2	
	baz=319,slow=76,SNR=2.7						
H11N1	**WAKE ISLAND Hy**	**28.66**	**129**	T	T	21 11 55.2	
	baz=319,slow=76,SNR=8.7						
H11N3	**WAKE ISLAND Hy**	**28.66**	**129**	T	T	21 11 57.0	
	baz=319,slow=76,SNR=6.5						
H11S1	**WAKE ISLAND Hy**	**29.48**	**130**	T	T	21 13 01.5	
	baz=323						
H11S3	**WAKE ISLAND Hy**	**29.48**	**131**	T	T	21 13 05.3	
	baz=323						
H11S2	**WAKE ISLAND Hy**	**29.50**	**131**	T	T	21 13 04.5	
	baz=323						
ZALV	**Zalesovo Beam**	**41.03**	**310**	P	**P**	**20 43 38.5**	**+2.2**
	0.6nm,0.6s,baz=80,slow=8.9,SNR=2.2						
KURBB	**Kurchatov Arra**	**45.37**	**306**	P	**P**	**20 44 11.7**	**+0.4**
	0.5nm,0.3s,baz=80,slow=8.6,SNR=5.9						
ILAR	**Eielson Array**	**45.93**	**34**	P	**P**	**20 44 13.2**	**-2.4**
	0.3nm,0.5s,baz=269,slow=5.9,SNR=5.1						
BVAR	**Borovoye Array**	**49.66**	**311**	P	**P**	**20 44 45.4**	**+0.8**
	0.2nm,0.5s,baz=79,slow=7.5,SNR=2.4						
WRA	**Warramunga Arr**	**60.48**	**190**	P	**P**	**20 46 02.8**	**-0.2**
	0.3nm,0.7s,baz=7.1,slow=6.8,SNR=4.5						

*BJI **16** 20:36:17.6, 36.°25N×82.°48E, h6km, ML3.6/5*
*NNC **16** 20:36:23.2±5.0, 36.°67N×82.°61E, h9km±23km, mb4.0, mpv3.8, Error ellipse: s-maj=66.0km s-min=36.7km az=74.0*
ISC 16 20:36:26.5±4.4, **36.°8N**±0.°3×**82.°7E**±0.°2, **h10**km, **n4**, σ2°**28**/8, **5C-4D, Southern Xinjiang**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PDGK	**Podgornoye**	**7.01**	**341**	⇓P*n*	**Pn**	**20 38 07.8**	**-1.5**
	5.2nm,0.8s						
PDGK				⇑P*g*	**Pb**	**20 38 31.4**	**+3.0**
	5.5nm,0.8s						
PDGK				⇑S*n*	**Sn**	**20 39 28.9**	**-0.2**
	11nm,0.6s						
PDGK				⇓L*g*	Lg	20 40 09.1	
	30nm,0.8s						
WMQ	**Urumqi**	**8.05**	**27**	P	**Pn**	**20 38 23.3**	**-0.2**
WMQ				smax	smax		
	comp=N,14nm,0.5s						
WMQ				smax	smax		
	comp=E,9.0nm,0.5s						
MK31	**Makanchi Array**	**10.04**	**359**	P*n*	**Pn**	**20 38 47.8**	**-3.0**
	0.5nm,0.3s,baz=255,slow=25,SNR=24						
MK31				⇑S*n*	**Sn**	**20 40 42.7**	**-0.8**
	2.9nm,0.8s,baz=188,slow=24,SNR=3.8						
MK31				⇑L*g*	Lg	20 41 44.8	
	2.3nm,0.7s,baz=196,slow=13,SNR=4.2						
MAKZ	**Makanchi**	**10.07**	**357**	⇓P*n*	**Pn**	**20 38 48.9**	**-2.2**
	1.9nm,0.4s						
MAKZ				⇑S*n*	**Sn**	**20 40 43.9**	**-0.2**
	1.1nm,0.4s						
MAKZ				⇓L*g*	Lg	20 41 47.0	
	5.2nm,1.2s						

*ISCJB **16** 20:50:59.6±0.6, 36.°92N±0.°05×28.°85E±0.°04, h0km, Error ellipse: s-maj=6.8km s-min=4.5km az=0.3*
*CSEM **16** 20:50:59.7±0.3, 36.°93N×28.°86E, h2km, MD2.6, Error ellipse: s-maj=7.6km s-min=4.8km az=8.0*
*DDA **16** 20:50:59.4, 36.°92N×28.°83E, h7km, Md2.6, Suspected Mining explosion.*
*ISK **16** 20:50:59.2, 36.°87N×28.°83E, h4km, MD2.6*
ISC 16 20:50:59.0±0.9, **36.°96N**±0.°04×**28.°83E**±0.°03, **h0**km, **n22**, σ0°**64**/28, **Dodecanese Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DALY	**Dalyan (Mu˘la**	**0.20**	**226**	*e*P*g*	**Pg**	**20 51 03.0**	**+0.2**
DALY	**Dalyan (Mu˘la**	**0.20**	**226**	*i* P	**Pg**	**20 51 02.8**	**+0.1**
DALY	**Dalyan (Mu˘la**	**0.20**	**226**	P	**Pg**	**20 51 02.8**	**+0.1**
DALY	**Dalyan (Mu˘la**	**0.20**	**226**	*e*P*g*	**Pg**	**20 51 03.0**	**+0.2**
TURN	**Turunc**	**0.20**	**245**	*i* P	Pg	20 51 09.2	+6.4
TURN				*i* S	Sg	20 51 16.7	+11
FETY	**Fethiye**	**0.38**	**148**	*e*P*g*	**Pg**	**20 51 06.2**	**0.0**
FETY				*e*S*g*	**Sg**	**20 51 11.3**	**+0.2**
FETY	**Fethiye**	**0.38**	**148**	P	**Pg**	**20 51 05.8**	**-0.4**
FETY	**Fethiye**	**0.38**	**148**	*e*P*g*	**Pg**	**20 51 06.2**	**0.0**
FETY				*e*S*g*	**Sg**	**20 51 11.3**	**+0.2**
GOLH	**Golhisar**	**0.65**	**64**	*i* P	**Pg**	**20 51 11.3**	**-0.1**
GOLH				*i* S	**Sb**	**20 51 22.5**	**-0.4**
GOLH	**Golhisar**	**0.65**	**64**	P	**Pg**	**20 51 11.3**	**-0.1**
GOLH				S	**Sb**	**20 51 22.5**	**-0.4**
ELL	**Elmali**	**0.89**	**103**	*e*P*G*	**Pb**	**20 51 16.7**	**-0.6**
ELL	**Elmali**	**0.89**	**103**	*e*P*g*	**Pb**	**20 51 16.7**	**-0.6**
AKAS	**Kas**	**0.95**	**139**	*i* P	**Pb**	**20 51 17.9**	**-0.6**
AKAS				*i* S	**Sn**	**20 51 35.2**	**+1.1**
AKAS	**Kas**	**0.95**	**139**	P	**Pb**	**20 51 17.9**	**-0.6**
DAT	**Datca**	**1.03**	**258**	*e*P*G*	**Pb**	**20 51 19.1**	**-0.7**
DAT	**Datca**	**1.03**	**258**	*i* P	**Pn**	**20 51 21.7**	**+0.9**
DAT				*i* S	**Sn**	**20 51 35.2**	**-0.8**
DAT	**Datca**	**1.03**	**258**	*e*P*g*	**Pb**	**20 51 19.1**	**-0.7**
DAT	**Datca**	**1.03**	**258**	P	**Pn**	**20 51 21.7**	**+0.9**
DAT				S	**Sn**	**20 51 35.2**	**-0.8**
BODT	**Bodrum**	**1.22**	**275**	*e*P*N*	**Pn**	**20 51 23.6**	**+0.3**
BODT	**Bodrum**	**1.22**	**275**	*e*P*n*	**Pn**	**20 51 23.6**	**+0.3**
AYDB	**Zeytinkoy-Aydi**	**1.24**	**323**	*e*P*N*	**Pn**	**20 51 24.9**	**+1.2**
AYDB	**Zeytinkoy-Aydi**	**1.24**	**323**	*e*P*n*	**Pn**	**20 51 24.9**	**+1.2**

IDC 16 20:52:27.4±3.8, **2.°53N×126.°35E, h0**km, **mb3.9**/4, **mb1 4.1**/4, **mb1mx3.6**/43, **mbtmp4.0**/4, **Error ellipse: s-maj=104.5km s-min=44.2km az=71.0, Northern Molucca Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**20.51**	**182**	P	P	20 57 07.1	-0.2
	1.3nm,0.4s,baz=360,slow=14,SNR=5.6						
WRA	**Warramunga Arr**	**23.67**	**161**	P	P	20 57 40.8	0.0
	2.9nm,0.4s,baz=338,slow=10,SNR=70						
WRA				S	S	21 01 55.0	-1.7
	0.5nm,0.7s,baz=341,slow=18,SNR=3.8						
ASAR	**Alice Springs**	**27.05**	**165**	P	P	20 58 11.4	-0.3
	0.6nm,0.3s,baz=346,slow=12,SNR=35						
ASAR				S	S	21 02 55.9	+5.1
	0.2nm,0.7s,baz=335,slow=17,SNR=4.4						
STKA	**Stephens Creek**	**37.15**	**158**	P	P	20 59 40.2	+0.1
	0.5nm,0.3s,baz=354,slow=9.2,SNR=3.7						

*ISCJB **16** 20:55:30.3±0.5, 29.°91S±0.°04×178.°6W±0.°1, h187km, mb4.1/11, Error ellipse: s-maj=14.6km s-min=4.7km az=6.7*
*NEIC **16** 20:55:32.7±0.6, 30.°01S×178.°48W, h208km±5km, mb4.2/2, Error ellipse: s-maj=11.8km s-min=7.8km az=117.0*
*IDC **16** 20:55:33.8±0.6, 30.°06S×178.°46W, h218km±3km, mb3.9/10, mb1 4.0/14, mb1mx3.8/43, mbtmp4.5/14, Error ellipse: s-maj=20.5km s-min=12.0km az=132.0*
ISC 16 20:55:31.0±0.6, **29.°96S**±0.°06×**178.°4W**±0.°1, **h187**km, **n84**, σ1°**35**/85, **mb4.1**/11, **2C-2D, Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**0.84**	**33**	P	Pn	20 56 06.9	+8.6
	356nm,0.3s,baz=149,slow=2.0,SNR=19						
RAO				S	Sn	20 56 29.6	+10
	441nm,0.3s,baz=287,slow=20,SNR=20						
RAO	**Raoul Island**	**0.84**	**33**	*e*P*n*	Pn	20 56 03.4	+5.1
RAO				*e*S	Sn	20 56 31.4	+12
MXZ	**Matakaoa Point**	**8.05**	**199**	PN	**Pn**	**20 57 26.1**	**+1.3**
WMGZ	**Waiomatatini S**	**8.27**	**198**	PN	**Pn**	**20 57 29.4**	**+1.8**
WMGZ				SN	**Sn**	**20 59 01.5**	**+1.2**
HAZ	**Te Kaha**	**8.39**	**201**	PN	**Pn**	**20 57 30.2**	**+1.0**
PKGZ	**Pakihiroa**	**8.42**	**199**	PN	**Pn**	**20 57 29.9**	**+0.2**
PUZ	**Puketiti**	**8.54**	**198**	PN	**Pn**	**20 57 30.5**	**-0.8**
PUZ				SN	**Sn**	**20 59 06.5**	**-0.5**
RUGZ	**Raukumara Rang**	**8.61**	**201**	PN	**Pn**	**20 57 33.0**	**+0.8**
TWGZ	**Tauwhareparae**	**8.72**	**199**	PN	**Pn**	**20 57 34.2**	**+0.6**
CNGZ	**Carnagh Statio**	**8.95**	**197**	PN	**Pn**	**20 57 36.9**	**+0.4**
MWZ	**Matawai**	**9.00**	**201**	PN	**Pn**	**20 57 36.3**	**-0.9**
TKGZ	**Te Karaka**	**9.00**	**199**	PN	**Pn**	**20 57 36.7**	**-0.5**
URZ	**Urewera**	**9.06**	**203**	P	**Pn**	**20 57 38.7**	**+0.6**
	2.3nm,0.3s,baz=276,slow=3.5,SNR=13						
URZ				S	**Sn**	**20 59 18.4**	**-0.9**
	18nm,0.3s,baz=72,slow=20,SNR=16						
URZ	**Urewera**	**9.06**	**203**	PN	**Pn**	**20 57 38.2**	**+0.1**
MUGZ	**Murupara**	**9.38**	**204**	PN	**Pn**	**20 57 42.4**	**+0.2**
KNZ	**Kokohu**	**9.59**	**198**	PN	**Pn**	**20 57 44.4**	**-0.5**
ARHZ	**Aropaoanui**	**10.01**	**201**	PN	**Pn**	**20 57 50.9**	**+0.4**
MCHZ	**McNeill Hill**	**10.27**	**200**	PN	**Pn**	**20 57 57.2**	**+3.4**
BHHZ	**Black Hill Sta**	**10.53**	**204**	PN	**Pn**	**20 57 59.3**	**+2.1**
KAHZ	**Kahuranaki**	**10.54**	**200**	*e*PN	**Pn**	**20 57 55.7**	**-1.6**
KRHZ	**Kereru**	**10.56**	**202**	PN	**Pn**	**20 57 56.2**	**-1.4**
PNHZ	**Pukenui**	**10.86**	**202**	PN	**Pn**	**20 58 01.2**	**-0.3**
PRHZ	**Porangahau**	**11.04**	**200**	PN	**Pn**	**20 58 04.9**	**+1.1**
MRZ	**Mangatainoka R**	**11.74**	**203**	PN	**Pn**	**20 58 09.4**	**-3.4**
TIWZ	**Tintock**	**11.74**	**202**	PN	**Pn**	**20 58 11.2**	**-1.6**
HOWZ	**Holdsworth Sta**	**11.97**	**203**	PN	**Pn**	**20 58 15.9**	**+0.1**
OGWZ	**Otaki Gorge**	**12.02**	**204**	PN	**Pn**	**20 58 12.5**	**-3.8**
TMWZ	**Te Maipa**	**12.04**	**201**	PN	**Pn**	**20 58 14.8**	**-1.8**
KIW	**Kapiti Island**	**12.15**	**205**	PN	**Pn**	**20 58 16.0**	**-2.0**
MTW	**Mount Morrison**	**12.21**	**202**	PN	**Pn**	**20 58 18.9**	**+0.1**
DUWZ	**D'Urville Isla**	**12.48**	**208**	PN	**Pn**	**20 58 22.4**	**+0.1**
MSVF	**Nonsavu**	**12.59**	**344**	*e*P*n*	**Pn**	**20 58 24.5**	**+0.7**
	110nm,1.0s						
TUWZ	**Tuamarina**	**13.01**	**206**	PN	**Pn**	**20 58 28.4**	**-0.4**
NNZ	**Nelson**	**13.05**	**208**	PN	**Pn**	**20 58 28.6**	**-0.8**
QRZ	**Quartz Range**	**13.10**	**212**	PN	**Pn**	**20 58 31.6**	**+1.5**
THZ	**Tophouse**	**13.70**	**208**	PN	**Pn**	**20 58 34.9**	**-2.7**
KHZ	**Kahutara**	**14.01**	**205**	PN	**Pn**	**20 58 37.9**	**-3.5**
DZM	**Mont Dzumac**	**15.69**	**297**	P	**P**	**20 59 04.9**	**+2.4**
	3.5nm,0.3s,baz=149,slow=12,SNR=38						
DZM	**Mont Dzumac**	**15.69**	**297**	*e*P	**Pn**	**20 59 02.0**	**-0.3**
	7.3nm,0.4s						
RPZ	**Rata Peaks**	**16.08**	**209**	P	**P**	**20 59 05.0**	**-1.6**
	1.4nm,0.3s,baz=165,slow=8.1,SNR=3.7						
RPZ				S	S	21 01 53.3	-12
	5.2nm,0.3s,baz=82,slow=17,SNR=9.5						
AFI	**Afiamalu**	**17.12**	**22**	P	**P**	**20 59 18.3**	**+0.1**
	5.2nm,0.3s,baz=212,slow=16,SNR=4.6						
AFI				S	S	21 02 15.1	-12
	4.9nm,0.3s,baz=17,slow=19,SNR=4.9						
CTA	**Charters Tower**	**33.36**	**279**	P	**P**	**21 01 51.9**	**+0.2**
	4.1nm,0.4s,baz=98,slow=11,SNR=8.1						
STKA	**Stephens Creek**	**34.21**	**256**	P	**P**	**21 01 59.9**	**+1.0**
	0.7nm,0.4s,baz=103,slow=13,SNR=5.0						
ASAR	**Alice Springs**	**42.76**	**267**	P	**P**	**21 03 09.6**	**-0.6**
	1.4nm,0.5s,baz=100,slow=7.3,SNR=33						
WRAB	**Tennant Creek**	**43.70**	**272**	*e*P	**P**	**21 03 17.8**	**0.0**
	2.0nm,0.5s						
WRA	**Warramunga Arr**	**43.70**	**272**	P	**P**	**21 03 16.6**	**-1.2**
	4.9nm,0.6s,baz=110,slow=7.5,SNR=70						
FITZ	**Fitzroy Crossi**	**51.98**	**270**	P	**P**	**21 04 20.8**	**-0.5**
	2.8nm,1.0s,baz=134,slow=11,SNR=4.6						
MJAR	**Matsushiro Arr**	**77.67**	**326**	P	**P**	**21 07 05.6**	**-1.1**
	5.0nm,0.9s,baz=160,slow=6.5,SNR=10						
SNAA	**Sanae**	**78.60**	**179**	P	**P**	**21 07 14.3**	**+2.8**
VNA3	**Neumayer Olymp**	**78.77**	**176**	P	**P**	**21 07 15.5**	**+3.1**
VNA2	**Neumayer--Watz**	**79.20**	**177**	P	**P**	**21 07 17.8**	**+3.1**
	baz=186,slow=5.9						
KSRS	**Korea Array**	**83.77**	**320**	P	**P**	**21 07 39.0**	**0.0**
	3.2nm,0.8s,baz=143,slow=6.2,SNR=9.3						
KSAR	**Wonju Array Be**	**83.78**	**320**	P	**P**	**21 07 39.0**	**-0.1**
PETK	**Petropavlovsk-**	**85.29**	**346**	P	**P**	**21 07 46.1**	**-0.1**
	7.5nm,0.5s,baz=116,slow=6.9,SNR=17						
USRK	**Ussuriysk Ar.**	**86.59**	**327**	P	**P**	**21 07 53.0**	**+0.2**
	7.8nm,0.8s,baz=160,slow=3.5,SNR=12						
TXAR	**Lajitas Array**	**92.47**	**57**	P	**P**	**21 08 21.6**	**+0.6**
	0.3nm,0.7s,baz=231,slow=7.7,SNR=3.9						
KURK	**Kurchatov**	**120.47**	**314**	PKP	**PKPdf**	**21 13 58.9**	**-0.8**
KURBB	**Kurchatov Arra**	**120.51**	**314**	PKP	**PKPdf**	**21 13 58.9**	**-0.8**
	1.6nm,0.5s,baz=101,slow=1.7,SNR=15						
BVAR	**Borovoye Array**	**125.83**	**316**	PKP	**PKPdf**	**21 14 08.9**	**-1.0**
	0.7nm,0.3s,baz=95,slow=2.2,SNR=6.1						
ARCES	**ARCESS Array B**	**138.08**	**348**	PKP	**PKPdf**	**21 14 32.7**	**+0.1**
	1.6nm,0.6s,baz=94,slow=2.7,SNR=4.8						
KBZ	**Khabaz**	**144.55**	**304**	PKP	**PKPab**	**21 14 43.6**	**-0.3**
	4.2nm,0.6s,baz=122,slow=2.0,SNR=18						
FINES	**FINESS Array B**	**144.60**	**340**	PKP	**PKPab**	**21 14 42.7**	**-0.8**
	11nm,0.4s,baz=56,slow=3.6,SNR=123						
KBSD	**Kabsdagh**	**146.91**	**293**	*e*P	**PKPbc**	**21 14 51.2**	**-0.3**
SFNV	**Sufian**	**147.26**	**292**	*e*P	**PKPbc**	**21 14 52.0**	**-0.4**
KSRV	**Kasrt alli**	**148.16**	**291**	*e*P	**PKPbc**	**21 14 54.8**	**0.0**
NB2	**NORSAR Subarra**	**148.26**	**351**	PKP	**PKPbc**	**21 14 53.5**	**-0.8**
	comp=Z,2.7nm,0.6s,baz=12,slow=2.8						
NOA	**NORSAR Array B**	**148.26**	**351**	PKPbc	**PKPbc**	**21 14 53.8**	**-0.5**
	comp=Z,2.3nm,0.5s,baz=15,slow=4.3,SNR=12						
SLMH	**Al Salmeh**	**149.03**	**291**	*e*P	**PKPbc**	**21 14 57.0**	**0.0**
ROOS	**tl_alroos**	**149.53**	**287**	*e*P	**PKPbc**	**21 14 59.8**	**+1.4**
SALA	**Sala**	**149.92**	**284**	*e*P	**PKPbc**	**21 14 59.8**	**+0.3**
DRWC	**Darouich**	**150.03**	**292**	*e*P	**PKPbc**	**21 14 59.4**	**-0.1**
TOTH	**TOTAH**	**150.22**	**286**	*e*P	**PKPbc**	**21 15 00.1**	**+0.1**
BTCH	**Batrach**	**150.22**	**291**	*e*P	**PKPbc**	**21 14 58.9**	**-1.0**
BRBR	**Barbar**	**150.62**	**286**	*e*P	**PKPbc**	**21 15 00.8**	**-0.4**
ARNB	**Al Arnab**	**150.62**	**291**	*e*P	**PKPbc**	**21 14 59.8**	**-1.2**
AKASG	**Malin Array Be**	**150.72**	**323**	PKPbc	**PKPbc**	**21 14 60.0**	**-0.6**
	comp=Z,2.5nm,0.4s,baz=49,slow=2.6,SNR=12						
BRTR	**Keskin Array B**	**152.06**	**299**	PKPbc	**PKPbc**	**21 15 03.6**	**-0.6**
	comp=Z,2.0nm,0.7s,baz=140,slow=3.4,SNR=7.7						
BURAR	**Bucovina Array**	**154.65**	**321**	⇓*i*P	**PKPab**	**21 15 24.3**	**-0.8**
MLR	**Muntele Rosu**	**155.39**	**316**	⇓*i*P	**PKPab**	**21 15 28.3**	**-0.1**
DOPR	**Dopca**	**155.47**	**317**	⇑*i*P	**PKPab**	**21 15 28.8**	**+0.2**
ARR	**Arges**	**156.24**	**317**	⇑*i*P	**PKPab**	**21 15 32.5**	**+0.5**
CLL	**Collm**	**157.03**	**341**	*e*PKPab	**PKPab**	**21 15 34.0**	**-1.0**
GERES	**GERESS Array B**	**158.99**	**337**	PKPab	**PKPab**	**21 15 42.4**	**-1.3**
	comp=Z,0.3nm,0.4s,baz=32,slow=5.2,SNR=4.7						
TORD	**Torodi Ar. Bea**	**163.27**	**180**	PKPab	**PKPab**	**21 16 01.1**	**-1.9**
	comp=Z,0.9nm,0.8s,baz=173,slow=4.3,SNR=3.6						

*IDC **16** 21:01:00.2±0.6, 24.°73N×127.°83E, h0km, mb4.3/20, mb1 4.4/24, mb1mx4.3/45, mbtmp4.3/24, ML4.0/3, Error ellipse: s-maj=21.0km s-min=12.3km az=80.0*
*NEIC **16** 21:01:01.7±0.4, 24.°71N×127.°73E, h10km, mb4.8/11, Error ellipse: s-maj=8.1km s-min=6.8km az=111.0*
*JMA **16** 21:01:02.3±0.2, 24.°73N×127.°79E, h69km, M3.8*
*ISCJB **16** 21:01:03.5±0.4, 24.°77N±0.°03×127.°71E±0.°03, h33km, mb4.4/32, Error ellipse: s-maj=5.1km s-min=3.0km az=137.6*
ISC 16 21:01:02.2±4.3, **24.°72N**±0.°05×**127.°75E**±0.°05, **h13**km±27km, **n76**, σ1°**50**/93, **mb4.5**/32, **Southeast of Ryukyu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JJT2	**Tamagusuku 2**	**1.42**	**360**	P	**Pn**	**21 01 26.5**	**-1.3**
JJT2				*e*S	**Sn**	**21 01 44.6**	**-1.7**
JNTH	**Nagotoyohara**	**1.81**	**8**	P	**Pn**	**21 01 31.3**	**-1.8**
JNTH				*e*S	**Sn**	**21 01 53.6**	**-2.3**
JKE	**Kume jima 2**	**1.83**	**332**	P	**Pn**	**21 01 32.4**	**-0.9**
JKE				*e*S	**Sn**	**21 01 54.6**	**-1.7**
JAGN	**Aguni-jima**	**1.92**	**346**	P	**Pn**	**21 01 33.8**	**-0.8**
JAGN				*e*S	**Sn**	**21 01 56.4**	**-2.2**
JOGS	**Gusukube**	**2.13**	**272**	P	**Pn**	**21 01 37.3**	**-0.3**
JOGS				*e*S	**Sn**	**21 02 02.3**	**-1.6**
JOW	**Kunigami**	**2.16**	**12**	P*n*	**Pn**	**21 01 36.5**	**-1.5**
	79nm,0.3s,baz=136,slow=20,SNR=131						
JOW				S*n*	**Sn**	**21 01 59.5**	**-5.1**
	25nm,0.3s,baz=158,slow=12,SNR=3.7						
JOW	**Kunigami**	**2.16**	**12**	P	**Pn**	**21 01 36.4**	**-1.5**
JOW				*e*S	**Sn**	**21 02 02.6**	**-1.9**
JMJ	**Miyako jima 2**	**2.24**	**273**	P	**Pn**	**21 01 38.3**	**-0.7**
JMJ				S	**Sn**	**21 02 04.3**	**-2.2**
JIKM	**Ikemajima**	**2.29**	**276**	P	**Pn**	**21 01 38.8**	**-0.7**
JIKM				*e*S	**Sn**	**21 02 05.7**	**-2.0**
JIH	**Iheya**	**2.32**	**5**	P	**Pn**	**21 01 39.1**	**-1.0**
JIH				*e*S	**Sn**	**21 02 06.0**	**-2.4**
JIRB	**Irabujima**	**2.35**	**273**	P	**Pn**	**21 01 39.5**	**-1.0**
JIRB				S	**Sn**	**21 02 06.8**	**-2.4**
JOKE	**Okinoerabujima**	**2.73**	**15**	P	**Pn**	**21 01 45.4**	**-0.4**
JOKE				S	**Sn**	**21 02 16.9**	**-1.9**
JTJ	**Tarama**	**2.78**	**269**	P	**Pn**	**21 01 45.4**	**-1.0**
JTJ				*e*S	**Sn**	**21 02 16.6**	**-3.2**
JISG	**Ishigakijimahi**	**3.14**	**268**	P	**Pn**	**21 01 49.7**	**-1.6**
JISG				*e*S	**Sn**	**21 02 27.0**	**-1.6**
JTK	**Tokunoshima**	**3.24**	**19**	P	**Pn**	**21 01 51.1**	**-1.7**
JIJ	**Ishigaki jima**	**3.31**	**265**	P	**Pn**	**21 01 52.3**	**-1.4**
JIJ				*e*S	**Sn**	**21 02 28.0**	**-4.9**
JMZ	**Minamidaito 2**	**3.33**	**70**	P	**Pn**	**21 01 50.5**	**-3.4**
JKRS	**Kuro-shima**	**3.44**	**263**	P	**Pn**	**21 01 54.7**	**-0.9**
JKRS				*e*S	**Sn**	**21 02 33.5**	**-2.8**
HATJ	**Hateruma jima**	**3.66**	**260**	P	**Pn**	**21 01 57.1**	**-0.8**
IRIF	**Iriomote-Funau**	**3.69**	**265**	P	**Pn**	**21 01 57.6**	**-1.3**
JAMN	**Amaminishikomi**	**3.74**	**20**	P	**Pn**	**21 01 58.0**	**-1.6**
JAM	**Amami Oshima**	**4.04**	**24**	P	**Pn**	**21 02 02.5**	**-1.2**
NACB	**Ninganchiao**	**5.64**	**266**	*e*P*n*	**Pn**	**21 02

NEIC ***16*** *21:04:35.8±2.9, 7.42S×128.67E, h120km±26km, mb4.2/3, Error ellipse: s-maj=34.2km s-min=11.9km az=47.0*

ISCJB ***16*** *21:04:37.3±0.7, 7.51S±0.06×128.56E±0.07, h151km, mb3.7/6, Error ellipse: s-maj=11.2km s-min=8.0km az=146.7*

ISC 16 21:04:38.9±0.9, **7.71S**±0.08×**128.61E**±0.10, **h151**km, **n15**, σ**2**§**25**/19, **mb3.7**/6, **Banda Sea**

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
SOEI	**Soe**	**4.75**	**244**	*e*Pn		**Pn**	**21 05 50.0**	**+0.8**
SOEI				*e*Sn		**Sn**	**21 06 44.3**	**+0.3**
FITZ	**Fitzroy Crossi**	**10.73**	**195**	P		**Pn**	**21 07 07.8**	**-0.9**
	1.0nm,0.3s,baz=28,slow=8.8,SNR=47							
FITZ				S		Sn	21 08 57.3	-10
	1.2nm,0.3s,baz=54,slow=8.0,SNR=6.2							
FITZ	**Fitzroy Crossi**	**10.73**	**195**	*e*Pn		**Pn**	**21 07 07.7**	**-0.9**
	2.7nm,0.4s							
FITZ				*e*Sn		**Sn**	**21 09 05.6**	**-1.8**
WRAB	**Tennant Creek**	**13.37**	**156**	*e*Pn		**Pn**	**21 07 43.6**	**+0.7**
WRA	**Warramunga Arr**	**13.37**	**156**	P		**Pn**	**21 07 43.0**	**0.0**
	0.8nm,0.3s,baz=332,slow=12,SNR=27							
WRA				S		**Sn**	**21 10 05.5**	**-5.6**
	2.4nm,0.3s,baz=334,slow=22,SNR=10.0							
MBWA	**Marble Bar**	**15.89**	**212**	*e*Pn		**P**	**21 08 15.5**	**+0.5**
ASAR	**Alice Springs**	**16.66**	**163**	P		**Pn**	**21 08 26.3**	**+2.5**
	0.5nm,0.3s,baz=338,slow=11,SNR=26							
ASAR				S		**S**	**21 11 27.3**	**-1.8**
	0.5nm,0.3s,baz=320,slow=18,SNR=5.0							
KSM	**Kuching**	**20.41**	**296**	*e*P		**P**	**21 09 02.6**	**-1.7**
	3.7nm,0.7s							
STKA	**Stephens Creek**	**26.92**	**155**	P		**P**	**21 10 09.8**	**+3.7**
	1.2nm,0.6s,baz=339,slow=10,SNR=5.4							
CMAR	**Chiang Mai Arr**	**39.15**	**312**	P		**P**	**21 11 49.9**	**-2.3**
	0.6nm,0.7s,baz=140,slow=7.1,SNR=4.2							
VNDA	**Vanda**	**71.92**	**173**	P		**P**	**21 15 47.9**	**+2.6**
	0.5nm,0.7s,baz=319,slow=6.4,SNR=3.6							
KURBB	**Kurchatov Arra**	**72.39**	**329**	P		**P**	**21 15 47.5**	**-1.0**
	1.9nm,0.5s,baz=133,slow=5.0,SNR=13							
KURK	**Kurchatov**	**72.41**	**329**	P		**P**	**21 15 47.5**	**-1.0**
BVAR	**Borovoye Array**	**77.93**	**328**	P		**P**	**21 16 19.0**	**-1.1**
	0.5nm,0.4s,baz=121,slow=8.7,SNR=4.8							
QSPA	**South Pole Qui**	**82.28**	**180**	*e*P		**P**	**21 16 45.1**	**+1.7**
	2.1nm,0.5s							

NIED ***16*** *21:08:00, 40.20N×143.20E, h20km, Mw6.0 Best double couple: M0 9.76000×10^17 NP1:φs 199.00000°, δ 20.00000°, λ 87.00000°. NP2:φs 22.00000°, δ 70.00000°, λ 91.00000°.*

JMA ***16*** *21:08:02.5±0.2, 40.25N×143.21E, h4km±2km, M6.1*

JMA Felt III J1.

IDC ***16*** *21:08:02.1±0.4, 40.23N×143.12E, h0km, mb5.2/37, mb1 5.2/40, mb1mx5.2/48, mbtmp5.2/40, ML5.2/3, MS5.9/38, Ms1 5.9/38, ms1mx5.7/53, Error ellipse: s-maj=12.4km s-min=9.5km az=98.0*

BJI ***16*** *21:08:02.7, 40.30N×143.10E, h20km, mb5.9/79, mB6.2/65, Ms6.3/90, Ms7 6.2/86*

ISCJB ***16*** *21:08:04.8±0.5, 40.24N±0.02×143.06E±0.02, h25km±3km, mb5.7/387, MS5.9/238, Error ellipse: s-maj=2.9km s-min=1.8km az=159.5*

MOS ***16*** *21:08:04.5±1.0, 40.32N×143.02E, h24km, mb5.8/98, MS6.0/53, Error ellipse: s-maj=5.6km s-min=3.8km az=100.4*

NEIC ***16*** *21:08:05.0±0.0, 40.02N×143.25E, h20km, Moment Tensor Solution. s26 Moment tensor: Scale 10^18Nm; Mrr 0.60; Mθθ 0.10; Mφφ -0.70; Mrθ 0.10; Mrφ 0.00; Mθφ 1.30; Best double couple: M0 1.00000×10^18 NP1:φs 4.00000°, δ 76.00000°, λ 91.00000°. NP2:φs 179.00000°, δ 13.00000°, λ 85.00000°. Principal axes: T 1.4000, Plg 58.0000°, Azm 275.0000°; N 0.1000, Plg 0.0000°, Azm 183.0000°; P -1.5000, Plg 31.0000°, Azm 93.0000°;*

GCMT ***16*** *21:08:05.3±0.1, 40.28N×143.28E, h28km, MW6.0/136, Moment Tensor Solution. s105,c145; s136,c365; Duration: 56 Moment tensor: Scale 10^18Nm; Mrr 0.92±.02; Mθθ -0.05±.01; Mφφ -0.87±.01; Mrθ 0.33±.03; Mθφ -0.15±.01; Mφr 1.07±.03; Best double couple: M0 1.44300×10^18 NP1:φs 15.00000°, δ 70.00000°, λ 93.00000°. NP2:φs 185.00000°, δ 20.00000°, λ 81.00000°. Principal axes: T 1.4570, Plg 64.0000°, Azm 291.0000°; N -0.0270, Plg 3.0000°, Azm 194.0000°; P -1.4300, Plg 25.0000°, Azm 103.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*

NEIC ***16*** *21:08:05.3±0.1, 40.24N×143.01E, h18km, mb5.7/199, MS5.8/155, MW5.9 Error ellipse: s-maj=3.2km s-min=1.9km az=143.0, Depth from synthetics of broadband displacement seismograms.*

NEIC Felt [II] at Misawa. Recorded [3 JMA] in Aomori, Iwate and Miyagi. Also recorded [3 JMA] in southwestern Hokkaido.

ISC 16 21:08:06.0±0.5, **40.23N**±0.03×**143.12E**±0.03, **h25**km, **h25**km:**pP-P, n1642**, σ**1**§**35**/1705, **mb5.8**/401, **MS5.9**/240, **173C-38D, Off east coast of Honshu**

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
JTH	**Tanohata**	**1.01**	**254**	⇓P		**Pn**	**21 08 23.4**	**-1.1**
JTH				S		**Sn**	**21 08 37.8**	**0.0**
MIYJ	**Miyakonagasawa**	**1.19**	**237**	⇓P		**Pn**	**21 08 26.1**	**-0.9**
MIYJ				S		**Sb**	**21 08 43.1**	**+0.2**
JANG	**Nango**	**1.23**	**277**	⇓P		**Pn**	**21 08 26.9**	**-0.7**
JANG				S		**Sb**	**21 08 44.8**	**+0.7**
JOM	**Ohasama**	**1.60**	**242**	⇓P		**Pn**	**21 08 32.6**	**0.0**
JOM				*e*S		**Sb**	**21 08 54.8**	**+0.3**
JTM	**Tenmabayashi**	**1.66**	**290**	⇓P		**Pn**	**21 08 33.8**	**+0.4**
JTM				S		**Sn**	**21 08 55.3**	**+1.4**
ERM	**Erimo**	**1.78**	**1**	*c*e P		**Pn**	**21 08 34.6**	**-0.5**
ERM				pmax	pmax			
	comp=Z,1μm,1.2s							
ERM	**Erimo**	**1.78**	**1**	*e*Pn		**Pn**	**21 08 34.9**	**-0.2**
ERM				*e*Sn		**Sn**	**21 08 56.4**	**-0.6**
JEM	**Erimo**	**1.78**	**1**	⇓P		**Pn**	**21 08 34.3**	**-0.8**
JAH	**Hinai**	**1.90**	**270**	⇓P		**Pn**	**21 08 37.6**	**+0.8**
JAH				S		**Sn**	**21 08 59.6**	**-0.3**
JMK	**Ichinoseki**	**1.94**	**230**	⇑P		**Pn**	**21 08 38.3**	**+0.9**
JOT	**Ohata**	**1.95**	**307**	⇑P		**Pn**	**21 08 37.9**	**+0.5**
JOT				S		**Sn**	**21 09 00.7**	**-0.3**
JNBK	**Urakawa-nobuka**	**2.06**	**352**	⇑P		**Pn**	**21 08 39.0**	**0.0**
JRG	**Rokugo**	**2.09**	**247**	⇓P		**Pn**	**21 08 40.4**	**+1.1**
JKB	**Kayabe**	**2.29**	**317**	S		**Sn**	**21 09 11.7**	**+2.3**
ASAJ	**Asahikawa**	**3.90**	**354**	*e*Pn		**Pn**	**21 09 04.5**	**+0.2**
ASAJ				*e*Sn		**Sn**	**21 09 49.3**	**+0.1**
YUK	**Yuzh-Kuril'sk**	**4.31**	**27**	*i* P		**Pn**	**21 09 07.9**	**-2.0**
MAJO	**Matsushiro**	**5.33**	**228**	⇑*i*P		**Pn**	**21 09 25.9**	**+1.9**
MAJO	**Matsushiro**	**5.33**	**228**	*e*Pn		**Pn**	**21 09 26.3**	**+2.3**
MAT	**Matsushiro**	**5.33**	**228**	P		**Pn**	**21 09 26.2**	**+2.2**
MAT				*e*S		**Sn**	**21 10 25.7**	**+1.1**
MJAR	**Matsushiro Arr**	**5.33**	**228**	Pn		**Pn**	**21 09 26.0**	**+2.0**
	comp=Z,97nm,0.3s,baz=27,slow=14,SNR=670							
MJAR				Sn		**Sb**	**21 10 40.2**	**-1.8**
	baz=27,slow=24,SNR=2.0							
MJAR				LR	LR		21 11 44.0	
	comp=Z,140μm,18.8s,baz=50,slow=42							
MJB9	**Matsu-Tunnel**	**5.33**	**228**	*e*Pn		**Pn**	**21 09 26.6**	**+2.6**
KUR	**Kuril'sk**	**6.10**	**33**	*d i* P		**Pn**	**21 09 33.0**	**-1.4**
KUR				*i* S		**Sn**	**21 10 38.7**	**-4.6**
KUR				pmax	pmax			
	comp=Z,2μm,0.8s							
KUR				pmax	pmax			
	comp=E,1μm,0.7s							
KUR				pmax	pmax			
	comp=N,800nm,0.4s							
KUR				smax	smax			
	comp=N,23μm,1.2s							
KUR				smax	smax			
	comp=N,6μm,0.6s							
KUR				smax	smax			
	comp=E,9μm,0.6s							
KUR				MLR	MLR			
	comp=Z,72μm,14.0s							
KUR				MLR	MLR			
	comp=N,35μm,12.0s							
KUR				MLR	MLR			
	comp=E,50μm,15.0s							
YSS	**Yuzh-Sakhalins**	**6.72**	**358**	*c*e P		**Pn**	**21 09 42.0**	**-1.0**
YSS				*e*S		**Sn**	**21 10 54.7**	**-4.1**
YSS				pmax	pmax			
	comp=Z,120nm,1.1s							
YSS				pmax	pmax			
	comp=Z,5μm,5.8s							
YSS				smax	smax			
	comp=N,340nm,1.1s							
YSS				MLR	MLR			
	comp=Z,86μm,14.0s							
YSS				MLR	MLR			
	comp=N,71μm,15.0s							
YSS				MLR	MLR			
	comp=E,81μm,16.0s							
YSS	**Yuzh-Sakhalins**	**6.72**	**358**	*e*Pn		**Pn**	**21 09 43.4**	**+0.4**
INU	**Inuyama**	**6.86**	**227**	*e*Pn		**Pn**	**21 09 47.0**	**+2.1**
JHJ2	**Mitsune**	**7.58**	**201**	*e*Pn		**Pn**	**21 09 53.8**	**-1.1**
JHJ2				*e*Sn		**Sn**	**21 11 14.8**	**-5.2**
JHJ	**Hachijo jima 2**	**7.59**	**202**	Pn		**Pn**	**21 09 53.1**	**-1.8**
	comp=E,90nm,0.3s,baz=109,slow=22,SNR=22							
JHJ				Sn		**Sn**	**21 11 14.4**	**-5.7**
	comp=E,204nm,0.3s,baz=243,slow=20,SNR=4.7							
JHJ				LR	LR		21 13 09.6	
	comp=E,54μm,21.1s,baz=44,slow=41							
VLA	**Vladivostok**	**8.89**	**293**	*c i* P		**Pn**	**21 10 16.2**	**+3.5**
USRK	**Ussuriysk Ar.**	**9.16**	**299**	Pn		**Pn**	**21 10 18.7**	**+2.3**
	comp=E,2.3nm,0.3s,baz=98,slow=14,SNR=195							
USRK				Sn		Sn	21 12 13.9	+15
	comp=E,1.0nm,0.3s,baz=104,slow=27,SNR=2.0							
USRK				LR	LR		21 13 45.2	
	comp=E,127μm,19.4s,baz=91,slow=38							
MSHR	**Mys Shultsa**	**9.29**	**289**	⇓*i* P		**Pn**	**21 10 20.2**	**+2.0**
HABR	**Khabarovsk**	**10.06**	**328**	*d*e P		**Pn**	**21 10 26.9**	**-1.8**
HABR				*e*S		**Sn**	**21 12 19.0**	**-1.6**
HABR				pmax	pmax			
	comp=Z,220nm,2.3s							
HABR				pmax	pmax			
	comp=N,111nm,2.3s							
HABR				pmax	pmax			
	comp=E,122nm,2.3s							
HABR				MLR	MLR			
	comp=Z,47μm,13.0s							
TYV	**Tymovskoe**	**10.64**	**358**	*e*P		**Pn**	**21 10 41.4**	**+4.8**
TYV				*e*S		**Sn**	**21 12 34.1**	**-0.7**
TYV				pmax	pmax			
	comp=Z,5μm,9.5s							
TYV				smax	smax			
	comp=E,9μm,13.2s							
MDJ	**Mudanjiang**	**10.91**	**298**	P		**Pn**	**21 10 42.4**	**+1.9**
MDJ				S		**Sn**	**21 12 45.8**	**+4.1**
MDJ				PcP		**PcP**	**21 16 39.9**	**+1.0**
MDJ				ScP		**ScP**	**21 20 12.9**	**+3.3**
MDJ				ScS		**ScS**	**21 23 43.9**	**-0.8**
MDJ				pmax	pmax			
	comp=E,95nm,1.3s							
MDJ				pmax	pmax			
	comp=E,9μm,7.8s							
MDJ				LR	LR			
	comp=E,49μm,14.4s							
MDJ				LR	LR			
	comp=E,100μm,16.9s							
MDJ				LR	LR			
	comp=E,165μm,15.7s							
MDJ	**Mudanjiang**	**10.91**	**298**	*e*Pn		**Pn**	**21 10 42.2**	**+1.7**
	comp=E,883nm,1.3s							
JNU	**Nakatsue**	**12.11**	**238**	Pn		**Pn**	**21 10 57.6**	**+0.6**
	comp=E,1.7nm,0.3s,baz=44,slow=2.9,SNR=24							
JNU				LR	LR		21 15 57.0	
	comp=E,314nm,18.0s,baz=54,slow=39							
JNU	**Nakatsue**	**12.11**	**238**	*e*Pn		**Pn**	**21 10 57.1**	**+0.1**
KSRS	**Korea Array**	**12.17**	**262**	Pn		**Pn**	**21 10 60.0**	**+2.3**
	comp=E,0.3nm,0.3s,baz=72,slow=11,SNR=40							
KSRS				Sn	Sn		21 13 24.7	+12
	comp=E,1.0nm,0.3s,baz=69,slow=23,SNR=4.0							
KSRS				LR	LR		21 15 24.9	
	comp=E,105μm,18.8s,baz=70,slow=36							
KSRS	**Korea Array**	**12.17**	**262**	P		**Pn**	**21 11 00.0**	**+2.3**
KSRS				MLR	MLR			
	comp=Z,105μm,18.8s							
KS01	**Wonju Array Si**	**12.19**	**262**	*e*Pn		**Pn**	**21 10 58.1**	**+0.3**
KS15	**Wonju Array Si**	**12.20**	**262**	*e*Pn		**Pn**	**21 10 59.4**	**+1.3**
KSAR	**Wonju Array Be**	**12.20**	**262**	P		**Pn**	**21 11 00.0**	**+1.9**
KSAR							21 13 24.7	
KSAR	**Wonju Array Be**	**12.20**	**262**	Pn		**Pn**	**21 10 60.0**	**+1.9**
KSAR				Sn		Sn	21 13 24.7	+11
NKL	**Nikolayevsk**	**13.03**	**353**	*e*P		**Pn**	**21 11 09.0**	**-0.3**
NKL				pmax	pmax			
	comp=N,86nm,1.0s							
NKL				pmax	pmax			
	comp=E,50nm,1.0s							
NKL				pmax	pmax			
	comp=Z,120nm,1.0s							
CBIJ	**Chichi jima**	**13.12**	**184**	Pn		**Pn**	**21 11 10.8**	**0.0**
CBIJ				*e*Sn		Sn	21 13 20.0	-16
INCN	**Inchon**	**13.14**	**263**	*e*Pn		**Pn**	**21 11 12.2**	**+1.3**
OKH	**Okha**	**13.32**	**360**	⇓*e*P		**Pn**	**21 11 10.5**	**-2.8**
OKH				*e*S		**Sn**	**21 13 33.4**	**-7.1**
OKH				pmax	pmax			
	comp=Z,4μm,10.5s							
OKH				smax	smax			
	comp=E,9μm,14.6s							
OKH				smax	smax			
	comp=Z,55μm,18.0s							
CN2	**Changchun**	**13.61**	**291**	*e*P		**Pn**	**21 11 17.4**	**+0.1**
CN2				*e*sP		P	21 11 25.8	-0.2
CN2				*e*S		**Sn**	**21 13 49.1**	**+1.4**
CN2				pmax	pmax			
	comp=Z,50nm,1.2s							
CN2				LR	LR			
	comp=Z,28μm,16.0s							
CN2				LR	LR			
	comp=Z,73μm,16.0s							
CN2				LR	LR			
	comp=Z,77μm,17.0s							
SKR	**Severo-Kuril's**	**13.85**	**37**	*e*P		Pn	21 11 15.0	-5.5
SKR				pmax	pmax			
	comp=Z,210nm,0.8s							
SKR				MLR	MLR			
	comp=Z,42μm,16.0s							
SNY	**Shenyang**	**14.84**	**283**	⇑P		**Pn**	**21 11 34.4**	**+0.4**
SNY				S		**Sn**	**21 14 09.1**	**-8.4**
SNY				pmax	pmax			
	comp=Z,140nm,2.0s							
SNY				pmax	pmax			
	comp=Z,12μm,12.0s							
SNY				LR	LR			
	comp=Z,36μm,14.4s							
SNY				LR	LR			
	comp=Z,92μm,16.6s							
SNY				LR	LR			
	comp=Z,131μm,16.7s							
PEA0	**Petropavlovsk-**	**16.27**	**33**	*e*Pn		**Pn**	**21 11 46.0**	**-6.5**
PEA0B	**Petropavlovsk-**	**16.27**	**33**	*e*Pn		**Pn**	**21 11 47.4**	**-5.2**
	comp=Z,120nm,1.1s							
PETK	**Petropavlovsk-**	**16.27**	**33**	Pn		**Pn**	**21 11 45.9**	**-6.6**
	comp=Z,0.5nm,0.3s,baz=201,slow=8.5,SNR=17							
PETK				LR	LR		21 17 55.2	
	comp=Z,14μm,19.7s,baz=221,slow=36							
PET	**Petropavlovsk**	**16.61**	**34**	*e*P		**P**	**21 12 00.6**	**+1.4**
PET				pmax	pmax			
	comp=Z,89nm,1.2s							
PET				MLR	MLR			
	comp=Z,29μm,17.0s							
PET	**Petropavlovsk**	**16.61**	**34**	*e*Pn		**Pn**	**21 11 56.4**	**-0.5**
	comp=Z,190nm,1.3s							
JOW	**Kunigami**	**18.18**	**227**	P		**Pn**	**21 12 13.7**	**-2.9**
	baz=87,slow=13							
JOW	**Kunigami**	**18.18**	**227**	*e*Pn		**Pn**	**21 12 13.5**	**-3.1**
	comp=Z,208nm,1.0s							
HIA	**Hailar**	**18.84**	**306**	*e*P		**P**	**21 12 21.3**	**-2.6**
HIA				pmax	pmax			
	comp=Z,539nm,1.4s							
HIA	**Hailar**	**18.84**	**306**	*e*P		**P**	**21 12 21.3**	**-2.6**
	comp=Z,539nm,1.4s							
MA2	**Magadan**	**19.96**	**11**	P		**P**	**21 12 35.8**	**-0.1**
	comp=Z,6.0nm,0.3s,baz=195,slow=10,SNR=38							
MA2				LR	LR		21 21 21.9	
	comp=Z,11μm,18.2s,baz=196,slow=40							
CLNS	**Chul'man**	**20.43**	**330**	*c i* P		**P**	**21 12 40.0**	**-1.1**
CLNS				*e**PP		**pP**	**21 12 49.4**	**+1.3**
CLNS				*e*			21 12 55.9	
CLNS				*e*			21 16 48.3	
CLNS				*e*SS		Sn	21 17 04.2	+32
CLNS				pmax	pmax			
	comp=Z,248nm,1.1s							
CLNS				pmax	pmax			
	comp=E,170nm,1.3s							
CLNS				pmax	pmax			
	comp=N,202nm,1.2s							
CLNS				pmax	pmax			
	comp=E,126nm,1.1s							
CLNS				pmax	pmax			
	comp=N,360nm,1.3s							
CLNS				MLR	MLR			
	comp=Z,24μm,14.0s							
CLNS				MLR	MLR			
	comp=E,9μm,15.0s							
CLNS				MLR	MLR			
	comp=N,24μm,14.0s							
BJI	**Beijing**	**20.58**	**278**	P		**P**	**21 12 40.5**	**-2.3**
BJI				S		**S**	**21 16 30.9**	**-0.7**
BJI				pmax	pmax			
	comp=N,190nm,1.9s							
BJI				LR	LR			
	comp=N,28μm,14.4s							
BJI				LR	LR			
	comp=N,60μm,17.7s							
BJI				LR	LR			
	comp=N,48μm,18.7s							
BJT	**Baijiatuau**	**20.59**	**278**	*e*P		**P**	**21 12 40.4**	**-2.6**
BJT				pmax	pmax			
	comp=Z,269nm,0.9s							
BJT				MLR	MLR			
	comp=Z,67μm,19.0s							
BJT	**Baijiatuau**	**20.59**	**278**	*e*P		**P**	**21 12 40.4**	**-2.6**
	comp=Z,269nm,0.9s							
BJT				LR	LR			
	comp=Z,67μm,19.0s							
TIA	**Tai'an**	**20.79**	**267**	⇑P		**P**	**21 12 42.9**	**-2.3**
TIA				S		**S**	**21 16 29.1**	**-6.8**
TIA				pmax	pmax			
	comp=Z,150nm,1.2s							
TIA				pmax	pmax			
	comp=Z,6μm,4.7s							
TIA				LR	LR			
	comp=Z,26μm,12.7s							
TIA				LR	LR			
	comp=Z,77μm,17.6s							
TIA				LR	LR			
	comp=Z,93μm,17.0s							
NJ2	**Nanjing**	**21.18**	**255**	*e*P		**P**	**21 12 47.1**	**-2.3**
NJ2				pP		**pP**	**21 12 54.8**	**-1.6**
NJ2				S		**S**	**21 16 46.5**	**+2.8**
NJ2				pmax	pmax			
	comp=Z,270nm,1.3s							
NJ2				LR	LR			
	comp=Z,38μm,16.0s							
NJ2				LR	LR			
	comp=Z,52μm,17.1s							
NJ2				LR	LR			
	comp=Z,65μm,16.6s							
YOJ	**Yonaguni jima**	**23.07**	**233**	*e*P		**P**	**21 13 08.9**	**-0.6**
YOJ	**Yonaguni jima**	**23.07**	**233**	*e*P		**P**	**21 13 08.9**	**-0.6**
YAK	**Yakutsk**	**23.30**	**344**	PFAKE			21 13 20.0	+8.4
YAK				LR	LR			
	comp=Z,100μm,21.0s							
SEY	**Seymchan**	**23.40**	**11**	P		**P**	**21 13 10.7**	**-1.9**
	comp=Z,197nm,1.0s,baz=193,slow=7.5,SNR=45							
SEY				LR	LR		21 23 41.9	
	comp=Z,14μm,18.8s,baz=196,slow=40							
CIT	**Chita**	**23.47**	**310**	*e*P		**P**	**21 13 12.0**	**-1.4**
CIT				*e*			21 13 20.5	
CIT				*e*			21 13 42.6	
CIT				*e*			21 13 53.2	
CIT				*e*S		**S**	**21 17 26.1**	**+0.8**
CIT				pmax	pmax			
	comp=Z,734nm,1.7s							
TATO	**Taipei**	**23.65**	**237**	*e*P		**P**	**21 13 14.2**	**-1.1**
	comp=Z,135nm,0.7s							
TATO				LR	LR			
	comp=Z,40μm,19.0s							
HHC	**Hu-ho-hao-te**	**23.93**	**282**	⇑P		**P**	**21 13 15.8**	**-2.2**
HHC				pP		pP	21 13 22.3	-3.1
HHC				PP		**PnPn**	**21 13 49.8**	**+3.2**
HHC				S		**S**	**21 17 27.3**	**-5.7**
HHC				SS		**SnSn**	**21 18 18.3**	**+5.0**
HHC				ScP		**ScP**	**21 20 36.3**	**-0.3**
HHC				pmax	pmax			
	comp=Z,80nm,1.4s							
HHC				pmax	pmax			
	comp=Z,3μm,5.5s							
HHC				LR	LR			
	comp=Z,19μm,13.7s							
HHC				LR	LR			
	comp=Z,63μm,17.4s							
HHC				LR	LR			
	comp=Z,72μm,16.2s							
TIY	**Taiyuan**	**23.93**	**274**	*e*P		**P**	**21 13 16.5**	**-1.5**
TIY				pP		**pP**	**21 13 21.3**	**-4.1**
TIY				sP		**sP**	**21 13 28.3**	**-0.3**
TIY				PP		**PnPn**	**21 13 50.9**	**+4.2**
TIY				S		**S**	**21 17 35.0**	**+2.0**
TIY				sS		**pS**	**21 17 41.0**	**-0.1**
TIY				SS		**SnSn**	**21 18 23.9**	**+10**
TIY				pmax	pmax			
	comp=Z,85nm,1.3s							
TIY				pmax	pmax			
	comp=Z,2μm,9.4s							
TIY				LR	LR			
	comp=Z,18μm,13.0s							
TIY				LR	LR			
	comp=Z,8μm,13.9s							
TIY				LR	LR			
	comp=Z,14μm,11.9s							
YHNB	**Yeheng**	**23.94**	**236**	*e*P		**P**	**21 13 16.1**	**-2.0**
	comp=Z,141nm,0.9s							
YHNB				LR	LR			
	comp=Z,57μm,19.0s							
NACB	**Ninganchiao**	**24.15**	**235**	*e*P		**P**	**21 13 17.1**	**-3.0**
	comp=Z,91nm,0.8s							
SMY	**Shemya**	**24.51**	**49**	*e*P		**P**	**21 13 24.4**	**+1.3**
SMY				pmax	pmax			
	comp=Z,400nm,1.1s							
SMY	**Shemya**	**24.51**	**49**	*e*P		**P**	**21 13 24.4**	**+1.3**
	comp=Z,400nm,1.1s							
SSLB	**Suanglung**	**24.84**	**235**	*e*P		**P**	**21 13 24.8**	**-1.5**
	comp=Z,194nm,1.4s							
YULB	**Yu-li**	**24.91**	**234**	*e*P		**P**	**21 13 24.9**	**-2.1**
	comp=Z,108nm,1.0s							
WHN	**Wuhan**	**25.27**	**257**	⇑P		**P**	**21 13 29.8**	**-0.4**
WHN				S		**S**	**21 17 54.8**	**+0.3**
WHN				pmax	pmax			
	comp=Z,970nm,1.2s							
WHN				LR	LR			
	comp=Z,67μm,13.6s							
WHN				LR	LR			
	comp=Z,106μm,14.1s							
WHN				LR	LR			
	comp=Z,174μm,16.1s							
TPUB	**Ta-pu**	**25.39**	**235**	*e*P		**P**	**21 13 29.5**	**-1.9**
	comp=Z,147nm,0.9s							
TWG	**Pinlang**	**25.47**	**234**	*e*P		**P**	**21 13 31.3**	**-0.7**
	comp=Z,983nm,1.0s							
QZH	**Quanzhou**	**25.57**	**241**	⇑*i*P		**P**	**21 13 29.8**	**-3.1**
QZH				S		S	21 17 48.0	-11
QZH				pmax	pmax			
	comp=Z,390nm,1.2s							
QZH				pmax	pmax			
	comp=Z,11μm,3.7s							
QZH				LR	LR			
	comp=Z,42μm,15.6s							
QZH				LR	LR			
	comp=Z,40μm,13.4s							
QZH				LR	LR			
	comp=Z,82μm,14.6s							
BOD	**Bodaibo**	**25.66**	**323**	⇑*i*P		**P**	**21 13 32.7**	**-0.7**
BOD				pmax	pmax			
	comp=Z,392nm,1.3s							
GUMO	**Guam**	**26.59**	**176**	LR	LR		21 23 02.5	
	comp=Z,13μm,20.8s,baz=8.5,slow=34							
ULN	**Ulaanbaatar**	**26.83**	**299**	*c i* P		**P**	**21 13 44.1**	**-0.3**
ULN				pmax	pmax

SONM pmax pmax
comp=Z,276nm,1.2s
SONM MLR MLR
comp=Z,64μm,19.2s
XAN Xi'an 27.84 268 P **P** **21 13 51.9 -1.5**
XAN pP pP 21 13 59.6 -1.3
XAN pmax pmax
comp=Z,140nm,1.1s
XAN pmax pmax
comp=Z,6μm,7.5s
XAN LR LR
comp=Z,18μm,15.8s
XAN LR LR
comp=Z,39μm,16.0s
XAN LR LR
comp=Z,47μm,15.6s
H11N2 WAKE ISLAND Hy 28.85 128 T T 21 44 08.8
baz=318,slow=75,SNR=1217
H11N1 WAKE ISLAND Hy 28.86 128 T T 21 44 08.8
baz=318,slow=75,SNR=725
H11N3 WAKE ISLAND Hy 28.87 128 T T 21 44 08.8
baz=318,slow=75,SNR=1074
WAKE Wake Island 29.05 129 PFAKE 21 14 20.0 +16
WAKE LR LR
comp=Z,22μm,19.0s
ENH Enshi 29.06 261 *e*P **P** **21 14 03.0 -1.3**
comp=Z,437nm,1.2s
ENH LR LR
comp=Z,45μm,19.0s
IRK Irkutsk 29.08 307 *e*P **P** **21 14 03.8 -0.4**
IRK *e*S **S** **21 18 58.1 +3.9**
IRK pmax pmax
comp=Z,326nm,1.4s
TLY Talaya 29.38 306 P **P** **21 14 07.2 +0.4**
comp=Z,56nm,1.1s,baz=115,slow=9.3,SNR=18
TLY LR LR 21 26 47.6
comp=Z,41μm,18.1s,baz=94,slow=38
TLY Talaya 29.38 306 *e*P **P** **21 14 07.0 +0.1**
TLY *e* 21 15 17.2
TLY pmax pmax
comp=Z,102nm,1.5s
TLY MLR MLR
comp=Z,41μm,16.0s
TLY Talaya 29.38 306 *e*P **P** **21 14 05.7 -1.2**
comp=Z,121nm,1.3s
TLY Talaya 29.38 306 P **P** **21 14 07.3 +0.4**
SNR=32
TLY P **P** **21 14 07.3 +0.4**
SNR=32
ZAK Zakamensk 29.48 304 *e*P **P** **21 14 07.5 -0.3**
ZAK pmax pmax
comp=Z,90nm,1.5s
H11S1 WAKE ISLAND Hy 29.68 130 T T 21 45 12.2
baz=322
H11S3 WAKE ISLAND Hy 29.68 130 T T 21 45 12.2
baz=322
H11S2 WAKE ISLAND Hy 29.70 130 T T 21 45 12.2
baz=322,SNR=272
SZP Santa 29.91 227 *e*P **P** **21 14 11.1 -0.7**
comp=Z,296nm,1.2s
HKC Hong Kong Obse 30.32 243 ⇑P **P** **21 14 17.0 +1.5**
GZH Guangzhou 30.37 245 ⇑*i*P P 21 14 11.0 -4.9
GZH S S 21 19 05.1 -10
GZH pmax pmax
comp=Z,8μm,11.5s
BILL Bilibino 30.59 17*c i*P **P** **21 14 17.0 -0.3**
BILL *e* 21 15 18.5
BILL pmax pmax
comp=Z,109nm,1.2s
BILL MLR MLR
comp=Z,11μm,16.0s
MCO Taipa Grande 30.87 243 P **P** **21 14 22.0 +1.7**
LZH Lanzhou 30.98 275 ⇑P **P** **21 14 21.0 -0.4**
LZH pP pP 21 14 26.4 -2.5
LZH sP sP 21 14 29.4 -2.6
LZH PP **PnPn** **21 15 17.4 -5.1**
LZH PcP **PcP** **21 17 18.1 +1.0**
LZH S **S** **21 19 21.4 -3.3**
LZH sS pS 21 19 32.3 -0.8
LZH pmax pmax
comp=Z,160nm,1.1s
LZH pmax pmax
comp=Z,990nm,7.5s
LZH LR LR
comp=Z,17μm,12.9s
LZH LR LR
comp=Z,25μm,13.0s
LZH LR LR
comp=Z,26μm,13.5s
MOY Mondy 31.02 306 *e*P **P** **21 14 21.2 -0.3**
MOY pmax pmax
comp=Z,404nm,3.8s
ATKA Atka Island 31.41 53 *e*P **P** **21 14 24.5 -0.3**
comp=Z,178nm,0.9s
TIXI Tiksi 32.30 352 P **P** **21 14 31.5 -0.9**
comp=Z,53nm,1.1s,baz=141,slow=9.2,SNR=36
TIXI Tiksi 32.30 352 *e*P **P** **21 14 31.5 -0.9**
TIXI pmax pmax
comp=Z,97nm,1.2s
TIXI Tiksi 32.30 352 *e*P **P** **21 14 31.5 -0.9**
comp=Z,97nm,1.2s
TIXI LR LR
comp=Z,13μm,19.0s
GTA Gaotai 33.03 283 ⇑P **P** **21 14 39.3 0.0**
GTA pP pP 21 14 46.5 -0.3
GTA sP sP 21 14 49.5 -0.4
GTA PcP **PcP** **21 17 24.3 +1.7**
GTA S **S** **21 19 56.8 +0.4**
GTA SS **SnSn** **21 21 59.4 +4.2**
GTA pmax pmax
comp=Z,180nm,1.6s
GTA pmax pmax
comp=Z,2μm,4.5s
GTA LR LR
comp=Z,25μm,18.1s
GTA LR LR
comp=Z,67μm,17.6s
GTA LR LR
comp=Z,79μm,17.6s
CD2 Chengdu 33.11 266 ⇑*i*P **P** **21 14 38.9 -1.1**
CD2 pP pP 21 14 42.4 -5.2
CD2 sP sP 21 14 45.3 -5.4
CD2 S **S** **21 19 56.0 -1.7**
CD2 pmax pmax
comp=Z,90nm,0.8s
CD2 pmax pmax
comp=Z,4μm,10.4s
CD2 LR LR
comp=Z,43μm,13.3s
CD2 LR LR
comp=Z,18μm,14.2s
CD2 LR LR
comp=Z,44μm,14.2s
GYA Guiyang 33.16 257 ⇑*i*P **P** **21 14 42.0 +1.4**
GYA pP pP 21 14 48.3 +0.2
GYA PP **PnPn** **21 15 53.0 +2.3**
GYA PcP **PcP** **21 17 24.6 +1.5**
GYA S **S** **21 19 57.3 -1.4**
GYA ScP **ScP** **21 21 07.8 +2.2**
GYA SS **SnSn** **21 21 59.9 +1.1**
GYA pmax pmax
comp=Z,310nm,1.1s
GYA pmax pmax
comp=Z,9μm,10.3s
GYA LR LR
comp=Z,26μm,18.1s
GYA LR LR
comp=Z,44μm,17.5s
GYA LR LR
comp=Z,58μm,18.4s
MIDW Midway 34.53 98 PFAKE 21 15 10.0 +18
MIDW LR LR
comp=Z,9μm,20.0s
QIZ Qiongzhong 35.51 243 P **P** **21 15 01.9 +1.1**
QIZ sP **pP** **21 15 09.8 +1.4**
QIZ PP **PP** **21 16 24.5 +2.9**
QIZ S **S** **21 20 39.1 +4.3**
QIZ ScS **ScS** **21 25 18.9 +0.1**
QIZ LR LR
comp=Z,21μm,17.4s
QIZ LR LR
comp=Z,11μm,16.3s
QIZ LR LR
comp=Z,21μm,16.7s
QIZ Qiongzhong 35.51 243 *e*P **P** **21 15 01.4 +0.6**
comp=Z,76nm,1.3s

QIZ LR LR
comp=Z,17μm,21.0s
DAV Davao City (W) 36.57 210 ⇑*i*P **P** **21 15 09.0 -0.8**
DAV Davao City (W) 36.57 210 PFAKE 21 15 20.0 +10
DAV LR LR
comp=Z,6μm,20.0s
DAV Davao City (W) 36.57 210 P **P** **21 15 09.4 -0.4**
SNR=5.2
DAV P **P** **21 15 09.4 -0.4**
SNR=5.2
KMI Kunming 36.84 258 P **P** **21 15 12.6 +0.2**
KMI pP pP 21 15 19.6 -0.4
KMI sP sP 21 15 23.0 -0.1
KMI PP **PP** **21 16 36.4 0.0**
KMI S **S** **21 20 52.8 -2.7**
KMI sS sS 21 21 05.8 -2.3
KMI SS **SnSn** **21 23 25.8 -2.3**
KMI pmax pmax
comp=Z,300nm,1.3s
KMI pmax pmax
comp=Z,4μm,6.1s
KMI LR LR
comp=Z,49μm,15.7s
KMI LR LR
comp=Z,44μm,15.7s
KMI LR LR
comp=Z,68μm,15.7s
SLVN Son La 38.22 252 *e*P **P** **21 15 23.9 0.0**
comp=Z,105nm,1.0s
WMQ Urumqi 40.68 294 P **P** **21 15 45.1 +0.9**
WMQ sP sP 21 15 56.8 +1.8
WMQ PP **PP** **21 17 17.8 -0.2**
WMQ PcP **PcP** **21 17 47.6 +2.1**
WMQ S **S** **21 21 56.9 +4.1**
WMQ sS sS 21 22 07.3 +1.9
WMQ SS **SS** **21 24 48.4 -4.9**
WMQ ScS **ScS** **21 25 47.8 -0.1**
WMQ pmax pmax
comp=Z,170nm,1.5s
WMQ pmax pmax
comp=Z,4μm,4.1s
WMQ LR LR
comp=Z,14μm,17.9s
WMQ LR LR
comp=Z,20μm,18.9s
WMQ LR LR
comp=Z,21μm,19.7s
ZAA0 Zalesovo Array 40.82 310 *e*P **P** **21 15 45.0 -0.2**
ZALV Zalesovo Beam 40.82 310 P **P** **21 15 45.1 -0.1**
comp=Z,34nm,0.7s,baz=91,slow=7.2,SNR=93
ZALV PcP **PcP** **21 17 46.1 +0.4**
comp=Z,15nm,0.6s,baz=103,slow=2.5,SNR=5.9
ZALV LR LR 21 33 40.4
comp=Z,42μm,18.1s,baz=75,slow=38
NRIK Noril'sk 40.97 333 P **P** **21 15 45.8 -0.3**
comp=Z,76nm,1.1s,baz=108,slow=9.1,SNR=79
NRIK LR LR 21 34 01.5
comp=Z,31μm,20.2s,baz=103,slow=38
SKNT Sakolnakorn 40.98 247 P **P** **21 15 47.1 +0.2**
comp=Z,205nm,1.6s,comp=Z,5μm
UBPT Khong Chiam 41.11 244 P **P** **21 15 48.5 +0.6**
comp=Z,182nm,1.7s,comp=Z,4μm
DLV T Lat 41.52 237 *e*P **P** **21 15 52.6 +1.1**
comp=Z,189nm,1.1s
NVS Novosibirsk 41.67 311 ⇑*i*P **P** **21 15 52.5 +0.4**
NVS *e*S **S** **21 22 07.0 0.0**
NVS pmax pmax
comp=N,66nm,1.4s
NVS pmax pmax
comp=E,85nm,1.4s
NVS pmax pmax
comp=Z,246nm,1.4s
NVS smax smax
comp=N,64nm,1.7s
NVS smax smax
comp=E,83nm,1.7s
KKM Kota Kinabalu 41.73 223 *e*P **P** **21 15 54.5 +1.3**
comp=E,169nm,1.4s
KKM LR LR
comp=Z,10μm,19.0s
KKM Kota Kinabalu 41.73 223 ⇓P **P** **21 15 53.1 0.0**
TT01 Tatalina 42.04 37 *e*P **P** **21 15 56.1 +1.0**
TTA Tatalina 42.05 37 *e*P **P** **21 15 56.0 +0.8**
TTA pmax pmax
comp=Z,34nm,0.9s
TTA Tatalina 42.05 37 *e*P **P** **21 15 56.0 +0.8**
comp=Z,34nm,0.9s
SVW2 Sparrevohn 42.19 39 *e*P **P** **21 15 57.0 +0.7**
comp=Z,93nm,1.0s
SMPI Sarmi 42.21 187 P **P** **21 15 59.5 +2.6**
comp=Z,249nm,1.3s,comp=Z,5μm
TSM Tawau 42.41 219 ⇑P **P** **21 15 58.3 -0.2**
JAY Jayapura 42.60 184 P **P** **21 16 01.0 +0.9**
comp=Z,4.2nm,0.9s,baz=299,slow=21,SNR=8.8
JAY Jayapura 42.60 184 P **P** **21 16 02.5 +2.4**
comp=Z,80nm,1.4s,comp=Z,2μm
JAY Jayapura 42.60 184 P **P** **21 16 01.0 +0.9**
UTTA Uttaradit 42.92 251 P **P** **21 16 03.5 +0.8**
comp=Z,29nm,0.9s,comp=Z,269nm
LAMP Lampang 43.10 253 P **P** **21 16 05.9 +1.7**
comp=Z,43nm,1.1s,comp=Z,371nm
LBMI Labuha 43.10 203 P **P** **21 16 06.3 +2.2**
comp=Z,4μm,0.8s,comp=Z,51μm
CHAI Chaiyaphum 43.11 248 P **P** **21 16 04.3 0.0**
comp=Z,49nm,0.9s,comp=Z,385nm
KMSI Cibinong 43.14 209 P P 21 16 17.1 +13
LSA Lhasa 43.32 273 P **P** **21 16 07.4 +1.0**
LSA S **S** **21 22 34.1 +1.2**
LSA pmax pmax
comp=Z,38nm,1.4s
LSA LR LR
comp=Z,7μm,20.2s
LSA LR LR
comp=Z,13μm,18.6s
LSA LR LR
comp=Z,35μm,20.2s
LSA Lhasa 43.32 273 *e*P **P** **21 16 07.1 +0.7**
LSA pmax pmax
comp=Z,217nm,1.2s
LSA MLR MLR
comp=Z,36μm,20.0s
LSA Lhasa 43.32 273 *e*P **P** **21 16 07.1 +0.7**
comp=Z,217nm,1.2s
LSA LR LR
comp=Z,36μm,20.0s
PBKT Sadao Pong 43.39 250 P **P** **21 16 07.0 +0.5**
comp=Z,144nm,0.9s,comp=Z,2μm
CMMT Chiang Mai 43.42 254 P **P** **21 16 07.3 +0.5**
comp=Z,107nm,1.6s,comp=Z,3μm
CHTO Chiang Mai 43.42 254 P **P** **21 16 07.4 +0.6**
comp=Z,399nm,1.2s,comp=Z,12μm
CHTO Chiang Mai 43.42 254 *e*P **P** **21 16 07.3 +0.6**
CHTO pmax pmax
comp=Z,430nm,1.8s
CHTO Chiang Mai 43.42 254 *e*P **P** **21 16 07.3 +0.6**
comp=Z,435nm,1.8s
CHTO LR LR
comp=Z,7μm,19.0s
CHTO Chiang Mai 43.42 254 P **P** **21 16 07.3 +0.6**
SNR=27
OHAK Old Harbor 43.53 45 *e*P **P** **21 16 06.6 -0.6**
comp=Z,308nm,1.6s
RSO Redoubt South 43.59 40 *e*P **P** **21 16 08.6 +0.8**
MK01 Makanchi Array 43.63 300 *e*P **P** **21 16 08.7 +0.5**
MK31 Makanchi Array 43.63 300 *i*P **P** **21 16 07.8 -0.4**
MK31 pmax pmax
comp=Z,292nm,1.4s
MK31 Makanchi Array 43.63 300 *e*P **P** **21 16 08.2 0.0**
MKAR Makanchi Array 43.63 300 *e*P **P** **21 16 08.2 0.0**
MKAR pmax pmax
comp=Z,650nm,0.8s
MKAR Makanchi Array 43.63 300 *e*P **P** **21 16 08.2 0.0**
comp=Z,651nm,0.8s
CM31 Chiang Mai Arr 43.64 253 *e*P **P** **21 16 09.7 +1.1**
CMAR Chiang Mai Arr 43.64 253 P **P** **21 16 09.2 +0.6**
comp=Z,15nm,0.9s,baz=51,slow=6.1,SNR=14
CMAR ScP **ScP** **21 21 48.1 +2.7**
comp=Z,2.5nm,1.0s,baz=360,slow=5.1,SNR=4.2
CMAR LR LR 21 36 10.5
comp=Z,9μm,18.1s,baz=62,slow=39
CMAR Chiang Mai Arr 43.64 253 P **P** **21 16 09.2 +0.6**
CMAR pmax pmax
comp=Z,15nm,0.9s
CMAR MLR MLR
comp=Z,9μm,18.1s
CM01 Chiang Mai Arr 43.66 253 *e*P **P** **21 16 08.2 -0.5**

SUKH Sukhothai 43.76 252 P **P** **21 16 10.6 +1.1**
comp=Z,43nm,1.0s,comp=Z,350nm
PPLA Purkeypile 43.80 37 *e*P **P** **21 16 10.1 +0.7**
comp=Z,217nm,1.2s
MAKZ Makanchi 43.83 300 *i*P **P** **21 16 09.0 -0.8**
MAKZ pmax pmax
comp=Z,235nm,1.3s
MAKZ Makanchi 43.83 300 *e*P **P** **21 16 09.9 +0.1**
comp=Z,186nm,1.0s
CAST Castle Rocks 43.84 36 *e*P **P** **21 16 10.4 +0.7**
comp=Z,72nm,0.8s
KDAK Kodiak Island 43.85 44 *e*P **P** **21 16 09.5 -0.2**
KDAK pmax pmax
comp=Z,200nm,1.0s
KDAK Kodiak Island 43.85 44 *e*P **P** **21 16 09.5 -0.2**
comp=Z,198nm,1.0s
KDAK LR LR
comp=Z,6μm,22.0s
SPU Mount Spurr 43.90 39 *e*P **P** **21 16 11.3 +1.2**
MRSI Marisa 44.01 211 P **P** **21 16 12.4 +0.9**
comp=Z,285nm,1.1s,comp=Z,6μm
FAKI Fak Fak 44.08 196 P **P** **21 16 13.0 +1.0**
comp=Z,138nm,1.9s,comp=Z,6μm
FAKI Fak Fak 44.08 196 *e*P **P** **21 16 11.7 -0.3**
comp=Z,883nm,1.9s
SEM Semipalatinsk 44.13 305 *i*P **P** **21 16 09.7 -2.6**
comp=Z,2μm,1.4s
SEM LR LR 21 34 23.9
comp=Z,10μm,13.8s
SRAK Srakaew 44.36 246 P **P** **21 16 11.8 -2.5**
comp=Z,464nm,1.0s,comp=Z,4μm
KTH Kantishna Hill 44.37 36 *e*P **P** **21 16 15.2 +1.3**
comp=Z,130nm,0.9s
CNPM China Poot 44.40 42 *e*P **P** **21 16 14.9 +0.7**
comp=Z,88nm,0.8s
SUA Susitna One 44.52 39 *e*P **P** **21 16 15.9 +0.7**
comp=Z,113nm,0.8s
BRLK Bradley Lake 44.56 41 *e*P **P** **21 16 16.1 +0.6**
comp=Z,83nm,0.8s
TRF Thorofare Moun 44.65 36 *e*P **P** **21 16 17.0 +0.7**
comp=Z,60nm,0.9s
NAYO Nakonayok 44.66 247 P **P** **21 16 17.6 +0.9**
comp=Z,65nm,1.2s,comp=Z,10μm
COLD Coldfoot 44.72 31 *e*P **P** **21 16 17.2 +0.6**
comp=Z,74nm,1.0s
SANI Sanana 44.90 205 P **P** **21 16 18.8 +0.2**
comp=Z,186nm,1.0s,comp=Z,4μm
TOLK Toolik Lake Re 45.02 29 P **P** **21 16 20.4 +1.3**
baz=267
RC01 Rabbit Creek A 45.03 39 *e*P **P** **21 16 19.4 +0.3**
comp=Z,115nm,0.7s
CHBT CHBT 45.04 244 P **P** **21 16 21.5 +1.8**
comp=Z,1μm,1.4s,comp=Z,316μm
KURK Kurchatov 45.08 306*c i*P **P** **21 16 18.8 -0.8**
KURK pmax pmax
comp=Z,365nm,1.3s
KURK pmax pmax
comp=Z,1μm,1.2s
KURK Kurchatov 45.08 306 *e*P **P** **21 16 19.8 +0.2**
comp=Z,437nm,1.0s
KURK S **S** **21 23 04.0 +7.0**
KURK LR LR
comp=Z,21μm,20.0s
KURK Kurchatov 45.08 306 P **P** **21 16 19.7 0.0**
SNR=144
UMPA Umpang Tak 45.15 251 P **P** **21 16 23.2 +2.5**
comp=Z,44nm,1.0s,comp=Z,439nm
KURBB Kurchatov Arra 45.15 306 P **P** **21 16 20.3 0.0**
comp=Z,239nm,1.1s,baz=81,slow=8.7,SNR=405
KURBB S **S** **21 23 04.0 +5.9**
comp=Z,3.2nm,0.8s,baz=76,slow=14,SNR=4.5
UTHA Uthaitani 45.16 250 P **P** **21 16 22.1 +1.5**
comp=Z,26nm,1.0s,comp=Z,238nm
MCK McKinley 45.25 36 *e*P **P** **21 16 21.4 +0.6**
MCK pmax pmax
comp=Z,88nm,0.8s
MCK McKinley 45.25 36 *e*P **P** **21 16 21.4 +0.6**
comp=Z,88nm,0.8s
SEW Seward 45.25 41 *e*P **P** **21 16 20.5 -0.4**
comp=Z,114nm,1.0s
MSAI Masohi 45.28 200 P P 21 16 32.6 +11
PMR Palmer 45.28 39 *e*P **P** **21 16 20.8 -0.3**
PMR pmax pmax
comp=Z,143nm,1.2s
PMR Palmer 45.28 39 *e*P **P** **21 16 20.8 -0.3**
comp=Z,143nm,1.2s
RND Reindeer 45.30 36 *e*P **P** **21 16 21.6 +0.3**
RND pmax pmax
comp=Z,340nm,1.6s
RND Reindeer 45.30 36 *e*P **P** **21 16 21.6 +0.3**
comp=Z,342nm,1.6s
MDM Murphy Dome 45.51 34 *e*P **P** **21 16 23.7 +0.8**
comp=Z,81nm,0.8s
WRH Wood River Hil 45.59 34 *e*P **P** **21 16 23.9 +0.4**
comp=Z,65nm,0.8s
SML Sawmill 45.64 38 *e*P **P** **21 16 24.1 0.0**
SML pmax pmax
comp=Z,460nm,1.4s
SML Sawmill 45.64 38 *e*P **P** **21 16 24.1 0.0**
comp=Z,457nm,1.5s
COLA College 45.67 34 *e*P **P** **21 16 24.7 +0.6**
COLA pmax pmax
comp=Z,66nm,0.8s
COLA MLR MLR
comp=Z,5μm,20.0s
COLA College 45.67 34 *e*P **P** **21 16 24.7 +0.6**
comp=Z,66nm,0.8s
COLA LR LR
comp=Z,5μm,20.0s
NLAI Namlea 45.69 203 P P 21 16 40.0 +15
CCB Clear Creek Bu 45.70 34 *e*P **P** **21 16 24.9 +0.5**
comp=Z,246nm,2.0s
AAI Ambon 45.80 201 P **P** **21 16 29.8 +4.1**
comp=Z,208nm,0.8s,comp=Z,4μm
AAI Ambon 45.80 201 P **P** **21 16 25.2 -0.5**
AAI pmax pmax
comp=Z,206nm,0.8s
PATY Pattaya 45.94 246 P **P** **21 16 28.9 +2.1**
comp=Z,43nm,0.9s,comp=Z,661nm
DHY Denali Highway 45.99 36 *e*P **P** **21 16 27.1 +0.3**
comp=Z,72nm,0.9s
ILAR Eielson Array 46.09 34 P **P** **21 16 27.7 +0.2**
comp=Z,17nm,0.6s,baz=262,slow=5.6,SNR=103
ILAR LR LR 21 36 06.5
comp=Z,5μm,20.9s,baz=290,slow=36
ILB Eielson Array 46.09 34 *e*P **P** **21 16 27.7 +0.2**
IL1 Eielson Array 46.09 34 *e*P **P** **21 16 28.2 +0.7**
SCM Sheep Creek Mo 46.12 38 *e*P **P** **21 16 28.4 +0.6**
SCM pmax pmax
comp=Z,180nm,0.9s
SCM Sheep Creek Mo 46.12 38 *e*P **P** **21 16 28.4 +0.6**
comp=Z,175nm,0.9s
PCI Palu 46.13 213 P **P** **21 16 30.7 +2.4**
comp=Z,183nm,1.2s,comp=Z,3μm
PCI Palu 46.13 213 P **P** **21 16 27.5 -0.8**
PCI pmax pmax
comp=Z,183nm,1.2s
SRDT SRDT 46.19 249 P **P** **21 16 29.8 +0.9**
comp=Z,527nm,1.8s
PDGK Podgornoye 46.52 296 *i*P **P** **21 16 30.4 -1.0**
PDGK pmax pmax
comp=Z,218nm,1.5s
SHLS Shalkode 46.60 296 *i*P **P** **21 16 27.6 -4.4**
comp=Z,601nm,1.4s
SHLS *e*S **S** **21 23 13.8 -5.7**
SHLS LR LR 21 35 59.2
comp=Z,20μm,15.9s
FID Port Fidalgo 46.65 40 *e*P **P** **21 16 32.1 +0.2**
comp=Z,131nm,1.3s
FYU Fort Yukon 46.68 31 *e*P **P** **21 16 34.1 +2.0**
comp=Z,584nm,1.6s
TDK Taldyqorghan 46.73 298 *i*P **P** **21 16 31.1 -1.7**
comp=Z,2μm,1.3s
TDK *e*S **S** **21 23 19.6 -1.5**
TDK LR LR 21 36 29.6
comp=Z,9μm,15.2s
PHET Kaeng Krachan 46.81 247 P **P** **21 16 35.1 +1.4**
comp=Z,98nm,0.9s,comp=Z,686nm
KLU Klutina 46.82 38 *e*P **P** **21 16 34.4 +1.0**
comp=Z,198nm,1.2s
PAX Paxson 46.86 36 *e*P **P** **21 16 35.3 +1.6**
PAX pmax pmax
comp=Z,54nm,1.1s
PAX Paxson 46.86 36 *e*P **P** **21 16 35.3 +1.6**
comp=Z,54nm,1.1s
SBUM Sibu 46.87 225 *e*P **P** **21 16 34.6 +0.5**
comp=Z,105nm,1.7s

SBUM	**Sibu**	**46.87**	**225**	⇓	P		**P**	**21 16 34.5**	**+0.3**
UZB	**Uzynbulak**	**46.91**	**296**	*i*	P		**P**	**21 16 32.1**	**-2.3**
	comp=Z,996nm,1.5s								
UZB				*i*	S		**S**	**21 23 21.5**	**-2.3**
UZB					LR	LR	LR	21 36 45.5	
	comp=Z,3μm,14.5s								
DIV	**Divide**	**46.94**	**39**	*e*	P		**P**	**21 16 34.9**	**+0.6**
	comp=Z,110nm,0.8s								
EYAK	**Cordova Ski Ar**	**47.03**	**40**	*e*	P		**P**	**21 16 35.9**	**+1.0**
	comp=Z,112nm,0.8s								
KPKS	**Kokpek**	**47.03**	**296**	*i*	P		**P**	**21 16 33.2**	**-2.1**
	comp=Z,2μm,1.4s								
KPKS				*i*	S		**S**	**21 23 23.9**	**-1.7**
KPKS					LR	LR	LR	21 36 55.1	
	comp=Z,10μm,13.8s								
HARP	**HAARP**	**47.07**	**37**	*e*	P		**P**	**21 16 36.6**	**+1.4**
	comp=Z,163nm,1.0s								
JOHN	**Johnston Islan**	**47.07**	**106**		PFAKE			21 16 50.0	+14
JOHN					LR	LR			
	comp=Z,1μm,20.0s								
TAPN	**Taplejung**	**47.11**	**272**	*e*	P		**P**	**21 16 37.1**	**+0.8**
	comp=Z,417nm,1.0s								
TARA	**Tarawa**	**47.22**	**137**		PFAKE			21 16 50.0	+13
TARA					LR	LR			
	comp=Z,706nm,20.0s								
ZHN	**Zhinishke**	**47.31**	**296**	*i*	P		**P**	**21 16 35.6**	**-1.8**
	comp=Z,853nm,1.4s								
ZHN				*i*	S		**S**	**21 23 27.7**	**-1.7**
ZHN					LR	LR		21 36 55.1	
	comp=Z,7μm,15.2s								
SATY	**Saty**	**47.36**	**296**	*i*	P		**P**	**21 16 36.0**	**-1.9**
	comp=Z,2μm,1.7s								
SATY				*i*	S		**S**	**21 23 28.3**	**-2.0**
SATY					LR	LR		21 36 13.0	
	comp=Z,31μm,16.6s								
DOT	**Dot Lake**	**47.42**	**35**	*e*	P		**P**	**21 16 37.7**	**-0.3**
	comp=Z,629nm,1.9s								
BMRM	**Bremner River**	**47.52**	**39**	*e*	P		**P**	**21 16 39.8**	**+1.0**
	comp=Z,121nm,1.0s								
ODAN	**Odare**	**47.60**	**272**	*e*	P		**P**	**21 16 40.6**	**+0.5**
	comp=Z,392nm,1.1s								
MENT	**Mentasta**	**47.66**	**36**	*e*	P		**P**	**21 16 41.4**	**+1.6**
	comp=Z,85nm,0.7s								
KDI	**Kendari**	**47.83**	**208**		P		**P**	**21 16 46.0**	**+4.4**
	comp=Z,117nm,1.8s,comp=Z,4μm								
JIRN	**Jiri**	**48.12**	**273**	*e*	P		**P**	**21 16 44.8**	**+0.6**
RAMN	**Ramite**	**48.16**	**272**	*e*	P		**P**	**21 16 44.8**	**+0.4**
	comp=Z,540nm,0.9s								
GUN	**Gumba**	**48.23**	**274**	*e*	P		**P**	**21 16 45.6**	**+0.6**
	comp=Z,535nm,0.8s								
MDOK	**Medeo**	**48.26**	**296**	*i*	P		**P**	**21 16 43.0**	**-1.9**
	comp=Z,950nm,1.5s								
MDOK				*e*	S		**S**	**21 23 41.5**	**-1.6**
MDOK					LR	LR		21 36 40.6	
	comp=Z,16μm,15.2s								
CRQM	**Cirque**	**48.27**	**39**	*e*	P		**P**	**21 16 46.1**	**+1.3**
	comp=Z,222nm,0.8s								
AAA	**Alma-Ata**	**48.34**	**296**	*i*	P		**P**	**21 16 46.0**	**+0.6**
AAA					pmax	pmax			
	comp=Z,4μm,3.0s								
AAA					MLR	MLR			
	comp=Z,44μm,8.0s								
AAA	**Alma-Ata**	**48.34**	**296**	*i*	P		**P**	**21 16 43.5**	**-1.9**
	comp=Z,1μm,1.6s								
AAA				*i*	S		**S**	**21 23 42.3**	**-1.7**
AAA					LR	LR		21 36 48.9	
	comp=Z,11μm,14.5s								
MTKI	**Muara Teweh, K**	**48.40**	**219**		P		**P**	**21 16 46.8**	**+0.8**
	comp=Z,108nm,2.0s,comp=Z,5μm								
EGAK	**Eagle**	**48.53**	**34**	*e*	P		**P**	**21 16 46.8**	**+0.4**
	comp=Z,56nm,0.8s								
EGAK					LR	LR			
	comp=Z,6μm,19.0s								
KSM	**Kuching**	**48.73**	**226**	*e*	P		**P**	**21 16 49.5**	**+0.9**
	comp=Z,255nm,1.6s								
KSM					LR	LR			
	comp=Z,4μm,21.0s								
KSM	**Kuching**	**48.73**	**226**	⇑	P		**P**	**21 16 48.6**	**+0.1**
KKN	**Kakani**	**48.74**	**274**	*e*	P		**P**	**21 16 49.3**	**+0.4**
	comp=Z,419nm,0.8s								
PKI	**Pulchoki**	**48.76**	**274**	*e*	P		**P**	**21 16 49.2**	**+0.1**
	comp=Z,757nm,1.4s								
PKIN	**Phulchoki**	**48.76**	**274**	*e*	P		**P**	**21 16 49.3**	**+0.2**
SPSI	**Sidrap Palu**	**48.93**	**212**		P		**P**	**21 16 50.9**	**+0.9**
	comp=Z,60nm,1.6s,comp=Z,2μm								
BRZS	**Berezniki**	**48.95**	**306**	*i*	P		**P**	**21 16 47.9**	**-2.0**
	comp=Z,292nm,1.3s								
BRZS				*e*	S		**S**	**21 23 50.6**	**-1.7**
BRZS					LR	LR		21 37 49.7	
DMN	**Daman**	**48.97**	**274**	*e*	P		**P**	**21 16 51.0**	**+0.3**
	comp=Z,677nm,1.5s								
GKN	**Gorkha**	**49.13**	**275**	*e*	P		**P**	**21 16 52.0**	**+0.2**
	comp=Z,193nm,0.7s								
BBSI	**Bau Bau**	**49.27**	**207**		P		**P**	**21 16 56.2**	**+3.6**
	comp=Z,72nm,1.1s,comp=Z,2μm								
STKI	**Sintang**	**49.27**	**224**		P		**P**	**21 16 53.9**	**+1.2**
	comp=Z,68nm,0.7s,comp=Z,15μm								
TKM2	**Tokmak 2**	**49.34**	**297**	*i*	P		**P**	**21 16 52.9**	**-0.4**
TKM2					pmax	pmax			
	comp=Z,362nm,1.4s								
DAWY	**Dawson**	**49.40**	**34**	*e*	P		**P**	**21 16 54.0**	**+0.8**
	comp=Z,30nm,1.1s								
BVAR	**Borovoye Array**	**49.46**	**311**		P		**P**	**21 16 54.1**	**+0.3**
	comp=Z,13nm,0.3s,baz=79,slow=7.9,SNR=110								
BVAR					S		**S**	**21 23 57.4**	**-1.9**
	comp=Z,1.9nm,0.8s,baz=64,slow=10,SNR=2.6								
BVAR	**Borovoye Array**	**49.46**	**311**		P		**P**	**21 16 54.1**	**+0.3**
BVAR					S		**S**	**21 23 57.4**	**-1.9**
BVAR					pmax	pmax			
	comp=Z,14nm,0.3s								
BVAR					smax	smax			
	comp=N,2.0nm,0.8s								
BRVK	**Borovoye**	**49.51**	**311**	*c*	*i* P		**P**	**21 16 54.0**	**-0.1**
BRVK					pmax	pmax			
	comp=Z,241nm,1.5s								
BRVK					pmax	pmax			
	comp=Z,415nm,1.2s								
BRVK	**Borovoye**	**49.51**	**311**	*e*	P		**P**	**21 16 54.5**	**+0.3**
	comp=Z,156nm,1.2s								
BRVK					LR	LR			
	comp=Z,16μm,19.0s								
BRVK	**Borovoye**	**49.51**	**311**		P		**P**	**21 16 54.6**	**+0.5**
	SNR=73								
BRVK					P		**P**	**21 16 54.6**	**+0.5**
	SNR=73								
PMG	**Port Moresby**	**49.53**	**175**	*e*	P		**P**	**21 16 55.3**	**+0.7**
PMG					pmax	pmax			
	comp=Z,25nm,0.8s								
PMG					MLR	MLR			
	comp=Z,3μm,20.0s								
PMG	**Port Moresby**	**49.53**	**175**	*e*	P		**P**	**21 16 55.3**	**+0.7**
	comp=Z,25nm,0.8s								
PMG					LR	LR			
	comp=Z,3μm,20.0s								
KAPI	**Kappang**	**49.89**	**211**	*e*	P		**P**	**21 16 57.6**	**+0.3**
	comp=Z,163nm,1.3s								
KAPI					LR	LR			
	comp=Z,3μm,20.0s								
KAPI	**Kappang**	**49.89**	**211**		P		**P**	**21 16 57.8**	**+0.5**
	SNR=23								
KAPI					P		**P**	**21 16 57.8**	**+0.5**
	SNR=23								
KTGM	**Kuala Trenggan**	**49.95**	**237**	⇓	P		**P**	**21 16 58.5**	**+0.6**
KOLN	**Koldanda**	**50.04**	**275**	*e*	P		**P**	**21 16 59.2**	**+0.5**
	comp=Z,295nm,1.0s								
FRU	**Bishkek**	**50.05**	**297**	⇑	*e* P		**P**	**21 16 58.0**	**-0.4**
SURT	**Suratani**	**50.16**	**244**		P		**P**	**21 17 00.8**	**+1.3**
	comp=Z,76nm,1.1s,comp=Z,1μm								
AAK	**Ala-Archa**	**50.20**	**297**	*i*	P		**P**	**21 16 59.0**	**-0.8**
AAK					pmax	pmax			
	comp=Z,139nm,1.5s								
AAK	**Ala-Archa**	**50.20**	**297**	*e*	P		**P**	**21 16 59.4**	**-0.4**
	comp=Z,100nm,0.9s								
AAK					LR	LR			
	comp=Z,30μm,20.0s								
SKLT	**Songkhla**	**50.22**	**241**		P		**P**	**21 17 01.4**	**+1.5**
	comp=Z,161nm,1.8s,comp=Z,3μm								
PYUN	**Piuthan**	**50.34**	**276**	*e*	P		**P**	**21 17 01.4**	**+0.4**
	comp=Z,1μm,1.2s								
TRTT	**Trang**	**50.36**	**242**		P		**P**	**21 17 02.1**	**+1.1**
	comp=Z,299nm,1.4s,comp=Z,2μm								
KSH	**Kashi**	**50.38**	**292**	⇑	*i* P		**P**	**21 17 05.0**	**+3.9**
KSH					sP		sP	21 17 13.3	+1.3
KSH					PcP		**PcP**	**21 18 22.1**	**+2.7**
KSH					PP		**PP**	**21 19 01.1**	**+4.6**
KSH					S		**S**	**21 24 17.0**	**+4.2**
KSH					sS		sS	21 24 27.0	+1.4
KSH					SS		**SS**	**21 27 48.1**	**+1.8**
KSH					pmax	pmax			
	comp=Z,180nm,1.3s								
KSH					pmax	pmax			
	comp=Z,3μm,5.3s								
KSH					LR	LR			
	comp=Z,9μm,12.0s								
KSH					LR	LR			
	comp=Z,9μm,13.1s								
KSH					LR	LR			
	comp=Z,20μm,13.0s								
INK	**Inuvik**	**50.94**	**28**		P		**P**	**21 17 05.2**	**+0.5**
	comp=Z,24nm,0.5s,baz=302,slow=6.4,SNR=49								
INK					S		**S**	**21 24 19.4**	**-0.1**
	comp=Z,4.4nm,1.1s,baz=166,slow=17,SNR=6.5								
INK					LR	LR		21 42 04.7	
	comp=Z,6μm,19.0s,baz=280,slow=40								
INK	**Inuvik**	**50.94**	**28**	*e*	P		**P**	**21 17 05.8**	**+1.1**
	comp=Z,75nm,0.7s								
INK					S		**S**	**21 24 19.4**	**-0.1**
HYT	**Haines Junctio**	**50.95**	**38**	*e*	P		**P**	**21 17 06.8**	**+1.7**
	comp=Z,308nm,0.8s								
PBKI	**Pangkalan Bun**	**51.52**	**222**		P		**P**	**21 17 10.8**	**+1.1**
	comp=Z,94nm,1.0s,comp=Z,2μm								
KULM	**Kulim**	**51.59**	**239**	*e*	P		**P**	**21 17 09.8**	**-0.5**
	comp=Z,106nm,1.0s								
KULM					LR	LR			
	comp=Z,6μm,20.0s								
KULM	**Kulim**	**51.59**	**239**	⇑	P		**P**	**21 17 10.9**	**+0.7**
MNAS	**Manas**	**51.62**	**297**	*i*	P		**P**	**21 17 09.9**	**-0.5**
MNAS					pmax	pmax			
	comp=Z,226nm,1.0s								
HNR	**Honiara**	**51.81**	**159**		PFAKE			21 17 20.0	+8.2
HNR					LR	LR			
	comp=Z,7μm,19.0s								
IPM	**Ipoh**	**51.95**	**238**	*e*	P		**P**	**21 17 12.2**	**-0.8**
	comp=Z,112nm,1.1s								
IPM	**Ipoh**	**51.95**	**238**	⇑	P		**P**	**21 17 13.4**	**+0.4**
MYKOM	**Kota Tinggi**	**52.24**	**233**	*e*	P		**P**	**21 17 16.1**	**+1.0**
MYKOM	**Kota Tinggi**	**52.24**	**233**	⇑	P		**P**	**21 17 15.8**	**+0.7**
WHY	**Whitehorse**	**52.24**	**38**	*e*	P		**P**	**21 17 16.3**	**+1.6**
	comp=Z,63nm,0.7s								
MMRI	**Maumere**	**52.31**	**206**		P		**P**	**21 17 16.2**	**+0.6**
	comp=Z,276nm,2.0s,comp=Z,7μm								
MMRI	**Maumere**	**52.31**	**206**	*e*	P		**P**	**21 17 15.4**	**-0.2**
	comp=Z,303nm,1.1s								
SKAG	**Skagway**	**52.37**	**40**	*e*	P		**P**	**21 17 17.0**	**+1.5**
	comp=Z,78nm,1.3s								
KGM	**Kluang**	**52.39**	**234**	⇑	P		**P**	**21 17 16.7**	**+0.5**
FRIM	**Kepong**	**52.51**	**236**	⇑	P		**P**	**21 17 17.7**	**+0.6**
TPRI	**Tanjung Pinang**	**52.52**	**232**		P		**P**	**21 17 18.4**	**+1.3**
	comp=Z,72nm,1.1s,comp=Z,3μm								
SOEI	**Soe**	**52.71**	**204**		P		**P**	**21 17 18.9**	**+0.3**
	comp=Z,333nm,0.8s,comp=Z,5μm								
SOEI	**Soe**	**52.71**	**204**	*e*	P		**P**	**21 17 17.9**	**-0.7**
	comp=Z,250nm,0.9s								
KK31	**Karatay Array**	**52.73**	**299**	*i*	P		**P**	**21 17 17.4**	**-1.1**
KK31					pmax	pmax			
	comp=Z,37nm,0.6s								
KKAR	**Karatay Array**	**52.73**	**299**	*e*	P		**P**	**21 17 18.3**	**-0.2**
KKAR	**Karatay Array**	**52.73**	**299**	*e*	P		**P**	**21 17 18.2**	**-0.2**
	comp=Z,74nm,0.8s								
BESE	**Bessie Mountai**	**52.87**	**41**	*e*	P		**P**	**21 17 20.7**	**+1.4**
	comp=Z,64nm,1.2s								
KIP	**Kipapa**	**52.96**	**92**	⇓	*i* P		**P**	**21 17 21.8**	**+1.4**
KIP					pmax	pmax			
	comp=Z,440nm,0.9s								
KIP	**Kipapa**	**52.96**	**92**		PFAKE			21 17 30.0	+10
KIP					LR	LR			
	comp=Z,10μm,20.0s								
BRLS	**Borolday**	**53.21**	**299**	*i*	P		**P**	**21 17 22.0**	**0.0**
BRLS				*i*	S		**S**	**21 24 52.6**	**+1.2**
BRLS					LR	LR	LR	21 40 38.8	
	comp=Z,913nm,13.1s								
BATI	**Baumata**	**53.32**	**204**		P		**P**	**21 17 24.7**	**+1.7**
	comp=Z,43nm,1.5s,comp=Z,1μm								
IUG	**Iuzhnay**	**53.44**	**298**	*i*	P		**P**	**21 17 21.4**	**-2.4**
	comp=Z,2μm,1.7s								
IUG				*i*	S		**S**	**21 24 52.5**	**-2.1**
IUG					LR	LR		21 40 18.8	
	comp=Z,8μm,15.2s								
SVE	**Sverdlovsk**	**53.67**	**317**	*d*	*i* P		**P**	**21 17 25.9**	**+0.8**
SVE					*e* S		**S**	**21 24 57.0**	**-0.2**
SVE					pmax	pmax			
	comp=Z,314nm,1.4s								
SVE					MLR	MLR			
	comp=N,17μm,15.0s								
SVE					MLR	MLR			
	comp=Z,57μm,15.0s								
SVE					MLR	MLR			
	comp=E,40μm,15.0s								
COEN	**Coen**	**53.91**	**180**	*e*	P		**P**	**21 17 26.7**	**-0.6**
	comp=E,60nm,0.9s								
MTN	**Manton Dam**	**53.96**	**195**	*e*	P		**P**	**21 17 27.5**	**-0.2**
	comp=E,190nm,0.9s								
PPBI	**Pangkal Pinang**	**54.05**	**228**		P		**P**	**21 17 29.5**	**+1.1**
	comp=E,92nm,1.4s,comp=E,3μm								
LHMI	**Lhok Sumawe**	**54.11**	**242**		P		**P**	**21 17 32.1**	**+3.2**
	comp=E,99nm,1.1s,comp=E,6μm								
PLAI	**Plampang**	**54.15**	**211**		P		P	21 17 39.4	+10
TWSI	**Taliwang, Sumb**	**54.43**	**212**		P		**P**	**21 17 30.3**	**-0.8**
	comp=E,59nm,1.6s								
PSI	**Prapat**	**54.59**	**239**		P		**P**	**21 17 32.8**	**+0.3**
	comp=E,44nm,1.1s,baz=5.3,slow=4.6,SNR=25								
PSI	**Prapat**	**54.59**	**239**	*e*	P		**P**	**21 17 32.8**	**+0.3**
PSI					pmax	pmax			
	comp=Z,74nm,1.1s								
PSI	**Prapat**	**54.59**	**239**	*e*	P		**P**	**21 17 32.8**	**+0.3**
	comp=Z,74nm,1.1s								
SOKR	**Solikamsk**	**54.63**	**322**	*c*	*i* P		**P**	**21 17 30.7**	**-1.3**
SOKR					S		**S**	**21 25 10.3**	**+0.3**
SOKR					SS		**SS**	**21 28 53.5**	**+1.2**
SOKR					pmax	pmax			
	comp=Z,206nm,1.3s								
SOKR					MLR	MLR			
	comp=Z,12μm,15.0s								
CHLP	**Challavanipeta**	**54.80**	**265**	*e*	P		**P**	**21 17 34.6**	**+0.7**
CHLP					IAmb	IAmb		21 17 35.3	
	comp=Z,209nm,1.5s								
CHLP				*e*	S		**S**	**21 25 13.3**	**0.0**
CHLP					IVMs_BB	IVMs_BB		21 42 25.1	
	comp=Z,3μm,23.5s								
WRAK	**Wrangell Islan**	**54.87**	**43**	*e*	P		**P**	**21 17 35.9**	**+2.0**
	comp=Z,38nm,1.0s								
WRAK					LR	LR			
	comp=Z,4μm,20.0s								
ARU	**Arti**	**54.88**	**317**	*d*	*i* P		**P**	**21 17 33.7**	**-0.3**
ARU								21 18 31.5	
ARU								21 19 32.7	
ARU					PPP	PPP		21 20 46.9	
ARU					S		**S**	**21 25 14.9**	**+1.4**
ARU								21 27 15.4	
ARU					SS		**SS**	**21 28 51.9**	**-4.5**
ARU					pmax	pmax			
	comp=Z,531nm,1.7s								
ARU					pmax	pmax			
	comp=Z,2μm,13.9s								
ARU					MLR	MLR			
	comp=Z,53μm,16.0s								
ARU	**Arti**	**54.88**	**317**	*e*	P		**P**	**21 17 34.0**	**0.0**
	comp=Z,473nm,1.3s								
ARU					LR	LR			
	comp=Z,39μm,19.0s								
BKNI	**Bangkinang**	**55.12**	**235**		P		**P**	**21 17 37.6**	**+1.4**
	comp=Z,325nm,1.0s,comp=Z,5μm								
BKNI	**Bangkinang**	**55.12**	**235**	*e*	P		**P**	**21 17 37.1**	**+0.9**
	comp=Z,443nm,1.1s								
IGBI	**Denpasar**	**55.23**	**214**		P		P	21 17 47.1	+10
DLBC	**Dease Lake**	**55.30**	**40**		P		**P**	**21 17 38.4**	**+1.3**
	comp=Z,21nm,1.1s,baz=285,slow=7.4,SNR=13								
DLBC	**Dease Lake**	**55.30**	**40**	*e*	P		**P**	**21 17 39.0**	**+1.9**
	comp=Z,36nm,0.9s								
JAGI	**Jajag, Banyuwa**	**55.36**	**216**		P		**P**	**21 17 40.8**	**+2.9**
	comp=Z,43nm,1.7s,comp=Z,2μm								
JAGI	**Jajag, Banyuwa**	**55.36**	**216**	*e*	P		**P**	**21 17 37.4**	**-0.5**
	comp=Z,23nm,0.9s								
NGJI	**Ngawi**	**55.64**	**219**		P		**P**	**21 17 41.6**	**+1.7**
	comp=Z,108nm,1.3s								
POHA	**Pohakuloa**	**55.81**	**92**	*e*	P		**P**	**21 17 42.1**	**+0.7**
	comp=Z,164nm,1.1s								
POHA					LR	LR			
	comp=Z,6μm,19.0s								
SDSI	**Sungai Dareh**	**55.86**	**233**		P		**P**	**21 17 43.6**	**+2.1**
	comp=Z,165nm,1.4s,comp=Z,48μm								
SMRI	**Semarang**	**55.86**	**220**		P		**P**	**21 17 44.8**	**+3.3**
	comp=Z,202nm,2.3s,comp=Z,7μm								
SMRI	**Semarang**	**55.86**	**220**	*e*	P		**P**	**21 17 41.6**	**+0.1**
	comp=Z,314nm,1.5s								
PPI	**Padang Panjang**	**56.13**	**235**		P		**P**	**21 17 44.8**	**+1.4**
	comp=Z,26nm,1.0s,comp=Z,3μm								
WOJI	**Wonogiri, Jawa**	**56.31**	**219**		P		**P**	**21 17 46.7**	**+2.1**
	comp=Z,67nm,1.2s,comp=Z,4μm								
PDSI	**Padang**	**56.44**	**234**		P		**P**	**21 17 45.7**	**0.0**
	comp=Z,28nm,1.3s,comp=Z,2μm								
UGM	**Wanagama**	**56.57**	**220**		P		**P**	**21 17 46.3**	**-0.3**
	comp=Z,247nm,1.4s								
UGM	**Wanagama**	**56.57**	**220**	*e*	P		**P**	**21 17 45.5**	**-1.1**
	comp=Z,294nm,1.2s								
KPJI	**Karang Pucung**	**56.87**	**222**		P		**P**	**21 17 48.2**	**-0.4**
	comp=Z,102nm,1.3s,comp=Z,3μm								
KLSI		**56.92**	**228**		P		**P**	**21 17 49.4**	**+0.4**
	comp=Z,171nm,2.4s,comp=Z,4μm								
AB31	**Akbulak array**	**56.93**	**309**	*i*	P		**P**	**21 17 48.4**	**-0.4**
AB31					pmax	pmax			
	comp=Z,283nm,1.5s								
ABKAR	**Akbulak array**	**56.93**	**309**	*e*	P		**P**	**21 17 49.0**	**+0.2**
	comp=Z,85nm,0.6s								
MASI	**Maura Aman, Be**	**57.11**	**231**		P		**P**	**21 17 51.5**	**+1.0**
	comp=Z,323nm,1.5s,comp=Z,6μm								
BLSI	**Bandar Lampung**	**57.19**	**227**		P		**P**	**21 17 51.1**	**+0.2**
	comp=Z,173nm,1.6s,comp=Z,3μm								
HOPEN	**Hopen**	**57.27**	**346**	⇑	*i* P		**P**	**21 17 51.4**	**+0.6**
HOPEN					IVmB_BB			21 17 52.2	
	comp=Z,3μm,3.1s								
HOPEN				*e*	S		**S**	**21 25 46.5**	**+1.8**
HOPEN					IVMs_BB	IVMs_BB		21 47 17.3	
	comp=Z,4μm,20.2s								
KSI	**Kapahiang**	**57.31**	**230**		P		**P**	**21 17 52.5**	**+0.6**
	comp=Z,87nm,1.6s,comp=Z,4μm								
KSI	**Kapahiang**	**57.31**	**230**		P		**P**	**21 17 52.5**	**+0.6**
KSI					pmax	pmax			
	comp=Z,87nm,1.6s								
PVM	**Polavaram**	**57.40**	**265**	*e*	P		**P**	**21 17 52.7**	**+0.2**
PVM					IAmb	IAmb		21 17 53.7	
	comp=Z,155nm,1.4s								
PVM				*e*	S		**S**	**21 25 48.9**	**+0.9**
PVM					IVMs_BB	IVMs_BB		21 43 54.0	
	comp=Z,3μm,19.6s								
KBL	**Kabul**	**57.55**	**290**	*e*	P		**P**	**21 17 53.2**	**-0.5**
KBL					pmax	pmax			
	comp=Z,410nm,1.1s								
KBL	**Kabul**	**57.55**	**290**	*e*	P		**P**	**21 17 53.2**	**-0.5**
	comp=Z,410nm,1.1s								
AKTO	**Aktyubinsk**	**57.56**	**311**		P		**P**	**21 17 53.2**	**0.0**
	comp=Z,35nm,0.9s,baz=76,slow=7.8,SNR=82								
AKTO					LR	LR		21 44 05.9	
	comp=Z,23μm,18.0s,slow=38								
LWLI	**Liwa**	**57.57**	**228**		P		P	21 18 07.2	+13
SISI	**Saibi**	**57.62**	**235**		P		**P**	**21 17 55.4**	**+1.4**
	comp=Z,90nm,1.2s,comp=Z,3μm								
KASI	**Kota Agung**	**57.73**	**227**		P		**P**	**21 17 54.7**	**-0.1**
	comp=Z,71nm,1.1s								
KBS	**Kingsbay**	**57.74**	**350**	⇑	*i* P		**P**	**21 17 54.6**	**+0.6**
KBS					IVmB_BB			21 17 56.6	
	comp=Z,2μm,1.7s								
KBS				*e*	S		**S**	**21 25 51.2**	**+0.3**
KBS	**Kingsbay**	**57.74**	**350**	*e*	P		**P**	**21 17 54.0**	**-0.1**
KBS					pmax	pmax			
	comp=Z,86nm,0.9s								
KBS					MLR	MLR			
	comp=Z,4μm,22.0s								
KBS	**Kingsbay**	**57.74**	**350**	*e*	P		**P**	**21 17 54.0**	**-0.1**
	comp=Z,86nm,0.9s								
KBS					LR	LR			
	comp=Z,4μm,22.0s								
RPR	**Rampur**	**58.23**	**268**	*e*	P		**P**	**21 17 58.4**	**+0.1**
RPR					IAmb	IAmb		21 17 59.1	
	comp=Z,230nm,1.3s								
RPR				*e*	S		**S**	**21 25 59.2**	**+0.4**
RPR					IVMs_BB	IVMs_BB		21 45 13.9	
	comp=Z,2μm,15.3s								
HSPB	**Hornsund (broa**	**58.60**	**348**	⇑	*i* P		**P**	**21 18 00.6**	**+0.6**
HSPB					IVmB_BB			21 18 02.5	
	comp=Z,2μm,1.7s								
HSPB					IVMs_BB	IVMs_BB		21 48 53.9	
	comp=Z,3μm,16.1s								
HSPB	**Hornsund (broa**	**58.60**	**348**	*e*	P		**P**	**21 18 00.7**	**+0.6**
HSPB				*e*				21 20 08.9	
HSPB				*e*	S		**S**	**21 26 01.9**	**-0.3**
HSPB				*e*				21 27 48.9	
HSPB				*e*	SS		**SS**	**21 29 56.4**	**+2.2**
HSPB					MLR	MLR			
	comp=Z,8μm,23.0s								
FUNA	**Funafuti**	**58.85**	**137**		PFAKE			21 18 20.0	+17
FUNA					LR	LR			
	comp=Z,16μm,22.0s								
SRSP	**Sriamsagar**	**58.92**	**269**	*e*	P		**P**	**21 18 03.0**	**-0.2**
SRSP					IAmb	IAmb		21 18 04.3	
	comp=Z,346nm,1.2s								
SRSP				*e*	S		**S**	**21 26 06.9**	**-0.9**
SRSP					IVMs_BB	IVMs_BB		21 47 56.6	
	comp=Z,3μm,16.0s								
RES	**Resolute Bay**	**59.17**	**15**		P		**P**	**21 18 04.6**	**+0.6**
	comp=Z,48nm,0.9s,baz=316,slow=7.0,SNR=7.4								
RES					LR	LR		21 47 51.9	
	comp=Z,7μm,18.7s,baz=322,slow=40								
RES	**Resolute Bay**	**59.17**	**15**	*e*	P		**P**	**21 18 04.5**	**+0.5**
	comp=Z,86nm,0.9s								
ADKI	**Addanki**	**59.51**	**265**	*e*	P		**P**	**21 18 07.7**	**+0.5**
ADKI					IAmb	IAmb		21 18 08.6	
	comp=Z,191nm,1.5s								
ADKI				*e*	S		**S**

WRA **Warramunga Arr** 60.42 190 *i* P **P** 21 18 12.1 -1.2
WRA pmax pmax
comp=Z,34nm,1.0s
RCLA **Racherla** 60.52 266 *e*P **P** 21 18 14.1 0.0
RCLA IAmb IAmb 21 18 14.9
comp=Z,230nm,1.6s
RCLA *e*S **S** 21 26 27.6 -0.9
RCLA IVMs_BB IVMs_BB 21 50 13.9
comp=Z,4μm,15.8s
TMCR **Tamitsa** 60.59 331 *e*P **P** 21 18 13.5 -0.4
TMCR pmax pmax
comp=Z,302nm,1.5s
KLRI **Killari** 60.76 269 *e*P **P** 21 18 15.3 -0.5
KLRI IAmb IAmb 21 18 16.7
comp=Z,416nm,1.3s
KLRI *e*S **S** 21 26 29.9 -1.7
KLRI IVMs_BB IVMs_BB 21 47 01.7
comp=Z,4μm,16.0s
KEV **Kevo** 60.93 339 *e*P **P** 21 18 15.9 -0.3
KEV pmax pmax
comp=Z,51nm,1.0s
KEV MLR MLR
comp=Z,10μm,20.0s
KEV **Kevo** 60.93 339 *e*P **P** 21 18 15.8 -0.3
comp=Z,51nm,1.0s
KEV LR LR
comp=Z,10μm,20.0s
SKHT **Srikalahasti** 61.00 263 *e*P **P** 21 18 18.1 +0.7
SKHT IAmb IAmb 21 18 18.8
comp=Z,137nm,1.3s
SKHT *e*S **S** 21 26 36.2 +1.6
SKHT IVMs_BB IVMs_BB 21 46 04.3
comp=Z,2μm,19.7s
HAMF **Hammerfest** 61.24 341 IVMs_BB IVMs_BB 21 52 36.4
comp=Z,3μm,12.5s
ARA0 **ARCESS Array S** 61.48 339 *e*P **P** 21 18 19.5 -0.5
ARCES **ARCESS Array B** 61.48 339 P **P** 21 18 19.9 -0.1
comp=Z,9.3nm,0.8s,baz=28,slow=5.5,SNR=15
ARCES PP **PP** 21 20 34.6 -0.3
comp=Z,14nm,0.9s,baz=65,slow=6.8,SNR=5.1
ARCES LR LR 21 47 35.9
comp=Z,10μm,21.5s,baz=46,slow=39
ARE0 **ARCESS Array S** 61.48 339 *e*P **P** 21 18 20.2 +0.3
ARE0 IVmB_BB 21 19 04.0
comp=Z,2μm,3.9s
ARE0 IVMs_BB IVMs_BB 21 47 32.4
comp=Z,4μm,20.0s
ARE0 **ARCESS Array S** 61.48 339 *e*P **P** 21 18 20.1 +0.1
KLMR **Klimovskoe** 61.78 327 *e*P **P** 21 18 19.9 -2.1
KLMR *e* 21 20 35.0
KLMR pmax pmax
comp=Z,309nm,1.5s
URV **Uravakonda** 62.12 266 *e*P **P** 21 18 24.8 -0.3
URV IAmb IAmb 21 18 25.6
comp=Z,156nm,1.5s
URV *e*S **S** 21 26 49.3 +0.4
URV IVMs_BB IVMs_BB 21 46 58.5
comp=Z,3μm,26.6s
KTK1 **Kautokeino** 62.44 339 *e*P **P** 21 18 26.6 +0.2
KTK1 IVmB_BB 21 18 27.1
comp=Z,1μm,2.0s
SGF **Sodankyl** 62.53 337 *e*P **P** 21 18 28.7 +1.7
SGF pmax pmax
comp=Z,74nm,1.7s
DAG **Danmarks Havn** 62.70 355⇑ *i*P **P** 21 18 28.0 0.0
comp=Z,57nm,1.0s
DAG **Danmarks Havn** 62.70 355⇑ *i*P **P** 21 18 28.0 0.0
DAG pmax pmax
comp=Z,57nm,1.0s
MSF **Maaselka** 62.71 335 *e*P **P** 21 18 28.6 +0.3
MSF pmax pmax
comp=Z,67nm,0.9s
LLLB **Lillooet** 63.04 45 *e*P **P** 21 18 31.5 +0.7
TRO **Tromso** 63.13 341 *e*P **P** 21 18 33.2 +2.3
TRO IVMs_BB IVMs_BB 21 53 49.7
comp=Z,3μm,16.2s
BOM **Bombay** 63.17 273 *e*S **S** 21 26 54.4 -7.5
BOM **Bombay** 63.17 273 *e*S **S** 21 26 54.4 -7.5
PGC **Sidney** 63.18 48 *e*P **P** 21 18 32.6 +1.0
comp=Z,32nm,1.0s
GEYT **Alibeck** 63.48 298 P **P** 21 18 33.8 0.0
comp=Z,68nm,1.1s,baz=29,slow=3.4,SNR=102
GEYT LR LR 21 48 21.0
comp=Z,22μm,18.1s,baz=65,slow=38
A04D **Lummi Island** 63.57 48 P **P** 21 18 35.0 +0.8
baz=302
NLWA **Neilton Lookou** 63.60 49 *e*P **P** 21 18 35.9 +1.5
comp=Z,135nm,1.4s
NLWA LR LR
comp=Z,5μm,21.0s
JOF **Joensuu** 63.78 332 *e*P **P** 21 18 35.7 +0.4
JOF pmax pmax
comp=Z,109nm,0.9s
MBW **Mount Baker** 63.99 47 P **P** 21 18 37.9 +0.7
AS01 **Alice Springs** 64.14 189 *e*P **P** 21 18 36.7 -1.4
AS31 **Alice Springs** 64.14 189 *e*P **P** 21 18 37.8 -0.4
comp=Z,12nm,1.1s
ASAR **Alice Springs** 64.14 189 P **P** 21 18 37.7 -0.5
comp=Z,14nm,0.8s,baz=10,slow=5.9,SNR=84
B05A **Bryant** 64.15 48 P **P** 21 18 38.6 +0.6
baz=302,SNR=6.0
E03A **Lebam** 64.22 50 *e*P **P** 21 18 39.9 +1.4
comp=Z,111nm,0.9s
OUL **Oulu** 64.25 335 P **P** 21 18 37.8 -0.6
JCW **Jim Creek** 64.28 48 P **P** 21 18 39.9 +0.9
PALK **Pallekele** 64.37 257 P **P** 21 18 40.0 0.0
PALK **Pallekele** 64.37 257 *e*P **P** 21 18 40.7 +0.7
PALK pmax pmax
comp=Z,130nm,1.5s
PALK **Pallekele** 64.37 257 *e*P **P** 21 18 40.7 +0.7
comp=Z,130nm,1.5s
D05A **Enumclaw** 64.79 49 *e*P **P** 21 18 43.3 +1.1
comp=Z,67nm,0.8s
F04D **Rainier, OR** 64.79 50 P **P** 21 18 43.7 +1.4
baz=303
MBWA **Marble Bar** 64.85 204 *e*P **P** 21 18 42.1 -0.7
comp=Z,51nm,0.9s
MBWA LR LR
comp=Z,3μm,21.0s
MBWA **Marble Bar** 64.85 204 P **P** 21 18 42.4 -0.4
SNR=7.6
C06D **Leavenworth** 65.02 48 P **P** 21 18 44.7 +1.0
baz=303
G03D **McMinnville, O** 65.11 51 P **P** 21 18 44.3 0.0
baz=303
FMW **Mount Fremont** 65.11 49 P **P** 21 18 45.6 +1.0
TDL **Tradedollar La** 65.11 50 P **P** 21 18 45.5 +1.0
LON **Longmire** 65.13 49 *e*P **P** 21 18 45.3 +0.8
LON pmax pmax
comp=Z,33nm,1.1s
LON **Longmire** 65.13 49 *e*P **P** 21 18 45.3 +0.8
comp=Z,33nm,1.1s
F04A **Amboy** 65.22 50 *e*P **P** 21 18 46.3 +1.3
comp=Z,64nm,0.8s
MTMW **Mount Mitchell** 65.29 50 P **P** 21 18 47.0 +1.4
STEI **Steigen** 65.29 341 *e*P **P** 21 18 44.9 -0.2
STEI IAmb IAmb 21 18 46.3
comp=Z,90nm,1.4s
COR **Corvallis** 65.42 52 *e*P **P** 21 18 48.2 +1.8
COR pmax pmax
comp=Z,83nm,0.9s
COR **Corvallis** 65.42 52 *e*P **P** 21 18 48.2 +1.8
comp=Z,70nm,0.8s
TWW **Teanaway** 65.46 48 P **P** 21 18 48.1 +1.4
MOS **Moscow** 65.49 323 *e*P **P** 21 18 44.0 -2.6
MOS *e* 21 19 15.1
MOS *e* 21 21 08.6
MOS *e*S **S** 21 27 27.8 -1.7
MOS *e* 21 28 36.8
MOS pmax pmax
comp=N,93nm,1.2s
MOS pmax pmax
comp=E,77nm,1.2s
MOS pmax pmax
comp=Z,1μm,2.4s
MOS pmax pmax
comp=N,1μm,3.9s
MOS pmax pmax
comp=E,1μm,4.3s
MOS pmax pmax
comp=Z,331nm,1.5s
MOS MLR MLR
comp=E,22μm,16.0s
MOS MLR MLR
comp=Z,34μm,16.0s
MOS MLR MLR
comp=N,21μm,15.0s
LTY **Liberty** 65.51 48 *e*P **P** 21 18 47.5 +0.6
comp=N,35nm,0.8s
LOF **Lofoten** 65.56 342 *e*P **P** 21 18 47.7 +0.8
LOF IVMs_BB IVMs_BB 21 53 06.8
comp=Z,3μm,15.3s
EIDS **Eidsvold** 65.68 172 *e*P **P** 21 18 48.9 +0.8
comp=Z,153nm,1.8s
DZM **Mont Dzumac** 65.69 156 LR LR 21 43 02.1
comp=Z,7μm,21.8s,baz=2.5,slow=32
DZM **Mont Dzumac** 65.69 156 *e*P **P** 21 18 49.9 +1.6
comp=Z,140nm,1.5s
DZM *e*S **S** 21 27 31.3 -1.5
comp=Z,6μm,28.1s
DZM **Mont Dzumac** 65.69 156 *e*LR LR 21 38 35.7
comp=Z,12μm,22.8s
DZM **Mont Dzumac** 65.69 156 *e*P **P** 21 18 49.5 +1.2
KEBM **Edson Butte** 65.72 54 *e*P **P** 21 18 50.7 +2.2
comp=Z,133nm,0.9s
SUF **Sumiainen** 65.73 333 *e*P **P** 21 18 48.0 -0.1
SUF pmax pmax
comp=Z,89nm,0.9s
I03D **Drain, OR** 65.88 52 P **P** 21 18 50.7 +1.3
baz=303,SNR=14
EDM **Edmonton** 66.03 40 *e*P **P** 21 18 50.5 +0.3
EDM **Edmonton** 66.03 40 *e*P **P** 21 18 50.5 +0.3
TRW **Toppenish Ridg** 66.11 49 P **P** 21 18 51.9 +1.1
PUL **Pulkovo** 66.12 329 *ce*P **P** 21 18 51.2 +0.6
PUL pmax pmax
comp=Z,274nm,1.3s
KBO **Bosley Butte** 66.15 54 *e*P **P** 21 18 53.5 +2.2
comp=Z,55nm,0.8s
MSVF **Nonsavu** 66.21 143 PFAKE 21 19 00.0 +8.3
MSVF LR LR
comp=Z,6μm,21.0s
G05D **Wamic, OR** 66.24 50 P **P** 21 18 53.1 +1.4
baz=304
OBN **Obninsk** 66.34 323 *c i*P **P** 21 18 52.0 -0.1
OBN *e* 21 21 16.0
OBN *e*PPP PPP 21 22 51.0
OBN *e*S S 21 28 06.7 +27
OBN pmax pmax
comp=Z,306nm,1.7s
OBN MLR MLR
comp=Z,32μm,16.0s
OBN **Obninsk** 66.34 323 *e*P **P** 21 18 52.0 -0.1
comp=Z,319nm,1.4s
OBN LR LR
comp=Z,13μm,20.0s
E07A **Sunnyside** 66.36 48 *e*P **P** 21 18 53.7 +1.3
comp=Z,55nm,0.9s
I04A **Tendick Farm,** 66.39 52 P **P** 21 18 53.8 +1.1
baz=304,SNR=14
L02D **Cave Junction,** 66.57 54 P **P** 21 18 55.4 +1.6
baz=304,SNR=5.2
D08A **Wollman Farm,** 66.61 48 *e*P **P** 21 18 54.7 +0.7
comp=Z,57nm,0.8s
FIA1 **FINESS Array S** 66.61 332 *e*P **P** 21 18 53.7 0.0
FINES **FINESS Array B** 66.61 332 P **P** 21 18 53.5 -0.2
comp=Z,25nm,0.6s,baz=48,slow=6.1,SNR=41
FINES LR LR 21 50 38.8
comp=Z,20μm,19.0s,baz=48,slow=38
HAWA **Hanford** 66.64 48 *e*P **P** 21 18 55.2 +1.1
comp=Z,35nm,1.0s
HAWA LR LR
comp=Z,3μm,19.0s
G06A **Carlson Farm,** 66.65 50 *e*P **P** 21 18 55.4 +1.1
comp=Z,236nm,1.9s
VAF **Ylistaro** 66.68 335 *e*P **P** 21 18 55.0 +0.9
VAF pmax pmax
comp=Z,83nm,1.0s
LPSR **Galich'ya Gora** 66.71 320 *e*P **P** 21 18 54.7 +0.2
LPSR pmax pmax
comp=Z,90nm,0.9s
HUMO **Hull Mountain** 66.72 53 *e*P **P** 21 18 56.3 +1.5
comp=Z,84nm,1.6s
VTHM **Trough** 66.72 50 P **P** 21 18 56.0 +1.2
KRMB **Red Mountain** 66.73 55 *e*P **P** 21 18 57.7 +2.6
comp=Z,32nm,1.0s
I05D **Terebonne, OR** 66.73 51 P **P** 21 18 55.9 +1.0
baz=304
MOR8 **Moi Rana** 66.83 340 *e*P **P** 21 18 53.8 -1.3
MOR8 IVmB_BB 21 18 55.2
comp=Z,1μm,1.2s
MOR8 IVMs_BB IVMs_BB 21 51 23.4
comp=Z,3μm,18.8s
J04D **Umpqua Nationa** 66.88 52 P **P** 21 18 57.4 +1.3
baz=304,SNR=5.6
KONS **Konsvik** 66.92 340 *e*P **P** 21 18 55.7 +0.1
NEW **Newport** 66.92 46 P **P** 21 18 56.7 +0.7
baz=305,SNR=22
NEW **Newport** 66.92 46 *e*P **P** 21 18 56.7 +0.7
NEW pmax pmax
comp=Z,110nm,1.3s
NEW **Newport** 66.92 46 *e*P **P** 21 18 56.7 +0.7
comp=Z,111nm,1.4s
NEW LR LR
comp=Z,4μm,19.0s
STOK **Stokkvaagen** 67.08 340 *e*P **P** 21 18 56.1 -0.5
VORR **Voronezh** 67.12 319 *e*P **P** 21 18 55.0 -2.1
VORR pmax pmax
comp=Z,360nm,1.2s
KHMM **Horse Mountain** 67.20 55 *e*P **P** 21 18 59.9 +1.8
comp=Z,68nm,0.8s
JMIC **Jan Mayen** 67.23 350 P **P** 21 18 58.6 +1.1
comp=Z,28nm,1.0s,baz=334,slow=22,SNR=4.3
JMIC **Jan Mayen** 67.23 350⇑ *i*P **P** 21 18 57.8 +0.3
JMIC IVmB_BB 21 19 00.6
comp=Z,2μm,2.2s
E09A **Wood Farm, Sta** 67.36 48 *e*P **P** 21 18 59.6 +0.9
YBH **Yreka Blue Hor** 67.36 54 *e*P **P** 21 19 00.5 +1.6
YBH **Yreka Blue Hor** 67.36 54 *e*P **P** 21 19 00.5 +1.6
J05D **Fort Rock, OR** 67.39 52 P **P** 21 19 00.3 +1.1
baz=304,SNR=21
VSR **Storozhevoye** 67.41 319 *e*P **P** 21 18 58.9 -0.1
VSR pmax pmax
comp=Z,190nm,1.4s
VSR MLR MLR
comp=Z,26μm,17.0s
K04D **Chiloquin, OR** 67.44 53 P **P** 21 19 00.9 +1.4
baz=304
M02C **Callahan** 67.46 54 P **P** 21 19 01.1 +1.5
baz=304,SNR=9.0
SUMG **Summit** 67.49 1 *i*P **P** 21 19 00.4 +0.8
comp=Z,383nm,1.7s
SUMG **Summit** 67.49 1 *i*P **P** 21 19 00.4 +0.8
SUMG pmax pmax
comp=Z,380nm,1.7s
SUMG **Summit** 67.49 1 *e*P **P** 21 19 00.5 +0.8
comp=Z,150nm,1.1s
COCO **West Island** 67.52 230 *i*P **P** 21 19 02.4 +2.4
COCO **West Island** 67.52 230 PFAKE 21 19 10.0 +10
COCO LR LR
comp=Z,4μm,20.0s
MAK **Makhachkala** 67.55 308 *e*P **P** 21 18 58.7 -1.3
MAK *e* 21 21 33.5
MAK *e*S **S** 21 27 55.4 +0.5
MAK *e*SS **SS** 21 32 18.3 +3.3
N02D **Trinity Center** 67.79 55 P **P** 21 19 03.2 +1.5
baz=305,SNR=10.0
M04C **Macdoel** 67.87 54 P **P** 21 19 03.3 +1.0
baz=305,SNR=15
K05A **Sumner Lake** 67.91 52 *e*P **P** 21 19 04.2 +1.6
KCPM **Cahto Peak** 67.96 56 *e*P **P** 21 19 05.5 +2.7
WDC **Whiskeytown Da** 68.11 55 *e*P **P** 21 19 04.8 +1.2
WDC **Whiskeytown Da** 68.11 55 *e*P **P** 21 19 04.8 +1.2
WALA **Waterton Lakes** 68.19 44 *e*P **P** 21 19 04.7 +0.6
comp=Z,53nm,1.1s
F10A **Beach Ranch, E** 68.19 48 *e*P **P** 21 19 05.5 +1.3
AFI **Afiamalu** 68.22 132 LR LR 21 44 48.2
comp=Z,5μm,19.9s,baz=337,slow=32
AFI **Afiamalu** 68.22 132 PFAKE 21 19 20.0 +15
AFI LR LR
comp=Z,103μm,20.0s
VSU **Vasula** 68.38 330 *c i*P **P** 21 19 05.1 +0.2
VSU pmax pmax
comp=Z,536nm,1.7s
BSMT **Bassoo Peak** 68.44 45 *e*P **P** 21 19 06.4 +0.6
GROC **Groznyy** 68.44 309 *e*P **P** 21 19 05.4 -0.2
GROC *e* 21 19 31.4
GROC pmax pmax
comp=Z,335nm,2.3s
BLMT **Blacktail Moun** 68.57 45 *e*P **P** 21 19 07.8 +1.1
SEKA **Sheki** 68.74 306 P **P** 21 19 05.7 -1.9
MOD **Modoc Plateau** 68.74 53 *e*P **P** 21 19 09.1 +1.4
comp=Z,40nm,0.8s
JTMT **Jette** 68.77 45 *e*P **P** 21 19 09.3 +1.5
BMO **Blue Mountains** 68.80 49 *e*P **P** 21 19 08.4 +0.4
BMO **Blue Mountains** 68.80 49 *e*P **P** 21 19 08.4 +0.4
BMO LR LR
comp=Z,3μm,21.0s
YBMT **Yellow Bay** 68.85 45 *e*P **P** 21 19 09.8 +1.5
GOF **Gofitskoye** 68.97 312⇑ *i*P **P** 21 19 09.5 +0.6
GOF *e*S **S** 21 28 10.2 -1.6
GOF pmax pmax
comp=Z,536nm,1.4s
GOF smax smax
comp=E,43nm,1.1s
MNGR **Mingechevir, A** 69.06 306 P **P** 21 19 07.7 -1.8
SCO **Scoresbysund** 69.06 355 *i*P **P** 21 19 09.3 +0.3
comp=E,160nm,1.7s
SCO **Scoresbysund** 69.06 355 *i*P **P** 21 19 09.3 +0.3
SCO pmax pmax
comp=Z,160nm,1.7s
SWMT **Swartz Lake** 69.07 45 *e*P **P** 21 19 10.4 +0.8
LKRN **Lenkeran, Azer** 69.18 303 P **P** 21 19 08.5 -1.8
ORV **Oroville** 69.36 55 *e*P **P** 21 19 11.8 +0.4
ORV **Oroville** 69.36 55 *e*P **P** 21 19 11.8 +0.4
WVOR **Wild Horse Val** 69.44 51 *e*P **P** 21 19 12.6 +0.6
WVOR **Wild Horse Val** 69.44 51 *e*P **P** 21 19 12.6 +0.6
comp=Z,33nm,0.8s
WVOR LR LR
comp=Z,3μm,21.0s
SLMT **Seeley Lake** 69.51 45 *e*P **P** 21 19 12.9 +0.6
MSO **Missoula** 69.51 46 P **P** 21 19 12.7 +0.4
baz=307,SNR=13
MSO **Missoula** 69.51 46 *e*P **P** 21 19 12.8 +0.4
NCK **Nalchik** 69.57 310 *c i*P **P** 21 19 13.2 +0.5
NCK pmax pmax
comp=Z,202nm,1.4s
GANJ **Ganja** 69.60 306 P **P** 21 19 11.0 -1.9
GUDG **Gudauri** 69.66 309 P **P** 21 19 14.7 +1.3
DGRG **David-gareji** 69.71 307 P **P** 21 19 14.1 +0.5
DGRG **David-gareji** 69.71 307 P **P** 21 19 14.1 +0.5
DUS **Dusheti** 69.74 308 P **P** 21 19 17.2 +3.4
DUS **Dusheti** 69.74 308 P **P** 21 19 17.2 +3.4
ZEI **Tsey** 69.81 309 *e*P P 21 19 09.6 -4.8
ZEI pmax pmax
comp=Z,376nm,1.5s
KVAR **Kislovodsk Arr** 69.82 311 LR LR 21 55 19.3
comp=Z,21μm,19.0s,slow=41
KIV **Kislovodsk** 69.83 311 *i*P **P** 21 19 15.3 +1.0
SNR=55
KIV **Kislovodsk** 69.83 311 *c i*P **P** 21 19 15.1 +0.8
KIV *e* 21 19 36.4
KIV *e* 21 21 50.4
KIV *e*PPP PPP 21 23 30.1
KIV *e*S **S** 21 28 20.3 -1.9
KIV *e*SS **SS** 21 32 54.6 +4.3
KIV pmax pmax
comp=Z,511nm,1.2s
KIV **Kislovodsk** 69.83 311 *e*P **P** 21 19 15.3 +1.0
comp=Z,454nm,1.1s
KIV LR LR
comp=Z,20μm,20.0s
KIV **Kislovodsk** 69.83 311 P **P** 21 19 15.3 +1.0
SNR=153
KIV P **P** 21 19 15.3 +1.0
SNR=153
CHMT **Chamberlain Mo** 69.84 45 *e*P **P** 21 19 14.6 +0.1
KBZ **Khabaz** 69.84 311 P **P** 21 19 15.0 +0.8
comp=Z,64nm,1.1s,baz=59,slow=6.4,SNR=119
KBZ LR LR 21 55 01.4
comp=Z,17μm,19.0s,baz=36,slow=40
TBLG **Delisi** 69.93 308 P **P** 21 19 15.6 +0.7
TBLG **Delisi** 69.93 308 P **P** 21 19 15.6 +0.7
AFDM **Forest Hills D** 70.04 56 *e*P **P** 21 19 16.9 +1.2
ONI **Oni** 70.19 309 P **P** 21 19 17.7 +1.1
ONI **Oni** 70.19 309 P **P** 21 19 17.6 +1.1
NEY **Neytrino** 70.23 310 *d i*P **P** 21 19 18.7 +1.8
NEY pmax pmax
comp=Z,27nm,1.1s
TBLU **Trondheim** 70.24 339 *e*P **P** 21 19 15.6 -0.7
TBLU IVmB_BB 21 19 27.5
comp=Z,1μm,2.8s
TBLU IVMs_BB IVMs_BB 21 54 12.3
comp=Z,4μm,23.2s
FFC **Flin Flon** 70.30 34 *e*P **P** 21 19 17.2 +0.3
FFC **Flin Flon** 70.30 34 *e*P **P** 21 19 17.2 +0.3
comp=Z,33nm,0.8s
FFC LR LR
comp=Z,4μm,20.0s
MFID **Camas Ranch** 70.51 49 *e*P **P** 21 19 19.2 +0.6
comp=Z,32nm,0.8s
FCC **Fort Churchill** 70.55 28 *e*P **P** 21 19 17.7 -0.6
FCC **Fort Churchill** 70.55 28 *e*P **P** 21 19 17.7 -0.6
PAHR **Pah Rah Range** 70.59 54 *e*P **P** 21 19 20.1 +0.9
MICGM **Minsk** 70.60 326⇑ *i*P **P** 21 19 19.0 +0.3
MICGM PM 21 19 20.0
comp=Z,0.4nm,1.1s
MICGM *e*PP **PP** 21 21 53.0 -1.6
MICGM *e*PPP PPP 21 23 37.0
MICGM *e*S **S** 21 28 28.0 -2.6
MICGM *e*SS SS 21 32 44.0 -17
MICGM *e*SSS SSS 21 35 58.0
MICGM *e*LR LR 21 46 35.0
MICGM LRM MLR 21 53 12.0
comp=Z,38nm,18.0s
MICGM LRM MLR 21 53 18.0
comp=Z,25nm,16.0s
MICGM LRM MLR 21 53 20.0
comp=E,8.7nm,15.0s
MNK **Minsk** 70.60 326⇑ *i*P **P** 21 19 19.0 +0.3
MNK *e* 21 21 53.0
MNK *e*PPP PPP 21 23 37.0
MNK *e*S **S** 21 28 28.0 -2.6
MNK pmax pmax
comp=Z,440nm,1.1s
MNK MLR MLR
comp=Z,38μm,18.0s
MNK MLR MLR
comp=Z,25μm,16.0s
MNK MLR MLR
comp=E,9μm,15.0s
HRY **Holter Researc** 70.73 45 *e*P **P** 21 19 20.7 +0.9
ARMA **Armidale** 70.73 172 *e*P **P** 21 19 21.9 +2.1
comp=E,114nm,1.7s
NACGM **Naroch** 70.79 327 *e* **P** 21 19 20.0 +0.1
PNTR **Pine Nut** 70.82 55 *e*P **P** 21 19 22.6 +1.9
GNI **Garni** 70.87 307 LR LR 21 53 35.5
comp=E,13μm,18.1s,baz=90,slow=39
GNI **Garni** 70.87 307 *i*P **P** 21 19 22.1 +1.3
SNR=42
GNI **Garni** 70.87 307 *c i*P **P** 21 19 22.2 +1.3
GNI pmax pmax
comp=Z,519nm,1.2s
GNI **Garni** 70.87 307 *e*P **P** 21 19 22.3 +1.4
comp=Z,1μm,1.2s
GNI **Garni** 70.87 307 P **P** 21 19 22.2 +1.4
SNR=35
GNI P **P** 21 19 22.2 +1.4
SNR=35
AKH **Akhalkalaki** 70.88 308 P **P** 21 19 22.1 +1.2
AKH **Akhalkalaki** 70.88 308⇑ *i*P **P** 21 19 22.3 +1.4
AKH **Akhalkalaki** 70.88 308 P **P** 21 19 22.1 +1.2
BGD **Bogdanovka** 70.90 308 P **P** 21 19 22.5 +1.5
LRM **Limekiln Ridge** 70.94 46 *e*P **P** 21 19 21.8 +0.5
CMB **Columbia Colle** 70.95 56 *e*P **P** 21 19 21.3 0.0
CMB **Columbia Colle** 70.95 56 *e*P **P** 21 19 21.3 0.0
comp=Z,191nm,0.8s
NAX **Nakhchivan** 70.99 305 P **P** 21 19 19.5 -2.0
EGMT **Eagleton** 71.00 43 P **P** 21 19 21.9 +0.5
baz=310,SNR=9.9
EGMT **Eagleton** 71.00 43 *e*P **P** 21 19 22.1 +0.6
comp=Z,71nm,0.8s
EGMT LR LR
comp=Z,5μm,19.0s
YERR **Yerington** 71.11 55 *e*P **P** 21 19 23.6 +1.2
DLMT **Dillon** 71.15 46 *e*P **P** 21 19 23.3 +0.8
comp=Z,160nm,1.1s
HLID **Hailey** 71.24 49 P **P** 21 19 24.0 +1.0
baz=308,SNR=17
HLID **Hailey** 71.24 49 *e*P **P** 21 19 24.1 +1.0
HLID LR LR
comp=Z,4μm,20.0s
EAK **Akyaka** 71.24 308 *i*P **P** 21 19 24.2 +1.1
WAKR **Walker** 71.27 55 *e*P **P** 21 19 24.7 +1.3
WSAR **Wadi Sarin** 71.33 285 LR LR 21 54 38.9
comp=Z,8μm,20.4s,slow=39
MCMT **McKenzie Canyo** 71.34 47 *e*P **P** 21 19 24.7 +0.9

BANOM **Banah** 71.46 288 P P 21 19 24.7 +0.3
BMN **Battle Mountai** 71.48 53 *e*P P 21 19 25.9 +1.3
BMN **Battle Mountai** 71.48 53 *e*P P 21 19 25.9 +1.3
comp=Z,48nm,0.8s
MOL **Molde** 71.52 340⇑ *i*P P 21 19 24.4 +0.3
MOL IVmB_BB 21 20 00.3
comp=Z,1µm,3.3s
MOL IVMs_BB IVMs_BB 22 00 50.5
comp=Z,2µm,15.8s
BOZ **Bozeman (W)** 71.54 46 P P 21 19 25.5 +0.8
baz=309,SNR=25
BOZ **Bozeman (W)** 71.54 46 *e*P P 21 19 25.6 +0.8
BOZ **Bozeman (W)** 71.54 46 *e*P P 21 19 25.6 +0.8
comp=Z,73nm,0.8s
BOZ LR LR
comp=Z,3µm,19.0s
BIDO **Bidbid** 71.54 285 P P 21 19 25.7 +0.7
SNR=16
BIDO P P 21 19 25.7 +0.7
SNR=16
DOMB **Dombas** 71.55 339⇑ *i*P P 21 19 24.4 0.0
DOMB IVmB_BB 21 19 25.2
comp=Z,2µm,3.9s
DOMB IVMs_BB IVMs_BB 21 56 17.1
comp=Z,4µm,13.8s
DIGO **Kars** 71.55 308 *i*P P 21 19 27.6 +2.6
TVH1 **TV Hill, Hawth** 71.72 55 *e*P P 21 19 28.1 +1.8
NB2 **NORSAR Subarra** 71.75 338 P P 21 19 25.5 -0.1
baz=38,slow=6.2
NB2 **NORSAR Subarra** 71.75 338 P P 21 19 26.2 +0.5
NB2 pmax pmax
comp=Z,153nm,1.3s
NB2 **NORSAR Subarra** 71.75 338 P P 21 19 25.5 -0.1
comp=Z,192nm,1.2s,baz=38,slow=6.2
NOA **NORSAR Array B** 71.75 338 P P 21 19 25.6 -0.1
comp=Z,63nm,1.1s,baz=38,slow=6.0,SNR=52
TVH3 **East Aurora ar** 71.75 55 *e*P P 21 19 27.7 +1.4
SOC **Sochi** 71.76 312 *c i*P P 21 19 26.2 +0.3
SOC *e* 21 22 01.9
SOC *e*S S 21 28 44.1 -0.4
SOC pmax pmax
comp=Z,272nm,2.0s
SOC pmax pmax
comp=Z,2µm,4.4s
STKA **Stephens Creek** 71.76 181 P P 21 19 25.5 -0.3
comp=Z,3.3nm,0.6s,baz=338,slow=7.3,SNR=7.7
STKA LR LR 21 54 51.9
comp=Z,3µm,19.6s,baz=62,slow=39
STKA **Stephens Creek** 71.76 181 *e*P P 21 19 26.2 +0.4
TVH2 **Borealis Mine** 71.78 55 *e*P P 21 19 28.3 +1.8
NC602 **NORSAR Array S** 71.90 337⇑ *i*P P 21 19 26.3 -0.2
NC602 IVmB_BB 21 19 26.9
comp=Z,2µm,4.3s
NC602 IVMs_BB IVMs_BB 21 54 36.3
comp=Z,5µm,16.7s
ARTV **Artvin** 71.95 309 *i*P P 21 19 28.1 +0.7
ARTV **Artvin** 71.95 309 *e*P P 21 19 28.5 +1.1
CLDR **Caldiran** 71.98 306 *i*P P 21 19 25.4 -2.3
AKN **Aaknes** 71.99 340⇑ *i*P P 21 19 27.2 +0.1
AKN IVmB_BB 21 19 28.2
comp=Z,2µm,4.2s
AKN IVMs_BB IVMs_BB 21 54 14.7
comp=Z,3µm,22.4s
DBOC **Borcka** 72.00 309 *i*P P 21 19 27.6 +0.1
DAGI **Agillar** 72.02 309 *i*P P 21 19 27.6 -0.1
UOSS **Minazif** 72.11 288 *e*P P 21 19 28.7 +0.4
QLMT **Earthquake Lak** 72.13 46 *e*P P 21 19 29.4 +0.9
HATD **Hatta, Dubai** 72.23 288 *i*P P 21 19 29.4 +0.2
SNR=28
HATD **Hatta, Dubai** 72.23 288 P P 21 19 29.3 +0.2
SNR=31
HATD P P 21 19 29.3 +0.2
SNR=31
DDEM **Demirkent** 72.23 309 *i*P P 21 19 28.8 -0.2
ANN **Anapa** 72.28 314 *e*P P 21 19 28.3 -0.7
ANN *e*S S 21 28 51.3 +1.0
ANN pmax pmax
comp=Z,168nm,1.4s
ANN MLR MLR
comp=E,14µm,19.0s
ANN MLR MLR
comp=N,22µm,19.0s
ANN MLR MLR
comp=Z,17µm,19.0s
YHB **Horse Butte** 72.31 46 *e*P P 21 19 31.1 +1.5
PAGB **Antelope Grade** 72.42 58 *e*P P 21 19 31.5 +1.4
YHH **Holmes Hill** 72.47 46 *e*P P 21 19 31.5 +0.9
GCMT **Greycliff** 72.47 44 *e*P P 21 19 32.0 +1.6
NAZ **Nazwa, Dubai** 72.48 288 *i*P P 21 19 30.5 -0.1
SNR=9.1
NAZ **Nazwa, Dubai** 72.48 288 P P 21 19 30.5 -0.1
SNR=13
NAZ P P 21 19 30.5 -0.1
SNR=13
YMR **Madison River** 72.49 46 *e*P P 21 19 32.4 +1.8
AKASG **Malin Array Be** 72.58 322 P P 21 19 30.4 -0.3
comp=Z,12nm,0.6s,baz=43,slow=6.6,SNR=147
AKASG LR LR 21 54 58.7
comp=Z,16µm,19.3s,baz=40,slow=39
AKBB **Malin Array Si** 72.58 322 *e*P P 21 19 30.6 -0.2
AKBB **Malin Array Si** 72.58 322 *e*P P 21 19 30.6 -0.2
SFJD **Kangerlussuaq** 72.58 6 *i*P P 21 19 31.1 +0.7
comp=Z,129nm,1.4s
SFJD **Kangerlussuaq** 72.58 6 *i*P P 21 19 31.1 +0.7
SFJD pmax pmax
comp=Z,130nm,1.4s
SFJD **Kangerlussuaq** 72.58 6 *e*P P 21 19 30.1 -0.3
SFJD LR LR
comp=Z,6µm,20.0s
KIEV **Kiev** 72.60 322 *c i*P P 21 19 30.6 -0.2
KIEV pmax pmax
comp=Z,131nm,1.4s
KIEV **Kiev** 72.60 322 *e*P P 21 19 30.4 -0.4
KIEV LR LR
comp=Z,20µm,20.0s
YNR **Norris Junctio** 72.61 46 *e*P P 21 19 33.6 +2.2
AK11 **Malin Array Si** 72.62 322 *e*P P 21 19 30.2 -0.8
FAQ **Al Faqa, Dubai** 72.67 288 *i*P P 21 19 31.3 -0.4
SNR=11
FAQ **Al Faqa, Dubai** 72.67 288 P P 21 19 31.5 -0.2
SNR=11
FAQ P P 21 19 31.5 -0.2
SNR=11
YFT **Old Faithful** 72.70 46 *e*P P 21 19 34.8 +2.9
OSL **Oslo** 72.78 337 *e*P P 21 19 32.0 +0.3
OSL IVmB_BB 21 19 33.7
comp=Z,2µm,1.7s
YPP **Pitchstone Pla** 72.83 46 *e*P P 21 19 34.9 +2.2
SMMC **Simmler** 72.83 58 P P 21 19 33.3 +0.7
baz=308
LKWY **Lake** 72.86 46 PFAKE 21 19 50.0 +17
LKWY LR LR
comp=Z,6µm,20.0s
H17A **Grant Village** 72.88 46 P P 21 19 35.1 +2.1
baz=310,SNR=17
H17A **Grant Village** 72.88 46 *e*P P 21 19 35.1 +2.1
comp=Z,94nm,1.1s
TIN **Tinemaha, Big** 72.91 56 P P 21 19 34.9 +1.8
baz=308
SUW **Suwalki** 72.91 328 *i*P P 21 19 32.3 -0.3
SUW **Suwalki** 72.91 328⇑ *i*P P 21 19 32.3 -0.3
BBOO **Buckleboo** 72.97 186 *e*P P 21 19 34.6 +1.5
comp=Z,85nm,1.4s
FOO **Floro** 72.98 340⇑ *i*P P 21 19 33.1 +0.2
FOO IVmB_BB 21 19 36.0
comp=Z,1µm,4.0s
FOO IVMs_BB IVMs_BB 21 57 44.1
comp=Z,3µm,18.0s
IMW **Indian Meadow** 72.99 47 *e*P P 21 19 34.9 +1.2
comp=Z,31nm,0.6s
HYA **Hoyanger** 73.05 340⇑ *i*P P 21 19 33.3 +0.1
HYA IVmB_BB 21 19 35.2
comp=Z,1µm,1.5s
EKAR **Karacoban** 73.05 307 *i*P P 21 19 35.5 +1.5
VES **Vestal, Richgr** 73.10 57 P P 21 19 34.5 +0.4
baz=308
RLMT **Red Lodge** 73.12 45 P P 21 19 35.4 +1.1
baz=310,SNR=9.8
RLMT **Red Lodge** 73.12 45 *e*P P 21 19 35.4 +1.1
RLMT LR LR
comp=Z,4µm,19.0s
MOOW **Moose Ponds** 73.19 47 *e*P P 21 19 36.2 +1.4
comp=Z,56nm,1.0s
PKM **Mcpherson Peak** 73.21 58 P P 21 19 36.5 +1.5
baz=308,SNR=6.3

TPAW **Teton Pass** 73.25 47 *e*P P 21 19 36.6 +1.5
HVU **Hansel Valley** 73.29 49 *e*P P 21 19 36.5 +1.2
HVU **Hansel Valley** 73.29 49 *e*P P 21 19 36.5 +1.2
KONO **Kongsberg** 73.35 337⇑ *i*P P 21 19 35.1 0.0
KONO IVmB_BB 21 19 37.9
comp=Z,1µm,3.5s
KONO *e*S S 21 29 02.4 +0.3
KONO IVMs_BB IVMs_BB 21 55 38.7
comp=Z,5µm,17.2s
KONO **Kongsberg** 73.35 337 *c i*P P 21 19 35.2 +0.1
KONO pmax pmax
comp=Z,482nm,1.5s
KONO **Kongsberg** 73.35 337 *e*P P 21 19 34.4 -0.7
comp=Z,64nm,1.2s
KONO LR LR
comp=Z,13µm,19.0s
LOHW **Long Hollow** 73.36 47 *e*P P 21 19 37.2 +1.4
comp=Z,29nm,1.2s
SNOW **Snow King Moun** 73.37 47 *e*P P 21 19 38.1 +2.2
comp=Z,53nm,1.0s
CWC **Cottonwood Cre** 73.38 56 P P 21 19 36.4 +0.4
baz=308
REDW **Red Top Meadow** 73.38 47 *e*P P 21 19 37.2 +1.2
comp=Z,68nm,1.2s
GRAC **Grapevine Rang** 73.49 55 P P 21 19 37.4 +0.9
baz=308
SUE **Sulen** 73.51 340⇑ *i*P P 21 19 36.3 +0.3
SUE IVmB_BB 21 19 37.2
comp=Z,1µm,4.0s
SUE IVMs_BB IVMs_BB 21 57 52.0
comp=Z,3µm,14.9s
DGMT **Dagmar** 73.52 40 P P 21 19 36.9 +0.5
baz=313
DGMT **Dagmar** 73.52 40 *e*P P 21 19 37.3 +0.9
DGMT LR LR
comp=Z,4µm,20.0s
ISA **Isabella, Lake** 73.61 57 P P 21 19 36.6 -0.6
baz=308
ISA **Isabella, Lake** 73.61 57 *e*P P 21 19 37.3 +0.1
ISA **Isabella, Lake** 73.61 57 *e*P P 21 19 37.3 +0.1
BGU **Big Grassy Mou** 73.68 50 *e*P P 21 19 38.8 +1.1
LAO **LASA Array** 73.70 42 P P 21 19 38.6 +1.1
baz=312,SNR=12
LAO **LASA Array** 73.70 42 *e*P P 21 19 38.4 +0.9
LAO LR LR
comp=Z,4µm,19.0s
R11A **Troy Canyon, C** 73.76 53 P P 21 19 39.2 +0.9
baz=309,SNR=47
R11A **Troy Canyon, C** 73.76 53 *e*P P 21 19 38.5 +0.3
comp=Z,40nm,1.0s
DAC **Darwin (Calif)** 73.79 56 *e*P P 21 19 39.1 +0.7
DAC **Darwin (Calif)** 73.79 56 *e*P P 21 19 39.1 +0.7
comp=Z,23nm,0.9s
BNGL **BINGOL** 73.80 307 *i*P P 21 19 40.0 +1.5
ASK **Askoy** 73.89 340⇑ *i*P P 21 19 38.6 +0.4
ASK IAmb IAmb 21 19 40.1
comp=Z,103nm,1.2s
BER **Bergen** 73.93 340 *e*P P 21 19 38.8 +0.3
BER IVmB_BB 21 19 39.5
comp=Z,2µm,4.0s
BER IVMs_BB IVMs_BB 21 56 22.4
comp=Z,4µm,17.1s
ODD1 **Odda** 73.98 339 *e*P P 21 19 39.2 +0.3
comp=Z,7µm,68.0s
SIM **Simferopol'** 73.98 316 *c e*P P 21 19 38.9 -0.2
SIM pmax pmax
comp=Z,66nm,1.1s
SIM MLR MLR
comp=Z,7µm,16.0s
MPMC **Manual Prospec** 73.99 56 P P 21 19 40.6 +1.0
baz=308,SNR=37
HWUT **Hardware Ranch** 74.10 49 *e*P P 21 19 41.2 +1.1
comp=Z,55nm,1.1s
HWUT LR LR
comp=Z,4µm,20.0s
FURC **Furnace Creek,** 74.14 56 P P 21 19 41.5 +1.4
baz=309
BLG **Laguna Peak, P** 74.17 59 P P 21 19 41.3 +0.9
baz=308
KELT **Kelkit** 74.18 309 *i*P P 21 19 38.9 -1.7
TPNV **Topopah Spring** 74.22 55 P P 21 19 41.9 +1.0
baz=309,SNR=8.3
TPNV **Topopah Spring** 74.22 55 *e*P P 21 19 42.0 +1.1
TPNV **Topopah Spring** 74.22 55 *e*P P 21 19 42.0 +1.1
LRMC **Laurel Mtn Rad** 74.23 57 P P 21 19 41.1 +0.2
baz=308
DUG **Dugway, Tooele** 74.27 51 P P 21 19 42.2 +1.1
baz=310,SNR=21
DUG **Dugway, Tooele** 74.27 51 *e*P P 21 19 42.2 +1.1
DUG **Dugway, Tooele** 74.27 51 *e*P P 21 19 42.2 +1.1
DUG LR LR
comp=Z,3µm,21.0s
EDW2 **Edwards Air Fo** 74.39 57 P P 21 19 42.7 +0.9
baz=308,SNR=17
SNCC **San Nicolas Is** 74.40 60 P P 21 19 42.9 +1.2
baz=308
BLS5 **Blasjo** 74.44 339⇑ *i*P P 21 19 42.0 +0.4
BLS5 IVmB_BB 21 19 43.8
comp=Z,1µm,1.8s
BLS5 IVMs_BB IVMs_BB 21 55 58.3
comp=Z,4µm,16.6s
BW06 **Boulder Array** 74.49 47 P P 21 19 42.8 +0.3
baz=311,SNR=15
BW06 **Boulder Array** 74.49 47 *e*P P 21 19 42.8 +0.3
BW06 LR LR
comp=Z,4µm,19.0s
PD31 **Pinedale Array** 74.49 47 *e*P P 21 19 42.8 +0.3
PDAR **Pinedale Array** 74.49 47 P P 21 19 42.5 0.0
comp=Z,2.9nm,0.6s,baz=277,slow=2.4,SNR=29
DECC **Green Verdugo** 74.56 58 P P 21 19 43.7 +1.0
baz=308
BORG **Borgarnes** 74.65 353 *e*P P 21 19 42.5 -0.1
BORG pmax pmax
comp=Z,165nm,1.5s
BORG MLR MLR
comp=Z,4µm,22.0s
BORG **Borgarnes** 74.65 353 *e*P P 21 19 42.5 -0.1
comp=Z,164nm,1.5s
BORG LR LR
comp=Z,4µm,22.0s
MWC **Mount Wilson** 74.76 58 *e*P P 21 19 45.3 +1.2
MWC **Mount Wilson** 74.76 58 *e*P P 21 19 45.3 +1.2
SORM **Soroca** 74.76 321⇑ *i*P P 21 19 43.2 -0.4
SORM **Soroca** 74.76 321 ⇑P P 21 19 43.2 -0.4
HOMB **Homborsund** 74.81 337⇑ *i*P P 21 19 43.6 0.0
HOMB IVMs_BB IVMs_BB 21 55 02.6
comp=Z,4µm,21.8s
JLU **Jordanelle** 74.81 50 *e*P P 21 19 46.0 +1.6
SHOC **Shoshone, Teco** 74.86 56 P P 21 19 45.4 +0.9
baz=309
NLU **North Lily Min** 74.86 50 *e*P P 21 19 45.7 +1.1
GSC **Goldstone, Bar** 74.90 57 P P 21 19 45.5 +0.8
baz=309,SNR=9.1
GSC **Goldstone, Bar** 74.90 57 *e*P P 21 19 45.5 +0.8
GSC **Goldstone, Bar** 74.90 57 *e*P P 21 19 45.5 +0.8
KMY **Karmoy** 74.95 339 *e*P P 21 19 44.4 0.0
BFSC **Mount Baldy Ra** 75.01 58 P P 21 19 45.9 +0.5
baz=309,SNR=13
CIS **Catalina Islan** 75.04 59 P P 21 19 46.5 +1.0
baz=309
RRX **Edison Barstow** 75.04 57 P P 21 19 46.4 +1.0
baz=309
MARD **Mardin** 75.06 306 *e*P P 21 19 46.9 +1.2
STAV **Stavanger** 75.06 339 *e*P P 21 19 45.3 +0.3
STAV IVmB_BB 21 19 46.1
comp=Z,2µm,2.1s
STAV IVMs_BB IVMs_BB 21 56 16.5
comp=Z,4µm,14.0s
SNART **Snarteno** 75.14 338 *e*P P 21 19 45.9 +0.4
SHPR **Sheep Range** 75.18 55 *e*P P 21 19 47.9 +1.4
KEMA **Kemaliye** 75.20 309 *i*P P 21 19 46.8 +0.4
SCI **San Clemente I** 75.21 59 P P 21 19 47.1 +0.7
baz=309
BSD **Bornholm Skovb** 75.25 332⇑ *i*P P 21 19 46.3 0.0
comp=Z,257nm,1.4s
BSD **Bornholm Skovb** 75.25 332⇑ *i*P P 21 19 46.3 0.0
BSD pmax pmax
comp=Z,260nm,1.4s
KIS **Kishinev** 75.32 320⇑ *i*P P 21 19 45.0 -1.8
comp=Z,400nm,2.0s
KIS **Kishinev** 75.32 320⇑ *i*P P 21 19 45.0 -1.8
KIS *i* 21 19 58.0
KIS *e* 21 22 35.0
KIS pmax pmax
comp=Z,400nm,2.0s
TUQ **Turquoise Moun** 75.37 56 P P 21 19 48.0 +0.4

baz=309
CAN **Canberra** 75.38 175 *e*P P 21 19 46.3 -0.8
CAN pmax pmax
comp=Z,16nm,1.3s
CAN MLR MLR
comp=Z,3µm,20.0s
CAN **Canberra** 75.38 175 *e*P P 21 19 46.3 -0.8
comp=Z,16nm,1.3s
CAN LR LR
comp=Z,3µm,20.0s
KBSD **Kabsdagh** 75.40 306 *e*P P 21 19 48.4 +0.8
HEC **Hector,Ludlow** 75.49 57 P P 21 19 48.8 +0.6
baz=309,SNR=10
BEL **Belsk** 75.49 327 *i*P P 21 19 48.6 +0.9
BEL **Belsk** 75.49 327⇑ *i*P P 21 19 48.6 +0.9
LVV **L'vov** 75.58 324 *c i*P P 21 19 49.1 +0.8
LVV *e*S S 21 29 24.0 -3.4
LVV pmax pmax
comp=Z,300nm,1.7s
CCUT **Cedar City** 75.63 53 *e*P P 21 19 49.4 +0.3
HAVZ **Havza** 75.64 312 *i*P P 21 19 48.0 -0.9
TOKA **Tokat** 75.70 311 *e*P P 21 19 50.4 +1.2
MURC **Murrieta** 75.71 58 P P 21 19 50.1 +0.7
baz=309
MSU **Marysvale** 75.73 52 *e*P P 21 19 51.2 +1.5
MSU **Marysvale** 75.73 52 *e*P P 21 19 51.2 +1.5
SZCU **Shurtz Canyon** 75.77 53 *e*P P 21 19 51.5 +1.6
CUKAN **kangal_SIVAS** 75.77 310 *i*P P 21 19 51.3 +1.6
TMUT **Trail Mountain** 75.80 50 *e*P P 21 19 51.3 +1.2
GKP **Gorka Klasztor** 75.83 330 *e*P P 21 19 50.2 +0.6
GKP **Gorka Klasztor** 75.83 330 *e*P P 21 19 50.2 +0.6
GMRC **Granite Mounta** 75.95 56 P P 21 19 51.2 +0.3
baz=310,SNR=10
LLD **Lille Linde** 76.02 334 *i*P P 21 19 50.5 -0.1
comp=Z,74nm,0.9s
LLD **Lille Linde** 76.02 334 *i*P P 21 19 50.5 -0.1
LLD pmax pmax
comp=Z,74nm,0.9s
SFNV **Sufian** 76.04 306 *e*P P 21 19 51.7 +0.4
LCMT **Little Creek M** 76.05 53 *e*P P 21 19 52.8 +1.4
MZRK **Al-Mazaregh** 76.08 305 *e*P P 21 19 52.6 +1.2
MUD **Monsted U'grnd** 76.11 336 *i*P P 21 19 50.7 -0.4
comp=Z,159nm,1.4s
MUD **Monsted U'grnd** 76.11 336 *i*P P 21 19 50.7 -0.4
MUD pmax pmax
comp=Z,160nm,1.4s
ULM **Lac du Bonnet** 76.11 35 P P 21 19 50.6 -0.7
comp=Z,20nm,1.2s,baz=330,slow=6.4,SNR=7.8
MDND **Maddock** 76.16 38 P P 21 19 52.4 +0.8
baz=316
MDND **Maddock** 76.16 38 *e*P P 21 19 52.3 +0.6
comp=Z,106nm,0.9s
PFO **Pinyon Flats O** 76.18 58 LR LR 21 46 29.7
comp=Z,5µm,21.9s,baz=298,slow=30
PFO **Pinyon Flats O** 76.18 58 P P 21 19 52.5 +0.3
baz=309,SNR=8.8
PFO **Pinyon Flats O** 76.18 58 *e*P P 21 19 52.7 +0.5
PFO **Pinyon Flats O** 76.18 58 *e*P P 21 19 52.7 +0.5
comp=Z,36nm,1.0s
TPFO **Pinon Flats** 76.19 58 P P 21 19 52.8 +0.6
baz=309,SNR=8.6
109C **Camp Elliot, M** 76.21 59 P P 21 19 52.5 +0.3
baz=309
CUALT **Altinyayla-SIV** 76.22 310 *i*P P 21 19 54.7 +2.4
CUALT **Altinyayla-SIV** 76.22 310 P P 21 19 54.7 +2.4
BELC **Belle Mtn. Jos** 76.23 57 P P 21 19 52.8 +0.3
baz=310,SNR=5.5
K22A **Casper** 76.24 45 P P 21 19 52.8 +0.4
baz=312,SNR=6.8
K22A **Casper** 76.24 45 *e*P P 21 19 53.0 +0.5
comp=Z,53nm,1.0s
RGN **Rugen** 76.27 333 *e*P P 21 19 52.1 +0.1
KNB **Kanab** 76.30 53 *e*P P 21 19 54.5 +1.6
KNB **Kanab** 76.30 53 *e*P P 21 19 54.5 +1.6
KWP **Kalwaria Pacla** 76.30 325 *i*P P 21 19 53.3 +0.9
KWP *e*S S 21 29 36.9 +1.5
KWP **Kalwaria Pacla** 76.30 325⇑ *i*P P 21 19 53.3 +0.9
KWP *e*S S 21 29 36.9 +1.5
SRU **San Rafael Swe** 76.32 50 *e*P P 21 19 54.2 +1.2
SRU **San Rafael Swe** 76.32 50 *e*P P 21 19 54.2 +1.2
PRAR **RASCA** 76.33 321⇑ *i*P P 21 19 51.9 -0.7
CUSAR **Sarkisla-SIVAS** 76.42 310 *i*P P 21 19 53.6 +0.1
CUSAR **Sarkisla-SIVAS** 76.42 310 P P 21 19 53.6 +0.1
CTAK **Corum_Osmancik** 76.45 312 *i*P P 21 19 50.2 -3.4
ATAB **Bozova** 76.47 308 *i*P P 21 19 55.5 +1.9
RWWY **Rawlins** 76.51 46 *e*P P 21 19 55.0 +0.9
RSSD **Black Hills** 76.57 43 P P 21 19 54.9 +0.5
baz=314
RSSD **Black Hills** 76.57 43 *e*P P 21 19 54.7 +0.4
RSSD **Black Hills** 76.57 43 *e*P P 21 19 54.7 +0.4
comp=Z,56nm,1.2s
COAL **Corum-Alaca** 76.60 312 *i*P P 21 19 55.9 +1.5
BUR08 **Bucovina Ar. S** 76.61 322 *e*P P 21 19 54.2 -0.1
BURAR **Bucovina Array** 76.62 322⇑ *i*P P 21 19 54.9 +0.5
BURAR **Bucovina Array** 76.62 322 ⇑P P 21 19 54.9 +0.5
NEE2 **Needles Airpor** 76.62 56 P P 21 19 55.4 +0.9
baz=310
BAR **Barrett** 76.63 59 *e*P P 21 19 55.3 +0.7
NWAO **Narrogin (SRO)** 76.63 202 P P 21 19 54.0 -0.2
comp=Z,10.0nm,0.7s,baz=248,slow=9.2,SNR=5.8
NWAO **Narrogin (SRO)** 76.63 202 P P 21 19 54.0 -0.2
NWAO LR LR
comp=Z,4µm,22.0s
B31A **Greenbush Farm** 76.66 37 P P 21 19 54.8 +0.4
baz=317
MONP **Monument Peak,** 76.66 58 P P 21 19 55.6 +0.6
baz=310
IRM **Iron Mountain** 76.68 57 P P 21 19 55.4 +0.6
baz=310,SNR=15
TESR **Tescani** 76.73 321⇑ *i*P P 21 19 55.2 +0.3
ILGA **Ilgaz** 76.79 313 *i*P P 21 19 53.6 -2.0
ILGA **Ilgaz** 76.79 313 *e*P P 21 19 57.0 +1.4
BC3 **Big Chuckawall** 76.80 57 P P 21 19 56.1 +0.5
baz=310,SNR=11
A32A **Rocking H Ranc** 76.82 36 P P 21 19 55.2 -0.1
baz=317
CFR **Carcaliu** 76.93 319⇓ *i*P P 21 19 56.3 +0.3
CFR **Carcaliu** 76.93 319 ⇓P P 21 19 56.3 +0.3
O20A **White River Ci** 76.97 48 P P 21 19 57.0 +0.4
baz=312,SNR=6.1
O20A **White River Ci** 76.97 48 *e*P P 21 19 57.6 +0.9
comp=Z,41nm,1.0s
PETR **Petresti** 77.00 320⇑ *i*P P 21 19 55.2 -1.2
IKP **In-Ko-Pah, Jac** 77.01 58 P P 21 19 57.2 +0.4
baz=310,SNR=7.3
SWSC **Sam W. Stewart** 77.03 58 P P 21 19 57.1 +0.3
baz=310
C31A **Landman Farms,** 77.08 37 P P 21 19 57.2 +0.4
baz=317
KSRV **Kasrt alli** 77.08 306 *e*P P 21 19 57.9 +0.8
STHS **Stebnicka Huta** 77.10 325 *e*P P 21 19 57.8 +0.8
STHS pmax pmax
comp=Z,42nm,1.1s
STHS **Stebnicka Huta** 77.10 325 *e*P P 21 19 57.8 +0.8
OJC **Ojcow** 77.12 327 *e*P P 21 19 57.7 +0.7
OJC *e*S S 21 29 42.0 -2.3
OJC **Ojcow** 77.12 327⇑ *e*P P 21 19 57.7 +0.7
OJC *e*S S 21 29 42.0 -2.3
OJC **Ojcow** 77.12 327 *e*P P 21 19 57.7 +0.7
B32A **Ashes, Strandq** 77.18 36 P P 21 19 57.4 0.0
baz=318
PLOR **Plostina** 77.20 320⇑ *i*P P 21 19 58.5 +0.9
PLOR **Plostina** 77.20 320 ⇑P P 21 19 58.5 +0.9
PDMCI **Parker Dam,Lak** 77.22 56 P P 21 19 58.4 +0.5
baz=310,SNR=8.2
UZH **Uzhgorod** 77.22 324⇓ *i*P P 21 19 57.6 0.0
UZH *e* 21 20 08.6
UZH MLR MLR
comp=N,7µm,15.0s
UZH MLR MLR
comp=E,11µm,15.0s
UZH MLR MLR
comp=Z,4µm,15.0s
A33A **Warroad** 77.29 35 P P 21 19 57.7 -0.3
baz=318,SNR=8.6
TIRR **Tirgusor** 77.30 318⇑ *i*P P 21 19 58.6 +0.5
TIRR **Tirgusor** 77.30 318 *e*P P 21 19 58.4 +0.3
TIRR **Tirgusor** 77.30 318 *e*P P 21 19 58.4 +0.3
comp=Z,36nm,1.0s
Y12C **Blythe** 77.33 57 P P 21 19 59.4 +0.9
baz=310,SNR=9.3
Y12C **Blythe** 77.33 57 *e*P P 21 19 59.6 +1.1
GRER 77.37 320⇓ *i*P P 21 20 00.1 +1.6
CDAG **Cicekdag** 77.37 311 *i*P P 21 19 59.4 +0.7

HARR Harsova 77.38 319⇓ iP P 21 19 58.5 0.0
HARR Harsova 77.38 319 ⇓P P 21 19 58.5 0.0
BMR Baia Mare 77.38 323⇑ iP P 21 19 59.7 +1.2
BMR Baia Mare 77.38 323 ⇑P P 21 19 59.7 +1.2
HCB Kahramanmara˜ 77.39 308 i P P 21 19 58.1 -0.7
TLB Topalu 77.40 318⇑ iP P 21 19 59.3 +0.7
TLB Topalu 77.40 318 ⇑P P 21 19 59.3 +0.7
ARCR ARCALIA 77.41 322⇓ iP P 21 20 00.2 +1.5
TRPA Tarpa 77.48 324⇑ eP P 21 20 00.0 +1.0
NIE Niedzica 77.51 326 eP P 21 20 00.3 +1.0
NIE eS S 21 29 52.5 +3.9
NIE Niedzica 77.51 326 eP P 21 20 00.3 +1.0
NIE eS S 21 29 52.6 +3.9
SLMH Al Salmeh 77.51 307 eP P 21 20 00.4 +0.9
AGMN Agassiz Nation 77.56 36 P P 21 19 59.3 -0.2
baz=318,SNR=7.4
AGMN Agassiz Nation 77.56 36 eP P 21 19 59.1 -0.4
AGMN LR LR
comp=Z,3µm,19.0s
ANDN Andirin 77.57 309 i P P 21 20 00.9 +1.0
ANDN Andirin 77.57 309 P P 21 20 00.9 +1.0
GLA Glamis 77.59 57 P P 21 20 01.1 +1.1
baz=310,SNR=6.4
GLA Glamis 77.59 57 eP P 21 20 01.5 +1.5
GLA Glamis 77.59 57 eP P 21 20 01.5 +1.5
D31A Mcclaflin, Tow 77.62 38 P P 21 19 59.9 0.0
baz=317
KAMA Osmaniye 77.64 308 i P P 21 19 58.1 -2.2
AVNS Nevsehir-Avano 77.64 311 i P P 21 19 59.8 -0.5
PV10 Paradox Valley 77.68 50 eP P 21 20 02.0 +1.3
B33A Robert and Kas 77.70 36 P P 21 20 00.2 -0.1
baz=318
BR131 Keskin Array S 77.72 312 eP P 21 20 01.1 +0.3
BRTR Keskin Array B 77.72 312 P P 21 20 01.1 +0.3
comp=Z,22nm,1.0s,baz=98,slow=2.7,SNR=86
BRTR PP PP 21 22 55.5 -0.2
BRTR comp=Z,14nm,1.1s,baz=77,slow=5.6,SNR=3.9
LR LR 21 59 20.3
comp=Z,6µm,20.8s,baz=343,slow=40
DOPR Dopca 77.73 321⇓ iP P 21 20 02.0 +1.5
AMRR Amara 77.74 319⇓ iP P 21 20 02.3 +1.8
AMRR Amara 77.74 319 ⇓P P 21 20 02.4 +1.9
PHWY Pilot Hill 77.74 46 eP P 21 20 01.6 +0.6
comp=Z,16nm,1.2s
PV04 Paradox Valley 77.75 50 eP P 21 20 01.9 +0.9
N23A Red Feather La 77.75 46 P P 21 20 02.2 +1.2
baz=313,SNR=12
N23A Red Feather La 77.75 46 eP P 21 20 02.2 +1.2
ISR Istrita 77.77 320⇑ iP P 21 20 01.8 +1.0
ISR Istrita 77.77 320 ⇑P P 21 20 01.8 +1.0
MLR Muntele Rosu 77.80 320 LR LR 21 56 48.7
comp=Z,3µm,20.4s,baz=58,slow=38
MLR Muntele Rosu 77.80 320⇑ iP P 21 20 01.7 +0.6
MLR Muntele Rosu 77.80 320 ⇑P P 21 20 01.7 +0.6
PV05 Paradox Valley 77.84 50 eP P 21 20 02.6 +1.0
BCAM Yenicaga 77.87 314 i P P 21 20 02.7 +1.2
D32A Dogwood Acres, 77.89 37 P P 21 20 01.3 -0.1
baz=317
RAC Raciborz 77.89 327 eP P 21 20 02.6 +1.3
RAC eS S 21 29 54.3 +1.7
RAC MLR MLR
comp=Z,26µm,19.4s
E31A Nome 77.90 38 P P 21 20 01.6 +0.1
baz=317,SNR=5.7
B34A Aery, Baudette 77.96 35 P P 21 20 01.2 -0.5
baz=319
PSN Preselentsi 77.96 318 P P 21 20 02.6 +0.8
C33A Trail 78.00 36 P P 21 20 01.9 -0.1
baz=318
DRWC Darouich 78.01 308 eP P 21 20 03.2 +0.8
RAO Raoul Island 78.03 146 LR LR 21 49 15.6
comp=Z,3µm,20.5s,baz=344,slow=32
RAO Raoul Island 78.03 146 PFAKE 21 20 10.0 +7.9
RAO LR LR
comp=Z,784µm,20.0s
CJR Cluj-Napoca 78.04 322⇓ iP P 21 20 03.5 +1.2
CJR Cluj-Napoca 78.04 322 ⇓P P 21 20 03.5 +1.2
LANS Liptovska Anna 78.07 326 eP P 21 20 03.6 +1.2
LANS e 21 22 58.6
LANS Liptovska Anna 78.07 326 eP P 21 20 03.6 +1.2
LANS ePP PP 21 22 58.6 +0.4
KSP Ksiaz 78.08 329 eP P 21 20 03.2 +0.9
KSP eS S 21 29 56.6 +2.0
KSP Ksiaz 78.08 329 eP P 21 20 03.2 +0.9
KSP eS S 21 29 56.6 +2.0
OKC Ostrava-Krasne 78.10 327⇑ iP P 21 20 03.1 +0.6
OKC ex x 21 20 14.2
OKC AMS AMS 21 57 20.0
comp=Z,19µm,18.8s
OKC Ostrava-Krasne 78.10 327⇑ iP P 21 20 03.1 +0.6
OKC e 21 20 14.2
OKC MLR MLR
comp=Z,19µm,18.8s
ANTO Ankara 78.11 312 eP P 21 20 03.6 +0.8
ANTO Ankara 78.11 312 eP P 21 20 03.6 +0.8
comp=Z,447nm,1.2s
ANTO LR LR
comp=Z,8µm,19.0s
ANTO Ankara 78.11 312 P P 21 20 03.4 +0.6
SNR=37
ANTO P P 21 20 03.4 +0.6
SNR=37
PV01 Paradox Valley 78.11 50 eP P 21 20 04.0 +0.9
BR231 Keskin MP Arra 78.13 312 eP P 21 20 04.2 +1.2
KECS Kecovo 78.14 325 eP P 21 20 03.0 +0.3
KECS pmax pmax
comp=Z,17nm,1.1s
KECS Kecovo 78.14 325 eP P 21 20 03.0 +0.3
WUAZ Wupatki 78.17 53 P P 21 20 04.4 +1.1
baz=311,SNR=15
WUAZ Wupatki 78.17 53 eP P 21 20 04.6 +1.3
comp=Z,45nm,0.8s
WUAZ LR LR
comp=Z,4µm,21.0s
AKO Adana 78.19 309 i P P 21 20 04.2 +0.9
SULR 78.23 319⇓ iP P 21 20 05.2 +1.9
F31A Hecla 78.24 39 P P 21 20 03.5 +0.2
baz=317
E32A Braaten, Kindr 78.26 38 P P 21 20 03.5 0.0
baz=317
VOIR 78.28 321⇓ iP P 21 20 04.4 +0.8
VOIR 78.28 321 ⇓P P 21 20 04.4 +0.8
SMCO Snowmass 78.34 48 eP P 21 20 05.3 +0.8
comp=Z,21nm,0.9s
AKSY AKSARAY - Alti 78.38 311 i P P 21 20 05.0 +0.7
DRGR 78.39 323⇑ iP P 21 20 05.1 +0.8
DRGR 78.39 323 ⇑P P 21 20 05.1 +0.8
MORC Moravsky Berou 78.40 327⇑ iP P 21 20 05.1 +0.9
MORC Moravsky Berou 78.40 327 eP P 21 20 04.6 +0.4
MORC Moravsky Berou 78.40 327 eP P 21 20 04.6 +0.4
comp=Z,706nm,1.4s
D33A AnnSam, Waubun 78.42 37 P P 21 20 04.2 -0.1
baz=318
DPC Dobruska-Polom 78.45 328⇑ iP P 21 20 05.4 +0.9
DPC ex x 21 20 18.7
DPC AMS AMS 21 57 40.0
comp=Z,12µm,17.5s
DPC Dobruska-Polom 78.45 328⇑ iP P 21 20 05.4 +0.9
DPC e 21 20 18.7
DPC MLR MLR
comp=Z,12µm,17.5s
UPC Upice 78.45 329⇑ iP P 21 20 05.1 +0.7
UPC ex x 21 20 18.4
UPC AMS AMS 21 58 00.0
comp=Z,15µm,17.4s
UPC Upice 78.45 329⇑ iP P 21 20 05.1 +0.7
UPC e 21 20 18.4
UPC MLR MLR
comp=Z,15µm,17.4s
B35A Bob, Littlefor 78.46 35 P P 21 20 04.5 0.0
baz=319,SNR=9.7
C34A RKJ Ranch, Bem 78.47 36 P P 21 20 04.8 +0.3
baz=319
KRLC Kraliky 78.48 328⇑ iP P 21 20 05.3 +0.7
KRLC ex x 21 20 17.8
KRLC Kraliky 78.48 328⇑ iP P 21 20 05.3 +0.7
KRLC e 21 20 17.8
BTCH Batrach 78.53 308 eP P 21 20 05.4 +0.2
ARR Arges 78.53 321⇑ iP P 21 20 06.6 +1.6
ISCO Idaho Springs 78.68 47 P P 21 20 07.4 +1.0
baz=314,SNR=8.7
ISCO Idaho Springs 78.68 47 eP P 21 20 07.3 +1.0
ISCO Idaho Springs 78.68 47 eP P 21 20 07.3 +1.0
ISCO LR LR
comp=Z,4µm,22.0s
PRD Provadia 78.70 318 P P 21 20 06.5 +0.6
G31A Conde 78.72 39 P P 21 20 06.0 0.0
baz=317
D34A Park Rapids 78.76 36 P P 21 20 05.8 -0.4
baz=318,SNR=5.4
F32A Veblen 78.77 38 P P 21 20 05.9 -0.3
baz=318
MVCO Mesa Verde 78.78 51 P P 21 20 07.6 +0.8
baz=312,SNR=7.6
MVCO Mesa Verde 78.78 51 eP P 21 20 07.8 +1.0
MVCO LR LR
comp=Z,3µm,20.0s
PSZ Piszkesteto 78.82 325⇑ iP P 21 20 07.7 +1.1
PSZ Piszkesteto 78.82 325 ⇑P P 21 20 07.7 +1.1
PSZ Piszkesteto 78.82 325⇑ eP P 21 20 07.5 +0.9
PSZ Piszkesteto 78.82 325 eP P 21 20 07.3 +0.7
comp=Z,168nm,1.3s
PSZ LR LR
comp=Z,11µm,20.0s
E33A Westby DABS, E 78.82 37 P P 21 20 06.6 0.0
baz=318
VYHS Vyhne 78.84 326 eP P 21 20 07.3 +0.7
VYHS pmax pmax
comp=Z,85nm,1.6s
VYHS Vyhne 78.84 326 eP P 21 20 07.3 +0.7
VYHS eL L 21 58 24.0
C35A Jirik Farms, M 78.84 35 P P 21 20 06.7 0.0
baz=319
LOT Lotru 78.88 321⇑ iP P 21 20 07.4 +0.4
DED Mersin 78.91 309 i P P 21 20 07.2 -0.1
SUSD Miller 78.92 40 P P 21 20 07.4 +0.3
baz=317
ARNB Al Arnab 78.94 308 eP P 21 20 08.0 +0.5
BRG Berggiesshubel 78.97 330⇑ iP P 21 20 07.7 +0.4
comp=Z,145nm,1.6s
comp=N,10µm,15.6s
comp=E,9µm,15.0s
comp=Z,11µm,17.9s
BRG Berggiesshubel 78.97 330⇑ iP P 21 20 07.7 +0.4
BRG MLR MLR
comp=E,10µm,15.0s
BRG MLR MLR
comp=Z,9µm,17.9s
CLL Collm 78.98 331 eP P 21 20 07.3 0.0
CLL Collm 78.98 331⇑ iP P 21 20 07.3 0.0
comp=Z,188nm,1.6s
CLL ePmax 21 20 10.0
CLL i (sP) sP 21 20 19.7 +1.3
CLL e 21 20 30.0
CLL e 21 22 55.0
CLL esPP 21 23 14.0
CLL eS S 21 30 00.0 -4.2
CLL Lm MLR 21 57 00.0
comp=N,12µm,19.1s
CLL Lm MLR 21 57 00.0
comp=E,4µm,18.4s
CLL Lm MLR 21 57 00.0
comp=Z,12µm,20.4s
CLL Lmax 21 58 00.0
CLL Collm 78.98 331 eP P 21 20 07.3 0.0
KERG Konya-Eregli 79.00 310 i P P 21 20 06.0 -1.8
PVCC Panska Ves 79.00 329⇑ iP P 21 20 08.3 +0.9
PVCC AMS AMS 21 58 20.0
comp=Z,14µm,17.9s
PVCC Panska Ves 79.00 329⇑ iP P 21 20 08.3 +0.9
PVCC MLR MLR
comp=Z,14µm,17.9s
G32A Webster 79.04 39 P P 21 20 07.8 0.0
baz=317
KAC Achnashellach 79.08 343 eP P 21 20 07.7 -0.1
H31A Wolsey 79.13 40 P P 21 20 08.1 -0.2
baz=317
VRAC Vranov 79.15 328⇑ iP P 21 20 09.3 +1.0
VRAC Vranov 79.15 328 ⇑P P 21 20 09.3 +1.0
F33A 5 Mile Ranch, 79.18 38 P P 21 20 08.7 +0.2
baz=318,SNR=11
E34A Wadena 79.20 37 P P 21 20 09.0 +0.4
baz=319
ROOS tl_alroos 79.25 306 eP P 21 20 10.0 +0.8
SIRR Siria 79.27 323⇑ iP P 21 20 09.8 +0.8
C36A Pine Crest Far 79.30 35 P P 21 20 08.9 -0.3
baz=320,SNR=9.0
KPL Plockton 79.31 343 eP P 21 20 09.0 +0.1
KPL AMB AMB 21 20 10.4
comp=Z,184nm,1.7s
KPL AMS AMS 21 55 38.0
comp=Z,5µm,17.6s
S22A 4UR Ranch, Cre 79.39 49 P P 21 20 11.0 +0.8
baz=313,SNR=9.2
S22A 4UR Ranch, Cre 79.39 49 eP P 21 20 11.4 +1.2
GOPC GO Pecny, Ondr 79.40 329⇑ iP P 21 20 10.5 +0.8
GOPC AMS AMS 21 58 40.0
comp=Z,11µm,16.6s
GOPC GO Pecny, Ondr 79.40 329⇑ iP P 21 20 10.5 +0.8
GOPC MLR MLR
comp=Z,11µm,16.6s
SZH Strazhica 79.40 319 P P 21 20 10.0 +0.2
PRA Prague 79.42 329⇑ iP P 21 20 10.6 +0.9
PRA ex x 21 20 23.6
PRA AMS AMS 21 58 40.0
comp=Z,14µm,16.5s
PRA Prague 79.42 329⇑ iP P 21 20 10.6 +0.9
PRA e 21 20 23.6
PRA MLR MLR
comp=Z,14µm,16.5s
SMOL Smolenice 79.42 327 eP P 21 20 10.8 +1.0
SMOL Smolenice 79.42 327 eP P 21 20 10.8 +1.0
I31A Royce, Wessing 79.43 40 P P 21 20 10.2 +0.3
baz=317
W18A Petrified Fore 79.43 53 P P 21 20 11.6 +1.3
baz=312
W18A Petrified Fore 79.43 53 eP P 21 20 12.2 +1.8
PRU Pruhonice 79.44 329⇑ iP P 21 20 10.4 +0.6
PRU ex x 21 20 21.8
PRU AMS AMS 21 58 40.0
comp=Z,12µm,16.5s
PRU Pruhonice 79.44 329⇑ iP P 21 20 10.4 +0.6
PRU e 21 20 21.8
PRU MLR MLR
comp=Z,12µm,16.5s
E35A Pequot Lakes 79.52 36 P P 21 20 10.1 -0.2
baz=319
Q24A Divide 79.52 47 P P 21 20 11.5 +0.6
baz=314
Q24A Divide 79.52 47 eP P 21 20 12.1 +1.2
BUD Budapest 79.53 325⇑ eP P 21 20 11.3 +0.9
G33A Ortonville 79.59 38 P P 21 20 10.8 0.0
baz=318,SNR=9.2
D36A Goodland 79.60 35 P P 21 20 10.5 -0.3
baz=320,SNR=5.6
C37A Embarrass 79.61 34 P P 21 20 10.7 -0.1
baz=320,SNR=12
TREC Trest 79.61 328⇑ iP P 21 20 11.5 +0.7
TREC AMS AMS 21 58 00.0
comp=Z,12µm,18.7s
TREC Trest 79.61 328⇑ iP P 21 20 11.5 +0.7
TREC MLR MLR
comp=Z,12µm,18.7s
H32A Carlson Farm, 79.62 39 P P 21 20 10.9 -0.1
baz=318
F34A Alexandria 79.70 37 P P 21 20 11.4 0.0
baz=319
EYMN Ely 79.74 34 P P 21 20 11.2 -0.3
baz=321,SNR=13
EYMN Ely 79.74 34 eP P 21 20 11.2 -0.3
comp=Z,27nm,0.7s
EYMN LR LR
comp=Z,4µm,22.0s
KMER Konya-Meram 79.78 311 i P P 21 20 15.1 +3.0
H33A Prehn Over Nor 79.83 39 P P 21 20 12.3 +0.2
baz=318,SNR=8.9
MARH Ras Al Marh 79.85 306 eP P 21 20 13.2 +0.4
OGNE Ogallala 79.85 44 P P 21 20 12.7 +0.3
baz=315,SNR=10
OGNE Ogallala 79.85 44 eP P 21 20 13.3 +0.9
comp=Z,84nm,0.9s
OGNE LR LR
comp=Z,4µm,19.0s
J31A Geddes 79.87 41 P P 21 20 12.6 +0.3
baz=317,SNR=5.5
BOLV Bolvadin 79.93 313 i P P 21 20 11.5 -1.4
BOLV Bolvadin 79.93 313 eP P 21 20 13.9 +1.0
G34A Benson 79.94 38 P P 21 20 12.6 0.0
baz=318
D37A Cotton 79.94 35 P P 21 20 12.2 -0.4
baz=320
CSKK Cs˙tkako 79.96 325⇑ eP P 21 20 13.3 +0.6
I32A Karley and Nic 79.96 40 P P 21 20 12.6 -0.2
baz=318
F35A Swanville 79.97 37 P P 21 20 12.8 0.0
baz=319
C38A Sawbill Land. 80.01 34 P P 21 20 12.7 -0.3
baz=321,SNR=16
EDRB Edirne 80.01 317 P P 21 20 13.3 +0.2
EDRB Edirne 80.01 317 P P 21 20 13.3 +0.2
NKC Novy Kostel 80.05 330⇑ iP P 21 20 13.6 +0.4
NKC AMS AMS 21 58 30.0
comp=Z,9µm,17.3s
NKC Novy Kostel 80.05 330⇑ iP P 21 20 13.6 +0.4
NKC MLR MLR
comp=Z,9µm,17.3s
EAB Aberfoyle 80.06 342 eP P 21 20 13.5 +0.5
E36A McGregor 80.06 36 P P 21 20 12.8 -0.5
baz=320,SNR=9.0
SDCO Great Sand Dun 80.16 49 P P 21 20 15.0 +0.6
baz=314,SNR=18
SDCO Great Sand Dun 80.16 49 eP P 21 20 15.2 +0.9
SDCO LR LR
comp=Z,2µm,19.0s
BANR Banloc 80.17 323⇑ iP P 21 20 13.9 0.0
J32A Parkston 80.25 40 P P 21 20 14.4 0.0
baz=317
I33A Coleman 80.27 39 P P 21 20 14.6 +0.1
baz=318
DGAR Diego Garcia 80.28 252 PFAKE 21 20 30.0 +15
DGAR LR LR
comp=Z,7µm,19.0s
H34A Spellman Lake, 80.30 38 P P 21 20 14.6 0.0
baz=318
TOTH TOTAH 80.32 306 eP P 21 20 15.5 +0.5
K31A O'Neill 80.35 41 P P 21 20 15.2 +0.3
baz=317
E37A Wrenshall 80.41 35 P P 21 20 15.0 -0.1
baz=320
C39A Grand Marais 80.41 33 P P 21 20 14.6 -0.5
baz=322,SNR=5.9
MPEP Malo Peshtene 80.44 320 P P 21 20 16.4 +1.0
PGBU Glenifferbraes 80.44 342 eP P 21 20 15.7 +0.6
PGBU AMB AMB 21 20 17.5
comp=Z,180nm,1.4s
PGBU AMS AMS 21 50 38.7
comp=Z,4µm,20.1s
SOP Sopron 80.44 327⇑ eP P 21 20 16.7 +1.4
F36A Milaca 80.44 36 P P 21 20 15.0 -0.4
baz=320
G35A Watkins 80.49 37 P P 21 20 15.8 +0.1
baz=319
KHC Kasperske Hory 80.50 329⇑ iP P 21 20 16.2 +0.5
KHC ex x 21 23 03.0
KHC eS S 21 30 19.0 -1.5
KHC AMS AMS 21 59 20.0
comp=Z,12µm,16.3s
KHC Kasperske Hory 80.50 329⇑ iP P 21 20 16.2 +0.5
KHC e 21 30 19.0
KHC MLR MLR
comp=Z,12µm,16.3s
KHC Kasperske Hory 80.50 329 eP P 21 20 16.0 +0.3
comp=Z,60nm,1.3s
CONA Conrad Observa 80.54 327 i P P 21 20 16.7 +0.8
comp=Z,131nm,1.4s,SNR=73
SALA Sala 80.56 305 eP P 21 20 17.0 +0.5
ESK Eskdalemuir 80.58 341 eP P 21 20 16.0 +0.1
ESK AMB AMB 21 20 18.2
comp=Z,155nm,3.9s
ESK AMS AMS 22 01 57.8
comp=Z,5µm,16.4s
ESK Eskdalemuir 80.58 341 eP P 21 20 15.9 +0.1
ESK pmax pmax
comp=Z,120nm,1.5s
ESK MLR MLR
comp=Z,7µm,21.0s
ESK Eskdalemuir 80.58 341 eP P 21 20 15.9 +0.1
comp=Z,120nm,1.5s
ESK LR LR
comp=Z,7µm,21.0s
BRBR Barbar 80.58 306 eP P 21 20 16.8 +0.1
ECSD EROS Data Cent 80.59 39 P P 21 20 16.2 0.0
baz=318,SNR=15
ECSD EROS Data Cent 80.59 39 eP P 21 20 16.2 0.0
comp=Z,26nm,0.8s
ECSD LR LR
comp=Z,5µm,21.0s
WTSB Winterswijk 80.63 334 eP P 21 20 16.0 -0.2
comp=Z,256nm,1.5s
TUC Tucson 80.65 56 P P 21 20 17.7 +0.9
baz=312
TUC Tucson 80.65 56 eP P 21 20 17.9 +1.1
TUC Tucson 80.65 56 eP P 21 20 17.9 +1.1
TUC LR LR
comp=Z,4µm,20.0s
GERES GERESS Array B 80.69 329 P P 21 20 16.9 +0.2
comp=Z,9.8nm,0.8s,baz=44,slow=4.4,SNR=66
GERES PKKPbc PKKPbc 21 38 56.0 +0.7
comp=Z,0.8nm,0.7s,baz=238,slow=2.5,SNR=9.0
K32A Verdigre 80.71 41 P P 21 20 16.4 -0.5
baz=317
H35A Sunnyside Ranc 80.72 38 P P 21 20 17.3 +0.4
baz=319,SNR=11
J33A Davis 80.73 40 P P 21 20 17.2 +0.3
baz=318
I34A Hadley 80.73 39 P P 21 20 16.9 0.0
baz=318
E38A The Farm, Brul 80.75 35 P P 21 20 17.2 +0.2
baz=321,SNR=8.2
KESN Edirne-Kesan 80.78 316 i P P 21 20 18.4 +0.8
ISP Isparta 80.80 312⇑ iP P 21 20 18.7 +1.2
ISP Isparta 80.80 312 iP P 21 20 17.7 +0.2
ISP pmax pmax
comp=Z,55nm,1.5s
ISP Isparta 80.80 312 PFAKE 21 20 30.0 +12
ISP LR LR
comp=Z,7µm,19.0s
G36A St. Michael 80.82 37 P P 21 20 17.5 +0.1
baz=320
PLD Plovdiv 80.87 318 P P 21 20 18.0 +0.3
KSCO Kaye Shedlock' 80.89 46 P P 21 20 18.2 +0.2
baz=315,SNR=6.1
KSCO Kaye Shedlock' 80.89 46 eP P 21 20 17.9 -0.2
DEMI Demirci 80.95 314 i P P 21 20 18.4 +0.1
GRFO Grafenberg 80.96 331 eP P 21 20 18.8 +0.8
GRFO Grafenberg 80.96 331 eP P 21 20 18.8 +0.8
comp=Z,455nm,1.6s
RAR Rarotonga 81.00 128 PFAKE 21 20 30.0 +12
RAR LR LR
comp=Z,5µm,20.0s
ALN Alexandroupoli 81.06 317 P P 21 20 19.0 +0.3
ALN Alexandroupoli 81.06 317 P P 21 20 19.0 +0.3
ALN Alexandroupoli 81.06 317 P P 21 20 19.0 +0.3
MAMC Mammari 81.06 309 P P 21 20 18.8 0.0
F38A Pierce - Schro 81.11 35 P P 21 20 19.0 +0.1
baz=321,SNR=13
CSS Mathiatis 81.13 309 P P 21 20 19.3 0.0
CSS Mathiatis 81.13 309 eP P 21 20 19.4 +0.2
comp=Z,13nm,0.8s
CSS LR LR
comp=Z,1µm,21.0s
CSS Mathiatis 81.13 309 P P 21 20 19.2 0.0
RDO Rodhopi 81.14 317 P P 21 20 19.6 +0.5
RDO Rodhopi 81.14 317 P P 21 20 19.6 +0.5
L32A Elgin 81.18 41 P P 21 20 19.3 -0.1
baz=317
T25A Trinidad 81.20 48 P P 21 20 20.2 +0.3
baz=314,SNR=14
T25A Trinidad 81.20 48 eP P 21 20 20.6 +0.8
ARSA Arzberg 81.21 327 i P P 21 20 20.2 +0.7
comp=Z,75nm,1.4s,SNR=32
KESW Keswick, Cumbr 81.21 341 eP P 21 20 20.9 +1.7
KESW AMB AMB 21 20 23.0
comp=Z,150nm,1.8s
KESW AMS AMS 22 02 16.4
comp=Z,6µm,16.4s
H36A Jessenland, He 81.23 37 P P 21 20 20.0 +0.4
baz=320
K33A Hardington 81.24 40 P P 21 20 19.6 -0.1
baz=318
J34A George 81.25 39 P P 21 20 19.3 -0.4
baz=318
MOA Molln 81.25 328 i P P 21 20 20.2 +0.5
comp=Z,54nm,1.4s,SNR=25
SPMN Marine on St. 81.26 36 P P 21 20 19.6 -0.1
baz=320

SPMN **Marine on St.** 81.26 36 *e*P P 21 20 20.6 +0.9
VTS **Vitosha** 81.26 320 P P 21 20 20.7 +0.7
VTS **Vitosha** 81.26 320⇓ *i*P P 21 20 19.2 -0.8
VTS **Vitosha** 81.26 320 ⇓P P 21 20 19.2 -0.8
VTS **Vitosha** 81.26 320 P P 21 20 19.5 -0.5
VTS **Vitosha** 81.26 320 *e*P P 21 20 20.7 +0.7
I35A **Creekview Farm** 81.28 38 P P 21 20 19.9 0.0
baz=319
BEHE **Becsehely** 81.29 326⇑ *e*P P 21 20 20.6 +0.7
KULA **Kula-Manisa** 81.36 314 P P 21 20 20.6 +0.1
KULA **Kula-Manisa** 81.36 314 P P 21 20 20.6 +0.1
E39A **Mellen** 81.36 34 P P 21 20 20.1 -0.2
baz=322,SNR=8.7
L33A **Hoskins** 81.43 41 P P 21 20 21.2 +0.5
baz=318
ALFC **Alefka** 81.44 309 P P 21 20 20.3 -0.6
ANMO **Albuquerque** 81.53 51 P P 21 20 22.6 +1.0
baz=314
ANMO **Albuquerque** 81.53 51 *c e*P P 21 20 21.6 0.0
ANMO pmax pmax
comp=Z,32nm,1.2s
ANMO **Albuquerque** 81.53 51 *e*P P 21 20 22.9 +1.3
ANMO LR LR
comp=Z,3µm,19.0s
BGNE **Belgrade** 81.54 42 P P 21 20 21.2 -0.1
baz=317
BGNE **Belgrade** 81.54 42 *e*P P 21 20 21.8 +0.5
comp=Z,202nm,1.1s
SZAC **Souni** 81.54 309 P P 21 20 21.1 -0.4
J35A **Milford** 81.55 39 P P 21 20 21.1 -0.3
baz=319
F39A **Loretta** 81.56 35 P P 21 20 21.3 0.0
baz=321,SNR=8.9
E40A **Wakefield** 81.59 34 P P 21 20 21.5 +0.1
baz=322,SNR=23
K34A **Le Mars** 81.62 40 P P 21 20 21.7 0.0
baz=318
D41A **Chassel** 81.66 33 P P 21 20 22.4 +0.6
baz=323,SNR=5.2
DIVS **Divibare** 81.68 322 P P 21 20 21.9 -0.2
H37A **Dierke Farm, C** 81.70 37 P P 21 20 22.3 +0.2
baz=320
G38A **Ridgeland** 81.73 36 P P 21 20 21.6 -0.6
baz=321
PPCY **Paphos** 81.78 309 P P 21 20 22.2 -0.4
NVR **Nevrokopi** 81.85 318 P P 21 20 23.5 +0.5
NVR **Nevrokopi** 81.85 318 P P 21 20 23.5 +0.5
KKB **Krupnik** 81.86 319 P P 21 20 24.0 +1.0
PERS **Pernice** 81.87 327 *i*P P 21 20 23.3 +0.3
SOKA **Soboth** 81.87 327 *i*P P 21 20 23.5 +0.5
comp=Z,192nm,1.5s,SNR=137
SCHQ **Schefferville** 81.90 17 P P 21 20 22.3 -0.6
comp=Z,22nm,0.9s,baz=342,slow=4.6,SNR=5.1
M33A **Taylor Creek F** 81.91 41 P P 21 20 23.1 -0.1
baz=318
F40A **Park Falls** 81.91 34 P P 21 20 24.0 +0.8
baz=322,SNR=6.2
I37A **Lemond, Waseca** 81.91 37 P P 21 20 23.6 +0.4
baz=320
H38A **Maiden Rock** 81.92 36 P P 21 20 23.1 -0.1
baz=321
HGN **Heimansgroeve** 81.94 334 *e*P P 21 20 22.3 -0.8
comp=Z,316nm,1.9s
G39A **Holcombe** 81.94 35 P P 21 20 22.8 -0.5
baz=321
E41A **Kenton** 81.97 33 P P 21 20 23.4 -0.1
baz=323
J36A **Seneca 1, Swea** 81.99 38 P P 21 20 23.6 0.0
baz=320
BEBN **Eben Emael** 81.99 334 P P 21 20 23.6 +0.2
K35A **Storm Lake** 82.02 39 P P 21 20 23.6 -0.2
baz=319
L34A **Svendsen Farm,** 82.02 40 P P 21 20 23.7 -0.1
baz=318
MEM **Membach** 82.04 334 P P 21 20 23.7 -0.1
comp=Z,42nm,1.6s
OBKA **Obir** 82.21 327 *i*P P 21 20 25.0 +0.1
comp=Z,43nm,1.0s,SNR=31
GMM **Mts of Mourne** 82.22 342 *e*P P 21 20 25.5 +0.9
KBA **Koelnbreinsper** 82.25 328 *i*P P 21 20 25.3 +0.2
comp=Z,105nm,1.4s,SNR=60
M34A **Aspy Farms, Fr** 82.27 41 P P 21 20 25.0 -0.1
baz=318
L35A **Bielow Farm, R** 82.32 40 P P 21 20 25.2 -0.2
baz=319
H39A **Augusta** 82.36 36 P P 21 20 25.3 -0.3
baz=321,SNR=5.6
121A **Cookes Peak, D** 82.37 54 P P 21 20 27.7 +1.7
baz=313
121A **Cookes Peak, D** 82.37 54 *e*P P 21 20 27.0 +0.9
comp=Z,75nm,1.2s
J37A **Redenius Farm,** 82.38 38 P P 21 20 25.8 +0.1
baz=320,SNR=5.2
G40A **Rib Lake** 82.38 35 P P 21 20 25.4 -0.3
baz=322
I38A **Scanlan Farm,** 82.38 37 P P 21 20 25.7 0.0
baz=321
N33A **J Bar K, Exete** 82.39 42 P P 21 20 25.6 -0.2
baz=318
CWF **Charnwood Fore** 82.41 339 *e*P P 21 20 25.3 -0.3
CWF AMB AMB 21 20 29.6
comp=Z,106nm,1.7s
CWF AMS AMS 22 05 49.1
comp=Z,5µm,16.2s
AKAS **Kas** 82.44 312 *i*P P 21 20 27.7 +1.4
BCLA **Clavier** 82.44 334 P P 21 20 25.8 0.0
comp=Z,61nm,1.8s
K36A **Gilmore City** 82.46 39 P P 21 20 26.1 0.0
baz=320
STU **Stuttgart** 82.47 331 *e*P P 21 20 26.9 +0.9
STU **Stuttgart** 82.47 331 *e*P P 21 20 26.9 +0.9
comp=Z,139nm,1.3s
F41A **Three Lakes** 82.48 34 P P 21 20 25.4 -0.8
baz=323,SNR=8.3
MYKA **Terra Mystica** 82.49 328 *i*P P 21 20 26.1 -0.1
comp=Z,100nm,1.4s,SNR=39
PLE **Pljevlja** 82.55 322⇑ *i*P P 21 20 27.1 +0.4
DALY **Dalyan (Mu¨la** 82.56 313 *i*P P 21 20 24.1 -2.6
SKO **Skopje** 82.60 320 *i*P P 21 20 28.0 +1.2
CBKS **Cedar Bluff** 82.60 45 P P 21 20 26.5 -0.5
baz=317
CBKS **Cedar Bluff** 82.60 45 PFAKE 21 20 40.0 +13
CBKS LR LR
comp=Z,4µm,20.0s
VISS **Visnje** 82.65 326 *e*P P 21 20 26.8 -0.2
IVA **Berane** 82.66 322⇑ *i*P P 21 20 27.6 +0.3
SNF **Seneffe** 82.70 335 P P 21 20 27.7 +0.6
BOJS **Bojanci** 82.71 326 *i*P P 21 20 27.7 +0.4
M35A **Neola** 82.73 40 P P 21 20 27.7 +0.1
baz=319
HSIG 82.74 58 *e*P P 21 20 28.0 +0.2
WATA **Walderalm** 82.75 329 *i*P P 21 20 28.2 +0.5
comp=Z,73nm,1.2s,SNR=12
K37A **Belmond Farm,** 82.75 38 P P 21 20 27.5 -0.1
baz=320,SNR=9.7
L36A **Harm Buss Farm** 82.76 39 P P 21 20 27.6 -0.1
baz=319
FOEL **Foel Wylfa** 82.77 340 *e*P P 21 20 28.1 +0.6
FOEL AMB AMB 21 20 30.1
comp=Z,106nm,1.7s
FOEL AMS AMS 22 03 24.2
comp=Z,4µm,16.5s
WTTA **Wattenberg** 82.78 329 *i*P P 21 20 28.4 +0.5
comp=Z,91nm,1.5s,SNR=24
WLF **Walferdange** 82.80 333 P P 21 20 28.2 +0.5
comp=Z,80nm,2.3s
WLF **Walferdange** 82.80 333 *e*P P 21 20 28.6 +0.9
WLF **Walferdange** 82.80 333 *e*P P 21 20 28.6 +0.9
comp=Z,197nm,1.8s
WLF LR LR
comp=Z,15µm,19.0s
N34A **Lincoln** 82.80 41 P P 21 20 27.4 -0.5
baz=318
H40A **Chili** 82.81 35 P P 21 20 27.8 0.0
baz=322
O33A **Hebron** 82.81 42 P P 21 20 27.5 -0.5
baz=318
PVY **Plav** 82.84 321 *e*P P 21 20 28.3 +0.1
TAU **Tasmania Unive** 82.85 177 PFAKE 21 20 40.0 +12
TAU LR LR
comp=Z,7µm,21.0s
ABTA **Abfaltersbach** 82.85 328 *i*P P 21 20 27.7 -0.5
comp=Z,60nm,1.4s,SNR=32
UPM **Unac-Piva** 82.87 322⇑ *i*P P 21 20 28.2 -0.3
J38A **Wedel Dairy, R** 82.87 37 P P 21 20 28.1 -0.1
baz=321

I39A **Houston** 82.90 36 P P 21 20 28.0 -0.4
baz=321
JAVS **Javornik** 82.90 327 *i*P P 21 20 27.7 -0.7
MOTA **Moosalm** 82.92 329 *i*P P 21 20 28.8 +0.2
comp=Z,160nm,1.4s,SNR=78
RETA **Reutte** 82.94 330 *i*P P 21 20 29.2 +0.6
comp=Z,146nm,1.4s,SNR=54
DOU **Dourbes** 82.95 335 P P 21 20 28.5 0.0
PAIG **Paliouri** 83.00 318 P P 21 20 28.6 -0.3
PAIG **Paliouri** 83.00 318 P P 21 20 28.6 -0.3
PAIG **Paliouri** 83.00 318 P P 21 20 28.6 -0.3
BDRM **Kayabasi** 83.06 313 *i*P P 21 20 29.4 +0.1
NKY **Niksic** 83.13 322⇑ *i*P P 21 20 29.6 -0.1
H41A **Junction City** 83.14 35 P P 21 20 29.5 0.0
baz=322
BODT **Bodrum** 83.14 314 P P 21 20 29.9 +0.2
BODT **Bodrum** 83.14 314 P P 21 20 29.9 +0.2
BFO **Black Forest** 83.15 332 *e*P P 21 20 29.1 -0.5
BFO pmax pmax
comp=Z,99nm,1.3s
BFO MLR MLR
comp=Z,9µm,20.0s
BFO **Black Forest** 83.15 332 *e*P P 21 20 29.1 -0.5
comp=Z,99nm,1.3s
BFO LR LR
comp=Z,9µm,20.0s
TRI **Trieste** 83.17 327 *e*P P 21 20 28.4 -1.3
TRI **Trieste** 83.17 327 *e*P P 21 20 28.4 -1.3
comp=Z,112nm,1.3s
L37A **Phoenix Point,** 83.18 39 P P 21 20 30.0 +0.1
baz=320
M36A **Felix, Anita** 83.19 40 P P 21 20 30.0 +0.1
baz=319
NKME **Niksic** 83.19 322⇑ *i*P P 21 20 29.7 -0.2
O34A **Beatrice** 83.19 42 P P 21 20 29.2 -0.7
baz=318,SNR=8.1
J39A **Decorah** 83.22 37 P P 21 20 29.4 -0.6
baz=321
N35A **Tabor** 83.22 41 P P 21 20 30.2 +0.1
baz=319,SNR=6.8
DAT **Datca** 83.23 313 *i*P P 21 20 28.6 -1.7
DSB **Dublin** 83.23 342 *e*P P 21 20 31.1 +1.2
K38A **Parkersburg** 83.25 38 P P 21 20 30.3 +0.1
baz=320
BRY **Bratogost** 83.28 322⇑ *i*P P 21 20 30.0 -0.5
I40A **Norwalk** 83.28 36 P P 21 20 30.2 -0.2
baz=322
PDG **Podgorica** 83.30 322 P P 21 20 30.5 +0.1
PDG **Podgorica** 83.30 322⇑ *i*P P 21 20 30.6 +0.1
TTG **Podgorica** 83.30 322 P P 21 20 30.5 +0.1
TTG **Podgorica** 83.30 322⇑ *i*P P 21 20 30.5 +0.1
TTG **Podgorica** 83.30 322 P P 21 20 30.5 +0.1
FETA **Feichten** 83.33 329 *i*P P 21 20 31.0 +0.3
comp=Z,91nm,1.4s,SNR=53
CEME **Cerje** 83.37 322⇑ *i*P P 21 20 30.5 -0.4
DAVA **Damuels** 83.44 330 *i*P P 21 20 31.7 +0.4
comp=Z,132nm,1.4s,SNR=39
I41A **Arkdale** 83.48 35 P P 21 20 31.2 -0.1
baz=322
STRD **Stroud** 83.50 339 *e*P P 21 20 31.8 +0.5
STRD AMB AMB 21 20 32.7
comp=Z,232nm,1.7s
STRD AMS AMS 22 02 24.9
comp=Z,5µm,18.7s
DRME **Dracevica, Mon** 83.52 322⇑ *i*P P 21 20 31.8 +0.2
FNA **Florina** 83.53 319 P P 21 20 29.9 -1.8
FNA **Florina** 83.53 319 P P 21 20 29.9 -1.8
FNA **Florina** 83.53 319 P P 21 20 29.9 -1.8
O35A **Humboldt** 83.53 41 P P 21 20 31.4 -0.2
baz=319
MCH1 **Michaelchurch** 83.53 340 *e*P P 21 20 31.5 +0.1
MCH1 AMB AMB 21 20 32.8
comp=Z,124nm,2.2s
MCH1 AMS AMS 21 58 41.5
comp=Z,5µm,19.2s
L38A **Oak Wood Farm,** 83.55 38 P P 21 20 31.6 -0.1
baz=320
OHR **Ohrid** 83.56 320 *i*P P 21 20 31.9 0.0
BUM **Brajici-Budva** 83.57 322⇑ *i*P P 21 20 31.7 -0.2
M37A **Trindle Farm,** 83.59 40 P P 21 20 32.3 +0.4
baz=320
N36A **Muff Farm, Cla** 83.59 40 P P 21 20 32.2 +0.3
baz=319
P34A **Walnut Farm, R** 83.60 42 P P 21 20 31.8 -0.2
baz=318,SNR=6.7
J40A **Soldiers Grove** 83.61 36 P P 21 20 31.1 -0.9
baz=322
SCIA **State Center** 83.61 39 *e*P P 21 20 32.7 +0.6
SCIA LR LR
comp=Z,4µm,21.0s
K39A **Oelwein** 83.62 37 P P 21 20 31.2 -0.9
baz=321
MONM **Monmouth** 83.62 340 *e*P P 21 20 32.0 +0.1
MONM AMB AMB 21 20 33.2
comp=Z,194nm,2.0s
MONM AMS AMS 22 03 58.1
comp=Z,4µm,17.5s
SWN1 **Swindon** 83.64 339 *e*P P 21 20 32.9 +0.9
SWN1 AMB AMB 21 20 33.6
comp=Z,341nm,1.7s
SWN1 AMS AMS 22 01 46.4
comp=Z,5µm,18.0s
HCY **Herceg Novi** 83.65 322⇑ *i*P P 21 20 31.7 -0.5
WOL **Wolverton** 83.66 338 *e*P P 21 20 32.1 0.0
WOL AMB AMB 21 20 33.1
comp=Z,136nm,1.9s
WOL AMS AMS 22 01 56.5
comp=Z,8µm,20.4s
ULC **Ulcinj** 83.67 321⇑ *i*P P 21 20 31.9 -0.5
XOR **Xorichti** 83.67 317 P P 21 20 31.7 -0.7
XOR **Xorichti** 83.67 317 P P 21 20 31.7 -0.7
ECH **Echery** 83.67 332⇑ *e*P P 21 20 32.3 0.0
LPW **Lampeter** 83.70 340 *e*P P 21 20 33.4 +1.1
LPW AMB AMB 21 20 33.7
comp=Z,156nm,1.8s
LPW AMS AMS 22 04 00.5
comp=Z,4µm,18.4s
FYTO **Fytoko, Volos** 83.76 318 P P 21 20 32.6 -0.3
FYTO **Fytoko, Volos** 83.76 318 P P 21 20 32.6 -0.3
TIR **Tirane** 83.84 321⇑ *i*P P 21 20 32.5 -0.7
TIR **Tirane** 83.84 321 ⇑P P 21 20 32.5 -0.7
TIR **Tirane** 83.84 321 *e*P P 21 20 33.3 +0.1
comp=Z,394nm,1.8s
TIR LR LR
comp=Z,12µm,22.0s
J41A **Loganville** 83.96 36 P P 21 20 33.6 -0.3
baz=322
NEST **Nestorio** 83.97 319 P P 21 20 33.9 -0.1
K40A **Colesburg** 83.97 37 P P 21 20 33.5 -0.4
baz=322
MOF **Molkenrain** 83.99 332⇑ *e*P P 21 20 34.0 0.0
M38A **Pleasantville** 83.99 39 P P 21 20 34.2 +0.1
baz=320,SNR=5.8
Q34A **Chapman** 84.00 43 P P 21 20 34.2 0.0
baz=318
N37A **Lee Faris, Mou** 84.00 40 P P 21 20 34.5 +0.4
baz=320
L39A **Vinton** 84.02 38 P P 21 20 34.3 +0.1
baz=321,SNR=15
SMIA **Simia** 84.02 317 P P 21 20 33.9 -0.3
P35A **Duane Minner,** 84.03 42 P P 21 20 34.1 -0.1
baz=319
KSU1 **Kansas State U** 84.04 43 P P 21 20 34.2 -0.1
baz=318
KSU1 **Kansas State U** 84.04 43 *e*P P 21 20 34.5 +0.2
comp=Z,21nm,0.6s
KSU1 LR LR
comp=Z,4µm,21.0s
THEF **They Montfort** 84.08 333⇑ *e*P P 21 20 34.5 +0.1
PENT **Pentalofos** 84.09 319 P P 21 20 34.2 -0.5
O36A **Bolckow** 84.11 41 P P 21 20 34.6 0.0
baz=319
THL **Klokotos Trika** 84.12 318 P P 21 20 33.4 -1.3
JFWS **Jewell Farm** 84.21 36 PFAKE 21 20 50.0 +15
JFWS LR LR
comp=Z,4µm,21.0s
LKR **Lokris** 84.30 317 P P 21 20 34.6 -1.0
LKR **Lokris** 84.30 317 P P 21 20 34.6 -1.0
R34A **Isabella, Hill** 84.30 43 P P 21 20 34.6 -1.1
baz=318
KARP **Karpathos** 84.31 313 *e*P P 21 20 36.1 +0.3
TUE **Stuetta** 84.32 330 *e*P P 21 20 36.1 +0.2
comp=Z,428nm,1.9s
TUE LR LR
comp=Z,11µm,19.0s

AMTX **Amarillo** 84.36 48 P P 21 20 37.0 +0.8
baz=316
AMTX **Amarillo** 84.36 48 *e*P P 21 20 36.9 +0.7
AGG **Agios Georgios** 84.37 318 P P 21 20 34.7 -1.3
AGG **Agios Georgios** 84.37 318 *e*P P 21 20 35.2 -0.8
AGG **Agios Georgios** 84.37 318 *e*P P 21 20 35.2 -0.8
P36A **Good Intent, A** 84.37 41 P P 21 20 35.7 -0.2
baz=319
MSTX **Muleshoe** 84.38 50 P P 21 20 36.6 +0.3
baz=316,SNR=14
MSTX **Muleshoe** 84.38 50 *e*P P 21 20 36.6 +0.3
comp=Z,99nm,1.2s
MNTX **Cornudas Mount** 84.42 53 P P 21 20 36.7 +0.3
baz=314,SNR=31
MNTX **Cornudas Mount** 84.42 53 *e*P P 21 20 37.2 +0.8
MNTX LR LR
comp=Z,2µm,20.0s
K41A **Shullsburg** 84.43 37 P P 21 20 35.8 -0.4
baz=322
L40A **Anamosa** 84.43 37 P P 21 20 36.1 -0.1
baz=322,SNR=7.5
M39A **Webster** 84.44 38 P P 21 20 36.4 +0.1
baz=321,SNR=8.5
N38A **Joes South For** 84.45 39 P P 21 20 36.5 +0.1
baz=320
O37A **Wolven Farm, M** 84.49 40 P P 21 20 36.7 +0.1
baz=320
Q35A **Mercer Eighty,** 84.52 42 P P 21 20 36.9 +0.1
baz=319,SNR=8.6
LOMF **Lomont** 84.52 332⇑ *e*P P 21 20 37.1 +0.4
SANT **Santorini** 84.66 314 *e*P P 21 20 34.8 -2.7
comp=Z,32nm,1.1s
SANT LR LR
comp=Z,7µm,20.0s
Q36A **Arnold C. Orve** 84.74 42 P P 21 20 37.5 -0.4
baz=319
N39A **Derby Farms, D** 84.74 39 P P 21 20 38.0 +0.1
baz=321,SNR=6.3
L41A **Preston** 84.75 37 P P 21 20 37.5 -0.4
baz=322
U32A **Winter Ranch,** 84.78 46 P P 21 20 38.5 +0.4
baz=317
M40A **Post Highland** 84.81 38 P P 21 20 38.0 -0.1
baz=321,SNR=6.2
S34A **Willow Spring** 84.82 44 P P 21 20 38.2 -0.1
baz=318
P37A **Lathrop** 84.83 41 P P 21 20 38.4 +0.1
baz=320
R35A **Emporia Munici** 84.84 43 P P 21 20 38.6 +0.3
baz=319,SNR=9.9
O38A **Galt** 84.85 40 P P 21 20 38.5 +0.1
baz=320
PPT **Papeete** 84.91 118 LR LR 21 52 49.1
comp=Z,8µm,20.2s,baz=284,slow=32
DSL **Palaion Diasel** 84.91 319 P P 21 20 38.5 -0.3
DSL **Palaion Diasel** 84.91 319 P P 21 20 38.5 -0.3
PPT2 **Papeete2** 84.92 118 *e*LR LR 21 47 26.5
comp=Z,8µm,22.8s,baz=320
KALE **Kalithea** 84.94 317 P P 21 20 37.4 -1.6
KALE **Kalithea** 84.94 317 P P 21 20 37.4 -1.6
SERG **Sergoula** 84.97 318 P P 21 20 38.0 -1.0
SGD **Sagiada** 84.98 319 P P 21 20 38.8 -0.2
IGT **Igoumenitsa** 84.99 319 P P 21 20 38.7 -0.4
IGT **Igoumenitsa** 84.99 319 P P 21 20 38.7 -0.4
IGT **Igoumenitsa** 84.99 319 P P 21 20 38.7 -0.4
N40A **Mertquake, Sal** 85.18 38 P P 21 20 40.4 +0.4
baz=321,SNR=6.9
DYA **Yadsworthy** 85.19 340 *e*P P 21 20 39.9 0.0
DYA AMB AMB 21 20 41.1
comp=Z,196nm,1.6s
DYA AMS AMS 22 05 04.5
comp=Z,5µm,16.9s
DYA **Yadsworthy** 85.19 340 *e*P P 21 20 40.9 +1.0
KLV **Kalavryta, Ach** 85.19 317 P P 21 20 38.8 -1.4
KLV **Kalavryta, Ach** 85.19 317 P P 21 20 38.8 -1.4
R36A **Gordon, Harris** 85.19 42 P P 21 20 40.4 +0.3
baz=319
P38A **Dawn** 85.20 40 P P 21 20 40.4 +0.3
baz=320,SNR=5.4
O39A **Kirksville** 85.20 39 P P 21 20 40.3 +0.1
baz=321
S35A **Otter Creek Ra** 85.25 43 P P 21 20 41.2 +0.8
baz=319,SNR=24
PDO **Prodromos** 85.27 318 P P 21 20 40.0 -0.5
M41A **Milan** 85.28 37 P P 21 20 40.2 -0.4
baz=322
T34A **McClaskey Farm** 85.28 44 P P 21 20 41.1 +0.4
baz=318,SNR=12
Q37A **Longview Farm,** 85.31 41 P P 21 20 40.4 -0.4
baz=320
VAL **Valentia** 85.32 344⇑ *i*S S 21 31 13.8 +4.6
VAL *e*SS SS 21 36 55.4 +13
LAST **Lasithi** 85.54 313 P P 21 20 41.4 -0.6
LAST **Lasithi** 85.54 313 P P 21 20 41.4 -0.6
R37A **Teagarden Farm** 85.55 42 P P 21 20 41.8 -0.1
baz=320
M42A **Sheffield** 85.58 37 P P 21 20 41.6 -0.4
baz=322
S36A **Lake Cedric, C** 85.60 43 P P 21 20 42.5 +0.3
baz=319,SNR=12
O40A **La Belle** 85.63 39 P P 21 20 42.7 +0.4
baz=321,SNR=6.4
N41A **Harden Midland** 85.66 38 P P 21 20 42.9 +0.5
baz=322,SNR=6.7
Q38A **Cooks Store, C** 85.67 41 P P 21 20 42.5 0.0
baz=320,SNR=5.4
TAOE **Nuku Hiva Isla** 85.69 105 *e*S S 21 31 10.8 -3.3
comp=Z,4µm,25.8s
TAOE **Nuku Hiva Isla** 85.69 105 *e*LR LR 21 47 50.6
comp=Z,15µm,21.7s,baz=315
P39B **Salisbury** 85.69 40 P P 21 20 42.7 +0.1
baz=321
T35A **Sooner Cattle** 85.72 44 P P 21 20 43.4 +0.5
baz=319,SNR=15
IDI **Anoyia** 85.77 314 P P 21 20 41.7 -1.5
IDI **Anoyia** 85.77 314 *e*P P 21 20 42.5 -0.7
comp=Z,125nm,1.5s
VLC **Villacollemand** 85.83 328 *e*P P 21 20 43.9 +0.6
comp=Z,80nm,1.1s
VLC LR LR
comp=Z,7µm,19.0s
JSA **Saint Aubin** 85.84 338 *e*P P 21 20 44.1 +1.0
JSA AMB AMB 21 20 44.4
comp=Z,200nm,1.6s
JSA AMS AMS 22 01 48.8
comp=Z,7µm,20.2s
Q39A **Willow Grove F** 85.92 40 P P 21 20 44.0 +0.3
baz=321,SNR=13
N42A **Yates City** 85.95 38 P P 21 20 43.8 0.0
baz=322,SNR=7.5
T36A **Boggs Farm, Ca** 85.95 43 P P 21 20 44.1 +0.2
baz=319,SNR=13
ITM **Ithomi** 85.96 317 P P 21 20 43.0 -1.0
ITM **Ithomi** 85.96 317 P P 21 20 43.0 -1.0
S37A **Fort Scott** 85.97 42 P P 21 20 44.2 +0.1
baz=320,SNR=9.2
P40A **Paris** 86.01 40 P P 21 20 44.5 +0.4
baz=321,SNR=12
U35A **Pawnee** 86.01 44 P P 21 20 44.6 +0.3
baz=319,SNR=5.8
AQU **L'Aquila** 86.03 325 *e*P P 21 20 44.7 +0.4
AQU **L'Aquila** 86.03 325 *e*P P 21 20 44.7 +0.4
comp=Z,283nm,1.8s
AQU LR LR
comp=Z,15µm,19.0s
SNZO **South Karori** 86.09 157 PFAKE 21 21 00.0 +16
SNZO LR LR
comp=Z,6µm,20.0s
WMOK **Wichita Mounta** 86.10 47 P P 21 20 45.1 +0.3
baz=318,SNR=16
WMOK **Wichita Mounta** 86.10 47 *e*P P 21 20 45.1 +0.3
WMOK **Wichita Mounta** 86.10 47 *e*P P 21 20 45.1 +0.3
comp=Z,37nm,1.0s
WMOK LR LR
comp=Z,3µm,19.0s
O41A **Passleys Farm,** 86.11 38 P P 21 20 44.7 0.0
baz=322,SNR=6.6
R38A **Fenwick Farm,** 86.12 41 P P 21 20 44.4 -0.4
baz=320,SNR=5.4
P41A **Barry, Barry** 86.37 39 P P 21 20 46.1 +0.1
baz=322
T37A **Cheneyville 18** 86.41 43 P P 21 20 46.6 +0.4
baz=320,SNR=7.2
Q40A **Laux Farm, Aux** 86.41 40 P P 21 20 46.4 +0.2
baz=321,SNR=11
V35A **Meyer Ranch, C** 86.41 45 P P 21 20 46.5 +0.3
baz=319

O42A	**Bath**	**86.43**	**38**	P		**P**		**21 20 46.1**	**-0.1**	
	baz=322									
R39A	**Chumby, Stover**	**86.46**	**41**	P		**P**		**21 20 46.0**	**-0.4**	
	baz=321,SNR=10									
HDIL	**Hopedale**	**86.51**	**37**	P		**P**		**21 20 46.6**	**0.0**	
	baz=323									
HDIL	**Hopedale**	**86.51**	**37**	*e*P		**P**		**21 20 47.3**	**+0.7**	
HDIL				LR		LR				
	comp=Z,4µm,20.0s									
BNI	**Bardonecchia**	**86.53**	**331**	*e*P		**P**		**21 20 46.8**	**0.0**	
BNI	**Bardonecchia**	**86.53**	**331**	*e*P		**P**		**21 20 46.8**	**0.0**	
BNI				LR		LR				
	comp=Z,13µm,19.0s									
U36A	**Oologah**	**86.53**	**44**	P		**P**		**21 20 47.0**	**+0.2**	
	baz=319									
S38A	**Stockton**	**86.54**	**42**	P		**P**		**21 20 46.2**	**-0.6**	
	baz=320,SNR=6.6									
GDM	**Grand'Maison**	**86.61**	**331⇑**	*e*P		**P**		**21 20 47.6**	**+0.4**	
OG22	**Abries**	**86.62**	**330⇑**	*e*P		**P**		**21 20 47.2**	**-0.2**	
GRN	**Grenoble**	**86.71**	**331⇑**	*e*P		**P**		**21 20 48.3**	**+0.6**	
O43A	**Sugar Creek Fa**	**86.72**	**37**	P		**P**		**21 20 47.7**	**+0.1**	
	baz=323									
P42A	**Winchester**	**86.78**	**38**	P		**P**		**21 20 48.2**	**+0.2**	
	baz=322,SNR=6.4									
S39A	**Bolivar**	**86.79**	**41**	P		**P**		**21 20 47.7**	**-0.4**	
	baz=320,SNR=12									
T38A	**Diamond**	**86.80**	**42**	P		**P**		**21 20 48.0**	**-0.1**	
	baz=320,SNR=14									
CUC	**Castrocucco**	**86.82**	**322**	*e*P		**P**		**21 20 46.1**	**-2.1**	
	comp=Z,20nm,1.1s									
CUC				LR		LR				
	comp=Z,9µm,19.0s									
PLDF	**La Plantade**	**86.84**	**333**	*e*P		**P**		**21 20 49.0**	**+0.7**	
U37A	**Salina**	**86.85**	**43**	P		**P**		**21 20 48.5**	**+0.2**	
	baz=320,SNR=7.6									
W35A	**Tecumseh**	**86.85**	**45**	P		**P**		**21 20 48.9**	**+0.5**	
	baz=319,SNR=5.4									
Q41A	**Truxton**	**86.85**	**39**	P		**P**		**21 20 48.7**	**+0.4**	
	baz=322,SNR=14									
R40A	**Maddies Statio**	**86.86**	**40**	P		**P**		**21 20 48.4**	**0.0**	
	baz=321,SNR=10									
TUL1	**Leonard**	**86.86**	**44**	P		**P**		**21 20 48.6**	**+0.2**	
	baz=319									
TUL1	**Leonard**	**86.86**	**44**	*e*P		**P**		**21 20 48.6**	**+0.2**	
	comp=Z,26nm,0.9s									
V36A	**Jenks**	**86.88**	**44**	P		**P**		**21 20 48.9**	**+0.4**	
	baz=319,SNR=6.3									
AGO	**Saint Agoulin**	**86.94**	**333⇑**	*e*P		**P**		**21 20 49.6**	**+0.9**	
SSB	**Saint Sauveur**	**87.12**	**332⇑**	*e*P		**P**		**21 20 49.8**	**+0.2**	
SSB	**Saint Sauveur**	**87.12**	**332**	*e*P		**P**		**21 20 49.4**	**-0.2**	
SSB				pmax		pmax				
	comp=Z,111nm,1.6s									
SSB				MLR		MLR				
	comp=Z,7µm,20.0s									
SSB	**Saint Sauveur**	**87.12**	**332**	*e*P		**P**		**21 20 49.4**	**-0.2**	
	comp=Z,111nm,1.6s									
SSB				LR		LR				
	comp=Z,7µm,20.0s									
P43A	**Skaggs, Pawnee**	**87.13**	**38**	P		**P**		**21 20 49.4**	**-0.3**	
	baz=323									
TXAR	**Lajitas Array**	**87.13**	**53**	P		**P**		**21 20 50.5**	**+0.5**	
	comp=Z,18nm,1.0s,baz=292,slow=3.6,SNR=76									
TXAR				PKKPbc		**PKKPbc**		**21 38 43.1**	**+3.1**	
	comp=Z,0.8nm,0.9s,baz=165,slow=5.2,SNR=4.9									
TXAR				LR		LR		21 54 41.5		
	comp=Z,2µm,22.0s,baz=0.0,slow=32									
ABTX	**Abilene, Hawle**	**87.16**	**49**	P		**P**		**21 20 50.6**	**+0.5**	
	baz=317,SNR=7.9									
ABTX	**Abilene, Hawle**	**87.16**	**49**	*e*P		**P**		**21 20 50.5**	**+0.5**	
	comp=Z,62nm,1.1s									
U38A	**Gravette**	**87.20**	**43**	P		**P**		**21 20 50.0**	**-0.1**	
	baz=320,SNR=5.5									
W36A	**Wetumka**	**87.21**	**45**	P		**P**		**21 20 50.3**	**+0.2**	
	baz=319									
COLF	**Collangettes**	**87.21**	**333⇑**	*e*P		**P**		**21 20 50.9**	**+0.9**	
Q42A	**Golden Eagle**	**87.22**	**39**	P		**P**		**21 20 50.2**	**+0.1**	
	baz=322									
V37A	**Hulbert**	**87.23**	**44**	P		**P**		**21 20 50.5**	**+0.3**	
	baz=320,SNR=9.2									
PYM	**Petit Puy Mans**	**87.25**	**333⇑**	*e*P		**P**		**21 20 51.1**	**+0.9**	
T39A	**Clever**	**87.28**	**42**	P		**P**		**21 20 50.1**	**-0.4**	
	baz=320									
S40A	**Lebanon**	**87.28**	**41**	P		**P**		**21 20 50.2**	**-0.3**	
	baz=321,SNR=8.9									
R41A	**Rosebud**	**87.29**	**40**	P		**P**		**21 20 50.9**	**+0.4**	
	baz=322,SNR=16									
X35A	**Drake**	**87.35**	**46**	P		**P**		**21 20 50.7**	**-0.2**	
	baz=319									
OG26	**St.-Nazaire-De**	**87.44**	**331⇑**	*e*P		**P**		**21 20 51.7**	**+0.5**	
X36A	**Centrahoma**	**87.57**	**45**	P		**P**		**21 20 51.9**	**+0.1**	
	baz=319									
SLM	**Saint Louis**	**87.58**	**39**	*e*P		**P**		**21 20 52.6**	**+0.8**	
SLM	**Saint Louis**	**87.58**	**39**	*e*P		**P**		**21 20 52.6**	**+0.8**	
R42A	**Luebbering**	**87.59**	**40**	P		**P**		**21 20 52.0**	**+0.1**	
	baz=322,SNR=7.8									
Q43A	**New Douglas**	**87.60**	**38**	P		**P**		**21 20 52.2**	**+0.2**	
	baz=323									
T40A	**Mansfield**	**87.61**	**41**	P		**P**		**21 20 51.8**	**-0.3**	
	baz=321,SNR=8.1									
LBL	**Lubilhac**	**87.62**	**333**	*e*P		**P**		**21 20 52.9**	**+0.9**	
V38A	**Canehill**	**87.63**	**43**	P		**P**		**21 20 52.2**	**0.0**	
	baz=320,SNR=8.7									
W37B	**Quinton**	**87.64**	**44**	P		**P**		**21 20 52.5**	**+0.3**	
	baz=319									
SFIN	**Lafayette**	**87.66**	**36**	P		**P**		**21 20 52.0**	**-0.1**	
	baz=324									
SFIN	**Lafayette**	**87.66**	**36**	*e*P		**P**		**21 20 52.1**	**-0.1**	
	comp=Z,8.8nm,0.7s									
S41A	**Jillco Farms,**	**87.66**	**41**	P		**P**		**21 20 52.3**	**0.0**	
	baz=321,SNR=6.8									
Y35A	**Marietta**	**87.69**	**46**	P		**P**		**21 20 52.5**	**+0.1**	
	baz=319									
P44A	**Sand Creek, Wi**	**87.69**	**37**	P		**P**		**21 20 52.3**	**0.0**	
	baz=323									
U39A	**Green Forest**	**87.72**	**42**	P		**P**		**21 20 52.7**	**+0.1**	
	baz=320,SNR=8.8									
Q44A	**Meyer Farm, Va**	**87.95**	**38**	P		**P**		**21 20 53.7**	**+0.1**	
	baz=323,SNR=6.8									
S42A	**Caledonia**	**87.99**	**40**	P		**P**		**21 20 54.1**	**+0.2**	
	baz=322,SNR=16									
R43A	**Red Bud**	**88.01**	**39**	P		**P**		**21 20 53.9**	**0.0**	
	baz=322									
233A	**Rising Star**	**88.03**	**49**	P		**P**		**21 20 54.7**	**+0.5**	
	baz=318,SNR=9.0									
V39A	**Pettigrew**	**88.05**	**43**	P		**P**		**21 20 53.9**	**-0.3**	
	baz=320,SNR=7.3									
U40A	**Yellville**	**88.06**	**42**	P		**P**		**21 20 54.3**	**+0.1**	
	baz=321,SNR=15									
T41A	**Mountain View**	**88.08**	**41**	P		**P**		**21 20 54.0**	**-0.3**	
	baz=321,SNR=12									
X37A	**Clayton**	**88.08**	**45**	P		**P**		**21 20 54.4**	**0.0**	
	baz=319									
Y36A	**Durant**	**88.11**	**46**	P		**P**		**21 20 54.9**	**+0.4**	
	baz=319,SNR=5.8									
CEL	**Celeste**	**88.16**	**321**	*e*P		**P**		**21 20 53.7**	**-1.0**	
	comp=Z,31nm,0.9s									
CEL				LR		LR				
	comp=Z,10µm,20.0s									
W38A	**Poteau**	**88.17**	**44**	P		**P**		**21 20 55.0**	**+0.3**	
	baz=320									
X38A	**Whitesboro**	**88.31**	**44**	P		**P**		**21 20 55.8**	**+0.4**	
	baz=320,SNR=6.6									
Y37A	**Hugo**	**88.41**	**45**	P		**P**		**21 20 55.9**	**+0.1**	
	baz=319									
T42A	**Van Buren**	**88.42**	**40**	P		**P**		**21 20 56.0**	**+0.1**	
	baz=322									
R44A	**Waltonville**	**88.44**	**38**	P		**P**		**21 20 56.2**	**+0.2**	
	baz=323									
W39A	**Magazine**	**88.47**	**43**	P		**P**		**21 20 56.2**	**0.0**	
	baz=320									
234A	**Clairette**	**88.48**	**48**	P		**P**		**21 20 56.6**	**+0.3**	
	baz=318									
333A	**Richland Sprin**	**88.49**	**49**	P		**P**		**21 20 56.4**	**+0.1**	
	baz=318,SNR=16									
Z36A	**Blue Ridge**	**88.50**	**46**	P		**P**		**21 20 56.4**	**+0.1**	
	baz=319									
S43A	**Fulton Ridge,**	**88.50**	**40**	P		**P**		**21 20 56.2**	**0.0**	
	baz=322									
V40A	**Witts Springs**	**88.50**	**42**	P		**P**		**21 20 55.9**	**-0.4**	
	baz=321									
U41A	**Viola**	**88.54**	**41**	P		**P**		**21 20 56.2**	**-0.3**	
	baz=321									
JCT	**Junction City**	**88.63**	**50**	P		**P**		**21 20 57.3**	**+0.2**	
	baz=317									
JCT	**Junction City**	**88.63**	**50**	*e*P		**P**		**21 20 57.3**	**+0.2**	
JCT	**Junction City**	**88.63**	**50**	*e*P		**P**		**21 20 57.3**	**+0.2**	
JCT				LR		LR				
	comp=Z,4µm,20.0s									
T43A	**Greenville**	**88.78**	**40**	P		**P**		**21 20 57.3**	**-0.3**	
	baz=322,SNR=6.9									
S44A	**Carbondale**	**88.80**	**39**	P		**P**		**21 20 57.6**	**0.0**	
	baz=323,SNR=6.1									
X39A	**Fountain Ranch**	**88.82**	**44**	P		**P**		**21 20 58.1**	**+0.3**	
	baz=320,SNR=6.7									
W40A	**Ferguson Farm,**	**88.84**	**43**	P		**P**		**21 20 58.3**	**+0.4**	
	baz=321,SNR=6.7									
433A	**Art**	**88.85**	**50**	P		**P**		**21 20 58.1**	**+0.1**	
	baz=318									
V41A	**Mountainview**	**88.86**	**42**	P		**P**		**21 20 57.9**	**-0.1**	
	baz=321,SNR=10.0									
WHTX	**Lake Whitney,**	**88.88**	**48**	P		**P**		**21 20 58.7**	**+0.6**	
	baz=318									
WHTX	**Lake Whitney,**	**88.88**	**48**	*e*P		**P**		**21 20 58.7**	**+0.6**	
	comp=Z,30nm,1.1s									
U42A	**Revenden**	**88.88**	**41**	P		**P**		**21 20 57.8**	**-0.2**	
	baz=322									
334A	**Lometa**	**88.92**	**49**	P		**P**		**21 20 58.4**	**+0.1**	
	baz=318,SNR=7.2									
Y38A	**Idabel**	**88.93**	**45**	P		**P**		**21 20 58.3**	**-0.1**	
	baz=320									
PBMO	**Poplar Bluff**	**88.95**	**40**	*e*P		**P**		**21 20 59.2**	**+0.8**	
LONY	**Lake Ozonia**	**88.98**	**26**	PFAKE				21 21 10.0	+12	
LONY				LR		LR				
	comp=Z,5µm,20.0s									
Z37A	**Pogue Cattle C**	**89.00**	**46**	P		**P**		**21 20 58.8**	**+0.2**	
	baz=319									
136A	**Ennis**	**89.04**	**47**	P		**P**		**21 20 58.9**	**+0.1**	
	baz=319									
TBI	**Tubuai**	**89.05**	**122**	*e*S		**S**		**21 31 38.6**	**-7.2**	
	comp=Z,4µm,26.2s									
TBI	**Tubuai**	**89.05**	**122**	*e*LR		LR		21 48 52.0		
	comp=Z,8µm,25.8s,baz=315									
TBI	**Tubuai**	**89.05**	**122**	*e*T		T		22 59 13.0		
	comp=Z,40nm,0.3s									
MIAR	**Mount Ida**	**89.07**	**44**	P		**P**		**21 20 59.4**	**+0.4**	
	baz=320,SNR=7.2									
MIAR	**Mount Ida**	**89.07**	**44**	*e*P		**P**				
MIAR				MLR		MLR		**21 20 59.2**	**+0.2**	
	comp=Z,4µm,19.0s									
MIAR	**Mount Ida**	**89.07**	**44**	*e*P		**P**		**21 20 59.1**	**+0.2**	
MIAR				LR		LR				
	comp=Z,4µm,19.0s									
T44A	**Benton**	**89.12**	**40**	P		**P**		**21 20 59.3**	**+0.1**	
	baz=323									
S45A	**Carrier Mills**	**89.14**	**39**	P		**P**		**21 20 59.6**	**+0.4**	
	baz=323									
ERPA	**Erie**	**89.20**	**31**	*e*P		**P**		**21 21 00.5**	**+1.0**	
V42A	**Cord**	**89.23**	**41**	P		**P**		**21 20 59.7**	**0.0**	
	baz=322,SNR=9.7									
Y39A	**Lockesburg**	**89.26**	**44**	P		**P**		**21 20 59.9**	**+0.1**	
	baz=320									
434A	**Burnet**	**89.28**	**49**	P		**P**		**21 21 00.2**	**+0.1**	
	baz=318									
U43A	**Rector**	**89.28**	**40**	P		**P**		**21 20 59.8**	**-0.1**	
	baz=322									
W41B	**Gary Mavity, V**	**89.28**	**42**	P		**P**		**21 20 60.0**	**0.0**	
	baz=321,SNR=8.2									
Z38A	**Mt. Pleasant**	**89.31**	**45**	P		**P**		**21 21 00.5**	**+0.4**	
	baz=320									
533A	**Kerrville**	**89.38**	**50**	P		**P**		**21 21 00.9**	**+0.3**	
	baz=318									
236A	**Katherine and**	**89.39**	**47**	P		**P**		**21 21 00.4**	**-0.2**	
	baz=319									
335A	**Moody**	**89.42**	**48**	P		**P**		**21 21 01.0**	**+0.3**	
	baz=318									
X40A	**Basin Creek Fa**	**89.51**	**43**	P		**P**		**21 21 00.9**	**-0.1**	
	baz=321									
H06N1	**SOCORRO T-PHAS**	**89.53**	**66**	T		T		23 00 23.9		
	SNR=4.4									
ACSO	**Alum Creek Sta**	**89.57**	**33**	*e*P		**P**		**21 21 02.1**	**+0.8**	
ACSO				LR		LR				
	comp=Z,4µm,21.0s									
H06E1	**SOCORRO T-PHAS**	**89.63**	**66**	T		T		23 00 33.5		
	SNR=10									
Y40A	**Okolona**	**89.64**	**44**	P		**P**		**21 21 01.8**	**+0.2**	
	baz=321									
534A	**Blanco**	**89.74**	**50**	P		**P**		**21 21 02.6**	**+0.3**	
	baz=318,SNR=9.6									
633A	**Saathoff Ranch**	**89.75**	**51**	P		**P**		**21 21 03.1**	**+0.8**	
	baz=318,SNR=5.3									
U44B	**Buon Farm, H**	**89.83**	**40**	P		**P**		**21 21 02.6**	**+0.1**	
	baz=323									
M54A	**Oil Creek Stat**	**89.84**	**31**	P		**P**		**21 21 03.0**	**+0.5**	
	baz=329,SNR=7.5									
LRDF	**Laroque-de-Fa**	**89.86**	**332⇑**	*e*P		**P**		**21 21 03.2**	**+0.6**	
CLTB	**Caltabellotta**	**89.97**	**322**	PFAKE				21 21 10.0	+6.7	
CLTB				LR		LR				
	comp=Z,5µm,20.0s									
PKME	**Peaks-Kenny Pk**	**90.06**	**22**	PFAKE				21 21 20.0	+17	
PKME				LR		LR				
	comp=Z,4µm,20.0s									
139A	**Bunkhouse Ranc**	**90.06**	**45**	P		**P**		**21 21 04.1**	**+0.4**	
	baz=320									
U45A	**Rockin P Farm,**	**90.11**	**39**	P		**P**		**21 21 04.3**	**+0.5**	
	baz=323									
VSL	**Villasalto**	**90.12**	**326**	*e*P		**P**		**21 21 02.8**	**-1.0**	
	comp=Z,21nm,1.0s									
VSL				LR		LR				
	comp=Z,6µm,20.0s									
832A	**Faith Ranch, C**	**90.13**	**52**	P		**P**		**21 21 04.7**	**+0.6**	
	baz=317									
Z40A	**Long Farm, Mag**	**90.16**	**44**	P		**P**		**21 21 04.9**	**+0.8**	
	baz=320									
436A	**Wall Ranch, Ga**	**90.16**	**48**	P		**P**		**21 21 05.2**	**+1.1**	
	baz=319									
238A	**Jacksonville**	**90.18**	**46**	P		**P**		**21 21 05.1**	**+0.9**	
	baz=320									
N54A	**Moraine State**	**90.18**	**31**	P		**P**		**21 21 04.4**	**+0.4**	
	baz=329,SNR=8.3									
FILF	**Filds**	**90.19**	**332**	*e*P		**P**		**21 21 04.6**	**+0.4**	
535A	**Dale**	**90.27**	**49**	P		**P**		**21 21 05.5**	**+0.8**	
	baz=318									
833A	**Chaparral WMA,**	**90.45**	**51**	P		**P**		**21 21 06.2**	**+0.6**	
	baz=317									
VALF	**Valcebollere**	**90.52**	**332⇑**	*e*P		**P**		**21 21 06.4**	**+0.6**	
536A	**Bastrop**	**90.53**	**49**	P		**P**		**21 21 06.8**	**+1.0**	
	baz=319									
MELF	**Melles**	**90.55**	**333**	*e*P		**P**		**21 21 06.1**	**+0.3**	
Y42A	**Garnett, Star**	**90.56**	**43**	P		**P**		**21 21 07.2**	**+1.3**	
	baz=321									
NATX	**Nacogdoches**	**90.61**	**46**	PFAKE				21 21 20.0	+14	
NATX				LR		LR				
	comp=Z,3µm,21.0s									
BINY	**Binghamton**	**90.62**	**28**	PFAKE				21 21 20.0	+14	
BINY				LR		LR				
	comp=Z,3µm,20.0s									
WDD	**Wied Dalam**	**90.75**	**321**	PFAKE				21 21 20.0	+13	
WDD				LR		LR				
	comp=Z,7µm,19.0s									
RESF	**Ens**	**90.75**	**334⇑**	*e*P		**P**		**21 21 08.1**	**+1.3**	
VIEF	**Vley**	**90.79**	**334⇑**	*e*P		**P**		**21 21 08.2**	**+1.2**	
X44A	**Crenshaw**	**90.89**	**41**	P		**P**		**21 21 07.8**	**+0.4**	
	baz=322									
Z42A	**Norrel Spur, H**	**90.91**	**43**	P		**P**		**21 21 08.1**	**+0.5**	
	baz=321									
141A	**Papa Simpson,**	**90.92**	**44**	P		**P**		**21 21 08.2**	**+0.5**	
	baz=321									
636A	**Smothers Creek**	**90.97**	**49**	P		**P**		**21 21 08.9**	**+1.0**	
	baz=319,SNR=5.9									
LARF	**Larrau**	**90.99**	**335**	*e*P		**P**		**21 21 08.2**	**+0.4**	
933A	**Laredo**	**91.04**	**52**	P		**P**		**21 21 09.4**	**+1.1**	
	baz=318,SNR=8.5									
834A	**Tilden**	**91.10**	**51**	P		**P**		**21 21 08.7**	**+0.1**	
	baz=318									
MSEY	**Mahe Island**	**91.18**	**265**	PFAKE				21 21 20.0	+11	
MSEY				LR		LR				
	comp=Z,6µm,21.0s									
OXF	**Oxford**	**91.25**	**41**	*e*P		**P**		**21 21 09.0**	**-0.1**	
OXF				pmax		pmax				
	comp=Z,105nm,1.2s									
OXF	**Oxford**	**91.25**	**41**	*e*P		**P**		**21 21 09.0**	**-0.1**	
	comp=Z,105nm,1.2s									
Y44A	**Strider, Charl**	**91.28**	**42**	P		**P**		**21 21 09.6**	**+0.4**	
	baz=322									
SSPA	**Standing Stone**	**91.28**	**30**	*e*P		**P**		**21 21 09.1**	**-0.1**	
	comp=Z,87nm,1.1s									
439A	**Center Grove,**	**91.29**	**47**	P		**P**		**21 21 10.3**	**+0.9**	
	baz=320									
X45A	**UM Field Stati**	**91.33**	**41**	P		**P**		**21 21 10.3**	**+0.8**	
	baz=323									
O56A	**Blue Knob Stat**	**91.33**	**31**	P		**P**		**21 21 09.8**	**+0.3**	
	baz=330									
736A	**Circle Diamond**	**91.36**	**50**	P		**P**		**21 21 11.0**	**+1.2**	
	baz=319									
835A	**Beeville**	**91.41**	**50**	P		**P**		**21 21 10.8**	**+0.9**	
	baz=318									
637A	**Eagle Lake**	**91.42**	**49**	P		**P**		**21 21 11.2**	**+1.2**	
	baz=319									
Y45A	**Yeager Farm, C**	**91.69**	**41**	P		**P**		**21 21 12.3**	**+1.1**	
	baz=323									
034A	**Hebbronville**	**91.80**	**52**	P		**P**		**21 21 12.8**	**+1.0**	
	baz=318,SNR=5.7									
N59A	**State Game Lan**	**91.83**	**28**	P		**P**		**21 21 12.3**	**+0.5**	
	baz=331,SNR=9.1									
KVTX	**Kingsville**	**91.92**	**51**	PFAKE				21 21 20.0	+7.7	
KVTX				LR		LR				
	comp=Z,3µm,19.0s									
Y46A	**Houston**	**92.02**	**41**	P		**P**		**21 21 13.1**	**+0.3**	
	baz=323									
144A	**Alexander Plac**	**92.21**	**43**	P		**P**		**21 21 14.0**	**+0.4**	
	baz=322									
TZTN	**Tazewell**	**92.39**	**36**	*e*P		**P**		**21 21 14.6**	**+0.2**	
	comp=Z,35nm,1.3s									
Y47A	**UCPARC, Winfie**	**92.51**	**40**	P		**P**		**21 21 15.1**	**+0.1**	
	baz=324									
Z46A	**Louisville**	**92.53**	**41**	P		**P**		**21 21 16.3**	**+1.2**	
	baz=323									
244A	**Avery, Jackson**	**92.54**	**43**	P		**P**		**21 21 16.1**	**+1.0**	
	baz=322									
Z47A	**Carrollton**	**92.96**	**41**	P		**P**		**21 21 17.7**	**+0.6**	
	baz=324									
TKL	**Tuckaleechee C**	**93.02**	**37**	LR		LR		22 03 03.0		
	comp=Z,2µm,21.5s,baz=350,slow=36									
BLA	**Blacksburg**	**93.19**	**33**	PFAKE				21 21 30.0	+12	
BLA				LR		LR				
	comp=Z,4µm,21.0s									
KEST	**Kesra**	**93.26**	**324**	P		**P**		**21 21 18.1**	**-0.4**	
	comp=Z,14nm,1.2s,baz=37,slow=3.1,SNR=7.3									
KEST				PP		**PP**		**21 25 01.0**	**-0.4**	
	comp=Z,13nm,1.2s,baz=358,slow=5.3,SNR=4.8									
KEST				LR		LR		22 08 16.3		
	comp=Z,13µm,18.3s,baz=314,slow=39									
147A	**Livingston**	**93.28**	**41**	P		**P**		**21 21 18.5**	**0.0**	
	baz=323									
CMAH	**Djebel Manchou**	**93.36**	**326**	P		**P**		**21 21 18.0**	**-1.0**	
CAEH	**'Ain El Ouahch**	**93.47**	**326**	P		**P**		**21 21 20.0**	**+0.6**	
CBN	**Corbin Frederi**	**93.58**	**31**	PFAKE				21 21 30.0	+10	
CBN				LR		LR				
	comp=Z,3µm,20.0s									
247A	**Quitman**	**93.61**	**42**	P		**P**		**21 21 20.6**	**+0.6**	
	baz=323									
ABSA	**Djebel Ababsia**	**93.63**	**326**	P		**P**		**21 21 21.0**	**+0.7**	
CKFL	**Kef-Lekhel**	**93.85**	**326**	P		**P**		**21 21 22.0**	**+0.7**	
PBRG	**Braganca**	**93.88**	**338**	*e*P		**P**		**21 21 21.3**	**0.0**	
	comp=Z,33nm,1.4s									
CASM	**Ain Smara**	**94.07**	**326**	P		**P**		**21 21 23.0**	**+0.8**	
PGAV	**Gavieira, Arco**	**94.17**	**339**	*e*P		**P**		**21 21 23.2**	**+0.6**	
	comp=Z,60nm,1.5s									
KMSC	**Kings Mountain**	**94.54**	**35**	P		**P**		**21 21 24.7**	**+0.3**	
	baz=328									
MVO	**Moncorvo**	**94.56**	**338**	*e*P		**P**		**21 21 25.3**	**+0.9**	
	comp=Z,32nm,1.2s									
SET	**Setif**	**94.58**	**327**	P		**P**		**21 21 25.0**	**+0.4**	
POLO	**Lamas de Olo**	**94.58**	**338**	*e*P		**P**		**21 21 25.8**	**+1.3**	
	comp=Z,22nm,1.3s									
PVRL	**Vila Real**	**94.65**	**338**	*e*P		**P**		**21 21 25.6**	**+0.8**	
	comp=Z,46nm,1.6s									
ESDC	**Sonseca Array**	**94.99**	**335**	P		**P**		**21 21 26.1**	**-0.2**	
	comp=Z,2.1nm,0.6s,baz=18,slow=3.6,SNR=18									
ESDC				PP		**PP**		**21 25 17.1**	**+2.5**	
	comp=Z,4.2nm,0.9s,baz=23,slow=7.7,SNR=5.8									
ESDC				LR		LR		22 09 51.8		
	comp=Z,9µm,19.4s,baz=45,slow=39									
GOGA	**Godfrey**	**95.02**	**38**	PFAKE				21 21 40.0	+13	
GOGA				LR		LR				
	comp=Z,3µm,20.0s									
BRAL	**Brewton**	**95.11**	**41**	PFAKE				21 21 40.0	+13	
BRAL				LR		LR				
	comp=Z,2µm,19.0s									
PAB	**San Pablo**	**95.23**	**335**	*e*P		**P**		**21 21 27.2**	**-0.3**	
PAB				pmax		pmax				
	comp=Z,22nm,1.4s									
PAB				MLR		MLR				
	comp=Z,10µm,20.0s									
PAB	**San Pablo**	**95.23**	**335**	*e*P		**P**		**21 21 27.2**	**-0.3**	
	comp=Z,22nm,1.4s									
PAB				LR		LR				
	comp=Z,10µm,20.0s									
MTE

LSZ	**Lusaka**	**118.68**	**274**	*e*PKPdf	**PKPdf**	**21**	**26**	**52.1**	**-0.2**
LSZ				LR	LR				
	comp=Z,4μm,19.0s								
SBA	**Scott Base**	**118.70**	**174**	PFAKE		21	27	00.0	+10
SBA				LR	LR				
	comp=Z,2μm,22.0s								
RPN	**Rapa Nui**	**119.83**	**102**	PFAKE		21	27	10.0	+16
RPN				LR	LR				
	comp=Z,2μm,21.0s								
FDF	**Fort de France**	**120.84**	**28**	PFAKE		21	27	10.0	+14
FDF				LR	LR				
	comp=Z,2μm,21.0s								
SDV	**Santo Domingo**	**122.02**	**40**	*e*PKPdf	**PKPdf**	**21**	**26**	**59.2**	**+0.3**
SDV				LR	LR				
	comp=Z,3μm,21.0s								
BBGH	**Gun Hill**	**122.87**	**27**	PFAKE		21	27	10.0	+10
BBGH				LR	LR				
	comp=Z,4μm,19.0s								
MAW	**Mawson**	**122.99**	**207**	PKP	**PKPdf**	**21**	**26**	**59.3**	**+0.5**
	comp=Z,4.7nm,0.9s,baz=8.0,slow=2.2,SNR=11								
MAW				PKKPbc	**PKKPbc**	**21**	**36**	**52.3**	**+0.9**
	comp=Z,1.8nm,0.9s,baz=78,slow=0.5,SNR=4.9								
GRGR	**Grenville**	**123.06**	**29**	PFAKE		21	27	10.0	+9.3
GRGR				LR	LR				
	comp=Z,2μm,21.0s								
ROSC	**El Rosal**	**123.49**	**47**	PKP	**PKPdf**	**21**	**27**	**02.9**	**+0.9**
	comp=Z,5.9nm,0.5s,baz=165,slow=3.7,SNR=5.2								
SACV	**Santiago Islan**	**123.71**	**345**	PFAKE		21	27	10.0	+8.1
SACV				LR	LR				
	comp=Z,1μm,21.0s								
OTAV	**Otavalo**	**124.76**	**54**	PFAKE		21	27	20.0	+15
OTAV				LR	LR				
	comp=Z,2μm,20.0s								
DBIC	**Dimbokro**	**124.78**	**320**	PKP	**PKPdf**	**21**	**27**	**04.2**	**+0.2**
	comp=Z,5.7nm,0.6s,baz=20,slow=2.7,SNR=9.6								
DBIC				PP	**PP**	**21**	**28**	**46.8**	**-4.0**
	comp=Z,7.0nm,1.0s,baz=23,slow=8.6,SNR=5.4								
TIC	**Toumodi**	**124.89**	**320**	*e*P	**PKPdf**	**21**	**27**	**03.1**	**-1.1**
KIC	**Kosan Boka**	**125.00**	**320**	*e*P	**PKPdf**	**21**	**27**	**03.7**	**-0.7**
	comp=Z,45nm,1.2s								
LIC	**Lamto**	**125.25**	**320**	*e*P	**PKPdf**	**21**	**27**	**05.5**	**+0.6**
	comp=Z,41nm,1.1s								
BOSA	**Boshof**	**128.40**	**263**	PKP	**PKPdf**	**21**	**27**	**11.8**	**+1.2**
	comp=Z,4.4nm,1.0s,baz=96,slow=1.9,SNR=2.7								
QSPA	**South Pole Qui**	**129.97**	**180**	*e*PKPdf	**PKPdf**	**21**	**27**	**11.3**	**-0.9**
QSPA				LR	LR				
	comp=Z,2μm,19.0s								
ATAH	**Atahualpa**	**130.41**	**60**	PKP	**PKPdf**	**21**	**27**	**16.8**	**+1.5**
	comp=Z,21nm,0.9s,baz=335,slow=2.4,SNR=9.8								
SYO	**Syowa Base**	**131.66**	**208**	*e*Pdiff	**Pdif**	**21**	**24**	**09.0**	**+0.4**
SUR	**Sutherland**	**133.56**	**261**	PFAKE		21	27	30.0	+10
SUR				LR	LR				
	comp=Z,5μm,22.0s								
NNA	**Nana**	**134.99**	**63**	PFAKE		21	27	40.0	+17
NNA				LR	LR				
	comp=Z,1μm,20.0s								
PTGA	**Pitinga**	**135.43**	**34**	PKP	**PKPdf**	**21**	**27**	**23.1**	**-1.1**
	comp=Z,1.5nm,0.4s,baz=322,slow=3.6,SNR=6.6								
PTGA				PP	**PP**	**21**	**29**	**58.4**	**-1.4**
	comp=Z,2.3nm,0.6s,baz=344,slow=7.9,SNR=4.5								
NVL	**N'lazarevskaya**	**140.75**	**203**	*e*PKHKP	PKPpre	21	27	26.2	
SAML	**Samuel**	**141.03**	**44**	*e*PKPpre	PKPpre	21	27	28.3	
SAML				*e*PKPdf	**PKPdf**	**21**	**27**	**33.5**	**-0.9**
SAML				LR	LR				
	comp=Z,3μm,20.0s								
ASCN	**Ascension**	**142.07**	**322**	PFAKE		21	27	50.0	+14
ASCN				LR	LR				
	comp=Z,3μm,21.0s								
SHEL	**Horse Pasture**	**143.72**	**303**	PFAKE		21	27	50.0	+11
SHEL				LR	LR				
	comp=Z,1μm,19.0s								
LPAZ	**La Paz**	**143.89**	**58**	PKP	PKPbc	21	27	38.5	+0.6
	comp=Z,9.0nm,1.1s,baz=358,slow=5.7,SNR=12								
SNAA	**Sanae**	**144.19**	**198**	PKP	PKPbc	21	27	36.6	0.0
SNAA	**Sanae**	**144.19**	**198**	*e*PKIKP	**PKPab**	**21**	**27**	**35.7**	**-0.5**
SNAA	**Sanae**	**144.19**	**198**	*e*PKPdf	**PKPab**	**21**	**27**	**35.7**	**-0.5**
RCBR	**Riachuelo**	**145.74**	**358**	PKPbc	**PKPab**	**21**	**27**	**43.5**	**+0.1**
	comp=Z,81nm,1.1s,baz=346,slow=4.3,SNR=10								
RCBR	**Riachuelo**	**145.74**	**358**	*e*PKPbc	**PKPdf**	**21**	**27**	**42.9**	**+0.2**
RCBR				LR	LR				
	comp=Z,2μm,21.0s								
VNA2	**Neumayer--Watz**	**145.76**	**197**	PKP	**PKPbc**	**21**	**27**	**41.6**	**+0.1**
	baz=106,slow=2.1								
VNA3	**Neumayer Olymp**	**146.00**	**195**	PKP	**PKPbc**	**21**	**27**	**42.2**	**-0.1**
VNA1	**Neumayer--Stat**	**146.16**	**197**	PKP	**PKPab**	**21**	**27**	**44.0**	**+0.6**
LVC	**Limon Verde**	**147.75**	**67**	*e*PKPbc	**PKPbc**	**21**	**27**	**50.3**	**+1.2**
LVC				LR	LR				
	comp=Z,2μm,21.0s								
SIV	**San Ignacio**	**147.97**	**48**	PKPbc	**PKPdf**	**21**	**27**	**47.4**	**+1.0**
	comp=Z,29nm,0.9s,baz=315,slow=2.2,SNR=20								
LCO	**Las Campanas**	**150.17**	**79**	*e*PKPbc	**PKPbc**	**21**	**27**	**55.4**	**+0.4**
LCO				*e*PKPab	**PKPab**	**21**	**28**	**01.9**	**+0.8**
LCO				LR	LR				
	comp=Z,5μm,20.0s								
PMSA	**Palmer Station**	**150.83**	**156**	PKPbc	**PKPbc**	**21**	**27**	**56.4**	**+1.4**
	comp=Z,13nm,0.8s,baz=32,slow=9.4,SNR=5.6								
PMSA	**Palmer Station**	**150.83**	**156**	PKPbc	**PKPbc**	**21**	**27**	**56.4**	**+1.4**
PMSA				LR	LR				
	comp=Z,3μm,19.0s								
USHA	**Ushuaia**	**154.45**	**135**	PKPbc	**PKPbc**	**21**	**28**	**04.7**	**+1.3**
	comp=Z,66nm,1.0s,baz=171,slow=8.2,SNR=3.5								
PLCA	**Paso Flores**	**154.47**	**102**	PKPbc	**PKPbc**	**21**	**28**	**05.1**	**+1.0**
	comp=Z,8.6nm,1.0s,baz=271,slow=3.8,SNR=7.1								
TRIS	**Tristan da Cun**	**160.57**	**271**	PFAKE		21	28	10.0	+6.8
TRIS				LR	LR				
	comp=Z,3μm,21.0s								
SPB	**Sao Paulo**	**161.17**	**31**	PFAKE		21	28	20.0	+16
SPB				LR	LR				
	comp=Z,3μm,20.0s								
EFI	**East Falkland**	**161.42**	**135**	PFAKE		21	28	10.0	+6.3
EFI				LR	LR				
	comp=Z,3μm,20.0s								
HOPE	**Hope Point**	**165.94**	**181**	PFAKE		21	28	20.0	+12
HOPE				LR	LR				
	comp=Z,4μm,21.0s								

*ISCJB **16** 21:17:30.7±0.4, 40.55N±0.02×23.57E±0.03, h10km±3km, Error ellipse: s-maj=3.9km s-min=3.3km az=162.8*
*ATH **16** 21:17:30.2, 40.54N×23.60E, h21km± 1km, ML2.2/11, Error ellipse: s-maj=1.4km s-min=1.1km az=301.0*
*CSEM **16** 21:17:30.7±0.2, 40.54N×23.61E, h10km, ML2.5, Error ellipse: s-maj=4.3km s-min=4.1km az=23.0*
*THE **16** 21:17:31.1, 40.55N×23.56E, h10km±2km, ML2.5/8, Error ellipse: s-maj=2.1km s-min=0.5km az=264.0*
*SKO **16** 21:17:32.1, 40.60N×23.64E, h1km*

ISC 16 21:17:30.9±0.9, 40.55N±0.02×23.59E±0.02, h12km±8km, n70, σ0.81/98, Greece

Code	Station Name	Δ°	AZ°	Phase	ID	Time			Res
				Op	ISC	h	m	s	ISC
PLG	**Polygyros**	**0.21**	**212**	P	**Pg**	**21**	**17**	**35.8**	**+0.4**
PLG				S	**Sg**	**21**	**17**	**38.7**	**+0.2**
PLG	**Polygyros**	**0.21**	**212**	P	**Pg**	**21**	**17**	**35.6**	**+0.2**
PLG				S	**Sg**	**21**	**17**	**38.7**	**+0.2**
PLG	**Polygyros**	**0.21**	**212**	P	**Pg**	**21**	**17**	**35.6**	**+0.2**
PLG				S	**Sg**	**21**	**17**	**38.2**	**-0.4**
PLG				AML	AML	21	17	39.4	
	comp=E,2931μm,0.1s								
PLG				AML	AML	21	17	39.4	
	comp=N,3482μm,0.1s								
SOH	**Sokhos**	**0.33**	**326**	P	**Pg**	**21**	**17**	**37.5**	**0.0**
SOH				S	**Sg**	**21**	**17**	**41.9**	**0.0**
SOH	**Sokhos**	**0.33**	**326**	P	**Pg**	**21**	**17**	**37.5**	**0.0**
SOH				S	**Sg**	**21**	**17**	**41.9**	**0.0**
SOH	**Sokhos**	**0.33**	**326**	P	**Pg**	**21**	**17**	**37.6**	**+0.1**
SOH				S	**Sg**	**21**	**17**	**41.1**	**-0.8**
SOH				AML	AML	21	17	42.2	
	comp=E,2078μm,0.4s								
SOH				AML	AML	21	17	42.9	
	comp=N,2537μm,0.3s								
OUR	**Ouranopolis**	**0.37**	**126**	P	**Pg**	**21**	**17**	**38.8**	**+0.6**
OUR				S	**Sb**	**21**	**17**	**44.7**	**-0.4**
OUR	**Ouranopolis**	**0.37**	**126**	P	**Pg**	**21**	**17**	**38.8**	**+0.6**
OUR				S	**Sb**	**21**	**17**	**44.7**	**-0.4**
OUR	**Ouranopolis**	**0.37**	**126**	P	**Pb**	**21**	**17**	**39.6**	**+0.2**
OUR				AML	AML	21	17	44.8	
	comp=N,1319μm,0.2s								
OUR				S	**Sb**	**21**	**17**	**45.0**	**-0.1**
OUR				AML	AML	21	17	45.7	
	comp=E,1504μm,0.2s								
HORT	**Hortiatis**	**0.38**	**277**	P	**Pg**	**21**	**17**	**38.1**	**-0.4**
HORT				S	**Sg**	**21**	**17**	**42.5**	**-1.1**
HORT	**Hortiatis**	**0.38**	**277**	P	**Pg**	**21**	**17**	**38.1**	**-0.4**
HORT				S	**Sg**	**21**	**17**	**42.5**	**-1.1**
HORT	**Hortiatis**	**0.38**	**277**	P	**Pg**	**21**	**17**	**37.9**	**-0.6**
HORT				S	**Sg**	**21**	**17**	**42.5**	**-1.1**
HORT				AML	AML	21	17	43.6	
	comp=N,1040μm,0.2s								
HORT				AML	AML	21	17	44.3	
	comp=E,930μm,0.2s								
THE	**Thessaloniki**	**0.49**	**280**	P	**Pg**	**21**	**17**	**39.9**	**-0.5**
THE	**Thessaloniki**	**0.49**	**280**	P	**Pg**	**21**	**17**	**39.9**	**-0.5**
THE	**Thessaloniki**	**0.49**	**280**	P	**Pg**	**21**	**17**	**40.2**	**-0.2**
THE				AML	AML	21	17	46.0	
	comp=E,145μm,0.2s								
THE				AML	AML	21	17	46.9	
	comp=N,183μm,0.2s								
SRS	**Serrai**	**0.56**	**360**	P	**Pg**	**21**	**17**	**41.7**	**-0.2**
SRS				S	**Sg**	**21**	**17**	**50.0**	**+0.6**
SRS	**Serrai**	**0.56**	**360**	P	**Pg**	**21**	**17**	**41.8**	**-0.2**
SRS				S	**Sg**	**21**	**17**	**50.0**	**+0.6**
SRS	**Serrai**	**0.56**	**360**	P	**Pg**	**21**	**17**	**41.8**	**-0.2**
SRS				AML	AML	21	17	53.7	
	comp=N,566μm,0.2s								
SRS				AML	AML	21	17	54.1	
	comp=E,650μm,0.1s								
PAIG	**Paliouri**	**0.63**	**174**	P	**Pg**	**21**	**17**	**42.9**	**-0.2**
PAIG				S	**Sg**	**21**	**17**	**51.2**	**-0.2**
PAIG	**Paliouri**	**0.63**	**174**	P	**Pg**	**21**	**17**	**42.9**	**-0.2**
PAIG				S	**Sg**	**21**	**17**	**51.2**	**-0.2**
PAIG	**Paliouri**	**0.63**	**174**	P	**Pg**	**21**	**17**	**43.5**	**+0.4**
PAIG				S	**Sg**	**21**	**17**	**51.4**	**0.0**
PAIG				AML	AML	21	17	51.5	
	comp=E,933μm,0.3s								
PAIG				AML	AML	21	17	51.8	
	comp=N,603μm,0.2s								
KNT	**Kendrikon**	**0.81**	**319**	P	**Pg**	**21**	**17**	**45.9**	**-0.6**
KNT	**Kendrikon**	**0.81**	**319**	P	**Pg**	**21**	**17**	**45.9**	**-0.6**
KNT				S	**Sg**	**21**	**17**	**56.7**	**-0.4**
KNT	**Kendrikon**	**0.81**	**319**	P	**Pg**	**21**	**17**	**45.8**	**-0.7**
KNT				S	**Sg**	**21**	**17**	**56.6**	**-0.4**
KNT				AML	AML	21	17	59.3	
	comp=N,338μm,0.2s								
KNT				AML	AML	21	17	59.8	
	comp=E,365μm,0.2s								
NVR	**Nevrokopi**	**0.82**	**14**	P	**Pg**	**21**	**17**	**46.5**	**-0.3**
NVR				S	**Sb**	**21**	**17**	**58.5**	**+0.2**
NVR	**Nevrokopi**	**0.82**	**14**	P	**Pg**	**21**	**17**	**46.8**	**0.0**
NVR				S	**Sb**	**21**	**17**	**58.5**	**+0.2**
NVR	**Nevrokopi**	**0.82**	**14**	P	**Pg**	**21**	**17**	**46.8**	**0.0**
NVR				S	**Sg**	**21**	**17**	**56.7**	**-0.8**
NVR				AML	AML	21	17	59.2	
	comp=N,314μm,0.2s								
NVR				AML	AML	21	18	01.3	
	comp=E,214μm,0.1s								
KAVA	**Kavala**	**0.83**	**57**	P	**Pg**	**21**	**17**	**46.9**	**0.0**
KAVA				S	**Sb**	**21**	**17**	**59.3**	**+0.9**
KAVA	**Kavala**	**0.83**	**57**	P	**Pg**	**21**	**17**	**46.9**	**0.0**
KAVA				S	**Sb**	**21**	**17**	**59.3**	**+0.9**
KAVA	**Kavala**	**0.83**	**57**	P	**Pb**	**21**	**17**	**47.6**	**+0.4**
KAVA				AML	AML	21	18	00.0	
	comp=N,480μm,0.5s								
KAVA				AML	AML	21	18	00.9	
	comp=E,310μm,0.2s								
LIT	**Litokhoron**	**0.96**	**242**	P	**Pg**	**21**	**17**	**49.0**	**-0.4**
LIT	**Litokhoron**	**0.96**	**242**	P	**Pg**	**21**	**17**	**49.0**	**-0.4**
LIT	**Litokhoron**	**0.96**	**242**	P	**Pg**	**21**	**17**	**49.4**	**0.0**
LIT				AML	AML	21	18	04.1	
	comp=E,179μm,0.2s								
LIT				AML	AML	21	18	05.2	
	comp=N,176μm,0.3s								
VAY	**Valandovo**	**1.09**	**315**	*i* Pg	**Pb**	**21**	**17**	**51.8**	**0.0**
VAY				*i* Sg	**Sb**	**21**	**18**	**06.9**	**+0.9**
VAY	**Valandovo**	**1.09**	**315**	*i* Pg	**Pb**	**21**	**17**	**51.8**	**0.0**
VAY				*i* Sg	**Sb**	**21**	**18**	**06.9**	**+0.9**
XOR	**Xorichti**	**1.23**	**195**	P	**Pn**	**21**	**17**	**53.2**	**-0.5**
XOR	**Xorichti**	**1.23**	**195**	P	**Pn**	**21**	**17**	**53.4**	**-0.5**
XOR	**Xorichti**	**1.23**	**195**	P	**Pn**	**21**	**17**	**53.5**	**-0.4**
NEO	**Neokhori**	**1.28**	**193**	P	**Pn**	**21**	**17**	**54.0**	**-0.6**
NEO	**Neokhori**	**1.28**	**193**	P	**Pn**	**21**	**17**	**54.0**	**-0.6**
LIA	**Limnos Island**	**1.38**	**118**	P	**Pn**	**21**	**17**	**55.2**	**-0.8**
LIA	**Limnos Island**	**1.38**	**118**	P	**Pn**	**21**	**17**	**55.2**	**-0.8**
SKIA	**Skiathos**	**1.39**	**184**	P	**Pn**	**21**	**17**	**54.8**	**-1.3**
SKIA	**Skiathos**	**1.39**	**184**	P	**Pn**	**21**	**17**	**54.8**	**-1.3**
AOS	**Alonnisos**	**1.40**	**171**	P	**Pn**	**21**	**17**	**54.5**	**-1.8**
AOS	**Alonnisos**	**1.40**	**171**	P	**Pn**	**21**	**17**	**54.5**	**-1.8**
KZN	**Kozani**	**1.41**	**261**	P	**Pn**	**21**	**17**	**57.1**	**+0.5**
KZN	**Kozani**	**1.41**	**261**	P	**Pn**	**21**	**17**	**57.1**	**+0.5**
SMTH	**Samothraki Isl**	**1.48**	**93**	P	**Pn**	**21**	**17**	**56.7**	**-0.7**
SMTH				S	**Sg**	**21**	**18**	**19.4**	**+0.9**
SMTH	**Samothraki Isl**	**1.48**	**93**	P	**Pn**	**21**	**17**	**56.7**	**-0.7**
SMTH				S	**Sg**	**21**	**18**	**19.4**	**+0.9**
THL	**Klokotos Trika**	**1.56**	**231**	P	**Pn**	**21**	**17**	**58.0**	**-0.5**
THL	**Klokotos Trika**	**1.56**	**231**	P	**Pn**	**21**	**17**	**58.0**	**-0.5**
RDO	**Rodhopi**	**1.59**	**67**	P	**Pn**	**21**	**17**	**57.9**	**-1.0**
RDO	**Rodhopi**	**1.59**	**67**	P	**Pn**	**21**	**17**	**57.9**	**-1.0**
FNA	**Florina**	**1.70**	**279**	P	**Pn**	**21**	**18**	**01.1**	**+0.6**
FNA	**Florina**	**1.70**	**279**	P	**Pn**	**21**	**18**	**01.1**	**+0.6**
AGG	**Agios Georgios**	**1.81**	**213**	P	**Pn**	**21**	**18**	**01.1**	**-0.9**
AGG	**Agios Georgios**	**1.81**	**213**	P	**Pn**	**21**	**18**	**01.1**	**-0.9**
ALN	**Alexandroupoli**	**1.90**	**79**	P	**Pn**	**21**	**18**	**01.8**	**-1.3**
ALN	**Alexandroupoli**	**1.90**	**79**	P	**Pn**	**21**	**18**	**01.8**	**-1.3**
PENT	**Pentalofos**	**1.91**	**260**	P	**Pb**	**21**	**18**	**05.4**	**-0.4**
PENT	**Pentalofos**	**1.91**	**260**	P	**Pb**	**21**	**18**	**05.4**	**-0.4**
NEST	**Nestorio**	**1.95**	**267**	P	**Pn**	**21**	**18**	**04.5**	**+0.6**
NEST	**Nestorio**	**1.95**	**267**	P	**Pn**	**21**	**18**	**04.5**	**+0.6**
DSL	**Palaion Diasel**	**2.39**	**234**	P	**Pn**	**21**	**18**	**12.4**	**+2.5**
DSL	**Palaion Diasel**	**2.39**	**234**	P	**Pn**	**21**	**18**	**12.4**	**+2.5**
PVO	**Paravola**	**2.51**	**220**	P	**Pn**	**21**	**18**	**13.4**	**+1.9**
PVO	**Paravola**	**2.51**	**220**	P	**Pn**	**21**	**18**	**13.4**	**+1.9**
PDO	**Prodromos**	**2.70**	**224**	P	**Pn**	**21**	**18**	**15.4**	**+1.3**
PDO	**Prodromos**	**2.70**	**224**	P	**Pn**	**21**	**18**	**15.4**	**+1.3**

*CSEM **16** 21:17:41.4, 34.92N×25.40E, h28km, ML1.1/2*

ATH 16 21:17:41.4, 34.92N×25.40E, h28km±8km, ML1.1/2, Error ellipse: s-maj=10.0km s-min=1.5km az=358.0, Crete

Code	Station Name	Δ°	AZ°	Phase	ID	Time			Res
				Op	ISC	h	m	s	ISC
LAST	**Lasithi**	**0.25**	**15**	P	**Pb**	**21**	**17**	**48.0**	**-0.1**
LAST				S	**Sb**	**21**	**17**	**53.1**	**+0.4**
LAST	**Lasithi**	**0.25**	**15**	P	**Pb**	**21**	**17**	**47.9**	**-0.2**
LAST				S	**Sb**	**21**	**17**	**52.3**	**-0.4**
LAST	**Lasithi**	**0.25**	**15**	P	**Pb**	**21**	**17**	**47.9**	**-0.3**
LAST				S	**Sb**	**21**	**17**	**52.3**	**-0.4**
LAST				AML	AML	21	17	53.3	
	comp=N,99μm,0.1s								
LAST				AML	AML	21	17	53.4	
	comp=E,107μm,0.2s								
NPS	**Neapolis**	**0.39**	**27**	P	**Pb**	**21**	**17**	**49.8**	**-0.2**
NPS				S	**Sn**	**21**	**17**	**57.6**	**-0.1**
NPS	**Neapolis**	**0.39**	**27**	P	**Pb**	**21**	**17**	**49.8**	**-0.2**
NPS				S	**Sn**	**21**	**17**	**57.6**	**-0.1**
SIVA	**Sivas**	**0.49**	**282**	P	**Pb**	**21**	**17**	**52.1**	**+0.5**
SIVA	**Sivas**	**0.49**	**282**	P	**Pb**	**21**	**17**	**52.1**	**+0.4**
IDI	**Anoyia**	**0.56**	**312**	P	**Pb**	**21**	**17**	**52.9**	**+0.2**
IDI	**Anoyia**	**0.56**	**312**	P	**Pb**	**21**	**17**	**52.9**	**+0.2**
ZKR	**Zakros**	**0.70**	**74**	P	**Pb**	**21**	**17**	**55.1**	**0.0**
ZKR				S	**Sn**	**21**	**18**	**06.8**	**+1.4**
ZKR	**Zakros**	**0.70**	**74**	P	**Pb**	**21**	**17**	**55.1**	**0.0**
ZKR				AML	AML	21	18	06.5	
	comp=E,44μm,1.1s								
ZKR				S	**Sn**	**21**	**18**	**06.8**	**+1.4**
ZKR				AML	AML	21	18	08.2	
	comp=N,28μm,0.4s								

MEX 16 21:23:46.6±0.8, 15.84N×96.10W, h15km, MD3.8, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase	ID	Time			Res
				Op	ISC	h	m	s	ISC
PANG	**Puerto Angel**	**0.40**	**244**	*e*P	Pg	21	23	53.5	-1.2
PANG				*i* S	Sg	21	23	59.9	-0.4
VHO	**Vista Hermosa**	**1.37**	**333**	*e*P	Pn	21	24	08.2	-3.2
VHO				*e*S	Sn	21	24	24.5	-4.8
PNIG	**Pinotepa**	**2.03**	**286**	*i* P	Pn	21	24	16.5	-3.8
PNIG				*i* S	Sn	21	24	40.0	-5.4
TLIG	**Tlapa**	**2.92**	**306**	*i* P	Pn	21	24	33.2	+0.6

*JMA **16** 21:28:43.1±0.2, 37.13N×141.60E, h45km±3km, M3.8*
JMA Felt I J1.
*IDC **16** 21:28:46.0±3.2, 37.52N×140.95E, h0km, mb3.3/2, mb1 3.4/3, mb1mx3.2/38, mbtmp3.2/3, ML2.8/1, Error ellipse: s-maj=64.2km s-min=41.5km az=58.0*

ISC 16 21:28:41.5±2.2, 37.19N±0.05×141.54E±0.09, h10km±11km, n16, σ0.88/25, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time			Res
				Op	ISC	h	m	s	ISC
JFK	**Kawauchi**	**0.56**	**289**	P	**Pn**	**21**	**28**	**55.5**	**-0.1**
JFK				S	**Sn**	**21**	**29**	**04.2**	**-0.8**
ONAJ	**Iwakimizuishiy**	**0.60**	**262**	P	**Pn**	**21**	**28**	**55.7**	**-0.4**
JMM	**Marumori**	**0.90**	**319**	P	**Pn**	**21**	**29**	**00.4**	**+0.1**
JMM				*e*S	**Sn**	**21**	**29**	**13.0**	**-0.4**
JHO	**Hitachi**	**0.96**	**234**	P	**Pb**	**21**	**29**	**00.1**	**-0.3**
JHO				S	**Sg**	**21**	**29**	**12.7**	**0.0**
JFT	**Otama**	**1.01**	**290**	P	**Pn**	**21**	**29**	**03.1**	**+1.3**
JFT				*e*S	**Sn**	**21**	**29**	**16.9**	**+0.7**
JIO	**Ouri**	**1.27**	**353**	P	**Pn**	**21**	**29**	**04.9**	**-0.5**
JIO				*e*S	**Sb**	**21**	**29**	**20.4**	**-1.7**
JOU	**Okura**	**1.37**	**330**	P	**Pb**	**21**	**29**	**07.5**	**+0.3**
JOU				*e*S	**Sg**	**21**	**29**	**26.0**	**+0.5**
JFY	**Yanaizu**	**1.48**	**279**	P	**Pg**	**21**	**29**	**09.8**	**-0.1**
JYS	**Shirataka**	**1.56**	**312**	P	**Pb**	**21**	**29**	**10.8**	**+0.3**
JYS				*e*S	**Sg**	**21**	**29**	**31.8**	**+0.1**
JMK	**Ichinoseki**	**1.78**	**352**	P	**Pn**	**21**	**29**	**13.0**	**+0.6**
JMK				*e*S	**Sn**	**21**	**29**	**35.3**	**+0.2**
JAG	**Ashikaga**	**1.84**	**246**	P	**Pn**	**21**	**29**	**13.6**	**+0.5**
JKT	**Katashina**	**1.88**	**258**	P	**Pb**	**21**	**29**	**15.2**	**-0.8**
MJAR	**Matsushiro Arr**	**2.75**	**257**	Pn	**Pn**	**21**	**29**	**26.3**	**+0.7**
	2.5nm,0.3s,baz=79,slow=15,SNR=8.4								
MJAR				Sn	**Sb**	**21**	**30**	**04.2**	**-0.3**
	3.7nm,0.3s,baz=79,slow=17,SNR=2.9								
MAT	**Matsushiro**	**2.75**	**257**	P	**Pn**	**21**	**29**	**27.7**	**+2.0**
MAT				*e*S	**Sb**	**21**	**30**	**02.8**	**-1.7**
SONM	**Songino Array**	**27.78**	**304**	P	**P**	**21**	**34**	**31.5**	**+0.8**
	0.3nm,0.6s,baz=106,slow=8.5,SNR=2.7								
WRA	**Warramunga Arr**	**57.22**	**188**	P	P	21	38	36.8	+7.8
	0.2nm,0.5s,baz=4.5,slow=7.1,SNR=1.5								

*NIED **16** 21:36:00, 40.20N×143.30E, h20km, Mw5.8 Best double couple: M0 4.85000×10^17 NP1:φ=169.00000°, δ=24.00000°, λ=51.00000°. NP2:φ=31.00000°, δ=71.00000°, λ=106.00000°.*
*IDC **16** 21:36:32.5±0.4, 40.09N×143.31E, h0km, mb5.2/44, mb1 5.2/48, mb1mx5.2/55, mbtmp5.2/48, ML4.5/4, MS5.7/32, Ms1 5.7/32, ms1mx5.4/53, Error ellipse: s-maj=11.7km s-min=9.6km az=117.0*
*JMA **16** 21:36:32.9±0.2, 40.14N×143.39E, h5km±2km, M5.8*
JMA Felt III J1.
*BJI **16** 21:36:34.0, 40.04N×143.06E, h18km, mb5.8/81, mB6.2/51, Ms6.0/87, Ms7 5.9/82*
*ISCJB **16** 21:36:34.3±0.6, 40.08N±0.02×143.28E±0.02, h21km±4km, mb5.6/345, MS5.7/225, Error ellipse: s-maj=3.2km s-min=2.0km az=157.2*
*MOS **16** 21:36:36.2±0.9, 40.14N×143.29E, h38km, mb6.0/113, MS5.7/57, Error ellipse: s-maj=6.3km s-min=4.2km az=100.6*
*NEIC **16** 21:36:38.6±0.5, 40.08N×143.15E, h41km±4km, mb5.6/168, MS5.6/157, Error ellipse: s-maj=3.6km s-min=2.4km az=138.0*
NEIC Felt at Misawa. Recorded [3 JMA] in Miyagi.
*GCMT **16** 21:36:38.6±0.2, 40.11N×143.55E, h28km, MW5.8/130, Moment Tensor Solution. s74,c106; s130,c278; Duration: 1s9 Moment tensor: Scale 10^17Nm; Mrr3.78±.15; Mθθ-0.05±.08; Mφφ-3.73±.10; Mrθ 1.84±.16; Mθφ-0.89±.05; Mφr 4.54±.20; Best double couple: M0 6.23500×10^17 NP1:φ=20.00000°, δ=71.00000°, λ=95.00000°. NP2:φ=185.00000°, δ=20.00000°, λ

HABR pmax pmax
comp=Z,97nm,2.0s
HABR pmax pmax
comp=E,59nm,2.0s
HABR MLR MLR
comp=Z,26µm,13.0s
TYV Tymovskoe 10.74 358 *e*P **Pn 21 39 09.9 +2.1**
TYV *e*S **Sn 21 41 07.5 -0.2**
TYV pmax pmax
comp=Z,2µm,12.9s
TYV smax smax
comp=E,8µm,15.0s
TYV MLR MLR
comp=Z,57µm,16.0s
MDJ Mudanjiang 11.11 298 P **Pn 21 39 15.6 +2.7**
MDJ S **Sn 21 41 21.0 +4.3**
MDJ PcP **PcP 21 45 10.9 +1.5**
MDJ ScP **ScP 21 48 45.1 +3.8**
MDJ ScS **ScS 21 52 18.6 +2.1**
MDJ pmax pmax
comp=Z,220nm,1.1s
MDJ pmax pmax
comp=Z,4µm,5.7s
MDJ LR LR
comp=Z,39µm,13.9s
MDJ LR LR
comp=Z,38µm,15.9s
MDJ LR LR
comp=Z,68µm,15.9s
MDJ Mudanjiang 11.11 298 *e*Pn **Pn 21 39 15.3 +2.4**
comp=Z,566nm,1.3s
JNU Nakatsue 12.20 239 Pn **Pn 21 39 28.1 +0.2**
comp=Z,1.0nm,0.3s,baz=40,slow=11,SNR=18
JNU LR LR 21 44 21.4
comp=Z,194nm,19.8s,baz=52,slow=38
JNU Nakatsue 12.20 239 *e*Pn **Pn 21 39 27.1 -0.9**
KSRS Korea Array 12.32 262 Pn **Pn 21 39 32.0 +2.5**
comp=Z,0.7nm,0.3s,baz=76,slow=12,SNR=43
KSRS Sn **Sn 21 41 51.8 +5.4**
baz=74,slow=23,SNR=2.3
KSRS LR LR 21 43 59.3
comp=Z,52µm,18.6s,baz=70,slow=36
KS01 Wonju Array Si 12.33 263 *e*Pn **Pn 21 39 30.2 +0.6**
KS15 Wonju Array Si 12.35 262 *e*Pn **Pn 21 39 32.9 +3.0**
KSAR Wonju Array Be 12.35 262 P **Pn 21 39 32.0 +2.1**
KSAR 21 41 51.8
KSAR Wonju Array Be 12.35 262 Pn **Pn 21 39 32.0 +2.1**
KSAR Sn **Sn 21 41 51.8 +4.5**
CBIJ Chichi jima 13.04 185 *e*Pn **Pn 21 39 41.0 +1.6**
INCN Inchon 13.29 264 *e*Pn **Pn 21 39 45.0 +2.2**
CN2 Changchun 13.80 291 *e*P **Pn 21 39 49.8 +0.1**
CN2 *e*S **Sn 21 42 23.9 +1.3**
CN2 pmax pmax
comp=Z,90nm,1.3s
CN2 LR LR
comp=Z,10µm,16.0s
CN2 LR LR
comp=Z,34µm,16.0s
CN2 LR LR
comp=Z,33µm,17.0s
SKR Severo-Kuril's 13.83 36 *e*P **Pn 21 39 46.3 -3.7**
SKR pmax pmax
comp=Z,263nm,0.8s
SKR MLR MLR
comp=Z,8µm,16.0s
SNY Shenyang 15.02 283 ⇑P **Pn 21 40 06.5 +0.2**
SNY pmax pmax
comp=Z,180nm,1.5s
SNY pmax pmax
comp=Z,10µm,12.0s
SNY LR LR
comp=Z,25µm,14.3s
SNY LR LR
comp=Z,39µm,15.7s
SNY LR LR
comp=Z,61µm,18.1s
PEA0B Petropavlovsk- 16.26 32 *e*Pn **Pn 21 40 20.2 -2.2**
comp=Z,158nm,1.3s
PETK Petropavlovsk- 16.26 32 Pn **Pn 21 40 18.4 -4.0**
baz=195,slow=9.2,SNR=11
PETK LR LR 21 47 24.1
comp=Z,11µm,18.9s,baz=218,slow=40
PET Petropavlovsk 16.60 34 *e*P **Pn 21 40 27.7 +1.0**
PET pmax pmax
comp=Z,168nm,1.3s
PET MLR MLR
comp=Z,14µm,18.0s
PET Petropavlovsk 16.60 34 *e*Pn **P 21 40 29.5 +0.4**
comp=Z,742nm,1.9s
DL2 Dalian 16.79 273 P **Pn 21 40 28.6 -0.6**
DL2 S **Sn 21 43 34.9 -0.4**
DL2 pmax pmax
comp=Z,140nm,1.2s
DL2 pmax pmax
comp=Z,7µm,8.6s
DL2 LR LR
comp=Z,13µm,14.5s
DL2 LR LR
comp=Z,16µm,18.0s
DL2 LR LR
comp=Z,24µm,18.6s
JOW Kunigami 18.23 228 P **Pn 21 40 45.5 -1.6**
comp=Z,2.1nm,0.3s,baz=99,slow=6.2,SNR=5.0
JOW Kunigami 18.23 228 *e*Pn **Pn 21 40 43.9 -3.3**
HIA Hailar 19.03 306 *e*P **P 21 40 53.6 -2.4**
HIA pmax pmax
comp=Z,308nm,1.3s
HIA Hailar 19.03 306 *e*P **P 21 40 53.6 -2.4**
comp=Z,308nm,1.3s
MA2 Magadan 20.02 11 P **P 21 41 07.2 +0.5**
comp=Z,49nm,0.7s,baz=198,slow=9.2,SNR=37
MA2 LR LR 21 50 27.3
comp=Z,8µm,18.5s,baz=196,slow=42
CLNS Chul'man 20.59 330*c i*P **P 21 41 12.4 -0.6**
CLNS *e* 21 41 24.8
CLNS *e*S Sn 21 45 05.1 -1.9
CLNS *e* 21 45 18.8
CLNS *e*SS SnSn 21 45 49.9 +28
CLNS pmax pmax
comp=Z,175nm,0.9s
CLNS pmax pmax
comp=N,83nm,0.9s
CLNS pmax pmax
comp=E,54nm,1.0s
CLNS smax smax
comp=N,55nm,1.2s
CLNS smax smax
comp=E,66nm,1.9s
CLNS MLR MLR
comp=Z,27µm,15.0s
CLNS MLR MLR
comp=N,19µm,14.0s
CLNS MLR MLR
comp=E,20µm,17.0s
BJI Beijing 20.75 279 P **P 21 41 12.6 -2.2**
BJI S **S 21 45 01.3 -4.6**
BJI pmax pmax
comp=E,140nm,1.6s
BJI LR LR
comp=E,18µm,14.2s
BJI LR LR
comp=E,28µm,18.3s
BJI LR LR
comp=E,22µm,18.3s
BJT Baijiatuao 20.76 278 *e*P **P 21 41 12.4 -2.5**
BJT pmax pmax
comp=Z,764nm,1.5s
BJT MLR MLR
comp=Z,33µm,19.0s
BJT Baijiatuao 20.76 278 *e*P **P 21 41 12.4 -2.5**
comp=Z,764nm,1.5s
BJT LR LR
comp=Z,33µm,19.0s
TIA Tai'an 20.94 268 ⇑P **P 21 41 14.8 -2.1**
TIA S **S 21 45 10.4 +0.6**
TIA pmax pmax
comp=Z,140nm,1.4s
TIA pmax pmax
comp=Z,4µm,9.2s
TIA LR LR
comp=Z,13µm,13.1s
TIA LR LR
comp=Z,43µm,15.9s
TIA LR LR
comp=Z,55µm,16.1s
NJ2 Nanjing 21.32 255 *e*P **P 21 41 18.4 -2.5**
NJ2 pP **pP 21 41 22.3 -3.0**
NJ2 pmax pmax
comp=Z,280nm,1.0s
NJ2 LR LR
comp=Z,24µm,15.5s
NJ2 LR LR
comp=Z,21µm,13.9s
NJ2 LR LR
comp=Z,30µm,16.0s
YOJ Yonaguni jima 23.14 234 *e*P **P 21 41 40.4 +0.1**
YOJ pmax pmax
comp=Z,47nm,0.9s
YOJ Yonaguni jima 23.14 234 *e*P **P 21 41 40.4 +0.1**
comp=Z,47nm,0.9s
YAK Yakutsk 23.44 344 PFAKE 21 41 50.0 +6.9
YAK LR LR
comp=Z,206µm,21.0s
SEY Seymchan 23.47 10 P **P 21 41 42.9 -0.5**
comp=Z,108nm,0.7s,baz=189,slow=7.6,SNR=107
SEY LR LR 21 52 47.6
comp=Z,14µm,18.3s,baz=193,slow=42
CIT Chita 23.66 310 *e*P **P 21 41 43.4 -1.9**
CIT *e* 21 41 52.2
CIT *e* 21 41 56.5
CIT *e* 21 42 18.0
CIT *e*S **S 21 45 56.6 -2.8**
CIT pmax pmax
comp=Z,1µm,1.5s
TATO Taipei 23.73 237 *e*P **P 21 41 43.7 -2.5**
comp=Z,229nm,0.9s
TATO LR LR
comp=Z,29µm,19.0s
TATO Taipei 23.73 237 P **P 21 41 44.2 -2.0**
SNR=6.5
YHNB Yeheng 24.02 237 *e*P **P 21 41 46.4 -2.6**
comp=Z,210nm,1.2s
YHNB LR LR
comp=Z,14µm,20.0s
TIY Taiyuan 24.10 274 *e*P **P 21 41 50.8 +1.1**
TIY pP **sP 21 41 57.3 +0.9**
TIY PP **PnPn 21 42 22.1 +3.3**
TIY S **S 21 46 04.0 -2.8**
TIY pmax pmax
comp=Z,33nm,0.5s
TIY pmax pmax
comp=Z,2µm,7.6s
TIY LR LR
comp=Z,16µm,14.5s
TIY LR LR
comp=Z,10µm,14.8s
TIY LR LR
comp=Z,15µm,16.9s
HHC Hu-ho-hao-te 24.11 282 *e*P **P 21 41 47.8 -2.0**
HHC PP **PnPn 21 42 22.3 +3.4**
HHC S **S 21 46 03.6 -3.3**
HHC SS **SnSn 21 46 52.1 +4.1**
HHC PcS **PcS 21 49 10.1 -0.4**
HHC pmax pmax
comp=Z,78nm,1.4s
HHC pmax pmax
comp=Z,3µm,5.1s
HHC LR LR
comp=Z,10µm,13.7s
HHC LR LR
comp=Z,28µm,16.2s
HHC LR LR
comp=Z,36µm,14.9s
NACB Ninganchiao 24.23 235 *e*P **P 21 41 48.3 -2.7**
comp=Z,74nm,0.9s
SSLB Suanglung 24.92 236 *e*P **P 21 41 54.4 -2.8**
comp=Z,192nm,1.1s
YULB Yu-li 24.98 235 *e*P **P 21 41 55.4 -2.4**
comp=Z,373nm,1.5s
BTO Baotou 25.30 282 *e*P **P 21 41 59.0 -1.7**
WHN Wuhan 25.41 257 ⇑P **P 21 42 01.4 -0.2**
WHN S **S 21 46 27.8 +0.1**
WHN pmax pmax
comp=Z,1µm,1.2s
WHN LR LR
comp=Z,60µm,13.6s
WHN LR LR
comp=Z,34µm,14.2s
WHN LR LR
comp=Z,78µm,16.7s
TPUB Ta-pu 25.47 236 *e*P **P 21 41 59.8 -2.5**
comp=Z,339nm,1.4s
TWG Pinlang 25.54 234 *e*P **P 21 42 01.9 -0.9**
comp=Z,2µm,1.2s
QZH Quanzhou 25.66 241 ⇑*i*P **P 21 42 02.3 -1.6**
QZH S **S 21 46 29.3 -2.4**
QZH pmax pmax
comp=Z,1µm,1.9s
QZH pmax pmax
comp=Z,5µm,4.7s
QZH LR LR
comp=Z,15µm,16.5s
QZH LR LR
comp=Z,18µm,13.4s
QZH LR LR
comp=Z,28µm,17.3s
BOD Bodaibo 25.83 323 ⇓*i*P **P 21 42 04.7 -0.5**
BOD *e* 21 42 16.4
BOD pmax pmax
comp=Z,224nm,1.3s
GUMO Guam 26.48 177 LR LR 21 51 24.8
comp=Z,5µm,21.6s,baz=10,slow=34
GUMO Guam 26.48 177 P **P 21 42 10.9 -0.4**
GUMO Guam 26.48 177 P **P 21 42 10.9 -0.4**
ULN Ulaanbaatar 27.02 299*c i*P **P 21 42 16.7 +0.5**
ULN pmax pmax
comp=Z,455nm,1.2s
ULN Ulaanbaatar 27.02 299 *e*P **P 21 42 16.6 +0.3**
comp=Z,364nm,1.1s
ULN LR LR
comp=Z,32µm,19.0s
ULN Ulaanbaatar 27.02 299 P **P 21 42 16.8 +0.5**
SNR=212
SONA1 Songino Array 27.46 299 *e*P **P 21 42 18.7 -1.4**
SONM Songino Array 27.46 299 P **P 21 42 20.7 +0.6**
comp=Z,321nm,1.2s,baz=103,slow=8.0,SNR=557
SONM LR LR 21 53 57.3
comp=Z,35µm,18.5s,baz=102,slow=38
XAN Xi'an 28.00 268 P **P 21 42 23.5 -1.5**
XAN pmax pmax
comp=Z,190nm,1.4s
XAN pmax pmax
comp=Z,6µm,7.2s
XAN LR LR
comp=Z,9µm,17.7s
XAN LR LR
comp=Z,21µm,16.1s
XAN LR LR
comp=Z,28µm,16.7s
H11N2 WAKE ISLAND Hy 28.66 128 T T 22 12 29.8
baz=318,slow=75,SNR=370
H11N1 WAKE ISLAND Hy 28.67 128 T T 22 12 34.9
baz=318,slow=75,SNR=290
H11N3 WAKE ISLAND Hy 28.68 128 T T 22 12 36.5
baz=318,slow=75,SNR=385
WAKE Wake Island 28.86 129 PFAKE 21 42 50.0 +17
WAKE LR LR
comp=Z,10µm,20.0s
ENH Enshi 29.20 261 *e*P **P 21 42 34.8 -0.9**
comp=Z,923nm,1.3s
ENH LR LR
comp=Z,14µm,19.0s
IRK Irkutsk 29.27 308 *e*P **P 21 42 34.9 -1.1**
IRK pmax pmax
comp=Z,541nm,2.4s
H11S1 WAKE ISLAND Hy 29.49 130 T T 22 13 32.7
baz=322,slow=76,SNR=115
H11S3 WAKE ISLAND Hy 29.50 130 T T 22 13 39.6
baz=322,slow=76,SNR=117
H11S2 WAKE ISLAND Hy 29.51 130 T T 22 13 29.6
baz=322,slow=76,SNR=109
TLY Talaya 29.57 306 P **P 21 42 39.2 +0.4**
comp=Z,34nm,1.0s,baz=126,slow=9.0,SNR=24
TLY LR LR 21 55 24.9
comp=Z,17µm,18.2s,baz=84,slow=38
TLY Talaya 29.57 306 *e*P **P 21 42 39.3 +0.6**
TLY *e*S **S 21 47 35.9 +2.9**
TLY pmax pmax
comp=Z,79nm,1.2s
TLY MLR MLR
comp=Z,33µm,18.0s
TLY Talaya 29.57 306 *e*P **P 21 42 38.8 +0.1**
comp=Z,167nm,1.4s
TLY Talaya 29.57 306 P **P 21 42 39.4 +0.7**
SNR=38
ZAK Zakamensk 29.66 304 *e*P **P 21 42 39.7 0.0**
ZAK pmax pmax
comp=Z,126nm,1.4s
GZH Guangzhou 30.48 245 ⇑*i*P P 21 42 41.5 -5.5
GZH S S 21 47 34.6 -13
BILL Bilibino 30.63 17*ce*P **P 21 42 48.4 +0.5**
BILL *e* 21 43 48.4
BILL *e*S **S 21 47 49.5 +0.2**
BILL pmax pmax
comp=Z,38nm,1.0s
BILL MLR MLR
comp=Z,9µm,16.0s
LZH Lanzhou 31.15 275 *e*P **P 21 42 53.3 +0.2**
LZH pP pP 21 42 57.3 -0.5
LZH sP sP 21 42 59.5 -0.3
LZH PP **PnPn 21 43 52.0 -2.6**
LZH S S 21 47 48.3 -10
LZH sS pS 21 48 04.4 +0.6
LZH SS **SnSn 21 49 40.3 +0.1**
LZH pmax pmax
comp=Z,140nm,1.1s
LZH pmax pmax
comp=Z,2µm,6.7s
LZH LR LR
comp=Z,12µm,13.1s
LZH LR LR
comp=Z,18µm,13.5s
LZH LR LR
comp=Z,22µm,13.7s
MOY Mondy 31.21 306 *e*P **P 21 42 53.3 0.0**
MOY pmax pmax
comp=Z,203nm,3.4s
ATKA Atka Island 31.34 53 *e*P **P 21 42 53.7 -0.6**
comp=Z,135nm,1.2s
TIXI Tiksi 32.42 352 P **P 21 43 03.2 -0.4**
comp=Z,31nm,1.1s,baz=144,slow=9.7,SNR=25
TIXI Tiksi 32.42 352 ⇑*i*P **P 21 43 03.0 -0.6**
TIXI pmax pmax
comp=Z,107nm,1.7s
TIXI Tiksi 32.42 352 *e*P **P 21 43 03.1 -0.4**
comp=Z,127nm,1.5s
TIXI LR LR
comp=Z,9µm,20.0s
GTA Gaotai 33.21 283 ⇑P **P 21 43 11.4 +0.4**
GTA pP sP 21 43 17.0 -0.7
GTA sP pP 21 43 20.3 +4.5
GTA PcP **PcP 21 45 54.8 +1.4**
GTA S **S 21 48 30.0 -0.3**
GTA PcS **PcS 21 49 39.8 +0.7**
GTA ScS **ScS 21 53 37.9 +0.2**
GTA pmax pmax
comp=Z,210nm,1.5s
GTA pmax pmax
comp=Z,2µm,4.9s
GTA LR LR
comp=Z,13µm,18.1s
GTA LR LR
comp=Z,32µm,18.1s
GTA LR LR
comp=Z,38µm,18.1s
GYA Guiyang 33.30 257 ⇑*i*P **P 21 43 11.3 -0.6**
GYA PP **PnPn 21 44 21.0 -1.4**
GYA PcP **PcP 21 45 55.6 +1.7**
GYA S **S 21 48 27.3 -4.6**
GYA ScP **ScP 21 49 38.9 +1.3**
GYA SS **SnSn 21 50 33.3 +0.8**
GYA ScS **ScS 21 53 38.0 -0.5**
GYA pmax pmax
comp=Z,370nm,1.0s
GYA pmax pmax
comp=Z,5µm,6.9s
GYA LR LR
comp=Z,15µm,15.3s
GYA LR LR
comp=Z,16µm,16.3s
GYA LR LR
comp=Z,20µm,17.2s
MIDW Midway 34.36 98 PFAKE 21 43 30.0 +9.1
MIDW LR LR
comp=Z,6µm,20.0s
QIZ Qiongzhong 35.61 244 P **P 21 43 32.8 +1.0**
QIZ S **S 21 49 10.3 +2.9**
QIZ LR LR
comp=Z,12µm,15.9s
QIZ LR LR
comp=Z,12µm,15.7s
QIZ LR LR
comp=Z,15µm,15.6s
QIZ Qiongzhong 35.61 244 *e*P **P 21 43 32.5 +0.7**
comp=Z,55nm,1.4s
QIZ LR LR
comp=Z,8µm,21.0s
DAV Davao City (W) 36.56 211 PFAKE 21 43 50.0 +10
DAV LR LR
comp=Z,3µm,19.0s
KMI Kunming 36.98 259 P **P 21 43 43.8 0.0**
KMI pP sP 21 43 53.0 +2.5
KMI S **S 21 49 26.9 -1.9**
KMI SS **SnSn 21 51 56.4 -5.5**
KMI pmax pmax
comp=Z,300nm,1.5s
KMI pmax pmax
comp=Z,4µm,12.7s
KMI LR LR
comp=Z,18µm,15.6s
KMI LR LR
comp=Z,22µm,16.8s
KMI LR LR
comp=Z,28µm,16.7s
SLVN Son La 38.34 253 *e*P **P 21 43 55.1 0.0**
comp=Z,46nm,0.9s
WMQ Urumqi 40.87 294 P **P 21 44 16.8 +0.8**
WMQ pP sP 21 44 24.1 +1.4
WMQ sP pP 21 44 26.8 +6.0
WMQ PP **PnPn 21 45 56.8 +2.5**
WMQ S **S 21 50 29.6 +2.9**
WMQ sS sS 21 50 38.3 +3.7
WMQ pmax pmax
comp=Z,140nm,0.9s
WMQ pmax pmax
comp=Z,5µm,7.3s
WMQ LR LR
comp=Z,6µm,10.5s
WMQ LR LR
comp=Z,10µm,19.5s
WMQ LR LR
comp=Z,9µm,18.3s
ZAA0 Zalesovo Array 41.01 310 *e*P **P 21 44 17.1 +0.2**
ZALV Zalesovo Beam 41.01 310 P **P 21 44 17.1 +0.1**
comp=Z,110nm,0.7s,baz=89,slow=7.5,SNR=336
ZALV PcP **PcP 21 46 17.4 +0.7**
comp=Z,20nm,0.7s,baz=96,slow=1.9,SNR=4.1
ZALV LR LR 22 02 18.0
comp=Z,15µm,18.4s,baz=74,slow=38
SKNT Sakolnakorn 41.09 247 P **P 21 44 18.2 +0.2**
comp=Z,216nm,0.8s
NRIK Noril'sk 41.12 334 P **P 21 44 17.9 +0.2**
comp=Z,82nm,1.2s,baz=110,slow=8.0,SNR=68
NRIK LR LR 22 03 05.8
comp=Z,15µm,18.4s,baz=106,slow=39
UBPT Khong Chiam 41.21 244 P **P 21 44 19.6 +0.7**
comp=Z,114nm,0.9s
MYLDM Lahad Datu 41.36 219 *e*P **P 21 44 22.6 +2.4**
comp=Z,504nm,1.3s
DLV T Lat 41.60 237 *e*P **P 21 44 23.1 +0.7**
comp=Z,121nm,1.1s
KKM Kota Kinabalu 41.77 223 PFAKE 21 44 30.0 +6.4
KKM LR LR
comp=Z,6µm,20.0s
NVS Novosibirsk 41.86 311 ⇑*i*P **P 21 44 24.6 +0.8**
NVS *e*S **S 21 50 43.2 +2.3**
NVS pmax pmax
comp=N,62nm,1.7s
NVS pmax pmax
comp=E,187nm,1.7s
NVS pmax pmax
comp=Z,264nm,1.7s
NVS smax smax
comp=N,30nm,1.9s
NVS smax smax
comp=E,107nm,1.9s
ZSN Zaisan 41.95 300 *e*P **P 21 44 25.6 +0.8**
comp=E,678nm,1.6s
ZSN *i* S **S 21 50 44.5 +1.9**

ZSN LR LR 22 02 11.6
comp=E,2µm,12.8s
TT01 Tatalina 42.02 37 *e*P **P 21 44 26.8 +1.7**
TTA Tatalina 42.03 37 *e*P **P 21 44 26.7 +1.4**
TTA pmax pmax
comp=Z,47nm,1.2s
TTA Tatalina 42.03 37 *e*P **P 21 44 26.7 +1.4**
comp=Z,47nm,1.3s
SMPI Sarmi 42.13 187 P **P 21 44 27.9 +1.5**
comp=Z,126nm,1.4s
SVW2 Sparrevohn 42.16 39 *e*P **P 21 44 28.0 +1.8**
comp=Z,60nm,1.3s
JAY Jayapura 42.51 184 P **P 21 44 30.0 +0.4**
comp=Z,2.4nm,0.8s,baz=314,slow=22,SNR=7.3
JAY Jayapura 42.51 184 P **P 21 44 31.7 +2.1**
JAY Jayapura 42.51 184 P **P 21 44 30.0 +0.4**
UTTA Uttaradit 43.05 251 P **P 21 44 34.2 +0.3**
comp=Z,26nm,1.2s,comp=Z,229nm
KMSI Cibinong 43.14 209 P P 21 44 46.7 +12
KMSI Cibinong 43.14 209 P **P 21 44 38.3 +3.7**
LAMP Lampang 43.23 253 P **P 21 44 36.4 +1.0**
comp=Z,28nm,1.0s
CHAI Chaiyaphum 43.23 248 P **P 21 44 35.4 0.0**
comp=Z,45nm,1.1s,comp=Z,446nm
LSA Lhasa 43.49 273 P **P 21 44 38.8 +0.8**
LSA pmax pmax
comp=Z,45nm,1.2s
LSA LR LR
comp=Z,4µm,23.1s
LSA LR LR
comp=Z,8µm,18.8s
LSA LR LR
comp=Z,16µm,18.8s
LSA Lhasa 43.49 273 *e*P **P 21 44 38.6 +0.6**
LSA pmax pmax
comp=Z,264nm,1.4s
LSA MLR MLR
comp=Z,16µm,19.0s
LSA Lhasa 43.49 273 *e*P **P 21 44 38.6 +0.6**
comp=Z,264nm,1.4s
LSA LR LR
comp=Z,16µm,19.0s
PBKT Sadao Pong 43.51 250 P **P 21 44 37.9 +0.3**
comp=Z,86nm,1.3s
CMMT Chiang Mai 43.55 254 P **P 21 44 38.3 +0.3**
comp=Z,95nm,1.3s
CHTO Chiang Mai 43.55 254 P **P 21 44 38.3 +0.3**
comp=Z,435nm,1.3s
CHTO Chiang Mai 43.55 254 *e*P **P 21 44 38.1 +0.1**
CHTO pmax pmax
comp=Z,96nm,1.0s
CHTO MLR MLR
comp=Z,5µm,21.0s
CHTO Chiang Mai 43.55 254 *e*P **P 21 44 38.0 +0.1**
comp=Z,96nm,1.0s
CHTO LR LR
comp=Z,5µm,21.0s
CHTO Chiang Mai 43.55 254 P **P 21 44 38.4 +0.3**
SNR=33
RSO Redoubt South 43.55 40 *e*P **P 21 44 39.5 +1.7**
CM31 Chiang Mai Arr 43.77 254 *e*P **P 21 44 40.7 +0.9**
CMAR Chiang Mai Arr 43.77 254 P **P 21 44 40.1 +0.3**
comp=Z,12nm,0.8s,baz=46,slow=6.7,SNR=74
CMAR ScP **ScP 21 50 18.6 +1.2**
comp=Z,2.6nm,1.1s,baz=7.9,slow=2.6,SNR=4.4
CMAR LR LR 22 05 00.0
comp=Z,5µm,18.3s,baz=98,slow=39
PPLA Purkeypile 43.78 37 *e*P **P 21 44 41.9 +2.4**
comp=Z,403nm,2.0s
CM01 Chiang Mai Arr 43.78 254 *e*P **P 21 44 39.1 -0.8**
KDAK Kodiak Island 43.81 44 P **P 21 44 39.6 0.0**
comp=Z,24nm,1.0s,baz=268,slow=3.1,SNR=8.7
KDAK Kodiak Island 43.81 44 *e*P **P 21 44 39.7 +0.1**
KDAK pmax pmax
comp=Z,150nm,1.3s
KDAK Kodiak Island 43.81 44 *e*P **P 21 44 39.7 +0.1**
comp=Z,147nm,1.4s
KDAK LR LR
comp=Z,2µm,20.0s
MK01 Makanchi Array 43.82 300 *e*P **P 21 44 39.1 -0.8**
MK31 Makanchi Array 43.82 300 *ce*P **P 21 44 39.6 -0.3**
MK31 pmax pmax
comp=Z,251nm,1.3s
MK31 Makanchi Array 43.82 300 *e*P **P 21 44 40.1 +0.2**
MKAR Makanchi Array 43.82 300 *e*P **P 21 44 40.1 +0.2**
MKAR pmax pmax
comp=Z,830nm,1.0s
MKAR Makanchi Array 43.82 300 *e*P **P 21 44 40.1 +0.2**
comp=Z,828nm,1.0s
CAST Castle Rocks 43.83 36 *e*P **P 21 44 40.4 +0.7**
comp=Z,42nm,1.0s
SPU Mount Spurr 43.87 39 *e*P **P 21 44 40.6 +0.4**
SUKH Sukhothai 43.89 252 P **P 21 44 41.4 +0.7**
comp=Z,25nm,1.2s,comp=Z,238nm
MRSI Marisa 44.02 212 P **P 21 44 42.6 +0.9**
MRSI Marisa 44.02 212 P **P 21 44 42.1 +0.4**
MAKZ Makanchi 44.02 300 *i* P **P 21 44 41.4 -0.1**
MAKZ pmax pmax
comp=Z,209nm,1.3s
MAKZ Makanchi 44.02 300 *e*P **P 21 44 41.8 +0.3**
comp=Z,317nm,1.4s
FAKI Fak Fak 44.03 196 P **P 21 44 45.8 +4.0**
FAKI Fak Fak 44.03 196 P P 21 44 46.8 +5.0
FAKI Fak Fak 44.03 196 *e*P **P 21 44 41.4 -0.5**
comp=Z,144nm,1.2s
KTH Kantishna Hill 44.35 36 *e*P **P 21 44 46.0 +2.0**
comp=Z,131nm,1.2s
SRAK Srakaew 44.47 246 P **P 21 44 42.6 -2.8**
comp=Z,330nm,1.2s,comp=Z,3µm
BRLK Bradley Lake 44.53 41 *e*P **P 21 44 48.8 +3.4**
comp=Z,46nm,1.0s
TRF Thorofare Moun 44.64 36 *e*P **P 21 44 47.8 +1.4**
comp=Z,53nm,1.1s
COLD Coldfoot 44.72 30 *e*P **P 21 44 48.4 +1.6**
comp=Z,58nm,1.1s
NAYO Nakonayok 44.77 247 P **P 21 44 48.5 +0.7**
comp=Z,232nm,0.8s
SANI Sanana 44.88 205 P **P 21 44 48.5 -0.1**
SANI Sanana 44.88 205 P **P 21 44 48.7 +0.1**
SHL Shillong 45.00 267 *e*P **P 21 44 49.4 -0.4**
RC01 Rabbit Creek A 45.00 39 *e*P **P 21 44 49.5 +0.3**
comp=Z,58nm,1.0s
TOLK Toolik Lake Re 45.03 28 P **P 21 44 49.8 +0.5**
baz=267,SNR=16
MCK McKinley 45.23 35 *e*P **P 21 44 52.3 +1.4**
MCK pmax pmax
comp=Z,57nm,1.0s
MCK McKinley 45.23 35 *e*P **P 21 44 52.3 +1.4**
comp=Z,57nm,1.1s
PMR Palmer 45.26 38 *e*P **P 21 44 52.2 +1.1**
PMR pmax pmax
comp=Z,140nm,1.8s
PMR Palmer 45.26 38 *e*P **P 21 44 52.2 +1.1**
comp=Z,142nm,1.8s
KURK Kurchatov 45.27 306 *c i*P **P 21 44 51.1 -0.2**
KURK pmax pmax
comp=Z,372nm,0.9s
KURK Kurchatov 45.27 306 *e*P **P 21 44 51.5 +0.2**
comp=Z,376nm,0.9s
KURK S S 21 51 42.2 +11
KURK LR LR
comp=Z,11µm,19.0s
KURK Kurchatov 45.27 306 P **P 21 44 51.5 +0.2**
SNR=163
UMPA Umpang Tak 45.27 251 P **P 21 44 54.2 +2.4**
comp=Z,37nm,1.2s,comp=Z,278nm
UTHA Uthaitani 45.27 250 P **P 21 44 52.9 +1.1**
comp=Z,19nm,0.9s,comp=Z,157nm
RND Reindeer 45.28 36 *e*P **P 21 44 52.4 +1.0**
RND pmax pmax
comp=Z,93nm,1.2s
RND Reindeer 45.28 36 *e*P **P 21 44 52.4 +1.0**
comp=Z,93nm,1.3s
KURBB Kurchatov Arra 45.34 306 P **P 21 44 52.2 +0.2**
comp=Z,301nm,0.9s,baz=80,slow=8.3,SNR=803
KURBB S S 21 51 42.2 +10
comp=Z,0.5nm,0.2s,baz=73,slow=14,SNR=1.3
MDM Murphy Dome 45.50 34 *e*P **P 21 44 54.5 +1.4**
comp=Z,98nm,1.4s
WRH Wood River Hil 45.58 34 *e*P **P 21 44 54.9 +1.3**
comp=Z,34nm,1.0s
SML Sawmill 45.62 38 *e*P **P 21 44 55.6 +1.6**
SML pmax pmax
comp=Z,110nm,1.2s
SML Sawmill 45.62 38 *e*P **P 21 44 55.6 +1.6**
comp=Z,114nm,1.2s
NLAI Namlea 45.66 203 P P 21 45 01.2 +6.4
comp=Z,510nm,2.0s
COLA College 45.66 34 PFAKE 21 45 10.0 +16
COLA LR LR
comp=Z,2µm,21.0s
CCB Clear Creek Bu 45.69 34 *e*P **P 21 44 55.7 +1.2**
comp=Z,55nm,1.3s
AAI Ambon 45.77 201 P **P 21 44 58.0 +2.4**
comp=Z,88nm,0.9s,comp=Z,2µm
DHY Denali Highway 45.97 36 *e*P **P 21 44 57.9 +0.9**
comp=Z,107nm,1.4s
PATY Pattaya 46.05 246 P **P 21 45 00.4 +2.5**
comp=Z,30nm,1.1s,comp=Z,1µm
HDA Harding Lake 46.07 34 *e*P **P 21 44 58.3 +0.8**
comp=Z,62nm,1.2s
ILAR Eielson Array 46.08 34 P **P 21 44 58.1 +0.5**
comp=Z,15nm,0.8s,baz=264,slow=6.5,SNR=110
ILB Eielson Array 46.08 34 *e*P **P 21 44 58.2 +0.6**
IL1 Eielson Array 46.08 34 *e*P **P 21 44 57.5 -0.1**
SCM Sheep Creek Mo 46.09 38 *e*P **P 21 44 59.6 +1.8**
SCM pmax pmax
comp=Z,120nm,1.4s
SCM Sheep Creek Mo 46.09 38 *e*P **P 21 44 59.6 +1.8**
comp=Z,124nm,1.4s
PCI Palu 46.14 214 P P 21 45 08.7 +10
PCI Palu 46.14 214 P **P 21 44 59.0 +0.4**
comp=Z,181nm,1.2s
SRDT SRDT 46.31 249 P **P 21 45 01.2 +1.2**
comp=Z,140nm,1.5s
FYU Fort Yukon 46.68 31 *e*P **P 21 45 04.7 +2.4**
comp=Z,449nm,1.8s
PDGK Podgornoye 46.72 296 *i* P **P 21 45 02.6 -0.5**
PDGK pmax pmax
comp=Z,149nm,1.1s
SHLS Shalkode 46.79 296 LR LR 22 04 49.0
comp=Z,6µm,14.5s
KLU Klutina 46.80 38 *e*P **P 21 45 04.9 +1.6**
comp=Z,56nm,1.0s
PAX Paxson 46.84 36 *e*P **P 21 45 07.3 +3.6**
PAX pmax pmax
comp=Z,32nm,1.2s
PAX Paxson 46.84 36 *e*P **P 21 45 07.3 +3.6**
comp=Z,32nm,1.2s
JOHN Johnston Islan 46.89 106 PFAKE 21 45 20.0 +16
JOHN LR LR
comp=Z,529nm,19.0s
DIV Divide 46.91 39 *e*P **P 21 45 05.6 +1.3**
comp=Z,66nm,1.0s
SBUM Sibu 46.92 225 *e*P **P 21 45 05.2 +0.5**
comp=Z,46nm,1.2s
TDK Taldyqorghan 46.92 298 *i* P **P 21 45 02.9 -1.6**
comp=Z,1µm,1.5s
TDK LR LR 22 04 42.4
comp=Z,3µm,15.7s
PHET Kaeng Krachan 46.92 247 P **P 21 45 06.2 +1.4**
comp=Z,43nm,1.1s,comp=Z,372nm
TARA Tarawa 47.03 138 PFAKE 21 45 20.0 +14
TARA LR LR
comp=Z,493nm,19.0s
UZB Uzynkulak 47.10 296 *i* P **P 21 45 04.4 -1.7**
comp=Z,905nm,1.6s
UZB LR LR 22 04 55.6
comp=Z,5µm,16.1s
KPKS Kokpek 47.23 296 *i* P **P 21 45 05.5 -1.5**
comp=Z,2µm,1.1s
KPKS LR LR 22 05 01.9
comp=Z,9µm,14.0s
TAPN Taplejung 47.28 272 *e*P **P 21 45 08.4 +0.6**
comp=Z,618nm,1.5s
DOT Dot Lake 47.40 35 *e*P **P 21 45 08.7 +0.7**
comp=Z,86nm,1.1s
BMRM Bremner River 47.50 39 *e*P **P 21 45 10.9 +2.1**
comp=Z,108nm,1.2s
SATY Saty 47.55 296 LR LR 22 04 19.5
comp=Z,5µm,14.3s
MENT Mentasta 47.64 36 *e*P **P 21 45 11.7 +1.8**
comp=Z,93nm,1.4s
ODAN Odare 47.77 272 *e*P **P 21 45 12.0 +0.4**
comp=Z,435nm,1.2s
KDI Kendari 47.82 208 P **P 21 45 13.7 +2.0**
comp=Z,64nm,1.3s
CRQM Cirque 48.24 39 *e*P **P 21 45 16.6 +1.9**
comp=Z,230nm,1.4s
JIRN Jiri 48.28 273 *e*P **P 21 45 16.2 +0.5**
comp=Z,1µm,1.5s
RAMN Ramite 48.33 272 *e*P **P 21 45 16.2 +0.3**
comp=Z,546nm,0.9s
GUN Guba 48.40 274 *e*P **P 21 45 17.0 +0.4**
comp=Z,356nm,0.8s
MTKI Muara Teweh, K 48.42 220 P P 21 45 24.8 +8.4
MTKI Muara Teweh, K 48.42 220 P **P 21 45 17.1 +0.7**
MDOK Medeo 48.45 296 *i* P **P 21 45 15.2 -1.3**
MDOK LR LR 22 05 22.7
comp=Z,7µm,15.1s
EGAK Eagle 48.52 34 *e*P **P 21 45 17.8 +1.2**
comp=Z,42nm,1.0s
EGAK LR LR
comp=Z,2µm,20.0s
AAA Alma-Ata 48.53 297 *e*P **P 21 45 16.0 -1.0**
comp=Z,1µm,1.0s
AAA *i* S **S 21 52 14.7 -3.1**
AAA LR LR 22 05 22.9
comp=Z,6µm,15.0s
KSM Kuching 48.78 226 *e*P **P 21 45 18.8 -0.4**
comp=Z,96nm,1.2s
KSM LR LR
comp=Z,2µm,19.0s
KSM Kuching 48.78 226 ⇑P **P 21 45 20.2 +1.1**
KKN Kakani 48.91 274 *e*P **P 21 45 20.8 +0.4**
comp=Z,607nm,1.1s
PKI Pulchoki 48.93 274 *e*P **P 21 45 20.7 +0.1**
comp=Z,704nm,1.5s
SPSI Sidrap Palu 48.93 212 P P 21 45 32.9 +13
SPSI Sidrap Palu 48.93 212 P **P 21 45 21.7 +1.5**
comp=Z,42nm,1.2s
PKIN Phulchoki 48.93 274 *e*P **P 21 45 20.8 +0.2**
comp=Z,149nm,0.8s
BRZS Berezniki 49.13 306 *i* P **P 21 45 20.1 -1.5**
comp=Z,380nm,1.1s
DMN Daman 49.14 274 *e*P **P 21 45 22.4 +0.2**
comp=Z,837nm,1.5s
BBSI Bau Bau 49.26 208 P **P 21 45 26.1 +3.3**
comp=Z,48nm,1.2s,comp=Z,645nm
GKN Gorkha 49.30 275 *e*P **P 21 45 23.4 +0.1**
comp=Z,870nm,1.4s
STKI Sintang 49.31 224 P P 21 45 30.2 +7.0
STKI Sintang 49.31 224 P **P 21 45 24.1 +0.9**
comp=Z,75nm,1.5s
DAWY Dawson 49.39 34 *e*P **P 21 45 25.4 +2.1**
comp=Z,21nm,1.1s
PMG Port Moresby 49.42 175 *e*P **P 21 45 22.4 -1.5**
PMG pmax pmax
comp=Z,31nm,1.0s
PMG MLR MLR
comp=Z,3µm,19.0s
PMG Port Moresby 49.42 175 *e*P **P 21 45 22.4 -1.5**
comp=Z,31nm,1.0s
PMG LR LR
comp=Z,3µm,19.0s
TKM2 Tokmak 2 49.53 297 *i* P **P 21 45 25.3 +0.4**
TKM2 pmax pmax
comp=Z,271nm,0.9s
BVAR Borovoye Array 49.65 311 P **P 21 45 25.9 +0.5**
comp=Z,59nm,0.7s,baz=80,slow=8.1,SNR=332
BVAR S **S 21 52 40.7 +7.6**
comp=Z,5.3nm,1.0s,baz=64,slow=15,SNR=4.3
BVAR LR LR 22 07 36.8
comp=Z,10µm,20.2s,baz=81,slow=38
BRVK Borovoye 49.70 311 *c i*P **P 21 45 25.9 +0.1**
BRVK pmax pmax
comp=Z,217nm,1.2s
BRVK Borovoye 49.70 311 *e*P **P 21 45 26.5 +0.7**
comp=Z,153nm,1.0s
BRVK LR LR
comp=Z,8µm,19.0s
BRVK Borovoye 49.70 311 P **P 21 45 26.5 +0.7**
SNR=96
KAPI Kappang 49.89 211 *e*P **P 21 45 28.1 +0.5**
comp=Z,214nm,1.4s
KAPI LR LR
comp=Z,3µm,21.0s
KAPI Kappang 49.89 211 P **P 21 45 27.6 0.0**
SNR=12
KTGM Kuala Trenggan 50.03 237 ⇓P **P 21 45 29.7 +0.9**
KOLN Koldanda 50.21 275 *e*P **P 21 45 30.7 +0.4**
comp=Z,530nm,1.4s
FRU Bishkek 50.23 297 ⇑*e*P **P 21 45 30.0 -0.1**
FRU pmax pmax
comp=Z,510nm,2.0s
SURT Suratani 50.27 244 P **P 21 45 31.7 +1.2**
comp=Z,38nm,1.6s
SKLT Songkhla 50.31 241 P **P 21 45 32.1 +1.2**
comp=Z,101nm,1.4s
AAK Ala-Archa 50.39 297 P **P 21 45 31.8 +0.4**
comp=Z,28nm,0.5s,baz=86,slow=5.7,SNR=72
AAK Ala-Archa 50.39 297 *i* P **P 21 45 30.9 -0.5**
AAK pmax pmax
comp=Z,106nm,1.1s
AAK Ala-Archa 50.39 297 *e*P **P 21 45 31.3 -0.1**
comp=Z,80nm,0.9s
AAK LR LR
comp=Z,9µm,19.0s
TRTT Trang 50.45 242 P **P 21 45 32.8 +0.8**
comp=Z,136nm,1.1s
PYUN Piuthan 50.51 276 *e*P **P 21 45 32.9 +0.4**
comp=Z,1µm,1.3s
BOK Bokaro 50.55 269 *e*P **P 21 45 33.4 +0.8**
BOK IAmb IAmb 21 45 34.4
comp=Z,85nm,1.0s
KSH Kashi 50.56 292 ⇑*i*P **P 21 45 36.9 +4.2**
KSH pP sP 21 45 42.8 +3.2
KSH PP **PP 21 47 33.9 +5.5**
KSH S **S 21 52 49.8 +3.3**
KSH sS sS 21 52 59.8 +5.1
KSH SS **SS 21 56 22.1 +1.8**
KSH pmax pmax
comp=Z,160nm,1.2s
KSH pmax pmax
comp=Z,2µm,7.9s
KSH LR LR
comp=Z,4µm,12.8s
KSH LR LR
comp=Z,3µm,12.2s
KSH LR LR
comp=Z,3µm,12.6s
HYT Haines Junctio 50.93 38 *e*P **P 21 45 37.8 +2.6**
comp=Z,130nm,0.9s
INK Inuvik 50.95 28 P **P 21 45 36.2 +1.2**
comp=Z,16nm,0.9s,baz=291,slow=7.0,SNR=12
INK Inuvik 50.95 28 *e*P **P 21 45 36.3 +1.3**
INK pmax pmax
comp=Z,53nm,1.2s
INK Inuvik 50.95 28 *e*P **P 21 45 36.3 +1.3**
comp=Z,53nm,1.3s
PBKI Pangkalan Bun 51.56 222 P **P 21 45 42.4 +2.2**
comp=Z,125nm,1.3s
DGPR DIGLIPUR 51.58 253 *e*P **P 21 45 39.5 -0.9**
HNR Honiara 51.66 159 PFAKE 21 45 50.0 +9.1
HNR LR LR
comp=Z,4µm,21.0s
KULM Kulim 51.68 239 *e*P **P 21 45 40.2 -1.0**
KULM pmax pmax
comp=Z,99nm,1.1s
KULM LR LR
comp=Z,2µm,19.0s
KULM Kulim 51.68 239 ⇓P **P 21 45 42.5 +1.3**
MNAS Manas 51.81 297 *i* P **P 21 45 42.1 +0.1**
MNAS pmax pmax
comp=Z,215nm,0.9s
PTH Pithoragarh 51.89 279 *ex* P 21 45 32.8 -10
IPM Ipoh 52.04 238 *e*P **P 21 45 43.7 -0.2**
comp=Z,110nm,1.2s
WHY Whitehorse 52.22 38 *e*P **P 21 45 47.0 +2.3**
comp=Z,35nm,1.1s
MMRI Maumere 52.30 207 P **P 21 45 45.9 +0.2**
comp=Z,148nm,2.2s,comp=Z,3µm
MMRI Maumere 52.30 207 *e*P **P 21 45 45.8 +0.1**
comp=Z,60nm,1.4s
MYKOM Kota Tinggi 52.31 233 *e*P **P 21 45 46.3 +0.5**
comp=Z,90nm,1.4s
MYKOM Kota Tinggi 52.31 233 ⇑P **P 21 45 47.4 +1.6**
SKAG Skagway 52.34 40 *e*P **P 21 45 45.8 +0.3**
comp=Z,37nm,1.1s
KGM Kluang 52.46 234 ⇓P **P 21 45 48.0 +1.0**
TPRI Tanjung Pinang 52.58 232 P **P 21 45 49.1 +1.2**
comp=Z,74nm,1.2s
FRIM Kepong 52.59 237 ⇑P **P 21 45 49.0 +1.1**
SOEI Soe 52.68 204 P **P 21 45 48.9 +0.2**
comp=Z,159nm,1.3s
SOEI Soe 52.68 204 *e*P **P 21 45 48.0 -0.6**
comp=Z,270nm,1.1s
KIP Kipapa 52.79 92 PFAKE 21 46 00.0 +11
KIP LR LR
comp=Z,8µm,19.0s
BESE Bessie Mountai 52.84 41 *e*P **P 21 45 53.3 +3.9**
comp=Z,85nm,1.6s
KK31 Karatay Array 52.91 299 *ce*P **P 21 45 49.6 -0.5**
KK31 pmax pmax
comp=Z,80nm,0.9s
KKAR Karatay Array 52.91 299 *e*P **P 21 45 50.1 0.0**
KKAR Karatay Array 52.91 299 *e*P **P 21 45 50.1 0.0**
comp=Z,36nm,0.7s
DDI Dehra Dun 53.15 281 *e*P **P 21 45 51.8 -0.2**
BATI Baumata 53.30 204 P P 21 46 00.4 +7.3
BRLS Borolday 53.40 299 *i* P **P 21 45 54.0 +0.3**
comp=Z,45nm,1.7s
SMLA Simla 53.42 282 *e*P **P 21 45 53.7 -0.2**
SMLA IAMs_20 IAMs_20 22 09 57.0
comp=Z,7µm,8.5s
DHRM DHARAMSHALA 53.53 284 *e*P **P 21 45 54.9 -0.1**
IUG luzhnay 53.62 298 *i* P **P 21 45 53.4 -2.1**
comp=Z,2µm,1.5s
IUG *e*S **S 21 53 25.0 -3.5**
IUG LR LR 22 09 20.8
comp=Z,2µm,14.2s
COEN Coen 53.81 180 *e*P **P 21 45 57.1 +0.3**
comp=Z,339nm,2.0s
BHK Bhakra 53.84 283 *e*P **P 21 45 55.0 -2.0**
SVE Sverdlovsk 53.85 318 *di*P **P 21 45 57.9 +1.2**
SVE pmax pmax
comp=Z,337nm,1.5s
SVE MLR MLR
comp=N,6µm,14.0s
SVE MLR MLR
comp=E,24µm,15.0s
SVE MLR MLR
comp=Z,30µm,14.0s
MTN Manton Dam 53.91 195 *e*P **P 21 45 56.9 -0.6**
comp=Z,163nm,1.2s
PONG Pong 53.93 284 *e*P **P 21 45 55.0 -2.6**
PONG Pong 53.93 284 *e*P **P 21 45 56.0 -1.6**
PPBI Pangkal Pinang 54.11 228 P **P 21 46 00.0 +0.9**
comp=Z,76nm,1.6s
LHMI Lhok Sumawe 54.21 243 P P 21 46 04.8 +5.0
comp=Z,118nm,1.5s
TWSI Taliwang, Sumb 54.43 213 P **P 21 46 00.5 -0.9**
comp=Z,36nm,1.2s,comp=Z,2µm
NDI New Delhi 54.60 280 *e*P **P 21 46 01.5 -1.1**
PSI Prapat 54.67 239 P **P 21 46 03.4 0.0**
comp=Z,28nm,0.9s,baz=28,slow=6.8,SNR=24
PSI LR LR 22 11 21.9
comp=Z,4µm,18.6s,baz=37,slow=38
PSI Prapat 54.67 239 *e*P **P 21 46 03.2 -0.2**
comp=Z,63nm,1.1s
SOKR Solikamsk 54.81 322 *ci*P **P 21 46 02.8 -0.8**
SOKR pmax pmax
comp=Z,176nm,1.3s
SOKR MLR MLR
comp=Z,12µm,17.0s
WRAK Wrangell Islan 54.84 43 PFAKE 21 46 20.0 +16
WRAK LR LR
comp=Z,4µm,19.0s
CHLP Challavanipeta 54.95 265 *e*P **P 21 46 05.9 +0.7**
CHLP IAmb IAmb 21 46 07.2
comp=Z,517nm,1.9s
ARU Arti 55.06 318 P **P 21 46 06.0 +0.5**
comp=Z,98nm,1.0s,baz=74,slow=4.1,SNR=165
ARU Arti 55.06 318 *ci*P **P 21 46 05.8 +0.3**
ARU 21 47 08.2
ARU 21 48 09.3
ARU PPP PPP 21 49 21.4
ARU S **S 21 53 47.2 +0.1**
ARU SS **SS 21 57 24.6 -5.8**
ARU pmax pmax
comp=Z,514nm,1.7s
ARU MLR MLR
comp=Z,27µm,15.0s
ARU Arti 55.06 318 *e*P **P 21 46 05.0 -0.6**
comp=Z,593nm,1.5s
ARU LR LR
comp=Z,17µm,19.0s
BKNI Bangkinang 55.20 235 P **P 21 46 08.1 +1.1**
comp=Z,247nm,1.4s
BKNI Bangkinang 55.20 235 *e*P **P 21 46 08.0 +1.1**
comp=Z,256nm,1.0s

DLBC **Dease Lake** 55.27 40 P P 21 46 08.6 +1.4
comp=Z,6.3nm,0.9s,baz=272,slow=7.1,SNR=8.4
DLBC **Dease Lake** 55.27 40 *e*P P 21 46 09.7 +2.5
JAGI **Jajag, Banyuwa** 55.37 216 *e*P P 21 46 06.6 -1.6
POHA **Pohakuloa** 55.65 92 PFAKE 21 46 20.0 +9.5
POHA LR LR
comp=Z,5µm,20.0s
NGJI **Ngawi** 55.67 219 P P 21 46 12.0 +1.7
comp=Z,122nm,1.2s
SMRI **Semarang** 55.90 221 P P 21 46 13.7 +1.7
comp=Z,152nm,1.2s
SMRI **Semarang** 55.90 221 *e*P P 21 46 12.3 +0.3
comp=Z,212nm,1.2s
SDSI **Sungai Dareh** 55.93 234 P P 21 46 14.8 +2.5
comp=Z,208nm,1.4s
VIS **Vishakhapatnam** 55.97 265 *e*P P 21 46 13.7 +1.2
PPI **Padang Panjang** 56.21 235 P P 21 46 16.9 +2.7
comp=Z,24nm,1.2s
WOJI **Wonogiri, Jawa** 56.34 220 P P 21 46 16.6 +1.5
comp=Z,45nm,1.4s
UGM **Wanagama** 56.60 220 P P 21 46 17.2 +0.2
comp=Z,228nm,1.2s
UGM **Wanagama** 56.60 220 *e*P P 21 46 16.5 -0.5
comp=Z,257nm,1.1s
KPJI **Karang Pucung** 56.90 222 P P 21 46 18.5 -0.6
comp=Z,106nm,1.2s
KLSI 56.97 228 P P 21 46 20.0 +0.3
comp=Z,113nm,1.6s
AB31 **Akbulak array** 57.12 309*ce*P P 21 46 20.0 -0.3
AB31 pmax pmax
comp=Z,203nm,1.4s
ABKAR **Akbulak array** 57.12 309 *e*P P 21 46 20.2 -0.2
comp=Z,54nm,0.7s
MASI **Maura Aman, Be** 57.18 231 P P 21 46 22.2 +1.0
comp=Z,344nm,1.4s,comp=Z,8µm
BLSI **Bandar Lampung** 57.24 227 P P 21 46 23.6 +2.1
comp=Z,73nm,0.4s
BHPL **Bhopal** 57.33 274 *e*P P 21 46 22.0 -0.2
HOPEN **Hopen** 57.40 346 IAmb IAmb 21 46 43.7
PVM **Polavaram** 57.56 266 *e*P P 21 46 24.1 +0.2
PVM IAmb IAmb 21 46 25.5
comp=Z,434nm,1.9s
SISI **Saibi** 57.70 236 P P 21 46 36.2 +11
KBL **Kabul** 57.74 290 *e*P P 21 46 24.8 -0.4
KBL pmax pmax
comp=Z,230nm,1.1s
KBL **Kabul** 57.74 290 *e*P P 21 46 24.8 -0.4
comp=Z,227nm,1.1s
AKTO **Aktyubinsk** 57.75 311 P P 21 46 24.9 +0.2
comp=Z,33nm,0.9s,baz=74,slow=8.6,SNR=75
AKTO LR LR 22 12 43.3
comp=Z,10µm,18.3s,baz=104,slow=38
AKTO **Aktyubinsk** 57.75 311 P P 21 46 25.0 +0.2
AKTO pmax pmax
comp=Z,33nm,0.9s
AKTO MLR MLR
comp=Z,10µm,18.3s
SPA0 **Spitsbergen Ar** 57.78 349 *e* 21 44 56.9
SPITS **Spitsbergen Ar** 57.78 349 P P 21 46 24.8 +0.2
comp=Z,7.9nm,0.7s,baz=89,slow=11,SNR=7.2
KBS **Kingsbay** 57.87 350 *e*P P 21 46 26.5 +1.3
KBS IAmb IAmb 21 46 26.9
comp=Z,114nm,1.1s
KBS **Kingsbay** 57.87 350 *e*P P 21 46 26.5 +1.3
KBS pmax pmax
comp=Z,99nm,1.0s
KBS **Kingsbay** 57.87 350 *e*P P 21 46 26.5 +1.3
comp=Z,99nm,1.0s
KBS LR LR
comp=Z,3µm,22.0s
CGJI **Cibinong** 58.02 226 P P 21 46 26.0 -1.0
comp=Z,48nm,1.4s
RPR **Rampur** 58.39 269 *e*P P 21 46 29.5 -0.1
RPR IAmb IAmb 21 46 31.0
comp=Z,278nm,1.4s
FUNA **Funafuti** 58.67 137 PFAKE 21 46 40.0 +8.5
FUNA LR LR
comp=Z,9µm,20.0s
HSPB **Hornsund (broa** 58.73 348 *e*P P 21 46 32.3 +1.1
HSPB IAmb IAmb 21 46 33.5
comp=Z,350nm,1.4s
SRSP **Sriramsagar** 59.08 269 *e*P P 21 46 34.2 -0.3
SRSP IAmb IAmb 21 46 35.6
comp=Z,378nm,1.2s
RES **Resolute Bay** 59.22 15 *e*P P 21 46 35.0 +0.3
RES pmax pmax
comp=Z,45nm,0.8s
RES **Resolute Bay** 59.22 15 *e*P P 21 46 35.0 +0.3
comp=Z,45nm,0.8s
ADKI **Addanki** 59.67 265 *e*P P 21 46 38.8 +0.3
ADKI IAmb IAmb 21 46 41.3
comp=Z,428nm,2.0s
NJS **Nagarjunasagar** 59.74 267 *e*P P 21 46 38.6 -0.5
NJS IAmb IAmb 21 46 40.2
comp=Z,250nm,1.9s
HYB **Hyderabad** 59.81 268 *i*P P 21 46 39.0 -0.6
HYB **Hyderabad** 59.81 268 *e*P P 21 46 39.6 0.0
HYB IAmb IAmb 21 46 40.9
comp=Z,75nm,1.1s
HYBB **Hyderabad (bro** 59.81 268 *e*P P 21 46 39.1 -0.5
HYBB IAmb IAmb 21 46 40.6
comp=Z,192nm,1.4s
LVZ **Lovozero** 59.91 336⇑*e*P P 21 46 39.2 -0.4
LVZ pmax pmax
comp=Z,25nm,0.8s
LVZ **Lovozero** 59.91 336 *e*P P 21 46 39.1 -0.4
comp=Z,27nm,0.8s
LVZ LR LR
comp=Z,4µm,20.0s
CTAO **Charters Tower** 59.97 177 *e*P P 21 46 39.7 -0.7
CTAO pmax pmax
comp=Z,65nm,0.8s
CTAO MLR MLR
comp=Z,4µm,20.0s
CTAO **Charters Tower** 59.97 177 *e*P P 21 46 39.7 -0.7
comp=Z,65nm,0.8s
CTAO LR LR
comp=Z,4µm,20.0s
FITZ **Fitzroy Crossi** 60.24 199 *e*P P 21 46 42.2 0.0
SRLM **Srisailam** 60.34 266 *e*P P 21 46 42.5 -0.7
SRLM IAmb IAmb 21 46 44.1
comp=Z,267nm,1.9s
WRAB **Tennant Creek** 60.34 190 *i*P P 21 46 41.8 -1.1
WRAB pmax pmax
comp=Z,197nm,1.7s
WRAB **Tennant Creek** 60.34 190 *e*P P 21 46 41.9 -1.0
comp=Z,53nm,0.8s
WRAB LR LR
comp=Z,4µm,20.0s
WB2 **Warramunga Arr** 60.35 190 *e*P P 21 46 42.0 -1.1
WRA **Warramunga Ar** 60.35 190 P P 21 46 42.0 -1.0
comp=Z,16nm,0.7s,baz=9.1,slow=6.9,SNR=94
YKA **Yellowknife Ar** 60.38 31 P P 21 46 43.3 +0.6
comp=Z,4.9nm,0.9s,baz=299,slow=6.8,SNR=11
YKA LR LR 22 16 04.1
comp=Z,292nm,20.5s,baz=0.0,slow=39
YKA **Yellowknife Ar** 60.38 31*ce*P P 21 46 46.0 +3.2
APA **Apatity** 60.49 336‖*i*P P 21 46 42.0 -1.4
APA pmax pmax
comp=Z,42nm,0.9s
RCLA **Racherla** 60.67 266 *e*P P 21 46 45.2 -0.3
RCLA IAmb IAmb 21 46 46.7
comp=Z,496nm,2.0s
TMCR **Tamitsa** 60.76 331 *e*P P 21 46 44.4 -0.9
TMCR pmax pmax
comp=Z,199nm,1.0s
KLRI **Killari** 60.92 270 *e*P P 21 46 46.6 -0.6
KLRI IAmb IAmb 21 46 48.0
comp=Z,280nm,1.0s
KEV **Kevo** 61.08 339 *e*P P 21 46 47.6 +0.2
KEV pmax pmax
comp=Z,31nm,0.8s
KEV MLR MLR
comp=Z,7µm,22.0s
KEV **Kevo** 61.08 339 *e*P P 21 46 47.6 +0.2
comp=Z,31nm,0.8s
KEV LR LR
comp=Z,7µm,22.0s
SKHT **Srikalahasti** 61.15 264 *e*P P 21 46 49.0 +0.3
SKHT IAmb IAmb 21 46 50.5
comp=Z,82nm,0.9s
MDRS **Chennai** 61.16 263 *e*P P 21 46 49.4 +0.7
MDRS IAMs_20 IAMs_20 22 15 23.7
comp=Z,4µm,17.9s
ARA0 **ARCESS Array S** 61.63 339 *e*P P 21 46 51.1 -0.1
ARCES **ARCESS Array B** 61.63 339 P P 21 46 51.5 +0.3
comp=Z,28nm,0.9s,baz=60,slow=8.5,SNR=25
ARCES LR LR 22 16 11.0
comp=Z,8µm,21.3s,baz=40,slow=39
ARE0 **ARCESS Array S** 61.63 339 *e*P P 21 46 51.9 +0.7
ARE0 IAmb IAmb 21 46 52.8
comp=Z,212nm,1.8s
ARE0 **ARCESS Array S** 61.63 339 *e*P P 21 46 52.0 +0.7
KLMR **Klimovskoe** 61.95 327 *e*P P 21 46 51.4 -2.0
KLMR *e* 21 47 32.7
KLMR *e* 21 49 08.0
KLMR pmax pmax
comp=Z,259nm,1.4s
URV **Uravakonda** 62.28 266 *e*P P 21 46 56.0 -0.4
URV IAmb IAmb 21 46 57.5
comp=Z,163nm,1.5s
KTK1 **Kautokeino** 62.59 339 *e*P P 21 46 58.2 +0.6
KTK1 IAmb IAmb 21 46 59.2
comp=Z,100nm,1.1s
POO **Poona** 62.76 272 *e*P P 21 46 59.2 -0.3
POO IAMs_20 IAMs_20 22 13 18.5
comp=Z,3µm,17.6s
DAG **Danmarks Havn** 62.81 355 *i*P P 21 46 59.6 +0.6
comp=Z,61nm,1.1s
DAG **Danmarks Havn** 62.81 355 *i*P P 21 46 59.6 +0.6
DAG pmax pmax
comp=Z,77nm,1.1s
MSF **Maaselka** 62.87 335 P P 21 47 00.2 +0.7
MSF pmax pmax
comp=Z,135nm,1.4s
LLLB **Lillooet** 62.99 45 *e*P P 21 47 03.4 +2.7
BHJ **Bhuj** 63.24 279 *e*P P 21 47 02.7 0.0
TRO **Tromso** 63.27 341 *e*P P 21 47 05.3 +3.2
TRO IAmb IAmb 21 47 05.9
comp=Z,115nm,1.1s
TRO **Tromso** 63.27 341 P P 21 47 05.9 +3.8
ASHT **Ashkhabad** 63.48 298 P P 21 47 07.0 +2.9
ASHT pmax pmax
comp=Z,146nm,1.4s
NLWA **Neilton Lookou** 63.54 49 *e*P P 21 47 06.3 +2.0
comp=Z,19nm,0.8s
NLWA LR LR
comp=Z,3µm,19.0s
GEYT **Alibeck** 63.67 298 P P 21 47 05.4 +0.1
comp=Z,112nm,1.1s,baz=31,slow=3.5,SNR=166
GEYT LR LR 22 16 58.7
comp=Z,8µm,18.2s,baz=50,slow=38
JOF **Joensuu** 63.94 332 P P 21 47 07.4 +0.7
JOF pmax pmax
comp=Z,155nm,1.1s
AS01 **Alice Springs** 64.07 190 *e*P P 21 47 06.1 -1.8
AS31 **Alice Springs** 64.07 190 *e*P P 21 47 07.8 -0.1
ASAR **Alice Springs** 64.08 190 P P 21 47 07.5 -0.5
comp=Z,7.4nm,0.8s,baz=8.0,slow=5.2,SNR=44
B05A **Bryant** 64.10 48 P P 21 47 08.5 +0.6
baz=302
E03A **Lebam** 64.16 50 *e*P P 21 47 11.9 +3.6
OUL **Oulu** 64.41 335 P P 21 47 09.4 -0.3
OUL pmax pmax
comp=Z,167nm,1.2s
PALK **Pallekele** 64.51 257 P P 21 47 11.3 +0.2
comp=Z,14nm,0.8s,baz=109,slow=1.3,SNR=4.3
PALK **Pallekele** 64.51 257 P P 21 47 11.2 0.0
PALK **Pallekele** 64.51 257 *e*P P 21 47 11.7 +0.6
GOA **Goa** 64.58 269 *e*P P 21 47 12.2 +0.6
D05A **Enumclaw** 64.73 49 *e*P P 21 47 15.8 +3.7
MBWA **Marble Bar** 64.83 204 *e*P P 21 47 11.6 -1.3
comp=Z,265nm,1.2s
MBWA LR LR
comp=Z,3µm,19.0s
LON **Longmire** 65.07 49 *e*P P 21 47 15.5 +1.1
LON **Longmire** 65.07 49 *e*P P 21 47 15.5 +1.1
F04A **Amboy** 65.16 50 *e*P P 21 47 17.0 +2.1
STEI **Steigen** 65.44 341 *e*P P 21 47 16.7 +0.4
STEI IAmb IAmb 21 47 17.6
comp=Z,43nm,1.0s
DZM **Mont Dzumac** 65.53 156 *e*P P 21 47 17.0 -0.6
comp=Z,147nm,1.7s
EIDS **Eidsvold** 65.56 172 *e*P P 21 47 18.0 +0.4
comp=Z,24nm,0.9s
B08A **Colville Reser** 65.60 47 *e*P P 21 47 19.0 +1.2
KEBM **Edson Butte** 65.65 54 *e*P P 21 47 20.9 +2.6
MOS **Moscow** 65.66 323 *e*P P 21 47 17.8 -0.2
MOS *e* 21 49 42.0
MOS *eS* S 21 56 00.1 -2.8
MOS pmax pmax
comp=Z,700nm,1.9s
MOS pmax pmax
comp=Z,312nm,1.5s
MOS MLR MLR
comp=E,11µm,16.0s
MOS MLR MLR
comp=Z,17µm,16.0s
MOS MLR MLR
comp=N,9µm,15.0s
LOF **Lofoten** 65.70 342 *e*P P 21 47 19.1 +1.1
LOF IAmb IAmb 21 47 19.6
comp=Z,40nm,0.9s
I03D **Drain, OR** 65.81 53 P P 21 47 20.7 +1.6
baz=303,SNR=8.9
SUF **Sumiainen** 65.89 333 P P 21 47 19.6 +0.2
SUF pmax pmax
comp=Z,158nm,1.1s
EDM **Edmonton** 66.00 40 *e*P P 21 47 19.9 -0.4
EDM pmax pmax
comp=Z,82nm,1.4s
EDM **Edmonton** 66.00 40 *e*P P 21 47 19.9 -0.4
comp=Z,82nm,1.4s
MSVF **Nonsavu** 66.03 144 PFAKE 21 47 30.0 +9.2
MSVF LR LR
comp=Z,4µm,20.0s
G05D **Wamic, OR** 66.18 50 P P 21 47 22.4 +0.9
baz=304
PUL **Pulkovo** 66.29 329*de*P P 21 47 23.0 +1.1
PUL pmax pmax
comp=Z,117nm,0.7s
E07A **Sunnyside** 66.30 48 *e*P P 21 47 23.8 +1.5
I04A **Tendick Farm,** 66.32 52 P P 21 47 23.8 +1.2
baz=304,SNR=11
L02D **Cave Junction,** 66.49 54 P P 21 47 24.9 +1.3
baz=304
OBN **Obninsk** 66.52 323 P P 21 47 23.7 +0.3
comp=Z,62nm,1.0s,baz=56,slow=2.5,SNR=47
OBN **Obninsk** 66.52 323*c i*P P 21 47 23.6 +0.1
OBN *e* 21 47 51.6
OBN *e* 21 49 47.7
OBN *eS* S 21 56 00.4 -13
OBN pmax pmax
comp=Z,295nm,1.7s
OBN MLR MLR
comp=Z,17µm,15.0s
OBN **Obninsk** 66.52 323 *e*P P 21 47 23.8 +0.3
comp=Z,196nm,1.3s
OBN LR LR
comp=Z,7µm,21.0s
TRD **Trivandrum** 66.53 261 *e*P P 21 47 24.4 +0.3
D08A **Wollman Farm,** 66.56 48 *e*P P 21 47 25.1 +1.2
HAWA **Hanford** 66.58 48 *e*P P 21 47 25.6 +1.5
comp=Z,32nm,1.3s
HAWA LR LR
comp=Z,2µm,22.0s
G06A **Carlson Farm,** 66.58 50 *e*P P 21 47 25.8 +1.6
HUMO **Hull Mountain** 66.65 53 *e*P P 21 47 24.4 -0.2
KRMB **Red Mountain** 66.65 55 *e*P P 21 47 28.4 +3.6
I05D **Terrebonne, OR** 66.67 51 P P 21 47 26.1 +1.3
baz=304
FIA1 **FINESS Array S** 66.77 332 *e*P P 21 47 25.3 +0.3
FINES **FINESS Array B** 66.77 332 P P 21 47 25.2 +0.2
comp=Z,60nm,0.7s,baz=54,slow=7.8,SNR=138
FINES PP PP 21 49 48.9 -2.7
comp=Z,15nm,1.0s,baz=46,slow=11,SNR=6.3
FINES LR LR 22 19 43.1
comp=Z,14µm,19.1s,baz=26,slow=39
J04D **Umpqua Nationa** 66.81 52 P P 21 47 27.3 +1.4
baz=304
VAF **Ylistaro** 66.84 335 P P 21 47 26.4 +1.0
VAF pmax pmax
comp=Z,140nm,1.4s
NEW **Newport** 66.88 46 P P 21 47 27.3 +1.3
baz=305
NEW **Newport** 66.88 46 *e*P P 21 47 27.1 +1.1
NEW **Newport** 66.88 46 *e*P P 21 47 27.1 +1.1
comp=Z,18nm,0.9s
NEW LR LR
comp=Z,3µm,20.0s
LPSR **Galich'ya Gora** 66.89 320 *e*P P 21 47 26.1 +0.2
LPSR pmax pmax
comp=Z,220nm,1.6s
MOR8 **Moi Rana** 66.98 340 *e*P P 21 47 25.4 -0.9
MOR8 IAmb IAmb 21 47 26.4
comp=Z,119nm,0.9s
KONS **Konsvik** 67.07 341 *e*P P 21 47 27.3 +0.6
KONS IAmb IAmb 21 47 28.7
comp=Z,227nm,1.9s
KHMM **Horse Mountain** 67.12 55 *e*P P 21 47 30.5 +2.6
STOK **Stokkvaagen** 67.22 340 *e*P P 21 47 27.7 0.0
STOK IAmb IAmb 21 47 28.8
comp=Z,150nm,1.5s
YBH **Yreka Blue Hor** 67.28 54 *e*P P 21 47 30.6 +1.9
YBH **Yreka Blue Hor** 67.28 54 *e*P P 21 47 30.6 +1.9
E09A **Wood Farm, Sta** 67.30 48 *e*P P 21 47 30.0 +1.3
VORR **Voronezh** 67.30 319 *e*P P 21 47 27.0 -1.5
VORR pmax pmax
comp=Z,300nm,1.6s
J05D **Fort Rock, OR** 67.32 52 P P 21 47 30.2 +1.2
baz=304,SNR=7.7
M02C **Callahan** 67.39 54 P P 21 47 30.5 +1.1
baz=304,SNR=6.6
SUMG **Summit** 67.58 1 *i*P P 21 47 30.7 +0.2
SUMG **Summit** 67.58 1 *e*P P 21 47 31.4 +0.9
SUMG **Summit** 67.58 1 *e*P P 21 47 31.4 +0.9
comp=Z,98nm,1.1s
COCO **West Island** 67.58 230 *i*P P 21 47 33.3 +2.6
COCO **West Island** 67.58 230 PFAKE 21 47 40.0 +9.3
COCO LR LR
comp=Z,3µm,19.0s
VSR **Storozhevoye** 67.59 319 *e*P P 21 47 30.4 0.0
VSR pmax pmax
comp=Z,100nm,1.2s
N02D **Trinity Center** 67.71 55 P P 21 47 32.8 +1.3
baz=304
M04C **Macdoel** 67.80 54 P P 21 47 32.9 +0.9
baz=304,SNR=7.9
AFI **Afiamalu** 68.03 132 PFAKE 21 47 50.0 +16
AFI LR LR
comp=Z,5µm,20.0s
WDC **Whiskeytown Da** 68.04 55 *e*P P 21 47 34.8 +1.4
WDC **Whiskeytown Da** 68.04 55 *e*P P 21 47 34.8 +1.4
F10A **Beach Ranch, E** 68.13 48 *e*P P 21 47 36.1 +1.9
WALA **Waterton Lakes** 68.15 44 *e*P P 21 47 35.3 +1.2
comp=Z,84nm,1.6s
BSMT **Bassoo Peak** 68.39 45 *e*P P 21 47 37.4 +1.6
BLMT **Blacktail Moun** 68.53 45 *e*P P 21 47 38.4 +1.8
VSU **Vasula** 68.55 330*ce*P P 21 47 36.4 +0.2
VSU pmax pmax
comp=Z,420nm,1.0s
GROC **Groznyy** 68.63 309 *e*P P 21 47 36.7 -0.3
GROC *e* 21 48 01.8
GROC pmax pmax
comp=Z,167nm,1.6s
LBCM **Butte Creek Ri** 68.64 54 P P 21 47 38.6 +1.2
MOD **Modoc Plateau** 68.67 53 *e*P P 21 47 37.8 +0.2
JTMT **Jette** 68.73 45 *e*P P 21 47 41.0 +3.2
BMO **Blue Mountains** 68.74 49 *e*P P 21 47 37.6 -0.3
BMO **Blue Mountains** 68.74 49 *e*P P 21 47 37.6 -0.3
comp=Z,9.3nm,0.7s
BMO LR LR
comp=Z,2µm,19.0s
SEKA **Sheki** 68.93 306 P P 21 47 38.5 -0.5
SWMT **Swartz Lake** 69.02 45 *e*P P 21 47 40.5 +0.9
GOF **Gofitskoye** 69.15 312⇑*i*P P 21 47 41.1 +0.8
GOF *eS* S 21 56 46.3 +1.0
GOF pmax pmax
comp=Z,651nm,1.8s
GOF smax smax
comp=E,77nm,1.4s
SCO **Scoresbysund** 69.18 355 *i*P P 21 47 40.4 +0.4
comp=E,89nm,1.4s
SCO **Scoresbysund** 69.18 355 *i*P P 21 47 40.4 +0.4
SCO pmax pmax
comp=Z,89nm,1.4s
MNGR **Mingechevir, A** 69.25 306 P P 21 47 40.5 -0.4
ORV **Oroville** 69.28 55 *e*P P 21 47 41.9 +0.7
ORV **Oroville** 69.28 55 *e*P P 21 47 41.9 +0.7
WVOR **Wild Horse Val** 69.37 52 *e*P P 21 47 42.6 +0.7
WVOR pmax pmax
comp=Z,11nm,0.6s
WVOR MLR MLR
comp=Z,2µm,20.0s
WVOR **Wild Horse Val** 69.37 52 *e*P P 21 47 42.6 +0.7
comp=Z,11nm,0.6s
WVOR LR LR
comp=Z,2µm,20.0s
LKRN **Lenkeran, Azer** 69.37 304 P P 21 47 41.4 -0.3
SLMT **Seeley Lake** 69.46 45 *e*P P 21 47 43.5 +1.2
MSO **Missoula** 69.46 46 P P 21 47 43.2 +0.9
baz=307
MSO **Missoula** 69.46 46 *e*P P 21 47 43.4 +1.1
NCK **Nalchik** 69.76 310⇑*i*P P 21 47 44.9 +0.8
NCK pmax pmax
comp=Z,181nm,1.2s
CHMT **Chamberlain Mo** 69.79 45 *e*P P 21 47 45.3 +0.8
GANJ **Ganja** 69.79 306 P P 21 47 43.9 -0.5
GUDG **Gudauri** 69.84 309 P P 21 47 46.2 +1.3
AFDM **Forest Hills D** 69.96 56 *e*P P 21 47 46.8 +1.3
ZEI **Tsey** 70.00 309 *e*P P 21 47 42.3 -3.5
ZEI pmax pmax
comp=Z,188nm,1.0s
KVAR **Kislovodsk Arr** 70.01 311 P P 21 47 46.9 +1.2
comp=Z,251nm,1.1s,baz=333,slow=3.1,SNR=108
KIV **Kislovodsk** 70.01 311 *i*P P 21 47 46.0 +0.3
SNR=128
KIV **Kislovodsk** 70.01 311*c i*P P 21 47 46.7 +1.0
KIV *e* 21 48 06.9
KIV *e* 21 50 21.1
KIV *e*PPP PPP 21 52 00.8
KIV pmax pmax
comp=Z,675nm,1.7s
KIV **Kislovodsk** 70.01 311 *e*P P 21 47 46.6 +0.8
comp=Z,430nm,1.1s
KIV LR LR
comp=Z,13µm,19.0s
KIV **Kislovodsk** 70.01 311 P P 21 47 46.8 +1.0
SNR=93
KBZ **Khabaz** 70.03 311 P P 21 47 46.6 +1.0
comp=Z,70nm,0.9s,baz=61,slow=5.1,SNR=141
KBZ LR LR 22 23 39.5
comp=Z,6µm,18.7s,baz=49,slow=40
KBZ **Khabaz** 70.03 311 P P 21 47 46.7 +1.0
KBZ pmax pmax
comp=Z,70nm,0.9s
KBZ MLR MLR
comp=Z,6µm,18.7s
TBLG **Delisi** 70.12 308 P P 21 47 47.4 +1.0
TBLG **Delisi** 70.12 308 P P 21 47 47.3 +1.0
FFC **Flin Flon** 70.29 34 *e*P P 21 47 47.6 +0.5
FFC **Flin Flon** 70.29 34 *e*P P 21 47 47.6 +0.5
comp=Z,105nm,1.7s
FFC LR LR
comp=Z,2µm,21.0s
ONI **Oni** 70.38 309 P P 21 47 49.2 +1.2
ONI **Oni** 70.38 309 P P 21 47 49.2 +1.2
TBLU **Trondheim** 70.39 339 *e*P P 21 47 46.6 -0.9
TBLU IAmb IAmb 21 47 47.9
comp=Z,319nm,1.8s
NEY **Neytrino** 70.42 310*d i*P P 21 47 50.4 +2.1
MFID **Camas Ranch** 70.45 49 *e*P P 21 47 49.5 +1.1
comp=Z,44nm,1.4s
PAHR **Pah Rah Range** 70.52 54 *e*P P 21 47 50.3 +1.4
ARMA **Armidale** 70.62 172 *e*P P 21 47 50.1 +0.8
HRY **Holter Researc** 70.69 45 *e*P P 21 47 51.5 +1.6
PNTR **Pine Nut** 70.75 55 *e*P P 21 47 53.7 +3.2
MICGM **Minsk** 70.77 326⇑*e*P P 21 47 50.0 0.0
MICGM PM 21 47 51.0
comp=Z,0.5nm,1.1s
MICGM *e*PP PP 21 50 25.0 -1.3
MICGM *e*PPP PPP 21 52 05.0
MICGM *eS* S 21 57 03.0 -0.9
MICGM *e*LR LR 22 05 12.0
MICGM LRM MLR 22 21 52.0
comp=Z,22nm,16.0s
MICGM LRM MLR 22 22 04.0
comp=Z,17nm,16.0s
MNK **Minsk** 70.77 326⇑*e*P P 21 47 50.0 0.0
MNK *e* 21 50 25.0
MNK *e*PPP PPP 21 52 05.0
MNK *eS* S 21 57 03.0 -0.9
MNK pmax pmax
comp=Z,480nm,1.1s
MNK MLR MLR

comp=Z,22µm,16.0s
MNK MLR MLR
comp=Z,17µm,16.0s
CMB Columbia Colle 70.87 56 *e*P **P 21 47 52.3 +1.2**
CMB Columbia Colle 70.87 56 *e*P **P 21 47 52.3 +1.2**
LRM Limekiln Ridge 70.90 46 *e*P **P 21 47 52.3 +1.0**
NACGM Naroch 70.96 327 *e* **P 21 47 51.0 -0.2**
EGMT Eagleton 70.97 43 P **P 21 47 52.4 +0.9**
baz=309
EGMT Eagleton 70.97 43 *e*P **P 21 47 52.6 +1.1**
EGMT LR LR
comp=Z,2µm,19.0s
YERR Yerington 71.03 55 *e*P **P 21 47 53.8 +1.6**
GNI Garni 71.06 307 P **P 21 47 53.0 +0.8**
comp=Z,152nm,1.3s,baz=193,slow=2.4,SNR=39
GNI Garni 71.06 307 *i* P **P 21 47 52.9 +0.6**
SNR=40
GNI Garni 71.06 307 *c i*P **P 21 47 53.7 +1.4**
GNI pmax pmax
comp=Z,780nm,1.7s
GNI Garni 71.06 307 *e*P **P 21 47 52.5 +0.2**
comp=Z,2µm,1.5s
GNI LR LR
comp=Z,6µm,19.0s
GNI Garni 71.06 307 P **P 21 47 53.7 +1.4**
SNR=22
AKH Akhalkalaki 71.06 308 P **P 21 47 53.7 +1.4**
AKH Akhalkalaki 71.06 308 ⇓*i*P **P 21 47 54.0 +1.7**
AKH Akhalkalaki 71.06 308 P **P 21 47 53.7 +1.4**
BGD Bogdanovka 71.09 308 P **P 21 47 54.1 +1.6**
DLMT Dillon 71.10 46 *e*P **P 21 47 53.9 +1.4**
NAX Nakhchivan 71.18 306 P **P 21 47 52.4 -0.5**
HLID Hailey 71.18 49 P **P 21 47 54.0 +1.0**
baz=308,SNR=7.6
HLID Hailey 71.18 49 *e*P **P 21 47 54.5 +1.5**
HLID LR LR
comp=Z,2µm,19.0s
WAKR Walker 71.19 55 *e*P **P 21 47 54.9 +1.7**
LCCM Lewis and Clar 71.20 46 P **P 21 47 54.3 +1.2**
BOZ Bozeman (W) 71.49 46 P **P 21 47 55.4 +0.6**
baz=309,SNR=21
BOZ Bozeman (W) 71.49 46 *e*P **P 21 47 55.7 +0.9**
BOZ Bozeman (W) 71.49 46 *e*P **P 21 47 55.7 +0.9**
comp=Z,20nm,0.6s
BOZ LR LR
comp=Z,2µm,19.0s
WSAR Wadi Sarin 71.52 285 P **P 21 47 55.6 +0.5**
comp=Z,23nm,1.1s,baz=92,slow=5.2,SNR=13
BANOM Banah 71.64 289 P **P 21 47 56.1 +0.2**
TVH1 TV Hill, Hawth 71.64 55 *e*P **P 21 47 57.7 +1.6**
MOL Molde 71.67 340 *e*P **P 21 47 56.2 +0.9**
MOL IAmb IAmb 21 47 57.0
comp=Z,295nm,2.0s
STKA Stephens Creek 71.67 182 P **P 21 47 55.7 +0.2**
comp=Z,2.7nm,0.8s,baz=338,slow=10,SNR=6.1
STKA Stephens Creek 71.67 182 *e*P **P 21 47 55.4 -0.2**
TVH3 East Aurora ar 71.67 55 *e*P **P 21 47 57.9 +1.8**
DOMB Dombas 71.70 339 *e*P **P 21 47 55.9 +0.3**
DOMB IAmb IAmb 21 47 57.0
comp=Z,332nm,1.8s
TVH2 Borealis Mine 71.70 55 *e*P **P 21 47 58.5 +2.2**
BIDO Bidbid 71.72 286 P **P 21 47 56.9 +0.6**
SNR=14
NB2 NORSAR Subarra 71.90 338 P **P 21 47 57.4 +0.6**
baz=37,slow=6.2
NB2 NORSAR Subarra 71.90 338 P **P 21 47 57.3 +0.5**
NB2 pmax pmax
comp=Z,385nm,1.8s
NB2 NORSAR Subarra 71.90 338 P **P 21 47 57.4 +0.6**
comp=Z,454nm,1.7s,baz=37,slow=6.2
NOA NORSAR Array B 71.90 338 P **P 21 47 57.0 +0.1**
comp=Z,57nm,0.9s,baz=38,slow=6.0,SNR=149
NOA PP **PP 21 50 31.9 -4.0**
comp=Z,9.8nm,1.0s,baz=35,slow=7.8,SNR=3.8
NOA LR LR 22 23 48.7
comp=Z,6µm,18.5s,baz=40,slow=39
NOA NORSAR Array B 71.90 338 P **P 21 47 57.0 +0.1**
NOA pmax pmax
comp=Z,57nm,0.9s
NOA MLR MLR
comp=Z,6µm,18.5s
SOC Sochi 71.95 312 *c i*P **P 21 47 57.5 +0.2**
SOC *e**PP **sP 21 48 06.2 +1.9**
SOC *e* 21 48 13.9
SOC *e* 21 50 37.4
SOC pmax pmax
comp=Z,174nm,1.5s
NC602 NORSAR Array S 72.05 337 *e*P **P 21 47 57.9 +0.3**
NC602 IAmb IAmb 21 47 58.8
comp=Z,201nm,1.6s
QLMT Earthquake Lak 72.08 46 *e*P **P 21 48 00.0 +1.6**
AKN Aaknes 72.14 340 *e*P **P 21 47 59.2 +1.1**
AKN IAmb IAmb 21 47 59.8
comp=Z,333nm,2.0s
ARTV Artvin 72.14 309 *e*P **P 21 47 59.9 +1.1**
YHB Horse Butte 72.26 46 *e*P **P 21 48 02.6 +3.1**
UOSS Minazif 72.29 288 *e*P **P 21 47 59.9 +0.2**
PAGB Antelope Grade 72.33 58 *e*P **P 21 48 01.5 +1.7**
HATD Hatta, Dubai 72.42 288 *i* P **P 21 48 00.7 +0.2**
SNR=27
HATD Hatta, Dubai 72.42 288 P **P 21 48 00.7 +0.2**
SNR=20
YHH Holmes Hill 72.42 46 *e*P **P 21 48 01.6 +1.1**
YMR Madison River 72.44 46 *e*P **P 21 48 02.9 +2.3**
ANN Anapa 72.46 314 *e*P **P 21 48 00.3 -0.1**
ANN *e*S **S 21 57 22.3 -1.4**
ANN pmax pmax
comp=Z,216nm,1.8s
ANN MLR MLR
comp=N,7µm,15.0s
ANN MLR MLR
comp=Z,6µm,15.0s
ANN MLR MLR
comp=E,2µm,15.0s
ASHO Ashiyiah 72.55 288 P **P 21 48 01.5 +0.2**
YNR Norris Junctio 72.56 46 *e*P **P 21 48 05.0 +3.6**
NAZ Nazwa, Dubai 72.66 288 *i* P **P 21 48 02.0 0.0**
SNR=9.9
NAZ Nazwa, Dubai 72.66 288 P **P 21 48 01.9 0.0**
SNR=11
SFJD Kangerlussuaq 72.67 6 *i* P **P 21 47 59.5 -1.7**
SFJD Kangerlussuaq 72.67 6 *e*P **P 21 48 01.8 +0.6**
SFJD Kangerlussuaq 72.67 6 *e*P **P 21 48 01.8 +0.6**
comp=E,56nm,1.1s
SFJD LR LR
comp=Z,4µm,20.0s
SMMC Simmler 72.75 58 P **P 21 48 03.7 +1.4**
baz=307
AKASG Malin Array Be 72.76 323 P **P 21 48 02.0 -0.1**
comp=Z,20nm,0.7s,baz=43,slow=6.5,SNR=158
AKASG PP **PP 21 50 38.1 -5.3**
comp=Z,5.1nm,0.9s,baz=43,slow=9.6,SNR=4.2
AKASG LR LR 22 24 30.6
comp=Z,5µm,18.5s,baz=65,slow=40
AKASG Malin Array Be 72.76 323 P **P 21 48 02.0 -0.1**
AKASG pmax pmax
comp=Z,20nm,0.7s
AKASG MLR MLR
comp=Z,5µm,18.5s
KIEV Kiev 72.77 323 *c i*P **P 21 48 02.1 0.0**
KIEV pmax pmax
comp=Z,140nm,1.4s
KIEV Kiev 72.77 323 *e*P **P 21 48 01.7 -0.4**
comp=Z,126nm,1.3s
KIEV LR LR
comp=Z,8µm,19.0s
YPP Pitchstone Pla 72.78 46 *e*P **P 21 48 05.7 +3.0**
LKWY Lake 72.81 46 PFAKE 21 48 20.0 +17
LKWY LR LR
comp=Z,4µm,20.0s
H17A Grant Village 72.83 46 P **P 21 48 05.5 +2.5**
baz=310,SNR=10.0
H17A Grant Village 72.83 46 *e*P **P 21 48 06.1 +3.2**
comp=Z,63nm,1.3s
FAQ Al Faqa, Dubai 72.86 288 *i* P **P 21 48 02.8 -0.3**
SNR=12
FAQ Al Faqa, Dubai 72.86 288 P **P 21 48 02.9 -0.2**
SNR=9.0
BBOO Buckleboo 72.89 186 *e*P **P 21 48 03.4 +0.5**
comp=Z,64nm,1.2s
OSL Oslo 72.94 337 *e*P **P 21 48 03.6 +0.7**
OSL IAmb IAmb 21 48 04.7
comp=Z,147nm,1.2s
IMW Indian Meadow 72.94 47 *e*P **P 21 48 05.3 +1.7**
comp=Z,17nm,0.8s
VES Vestal, Richgr 73.02 57 P **P 21 48 04.5 +0.6**
baz=308,SNR=7.8
RLMT Red Lodge 73.08 45 P **P 21 48 05.1 +0.7**
baz=310,SNR=11
RLMT Red Lodge 73.08 45 *e*P **P 21 48 06.0 +1.6**
RLMT comp=Z,66nm,1.6s LR LR
comp=Z,2µm,19.0s
SUW Suwalki 73.08 328 *e*P **P 21 48 03.9 0.0**
SUW Suwalki 73.08 328 *e*P **P 21 48 03.9 0.0**
PKM Mcpherson Peak 73.12 59 P **P 21 48 04.7 0.0**
baz=307
FOO Floro 73.13 341 *e*P **P 21 48 04.6 +0.6**
FOO IAmb IAmb 21 48 05.7
comp=Z,306nm,2.0s
MOOW Moose Ponds 73.14 47 *e*P **P 21 48 06.8 +2.0**
comp=Z,109nm,1.8s
TPAW Teton Pass 73.19 47 *e*P **P 21 48 06.9 +1.8**
comp=Z,77nm,1.4s
HYA Hoyanger 73.20 340 *e*P **P 21 48 05.1 +0.6**
HYA IAmb IAmb 21 48 06.1
comp=Z,70nm,1.0s
HVU Hansel Valley 73.23 49 *e*P **P 21 48 07.0 +1.7**
HVU Hansel Valley 73.23 49 *e*P **P 21 48 07.0 +1.7**
CWC Cottonwood Cre 73.30 56 P **P 21 48 06.6 +0.9**
baz=308
LOHW Long Hollow 73.31 47 *e*P **P 21 48 06.9 +1.1**
REDW Red Top Meadow 73.33 47 *e*P **P 21 48 07.1 +1.2**
comp=Z,42nm,1.4s
GRAC Grapevine Rang 73.41 56 P **P 21 48 07.3 +1.0**
baz=308
DGMT Dagmar 73.49 40 PFAKE
DGMT LR LR 21 48 20.0 +14
comp=Z,2µm,19.0s
KONO Kongsberg 73.50 338 *e*P **P 21 48 06.5 +0.2**
KONO IAmb IAmb 21 48 07.8
comp=Z,253nm,1.9s
KONO Kongsberg 73.50 338 *ce*P **P 21 48 07.1 +0.8**
KONO pmax pmax
comp=Z,614nm,1.7s
KONO Kongsberg 73.50 338 *e*P **P 21 48 06.2 -0.1**
comp=Z,76nm,1.3s
KONO LR LR
comp=Z,10µm,19.0s
ISA Isabella, Lake 73.52 57 P **P 21 48 07.2 +0.2**
baz=308
ISA Isabella, Lake 73.52 57 *e*P **P 21 48 09.0 +2.0**
ISA Isabella, Lake 73.52 57 *e*P **P 21 48 09.0 +2.0**
BGU Big Grassy Mou 73.62 50 *e*P **P 21 48 09.5 +2.0**
SUE Sulen 73.66 340 *e*P **P 21 48 08.0 +0.9**
SUE IAmb IAmb 21 48 08.9
comp=Z,106nm,1.4s
LAO LASA Array 73.66 42 P **P 21 48 08.3 +0.8**
baz=312
LAO LASA Array 73.66 42 *e*P **P 21 48 09.2 +1.7**
comp=Z,20nm,0.7s
LAO LR LR
comp=Z,2µm,19.0s
R11A Troy Canyon, C 73.69 54 P **P 21 48 09.0 +0.9**
baz=308,SNR=29
R11A Troy Canyon, C 73.69 54 *e*P **P 21 48 08.8 +0.7**
comp=Z,59nm,1.6s
MPMC Manual Prospec 73.91 56 P **P 21 48 10.3 +0.9**
baz=308,SNR=17
ASK Askoy 74.03 340 *e*P **P 21 48 10.1 +0.7**
ASK IAmb IAmb 21 48 11.2
comp=Z,362nm,1.9s
HWUT Hardware Ranch 74.04 49 *e*P **P 21 48 11.8 +1.7**
comp=Z,77nm,1.5s
HWUT LR LR
comp=Z,2µm,21.0s
FURC Furnace Creek, 74.06 56 P **P 21 48 11.1 +1.1**
baz=308
BER Bergen 74.08 340 *e*P **P 21 48 10.5 +0.9**
BER IAmb IAmb 21 48 10.9
comp=Z,75nm,1.0s
ODD1 Odda 74.13 339 *e*P **P 21 48 10.9 +0.8**
ODD1 IAmb IAmb 21 48 11.3
comp=Z,78nm,1.2s
TPNV Topopah Spring 74.14 55 P **P 21 48 11.3 +0.6**
baz=308,SNR=7.8
TPNV Topopah Spring 74.14 55 *e*P **P 21 48 12.2 +1.5**
TPNV Topopah Spring 74.14 55 *e*P **P 21 48 12.2 +1.5**
SIM Simferopol' 74.16 316 *ce*P **P 21 48 10.5 0.0**
SIM pmax pmax
comp=Z,57nm,1.0s
SIM MLR MLR
comp=Z,6µm,18.0s
DUG Dugway, Tooele 74.21 51 P **P 21 48 12.1 +1.1**
baz=310
DUG Dugway, Tooele 74.21 51 *e*P **P 21 48 12.7 +1.7**
DUG Dugway, Tooele 74.21 51 *e*P **P 21 48 12.7 +1.7**
DUG LR LR
comp=Z,2µm,19.0s
EDW2 Edwards Air Fo 74.31 58 P **P 21 48 12.3 +0.8**
baz=308,SNR=8.5
BW06 Boulder Array 74.44 47 P **P 21 48 13.0 +0.6**
baz=311,SNR=16
BW06 Boulder Array 74.44 47 *e*P **P 21 48 13.4 +0.9**
BW06 LR LR
comp=Z,3µm,19.0s
PDAR Pinedale Array 74.44 47 P **P 21 48 13.3 +0.9**
comp=Z,3.8nm,0.7s,baz=274,slow=1.7,SNR=24
BLS5 Blasjo 74.59 339 *e*P **P 21 48 13.7 +1.0**
BLS5 IAmb IAmb 21 48 14.7
comp=Z,150nm,1.4s
MWC Mount Wilson 74.67 58 *e*P **P 21 48 14.9 +1.0**
MWC Mount Wilson 74.67 58 *e*P **P 21 48 14.9 +1.0**
JLU Jordanelle 74.75 50 *e*P **P 21 48 15.9 +1.6**
BORG Borgarnes 74.76 353 PFAKE 21 48 30.0 +16
BORG LR LR
comp=Z,2µm,21.0s
SHOC Shoshone, Teco 74.78 56 P **P 21 48 15.2 +0.9**
baz=309
NLU North Lily Min 74.80 50 *e*P **P 21 48 16.3 +1.7**
GSC Goldstone, Bar 74.81 57 P **P 21 48 15.4 +0.8**
baz=309,SNR=6.3
GSC Goldstone, Bar 74.81 57 *e*P **P 21 48 15.6 +1.1**
GSC Goldstone, Bar 74.81 57 *e*P **P 21 48 15.6 +1.1**
BFSC Mount Baldy Ra 74.92 58 P **P 21 48 15.8 +0.6**
baz=308
SORM Soroca 74.94 321 ⇓*i*P **P 21 48 15.1 +0.2**
SORM Soroca 74.94 321 ⇓P **P 21 48 15.1 +0.2**
CIS Catalina Islan 74.95 59 P **P 21 48 15.9 +0.7**
baz=308
HOMB Homborsund 74.96 337 *e*P **P 21 48 15.2 +0.4**
HOMB IAmb IAmb 21 48 16.3
comp=Z,142nm,1.5s
KMY Karmoy 75.10 339 *e*P **P 21 48 16.6 +1.0**
KMY IAmb IAmb 21 48 17.4
comp=Z,4.4nm,1.6s
STAV Stavanger 75.21 339 *e*P **P 21 48 16.9 +0.7**
STAV IAmb IAmb 21 48 18.0
comp=Z,172nm,1.6s
MARD Mardin 75.25 306 *e*P **P 21 48 18.2 +1.2**
CAN Canberra 75.27 175 PFAKE 21 48 30.0 +13
CAN LR LR
comp=Z,2µm,19.0s
SNART Snartemo 75.29 338 *e*P **P 21 48 17.6 +0.9**
SNART IAmb IAmb 21 48 18.5
comp=Z,43nm,1.0s
TUQ Turquoise Moun 75.29 56 P **P 21 48 18.3 +0.9**
baz=309,SNR=9.2
HEC Hector,Ludlow 75.41 57 P **P 21 48 18.2 +0.2**
baz=309
BSD Bornholm Skovb 75.42 332 ⇑*i*P **P 21 48 17.6 +0.1**
comp=Z,130nm,1.1s
BSD Bornholm Skovb 75.42 332 ⇑P **P 21 48 17.6 +0.1**
BSD pmax pmax
comp=Z,130nm,1.1s
KIS Kishinev 75.50 320 ⇑*i*P **P 21 48 17.0 -1.1**
comp=Z,500nm,2.0s
KIS Kishinev 75.50 320 ⇑*i*P **P 21 48 17.0 -1.1**
KIS *e* 21 48 27.0
KIS *e* 21 51 06.0
KIS pmax pmax
comp=Z,500nm,2.0s
CCUT Cedar City 75.56 53 *e*P **P 21 48 19.7 +0.8**
KBSD Kabsdagh 75.59 306 *e*P **P 21 48 19.9 +1.0**
MURC Murrieta 75.62 58 P **P 21 48 19.7 +0.6**
baz=309
MSU Marysvale 75.66 52 *e*P **P 21 48 21.7 +2.1**
MSU Marysvale 75.66 52 *e*P **P 21 48 21.6 +2.1**
BEL Belsk 75.67 327 *e*P **P 21 48 20.1 +1.1**
BEL Belsk 75.67 327 *e*P **P 21 48 20.1 +1.1**
LVV L'vov 75.75 324 *e*P **P 21 48 20.2 +0.7**
LVV *i* S **S 21 58 01.2 +0.6**
LVV MLR MLR
comp=Z,15µm,15.0s
GMRC Granite Mounta 75.87 56 P **P 21 48 21.6 +0.9**
baz=309,SNR=16
LCMT Little Creek M 75.97 53 *e*P **P 21 48 23.0 +1.8**
GKP Gorka Klasztor 75.99 330 *e*P **P 21 48 21.5 +0.7**
GKP Gorka Klasztor 75.99 330 *e*P **P 21 48 21.5 +0.7**
PFO Pinyon Flats O 76.09 58 P **P 21 48 22.6 +0.7**
baz=309,SNR=6.8
PFO Pinyon Flats O 76.09 58 *e*P **P 21 48 22.9 +0.9**
PFO Pinyon Flats O 76.09 58 *e*P **P 21 48 22.9 +0.9**
comp=Z,21nm,1.0s
PFO LR LR
comp=Z,3µm,19.0s
ULM Lac du Bonnet 76.10 35 P **P 21 48 21.4 0.0**
comp=Z,5.3nm,0.8s,baz=347,slow=4.4,SNR=4.5
TPFO Pinon Flats 76.10 58 P **P 21 48 22.8 +0.8**
baz=309,SNR=9.5
MDND Maddock 76.14 38 P **P 21 48 22.4 +0.6**
baz=316
BELC Belle Mtn. Jos 76.15 57 P **P 21 48 23.1 +0.8**
baz=309
LEOM Leova 76.15 320 ⇑*i*P **P 21 48 22.7 +0.9**
LEOM Leova 76.15 320 ⇑P **P 21 48 22.7 +0.9**
LLD Lille Linde 76.18 334 *i* P **P 21 48 22.3 +0.5**
comp=Z,140nm,1.3s
LLD Lille Linde 76.18 334 *i* P **P 21 48 22.3 +0.5**
LLD pmax pmax
comp=Z,140nm,1.3s
K22A Casper 76.19 45 P **P 21 48 23.2 +0.8**
baz=312
K22A Casper 76.19 45 *e*P **P 21 48 23.7 +1.3**
comp=Z,362nm,2.2s
SFNV Sufian 76.23 306 *e*P **P 21 48 23.5 +0.9**
KNB Kanab 76.23 53 *e*P **P 21 48 24.8 +2.1**
KNB Kanab 76.23 53 *e*P **P 21 48 24.8 +2.1**
MUD Monsted U'grnd 76.26 336 ⇑*i*P **P 21 48 23.0 +0.7**
comp=Z,524nm,2.0s
MUD Monsted U'grnd 76.26 336 ⇑*i*P **P 21 48 23.0 +0.7**
MUD pmax pmax
comp=Z,520nm,2.0s
MZRK Al-Mazaregh 76.27 305 *e*P **P 21 48 24.0 +1.3**
RGN Rugen 76.43 333 *e*P **P 21 48 23.9 +0.7**
comp=Z,497nm,1.7s
RWWY Rawlins 76.46 47 *e*P **P 21 48 24.1 0.0**
comp=Z,95nm,1.6s
KWP Kalwaria Pacla 76.48 325 *e*P **P 21 48 24.8 +1.1**
KWP Kalwaria Pacla 76.48 325 *e*P **P 21 48 24.8 +1.1**
PRAR RASCA 76.50 322 ⇑*i*P **P 21 48 25.1 +1.2**
RSSD Black Hills 76.53 43 P **P 21 48 24.6 +0.2**
baz=314
RSSD Black Hills 76.53 43 *e*P **P 21 48 23.8 -0.6**
RSSD pmax pmax
comp=Z,44nm,1.4s
RSSD Black Hills 76.53 43 *e*P **P 21 48 23.8 -0.6**
comp=Z,44nm,1.4s
BAR Barrett 76.54 59 *e*P **P 21 48 26.0 +1.6**
MONP Monument Peak, 76.57 58 P **P 21 48 24.9 +0.1**
baz=309
IRM Iron Mountain 76.60 57 P **P 21 48 25.6 +0.9**
baz=310,SNR=14
NWAO Narrogin (SRO) 76.60 202 LR LR 22 22 57.6
comp=Z,1µm,19.7s,slow=36
NWAO Narrogin (SRO) 76.60 202 PFAKE 21 48 40.0 +16
NWAO LR LR
comp=Z,2µm,20.0s
BC3 Big Chuckawall 76.72 57 P **P 21 48 26.2 +0.7**
baz=310,SNR=9.2
BURAR Bucovina Array 76.80 322 ⇓*i*P **P 21 48 27.1 +1.4**
TESR Tescani 76.91 321 ⇑*i*P **P 21 48 26.5 +0.3**
O20A White River Ci 76.91 48 P **P 21 48 26.8 +0.2**
baz=312
IKP In-Ko-Pah, Jac 76.93 58 P **P 21 48 27.1 +0.5**
baz=310
SWSC Sam W. Stewart 76.94 58 P **P 21 48 27.2 +0.6**
baz=310
C31A Landman Farms, 77.06 37 P **P 21 48 27.9 +0.9**
baz=317
CFR Carcaliu 77.11 319 ⇑*i*P **P 21 48 27.8 +0.5**
CFR Carcaliu 77.11 319 ⇑P **P 21 48 27.8 +0.5**
PDMCI Parker Dam,Lak 77.14 56 P **P 21 48 28.3 +0.6**
baz=310,SNR=6.3
PETR Petresti 77.18 320 ⇑*i*P **P 21 48 29.8 +2.1**
ODBI Odobesti 77.24 320 ⇑*i*P **P 21 48 29.8 +1.8**
Y12C Blythe 77.25 57 P **P 21 48 28.3 0.0**
baz=310
KSRV Kasrt alli 77.27 306 *e*P P 21 48 22.5 -5.9
STHS Stebnicka Huta 77.28 325 *e*P **P 21 48 29.2 +1.0**
STHS pmax pmax
comp=Z,77nm,1.6s
STHS Stebnicka Huta 77.28 325 *e*P **P 21 48 29.2 +1.0**
A33A Warroad 77.28 35 P **P 21 48 28.0 -0.2**
baz=318
OJC Ojcow 77.29 327 *e*P **P 21 48 29.3 +1.1**
OJC Ojcow 77.29 327 *e*P **P 21 48 29.3 +1.1**
PLOR Plostina 77.38 320 ⇑*i*P **P 21 48 29.5 +0.6**
PLOR Plostina 77.38 320 ⇑P **P 21 48 29.5 +0.6**
UZH Uzhgorod 77.40 324 ⇓*i*P **P 21 48 28.8 -0.1**
UZH *e* 21 48 38.2
UZH MLR MLR
comp=N,8µm,14.5s
UZH MLR MLR
comp=E,10µm,14.5s
UZH MLR MLR
comp=Z,4µm,14.5s
TIRR Tirgusor 77.48 318 ⇓*i*P **P 21 48 29.8 +0.4**
TIRR Tirgusor 77.48 318 *e*P **P 21 48 29.3 -0.1**
TIRR pmax pmax
comp=Z,103nm,1.5s
TIRR Tirgusor 77.48 318 *e*P **P 21 48 29.3 -0.1**
comp=Z,103nm,1.5s
GLA Glamis 77.50 57 P **P 21 48 30.5 +0.7**
baz=310,SNR=5.8
AGMN Agassiz Nation 77.54 36 P **P 21 48 29.6 -0.1**
baz=318
AGMN Agassiz Nation 77.54 36 *e*P **P 21 48 29.2 -0.5**
comp=Z,87nm,1.7s
AGMN LR LR
comp=Z,3µm,19.0s
GRER 77.55 320 ⇑*i*P **P 21 48 31.9 +2.1**
HARR Harsova 77.56 319 ⇑*i*P **P 21 48 31.2 +1.4**
HARR Harsova 77.56 319 ⇑P **P 21 48 31.2 +1.4**
TLB Topalu 77.58 319 ⇑*i*P **P 21 48 30.6 +0.7**
TLB Topalu 77.58 319 ⇑P **P 21 48 30.6 +0.7**
ARCR ARCALIA 77.59 322 ⇓*i*P **P 21 48 31.5 +1.5**
TRPA Tarpa 77.66 324 ⇑*e*P **P 21 48 31.3 +1.0**
NIE Niedzica 77.68 326 *e*P **P 21 48 31.9 +1.4**
NIE Niedzica 77.68 326 *e*P **P 21 48 31.9 +1.4**
PV04 Paradox Valley 77.69 50 *e*P **P 21 48 31.7 +0.8**
PHWY Pilot Hill 77.69 46 *e*P **P 21 48 32.7 +1.7**
comp=Z,35nm,1.5s
N23A Red Feather La 77.70 47 P **P 21 48 31.7 +0.6**
baz=313
SLMH Al Salmeh 77.70 307 *e*P **P 21 48 32.0 +1.1**
JHLN Al Jahlan 77.74 306 *e*P **P 21 48 33.5 +2.4**
RAO Raoul Island 77.86 146 PFAKE 21 48 40.0 +8.5
RAO LR LR
comp=Z,4µm,21.0s
E31A Nome 77.88 38 P **P 21 48 32.1 +0.4**
baz=317
PGOR Pogoanele 77.88 319 ⇓*i*P **P 21 48 33.1 +1.5**
DOPR Dopca 77.91 321 ⇓*i*P **P 21 48 33.7 +1.9**
BRTR Keskin Array B 77.91 312 P **P 21 48 32.5 +0.4**
comp=Z,12nm,0.8s,baz=90,slow=3.7,SNR=81
BRTR PP **PP 21 51 27.3 -0.1**
comp=Z,6.7nm,0.9s,baz=60,slow=7.3,SNR=4.4
BRTR LR LR 22 28 37.6
comp=Z,3µm,19.0s,baz=18,slow=40
ISR Istrita 77.95 320 ⇓*i*P **P 21 48 34.0 +1.9**
ISR Istrita 77.95 320 ⇓P **P 21 48 34.0 +1.9**
MLR Muntele Rosu 77.98 320 P **P 21 48 33.0 +0.7**
comp=Z,14nm,1.3s,baz=10,slow=5.1,SNR=31
MLR Muntele Rosu 77.98 320 ⇑*i*P **P 21 48 33.4 +1.1**
PV01 Paradox Valley 78.05 50 *e*P **P 21 48 33.7 +0.7**
comp=Z,4µm,1.5s
RAC Raciborz 78.06 327 *e*P **P 21 48 33.8 +1.3**
RAC *e*S **S 21 58 25.8 +0.1**
RAC MLR MLR
comp=Z,11µm,19.8s
WUAZ Wupatki 78.09 54 P **P 21 48 34.3 +1.1**
baz=311,SNR=7.5
WUAZ Wupatki 78.09 54 *e*P **P 21 48 35.0 +1.8**
comp=Z,26nm,1.0s
WUAZ LR LR
comp=Z,2µm,19.0s

DRWC Darouich 78.20 308 eP P 21 48 34.3 +0.6
CJR Cluj-Napoca 78.22 322 ⇓iP P 21 48 35.0 +1.5
CJR Cluj-Napoca 78.22 322 ⇓P P 21 48 35.0 +1.5
LANS Liptovska Anna 78.24 326 eP P 21 48 35.2 +1.6
LANS Liptovska Anna 78.24 326 eP P 21 48 35.2 +1.6
LANS ePP PP 21 51 19.4 -10
KSP Ksiaz 78.25 329 eP P 21 48 34.5 +1.0
KSP Ksiaz 78.25 329 eP P 21 48 34.5 +1.0
SECR 78.25 320⇑iP P 21 48 35.0 +1.3
OKC Ostrava-Krasne 78.27 327⇑iP P 21 48 34.2 +0.5
OKC AMS AMS 22 26 10.0
comp=Z,9µm,18.0s
OKC Ostrava-Krasne 78.27 327⇑iP P 21 48 34.2 +0.5
OKC MLR MLR
comp=Z,9µm,18.0s
SMCO Snowmass 78.28 48 eP P 21 48 35.5 +1.0
comp=Z,11nm,1.0s
ANTO Ankara 78.29 313 eP P 21 48 34.4 +0.3
ANTO pmax pmax
comp=Z,637nm,1.4s
ANTO MLR MLR
comp=Z,3µm,20.0s
ANTO Ankara 78.29 313 eP P 21 48 34.4 +0.3
comp=Z,638nm,1.4s
ANTO LR LR
comp=Z,3µm,20.0s
ANTO Ankara 78.29 313 P P 21 48 35.0 +0.8
SNR=26
KECS Kecovo 78.31 325 eP P 21 48 34.3 +0.3
KECS pmax pmax
comp=Z,46nm,2.0s
KECS Kecovo 78.31 325 eP P 21 48 34.3 +0.3
KECS ePP PP 21 51 18.8 -11
SULR 78.41 320⇑iP P 21 48 35.3 +0.8
B35A Bob, Littlefor 78.44 35 P P 21 48 34.9 +0.2
baz=319
VOIR 78.45 321⇑iP P 21 48 35.8 +0.9
VOIR 78.45 321⇑P P 21 48 35.8 +0.9
DRGR 78.57 323⇑iP P 21 48 36.3 +0.8
DRGR 78.57 323⇑P P 21 48 36.3 +0.8
MORC Moravsky Berou 78.57 328⇑iP P 21 48 36.3 +0.9
MORC Moravsky Berou 78.57 328 eP P 21 48 35.9 +0.5
MORC pmax pmax
comp=Z,601nm,1.4s
MORC Moravsky Berou 78.57 328 eP P 21 48 35.9 +0.5
comp=Z,601nm,1.4s
DPC Dobruska-Polom 78.62 329⇑iP P 21 48 37.0 +1.3
DPC ePCP sP 21 48 42.9 +0.2
DPC AMS AMS 22 28 40.0
comp=Z,5µm,15.3s
DPC Dobruska-Polom 78.62 329⇑iP P 21 48 37.0 +1.3
DPC e 21 48 42.9
DPC MLR MLR
comp=Z,5µm,15.3s
UPC Upice 78.62 329⇑iP P 21 48 36.5 +0.9
UPC AMS AMS 22 26 40.0
comp=Z,8µm,15.9s
UPC Upice 78.62 329⇑iP P 21 48 36.5 +0.9
UPC MLR MLR
comp=Z,8µm,15.9s
ISCO Idaho Springs 78.63 47 P P 21 48 37.9 +1.6
baz=313
ISCO Idaho Springs 78.63 47 eP P 21 48 37.5 +1.2
ISCO pmax pmax
comp=Z,33nm,1.4s
ISCO MLR MLR
comp=Z,2µm,19.0s
ISCO Idaho Springs 78.63 47 eP P 21 48 37.5 +1.2
comp=Z,33nm,1.4s
ISCO LR LR
comp=Z,2µm,19.0s
KRLC Kraliky 78.65 328⇑iP P 21 48 36.5 +0.6
KRLC Kraliky 78.65 328⇑iP P 21 48 36.5 +0.6
ARR Arges 78.71 321⇑iP P 21 48 38.9 +2.6
MVCO Mesa Verde 78.71 51 P P 21 48 37.9 +1.2
baz=312
MVCO Mesa Verde 78.71 51 eP P 21 48 37.7 +1.0
comp=Z,59nm,1.4s
MVCO LR LR
comp=Z,2µm,20.0s
BTCH Batrach 78.71 308 eP P 21 48 36.1 -0.4
PRD Provadia 78.89 318 P P 21 48 38.0 +0.8
PSZ Piszkesteto 78.99 325⇑iP P 21 48 39.1 +1.2
PSZ Piszkesteto 78.99 325 ⇑P P 21 48 39.1 +1.2
PSZ Piszkesteto 78.99 325⇑eP P 21 48 39.0 +1.2
PSZ Piszkesteto 78.99 325 eP P 21 48 38.2 +0.3
comp=Z,327nm,1.6s
PSZ LR LR
comp=Z,10µm,19.0s
VYHS Vyhne 79.01 326 eP P 21 48 38.7 +0.8
VYHS pmax pmax
comp=Z,103nm,1.8s
VYHS Vyhne 79.01 326 eP P 21 48 38.7 +0.8
VYHS ePP PP 21 51 25.5 -11
VYHS eL L 22 26 49.4
LOT Lotru 79.06 321⇓iP P 21 48 39.1 +0.8
ARNB Al Arnab 79.13 308 eP P 21 48 39.4 +0.6
BRG Berggiesshubel 79.14 330 iP P 21 48 38.9 +0.4
comp=Z,78nm,1.3s
BRG i 21 51 26.0
comp=Z,45nm,1.6s
comp=N,5µm,19.1s
comp=E,7µm,18.8s
comp=Z,2µm,16.6s
BRG Berggiesshubel 79.14 330 iP P 21 48 38.9 +0.4
BRG pmax pmax
comp=Z,11nm,1.3s
BRG MLR MLR
comp=N,45µm,19.1s
BRG MLR MLR
comp=E,5µm,18.8s
BRG MLR MLR
comp=Z,7µm,16.6s
CLL Collm 79.14 331⇑iP P 21 48 38.7 +0.2
CLL pmax pmax
comp=Z,291nm,1.9s
CLL MLR MLR
comp=Z,7µm,19.4s
CLL Collm 79.14 331⇑iP P 21 48 38.7 +0.2
comp=Z,291nm,1.9s
CLL ePmax 21 48 42.0
CLL ePcP sP 21 48 46.0 +0.5
CLL e(pP) PcP 21 48 53.0 +6.2
CLL e 21 51 26.0
CLL ePP PP 21 51 35.0 -2.1
CLL LmH 22 22 00.0
comp=N,5µm,19.2s
CLL LmH 22 22 00.0
comp=E,9µm,21.3s
CLL LmV 22 26 00.0
comp=Z,7µm,19.4s
CLL Lmax 22 30 00.0
HUMR Humele 79.15 320⇑iP P 21 48 39.8 +1.2
F33A 5 Mile Ranch, 79.16 38 P P 21 48 38.5 -0.2
baz=318
PVCC Panska Ves 79.17 330⇑iP P 21 48 39.7 +1.1
PVCC AMS AMS 22 27 00.0
comp=Z,8µm,16.2s
PVCC Panska Ves 79.17 330⇑iP P 21 48 39.7 +1.1
PVCC MLR MLR
comp=Z,8µm,16.2s
D35A Remer 79.26 36 P P 21 48 38.8 -0.4
baz=319
C36A Pine Crest Far 79.29 35 P P 21 48 39.4 0.0
baz=320
RABH Abou Rabah 79.32 306 eP P 21 48 49.4 +10
VRAC Vranov 79.32 328⇑iP P 21 48 41.0 +1.5
VRAC Vranov 79.32 328 ⇑P P 21 48 41.1 +1.5
S22A 4UR Ranch, Cre 79.33 49 P P 21 48 40.9 +0.8
baz=313
ROOS tl_alroos 79.44 306 eP P 21 48 41.5 +0.9
SIRR Siria 79.44 323⇓iP P 21 48 41.3 +1.0
G33A Ortonville 79.57 38 P P 21 48 40.9 -0.1
baz=318
GOPC GO Pecny, Ondr 79.57 329⇑iP P 21 48 41.7 +0.8
GOPC epP PcP 21 48 51.5 +2.7
GOPC AMS AMS 22 27 30.0
comp=Z,6µm,14.9s
GOPC GO Pecny, Ondr 79.57 329⇑iP P 21 48 41.7 +0.8
GOPC e 21 48 51.5
GOPC MLR MLR
comp=Z,6µm,14.9s
SZH Strazhica 79.58 319 P P 21 48 41.3 +0.2
PRA Prague 79.59 329⇑iP P 21 48 42.0 +1.1
PRA AMS AMS 22 29 00.0
comp=Z,6µm,14.9s
PRA Prague 79.59 329⇑iP P 21 48 42.0 +1.1
PRA MLR MLR
comp=Z,6µm,14.9s
D36A Goodland 79.59 35 P P 21 48 40.7 -0.3
baz=320
C37A Embarrass 79.60 34 P P 21 48 40.5 -0.6
baz=320
H32A Carlson Farm, 79.60 39 P P 21 48 41.0 -0.1
baz=317
SMOL Smolenice 79.60 327 eP P 21 48 42.3 +1.3
SMOL Smolenice 79.60 327 eP P 21 48 42.3 +1.3
PRU Pruhonice 79.61 329⇑iP P 21 48 41.9 +0.9
PRU ePCP PcP 21 48 48.5 -0.4
PRU ePP PP 21 51 34.8 -6.2
PRU AMS AMS 22 29 30.0
comp=Z,7µm,15.9s
PRU Pruhonice 79.61 329⇑iP P 21 48 41.9 +0.9
PRU e 21 48 48.5
PRU MLR MLR
comp=Z,7µm,15.9s
BUD Budapest 79.71 325⇑eP P 21 48 42.6 +1.0
EYMN Ely 79.73 34 P P 21 48 40.7 -1.1
baz=321
EYMN Ely 79.73 34 eP P 21 48 41.3 -0.5
comp=Z,45nm,1.4s
EYMN LR LR
comp=Z,2µm,19.0s
TREC Trest 79.78 328⇑iP P 21 48 42.8 +0.8
TREC AMS AMS 22 29 20.0
comp=Z,6µm,15.2s
TREC Trest 79.78 328⇑iP P 21 48 42.8 +0.8
TREC MLR MLR
comp=Z,6µm,15.2s
H33A Prehn Over Nor 79.80 39 P P 21 48 42.0 -0.2
baz=318
OGNE Ogallala 79.80 44 P P 21 48 42.6 +0.2
baz=315
OGNE Ogallala 79.80 44 eP P 21 48 43.5 +1.1
comp=Z,91nm,1.3s
OGNE LR LR
comp=Z,2µm,19.0s
J31A Geddes 79.83 41 P P 21 48 42.1 -0.3
baz=317
G34A Benson 79.91 38 P P 21 48 43.0 +0.2
baz=318
D37A Cotton 79.93 35 P P 21 48 42.0 -0.8
baz=320
C38A Sawbill Land. 80.00 34 P P 21 48 42.4 -0.8
baz=321
MARH Ras Al Marh 80.03 306 eP P 21 48 44.0 0.0
E36A McGregor 80.05 36 P P 21 48 43.1 -0.5
baz=320
SDCO Great Sand Dun 80.10 49 P P 21 48 44.7 +0.4
baz=314
SDCO Great Sand Dun 80.10 49 PFAKE 21 49 00.0 +16
SDCO LR LR
comp=Z,2µm,20.0s
CSKK Cs˙‡kako 80.13 326⇑eP P 21 48 44.6 +0.7
EDRB Edirne 80.19 317 P P 21 48 43.6 -0.7
EDRB Edirne 80.19 317 P P 21 48 43.6 -0.7
NKC Novy Kostel 80.22 330⇑iP P 21 48 45.0 +0.6
NKC AMS AMS 22 27 30.0
comp=Z,7µm,17.5s
NKC Novy Kostel 80.22 330⇑iP P 21 48 45.0 +0.6
NKC MLR MLR
comp=Z,7µm,17.5s
H34A Spellman Lake, 80.27 38 P P 21 48 44.8 +0.1
baz=318
DGAR Diego Garcia 80.40 252 PFAKE 21 49 00.0 +14
DGAR LR LR
comp=Z,3µm,20.0s
C39A Grand Marais 80.41 33 P P 21 48 45.7 +0.3
baz=322
TOTH TOTAH 80.51 306 eP P 21 48 46.1 -0.2
ECSD EROS Data Cent 80.56 39 P P 21 48 46.4 0.0
baz=318
ECSD EROS Data Cent 80.56 39 eP P 21 48 46.2 -0.1
comp=Z,76nm,1.6s
ECSD LR LR
comp=Z,2µm,20.0s
TUC Tucson 80.57 56 P P 21 48 47.0 +0.3
baz=312
TUC Tucson 80.57 56 eP P 21 48 47.4 +0.7
TUC pmax pmax
comp=Z,42nm,1.4s
TUC MLR MLR
comp=Z,3µm,19.0s
TUC Tucson 80.57 56 eP P 21 48 47.4 +0.7
comp=Z,42nm,1.4s
TUC LR LR
comp=Z,3µm,19.0s
SOP Sopron 80.61 327⇑eP P 21 48 47.9 +1.4
MPEP Malo Peshtene 80.61 320 P P 21 48 47.3 +0.7
KHC Kasperske Hory 80.67 329⇑iP P 21 48 47.5 +0.6
KHC ePCP sP 21 48 54.1 +0.2
KHC AMS AMS 22 27 40.0
comp=Z,8µm,17.2s
KHC Kasperske Hory 80.67 329 eP P 21 48 47.1 +0.3
KHC pmax pmax
comp=Z,37nm,1.1s
KHC Kasperske Hory 80.67 329 eP P 21 48 47.1 +0.3
comp=Z,37nm,1.1s
H35A Sunnyside Ranc 80.70 38 P P 21 48 47.2 +0.2
baz=319
CONA Conrad Observa 80.71 327 iP P 21 48 48.1 +0.9
comp=Z,118nm,1.4s,SNR=72
ESK Eskdalemuir 80.72 341 PFAKE 21 49 00.0 +13
ESK LR LR
comp=Z,3µm,19.0s
E38A The Farm, Brul 80.73 35 P P 21 48 46.9 -0.3
baz=321
SALA Sala 80.75 305 eP P 21 48 48.1 +0.3
BRBR Barbar 80.77 306 eP P 21 48 47.6 -0.3
WTSB Winterswijk 80.78 334 eP P 21 48 47.6 +0.3
comp=Z,208nm,1.6s
RAR Rarotonga 80.81 128 PFAKE 21 49 00.0 +12
RAR LR LR
comp=Z,4µm,19.0s
KSCO Kaye Shedlock' 80.84 46 P P 21 48 48.5 +0.4
baz=315
KSCO Kaye Shedlock' 80.84 46 eP P 21 48 48.2 +0.1
comp=Z,110nm,1.7s
GERES GERESS Array B 80.85 329 P P 21 48 48.2 +0.4
comp=Z,9.6nm,0.7s,baz=34,slow=5.3,SNR=93
GERES PKPPKP P'P'df 22 15 35.3 -1.3
comp=Z,0.1nm,0.4s,baz=241,slow=2.7,SNR=3.7
GERES LR LR 22 28 09.7
comp=Z,5µm,19.0s,baz=9.0,slow=38
GERES GERESS Array B 80.85 329 P P 21 48 48.3 +0.4
GERES pmax pmax
comp=Z,14nm,0.9s
ISP Isparta 80.98 312⇑eP P 21 48 49.1 +0.3
ISP Isparta 80.98 312 PFAKE 21 49 00.0 +11
ISP LR LR
comp=Z,3µm,21.0s
PGB Panagyurishte 81.00 319 P P 21 48 49.4 +0.7
ASF Jabal al Asfar 81.01 305 P P 21 48 50.0 +1.0
comp=Z,10nm,1.0s,baz=302,slow=0.4,SNR=30
ASF PP PP 21 51 55.5 +2.1
comp=Z,6.7nm,0.9s,baz=55,slow=2.8,SNR=4.8
F38A Pierce - Schro 81.09 35 P P 21 48 49.0 -0.1
baz=321
GRFO Grafenberg 81.12 331 eP P 21 48 49.6 +0.4
GRFO pmax pmax
comp=Z,214nm,1.3s
GRFO Grafenberg 81.12 331 eP P 21 48 49.6 +0.4
comp=Z,214nm,1.3s
T25A Trinidad 81.15 48 P P 21 48 50.4 +0.6
baz=314
ALN Alexandroupoli 81.24 317 P P 21 48 49.7 -0.3
ALN Alexandroupoli 81.24 317 P P 21 48 49.7 -0.3
ALN Alexandroupoli 81.24 317 P P 21 48 49.7 -0.3
CSS Mathiatis 81.32 309 P P 21 48 50.5 -0.1
CSS Mathiatis 81.32 309 eP P 21 48 49.2 -1.4
comp=Z,21nm,1.4s
CSS LR LR
comp=Z,703nm,21.0s
RDO Rodhopi 81.32 317 P P 21 48 51.2 +0.8
RDO Rodhopi 81.32 317 P P 21 48 51.2 +0.8
E39A Mellen 81.35 34 P P 21 48 49.9 -0.6
baz=321
ARSA Arzberg 81.38 327 iP P 21 48 51.5 +0.9
comp=Z,62nm,1.5s,SNR=27
MOA Molln 81.42 328 iP P 21 48 51.6 +0.7
comp=Z,51nm,1.3s,SNR=30
VTS Vitosha 81.44 320 P P 21 48 51.6 +0.4
VTS Vitosha 81.44 320⇑iP P 21 48 52.4 +1.2
VTS Vitosha 81.44 320⇑P P 21 48 52.4 +1.2
VTS Vitosha 81.44 320 P P 21 48 52.0 +0.8
VTS Vitosha 81.44 320 P P 21 48 51.6 +0.4
ANMO Albuquerque 81.46 51 P P 21 48 52.5 +1.0
baz=314
ANMO Albuquerque 81.46 51⇑eP P 21 48 52.7 +1.2
ANMO Albuquerque 81.46 51 eP P 21 48 52.8 +1.2
comp=Z,51nm,1.5s
ANMO LR LR
comp=Z,1µm,19.0s
BEHE Becsehely 81.47 326⇑eP P 21 48 51.8 +0.7
F39A Loretta 81.55 35 P P 21 48 51.5 -0.1
baz=321
E40A Wakefield 81.58 34 P P 21 48 51.8 +0.1
baz=322
DIVS Divibare 81.86 323 P P 21 48 53.3 0.0
I37A Lemond, Waseca 81.89 38 P P 21 48 53.2 -0.2
baz=320
F40A Park Falls 81.89 35 P P 21 48 52.8 -0.6
baz=322
G39A Holcombe 81.93 35 P P 21 48 53.0 -0.6
baz=321
SCHQ Schefferville 81.94 17 P P 21 48 53.6 +0.2
comp=Z,6.6nm,0.6s,baz=237,slow=19,SNR=3.7
SCHQ LR LR 22 30 49.8
comp=Z,2µm,18.1s,baz=0.5,slow=40
E41A Kenton 81.96 34 P P 21 48 53.3 -0.4
baz=322
K35A Storm Lake 81.99 39 P P 21 48 53.9 -0.1
baz=319
L34A Svendsen Farm, 81.99 41 P P 21 48 53.8 -0.2
baz=318
NVR Nevrokopi 82.03 319 P P 21 48 54.5 +0.3
NVR Nevrokopi 82.03 319 P P 21 48 54.5 +0.3
PERS Pernice 82.04 327 iP P 21 48 54.7 +0.5
PERS i 21 49 05.6
SOKA Soboth 82.04 327 iP P 21 48 54.8 +0.6
comp=Z,210nm,1.9s,SNR=108
KKB Krupnik 82.04 319 P P 21 48 54.9 +0.7
HGN Heimansgroeve 82.09 334 eP P 21 48 54.3 0.0
comp=Z,191nm,1.6s
BEBN Eben Emael 82.15 334 P P 21 48 54.9 +0.3
comp=Z,31nm,1.8s
MEM Membach 82.20 334 P P 21 48 55.3 +0.5
MEM Membach 82.20 334 P P 21 48 55.7 +0.8
L35A Bielow Farm, R 82.29 40 P P 21 48 56.5 +0.9
baz=319
121A Cookes Peak, D 82.30 54 P P 21 48 56.9 +0.9
baz=313
121A Cookes Peak, D 82.30 54 eP P 21 48 56.6 +0.7
comp=Z,110nm,1.8s
SRS Serrai 82.34 319 P P 21 48 55.7 -0.1
SRS Serrai 82.34 319 P P 21 48 55.7 -0.1
SRS Serrai 82.34 319 P P 21 48 55.7 -0.1
H39A Augusta 82.35 36 P P 21 48 55.9 +0.2
baz=321
J37A Redenius Farm, 82.35 38 P P 21 48 56.0 +0.2
baz=320
I38A Scanlan Farm, 82.36 37 P P 21 48 56.8 +0.9
baz=320
G40A Rib Lake 82.37 35 P P 21 48 56.0 +0.1
baz=322
OBKA Obir 82.38 327 iP P 21 48 56.3 +0.3
comp=Z,37nm,0.8s,SNR=29
KBA Koelnbreinsper 82.42 328 iP P 21 48 56.8 +0.5
comp=Z,112nm,1.7s,SNR=51
KBA Koelnbreinsper 82.42 328 P P 21 48 56.9 +0.6
KBA pmax pmax
comp=Z,58nm,0.9s
K36A Gilmore City 82.43 39 P P 21 48 56.9 +0.7
baz=319
F41A Three Lakes 82.47 34 P P 21 48 53.4 -3.0
baz=322
CBKS Cedar Bluff 82.56 45 P P 21 48 57.7 +0.6
baz=317
CBKS Cedar Bluff 82.56 45 PFAKE 21 49 10.0 +13
CBKS LR LR
comp=Z,2µm,19.0s
UCC Uccle 82.58 335 P P 21 48 57.4 +0.5
BCLA Clavier 82.60 334 P P 21 48 57.1 +0.2
comp=Z,48nm,1.8s
STU Stuttgart 82.63 331 eP P 21 48 58.0 +0.8
STU pmax pmax
comp=Z,35nm,0.7s
STU Stuttgart 82.63 331 eP P 21 48 58.0 +0.8
comp=Z,35nm,0.7s
MYKA Terra Mystica 82.66 328 iP P 21 48 57.4 0.0
comp=Z,94nm,1.6s,SNR=34
KNT Kendrikon 82.66 319 P P 21 48 57.6 +0.1
KNT Kendrikon 82.66 319 P P 21 48 57.6 +0.1
KNT Kendrikon 82.66 319 P P 21 48 57.6 +0.1
SOH Sokhos 82.68 318 P P 21 48 57.9 +0.3
SOH pmax pmax
comp=Z,17nm,2.1s
M35A Neola 82.70 41 P P 21 48 57.9 +0.2
baz=319
K37A Belmond 82.72 38 P P 21 48 58.1 +0.3
baz=320
PLE Pljevlja 82.73 322 eP P 21 48 59.5 +1.6
PLE Pljevlja 82.73 322⇑iP P 21 48 58.3 +0.4
L36A Harm Buss Farm 82.73 40 P P 21 48 57.9 0.0
baz=319
TAU Tasmania Unive 82.74 177 PFAKE 21 49 10.0 +13
TAU LR LR
comp=Z,3µm,20.0s
N34A Lincoln 82.77 41 P P 21 48 58.3 +0.3
baz=318
O33A Hebron 82.78 43 P P 21 48 57.8 -0.3
baz=318
SKO Skopje 82.78 320 iP P 21 48 59.1 +1.1
H40A Chili 82.79 35 P P 21 48 58.5 +0.4
baz=322
VISS Visnje 82.82 327 iP P 21 48 58.2 0.0
VISS i 21 49 09.1
IVA Berane 82.84 322 eP P 21 48 59.0 +0.5
J38A Wedel Dairy, R 82.85 37 P P 21 48 58.7 +0.3
baz=320
SNF Seneffe 82.85 335 P P 21 48 59.1 +0.9
I39A Houston 82.88 37 P P 21 48 58.2 -0.4
baz=321
BOJS Bojanci 82.88 326 eP P 21 48 58.6 +0.1
BOJS i 21 49 08.8
WATA Walderalm 82.91 329 iP P 21 48 59.3 +0.5
comp=Z,78nm,1.3s,SNR=27
WTTA Wattenberg 82.95 329 iP P 21 48 59.7 +0.6
comp=Z,104nm,1.7s,SNR=28
WLF Walferdange 82.96 334 P P 21 48 59.8 +1.0
comp=Z,71nm,2.0s
WLF Walferdange 82.96 334 eP P 21 48 57.9 -0.9
WLF pmax pmax
comp=Z,272nm,1.9s
WLF MLR MLR
comp=Z,7µm,19.0s
WLF Walferdange 82.96 334 eP P 21 48 57.9 -0.9
comp=Z,272nm,1.9s
WLF LR LR
comp=Z,7µm,19.0s
PLG Polygyros 82.97 318 P P 21 48 59.3 +0.2
PLG Polygyros 82.97 318 P P 21 48 59.3 +0.2
PLG Polygyros 82.97 318 P P 21 48 59.3 +0.2
PVY Plav 83.02 322 eP P 21 48 59.6 +0.1
ABTA Abfaltersbach 83.02 328 iP P 21 48 59.1 -0.3
comp=Z,56nm,1.3s,SNR=34
GIVF Givet 83.03 335 eP P 21 48 58.6 -0.6
GIVF pmax pmax
comp=Z,159nm,1.7s
UPM Unac-Piva 83.05 323⇑iP P 21 48 59.5 -0.2
JAVS Javornik 83.07 327 iP P 21 48 59.1 -0.5
JAVS e 21 49 09.4
MOTA Moosalm 83.09 330 iP P 21 49 00.2 +0.4
comp=Z,63nm,1.0s,SNR=67
RETA Reutte 83.11 330 iP P 21 49 00.4 +0.7
comp=Z,144nm,1.6s,SNR=50
H41A Junction City 83.12 35 P P 21 48 59.6 -0.2
baz=322
M36A Felix, Anita 83.16 40 P P 21 48 60.0 -0.1
baz=319
O34A Beatrice 83.16 42 P P 21 48 60.0 -0.1
baz=318
L37A Phoenix Point, 83.16 39 P P 21 49 00.1 0.0
baz=320
PAIG Paliouri 83.18 318 P P 21 49 00.0 -0.1
PAIG Paliouri 83.18 318 P P 21 49 00.0 -0.1
PAIG Paliouri 83.18 318 P P 21 49 00.0 -0.1

N35A **Tabor** 83.18 41 P P 21 48 60.0 -0.2
baz=319
J39A **Decorah** 83.20 37 P P 21 48 59.6 -0.6
baz=321
K38A **Parkersburg** 83.23 38 P P 21 49 00.7 +0.3
baz=320
I40A **Norwalk** 83.26 36 P P 21 49 01.1 +0.6
baz=322
BAIF **Baives** 83.27 335 eP P 21 48 59.9 -0.5
BAIF pmax pmax
comp=Z,91nm,1.7s
NKY **Niksic** 83.31 322 ⇑iP P 21 49 00.6 -0.3
BFO **Black Forest** 83.32 332 eP P 21 49 00.5 -0.3
BFO pmax pmax
comp=Z,200nm,1.6s
BFO MLR MLR
comp=Z,4µm,20.0s
BFO **Black Forest** 83.32 332 eP P 21 49 00.5 -0.3
comp=Z,200nm,1.6s
BFO LR LR
comp=Z,4µm,20.0s
BODT **Bodrum** 83.33 314 P P 21 49 01.1 +0.1
BODT **Bodrum** 83.33 314 P P 21 49 01.1 +0.1
TRI **Trieste** 83.35 327 eP P 21 48 59.9 -1.0
TRI pmax pmax
comp=Z,97nm,1.4s
TRI **Trieste** 83.35 327 eP P 21 48 59.9 -1.0
comp=Z,97nm,1.4s
NKME **Niksic** 83.36 322 ⇑iP P 21 49 01.1 0.0
BRY **Bratogost** 83.45 323 eP P 21 49 01.3 -0.4
I41A **Arkdale** 83.46 36 P P 21 49 01.2 -0.3
baz=322
PDG **Podgorica** 83.48 322 P P 21 49 01.7 +0.1
PDG **Podgorica** 83.48 322 ⇑iP P 21 49 02.0 +0.4
TTG **Podgorica** 83.48 322 P P 21 49 01.7 +0.1
TTG **Podgorica** 83.48 322 ⇑iP P 21 49 01.8 +0.1
TTG **Podgorica** 83.48 322 P P 21 49 01.7 +0.1
O35A **Humboldt** 83.49 41 P P 21 49 01.8 0.0
baz=319
FETA **Feichten** 83.50 330 iP P 21 49 02.4 +0.5
comp=Z,96nm,1.8s,SNR=38
CEME **Cevo** 83.55 322 ⇑iP P 21 49 02.1 0.0
N36A **Muff Farm, Cla** 83.56 41 P P 21 49 02.2 0.0
baz=319
P34A **Walnut Farm, R** 83.56 42 P P 21 49 01.5 -0.7
baz=318
M37A **Trindle Farm,** 83.56 40 P P 21 49 01.2 -0.9
baz=320
SCIA **State Center** 83.58 39 eP P 21 49 02.5 +0.3
comp=Z,53nm,1.2s
SCIA LR LR
comp=Z,2µm,20.0s
J40A **Soldiers Grove** 83.59 36 P P 21 49 02.1 -0.1
baz=322
K39A **Oelwein** 83.60 38 P P 21 49 01.9 -0.3
baz=321
DAVA **Damuels** 83.61 330 iP P 21 49 03.0 +0.5
comp=Z,122nm,1.4s,SNR=51
DRME **Dracevica, Mon** 83.70 322 ⇑iP P 21 49 03.2 +0.4
OHR **Ohrid** 83.74 320 iP P 21 49 03.2 +0.1
BUM **Brajici-Budva** 83.75 322 ⇑iP P 21 49 03.0 -0.2
HCY **Herceg Novi** 83.83 322 ⇑iP P 21 49 03.1 -0.3
ULC **Ulcinj** 83.84 322 ⇑iP P 21 49 03.7 +0.1
XOR **Xorichti** 83.85 318 P P 21 49 02.9 -0.8
XOR **Xorichti** 83.85 318 P P 21 49 02.9 -0.8
NEO **Neokhori** 83.88 318 P P 21 49 03.1 -0.7
NEO **Neokhori** 83.88 318 P P 21 49 03.1 -0.7
EIL **Elat** 83.93 304 P P 21 49 04.8 +0.6
comp=Z,30nm,0.8s,baz=26,slow=2.8,SNR=49
EIL PP PP 21 52 17.1 -0.2
comp=Z,20nm,1.2s,baz=60,slow=5.3,SNR=4.1
URZ **Urewera** 83.93 154 LR LR 22 23 32.1
comp=Z,2µm,19.3s,baz=292,slow=34
J41A **Loganville** 83.94 36 P P 21 49 03.6 -0.5
baz=322
FYTO **Fytoko, Volos** 83.95 318 P P 21 49 03.8 -0.3
FYTO **Fytoko, Volos** 83.95 318 P P 21 49 03.8 -0.3
K40A **Colesburg** 83.95 37 P P 21 49 03.9 -0.2
baz=321
Q34A **Chapman** 83.96 43 P P 21 49 03.4 -0.9
baz=318
M38A **Pleasantville** 83.97 39 P P 21 49 04.1 -0.1
baz=320
N37A **Lee Faris, Mou** 83.97 40 P P 21 49 04.0 -0.2
baz=320
P35A **Duane Minner,** 83.99 42 P P 21 49 04.0 -0.4
baz=319
L39A **Vinton** 84.00 38 P P 21 49 03.6 -0.7
baz=321
KSU1 **Kansas State U** 84.00 43 P P 21 49 04.4 0.0
baz=318
KSU1 **Kansas State U** 84.00 43 PFAKE 21 49 20.0 +16
KSU1 LR LR
comp=Z,3µm,20.0s
TIR **Tirane** 84.02 321 ⇑iP P 21 49 04.9 +0.5
TIR **Tirane** 84.02 321 eP P 21 49 04.7 +0.2
TIR pmax pmax
comp=Z,66nm,1.0s
TIR MLR MLR
comp=Z,6µm,20.0s
TIR **Tirane** 84.02 321 eP P 21 49 04.7 +0.2
comp=Z,66nm,1.0s
TIR LR LR
comp=Z,6µm,20.0s
O36A **Bolckow** 84.07 41 P P 21 49 04.7 0.0
baz=319
NEST **Nestorio** 84.15 320 P P 21 49 05.2 -0.1
JFWS **Jewell Farm** 84.19 36 PFAKE 21 49 20.0 +15
JFWS LR LR
comp=Z,2µm,21.0s
R34A **Isabella, Hill** 84.26 44 P P 21 49 05.9 +0.1
baz=318
AMTX **Amarillo** 84.30 48 P P 21 49 06.7 +0.5
baz=316
AMTX **Amarillo** 84.30 48 eP P 21 49 06.7 +0.5
comp=Z,27nm,1.1s
MSTX **Muleshoe** 84.32 50 P P 21 49 06.5 +0.2
baz=315,SNR=7.1
MSTX **Muleshoe** 84.32 50 eP P 21 49 05.8 -0.4
comp=Z,69nm,1.6s
P36A **Good Intent, A** 84.33 41 P P 21 49 05.9 -0.2
baz=319
MNTX **Cornudas Mount** 84.35 53 P P 21 49 07.2 +0.9
baz=314,SNR=21
MNTX **Cornudas Mount** 84.35 53 eP P 21 49 07.1 +0.8
comp=Z,62nm,1.7s
MNTX LR LR
comp=Z,2µm,19.0s
K41A **Shullsburg** 84.41 37 P P 21 49 04.9 -1.6
baz=322
L40A **Anamosa** 84.41 38 P P 21 49 05.9 -0.5
baz=321
M39A **Webster** 84.41 38 P P 21 49 05.9 -0.5
baz=321
N38A **Joes South For** 84.43 40 P P 21 49 06.3 -0.2
baz=320
O37A **Wolven Farm, M** 84.45 40 P P 21 49 06.8 +0.1
baz=320
LKR **Lokris** 84.48 317 P P 21 49 06.0 -0.8
LKR **Lokris** 84.48 317 P P 21 49 06.0 -0.8
Q35A **Mercer Eighty,** 84.48 42 P P 21 49 05.7 -1.2
baz=319
TUE **Stuetta** 84.49 330 eP P 21 49 06.9 -0.1
comp=Z,213nm,1.6s
TUE LR LR
comp=Z,8µm,19.0s
Q36A **Arnold C. Orve** 84.70 42 P P 21 49 06.8 -1.2
baz=319
N39A **Derby Farms, D** 84.72 39 P P 21 49 07.6 -0.4
baz=321
PPT **Papeete** 84.72 118 LR LR 22 21 10.5
comp=Z,4µm,20.0s,baz=286,slow=32
U32A **Winter Ranch,** 84.73 46 P P 21 49 06.8 -1.4
baz=317
PPT2 **Papeete2** 84.73 118 eLR LR 22 15 58.4
comp=Z,7µm,21.8s,baz=319
L41A **Preston** 84.73 37 P P 21 49 07.5 -0.6
baz=322
S34A **Willow Spring** 84.78 44 P P 21 49 08.0 -0.4
baz=318
M40A **Post Highland** 84.78 38 P P 21 49 08.3 0.0
baz=321
P37A **Lathrop** 84.79 41 P P 21 49 08.4 0.0
baz=320
R35A **Emporia Munici** 84.80 43 P P 21 49 08.6 +0.1
baz=319
O38A **Galt** 84.82 40 P P 21 49 08.3 -0.2
baz=320
SANT **Santorini** 84.85 314 PFAKE 21 49 20.0 +11
SANT LR LR
comp=Z,3µm,20.0s
DSL **Palaion Diasel** 85.09 319 P P 21 49 09.7 -0.3
DSL **Palaion Diasel** 85.09 319 P P 21 49 09.7 -0.3
N40A **Mertquake, Sal** 85.15 39 P P 21 49 09.6 -0.5
baz=321
R36A **Gordon, Harris** 85.16 42 P P 21 49 09.9 -0.4
baz=319
SGD **Sagiada** 85.16 320 P P 21 49 10.1 -0.1
P38A **Dawn** 85.17 40 P P 21 49 10.3 0.0
baz=320
IGT **Igoumenitsa** 85.17 319 P P 21 49 09.9 -0.4
IGT **Igoumenitsa** 85.17 319 P P 21 49 09.9 -0.4
IGT **Igoumenitsa** 85.17 319 P P 21 49 09.9 -0.4
O39A **Kirksville** 85.18 39 P P 21 49 10.6 +0.3
baz=321
S35A **Otter Creek Ra** 85.21 43 P P 21 49 11.2 +0.7
baz=319,SNR=13
T34A **McClaskey Farm** 85.24 44 P P 21 49 10.9 +0.1
baz=318
M41A **Milan** 85.26 38 P P 21 49 10.0 -0.7
baz=322
Q37A **Longview Farm,** 85.28 42 P P 21 49 10.7 -0.2
baz=320
PDO **Prodromos** 85.45 318 P P 21 49 11.5 -0.2
TAOE **Nuku Hiva Isla** 85.50 105 eLR LR 22 16 17.2
comp=Z,7µm,20.7s,baz=310
R37A **Teagarden Farm** 85.51 42 P P 21 49 12.0 -0.1
baz=319,SNR=7.1
S36A **Lake Cedric, C** 85.56 43 P P 21 49 12.5 +0.2
baz=319,SNR=7.4
M42A **Sheffield** 85.56 37 P P 21 49 11.2 -1.0
baz=322
CABF **La Chapelle** 85.58 332 eP P 21 49 12.0 -0.4
CABF pmax pmax
comp=Z,145nm,1.7s
O40A **La Selle** 85.61 39 P P 21 49 12.2 -0.2
baz=321
SFI **Santa Sofia** 85.61 327 P P 21 49 13.5 +1.1
N41A **Harden Midland** 85.64 38 P P 21 49 11.6 -1.0
baz=322
Q38A **Cooks Store, C** 85.64 41 P P 21 49 12.1 -0.5
baz=320
P39B **Salisbury** 85.66 40 P P 21 49 13.2 +0.5
baz=320
T35A **Sooner Cattle** 85.68 44 P P 21 49 13.2 +0.3
baz=318
LAST **Lasithi** 85.72 313 P P 21 49 12.9 -0.3
LAST **Lasithi** 85.72 313 P P 21 49 12.9 -0.3
FLN **La Foliniere** 85.87 337 eP P 21 49 13.2 -0.4
FLN pmax pmax
comp=Z,136nm,1.4s
Q39A **Willow Grove F** 85.89 41 P P 21 49 13.2 -0.7
baz=320
T36A **Boggs Farm, Ca** 85.91 44 P P 21 49 14.3 +0.3
baz=319
N42A **Yates City** 85.93 38 P P 21 49 13.7 -0.4
baz=322
S37A **Fort Scott** 85.93 42 P P 21 49 14.2 +0.1
baz=319,SNR=7.8
SNZO **South Karori** 85.94 157 PFAKE 21 49 30.0 +16
SNZO LR LR
comp=Z,3µm,20.0s
U35A **Pawnee** 85.97 45 P P 21 49 14.7 +0.3
baz=318
P40A **Paris** 85.98 40 P P 21 49 13.9 -0.4
baz=321
VLC **Villacollemand** 86.00 328 eP P 21 49 15.0 +0.6
comp=Z,37nm,1.1s
VLC LR LR
comp=Z,7µm,19.0s
WMOK **Wichita Mounta** 86.05 47 P P 21 49 15.0 +0.2
baz=317,SNR=9.1
WMOK **Wichita Mounta** 86.05 47 PFAKE 21 49 30.0 +15
WMOK LR LR
comp=Z,2µm,19.0s
R38A **Fenwick Farm,** 86.08 42 P P 21 49 13.5 -1.4
baz=320
O41A **Passleys Farm,** 86.09 39 P P 21 49 14.3 -0.5
baz=322
ITM **Ithomi** 86.14 317 P P 21 49 14.2 -1.0
ITM **Ithomi** 86.14 317 P P 21 49 14.2 -1.0
AQU **L'Aquila** 86.20 325 eP P 21 49 15.2 -0.3
AQU pmax pmax
comp=Z,52nm,1.1s
AQU MLR MLR
comp=Z,8µm,19.0s
AQU **L'Aquila** 86.20 325 eP P 21 49 15.2 -0.3
comp=Z,52nm,1.1s
AQU LR LR
comp=Z,8µm,19.0s
LPL **La Plagne** 86.28 331 eP P 21 49 15.7 -0.3
LPL pmax pmax
comp=Z,47nm,0.9s
LPG **La Plagne** 86.29 331 eP P 21 49 15.9 -0.2
LPG pmax pmax
comp=Z,89nm,1.1s
GRR **Gorron** 86.32 337 eP P 21 49 15.6 -0.2
GRR pmax pmax
comp=Z,154nm,1.2s
P41A **Barry, Barry** 86.34 39 P P 21 49 15.6 -0.5
baz=322
V35A **Meyer Ranch, C** 86.37 45 P P 21 49 16.8 +0.5
baz=318
T37A **Cheneyville 18** 86.37 43 P P 21 49 16.4 +0.1
baz=319
Q40A **Laux Farm, Aux** 86.38 40 P P 21 49 16.1 -0.2
baz=321
O42A **Bath** 86.41 38 P P 21 49 16.7 +0.3
baz=322
R39A **Chumby, Stover** 86.42 41 P P 21 49 16.6 0.0
baz=320,SNR=7.8
U36A **Oologah** 86.49 44 P P 21 49 16.2 -0.7
baz=319
HDIL **Hopedale** 86.49 37 PFAKE 21 49 30.0 +13
HDIL LR LR
comp=Z,3µm,19.0s
S38A **Stockton** 86.50 42 P P 21 49 16.3 -0.7
baz=320
BNI **Bardonecchia** 86.69 331 eP P 21 49 18.1 +0.2
BNI pmax pmax
comp=Z,28nm,1.0s
BNI MLR MLR
comp=Z,5µm,20.0s
BNI **Bardonecchia** 86.69 331 eP P 21 49 18.1 +0.2
comp=Z,28nm,1.0s
BNI LR LR
comp=Z,5µm,20.0s
O43A **Sugar Creek Fa** 86.69 38 P P 21 49 17.1 -0.7
baz=323
S39A **Bolivar** 86.76 42 P P 21 49 17.6 -0.6
baz=320,SNR=9.2
P42A **Winchester** 86.76 39 P P 21 49 18.3 +0.1
baz=322
T38A **Diamond** 86.76 43 P P 21 49 18.0 -0.2
baz=320,SNR=13
W35A **Tecumseh** 86.80 45 P P 21 49 18.4 0.0
baz=318
U37A **Salina** 86.81 44 P P 21 49 18.4 0.0
baz=319
TUL1 **Leonard** 86.82 44 P P 21 49 18.0 -0.5
baz=319
TUL1 **Leonard** 86.82 44 eP P 21 49 19.4 +0.9
comp=Z,32nm,1.2s
Q41A **Truxton** 86.82 40 P P 21 49 18.3 -0.2
baz=322
R40A **Maddies Statio** 86.83 41 P P 21 49 18.7 +0.2
baz=321,SNR=8.0
V36A **Jenks** 86.83 44 P P 21 49 18.7 +0.1
baz=319
CUC **Castrocucco** 87.00 322 eP P 21 49 17.5 -1.9
comp=Z,19nm,1.4s
CUC LR LR
comp=Z,4µm,19.0s
TXAR **Lajitas Array** 87.06 54 P P 21 49 20.9 +0.9
comp=Z,4.8nm,0.8s,baz=297,slow=2.9,SNR=37
ORIF **Oris-en-Rattie** 87.10 331 eP P 21 49 19.6 -0.3
ORIF pmax pmax
comp=Z,37nm,1.1s
ABTX **Abilene, Hawle** 87.11 49 P P 21 49 20.7 +0.6
baz=317
ABTX **Abilene, Hawle** 87.11 49 eP P 21 49 20.6 +0.6
comp=Z,34nm,1.2s
P43A **Skaggs, Pawnee** 87.11 38 P P 21 49 19.6 -0.2
baz=322
W36A **Wetumka** 87.16 45 P P 21 49 20.9 +0.6
baz=319
U38A **Gravette** 87.16 43 P P 21 49 19.8 -0.4
baz=320
V37A **Hulbert** 87.19 44 P P 21 49 20.3 -0.1
baz=319,SNR=6.8
Q42A **Golden Eagle** 87.20 39 P P 21 49 19.4 -0.9
baz=322
T39A **Clever** 87.24 42 P P 21 49 19.5 -1.0
baz=320
S40A **Lebanon** 87.24 41 P P 21 49 19.5 -1.1
baz=321
SADO **Sadowa** 87.26 29 LR LR 22 30 40.1
comp=Z,2µm,18.9s,baz=350,slow=37
R41A **Rosebud** 87.26 40 P P 21 49 20.8 +0.2
baz=321,SNR=8.9
SSB **Saint Sauveur** 87.28 332 eP P 21 49 20.6 -0.1
SSB pmax pmax
comp=Z,263nm,2.1s
SSB MLR MLR
comp=Z,3µm,19.0s
SSB **Saint Sauveur** 87.28 332 eP P 21 49 20.6 -0.1
comp=Z,263nm,2.1s
SSB LR LR
comp=Z,3µm,19.0s
X35A **Drake** 87.31 46 P P 21 49 21.1 +0.2
baz=318
SBF **Sospel** 87.41 330 eP P 21 49 19.9 -1.5
SBF pmax pmax
comp=Z,34nm,1.2s
QUIF **Quistinic** 87.42 338 eP P 21 49 21.1 -0.1
QUIF pmax pmax
comp=Z,186nm,1.8s
X36A **Centrahoma** 87.52 45 P P 21 49 22.3 +0.3
baz=319
AAM **Ann Arbor** 87.56 33 PFAKE 21 49 30.0 +8.0
AAM LR LR
comp=Z,2µm,20.0s
R42A **Luebbering** 87.56 40 P P 21 49 22.2 +0.1
baz=322
Q43A **New Douglas** 87.57 39 P P 21 49 22.1 -0.1
baz=322
T40A **Mansfield** 87.58 41 P P 21 49 21.8 -0.4
baz=321
V38A **Canehill** 87.59 43 P P 21 49 22.5 +0.2
baz=320,SNR=6.3
W37B **Quinton** 87.59 45 P P 21 49 22.6 +0.3
baz=319
VIVF **Saint-Julien-l** 87.60 332 eP P 21 49 22.0 -0.2
VIVF pmax pmax
comp=Z,77nm,1.4s
S41A **Jillco Farms,** 87.63 41 P P 21 49 22.4 -0.1
baz=321,SNR=7.4
Y35A **Marietta** 87.64 46 P P 21 49 23.0 +0.5
baz=318
SFIN **Lafayette** 87.64 36 P P 21 49 22.7 +0.3
baz=324
SFIN **Lafayette** 87.64 36 eP P 21 49 22.9 +0.5
comp=Z,105nm,1.8s
P44A **Sand Creek, Wi** 87.67 38 P P 21 49 22.3 -0.2
baz=323
U39A **Green Forest** 87.68 43 P P 21 49 22.4 -0.3
baz=320,SNR=11
Q44A **Meyer Farm, Va** 87.93 38 P P 21 49 23.6 -0.2
baz=323
S42A **Caledonia** 87.96 40 P P 21 49 24.1 0.0
baz=322,SNR=11
233A **Rising Star** 87.98 49 P P 21 49 25.0 +0.8
baz=317
R43A **Red Bud** 87.99 39 P P 21 49 23.2 -0.9
baz=322
V39A **Pettigrew** 88.01 43 P P 21 49 23.9 -0.5
baz=320
U40A **Yellville** 88.02 42 P P 21 49 24.2 -0.1
baz=321,SNR=14
X37A **Clayton** 88.04 45 P P 21 49 25.1 +0.6
baz=319
T41A **Mountain View** 88.05 41 P P 21 49 24.2 -0.2
baz=321,SNR=8.3
Y36A **Durant** 88.06 46 P P 21 49 24.7 +0.2
baz=319
W38A **Poteau** 88.13 44 P P 21 49 25.2 +0.3
baz=320
X38A **Whitesboro** 88.27 44 P P 21 49 25.7 +0.1
baz=320
CEL **Celeste** 88.34 321 eP P 21 49 24.8 -1.1
comp=Z,13nm,0.8s
CEL LR LR
comp=Z,4µm,20.0s
Y37A **Hugo** 88.36 45 P P 21 49 26.1 +0.2
baz=319
T42A **Van Buren** 88.39 41 P P 21 49 26.0 0.0
baz=322
R44A **Waltonville** 88.42 39 P P 21 49 25.4 -0.7
baz=323
234A **Clairette** 88.42 48 P P 21 49 26.6 +0.3
baz=318
W39A **Magazine** 88.43 43 P P 21 49 26.6 +0.3
baz=320
333A **Richland Sprin** 88.43 49 P P 21 49 26.4 0.0
baz=317
Z36A **Blue Ridge** 88.44 46 P P 21 49 26.5 +0.2
baz=319
CAF **Calviac** 88.45 334 eP P 21 49 26.7 +0.4
CAF pmax pmax
comp=Z,135nm,1.4s
V40A **Witts Springs** 88.46 42 P P 21 49 26.0 -0.4
baz=321
S43A **Fulton Ridge,** 88.47 40 P P 21 49 25.4 -1.1
baz=322
U41A **Viola** 88.51 42 P P 21 49 26.2 -0.4
baz=321
JCT **Junction City** 88.57 50 P P 21 49 27.6 +0.5
baz=317
JCT **Junction City** 88.57 50 eP P 21 49 27.8 +0.7
JCT pmax pmax
comp=Z,93nm,1.7s
JCT MLR MLR
comp=Z,2µm,19.0s
JCT **Junction City** 88.57 50 eP P 21 49 27.8 +0.7
comp=Z,93nm,1.7s
JCT LR LR
comp=Z,2µm,19.0s
T43A **Greenville** 88.75 40 P P 21 49 27.7 -0.1
baz=322
X39A **Fountain Ranch** 88.77 44 P P 21 49 28.2 +0.3
baz=320,SNR=5.3
S44A **Carbondale** 88.77 39 P P 21 49 27.8 -0.1
baz=323
433A **Art** 88.79 50 P P 21 49 28.1 0.0
baz=317
W40A **Ferguson Farm,** 88.80 43 P P 21 49 28.0 0.0
baz=320
V41A **Mountainview** 88.82 42 P P 21 49 28.1 -0.1
baz=321
WHTX **Lake Whitney,** 88.82 48 P P 21 49 28.8 +0.7
baz=318
WHTX **Lake Whitney,** 88.82 48 eP P 21 49 28.7 +0.5
U42A **Revenden** 88.85 41 P P 21 49 27.8 -0.4
baz=322
TBI **Tubuai** 88.86 122 eLR LR 22 17 45.1
comp=Z,3µm,24.8s,baz=310
334A **Lometa** 88.86 49 P P 21 49 28.9 +0.5
baz=318
Y38A **Idabel** 88.88 45 P P 21 49 27.1 -1.3
baz=320
LFF **La Frestale** 88.89 334 eP P 21 49 28.5 +0.3
LFF pmax pmax
comp=Z,149nm,1.4s
Z37A **Pogue Cattle C** 88.95 46 P P 21 49 28.4 -0.3
baz=319
136A **Ennis** 88.99 47 P P 21 49 28.3 -0.6
baz=319
LONY **Lake Ozonia** 89.00 26 PFAKE 21 49 40.0 +11
LONY LR LR
comp=Z,3µm,20.0s
MIAR **Mount Ida** 89.03 44 P P 21 49 28.6 -0.5
baz=320
MIAR **Mount Ida** 89.03 44 eP P 21 49 29.5 +0.4
MIAR pmax pmax
comp=Z,35nm,1.3s
MIAR MLR MLR
comp=Z,3µm,19.0s
MIAR **Mount Ida** 89.03 44 eP P 21 49 29.5 +0.4
comp=Z,34nm,1.3s
MIAR LR LR
comp=Z,3µm,19.0s
T44A **Benton** 89.09 40 P P 21 49 28.3 -1.0

	baz=322								
V42A	**Cord**	**89.20**	**42**	P		**P**	**21 49 29.2**	**-0.7**	
	baz=321								
Y39A	**Lockesburg**	**89.22**	**44**	P		**P**	**21 49 29.2**	**-0.8**	
	baz=320								
434A	**Burnet**	**89.22**	**49**	P		**P**	**21 49 29.3**	**-0.8**	
	baz=318								
W41B	**Gary Mavity, V**	**89.25**	**43**	P		**P**	**21 49 29.6**	**-0.5**	
	baz=321								
Z38A	**Mt. Pleasant**	**89.26**	**45**	P		**P**	**21 49 31.1**	**+1.0**	
	baz=320								
533A	**Kerrville**	**89.32**	**50**	P		**P**	**21 49 31.1**	**+0.5**	
	baz=317								
137A	**Heron Place, G**	**89.33**	**46**	P		**P**	**21 49 31.5**	**+1.0**	
	baz=319								
335A	**Moody**	**89.36**	**48**	P		**P**	**21 49 30.4**	**-0.3**	
	baz=318								
X40A	**Basin Creek Fa**	**89.47**	**43**	P		**P**	**21 49 30.8**	**-0.4**	
	baz=321								
ACSO	**Alum Creek Sta**	**89.56**	**34**	PFAKE			21 49 40.0	+8.5	
ACSO				LR		LR			
	comp=Z,2µm,20.0s								
Y40A	**Okolona**	**89.60**	**44**	P		**P**	**21 49 30.6**	**-1.2**	
	baz=320								
435B	**Jarrell**	**89.64**	**49**	P		**P**	**21 49 31.9**	**-0.2**	
	baz=318								
138A	**Matatall Enter**	**89.65**	**46**	P		**P**	**21 49 32.8**	**+0.8**	
	baz=319								
534A	**Blanco**	**89.68**	**50**	P		**P**	**21 49 32.8**	**+0.5**	
	baz=318								
633A	**Saathoff Ranch**	**89.69**	**51**	P		**P**	**21 49 33.0**	**+0.7**	
	baz=317								
WCI	**Wyandotte Cave**	**89.74**	**37**	*e*P		**P**	**21 49 32.9**	**+0.5**	
WCI				pmax		pmax			
	comp=Z,47nm,0.6s								
WCI	**Wyandotte Cave**	**89.74**	**37**	*e*P		**P**	**21 49 32.9**	**+0.5**	
	comp=Z,47nm,0.6s								
MTLF	**Montolieu**	**89.79**	**333**	*e*P		**P**	**21 49 32.5**	**0.0**	
MTLF				pmax		pmax			
	comp=Z,52nm,1.6s								
U44B	**Burton Farm, H**	**89.80**	**40**	P		**P**	**21 49 33.9**	**+1.3**	
	baz=323								
139A	**Bunkhouse Ranc**	**90.02**	**45**	P		**P**	**21 49 33.9**	**+0.2**	
	baz=320								
Y41A	**Eaglette Beard**	**90.05**	**44**	P		**P**	**21 49 34.2**	**+0.3**	
	baz=321								
832A	**Faith Ranch, C**	**90.06**	**52**	P		**P**	**21 49 33.3**	**-0.8**	
	baz=317								
U45A	**Rockin P Farm,**	**90.08**	**40**	P		**P**	**21 49 33.9**	**-0.1**	
	baz=323								
PKME	**Peaks-Kenny Pk**	**90.08**	**22**	PFAKE			21 49 50.0	+16	
PKME				LR		LR			
	comp=Z,3µm,19.0s								
436A	**Wall Ranch, Ga**	**90.11**	**48**	P		**P**	**21 49 34.2**	**0.0**	
	baz=318								
Z40A	**Long Farm, Mag**	**90.11**	**44**	P		**P**	**21 49 33.3**	**-0.8**	
	baz=320								
CLTB	**Caltabellotta**	**90.15**	**323**	PFAKE			21 49 50.0	+16	
CLTB				LR		LR			
	comp=Z,2µm,21.0s								
733A	**Divot King Ran**	**90.16**	**51**	P		**P**	**21 49 33.4**	**-1.1**	
	baz=317								
N54A	**Moraine State**	**90.18**	**31**	P		**P**	**21 49 33.4**	**-1.0**	
	baz=328								
535A	**Dale**	**90.21**	**49**	P		**P**	**21 49 34.7**	**0.0**	
	baz=318								
337A	**Centerville**	**90.22**	**47**	P		**P**	**21 49 34.0**	**-0.7**	
	baz=319								
VSL	**Villasalto**	**90.29**	**326**	*e*P		**P**	**21 49 34.1**	**-0.8**	
	comp=Z,49nm,1.5s								
VSL				LR		LR			
	comp=Z,5µm,19.0s								
833A	**Chaparral WMA,**	**90.38**	**52**	P		**P**	**21 49 34.9**	**-0.6**	
	baz=317								
Z41A	**Richland Creek**	**90.43**	**44**	P		**P**	**21 49 36.1**	**+0.5**	
	baz=321								
536A	**Bastrop**	**90.47**	**49**	P		**P**	**21 49 35.6**	**-0.3**	
	baz=318								
734A	**La Parita Cree**	**90.50**	**51**	P		**P**	**21 49 37.1**	**+1.0**	
	baz=318								
Y42A	**Garnett, Star**	**90.52**	**43**	P		**P**	**21 49 36.2**	**+0.1**	
	baz=321								
NATX	**Nacogdoches**	**90.56**	**46**	PFAKE			21 49 50.0	+14	
NATX				LR		LR			
	comp=Z,2µm,20.0s								
BINY	**Binghamton**	**90.63**	**28**	PFAKE			21 49 50.0	+13	
BINY				LR		LR			
	comp=Z,3µm,19.0s								
EPF	**Esparros**	**90.71**	**334**	*e*P		**P**	**21 49 36.3**	**-0.6**	
EPF				pmax		pmax			
	comp=Z,25nm,1.4s								
240A	**Hunter Patters**	**90.85**	**45**	P		**P**	**21 49 37.8**	**+0.1**	
	baz=320								
438A	**Sam Houston St**	**90.87**	**47**	P		**P**	**21 49 37.4**	**-0.3**	
	baz=319								
Z42A	**Norrel Spur, H**	**90.87**	**44**	P		**P**	**21 49 37.5**	**-0.2**	
	baz=321								
141A	**Papa Simpson,**	**90.88**	**45**	P		**P**	**21 49 37.6**	**-0.2**	
	baz=321								
636A	**Smothers Creek**	**90.91**	**49**	P		**P**	**21 49 36.4**	**-1.6**	
	baz=318								
WDD	**Wied Dalam**	**90.93**	**321**	PFAKE			21 49 50.0	+12	
WDD				LR		LR			
	comp=Z,3µm,20.0s								
933A	**Laredo**	**90.97**	**52**	P		**P**	**21 49 39.0**	**+0.7**	
	baz=317								
834A	**Tilden**	**91.03**	**51**	P		**P**	**21 49 39.4**	**+0.9**	
	baz=318								
OXF	**Oxford**	**91.21**	**41**	*e*P		**P**	**21 49 39.5**	**+0.2**	
OXF				pmax		pmax			
	comp=Z,46nm,1.1s								
OXF	**Oxford**	**91.21**	**41**	*e*P		**P**	**21 49 39.5**	**+0.2**	
	comp=Z,46nm,1.1s								
439A	**Center Grove,**	**91.24**	**47**	P		**P**	**21 49 40.3**	**+0.8**	
	baz=320								
SSPA	**Standing Stone**	**91.28**	**30**	*e*P		**P**	**21 49 38.5**	**-1.0**	
	comp=Z,336nm,1.8s								
736A	**Circle Diamond**	**91.30**	**50**	P		**P**	**21 49 39.8**	**0.0**	
	baz=318								
241A	**Mo Tay, Goldon**	**91.32**	**45**	P		**P**	**21 49 39.8**	**0.0**	
	baz=321								
MSEY	**Mahe Island**	**91.34**	**265**	PFAKE			21 49 50.0	+10	
MSEY				LR		LR			
	comp=Z,3µm,20.0s								
934A	**Benavides**	**91.44**	**52**	P		**P**	**21 49 39.7**	**-0.8**	
	baz=318								
Y45A	**Yeager Farm, C**	**91.66**	**42**	P		**P**	**21 49 41.3**	**-0.1**	
	baz=322								
034A	**Hebbronville**	**91.73**	**52**	P		**P**	**21 49 43.7**	**+1.9**	
	baz=318								
KVTX	**Kingsville**	**91.85**	**51**	PFAKE			21 49 50.0	+7.6	
KVTX				LR		LR			
	comp=Z,2µm,20.0s								
Y46A	**Houston**	**91.99**	**41**	P		**P**	**21 49 43.5**	**+0.6**	
	baz=323								
Y47A	**UCPARC, Winfie**	**92.48**	**40**	P		**P**	**21 49 45.4**	**+0.2**	
	baz=324								
Z46A	**Louisville**	**92.50**	**42**	P		**P**	**21 49 45.8**	**+0.6**	
	baz=323								
146A	**Union**	**92.88**	**42**	P		**P**	**21 49 47.9**	**+0.9**	
	baz=323								
TKL	**Tuckaleechee C**	**93.00**	**37**	LR		LR	22 35 53.7		
	comp=Z,914nm,18.5s,baz=338,slow=38								
BLA	**Blacksburg**	**93.18**	**34**	PFAKE			21 50 00.0	+12	
BLA				LR		LR			
	comp=Z,3µm,20.0s								
KEST	**Kesra**	**93.44**	**324**	P		**P**	**21 49 49.3**	**-0.3**	
	comp=Z,7.2nm,1.0s,baz=262,slow=2.8,SNR=6.0								
KEST				PP		PP	**21 53 27.7**	**-5.3**	
	comp=Z,3.7nm,0.8s,baz=209,slow=5.8,SNR=4.0								
KEST				LR		LR	22 36 53.1		
	comp=Z,4µm,19.8s,baz=334,slow=39								
CBN	**Corbin Frederi**	**93.58**	**31**	PFAKE			21 50 00.0	+10	
CBN				LR		LR			
	comp=Z,3µm,19.0s								
GOGA	**Godfrey**	**95.00**	**38**	PFAKE			21 50 10.0	+13	
GOGA				LR		LR			
	comp=Z,2µm,20.0s								
BRAL	**Brewton**	**95.07**	**42**	PFAKE			21 50 10.0	+13	
BRAL				LR		LR			
	comp=Z,2µm,20.0s								
ESDC	**Sonseca Array**	**95.14**	**335**	P		**P**	**21 49 57.2**	**-0.2**	
	comp=Z,2.5nm,0.7s,baz=21,slow=3.9,SNR=17								
ESDC				PP		PP	21 53 33.4	-13	
	comp=Z,2.4nm,0.8s,baz=22,slow=6.5,SNR=4.7								
ESDC				LR		LR	22 38 45.9		
	comp=Z,5µm,18.1s,baz=60,slow=39								
PAB	**San Pablo**	**95.38**	**335**	PFAKE			21 50 10.0	+11	
PAB				LR		LR			
	comp=Z,6µm,19.0s								
MTE	**Manteigas**	**95.56**	**338**	PFAKE			21 50 10.0	+11	
MTE				LR		LR			
	comp=Z,2µm,20.0s								
CNNC	**Cliffs of the**	**95.93**	**33**	PFAKE			21 50 10.0	+9.1	
CNNC				LR		LR			
	comp=Z,3µm,19.0s								
NHSC	**New Hope**	**96.76**	**36**	PFAKE			21 50 20.0	+15	
NHSC				LR		LR			
	comp=Z,3µm,20.0s								
RKT	**Rikitea**	**98.55**	**113**	*e*LR		LR	22 22 17.5		
	comp=Z,3µm,22.0s,baz=310								
CMLA	**Cha da Macela**	**101.81**	**351**	PFAKE			21 50 40.0	+13	
CMLA				LR		LR			
	comp=Z,2µm,19.0s								
KMBO	**Kilima Mbogo**	**102.99**	**280**	Pdiff		**Pdif**	**21 50 32.9**	**-0.3**	
	comp=Z,5.2nm,1.1s,baz=40,slow=11,SNR=8.4								
KMBO				PP		**PP**	**21 54 45.4**	**-2.3**	
	comp=Z,0.8nm,0.3s,baz=37,slow=9.7,SNR=4.7								
KMBO	**Kilima Mbogo**	**102.99**	**280**	*i* P		**Pdif**	**21 50 33.7**	**+0.5**	
KMBO				pmax		pmax			
	comp=Z,5.0nm,1.1s								
KMBO	**Kilima Mbogo**	**102.99**	**280**	Pdif		**Pdif**	**21 50 32.9**	**-0.3**	
KMBO				PP		**PP**	**21 54 45.4**	**-2.3**	
KMBO				LR		LR			
	comp=Z,2µm,20.0s								
TEIG	**Tepich**	**103.09**	**49**	PFAKE			21 50 50.0	+17	
TEIG				LR		LR			
	comp=Z,102nm,19.0s								
PTCN	**Pitcairn Islan**	**103.24**	**112**	PFAKE			21 50 50.0	+16	
PTCN				LR		LR			
	comp=Z,3µm,20.0s								
BBSR	**BB Station**	**103.33**	**24**	PFAKE			21 50 50.0	+16	
BBSR				LR		LR			
	comp=Z,2µm,20.0s								
TAM	**Tamanrasset**	**106.08**	**320**	PFAKE			21 55 10.0		
TAM				LR		LR			
	comp=Z,3µm,22.0s								
ABPO	**Ambohimpanom**	**106.56**	**259**	PFAKE			21 55 10.0		
ABPO				LR		LR			
	comp=Z,1µm,19.0s								
GTBY	**Guantanamo Bay**	**110.33**	**39**	PFAKE			21 55 20.0		
GTBY				LR		LR			
	comp=Z,1µm,19.0s								
MTDJ	**Mount Denham**	**110.58**	**42**	PFAKE			21 55 20.0		
MTDJ				LR		LR			
	comp=Z,1µm,20.0s								
GRTK	**Grand Turk**	**110.77**	**34**	PFAKE			21 55 20.0		
GRTK				LR		LR			
	comp=Z,2µm,19.0s								
JTS	**JuntasAbangare**	**112.84**	**53**	PFAKE			21 55 20.0		
JTS				LR		LR			
	comp=Z,56nm,21.0s								
SDDR	**Presa de Saban**	**112.92**	**36**	PFAKE			21 55 20.0		
SDDR				LR		LR			
	comp=Z,2µm,19.0s								
SJG	**San Juan**	**115.87**	**31**	PFAKE			21 55 30.0	+13	
SJG				LR		LR			
	comp=Z,1µm,19.0s								
TORD	**Torodi Ar. Bea**	**116.13**	**318**	PKP		**PKPdf**	**21 55 16.8**	**-0.9**	
	comp=Z,1.4nm,0.9s,baz=12,slow=2.1,SNR=4.0								
TORD				PP		**PP**	**21 56 19.1**	**-2.7**	
	comp=Z,12nm,1.0s,baz=32,slow=5.9,SNR=17								
BCIP	**Isla Barro Col**	**116.78**	**49**	PFAKE			21 55 30.0	+11	
BCIP				LR		LR			
	comp=Z,983nm,19.0s								
PAYG	**Puerto Ayora**	**117.53**	**65**	PFAKE			21 55 30.0	+10	
PAYG				LR		LR			
	comp=Z,2µm,20.0s								
ANWB	**Willy Bob**	**117.92**	**27**	PFAKE			21 55 30.0	+9.0	
ANWB				LR		LR			
	comp=Z,1µm,19.0s								
VNDA	**Vanda**	**117.94**	**176**	PKP		**PKPdf**	**21 55 19.1**	**-0.1**	
	comp=Z,0.6nm,0.7s,baz=319,slow=3.9,SNR=3.6								
VNDA				PP		**PP**	**21 56 33.1**	**-1.2**	
	comp=Z,2.0nm,1.2s,baz=336,slow=7.9,SNR=3.7								
SBA	**Scott Base**	**118.58**	**174**	PFAKE			21 55 30.0	+10	
SBA				LR		LR			
	comp=Z,1µm,20.0s								
LSZ	**Lusaka**	**118.85**	**274**	*e*PKIKP		**PKPdf**	**21 55 23.0**	**+0.1**	
LSZ				MLR		MLR			
	comp=Z,2µm,19.0s								
LSZ	**Lusaka**	**118.85**	**274**	*e*PKPdf		**PKPdf**	**21 55 23.0**	**+0.1**	
LSZ				LR		LR			
	comp=Z,2µm,19.0s								
RPN	**Rapa Nui**	**119.66**	**102**	PFAKE			21 55 40.0	+16	
RPN				LR		LR			
	comp=Z,830nm,20.0s								
FDF	**Fort de France**	**120.85**	**28**	PFAKE			21 55 40.0	+13	
FDF				LR		LR			
	comp=Z,2µm,20.0s								
SDV	**Santo Domingo**	**121.99**	**41**	PFAKE			21 55 40.0	+11	
SDV				LR		LR			
	comp=Z,1µm,19.0s								
BBGH	**Gun Hill**	**122.89**	**27**	PFAKE			21 55 40.0	+9.3	
BBGH				LR		LR			
	comp=Z,2µm,20.0s								
MAW	**Mawson**	**122.98**	**207**	PKP		**PKPdf**	**21 55 27.8**	**-1.3**	
	comp=Z,1.5nm,0.8s,baz=91,slow=1.8,SNR=4.5								
GRGR	**Grenville**	**123.06**	**30**	PFAKE			21 55 40.0	+9.0	
GRGR				LR		LR			
	comp=Z,1µm,22.0s								
SACV	**Santiago Islan**	**123.85**	**345**	PFAKE			21 55 40.0	+7.5	
SACV				LR		LR			
	comp=Z,883nm,20.0s								
OTAV	**Otavalo**	**124.68**	**54**	PFAKE			21 55 50.0	+15	
OTAV				LR		LR			
	comp=Z,1µm,20.0s								
DBIC	**Dimbokro**	**124.97**	**320**	PKP		**PKPdf**	**21 55 34.3**	**-0.4**	
	comp=Z,5.0nm,0.9s,baz=20,slow=1.3,SNR=5.3								
DBIC				PP		**PP**	**21 57 17.8**	**-4.4**	
	comp=Z,15nm,1.2s,baz=356,slow=9.0,SNR=5.1								
TIC	**Toumodi**	**125.07**	**320**	*e*P		**PKPdf**	**21 55 32.0**	**-2.9**	
KIC	**Kosan Boka**	**125.17**	**320**	*e*P		**PKPdf**	**21 55 32.4**	**-2.7**	
	comp=Z,47nm,1.4s								
LIC	**Lamto**	**125.43**	**320**	*e*P		**PKPdf**	**21 55 34.8**	**-0.8**	
	comp=Z,70nm,1.6s								
QSPA	**South Pole Qui**	**129.87**	**180**	PFAKE			21 55 50.0	+7.6	
QSPA				LR		LR			
	comp=Z,2µm,20.0s								
SUR	**Sutherland**	**133.70**	**261**	PFAKE			21 56 00.0	+9.0	
SUR				LR		LR			
	comp=Z,3µm,21.0s								
NNA	**Nana**	**134.89**	**63**	PFAKE			21 56 10.0	+17	
NNA				LR		LR			
	comp=Z,1µm,20.0s								
PTGA	**Pitinga**	**135.42**	**34**	PFAKE			21 56 10.0	+15	
PTGA				LR		LR			
	comp=Z,46µm,20.0s								
NVL	**N'lazarevskaya**	**140.72**	**203**	*e*PKIKP		**PKPdf**	**21 55 58.1**	**-4.3**	
SAML	**Samuel**	**140.99**	**44**	*e*PKPdf		**PKPdf**	**21 56 03.6**	**-1.1**	
SAML				LR		LR			
	comp=Z,2µm,20.0s								
ASCN	**Ascension**	**142.24**	**322**	PFAKE			21 56 20.0	+13	
ASCN				LR		LR			
	comp=Z,2µm,20.0s								
LPAZ	**La Paz**	**143.80**	**58**	PKP		**PKPdf**	**21 56 09.8**	**-0.5**	
	comp=Z,2.0nm,0.4s,baz=11,slow=2.6,SNR=2.8								
SHEL	**Horse Pasture**	**143.91**	**303**	PFAKE			21 56 20.0	+10	
SHEL				LR		LR			
	comp=Z,1µm,20.0s								
SNAA	**Sanae**	**144.15**	**198**	PKP		**PKPab**	**21 56 06.2**	**-0.2**	
SNAA	**Sanae**	**144.15**	**198**	*e*PKIKP		**PKPab**	**21 56 06.0**	**-0.4**	
SNAA	**Sanae**	**144.15**	**198**	*e*PKPpre		**PKPab**	**21 56 06.0**	**-0.4**	
VNA2	**Neumayer--Watz**	**145.71**	**197**	PKP		**PKPdf**	**21 56 11.3**	**0.0**	
	baz=119,slow=1.9								
RCBR	**Riachuelo**	**145.84**	**359**	PKPbc		**PKPbc**	**21 56 13.9**	**+0.1**	
	comp=Z,36nm,1.1s,baz=8.3,slow=2.4,SNR=8.3								
RCBR	**Riachuelo**	**145.84**	**359**	*e*PKPbc		**PKPbc**	**21 56 13.9**	**+0.1**	
RCBR				LR		LR			
	comp=Z,2µm,21.0s								
VNA3	**Neumayer Olymp**	**145.94**	**195**	PKP		**PKPbc**	**21 56 12.6**	**+0.2**	
VNA1	**Neumayer--Stat**	**146.11**	**197**	PKP		**PKPab**	**21 56 13.3**	**-0.3**	
LVC	**Limon Verde**	**147.63**	**67**	*e*PKPbc		**PKPbc**	**21 56 19.2**	**+0.1**	
LVC				LR		LR			
	comp=Z,1µm,20.0s								
SIV	**San Ignacio**	**147.92**	**48**	PKPbc		**PKPbc**	**21 56 20.7**	**+1.1**	
	comp=Z,18nm,0.9s,baz=350,slow=3.0,SNR=8.9								
LCO	**Las Campanas**	**150.03**	**79**	*e*PKPbc		**PKPbc**	**21 56 25.7**	**+0.7**	
LCO				*e*PKPab		**sPKPbc**	**21 56 31.7**	**-0.4**	
LCO				LR		LR			
	comp=Z,3µm,20.0s								
PMSA	**Palmer Station**	**150.67**	**156**	PFAKE			21 56 30.0	-2.0	
PMSA				LR		LR			
	comp=Z,2µm,21.0s								
PLCA	**Paso Flores**	**154.29**	**102**	PKPbc		**PKPbc**	**21 56 36.3**	**+2.3**	
	comp=Z,6.6nm,1.1s,baz=262,slow=5.6,SNR=5.1								
CPUP	**Villa Florida**	**157.98**	**58**	PKPab		**PKPab**	**21 57 05.2**	**+1.0**	
	comp=Z,3.0nm,0.9s,baz=284,slow=6.8,SNR=3.7								
TRQA	**Tornquist**	**160.26**	**92**	PFAKE			21 56 40.0	+6.7	
TRQA				LR		LR			
	comp=Z,3µm,19.0s								
SPB	**Sao Paulo**	**161.17**	**32**	PFAKE			21 56 50.0	+15	
SPB				LR		LR			
	comp=Z,2µm,19.0s								
EFI	**East Falkland**	**161.24**	**135**	PFAKE			21 56 40.0	+6.2	
EFI				LR		LR			
	comp=Z,3µm,19.0s								

*IDC **16** 21:42:28.0±1.2,38.30N×142.33E,h0km,mb4.1/8, mb1 4.1/12,mb1mx3.8/58,mbtmp4.1/12,ML3.4/4, Error ellipse: s-maj=31.4km s-min=17.9km az=80.0*
*NEIC **16** 21:42:33.6±0.7,38.26N×142.17E,h35km,mb4.4/3,Error ellipse: s-maj=14.6km s-min=11.6km az=97.0*
NEIC Recorded [2 JMA] in Miyagi.
*ISCJB **16** 21:42:34.9±0.9,38.15N±0.04×141.79E±0.10,h54km±5km, mb4.2/11,Error ellipse: s-maj=13.4km s-min=5.3km az=15.9*
*JMA **16** 21:42:36.1±0.1,38.17N×141.71E,h52km±1km,M4.1*
JMA Felt II J1.

ISC 16 21:42:36.1±1.4,**38.16N**±0.04×**141.79E**±0.09,**h47**km±11km, **n36**,σ**0.99**/39,**mb4.2**/11,**Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase	ID		Time		Res
				Op		ISC	h m s		ISC
JIO	**Ouri**	**0.45**	**311**	P		**Pn**	**21 42 46.5**	**-0.1**	
JIO				S		**Sn**	**21 42 53.3**	**-0.8**	
JMM	**Marumori**	**0.84**	**250**	P		**Pn**	**21 42 50.8**	**-0.8**	
JMM				*e*S		**Sn**	**21 43 01.5**	**-1.3**	
JMK	**Ichinoseki**	**0.91**	**331**	P		**Pn**	**21 42 52.4**	**-0.1**	
JMK				*e*S		**Sn**	**21 43 03.7**	**-0.8**	
JOU	**Okura**	**0.91**	**283**	P		**Pn**	**21 42 52.1**	**-0.4**	
JOU				*e*S		**Sn**	**21 43 03.5**	**-1.0**	
OFUJ	**Ofunato**	**0.92**	**354**	P		**Pn**	**21 42 52.6**	**-0.1**	
OFUJ				S		**Sn**	**21 43 04.1**	**-0.8**	
JFK	**Kawauchi**	**1.07**	**223**	P		**Pn**	**21 42 54.3**	**-0.5**	
JFK				S		**Sn**	**21 43 07.6**	**-1.0**	
JFT	**Otama**	**1.31**	**241**	P		**Pn**	**21 42 58.1**	**0.0**	
JFT				*e*S		**Sn**	**21 43 13.7**	**-0.7**	
JYK	**Kaneyama**	**1.35**	**304**	P		**Pn**	**21 42 58.2**	**-0.3**	
JYS	**Shirataka**	**1.36**	**273**	P		**Pn**	**21 42 58.3**	**-0.3**	
JOM	**Ohasama**	**1.37**	**344**	P		**Pn**	**21 42 58.8**	**+0.1**	
JOM				*e*S		**Sn**	**21 43 15.2**	**-0.5**	
JRG	**Rokugo**	**1.53**	**324**	P		**Pn**	**21 43 01.3**	**+0.4**	
JYA	**Atsumi**	**1.68**	**285**	P		**Pn**	**21 43 02.8**	**-0.3**	
JFY	**Yanaizu**	**1.81**	**246**	P		**Pn**	**21 43 05.1**	**+0.2**	
MJAR	**Matsushiro Arr**	**3.28**	**242**	Pn		**Pn**	**21 43 26.2**	**+1.3**	
	4.4nm,0.3s,baz=42,slow=12,SNR=10								
MJAR				Sn		Sn	21 44 11.9	+9.2	
	4.3nm,0.3s,baz=144,slow=25,SNR=4.3								
JHJ	**Hachijo jima 2**	**5.29**	**199**	Pn		**Pn**	**21 43 53.4**	**+0.9**	
	13nm,0.3s,baz=346,slow=15,SNR=5.1								
JHJ				Sn		**Sn**	**21 44 50.4**	**-1.8**	
	39nm,0.3s,baz=247,slow=22,SNR=6.6								
USRK	**Ussuriysk Ar.**	**9.53**	**312**	Pn		**Pn**	**21 44 51.2**	**+0.6**	
	0.5nm,0.3s,baz=119,slow=13,SNR=4.5								
KSRS	**Korea Array**	**10.99**	**271**	Pn		**Pn**	**21 45 13.3**	**+2.6**	
	0.3nm,0.3s,baz=87,slow=13,SNR=3.3								
KSAR	**Wonju Array Be**	**11.02**	**271**	Pn		**Pn**	**21 45 13.3**	**+2.2**	
SONM	**Songino Array**	**27.42**	**302**	P		**P**	**21 48 18.3**	**+1.0**	
	1.0nm,0.5s,baz=100,slow=9.7,SNR=4.1								
ENH	**Enshi**	**27.74**	**263**	*e*P		**P**	**21 48 22.3**	**+2.1**	
	10nm,0.6s								
H11N2	**WAKE ISLAND Hy**	**28.49**	**123**	T		T	22 18 38.8		
	baz=316,slow=75,SNR=17								
H11N1	**WAKE ISLAND Hy**	**28.50**	**123**	T		T	22 18 39.4		
	baz=316,slow=75,SNR=19								
H11N3	**WAKE ISLAND Hy**	**28.51**	**123**	T		T	22 18 40.1		
	baz=316,slow=75,SNR=20								
H11S1	**WAKE ISLAND Hy**	**29.24**	**125**	T		T	22 19 41.3		
	baz=318,slow=76,SNR=17								
H11S3	**WAKE ISLAND Hy**	**29.25**	**125**	T		T	22 19 42.1		
	baz=318,slow=76,SNR=18								
H11S2	**WAKE ISLAND Hy**	**29.26**	**125**	T		T	22 19 43.2		
	baz=318,slow=76,SNR=19								
ZALV	**Zalesovo Beam**	**41.38**	**311**	P		**P**	**21 50 16.8**	**-0.6**	
	3.9nm,0.6s,baz=77,slow=7.4,SNR=4.3								
KURK	**Kurchatov**	**45.48**	**307**	*e*P		**P**	**21 50 50.1**	**-0.2**	
KURBB	**Kurchatov Arra**	**45.55**	**307**	P		**P**	**21 50 49.9**	**-1.1**	
	3.5nm,0.6s,baz=82,slow=8.6,SNR=5.8								
AAK	**Ala-Archa**	**50.22**	**298**	*e*P		**P**	**21 51 27.8**	**+0.3**	
	7.7nm,1.5s								
ABKAR	**Akbulak array**	**57.44**	**310**	*e*P		**P**	**21 52 19.0**	**-0.8**	
	1.6nm,0.8s								
WRA	**Warrannga Arr**	**58.22**	**188**	P		**P**	**21 52 25.2**	**-0.3**	
	1.0nm,0.5s,baz=5.7,slow=7.3,SNR=9.9								
ASAR	**Alice Springs**	**61.94**	**188**	P		**P**	**21 52 50.8**	**-0.2**	
	0.7nm,0.8s,baz=14,slow=7.8,SNR=4.5								
FINES	**FINESS Array B**	**67.96**	**332**	P		**P**	**21 53 29

ISC 16 21:46:26.4±1.0, 40°26N×143°05E±0°08, h12km, n26, σ1°35/29, mb4.0/9, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID	Time	Res
				Op ISC	h m s	ISC
JTH	Tanohata	0.97	251	P Pg	21 46 44.6	-0.5
MIYJ	Miyakonagasawa	1.17	235	P Pn	21 46 47.5	-1.1
JANG	Nango	1.18	276	P Pn	21 46 47.9	-0.9
JKZ	Kuzumaki	1.35	259	P Pn	21 46 50.6	-0.5
JOM	Ohasama	1.57	240	P Pn	21 46 54.0	-0.1
JTM	Tenmabayashi	1.60	290	P Pn	21 46 54.9	+0.3
JTM				eS Sn	21 47 14.3	-0.9
ERM	Erimo	1.75	3	ePn Pn	21 46 55.7	-1.0
JEM	Erimo	1.76	3	P Pb	21 46 58.7	+0.1
JEM				eS Sb	21 47 20.2	-0.4
JAH	Hinai	1.85	269	P Pn	21 46 58.5	+0.5
JOT	Ohata	1.89	307	P Pn	21 46 59.4	+0.9
JOT				eS Sn	21 47 22.8	+0.5
JMK	Ichinoseki	1.93	228	P Pn	21 47 00.1	+1.1
JRG	Rokugo	2.05	246	P Pb	21 47 02.8	-0.8
MJAR	Matsushiro Arr	5.32	227	Pn Pn	21 47 48.2	+2.6
	1.6nm,0.3s,baz=29,slow=13,SNR=9.6					
MAJO	Matsushiro	5.32	227	ePn Pn	21 47 48.1	+2.5
MAT	Matsushiro	5.32	227	P Pn	21 47 48.2	+2.6
USRK	Ussuriysk Ar.	9.10	299	Pn Pn	21 48 41.4	+3.9
	0.4nm,0.3s,baz=106,slow=15,SNR=5.8					
TATO	Taipei	23.62	236	eP P	21 51 38.8	+1.5
	6.3nm,0.7s					
SONM	Songino Array	27.21	298	P P	21 52 10.6	+0.4
	0.5nm,0.6s,baz=85,slow=8.6,SNR=2.5					
ZALV	Zalesovo Beam	40.77	310	P P	21 54 07.5	+0.3
	0.8nm,0.4s,baz=83,slow=11,SNR=3.2					
KURK	Kurchatov	45.02	306	P P	21 54 42.5	+0.9
KURBB	Kurchatov Arra	45.10	306	P P	21 54 42.5	+0.3
	1.9nm,0.4s,baz=80,slow=8.6,SNR=5.7					
BVAR	Borovoye Array	49.40	311	P P	21 55 16.1	+0.3
	1.0nm,0.6s,baz=87,slow=8.1,SNR=5.0					
WRA	Warramunga Arr	60.44	189	P P	21 56 35.2	-0.7
	0.3nm,0.5s,baz=9.1,slow=7.2,SNR=4.6					
FINES	FINESS Array B	66.56	332	P P	21 57 14.8	-1.1
	2.3nm,0.9s,baz=11,slow=8.5,SNR=3.0					
NOA	NORSAR Array B	71.70	338	P P	21 57 47.8	-0.1
	0.9nm,0.9s,baz=35,slow=6.1,SNR=3.3					
TRI	Trieste	83.12	327	eP P	21 58 51.4	-0.7
	2.1nm,0.6s					

CSEM 16 21:47:41.4, 36.05N×25.07E, h20km, ML1.8/2

ATH 16 21:47:41.4, 36.05N×25.07E, h20km±7km, ML1.8/2, Error ellipse: s-maj=7.2km s-min=0.7km az=84.0, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID	Time	Res
				Op ISC	h m s	ISC
SAP1	Santorini-Akro	0.40	41	P Pb	21 47 50.3	+0.4
SAP1				S Sb	21 47 55.8	+0.2
SAP1	Santorini-Akro	0.40	41	P Pb	21 47 50.4	+0.5
SAP1				S Sb	21 47 55.8	+0.3
SAP1				AML AML	21 47 56.3	
	comp=N,444μm,0.2s					
SAP1				AML AML	21 47 56.6	
	comp=E,529μm,0.2s					
SANT	Santorini	0.45	45	P Pb	21 47 50.6	-0.1
SANT				S Sb	21 47 56.8	-0.1
SANT	Santorini	0.45	45	P Pb	21 47 50.6	0.0
SANT				S Sb	21 47 56.9	0.0
SANT				AML AML	21 47 57.7	
	comp=N,160μm,0.2s					
SANT				AML AML	21 48 02.8	
	comp=E,210μm,0.3s					
IDI	Anoyia	0.78	191	P Pb	21 47 56.6	+0.3
IDI				S Sb	21 48 07.3	+0.9
IDI	Anoyia	0.78	191	P Pb	21 47 56.6	+0.3
IDI				S Sb	21 48 07.3	+0.9
NPS	Neapolis	0.91	150	P Pn	21 47 58.8	-0.2
NPS	Neapolis	0.91	150	P Pn	21 47 58.8	-0.3
LAST	Lasithi	0.95	159	P Pn	21 47 59.5	-0.2
LAST				S Sn	21 48 13.1	+0.4
LAST	Lasithi	0.95	159	P Pn	21 47 59.5	-0.2
LAST				S Sn	21 48 13.1	+0.4
VAM	Vamos	0.96	228	P Pn	21 47 59.6	-0.1
VAM	Vamos	0.96	228	P Pn	21 47 59.6	-0.1
SIVA	Sivas	1.05	192	P Pb	21 48 00.9	-0.1
SIVA	Sivas	1.05	192	P Pb	21 48 00.9	-0.1
IMMV	Iera Moni Meta	1.06	237	P Pn	21 48 02.0	+0.8
IMMV	Iera Moni Meta	1.06	237	P Pn	21 48 02.0	+0.8
APE	Apeiranthos	1.08	20	P Pn	21 48 02.0	+0.5
APE				S Sn	21 48 16.8	+0.9
APE	Apeiranthos	1.08	20	P Pn	21 48 02.0	+0.6
APE				S Sn	21 48 16.8	+0.9

NEIC 16 21:50:07.0±0.0, 11.62S×77.76W, h64km, mb4.0/5, After ARE.
NEIC Felt [IV] at Barranca and [III] at Lima. Also felt at Chosica and Huacho.
IDC 16 21:50:08.4±1.4, 11.46S×77.47W, h76km±7km, mb3.6/6, mb1 3.8/9, mb1mx3.6/36, mbtmp4.0/9, Error ellipse: s-maj=37.5km s-min=11.2km az=59.0

ISC 16 21:50:06.8±1.1, 11.5S±0.1×77.7W±0.1, h58km, n19, σ1°50/21, mb4.1/9, Near coast of Peru

Code	Station Name	Δ°	AZ°	Phase ID	Time	Res
				Op ISC	h m s	ISC
NNA	Nana	0.91	120	P Pn	21 50 25.5	+1.9
NNA				S Sn	21 50 38.4	+2.3
	1μm,0.3s,baz=74,slow=23,SNR=35					
ATAH	Atahualpa	4.42	350	P Pn	21 51 13.6	+1.8
	14nm,0.3s,baz=156,slow=4.0,SNR=65					
ATAH				S Sn	21 52 04.6	+2.4
	10nm,0.3s,baz=334,slow=22,SNR=4.4					
LPAZ	La Paz	10.38	118	P Pn	21 52 33.6	0.0
	0.6nm,0.3s,baz=280,slow=7.5,SNR=3.3					
LPAZ	La Paz	10.38	118	ePn Pn	21 52 33.5	-0.1
PB11	IPOC Station P	11.23	138	ePn Pn	21 52 44.0	-0.8
OTAV	Otavalo	11.71	356	ePn Pn	21 52 52.1	+0.5
LVC	Limon Verde	13.82	144	Pn Pn	21 53 20.7	+0.4
SIV	San Ignacio	16.70	107	P Pn	21 53 56.8	-0.2
	0.2nm,0.3s,baz=292,slow=14,SNR=9.8					
RUSC	La Rusia	17.89	15	ePn P	21 54 10.1	-2.1
	4.3nm,1.1s					
PTGA	Pitinga	20.57	60	P P	21 54 37.8	-3.2
	6.2nm,0.6s,baz=240,slow=11,SNR=14					
SDV	Santo Domingo	21.44	19	eP P	21 54 51.6	+1.0
	5.0nm,0.6s					
CPUP	Villa Florida	24.16	130	P P	21 55 17.7	+0.1
	3.5nm,0.9s,baz=347,slow=9.2,SNR=3.9					
TXAR	Lajitas Array	47.76	329	P P	21 58 38.4	0.0
	0.3nm,0.9s,baz=154,slow=8.9,SNR=4.0					
KSU1	Kansas State U	53.38	342	eP P	21 59 20.9	+0.4
	3.5nm,0.6s					
SDCO	Great Sand Dun	55.53	333	P P	21 59 36.1	-0.4
	0.2nm,0.4s					
PDAR	Pinedale Array	61.42	334	P P	22 00 15.7	-1.7
	0.3nm,0.5s,baz=134,slow=7.7,SNR=2.1					
WALA	Waterton Lakes	68.27	335	eP P	22 01 01.4	-0.3
	2.6nm,1.0s					
DBIC	Dimbokro	74.62	80	P P	22 01 39.6	-0.9
	1.6nm,0.7s,baz=251,slow=9.3,SNR=4.8					
TORD	Torodi Ar. Bea	82.43	75	P P	22 02 22.2	-1.3
	1.4nm,0.6s,baz=271,slow=6.0,SNR=16					

ISCJB 16 21:57:02.1±0.3, 36.66N±0.02×77.25E±0.05, h100km, mb3.8/7, Error ellipse: s-maj=5.7km s-min=3.1km az=174.0
BJI 16 21:57:05.1, 36.84N×77.15E, h100km, mb3.8/1
NNC 16 21:57:07.7±4.0, 36.93N×77.31E, h127km±39km, mb3.2, mpv3.8, Error ellipse: s-maj=55.4km s-min=31.3km az=73.0
IDC 16 21:57:07.3±3.9, 36.82N×76.88E, h110km±32km, mb3.6/8, mb1 3.6/12, mb1mx3.3/54, mbtmp3.9/12, Error ellipse: s-maj=27.0km s-min=19.6km az=147.0

ISC 16 21:57:03.1±0.6, 36.59N±0.04×77.21E±0.07, h100km, n45, σ2°36/56, mb3.7/7, 4C-6D, Kashmir-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID	Time	Res
				Op ISC	h m s	ISC
KSH	Kashi	3.08	342	↓iP P	21 57 48.0	-2.0
KSH				S Sn	21 58 18.3	-7.9
KSH				smax smax		
	comp=N,680nm,0.5s					
KSH				smax smax		
	comp=E,680nm,0.8s					
THN	Thein Dam	4.33	197	eP Pn	21 58 09.0	+2.3
THN				eS Sn	21 58 56.6	+0.6
CHCP	Chirah Chowk	4.36	229	P Pn	21 58 10.4	+3.2
PONG	Pong	4.74	193	eS Sn	21 59 07.0	+0.9
SDNR	Sundarnagar	5.08	182	eP Pn	21 58 21.0	+4.0
SDNR				eS Sn	21 59 15.0	+0.6
CEP	Cherat	5.14	239	P Pn	21 58 19.0	+1.2
BHK	Bhakra	5.20	187	eP Pn	21 58 20.8	+2.2
THW	Thamme Wali	5.88	232	P Pn	21 58 28.8	+1.0
SARP	Sargodha	5.98	220	P Pn	21 58 31.2	+2.1
AAK	Ala-Archa	6.39	342	P Pn	21 58 35.5	+0.7
	1.7nm,0.3s,baz=146,slow=9.2,SNR=9.3					
AAK				S Sn	21 59 43.6	-2.8
	2.4nm,0.3s,baz=42,slow=20,SNR=8.8					
AAK	Ala-Archa	6.39	342	↑P Pn	21 58 35.8	+1.0
	6.0nm,0.7s					
AAK				↑S Sn	21 59 43.8	-2.6
	34nm,0.8s					
TKM2	Tokmak 2	6.44	349	↓P Pn	21 58 36.6	+1.0
	5.0nm,0.6s					
TKM2				↑S Sn	21 59 45.6	-2.1
	9.4nm,0.9s					
KALG	Kalgarh	7.18	169	eP Pn	21 58 44.1	-1.4
KALG				eS Sn	21 59 58.6	-6.9
KK31	Karatay Array	8.29	324	P Pn	21 59 00.5	0.0
	2.0nm,0.3s,baz=129,slow=11,SNR=46					
KK31				S Sn	22 00 34.6	+2.2
	6.7nm,0.3s,baz=34,slow=73,SNR=6.5					
SONA	Sohna	8.32	181	eP Pn	21 59 03.3	+2.4
SONA				eS Sn	22 00 28.8	-4.3
SONA				IAML	22 00 34.5	
	comp=E,44nm,0.4s					
SONA				IAML	22 00 35.5	
	comp=N,38nm,0.5s					
KUDL	Kundal	8.44	184	eP Pn	21 59 03.4	+0.8
KUDL				eS Sn	22 00 32.9	-3.3
KUDL				IAML	22 00 38.8	
	comp=N,20nm,0.1s					
KUDL				IAML	22 00 39.3	
	comp=E,18nm,0.3s					
KHET	Khetri	8.57	188	eP Pn	21 59 05.2	+0.7
KHET				eS Sn	22 00 35.9	-3.5
KHET				IAML	22 00 39.5	
	comp=E,38nm,0.4s					
KHET				IAML	22 00 40.4	
	comp=N,32nm,0.5s					
PYUN	Piuthan	9.77	148	eP Pn	21 59 22.2	+1.3
	comp=N,54nm,0.3s					
KOLN	Koldanda	10.32	147	eP Pn	21 59 29.9	+1.5
	comp=N,13nm,0.4s					
GKN	Gorkha	10.62	142	eP Pn	21 59 33.5	+1.1
	comp=N,8.1nm,0.2s					
WMQ	Urumqi	10.79	45	P Pn	21 59 35.0	+0.5
WMQ				PP	21 59 43.8	
WMQ				S Sn	22 01 31.1	-2.1
WMQ				LR LR		
	comp=N,7μm,17.7s					
WMQ				LR LR		
	comp=N,6μm,12.1s					
WMQ				LR LR		
	comp=N,3μm,14.9s					
MAKZ	Makanchi	10.81	18	↓Pn Pn	21 59 33.9	-0.9
	comp=N,1.8nm,0.5s					
MAKZ				↑Lg Lg	22 01 29.0	
	comp=N,5.8nm,1.1s					
MK31	Makanchi Array	10.88	19	Pn Pn	21 59 35.2	-0.4
	comp=N,0.4nm,0.2s,baz=198,slow=12,SNR=49					
MK31				↓Pg	21 59 56.8	
	comp=N,1.9nm,0.7s,baz=196,slow=15,SNR=5.9					
MK31				Lg Lg	22 01 28.1	
	comp=N,4.7nm,0.6s,baz=206,slow=24,SNR=4.8					
KKN	Kakani	11.12	140	eP Pn	21 59 40.0	+0.8
	comp=N,6.6nm,0.4s					
DMN	Daman	11.18	141	eP Pn	21 59 40.2	+0.2
PKIN	Phulchoki	11.35	140	eP Pn	21 59 43.2	+0.8
	comp=N,6.4nm,0.4s					
PKI	Pulchoki	11.36	140	eP Pn	21 59 43.6	+1.0
	comp=N,4.3nm,0.2s					
JIRN	Jiri	11.71	137	eP Pn	21 59 47.9	+0.6
	comp=N,23nm,0.4s					
RAMN	Ramite	12.49	138	eP Pn	21 59 56.9	-0.6
	comp=N,6.0nm,0.3s					
KURBB	Kurchatov Arra	14.06	3	P Pn	22 00 15.5	-2.1
	comp=N,0.1nm,0.3s,baz=189,slow=12,SNR=7.1					
GEYT	Alibeck	15.26	281	P Pn	22 00 29.2	-3.9
	comp=N,0.4nm,0.3s,baz=91,slow=9.9,SNR=6.3					
GEYT				S Sn	22 03 08.0	-14
	comp=N,0.3nm,0.3s,baz=76,slow=30,SNR=3.2					
BVAR	Borovoye Array	17.12	346	P Pn	22 00 55.8	-0.1
	comp=N,0.3nm,0.3s,baz=156,slow=11,SNR=8.9					
AB31	Akbulak array	17.84	321	↓P P	22 01 04.5	+0.6
	comp=N,0.6nm,0.3s,baz=126,slow=12,SNR=42					
ZALV	Zalesovo Beam	18.15	15	P P	22 01 07.2	-0.1
	comp=N,0.4nm,0.3s,baz=201,slow=11,SNR=6.4					
AKTO	Aktyubinsk	19.55	321	P P	22 01 22.6	-0.1
	comp=N,0.8nm,0.3s,baz=117,slow=14,SNR=8.4					
AKTO	Aktyubinsk	19.55	321	↓P P	22 01 22.9	+0.2
	comp=N,2.5nm,0.6s					
WSAR	Wadi Sarin	20.84	235	P Pn	22 01 39.6	-0.6
	comp=N,1.0nm,0.7s,baz=65,slow=5.1,SNR=6.0					
SONM	Songino Array	24.22	53	P P	22 02 14.9	+4.4
	comp=N,2.0nm,0.8s,baz=250,slow=10,SNR=15					
BRTR	Keskin Array B	34.15	289	P P	22 03 40.1	+1.4
	comp=N,0.4nm,0.4s,baz=99,slow=8.9,SNR=3.6					
AKASG	Malin Array Be	36.81	308	P P	22 04 00.9	-0.2
	comp=N,0.3nm,0.3s,baz=75,slow=8.1,SNR=6.2					
FINES	FINESS Array B	40.25	325	P P	22 04 30.3	+0.5
	comp=N,1.2nm,0.3s,baz=110,slow=8.8,SNR=21					
ARCES	ARCESS Array B	43.03	336	P P	22 04 53.6	+1.3
	comp=N,1.6nm,0.6s,baz=98,slow=8.7,SNR=3.8					
NB2	NORSAR Subarra	47.32	323	P P	22 05 27.1	+0.7
	comp=Z,0.4nm,0.5s,baz=91,slow=7.9					
NOA	NORSAR Array B	47.32	323	P P	22 05 27.4	+0.9
	comp=Z,0.6nm,0.7s,baz=92,slow=7.7,SNR=4.0					
TORD	Torodi Ar. Bea	70.71	272	P P	22 08 09.3	+0.7
	comp=Z,1.7nm,0.6s,baz=47,slow=5.8,SNR=52					

JMA 16 21:59:15.6±0.2, 40.22N×143.08E, h10km±2km, M3.7, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID	Time	Res
				Op ISC	h m s	ISC
JTH	Tanohata	0.97	254	P Pg	21 59 34.0	-0.3
MIYJ	Miyakonagasawa	1.16	237	P Pb	21 59 37.0	-0.8
MIYJ				eS Sb	21 59 52.0	-0.9
JANG	Nango	1.21	278	P Pb	21 59 37.7	-0.8
JKZ	Kuzumaki	1.36	261	P Pn	21 59 40.3	-0.4
JOM	Ohasama	1.56	242	P Pn	21 59 43.7	+0.2
JTM	Tenmabayashi	1.64	291	P Pn	21 59 44.9	+0.5
JEM	Erimo	1.79	2	P Pn	21 59 46.6	0.0
JAH	Hinai	1.87	270	P Pn	21 59 48.5	+0.8
JMK	Ichinoseki	1.92	229	P Pn	21 59 49.0	+0.7
JOT	Ohata	1.93	308	P Pn	21 59 49.1	+0.6
JRG	Rokugo	2.06	247	P Pb	21 59 52.2	-0.8

IDC 16 22:05:45.9±0.7, 27.06N×143.29E, h0km, mb4.2/19, mb1 4.4/21, mb1mx4.3/52, mbtmp4.3/21, ML4.0/2, MS4.8/1, Ms1 4.8/1, ms1mx3.3/52, Error ellipse: s-maj=21.3km s-min=17.8km az=77.0
NEIC 16 22:05:47.4±0.4, 27.05N×143.34E, h10km, mb4.5/5, Error ellipse: s-maj=9.3km s-min=9.0km az=166.0
ISCJB 16 22:05:49.0±0.5, 27.11N±0.07×143.36E±0.07, h33km, mb4.5/30, MS4.8/1, Error ellipse: s-maj=10.9km s-min=8.4km az=163.0

ISC 16 22:05:51.4±0.6, 27.18N±0.08×143.27E±0.08, h35km, n49, σ1°08/51, mb4.4/30, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase ID	Time	Res
				Op ISC	h m s	ISC
CBIJ	Chichi jima	0.97	265	ePn Pn	22 06 09.1	+0.5
CBIJ				eSn Sn	22 06 21.7	+0.5
JHJ	Hachijo jima 2	6.64	334	Pn Pn	22 07 25.7	-0.9
	7.4nm,0.3s,baz=320,slow=18,SNR=1.7					
JHJ				Sn Sn	22 08 36.8	-4.2
	17nm,0.3s,baz=70,slow=14,SNR=1.2					
MJAR	Matsushiro Arr	10.28	337	Pn Pn	22 08 17.6	+1.2
	1.8nm,0.3s,baz=174,slow=13,SNR=4.7					
YULB	Yu-li	20.22	264	eP P	22 10 23.8	+0.3
	8.5nm,0.5s					
SSLB	Suanglung	20.43	265	eP P	22 10 26.4	+0.6
	18nm,0.4s					
SONM	Songino Array	35.33	316	P P	22 12 44.7	+1.3
	2.0nm,0.7s,baz=114,slow=8.0,SNR=7.2					
SKNT	Sakolnakorn	37.66	263	P P	22 13 04.3	+0.8
	23nm,1.1s					
TLY	Talaya	38.49	320	P P	22 13 10.9	+0.8
	3.4nm,0.6s,baz=93,slow=3.3,SNR=4.1					
CHAI	Chaiyaphum	39.84	262	P P	22 13 22.5	+0.7
	5.5nm,0.9s					
PBKT	Sadao Pong	40.48	264	P P	22 13 27.9	+0.8
	107nm,0.8s					
SRAK	Srakaew	40.57	260	P P	22 13 24.6	-3.2
	67nm,0.8s					
CMMT	Chiang Mai	41.47	268	P P	22 13 35.8	+0.5
	20nm,0.7s					
CHTO	Chiang Mai	41.48	268	P P	22 13 35.9	+0.6
	374nm,1.0s					
CMAR	Chiang Mai Arr	41.60	268	P P	22 13 36.6	+0.3
	1.5nm,0.6s,baz=59,slow=8.3,SNR=10					
WRA	Warramunga Arr	47.64	191	P P	22 14 23.1	-1.2
	11nm,0.5s,baz=11,slow=8.0,SNR=6.6					
FITZ	Fitzroy Crossi	48.16	203	LR LR	22 34 05.8	
	comp=Z,1μm,19.2s,baz=288,slow=35					
PSI	Prapat	48.83	248	P P	22 14 33.7	-0.2
	3.9nm,0.3s,baz=37,slow=5.2,SNR=5.4					
ODAN	Odare	49.42	283	eP P	22 14 38.5	+0.1
	15nm,0.5s					
ZALV	Zalesovo Beam	50.06	319	P P	22 14 43.5	+0.9
	0.9nm,0.4s,baz=96,slow=6.6,SNR=3.8					
ZALV				PcP PcP	22 16 01.9	0.0
	1.6nm,0.5s,baz=110,slow=2.9,SNR=5.1					
RAMN	Ramite	50.08	283	eP P	22 14 43.3	-0.1
	8.1nm,0.4s					
JIRN	Jiri	50.27	284	eP P	22 14 45.6	+0.6
	36nm,0.6s					
GUN	Gumba	50.48	285	eP P	22 14 47.0	+0.4
	26nm,0.5s					
GSI	Gunungsitoli	50.78	247	eP P	22 14 46.7	-1.8
	74nm,0.8s					
PKI	Pulchoki	50.96	285	eP P	22 14 49.8	-0.4
PKIN	Phulchoki	50.97	285	eP P	22 14 49.7	-0.5
KKN	Kakani	51.02	285	eP P	22 14 50.5	0.0
DMN	Daman	51.22	285	eP P	22 14 52.1	+0.1
GKN	Gorkha	51.52	285	eP P	22 14 54.2	0.0
	22nm,1.0s					
KOLN	Koldanda	52.47	285	eP P	22 15 01.5	+0.2
	7.9nm,0.7s					
PYUN	Piuthan	52.91	286	eP P	22 15 04.8	+0.2
ILAR	Eielson Array	57.17	29	P P	22 15 34.0	-0.4
	1.0nm,1.0s,baz=271,slow=6.0,SNR=5.0					
BVAR	Borovoye Array	58.64	317	P P	22 15 45.7	+0.7
	4.2nm,0.6s,baz=96,slow=7.6,SNR=15					
STKA	Stephens Creek	58.75	182	P P	22 15 44.5	-1.3
	2.3nm,0.7s,baz=325,slow=10,SNR=4.5					
KKAR	Karatay Array	59.82	306	eP P	22 15 52.5	-0.9
	1.9nm,0.6s					
ARU	Arti	64.95	322	eP P	22 16 27.8	+0.4
	2.6nm,0.8s					
AKTO	Aktyubinsk	66.64	316	P P	22 16 38.9	+0.5
	2.7nm,0.7s,baz=88,slow=16,SNR=8.0					
RAO	Raoul Island	67.31	144	eP P	22 16 41.9	-0.9
	91nm,0.5s					
GEYT	Alibeck	70.27	303	P P	22 17 02.4	+1.1
	1.9nm,0.8s,baz=354,slow=1.5,SNR=6.5					
YKA	Yellowknife Ar	71.60	29	P P	22 17 09.9	+1.0
	0.6nm,0.6s,baz=296,slow=6.1,SNR=2.7					
FINES	FINESS Array B	78.30	334	P P	22 17 48.0	+0.4
	1.8nm,0.5s,baz=71,slow=5.9,SNR=9.4					
KBZ	Khabaz	78.66	313	P P	22 17 49.3	-0.6
	4.4nm,0.8s,baz=61,slow=3.8,SNR=12					
KIV	Kislovodsk	78.69	314	eP P	22 17 49.4	-0.8
	4.3nm,0.8s					
AKASG	Malin Array Be	83.12	324	P P	22 18 12.9	-0.6
	2.2nm,0.5s,baz=47,slow=6.6,SNR=4.2					
PDAR	Pinedale Array	83.47	45	P P	22 18 17.6	+1.8
	0.3nm,0.8s,baz=336,slow=4.0,SNR=3.1					
NOA	NORSAR Array B	83.89	339	P P	22 18 17.4	0.0
	0.5nm,0.6s,baz=46,slow=5.0,SNR=2.7					
BRTR	Keskin Array B	86.65	313	P P	22 18 31.8	0.0
	0.7nm,0.7s,baz=93,slow=2.5,SNR=3.7					
TXAR	Lajitas Array	94.77	54	P P	22 19 10.6	+0.7
	0.1nm,0.5s,baz=350,slow=2.8,SNR=3.9					
TORD	Torodi Ar. Bea	125.25	312	PKP PKPdf	22 24 48.8	-0.4
	0.2nm,0.4s,baz=8.4,slow=0.9,SNR=10					
LPAZ	La Paz	148.96	76	PKPbc PKPbc	22 25 37.7	+0.5
	2.2nm,0.7s,baz=284,slow=2.6,SNR=11					

ISCJB 16 22:06:33.1±0.4, 40.05N±0.04×143.53E±0.05, h6km, mb4.2/21, Error ellipse: s-maj=6.6km s-min=4.2km az=40.4
IDC 16 22:06:34.0±2.4, 40.10N×143.53E, h0km, mb4.0/8, mb1 4.2/10, mb1mx3.8/56, mbtmp4.1/10, ML3.2/2, Error ellipse: s-maj=52.0km s-min=25.7km az=151.0
JMA 16 22:06:35.4±0.2, 40.10N×143.39E, h12km±3km, M4.3
NEIC 16 22:06:40.0±0.8, 40.02N×143.46E, h47km±7km, mb4.1/12, Error ellipse: s-maj=7.6km s-min=6.9km az=112.0

ISC 16 22:06:34.8±0.6, 40.08N±0.05×143.47E±0.06, h6km, n55, σ1°08/54, mb4.2/21, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID	Time	Res
				Op ISC	h m s	ISC
JTH	Tanohata	1.24	264	P Pg	22 06 57.3	-1.3
MIYJ	Miyakonagasawa	1.37	249	P Pn	22 06 59.7	-0.7
JANG	Nango	1.53	282	P Pn	22 07 01.6	-1.0
JOM	Ohasama	1.78	251	P Pn	22 07 06.0	-0.1
JOM				eS Sn	22 07 29.1	0.0
ERM	Erimo	1.95	353	ePn Pn	22 07 11.0	+0.3
JEM	Erimo	1.95	353	P Pn	22 07 09.0	+0.6
JTM	Tenmabayashi	1.97	292	P Pn	22 07 08.4	-0.2
JMK	Ichinoseki	2.07	238	P Pn	22 07 09.9	-0.2
JAH	Hinai	2.18	274	P Pn	22 07 11.8	+0.3
JOT	Ohata	2.26	306	P Pn	22 07 12.7	+0.1
JNBK	Urakawa-nobuka	2.27	346	P Pn	22 07 12.8	0.0
JRG	Rokugo	2.29	254	P Pn	22 07 13.3	+0.2
JCH	Churui	2.54	358	P Pn	22 07 16.4	-0.1
JCH				eS Sn	22 07 46.7	-1.0
JKB	Kayabe	2.58	315	P Pn	22 07 17.6	+0.5
JKB				eS Sn	22 07 47.1	-1.7
JYK	Kaneyama	2.67	245	P Pn	22 07 18.4	+0.1
JYK				eS Sn	22 07 49.9	-1.1
JOU	Okura	2.77	233	P Pn	22 07 19.7	0.0
JFT	Otama	3.54	225	P Pn	22 07 30.1	-0.2
MAJO	Matsushiro	5.44	231	ePn Pn	22 07 57.0	+0.6
	28nm,0.6s					
MAT	Matsushiro	5

BVAR **Borovoye Array** 49.76 311 P P 22 15 27.7 -0.1
1.7nm,0.7s,baz=63,slow=14,SNR=9.5
BRVK **Borovoye** 49.82 311 *e*P P 22 15 28.3 0.0
9.0nm,0.8s
COEN **Coen** 53.76 180 *e*P P 22 15 57.1 -0.8
ARU **Arti** 55.18 318 *e*P P 22 16 08.0 +0.1
1.6nm,0.8s
DLBC **Dease Lake** 55.25 40 *e*P P 22 16 08.1 -0.4
1.4nm,0.9s
ABKAR **Akbulak array** 57.24 309 *e*P P 22 16 22.6 -0.1
4.8nm,0.6s
ABKAR *e*pP sP 22 16 33.3 +7.9
MBWA **Marble Bar** 64.82 205 *e*P P 22 17 13.5 -0.9
8.9nm,0.5s
NEW **Newport** 66.84 46 *e*P P 22 17 27.3 -0.1
1.0nm,0.6s
FINES **FINESS Array B** 66.87 332 P P 22 17 27.1 -0.2
2.2nm,0.8s,baz=60,slow=7.5,SNR=6.2
NB2 **NORSAR Subarra** 72.00 338 P P 22 17 58.8 -0.2
comp=Z,0.6nm,0.6s,baz=36,slow=6.2
NOA **NORSAR Array B** 72.00 338 P P 22 17 58.9 -0.2
comp=Z,1.2nm,0.8s,baz=37,slow=6.0,SNR=5.0
HWUT **Hardware Ranch** 74.00 49 P P 22 18 11.5 +0.1
comp=Z,3.0nm,1.0s
DUG **Dugway, Tooele** 74.16 51 *e*P P 22 18 11.7 -0.6
comp=Z,1.5nm,0.8s
ISCO **Idaho Springs** 78.59 47 *e*P P 22 18 36.6 -1.1
comp=Z,0.6nm,0.3s
CLL **Collm** 79.25 331 *e*P P 22 18 41.0 +0.4
GERES **GERESS Array B** 80.96 329 P P 22 18 49.9 -0.2
comp=Z,0.4nm,0.6s,baz=53,slow=7.0,SNR=4.3

BJI **16** *22:09:25.5,5.˚55S×129.˚81E,h242km,mb4.4/27,mB5.1/7*
IDC **16** *22:09:29.7±1.1,5.˚11S×129.˚42E,h224km±11km,mb4.2/27, mb1 4.2/32,mb1mx4.2/44,mbtmp4.8/32,Error ellipse: s-maj=11.0km s-min=6.1km az=78.0*
ISCJB **16** *22:09:30.4±0.3,5.˚08S±0.˚02×129.˚50E±0.˚03,h248km±2km, mb4.6/74,Error ellipse: s-maj=4.3km s-min=3.2km az=160.4*
MOS **16** *22:09:30.4±1.2,5.˚05S×129.˚39E,h244km,mb4.8/10,Error ellipse: s-maj=10.8km s-min=7.0km az=104.6*
DJA **16** *22:09:31.3±0.2,5.˚S±2.˚×13.˚0E±.˚,h234km±2km,M4.9/46, mb4.9/46,mB5.4/13,MLv5.1/12,Mw(mB)4.8/13*
NEIC **16** *22:09:31.9±0.5,5.˚09S×129.˚44E,h248km±6km,mb4.8/30, Error ellipse: s-maj=5.6km s-min=4.7km az=48.0*
KLM **16** *22:09:34.2,5.˚34S×129.˚27E,h267km,mb4.9*
ISC 16 22:09:31.1±0.4,5.˚10S±0.˚03×129.˚50E±0.˚04,h240km±3km, h241km:pP-P,n232,σ1ş50/259,mb4.6/73,12C-5D,Banda Sea

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
MSAI	**Masohi**	**1.83**	**342**	P		P	Pn	22 10 11.1	-0.1
MSAI				S		S	S	22 10 39.6	-3.1
AAI	**Ambon**	**1.91**	**317**	P		P	Pn	22 10 12.3	+0.4
AAI	**Ambon**	**1.91**	**317**	P		P	Pn	22 10 12.0	+0.1
NLAI	**Namlea**	**3.02**	**308**	P		P	Pn	22 10 23.8	+0.7
NLAI				S		S	S	22 11 04.6	+0.4
SAUI	**Saumlaki**	**3.38**	**148**	P		S	S	22 11 07.5	-4.1
SAUI	**Saumlaki**	**3.38**	**148**	*e*Pn		Pn	Pn	22 10 29.3	+2.1
SAUI				*e*S		S	S	22 11 09.5	-2.2
FAKI	**Fak Fak**	**3.50**	**52**	P		P	Pn	22 10 28.6	+0.1
FAKI				S		S	S	22 11 11.4	-2.6
FAKI	**Fak Fak**	**3.50**	**52**	*e*Pn		Pn	Pn	22 10 28.4	-0.1
SIJI	**Sorong**	**4.55**	**23**	P		P	Pn	22 10 40.6	-0.5
	18nm,0.3s,baz=270,slow=24,SNR=63								
SIJI				S		S	S	22 11 32.1	-4.7
	14nm,0.3s,baz=90,slow=24,SNR=47								
SANI	**Sanana**	**4.63**	**311**	P		P	Pn	22 10 41.3	-0.7
SANI				S		S	S	22 11 34.0	-4.3
LBMI	**Labuha**	**4.86**	**336**	P		P	Pn	22 10 43.9	-0.9
LBMI				S		S	S	22 11 43.7	+0.3
BBSI	**Bau Bau**	**6.91**	**266**	P		P	Pn	22 11 10.6	+0.1
KDI	**Kendari**	**6.95**	**279**	P		P	Pn	22 11 12.4	+1.4
	80nm,0.9s,0.2nm								
SOEI	**Soe**	**6.95**	**228**	P		P	Pn	22 11 11.8	+0.6
SOEI	**Soe**	**6.95**	**228**	*e*Pn		Pn	Pn	22 11 13.0	+1.8
BATI	**Baumata**	**7.69**	**228**	P		P	Pn	22 11 21.5	+1.0
MTN	**Manton Dam**	**7.87**	**168**	P		P	Pn	22 11 21.8	-0.9
	baz=7.9,SNR=247								
MTN	**Manton Dam**	**7.87**	**168**	*e*Pn		Pn	Pn	22 11 21.8	-0.9
KMSI	**Cibinong**	**7.88**	**315**	P		P	Pn	22 11 23.4	+0.5
MMRI	**Maumere**	**8.02**	**244**	P		P	Pn	22 11 26.4	+1.8
	175nm,1.2s,2μm								
MMRI	**Maumere**	**8.02**	**244**	*e*Pn		Pn	Pn	22 11 25.8	+1.1
KDU	**Kakadu**	**8.10**	**159**	P		P	Pn	22 11 24.9	-0.6
	baz=8.1,SNR=85								
BSSI	**Bau Bau, Buton**	**9.02**	**263**	P		P	Pn	22 11 37.9	+0.5
MRSI	**Marisa**	**9.36**	**306**	P		P	Pn	22 11 41.7	0.0
	243nm,0.7s,6μm								
SMPI	**Sarmi**	**9.70**	**72**	P		P	P	22 11 50.9	-1.8
KAPI	**Kappang**	**9.71**	**270**	*e*Pn		Pn	Pn	22 11 48.4	+2.3
	38nm,1.0s								
SPSI	**Sidrap Palu**	**9.76**	**276**	P		P	Pn	22 11 47.9	+1.1
	72nm,0.9s								
TTSI	**Tana Toraja**	**9.87**	**282**	P		P	Pn	22 11 51.0	+2.9
	76nm,0.9s								
WSI	**Waingapu**	**10.19**	**243**	P		P	P	22 11 59.3	+1.1
PCI	**Palu**	**10.50**	**293**	P		P	P	22 12 00.1	-1.6
	84nm,0.9s								
PCI	**Palu**	**10.50**	**293**	P		P	P	22 12 00.1	-1.6
PCI					pmax		pmax		
	comp=Z,84nm,0.9s								
KNRA	**Kununurra**	**10.54**	**184**	P		P	Pn	22 11 55.7	-0.9
	baz=10,SNR=88								
JAY	**Jayapura**	**11.47**	**78**	P		P	Pn	22 12 09.9	+1.5
	comp=Z,0.2nm,0.3s,baz=270,slow=23,SNR=4.6								
JAY	**Jayapura**	**11.47**	**78**	P		P	P	22 12 11.8	-0.7
	comp=Z,19nm,0.8s								
PLAI	**Plampang**	**12.21**	**252**	P		P	Pn	22 12 17.2	-0.4
	comp=Z,203nm,0.8s,comp=Z,2μm								
TWSI	**Taliwang, Sumb**	**13.03**	**253**	P		P	Pn	22 12 28.0	+0.2
	comp=Z,54nm,0.5s,comp=Z,2μm								
PALU	**Palau**	**13.32**	**22**	P		P	P	22 12 32.6	-0.3
	baz=14,SNR=6.1								
FITZ	**Fitzroy Crossi**	**13.46**	**196**	P		P	Pn	22 12 31.3	-1.8
	comp=Z,6.1nm,0.3s,baz=27,slow=10,SNR=143								
FITZ				S		S	S	22 14 56.6	-5.8
	comp=Z,7.3nm,0.3s,baz=90,slow=18,SNR=6.8								
FITZ	**Fitzroy Crossi**	**13.46**	**196**	P		P	Pn	22 12 31.7	-1.4
	baz=14,SNR=214								
FITZ	**Fitzroy Crossi**	**13.46**	**196**	*e*Pn		Pn	Pn	22 12 31.8	-1.4
FITZ				S		S	S	22 14 56.6	-5.8
IGBI	**Denpasar**	**14.71**	**255**	P		P	Pn	22 12 48.8	+0.5
	comp=Z,152nm,0.5s,comp=Z,5μm								
TSM	**Tawau**	**14.89**	**309**	⇑P		P	P	22 12 51.5	+1.1
MYLDM	**Lahad Datu**	**14.99**	**313**	*e*P		P	Pn	22 12 53.7	+2.0
MTKI	**Muara Teweh, K**	**15.15**	**285**	P		P	Pn	22 12 54.9	+1.3
	comp=Z,58nm,0.6s								
ABJI	**Asem Bagus**	**15.40**	**259**	P		P	Pn	22 12 58.5	+1.9
	comp=Z,211nm,1.2s								
WRAB	**Tennant Creek**	**15.49**	**163**	*c* *i*P		P	P	22 12 57.2	+0.3
WRAB					pmax		pmax		
	comp=Z,73nm,1.2s								
WRAB	**Tennant Creek**	**15.49**	**163**	*e*P		P	P	22 12 56.9	0.0
	comp=Z,22nm,0.6s								
WRA	**Warramunga Arr**	**15.49**	**163**	P		P	P	22 12 56.7	-0.3
	comp=Z,1.8nm,0.3s,baz=347,slow=12,SNR=52								
WRA				S		S	S	22 15 44.4	-3.6
	comp=Z,6.8nm,0.3s,baz=338,slow=22,SNR=9.0								
WB2	**Warramunga Arr**	**15.50**	**163**	*e*P		P	P	22 12 57.0	-0.1
KMMI	**Kalianget**	**15.56**	**262**	P		P	Pn	22 13 01.4	+2.9
	comp=Z,386nm,1.2s,comp=Z,3μm								
JAGI	**Jajag, Banyuwa**	**15.60**	**257**	P		P	P	22 12 58.1	-0.1
	comp=Z,128nm,0.5s,comp=Z,3μm								
JAGI	**Jajag, Banyuwa**	**15.60**	**257**	*e*P		P	P	22 12 56.5	-1.7
	comp=Z,121nm,0.4s								
BLJI	**Banyuglugur**	**16.02**	**260**	P		P	Pn	22 13 05.5	+1.5
	comp=Z,167nm,0.7s,comp=Z,3μm								
COEN	**Coen**	**16.10**	**124**	P		P	Pn	22 13 05.3	+0.4
	baz=16,SNR=37								
COEN	**Coen**	**16.10**	**124**	*e*P		P	Pn	22 13 05.6	+0.6
	comp=Z,29nm,0.9s								
KKM	**Kota Kinabalu**	**17.27**	**310**	*e*P		P	P	22 13 17.4	+0.8
	comp=Z,68nm,0.7s								
KKM	**Kota Kinabalu**	**17.27**	**310**	⇓P		P	P	22 13 18.2	+1.5
PWJI	**Pagerwojo**	**17.81**	**260**	P		P	Pn	22 13 26.8	+1.7
	comp=Z,35nm,0.8s								
PMG	**Port Moresby**	**18.03**	**105**	P		Pn	Pn	22 13 26.9	-0.7
	comp=Z,3.7nm,0.3s,baz=358,slow=2.0,SNR=12								
PMG	**Port Moresby**	**18.03**	**105**	⇑ *i*P		Pn	Pn	22 13 27.8	+0.1
PMG					pmax		pmax		
	comp=Z,134nm,1.0s								

MANU	**Manus Island**	**18.09**	**81**	*e*P		Pn		22 13 27.8	-0.6
	comp=Z,128nm,1.4s								
QIS	**Mount Isa**	**18.24**	**148**	P		P		22 13 28.5	+1.5
	baz=18,SNR=42								
PCJI	**Pacitan**	**18.45**	**259**	P		Pn		22 13 34.1	+1.5
MBWA	**Marble Bar**	**18.57**	**210**	*e*P		P		22 13 30.3	-0.3
	comp=Z,80nm,0.6s								
WOJI	**Wonogiri, Jawa**	**18.65**	**261**	P		Pn		22 13 37.9	+3.0
STKI	**Sintang**	**18.71**	**285**	P		P		22 13 32.1	-0.1
	comp=Z,56nm,0.7s								
SBUM	**Sibu**	**18.82**	**293**	*e*P		P		22 13 33.6	+0.3
	comp=Z,33nm,0.7s								
AS31	**Alice Springs**	**18.95**	**167**	*e*P		P		22 13 35.8	+1.2
	comp=Z,20nm,0.4s								
ASAR	**Alice Springs**	**18.95**	**167**	P		P		22 13 35.7	+1.1
	comp=Z,7.3nm,0.3s,baz=353,slow=13,SNR=399								
ASAR				S		S		22 16 55.0	-2.0
	comp=Z,3.2nm,0.3s,baz=346,slow=20,SNR=31								
ASAR				ScP		ScP		22 21 01.4	-1.0
	baz=343,slow=2.1,SNR=5.0								
AS01	**Alice Springs**	**18.95**	**167**	*e*P		P		22 13 35.4	+0.7
SMRI	**Semarang**	**19.05**	**263**	P		P		22 13 37.0	+1.2
	comp=Z,112nm,0.8s								
SMRI	**Semarang**	**19.05**	**263**	*e*P		P		22 13 36.1	+0.4
	comp=Z,78nm,0.7s								
MTSU	**Mount Surprise**	**19.44**	**133**	P		P		22 13 40.7	+0.9
	baz=20,SNR=14								
WRKA	**Warakurna**	**19.86**	**183**	P		P		22 13 45.1	+0.7
	baz=20,SNR=206								
KSM	**Kuching**	**20.25**	**288**	*e*P		P		22 13 47.8	-0.9
	comp=Z,31nm,0.9s								
KPJI	**Karang Pucung**	**20.56**	**263**	P		P		22 13 50.8	-1.2
	comp=Z,141nm,0.6s								
CISI	**Cisompet, Garu**	**21.68**	**262**	P		P		22 14 01.1	-2.2
CISI	**Cisompet, Garu**	**21.68**	**262**	*e*P		P		22 13 59.8	-3.5
	comp=Z,172nm,0.5s								
CTA	**Charters Tower**	**22.09**	**134**	P		P		22 14 08.9	+2.0
	comp=Z,6.5nm,0.7s,baz=320,slow=10,SNR=6.6								
CNJI	**Cibinong**	**22.34**	**263**	P		P		22 14 07.9	-1.3
	comp=Z,205nm,0.8s,comp=Z,2μm								
GIRL	**Giralia**	**22.85**	**219**	P		P		22 14 14.7	+1.0
	baz=23,SNR=17								
PPBI	**Pangkal Pinang**	**23.49**	**276**	P		P		22 14 18.9	-0.8
CGJI	**Cibinong**	**23.73**	**265**	P		P		22 14 20.8	-1.0
	comp=Z,61nm,0.7s								
MEEK	**Meekatharra**	**23.81**	**205**	P		P		22 14 21.9	-0.6
	baz=24,SNR=17								
GUMO	**Guam**	**24.03**	**39**	P		P		22 14 24.8	+0.3
	comp=Z,35nm,0.3s,baz=119,slow=5.8,SNR=5.3								
GUMO	**Guam**	**24.03**	**39**	*e*P		P		22 14 24.8	+0.3
GUMO					pmax		pmax		
	comp=Z,202nm,1.2s								
GUMO	**Guam**	**24.03**	**39**	*e*P		P		22 14 24.8	+0.3
	comp=Z,202nm,1.2s								
KLSI		**24.68**	**270**	P		P		22 14 31.8	+1.3
	comp=Z,26nm,0.7s								
KASI	**Kota Agung**	**24.89**	**268**	P		P		22 14 31.5	-0.9
	comp=Z,59nm,0.8s								
FORT	**Forrest**	**25.58**	**183**	P		P		22 14 38.7	+0.3
	baz=26,SNR=17								
FORT	**Forrest**	**25.58**	**183**	*e*P		P		22 14 38.1	-0.3
	comp=Z,302nm,0.6s								
TPRI	**Tanjung Pinang**	**25.65**	**283**	P		P		22 14 40.7	+1.5
	comp=Z,23nm,1.2s,comp=Z,6μm								
MYKOM	**Kota Tinggi**	**26.52**	**284**	*e*P		P		22 14 46.0	-1.0
	comp=Z,14nm,0.7s								
MYKOM	**Kota Tinggi**	**26.52**	**284**	⇑P		P		22 14 46.3	-0.7
MORW	**Morawa**	**27.04**	**207**	P		P		22 14 51.0	-0.4
	baz=27,SNR=6.3								
KGM	**Kluang**	**27.09**	**284**	⇑P		P		22 14 51.6	-0.5
KMBL	**Kambalda**	**27.09**	**194**	P		P		22 14 52.1	+0.2
	baz=27,SNR=48								
RGRI	**Rengat**	**27.53**	**279**	P		P		22 15 05.6	+10
BLDU	**Ballidu**	**28.10**	**204**	P		P		22 15 00.5	-0.3
	baz=28,SNR=21								
BBOO	**Buckleboo**	**28.25**	**168**	P		P		22 15 02.6	+0.5
	baz=28,SNR=19								
KLBR	**Kellerberrin**	**28.57**	**201**	P		P		22 15 05.0	0.0
	baz=29,SNR=53								
STKA	**Stephens Creek**	**28.96**	**158**	P		P		22 15 08.9	+0.6
	comp=Z,2.2nm,0.7s,baz=313,slow=12,SNR=8.2								
STKA	**Stephens Creek**	**28.96**	**158**	P		P		22 15 10.2	+1.8
	baz=29,SNR=5.6								
STKA	**Stephens Creek**	**28.96**	**158**	*e*P		P		22 15 12.4	+4.0
STKA					pmax		pmax		
	comp=Z,1.0nm,0.3s								
FRIM	**Kepong**	**29.05**	**286**	⇑P		P		22 15 08.8	-0.7
PPI	**Padang Panjang**	**29.42**	**278**	P		P		22 15 10.7	-2.0
	comp=Z,76nm,0.9s								
HTT	**Hallett**	**29.53**	**164**	P		P		22 15 15.1	+1.6
	baz=30,SNR=5.6								
NWAO	**Narrogin (SRO)**	**29.96**	**201**	P		P		22 15 17.3	0.0
	comp=Z,26nm,0.3s,baz=273,slow=7.9,SNR=65								
NWAO	**Narrogin (SRO)**	**29.96**	**201**	P		P		22 15 17.3	0.0
	baz=30,SNR=46								
NWAO				P		P		22 15 17.3	0.0
	baz=30,SNR=46								
IPM	**Ipoh**	**29.99**	**288**	*e*P		P		22 15 17.1	-0.7
	comp=Z,14nm,1.0s								
IPM	**Ipoh**	**29.99**	**288**	⇑P		P		22 15 17.5	-0.3
KULM	**Kulim**	**30.60**	**289**	*e*P		P		22 15 22.1	-1.0
	comp=Z,30nm,0.8s								
UBPT	**Khong Chiam**	**31.25**	**311**	P		P		22 15 29.7	+1.0
	comp=Z,49nm,1.1s								
PSI	**Prapat**	**31.53**	**284**	P		P		22 15 29.4	-2.0
	comp=Z,6.4nm,0.3s,baz=122,slow=2.0,SNR=10.0								
PSI	**Prapat**	**31.53**	**284**	*e*P		P		22 15 29.2	-2.2
PSI					pmax		pmax		
	comp=Z,17nm,0.9s								
PSI	**Prapat**	**31.53**	**284**	*e*P		P		22 15 29.2	-2.2
	comp=Z,17nm,0.9s								
RKGY	**Rocky Gully**	**31.57**	**200**	P		P		22 15 32.9	+1.5
	baz=32,SNR=71								
JOW	**Kunigami**	**31.76**	**358**	P		P		22 15 33.3	+0.3
	comp=Z,45nm,0.8s,baz=196,slow=8.6,SNR=4.7								
TRTT	**Trang**	**32.39**	**293**	P		P		22 15 38.6	-0.1
	comp=Z,35nm,1.6s								
KRAB	**Krabi**	**32.99**	**293**	P		P		22 15 36.8	-7.1
	comp=Z,2μm,0.7s,comp=Z,163μm								
ARPS	**Mount Arapiles**	**33.49**	**162**	P		P		22 15 49.8	+1.8
	baz=34,SNR=13								
LHMI	**Lhok Sumawe**	**34.08**	**287**	P		P		22 15 52.6	-0.8
	comp=Z,166nm,0.8s								
LHMI	**Lhok Sumawe**	**34.08**	**287**	*e*P		P		22 15 52.1	-1.3
	comp=Z,112nm,0.7s								
CHAI	**Chaiyaphum**	**34.30**	**308**	P		P		22 15 55.1	-0.1
	comp=Z,12nm,0.8s,comp=Z,162nm								
PHET	**Kaeng Krachan**	**34.65**	**301**	P		P		22 15 58.4	+0.2
	comp=Z,12nm,0.7s								
UTHA	**Uthaitani**	**36.15**	**305**	P		P		22 16 11.4	+0.5
	comp=Z,6.8nm,0.8s,comp=Z,86nm								
UTTA	**Uttaradit**	**36.48**	**309**	P		P		22 16 14.0	+0.3
	comp=Z,6.7nm,0.6s,comp=Z,81nm								
SUKH	**Sukhothai**	**37.05**	**308**	P		P		22 16 18.9	+0.4
	comp=Z,8.7nm,0.6s,comp=Z,112nm								
JNU	**Nakatsue**	**38.03**	**2**	P		P		22 16 26.2	-0.3
	comp=Z,10nm,0.7s,baz=22,slow=22,SNR=7.5								
CM01	**Chiang Mai Arr**	**38.11**	**309**	*e*P		P		22 16 24.7	-2.6
CM31	**Chiang Mai Arr**	**38.15**	**309**	*e*P		P		22 16 28.4	+0.7
CMAR	**Chiang Mai Arr**	**38.15**	**309**	P		P		22 16 28.1	+0.4
	comp=Z,12nm,0.5s,baz=134,slow=7.1,SNR=59								
CMAR				ScP		ScP		22 22 02.1	-0.1
	comp=Z,1.3nm,0.6s,baz=148,slow=3.0,SNR=4.6								
NJ2	**Nanjing**	**38.31**	**345**	*e*P		P		22 16 27.1	-1.7
NJ2					pmax		pmax		
	comp=Z,15nm,0.5s								
CMMT	**Chiang Mai**	**38.34**	**309**	P		P		22 16 29.4	+0.1
	comp=Z,22nm,0.7s								
CHTO	**Chiang Mai**	**38.35**	**309**	P		P		22 16 29.5	+0.1
	comp=Z,92nm,0.7s								
CHTO	**Chiang Mai**	**38.35**	**309**	*e*P		P		22 16 29.2	-0.2
CHTO					pmax		pmax		
	comp=Z,15nm,0.6s								
CHTO	**Chiang Mai**	**38.35**	**309**	*e*P		P		22 16 29.2	-0.2
	comp=Z,15nm,0.6s								
GYA	**Guiyang**	**38.38**	**326**	*e*P		P		22 16 30.8	+1.1
GYA					pmax		pmax		
	comp=Z,10.0nm,0.8s								
DZM	**Mont Dzumac**	**39.52**	**119**	P		P		22 16 40.1	+0.9
	comp=Z,2.4nm,0.5s,baz=203,slow=15,SNR=6.6								
KMI	**Kunming**	**39.73**	**320**	P		P		22 16 39.8	-1.2
KMI					pmax		pmax		
	comp=Z,19nm,0.5s								
MJAR	**Matsushiro Arr**	**42.22**	**10**	P		P		22 16 59.3	-1.4
	comp=Z,14nm,0.8s,baz=187,slow=9.7,SNR=43								
MAJO	**Matsushiro**	**42.22**	**10**	⇑ *i*P		P		22 16 59.4	-1.3
MAJO					pmax		pmax		
	comp=Z,115nm,0.6s								
MAJO	**Matsushiro**	**42.22**	**10**	*e*P		P		22 16 59.6	-1.1
	comp=Z,24nm,0.8s								
MAT	**Matsushiro**	**42.22**	**10**	P		P		22 16 59.3	-1.4
MJB9	**Matsu-Tunnel**	**42.22**	**10**	*e*P		P		22 17 00.0	-0.8
	comp=Z,6.0nm,0.8s								
MJA0	**Matsu Arr-Jizo**	**42.22**	**11**	*e*P		P		22 16 59.3	-1.5
MJA0					pmax		pmax		
	comp=Z,15nm,0.7s								
KSAR	**Wonju Array Be**	**42.34**	**358**	P		P		22 17 02.4	+0.7
KSAR	**Wonju Array Be**	**42.34**	**358**	P		P		22 17 02.4	+0.7
KSRS	**Korea Array**	**42.35**	**358**	P		P		22 17 02.4	+0.6
	comp=Z,7.7nm,0.7s,baz=176,slow=9.4,SNR=26								
KS01	**Wonju Array Si**	**42.38**	**358**	*e*P		P		22 17 01.8	-0.2
BJI	**Beijing**	**46.56**	**346**	P		P		22 17 34.3	-0.6
BJI				pP		pP		22 18 27.1	+1.0
BJI				sP		sP		22 18 54.3	+1.3
BJI				PcP		PcP		22 19 05.3	+0.4
BJI				S		S		22 24 03.3	-1.7
BJI				pmax		pmax			
	comp=Z,15nm,0.9s								
BJI				LR		LR			
	comp=Z,820nm,13.9s								
BJI				LR		LR			
	comp=Z,2μm,15.8s								
BJI				LR		LR			
	comp=Z,2μm,20.2s								
ERM	**Erimo**	**48.51**	**14**	⇑ *i*P		P		22 17 51.1	+1.2
ERM					pmax		pmax		
	comp=Z,8.0nm,0.5s								
HHC	**Hu-ho-hao-te**	**48.59**	**342**	*e*P		P		22 17 52.3	+1.6
HHC					pmax		pmax		
	comp=Z,14nm,1.3s								
HHC					pmax		pmax		
	comp=Z,260nm,5.3s								
USRK	**Ussuriysk Ar.**	**49.12**	**2**	P		P		22 17 54.6	+0.2
	comp=Z,10nm,0.6s,baz=186,slow=6.8,SNR=20								
MDJ	**Mudanjiang**	**49.49**	**0**	P		P		22 17 58.6	+1.4
MDJ					pmax		pmax		
	comp=Z,7.0nm,0.5s								
MDJ					pmax		pmax		
	comp=Z,2μm,12.5s								
PALK	**Pallekele**	**50.22**	**284**	P		P		22 18 04.5	+1.2
	comp=Z,4.2nm,0.5s,baz=121,slow=9.9,SNR=5.1								
LSA	**Lhasa**	**50.49**	**316**	*e*P		P		22 18 05.9	+0.3
LSA					pmax		pmax		
	comp=Z,7.0nm,0.6s								
LSA	**Lhasa**	**50.49**	**316**	*e*P		P		22 18 05.9	+0.3
	comp=Z,6.5nm,0.6s								
ODAN	**Odare**	**51.65**	**310**	*e*P		P		22 18 13.6	-0.4
	comp=Z,32nm,0.4s								
TAPN	**Taplejung**	**51.66**	**311**	*e*P		P		22 18 13.9	-0.3
	comp=Z,40nm,0.4s								
GTA	**Gaotai**	**52.07**	**331**	*e*P		P		22 18 18.6	+1.8
GTA				pP		pP		22 19 08.4	-0.7
GTA				sP		sP		22 19 33.8	-1.9
RAMN	**Ramite**	**52.29**	**310**	*e*P		P		22 18 18.8	0.0
	comp=Z,113nm,0.5s								
KUR	**Kuril'sk**	**52.73**	**16**	*i* P		P		22 18 24.8	+3.5
JIRN	**Jiri**	**52.97**	**310**	*e*P		P		22 18 23.6	-0.3
	comp=Z,25nm,0.3s								
YSS	**Yuzh-Sakhalins**	**53.14**	**11**	*i* P		P		22 18 24.2	0.0
YSS					pmax		pmax		
	comp=Z,11nm,0.6s								
GUN	**Gumba**	**53.34**	**310**	*e*P		P		22 18 26.2	-0.3
	comp=Z,43nm,0.4s								
PKI	**Pulchoki**	**53.52**	**310**	*e*P		P		22 18 27.2	-0.6
	comp=Z,13nm,0.2s								
PKIN	**Phulchoki**	**53.53**	**310**	*e*P		P		22 18 27.4	-0.4
	comp=Z,6.9nm,0.2s								
HABR	**Khabarovsk**	**53.57**	**5**	*e*P		P		22 18 25.8	-1.5
HABR				*e**PP		pP		22 19 18.5	-1.4
HABR				*e*				22 20 29.2	
HABR				*e*PPP		PPP		22 21 42.8	
HABR				*e*S		S		22 25 39.9	-1.5
HABR				*e**SS		sS		22 27 12.6	-1.5
HABR				*e*				22 27 50.5	
HABR				*e*SS		SS		22 29 25.7	0.0
HABR			

	comp=Z,5.7nm,0.9s							
VNDA	**Vanda**	**74.39**	**173**	P		**P**	**22 20 41.5**	**-0.7**
	comp=Z,1.2nm,0.5s,baz=319,slow=6.7,SNR=14							
VNDA	**Vanda**	**74.39**	**173**	*e*P		**P**	**22 20 42.6**	**+0.5**
VNDA				pmax		pmax		
	comp=Z,11nm,1.9s							
VNDA	**Vanda**	**74.39**	**173**	*e*P		**P**	**22 20 42.6**	**+0.5**
	comp=Z,11nm,1.9s							
BVAR	**Borovoye Array**	**76.19**	**328**	P		**P**	**22 20 53.1**	**+0.2**
	comp=Z,0.9nm,0.3s,baz=110,slow=7.1,SNR=9.9							
MAW	**Mawson**	**76.53**	**201**	P		**P**	**22 20 54.7**	**+0.3**
	comp=Z,1.9nm,0.4s,baz=60,slow=5.8,SNR=11							
MAW	**Mawson**	**76.53**	**201**	P		**P**	**22 20 55.0**	**+0.6**
	baz=76,SNR=7.4							
MAW	**Mawson**	**76.53**	**201**	*e*P		**P**	**22 20 55.0**	**+0.6**
MAW				*e**PP		**pP**	**22 21 50.4**	**-0.6**
MAW				pmax		pmax		
	comp=Z,1.0nm,1.1s							
MAW	**Mawson**	**76.53**	**201**	*e*P		**P**	**22 20 55.0**	**+0.6**
	comp=Z,1.4nm,1.1s							
MAW				*e*pP		**pP**	**22 21 50.4**	**-0.6**
GEYT	**Alibeck**	**78.61**	**310**	P		**P**	**22 21 06.5**	**-0.1**
	comp=Z,1.4nm,0.6s,baz=125,slow=4.7,SNR=4.9							
ABKAR	**Akbulak array**	**80.72**	**322**	*e*P		**P**	**22 21 18.9**	**+1.3**
AKTO	**Aktyubinsk**	**82.27**	**322**	P		**P**	**22 21 26.1**	**+0.4**
	comp=Z,1.2nm,0.4s,baz=118,slow=3.6,SNR=5.6							
ARU	**Arti**	**83.83**	**328**	*d* iP		**P**	**22 21 34.0**	**+0.5**
ARU							22 24 47.9	
ARU				S		**S**	**22 31 32.7**	**-3.5**
ARU				SS		**SS**	**22 37 03.5**	**-6.2**
ARU				pmax		pmax		
	comp=Z,6.0nm,1.7s							
SYO	**Syowa Base**	**85.24**	**201**	⇓*e*P		**P**	**22 21 39.0**	**-1.4**
SYO	**Syowa Base**	**85.24**	**201**	⇓*e*PcP		**PcP**	**22 21 44.2**	**+1.2**
TTA	**Tatalina**	**87.51**	**26**	*e*P		**P**	**22 21 51.6**	**+0.1**
TTA				pmax		pmax		
	comp=Z,7.0nm,0.7s							
TTA	**Tatalina**	**87.51**	**26**	*e*P		**P**	**22 21 51.6**	**+0.1**
	comp=Z,6.6nm,0.7s							
WRH	**Wood River Hil**	**91.29**	**25**	*e*P		**P**	**22 22 08.1**	**-0.9**
	comp=Z,23nm,1.6s							
CCB	**Clear Creek Bu**	**91.44**	**25**	*e*P		**P**	**22 22 08.6**	**-1.2**
	comp=Z,5.0nm,0.7s							
IL1	**Eielson Array**	**91.85**	**25**	*e*P		**P**	**22 22 09.3**	**-2.3**
ILAR	**Eielson Array**	**91.85**	**25**	P		**P**	**22 22 09.8**	**-1.8**
	comp=Z,1.8nm,0.8s,baz=268,slow=4.4,SNR=15							
KMBO	**Kilima Mbogo**	**92.14**	**269**	P		**P**	**22 22 13.6**	**-0.8**
	comp=Z,1.1nm,0.4s,baz=35,slow=5.6,SNR=8.0							
KMBO	**Kilima Mbogo**	**92.14**	**269**	*e*P		**P**	**22 22 15.1**	**+0.7**
KMBO				pmax		pmax		
	comp=Z,1.0nm,0.4s							
INK	**Inuvik**	**97.29**	**22**	P		**P**	**22 22 35.3**	**-1.1**
	comp=Z,1.4nm,0.4s,baz=287,slow=4.7,SNR=8.3							
SNAA	**Sanae**	**97.39**	**194**	P		**P**	**22 22 37.4**	**+0.5**
	comp=Z,0.6nm,0.7s,baz=208,slow=8.5,SNR=7.9							
BOSA	**Boshof**	**99.98**	**240**	P		**Pdif**	**22 22 48.8**	**-0.7**
	comp=Z,5.3nm,1.1s,baz=230,slow=2.4,SNR=4.6							
TXAR	**Lajitas Array**	**124.36**	**58**	PKP		**PKPdf**	**22 28 02.9**	**+0.6**
	comp=Z,0.5nm,0.6s,baz=224,slow=3.5,SNR=8.6							
TORD	**Torodi Ar. Bea**	**127.93**	**283**	PKP		**PKPdf**	**22 28 09.3**	**0.0**
	comp=Z,0.5nm,0.6s,baz=72,slow=2.4,SNR=7.7							
JTS	**JuntasAbangare**	**145.49**	**79**	PKPbc		**PKPbc**	**22 28 43.2**	**+1.0**
	comp=Z,4.8nm,0.5s,baz=358,slow=1.8,SNR=6.8							
CPUP	**Villa Florida**	**148.07**	**168**	PKPbc		**PKPbc**	**22 28 49.5**	**+0.5**
	comp=Z,1.3nm,0.5s,baz=148,slow=7.0,SNR=3.3							

IDC ***16*** *22:20:27.3±1.7, 40.2′24N×143.2′42E, h0km, mb3.8/7, mb1 3.9/8, mb1mx3.5/60, mbtmp3.8/8, ML3.8/1, Error ellipse: s-maj=48.4km s-min=24.7km az=82.0*

NEIC ***16*** *22:20:34.1±1.5, 40.2′30N×143.2′14E, h40km±10km, mb4.2/3, Error ellipse: s-maj=22.4km s-min=9.5km az=103.0*

ISC 16 22:20:29.7±1.5, 40°3′N±0.1′×143°3′E±0.2′, h12km, n21, σ0s82/15, mb3.9/10, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time	Res
								h m s	ISC
ERM	**Erimo**	**1.72**	**356**	P			**Pb**	**22 21 01.8**	**+0.5**
MAJO	**Matsushiro**	**5.50**	**229**	*e*Pn			**Pn**	**22 21 52.4**	**+1.0**
	15nm,0.6s								
MAT	**Matsushiro**	**5.50**	**229**	P			**Pn**	**22 21 52.3**	**+0.8**
MAT				*e*S			Sn	22 22 45.8	-8.8
MJAR	**Matsushiro Arr**	**5.50**	**229**	Pn			**Pn**	**22 21 52.4**	**+0.9**
	2.6nm,0.3s,baz=46,slow=12,SNR=22								
MDJ	**Mudanjiang**	**11.03**	**298**	*e*Pn			**Pn**	**22 23 06.2**	**-1.0**
TPUB	**Ta-pu**	**25.57**	**235**	P			**P**	**22 25 59.1**	**+0.5**
	3.9nm,0.7s								
SONM	**Songino Array**	**27.38**	**298**	P			**P**	**22 26 14.7**	**-0.3**
	0.7nm,0.6s,baz=99,slow=9.2,SNR=5.9								
H11N2	**WAKE ISLAND Hy**	**28.77**	**129**	T			T	22 57 32.8	
	baz=318,slow=75,SNR=37								
H11N1	**WAKE ISLAND Hy**	**28.78**	**129**	T			T	22 57 32.8	
	baz=318,slow=75,SNR=25								
H11N3	**WAKE ISLAND Hy**	**28.78**	**128**	T			T	22 57 20.6	
	baz=318,slow=75,SNR=25								
H11S1	**WAKE ISLAND Hy**	**29.60**	**130**	T			T	22 57 52.1	
	baz=322,slow=76,SNR=8.9								
H11S3	**WAKE ISLAND Hy**	**29.60**	**130**	T			T	22 57 43.0	
	baz=322,slow=76,SNR=6.8								
H11S2	**WAKE ISLAND Hy**	**29.62**	**130**	T			T	22 57 42.3	
	baz=322,slow=76,SNR=7.6								
ZALV	**Zalesovo Beam**	**40.91**	**310**	P			**P**	**22 28 11.3**	**-0.3**
	0.5nm,0.5s,baz=79,slow=7.6,SNR=2.6								
KURK	**Kurchatov**	**45.17**	**306**	*e*P			**P**	**22 28 45.1**	**-1.0**
	15nm,0.8s								
KURBB	**Kurchatov Arra**	**45.25**	**306**	P			**P**	**22 28 46.1**	**-0.6**
	1.5nm,0.5s,baz=79,slow=8.8,SNR=13								
BVAR	**Borovoye Array**	**49.54**	**311**	P			**P**	**22 29 20.6**	**+0.4**
	0.5nm,0.5s,baz=60,slow=10,SNR=3.6								
ABKAR	**Akbulak array**	**57.02**	**309**	*e*P			**P**	**22 30 15.2**	**+0.1**
	0.8nm,0.6s								
WRA	**Warramunga Arr**	**60.51**	**190**	P			**P**	**22 30 38.4**	**-1.3**
	0.4nm,0.6s,baz=7.0,slow=6.9,SNR=7.1								
FINES	**FINESS Array B**	**66.63**	**332**	P			**P**	**22 31 19.8**	**+0.1**
	1.4nm,0.9s,baz=60,slow=5.6,SNR=2.6								
NOA	**NORSAR Array B**	**71.75**	**338**	P			**P**	**22 31 52.2**	**+0.8**
	0.7nm,0.9s,baz=38,slow=5.8,SNR=2.9								

IDC ***16*** *22:20:35.1±1.1, 55.′97S×24.′90W, h0km, mb4.1/4, mb1 4.2/5, mb1mx3.8/27, mbtmp4.2/5, ML3.8/1, MS4.9/1, Ms1 5.0/1, ms1mx4.2/19, Error ellipse: s-maj=56.8km s-min=21.9km az=88.0*

ISCJB ***16*** *22:20:37.7±0.6, 56.′02S±0.′10×24.′9W±0.′3, h30km, mb4.5/9, MS4.9/1, Error ellipse: s-maj=26.4km s-min=10.2km az=158.0*

NEIC ***16*** *22:20:40.3±0.4, 56.′01S×24.′89W, h35km, mb4.3/4, Error ellipse: s-maj=16.9km s-min=8.7km az=66.0*

ISC 16 22:20:39.6±0.7, 56°0S±0.1′×24°9W±0.2′, h30km, n18, σ0s49/17, mb4.3/9, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time	Res
								h m s	ISC
VNA1	**Neumayer--Stat**	**16.36**	**160**	P			**Pn**	**22 24 26.8**	**+0.1**
VNA3	**Neumayer Olymp**	**16.61**	**163**	P			**Pn**	**22 24 28.7**	**-1.1**
VNA2	**Neumayer--Watz**	**16.75**	**160**	P			**Pn**	**22 24 30.8**	**-0.8**
	baz=324,slow=15								
SNAA	**Sanae**	**18.26**	**158**	P			**Pn**	**22 24 50.5**	**+0.1**
SNAA	**Sanae**	**18.26**	**158**	P			**P**	**22 24 50.1**	**-0.3**
	0.3nm,0.3s,baz=311,slow=10,SNR=44								
SNAA	**Sanae**	**18.26**	**158**	*e*P			**Pn**	**22 24 50.4**	**+0.1**
QSPA	**South Pole Qui**	**34.22**	**180**	*e*P			**P**	**22 27 22.5**	**+0.2**
	42nm,1.1s								
MAW	**Mawson**	**39.40**	**143**	P			**P**	**22 28 06.1**	**+0.1**
	1.1nm,0.5s,baz=219,slow=10,SNR=6.8								
LVC	**Limon Verde**	**46.41**	**298**	*e*P			**P**	**22 29 03.6**	**-0.1**
	1.8nm,0.6s								
VNDA	**Vanda**	**46.65**	**182**	P			**P**	**22 29 05.2**	**+0.7**
	2.4nm,0.8s,baz=180,slow=6.4,SNR=17								
LPAZ	**La Paz**	**51.43**	**303**	LR			LR	22 51 00.1	
	comp=Z,1μm,21.0s,baz=35,slow=36								
SAML	**Samuel**	**55.72**	**312**	P			**P**	**22 30 13.1**	**-0.1**
	0.7nm,0.6s								
DBIC	**Dimbokro**	**64.64**	**22**	P			**P**	**22 31 14.2**	**0.0**
	1.3nm,0.5s,baz=185,slow=9.5,SNR=3.7								
TORD	**Torodi Ar. Bea**	**72.43**	**27**	P			**P**	**22 32 03.0**	**+0.2**
	1.8nm,0.5s,baz=200,slow=6.3,SNR=34								
SDV	**Santo Domingo**	**74.92**	**313**	*e*P			**P**	**22 32 17.7**	**0.0**
	3.8nm,0.8s								
COCO	**West Island**	**96.61**	**123**	P			**P**	**22 34 06.9**	**+0.3**
	41nm,0.4s								
SONM	**Songino Array**	**149.45**	**85**	PKPbc			**PKPbc**	**22 40 24.1**	**-0.8**
	0.4nm,0.6s,baz=282,slow=1.9,SNR=3.7								
ILAR	**Eielson Array**	**151.06**	**311**	PKPbc			**PKPbc**	**22 40 27.8**	**-0.2**
	1.2nm,0.8s,baz=147,slow=2.6,SNR=9.7								

NIED ***16*** *22:40:00, 40.′30N×143.′40E, h20km, Mw5.7 Best double couple: M̄o3.86000×10¹⁷ NP1:φs173.00000°, δ23.00000°, λ55.00000°. NP2:φs31.00000°, δ71.00000°, λ104.00000°.*

BJI ***16*** *22:40:40.4, 40.′17N×143.′23E, h12km, mb5.7/79, mB5.8/68, Ms5.9/92, Ms7 5.8/86*

IDC ***16*** *22:40:40.9±0.4, 40.′25N×143.′35E, h0km, mb5.1/33, mb1 5.1/40, mb1mx5.1/46, mbtmp5.1/40, ML4.4/6, MS5.5/41, Ms1 5.5/41, ms1mx5.4/44, Error ellipse: s-maj=12.4km s-min=9.8km az=116.0*

ISCJB ***16*** *22:40:42.0±0.7, 40.′28N±0.′02×143.′20E±0.′02, h12km±4km, mb5.5/376, MS5.5/225, Error ellipse: s-maj=3.5km s-min=2.3km az=149.3*

JMA ***16*** *22:40:42.1±0.3, 40.′28N×143.′39E, h15km±4km, M5.8*

JMA Felt III J1.

MOS ***16*** *22:40:44.7±1.0, 40.′37N×143.′17E, h33km, mb5.8/102, MS5.6/50, Error ellipse: s-maj=6.2km s-min=4.2km az=102.6*

NEIC ***16*** *22:40:46.9±0.5, 40.′24N×143.′15E, h38km±4km, mb5.4/220, MS5.4/149, Error ellipse: s-maj=4.0km s-min=2.7km az=141.0*

NEIC Felt at Misawa. Recorded [3 JMA] in Aomori and Iwate.

GCMT ***16*** *22:40:46.9±0.2, 40.′30N×143.′51E, h24km, MW5.7/130, Moment Tensor Solution. s84,c116; s130,c258; Duration: 1s7 Moment tensor: Scale 10¹⁷Nm; Mrr3.18±.07; Mθθ-0.39±.05; Mφφ-2.79±.05; Mre1.25±.09; Mrθ-0.64±.04; Mrφ3.00±.08; Best double couple: M̄o4.46600×10¹⁷ NP1:φs20.00000°, δ68.00000°, λ94.00000°. NP2:φs189.00000°, δ22.00000°, λ80.00000°. Principal axes: T 4.5970, Plg66.0000°, Azm297.0000°; N -0.2620, Plg4.0000°, Azm199.0000°; P -4.3340, Plg23.0000°, Azm107.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*

ISC 16 22:40:44.5±0.5, 40°24′N±0.′03×143°34′E±0.′03, h23km±3km, n1170, σ1s57/1185, mb5.6/401, MS5.5/236, 150C-38D, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time	Res
								h m s	ISC
JTH	**Tanohata**	**1.17**	**256**	⇑P			**Pn**	**22 41 04.4**	**-1.1**
MIYJ	**Miyakonagasawa**	**1.34**	**241**	⇑P			**Pn**	**22 41 07.1**	**-0.8**
MIYJ				*e*S			**Sn**	**22 41 24.9**	**-0.2**
JANG	**Nango**	**1.40**	**276**	⇑P			**Pn**	**22 41 07.9**	**-0.8**
JOM	**Ohasama**	**1.75**	**245**	⇑P			**Pn**	**22 41 13.4**	**-0.1**
ERM	**Erimo**	**1.78**	**356**	*e*P			**Pn**	**22 41 12.7**	**-1.1**
ERM	**Erimo**	**1.78**	**356**	*e*Pn			**Pn**	**22 41 12.7**	**-1.1**
ERM				*e*Sn			**Sn**	**22 41 33.5**	**-2.2**
JEM	**Erimo**	**1.78**	**356**	⇑P			**Pn**	**22 41 12.5**	**-1.3**
JTM	**Tenmabayashi**	**1.82**	**288**	⇑P			**Pn**	**22 41 14.3**	**-0.1**
JAH	**Hinai**	**2.07**	**269**	⇑P			**Pn**	**22 41 18.3**	**+0.4**
JOT	**Ohata**	**2.08**	**304**	⇑P			**Pn**	**22 41 17.6**	**-0.4**
JMK	**Ichinoseki**	**2.08**	**233**	⇑P			**Pn**	**22 41 18.2**	**+0.2**
JNBK	**Urakawa-nobuka**	**2.08**	**348**	⇑P			**Pn**	**22 41 17.5**	**-0.6**
JCH	**Churui**	**2.37**	**0**	⇑P			**Pn**	**22 41 20.4**	**-1.6**
ASAJ	**Asahikawa**	**3.91**	**352**	*e*Pn			**Pn**	**22 41 42.9**	**-0.3**
YUK	**Yuzh-Kuril'sk**	**4.23**	**25**	*i* P			**Pn**	**22 41 47.0**	**-0.5**
MAJO	**Matsushiro**	**5.47**	**229**	*i* P			**Pn**	**22 42 05.9**	**+1.3**
MAJO	**Matsushiro**	**5.47**	**229**	*e*Pn			**Pn**	**22 42 06.1**	**+1.5**
MAT	**Matsushiro**	**5.47**	**229**	P			**Pn**	**22 42 05.8**	**+1.2**
MAT				*e*S			**Sn**	**22 43 07.0**	**+0.2**
MJAR	**Matsushiro Arr**	**5.47**	**229**	Pn			**Pn**	**22 42 05.6**	**+1.0**
	35nm,0.3s,baz=37,slow=13,SNR=352								
MJAR					LR		LR	22 44 26.7	
	comp=Z,37μm,20.0s,baz=40,slow=41								
MJB9	**Matsu-Tunnel**	**5.47**	**229**	*e*Pn			**Pn**	**22 42 06.1**	**+1.5**
KUR	**Kuril'sk**	**6.00**	**32**	*e*P			**Pn**	**22 42 09.9**	**-1.9**
KUR				*i* S			**Sn**	**22 43 14.0**	**-5.7**
KUR				pmax		pmax			
	comp=Z,5μm,2.0s								
KUR				pmax		pmax			
	comp=N,3μm,2.8s								
KUR				pmax		pmax			
	comp=Z,1μm,0.7s								
KUR				pmax		pmax			
	comp=E,247nm,0.8s								
KUR				pmax		pmax			
	comp=N,265nm,0.4s								
KUR				smax		smax			
	comp=N,2μm,0.5s								
KUR				smax		smax			
	comp=E,785nm,0.3s								
KUR				smax		smax			
	comp=N,20μm,2.4s								
KUR				smax		smax			
	comp=E,16μm,4.0s								
KUR				MLR		MLR			
	comp=Z,30μm,15.0s								
KUR				MLR		MLR			
	comp=N,15μm,13.0s								
KUR				MLR		MLR			
	comp=E,28μm,14.0s								
YSS	**Yuzh-Sakhalins**	**6.72**	**357**	*c i*P			**Pn**	**22 42 21.8**	**0.0**
YSS				*e*S			**Sn**	**22 43 34.5**	**-3.1**
YSS				pmax		pmax			
	comp=Z,2μm,5.1s								
YSS				pmax		pmax			
	comp=Z,170nm,0.8s								
YSS				smax		smax			
	comp=E,260nm,0.6s								
YSS				MLR		MLR			
	comp=N,42μm,15.0s								
YSS				MLR		MLR			
	comp=Z,59μm,15.0s								
YSS				MLR		MLR			
	comp=E,16μm,13.0s								
YSS	**Yuzh-Sakhalins**	**6.72**	**357**	*e*Pn			**Pn**	**22 42 23.0**	**+1.2**
INU	**Inuyama**	**6.99**	**228**	*e*Pn			**Pn**	**22 42 27.4**	**+1.9**
JHJ2	**Mitsune**	**7.66**	**203**	*e*Pn			**Pn**	**22 42 33.3**	**-1.4**
JHJ2				*e*Sn			**Sn**	**22 43 56.5**	**-4.1**
JHJ	**Hachijo jima 2**	**7.66**	**203**	Pn			**Pn**	**22 42 33.6**	**-1.1**
	comp=E,47nm,0.3s,baz=340,slow=21,SNR=25								
JHJ					Sn		**Sn**	**22 43 54.9**	**-5.9**
	comp=E,66nm,0.3s,baz=259,slow=23,SNR=6.2								
JHJ					LR		LR	22 45 38.2	
	comp=E,19μm,21.8s,baz=50,slow=39								
UGL	**Uglegorsk**	**8.88**	**355**	P			**Pn**	**22 42 50.0**	**-1.4**
UGL				pmax		pmax			
	comp=Z,238nm,1.2s								
UGL				pmax		pmax			
	comp=N,3μm,11.0s								
UGL				pmax		pmax			
	comp=E,3μm,11.0s								
UGL				pmax		pmax			
	comp=Z,4μm,11.0s								
VLA	**Vladivostok**	**9.04**	**292**	*i* P			**Pn**	**22 42 56.4**	**+2.8**
USRK	**Ussuriysk Ar.**	**9.30**	**299**	Pn			**Pn**	**22 42 58.2**	**+1.0**
	comp=Z,6.4nm,0.3s,baz=99,slow=12,SNR=197								
USRK					LR		LR	22 46 37.1	
	comp=Z,49μm,18.7s,baz=87,slow=38								
MSHR	**Mys Shultsa**	**9.45**	**288**	*d* iP			**Pn**	**22 43 00.1**	**+0.9**
HABR	**Khabarovsk**	**10.14**	**327**	*ce*P			**Pn**	**22 43 07.1**	**-1.5**
HABR				*e*S			**Sn**	**22 45 00.3**	**-1.2**
HABR				pmax		pmax			
	comp=N,191nm,1.8s								
HABR				pmax		pmax			
	comp=E,219nm,1.8s								
HABR				pmax		pmax			
	comp=Z,369nm,1.8s								
HABR				MLR		MLR			
	comp=Z,11μm,13.0s								
TYV	**Tymovskoe**	**10.63**	**358**	*e*P			**Pn**	**22 43 14.5**	**-0.8**
TYV				*e*S			**Sn**	**22 45 13.0**	**-0.6**
TYV				pmax		pmax			
	comp=Z,2μm,14.5s								
TYV				smax		smax			
	comp=E,6μm,11.1s								
TYV				MLR		MLR			
	comp=Z,47μm,17.0s								
MDJ	**Mudanjiang**	**11.06**	**298**	P			**Pn**	**22 43 22.8**	**+1.6**
MDJ				S			**Sn**	**22 45 28.5**	**+4.4**
MDJ				PcP			**PcP**	**22 49 20.3**	**+2.4**
MDJ				ScP			**ScP**	**22 52 53.3**	**+4.3**
MDJ				pmax		pmax			
	comp=Z,350nm,1.1s								
MDJ				pmax		pmax			
	comp=Z,4μm,5.3s								
MDJ				LR		LR			
	comp=Z,24μm,14.8s								
MDJ				LR		LR			
	comp=Z,36μm,16.2s								
MDJ				LR		LR			
	comp=Z,61μm,15.9s								
MDJ	**Mudanjiang**	**11.06**	**298**	*e*Pn			**Pn**	**22 43 22.6**	**+1.4**
	comp=Z,448nm,1.1s								
JNU	**Nakatsue**	**12.26**	**238**	Pn			**Pn**	**22 43 38.4**	**+0.7**
	comp=Z,1.8nm,0.3s,baz=27,slow=3.2,SNR=30								
JNU					LR		LR	22 48 32.5	
	comp=Z,117nm,20.3s,baz=49,slow=38								
JNU	**Nakatsue**	**12.26**	**238**	*e*Pn			**Pn**	**22 43 36.9**	**-0.9**
KSRS	**Korea Array**	**12.34**	**262**	Pn			**Pn**	**22 43 39.2**	**+0.5**
	comp=Z,0.4nm,0.3s,baz=70,slow=11,SNR=18								
KSRS					LR		LR	22 48 08.2	
	comp=Z,42μm,18.5s,baz=67,slow=36								
KS01	**Wonju Array Si**	**12.36**	**262**	*e*Pn			**Pn**	**22 43 37.7**	**-1.3**
KS15	**Wonju Array Si**	**12.37**	**262**	*e*Pn			**Pn**	**22 43 38.8**	**-0.4**
KSAR	**Wonju Array Be**	**12.37**	**262**	P			**Pn**	**22 43 39.2**	**0.0**
KSAR	**Wonju Array Be**	**12.37**	**262**	Pn			**Pn**	**22 43 39.2**	**0.0**
NKL	**Nikolayevsk**	**13.04**	**353**	*e*P			**Pn**	**22 43 48.0**	**-0.2**
CBIJ	**Chichi jima**	**13.15**	**185**	*e*Pn			**Pn**	**22 43 50.0**	**+0.2**
CBIJ				*e*Sn			**Sn**	**22 46 09.2**	**-6.2**
SKR	**Severo-Kuril's**	**13.74**	**36**	*e*P			**Pn**	**22 43 53.3**	**-4.5**
SKR				*e*S			**Sn**	**22 46 24.1**	**-5.4**
SKR				pmax		pmax			
	comp=Z,118nm,0.7s								
SKR				MLR		MLR			
	comp=Z,10μm,15.0s								
CN2	**Changchun**	**13.77**	**291**	*e*P			**Pn**	**22 43 58.5**	**+0.3**
CN2				*e*pP			P	22 44 01.9	-4.7
CN2				*e*sP				22 44 05.5	
CN2				pmax		pmax			
	comp=Z,80nm,1.1s								
CN2				LR		LR			
	comp=Z,9μm,16.0s								
CN2				LR		LR			
	comp=Z,28μm,16.0s								
CN2				LR		LR			
	comp=Z,29μm,19.0s								
SNY	**Shenyang**	**15.00**	**282**	⇑P			**Pn**	**22 44 14.8**	**-0.2**
SNY				S			**Sn**	**22 46 56.0**	**-4.4**
SNY				pmax		pmax			
	comp=Z,120nm,1.8s								
SNY				pmax		pmax			
	comp=Z,8μm,11.0s								
SNY				LR		LR			
	comp=Z,18μm,13.9s								
SNY				LR		LR			
	comp=Z,34μm,16.7s								
SNY				LR		LR			
	comp=Z,49μm,17.3s								
PEA0	**Petropavlovsk-**	**16.17**	**32**	*e*Pn			**Pn**	**22 44 26.8**	**-3.3**
PETK	**Petropavlovsk-**	**16.17**	**32**	Pn			**Pn**	**22 44 26.6**	**-3.4**
	comp=Z,1.6nm,0.3s,baz=198,slow=9.3,SNR=6.9								
PETK					LR		LR	22 51 28.3	
	comp=Z,9μm,18.3s,baz=221,slow=40								
PET	**Petropavlovsk**	**16.51**	**34**	*e*P			**Pn**	**22 44 35.0**	**+0.6**
PET				*e*S			**Sn**	**22 47 37.0**	**+0.2**
PET				pmax		pmax			
	comp=Z,2μm,13.1s								
PET				pmax		pmax			
	comp=Z,69nm,1.4s								
PET				MLR		MLR			
	comp=Z,12μm,17.0s								
PET				MLR		MLR			
	comp=Z,11μm,16.0s								
DL2	**Dalian**	**16.79**	**272**	P			**Pn**	**22 44 37.3**	**-0.8**
DL2				S			**Sn**	**22 47 44.8**	**+0.9**
DL2				pmax		pmax			
	comp=Z,490nm,1.4s								
DL2				pmax		pmax			
	comp=Z,3μm,5.1s								
DL2				LR		LR			
	comp=Z,10μm,13.2s								
DL2				LR		LR			
	comp=Z,7μm,16.8s								
DL2				LR		LR			
	comp=Z,13μm,20.0s								
JOW	**Kunigami**	**18.31**	**228**	P			**P**	**22 44 54.6**	**-2.4**
	comp=Z,3.1nm,0.3s,baz=72,slow=7.5,SNR=5.6								
JOW	**Kunigami**	**18.31**	**228**	*e*Pn			**P**	**22 44 54.5**	**-2.4**
	comp=Z,201nm,1.3s								
HIA	**Hailar**	**18.97**	**306**	*e*P			**P**	**22 45 01.6**	**-2.5**
HIA				pmax		pmax			
	comp=Z,430nm,1.1s								
HIA	**Hailar**	**18.97**	**306**	*e*P			**P**	**22 45 01.6**	**-2.5**
	comp=Z,430nm,1.1s								
MA2	**Magadan**	**19.91**	**11**	P			**P**	**22 45 12.9**	**-1.4**
	comp=Z,3.7nm,0.3s,baz=198,slow=9.8,SNR=20								
MA2					LR		LR	22 54 21.2	
	comp=Z,4μm,18.7s,baz=194,slow=41								
MA2	**Magadan**	**19.91**	**11**	P			**P**	**22 45 12.9**	**-1.4**
MA2				pmax		pmax			
	comp=Z,4.0nm,0.3s								
MA2				MLR		MLR			
	comp=Z,4μm,18.7s								
CLNS	**Chul'man**	**20.50**	**330**	*e*P			**P**	**22 45 19.7**	**-1.1**
CLNS				*e*				22 45 39.2	
CLNS				*e*				22 49 26.9	
CLNS				*e*SS			Sn	22 49 46.0	+33
CLNS				pmax		pmax			
	comp=E,39nm,0.9s

SEY Seymchan 23.36 10 P **P** **22 45 49.4 -1.6**
comp=Z,31nm,0.6s,baz=185,slow=9.0,SNR=40
SEY LR LR 22 56 32.4
comp=Z,5μm,20.0s,baz=196,slow=41
SEY Seymchan 23.36 10 P **P** **22 45 49.4 -1.6**
SEY pmax pmax
comp=Z,31nm,0.6s
SEY MLR MLR
comp=Z,5μm,20.0s
CIT Chita 23.59 310 *e*P **P** **22 45 51.7 -1.8**
CIT *e* 22 46 00.3
CIT *e* 22 46 03.5
CIT *e* 22 46 24.6
CIT *e*S Sn 22 50 50.4 +23
CIT pmax pmax
comp=Z,946nm,1.8s
TATO Taipei 23.80 237 *e*P **P** **22 45 53.8 -1.7**
comp=Z,147nm,0.8s
TATO LR LR
comp=Z,21μm,19.0s
YHNB Yeheng 24.08 237 *e*P **P** **22 45 56.2 -2.1**
comp=Z,68nm,0.8s
YHNB LR LR
comp=Z,21μm,19.0s
HHC Hu-ho-hao-te 24.09 282 *e*P **P** **22 45 55.9 -2.5**
HHC PP **PnPn** **22 46 28.9 +1.3**
HHC S **S** **22 50 10.3 -4.4**
HHC sS pS 22 50 20.3 -1.7
HHC SS **SnSn** **22 51 01.3 +5.1**
HHC pmax pmax
comp=Z,81nm,1.5s
HHC pmax pmax
comp=Z,2μm,5.3s
HHC LR LR
comp=Z,8μm,14.9s
HHC LR LR
comp=Z,23μm,18.7s
HHC LR LR
comp=Z,27μm,13.7s
TIY Taiyuan 24.10 274 *e*P **P** **22 45 56.5 -2.0**
TIY PP **PnPn** **22 46 29.3 +1.5**
TIY S **S** **22 50 15.3 +0.5**
TIY SS **SnSn** **22 50 59.0 +2.5**
TIY pmax pmax
comp=Z,27nm,0.5s
TIY pmax pmax
comp=Z,2μm,8.5s
TIY LR LR
comp=Z,8μm,12.3s
TIY LR LR
comp=Z,7μm,14.1s
TIY LR LR
comp=Z,6μm,15.3s
NACB Ninganchiao 24.30 235 *e*P **P** **22 45 57.7 -2.6**
comp=Z,70nm,0.8s
SSLB Suanglung 24.98 236 *e*P **P** **22 46 04.2 -2.4**
comp=Z,40nm,0.8s
YULB Yu-li 25.05 235 *e*P **P** **22 46 04.8 -2.3**
comp=Z,70nm,0.8s
BTO Baotou 25.29 282 *e*P **P** **22 46 07.3 -1.9**
WHN Wuhan 25.44 257 ⇓P **P** **22 46 10.8 +0.2**
WHN LR LR
comp=Z,31μm,14.9s
WHN LR LR
comp=Z,63μm,14.6s
WHN LR LR
comp=Z,75μm,16.3s
TPUB Ta-pu 25.54 235 *e*P **P** **22 46 09.2 -2.3**
comp=Z,99nm,1.0s
TWG Pinlang 25.61 234 *e*P **P** **22 46 11.8 -0.3**
comp=Z,1μm,1.3s
QZH Quanzhou 25.72 241 ⇑*i*P **P** **22 46 12.0 -1.1**
QZH S **S** **22 50 36.6 -4.1**
QZH pmax pmax
comp=Z,2μm,2.2s
QZH pmax pmax
comp=Z,5μm,3.1s
QZH LR LR
comp=Z,15μm,15.0s
QZH LR LR
comp=Z,17μm,13.3s
QZH LR LR
comp=Z,26μm,14.6s
BOD Bodaibo 25.75 323 ⇑*i*P **P** **22 46 12.3 -0.8**
BOD pmax pmax
comp=Z,329nm,1.9s
GUMO Guam 26.58 177 LR LR 22 55 39.9
comp=Z,4μm,20.7s,baz=7.5,slow=34
ULN Ulaanbaatar 26.98 299*c i*P **P** **22 46 24.3 -0.3**
ULN pmax pmax
comp=Z,566nm,2.5s
ULN Ulaanbaatar 26.98 299 *e*P **P** **22 46 23.2 -1.3**
comp=Z,268nm,1.2s
ULN LR LR
comp=Z,23μm,19.0s
ULN Ulaanbaatar 26.98 299 P **P** **22 46 24.2 -0.3**
SNR=151
ULN P **P** **22 46 24.2 -0.3**
SNR=151
SONA1 Songino Array 27.41 298 *e*P **P** **22 46 27.2 -1.2**
SONM Songino Array 27.42 298 P **P** **22 46 28.6 +0.1**
comp=Z,89nm,0.9s,baz=105,slow=7.7,SNR=321
SONM LR LR 22 58 03.5
comp=Z,27μm,18.6s,baz=90,slow=38
SONM Songino Array 27.42 298 P **P** **22 46 28.6 +0.1**
SONM pmax pmax
comp=Z,88nm,0.9s
SONM MLR MLR
comp=Z,27μm,18.6s
XAN Xi'an 28.01 268 P **P** **22 46 32.3 -1.5**
XAN pmax pmax
comp=Z,140nm,0.8s
XAN pmax pmax
comp=Z,2μm,6.5s
XAN LR LR
comp=Z,8μm,16.3s
XAN LR LR
comp=Z,16μm,16.1s
XAN LR LR
comp=Z,19μm,15.9s
H11N2 WAKE ISLAND Hy 28.73 128 T T 23 17 51.7
baz=318,slow=75,SNR=573
H11N1 WAKE ISLAND Hy 28.73 128 T T 23 17 44.4
baz=318,slow=75,SNR=668
H11N3 WAKE ISLAND Hy 28.74 128 T T 23 17 44.8
baz=318,slow=75,SNR=818
WAKE Wake Island 28.93 129 PFAKE 22 47 00.0 +18
WAKE LR LR
comp=Z,8μm,20.0s
IRK Irkutsk 29.20 307 *e*P **P** **22 46 43.6 -0.6**
IRK pmax pmax
comp=Z,432nm,2.0s
ENH Enshi 29.23 261 *e*P **P** **22 46 44.0 -0.6**
comp=Z,181nm,0.9s
ENH LR LR
comp=Z,11μm,19.0s
TLY Talaya 29.51 306 P **P** **22 46 46.8 -0.2**
comp=Z,13nm,0.6s,baz=111,slow=7.9,SNR=12
TLY Talaya 29.51 306 *e*P **P** **22 46 47.5 +0.6**
TLY pmax pmax
comp=Z,111nm,1.6s
TLY MLR MLR
comp=Z,18μm,16.0s
TLY Talaya 29.51 306 *e*P **P** **22 46 47.0 +0.1**
comp=Z,109nm,1.4s
TLY LR LR
comp=Z,10μm,20.0s
TLY Talaya 29.51 306 P **P** **22 46 46.9 0.0**
SNR=29
H11S1 WAKE ISLAND Hy 29.56 130 T T 23 17 54.1
baz=322,slow=76,SNR=254
H11S3 WAKE ISLAND Hy 29.56 130 T T 23 17 54.2
baz=322,slow=76,SNR=201
H11S2 WAKE ISLAND Hy 29.57 130 T T 23 17 46.9
baz=322,slow=76,SNR=170
ZAK Zakamensk 29.61 304 *e*P **P** **22 46 47.7 -0.2**
ZAK pmax pmax
comp=Z,53nm,1.7s
BILL Bilibino 30.53 17*ce*P **P** **22 46 55.7 0.0**
BILL *e* 22 47 59.8
BILL *e*S **S** **22 51 53.8 -1.8**
BILL pmax pmax
comp=Z,15nm,0.7s
BILL MLR MLR
comp=Z,4μm,15.0s
GZH Guangzhou 30.53 245 P **P** **22 46 51.9 -4.2**
GZH PP **PnPn** **22 47 50.4 -5.0**
GZH S S 22 51 45.4 -11
LZH Lanzhou 31.15 275 *e*P **P** **22 47 01.1 -0.7**
LZH pP pP 22 47 05.4 -3.2
LZH sP sP 22 47 07.3 -4.1
LZH PP **PnPn** **22 48 03.6 +0.1**
LZH S **S** **22 52 00.1 -6.3**
LZH SS **SnSn** **22 53 45.0 -3.7**
LZH pmax pmax
comp=Z,85nm,1.1s
LZH pmax pmax
comp=Z,570nm,6.9s
LZH LR LR
comp=Z,7μm,13.0s
LZH LR LR
comp=Z,9μm,14.0s
LZH LR LR
comp=Z,10μm,14.4s
MOY Mondy 31.15 306 *e*P **P** **22 47 01.6 +0.1**
MOY pmax pmax
comp=Z,211nm,3.9s
TIXI Tiksi 32.32 351 P **P** **22 47 10.3 -1.1**
comp=Z,29nm,0.9s,baz=143,slow=9.2,SNR=29
TIXI Tiksi 32.32 351*c i*P **P** **22 47 10.4 -0.9**
TIXI pmax pmax
comp=Z,164nm,2.5s
TIXI Tiksi 32.32 351 *e*P **P** **22 47 10.5 -0.9**
comp=Z,66nm,1.1s
TIXI LR LR
comp=Z,6μm,20.0s
GTA Gaotai 33.19 283 ⇑P **P** **22 47 19.3 -0.3**
GTA pP pP 22 47 23.6 -2.8
GTA sP sP 22 47 26.3 -3.0
GTA PcP **PcP** **22 50 03.8 +1.8**
GTA S **S** **22 52 39.1 +1.0**
GTA sS pS 22 52 45.3 -0.5
GTA ScP **ScP** **22 53 46.0 +1.2**
GTA PcS **PcS** **22 53 49.3 +1.7**
GTA SS **SnSn** **22 54 40.3 +2.2**
GTA ScS **ScS** **22 57 45.0 -0.4**
GTA pmax pmax
comp=Z,41nm,1.6s
GTA pmax pmax
comp=Z,2μm,5.2s
GTA LR LR
comp=Z,10μm,19.0s
GTA LR LR
comp=Z,25μm,18.1s
GTA LR LR
comp=Z,30μm,18.1s
CD2 Chengdu 33.28 266 ⇑*i*P **P** **22 47 19.3 -1.1**
CD2 pP pP 22 47 25.6 -1.6
CD2 PP **PnPn** **22 48 28.3 -2.6**
CD2 S **S** **22 52 42.5 +3.0**
CD2 pmax pmax
comp=Z,140nm,0.8s
CD2 pmax pmax
comp=Z,1μm,7.6s
CD2 LR LR
comp=Z,18μm,14.2s
CD2 LR LR
comp=Z,7μm,14.2s
CD2 LR LR
comp=Z,17μm,14.2s
GYA Guiyang 33.33 257 ⇑*i*P **P** **22 47 19.3 -1.6**
GYA PP **PnPn** **22 48 33.0 +1.3**
GYA PcP **PcP** **22 48 42.1 +2.1**
GYA S **S** **22 52 40.8 +0.4**
GYA ScP **ScP** **22 53 48.9 +3.5**
GYA SS **SnSn** **22 54 41.0 -0.8**
GYA ScS **ScS** **22 57 48.4 +1.9**
GYA pmax pmax
comp=Z,270nm,1.0s
GYA pmax pmax
comp=Z,1μm,10.1s
GYA LR LR
comp=Z,11μm,19.9s
GYA LR LR
comp=Z,5μm,18.4s
GYA LR LR
comp=Z,4μm,22.0s
MIDW Midway 34.36 98 PFAKE 22 47 40.0 +10
MIDW LR LR
comp=Z,4μm,20.0s
QIZ Qiongzhong 35.67 244 P **P** **22 47 41.8 +0.8**
QIZ S **S** **22 53 19.8 +3.5**
QIZ pmax pmax
comp=Z,49nm,1.9s
QIZ LR LR
comp=Z,8μm,16.6s
QIZ LR LR
comp=Z,8μm,15.3s
QIZ LR LR
comp=Z,10μm,16.1s
QIZ Qiongzhong 35.67 244 *e*P **P** **22 47 41.7 +0.7**
comp=Z,148nm,1.7s
QIZ LR LR
comp=Z,6μm,19.0s
DAV Davao City (W) 36.66 210 PFAKE 22 48 00.0 +10
DAV LR LR
comp=Z,3μm,19.0s
KMI Kunming 37.01 259 P **P** **22 47 52.4 -0.3**
KMI PP **PP** **22 49 16.6 -0.5**
KMI S **S** **22 53 32.9 -4.3**
KMI pmax pmax
comp=Z,2μm,6.3s
KMI LR LR
comp=Z,23μm,15.3s
KMI LR LR
comp=Z,15μm,16.8s
KMI LR LR
comp=Z,27μm,16.2s
SLVN Son La 38.38 253 *e*P **P** **22 48 04.2 +0.1**
comp=Z,52nm,0.9s
WMQ Urumqi 40.83 294 P **P** **22 48 25.1 +0.8**
WMQ pP pP 22 48 29.6 -1.7
WMQ sP sP 22 48 32.1 -2.0
WMQ PP **PnPn** **22 50 02.3 -0.4**
WMQ PcS **PcS** **22 54 16.9 +1.1**
WMQ S **S** **22 54 38.5 +4.4**
WMQ SS **SS** **22 57 30.4 -4.9**
WMQ pmax pmax
comp=Z,230nm,1.1s
WMQ pmax pmax
comp=Z,2μm,4.7s
WMQ LR LR
comp=Z,5μm,14.3s
WMQ LR LR
comp=Z,8μm,18.7s
WMQ LR LR
comp=Z,9μm,20.1s
ZAA0 Zalesovo Array 40.95 310 *e*P **P** **22 48 24.7 -0.4**
ZALV Zalesovo Beam 40.95 310 P **P** **22 48 24.6 -0.5**
comp=Z,41nm,0.8s,baz=88,slow=6.6,SNR=167
ZALV PcP **PcP** **22 50 25.7 +0.7**
comp=Z,31nm,0.7s,baz=100,slow=2.8,SNR=4.6
ZALV LR LR 23 06 22.7
comp=Z,13μm,18.7s,baz=72,slow=38
NRIK Noril'sk 41.03 333 P **P** **22 48 25.1 -0.4**
comp=Z,80nm,1.2s,baz=108,slow=8.3,SNR=45
NRIK LR LR 23 07 11.3
comp=Z,8μm,18.9s,baz=102,slow=39
SKNT Sakolnakorn 41.14 247 P **P** **22 48 27.4 +0.3**
comp=Z,190nm,2.0s
UBPT Khong Chiam 41.26 244 P **P** **22 48 28.8 +0.7**
comp=Z,105nm,1.7s,comp=Z,2μm
MYLDM Lahad Datu 41.45 219 *e*P **P** **22 48 31.4 +1.8**
comp=Z,314nm,1.4s
MYLDM Lahad Datu 41.45 219 ⇑P **P** **22 48 30.9 +1.4**
DLV T Lat 41.67 237 *e*P **P** **22 48 31.9 +0.3**
comp=Z,128nm,1.0s
NVS Novosibirsk 41.79 311 ⇓*i*P **P** **22 48 32.2 +0.2**
NVS pmax pmax
comp=N,32nm,1.3s
NVS pmax pmax
comp=E,111nm,1.3s
NVS pmax pmax
comp=Z,154nm,1.3s
KKM Kota Kinabalu 41.85 223 PFAKE 22 48 40.0 +7.0
KKM LR LR
comp=Z,5μm,22.0s
KKM Kota Kinabalu 41.85 223 ⇓P **P** **22 48 33.8 +0.8**
TT01 Tatalina 41.93 37 *e*P **P** **22 48 32.4 -0.7**
TTA Tatalina 41.94 37 *e*P **P** **22 48 35.4 +2.2**
TTA pmax pmax
comp=Z,67nm,1.5s
TTA Tatalina 41.94 37 *e*P **P** **22 48 35.4 +2.2**
comp=Z,67nm,1.5s
SVW2 Sparrevohn 42.07 39 *e*P **P** **22 48 36.7 +2.5**
comp=Z,85nm,1.4s
SMPI Sarmi 42.24 187 P **P** **22 48 40.7 +4.7**
comp=Z,116nm,1.0s,comp=Z,2μm
JAY Jayapura 42.62 184 P **P** **22 48 40.2 +1.1**
comp=Z,1.8nm,0.9s,baz=212,slow=23,SNR=4.4
JAY Jayapura 42.62 184 P **P** **22 48 43.3 +4.2**
comp=Z,39nm,1.1s,comp=Z,580nm
UTTA Uttaradit 43.09 251 P **P** **22 48 43.4 +0.5**
comp=Z,25nm,0.9s,comp=Z,229nm
KMSI Cibinong 43.23 209 P P 22 48 55.2 +11
LAMP Lampang 43.26 253 P **P** **22 48 45.5 +1.1**
comp=Z,35nm,0.9s,comp=Z,320nm
CHAI Chaiyaphum 43.27 248 P **P** **22 48 44.6 +0.1**
comp=Z,44nm,0.9s,comp=Z,375nm
RSO Redoubt South 43.47 40 *e*P **P** **22 48 47.9 +2.1**
LSA Lhasa 43.49 273 P **P** **22 48 46.8 +0.2**
LSA S **S** **22 55 20.6 +6.1**
LSA LR LR
comp=Z,3μm,20.8s
LSA LR LR
comp=Z,6μm,20.8s
LSA LR LR
comp=Z,13μm,19.1s
LSA Lhasa 43.49 273 *e*P **P** **22 48 46.9 +0.2**
LSA pmax pmax
comp=Z,223nm,1.5s
LSA MLR MLR
comp=Z,12μm,20.0s
LSA Lhasa 43.49 273 *e*P **P** **22 48 46.9 +0.2**
comp=Z,222nm,1.5s
LSA LR LR
comp=Z,12μm,20.0s
PBKT Sadao Pong 43.55 250 P **P** **22 48 47.0 +0.3**
comp=Z,73nm,1.6s,comp=Z,2μm
CMMT Chiang Mai 43.58 254 P **P** **22 48 47.2 +0.2**
comp=Z,135nm,1.2s,comp=Z,2μm
CHTO Chiang Mai 43.59 254 P **P** **22 48 47.2 +0.2**
comp=Z,359nm,1.0s,comp=Z,8μm
CHTO Chiang Mai 43.59 254 *e*P **P** **22 48 46.8 -0.2**
CHTO pmax pmax
comp=Z,65nm,1.0s
CHTO Chiang Mai 43.59 254 *e*P **P** **22 48 46.8 -0.2**
comp=Z,65nm,1.0s
CHTO LR LR
comp=Z,3μm,20.0s
CHTO Chiang Mai 43.59 254 P **P** **22 48 47.3 +0.2**
SNR=24
PPLA Purkeypile 43.69 37 *e*P **P** **22 48 48.7 +1.2**
comp=Z,221nm,1.5s
KDAK Kodiak Island 43.73 44 P **P** **22 48 47.0 -0.6**
comp=Z,14nm,1.0s,baz=263,slow=6.9,SNR=5.5
KDAK Kodiak Island 43.73 44 *e*P **P** **22 48 48.1 +0.5**
KDAK pmax pmax
comp=Z,89nm,1.1s
KDAK MLR MLR
comp=Z,2μm,20.0s
KDAK Kodiak Island 43.73 44 *e*P **P** **22 48 48.1 +0.5**
comp=Z,89nm,1.1s
KDAK LR LR
comp=Z,2μm,20.0s
CAST Castle Rocks 43.74 36 *e*P **P** **22 48 49.2 +1.5**
comp=Z,52nm,1.0s
MK01 Makanchi Array 43.77 300 *e*P **P** **22 48 47.0 -1.1**
MK31 Makanchi Array 43.77 300*ce*P **P** **22 48 47.6 -0.6**
MK31 pmax pmax
comp=Z,157nm,0.9s
MK31 Makanchi Array 43.77 300 *e*P **P** **22 48 48.1 -0.1**
MKAR Makanchi Array 43.77 300 *e*P **P** **22 48 47.8 -0.4**
MKAR pmax pmax
comp=Z,560nm,0.8s
MKAR Makanchi Array 43.77 300 *e*P **P** **22 48 47.8 -0.4**
comp=Z,558nm,0.8s
SPU Mount Spurr 43.78 39 *e*P **P** **22 48 50.2 +2.0**
CM31 Chiang Mai Arr 43.81 254 *e*P **P** **22 48 49.7 +0.9**
CMAR Chiang Mai Arr 43.81 254 P **P** **22 48 49.2 +0.5**
comp=Z,15nm,0.8s,baz=44,slow=7.1,SNR=90
CMAR PcP **PcP** **22 50 36.5 +1.4**
comp=Z,7.3nm,0.8s,baz=359,slow=1.9,SNR=4.2
CMAR LR LR 23 09 02.9
comp=Z,4μm,18.2s,baz=66,slow=39
CM01 Chiang Mai Arr 43.82 254 *e*P **P** **22 48 48.3 -0.5**
SUKH Sukhothai 43.93 252 P **P** **22 48 50.4 +0.7**
comp=Z,26nm,0.9s,comp=Z,208nm
MAKZ Makanchi 43.98 300 *i*P **P** **22 48 49.0 -0.8**
MAKZ pmax pmax
comp=Z,229nm,1.1s
MAKZ Makanchi 43.98 300 *e*P **P** **22 48 49.6 -0.2**
comp=Z,198nm,1.1s
MRSI Marisa 44.11 212 P **P** **22 48 52.7 +1.6**
comp=Z,123nm,1.2s,comp=Z,5μm
FAKI Fak Fak 44.14 196 *e*P **P** **22 48 51.5 +0.2**
comp=Z,162nm,1.4s
KTH Kantishna Hill 44.26 36 *e*P **P** **22 48 53.1 +1.2**
comp=Z,53nm,1.0s
SRAK Srakaew 44.52 246 P **P** **22 48 52.0 -2.5**
comp=Z,317nm,0.9s,comp=Z,3μm
COLD Coldfoot 44.62 31 *e*P **P** **22 48 55.9 +1.1**
comp=Z,31nm,1.0s
NAYO Nakonayok 44.82 247 P **P** **22 48 58.6 +1.8**
comp=Z,173nm,0.9s,comp=Z,16μm
TOLK Toolik Lake Re 44.93 29 P **P** **22 48 58.7 +1.5**
baz=267
MCK McKinley 45.14 36 *e*P **P** **22 48 59.9 +1.0**
MCK pmax pmax
comp=Z,48nm,1.0s
MCK McKinley 45.14 36 *e*P **P** **22 48 59.9 +1.0**
comp=Z,48nm,1.1s
PMR Palmer 45.17 39 *e*P **P** **22 48 59.8 +0.7**
PMR pmax pmax
comp=Z,41nm,1.1s
PMR Palmer 45.17 39 *e*P **P** **22 48 59.8 +0.7**
comp=Z,41nm,1.1s
KURK Kurchatov 45.21 306*c i*P **P** **22 48 58.8 -0.8**
KURK pmax pmax
comp=Z,423nm,1.0s
KURK Kurchatov 45.21 306 *e*P **P** **22 48 59.1 -0.5**
comp=Z,338nm,0.9s
KURK LR LR
comp=Z,7μm,19.0s
KURK Kurchatov 45.21 306 P **P** **22 48 59.1 -0.5**
SNR=114
KURBB Kurchatov Arra 45.29 306 P **P** **22 48 59.7 -0.5**
comp=Z,271nm,0.8s,baz=80,slow=8.3,SNR=643
UMPA Umpang Tak 45.32 251 P **P** **22 49 03.7 +2.9**
comp=Z,29nm,1.1s
UTHA Uthaitani 45.32 250 P **P** **22 49 02.7 +1.9**
comp=Z,15nm,1.0s,comp=Z,136nm
MDM Murphy Dome 45.41 34 *e*P **P** **22 49 01.8 +0.8**
WRH Wood River Hil 45.48 34 *e*P **P** **22 49 02.2 +0.6**
comp=Z,47nm,1.2s
SML Sawmill 45.53 38 *e*P **P** **22 49 03.9 +1.9**
SML pmax pmax
comp=Z,100nm,1.2s
SML Sawmill 45.53 38 *e*P **P** **22 49 02.0 0.0**
comp=Z,105nm,1.2s
COLA College 45.57 34 *e*P **P** **22 49 02.9 +0.7**
COLA pmax pmax
comp=Z,86nm,1.2s
COLA MLR MLR
comp=Z,2μm,19.0s
COLA College 45.57 34 *e*P **P** **22 49 02.9 +0.7**
comp=Z,86nm,1.2s
COLA LR LR
comp=Z,2μm,19.0s
CCB Clear Creek Bu 45.60 34 *e*P **P** **22 49 04.2 +1.7**
comp=Z,72nm,1.7s
BTM Bintulu 45.91 224 ⇓P **P** **22 49 06.9 +1.5**
HDA Harding Lake 45.98 35 *e*P **P** **22 49 06.1 +0.6**
comp=Z,115nm,1.6s
IL1 Eielson Array 45.99 34 *e*P **P** **22 49 05.2 -0.4**
ILAR Eielson Array 45.99 34 P **P** **22 49 05.5 -0.1**
comp=Z,5.2nm,0.9s,baz=262,slow=5.9,SNR=33
ILAR LR LR 23 08 28.0
comp=Z,1μm,21.0s,baz=300,slow=36
ILB Eielson Array 45.99 34 *e*P **P** **22 49 05.8 +0.2**
SCM Sheep Creek Mo 46.00 38 *e*P **P** **22 49 07.3 +1.5**
SCM pmax pmax
comp=Z,53nm,0.9s
SCM Sheep Creek Mo 46.00 38 *e*P **P** **22 49 07.3 +1.5**
comp=Z,53nm,0.9s
PATY Pattaya 46.09 246 P **P** **22 49 09.3 +2.3**
comp=Z,24nm,1.0s,comp=Z,661nm
PCI Palu 46.23 214 P **P** **22 49 09.8 +1.8**
comp=Z,106nm,1.2s,comp=Z,1μm

SRDT	**SRDT**	**46.36**	**249**	P		**P**		**22 49 11.6**	**+2.6**
	comp=Z,374nm,1.1s,comp=Z,6μm								
FYU	**Fort Yukon**	**46.59**	**31**	*eP*		**P**		**22 49 13.4**	**+3.2**
	comp=Z,629nm,2.0s								
PDGK	**Podgornoye**	**46.67**	**296**	*i* P		**P**		**22 49 09.9**	**-1.5**
PDGK				pmax		pmax			
	comp=Z,115nm,1.1s								
KLU	**Klutina**	**46.71**	**38**	*eP*		**P**		**22 49 11.8**	**+0.5**
	comp=Z,58nm,1.1s								
SHLS	**Shalkode**	**46.75**	**296**	*i* P		**P**		**22 49 07.5**	**-4.5**
SHLS				*e*S		**S**		**22 55 54.0**	**-6.7**
PAX	**Paxson**	**46.75**	**36**	*eP*		**P**		**22 49 13.2**	**+1.5**
PAX				pmax		pmax			
	comp=Z,33nm,1.3s								
PAX	**Paxson**	**46.75**	**36**	*eP*		**P**		**22 49 13.2**	**+1.5**
	comp=Z,33nm,1.3s								
TDK	**Taldyqorghan**	**46.88**	**298**	*i* P		**P**		**22 49 11.1**	**-1.8**
	comp=Z,941nm,0.8s								
TDK				*e*S		**S**		**22 56 00.0**	**-2.2**
TDK				LR		LR		23 09 02.4	
	comp=Z,2μm,15.0s								
JOHN	**Johnston Islan**	**46.91**	**106**	PFAKE				22 49 30.0	+17
JOHN				LR		LR			
	comp=Z,506nm,19.0s								
PHET	**Kaeng Krachan**	**46.97**	**247**	P		**P**		**22 49 15.3**	**+1.5**
	comp=Z,38nm,0.8s,comp=Z,408nm								
SBUM	**Sibu**	**47.00**	**225**	*eP*		**P**		**22 49 14.5**	**+0.4**
	comp=Z,62nm,1.5s								
SBUM	**Sibu**	**47.00**	**225**	⇑P		**P**		**22 49 15.2**	**+1.2**
UZB	**Uzynbulak**	**47.06**	**296**	*i* P		**P**		**22 49 12.3**	**-2.2**
	comp=Z,817nm,1.5s								
UZB				*i* S		**S**		**22 56 02.2**	**-2.9**
TARA	**Tarawa**	**47.11**	**138**	PFAKE				22 49 30.0	+15
TARA				LR		LR			
	comp=Z,253nm,20.0s								
KPKS	**Kokpek**	**47.18**	**296**	*i* P		**P**		**22 49 13.2**	**-2.2**
	comp=Z,2μm,1.6s								
KPKS				*e*S		**S**		**22 56 04.5**	**-2.3**
TAPN	**Taplejung**	**47.28**	**272**	*eP*		**P**		**22 49 16.9**	**+0.4**
	comp=Z,467nm,1.5s								
ZHN	**Zhinishke**	**47.45**	**296**	*i* P		**P**		**22 49 15.4**	**-2.1**
	comp=Z,821nm,1.3s								
ZHN				*e*S		**S**		**22 56 07.9**	**-2.8**
MENT	**Mentasta**	**47.55**	**36**	*eP*		**P**		**22 49 18.7**	**+0.8**
	comp=Z,56nm,1.1s								
ODAN	**Odare**	**47.77**	**272**	*eP*		**P**		**22 49 20.6**	**+0.3**
	comp=Z,578nm,1.4s								
CRQM	**Cirque**	**48.15**	**39**	*eP*		**P**		**22 49 24.4**	**+1.7**
	comp=Z,92nm,0.9s								
JIRN	**Jiri**	**48.28**	**273**	*eP*		**P**		**22 49 24.9**	**+0.5**
	comp=Z,2μm,0.8s								
RAMN	**Ramite**	**48.33**	**272**	*eP*		**P**		**22 49 24.7**	**+0.1**
	comp=Z,504nm,0.9s								
GUN	**Gumba**	**48.40**	**274**	*eP*		**P**		**22 49 25.5**	**+0.3**
	comp=Z,633nm,1.0s								
MDOK	**Medeo**	**48.41**	**296**	*i* P		**P**		**22 49 22.8**	**-2.2**
	comp=Z,699nm,2.0s								
MDOK				*e*S		**S**		**22 56 21.4**	**-2.9**
MDOK				LR		LR		23 09 56.6	
	comp=Z,6μm,15.3s								
EGAK	**Eagle**	**48.43**	**34**	*eP*		**P**		**22 49 26.2**	**+1.6**
	comp=Z,45nm,0.9s								
EGAK				LR		LR			
	comp=Z,3μm,20.0s								
AAA	**Alma-Ata**	**48.48**	**296**	*i* P		**P**		**22 49 25.1**	**-0.3**
AAA				*i* S		S		22 56 42.4	+17
AAA				pmax		pmax			
	comp=Z,2μm,1.7s								
AAA				smax		smax			
	comp=E,2μm,4.5s								
AAA				MLR		MLR			
	comp=Z,18μm,12.0s								
AAA	**Alma-Ata**	**48.48**	**296**	*eP*		**P**		**22 49 23.2**	**-2.2**
	comp=Z,296nm,2.2s								
AAA				*e*S		**S**		**22 56 22.3**	**-2.9**
AAA				LR		LR		23 09 28.3	
	comp=Z,5μm,14.6s								
MTKI	**Muara Teweh, K**	**48.51**	**219**	P		**P**		**22 49 26.8**	**+1.0**
	comp=Z,147nm,1.6s								
KSM	**Kuching**	**48.86**	**226**	*eP*		**P**		**22 49 28.4**	**0.0**
	comp=Z,48nm,1.0s								
KSM				LR		LR			
	comp=Z,2μm,19.0s								
KSM	**Kuching**	**48.86**	**226**	⇑P		**P**		**22 49 30.0**	**+1.6**
KKN	**Kakani**	**48.91**	**274**	*eP*		**P**		**22 49 29.3**	**+0.2**
	comp=Z,476nm,0.9s								
PKI	**Pulchoki**	**48.93**	**274**	*eP*		**P**		**22 49 29.3**	**0.0**
	comp=Z,551nm,1.4s								
PKIN	**Phulchoki**	**48.93**	**274**	*eP*		**P**		**22 49 29.3**	**0.0**
	comp=Z,92nm,0.6s								
SPSI	**Sidrap Palu**	**49.02**	**212**	P		**P**		**22 49 30.8**	**+1.1**
	comp=Z,23nm,1.0s,comp=Z,700nm								
BRZS	**Berezniki**	**49.08**	**306**	*i* P		**P**		**22 49 28.0**	**-1.8**
	comp=Z,101nm,0.6s								
BRZS				*e*S		**S**		**22 56 30.9**	**-2.3**
BRZS				LR		LR		23 10 36.0	
DMN	**Daman**	**49.14**	**274**	*eP*		**P**		**22 49 30.9**	**+0.1**
	comp=Z,491nm,1.2s								
GKN	**Gorkha**	**49.30**	**275**	*eP*		**P**		**22 49 31.9**	**0.0**
	comp=Z,316nm,1.1s								
DAWY	**Dawson**	**49.30**	**34**	*eP*		**P**		**22 49 32.6**	**+1.3**
	comp=Z,48nm,1.6s								
BBSI	**Bau Bau**	**49.36**	**208**	P		P		22 49 37.6	+5.4
	comp=Z,25nm,1.3s,comp=Z,614nm								
STKI	**Sintang**	**49.40**	**224**	P		**P**		**22 49 33.9**	**+1.4**
	comp=Z,94nm,0.8s								
TKM2	**Tokmak 2**	**49.49**	**297**	*i* P		**P**		**22 49 32.8**	**-0.5**
TKM2				pmax		pmax			
	comp=Z,292nm,1.1s								
PMG	**Port Moresby**	**49.52**	**175**	*eP*		**P**		**22 49 34.4**	**+1.0**
PMG				pmax		pmax			
	comp=Z,42nm,1.2s								
PMG				MLR		MLR			
	comp=Z,1μm,20.0s								
PMG	**Port Moresby**	**49.52**	**175**	*eP*		**P**		**22 49 34.4**	**+1.0**
	comp=Z,42nm,1.2s								
PMG				LR		LR			
	comp=Z,1μm,20.0s								
BVAR	**Borovoye Array**	**49.58**	**311**	P		**P**		**22 49 33.7**	**+0.1**
	comp=Z,85nm,0.8s,baz=80,slow=9.2,SNR=242								
BVAR				LR		LR		23 11 41.3	
	comp=Z,7μm,20.9s,baz=76,slow=38								
BRVK	**Borovoye**	**49.63**	**311**	*c i* P		**P**		**22 49 33.1**	**-0.9**
BRVK				pmax		pmax			
	comp=Z,180nm,1.1s								
BRVK	**Borovoye**	**49.63**	**311**	*eP*		**P**		**22 49 34.2**	**+0.3**
	comp=Z,160nm,1.0s								
BRVK				LR		LR			
	comp=Z,6μm,20.0s								
BRVK	**Borovoye**	**49.63**	**311**	P		**P**		**22 49 34.2**	**+0.3**
	SNR=76								
BRVK				P		**P**		**22 49 34.2**	**+0.3**
	SNR=76								
KAPI	**Kappang**	**49.98**	**211**	*eP*		**P**		**22 49 36.9**	**-0.1**
	comp=Z,85nm,1.3s								
KAPI				LR		LR			
	comp=Z,1μm,20.0s								
KAPI	**Kappang**	**49.98**	**211**	P		**P**		**22 49 37.3**	**+0.3**
	SNR=9.4								
KAPI				P		**P**		**22 49 37.3**	**+0.3**
	SNR=9.4								
KTGM	**Kuala Trenggan**	**50.10**	**237**	⇓P		**P**		**22 49 39.1**	**+1.2**
FRU	**Bishkek**	**50.19**	**297**	*eP*		**P**		**22 49 37.0**	**-1.4**
FRU				*e*				22 51 40.0	
FRU				*e*S		**S**		**22 56 50.0**	**+0.9**
FRU				pmax		pmax			
	comp=Z,500nm,2.1s								
FRU				smax		smax			
	comp=E,250nm,2.5s								
KOLN	**Koldanda**	**50.21**	**275**	*eP*		**P**		**22 49 39.0**	**+0.1**
	comp=E,389nm,1.3s								
AAK	**Ala-Archa**	**50.35**	**297**	P		**P**		**22 49 39.5**	**-0.2**
	comp=E,36nm,0.8s,baz=108,slow=5.6,SNR=59								
AAK				LR		LR		23 12 09.0	
	comp=E,11μm,20.4s,baz=69,slow=38								
AAK	**Ala-Archa**	**50.35**	**297**	*i* P		**P**		**22 49 38.8**	**-1.0**
AAK				pmax		pmax			
	comp=Z,68nm,0.9s								
AAK	**Ala-Archa**	**50.35**	**297**	*eP*		**P**		**22 49 39.3**	**-0.5**
	comp=Z,70nm,1.0s								
PYUN	**Piuthan**	**50.50**	**276**	*eP*		**P**		**22 49 41.4**	**+0.2**
	comp=Z,605nm,0.9s								
TRTT	**Trang**	**50.51**	**242**	P		**P**		**22 49 42.6**	**+1.5**
	comp=Z,70nm,1.6s,comp=Z,1μm								
KSH	**Kashi**	**50.53**	**292**	⇑*i* P		**P**		**22 49 44.4**	**+3.3**
KSH				pP		pP		22 49 49.3	+1.1
KSH				PcP		**PcP**		**22 51 01.8**	**+3.0**
KSH				PP		**PP**		**22 51 41.6**	**+4.8**
KSH				S		**S**		**22 56 58.3**	**+4.3**
KSH				sS		sS		22 57 06.3	+0.6
KSH				SS		**SS**		**23 00 30.1**	**+2.3**
KSH				pmax		pmax			
	comp=Z,140nm,1.3s								
KSH				pmax		pmax			
	comp=Z,1μm,4.0s								
KSH				LR		LR			
	comp=Z,3μm,13.3s								
KSH				LR		LR			
	comp=Z,3μm,13.2s								
KSH				LR		LR			
	comp=Z,9μm,13.4s								
KRAB	**Krabi**	**50.57**	**243**	P		**P**		**22 49 40.0**	**-1.5**
	comp=Z,1μm,1.2s,comp=Z,122μm								
HYT	**Haines Junctio**	**50.84**	**38**	*eP*		**P**		**22 49 44.9**	**+1.8**
	comp=Z,117nm,1.0s								
INK	**Inuk**	**50.85**	**28**	P		**P**		**22 49 43.4**	**+0.5**
	comp=Z,6.2nm,0.5s,baz=290,slow=6.7,SNR=16								
INK	**Inuvik**	**50.85**	**28**	*eP*		**P**		**22 49 44.0**	**+1.1**
INK				pmax		pmax			
	comp=Z,38nm,1.0s								
INK	**Inuvik**	**50.85**	**28**	*eP*		**P**		**22 49 44.0**	**+1.1**
	comp=Z,38nm,1.0s								
PBKI	**Pangkalan Bun**	**51.64**	**222**	P		**P**		**22 49 50.9**	**+1.4**
	comp=Z,89nm,0.9s,comp=Z,3μm								
KULM	**Kulim**	**51.74**	**239**	*eP*		**P**		**22 49 51.1**	**+0.9**
	comp=Z,120nm,1.2s								
KULM				LR		LR			
	comp=Z,3μm,19.0s								
KULM	**Kulim**	**51.74**	**239**	⇑P		**P**		**22 49 51.4**	**+1.1**
HNR	**Honiara**	**51.76**	**159**	PFAKE				22 50 00.0	+10
HNR				LR		LR			
	comp=Z,3μm,19.0s								
MNAS	**Manas**	**51.77**	**297**	*i* P		**P**		**22 49 49.9**	**-0.5**
MNAS				pmax		pmax			
	comp=Z,194nm,0.9s								
IPM	**Ipoh**	**52.10**	**238**	*eP*		**P**		**22 49 52.0**	**-1.0**
	comp=Z,118nm,1.3s								
IPM	**Ipoh**	**52.10**	**238**	⇑P		**P**		**22 49 54.3**	**+1.3**
WHY	**Whitehorse**	**52.12**	**38**	*eP*		**P**		**22 49 54.0**	**+1.2**
	comp=Z,36nm,1.1s								
SKAG	**Skagway**	**52.25**	**40**	*eP*		**P**		**22 49 56.1**	**+2.5**
	comp=Z,29nm,1.1s								
MYKOM	**Kota Tinggi**	**52.38**	**233**	*eP*		**P**		**22 49 56.4**	**+1.3**
	comp=Z,109nm,1.5s								
KGM	**Kluang**	**52.53**	**234**	⇓P		**P**		**22 49 57.5**	**+1.4**
TPRI	**Tanjung Pinang**	**52.66**	**232**	P		**P**		**22 49 59.1**	**+2.0**
FRIM	**Kepong**	**52.66**	**237**	⇑P		**P**		**22 49 58.2**	**+1.1**
SOEI	**Soe**	**52.79**	**204**	*eP*		**P**		**22 49 57.5**	**-0.6**
	comp=Z,164nm,1.0s								
KIP	**Kipapa**	**52.79**	**92**	PFAKE				22 50 10.0	+12
KIP				LR		LR			
	comp=Z,4μm,19.0s								
KK31	**Karatay Array**	**52.87**	**299**	*ceP*		**P**		**22 49 57.3**	**-1.1**
KK31				pmax		pmax			
	comp=Z,109nm,1.1s								
KKAR	**Karatay Array**	**52.87**	**299**	*eP*		**P**		**22 49 58.1**	**-0.3**
KKAR				pmax		pmax			
	comp=Z,470nm,1.0s								
KKAR	**Karatay Array**	**52.87**	**299**	*eP*		**P**		**22 49 58.1**	**-0.3**
	comp=Z,468nm,0.9s								
BRLS	**Borolday**	**53.35**	**299**	*i* P		**P**		**22 50 01.4**	**-0.6**
	comp=Z,41nm,1.8s								
BRLS				*e*S		**S**		**22 57 33.0**	**+0.5**
BRLS				LR		LR		23 13 16.4	
	comp=Z,368nm,14.0s								
IUG	**Iuzhnay**	**53.58**	**298**	*i* P		**P**		**22 50 01.3**	**-2.5**
	comp=Z,559nm,1.6s								
IUG				*i* S		**S**		**22 57 33.2**	**-2.6**
IUG				LR		LR		23 13 05.3	
	comp=Z,2μm,11.6s								
SVE	**Sverdlovsk**	**53.77**	**317**	*d i* P		**P**		**22 50 05.4**	**+0.6**
SVE				*e*S		**S**		**22 57 37.7**	**0.0**
SVE				pmax		pmax			
	comp=Z,343nm,1.2s								
SVE				MLR		MLR			
	comp=E,18μm,15.0s								
SVE				MLR		MLR			
	comp=Z,23μm,15.0s								
COEN	**Coen**	**53.92**	**180**	*eP*		**P**		**22 50 06.2**	**0.0**
	comp=Z,42nm,1.1s								
MTN	**Manton Dam**	**54.02**	**195**	*eP*		**P**		**22 50 07.0**	**+0.1**
	comp=Z,82nm,1.2s								
TWSI	**Taliwang, Sumb**	**54.53**	**213**	P		**P**		**22 50 10.0**	**-0.7**
	comp=Z,45nm,0.9s								
SOKR	**Solikamsk**	**54.73**	**322**	*c i* P		**P**		**22 50 10.0**	**-1.6**
SOKR								22 52 12.4	
SOKR				S		**S**		**22 57 49.3**	**-1.1**
SOKR				SS		**SS**		**23 01 32.7**	**-0.2**
SOKR				pmax		pmax			
	comp=Z,196nm,1.2s								
SOKR				MLR		MLR			
	comp=Z,10μm,17.0s								
PSI	**Prapat**	**54.74**	**239**	P		**P**		**22 50 12.6**	**+0.1**
	comp=Z,30nm,0.9s,baz=14,slow=4.9,SNR=25								
PSI				LR		LR		23 13 22.1	
	comp=Z,2μm,21.9s,slow=36								
PSI	**Prapat**	**54.74**	**239**	*eP*		**P**		**22 50 12.7**	**+0.1**
	comp=Z,51nm,1.0s								
ARU	**Arti**	**54.99**	**318**	P		**P**		**22 50 13.7**	**+0.1**
	comp=Z,107nm,1.0s,baz=74,slow=4.7,SNR=189								
ARU				LR		LR		23 16 23.9	
	comp=Z,19μm,18.4s,baz=65,slow=39								
ARU	**Arti**	**54.99**	**318**	*c i* P		**P**		**22 50 13.3**	**-0.3**
ARU								22 51 15.4	
ARU								22 52 15.7	
ARU				PPP		PPP		22 53 27.4	
ARU				*e*S		**S**		**22 57 54.5**	**+0.4**
ARU								22 59 57.0	
ARU				pmax		pmax			
	comp=Z,502nm,1.7s								
ARU				MLR		MLR			
	comp=Z,21μm,16.0s								
ARU	**Arti**	**54.99**	**318**	*eP*		**P**		**22 50 12.8**	**-0.8**
	comp=Z,350nm,1.2s								
DLBC	**Dease Lake**	**55.19**	**40**	P		**P**		**22 50 16.5**	**+1.3**
	comp=Z,6.4nm,1.1s,baz=339,slow=5.8,SNR=4.0								
DLBC	**Dease Lake**	**55.19**	**40**	*eP*		**P**		**22 50 17.5**	**+2.3**
	comp=Z,50nm,1.4s								
BKNI	**Bangkinang**	**55.27**	**235**	*eP*		**P**		**22 50 16.3**	**+0.1**
	comp=Z,487nm,1.4s								
POHA	**Pohakuloa**	**55.64**	**92**	PFAKE				22 50 30.0	+11
POHA				LR		LR			
	comp=Z,3μm,20.0s								
NGJI	**Ngawi**	**55.76**	**219**	P		**P**		**22 50 22.3**	**+2.7**
	comp=Z,38nm,0.6s								
KPJI	**Karang Pucung**	**56.99**	**222**	P		**P**		**22 50 28.2**	**-0.2**
	comp=Z,114nm,0.8s								
AB31	**Akbulak array**	**57.06**	**309**	*ceP*		**P**		**22 50 27.8**	**-0.8**
AB31				pmax		pmax			
	comp=Z,135nm,0.9s								
ABKAR	**Akbulak array**	**57.06**	**309**	*eP*		**P**		**22 50 28.1**	**-0.4**
	comp=Z,659nm,0.8s								
HOPEN	**Hopen**	**57.30**	**346**	*eP*		**P**		**22 50 29.6**	**-0.3**
HOPEN				IAmb		IAmb		22 50 31.7	
	comp=Z,229nm,1.6s								
HOPEN				*e*S		**S**		**22 58 26.4**	**+2.1**
HOPEN				IAMs_20		IAMs_20		23 17 08.6	
	comp=Z,6μm,19.5s								
SPA0	**Spitsbergen Ar**	**57.67**	**349**	⇑*e*				23 00 02.4	
SPITS	**Spitsbergen Ar**	**57.67**	**349**	LR		LR		23 18 01.7	
	comp=Z,4μm,19.3s,baz=25,slow=39								
AKTO	**Aktyubinsk**	**57.68**	**311**	P		**P**		**22 50 32.7**	**-0.3**
	comp=Z,54nm,0.8s,baz=69,slow=7.4,SNR=86								
AKTO				LR		LR		23 16 48.3	
	comp=Z,7μm,18.5s,slow=38								
AKTO	**Aktyubinsk**	**57.68**	**311**	*i* P		**P**		**22 50 32.2**	**-0.8**
AKTO				pmax		pmax			
	comp=Z,79nm,0.8s								
KBL	**Kabul**	**57.71**	**290**	*eP*		**P**		**22 50 32.8**	**-0.8**
KBL				pmax		pmax			
	comp=Z,160nm,0.9s								
KBL	**Kabul**	**57.71**	**290**	*eP*		**P**		**22 50 32.8**	**-0.8**
	comp=Z,159nm,0.9s								
KBS	**Kingsbay**	**57.76**	**350**	⇑*i* P		**P**		**22 50 33.7**	**+0.6**
KBS				IAmb		IAmb		22 50 35.2	
	comp=Z,78nm,1.0s								
KBS				*e*S		**S**		**22 58 32.1**	**+1.9**
KBS	**Kingsbay**	**57.76**	**350**	*eP*		**P**		**22 50 33.3**	**+0.2**
KBS				pmax		pmax			
	comp=Z,76nm,1.0s								
KBS				MLR		MLR			
	comp=Z,2μm,19.0s								
KBS	**Kingsbay**	**57.76**	**350**	*eP*		**P**		**22 50 33.3**	**+0.2**
	comp=Z,76nm,1.0s								
KBS				LR		LR			
	comp=Z,2μm,19.0s								
HSPB	**Hornsund (broa**	**58.63**	**348**	⇑*i* P		**P**		**22 50 39.5**	**+0.4**
HSPB				*eP*		**pP**		**22 50 39.8**	**-6.5**
HSPB				IAmb		IAmb		22 50 41.2	
	comp=Z,215nm,1.3s								
HSPB				IAMs_20		IAMs_20		23 18 18.8	
	comp=Z,5μm,20.0s								
FUNA	**Funafuti**	**58.74**	**137**	PFAKE				22 50 50.0	+9.3
FUNA				LR		LR			
	comp=Z,6μm,19.0s								
LVZ	**Lovozero**	**59.81**	**335**	⇓*eP*		**P**		**22 50 46.7**	**-0.9**
LVZ				pmax		pmax			
	comp=Z,108nm,2.6s								
LVZ	**Lovozero**	**59.81**	**335**	PFAKE				22 51 00.0	+12
LVZ				LR		LR			
	comp=Z,4μm,22.0s								
HYB	**Hyderabad**	**59.82**	**268**	*i* P		**P**		**22 50 49.0**	**+0.7**
CTAO	**Charters Tower**	**60.08**	**177**	PFAKE				22 51 00.0	+10
CTAO				LR		LR			
	comp=Z,2μm,19.0s								
YKA	**Yellowknife Ar**	**60.28**	**32**	P		**P**		**22 50 51.1**	**+0.3**
	comp=Z,2.0nm,0.7s,baz=302,slow=6.6,SNR=8.2								
YKA				LR		LR		23 19 57.9	
	comp=Z,180nm,20.2s,baz=0.0,slow=39								
YKA	**Yellowknife Ar**	**60.28**	**32**	*ceP*		**P**		**22 50 52.0**	**+1.2**
FITZ	**Fitzroy Crossi**	**60.34**	**199**	*eP*		**P**		**22 50 52.2**	**+0.6**
	comp=Z,56nm,1.4s								
APA	**Apatity**	**60.39**	**335**	⇓*i* P		**P**		**22 50 47.4**	**-4.0**
WRAB	**Tennant Creek**	**60.45**	**190**	*ceP*		**P**		**22 50 51.4**	**-0.9**
WRAB				pmax		pmax			
	comp=Z,93nm,1.7s								
WRAB	**Tennant Creek**	**60.45**	**190**	*eP*		**P**		**22 50 51.8**	**-0.5**
	comp=Z,30nm,0.8s								
WRAB				LR		LR			
	comp=Z,1μm,20.0s								
WB2	**Warramunga Arr**	**60.46**	**190**	*eP*		**P**		**22 50 51.9**	**-0.5**
	comp=Z,32nm,0.8s								
WRA	**Warramunga Arr**	**60.46**	**190**	P		**P**		**22 50 51.3**	**-1.1**
	comp=Z,12nm,0.7s,baz=7.8,slow=7.0,SNR=80								
WRA				LR		LR		23 17 03.0	
	comp=Z,827nm,19.6s,baz=350,slow=36								
WRA	**Warramunga Arr**	**60.46**	**190**	*i* P		**P**		**22 50 51.2**	**-1.2**
WRA				pmax		pmax			
	comp=Z,12nm,0.7s								
TMCR	**Tamitsa**	**60.67**	**331**	*eP*		**P**		**22 50 52.2**	**-1.1**
TMCR				pmax		pmax			
	comp=Z,124nm,1.0s								
KEV	**Kevo**	**60.98**	**339**	PFAKE				22 51 10.0	+15
KEV				LR		LR			
	comp=Z,5μm,22.0s								
HAMF	**Hammerfest**	**61.29**	**341**	*eS*		**S**		**22 59 17.3**	**+1.4**
ARA0	**ARCESS Array S**	**61.53**	**339**	*eP*		**P**		**22 51 00.1**	**+0.9**
ARCES	**ARCESS Array B**	**61.53**	**339**	P		**P**		**22 50 59.5**	**+0.3**
	comp=Z,16nm,0.8s,baz=41,slow=8.1,SNR=17								
ARCES				PP		**PP**		**22 53 14.4**	**+0.2**
	comp=Z,19nm,1.0s,baz=55,slow=11,SNR=5.2								
ARCES				LR		LR		23 20 14.3	
	comp=Z,6μm,21.4s,baz=39,slow=39								
ARCES	**ARCESS Array B**	**61.53**	**339**	P		**P**		**22 50 59.5**	**+0.3**
ARCES								22 53 14.5	
ARCES				pmax		pmax			
	comp=Z,16nm,0.8s								
ARCES				pmax		pmax			
	comp=Z,19nm,1.0s								
ARCES				MLR		MLR			
	comp=Z,6μm,21.4s								
ARE0	**ARCESS Array S**	**61.53**	**339**	*eP*		**P**		**22 50 58.7**	**-0.5**
ARE0				IAmb		IAmb		22 51 00.6	
	comp=Z,36nm,1.1s								
ARE0				*e*S		**S**		**22 59 21.6**	**+2.5**
ARE0				*e*SS		**SS**		**23 03 24.2**	**+4.8**
ARE0	**ARCESS Array S**	**61.53**	**339**	*eP*		**P**		**22 51 00.6**	**+1.4**
	comp=Z,36nm,1.0s								
KLMR	**Klimovskoe**	**61.86**	**327**	*eP*		**P**		**22 50 59.3**	**-2.2**
KLMR				*e*				22 53 14.4	
KLMR				pmax		pmax			
	comp=Z,209nm,1.4s								
KLMR				MLR		MLR			
	comp=Z,2μm,14.0s								
KTK1	**Kautokeino**	**62.49**	**339**	*eP*		**P**		**22 51 06.4**	**+0.8**
KTK1				IAmb		IAmb		22 51 07.5	
	comp=Z,51nm,0.9s								
DAG	**Danmarks Havn**	**62.71**	**355**	*i* P		**P**		**22 51 07.0**	**+0.1**
	comp=Z,42nm,0.9s								
DAG	**Danmarks Havn**	**62.71**	**355**	*i* P		**P**		**22 51 07.0**	**+0.1**
DAG				pmax		pmax			
	comp=Z,35nm,0.9s								
LLLB	**Lillooet**	**62.91**	**45**	*eP*		**P**		**22 51 10.4**	**+1.6**
	comp=Z,47nm,1.4s								
TRO	**Tromso**	**63.17**	**341**	*eP*		**P**		**22 51 13.5**	**+3.4**
TRO				IAmb		IAmb		22 51 14.1	
	comp=Z,66nm,1.0s								
NLWA	**Neilton Lookou**	**63.46**	**49**	*eP*		**P**		**22 51 14.3**	**+1.8**
	comp=Z,116nm,1.8s								
NLWA				LR		LR			
	comp=Z,2μm,19.0s								
GEYT	**Alibeck**	**63.62**	**298**	P		**P**		**22 51 13.5**	**-0.2**
	comp=Z,56nm,0.9s,baz=29,slow=3.4,SNR=128								
GEYT				LR		LR		23 21 04.3	
	comp=Z,9μm,18.1s,baz=50,slow=38								
E03A	**Lebam**	**64.08**	**50**	*eP*		**P**		**22 51 18.7**	**+2.2**
	comp=Z,48nm,1.1s						

comp=Z,2µm,20.0s
PUL Pulkovo 66.20 329⇓ *e*P **P** **22 51 31.0 +1.0**
PUL pmax pmax
comp=Z,90nm,0.7s
E07A Sunnyside 66.22 48 *e*P **P** **22 51 31.7 +1.2**
comp=Z,88nm,1.6s
I04A Tendick Farm, 66.25 52 P **P** **22 51 31.8 +1.1**
baz=304
OBN Obninsk 66.44 323 LR LR 23 23 20.7
comp=Z,7µm,18.4s,baz=52,slow=38
OBN Obninsk 66.44 323*c i*P **P** **22 51 31.2 -0.4**
OBN *e* 22 52 00.8
OBN *e* 22 53 58.0
OBN *e*PPP PPP 22 55 31.9
OBN *e*S S 23 00 47.9 +28
OBN pmax pmax
comp=Z,274nm,1.7s
OBN MLR MLR
comp=Z,14µm,16.0s
OBN Obninsk 66.44 323 *e*P **P** **22 51 31.5 -0.1**
comp=Z,197nm,1.2s
D08A Wollman Farm, 66.48 48 *e*P **P** **22 51 33.8 +1.7**
comp=Z,52nm,1.4s
HAWA Hanford 66.50 48 *e*P **P** **22 51 33.1 +0.9**
comp=Z,41nm,1.4s
HAWA LR LR
comp=Z,1µm,20.0s
G06A Carlson Farm, 66.51 50 *e*P **P** **22 51 34.0 +1.6**
comp=Z,101nm,1.8s
HUMO Hull Mountain 66.58 53 *e*P **P** **22 51 33.5 +0.7**
comp=Z,43nm,1.9s
FIA1 FINESS Array S 66.68 332 *e*P **P** **22 51 33.2 +0.1**
comp=Z,154nm,1.0s
FINES FINESS Array B 66.68 332 P **P** **22 51 33.1 0.0**
comp=Z,70nm,0.8s,baz=51,slow=7.6,SNR=118
FINES LR LR 23 23 48.0
comp=Z,8µm,19.4s,baz=30,slow=39
J04D Umpqua Nationa 66.74 52 P **P** **22 51 34.9 +0.9**
baz=304
NEW Newport 66.80 46 *e*P **P** **22 51 33.8 -0.3**
NEW pmax pmax
comp=Z,43nm,1.3s
NEW MLR MLR
comp=Z,2µm,21.0s
NEW Newport 66.80 46 *e*P **P** **22 51 33.8 -0.3**
comp=Z,43nm,1.3s
NEW LR LR
comp=Z,2µm,21.0s
LPSR Galich'ya Gora 66.81 320 *e*P **P** **22 51 34.4 +0.3**
LPSR pmax pmax
comp=Z,160nm,1.1s
MOR8 Moi Rana 66.88 340⇑ *i*P **P** **22 51 32.8 -1.5**
MOR8 IAmb IAmb 22 51 34.2
comp=Z,101nm,0.9s
MOR8 IAMs_20 IAMs_20 23 24 06.7
comp=Z,7µm,18.3s
KONS Konsvik 66.97 341 *e*P **P** **22 51 35.0 +0.2**
KONS IAmb IAmb 22 51 51.7
comp=Z,68nm,1.3s
KHMM Horse Mountain 67.06 55 *e*P **P** **22 51 38.7 +2.7**
comp=Z,131nm,1.9s
STOK Stokkvaagen 67.12 340 *e*P **P** **22 51 36.0 +0.3**
STOK IAmb IAmb 22 51 37.3
comp=Z,48nm,1.0s
YBH Yreka Blue Hor 67.22 54 *e*P **P** **22 51 38.4 +1.5**
YBH pmax pmax
comp=Z,40nm,1.6s
YBH Yreka Blue Hor 67.22 54 *e*P **P** **22 51 38.4 +1.5**
comp=Z,40nm,1.6s
E09A Wood Farm, Sta 67.22 48 *e*P **P** **22 51 37.6 +0.8**
comp=Z,61nm,1.4s
VORR Voronezh 67.23 319 *e*P **P** **22 51 35.0 -1.7**
VORR pmax pmax
comp=Z,350nm,1.6s
J05D Fort Rock, OR 67.25 52 P **P** **22 51 38.4 +1.2**
baz=304
JMIC Jan Mayen 67.25 350 IAMs_20 IAMs_20 23 26 33.3
comp=Z,1µm,19.8s
M02C Callahan 67.32 54 P **P** **22 51 38.8 +1.2**
baz=304
SUMG Summit 67.47 1 *i*P **P** **22 51 39.5 +1.0**
comp=Z,63nm,0.9s
SUMG Summit 67.47 1 *i*P **P** **22 51 39.5 +1.0**
SUMG pmax pmax
comp=Z,63nm,0.9s
SUMG Summit 67.47 1 *e*P **P** **22 51 38.7 +0.2**
comp=Z,69nm,1.0s
VSR Storozhevoye 67.52 319 *e*P **P** **22 51 38.6 0.0**
VSR pmax pmax
comp=Z,150nm,1.1s
N02D Trinity Center 67.64 55 P **P** **22 51 40.4 +0.7**
baz=304
COCO West Island 67.66 230 PFAKE 22 51 50.0 +10
COCO LR LR
comp=Z,1µm,20.0s
MAK Makhachkala 67.68 308 *e*P **P** **22 51 40.6 +0.9**
MAK *e*S **S** **23 00 32.9 -2.7**
MAK *e*SS **SS** **23 04 46.7 -9.4**
M04C Macdoel 67.72 54 P **P** **22 51 41.4 +1.1**
baz=305
K05A Summer Lake 67.77 52 *e*P **P** **22 51 41.8 +1.2**
comp=Z,81nm,1.2s
WDC Whiskeytown Da 67.97 55 *e*P **P** **22 51 43.0 +1.4**
WDC pmax pmax
comp=Z,42nm,1.5s
WDC Whiskeytown Da 67.97 55 *e*P **P** **22 51 43.0 +1.4**
comp=Z,42nm,1.5s
WALA Waterton Lakes 68.06 44 *e*P **P** **22 51 44.1 +1.9**
comp=Z,22nm,1.0s
BSMT Bassoo Peak 68.31 45 *e*P **P** **22 51 46.4 +2.5**
VSU Vasula 68.45 330*c i*P **P** **22 51 44.3 0.0**
VSU pmax pmax
comp=Z,281nm,1.2s
GROC Groznyy 68.56 309 *e*P **P** **22 51 44.7 -0.6**
GROC *e*S **S** **23 00 44.3 -1.9**
GROC pmax pmax
comp=Z,146nm,1.6s
MOD Modoc Plateau 68.60 53 *e*P **P** **22 51 45.0 -0.7**
comp=Z,24nm,1.1s
BMO Blue Mountains 68.67 49 *e*P **P** **22 51 45.6 -0.4**
BMO pmax pmax
comp=Z,21nm,1.2s
BMO MLR MLR
comp=Z,2µm,19.0s
BMO Blue Mountains 68.67 49 *e*P **P** **22 51 45.6 -0.4**
comp=Z,21nm,1.2s
BMO LR LR
comp=Z,2µm,19.0s
SEKA Sheki 68.87 306 P **P** **22 51 45.3 -2.0**
SWMT Swartz Lake 68.94 45 *e*P **P** **22 51 49.5 +1.8**
GOF Gofitskoye 69.09 312⇑ *i*P **P** **22 51 48.8 +0.3**
GOF *e*S **S** **23 00 54.0 +1.6**
GOF pmax pmax
comp=Z,325nm,1.0s
GOF smax smax
comp=N,49nm,1.4s
MNGR Mingechevir, A 69.19 306 P **P** **22 51 47.3 -1.9**
ORV Oroville 69.21 55 *e*P **P** **22 51 51.9 +2.5**
ORV pmax pmax
comp=Z,20nm,1.3s
ORV Oroville 69.21 55 *e*P **P** **22 51 51.9 +2.5**
comp=Z,20nm,1.3s
WVOR Wild Horse Val 69.30 52 *e*P **P** **22 51 50.8 +0.7**
WVOR pmax pmax
comp=Z,48nm,1.4s
WVOR Wild Horse Val 69.30 52 *e*P **P** **22 51 50.8 +0.7**
comp=Z,48nm,1.4s
WVOR LR LR
comp=Z,956nm,20.0s
LKRN Lenkeran, Azer 69.32 304 P **P** **22 51 48.1 -1.9**
SLMT Seeley Lake 69.38 45 *e*P **P** **22 51 51.0 +0.5**
MSO Missoula 69.38 46 P **P** **22 51 50.8 +0.3**
baz=307
MSO Missoula 69.38 46 *e*P **P** **22 51 50.8 +0.3**
comp=Z,29nm,1.2s
NCK Nalchik 69.69 310⇓ *i*P **P** **22 51 53.4 +1.1**
NCK pmax pmax
comp=Z,187nm,1.4s
GANJ Ganja 69.73 306 P **P** **22 51 50.6 -2.1**
GUDG Gudauri 69.78 309 P **P** **22 51 53.9 +0.8**
DGRG David-gareji 69.84 308 P **P** **22 51 53.5 +0.2**
DGRG David-gareji 69.84 308 P **P** **22 51 53.5 +0.2**
AFDM Forest Hills D 69.90 56 *e*P **P** **22 51 56.0 +2.3**
comp=Z,67nm,1.8s
ZEI Tsey 69.93 309 *e*P **P** **22 51 49.6 -4.5**
ZEI pmax pmax
comp=Z,207nm,1.0s
KVAR Kislovodsk Arr 69.94 311 LR LR 23 24 15.5
comp=Z,3µm,20.8s,slow=37
KIV Kislovodsk 69.95 311 *i* P **P** **22 51 54.6 +0.6**
SNR=65
KIV Kislovodsk 69.95 311*c i*P **P** **22 51 54.5 +0.6**
KIV *e* 22 52 13.4
KIV *e* 22 54 31.3
KIV pmax pmax
comp=Z,398nm,1.0s
KIV Kislovodsk 69.95 311 *e*P **P** **22 51 54.2 +0.2**
comp=Z,352nm,1.0s
KIV LR LR
comp=Z,9µm,19.0s
KIV Kislovodsk 69.95 311 P **P** **22 51 54.6 +0.6**
SNR=120
KIV P **P** **22 51 54.6 +0.6**
SNR=120
KBZ Khabaz 69.96 311 P **P** **22 51 54.5 +0.6**
comp=Z,88nm,0.8s,baz=71,slow=5.0,SNR=195
KBZ LR LR 23 28 04.0
comp=Z,6µm,19.1s,baz=32,slow=41
TBLG Delisi 70.06 308 P **P** **22 51 55.0 +0.4**
TBLG Delisi 70.06 308 P **P** **22 51 55.0 +0.4**
FFC Flin Flon 70.20 34 *e*P **P** **22 51 55.5 +0.3**
FFC pmax pmax
comp=Z,28nm,1.0s
FFC MLR MLR
comp=Z,2µm,21.0s
FFC Flin Flon 70.20 34 *e*P **P** **22 51 55.5 +0.3**
comp=Z,28nm,1.0s
FFC LR LR
comp=Z,2µm,21.0s
TBLU Trondheim 70.29 339 *e*P **P** **22 51 54.6 -1.0**
TBLU IAmb IAmb 22 51 55.8
comp=Z,59nm,1.1s
ONI Oni 70.32 309 P **P** **22 51 57.0 +0.8**
ONI Oni 70.32 309 P **P** **22 51 57.0 +0.8**
NEY Neytrino 70.35 310*d i*P **P** **22 51 58.4 +1.8**
NEY pmax pmax
comp=Z,18nm,0.9s
MFID Camas Ranch 70.38 49 *e*P **P** **22 51 57.3 +0.7**
comp=Z,15nm,1.0s
PAHR Pah Rah Range 70.45 54 *e*P **P** **22 51 58.2 +1.1**
comp=Z,86nm,1.8s
HRY Holter Researc 70.60 45 *e*P **P** **22 51 58.8 +0.8**
MICGM Minsk 70.68 326⇑ *e*P **P** **22 51 58.0 -0.1**
MICGM PM 22 51 59.0
comp=Z,0.8nm,1.8s
MICGM *e*PP **PP** **22 54 33.0 -1.2**
MICGM *e*S **S** **23 01 10.0 -0.8**
MICGM *e*LR LR 23 20 35.0
MICGM LRM MLR 23 26 09.0
comp=Z,10.0nm,16.0s
MNK Minsk 70.68 326⇑ *e*P **P** **22 51 58.0 -0.1**
MNK *e* 22 54 33.0
MNK *e*S **S** **23 01 10.0 -0.8**
MNK MLR MLR
comp=Z,10µm,16.0s
ARMA Armidale 70.72 172 *e*P P 22 51 53.0 -5.7
comp=Z,11nm,0.9s
CMB Columbia Colle 70.81 56 *e*P **P** **22 52 00.2 +0.9**
CMB pmax pmax
comp=Z,17nm,1.0s
CMB Columbia Colle 70.81 56 *e*P **P** **22 52 00.2 +0.9**
comp=Z,17nm,1.0s
LRM Limekiln Ridge 70.82 46 *e*P **P** **22 52 00.2 +0.7**
NACGM Naroch 70.87 327 *e*P **P** **22 51 59.0 -0.3**
NACGM PM 22 52 02.0
comp=Z,0.8nm,1.0s
NACGM *e*PP PP 22 55 10.0 +34
NACGM *e*PPP PPP 22 56 16.0
NACGM *e*S **S** **23 01 14.0 +1.0**
NACGM *e*PS **PnS** **23 01 51.0 +9.1**
NACGM *e*SSS SSS 23 07 17.0
NACGM *e*LQ LQ 23 17 21.0
NACGM *e*LR LR 23 22 20.0
NACGM LRM MLR 23 25 58.0
comp=Z,10.0nm,16.0s
EGMT Eagleton 70.88 43 P **P** **22 51 60.0 +0.4**
baz=309
EGMT Eagleton 70.88 43 *e*P **P** **22 52 01.5 +1.9**
comp=Z,68nm,1.4s
EGMT LR LR
comp=Z,2µm,21.0s
GNI Garni 71.00 307 *i* P **P** **22 52 01.6 +1.0**
SNR=29
GNI Garni 71.00 307*c i*P **P** **22 52 01.6 +1.0**
GNI pmax pmax
comp=Z,610nm,1.7s
GNI Garni 71.00 307 *e*P **P** **22 52 01.1 +0.5**
comp=Z,160nm,1.1s
GNI LR LR
comp=Z,7µm,19.0s
GNI Garni 71.00 307 P **P** **22 52 01.7 +1.2**
SNR=35
GNI P **P** **22 52 01.7 +1.2**
SNR=35
AKH Akhalkalaki 71.00 308 P **P** **22 52 01.5 +0.9**
AKH Akhalkalaki 71.00 308⇓ *i*P **P** **22 52 02.5 +1.9**
AKH Akhalkalaki 71.00 308 P **P** **22 52 01.5 +0.9**
DLMT Dillon 71.02 46 *e*P **P** **22 52 01.9 +1.3**
comp=Z,36nm,0.9s
BGD Bogdanovka 71.03 308 P **P** **22 52 02.0 +1.3**
HLID Hailey 71.10 49 P **P** **22 52 01.6 +0.4**
baz=308
HLID Hailey 71.10 49 *e*P **P** **22 52 02.1 +1.0**
comp=Z,28nm,1.4s
HLID LR LR
comp=Z,1µm,20.0s
NAX Nakhchivan 71.12 306 P **P** **22 51 59.2 -2.0**
WAKR Walker 71.13 55 *e*P **P** **22 52 03.2 +1.7**
comp=Z,81nm,1.9s
MCMT McKenzie Canyo 71.21 47 *e*P **P** **22 52 03.0 +1.1**
BMN Battle Mountai 71.34 53 *e*P **P** **22 52 04.4 +1.7**
BMN pmax pmax
comp=Z,29nm,1.1s
BMN Battle Mountai 71.34 53 *e*P **P** **22 52 04.3 +1.7**
comp=Z,29nm,1.1s
BOZ Bozeman (W) 71.41 46 P **P** **22 52 03.5 +0.5**
baz=309
BOZ Bozeman (W) 71.41 46 *e*P **P** **22 52 03.4 +0.5**
BOZ pmax pmax
comp=Z,150nm,1.9s
BOZ Bozeman (W) 71.41 46 *e*P **P** **22 52 03.4 +0.5**
comp=Z,147nm,1.9s
BOZ LR LR
comp=Z,2µm,20.0s
MOL Molde 71.57 340 *e*P **P** **22 52 04.5 +1.2**
MOL IAmb IAmb 22 52 05.5
comp=Z,42nm,1.1s
DOMB Dombas 71.60 339 *e*P **P** **22 52 03.6 0.0**
DOMB IAmb IAmb 22 52 04.9
comp=Z,74nm,1.1s
NC405 NORSAR Array S 71.60 338 *e*P **P** **22 52 03.9 +0.2**
TVH3 East Aurora ar 71.61 55 *e*P **P** **22 52 06.6 +2.3**
comp=Z,26nm,1.3s
NC303 NORSAR Array S 71.61 338 *e*P **P** **22 52 03.9 +0.2**
BANOM Banah 71.62 289 P **P** **22 52 04.2 -0.1**
BIDO Bidbid 71.70 286 P **P** **22 52 05.1 +0.2**
SNR=11
BIDO P **P** **22 52 05.1 +0.2**
SNR=11
NC204 NORSAR Array S 71.75 338 *e*P **P** **22 52 04.4 -0.1**
STKA Stephens Creek 71.77 182 P **P** **22 52 04.9 +0.1**
comp=Z,2.3nm,0.8s,baz=182,slow=16,SNR=4.2
STKA LR LR 23 24 04.6
comp=Z,949nm,20.3s,baz=14,slow=36
NB201 NORSAR Array S 71.78 338 *e*P **P** **22 52 04.9 +0.2**
NB2 NORSAR Subarra 71.81 338 P **P** **22 52 04.6 -0.3**
baz=38,slow=6.2
NB2 NORSAR Subarra 71.81 338 P **P** **22 52 04.6 -0.3**
NB2 pmax pmax
comp=Z,85nm,1.0s
NB2 NORSAR Subarra 71.81 338 P **P** **22 52 04.6 -0.3**
comp=Z,101nm,1.0s,baz=38,slow=6.2
NOA NORSAR Array B 71.81 338 P **P** **22 52 04.7 -0.3**
comp=Z,43nm,0.8s,baz=37,slow=6.0,SNR=122
NOA PP **PP** **22 54 45.0 +1.3**
comp=Z,2.5nm,0.8s,baz=44,slow=8.8,SNR=3.7
NOA LR LR 23 26 45.9
comp=Z,5µm,22.0s,baz=45,slow=38
SOC Sochi 71.88 312*c i*P **P** **22 52 05.5 -0.1**
SOC *e**PP **pP** **22 52 12.9 0.0**
SOC *e* 22 52 22.5
SOC *e*S **S** **23 01 24.0 -1.0**
SOC *e*SS **SS** **23 05 58.1 -2.5**
SOC pmax pmax
comp=Z,945nm,2.8s
SOC pmax pmax
comp=Z,177nm,1.6s
NBO02 NORSAR Array S 71.90 338 *e*P **P** **22 52 05.3 -0.1**
NBO00 NORSAR Array S 71.94 338 *e*P **P** **22 52 05.9 +0.3**
NC602 NORSAR Array S 71.95 337⇑ *i*P **P** **22 52 05.0 -0.7**
NC602 IAmb IAmb 22 52 06.7
comp=Z,98nm,1.4s
NC602 IAMs_20 IAMs_20 23 26 12.2
comp=Z,8µm,20.7s
NC602 NORSAR Array S 71.95 337 *e*P **P** **22 52 06.7 +0.9**
QLMT Earthquake Lak 72.00 46 *e*P **P** **22 52 09.1 +2.6**
AKN Aaknes 72.04 340⇑ *i*P **P** **22 52 06.6 +0.4**
AKN IAmb IAmb 22 52 08.5
comp=Z,56nm,1.2s
NAO01 NORSAR Array S 72.06 338 *e*P **P** **22 52 06.4 0.0**
ARTV Artvin 72.07 309 *e*P **P** **22 52 07.8 +0.7**
comp=Z,71nm,1.0s
UOSS Minazif 72.27 288 *e*P **P** **22 52 08.3 +0.1**
comp=Z,84nm,1.0s
UOSS Minazif 72.27 288 P **P** **22 52 07.6 -0.6**
UOSS P **P** **22 52 07.6 -0.6**
YHH Holmes Hill 72.34 46 *e*P **P** **22 52 10.1 +1.4**
comp=Z,21nm,1.1s
HATD Hatta, Dubai 72.39 288 *i* P **P** **22 52 08.9 0.0**
SNR=21
HATD Hatta, Dubai 72.39 288 P **P** **22 52 08.9 0.0**
SNR=20
HATD P **P** **22 52 08.9 0.0**
SNR=20
ANN Anapa 72.39 314 *e*P **P** **22 52 08.2 -0.4**
ANN *e*PPP PPP 22 56 32.5
ANN *e*S **S** **23 01 28.7 -2.1**
ANN *e*SS **SS** **23 06 12.8 +4.4**
ANN pmax pmax
comp=Z,246nm,2.1s
ANN MLR MLR
comp=E,4µm,19.0s
ANN MLR MLR
comp=N,9µm,19.0s
ANN MLR MLR
comp=Z,6µm,19.0s
ASHO Ashiyiah 72.53 288 *i* P **P** **22 52 09.7 -0.2**
SNR=28
ASHO Ashiyiah 72.53 288 P **P** **22 52 09.6 -0.2**
SNR=21
ASHO P **P** **22 52 09.6 -0.2**
SNR=21
SFJD Kangerlussuaq 72.56 6 PFAKE 22 52 20.0 +11
SFJD LR LR
comp=Z,3µm,20.0s
YFT Old Faithful 72.57 46 *e*P **P** **22 52 14.3 +4.3**
comp=Z,51nm,1.3s
NAZ Nazwa, Dubai 72.64 288 *i* P **P** **22 52 10.2 -0.2**
SNR=9.6
NAZ Nazwa, Dubai 72.64 288 P **P** **22 52 10.2 -0.2**
SNR=7.1
NAZ P **P** **22 52 10.2 -0.2**
SNR=7.1
AKASG Malin Array Be 72.68 323 P **P** **22 52 09.8 -0.5**
comp=Z,53nm,0.8s,baz=44,slow=6.3,SNR=175
AKASG PP **PP** **22 54 50.9 -0.5**
comp=Z,16nm,1.0s,baz=42,slow=9.5,SNR=5.8
AKASG LR LR 23 27 47.7
comp=Z,6µm,18.7s,baz=45,slow=39
AKBB Malin Array Si 72.68 323 *e*P **P** **22 52 09.5 -0.7**
AKBB pmax pmax
comp=Z,110nm,1.0s
AKBB Malin Array Si 72.68 323 *e*P **P** **22 52 09.5 -0.7**
comp=Z,109nm,0.9s
KIEV Kiev 72.69 323*c i*P **P** **22 52 10.0 -0.3**
KIEV pmax pmax
comp=Z,146nm,1.1s
KIEV Kiev 72.69 323 *e*P **P** **22 52 09.5 -0.8**
comp=Z,118nm,1.0s
KIEV LR LR
comp=Z,7µm,19.0s
YPP Pitchstone Pla 72.70 46 *e*P **P** **22 52 13.9 +3.0**
comp=Z,36nm,1.4s
AK11 Malin Array Si 72.72 323 *e*P **P** **22 52 10.0 -0.5**
LKWY Lake 72.73 46 PFAKE 22 52 20.0 +9.0
LKWY LR LR
comp=Z,3µm,20.0s
H17A Grant Village 72.75 46 *e*P **P** **22 52 13.4 +2.3**
comp=Z,38nm,1.0s
FAQ Al Faqa, Dubai 72.83 288 *i* P **P** **22 52 11.4 -0.2**
SNR=9.9
FAQ Al Faqa, Dubai 72.83 288 P **P** **22 52 11.2 -0.4**
SNR=6.8
FAQ P **P** **22 52 11.2 -0.4**
SNR=6.8
OSL Oslo 72.84 337 *e*P **P** **22 52 10.8 -0.2**
OSL IAmb IAmb 22 52 12.6
comp=Z,112nm,1.1s
OSL *e*S **S** **23 01 37.9 +2.5**
IMW Indian Meadow 72.86 47 *e*P **P** **22 52 13.3 +1.5**
comp=Z,29nm,1.1s
RLMT Red Lodge 72.99 45 *e*P **P** **22 52 14.9 +2.4**
comp=Z,26nm,1.1s
RLMT LR LR
comp=Z,2µm,19.0s
SUW Suwalki 72.99 328 *e*P **P** **22 52 11.6 -0.4**
SUW Suwalki 72.99 328⇑ *e*P **P** **22 52 11.6 -0.4**
BBOO Buckleboo 73.00 186 *e*P **P** **22 52 13.0 +0.9**
comp=Z,34nm,1.2s
FOO Floro 73.03 341⇑ *i*P **P** **22 52 12.1 0.0**
FOO IAmb IAmb 22 52 13.7
comp=Z,47nm,1.1s
FOO *e*S **SKiKP** **23 01 40.5 -2.4**
FOO IAMs_20 IAMs_20 23 27 39.7
comp=Z,5µm,19.0s
MOOW Moose Ponds 73.06 47 *e*P **P** **22 52 14.3 +1.4**
comp=Z,42nm,1.4s
HYA Hoyanger 73.10 340⇓ *i*P **P** **22 52 13.2 +0.8**
HYA IAmb IAmb 22 52 14.0
comp=Z,65nm,1.0s
TPAW Teton Pass 73.11 47 *e*P **P** **22 52 14.6 +1.2**
comp=Z,44nm,1.4s
HVU Hansel Valley 73.16 49 *e*P **P** **22 52 14.4 +0.9**
HVU pmax pmax
comp=Z,21nm,1.0s
HVU Hansel Valley 73.16 49 *e*P **P** **22 52 14.3 +0.9**
comp=Z,21nm,1.0s
LOHW Long Hollow 73.23 47 *e*P **P** **22 52 16.2 +2.3**
comp=Z,58nm,1.7s
REDW Red Top Meadow 73.25 47 *e*P **P** **22 52 16.7 +2.7**
comp=Z,38nm,1.3s
DGMT Dagmar 73.40 40 *e*P **P** **22 52 16.1 +1.5**
comp=Z,14nm,0.6s
DGMT LR LR
comp=Z,1µm,20.0s
KONO Kongsberg 73.41 337⇑ *i*P **P** **22 52 13.7 -0.6**
KONO IAmb IAmb 22 52 15.7
comp=Z,57nm,1.2s
KONO IAMs_20 IAMs_20 23 28 12.5
comp=Z,7µm,19.6s
KONO Kongsberg 73.41 337*ce*P **P** **22 52 14.8 +0.4**
KONO pmax pmax
comp=Z,413nm,2.5s
KONO Kongsberg 73.41 337 *e*P **P** **22 52 15.3 +0.9**
comp=Z,56nm,1.2s
KONO LR LR
comp=Z,7µm,21.0s
BGU Big Grassy Mou 73.55 50 *e*P **P** **22 52 18.2 +2.5**
comp=Z,18nm,1.3s
SUE Sulen 73.56 340⇑ *i*P **P** **22 52 15.4 +0.2**
SUE IAmb IAmb 22 52 17.5
comp=Z,50nm,1.1s
LAO LASA Array 73.58 42 P **P** **22 52 15.8 +0.1**
baz=312
LAO LASA Array 73.58 42 *e*P **P** **22 52 15.4 -0.3**
comp=Z,98nm,1.6s
LAO LR LR
comp=Z,1µm,21.0s
R11A Troy Canyon, C 73.62 54 P **P** **22 52 17.0 +0.7**
baz=309
R11A Troy Canyon, C 73.62 54 *e*P **P** **22 52 16.8 +0.5**
comp=Z,36nm,1.4s
DAC Darwin (Calif) 73.64 56 *e*P **P** **22 52 17.0 +0.6**
DAC pmax pmax
comp=Z,15nm,1.2s
DAC Darwin (Calif) 73.64 56 *e*P **P** **22 52 17.0 +0.6**
comp=Z,15nm,1.2s
MPMC Manual Prospec 73.84 56 P **P** **22 52 18.1 +0.5**
baz=308

ASK	**Askoy**	**73.94**	**340**	⇓	*i*	P	**P**	**22 52 18.7**	**+1.3**
ASK						IAmb	IAmb	22 52 19.7	
	comp=Z,57nm,1.0s								
HWUT	**Hardware Ranch**	**73.97**	**49**		*e*	P	**P**	**22 52 20.5**	**+2.2**
HWUT	comp=Z,66nm,1.5s					LR	LR		
	comp=Z,1μm,19.0s								
BER	**Bergen**	**73.98**	**340**	⇑	*i*	P	**P**	**22 52 18.0**	**+0.3**
BER						IAmb	IAmb	22 52 20.0	
	comp=Z,60nm,0.9s								
BER					*e*	S	**S**	**23 01 52.1**	**+3.8**
ODD1	**Odda**	**74.03**	**339**		*e*	P	**P**	**22 52 19.2**	**+1.1**
ODD1						IAmb	IAmb	22 52 20.5	
	comp=Z,88nm,1.3s								
SIM	**Simferopol'**	**74.09**	**316**		*ce*	P	**P**	**22 52 18.4**	**-0.3**
SIM						pmax	pmax		
	comp=Z,61nm,0.9s								
DUG	**Dugway, Tooele**	**74.14**	**51**		P		**P**	**22 52 19.1**	**-0.1**
	baz=310								
DUG	**Dugway, Tooele**	**74.14**	**51**		*e*	P	**P**	**22 52 20.4**	**+1.2**
DUG						pmax	pmax		
	comp=Z,23nm,1.0s								
DUG	**Dugway, Tooele**	**74.14**	**51**		*e*	P	**P**	**22 52 20.4**	**+1.2**
	comp=Z,23nm,1.0s								
DUG						LR	LR		
	comp=Z,1μm,19.0s								
EDW2	**Edwards Air Fo**	**74.25**	**58**		P		**P**	**22 52 20.7**	**+0.9**
	baz=308								
BW06	**Boulder Array**	**74.36**	**47**		P		**P**	**22 52 20.7**	**+0.1**
	baz=311								
BW06	**Boulder Array**	**74.36**	**47**		*e*	P	**P**	**22 52 20.9**	**+0.3**
	comp=Z,45nm,1.6s								
BW06						LR	LR		
	comp=Z,1μm,20.0s								
PD31	**Pinedale Array**	**74.36**	**47**		*e*	P	**P**	**22 52 20.8**	**+0.2**
PDAR	**Pinedale Array**	**74.36**	**47**		P		**P**	**22 52 20.8**	**+0.2**
	comp=Z,1.0nm,0.7s,baz=253,slow=1.5,SNR=7.0								
PDAR						LR	LR	23 25 14.8	
	comp=Z,618nm,19.4s,baz=338,slow=36								
BINT	**Bingol**	**74.38**	**308**		P		**P**	**22 52 20.6**	**0.0**
BLS5	**Blasjo**	**74.49**	**339**		*e*	P	**P**	**22 52 21.3**	**+0.5**
BLS5						IAmb	IAmb	22 52 22.6	
	comp=Z,79nm,1.3s								
BLS5						IAMs_20	IAMs_20	23 27 02.3	
	comp=Z,3μm,19.7s								
MWC	**Mount Wilson**	**74.61**	**58**		*e*	P	**P**	**22 52 23.8**	**+1.7**
MWC						pmax	pmax		
	comp=Z,42nm,1.3s								
MWC	**Mount Wilson**	**74.61**	**58**		*e*	P	**P**	**22 52 23.8**	**+1.7**
	comp=Z,42nm,1.4s								
NLU	**North Lily Min**	**74.73**	**50**		*e*	P	**P**	**22 52 24.7**	**+2.0**
	comp=Z,23nm,1.1s								
GSC	**Goldstone, Bar**	**74.75**	**57**		*e*	P	P	22 52 28.6	+5.8
GSC						pmax	pmax		
	comp=Z,20nm,1.3s								
GSC	**Goldstone, Bar**	**74.75**	**57**		*e*	P	P	22 52 28.6	+5.8
	comp=Z,20nm,1.3s								
BFSC	**Mount Baldy Ra**	**74.86**	**58**		P		**P**	**22 52 24.6**	**+1.1**
	baz=309								
SORM	**Soroca**	**74.86**	**321**	⇓	*i*	P	**P**	**22 52 23.0**	**0.0**
SORM	**Soroca**	**74.86**	**321**	⇓	P		**P**	**22 52 23.0**	**0.0**
HOMB	**Homborsund**	**74.87**	**337**	⇑	*i*	P	**P**	**22 52 22.7**	**-0.2**
HOMB						IAmb	IAmb	22 52 24.2	
	comp=Z,84nm,1.2s								
HOMB						IAMs_20	IAMs_20	23 27 48.2	
	comp=Z,8μm,20.9s								
SHPR	**Sheep Range**	**75.04**	**55**		*e*	P	**P**	**22 52 26.3**	**+1.7**
	comp=Z,34nm,1.3s								
STAV	**Stavanger**	**75.11**	**339**	⇑	*i*	P	**P**	**22 52 24.4**	**+0.1**
STAV						IAmb	IAmb	22 52 25.8	
	comp=Z,86nm,1.3s								
STAV						IAMs_20	IAMs_20	23 26 33.2	
	comp=Z,4μm,21.4s								
MARD	**Mardin**	**75.19**	**306**		*e*	P	**P**	**22 52 26.4**	**+1.1**
	comp=Z,241nm,1.0s								
SNART	**Snartemo**	**75.19**	**338**		*e*	P	**P**	**22 52 24.7**	**-0.1**
SNART						IAmb	IAmb	22 52 26.4	
	comp=Z,42nm,1.0s								
BSD	**Bornholm Skovb**	**75.32**	**332**	⇑	*i*	P	**P**	**22 52 25.5**	**-0.1**
	comp=Z,166nm,1.1s								
BSD	**Bornholm Skovb**	**75.32**	**332**	⇑	*i*	P	**P**	**22 52 25.5**	**-0.1**
BSD						pmax	pmax		
	comp=Z,170nm,1.1s								
CAN	**Canberra**	**75.37**	**175**		PFAKE			22 52 40.0	+14
CAN						LR	LR		
	comp=Z,1μm,20.0s								
KIS	**Kishinev**	**75.42**	**320**	⇑	*i*	P	**P**	**22 52 26.0**	**-0.3**
	comp=Z,600nm,2.0s								
KIS	**Kishinev**	**75.42**	**320**	⇑	*i*	P	**P**	**22 52 26.0**	**-0.3**
KIS					*i*			22 52 43.0	
KIS					*i*			22 55 15.0	
KIS						pmax	pmax		
	comp=Z,600nm,2.0s								
CCUT	**Cedar City**	**75.49**	**53**		*e*	P	**P**	**22 52 29.1**	**+1.9**
	comp=Z,41nm,1.5s								
KBSD	**Kabsdagh**	**75.53**	**306**		*e*	P	**P**	**22 52 27.7**	**+0.5**
BEL	**Belsk**	**75.58**	**327**		*e*	P	**P**	**22 52 27.7**	**+0.6**
BEL	**Belsk**	**75.58**	**327**	⇑	*e*	P	**P**	**22 52 27.7**	**+0.6**
MSU	**Marysvale**	**75.59**	**52**		*e*	P	**P**	**22 52 30.9**	**+3.1**
MSU	**Marysvale**	**75.59**	**52**		*e*	P	**P**	**22 52 30.9**	**+3.1**
LVV	**L'vov**	**75.67**	**324**		*i*	P	**P**	**22 52 28.1**	**+0.4**
LVV					*i*			22 55 15.6	
LVV					*i*	S	**S**	**23 02 08.3**	**+0.8**
LVV					*i*	SS	**SS**	**23 07 00.3**	**+2.3**
LVV						MLR	MLR		
	comp=Z,12μm,15.0s								
GMRC	**Granite Mounta**	**75.81**	**56**		P		**P**	**22 52 30.0**	**+1.1**
	baz=309								
GKP	**Gorka Klasztor**	**75.90**	**330**		*e*	P	**P**	**22 52 29.0**	**+0.1**
GKP	**Gorka Klasztor**	**75.90**	**330**	⇑	*e*	P	**P**	**22 52 29.0**	**+0.1**
ULM	**Lac du Bonnet**	**76.00**	**35**		P		**P**	**22 52 29.9**	**+0.3**
	comp=Z,4.7nm,0.8s,baz=327,slow=6.0,SNR=4.0								
PFO	**Pinyon Flats O**	**76.03**	**58**		*e*	P	**P**	**22 52 30.8**	**+0.6**
PFO						pmax	pmax		
	comp=Z,44nm,1.5s								
PFO						MLR	MLR		
	comp=Z,2μm,21.0s								
PFO	**Pinyon Flats O**	**76.03**	**58**		*e*	P	**P**	**22 52 30.8**	**+0.6**
	comp=Z,44nm,1.5s								
PFO						LR	LR		
	comp=Z,2μm,21.0s								
LEOM	**Leova**	**76.07**	**320**	⇑	*i*	P	**P**	**22 52 30.8**	**+0.8**
LEOM	**Leova**	**76.07**	**320**	⇑	P		**P**	**22 52 30.8**	**+0.8**
LLD	**Lille Linde**	**76.09**	**334**		*i*	P	**P**	**22 52 31.1**	**+1.2**
	comp=Z,102nm,0.9s								
LLD	**Lille Linde**	**76.09**	**334**		*i*	P	**P**	**22 52 31.1**	**+1.2**
LLD						pmax	pmax		
	comp=Z,100nm,0.9s								
K22A	**Casper**	**76.11**	**46**		*e*	P	**P**	**22 52 31.2**	**+0.6**
	comp=Z,111nm,1.8s								
KNB	**Kanab**	**76.16**	**53**		*e*	P	**P**	**22 52 34.8**	**+3.8**
KNB						pmax	pmax		
	comp=Z,66nm,1.4s								
KNB	**Kanab**	**76.16**	**53**		*e*	P	**P**	**22 52 34.8**	**+3.8**
	comp=Z,66nm,1.5s								
MUD	**Monsted U'grnd**	**76.17**	**336**	⇑	*i*	P	**P**	**22 52 30.7**	**+0.4**
	comp=Z,95nm,1.1s								
MUD	**Monsted U'grnd**	**76.17**	**336**	⇑	*i*	P	**P**	**22 52 30.7**	**+0.4**
MUD						pmax	pmax		
	comp=Z,95nm,1.1s								
SFNV	**Sufian**	**76.17**	**306**		*e*	P	**P**	**22 52 31.9**	**+1.0**
MZRK	**Al-Mazaregh**	**76.21**	**305**		*e*	P	**P**	**22 52 31.4**	**+0.4**
RGN	**Rugen**	**76.34**	**333**		*e*	P	**P**	**22 52 32.0**	**+0.7**
	comp=Z,196nm,1.1s								
RWWY	**Rawlins**	**76.38**	**47**		*e*	P	**P**	**22 52 32.4**	**+0.2**
	comp=Z,95nm,1.6s								
KWP	**Kalwaria Pacla**	**76.39**	**325**		*e*	P	**P**	**22 52 32.5**	**+0.7**
KWP					*e*	S	**S**	**23 02 15.2**	**-0.3**
KWP	**Kalwaria Pacla**	**76.39**	**325**	⇑	*e*	P	**P**	**22 52 32.5**	**+0.7**
PRAR	**RASCA**	**76.42**	**322**	⇑	*i*	P	**P**	**22 52 32.7**	**+0.6**
RSSD	**Black Hills**	**76.45**	**43**		*e*	P	**P**	**22 52 33.6**	**+1.1**
RSSD						pmax	pmax		
	comp=Z,19nm,1.0s								
RSSD	**Black Hills**	**76.45**	**43**		*e*	P	**P**	**22 52 33.6**	**+1.1**
	comp=Z,19nm,0.9s								
IRM	**Iron Mountain**	**76.53**	**57**		P		**P**	**22 52 33.5**	**+0.6**
	baz=310								
BC3	**Big Chuckawall**	**76.65**	**57**		P		**P**	**22 52 34.4**	**+0.7**
	baz=310								
TLCR		**76.69**	**319**	⇑	*i*	P	**P**	**22 52 34.9**	**+1.4**
TLCR		**76.69**	**319**	⇑	P		**P**	**22 52 34.9**	**+1.4**
NWAO	**Narrogin (SRO)**	**76.70**	**202**		LR		LR	23 26 42.4	
	comp=Z,784nm,20.3s,slow=36								
BUR08	**Bucovina Ar. S**	**76.71**	**322**		*e*	P	**P**	**22 52 34.3**	**+0.5**
BURAR	**Bucovina Array**	**76.72**	**322**	⇓	*i*	P	**P**	**22 52 34.6**	**+0.8**
BURAR	**Bucovina Array**	**76.72**	**322**	⇓	P		**P**	**22 52 34.6**	**+0.8**
W13A	**Hualapai Mount**	**76.73**	**55**		*e*	P	P	22 52 40.0	+5.8
TESR	**Tescani**	**76.83**	**321**	⇑	*i*	P	**P**	**22 52 35.2**	**+0.9**
O20A	**White River Ci**	**76.84**	**48**		*e*	P	**P**	**22 52 32.8**	**-2.0**
	comp=Z,21nm,1.2s								
SWSC	**Sam W. Stewart**	**76.88**	**58**		P		**P**	**22 52 36.0**	**+1.1**
	baz=310								
ILGA	**Ilgaz**	**76.91**	**313**		*e*	P	**P**	**22 52 36.9**	**+1.7**
	comp=Z,124nm,1.0s								
CFR	**Carcaliu**	**77.04**	**319**	⇓	*i*	P	**P**	**22 52 36.2**	**+0.7**
CFR	**Carcaliu**	**77.04**	**319**	⇓	P		**P**	**22 52 36.2**	**+0.7**
PDMCI	**Parker Dam,Lak**	**77.08**	**56**		P		**P**	**22 52 37.6**	**+1.7**
	baz=310								
PETR	**Petresti**	**77.10**	**320**	⇑	*i*	P	**P**	**22 52 38.0**	**+2.1**
Y12C	**Blythe**	**77.19**	**57**		P		**P**	**22 52 38.6**	**+2.0**
	baz=310								
STHS	**Stebnicka Huta**	**77.19**	**325**		*e*	P	**P**	**22 52 37.6**	**+1.2**
STHS						pmax	pmax		
	comp=Z,49nm,0.9s								
STHS	**Stebnicka Huta**	**77.19**	**325**		*e*	P	**P**	**22 52 37.6**	**+1.2**
OJC	**Ojcow**	**77.21**	**327**		*e*	P	**P**	**22 52 36.9**	**+0.6**
OJC					*e*	S	**S**	**23 02 23.2**	**-1.1**
OJC	**Ojcow**	**77.21**	**327**		*e*	P	**P**	**22 52 37.0**	**+0.6**
OJC						pmax	pmax		
	comp=Z,160nm,1.0s								
OJC	**Ojcow**	**77.21**	**327**		*e*	P	**P**	**22 52 37.0**	**+0.6**
	comp=Z,163nm,1.0s								
KSRV	**Kasrt alli**	**77.21**	**306**		*e*	P	**P**	**22 52 36.7**	**0.0**
PLOR	**Plostina**	**77.30**	**320**	⇑	*i*	P	**P**	**22 52 38.9**	**+1.9**
PLOR	**Plostina**	**77.30**	**320**	⇑	P		**P**	**22 52 38.9**	**+1.9**
UZH	**Uzhgorod**	**77.31**	**324**		*e*	P	**P**	**22 52 36.8**	**-0.2**
UZH					*e*			22 52 46.2	
UZH						MLR	MLR		
	comp=N,6μm,15.0s								
UZH						MLR	MLR		
	comp=E,9μm,15.0s								
UZH						MLR	MLR		
	comp=Z,3μm,15.0s								
TIRR	**Tirgusor**	**77.40**	**318**	⇓	*i*	P	**P**	**22 52 38.7**	**+1.1**
TIRR	**Tirgusor**	**77.40**	**318**	⇓	P		**P**	**22 52 38.7**	**+1.1**
TIRR	**Tirgusor**	**77.40**	**318**		*e*	P	**P**	**22 52 38.7**	**+1.1**
	comp=Z,60nm,1.2s								
PV09	**Paradox Valley**	**77.41**	**50**		*e*	P	**P**	**22 52 40.5**	**+2.4**
AGMN	**Agassiz Nation**	**77.45**	**36**		*e*	P	**P**	**22 52 38.6**	**+0.8**
	comp=Z,50nm,1.6s								
AGMN						LR	LR		
	comp=Z,2μm,19.0s								
GRER		**77.47**	**320**	⇑	*i*	P	**P**	**22 52 37.7**	**-0.3**
BMR	**Baia Mare**	**77.48**	**323**	⇑	*i*	P	**P**	**22 52 39.8**	**+1.8**
BMR	**Baia Mare**	**77.48**	**323**	⇑	P		**P**	**22 52 39.8**	**+1.8**
HARR	**Harsova**	**77.48**	**319**	⇑	*i*	P	**P**	**22 52 39.6**	**+1.6**
HARR	**Harsova**	**77.48**	**319**	⇑	P		**P**	**22 52 39.6**	**+1.6**
TLB	**Topalu**	**77.50**	**319**	⇑	*i*	P	**P**	**22 52 39.2**	**+1.1**
TLB	**Topalu**	**77.50**	**319**	⇑	P		**P**	**22 52 39.2**	**+1.1**
ARCR	**ARCALIA**	**77.51**	**322**	⇓	*i*	P	**P**	**22 52 40.1**	**+1.9**
PV10	**Paradox Valley**	**77.54**	**50**		*e*	P	**P**	**22 52 40.4**	**+1.6**
TRPA	**Tarpa**	**77.58**	**324**	‖	*e*	P	**P**	**22 52 39.3**	**+0.8**
NIE	**Niedzica**	**77.60**	**326**		*e*	P	**P**	**22 52 39.7**	**+1.0**
NIE						*e*	S	**23 02 29.3**	**+0.6**
NIE	**Niedzica**	**77.60**	**326**	⇑	*e*	P	**P**	**22 52 39.7**	**+1.0**
PV04	**Paradox Valley**	**77.61**	**50**		*e*	P	**P**	**22 52 40.3**	**+1.2**
PHWY	**Pilot Hill**	**77.61**	**46**		*e*	P	**P**	**22 52 42.0**	**+2.7**
	comp=Z,37nm,1.7s								
N23A	**Red Feather La**	**77.62**	**47**		P		**P**	**22 52 40.7**	**+1.4**
	baz=313								
N23A	**Red Feather La**	**77.62**	**47**		*e*	P	**P**	**22 52 41.6**	**+2.4**
	comp=Z,39nm,1.4s								
PV05	**Paradox Valley**	**77.70**	**50**		*e*	P	**P**	**22 52 41.8**	**+2.1**
PGOR	**Pogoanele**	**77.80**	**319**	⇓	*i*	P	**P**	**22 52 42.3**	**+2.5**
DOPR	**Dopca**	**77.83**	**321**	⇓	*i*	P	**P**	**22 52 42.2**	**+2.2**
BR131	**Keskin Array S**	**77.84**	**312**		*e*	P	**P**	**22 52 41.0**	**+0.6**
BRTR	**Keskin Array B**	**77.84**	**312**		P		**P**	**22 52 40.4**	**+0.1**
	comp=Z,13nm,0.9s,baz=58,slow=3.6,SNR=90								
BRTR						PP	**PP**	**22 55 36.2**	**+0.7**
	comp=Z,9.7nm,1.1s,baz=64,slow=8.4,SNR=5.1								
BRTR						LR	LR	23 32 32.9	
	comp=Z,2μm,18.9s,baz=26,slow=40								
ISR	**Istrita**	**77.87**	**320**	⇓	*i*	P	**P**	**22 52 42.0**	**+1.7**
ISR	**Istrita**	**77.87**	**320**	⇓	P		**P**	**22 52 42.0**	**+1.7**
MLR	**Muntele Rosu**	**77.90**	**320**	⇑	*i*	P	**P**	**22 52 42.1**	**+1.6**
MLR	**Muntele Rosu**	**77.90**	**320**	⇑	P		**P**	**22 52 42.1**	**+1.6**
RAO	**Raoul Island**	**77.94**	**146**		PFAKE			22 52 50.0	+9.4
RAO						LR	LR		
	comp=Z,3μm,20.0s								
RAC	**Raciborz**	**77.98**	**327**		*e*	P	**P**	**22 52 41.8**	**+1.1**
RAC					*e*	S	**S**	**23 02 33.5**	**+0.8**
RAC						MLR	MLR		
	comp=Z,6μm,19.9s								
PV01	**Paradox Valley**	**77.98**	**50**		*e*	P	**P**	**22 52 43.3**	**+2.1**
WUAZ	**Wupatki**	**78.02**	**54**		*e*	P	**P**	**22 52 42.1**	**+0.6**
	comp=Z,29nm,1.2s								
WUAZ						LR	LR		
	comp=Z,1μm,19.0s								
Y14A	**Wickenburg**	**78.03**	**56**		*e*	P	**P**	**22 52 42.0**	**+0.6**
PSN	**Presentisti**	**78.07**	**318**		P		**P**	**22 52 41.5**	**+0.2**
CJR	**Cluj-Napoca**	**78.13**	**322**	⇑	*i*	P	**P**	**22 52 43.3**	**+1.6**
CJR	**Cluj-Napoca**	**78.13**	**322**	⇑	P		**P**	**22 52 43.3**	**+1.6**
DRWC	**Darouich**	**78.14**	**308**		*e*	P	**P**	**22 52 37.3**	**-4.6**
KSP	**Ksiaz**	**78.16**	**329**		*e*	P	**P**	**22 52 42.4**	**+0.7**
KSP					*e*	S	**S**	**23 02 34.0**	**-0.6**
KSP	**Ksiaz**	**78.16**	**329**	⇑	*e*	P	**P**	**22 52 42.4**	**+0.7**
LANS	**Liptovska Anna**	**78.16**	**326**		*e*	P	**P**	**22 52 43.3**	**+1.5**
LANS	**Liptovska Anna**	**78.16**	**326**		*e*	P	**P**	**22 52 43.3**	**+1.5**
LANS					*e*	PP	PP	22 55 23.9	-14
SECR		**78.17**	**320**	⇓	*i*	P	**P**	**22 52 43.1**	**+1.2**
OKC	**Ostrava-Krasne**	**78.19**	**327**	⇑	*i*	P	**P**	**22 52 42.4**	**+0.5**
OKC						AMS	AMS	23 30 10.0	
	comp=Z,5μm,19.1s								
OKC	**Ostrava-Krasne**	**78.19**	**327**		*i*	P	**P**	**22 52 42.4**	**+0.5**
OKC						MLR	MLR		
	comp=Z,5μm,19.1s								
SMCO	**Snowmass**	**78.20**	**48**		*e*	P	**P**	**22 52 43.4**	**+0.7**
	comp=Z,61nm,1.8s								
ANTO	**Ankara**	**78.22**	**313**		*e*	P	**P**	**22 52 43.1**	**+0.7**
ANTO						pmax	pmax		
	comp=Z,92nm,1.0s								
ANTO	**Ankara**	**78.22**	**313**		*e*	P	**P**	**22 52 43.1**	**+0.7**
	comp=Z,92nm,0.9s								
ANTO						LR	LR		
	comp=Z,2μm,19.0s								
ANTO	**Ankara**	**78.22**	**313**		P		**P**	**22 52 42.8**	**+0.4**
	SNR=26								
ANTO						P	**P**	**22 52 42.8**	**+0.4**
	SNR=26								
KECS	**Kecovo**	**78.22**	**325**		*e*	P	**P**	**22 52 42.9**	**+0.8**
KECS					*e*			22 55 37.0	
KECS						pmax	pmax		
	comp=Z,18nm,1.0s								
KECS	**Kecovo**	**78.22**	**325**		*e*	P	**P**	**22 52 42.9**	**+0.8**
KECS					*e*			22 55 37.0	
BR231	**Keskin MP Arra**	**78.25**	**313**		*e*	P	**P**	**22 52 43.6**	**+1.0**
SULR		**78.33**	**320**	⇑	*i*	P	**P**	**22 52 44.2**	**+1.5**
VOIR		**78.38**	**321**	⇑	*i*	P	**P**	**22 52 44.5**	**+1.4**
VOIR		**78.38**	**321**	⇑	P		**P**	**22 52 44.5**	**+1.4**
MORC	**Moravsky Berou**	**78.48**	**328**	⇓	*i*	P	**P**	**22 52 44.9**	**+1.3**
MORC	**Moravsky Berou**	**78.48**	**328**		*e*	P	**P**	**22 52 44.3**	**+0.7**
MORC						pmax	pmax		
	comp=Z,420nm,1.0s								
MORC	**Moravsky Berou**	**78.48**	**328**		*e*	P	**P**	**22 52 44.3**	**+0.7**
	comp=Z,420nm,1.0s								
DRGR		**78.49**	**323**	⇑	*i*	P	**P**	**22 52 44.8**	**+1.1**
DRGR		**78.49**	**323**	⇑	P		**P**	**22 52 44.8**	**+1.1**
DPC	**Dobruska-Polom**	**78.53**	**329**	⇑	*i*	P	**P**	**22 52 44.7**	**+0.9**
DPC					*e*	S	**S**	**23 02 31.3**	**-7.5**
DPC						AMS	AMS	23 32 20.0	
	comp=Z,5μm,14.8s								
DPC	**Dobruska-Polom**	**78.53**	**329**	⇑	*i*	P	**P**	**22 52 44.7**	**+0.9**
DPC					*e*			23 02 32.6	
DPC						MLR	MLR		
	comp=Z,5μm,14.8s								
UPC	**Upice**	**78.53**	**329**	⇑	*i*	P	**P**	**22 52 44.4**	**+0.6**
UPC						AMS	AMS	23 32 30.0	
	comp=Z,7μm,14.9s								
UPC	**Upice**	**78.53**	**329**		*i*	P	**P**	**22 52 44.4**	**+0.6**
UPC						MLR	MLR		
	comp=Z,7μm,14.9s								
ISCO	**Idaho Springs**	**78.55**	**47**		*e*	P	**P**	**22 52 47.0**	**+2.5**
ISCO						pmax	pmax		
	comp=Z,31nm,1.5s								
ISCO	**Idaho Springs**	**78.55**	**47**		*e*	P	**P**	**22 52 47.0**	**+2.5**
	comp=Z,31nm,1.5s								
ISCO						LR	LR		
	comp=Z,1μm,19.0s								
KRLC	**Kraliky**	**78.56**	**328**	⇑	*i*	P	**P**	**22 52 44.6**	**+0.6**
KRLC	**Kraliky**	**78.56**	**328**		*i*	P	**P**	**22 52 44.6**	**+0.6**
ARR	**Arges**	**78.63**	**321**	⇓	*i*	P	**P**	**22 52 46.6**	**+2.1**
MVCO	**Mesa Verde**	**78.64**	**51**		*e*	P	**P**	**22 52 47.1**	**+2.2**
	comp=Z,80nm,1.7s								
MVCO						LR	LR		
	comp=Z,997nm,20.0s								
PRD	**Provadia**	**78.81**	**318**		P		**P**	**22 52 45.5**	**+0.1**
PSZ	**Piszkesteto**	**78.91**	**325**	⇑	*i*	P	**P**	**22 52 47.5**	**+1.6**
PSZ	**Piszkesteto**	**78.91**	**325**	⇑	P		**P**	**22 52 47.6**	**+1.6**
PSZ	**Piszkesteto**	**78.91**	**325**	⇑	*e*	P	**P**	**22 52 46.9**	**+0.9**
PSZ	**Piszkesteto**	**78.91**	**325**		*e*	P	**P**	**22 52 46.1**	**+0.1**
	comp=Z,142nm,1.1s								
PSZ						LR	LR		
	comp=Z,8μm,19.0s								
VYHS	**Vyhne**	**78.93**	**326**		*e*	P	**P**	**22 52 46.7**	**+0.7**
VYHS						pmax	pmax		
	comp=Z,48nm,1.2s								
VYHS	**Vyhne**	**78.93**	**326**		*e*	P	**P**	**22 52 46.7**	**+0.7**
VYHS					*e*	PP	PP	22 55 27.7	-16
VYHS					*e*	S	**S**	**23 02 41.8**	**-1.2**
VYHS					*e*	L	L	23 30 11.9	
LOT	**Lotru**	**78.98**	**321**	⇑	*i*	P	**P**	**22 52 47.3**	**+0.8**
BRG	**Berggiesshubel**	**79.05**	**330**		*e*	P	**P**	**22 52 46.8**	**+0.2**
	comp=Z,84nm,1.3s								
	comp=N,4μm,17.3s								
	comp=E,3μm,16.3s								
	comp=Z,5μm,17.3s								
BRG	**Berggiesshubel**	**79.05**	**330**		*e*	P	**P**	**22 52 46.8**	**+0.2**
BRG						MLR	MLR		
	comp=E,4μm,16.3s								
BRG						MLR	MLR		
	comp=Z,3μm,17.3s								
CLL	**Collm**	**79.05**	**331**		*e*	P	**P**	**22 52 46.3**	**-0.3**
CLL						pmax	pmax		
	comp=Z,110nm,1.0s								
CLL	**Collm**	**79.05**	**331**	⇑	*i*	P	**P**	**22 52 46.3**	**-0.3**
	comp=Z,119nm,1.0s								
CLL					*e*	Pmax		22 52 50.0	
CLL					*i*	(sP)	sP	22 53 06.6	+10
CLL					*e*	PP	**PP**	**22 55 46.0**	**+0.9**
CLL					*e*	S	**S**	**23 02 41.0**	**-3.2**
CLL						LmH		23 28 00.0	
	comp=N,3μm,20.3s								
CLL						LmH		23 28 00.0	
	comp=E,6μm,18.9s								
CLL						Lmax		23 33 00.0	
CLL	**Collm**	**79.05**	**331**		*e*	P	**P**	**22 52 46.3**	**-0.3**
	comp=E,108nm,1.0s								
ARNB	**Al Arnab**	**79.07**	**308**		*e*	P	**P**	**22 52 47.6**	**+0.6**
HUMR	**Humele**	**79.07**	**320**	⇑	*i*	P	**P**	**22 52 47.3**	**+0.5**
PVCC	**Panska Ves**	**79.08**	**330**	⇑	*i*	P	**P**	**22 52 47.5**	**+0.7**
PVCC						AMS	AMS	23 31 00.0	
	comp=E,5μm,17.2s								
PVCC	**Panska Ves**	**79.08**	**330**		*i*	P	**P**	**22 52 47.5**	**+0.7**
PVCC						MLR	MLR		
	comp=Z,5μm,17.2s								
C36A	**Pine Crest Far**	**79.20**	**35**		P		**P**	**22 52 48.6**	**+1.1**
	baz=320								
VRAC	**Vranov**	**79.24**	**328**	⇓	*i*	P	**P**	**22 52 49.3**	**+1.6**
VRAC	**Vranov**	**79.24**	**328**	⇓	P		**P**	**22 52 49.3**	**+1.6**
S22A	**4UR Ranch, Cre**	**79.26**	**49**		*e*	P	**P**	**22 52 51.6**	**+3.3**
	comp=Z,32nm,1.5s								
RABH	**Abou Rabah**	**79.26**	**306**		*e*	P	**P**	**22 52 45.5**	**-2.7**
SIRR	**Siria**	**79.36**	**323**	⇑	*i*	P	**P**	**22 52 50.3**	**+1.9**
ROOS	**tl_alroos**	**79.38**	**306**	

E38A **The Farm, Brul** 80.64 35 P P 22 52 56.2 +0.9
baz=321
WTSB **Winterswijk** 80.69 334 eP P 22 52 55.1 -0.3
comp=Z,137nm,1.2s
SALA **Sala** 80.70 305 eP P 22 52 49.0 -7.1
BRBR **Barbar** 80.72 306 eP P 22 52 53.1 -3.1
DQRL **Deir Qamar** 80.75 306 eP P 22 52 57.0 +0.8
KSCO **Kaye Shedlock'** 80.76 46 eP P 22 52 57.5 +1.2
comp=Z,28nm,1.1s
GEC2 **GERESS Array S** 80.76 329 eP P 22 52 56.2 +0.2
GEC2 **GERESS Array S** 80.76 329 eP P 22 52 56.2 +0.2
GERES **GERESS Array B** 80.76 329 P P 22 52 56.1 0.0
comp=Z,18nm,0.8s,baz=35,slow=4.9,SNR=108
GERES PP PP 22 55 59.2 -0.2
comp=Z,10nm,1.3s,baz=31,slow=8.1,SNR=3.5
GERES LR LR 23 31 00.3
comp=Z,3µm,19.7s,baz=14,slow=37
GEA0 **GERESS Array S** 80.77 329 eP P 22 52 55.4 -0.7
WET **Wettzell** 80.85 330 P P 22 52 56.7 +0.3
RAR **Rarotonga** 80.87 128 PFAKE 22 53 10.0 +13
RAR LR LR
comp=Z,3µm,20.0s
ISP **Isparta** 80.92 312 iP P 22 52 57.6 +0.5
ISP **Isparta** 80.92 312 PFAKE 22 53 10.0 +13
ISP LR LR
comp=Z,2µm,19.0s
PGB **Panagyurishte** 80.92 319 P P 22 52 58.0 +1.0
KDZ **Kurdzhali** 80.94 318 P P 22 52 58.0 +1.0
F38A **Pierce - Schro** 81.00 35 P P 22 52 57.6 +0.3
baz=321
GRF **Grafenberg Arr** 81.03 331 P P 22 52 58.3 +0.9
GRFO **Grafenberg** 81.03 331 eP P 22 52 58.2 +0.8
GRFO pmax pmax
comp=Z,150nm,1.0s
GRFO **Grafenberg** 81.03 331 eP P 22 52 58.1 +0.8
comp=Z,150nm,1.0s
T25A **Trinidad** 81.07 48 eP P 22 53 00.1 +2.1
comp=Z,72nm,1.8s
ALN **Alexandroupoli** 81.17 317 P P 22 52 55.8 -2.4
ALN **Alexandroupoli** 81.17 317 P P 22 52 55.8 -2.4
ALN **Alexandroupoli** 81.17 317 P P 22 52 55.8 -2.4
RDO **Rodhopi** 81.25 317 P P 22 52 58.0 -0.6
RDO **Rodhopi** 81.25 317 P P 22 52 58.0 -0.6
CSS **Mathiatis** 81.26 309 P P 22 52 57.3 -1.6
CSS **Mathiatis** 81.26 309 eP P 22 52 58.9 +0.1
comp=Z,11nm,0.9s
CSS LR LR
comp=Z,318nm,20.0s
RZN **Rozhen** 81.28 318 P P 22 52 59.5 +0.5
ARSA **Arzberg** 81.30 327 iP P 22 52 59.3 +0.5
comp=Z,37nm,0.9s,SNR=34
MOA **Molln** 81.34 328 iP P 22 52 59.6 +0.5
comp=Z,79nm,2.0s,SNR=30
LAZ **Ladron** 81.35 52 eP P 22 53 04.5 +4.9
VTS **Vitosha** 81.36 320 P P 22 52 59.2 -0.2
VTS **Vitosha** 81.36 320 ⇑iP P 22 53 00.8 +1.4
VTS **Vitosha** 81.36 320 ⇑P P 22 53 00.8 +1.4
VTS **Vitosha** 81.36 320 P P 22 52 59.0 -0.4
VTS **Vitosha** 81.36 320 P P 22 52 59.2 -0.2
BEHE **Becsehely** 81.38 326⇑eP P 22 52 59.6 +0.3
ANMO **Albuquerque** 81.39 51 P P 22 53 00.9 +1.2
baz=314
ANMO **Albuquerque** 81.39 51 ceP P 22 53 01.2 +1.4
ANMO pmax pmax
comp=Z,33nm,1.7s
ANMO **Albuquerque** 81.39 51 eP P 22 53 02.1 +2.4
comp=Z,48nm,1.6s
ANMO LR LR
comp=Z,967nm,21.0s
KULA **Kula-Manisa** 81.47 314 P P 22 52 59.6 -0.4
KULA **Kula-Manisa** 81.47 314 P P 22 52 59.6 -0.4
E40A **Wakefield** 81.48 34 P P 22 53 00.3 +0.5
baz=322
KOGS **Kog** 81.62 326 eP P 22 53 00.4 -0.1
LPM **Los Pinos Moun** 81.72 52 eP P 22 53 06.6 +5.1
DIVS **Divibare** 81.78 323 P P 22 53 00.7 -0.8
SCHQ **Schefferville** 81.84 17 P P 22 53 01.9 +0.4
comp=Z,6.4nm,0.7s,baz=45,slow=8.0,SNR=3.7
SCHQ LR LR 23 34 28.1
comp=Z,1µm,18.5s,baz=354,slow=39
MMB **Musomiste** 81.85 319 P P 22 53 02.0 +0.1
PERS **Pernice** 81.95 327 eP P 22 53 02.6 +0.3
PERS **Pernice** 81.95 327 iP P 22 53 02.2 -0.1
SOKA **Soboth** 81.96 327 iP P 22 53 02.8 +0.4
comp=Z,141nm,0.9s,SNR=68
NVR **Nevrokopi** 81.96 319 P P 22 53 01.2 -1.2
NVR **Nevrokopi** 81.96 319 P P 22 53 01.2 -1.2
KKB **Krupnik** 81.97 319 P P 22 53 02.7 +0.2
HGN **Heimansgroeve** 82.00 334 eP P 22 53 01.5 -0.9
comp=Z,219nm,1.6s
BEBN **Eben Emael** 82.06 334 P P 22 53 02.5 -0.2
MEM **Membach** 82.11 334 P P 22 53 03.5 +0.5
121A **Cookes Peak, D** 82.23 54 eP P 22 53 04.0 -0.2
comp=Z,60nm,1.6s
SRS **Serrai** 82.27 319 P P 22 53 02.9 -1.1
SRS **Serrai** 82.27 319 P P 22 53 02.9 -1.1
SRS **Serrai** 82.27 319 P P 22 53 02.9 -1.1
OBKA **Obir** 82.29 327 iP P 22 53 04.2 0.0
comp=Z,39nm,0.8s,SNR=34
KBA **Koelnbreinsper** 82.33 328 iP P 22 53 04.5 0.0
comp=Z,85nm,1.1s,SNR=73
KBA **Koelnbreinsper** 82.33 328 P P 22 53 05.4 +0.9
SISC **Sisak** 82.34 325 P P 22 53 04.8 +0.5
F41A **Three Lakes** 82.38 34 P P 22 53 05.2 +0.7
baz=322
CWF **Charnwood Fore** 82.46 339 eP P 22 53 06.2 +1.5
comp=Z,88nm,1.2s
CBKS **Cedar Bluff** 82.48 45 PFAKE 22 53 20.0 +15
CBKS LR LR
comp=Z,1µm,20.0s
UCC **Uccle** 82.48 335 P P 22 53 04.8 -0.1
BCLA **Clavier** 82.50 334 P P 22 53 04.9 -0.2
STU **Stuttgart** 82.54 331 eP P 22 53 06.1 +0.8
STU pmax pmax
comp=Z,100nm,0.9s
STU **Stuttgart** 82.54 331 eP P 22 53 06.1 +0.8
comp=Z,100nm,0.9s
MYKA **Terra Mystica** 82.57 328 iP P 22 53 05.1 -0.4
comp=Z,97nm,1.6s,SNR=33
KNT **Kendrikon** 82.58 319 P P 22 53 04.7 -1.0
KNT **Kendrikon** 82.58 319 P P 22 53 04.7 -1.0
KNT **Kendrikon** 82.58 319 P P 22 53 04.7 -1.0
OZLJ **Ozalj** 82.62 326 P P 22 53 05.0 -0.7
VAY **Valandovo** 82.63 319 iP P 22 53 07.0 +1.2
PLE **Pljevlja** 82.64 322 P P 22 53 07.9 +1.8
PLE **Pljevlja** 82.64 322 ⇑iP P 22 53 06.3 +0.2
OUR **Ouranopolis** 82.65 318 P P 22 53 05.1 -0.9
OUR **Ouranopolis** 82.65 318 P P 22 53 05.1 -0.9
OUR **Ouranopolis** 82.65 318 P P 22 53 05.1 -0.9
SKO **Skopje** 82.70 320 iP P 22 53 08.2 +1.9
SKO **Skopje** 82.70 320 P P 22 53 08.5 +2.2
VISS **Visnje** 82.73 327 iP P 22 53 05.7 -0.7
IVA **Berane** 82.76 322 eP P 22 53 06.9 +0.2
SNF **Seneffe** 82.76 335 P P 22 53 07.5 +1.1
BOJS **Bojanci** 82.80 326 iP P 22 53 06.5 -0.2
WATA **Walderalm** 82.82 329 iP P 22 53 07.2 +0.2
comp=Z,37nm,0.9s,SNR=8.3
TAU **Tasmania Unive** 82.85 177 PFAKE 22 53 20.0 +13
TAU LR LR
comp=Z,2µm,20.0s
WTTA **Wattenberg** 82.86 329 iP P 22 53 07.5 +0.3
comp=Z,109nm,1.9s,SNR=22
WLF **Walferdange** 82.86 334 P P 22 53 08.0 +1.1
comp=Z,91nm,2.4s
WLF **Walferdange** 82.86 334 eP P 22 53 07.4 +0.4
WLF pmax pmax
comp=Z,56nm,1.2s
WLF **Walferdange** 82.86 334 eP P 22 53 07.4 +0.4
comp=Z,56nm,1.2s
WLF LR LR
comp=Z,5µm,19.0s
PLG **Polygyros** 82.89 318 P P 22 53 06.0 -1.3
PLG **Polygyros** 82.89 318 P P 22 53 06.0 -1.3
PLG **Polygyros** 82.89 318 P P 22 53 06.0 -1.3
ABTA **Abfaltersbach** 82.93 328 iP P 22 53 06.8 -0.7
comp=Z,51nm,1.2s,SNR=28
GIVF **Givet** 82.93 335 eP P 22 53 07.1 -0.2
GIVF pmax pmax
comp=Z,99nm,1.4s
PVY **Plav** 82.94 322 eP P 22 53 07.5 -0.2
UPM **Unac-Piva** 82.97 323 ⇑iP P 22 53 07.4 -0.5
JAVS **Javornik** 82.99 327 eP P 22 53 06.9 -0.9
MOTA **Moosalm** 83.00 330 iP P 22 53 08.0 +0.1
comp=Z,100nm,1.0s,SNR=78

DOU **Dourbes** 83.01 335 P P 22 53 08.5 +0.8
comp=Z,25nm,2.0s
RETA **Reutte** 83.02 330 iP P 22 53 08.2 +0.3
comp=Z,99nm,1.1s,SNR=60
PAIG **Paliouri** 83.10 318 P P 22 53 07.0 -1.4
PAIG **Paliouri** 83.10 318 P P 22 53 07.0 -1.4
PAIG **Paliouri** 83.10 318 P P 22 53 07.0 -1.4
BAIF **Baives** 83.17 335 eP P 22 53 08.4 -0.1
BAIF pmax pmax
comp=Z,68nm,1.4s
BFO **Black Forest** 83.22 332 eP P 22 53 08.0 -0.9
BFO pmax pmax
comp=Z,86nm,1.1s
BFO **Black Forest** 83.22 332 eP P 22 53 08.0 -0.9
comp=Z,86nm,1.1s
BFO LR LR
comp=Z,3µm,21.0s
NKY **Niksic** 83.23 322 eP P 22 53 08.9 -0.2
BODT **Bodrum** 83.26 314 P P 22 53 08.3 -1.0
BODT **Bodrum** 83.26 314 P P 22 53 08.3 -1.0
TRI **Trieste** 83.26 327 eP P 22 53 08.2 -0.9
TRI pmax pmax
comp=Z,87nm,1.0s
TRI **Trieste** 83.26 327 eP P 22 53 08.2 -0.9
comp=Z,87nm,1.0s
NKME **Niksic** 83.28 322 eP P 22 53 08.9 -0.4
UDBI **Udbina** 83.35 325 P P 22 53 05.3 -4.4
BRY **Bratogost** 83.37 323 ⇑iP P 22 53 09.2 -0.7
PDG **Podgorica** 83.40 322 P P 22 53 09.0 -0.8
PDG **Podgorica** 83.40 322 ⇑iP P 22 53 10.6 +0.8
TTG **Podgorica** 83.40 322 P P 22 53 09.0 -0.8
TTG **Podgorica** 83.40 322 ⇑iP P 22 53 09.7 -0.1
TTG **Podgorica** 83.40 322 P P 22 53 09.0 -0.8
FETA **Feichten** 83.41 330 iP P 22 53 10.4 +0.3
comp=Z,73nm,1.2s,SNR=31
CEME **Ceu** 83.47 322 ⇑iP P 22 53 09.8 -0.5
SCIA **State Center** 83.50 39 eP P 22 53 08.9 -1.5
comp=Z,32nm,1.2s
SCIA LR LR
comp=Z,2µm,19.0s
DAVA **Damuels** 83.52 330 iP P 22 53 10.9 +0.3
comp=Z,99nm,1.2s,SNR=30
DRME **Dracevica, Mon** 83.62 322 ⇑iP P 22 53 10.8 -0.2
FNA **Florina** 83.63 320 P P 22 53 09.6 -1.6
FNA **Florina** 83.63 320 P P 22 53 09.6 -1.6
FNA **Florina** 83.63 320 P P 22 53 09.6 -1.6
SLE **Schleitheim** 83.64 331 P P 22 53 11.8 +0.7
OHR **Ohrid** 83.66 320 iP P 22 53 12.2 +0.9
OHR **Ohrid** 83.66 320 P P 22 53 11.9 +0.6
BUM **Brajici-Budva** 83.67 322 ⇑iP P 22 53 11.0 -0.4
NVLJ **Novalja** 83.71 326 P P 22 53 10.6 -0.8
ECH **Echery** 83.74 332 ⇑eP P 22 53 11.5 -0.1
HCY **Herceg Novi** 83.74 322 ⇑iP P 22 53 11.1 -0.5
ULC **Ulcinj** 83.76 322 ⇑iP P 22 53 11.3 -0.5
XOR **Xorichti** 83.77 318 P P 22 53 09.8 -2.1
XOR **Xorichti** 83.77 318 P P 22 53 09.8 -2.1
STON **Ston** 83.78 323 P P 22 53 10.1 -1.7
NEO **Neokhori** 83.80 318 P P 22 53 11.2 -0.8
NEO **Neokhori** 83.80 318 P P 22 53 11.2 -0.8
FYTO **Fytoko, Volos** 83.87 318 P P 22 53 11.7 -0.6
FYTO **Fytoko, Volos** 83.87 318 P P 22 53 11.7 -0.6
L39A **Vinton** 83.91 38 P P 22 53 12.6 +0.1
baz=321
KSU1 **Kansas State U** 83.92 43 PFAKE 22 53 20.0 +7.4
KSU1 LR LR
comp=Z,2µm,21.0s
FUORN **Ofenpass-Fuorn** 83.92 330 eP P 22 53 13.0 +0.2
comp=Z,212nm,1.1s
TIR **Tirane** 83.94 321 ⇓iP P 22 53 13.6 +0.9
TIR **Tirane** 83.94 321 eP P 22 53 13.3 +0.6
TIR pmax pmax
comp=Z,120nm,1.0s
TIR **Tirane** 83.94 321 eP P 22 53 13.2 +0.6
comp=Z,116nm,1.0s
TIR LR LR
comp=Z,5µm,19.0s
URZ **Urewera** 84.02 154 LR LR 23 27 36.3
comp=Z,1µm,19.6s,baz=312,slow=34
MOF **Molkenrain** 84.06 332 ⇑eP P 22 53 13.3 0.0
NEST **Nestorio** 84.07 320 P P 22 53 13.1 -0.4
JFWS **Jewell Farm** 84.10 36 PFAKE 22 53 30.0 +17
JFWS LR LR
comp=Z,2µm,19.0s
SMIA **Simia** 84.13 317 P P 22 53 12.7 -1.0
THEF **They Montfort** 84.15 333 ⇑eP P 22 53 13.7 +0.1
HINF **Hinteralfeld** 84.19 332 eP P 22 53 13.4 -0.5
HINF pmax pmax
comp=Z,331nm,2.3s
PENT **Pentalofos** 84.19 319 P P 22 53 13.2 -0.9
AMTX **Amarillo** 84.22 49 eP P 22 53 13.6 -0.7
comp=Z,18nm,0.8s
THL **Klokotos Trika** 84.23 318 P P 22 53 12.3 -1.8
MSTX **Muleshoe** 84.24 50 P P 22 53 15.0 +0.5
baz=316
MSTX **Muleshoe** 84.24 50 eP P 22 53 14.8 +0.3
comp=Z,32nm,1.4s
KPRO **Kipourio** 84.26 319 P P 22 53 13.2 -1.2
MNTX **Cornudas Mount** 84.28 53 P P 22 53 14.6 0.0
baz=314
MNTX **Cornudas Mount** 84.28 53 eP P 22 53 15.0 +0.4
comp=Z,20nm,1.3s
MNTX LR LR
comp=Z,1µm,19.0s
L40A **Anamosa** 84.32 38 P P 22 53 14.6 +0.1
baz=321
M39A **Webster** 84.32 38 P P 22 53 14.5 -0.1
baz=321
TUE **Stuetta** 84.40 330 eP P 22 53 15.3 +0.1
comp=Z,103nm,1.1s
TUE LR LR
comp=Z,5µm,19.0s
LKR **Lokris** 84.41 317 P P 22 53 13.4 -1.7
LKR **Lokris** 84.41 317 P P 22 53 13.4 -1.7
KARP **Karpathos** 84.43 313 eP P 22 53 16.0 +0.7
comp=Z,39nm,1.2s
AGG **Agios Georgios** 84.47 318 P P 22 53 13.3 -2.2
AGG **Agios Georgios** 84.47 318 eP P 22 53 15.1 -0.4
AGG pmax pmax
comp=Z,140nm,1.2s
AGG **Agios Georgios** 84.47 318 eP P 22 53 15.1 -0.4
comp=Z,137nm,1.2s
LOMF **Lomont** 84.59 332 ⇑eP P 22 53 16.1 +0.1
PPT **Papeete** 84.76 118 LR LR 23 25 32.5
comp=Z,4µm,20.0s,baz=322,slow=32
PPT2 **Papeete2** 84.78 118 eS S 23 03 40.7 -3.3
comp=Z,2µm,26.5s
PPT2 **Papeete2** 84.78 118 eLR LR 23 19 58.8
comp=Z,6µm,22.5s,baz=316
SANT **Santorini** 84.78 314 PFAKE 22 53 30.0 +13
SANT LR LR
comp=Z,2µm,20.0s
DSF **Desfina** 84.83 317 P P 22 53 15.3 -2.0
DSF **Desfina** 84.83 317 P P 22 53 15.3 -2.0
VLDQ **Val d'Or** 84.88 26 eP P 22 53 17.2 0.0
comp=Z,32nm,1.1s
DSL **Palaion Diasel** 85.02 319 P P 22 53 17.5 -0.7
DSL **Palaion Diasel** 85.02 319 P P 22 53 17.5 -0.7
KALE **Kalithea** 85.05 318 P P 22 53 16.8 -1.6
KALE **Kalithea** 85.05 318 P P 22 53 16.8 -1.6
SERG **Sergoula** 85.07 318 P P 22 53 17.1 -1.4
SGD **Sagiada** 85.08 320 P P 22 53 17.8 -0.7
IGT **Igoumenitsa** 85.10 319 P P 22 53 17.9 -0.7
IGT **Igoumenitsa** 85.10 319 P P 22 53 17.9 -0.7
IGT **Igoumenitsa** 85.10 319 P P 22 53 17.9 -0.7
S35A **Otter Creek Ra** 85.13 43 P P 22 53 19.0 +0.2
baz=319
LAKA **Lakka** 85.24 318 P P 22 53 18.4 -0.9
LAKA **Lakka** 85.24 318 P P 22 53 18.4 -0.9
DYA **Yadsworthy** 85.24 340 eP P 22 53 20.6 +1.6
comp=Z,197nm,1.3s
SENIN **Lac Senin/Sane** 85.26 331 eP P 22 53 19.5 0.0
comp=Z,66nm,1.0s
VAL **Valentia** 85.36 344 eP P 22 53 21.6 +2.0
VAL ePP PP 22 56 42.5 +5.8
VAL **Valentia** 85.36 344 ⇓iS S 23 03 50.2 +1.4
PDO **Prodromos** 85.38 318 P P 22 53 19.1 -0.9
S36A **Lake Cedric, C** 85.48 43 P P 22 53 20.9 +0.4
baz=319
CABF **La Chapelle** 85.49 332 eP P 22 53 20.7 +0.2
CABF pmax pmax
comp=Z,129nm,1.5s
TAOE **Nuku Hiva Isla** 85.52 105 eS S 23 03 51.2 -0.5
comp=Z,2µm,25.0s
TAOE **Nuku Hiva Isla** 85.52 105 eLR LR 23 20 07.9

comp=Z,5µm,20.7s,baz=314
DRO **Drossia** 85.60 318 P P 22 53 20.7 -0.4
RLS **Riolos of Patr** 85.64 318 P P 22 53 20.4 -0.9
RLS **Riolos of Patr** 85.64 318 P P 22 53 20.4 -0.9
LAST **Lasithi** 85.65 313 P P 22 53 20.7 -0.8
LAST **Lasithi** 85.65 313 P P 22 53 20.7 -0.8
FLN **La Foliniere** 85.78 337 eP P 22 53 21.7 -0.1
FLN pmax pmax
comp=Z,150nm,1.4s
Q39A **Willow Grove F** 85.81 41 P P 22 53 22.6 +0.5
baz=320
LDF **La Druitiere** 85.82 337 eP P 22 53 21.8 -0.2
LDF pmax pmax
comp=Z,154nm,1.4s
T36A **Boggs Farm, Ca** 85.83 44 P P 22 53 22.9 +0.6
baz=319
IDI **Anoyia** 85.89 314 eP P 22 53 21.7 -1.0
comp=Z,99nm,1.2s
U35A **Pawnee** 85.89 45 P P 22 53 23.1 +0.6
baz=318
VLC **Villacollemand** 85.91 328 eP P 22 53 23.8 +1.2
comp=Z,63nm,1.3s
VLC LR LR
comp=Z,4µm,20.0s
WMOK **Wichita Mounta** 85.97 47 P P 22 53 23.3 +0.2
baz=318
WMOK **Wichita Mounta** 85.97 47 eP P 22 53 23.2 +0.2
WMOK pmax pmax
comp=Z,11nm,0.9s
WMOK **Wichita Mounta** 85.97 47 eP P 22 53 23.2 +0.2
comp=Z,11nm,0.9s
WMOK LR LR
comp=Z,2µm,19.0s
R38A **Fenwick Farm,** 86.00 42 P P 22 53 22.4 -0.6
baz=320
SSF **Saint Saulge** 86.00 334 eP P 22 53 23.0 +0.1
SNZO **South Karori** 86.03 157 PFAKE 22 53 30.0 +7.3
SNZO LR LR
comp=Z,3µm,21.0s
AQU **L'Aquila** 86.12 325 eP P 22 53 23.8 +0.1
AQU pmax pmax
comp=Z,120nm,1.3s
AQU **L'Aquila** 86.12 325 eP P 22 53 23.8 +0.1
comp=Z,122nm,1.3s
AQU LR LR
comp=Z,6µm,22.0s
LPL **La Plagne** 86.19 331 eP P 22 53 24.4 +0.2
LPL pmax pmax
comp=Z,81nm,0.9s
LPG **La Plagne** 86.20 331 eP P 22 53 24.5 +0.2
LPG pmax pmax
comp=Z,104nm,1.0s
GRR **Gorron** 86.22 337 eP P 22 53 24.2 +0.2
GRR pmax pmax
comp=Z,160nm,1.1s
AVF **Avril sur Loir** 86.29 334 eP P 22 53 24.5 +0.2
AVF pmax pmax
comp=Z,218nm,0.9s
R39A **Chumby, Stover** 86.34 41 P P 22 53 24.4 -0.3
baz=320
HDIL **Hopedale** 86.40 37 PFAKE 22 53 40.0 +15
HDIL LR LR
comp=Z,2µm,19.0s
BNI **Bardonecchia** 86.60 331 eP P 22 53 26.7 +0.6
BNI pmax pmax
comp=Z,38nm,1.0s
BNI **Bardonecchia** 86.60 331 eP P 22 53 26.6 +0.6
comp=Z,38nm,1.0s
BNI LR LR
comp=Z,4µm,19.0s
S39A **Bolivar** 86.67 42 P P 22 53 25.8 -0.6
baz=320
T38A **Diamond** 86.67 43 P P 22 53 26.4 -0.1
baz=320
GDM **Grand'Maison** 86.68 331 ⇑eP P 22 53 26.9 +0.4
Q41A **Truxton** 86.74 40 P P 22 53 28.0 +1.4
baz=322
TUL1 **Leonard** 86.74 44 eP P 22 53 26.9 +0.2
comp=Z,75nm,1.6s
R40A **Maddies Statio** 86.74 41 P P 22 53 26.1 -0.6
baz=321
GRN **Grenoble** 86.78 331 ⇑eP P 22 53 27.3 +0.4
PLDF **La Plantade** 86.91 333 eP P 22 53 28.2 +0.7
CUC **Castrocucco** 86.92 322 eP P 22 53 26.5 -1.2
comp=Z,30nm,1.6s
CUC LR LR
comp=Z,3µm,21.0s
TX31 **Lajitas Ar. Si** 86.99 54 eP P 22 53 28.8 +0.6
TXAR **Lajitas Array** 86.99 54 P P 22 53 28.6 +0.4
comp=Z,2.1nm,0.8s,baz=302,slow=3.2,SNR=21
TXAR PKKP PKKPbc 23 11 21.2 +1.9
comp=Z,0.3nm,0.8s,baz=141,slow=4.8,SNR=3.9
AGO **Saint Agoulin** 87.01 333 ⇑eP P 22 53 28.6 +0.7
ABTX **Abilene, Hawle** 87.03 49 P P 22 53 28.8 +0.5
baz=317
ABTX **Abilene, Hawle** 87.03 49 eP P 22 53 28.7 +0.5
comp=Z,63nm,1.6s
U38A **Gravette** 87.08 43 P P 22 53 28.7 +0.3
baz=320
TCF **Toulx Ste Croi** 87.11 334 eP P 22 53 28.8 +0.4
TCF pmax pmax
comp=Z,136nm,1.4s
S40A **Lebanon** 87.16 41 P P 22 53 29.0 +0.2
baz=321
R41A **Rosebud** 87.17 40 P P 22 53 30.4 +1.5
baz=322
SSB **Saint Sauveur** 87.19 332 eP P 22 53 28.8 0.0
SSB **Saint Sauveur** 87.19 332 eP P 22 53 28.8 0.0
SSB LR LR
comp=Z,3µm,19.0s
X35A **Drake** 87.22 46 P P 22 53 30.6 +1.5
baz=318
RPZ **Rata Peaks** 87.23 160 LR LR 23 27 58.0
comp=Z,1µm,20.4s,baz=332,slow=32
COLF **Collangettes** 87.28 333 eP P 22 53 30.9 +1.6
PYM **Petit Puy Mans** 87.31 333 ⇑eP P 22 53 30.1 +0.6
QUIF **Quistinic** 87.32 338 eP P 22 53 30.5 +1.2
QUIF pmax pmax
comp=Z,295nm,2.1s
HHAR **Hobbs** 87.43 43 eP P 22 53 30.7 +0.6
comp=Z,23nm,0.5s
OG26 **St.-Nazaire-De** 87.52 331 ⇑eP P 22 53 31.0 +0.6
S41A **Jillco Farms,** 87.55 41 P P 22 53 30.7 +0.1
baz=321
U39A **Green Forest** 87.59 43 P P 22 53 30.9 0.0
baz=320
LBL **Lubilhac** 87.68 333 eP P 22 53 32.9 +1.6
S42A **Caledonia** 87.88 40 P P 22 53 32.6 +0.4
baz=322
233A **Rising Star** 87.90 49 P P 22 53 34.3 +1.9
baz=318
V39A **Pettigrew** 87.92 43 P P 22 53 32.5 -0.1
baz=320
U40A **Yellville** 87.94 42 P P 22 53 32.3 -0.3
baz=321
CEL **Celeste** 88.26 321 eP P 22 53 32.5 -1.6
comp=Z,20nm,0.8s
CEL LR LR
comp=Z,4µm,20.0s
T42A **Van Buren** 88.31 41 P P 22 53 34.6 +0.4
baz=322
333A **Richland Sprin** 88.36 49 P P 22 53 35.9 +1.2
baz=318
CAF **Calviac** 88.36 334 eP P 22 53 35.4 +1.0
CAF pmax pmax
comp=Z,115nm,1.1s
JCT **Junction City** 88.50 50 eP P 22 53 35.4 0.0
JCT pmax pmax
comp=Z,14nm,1.4s
JCT MLR MLR
comp=Z,1µm,19.0s
JCT **Junction City** 88.50 50 eP P 22 53 35.4 0.0
comp=Z,14nm,1.4s
JCT LR LR
comp=Z,1µm,19.0s
V41A **Mountainview** 88.74 42 P P 22 53 37.4 +1.0
baz=321
WHTX **Lake Whitney,** 88.74 48 eP P 22 53 36.0 -0.4
comp=Z,100nm,1.9s
PBMO **Poplar Bluff** 88.83 40 eP P 22 53 39.0 +2.3
comp=Z,31nm,1.0s
LONY **Lake Ozonia** 88.90 26 PFAKE 22 53 50.0 +13
LONY LR LR
comp=Z,3µm,20.0s
TBI **Tubuai** 88.91 122 eS S 23 04 21.0 -2.6
comp=Z,1µm,24.2s
TBI **Tubuai** 88.91 122 eLR LR 23 21 37.9

comp=Z,2µm,24.5s,baz=317
TBI Tubuai 88.91 122 *e*T T 00 31 44.6
comp=Z,15nm,0.3s
MIAR Mount Ida 88.95 44 P **P 22 53 36.1 -1.3**
baz=320
MIAR Mount Ida 88.95 44 *e*P **P 22 53 39.1 +1.8**
MIAR pmax pmax
comp=Z,39nm,1.4s
MIAR Mount Ida 88.95 44 *e*P **P 22 53 35.7 -1.7**
MIAR LR LR
comp=Z,2µm,20.0s
X301 Greenbrier Sit 89.03 43 *e*P **P 22 53 39.4 +1.7**
comp=Z,46nm,1.6s
WHAR Wooly Hollow 89.05 42 *e*P **P 22 53 39.0 +1.2**
comp=Z,130nm,1.8s
ACSO Alum Creek Sta 89.47 34 PFAKE 22 53 50.0 +10
ACSO LR LR
comp=Z,2µm,20.0s
LRDF Laroque-de-Fa 89.94 332⇑ *e*P **P 22 53 42.4 +0.6**
PKME Peaks-Kenny Pk 89.98 22 PFAKE 22 53 50.0 +8.1
PKME LR LR
comp=Z,3µm,19.0s
CLTB Caltabellotta 90.07 323 PFAKE 22 53 50.0 +7.4
CLTB LR LR
comp=Z,2µm,19.0s
VSL Villasalto 90.20 326 *e*P **P 22 53 41.4 -1.8**
comp=Z,29nm,1.1s
VSL LR LR
comp=Z,3µm,20.0s
SJAF Saint Jean de 90.21 332 *e*P **P 22 53 43.6 +0.5**
FILF Fillols 90.26 332⇑ *e*P **P 22 53 44.4 +1.0**
NATX Nacogdoches 90.48 46 PFAKE 22 54 00.0 +15
NATX LR LR
comp=Z,2µm,20.0s
BINY Binghamton 90.53 28 PFAKE 22 54 00.0 +15
BINY LR LR
comp=Z,2µm,19.0s
VALF Valcebollere 90.59 332⇑ *e*P **P 22 53 45.4 +0.3**
EPF Esparros 90.62 334 *e*P **P 22 53 45.8 +0.8**
EPF pmax pmax
comp=Z,21nm,1.1s
RESF Ens 90.81 334⇑ *e*P **P 22 53 47.4 +1.3**
REYF Montagne du Re 90.83 334 *e*P **P 22 53 46.6 +0.5**
WDD Wied Dalam 90.85 321 PFAKE 22 54 00.0 +14
WDD LR LR
comp=Z,3µm,20.0s
VIEF Viey 90.85 334 *e*P **P 22 53 47.2 +1.0**
ETSF Etsaut 91.03 334 *e*P **P 22 53 47.7 +0.7**
ETSF pmax pmax
comp=Z,65nm,1.4s
LARF Larrau 91.05 335⇑ *e*P **P 22 53 47.7 +0.6**
SSPA Standing Stone 91.19 30 *e*P **P 22 53 47.4 -0.3**
comp=Z,45nm,1.3s
MSEY Mahe Island 91.35 265 PFAKE 22 54 00.0 +11
MSEY LR LR
comp=Z,2µm,22.0s
KVTX Kingsville 91.78 51 PFAKE 22 54 00.0 +9.4
KVTX LR LR
comp=Z,1µm,20.0s
TZTN Tazewell 92.28 36 *e*P **P 22 53 50.8 -2.0**
comp=Z,24nm,1.4s
BLA Blacksburg 93.09 34 PFAKE 22 54 10.0 +13
BLA LR LR
comp=Z,1µm,19.0s
KEST Kesra 93.35 324 P **P 22 53 57.4 -0.5**
comp=Z,11nm,1.1s,baz=290,slow=2.1,SNR=8.7
KEST PP **PP 22 57 43.8 +2.7**
comp=Z,11nm,1.1s,baz=342,slow=5.0,SNR=6.0
KEST LR LR 23 41 06.5
comp=Z,4µm,18.5s,baz=326,slow=39
KEST Kesra 93.35 324 *e*P **P 22 53 58.3 +0.4**
KEST PP **PP 22 57 43.8 +2.7**
CBN Corbin Frederi 93.48 31 PFAKE 22 54 10.0 +12
CBN LR LR
comp=Z,2µm,19.0s
PBRG Braganca 93.94 338 *e*P **P 22 54 01.0 +0.6**
comp=Z,27nm,1.5s
PGAV Gavieira, Arco 94.22 339 *e*P **P 22 54 02.3 +0.5**
comp=Z,36nm,1.9s
PGAV Gavieira, Arco 94.22 339 *e*SS SS 23 11 39.0 +8.1
PGAV Gavieira, Arco 94.22 339 *e*LR LR 23 30 14.7
comp=Z,2µm,18.0s
MVO Moncorvo 94.61 338 *e*P **P 22 54 04.1 +0.5**
comp=Z,36nm,1.8s
MVO Moncorvo 94.61 338 *e*SS SS 23 11 44.9 +8.4
MVO Moncorvo 94.61 338 *e*LR LR 23 31 06.7
comp=Z,2µm,20.0s
POLO Lamas de Olo 94.64 339 *e*P **P 22 54 04.3 +0.6**
comp=Z,24nm,1.3s
PVRL Vila Real 94.70 339 *e*P **P 22 54 04.6 +0.7**
comp=Z,34nm,1.4s
GOGA Godfrey 94.91 38 PFAKE 22 54 20.0 +15
GOGA LR LR
comp=Z,1µm,20.0s
BRAL Brewton 94.99 42 PFAKE 22 54 20.0 +15
BRAL LR LR
comp=Z,2µm,19.0s
ES19 SONSECA Array 95.00 335 *e*P **P 22 54 05.5 +0.1**
ESDC Sonseca Array 95.05 335 P **P 22 54 05.4 -0.2**
comp=Z,5.0nm,0.8s,baz=15,slow=4.2,SNR=30
ESDC LR LR 23 42 39.7
comp=Z,3µm,19.1s,baz=25,slow=39
ESLA Sonseca Array 95.05 335 *e*P **P 22 54 05.8 +0.2**
PVIS Viseu 95.27 338 *e*P **P 22 54 07.6 +1.0**
PAB San Pablo 95.29 335 PFAKE 22 54 20.0 +13
PAB LR LR
comp=Z,4µm,19.0s
FURI Furi 95.31 286 *e*P **P 22 54 10.2 +2.7**
MTE Manteigas 95.47 338 *e*P **P 22 54 08.2 +0.7**
comp=Z,30nm,1.3s
MTE Manteigas 95.47 338 *e*SS SS 23 11 53.6 +4.9
MTE Manteigas 95.47 338 *e*LR LR 23 31 31.9
comp=Z,2µm,18.0s
MTE Manteigas 95.47 338 PFAKE 22 54 20.0 +13
MTE LR LR
comp=Z,3µm,19.0s
CNNC Cliffs of the 95.83 33 PFAKE 22 54 20.0 +11
CNNC LR LR
comp=Z,2µm,20.0s
PMRV Marv??o 96.32 338 *e*LR LR 23 31 26.0
comp=Z,3µm,20.0s
NHSC New Hope 96.67 36 PFAKE 22 54 20.0 +7.1
NHSC LR LR
comp=Z,2µm,22.0s
PBAR Barrancos 97.38 337 *e*P Pdif 22 54 16.7 +0.6
PCVE Castro Verde 98.18 337 *e*P Pdif 22 54 20.9 +1.2
PVAQ Vaqueiros 98.29 337 *e*LR LR 23 36 00.9
comp=Z,5µm,20.0s
RKT Rikitea 98.59 113 *e*LR LR 23 26 07.1
comp=Z,3µm,23.0s,baz=307
CMLA Cha da Macela 101.70 351 *i* P **Pdif 22 54 33.8 -1.6**
CMLA Cha da Macela 101.70 351 PFAKE 22 54 50.0 +15
CMLA LR LR
comp=Z,1µm,22.0s
KMBO Kilima Mbogo 102.98 280 P **Pdif 22 54 42.0 +0.2**
comp=Z,3.2nm,0.7s,baz=23,slow=10,SNR=9.7
KMBO Kilima Mbogo 102.98 280 *i* P **Pdif 22 54 42.7 +0.9**
KMBO pmax pmax
comp=Z,3.0nm,0.7s
KMBO Kilima Mbogo 102.98 280 P **Pdif 22 54 42.0 +0.2**
KMBO LR LR
comp=Z,2µm,19.0s
TEIG Tepich 103.01 49 PFAKE 22 54 50.0 +8.5
TEIG LR LR
comp=Z,137nm,21.0s
BBSR BB Station 103.23 24 PFAKE 22 54 50.0 +7.7
BBSR LR LR
comp=Z,1µm,19.0s
TAM Tamanrasset 106.00 320 *e*PKP
TAM LR LR 22 59 06.9
comp=Z,1µm,19.0s
ABPO Ambohimpanom 106.59 259 PFAKE 22 59 20.0
ABPO LR LR
comp=Z,762nm,21.0s
GTBY Guantanamo Bay 110.24 39 PFAKE 22 59 30.0
GTBY LR LR
comp=Z,954nm,19.0s
MTDJ Mount Denham 110.49 42 PFAKE 22 59 30.0
MTDJ LR LR
comp=Z,1µm,19.0s
GRTK Grand Turk 110.67 34 PFAKE 22 59 30.0
GRTK LR LR
comp=Z,1µm,19.0s
SDDR Presa de Saban 112.83 36 PFAKE 22 59 30.0
SDDR LR LR
comp=Z,2µm,20.0s
SJG San Juan 115.78 31 PFAKE 22 59 40.0 +15
SJG LR LR
comp=Z,815nm,19.0s
TORD Torodi Ar. Bea 116.06 318 PKP **PKPdf 22 59 25.6 -0.5**
comp=Z,1.7nm,0.9s,baz=24,slow=8.1,SNR=3.7
TORD PP **PP 23 00 26.3 -3.6**
comp=Z,14nm,1.1s,baz=31,slow=6.4,SNR=15
BCIP Isla Barro Col 116.70 49 PFAKE 22 59 40.0 +13
BCIP LR LR
comp=Z,583nm,20.0s
PAYG Puerto Ayora 117.48 65 PFAKE 22 59 40.0 +11
PAYG LR LR
comp=Z,1µm,19.0s
ANWB Willy Bob 117.82 27 PFAKE 22 59 40.0 +11
ANWB LR LR
comp=Z,622nm,21.0s
VNDA Vanda 118.05 176 PKP **PKPdf 22 59 27.9 -0.1**
comp=Z,0.8nm,0.7s,baz=323,slow=4.4,SNR=6.9
SBA Scott Base 118.69 174 PFAKE 22 59 40.0 +11
SBA LR LR
comp=Z,815nm,19.0s
LSZ Lusaka 118.85 274 PFAKE 22 59 40.0 +8.5
LSZ LR LR
comp=Z,1µm,20.0s
RPN Rapa Nui 119.67 102 PFAKE 22 59 40.0 +7.4
RPN LR LR
comp=Z,621nm,20.0s
FDF Fort de France 120.75 28 PFAKE 22 59 50.0 +15
FDF LR LR
comp=Z,916nm,20.0s
SDV Santo Domingo 121.91 41 PFAKE 22 59 50.0 +12
SDV LR LR
comp=Z,1µm,20.0s
BBGH Gun Hill 122.79 27 PFAKE 22 59 50.0 +11
BBGH LR LR
comp=Z,2µm,19.0s
GRGR Grenville 122.96 30 PFAKE 22 59 50.0 +11
GRGR LR LR
comp=Z,952nm,20.0s
MAW Mawson 123.08 207 PKP **PKPdf 22 59 37.1 -0.7**
comp=Z,3.3nm,0.7s,baz=34,slow=3.4,SNR=17
SACV Santiago Islan 123.75 345 PFAKE 22 59 50.0 +9.1
SACV LR LR
comp=Z,558nm,20.0s
OTAV Otavalo 124.61 54 PFAKE 23 00 00.0 +17
OTAV LR LR
comp=Z,700nm,19.0s
DBIC Dimbokro 124.89 320 PKP **PKPdf 22 59 42.5 -0.6**
comp=Z,3.5nm,0.7s,baz=7.2,slow=1.0,SNR=6.0
DBIC PP **PP 23 01 25.4 -4.9**
comp=Z,5.9nm,0.8s,baz=344,slow=12,SNR=4.7
TIC Toumodi 124.99 321 *e*P **PKPdf 22 59 41.2 -2.1**
KIC Kosan Boka 125.10 320 *e*P **PKPdf 22 59 41.5 -2.0**
comp=Z,185nm,2.1s
LIC Lamto 125.36 320 *e*P **PKPdf 22 59 43.8 -0.2**
comp=Z,64nm,1.9s
QSPA South Pole Qui 129.98 180 PFAKE 23 00 00.0 +8.8
QSPA LR LR
comp=Z,829nm,19.0s
SUR Sutherland 133.73 261 PFAKE 23 00 10.0 +10
SUR LR LR
comp=Z,2µm,20.0s
NNA Nana 134.83 63 PFAKE 23 00 10.0 +8.0
NNA LR LR
comp=Z,719nm,19.0s
NVL N'lazarevskaya 140.83 203 *e*PKIKP **PKPdf 23 00 09.8 -1.4**
SAML Samuel 140.91 44 *e*PKPdf **PKPdf 23 00 10.8 -2.3**
SAML LR LR
comp=Z,1µm,20.0s
ASCN Ascension 142.16 322 PFAKE 23 00 30.0 +15
ASCN LR LR
comp=Z,1µm,21.0s
LPAZ La Paz 143.74 58 PKP **PKPdf 23 00 18.0 -0.8**
comp=Z,1.1nm,0.6s,baz=259,slow=3.4,SNR=5.7
SHEL Horse Pasture 143.86 303 PFAKE 23 00 30.0 +12
SHEL LR LR
comp=Z,531nm,20.0s
SNAA Sanae 144.25 198 PKP PKPbc 23 00 15.8 +0.1
SNAA Sanae 144.25 198 *e*PKIKP **PKPab 23 00 15.2 -0.2**
SNAA Sanae 144.25 198 *e*PKPdf **PKPab 23 00 15.2 -0.2**
RCBR Riachuelo 145.73 359 PFAKE 23 00 30.0 +7.6
RCBR LR LR
comp=Z,806nm,20.0s
VNA2 Neumayer--Watz 145.82 197 PKP **PKPbc 23 00 20.4 -0.2**
baz=113,slow=2.0
VNA3 Neumayer Olymp 146.05 195 PKP **PKPab 23 00 22.4 +0.4**
VNA1 Neumayer--Stat 146.21 197 PKP **PKPbc 23 00 21.4 -0.4**
LVC Limon Verde 147.58 67 *e*PKPbc **PKPbc 23 00 27.9 +0.2**
LVC LR LR
comp=Z,1µm,20.0s
LCO Las Campanas 150.00 79 *e*PKPbc **PKPbc 23 00 32.6 -0.9**
LCO *e*PKPab **pPKPbc 23 00 40.5 -0.7**
LCO LR LR
comp=Z,2µm,20.0s
PMSA Palmer Station 150.77 156 PFAKE 23 00 40.0 -1.0
PMSA LR LR
comp=Z,1µm,19.0s
PLCA Paso Flores 154.31 102 PKPbc **PKPbc 23 00 43.6 +1.0**
comp=Z,3.0nm,0.8s,baz=229,slow=4.8,SNR=4.6
TRQA Tornquist 160.26 92 PFAKE 23 00 50.0 +8.1
TRQA LR LR
comp=Z,1µm,20.0s
SPB Sao Paulo 161.07 32 PFAKE 23 00 50.0 +6.9
SPB LR LR
comp=Z,1µm,21.0s
EFI East Falkland 161.31 135 PFAKE 23 00 50.0 +7.5
EFI LR LR
comp=Z,2µm,19.0s

GUC 16 23:00:50.5±0.4, 36°29S×73°35W, h12km±1km, ML3.6,
Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
COCH	**Cobquecura**	**0.48**	**71**	*e*P	Pg	23 00 59.3	-0.6
COCH				*e*S	Sg	23 01 06.0	-0.2
COCH				IAML		23 01 07.1	
	comp=N,11µm,0.3s						
CCSP	**San Pedro de C**	**0.58**	**161**	*e*P	Pg	23 01 01.2	-0.7
CCSP				*e*S	Sg	23 01 09.3	-0.3
CCSP				IAML		23 01 10.7	
	comp=N,7µm,0.1s						
CCHI	**Chillan**	**1.07**	**107**	*e*P	Pb	23 01 08.7	-2.2
CCHI				*e*S	Sb	23 01 22.9	-2.0
CCHI				IAML		23 01 27.0	
	comp=N,2µm,0.5s						
TALC	**Talca**	**1.65**	**58**	*e*P	Pn	23 01 18.1	-1.2
TALC				*e*S	Sn	23 01 38.9	-1.5
GO05	**HualaæØ**	**1.72**	**42**	*e*P	Pn	23 01 19.0	-1.3
GO05				*e*S	Sn	23 01 41.0	-1.3
NICH	**Los Niches**	**2.15**	**54**	*e*P	Pn	23 01 26.4	+0.2
NICH				*e*S	Sn	23 01 53.3	+0.5

*SKHL **16** 23:04:04.8±0.2, 44°47N×149°29E, h55km±4km, mb4.2/3*
*JMA **16** 23:04:07.3±0.6, 44°72N×148°30E, h141km, M3.7*

ISC 16 23:04:00.8±4.1, 44°20N±0°09×149°4E±0°2, h38km, n15,
σ2s29/20, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**1.48**	**315**	*e*P	**Pn**	**23 04 25.4**	**+0.4**
KUR				AMB	AMB	23 04 26.2	
	60nm,0.3s						
KUR				*e*S	**Sn**	**23 04 40.7**	**-2.4**
KUR				A	A	23 04 41.4	
	160nm,0.2s						
KUR				A	A	23 04 41.4	
	140nm,0.2s						
SHO	**Shikotan**	**1.86**	**261**	*e*P	Pn	23 04 35.3	+5.2
SHO				AMB	AMB	23 04 35.7	
	80nm,0.3s						
SHO				*e*S	**Sn**	**23 04 57.0**	**+4.7**
SHO				A	A	23 04 58.7	
	140nm,0.4s						
SHO				A	A	23 04 58.7	
	340nm,0.4s						
YUK	**Yuzh-Kuril'sk**	**2.53**	**267**	*e*P	**Pn**	**23 04 41.3**	**+2.0**
YUK				AMB	AMB	23 04 41.7	
	40nm,0.4s						
YUK				*e*S	**Sn**	**23 05 08.9**	**+0.1**
YUK				A	A	23 05 12.3	
	210nm,0.4s						
YUK				A	A	23 05 12.3	
	200nm,0.4s						
NEM2	**Nemuro 2**	**2.75**	**254**	P	**Pn**	**23 04 45.6**	**+3.2**
NEM2				*e*S	**Sn**	**23 05 15.3**	**+0.9**
JRA	**Rausu**	**3.07**	**267**	P	**Pn**	**23 04 47.4**	**+0.7**
JAK	**Akkeshi**	**3.60**	**252**	P	**Pn**	**23 04 56.0**	**+2.0**
JAK				*e*S	**Sn**	**23 05 34.1**	**-1.1**
JTKR	**Abashiri--Toko**	**3.94**	**269**	P	**Pn**	**23 04 57.2**	**-1.5**
JAR	**Ashorobuto**	**4.15**	**259**	P	**Pn**	**23 05 02.8**	**+1.2**
JCH	**Churui**	**4.65**	**252**	P	**Pn**	**23 05 09.2**	**+0.7**
JCH				*e*S	**Sn**	**23 05 57.5**	**-3.7**
JKK2	**Kamakawa 2**	**4.78**	**268**	P	**Pn**	**23 05 08.4**	**-1.9**
JNBK	**Urakawa-nobuka**	**5.20**	**251**	P	**Pn**	**23 05 15.7**	**-0.3**
YSS	**Yuzh-Sakhalins**	**5.39**	**303**	*e*P	**Pn**	**23 05 21.3**	**+2.6**
JKB	**Kayabe**	**6.53**	**252**	P	**Pn**	**23 05 32.7**	**-1.5**
JOT	**Ohata**	**6.74**	**248**	P	**Pn**	**23 05 35.8**	**-1.3**
JOSM	**Okushiri--Mats**	**7.54**	**257**	P	**Pn**	**23 05 45.3**	**-2.8**

*DSN **16** 23:07:35.6±1.4, 28°84N×55°03E, h15km, ML4.6/8, Error ellipse: s-maj=41.3km s-min=9.0km az=59.0*
*ISN **16** 23:07:36.4±2.2, 28°50N×55°19E, h0km±32km, ML4.4*
*ISCJB **16** 23:07:38.7±0.2, 28°33N±0°02×54°77E±0°02, h10km, mb4.5/125, MS4.7/3, Error ellipse: s-maj=3.4km s-min=2.4km az=40.0*
*IDC **16** 23:07:38.2±0.4, 28°37N×54°88E, h0km, mb4.3/40, mb1 4.3/45, mb1mx4.3/61, mbtmp4.3/45, ML4.0/4, Error ellipse: s-maj=10.7km s-min=10.3km az=154.0*
*MOS **16** 23:07:40.1±1.2, 28°32N×54°85E, h24km, mb4.6/61, Error ellipse: s-maj=7.5km s-min=3.9km az=121.1*
*TEH **16** 23:07:40.2, 28°41N×54°99E, h15km, ML4.4*
*NEIC **16** 23:07:40.2±0.0, 28°41N×54°99E, h15km, mb4.6/35, ML4.1(THR), MN4.4(TEH), After TEH.*
*THR **16** 23:07:41.4±0.3, 28°25N×54°87E, h43km±5km, ML4.1*
*BJI **16** 23:07:42.4, 28°30N×54°90E, h33km, mb4.6/38, mB5.2/2, Ms4.9/15, Ms7 4.6/15*
*OMAN **16** 23:07:43.6±0.0, 28°38N×54°95E, h30km, Error ellipse: s-maj=8.5km s-min=2.6km az=249.0*
*CSEM **16** 23:07:44.1±0.1, 28°35N×54°91E, h43km±1km, mb4.5/38, Error ellipse: s-maj=4.7km s-min=3.3km az=54.0*

ISC 16 23:07:40.8±0.7, 28°32N±0°03×54°90E±0°03, h14km±4km,
h14km:pP-P, n429, σ1s57/440, mb4.5/125, MS4.7/4,
19C-11D, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BNDS	**Bandar-Abbas**	**1.45**	**129**	*e*Pg	**Pb**	**23 08 07.8**	**0.0**
BNDS				*e*Sg	**Sg**	**23 08 27.0**	**-0.7**
BNDS				AML	AML	23 08 37.1	
	comp=N,2µm,0.5s						
BNDS	**Bandar-Abbas**	**1.45**	**129**	*e*Pg	**Pb**	**23 08 07.8**	**0.0**
BNDS				*e*Sg	**Sg**	**23 08 27.0**	**-0.7**
BNDS	**Bandar-Abbas**	**1.45**	**129**	Pg	**Pb**	**23 08 07.8**	**0.0**
BNDS				Sg	**Sg**	**23 08 27.0**	**-0.7**
GHIR	**Ghir-Karzin**	**1.69**	**269**	*e*Pg	**Pb**	**23 08 11.7**	**-0.1**
GHIR				AML	AML	23 08 42.4	
	comp=E,4µm,0.5s						
GHIR	**Ghir-Karzin**	**1.69**	**269**	*e*Pn	**Pb**	**23 08 11.7**	**-0.1**
GHIR	**Ghir-Karzin**	**1.69**	**269**	Pn	**Pb**	**23 08 11.7**	**-0.1**
GHIR				Sg	**Sg**	**23 08 37.0**	**+1.7**
NIAN	**Nian**	**1.87**	**114**	*e*Pn	**Pb**	**23 08 13.7**	**-1.1**
NIAN	**Nian**	**1.87**	**114**	*e*Pn	**Pb**	**23 08 13.7**	**-1.1**
ISRV	**Sarvestan**	**1.89**	**304**	*e*Pn	**Pb**	**23 08 15.7**	**+0.3**
ISRV				*e*Sg	**Sg**	**23 08 45.0**	**+3.2**
ISRV				*e*AMB	AMB	23 09 10.0	
	comp=Z,66µm,0.4s						
ISRV	**Sarvestan**	**1.89**	**304**	*e*Pn	**Pb**	**23 08 15.7**	**+0.3**
NGRK	**Negar Kerman**	**2.07**	**50**	*e*Pn	**Pn**	**23 08 16.3**	**+0.7**
NGRK	**Negar Kerman**	**2.07**	**50**	*e*Pn	**Pn**	**23 08 16.3**	**+0.7**
TVBK	**TV Kerman**	**2.32**	**44**	*e*Pn	**Pn**	**23 08 19.9**	**+0.9**
TVBK	**TV Kerman**	**2.32**	**44**	*e*Pn	**Pn**	**23 08 19.9**	**+0.9**
KHGB	**Koh Gabri**	**2.46**	**34**	*e*Pn	**Pn**	**23 08 21.6**	**+0.8**
KHGB	**Koh Gabri**	**2.46**	**34**	*e*Pn	**Pn**	**23 08 21.6**	**+0.8**
BANOM	**Banah**	**2.69**	**152**	*i* P	**Pn**	**23 08 24.5**	**+0.6**
	SNR=61						
BANOM				S	**Sb**	**23 09 02.3**	**+0.5**
BANOM	**Banah**	**2.69**	**152**	P	**Pn**	**23 08 25.8**	**+2.0**
BANOM	**Banah**	**2.69**	**152**	P	**Pn**	**23 08 25.8**	**+2.0**
CHMN	**Cheshme madani**	**2.77**	**56**	*e*Pn	**Pn**	**23 08 26.0**	**+0.8**
CHMN	**Cheshme madani**	**2.77**	**56**	*e*Pn	**Pn**	**23 08 26.0**	**+0.8**
IMEH	**Mehriz**	**3.07**	**355**	*e*Pn	**Pn**	**23 08 31.2**	**+2.0**
IMEH				*e*AMB	AMB	23 09 38.8	
	comp=Z,11µm,0.6s						
IMEH	**Mehriz**	**3.07**	**355**	*e*Pn	**Pn**	**23 08 31.2**	**+2.0**
IBAF	**Bafgh**	**3.31**	**10**	*e*Pn	**Pn**	**23 08 33.9**	**+1.5**
IBAF				*e*AMB	AMB	23 08 45.5	
	comp=Z,5µm,0.2s						
IBAF				*e*AMB	AMB	23 09 45.6	
	comp=N,10µm,0.5s						
IBAF	**Bafgh**	**3.31**	**10**	*e*Pn	**Pn**	**23 08 33.9**	**+1.5**
NAZ	**Nazwa, Dubai**	**3.39**	**168**	*i* P	**Pn**	**23 08 35.5**	**+2.2**
	SNR=28						
NAZ	**Nazwa, Dubai**	**3.39**	**168**	P	**Pn**	**23 08 35.5**	**+2.2**
	SNR=28						
NAZ				S	**Sn**	**23 09 14.2**	**+0.8**
NAZ	**Nazwa, Dubai**	**3.39**	**168**	P	**Pn**	**23 08 35.8**	**+2.5**
	SNR=28						
NAZ				S	**Sn**	**23 09 14.2**	**+0.8**
UOSS	**Minazif**	**3.56**	**161**	*e*Pn	**Pn**	**23 08 36.5**	**+0.8**
UOSS	**Minazif**	**3.56**	**161**	*e*Pn	**Pn**	**23 08 36.5**	**+0.8**
FAQ	**Al Faqa, Dubai**	**3.62**	**170**	*i* P	**Pn**	**23 08 38.1**	**+1.6**
	SNR=27						
FAQ	**Al Faqa, Dubai**	**3.62**	**170**	P	**Pn**	**23 08 38.5**	**+2.0**
	SNR=27						
FAQ	**Al Faqa, Dubai**	**3.62**	**170**	P	**Pn**	**23 08 38.5**	**+2.0**
	SNR=27						
HATD	**Hatta, Dubai**	**3.65**	**162**	*i* P	**Pn**	**23 08 38.3**	**+1.3**
	SNR=20						
HATD	**Hatta, Dubai**	**3.65**	**162**	P	**Pn**	**23 08 38.8**	**+1.8**
	SNR=20						
HATD				S	**Sn**	**23 09 22.2**	**+2.3**
HATD	**Hatta, Dubai**	**3.65**	**162**	P	**Pn**	**23 08 38.8**	**+1.8**
	SNR=20						
HATD				S	**Sn**	**23 09 22.2**	**+2.3**
ASHO	**Ashiyiah**	**3.77**	**164**	*i* P	**Pn**	**23 08 39.5**	**+0.9**
	SNR=76						
ASHO	**Ashiyiah**	**3.77**	**164**	P	**Pn**	**23 08 40.1**	**+1.5**
	SNR=76						
ASHO				S	**Sn**	**23 09 26.5**	**+3.7**
ASHO	**Ashiyiah**	**3.77**	**164**	P	**Pn**	**23 08 40.1**	**+1.5**
	SNR=76						
ASHO				S	**Sn**	**23 09 26.5**	**+3.7**
ICHK	**Chekchek**	**3.93**	**354**	*e*Pn	**Pn**	**23 08 42.8**	**+1.8**
ICHK				*e*AMB	AMB	23 08 58.5	
	comp=Z,6µm,0.3s						
ICHK	**Chekchek**	**3.93**	**354**	*e*Pn	**Pn**	**23 08 42.8**	**+1.8**
IRAM	**Ramesheh**	**4.10**	**328**	*e*Pn	**Pn**	**23 08 44.9**	**+1.5**
IRAM				*e*AMB	AMB	23 09 13.0	
	comp=Z,4µm,0.4s						
IRAM	**Ramesheh**	**4.10**	**328**	*e*Pn	**Pn**	**23 08 44.9**	**+1.5**
IGAR	**Gharneh**	**4.76**	**329**	*e*Pn	**Pn**	**23 08 53.7**	**+1.3**
IGAR				*e*AMB	AMB	23 09 23.4	
	comp=Z,4µm,0.5s						
NASN	**Na'in**	**4.81**	**338**	*e*Pn	**Pn**	**23 08 53.9**	**+0.6**
NASN	**Na'in**	**4.81**	**338**	*e*Pn	**Pn**	**23 08 53.8**	**+0.6**
IZEF	**Zefreh**	**5.07**	**335**	*e*Pn	**Pn**	**23 08 57.0**	**+0.3**
IZEF				*e*AMB	AMB	23 09 27.9	
	comp=Z,1µm,0.3s						
IZEF	**Zefreh**	**5.07**	**335**	*e*Pn	**Pn**	**23 08 57.0**	**+0.3**
IPIR	**Pirpir**	**5.56**	**322**	*e*Pn	**Pn**	**23 09 04.4**	**+1.0**
IPIR				*e*AMB	AMB	23 10 11.4	
	comp=Z,2µm,0.2s						
IPIR	**Pirpir**	**5.56**	**322**	*e*Pn	**Pn**	**23 09 04.4**	**+1.0**
ITEG	**Tejag**	**5.64**	**35**	*e*AMB	AMB	23 10 50.1	
	comp=Z,2µm,0.5s						
TABS	**Tabas**	**5.64**	**19**	*e*Pn	**Pn**	**23 09 05.6**	**+1.2**
TABS				AML	AML	23 11 05.5	
	comp=N,47nm,0.6s						
TABS	**Tabas**	**5.64**	**19**	*e*Pn	**Pn**	**23 09 05.6**	**+1.2**
CHBR	**Chabahar**	**5.67**	**117**	*e*Pn	**Pn**	**23 09 04.6**	**-0.1**
CHBR	**Chabahar**	**5.67**	**117**	*e*Pn	**Pn**	**23 09 04.6**	**-0.1**
IKLH	**Kolahrood**	**5.74**	**331**	*e*Pn	**Pn**	**23 09 06.5**	**+0.6**
IKLH				*e*AMB	AMB	23 11 09.0	
	comp=Z,3µm,0.7s						
IKLH	**Kolahrood**	**5.74**	**331**	*e*Pn	**Pn**	**23 09 06.5**	**+0.6**
WSAR	**Wadi Sarin**	**6.08**	**146**	Pn	**Pn**	**23 09 10.4**	**+0.1**
	comp=Z,3.7nm,0.3s,baz=331,slow=9.8,SNR=52						
WSAR				Sn	**Sn**	**23 10 15.7**	**-4.0**
	comp=Z,2.2nm,0.3s,baz=36,slow=6.4,SNR=4.0						
IDAH	**Dahanechah**	**6.14**	**43**	*e*AMB	AMB	23 11 24.2	
	comp=Z,4µm,0.8s						

QAM Ghamsar 6.18 332 *e*Pn **Pn 23 09 12.8 +0.9**
KHMZ Khomeyn 6.87 323 *e*Pn **Pn 23 09 22.1 +0.8**
KHMZ Khomeyn 6.87 323 *e*Pn **Pn 23 09 22.1 +0.8**
GHVR GHOM 6.87 334 *e*Pn **Pn 23 09 22.1 +0.9**
GHVR GHOM 6.87 334 *e*Pn **Pn 23 09 22.1 +0.9**
ASAO Ashtian 7.47 327 *e*Pn **Pn 23 09 30.7 +1.0**
ASAO Ashtian 7.47 327 *e*Pn **Pn 23 09 30.7 +1.0**
IFIR Firoozkooh 7.52 347 *e*Pn **Pn 23 09 31.6 +1.2**
IFIR *e*AMB AMB 23 09 45.4
comp=Z,286nm,0.2s
IFIR Firoozkooh 7.52 347 *e*Pn **Pn 23 09 31.6 +1.2**
IDMV Damavand 7.63 342 *e*Pn **Pn 23 09 32.9 +1.0**
IDMV *e*AMB AMB 23 12 25.4
comp=Z,657nm,0.6s
IDMV Damavand 7.63 342 *e*Pn **Pn 23 09 32.9 +1.0**
IAFJ Afjeh 7.98 341 *e*Pn **Pn 23 09 38.6 +1.8**
IAFJ *e*AMB AMB 23 09 46.3
comp=Z,830nm,0.3s
IAFJ Afjeh 7.98 341 *e*Pn **Pn 23 09 38.6 +1.8**
IRAZ Razeghan 8.23 330 *e*Pn **Pn 23 09 40.3 +0.3**
IRAZ *e*AMB AMB 23 11 31.9
comp=Z,503nm,0.3s
IRAZ Razeghan 8.23 330 *e*Pn **Pn 23 09 40.3 +0.3**
IVIS Veis 9.25 314 *e*Pn **Pn 23 09 53.5 -0.4**
IVIS Veis 9.25 314 *e*Pn **Pn 23 09 53.5 -0.4**
GEYT Alibeck 9.95 15 Pn **Pn 23 10 04.7 +1.2**
comp=Z,0.2nm,0.3s,baz=224,slow=10,SNR=8.3
BHD Baghdad 10.30 301 *e*Pn **Pn 23 10 08.0 -0.3**
SNR=4.0
BHD *e*Sn **Sn 23 12 05.0 +1.4**
SNR=4.0
IKRK Kirkuk 11.41 311 *e*Pn **Pn 23 10 25.0 +1.5**
SNR=3.0
LKRN Lenkeran, Azer 11.55 335 P **Pn 23 10 25.6 +0.3**
LKRN Lenkeran, Azer 11.55 335 P **Pn 23 10 25.6 +0.3**
NAX Nakhchivan 13.35 327 P **Pn 23 10 50.0 +0.1**
NAX Nakhchivan 13.35 327 P **Pn 23 10 50.0 +0.1**
RTB Rutbah 13.41 294 *e*Pn **Pn 23 10 50.0 -0.8**
SNR=4.0
KBL Kabul 13.56 59 *e*P **Pn 23 10 55.2 +2.1**
KBL Kabul 13.56 59 *e*P **Pn 23 10 55.2 +2.1**
KBL Kabul 13.56 59 *e*Pn **Pn 23 10 55.2 +2.1**
MNGR Mingechevir, A 13.98 335 P **Pn 23 10 58.8 +0.3**
GANJ Ganja 14.17 332 P **Pn 23 11 01.4 +0.2**
MZRK Al-Mazaregh 14.20 305 *e*P **Pn 23 10 58.9 -2.7**
MZRK *e*S Sn 23 13 20.4 -19
MZRK AML AML 23 13 47.0
comp=Z,55nm,0.5s
GNI Garni 14.47 327 Pn **Pn 23 11 07.5 +2.1**
comp=Z,0.3nm,0.3s,baz=93,slow=17,SNR=6.1
GNI Garni 14.47 327 P **Pn 23 11 04.6 -0.8**
GNI Garni 14.47 327 *e*Pn **Pn 23 11 06.8 +1.4**
GNI Garni 14.47 327 *e*Pn **Pn 23 11 06.8 +1.4**
KBSD Kabsdagh 14.86 309 *e*P **Pn 23 11 07.7 -2.9**
KBSD *e*S Sn 23 13 34.9 -20
KBSD AML AML 23 14 17.8
comp=Z,22nm,0.6s
MARD Mardin 14.87 311 *e*Pn **Pn 23 11 08.1 -2.7**
SFNV Sufian 14.87 307 *e*P **Pn 23 11 07.8 -2.9**
SFNV *e*S Sn 23 13 35.0 -20
SFNV AML AML 23 13 57.3
comp=Z,32nm,0.6s
KSRV Kasrt alli 15.42 303 *e*P **Pn 23 11 13.1 -4.9**
KSRV *e*S Sn 23 13 41.8 -27
KSRV AML AML 23 14 17.3
comp=Z,15nm,0.6s
MAK Makhachkala 15.78 340 *e*P **Pn 23 11 22.7 0.0**
MAK *e*S **Sn 23 14 15.0 -2.4**
MAK pmax pmax
comp=Z,940nm,1.3s
ASF Jabal al Asfar 16.02 288 Pn **Pn 23 11 22.5 -3.5**
comp=Z,0.8nm,0.3s,baz=14,slow=4.2,SNR=9.6
ASF Sn Sn 23 14 09.3 -14
comp=Z,0.3nm,0.3s,baz=117,slow=14,SNR=3.6
ROOS tl_alroos 16.14 296 *e*P **Pn 23 11 25.2 -2.2**
ROOS *e*S Sn 23 14 03.6 -23
ROOS AML AML 23 14 44.1
comp=E,17nm,0.6s
ROOS AML AML 23 15 15.3
comp=N,21nm,0.6s
SALA Sala 16.25 290 *e*P **Pn 23 11 26.0 -3.0**
SALA *e*S Sn 23 14 05.4 -24
SALA AML AML 23 14 49.9
comp=N,29nm,0.7s
GROC Groznyy 16.57 336 *e*P **P 23 11 37.4 +2.2**
GROC pmax pmax
comp=Z,87nm,0.8s
GROC Groznyy 16.57 336 *e*P **P 23 11 37.4 +2.2**
comp=Z,87nm,0.8s
TOTH TOTAH 16.64 292 *e*P **Pn 23 11 31.7 -2.1**
TOTH *e*S Sn 23 14 13.5 -25
TOTH AML AML 23 14 54.2
comp=E,11nm,0.6s
TOTH AML AML 23 15 16.8
comp=N,14nm,0.8s
ARTV Artvin 16.66 324 *e*Pn **P 23 11 38.4 +1.9**
comp=N,16nm,1.1s
TCHB Talchebab 16.88 290 *e*P **Pn 23 11 34.3 -2.5**
TCHB *e*S Sn 23 14 18.9 -25
TCHB AML AML 23 15 12.5
comp=E,33nm,0.7s
TCHB AML AML 23 15 19.7
comp=N,18nm,0.6s
ZEI Tsey 16.96 331 *e*P **P 23 11 40.7 +0.9**
ZEI pmax pmax
comp=Z,88nm,0.8s
BRBR Barbar 17.04 292 *e*P **Pn 23 11 36.5 -2.5**
BRBR *e*S Sn 23 14 23.4 -25
BRBR AML AML 23 15 37.9
comp=N,15nm,0.7s
BRBR AML AML 23 15 48.0
comp=E,12nm,0.6s
BTCH Batrach 17.39 301 *e*P **Pn 23 11 42.4 -0.8**
BTCH AML AML 23 15 33.6
comp=N,27nm,0.7s
BTCH AML AML 23 15 38.3
comp=E,20nm,0.7s
BTCH Batrach 17.39 301 *e*P **Pn 23 11 42.4 -0.8**
SNR=103
MMAI Mount Meron Ar 17.41 290 P **Pn 23 11 42.4 -1.1**
comp=E,0.6nm,0.3s,baz=104,slow=14,SNR=12
MMAI Sn **Sn 23 14 47.9 -9.3**
comp=E,0.7nm,0.3s,baz=76,slow=32,SNR=5.2
DRWC Darouich 17.45 303 *e*P **Pn 23 11 43.3 -0.7**
DRWC *e*S Sn 23 14 35.6 -23
DRWC AML AML 23 15 28.7
comp=N,4.7nm,0.6s
DRWC AML AML 23 15 36.5
comp=E,12nm,0.7s
DRWC Darouich 17.45 303 *e*P **Pn 23 11 43.3 -0.7**
SNR=103
EIL Elat 17.51 279 P **Pn 23 11 43.4 -1.2**
comp=E,0.3nm,0.3s,baz=83,slow=8.8,SNR=10
EIL S **S 23 15 04.7 -2.7**
comp=E,0.2nm,0.3s,baz=17,slow=16,SNR=2.2
ARNB Al Arnab 17.70 300 *e*P **Pn 23 11 45.3 -1.8**
ARNB *e*S Sn 23 14 39.4 -25
ARNB AML AML 23 15 12.5
comp=N,9.5nm,0.6s
ARNB AML AML 23 15 48.3
comp=E,13nm,0.7s
KBZ Khabaz 18.15 331 P **P 23 11 54.7 +2.0**
comp=E,0.2nm,0.3s,baz=160,slow=7.5,SNR=14
KBZ S S 23 15 35.0 +15
comp=E,0.0nm,0.3s,baz=117,slow=16,SNR=1.4
KVAR Kislovodsk Arr 18.42 331 P **Pn 23 11 59.2 +3.3**
baz=170,slow=6.1,SNR=8.6
KVAR S S 23 15 37.9 +12
baz=171,slow=13,SNR=1.5
KIV Kislovodsk 18.43 331⇑ *e*P **Pn 23 11 56.6 +0.7**
KIV pmax pmax
comp=Z,10.0nm,1.0s
KIV MLR MLR
comp=Z,2μm,20.0s
KIV Kislovodsk 18.43 331 *e*P **Pn 23 11 56.6 +0.7**
comp=Z,2μm,20.0s
KIV Kislovodsk 18.43 331 *e*P **Pn 23 11 57.1 +1.2**
comp=Z,46nm,0.9s
KIV Kislovodsk 18.43 331 P **Pn 23 11 57.3 +1.4**
SNR=12
GOF Gofitskoye 19.18 334⇓ *i*P **Pn 23 12 08.9 +3.9**
GOF pmax pmax
comp=Z,56nm,0.9s
KKAR Karatay Array 19.40 36 *e*P **Pn 23 12 07.2 -0.4**
KKAR pmax pmax
comp=Z,83nm,0.8s
KKAR Karatay Array 19.40 36 *e*P **Pn 23 12 07.2 -0.4**
comp=Z,83nm,0.8s
KKAR Karatay Array 19.40 36 *e*P **Pn 23 12 07.2 -0.4**
comp=Z,83nm,0.8s
CSS Mathiatis 19.50 295 *e*P **P 23 12 07.8 +0.1**
comp=Z,4.7nm,0.9s
CSS Mathiatis 19.50 295 *e*P **P 23 12 07.8 +0.1**
comp=Z,4.7nm,0.9s
SOC Sochi 19.52 325 *e*P **P 23 12 07.4 -0.4**
SOC *e*S **Sn 23 15 47.0 -0.9**
SOC pmax pmax
comp=Z,53nm,1.4s
SOC Sochi 19.52 325 *e*P **P 23 12 07.4 -0.4**
comp=Z,53nm,1.4s
ATD Arta Tunnel 20.16 216 P **P 23 12 15.8 +0.8**
comp=Z,18nm,1.1s,baz=6.6,slow=2.7,SNR=3.7
KSH Kashi 20.69 52 P **P 23 12 21.1 +0.4**
KSH pP sP 23 12 29.0 +2.5
KSH sP pP 23 12 34.1 +9.4
KSH PP **PnPn 23 12 42.0 +3.3**
KSH S **S 23 16 01.3 -10**
KSH sS sS 23 16 15.1 -2.8
KSH SS **SnSn 23 16 32.4 +1.2**
KSH pmax pmax
comp=Z,10.0nm,0.8s
KSH LR LR
comp=Z,2μm,14.0s
KSH LR LR
comp=Z,1μm,11.7s
KSH LR LR
comp=Z,2μm,11.5s
BRTR Keskin Array B 20.92 308 P **P 23 12 23.4 +0.2**
comp=Z,9.8nm,0.8s,baz=132,slow=11,SNR=23
BR131 Keskin Array S 20.92 308 *e*P **P 23 12 23.2 0.0**
BR131 Keskin Array S 20.92 308 *e*P **P 23 12 23.2 0.0**
ABKAR Akbulak array 21.26 9 *e*P **P 23 12 26.2 -0.3**
comp=Z,100nm,0.6s
ABKAR Akbulak array 21.26 9 *e*P **P 23 12 26.2 -0.3**
comp=Z,100nm,0.6s
AAK Ala-Archa 21.34 43 P **P 23 12 28.4 +0.7**
comp=Z,2.4nm,0.5s,baz=196,slow=7.4,SNR=4.9
AAK Ala-Archa 21.34 43 *e*P **P 23 12 28.5 +0.8**
comp=Z,7.1nm,0.7s
ILGA Ilgaz 21.49 312 *e*P **P 23 12 29.9 +0.5**
comp=Z,47nm,1.2s
ILGA Ilgaz 21.49 312 *e*P **P 23 12 29.9 +0.5**
comp=Z,47nm,1.2s
ANTO Ankara 21.57 308 *e*P **P 23 12 30.9 +0.8**
ANTO pmax pmax
comp=Z,24nm,0.8s
ANTO Ankara 21.57 308 P **P 23 12 30.7 +0.6**
SNR=6.9
ANTO Ankara 21.57 308 *e*P **P 23 12 30.9 +0.8**
comp=Z,24nm,0.8s
ANTO Ankara 21.57 308 P **P 23 12 30.7 +0.6**
SNR=6.9
ANTO P **P 23 12 30.7 +0.6**
SNR=6.9
BR231 Keskin MP Arra 21.57 308 *e*P **P 23 12 30.9 +0.8**
BR231 Keskin MP Arra 21.57 308 *e*P **P 23 12 30.9 +0.8**
AKTK Aktyubinsk 22.21 5 P **P 23 12 35.5 -1.3**
comp=Z,11nm,0.9s
AKTO Aktyubinsk 22.21 5 P **P 23 12 35.5 -1.3**
comp=Z,3.6nm,0.7s,baz=155,slow=13,SNR=20
AKTO Aktyubinsk 22.21 5 P **P 23 12 35.5 -1.3**
AKTO pmax pmax
comp=Z,11nm,0.9s
AKAS Kas 22.75 297 *e*P **P 23 12 41.4 -1.5**
comp=Z,19nm,0.8s
AKAS Kas 22.75 297 *e*P **P 23 12 41.4 -1.5**
comp=Z,19nm,0.8s
SIM Simferopol' 23.42 321 *e*P **P 23 12 49.1 -0.4**
SIM pmax pmax
comp=Z,14nm,1.0s
SIM MLR MLR
comp=N,2μm,19.5s
SIM Simferopol' 23.42 321 *e*P **P 23 12 49.1 -0.4**
comp=N,2μm,19.5s
KARP Karpathos 24.57 294 *e*P **P 23 13 01.0 +0.6**
comp=N,20nm,1.1s
KARP Karpathos 24.57 294 *e*P **P 23 13 01.0 +0.6**
comp=N,20nm,1.1s
PYUN Piuthan 24.73 84 *e*Pn **P 23 13 02.6 +0.4**
comp=N,38nm,0.7s
KOLN Koldanda 25.31 84 *e*Pn **P 23 13 08.7 +1.3**
comp=N,27nm,1.0s
VSR Storozhevoye 25.76 337 *e*P **P 23 13 11.8 +0.8**
VSR pmax pmax
comp=Z,10.0nm,0.9s
VSR Storozhevoye 25.76 337 *e*P **P 23 13 11.8 +0.8**
comp=Z,10.0nm,0.9s
SANT Santorini 26.07 295 *e*P **P 23 13 16.1 +2.1**
comp=Z,112nm,0.9s
SANT Santorini 26.07 295 *e*P **P 23 13 16.1 +2.1**
comp=Z,112nm,0.9s
APE Apeiranthos 26.13 297 *i* P **P 23 13 12.9 -1.7**
APE pmax pmax
comp=Z,10.0nm,0.7s
APE Apeiranthos 26.13 297 *i* P **P 23 13 12.9 -1.7**
comp=Z,10.0nm,0.7s
GKN Gorkha 26.19 84 *e*Pn **P 23 13 17.0 +1.7**
comp=Z,9.5nm,0.6s
IDI Anoyia 26.37 293 P **P 23 13 15.8 -0.9**
comp=Z,13nm,0.8s,baz=100,slow=7.7,SNR=8.2
IDI Anoyia 26.37 293 *e*P **P 23 13 17.2 +0.4**
comp=Z,34nm,0.9s
IDI Anoyia 26.37 293 *e*P **P 23 13 17.2 +0.4**
comp=Z,34nm,0.9s
DMN Daman 26.66 84 *e*P **P 23 13 21.2 +1.5**
KKN Kakani 26.78 84 *e*Pn **P 23 13 23.3 +2.5**
comp=Z,26nm,1.0s
PKIN Phulchoki 26.91 84 *e*Pn **P 23 13 25.2 +3.2**
comp=Z,12nm,0.7s
PKI Pulchoki 26.93 84 *e*Pn **P 23 13 25.0 +2.8**
comp=Z,8.0nm,0.6s
LPSR Galich'ya Gora 27.00 338 *e*P **P 23 13 26.2 +4.0**
LPSR pmax pmax
comp=Z,10.0nm,0.8s
CFR Carcaliu 27.08 316⇓ *i*P **P 23 13 23.2 +0.2**
CFR Carcaliu 27.08 316⇓ P **P 23 13 23.2 +0.2**
CFR Carcaliu 27.08 316 P **P 23 13 23.2 +0.2**
BRVK Borovoye 27.20 20⇑ *i*P **P 23 13 25.0 +1.0**
BRVK pmax pmax
comp=Z,7.0nm,0.8s
BRVK Borovoye 27.20 20 *e*P **P 23 13 23.6 -0.4**
comp=Z,5.0nm,0.9s
BRVK Borovoye 27.20 20 *e*P **P 23 13 23.6 -0.4**
comp=Z,5.0nm,0.9s
BVAR Bovoye Array 27.21 21 P **P 23 13 23.6 -0.5**
comp=Z,1.0nm,0.4s,baz=212,slow=7.4,SNR=13
BVAR PcP **PcP 23 16 42.6 -1.3**
comp=Z,0.6nm,0.5s,baz=170,slow=4.4,SNR=3.5
RAMN Ramite 28.07 85 *e*P **P 23 13 35.7 +3.3**
ARU Arti 28.21 4 P **P 23 13 33.9 +1.0**
comp=Z,0.8nm,0.4s,baz=186,slow=9.2,SNR=3.7
ARU Arti 28.21 4 *e*P **P 23 13 33.5 +0.5**
ARU S **S 23 18 19.8 +1.7**
ARU Arti 28.21 4 *e*P **P 23 13 33.5 +0.5**
MK01 Makanchi Array 28.26 42 *e*P **P 23 13 34.0 +0.4**
MK01 Makanchi Array 28.26 42 *e*P **P 23 13 34.0 +0.4**
MK31 Makanchi Array 28.26 42 *e*P **P 23 13 34.1 +0.5**
MK31 Makanchi Array 28.26 42 *e*P **P 23 13 34.1 +0.5**
MK31 Makanchi Array 28.26 42 *e*P **P 23 13 34.1 +0.5**
MKAR Makanchi Array 28.26 42 *e*P **P 23 13 34.1 +0.5**
MKAR pmax pmax
comp=Z,19nm,1.1s
MKAR Makanchi Array 28.26 42 *e*P **P 23 13 34.1 +0.5**
comp=Z,19nm,1.1s
MKAR Makanchi Array 28.26 42 *e*P **P 23 13 34.1 +0.5**
comp=Z,19nm,1.1s
PLOR Plostina 28.32 316⇓ *i*P **P 23 13 34.6 +0.5**
PLOR Plostina 28.32 316⇓ P **P 23 13 34.6 +0.5**
PLOR Plostina 28.32 316 P **P 23 13 34.6 +0.5**
SORM Soroca 28.51 321⇑ *i*P **P 23 13 35.0 -0.8**
SORM Soroca 28.51 321⇑ P **P 23 13 35.0 -0.8**
SORM Soroca 28.51 321 P **P 23 13 35.0 -0.8**
KURBB Kurchatov Arra 28.56 32 P **P 23 13 35.1 -1.0**
comp=Z,0.6nm,0.3s,baz=232,slow=8.7,SNR=1.8
MLR Muntele Rosu 28.59 315 P **P 23 13 37.3 +0.7**
comp=Z,0.6nm,0.7s,baz=84,slow=4.0
MLR Muntele Rosu 28.59 315⇓ *i*P **P 23 13 38.0 +1.3**
MLR Muntele Rosu 28.59 315 *e*P **P 23 13 38.7 +2.0**
TESR Tescani 28.64 317⇑ *i*P **P 23 13 36.3 -0.6**
KURK Kurchatov 28.66 32 P **P 23 13 35.1 -2.0**
KURK pmax pmax
comp=Z,1.0nm,0.3s
KURK Kurchatov 28.66 32 P **P 23 13 35.1 -2.0**
comp=Z,1.0nm,0.3s
KURK Kurchatov 28.66 32 P **P 23 13 35.1 -2.0**
VOIR 29.13 314⇓ *i*P **P 23 13 41.8 +0.4**
VOIR 29.13 314⇓ P **P 23 13 41.8 +0.4**
VOIR 29.13 314 P **P 23 13 41.8 +0.4**
DOPR Dopca 29.15 315⇑ *i*P **P 23 13 41.1 -0.4**
ARR Arges 29.37 314⇑ *i*P **P 23 13 43.2 -0.3**
AKASG Malin Array Be 29.60 326 P **P 23 13 44.0 -1.4**
comp=Z,2.7nm,0.6s,baz=132,slow=8.5,SNR=6.7
AKASG Malin Array Be 29.60 326 *ce*P **P 23 13 45.0 -0.4**
AKASG pmax pmax
comp=Z,3.0nm,0.6s
AKASG Malin Array Be 29.60 326 *e*P **P 23 13 45.0 -0.4**
comp=Z,3.0nm,0.6s
AKBB Malin Array Si 29.60 326 *e*P **P 23 13 44.8 -0.6**
AKBB pmax pmax
comp=Z,8.0nm,0.8s
AKBB Malin Array Si 29.60 326 *e*P **P 23 13 44.8 -0.6**
comp=Z,8.1nm,0.8s
AKBB Malin Array Si 29.60 326 *e*P **P 23 13 44.8 -0.6**
comp=Z,8.1nm,0.8s
KIEV Kiev 29.60 326⇑ *i*P **P 23 13 44.9 -0.5**
KIEV *e**PP **pP 23 13 47.9 -1.7**
KIEV pmax pmax
comp=Z,7.0nm,0.7s
KIEV Kiev 29.60 326 *i* P **P 23 13 44.9 -0.5**
comp=Z,7.0nm,0.7s
KIEV Kiev 29.60 326 *e*P **P 23 13 44.8 -0.6**
comp=Z,7.9nm,0.7s
OBN Obninsk 29.88 339 P **P 23 13 46.7 -1.1**
comp=Z,11nm,0.5s,baz=147,slow=21,SNR=3.8
OBN Obninsk 29.88 339⇓ *e*P **P 23 13 46.6 -1.1**
OBN *e* 23 14 40.3
OBN pmax pmax
comp=Z,11nm,0.9s
OBN MLR MLR
comp=Z,2μm,15.0s
OBN Obninsk 29.88 339 *e*P **P 23 13 48.1 +0.4**
comp=Z,12nm,0.7s
LOT Lotru 29.95 313⇑ *i*P **P 23 13 47.8 -0.9**
BURAR Bucovina Array 30.03 318⇑ *i*P **P 23 13 48.7 -0.7**
BURAR Bucovina Array 30.03 318⇑ P **P 23 13 48.7 -0.7**
BUR08 Bucovina Ar. S 30.06 318 *e*P **P 23 13 47.4 -2.2**
BUR08 Bucovina Ar. S 30.06 318 *e*P **P 23 13 47.4 -2.2**
WMQ Urumqi 30.45 51 P **P 23 13 55.0 +1.9**
WMQ pmax pmax
comp=Z,9.0nm,0.6s
WMQ LR LR
comp=Z,640nm,15.5s
WMQ LR LR
comp=Z,650nm,18.3s
KECS Kecovo 33.26 317 *e*P **P 23 14 17.7 +0.1**
KECS pmax pmax
comp=Z,3.0nm,1.0s
KECS Kecovo 33.26 317 *e*P **P 23 14 17.7 +0.1**
comp=Z,3.0nm,1.0s
KECS Kecovo 33.26 317 *e*P **P 23 14 17.7 +0.1**
ZAA0 Zalesovo Array 33.66 32 *e*P **P 23 14 19.8 -1.2**
ZAA0 Zalesovo Array 33.66 32 *e*P **P 23 14 19.8 -1.2**
ZALV Zalesovo Beam 33.66 32 P **P 23 14 19.5 -1.5**
comp=Z,2.2nm,0.5s,baz=235,slow=7.0,SNR=9.5
KMBO Kilima Mbogo 33.83 213 P **P 23 14 24.2 +1.0**
comp=Z,3.5nm,0.7s,baz=45,slow=10,SNR=5.9
KMBO Kilima Mbogo 33.83 213 *e*P **P 23 14 23.8 +0.7**
KMBO pmax pmax
comp=Z,5.0nm,1.0s
KMBO Kilima Mbogo 33.83 213 *e*P **P 23 14 23.8 +0.7**
comp=Z,5.4nm,1.0s
KMBO Kilima Mbogo 33.83 213 *e*P **P 23 14 23.8 +0.7**
comp=Z,5.4nm,1.0s
CUC Castrocucco 34.12 300 *e*P **P 23 14 25.4 +0.1**
comp=Z,7.3nm,1.0s
CUC Castrocucco 34.12 300 *e*P **P 23 14 25.4 +0.1**
comp=Z,7.3nm,1.0s
KLMR Klimovskoe 34.14 347 *e*P **P 23 14 23.9 -1.2**
KLMR *e* 23 15 37.0
KLMR pmax pmax
comp=Z,14nm,1.3s
KLMR Klimovskoe 34.14 347 *e*P **P 23 14 23.9 -1.2**
comp=Z,14nm,1.3s
LANS Liptovska Anna 34.15 317 *e*P **P 23 14 25.0 -0.4**
LANS Liptovska Anna 34.15 317 *e*P **P 23 14 25.0 -0.4**
LANS Liptovska Anna 34.15 317 *e*P **P 23 14 25.0 -0.4**
VYHS Vyhne 34.27 316 *e*P **P 23 14 25.4 -1.0**
VYHS pmax pmax
comp=Z,4.0nm,0.9s
VYHS Vyhne 34.27 316 *e*P **P 23 14 25.4 -1.0**
comp=Z,4.0nm,0.9s
VYHS Vyhne 34.27 316 *e*P **P 23 14 25.4 -1.0**
VAE Valguarnera 34.98 296 P **P 23 14 33.1 +0.4**
comp=Z,8.2nm,0.8s,baz=144,slow=10,SNR=6.3
SMOL Smolenice 35.14 315 *e*P **P 23 14 33.9 -0.1**
SMOL Smolenice 35.14 315 *e*P **P 23 14 33.9 -0.1**
SMOL Smolenice 35.14 315 *e*P **P 23 14 33.9 -0.1**
SOP Sopron 35.40 314 P **P 23 14 36.2 0.0**
SOP Sopron 35.40 314 P **P 23 14 36.2 0.0**
SOP Sopron 35.40 314⇑ *e*P **P 23 14 35.4 -0.8**
MORC Moravsky Berou 35.55 317⇑ *i*P **P 23 14 36.4 -1.1**
MORC Moravsky Berou 35.55 317⇑ P **P 23 14 36.4 -1.1**
MORC Moravsky Berou 35.55 317 *e*P **P 23 14 36.4 -1.1**
comp=Z,21nm,0.8s
MORC Moravsky Berou 35.55 317 *e*P **P 23 14 36.4 -1.1**
comp=Z,21nm,0.8s
VSU Vasula 35.90 335⇓ P **P 23 14 39.8 -0.5**
VSU pmax pmax
comp=Z,60nm,1.2s
VSU Vasula 35.90 335 P **P 23 14 39.8 -0.5**
comp=Z,60nm,1.2s
CONA Conrad Observa 35.92 314 *i* P **P 23 14 40.2 -0.6**
comp=Z,7.2nm,1.0s
CONA Conrad Observa 35.92 314 P **P 23 14 40.2 -0.6**
comp=Z,7.2nm,1.0s
ARSA Arzberg 35.93 313 *e*P **P 23 14 39.8 -1.0**
comp=Z,4.0nm,1.1s
ARSA Arzberg 35.93 313 P **P 23 14 39.8 -1.0**
comp=Z,4.0nm,1.1s
VRAC Vranov 35.94 316⇑ *i*P **P 23 14 40.8 -0.1**
VRAC Vranov 35.94 316⇑ P **P 23 14 40.8 -0.1**
VRAC Vranov 35.94 316 P **P 23 14 40.8 -0.1**
AQU L'Aquila 36.27 304 *e*P **P 23 14 47.0 +3.2**
AQU pmax pmax
comp=Z,18nm,1.1s
AQU L'Aquila 36.27 304 *e*P **P 23 14 47.0 +3.2**
comp=Z,18nm,1.1s
DPC Dobruska-Polom 36.49 318 *e*P **P 23 14 44.7 -0.9**
DPC *ep*P **pP 23 14 49.2 -0.7**
DPC *ex* x 23 14 59.7
DPC Dobruska-Polom 36.49 318 *e*P **P 23 14 44.7 -0.9**
DPC *e* 23 14 49.2
DPC *e* 23 14 59.7
DPC Dobruska-Polom 36.49 318 *e*P **P 23 14 44.7 -0.9**
UPC Upice 36.74 318 *e*P **P 23 14 46.8 -0.8**
UPC *ep*P **pP 23 14 51.1 -0.8**
UPC Upice 36.74 318 *e*P **P 23 14 46.8 -0.8**
UPC *e* 23 14 51.1
UPC Upice 36.74 318 *e*P **P 23 14 46.8 -0.8**
MOA Molln 36.92 313 *i* P **P 23 14 47.8 -1.5**
comp=Z,8.0nm,1.1s
MOA Molln 36.92 313 P **P 23 14 47.8 -1.5**
comp=Z,8.0nm,1.1s
KBA Koelnbreinsper 37.31 312 *e*P **P 23 14 52.0 -0.7**
comp=Z,7.7nm,0.8s
KBA Koelnbreinsper 37.31 312 P **P 23 14 52.0 -0.7**
comp=Z,7.7nm,0.8s
PRU Pruhonice 37.43 317 *e*P **P 23 14 52.3 -1.2**
PRU Pruhonice 37.43 317 *e*P **P 23 14 52.3 -1.2**
PRU Pruhonice 37.43 317 P **P 23 14 52.3 -1.2**
GEA0 GERESS Array S 37.58 314 *e*P **P 23 14 53.2 -1.7**
GEC2 GERESS Array S 37.58 314 *e*P **P 23 14 54.4 -0.5**
GEC2 pmax pmax
comp=Z,5.0nm,1.0s
GEC2 GERESS Array S 37.58 314 *e*P **P 23 14 54.4 -0.5**
comp=Z,4.7nm,1.0s
GERES GERESS Array B 37.58 314 P **P 23 14 53.8 -1.1**
comp=Z,0.7nm,0.4s,baz=108,slow=7.3,SNR=11
GERES PcP **PcP 23 17 14.9 +2.3**
comp=Z,0.6nm,0.7s,baz=104,slow=4.1,SNR=3.0
PVCC Panska Ves 37.60 317 *e*P **P 23 14 53.8 -1.2**
PVCC Panska Ves 37.60 317 *e*P **P 23 14 53.8 -1.2**
PVCC Panska Ves 37.60 317 P **P 23 14 53.8 -1.2**
KHC Kasperske Hory 37.74 315 *e*P **P 23 14 54.8 -1.4**
KHC *ep*P **pP 23 14 59.8 -0.7**
KHC Kasperske Hory 37.74 315 *e*P **P 23 14 54.6 -1.7**

KHC					pmax	pmax			
	comp=Z,10.0nm,1.3s								
KHC	**Kasperske Hory**	**37.74**	**315**	P	**P**		**23 14 54.8**	**-1.4**	
KHC	**Kasperske Hory**	**37.74**	**315**	*eP*	**P**		**23 14 54.5**	**-1.7**	
	comp=Z,10nm,1.3s								
ABTA	**Abfaltersbach**	**37.77**	**311**	*i* P	**P**		**23 14 55.4**	**-1.2**	
	comp=Z,4.8nm,0.9s								
ABTA	**Abfaltersbach**	**37.77**	**311**	P	**P**		**23 14 55.4**	**-1.2**	
	comp=Z,4.8nm,0.9s								
FIA1	**FINESS Array S**	**38.27**	**338**	*eP*	**P**		**23 14 59.6**	**-0.9**	
FINES	**FINESS Array B**	**38.27**	**338**	P	**P**		**23 14 59.9**	**-0.5**	
	comp=Z,2.9nm,0.7s,baz=141,slow=9.5,SNR=25								
FINES	**FINESS Array B**	**38.27**	**338**	*i* P	**P**		**23 14 59.5**	**-1.0**	
FINES				pmax	pmax				
	comp=Z,3.0nm,0.6s								
WATA	**Walderalm**	**38.54**	**311**	*eP*	**P**		**23 15 01.1**	**-2.0**	
	comp=Z,8.6nm,0.9s								
WATA	**Walderalm**	**38.54**	**311**	P	**P**		**23 15 01.1**	**-2.0**	
	comp=Z,8.6nm,0.9s								
GTA	**Gaotai**	**38.54**	**61**	*eP*	**P**		**23 15 03.6**	**+0.4**	
GTA				pmax	pmax				
	comp=Z,10.0nm,1.1s								
CLL	**Collm**	**38.80**	**318**	*eP*	**P**		**23 15 03.7**	**-1.3**	
CLL				pmax	pmax				
	comp=Z,8.0nm,0.8s								
CLL	**Collm**	**38.80**	**318**	*i* P	**P**		**23 15 03.9**	**-1.2**	
	comp=Z,6.0nm,0.9s								
CLL				*i* pP	**pP**		**23 15 07.4**	**-2.0**	
CLL				*i* pPmax			23 15 08.5		
	comp=Z,9.0nm,0.8s								
CLL	**Collm**	**38.80**	**318**	*eP*	**P**		**23 15 03.7**	**-1.3**	
	comp=Z,8.3nm,0.8s								
MOTA	**Moosalm**	**38.85**	**311**	*i* P	**P**		**23 15 04.2**	**-1.5**	
	comp=Z,10nm,1.0s								
MOTA	**Moosalm**	**38.85**	**311**	P	**P**		**23 15 04.2**	**-1.5**	
	comp=Z,10nm,1.0s								
VSL	**Villasalto**	**39.02**	**299**	*eP*	**P**		**23 15 07.0**	**0.0**	
	comp=Z,17nm,1.1s								
FETA	**Feichten**	**39.03**	**311**	*eP*	**P**		**23 15 05.6**	**-1.6**	
	comp=Z,14nm,0.7s								
FETA	**Feichten**	**39.03**	**311**	P	**P**		**23 15 05.6**	**-1.6**	
	comp=Z,14nm,0.7s								
KEST	**Kesra**	**39.05**	**293**	P	**P**		**23 15 06.4**	**-1.0**	
	comp=Z,4.4nm,0.8s,baz=23,slow=1.7,SNR=7.5								
KEST	**Kesra**	**39.05**	**293**	*eP*	**P**		**23 15 08.7**	**+1.3**	
	comp=Z,7.0nm,0.8s								
RETA	**Reutte**	**39.11**	**312**	*eP*	**P**		**23 15 06.3**	**-1.5**	
	comp=Z,4.3nm,0.9s								
RETA	**Reutte**	**39.11**	**312**	P	**P**		**23 15 06.3**	**-1.5**	
	comp=Z,4.3nm,0.9s								
BSD	**Bornholm Skovb**	**39.25**	**324**	*i* P	**P**		**23 15 06.3**	**-2.4**	
	comp=Z,15nm,0.6s								
BSD	**Bornholm Skovb**	**39.25**	**324**	*i* P	**P**		**23 15 06.3**	**-2.4**	
BSD				pmax	pmax				
	comp=Z,15nm,0.6s								
FUORN	**Ofenpass-Fuorn**	**39.26**	**310**	*eP*	**P**		**23 15 13.5**	**+4.3**	
	comp=Z,27nm,1.8s								
GRFO	**Grafenberg**	**39.38**	**315**	*eP*	**P**		**23 15 09.0**	**-1.0**	
GRFO				pmax	pmax				
	comp=Z,9.0nm,0.8s								
GRFO	**Grafenberg**	**39.38**	**315**	*eP*	**P**		**23 15 09.0**	**-1.0**	
	comp=Z,9.0nm,0.8s								
PGF	**Pioggiola**	**39.53**	**304**	*eP*	**P**		**23 15 12.4**	**+1.0**	
PGF				pmax	pmax				
	comp=Z,3.0nm,0.8s								
DAVOX	**Davos/Dischmat**	**39.55**	**310**	P	**P**		**23 15 10.1**	**-1.5**	
	comp=Z,2.0nm,0.8s,baz=12,slow=19,SNR=4.2								
DAVA	**Damuels**	**39.65**	**311**	*i* P	**P**		**23 15 10.9**	**-1.5**	
	comp=Z,10nm,0.5s								
DAVA	**Damuels**	**39.65**	**311**	P	**P**		**23 15 10.9**	**-1.5**	
	comp=Z,10nm,0.5s								
TUE	**Stuetta**	**39.85**	**310**	*eP*	**P**		**23 15 16.9**	**+2.8**	
	comp=Z,4.9nm,1.0s								
SBF	**Sospel**	**40.80**	**305**	*eP*	**P**		**23 15 20.0**	**-1.9**	
SBF				pmax	pmax				
	comp=Z,9.0nm,0.8s								
CHTO	**Chiang Mai**	**41.27**	**93**	P	P		23 15 31.2	+5.2	
	comp=Z,265nm,1.3s								
CHTO	**Chiang Mai**	**41.27**	**93**	*eP*	**P**		**23 15 26.0**	**0.0**	
CHTO				pmax	pmax				
	comp=Z,8.0nm,0.8s								
CHTO	**Chiang Mai**	**41.27**	**93**	*eP*	**P**		**23 15 26.0**	**0.0**	
	comp=Z,8.1nm,0.8s								
CMMT	**Chiang Mai**	**41.27**	**93**	P	P		23 15 31.1	+5.1	
	comp=Z,45nm,0.9s								
MBDF	**Montbardon**	**41.37**	**307**	*eP*	**P**		**23 15 24.2**	**-2.5**	
MBDF				pmax	pmax				
	comp=Z,6.0nm,0.8s								
CMAR	**Chiang Mai Arr**	**41.40**	**94**	P	**P**		**23 15 27.8**	**+0.7**	
	comp=Z,2.3nm,0.8s,baz=287,slow=9.3,SNR=3.5								
CMAR				PcP	**PcP**		**23 17 27.1**	**+2.0**	
	comp=Z,2.3nm,0.7s,baz=288,slow=4.4,SNR=5.4								
CMAR	**Chiang Mai Arr**	**41.40**	**94**	P	**P**		**23 15 27.8**	**+0.7**	
CMAR							23 17 27.2		
CMAR				pmax	pmax				
	comp=Z,3.0nm,0.9s								
BNI	**Bardonecchia**	**41.48**	**307**	*eP*	**P**		**23 15 25.6**	**-1.9**	
BNI				pmax	pmax				
	comp=Z,7.0nm,0.9s								
BNI	**Bardonecchia**	**41.48**	**307**	*eP*	**P**		**23 15 25.6**	**-1.9**	
	comp=Z,6.7nm,0.9s								
LPG	**La Plagne**	**41.48**	**308**	*eP*	**P**		**23 15 28.1**	**+0.4**	
LPG				pmax	pmax				
	comp=Z,5.0nm,0.8s								
HINF	**Hinteralfeld**	**41.77**	**311**	*eP*	**P**		**23 15 31.0**	**+1.3**	
HINF				pmax	pmax				
	comp=Z,9.0nm,1.3s								
LZH	**Lanzhou**	**41.77**	**66**	*eP*	**P**		**23 15 31.9**	**+1.8**	
LZH				pmax	pmax				
	comp=Z,14nm,1.0s								
ORIF	**Oris-en-Rattie**	**42.02**	**307**	*eP*	**P**		**23 15 33.4**	**+1.5**	
ORIF				pmax	pmax				
	comp=Z,4.0nm,1.0s								
CABF	**La Chapelle**	**42.09**	**309**	*eP*	**P**		**23 15 30.5**	**-2.0**	
CABF				pmax	pmax				
	comp=Z,9.0nm,1.0s								
UMPA	**Umpang Tak**	**42.21**	**97**	P	P		23 15 40.0	+6.3	
	comp=Z,9.2nm,0.8s								
SUKH	**Sukhothai**	**42.38**	**95**	P	P		23 15 40.9	+5.9	
	comp=Z,4.4nm,0.9s								
KMI	**Kunming**	**42.63**	**83**	P	**P**		**23 15 39.0**	**+1.7**	
KMI				pmax	pmax				
	comp=Z,11nm,0.9s								
NANT	**Nan**	**42.82**	**92**	P	P		23 15 44.5	+5.9	
	comp=Z,4.2nm,0.7s								
MEM	**Membach**	**42.86**	**315**	P	**P**		**23 15 38.9**	**+0.4**	
VIVF	**Saint-Julien-l**	**42.87**	**307**	*eP*	**P**		**23 15 40.0**	**+1.2**	
VIVF				pmax	pmax				
	comp=Z,27nm,2.1s								
TLY	**Talaya**	**43.00**	**43**	*i* P	**P**		**23 15 42.6**	**+2.9**	
TLY				pmax	pmax				
	comp=Z,3.0nm,0.7s								
UTTA	**Uttaradit**	**43.09**	**94**	P	P		23 15 46.0	+5.2	
	comp=Z,5.5nm,0.8s								
BCLA	**Clavier**	**43.26**	**315**	P	**P**		**23 15 42.2**	**+0.4**	
GIVF	**Givet**	**43.50**	**314**	*eP*	**P**		**23 15 42.7**	**-1.0**	
GIVF				pmax	pmax				
	comp=Z,12nm,1.2s								
NC405	**NORSAR Array S**	**43.55**	**331**	*eP*	**P**		**23 15 43.0**	**-1.1**	
NB201	**NORSAR Array S**	**43.70**	**331**	*eP*	**P**		**23 15 44.2**	**-1.0**	
NB2	**NORSAR Subarra**	**43.73**	**331**	P	**P**		**23 15 47.2**	**+1.7**	
NB2				pmax	pmax				
	comp=Z,12nm,1.1s								
NB2	**NORSAR Subarra**	**43.73**	**331**	P	**P**		**23 15 43.8**	**-1.7**	
	comp=Z,3.9nm,0.6s,baz=118,slow=7.9								
NB2	**NORSAR Subarra**	**43.73**	**331**	P	P		23 17 08.1	+83	
	comp=Z,1.9nm,0.5s,baz=118,slow=8.6								
NOA	**NORSAR Array B**	**43.73**	**331**	P	**P**		**23 15 44.0**	**-1.4**	
	comp=Z,5.4nm,0.6s,baz=118,slow=8.0,SNR=26								
NC303	**NORSAR Array S**	**43.76**	**331**	*eP*	**P**		**23 15 47.2**	**+1.5**	
NAO01	**NORSAR Array S**	**43.78**	**331**	*eP*	**P**		**23 15 44.1**	**-1.8**	
BAIF	**Baives**	**43.88**	**314**	*eP*	**P**		**23 15 45.9**	**-0.9**	
BAIF				pmax	pmax				
	comp=Z,22nm,1.1s								
SSF	**Saint Saulge**	**43.91**	**310**	*eP*	**P**		**23 15 45.0**	**-2.0**	
SSF				pmax	pmax				
	comp=Z,10.0nm,1.0s								
PBKT	**Sadao Pong**	**43.91**	**95**	P	P		23 15 52.7	+5.3	
	comp=Z,13nm,0.9s								
NBO00	**NORSAR Array S**	**43.92**	**331**	*eP*	**P**		**23 15 45.7**	**-1.3**	
NC204	**NORSAR Array S**	**44.04**	**331**	*eP*	**P**		**23 15 46.8**	**-1.2**	
SONM	**Songino Array**	**44.06**	**49**	P	**P**		**23 15 47.8**	**-0.7**	
	comp=Z,2.8nm,0.9s,baz=260,slow=8.2,SNR=8.8								
SONA1	**Songino Array**	**44.07**	**49**	*eP*	**P**		**23 15 48.3**	**-0.2**	
ULN	**Ulaanbaatar**	**44.50**	**49**	*eP*	**P**		**23 15 54.4**	**+2.4**	
ULN				pmax	pmax				
	comp=Z,7.0nm,1.7s								
MTLF	**Montolieu**	**44.55**	**304**	*eP*	**P**		**23 15 53.4**	**+1.2**	
MTLF				pmax	pmax				
	comp=Z,40nm,1.1s								
ARCES	**ARCESS Array B**	**44.60**	**346**	P	**P**		**23 15 51.3**	**-1.0**	
	comp=Z,1.1nm,0.6s,baz=150,slow=9.3,SNR=3.0								
TAM	**Tamanrasset**	**44.65**	**275**	*eP*	**P**		**23 15 53.1**	**-0.4**	
TAM				pmax	pmax				
	comp=Z,7.0nm,0.9s								
TAM	**Tamanrasset**	**44.65**	**275**	*eP*	**P**		**23 15 53.1**	**-0.4**	
	comp=Z,6.6nm,0.9s								
TCF	**Toulx Ste Croi**	**44.72**	**308**	*eP*	**P**		**23 15 51.6**	**-2.0**	
TCF				pmax	pmax				
	comp=Z,67nm,2.1s								
CAF	**Calviac**	**44.73**	**306**	*eP*	**P**		**23 15 51.9**	**-1.8**	
CAF				pmax	pmax				
	comp=Z,8.0nm,1.0s								
RJF	**Les Rejaudoux**	**45.13**	**307**	*eP*	**P**		**23 15 55.4**	**-1.5**	
RJF				pmax	pmax				
	comp=Z,7.0nm,0.9s								
NAYO	**Nakonayok**	**45.16**	**98**	P	P		23 16 03.9	+6.5	
	comp=Z,153nm,1.2s								
NRIK	**Noril'sk**	**45.20**	**16**	P	**P**		**23 15 55.8**	**-1.2**	
	comp=Z,1.6nm,0.4s,baz=209,slow=5.9,SNR=3.1								
LFF	**La Frestale**	**45.66**	**306**	*eP*	**P**		**23 15 58.6**	**-2.5**	
LFF				pmax	pmax				
	comp=Z,5.0nm,0.7s								
GYA	**Guiyang**	**45.71**	**80**	*eP*	**P**		**23 16 02.8**	**+1.0**	
GYA				pmax	pmax				
	comp=Z,10.0nm,0.9s								
SRAK	**Srakaew**	**45.92**	**98**	P	P		23 16 13.7	+10	
	comp=Z,46nm,0.9s								
XAN	**Xi'an**	**46.12**	**69**	P	**P**		**23 16 03.5**	**-1.4**	
XAN				pmax	pmax				
	comp=Z,9.0nm,1.0s								
LDF	**La Druitiere**	**46.49**	**311**	*eP*	**P**		**23 16 07.5**	**-0.1**	
LDF				pmax	pmax				
	comp=Z,54nm,1.8s								
ETSF	**Etsaut**	**46.58**	**304**	*eP*	**P**		**23 16 09.4**	**+1.0**	
ETSF				pmax	pmax				
	comp=Z,7.0nm,1.2s								
HHC	**Hu-ho-hao-te**	**47.54**	**59**	*eP*	**P**		**23 16 17.5**	**+1.5**	
SKLT	**Songkhla**	**47.98**	**107**	P	P		23 16 25.4	+5.8	
SGMF	**Saint Gilles**	**48.09**	**311**	*eP*	**P**		**23 16 17.8**	**-2.2**	
SGMF				pmax	pmax				
	comp=Z,96nm,1.9s								
ES19	**SONSECA Array**	**49.26**	**299**	*eP*	**P**		**23 16 27.4**	**-1.9**	
ESDC	**Sonseca Array**	**49.31**	**299**	P	**P**		**23 16 28.3**	**-1.3**	
	comp=Z,1.0nm,0.8s,baz=70,slow=7.1,SNR=7.5								
BOD	**Bodaibo**	**50.13**	**37**	*eP*	P		23 16 28.4	-7.1	
BOD				pmax	pmax				
	comp=Z,8.0nm,1.6s								
LSZ	**Lusaka**	**50.47**	**214**	P	**P**		**23 16 38.5**	**-0.1**	
	comp=Z,3.1nm,0.9s,baz=30,slow=6.3,SNR=5.4								
MDT	**Midelt**	**50.86**	**291**	P	**P**		**23 16 41.2**	**-0.4**	
	comp=Z,3.8nm,0.8s,baz=82,slow=10,SNR=12								
MVO	**Moncorvo**	**51.49**	**302**	*eP*	**P**		**23 16 47.5**	**+1.4**	
MVO	**Moncorvo**	**51.49**	**302**	*e*LR	LR		23 35 05.5		
	comp=Z,2μm,20.0s								
TOA0	**Torodi Ar. Sit**	**51.61**	**264**	*eP*	**P**		**23 16 45.8**	**-1.4**	
	comp=Z,14nm,0.8s								
TORD	**Torodi Ar. Bea**	**51.61**	**264**	P	**P**		**23 16 45.9**	**-1.3**	
	comp=Z,8.4nm,0.6s,baz=60,slow=7.3,SNR=80								
PBAR	**Barrancos**	**51.88**	**298**	*eP*	**P**		**23 16 48.1**	**-0.8**	
	comp=Z,28nm,2.3s								
MTE	**Manteigas**	**51.97**	**301**	*e*LR	LR		23 34 29.2		
	comp=Z,2μm,18.0s								
PMRV	**Marv??o**	**51.98**	**299**	*e*LR	LR		23 36 09.2		
	comp=Z,3μm,20.0s								
PCBR	**Castelo Branco**	**51.99**	**300**	*eP*	**P**		**23 16 49.1**	**-0.6**	
	comp=Z,13nm,1.2s								
PGAV	**Gavieira, Arco**	**52.33**	**303**	*e*LR	LR		23 35 57.3		
	comp=Z,2μm,18.0s								
PVAQ	**Vaqueiros**	**52.53**	**297**	*e*LR	LR		23 36 04.0		
	comp=Z,5μm,20.0s								
SPITS	**Spitsbergen Ar**	**52.84**	**351**	P	**P**		**23 16 54.8**	**-0.7**	
	comp=Z,6.6nm,0.9s,baz=129,slow=12,SNR=5.6								
NJ2	**Nanjing**	**54.69**	**69**	*eP*	**P**		**23 17 09.8**	**+0.1**	
NJ2				pmax	pmax				
	comp=Z,9.0nm,0.5s								
MATP	**Matopo**	**54.77**	**211**	P	**P**		**23 17 09.9**	**-0.5**	
	comp=Z,5.0nm,0.6s,baz=32,slow=7.8,SNR=24								
DBIC	**Dimbokro**	**60.30**	**261**	P	**P**		**23 17 47.1**	**-2.3**	
	comp=Z,4.0nm,0.8s,baz=25,slow=9.4,SNR=6.0								
KIC	**Kosan Boka**	**60.34**	**261**	*eP*	**P**		**23 17 48.0**	**-1.8**	
	comp=Z,16nm,0.9s								
TIC	**Toumodi**	**60.45**	**261**	*eP*	**P**		**23 17 48.6**	**-2.0**	
KSAR	**Wonju Array Be**	**60.59**	**61**	P	**P**		**23 17 49.3**	**-1.8**	
KSAR	**Wonju Array Be**	**60.59**	**61**	P	**P**		**23 17 49.3**	**-1.8**	
KSRS	**Korea Array**	**60.61**	**61**	P	**P**		**23 17 49.3**	**-2.0**	
	comp=Z,1.3nm,0.6s,baz=275,slow=5.5,SNR=3.6								
LIC	**Lamto**	**60.66**	**261**	*eP*	**P**		**23 17 50.3**	**-1.7**	
	comp=Z,53nm,1.4s								
PMOZ	**Porto Moniz, M**	**61.13**	**294**	*e*LR	LR		23 36 30.8		
	comp=Z,1μm,20.0s								
USRK	**Ussuriysk Ar.**	**61.99**	**53**	P	**P**		**23 17 59.6**	**-0.9**	
	comp=Z,2.3nm,0.7s,baz=76,slow=6.1,SNR=4.0								
BOSA	**Boshof**	**63.33**	**209**	P	**P**		**23 18 08.4**	**-1.3**	
	comp=Z,3.0nm,0.6s,baz=20,slow=4.4,SNR=11								
BOSA	**Boshof**	**63.33**	**209**	P	**P**		**23 18 08.4**	**-1.3**	
BOSA				pmax	pmax				
	comp=Z,5.0nm,0.7s								
SUMG	**Summit**	**64.25**	**340**	*i* P	**P**		**23 18 15.2**	**-0.3**	
	comp=Z,27nm,1.0s								
SUMG	**Summit**	**64.25**	**340**	*eP*	**P**		**23 18 14.8**	**-0.8**	
SUMG				pmax	pmax				
	comp=Z,27nm,1.0s								
SUMG	**Summit**	**64.25**	**340**	*eP*	**P**		**23 18 14.8**	**-0.8**	
	comp=Z,28nm,1.0s								
SEY	**Seymchan**	**68.46**	**29**	*i* P	**P**		**23 18 42.3**	**+0.1**	
YSS	**Yuzh-Sakhalins**	**68.50**	**47**	*eP*	**P**		**23 18 45.5**	**+2.8**	
YSS				pmax	pmax				
	comp=Z,10.0nm,1.2s								
MJAR	**Matsushiro Arr**	**68.74**	**59**	P	**P**		**23 18 44.1**	**-0.4**	
	comp=Z,1.3nm,0.8s,baz=292,slow=6.4,SNR=3.5								
FITZ	**Fitzroy Crossi**	**82.48**	**115**	P	**P**		**23 20 03.6**	**+0.2**	
	comp=Z,3.1nm,0.7s,baz=309,slow=6.5,SNR=7.9								
FITZ	**Fitzroy Crossi**	**82.48**	**115**	*eP*	**P**		**23 20 04.3**	**+1.0**	
	comp=Z,3.3nm,0.8s								
IL1	**Eielson Array**	**85.67**	**9**	*eP*	**P**		**23 20 19.9**	**+1.1**	
ILAR	**Eielson Array**	**85.67**	**9**	P	**P**		**23 20 17.3**	**-1.6**	
	comp=Z,0.5nm,0.7s,baz=323,slow=3.9,SNR=6.2								
YKA	**Yellowknife Ar**	**89.11**	**355**	P	**P**		**23 20 33.2**	**-2.2**	
	comp=Z,1.9nm,0.7s,baz=3.9,slow=4.9,SNR=10								
YKA	**Yellowknife Ar**	**89.11**	**355**	*i* P	**P**		**23 20 35.0**	**-0.5**	
YKA				pmax	pmax				
	comp=Z,2.0nm,0.7s								
WRA	**Warramunga Arr**	**90.46**	**112**	P	**P**		**23 20 41.8**	**-0.7**	
	comp=Z,1.5nm,0.9s,baz=315,slow=3.9,SNR=15								
WRA	**Warramunga Arr**	**90.46**	**112**	P	**P**		**23 20 41.8**	**-0.7**	
WRA				pmax	pmax				
	comp=Z,3.0nm,0.8s								
ASAR	**Alice Springs**	**91.96**	**116**	P	**P**		**23 20 48.5**	**-0.9**	
	comp=Z,1.1nm,0.7s,baz=307,slow=5.2,SNR=8.1								
MAW	**Mawson**	**95.82**	**177**	P	**P**		**23 21 07.4**	**+1.4**	
	comp=Z,0.7nm,0.8s,baz=59,slow=8.5,SNR=3.7								
JYK	**Kaneyama**	**2.66**	**240**	P	**Pn**		**23 12 20.0**	**+0.8**	
JOU	**Okura**	**2.82**	**227**	P	**Pn**		**23 12 21.7**	**+0.3**	
JOU				*e*S	**Sn**		**23 12 55.9**	**+0.7**	
JFT	**Otama**	**3.62**	**221**	P	**Pn**		**23 12 33.5**	**+1.1**	
MJAR	**Matsushiro Arr**	**5.49**	**228**	Pn	**Pn**		**23 12 59.6**	**+1.5**	
	1.4nm,0.3s,baz=37,slow=13,SNR=14								
MAT	**Matsushiro**	**5.49**	**228**	P	**Pn**		**23 12 59.7**	**+1.6**	
MAT				*e*S	**Sn**		**23 14 03.6**	**+2.5**	
SONM	**Songino Array**	**27.36**	**298**	P	P		23 17 30.6	+9.1	
	0.5nm,0.5s,baz=87,slow=8.9,SNR=3.2								
H11N2	**WAKE ISLAND Hy**	**28.79**	**128**	T	T		23 47 38.6		
	baz=321,slow=76,SNR=29								
H11N1	**WAKE ISLAND Hy**	**28.80**	**128**	T	T		23 47 38.6		
	baz=321,slow=76,SNR=16								
H11N3	**WAKE ISLAND Hy**	**28.81**	**128**	T	T		23 47 40.3		
	baz=321,slow=76,SNR=17								
H11S1	**WAKE ISLAND Hy**	**29.62**	**130**	T	T		23 48 41.9		
	baz=322,slow=76,SNR=6.1								
H11S3	**WAKE ISLAND Hy**	**29.63**	**130**	T	T		23 48 40.8		
	baz=322,slow=76,SNR=5.3								
H11S2	**WAKE ISLAND Hy**	**29.64**	**130**	T	T		23 48 43.0		
	baz=322,slow=76,SNR=7.0								
ZALV	**Zalesovo Beam**	**40.88**	**310**	P	P		23 19 25.6	+7.5	
	0.5nm,0.4s,baz=75,slow=8.5,SNR=2.5								
ILAR	**Eielson Array**	**45.95**	**34**	P	**P**		**23 19 60.0**	**+1.1**	
	0.4nm,0.6s,baz=262,slow=6.8,SNR=5.3								
WRA	**Warramunga Arr**	**60.52**	**190**	P	**P**		**23 21 45.0**	**-1.4**	
	0.4nm,0.5s,baz=8.0,slow=6.9,SNR=5.1								
ASAR	**Alice Springs**	**64.24**	**190**	P	**P**		**23 22 10.1**	**-1.2**	
	0.3nm,0.6s,baz=8.9,slow=6.6,SNR=2.8								
FINES	**FINESS Array B**	**66.61**	**332**	P	P		23 22 33.2	+6.9	
	2.1nm,0.9s,baz=61,slow=11,SNR=4.2								

*IDC **16** 23:11:35.9±1.1, 39.77N×144.15E, h0km, mb3.7/6, mb1 3.8/7, mb1mx3.5/58, mbtmp3.7/7, ML3.5/1, Error ellipse: s-maj=32.7km s-min=21.9km az=89.0*
*JMA **16** 23:11:36.8±0.3, 40.28N×143.24E, h10km±3km, M3.7*
ISC 16 23:11:36.7±3.5, 40.31N±0.05×143.30E±0.07, h14km±24km, n30, σ1.19/28, mb3.6/6, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
JTH	**Tanohata**	**1.16**	**252**	P		**Pn**	**23 11 57.5**	**-1.1**
JTH				*e*S		**Sb**	**23 12 12.7**	**-0.9**
MIYJ	**Miyakonagasawa**	**1.35**	**238**	P		**Pn**	**23 12 00.6**	**-0.6**
MIYJ				*e*S		**Sn**	**23 12 17.6**	**-1.4**
JANG	**Nango**	**1.37**	**273**	P		**Pn**	**23 12 01.3**	**-0.1**
JANG				*e*S		**Sn**	**23 12 18.4**	**-1.0**
JEM	**Erimo**	**1.71**	**356**	P		**Pb**	**23 12 07.9**	**-0.1**
JOM	**Ohasama**	**1.76**	**242**	P		**Pn**	**23 12 07.3**	**+0.5**
JTM	**Tenmabayashi**	**1.77**	**286**	P		**Pn**	**23 12 07.8**	**+0.9**
JNBK	**Urakawa-nobuka**	**2.01**	**348**	P		**Pb**	**23 12 12.4**	**-0.7**
JOT	**Ohata**	**2.02**	**303**	P		**Pn**	**23 12 11.5**	**+1.1**
JAH	**Hinai**	**2.04**	**268**	P		**Pn**	**23 12 12.0**	**+1.3**
JAH				*e*S		**Sn**	**23 12 36.7**	**+0.7**
JMK	**Ichinoseki**	**2.10**	**231**	P		**Pn**	**23 12 11.8**	**+0.3**
JRG	**Rokugo**	**2.25**	**247**	P		**Pn**	**23 12 15.0**	**+1.5**
JCH	**Churui**	**2.31**	**1**	P		**Pn**	**23 12 14.8**	**+0.5**
JCH				*e*S		**Sn**	**23 12 41.8**	**-0.7**
JKB	**Kayabe**	**2.33**	**313**	P		**Pn**	**23 12 16.3**	**+1.6**
JYK	**Kaneyama**	**2.66**	**240**	P		**Pn**	**23 12 20.0**	**+0.8**
JOU	**Okura**	**2.82**	**227**	P		**Pn**	**23 12 21.7**	**+0.3**
JOU				*e*S		**Sn**	**23 12 55.9**	**+0.7**
JFT	**Otama**	**3.62**	**221**	P		**Pn**	**23 12 33.5**	**+1.1**
MJAR	**Matsushiro Arr**	**5.49**	**228**	Pn		**Pn**	**23 12 59.6**	**+1.5**
	1.4nm,0.3s,baz=37,slow=13,SNR=14							
MAT	**Matsushiro**	**5.49**	**228**	P		**Pn**	**23 12 59.7**	**+1.6**
MAT				*e*S		**Sn**	**23 14 03.6**	**+2.5**
SONM	**Songino Array**	**27.36**	**298**	P		P	23 17 30.6	+9.1
	0.5nm,0.5s,baz=87,slow=8.9,SNR=3.2							
H11N2	**WAKE ISLAND Hy**	**28.79**	**128**	T		T	23 47 38.6	
	baz=321,slow=76,SNR=29							
H11N1	**WAKE ISLAND Hy**	**28.80**	**128**	T		T	23 47 38.6	
	baz=321,slow=76,SNR=16							
H11N3	**WAKE ISLAND Hy**	**28.81**	**128**	T		T	23 47 40.3	
	baz=321,slow=76,SNR=17							
H11S1	**WAKE ISLAND Hy**	**29.62**	**130**	T		T	23 48 41.9	
	baz=322,slow=76,SNR=6.1							
H11S3	**WAKE ISLAND Hy**	**29.63**	**130**	T		T	23 48 40.8	
	baz=322,slow=76,SNR=5.3							
H11S2	**WAKE ISLAND Hy**	**29.64**	**130**	T		T	23 48 43.0	
	baz=322,slow=76,SNR=7.0							
ZALV	**Zalesovo Beam**	**40.88**	**310**	P		P	23 19 25.6	+7.5
	0.5nm,0.4s,baz=75,slow=8.5,SNR=2.5							
ILAR	**Eielson Array**	**45.95**	**34**

comp=Z,252nm,20.6s,baz=222,slow=31
SONM Songino Array 72.59 326 P P 00 05 26.6 +0.5
0.3nm,0.5s,baz=142,slow=4.9,SNR=2.9

IDC ***17*** *00:10:33.9±1.0,2.°05N×128.°71E,h0km,mb4.0/8, mb1 4.2/8,mb1mx3.9/37,mbtmp4.0/8, Error ellipse: s-maj=71.7km s-min=15.4km az=84.0*
NEIC ***17*** *00:10:39.6±1.9,2.°01N×128.°62E,h40km±19km,mb4.3/8, Error ellipse: s-maj=12.6km s-min=6.4km az=73.0*
ISCJB ***17*** *00:10:43.0±0.5,1.°97N±0.°06×128.°47E±0.°09,h92km, mb4.3/15, Error ellipse: s-maj=13.6km s-min=9.0km az=170.0*
ISC 17 00:10:44.6±0.8,1.°97N±0.°10×128.°5E±0.°1,h92km,n19, σ1°06/19,mb4.2/15,Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KKM	**Kota Kinabalu**	**12.87**	**289**	Pn	**Pn**	**00 13 41.7**	**-2.6**
KSM	**Kuching** 8.2nm,0.8s	**18.16**	**269**	*e*P	**P**	**00 14 50.3**	**+0.3**
FITZ	**Fitzroy Crossi** 0.8nm,0.5s,baz=25,slow=14,SNR=4.2	**20.14**	**188**	P	**P**	**00 15 10.2**	**-1.3**
WRAB	**Tennant Creek** 7.8nm,0.6s	**22.52**	**165**	*e*P	**P**	**00 15 36.4**	**-0.6**
WRA	**Warramunga Arr** 4.7nm,0.5s,baz=332,slow=12,SNR=58	**22.53**	**165**	P	**P**	**00 15 36.6**	**-0.4**
QIZ	**Qiongzhong** 43nm,2.2s	**24.90**	**314**	*e*P	**P**	**00 16 00.3**	**+1.2**
ASAR	**Alice Springs** 1.4nm,0.5s,baz=346,slow=11,SNR=16	**26.03**	**169**	P	**P**	**00 16 09.0**	**-0.4**
KULM	**Kulim** 1.3nm,0.6s	**27.95**	**278**	*e*P	**P**	**00 16 28.3**	**+1.5**
COCO	**West Island** 439nm,0.6s	**34.43**	**245**	*e*P	**P**	**00 17 24.9**	**+1.3**
KSAR	**Wonju Array Be**	**35.30**	**359**	P	**P**	**00 17 30.9**	**+0.1**
KSRS	**Korea Array** 1.4nm,0.5s,baz=180,slow=9.6,SNR=4.4	**35.31**	**359**	P	**P**	**00 17 30.9**	**0.0**
MJAR	**Matsushiro Arr** 1.4nm,0.6s,baz=185,slow=9.8,SNR=6.2	**35.56**	**14**	P	**P**	**00 17 32.3**	**-0.7**
MAJO	**Matsushiro** 2.3nm,0.3s	**35.56**	**14**	*e*P	**P**	**00 17 32.7**	**-0.3**
STKA	**Stephens Creek** 2.9nm,0.4s,baz=345,slow=7.8,SNR=12	**35.90**	**161**	P	**P**	**00 17 36.3**	**+0.3**
BJT	**Baijiatuau** 5.6nm,0.5s	**39.48**	**345**	*e*P	**P**	**00 18 06.2**	**0.0**
ULN	**Ulaanbaatar** 10nm,1.0s	**49.32**	**341**	*e*P	**P**	**00 19 25.0**	**+0.4**
SONM	**Songino Array** 3.6nm,0.6s,baz=152,slow=8.6,SNR=18	**49.51**	**341**	P	**P**	**00 19 26.5**	**+0.4**
SML	**Sawmill** 0.4nm,0.5s	**85.05**	**28**	P	**P**	**00 23 10.6**	**+0.7**
ILAR	**Eielson Array** 0.2nm,0.5s,baz=255,slow=5.5,SNR=4.6	**85.93**	**25**	P	**P**	**00 23 12.9**	**-1.3**

IDC ***17*** *00:10:45.9±1.3,2.°66N×94.°00E,h0km,mb3.7/6,mb1 3.9/8, mb1mx3.6/46,mbtmp3.8/8,ML3.9/2, Error ellipse: s-maj=44.8km s-min=19.8km az=47.0*
ISCJB ***17*** *00:10:47.0±1.0,2.°7N±0.°1×94.°10E±0.°10,h17km,mb4.0/9, Error ellipse: s-maj=18.0km s-min=12.0km az=33.5*
NEIC ***17*** *00:10:52.1±2.9,2.°71N×94.°17E,h41km±21km,mb4.5/3, Error ellipse: s-maj=30.5km s-min=9.9km az=63.0*
ISC 17 00:10:48.5±1.2,2.°7N±0.°2×94.°1E±0.°1,h17km,n22, σ0°66/16,mb4.0/9,Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat** 1.2nm,0.3s,baz=242,slow=3.4,SNR=7.6	**4.87**	**88**	Pn	**Pn**	**00 12 01.5**	**+0.4**
KULM	**Kulim** 6.3nm,0.4s	**7.08**	**68**	*e*Pn	**Pn**	**00 12 31.2**	**-0.2**
IPM	**Ipoh** 9.7nm,0.6s	**7.19**	**75**	*e*Pn	**Pn**	**00 12 32.9**	**-0.1**
CMAR	**Chiang Mai Arr** 0.4nm,0.3s,baz=212,slow=12,SNR=4.7	**16.41**	**17**	Pn	**Pn**	**00 14 38.9**	**+0.7**
CHTO	**Chiang Mai** 2.5nm,0.8s	**16.75**	**16**	*e*Pn	**Pn**	**00 14 42.9**	**+0.5**
H08S2	**Diego Garcia H** baz=64,slow=76,SNR=62	**23.82**	**244**	T	T	00 41 45.6	
H08S3	**Diego Garcia H** baz=64,slow=76,SNR=68	**23.82**	**244**	T	T	00 41 48.6	
H08S1	**Diego Garcia H** baz=64,slow=76,SNR=79	**23.84**	**244**	T	T	00 41 43.1	
H01W3	**Cape Leeuwin H** baz=332,slow=75,SNR=31	**41.85**	**155**	T	T	01 03 58.9	
H01W2	**Cape Leeuwin H** baz=332,slow=75,SNR=29	**41.86**	**155**	T	T	01 03 59.8	
H01W1	**Cape Leeuwin H** baz=332,slow=75,SNR=27	**41.86**	**155**	T	T	01 03 56.8	
BJT	**Baijiatuau** 7.5nm,0.9s	**42.24**	**25**	*e*P	**P**	**00 18 40.7**	**-0.1**
WRA	**Warramunga Arr** 0.8nm,0.9s,baz=296,slow=9.1,SNR=3.4	**45.48**	**121**	P	**P**	**00 19 07.2**	**-0.1**
SONM	**Songino Array** 1.0nm,0.7s,baz=186,slow=9.0,SNR=6.2	**46.24**	**12**	P	**P**	**00 19 13.1**	**+0.1**
ULN	**Ulaanbaatar**	**46.40**	**12**	*e*P	**P**	**00 19 15.4**	**+1.1**
ASAR	**Alice Springs** 0.5nm,0.8s,baz=302,slow=8.7,SNR=4.2	**46.79**	**126**	P	**P**	**00 19 18.2**	**+0.7**
GEYT	**Alibeck** 1.0nm,0.7s,baz=151,slow=6.6,SNR=3.1	**48.09**	**321**	P	**P**	**00 19 27.2**	**-0.2**
ZALV	**Zalesovo Beam** 2.1nm,0.4s,baz=179,slow=6.4,SNR=12	**51.67**	**353**	P	**P**	**00 19 54.2**	**-0.1**
MDJ	**Mudanjiang** 4.4nm,0.5s	**52.20**	**32**	P	**P**	**00 19 58.1**	**-0.4**
MAJO	**Matsushiro** 3.3nm,0.7s	**52.80**	**45**	*e*P	**P**	**00 20 02.5**	**-0.6**
GERES	**GERESS Array B** 0.2nm,0.4s,baz=95,slow=2.9,SNR=5.0	**81.64**	**319**	P	**P**	**00 23 06.6**	**+0.6**
TXAR	**Lajitas Array** 0.1nm,0.5s,baz=25,slow=1.0,SNR=3.8	**143.93**	**27**	PKP	**PKPdf**	**00 30 22.5**	**-1.4**

IDC ***17*** *00:11:21.2±1.7,2.°60N×94.°02E,h0km,mb4.0/5,mb1 4.1/7, mb1mx3.7/47,mbtmp4.0/7,ML4.1/2, Error ellipse: s-maj=47.9km s-min=24.4km az=42.0*
ISCJB ***17*** *00:11:22.4±0.9,2.°6N±0.°1×94.°1E±0.°1,h17km,mb4.0/8, Error ellipse: s-maj=18.6km s-min=12.2km az=41.6*
NEIC ***17*** *00:11:26.8±0.7,2.°67N×94.°15E,h35km,mb4.3/4, Error ellipse: s-maj=13.3km s-min=8.5km az=49.0*
ISC 17 00:11:24.0±1.2,2.°6N±0.°2×94.°1E±0.°1,h17km,n13, σ0°35/13,mb4.2/8,Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat** 1.9nm,0.3s,baz=297,slow=11,SNR=3.4	**4.85**	**88**	Pn	**Pn**	**00 12 36.2**	**-0.1**
KULM	**Kulim**	**7.07**	**68**	*e*Pn	**Pn**	**00 13 06.3**	**-0.5**
CMAR	**Chiang Mai Arr** 0.8nm,0.3s,baz=212,slow=12,SNR=8.7	**16.44**	**17**	Pn	**Pn**	**00 15 14.5**	**+0.5**
CHTO	**Chiang Mai** 2.3nm,0.8s	**16.77**	**16**	*e*Pn	**Pn**	**00 15 18.4**	**+0.1**
KKM	**Kota Kinabalu** 5.1nm,0.5s	**22.33**	**81**	*e*P	**P**	**00 16 21.7**	**+0.4**
LSA	**Lhasa** 3.6nm,0.4s	**27.07**	**354**	*e*P	**P**	**00 17 06.5**	**+0.2**
WRA	**Warramunga Arr** 0.7nm,0.9s,baz=301,slow=8.6,SNR=4.0	**45.44**	**121**	P	**P**	**00 19 42.6**	**+0.1**
WRAB	**Tennant Creek** 4.1nm,1.1s	**45.44**	**121**	*e*P	**P**	**00 19 41.9**	**-0.5**
SONM	**Songino Array** 1.7nm,0.7s,baz=190,slow=9.2,SNR=5.8	**46.27**	**11**	P	**P**	**00 19 48.5**	**-0.2**
GEYT	**Alibeck** 1.3nm,0.6s,baz=145,slow=5.4,SNR=3.7	**48.14**	**321**	P	**P**	**00 20 03.1**	**-0.2**
ZALV	**Zalesovo Beam** 3.7nm,0.4s,baz=174,slow=7.2,SNR=13	**51.72**	**353**	P	**P**	**00 20 30.3**	**+0.2**
GERES	**GERESS Array B** 0.2nm,0.4s,baz=101,slow=6.9,SNR=4.0	**81.69**	**319**	P	**P**	**00 23 41.5**	**-0.1**
RAO	**Raoul Island**	**89.53**	**119**	*e*P	**P**	**00 24 21.3**	**+0.4**

IDC ***17*** *00:21:19.3±1.0,40.°20N×143.°67E,h0km,mb3.8/7, mb1 3.9/9,mb1mx3.6/46,mbtmp3.7/9,ML2.5/2,MS4.0/1, Ms1 4.0/1,ms1mx2.8/49, Error ellipse: s-maj=28.2km s-min=19.3km az=97.0*
NEIC ***17*** *00:21:23.3±3.5,40.°23N×143.°59E,h27km±25km,mb4.2/2, Error ellipse: s-maj=19.7km s-min=9.2km az=107.0*
JMA ***17*** *00:21:23.1±0.2,40.°24N×143.°12E,h11km±2km,M4.0*
ISC 17 00:21:21.0±3.2,40.°25N±0.°05×143.°25E±0.°07,h7km±21km, n30,σ1°48/29,mb3.9/9,Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTH	**Tanohata**	**1.11**	**254**	P	**Pb**	**00 21 42.1**	**-0.4**
MIYJ	**Miyakonagasawa**	**1.29**	**239**	P	**Pn**	**00 21 45.2**	**-0.2**
MIYJ				*e*S	**Sb**	**00 22 01.0**	**-1.3**
JANG	**Nango**	**1.33**	**276**	P	**Pn**	**00 21 45.6**	**-0.4**
JOM	**Ohasama**	**1.70**	**243**	P	**Pn**	**00 21 51.9**	**+0.9**
JOM				*e*S	**Sn**	**00 22 13.0**	**+0.1**
JTM	**Tenmabayashi**	**1.75**	**289**	P	**Pn**	**00 21 52.9**	**+1.2**
JTM				S	**Sn**	**00 22 14.3**	**+0.1**
ERM	**Erimo**	**1.77**	**358**	*e*Pn	**Pb**	**00 21 53.0**	**-0.6**
ERM				*e*Sn	**Sn**	**00 22 14.2**	**-0.3**
JAH	**Hinai**	**2.00**	**269**	P	**Pb**	**00 21 56.9**	**-0.8**
JOT	**Ohata**	**2.02**	**305**	P	**Pn**	**00 21 56.6**	**+1.2**
JOT				*e*S	**Sn**	**00 22 20.5**	**-0.4**
JMK	**Ichinoseki**	**2.04**	**231**	P	**Pn**	**00 21 56.9**	**+1.3**
JMK				*e*S	**Sn**	**00 22 21.2**	**-0.1**
JNBK	**Urakawa-nobuka**	**2.06**	**350**	P	**Pb**	**00 21 57.7**	**-1.0**
MAJO	**Matsushiro** 15nm,0.5s	**5.42**	**229**	*e*Pn	**Pn**	**00 22 45.0**	**+2.7**
MAT	**Matsushiro**	**5.42**	**229**	P	**Pn**	**00 22 44.4**	**+2.2**
MAT				*e*S	**Sn**	**00 23 41.3**	**-3.6**
MJAR	**Matsushiro Arr** 1.1nm,0.3s,baz=32,slow=14,SNR=5.9	**5.42**	**229**	Pn	**Pn**	**00 22 44.8**	**+2.6**
USRK	**Ussuriysk Ar.** 0.1nm,0.3s,baz=101,slow=15,SNR=2.4	**9.24**	**299**	Pn	Pn	00 23 39.8	+5.2
SEY	**Seymchan** 3.0nm,0.8s,baz=287,slow=8.3,SNR=3.1	**23.37**	**11**	P	**P**	**00 26 27.9**	**-1.8**
SONM	**Songino Array** 0.3nm,0.3s,baz=84,slow=8.7,SNR=4.6	**27.35**	**298**	P	**P**	**00 27 07.8**	**+1.1**
H11N2	**WAKE ISLAND Hy** baz=318,slow=74,SNR=63	**28.78**	**128**	T	T	00 57 32.1	
H11N1	**WAKE ISLAND Hy** baz=318,slow=74,SNR=60	**28.79**	**128**	T	T	00 57 31.0	
H11N3	**WAKE ISLAND Hy** baz=318,SNR=63	**28.80**	**128**	T	T	00 57 32.1	
H11S1	**WAKE ISLAND Hy** baz=322,slow=76,SNR=14	**29.61**	**130**	T	T	00 58 37.9	
H11S3	**WAKE ISLAND Hy** baz=322,slow=76,SNR=12	**29.62**	**130**	T	T	00 58 40.0	
H11S2	**WAKE ISLAND Hy** baz=322,slow=76,SNR=12	**29.63**	**130**	T	T	00 58 33.0	
ZALV	**Zalesovo Beam** 0.6nm,0.4s,baz=98,slow=10,SNR=1.7	**40.89**	**310**	P	**P**	**00 29 05.9**	**+2.5**
KURK	**Kurchatov** 2.3nm,0.4s	**45.15**	**306**	*e*P	**P**	**00 29 39.0**	**+1.0**
ILAR	**Eielson Array** 0.9nm,0.6s,baz=264,slow=6.1,SNR=9.9	**46.02**	**34**	P	**P**	**00 29 44.1**	**-0.6**
ABKAR	**Akbulak array** 0.7nm,0.4s	**57.00**	**309**	*e*P	**P**	**00 31 07.4**	**+0.3**
SPITS	**Spitsbergen Ar** comp=Z,116nm,18.4s,baz=80,slow=37	**57.65**	**349**	LR	LR	00 56 59.3	
WRA	**Warramunga Arr** 0.4nm,0.5s,baz=7.5,slow=6.9,SNR=5.9	**60.45**	**190**	P	**P**	**00 31 30.1**	**-1.1**
ASAR	**Alice Springs** 0.2nm,0.6s,baz=18,slow=13,SNR=3.2	**64.18**	**190**	P	**P**	**00 31 56.0**	**-0.2**
FINES	**FINESS Array B** 3.0nm,0.9s,baz=20,slow=6.1,SNR=3.7	**66.64**	**332**	P	**P**	**00 32 11.6**	**-0.1**

NEIC ***17*** *00:28:48.7±0.0,28.°78N×113.°22W,h15km,MD4.0(MEX), After MEX.*
MEX 17 00:28:48.7±0.5,28.°78N×113.°22W,h15km,MD4.0,Baja California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SRIG	**Santa Rosalia**	**1.69**	**149**	*e*P	Pn	00 29 14.7	-3.0
SRIG				*e*S	Sn	00 29 33.9	-5.1
SRIG	**Santa Rosalia**	**1.69**	**149**	*e*P	Pn	00 29 14.7	-3.0
SRIG				*e*S	Sn	00 29 33.9	-5.1
HSIG		**2.00**	**83**	*i* P	Pn	00 29 18.9	-3.0
HSIG				*i* S	Sn	00 29 41.7	-5.1
HSIG		**2.00**	**83**	*i* P	Pn	00 29 18.9	-3.0
HSIG				*i* S	Sn	00 29 41.7	-5.1
SPIG	**San Pedro Mart**	**2.98**	**320**	*e*P	Pn	00 29 35.5	-0.3
SPIG				*e*S	Sn	00 30 06.1	-5.4
SPIG	**San Pedro Mart**	**2.98**	**320**	*e*P	Pn	00 29 35.5	-0.3
SPIG				*e*S	Sn	00 30 06.1	-5.4
TUC	**Tucson**	**4.09**	**30**	*e*Pn	Pn	00 29 48.8	-2.1
TUC				*e*Pg	Pg	00 30 06.1	-1.1
TUC				*e*Sn	Sn	00 30 39.7	+1.2
TUC				*e*Sb	Sb	00 30 50.0	+0.1
PFO	**Pinyon Flats O**	**5.56**	**331**	*e*Pg	Pg	00 30 33.5	-1.7
PFO				*e*Sg	Sg	00 31 49.4	+2.2

ISCJB ***17*** *00:29:47.2±1.1,20.°3S±0.°3×177.°7W±0.°3,h500km,mb3.2/5, Error ellipse: s-maj=50.4km s-min=23.7km az=150.7*
IDC ***17*** *00:29:50.4±8.0,20.°30S×177.°68W,h528km±83km,mb2.9/5, mb1 3.1/5,mb1mx2.9/36,mbtmp3.7/5, Error ellipse: s-maj=45.1km s-min=32.0km az=127.0*
ISC 17 00:29:47.8±1.0,20.°3S±0.°3×177.°7W±0.°3,h500km,n8, σ1°62/9,mb3.4/5,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs** 1.1nm,0.7s,baz=91,slow=7.6,SNR=9.8	**44.87**	**256**	P	**P**	**00 37 17.5**	**+0.2**
ASAR				PcP	**PcP**	**00 38 48.1**	**-0.4**
WRA	**Warramunga Arr** 0.6nm,0.8s,baz=98,slow=4.1,SNR=4.3	**44.94**	**262**	P	**P**	**00 37 18.3**	**+0.5**
MAW	**Mawson** 0.5nm,0.4s,baz=97,slow=7.6,SNR=31	**81.89**	**200**	P	**P**	**00 41 13.8**	**-0.2**
TXAR	**Lajitas Array** 0.6nm,0.7s,baz=82,slow=6.5,SNR=3.0	**86.67**	**57**	P	**P**	**00 41 39.1**	**+0.7**
ILAR	**Eielson Array** 0.2nm,0.7s,baz=223,slow=6.1,SNR=3.5	**88.02**	**13**	P	**P**	**00 41 43.5**	**-0.2**
AKASG	**Malin Array Be** 0.4nm,0.7s,baz=210,slow=5.2,SNR=3.8	**142.95**	**331**	PKP	**PKPdf**	**00 48 20.7**	**-3.3**
BRTR	**Keskin Array B** 0.5nm,0.5s,baz=126,slow=4.3,SNR=4.1	**146.91**	**313**	PKPbc	**PKPdf**	**00 48 33.3**	**+2.0**
MMAI	**Mount Meron Ar** 0.7nm,0.5s,baz=95,slow=6.8,SNR=6.7	**147.96**	**300**	PKPbc	**PKPbc**	**00 48 37.4**	**+0.4**

NIED ***17*** *00:38:00,40.°30N×143.°90E,h8km,Mw4.0 Best double couple: M₀1.29000×10¹⁵ NP1:φs176.00000°,δ46.00000°, λ56.00000°. NP2:φs35.00000°,δ53.00000°,λ120.00000°.*
IDC ***17*** *00:38:24.0±1.1,40.°18N×143.°90E,h0km,mb3.7/10, mb1 4.0/12,mb1mx3.6/54,mbtmp3.7/12,ML2.4/1, Error ellipse: s-maj=26.5km s-min=22.3km az=113.0*
ISCJB ***17*** *00:38:25.1±0.6,40.°24N±0.°04×144.°00E±0.°05,h16km, mb3.6/10, Error ellipse: s-maj=6.9km s-min=3.7km az=36.5*
JMA ***17*** *00:38:26.6±0.1,40.°26N×143.°92E,h25km,M3.7*
ISC 17 00:38:26.4±0.8,40.°22N±0.°05×144.°00E±0.°07,h16km,n35, σ1°18/41,mb3.7/10,Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTH	**Tanohata**	**1.66**	**261**	P	**Pn**	**00 38 54.0**	**-0.9**
JTH				*e*S	**Sn**	**00 39 14.4**	**-1.5**
MIYJ	**Miyakonagasawa**	**1.79**	**250**	P	**Pn**	**00 38 56.3**	**-0.4**
JANG	**Nango**	**1.91**	**276**	P	**Pn**	**00 38 57.6**	**-0.7**
JOM	**Ohasama**	**2.21**	**251**	P	**Pn**	**00 39 02.8**	**+0.3**
JOM				S	**Sn**	**00 39 29.1**	**-0.4**
JNBK	**Urakawa-nobuka**	**2.27**	**336**	P	**Pn**	**00 39 03.2**	**0.0**
JNBK				*e*S	**Sn**	**00 39 30.7**	**-0.1**
JTM	**Tenmabayashi**	**2.31**	**285**	P	**Pn**	**00 39 03.9**	**+0.2**
JTM				*e*S	**Sn**	**00 39 30.5**	**-1.3**
JCH	**Churui**	**2.44**	**349**	P	**Pn**	**00 39 05.5**	**-0.1**
JCH				*e*S	**Sn**	**00 39 33.6**	**-1.6**
JMK	**Ichinoseki**	**2.49**	**240**	P	**Pn**	**00 39 06.2**	**-0.1**
JMK				*e*S	**Sn**	**00 39 35.6**	**-0.7**
JOT	**Ohata**	**2.53**	**298**	P	**Pn**	**00 39 06.9**	**-0.2**
JOT				S	**Sn**	**00 39 37.1**	**-0.1**
JAH	**Hinai**	**2.58**	**270**	P	**Pn**	**00 39 08.1**	**+0.6**
JAH				*e*S	**Sn**	**00 39 39.2**	**+0.8**
JRG	**Rokugo**	**2.72**	**254**	P	**Pn**	**00 39 09.9**	**+0.5**
JRG				*e*S	**Sn**	**00 39 41.4**	**-0.6**
JAK	**Akkeshi**	**2.83**	**10**	P	**Pn**	**00 39 10.3**	**-0.6**
JAK				*e*S	**Sn**	**00 39 43.0**	**-1.6**
JAR	**Ashorobuto**	**3.08**	**357**	P	**Pn**	**00 39 13.3**	**-1.1**
JAR				*e*S	**Sn**	**00 39 48.8**	**-2.2**
JYK	**Kaneyama**	**3.10**	**246**	P	**Pn**	**00 39 15.1**	**+0.5**
JOU	**Okura**	**3.18**	**236**	P	**Pn**	**00 39 15.9**	**+0.1**
JOU				*e*S	**Sn**	**00 39 52.8**	**-0.6**
MAT	**Matsushiro**	**5.84**	**233**	P	**Pn**	**00 39 52.8**	**+0.4**
MAT				*e*S	**Sn**	**00 40 54.2**	**-4.9**
MJAR	**Matsushiro Arr** baz=40,slow=12,SNR=9.1	**5.84**	**233**	Pn	**Pn**	**00 39 51.6**	**-0.8**
USRK	**Ussuriysk Ar.** 0.3nm,0.3s,baz=106,slow=18,SNR=4.8	**9.76**	**298**	Pn	**Pn**	**00 40 45.3**	**-0.7**
SEY	**Seymchan** 1.8nm,0.7s,baz=232,slow=17,SNR=4.0	**23.30**	**10**	P	**P**	**00 43 34.0**	**+0.7**
SONM	**Songino Array** 1.4nm,0.8s,baz=108,slow=9.3,SNR=7.4	**27.87**	**298**	P	**P**	**00 44 16.2**	**+0.8**
H11N2	**WAKE ISLAND Hy** baz=325,slow=74,SNR=12	**28.32**	**129**	T	T	01 14 15.5	
H11N1	**WAKE ISLAND Hy** baz=325,slow=74,SNR=12	**28.33**	**129**	T	T	01 14 16.8	
H11N3	**WAKE ISLAND Hy** baz=325,slow=74,SNR=16	**28.33**	**129**	T	T	01 14 17.0	
H11S1	**WAKE ISLAND Hy** baz=323,slow=76,SNR=9.4	**29.16**	**131**	T	T	01 15 19.5	
H11S3	**WAKE ISLAND Hy** baz=323,slow=76,SNR=6.7	**29.16**	**131**	T	T	01 15 21.5	
H11S2	**WAKE ISLAND Hy** baz=323,slow=76,SNR=6.5	**29.18**	**131**	T	T	01 14 57.7	
ZALV	**Zalesovo Beam** 0.8nm,0.7s,baz=79,slow=7.7,SNR=5.5	**41.35**	**310**	P	**P**	**00 46 11.9**	**+0.7**
ILAR	**Eielson Array** 0.5nm,0.8s,baz=248,slow=8.2,SNR=5.1	**45.73**	**34**	P	**P**	**00 46 47.5**	**+1.1**
WRA	**Warramunga Arr** 0.3nm,0.7s,baz=8.3,slow=7.0,SNR=3.9	**60.52**	**190**	P	**P**	**00 48 35.3**	**-0.4**
FINES	**FINESS Array B** 3.3nm,1.0s,baz=96,slow=8.5,SNR=3.4	**66.94**	**333**	P	**P**	**00 49 16.4**	**-1.2**
KBZ	**Khabaz** 1.1nm,0.8s,baz=62,slow=15,SNR=2.6	**70.36**	**311**	P	**P**	**00 49 38.4**	**-0.9**
NB2	**NORSAR Subarra** comp=Z,0.7nm,0.7s,baz=36,slow=6.2	**72.02**	**338**	P	P	00 49 59.7	+11
NOA	**NORSAR Array B** comp=Z,1.0nm,0.8s,baz=22,slow=9.1,SNR=3.9	**72.02**	**338**	P	**P**	**00 49 49.3**	**+0.2**
GERES	**GERESS Array B** 0.2nm,0.1nm,0.3s,baz=32,slow=5.8,SNR=2.7	**81.05**	**329**	P	**P**	**00 50 40.5**	**0.0**
TXAR	**Lajitas Array** comp=Z,0.2nm,0.7s,baz=321,slow=3.2,SNR=3.5	**86.59**	**54**	P	**P**	**00 51 10.9**	**+1.6**

NIED ***17*** *01:18:00,40.°20N×143.°10E,h23km,Mw4.4 Best double couple: M₀4.20000×10¹⁵ NP1:φs176.00000°,δ21.00000°, λ59.00000°. NP2:φs29.00000°,δ72.00000°,λ101.00000°.*
IDC ***17*** *01:18:49.3±0.7,40.°19N×143.°18E,h0km,mb4.4/23, mb1 4.5/28,mb1mx4.3/53,mbtmp4.4/28,ML3.7/4,MS3.6/6, Ms1 3.6/6,ms1mx3.2/35, Error ellipse: s-maj=17.4km s-min=13.5km az=116.0*
JMA ***17*** *01:18:51.5±0.2,40.°22N×143.°10E,h10km±2km,M4.4*
JMA Felt I J1.
ISCJB ***17*** *01:18:51.9±0.9,40.°24N±0.°03×143.°16E±0.°04,h26km±6km, mb4.6/79,MS4.0/12, Error ellipse: s-maj=6.6km s-min=3.7km az=39.9*
BJI ***17*** *01:18:53.4,40.°21N×143.°10E,h40km,mb4.7/51,mB4.9/26, Ms4.2/29,Ms7 4.0/27*
MOS ***17*** *01:18:53.0±0.9,40.°20N×143.°09E,h34km,mb4.8/40, Error ellipse: s-maj=9.2km s-min=5.9km az=107.2*
NEIC ***17*** *01:18:54.9±0.6,40.°24N×143.°14E,h36km±5km,mb4.7/28, Error ellipse: s-maj=7.0km s-min=3.9km az=123.0*
NEIC Recorded [1 JMA] in Aomori and Iwate. Also recorded [1 JMA] in southwestern Hokkaido.
ISC 17 01:18:53.3±0.6,40.°24N±0.°04×143.°18E±0.°05,h25km±3km, h25km:pP-P,n202,σ1°18/223,mb4.6/82,MS4.1/13,10C-2D, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTH	**Tanohata**	**1.06**	**254**	P	**Pn**	**01 19 10.4**	**-2.1**
MIYJ	**Miyakonagasawa**	**1.24**	**238**	P	**Pn**	**01 19 13.1**	**-1.9**
MIYJ				*e*S	**Sn**	**01 19 28.8**	**-2.2**
JANG	**Nango**	**1.28**	**276**	P	**Pn**	**01 19 14.0**	**-1.6**
JKZ	**Kuzumaki**	**1.44**	**260**	P	**Pn**	**01 19 16.6**	**-1.3**
JOM	**Ohasama**	**1.65**	**243**	P	**Pn**	**01 19 19.5**	**-1.1**
JOM				*e*S	**Sn**	**01 19 40.3**	**-0.6**
JTM	**Tenmabayashi**	**1.70**	**289**	P	**Pn**	**01 19 21.1**	**-0.3**
JTM				*e*S	**Sn**	**01 19 41.9**	**-0.4**
ERM	**Erimo**	**1.77**	**359**	*ce*P	**Pn**	**01 19 22.4**	**+0.1**
ERM	comp=Z,100nm,1.0s			pmax	pmax		
ERM	**Erimo**	**1.77**	**359**	*e*Pn	**Pn**	**01 19 22.6**	**+0.3**
ERM				*e*Sn	**Sn**	**01 19 41.5**	**-2.6**
JEM	**Erimo**	**1.77**	**359**	P	**Pn**	**01 19 22.4**	**+0.1**
JAH	**Hinai**	**1.95**	**269**	P	**Pn**	**01 19 24.6**	**-0.2**
JAH				*e*S	**Sn**	**01 19 48.6**	**+0.1**
JOT	**Ohata**	**1.98**	**306**	P	**Pn**	**01 19 25.4**	**+0.2**
JMK	**Ichinoseki**	**1.99**	**230**	P	**Pn**	**01 19 25.3**	**0.0**
JNBK	**Urakawa-nobuka**	**2.06**	**351**	P	**Pn**	**01 19 26.9**	**+0.6**
JRG	**Rokugo**	**2.14**	**248**	P	**Pn**	**01 19 28.1**	**+0.7**
JYK	**Kaneyama**	**2.55**	**240**	P	**Pn**	**01 19 33.4**	**+0.3**
JOU	**Okura**	**2.71**	**227**	P	**Pn**	**01 19 35.0**	**-0.2**
JFT	**Otama**	**3.51**	**220**	P	**Pn**	**01 19 46.7**	**+0.4**
ASAJ	**Asahikawa** baz=271,slow=0.0	**3.90**	**354**	Pn	**Pn**	**01 19 52.4**	**+0.8**
ASAJ	**Asahikawa**	**3.90**	**354**	*e*Pn	**Pn**	**01 19 52.0**	**+0.5**
MJAR	**Matsushiro Arr** comp=Z,6.9nm,0.3s,baz=37,slow=13,SNR=73	**5.28**	**228**	Pn	**Pn**	**01 20 12.1**	**+0.1**
MJAR	comp=Z,454nm,19.8s,baz=45,slow=41			LR	LR	01 22 27.9	
MJB9	**Matsu-Tunnel**	**5.38**	**228**	*e*Pn	**Pn**	**01 20 13.2**	**+1.3**
MAJO	**Matsushiro**	**5.38**	**228**	*c* P	**Pn**	**01 20 13.1**	**+1.2**
MAJO	**Matsushiro**	**5.38**	**228**	*e*Pn	**Pn**	**01 20 13.2**	**+1.2**
MAT	**Matsushiro**	**5.38**	**228**	P	**Pn**	**01 20 13.0**	**+1.1**
MAT				*e*S	**Sn**	**01 21 13.5**	**+0.5**
KUR	**Kuril'sk**	**6.06**	**33**	*e*P	**Pn**	**01 20 22.3**	**+1.0**
KUR				*e*S	**Sn**	**01 21 27.0**	**-2.8**
KUR	comp=Z,172nm,0.4s			pmax	pmax		
KUR	comp=E,72nm,0.2s			pmax	pmax		
KUR	comp=N,790nm,1.4s			smax	smax		
KUR	comp=N,189nm,0.6s			smax	smax		
KUR	comp=E,

BJI LR LR
comp=E,210nm,10.1s
BJI LR LR
comp=E,310nm,16.1s
NJ2 Nanjing 21.23 255 *e*P **P 01 23 38.1 +0.8**
NJ2 S **S 01 27 33.9 +1.8**
NJ2 pmax pmax
comp=E,22nm,0.5s
NJ2 pmax pmax
comp=E,220nm,4.0s
NJ2 LR LR
comp=E,620nm,14.2s
NJ2 LR LR
comp=E,690nm,13.4s
NJ2 LR LR
comp=E,490nm,13.9s
SEY Seymchan 23.38 11 P **P 01 23 58.4 -1.3**
comp=E,16nm,0.8s,baz=200,slow=10.0,SNR=12
HHC Hu-ho-hao-te 23.97 282 *e*P **P 01 24 05.6 -0.2**
HHC S **S 01 28 17.0 -4.1**
HHC pmax pmax
comp=E,15nm,0.9s
HHC pmax pmax
comp=E,110nm,7.4s
HHC LR LR
comp=E,130nm,14.7s
HHC LR LR
comp=E,240nm,15.2s
HHC LR LR
comp=E,290nm,16.5s
SSLB Suanglung 24.88 235 *e*P **P 01 24 14.1 0.0**
comp=E,3.6nm,0.4s
YULB Yu-li 24.95 234 *e*P **P 01 24 14.2 -0.6**
comp=E,5.3nm,0.5s
WHN Wuhan 25.32 257 P **P 01 24 18.3 +0.3**
TPUB Ta-pu 25.44 235 *e*P **P 01 24 17.6 -1.5**
comp=E,8.4nm,0.6s
BOD Bodaibo 25.68 323 *e*P **P 01 24 20.1 -0.9**
BOD pmax pmax
comp=E,22nm,0.9s
ULN Ulaanbaatar 26.87 299⇑ *e*P **P 01 24 32.2 +0.1**
ULN pmax pmax
comp=E,22nm,2.5s
ULN Ulaanbaatar 26.87 299 *e*P **P 01 24 31.6 -0.5**
comp=E,8.9nm,0.9s
SONA1 Songino Array 27.30 298 *e*P **P 01 24 35.9 -0.1**
SONM Songino Array 27.31 298 P **P 01 24 36.5 +0.5**
comp=E,5.8nm,0.5s,baz=91,slow=8.6,SNR=42
XAN Xi'an 27.89 268 P **P 01 24 39.4 -1.8**
XAN pP pP 01 24 49.1 +0.5
XAN S **S 01 29 29.0 +5.7**
XAN pmax pmax
comp=E,6.0nm,0.7s
XAN LR LR
comp=E,160nm,15.4s
XAN LR LR
comp=E,160nm,15.7s
XAN LR LR
comp=E,230nm,17.3s
H11N2 WAKE ISLAND Hy 28.82 128 T T 01 55 06.0
SNR=170
H11N1 WAKE ISLAND Hy 28.83 128 T T 01 55 53.5
baz=193,slow=74,SNR=212
H11N3 WAKE ISLAND Hy 28.84 128 T T 01 55 53.4
baz=320,slow=74,SNR=202
ZAK Zakamensk 29.51 304 *e*P **P 01 24 57.9 +2.4**
ZAK pmax pmax
comp=E,3.0nm,1.3s
H11S1 WAKE ISLAND Hy 29.65 130 T T 01 56 00.2
baz=322,slow=76,SNR=70
H11S3 WAKE ISLAND Hy 29.65 130 T T 01 56 06.0
baz=322,slow=76,SNR=65
H11S2 WAKE ISLAND Hy 29.67 130 T T 01 56 08.9
baz=322,slow=76,SNR=69
LZH Lanzhou 31.03 275 *e*P **P 01 25 10.1 +0.9**
LZH pP sP 01 25 21.3 +1.7
LZH sP pP 01 25 24.6 +8.0
LZH pmax pmax
comp=E,17nm,1.0s
GTA Gaotai 33.07 283 P **P 01 25 27.3 +0.3**
GTA pP sP 01 25 37.3 -0.2
GTA sP pP 01 25 41.6 +7.1
GTA S **S 01 30 43.5 -1.0**
GTA sS sS 01 30 58.5 +1.7
GTA SS **SnSn 01 32 46.0 +2.3**
GTA pmax pmax
comp=E,10.0nm,1.0s
GTA pmax pmax
comp=E,100nm,5.7s
GTA LR LR
comp=E,170nm,18.1s
GTA LR LR
comp=E,280nm,17.6s
GTA LR LR
comp=E,380nm,18.1s
CD2 Chengdu 33.16 266 *e*P **P 01 25 27.8 0.0**
CD2 pmax pmax
comp=E,10.0nm,0.8s
GYA Guiyang 33.21 257⇑ *i*P **P 01 25 27.4 -1.0**
GYA pP sP 01 25 40.0 +1.2
GYA PP **PnPn 01 26 40.6 +1.9**
GYA S **S 01 30 45.3 -1.6**
GYA sS sS 01 31 02.3 +3.1
GYA pmax pmax
comp=E,10.0nm,0.8s
GYA pmax pmax
comp=E,110nm,4.9s
KMI Kunming 36.89 258 P **P 01 25 59.9 -0.3**
KMI pmax pmax
comp=E,26nm,0.9s
KMI LR LR
comp=E,200nm,11.8s
KMI LR LR
comp=E,230nm,14.8s
KMI LR LR
comp=E,260nm,16.7s
WMQ Urumqi 40.72 294 P **P 01 26 32.3 +0.4**
WMQ sP sP 01 26 47.4 +4.9
WMQ pmax pmax
comp=E,11nm,0.9s
WMQ pmax pmax
comp=E,65nm,6.1s
WMQ LR LR
comp=E,78nm,19.7s
WMQ LR LR
comp=E,93nm,21.9s
WMQ LR LR
comp=E,91nm,19.7s
ZAA0 Zalesovo Array 40.85 310 *e*P **P 01 26 33.0 +0.2**
ZALV Zalesovo Beam 40.85 310 P **P 01 26 32.9 +0.1**
comp=E,7.7nm,0.7s,baz=95,slow=8.4,SNR=16
ZALV PcP **PcP 01 28 33.4 +0.2**
comp=E,1.7nm,0.5s,baz=94,slow=3.4,SNR=3.8
NRIK Noril'sk 40.98 333 P **P 01 26 33.9 +0.2**
comp=E,2.5nm,0.4s,baz=105,slow=11,SNR=3.9
MK01 Makanchi Array 43.66 300 *e*P **P 01 26 55.4 -0.4**
MK31 Makanchi Array 43.66 300 *i*P **P 01 26 55.6 -0.2**
MK31 pmax pmax
comp=E,5.0nm,0.6s
MK31 Makanchi Array 43.66 300 *e*P **P 01 26 55.9 +0.1**
MKAR Makanchi Array 43.66 300 *e*P **P 01 26 55.9 +0.1**
MKAR Makanchi Array 43.66 300 *e*P **P 01 26 55.9 +0.1**
comp=E,57nm,0.6s
CMAR Chiang Mai Arr 43.69 253 P **P 01 26 55.9 -0.5**
comp=E,1.7nm,0.3s,baz=51,slow=7.1,SNR=4.7
MAKZ Makanchi 43.87 300 P **P 01 26 56.5 -1.0**
MAKZ pmax pmax
comp=E,9.0nm,1.0s
TRF Thorofare Moun 44.62 36 *e*P **P 01 27 03.8 +0.4**
comp=E,7.9nm,1.1s
COLD Coldfoot 44.68 31 *e*P **P 01 27 04.1 +0.4**
comp=E,4.5nm,1.0s
KURK Kurchatov 45.11 306 P **P 01 27 06.0 -1.3**
KURK pmax pmax
comp=E,24nm,1.0s
KURK Kurchatov 45.11 306 *e*P **P 01 27 07.1 -0.2**
comp=E,20nm,0.8s
KURBB Kurchatov Arra 45.19 306 P **P 01 27 07.7 -0.2**
comp=E,17nm,0.5s,baz=80,slow=8.8,SNR=116
MCK McKinley 45.21 36 *e*P **P 01 27 09.0 +1.0**
MCK pmax pmax
comp=E,5.0nm,0.8s
MCK McKinley 45.21 36 *e*P **P 01 27 09.0 +1.0**
comp=E,5.0nm,0.8s
MDM Murphy Dome 45.47 34 *e*P **P 01 27 11.9 +1.9**
comp=E,5.7nm,0.9s

IL1 Eielson Array 46.05 34 *e*P **P 01 27 14.8 +0.3**
IL1 *e*pP **sP 01 27 24.0 -1.2**
ILAR Eielson Array 46.05 34 P **P 01 27 15.4 +0.8**
comp=E,1.7nm,0.6s,baz=267,slow=6.3,SNR=20
ILB Eielson Array 46.05 34 *e*P **P 01 27 15.6 +1.0**
PDGK Podgornoye 46.56 296 P **P 01 27 18.0 -1.0**
PDGK pmax pmax
comp=E,8.0nm,0.9s
TAPN Taplejung 47.16 272 *e*P **P 01 27 24.5 +0.4**
comp=E,8.5nm,0.4s
DOT Dot Lake 47.38 35 *e*P **P 01 27 25.4 +0.4**
comp=E,7.0nm,0.6s
JIRN Jiri 48.16 273 *e*P **P 01 27 32.0 0.0**
comp=E,102nm,0.5s
RAMN Ramite 48.21 272 *e*P **P 01 27 31.9 -0.3**
comp=E,17nm,0.5s
GUN Gumba 48.27 274 *e*P **P 01 27 32.8 0.0**
comp=E,37nm,0.5s
EGAK Eagle 48.50 34 *e*P **P 01 27 34.5 +0.9**
comp=E,9.0nm,1.0s
KKN Kakani 48.79 274 *e*P **P 01 27 36.5 -0.1**
comp=E,33nm,0.7s
PKI Pulchoki 48.80 274 *e*P **P 01 27 36.7 -0.2**
comp=E,14nm,0.6s
PKIN Phulchoki 48.81 274 *e*P **P 01 27 36.6 -0.2**
comp=E,19nm,0.5s
GKN Gorkha 49.18 275 *e*P **P 01 27 39.1 -0.4**
comp=E,12nm,0.4s
TKM2 Tokmak 2 49.38 297 P **P 01 27 40.2 -0.7**
TKM2 pmax pmax
comp=E,10.0nm,0.8s
BVAR Borovoye Array 49.49 311 P **P 01 27 41.6 +0.2**
comp=E,4.1nm,0.4s,baz=80,slow=8.1,SNR=34
BRVK Borovoye 49.54 311 *c i*P **P 01 27 42.0 +0.3**
BRVK pmax pmax
comp=E,24nm,1.0s
BRVK Borovoye 49.54 311 *e*P **P 01 27 42.2 +0.5**
comp=E,7.8nm,0.9s
KOLN Koldanda 50.09 275 *e*P **P 01 27 46.2 -0.3**
comp=E,15nm,0.4s
AAK Ala-Archa 50.24 297 P **P 01 27 47.4 -0.1**
comp=E,2.4nm,0.4s,baz=101,slow=5.3,SNR=5.9
PYUN Piuthan 50.38 276 *e*P **P 01 27 48.6 -0.1**
comp=E,36nm,0.8s
KSH Kashi 50.42 292 *e*P **P 01 27 52.8 +4.0**
KSH pP sP 01 28 02.8 +3.4
KSH PcP **PcP 01 29 09.9 +3.0**
KSH PP **PP 01 29 48.9 +4.6**
KSH S **S 01 35 02.9 +2.1**
KSH sS sS 01 35 19.1 +5.7
KSH SS **SS 01 38 34.1 -0.3**
KSH pmax pmax
comp=E,7.0nm,1.0s
KSH pmax pmax
comp=E,20nm,3.3s
KSH LR LR
comp=E,82nm,4.6s
KSH LR LR
comp=E,94nm,4.9s
KSH LR LR
comp=E,110nm,5.3s
INK Inuvik 50.91 28 P **P 01 27 53.4 +1.6**
comp=E,2.9nm,0.5s,baz=284,slow=8.3,SNR=15
INK Inuvik 50.91 28 *e*P **P 01 27 52.2 +0.4**
comp=E,3.6nm,0.6s
MNAS Manas 51.66 297 P **P 01 27 57.5 -0.6**
MNAS pmax pmax
comp=E,11nm,0.7s
KK31 Karatay Array 52.76 299 *e*P **P 01 28 05.3 -0.8**
KK31 pmax pmax
comp=E,2.0nm,0.6s
KKAR Karatay Array 52.76 299 *e*P **P 01 28 05.8 -0.3**
KKAR Karatay Array 52.76 299 *e*P **P 01 28 05.8 -0.3**
comp=E,60nm,0.6s
SVE Sverdlovsk 53.69 317⇓ *e*P **P 01 28 13.3 +0.6**
SVE pmax pmax
comp=E,21nm,1.3s
SVE MLR MLR
comp=E,360nm,19.0s
ARU Arti 54.91 317 *c i*P **P 01 28 21.6 +0.1**
ARU *PP **sP 01 28 31.9 -0.4**
ARU 01 29 21.9
ARU 01 30 24.7
ARU S **S 01 36 02.3 +1.0**
ARU pmax pmax
comp=E,17nm,1.2s
ARU MLR MLR
comp=E,265nm,17.0s
ARU Arti 54.91 317 *e*P **P 01 28 21.8 +0.2**
comp=E,9.4nm,0.7s
ABKAR Akbulak array 56.96 309 *e*P **P 01 28 36.5 +0.1**
comp=E,143nm,0.4s
AKTO Aktyubinsk 57.59 311 P **P 01 28 41.0 +0.2**
comp=E,4.0nm,0.8s,baz=66,slow=12,SNR=13
KBL Kabul 57.60 290 *e*P **P 01 28 41.0 -0.4**
KBL pmax pmax
comp=E,21nm,0.8s
KBL Kabul 57.60 290 *e*P **P 01 28 41.0 -0.4**
comp=E,21nm,0.8s
YKA Yellowknife Ar 60.35 31 P **P 01 28 59.5 -0.1**
comp=E,0.6nm,0.6s,baz=297,slow=6.2,SNR=4.4
YKA Yellowknife Ar 60.35 31 *i*P **P 01 29 01.5 +1.8**
WRAB Tennant Creek 60.43 190 *ce*P P 01 29 06.1 +5.4
WRAB pmax pmax
comp=E,12nm,1.0s
WRAB Tennant Creek 60.43 190 *e*P **P 01 28 59.4 -1.3**
comp=E,4.7nm,0.8s
WB2 Warramunga Arr 60.44 190 *e*P **P 01 29 03.0 +2.2**
WRA Warramunga Arr 60.44 190 P **P 01 28 59.8 -1.0**
comp=E,1.5nm,0.5s,baz=6.6,slow=6.9,SNR=10
KLMR Klimovskoe 61.80 327 *e*P **P 01 29 08.6 -0.9**
KLMR pmax pmax
comp=E,12nm,1.5s
GEYT Alibeck 63.52 298 P **P 01 29 20.3 -1.2**
comp=E,5.6nm,0.8s,baz=7.6,slow=4.5,SNR=16
ASAR Alice Springs 64.16 189 P **P 01 29 25.0 -0.7**
comp=E,0.8nm,0.7s,baz=3.1,slow=5.3,SNR=7.1
FINES FINESS Array B 66.62 332 P **P 01 29 41.1 0.0**
comp=E,7.9nm,0.8s,baz=50,slow=7.6,SNR=27
FINES LR LR 02 01 06.0
comp=E,105nm,18.6s,baz=49,slow=38
SUMG Summit 67.48 1 *i*P **P 01 29 48.1 +1.2**
comp=E,8.1nm,0.8s
SUMG Summit 67.48 1 *e*P **P 01 29 48.1 +1.2**
SUMG pmax pmax
comp=E,8.0nm,0.8s
SUMG Summit 67.48 1 *e*P **P 01 29 47.6 +0.7**
comp=E,8.2nm,0.8s
GOF Gofitskoye 69.00 312⇑ *e*P **P 01 29 56.3 -0.1**
ZEI Tsey 69.84 309 *e*P **P 01 30 00.3 -1.6**
ZEI pmax pmax
comp=E,12nm,0.6s
KIV Kislovodsk 69.86 311 *d i*P **P 01 30 03.2 +1.3**
KIV *i* 01 30 14.0
KIV pmax pmax
comp=E,22nm,1.0s
KIV MLR MLR
comp=E,86nm,18.0s
KIV Kislovodsk 69.86 311 *e*P **P 01 30 02.9 +1.1**
comp=E,18nm,0.9s
KBZ Khabaz 69.87 311 P **P 01 30 01.8 0.0**
comp=E,7.0nm,0.9s,baz=68,slow=5.2,SNR=21
GNI Garni 70.90 307 *e*P **P 01 30 09.0 +0.5**
GNI Garni 70.90 307 *e*P **P 01 30 09.0 +0.5**
comp=E,74nm,1.1s
NC204 NORSAR Array S 71.70 338 *e*P **P 01 30 13.1 +0.3**
NB2 NORSAR Subarra 71.76 338 P **P 01 30 12.8 -0.3**
NB2 pmax pmax
comp=E,9.0nm,1.1s
NB2 NORSAR Subarra 71.76 338 P **P 01 30 12.8 -0.3**
comp=E,9.2nm,1.0s,baz=38,slow=6.2
NOA NORSAR Array B 71.76 338 P **P 01 30 13.2 +0.1**
comp=E,5.6nm,0.9s,baz=38,slow=6.0,SNR=19
NOA LR LR 02 05 49.0
comp=E,22nm,18.4s,baz=65,slow=39
NBO02 NORSAR Array S 71.86 338 *e*P **P 01 30 13.8 +0.1**
NBO00 NORSAR Array S 71.89 338 *e*P **P 01 30 14.4 +0.5**
AKASG Malin Array Be 72.61 322 P **P 01 30 18.0 -0.2**
comp=E,1.6nm,0.6s,baz=42,slow=6.3,SNR=10
KIEV Kiev 72.62 322⇑ *i*P **P 01 30 17.7 -0.6**
KIEV pmax pmax
comp=E,5.0nm,0.9s
KIEV Kiev 72.62 322 *e*P **P 01 30 17.9 -0.4**
comp=E,3.1nm,0.5s
MARD Mardin 75.09 306 *e*P **P 01 30 33.6 +0.4**
comp=E,10nm,0.8s

BUR08 Bucovina Ar. S 76.63 322 *e*P **P 01 30 41.6 -0.2**
STHS Stebnicka Huta 77.12 325 *e*P **P 01 30 45.8 +1.4**
STHS pmax pmax
comp=E,3.0nm,1.1s
STHS Stebnicka Huta 77.12 325 *e*P **P 01 30 45.8 +1.4**
BRTR Keskin Array B 77.75 312 P **P 01 30 48.8 +0.5**
comp=E,0.9nm,0.6s,baz=78,slow=4.4,SNR=7.4
LANS Liptovska Anna 78.09 326 *e*P **P 01 30 51.6 +1.7**
LANS Liptovska Anna 78.09 326 *e*P **P 01 30 51.6 +1.7**
OKC Ostrava-Krasne 78.12 327 AMS AMS 02 08 00.0
comp=E,100nm,19.5s
BR231 Keskin MP Arra 78.16 312 *e*P **P 01 30 49.4 -1.2**
MORC Moravsky Berou 78.42 327 *e*P **P 01 30 51.7 0.0**
MORC pmax pmax
comp=E,16nm,0.9s
MORC Moravsky Berou 78.42 327 *e*P **P 01 30 51.7 0.0**
comp=E,16nm,0.9s
DPC Dobruska-Polom 78.47 328 *e*P **P 01 30 52.9 +1.0**
DPC *e*pP **sP 01 31 04.6 +1.7**
DPC Dobruska-Polom 78.47 328 *e*P **P 01 30 52.9 +1.0**
DPC *e* 01 31 04.6
PSZ Piszkesteto 78.84 325 *e*P **P 01 30 53.0 -1.1**
PSZ pmax pmax
comp=E,5.0nm,0.9s
PSZ Piszkesteto 78.84 325 *e*P **P 01 30 53.0 -1.1**
comp=E,4.7nm,0.9s
VYHS Vyhne 78.86 326 *e*P **P 01 30 54.8 +0.7**
VYHS pmax pmax
comp=E,2.0nm,1.3s
VYHS Vyhne 78.86 326 *e*P **P 01 30 54.8 +0.7**
BRG Berggiesshubel 78.98 330 *e*P **P 01 30 55.1 +0.4**
comp=E,3.1nm,1.0s
BRG *e* 01 31 07.9
comp=E,2.5nm,0.9s
BRG Berggiesshubel 78.98 330 *e*P **P 01 30 55.1 +0.4**
BRG *e* 01 31 07.9
BRG pmax pmax
comp=E,3.0nm,1.0s
CLL Collm 78.99 331 *i*P **P 01 30 54.7 0.0**
CLL *e* 01 31 05.0
CLL pmax pmax
comp=E,5.0nm,0.8s
CLL Collm 78.99 331 *i*P **P 01 30 54.7 0.0**
comp=E,5.0nm,0.8s
CLL *e*pP **sP 01 31 05.0 -0.7**
CLL Collm 78.99 331 *e*P **P 01 30 55.2 +0.5**
comp=E,5.0nm,0.9s
PVCC Panska Ves 79.02 329 *e*P **P 01 30 56.1 +1.2**
PVCC Panska Ves 79.02 329 *e*P **P 01 30 56.1 +1.2**
GOPC GO Pecny, Ondr 79.42 329 *e*P **P 01 30 58.2 +1.1**
GOPC GO Pecny, Ondr 79.42 329 *e*P **P 01 30 58.2 +1.1**
PRU Pruhonice 79.46 329 *e*P **P 01 30 58.4 +1.1**
PRU *e*pP **sP 01 31 10.3 +2.0**
PRU Pruhonice 79.46 329 *e*P **P 01 30 58.4 +1.1**
PRU *e* 01 31 10.3
KHC Kasperske Hory 80.52 329 *e*P **P 01 31 03.8 +0.7**
KHC *e*pP **sP 01 31 14.6 +0.5**
KHC Kasperske Hory 80.52 329 *e*P **P 01 31 03.0 -0.2**
KHC pmax pmax
comp=E,2.0nm,1.0s
KHC Kasperske Hory 80.52 329 *e*P **P 01 31 03.0 -0.2**
comp=E,2.2nm,1.0s
CONA Conrad Observa 80.55 327 *i*P **P 01 31 04.6 +1.2**
comp=E,4.5nm,1.0s
GERES GERESS Array B 80.70 329 P **P 01 31 04.6 +0.4**
comp=E,0.6nm,0.5s,baz=20,slow=4.3,SNR=12
GEA0 GERESS Array S 80.71 329 *e*P **P 01 31 04.3 +0.1**
GRFO Grafenberg 80.97 331 *e*P **P 01 31 05.5 0.0**
GRFO pmax pmax
comp=E,5.0nm,0.7s
GRFO Grafenberg 80.97 331 *e*P **P 01 31 05.5 0.0**
comp=E,5.3nm,0.7s
VTS Vitosha 81.29 320 *e*P **P 01 31 05.9 -1.6**
VTS *e*PP **sP 01 31 18.5 0.0**
VTS Vitosha 81.29 320 *e*P **P 01 31 05.8 -1.6**
VTS *e*pP **sP 01 31 18.4 0.0**
PERS Pernice 81.89 327 *e*P **P 01 31 10.8 +0.3**
SOKA Soboth 81.89 327 *i*P **P 01 31 11.3 +0.8**
comp=E,6.8nm,0.8s
OBKA Obir 82.22 327 *i*P **P 01 31 12.8 +0.5**
comp=E,2.8nm,0.9s
KBA Koelnbreinsper 82.26 328 *i*PcP **P 01 31 13.7 +1.1**
comp=E,4.5nm,0.8s
LEGS Legarje 82.35 326 *i*P **P 01 31 12.7 -0.1**
JAVS Javornik 82.92 327 *i*P **P 01 31 15.0 -0.9**
MOTA Moosalm 82.94 329 *i*PcP **P 01 31 16.7 +0.6**
comp=E,3.2nm,0.8s
FETA Feichten 83.35 329 *i*PcP **P 01 31 19.0 +0.8**
comp=E,4.7nm,1.0s
FUORN Ofenpass-Fuorn 83.86 329 *e*P **P 01 31 21.9 +1.0**
comp=E,5.8nm,0.8s
TXAR Lajitas Array 87.08 54 P **P 01 31 37.8 +0.6**
comp=E,0.3nm,0.7s,baz=356,slow=4.5,SNR=5.3
ESDC Sonseca Array 95.00 335 P **P 01 32 13.8 0.0**
comp=E,0.3nm,0.5s,baz=14,slow=4.2,SNR=4.7
TORD Torodi Ar. Bea 115.98 318 PP PP 01 38 37.2 -0.6
comp=E,1.3nm,1.2s,baz=31,slow=7.5,SNR=3.7
SNAA Sanae 144.22 198 PKP PKPbc 01 38 24.2 +0.2
SNAA Sanae 144.22 198 *e*PKIKP **PKPab 01 38 23.1 -0.5**
SNAA Sanae 144.22 198 *e*PKPdf **PKPab 01 38 23.1 -0.5**
VNA2 Neumayer–Watz 145.78 197 PKP **PKPbc 01 38 29.0 +0.1**
baz=42,slow=2.5
VNA3 Neumayer Olymp 146.02 195 PKP **PKPdf 01 38 28.2 -0.6**

IDC 17 01:22:43.5±71.0, 6°.63S×119°.67E, h544km±224km, mb3.6/2, mb1 3.7/4, mb1mx2.8/49, mbtmp4.4/4, Error ellipse: s-maj=912.4km s-min=135.1km az=144.0, Flores Sea

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**12.80**	**153**	P	P		01 25 30.4	0.0
	0.7nm,0.3s,baz=339,slow=11,SNR=19							
WRA	**Warramunga Arr**	**19.44**	**134**	P	P		01 26 34.8	-0.1
	1.4nm,0.3s,baz=312,slow=11,SNR=52							
ASAR	**Alice Springs**	**21.77**	**143**	P	P		01 26 56.0	0.0
	3.6nm,0.3s,baz=320,slow=8.3,SNR=101							
STKA	**Stephens Creek**	**32.40**	**144**	P	P		01 28 28.6	-0.2
	3.5nm,0.3s,baz=325,slow=8.0,SNR=8.5							

IDC 17 01:27:21.6±1.5, 40°.19N×143°.31E, h0km, mb3.4/3, mb1 3.6/4, mb1mx3.2/47, mbtmp3.4/4, ML2.8/1, Error ellipse: s-maj=42.8km s-min=28.7km az=114.0
ISCJB 17 01:27:23.2±0.9, 40°.17N±0°.06×143°.23E±0°.08, h12km, mb3.5/3, Error ellipse: s-maj=9.3km s-min=7.2km az=37.8
JMA 17 01:27:24.4±0.2, 40°.20N×143°.10E, h8km±2km, M3.3

ISC 17 01:27:23.8±1.1, 40°.26N±0°.06×143°.15E±0°.07, h12km, n16, σ0°88/19, mb3.6/3, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
JTH	**Tanohata**	**1.04**	**253**	P	**Pb**		**01 27 43.1**	**-0.6**
MIYJ	**Miyakonagasawa**	**1.23**	**237**	P	**Pn**		**01 27 46.0**	**-0.8**
JANG	**Nango**	**1.26**	**276**	P	**Pn**		**01 27 47.0**	**-0.2**
JKZ	**Kuzumaki**	**1.42**	**260**	P	**Pn**		**01 27 50.0**	**+0.5**
JOM	**Ohasama**	**1.63**	**242**	P	**Pn**		**01 27 52.7**	**+0.4**
JOM				*e*S	**Sn**		**01 28 13.3**	**0.0**
JTM	**Tenmabayashi**	**1.68**	**289**	P	**Pb**		**01 27 54.2**	**-0.4**
JTM				*e*S	**Sb**		**01 28 15.3**	**-0.3**
JEM	**Erimo**	**1.76**	**0**	P	**Pb**		**01 27 56.1**	**+0.1**
JAH	**Hinai**	**1.93**	**269**	*e*S	**Sn**		**01 28 21.8**	**+1.2**
JOT	**Ohata**	**1.96**	**306**	P	**Pb**		**01 27 58.7**	**-0.6**
JOT				*e*S	**Sb**		**01 28 23.6**	**-0.1**
JMK	**Ichinoseki**	**1.98**	**230**	P	**Pn**		**01 27 57.9**	**+0.8**
JNBK	**Urakawa-nobuka**	**2.05**	**352**	P	**Pb**		**01 28 00.6**	**-0.3**
JRG	**Rokugo**	**2.12**	**247**	P	**Pn**		**01 28 01.1**	**+2.0**
MJAR	**Matsushiro Arr**	**5.37**	**228**	Pn	**Pn**		**01 28 45.4**	**+1.6**
	0.3nm,0.3s,baz=40,slow=13,SNR=5.1							
KURBB	**Kurchatov Arra**	**45.16**	**306**	P	**P**		**01 35 40.5**	**+0.3**
	0.3nm,0.4s,baz=80,slow=8.2,SNR=4.9							
ILAR	**Eielson Array**	**46.06**	**34**	P	**P**		**01 35 47.0**	**0.0**
	0.3nm,0.6s,baz=259,slow=6.3,SNR=4.6							
WRA	**Warramunga Arr**	**60.45**	**190**	P	**P**		**01 37 32.1**	**-1.2**
	0.3nm,0.6s,baz=7.3,slow=6.9,SNR=4.9							

MEX 17 01:28:32.5±0.5, 16°.84N×100°.21W, h8km±2km, MD3.8, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
CAIG	**El Cayaco**	**0.22**	**345**	*i*P	P	Pg	01 28 36.7	-0.2

CAIG				*e*S	Sg	01 28 39.7	-0.2
ACP2	**Acapulco**	**0.31**	**83**	*i* P	Pg	01 28 38.2	-0.4
ACP2				*e*S	Sg	01 28 42.7	-0.1
ACX	**Acapulco**	**0.34**	**85**	*e*P	Pg	01 28 36.2	-3.0
ACX				*e*S	Sg	01 28 40.6	-3.0
MEIG	**Mezcala**	**1.22**	**27**	*e*P	Pb	01 28 52.3	-3.6
MEIG				*e*S	Sb	01 29 07.0	-4.8
ZIIG	**Zihuatanejo**	**1.42**	**303**	*e*P	Pn	01 28 54.3	-4.3
ZIIG				*i* S	Sn	01 29 12.1	-5.4
ARIG	**Puente Sto Nin**	**1.44**	**355**	*e*P	Pn	01 28 55.7	-3.2
ARIG				*i* S	Sn	01 29 13.1	-4.9
TLIG	**Tlapa**	**1.73**	**65**	*e*P	Pn	01 28 59.0	-4.0
TLIG				*i* S	Sn	01 29 20.3	-4.9

ISCJB ***17*** *01:32:50.8±0.3, 12°.13S±0°.04×166°.07E±0°.06, h30km, mb4.8/45, MS3.9/16, Error ellipse: s-maj=8.5km s-min=5.9km az=169.3*

IDC ***17*** *01:32:52.8±2.5, 12°.10S×166°.13E, h37km±19km, mb4.3/17, mb1 4.5/20, mb1mx4.3/30, mbtmp4.6/20, ML2.9/1, MS3.9/16, Ms1 3.9/16, ms1mx3.7/32, Error ellipse: s-maj=20.1km s-min=13.2km az=81.0*

BJI ***17*** *01:32:54.1, 12°.855S×165°.57E, h51km, mb4.8/32, mB5.0/22, Ms5.1/10, MS7 4.8/7*

NEIC ***17*** *01:32:55.3±1.1, 12°.12S×166°.01E, h54km±9km, mb4.9/26, Error ellipse: s-maj=8.9km s-min=7.6km az=55.0*

ISC 17 01:32:52.2±0.5, 12°.11S±0°.06×166°.14E±0°.09, h30km, n122, σ1§44/120, mb4.9/45, MS3.9/16, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**6.64**	**293**	Pn	**Pn**	**01 34 28.1**	**+0.4**
	86nm,0.3s,baz=174,slow=3.6,SNR=13						
HNR				LR	LR	01 37 21.3	
	comp=Z,2μm,18.9s,baz=138,slow=40						
HNR	**Honiara**	**6.64**	**293**	*e*P	**Pn**	**01 34 27.0**	**-0.8**
HNR	**Honiara**	**6.64**	**293**	*e*Pn	**Pn**	**01 34 27.6**	**-0.2**
DZM	**Mont Dzumac**	**9.91**	**178**	Pn	**Pn**	**01 35 14.3**	**+1.5**
	15nm,0.3s,baz=322,slow=6.0,SNR=284						
DZM	**Mont Dzumac**	**9.91**	**178**	*e*Pn	**Pn**	**01 35 14.2**	**+1.4**
	69nm,0.2s						
DZM				*e*Sn	**Sn**	**01 36 59.7**	**-3.5**
	12nm,0.2s						
DZM				*e*LR	LR	01 37 28.6	
	884nm,24.7s						
DZM	**Mont Dzumac**	**9.91**	**178**	*e*Pn	**Pn**	**01 35 13.6**	**+0.8**
DZM				*e*Sn	**Sn**	**01 37 02.4**	**-0.8**
MSVF	**Nonsavu**	**12.80**	**117**	*e*Pn	P	01 35 57.5	-5.4
PMG	**Port Moresby**	**18.84**	**276**	P	**Pn**	**01 37 11.2**	**+0.6**
	1.2nm,0.3s,baz=65,slow=9.1,SNR=5.8						
PMG				LR	LR	01 43 37.9	
	comp=Z,954nm,20.4s,baz=106,slow=34						
PMG	**Port Moresby**	**18.84**	**276**	*e*P	**Pn**	**01 37 10.6**	**0.0**
	75nm,1.1s						
EIDS	**Eidsvold**	**19.40**	**225**	P	**Pn**	**01 37 18.6**	**+1.4**
	baz=19,SNR=34						
EIDS	**Eidsvold**	**19.40**	**225**	*e*P	**Pn**	**01 37 18.1**	**+0.9**
	88nm,1.0s						
PATS	**Pohnpei**	**20.36**	**337**	P	Pn	01 37 28.2	-0.5
	baz=20,SNR=4.0						
PATS	**Pohnpei**	**20.36**	**337**	*e*P	Pn	01 37 29.0	+0.3
	115nm,1.1s						
CTA	**Charters Tower**	**20.67**	**245**	P	**P**	**01 37 31.1**	**+1.2**
	38nm,0.9s,baz=79,slow=12,SNR=24						
CTA				LR	LR	01 44 37.7	
	comp=Z,438nm,21.1s,baz=74,slow=34						
CTAO	**Charters Tower**	**20.67**	**245**	*e*P	**P**	**01 37 30.4**	**+0.6**
	82nm,1.1s						
AFI	**Afiamalu**	**21.59**	**97**	LR	LR	01 44 39.9	
	comp=Z,268nm,19.2s,baz=232,slow=33						
RMQ	**Roma**	**21.72**	**226**	P	**P**	**01 37 43.2**	**+2.1**
	baz=22,SNR=46						
MTSU	**Mount Surprise**	**21.89**	**251**	P	**P**	**01 37 44.1**	**+1.1**
	baz=22,SNR=9.8						
COEN	**Coen**	**22.44**	**263**	P	**P**	**01 37 49.5**	**+0.5**
	baz=22,SNR=5.8						
COEN	**Coen**	**22.44**	**263**	*e*P	**P**	**01 37 49.9**	**+0.8**
	25nm,0.8s						
ARMA	**Armidale**	**22.64**	**214**	P	**P**	**01 37 52.7**	**+1.6**
	baz=23,SNR=26						
ARMA	**Armidale**	**22.64**	**214**	*e*P	**P**	**01 37 51.8**	**+0.7**
	41nm,0.8s						
MGCD	**Mangrove Creek**	**25.11**	**211**	P	**P**	**01 38 16.6**	**+2.1**
	baz=25,SNR=4.7						
QIS	**Mount Isa**	**26.78**	**248**	P	**P**	**01 38 30.7**	**+0.9**
	baz=27,SNR=7.2						
CMSA	**Cobar Meteorol**	**27.00**	**221**	P	**P**	**01 38 32.6**	**+0.9**
	baz=27,SNR=48						
URZ	**Urewera**	**27.82**	**161**	P	**P**	**01 38 38.5**	**-0.4**
	5.6nm,0.4s,baz=29,slow=1.7,SNR=12						
BKZ	**Black Stump Fm**	**28.48**	**163**	*e*P	**P**	**01 38 44.1**	**-0.7**
	30nm,1.4s						
STKA	**Stephens Creek**	**29.95**	**225**	P	**P**	**01 38 57.1**	**-0.8**
	11nm,0.7s,baz=23,slow=6.8,SNR=11						
STKA				LR	LR	01 50 14.8	
	comp=Z,334nm,20.2s,baz=29,slow=35						
STKA	**Stephens Creek**	**29.95**	**225**	P	**P**	**01 38 59.0**	**+1.1**
	baz=30,SNR=9.1						
STKA	**Stephens Creek**	**29.95**	**225**	*e*P	**P**	**01 38 59.0**	**+1.1**
	2.5nm,0.8s						
TOO	**Toolangi**	**31.38**	**213**	P	**P**	**01 39 11.7**	**+1.2**
	baz=32,SNR=5.8						
WRAB	**Tennant Creek**	**31.48**	**252**	*e*P	**P**	**01 39 10.0**	**-1.7**
	13nm,0.8s						
WB2	**Warramunga Arr**	**31.48**	**252**	*e*P	**P**	**01 39 10.8**	**-0.9**
	15nm,0.9s						
WRA	**Warramunga Arr**	**31.50**	**252**	P	**P**	**01 39 10.7**	**-1.0**
	12nm,0.8s,baz=82,slow=9.3,SNR=80						
WRA				PcP	**PcP**	**01 42 04.2**	**-0.3**
	1.2nm,0.7s,baz=80,slow=3.1,SNR=4.5						
WRA				ScP	**ScP**	**01 45 45.1**	**-0.6**
	2.4nm,1.1s,baz=88,slow=3.3,SNR=6.0						
WRA				LR	LR	01 51 29.9	
	comp=Z,256nm,18.3s,baz=55,slow=36						
OXZ	**Oxford**	**31.52**	**172**	*e*P	**P**	**01 39 13.5**	**+1.8**
	20nm,0.6s						
RPZ	**Rata Peaks**	**31.78**	**173**	P	**P**	**01 39 13.6**	**-0.3**
	37nm,0.8s,baz=290,slow=2.9,SNR=17						
RPZ	**Rata Peaks**	**31.78**	**173**	*e*P	**P**	**01 39 15.6**	**+1.7**
	40nm,0.9s						
AS01	**Alice Springs**	**32.63**	**245**	*e*P	**P**	**01 39 19.3**	**-2.4**
AS01				*e*PcP	**PcP**	**01 42 07.1**	**-0.5**
AS31	**Alice Springs**	**32.67**	**245**	*e*P	**P**	**01 39 20.9**	**-1.2**
	4.3nm,0.6s						
ASAR	**Alice Springs**	**32.68**	**245**	P	**P**	**01 39 20.8**	**-1.3**
	13nm,0.7s,baz=71,slow=9.3,SNR=138						
ASAR				PcP	**PcP**	**01 42 07.2**	**-0.4**
	2.0nm,0.7s,baz=72,slow=2.3,SNR=8.5						
ASAR				ScP	**ScP**	**01 45 48.3**	**-1.4**
	1.2nm,0.9s,baz=64,slow=2.9,SNR=5.7						
ASAR				LR	LR	01 51 54.0	
	comp=Z,205nm,18.3s,baz=78,slow=35						
HTT	**Hallett**	**32.69**	**225**	P	**P**	**01 39 23.0**	**+0.9**
	baz=33,SNR=5.8						
DCZ	**Deep Cove**	**33.26**	**179**	*e*P	**P**	**01 39 28.6**	**+1.8**
	79nm,1.2s						
MTN	**Manton Dam**	**34.17**	**265**	P	**P**	**01 39 34.7**	**-0.5**
	baz=34,SNR=4.0						
MTN	**Manton Dam**	**34.17**	**265**	*e*P	**P**	**01 39 34.6**	**-0.5**
	20nm,0.9s						
BBOO	**Buckleboo**	**34.40**	**228**	*e*P	**P**	**01 39 36.8**	**-0.2**
	8.6nm,0.8s						
KNRA	**Kununurra**	**36.42**	**260**	P	**P**	**01 39 53.6**	**-0.9**
	baz=36,SNR=4.5						
WRKA	**Warakurna**	**37.97**	**245**	P	**P**	**01 40 06.7**	**-1.0**
	baz=38,SNR=11						
FITZ	**Fitzroy Crossi**	**39.49**	**256**	P	**P**	**01 40 20.0**	**-0.4**
	baz=39,SNR=9.7						
FITZ	**Fitzroy Crossi**	**39.49**	**256**	*e*P	**P**	**01 40 19.6**	**-0.8**
	13nm,0.9s						
FORT	**Forrest**	**39.76**	**236**	*e*P	**P**	**01 40 22.0**	**-0.5**
PPT	**Papeete**	**43.08**	**103**	LR	LR	01 56 16.6	
	comp=Z,156nm,19.0s,baz=272,slow=33						
PPT2	**Papeete2**	**43.08**	**103**	*e*LQ	LQ	01 51 09.0	
	882nm,27.0s						
PPT2				*e*LR	LR	01 52 58.2	
	394nm,28.5s						
TBI	**Tubuai**	**43.59**	**111**	*e*LQ	LQ	01 51 19.5	
	474nm,33.2s						
TBI				*e*LR	LR	01 53 10.0	
	429nm,28.5s						
MBWA	**Marble Bar**	**45.23**	**252**	*e*P	**P**	**01 41 07.2**	**0.0**
	36nm,1.0s						
KAPI	**Kappang**	**46.35**	**275**	*e*P	**P**	**01 41 16.2**	**+0.1**
	47nm,1.2s						

MEEK	**Meekatharra**	**46.84**	**245**	P	**P**	**01 41 19.9**	**+0.1**
	baz=47,SNR=13							
KLBR	**Kellerberrin**	**48.47**	**238**	P	P	**01 41 31.9**	**-0.5**
	baz=48,SNR=7.0							
NWAO	**Narrogin (SRO)**	**49.20**	**237**	P	**P**	**01 41 37.0**	**-0.9**
	23nm,0.9s,baz=314,slow=9.5,SNR=7.1							
NWAO	**Narrogin (SRO)**	**49.20**	**237**	P	**P**	**01 41 38.0**	**+0.1**
	baz=49,SNR=5.5							
NWAO				P	**P**	**01 41 38.0**	**+0.1**
	baz=49,SNR=5.5							
MORW	**Morawa**	**49.46**	**242**	P	**P**	**01 41 39.9**	**-0.1**
	baz=49,SNR=8.8							
TAOE	**Nuku Hiva Isla**	**52.85**	**92**	*e*LR	LR	01 57 23.8		
	152nm,25.8s							
MJAR	**Matsushiro Arr**	**55.08**	**333**	P	**P**	**01 42 20.1**	**-1.5**
	1.4nm,0.8s,baz=145,slow=8.6,SNR=4.4							
RKT	**Rikitea**	**56.87**	**110**	*e*LQ	LQ	01 56 51.7		
	234nm,33.8s							
RKT				*e*LR	LR	01 59 13.6		
	305nm,26.8s							
KSM	**Kuching**	**57.05**	**280**	*e*P	**P**	**01 42 36.4**	**+0.3**
	17nm,1.1s							
KSRS	**Korea Array**	**60.96**	**326**	P	**P**	**01 43 03.0**	**+0.3**
	1.3nm,0.7s,baz=132,slow=7.0,SNR=3.3							
KSAR	**Wonju Array Be**	**60.98**	**326**	P	**P**	**01 43 03.0**	**+0.2**
NJ2	**Nanjing**	**63.04**	**316**	*e*P	**P**	**01 43 18.3**	**+1.5**
NJ2				pmax	pmax			
	comp=Z,42nm,0.7s							
QIZ	**Qiongzhong**	**63.52**	**298**	P	**P**	**01 43 21.3**	**+1.1**
QIZ				S	**S**	**01 51 52.4**	**+0.4**
USRK	**Ussuriysk Ar.**	**64.06**	**333**	P	**P**	**01 43 23.7**	**+0.4**
	2.2nm,0.9s,baz=99,slow=9.1,SNR=3.3							
VNDA	**Vanda**	**65.44**	**181**	P	**P**	**01 43 32.5**	**+0.7**
	3.7nm,0.8s,baz=353,slow=7.2,SNR=21							
VNDA				LR	LR	02 09 41.5		
	comp=Z,82nm,18.4s,baz=2.0,slow=34							
VNDA	**Vanda**	**65.44**	**181**	*e*P	**P**	**01 43 32.5**	**+0.7**
	13nm,1.5s							
SBA	**Scott Base**	**65.74**	**180**	*e*P	**P**	**01 43 35.3**	**+1.5**
	14nm,0.8s							
CN2	**Changchun**	**66.84**	**329**	*e*P	P	01 43 48.8	+7.5	
CN2				pmax	pmax			
	comp=Z,20nm,0.8s							
GYA	**Guiyang**	**69.33**	**304**	*e*P	**P**	**01 44 00.3**	**+2.9**
GYA				pmax	pmax			
	comp=Z,10.0nm,1.0s							
XAN	**Xi'an**	**71.11**	**312**	P	**P**	**01 44 07.0**	**-1.1**
XAN				pP	sP	01 44 19.6	-1.5	
XAN				pmax	pmax			
	comp=Z,8.0nm,0.9s							
XAN				LR	LR			
	comp=E,100nm,22.6s							
XAN				LR	LR			
	comp=Z,160nm,21.3s							
KMI	**Kunming**	**72.00**	**302**	P	**P**	**01 44 15.5**	**+1.6**
KMI				pmax	pmax			
	comp=Z,17nm,0.5s							
HHC	**Hu-ho-hao-te**	**72.88**	**320**	*e*P	**P**	**01 44 21.8**	**+3.1**
HHC				pmax	pmax			
	comp=Z,13nm,0.9s							
HHC				pmax	pmax			
	comp=Z,110nm,8.6s							
CMAR	**Chiang Mai Arr**	**72.89**	**294**	P	**P**	**01 44 18.6**	**-0.4**
	2.6nm,0.6s,baz=121,slow=4.7,SNR=9.8							
SEY	**Seymchan**	**75.56**	**354**	LR	LR	02 15 52.3		
	comp=Z,88nm,19.2s,baz=329,slow=34							
LZH	**Lanzhou**	**75.75**	**312**	*e*P	**P**	**01 44 37.3**	**+1.7**
LZH				pP	pP	01 44 49.6	+4.6	
LZH				sP	sP	01 44 54.0	+5.5	
LZH				pmax	pmax			
	comp=Z,14nm,1.0s							
QSPA	**South Pole Qui**	**77.90**	**180**	*e*P	**P**	**01 44 47.3**	**+0.1**
	15nm,1.0s							
ULN	**Ulaanbaatar**	**79.38**	**324**	*e*P	**P**	**01 44 55.8**	**+0.2**
	12nm,1.0s							
SONM	**Songino Array**	**79.74**	**324**	P	**P**	**01 44 56.9**	**-0.6**
	2.2nm,0.9s,baz=134,slow=4.7,SNR=10.0							
SONA1	**Songino Array**	**79.75**	**324**	*e*P	**P**	**01 44 57.5**	**0.0**
GTA	**Gaotai**	**80.07**	**314**	P	**P**	**01 45 00.1**	**+0.7**
GTA				pP	sP	01 45 13.3	+0.8	
GTA				sP	pP	01 45 19.0	+10	
GTA				S	**S**	**01 54 59.0**	**-3.1**	
GTA				pmax	pmax			
	comp=Z,8.0nm,1.0s							
GTA				pmax	pmax			
	comp=Z,100nm,6.0s							
GTA				LR	LR			
	comp=N,76nm,18.1s							
GTA				LR	LR			
	comp=E,140nm,18.1s							
MAW	**Mawson**	**83.89**	**202**	P	**P**	**01 45 17.7**	**-1.2**
	0.7nm,0.4s,baz=170,slow=6.1,SNR=49							
MAW				LR	LR	02 17 43.5		
	comp=Z,54nm,19.4s,baz=61,slow=32							
HDA	**Harding Lake**	**84.12**	**19**	*e*P	**P**	**01 45 24.4**	**+4.4**
	7.7nm,0.9s							
ILAR	**Eielson Array**	**84.39**	**18**	P	**P**	**01 45 21.0**	**-0.4**
	0.5nm,0.6s,baz=245,slow=4.4,SNR=5.1							
ILAR				LR	LR	02 17 10.7		
	comp=Z,38nm,20.7s,baz=174,slow=32							
ILB	**Eielson Array**	**84.39**	**18**	*e*P	**P**	**01 45 23.9**	**+2.6**
ODAN	**Odare**	**85.59**	**299**	*e*P	**P**	**01 45 28.1**	**-0.4**
EGAK	**Eagle**	**86.24**	**20**	*e*P	**P**	**01 45 32.9**	**+2.4**
	27nm,1.8s							
RAMN	**Ramite**	**86.30**	**298**	*e*P	**P**	**01 45 30.3**	**-1.7**
	20nm,1.0s							
PKI	**Pulchoki**	**87.48**	**299**	*e*P	**P**	**01 45 36.8**	**-1.1**
	17nm,0.9s							
PKIN	**Phulchoki**	**87.49**	**299**	*e*P	**P**	**01 45 36.7**	**-1.2**
KKN	**Kakani**	**87.65**	**299**	*e*P	**P**	**01 45 37.7**	**-0.9**
DMN	**Daman**	**87.75**	**299**	*e*P	**P**	**01 45 38.4**	**-0.7**
GKN	**Gorkha**	**88.25**	**299**	*e*P	**P**	**01 45 40.1**	**-1.3**
	23nm,0.8s							
KOLN	**Koldanda**	**89.08**	**299**	*e*P	**P**	**01 45 43.6**	**-1.8**
	17nm,0.9s							
PYUN	**Piuthan**	**89.69**	**299**	*e*P	**P**	**01 45 47.3**	**-0.9**
	31nm,0.9s							
WMQ	**Urumqi**	**90.11**	**315**	P	**P**	**01 45 50.9**	**+1.3**
U15A	**North Rim**	**90.44**	**53**	*e*P	P	01 45 56.5	+4.9	
PDAR	**Pinedale Array**	**93.99**	**47**	LR	LR	02 24 11.6		
	comp=Z,51nm,18.4s,baz=264,slow=33							
MK01	**Makanchi Array**	**94.54**	**317**	*e*P	**P**	**01 46 08.9**	**-1.0**
MK31	**Makanchi Array**	**94.55**	**317**	*e*P	**P**	**01 46 09.6**	**-0.4**
ZALV	**Zalesovo Beam**	**94.64**	**324**	P	**P**	**01 46 08.3**	**-1.8**
	1.2nm,0.6s,baz=129,slow=3.3,SNR=5.7							
YKA	**Yellowknife Ar**	**95.74**	**27**	P	**P**	**01 46 14.5**	**-0.5**
	0.3nm,0.6s,baz=257,slow=4.9,SNR=5.2							
YKA				LR	LR	02 21 35.7		
	comp=Z,6.8nm,21.3s,baz=180,slow=30							
TXAR	**Lajitas Array**	**96.00**	**61**	LR	LR	02 22 50.9		
	comp=Z,75nm,19.8s,baz=0.0,slow=31							
SNAA	**Sanae**	**96.09**	**183**	P	**P**	**01 46 15.0**	**-1.7**
SNAA	**Sanae**	**96.09**	**183**	*e*P	**P**	**01 46 15.0**	**-1.7**
	110nm,0.8s							
VNA3	**Neumayer Olymp**	**96.80**	**181**	P	**P**	**01 46 18.4**	**-1.4**
VNA2	**Neumayer--Watz**	**97.05**	**182**	P	**P**	**01 46 19.9**	**-1.1**
	baz=176,slow=4.4							
NRIK	**Noril'sk**	**97.25**	**339**	LR	LR	02 29 19.7		
	comp=Z,23nm,19.4s,baz=106,slow=35							
VNA1	**Neumayer--Stat**	**97.35**	**182**	P	**P**	**01 46 21.7**	**-0.6**
KSH	**Kashi**	**97.71**	**309**	*e*P	Pdif	01 46 26.9	+2.1	
KSH				sP	sP	01 46 45.1	+7.2	
KSH				PP	**PP**	**01 50 28.0**	**+5.0**	
KSH				S	**S**	**01 57 43.8**	**-4.8**	
KSH				sS	sS	01 58 07.9	+3.1	
KSH				SS	**SS**	**02 04 30.3**	**+0.7**	
KSH				pmax	pmax			
	comp=Z,8.0nm,1.6s							
KSH				pmax	pmax			
	comp=Z,95nm,5.5s							
KSH				LR	LR			
	comp=N,79nm,4.4s							
KSH				LR	LR			
	comp=E,50nm,4.0s							
KSH				LR	LR			
	comp=Z,76nm,7.1s							
FINES	**FINESS Array B**	**122.89**	**338**	PKP	**PKPdf**	**01 51 43.2**	**-1.9**
	3.5nm,1.0s,baz=238,slow=6.5,SNR=3.8							
AKASG	**Malin Array Be**	**127.95**	**327**	PKP	**PKPdf**	**01 51 53.7**	**-1.5**
	0.3nm,0.4s,baz=72,slow=1.3,SNR=2.5							
LSZ	**Lusaka**	**130.26**	**238**	*e*PKPdf	**PKPdf**	**01 52 01.2**	**+0.5**
GERES	**GERESS Array B**	**136.82**	**333**	SKPbc	**SKPbc**	**01 55 41.7**	**-1.1**
	0.7nm,0.7s,baz=41,slow=4.3,SNR=7.6							
WLF	**Walferdange**	**139.07**	**340**	*e*PKPdf	**PKPdf**	**01 52 17.8**	**+1.7**
KEST	**Kesra**	**148.49**	**322**	PKPbc	**PKPbc**	**01 52 35.4**	**-1.2**
	2.5nm,0.8s,baz=9.5,slow=6.1,SNR=3.8							
ESDC	**Sonseca Array**	**151.18**	**344**	PKPbc	**PKPbc**	**01 52 42.4**	**-0.7**
	0.1nm,0.5s,baz=15,slow=4.5,SNR=3.1							
TORD	**Torodi Ar. Bea**	**164.78**	**276**	PKP	**PKPdf**	**01 52 53.4**	**-0.9**
	1.2nm,0.9s,baz=37,slow=1.2,SNR=6.2							
TORD				PKPab	**PKPab**	**01 53 49.7**	**-0.5**
	2.0nm,1.1s,baz=79,slow=3.6,SNR=5.1							

NIED ***17*** *01:52:00, 40°.30N×143°.30E, h17km, Mw3.9 Best double couple: M0 7.67000×10^14 NP1:φs 1.00000°, δ38.00000°, λ-160.00000°. NP2:φs 255.00000°, δ78.00000°, λ-54.00000°.*

IDC ***17*** *01:52:40.1±0.8, 40°.18N×143°.38E, h0km, mb3.7/7, mb1 3.9/9, mb1mx3.7/35, mbtmp3.7/9, ML3.0/2, Error ellipse: s-maj=30.4km s-min=18.4km az=104.0*

JMA ***17*** *01:52:42.8±0.2, 40°.27N×143°.27E, h11km±2km, M4.1*

ISC 17 01:52:41.0±2.1, 40°.24N±0°.05×143°.36E±0°.07, h6km±12km, n32, σ1§14/32, mb3.6/7, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JTH	**Tanohata**	**1.19**	**256**	P	**Pg**	**01 53 04.0**	**+0.2**
JTH				*e*S	**Sg**	**01 53 18.9**	**-0.3**
MIYJ	**Miyakonagasawa**	**1.36**	**241**	P	**Pn**	**01 53 06.6**	**+0.1**
MIYJ				*e*S	**Sb**	**01 53 23.7**	**-0.8**
JANG	**Nango**	**1.42**	**276**	P	**Pn**	**01 53 07.3**	**-0.1**
JOM	**Ohasama**	**1.77**	**245**	P	**Pb**	**01 53 13.2**	**-0.6**
JEM	**Erimo**	**1.79**	**355**	*e*S	**Sn**	**01 53 35.6**	**+0.2**
JTM	**Tenmabayashi**	**1.83**	**288**	P	**Pn**	**01 53 13.8**	**+0.7**
JAH	**Hinai**	**2.09**	**270**	P	**Pn**	**01 53 18.0**	**+1.4**
JAH				*e*S	**Sn**	**01 53 43.5**	**+0.6**
JMK	**Ichinoseki**	**2.09**	**233**	P	**Pn**	**01 53 17.9**	**+1.3**
JNBK	**Urakawa-nobuka**	**2.09**	**348**	P	**Pn**	**01 53 17.8**	**+1.2**
JOT	**Ohata**	**2.10**	**304**	P	**Pn**	**01 53 17.3**	**+0.6**
JRG	**Rokugo**	**2.26**	**249**	P	**Pb**	**01 53 20.9**	**-1.4**
JCH	**Churui**	**2.38**	**360**	P	**Pn**	**01 53 20.6**	**+0.1**
JCH				*e*S	**Sn**	**01 53 47.4**	**-2.6**
JKB	**Kayabe**	**2.41**	**314**	*e*S	**Sn**	**01 53 51.6**	**+0.7**
JYK	**Kaneyama**	**2.67**	**241**	P	**Pn**	**01 53 26.0**	**+1.5**
JYK				*e*S	**Sn**	**01 53 57.0**	**-0.2**
JOU	**Okura**	**2.81**	**229**	P	**Pn**	**01 53 27.5**	**+1.0**
JFT	**Otama**	**3.60**	**222**	P	**Pn**	**01 53 38.9**	**+1.6**
MAT	**Matsushiro**	**5.48**	**229**	P	**Pn**	**01 54 04.7**	**+1.5**
MAT				*e*S	**Sn**	**01 55 04.9**	**-1.6**
MJAR	**Matsushiro Arr**	**5.48**	**229**	Pn	**Pn**	**01 54 04.4**	**+1.2**
	3.6nm,0.3s,baz=38,slow=12,SNR=52						
USRK	**Ussuriysk Ar.**	**9.32**	**299**	Pn	**Pn**	**01 54 58.0**	**+2.1**
	0.2nm,0.3s,baz=95,slow=14,SNR=8.2						
SEY	**Seymchan**	**23.36**	**10**	P	**P**	**01 57 50.0**	**0.0**
	1.1nm,0.5s,baz=198,slow=19,SNR=3.5						
H11N2	**WAKE ISLAND Hy**	**28.71**	**128**	T	T	02 28 44.5	
	baz=321,slow=75,SNR=33						
H11N1	**WAKE ISLAND Hy**	**28.72**	**128**	T	T	02 28 45.0	
	baz=321,slow=75,SNR=26						
H11N3	**WAKE ISLAND Hy**	**28.73**	**128**	T	T	02 28 45.7	
	baz=321,slow=75,SNR=20						
H11S1	**WAKE ISLAND Hy**	**29.54**	**130**	T	T	02 29 51.4	
	baz=322,slow=76,SNR=9.4						
H11S3	**WAKE ISLAND Hy**	**29.54**	**130**	T	T	02 29 50.3	
	baz=322,slow=76,SNR=9.3						
H11S2	**WAKE ISLAND Hy**	**29.56**	**130**	T	T	02 29 53.5	
	baz=322,slow=76,SNR=10						
ILAR	**Eielson Array**	**45.98**	**34**	P	**P**	**02 01 05.8**	**+1.2**
	0.3nm,0.6s,baz=246,slow=5.6,SNR=2.3						
WRA	**Warramunga Arr**	**60.45**	**190**	P	**P**	**02 02 50.3**	**-1.3**
	1.2nm,0.7s,baz=7.8,slow=6.9,SNR=18						
ASAR	**Alice Springs**	**64.18**	**190**	P	**P**	**02 03 16.6**	**+0.1**
	0.7nm,0.7s,baz=11,slow=5.1,SNR=7.0						
FINES	**FINESS Array B**	**66.69**	**332**	P	**P**	**02 03 32.4**	**+0.1**
	2.4nm,0.9s,baz=34,slow=5.2,SNR=2.8						
BRTR	**Keskin Array B**	**77.86**	**312**	P	**P**	**02 04 39.2**	**-0.5**
	0.3nm,0.7s,baz=38,slow=9.5,SNR=2.7						
TXAR	**Lajitas Array**	**86.98**	**54**	P	**P**	**02 05 27.8**	**+0.4**
	0.2nm,0.7s,baz=297,slow=4.0,SNR=3.0						

ISK ***17*** *02:06:03.7, 40°.88N×31°.67E, h18km, MD2.6*

ISCJB ***17*** *02:06:04.1±0.6, 40°.82N±0°.04×31°.71E±0°.03, h10km±6km, Error ellipse: s-maj=7.4km s-min=4.2km az=167.2*

CSEM ***17*** *02:06:04.2±0.1, 40°.82N×31°.71E, h10km, MD2.6, Error ellipse: s-maj=3.7km s-min=2.1km az=165.0*

DDA ***17*** *02:06:04.1, 40°.83N×31°.71E, h7km, Md2.6*

ISC 17 02:06:04.2±1.0, 40°.84N±0°.04×31°.70E±0°.03, h11km±10km, n22, σ0§39/34, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BCAM	**Y

MLSB	**Milas**	**0.51 303**	*e*PG	**Pb**	**02 18 44.0**	**-0.3**
MLSB			*e*SG	**Sb**	**02 18 51.8**	**-0.4**
MLSB	**Milas**	**0.51 303**	*e*Pg	**Pb**	**02 18 44.0**	**-0.3**
MLSB			*e*Sg	**Sb**	**02 18 51.8**	**-0.4**
DAT	**Datca**	**0.66 244**	*e*PG	**Pg**	**02 18 45.4**	**+0.3**
DAT			*e*SG	**Sg**	**02 18 54.7**	**+1.2**
DAT	**Datca**	**0.66 244**	*i* P	**Pg**	**02 18 44.7**	**-0.4**
DAT			*i* S	**Sg**	**02 18 54.8**	**+1.2**
DAT	**Datca**	**0.66 244**	P	**Pg**	**02 18 44.7**	**-0.4**
DAT	**Datca**	**0.66 244**	*e*Pg	**Pg**	**02 18 45.4**	**+0.3**
DAT			*e*Sg	**Sg**	**02 18 54.7**	**+1.2**
BDRM	**Kayabasi**	**0.69 274**	*i* P	**Pb**	**02 18 47.6**	**+0.1**
BDRM			*i* S	**Sb**	**02 18 56.6**	**-1.0**
BDRM	**Kayabasi**	**0.69 274**	P	**Pb**	**02 18 47.6**	**+0.1**
BDRM			S	**Sb**	**02 18 56.6**	**-1.0**
FETY	**Fethiye**	**0.73 122**	*e*PG	**Pg**	**02 18 46.8**	**+0.3**
FETY	**Fethiye**	**0.73 122**	P	**Pg**	**02 18 46.4**	**-0.1**
FETY	**Fethiye**	**0.73 122**	*e*Pg	**Pg**	**02 18 46.8**	**+0.3**
FETY			S	**Sg**	**02 18 57.4**	**+1.4**
BODT	**Bodrum**	**0.80 273**	*e*PG	**Pb**	**02 18 48.8**	**-0.5**
BODT	**Bodrum**	**0.80 273**	*e*Pg	**Pb**	**02 18 48.8**	**-0.5**
AYDB	**Zeytinkoy-Aydi**	**0.98 340**	*e*PG	**Pn**	**02 18 53.9**	**+0.3**
AYDB	**Zeytinkoy-Aydi**	**0.98 340**	*e*Pg	**Pn**	**02 18 53.9**	**+0.3**
AKAS	**Kas**	**1.31 127**	*e*PN	**Pg**	**02 18 57.3**	**-0.2**
AKAS	**Kas**	**1.31 127**	*e*Pn	**Pg**	**02 18 57.3**	**-0.2**

KRSC 17 02:32:44.1±1.1, **55°.47N**×**161°.26E, h115**km±13km, **ML3.7, Near east coast of Kamchatka Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ZLN	**Zelenaya**	**0.60**	**335**	*e*P	Pn	02 33 03.6	+1.3
BZMR	**Bezymyannaya**	**0.64**	**317**	*e*P	Pn	02 33 03.3	+0.7
BZMR				*e*S	Sn	02 33 18.3	+1.7
KMNR	**Kamenistaya**	**0.65**	**297**	*e*P	Pn	02 33 03.3	+0.7
KMNR				*e*S	Sn	02 33 17.9	+1.3
TUMR	**Tumrok**	**0.66**	**254**	*e*P	Pn	02 33 03.0	+0.2
CIRR	**Tsirk**	**0.71**	**336**	*e*P	Pn	02 33 04.8	+1.6
CIRR				*e*S	Sn	02 33 19.4	+1.8
KIRR	**Kirishev**	**0.71**	**313**	*e*P	Pn	02 33 03.3	+0.1
KIRR				*e*S	Sn	02 33 18.7	+1.1
KPT	**Kopyto**	**0.77**	**311**	*e*P	Pn	02 33 04.0	+0.4
KPT				*e*S	Sn	02 33 18.7	+0.4
KRSR	**Krestovskiy**	**0.84**	**333**	*e*P	Pn	02 33 05.2	+0.9
KRSR				*e*S	Sn	02 33 19.9	+0.3
KLY	**Klyuchi**	**0.91**	**338**	*e*P	Pn	02 33 05.7	+0.9
KLY				*e*S	Sn	02 33 21.3	+0.9
MKZ	**Mys Kozlova**	**0.96**	**163**	*e*P	Pn	02 33 06.6	+1.4
MKZ				*e*S	Sn	02 33 23.0	+1.8
SMKR	**Semkarok**	**1.12**	**6**	*e*P	Pn	02 33 08.7	+1.7
SMKR				*e*S	Sn	02 33 26.0	+1.7
KBG	**Krutoberegovo**	**1.13**	**45**	*e*P	Pn	02 33 08.8	+1.8
KBG				*e*S	Sn	02 33 26.9	+2.5
SRKR	**Sorokina**	**1.19**	**358**	*e*P	Pn	02 33 09.5	+1.8
SRKR				*e*S	Sn	02 33 28.2	+2.6
ESO	**Esso**	**1.52**	**288**	*e*P	Pn	02 33 12.3	+0.9
ESO				*e*S	Sn	02 33 32.4	+0.2
SPN	**Mys Shipunskiy**	**2.49**	**197**	*e*P	Pn	02 33 23.9	+0.4
SPN				*e*S	Sn	02 33 53.9	+0.2
SDLR	**Sedlovina**	**2.60**	**213**	*e*P	Pn	02 33 27.3	+2.2
KRER	**Koryakskii**	**2.62**	**215**	*e*P	Pn	02 33 28.9	+3.5
GNL	**Ganaly**	**2.63**	**229**	*e*P	Pn	02 33 26.6	+1.2
AVH	**Avacha**	**2.66**	**215**	*e*P	Pn	02 33 28.7	+2.9
BKI	**Bering**	**2.71**	**94**	*e*P	Pn	02 33 27.7	+1.4
BKI				*e*S	Sn	02 33 58.8	+0.1
DALK	**Dalny**	**2.85**	**212**	*e*P	Pn	02 33 30.5	+2.3
DALK				*e*S	Sn	02 34 06.0	+3.8
KRMR	**Karymshinskiy**	**3.22**	**216**	*e*P	Pn	02 33 35.6	+2.5
KRMR				*e*S	Sn	02 34 13.7	+2.7
RUS	**Russkaya**	**3.45**	**209**	*e*P	Pn	02 33 36.8	+0.7
RUS				*e*S	Sn	02 34 19.1	+2.8
APC	**Apacha**	**3.51**	**225**	*e*P	Pn	02 33 39.8	+2.9
ASAK	**Asacha**	**3.68**	**214**	*e*P	Pn	02 33 41.5	+2.3
KDTR	**Khodutka, Kamc**	**4.13**	**209**	*e*P	Pn	02 33 45.7	+0.5
KDTR				*e*S	Sn	02 34 33.3	+0.8

NIED **17** *03:01:00, 40°.30N×143°.30E, h20km, Mw3.9 Best double couple: M₀7.65000×10¹⁴ NP1:φ₉161.00000°, δ34.00000°, λ11.00000°. NP2:φ₉62.00000°, δ84.00000°, λ124.00000°.*
ISCJB **17** *03:01:52.9±0.6, 40°.23N±0°.05×143°.53E±0°.07, h16km, mb3.6/10, Error ellipse: s-maj=9.5km s-min=6.1km az=43.6*
IDC **17** *03:01:52.4±0.8, 40°.28N×143°.40E, h0km, mb3.7/10, mb1 3.9/13, mb1mx3.7/54, mbtmp3.8/13, ML3.2/3, Error ellipse: s-maj=24.9km s-min=16.3km az=108.0*
JMA **17** *03:01:54.5±0.2, 40°.34N×143°.33E, h11km±3km, M3.8*
ISC 17 03:01:55.0±0.8, **40°.29N**±0°.07×**143°.31E**±0°.09, **h16**km, **n31,** σ**0**°**99**/**26, mb3.7**/10, **Off east coast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JTH	**Tanohata**	**1.17**	**253**	P	**Pn**	**03 02 16.7**	**+0.1**
JTH				S	**Sn**	**03 02 32.7**	**+0.5**
MIYJ	**Miyakonagasawa**	**1.35**	**239**	P	**Pn**	**03 02 19.7**	**+0.6**
JANG	**Nango**	**1.38**	**274**	P	**Pn**	**03 02 19.8**	**+0.3**
JEM	**Erimo**	**1.73**	**356**	P	**Pn**	**03 02 24.1**	**-0.2**
JOM	**Ohasama**	**1.76**	**243**	P	**Pb**	**03 02 26.1**	**-0.7**
JTM	**Tenmabayashi**	**1.78**	**287**	P	**Pn**	**03 02 26.0**	**+0.9**
JNBK	**Urakawa-nobuka**	**2.03**	**348**	P	**Pn**	**03 02 28.7**	**+0.2**
JOT	**Ohata**	**2.04**	**303**	P	**Pn**	**03 02 29.2**	**+0.6**
JAH	**Hinai**	**2.05**	**268**	P	**Pb**	**03 02 30.7**	**-1.1**
JMK	**Ichinoseki**	**2.10**	**231**	P	**Pn**	**03 02 30.8**	**+1.4**
JCH	**Churui**	**2.32**	**1**	P	**Pn**	**03 02 32.2**	**-0.3**
JKB	**Kayabe**	**2.35**	**314**	P	**Pn**	**03 02 33.9**	**+1.0**
MJAR	**Matsushiro Arr**	**5.48**	**229**	Pn	**Pn**	**03 03 17.9**	**+1.9**
	1.2nm,0.3s,baz=40,slow=12,SNR=7.9						
JHJ	**Hachijo jima 2**	**7.70**	**203**		**Pn**	**03 03 45.4**	**-0.9**
	7.7nm,0.3s,baz=252,slow=20,SNR=3.2						
USRK	**Ussuriysk Ar.**	**9.26**	**299**		**Pn**	**03 04 10.1**	**+2.3**
	0.3nm,0.3s,baz=101,slow=15,SNR=3.8						
SEY	**Seymchan**	**23.32**	**10**	P	**P**	**03 07 00.5**	**-1.5**
	1.0nm,0.3s,baz=343,slow=6.7,SNR=4.3						
SONM	**Songino Array**	**27.38**	**298**	P	**P**	**03 07 39.4**	**-0.1**
	0.7nm,0.5s,baz=94,slow=8.2,SNR=4.9						
H11N2	**WAKE ISLAND Hy**	**28.77**	**128**	T	T	03 38 01.7	
	baz=314						
H11N1	**WAKE ISLAND Hy**	**28.78**	**128**	T	T	03 38 03.5	
	baz=314						
H11N3	**WAKE ISLAND Hy**	**28.79**	**128**	T	T	03 37 54.3	
	baz=314						
H11S1	**WAKE ISLAND Hy**	**29.60**	**130**	T	T	03 38 59.9	
	baz=322						
H11S3	**WAKE ISLAND Hy**	**29.61**	**130**	T	T	03 39 03.1	
	baz=322						
H11S2	**WAKE ISLAND Hy**	**29.62**	**130**	T	T	03 38 59.0	
	baz=322						
ZALV	**Zalesovo Beam**	**40.90**	**310**	P	**P**	**03 09 36.8**	**+0.7**
	0.6nm,0.3s,baz=95,slow=14,SNR=2.7						
ILAR	**Eielson Array**	**45.96**	**34**	P	**P**	**03 10 17.4**	**+0.6**
	0.4nm,0.7s,baz=253,slow=7.2,SNR=6.1						
INK	**Inuvik**	**50.82**	**28**	P	**P**	**03 10 55.4**	**+1.2**
	1.9nm,0.8s,baz=279,slow=8.6,SNR=4.9						
YKA	**Yellowknife Ar**	**60.26**	**32**	P	**P**	**03 12 01.5**	**-0.6**
	0.3nm,0.6s,baz=301,slow=6.2,SNR=2.8						
WRA	**Warramunga Arr**	**60.50**	**190**	P	**P**	**03 12 03.5**	**-0.7**
	0.6nm,0.8s,baz=6.7,slow=7.0,SNR=4.8						
ASAR	**Alice Springs**	**64.23**	**190**	P	**P**	**03 12 29.4**	**+0.3**
	0.2nm,0.7s,baz=0.0,slow=5.7,SNR=2.6						
FINES	**FINESS Array B**	**66.63**	**332**	P	**P**	**03 12 44.2**	**0.0**
	1.1nm,0.6s,baz=26,slow=9.3,SNR=7.4						
NOA	**NORSAR Array B**	**71.75**	**338**	P	**P**	**03 13 15.5**	**-0.6**
	0.4nm,0.6s,baz=37,slow=6.1,SNR=2.8						

NIED **17** *03:02:00, 37°.20N×141°.60E, h20km, Mw4.0 Best double couple: M₀1.01000×10¹⁵ NP1:φ₉319.00000°, δ40.00000°, λ-98.00000°. NP2:φ₉148.00000°, δ51.00000°, λ-84.00000°.*

JMA 17 03:02:43.0±0.1, **37°.23N**×**141°.62E, h27**km±2km, **M3.8, Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JFK	**Kawauchi**	**0.61**	**283**	P	Pb	03 02 55.1	-0.1
JFK				S	Sb	03 03 03.6	+0.2
ONAJ	**Iwakimizuishiy**	**0.67**	**259**	P	Pb	03 02 56.0	-0.1
ONAJ				S	Sb	03 03 04.8	-0.3
JMM	**Marumori**	**0.91**	**314**	P	Pn	03 02 59.5	-0.6
JMM				S	Sb	03 03 11.2	-0.8
JHO	**Hitachi**	**1.04**	**234**	S	Sn	03 03 13.9	-1.7
JFT	**Otama**	**1.06**	**286**	P	Pb	03 03 02.6	-0.1
JFT				S	Sb	03 03 16.7	+0.4
JIO	**Ouri**	**1.24**	**350**	P	Pn	03 03 04.0	-0.6
JIO				S	Sn	03 03 18.5	-1.9
JOU	**Okura**	**1.36**	**327**	P	Pn	03 03 07.0	+0.7
JOU				S	Sb	03 03 24.5	-0.4
JFY	**Yanaizu**	**1.54**	**277**	P	Pn	03 03 09.6	+0.9
JFY				S	Sb	03 03 29.5	-0.4
JYS	**Shirataka**	**1.58**	**309**	P	Pn	03 03 10.4	+1.1
JYS				S	Sb	03 03 31.1	0.0
MAT	**Matsushiro**	**2.82**	**257**	P	Pn	03 03 24.8	-1.5
MAT				*e*S	Sn	03 04 00.3	+0.9

NIED **17** *03:04:00, 40°.20N×143°.40E, h20km, Mw4.0 Best double couple: M₀1.11000×10¹⁵ NP1:φ₉208.00000°, δ21.00000°, λ100.00000°. NP2:φ₉17.00000°, δ69.00000°, λ86.00000°.*
ISCJB **17** *03:04:01.8±0.8, 40°.02N±0°.08×143°.60E±0°.08, h6km, mb3.6/5, MS3.7/1, Error ellipse: s-maj=11.8km s-min=7.9km az=160.7*
IDC **17** *03:04:02.8±1.1, 40°.04N×143°.44E, h0km, mb3.6/5, mb1 3.9/7, mb1mx3.5/50, mbtmp3.8/7, ML3.7/2, MS3.3/4, Ms1 3.3/4, ms1mx2.8/33, Error ellipse: s-maj=37.5km s-min=21.3km az=102.0*
JMA **17** *03:04:05.0±0.4, 40°.18N×143°.36E, h6km±5km, M4.1*
ISC 17 03:04:03.6±1.0, **40°.02N**±0°.08×**143°.48E**±0°.07, **h6**km, **n22,** σ**1**°**56**/**17, mb3.5**/**5, Off east coast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JTH	**Tanohata**	**1.24**	**267**	P	**Pg**	**03 04 27.0**	**-0.4**
JTH				*e*S	**Sg**	**03 04 42.9**	**-0.6**
MIYJ	**Miyakonagasawa**	**1.35**	**251**	P	**Pg**	**03 04 29.6**	**+0.1**
JANG	**Nango**	**1.54**	**284**	P	**Pn**	**03 04 31.0**	**-0.6**
JOM	**Ohasama**	**1.77**	**253**	P	**Pb**	**03 04 36.3**	**-0.2**
JOM				*e*S	**Sb**	**03 04 58.5**	**-0.4**
JAH	**Hinai**	**2.19**	**275**	P	**Pn**	**03 04 41.5**	**+1.1**
MJAR	**Matsushiro Arr**	**5.41**	**232**	Pn	**Pn**	**03 05 26.1**	**+1.4**
	1.0nm,0.3s,baz=33,slow=12,SNR=5.1						
MJAR				LR	LR	03 07 47.6	
	comp=Z,158nm,19.7s,baz=55,slow=42						
MAT	**Matsushiro**	**5.41**	**232**	P	**Pn**	**03 05 26.3**	**+1.5**
MAT				*e*S	**Sn**	**03 06 30.6**	**+3.2**
JHJ	**Hachijo jima 2**	**7.50**	**204**	Pn	**Pn**	**03 05 54.1**	**+0.6**
	8.8nm,0.3s,baz=90,slow=20,SNR=2.5						
JHJ				Sn	**Sn**	**03 07 14.9**	**-3.9**
	11nm,0.3s,baz=53,slow=20,SNR=2.7						
USRK	**Ussuriysk Ar.**	**9.50**	**300**	LR	LR	03 09 52.7	
	comp=Z,120nm,18.6s,baz=111,slow=37						
KSRS	**Korea Array**	**12.41**	**266**	LR	LR	03 11 39.9	
	comp=Z,124nm,18.2s,baz=54,slow=37						
SONM	**Songino Array**	**27.61**	**299**	P	**P**	**03 09 51.0**	**-0.8**
	0.4nm,0.4s,baz=87,slow=8.2,SNR=3.8						
H11N2	**WAKE ISLAND Hy**	**28.51**	**128**	T	T	03 40 02.3	
	baz=321,slow=75,SNR=108						
H11N1	**WAKE ISLAND Hy**	**28.52**	**128**	T	T	03 40 04.0	
	baz=321,slow=75,SNR=13						
H11N3	**WAKE ISLAND Hy**	**28.52**	**128**	T	T	03 40 03.2	
	baz=321,slow=75,SNR=139						
H11S1	**WAKE ISLAND Hy**	**29.34**	**130**	T	T	03 41 10.6	
	baz=322,slow=76,SNR=72						
H11S3	**WAKE ISLAND Hy**	**29.34**	**130**	T	T	03 41 08.9	
	baz=322,slow=76,SNR=9.1						
H11S2	**WAKE ISLAND Hy**	**29.35**	**130**	T	T	03 41 08.6	
	baz=322,slow=76,SNR=8.8						
ILAR	**Eielson Array**	**46.11**	**34**	P	**P**	**03 12 28.6**	**+0.5**
	0.4nm,0.8s,baz=263,slow=7.4,SNR=6.1						
WRA	**Warramunga Arr**	**60.26**	**190**	P	**P**	**03 14 12.7**	**-0.1**
	0.3nm,0.4s,baz=7.5,slow=8.9,SNR=5.2						
ASAR	**Alice Springs**	**63.98**	**190**	P	**P**	**03 14 37.8**	**0.0**
	0.2nm,0.6s,baz=4.7,slow=5.7,SNR=2.8						
FINES	**FINESS Array B**	**66.92**	**332**	P	**P**	**03 14 56.5**	**+0.1**
	1.3nm,0.7s,baz=60,slow=7.5,SNR=4.6						
PPT	**Papeete**	**84.57**	**118**	LR	LR	03 45 52.9	
	comp=Z,34nm,21.9s,baz=327,slow=30						

JMA 17 03:30:28.1±0.2, **39°.92N**×**143°.42E, h24**km, **M3.0, Off east coast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JTH	**Tanohata**	**1.20**	**271**	P	Pn	03 30 49.4	+0.1
JTH				*e*S	Sn	03 31 04.9	+0.1
MIYJ	**Miyakonagasawa**	**1.28**	**255**	P	Pn	03 30 50.9	+0.4
MIYJ				*e*S	Sn	03 31 06.4	-0.5
JANG	**Nango**	**1.53**	**288**	P	Pn	03 30 54.5	+0.6
JOM	**Ohasama**	**1.70**	**255**	P	Pn	03 30 57.4	+1.1
JMK	**Ichinoseki**	**1.96**	**241**	P	Pn	03 31 00.3	+0.5
JYK	**Kaneyama**	**2.57**	**248**	P	Pn	03 31 09.5	+1.2
JCH	**Churui**	**2.69**	**359**	P	Pn	03 31 12.0	+2.1

NIED **17** *03:31:00, 40°.20N×143°.10E, h23km, Mw3.7 Best double couple: M₀3.43000×10¹⁴ NP1:φ₉178.00000°, δ17.00000°, λ45.00000°. NP2:φ₉45.00000°, δ78.00000°, λ102.00000°.*
IDC **17** *03:31:55.8±1.3, 40°.22N×143°.21E, h0km, mb3.5/4, mb1 3.7/5, mb1mx3.3/47, mbtmp3.5/5, ML3.3/1, MS3.1/4, Ms1 3.1/4, ms1mx2.6/39, Error ellipse: s-maj=33.4km s-min=26.4km az=105.0*
ISCJB **17** *03:31:57.7±1.5, 40°.20N±0°.06×143°.22E±0°.07, h20km±10km, mb3.4/4, MS3.5/2, Error ellipse: s-maj=10.1km s-min=9.2km az=176.4*
JMA **17** *03:31:58.0±0.2, 40°.25N×143°.10E, h8km±2km, M3.8*
ISC 17 03:31:56.5±1.9, **40°.24N**±0°.05×**143°.16E**±0°.07, **h3**km±11km, **n19,** σ**0**°**68**/**22, mb3.5**/4, **Off east coast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JTH	**Tanohata**	**1.04**	**253**	P	**Pb**	**03 32 17.0**	**-0.1**
JTH				*e*S	**Sg**	**03 32 30.0**	**+0.2**
MIYJ	**Miyakonagasawa**	**1.22**	**238**	P	**Pg**	**03 32 20.1**	**+0.1**
MIYJ				*e*S	**Sg**	**03 32 36.0**	**+0.2**
JANG	**Nango**	**1.26**	**277**	P	**Pg**	**03 32 20.4**	**-0.3**
JANG				*e*S	**Sg**	**03 32 37.4**	**+0.3**
JKZ	**Kuzumaki**	**1.42**	**260**	P	**Pn**	**03 32 23.4**	**+0.1**
JKZ				S	**Sb**	**03 32 41.8**	**-0.5**
JOM	**Ohasama**	**1.63**	**242**	P	**Pn**	**03 32 26.6**	**+0.5**
JTM	**Tenmabayashi**	**1.68**	**290**	P	**Pn**	**03 32 27.3**	**+0.5**
JTM				*e*S	**Sn**	**03 32 48.9**	**0.0**
JEM	**Erimo**	**1.77**	**0**	P	**Pb**	**03 32 29.4**	**-0.2**
JAH	**Hinai**	**1.93**	**269**	P	**Pb**	**03 32 31.5**	**-0.8**
JAH				S	**Sn**	**03 32 55.5**	**+0.5**
JOT	**Ohata**	**1.96**	**306**	P	**Pn**	**03 32 31.6**	**+0.9**
JOT				S	**Sn**	**03 32 56.7**	**+0.9**
JMK	**Ichinoseki**	**1.97**	**230**	P	**Pb**	**03 32 32.4**	**-0.7**
MJAR	**Matsushiro Arr**	**5.36**	**228**	Pn	**Pn**	**03 33 19.2**	**+1.8**
	1.1nm,0.3s,baz=30,slow=15,SNR=6.0						
KSRS	**Korea Array**	**12.20**	**262**	LR	LR	03 38 46.4	
	comp=Z,20nm,18.2s,baz=335,slow=34						
JOW	**Kunigami**	**18.21**	**227**	LR	LR	03 42 42.1	
	comp=Z,88nm,21.2s,baz=104,slow=36						
SONM	**Songino Array**	**27.29**	**298**	P	**P**	**03 37 42.3**	**0.0**
	0.5nm,0.4s,baz=101,slow=8.4,SNR=3.3						
ZALV	**Zalesovo Beam**	**40.84**	**310**	P	**P**	**03 39 38.8**	**-0.3**
	0.6nm,0.3s,baz=84,slow=15,SNR=3.0						
ILAR	**Eielson Array**	**46.07**	**34**	P	**P**	**03 40 21.3**	**+0.1**
	0.2nm,0.7s,baz=271,slow=6.2,SNR=3.9						
WRA	**Warramunga Arr**	**60.43**	**190**	P	**P**	**03 42 06.5**	**-0.9**
	0.2nm,0.7s,baz=7.5,slow=8.9,SNR=2.4						
FINES	**FINESS Array B**	**66.62**	**332**	LR	LR	04 14 11.9	
	comp=Z,220nm,19.8s,baz=3.5,slow=38						
AFI	**Afiamalu**	**68.21**	**132**	LR	LR	04 05 29.1	
	comp=Z,33nm,21.9s,baz=72,slow=30						

NEIC **17** *03:47:18.4±0.6, 17°.77S×178°.00E, h544km±7km, mb4.3/24, Error ellipse: s-maj=14.3km s-min=7.3km az=144.0*
IDC **17** *03:47:19.3±1.7, 17°.83S×177°.92E, h549km±18km, mb3.5/13, mb1 3.7/14, mb1mx3.6/26, mbtmp4.4/14, Error ellipse: s-maj=16.9km s-min=11.9km az=140.0*
ISC 17 03:47:18.4±0.8, **17°.96S**±0°.09×**178°.04E**±0°.08, **h547**km±9km, **n88,** σ**1**°**51**/**93, mb4.1**/36, **1C, Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MSVF	**Nonsavu**	**0.23**	**3**	*e*Pn	**P**	**03 48 24.9**	**+1.4**
AFI	**Afiamalu**	**10.59**	**69**	P	**P**	**03 49 39.2**	**-3.3**
	3.4nm,0.3s,baz=88,slow=15,SNR=4.5						
DZM	**Mont Dzumac**	**11.64**	**248**	P	**P**	**03 49 52.5**	**-0.7**
	1.1nm,0.3s,baz=69,slow=17,SNR=13						
DZM				S	S	03 51 51.6	-9.1
	2.2nm,0.3s,baz=283,slow=23,SNR=15						
DZM	**Mont Dzumac**	**11.64**	**248**	*e*Pn	**P**	**03 49 51.4**	**-1.9**
URZ	**Urewera**	**20.24**	**182**	S	**S**	**03 54 23.8**	**-5.8**
	4.1nm,0.5s,baz=165,slow=21,SNR=7.2						
EIDS	**Eidsvold**	**26.08**	**249**	*e*P	**P**	**03 52 09.8**	**+0.9**
	8.3nm,0.6s						
RPZ	**Rata Peaks**	**26.34**	**191**	P	**P**	**03 52 11.1**	**+0.2**
	5.6nm,0.4s,baz=232,slow=20,SNR=4.0						
ARMA	**Armidale**	**27.02**	**238**	*e*P	**P**	**03 52 19.2**	**+2.0**
	11nm,0.6s						
CTA	**Charters Tower**	**30.10**	**261**	P	**P**	**03 52 44.1**	**+0.1**
	4.1nm,0.4s,baz=85,slow=12,SNR=9.4						
CTAO	**Charters Tower**	**30.10**	**261**	*e*P	**P**	**03 52 45.2**	**+1.2**
	29nm,0.5s						
CAN	**Canberra**	**31.02**	**230**	*e*P	**P**	**03 52 52.9**	**+1.1**
	5.8nm,0.6s						
COEN	**Coen**	**33.72**	**272**	*e*P	**P**	**03 53 15.2**	**+0.3**
	6.8nm,0.8s						
STKA	**Stephens Creek**	**35.66**	**240**	P	**P**	**03 53 32.6**	**+1.8**
	12nm,0.4s,baz=87,slow=10,SNR=33						
BBOO	**Buckleboo**	**40.43**	**240**	*e*P	**P**	**03 54 10.4**	**+0.7**
	13nm,0.6s						
WRAB	**Tennant Creek**	**41.28**	**260**	*e*P	**P**	**03 54 15.5**	**-1.1**
	0.9nm,0.3s						
WRA	**Warramunga Arr**	**41.29**	**260**	P	**P**	**03 54 16.1**	**-0.5**
	0.8nm,0.4s,baz=90,slow=8.5,SNR=49						
WRA				S	**S**	**03 59 48.7**	**-3.2**
	0.8nm,1.0s,baz=90,slow=14,SNR=4.7						
ASAR	**Alice Springs**	**41.52**	**254**	P	**P**	**03 54 18.9**	**+0.4**
	21nm,0.4s,baz=86,slow=8.6,SNR=540						
ASAR				S	**S**	**03 59 53.5**	**-1.6**
	2.6nm,0.8s,baz=90,slow=15,SNR=14						
FORT	**Forrest**	**46.93**	**244**	*e*P	**P**	**03 54 59.1**	**-1.0**
MBWA	**Marble Bar**	**54.78**	**256**	*e*P	**P**	**03 55 56.2**	**-1.0**
VNDA	**Vanda**	**60.13**	**184**	P	**P**	**03 56 35.6**	**+2.9**
	0.3nm,0.4s,baz=7.0,slow=6.6,SNR=5.8						
SBA	**Scott Base**	**60.18**	**183**	*e*P	**P**	**03 56 35.8**	**+2.8**
	1.8nm,0.6s						
MJAR	**Matsushiro Arr**	**65.98**	**326**	P	**P**	**03 57 11.2**	**+0.3**
	0.5nm,0.5s,baz=190,slow=6.2,SNR=3.3						
MAJO	**Matsushiro**	**65.98**	**326**	*e*P	**P**	**03 57 11.2**	**+0.3**
	2.9nm,0.6s						
QSPA	**South Pole Qui**	**72.09**	**180**	*e*P	**P**	**03 57 48.5**	**+1.2**
PETK	**Petropavlovsk-**	**72.93**	**347**	P	**P**	**03 57 52.0**	**0.0**
	2.8nm,0.8s,baz=119,slow=8.7,SNR=5.8						
CMB	**Columbia Colle**	**80.23**	**45**	*e*P	**P**	**03 58 32.6**	**+0.2**
	19nm,0.6s						
HUMO	**Hull Mountain**	**81.08**	**40**	*e*P	**P**	**03 58 37.1**	**+0.5**
	8.3nm,0.7s						
MOD	**Modoc Plateau**	**82.33**	**42**	*e*P	**P**	**03 58 43.6**	**+0.4**
	2.4nm,0.6s						
MAW	**Mawson**	**82.65**	**200**	P	**P**	**03 58 45.2**	**+1.0**
	2.7nm,0.5s,baz=111,slow=5.5,SNR=15						
R11A	**Troy Canyon, C**	**83.65**	**46**	*e*P	**P**	**03 58 49.8**	**-0.2**
	0.8nm,0.7s						
PPLA	**Purkeypile**	**83.92**	**13**	*e*P	**P**	**03 58 50.4**	**-0.3**
TRF	**Thorofare Moun**	**84.82**	**14**	*e*P	**P**	**03 58 53.6**	**-1.5**
	4.1nm,0.3s						
HAWA	**Hanford**	**85.20**	**38**	*e*P	**P**	**03 58 57.6**	**+0.4**
	4.5nm,0.6s						
MCK	**McKinley**	**85.38**	**14**	*e*P	**P**	**03 58 55.3**	**-2.3**
	2.6nm,0.6s						
DOT	**Dot Lake**	**86.51**	**16**	*e*P	**P**	**03 59 01.9**	**-1.1**
	7.7nm,0.7s						
COLA	**College**	**86.60**	**14**	*e*P	**P**	**03 59 02.0**	**-1.3**
	4.6nm,0.8s						
ILAR	**Eielson Array**	**86.73**	**14**	P	**P**	**03 59 02.6**	**-1.4**
	3.1nm,0.7s,baz=236,slow=5.2,SNR=36						
HLID	**Hailey**	**86.92**	**42**	*e*P	**P**	**03 59 05.6**	**0.0**
	1.9nm,0.8s						
EGAK	**Eagle**	**88.18**	**16**	*e*P	**P**	**03 59 09.7**	**-1.0**
	5.1nm,0.7s						
MNTX	**Cornudas Mount**	**88.39**	**56**	*e*P	**P**	**03 59 12.7**	**+0.1

az=140.5
*IDC **17** 03:47:33.0±1.6, 17°.95S×177°.97E, h573km±19km, mb3.8/17, mb1 4.0/17, mb1mx3.9/25, mbtmp4.8/17, Error ellipse: s-maj=11.8km s-min=9.6km az=152.0*
ISC 17 03:47:30.8±0.8, 17°.89S±0°.09×178°.03E±0°.07, h552km±9km, n93, σ1$05/91, mb4.4/41, 2C, Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**0.16**	**6**	*e*Pn	**P**	**03 48 37.1**	**+0.7**
AFI	**Afiamalu**	**10.57**	**69**	P	**P**	**03 49 51.9**	**-2.9**
	6.3nm,0.3s,baz=343,slow=3.3,SNR=5.0						
DZM	**Mont Dzumac**	**11.66**	**247**	*e*Pn	**P**	**03 50 06.6**	**+0.6**
URZ	**Urewera**	**20.31**	**182**	P	**P**	**03 51 28.6**	**-0.8**
	9.2nm,0.4s,baz=270,slow=14,SNR=9.3						
RAR	**Rarotonga**	**21.17**	**103**	P	**P**	**03 51 37.1**	**-0.3**
	22nm,0.7s,baz=218,slow=5.3,SNR=3.7						
RPZ	**Rata Peaks**	**26.41**	**191**	P	**P**	**03 52 23.3**	**-0.4**
	12nm,0.6s,baz=6.3,slow=2.8,SNR=8.9						
ARMA	**Armidale**	**27.05**	**238**	*e*P	**P**	**03 52 31.5**	**+1.8**
	31nm,0.8s						
CTA	**Charters Tower**	**30.11**	**261**	P	**P**	**03 52 56.4**	**+0.1**
	12nm,0.6s,baz=96,slow=9.3,SNR=12						
CTAO	**Charters Tower**	**30.11**	**261**	*e*P	**P**	**03 52 57.0**	**+0.7**
	72nm,0.6s						
CAN	**Canberra**	**31.07**	**230**	*e*P	**P**	**03 53 04.6**	**+0.2**
	8.9nm,0.7s						
COEN	**Coen**	**33.72**	**272**	*e*P	**P**	**03 53 27.8**	**+0.8**
	26nm,0.9s						
STKA	**Stephens Creek**	**35.69**	**240**	P	**P**	**03 53 44.7**	**+1.4**
	24nm,0.6s,baz=87,slow=9.7,SNR=22						
JAY	**Jayapura**	**39.67**	**288**	P	**P**	**03 54 16.7**	**+0.7**
	0.7nm,0.4s,baz=142,slow=23,SNR=7.1						
BBOO	**Buckleboo**	**40.46**	**240**	*e*P	**P**	**03 54 22.3**	**+0.3**
	29nm,0.7s						
WRAB	**Tennant Creek**	**41.29**	**260**	*e*P	**P**	**03 54 24.4**	**-4.4**
	6.2nm,0.6s						
WRA	**Warramunga Arr**	**41.30**	**260**	P	**P**	**03 54 28.5**	**-0.4**
	0.9nm,0.3s,baz=81,slow=5.8,SNR=7.4						
WRA				S	**S**	**04 00 00.7**	**-3.1**
	1.9nm,0.7s,baz=91,slow=15,SNR=11						
ASAR	**Alice Springs**	**41.53**	**254**	P	**P**	**03 54 31.1**	**+0.3**
	23nm,0.7s,baz=86,slow=8.6,SNR=34						
ASAR				PcP	**PcP**	**03 56 14.9**	**-0.1**
	2.1nm,0.8s,baz=88,slow=5.9,SNR=4.5						
ASAR				S	**S**	**04 00 05.5**	**-1.6**
	8.8nm,0.9s,baz=88,slow=15,SNR=20						
GUMO	**Guam**	**45.27**	**312**	P	**P**	**03 54 59.7**	**0.0**
	62nm,0.7s,baz=164,slow=15,SNR=5.0						
FORT	**Forrest**	**46.96**	**244**	*e*P	**P**	**03 55 12.0**	**-0.3**
MBWA	**Marble Bar**	**54.79**	**256**	*e*P	**P**	**03 56 07.2**	**-2.2**
	27nm,0.9s						
VNDA	**Vanda**	**60.20**	**184**	P	**P**	**03 56 46.0**	**+0.8**
	2.3nm,0.5s,baz=3.7,slow=6.3,SNR=19						
SBA	**Scott Base**	**60.25**	**183**	*e*P	**P**	**03 56 47.4**	**+1.9**
	11nm,0.8s						
MJAR	**Matsushiro Arr**	**65.92**	**326**	P	**P**	**03 57 23.2**	**+0.6**
	3.9nm,0.7s,baz=159,slow=6.1,SNR=13						
MAJO	**Matsushiro**	**65.93**	**326**	*e*P	**P**	**03 57 22.9**	**+0.3**
	7.6nm,0.8s						
QSPA	**South Pole Qui**	**72.16**	**180**	*e*P	**P**	**03 58 00.2**	**+0.5**
	68nm,0.8s						
PETK	**Petropavlovsk-**	**72.86**	**347**	P	**P**	**03 58 04.2**	**+0.5**
	7.3nm,0.9s,baz=119,slow=7.5,SNR=8.3						
USRK	**Ussuriysk Ar.**	**74.74**	**328**	P	**P**	**03 58 16.6**	**+2.1**
	3.2nm,0.7s,baz=131,slow=5.8,SNR=4.2						
CMB	**Columbia Colle**	**80.18**	**45**	*e*P	**P**	**03 58 44.8**	**+0.6**
	42nm,0.9s						
HUMO	**Hull Mountain**	**81.02**	**40**	*e*P	**P**	**03 58 49.0**	**+0.6**
	24nm,0.9s						
MOD	**Modoc Plateau**	**82.29**	**42**	*e*P	**P**	**03 58 55.7**	**+0.7**
	13nm,1.2s						
MAW	**Mawson**	**82.71**	**200**	P	**P**	**03 58 57.7**	**+1.2**
	9.6nm,0.6s,baz=137,slow=4.9,SNR=36						
R11A	**Troy Canyon, C**	**83.61**	**46**	*e*P	**P**	**03 59 02.0**	**+0.2**
	1.1nm,0.8s						
TRF	**Thorofare Moun**	**84.76**	**14**	*e*P	**P**	**03 59 06.5**	**-0.3**
	6.1nm,0.6s						
HAWA	**Hanford**	**85.15**	**38**	*e*P	**P**	**03 59 09.5**	**+0.6**
	3.6nm,0.7s						
MCK	**McKinley**	**85.31**	**14**	*e*P	**P**	**03 59 08.3**	**-1.0**
	4.9nm,0.6s						
DOT	**Dot Lake**	**86.44**	**16**	*e*P	**P**	**03 59 13.8**	**-0.9**
	12nm,0.7s						
COLA	**College**	**86.53**	**14**	*e*P	**P**	**03 59 13.8**	**-1.2**
	6.1nm,0.6s						
ILAR	**Eielson Array**	**86.67**	**14**	P	**P**	**03 59 14.8**	**-1.0**
	5.2nm,0.7s,baz=234,slow=5.6,SNR=24						
HLID	**Hailey**	**86.87**	**42**	*e*P	**P**	**03 59 18.4**	**+1.0**
	2.9nm,0.7s						
EGAK	**Eagle**	**88.11**	**16**	*e*P	**P**	**03 59 22.3**	**-0.1**
	10nm,0.7s						
MNTX	**Cornudas Mount**	**88.36**	**56**	*e*P	**P**	**03 59 25.3**	**+0.9**
	1.8nm,0.6s						
SYO	**Syowa Base**	**88.39**	**194**⇑	*e*P	**P**	**03 59 22.8**	**-1.0**
TXAR	**Lajitas Array**	**88.87**	**59**	P	**P**	**03 59 28.9**	**+1.9**
	2.9nm,0.7s,baz=220,slow=5.8,SNR=26						
MOOW	**Moose Ponds**	**89.33**	**43**	*e*P	**P**	**03 59 29.6**	**+0.7**
	1.4nm,0.7s						
LOHW	**Long Hollow**	**89.36**	**43**	*e*P	**P**	**03 59 29.4**	**+0.3**
	2.6nm,0.7s						
PDAR	**Pinedale Array**	**89.69**	**45**	P	**P**	**03 59 31.2**	**+0.5**
	1.6nm,0.6s,baz=224,slow=3.4,SNR=16						
SMCO	**Snowmass**	**90.03**	**49**	*e*P	**P**	**03 59 33.0**	**+0.5**
	6.2nm,0.6s						
SNAA	**Sanae**	**90.66**	**180**	P	**P**	**03 59 34.4**	**0.0**
SNAA	**Sanae**	**90.66**	**180**	*e*P	**P**	**03 59 33.9**	**-0.6**
VNA3	**Neumayer Olymp**	**90.94**	**178**	P	**P**	**03 59 35.6**	**0.0**
VNA2	**Neumayer--Watz**	**91.33**	**178**	P	**P**	**03 59 37.8**	**+0.3**
	baz=187,slow=3.5						
YKA	**Yellowknife Ar**	**95.75**	**26**	P	**P**	**03 59 57.5**	**0.0**
	0.8nm,0.7s,baz=245,slow=4.6,SNR=5.2						
BVAR	**Borovoye Array**	**114.69**	**321**	PKP	PKPdf	04 05 06.9	-1.6
	1.2nm,0.4s,baz=159,slow=0.8,SNR=7.0						
ARU	**Arti**	**120.94**	**326**	PKP	**PKPdf**	**04 05 19.2**	**-1.2**
	1.8nm,0.3s,baz=345,slow=21,SNR=3.6						
AKTO	**Aktyubinsk**	**122.64**	**319**	PKP	**PKPdf**	**04 05 22.9**	**-1.0**
	1.9nm,0.6s,baz=125,slow=2.6,SNR=7.1						
ARCES	**ARCESS Array B**	**125.66**	**348**	PKP	**PKPdf**	**04 05 29.3**	**+0.1**
	3.3nm,0.7s,baz=64,slow=2.8,SNR=6.9						
FINES	**FINESS Array B**	**132.19**	**342**	PKP	**PKPdf**	**04 05 41.7**	**0.0**
	0.8nm,0.5s,baz=216,slow=6.1,SNR=4.6						
NB2	**NORSAR Subarra**	**135.89**	**351**	PKP	**PKPdf**	**04 05 50.0**	**+1.3**
	comp=Z,0.4nm,0.5s,baz=33,slow=2.6						
NOA	**NORSAR Array B**	**135.89**	**351**	PKP	**PKPdf**	**04 05 49.2**	**+0.5**
	comp=Z,0.7nm,0.7s,baz=15,slow=3.6,SNR=4.2						
BRTR	**Keskin Array B**	**142.32**	**313**	PKP	**PKPdf**	**04 05 59.1**	**-2.1**
	comp=Z,0.8nm,0.6s,baz=124,slow=2.2,SNR=5.5						
STHS	**Stebnicka Huta**	**143.40**	**334**	*e*	**PKPdf**	**04 06 02.0**	**-0.6**
MLR	**Muntele Rosu**	**143.99**	**326**	PKP	PKPab	04 06 03.5	0.0
	comp=Z,0.5nm,0.5s,baz=334,slow=6.2,SNR=6.9						
UPC	**Upice**	**144.42**	**340**	*ex*	PKPbc	04 06 05.4	+1.1
KECS	**Kecovo**	**144.44**	**334**	*e*	**PKPab**	**04 06 05.2**	**+0.3**
DPC	**Dobruska-Polom**	**144.46**	**340**	*ex*	PKPbc	04 06 05.6	+1.1
MORC	**Moravsky Berou**	**144.53**	**338**	*e*PKPdf	**PKPab**	**04 06 05.1**	**-0.2**
KRLC	**Kraliky**	**144.54**	**339**	*ex*	PKPbc	04 06 05.5	+0.7
CLL	**Collm**	**144.60**	**344**⇑	*i*PKPbc	**PKPab**	**04 06 05.4**	**0.0**
	comp=Z,21nm,0.5s						
BRG	**Berggiesshubel**	**144.73**	**342**	*e*	**PKPab**	**04 06 05.9**	**-0.1**
	comp=Z,7.7nm,0.6s						
BRG				*e*SKP		04 08 45.5	
	comp=Z,18nm,2.0s						
PVCC	**Panska Ves**	**144.85**	**342**	*ex*	PKPbc	04 06 06.9	+1.3
VYHS	**Vyhne**	**145.10**	**336**	*e*	**PKPab**	**04 06 07.4**	**-0.1**
PSZ	**Piszkesteto**	**145.13**	**334**	*e*PKPdf	**PKPbc**	**04 06 06.5**	**-0.2**
PRU	**Pruhonice**	**145.34**	**341**	*ex*	**PKPbc**	**04 06 07.6**	**+0.5**
KHC	**Kasperske Hory**	**146.39**	**341**	*e*PKPbc	**PKPbc**	**04 06 10.4**	**+0.2**
KHC	**Kasperske Hory**	**146.39**	**341**	*ex*	**PKPbc**	**04 06 10.8**	**+0.6**
GRFO	**Grafenberg**	**146.54**	**344**	*e*PKPbc	**PKPbc**	**04 06 10.5**	**0.0**
GERES	**GERESS Array B**	**146.61**	**341**	PKPbc	**PKPbc**	**04 06 11.3**	**+0.5**
	comp=Z,5.8nm,0.5s,baz=24,slow=3.0,SNR=42						
CONA	**Conrad Observa**	**146.68**	**338**	*i*PKPab	**PKPbc**	**04 06 11.7**	**+0.6**
	comp=Z,7.1nm,0.6s						
MOA	**Molln**	**147.30**	**340**	*e*PKPab	**PKPbc**	**04 06 13.1**	**+0.5**
	comp=Z,4.7nm,0.6s,SNR=5.5						
WLF	**Walferdange**	**147.63**	**350**	*e*PKPbc	**PKPbc**	**04 06 14.2**	**+0.8**
STU	**Stuttgart**	**147.89**	**346**	*e*PKPbc	**PKPbc**	**04 06 14.6**	**+0.6**
SOKA	**Soboth**	**148.04**	**338**	*i*PKPab	**PKPbc**	**04 06 14.8**	**+0.2**
	comp=Z,3.7nm,0.6s						
KBA	**Koelnbreinsper**	**148.28**	**340**	*i*PKPab	**PKPbc**	**04 06 15.3**	**-0.1**
	comp=Z,4.5nm,0.5s						
MYKA	**Terra Mystica**	**148.57**	**339**	*i*PKPab	**PKPbc**	**04 06 15.5**	**-0.4**
	comp=Z,6.8nm,0.5s,SNR=5.0						
WTTA	**Wattenberg**	**148.64**	**342**	*i*PKPab	**PKPbc**	**04 06 16.6**	**+0.4**
	comp=Z,7.4nm,0.4s						
RETA	**Reutte**	**148.69**	**343**	*i*PKPab	**PKPbc**	**04 06 16.5**	**+0.3**
	comp=Z,4.3nm,0.5s						
MOTA	**Moosalm**	**148.72**	**343**	*i*PKPab	**PKPbc**	**04 06 16.5**	**+0.1**
	comp=Z,5.5nm,0.4s						
ABTA	**Abfaltersbach**	**148.84**	**341**	*i*PKPab	**PKPbc**	**04 06 16.3**	**-0.3**
	comp=Z,6.2nm,0.6s						
FETA	**Feichten**	**149.12**	**343**	*i*PKPab	**PKPbc**	**04 06 17.8**	**+0.4**
	comp=Z,7.3nm,0.8s						
TUE	**Stuetta**	**150.00**	**344**	*e*PKPbc	**PKPbc**	**04 06 20.4**	**+0.8**
BNI	**Bardonecchia**	**151.97**	**347**	*e*PKPbc	**PKPbc**	**04 06 24.6**	**+0.6**
ESDC	**Sonseca Array**	**158.22**	**4**	PKPab	**PKPab**	**04 07 02.4**	**-0.4**
	comp=Z,1.4nm,0.9s,baz=347,slow=3.9,SNR=4.9						
TORD	**Torodi Ar. Bea**	**174.11**	**217**	PKP	**PKPdf**	**04 06 37.5**	**-0.7**
	comp=Z,0.7nm,0.7s,baz=316,slow=1.9,SNR=4.8						
TORD				PKPab	**PKPab**	**04 08 14.1**	**+0.6**
	comp=Z,0.7nm,0.7s,baz=112,slow=5.1,SNR=5.2						

*ISN **17** 03:49:11.2±0.9, 33°.20N×47°.86E, h37km±5km, ML3.0*
*ISCJB **17** 03:49:13.9±0.6, 32°.93N±0°.05×47°.56E±0°.05, h15km, Error ellipse: s-maj=7.4km s-min=5.1km az=23.9*
*TEH **17** 03:49:13.3, 33°.04N×47°.78E, h8km, ML3.0*
*CSEM **17** 03:49:14.2±0.4, 32°.87N×47°.58E, h10km, ML3.0, Error ellipse: s-maj=10.7km s-min=7.4km az=27.0*
ISC 17 03:49:14.4±1.0, 32°.88N±0°.05×47°.61E±0°.04, h15km, n22, σ1$47/26, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IKFM	**Kafar-mosalman**	**0.68**	**17**	*e*Pg	**Pg**	**03 49 24.1**	**-3.5**
SHGR	**Shooshtar-Gavs**	**1.26**	**127**	*e*Pg	**Pb**	**03 49 39.0**	**+1.1**
IGHG	**Ghaleghazi**	**1.69**	**329**	*e*Pg	**Pn**	**03 49 45.0**	**+1.4**
IGHG				*e*AMB	AMB	03 50 23.3	
	comp=Z,2μm,0.3s						
IGHG	**Ghaleghazi**	**1.69**	**329**	*e*Pg	**Pn**	**03 49 45.0**	**+1.4**
IVIS	**Veis**	**1.76**	**339**	*e*Pn	**Pn**	**03 49 46.0**	**+1.5**
IVIS				*e*AMB	AMB	03 49 49.0	
	comp=Z,956nm,0.3s						
IVIS				*e*Sg	**Sb**	**03 50 09.9**	**+1.4**
IVIS	**Veis**	**1.76**	**339**	*e*Pn	**Pn**	**03 49 46.0**	**+1.5**
IVIS				*e*Sg	**Sb**	**03 50 09.9**	**+1.4**
KHMZ	**Khomeyn**	**2.15**	**66**	*e*Pn	**Pn**	**03 49 51.3**	**+1.5**
KHMZ				*e*Sg	**Sb**	**03 50 20.1**	**+0.5**
SNGE	**Sanandaj**	**2.22**	**354**	*e*Pn	**Pn**	**03 49 53.1**	**+2.2**
NSR	**Nassriya**	**2.24**	**214**	*e*Pn	**Pn**	**03 49 52.0**	**+1.1**
	SNR=5.0						
ASAO	**Ashtian**	**2.61**	**50**	*e*Pn	**Pn**	**03 49 57.6**	**+1.3**
BHD	**Baghdad**	**2.74**	**279**	*e*Pn	**Pn**	**03 49 57.5**	**-0.3**
	SNR=5.0						
BHD				*e*Sn	**Sn**	**03 50 30.0**	**-0.7**
	SNR=5.0						
IPIR	**Pirpir**	**2.77**	**93**	*e*Pn	**Pn**	**03 50 00.0**	**+1.5**
IPIR				*e*AMB	AMB	03 50 41.8	
	comp=Z,638nm,0.3s						
IPIR	**Pirpir**	**2.77**	**93**	*e*Pn	**Pn**	**03 50 00.0**	**+1.5**
IRAZ	**Razeghan**	**3.17**	**37**	*e*AMB	AMB	03 50 13.2	
	comp=Z,525nm,0.2s						
IRAZ				*e*Pn	**Pn**	**03 50 06.1**	**+2.2**
QAM	**Ghamsar**	**3.32**	**74**	*e*Pn	**Pn**	**03 50 06.4**	**+0.4**
QAM				*e*AMB	AMB	03 51 02.7	
	comp=Z,695nm,0.2s						
IKLH	**Kolahrood**	**3.36**	**81**	*e*AMB	AMB	03 50 12.7	
	comp=Z,499nm,0.1s						
IKLH				*e*Pn	**Pn**	**03 50 07.3**	**+0.7**
GHVR	**GHOM**	**3.46**	**61**	*e*Pn	**Pn**	**03 50 09.2**	**+1.4**
IGAR	**Gharneh**	**3.77**	**96**	*e*Pn	**Pn**	**03 50 13.2**	**+1.1**
IGAR				*e*AMB	AMB	03 51 19.7	
	comp=Z,248nm,0.2s						
IZEF	**Zefreh**	**3.97**	**88**	*e*Pn	**Pn**	**03 50 15.0**	**0.0**
IZEF				*e*AMB	AMB	03 50 30.6	
	comp=Z,127nm,0.2s						
IZEF	**Zefreh**	**3.97**	**88**	*e*Pn	**Pn**	**03 50 15.0**	**0.0**
IDMV	**Damavand**	**4.55**	**52**	*e*Pn	**Pn**	**03 50 22.5**	**-0.4**
IDMV	**Damavand**	**4.55**	**52**	*e*Pn	**Pn**	**03 50 22.5**	**-0.4**

*ISCJB **17** 04:02:14.9±0.3, 33°.52S±0°.07×77°.81E±0°.08, h10km, mb4.4/29, MS3.8/17, Error ellipse: s-maj=11.0km s-min=9.5km az=142.6*
*IDC **17** 04:02:15.2±0.5, 33°.47S×77°.77E, h0km, mb4.2/18, mb1 4.3/18, mb1mx4.1/52, mbtmp4.2/18, MS3.8/17, Ms1 3.8/17, ms1mx3.6/30, Error ellipse: s-maj=17.5km s-min=15.8km az=7.0*
*NEIC **17** 04:02:16.7±0.3, 33°.47S×77°.79E, h10km, mb4.6/8, Error ellipse: s-maj=10.7km s-min=8.8km az=171.0*
ISC 17 04:02:16.8±0.5, 33°.5S±0°.1×77°.8E±0°.1, h10km, n51, σ1$07/37, mb4.4/29, MS3.9/17, 1D, Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H08S2	**Diego Garcia H**	**26.18**	**348**	T	T	04 34 54.3	
	baz=170,slow=76,SNR=489						
H08S1	**Diego Garcia H**	**26.18**	**348**	T	T	04 34 53.3	
	baz=170,slow=76,SNR=744						
H08S3	**Diego Garcia H**	**26.19**	**348**	T	T	04 34 55.7	
	baz=170,slow=76,SNR=745						
H08N1	**Diego Garcia H**	**27.73**	**345**	T	T	04 37 18.2	
	baz=23,slow=73,SNR=3.3						
H08N3	**Diego Garcia H**	**27.73**	**345**	T	T	04 37 17.7	
	baz=23,slow=73,SNR=4.5						
H08N2	**Diego Garcia H**	**27.75**	**345**	T	T	04 37 17.9	
	baz=23,slow=73,SNR=5.3						
H01W2	**Cape Leeuwin H**	**29.98**	**103**	T	T	04 39 52.3	
	baz=262,slow=74,SNR=82						
H01W3	**Cape Leeuwin H**	**29.99**	**103**	T	T	04 39 52.7	
	baz=262,slow=74,SNR=60						
H01W1	**Cape Leeuwin H**	**30.00**	**103**	T	T	04 39 48.9	
	baz=262,slow=74,SNR=50						
MAW	**Mawson**	**35.25**	**190**	P	**P**	**04 09 11.5**	**+0.4**
	4.0nm,0.9s,baz=14,slow=11,SNR=10						
MAW				LR	LR	04 20 27.9	
	comp=Z,130nm,21.0s,baz=60,slow=31						
MBWA	**Marble Bar**	**38.97**	**83**	*e*P	**P**	**04 09 42.9**	**-0.5**
	17nm,0.8s						
SYO	**Syowa Base**	**41.51**	**200**⇓	*i*P	**P**	**04 10 02.8**	**-1.0**
KULM	**Kulim**	**44.22**	**34**	*e*P	**P**	**04 10 25.9**	**-0.4**
	6.4nm,0.7s						
BOSA	**Boshof**	**44.89**	**261**	P	**P**	**04 10 31.1**	**-0.7**
	5.7nm,1.1s,baz=179,slow=18,SNR=3.0						
BOSA				LR	LR	04 25 29.5	
	comp=Z,204nm,19.1s,baz=105,slow=31						
FITZ	**Fitzroy Crossi**	**45.32**	**83**	P	**P**	**04 10 35.0**	**-0.1**
	4.3nm,0.9s,baz=207,slow=8.4,SNR=8.8						
FITZ				LR	LR	04 27 26.2	
	comp=Z,133nm,20.2s,slow=33						
MATP	**Matopo**	**45.45**	**274**	P	**P**	**04 10 35.4**	**-0.9**
	4.7nm,0.9s,baz=97,slow=9.5,SNR=6.2						
LBTB	**Lobatse**	**45.93**	**266**	P	**P**	**04 10 38.8**	**-1.3**
	2.4nm,0.5s,baz=116,slow=6.5,SNR=7.8						
KAPI	**Kappang**	**48.17**	**63**	*e*P	**P**	**04 10 57.1**	**-0.4**
	30nm,1.4s						
LSZ	**Lusaka**	**48.21**	**280**	*e*P	**P**	**04 10 57.3**	**-0.7**
	10nm,0.6s						
ASAR	**Alice Springs**	**49.72**	**94**	P	**P**	**04 11 09.3**	**-0.1**
	3.9nm,1.1s,baz=243,slow=6.8,SNR=16						
ASAR				LR	LR	04 30 44.8	
	comp=Z,116nm,18.8s,baz=256,slow=34						
KMBO	**Kilima Mbogo**	**49.79**	**302**	P	**P**	**04 11 09.5**	**-0.7**
	0.6nm,0.3s,baz=76,slow=12,SNR=5.2						
KMBO				LR	LR	04 28 07.3	
	comp=Z,55nm,19.2s,baz=90,slow=31						
KMBO	**Kilima Mbogo**	**49.79**	**302**	*e*P	**P**	**04 11 09.6**	**-0.7**
	2.8nm,0.9s						
WRA	**Warramunga Arr**	**51.70**	**90**	P	**P**	**04 11 24.1**	**-0.2**
	6.1nm,0.9s,baz=244,slow=7.3,SNR=25						
WRA				LR	LR	04 31 45.5	
	comp=Z,97nm,19.1s,baz=230,slow=34						
WRAB	**Tennant Creek**	**51.72**	**90**	*e*P	**P**	**04 11 23.8**	**-0.7**
	5.8nm,0.9s						
STKA	**Stephens Creek**	**52.94**	**107**	LR	LR	04 30 55.5	
	comp=Z,165nm,19.7s,baz=208,slow=32						
CMAR	**Chiang Mai Arr**	**55.45**	**25**	P	P	04 11 56.4	+4.7
	1.1nm,0.4s,baz=203,slow=5.8,SNR=4.6						
CMAR				LR	LR	04 31 28.0	
	comp=Z,52nm,21.8s,baz=208,slow=32						
SNAA	**Sanae**	**55.68**	**202**	P	**P**	**04 11 52.9**	**+0.1**
SNAA	**Sanae**	**55.68**	**202**	P	**P**	**04 11 53.1**	**+0.2**
	1.9nm,0.7s,baz=110,slow=7.1,SNR=19						
SNAA	**Sanae**	**55.68**	**202**	*e*P	**P**	**04 11 52.5**	**-0.3**
VNDA	**Vanda**	**56.30**	**165**	P	**P**	**04 11 57.4**	**+0.2**
	4.5nm,0.9s,baz=272,slow=6.3,SNR=30						
VNDA				LR	LR	04 33 47.4	
	comp=Z,171nm,19.6s,baz=271,slow=34						
QSPA	**South Pole Qui**	**56.67**	**180**	*e*P	**P**	**04 12 00.5**	**+0.4**
	38nm,0.9s						
VNA2	**Neumayer--Watz**	**57.21**	**203**	P	**P**	**04 12 04.3**	**+0.6**
	baz=86,slow=6.9						
VNA3	**Neumayer Olymp**	**57.90**	**202**	P	**P**	**04 12 09.0**	**+0.5**
GEYT	**Alibeck**	**73.37**	**344**	LR	LR	04 42 43.9	
	comp=Z,26nm,18.2s,baz=160,slow=33						
KKAR	**Karatay Array**	**76.51**	**355**	*e*P	**P**	**04 14 08.4**	**+1.7**
	1.7nm,0.6s						
KBZ	**Khabaz**	**83.19**	**335**	P	**P**	**04 14 44.9**	**+2.1**
	0.5nm,0.5s,baz=284,slow=4.2,SNR=2.3						
KBZ				LR	LR	04 48 58.0	
	comp=Z,320nm,20.0s,baz=156,slow=34						
BRTR	**Keskin Array B**	**83.52**	**327**	P	**P**	**04 14 48.4**	**+3.5**
	1.1nm,0.8s,baz=167,slow=6.3,SNR=6.3						
BRTR				LR	LR	04 48 26.1	
	comp=Z,14nm,18.1s,baz=138,slow=33						
KURBB	**Kurchatov Arra**	**83.74**	**0**	P	**P**	**04 14 44.3**	**-1.2**
	0.3nm,0.3s,baz=201,slow=4.8,SNR=5.2						
KURK	**Kurchatov**	**83.83**	**1**	P	**P**	**04 14 44.3**	**-1.7**
KSRS	**Korea Array**	**84.61**	**38**	LR	LR	04 48 27.6	
	comp=Z,9.4nm,21.8s,baz=180,slow=33						
SONM	**Songino Array**	**84.91**	**19**	P	**P**	**04 14 51.2**	**-0.6**
	0.8nm,0.8s,baz=200,slow=7.7,SNR=2.9						
SONM				LR	LR	04 50 17.1	
	comp=Z,81nm,22.0s,baz=126,slow=34						
ULN	**Ulaanbaatar**	**85.12**	**19**	*e*P	**P**	**04 14 52.8**	**-0.1**
	1.8nm,0.6s						
AKTO	**Aktyubinsk**	**85.37**	**347**	P	**P**	**04 14 55.1**	**+1.3**
	2.5nm,0.8s,baz=180,slow=4.1,SNR=7.7						
TORD	**Torodi Ar. Bea**	**85.91**	**289**	P	**P**	**04 14 57.0**	**-0.4**
	1.9nm,0.7s,baz=108,slow=3.8,SNR=12						
TORD				LR	LR	04 51 57.2	
	comp=Z,134nm,18.0s,baz=140,slow=35						
BVAR	**Borovoye Array**	**86.39**	**356**	P	**P**	**04 14 58.4**	**-0.5**
	0.7nm,0.7s,baz=166,slow=7.0,SNR=3.6						
BRVK	**Borovoye**	**86.43**	**355**	*e*P	**P**	**04 14 57.8**	**-1.2**
	3.7nm,0.5s						
ZALV	**Zalesovo Beam**	**87.28**	**4**	P	**P**	**04 15 03.4**	**+0.3**
	1.4nm,0.7s,baz=204,slow=3.3,SNR=4.8						
ZALV				LR	LR	04 51 14.0	
	comp=Z,72nm,21.9s,baz=250,slow=34						
DBIC	**Dimbokro**	**87.55**	**280**	LR	LR	04 50 00.2	
	comp=Z,146nm,21.5s,baz=108,slow=33						
MLR	**Muntele Rosu**	**91.56**	**326**	P	**P**	**04 15 24.1**	**+0.5**
	0.7nm,0.8s,baz=151,slow=10,SNR=2.9						
SAML	**Samuel**	**123.83**	**228**	*e*PKPdf	**PKPdf**	**04 21 17.4**	**+1.7**
YKA	**Yellowknife Ar**	**149.91**	**11**	PKPbc	**PKPbc**	**04 22 05.9**	**-0.6**
	1.6nm,0.8s,baz=329,slow=3.4,SNR=7.1						

IDC 17 04:04:53.3±1.9, 18°.45S×167°.60E, h0km, mb3.8/5, mb1 4.0/6, mb1mx3.7/29, mbtmp3.8/6, ML3.0/1, Error ellipse: s-maj=47.9km s-min=26.5km az=118.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**3.76**	**197**	Pn	Pn	04 05 53.6	+0.9
	1.2nm,0.3s,baz=343,slow=11,SNR=18						
DZM				Sn	Sn	04 06 37.5	-0.2
	7.2nm,0.3s,baz=0.9,slow=22,SNR=12						
WRA	**Warramunga Arr**	**31.42**	**262**	P	P	04 11 15.6	-1.0
	0.3nm,0.5s,baz=85,slow=5.8,SNR=7.6						

URZ				SN	Sn	04 11 29.7	-0.6	
URZ				AML	AML	04 11 31.5		
KWHZ	**Kaweka Forest**	**1.10**	**152**	PN	Pn	04 11 11.5	-0.1	
KWHZ				AML	AML	04 11 36.7		
KWHZ				AML	AML	04 11 36.8		
MCHZ	**McNeill Hill**	**1.23**	**143**	PN	Pn	04 11 13.5	+0.7	
MCHZ				AML	AML	04 11 42.2		
MCHZ				AML	AML	04 11 43.2		
ARHZ	**Aropaoanui**	**1.27**	**130**	⇑PN	Pn	04 11 13.5	+0.4	
ARHZ				AML	AML	04 11 35.5		
ARHZ				AML	AML	04 11 40.4		
KRHZ	**Kereru**	**1.28**	**158**	⇑PN	Pn	04 11 13.1	-0.2	
KRHZ				AML	AML	04 11 36.7		
KRHZ				AML	AML	04 11 40.0		
SNGZ	**Shannon Statio**	**1.29**	**105**	⇓PN	Pn	04 11 13.8	+0.4	
SNGZ				AML	AML	04 11 44.9		
SNGZ				AML	AML	04 11 48.0		
WHHZ	**Waihua**	**1.32**	**119**	⇑PN	Pn	04 11 13.9	+0.3	
WHHZ				AML	AML	04 11 36.8		
WHHZ				AML	AML	04 11 39.7		
MWZ	**Matawai**	**1.40**	**86**	PN	Pn	04 11 14.2	-0.4	
MWZ				AML	AML	04 11 42.6		
MWZ				AML	AML	04 11 42.7		
WAZ	**Wanganui**	**1.43**	**204**	⇓PN	Pn	04 11 14.8	0.0	
PNHZ	**Pukenui**	**1.50**	**167**	PN	Pn	04 11 15.0	-0.6	
CKHZ	**Cape Kidnapper**	**1.58**	**140**	⇓PN	Pn	04 11 16.6	+0.2	
CKHZ				AML	AML	04 11 42.2		
RUGZ	**Raukumara Rang**	**1.60**	**73**	PN	Pn	04 11 15.9	-0.8	
KAHZ	**Kahuranaki**	**1.60**	**147**	PN	Pn	04 11 16.6	-0.1	
KAHZ				AML	AML	04 11 41.8		
KAHZ				AML	AML	04 11 41.9		
RIGZ	**Rimuhau**	**1.60**	**100**	PN	Pn	04 11 16.7	0.0	
RIGZ				AML	AML	04 11 49.5		
RIGZ				AML	AML	04 11 52.2		
KNZ	**Kokohu**	**1.61**	**111**	⇓PN	Pn	04 11 16.6	-0.2	
TSZ	**Takapari Road**	**1.61**	**174**	⇑PN	Pn	04 11 16.2	-0.6	
TSZ				AML	AML	04 11 45.1		
TSZ				AML	AML	04 11 46.3		
WPHZ	**Waipukurau**	**1.69**	**162**	⇑PN	Pn	04 11 17.1	-0.6	
PRGZ	**Paritu Road**	**1.73**	**106**	PN	Pn	04 11 17.9	-0.3	
HAZ	**Te Kaha**	**1.75**	**67**	PN	Pn	04 11 18.8	+0.5	
OHWZ	**Ohakea**	**1.78**	**191**	PN	Pn	04 11 18.5	-0.2	
PXZ	**Pawanui**	**1.79**	**152**	⇑PN	Pn	04 11 18.2	-0.6	
PXZ				AML	AML	04 11 47.8		
MHGZ	**Mahia Peninsul**	**1.82**	**113**	PN	Pn	04 11 19.1	-0.1	
DVHZ	**Dannevirke**	**1.87**	**170**	PN	Pn	04 11 18.6	-1.1	
DVHZ				AML	AML	04 11 44.3		
DVHZ				AML	AML	04 11 44.8		
PKGZ	**Pakihiroa**	**1.92**	**74**	PN	Pn	04 11 20.4	0.0	
POWZ	**Post Office Ro**	**1.93**	**180**	PN	Pn	04 11 19.3	-1.2	
POWZ				AML	AML	04 11 54.6		
PRHZ	**Porangahau**	**1.93**	**159**	⇑PN	Pn	04 11 19.7	-0.8	
PRHZ				AML	AML	04 11 47.3		
PRHZ				AML	AML	04 11 47.8		
ANWZ	**Angora Road**	**2.08**	**165**	⇑PN	Pn	04 11 21.3	-0.9	
ANWZ				AML	AML	04 11 49.9		
ANWZ				AML	AML	04 11 53.4		
PRWZ	**Pori Road**	**2.10**	**175**	PN	Pn	04 11 21.4	-1.1	
PRWZ				AML	AML	04 11 53.1		
PRWZ				AML	AML	04 11 54.0		
WMGZ	**Waiomatatini S**	**2.20**	**74**	PN	Pn	04 11 22.9	-0.7	
WMGZ				AML	AML	04 11 51.4		
MRZ	**Mangatainoka R**	**2.21**	**183**	⇑PN	Pn	04 11 22.1	-1.6	
MRZ				AML	AML	04 11 50.4		
MRZ				AML	AML	04 11 51.1		
BFZ	**Birch Farm**	**2.26**	**170**	⇑PN	Pn	04 11 22.8	-1.5	
TWZ	**Tintock**	**2.32**	**177**	⇓PN	Pn	04 11 23.5	-1.6	
TIWZ				AML	AML	04 11 53.3		
TIWZ				AML	AML	04 11 55.9		
OGWZ	**Otaki Gorge**	**2.40**	**191**	PN	Pn	04 11 24.5	-1.6	
OGWZ				AML	AML	04 11 56.4		
OGWZ				AML	AML	04 11 58.2		
HOWZ	**Holdsworth Sta**	**2.44**	**184**	⇑PN	Pn	04 11 24.6	-2.1	
KIW	**Kapiti Island**	**2.49**	**195**	PN	Pn	04 11 25.1	-2.1	
TMWZ	**Te Maipa**	**2.65**	**178**	PN	Pn	04 11 27.1	-2.1	
CAW	**Cannon Point**	**2.70**	**191**	PN	Pn	04 11 27.6	-2.3	
MTW	**Mount Morrison**	**2.71**	**184**	PN	Pn	04 11 27.4	-2.5	
DUWZ	**D'Urville Isla**	**2.73**	**210**	PN	Pn	04 11 28.1	-2.2	
PAWZ	**Paruwai Farm**	**2.93**	**185**	PN	Pn	04 11 30.0	-2.8	
TRWZ	**Traveller**	**2.94**	**181**	PN	Pn	04 11 30.5	-2.4	
TRWZ				AML	AML	04 12 06.6		
TCW	**Tory Channel**	**2.98**	**202**	PN	Pn	04 11 31.0	-2.3	
MSWZ	**Moikau Station**	**2.98**	**187**	PN	Pn	04 11 30.6	-2.8	
MSWZ				AML	AML	04 12 07.0		
PLWZ	**Palliser**	**3.13**	**187**	PN	Pn	04 11 32.3	-3.1	
TUWZ	**Tuamarina**	**3.28**	**204**	PN	Pn	04 11 34.6	-2.6	
NNZ	**Nelson**	**3.31**	**213**	PN	Pn	04 11 34.8	-2.7	
THZ	**Tophouse**	**3.96**	**213**	PN	Pn	04 11 44.1	-2.1	
KHZ	**Kahutara**	**4.30**	**202**	PN	Pn	04 11 47.2	-3.4	

*ISCJB **17** 04:18:34.2±0.6,34°.90N±0°.03×33°.24E±0°.04,h54km±6km, Error ellipse: s-maj=6.3km s-min=4.3km az=148.0*
*DDA **17** 04:18:35.0,35°.15N×33°.38E,h14km,Md2.9*
*NIC **17** 04:18:34.8±0.2,35°.00N×33°.18E,h51km,ML3.0*
*CSEM **17** 04:18:35.0±0.2,34°.92N×33°.19E,h44km±3km, ML3.0, Error ellipse: s-maj=5.3km s-min=4.0km az=56.0*
*NSSC **17** 04:18:35.3±1.0,34°.94N×33°.37E,h19km±63km,ML1.6*
*ISK **17** 04:18:37.7,35°.29N×33°.06E,h22km, MD3.0*

ISC 17 04:18:34.7±1.3,34°.93N±0°.03×33°.19E±0°.03,h52km±6km, n59,σ1°43/91,Cyprus region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CSS	**Mathiatis**	**0.12**	**73**	P	**Pn**	**04 18 42.8**	**-0.1**
CSS				S	**Sn**	**04 18 49.2**	**+0.4**
CSS	**Mathiatis**	**0.12**	**73**	P	**Pn**	**04 18 42.8**	**-0.1**
	baz=286						
CSS				S	**Sn**	**04 18 49.2**	**+0.4**
MAMC	**Mammari**	**0.25**	**6**	P	**Pn**	**04 18 43.6**	**-0.1**
MAMC	**Mammari**	**0.25**	**6**	P	**Pn**	**04 18 43.6**	**-0.1**
	baz=190						
SZAC	**Souni**	**0.30**	**236**	P	**Pn**	**04 18 44.4**	**+0.2**
SZAC				S	**Sn**	**04 18 52.4**	**+1.5**
SZAC	**Souni**	**0.30**	**236**	P	**Pn**	**04 18 44.4**	**+0.2**
	baz=45						
SZAC				S	**Sn**	**04 18 52.4**	**+1.5**
LEF	**Lefka**	**0.31**	**308**	*e*PG	**Pn**	**04 18 43.7**	**-0.5**
LEF				*e*SG	**Sn**	**04 18 49.4**	**-1.5**
LEF	**Lefka**	**0.31**	**308**	P	**Pn**	**04 18 43.7**	**-0.5**
LEF				*e*Sg	**Sn**	**04 18 49.4**	**-1.5**
LEF				S	**Sn**	**04 18 50.7**	**-0.2**
LFK	**Lefkose**	**0.45**	**39**	*e*PG	**Pn**	**04 18 45.9**	**+0.3**
LFK				*e*SG	**Sn**	**04 18 53.0**	**-0.5**
LFK	**Lefkose**	**0.45**	**39**	*e*Pg	**Pn**	**04 18 45.9**	**+0.3**
LFK				*e*Sg	**Sn**	**04 18 53.0**	**-0.5**
ALFC	**Alefka**	**0.54**	**296**	P	**Pn**	**04 18 46.1**	**-0.5**
ALFC				S	**Sn**	**04 18 54.7**	**-0.4**
ALFC	**Alefka**	**0.54**	**296**	P	**Pn**	**04 18 46.1**	**-0.5**
	baz=108						
ALFC				S	**Sn**	**04 18 54.7**	**-0.4**
PPCY	**Paphos**	**0.69**	**267**	P	**Pn**	**04 18 48.5**	**0.0**
PPCY	**Paphos**	**0.69**	**267**	P	**Pn**	**04 18 48.5**	**0.0**
	baz=80						
AKMC	**Akamas**	**0.71**	**278**	P	**Pn**	**04 18 48.8**	**+0.1**
AKMC	**Akamas**	**0.71**	**278**	P	**Pn**	**04 18 48.8**	**+0.1**
	baz=92						
TEKE	**Tekeli-Mersin**	**1.22**	**357**	*e*PG	**Pn**	**04 18 54.8**	**-0.6**
TEKE				*e*SG	**Sn**	**04 19 07.6**	**-3.2**
TEKE	**Tekeli-Mersin**	**1.22**	**357**	*e*Pg	**Pn**	**04 18 54.8**	**-0.6**
TEKE				*e*Sg	**Sn**	**04 19 07.6**	**-3.2**
AKKU	**Akkuyu-Mersin**	**1.27**	**13**	*e*PG	**Pn**	**04 18 55.9**	**-0.2**
AKKU				*e*SG	**Sn**	**04 19 10.0**	**-2.0**
AKKU	**Akkuyu-Mersin**	**1.27**	**13**	*e*Pg	**Pn**	**04 18 55.9**	**-0.2**
AKKU				*e*Sg	**Sn**	**04 19 10.0**	**-2.0**
YESI	**Yesilovacik-Me**	**1.32**	**16**	*e*PG	**Pn**	**04 18 57.3**	**+0.5**
YESI	**Yesilovacik-Me**	**1.32**	**16**	*e*Pg	**Pn**	**04 18 57.3**	**+0.5**
IKL	**Isikli**	**1.37**	**17**	*e*PG	**Pn**	**04 18 57.4**	**-0.1**
IKL	**Isikli**	**1.37**	**17**	*e*Pg	**Pn**	**04 18 57.4**	**-0.1**
BERE	**Bereket-Mersin**	**1.42**	**1**	*e*PG	**Pn**	**04 18 58.1**	**-0.1**
BERE	**Bereket-Mersin**	**1.42**	**1**	*e*Pg	**Pn**	**04 18 58.2**	**-0.1**
TEVE	**Tevekalti-Mers**	**1.52**	**8**	*e*PN	**Pn**	**04 18 59.4**	**-0.2**
TEVE	**Tevekalti-Mers**	**1.52**	**8**	*e*Pn	**Pn**	**04 18 59.4**	**-0.2**
KEBE	**Keben-Mersin**	**1.58**	**16**	*e*PN	**Pn**	**04 19 00.9**	**+0.5**
KEBE	**Keben-Mersin**	**1.58**	**16**	*e*Pn	**Pn**	**04 19 00.9**	**+0.5**
ERMK	**Ermenek**	**1.73**	**353**	*i* P	**Pn**	**04 19 03.6**	**+1.0**
ERMK				*i* S	**Sn**	**04 19 24.1**	**+0.5**
ERMK	**Ermenek**	**1.73**	**353**	P	**Pn**	**04 19 03.6**	**+1.0**
ERMK				S	**Sn**	**04 19 24.1**	**+0.5**

KIZK	**Mersin**	**1.73**	**26**	*e*PN	**Pn**	**04 19 03.0**	**+0.6**	
KIZK	**Mersin**	**1.73**	**26**	*i* P	**Pn**	**04 19 02.7**	**+0.2**	
KIZK				*i* S	**Sn**	**04 19 23.6**	**+0.2**	
KIZK	**Mersin**	**1.73**	**26**	P	**Pn**	**04 19 02.7**	**+0.2**	
KIZK				S	**Sn**	**04 19 23.6**	**+0.2**	
HDMB	**Hadim**	**2.11**	**345**	*e*PN	**Pn**	**04 19 07.4**	**-0.5**	
HDMB	**Hadim**	**2.11**	**345**	*e*Pn	**Pn**	**04 19 07.4**	**-0.5**	
MERS	**Mersin**	**2.22**	**29**	*e*PN	**Pn**	**04 19 10.4**	**+1.2**	
MERS	**Mersin**	**2.22**	**29**	*e*Pn	**Pn**	**04 19 10.4**	**+1.2**	
ARNB	**Al Arnab**	**2.46**	**67**	*e*P	**Pn**	**04 19 13.2**	**+0.8**	
ARNB				*e*S	**Sn**	**04 19 39.3**	**-2.0**	
ARNB				AML	AML	04 19 40.6		
	comp=E,10.0nm,0.8s							
ARNB				AML	AML	04 19 42.4		
	comp=Z,4.7nm,0.7s							
ARNB				AML	AML	04 19 44.3		
	comp=N,11nm,0.2s							
ARNB	**Al Arnab**	**2.46**	**67**	*e*P	**Pn**	**04 19 13.2**	**+0.8**	
	SNR=57							
ARNB				*e*S	**Sn**	**04 19 39.3**	**-2.0**	
	comp=N,11nm,0.2s,SNR=58							
KERG	**Konya-Eregli**	**2.60**	**17**	*i* P	**Pn**	**04 19 15.9**	**+1.5**	
KERG				*i* S	**Sn**	**04 19 46.9**	**+2.0**	
KERG	**Konya-Eregli**	**2.60**	**17**	P	**Pn**	**04 19 15.9**	**+1.5**	
KERG				S	**Sn**	**04 19 46.8**	**+2.0**	
YAYL	**Yayladag**	**2.63**	**64**	*e*PN	Pn	04 19 19.7	+5.0	
YAYL	**Yayladag**	**2.63**	**64**	*i* P	**Pn**	**04 19 13.2**	**-1.6**	
YAYL				*i* S	**Sn**	**04 19 40.1**	**-5.4**	
YAYL	**Yayladag**	**2.63**	**64**	P	**Pn**	**04 19 13.2**	**-1.6**	
YAYL	**Yayladag**	**2.63**	**64**	*e*Pn	Pn	04 19 19.7	+4.9	
GULE	**Gulek**	**2.68**	**28**	*i* P	**Pn**	**04 19 16.6**	**+1.0**	
GULE				*i* S	**Sn**	**04 19 48.9**	**+2.0**	
GULE	**Gulek**	**2.68**	**28**	P	**Pn**	**04 19 16.6**	**+1.0**	
GULE				S	**Sn**	**04 19 48.9**	**+2.0**	
BRBR	**Barbar**	**2.74**	**123**	*e*P	**Pn**	**04 19 16.4**	**-0.1**	
BRBR				*e*S	**Sn**	**04 19 47.0**	**-1.5**	
BRBR				AML	AML	04 19 49.1		
	comp=E,7.8nm,0.5s							
BRBR				AML	AML	04 19 51.7		
	comp=N,9.2nm,0.3s							
BRBR				AML	AML	04 19 52.9		
	comp=Z,3.4nm,0.2s							
BRBR	**Barbar**	**2.74**	**123**	*e*P	**Pn**	**04 19 16.4**	**-0.1**	
	SNR=57							
BRBR				*e*S	**Sn**	**04 19 47.0**	**-1.5**	
	comp=Z,3.4nm,0.2s,SNR=58							
TAHT	**Tahtakopru-Hat**	**2.84**	**58**	*e*PN	**Pn**	**04 19 22.0**	**+4.5**	
TAHT	**Tahtakopru-Hat**	**2.84**	**58**	*e*Pn	**Pn**	**04 19 22.0**	**+4.5**	
MARH	**Ras Al Marh**	**2.86**	**107**	*e*P	**Pn**	**04 19 18.9**	**+0.7**	
MARH				*e*S	**Sn**	**04 19 50.1**	**-1.5**	
MARH				AML	AML	04 19 54.1		
	comp=N,4.6nm,0.2s							
MARH				AML	AML	04 19 54.5		
	comp=Z,6.9nm,0.2s							
MARH				AML	AML	04 19 59.7		
	comp=E,6.1nm,0.5s							
MARH	**Ras Al Marh**	**2.86**	**107**	*e*P	**Pn**	**04 19 18.9**	**+0.7**	
	SNR=57							
MARH				*e*S	**Sn**	**04 19 50.1**	**-1.5**	
	comp=E,6.1nm,0.5s,SNR=58							
TOTH	**TOTAH**	**3.11**	**119**	*e*P	**Pn**	**04 19 22.4**	**+1.1**	
TOTH				*e*S	**Sn**	**04 19 56.1**	**-1.1**	
TOTH				AML	AML	04 19 58.2		
	comp=E,7.1nm,0.3s							
TOTH				AML	AML	04 19 59.2		
	comp=N,14nm,0.3s							
TOTH				AML	AML	04 19 59.3		
	comp=Z,13nm,0.2s							
TOTH	**TOTAH**	**3.11**	**119**	*e*P	**Pn**	**04 19 22.4**	**+1.1**	
	SNR=57							
TOTH				*e*S	**Sn**	**04 19 56.1**	**-1.1**	
	comp=Z,13nm,0.2s,SNR=58							
SALA	**Sala**	**3.69**	**126**	*e*P	**Pn**	**04 19 30.9**	**+1.5**	
SALA				*e*S	**Sn**	**04 20 10.4**	**-1.3**	
SALA				AML	AML	04 20 14.4		
	comp=Z,3.7nm,0.6s							
SALA				AML	AML	04 20 16.4		
	comp=N,4.2nm,0.3s							
SALA				AML	AML	04 20 19.2		
	comp=E,0.4nm,0.7s							
SALA	**Sala**	**3.69**	**126**	*e*P	**Pn**	**04 19 30.9**	**+1.5**	
	SNR=57							
SALA				*e*S	**Sn**	**04 20 10.4**	**-1.3**	
	comp=E,0.4nm,0.7s,SNR=58							

*ISCJB **17** 04:19:25.6±1.6,25°.99N±0°.04×128°.69E±0°.04, h31km±14km,mb3.7/6,MS3.4/2,Error ellipse: s-maj=7.4km s-min=4.8km az=43.2*
*JMA **17** 04:19:25.7±0.3,25°.97N×128°.71E,h40km,M3.4*
*IDC **17** 04:19:28.6±1.1,26°.04N×128°.70E, h34km±7km, mb3.5/6, mb1 3.7/7,mb1mx3.4/46,mbtmp3.8/7,ML3.7/1,MS3.1/3, Ms1 3.1/3,ms1mx2.6/27,Error ellipse: s-maj=68.0km s-min=14.0km az=73.0*

ISC 17 04:19:26.4±0.7,25°.97N±0°.04×128°.71E±0°.04,h25km±4km, n27,σ1°47/39,mb3.9/7,Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JNTH	**Nagotoyohara**	**0.82**	**312**	P	**Pb**	**04 19 40.6**	**-1.4**
JJT2	**Tamagusuku 2**	**0.88**	**281**	P	**Pb**	**04 19 42.0**	**-1.0**
JJT2				*e*S	**Sb**	**04 19 54.0**	**-0.4**
JOW	**Kunigami**	**0.94**	**336**	Pn	**Pb**	**04 19 43.0**	**-1.1**
	123nm,0.3s,baz=134,slow=22,SNR=258						
JOW				Sn	**Sb**	**04 19 53.8**	**-2.3**
	134nm,0.3s,baz=343,slow=19,SNR=36						
JOW	**Kunigami**	**0.94**	**336**	P	**Pb**	**04 19 42.9**	**-1.1**
JOW				*e*S	**Sb**	**04 19 55.3**	**-0.8**
JIH	**Iheya**	**1.25**	**328**	P	**Pn**	**04 19 47.6**	**-0.7**
JIH				*e*S	**Sn**	**04 20 02.8**	**-1.5**
JOKE	**Okinoerabujima**	**1.39**	**355**	P	**Pn**	**04 19 48.8**	**-0.4**
JOKE				*e*S	**Sn**	**04 20 06.5**	**-1.3**
JAGN	**Aguni-jima**	**1.45**	**295**	P	**Pn**	**04 19 50.4**	**-0.6**
JKE	**Kume jima 2**	**1.76**	**282**	P	**Pn**	**04 19 53.9**	**-1.4**
JKE				S	**Sn**	**04 20 14.2**	**-2.7**
JTK	**Tokunoshima**	**1.82**	**7**	P	**Pn**	**04 19 55.5**	**-0.6**
JTK				*e*S	**Sn**	**04 20 16.6**	**-1.8**
JMZ	**Minamidaito 2**	**2.27**	**93**	P	**Pn**	**04 20 00.6**	**-1.7**
JMZ				S	**Sn**	**04 20 25.3**	**-4.2**
JAMN	**Amaminishikomi**	**2.30**	**10**	P	**Pn**	**04 20 02.6**	**-0.1**
JAM	**Amami Oshima**	**2.56**	**18**	P	**Pn**	**04 20 05.3**	**-1.0**
JAM				S	**Sn**	**04 20 35.2**	**-1.4**
JZK	**Kikaishima**	**2.59**	**26**	P	**Pn**	**04 20 06.7**	**0.0**
JZK				*e*S	**Sn**	**04 20 37.2**	**-0.3**
JTAJ	**Takarajima**	**3.20**	**8**	P	**Pn**	**04 20 15.0**	**-0.1**
JTAJ				*e*S	**Sn**	**04 20 50.3**	**-2.1**
JIKM	**Ikemajima**	**3.30**	**252**	P	**Pn**	**04 20 16.7**	**+0.3**
JIKM				S	**Sn**	**04 20 53.1**	**-1.7**
JTJ	**Tarama**	**3.86**	**251**	P	**Pn**	**04 20 23.5**	**-0.6**
JIJ	**Ishigaki jima**	**4.43**	**250**	P	**Pn**	**04 20 31.8**	**-0.3**
JNU	**Nakatsue**	**7.37**	**14**	Pn	**Pn**	**04 21 14.2**	**+1.7**
	1.1nm,0.3s,baz=263,slow=6.1,SNR=3.7						
KSRS	**Korea Array**	**11.47**	**357**	LR	LR	04 26 50.6	
	comp=Z,33nm,20.8s,baz=161,slow=39						
SONM	**Songino Array**	**28.00**	**327**	P	**P**	**04 25 17.7**	**+2.4**
	1.0nm,0.4s,baz=142,slow=10.0,SNR=7.1						
ZALV	**Zalesovo Beam**	**42.71**	**323**	P	**P**	**04 27 22.0**	**+0.8**
	0.4nm,0.3s,baz=108,slow=7.7,SNR=2.3						
FITZ	**Fitzroy Crossi**	**43.91**	**184**	pP	pP	04 27 42.9	+4.2
	1.3nm,0.7s,baz=23,slow=8.4,SNR=3.5						
WRA	**Warramunga Arr**	**45.97**	**173**	P	**P**	**04 27 48.7**	**+1.2**
	0.5nm,0.6s,baz=355,slow=8.6,SNR=5.5						
WRA				pP	**sP**	**04 27 59.0**	**+0.8**
	2.5nm,0.8s,baz=350,slow=8.5,SNR=15						
ASAR	**Alice Springs**	**49.60**	**174**	P	**P**	**04 28 16.4**	**+0.7**
	0.3nm,0.5s,baz=6.5,slow=13,SNR=4.8						
ASAR				pP	**sP**	**04 28 27.7**	**+1.3**
	0.9nm,0.8s,baz=358,slow=7.1,SNR=7.9						
ARCES	**ARCESS Array B**	**70.40**	**339**	LR	LR	05 06 35.3	
	comp=Z,18nm,18.4s,baz=214,slow=40						
FINES	**FINESS Array B**	**73.30**	**331**	P	**P**	**04 30 55.3**	**-0.1**
	1.4nm,0.9s,baz=74,slow=10,SNR=4.5						
FINES				pP	**sP**	**04 31 06.7**	**+0.3**
	2.0nm,0.9s,baz=67,slow=4.7,SNR=2.5						
FINES				LR	LR	05 04 40.8	
	comp=Z,27nm,20.8s,baz=143,slow=37						
BRTR	**Keskin Array B**	**77.53**	**308**	P	**P**	**04 31 21.4**	**+1.1**
	0.5nm,0.7s,baz=109,slow=6.7,SNR=3.9						

IDC 17 04:26:09.4±2.2,5°.50S×147°.32E,h188km±22km,mb3.6/6, mb1 3.7/9,mb1mx3.4/34,mbtmp4.1/9,Error ellipse: s-maj=31.7km s-min=17.8km az=117.0,Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**3.88**	**182**	P	Pn	04 27 11.3	+1.9
	7.3nm,0.3s,baz=353,slow=13,SNR=16						
PMG				S	Sn	04 27 55.4	-1.0
	14nm,0.3s,baz=48,slow=23,SNR=12						
CTA	**Charters Tower**	**14.54**	**184**	P	P	04 29 28.4	+0.3
	0.2nm,0.3s,baz=18,slow=13,SNR=2.5						
WRA	**Warramunga Arr**	**19.12**	**220**	P	P	04 30 18.7	+0.4
	0.9nm,0.3s,baz=48,slow=12,SNR=36						
WRA				PcP	PcP	04 34 34.1	-0.2
	0.1nm,0.3s,baz=29,slow=1.8,SNR=4.9						
ASAR	**Alice Springs**	**22.21**	**214**	P	P	04 30 51.4	+0.6
	1.5nm,0.5s,baz=49,slow=8.6,SNR=28						
FITZ	**Fitzroy Crossi**	**24.60**	**238**	P	P	04 31 12.2	-0.3
	2.5nm,0.3s,baz=53,slow=11,SNR=27						
PETK	**Petropavlovsk-**	**59.04**	**7**	P	P	04 35 51.0	+1.6
	2.8nm,0.7s,baz=194,slow=5.5,SNR=4.5						
VNDA	**Vanda**	**72.39**	**177**	P	P	04 37 14.7	+0.2
	0.4nm,0.6s,baz=348,slow=5.4,SNR=5.8						
ZALV	**Zalesovo Beam**	**78.76**	**328**	P	P	04 37 50.4	-0.6
	0.6nm,0.4s,baz=105,slow=9.1,SNR=3.2						
ILAR	**Eielson Array**	**84.90**	**23**	P	P	04 38 21.8	-1.0
	1.4nm,0.7s,baz=247,slow=4.9,SNR=21						
TORD	**Torodi Ar. Bea**	**145.27**	**285**	PKPbc	PKPdf	04 45 24.8	-0.9
	1.3nm,0.5s,baz=64,slow=3.7,SNR=30						

*CSEM **17** 04:38:18.9,39°.63N×29°.61W,h10km,ML3.0*

PDA 17 04:38:18.9±0.8,39°.63N×29°.61W,h10km,MD3.5,ML3.0, 2C,Error ellipse: s-maj=8.8km s-min=5.5km az=69.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PCED	**Cedros**	**1.23**	**145**	*e*S	Sb	04 38 51.1	-6.9
PCED				A	A	04 38 52.3	
	105nm,0.2s						
PCED	**Cedros**	**1.23**	**145**	*e*S	Sb	04 38 51.1	-6.9
HOR	**Horta**	**1.34**	**145**	*e*P	Pn	04 38 38.8	-4.9
HOR				*e*S	Sb	04 38 53.9	-7.4
HOR				A	A	04 38 55.3	
	378nm,0.2s						
HOR	**Horta**	**1.34**	**145**	*e*P	Pn	04 38 38.8	-4.9
HOR				*e*S	Sb	04 38 53.9	-7.4
PGRA	**Graciosa**	**1.40**	**115**	*e*P	Pn	04 38 39.5	-5.0
PGRA				*e*S	Sn	04 38 55.3	-7.7
PGRA				A	A	04 39 01.2	
	54nm,0.3s						
PGRA	**Graciosa**	**1.40**	**115**	*e*P	Pn	04 38 39.5	-5.0
PGRA				*e*S	Sn	04 38 55.3	-7.7
ROSA	**Rosais**	**1.40**	**130**	*e*S	Sn	04 38 55.5	-7.5
ROSA				A	A	04 39 02.1	
	49nm,0.3s						
ROSA	**Rosais**	**1.40**	**130**	*e*S	Sn	04 38 55.5	-7.5
PCAN	**Candelaria**	**1.46**	**143**	⇑*i*P	Pn	04 38 40.6	-4.7
PCAN				*e*S	Sn	04 38 56.9	-7.6
PCAN				A	A	04 38 59.6	
	348nm,0.1s						
PCAN	**Candelaria**	**1.46**	**143**	⇑*i*P	Pn	04 38 40.6	-4.7
PCAN				*e*S	Sn	04 38 56.9	-7.6
PICO	**Pico**	**1.46**	**140**	*e*P	Pn	04 38 40.6	-4.7
PICO				*e*S	Sn	04 38 57.2	-7.3
PICO				A	A	04 39 00.9	
	363nm,0.2s						
PICO	**Pico**	**1.46**	**140**	*e*P	Pn	04 38 40.6	-4.7
PICO				*e*S	Sn	04 38 57.2	-7.3
PMAN	**Manadas**	**1.55**	**130**	*e*P	Pn	04 38 42.4	-4.1
PMAN				*e*S	Sn	04 38 59.2	-7.4
PMAN				A	A	04 39 01.0	
	26nm,0.1s						
PMAN	**Manadas**	**1.55**	**130**	*e*P	Pn	04 38 42.4	-4.1
PMAN				*e*S	Sn	04 38 59.2	-7.4

*SOME **17** 04:42:53.3,40°.80N×72°.32E,h0km*
*NNC **17** 04:42:55.8±7.3,40°.92N×72°.45E,h0km,mb2.9,mpv2.6, Error ellipse: s-maj=46.7km s-min=39.1km az=14.0*
*KRNET **17**

KST eS Sg 04 44 44.5 -1.1

*ISCJB **17** 04:44:35.0±0.6,50˚.23N×0˚.04×19˚.03E±0˚.03,h0km,Error ellipse: s-maj=5.9km s-min=2.7km az=11.7*
*IPEC **17** 04:44:36.2±0.2,50˚.27N×19˚.08E,h0km,ML1.7/3,Error ellipse: s-maj=2.7km s-min=1.1km az=170.0*
*CSEM **17** 04:44:36.0±0.3,50˚.20N×19˚.05E,h2km,ML2.5/6,Error ellipse: s-maj=7.8km s-min=3.6km az=12.0*
*PRU **17** 04:44:36.8,50˚.26N×19˚.03E,h0km*

ISC 17 04:44:36.1±0.8,50˚.16N±0˚.04×19˚.04E±0˚.02,h0km,n25,s0≤43/46,Poland

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OJC	**Ojcow**	**0.49**	**83**	*e*Pg	**Pg**	**04 44 45.2**	**-0.3**
OJC				*e*Sg	**Sg**	**04 44 51.6**	**-0.3**
OJC	**Ojcow**	**0.49**	**83**	*e*Pg	**Pg**	**04 44 45.2**	**-0.3**
OJC				*e*Sg	**Sg**	**04 44 51.6**	**-0.3**
OKC	**Ostrava-Krasne**	**0.66**	**241**	*e*PG	**Pb**	**04 44 50.1**	**-0.3**
OKC				*e*SG	**Sb**	**04 45 00.0**	**-0.1**
	comp=Z,9.3nm,0.3s						
OKC	**Ostrava-Krasne**	**0.66**	**241**	Pg	**Pb**	**04 44 50.1**	**-0.3**
OKC				Sg	**Sb**	**04 45 00.0**	**-0.1**
	9.3nm,0.3s						
MORC	**Moravsky Berou**	**1.04**	**249**	*e*Pg	**Pb**	**04 44 56.8**	**-0.1**
MORC				*e*Sg	**Sb**	**04 45 11.0**	**-0.1**
	11nm,0.3s						
LANS	**Liptovska Anna**	**1.05**	**164**	*e*Pg	**Pb**	**04 44 57.3**	**+0.2**
LANS				*e*Sg	**Sb**	**04 45 12.0**	**+0.7**
LANS	**Liptovska Anna**	**1.05**	**164**	*e*PG	**Pb**	**04 44 57.3**	**+0.2**
LANS				*e*SG	**Sb**	**04 45 12.0**	**+0.7**
NIE	**Niedzica**	**1.10**	**132**	*e*Pg	**Pg**	**04 44 57.4**	**+0.2**
NIE				*e*Sg	**Sb**	**04 45 13.1**	**+0.1**
NIE	**Niedzica**	**1.10**	**132**	*e*PG	**Pg**	**04 44 57.4**	**+0.2**
NIE				*e*SG	**Sb**	**04 45 13.1**	**+0.1**
KRLC	**Kraliky**	**1.45**	**268**	*e*PG	**Pn**	**04 45 03.2**	**-0.4**
KRLC				*e*SG	**Sn**	**04 45 23.3**	**-0.1**
KRLC	**Kraliky**	**1.45**	**268**	Pg	**Pn**	**04 45 03.2**	**-0.4**
KRLC				Sg	**Sn**	**04 45 23.3**	**-0.1**
STHS	**Stebnicka Huta**	**1.61**	**117**	*e*Pg	**Pg**	**04 45 07.0**	**+0.1**
STHS				*e*Sn	**Sg**	**04 45 28.1**	**+0.3**
STHS	**Stebnicka Huta**	**1.61**	**117**	*e*PG	**Pg**	**04 45 07.0**	**+0.1**
STHS				*e*SN	**Sg**	**04 45 28.1**	**+0.3**
STHS				*e*LG	Lg	04 45 33.7	
VYHS	**Vyhne**	**1.67**	**185**	*e*Pg	**Pn**	**04 45 06.7**	**+0.1**
VYHS				*e*Sn	**Sb**	**04 45 29.1**	**-0.2**
VYHS	**Vyhne**	**1.67**	**185**	*e*PG	**Pn**	**04 45 06.7**	**+0.1**
VYHS				*e*SN	**Sb**	**04 45 29.1**	**-0.2**
VYHS				*e*LG	Lg	04 45 31.3	
DPC	**Dobruska-Polom**	**1.75**	**277**	*e*PG	**Pn**	**04 45 08.0**	**+0.3**
DPC				*e*SG	**Sb**	**04 45 31.8**	**+0.1**
	comp=Z,11nm,0.5s						
DPC	**Dobruska-Polom**	**1.75**	**277**	Pg	**Pn**	**04 45 08.0**	**+0.3**
DPC				Sg	**Sb**	**04 45 31.8**	**+0.1**
	11nm,0.5s						
VRAC	**Vranov**	**1.80**	**243**	*e*Pn	**Pb**	**04 45 09.6**	**-0.3**
VRAC				*e*Sg	**Sg**	**04 45 34.3**	**+0.5**
	6.1nm,0.3s						
KSP	**Ksiaz**	**1.88**	**292**	*e*Pg	**Pg**	**04 45 12.8**	**+0.7**
KSP				*e*Sg	**Sg**	**04 45 37.4**	**+0.9**
KSP	**Ksiaz**	**1.88**	**292**	*e*PG	**Pg**	**04 45 12.8**	**+0.7**
KSP				*e*SG	**Sg**	**04 45 37.4**	**+0.9**
KRUC	**Moravsky**	**2.04**	**238**	*e*Pn	**Pb**	**04 45 13.1**	**-0.9**
KRUC				*e*Sn	**Sg**	**04 45 41.5**	**0.0**
	3.1nm,0.3s,baz=54						
PRU	**Pruhonice**	**2.90**	**268**	*e*SG	**Sg**	**04 46 08.7**	**-0.5**
	comp=Z,4.2nm,0.8s						
PRU	**Pruhonice**	**2.90**	**268**	Sg	**Sg**	**04 46 08.7**	**-0.5**
	4.2nm,0.8s						
KHC	**Kasperske Hory**	**3.69**	**256**	*e*SG	**Sg**	**04 46 33.9**	**-0.8**
	comp=Z,2.8nm,0.7s						
KHC	**Kasperske Hory**	**3.69**	**256**	Sg	**Sg**	**04 46 33.9**	**-0.8**
	2.8nm,0.7s						

*IDC **17** 05:03:31.9±1.9,17˚.75S×178˚.60W,h546km±22km,mb4.0/8,mb1 4.2/10,mb1mx3.6/31,mbtmp4.8/10,Error ellipse: s-maj=36.8km s-min=12.2km az=151.0*
*NEIC **17** 05:03:34.6±0.5,17˚.72S×178˚.77W,h577km±6km,mb4.4/119,Error ellipse: s-maj=8.6km s-min=3.8km az=146.0*

ISC 17 05:03:32.0±0.5,17˚.8S±0˚.1×178˚.58W±0˚.09,h550km,n191,s0≤90/194,mb4.4/131,5C-2D,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MSVF	**Nonsavu**	**3.21**	**271**	*e*P	**P**	**05 04 52.6**	**+4.1**
AFI	**Afiamalu**	**7.62**	**60**	P	**P**	**05 05 25.3**	**-0.9**
	17nm,0.3s,baz=92,slow=2.9,SNR=17						
DZM	**Mont Dzumac**	**14.70**	**251**	P	**P**	**05 06 38.3**	**-0.2**
	1.5nm,0.3s,baz=98,slow=16,SNR=19						
DZM	**Mont Dzumac**	**14.70**	**251**	*e*P	**P**	**05 06 37.2**	**-1.4**
LHI	**Lord Howe Isla**	**24.40**	**232**	*e*PcP	**PcP**	**05 11 31.4**	**+3.8**
EIDS	**Eidsvold**	**29.14**	**250**	*e*P	**P**	**05 08 48.9**	**-0.2**
	14nm,0.7s						
MLZ	**Mavora Lakes**	**29.62**	**199**	*e*P	**P**	**05 08 53.5**	**+0.4**
	119nm,1.8s						
ARMA	**Armidale**	**29.84**	**240**	*e*P	**P**	**05 08 56.1**	**+0.9**
	14nm,0.7s						
CTAO	**Charters Tower**	**33.30**	**260**	*e*P	**P**	**05 09 24.7**	**-0.1**
	12nm,0.8s						
CAN	**Canberra**	**33.62**	**232**	*e*P	**P**	**05 09 27.9**	**+0.5**
	13nm,0.7s						
COEN	**Coen**	**36.94**	**270**	*e*P	**P**	**05 09 56.0**	**+0.8**
	19nm,0.8s						
STKA	**Stephens Creek**	**38.52**	**241**	P	**P**	**05 10 08.5**	**+0.7**
	16nm,0.5s,baz=92,slow=11,SNR=34						
STKA	**Stephens Creek**	**38.52**	**241**	*e*P	**P**	**05 10 08.6**	**+0.7**
	3.8nm,0.6s						
JAY	**Jayapura**	**42.72**	**286**	P	**P**	**05 10 42.4**	**+0.9**
	1.0nm,0.4s,baz=88,slow=23,SNR=9.2						
BBOO	**Buckleboo**	**43.30**	**241**	*e*P	**P**	**05 10 45.8**	**+0.1**
	50nm,0.9s						
MLH	**Mauna Loa**	**43.52**	**33**	*e*P	**P**	**05 10 49.0**	**+1.1**
	362nm,1.7s						
KEKH	**Kekaha**	**43.66**	**26**	*e*P	**P**	**05 10 49.0**	**+0.4**
	146nm,1.2s						
WB2	**Warramunga Arr**	**44.47**	**259**	*e*P	**P**	**05 10 54.0**	**-1.0**
WRAB	**Tennant Creek**	**44.47**	**259**	*e*P	**P**	**05 10 54.1**	**-1.0**
	9.2nm,0.6s						
WRA	**Warramunga Arr**	**44.48**	**259**	P	**P**	**05 10 54.0**	**-1.1**
	9.4nm,0.7s,baz=92,slow=6.8,SNR=165						
AS01	**Alice Springs**	**44.61**	**254**	*e*P	**P**	**05 10 55.7**	**-0.4**
AS31	**Alice Springs**	**44.65**	**254**	*e*P	**P**	**05 10 56.2**	**-0.2**
	23nm,0.6s						
ASAR	**Alice Springs**	**44.65**	**254**	P	**P**	**05 10 56.2**	**-0.2**
	77nm,0.6s,baz=88,slow=8.3,SNR=1457						
ASAR				S	**S**	**05 16 49.5**	**-3.6**
	0.8nm,1.0s,baz=91,slow=15,SNR=5.0						
MTN	**Manton Dam**	**48.63**	**268**	*e*P	**P**	**05 11 26.0**	**-0.5**
	9.4nm,0.8s						
FORT	**Forrest**	**49.89**	**245**	*e*P	**P**	**05 11 35.0**	**-0.5**
	191nm,0.6s						
FITZ	**Fitzroy Crossi**	**52.88**	**261**	P	**P**	**05 11 57.3**	**0.0**
	baz=157,slow=14						
SOEI	**Soe**	**55.90**	**270**	*e*P	**P**	**05 12 19.8**	**+1.1**
	20nm,0.7s						
MBWA	**Marble Bar**	**57.93**	**256**	*e*P	**P**	**05 12 31.4**	**-1.0**
	6.2nm,0.8s						
NWAO	**Narrogin (SRO)**	**59.10**	**242**	*e*P	**P**	**05 12 40.2**	**+0.1**
	86nm,1.8s						
ATKA	**Atka Island**	**69.83**	**3**	*e*P	**P**	**05 13 46.6**	**-0.7**
	100nm,1.4s						
SMY	**Shemya**	**70.54**	**355**	*e*P	**P**	**05 13 51.1**	**-0.4**
	317nm,1.7s						
UNV	**Unalaska Valle**	**72.13**	**7**	*e*P	**P**	**05 13 59.7**	**-1.1**
	44nm,1.3s						
PEA0	**Petropavlovsk-**	**73.56**	**345**	*e*P	**P**	**05 14 09.5**	**+0.5**
PEA0B	**Petropavlovsk-**	**73.56**	**345**	*e*P	**P**	**05 14 09.3**	**+0.2**
	26nm,1.3s						
PETK	**Petropavlovsk-**	**73.56**	**345**	P	**P**	**05 14 09.0**	**0.0**
	4.6nm,0.6s,baz=129,slow=7.5,SNR=10						
KMRM	**Mail Ridge**	**77.06**	**40**	*e*P	**P**	**05 14 30.3**	**+1.3**
	18nm,0.8s						
MWC	**Mount Wilson**	**77.41**	**48**	*e*P	**P**	**05 14 31.4**	**+0.3**
	7.4nm,0.6s						
KHMM	**Horse Mountain**	**77.44**	**39**	*e*P	**P**	**05 14 31.8**	**+0.7**
	21nm,1.3s						
HWB	**Hans Werner Br**	**77.57**	**49**	*e*P	**P**	**05 14 32.9**	**+1.1**
OHAK	**Old Harbor**	**77.69**	**14**	*e*P	**P**	**05 14 31.5**	**-0.3**
	105nm,1.7s						
KRMB	**Red Mountain**	**77.72**	**39**	*e*P	**P**	**05 14 33.6**	**+1.1**
	60nm,1.7s						
CMB	**Columbia Colle**	**77.89**	**43**	*e*P	**P**	**05 14 34.2**	**+0.7**
	5.2nm,0.9s						
AFDM	**Forest Hills D**	**78.03**	**42**	*e*P	**P**	**05 14 34.5**	**+0.3**
	7.7nm,1.2s						
ORV	**Oroville**	**78.04**	**42**	*e*P	**P**	**05 14 34.4**	**+0.2**
	6.6nm,1.3s						
KDAK	**Kodiak Island**	**78.36**	**14**	*e*P	**P**	**05 14 35.4**	**0.0**
	105nm,1.8s						
YBH	**Yreka Blue Hor**	**78.56**	**39**	*e*P	**P**	**05 14 37.8**	**+0.8**
	3.8nm,0.8s						
SLBS	**Sierra La Lagu**	**78.66**	**61**	*e*P	**P**	**05 14 38.9**	**+1.0**
	55nm,1.9s						
WAKR	**Walker**	**78.77**	**43**	*e*P	**P**	**05 14 39.4**	**+1.0**
	6.2nm,0.9s						
DAC	**Darwin (Calif)**	**78.81**	**46**	*e*P	**P**	**05 14 39.8**	**+1.2**
	2.7nm,0.8s						
BEKR	**Beckworth**	**78.94**	**42**	*e*P	**P**	**05 14 40.0**	**+0.8**
	4.8nm,0.5s						
HUMO	**Hull Mountain**	**78.94**	**38**	*e*P	**P**	**05 14 40.1**	**+1.2**
	4.1nm,0.9s						
PNTR	**Pine Nut**	**78.99**	**43**	*e*P	**P**	**05 14 40.1**	**+0.5**
	14nm,0.9s						
TVH3	**East Aurora ar**	**79.10**	**44**	*e*P	**P**	**05 14 40.8**	**+0.7**
	1.8nm,0.8s						
YERR	**Yerington**	**79.17**	**43**	*e*P	**P**	**05 14 40.9**	**+0.4**
	7.7nm,0.7s						
TVH1	**TV Hill, Hawth**	**79.19**	**44**	*e*P	**P**	**05 14 41.5**	**+0.7**
	7.0nm,1.1s						
PAHR	**Pah Rah Range**	**79.47**	**42**	*e*P	**P**	**05 14 42.3**	**+0.3**
	6.0nm,1.1s						
MOD	**Modoc Plateau**	**80.13**	**40**	*e*P	**P**	**05 14 45.8**	**+0.4**
	7.0nm,0.7s						
CNPM	**China Poot**	**80.24**	**14**	*e*P	**P**	**05 14 45.2**	**-0.2**
	188nm,1.8s						
K05A	**Summer Lake**	**80.24**	**39**	*e*P	**P**	**05 14 46.9**	**+0.9**
	14nm,1.0s						
RSO	**Redoubt South**	**80.76**	**13**	*e*P	**P**	**05 14 47.7**	**-0.5**
SVW2	**Sparrevohn**	**80.79**	**11**	*e*P	**P**	**05 14 47.6**	**-0.5**
	37nm,1.9s						
Y14A	**Wickenburg**	**80.89**	**50**	*e*P	**P**	**05 14 49.8**	**+0.4**
	11nm,0.8s						
E03A	**Lebam**	**80.98**	**35**	*e*P	**P**	**05 14 50.1**	**+0.7**
	28nm,1.4s						
F04A	**Amboy**	**81.24**	**36**	*e*P	**P**	**05 14 51.3**	**+0.5**
	26nm,1.8s						
R11A	**Troy Canyon, C**	**81.25**	**45**	*e*P	**P**	**05 14 51.3**	**0.0**
	4.5nm,1.3s						
WVOR	**Wild Horse Val**	**81.45**	**40**	*e*P	**P**	**05 14 52.6**	**+0.4**
	6.7nm,0.8s						
TUC	**Tucson**	**81.78**	**52**	*e*P	**P**	**05 14 55.2**	**+1.2**
	4.7nm,1.0s						
G06A	**Carlson Farm,**	**81.84**	**37**	*e*P	**P**	**05 14 54.1**	**+0.2**
	199nm,1.5s						
LON	**Longmire**	**82.07**	**36**	*e*P	**P**	**05 14 54.5**	**-0.6**
	15nm,1.9s						
SUA	**Susitna One**	**82.09**	**13**	*e*P	**P**	**05 14 54.8**	**-0.1**
	16nm,0.9s						
LCMT	**Little Creek M**	**82.19**	**47**	*e*P	**P**	**05 14 56.9**	**+0.8**
	4.7nm,0.9s						
X16A	**Lo Mia Camp, P**	**82.26**	**50**	*e*P	**P**	**05 14 57.9**	**+1.4**
	6.3nm,0.9s						
CCUT	**Cedar City**	**82.38**	**47**	*e*P	**P**	**05 14 56.9**	**-0.2**
	3.4nm,0.8s						
TT01	**Tatalina**	**82.40**	**10**	*e*P	**P**	**05 14 56.2**	**-0.1**
TTA	**Tatalina**	**82.42**	**10**	*e*P	**P**	**05 14 56.6**	**0.0**
	27nm,1.8s						
KNB	**Kanab**	**82.49**	**47**	*e*P	**P**	**05 14 58.8**	**+1.2**
	4.1nm,0.7s						
319A	**Douglas**	**82.51**	**54**	*e*P	**P**	**05 14 59.2**	**+1.4**
	13nm,1.2s						
PMR	**Palmer**	**82.56**	**14**	*e*P	**P**	**05 14 56.6**	**-0.5**
	65nm,2.0s						
U15A	**North Rim**	**82.59**	**48**	*e*P	**P**	**05 14 59.2**	**+1.0**
	8.7nm,0.8s						
WUAZ	**Wupatki**	**82.81**	**49**	*e*P	**P**	**05 14 59.7**	**+0.4**
	4.9nm,0.9s						
SML	**Sawmill**	**82.93**	**14**	*e*P	**P**	**05 14 58.6**	**-0.5**
	26nm,1.3s						
DIV	**Divide**	**82.96**	**15**	*e*P	**P**	**05 14 58.6**	**-0.7**
	65nm,1.7s						
LTY	**Liberty**	**83.00**	**36**	*e*P	**P**	**05 14 59.9**	**+0.1**
	30nm,1.9s						
PPLA	**Pueppule**	**83.09**	**12**	*e*P	**P**	**05 14 58.9**	**-1.0**
	42nm,1.7s						
BMRM	**Bremner River**	**83.12**	**16**	*e*P	**P**	**05 14 59.7**	**-0.3**
	65nm,1.8s						
HAWA	**Hanford**	**83.14**	**37**	*e*P	**P**	**05 15 00.7**	**+0.3**
	11nm,1.1s						
SCM	**Sheep Creek Mo**	**83.19**	**14**	*e*P	**P**	**05 15 00.0**	**-0.4**
	18nm,0.8s						
KLU	**Klutina**	**83.23**	**15**	*e*P	**P**	**05 15 00.1**	**-0.5**
	46nm,1.7s						
CRQM	**Cirque**	**83.34**	**17**	*e*P	**P**	**05 15 03.1**	**+1.8**
	57nm,1.6s						
CAST	**Castle Rocks**	**83.58**	**12**	*e*P	**P**	**05 15 00.3**	**-1.9**
	10.0nm,0.8s						
BMO	**Blue Mountains**	**83.58**	**39**	*e*P	**P**	**05 15 02.7**	**-0.1**
	15nm,2.0s						
MSU	**Marysvale**	**83.66**	**46**	*e*P	**P**	**05 15 05.1**	**+1.6**
MAW	**Mawson**	**83.88**	**200**	*e*P	**P**	**05 15 03.9**	**+0.1**
	3.0nm,1.7s						
KTH	**Kantishna Hill**	**83.93**	**12**	*e*P	**P**	**05 15 02.7**	**-1.4**
	11nm,1.0s						
TRF	**Thorofare Moun**	**83.97**	**12**	*e*P	**P**	**05 15 03.1**	**-1.3**
	15nm,0.9s						
RND	**Reindeer**	**84.22**	**13**	*e*P	**P**	**05 15 05.0**	**-0.5**
	12nm,0.8s						
F10A	**Beach Ranch, E**	**84.24**	**38**	*e*P	**P**	**05 15 05.8**	**-0.2**
	8.0nm,0.9s						
DHY	**Denali Highway**	**84.26**	**14**	*e*P	**P**	**05 15 05.1**	**-0.7**
	36nm,2.0s						
B08A	**Colville Reser**	**84.37**	**35**	*e*P	**P**	**05 15 06.2**	**-0.3**
	5.1nm,0.7s						
MCK	**McKinley**	**84.50**	**13**	*e*P	**P**	**05 15 06.2**	**-0.6**
	7.6nm,1.0s						
PAX	**Paxson**	**84.61**	**15**	*e*P	**P**	**05 15 06.4**	**-1.0**
	25nm,1.9s						
HLID	**Hailey**	**84.67**	**41**	*e*P	**P**	**05 15 08.7**	**+0.4**
	3.2nm,0.8s						
TMUT	**Trail Mountain**	**84.69**	**46**	*e*P	**P**	**05 15 09.5**	**+0.8**
	5.2nm,0.9s						
HVU	**Hansel Valley**	**84.83**	**43**	*e*P	**P**	**05 15 09.4**	**+0.3**
	6.0nm,1.2s						
MENT	**Mentasta**	**85.01**	**15**	*e*P	**P**	**05 15 09.2**	**-0.1**
	28nm,2.0s						
SRU	**San Rafael Swe**	**85.08**	**46**	*e*P	**P**	**05 15 11.0**	**+0.6**
	3.3nm,0.7s						
WRH	**Wood River Hil**	**85.33**	**13**	*e*P	**P**	**05 15 09.5**	**-1.2**
	13nm,1.4s						
HDA	**Harding Lake**	**85.51**	**13**	*e*P	**P**	**05 15 11.2**	**-0.4**
	13nm,1.2s						
DOT	**Dot Lake**	**85.53**	**15**	*e*P	**P**	**05 15 11.1**	**-0.6**
	8.4nm,0.7s						
CCB	**Clear Creek Bu**	**85.54**	**13**	*e*P	**P**	**05 15 10.5**	**-1.3**
	4.1nm,0.8s						
NEW	**Newport**	**85.54**	**36**	*e*P	**P**	**05 15 12.1**	**-0.1**
	19nm,1.9s						
HWUT	**Hardwarde Ranch**	**85.55**	**44**	*e*P	**P**	**05 15 12.6**	**0.0**
	8.8nm,1.3s						
MNTX	**Cornudas Mount**	**85.67**	**55**	*e*P	**P**	**05 15 13.8**	**+0.6**
	6.5nm,1.4s						
MDM	**Murphy Dome**	**85.72**	**12**	*e*P	**P**	**05 15 11.2**	**-1.5**
	7.4nm,1.2s						
PV10	**Paradox Valley**	**85.78**	**48**	*e*P	**P**	**05 15 14.1**	**+0.2**
IL1	**Eielson Array**	**85.84**	**13**	*e*P	**P**	**05 15 12.2**	**-1.1**
ILAR	**Eielson Array**	**85.84**	**13**	P	**P**	**05 15 11.8**	**-1.4**
	2.1nm,0.5s,baz=221,slow=5.2,SNR=45						
ILB	**Eielson Array**	**85.84**	**13**	*e*P	**P**	**05 15 12.1**	**-1.1**
PV01	**Paradox Valley**	**86.00**	**48**	*e*P	**P**	**05 15 14.5**	**-0.4**
TX31	**Lajitas Ar. Si**	**86.09**	**58**	*e*P	**P**	**05 15 16.7**	**+1.3**
TXAR	**Lajitas Array**	**86.09**	**58**	P	**P**	**05 15 16.6**	**+1.3**
	4.2nm,0.7s,baz=217,slow=6.0,SNR=63						
ANMO	**Albuquerque**	**86.17**	**52**	*e*P	**P**	**05 15 16.2**	**+0.4**
	5.2nm,1.4s						
MCMT	**McKenzie Canyo**	**86.28**	**41**	*e*P	**P**	**05 15 16.8**	**+0.7**
BSMT	**Bassoo Peak**	**86.65**	**37**	*e*P	**P**	**05 15 17.1**	**-0.6**
DLMT	**Dillon**	**86.70**	**40**	*e*P	**P**	**05 15 18.4**	**+0.5**
	3.9nm,0.8s						
TPAW	**Teton Pass**	**86.84**	**42**	*e*P	**P**	**05 15 19.4**	**+0.6**
	2.8nm,0.8s						
REDW	**Red Top Meadow**	**86.84**	**43**	*e*P	**P**	**05 15 19.3**	**+0.6**
	5.9nm,1.0s						
JTMT	**Jette**	**86.89**	**38**	*e*P	**P**	**05 15 18.1**	**-0.6**
SNOW	**Snow King Moun**	**86.95**	**42**	*e*P	**P**	**05 15 20.0**	**+0.7**
	5.0nm,0.9s						
IMW	**Indian Meadow**	**87.03**	**42**	*e*P	**P**	**05 15 20.4**	**+0.7**
	5.5nm,0.8s						
DAWY	**Dawson**	**87.05**	**16**	*e*P	**P**	**05 15 19.0**	**0.0**
	11nm,1.4s						
CHMT	**Chamberlain Mo**	**87.07**	**39**	*e*P	**P**	**05 15 19.7**	**0.0**
S22A	**4UR Ranch, Cre**	**87.08**	**49**	*e*P	**P**	**05 15 20.6**	**+0.5**
	3.7nm,1.1s						
MOOW	**Moose Ponds**	**87.09**	**42**	*e*P	**P**	**05 15 20.4**	**+0.6**
	13nm,2.0s						
HHC	**Hu-ho-hao-te**	**87.09**	**315**	*e*P	**P**	**05 15 20.3**	**+0.5**
HHC				pmax	pmax		
	comp=Z,15nm,0.8s						
HHC				pmax	pmax		
	comp=Z,82nm,7.4s						
LOHW	**Long Hollow**	**87.12**	**42**	*e*P	**P**	**05 15 20.3**	**+0.3**
	comp=Z,2.8nm,0.7s						
EGAK	**Eagle**	**87.18**	**15**	*e*P	**P**	**05 15 19.6**	**+0.2**
	comp=Z,28nm,1.9s						
YHB	**Horse Butte**	**87.28**	**41**	*e*P	**P**	**05 15 20.5**	**-0.3**
	comp=Z,18nm,1.7s						
COLD	**Coldfoot**	**87.36**	**11**	*e*P	**P**	**05 15 20.3**	**0.0**
	comp=Z,15nm,1.7s						
YMR	**Madison River**	**87.38**	**41**	*e*P	**P**	**05 15 22.3**	**+1.1**
	comp=Z,5.0nm,0.7s						
BW06	**Boulder Array**	**87.41**	**43**	*e*P	**P**	**05 15 21.4**	**0.0**
	comp=Z,3.0nm,0.6s						
PD31	**Pinedale Array**	**87.41**	**43**	*e*P	**P**	**05 15 21.4**	**0.0**
PDAR	**Pinedale Array**	**87.41**	**43**	P	**P**	**05 15 21.4**	**0.0**
	comp=Z,2.5nm,0.5s,baz=218,slow=3.6,SNR=33						
BOZ	**Bozeman (W)**	**87.41**	**40**	*e*P	**P**	**05 15 21.9**	**+0.6**
	comp=Z,5.6nm,1.3s						
YHH	**Holmes Hill**	**87.51**	**41**	*e*P	**P**	**05 15 24.2**	**+2.2**
	comp=Z,11nm,1.8s						
FYU	**Fort Yukon**	**87.74**	**13**	*e*P	**P**	**05 15 21.6**	**-0.5**
	comp=Z,60nm,2.0s						
LNIG	**Linares**	**87.94**	**63**	*e*P	**P**	**05 15 24.4**	**+0.3**
	comp=Z,5.7nm,1.0s						
RWWY	**Rawlins**	**88.49**	**45**	*e*P	**P**	**05 15 27.0**	**+0.4**
	comp=Z,18nm,1.5s						
EDM	**Edmonton**	**90.18**	**33**	*e*P	**P**	**05 15 33.4**	**-0.4**
	comp=Z,36nm,1.9s						
ABTX	**Abilene, Hawle**	**90.52**	**56**	*e*P	**P**	**05 15 35.9**	**0.0**
	comp=Z,8.4nm,1.0s						
SNAA	**Sanae**	**90.69**	**179**	*e*P	**P**	**05 15 35.0**	**-1.0**
	comp=Z,9.2nm,1.6s						
LAO	**LASA Array**	**91.26**	**41**	*e*P	**P**	**05 15 38.9**	**-0.1**
	comp=Z,5.0nm,0.7s						
INK	**Inuvik**	**91.85**	**15**	*e*P	**P**	**05 15 40.5**	**-0.6**
	comp=Z,35nm,1.9s						
YKA	**Yellowknife Ar**	**94.33**	**25**	P	**P**	**05 15 51.1**	**-1.4**
	comp=Z,1.3nm,0.8s,baz=235,slow=4.6,SNR=4.9						
ECSD	**EROS Data Cent**	**96.49**	**46**	*e*P	**P**	**05 16 02.9**	**+0.1**
	comp=Z,14nm,1.6s						
FINES	**FINESS Array B**	**133.06**	**344**	PKP	**PKPdf**	**05 21 42.1**	**-2.7**
	comp=Z,3.6nm,1.1s,baz=170,slow=3.3,SNR=4.2						
BUR08	**Bucovina Ar. S**	**144.45**	**332**	*e*PKPbc	**PKPab**	**05 22 06.7**	**+0.2**
BURAR	**Bucovina Array**	**144.46**	**332**	⇑*i*P	**PKPab**	**05 22 06.6**	**0.0**
BRTR	**Keskin Array B**	**144.60**	**315**	PKP	**PKPdf**	**05 22 06.2**	**-0.5**
	comp=Z,1.4nm,0.8s,baz=126,slow=3.2,SNR=6.5						
BR231	**Keskin MP Arra**	**145.13**	**316**	*e*PKPdf	**PKPdf**	**05 22 07.3**	**-0.2**
CLL	**Collm**	**145.34**	**347**	⇑*i*PKPbc	**PKPbc**	**05 22 07.7**	**-0.8**
	comp=Z,9.0nm,0.9s						
CLL	**Collm**	**145.34**	**347**	*e*PKPdf	**PKPdf**	**05 22 07.1**	**-0.2**
DPC	**Dobruska-Polom**	**145.42**	**343**	*e*PKP	**PKPbc**	**05 22 09.0**	**+0.2**
LANS	**Liptovska Anna**	**145.50**	**339**	*e*PKP	**PKPab**	**05 22 09.8**	**-0.7**
KRLC	**Kraliky**	**145.54**	**342**	*e*PKP	**PKPdf**	**05 22 07.7**	**-0.1**
BRG	**Berggiesshubel**	**145.54**	**346**	*e*P	**PKPbc**	**05 22 08.8**	**-0.3**
	comp=Z,4.0nm,0.8s						
DOPR	**Dopca**	**145.60**	**330**	⇑*i*P	**PKPab**	**05 22 10.0**	**-1.0**
MLR	**Muntele Rosu**	**145.67**	**329**	⇓*i*P	**PKPbc**	**05 22 10.2**	**+0.4**
KECS	**Kecovo**	**145.70**	**337**	*e*PKP	**PKPdf**	**05 22 05.9**	**-2.2**
KECS				*e*		05 22 08.5	
PVCC	**Panska Ves**	**145.72**	**345**	*e*PKP	**PKPbc**	**05 22 09.7**	**+0.1**
VOIR		**146.15**	**330**	⇑*i*P	**PKPbc**	**05 22 11.2**	**+0.1**
DRGR		**146.19**	**333**	⇑*i*P	**PKPbc**	**05 22 10.8**	**-0.4**
PRU	**Pruhonice**	**146

PGC 17 05:23:43.5±2.8, 58°39N×133°48W, h1km, ML3.3/3, 55km east of Juneau, Ak Southeastern Alaska, Southeastern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIS	**Juneau Island**	**0.49**	**257**	P	Pg	05 23 52.0	-0.8
JIS				S	Sg	05 23 58.5	-0.5
BESE	**Bessie Mountai**	**0.74**	**286**	P	Pg	05 23 57.0	-0.8
BESE				S	Sg	05 24 05.8	-1.6
BESE	**Bessie Mountai**	**0.74**	**286**	P	Pg	05 23 57.0	-0.7
BESE				S	Sg	05 24 08.1	+0.7
SKAG	**Skagway**	**1.44**	**319**	P	Pn	05 24 10.0	-0.6
SKAG				S	Sg	05 24 29.7	0.0
DLBC	**Dease Lake**	**1.82**	**87**	P	Pn	05 24 15.2	-0.8
DLBC				Sn	Sb	05 24 40.6	-0.3
DLBC	**Dease Lake**	**1.82**	**87**	P	Pn	05 24 15.0	-1.0
DLBC				S	Sb	05 24 40.8	-0.1
PLBC	**Pleasant Camp**	**1.84**	**307**	Pn	Pn	05 24 16.7	+0.5
PLBC				Sn	Sn	05 24 40.1	0.0
PLBC	**Pleasant Camp**	**1.84**	**307**	P	Pn	05 24 16.0	-0.2
WRAK	**Wrangell Islan**	**2.07**	**162**	P	Pn	05 24 17.6	-1.7
WHY	**Whitehorse**	**2.39**	**343**	Pn	Pn	05 24 23.1	-0.7
WHY	**Whitehorse**	**2.39**	**343**	P	Pn	05 24 23.2	-0.7
CRAG	**Craig**	**2.93**	**176**	P	Pn	05 24 29.3	-1.9
DAWY	**Dawson**	**6.37**	**336**	Pn	Pn	05 25 17.6	-0.8
DAWY				Pg	Pg	05 25 40.3	-5.1
DAWY				Sn	Sn	05 26 33.1	+1.4
DAWY				Sg	Sg	05 27 08.6	+0.8

IDC 17 05:32:21.1±1.9, 34°96S×178°93W, h0km, mb3.9/2, mb1 4.2/3, mb1mx3.8/25, mbtmp4.0/3, ML4.1/1, Error ellipse: s-maj=43.2km s-min=37.0km az=131.0, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**4.58**	**223**	Pn	Pn	05 33 31.8	+0.2
	9.9nm,0.3s,baz=39,slow=3.1,SNR=46						
URZ				Sn	Sn	05 34 24.4	-1.1
	9.4nm,0.3s,baz=159,slow=20,SNR=4.3						
ASAR	**Alice Springs**	**42.30**	**272**	P	P	05 40 16.9	+0.1
	0.9nm,0.5s,baz=115,slow=7.8,SNR=14						
WRA	**Warramunga Arr**	**43.70**	**277**	P	P	05 40 27.9	-0.2
	1.2nm,0.6s,baz=118,slow=7.6,SNR=17						
FINES	**FINESS Array B**	**149.09**	**337**	PKPbc	PKPbc	05 52 09.7	-0.8
	2.6nm,1.0s,baz=353,slow=10,SNR=4.2						
TORD	**Torodi Ar. Bea**	**158.27**	**182**	PKPab	PKPab	05 52 54.3	-0.4
	0.2nm,0.5s,baz=186,slow=1.4,SNR=3.6						

IDC 17 05:32:31.3±1.9, 35°03S×178°65W, h0km, mb4.0/2, mb1 4.3/3, mb1mx3.8/26, mbtmp4.1/3, ML4.2/1, Error ellipse: s-maj=48.5km s-min=43.9km az=11.0, East of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**4.70**	**225**	Pn	Pn	05 33 42.4	-1.0
	11nm,0.3s,baz=358,slow=7.2,SNR=10						
URZ				Sn	Sn	05 34 44.8	+6.3
	7.2nm,0.3s,baz=129,slow=22,SNR=3.6						
ASAR	**Alice Springs**	**42.53**	**272**	P	P	05 40 29.1	+0.2
	1.1nm,0.5s,baz=114,slow=7.8,SNR=5.9						
WRA	**Warramunga Arr**	**43.93**	**277**	P	P	05 40 40.0	-0.1
	1.1nm,0.4s,baz=118,slow=7.6,SNR=9.8						
FINES	**FINESS Array B**	**149.24**	**337**	PKPbc	PKPbc	05 52 20.3	-0.7
	2.9nm,0.8s,baz=48,slow=2.8,SNR=3.7						
TORD	**Torodi Ar. Bea**	**158.22**	**181**	PKPab	PKPab	05 53 04.3	-0.3
	0.9nm,1.1s,baz=194,slow=5.5,SNR=2.8						

IDC 17 05:32:39.4±1.9, 34°69S×178°60W, h0km, mb3.9/2, mb1 4.3/3, mb1mx3.8/26, mbtmp4.1/3, ML4.3/1, Error ellipse: s-maj=48.2km s-min=44.3km az=8.0, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**4.96**	**223**	Pn	Pn	05 33 53.1	-2.1
	12nm,0.3s,baz=30,slow=12,SNR=6.0						
ASAR	**Alice Springs**	**42.55**	**272**	P	P	05 40 37.5	+0.3
	1.0nm,0.5s,baz=113,slow=7.7,SNR=6.9						
WRA	**Warramunga Arr**	**43.93**	**277**	P	P	05 40 48.5	+0.3
	0.8nm,0.4s,baz=119,slow=7.6,SNR=6.1						
FINES	**FINESS Array B**	**148.94**	**337**	PKPbc	PKPbc	05 52 26.6	-1.8
	1.1nm,0.7s,baz=53,slow=6.1,SNR=4.9						
TORD	**Torodi Ar. Bea**	**158.55**	**181**	PKPab	PKPab	05 53 14.7	+0.5
	0.4nm,0.8s,baz=171,slow=4.9,SNR=3.6						

NIED ***17*** *05:44:00.3, 36°.20N×141°.40E, h35km, Mw4.1 Best double couple: M₀1.82000×10²⁵ NP1:ϕs209.00000°, δ22.00000°, λ90.00000°. NP2:ϕs28.00000°, δ68.00000°, λ90.00000°.*
IDC ***17*** *05:44:00.1±0.7, 36°.22N×141°.49E, h0km, mb4.0/13, mb1 4.1/16, mb1mx3.9/50, mbtmp4.0/16, ML3.8/2, MS3.2/7, Ms1 3.2/7, ms1mx2.8/41, Error ellipse: s-maj=19.7km s-min=15.8km az=83.0*
ISCJB ***17*** *05:44:01.8±0.5, 36°.22N±0°.04×141°.59E±0°.06, h26km, mb4.1/17, MS3.3/4, Error ellipse: s-maj=6.8km s-min=4.8km az=26.9*
JMA ***17*** *05:44:03.0±0.2, 36°.24N×141°.42E, h60km±3km, M3.6*
NEIC ***17*** *05:44:04.9±2.0, 36°.20N×141°.43E, h33km±14km, mb4.3/3, Error ellipse: s-maj=9.1km s-min=6.3km az=94.0*

ISC 17 05:44:04.3±0.6, 36°26N±0°.05×141°36E±0°.07, h26km, n41, σ1°36/37, mb4.0/17, MS3.2/4, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHOJ	**Chosi**	**0.68**	**216**	P	**Pn**	**05 44 17.6**	**-0.7**
CHOJ				S	**Sn**	**05 44 28.1**	**0.0**
JHO	**Hitachi**	**0.73**	**299**	P	**Pb**	**05 44 18.2**	**-0.2**
JYT	**Yasato**	**0.94**	**269**	P	**Pb**	**05 44 21.3**	**-0.7**
ONAJ	**Iwakimizuishiy**	**0.96**	**332**	P	**Pn**	**05 44 21.2**	**-1.0**
JFK	**Kawauchi**	**1.18**	**341**	P	**Pn**	**05 44 24.0**	**-1.2**
MJAR	**Matsushiro Arr**	**2.56**	**277**	Pn	**Pn**	**05 44 45.4**	**+1.3**
	24nm,0.3s,baz=100,slow=8.9,SNR=86						
MJAR				Sn	**Sb**	**05 45 18.5**	**-2.0**
	9.4nm,0.3s,baz=68,slow=18,SNR=8.2						
MJAR				LR	LR	05 45 54.3	
	comp=Z,289nm,20.6s,baz=125,slow=43						
MAJO	**Matsushiro**	**2.56**	**277**	*e*Pn	**Pn**	**05 44 45.3**	**+1.2**
MAT	**Matsushiro**	**2.56**	**277**	P	**Pn**	**05 44 45.2**	**+1.1**
MAT				*e*S	**Sb**	**05 45 19.2**	**-1.3**
JHJ2	**Mitsune**	**3.38**	**202**	*e*Pn	**Pn**	**05 44 55.1**	**-0.3**
JHJ	**Hachijo jima 2**	**3.39**	**203**	Pn	**Pn**	**05 44 56.3**	**+0.8**
	20nm,0.3s,baz=337,slow=22,SNR=15						
JHJ				Sn	**Sn**	**05 45 33.4**	**-1.5**
	58nm,0.3s,baz=252,slow=23,SNR=6.4						
ERM	**Erimo**	**5.92**	**13**	*e*Pn	**Pn**	**05 45 30.3**	**0.0**
ERM				*e*Sn	**Sn**	**05 46 37.7**	**+0.4**
USRK	**Ussuriysk Ar.**	**10.68**	**321**	Pn	**Pn**	**05 46 37.4**	**+1.8**
	0.2nm,0.3s,baz=127,slow=11,SNR=4.3						
USRK				LR	LR	05 50 37.7	
	comp=Z,157nm,18.3s,baz=76,slow=37						
KSRS	**Korea Array**	**10.83**	**280**	LR	LR	05 50 28.5	
	comp=Z,121nm,21.2s,baz=86,slow=35						
H11N2	**WAKE ISLAND Hy**	**27.80**	**119**	T	T	06 19 08.2	
	baz=312,slow=75,SNR=18						
H11N1	**WAKE ISLAND Hy**	**27.80**	**119**	T	T	06 19 08.7	
	baz=312,slow=75,SNR=15						
H11N3	**WAKE ISLAND Hy**	**27.82**	**119**	T	T	06 19 09.4	
	baz=312,slow=75,SNR=13						
SONM	**Songino Array**	**28.19**	**305**	P	**P**	**05 49 54.7**	**-0.1**
	1.4nm,0.7s,baz=108,slow=9.0,SNR=6.9						
SONM				LR	LR	06 01 14.9	
	comp=Z,54nm,21.1s,baz=79,slow=37						
H11S1	**WAKE ISLAND Hy**	**28.48**	**122**	T	T	06 19 51.3	
	baz=313,slow=76,SNR=72						
H11S3	**WAKE ISLAND Hy**	**28.48**	**122**	T	T	06 19 53.2	
	baz=313,slow=76,SNR=35						
H11S2	**WAKE ISLAND Hy**	**28.50**	**122**	T	T	06 19 52.6	
	baz=313,slow=76,SNR=43						
ZALV	**Zalesovo Beam**	**42.41**	**313**	P	**P**	**05 51 56.8**	**+0.3**
	2.0nm,0.6s,baz=95,slow=6.6,SNR=8.4						
ZALV				LR	LR	06 10 26.1	
	comp=Z,35nm,18.3s,baz=68,slow=37						
KURK	**Kurchatov**	**46.38**	**309**	*e*P	**P**	**05 52 27.8**	**-0.4**
	62nm,1.2s						
ILAR	**Eielson Array**	**50.18**	**32**	P	**P**	**05 52 57.2**	**-0.1**
	1.1nm,0.7s,baz=264,slow=5.7,SNR=15						
FITZ	**Fitzroy Crossi**	**56.07**	**198**	P	**P**	**05 53 41.0**	**-0.2**
	1.4nm,0.8s,baz=8.7,slow=9.8,SNR=4.1						
WRAB	**Tennant Creek**	**56.27**	**188**	*e*P	**P**	**05 53 41.2**	**-1.4**
	2.4nm,0.9s						
WRA	**Warramunga Arr**	**56.28**	**188**	P	**P**	**05 53 41.2**	**-1.5**
	0.8nm,0.8s,baz=4.8,slow=7.2,SNR=9.4						
ABKAR	**Akbulak array**	**58.41**	**310**	*e*P	**P**	**05 53 57.2**	**-0.2**
	1.2nm,0.6s						
ASAR	**Alice Springs**	**60.01**	**188**	P	**P**	**05 54 08.5**	**-0.3**
	1.0nm,1.1s,baz=16,slow=11,SNR=3.9						
ARCES	**ARCESS Array B**	**64.71**	**340**	LR	LR	06 28 36.8	
	comp=Z,14nm,18.8s,baz=15,slow=41						
FINES	**FINESS Array B**	**69.48**	**332**	P	**P**	**05 55 10.1**	**0.0**
	2.5nm,0.8s,baz=127,slow=5.0,SNR=5.8						
KBZ	**Khabaz**	**71.38**	**311**	P	**P**	**05 55 22.7**	**+0.8**
	2.2nm,0.9s,baz=101,slow=5.4,SNR=4.4						
AKASG	**Malin Array Be**	**74.89**	**322**	P	**P**	**05 55 42.4**	**-0.2**
	3.0nm,0.6s,baz=45,slow=6.1,SNR=15						
NB2	**NORSAR Subarra**	**74.89**	**337**	P	**P**	**05 55 42.2**	**-0.3**
	comp=Z,0.7nm,0.7s,baz=37,slow=5.9						
NOA	**NORSAR Array B**	**74.89**	**337**	P	**P**	**05 55 42.5**	**+0.1**
	comp=Z,1.4nm,0.8s,baz=38,slow=5.8,SNR=5.3						
KIEV	**Kiev**	**74.90**	**322**	*e*P	**P**	**05 55 42.0**	**-0.6**
	comp=Z,5.1nm,0.9s						
PDAR	**Pinedale Array**	**78.25**	**45**	P	**P**	**05 56 02.2**	**+0.2**
	comp=Z,0.4nm,0.6s,baz=114,slow=3.7,SNR=4.8						
BRTR	**Keskin Array B**	**79.33**	**312**	P	**P**	**05 56 08.6**	**+0.6**
	comp=Z,0.9nm,0.9s,baz=108,slow=4.0,SNR=3.9						
PFO	**Pinyon Flats O**	**79.51**	**56**	LR	LR	06 24 09.7	
	comp=Z,26nm,19.6s,baz=222,slow=30						
TXAR	**Lajitas Array**	**90.63**	**52**	P	**P**	**05 57 04.8**	**0.0**
	comp=Z,0.3nm,0.7s,baz=316,slow=3.5,SNR=3.8						
QSPA	**South Pole Qui**	**126.00**	**180**	*e*PKPdf	**PKPdf**	**06 03 08.8**	**+5.7**
LPAZ	**La Paz**	**147.12**	**61**	PKPbc	**PKPab**	**06 03 45.6**	**-2.2**
	comp=Z,0.7nm,0.6s,baz=21,slow=6.4,SNR=7.3						

IDC ***17*** *05:49:12.0±1.5, 35°.62N×140°.99E, h0km, mb3.5/2, mb1 3.8/4, mb1mx3.4/48, mbtmp3.5/4, ML3.5/2, MS3.0/1, Ms1 3.2/1, ms1mx2.4/26, Error ellipse: s-maj=38.1km s-min=26.5km az=105.0*
ISCJB ***17*** *05:49:16.5±0.8, 35°.72N±0°.05×140°.77E±0°.10, h52km±8km, mb3.5/2, MS3.0/1, Error ellipse: s-maj=13.6km s-min=7.3km az=162.5*
JMA ***17*** *05:49:17.4±0.1, 35°.75N×140°.67E, h44km±2km, M3.2 Broadband fault plane solution: P waves. NP1: ϕs10.00000°, δ74.00000°, λ88.00000°. NP2:ϕs198.00000°, δ16.00000°, λ98.00000°. Principal axes: T Plg61.0000°, Azm277.0000°; N Plg2.0000°, Azm11.0000°; P Plg29.0000°, Azm102.0000°;*
JMA Felt I J1.

ISC 17 05:49:17.4±1.1, 35°.74N±0°.05×140°.76E±0°.08, h43km±10km, n13, σ0°90/15, 1C-3D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHOJ	**Chosi**	**0.09**	**113**	⇑P	**Pn**	**05 49 24.7**	**+0.4**
JCN	**Nagara**	**0.56**	**235**	⇓P	**Pn**	**05 49 29.2**	**+0.3**
JYT	**Yasato**	**0.67**	**317**	⇓P	**Pn**	**05 49 29.7**	**-0.8**
JYT				S	**Sn**	**05 49 38.4**	**-1.5**
BSO4	**Boso 4**	**0.82**	**205**	P	**Pn**	**05 49 32.4**	**0.0**
JHO	**Hitachi**	**0.89**	**350**	⇓P	**Pn**	**05 49 33.3**	**-0.1**
BSO3	**Boso 3**	**0.96**	**192**	P	**Pn**	**05 49 34.1**	**0.0**
BSO1	**Boso 1**	**1.10**	**171**	P	**Pn**	**05 49 36.2**	**+0.4**
MJAR	**Matsushiro Arr**	**2.21**	**292**	Pn	**Pn**	**05 49 52.3**	**+0.6**
	10nm,0.3s,baz=95,slow=8.5,SNR=28						
MAT	**Matsushiro**	**2.22**	**292**	P	**Pn**	**05 49 52.0**	**+0.3**
MAT				S	**Sn**	**05 50 19.5**	**+1.7**
JHJ	**Hachijo jima 2**	**2.73**	**197**	Pn	**Pn**	**05 49 58.6**	**-0.1**
	23nm,0.3s,baz=307,slow=20,SNR=6.0						
JHJ				Sn	**Sn**	**05 50 29.8**	**-0.8**
	41nm,0.3s,baz=105,slow=18,SNR=5.6						
CMAR	**Chiang Mai Arr**	**40.67**	**256**	LR	LR	06 15 37.8	
	comp=Z,19nm,18.9s,baz=45,slow=39						
ILAR	**Eielson Array**	**50.87**	**32**	P	**P**	**05 58 14.6**	**+1.0**
	0.5nm,0.8s,baz=269,slow=7.5,SNR=6.0						
WRA	**Warramunga Arr**	**55.71**	**187**	P	**P**	**05 58 48.6**	**-1.0**
	0.3nm,0.5s,baz=6.3,slow=8.4,SNR=6.7						

NIED ***17*** *06:14:00, 36°.40N×143°.30E, h5km, Mw3.7 Best double couple: M₀4.52000×10¹⁴ NP1:ϕs44.00000°, δ28.00000°, λ-46.00000°. NP2:ϕs177.00000°, δ71.00000°, λ-110.00000°.*
IDC ***17*** *06:14:09.4±0.8, 36°.15N×143°.58E, h0km, mb3.8/8, mb1 4.1/10, mb1mx3.8/40, mbtmp3.9/10, ML3.7/2, MS2.4/1, Ms1 2.4/1, ms1mx2.1/41, Error ellipse: s-maj=25.2km s-min=18.9km az=111.0*
NEIC ***17*** *06:14:10.8±0.5, 36°.20N×143°.53E, h10km, mb4.5/3, Error ellipse: s-maj=11.0km s-min=10.6km az=142.0*
ISCJB ***17*** *06:14:12.8±0.6, 36°.32N±0°.04×143°.32E±0°.05, h33km, mb4.0/11, Error ellipse: s-maj=5.7km s-min=5.4km az=160.3*
JMA ***17*** *06:14:13.5±0.2, 36°.35N×143°.30E, h69km, M3.8*

ISC 17 06:14:15.0±0.7, 36°32N±0°.05×143°32E±0°.07, h35km, n32, σ1°52/41, mb4.0/11, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ONAJ	**Iwakimizuishiy**	**2.17**	**292**	P	**Pn**	**06 14 47.7**	**-1.0**
ONAJ				S	**Sn**	**06 15 14.1**	**-0.3**
JFK	**Kawauchi**	**2.22**	**299**	P	**Pn**	**06 14 48.3**	**-1.1**
JFK				*e*S	**Sn**	**06 15 13.7**	**-2.0**
JHO	**Hitachi**	**2.24**	**278**	P	**Pn**	**06 14 48.6**	**-1.0**
BSO1	**Boso 1**	**2.54**	**230**	P	**Pn**	**06 14 52.2**	**-1.0**
BSO1				*e*S	**Sn**	**06 15 24.0**	**+1.5**
JFT	**Otama**	**2.67**	**297**	P	**Pn**	**06 14 55.5**	**-0.1**
JFT				S	**Sn**	**06 15 26.7**	**-0.1**
JMK	**Ichinoseki**	**3.11**	**328**	P	**Pn**	**06 15 00.4**	**-1.2**
JMK				S	**Sn**	**06 15 35.4**	**-2.1**
JAG	**Ashikaga**	**3.12**	**273**	P	**Pn**	**06 15 01.3**	**-0.5**
JYK	**Kaneyama**	**3.50**	**319**	P	**Pn**	**06 15 06.5**	**-0.4**
JOM	**Ohasama**	**3.53**	**334**	S	**Sn**	**06 15 46.3**	**-1.6**
JRY	**Ryogami san**	**3.59**	**266**	P	**Pn**	**06 15 07.7**	**-0.5**
JRY				S	**Sn**	**06 15 47.6**	**-1.8**
JOD2	**Odawara 2**	**3.60**	**254**	S	**Sn**	**06 15 48.6**	**-1.0**
JYN	**Shimob**	**3.96**	**259**	P	**Pn**	**06 15 13.4**	**0.0**
MJAR	**Matsushiro Arr**	**4.13**	**275**	Pn	**Pn**	**06 15 15.8**	**+0.2**
	3.3nm,0.3s,baz=85,slow=26,SNR=12						
MJAR				Sn	**Sn**	**06 16 02.3**	**-0.4**
	2.5nm,0.3s,baz=80,slow=14,SNR=4.6						
MAJO	**Matsushiro**	**4.13**	**275**	*e*Pn	**Pn**	**06 15 16.3**	**+0.7**
MAT	**Matsushiro**	**4.13**	**275**	P	**Pn**	**06 15 16.2**	**+0.6**
MAT				*e*S	**Sn**	**06 16 02.1**	**-0.6**
MAT	**Matsushiro**	**4.13**	**275**	P	**Pn**	**06 15 16.0**	**+0.4**
JHJ	**Hachijo jima 2**	**4.33**	**223**	Pn	**Pn**	**06 15 16.6**	**-1.6**
	13nm,0.3s,baz=312,slow=18,SNR=9.0						
JHJ				Sn	**Sn**	**06 16 02.1**	**-5.3**
	41nm,0.3s,baz=100,slow=23,SNR=9.2						
ERM	**Erimo**	**5.69**	**359**	*e*Pn	**Pn**	**06 15 35.4**	**-1.5**
ERM				*e*Sn	**Sn**	**06 16 38.0**	**-3.0**
KSRS	**Korea Array**	**12.38**	**280**	LR	LR	06 22 26.8	
	comp=Z,18nm,19.1s,baz=124,slow=39						
SONM	**Songino Array**	**29.45**	**305**	P	**P**	**06 20 18.2**	**+2.7**
	0.2nm,0.4s,baz=101,slow=7.8,SNR=2.5						
KURK	**Kurchatov**	**47.58**	**309**	*e*P	**P**	**06 22 48.8**	**+1.8**
	20nm,0.9s						
ILAR	**Eielson Array**	**49.28**	**32**	P	**P**	**06 22 59.5**	**-0.4**
	0.8nm,0.7s,baz=265,slow=6.4,SNR=9.3						
WRAB	**Tennant Creek**	**56.59**	**190**	*e*P	**P**	**06 23 52.3**	**-2.0**
	2.6nm,0.8s						
WRA	**Warramunga Arr**	**56.60**	**190**	P	**P**	**06 23 52.9**	**-1.5**
	1.7nm,0.7s,baz=11,slow=7.4,SNR=18						
ABKAR	**Akbulak array**	**59.57**	**311**	*e*P	**P**	**06 24 15.2**	**+0.2**
	3.4nm,1.0s						
ASAR	**Alice Springs**	**60.32**	**190**	P	**P**	**06 24 19.1**	**-1.2**
	0.6nm,0.5s,baz=8.7,slow=8.9,SNR=10						
FINES	**FINESS Array B**	**70.15**	**333**	P	**P**	**06 25 24.7**	**+1.1**
	1.1nm,0.7s,baz=60,slow=8.2,SNR=3.1						
NB2	**NORSAR Subarra**	**75.43**	**338**	P	**P**	**06 25 55.7**	**+0.8**
	comp=Z,0.8nm,0.8s,baz=38,slow=5.9						
NOA	**NORSAR Array B**	**75.43**	**338**	P	**P**	**06 25 55.8**	**+0.8**
	comp=Z,0.6nm,0.8s,baz=38,slow=5.9,SNR=4.3						
PDAR	**Pinedale Array**	**77.06**	**46**	P	**P**	**06 26 04.5**	**-0.4**
	comp=Z,0.5nm,0.6s,baz=244,slow=2.6,SNR=5.6						
TXAR	**Lajitas Array**	**89.33**	**53**	P	**P**	**06 27 08.3**	**+0.3**
	comp=Z,0.4nm,0.6s,baz=334,slow=4.0,SNR=4.3						
LPAZ	**La Paz**	**145.69**	**63**	PKPbc	**PKPdf**	**06 33 50.7**	**-0.2**
	comp=Z,0.8nm,0.7s,baz=297,slow=6.2,SNR=4.8						

MEX 17 06:22:08.0±0.4, 13°55N×92°45W, h64km±58km, MD4.1, Off coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CCIG	**Comitan**	**2.74**	**6**	*e*P	Pn	06 22 49.0	-0.8
CCIG				*i* S	Sn	06 23 20.1	-1.7
TGIG		**3.28**	**349**	*e*P	Pn	06 22 55.0	-2.0
TGIG				*i* S	Sn	06 23 33.2	-1.6

ISCJB ***17*** *06:32:56.8±0.6, 37°.71N±0°.03×31°.57E±0°.03, h3km±7km, Error ellipse: s-maj=5.9km s-min=4.2km az=178.0*
CSEM ***17*** *06:32:56.9±0.2, 37°.72N×31°.56E, h5km, MD2.8, Error ellipse: s-maj=4.2km s-min=3.6km az=2.0*
ISK ***17*** *06:32:56.0, 37°.76N×31°.56E, h6km, MD2.8*
DDA ***17*** *06:32:57.3, 37°.73N×31°.57E, h10km, Md2.7*

ISC 17 06:32:57.1±1.1, 37°74N±0°.04×31°56E±0°.02, h7km±12km, n26, σ0°48/38, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SUTC	**Sutluce-Ispart**	**0.52**	**240**	*e*PG	**Pg**	**06 33 07.1**	**0.0**
SUTC				*e*SG	**Sg**	**06 33 14.1**	**+0.3**
SUTC	**Sutluce-Ispart**	**0.52**	**240**	*e*Pg	**Pg**	**06 33 07.1**	**0.0**
SUTC				*e*Sg	**Sg**	**06 33 14.1**	**+0.3**
KMER	**Konya-Meram**	**0.64**	**87**	*i* P	**Pg**	**06 33 09.7**	**+0.2**
KMER				*i* S	**Sg**	**06 33 18.6**	**+0.7**
KMER	**Konya-Meram**	**0.64**	**87**	P	**Pg**	**06 33 09.7**	**+0.2**
KMER				S	**Sg**	**06 33 18.6**	**+0.7**
BAGO	**Egridir - ISPA**	**0.66**	**293**	*i* P	**Pb**	**06 33 10.8**	**-0.3**
BAGO				*i* S	**Sb**	**06 33 19.6**	**-0.9**
KONT	**Konya--Tatoy**	**0.67**	**72**	*e*PG	**Pg**	**06 33 09.2**	**-0.8**
KONT				*e*SG	**Sg**	**06 33 18.8**	**+0.1**
KONT	**Konya--Tatoy**	**0.67**	**72**	*i* P	**Pb**	**06 33 10.5**	**-0.6**
KONT				*i* S	**Sb**	**06 33 19.9**	**-0.8**
KONT	**Konya--Tatoy**	**0.67**	**72**	*e*Pg	**Pg**	**06 33 09.2**	**-0.8**
KONT				*e*Sg	**Sg**	**06 33 18.8**	**+0.1**
ISP	**Isparta**	**0.83**	**276**	*e*PG	**Pg**	**06 33 12.3**	**-0.7**
ISP	**Isparta**	**0.83**	**276**	*e*Pg	**Pg**	**06 33 12.3**	**-0.7**
KDHN	**Kadinhani**	**0.90**	**29**	*i* P	**Pb**	**06 33 14.9**	**-0.2**
KDHN				*i* S	**Sb**	**06 33 27.5**	**+0.2**
KDHN	**Kadinhani**	**0.90**	**29**	P	**Pb**	**06 33 14.9**	**-0.2**
KDHN				S	**Sb**	**06 33 27.5**	**+0.2**
HDMB	**Hadim**	**1.07**	**136**	*e*PN	**Pg**	**06 33 17.2**	**-0.4**
HDMB	**Hadim**	**1.07**	**136**	*e*Pn	**Pg**	**06 33 17.2**	**-0.4**
BOLV	**Bolvadin**	**1.09**	**334**	*i* P	**Pb**	**06 33 18.3**	**-0.1**
BOLV				*i* S	**Sb**	**06 33 33.7**	**+0.8**
BOLV	**Bolvadin**	**1.09**	**334**	P	**Pb**	**06 33 18.3**	**-0.1**
BOLV				S	**Sb**	**06 33 33.7**	**+0.8**
BERE	**Bereket-Mersin**	**1.92**	**136**	*e*PN	**Pn**	**06 33 30.5**	**+0.1**
BERE	**Bereket-Mersin**	**1.92**	**136**	*e*Pn	**Pn**	**06 33 30.5**	**+0.1**
BOZY	**Bozyazi-Mersin**	**1.98**	**145**	*e*PN	**Pn**	**06 33 31.3**	**+0.2**
BOZY	**Bozyazi-Mersin**	**1.98**	**145**	*e*Pn	**Pn**	**06 33 31.3**	**+0.2**
TEVE	**Tevekalti-Mers**	**1.99**	**130**	*e*PN	**Pn**	**06 33 31.4**	**+0.1**
TEVE	**Tevekalti-Mers**	**1.99**	**130**	*e*Pn	**Pn**	**06 33 31.4**	**+0.1**
TEKE	**Tekeli-Mersin**	**2.02**	**141**	*e*PN	**Pn**	**06 33 32.1**	**+0.5**
TEKE	**Tekeli-Mersin**	**2.02**	**141**	*e*Pn	**Pn**	**06 33 32.1**	**+0.5**
IKL	**Isikli**	**2.27**	**131**	*e*PN	**Pn**	**06 33 35.3**	**+0.3**
IKL	**Isikli**	**2.27**	**131**	*e*Pn	**Pn**	**06 33 35.3**	**+0.3**

MDD ***17*** *06:41:18.5±2.0, 37°.26N×14°.16W, h0km, mb3.8/12, Error ellipse: s-maj=20.7km s-min=17.1km az=8.0, PRXIMO*
IGIL ***17*** *06:41:19.8, 37°.34N×14°.12W, h0km, ML2.2*
INMG ***17*** *06:41:19.6±1.1, 37°.09N×14°.58W, h10km, ML2.5, Error ellipse: s-maj=6.5km s-min=3.7km az=129.0*
CSEM ***17*** *06:41:22.0±0.3, 37°.40N×13°.87W, h10km, ML3.0/6, Error ellipse: s-maj=6.3km s-min=5.1km az=21.0*

ISC 17 06:41:17.3±3.6, 37°36N±0°.09×14°2W±0°.2, h10km, n80, σ1°75/139, Azores-Cape St. Vincent Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMAFR	**Mafra**	**4.17**	**66**	*e*Pn	**Pn**	**06 42 22.8**	**+1.9**
PMAFR				*e*Sn	**Sn**	**06 43 10.4**	**+0.7**
PMAFR				A	A	06 43 17.8	
	15nm,0.8s						
PMAFR	**Mafra**	**4.17**	**66**	P	**Pn**	**06 42 23.0**	**+2.1**
	2.0nm,0.1s,SNR=7.9						
PMAFR				S	**Sn**	**06 43 10.6**	**+0.9**
	13nm,0.2s,SNR=5.7						

PBDV	**Barranco-do-Ve**	**4.97**	**89**	P	**Pn**	**06 42 32.9**	**+0.9**
PBDV				S	**Sn**	**06 43 28.1**	**-1.5**
	comp=E,2.8nm,0.6s						
EVO	**Evora**	**5.00**	**75**	*e*Pn	**Pn**	**06 42 34.0**	**+1.6**
EVO				*e*Sn	**Sn**	**06 43 29.4**	**-0.9**
EVO				A	A	06 43 33.0	
	comp=E,4.7nm,0.2s						
EVO	**Evora**	**5.00**	**75**	P	**Pn**	**06 42 34.0**	**+1.6**
EVO				S	**Sn**	**06 43 29.4**	**-0.9**
	comp=E,4.7nm,0.2s						
EVO	**Evora**	**5.00**	**75**	P	**Pn**	**06 42 34.0**	**+1.6**
EVO				S	**Sn**	**06 43 29.4**	**-0.9**
	comp=E,4.7nm,0.2s						
PBEJ	**Beja**	**5.04**	**80**	*e*Sn	**Sn**	**06 43 31.3**	**+0.1**
PBEJ	**Beja**	**5.04**	**80**	S	**Sn**	**06 43 31.3**	**+0.1**
PBEJ	**Beja**	**5.04**	**80**	S	**Sn**	**06 43 31.3**	**+0.1**
PTOM	**Tomar**	**5.05**	**62**	*e*Sn	**Sn**	**06 43 32.1**	**+0.7**
PTOM				A	A	06 43 36.8	
	comp=E,4.7nm,0.4s						
PTOM	**Tomar**	**5.05**	**62**	S	**Sn**	**06 43 32.1**	**+0.7**
	comp=E,2.3nm,0.4s						
PTOM	**Tomar**	**5.05**	**62**	S	**Sn**	**06 43 32.1**	**+0.7**
	comp=E,2.3nm,0.4s						
PVAQ	**Vaqueiros**	**5.14**	**88**	*e*Pn	**Pn**	**06 42 35.7**	**+1.5**
PVAQ				*e*Sn	**Sn**	**06 43 31.9**	**-1.7**
PVAQ				A	A	06 43 35.6	
	comp=E,2.9nm,0.4s						
PVAQ	**Vaqueiros**	**5.14**	**88**	P	**Pn**	**06 42 35.7**	**+1.5**
PVAQ				S	**Sn**	**06 43 31.9**	**-1.7**
	comp=E,2.9nm,0.4s						
PVAQ	**Vaqueiros**	**5.14**	**88**	P	**Pn**	**06 42 35.7**	**+1.5**
PVAQ				S	**Sn**	**06 43 31.9**	**-1.7**
	comp=E,2.9nm,0.4s						
PCAS	**Casmilo, Conde**	**5.18**	**57**	*e*Pn	**Pn**	**06 42 38.0**	**+3.1**
PCAS				*e*Sn	**Sn**	**06 43 35.1**	**+0.3**
PCAS	**Casmilo, Conde**	**5.18**	**57**	*e*Pn	**Pn**	**06 42 38.0**	**+3.1**
PCAS				*e*Sn	**Sn**	**06 43 35.1**	**+0.3**
EGRO	**El Granado**	**5.32**	**86**	P	**Pn**	**06 42 38.2**	**+1.4**
	comp=E,0.2nm,0.1s,SNR=7.9						
EGRO				S	**Sn**	**06 43 36.3**	**-1.8**
	comp=E,1.5nm,0.1s,SNR=5.3						
EGRO	**El Granado**	**5.32**	**86**	P	**Pn**	**06 42 38.2**	**+1.4**
	comp=E,0.2nm,0.1s,SNR=7.9						
EGRO				S	**Sn**	**06 43 36.3**	**-1.8**
	comp=E,1.5nm,0.1s,SNR=5.3						
PESTR	**Estremoz**	**5.40**	**72**	*e*Pn	**Pn**	**06 42 40.0**	**+2.1**
PESTR				*e*Sn	**Sn**	**06 43 40.0**	**-0.1**
PESTR				A	A	06 43 53.9	
	comp=E,3.3nm,0.7s						
PESTR	**Estremoz**	**5.40**	**72**	*e*Pn	**Pn**	**06 42 40.0**	**+2.1**
PESTR				*e*Sn	**Sn**	**06 43 40.0**	**-0.1**
	comp=E,3.3nm,0.7s						
PBAR	**Barrancos**	**5.71**	**80**	*e*Pn	**Pn**	**06 42 43.9**	**+1.8**
PBAR				*e*Sn	**Sn**	**06 43 47.0**	**-0.6**
PBAR				A	A	06 43 57.0	
	comp=E,2.2nm,0.3s						
PBAR	**Barrancos**	**5.71**	**80**	P	**Pn**	**06 42 43.9**	**+1.8**
PBAR				S	**Sn**	**06 43 47.0**	**-0.6**
	comp=E,2.2nm,0.3s						
PBAR	**Barrancos**	**5.71**	**80**	P	**Pn**	**06 42 43.9**	**+1.8**
PBAR				S	**Sn**	**06 43 47.0**	**-0.6**
	comp=E,2.2nm,0.3s						
PMRV	**Marv??o**	**5.71**	**67**	*e*Pn	**Pn**	**06 42 43.4**	**+1.3**
PMRV				*e*Sn	**Sn**	**06 43 46.8**	**-0.9**
PMRV				A	A	06 44 01.0	
	comp=E,2.3nm,0.3s						
PMRV	**Marv??o**	**5.71**	**67**	P	**Pn**	**06 42 43.4**	**+1.3**
PMRV				S	**Sn**	**06 43 46.8**	**-0.9**
	comp=E,2.3nm,0.3s						
PMRV	**Marv??o**	**5.71**	**67**	P	**Pn**	**06 42 43.4**	**+1.3**
PMRV				S	**Sn**	**06 43 46.8**	**-0.9**
	comp=E,2.3nm,0.3s						
EBAD	**Badajoz**	**5.81**	**74**	P	**Pn**	**06 42 45.6**	**+2.0**
	comp=E,1.2nm,0.1s,SNR=7.9						
EBAD				S	**Sn**	**06 43 47.7**	**-2.6**
	comp=E,3.9nm,0.2s,SNR=7.9						
EBAD	**Badajoz**	**5.81**	**74**	P	**Pn**	**06 42 45.6**	**+2.0**
	comp=E,1.2nm,0.1s,SNR=7.9						
EBAD				S	**Sn**	**06 43 47.7**	**-2.6**
	comp=E,3.9nm,0.2s,SNR=7.9						
PVIS	**Viseu**	**5.92**	**54**	*e*Sn	**Sn**	**06 43 52.0**	**-1.0**
PVIS				A	A	06 43 57.1	
	comp=E,2.7nm,0.3s						
PVIS	**Viseu**	**5.92**	**54**	S	**Sn**	**06 43 52.0**	**-1.0**
	comp=E,1.4nm,0.3s						
PVIS	**Viseu**	**5.92**	**54**	S	**Sn**	**06 43 52.0**	**-1.0**
	comp=E,1.4nm,0.3s						
EMIN	**Mina Concepcio**	**5.97**	**84**	P	**Pn**	**06 42 47.2**	**+1.6**
	comp=E,0.5nm,0.2s,SNR=7.9						
EMIN				S	**Sn**	**06 43 51.2**	**-2.9**
	comp=E,1.0nm,0.2s,SNR=7.9						
EMIN	**Mina Concepcio**	**5.97**	**84**	P	**Pn**	**06 42 47.2**	**+1.6**
	comp=E,0.5nm,0.2s,SNR=7.9						
EMIN				S	**Sn**	**06 43 51.2**	**-2.9**
	comp=E,1.0nm,0.2s,SNR=7.9						
POLO	**Lamas de Olo**	**6.36**	**49**	*e*Pn	**Pn**	**06 42 52.9**	**+1.8**
POLO	**Lamas de Olo**	**6.36**	**49**	*e*Pn	**Pn**	**06 42 52.9**	**+1.8**
PCAB	**Cabril**	**6.43**	**46**	*e*Sn	**Sn**	**06 44 05.3**	**-0.3**
PCAB	**Cabril**	**6.43**	**46**	S	**Sn**	**06 44 05.3**	**-0.3**
PCAB	**Cabril**	**6.43**	**46**	S	**Sn**	**06 44 05.3**	**-0.3**
PGAV	**Gavieira, Arco**	**6.47**	**43**	*e*Sn	**Sn**	**06 44 04.5**	**-2.0**
PGAV	**Gavieira, Arco**	**6.47**	**43**	*e*Sn	**Sn**	**06 44 04.5**	**-2.0**
ELOB	**Lobios**	**6.52**	**44**	P	**Pn**	**06 42 54.8**	**+1.5**
	comp=E,0.2nm,0.1s,SNR=7.9						
ELOB				S	**Sn**	**06 44 04.4**	**-3.3**
	comp=E,0.6nm,0.1s,SNR=7.9						
ELOB	**Lobios**	**6.52**	**44**	P	**Pn**	**06 42 54.8**	**+1.5**
	comp=E,0.2nm,0.1s,SNR=7.9						
MVO	**Moncorvo**	**6.71**	**53**	P	**Pn**	**06 42 57.7**	**+1.7**
	comp=E,0.7nm,0.2s,SNR=7.9						
MVO	**Moncorvo**	**6.71**	**53**	P	**Pn**	**06 42 57.7**	**+1.7**
	comp=E,0.7nm,0.2s,SNR=7.9						
EMAZ	**Mazaricos**	**6.85**	**34**	S	**Sn**	**06 44 10.7**	**-5.1**
	comp=E,1.2nm,0.1s,SNR=7.9						
EPLA	**Plasencia**	**6.88**	**64**	P	**Pn**	**06 42 59.8**	**+1.6**
	comp=E,0.4nm,0.4s,SNR=4.0						
EPLA				S	**Sn**	**06 44 14.4**	**-2.1**
	comp=E,1.0nm,0.1s,SNR=7.9						
EPLA	**Plasencia**	**6.88**	**64**	P	**Pn**	**06 42 59.8**	**+1.6**
	comp=E,0.4nm,0.4s,SNR=4.0						
EPLA				S	**Sn**	**06 44 14.4**	**-2.1**
	comp=E,1.0nm,0.1s,SNR=7.9						
ECAB	**El Cabril**	**6.97**	**81**	P	**Pn**	**06 43 01.0**	**+1.5**
	comp=E,0.5nm,0.1s,SNR=10						
ECAB				S	**Sn**	**06 44 15.6**	**-3.3**
	comp=E,0.4nm,0.2s,SNR=7.9						
ECAB	**El Cabril**	**6.97**	**81**	P	**Pn**	**06 43 01.0**	**+1.5**
	comp=E,0.5nm,0.1s,SNR=10						
ECAB				S	**Sn**	**06 44 15.6**	**-3.3**
	comp=E,0.4nm,0.2s,SNR=7.9						
EAGO	**Agolada(Pontev**	**7.16**	**39**	P	**Pn**	**06 43 03.7**	**+1.6**
	comp=E,0.4nm,0.2s,SNR=4.0						
EAGO				S	**Sn**	**06 44 16.3**	**-7.2**
	comp=E,0.7nm,0.1s,SNR=7.9						
EAGO	**Agolada(Pontev**	**7.16**	**39**	P	**Pn**	**06 43 03.7**	**+1.6**
	comp=E,0.4nm,0.2s,SNR=4.0						
ECAL	**Calabor**	**7.33**	**49**	P	**Pn**	**06 43 06.2**	**+1.7**
	comp=E,0.5nm,0.1s,SNR=7.9						
ECAL				S	**Sn**	**06 44 24.0**	**-3.8**
	comp=E,2.1nm,0.3s,SNR=7.9						
ECAL	**Calabor**	**7.33**	**49**	P	**Pn**	**06 43 06.2**	**+1.7**
	comp=E,0.5nm,0.1s,SNR=7.9						
EADA	**Adamuz**	**7.64**	**81**	P	**Pn**	**06 43 10.1**	**+1.4**
	comp=E,0.7nm,0.2s,SNR=7.9						
EADA				S	**Sn**	**06 44 33.6**	**-1.7**
	comp=E,0.5nm,0.1s,SNR=4.0						
EADA	**Adamuz**	**7.64**	**81**	P	**Pn**	**06 43 10.1**	**+1.4**
	comp=E,0.7nm,0.2s,SNR=7.9						
EADA				S	**Sn**	**06 44 33.6**	**-1.7**
	comp=E,0.5nm,0.1s,SNR=4.0						

WAR ***17*** *06:48:02.5, 51.47N×16.15E, h1km, Mw2.1*
CSEM ***17*** *06:48:02.1±0.6, 51.45N×16.20E, h1km, ML2.6/4, Error ellipse: s-maj=7.9km s-min=4.6km az=4.0*
PRU ***17*** *06:48:05.3, 51.35N×16.17E, h0km*
ISC 17 06:48:02.4±2.1, 51.44N±0.09×16.17E±0.05, h0km, n21, σ0s70/34, Poland

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KSP	**Ksiaz**	**0.60**	**172**	*e*Pg	**Pg**	**06 48 14.4**	**+0.4**
KSP				*e*Sg	**Sg**	**06 48 22.8**	**+1.0**
KSP	**Ksiaz**	**0.60**	**172**	*e*Pg	**Pg**	**06 48 14.4**	**+0.4**
KSP				*e*Sg	**Sg**	**06 48 22.8**	**+1.0**
KSP	**Ksiaz**	**0.60**	**172**	*e*Pg	**Pg**	**06 48 14.4**	**+0.4**
KSP				*e*Sg	**Sg**	**06 48 22.8**	**+1.0**
UPC	**Upice**	**0.94**	**186**	*e*Pg	**Pg**	**06 48 20.6**	**+0.2**
UPC				*e*SG	**Sg**	**06 48 33.1**	**+0.5**
	comp=Z,9.8nm,0.4s						
UPC	**Upice**	**0.94**	**186**	Pg	**Pg**	**06 48 20.6**	**+0.2**
UPC				Sg	**Sg**	**06 48 33.1**	**+0.5**
	9.8nm,0.4s						
DPC	**Dobruska-Polom**	**1.10**	**175**	*e*PG	**Pg**	**06 48 23.3**	**-0.1**
DPC				*e*SG	**Sg**	**06 48 38.1**	**+0.5**
	comp=Z,6.6nm,0.4s						
DPC	**Dobruska-Polom**	**1.10**	**175**	Pg	**Pg**	**06 48 23.3**	**-0.1**
DPC				Sg	**Sg**	**06 48 38.1**	**+0.5**
	6.6nm,0.4s						
PVCC	**Panska Ves**	**1.36**	**228**	*e*PG	**Pg**	**06 48 28.4**	**-0.1**
PVCC				*e*SG	**Sb**	**06 48 46.8**	**+0.1**
	comp=Z,17nm,0.4s						
PVCC	**Panska Ves**	**1.36**	**228**	Pg	**Pg**	**06 48 28.4**	**-0.1**
PVCC				Sg	**Sb**	**06 48 46.8**	**+0.1**
	17nm,0.4s						
KRLC	**Kraliky**	**1.42**	**164**	*e*PG	**Pn**	**06 48 28.9**	**-0.6**
KRLC				*e*SG	**Sg**	**06 48 47.8**	**-0.2**
KRLC	**Kraliky**	**1.42**	**164**	Pg	**Pn**	**06 48 28.9**	**-0.6**
KRLC				Sg	**Sg**	**06 48 47.8**	**-0.2**
BRG	**Berggiesshubel**	**1.51**	**249**	PG	**Pb**	**06 48 31.2**	**-0.1**
BRG				SG	**Sg**	**06 48 51.0**	**+0.1**
	7.2nm,0.3s						
GOPC	**GO Pecny, Ondr**	**1.76**	**210**	*e*SG	**Sg**	**06 48 59.0**	**0.0**
GOPC	**GO Pecny, Ondr**	**1.76**	**210**	Sg	**Sg**	**06 48 59.0**	**0.0**
PRU	**Pruhonice**	**1.78**	**216**	*e*SG	**Sb**	**06 48 58.9**	**+0.1**
	comp=Z,3.7nm,0.4s						
PRU	**Pruhonice**	**1.78**	**216**	Sg	**Sb**	**06 48 58.9**	**+0.1**
	3.7nm,0.4s						
MORC	**Moravsky Berou**	**1.88**	**152**	*e*Pn	**Pn**	**06 48 35.4**	**-0.5**
MORC				*e*Sg	**Sb**	**06 49 01.8**	**+0.1**
NKC	**Novy Kostel**	**2.65**	**244**	*e*SG	**Sg**	**06 49 29.2**	**+1.7**
NKC	**Novy Kostel**	**2.65**	**244**	Sg	**Sg**	**06 49 29.2**	**+1.7**
KHC	**Kasperske Hory**	**2.85**	**217**	*e*SG	**Sg**	**06 49 32.6**	**-1.2**
KHC	**Kasperske Hory**	**2.85**	**217**	Sg	**Sg**	**06 49 32.6**	**-1.2**

JMA ***17*** *06:50:02.6±0.3, 43.60N×147.36E, h23km, M3.7*
SKHL ***17*** *06:50:02.8±0.2, 43.74N×147.53E, h36km±4km, mb4.5/3*
ISC 17 06:50:01.6±2.9, 43.7N±0.1×147.6E±0.1, h34km±3km, n12, σ1s12/18, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SHO	**Shikotan**	**0.58**	**290**	*e*P	**Pb**	**06 50 13.2**	**-0.3**
SHO				AMB	AMB	06 50 15.6	
	290nm,0.3s						
SHO				*i* S	**Sb**	**06 50 21.1**	**-0.5**
SHO				A	A	06 50 21.7	
	1μm,0.3s						
SHO				A	A	06 50 21.7	
	5μm,0.3s						
YUK	**Yuzh-Kuril'sk**	**1.30**	**287**	*i* P	**Pn**	**06 50 23.2**	**-0.1**
YUK				AMB	AMB	06 50 26.3	
	320nm,0.4s						
YUK				*i* S	**Sn**	**06 50 38.5**	**-0.9**
YUK				A	A	06 50 39.2	
	1μm,0.3s						
YUK				A	A	06 50 39.2	
	570nm,0.3s						
NEM2	**Nemuro 2**	**1.37**	**258**	P	**Pn**	**06 50 24.1**	**-0.2**
NEM2				*e*S	**Sn**	**06 50 39.9**	**-1.3**
KUR	**Kuril'sk**	**1.58**	**7**	*e*P	**Pn**	**06 50 27.2**	**+0.1**
KUR				AMB	AMB	06 50 27.9	
	80nm,0.2s						
KUR				*i* S	**Sn**	**06 50 45.3**	**-1.0**
KUR				A	A	06 50 46.5	
	240nm,0.3s						
KUR				A	A	06 50 46.5	
	450nm,0.3s						
JRA	**Rausu**	**1.80**	**279**	P	**Pn**	**06 50 30.7**	**+0.5**
JNK	**Nakash**	**2.08**	**269**	P	**Pn**	**06 50 34.6**	**+0.5**
JAK	**Akkeshi**	**2.21**	**253**	P	**Pn**	**06 50 36.2**	**+0.4**
JAK				*e*S	**Sn**	**06 51 01.0**	**-0.9**
JTKR	**Abashiri--Toko**	**2.67**	**278**	P	**Pn**	**06 50 43.8**	**+1.6**
JAR	**Ashorobuto**	**2.80**	**264**	P	**Pn**	**06 50 45.3**	**+1.4**
JCH	**Churui**	**3.26**	**253**	P	**Pn**	**06 50 51.6**	**+1.3**
JCH				*e*S	**Sn**	**06 51 27.5**	**-0.4**
JNBK	**Urakawa-nobuka**	**3.81**	**250**	P	**Pn**	**06 50 58.7**	**+0.9**
YSS	**Yuzh-Sakhalins**	**4.73**	**316**	*e*P	**Pn**	**06 51 12.6**	**+2.2**

ISCJB ***17*** *06:52:17.0±0.5, 6.44S±0.04×130.32E±0.05, h90km, mb4.3/3, Error ellipse: s-maj=6.8km s-min=5.5km az=171.8*
IDC ***17*** *06:52:18.2±2.7, 6.46S×130.07E, h89km±37km, mb3.8/2, mb1 4.5/6, mb1mx3.7/37, mbtmp4.6/6, MS2.4/1, Ms1 2.4/1, ms1mx2.1/35, Error ellipse: s-maj=36.3km s-min=19.9km az=77.0*
DJA ***17*** *06:52:19.5±0.8, 6.41S×130.21E, h101km±15km, mb4.6/4, Error ellipse: s-maj=11.4km s-min=8.7km az=173.0*
ISC 17 06:52:17.2±0.7, 6.42S±0.04×130.41E±0.05, h90km, n25, σ3s11/37, mb4.2/3, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SAUI	**Saumlaki**	**1.78**	**150**	P	**Pn**	**06 52 50.8**	**+4.2**
SAUI				S	**Sn**	**06 53 14.7**	**+5.8**
FAKI	**Fak Fak**	**3.93**	**28**	P	**Pn**	**06 53 17.6**	**+2.2**
FAKI				S	**Sn**	**06 53 58.9**	**-1.6**
FAKI	**Fak Fak**	**3.93**	**28**	*e*Pn	**Pn**	**06 53 18.0**	**+2.6**
FAKI				*e*Sn	**Sn**	**06 54 01.2**	**+0.8**
SIJI	**Sorong**	**5.58**	**9**	P	**Pn**	**06 53 39.4**	**+1.5**
	16nm,0.3s,baz=90,slow=23,SNR=7.9						
SIJI				S	**Sn**	**06 54 38.4**	**-2.3**
	20nm,0.3s,baz=270,slow=23,SNR=8.6						
SANI	**Sanana**	**6.19**	**314**	P	**Pn**	**06 53 49.0**	**+2.9**
	40nm,0.6s,741nm0.2nm						
SANI				S	**Sn**	**06 54 54.9**	**-0.5**
	40nm,0.6s,741nm0.2nm						
SOEI	**Soe**	**6.92**	**241**	P	**Pn**	**06 53 59.5**	**+3.3**
	72nm,0.8s,1μm0.8nm						
SOEI				S	**Sn**	**06 55 13.7**	**+0.2**
	72nm,0.8s,1μm0.8nm						
SOEI	**Soe**	**6.92**	**241**	Pn	**Pn**	**06 53 56.9**	**+0.7**
SOEI				*e*Sn	**Sn**	**06 55 18.3**	**+4.7**
BATI	**Baumata**	**7.66**	**240**	P	**Pn**	**06 54 09.4**	**+3.3**
	21nm,0.6s,0.2nm						
BATI				S	**Sn**	**06 55 29.6**	**-1.8**
	21nm,0.6s,0.2nm						
BBSI	**Bau Bau**	**7.85**	**276**	P	**Pn**	**06 54 12.2**	**+3.5**
MMRI	**Maumere**	**8.39**	**254**	*e*Pn	**Pn**	**06 54 15.5**	**-0.6**
KAPI	**Kappang**	**10.70**	**277**	*e*Pn	**Pn**	**06 54 47.3**	**-0.2**
MRSI	**Marisa**	**10.88**	**309**	P	**Pn**	**06 54 54.3**	**+4.2**
JAY	**Jayapura**	**10.97**	**70**	P	**Pn**	**06 54 57.4**	**+6.1**
	0.1nm,0.3s,baz=197,slow=19,SNR=3.9						
FITZ	**Fitzroy Crossi**	**12.51**	**201**	P	**Pn**	**06 55 10.8**	**-1.1**
	3.4nm,0.3s,baz=34,slow=10,SNR=61						
FITZ				S	**Sn**	**06 57 22.0**	**-7.4**
	8.1nm,0.3s,baz=111,slow=14,SNR=4.7						
FITZ				LR	LR	07 01 10.5	
	comp=Z,18nm,21.9s,baz=106,slow=43						
FITZ	**Fitzroy Crossi**	**12.51**	**201**	*e*Pn	**Pn**	**06 55 12.2**	**+0.3**
FITZ				*e*Sn	**Sn**	**06 57 24.7**	**-4.7**
WRAB	**Tennant Creek**	**13.96**	**164**	*e*Pn	**Pn**	**06 55 31.7**	**+0.6**
	36nm,0.8s						
WRAB				*e*Sn	**Sn**	**06 58 01.5**	**-3.3**
WRA	**Warramunga Arr**	**13.97**	**165**	P	**Pn**	**06 55 31.5**	**+0.3**
	6.2nm,0.3s,baz=344,slow=13,SNR=100						
WRA				S	**Sn**	**06 58 00.1**	**-4.9**
	6.4nm,0.3s,baz=351,slow=22,SNR=8.9						
COEN	**Coen**	**14.62**	**122**	*e*Pn	**P**	**06 55 44.3**	**+0.8**
COEN				*e*Sn	**Sn**	**06 58 16.1**	**-4.7**
BBKI	**Banjar Baru**	**15.79**	**280**	P	P	06 56 03.8	+7.3
JAGI	**Jajag, Banyuwa**	**16.25**	**262**	*e*P	**P**	**06 56 00.8**	**-0.8**
	6.6nm,0.2s						
ASAR	**Alice Springs**	**17.47**	**169**	P	**Pn**	**06 56 18.2**	**+3.1**
	4.3nm,0.3s,baz=348,slow=9.9,SNR=106						
ASAR				S	**Sn**	**06 59 25.6**	**-4.0**
	1.2nm,0.3s,baz=348,slow=26,SNR=7.3						
MBWA	**Marble Bar**	**17.93**	**214**	*e*P	**Pn**	**06 56 21.5**	**+0.8**
	15nm,0.5s						
CISI	**Cisompet, Garu**	**22.45**	**266**	*e*P	**P**	**06 57 07.4**	**-1.8**
	46nm,0.7s						
STKA	**Stephens Creek**	**27.40**	**159**	P	**P**	**06 57 55.6**	**+1.4**
	1.7nm,0.5s,baz=342,slow=9.6,SNR=5.2						
CMAR	**Chiang Mai Arr**	**39.68**	**309**	P	**P**	**06 59 40.1**	**-0.8**
	1.0nm,0.3s,baz=134,slow=7.7,SNR=4.6						

ISCJB ***17*** *06:52:25.8±0.3, 43.65N±0.01×18.47E±0.02, h4km±3km, Error ellipse: s-maj=2.6km s-min=2.2km az=164.1*
LDG ***17*** *06:52:26.6±0.1, 43.61N×18.44E, h10km, Ml3.4/5, Error ellipse: s-maj=2.5km s-min=1.6km az=35.0*
PDG ***17*** *06:52:27.0±0.4, 43.61N×18.48E, h12km, MD3.3/7, ML3.3/12, Error ellipse: s-maj=0.4km s-min=0.7km az=0.0*
BEO ***17*** *06:52:27.2±0.5, 43.63N×18.43E, h11km±3km, M3.3/1*
CSEM ***17*** *06:52:27.0±0.1, 43.63N×18.52E, h2km, ML3.3, Error ellipse: s-maj=2.7km s-min=2.0km az=46.0*
PRU ***17*** *06:52:28.4, 43.67N×18.42E, h0km*
NEIC ***17*** *06:52:28.9±0.0, 43.49N×18.53E, h11km, ML3.3(PDG), After PDG.*
NEIC Felt at Sarajevo.
ISC 17 06:52:26.4±1.0, 43.66N±0.02×18.43E±0.02, h8km±8km, n200, σ2s08/277, 30C-35D, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
UPM	**Unac-Piva**	**0.57**	**143**	↑*i*Pg	**Pg**	**06 52 37.4**	**-0.1**
UPM				*e*Sg	**Sg**	**06 52 44.8**	**-0.2**
UPM	**Unac-Piva**	**0.57**	**143**	↑*i*Pg	**Pg**	**06 52 37.4**	**-0.1**
UPM				*e*Sg	**Sg**	**06 52 44.8**	**-0.2**
BBLS	**Lazići**	**0.74**	**73**	↓*i*Pg	**Pb**	**06 52 41.3**	**-0.3**
BBLS				*e*Sg	**Sb**	**06 52 51.4**	**-0.4**
BBLS	**Lazići**	**0.74**	**73**	*e*Pg	**Pb**	**06 52 41.0**	**-0.6**
BBLS				*e*Sg	**Sg**	**06 52 50.8**	**+0.6**
BRY	**Bratogost**	**0.76**	**174**	↓*i*Pg	**Pg**	**06 52 40.0**	**-1.0**
BRY				*e*Sg	**Sg**	**06 52 51.0**	**+0.1**
BRY	**Bratogost**	**0.76**	**174**	↓*i*Pg	**Pg**	**06 52 40.0**	**-1.0**
BRY				*e*Sg	**Sg**	**06 52 51.0**	**+0.1**
PLE	**Pljevlja**	**0.77**	**115**	↓*i*Pg	**Pg**	**06 52 40.8**	**-0.5**
PLE				*e*Sg	**Sg**	**06 52 51.6**	**+0.3**
PLE	**Pljevlja**	**0.77**	**115**	↓*i*Pg	**Pg**	**06 52 40.8**	**-0.5**
PLE				*e*Sg	**Sg**	**06 52 51.6**	**+0.3**
NKY	**Niksic**	**0.94**	**154**	↑*i*Pg	**Pg**	**06 52 43.2**	**-1.3**
NKY				*e*Sg	**Sg**	**06 52 57.1**	**+0.4**
NKY	**Niksic**	**0.94**	**154**	↑*i*Pg	**Pg**	**06 52 43.2**	**-1.3**
NKY				*e*Sg	**Sg**	**06 52 57.1**	**+0.4**
TREB	**Trebinje**	**0.94**	**184**	↓*i*Pg	**Pg**	**06 52 43.8**	**-0.7**
TREB				*e*Sg	**Sb**	**06 52 57.4**	**-0.2**
TREB	**Trebinje**	**0.94**	**184**	↓*i*Pg	**Pg**	**06 52 43.8**	**-0.7**
TREB				*e*Sg	**Sb**	**06 52 57.4**	**-0.2**
STON	**Ston**	**0.95**	**214**	*i* Pg	**Pg**	**06 52 43.5**	**-1.1**
STON				Sg	**Sg**	**06 52 57.6**	**+0.6**
STON	**Ston**	**0.95**	**214**	*i* Pg	**Pg**	**06 52 43.5**	**-1.1**
STON				Sg	**Sg**	**06 52 57.5**	**+0.6**
NKME	**Niksic**	**0.97**	**157**	↓*i*Pg	**Pg**	**06 52 43.8**	**-1.2**
NKME				*e*Sg	**Sb**	**06 52 58.3**	**-0.2**
NKME	**Niksic**	**0.97**	**157**	↓*i*Pg	**Pg**	**06 52 43.8**	**-1.2**
NKME				*e*Sg	**Sb**	**06 52 58.3**	**-0.2**
DOB	**Doboj**	**1.10**	**348**	*e*Pg	**Pb**	**06 52 47.7**	**0.0**
DOB				*e*Sg	**Sn**	**06 53 03.7**	**+0.1**
CEME	**Cevo**	**1.17**	**162**	↓*i*Pg	**Pg**	**06 52 47.1**	**-1.7**
CEME				*e*Sg	**Sb**	**06 53 04.4**	**+0.2**
CEME	**Cevo**	**1.17**	**162**	↓*i*Pg	**Pg**	**06 52 47.1**	**-1.7**
CEME				*e*Sg	**Sb**	**06 53 04.4**	**+0.2**
SJES	**Sjenica**	**1.19**	**109**	↑*i*Pg	**Pg**	**06 52 48.5**	**-0.8**
SJES				*e*Sg	**Sg**	**06 53 04.1**	**-0.7**
TEKS	**Tekeris**	**1.19**	**41**	*i* Pg	**Pn**	**06 52 50.5**	**+1.0**
TEKS				*e*Sg	**Sn**	**06 53 06.5**	**+0.6**
TEKS	**Tekeris**	**1.19**	**41**	*i* Pg	**Pn**	**06 52 50.5**	**+1.0**
TEKS				*e*Sg	**Sb**	**06 53 05.2**	**+0.3**
HCY	**Herceg Novi**	**1.21**	**178**	↓*i*Pg	**Pg**	**06 52 48.9**	**-0.7**
HCY				*e*Sg	**Sn**	**06 53 07.0**	**+0.8**
HCY	**Herceg Novi**	**1.21**	**178**	↓*i*Pg	**Pg**	**06 52 48.9**	**-0.7**
HCY				*e*Sg	**Sg**	**06 53 05.0**	**-0.3**
DIVS	**Divibare**	**1.21**	**68**	↓*i*Pg	**Pb**	**06 52 49.8**	**+0.1**
DIVS				*e*Sg	**Sn**	**06 53 06.4**	**-0.1**
DIVS	**Divibare**	**1.21**	**68**	↓*i*Pg	**Pb**	**06 52 49.8**	**+0.1**
DIVS				*e*Sg	**Sg**	**06 53 05.1**	**-0.3**
IVAS	**Ivanjica**	**1.25**	**93**	*i* Pg	**Pg**	**06 52 49.3**

SIRR	Siria	3.47	40	⇑	*i*	P	Pn	06 53 21.0 +0.2
SIRR	Siria	3.47	40	⇑	*i*	P	Pn	06 53 21.0 +0.2
SIRR						S	Sn	06 54 01.7 -0.4
CEY	Cerknica	3.53	307		*e*	Pn	Pn	06 53 23.2 +1.6
GZR	Gura Zlata	3.56	59	⇓	*i*	P	Pn	06 53 22.8 +0.8
GZR	Gura Zlata	3.56	59	⇓	*i*	P	Pn	06 53 22.8 +0.8
VTS	Vitosha	3.66	105	⇑	*i*	P	Pn	06 53 20.5 -2.9
VTS	Vitosha	3.66	105	⇑	*i*	P	Pn	06 53 20.5 -2.9
VTS	Vitosha	3.66	105		*e*	Pn	Pn	06 53 24.9 +1.5
VTS	Vitosha	3.66	105		*e*	Pn	Pn	06 53 24.9 +1.5
LJU	Ljubljana	3.66	312		*e*	Pn	Pn	06 53 25.1 +1.7
CSKK	Cs˙‡kako	3.71	358		*e*	Pn	Pn	06 53 24.6 +0.6
CSKK	Cs˙‡kako	3.71	358		*e*	PKPPKPd	Pn	06 53 24.6 +0.6
SOKA	Soboth	3.86	323		*i*	Pn	Pn	06 53 27.9 +1.7
	6.5nm,0.1s,SNR=40							
SOKA					*i*	Sn	Sn	06 54 11.0 -0.7
	11nm,0.4s							
SOKA	Soboth	3.86	323			Pn	Pn	06 53 27.9 +1.7
	6.5nm,0.1s,SNR=40							
SOKA						Sn	Sn	06 54 11.0 -0.7
	11nm,0.4s							
TRI	Trieste	3.91	303		*e*	Pn	Pn	06 53 29.7 +2.9
TRI	Trieste	3.91	303		*e*	Pn	Pn	06 53 29.7 +2.9
AQU	L'Aquila	3.91	252		*e*	Sn	Sn	06 54 15.0 +2.0
AQU	L'Aquila	3.91	252		*e*	Sn	Sn	06 54 15.0 +2.0
OBKA	Obir	3.96	317		*i*	Pn	Pn	06 53 29.9 +2.3
	6.2nm,0.2s,SNR=13							
OBKA	Obir	3.96	317			Pn	Pn	06 53 29.9 +2.3
	6.2nm,0.2s,SNR=13							
ARSA	Arzberg	4.13	331		*i*	Pn	Pn	06 53 31.7 +1.8
	27nm,0.5s							
ARSA					*i*	Sn	Sn	06 54 17.6 -0.8
	19nm,0.5s							
ARSA	Arzberg	4.13	331			Pn	Pn	06 53 31.7 +1.8
	27nm,0.5s							
ARSA						Sn	Sn	06 54 17.6 -0.8
	19nm,0.5s							
LOT	Lotru	4.21	63	⇓	*i*	P	Pn	06 53 31.5 +0.4
LOT	Lotru	4.21	63	⇓	*i*	P	Pn	06 53 31.5 +0.4
DRGR		4.36	42	⇓	*i*	P	Pn	06 53 34.7 +1.7
DRGR		4.36	42	⇓	*i*	P	Pn	06 53 34.7 +1.7
PSZ	Piszkesteto	4.38	13	⇑	*i*	P	Pb	06 53 40.2 -3.5
PSZ	Piszkesteto	4.38	13		*e*	Pn	Pn	06 53 34.3 +0.9
PSZ					*e*	Sn	Sn	06 54 23.2 -1.4
PSZ	Piszkesteto	4.38	13	⇓	*e*	Pn	Pn	06 53 34.2 +0.9
PSZ					*e*	Sn	Sn	06 54 23.2 -1.4
PSZ	Piszkesteto	4.38	13		*e*	Pn	Pn	06 53 34.3 +0.9
MYKA	Terra Mystica	4.51	313		*i*	Pn	Pn	06 53 38.1 +3.1
	2.5nm,0.3s							
MYKA	Terra Mystica	4.51	313			Pn	Pn	06 53 38.1 +3.1
	2.5nm,0.3s							
CONA	Conrad Observa	4.63	338		*i*	Pn	Pn	06 53 38.4 +1.6
	2.7nm,0.3s							
CONA					*i*	Sn	Sn	06 54 30.3 -0.5
	10nm,0.5s							
CONA	Conrad Observa	4.63	338			Pn	Pn	06 53 38.4 +1.6
	2.7nm,0.3s							
CONA						Sn	Sn	06 54 30.3 -0.5
	10nm,0.5s							
VYHS	Vyhne	4.85	3		*e*	Pn	Pn	06 53 40.8 +1.1
VYHS					*e*	Sn	Sn	06 54 34.7 -1.3
VYHS	Vyhne	4.85	3		*e*	PN	Pn	06 53 40.8 +1.1
VYHS					*e*	SN	Sn	06 54 34.7 -1.3
SMOL	Smolenice	4.91	352		*e*	Sn	Sn	06 54 36.8 -0.7
SMOL	Smolenice	4.91	352		*e*	SN	Sn	06 54 36.8 -0.7
KBA	Koelnbreinsper	4.95	315		*e*	Pn	Pn	06 53 43.8 +2.5
	3.8nm,0.3s,SNR=6.1							
KBA					*i*	Sn	Sn	06 54 39.7 +0.8
	5.3nm,0.4s							
KBA	Koelnbreinsper	4.95	315			Pn	Pn	06 53 43.8 +2.5
	3.8nm,0.3s,SNR=6.1							
KBA						Sn	Sn	06 54 39.7 +0.8
	5.3nm,0.4s							
KECS	Kecovo	5.04	16		*e*	Pn	Pn	06 53 43.5 +1.2
KECS					*e*	Sn	Sn	06 54 39.2 -1.4
KECS	Kecovo	5.04	16		*e*	PN	Pn	06 53 43.4 +1.2
KECS					*e*	SN	Sn	06 54 39.2 -1.4
VOIR		5.05	67	⇓	*i*	P	Pn	06 53 44.5 +1.9
VOIR		5.05	67	⇓	*i*	P	Pn	06 53 44.5 +1.9
MOA	Molln	5.11	327		*i*	Pn	Pn	06 53 45.9 +2.7
	2.5nm,0.1s,SNR=14							
MOA					*i*	Sn	Sn	06 54 42.8 +0.4
	21nm,0.6s							
MOA	Molln	5.11	327			Pn	Pn	06 53 45.9 +2.7
	2.5nm,0.1s,SNR=14							
MOA						Sn	Sn	06 54 42.8 +0.4
	21nm,0.6s							
ABTA	Abfaltersbach	5.20	309		*i*	Pn	Pn	06 53 47.0 +2.4
	2.8nm,0.2s,SNR=12							
ABTA	Abfaltersbach	5.20	309			Pn	Pn	06 53 47.0 +2.4
	2.8nm,0.2s,SNR=12							
AGG	Agios Georgios	5.48	146		*e*	Pn	Pn	06 53 50.6 +2.2
AGG					*e*	Sn	Sn	06 54 52.5 +0.8
AGG	Agios Georgios	5.48	146		*e*	Pn	Pn	06 53 50.6 +2.2
AGG					*e*	Sn	Sn	06 54 52.5 +0.8
MLR	Muntele Rosu	5.67	69		*e*	Pn	Pn	06 53 55.7 +4.6
VRAC	Vranov	5.79	348	⇑	*i*	P	Pb	06 54 06.6 -1.1
VRAC	Vranov	5.79	348		S		Sn	06 54 58.3 -1.0
VLC	Villacollemand	5.83	278		*e*	Pn	Pn	06 53 56.0 +2.8
VLC	Villacollemand	5.83	278		*e*	Pn	Pn	06 53 56.0 +2.8
WTTA	Wattenberg	5.99	309		*i*	Pn	Pn	06 53 59.3 +3.8
	3.0nm,0.3s							
WTTA	Wattenberg	5.99	309			Pn	Pn	06 53 59.3 +3.8
	3.0nm,0.3s							
WATA	Walderalm	6.06	310		*i*	Pn	Pn	06 54 00.2 +3.8
	3.2nm,0.2s							
WATA	Walderalm	6.06	310			Pn	Pn	06 54 00.2 +3.8
	3.2nm,0.2s							
STHS	Stebnicka Huta	6.08	18		*e*	SN	Sn	06 55 00.0 -6.3
GEA0	GERESS Array S	6.13	329		*e*	Pn	Pn	06 53 59.4 +2.0
GEA0	GERESS Array S	6.13	329		*e*	Pn	Pn	06 53 59.4 +2.0
GEA0					*e*	Sn	Sn	06 55 07.1 -0.6
GEC2	GERESS Array S	6.14	329		*e*	Pn	Pn	06 54 00.3 +2.8
GEC2	GERESS Array S	6.14	329		*e*	Pn	Pn	06 54 00.3 +2.8
GEC2					*e*	Sn	Sn	06 55 08.0 +0.1
MORC	Moravsky Berou	6.15	355	⇓	*i*	P	Pb	06 54 07.0 -6.8
MORC	Moravsky Berou	6.15	355		S		Sn	06 55 08.6 +0.4
MORC	Moravsky Berou	6.15	355		S		Sn	06 55 08.6 +0.4
MORC	Moravsky Berou	6.15	355		*e*	Sn	Sn	06 55 08.4 +0.2
MOTA	Moosalm	6.33	308		*i*	Pn	Pn	06 54 03.4 +3.2
	5.1nm,0.3s,SNR=7.0							
MOTA	Moosalm	6.33	308			Pn	Pn	06 54 03.4 +3.2
	5.1nm,0.3s,SNR=7.0							
FETA	Feichten	6.38	304		*i*	Pn	Pn	06 54 04.1 +3.2
	0.8nm,0.2s							
FETA					*i*	Sn	Sn	06 55 20.0 +5.9
	3.0nm,0.8s							
FETA	Feichten	6.38	304			Pn	Pn	06 54 04.1 +3.2
	0.8nm,0.2s							
KHC	Kasperske Hory	6.42	330		*e*	PN	Pn	06 54 04.2 +2.9
KHC					*e*	SN	Sn	06 55 13.1 -1.7
KHC	Kasperske Hory	6.42	330			Pn	Pn	06 54 04.2 +2.9
KHC	Kasperske Hory	6.42	330		*e*	Pn	Pn	06 54 04.9 +3.6
KHC					*e*	Sn	Sn	06 55 14.1 -0.7
FUORN	Ofenpass-Fuorn	6.49	300		*e*	Pn	Pn	06 54 05.1 +2.6
FUORN	Ofenpass-Fuorn	6.49	300		*e*	Pn	Pn	06 54 05.1 +2.6
PRU	Pruhonice	6.87	339		*e*	SN	Sn	06 55 26.6 +0.8
PRU	Pruhonice	6.87	339		Sn		Sn	06 55 26.6 +0.8
PGF	Pioggiola	6.99	264		*e*	Pn	Pn	06 54 06.5 -2.7
PGF	Pioggiola	6.99	264		*e*	P	Pn	06 54 11.6 +2.4
PGF	Pioggiola	6.99	264		*e*	P	Pn	06 54 11.6 +2.4
TUE	Stuetta	7.02	297		*e*	Pn	Pn	06 54 13.0 +3.3
TUE	Stuetta	7.02	297		*e*	Pn	Pn	06 54 13.0 +3.3
BRG	Berggiesshubel	7.84	339		SG		Sb	06 56 15.3 -0.6
	3.9nm,0.7s							
VSL	Villasalto	7.96	242		*e*	Pn	Pn	06 54 26.6 +4.2
VSL	Villasalto	7.96	242		*e*	Pn	Pn	06 54 26.6 +4.2
SBF	Sospel	7.96	275		*e*	Pn	Pn	06 54 20.3 -2.2
SBF	Sospel	7.96	275		*e*	P	Pn	06 54 25.4 +2.9
SBF	Sospel	7.96	275		*e*	P	Pn	06 54 25.4 +2.9
SENIN	Lac Senin/Sane	8.34	293		*e*	Pn	Pn	06 54 31.2 +3.4
SENIN	Lac Senin/Sane	8.34	293		*e*	Pn	Pn	06 54 31.2 +3.4
BFO	Black Forest	8.44	307		*e*	Pn	Pn	06 54 30.6 +1.6
BFO	Black Forest	8.44	307		*e*	Pn	Pn	06 54 30.6 +1.6
MBDF	Montbardon	8.45	281		*e*	Pn	Pn	06 54 27.0 -2.2
MBDF	Montbardon	8.45	281		*e*	P	Pn	06 54 31.8 +2.6
MBDF					*e*	Sn	Sn	06 55 57.5 -7.3
	2.5nm,0.3s							
MBDF	Montbardon	8.45	281		*e*	P	Pn	06 54 31.8 +2.6
CLL	Collm	8.49	336		*e*	Sb	Sb	06 56 32.0 -2.6
BNI	Bardonecchia	8.54	283		*e*	Pn	Pn	06 54 31.5 +1.1
BNI	Bardonecchia	8.54	283		*e*	Pn	Pn	06 54 31.5 +1.1
LPG	La Plagne	8.54	286		*e*	P	Pn	06 54 33.9 +3.3
LPG	La Plagne	8.54	286		*e*	P	Pn	06 54 33.9 +3.3
FRF	La Foret Royal	8.55	273		*e*	P	Pn	06 54 31.7 +1.2
FRF					*e*	Sn	Sn	06 55 59.0 -8.2
	1.3nm,0.3s							
FRF	La Foret Royal	8.55	273		*e*	P	Pn	06 54 31.7 +1.2
LPL	La Plagne	8.55	287		*e*	P	Pn	06 54 33.9 +3.1
LPL					*e*	Sn	Sn	06 56 00.2 -7.3
	5.1nm,0.5s							
LPL	La Plagne	8.55	287		*e*	P	Pn	06 54 33.9 +3.1
ORIF	Oris-en-Rattie	9.09	282		*e*	P	Pn	06 54 40.3 +2.3
ORIF					*e*	Sn	Sn	06 56 12.5 -8.1
	4.6nm,0.5s							
ORIF	Oris-en-Rattie	9.09	282		*e*	P	Pn	06 54 40.3 +2.3
CDF	Champ du Feu	9.10	305		*e*	Pn	Pn	06 54 35.9 -2.2
CDF					*e*	Sn	Sn	06 56 12.7 -8.0
	1.3nm,0.4s							
HINF	Hinteralfeld	9.10	301		*e*	Pn	Pn	06 54 35.6 -2.5
CABF	La Chapelle	9.21	293		*e*	Pn	Pn	06 54 37.5 -2.1
SMF	Signal de Mont	10.73	291		*e*	Pn	Pn	06 54 58.0 -2.3

NEIC ***17*** *07:13:42.3±0.0, 17.04N×61.73W, h65km, MD3.5(TRN), After TRN.*
NEIC Felt on Antigua.

TRN 17 07:13:42.2, 17.03N×61.74W, h65km, MD3.5, 1C-7D, Leeward Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
BPA	Boggy Peak	0.12	276	⇓	*e*	P	07 13 54.4	+2.4
BPA					*e*	S	07 14 01.5	+2.4
BPA	Boggy Peak	0.12	276			P	07 13 54.4	+2.4
BPA						S	07 14 01.5	+2.4
MLYT	Lee's Yard	0.53	234		*e*	P	07 13 56.6	+1.6
MLYT					*e*	S	07 14 06.3	+1.9
ANWB	Willy Bob	0.63	356	⇓	*e*	P	07 13 57.5	+1.5
ANWB					*e*	S	07 14 07.7	+1.5
ANWB	Willy Bob	0.63	356			P	07 13 57.5	+1.5
ANWB						S	07 14 07.7	+1.5
SEG	Port Louis	0.67	160	⇓	*i*	P	07 13 57.9	+1.5
GDHS	Morne Mazeau,	0.76	182			P	07 13 58.7	+1.1
GDHS						S	07 14 10.0	+1.2
SSG	Sans Toucher	0.94	177	⇓	*e*	P	07 14 01.2	+1.3
SCG	Saint Claude	1.00	177	⇓	*e*	P	07 14 02.1	+1.5
DOG	Dongo Capester	1.00	173	⇓	*e*	P	07 14 02.0	+1.4
HMG	Houelmont	1.05	178	⇓	*i*	P	07 14 03.0	+1.8
TBG	Guadaloupe-3	1.18	176		*e*	P	07 14 04.4	+1.6
TBG					*e*	S	07 14 20.9	+2.8
MGG	Marie-Galante	1.18	160		*e*	P	07 14 04.7	+1.9
MGG					*e*	S	07 14 20.0	+1.8
MGG	Marie-Galante	1.18	160			P	07 14 04.7	+1.9
MGG						S	07 14 20.0	+1.8
SEUS	St. Eustatius	1.27	291		*i*	P	07 14 05.8	+1.8
SEUS					*e*	S	07 14 22.7	+2.3
SEUS	St. Eustatius	1.27	291			P	07 14 05.8	+1.8
SEUS						S	07 14 22.7	+2.3
DWS	Wesley	1.51	164		*i*	P	07 14 08.4	+1.1
DWS					*e*	S	07 14 28.1	+2.0
DWS	Wesley	1.51	164			P	07 14 08.4	+1.1
DWS						S	07 14 28.1	+2.0
BBL	Barber's Block	1.52	170		*i*	P	07 14 08.9	+1.5
BBL					*e*	S	07 14 28.3	+2.0
BBL	Barber's Block	1.52	170			P	07 14 08.9	+1.5
BBL						S	07 14 28.3	+2.0
SABA	Saba	1.55	292		*e*	P	07 14 09.7	+2.0
SABA					*e*	S	07 14 29.4	+2.4
SABA	Saba	1.55	292			P	07 14 09.7	+2.0
SABA						S	07 14 29.4	+2.4
SMRT	St. Maarten	1.63	309		*e*	P	07 14 09.9	+1.1
SMRT					*e*	S	07 14 30.1	+1.2
SMRT	St. Maarten	1.63	309			P	07 14 09.9	+1.1
SMRT						S	07 14 30.1	+1.2
DLPL	La Plaine	1.76	164		*e*	P	07 14 11.2	+0.6
DLPL					*e*	S	07 14 34.4	+2.4
DLPL	La Plaine	1.76	164			P	07 14 11.2	+0.6
DLPL						S	07 14 34.4	+2.4
PCM	Pelee Case Pet	2.26	167		*e*	P	07 14 18.7	+1.2
PCM	Pelee Case Pet	2.26	167		*e*	P	07 14 19.3	+1.8
BAMF	Morne Balai	2.28	166		*e*	P	07 14 19.4	+1.7
CXM	Morne La Croix	2.28	166		*e*	P	07 14 19.1	+1.4
CXM					*e*	S	07 14 44.8	+0.1
GBMF	Grand Be	2.29	166		*e*	P	07 14 19.0	+1.2
PML	Morne Lenard	2.30	167		*e*	P	07 14 19.2	+1.2
FDF	Fort de France	2.36	166		*e*	P	07 14 20.9	+2.2
FDF					*e*	S	07 14 48.4	+1.9
FDF	Fort de France	2.36	166			P	07 14 20.9	+2.2
FDF						S	07 14 48.4	+1.9
TRMF	Trois Ilets	2.57	165	⇓	*e*	P	07 14 23.4	+1.8
BIM	Bigot	2.58	166		*e*	P	07 14 23.9	+2.1
MVM	Montagne Vaucl	2.59	162		*e*	P	07 14 23.4	+1.5
SLM	Petit Manier	3.09	165		*e*	P	07 14 30.6	+1.8
SLB	Belfond	3.26	168		*e*	P	07 14 33.5	+2.5
MCLT	Moule a Chique	3.39	167		*e*	P	07 14 34.9	+2.0
MCLT					*e*	S	07 15 13.4	+1.5
SVV	Soufriere Volc	3.73	172		*e*	P	07 14 40.0	+2.6
SVB	Belmont	3.77	173		*e*	P	07 14 39.8	+1.8
SVB					*e*	S	07 15 20.9	-0.2
FCV	Fort Charlotte	3.88	173		*e*	P	07 14 41.7	+2.2
GRGR	Grenville	4.87	179		*e*	P	07 14 54.5	+1.4

JMA ***17*** *07:33:54.7±0.1, 40.25N×143.00E, h14km±2km, M5.5*
ISCJB ***17*** *07:33:55.8±0.5, 40.25N±0.02×142.91E±0.02, h28km±3km, mb5.4/474, Error ellipse: s-maj=2.9km s-min=1.8km az=155.1*
BJI ***17*** *07:33:55.6, 40.18N×142.77E, h31km, mb5.6/86, mB5.5/60, Ms5.9/89, Ms7 5.7/83*
MOS ***17*** *07:33:57.5±0.8, 40.40N×142.84E, h38km, mb5.8/141, MS5.9/38, Error ellipse: s-maj=5.7km s-min=3.7km az=101.6*
IDC ***17*** *07:33:58.0±3.3, 40.28N×142.93E, h33km±24km, mb4.9/30, mb1 5.0/37, mb1mx4.9/45, mbtmp5.1/37, ML4.5/5, Error ellipse: s-maj=13.7km s-min=8.8km az=102.0*
NEIC ***17*** *07:33:57.8±0.1, 40.29N×142.86E, h30km, mb5.3/293, Error ellipse: s-maj=2.6km s-min=1.6km az=146.0*
NEIC Felt [III] at Misawa. Recorded [3 JMA] in Aomori and Iwate.

ISC 17 07:33:57.9±0.4, 40°29N±0°.03×142°87E±0°.03, h32km±2km, h33km:pP-P, n1533, o1925/1674, mb5.5/511, 109C-45D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
JTH	Tanohata	0.85	246	⇓	P		07 34 12.4	-1.2
JTH					*e*	S	07 34 24.5	-0.4
JANG	Nango	1.04	275	⇓	P		07 34 15.7	-0.5
MIYJ	Miyakonagasawa	1.08	229	⇓	P		07 34 15.3	-1.5
MIYJ					*e*	S	07 34 29.7	-0.9
JKZ	Kuzumaki	1.22	256	⇓	P		07 34 18.2	-0.5
JKZ					*e*	S	07 34 35.7	-0.2
JTM	Tenmabayashi	1.46	290	⇓	P		07 34 22.5	+0.5
JTM					*e*	S	07 34 42.4	-0.2
JOM	Ohasama	1.47	236	⇓	P		07 34 21.8	-0.3
JOM					*e*	S	07 34 41.8	-1.0
JAH	Hinai	1.71	267	⇓	P		07 34 26.4	+0.9
JAH					*e*	S	07 34 49.7	-0.2
ERM	Erimo	1.73	7		*ce*	P	07 34 25.5	-0.2
ERM					pmax	pmax		
	comp=Z,747nm,0.8s							
ERM	Erimo	1.73	7		*e*	Pn	07 34 25.6	-0.1
ERM					*e*	Sn	07 34 46.8	+0.1
JEM	Erimo	1.73	7		P		07 34 25.2	-0.5
JOT	Ohata	1.76	309	⇓	P		07 34 26.7	+0.6
JOT					*e*	S	07 34 50.9	-0.3
JMK	Ichinoseki	1.85	224	⇓	P		07 34 27.9	+0.6
JMK					*e*	S	07 34 52.0	-1.8
JRG	Rokugo	1.94	243	⇓	P		07 34 29.4	+0.8
JRG					*e*	S	07 34 55.4	-1.0
JNBK	Urakawa-nobuka	1.99	358		P		07 34 29.9	+0.7
JNBK					*e*	S	07 34 54.8	+1.8
ASAJ	Asahikawa	3.83	357		Pn		07 34 56.1	+1.7
	baz=217,slow=1.1							
ASAJ					Sn		07 35 34.8	-3.6
	baz=90,slow=30,SNR=7.1							
YUK	Yuzh-Kuril'sk	4.35	30		*e*	P	07 34 59.7	-2.0
MJB9	Matsu-Tunnel	5.24	226		*e*	Pn	07 35 16.4	+2.5
MAJO	Matsushiro	5.24	226		*e*	P	07 35 16.1	+2.2
MAJO	Matsushiro	5.24	226		*e*	Pn	07 35 16.1	+2.2
MAT	Matsushiro	5.24	226		P		07 35 16.0	+2.0
MAT					S		07 36 15.1	+1.9
MJAR	Matsushiro Arr	5.24	226		Pn		07 35 16.0	+2.0
	comp=Z,38nm,0.3s,baz=28,slow=13,SNR=547							
MJAR	Matsushiro Arr	5.24	226		P		07 35 16.0	+2.0
MJAR					pmax	pmax		
	comp=Z,38nm,0.3s							
KUR	Kuril'sk	6.15	35		*d*	P	07 35 24.7	-1.8
KUR					*e*	S	07 36 31.1	-4.6
KUR					pmax	pmax		
	comp=Z,910nm,0.5s							
KUR					pmax	pmax		
	comp=N,208nm,0.6s							
KUR					pmax	pmax		
	comp=E,295nm,0.8s							
KUR					pmax	pmax		
	comp=Z,614nm,4.6s							
KUR					pmax	pmax		
	comp=N,375nm,4.7s							
KUR					smax	smax		
	comp=E,17μm,2.3s							
KUR					smax	smax		
	comp=N,6μm,1.3s							
KUR					smax	smax		
	comp=N,2μm,0.5s							
KUR					smax	smax		
	comp=E,1μm,0.5s							
YSS	Yuzh-Sakhalins	6.66	359	⇑	*i*	P	07 35 34.0	+0.6
YSS					*e*	S	07 36 46.0	-2.1
YSS					pmax	pmax		
	comp=N,70nm,0.9s							
YSS					pmax	pmax		
	comp=E,110nm,0.9s							
YSS					pmax	pmax		
	comp=Z,120nm,0.9s							
YSS					pmax	pmax		
	comp=Z,1μm,10.0s							
YSS					MLR	MLR		
	comp=Z,35μm,19.0s							
YSS					MLR	MLR		
	comp=N,26μm,20.0s							
YSS					MLR	MLR		
	comp=E,26μm,21.0s							
YSS	Yuzh-Sakhalins	6.66	359		*e*	Pn	07 35 34.2	+0.8
INU	Inuyama	6.77	225		*e*	Pn	07 35 36.8	+1.9
JHJ2	Mitsune	7.58	200		*e*	Pn	07 35 45.2	-0.8
JHJ	Hachijo jima 2	7.58	200		Pn		07 35 44.5	-1.6
	comp=E,86nm,0.3s,baz=261,slow=23,SNR=24							
JHJ					Sn		07 37 05.5	-5.4
	comp=E,64nm,0.3s,baz=225,slow=20,SNR=2.2							
VLA	Vladivostok	8.69	293		*c*	P	07 36 04.6	+3.4
UGL	Uglegorsk	8.80	357		*e*	P	07 36 10.0	+7.2
UGL					*e*	S	07 37 44.0	+3.3
UGL					pmax	pmax		
	comp=Z,459nm,0.9s							
UGL					pmax	pmax		
	comp=Z,1μm,4.0s							
UGL					smax	smax		
	comp=N,4μm,6.0s							
UGL					smax	smax		
	comp=E,4μm,6.0s							
UGL					MLR	MLR		
	comp=N,52μm,18.0s							
UGL					MLR	MLR		
	comp=E,30μm,18.0s							
UGL					MLR	MLR		
	comp=Z,30μm,18.0s							
USRK	Ussuriysk Ar.	8.96	299		Pn		07 36 09.0	+4.0
	comp=Z,5.7nm,0.3s,baz=98,slow=14,SNR=123							
MSHR	Mys Shultsa	9.09	288		*e*	P	07 36 08.5	+1.8
HABR	Khabarovsk	9.90	328		*ce*	P	07 36 16.5	-1.3
HABR					*e*	S	07 38 07.8	0.0
HABR					pmax	pmax		
	comp=Z,195nm,1.6s							
HABR					pmax	pmax		
	comp=N,110nm,1.6s							
HABR					pmax	pmax		
	comp=E,112nm,1.6s							
HABR					MLR	MLR		
	comp=Z,27μm,12.0s							
TYV	Tymovskoe	10.57	359		*e*	P	07 36 27.9	+0.9
TYV					*e*	S	07 38 28.1	+4.0
TYV					pmax	pmax		
	comp=Z,500nm,2.4s							
TYV					smax	smax		
	comp=E,4μm,8.4s							
TYV					MLR	MLR		
	comp=Z,46μm,17.0s							
MDJ	Mudanjiang	10.72	298		P		07 36 31.8	+2.8
MDJ					S		07 38 33.4	+5.6
MDJ					PcP		07 42 31.4	+1.9
MDJ					ScP		07 46 00.4	+1.0
MDJ					PcS		07 46 04.3	+1.2
MDJ					pmax	pmax		
	comp=Z,95nm,1.1s							
MDJ					pmax	pmax		
	comp=Z,2μm,4.7s							
MDJ					LR	LR		
	comp=Z,22μm,14.1s							
MDJ					LR	LR		
	comp=Z,54μm,15.1s							
MDJ					LR	LR		
	comp=Z,83μm,14.8s							
MDJ	Mudanjiang	10.72	298		*e*	Pn	07 36 31.0	+2.0
KLR	Kul'dur	11.91	322		*c*	P	07 36 45.5	+0.1
JNU	Nakatsue	11.99	237		Pn		07 36 48.0	+1.5
	comp=Z

	comp=Z,3μm,4.4s								
DL2					LR	LR			
	comp=Z,8μm,14.5s								
DL2					LR	LR			
	comp=Z,11μm,19.4s								
DL2					LR	LR			
	comp=Z,19μm,24.7s								
PET	**Petropavlovsk**	**16.67**	**35**	⇓*i*P		**Pn**	**07 37 47.4**	**-1.4**	
PET				*e*S		**Sn**	**07 40 50.0**	**-2.7**	
PET				pmax	pmax				
	comp=Z,30nm,0.8s								
PET				pmax	pmax				
	comp=Z,500nm,9.8s								
PET				MLR	MLR				
	comp=Z,12μm,18.0s								
PET				MLR	MLR				
	comp=Z,11μm,17.0s								
PET	**Petropavlovsk**	**16.67**	**35**	*e*Pn		**Pn**	**07 37 47.5**	**-1.4**	
	comp=Z,45nm,1.0s								
JOW	**Kunigami**	**18.08**	**227**	P		**Pn**	**07 38 05.3**	**-1.2**	
	comp=Z,2.5nm,0.3s,baz=68,slow=11,SNR=6.0								
JOW	**Kunigami**	**18.08**	**227**	*e*Pn		**Pn**	**07 38 04.5**	**-2.0**	
	comp=Z,647nm,1.9s								
HIA	**Hailar**	**18.65**	**306**	*e*P		**P**	**07 38 11.5**	**-1.4**	
HIA				pmax	pmax				
	comp=Z,100nm,0.8s								
HIA	**Hailar**	**18.65**	**306**	*e*P		**P**	**07 38 11.5**	**-1.4**	
	comp=Z,100nm,0.8s								
SSE	**Sheshan**	**19.82**	**249**	P		**P**	**07 38 24.1**	**-1.6**	
SSE				sP		**sP**	**07 38 39.6**	**+1.2**	
SSE				S		**S**	**07 42 05.9**	**-1.3**	
SSE				pmax	pmax				
	comp=Z,35nm,0.7s								
SSE				pmax	pmax				
	comp=Z,260nm,3.2s								
SSE				LR	LR				
	comp=Z,12μm,14.6s								
SSE				LR	LR				
	comp=Z,4μm,14.5s								
SSE				LR	LR				
	comp=Z,9μm,22.1s								
MA2	**Magadan**	**19.93**	**12**	P		**P**	**07 38 26.8**	**0.0**	
	comp=Z,2.4nm,0.3s,baz=200,slow=8.9,SNR=30								
CLNS	**Chul'man**	**20.28**	**331**	*e*P		**P**	**07 38 29.2**	**-1.4**	
CLNS				*e*			07 38 49.2		
CLNS				*e*SS		Sn	07 42 56.5	+37	
CLNS				*e*			07 49 52.1		
CLNS				pmax	pmax				
	comp=Z,78nm,1.0s								
CLNS				pmax	pmax				
	comp=E,32nm,1.1s								
CLNS				pmax	pmax				
	comp=N,61nm,1.2s								
CLNS				pmax	pmax				
	comp=E,43nm,0.9s								
CLNS				pmax	pmax				
	comp=Z,94nm,0.9s								
CLNS				pmax	pmax				
	comp=N,73nm,0.9s								
CLNS				MLR	MLR				
	comp=E,5μm,14.0s								
CLNS				MLR	MLR				
	comp=N,17μm,15.0s								
CLNS				MLR	MLR				
	comp=Z,22μm,16.0s								
BJI	**Beijing**	**20.38**	**278**	P		**P**	**07 38 29.8**	**-2.0**	
BJI				S		**S**	**07 42 18.1**	**-0.2**	
BJI				pmax	pmax				
	comp=Z,110nm,1.8s								
BJI				pmax	pmax				
	comp=Z,1μm,3.6s								
BJI				LR	LR				
	comp=Z,8μm,15.7s								
BJI				LR	LR				
	comp=Z,23μm,16.0s								
BJI				LR	LR				
	comp=Z,17μm,25.6s								
BJT	**Baijiatuan**	**20.39**	**278**	*e*P		**P**	**07 38 30.3**	**-1.6**	
BJT				pmax	pmax				
	comp=Z,204nm,0.9s								
BJT	**Baijiatuan**	**20.39**	**278**	*e*P		**P**	**07 38 30.3**	**-1.6**	
	comp=Z,204nm,0.9s								
TIA	**Tai'an**	**20.60**	**267**	⇑P		**P**	**07 38 32.3**	**-1.9**	
TIA				pmax	pmax				
	comp=Z,180nm,1.1s								
TIA				pmax	pmax				
	comp=Z,1μm,4.0s								
TIA				LR	LR				
	comp=Z,8μm,15.0s								
TIA				LR	LR				
	comp=Z,31μm,16.0s								
TIA				LR	LR				
	comp=Z,40μm,16.0s								
NJ2	**Nanjing**	**21.01**	**255**	*e*P		**P**	**07 38 36.9**	**-1.8**	
NJ2				pP		**pP**	**07 38 47.6**	**+0.3**	
NJ2				PP		**PnPn**	**07 39 00.8**	**+2.8**	
NJ2				S		**S**	**07 42 28.0**	**-3.0**	
NJ2				sS		**sS**	**07 42 41.8**	**-3.0**	
NJ2				pmax	pmax				
	comp=Z,230nm,0.9s								
NJ2				LR	LR				
	comp=Z,12μm,18.7s								
NJ2				LR	LR				
	comp=Z,18μm,16.0s								
NJ2				LR	LR				
	comp=Z,19μm,18.7s								
YOJ	**Yonaguni jima**	**22.95**	**233**	*e*P		**P**	**07 39 00.3**	**+0.9**	
YOJ				pmax	pmax				
	comp=Z,125nm,1.1s								
YOJ	**Yonaguni jima**	**22.95**	**233**	*e*P		**P**	**07 39 00.3**	**+0.9**	
	comp=Z,125nm,1.1s								
CIT	**Chita**	**23.28**	**310**	*e*P		**P**	**07 39 00.7**	**-1.9**	
CIT				*e*			07 39 11.2		
CIT				*e*			07 39 15.9		
CIT				*e*			07 39 30.2		
CIT				*e*			07 39 43.7		
CIT				pmax	pmax				
	comp=Z,462nm,1.8s								
SEY	**Seymchan**	**23.38**	**11**	P		**P**	**07 39 02.0**	**-1.4**	
	comp=Z,58nm,0.8s,baz=189,slow=6.8,SNR=72								
TATO	**Taipei**	**23.52**	**236**	*e*P		**P**	**07 39 03.3**	**-1.8**	
	comp=Z,142nm,0.8s								
HHC	**Hu-ho-hao-te**	**23.73**	**282**	*e*P		**P**	**07 39 04.6**	**-2.5**	
HHC				pP		pP	07 39 15.8	-0.5	
HHC				PP		**PnPn**	**07 39 33.0**	**-2.1**	
HHC				S		**S**	**07 43 12.9**	**-7.3**	
HHC				sS		pS	07 43 30.3	+0.4	
HHC				pmax	pmax				
	comp=Z,68nm,1.1s								
HHC				pmax	pmax				
	comp=Z,560nm,8.2s								
HHC				LR	LR				
	comp=Z,5μm,12.9s								
HHC				LR	LR				
	comp=Z,25μm,15.9s								
HHC				LR	LR				
	comp=Z,29μm,16.0s								
TIY	**Taiyuan**	**23.74**	**274**	*e*P		**P**	**07 39 05.3**	**-1.9**	
TIY				pP		**pP**	**07 39 14.8**	**-1.5**	
TIY				PP		**PnPn**	**07 39 41.4**	**+6.1**	
TIY				S		**S**	**07 43 19.8**	**-0.5**	
TIY				pmax	pmax				
	comp=Z,88nm,1.0s								
TIY				pmax	pmax				
	comp=Z,340nm,4.6s								
TIY				LR	LR				
	comp=Z,7μm,15.0s								
TIY				LR	LR				
	comp=Z,7μm,16.0s								
TIY				LR	LR				
	comp=Z,10μm,17.3s								
YHNB	**Yeheng**	**23.81**	**236**	*e*P		**P**	**07 39 06.1**	**-1.9**	
	comp=Z,96nm,1.1s								
NACB	**Ninganchiao**	**24.04**	**234**	*e*P		**P**	**07 39 07.5**	**-2.5**	
	comp=Z,71nm,1.1s								
SMY	**Shemya**	**24.62**	**49**	*e*P		**P**	**07 39 09.6**	**-5.4**	
SMY				pmax	pmax				
	comp=Z,180nm,0.9s								
SMY	**Shemya**	**24.62**	**49**	*e*P		**P**	**07 39 09.6**	**-5.4**	
	comp=Z,183nm,0.9s								
SSLB	**Suanglung**	**24.72**	**235**	*e*P		**P**	**07 39 14.8**	**-1.4**	
	comp=Z,47nm,1.0s								
YULB	**Yu-li**	**24.79**	**234**	*e*P		**P**	**07 39 15.7**	**-1.2**	
	comp=Z,57nm,0.9s								
BTO	**Baotou**	**24.92**	**281**	*e*P		**P**	**07 39 16.4**	**-1.7**	
WHN	**Wuhan**	**25.10**	**256**	P		**P**	**07 39 17.9**	**-1.7**	
WHN				S		**S**	**07 43 39.4**	**-2.8**	
WHN				pmax	pmax				
	comp=Z,2μm,1.9s								
WHN				LR	LR				
	comp=Z,41μm,14.4s								
WHN				LR	LR				
	comp=Z,61μm,15.4s								
WHN				LR	LR				
	comp=Z,84μm,15.9s								
TPUB	**Ta-pu**	**25.27**	**235**	*e*P		**P**	**07 39 19.8**	**-1.5**	
	comp=Z,87nm,1.2s								
TWG	**Pinlang**	**25.36**	**233**	*e*P		**P**	**07 39 21.1**	**-0.8**	
	comp=Z,931nm,1.2s								
QZH	**Quanzhou**	**25.43**	**240**	⇑*i*P		**P**	**07 39 21.5**	**-1.1**	
QZH				S		**S**	**07 43 43.3**	**-4.1**	
QZH				pmax	pmax				
	comp=Z,370nm,1.3s								
QZH				pmax	pmax				
	comp=Z,3μm,3.0s								
QZH				LR	LR				
	comp=Z,15μm,14.3s								
QZH				LR	LR				
	comp=Z,10μm,14.2s								
QZH				LR	LR				
	comp=Z,22μm,15.0s								
BOD	**Bodaibo**	**25.49**	**323**	*e*P		**P**	**07 39 22.3**	**-0.6**	
BOD				pmax	pmax				
	comp=Z,353nm,1.0s								
ULN	**Ulaanbaatar**	**26.63**	**298**	*c i*P		**P**	**07 39 33.6**	**0.0**	
ULN				pmax	pmax				
	comp=Z,256nm,1.7s								
ULN				MLR	MLR				
	comp=Z,37μm,15.0s								
ULN	**Ulaanbaatar**	**26.63**	**298**	*e*P		**P**	**07 39 33.7**	**+0.1**	
	comp=Z,63nm,0.7s								
ULN	**Ulaanbaatar**	**26.63**	**298**	P		**P**	**07 39 33.6**	**+0.1**	
	SNR=67								
ULN				P		**P**	**07 39 33.6**	**+0.1**	
	SNR=67								
SONA1	**Songino Array**	**27.07**	**298**	*e*P		**P**	**07 39 38.4**	**+0.9**	
SONA0	**Songino Array**	**27.07**	**298**	*e*P		**P**	**07 39 37.8**	**+0.3**	
	comp=Z,644nm,1.7s								
SONM	**Songino Array**	**27.07**	**298**	P		**P**	**07 39 37.8**	**+0.3**	
	comp=Z,94nm,0.9s,baz=100,slow=9.0,SNR=269								
XAN	**Xi'an**	**27.65**	**268**	P		**P**	**07 39 41.1**	**-1.6**	
XAN				pP		pP	07 39 51.0	-1.0	
XAN				pmax	pmax				
	comp=Z,100nm,1.1s								
XAN				pmax	pmax				
	comp=Z,1μm,6.9s								
XAN				LR	LR				
	comp=Z,5μm,15.7s								
XAN				LR	LR				
	comp=Z,14μm,15.6s								
XAN				LR	LR				
	comp=Z,20μm,14.4s								
ENH	**Enshi**	**28.88**	**260**	*e*P		**P**	**07 39 53.2**	**-0.4**	
	comp=Z,243nm,1.2s								
IRK	**Irkutsk**	**28.89**	**307**	*e*P		**P**	**07 39 53.2**	**-0.3**	
IRK				pmax	pmax				
	comp=Z,248nm,1.8s								
H11N2	**WAKE ISLAND Hy**	**29.04**	**128**	T		T	08 10 46.4		
	SNR=3541								
H11N1	**WAKE ISLAND Hy**	**29.05**	**128**	T		T	08 11 23.3		
	baz=318,slow=74,SNR=1339								
H11N3	**WAKE ISLAND Hy**	**29.06**	**128**	T		T	08 11 26.1		
	baz=195,slow=74,SNR=1268								
TLY	**Talaya**	**29.19**	**306**	*c i*P		**P**	**07 39 56.3**	**+0.1**	
TLY				*e*			07 41 04.2		
TLY				pmax	pmax				
	comp=Z,86nm,1.5s								
TLY				MLR	MLR				
	comp=Z,15μm,16.0s								
TLY	**Talaya**	**29.19**	**306**	*e*P		**P**	**07 39 56.9**	**+0.7**	
	comp=Z,68nm,1.1s								
ZAK	**Zakamensk**	**29.28**	**303**	*e*P		**P**	**07 39 57.4**	**+0.3**	
ZAK				pmax	pmax				
	comp=Z,79nm,1.3s								
H11S1	**WAKE ISLAND Hy**	**29.87**	**130**	T		T	08 11 56.7		
	baz=4.2,slow=74,SNR=307								
H11S3	**WAKE ISLAND Hy**	**29.87**	**130**	T		T	08 12 40.3		
	SNR=394								
H11S2	**WAKE ISLAND Hy**	**29.89**	**130**	T		T	08 11 44.8		
	baz=325,slow=74,SNR=561								
GZH	**Guangzhou**	**30.23**	**244**	⇑P		P	07 40 00.1	-5.5	
GZH				sP		pP	07 40 14.6	-0.4	
GZH				S		**S**	**07 44 55.6**	**-7.4**	
BILL	**Bilibino**	**30.58**	**17**	*e*P		**P**	**07 40 08.7**	**+0.4**	
BILL				*i*			07 40 19.5		
BILL				*e*			07 41 11.0		
BILL				*e*S		**S**	**07 45 06.8**	**-1.0**	
BILL				*e*SS		**ScP**	**07 46 51.0**	**+4.9**	
BILL				pmax	pmax				
	comp=Z,20nm,0.6s								
BILL				MLR	MLR				
	comp=Z,8μm,16.0s								
LZH	**Lanzhou**	**30.79**	**275**	*e*P		**P**	**07 40 10.8**	**+0.1**	
LZH				pP		pP	07 40 19.1	-0.9	
LZH				sP		sP	07 40 22.0	-2.0	
LZH				PP		**PnPn**	**07 41 14.0**	**+2.8**	
LZH				S		**S**	**07 45 14.5**	**+2.5**	
LZH				SS		**SnSn**	**07 46 50.6**	**-1.3**	
LZH				pmax	pmax				
	comp=Z,120nm,1.1s								
LZH				pmax	pmax				
	comp=Z,1μm,7.0s								
LZH				LR	LR				
	comp=Z,6μm,13.1s								
LZH				LR	LR				
	comp=Z,6μm,13.7s								
LZH				LR	LR				
	comp=Z,11μm,14.5s								
MOY	**Mondy**	**30.83**	**306**	*e*P		P	07 40 16.8	+6.0	
ATKA	**Atka Island**	**31.53**	**53**	*e*P		**P**	**07 40 16.1**	**-0.7**	
	comp=Z,138nm,1.1s								
TIXI	**Tiksi**	**32.21**	**352**	P		**P**	**07 40 22.0**	**-0.5**	
	comp=Z,11nm,0.6s,baz=145,slow=11,SNR=9.2								
TIXI	**Tiksi**	**32.21**	**352**	*c i*P		**P**	**07 40 21.6**	**-1.0**	
TIXI				pmax	pmax				
	comp=Z,61nm,1.5s								
TIXI				MLR	MLR				
	comp=Z,4μm,17.0s								
TIXI	**Tiksi**	**32.21**	**352**	*e*P		**P**	**07 40 21.9**	**-0.7**	
	comp=Z,43nm,1.0s								
GTA	**Gaotai**	**32.83**	**283**	⇑P		**P**	**07 40 28.9**	**+0.4**	
GTA				pP		sP	07 40 40.6	-1.3	
GTA				sP		pP	07 40 45.6	+7.7	
GTA				S		**S**	**07 45 42.5**	**-1.2**	
GTA				sS		sS	07 46 03.4	+4.2	
GTA				SS		**SnSn**	**07 47 45.1**	**+3.8**	
GTA				pmax	pmax				
	comp=Z,110nm,1.3s								
GTA				pmax	pmax				
	comp=Z,800nm,5.0s								
GTA				LR	LR				
	comp=Z,9μm,18.5s								
GTA				LR	LR				
	comp=Z,27μm,17.6s								
GTA				LR	LR				
	comp=Z,32μm,17.1s								
CD2	**Chengdu**	**32.93**	**266**	P		**P**	**07 40 28.8**	**-0.6**	
CD2				pP		pP	07 40 39.9	+1.1	
CD2				sP		sP	07 40 46.9	+4.2	
CD2				PP		**PnPn**	**07 41 37.8**	**-1.0**	
CD2				S		**S**	**07 45 42.3**	**-2.9**	
CD2				SS		**SnSn**	**07 47 38.8**	**-5.0**	
CD2				pmax	pmax				
	comp=Z,130nm,0.9s								
CD2				pmax	pmax				
	comp=Z,560nm,9.5s								
CD2				LR	LR				
	comp=Z,14μm,16.1s								
CD2				LR	LR				
	comp=Z,8μm,18.0s								
CD2				LR	LR				
	comp=Z,15μm,15.2s								
GYA	**Guiyang**	**32.99**	**257**	⇑*i*P		**P**	**07 40 29.6**	**-0.5**	
GYA				pP		sP	07 40 43.0	-0.4	
GYA				PP		**PP**	**07 41 42.6**	**-2.3**	
GYA				PcP		**PcP**	**07 43 15.3**	**+1.8**	
GYA				S		**S**	**07 45 41.4**	**-5.1**	
GYA				ScP		**ScP**	**07 46 55.0**	**-0.2**	
GYA				SS		**SnSn**	**07 47 47.9**	**+2.3**	
GYA				ScS		**ScS**	**07 50 53.4**	**-2.3**	
GYA				pmax	pmax				
	comp=Z,300nm,1.0s								
GYA				pmax	pmax				
	comp=Z,440nm,8.1s								
GYA				LR	LR				
	comp=Z,12μm,15.9s								
GYA				LR	LR				
	comp=Z,16μm,16.5s								
GYA				LR	LR				
	comp=Z,26μm,15.3s								
QIZ	**Qiongzhong**	**35.37**	**243**	P		**P**	**07 40 52.0**	**+1.4**	
QIZ				sP		**sP**	**07 41 04.9**	**+1.0**	
QIZ				S		**S**	**07 46 25.0**	**+2.0**	
QIZ				ScS		**ScS**	**07 51 09.0**	**+0.9**	
QIZ				pmax	pmax				
	comp=Z,35nm,1.9s								
QIZ				LR	LR				
	comp=Z,6μm,17.3s								
QIZ				LR	LR				
	comp=Z,4μm,13.4s								
QIZ				LR	LR				
	comp=Z,6μm,16.6s								
QIZ	**Qiongzhong**	**35.37**	**243**	*e*P		**P**	**07 40 51.5**	**+1.0**	
	comp=Z,19nm,0.9s								
KMI	**Kunming**	**36.67**	**258**	P		**P**	**07 41 02.1**	**+0.2**	
KMI				pP		pP	07 41 13.1	+1.7	
KMI				PP		**PnPn**	**07 42 24.5**	**-1.1**	
KMI				S		**S**	**07 46 40.0**	**-3.3**	
KMI				sS		sS	07 46 58.5	-0.4	
KMI				pmax	pmax				
	comp=Z,260nm,1.3s								
KMI				pmax	pmax				
	comp=Z,1μm,4.7s								
KMI				LR	LR				
	comp=Z,20μm,15.1s								
KMI				LR	LR				
	comp=Z,16μm,16.5s								
KMI				LR	LR				
	comp=Z,26μm,15.7s								
SLVN	**Son La**	**38.05**	**252**	*e*P		**P**	**07 41 13.9**	**+0.4**	
	comp=Z,59nm,0.9s								
WMQ	**Urumqi**	**40.48**	**294**	P		**P**	**07 41 34.8**	**+1.3**	
WMQ				pP		sP	07 41 46.4	-0.6	
WMQ				sP		pP	07 41 51.4	+8.3	
WMQ				ScP		**ScP**	**07 47 23.3**	**+0.7**	
WMQ				S		**S**	**07 47 41.6**	**+1.5**	
WMQ				sS		sS	07 48 00.3	+4.4	
WMQ				SS		**SS**	**07 50 37.0**	**-2.9**	
WMQ				ScS		**ScS**	**07 51 36.0**	**-0.8**	
WMQ				pmax	pmax				
	comp=Z,170nm,0.7s								
WMQ				pmax	pmax				
	comp=Z,1μm,3.6s								
WMQ				LR	LR				
	comp=Z,5μm,14.7s								
WMQ				LR	LR				
	comp=Z,11μm,19.3s								
WMQ				LR	LR				
	comp=Z,8μm,18.1s								
ZAA0	**Zalesovo Array**	**40.64**	**310**	*e*P		**P**	**07 41 35.4**	**+0.8**	
ZAA1	**Zalesovo Array**	**40.64**	**310**	*e*P		**P**	**07 41 34.6**	**0.0**	
ZALV	**Zalesovo Beam**	**40.64**	**310**	P		**P**	**07 41 34.6**	**0.0**	
	comp=Z,43nm,0.5s,baz=91,slow=7.8,SNR=121								
NRIK	**Noril'sk**	**40.82**	**333**	P		**P**	**07 41 35.6**	**-0.3**	
	comp=Z,43nm,0.9s,baz=110,slow=8.8,SNR=45								
SKNT	**Sakolnakorn**	**40.83**	**247**	P		**P**	**07 41 36.9**	**+0.3**	
	comp=Z,102nm,1.0s,comp=Z,7μm								
UBPT	**Khong Chiam**	**40.96**	**243**	P		**P**	**07 41 38.5**	**+0.8**	
	comp=Z,99nm,1.5s,comp=Z,2μm								
MYLDM	**Lahad Datu**	**41.26**	**219**	*e*P		**P**	**07 41 41.0**	**+0.9**	
	comp=Z,305nm,1.2s								
MYLDM	**Lahad Datu**	**41.26**	**219**	⇓P		**P**	**07 41 43.0**	**+2.9**	
DLV	**T Lat**	**41.39**	**237**	*e*P		**P**	**07 41 42.5**	**+1.0**	
	comp=Z,119nm,1.0s								
NVS	**Novosibirsk**	**41.48**	**311**	⇑*i*P		**P**	**07 41 42.5**	**+1.0**	
NVS				pmax	pmax				
	comp=N,26nm,1.1s								
NVS				pmax	pmax				
	comp=E,74nm,1.1s								
NVS				pmax	pmax				
	comp=Z,121nm,1.1s								
SDKM	**Sandakan**	**41.50**	**221**	⇓P		**P**	**07 41 43.3**	**+1.2**	
KKM	**Kota Kinabalu**	**41.65**	**222**	*e*P		**P**	**07 41 43.9**	**+0.5**	
	comp=Z,88nm,1.2s								
KKM	**Kota Kinabalu**	**41.65**	**222**	⇓P		**P**	**07 41 44.6**	**+1.1**	
TTA	**Tatalina**	**42.11**	**37**	*e*P		**P**	**07 41 47.0**	**+0.3**	
TTA				pmax	pmax				
	comp=Z,33nm,1.0s								
TTA	**Tatalina**	**42.11**	**37**	*e*P		**P**	**07 41 47.0**	**+0.3**	
	comp=Z,59nm,1.5s								
SVW2	**Sparrevohn**	**42.26**	**39**	*e*P		**P**	**07 41 49.2**	**+1.3**	
	comp=Z,78nm,1.4s								
TSM	**Tawau**	**42.34**	**219**	⇓P		**P**	**07 41 50.4**	**+1.5**	
JAY	**Jayapura**	**42.65**	**183**	P		**P**	**07 41 52.2**	**+0.7**	
	comp=Z,2.6nm,0.9s,baz=330,slow=22,SNR=4.7								
JAY	**Jayapura**	**42.65**	**183**	P		**P**	**07 41 53.7**	**+2.2**	
	comp=Z,68nm,1.0s,comp=Z,811nm								
GENI	**Genyem**	**42.75**	**184**	P		P	07 42 02.2	+10	
UTTA	**Uttaradit**	**42.77**	**251**	P		**P**	**07 41 52.9**	**+0.5**	
	comp=Z,22nm,1.0s,comp=Z,244nm								
LAMP	**Lampang**	**42.94**	**253**	P		**P**	**07 41 55.0**	**+1.2**	
	comp=Z,29nm,0.8s,comp=Z,350nm								
CHAI	**Chaiyaphum**	**42.96**	**248**	P		**P**	**07 41 54.2**	**+0.2**	
	comp=Z,46nm,0.9s,comp=Z,507nm								
LSA	**Lhasa**	**43.13**	**272**	P		**P**	**07 41 55.6**	**-0.2**	
LSA				S		**S**	**07 48 12.5**	**-7.9**	
LSA				pmax	pmax				
	comp=Z,35nm,1.7s								
LSA				LR	LR				
	comp=Z,2μm,28.8s								
LSA				LR	LR				
	comp=Z,6μm,34.3s								
LSA				LR	LR				
	comp=Z,10μm,27.7s								
LSA	**Lhasa**	**43.13**	**272**	*e*P		**P**	**07 41 57.1**	**+1.3**	
LSA				pmax	pmax				
	comp=Z,69nm,1.0s								
LSA	**Lhasa**	**43.13**	**272**	*e*P		**P**	**07 41 57.1**	**+1.3**	
	comp=Z,69nm,1.0s								
PBKT	**Sadao Pong**	**43.23**	**249**	P		**P**	**07 41 56.7**	**+0.5**	
	comp=Z,66nm,1.2s,comp=Z,1μm								
CMMT	**Chiang Mai**	**43.25**	**254**	P		**P**	**07 41 56.9**	**+0.5**	
	comp=Z,93nm,1.0s,comp=Z,2μm								
CHTO	**Chiang Mai**	**43.25**	**254**	P		**P**	**07 41 56.9**	**+0.5**	
	comp=Z,418nm,1.0s,comp=Z,8μm								
CHTO	**Chiang Mai**	**43.25**	**254**	*e*P		**P**	**07 41 57.3**	**+0.9**	
CHTO				pmax	pmax				
	comp=Z,88nm,1.0s								
CHTO	**Chiang Mai**	**43.25**	**254**	*e*P		**P**	**07 41 57.3**	**+0.9**	
	comp=Z,88nm,1.0s								
CHTO	**Chiang Mai**	**43.25**	**254**	P		**P**	**07 41 56.8**	**+0.5**	
	SNR=32								
MK01	**Makanchi Array**	**43.43**	**299**	*e*P		**P**	**07 41 58.4**	**+0.9**	
MK31	**Makanchi Array**	**43.43**	**299**	*i* P		**P**	**07 41 58.0**	**+0.5**	
MK31				pmax	pmax				
	comp=Z,96nm,0.7s								
MK31	**Makanchi Array**	**43.43**	**299**	*e*P		**P**	**07 41 58.3**	**+0.8**	
MKAR	**Makanchi Array**	**43.43**	**299**	*e*P		**P**	**07 41 58.4**	**+0.9**	
MKAR				pmax	pmax				
	comp=Z,712nm,0.9s								
MKAR	**Makanchi Array**	**43.43**	**299**	*e*P		**P**	**07 41 58.4**	**+0.9**	
	comp=Z,712nm,0.9s								
CM31	**Chiang Mai Arr**	**43.48**	**253**	*e*P		**P**	**07 41 59.8**	**+1.6**	
CMAR	**Chiang Mai Arr**	**43.48**	**253**	P		**P**	**07 41 59.5**	**+1.2**	
	comp=Z,8.6nm,0.4s,baz=48,slow=6.1,SNR=49								
CM01	**Chiang Mai Arr**	**43.49**	**253**	*e*P		**P**	**07 41 59.0**	**+0.7**	
SUKH	**Sukhothai**	**43.60**	**251**	P		**P**	**07 42 00.0**	**+0.8**	
	comp=Z,28nm,0.9s,comp=Z,330nm								
OHAK	**Old Harbor**	**43.62**	**45**	*e*P		**P**	**07 41 58.4**	**-0.5**	
	comp=Z,65nm,1.2s								
MAKZ	**Makanchi**	**43.63**	**300**	*e*P		**P**	**07 41 59.5**	**+0.3**	
MAKZ				pmax	pmax				
	comp=Z,200nm,0.9s								
MAKZ	**Makanchi**	**43.63**	**300**	*e*P		**P**	**07 41 59.5**	**+0.3**	

SPU **Mount Spurr** 43.97 39 *eP* P 07 42 02.4 +0.7
FAKI **Fak Fak** 44.09 195 P P 07 42 04.2 +1.1
comp=Z,152nm,1.4s,comp=Z,2µm
FAKI **Fak Fak** 44.09 195 *eP* P 07 42 03.4 +0.3
comp=Z,109nm,1.2s
KTH **Kantishna Hill** 44.43 36 *eP* P 07 42 06.1 +0.8
comp=Z,60nm,1.0s
CNPM **China Poot** 44.48 42 *eP* P 07 42 06.2 +0.4
comp=Z,45nm,1.0s
NAYO **Nakonayok** 44.51 247 P P 07 42 07.3 +0.9
comp=Z,48nm,1.2s,comp=Z,1µm
SUA **Susitna One** 44.59 39 *eP* P 07 42 06.7 0.0
comp=Z,54nm,0.9s
BRLK **Bradley Lake** 44.64 41 *eP* P 07 42 07.3 +0.2
comp=Z,91nm,1.4s
SHL **Shillong** 44.65 267⇑ *iP* P 07 42 08.0 +0.2
SHL IAmb IAmb 07 42 09.8
SHL *i* S S 07 48 44.0 +1.9
SHL IAMs_20 IAMs_20 08 12 00.9
comp=Z,1µm,11.9s
TRF **Thorofare Moun** 44.71 36 *eP* P 07 42 08.2 +0.4
comp=Z,150nm,1.9s
COLD **Coldfoot** 44.76 31 *eP* P 07 42 09.1 +1.2
comp=Z,28nm,1.1s
SANI **Sanana** 44.88 204 P P 07 42 08.6 -0.8
comp=Z,104nm,1.5s,comp=Z,2µm
KURK **Kurchatov** 44.89 306*c iP* P 07 42 09.1 0.0
KURK pmax pmax
comp=Z,1µm,1.0s
KURK MLR MLR
comp=Z,21µm,15.0s
KURK **Kurchatov** 44.89 306 *eP* P 07 42 09.4 +0.4
comp=Z,297nm,0.8s
KURK **Kurchatov** 44.89 306 P P 07 42 09.1 0.0
SNR=152
UMPA **Umpang Tak** 44.99 251 P P 07 42 12.7 +2.4
comp=Z,26nm,1.1s,comp=Z,994nm
UTHA **Uthaitani** 45.00 250 P P 07 42 11.6 +1.2
comp=Z,13nm,1.0s,comp=Z,207nm
TOLK **Toolik Lake Re** 45.06 29 P P 07 42 10.4 +0.1
baz=267
RC01 **Rabbit Creek A** 45.10 39 *eP* P 07 42 10.7 0.0
comp=Z,46nm,0.8s
MCK **McKinley** 45.31 36 *eP* P 07 42 12.6 +0.3
MCK pmax pmax
comp=Z,110nm,1.2s
MCK **McKinley** 45.31 36 *eP* P 07 42 12.6 +0.3
comp=Z,26nm,0.9s
SEW **Seward** 45.33 41 *eP* P 07 42 12.5 +0.1
comp=Z,44nm,1.0s
PMR **Palmer** 45.35 39 *eP* P 07 42 12.4 -0.2
PMR pmax pmax
comp=Z,58nm,1.0s
PMR **Palmer** 45.35 39 *eP* P 07 42 12.4 -0.2
comp=Z,56nm,1.3s
RND **Reindeer** 45.36 36 *eP* P 07 42 12.8 0.0
RND pmax pmax
comp=Z,130nm,1.2s
RND **Reindeer** 45.36 36 *eP* P 07 42 12.8 0.0
comp=Z,48nm,1.0s
MDM **Murphy Dome** 45.56 34 *eP* P 07 42 15.3 +1.0
comp=Z,36nm,0.9s
WRH **Wood River Hil** 45.64 34 *eP* P 07 42 15.3 +0.4
comp=Z,20nm,1.0s
SML **Sawmill** 45.71 38 *eP* P 07 42 15.8 +0.3
SML pmax pmax
comp=Z,180nm,1.4s
SML **Sawmill** 45.71 38 *eP* P 07 42 15.8 +0.3
comp=Z,78nm,1.2s
COLA **College** 45.73 34 *eP* P 07 42 16.5 +0.9
COLA pmax pmax
comp=Z,63nm,0.7s
COLA **College** 45.73 34 *eP* P 07 42 16.4 +0.9
comp=Z,38nm,0.8s
CCB **Clear Creek Bu** 45.76 34 *eP* P 07 42 16.1 +0.3
comp=Z,11nm,0.8s
PATY **Pattaya** 45.79 246 P P 07 42 18.3 +1.7
comp=Z,30nm,1.0s,comp=Z,799nm
SRDT **SRDT** 46.04 249 P P 07 42 20.8 +2.2
comp=Z,152nm,1.0s,comp=Z,5µm
DHY **Denali Highway** 46.05 36 *eP* P 07 42 18.4 +0.1
comp=Z,58nm,1.2s
PCI **Palu** 46.08 213 P P 07 42 18.7 -0.2
comp=Z,104nm,1.4s,comp=Z,2µm
HDA **Harding Lake** 46.14 35 *eP* P 07 42 18.7 -0.2
comp=Z,41nm,1.2s
IL1 **Eielson Array** 46.15 34 *eP* P 07 42 19.1 +0.2
ILAR **Eielson Array** 46.15 34 P P 07 42 18.5 -0.4
comp=Z,18nm,0.7s,baz=265,slow=6.3,SNR=112
ILAR **Eielson Array** 46.15 34 P P 07 42 18.5 -0.4
ILAR pmax pmax
comp=Z,19nm,0.7s
ILB **Eielson Array** 46.15 34 *eP* P 07 42 18.8 -0.1
SCM **Sheep Creek Mo** 46.18 38 *eP* P 07 42 19.7 +0.4
SCM pmax pmax
comp=Z,75nm,0.9s
SCM **Sheep Creek Mo** 46.18 38 *eP* P 07 42 19.7 +0.4
comp=Z,93nm,1.3s
PDGK **Podgornoye** 46.33 296 P P 07 42 20.6 -0.2
PDGK pmax pmax
comp=Z,149nm,1.5s
SHLS **Shalkode** 46.40 295 *i* P P 07 42 17.4 -4.0
comp=Z,699nm,1.0s
SHLS *eS* S 07 49 02.2 -4.7
SHLS LR LR 08 01 38.4
TDK **Taldygorghan** 46.53 298 *i* P P 07 42 20.9 -1.4
comp=Z,1µm,1.2s
TDK *eS* S 07 49 08.3 -0.3
TDK LR LR 08 02 07.8
comp=Z,2µm,16.2s
PHET **Kaeng Krachan** 46.66 247 P P 07 42 25.0 +1.5
comp=Z,46nm,0.9s,comp=Z,403nm
FID **Port Fidalgo** 46.72 40 *eP* P 07 42 23.4 0.0
comp=Z,102nm,1.4s
FYU **Fort Yukon** 46.73 31 *eP* P 07 42 24.7 +1.4
comp=Z,123nm,1.4s
SBUM **Sibu** 46.78 224 *eP* P 07 42 23.6 -0.8
comp=Z,17nm,0.9s
SBUM **Sibu** 46.78 224 ⇑P P 07 42 25.8 +1.4
KLU **Klutina** 46.89 38 *eP* P 07 42 25.1 +0.2
comp=Z,77nm,1.2s
TAPN **Taplejung** 46.92 272 *eP* P 07 42 26.5 +0.7
comp=Z,305nm,1.1s
PAX **Paxson** 46.92 36 *eP* P 07 42 26.3 +1.2
PAX pmax pmax
comp=Z,32nm,1.0s
PAX **Paxson** 46.92 36 *eP* P 07 42 26.0 +0.9
comp=Z,21nm,1.2s
DIV **Divide** 47.01 39 *eP* P 07 42 26.4 +0.6
comp=Z,122nm,1.3s
EYAK **Cordova Ski Ar** 47.10 40 *eP* P 07 42 27.2 +0.8
comp=Z,200nm,1.6s
ZHN **Zhinishke** 47.11 296 *i* P P 07 42 25.0 -1.9
ZHN *i* S S 07 49 16.5 -0.5
ZHN LR LR 08 02 34.9
comp=Z,4µm,13.9s
HARP **HAARP** 47.13 37 *eP* P 07 42 27.8 +1.2
comp=Z,175nm,1.5s
SATY **Saty** 47.16 296 *i* P P 07 42 25.9 -1.4
comp=Z,1µm,1.8s
SATY *eS* S 07 49 17.1 -0.7
SATY LR LR 08 02 36.7
comp=Z,7µm,14.6s
ODAN **Odare** 47.41 271 *eP* P 07 42 30.0 +0.4
comp=Z,267nm,1.0s
DOT **Dot Lake** 47.48 35 *eP* P 07 42 29.3 0.0
comp=Z,34nm,0.8s
BMRM **Bremner River** 47.59 39 *eP* P 07 42 31.1 +0.8
comp=Z,55nm,1.1s
RAGM **Ragged Mountai** 47.65 40 *eP* P 07 42 29.7 -1.1
comp=Z,187nm,0.7s
BKB **Balikpapan** 47.67 216 P P 07 42 32.9 +1.6
comp=Z,261nm,0.9s,comp=Z,4µm
MENT **Mentasta** 47.72 36 *eP* P 07 42 32.5 +1.2
comp=Z,51nm,1.1s
JIRN **Jiri** 47.92 273 *eP* P 07 42 34.2 +0.5
comp=Z,1µm,0.7s
RAMN **Ramite** 47.97 272 *eP* P 07 42 34.1 +0.2
comp=Z,302nm,0.8s
GUN **Gumba** 48.03 274 *eP* P 07 42 35.0 +0.5
comp=Z,784nm,0.9s
MDOK **Medeo** 48.06 296 *i* P P 07 42 32.8 -1.6
comp=Z,772nm,1.3s
MDOK *eS* S 07 49 30.0 -0.6
MDOK LR LR 08 02 48.5
comp=Z,6µm,15.3s
AAA **Alma-Ata** 48.14 296 *eP* P 07 42 35.6 +0.8
AAA *eS* S 07 49 32.5 +1.0
AAA pmax pmax
comp=Z,900nm,2.8s
AAA smax smax
comp=E,2µm,10.7s
AAA MLR MLR
comp=Z,22µm,19.0s
MTKI **Muara Teweh, K** 48.33 219 P P 07 42 37.5 +1.1
CRQM **Cirque** 48.34 39 *eP* P 07 42 37.2 +1.0
comp=Z,140nm,1.2s
KKN **Kakani** 48.55 274 *eP* P 07 42 38.7 +0.4
comp=Z,378nm,0.9s
PKI **Pulchoki** 48.56 273 *eP* P 07 42 38.7 +0.1
comp=Z,609nm,1.3s
PKIN **Phulchoki** 48.57 273 *eP* P 07 42 38.8 +0.2
EGAK **Eagle** 48.59 34 *eP* P 07 42 38.0 +0.2
comp=Z,30nm,0.9s
KSM **Kuching** 48.63 226 *eP* P 07 42 39.5 +0.7
comp=Z,57nm,1.0s
KSM **Kuching** 48.63 226 ⇑P P 07 42 39.9 +1.2
BRZS **Berezniki** 48.75 306 *iP* P 07 42 37.8 -1.6
DMN **Daman** 48.77 274 *eP* P 07 42 40.3 +0.2
comp=Z,281nm,1.0s
SPSI **Sidrap Palu** 48.88 211 P P 07 42 40.9 +0.3
comp=Z,35nm,1.1s,comp=Z,1µm
GKN **Gorkha** 48.93 274 *eP* P 07 42 41.4 +0.2
comp=Z,207nm,0.8s
TKM2 **Tokmak 2** 49.14 296 P P 07 42 43.5 +0.8
TKM2 pmax pmax
comp=Z,257nm,1.1s
BRVK **Borovoye** 49.33 311*c iP* P 07 42 44.0 +0.3
BRVK pmax pmax
comp=Z,314nm,1.0s
BRVK MLR MLR
comp=Z,31µm,16.0s
BRVK **Borovoye** 49.33 311 *eP* P 07 42 44.2 +0.6
comp=Z,109nm,0.9s
BRVK **Borovoye** 49.33 311 P P 07 42 44.1 +0.5
SNR=59
BRVK P P 07 42 44.1 +0.5
SNR=59
DAWY **Dawson** 49.46 34 *eP* P 07 42 44.4 -0.3
comp=Z,4.4nm,0.8s
KOLN **Koldanda** 49.84 275 *eP* P 07 42 49.1 +0.9
comp=Z,273nm,1.0s
KAPI **Kappang** 49.84 211 *eP* P 07 42 47.3 -0.7
comp=Z,164nm,1.3s
KAPI **Kappang** 49.84 211 P P 07 42 48.1 +0.1
SNR=12
FRU **Bishkek** 49.85 297⇑ *eP* P 07 42 48.0 +0.1
FRU *i* S S 07 49 54.0 -1.4
FRU *e* 07 50 14.0
FRU pmax pmax
comp=Z,300nm,1.8s
FRU MLR MLR
comp=E,9µm,16.0s
PCA **Pinnacle** 49.87 40 *eP* P 07 42 48.7 +0.9
comp=E,40nm,1.0s
AAK **Ala-Archa** 50.00 296 P P 07 42 48.0 -1.2
AAK pmax pmax
comp=Z,67nm,1.0s
AAK **Ala-Archa** 50.00 296 *eP* P 07 42 49.4 +0.2
comp=Z,84nm,1.1s
SKLT **Songkhla** 50.08 240 P P 07 42 51.3 +1.4
comp=Z,94nm,1.3s,comp=Z,1µm
PYUN **Piuthan** 50.14 275 *eP* P 07 42 51.0 +0.5
comp=Z,927nm,1.0s
KSH **Kashi** 50.18 292 *eP* P 07 42 54.3 +3.8
KSH pP sP 07 43 05.9 +1.8
KSH PcP **PcP** 07 44 12.5 +3.0
KSH PP **PP** 07 44 51.0 +5.3
KSH S **S** 07 50 02.4 +2.1
KSH sS sS 07 50 24.4 +8.1
KSH SS **SS** 07 53 34.8 +1.3
KSH pmax pmax
comp=Z,71nm,0.9s
KSH pmax pmax
comp=Z,590nm,3.5s
KSH LR LR
comp=Z,5µm,15.4s
KSH LR LR
comp=Z,4µm,16.2s
KSH LR LR
comp=Z,8µm,16.0s
BOK **Bokaro** 50.19 269 *eP* P 07 42 50.8 +0.1
BOK IAmb IAmb 07 42 52.4
comp=Z,38nm,0.6s
TRTT **Trang** 50.22 242 P P 07 42 52.0 +1.1
comp=Z,75nm,1.3s,comp=Z,2µm
BBKI **Banjar Baru** 50.56 217 P P 07 42 53.6 +0.2
comp=Z,138nm,1.0s
INK **Inuvik** 50.98 28 P P 07 42 56.7 +0.8
comp=Z,8.8nm,0.5s,baz=294,slow=5.7,SNR=33
INK **Inuvik** 50.98 28 *eP* P 07 42 56.8 +0.8
INK pmax pmax
comp=Z,59nm,0.9s
INK **Inuvik** 50.98 28 *eP* P 07 42 56.8 +0.9
comp=Z,20nm,0.8s
DGPR **DIGLIPUR** 51.29 253 *eP* P 07 42 58.0 -1.0
MNAS **Manas** 51.42 297 P P 07 43 00.5 +0.6
MNAS pmax pmax
comp=Z,212nm,1.0s
KULM **Kulim** 51.46 239 *eP* P 07 43 00.8 +0.5
comp=Z,94nm,1.1s
PTH **Pithoragarh** 51.52 279 *eP* P 07 43 01.7 +0.9
IPM **Ipoh** 51.83 238 *eP* P 07 43 02.9 -0.1
comp=Z,121nm,1.3s
IPM **Ipoh** 51.83 238 ⇑P P 07 43 04.0 +1.0
MYKOM **Kota Tinggi** 52.12 233 *eP* P 07 43 05.8 +0.6
comp=Z,47nm,1.0s
MYKOM **Kota Tinggi** 52.12 233 ⇑P P 07 43 06.3 +1.1
BWNR **Bhubaneshwar** 52.23 265 *ex* P 07 43 17.3 +11
KGM **Kluang** 52.27 234 ⇑P P 07 43 07.9 +1.6
WHY **Whitehorse** 52.31 38 *eP* P 07 43 07.5 +1.4
comp=Z,60nm,1.4s
FRIM **Kepong** 52.39 236 ⇓P P 07 43 08.4 +1.3
SKAG **Skagway** 52.44 40 *eP* P 07 43 08.4 +1.4
comp=Z,40nm,1.4s
KK31 **Karatay Array** 52.53 298 *i* P P 07 43 07.9 0.0
KK31 pmax pmax
comp=Z,34nm,0.8s
KKAR **Karatay Array** 52.53 298 *eP* P 07 43 08.2 +0.3
KKAR pmax pmax
comp=Z,342nm,0.7s
KKAR **Karatay Array** 52.53 298 *eP* P 07 43 08.2 +0.3
comp=Z,342nm,0.7s
SOEI **Soe** 52.69 203 P P 07 43 09.3 -0.1
comp=Z,218nm,1.0s,comp=Z,2µm
SOEI **Soe** 52.69 203 *eP* P 07 43 09.3 -0.1
comp=Z,119nm,0.8s
DDI **Dehra Dun** 52.77 281 *eP* P 07 43 10.2 +0.3
BESE **Bessie Mountai** 52.95 41 *eP* P 07 43 11.5 +0.6
comp=Z,21nm,1.0s
SDNR **Sundarnagar** 53.01 283 *eP* P 07 43 12.0 +0.4
BRLS **Borolday** 53.01 299 *i* P P 07 43 11.6 +0.1
comp=Z,34nm,1.6s
BRLS *i* S S 07 50 41.4 +2.4
BRLS LR LR 08 06 08.2
comp=Z,321nm,14.3s
SMLA **Simla** 53.04 282 *eP* P 07 43 11.4 -0.4
SMLA IAMs_20 IAMs_20 08 07 33.9
comp=Z,7µm,11.3s
DHRM **DHARAMSHALA** 53.14 284 *eP* P 07 43 12.2 -0.7
IUG **Iuzhnay** 53.24 298 *i* P P 07 43 11.8 -1.5
comp=Z,1µm,1.4s
IUG *eS* S 07 50 41.8 -0.5
IUG LR LR 08 05 58.4
comp=Z,2µm,13.5s
BHK **Bhakra** 53.46 283 *eP* P 07 43 14.2 -0.8
THN **Thein Dam** 53.49 284 *ex* P 07 43 08.8 -6.3
THN *eS* S 07 50 43.0 -2.7
SVE **Sverdlovsk** 53.49 317*d iP* P 07 43 15.5 +0.7
SVE *eS* S 07 50 46.6 +1.5
SVE pmax pmax
comp=Z,281nm,1.1s
SVE MLR MLR
comp=N,6µm,15.0s
SVE MLR MLR
comp=E,27µm,15.0s
SVE MLR MLR
comp=Z,32µm,15.0s
PONG **Pong** 53.55 284 *eP* P 07 43 15.0 -0.5
COEN **Coen** 53.97 180 *eP* P 07 43 19.1 +0.5
comp=Z,21nm,0.9s
MTN **Manton Dam** 53.98 194 *eP* P 07 43 18.7 0.0
comp=Z,73nm,0.9s
PLAI **Plampang** 54.10 211 P P 07 43 22.5 +2.8
comp=Z,57nm,1.4s
NDI **New Delhi** 54.22 279 *eP* P 07 43 20.0 -0.5
TWSI **Taliwang, Sumb** 54.38 212 P P 07 43 21.1 -0.6
comp=Z,53nm,1.0s,comp=Z,2µm
PSI **Prapat** 54.46 238 *eP* P 07 43 23.2 +0.7
PSI pmax pmax
comp=Z,42nm,0.9s
PSI **Prapat** 54.46 238 *eP* P 07 43 23.2 +0.7
comp=Z,42nm,0.9s
SOKR **Solikamsk** 54.46 321*c iP* P 07 43 20.3 -1.5
SOKR S **S** 07 50 57.4 -0.6
SOKR pmax pmax
comp=Z,162nm,1.1s
SOKR MLR MLR
comp=Z,5µm,15.0s
SRBI **Singaraja** 54.49 214 P P 07 43 21.7 -0.8
comp=Z,75nm,1.4s,comp=Z,3µm
CHLP **Challavanipeta** 54.61 265 *eP* P 07 43 24.0 +0.6
CHLP IAmb IAmb 07 43 25.4
comp=Z,365nm,2.2s
KCSI **Kotacane, Aceh** 54.67 240 P P 07 43 22.8 -1.2
comp=Z,36nm,1.4s,comp=Z,750nm
ARU **Arti** 54.71 317*c iP* P 07 43 23.7 +0.1
ARU 07 44 26.9
ARU 07 45 24.6
ARU PPP PPP 07 46 35.1
ARU S **S** 07 51 04.6 +3.1
ARU 07 53 05.8
ARU pmax pmax
comp=Z,307nm,1.2s
ARU pmax pmax
comp=Z,235nm,7.9s
ARU MLR MLR
comp=Z,32µm,16.0s
ARU **Arti** 54.71 317 *eP* P 07 43 23.9 +0.3
comp=Z,244nm,1.1s
CMBY **CAMPBELL BAY** 54.78 246 *eP* P 07 43 24.6 -0.1
CRAG **Craig** 54.90 44 *eP* P 07 43 24.8 -0.3
comp=Z,33nm,1.1s
DLBC **Dease Lake** 55.38 40 *eP* P 07 43 30.3 +1.7
comp=Z,70nm,1.6s
GMJI **Gumukmas** 55.44 216 P P 07 43 30.1 +0.7
comp=Z,36nm,1.1s,comp=Z,2µm
DZET **Dzherino** 55.50 294 P P 07 43 29.5 -0.3
DZET pmax pmax
comp=Z,145nm,1.1s
MNSI **Mandailing Nat** 55.56 236 P P 07 43 29.1 -1.2
NGJI **Ngawi** 55.57 219 P P 07 43 31.7 +1.4
comp=Z,102nm,1.1s
VIS **Vishakhapatnam** 55.64 264 *eP* P 07 43 31.6 +0.8
SDSI **Sungai Dareh** 55.74 233 P P 07 43 32.2 +0.6
comp=Z,229nm,1.3s,comp=Z,35µm
SMRI **Semarang** 55.79 220 P P 07 43 32.5 +0.6
comp=Z,147nm,0.9s,comp=Z,15µm
SMRI **Semarang** 55.79 220 *eP* P 07 43 32.4 +0.5
comp=Z,119nm,1.0s
PWJI **Pagerwojo** 55.98 218 P P 07 43 32.0 -1.2
comp=Z,142nm,0.9s
PPI **Padang Panjang** 56.01 235 P P 07 43 32.7 -0.8
comp=Z,17nm,0.6s,comp=Z,991nm
PDSI **Padang** 56.32 234 P P 07 43 34.3 -1.5
AB31 **Akbulak array** 56.74 309 P P 07 43 38.7 +0.3
AB31 pmax pmax
comp=Z,89nm,0.7s
ABKAR **Akbulak array** 56.74 309 *eP* P 07 43 38.9 +0.5
comp=Z,927nm,0.6s
KPJI **Karang Pucung** 56.79 221 P P 07 43 37.9 -1.1
comp=Z,132nm,1.0s
NGP **Nagpur** 56.90 271 *eP* P 07 43 39.4 -0.5
BHPL **Bhopal** 56.97 274 *eP* P 07 43 39.5 -0.9
BHPL IAMs_20 IAMs_20 08 10 53.1
comp=Z,4µm,17.6s
HOPEN **Hopen** 57.16 346 *eP* P 07 43 42.4 +1.4
HOPEN IAmb IAmb 07 44 28.0
comp=Z,188nm,1.1s
HOPEN *eS* S 07 51 35.0 +1.4
HOPEN IAMs_20 IAMs_20 08 10 35.5
comp=Z,4µm,18.4s
KBL **Kabul** 57.35 290 *eP* P 07 43 43.1 -0.1
KBL pmax pmax
comp=Z,261nm,1.0s
KBL **Kabul** 57.35 290 *eP* P 07 43 43.1 -0.1
comp=Z,261nm,1.0s
AKTO **Aktyubinsk** 57.38 311 P P 07 43 42.8 0.0
AKTO pmax pmax
comp=Z,39nm,0.8s
SISI **Saibi** 57.50 235 P P 07 43 44.2 +0.1
comp=Z,87nm,1.1s
SPA0 **Spitsbergen Ar** 57.55 349 *eP* P 07 43 44.8 +1.0
SPA0 IAmb IAmb 07 44 58.5
comp=Z,96nm,1.1s
SPA0 *eS* S 07 51 39.8 +1.0
SPA0 IAMs_20 IAMs_20 08 09 35.5
comp=Z,4µm,21.4s
SPA0 **Spitsbergen Ar** 57.55 349 *eP* P 07 43 45.4 +1.7
KBS **Kingsbay** 57.65 350⇑ *iP* P 07 43 45.0 +0.7
KBS IAmb IAmb 07 44 32.3
comp=Z,110nm,1.1s
KBS **Kingsbay** 57.65 350 *eP* P 07 43 45.6 +1.3
KBS pmax pmax
comp=Z,100nm,1.0s
KBS **Kingsbay** 57.65 350 *eP* P 07 43 45.0 +0.7
comp=Z,48nm,1.0s
RPR **Rampur** 58.04 268 *eP* P 07 43 47.9 0.0
RPR IAmb IAmb 07 43 49.2
comp=Z,133nm,1.1s
HSPB **Hornsund (broa** 58.50 348⇑ *iP* P 07 43 51.1 +0.8
HSPB IAmb IAmb 07 44 41.5
comp=Z,170nm,1.1s
HSPB IAMs_20 IAMs_20 08 10 27.5
comp=Z,4µm,20.7s
HSPB **Hornsund (broa** 58.50 348 *eP* P 07 43 51.1 +0.8
SRSP **Sriramsagar** 58.73 269 *eP* P 07 43 52.5 -0.3
SRSP IAmb IAmb 07 43 53.8
comp=Z,272nm,1.2s
RES **Resolute Bay** 59.16 15 *eP* P 07 43 55.7 +0.8
RES pmax pmax
comp=Z,55nm,0.9s
RES **Resolute Bay** 59.16 15 *eP* P 07 43 55.7 +0.8
comp=Z,55nm,0.9s
ADKI **Addanki** 59.33 265 *eP* P 07 43 57.3 +0.4
ADKI IAmb IAmb 07 43 58.7
comp=Z,62nm,1.1s
NJS **Nagarjunasagar** 59.40 266 *eP* P 07 43 56.5 -0.9
NJS IAmb IAmb 07 43 58.0
comp=Z,54nm,1.2s
HYB **Hyderabad** 59.46 267 *i* P P 07 43 57.0 -0.9
HYB *ep*P **pP** 07 44 09.0 +1.2
HYB *e* 07 52 20.0
HYB **Hyderabad** 59.46 267 *eP* P 07 43 56.7 -1.2
HYBB **Hyderabad (bro** 59.46 267 *eP* P 07 43 57.5 -0.3
HYBB IAmb IAmb 07 43 58.9
comp=Z,93nm,1.2s
LVZ **Lovozero** 59.62 335*ceP* P 07 43 57.3 -0.9
LVZ pmax pmax
comp=Z,73nm,1.2s
LVZ MLR MLR
comp=Z,4µm,17.0s
SRLM **Srisailam** 59.99 266 *eP* P 07 44 01.0 -0.6
SRLM IAmb IAmb 07 44 02.5
comp=Z,65nm,1.3s
CTA **Charters Tower** 60.15 176 P P 07 44 03.1 +0.7
comp=Z,4.3nm,0.7s,baz=8.1,slow=7.1,SNR=3.8
CTAO **Charters Tower** 60.15 176 *eP* P 07 44 03.1 +0.7
CTAO pmax pmax
comp=Z,9.0nm,1.0s
CTAO **Charters Tower** 60.15 176 *eP* P 07 44 03.1 +0.7
comp=Z,9.4nm,1.0s
APA **Apatity** 60.20 335⇓ *eP* P 07 44 01.2 -0.9
APA *i* S S 07 52 07.0 -6.2
APA *i* PS PnS 07 52 34.0 +5.2
APA pmax pmax
comp=Z,26nm,0.9s
APA MLR MLR
comp=Z,5µm,26.0s
FITZ **Fitzroy Crossi** 60.27 199 P P 07 44 02.9 -0.3
comp=Z,29nm,0.9s,baz=21,slow=6.7,SNR=46
FITZ **Fitzroy Crossi** 60.27 199 *eP* P 07 44 03.1 -0.1
comp=Z,57nm,1.1s
RCLA **Racherla** 60.34 265 *eP* P 07 44 03.8 -0.1
RCLA IAmb IAmb 07 44 04.6
comp=Z,48nm,1.0s
YKA **Yellowknife Ar** 60.43 31 P P 07 44 03.7 0.0
comp=Z,3.0nm,0.6s,baz=299,slow=6.3,SNR=12
YKB5 **Yellowknife Ar** 60.43 31 *eP* P 07 44 03.7 -0.1

WRAB	**Tennant Creek**	**60.44**	**189**	*e*P		**P**	**07 44 02.8**	**-1.5**
WRAB				pmax		pmax		
	comp=Z,67nm,1.0s							
WRAB	**Tennant Creek**	**60.44**	**189**	*e*P		**P**	**07 44 03.2**	**-1.1**
	comp=Z,64nm,1.3s							
TMCR	**Tamitsa**	**60.45**	**331**	*e*P		**P**	**07 44 02.6**	**-1.3**
TMCR				*e*S		S	07 52 06.3	-10
TMCR				pmax		pmax		
	comp=Z,130nm,0.9s							
WB2	**Warramunga Arr**	**60.45**	**189**	*e*P		**P**	**07 44 03.2**	**-1.2**
	comp=Z,72nm,1.3s							
WR1	**Warramunga Arr**	**60.45**	**189**	*e*P		**P**	**07 44 03.0**	**-1.4**
	comp=Z,82nm,1.4s							
WRA	**Warramunga Arr**	**60.45**	**189**	P		**P**	**07 44 03.0**	**-1.4**
	comp=Z,38nm,1.1s,baz=6.8,slow=6.8,SNR=142							
WRA	**Warramunga Arr**	**60.45**	**189**	*i* P		**P**	**07 44 03.0**	**-1.4**
WRA				pmax		pmax		
	comp=Z,38nm,1.1s							
KLRI	**Killari**	**60.57**	**269**	*e*P		**P**	**07 44 04.9**	**-0.6**
KLRI				IAmb		IAmb	07 44 06.3	
	comp=Z,227nm,1.0s							
SKHT	**Srikalahasti**	**60.81**	**263**	*e*P		**P**	**07 44 07.6**	**+0.5**
SKHT				IAmb		IAmb	07 44 09.0	
	comp=Z,71nm,0.8s							
HAMF	**Hammerfest**	**61.12**	**341**	*e*P		**P**	**07 44 08.7**	**+0.3**
HAMF				IAmb		IAmb	07 44 37.7	
	comp=Z,122nm,1.2s							
XMIS	**Christmas Isla**	**61.14**	**223**	*e*P		**P**	**07 44 08.6**	**-0.7**
	comp=Z,202nm,1.6s							
ARA0	**ARCESS Array S**	**61.35**	**339**	*e*P		**P**	**07 44 10.4**	**+0.3**
ARCES	**ARCESS Array B**	**61.35**	**339**	P		**P**	**07 44 09.8**	**-0.2**
	comp=Z,16nm,0.9s,baz=43,slow=7.3,SNR=16							
ARE0	**ARCESS Array S**	**61.35**	**339**	*e*P		**P**	**07 44 10.6**	**+0.6**
ARE0				IAmb		IAmb	07 44 52.2	
	comp=Z,100nm,1.2s							
ARE0				*e*S		**S**	**07 52 29.4**	**+1.4**
ARE0				*e*SS		**SS**	**07 56 30.1**	**+2.1**
ARE0	**ARCESS Array S**	**61.35**	**339**	*e*P		**P**	**07 44 10.4**	**+0.4**
	comp=Z,33nm,1.0s							
KLMR	**Klimovskoe**	**61.62**	**327**	*e*P		**P**	**07 44 09.6**	**-2.3**
KLMR				*e*			07 44 50.7	
KLMR				*e*S		**S**	**07 52 29.0**	**-2.6**
KLMR				pmax		pmax		
	comp=Z,174nm,1.3s							
KLMR				MLR		MLR		
	comp=Z,2μm,16.0s							
URV	**Uravakonda**	**61.94**	**266**	*e*P		**P**	**07 44 14.4**	**-0.3**
URV				IAmb		IAmb	07 44 15.9	
	comp=Z,74nm,1.3s							
KTK1	**Kautokeino**	**62.31**	**339**⇑	*i* P		**P**	**07 44 18.6**	**+2.2**
KTK1				IAmb		IAmb	07 44 31.5	
	comp=Z,59nm,0.9s							
SGF	**Sodankyl**	**62.40**	**337**	P		**P**	**07 44 17.5**	**+0.5**
SGF				pmax		pmax		
	comp=Z,74nm,0.9s							
POO	**Poona**	**62.40**	**271**	*e*P		**P**	**07 44 15.9**	**-1.9**
POO				IAmb		IAmb	07 44 18.8	
MSF	**Maaselka**	**62.57**	**335**	P		**P**	**07 44 18.4**	**+0.1**
MSF				pmax		pmax		
	comp=Z,92nm,1.2s							
BHJ	**Bhuj**	**62.87**	**278**	*e*P		**P**	**07 44 20.9**	**+0.1**
TRO	**Tromso**	**63.01**	**341**⇑	*i* P		**P**	**07 44 23.7**	**+2.7**
TRO				IAmb		IAmb	07 45 01.8	
	comp=Z,98nm,1.0s							
TRO	**Tromso**	**63.01**	**341**	P		**P**	**07 44 24.5**	**+3.5**
LLLB	**Lillooet**	**63.13**	**45**	*e*P		**P**	**07 44 22.2**	**0.0**
	comp=Z,34nm,1.4s							
GEYT	**Alibeck**	**63.28**	**298**	P		**P**	**07 44 23.6**	**+0.1**
	comp=Z,86nm,1.0s,baz=31,slow=3.5,SNR=70							
JOF	**Joensuu**	**63.63**	**332**	P		**P**	**07 44 25.2**	**-0.1**
JOF				pmax		pmax		
	comp=Z,132nm,1.0s							
NLWA	**Neilton Lookou**	**63.70**	**49**	*e*P		**P**	**07 44 26.7**	**+0.6**
	comp=Z,40nm,1.3s							
MBW	**Mount Baker**	**64.08**	**47**	P		**P**	**07 44 29.0**	**+0.3**
OUL	**Oulu**	**64.11**	**335**	P		**P**	**07 44 27.9**	**-0.5**
OUL				pmax		pmax		
	comp=Z,107nm,1.2s							
CMW	**Cultus Mountai**	**64.15**	**48**	P		**P**	**07 44 29.8**	**+0.7**
AS01	**Alice Springs**	**64.17**	**189**	*e*P		**P**	**07 44 28.8**	**-0.5**
AS31	**Alice Springs**	**64.17**	**189**	*e*P		**P**	**07 44 29.1**	**-0.2**
	comp=Z,12nm,1.4s							
ASAR	**Alice Springs**	**64.18**	**189**	P		**P**	**07 44 28.5**	**-0.8**
	comp=Z,22nm,1.1s,baz=5.6,slow=4.9,SNR=74							
PALK	**Pallekele**	**64.20**	**257**	*i* P		**P**	**07 44 31.1**	**+1.3**
PALK	**Pallekele**	**64.20**	**257**	*e*P		**P**	**07 44 30.2**	**+0.5**
	comp=Z,96nm,1.5s							
GOA	**Goa**	**64.23**	**269**	*e*P		**P**	**07 44 28.9**	**-1.0**
B05A	**Bryant**	**64.25**	**48**	P		**P**	**07 44 29.9**	**+0.3**
	baz=302,SNR=6.4							
E03A	**Lebam**	**64.32**	**50**	*e*P		**P**	**07 44 30.6**	**+0.5**
	comp=Z,51nm,1.0s							
JCW	**Jim Creek**	**64.38**	**48**	*e*P		**P**	**07 44 30.9**	**+0.3**
B06A	**Marblemount**	**64.46**	**47**	*e*P		**P**	**07 44 31.3**	**+0.3**
	comp=Z,38nm,1.3s							
MBWA	**Marble Bar**	**64.83**	**204**	*e*P		**P**	**07 44 33.5**	**-0.1**
	comp=Z,45nm,0.9s							
MBWA	**Marble Bar**	**64.83**	**204**	P		**P**	**07 44 32.9**	**-0.7**
	SNR=10							
MBWA				P		**P**	**07 44 32.9**	**-0.7**
	SNR=10							
D05A	**Enumclaw**	**64.89**	**49**	*e*P		**P**	**07 44 34.1**	**+0.2**
	comp=Z,51nm,1.4s							
STEI	**Steigen**	**65.17**	**341**	*e*P		**P**	**07 44 35.5**	**+0.3**
STEI				IAmb		IAmb	07 45 23.8	
	comp=Z,82nm,1.3s							
TDL	**Tradedollar La**	**65.21**	**49**	*e*P		**P**	**07 44 36.9**	**+0.8**
LON	**Longmire**	**65.23**	**49**	*e*P		**P**	**07 44 36.5**	**+0.4**
LON				pmax		pmax		
	comp=Z,21nm,1.0s							
LON	**Longmire**	**65.23**	**49**	*e*P		**P**	**07 44 36.5**	**+0.4**
	comp=Z,6.9nm,0.8s							
MOS	**Moscow**	**65.32**	**323**	*e*P		**P**	**07 44 34.7**	**-1.7**
MOS				*e*			07 45 05.0	
MOS				*e*			07 46 59.7	
MOS				*e*S		**S**	**07 53 17.2**	**-0.6**
MOS				pmax		pmax		
	comp=Z,500nm,2.0s							
MOS				pmax		pmax		
	comp=Z,172nm,1.2s							
MOS				MLR		MLR		
	comp=Z,10μm,15.0s							
MOS				MLR		MLR		
	comp=N,8μm,16.0s							
MOS				MLR		MLR		
	comp=E,6μm,16.0s							
F04A	**Amboy**	**65.32**	**50**	*e*P		**P**	**07 44 37.4**	**+0.8**
	comp=E,44nm,1.3s							
NLW	**Nelson Butte**	**65.34**	**47**	P		**P**	**07 44 37.3**	**+0.4**
LOF	**Lofoten**	**65.44**	**341**	*e*P		**P**	**07 44 37.3**	**+0.3**
LOF				IAmb		IAmb	07 45 20.1	
	comp=Z,58nm,1.0s							
COR	**Corvallis**	**65.53**	**52**	*e*P		**P**	**07 44 38.3**	**+0.3**
COR				pmax		pmax		
	comp=Z,110nm,1.3s							
COR	**Corvallis**	**65.53**	**52**	*e*P		**P**	**07 44 38.3**	**+0.3**
	comp=Z,51nm,1.3s							
SUF	**Sumiainen**	**65.59**	**333**	P		**P**	**07 44 38.1**	**0.0**
SUF				pmax		pmax		
	comp=Z,115nm,0.9s							
LTY	**Liberty**	**65.61**	**48**	*e*P		**P**	**07 44 38.7**	**+0.2**
	comp=Z,13nm,1.0s							
ETW	**Entiat**	**65.61**	**48**	*e*P		**P**	**07 44 39.1**	**+0.4**
B08A	**Colville Reser**	**65.75**	**46**	*e*P		**P**	**07 44 39.7**	**+0.3**
	comp=Z,35nm,1.4s							
EIDS	**Eidsvold**	**65.77**	**172**	*e*P		**P**	**07 44 40.0**	**+0.4**
	comp=Z,10nm,0.9s							
GULW	**Guler Mountain**	**65.81**	**50**	P		**P**	**07 44 40.6**	**+0.7**
DZM	**Mont Dzumac**	**65.82**	**156**	P		**P**	**07 44 44.2**	**+4.1**
	comp=Z,26nm,1.2s,baz=131,slow=20,SNR=3.8							
DZM	**Mont Dzumac**	**65.82**	**156**	*e*P		P	07 44 46.4	+6.3
	comp=Z,174nm,1.4s							
DZM				*e*S		**S**	**07 53 23.9**	**-0.8**
	comp=Z,4μm,28.6s							
DZM	**Mont Dzumac**	**65.82**	**156**	*e*P		**P**	**07 44 41.1**	**+1.0**
	comp=Z,69nm,1.4s							
KEBM	**Edson Butte**	**65.84**	**54**	*e*P		**P**	**07 44 41.4**	**+1.3**
	comp=Z,80nm,1.3s							
PUL	**Pulkovo**	**65.97**	**329**⇓	*e*P		**P**	**07 44 41.4**	**+0.8**
PUL				pmax		pmax		
	comp=Z,126nm,0.8s							
PUL				MLR		MLR		
	comp=Z,8μm,17.0s							
I03D	**Drain, OR**	**65.99**	**52**	P		**P**	**07 44 41.5**	**+0.6**
	baz=303,SNR=8.6							
SAW	**Saint Andrews**	**66.08**	**47**	P		**P**	**07 44 41.5**	**-0.1**
EDM	**Edmonton**	**66.10**	**40**	*e*P		**P**	**07 44 41.5**	**-0.1**
EDM				pmax		pmax		
	comp=Z,86nm,1.3s							
EDM	**Edmonton**	**66.10**	**40**	*e*P		**P**	**07 44 41.5**	**-0.1**
	comp=Z,28nm,1.2s							
OBN	**Obninsk**	**66.18**	**323**	*c i*P		**P**	**07 44 42.0**	**+0.1**
OBN				*i*			07 45 10.3	
OBN				*e*			07 47 08.2	
OBN				*i* S		**S**	**07 53 27.3**	**-0.9**
OBN				pmax		pmax		
	comp=Z,170nm,1.4s							
OBN				MLR		MLR		
	comp=Z,11μm,16.0s							
OBN	**Obninsk**	**66.18**	**323**	*e*P		**P**	**07 44 42.1**	**+0.1**
	comp=Z,140nm,1.2s							
G05D	**Wamic, OR**	**66.35**	**50**	P		**P**	**07 44 43.0**	**-0.3**
	baz=304							
E07A	**Sunnyside**	**66.46**	**48**	*e*P		**P**	**07 44 43.6**	**-0.4**
	comp=Z,42nm,1.4s							
FIA1	**FINESS Array S**	**66.47**	**332**	*e*P		**P**	**07 44 44.0**	**+0.3**
	comp=Z,104nm,0.8s							
FIA0	**FINESS Array S**	**66.47**	**332**	*e*P		**P**	**07 44 44.1**	**+0.4**
FIA0	**FINESS Array S**	**66.47**	**332**	*e*P		**P**	**07 44 44.1**	**+0.4**
FINES	**FINESS Array B**	**66.47**	**332**	P		**P**	**07 44 44.1**	**+0.4**
	comp=Z,62nm,0.7s,baz=46,slow=8.2,SNR=143							
FINES	**FINESS Array B**	**66.47**	**332**	*i* P		**P**	**07 44 44.0**	**+0.3**
FINES				pmax		pmax		
	comp=Z,62nm,0.7s							
I04A	**Tendick Farm,**	**66.50**	**52**	P		**P**	**07 44 44.4**	**+0.1**
	baz=304,SNR=16							
LPSR	**Galich'ya Gora**	**66.54**	**320**	*e*P		**P**	**07 44 44.7**	**+0.4**
LPSR				*e*			07 45 13.3	
LPSR				pmax		pmax		
	comp=Z,140nm,0.8s							
LPSR				MLR		MLR		
	comp=Z,8μm,13.0s							
VAF	**Ylistaro**	**66.54**	**335**	P		**P**	**07 44 44.8**	**+0.6**
VAF				pmax		pmax		
	comp=Z,93nm,1.5s							
L02D	**Cave Junction,**	**66.69**	**54**	P		**P**	**07 44 45.3**	**-0.2**
	baz=304							
MOR8	**Moi Rana**	**66.70**	**340**⇑	*i* P		**P**	**07 44 43.8**	**-1.4**
MOR8				IAmb		IAmb	07 45 13.3	
	comp=Z,162nm,1.0s							
MOR8				IAMs_20		IAMs_20	08 17 46.4	
	comp=Z,5μm,18.8s							
D08A	**Wollman Farm,**	**66.71**	**47**	*e*P		**P**	**07 44 45.8**	**+0.3**
	comp=Z,18nm,1.1s							
HAWA	**Hanford**	**66.74**	**48**	*e*P		**P**	**07 44 46.1**	**+0.3**
	comp=Z,29nm,1.4s							
G06A	**Carlson Farm,**	**66.75**	**50**	*e*P		**P**	**07 44 46.1**	**+0.2**
	comp=Z,22nm,1.3s							
KONS	**Konsvik**	**66.80**	**340**	*e*P		**P**	**07 44 45.6**	**-0.1**
KONS				IAmb		IAmb	07 45 23.1	
	comp=Z,175nm,1.6s							
VTHM	**Trough**	**66.83**	**50**	P		**P**	**07 44 47.1**	**+0.7**
HUMO	**Hull Mountain**	**66.83**	**53**	*e*P		**P**	**07 44 47.4**	**+1.0**
	comp=Z,10nm,1.1s							
VORR	**Voronezh**	**66.95**	**319**	*e*P		**P**	**07 44 45.0**	**-2.0**
VORR				pmax		pmax		
	comp=Z,300nm,1.0s							
STOK	**Stokkvaagen**	**66.95**	**340**	*e*P		**P**	**07 44 46.0**	**-0.7**
STOK				IAmb		IAmb	07 45 16.0	
	comp=Z,74nm,1.0s							
KTRM	**Thompson Ridge**	**66.97**	**54**	*e*P		**P**	**07 44 48.6**	**+1.2**
J04D	**Umpqua Nationa**	**67.00**	**52**	P		**P**	**07 44 47.9**	**+0.2**
	baz=304,SNR=9.5							
NEW	**Newport**	**67.02**	**46**	P		**P**	**07 44 47.4**	**-0.1**
	baz=305,SNR=12							
NEW	**Newport**	**67.02**	**46**	*e*P		**P**	**07 44 47.5**	**-0.1**
NEW				pmax		pmax		
	comp=Z,150nm,1.9s							
NEW	**Newport**	**67.02**	**46**	*e*P		**P**	**07 44 47.5**	**-0.1**
	comp=Z,40nm,1.5s							
JMIC	**Jan Mayen**	**67.14**	**350**	*e*P		**P**	**07 44 48.8**	**+1.0**
JMIC				IAmb		IAmb	07 45 36.2	
	comp=Z,345nm,2.0s							
JMIC				*e*S		**S**	**07 53 40.7**	**+1.3**
VSR	**Storozhevoye**	**67.24**	**318**	*e*P		**P**	**07 44 48.6**	**-0.2**
VSR				*e*			07 45 17.2	
VSR				pmax		pmax		
	comp=Z,130nm,0.8s							
VSR				pmax		pmax		
	comp=Z,90nm,1.4s							
VSR				MLR		MLR		
	comp=Z,13μm,15.0s							
KHMM	**Horse Mountain**	**67.32**	**55**	*e*P		**P**	**07 44 50.9**	**+1.2**
	comp=Z,57nm,1.4s							
MAK	**Makhachkala**	**67.36**	**308**	*e*P		**P**	**07 44 49.3**	**-0.4**
MAK				*e*			07 47 13.7	
MAK				*e*PPP		PPP	07 48 52.5	
MAK				*e*S		**S**	**07 53 42.0**	**-0.9**
COCO	**West Island**	**67.42**	**230**	*e*P		**P**	**07 44 51.6**	**+1.3**
COCO				pmax		pmax		
	comp=Z,359nm,1.2s							
COCO	**West Island**	**67.42**	**230**	*e*P		**P**	**07 44 51.6**	**+1.3**
	comp=Z,359nm,1.2s							
SUMG	**Summit**	**67.42**	**0**	*i* P		**P**	**07 44 51.2**	**+1.0**
	comp=Z,52nm,0.9s							
SUMG				*i*			07 45 20.3	
SUMG	**Summit**	**67.42**	**0**	*i* P		**P**	**07 44 51.2**	**+1.0**
SUMG				*i*			07 45 20.3	
SUMG				pmax		pmax		
	comp=Z,52nm,0.9s							
SUMG				MLR		MLR		
	comp=Z,4μm,13.0s							
SUMG	**Summit**	**67.42**	**0**	*e*P		**P**	**07 44 50.6**	**+0.5**
	comp=Z,60nm,1.0s							
E09A	**Wood Farm, Sta**	**67.46**	**48**	*e*P		**P**	**07 44 50.9**	**+0.6**
	comp=Z,59nm,1.4s							
YBH	**Yreka Blue Hor**	**67.48**	**54**	*e*P		**P**	**07 44 51.7**	**+1.1**
YBH				pmax		pmax		
	comp=Z,33nm,1.2s							
YBH	**Yreka Blue Hor**	**67.48**	**54**	*e*P		**P**	**07 44 51.7**	**+1.1**
	comp=Z,20nm,1.4s							
J05D	**Fort Rock, OR**	**67.50**	**52**	P		**P**	**07 44 50.0**	**-0.8**
	baz=305,SNR=11							
M02C	**Callahan**	**67.58**	**54**	P		**P**	**07 44 51.7**	**+0.5**
	baz=304,SNR=7.7							
N02D	**Trinity Center**	**67.91**	**55**	P		**P**	**07 44 53.6**	**+0.3**
	baz=305,SNR=5.5							
M04C	**Macdoel**	**67.98**	**53**	P		**P**	**07 44 54.2**	**+0.4**
	baz=305,SNR=13							
K05A	**Summer Lake**	**68.02**	**52**	*e*P		**P**	**07 44 55.0**	**+0.8**
	comp=Z,52nm,1.1s							
VSU	**Vasula**	**68.23**	**329**	*c i*P		**P**	**07 44 55.0**	**+0.1**
VSU				pmax		pmax		
	comp=Z,262nm,0.9s							
VSU				MLR		MLR		
	comp=Z,18μm,18.0s							
WDC	**Whiskeytown Da**	**68.23**	**55**	*e*P		**P**	**07 44 55.6**	**+0.3**
WDC				pmax		pmax		
	comp=Z,24nm,1.0s							
WDC	**Whiskeytown Da**	**68.23**	**55**	*e*P		**P**	**07 44 55.6**	**+0.3**
	comp=Z,17nm,1.3s							
GROC	**Groznyy**	**68.25**	**309**	*e*P		**P**	**07 44 55.2**	**-0.1**
GROC				*e*			07 45 19.1	
GROC				pmax		pmax		
	comp=Z,45nm,0.8s							
WALA	**Waterton Lakes**	**68.28**	**44**	*e*P		**P**	**07 44 56.0**	**+0.4**
	comp=Z,18nm,1.1s							
F10A	**Beach Ranch, E**	**68.29**	**48**	*e*P		**P**	**07 44 56.6**	**+0.9**
	comp=Z,31nm,1.8s							
BSMT	**Bassoo Peak**	**68.53**	**45**	*e*P		**P**	**07 44 58.0**	**+0.7**
BLMT	**Blacktail Moun**	**68.66**	**45**	*e*P		**P**	**07 44 58.9**	**+0.8**
GOF	**Gofitskoye**	**68.78**	**311**⇑	*e*P		**P**	**07 44 59.0**	**+0.4**
GOF				*e*S		**SKiKP**	**07 54 41.9**	**-6.1**
GOF				pmax		pmax		
	comp=Z,238nm,1.0s							
MOD	**Modoc Plateau**	**68.85**	**53**	*e*P		**P**	**07 44 59.5**	**+0.2**
	comp=Z,9.3nm,0.9s							
JTMT	**Jette**	**68.86**	**45**	*e*P		**P**	**07 44 59.5**	**+0.2**
BMO	**Blue Mountains**	**68.90**	**49**	*e*P		**P**	**07 45 00.0**	**+0.5**
BMO				pmax		pmax		
	comp=Z,26nm,1.4s							
BMO	**Blue Mountains**	**68.90**	**49**	*e*P		**P**	**07 44 60.0**	**+0.5**
	comp=Z,26nm,1.4s							
YBMT	**Yellow Bay**	**68.94**	**45**	*e*P		**P**	**07 45 00.1**	**+0.3**
SCO	**Scoresbysund**	**68.98**	**355**	*i* P		**P**	**07 45 00.1**	**+0.7**
	comp=Z,36nm,1.2s							
SCO	**Scoresbysund**	**68.98**	**355**	*i* P		**P**	**07 45 00.1**	**+0.7**
SCO				pmax		pmax		
	comp=Z,36nm,1.2s							
SWMT	**Swartz Lake**	**69.16**	**45**	*e*P		**P**	**07 45 01.6**	**+0.5**
NCK	**Nalchik**	**69.38**	**310**⇓	*i* P		**P**	**07 45 03.7**	**+1.3**
NCK				pmax		pmax		
	comp=Z,120nm,0.9s							
GUDG	**Gudauri**	**69.47**	**309**	P		**P**	**07 45 04.4**	**+1.1**
ORV	**Oroville**	**69.48**	**55**	*e*P		**P**	**07 45 03.1**	**+0.1**
ORV				pmax		pmax		
	comp=Z,25nm,1.1s							
ORV	**Oroville**	**69.48**	**55**	*e*P		**P**	**07 45 03.1**	**+0.1**
	comp=Z,36nm,1.6s							
WVOR	**Wild Horse Val**	**69.55**	**51**	*e*P		**P**	**07 45 04.3**	**+0.7**
WVOR				pmax		pmax		
	comp=Z,74nm,1.4s							
WVOR	**Wild Horse Val**	**69.55**	**51**	*e*P		**P**	**07 45 04.2**	**+0.7**
	comp=Z,11nm,0.9s							
DUS	**Dusheti**	**69.55**	**308**	P		**P**	**07 45 06.7**	**+3.1**
DUS	**Dusheti**	**69.55**	**308**	P		**P**	**07 45 06.6**	**+3.1**
SLMT	**Seeley Lake**	**69.60**	**45**	*e*P		**P**	**07 45 04.1**	**+0.2**
MSO	**Missoula**	**69.60**	**45**	P		**P**	**07 45 03.9**	**+0.1**
	baz=308,SNR=8.8							
MSO	**Missoula**	**69.60**	**45**	*e*P		**P**	**07 45 04.0**	**+0.1**
	comp=Z,14nm,1.0s							
ZEI	**Tsey**	**69.62**	**309**	*e*P		**P**	**07 45 00.7**	**-3.4**
ZEI				pmax		pmax		
	comp=Z,333nm,1.5s							
KIV	**Kislovodsk**	**69.64**	**311**	*i* P		**P**	**07 45 05.0**	**+0.9**
	SNR=41							
KIV	**Kislovodsk**	**69.64**	**311**	*c i*P		**P**	**07 45 05.0**	**+0.9**
KIV				*i*			07 45 34.1	
KIV				*e*			07 47 38.6	
KIV				*i* S		**S**	**07 54 11.6**	**+1.3**
KIV				pmax		pmax		
	comp=Z,367nm,1.0s							
KIV	**Kislovodsk**	**69.64**	**311**	*e*P		**P**	**07 45 05.1**	**+1.0**
	comp=Z,288nm,0.9s							
KIV	**Kislovodsk**	**69.64**	**311**	P		**P**	**07 45 05.1**	**+1.0**
	SNR=84							
KBZ	**Khabaz**	**69.65**	**310**	P		**P**	**07 45 05.0**	**+1.0**
	comp=Z,84nm,0.9s,baz=62,slow=6.0,SNR=144							
KBZ	**Khabaz**	**69.65**	**310**	P		**P**	**07 45 05.0**	**+1.0**
KBZ				pmax		pmax		
	comp=Z,84nm,0.9s							
TBLG	**Delisi**	**69.74**	**308**	P		**P**	**07 45 05.3**	**+0.6**
TBLG	**Delisi**	**69.74**	**308**	P		**P**	**07 45 05.3**	**+0.6**
CHMT	**Chamberlain Mo**	**69.93**	**45**	*e*P		**P**	**07 45 05.8**	**-0.2**
ONI	**Oni**	**70.00**	**309**	P		**P**	**07 45 07.5**	**+1.2**
ONI	**Oni**	**70.00**	**309**	P		**P**	**07 45 07.5**	**+1.2**
BEKR	**Beckworth**	**70.01**	**54**	*e*P		**P**	**07 45 06.7**	**+0.1**
	comp=Z,33nm,1.4s							
NEY	**Neytrino**	**70.04**	**310**	*d i*P		**P**	**07 45 08.7**	**+2.0**
NEY				pmax		pmax		
	comp=Z,17nm,1.0s							
TBLU	**Trondheim**	**70.11**	**339**	*e*P		**P**	**07 45 05.4**	**-1.1**
TBLU				IAmb		IAmb	07 45 36.3	
	comp=Z,80nm,1.0s							
BGC	**Bolinger Road**	**70.14**	**57**	*e*P		**P**	**07 45 11.8**	**+4.6**
AFDM	**Forest Hills D**	**70.17**	**56**	*e*P		**P**	**07 45 07.0**	**-0.3**
	comp=Z,16nm,1.4s							
FFC	**Flin Flon**	**70.36**	**34**	*e*P		**P**	**07 45 08.3**	**+0.1**
FFC				pmax		pmax		
	comp=Z,35nm,0.9s							
FFC	**Flin Flon**	**70.36**	**34**	*e*P		**P**	**07 45 08.3**	**+0.1**
	comp=Z,12nm,0.8s							
MICGM	**Minsk**	**70.44**	**326**⇓	*i* P		**P**	**07 45 09.0**	**+0.4**
MICGM				PM			07 45 10.0	
	comp=Z,0.5nm,0.8s							
MICGM				*e*PcP		**PcP**	**07 45 30.0**	**+0.1**
MICGM				*e*PP		**PP**	**07 47 42.0**	**-2.2**
MICGM				*e*PPP		PPP	07 49 37.0	
MICGM				*e*S		**S**	**07 54 19.0**	**0.0**
MICGM				*e*LR		LR	08 13 16.0	
MICGM				LRM		MLR	08 19 32.0	
	comp=Z,13nm,17.0s							
MNK	**Minsk**	**70.44**	**326**⇓	*i* P		**P**	**07 45 09.0**	**+0.4**
MNK				*e*			07 45 30.0	
MNK				*e*			07 47 42.0	
MNK				*e*S		**S**	**07 54 19.0**	**0.0**
MNK				pmax		pmax		
	comp=Z,510nm,0.8s							
MNK				MLR		MLR		
	comp=Z,13μm,17.0s							
NACGM	**Naroch**	**70.63**	**327**	*e*P		**P**	**07 45 10.0**	**+0.2**
NACGM				*e*P		**P**	**07 45 10.0**	**+0.2**
NACGM				PM			07 45 12.0	
	comp=Z,0.4nm,0.7s							
NACGM				*e*PP		PP	07 48 06.0	+20
NACGM				*e*S		**S**	**07 54 14.0**	**-7.2**
NACGM				*e*PS		PnS	07 55 14.0	+23
NACGM				*e*SS		SS	07 58 32.0	-20
NACGM				*e*SSS		SSS	08 02 42.0	
NACGM				*e*LQ		LQ	08 10 08.0	
NACGM				*e*LR		LR	08 14 20.0	
NACGM				LRM		MLR	08 19 10.0	
	comp=N,9.6nm,18.0s							
NACGM				LRM		MLR	08 19 10.0	
	comp=E,5.3nm,18.0s							
NACGM				LRM		MLR	08 19 14.0	
	comp=Z,18nm,18.0s							
GNI	**Garni**	**70.68**	**306**	*i* P		**P**	**07 45 12.0**	**+1.3**
	SNR=23							
GNI	**Garni**	**70.68**	**306**	*c i*P		**P**	**07 45 11.9**	**+1.3**
GNI				pmax		pmax		
	comp=Z,354nm,1.3s							
GNI				MLR		MLR		
	comp=Z,11μm,17.0s							
GNI	**Garni**	**70.68**	**306**	*e*P		**P**	**07 45 10.9**	**+0.3**
	comp=Z,137nm,1.3s							
GNI	**Garni**	**70

NB201 NORSAR Array S 71.59 337 eP P 07 45 16.1 +0.6
BMN Battle Mountai 71.60 52 eP P 07 45 16.8 +0.6
BMN pmax pmax
comp=Z,32nm,1.0s
BMN Battle Mountai 71.60 52 eP P 07 45 16.8 +0.6
comp=Z,15nm,1.1s
NB2 NORSAR Subarra 71.62 337 P P 07 45 16.0 +0.2
baz=38,slow=6.2
NB2 NORSAR Subarra 71.62 337 P P 07 45 15.9 +0.2
NB2 pmax pmax
comp=Z,75nm,1.0s
NB2 NORSAR Subarra 71.62 337 P P 07 45 16.0 +0.2
comp=Z,89nm,0.9s,baz=38,slow=6.2
NB200 NORSAR Array S 71.62 337 eP P 07 45 15.6 -0.2
NOA NORSAR Array B 71.62 337 P P 07 45 15.6 -0.2
comp=Z,62nm,0.9s,baz=38,slow=6.0,SNR=128
NOA NORSAR Array B 71.62 337 P P 07 45 15.6 -0.2
NOA pmax pmax
comp=Z,63nm,0.9s
BOZ Bozeman (W) 71.63 45 P P 07 45 16.3 0.0
baz=309,SNR=25
BOZ Bozeman (W) 71.63 45 eP P 07 45 16.8 +0.5
BOZ pmax pmax
comp=Z,19nm,0.9s
BOZ Bozeman (W) 71.63 45 eP P 07 45 16.8 +0.5
comp=Z,19nm,0.9s
NBO02 NORSAR Array S 71.72 338 eP P 07 45 16.6 +0.2
NBO00 NORSAR Array S 71.75 338 eP P 07 45 17.0 +0.4
ARTV Artvin 71.76 309 eP P 07 45 18.2 +1.0
comp=Z,56nm,0.9s
NC602 NORSAR Array S 71.77 337⇑ iP P 07 45 16.1 -0.5
NC602 IAmb IAmb 07 45 58.5
comp=Z,68nm,1.1s
NC602 eS S 07 54 34.2 -0.1
NC602 NORSAR Array S 71.77 337 eP P 07 45 16.8 +0.2
STKA Stephens Creek 71.82 181 P P 07 45 17.0 -0.1
comp=Z,3.0nm,0.7s,baz=316,slow=5.4,SNR=4.8
STKA Stephens Creek 71.82 181 eP P 07 45 17.5 +0.4
STKA Stephens Creek 71.82 181 eP P 07 45 17.5 +0.4
comp=Z,1.0nm,0.9s
TVH1 TV Hill, Hawth 71.84 55 eP P 07 45 18.1 +0.1
comp=Z,22nm,1.2s
AKN Aaknes 71.86 340 eP P 07 45 17.9 +0.7
AKN IAmb IAmb 07 46 04.9
comp=Z,104nm,1.2s
TVH3 East Aurora ar 71.87 55 eP P 07 45 18.8 +0.8
comp=Z,18nm,1.1s
NAO01 NORSAR Array S 71.87 337 eP P 07 45 17.8 +0.5
TVH2 Borealis Mine 71.90 55 eP P 07 45 18.6 +0.5
comp=Z,15nm,1.3s
UOSS Minazif 71.91 288 eP P 07 45 18.3 +0.3
comp=Z,82nm,0.8s
HATD Hatta, Dubai 72.03 288 i P P 07 45 19.1 +0.3
SNR=20
HATD Hatta, Dubai 72.03 288 P P 07 45 19.0 +0.2
SNR=14
FORT Forrest 72.04 193 eP P 07 45 18.7 +0.3
comp=Z,390nm,1.1s
ANN Anapa 72.09 314 eP P 07 45 18.6 -0.2
ANN e 07 45 33.1
ANN e 07 47 57.9
ANN eS S 07 54 38.4 -0.1
ANN e 07 55 29.7
ANN pmax pmax
comp=Z,178nm,1.2s
ASHO Ashiyiah 72.17 287 i P P 07 45 19.9 +0.2
SNR=20
ASHO Ashiyiah 72.17 287 P P 07 45 20.2 +0.5
SNR=12
QLMT Earthquake Lak 72.22 46 eP P 07 45 20.6 +0.7
NAZ Nazwa, Dubai 72.28 288 P P 07 45 20.1 -0.1
MLAC Mammoth, Mammo 72.30 56 P P 07 45 20.7 +0.2
baz=308,SNR=6.9
YHB Horse Butte 72.40 46 eP P 07 45 21.5 +0.5
comp=Z,18nm,1.0s
AKASG Malin Array Be 72.42 322 P P 07 45 20.4 -0.3
comp=Z,44nm,0.8s,baz=43,slow=6.5,SNR=110
AKBB Malin Array Si 72.42 322 eP P 07 45 20.5 -0.2
AKBB pmax pmax
comp=Z,81nm,1.0s
AKBB Malin Array Si 72.42 322 eP P 07 45 20.4 -0.2
comp=Z,77nm,1.0s
KIEV Kiev 72.43 322 eP P 07 45 20.4 -0.3
KIEV pmax pmax
comp=Z,86nm,1.0s
KIEV Kiev 72.43 322 eP P 07 45 20.4 -0.3
comp=Z,76nm,1.0s
AK11 Malin Array Si 72.46 322 eP P 07 45 20.5 -0.4
FAQ Al Faqa, Dubai 72.47 288 P P 07 45 21.4 0.0
FAQ Al Faqa, Dubai 72.47 288 P P 07 45 21.8 +0.4
SNR=6.2
FAQ P P 07 45 21.8 +0.4
SNR=6.2
SFJD Kangerlussuaq 72.54 6 i P P 07 45 21.5 +0.5
SFJD Kangerlussuaq 72.54 6 eP P 07 45 21.6 +0.5
SFJD pmax pmax
comp=Z,60nm,1.0s
SFJD Kangerlussuaq 72.54 6 eP P 07 45 21.6 +0.6
comp=Z,22nm,0.9s
PAGB Antelope Grade 72.54 58 eP P 07 45 22.6 +0.8
comp=Z,28nm,1.2s
GCMT Greycliff 72.56 44 eP P 07 45 22.4 +0.5
YHH Holmes Hill 72.57 46 eP P 07 45 22.5 +0.4
comp=Z,13nm,1.2s
YMR Madison River 72.58 46 eP P 07 45 23.0 +0.9
comp=Z,8.9nm,0.9s
OSL Oslo 72.65 337 eP P 07 45 22.5 +0.7
OSL IAmb IAmb 07 45 51.8
comp=Z,90nm,1.0s
YNR Norris Junctio 72.71 46 eP P 07 45 24.2 +1.3
comp=Z,48nm,1.8s
SUW Suwalki 72.76 328 eP P 07 45 23.1 +0.4
SUW Suwalki 72.76 328 eP P 07 45 23.0 +0.4
YFT Old Faithful 72.79 46 eP P 07 45 24.2 +0.9
comp=Z,15nm,1.0s
FOO Floro 72.86 340 eP P 07 45 23.5 +0.5
FOO IAmb IAmb 07 45 41.0
comp=Z,62nm,1.1s
FOO eS S 07 54 47.2 +0.6
HYA Hoyanger 72.92 340 eP P 07 45 24.1 +0.6
HYA IAmb IAmb 07 45 53.8
comp=Z,161nm,1.3s
YPP Pitchstone Pla 72.92 46 eP P 07 45 25.6 +1.4
comp=Z,16nm,1.3s
LKWY Lake 72.96 46 eP P 07 45 25.0 +0.7
LKWY pmax pmax
comp=Z,14nm,1.0s
LKWY Lake 72.96 46 eP P 07 45 25.0 +0.7
comp=Z,14nm,1.0s
H17A Grant Village 72.97 46 P P 07 45 25.8 +1.4
baz=310,SNR=14
H17A Grant Village 72.97 46 eP P 07 45 25.1 +0.7
comp=Z,26nm,1.2s
BBOO Buckleboo 73.01 186 eP P 07 45 25.0 +0.8
comp=Z,37nm,1.1s
TIN Tinemaha, Big 73.03 56 P P 07 45 25.3 +0.6
baz=308
IMW Indian Meadow 73.09 47 eP P 07 45 26.4 +1.3
comp=Z,37nm,1.7s
RLMT Red Lodge 73.21 45 P P 07 45 26.0 +0.2
baz=311,SNR=5.9
RLMT Red Lodge 73.21 45 eP P 07 45 26.5 +0.7
KONO Kongsberg 73.22 337 eP P 07 45 24.7 -0.5
KONO eS S 07 54 51.6 +0.8
KONO Kongsberg 73.22 337 eP P 07 45 25.9 +0.6
KONO pmax pmax
comp=Z,50nm,0.9s
KONO Kongsberg 73.22 337 eP P 07 45 25.9 +0.6
comp=Z,25nm,0.9s
VES Vestal, Richgr 73.23 57 P P 07 45 25.5 -0.2
baz=308
MOOW Moose Ponds 73.29 47 eP P 07 45 26.9 +0.6
comp=Z,32nm,1.5s
TPAW Teton Pass 73.34 47 eP P 07 45 27.8 +1.2
comp=Z,34nm,1.5s
SUE Sulen 73.39 340 eP P 07 45 26.7 +0.5
SUE epP sP 07 45 38.5 -1.6
SUE IAmb IAmb 07 45 56.8
comp=Z,60nm,1.1s
SUE eS SKiKP 07 54 54.7 +0.3
HVU Hansel Valley 73.40 49 eP P 07 45 27.7 +0.9
HVU pmax pmax
comp=Z,20nm,0.9s
HVU Hansel Valley 73.40 49 eP P 07 45 27.7 +0.9
comp=Z,9.8nm,0.9s
LOHW Long Hollow 73.46 47 eP P 07 45 28.2 +1.0
comp=Z,8.6nm,1.2s
SNOW Snow King Moun 73.47 47 eP P 07 45 28.2 +0.9
comp=Z,14nm,1.3s
REDW Red Top Meadow 73.48 47 eP P 07 45 28.4 +1.0
comp=Z,11nm,1.1s
CWC Cottonwood Cre 73.50 56 P P 07 45 27.4 -0.2
baz=308
KLNR Kaliningrad 73.51 329 ceP P 07 45 27.0 0.0
KLNR pmax pmax
comp=Z,416nm,1.6s
KLNR MLR MLR
comp=Z,7μm,17.0s
DGMT Dagmar 73.59 40 P P 07 45 27.8 0.0
baz=313,SNR=6.5
DGMT Dagmar 73.59 40 eP P 07 45 27.9 +0.2
comp=Z,22nm,0.8s
GRAC Grapevine Rang 73.61 55 P P 07 45 28.4 +0.4
baz=308,SNR=6.9
ISA Isabella, Lake 73.73 57 P P 07 45 28.8 0.0
baz=308
ASK Askoy 73.76 340 eP P 07 45 29.3 +0.9
LAO LASA Array 73.78 42 P P 07 45 28.8 -0.1
baz=312,SNR=6.8
LAO LASA Array 73.78 42 eP P 07 45 29.5 +0.6
BGU Big Grassy Mou 73.79 50 eP P 07 45 30.0 +0.8
SIM Simferopol' 73.80 316⇓ eP P 07 45 29.3 +0.3
SIM eS SKiKP 07 54 53.0 -2.5
SIM ePS PnS 07 55 54.0 +21
SIM pmax pmax
comp=Z,82nm,1.0s
BER Bergen 73.81 340 eP P 07 45 28.5 -0.2
BER IAmb IAmb 07 45 30.7
comp=Z,100nm,1.1s
BER eS S 07 54 58.6 +1.2
ODD1 Odda 73.85 339 eP P 07 45 29.9 +0.9
ODD1 IAmb IAmb 07 46 12.2
comp=Z,65nm,0.9s
R11A Troy Canyon, C 73.88 53 P P 07 45 29.5 -0.3
baz=309,SNR=22
R11A Troy Canyon, C 73.88 53 eP P 07 45 30.3 +0.5
comp=Z,19nm,1.3s
DAC Darwin (Calif) 73.91 56 eP P 07 45 30.3 +0.2
DAC pmax pmax
comp=Z,15nm,1.1s
DAC Darwin (Calif) 73.91 56 eP P 07 45 30.2 +0.2
comp=Z,15nm,1.1s
MPMC Manual Prospec 74.11 56 P P 07 45 30.7 -0.5
baz=308,SNR=13
HWUT Hardware Ranch 74.20 49 eP P 07 45 32.0 +0.3
comp=Z,30nm,1.5s
FURC Furnace Creek, 74.26 55 P P 07 45 32.0 +0.3
baz=309
BLS5 Blasjo 74.31 339 eP P 07 45 32.4 +0.7
BLS5 IAMs_20 IAMs_20 08 21 12.6
comp=Z,5μm,20.8s
TPNV Topopah Spring 74.34 55 P P 07 45 32.4 0.0
baz=309,SNR=10
TPNV Topopah Spring 74.34 55 eP P 07 45 33.1 +0.6
TPNV pmax pmax
comp=Z,50nm,1.2s
TPNV Topopah Spring 74.34 55 eP P 07 45 33.0 +0.6
comp=Z,38nm,1.5s
DUG Dugway, Tooele 74.38 50 P P 07 45 32.5 -0.1
baz=310,SNR=13
DUG Dugway, Tooele 74.38 50 eP P 07 45 32.9 +0.3
DUG pmax pmax
comp=Z,36nm,1.0s
DUG Dugway, Tooele 74.38 50 eP P 07 45 32.9 +0.3
comp=Z,13nm,1.1s
BORG Borgarnes 74.56 353 eP P 07 45 35.2 +2.2
BORG pmax pmax
comp=Z,90nm,1.0s
BORG Borgarnes 74.56 353 eP P 07 45 35.2 +2.2
comp=Z,73nm,1.1s
BW06 Boulder Array 74.59 47 P P 07 45 33.5 -0.4
baz=311,SNR=7.3
BW06 Boulder Array 74.59 47 eP P 07 45 33.9 0.0
comp=Z,37nm,1.9s
PD31 Pinedale Array 74.59 47 eP P 07 45 34.0 +0.1
PDAR Pinedale Array 74.59 47 P P 07 45 33.9 -0.1
comp=Z,1.6nm,0.6s,baz=270,slow=1.5,SNR=19
SORM Soroca 74.59 321⇓ iP P 07 45 34.0 +0.5
HOMB Homborsund 74.68 337 eP P 07 45 34.3 +0.5
HOMB IAmb IAmb 07 46 16.6
comp=Z,77nm,0.9s
KMY Karmoy 74.83 339 eP P 07 45 35.4 +0.8
PASC Pasadena Art C 74.84 58 eP P 07 45 35.2 0.0
comp=Z,21nm,1.3s
MARD Mardin 74.86 306 eP P 07 45 36.7 +1.2
comp=Z,192nm,0.9s
MWC Mount Wilson 74.89 58 eP P 07 45 36.0 +0.3
MWC pmax pmax
comp=Z,36nm,1.1s
MWC Mount Wilson 74.89 58 eP P 07 45 36.0 +0.3
comp=Z,27nm,1.3s
JLU Jordanelle 74.92 49 eP P 07 45 36.6 +0.7
comp=Z,14nm,1.3s
STAV Stavanger 74.93 339 eP P 07 45 35.7 +0.5
NLU North Lily Min 74.97 50 eP P 07 45 36.8 +0.6
comp=Z,9.6nm,1.1s
SHOC Shoshone, Teco 74.98 56 P P 07 45 35.5 -0.6
baz=309
SNART Snartemo 75.00 338 eP P 07 45 36.4 +0.8
SNART IAmb IAmb 07 46 18.9
comp=Z,61nm,0.9s
GSC Goldstone, Bar 75.02 56 P P 07 45 36.1 -0.2
baz=309,SNR=7.0
GSC Goldstone, Bar 75.02 56 eP P 07 45 36.7 +0.3
GSC pmax pmax
comp=Z,24nm,1.1s
GSC Goldstone, Bar 75.02 56 eP P 07 45 36.7 +0.3
comp=Z,18nm,1.4s
BSD Bornholm Skovb 75.11 332⇑ iP P 07 45 36.2 -0.1
comp=Z,130nm,1.1s
BSD i 07 46 05.2
BSD Bornholm Skovb 75.11 332⇑ iP P 07 45 36.2 -0.1
BSD pmax pmax
comp=Z,130nm,1.1s
BSD MLR MLR
comp=Z,6μm,18.0s
BFSC Mount Baldy Ra 75.14 58 P P 07 45 36.9 -0.2
baz=309,SNR=10
KIS Kishinev 75.15 320⇑ iP P 07 45 34.0 -2.7
comp=Z,400nm,2.0s
KIS Kishinev 75.15 320 ePP PP 07 48 25.0 +0.4
KIS Kishinev 75.15 320 ePS PnS 07 56 10.0 +19
KIS eSS SS 08 00 52.0 +50
KIS eSSS SSS 08 03 53.0
KIS LRM MLR 08 22 20.0
comp=Z,13μm,16.0s
KIS Kishinev 75.15 320 αiP P 07 45 34.0 -2.7
KIS i 07 45 50.0
KIS e 07 48 25.0
KIS eS S 07 55 31.0 +18
KIS e 07 55 44.0
KIS ePS PnS 07 56 10.0 +19
KIS pmax pmax
comp=Z,400nm,2.0s
KIS pmax pmax
comp=Z,400nm,4.0s
KIS MLR MLR
comp=Z,13μm,16.0s
KIS MLR MLR
comp=N,5μm,15.0s
KIS MLR MLR
comp=E,4μm,16.0s
KIS MLR MLR
comp=Z,13μm,16.0s
IMU Iron Mountain 75.17 52 eP P 07 45 34.8 -2.5
KBSD Kabsdagh 75.21 306 eP P 07 45 36.6 -0.7
SHPR Sheep Range 75.30 55 eP P 07 45 38.9 +0.8
comp=Z,23nm,1.4s
BEL Belsk 75.34 327 eP P 07 45 38.8 +1.1
BEL Belsk 75.34 327 eP P 07 45 38.8 +1.1
LVV L'vov 75.42 324 eP P 07 45 39.0 +0.8
LVV eS S 07 55 14.0 -1.8
LVV MLR MLR
comp=Z,9μm,15.0s
TUQ Turquoise Moun 75.50 56 P P 07 45 39.0 -0.2
baz=309,SNR=6.3
HEC Hector,Ludlow 75.62 57 P P 07 45 39.9 +0.1
baz=309,SNR=6.0
GKP Gorka Klasztor 75.68 330 eP P 07 45 40.6 +1.0
BEL Gorka Klasztor 75.68 330 eP P 07 45 40.6 +1.0
CCUT Cedar City 75.74 53 eP P 07 45 40.5 -0.2
comp=Z,17nm,1.4s
LEOM Leova 75.80 320⇑ iP P 07 45 42.0 +1.6
MURC Murrieta 75.84 58 P P 07 45 41.0 0.0
baz=309
MSU Marysvale 75.84 51 eP P 07 45 42.4 +1.2
MSU e*PP PcP 07 45 53.0 -0.7
MSU Marysvale 75.84 51 eP P 07 45 42.4 +1.2
SFNV Sufian 75.85 306 eP P 07 45 42.7 +1.7
LLD Lille Linde 75.88 333 iP P 07 45 40.9 +0.2
LLD Lille Linde 75.88 333 iP P 07 45 40.9 +0.2
SZCU Shurtz Canyon 75.88 53 eP P 07 45 42.1 +0.7
comp=Z,9.6nm,1.3s
MZRK Al-Mazaregh 75.89 305 eP P 07 45 37.6 -3.6
TMUT Trail Mountain 75.91 50 eP P 07 45 41.9 +0.2
comp=Z,7.6nm,1.2s
MUD Monsted U'grnd 75.97 336 iP P 07 45 41.8 +0.6
comp=Z,56nm,0.9s
MUD Monsted U'grnd 75.97 336 iP P 07 45 41.8 +0.6
MUD pmax pmax
comp=Z,56nm,0.9s
MUD MLR MLR
comp=Z,4μm,17.0s
GMRC Granite Mounta 76.08 56 P P 07 45 42.3 -0.2
baz=310
KWP Kalwaria Pacla 76.14 325 eP P 07 45 43.4 +0.9
KWP Kalwaria Pacla 76.14 325 eP P 07 45 43.3 +0.9
PRAR RASCA 76.16 321⇓ iP P 07 45 43.3 +0.8
LCMT Little Creek M 76.16 53 eP P 07 45 43.9 +1.0
comp=Z,24nm,1.4s
ULM Lac du Bonnet 76.17 34 P P 07 45 42.1 -0.4
comp=Z,6.3nm,0.8s,baz=295,slow=6.2,SNR=5.3
ULM Lac du Bonnet 76.17 34 eP P 07 45 42.9 +0.4
ULM pmax pmax
comp=Z,16nm,1.1s
ULM Lac du Bonnet 76.17 34 eP P 07 45 42.9 +0.4
comp=Z,16nm,1.1s
MDND Maddock 76.23 38 P P 07 45 42.5 -0.5
baz=316
MDND Maddock 76.23 38 eP P 07 45 43.0 +0.1
comp=Z,41nm,1.0s
LDFC Landfair 76.24 56 eP P 07 45 43.8 +0.5
comp=Z,34nm,1.4s
PFO Pinyon Flats O 76.31 58 P P 07 45 43.4 -0.4
baz=309
TPFO Pinon Flats 76.31 58 P P 07 45 43.4 -0.4
baz=309
K22A Casper 76.33 45 P P 07 45 43.6 -0.2
baz=313,SNR=7.0
K22A Casper 76.33 45 eP P 07 45 44.0 +0.1
comp=Z,18nm,1.1s
109C Camp Elliot, M 76.34 58 P P 07 45 43.8 -0.1
baz=309
BELC Belle Mtn. Jos 76.36 57 P P 07 45 43.6 -0.5
baz=310
TLCR 76.41 318⇓ iP P 07 45 44.8 +0.8
SRU San Rafael Swe 76.43 50 eP P 07 45 44.9 +0.4
SRU pmax pmax
comp=Z,40nm,1.0s
SRU San Rafael Swe 76.43 50 eP P 07 45 44.9 +0.4
comp=Z,15nm,0.9s
BUR08 Bucovina Ar. S 76.44 322 eP P 07 45 45.1 +0.8
BURAR Bucovina Array 76.46 322⇑ iP P 07 45 45.0 +0.6
BURAR Bucovina Array 76.46 322⇓ iP P 07 45 45.2 +0.9
BURAR Bucovina Array 76.46 322 P P 07 45 44.9 +0.6
TESR Tescani 76.56 320⇓ iP P 07 45 45.8 +1.0
MMU Miners Mountai 76.57 51 eP P 07 45 45.9 +0.6
ILGA Ilgaz 76.61 313 eP P 07 45 46.7 +1.2
comp=Z,103nm,0.9s
NWAO Narrogin (SRO) 76.62 202 P P 07 45 45.2 +0.2
comp=Z,23nm,0.9s,baz=253,slow=5.3,SNR=9.7
NWAO Narrogin (SRO) 76.62 202 eP P 07 45 45.1 0.0
comp=Z,61nm,1.3s
RSSD Black Hills 76.65 43 P P 07 45 44.9 -0.8
baz=314
RSSD Black Hills 76.65 43 eP P 07 45 45.6 -0.1
RSSD pmax pmax
comp=Z,27nm,0.8s
RSSD Black Hills 76.65 43 eP P 07 45 45.6 -0.1
comp=Z,10nm,0.9s
B31A Greenbush Farm 76.72 37 P P 07 45 45.3 -0.4
baz=317
BAR Barrett 76.76 58 eP P 07 45 46.4 +0.2
comp=Z,24nm,1.6s
CFR Carcaliu 76.76 319⇓ iP P 07 45 46.2 +0.3
IRM Iron Mountain 76.80 56 P P 07 45 46.2 -0.2
baz=310
PETR Petresti 76.83 320⇑ iP P 07 45 46.9 +0.6
A32A Rocking H Ranc 76.88 36 P P 07 45 46.1 -0.5
baz=318
ODBI Odobesti 76.89 320⇓ iP P 07 45 49.0 +2.3
KSRV Kasrt alli 76.89 306 eP P 07 45 47.9 +1.0
STHS Stebnicka Huta 76.94 325 eP P 07 45 48.2 +1.2
STHS pmax pmax
comp=Z,40nm,0.9s
STHS Stebnicka Huta 76.94 325 eP P 07 45 48.2 +1.2
STHS e 07 46 17.8
OJC Ojcow 76.96 326 eP P 07 45 47.6 +0.6
OJC eS S 07 55 31.8 -1.1
OJC Ojcow 76.96 326 eP P 07 45 48.1 +1.1
OJC pmax pmax
comp=Z,108nm,1.0s
OJC Ojcow 76.96 326 eP P 07 45 48.1 +1.1
comp=Z,108nm,1.0s
W13A Hualapai Mount 77.00 55 eP P 07 45 48.1 +0.3
comp=Z,13nm,1.4s
PLOR Plostina 77.03 320⇓ iP P 07 45 47.8 +0.3
UZH Uzhgorod 77.06 324 eP P 07 45 48.0 +0.4
UZH eS S 07 55 31.0 -2.9
UZH MLR MLR
comp=Z,2μm,13.0s
O20A White River Ci 77.07 48 P P 07 45 47.7 -0.4
baz=312,SNR=5.2
O20A White River Ci 77.07 48 eP P 07 45 48.2 +0.1
comp=Z,20nm,1.4s
TIRR Tirgusor 77.12 318⇓ iP P 07 45 48.9 +0.9
TIRR Tirgusor 77.12 318 eP P 07 45 48.5 +0.5
TIRR pmax pmax
comp=Z,53nm,1.1s
TIRR Tirgusor 77.12 318 eP P 07 45 48.5 +0.5
comp=Z,33nm,1.0s
U15A North Rim 77.12 53 eP P 07 45 49.2 +0.7
comp=Z,25nm,1.3s
C31A Landman Farms, 77.14 37 P P 07 45 47.6 -0.5
baz=317
IKP In-Ko-Pah, Jac 77.14 58 P P 07 45 48.2 -0.3
baz=310
GRER 77.20 319⇑ iP P 07 45 48.4 0.0
HARR Harsova 77.20 318⇓ iP P 07 45 49.5 +1.0
BMR Baia Mare 77.22 323⇑ iP P 07 45 50.3 +1.8
TLB Topalu 77.22 318⇓ iP P 07 45 49.7 +1.2
B32A Ashes, Strandq 77.24 36 P P 07 45 48.3 -0.3
baz=318
ARCR ARCALIA 77.25 322⇑ iP P 07 45 51.1 +2.4
EFOR EFORIE 77.27 318⇓ iP P 07 45 50.5 +1.7
TRPA Tarpa 77.32 324⇑ ePP 07 45 49.9 +0.9
SLMH Al Salmeh 77.32 307 eP P 07 45 39.3 -10
PDMCI Parker Dam,Lak 77.35 56 P P 07 45 49.4 0.0
baz=310,SNR=8.1
A33A Warroad 77.35 35 P P 07 45 49.1 -0.2
baz=318
NIE Niedzica 77.35 326 eP P 07 45 50.2 +0.9
NIE Niedzica 77.35 326 eP P 07 45 50.2 +0.9
Y12C Blythe 77.46 56 P P 07 45 50.2 +0.1
baz=310,SNR=7.2
Y12C Blythe 77.46 56 eP P 07 45 50.8 +0.7
comp=Z,17nm,1.0s
PGOR Pogoanele 77.53 319⇑ iP P 07 45 52.3 +2.0
BR101 Keskin Array S 77.54 312 eP P 07 45 51.0 +0.3
BR131 Keskin Array S 77.54 312 eP P 07 45 51.0 +0.4
BRTR Keskin Array B 77.54 312 P P 07 45 51.0 +0.4
comp=Z,20nm,0.8s,baz=77,slow=3.8,SNR=80
BRTR Keskin Array B 77.54 312 P P 07 45 51.0 +0.4
BRTR pmax pmax
comp=Z,20nm,0.8s
DOPR Dopca 77.56 321⇓ iP P 07 45 52.1 +1.6
ISR Istrita 77.60 319⇓ iP P 07 45 52.5 +1.7
AGMN Agassiz Nation 77.62 36 P P 07 45 50.2 -0.5
baz=318
AGMN Agassiz Nation 77.62 36 eP P 07 45 50.1 -0.7
comp=Z,14nm,1.1s
MLR Muntele Rosu 77.63 320 eP P 07 45 51.2 +0.2
MLR pmax pmax
comp=Z,47nm,1.2s
MLR Muntele Rosu 77.63 320 eP P 07 45 51.2 +0.2
comp=Z,47nm,1.2s
PV09 Paradox Valley 77.65 50 eP P 07 45 51.8 +0.3

GLA	Glamis	77.71	57	P		P	07 45 50.9	-0.7		
	baz=310									
GLA	Glamis	77.71	57	*e*P		P	07 45 52.7	+1.1		
GLA					pmax	pmax				
	comp=Z,57nm,1.3s									
GLA	Glamis	77.71	57	*e*P		P	07 45 52.1	+0.5		
	comp=Z,17nm,1.0s									
RAC	Raciborz	77.74	327	*e*P		P	07 45 52.7	+1.4		
RAC				*e*S		S	07 55 40.9	-0.3		
RAC					MLR	MLR				
	comp=Z,8µm,19.5s									
B33A	Robert and Kas	77.76	36	P		P	07 45 50.3	-1.2		
	baz=318									
PSN	Preselentsi	77.78	318	P		P	07 45 52.4	+0.7		
PV10	Paradox Valley	77.78	50	*e*P		P	07 45 53.1	+0.9		
DRWC	Darouich	77.83	308	*e*P		P	07 45 53.0	+0.8		
PHWY	Pilot Hill	77.83	46	*e*P		P	07 45 52.6	+0.1		
	comp=Z,26nm,1.8s									
N23A	Red Feather La	77.84	46	P		P	07 45 51.7	-0.8		
	baz=313,SNR=8.7									
N23A	Red Feather La	77.84	46	*e*P		P	07 45 53.2	+0.7		
	comp=Z,21nm,1.2s									
PV04	Paradox Valley	77.85	50	*e*P		P	07 45 52.6	+0.1		
CJR	Cluj-Napoca	77.87	322	⇑*i*P		P	07 45 53.7	+1.5		
SECR		77.89	320	⇑*i*P		P	07 45 52.4	+0.1		
LANS	Liptovska Anna	77.91	326	*e*P		P	07 45 54.1	+1.7		
LANS	Liptovska Anna	77.91	326	*e*P		P	07 45 54.1	+1.7		
LANS				*e*			07 46 22.8			
ANTO	Ankara	77.92	312	*e*P		P	07 45 54.2	+1.5		
ANTO					pmax	pmax				
	comp=Z,150nm,1.0s									
ANTO	Ankara	77.92	312	*e*P		P	07 45 53.5	+0.8		
	comp=Z,107nm,0.9s									
ANTO	Ankara	77.92	312	P		P	07 45 53.5	+0.8		
	SNR=24									
ANTO				P		P	07 45 53.5	+0.8		
	SNR=24									
KSP	Ksiaz	77.92	329	*e*P		P	07 45 53.0	+0.6		
KSP				*e*S		S	07 55 45.2	+2.0		
KSP	Ksiaz	77.92	329⇑	*e*P		P	07 45 53.0	+0.6		
KSP				*e*S		S	07 55 45.2	+2.0		
OKC	Ostrava-Krasne	77.95	327⇑	*i*P		P	07 45 53.3	+0.8		
OKC				*e*S		S	07 55 41.8	-1.6		
OKC	Ostrava-Krasne	77.95	327⇑	*i*P		P	07 45 53.3	+0.8		
OKC				*e*S		S	07 55 41.8	-1.6		
OKC					MLR	MLR				
	comp=Z,7µm,18.1s									
PV05	Paradox Valley	77.95	50	*e*P		P	07 45 53.9	+0.8		
BR231	Keskin MP Arra	77.95	312	*e*P		P	07 45 52.2	-0.7		
E31A	Nome	77.97	38	P		P	07 45 52.5	-0.3		
	baz=317,SNR=8.5									
KECS	Kecovo	77.97	325	*e*P		P	07 45 53.4	+0.7		
KECS					pmax	pmax				
	comp=Z,14nm,1.0s									
KECS	Kecovo	77.97	325	*e*P		P	07 45 53.4	+0.7		
B34A	Aery, Baudette	78.01	35	P		P	07 45 52.2	-0.7		
	baz=319									
VOIR		78.11	320	⇓*i*P		P	07 45 54.7	+1.1		
RSC	Scourie	78.16	343	*e*P		P	07 45 53.8	+0.3		
PV01	Paradox Valley	78.22	50	*e*P		P	07 45 55.1	+0.5		
DRGR		78.23	323	⇓*i*P		P	07 45 55.4	+1.2		
MORC	Moravsky Berou	78.24	327	⇑*i*P		P	07 45 55.1	+0.9		
MORC	Moravsky Berou	78.24	327	*e*P		P	07 45 55.2	+1.0		
MORC					pmax	pmax				
	comp=Z,269nm,0.9s									
MORC	Moravsky Berou	78.24	327	*e*P		P	07 45 55.2	+1.0		
	comp=Z,269nm,0.9s									
WUAZ	Wupatki	78.28	53	P		P	07 45 55.0	+0.2		
	baz=311,SNR=11									
WUAZ	Wupatki	78.28	53	*e*P		P	07 45 55.2	+0.3		
	comp=Z,19nm,1.0s									
DPC	Dobruska-Polom	78.30	328	*e*P		P	07 45 55.6	+1.1		
DPC				*e*S		S	07 55 46.5	-0.8		
DPC	Dobruska-Polom	78.30	328	*e*P		P	07 45 55.6	+1.1		
DPC				*e*S		S	07 55 46.5	-0.8		
DPC					MLR	MLR				
	comp=Z,6µm,17.7s									
UPC	Upice	78.30	329⇑	*e*P		P	07 45 55.1	+0.6		
UPC				*e*S		S	07 55 47.7	+0.5		
UPC	Upice	78.30	329	*e*P		P	07 45 55.1	+0.6		
UPC				*e*S		S	07 55 47.7	+0.5		
UPC					MLR	MLR				
	comp=Z,6µm,17.1s									
Y14A	Wickenburg	78.30	55	*e*P		P	07 45 54.9	0.0		
	comp=Z,54nm,1.0s									
F31A	Hecla	78.31	39	P		P	07 45 54.4	-0.3		
	baz=317									
KRLC	Kraliky	78.32	328⇑	*e*P		P	07 45 55.3	+0.6		
KRLC				*e*sP		sP	07 46 10.0	+1.3		
KRLC	Kraliky	78.32	328	*e*P		P	07 45 55.3	+0.6		
KRLC				*e*			07 46 10.0			
BTCH	Batrach	78.33	307	*e*P		P	07 45 50.2	-4.8		
ARR	Arges	78.36	321	⇑*i*P		P	07 45 57.5	+2.5		
SMCO	Snowmass	78.44	48	*e*P		P	07 45 56.4	+0.5		
	comp=Z,9.9nm,1.3s									
B35A	Bob, Littlefor	78.51	35	P		P	07 45 55.1	-0.6		
	baz=319									
C34A	RKJ Ranch, Bem	78.53	36	P		P	07 45 55.2	-0.6		
	baz=319									
113A	Mohawk Valley,	78.58	57	*e*P		P	07 45 56.6	+0.3		
	comp=Z,17nm,1.3s									
PSZ	Piszkesteto	78.66	325	⇑*i*P		P	07 45 57.5	+0.9		
PSZ	Piszkesteto	78.66	325	*e*P		P	07 45 57.3	+0.7		
PSZ					pmax	pmax				
	comp=Z,87nm,1.1s									
PSZ	Piszkesteto	78.66	325⇑	*e*P		P	07 45 57.3	+0.7		
PSZ	Piszkesteto	78.66	325	*e*P		P	07 45 57.3	+0.7		
	comp=Z,87nm,1.1s									
VYHS	Vyhne	78.68	326	*e*P		P	07 45 57.2	+0.6		
VYHS				*e*S		S	07 55 50.7	-0.7		
VYHS					pmax	pmax				
	comp=Z,25nm,1.1s									
VYHS					MLR	MLR				
	comp=Z,3µm,23.7s									
VYHS	Vyhne	78.68	326	*e*P		P	07 45 57.2	+0.6		
VYHS				*e*			07 46 26.0			
VYHS				*e*S		S	07 55 50.7	-0.7		
VYHS				*e*L		L	08 22 28.3			
LOT	Lotru	78.72	321	⇑*i*P		P	07 45 57.8	+0.8		
ARNB	Al Arnab	78.75	308	*e*P		P	07 45 51.8	-5.6		
ISCO	Idaho Springs	78.78	47	P		P	07 45 57.3	-0.4		
	baz=314,SNR=8.8									
ISCO	Idaho Springs	78.78	47	*e*P		P	07 45 58.5	+0.7		
ISCO					pmax	pmax				
	comp=Z,78nm,1.7s									
ISCO	Idaho Springs	78.78	47	*e*P		P	07 45 58.5	+0.7		
	comp=Z,18nm,1.6s									
G31A	Conde	78.79	39	P		P	07 45 57.2	-0.1		
	baz=317									
BRG	Berggiesshubel	78.82	330	*i*P		P	07 45 57.6	+0.3		
	comp=Z,46nm,1.1s									
BRG				*i*			07 46 26.3			
	comp=Z,47nm,1.2s									
BRG				S		S	07 55 54.0	+1.2		
BRG				PS		PnS	07 56 37.0	-0.3		
BRG				SS		SS	08 00 55.0	-1.6		
BRG	Berggiesshubel	78.82	330	*i*P		P	07 45 57.6	+0.3		
BRG				S		S	07 55 54.0	+1.2		
BRG				PS		PnS	07 56 37.0	-0.3		
BRG				SS		SS	08 00 55.0	-1.6		
BRG					pmax	pmax				
	comp=Z,46nm,1.1s									
BRG					MLR	MLR				
	comp=N,4µm,18.0s									
BRG					MLR	MLR				
	comp=E,4µm,16.1s									
BRG					MLR	MLR				
	comp=Z,7µm,16.5s									
D34A	Park Rapids	78.82	36	P		P	07 45 57.1	-0.3		
	baz=319									
CLL	Collm	78.83	331	*e*P		P	07 45 57.4	+0.1		
CLL					pmax	pmax				
	comp=Z,62nm,0.8s									
CLL	Collm	78.83	331	⇑*i*P		P	07 45 57.4	+0.1		
	comp=Z,80nm,1.0s									
CLL				*e*			07 46 04.0			
CLL				*e*Pmax			07 46 12.0			
CLL				*i*			07 46 20.6			
CLL				*e*			07 46 33.0			
CLL				*e*(PP)			07 49 08.0			
CLL				*e*S		S	07 55 52.0	-0.8		
CLL				*e*(S)		ScS	07 56 36.0	+20		
CLL				*e*SS		SS	08 01 00.0	+3.3		
CLL				*e*			08 02 18.0			

CLL	Collm	78.83	331	*e*P		P	07 45 57.4	+0.1		
	comp=Z,62nm,0.8s									
PVCC	Panska Ves	78.85	329⇑	*e*P		P	07 45 58.8	+1.3		
PVCC	Panska Ves	78.85	329	*e*P		P	07 45 58.8	+1.3		
PVCC					MLR	MLR				
	comp=Z,8µm,16.9s									
MVCO	Mesa Verde	78.88	50	P		P	07 45 58.4	+0.2		
	baz=312,SNR=7.4									
MVCO	Mesa Verde	78.88	50	*e*P		P	07 45 58.8	+0.5		
	comp=Z,40nm,1.8s									
E33A	Westby DABS, E	78.89	37	P		P	07 45 57.5	-0.3		
	baz=318									
C35A	Jirik Farms, M	78.90	35	P		P	07 45 56.9	-0.9		
	baz=319									
RABH	Abou Rabah	78.94	306	*e*P		P	07 45 53.5	-4.9		
X16A	Lo Mia Camp, P	78.96	54	*e*P		P	07 45 59.4	+0.7		
	comp=Z,13nm,1.1s									
KAC	Achnashellach	78.96	343	*e*P		P	07 45 58.9	+0.9		
VRAC	Vranov	79.00	327	⇑*i*P		P	07 45 59.8	+1.4		
ROOS	tl. alroos	79.06	306	*e*P		P	07 45 56.2	-2.9		
SIRR	Siria	79.10	323	⇓*i*P		P	07 46 00.3	+1.3		
KPL	Plockton	79.19	343	*e*P		P	07 45 60.0	+0.8		
H31A	Wolsey	79.21	40	P		P	07 45 59.5	-0.1		
	baz=317									
SZH	Strazhica	79.23	318	P		P	07 45 59.5	-0.2		
GOPC	GO Pecny, Ondr	79.25	329	*e*P		P	07 46 00.5	+0.8		
GOPC	GO Pecny, Ondr	79.25	329	*e*P		P	07 46 00.5	+0.8		
GOPC					MLR	MLR				
	comp=Z,6µm,16.6s									
PRA	Prague	79.27	329⇑	*e*P		P	07 46 01.1	+1.3		
PRA				*e*S		S	07 55 56.3	-1.2		
PRA	Prague	79.27	329	*e*P		P	07 46 01.1	+1.3		
PRA				*e*S		S	07 55 56.3	-1.2		
PRA					MLR	MLR				
	comp=Z,7µm,16.3s									
SMOL	Smolenice	79.27	327	*e*P		P	07 46 01.0	+1.2		
SMOL	Smolenice	79.27	327	*e*P		P	07 46 01.0	+1.2		
PRU	Pruhonice	79.29	329⇑	*e*P		P	07 46 00.6	+0.7		
PRU				*e*S		S	07 55 58.4	+0.6		
PRU	Pruhonice	79.29	329	*e*P		P	07 46 00.6	+0.7		
PRU				*e*S		S	07 55 58.4	+0.6		
PRU					MLR	MLR				
	comp=Z,6µm,16.6s									
D35A	Remer	79.34	36	P		P	07 45 59.6	-0.6		
	baz=319									
C36A	Pine Crest Far	79.36	35	P		P	07 45 59.9	-0.4		
	baz=320									
BUD	Budapest	79.37	325⇑	*e*P		P	07 46 01.3	+0.9		
SRO2	Moca	79.43	326	*e*P		P	07 46 00.6	-0.1		
SRO2	Moca	79.43	326	*e*P		P	07 46 00.6	-0.1		
SRO2				*e*			07 46 30.4			
TREC	Trest	79.46	328⇑	*e*P		P	07 46 01.5	+0.6		
TREC				*e*S		S	07 56 01.2	+1.5		
TREC	Trest	79.46	328	*e*P		P	07 46 01.5	+0.6		
TREC				*e*S		S	07 56 01.2	+1.5		
TREC					MLR	MLR				
	comp=Z,6µm,16.4s									
S22A	4UR Ranch, Cre	79.50	49	P		P	07 46 01.1	-0.6		
	baz=313,SNR=7.5									
S22A	4UR Ranch, Cre	79.50	49	*e*P		P	07 46 02.6	+1.0		
	comp=Z,15nm,1.4s									
W18A	Petrified Fore	79.55	53	P		P	07 46 02.1	+0.3		
	baz=312									
E35A	Pequot Lakes	79.58	36	P		P	07 46 01.2	-0.4		
	baz=319									
BZS	Buzias	79.61	322⇑	*i*P		P	07 46 01.9	+0.2		
MARH	Ras Al Marh	79.65	306	*e*P		P	07 45 57.9	-4.7		
G33A	Ortonville	79.66	38	P		P	07 46 01.9	-0.2		
	baz=318,SNR=6.3									
C37A	Embarrass	79.66	34	P		P	07 46 01.7	-0.4		
	baz=320									
214A	Organ Pipe Nat	79.72	57	P		P	07 46 02.5	-0.1		
	baz=311									
BOLV	Bolvadin	79.75	312	*e*P		P	07 46 03.0	+0.2		
	comp=Z,114nm,0.9s									
F34A	Alexandria	79.76	37	P		P	07 46 02.6	0.0		
	baz=319									
EYMN	Ely	79.79	34	P		P	07 46 02.2	-0.5		
	baz=321									
EYMN	Ely	79.79	34	*e*P		P	07 46 02.3	-0.4		
	comp=Z,16nm,0.9s									
CSKK	Cs˘tkako	79.80	325⇑	*e*P		P	07 46 03.6	+0.9		
X18A	Snowflake	79.81	53	*e*P		P	07 46 04.2	+0.9		
	comp=Z,21nm,1.5s									
HWQ	Hawqa	79.82	306	*e*P		P	07 46 03.8	+0.6		
EDRB	Edirne	79.83	317	P		P	07 46 03.8	+0.8		
EDRB	Edirne	79.83	317	P		P	07 46 03.8	+0.8		
H33A	Prehn Over Nor	79.90	39	P		P	07 46 03.4	0.0		
	baz=318,SNR=9.8									
NKC	Novy Kostel	79.90	330⇑	*e*P		P	07 46 04.3	+1.0		
NKC	Novy Kostel	79.90	330	*e*P		P	07 46 04.3	+1.0		
NKC					MLR	MLR				
	comp=Z,6µm,15.1s									
OGNE	Ogallala	79.93	44	*e*P		P	07 46 03.8	+0.1		
	comp=Z,32nm,1.0s									
EAB	Aberfoyle	79.94	342	*e*P		P	07 46 03.6	+0.2		
J31A	Geddes	79.94	41	P		P	07 46 03.5	-0.1		
	baz=317,SNR=6.1									
G34A	Benson	80.00	38	P		P	07 46 03.7	-0.1		
	baz=319									
F35A	Swanville	80.03	37	P		P	07 46 03.6	-0.4		
	baz=319									
C38A	Sawbill Land.	80.06	34	P		P	07 46 03.9	-0.3		
	baz=321									
E36A	McGregor	80.12	36	P		P	07 46 04.1	-0.4		
	baz=320									
BHL	Bhannes	80.25	306	*e*P		P	07 46 05.8	+0.3		
SDCO	Great Sand Dun	80.26	48	P		P	07 46 05.6	-0.2		
	baz=314,SNR=7.0									
SDCO	Great Sand Dun	80.26	48	*e*P		P	07 46 06.3	+0.5		
	comp=Z,5.2nm,1.1s									
MPEP	Malo Peshtene	80.26	320	P		P	07 46 06.0	+0.7		
SOP	Sopron	80.28	326⇑	*e*P		P	07 46 06.6	+1.3		
PGBU	Glenifferbraes	80.32	342	*e*P		P	07 46 05.7	+0.3		
PGBU					AMB	AMB	07 46 08.0			
	comp=Z,139nm,1.2s									
PGBU					AMS	AMS	08 27 58.7			
	comp=Z,2µm,18.0s									
J32A	Parkston	80.33	40	P		P	07 46 05.4	-0.3		
	baz=318									
I33A	Coleman	80.34	39	P		P	07 46 05.7	-0.1		
	baz=318,SNR=8.0									
KHC	Kasperske Hory	80.35	329⇑	*i*P		P	07 46 06.1	+0.3		
KHC				*ex*		x	07 46 24.0			
KHC				*e*S		S	07 56 07.8	-1.4		
KHC	Kasperske Hory	80.35	329⇑	*i*P		P	07 46 06.1	+0.3		
KHC				*e*			07 46 24.0			
KHC				*e*S		S	07 56 07.8	-1.4		
KHC					MLR	MLR				
	comp=Z,7µm,16.7s									
KHC	Kasperske Hory	80.35	329	*e*P		P	07 46 06.3	+0.6		
	comp=Z,25nm,0.8s									
CONA	Conrad Observa	80.38	327	*i*P		P	07 46 06.7	+0.7		
	comp=Z,72nm,1.2s,SNR=48									
BRBR	Barbar	80.39	306	*e*P		P	07 46 02.3	-4.2		
K31A	O'Neill	80.42	41	P		P	07 46 06.0	-0.3		
	baz=317,SNR=6.4									
ESK	Eskdalemuir	80.46	341	*e*P		P	07 46 06.6	+0.5		
ESK					AMS	AMS	08 27 04.5			
	comp=Z,3µm,15.8s									
C39A	Grand Marais	80.47	33	P		P	07 46 05.8	-0.6		
	baz=319									
WTSB	Winterswijk	80.49	334	*e*P		P	07 46 06.1	-0.2		
	comp=Z,78nm,1.0s									
F36A	Milaca	80.50	36	P		P	07 46 06.4	-0.2		
	baz=320									
GEC2	GERESS Array S	80.53	329	*e*P		P	07 46 07.6	+0.8		
GEC2	GERESS Array S	80.53	329	*e*P		P	07 46 07.4	+0.6		
	comp=Z,29nm,1.0s									
GERES	GERESS Array B	80.53	329	P		P	07 46 07.5	+0.6		
	comp=Z,17nm,0.8s,baz=35,slow=4.9,SNR=107									
GEA0	GERESS Array S	80.54	329	*e*P		P	07 46 06.8	0.0		
G35A	Watkins	80.55	37	P		P	07 46 06.7	-0.1		
	baz=319									
ECK	Cauldkaine Hil	80.56	341	*e*P		P	07 46 07.2	+0.5		
ISP	Isparta	80.61	312	⇑*i*P		P	07 46 07.3	-0.2		
PGB	Panagyurishte	80.64	319	P		P	07 46 07.7	+0.2		
ECSD	EROS Data Cent	80.66	39	P		P	07 46 06.9	-0.6		
	baz=318,SNR=6.9									
ECSD	EROS Data Cent	80.66	39	*e*P		P	07 46 07.5	0.0		
	comp=Z,9.1nm,0.8s									
PLD	Plovdiv	80.70	318	P		P	07 46 09.0	+1.3		
BUG	Bochum--Univer	80.77	334	P		P	07 46 08.4	+0.6		
TUC	Tucson	80.77	55	P		P	07 46 08.5	+0.2		
	baz=312									

TUC	Tucson	80.77	55	*e*P		P	07 46 09.0	+0.6		
TUC					pmax	pmax				
	comp=Z,24nm,1.2s									
TUC	Tucson	80.77	55	*e*P		P	07 46 09.0	+0.6		
	comp=Z,8.5nm,1.0s									
H35A	Sunnyside Ranc	80.79	38	P		P	07 46 07.9	-0.2		
	baz=319,SNR=11									
GRF	Grafenberg Arr	80.81	331	P		P	07 46 09.4	+1.3		
GRFO	Grafenberg	80.81	331	*e*P		P	07 46 09.1	+1.0		
GRFO					pmax	pmax				
	comp=Z,150nm,1.1s									
GRFO	Grafenberg	80.81	331	*e*P		P	07 46 09.1	+1.0		
	comp=Z,111nm,1.0s									
TCHB	Talchebab	80.88	305	*e*P		P	07 45 59.8	-9.0		
ALN	Alexandroupoli	80.88	317	P		P	07 46 09.4	+0.7		
ALN	Alexandroupoli	80.88	317	P		P	07 46 09.4	+0.7		
ALN	Alexandroupoli	80.88	317	P		P	07 46 09.4	+0.7		
ENEZ	Enez	80.94	317	P		P	07 46 09.8	+0.8		
CSS	Mathiatis	80.94	308	P		P	07 46 09.3	+0.1		
CSS	Mathiatis	80.94	308	*e*P		P	07 46 10.0	+0.9		
	comp=Z,10.0nm,0.7s									
RDO	Rodhopi	80.97	317	P		P	07 46 10.6	+1.5		
RDO	Rodhopi	80.97	317	P		P	07 46 10.6	+1.5		
KSCO	Kaye Shedlock'	80.98	46	P		P	07 46 09.3	-0.1		
	baz=315,SNR=5.2									
KSCO	Kaye Shedlock'	80.98	46	*e*P		P	07 46 09.6	+0.1		
	comp=Z,24nm,1.1s									
F37A	Hinrichs Farm,	81.01	36	P		P	07 46 09.0	-0.3		
	baz=320									
ARSA	Arzberg	81.06	327	*i*P		P	07 46 10.2	+0.7		
	comp=Z,30nm,0.9s,SNR=21									
VTS	Vitosha	81.09	319	P		P	07 46 10.9	+0.9		
VTS	Vitosha	81.09	319	⇓*i*P		P	07 46 11.2	+1.2		
VTS	Vitosha	81.09	319	*e*P		P	07 46 11.4	+1.4		
VTS					pmax	pmax				
	comp=Z,47nm,0.9s									
VTS	Vitosha	81.09	319	P		P	07 46 10.0	0.0		
VTS	Vitosha	81.09	319	*e*P		P	07 46 11.4	+1.4		
	comp=Z,47nm,0.9s									
MOA	Molln	81.10	328	*i*P		P	07 46 10.4	+0.7		
	comp=Z,28nm,1.3s,SNR=13									
BEHE	Becsehely	81.13	326⇑	*e*P		P	07 46 10.3	+0.4		
F38A	Pierce - Schro	81.17	35	P		P	07 46 09.8	-0.3		
	baz=321,SNR=12									
KULA	Kula-Manisa	81.17	314	P		P	07 46 10.9	+0.5		
KULA	Kula-Manisa	81.17	314	P		P	07 46 10.9	+0.5		
GAL1	Galloway	81.23	342	*e*P		P	07 46 10.3	0.0		
GAL1					AMB	AMB	07 46 11.3			
	comp=Z,39nm,1.0s									
GAL1					AMS	AMS	08 28 24.2			
	comp=Z,1µm,18.8s									
HPK	Haverah Park	81.27	340	*e*P		P	07 46 11.5	+1.0		
HPK					AMB	AMB	07 46 14.9			
	comp=Z,96nm,1.8s									
H36A	Jessenland, He	81.30	37	P		P	07 46 10.4	-0.4		
	baz=320									
T25A	Trinidad	81.30	48	P		P	07 46 11.6	+0.3		
	baz=315,SNR=12									
T25A	Trinidad	81.30	48	*e*P		P	07 46 11.7	+0.3		
	comp=Z,21nm,1.2s									
SPMN	Marine on St.	81.32	36	*e*P		P	07 46 10.8	-0.1		
	comp=Z,10nm,1.0s									
KOGS	Kog	81.38	326	*e*P		P	07 46 11.1	-0.1		
E39A	Mellen	81.41	34	P		P	07 46 10.9	-0.5		
	baz=322									
DIVS	Divibare	81.51	322	P		P	07 46 12.3	+0.2		
LAZ	Ladron	81.60	52	*e*P		P	07 46 13.5	+0.6		
KAVA	Kavala	81.60	318	P		P	07 46 13.4	+0.9		
KAVA	Kavala	81.60	318	P		P	07 46 13.4	+0.9		
F39A	Loretta	81.62	35	P		P	07 46 12.0	-0.5		
	baz=322									
BGNE	Belgrade	81.62	42	P		P	07 46 12.1	-0.5		
	baz=318									
BGNE	Belgrade	81.62	42	*e*P		P	07 46 11.7	-0.9		
	comp=Z,43nm,0.9s									
ANMO	Albuquerque	81.63	51	P		P	07 46 13.2	+0.1		
	baz=314									
ANMO	Albuquerque	81.63	51	⇑*i*P		P	07 46 14.1	+1.1		
ANMO					pmax	pmax				
	comp=Z,19nm,1.4s									
ANMO					MLR	MLR				
	comp=Z,575nm,19.0s									
ANMO	Albuquerque	81.63	51	*e*P		P	07 46 14.0	+0.9		
	comp=Z,22nm,1.4s									
E40A	Wakefield	81.64	34	P		P	07 46 12.6	-0.1		
	baz=322									
KKB	Krupnik	81.69	319	P		P	07 46 13.7	+0.7		
K34A	Le Mars	81.70	40	P		P	07 46 12.4	-0.6		
	baz=319									
LHO	Holmfirth	81.70	340	*e*P		P	07 46 12.8	0.0		
PERS	Pernice	81.71	327	*i*P		P	07 46 13.4	+0.3		
PERS				*e*			07 46 42.7			
PERS				*e*S		S	07 56 22.9	-0.6		

VAY	Valandovo		82.35	319	P		P	07 46 17.2	+0.8
OUR	Ouranopolis		82.36	318	P		P	07 46 17.1	+0.6
OUR	Ouranopolis		82.36	318	P		P	07 46 17.1	+0.6
OUR	Ouranopolis		82.36	318	P		P	07 46 17.1	+0.6
PLE	Pljevlja		82.38	322⇑	*i*P		P	07 46 17.0	+0.3
H39A	Augusta		82.42	36	P		P	07 46 16.3	-0.4
	baz=321								
SKO	Skopje		82.43	320	P		P	07 46 18.1	+1.3
SKO	Skopje		82.43	320	*i* P		P	07 46 17.9	+1.1
SKO	Skopje		82.43	320	P		P	07 46 18.1	+1.3
SKO	Skopje		82.43	320	P		P	07 46 18.1	+1.3
LJU	Ljubljana		82.43	327	*i* P		P	07 46 16.6	-0.2
LJU					*e*			07 46 24.0	
LJU					*e*			07 46 45.8	
LJU					*e*			07 49 38.0	
LJU					*e*S		S	07 56 28.0	-2.7
G40A	Rib Lake		82.44	35	P		P	07 46 16.6	-0.2
	baz=322								
J37A	Redenius Farm,		82.44	38	P		P	07 46 16.5	-0.4
	baz=320								
121A	Cookes Peak, D		82.49	54	P		P	07 46 17.8	+0.3
	baz=313,SNR=7.2								
121A	Cookes Peak, D		82.49	54	*e*P		P	07 46 18.3	+0.7
	comp=Z,37nm,1.0s								
IVA	Berane		82.49	322⇑	*i*P		P	07 46 17.7	+0.4
WPM1	Penmaenmawr		82.50	341	*e*P		P	07 46 16.8	-0.2
K36A	Gilmore City		82.53	39	P		P	07 46 16.9	-0.5
	baz=320								
BOJS	Bojanci		82.55	326	*i* P		P	07 46 17.1	-0.3
WATA	Walderalm		82.59	329	*i* P		P	07 46 18.1	+0.3
	comp=Z,83nm,1.4s,SNR=11								
PLG	Polygyros		82.61	318	P		P	07 46 18.1	+0.2
PLG	Polygyros		82.61	318	P		P	07 46 18.1	+0.2
PLG	Polygyros		82.61	318	P		P	07 46 18.1	+0.2
CADS	Cadrg		82.61	327	*i* P		P	07 46 16.5	-1.3
CADS					*e*			07 46 45.9	
HORT	Hortiatis		82.62	318	P		P	07 46 17.9	-0.1
HORT	Hortiatis		82.62	318	P		P	07 46 17.9	-0.1
WTTA	Wattenberg		82.63	329	*i* P		P	07 46 18.5	+0.5
	comp=Z,29nm,0.8s,SNR=11								
FOEL	Foel Wylfa		82.65	340	*e*P		P	07 46 18.7	+1.0
FOEL						AMB	AMB	07 46 20.6	
	comp=Z,120nm,0.9s								
FOEL						AMS	AMS	08 29 33.7	
	comp=Z,2µm,13.9s								
LANF	Langenberg		82.65	332	*e*P		P	07 46 18.2	+0.3
WLF	Walferdange		82.65	333	*e*P		P	07 46 18.8	+0.9
WLF						pmax	pmax		
	comp=Z,45nm,1.1s								
WLF	Walferdange		82.65	333	*e*P		P	07 46 18.0	+0.1
	comp=Z,75nm,1.6s								
THE	Thessaloniki		82.67	318	P		P	07 46 18.0	-0.1
THE	Thessaloniki		82.67	318	P		P	07 46 18.0	-0.1
THE	Thessaloniki		82.67	318	P		P	07 46 18.0	-0.1
PVY	Plav		82.67	321	*e*P		P	07 46 18.1	-0.2
CHOS	Chios island		82.69	315	P		P	07 46 18.4	0.0
CHOS	Chios island		82.69	315	P		P	07 46 18.4	0.0
CBKS	Cedar Bluff		82.69	44	P		P	07 46 18.0	-0.3
	baz=317								
CBKS	Cedar Bluff		82.69	44	*e*P		P	07 46 18.1	-0.3
CBKS						pmax	pmax		
	comp=Z,42nm,1.0s								
CBKS	Cedar Bluff		82.69	44	*e*P		P	07 46 17.6	-0.7
	comp=Z,17nm,0.9s								
ABTA	Abfaltersbach		82.70	328	*i* P		P	07 46 17.6	-0.6
	comp=Z,42nm,1.2s,SNR=19								
UPM	Unac-Piva		82.71	322	*e*P		P	07 46 18.1	-0.4
GIVF	Givet		82.73	334	*e*P		P	07 46 17.8	-0.4
GIVF						pmax	pmax		
	comp=Z,42nm,1.2s								
SMG	Samos		82.75	314	P		P	07 46 18.9	+0.3
SMG	Samos		82.75	314	P		P	07 46 18.9	+0.3
MOTA	Moosalm		82.77	329	*i* P		P	07 46 18.9	+0.1
	comp=Z,84nm,1.0s,SNR=47								
RETA	Reutte		82.79	330	*i* P		P	07 46 19.2	+0.5
	comp=Z,64nm,0.9s,SNR=26								
K37A	Belmond		82.82	38	P		P	07 46 18.4	-0.4
	baz=320,SNR=8.5								
PAIG	Paliouri		82.82	317	P		P	07 46 19.0	+0.1
PAIG	Paliouri		82.82	317	P		P	07 46 19.0	+0.1
PAIG	Paliouri		82.82	317	P		P	07 46 19.0	+0.1
H40A	Chili		82.86	35	P		P	07 46 17.6	-1.5
	baz=322								
HSIG			82.86	58	*e*P		P	07 46 19.2	-0.1
	comp=Z,24nm,1.5s								
N34A	Lincoln		82.88	41	P		P	07 46 18.4	-0.9
	baz=319								
O33A	Hebron		82.90	42	P		P	07 46 18.5	-0.8
	baz=318								
E43A	Lone Tree Farm		82.91	32	P		P	07 46 17.9	-1.3
	baz=324								
J38A	Wedel Dairy, R		82.94	37	P		P	07 46 18.9	-0.6
	baz=321								
BODT	Bodrum		82.96	313	P		P	07 46 19.8	+0.1
BODT	Bodrum		82.96	313	P		P	07 46 19.8	+0.1
NKY	Niksic		82.96	322⇑	*i*P		P	07 46 19.7	0.0
BFO	Black Forest		83.01	331	*i* P		P	07 46 20.3	+0.5
BFO	Black Forest		83.01	331	*e*P		P	07 46 20.3	+0.5
	comp=Z,51nm,1.0s								
NKME	Niksic		83.02	322⇑	*i*P		P	07 46 19.6	-0.3
TRI	Trieste		83.02	327	*e*P		P	07 46 19.4	-0.4
TRI						pmax	pmax		
	comp=Z,60nm,0.9s								
TRI	Trieste		83.02	327	*e*P		P	07 46 19.2	-0.6
	comp=Z,54nm,0.9s								
BRY	Bratogost		83.11	322⇑	*i*P		P	07 46 20.0	-0.5
DSB	Dublin		83.12	342	*e*P		P	07 46 20.7	+0.6
	comp=Z,19nm,0.8s								
PDG	Podgorica		83.13	322	P		P	07 46 20.6	+0.1
PDG	Podgorica		83.13	322⇑	*i*P		P	07 46 20.7	+0.2
TTG	Podgorica		83.13	322	P		P	07 46 20.6	+0.1
TTG	Podgorica		83.13	322⇑	*i*P		P	07 46 20.7	+0.2
TTG	Podgorica		83.13	322	P		P	07 46 20.6	+0.1
FETA	Feichten		83.18	329	*i* P		P	07 46 21.1	+0.2
	comp=Z,57nm,1.1s,SNR=32								
BIA	Bitola		83.20	320	*i* P		P	07 46 21.9	+1.0
CEME	Cevo		83.20	322⇑	*i*P		P	07 46 20.5	-0.4
M36A	Felix, Anita		83.26	40	P		P	07 46 20.8	-0.4
	baz=320								
O34A	Beatrice		83.27	42	P		P	07 46 20.4	-0.8
	baz=318								
AOS	Alonnisos		83.28	317	P		P	07 46 21.7	+0.4
AOS	Alonnisos		83.28	317	P		P	07 46 21.7	+0.4
J39A	Decorah		83.28	37	P		P	07 46 19.8	-1.4
	baz=321								
DAVA	Damuels		83.29	330	*i* P		P	07 46 21.7	+0.3
	comp=Z,54nm,0.9s,SNR=24								
N35A	Tabor		83.29	41	P		P	07 46 20.8	-0.5
	baz=319								
LIT	Litokhoron		83.30	318	P		P	07 46 20.9	-0.5
LIT	Litokhoron		83.30	318	P		P	07 46 20.9	-0.5
LIT	Litokhoron		83.30	318	P		P	07 46 20.9	-0.5
FNA	Florina		83.35	319	P		P	07 46 21.8	+0.1
FNA	Florina		83.35	319	P		P	07 46 21.8	+0.1
FNA	Florina		83.35	319	P		P	07 46 21.8	+0.1
DRME	Dracevica, Mon		83.35	321⇑	*i*P		P	07 46 21.6	0.0
STRD	Stroud		83.38	339	*e*P		P	07 46 22.2	+0.7
STRD						AMB	AMB	07 46 23.2	
	comp=Z,184nm,1.0s								
STRD						AMS	AMS	08 29 37.7	
	comp=Z,3µm,15.8s								
OHR	Ohrid		83.39	320	*i* P		P	07 46 21.9	0.0
MCH1	Michaelchurch		83.40	340	*e*P		P	07 46 22.1	+0.4
MCH1						AMS	AMS	08 21 47.6	
	comp=Z,2µm,25.0s								
BUM	Brajici-Budva		83.41	322⇑	*i*P		P	07 46 21.5	-0.5
HCY	Herceg Novi		83.48	322⇑	*i*P		P	07 46 21.9	-0.4
XOR	Xorichti		83.49	317	P		P	07 46 21.6	-0.8
XOR	Xorichti		83.49	317	P		P	07 46 21.6	-0.8
MONM	Monmouth		83.49	339	*e*P		P	07 46 22.4	+0.2
MONM						AMS	AMS	08 28 56.7	
	comp=Z,3µm,16.0s								
SKIA	Skiathos		83.50	317	P		P	07 46 22.1	-0.3
ULC	Ulcinj		83.50	321⇑	*i*P		P	07 46 22.1	-0.3
SWN1	Swindon		83.51	339	*e*P		P	07 46 23.0	+0.8
SWN1						AMS	AMS	08 28 12.6	
	comp=Z,3µm,23.1s								
KZN	Kozani		83.51	319	P		P	07 46 22.1	-0.5
KZN	Kozani		83.51	319	P		P	07 46 22.1	-0.5
KZN	Kozani		83.51	319	P		P	07 46 22.1	-0.5
ECH	Echery		83.53	332⇑	*e*P		P	07 46 22.6	+0.2
I41A	Arkdale		83.54	35	P		P	07 46 22.4	-0.2
	baz=322								
LPW	Lampeter		83.58	340	*e*P		P	07 46 22.5	-0.1
LPW						AMB	AMB	07 46 23.8	
	comp=Z,89nm,1.2s								
LPW						AMS	AMS	08 30 01.6	
	comp=Z,2µm,15.2s								
FYTO	Fytoko, Volos		83.59	317	P		P	07 46 22.6	-0.3
FYTO	Fytoko, Volos		83.59	317	P		P	07 46 22.6	-0.3
O35A	Humboldt		83.61	41	P		P	07 46 22.6	-0.4
	baz=319								
L38A	Oak Wood Farm,		83.62	38	P		P	07 46 21.4	-1.6
	baz=321								
TIR	Tirane		83.67	321⇓	*i*P		P	07 46 24.3	+1.0
TIR	Tirane		83.67	321	*e*P		P	07 46 24.2	+1.0
TIR						pmax	pmax		
	comp=Z,120nm,1.0s								
TIR	Tirane		83.67	321	*e*P		P	07 46 23.5	+0.3
	comp=Z,92nm,1.0s								
HGH	Gray Hill		83.68	339	*e*P		P	07 46 23.4	+0.3
P34A	Walnut Farm, R		83.68	42	P		P	07 46 22.5	-0.8
	baz=318								
SCIA	State Center		83.68	39	*e*P		P	07 46 23.5	+0.2
K39A	Oelwein		83.69	37	P		P	07 46 22.6	-0.7
	baz=321								
FUORN	Ofenpass-Fuorn		83.69	329	*e*P		P	07 46 24.1	+0.5
	comp=Z,192nm,1.2s								
NEST	Nestorio		83.79	319	P		P	07 46 23.9	-0.1
MOF	Molkenrain		83.84	332⇑	*e*P		P	07 46 24.1	-0.1
PENT	Pentalofos		83.92	319	P		P	07 46 24.3	-0.4
APE	Apeiranthos		83.93	314	P		P	07 46 23.3	-1.5
APE	Apeiranthos		83.93	314	*c* *i*P		P	07 46 23.4	-1.4
APE						pmax	pmax		
	comp=Z,68nm,1.0s								
APE	Apeiranthos		83.93	314	P		P	07 46 23.3	-1.5
THEF	They Montfort		83.94	333⇑	*e*P		P	07 46 24.5	0.0
THL	Klokotos Trika		83.95	318	P		P	07 46 23.5	-1.2
KPRO	Kipourio		83.98	319	P		P	07 46 24.6	-0.4
J41A	Loganville		84.02	36	P		P	07 46 24.4	-0.6
	baz=322								
K40A	Colesburg		84.04	37	P		P	07 46 24.7	-0.4
	baz=322								
M38A	Pleasantville		84.06	39	P		P	07 46 25.1	-0.2
	baz=320,SNR=7.8								
N37A	Lee Faris, Mou		84.08	40	P		P	07 46 25.2	-0.2
	baz=320,SNR=5.9								
L39A	Vinton		84.08	38	P		P	07 46 25.1	-0.3
	baz=321,SNR=6.7								
LKR	Lokris		84.12	317	P		P	07 46 24.9	-0.7
LKR	Lokris		84.12	317	P		P	07 46 24.9	-0.7
KARP	Karpathos		84.13	312	P		P	07 46 25.5	-0.2
KARP	Karpathos		84.13	312	*e*P		P	07 46 25.6	-0.2
	comp=Z,33nm,1.1s								
TUE	Stuetta		84.17	330	*e*P		P	07 46 25.9	-0.1
	comp=Z,48nm,1.0s								
O36A	Bolckow		84.18	41	P		P	07 46 25.4	-0.5
	baz=320								
AGG	Agios Georgios		84.19	318	*e*P		P	07 46 25.4	-0.6
AGG						pmax	pmax		
	comp=Z,92nm,0.9s								
AGG	Agios Georgios		84.19	318	*e*P		P	07 46 25.4	-0.6
	comp=Z,79nm,1.1s								
ATHU	Athens Univers		84.22	316	P		P	07 46 24.1	-2.0
ATHU	Athens Univers		84.22	316	P		P	07 46 24.1	-2.0
LOMF	Lomont		84.38	332⇑	*e*P		P	07 46 27.1	+0.2
P36A	Good Intent, A		84.45	41	P		P	07 46 26.7	-0.6
	baz=319								
AMTX	Amarillo		84.46	48	P		P	07 46 27.3	-0.2
	baz=316								
AMTX	Amarillo		84.46	48	*e*P		P	07 46 27.5	0.0
	comp=Z,21nm,1.1s								
JAN	Janina		84.47	319	P		P	07 46 27.9	+0.5
JAN	Janina		84.47	319	P		P	07 46 27.9	+0.5
JAN	Janina		84.47	319	P		P	07 46 27.9	+0.5
SANT	Santorini		84.48	314	*e*P		P	07 46 24.7	-2.9
	comp=Z,74nm,1.2s								
MSTX	Muleshoe		84.48	50	P		P	07 46 27.2	-0.5
	baz=316,SNR=9.0								
MSTX	Muleshoe		84.48	50	*e*P		P	07 46 27.7	0.0
	comp=Z,20nm,1.0s								
K41A	Shullsburg		84.49	36	P		P	07 46 26.6	-0.8
	baz=322								
L40A	Anamosa		84.50	37	P		P	07 46 27.0	-0.5
	baz=322								
M39A	Webster		84.50	38	P		P	07 46 27.1	-0.4
	baz=321,SNR=8.8								
N38A	Joes South For		84.53	39	P		P	07 46 27.4	-0.2
	baz=320								
MNTX	Cornudas Mount		84.53	53	P		P	07 46 28.0	+0.1
	baz=315,SNR=14								
MNTX	Cornudas Mount		84.53	53	*e*P		P	07 46 28.3	+0.4
	comp=Z,13nm,1.1s								
DSF	Desfina		84.55	317	P		P	07 46 26.4	-1.4
DSF	Desfina		84.55	317	P		P	07 46 26.4	-1.4
O37A	Wolven Farm, M		84.56	40	P		P	07 46 27.8	-0.1
	baz=320								
Q35A	Mercer Eighty,		84.60	42	P		P	07 46 27.9	-0.2
	baz=319								
DSL	Palaion Diasel		84.74	318	P		P	07 46 28.4	-0.4
DSL	Palaion Diasel		84.74	318	P		P	07 46 28.4	-0.4
KALE	Kalithea		84.76	317	P		P	07 46 28.1	-0.9
KALE	Kalithea		84.76	317	P		P	07 46 28.1	-0.9
SERG	Sergoula		84.79	317	P		P	07 46 27.9	-1.1
SGD	Sagiada		84.81	319	P		P	07 46 29.0	-0.1
N39A	Derby Farms, D		84.81	39	P		P	07 46 28.6	-0.5
	baz=321								
L41A	Preston		84.82	37	P		P	07 46 28.3	-0.8
	baz=322								
IGT	Igoumenitsa		84.82	319	P		P	07 46 28.7	-0.5
IGT	Igoumenitsa		84.82	319	P		P	07 46 28.7	-0.5
IGT	Igoumenitsa		84.82	319	P		P	07 46 28.7	-0.5
M40A	Post Highland		84.87	38	P		P	07 46 29.0	-0.3
	baz=322,SNR=8.2								
P37A	Lathrop		84.90	41	P		P	07 46 29.4	-0.1
	baz=320,SNR=5.9								
S34A	Willow Spring		84.91	44	P		P	07 46 29.4	-0.2
	baz=318								
R35A	Emporia Munici		84.92	43	P		P	07 46 29.6	-0.1
	baz=319,SNR=8.6								
O38A	Galt		84.93	40	P		P	07 46 29.6	-0.1
	baz=320								
KEK	Kerkira		84.95	320	P		P	07 46 29.6	-0.2
KEK	Kerkira		84.95	320	P		P	07 46 29.6	-0.2
LAKA	Lakka		84.96	317	P		P	07 46 29.5	-0.4
LAKA	Lakka		84.96	317	P		P	07 46 29.5	-0.4
VLDQ	Val d'Or		84.99	26	*e*P		P	07 46 29.3	-0.5
	comp=Z,107nm,1.9s								
KLV	Kalavryta, Ach		85.02	317	P		P	07 46 29.2	-1.0
KLV	Kalavryta, Ach		85.02	317	P		P	07 46 29.2	-1.0
SENIN	Lac Senin/Sane		85.04	331	*e*P		P	07 46 30.8	+0.4
	comp=Z,38nm,0.9s								
DYA	Yadsworthy		85.07	339	*e*P		P	07 46 29.8	-0.4
DYA						AMB	AMB	07 46 31.8	
	comp=Z,114nm,1.3s								
DYA						AMS	AMS	08 30 50.1	
	comp=Z,3µm,16.6s								
DYA	Yadsworthy		85.07	339	*e*P		P	07 46 30.5	+0.3
	comp=Z,179nm,1.3s								
PDO	Prodromos		85.10	318	P		P	07 46 30.0	-0.6
PPT2	Papeete2		85.12	118	*e*S		S	07 57 01.5	+3.0
	comp=Z,2µm,29.0s								
PPT2	Papeete2		85.12	118	*e*T		T	09 19 55.5	
	comp=Z,8.6nm,0.3s								
GLMI	Grayling		85.14	32	*e*P		P	07 46 30.7	+0.1
	comp=Z,42nm,0.9s								
LKD2	Lefkada island		85.22	318	P		P	07 46 30.9	-0.3
LKD2	Lefkada island		85.22	318	P		P	07 46 30.9	-0.3
N40A	Mertquake, Sal		85.25	38	P		P	07 46 31.2	0.0
	baz=322								
TIAR	Tirei		85.25	118	*e*T		T	09 20 05.0	
	comp=Z,5.1nm,0.3s								
R36A	Gordon, Harris		85.28	42	P		P	07 46 31.3	-0.2
	baz=319,SNR=13								
P38A	Dawn		85.28	40	P		P	07 46 31.2	-0.2
	baz=320,SNR=6.9								
DRO	Drossia		85.31	317	P		P	07 46 31.5	-0.2
S35A	Otter Creek Ra		85.34	43	P		P	07 46 31.7	0.0
	baz=319,SNR=29								
M41A	Milan		85.35	37	P		P	07 46 31.3	-0.5
	baz=322								
LAST	Lasithi		85.35	313	P		P	07 46 31.6	-0.4
LAST	Lasithi		85.35	313	P		P	07 46 31.6	-0.4
RLS	Riolos of Patr		85.36	317	P		P	07 46 31.8	-0.1
RLS	Riolos of Patr		85.36	317	P		P	07 46 31.8	-0.1
T34A	McClaskey Farm		85.37	44	P		P	07 46 32.1	+0.1
	baz=318,SNR=8.6								
FLN	La Foliniere		85.59	337	*e*P		P	07 46 32.5	-0.3
FLN						pmax	pmax		
	comp=Z,71nm,1.2s								
IDI	Anoyia		85.59	314	*e*P		P	07 46 32.2	-0.9
	comp=Z,62nm,1.1s								
R37A	Teagarden Farm		85.63	42	P		P	07 46 32.7	-0.5
	baz=320,SNR=7.7								
AMT	Artemida-Makis		85.63	317	P		P	07 46 33.0	-0.3
VLC	Villacollemand		85.67	328	*e*P		P	07 46 34.3	+1.0
	comp=Z,27nm,0.9s								
S36A	Lake Cedric, C		85.68	43	P		P	07 46 32.8	-0.7
	baz=319,SNR=11								
O40A	La Belle		85.70	39	P		P	07 46 32.9	-0.6
	baz=321,SNR=7.9								
JSA	Saint Aubin		85.71	338	*e*P		P	07 46 34.0	+0.6
JSA						AMB	AMB	07 46 34.3	
	comp=Z,110nm,1.2s								
JSA						AMS	AMS	08 27 51.9	
	comp=Z,3µm,24.8s								
N41A	Harden Midland		85.73	38	P		P	07 46 33.4	-0.2
	baz=322								
Q38A	Cooks Store, C		85.75	41	P		P	07 46 33.5	-0.3
	baz=320								
P39B	Salisbury		85.77	40	P		P	07 46 33.9	+0.1
	baz=321								
ITM	Ithomi		85.78	317	P		P	07 46 33.1	-0.9
ITM	Ithomi		85.78	317	P		P	07 46 33.1	-0.9
T35A	Sooner Cattle		85.81	44	P		P	07 46 34.3	+0.1
	baz=319,SNR=10								
AQU	L'Aquila		85.87	325	*e*P		P	07 46 35.1	+0.7
AQU						pmax	pmax		
	comp=Z,110nm,1.2s								
AQU	L'Aquila		85.87	325	*e*P		P	07 46 35.1	+0.7
	comp=Z,47nm,1.0s								
LPL	La Plagne		85.97	331	*e*P		P	07 46 35.0	0.0
LPL						pmax	pmax		
	comp=Z,65nm,0.9s								
LPG	La Plagne		85.97	331	*e*P		P	07 46 35.2	0.0
LPG						pmax	pmax		
	comp=Z,86nm,1.0s								
N42A	Yates City		86.02	37	P		P	07 46 34.6	-0.5
	baz=322								
GRR	Gorron		86.03	337	*e*P		P	07 46 35.0	0.0
GRR						pmax	pmax		
	comp=Z,119nm,1.0s								
T36A	Boggs Farm, Ca		86.04	43	P		P	07 46 35.1	-0.1
	baz=319,SNR=7.6								
S37A	Fort Scott		86.05	42	P		P	07 46 35.3	0.0
	baz=320,SNR=8.0								
P40A	Paris		86.08	39	P		P	07 46 35.6	+0.2
	baz=321,SNR=8.5								
AVF	Avril sur Loir		86.08	333	*e*P		P	07 46 35.2	-0.1
AVF						pmax	pmax		
	comp=Z,166nm,0.9s								
O41A	Passleys Farm,		86.18	38	P		P	07 46 35.8	-0.1
	baz=322,SNR=6.3								
R38A	Fenwick Farm,		86.20	41	P		P	07 46 35.3	-0.7
	baz=320,SNR=8.0								
WMOK	Wichita Mounta		86.20	47	P		P	07 46 36.0	-0.1
	baz=318,SNR=6.9								
WMOK	Wichita Mounta		86.20	47	*e*P		P	07 46 36.2	+0.1
WMOK						pmax	pmax		
	comp=Z,22nm,1.0s								
WMOK	Wichita Mounta		86.20	47	*e*P		P	07 46 36.2	+0.1
	comp=Z,18nm,1.2s								
GVD	Gavdhos		86.36	314	P		P	07 46 36.4	-0.5
GVD	Gavdhos		86.36	314	P		P	07 46 36.4	-0.5
BNI	Bardonecchia		86.38	331	*e*P		P	07 46 37.9	+0.9
BNI						pmax	pmax		
	comp=Z,25nm,1.0s								
BNI	Bardonecchia		86.38	331	*e*P		P	07 46 37.9	+0.9
	comp=Z,25nm,1.0s								
P41A	Barry, Barry		86.44	39	P		P	07 46 37.1	-0.1
	baz=322,SNR=6.3								
GDM	Grand'Maison		86.46	331	*e*P		P	07 46 37.8	+0.4
Q40A	Laux Farm, Aux		86.48	40	P		P	07 46 37.4	0.0
	baz=321,SNR=6.8								
T37A	Cheneyville 18		86.49	43	P		P	07 46 37.4	-0.1
	baz=320,SNR=6.2								
R39A	Chumby, Stover		86.53	41	P		P	07 46 37.6	-0.1
	baz=321,SNR=7.9								
GRN	Grenoble		86.56	331	*e*P		P	07 46 38.5	+0.7
HDIL	Hopedale		86.58	37	P		P	07 46 37.5	-0.3
	baz=323								
HDIL	Hopedale		86.58	37	*e*P		P	07 46 38.1	+0.3
	comp=Z,28nm,1.1s								
U36A	Oologah		86.62	44	P		P	07 46 37.9	-0.2
	baz=319								
S38A	Stockton		86.62	42	P		P	07 46 37.2	-1.0
	baz=320								
CUC	Castrocucco		86.66	322	*e*P		P	07 46 37.3	-1.0
	comp=Z,15nm,1.4s								
PLDF	La Plantade		86.70	333	*e*P		P	07 46 39.4	+0.9
O43A	Sugar Creek Fa		86.78	37	P		P	07 46 38.3	-0.6
	baz=323								
ORIF	Oris-en-Rattie		86.79	331	*e*P		P	07 46 38.8	-0.1
ORIF						pmax	pmax		
	comp=Z,17nm,0.8s								
AGO	Saint Agoulin		86.80	333⇑	*e*P		P	07 46 39.7	+0.8
P42A	Winchester		86.85	38	P		P	07 46 38.7	-0.5
	baz=322			

	baz=320,SNR=11								
SFIN	**Lafayette**	87.72	36	P		P	07 46 43.1	-0.3	
	baz=324								
SFIN	**Lafayette**	87.72	36	*e*P		P	07 46 43.6	+0.3	
	comp=Z,99nm,2.0s								
W37B	**Quinton**	87.72	44	P		P	07 46 43.3	-0.2	
	baz=320								
S41A	**Jillco Farms,**	87.74	40	P		P	07 46 43.1	-0.4	
	baz=322,SNR=7.0								
P44A	**Sand Creek, Wi**	87.75	37	P		P	07 46 43.3	-0.3	
	baz=323								
PLVO	**Plevna**	87.79	27	*e*P		P	07 46 44.0	+0.4	
	comp=Z,19nm,1.3s								
U39A	**Green Forest**	87.80	42	P		P	07 46 43.3	-0.6	
	baz=320,SNR=14								
CEL	**Celeste**	87.99	321	*e*P		P	07 46 44.6	-0.2	
	comp=Z,19nm,0.7s								
Q44A	**Meyer Farm, Va**	88.02	38	P		P	07 46 44.4	-0.5	
	baz=323								
S42A	**Caledonia**	88.07	40	P		P	07 46 44.9	-0.2	
	baz=322,SNR=11								
R43A	**Red Bud**	88.08	39	P		P	07 46 44.5	-0.6	
	baz=323								
V39A	**Pettigrew**	88.13	43	P		P	07 46 45.4	-0.1	
	baz=320,SNR=9.7								
233A	**Rising Star**	88.14	48	P		P	07 46 45.4	-0.2	
	baz=318								
U40A	**Yellville**	88.14	42	P		P	07 46 45.5	0.0	
	baz=321,SNR=14								
CAF	**Calviac**	88.15	333	*e*P		P	07 46 46.1	+0.7	
CAF					pmax	pmax			
	comp=Z,99nm,1.3s								
T41A	**Mountain View**	88.16	41	P		P	07 46 45.4	-0.1	
	baz=322,SNR=8.4								
Y36A	**Durant**	88.20	46	P		P	07 46 45.7	-0.1	
	baz=319								
W38A	**Poteau**	88.26	44	P		P	07 46 46.0	0.0	
	baz=320								
X38A	**Whitesboro**	88.40	44	P		P	07 46 46.5	-0.2	
	baz=320								
T42A	**Van Buren**	88.50	40	P		P	07 46 46.8	-0.3	
	baz=322								
R44A	**Waltonville**	88.51	38	P		P	07 46 47.2	0.0	
	baz=323								
W39A	**Magazine**	88.55	43	P		P	07 46 47.0	-0.4	
	baz=320								
S43A	**Fulton Ridge,**	88.57	39	P		P	07 46 47.1	-0.4	
	baz=322								
234A	**Clairette**	88.58	48	P		P	07 46 47.8	+0.2	
	baz=318,SNR=7.0								
V40A	**Witts Springs**	88.58	42	P		P	07 46 47.4	-0.2	
	baz=321								
OLIL	**Olney**	88.58	37	*e*P		P	07 46 48.1	+0.6	
	comp=Z,26nm,1.0s								
Z36A	**Blue Ridge**	88.59	46	P		P	07 46 47.3	-0.3	
	baz=319								
333A	**Richland Sprin**	88.60	49	P		P	07 46 47.9	+0.1	
	baz=318,SNR=8.7								
U41A	**Viola**	88.62	41	P		P	07 46 47.6	-0.1	
	baz=321								
JCT	**Junction City**	88.74	50	P		P	07 46 48.4	-0.1	
	baz=317								
JCT	**Junction City**	88.74	50	*e*P		P	07 46 48.5	0.0	
JCT					pmax	pmax			
	comp=Z,62nm,1.5s								
JCT	**Junction City**	88.74	50	*e*P		P	07 46 48.5	0.0	
	comp=Z,32nm,1.7s								
T43A	**Greenville**	88.85	40	P		P	07 46 49.0	+0.2	
	baz=322								
S44A	**Carbondale**	88.87	39	P		P	07 46 49.0	+0.1	
	baz=323,SNR=8.3								
X39A	**Fountain Ranch**	88.90	44	P		P	07 46 48.9	-0.2	
	baz=320,SNR=6.4								
W40A	**Ferguson Farm,**	88.93	43	P		P	07 46 48.9	-0.2	
	baz=321,SNR=6.1								
V41A	**Mountainview**	88.94	42	P		P	07 46 48.8	-0.4	
	baz=321,SNR=11								
WHTX	**Lake Whitney,**	88.98	48	*e*P		P	07 46 50.6	+1.1	
	comp=Z,12nm,0.9s								
334A	**Lometa**	89.02	49	P		P	07 46 49.6	-0.2	
	baz=318								
PBMO	**Poplar Bluff**	89.03	40	*e*P		P	07 46 49.8	+0.2	
	comp=Z,48nm,1.3s								
MIAR	**Mount Ida**	89.16	43	P		P	07 46 50.5	+0.2	
	baz=320,SNR=7.6								
MIAR	**Mount Ida**	89.16	43	*e*P		P	07 46 50.5	+0.2	
MIAR					pmax	pmax			
	comp=Z,35nm,1.0s								
MIAR	**Mount Ida**	89.16	43	*e*P		P	07 46 50.5	+0.2	
	comp=Z,27nm,1.2s								
X301	**Greenbrier Sit**	89.24	42	*e*P		P	07 46 49.4	-1.2	
	comp=Z,15nm,1.0s								
TBI	**Tubuai**	89.24	122	*e*S		S	07 57 37.4	-0.4	
	comp=Z,1μm,26.2s								
TBI	**Tubuai**	89.24	122	*e*T		T	09 25 01.0		
	comp=Z,38nm,0.3s								
WHAR	**Wooly Hollow**	89.25	42	*e*P		P	07 46 50.5	-0.2	
	comp=Z,32nm,1.0s								
V42A	**Cord**	89.31	41	P		P	07 46 50.9	0.0	
	baz=322								
Y39A	**Lockesburg**	89.35	44	P		P	07 46 51.0	-0.1	
	baz=320								
W41B	**Gary Mavity, V**	89.37	42	P		P	07 46 51.3	+0.1	
	baz=321,SNR=7.7								
434A	**Burnet**	89.39	49	P		P	07 46 51.2	-0.2	
	baz=318								
PARMO	**Parma**	89.45	40	*e*P		P	07 46 51.6	0.0	
533A	**Kerrville**	89.49	50	P		P	07 46 51.6	-0.4	
	baz=318								
ALLY	**Alegheny Colle**	89.58	31	*e*P		P	07 46 52.4	+0.3	
	comp=Z,24nm,0.9s								
X40A	**Basin Creek Fa**	89.59	43	P		P	07 46 52.1	-0.2	
	baz=321								
ACSO	**Alum Creek Sta**	89.62	33	*e*P		P	07 46 53.0	+0.6	
	comp=Z,18nm,0.8s								
W42A	**Bald Knob**	89.66	42	P		P	07 46 52.4	-0.2	
	baz=322								
H06N1	**SOCORRO T-PHAS**	89.68	65	T		T	09 26 35.7		
	SNR=3.4								
LRDF	**Laroque-de-Fa**	89.72	332	*e*P		P	07 46 53.3	+0.5	
X41A	**Kaden, Bauxite**	89.75	43	P		P	07 46 53.0	-0.1	
	baz=321								
WCI	**Wyandotte Cave**	89.82	37	*e*P		P	07 46 53.5	+0.1	
WCI					pmax	pmax			
	comp=Z,28nm,0.9s								
WCI	**Wyandotte Cave**	89.82	37	*e*P		P	07 46 53.5	+0.1	
	comp=Z,14nm,0.9s								
534A	**Blanco**	89.85	50	P		P	07 46 53.6	0.0	
	baz=318,SNR=8.7								
633A	**Saathoff Ranch**	89.86	50	P		P	07 46 53.6	-0.1	
	baz=318,SNR=8.5								
VSL	**Villasalto**	89.96	326	*e*P		P	07 46 53.4	-0.6	
	comp=Z,14nm,1.0s								
WLAR	**White Oak Lake**	90.07	44	*e*P		P	07 46 54.7	+0.2	
	comp=Z,39nm,1.2s								
Y41A	**Eaglette Beard**	90.18	43	P		P	07 46 54.8	-0.2	
	baz=321								
N54A	**Moraine State**	90.22	31	P		P	07 46 54.8	-0.4	
	baz=329								
832A	**Faith Ranch, C**	90.24	52	P		P	07 46 55.2	-0.3	
	baz=317								
733A	**Divot King Ran**	90.33	51	P		P	07 46 56.1	+0.2	
	baz=318								
ACCN	**Adirondack Com**	90.41	26	*e*P		P	07 46 56.5	+0.6	
	comp=Z,33nm,1.7s								
CCAR	**Cane Creek**	90.59	43	*e*P		P	07 46 57.4	+0.4	
	comp=Z,35nm,1.1s								
RESF	**Ens**	90.61	333	*e*P		P	07 46 58.2	+1.1	
Y42A	**Garnett, Star**	90.64	43	P		P	07 46 56.8	-0.4	
	baz=322								
VIEF	**Viey**	90.65	334	*e*P		P	07 46 58.2	+1.0	
BINY	**Binghamton**	90.66	28	*e*P		P	07 46 59.5	+2.3	
	comp=Z,24nm,1.3s								
LMN	**Caledonia Moun**	90.73	19	*e*P		P	07 46 58.5	+1.0	
	comp=Z,125nm,1.8s								
WVT	**Waverly**	90.81	39	*e*P		P	07 46 57.4	-0.5	
WVT	**Waverly**	90.81	39	*e*P		P	07 46 57.4	-0.5	
	comp=Z,26nm,1.4s								
LARF	**Larrau**	90.85	334	*e*P		P	07 46 58.5	+0.4	
W45A	**Hickory Valley**	90.92	40	P		P	07 46 58.6	+0.1	
	baz=323								
Z42A	**Norrel Spur, H**	91.00	43	P		P	07 46 59.1	+0.3	
	baz=321								
636A	**Smothers Creek**	91.08	49	P		P	07 46 59.3	0.0	
	baz=319								
933A	**Laredo**	91.15	52	P		P	07 47 00.4	+0.7	
	baz=318,SNR=6.7								
834A	**Tilden**	91.21	51	P		P	07 47 00.8	+0.8	
	baz=318								
SSPA	**Standing Stone**	91.32	30	*e*P		P	07 47 00.6	+0.4	
	comp=Z,31nm,1.4s								
OXF	**Oxford**	91.33	41	*e*P		P	07 47 00.1	-0.3	
OXF					pmax	pmax			
	comp=Z,61nm,1.2s								
OXF	**Oxford**	91.33	41	*e*P		P	07 47 00.1	-0.3	
	comp=Z,61nm,1.2s								
Y44A	**Strider, Charl**	91.36	42	P		P	07 47 00.3	-0.3	
	baz=322								
X45A	**UM Field Stati**	91.40	41	P		P	07 47 00.5	-0.3	
	baz=323								
N59A	**State Game Lan**	91.86	28	P		P	07 47 02.5	-0.3	
	baz=332								
Y46A	**Houston**	92.10	41	P		P	07 47 03.8	-0.1	
	baz=323								
SWET	**Sewanee**	92.45	38	*e*P		P	07 47 05.6	-0.1	
	comp=Z,4.4nm,1.1s								
ZAIG	**Zacatecas**	92.61	57	*e*P		P	07 47 07.8	+0.8	
	comp=Z,15nm,1.4s								
CPCT	**Cooper Cave**	92.91	37	*e*P		P	07 47 07.7	0.0	
	comp=Z,9.3nm,1.1s								
TKL	**Tuckaleechee C**	93.08	36	*e*P		P	07 47 08.7	+0.2	
TKL					pmax	pmax			
	comp=Z,39nm,1.7s								
TKL	**Tuckaleechee C**	93.08	36	*e*P		P	07 47 08.7	+0.2	
	comp=Z,39nm,1.7s								
KEST	**Kesra**	93.10	324	P		P	07 47 09.1	+0.4	
	comp=Z,8.0nm,1.0s,baz=276,slow=3.9,SNR=6.2								
KEST					PP	PP	07 50 52.0	+0.9	
	comp=Z,5.3nm,0.8s,baz=63,slow=1.5,SNR=4.4								
KEST	**Kesra**	93.10	324	*e*P		P	07 47 08.6	0.0	
	comp=Z,13nm,1.1s								
KEST				*e*PP		PP	07 50 52.0	+0.9	
ABSA	**Djebel Ababsia**	93.47	325	P		P	07 47 10.3	-0.1	
CKFL	**Kef-Lekhel**	93.69	326	P		P	07 47 11.1	-0.3	
PBRG	**Braganca**	93.75	338	*e*P		P	07 47 11.4	-0.1	
CASM	**Ain Smara**	93.91	326	P		P	07 47 08.4	-4.0	
DFRA	**Djebel Bou Aff**	93.93	327	P		P	07 47 09.5	-3.0	
PGAV	**Gavieira, Arco**	94.04	339	*e*P		P	07 47 13.0	+0.1	
MVO	**Moncorvo**	94.43	338	*e*P		P	07 47 14.6	-0.1	
	comp=Z,24nm,1.7s								
POLO	**Lamas de Olo**	94.45	338	*e*P		P	07 47 14.7	-0.1	
	comp=Z,15nm,1.9s								
PVRL	**Vila Real**	94.52	338	*e*P		P	07 47 15.2	+0.1	
ES19	**SONSECA Array**	94.80	335	*e*P		P	07 47 16.2	-0.2	
ESDC	**Sonseca Array**	94.85	335	P		P	07 47 16.7	+0.1	
	comp=Z,3.2nm,0.6s,baz=16,slow=4.1,SNR=19								
ESDC					PP	PP	07 51 04.7	+0.1	
	comp=Z,3.2nm,0.9s,baz=20,slow=7.3,SNR=4.7								
ESLA	**Sonseca Array**	94.85	335	*e*P		P	07 47 16.7	+0.1	
	comp=Z,6.4nm,1.0s								
PAB	**San Pablo**	95.09	335	*e*P		P	07 47 18.1	+0.4	
PAB					pmax	pmax			
	comp=Z,8.0nm,1.1s								
PAB	**San Pablo**	95.09	335	*e*P		P	07 47 18.1	+0.4	
	comp=Z,8.1nm,1.1s								
MTE	**Manteigas**	95.28	338	*e*P		P	07 47 18.6	0.0	
	comp=Z,34nm,1.8s								
PNCL	**Nicolau / Gran**	97.69	338	*e*P		Pdif	07 47 29.9	+0.4	
MORF	**Marmelete**	98.47	337	*e*P		Pdif	07 47 34.8	+1.7	
RKT	**Rikitea**	98.94	113	*e*SKSac		SKSac	07 58 12.7	+1.8	
	comp=Z,1μm,29.0s								
RKT	**Rikitea**	98.94	113	*e*PS		PS	08 00 36.0	+2.7	
	comp=Z,966nm,32.0s								
RKT				*e*SS		SS	08 05 54.5	+2.9	
	comp=Z,999nm,27.8s								
KMBO	**Kilima Mbogo**	102.62	279	P		Pdif	07 47 52.3	+0.2	
	comp=Z,5.3nm,0.9s,baz=21,slow=5.8,SNR=8.8								
KMBO					PP	PP	07 52 06.1	+0.6	
	comp=Z,0.6nm,0.3s,baz=19,slow=9.0,SNR=3.7								
KMBO	**Kilima Mbogo**	102.62	279	*i* P		Pdif	07 47 52.7	+0.6	
KMBO					pmax	pmax			
	comp=Z,5.0nm,0.9s								
KMBO	**Kilima Mbogo**	102.62	279	*e*Pdif		Pdif	07 47 52.8	+0.6	
KMBO				*e*PP		PP	07 52 06.1	+0.6	
TOA1	**Torodi Ar. Sit**	115.77	317	*e*PKPdf		PKPdf	07 52 36.9	-0.6	
TOA1				*e*PP		PP	07 53 34.1	-5.8	
TOA1				*e*SP		SP	08 03 21.0	+3.4	
TOA0	**Torodi Ar. Sit**	115.78	317	*e*PKPdf		PKPdf	07 52 36.7	-0.8	
TOA0				*e*PKPdf		PKiKP	07 52 36.8	-0.6	
TORD	**Torodi Ar. Bea**	115.78	317	PKP		PKPdf	07 52 36.9	-0.6	
	comp=Z,1.7nm,0.6s,baz=30,slow=1.9,SNR=12								
TORD					PP	PP	07 53 34.1	-5.8	
	comp=Z,7.4nm,0.9s,baz=37,slow=5.3,SNR=7.5								
TORD					PKKPab	PKKPab	08 03 21.0	+4.6	
	comp=Z,1.1nm,0.8s,baz=220,slow=2.9,SNR=5.1								
TORD	**Torodi Ar. Bea**	115.78	317	PP		PP	07 53 34.1	-5.8	
VNDA	**Vanda**	118.13	175	PKP		PKPdf	07 52 40.1	0.0	
	comp=Z,1.1nm,0.6s,baz=316,slow=5.0,SNR=11								
SBA	**Scott Base**	118.78	174	*e*PKIKP		PKPdf	07 52 42.0	+0.7	
SBA	**Scott Base**	118.78	174	*e*PKPdf		PKPdf	07 52 42.0	+0.7	
MAW	**Mawson**	122.96	207	PKP		PKPdf	07 52 49.7	+0.2	
	comp=Z,2.5nm,0.9s,baz=349,slow=2.2,SNR=10								
MAW	**Mawson**	122.96	207	*e*PKPdf		PKPdf	07 52 50.0	+0.4	
ROSC	**El Rosal**	123.59	46	PKP		PKPdf	07 52 54.1	+1.1	
	comp=Z,2.2nm,0.4s,baz=128,slow=19,SNR=3.6								
DBIC	**Dimbokro**	124.61	320	PKP		PKPdf	07 52 54.2	-0.3	
	comp=Z,6.6nm,0.8s,baz=349,slow=2.3,SNR=12								
DBIC	**Dimbokro**	124.61	320	*e*PKPdf		PKPdf	07 52 54.4	-0.1	
TIC	**Toumodi**	124.72	320	*e*P		PKPdf	07 52 52.8	-1.9	
KIC	**Kosan Boka**	124.82	320	*e*P		PKPdf	07 52 53.8	-1.1	
	comp=Z,34nm,1.1s								
OTAV	**Otavalo**	124.88	54	*e*PKPdf		PKPdf	07 52 58.0	+2.4	
LIC	**Lamto**	125.08	320	*e*P		PKPdf	07 52 54.7	-0.7	
	comp=Z,38nm,0.8s								
LBTB	**Lobatse**	126.08	266	*e*PKPdf		PKPdf	07 52 57.0	0.0	
BOSA	**Boshof**	128.21	263	PKP		PKPdf	07 52 59.3	-1.7	
	comp=Z,5.8nm,1.0s,baz=242,slow=6.6,SNR=4.5								
QSPA	**South Pole Qui**	130.03	180	*e*PKPdf		PKPdf	07 53 02.8	-0.5	
ATAH	**Atahualpa**	130.54	59	PKP		PKPdf	07 53 08.1	+1.8	
	comp=Z,6.8nm,0.6s,baz=16,slow=2.0,SNR=4.9								
SYO	**Syowa Base**	131.62	208	*e*X		PKPdf	07 53 04.2	-1.9	
PTGA	**Pitinga**	135.48	34	PKP		PKPdf	07 53 15.6	+0.5	
	comp=Z,4.2nm,0.8s,baz=43,slow=1.9,SNR=11								
PTGA	**Pitinga**	135.48	34	*e*PKPdf		PKPdf	07 53 14.9	-0.3	
NVL	**N'lazarevskaya**	140.73	203	*e*PKHKP		PKPpre	07 53 14.5		
NVL					MLR	MLR			
	comp=Z,2μm,25.0s								
LPAZ	**La Paz**	144.02	57	PKP		PKPab	07 53 28.8	+0.1	
	comp=Z,1.3nm,0.4s,baz=27,slow=9.0,SNR=13								
LPAZ	**La Paz**	144.02	57	*e*P		PKPbc	07 53 29.2	+0.1	
SNAA	**Sanae**	144.20	198	PKP		PKPbc	07 53 27.4	-0.1	
SNAA	**Sanae**	144.20	198	PKP		PKPab	07 53 26.5	-0.5	
	comp=Z,63nm,0.8s,baz=149,slow=2.8,SNR=221								
SNAA	**Sanae**	144.20	198	*e*PKPdf		PKPab	07 53 26.3	-0.8	
PB11	**IPOC Station P**	145.48	63	*e*PKPdf		PKPab	07 53 33.5	+0.1	
RCBR	**Riachuelo**	145.67	358	*e*PKPdf		PKPdf	07 53 33.2	-0.2	
VNA2	**Neumayer--Watz**	145.76	197	PKP		PKPbc	07 53 32.4	+0.1	
	baz=100,slow=2.4								
VNA3	**Neumayer Olymp**	146.01	195	PKP		PKPdf	07 53 32.5	+0.3	
VNA1	**Neumayer--Stat**	146.16	197	PKP		PKPbc	07 53 33.2	-0.4	
PB01	**IPOC Station P**	146.46	65	*e*PKPdf		PKPdf	07 53 33.8	-0.9	
PB01				*e*PKPbc		PKPbc	07 53 36.4	+0.4	
PB04	**IPOC Station P**	146.84	67	*e*PKPdf		PKPdf	07 53 35.0	-0.4	
LVC	**Limon Verde**	147.89	66	*e*P		PKPdf	07 53 38.6	+1.2	
LVC	**Limon Verde**	147.89	66	*e*PKPbc		PKPbc	07 53 41.0	+0.6	
SIV	**San Ignacio**	148.07	48	PKPbc		PKPdf	07 53 38.5	+1.1	
	comp=Z,15nm,0.8s,baz=268,slow=1.6,SNR=11								
PB14	**IPOC Station P**	148.10	71	*e*P		PKPbc	07 53 42.2	+1.4	
YJA	**Yavi**	149.94	62	*e*P		PKPdf	07 53 43.1	+2.3	
LCO	**Las Campanas**	150.34	78	*e*PKPbc		PKPbc	07 53 45.7	-0.5	
HJA	**Humahuaca**	150.71	63	*e*P		PKPdf	07 53 43.6	+1.7	
PMSA	**Palmer Station**	150.96	156	*e*PKPdf		PKPbc	07 53 44.0	-2.1	
ROC1	**El Roble**	151.97	86	*e*PKPbc		PKPbc	07 53 50.2	+0.3	
VCA	**Vinchina**	152.06	75	*i* P		PKPbc	07 53 51.0	+0.9	
GO05	**HualaæØ**	152.06	90	*e*PKPbc		PKPbc	07 53 50.1	+0.3	
FSA	**Cafayete**	152.17	68	*e*P		PKPdf	07 53 44.3	+0.5	
AGUA	**GUANDACOL**	152.24	77	*i* P		PKPbc	07 53 51.3	+0.8	
AUSP	**Uspallata**	152.88	83	*e*P		PKPbc	07 53 53.0	+1.0	
AMOG	**MOGNA**	152.97	80	*e*P		PKPbc	07 53 52.3	+0.3	
AHML	**Horco Molle**	153.04	69	*e*P		PKPbc	07 53 48.6	-3.6	
RTLL	**Cerro Villicun**	153.16	80	*i* P		PKPbc	07 53 52.2	-0.2	
RTCV	**Cerro Valdivia**	153.36	82	*i* P		PKPbc	07 53 52.9	+0.1	
ASAL	**Salagasta**	153.47	83	*e*P		PKPbc	07 53 53.1	+0.1	
ARCO	**CERRO ARCO**	153.50	84	*e*P		PKPbc	07 53 53.0	-0.1	
AVFE	**Valle Fertil**	153.61	78	*e*P		PKPbc	07 53 52.9	-0.5	
CHRN	**Cochrane**	153.64	117	*e*PKPbc		PKPbc	07 53 55.1	+2.4	
AAGR	**Agrelo**	153.68	84	*e*P		PKPbc	07 53 54.4	+0.9	
PLCA	**Paso Flores**	154.67	102	PKPbc		PKPbc	07 53 56.1	+0.8	
	comp=Z,5.7nm,0.9s,baz=250,slow=5.0,SNR=6.4								
PLCA	**Paso Flores**	154.67	102	*e*PKPbc		PKPbc	07 53 56.7	+1.4	

NIED **17** *07:34:00.40˚30N×143˚20E,h35km,Mw5.9 Best double couple: M₀7.04000×10¹⁷ NP1:φ₀181.00000°,δ22.00000°, λ71.00000°. NP2:φ₀21.00000°,δ69.00000°,λ97.00000°.*
JMA **17** *07:34:16.8±0.2,40˚29N×143˚21E,h8km±3km,M5.8*
JMA Felt III J1.
IDC **17** *07:34:22.0±0.6,40˚32N×143˚01E,h0km,mb5.3/15, mb1 5.4/16,mb1mx5.0/41,mbtmp5.4/16,ML5.1/1,MS5.3/4, Ms1 5.3/4,ms1mx4.6/13,Error ellipse: s-maj=25.7km s-min=14.6km az=80.0*
ISCJB **17** *07:34:23.2±0.2,40˚20N±0˚03×142˚70E±0˚04,h12km, mb5.6/96,MS5.4/466,Error ellipse: s-maj=4.8km s-min=4.0km az=159.0*
MOS **17** *07:34:25.2±1.0,40˚27N×142˚65E,h28km,mb5.7/33, MS5.5/27,Error ellipse: s-maj=15.2km s-min=10.0km az=114.1*
NEIC **17** *07:34:27.7±0.2,40˚27N×142˚66E,h30km,mb5.5/60, ME5.8,MS5.2/299,Error ellipse: s-maj=5.2km s-min=4.1km az=143.0,Apparent Stress 0.6 MPa. Energy computed from BB mechanism.*
NEIC Recorded [3 JMA] in Aomori and Iwate.
GCMT **17** *07:34:28.4±0.1,40˚33N×142˚93E,h33km,MW5.7/132, Moment Tensor Solution. s111,c219; s132,c286; Duration: 1ˢ7 Moment tensor: Scale 10¹⁷Nm; Mrr2.89±.05; Mθθ-0.06±.03; Mφφ-2.83±.04; Mrθ1.89±.06; Mθφ-0.78±.03; Mφr2.93±.07; Best double couple: M₀4.57700×10¹⁷ NP1:φ₀28.00000°,δ70.00000°, λ100.00000°. NP2:φ₀181.00000°,δ22.00000°,λ65.00000°. Principal axes: T 4.5940, Plg64.0000°, Azm314.0000°; N -0.0340, Plg9.0000°, Azm205.0000°; P -4.5600, Plg25.0000°, Azm111.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

ISC 17 07:34:24.9±0.3,40˚23N±0˚04×142˚76E±0˚04,h12km,n629, σ1§47/250,mb5.8/109,MS5.3/466,9C,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTH	**Tanohata**	0.75	247	*e*S	**Sb**	**07 34 51.1**	**+1.1**
JANG	**Nango**	0.96	279	*e*S	**Sn**	**07 34 58.0**	**+0.1**
MIYJ	**Miyakonagasawa**	0.97	228	*e*S	**Sb**	**07 34 57.5**	**+0.9**
JTM	**Tenmabayashi**	1.41	294	*e*S	**Sb**	**07 35 09.2**	**+0.2**
JAH	**Hinai**	1.63	269	*e*S	**Sb**	**07 35 16.3**	**+0.9**
JOT	**Ichinota**	1.74	312	*e*S	**Sn**	**07 35 16.3**	**-0.6**
ERM	**Erimo**	1.81	9	*e*P	**Pn**	**07 34 54.2**	**-1.7**
ERM	**Erimo**	1.81	9	*e*Pn	**Pn**	**07 34 54.2**	**-1.7**
JRG	**Rokugo**	1.84	244	*e*S	**Sb**	**07 35 21.4**	**0.0**
JKB	**Kayabe**	2.11	322	*e*S	**Sn**	**07 35 24.3**	**-1.8**
JOU	**Okura**	2.47	222	*e*S	**Sn**	**07 35 37.0**	**+1.8**
MAJO	**Matsushiro**	5.13	226	*e*P	Pn	07 35 47.3	+5.7
MAJO	**Matsushiro**	5.13	226	*e*Pn	Pn	07 35 47.3	+5.6
MJAR	**Matsushiro Arr**	5.13	226	LR	LR	07 38 10.8	
	comp=Z,54μm,19.1s,baz=50,slow=43						
YSS	**Yuzh-Sakhalins**	6.72	360	*e*P	Pb	07 36 14.3	-7.3
YSS	**Yuzh-Sakhalins**	6.72	360	*e*P	Pb	07 36 14.3	-7.3
JHJ	**Hachijo jima 2**	7.49	200	Pn	**Pn**	**07 36 14.8**	**+0.8**
	98nm,0.3s,baz=75,slow=21,SNR=5.7						
JHJ				Sn	**Sn**	**07 37 34.4**	**-4.4**
	112nm,0.3s,baz=73,slow=19,SNR=3.1						
JHJ				LR	LR	07 39 38.4	
	comp=Z,23μm,19.8s,baz=40,slow=41						
USRK	**Ussuriysk Ar.**	8.92	300	Pn	**Pn**	**07 36 37.4**	**+3.8**
	6.4nm,0.3s,baz=103,slow=13,SNR=5.5						
JNU	**Nakatsue**	11.88	237	LR	LR	07 42 46.2	
	comp=Z,114nm,18.4s,baz=57,slow=42						
JNU	**Nakatsue**	11.88	237	*e*Pn	**Pn**	**07 37 18.6**	**+4.4**
INCN	**Inchon**	12.87	263	*e*Pn	Pn	07 37 21.2

comp=Z,2µm,20.0s
MIDW Midway 34.80 98 PFAKE 07 41 30.0 +15
MIDW LR LR
comp=Z,3µm,19.0s
NIKH Nikolski High 34.93 52 PFAKE 07 41 30.0 +14
NIKH LR LR
comp=Z,3µm,21.0s
QIZ Qiongzhong 35.27 243 PFAKE 07 41 30.0 +10
QIZ LR LR
comp=Z,6µm,20.0s
GAMB Gambell 35.45 33 PFAKE 07 41 30.0 +9.3
GAMB LR LR
comp=Z,3µm,21.0s
PATS Pohnpei 36.05 153 PFAKE 07 41 40.0 +14
PATS LR LR
comp=Z,7µm,20.0s
UNV Unalaska Valle 36.36 51 PFAKE 07 41 40.0 +11
UNV LR LR
comp=Z,2µm,18.0s
DAV Davao City (W) 36.43 210 PFAKE 07 41 40.0 +10
DAV LR LR
comp=Z,4µm,21.0s
KMI Kunming 36.57 258 P **P** **07 41 31.3 +0.3**
KMI pP sP 07 41 43.5 +7.3
AKUT Akutan 36.79 50 PFAKE 07 41 40.0 +7.8
AKUT LR LR
comp=Z,2µm,20.0s
SLVN Son La 37.95 252 *eP* **P** **07 41 43.4 +0.8**
comp=Z,201nm,1.3s
SLVN LR LR
comp=Z,8µm,18.0s
KWAJ Kwajalein Atol 38.33 138 PFAKE 07 42 00.0 +14
KWAJ LR LR
comp=Z,8µm,20.0s
SDPT Sand Point 39.85 48 PFAKE 07 42 10.0 +12
SDPT LR LR
comp=Z,2µm,20.0s
ZAA1 Zalesovo Array 40.61 310 *eP* **P** **07 42 04.1 -0.2**
ZAA0 Zalesovo Array 40.62 310 *eP* **P** **07 42 03.8 -0.6**
ZALV Zalesovo Beam 40.62 310 P **P** **07 42 04.1 -0.2**
comp=Z,108nm,0.8s,baz=89,slow=8.1,SNR=8.6
CHGN Chignik 40.97 47 PFAKE 07 42 20.0 +13
CHGN LR LR
comp=Z,2µm,18.0s
DLV T Lat 41.29 237 *eP* **P** **07 42 11.2 +0.7**
comp=Z,346nm,1.6s
DLV LR LR
comp=Z,3µm,18.0s
KKM Kota Kinabalu 41.55 222 *eP* **P** **07 42 10.5 -2.1**
comp=Z,175nm,1.4s
KKM LR LR
comp=Z,5µm,19.0s
TTA Tatalina 42.21 37 PFAKE 07 42 30.0 +13
TTA LR LR
comp=Z,2µm,19.0s
MANU Manus Island 42.28 173 PFAKE 07 42 30.0 +12
MANU LR LR
comp=Z,2µm,20.0s
SVW2 Sparrevohn 42.36 39 *eP* **P** **07 42 19.2 +0.6**
comp=Z,35nm,0.9s
SVW2 LR LR
comp=Z,2µm,18.0s
LSA Lhasa 43.05 273 PFAKE 07 42 40.0 +15
LSA LR LR
comp=Z,11µm,19.0s
CHTO Chiang Mai 43.16 253 PFAKE 07 42 40.0 +14
CHTO LR LR
comp=Z,2µm,20.0s
MK01 Makanchi Array 43.39 299 *eP* **P** **07 42 26.6 -0.6**
MK31 Makanchi Array 43.39 300 *eP* **P** **07 42 26.5 -0.7**
MK31 Makanchi Array 43.39 300 *eP* **P** **07 42 26.5 -0.7**
MKAR Makanchi Array 43.39 300 *eP* **P** **07 42 26.5 -0.7**
MKAR pmax pmax
comp=Z,868nm,0.8s
MKAR MLR MLR
comp=Z,4µm,18.0s
MKAR Makanchi Array 43.39 300 *eP* **P** **07 42 26.5 -0.7**
comp=Z,868nm,0.8s
MKAR LR LR
comp=Z,4µm,18.0s
CM01 Chiang Mai Arr 43.39 253 *eP* **P** **07 42 26.7 -0.7**
MAKZ Makanchi 43.59 300 PFAKE 07 42 40.0 +11
MAKZ LR LR
comp=Z,13µm,18.0s
OHAK Old Harbor 43.72 45 PFAKE 07 42 40.0 +10
OHAK LR LR
comp=Z,4µm,20.0s
PPLA Purkeypile 43.96 37 *eP* **P** **07 42 31.1 -0.5**
comp=Z,266nm,1.4s
CAST Castle Rocks 44.01 36 *eP* **P** **07 42 34.5 +2.6**
comp=Z,64nm,1.0s
FAKI Fak Fak 44.01 195 PFAKE 07 42 40.0 +7.7
FAKI LR LR
comp=Z,5µm,22.0s
KDAK Kodiak Island 44.05 44 P **P** **07 42 30.4 -1.8**
comp=Z,40nm,0.9s,baz=291,slow=8.1,SNR=7.0
KDAK Kodiak Island 44.05 44 *eP* **P** **07 42 30.4 -1.8**
comp=Z,197nm,1.3s
KDAK LR LR
comp=Z,3µm,21.0s
CNPM China Poot 44.59 42 *eP* **P** **07 42 37.3 +0.7**
comp=Z,47nm,0.9s
CNPM LR LR
comp=Z,2µm,21.0s
SUA Susitna One 44.69 39 *eP* **P** **07 42 38.1 +0.7**
comp=Z,54nm,0.8s
BRLK Bradley Lake 44.74 41 PFAKE 07 42 50.0 +12
BRLK LR LR
comp=Z,2µm,21.0s
TRF Thorofare Moun 44.81 36 PFAKE 07 42 50.0 +11
TRF LR LR
comp=Z,2µm,21.0s
KURK Kurchatov 44.86 306 *eP* **P** **07 42 37.8 -1.0**
KURK pmax pmax
comp=Z,381nm,0.8s
KURK MLR MLR
comp=Z,4µm,19.0s
KURK Kurchatov 44.86 306 *eP* **P** **07 42 37.8 -1.0**
comp=Z,381nm,0.8s
KURK LR LR
comp=Z,4µm,19.0s
COLD Coldfoot 44.86 31 PFAKE 07 42 50.0 +11
COLD LR LR
comp=Z,2µm,19.0s
RABL Rabaul 45.04 167 PFAKE 07 42 50.0 +9.4
RABL LR LR
comp=Z,1µm,20.0s
RC01 Rabbit Creek A 45.20 39 PFAKE 07 42 50.0 +8.6
RC01 LR LR
comp=Z,3µm,19.0s
MCK McKinley 45.41 35 PFAKE 07 43 00.0 +17
MCK LR LR
comp=Z,2µm,19.0s
SEW Seward 45.43 41 PFAKE 07 43 00.0 +17
SEW LR LR
comp=Z,3µm,22.0s
PMR Palmer 45.45 39 PFAKE 07 43 00.0 +17
PMR LR LR
comp=Z,2µm,22.0s
RND Reindeer 45.46 36 PFAKE 07 43 00.0 +16
RND LR LR
comp=Z,2µm,21.0s
SML Sawmill 45.81 38 PFAKE 07 43 00.0 +14
SML LR LR
comp=Z,2µm,20.0s
COLA College 45.83 34 PFAKE 07 43 00.0 +14
COLA LR LR
comp=Z,2µm,19.0s
CCB Clear Creek Bu 45.86 34 *eP* **P** **07 42 47.7 +1.1**
comp=Z,42nm,1.0s
DHY Denali Highway 46.15 36 PFAKE 07 43 00.0 +11
DHY LR LR
comp=Z,2µm,20.0s
ILAR Eielson Array 46.24 34 LR LR 08 04 16.7
comp=Z,2µm,19.5s,baz=288,slow=39
SCM Sheep Creek Mo 46.28 38 PFAKE 07 43 00.0 +10
SCM LR LR
comp=Z,2µm,20.0s
SBUM Sibu 46.68 224 PFAKE 07 43 10.0 +16
SBUM LR LR
comp=Z,3µm,20.0s
FID Port Fidalgo 46.82 39 PFAKE 07 43 10.0 +16
FID LR LR
comp=Z,2µm,20.0s
FYU Fort Yukon 46.83 31 *eP* **P** **07 42 56.0 +1.9**
comp=Z,709nm,2.0s

KLU Klutina 46.99 38 PFAKE 07 43 10.0 +14
KLU LR LR
comp=Z,2µm,20.0s
PAX Paxson 47.02 36 PFAKE 07 43 10.0 +14
PAX LR LR
comp=Z,3µm,21.0s
DIV Divide 47.11 39 PFAKE 07 43 10.0 +13
DIV LR LR
comp=Z,2µm,20.0s
JOHN Johnston Islan 47.34 105 PFAKE 07 43 10.0 +11
JOHN LR LR
comp=Z,7µm,19.0s
TARA Tarawa 47.40 137 PFAKE 07 43 10.0 +11
TARA LR LR
comp=Z,5µm,20.0s
BMRM Bremner River 47.70 39 *eP* **P** **07 43 01.7 +0.6**
comp=Z,63nm,0.8s
BMRM LR LR
comp=Z,2µm,20.0s
RAGM Ragged Mountai 47.75 40 PFAKE 07 43 10.0 +8.5
RAGM LR LR
comp=Z,5µm,22.0s
MENT Mentasta 47.82 36 PFAKE 07 43 10.0 +8.0
MENT LR LR
comp=Z,2µm,20.0s
CRQM Cirque 48.44 39 PFAKE 07 43 20.0 +13
CRQM LR LR
comp=Z,3µm,22.0s
KSM Kuching 48.53 226 PFAKE 07 43 20.0 +12
KSM LR LR
comp=Z,2µm,20.0s
EGAK Eagle 48.69 34 PFAKE 07 43 20.0 +11
EGAK LR LR
comp=Z,3µm,20.0s
BRVK Borovoye 49.30 311 PFAKE 07 43 20.0 +6.5
BRVK LR LR
comp=Z,6µm,21.0s
PMG Port Moresby 49.55 174 PFAKE 07 43 30.0 +14
PMG LR LR
comp=Z,2µm,20.0s
DAWY Dawson 49.56 34 *eP* **P** **07 43 17.3 +1.9**
comp=Z,33nm,1.1s
DAWY LR LR
comp=Z,2µm,20.0s
KAPI Kappang 49.75 211 PFAKE 07 43 30.0 +13
KAPI LR LR
comp=Z,956nm,21.0s
AAK Ala-Archa 49.96 296 *eP* **P** **07 43 18.7 -0.1**
AAK pmax pmax
comp=Z,261nm,1.3s
AAK MLR MLR
comp=Z,12µm,19.0s
AAK Ala-Archa 49.96 296 *eP* **P** **07 43 18.7 -0.1**
comp=Z,261nm,1.3s
AAK LR LR
comp=Z,12µm,19.0s
PCA Pinnacle 49.97 40 PFAKE 07 43 30.0 +11
PCA LR LR
comp=Z,4µm,20.0s
INK Inuvik 51.07 28 PFAKE 07 43 40.0 +13
INK LR LR
comp=Z,3µm,22.0s
DHAK Deception Hill 51.23 41 PFAKE 07 43 40.0 +12
DHAK LR LR
comp=Z,2µm,19.0s
KULM Kulim 51.36 239 PFAKE 07 43 40.0 +11
KULM LR LR
comp=Z,2µm,21.0s
IPM Ipoh 51.72 238 PFAKE 07 43 40.0 +7.8
IPM LR LR
comp=Z,2µm,21.0s
HNR Honiara 51.91 158 PFAKE 07 43 50.0 +17
HNR LR LR
comp=Z,4µm,22.0s
MYKOM Kota Tinggi 52.02 233 PFAKE 07 43 50.0 +16
MYKOM LR LR
comp=Z,2µm,20.0s
WHY Whitehorse 52.41 38 *eP* **P** **07 43 37.5 +0.6**
comp=Z,28nm,0.8s
WHY LR LR
comp=Z,2µm,20.0s
KKAR Karatay Array 52.48 298 PFAKE 07 43 50.0 +12
KKAR LR LR
comp=Z,2µm,19.0s
SKAG Skagway 52.55 40 PFAKE 07 43 50.0 +12
SKAG LR LR
comp=Z,2µm,20.0s
SOEI Soe 52.60 203 *eP* **P** **07 43 39.0 +0.2**
comp=Z,244nm,1.0s
SOEI LR LR
comp=Z,3µm,22.0s
BESE Bessie Mountai 53.05 41 PFAKE 07 43 50.0 +8.4
BESE LR LR
comp=Z,2µm,21.0s
KIP Kipapa 53.23 92 PFAKE 07 44 00.0 +17
KIP LR LR
comp=Z,6µm,20.0s
BHK Bhakra 53.39 283 *ex* **P** **07 43 47.6 +3.1**
PONG Pong 53.48 284 *ex* P 07 43 50.0 +4.9
PONG *ex* P 07 43 50.0 +4.9
MTN Manton Dam 53.90 194 *eP* **P** **07 43 48.5 +0.3**
comp=Z,76nm,0.8s
COEN Coen 53.91 180 *eP* **P** **07 43 48.8 +0.5**
comp=Z,64nm,1.1s
COEN LR LR
comp=Z,2µm,22.0s
KMMI Kalianget 54.02 216 P P 07 43 38.7 -10
PSI Prapat 54.35 238 *eP* **P** **07 43 52.7 +0.9**
PSI pmax pmax
comp=Z,45nm,0.9s
PSI MLR MLR
comp=Z,3µm,18.0s
PSI Prapat 54.35 238 *eP* **P** **07 43 52.7 +0.9**
comp=Z,45nm,0.9s
PSI LR LR
comp=Z,3µm,18.0s
CHLP Challavanipeta 54.52 265 *eP* **P** **07 43 53.1 +0.3**
CHLP IAmb IAmb 07 43 54.4
comp=Z,307nm,1.8s
CHLP IVMs_BB IVMs_BB 08 08 49.7
comp=Z,1µm,22.1s
ARU Arti 54.70 317 *eP* **P** **07 43 53.7 +0.1**
ARU pmax pmax
comp=Z,563nm,1.6s
ARU MLR MLR
comp=Z,8µm,19.0s
ARU Arti 54.70 317 *eP* **P** **07 43 53.7 +0.1**
comp=Z,563nm,1.6s
ARU LR LR
comp=Z,8µm,19.0s
BKNI Bangkinang 54.90 234 PFAKE 07 44 10.0 +14
BKNI LR LR
comp=Z,2µm,18.0s
HLK Haleakala 54.96 92 *eP* **P** **07 43 58.5 +2.2**
comp=Z,235nm,1.2s
HLK LR LR
comp=Z,3µm,21.0s
CRAG Craig 55.00 44 *eP* **P** **07 43 56.8 +1.0**
comp=Z,240nm,2.0s
CRAG LR LR
comp=Z,2µm,20.0s
WRAK Wrangell Islan 55.06 42 PFAKE 07 44 10.0 +14
WRAK LR LR
comp=Z,1µm,20.0s
DLBC Dease Lake 55.48 40 *eP* **P** **07 44 01.1 +1.7**
comp=Z,48nm,1.1s
HPAH Hawaii Prepara 55.80 92 PFAKE 07 44 20.0 +18
HPAH LR LR
comp=Z,3µm,22.0s
POHA Pohakuloa 56.09 92 PFAKE 07 44 20.0 +16
POHA LR LR
comp=Z,3µm,19.0s
WOJI Wonogiri, Jawa 56.13 219 P **P** **07 44 01.1 -3.3**
MLOA Mauna Loa Obse 56.18 92 PFAKE 07 44 20.0 +15
MLOA LR LR
comp=Z,4µm,20.0s
MWH Moku'aweowe 56.19 92 PFAKE 07 44 20.0 +14
MWH LR LR
comp=Z,3µm,21.0s
MLH Mauna Loa 56.35 92 PFAKE 07 44 20.0 +14
MLH LR LR
comp=Z,3µm,22.0s
AIN Ainahou 56.37 92 PFAKE 07 44 20.0 +14
AIN LR LR
comp=Z,3µm,20.0s
UWE Uwekahuna 56.46 92 PFAKE 07 44 20.0 +13
UWE LR LR
comp=Z,3µm,19.0s
WRMHI West Rim 56.47 92 PFAKE 07 44 20.0 +13
WRMHI LR LR
comp=Z,3µm,22.0s
SBLHI Steaming Bluff 56.48 92 PFAKE 07 44 20.0 +13
SBLHI LR LR
comp=Z,2µm,19.0s
SDHHI Sand Hill 56.48 92 PFAKE 07 44 20.0 +13
SDHHI LR LR
comp=Z,3µm,19.0s
RIM Rim 56.49 92 PFAKE 07 44 20.0 +13
RIM LR LR
comp=Z,4µm,22.0s
KKO Keanakako'i 56.50 92 PFAKE 07 44 20.0 +13
KKO LR LR
comp=Z,3µm,19.0s
STCH Steam Cracks 56.61 92 PFAKE 07 44 20.0 +12
STCH LR LR
comp=Z,3µm,20.0s
ABKAR Akbulak array 56.72 309 *eP* **P** **07 44 07.8 -0.4**
comp=Z,1µm,0.7s
ABKAR LR LR
comp=Z,2µm,22.0s
PVM Polavaram 57.13 265 *eP* **P** **07 44 09.3 -2.2**
KBL Kabul 57.30 290 *eP* **P** **07 44 12.6 -0.2**
KBL pmax pmax
comp=Z,235nm,0.9s
KBL MLR MLR
comp=Z,12µm,18.0s
KBL Kabul 57.30 290 *eP* **P** **07 44 12.6 -0.2**
comp=Z,235nm,0.9s
KBL LR LR
comp=Z,12µm,18.0s
CISI Cisompet, Garu 57.44 222 PFAKE 07 44 30.0 +16
CISI LR LR
comp=Z,2µm,21.0s
MNAI Manna 57.46 229 PFAKE 07 44 30.0 +16
MNAI LR LR
comp=Z,2µm,20.0s
KBS Kingsbay 57.69 350 PFAKE 07 44 30.0 +15
KBS LR LR
comp=Z,2µm,18.0s
RPR Rampur 57.96 268 *eP* **P** **07 44 17.0 -0.4**
RPR IAmb IAmb 07 44 17.7
comp=Z,122nm,1.0s
RPR IVMs_BB IVMs_BB 08 09 58.8
comp=Z,1µm,27.2s
SRSP Sriramsagar 58.64 269 *eP* **P** **07 44 21.7 -0.5**
SRSP IAmb IAmb 07 44 22.8
comp=Z,620nm,1.5s
SRSP *eS* **S** **07 52 22.7 -3.9**
SRSP IVMs_BB IVMs_BB 08 11 25.1
comp=Z,1µm,19.7s
FUNA Funafuti 59.04 137 PFAKE 07 44 40.0 +15
FUNA LR LR
comp=Z,10µm,19.0s
BBB Bella Bella 59.06 46 PFAKE 07 44 40.0 +15
BBB LR LR
comp=Z,1µm,20.0s
ADKI Addanki 59.24 265 *eP* **P** **07 44 26.5 +0.2**
ADKI IAmb IAmb 07 44 27.2
comp=Z,123nm,1.6s
ADKI *e* 07 52 26.1
ADKI IVMs_BB IVMs_BB 08 09 27.7
comp=Z,2µm,32.4s
RES Resolute Bay 59.24 15 PFAKE 07 44 40.0 +14
RES LR LR
comp=Z,3µm,19.0s
NJS Nagarjunasagar 59.32 266 *eP* **P** **07 44 26.4 -0.4**
NJS IAmb IAmb 07 44 26.9
comp=Z,114nm,1.4s
NJS IVMs_BB IVMs_BB 08 10 52.7
comp=Z,1µm,23.3s
HYBB Hyderabad (bro 59.38 267 *eP* **P** **07 44 26.6 -0.7**
HYBB IAmb IAmb 07 44 27.9
comp=Z,197nm,1.5s
HYBB *eS* **S** **07 52 32.6 -3.5**
HYBB IVMs_BB IVMs_BB 08 17 25.2
comp=Z,934nm,15.2s
LVZ Lovozero 59.64 335 PFAKE 07 44 40.0 +12
LVZ LR LR
comp=Z,3µm,18.0s
SRLM Srisailam 59.91 266 *eP* **P** **07 44 30.2 -0.8**
SRLM IAmb IAmb 07 44 30.8
comp=Z,73nm,1.2s
SRLM *eS* **S** **07 52 39.9 -3.0**
SRLM IVMs_BB IVMs_BB 08 11 20.8
comp=Z,961nm,18.5s
CTA Charters Tower 60.09 176 P **P** **07 44 33.1 +1.2**
comp=Z,4.6nm,0.8s,baz=354,slow=7.9,SNR=5.8
CTAO Charters Tower 60.09 176 *eP* **P** **07 44 33.6 +1.6**
CTAO pmax pmax
comp=Z,68nm,1.5s
CTAO MLR MLR
comp=Z,2µm,22.0s
CTAO Charters Tower 60.09 176 *eP* **P** **07 44 33.6 +1.6**
comp=Z,68nm,1.5s
CTAO LR LR
comp=Z,2µm,22.0s
FITZ Fitzroy Crossi 60.18 199 P **P** **07 44 33.2 +0.6**
comp=Z,46nm,1.1s,baz=22,slow=12,SNR=5.6
FITZ Fitzroy Crossi 60.18 199 *eP* **P** **07 44 33.2 +0.6**
comp=Z,94nm,1.3s
RCLA Racherla 60.25 265 *eP* **P** **07 44 33.0 -0.3**
RCLA IAmb IAmb 07 44 33.6
comp=Z,54nm,0.9s
RCLA *eS* **S** **07 52 43.3 -4.0**
RCLA IVMs_BB IVMs_BB 08 12 47.6
comp=Z,1µm,21.1s
WRAB Tennant Creek 60.36 189 PFAKE 07 44 50.0 +16
WRAB LR LR
comp=Z,1µm,22.0s
WB2 Warramunga Arr 60.37 189 *eP* **P** **07 44 33.6 -0.3**
comp=Z,164nm,1.5s
WR1 Warramunga Arr 60.37 189 *eP* **P** **07 44 33.1 -0.8**
comp=Z,196nm,1.6s
WRA Warramunga Arr 60.37 189 P **P** **07 44 33.1 -0.8**
comp=Z,29nm,1.0s,baz=6.6,slow=6.8,SNR=7.6
KLRI Killari 60.48 269 *eP* **P** **07 44 34.0 -0.9**
KLRI IAmb IAmb 07 44 35.2
comp=Z,179nm,0.8s
KLRI *eS* **S** **07 52 47.0 -3.4**
KLRI IVMs_BB IVMs_BB 08 13 25.7
comp=Z,2µm,15.6s
SKHT Srikalahasti 60.73 263 *eP* **P** **07 44 36.8 +0.2**
SKHT IAmb IAmb 07 44 37.8
comp=Z,564nm,0.6s
SKHT *eS* **S** **07 52 49.0 -4.3**
SKHT IVMs_BB IVMs_BB 08 12 58.1
comp=Z,1µm,25.6s
KEV Kevo 60.84 339 PFAKE 07 44 50.0 +13
KEV LR LR
comp=Z,4µm,22.0s
ARE0 ARCESS Array S 61.38 339 PFAKE 07 44 50.0 +10
ARE0 LR LR
comp=Z,3µm,22.0s
URV Uravakonda 61.85 266 *eP* **P** **07 44 42.3 -1.9**
URV IAmb IAmb 07 44 45.0
comp=Z,61nm,1.1s
URV *eS* **S** **07 53 04.8 -3.0**
URV IVMs_BB IVMs_BB 08 13 38.2
comp=Z,1µm,17.1s
GEYT Alibeck 63.24 298 P **P** **07 44 52.6 -0.6**
comp=Z,115nm,1.0s,baz=358,slow=4.3,SNR=8.9
LLLB Lillooet 63.24 45 PFAKE 07 45 10.0 +17
LLLB LR LR
comp=Z,2µm,22.0s
PGC Sidney 63.39 48 PFAKE 07 45 10.0 +16
PGC LR LR
comp=Z,1µm,22.0s
NLWA Neilton Lookou 63.80 49 PFAKE 07 45 10.0 +13
NLWA LR LR
comp=Z,1µm,20.0s
AS31 Alice Springs 64.10 189 *eP* **P** **07 44 58.4 -0.5**
comp=Z,8.3nm,0.8s
ASAR Alice Springs 64.10 189 P **P** **07 44 58.4 -0.5**
comp=Z,15nm,0.9s,baz=0.0,slow=5.0,SNR=5.2
PALK Pallekele 64.10 257 PFAKE 07 45 10.0 +11
PALK LR LR
comp=Z,4µm,20.0s
E03A Lebam 64.43 50 PFAKE 07 45 10.0 +9.2
E03A LR LR
comp=Z,1µm,21.0s
B06A Marblemount 64.56 47 PFAKE 07 45 10.0 +8.3
B06A LR LR

comp=Z,1µm,21.0s
MBWA Marble Bar 64.74 204 *e*P **P 07 45 03.8 +0.7**
comp=Z,44nm,0.8s
MBWA LR LR
comp=Z,983nm,20.0s
D05A Enumclaw 65.00 49 PFAKE 07 45 20.0 +15
D05A LR LR
comp=Z,1µm,22.0s
LON Longmire 65.34 49 *e*P **P 07 45 07.8 +0.9**
LON pmax pmax
comp=Z,21nm,0.9s
LON Longmire 65.34 49 *e*P **P 07 45 07.8 +0.9**
comp=Z,21nm,0.9s
F04A Amboy 65.43 50 PFAKE 07 45 20.0 +13
F04A LR LR
comp=Z,700nm,22.0s
LTY Liberty 65.71 48 *e*P **P 07 45 08.7 -0.6**
comp=Z,86nm,1.6s
LTY LR LR
comp=Z,1µm,20.0s
EIDS Eidsvold 65.72 172 PFAKE 07 45 20.0 +11
EIDS LR LR
comp=Z,2µm,21.0s
DZM Mont Dzumac 65.80 156 PFAKE 07 45 20.0 +10
DZM LR LR
comp=Z,4µm,19.0s
B08A Colville Reser 65.85 46 *e*P **P 07 45 09.8 -0.4**
comp=Z,43nm,1.2s
B08A LR LR
comp=Z,1µm,21.0s
XMAS Kiritimati 65.94 109 PFAKE 07 45 20.0 +8.9
XMAS LR LR
comp=Z,10µm,20.0s
OBN Obninsk 66.18 323 *e*P **P 07 45 11.3 -0.7**
comp=Z,256nm,1.2s
OBN LR LR
comp=Z,8µm,22.0s
EDM Edmonton 66.20 40 PFAKE 07 45 20.0 +7.7
EDM LR LR
comp=Z,2µm,18.0s
MSVF Nonsavu 66.37 143 PFAKE 07 45 30.0 +16
MSVF LR LR
comp=Z,3µm,20.0s
FIA1 FINESS Array S 66.48 332 *e*P **P 07 45 13.2 -0.7**
comp=Z,217nm,0.9s
FIA0 FINESS Array S 66.48 332 *e*P **P 07 45 13.1 -0.8**
FIA0 FINESS Array S 66.48 332 *e*P **P 07 45 13.1 -0.8**
FINES FINESS Array B 66.48 332 P **P 07 45 13.1 -0.8**
comp=Z,109nm,0.8s,baz=46,slow=8.2,SNR=9.4
D08A Wollman Farm, 66.81 47 *e*P **P 07 45 15.7 -0.6**
comp=Z,21nm,0.8s
D08A LR LR
comp=Z,1µm,21.0s
HAWA Hanford 66.84 48 *e*P **P 07 45 17.1 +0.7**
comp=Z,42nm,1.2s
HAWA LR LR
comp=Z,1µm,21.0s
G06A Carlson Farm, 66.86 50 PFAKE 07 45 30.0 +13
G06A LR LR
comp=Z,1µm,22.0s
NEW Newport 67.12 46 PFAKE 07 45 30.0 +12
NEW LR LR
comp=Z,2µm,22.0s
COCO West Island 67.31 230 PFAKE 07 45 30.0 +10
COCO LR LR
comp=Z,1µm,20.0s
SUMG Summit 67.49 0 PFAKE 07 45 30.0 +9.3
SUMG LR LR
comp=Z,5µm,20.0s
E09A Wood Farm, Sta 67.56 48 PFAKE 07 45 30.0 +9.0
E09A LR LR
comp=Z,1µm,22.0s
KCPM Cahto Peak 68.19 56 PFAKE 07 45 40.0 +15
KCPM LR LR
comp=Z,1µm,20.0s
WDC Whiskeytown Da 68.34 55 PFAKE 07 45 40.0 +14
WDC LR LR
comp=Z,800nm,20.0s
WALA Waterton Lakes 68.38 44 PFAKE 07 45 40.0 +14
WALA LR LR
comp=Z,2µm,21.0s
F10A Beach Ranch, E 68.39 48 *e*P **P 07 45 27.4 +1.0**
comp=Z,21nm,0.9s
F10A LR LR
comp=Z,1µm,20.0s
AFI Afiamalu 68.42 132 PFAKE 07 45 40.0 +13
AFI LR LR
comp=Z,3µm,22.0s
HOPS Hopland Field 68.91 56 *e*P **P 07 45 30.1 +0.5**
comp=Z,160nm,1.9s
HOPS LR LR
comp=Z,2µm,22.0s
BMO Blue Mountains 69.01 49 *e*P **P 07 45 30.3 0.0**
BMO pmax pmax
comp=Z,22nm,1.0s
BMO MLR MLR
comp=Z,999nm,22.0s
BMO Blue Mountains 69.01 49 *e*P **P 07 45 30.2 0.0**
comp=Z,22nm,1.0s
BMO LR LR
comp=Z,999nm,22.0s
YBMT Yellow Bay 69.04 45 *e*P **P 07 45 30.2 -0.2**
GDXM Geysers 69.19 56 PFAKE 07 45 40.0 +8.5
GDXM LR LR
comp=Z,2µm,19.0s
SWMT Swartz Lake 69.26 45 *e*P **P 07 45 31.7 -0.2**
MCCM Marconi Confer 69.52 57 PFAKE 07 45 50.0 +17
MCCM LR LR
comp=Z,1µm,20.0s
KIV Kislovodsk 69.62 311 PFAKE 07 45 50.0 +16
KIV LR LR
comp=Z,6µm,18.0s
KBZ Khabaz 69.63 310 P **P 07 45 34.2 +0.2**
comp=Z,77nm,0.8s,baz=24,slow=4.2,SNR=9.6
WVOR Wild Horse Val 69.65 51 *e*P **P 07 45 34.0 -0.3**
WVOR pmax pmax
comp=Z,74nm,1.4s
WVOR MLR MLR
comp=Z,799nm,20.0s
WVOR Wild Horse Val 69.65 51 *e*P **P 07 45 34.0 -0.3**
comp=Z,74nm,1.4s
WVOR LR LR
comp=Z,799nm,20.0s
SLMT Seeley Lake 69.70 45 *e*P **P 07 45 34.9 +0.2**
MSO Missoula 69.71 45 PFAKE 07 45 50.0 +15
MSO LR LR
comp=Z,900nm,22.0s
CHMT Chamberlain Mo 70.03 45 *e*P **P 07 45 36.8 +0.1**
AFDM Forest Hills D 70.27 55 PFAKE 07 45 50.0 +12
AFDM LR LR
comp=Z,1µm,19.0s
FFC Flin Flon 70.46 34 PFAKE 07 45 50.0 +11
FFC LR LR
comp=Z,1µm,19.0s
GNI Garni 70.65 306 PFAKE 07 45 50.0 +9.4
GNI LR LR
comp=Z,4µm,19.0s
FCC Fort Churchill 70.68 28 PFAKE 07 45 50.0 +10
FCC LR LR
comp=Z,2µm,20.0s
ARMA Armidale 70.77 172 PFAKE 07 45 50.0 +8.9
ARMA LR LR
comp=Z,2µm,22.0s
HRY Holter Researc 70.92 45 *e*P **P 07 45 42.4 +0.4**
CMB Columbia Colle 71.18 56 PFAKE 07 46 00.0 +16
CMB LR LR
comp=Z,1µm,22.0s
EGMT Eagleton 71.19 43 *e*P **P 07 45 43.9 +0.3**
comp=Z,151nm,1.4s
EGMT LR LR
comp=Z,1µm,20.0s
NC405 NORSAR Array S 71.44 337 *e*P **P 07 45 44.4 -0.4**
HLID Hailey 71.44 48 PFAKE 07 46 00.0 +15
HLID LR LR
comp=Z,1µm,21.0s
WAKR Walker 71.50 55 PFAKE 07 46 00.0 +14
WAKR LR LR
comp=Z,1µm,20.0s
NC204 NORSAR Array S 71.59 338 *e*P **P 07 45 45.0 -0.7**
BOZ Bozeman (W) 71.73 45 PFAKE 07 46 00.0 +13
BOZ LR LR
comp=Z,1µm,20.0s
ARTV Artvin 71.73 309 PFAKE 07 46 00.0 +13
ARTV LR LR
comp=Z,2µm,18.0s
NBO02 NORSAR Array S 71.74 338 *e*P **P 07 45 46.5 -0.1**

STKA Stephens Creek 71.75 181 PFAKE 07 46 00.0 +13
STKA LR LR
comp=Z,400nm,20.0s
NBO00 NORSAR Array S 71.78 338 *e*P **P 07 45 46.9 0.0**
UOSS Minazif 71.85 288 *e*P **P 07 45 47.7 -0.2**
comp=Z,88nm,0.8s
UOSS LR LR
comp=Z,3µm,21.0s
TVH1 TV Hill, Hawth 71.95 55 PFAKE 07 46 00.0 +11
TVH1 LR LR
comp=Z,1µm,20.0s
FORT Forrest 71.96 193 PFAKE 07 46 00.0 +12
FORT LR LR
comp=Z,15µm,21.0s
PMPB Monarch Peak 72.00 58 PFAKE 07 46 00.0 +11
PMPB LR LR
comp=Z,1µm,21.0s
AKBB Malin Array Si 72.42 322 PFAKE 07 46 00.0 +9.2
AKBB LR LR
comp=Z,6µm,21.0s
KIEV Kiev 72.43 322 PFAKE 07 46 00.0 +9.2
KIEV LR LR
comp=Z,6µm,22.0s
YHB Horse Butte 72.50 46 PFAKE 07 46 00.0 +8.3
YHB LR LR
comp=Z,1µm,21.0s
SFJD Kangerlussuaq 72.61 5 PFAKE 07 46 00.0 +8.4
SFJD LR LR
comp=Z,5µm,22.0s
PAGB Antelope Grade 72.65 58 PFAKE 07 46 00.0 +7.5
PAGB LR LR
comp=Z,1µm,20.0s
YHH Holmes Hill 72.67 46 PFAKE 07 46 00.0 +7.2
YHH LR LR
comp=Z,1µm,20.0s
YMR Madison River 72.68 46 PFAKE 07 46 00.0 +7.2
YMR LR LR
comp=Z,1µm,18.0s
YNR Norris Junctio 72.81 46 PFAKE 07 46 10.0 +16
YNR LR LR
comp=Z,1µm,22.0s
BBOO Buckleboo 72.94 186 PFAKE 07 46 10.0 +16
BBOO LR LR
comp=Z,2µm,20.0s
YPP Pitchstone Pla 73.03 46 PFAKE 07 46 10.0 +15
YPP LR LR
comp=Z,1µm,19.0s
LKWY Lake 73.06 46 PFAKE 07 46 10.0 +15
LKWY LR LR
comp=Z,2µm,22.0s
H17A Grant Village 73.07 46 PFAKE 07 46 10.0 +15
H17A LR LR
comp=Z,2µm,19.0s
IMW Indian Meadow 73.19 46 PFAKE 07 46 10.0 +14
IMW LR LR
comp=Z,700nm,18.0s
KONO Kongsberg 73.25 337 *e*P **P 07 45 54.9 -0.6**
KONO pmax pmax
comp=Z,50nm,0.9s
KONO MLR MLR
comp=Z,5µm,18.0s
KONO Kongsberg 73.25 337 *e*P **P 07 45 54.9 -0.6**
comp=Z,50nm,0.9s
KONO LR LR
comp=Z,5µm,18.0s
RLMT Red Lodge 73.31 45 PFAKE 07 46 10.0 +13
RLMT LR LR
comp=Z,2µm,19.0s
MOOW Moose Ponds 73.39 46 PFAKE 07 46 10.0 +13
MOOW LR LR
comp=Z,800nm,18.0s
TPAW Teton Pass 73.45 47 PFAKE 07 46 10.0 +13
TPAW LR LR
comp=Z,1µm,22.0s
HVU Hansel Valley 73.50 49 *e*P **P 07 45 57.8 +0.2**
HVU pmax pmax
comp=Z,20nm,0.9s
HVU MLR MLR
comp=Z,900nm,21.0s
HVU Hansel Valley 73.50 49 *e*P **P 07 45 57.8 +0.2**
comp=Z,20nm,0.9s
HVU LR LR
comp=Z,900nm,21.0s
REDW Red Top Meadow 73.58 47 PFAKE 07 46 10.0 +12
REDW LR LR
comp=Z,1µm,21.0s
DGMT Dagmar 73.69 40 *e*P **P 07 45 58.1 -0.3**
comp=Z,56nm,0.8s
DGMT LR LR
comp=Z,3µm,18.0s
AHID Auburn Hatcher 73.83 47 PFAKE 07 46 10.0 +10
AHID LR LR
comp=Z,8.0nm,22.0s
ISA Isabella, Lake 73.83 57 PFAKE 07 46 10.0 +10
ISA LR LR
comp=Z,600nm,21.0s
LAO LASA Array 73.88 42 *e*P **P 07 45 59.2 -0.4**
comp=Z,70nm,1.1s
LAO LR LR
comp=Z,1µm,20.0s
BGU Big Grassy Mou 73.89 50 PFAKE 07 46 10.0 +10
BGU LR LR
comp=Z,1µm,22.0s
R11A Troy Canyon, C 73.98 53 *e*P **P 07 46 01.0 +0.5**
comp=Z,40nm,1.4s
R11A LR LR
comp=Z,900nm,20.0s
HWUT Hardware Ranch 74.31 49 *e*P **P 07 46 02.6 +0.3**
HWUT LR LR
comp=Z,901nm,19.0s
OSI Osito Audit: C 74.32 58 PFAKE 07 46 10.0 +7.6
OSI LR LR
comp=Z,900nm,19.0s
TPNV Topopah Spring 74.45 55 PFAKE 07 46 20.0 +17
TPNV LR LR
comp=Z,1µm,22.0s
DUG Dugway, Tooele 74.49 50 *e*P **P 07 46 04.0 +0.6**
DUG pmax pmax
comp=Z,36nm,1.0s
DUG MLR MLR
comp=Z,1µm,20.0s
DUG Dugway, Tooele 74.49 50 *e*P **P 07 46 04.0 +0.6**
comp=Z,36nm,1.0s
DUG LR LR
comp=Z,1µm,20.0s
BORG Borgarnes 74.61 353 *e*P **P 07 46 04.0 +0.6**
BORG pmax pmax
comp=Z,90nm,0.9s
BORG MLR MLR
comp=Z,2µm,22.0s
BORG Borgarnes 74.61 353 *e*P **P 07 46 04.0 +0.6**
comp=Z,90nm,0.9s
BORG LR LR
comp=Z,2µm,22.0s
SNCC San Nicolas Is 74.64 59 PFAKE 07 46 20.0 +16
SNCC LR LR
comp=Z,2µm,21.0s
BW06 Boulder Array 74.69 47 PFAKE 07 46 20.0 +15
BW06 LR LR
comp=Z,1µm,20.0s
MARD Mardin 74.83 306 PFAKE 07 46 20.0 +15
MARD LR LR
comp=Z,4µm,19.0s
PASC Pasadena Art C 74.94 58 PFAKE 07 46 20.0 +14
PASC LR LR
comp=Z,1µm,19.0s
MWC Mount Wilson 74.99 58 PFAKE 07 46 20.0 +14
MWC LR LR
comp=Z,1µm,19.0s
JLU Jordanelle 75.02 49 PFAKE 07 46 20.0 +13
JLU LR LR
comp=Z,800nm,20.0s
NLU North Lily Min 75.07 50 PFAKE 07 46 20.0 +13
NLU LR LR
comp=Z,1µm,21.0s
CAN Canberra 75.40 175 PFAKE 07 46 20.0 +12
CAN LR LR
comp=Z,1µm,19.0s
SHPR Sheep Range 75.41 55 PFAKE 07 46 20.0 +11
SHPR LR LR
comp=Z,1µm,21.0s
TOKA Tokat 75.49 311 PFAKE 07 46 20.0 +11
TOKA LR LR
comp=Z,3µm,18.0s
TCRU Three Creeks R 75.72 51 PFAKE 07 46 20.0 +9.4
TCRU LR LR

comp=Z,1µm,22.0s
CCUT Cedar City 75.85 53 PFAKE 07 46 20.0 +8.6
CCUT LR LR
comp=Z,1µm,20.0s
SZCU Shurtz Canyon 75.99 53 PFAKE 07 46 20.0 +7.9
SZCU LR LR
comp=Z,1µm,21.0s
TMUT Trail Mountain 76.01 50 PFAKE 07 46 20.0 +7.6
TMUT LR LR
comp=Z,700nm,20.0s
RGN Rugen 76.14 332 PFAKE 07 46 20.0 +7.6
RGN LR LR
comp=Z,7µm,19.0s
ULM Lac du Bonnet 76.26 34 PFAKE 07 46 20.0 +6.8
ULM LR LR
comp=Z,2µm,22.0s
LCMT Little Creek M 76.27 53 PFAKE 07 46 30.0 +16
LCMT LR LR
comp=Z,1µm,19.0s
MDND Maddock 76.33 38 PFAKE 07 46 30.0 +16
MDND LR LR
comp=Z,2µm,19.0s
P18A Preston Nutter 76.36 49 PFAKE 07 46 30.0 +16
P18A LR LR
comp=Z,1µm,21.0s
PFO Pinyon Flats O 76.41 58 PFAKE 07 46 30.0 +16
PFO LR LR
comp=Z,2µm,20.0s
K22A Casper 76.44 45 PFAKE 07 46 30.0 +15
K22A LR LR
comp=Z,1µm,18.0s
NWAO Narrogin (SRO) 76.53 202 P **P 07 46 15.1 +0.3**
comp=Z,13nm,0.7s,baz=239,slow=4.3,SNR=5.5
NWAO Narrogin (SRO) 76.53 202 *e*P **P 07 46 15.0 +0.3**
NWAO pmax pmax
comp=Z,60nm,1.1s
NWAO MLR MLR
comp=Z,831nm,19.0s
NWAO Narrogin (SRO) 76.53 202 *e*P **P 07 46 15.0 +0.3**
comp=Z,60nm,1.1s
NWAO LR LR
comp=Z,831nm,19.0s
SRU San Rafael Swe 76.53 50 PFAKE 07 46 30.0 +15
SRU LR LR
comp=Z,1µm,21.0s
ILGA Ilgaz 76.59 313 *e*P **P 07 46 16.9 +1.4**
comp=Z,493nm,1.7s
ILGA LR LR
comp=Z,3µm,21.0s
RWWY Rawlins 76.71 46 *e*P **P 07 46 15.6 -0.7**
comp=Z,120nm,1.4s
RSSD Black Hills 76.76 43 PFAKE 07 46 30.0 +14
RSSD LR LR
comp=Z,1µm,21.0s
OJC Ojcow 76.97 326 *e*P **P 07 46 17.3 +0.1**
OJC pmax pmax
comp=Z,192nm,1.2s
OJC Ojcow 76.97 326 *e*P **P 07 46 17.3 +0.1**
comp=Z,192nm,1.2s
W13A Hualapai Mount 77.10 55 PFAKE 07 46 30.0 +12
W13A LR LR
comp=Z,900nm,22.0s
TIRR Tirgusor 77.11 318 PFAKE 07 46 30.0 +12
TIRR LR LR
comp=Z,8µm,19.0s
O20A White River Ci 77.17 48 PFAKE 07 46 30.0 +11
O20A LR LR
comp=Z,900nm,20.0s
U15A North Rim 77.23 53 PFAKE 07 46 30.0 +11
U15A LR LR
comp=Z,1µm,21.0s
BR101 Keskin Array S 77.52 312 *e*P **P 07 46 20.3 -0.4**
BRTR Keskin Array B 77.52 312 P **P 07 46 20.3 -0.4**
comp=Z,28nm,1.0s,baz=79,slow=3.8,SNR=5.4
Y12C Blythe 77.56 56 PFAKE 07 46 30.0 +9.2
Y12C LR LR
comp=Z,1µm,20.0s
MLR Muntele Rosu 77.62 320 PFAKE 07 46 30.0 +8.9
MLR LR LR
comp=Z,3µm,20.0s
AGMN Agassiz Nation 77.72 36 PFAKE 07 46 30.0 +8.6
AGMN LR LR
comp=Z,1µm,19.0s
GLA Glamis 77.82 57 PFAKE 07 46 30.0 +7.7
GLA LR LR
comp=Z,1µm,22.0s
ANTO Ankara 77.90 312 PFAKE 07 46 30.0 +7.3
ANTO LR LR
comp=Z,3µm,18.0s
BR231 Keskin MP Arra 77.93 312 *e*P **P 07 46 22.0 -0.9**
PHWY Pilot Hill 77.94 46 PFAKE 07 46 30.0 +6.8
PHWY LR LR
comp=Z,800nm,20.0s
N23A Red Feather La 77.95 46 PFAKE 07 46 30.0 +6.8
N23A LR LR
comp=Z,1µm,19.0s
OKC Ostrava-Krasne 77.95 327⇑ *e*P **P 07 46 22.4 -0.3**
OKC AMS AMS 08 23 40.0
comp=Z,7µm,18.1s
RAO Raoul Island 78.18 146 PFAKE 07 46 40.0 +16
RAO LR LR
comp=Z,3µm,19.0s
MORC Moravsky Berou 78.25 327 *e*P **P 07 46 24.3 -0.1**
MORC pmax pmax
comp=Z,206nm,0.9s
MORC Moravsky Berou 78.25 327 *e*P **P 07 46 24.3 -0.1**
comp=Z,206nm,0.9s
DPC Dobruska-Polom 78.31 328 *e*P **P 07 46 24.5 -0.2**
DPC AMS AMS 08 23 50.0
comp=Z,6µm,17.7s
UPC Upice 78.31 329⇑ AMS AMS 08 24 10.0
comp=Z,6µm,17.1s
KRLC Kraliky 78.33 328⇑ *e*P **P 07 46 25.1 +0.2**
WUAZ Wupatki 78.39 53 PFAKE 07 46 40.0 +14
WUAZ LR LR
comp=Z,799nm,20.0s
SMCO Snowmass 78.54 48 PFAKE 07 46 40.0 +13
SMCO LR LR
comp=Z,999nm,20.0s
PSZ Piszkesteto 78.66 325 PFAKE 07 46 40.0 +13
PSZ LR LR
comp=Z,4µm,20.0s
113A Mohawk Valley, 78.68 57 PFAKE 07 46 40.0 +13
113A LR LR
comp=Z,900nm,20.0s
CLL Collm 78.84 331 *e*P **P 07 46 27.3 -0.3**
CLL pmax pmax
comp=Z,52nm,0.8s
CLL MLR MLR
comp=Z,4µm,21.0s
CLL Collm 78.84 331 *i* P **P 07 46 26.1 -1.5**
comp=Z,78nm,1.0s
CLL *e*pP **PcP 07 46 38.0 +1.7**
CLL *e*(PP) 07 49 32.0
CLL *e*(PPP) 07 51 26.0
CLL Lmax 08 26 00.0
CLL Collm 78.84 331 *e*P **P 07 46 27.3 -0.3**
comp=Z,52nm,0.8s
CLL LR LR
comp=Z,4µm,21.0s
PVCC Panska Ves 78.86 329⇑ *e*P **P 07 46 27.9 +0.2**
PVCC AMS AMS 08 24 30.0
comp=Z,8µm,16.9s
ISCO Idaho Springs 78.88 47 PFAKE 07 46 40.0 +12
ISCO LR LR
comp=Z,2µm,22.0s
MVCO Mesa Verde 78.99 50 PFAKE 07 46 40.0 +11
MVCO LR LR
comp=Z,901nm,18.0s
GOPC GO Pecny, Ondr 79.26 329 *e*P **P 07 46 30.1 +0.1**
GOPC *e*pP **PcP 07 46 41.9 +3.7**
GOPC AMS AMS 08 24 30.0
comp=Z,6µm,16.6s
PRA Prague 79.28 329⇑ *e*P **P 07 46 29.4 -0.6**
PRA AMS AMS 08 24 40.0
comp=Z,7µm,16.3s
PRU Pruhonice 79.30 329⇑ *e*P **P 07 46 30.1 0.0**
PRU *e*pP **PcP 07 46 42.2 +3.9**
PRU AMS AMS 08 24 40.0
comp=Z,6µm,16.6s
TREC Trest 79.47 328⇑ *e*P **P 07 46 31.2 +0.1**
TREC AMS AMS 08 24 50.0
comp=Z,6µm,16.4s
S22A 4UR Ranch, Cre 79.60 49 PFAKE 07 46 40.0 +7.6
S22A LR LR
comp=Z,1µm,21.0s

W18A **Petrified Fore** **79.65 53** PFAKE 07 46 40.0 +7.4
W18A LR LR
comp=Z,1µm,22.0s
Q24A **Divide** **79.72 47** PFAKE 07 46 40.0 +7.0
Q24A LR LR
comp=Z,1µm,20.0s
BOLV **Bolvadin** **79.73 312** *eP* **P** **07 46 32.5 -0.4**
comp=Z,122nm,0.8s
BOLV LR LR
comp=Z,3µm,19.0s
EYMN **Ely** **79.89 34** PFAKE 07 46 40.0 +6.6
EYMN LR LR
comp=Z,2µm,22.0s
X18A **Snowflake** **79.91 53** PFAKE 07 46 50.0 +16
X18A LR LR
comp=Z,900nm,22.0s
NKC **Novy Kostel** **79.92 330**⇑ *eP* **P** **07 46 33.2 -0.3**
OGNE **Ogallala** **80.04 44** PFAKE 07 46 50.0 +16
OGNE LR LR
comp=Z,2µm,21.0s
OUZ **Omahuta** **80.28 155** PFAKE 07 46 50.0 +15
OUZ LR LR
comp=Z,4µm,20.0s
SDCO **Great Sand Dun** **80.36 48** PFAKE 07 46 50.0 +14
SDCO LR LR
comp=Z,1µm,21.0s
KHC **Kasperske Hory** **80.36 329**⇑ *eP* **P** **07 46 35.8 -0.2**
KHC *epP* **PcP** **07 46 48.2 +5.1**
KHC AMS AMS 08 25 20.0
comp=Z,7µm,16.7s
KHC **Kasperske Hory** **80.36 329** *eP* **P** **07 46 35.8 -0.2**
KHC pmax pmax
comp=Z,26nm,1.0s
KHC MLR MLR
comp=Z,3µm,18.0s
KHC **Kasperske Hory** **80.36 329** *eP* **P** **07 46 35.8 -0.2**
comp=Z,26nm,1.0s
KHC LR LR
comp=Z,3µm,18.0s
ESK **Eskdalemuir** **80.49 341** *eP* **P** **07 46 36.2 -0.3**
ESK pmax pmax
comp=Z,42nm,0.9s
ESK MLR MLR
comp=Z,3µm,18.0s
ESK **Eskdalemuir** **80.49 341** *eP* **P** **07 46 36.2 -0.3**
comp=Z,42nm,0.9s
ESK LR LR
comp=Z,3µm,18.0s
WTSB **Winterswijk** **80.51 334** *eX* **P** **07 46 35.6 -1.0**
comp=Z,111nm,1.1s
GEC2 **GERESS Array S** **80.54 329** *eP* **P** **07 46 36.5 -0.5**
GEC2 pmax pmax
comp=Z,23nm,0.8s
GEC2 MLR MLR
comp=Z,5µm,18.0s
GEC2 **GERESS Array S** **80.54 329** *eP* **P** **07 46 36.5 -0.5**
comp=Z,23nm,0.8s
GEC2 LR LR
comp=Z,5µm,18.0s
GERES **GERESS Array B** **80.54 329** P **P** **07 46 36.4 -0.6**
comp=Z,111nm,0.7s,baz=34,slow=4.8,SNR=7.4
GEA0 **GERESS Array S** **80.55 329** *eP* **P** **07 46 36.2 -0.9**
ISP **Isparta** **80.60 312** PFAKE 07 46 50.0 +12
ISP LR LR
comp=Z,3µm,20.0s
ECSD **EROS Data Cent** **80.77 39** *eP* **P** **07 46 39.3 +1.1**
comp=Z,30nm,0.9s
ECSD LR LR
comp=Z,2µm,22.0s
GRFO **Grafenberg** **80.82 331** *eP* **P** **07 46 39.4 +1.0**
GRFO pmax pmax
comp=Z,147nm,1.1s
GRFO MLR MLR
comp=Z,4µm,18.0s
GRFO **Grafenberg** **80.82 331** *eP* **P** **07 46 39.4 +1.0**
comp=Z,147nm,1.1s
GRFO LR LR
comp=Z,4µm,18.0s
TUC **Tucson** **80.88 55** PFAKE 07 46 50.0 +11
TUC LR LR
comp=Z,1µm,20.0s
CSS **Mathiatis** **80.92 308** PFAKE 07 46 50.0 +11
CSS LR LR
comp=Z,600nm,21.0s
VTS **Vitosha** **81.09 319** *eP* **P** **07 46 40.3 +0.2**
VTS pmax pmax
comp=Z,49nm,0.8s
VTS MLR MLR
comp=Z,4µm,22.0s
VTS **Vitosha** **81.09 319** *eP* **P** **07 46 40.3 +0.2**
comp=Z,48nm,0.8s
VTS LR LR
comp=Z,4µm,22.0s
KSCO **Kaye Shedlock'** **81.09 46** PFAKE 07 46 50.0 +10
KSCO LR LR
comp=Z,1µm,19.0s
RAR **Rarotonga** **81.21 127** PFAKE 07 46 50.0 +9.3
RAR LR LR
comp=Z,3µm,22.0s
T25A **Trinidad** **81.41 48** PFAKE 07 46 50.0 +8.0
T25A LR LR
comp=Z,1µm,18.0s
SPMN **Marine on St.** **81.42 36** PFAKE 07 46 50.0 +8.4
SPMN LR LR
comp=Z,2µm,21.0s
GADA **Gvkgeada** **81.46 316** P **P** **07 46 40.9 -1.0**
GADA **Gvkgeada** **81.46 316** P **P** **07 46 40.9 -1.0**
LAZ **Ladron** **81.70 52** *eP* **P** **07 46 45.8 +2.2**
BGNE **Belgrade** **81.72 42** PFAKE 07 46 50.0 +6.6
BGNE LR LR
comp=Z,2µm,20.0s
ANMO **Albuquerque** **81.74 51** PFAKE 07 47 00.0 +16
ANMO LR LR
comp=Z,700nm,21.0s
HGN **Heimansgroeve** **81.82 334** *eX* **P** **07 46 42.3 -1.3**
comp=Z,202nm,1.7s
HGN *ePP* **PP** **07 49 53.1 +3.2**
SCHQ **Schefferville** **81.98 17** P **P** **07 46 43.1 -1.3**
comp=Z,14nm,0.7s,baz=23,slow=5.4,SNR=4.6
SCHQ **Schefferville** **81.98 17** *eP* **P** **07 46 43.1 -1.3**
comp=Z,54nm,1.1s
Y22D **IRIS PASSCAL I** **82.06 52** PFAKE 07 47 00.0 +15
Y22D LR LR
comp=Z,1µm,19.0s
AKAS **Kas** **82.23 311** PFAKE 07 47 00.0 +14
AKAS LR LR
comp=Z,2µm,19.0s
CWF **Charnwood Fore** **82.31 339** *eP* **P** **07 46 45.8 -0.4**
comp=Z,77nm,0.9s
CWF LR LR
comp=Z,2µm,20.0s
STU **Stuttgart** **82.34 331** *eP* **P** **07 46 46.0 -0.4**
STU pmax pmax
comp=Z,100nm,0.8s
STU MLR MLR
comp=Z,3µm,22.0s
STU **Stuttgart** **82.34 331** *eP* **P** **07 46 46.0 -0.4**
comp=Z,100nm,0.8s
STU LR LR
comp=Z,3µm,22.0s
319A **Douglas** **82.45 55** PFAKE 07 47 00.0 +13
319A LR LR
comp=Z,900nm,20.0s
WLF **Walferdange** **82.67 333** PFAKE 07 47 00.0 +12
WLF LR LR
comp=Z,7µm,22.0s
CBKS **Cedar Bluff** **82.80 44** PFAKE 07 47 00.0 +11
CBKS LR LR
comp=Z,1µm,21.0s
TAU **Tasmania Unive** **82.86 177** PFAKE 07 47 00.0 +11
TAU LR LR
comp=Z,2µm,19.0s
HSIG **82.97 58** PFAKE 07 47 00.0 +10
HSIG LR LR
comp=Z,900nm,21.0s
BFO **Black Forest** **83.02 331** *eP* **P** **07 46 50.1 +0.1**
BFO pmax pmax
comp=Z,81nm,1.1s
BFO MLR MLR
comp=Z,3µm,19.0s
BFO **Black Forest** **83.02 331** *eP* **P** **07 46 50.1 +0.1**
comp=Z,81nm,1.1s
BFO LR LR
comp=Z,3µm,19.0s
TRI **Trieste** **83.03 327** PFAKE 07 47 00.0 +10
TRI LR LR
comp=Z,7µm,19.0s
DSB **Dublin** **83.15 342** *eP* **P** **07 46 50.8 +0.3**
comp=Z,66nm,1.1s
DSB LR LR
comp=Z,2µm,18.0s
SRIG **Santa Rosalia** **83.26 60** PFAKE 07 47 00.0 +8.5
SRIG LR LR
comp=Z,1µm,20.0s
TIR **Tirane** **83.67 321** PFAKE 07 47 00.0 +6.6
TIR LR LR
comp=Z,6µm,19.0s
FUORN **Ofenpass-Fuorn** **83.71 329** PFAKE 07 47 00.0 +6.1
FUORN LR LR
comp=Z,4µm,20.0s
SCIA **State Center** **83.78 38** PFAKE 07 47 10.0 +16
SCIA LR LR
comp=Z,2µm,21.0s
MXZ **Matakaoa Point** **84.00 152** PFAKE 07 47 10.0 +15
MXZ LR LR
comp=Z,3µm,21.0s
KARP **Karpathos** **84.11 312** PFAKE 07 47 10.0 +14
KARP LR LR
comp=Z,1µm,18.0s
AGG **Agios Georgios** **84.18 318** PFAKE 07 47 10.0 +14
AGG LR LR
comp=Z,18µm,18.0s
TUE **Stuetta** **84.19 330** PFAKE 07 47 10.0 +14
TUE LR LR
comp=Z,5µm,18.0s
URZ **Urewera** **84.21 153** PFAKE 07 47 10.0 +14
URZ LR LR
comp=Z,2µm,20.0s
KSU1 **Kansas State U** **84.23 42** PFAKE 07 47 10.0 +14
KSU1 LR LR
comp=Z,2µm,18.0s
JFWS **Jewell Farm** **84.37 36** PFAKE 07 47 10.0 +13
JFWS LR LR
comp=Z,2µm,21.0s
SANT **Santorini** **84.47 314** *eP* **P** **07 46 56.7 -0.9**
comp=Z,131nm,1.2s
SANT LR LR
comp=Z,3µm,18.0s
AMTX **Amarillo** **84.56 48** PFAKE 07 47 10.0 +12
AMTX LR LR
comp=Z,1µm,21.0s
MSTX **Muleshoe** **84.59 49** *eP* **P** **07 46 56.7 -1.7**
comp=Z,21nm,0.9s
MSTX LR LR
comp=Z,1µm,19.0s
MNTX **Cornudas Mount** **84.64 53** PFAKE 07 47 10.0 +11
MNTX LR LR
comp=Z,902nm,22.0s
BKZ **Black Stump Fm** **84.82 154** PFAKE 07 47 10.0 +11
BKZ LR LR
comp=Z,2µm,20.0s
SENIN **Lac Senin/Sane** **85.06 331** *eP* **P** **07 47 00.2 -0.4**
comp=Z,204nm,1.8s
SENIN LR LR
comp=Z,3µm,19.0s
VLDQ **Val d'Or** **85.08 26** PFAKE 07 47 10.0 +10
VLDQ LR LR
comp=Z,2µm,20.0s
DYA **Yadsworthy** **85.10 339** *eP* **P** **07 47 00.1 -0.4**
comp=Z,275nm,1.4s
DYA LR LR
comp=Z,3µm,18.0s
GLMI **Grayling** **85.24 32** *epP* pP 07 47 12.3 +7.0
IDI **Anoyia** **85.57 314** PFAKE 07 47 10.0 +6.8
IDI LR LR
comp=Z,200nm,19.0s
VLC **Villacollemand** **85.68 328** *eP* **P** **07 47 03.7 +0.1**
comp=Z,68nm,1.1s
VLC LR LR
comp=Z,6µm,20.0s
AQU **L'Aquila** **85.88 325** PFAKE 07 47 20.0 +15
AQU LR LR
comp=Z,9µm,18.0s
BFZ **Birch Farm** **86.11 155** PFAKE 07 47 20.0 +15
BFZ LR LR
comp=Z,2µm,20.0s
SNZO **South Karori** **86.20 156** PFAKE 07 47 20.0 +14
SNZO LR LR
comp=Z,3µm,21.0s
WMOK **Wichita Mounta** **86.30 47** P **P** **07 47 05.2 -1.6**
WMOK pmax pmax
comp=Z,24nm,1.1s
WMOK MLR MLR
comp=Z,1µm,18.0s
WMOK **Wichita Mounta** **86.30 47** P **P** **07 47 05.2 -1.6**
comp=Z,24nm,1.1s
WMOK LR LR
comp=Z,1µm,18.0s
BNI **Bardonecchia** **86.39 330** PFAKE 07 47 20.0 +13
BNI LR LR
comp=Z,5µm,22.0s
CUC **Castrocucco** **86.66 322** PFAKE 07 47 20.0 +12
CUC LR LR
comp=Z,4µm,20.0s
HDIL **Hopedale** **86.68 37** *eP* **P** **07 47 08.1 -0.4**
comp=Z,192nm,1.7s
HDIL LR LR
comp=Z,2µm,20.0s
LTZ **Lake Taylor** **86.84 159** PFAKE 07 47 20.0 +11
LTZ LR LR
comp=Z,3µm,20.0s
SSB **Saint Sauveur** **86.99 332** PFAKE 07 47 20.0 +10
SSB LR LR
comp=Z,3µm,20.0s
TUL1 **Leonard** **87.05 44** PFAKE 07 47 20.0 +10
TUL1 LR LR
comp=Z,1µm,18.0s
OXZ **Oxford** **87.28 159** PFAKE 07 47 20.0 +9.0
OXZ LR LR
comp=Z,2µm,21.0s
ABTX **Abilene, Hawle** **87.37 48** PFAKE 07 47 20.0 +7.9
ABTX LR LR
comp=Z,1µm,21.0s
SADO **Sadowa** **87.38 28** PFAKE 07 47 20.0 +8.1
SADO LR LR
comp=Z,2µm,18.0s
AAM **Ann Arbor** **87.72 33** PFAKE 07 47 20.0 +6.5
AAM LR LR
comp=Z,2µm,20.0s
HHAR **Hobbs** **87.74 43** PFAKE 07 47 30.0 +16
HHAR LR LR
comp=Z,1µm,21.0s
SLM **Saint Louis** **87.75 39** PFAKE 07 47 30.0 +16
SLM LR LR
comp=Z,2µm,21.0s
LMQ **La Malbaie** **87.78 22** PFAKE 07 47 20.0 +6.3
LMQ LR LR
comp=Z,3µm,19.0s
HPIG **87.79 56** PFAKE 07 47 30.0 +16
HPIG LR LR
comp=Z,1µm,20.0s
SFIN **Lafayette** **87.82 36** PFAKE 07 47 30.0 +16
SFIN LR LR
comp=Z,2µm,18.0s
WKZ **Wanaka** **87.90 162** PFAKE 07 47 30.0 +16
WKZ LR LR
comp=Z,5µm,22.0s
CEL **Celeste** **87.99 321** PFAKE 07 47 30.0 +15
CEL LR LR
comp=Z,4µm,19.0s
WHZ **Wether Hill Ro** **88.66 163** *eP* **P** **07 47 18.9 +1.4**
comp=Z,158nm,2.0s
OLIL **Olney** **88.69 37** PFAKE 07 47 30.0 +12
OLIL LR LR
comp=Z,2µm,20.0s
JCT **Junction City** **88.84 50** PFAKE 07 47 30.0 +11
JCT LR LR
comp=Z,1µm,22.0s
WHTX **Lake Whitney,** **89.08 48** PFAKE 07 47 30.0 +10
WHTX LR LR
comp=Z,1µm,22.0s
LONY **Lake Ozonia** **89.10 26** PFAKE 07 47 30.0 +10
LONY LR LR
comp=Z,2µm,19.0s
MIAR **Mount Ida** **89.26 43** PFAKE 07 47 30.0 +9.0
MIAR LR LR
comp=Z,1µm,18.0s
ERPA **Erie** **89.34 30** *eP* **P** **07 47 21.1 0.0**
comp=Z,58nm,1.1s
ERPA LR LR
comp=Z,2µm,19.0s
X301 **Greenbrier Sit** **89.34 42** PFAKE 07 47 30.0 +8.7
X301 LR LR
comp=Z,1µm,19.0s
WHAR **Wooly Hollow** **89.36 42** PFAKE 07 47 30.0 +8.6
WHAR LR LR
comp=Z,1µm,20.0s
ACSO **Alum Creek Sta** **89.72 33** PFAKE 07 47 30.0 +7.0
ACSO LR LR
comp=Z,1µm,21.0s
UALR **University of** **89.73 42** PFAKE 07 47 30.0 +6.9
UALR LR LR
comp=Z,2µm,20.0s
PVMO **Portageville** **89.77 40** PFAKE 07 47 30.0 +6.7
PVMO LR LR
comp=Z,2µm,22.0s
CLTB **Caltabellotta** **89.81 322** PFAKE 07 47 30.0 +6.4
CLTB LR LR
comp=Z,6µm,18.0s
WCI **Wyandotte Cave** **89.92 37** *eP* P 07 47 35.1 +11
WCI MLR MLR
comp=Z,2µm,20.0s
WCI **Wyandotte Cave** **89.92 37** *epP* **pP** **07 47 35.1 +7.1**
WCI LR LR
comp=Z,2µm,20.0s
VSL **Villasalto** **89.96 326** PFAKE 07 47 40.0 +16
VSL LR LR
comp=Z,5µm,18.0s
PKME **Peaks-Kenny Pk** **90.16 22** PFAKE 07 47 40.0 +15
PKME LR LR
comp=Z,3µm,19.0s
WLAR **White Oak Lake** **90.17 44** PFAKE 07 47 40.0 +15
WLAR LR LR
comp=Z,1µm,19.0s
LBNH **Lisbon** **90.30 24** PFAKE 07 47 40.0 +14
LBNH LR LR
comp=Z,2µm,18.0s
HALT **Halls** **90.35 40** PFAKE 07 47 40.0 +14
HALT LR LR
comp=Z,1580µm,18.0s
ACCN **Adirondack Com** **90.50 26** PFAKE 07 47 40.0 +13
ACCN LR LR
comp=Z,2µm,20.0s
WDD **Wied Dalam** **90.57 320** PFAKE 07 47 40.0 +13
WDD LR LR
comp=Z,3µm,19.0s
HNH **Hanover** **90.67 25** PFAKE 07 47 40.0 +13
HNH LR LR
comp=Z,4µm,18.0s
MET **Memphis--Engin** **90.68 41** PFAKE 07 47 40.0 +12
MET LR LR
comp=Z,1µm,21.0s
WVL **Waterville** **90.69 23** PFAKE 07 47 40.0 +13
WVL LR LR
comp=Z,4µm,20.0s
BINY **Binghamton** **90.75 28** PFAKE 07 47 40.0 +12
BINY LR LR
comp=Z,3µm,19.0s
NATX **Nacogdoches** **90.81 46** PFAKE 07 47 40.0 +12
NATX LR LR
comp=Z,2µm,18.0s
WVT **Waverly** **90.91 39** PFAKE 07 47 40.0 +11
WVT LR LR
comp=Z,1µm,20.0s
MSEY **Mahe Island** **90.91 265** PFAKE 07 47 40.0 +11
MSEY LR LR
comp=Z,2µm,21.0s
FFD **Franklin Falls** **91.08 24** PFAKE 07 47 40.0 +11
FFD LR LR
comp=Z,3µm,20.0s
TRY **Troy** **91.08 26** PFAKE 07 47 40.0 +11
TRY LR LR
comp=Z,3µm,19.0s
SSPA **Standing Stone** **91.42 30** PFAKE 07 47 40.0 +9.1
SSPA LR LR
comp=Z,2µm,18.0s
OXF **Oxford** **91.43 41** PFAKE 07 47 40.0 +9.0
OXF LR LR
comp=Z,1µm,20.0s
QUA2 **Belchertown** **91.92 25** PFAKE 07 47 40.0 +6.8
QUA2 LR LR
comp=Z,2µm,19.0s
HRV **Adam Dziewonsk** **91.97 25** PFAKE 07 47 40.0 +6.6
HRV LR LR
comp=Z,2µm,22.0s
KVTX **Kingsville** **92.13 51** PFAKE 07 47 50.0 +16
KVTX LR LR
comp=Z,911nm,20.0s
ODNJ **Ogdensburg** **92.22 27** PFAKE 07 47 50.0 +15
ODNJ LR LR
comp=Z,2µm,19.0s
BCX **Boston College** **92.25 24** PFAKE 07 47 50.0 +15
BCX LR LR
comp=Z,7µm,18.0s
LUPA **Lehigh Univers** **92.38 28** PFAKE 07 47 50.0 +15
LUPA LR LR
comp=Z,3µm,18.0s
BRYW **Bryant College** **92.51 25** PFAKE 07 47 50.0 +14
BRYW LR LR
comp=Z,3µm,18.0s
PAL **Palisades** **92.54 27** PFAKE 07 47 50.0 +14
PAL LR LR
comp=Z,3µm,19.0s
SWET **Sewanee** **92.55 38** PFAKE 07 47 50.0 +14
SWET LR LR
comp=Z,600nm,18.0s
TZTN **Tazewell** **92.55 36** PFAKE 07 47 50.0 +14
TZTN LR LR
comp=Z,2µm,20.0s
BRNJ **Basking Ridge** **92.59 27** PFAKE 07 47 50.0 +14
BRNJ LR LR
comp=Z,3µm,20.0s
YLE **Yale** **92.59 26** PFAKE 07 47 50.0 +14
YLE LR LR
comp=Z,2µm,19.0s
ZAIG **Zacatecas** **92.72 57** PFAKE 07 47 50.0 +12
ZAIG LR LR
comp=Z,2µm,20.0s
SDMD **Soldier's Deli** **92.88 30** PFAKE 07 47 50.0 +12
SDMD LR LR
comp=Z,1µm,20.0s
PSUB **Penn St. - Bra** **92.94 28** PFAKE 07 47 50.0 +12
PSUB LR LR
comp=Z,3µm,19.0s
KEST **Kesra** **93.10 324** PFAKE 07 47 50.0 +11
KEST LR LR
comp=Z,5µm,18.0s
LNIG **Linares** **93.13 54** PFAKE 07 47 50.0 +11
LNIG LR LR
comp=Z,1µm,21.0s
BLA **Blacksburg** **93.34 33** PFAKE 07 47 50.0 +10
BLA LR LR
comp=Z,2µm,21.0s
CBN **Corbin Frederi** **93.72 31** PFAKE 07 47 50.0 +8.5
CBN LR LR
comp=Z,2µm,18.0s
LRAL **Lakeview Retre** **93.81 40** PFAKE 07 47 50.0 +8.0
LRAL LR LR
comp=Z,1µm,20.0s
KMSC **Kings Mountain** **94.70 35** PFAKE 07 48 00.0 +14
KMSC LR LR
comp=Z,2µm,19.0s
ESDC **Sonseca Array** **94.87 335** P **P** **07 47 45.5 -1.4**
comp=Z,1.9nm,0.6s,baz=19,slow=4.3,SNR=4.5
ESLA **Sonseca Array** **94.87 335** PFAKE 07 48 00.0 +13
ESLA LR LR
comp=Z,3µm,19.0s
FURI **Furi** **94.89 286** PFAKE 07 48 00.0 +12
FURI LR LR
comp=Z,2µm,20.0s
PAB **San Pablo** **95.11 335** PFAKE 07 48 00.0 +12
PAB LR LR
comp=Z,3µm,18.0s
GOGA **Godfrey** **95.19 37** PFAKE 07 48 00.0 +12
GOGA LR LR
comp=Z,2µm,18.0s
BRAL **Brewton** **95.29 41** PFAKE 07 48 00.0 +11
BRAL LR LR
comp=Z,2µm,21.0s
MTE **Manteigas** **95.31 338** *eP* **P** **07 47 48.5 -0.4**
comp=Z,23nm,1.1s
MTE LR LR
comp=Z,2µm,19.0s
JSC **Jenkinsville** **95.46 35** PFAKE 07 48 00.0 +10
JSC LR LR
comp=Z,2µm,19.0s
JRQG **Juriquilla Cam** **95.56 57** PFAKE 07 48 00.0 +9.4

JRQG					LR	LR			
	comp=Z,2µm,22.0s								
CNNC	**Cliffs of the**	**96.08**	**32**	PFAKE			07 48 00.0	+7.6	
CNNC				LR	LR				
	comp=Z,2µm,18.0s								
TIGA	**Tifton**	**96.76**	**39**	PFAKE			07 48 10.0	+14	
TIGA				LR	LR				
	comp=Z,2µm,22.0s								
NHSC	**New Hope**	**96.93**	**35**	PFAKE			07 48 10.0	+14	
NHSC				LR	LR				
	comp=Z,2µm,21.0s								
UNM	**Universidad Na**	**97.38**	**57**	PFAKE			07 48 10.0	+11	
UNM				LR	LR				
	comp=Z,1µm,19.0s								
PFVI	**Vila Bisbo**	**98.71**	**337**	PFAKE			07 48 20.0	+16	
PFVI				LR	LR				
	comp=Z,2µm,20.0s								
LVIG	**Laguna Verde**	**98.84**	**55**	PFAKE			07 48 20.0	+15	
LVIG				LR	LR				
	comp=Z,600nm,21.0s								
TLIG	**Tlapa**	**99.06**	**58**	PFAKE			07 48 20.0	+14	
TLIG				LR	LR				
	comp=Z,800nm,20.0s								
DWPF	**Disney Wildern**	**100.56**	**39**	PFAKE			07 48 20.0	+7.4	
DWPF				LR	LR				
	comp=Z,2µm,20.0s								
TUIG	**Tuzandepetl**	**101.35**	**55**	PFAKE			07 48 30.0	+14	
TUIG				LR	LR				
	comp=Z,900nm,19.0s								
KMBO	**Kilima Mbogo**	**102.55**	**279**	PFAKE			07 48 30.0	+8.0	
KMBO				LR	LR				
	comp=Z,1µm,21.0s								
SCIG	**Sabancuy**	**102.62**	**52**	PFAKE			07 48 30.0	+8.1	
SCIG				LR	LR				
	comp=Z,900nm,22.0s								
TEIG	**Tepich**	**103.36**	**49**	PFAKE			07 48 40.0	+15	
TEIG				LR	LR				
	comp=Z,600nm,20.0s								
BBSR	**BB Station**	**103.42**	**24**	PFAKE			07 48 40.0	+15	
BBSR				LR	LR				
	comp=Z,2µm,22.0s								
PTCN	**Pitcairn Islan**	**103.68**	**111**	PFAKE			07 48 40.0	+14	
PTCN				LR	LR				
	comp=Z,3µm,19.0s								
TAM	**Tamanrasset**	**105.72**	**319**	PFAKE			07 53 00.0		
TAM				LR	LR				
	comp=Z,2µm,20.0s								
ABPO	**Ambohimpanom**	**106.15**	**259**	PFAKE			07 53 00.0		
ABPO				LR	LR				
	comp=Z,592nm,22.0s								
TGUH	**Tegucigalpa,Un**	**108.78**	**52**	PFAKE			07 53 10.0		
TGUH				LR	LR				
	comp=Z,600nm,21.0s								
GTBY	**Guantanamo Bay**	**110.53**	**38**	PFAKE			07 53 10.0		
GTBY				LR	LR				
	comp=Z,900nm,19.0s								
MTDJ	**Mount Denham**	**110.79**	**41**	PFAKE			07 53 10.0		
MTDJ				LR	LR				
	comp=Z,900nm,18.0s								
GRTK	**Grand Turk**	**110.93**	**34**	PFAKE			07 53 10.0		
GRTK				LR	LR				
	comp=Z,1µm,20.0s								
LGNH	**LØogne**	**112.92**	**37**	PFAKE			07 53 10.0		
LGNH				LR	LR				
	comp=Z,2µm,19.0s								
SDDR	**Presa de Saban**	**113.09**	**35**	PFAKE			07 53 10.0		
SDDR				LR	LR				
	comp=Z,2µm,21.0s								
JTS	**JuntasAbangare**	**113.13**	**52**	PFAKE			07 53 10.0		
JTS				LR	LR				
	comp=Z,45nm,20.0s								
HDC	**Heredia**	**113.86**	**52**	PFAKE			07 53 20.0		
HDC				LR	LR				
	comp=Z,900nm,22.0s								
MPR	**Mayaguez**	**115.53**	**32**	PFAKE			07 53 20.0	+13	
MPR				LR	LR				
	comp=Z,700nm,22.0s								
TOC1	**Torodi Ar. Sit**	**115.74**	**317**	PFAKE			07 53 20.0	+12	
TOC1				LR	LR				
	comp=Z,2µm,21.0s								
TOC2	**Torodi Ar. Sit**	**115.75**	**317**	PFAKE			07 53 20.0	+12	
TOC2				LR	LR				
	comp=Z,1µm,20.0s								
TOB2	**Torodi Ar. Sit**	**115.76**	**317**	PFAKE			07 53 20.0	+12	
TOB2				LR	LR				
	comp=Z,1µm,21.0s								
TOC7	**Torodi Ar. Sit**	**115.76**	**317**	PFAKE			07 53 20.0	+12	
TOC7				LR	LR				
	comp=Z,1µm,21.0s								
TOC3	**Torodi Ar. Sit**	**115.76**	**317**	PFAKE			07 53 20.0	+12	
TOC3				LR	LR				
	comp=Z,2µm,21.0s								
TOA1	**Torodi Ar. Sit**	**115.77**	**317**	*e*PKPdf		**PKPdf**	**07 53 05.5**	**-2.2**	
TOA1				*e*SP		SP	08 03 46.0	-3.8	
TOA1				LR	LR				
	comp=Z,1µm,20.0s								
TOA0	**Torodi Ar. Sit**	**115.77**	**317**	*e*PKPdf		**PKPdf**	**07 53 06.1**	**-1.7**	
TOA0				*e*PKPdf		**PKiKP**	**07 53 06.3**	**-1.5**	
TOA0				LR	LR				
	comp=Z,1µm,20.0s								
TORD	**Torodi Ar. Bea**	**115.77**	**317**	PKP		**PKPdf**	**07 53 05.5**	**-2.2**	
	comp=Z,2.3nm,0.7s,baz=21,slow=1.3,SNR=6.0								
TORD				PKKPab		**PKKPab**	**08 03 46.0**	**-0.6**	
	comp=Z,0.9nm,0.9s,baz=221,slow=3.5,SNR=3.4								
TORD	**Torodi Ar. Bea**	**115.77**	**317**	PKP		**PKPdf**	**07 53 05.5**	**-2.2**	
TORD				PKKPab		**PKKPab**	**08 03 46.0**	**-0.6**	
TOB5	**Torodi Ar. Sit**	**115.77**	**317**	PFAKE			07 53 20.0	+12	
TOB5				LR	LR				
	comp=Z,1µm,20.0s								
TOB3	**Torodi Ar. Sit**	**115.77**	**317**	PFAKE			07 53 20.0	+12	
TOB3				LR	LR				
	comp=Z,1µm,21.0s								
TOB4	**Torodi Ar. Sit**	**115.78**	**317**	PFAKE			07 53 20.0	+12	
TOB4				LR	LR				
	comp=Z,1µm,20.0s								
TOC4	**Torodi Ar. Sit**	**115.79**	**317**	PFAKE			07 53 20.0	+12	
TOC4				LR	LR				
	comp=Z,2µm,21.0s								
TOC5	**Torodi Ar. Sit**	**115.79**	**317**	PFAKE			07 53 20.0	+12	
TOC5				LR	LR				
	comp=Z,2µm,21.0s								
CBYP	**Canovanas**	**115.98**	**30**	PFAKE			07 53 20.0	+12	
CBYP				LR	LR				
	comp=Z,1µm,20.0s								
SJG	**San Juan**	**116.01**	**31**	*e*PKIKP		**PKPdf**	**07 53 08.0**	**-0.2**	
SJG				MLR	MLR				
	comp=Z,1µm,21.0s								
SJG	**San Juan**	**116.01**	**31**	*e*PKPdf		**PKPdf**	**07 53 08.0**	**-0.2**	
SJG				LR	LR				
	comp=Z,1µm,21.0s								
HUMP	**Col San Antoni**	**116.10**	**30**	PFAKE			07 53 20.0	+12	
HUMP				LR	LR				
	comp=Z,1µm,22.0s								
BCIP	**Isla Barro Col**	**117.04**	**49**	PFAKE			07 53 20.0	+10	
BCIP				LR	LR				
	comp=Z,800nm,22.0s								
SMRT	**St. Maarten**	**117.22**	**28**	PFAKE			07 53 20.0	+9.5	
SMRT				LR	LR				
	comp=Z,2µm,21.0s								
SABA	**Saba**	**117.56**	**28**	PFAKE			07 53 20.0	+8.8	
SABA				LR	LR				
	comp=Z,2µm,20.0s								
SEUS	**St. Eustatius**	**117.77**	**28**	PFAKE			07 53 20.0	+8.5	
SEUS				LR	LR				
	comp=Z,2µm,21.0s								
PAYG	**Puerto Ayora**	**117.89**	**65**	PFAKE			07 53 20.0	+8.1	
PAYG				LR	LR				
	comp=Z,2µm,20.0s								
ANWB	**Willy Bob**	**118.03**	**27**	PFAKE			07 53 20.0	+8.0	
ANWB				LR	LR				
	comp=Z,1µm,22.0s								
VNDA	**Vanda**	**118.07**	**175**	PKP		**PKPdf**	**07 53 08.5**	**-1.7**	
	comp=Z,1.3nm,0.6s,baz=312,slow=2.4,SNR=6.5								
VNDA	**Vanda**	**118.07**	**175**	*e*PKPdf		**PKPdf**	**07 53 08.5**	**-1.7**	
VNDA				*ep*PKPdf		**PKiKP**	**07 53 10.5**	**+0.2**	
LSZ	**Lusaka**	**118.41**	**274**	PFAKE			07 53 20.0	+7.1	
LSZ				LR	LR				
	comp=Z,1µm,22.0s								
SBA	**Scott Base**	**118.72**	**174**	*e*PKIKP		**PKPdf**	**07 53 11.9**	**+0.4**	
SBA				MLR	MLR				
	comp=Z,755nm,21.0s								
SBA	**Scott Base**	**118.72**	**174**	*e*PKPdf		**PKPdf**	**07 53 11.9**	**+0.4**	
SBA				LR	LR				
	comp=Z,755nm,21.0s								
GDHS	**Morne Mazeau,**	**119.33**	**27**	PFAKE			07 53 30.0	+15	
GDHS				LR	LR				
	comp=Z,2µm,21.0s								
RPN	**Rapa Nui**	**120.10**	**101**	PFAKE			07 53 30.0	+14	
RPN				LR	LR				
	comp=Z,801nm,20.0s								
FDF	**Fort de France**	**120.97**	**27**	PFAKE			07 53 30.0	+12	
FDF				LR	LR				
	comp=Z,2µm,22.0s								
HELC	**Santa Helena**	**121.91**	**47**	PFAKE			07 53 30.0	+10	
HELC				LR	LR				
	comp=Z,2µm,20.0s								
SDV	**Santo Domingo**	**122.20**	**40**	PFAKE			07 53 30.0	+10	
SDV				LR	LR				
	comp=Z,900nm,21.0s								
MAW	**Mawson**	**122.87**	**207**	PKP		**PKPdf**	**07 53 18.0**	**-1.7**	
	comp=Z,5.1nm,0.9s,baz=291,slow=0.8,SNR=6.3								
MAW	**Mawson**	**122.87**	**207**	*e*PKIKP		**PKPdf**	**07 53 19.1**	**-0.6**	
MAW				MLR	MLR				
	comp=Z,200nm,22.0s								
MAW	**Mawson**	**122.87**	**207**	*e*PKPdf		**PKPdf**	**07 53 19.1**	**-0.6**	
MAW				LR	LR				
	comp=Z,200nm,22.0s								
BBGH	**Gun Hill**	**122.99**	**26**	PFAKE			07 53 30.0	+8.3	
BBGH				LR	LR				
	comp=Z,2µm,22.0s								
GRGR	**Grenville**	**123.19**	**29**	PFAKE			07 53 30.0	+8.0	
GRGR				LR	LR				
	comp=Z,1µm,22.0s								
RUSC	**La Rusia**	**123.49**	**44**	PFAKE			07 53 30.0	+6.7	
RUSC				LR	LR				
	comp=Z,400nm,22.0s								
SACV	**Santiago Islan**	**123.64**	**344**	PFAKE			07 53 30.0	+7.1	
SACV				LR	LR				
	comp=Z,569nm,21.0s								
PRAC	**Prado**	**124.30**	**48**	PFAKE			07 53 40.0	+16	
PRAC				LR	LR				
	comp=Z,700nm,22.0s								
DBIC	**Dimbokro**	**124.61**	**320**	PKP		**PKPdf**	**07 53 23.2**	**-1.5**	
	comp=Z,8.5nm,0.6s,baz=347,slow=3.1,SNR=11								
OTAV	**Otavalo**	**124.98**	**54**	PFAKE			07 53 40.0	+14	
OTAV				LR	LR				
	comp=Z,600nm,19.0s								
QSPA	**South Pole Qui**	**129.97**	**180**	*e*PKPdf		**PKPdf**	**07 53 32.6**	**-0.8**	
QSPA				LR	LR				
	comp=Z,500nm,21.0s								
SUR	**Sutherland**	**133.29**	**261**	PFAKE			07 53 50.0	+9.1	
SUR				LR	LR				
	comp=Z,2µm,20.0s								
NNA	**Nana**	**135.23**	**62**	PFAKE			07 54 00.0	+15	
NNA				LR	LR				
	comp=Z,1µm,20.0s								
PTGA	**Pitinga**	**135.58**	**34**	PKP		**PKPdf**	**07 53 43.5**	**-2.1**	
	comp=Z,5.4nm,0.8s,baz=119,slow=0.4,SNR=5.4								
PTGA	**Pitinga**	**135.58**	**34**	*e*PKPdf		**PKPdf**	**07 53 43.9**	**-1.7**	
PTGA				LR	LR				
	comp=Z,1µm,22.0s								
SAML	**Samuel**	**141.22**	**44**	PFAKE			07 54 10.0	+14	
SAML				LR	LR				
	comp=Z,300nm,18.0s								
ASCN	**Ascension**	**141.90**	**321**	PFAKE			07 54 10.0	+13	
ASCN				LR	LR				
	comp=Z,2µm,21.0s								
SHEL	**Horse Pasture**	**143.49**	**302**	PFAKE			07 54 10.0	+10	
SHEL				LR	LR				
	comp=Z,460nm,21.0s								
SNAA	**Sanae**	**144.11**	**198**	PKP		**PKPab**	**07 53 56.3**	**-0.6**	
	comp=Z,57nm,0.8s,baz=172,slow=4.6,SNR=13								
SNAA	**Sanae**	**144.11**	**198**	*e*PKIKP		**PKPab**	**07 53 57.1**	**+0.1**	
SNAA				MLR	MLR				
	comp=Z,998nm,22.0s								
SNAA	**Sanae**	**144.11**	**198**	*e*PKPdf		**PKPab**	**07 53 57.1**	**+0.1**	
SNAA				LR	LR				
	comp=Z,998nm,22.0s								
LPAZ	**La Paz**	**144.12**	**57**	PKP		**PKPab**	**07 53 58.0**	**-1.3**	
	comp=Z,7.3nm,0.8s,baz=3.3,slow=8.6,SNR=4.8								
LPAZ	**La Paz**	**144.12**	**57**	PKIKP		**PKPab**	**07 53 58.0**	**-1.3**	
LPAZ				pmax	pmax				
	comp=Z,7.0nm,0.8s								
RCBR	**Riachuelo**	**145.73**	**358**	PFAKE			07 54 20.0	+15	
RCBR				LR	LR				
	comp=Z,1µm,20.0s								
PB01	**IPOC Station P**	**146.56**	**65**	*e*PKPdf		**PKPbc**	**07 54 06.3**	**-0.3**	
PB04	**IPOC Station P**	**146.94**	**67**	*e*PKPbc		**PKPbc**	**07 54 07.9**	**+0.1**	
LVC	**Limon Verde**	**148.00**	**66**	PFAKE			07 54 20.0	+6.4	
LVC				LR	LR				
	comp=Z,1µm,19.0s								
LCO	**Las Campanas**	**150.44**	**78**	*e*PKPbc		**PKPbc**	**07 54 16.1**	**-0.6**	
LCO				LR	LR				
	comp=Z,2µm,20.0s								
PMSA	**Palmer Station**	**150.94**	**157**	PFAKE			07 54 20.0	+3.6	
PMSA				LR	LR				
	comp=Z,1µm,20.0s								
PLCA	**Paso Flores**	**154.74**	**102**	*e*PKIKP		**PKPbc**	**07 54 27.8**	**+2.0**	
PLCA	**Paso Flores**	**154.74**	**102**	*e*PKPbc		**PKPbc**	**07 54 27.8**	**+2.0**	
CPUP	**Villa Florida**	**158.29**	**56**	*e*PKP2		**PKPab**	**07 54 56.0**	**-0.3**	
CPUP	**Villa Florida**	**158.29**	**56**	*e*PKPab		**PKPab**	**07 54 56.0**	**-0.3**	
TRQA	**Tornquist**	**160.70**	**92**	PFAKE			07 54 40.0	+15	
TRQA				LR	LR				
	comp=Z,1µm,19.0s								
SPB	**Sao Paulo**	**161.31**	**30**	PFAKE			07 54 40.0	+14	
SPB				LR	LR				
	comp=Z,1µm,19.0s								

IDC 17 07:40:00.9±8.7, 32.39S×137.53E, h0km, mb1 2.9/3, mb1mx2.9/27, mbtmp2.7/3, ML2.6/3, Error ellipse: s-maj=122.2km s-min=28.7km az=29.0, Near coast of South Australia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**3.48**	**83**	Pn	Pn	07 40 56.8	+0.4
	0.1nm,0.3s,baz=270,slow=16,SNR=2.2						
STKA				Sn	Sn	07 41 38.7	+0.4
	0.3nm,0.3s,baz=192,slow=19,SNR=2.4						
ASAR	**Alice Springs**	**9.26**	**339**	Pn	Pn	07 42 16.5	+0.7
	0.1nm,0.3s,baz=172,slow=8.7,SNR=4.4						
ASAR				Sn	Sn	07 44 02.7	+2.0
	0.1nm,0.3s,baz=164,slow=22,SNR=5.1						
WRA	**Warramunga Arr**	**12.72**	**346**	Pn	Pn	07 43 01.8	-1.4
	0.1nm,0.3s,baz=161,slow=12,SNR=6.2						

CSEM 17 07:46:44.9, 39.61N×29.61W, h10km, ML2.6
PDA 17 07:46:44.9±1.0, 39.61N×29.61W, h10km, MD3.5, ML2.6, Error ellipse: s-maj=24.2km s-min=8.6km az=61.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOR	**Horta**	**1.32**	**144**	*e*S	Sb	07 47 19.1	-7.7
HOR				A	A	07 47 21.5	
	90nm,0.2s						
HOR	**Horta**	**1.32**	**144**	*e*S	Sb	07 47 19.1	-7.7
ROSA	**Rosais**	**1.39**	**129**	*e*P	Pn	07 47 05.7	-4.6
ROSA				*e*S	Sb	07 47 20.9	-7.7
ROSA				A	A	07 47 21.6	
	15nm,0.4s						
ROSA	**Rosais**	**1.39**	**129**	*e*P	Pn	07 47 05.7	-4.6
ROSA				*e*S	Sb	07 47 20.9	-7.7
PCAN	**Candelaria**	**1.44**	**142**	*e*P	Pn	07 47 06.3	-4.7
PCAN				*e*S	Sn	07 47 22.8	-7.2
PCAN				A	A	07 47 25.3	
	57nm,0.3s						
PCAN	**Candelaria**	**1.44**	**142**	*e*P	Pn	07 47 06.3	-4.7
PCAN				*e*S	Sn	07 47 22.8	-7.2
PICO	**Pico**	**1.44**	**140**	*e*P	Pn	07 47 06.5	-4.6
PICO				*e*S	Sn	07 47 23.0	-7.1
PICO				A	A	07 47 25.4	
	58nm,0.1s						
PICO	**Pico**	**1.44**	**140**	*e*P	Pn	07 47 06.5	-4.6
PICO				*e*S	Sn	07 47 23.0	-7.1

ISCJB 17 07:51:34.6±0.4, 39.46N±0.02×20.69E±0.03, h5km±4km, Error ellipse: s-maj=3.6km s-min=2.7km az=166.1
ATH 17 07:51:34.0, 39.45N×20.74E, h18km±1km, ML2.9/16, Error ellipse: s-maj=1.5km s-min=0.8km az=280.0
CSEM 17 07:51:34.7±0.1, 39.46N×20.70E, h2km, ML3.3, Error ellipse: s-maj=3.5km s-min=2.6km az=67.0
THE 17 07:51:35.6, 39.46N×20.75E, h0km±1km, ML3.3/5, Error ellipse: s-maj=1.9km s-min=0.6km az=258.0
ISC 17 07:51:35.2±0.9, 39.47N±0.01×20.72E±0.01, h11km±6km,

n128, σ1§25/183, 1D, Greece-Albania border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAN	**Janina**	**0.21**	**28**	P	**Pg**	**07 51 39.5**	**-0.2**
JAN				S	**Sg**	**07 51 43.8**	**+0.9**
JAN	**Janina**	**0.21**	**28**	P	**Pg**	**07 51 39.5**	**-0.2**
JAN				S	**Sg**	**07 51 43.5**	**+0.7**
JAN	**Janina**	**0.21**	**28**	P	**Pg**	**07 51 39.4**	**-0.4**
JAN				S	**Sg**	**07 51 43.5**	**+0.7**
JAN				AML	AML	07 51 44.3	
	comp=E,28394µm,0.4s						
JAN				AML	AML	07 51 45.1	
	comp=N,22157µm,0.2s						
IGT	**Igoumenitsa**	**0.31**	**283**	P	**Pg**	**07 51 41.0**	**-0.4**
IGT				S	**Sg**	**07 51 46.7**	**+1.1**
IGT	**Igoumenitsa**	**0.31**	**283**	P	**Pg**	**07 51 41.0**	**-0.4**
IGT				S	**Sg**	**07 51 45.9**	**+0.3**
IGT	**Igoumenitsa**	**0.31**	**283**	P	**Pg**	**07 51 40.7**	**-0.7**
IGT				S	**Sg**	**07 51 45.9**	**+0.3**
IGT				AML	AML	07 51 48.9	
	comp=N,9599µm,0.5s						
IGT				AML	AML	07 51 49.3	
	comp=E,7122µm,0.5s						
SGD	**Sagiada**	**0.41**	**291**	P	**Pg**	**07 51 43.1**	**-0.1**
SGD				S	**Sb**	**07 51 51.2**	**+0.7**
SGD	**Sagiada**	**0.41**	**291**	P	**Pg**	**07 51 43.1**	**-0.1**
SGD				S	**Sg**	**07 51 49.3**	**+0.8**
SGD	**Sagiada**	**0.41**	**291**	P	**Pg**	**07 51 43.3**	**+0.1**
SGD				S	**Sg**	**07 51 49.3**	**+0.8**
DSL	**Palaion Diasel**	**0.44**	**139**	P	**Pg**	**07 51 42.5**	**-1.3**
DSL				S	**Sg**	**07 51 49.1**	**-0.6**
DSL	**Palaion Diasel**	**0.44**	**139**	P	**Pg**	**07 51 42.5**	**-1.3**
DSL				S	**Sg**	**07 51 49.1**	**-0.6**
DSL	**Palaion Diasel**	**0.44**	**139**	P	**Pg**	**07 51 41.2**	**-2.7**
DSL				S	**Sg**	**07 51 48.0**	**-1.6**
DSL				AML	AML	07 51 49.1	
	comp=E,5187µm,0.3s						
DSL				AML	AML	07 51 49.4	
	comp=N,4501µm,0.2s						
LKD2	**Lefkada island**	**0.68**	**184**	P	**Pg**	**07 51 47.1**	**-1.2**
LKD2				S	**Sb**	**07 51 58.8**	**+0.4**
LKD2	**Lefkada island**	**0.68**	**184**	P	**Pg**	**07 51 47.2**	**-1.1**
LKD2				S	**Sg**	**07 51 57.5**	**+0.3**
LKD2	**Lefkada island**	**0.68**	**184**	P	**Pg**	**07 51 47.1**	**-1.1**
LKD2				S	**Sg**	**07 51 57.5**	**+0.3**
LKD2				AML	AML	07 51 59.1	
	comp=N,1717µm,0.7s						
LKD2				AML	AML	07 52 00.1	
	comp=E,1708µm,0.8s						
KPRO	**Kipourio**	**0.69**	**45**	P	**Pg**	**07 51 48.0**	**-0.7**
KPRO				S	**Sb**	**07 51 59.6**	**+0.6**
KPRO	**Kipourio**	**0.69**	**45**	P	**Pg**	**07 51 48.0**	**-0.7**
KPRO				S	**Sb**	**07 51 59.6**	**+0.6**
KPRO	**Kipourio**	**0.69**	**45**	P	**Pg**	**07 51 47.1**	**-1.6**
KEK	**Kerkira**	**0.76**	**289**	P	**Pb**	**07 51 50.4**	**+0.1**
KEK				S	**Sb**	**07 52 02.2**	**+1.6**
KEK	**Kerkira**	**0.76**	**289**	P	**Pb**	**07 51 50.4**	**+0.1**
KEK				S	**Sg**	**07 51 59.9**	**+0.3**
KEK	**Kerkira**	**0.76**	**289**	P	**Pg**	**07 51 48.4**	**-1.4**
KEK				S	**Sg**	**07 51 59.9**	**+0.3**
KEK				AML	AML	07 52 05.8	
	comp=N,1606µm,0.5s						
KEK				AML	AML	07 52 07.1	
	comp=E,1384µm,0.2s						
PENT	**Pentalofos**	**0.80**	**24**	P	**Pg**	**07 51 49.5**	**-1.1**
PENT				S	**Sb**	**07 52 02.4**	**+0.4**
PENT	**Pentalofos**	**0.80**	**24**	P	**Pg**	**07 51 49.5**	**-1.1**
PENT				S	**Sg**	**07 52 00.8**	**-0.2**
PENT	**Pentalofos**	**0.80**	**24**	P	**Pg**	**07 51 49.2**	**-1.4**
PENT				S	**Sg**	**07 52 00.8**	**-0.2**
PENT				AML	AML	07 52 05.5	
	comp=E,1244µm,0.4s						
PENT				AML	AML	07 52 06.4	
	comp=N,1426µm,0.3s						
PDO	**Prodromos**	**0.94**	**157**	P	**Pg**	**07 51 52.8**	**-0.4**
PDO				S	**Sb**	**07 52 07.0**	**+1.1**
PDO	**Prodromos**	**0.94**	**157**	P	**Pg**	**07 51 52.8**	**-0.4**
PDO				S	**Sb**	**07 52 07.0**	**+1.1**
PDO	**Prodromos**	**0.94**	**157**	P	**Pg**	**07 51 51.9**	**-1.3**
NEST	**Nestorio**	**0.98**	**15**	P	**Pg**	**07 51 53.4**	**-0.7**
NEST	**Nestorio**	**0.98**	**15**	P	**Pg**	**07 51 53.7**	**-0.4**
NEST	**Nestorio**	**0.98**	**15**	P	**Pg**	**07 51 53.7**	**-0.4**
NEST				AML	AML	07 52 15.0	
	comp=N,1590µm,0.4s						
NEST				AML	AML	07 52 16.3	
	comp=E,1713µm,0.4s						
THL	**Klokotos Trika**	**1.00**	**84**	P	**Pg**	**07 51 53.8**	**-0.7**
THL	**Klokotos Trika**	**1.00**	**84**	P	**Pg**	**07 51 53.8**	**-0.7**
THL				S	**Sg**	**07 52 06.3**	**-1.3**
THL	**Klokotos Trika**	**1.00**	**84**	P	**Pg**	**07 51 52.2**	**-2.3**
THL				S	**Sg**	**07 52 06.3**	**-1.3**
THL				AML	AML	07 52 12.6	
	comp=E,693µm,0.6s						
THL				AML	AML	07 52 20.2	
	comp=N,322µm,0.6s						
EVR	**Evrytania**	**1.01**	**123**	P	**Pg**	**07 51 53.7**	**-0.8**
EVR				S	**Sb**	**07 52 09.0**	**+1.0**
EVR	**Evrytania**	**1.01**	**123**	P	**Pg**	**07 51 53.7**	**-0.8**
EVR				S	**Sb**	**07 52 09.0**	**+1.0**
EVR	**Evrytania**	**1.01**	**123**	P	**Pg**	**07 51 52.3**	**-2.2**
EVR				AML	AML	07 52 13.3	
	comp=N,943µm,0.6s						
EVR				AML	AML	07 52 14.5	
	comp=E,450µm,0.7s						
PVO	**Paravola**	**1.05**	**143**	P	**Pb**	**07 51 55.2**	**-0.2**
PVO				S	**Sb**	**07 52 10.4**	**+1.2**
PVO	**Paravola**	**1.05**	**143**	P	**Pb**	**07 51 55.2**	**-0.2**
PVO				S	**Sb**	**07 52 10.4**	**+1.2**
PVO	**Paravola**	**1.05**	**143**	P	**Pb**	**07 51 55.1**	**-0.2**
KZN	**Kozani**	**1.17**	**44**	P	**Pg**	**07 51 56.5**	**-1.1**
KZN	**Kozani**	**1.17**	**44**	P	**Pg**	**07 51 56.5**	**-1.1**
KZN	**Kozani**	**1.17**	**44**	P	**Pg**	**07 51 56.4**	**-1.1**
KZN				AML	AML	07 52 20.0	
	comp=N,1770µm,0.6s						
KZN				AML	AML	07 52 20.8	
	comp=E,1136µm,0.4s						
VLS	**Valsamata**	**1.29**	**185**	P	**Pg**	**07 51 58.7**	**-1.2**
VLS				S	**Sn**	**07 52 19.5**	**+3.1**
VLS	**Valsamata**	**1.29**	**185**	P	**Pg**	**07 51 58.7**	**-1.2**
VLS	**Valsamata**	**1.29**	**185**	P	**Pg**	**07 51 57.1**	**-2.9**
VLS				AML	AML	07 52 20.7	
	comp=N,859µm,0.6s						
VLS				AML	AML	07 52

comp=E,761µm,0.6s
KALE Kalithea 1.54 134 P **Pg** 07 52 03.9 -0.8
KALE Kalithea 1.54 134 P **Pn** 07 52 03.2 +0.6
KALE Kalithea 1.54 134 P **Pn** 07 52 03.2 +0.6
LAKA Lakka 1.57 141 P **Pn** 07 52 03.8 +0.8
LAKA Lakka 1.57 141 P **Pn** 07 52 03.8 +0.8
LAKA Lakka 1.57 141 P **Pg** 07 52 04.8 -0.5
BIA Bitola 1.62 16 P **Pb** 07 52 05.4 +0.3
BIA S **Sg** 07 52 27.5 +0.2
BIA Bitola 1.62 16 *i* Pn **Pb** 07 52 05.1 -0.1
BIA *e*Sn **Sg** 07 52 29.9 +2.6
BIA Bitola 1.62 16 *i* Pn **Pb** 07 52 05.0 -0.1
BIA Bitola 1.62 16 P **Pb** 07 52 05.4 +0.3
BIA S **Sg** 07 52 27.5 +0.2
BIA *e*Sn **Sg** 07 52 29.8 +2.6
OHR Ohrid 1.65 2 *i* Pn **Pb** 07 52 06.0 +0.5
OHR *e*Sn **Sg** 07 52 30.0 +1.9
OHR Ohrid 1.65 2 *i* Pn **Pb** 07 52 06.0 +0.5
OHR *e*Sn **Sg** 07 52 30.0 +1.9
DRO Drossia 1.70 153 P **Pb** 07 52 06.5 +0.1
DRO Drossia 1.70 153 P **Pb** 07 52 06.5 +0.1
DRO Drossia 1.70 153 P **Pn** 07 52 03.4 -1.3
FYTO Fytoko, Volos 1.72 91 P **Pn** 07 52 05.9 +0.9
FYTO Fytoko, Volos 1.72 91 P **Pn** 07 52 05.9 +0.9
FYTO Fytoko, Volos 1.72 91 P **Pn** 07 52 04.8 -0.3
DSF Desfina 1.76 126 P **Pn** 07 52 06.7 +1.1
DSF Desfina 1.76 126 P **Pn** 07 52 06.1 +0.5
DSF Desfina 1.76 126 P **Pn** 07 52 06.1 +0.5
SCTE Santa Cesarea 1.84 290 P **Pn** 07 52 05.2 -1.5
SCTE Santa Cesarea 1.84 290 P **Pn** 07 52 05.2 -1.5
XOR Xorichti 1.92 92 P **Pn** 07 52 08.8 +1.0
XOR Xorichti 1.92 92 P **Pn** 07 52 08.8 +1.0
XOR Xorichti 1.92 92 P **Pb** 07 52 09.3 -0.8
NEO Neokhori 1.94 94 P **Pn** 07 52 09.1 +0.9
NEO Neokhori 1.94 94 P **Pn** 07 52 09.1 +0.9
SMIA Simia 2.02 106 P **Pb** 07 52 10.9 -1.0
SMIA Simia 2.02 106 P **Pb** 07 52 10.9 -1.0
HORT Hortiatis 2.15 57 P **Pn** 07 52 12.6 +1.6
HORT S **Sb** 07 52 40.3 -0.5
HORT Hortiatis 2.15 57 P **Pn** 07 52 12.6 +1.6
HORT S **Sb** 07 52 40.3 -0.5
HORT Hortiatis 2.15 57 P **Pn** 07 52 10.7 -0.3
HORT AML AML 07 52 44.5
comp=E,103µm,0.3s
HORT AML AML 07 52 45.5
comp=N,111µm,0.3s
PLG Polygyros 2.28 66 P **Pn** 07 52 11.7 -1.1
PLG Polygyros 2.28 66 P **Pn** 07 52 11.7 -1.1
PLG AML AML 07 52 46.0
comp=E,213µm,0.5s
PLG AML AML 07 52 46.2
comp=N,205µm,0.4s
PAIG Paliouri 2.33 78 P **Pn** 07 52 13.5 +0.1
PAIG Paliouri 2.33 78 P **Pn** 07 52 13.5 +0.1
PAIG Paliouri 2.33 78 P **Pn** 07 52 12.3 -1.0
VAY Valandovo 2.33 37 *e*Pn **Pn** 07 52 09.9 -3.5
VAY *e*Sn **Sb** 07 52 46.1 +0.2
VAY Valandovo 2.33 37 *e*Pn **Sb** 07 52 09.9 -3.5
VAY *e*Sn **Sb** 07 52 46.1 +0.1
KNT Kendrikon 2.38 44 P **Pn** 07 52 15.7 +1.6
KNT Kendrikon 2.38 44 P **Pn** 07 52 15.2 +1.1
KNT Kendrikon 2.38 44 P **Pn** 07 52 15.2 +1.1
SKO Skopje 2.56 12 *e*Pn **Pn** 07 52 15.7 -0.9
SKO *e*Sn **Sb** 07 52 51.2 -1.5
SKO Skopje 2.56 12 *e*Pn **Pn** 07 52 15.7 -0.9
SKO *e*Sn **Sb** 07 52 51.2 -1.5
OUR Ouranopolis 2.65 70 P **Pn** 07 52 17.9 0.0
OUR Ouranopolis 2.65 70 P **Pn** 07 52 17.9 0.0
OUR Ouranopolis 2.65 70 P **Pn** 07 52 16.9 -1.0
DID Didima 2.78 134 P **Pn** 07 52 20.6 +1.0
DID Didima 2.78 134 P **Pn** 07 52 20.6 +1.0
BARS Barje 3.45 14 *i* Pn **Pn** 07 52 30.0 +1.2
VTS Vitosha 3.65 30 P **Pn** 07 52 33.9 +2.2
VTS Vitosha 3.65 30 P **Pn** 07 52 33.9 +2.2
SJES Sjenica 3.83 352 *e*Pn **Pn** 07 52 35.4 +1.2
STON Ston 4.10 327 *e*Pn **Pn** 07 52 36.3 -1.4
STON Sn **Sn** 07 53 22.8 -2.8
STON Ston 4.10 327 *e*Pn **Pn** 07 52 36.2 -1.4
STON Sn **Sn** 07 53 22.8 -2.8
IVAS Ivanjica 4.13 354 *e*Pn **Pn** 07 52 37.5 -0.7
BOVS Bovan 4.23 10 *i* Pn **Pn** 07 52 39.7 +0.1
ZAGS Zajecar 4.49 14 *e*Pn **Pn** 07 52 44.9 +1.8
BBLS Lazići 4.51 348 *e*Pn **Pn** 07 52 43.3 -0.1
DIVS Divibare 4.66 354 ⇓ *i* Pn **Pn** 07 52 45.6 0.0
TEKS Tekeris 5.16 350 *e*Pn **Pn** 07 53 07.6 0.0
UDBI Sn **Sn** 07 54 14.8 -4.3
UDBI Udbina 6.26 325 *e*Pn **Pn** 07 53 07.5 0.0

*ISCJB **17** 07:59:22.6±0.7, 17°.5S±0°.2×178°.7W±0°.2, h539km, mb3.9/8, Error ellipse: s-maj=30.8km s-min=14.3km az=144.2*
*IDC **17** 07:59:22.4±2.1, 17°.49S×178°.64W, h524km±27km, mb3.5/8, mb1 3.7/9, mb1mx3.4/25, mbtmp4.3/9, Error ellipse: s-maj=27.0km s-min=15.1km az=144.0*
ISC 17 07:59:23.5±0.8, **17°.5S**±0°.2×**178°.6W**±0°.2, **h539**km, **n9,** σ1§**27**/9, **mb4.0**/8, **Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**7.49**	**63**	P	**P**	**08 01 15.4**	**-0.6**
	3.9nm,0.3s,baz=3.3,slow=3.4,SNR=5.0						
URZ	**Urewera**	**21.06**	**189**	P	**P**	**08 03 27.8**	**-1.8**
	4.6nm,0.4s,baz=254,slow=4.3,SNR=12						
STKA	**Stephens Creek**	**38.66**	**241**	P	**P**	**08 06 01.8**	**+0.6**
	2.5nm,0.4s,baz=77,slow=9.9,SNR=5.4						
WRA	**Warramunga Arr**	**44.50**	**259**	P	**P**	**08 06 46.7**	**-0.8**
	2.5nm,0.4s,baz=96,slow=6.9,SNR=108						
ASAR	**Alice Springs**	**44.71**	**254**	P	**P**	**08 06 49.0**	**0.0**
	21nm,0.5s,baz=88,slow=8.0,SNR=472						
MAW	**Mawson**	**84.21**	**200**	P	**P**	**08 10 59.0**	**+1.1**
	1.6nm,0.5s,baz=147,slow=4.3,SNR=8.6						
ILAR	**Eielson Array**	**85.50**	**13**	P	**P**	**08 11 02.6**	**-1.4**
	0.3nm,0.4s,baz=222,slow=5.4,SNR=7.0						
TXAR	**Lajitas Array**	**85.94**	**58**	P	**P**	**08 11 08.3**	**+1.2**
	1.0nm,0.8s,baz=216,slow=7.5,SNR=6.8						
PDAR	**Pinedale Array**	**87.17**	**44**	P	**P**	**08 11 13.6**	**+0.7**
	0.5nm,0.5s,baz=214,slow=3.4,SNR=6.6						

*CSEM **17** 08:06:22.2±1.0, 34°.44N×23°.68E, h2km, ML2.8, Error ellipse: s-maj=18.9km s-min=14.3km az=24.0*
*ATH **17** 08:06:24.0, 34°.59N×23°.72E, h29km±1km, ML2.8/2, Error ellipse: s-maj=6.9km s-min=2.0km az=357.0*
*THE **17** 08:06:25.2, 34°.62N×23°.68E, h13km±2km, ML2.8/2, Error ellipse: s-maj=6.6km s-min=2.9km az=2.0*
ISC 17 08:06:24.9±0.6, **34°.7N**±0°.2×**23°.6E**±0°.2, **h33**km, **n21,** σ1§**30**/27, **Crete**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GVD	**Gavdhos**	**0.41**	**64**	P	**Pb**	**08 06 32.6**	**-1.6**
GVD				S	**Sb**	**08 06 39.8**	**-0.7**
GVD	**Gavdhos**	**0.41**	**64**	P	**Pb**	**08 06 32.6**	**-1.6**
GVD				S	**Sb**	**08 06 39.8**	**-0.7**
GVD	**Gavdhos**	**0.41**	**64**	P	**Pb**	**08 06 32.6**	**-1.6**
GVD				S	**Sb**	**08 06 39.9**	**-0.6**
GVD				AML	AML	08 06 48.9	
	comp=E,1942µm,0.4s						
GVD				AML	AML	08 06 52.1	
	comp=N,2786µm,0.6s						
IMMV	**Iera Moni Meta**	**0.85**	**19**	P	**Pn**	**08 06 41.8**	**+1.2**
IMMV	**Iera Moni Meta**	**0.85**	**19**	P	**Pn**	**08 06 42.0**	**+1.4**
IMMV	**Iera Moni Meta**	**0.85**	**19**	P	**Pn**	**08 06 42.0**	**+1.4**
VAM	**Vamos**	**0.88**	**32**	P	**Pn**	**08 06 41.3**	**+0.3**
VAM	**Vamos**	**0.88**	**32**	P	**Pn**	**08 06 41.3**	**+0.3**
VAM	**Vamos**	**0.88**	**32**	P	**Pn**	**08 06 41.1**	**+0.1**
SIVA	**Sivas**	**1.03**	**69**	P	**Pn**	**08 06 43.8**	**+0.8**
SIVA				S	**Sn**	**08 06 57.9**	**+1.6**
SIVA	**Sivas**	**1.03**	**69**	P	**Pn**	**08 06 43.8**	**+0.8**
SIVA				S	**Sn**	**08 06 57.9**	**+1.6**
SIVA	**Sivas**	**1.03**	**69**	P	**Pn**	**08 06 43.8**	**+0.8**
SIVA				S	**Sn**	**08 06 56.6**	**+0.4**
SIVA				AML	AML	08 07 14.8	
	comp=E,1533µm,0.7s						
SIVA				AML	AML	08 07 23.0	
	comp=N,1056µm,0.8s						
IDI	**Anoyia**	**1.21**	**58**	P	**Pn**	**08 06 47.1**	**+1.6**
IDI	**Anoyia**	**1.21**	**58**	P	**Pn**	**08 06 47.2**	**+1.6**
IDI	**Anoyia**	**1.21**	**58**	P	**Pn**	**08 06 47.1**	**+1.6**
LAST	**Lasithi**	**1.59**	**71**	P	**Pn**	**08 06 52.8**	**+1.8**
LAST	**Lasithi**	**1.59**	**71**	P	**Pn**	**08 06 52.7**	**+1.8**
KARP	**Karpathos**	**3.02**	**72**	P	**Pn**	**08 07 10.7**	**+0.2**
KARP	**Karpathos**	**3.02**	**72**	P	**Pn**	**08 07 10.7**	**+0.2**
KARP	**Karpathos**	**3.02**	**72**	P	**Pn**	**08 07 10.5**	**0.0**

THE 17 08:07:19.8, 40°.46N×21°.89E, h6km±4km, **ML1.7/3, Error ellipse: s-maj=4.9km s-min=1.0km az=232.0, Greece**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KZN	**Kozani**	**0.18**	**211**	P	Pg	08 07 21.8	-1.6
KZN				S	Sg	08 07 26.6	+0.8
KZN	**Kozani**	**0.18**	**211**	P	Pg	08 07 21.8	-1.6
KZN				S	Sg	08 07 26.6	+0.8
KTI	**Kastanea**	**0.18**	**112**	P	Pg	08 07 23.4	-0.1
KTI	**Kastanea**	**0.18**	**112**	P	Pg	08 07 23.4	-0.1
FNA	**Florina**	**0.51**	**310**	P	Pg	08 07 29.1	-0.5
FNA				S	Sg	08 07 36.9	+0.7
FNA	**Florina**	**0.51**	**310**	P	Pg	08 07 29.1	-0.5
FNA				S	Sg	08 07 36.9	+0.7
LIT	**Litokhoron**	**0.58**	**128**	P	Pg	08 07 30.9	-0.1
LIT	**Litokhoron**	**0.58**	**128**	P	Pg	08 07 29.6	-1.4
PENT	**Pentalofos**	**0.63**	**245**	P	Pg	08 07 30.8	-1.2
PENT				S	Sb	08 07 41.7	-0.8
PENT	**Pentalofos**	**0.63**	**245**	P	Pg	08 07 30.8	-1.2
PENT				S	Sb	08 07 41.7	-0.8
NEST	**Nestorio**	**0.65**	**266**	P	Pg	08 07 31.5	-0.7
NEST				S	Sb	08 07 41.8	-1.0
NEST	**Nestorio**	**0.65**	**266**	P	Pg	08 07 31.1	-1.1
NEST				S	Sb	08 07 41.8	-1.0
KPRO	**Kipourio**	**0.65**	**219**	P	Pg	08 07 30.7	-1.6
THL	**Klokotos Trika**	**0.90**	**174**	P	Pg	08 07 35.8	-1.3
THL				S	Sb	08 07 50.7	+0.6
THL	**Klokotos Trika**	**0.90**	**174**	P	Pg	08 07 35.8	-1.3
THL				S	Sb	08 07 50.7	+0.6
HORT	**Hortiatis**	**0.93**	**81**	P	Pg	08 07 37.3	-0.4
HORT	**Hortiatis**	**0.93**	**81**	P	Pg	08 07 37.3	-0.4
KNT	**Kendrikon**	**1.04**	**47**	P	Pg	08 07 39.2	-0.5
KNT	**Kendrikon**	**1.04**	**47**	P	Pg	08 07 39.2	-0.5
SOH	**Sokhos**	**1.17**	**72**	P	Pg	08 07 42.2	0.0
SOH	**Sokhos**	**1.17**	**72**	P	Pg	08 07 42.2	0.0
PAIG	**Paliouri**	**1.47**	**111**	P	Pn	08 07 45.9	-0.9
PAIG	**Paliouri**	**1.47**	**111**	P	Pn	08 07 45.9	-0.9

*ISCJB **17** 08:11:39.4±0.6, 33°.7S±0°.1×78°.0E±0°.1, h10km, mb4.2/11, MS4.5/1, Error ellipse: s-maj=18.2km s-min=17.0km az=136.3*
*IDC **17** 08:11:39.8±0.8, 33°.68S×78°.04E, h0km, mb4.0/8, mb1 4.1/8, mb1mx3.9/31, mbtmp4.0/8, MS4.5/1, Ms1 4.5/1, ms1mx3.5/32, Error ellipse: s-maj=27.5km s-min=25.8km az=61.0*
*NEIC **17** 08:11:41.1±0.5, 33°.65S×77°.95E, h10km, mb4.5/3, Error ellipse: s-maj=17.6km s-min=15.5km az=194.0*
ISC 17 08:11:41.1±0.7, **33°.7S**±0°.1×**77°.9E**±0°.2, **h10**km, **n18,** σ0§**98**/12, **mb4.1**/11, **1C, Mid-Indian Ridge**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
H08S2	**Diego Garcia H**	**26.38**	**348**	T	T	08 44 16.8	
	baz=170,slow=76,SNR=413						
H08S1	**Diego Garcia H**	**26.39**	**348**	T	T	08 44 15.7	
	baz=170,slow=76,SNR=428						
H08S3	**Diego Garcia H**	**26.40**	**348**	T	T	08 44 14.0	
	baz=170,slow=76,SNR=430						
H01W2	**Cape Leeuwin H**	**29.86**	**103**	T	T	08 49 11.5	
	baz=262,slow=74,SNR=38						
H01W3	**Cape Leeuwin H**	**29.87**	**103**	T	T	08 49 10.1	
	baz=262,slow=74,SNR=54						
H01W1	**Cape Leeuwin H**	**29.88**	**103**	T	T	08 49 11.0	
	baz=262,slow=74,SNR=36						
SYO	**Syowa Base**	**41.35**	**200**	⇑ *e*P	**P**	**08 19 26.0**	**-0.7**
LSZ	**Lusaka**	**48.32**	**280**	*e*P	**P**	**08 20 21.4**	**-1.7**
	2.4nm,0.6s						
ASAR	**Alice Springs**	**49.62**	**94**	P	**P**	**08 20 32.4**	**-0.6**
	1.9nm,0.9s,baz=246,slow=6.7,SNR=14						
ASAR				LR	LR	08 38 42.0	
	comp=Z,450nm,20.2s,baz=56,slow=33						
WRA	**Warramunga Arr**	**51.62**	**90**	P	**P**	**08 20 47.3**	**-0.8**
	5.0nm,0.9s,baz=246,slow=7.2,SNR=19						
WRAB	**Tennant Creek**	**51.64**	**90**	*e*P	**P**	**08 20 47.5**	**-0.6**
	5.1nm,0.9s						
SNAA	**Sanae**	**55.53**	**202**	P	**P**	**08 21 16.4**	**+0.3**
	1.8nm,1.1s,baz=324,slow=6.7,SNR=5.1						
VNDA	**Vanda**	**56.10**	**165**	P	**P**	**08 21 19.9**	**-0.1**
	1.0nm,0.7s,baz=261,slow=6.7,SNR=9.6						
QSPA	**South Pole Qui**	**56.47**	**180**	*e*P	**P**	**08 21 24.0**	**+1.0**
	17nm,0.9s						
BRTR	**Keskin Array B**	**83.73**	**327**	P	**P**	**08 24 10.5**	**+0.3**
	0.7nm,0.5s,baz=131,slow=6.5,SNR=3.6						
SONM	**Songino Array**	**85.07**	**19**	P	**P**	**08 24 17.5**	**+0.6**
	0.3nm,0.4s,baz=207,slow=2.9,SNR=2.4						
TORD	**Torodi Ar. Bea**	**86.05**	**289**	P	**P**	**08 24 23.8**	**+1.5**
	0.8nm,0.8s,baz=124,slow=5.5,SNR=4.7						
ZALV	**Zalesovo Beam**	**87.47**	**4**	P	**P**	**08 24 28.0**	**-0.3**
	1.0nm,0.6s,baz=193,slow=5.9,SNR=2.5						

NNC 17 08:18:47.9±3.8, **36°.84N**×**70°.96E, h129**km±58km, **mb2.8, mpv3.5, 10C-2D, Error ellipse: s-maj=35.6km s-min=22.7km az=147.0, Hindu Kush region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DZET	**Dzherino**	**2.58**	**320**	⇑P	Pn	08 19 29.0	-0.2
	7.4nm,0.4s						
DZET				⇑S	Sn	08 20 01.6	+0.6
	39nm,0.5s						
MNAS	**Manas**	**5.76**	**11**	⇑P	Pn	08 20 11.9	+0.7
	2.0nm,0.3s						
MNAS				⇓S	Sn	08 21 17.8	+1.6
	4.2nm,0.5s						
KK31	**Karatay Array**	**6.26**	**357**	⇓P	Pn	08 20 18.2	+0.3
	2.0nm,0.3s,baz=178,slow=13,SNR=68						
KK31				⇑S	Sn	08 21 29.1	+0.9
	1.3nm,0.3s,baz=183,slow=23,SNR=9.8						
AAK	**Ala-Archa**	**6.40**	**24**	⇑P	Pn	08 20 20.6	+0.8
	2.8nm,0.8s						
AAK				⇑S	Sn	08 21 32.8	+1.2
	5.2nm,0.5s						
TKM2	**Tokmak 2**	**7.04**	**29**	⇑P	Pn	08 20 28.2	-0.3
	3.3nm,0.6s						
TKM2				⇑S	Sn	08 21 43.6	-3.6
	1.6nm,0.7s						
AB31	**Akbulak array**	**14.77**	**331**	⇑P	Pn	08 22 10.4	+0.3
	0.5nm,0.5s,baz=152,slow=11,SNR=8.8						
AB31				⇑S	Sn	08 24 55.4	+1.9
	0.4nm,0.5s,baz=158,slow=24,SNR=4.1						

*ISCJB **17** 08:21:52.7±1.3, 40°.23N±0°.05×143°.17E±0°.07, h17km±9km, mb3.5/6, Error ellipse: s-maj=10.3km s-min=6.2km az=35.6*
*JMA **17** 08:21:53.1±0.2, 40°.27N×143°.04E, h11km±2km, M4.1*
*IDC **17** 08:21:58.1±4.0, 40°.06N×143°.18E, h54km±36km, mb3.3/6, mb1 3.5/8, mb1mx3.3/41, mbtmp3.7/8, ML3.4/2, Error ellipse: s-maj=36.0km s-min=20.1km az=82.0*
ISC 17 08:21:53.2±2.0, **40°.19N**±0°.05×**143°.08E**±0°.07, **h14**km±11km, **n27,** σ1§**62**/30, **mb3.6**/6, **Off east coast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JTH	**Tanohata**	**0.97**	**256**	P	**Pg**	**08 22 11.6**	**-0.3**
JTH				*e*S	**Sg**	**08 22 24.2**	**-0.4**
MIYJ	**Miyakonagasawa**	**1.15**	**238**	P	**Pb**	**08 22 14.6**	**-0.2**
JANG	**Nango**	**1.22**	**279**	P	**Pn**	**08 22 14.7**	**-1.1**
JKZ	**Kuzumaki**	**1.36**	**262**	P	**Pn**	**08 22 17.6**	**-0.2**
JOM	**Ohasama**	**1.55**	**243**	P	**Pn**	**08 22 21.1**	**+0.7**
JOM				*e*S	**Sb**	**08 22 41.8**	**+0.6**
JTM	**Tenmabayashi**	**1.65**	**292**	P	**Pn**	**08 22 21.5**	**-0.2**
JTM				*e*S	**Sn**	**08 22 42.1**	**-0.6**
JEM	**Erimo**	**1.83**	**2**	P	**Pn**	**08 22 23.8**	**-0.4**
JEM				*e*S	**Sn**	**08 22 46.4**	**-0.7**
JAH	**Hinai**	**1.88**	**271**	P	**Pn**	**08 22 25.6**	**+0.8**
JAH				*e*S	**Sn**	**08 22 48.9**	**+0.6**
JMK	**Ichinoseki**	**1.90**	**230**	P	**Pb**	**08 22 27.0**	**-0.6**
JMK				*e*S	**Sb**	**08 22 51.7**	**+0.6**
JOT	**Ohata**	**1.95**	**308**	P	**Pn**	**08 22 25.7**	**-0.2**
JRG	**Rokugo**	**2.05**	**248**	P	**Pb**	**08 22 29.4**	**-0.7**
JRG				S	**Sb**	**08 22 55.9**	**+0.5**
JNBK	**Urakawa-nobuka**	**2.11**	**353**	P	**Pn**	**08 22 28.6**	**+0.6**
MAT	**Matsushiro**	**5.28**	**228**	P	**Pn**	**08 23 15.0**	**+3.3**
MAT				*e*S	**Sn**	**08 24 10.7**	**-1.7**
MJAR	**Matsushiro Arr**	**5.28**	**228**	P	**Pn**	**08 23 15.3**	**+3.6**
	1.1nm,0.3s,baz=30,slow=14,SNR=14						
JHJ	**Hachijo jima 2**	**7.54**	**202**	P	**Pn**	**08 23 42.2**	**-0.4**
	2.7nm,0.3s,baz=276,slow=19,SNR=2.2						
JHJ				S	**Sn**	**08 25 03.0**	**-4.8**
	2.0nm,0.3s,baz=253,slow=19,SNR=2.3						
SONM	**Songino Array**	**27.27**	**299**	P	**P**	**08 27 37.2**	**+0.1**
	0.6nm,0.5s,baz=90,slow=8.2,SNR=4.0						
H11N2	**WAKE ISLAND Hy**	**28.85**	**128**	T	T	08 58 13.9	
	baz=320						
H11N1	**WAKE ISLAND Hy**	**28.86**	**128**	T	T	08 58 17.3	
	baz=320						
H11N3	**WAKE ISLAND Hy**	**28.86**	**128**	T	T	08 58 18.1	
	baz=320						
H11S1	**WAKE ISLAND Hy**	**29.67**	**130**	T	T	08 59 18.6	
	baz=323						
H11S3	**WAKE ISLAND Hy**	**29.68**	**130**	T	T	08 59 17.6	
	baz=323						
H11S2	**WAKE ISLAND Hy**	**29.69**	**130**	T	T	08 59 19.7	
	baz=323						
ZALV	**Zalesovo Beam**	**40.83**	**310**	P	**P**	**08 29 37.0**	**+2.9**
	0.7nm,0.4s,baz=86,slow=7.4,SNR=3.3						
ILAR	**Eielson Array**	**46.14**	**34**	P	**P**	**08 30 17.6**	**+0.9**
	0.4nm,0.7s,baz=260,slow=6.4,SNR=5.4						
WRA	**Warramunga Arr**	**60.37**	**189**	P	**P**	**08 32 01.9**	**0.0**
	0.3nm,0.7s,baz=6.3,slow=7.4,SNR=4.3						
ASAR	**Alice Springs**	**64.10**	**189**	P	**P**	**08 32 25.1**	**-1.7**
	0.2nm,0.6s,baz=14,slow=7.9,SNR=3.0						
FINES	**FINESS Array B**	**66.64**	**332**	P	**P**	**08 32 41.9**	**-1.0**
	1.0nm,0.7s,baz=183,slow=22,SNR=3.4						

*NIED **17** 08:23:00, 40°.10N×143°.40E, h17km, Mw4.4 Best double couple: M0 4.68000×10^15 NP1:φ8 199.00000°, δ28.00000°, λ89.00000°. NP2:φ8 20.00000°, δ62.00000°, λ90.00000°.*
*ISCJB **17** 08:23:55.5±0.3, 39°.97N±0°.03×143°.40E±0°.04, h6km, mb4.6/56, MS4.5/1, Error ellipse: s-maj=5.3km s-min=3.5km az=136.5*
*JMA **17** 08:23:57.1±0.3, 40°.09N×143°.40E, h10km±3km, M4.4*
*MOS **17** 08:24:00.5±1.2, 40°.04N×143°.18E, h41km, mb4.6/24, Error ellipse: s-maj=9.3km s-min=7.3km az=109.9*
*NEIC **17** 08:24:03.1±0.6, 39°.94N×143°.21E, h53km±6km, mb4.7/32, Error ellipse: s-maj=6.8km s-min=4.5km az=129.0*
*IDC **17** 08:24:04.2±2.6, 39°.87N×143°.07E, h59km±23km, mb3.8/16, mb1 4.1/20, mb1mx3.9/43, mbtmp4.1/20, ML3.7/3, MS3.7/2, Ms1 3.7/2, ms1mx3.2/43, Error ellipse: s-maj=19.9km s-min=15.0km az=89.0*
ISC 17 08:23:56.9±0.5, **40°.00N**±0°.04×**143°.35E**±0°.05, **h6**km, **n149,** σ1§**59**/151, **mb4.7**/56, **8C-4D, Off east coast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JTH	**Tanohata**	**1.14**	**267**	P	**Pb**	**08 24 19.3**	**+0.3**
MIYJ	**Miyakonagasawa**	**1.25**	**251**	P	**Pn**	**08 24 21.6**	**+0.7**
JANG	**Nango**	**1.45**	**285**	P	**Pn**	**08 24 23.5**	**-0.2**
JOM	**Ohasama**	**1.67**	**252**	P	**Pb**	**08 24 28.0**	**-0.1**
JTM	**Tenmabayashi**	**1.91**	**295**	P	**Pn**	**08 24 30.5**	**+0.5**
JMK	**Ichinoseki**	**1.95**	**238**	P	**Pn**	**08 24 31.6**	**+1.1**
ERM	**Erimo**	**2.02**	**356**	*e*P	**Pg**	**08 24 36.4**	**+0.8**
ERM	**Erimo**	**2.02**	**356**	*e*Pn	**Pg**	**08 24 36.4**	**+0.8**
JAH	**Hinai**	**2.09**	**276**	P	**Pn**	**08 24 33.7**	**+1.3**
JAH				*e*S	**Sb**	**08 25 01.0**	**-0.4**
JOT	**Ohata**	**2.23**	**309**	P	**Pn**	**08 24 34.5**	**+0.2**
JYK	**Kaneyama**	**2.56**	**246**	P	**Pn**	**08 24 40.7**	**+1.9**
JKB	**Kayabe**	**2.58**	**318**	P	**Pn**	**08 24 41.1**	**+2.0**
JCH	**Churui**	**2.61**	**0**	*e*S	**Sn**	**08 25 09.0**	**-2.6**
ASAJ	**Asahikawa**	**4.15**	**352**	*e*Pn	**Pn**	**08 25 03.0**	**+2.2**
ASAJ				*e*Sn	**Sn**	**08 25 48.8**	**-0.8**
MJAR	**Matsushiro Arr**	**5.32**	**231**	P	**Pn**	**08 25 19.2**	**+2.3**
	2.4nm,0.3s,baz=34,slow=12,SNR=25						
MJAR				LR	LR	08 27 24.0	
	comp=Z,516nm,18.2s,baz=140,slow=40						
MAJO	**Matsushiro**	**5.32**	**231**	*c i*P	**Pn**	**08 25 19.3**	**+2.4**
MAJO	**Matsushiro**	**5.32**	**231**	*e*Pn	**Pn**	**08 25 19.5**	**+2.6**
MAT	**Matsushiro**	**5.32**	**231**	P	**Pn**	**08 25 19.1**	**+2.2**
MAT				*e*S	**Sn**	**08 26 19.2**	**+0.8**
MJB9	**Matsu-Tunnel**	**5.32**	**231**	*e*Pn	**Pn**	**08 25 19.5**	**+2.7**
KUR	**Kuril'sk**	**6.20**	**31**	*e*P	**Pn**	**08 25 29.9**	**+1.0**
KUR				*e*S	**Sn**	**08 26 33.4**	**-6.6**
KUR				pmax	pmax		
	comp=E,30nm,0.5s						
KUR				pmax	pmax		
	comp=Z,72nm,0.5s						
KUR				pmax	pmax		
	comp=N,22nm,0.4s						
KUR				smax	smax		
	comp=E,268nm,0.5s						
KUR				smax	smax		
	comp=N,96nm,0.4s						
INU	**Inuyama**	**6.84**	**229**	*e*Pn	**Pn**	**08 25 39.4**	**+1.7**
YSS	**Yuzh-Sakhalins**	**6.96**	**357**	*e*P	**Pb**	**08 25 57.5**	**-0.7**
YSS				pmax	pmax		
	comp=Z,20nm,0.7s						
JHJ2	**Mitsune**	**7.44**	**204**	*e*Pn	**Pn**	**08 25 46.7**	**+0.8**
JHJ	**Hachijo jima 2**	**7.44**	**204**	P	**Pn**	**08 25 45.4**	**-0.6**
	comp=Z,15nm,0.3s,baz=337,slow=7.7,SNR=4.4						
JHJ				S	**Sn**	**08 27 03.4**	**-7.4**
	comp=Z,9.9nm,0.3s,baz=221,slow=19,SNR=3.7						
USRK	**Ussuriysk Ar.**	**9.43**	**300**	P	**Pn**	**08 26 15.9**	**+2.8**
	comp=Z,0.4nm,0.3s,baz=107,slow=13,SNR=13						
MDJ	**Mudanjiang**	**11.18**	**299**	P	**Pn**	**08 26 39.1**	**+1.9**
MDJ				pmax	pmax		

	baz=322,slow=74								
H11N3	**WAKE ISLAND Hy**	**28.59**	**128**		T		T	08 59 45.1	
	baz=322,slow=74								
ENH	**Enshi**	**29.20**	**261**		*e*P		**P**	**08 29 59.0**	**-0.2**
	comp=Z,19nm,0.8s								
H11S1	**WAKE ISLAND Hy**	**29.40**	**130**		T		T	09 00 53.6	
	baz=322,slow=76								
H11S3	**WAKE ISLAND Hy**	**29.40**	**130**		T		T	09 00 54.6	
	baz=322,slow=76								
H11S2	**WAKE ISLAND Hy**	**29.41**	**130**		T		T	09 00 50.2	
	baz=322,slow=76								
TLY	**Talaya**	**29.66**	**307**	⇓	*e*P		**P**	**08 30 01.0**	**-2.1**
TLY					pmax		pmax		
	comp=Z,6.0nm,0.5s								
TLY	**Talaya**	**29.66**	**307**		*e*P		**P**	**08 30 00.7**	**-2.4**
	comp=Z,10nm,0.5s								
ZAK	**Zakamensk**	**29.75**	**304**		*e*P		**P**	**08 30 03.3**	**-0.7**
ZAK					pmax		pmax		
	comp=Z,3.0nm,1.2s								
GTA	**Gaotai**	**33.25**	**283**		*e*P		**P**	**08 30 35.8**	**+0.8**
GTA					pP		sP	08 30 44.8	+7.2
GTA					sP		pP	08 30 49.4	+13
GTA					pmax		pmax		
	comp=Z,8.0nm,1.2s								
GYA	**Guiyang**	**33.28**	**257**	⇑	*i*P		**P**	**08 30 34.8**	**-0.6**
GYA					pmax		pmax		
	comp=Z,10.0nm,0.8s								
WMQ	**Urumqi**	**40.93**	**294**		P		**P**	**08 31 41.4**	**+1.3**
WMQ					sP		sP	08 31 55.3	+13
WMQ					pmax		pmax		
	comp=Z,12nm,0.7s								
WMQ					pmax		pmax		
	comp=Z,75nm,4.1s								
ZAA0	**Zalesovo Array**	**41.11**	**310**		*e*P		**P**	**08 31 41.6**	**+0.3**
ZALV	**Zalesovo Beam**	**41.11**	**310**		P		**P**	**08 31 41.5**	**+0.2**
	comp=Z,4.6nm,0.5s,baz=83,slow=7.1,SNR=13								
NRIK	**Noril'sk**	**41.25**	**334**		P		**P**	**08 31 44.2**	**+1.9**
	comp=Z,1.5nm,0.3s,baz=101,slow=6.8,SNR=4.1								
NRIK	**Noril'sk**	**41.25**	**334**		P		**P**	**08 31 44.2**	**+1.9**
NRIK					pmax		pmax		
	comp=Z,3.0nm,0.6s								
SVW2	**Sparrevohn**	**42.26**	**39**		*e*P		**P**	**08 31 51.6**	**+0.9**
	comp=Z,42nm,2.0s								
CHTO	**Chiang Mai**	**43.53**	**254**		*e*P		**P**	**08 32 00.4**	**-1.0**
CHTO					pmax		pmax		
	comp=Z,5.0nm,1.0s								
CHTO	**Chiang Mai**	**43.53**	**254**		*e*P		**P**	**08 32 00.4**	**-1.0**
	comp=Z,4.8nm,1.0s								
CMAR	**Chiang Mai Arr**	**43.75**	**254**		P		**P**	**08 32 00.5**	**-2.8**
	comp=Z,1.3nm,0.3s,baz=43,slow=6.7,SNR=7.0								
PPLA	**Purkeypile**	**43.88**	**37**		*e*P		**P**	**08 32 03.5**	**-0.4**
	comp=Z,28nm,1.5s								
MK01	**Makanchi Array**	**43.89**	**300**		*e*P		**P**	**08 32 03.9**	**-0.2**
MK31	**Makanchi Array**	**43.90**	**300**		*e*P		**P**	**08 32 04.0**	**-0.1**
MK31	**Makanchi Array**	**43.90**	**300**		*e*P		**P**	**08 32 04.0**	**-0.1**
MKAR	**Makanchi Array**	**43.90**	**300**		*e*P		**P**	**08 32 04.0**	**-0.1**
MKAR					pmax		pmax		
	comp=Z,19nm,0.6s								
MKAR	**Makanchi Array**	**43.90**	**300**		*e*P		**P**	**08 32 04.0**	**-0.1**
	comp=Z,19nm,0.6s								
CAST	**Castle Rocks**	**43.93**	**36**		*e*P		**P**	**08 32 05.1**	**+0.9**
	comp=Z,28nm,2.0s								
KTH	**Kantishna Hill**	**44.45**	**36**		*e*P		**P**	**08 32 10.2**	**+1.8**
	comp=Z,16nm,1.5s								
KURK	**Kurchatov**	**45.36**	**306**	*c*	*i*P		**P**	**08 32 15.4**	**-0.3**
KURK					pmax		pmax		
	comp=Z,44nm,0.7s								
KURK	**Kurchatov**	**45.36**	**306**		*e*P		**P**	**08 32 15.6**	**-0.1**
	comp=Z,14nm,0.8s								
RND	**Reindeer**	**45.38**	**36**		*e*P		**P**	**08 32 17.0**	**+1.2**
RND					pmax		pmax		
	comp=Z,19nm,1.6s								
RND	**Reindeer**	**45.38**	**36**		*e*P		**P**	**08 32 17.0**	**+1.2**
	comp=Z,19nm,1.6s								
WRH	**Wood River Hil**	**45.68**	**34**		*e*P		**P**	**08 32 19.8**	**+1.7**
	comp=Z,28nm,1.9s								
CCB	**Clear Creek Bu**	**45.79**	**34**		*e*P		**P**	**08 32 20.9**	**+2.0**
	comp=Z,14nm,1.7s								
IL1	**Eielson Array**	**46.18**	**34**		*e*P		**P**	**08 32 22.5**	**+0.4**
ILAR	**Eielson Array**	**46.18**	**34**		P		**P**	**08 32 22.5**	**+0.5**
	comp=Z,0.6nm,0.7s,baz=264,slow=6.2,SNR=6.2								
ILAR	**Eielson Array**	**46.18**	**34**		*e*P		**P**	**08 32 22.3**	**+0.2**
ILAR					pmax		pmax		
	comp=Z,1.0nm,0.8s								
ILB	**Eielson Array**	**46.18**	**34**		*e*P		**P**	**08 32 22.8**	**+0.7**
FYU	**Fort Yukon**	**46.79**	**31**		*e*P		**P**	**08 32 27.1**	**+0.4**
	comp=Z,35nm,1.6s								
DOT	**Dot Lake**	**47.50**	**35**		*e*P		**P**	**08 32 33.9**	**+1.5**
	comp=Z,69nm,2.0s								
MENT	**Mentasta**	**47.74**	**36**		*e*P		**P**	**08 32 35.5**	**+1.2**
	comp=Z,14nm,1.4s								
BRVK	**Borovoye**	**49.80**	**311**	⇑	*i*P		**P**	**08 32 50.2**	**0.0**
BRVK					pmax		pmax		
	comp=Z,11nm,0.8s								
BRVK	**Borovoye**	**49.80**	**311**		*e*P		**P**	**08 32 50.4**	**+0.2**
	comp=Z,4.6nm,0.9s								
YKU2	**Yakutat**	**50.28**	**40**		*e*P		**P**	**08 32 54.0**	**+0.3**
	comp=Z,1µm,0.9s								
AAK	**Ala-Archa**	**50.46**	**297**	⇑	*e*P		**P**	**08 32 54.5**	**-1.1**
AAK					pmax		pmax		
	comp=Z,7.0nm,0.9s								
KSH	**Kashi**	**50.63**	**293**		*e*P		**P**	**08 33 00.8**	**+4.0**
KSH					pP		sP	08 33 10.9	+11
KSH					PcP		**PcP**	**08 34 17.8**	**+3.4**
KSH					S		**S**	**08 40 13.0**	**+1.0**
KSH					sS		sS	08 40 30.1	+15
KSH	**Kashi**	**50.63**	**293**		SS		**SS**	**08 43 46.1**	**+0.2**
KSH					pmax		pmax		
	comp=Z,4.0nm,0.6s								
KSH					pmax		pmax		
	comp=Z,62nm,4.6s								
KSH					LR		LR		
	comp=N,240nm,13.4s								
KSH					LR		LR		
	comp=E,250nm,13.0s								
KSH					LR		LR		
	comp=Z,350nm,20.1s								
WHY	**Whitehorse**	**52.31**	**38**		*e*P		**P**	**08 33 11.1**	**+2.0**
	comp=Z,24nm,1.6s								
KKAR	**Karatay Array**	**52.99**	**299**		*e*P		**P**	**08 33 13.9**	**-0.4**
KKAR	**Karatay Array**	**52.99**	**299**		*e*P		**P**	**08 33 13.9**	**-0.4**
	comp=Z,316nm,0.3s								
ARU	**Arti**	**55.17**	**318**	*d*	*i*P		**P**	**08 33 29.4**	**-0.5**
ARU					S		**S**	**08 41 10.6**	**-2.6**
ARU					SS		**SS**	**08 44 51.8**	**-4.8**
ARU					pmax		pmax		
	comp=Z,13nm,1.7s								
ARU	**Arti**	**55.17**	**318**		*e*P		**P**	**08 33 29.2**	**-0.7**
	comp=Z,5.0nm,0.8s								
ABKAR	**Akbulak array**	**57.22**	**309**		*e*P		**P**	**08 33 44.2**	**-0.4**
	comp=Z,20nm,0.6s								
WRAB	**Tennant Creek**	**60.21**	**190**		*e*P		**P**	**08 34 05.0**	**-0.7**
WRAB					pmax		pmax		
	comp=Z,6.0nm,0.8s								
WRAB	**Tennant Creek**	**60.21**	**190**		*e*P		**P**	**08 34 05.0**	**-0.7**
	comp=Z,5.9nm,0.8s								
WB2	**Warramunga Arr**	**60.22**	**190**		*e*P		**P**	**08 34 05.3**	**-0.5**
	comp=Z,22nm,1.7s								
WRA	**Warramunga Arr**	**60.22**	**190**		P		**P**	**08 34 04.6**	**-1.3**
	comp=Z,1.2nm,0.6s,baz=8.0,slow=7.1,SNR=15								
WRA	**Warramunga Arr**	**60.22**	**190**		*e*P		**P**	**08 34 04.8**	**-1.0**
WRA					pmax		pmax		
	comp=Z,1.0nm,0.6s								
GEYT	**Alibeck**	**63.74**	**299**		P		**P**	**08 34 28.9**	**-0.6**
	comp=Z,1.7nm,0.5s,baz=51,slow=7.8,SNR=3.9								
AS01	**Alice Springs**	**63.94**	**190**		*e*P		**P**	**08 34 30.8**	**0.0**
ASAR	**Alice Springs**	**63.95**	**190**		P		**P**	**08 34 30.8**	**-0.1**
	comp=Z,0.6nm,0.7s,baz=1.4,slow=5.0,SNR=5.4								
FIA1	**FINESS Array S**	**66.90**	**332**		*e*P		**P**	**08 34 49.4**	**-0.1**
FINES	**FINESS Array B**	**66.90**	**332**		P		**P**	**08 34 49.3**	**-0.2**
	comp=Z,5.1nm,0.9s,baz=40,slow=7.3,SNR=7.8								
BSMT	**Bassoo Peak**	**68.47**	**45**		*e*P		**P**	**08 35 00.6**	**+0.6**
YBMT	**Yellow Bay**	**68.89**	**45**		*e*P		**P**	**08 35 01.3**	**-1.2**
ZEI	**Tsey**	**70.09**	**309**		*e*P		**P**	**08 35 08.8**	**-1.3**
KIV	**Kislovodsk**	**70.11**	**311**	⇓	*e*P		**P**	**08 35 11.3**	**+1.3**
KIV					pmax		pmax		
	comp=Z,10.0nm,1.0s								
KBZ	**Khabaz**	**70.12**	**311**		P		**P**	**08 35 10.7**	**+0.7**
	comp=Z,4.0nm,0.8s,baz=81,slow=3.8,SNR=8.1								
BOZ	**Bozeman (W)**	**71.57**	**46**		*e*P		**P**	**08 35 19.5**	**+0.5**
BOZ					pmax		pmax		
	comp=Z,15nm,1.9s								
BOZ	**Bozeman (W)**	**71.57**	**46**		*e*P		**P**	**08 35 19.4**	**+0.5**
	comp=Z,15nm,1.9s								
NB2	**NORSAR Subarra**	**72.03**	**338**		P		**P**	**08 35 20.9**	**-0.4**
	comp=Z,4.1nm,0.9s,baz=35,slow=6.2								
NOA	**NORSAR Array B**	**72.03**	**338**		P		**P**	**08 35 21.1**	**-0.2**
	comp=Z,2.3nm,0.8s,baz=37,slow=6.0,SNR=6.8								
AKASG	**Malin Array Be**	**72.87**	**323**		P		**P**	**08 35 25.9**	**-0.5**
	comp=Z,0.2nm,0.3s,baz=44,slow=6.1,SNR=5.3								
AKASG	**Malin Array Be**	**72.87**	**323**	*i*	P		**P**	**08 35 27.0**	**+0.6**
KIEV	**Kiev**	**72.89**	**323**	⇓	*i*P		**P**	**08 35 26.3**	**-0.2**
KIEV					pmax		pmax		
	comp=Z,2.0nm,0.8s								
DUG	**Dugway, Tooele**	**74.28**	**51**		*e*P		**P**	**08 35 36.1**	**+0.9**
DUG					pmax		pmax		
	comp=Z,14nm,1.9s								
DUG	**Dugway, Tooele**	**74.28**	**51**		*e*P		**P**	**08 35 36.1**	**+0.9**
	comp=Z,14nm,1.9s								
PDAR	**Pinedale Array**	**74.52**	**47**		P		**P**	**08 35 39.8**	**+3.2**
	comp=Z,0.3nm,0.6s,baz=266,slow=2.6,SNR=3.4								
DPC	**Dobruska-Polom**	**78.74**	**329**		*e*P		**P**	**08 36 00.9**	**+0.8**
DPC	**Dobruska-Polom**	**78.74**	**329**		*e*P		**P**	**08 36 00.9**	**+0.8**
UPC	**Upice**	**78.74**	**329**		*e*P		**P**	**08 36 00.7**	**+0.7**
UPC	**Upice**	**78.74**	**329**		*e*P		**P**	**08 36 00.7**	**+0.7**
PRU	**Pruhonice**	**79.73**	**329**		*e*P		**P**	**08 36 06.1**	**+0.7**
PRU	**Pruhonice**	**79.73**	**329**		*e*P		**P**	**08 36 06.1**	**+0.7**
KHC	**Kasperske Hory**	**80.79**	**329**		*e*P		**P**	**08 36 11.6**	**+0.4**
KHC	**Kasperske Hory**	**80.79**	**329**		*e*P		**P**	**08 36 11.6**	**+0.4**
GERES	**GERESS Array B**	**80.97**	**329**		P		**P**	**08 36 12.2**	**0.0**
	comp=Z,0.2nm,0.2s,baz=15,slow=5.5,SNR=4.6								
GERES	**GERESS Array B**	**80.97**	**329**		*e*P		**P**	**08 36 11.9**	**-0.4**
GEA0	**GERESS Array S**	**80.98**	**329**		*e*P		**P**	**08 36 12.8**	**+0.6**
GRFO	**Grafenberg**	**81.24**	**331**		*e*P		**P**	**08 36 14.1**	**+0.5**
GRFO					pmax		pmax		
	comp=Z,41nm,1.9s								
GRFO	**Grafenberg**	**81.24**	**331**		*e*P		**P**	**08 36 14.1**	**+0.5**
	comp=Z,41nm,1.9s								
TXAR	**Lajitas Array**	**87.12**	**54**		P		**P**	**08 36 46.3**	**+2.3**
	comp=Z,0.5nm,0.8s,baz=270,slow=1.8,SNR=3.1								
HPIG		**87.54**	**57**		*e*P		**P**	**08 36 46.4**	**+0.2**
	comp=Z,14nm,0.8s								
SNAA	**Sanae**	**144.03**	**197**		*e*PKIKP		**PKPab**	**08 43 29.7**	**+0.1**
SNAA	**Sanae**	**144.03**	**197**		*e*PKPpre		**PKPab**	**08 43 29.7**	**+0.1**
RCBR	**Riachuelo**	**145.97**	**359**		*e*PKPdf		**PKPdf**	**08 43 36.1**	**-1.1**

*ROM **17** 08:31:22.4±0.3, 43.97N×13.15E, h9km±1km, Md2.7/16, Ml2.4/21, Error ellipse: s-maj=3.9km s-min=2.0km az=35.0*
*ISCJB **17** 08:31:23.1±0.4, 43.96N±0.02×13.13E±0.03, h8km±5km, Error ellipse: s-maj=4.2km s-min=3.8km az=179.0*
*CSEM **17** 08:31:23.3±0.1, 43.94N×13.12E, h10km, ML3.0/18, Error ellipse: s-maj=3.3km s-min=1.8km az=115.0*

ISC 17 08:31:23.5±0.9, 43.94N±0.02×13.14E±0.02, h12km±6km, n78, σ0.98/125, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PESA	**Pesaro**	**0.22**	**270**	Pg	**Pg**	**08 31 27.7**	**-0.5**
PESA				Sg	**Sg**	**08 31 31.9**	**+0.5**
	3µm,0.2s						
PESA	**Pesaro**	**0.22**	**270**	Pg	**Pg**	**08 31 27.7**	**-0.5**
PESA				Sg	**Sg**	**08 31 31.9**	**+0.5**
	3µm,0.2s						
SENI	**Senigallia**	**0.24**	**164**	Pg	**Pg**	**08 31 29.1**	**+0.5**
SENI				Sg	**Sb**	**08 31 33.7**	**+1.6**
	32µm,9.0s						
SENI	**Senigallia**	**0.24**	**164**	Pg	**Pg**	**08 31 29.1**	**+0.5**
SENI				Sg	**Sb**	**08 31 33.7**	**+1.6**
	32µm,9.0s						
FSSB	**Fossombrone**	**0.36**	**227**	Pg	**Pg**	**08 31 30.2**	**-0.6**
FSSB				Sg	**Sg**	**08 31 36.5**	**+0.8**
	744nm,0.3s						
FSSB	**Fossombrone**	**0.36**	**227**	Pg	**Pg**	**08 31 30.2**	**-0.6**
FSSB				Sg	**Sg**	**08 31 36.5**	**+0.8**
	744nm,0.3s						
MPAG	**Monte Paganucc**	**0.42**	**222**	Pg	**Pg**	**08 31 31.0**	**-0.8**
MPAG				Sg	**Sg**	**08 31 37.9**	**+0.5**
	236nm,0.4s						
MPAG	**Monte Paganucc**	**0.42**	**222**	Pg	**Pg**	**08 31 31.0**	**-0.8**
MPAG				Sg	**Sg**	**08 31 37.9**	**+0.5**
	236nm,0.4s						
ARVD	**Arcevia**	**0.47**	**198**	Pg	**Pg**	**08 31 32.0**	**-0.7**
ARVD				Sg	**Sg**	**08 31 39.8**	**+0.9**
	127nm,0.4s						
ARVD	**Arcevia**	**0.47**	**198**	Pg	**Pg**	**08 31 32.0**	**-0.7**
ARVD				Sg	**Sg**	**08 31 39.8**	**+0.9**
	127nm,0.4s						
CING	**Cingoli**	**0.57**	**176**	Pg	**Pg**	**08 31 34.4**	**-0.2**
CING				Sg	**Sb**	**08 31 44.1**	**+0.7**
	62nm,0.6s						
CING	**Cingoli**	**0.57**	**176**	Pg	**Pg**	**08 31 34.4**	**-0.2**
CING				Sg	**Sb**	**08 31 44.1**	**+0.7**
	62nm,0.6s						
SSFR	**Montelago di S**	**0.57**	**207**	Pg	**Pg**	**08 31 33.9**	**-0.7**
SSFR				Sg	**Sg**	**08 31 43.1**	**+0.9**
	309nm,0.2s						
SSFR	**Montelago di S**	**0.57**	**207**	Pg	**Pg**	**08 31 33.9**	**-0.7**
SSFR				Sg	**Sg**	**08 31 43.1**	**+0.9**
	309nm,0.2s						
PIEI	**Pieia**	**0.60**	**228**	Pg	**Pg**	**08 31 34.1**	**-1.1**
PIEI				Sg	**Sg**	**08 31 43.7**	**+0.6**
	240nm,0.3s						
PIEI	**Pieia**	**0.60**	**228**	Pg	**Pg**	**08 31 34.1**	**-1.1**
PIEI				Sg	**Sg**	**08 31 43.7**	**+0.6**
	240nm,0.3s						
ATPC	**Poggio Castell**	**0.68**	**227**	Pg	**Pg**	**08 31 35.9**	**-0.8**
ATPC				Sg	**Sb**	**08 31 46.5**	**-0.1**
	215nm,0.4s						
ATPC	**Poggio Castell**	**0.68**	**227**	Pg	**Pg**	**08 31 35.9**	**-0.8**
ATPC				Sg	**Sb**	**08 31 46.5**	**-0.1**
	215nm,0.4s						
SNTG	**Esanatoglia**	**0.70**	**192**	Pg	**Pg**	**08 31 36.7**	**-0.4**
SNTG				Sg	**Sb**	**08 31 48.1**	**+0.8**
	119nm,0.4s						
SNTG	**Esanatoglia**	**0.70**	**192**	Pg	**Pg**	**08 31 36.7**	**-0.4**
SNTG				Sg	**Sb**	**08 31 48.1**	**+0.8**
	119nm,0.4s						
PARC	**Parchiule**	**0.72**	**246**	Pg	**Pg**	**08 31 36.5**	**-0.9**
PARC				Sg	**Sb**	**08 31 48.1**	**+0.4**
	67nm,0.4s						
PARC	**Parchiule**	**0.72**	**246**	Pg	**Pg**	**08 31 36.5**	**-0.9**
PARC				Sg	**Sb**	**08 31 48.1**	**+0.4**
	67nm,0.4s						
T0502	**Localit` San**	**0.73**	**267**	Pg	**Pg**	**08 31 37.4**	**-0.2**
T0502				Sg	**Sb**	**08 31 47.8**	**-0.2**
	146µm,24.0s						
ATVO	**AVT- Monte Val**	**0.77**	**224**	Pg	**Pg**	**08 31 37.4**	**-1.1**
ATVO				Sg	**Sb**	**08 31 50.0**	**+0.7**
	83nm,0.5s						
ATVO	**AVT- Monte Val**	**0.77**	**224**	Pg	**Pg**	**08 31 37.4**	**-1.1**
ATVO				Sg	**Sb**	**08 31 50.0**	**+0.7**
	83nm,0.5s						
BADI	**Badiali**	**0.78**	**237**	Pg	**Pg**	**08 31 37.8**	**-0.8**
BADI				Sg	**Sb**	**08 31 50.1**	**+0.5**
	146nm,0.3s						
BADI	**Badiali**	**0.78**	**237**	Pg	**Pg**	**08 31 37.8**	**-0.8**
BADI				Sg	**Sb**	**08 31 50.1**	**+0.5**
	146nm,0.3s						
MURB	**Monte Urbino**	**0.81**	**214**	Pg	**Pg**	**08 31 39.3**	**+0.1**
	300nm,0.3s						
MURB	**Monte Urbino**	**0.81**	**214**	Pg	**Pg**	**08 31 39.3**	**+0.1**
	300nm,0.3s						
ATCC	**AVT- Casa Cast**	**0.84**	**206**	Pg	**Pg**	**08 31 39.5**	**-0.2**
ATCC				Sg	**Sb**	**08 31 51.4**	**+0.1**
	97nm,0.4s						
ATCC	**AVT- Casa Cast**	**0.84**	**206**	Pg	**Pg**	**08 31 39.5**	**-0.2**
ATCC				Sg	**Sb**	**08 31 51.4**	**+0.1**
	97nm,0.4s						
ATMC	**Monte Cedrone**	**0.85**	**235**	Pg	**Pg**	**08 31 39.2**	**-0.7**
	132nm,0.7s						
ATMC	**Monte Cedrone**	**0.85**	**235**	Pg	**Pg**	**08 31 39.2**	**-0.7**
	132nm,0.7s						
FDMO	**Fiordimonte**	**0.91**	**183**	Pg	**Pg**	**08 31 40.4**	**-0.6**
	52nm,0.3s						
FDMO	**Fiordimonte**	**0.91**	**183**	Pg	**Pg**	**08 31 40.4**	**-0.6**
	52nm,0.3s						
SFI	**Santa Sofia**	**0.94**	**268**	Pg	**Pg**	**08 31 41.3**	**-0.3**
	52nm,0.8s						
SFI	**Santa Sofia**	**0.94**	**268**	Pg	**Pg**	**08 31 41.3**	**-0.3**
	52nm,0.8s						
ATTE	**AVT- Monte Tez**	**0.94**	**218**	Pg	**Pg**	**08 31 40.7**	**-0.9**
ATTE	**AVT- Monte Tez**	**0.94**	**218**	Pg	**Pg**	**08 31 40.7**	**-0.9**
CESI	**CESI - Serrava**	**0.95**	**191**	Pg	**Pg**	**08 31 41.6**	**-0.3**
	33nm,0.3s						
CESI	**CESI - Serrava**	**0.95**	**191**	Pg	**Pg**	**08 31 41.6**	**-0.3**
	33nm,0.3s						
NRCA	**Norcia**	**1.11**	**181**	Pg	**Pb**	**08 31 44.4**	**-0.2**
	107nm,0.7s						
NRCA	**Norcia**	**1.11**	**181**	Pg	**Pb**	**08 31 44.4**	**-0.2**
	107nm,0.7s						
NVLJ	**Novalja**	**1.39**	**63**	*e*Pn		**Pn**	**08 31 48.6**	**0.0**
NVLJ				Sn		**Sg**	**08 32 08.8**	**+0.6**
NVLJ	**Novalja**	**1.39**	**63**	*e*Pn		**Pn**	**08 31 48.6**	**0.0**
NVLJ				Sn		**Sg**	**08 32 08.8**	**+0.6**
SKDS	**Skadanscina**	**1.72**	**21**	*i* Pn		**Pn**	**08 31 52.9**	**-0.4**
SKDS				*i* Sn		**Sb**	**08 32 16.7**	**0.0**
	comp=Z,8.0nm,0.2s							
SKDS	**Skadanscina**	**1.72**	**21**	Pn		**Pn**	**08 31 52.9**	**-0.4**
SKDS				*i* Sn		**Sb**	**08 32 16.7**	**0.0**
	comp=Z,8.0nm,0.2s							
UDBI	**Udbina**	**1.97**	**72**	*i* Pn		**Pn**	**08 31 58.0**	**+1.1**
UDBI				Sn		**Sg**	**08 32 26.0**	**-1.0**
UDBI	**Udbina**	**1.97**	**72**	*i* Pn		**Pn**	**08 31 57.9**	**+1.1**
UDBI				Sn		**Sg**	**08 32 25.9**	**-1.0**
GBRS	**Gornja Briga**	**1.98**	**36**	*i* Pn		**Pn**	**08 31 57.7**	**+0.8**
GBRS				*i* Sn		**Sb**	**08 32 25.5**	**+1.2**
	comp=Z,6.0nm,0.3s							
SABO	**M.te Sabotino**	**2.06**	**9**	*e*Pn		**Pn**	**08 31 57.9**	**-0.1**
SABO	**M.te Sabotino**	**2.06**	**9**	*e*Pn		**Pn**	**08 31 57.9**	**-0.1**
CGRP	**Cima Grappa**	**2.16**	**334**	*e*Pn		**Pn**	**08 31 59.1**	**-0.4**
CGRP	**Cima Grappa**	**2.16**	**334**	*e*Pn		**Pn**	**08 31 59.1**	**-0.4**
VISS	**Visnje**	**2.22**	**32**	*i* Pn		**Pn**	**08 32 01.2**	**+1.1**
VISS	**Visnje**	**2.22**	**32**	*i* Pn		**Pn**	**08 32 01.2**	**+1.1**
DRE	**Drenchia**	**2.26**	**9**	*e*Pn		**Pn**	**08 32 00.5**	**-0.3**
DRE	**Drenchia**	**2.26**	**9**	*e*Pn		**Pn**	**08 32 00.4**	**-0.3**
VINO	**Villanova**	**2.32**	**2**	*e*Pn		**Pn**	**08 32 01.1**	**-0.4**
VINO	**Villanova**	**2.32**	**2**	*e*Pn		**Pn**	**08 32 01.1**	**-0.4**
OZLJ	**Ozalj**	**2.35**	**44**	*e*Pn		**Pn**	**08 32 03.4**	**+1.4**
OZLJ				Sn		**Sn**	**08 32 31.6**	**+0.9**
OZLJ	**Ozalj**	**2.35**	**44**	*e*Pn		**Pn**	**08 32 03.3**	**+1.4**
OZLJ				Sn		**Sn**	**08 32 31.6**	**+0.9**
DDS	**Dosso del Somm**	**2.38**	**325**	*e*Pn		**Pn**	**08 32 01.8**	**-0.8**
DDS	**Dosso del Somm**	**2.38**	**325**	*e*Pn		**Pn**	**08 32 01.8**	**-0.8**
CIMO	**Cimolais**	**2.42**	**348**	*e*Pn		**Pn**	**08 32 02.5**	**-0.4**
CIMO	**Cimolais**	**2.42**	**348**	*e*Pn		**Pn**	**08 32 02.5**	**-0.4**
PANI	**Panarotta**	**2.47**	**329**	*e*Pn		**Pn**	**08 32 03.4**	**-0.4**
OBKA	**Obir**	**2.75**	**21**	*e*Pn		**Pg**	**08 32 14.7**	**-1.6**
	comp=Z,1.5nm,0.2s							
OBKA				*e*Sg		**Sg**	**08 32 56.1**	**+4.1**
	comp=Z,6.7nm,0.3s							
ABTA	**Abfaltersbach**	**2.84**	**351**	*i* Pn		**Pn**	**08 32 10.0**	**+1.2**
	comp=Z,0.6nm,0.1s							
ABTA				*i* Sn		**Sn**	**08 32 45.2**	**+2.3**
	comp=Z,0.9nm,0.2s							
ABTA	**Abfaltersbach**	**2.84**	**351**	Pn		**Pn**	**08 32 10.0**	**+1.2**
	comp=Z,0.6nm,0.1s							
ABTA				Sn		**Sn**	**08 32 45.2**	**+2.3**
	comp=Z,0.9nm,0.2s							
SOKA	**Soboth**	**3.04**	**25**	*i* Pn		**Pb**	**08 32 14.9**	**-2.8**
	comp=Z,0.7nm,0.2s							
SOKA				*e*Sg		**Sg**	**08 33 03.3**	**+2.0**
	comp=Z,1.6nm,0.3s							
SOKA	**Soboth**	**3.04**	**25**	Pn		**Pb**	**08 32 14.9**	**-2.8**
	comp=Z,0.7nm,0.2s							
SOKA				Sg		**Sg**	**08 33 03.3**	**+2.0**
	comp=Z,1.6nm,0.3s							
KBA	**Koelnbreinsper**	**3.14**	**3**	*i* Pn		**Pn**	**08 32 13.0**	**+0.1**
	comp=Z,0.8nm,0.2s							
KBA				*i* Sn		**Sn**	**08 32 52.1**	**+1.7**
	comp=Z,1.6nm,0.2s							
KBA	**Koelnbreinsper**	**3.14**	**3**	Pn		**Pn**	**08 32 13.0**	**+0.1**
	comp=Z,0.8nm,0.2s							
KBA				Sn		**Sn**	**08 32 52.1**	**+1.7**
	comp=Z,1.6nm,0.2s							
STON	**Ston**	**3.49**	**106**	*e*Pn		**Pn**

	5.4nm,0.7s							
AB31	**Akbulak array**	**13.15**	**325**	⇓	P	**Pn**	**08 37 01.1**	**-2.6**
	0.3nm,0.5s,baz=153,slow=10,SNR=8.0							
AB31				⇑	S	**Sn**	**08 39 28.6**	**-0.1**
	0.3nm,0.5s,baz=141,slow=24,SNR=3.9							

IDC ***17*** *08:36:21.4±7.8, 28.°56S×70.°46W, h82km±74km, mb3.5/2, mb1 3.4/3, mb1mx3.2/27, mbtmp3.7/3, ML3.2/1, Error ellipse: s-maj=88.8km s-min=48.5km az=116.0*

ISCJB ***17*** *08:36:22.2±0.6, 28.°68S±0.°04×70.°42W±0.°06, h106km±5km, mb3.5/2, Error ellipse: s-maj=9.2km s-min=6.2km az=160.9*

SJA ***17*** *08:36:22.9±1.1, 28.°75S×70.°44W, h92km±7km, ML3.8, MW3.7*

GUC ***17*** *08:36:22.3±0.6, 28.°72S×70.°09W, h75km±19km, ML3.8*

ISC 17 08:36:22.9±0.9, 28.°67S±0.°04×70.°43W±0.°06, h100km±7km, n22, σ1°27/29, 1C-3D, Central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
VACH	**Vallenar**	**0.31**	**288**	⇓	*iP*	**Pn**	**Pn**	**08 36 40.3**	**+2.7**
VACH					*i* S	**Sn**	**Sn**	**08 36 51.2**	**+2.6**
LCO	**Las Campanas**	**0.41**	**215**	⇓	*iP*	**Pn**	**Pn**	**08 36 37.8**	**-0.7**
LCO					*i* S	**Sn**	**Sn**	**08 36 49.0**	**-1.2**
LCO					IAML			08 36 49.3	
	comp=N,8μm,0.3s								
LCO	**Las Campanas**	**0.41**	**215**		*eP*	**Pn**	**Pn**	**08 36 37.6**	**-1.0**
LCO					*i* S	**Sn**	**Sn**	**08 36 49.1**	**-1.0**
LCO					IAML			08 36 49.8	
	comp=E,7μm,0.3s								
CPCH	**Copiapo**	**1.31**	**3**	⇓	*iP*	**Pn**	**Pn**	**08 36 46.3**	**-0.7**
CPCH					*i* S	**Sn**	**Sn**	**08 37 04.0**	**-1.1**
TLL	**Tololo Astrono**	**1.53**	**192**	⇑	*iP*	**Pn**	**Pn**	**08 36 49.4**	**-0.4**
TLL					*i* S	**Sn**	**Sn**	**08 37 09.6**	**-0.5**
TLL					IAML			08 37 11.7	
	comp=E,1μm,0.2s								
CDCH	**Caldera**	**1.64**	**348**		*eP*	**Pn**	**Pn**	**08 36 51.4**	**+0.5**
AGUA	**GUANDACOL**	**1.88**	**116**		*iP*	**Pn**	**Pn**	**08 36 54.9**	**+0.9**
AGUA					*i* S	**Sn**	**Sn**	**08 37 17.9**	**+0.1**
VCA	**Vinchina**	**1.95**	**92**		*eP*	**Pn**	**Pn**	**08 36 55.8**	**+0.8**
VCA					*e*S	**Sn**	**Sn**	**08 37 21.3**	**+1.8**
VCA					IAML			08 37 23.6	
	comp=Z,485nm,0.2s								
AMOG	**MOGNA**	**2.82**	**144**		*eP*	**Pn**	**Pn**	**08 37 06.3**	**0.0**
RTLL	**Cerro Villicun**	**3.14**	**148**		*eP*	**Pn**	**Pn**	**08 37 10.9**	**+0.2**
RTLL					*e*S	**Sn**	**Sn**	**08 37 46.8**	**-0.7**
RTLL					IAML			08 37 51.5	
	comp=Z,163nm,0.3s								
AVFE	**Valle Fertil**	**3.26**	**128**		*eP*	**Pn**	**Pn**	**08 37 11.6**	**-0.5**
AVFE					*i* S	**Sn**	**Sn**	**08 37 48.6**	**-1.6**
AVFE					IAML			08 37 52.7	
	comp=Z,170nm,0.5s								
RTCV	**Cerro Valdivia**	**3.58**	**153**		*eP*	**Pn**	**Pn**	**08 37 16.7**	**+0.3**
RTCV					*e*S	Sn	Sn	08 37 46.5	-11
AUSP	**Uspallata**	**3.65**	**166**		*eP*	**Pn**	**Pn**	**08 37 19.1**	**+1.4**
ASAL	**Salagasta**	**4.14**	**161**		*eP*	**Pn**	**Pn**	**08 37 25.0**	**+0.9**
ARCO	**CERRO ARCO**	**4.35**	**163**		*eP*	**Pn**	**Pn**	**08 37 27.8**	**+0.8**
ARCO					IAML			08 38 29.0	
	comp=Z,108nm,0.4s								
ACAN	**Cantantal**	**4.55**	**143**		*i* P	**Pn**	**Pn**	**08 37 29.2**	**-0.4**
MRA	**San Martin**	**5.52**	**134**		IAML			08 37 42.9	
	comp=Z,40nm,0.1s								
TCA	**Tanti**	**5.71**	**119**		IAML			08 38 48.9	
	comp=Z,29nm,0.6s								
LPAZ	**La Paz**	**12.51**	**10**		P	**Pn**	**Pn**	**08 39 15.5**	**-2.5**
	comp=Z,0.1nm,0.3s,baz=191,slow=10,SNR=3.5								
MAW	**Mawson**	**77.88**	**163**		P	**P**	**P**	**08 48 10.4**	**+1.2**
	comp=Z,0.5nm,0.6s,baz=221,slow=7.5,SNR=5.8								
TORD	**Torodi Ar. Bea**	**81.09**	**70**		P	**P**	**P**	**08 48 28.0**	**+0.5**
	comp=Z,0.5nm,0.6s,baz=248,slow=5.0,SNR=6.6								
WRA	**Warramunga Arr**	**126.07**	**209**		PKP	**PKPdf**	**PKPdf**	**08 55 14.8**	**+0.6**
	comp=Z,0.5nm,1.1s,baz=150,slow=1.7,SNR=5.5								

ISCJB ***17*** *08:40:05.0±0.5, 38.°36N±0.°08×133.°6E±0.°1, h448km, mb3.5/7, Error ellipse: s-maj=14.3km s-min=8.4km az=147.1*

JMA ***17*** *08:40:05.0±0.3, 38.°39N×133.°59E, h449km±4km, M3.3*

IDC ***17*** *08:40:06.0±1.1, 38.°34N×133.°63E, h450km±12km, mb3.2/7, mb1 3.2/11, mb1mx2.9/47, mbtmp3.9/11, Error ellipse: s-maj=30.6km s-min=12.7km az=73.0*

ISC 17 08:40:05.8±0.8, 38.°32N±0.°09×133.°65E±0.°09, h448km, n20, σ0838/21, mb3.6/7, Sea of Japan

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
JOI	**OKI**	**2.05**	**189**		P	**P**	**P**	**08 41 06.6**	**+0.1**
JKSM	**Kasumi**	**2.84**	**163**		P	**P**	**P**	**08 41 11.8**	**+0.1**
JKG	**Kaga**	**2.96**	**133**		P	**P**	**P**	**08 41 12.6**	**+0.2**
JHS	**Saijyo**	**3.34**	**187**		P	**P**	**P**	**08 41 15.5**	**0.0**
JWT	**Wachi**	**3.34**	**155**		P	**P**	**P**	**08 41 15.9**	**+0.5**
JWT					*e*S	**S**	**P**	**08 42 11.6**	**-0.3**
JSD	**Sado**	**3.65**	**93**		P	**P**	**P**	**08 41 18.1**	**+0.3**
MAT	**Matsushiro**	**4.04**	**115**		P	**P**	**P**	**08 41 21.1**	**-0.2**
MJAR	**Matsushiro Arr**	**4.04**	**115**		P	**P**	**P**	**08 41 21.7**	**+0.4**
	1.3nm,0.3s,baz=298,slow=10,SNR=33								
KSRS	**Korea Array**	**4.61**	**261**		P	**P**	**P**	**08 41 26.9**	**+0.6**
	0.4nm,0.3s,baz=74,slow=9.6,SNR=7.6								
JIE	**Ise**	**4.63**	**147**		P	**P**	**P**	**08 41 27.1**	**+0.4**
JNU	**Nakatsue**	**5.65**	**204**		P	**P**	**P**	**08 41 36.7**	**0.0**
	1.3nm,0.3s,baz=87,slow=2.6,SNR=12								
USRK	**Ussuriysk Ar.**	**6.01**	**349**		P	**P**	**P**	**08 41 40.5**	**+0.5**
	5.3nm,0.3s,baz=172,slow=9.9,SNR=75								
SONM	**Songino Array**	**21.96**	**304**		P	**P**	**P**	**08 44 25.2**	**+0.1**
	0.9nm,0.5s,baz=88,slow=9.2,SNR=3.9								
WRA	**Warramunga Arr**	**57.95**	**179**		P	**P**	**P**	**08 49 14.2**	**+0.1**
	0.4nm,0.4s,baz=355,slow=7.5,SNR=16								
ARCES	**ARCESS Array B**	**60.54**	**337**		P	**P**	**P**	**08 49 31.2**	**+0.3**
	2.3nm,0.8s,baz=59,slow=9.5,SNR=2.2								
ASAR	**Alice Springs**	**61.66**	**180**		P	**P**	**P**	**08 49 39.3**	**+0.5**
	0.5nm,0.8s,baz=0.2,slow=6.8,SNR=5.1								
FINES	**FINESS Array B**	**64.70**	**330**		P	**P**	**P**	**08 49 57.9**	**-0.2**
	1.4nm,0.4s,baz=65,slow=5.9,SNR=23								
AKASG	**Malin Array Be**	**69.39**	**319**		P	**P**	**P**	**08 50 26.7**	**-0.6**
	1.1nm,0.4s,baz=51,slow=6.1,SNR=8.7								
NB2	**NORSAR Subarra**	**70.48**	**334**		P	**P**	**P**	**08 50 33.5**	**-0.2**
	comp=Z,1.1nm,0.6s,baz=43,slow=6.2								
NOA	**NORSAR Array B**	**70.48**	**334**		P	**P**	**P**	**08 50 33.1**	**-0.6**
	comp=Z,0.2nm,0.4s,baz=44,slow=5.5,SNR=4.5								

IDC ***17*** *08:40:56.1±3.6, 35.°97N×141.°47E, h0km, mb3.4/2, mb1 3.6/4, mb1mx3.3/45, mbtmp3.5/4, ML3.3/2, Error ellipse: s-maj=72.3km s-min=36.4km az=45.0*

ISCJB ***17*** *08:41:04.9±0.9, 35.°74N±0.°05×140.°8E±0.°1, h63km±7km, mb3.4/2, Error ellipse: s-maj=14.3km s-min=7.4km az=164.9*

JMA ***17*** *08:41:06.9±0.1, 35.°75N×140.°67E, h47km±1km, M2.7*

ISC 17 08:41:05.9±1.2, 35.°74N±0.°05×140.°75E±0.°09, h55km±9km, n10, σ0981/15, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CHOJ	**Chosi**	**0.10**	**111**		P	**Pn**	**Pn**	**08 41 14.5**	**+0.3**
CHOJ					*e*S	**Sn**	**Sn**	**08 41 19.9**	**-0.3**
JCN	**Nagara**	**0.55**	**235**		P	**Pn**	**Pn**	**08 41 18.8**	**+0.8**
JYT	**Yasato**	**0.67**	**318**		P	**Pn**	**Pn**	**08 41 19.4**	**0.0**
JYT					S	**Sn**	**Sn**	**08 41 28.0**	**-1.2**
BSO4	**Boso 4**	**0.82**	**204**		P	**Pn**	**Pn**	**08 41 22.1**	**+0.9**
JHO	**Hitachi**	**0.89**	**351**		P	**Pn**	**Pn**	**08 41 23.1**	**+0.9**
JHO					*e*S	**Sn**	**Sn**	**08 41 34.2**	**0.0**
BSO3	**Boso 3**	**0.95**	**192**		P	**Pn**	**Pn**	**08 41 23.9**	**+1.1**
MJAR	**Matsushiro Arr**	**2.21**	**292**		Pn	**Pn**	**Pn**	**08 41 40.8**	**+0.7**
	6.5nm,0.3s,baz=97,slow=14,SNR=46								
MJAR					Sn	**Sn**	**Sn**	**08 42 06.2**	**-0.1**
	3.1nm,0.3s,baz=123,slow=21,SNR=5.6								
JHJ	**Hachijo jima 2**	**2.73**	**197**		Pn	**Pn**	**Pn**	**08 41 47.0**	**-0.3**
	6.4nm,0.3s,baz=75,slow=19,SNR=5.0								
JHJ					Sn	**Sn**	**Sn**	**08 42 18.3**	**-0.7**
	20nm,0.3s,baz=122,slow=23,SNR=6.1								
WRA	**Warramunga Arr**	**55.71**	**187**		P	**P**	**P**	**08 50 37.4**	**+0.6**
	0.2nm,0.4s,baz=1.3,slow=7.5,SNR=6.4								
ASAR	**Alice Springs**	**59.43**	**187**		P	**P**	**P**	**08 51 02.0**	**-1.0**
	0.1nm,0.3s,baz=20,slow=11,SNR=3.2								

IDC 17 08:45:23.9±2.0, 16.°68S×167.°46E, h0km, mb3.9/4, mb1 4.1/5, mb1mx3.7/32, mbtmp3.9/5, ML4.2/1, Error ellipse: s-maj=54.0km s-min=32.5km az=126.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**5.45**	**190**		*eP*	**Pn**	**Pn**	**08 46 46.2**	**-0.3**
	7.0nm,0.3s,baz=12,slow=20,SNR=102								
DZM					Sn	Sn	Sn	08 47 45.1	-4.9
	4.0nm,0.3s,baz=111,slow=22,SNR=8.0								
STKA	**Stephens Creek**	**27.92**	**232**		P	P	P	08 51 16.8	+0.9
	2.9nm,0.8s,baz=59,slow=11,SNR=4.7								
WRA	**Warramunga Arr**	**31.59**	**259**		P	P	P	08 51 47.9	-0.7
	0.6nm,0.9s,baz=92,slow=9.0,SNR=3.7								
ASAR	**Alice Springs**	**32.20**	**252**		P	P	P	08 51 54.0	0.0
	4.8nm,0.8s,baz=78,slow=8.6,SNR=54								
ILAR	**Eielson Array**	**88.31**	**18**		P	P	P	08 58 17.0	0.0
	0.2nm,0.8s,baz=232,slow=4.4,SNR=4.3								

NIED ***17*** *08:59:00, 48.°60N×155.°70E, h41km, Mw5.1 Best double couple: M0≈4.64000×10^16 NP1:φs104.00000°, δ40.00000°, λ-55.00000°. NP2:φs242.00000°, δ58.00000°, λ-116.00000°.*

KRSC ***17*** *08:59:24.2±2.4, 48.°53N×155.°42E, h86km±44km, ML5.8*

BJI ***17*** *08:59:26.1, 48.°92N×155.°16E, h60km, mb5.3/72, mB5.0/38, Ms4.7/61, Ms7 4.5/59*

ISCJB ***17*** *08:59:27.2±0.3, 48.°84N±0.°02×154.°86E±0.°02, h49km±2km, mb5.4/532, MS4.6/50, Error ellipse: s-maj=3.0km s-min=1.5km az=149.4*

MOS ***17*** *08:59:27.5±1.0, 48.°87N×154.°78E, h55km, mb5.6/136, MS4.5/33, Error ellipse: s-maj=6.4km s-min=2.9km az=73.2*

SKHL ***17*** *08:59:28.3±0.8, 48.°66N×155.°24E, h62km±6km, mb5.9/5, mbh5.4/1, Ms4.7/8, msh6.0/3*

NEIC ***17*** *08:59:30.5±0.4, 48.°91N×154.°74E, h62km±3km, mb5.4/298, Error ellipse: s-maj=2.5km s-min=1.5km az=154.0*

GCMT ***17*** *08:59:30.5±0.2, 48.°77N×155.°33E, h48km, MW5.2/94, Moment Tensor Solution. s84,c121; s94,c148; Duration: 1s0 Moment tensor: Scale 10^17Nm; Mrr0.76±.02; Mθθ-0.23±.02; Mφφ-0.53±.01; Mrθ0.09±.01; Mθφ-0.32±.01; Mφr0.19±.01; Best double couple: M0.77600×10^17 NP1:φs30.00000°, δ53.00000°, λ88.00000°. NP2:φs214.00000°, δ37.00000°, λ93.00000°. Principal axes: T 0.7880, Plg82.0000°, Azm289.0000°; N -0.0240, Plg2.0000°, Azm32.0000°; P -0.7640, Plg8.0000°, Azm122.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

IDC ***17*** *08:59:32.0±1.9, 48.°89N×154.°76E, h78km±16km, mb4.9/29, mb1 5.1/33, mb1mx5.0/40, mbtmp5.3/33, MS4.4/27, Ms1 4.4/27, ms1mx4.3/36 Error ellipse: s-maj=11.6km s-min=8.6km az=117.0*

ISC 17 08:59:29.1±0.5, 48.°81N±0.°03×154.°85E±0.°03, h52km±4km, n1763, σ1°17/1839, mb5.4/543, MS4.6/54, 58C-45D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**2.04**	**23**		*e*PN	**Pn**	**Pn**	**09 00 00.2**	**-0.8**
SKR					*e*S	**Sn**	**Sn**	**09 00 24.2**	**-1.2**
SKR					pmax	pmax			
	comp=Z,4μm,0.7s								
SKR					pmax	pmax			
	comp=Z,900nm,1.9s								
SKR					pmax	pmax			
	comp=Z,5μm,1.9s								
SKR					smax	smax			
	comp=E,23μm,0.6s								
SKR					smax	smax			
	comp=N,31μm,0.8s								
SKR	**Severo-Kuril's**	**2.04**	**23**		*e*P	**Pn**	**Pn**	**09 00 00.1**	**-0.9**
SKR					AMB	AMB	AMB	09 00 03.5	
	comp=N,4μm,0.7s								
SKR					AMB	AMB	AMB	09 00 03.7	
	comp=N,5μm,2.0s								
SKR					*e*S	**Sn**	**Sn**	**09 00 23.4**	**-2.0**
SKR					A	A	A	09 00 33.2	
	comp=N,31μm,0.7s								
SKR					A	A	A	09 00 33.2	
	comp=N,23μm,0.7s								
SKR	**Severo-Kuril's**	**2.04**	**23**		*e*P	**Pn**	**Pn**	**08 59 59.8**	**-1.2**
SKR					*e*S	**Sn**	**Sn**	**09 00 24.0**	**-1.4**
KDTR	**Khodutka, Kamc**	**3.64**	**33**		*e*P	**Pn**	**Pn**	**09 00 21.6**	**-1.3**
KDTR					*e*S	**Sn**	**Sn**	**09 01 02.3**	**-2.3**
ASAK	**Asacha**	**4.07**	**27**		PN	**Pn**	**Pn**	**09 00 29.4**	**+0.6**
ASAK					S	**Sn**	**Sn**	**09 01 15.4**	**+0.2**
ASAK	**Asacha**	**4.07**	**27**		*e*P	**Pn**	**Pn**	**09 00 29.4**	**+0.6**
ASAK					*e*S	**Sn**	**Sn**	**09 01 15.4**	**+0.2**
MTVR	**Mutnovka**	**4.24**	**29**		PN	**Pn**	**Pn**	**09 00 31.7**	**+0.4**
MTVR					S	**Sn**	**Sn**	**09 01 18.9**	**-0.6**
MTVR	**Mutnovka**	**4.24**	**29**		*e*P	**Pn**	**Pn**	**09 00 31.7**	**+0.4**
MTVR					*e*S	**Sn**	**Sn**	**09 01 18.9**	**-0.6**
RUS	**Russkaya**	**4.31**	**31**		PN	**Pn**	**Pn**	**09 00 31.1**	**-0.9**
RUS					S	**Sn**	**Sn**	**09 01 19.0**	**-2.0**
RUS	**Russkaya**	**4.31**	**31**		*e*P	**Pn**	**Pn**	**09 00 31.1**	**-0.9**
RUS	**Russkaya**	**4.31**	**31**		*i* P	**Pn**	**Pn**	**09 00 31.1**	**-0.9**
RUS					*e*S	**Sn**	**Sn**	**09 01 19.0**	**-2.0**
APC	**Apacha**	**4.37**	**19**		PN	**Pn**	**Pn**	**09 00 32.5**	**-0.4**
APC					S	**Sn**	**Sn**	**09 01 22.9**	**+0.5**
APC	**Apacha**	**4.37**	**19**		*e*P	**Pn**	**Pn**	**09 00 32.5**	**-0.4**
APC					*e*S	**Sn**	**Sn**	**09 01 22.9**	**+0.5**
KRMR	**Karymshinskiy**	**4.53**	**26**		PN	**Pn**	**Pn**	**09 00 35.9**	**+0.9**
KRMR					S	**Sn**	**Sn**	**09 01 26.9**	**+0.6**
KRMR	**Karymshinskiy**	**4.53**	**26**		*e*P	**Pn**	**Pn**	**09 00 35.9**	**+0.9**
KRMR					*e*S	**Sn**	**Sn**	**09 01 26.9**	**+0.6**
PEA0	**Petropavlovsk-**	**4.66**	**22**		*e*Pn	**Pn**	**Pn**	**09 00 38.0**	**+1.1**
PEA0B	**Petropavlovsk-**	**4.66**	**22**		*e*Pn	**Pn**	**Pn**	**09 00 38.3**	**+1.4**
PETK	**Petropavlovsk-**	**4.66**	**22**		P	**Pn**	**Pn**	**09 00 39.1**	**+2.2**
	comp=N,66nm,0.3s,baz=178,slow=11,SNR=869								
PETK					S		**Sn**	**09 01 33.1**	**+3.4**
	comp=N,22nm,0.3s,baz=202,slow=11,SNR=3.6								
PETK					LR	LR	LR	09 02 40.6	
	comp=N,4μm,21.5s,baz=199,slow=41								
PET	**Petropavlovsk**	**4.85**	**28**		PN	**Pn**	**Pn**	**09 00 39.6**	**+0.1**
PET					S	**Sn**	**Sn**	**09 01 33.8**	**-0.5**
PET	**Petropavlovsk**	**4.85**	**28**		*e*P	**Pn**	**Pn**	**09 00 39.5**	**+0.1**
PET					AMB	AMB	AMB	09 00 40.2	
	comp=N,400nm,0.6s								
PET					*e*S	**Sn**	**Sn**	**09 01 33.5**	**-0.8**
PET					A	A	A	09 01 35.4	
	comp=N,4μm,2.0s								
PET					A	A	A	09 01 52.2	
	comp=N,5μm,1.0s								
PET					AMS	AMS	AMS	09 02 52.0	
	comp=N,2μm,15.0s								
PET	**Petropavlovsk**	**4.85**	**28**		*e*Pn	**Pn**	**Pn**	**09 00 39.4**	**-0.1**
DALK	**Dalny**	**4.89**	**29**		PN	**Pn**	**Pn**	**09 00 39.7**	**-0.3**
DALK					S	**Sn**	**Sn**	**09 01 34.1**	**-1.2**
DALK	**Dalny**	**4.89**	**29**		*e*P	**Pn**	**Pn**	**09 00 39.7**	**-0.3**
DALK					*e*S	**Sn**	**Sn**	**09 01 34.1**	**-1.2**
UGLR	**Uglovaya**	**5.07**	**28**		PN	**Pn**	**Pn**	**09 00 43.4**	**+0.9**
UGLR					S	**Sn**	**Sn**	**09 01 40.3**	**+0.6**
UGLR	**Uglovaya**	**5.07**	**28**		*e*P	**Pn**	**Pn**	**09 00 43.4**	**+0.9**
UGLR					*e*S	**Sn**	**Sn**	**09 01 40.3**	**+0.6**
KOK	**Koryaka**	**5.08**	**27**		PN	**Pn**	**Pn**	**09 00 43.6**	**+0.9**
KOK					S	**Sn**	**Sn**	**09 01 40.8**	**+0.7**
KOK	**Koryaka**	**5.08**	**27**		*e*P	**Pn**	**Pn**	**09 00 43.6**	**+0.9**
KOK					*e*S	**Sn**	**Sn**	**09 01 40.8**	**+0.7**
AVH	**Avacha**	**5.09**	**27**		PN	**Pn**	**Pn**	**09 00 44.1**	**+1.3**
AVH					S	**Sn**	**Sn**	**09 01 40.8**	**+0.6**
AVH	**Avacha**	**5.09**	**27**		*e*P	**Pn**	**Pn**	**09 00 44.1**	**+1.3**
AVH					*e*S	**Sn**	**Sn**	**09 01 40.8**	**+0.6**
KRER	**Koryakskii**	**5.12**	**27**		PN	**Pn**	**Pn**	**09 00 44.4**	**+1.0**
KRER					S	**Sn**	**Sn**	**09 01 41.6**	**+0.3**
KRER	**Koryakskii**	**5.12**	**27**		*e*P	**Pn**	**Pn**	**09 00 44.4**	**+1.0**
KRER					*e*S	**Sn**	**Sn**	**09 01 41.6**	**+0.3**
KRX	**Arik**	**5.14**	**26**		PN	**Pn**	**Pn**	**09 00 43.4**	**-0.2**
KRX	**Arik**	**5.14**	**26**		*e*P	**Pn**	**Pn**	**09 00 43.4**	**-0.2**
SDLR	**Sedlovina**	**5.14**	**28**		PN	**Pn**	**Pn**	**09 00 44.1**	**+0.5**
SDLR					S	**Sn**	**Sn**	**09 01 40.3**	**-1.4**
SDLR	**Sedlovina**	**5.14**	**28**		*i* P	**Pn**	**Pn**	**09 00 44.1**	**+0.5**
SDLR					*e*S	**Sn**	**Sn**	**09 01 40.3**	**-1.4**
GNL	**Ganaly**	**5.26**	**20**		PN	**Pn**	**Pn**	**09 00 46.7**	**+1.5**
GNL	**Ganaly**	**5.26**	**20**		*e*P	**Pn**	**Pn**	**09 00 46.7**	**+1.5**
SPN	**Mys Shipunski**	**5.39**	**35**		PN	**Pn**	**Pn**	**09 00 46.2**	**-0.7**
SPN	**Mys Shipunski**	**5.39**	**35**		*e*P	**Pn**	**Pn**	**09 00 46.2**	**-0.7**
SPN					*e*S	**Sn**	**Sn**	**09 01 44.4**	**-3.2**
KUR	**Kuril'sk**	**5.97**	**236**		*de*PN	**Pn**	**Pn**	**09 00 58.2**	**+3.4**
KUR					*e*S	**Sn**	**Sn**	**09 02 06.7**	**+5.0**
KUR					pmax	pmax			
	comp=Z,2μm,0.7s								
KUR					pmax	pmax			
	comp=N,419nm,0.4s								
KUR					pmax	pmax			
	comp=E,443nm,0.8s								
KUR					pmax	pmax			
	comp=N,638nm,0.9s								
KUR					pmax	pmax			
	comp=Z,5μm,0.9s								
KUR					pmax	pmax			
	comp=E,2μm,1.2s								
KUR					smax	smax			
	comp=E,14μm,1.9s								
KUR					smax	smax			
	comp=N,11μm,2.2s								
KUR					smax	smax			
	comp=N,1μm,0.5s								
KUR					smax	smax			
	comp=E,658nm,0.7s								
KUR					MLR	MLR			
	comp=Z,3μm,16.0s								
KUR					MLR	MLR			
	comp=N,1μm,12.0s								
KUR					MLR	MLR			
	comp=E,2μm,13.0s								
KUR	**Kuril'sk**	**5.97**	**236**		*i* P	**Pn**	**Pn**	**09 00 58.0**	**+3.2**
KUR					AMB	AMB	AMB	09 00 59.9	
	comp=E,600nm,1.0s								
KUR					AMB	AMB	AMB	09 00 59.9	
	comp=E,2μm,1.0s								
KUR					AMB	AMB	AMB	09 00 59.9	
	comp=E,5μm,1.0s								
KUR					AMB	AMB	AMB	09 00 59.9	
	comp=E,2μm,0.7s								
KUR					*e*S	**Sn**	**Sn**	**09 02 03.6**	**+1.9**
KUR					A	A	A	09 02 18.5	
	comp=E,11μm,2.0s								
KUR					A	A	A	09 02 18.5	
	comp=E,14μm,2.0s								
KUR					A	A	A	09 02 19.4	
	comp=E,4μm,0.8s								
KUR					A	A	A	09 02 19.4	
	comp=E,2μm,0.8s								
KUR					AMS	AMS	AMS	09 03 00.7	
	comp=E,1μm,15.0s								
KUR					AMS	AMS	AMS	09 03 00.7	
	comp=E,2μm,15.0s								
KUR					AMS	AMS	AMS	09 03 00.7	
	comp=E,3μm,15.0s								
KII	**Karymskiy**	**5.97**	**27**		PN	**Pn**	**Pn**	**09 00 55.1**	**+0.2**
KII	**Karymskiy**	**5.97**	**27**		*e*P	**Pn**	**Pn**	**09 00 55.1**	**+0.2**
MKZ	**Mys Kozlova**	**7.17**	**34**		PN	**Pn**	**Pn**	**09 01 08.9**	**-2.2**
MKZ	**Mys Kozlova**	**7.17**	**34**		*e*P	**Pn**	**Pn**	**09 01 08.9**	**-2.2**
MKZ					*e*S	**Sn**	**Sn**	**09 02 23.9**	**-7.1**
TUMR	**Tumrok**	**7.25**	**25**		PN	**Pn**	**Pn**	**09 01 12.0**	**-0.5**
TUMR	**Tumrok**	**7.25**	**25**		*e*P	**Pn**	**Pn**	**09 01 12.0**	**-0.5**
SHO	**Shikotan**	**7.43**	**231**		*c i* PN	**Pn**	**Pn**	**09 01 13.5**	**-1.3**
SHO					pmax	pmax			
	comp=Z,927nm,0.5s								
SHO					pmax	pmax			
	comp=E,75nm,0.3s								
SHO					pmax	pmax			
	comp=N,368nm,0.4s								
SHO	**Shikotan**	**7.43**	**231**		*i* P	**Pn**	**Pn**	**09 01 14.3**	**-0.5**
SHO					AMB	AMB	AMB	09 01 16.8	
	comp=N,930nm,0.5s								
SHO					*e*S	**Sn**	**Sn**	**09 02 36.8**	**-0.9**
SHO					A	A	A	09 02 47.4	
	comp=N,400nm,0.5s								
SHO					A	A	A	09 02 47.4	
	comp=N,600nm,0.5s								
SHO					AMS	AMS	AMS	09 03 47.0	
	comp=N,3μm,14.0s								
SHO					AMS	AMS	AMS	09 03 47.0	
	comp=N,2μm,14.0s								
SHO					AMS	AMS	AMS	09 03 47.0	
	comp=N,2μm,14.0s								
ESO	**Esso**	**7.50**	**17**		PN	**Pn**	**Pn**	**09 01 16.2**	**+0.4**
ESO	**Esso**	**7.50**	**17**		*e*P	**Pn**	**Pn**	**09 01 16.2**	**+0.4**
KMNR	**Kamenistaya**	**7.70**	**23**		PN	**Pn**	**Pn**	**09 01 19.3**	**+0.8**
KMNR	**Kamenistaya**	**7.70**	**23**		*e*P	**Pn**	**Pn**	**09 01 19.3**	**+0.8**
YUK	**Yuzh-Kuril'sk**	**7.83**	**236**		*c i* PN	**Pn**	**Pn**	**09 01 22.4**	**+2.0**

YSS AMS AMS 09 03 59.0
comp=E,2µm,19.0s
YSS Yuzh-Sakhalins 8.34 262 ePn Pn 09 01 31.6 +4.3
YSS eSn Sn 09 03 02.2 +2.1
NEM2 Nemuro 2 8.35 233 P Pn 09 01 26.4 -1.0
NEM2 eS Sn 09 02 56.6 -3.6
UGL Uglegorsk 8.43 277 ePN Pn 09 01 33.5 +5.1
UGL pmax pmax
comp=Z,948nm,0.7s
UGL pmax pmax
comp=Z,2µm,1.5s
UGL MLR MLR
comp=Z,3µm,18.0s
UGL MLR MLR
comp=N,2µm,16.0s
UGL MLR MLR
comp=E,4µm,16.0s
UGL Uglegorsk 8.43 277 eP Pn 09 01 32.5 +4.1
UGL AMB AMB 09 01 35.1
comp=E,1µm,0.9s
UGL AMB AMB 09 01 36.0
comp=E,2µm,2.0s
UGL eS Sn 09 03 05.5 +3.5
UGL A A 09 03 24.0
comp=E,600nm,8.0s
UGL A A 09 03 24.0
comp=E,1µm,8.0s
UGL A A 09 03 24.0
comp=E,1µm,8.0s
UGL AMS AMS 09 05 04.0
comp=E,2µm,17.0s
UGL AMS AMS 09 05 04.0
comp=E,4µm,17.0s
UGL AMS AMS 09 05 04.0
comp=E,3µm,17.0s
SRKR Sorokina 8.74 24 PN Pn 09 01 32.8 +0.1
SRKR Sorokina 8.74 24 eP Pn 09 01 32.8 +0.1
SMKR Semkarok 8.75 25 PN Pn 09 01 32.9 -0.1
SMKR Semkarok 8.75 25 eP Pn 09 01 32.9 -0.1
JNK Nakash 8.76 237 P Pn 09 01 34.1 +1.1
KBG Krutoberegovo 8.85 30 PN Pn 09 01 34.2 0.0
KBG Krutoberegovo 8.85 30 eP Pn 09 01 34.2 0.0
KBG eS Sn 09 03 09.8 -2.6
OKH Okha 8.86 307⇑iPN Pn 09 01 41.3 +7.0
OKH eS Sn 09 03 21.9 +9.3
OKH pmax pmax
comp=Z,500nm,10.0s
OKH MLR MLR
comp=Z,2µm,22.0s
OKH Okha 8.86 307 eP Pn 09 01 39.8 +5.5
OKH AMB AMB 09 01 42.1
comp=Z,400nm,1.0s
OKH eS Sn 09 03 18.2 +5.6
OKH A A 09 03 39.1
comp=Z,360nm,0.6s
OKH A A 09 03 39.1
comp=Z,320nm,0.6s
OKH AMS AMS 09 04 41.0
comp=Z,2µm,23.0s
JTKR Abashiri--Toko 8.98 241 ⇑P Pn 09 01 38.8 +2.8
JAK Akkeshi 9.16 234 P Pn 09 01 37.3 -1.2
JAK eS Sn 09 03 16.5 -3.5
JSE Soyaes 9.24 250 P Pn 09 01 44.5 +4.9
JMP Maruseppu 9.28 243 P Pn 09 01 43.4 +3.2
BKI Bering 9.37 43 PN Pn 09 01 37.7 -3.6
BKI Bering 9.37 43 eP Pn 09 01 37.7 -3.6
BKI eS Sn 09 03 13.2 -12
JAR Ashorobuto 9.47 239 P Pn 09 01 44.0 +1.2
JWK2 Keihoku 9.51 253 P Pn 09 01 50.0 +6.8
ASAJ Asahikawa 9.67 246 ⇑P Pn 09 01 50.1 +4.6
ASAJ Asahikawa 9.67 246 ePn Pn 09 01 50.2 +4.7
JOB Onbets 9.69 237 P Pn 09 01 45.6 -0.2
JOB eS Sn 09 03 29.0 -4.1
JKK2 Kamakawa 2 9.72 244 P Pn 09 01 49.8 +3.7
NKL Nikolayevsk 9.94 301 ePN Pn 09 01 56.0 +7.0
NKL MLR MLR
comp=E,4µm,20.0s
NKL MLR MLR
comp=E,5µm,20.0s
NKL Nikolayevsk 9.94 301 eP Pn 09 01 56.0 +7.0
NKL AMS AMS 09 05 11.0
comp=E,4µm,20.0s
NKL AMS AMS 09 05 11.0
comp=E,5µm,20.0s
JSS Shosan 9.97 249 P Pn 09 01 55.8 +6.2
JCH Churui 10.14 237 P Pn 09 01 50.8 -1.1
JCH eS Sn 09 03 40.0 -4.1
JFR Furan 10.23 241 P Pn 09 01 54.8 +1.7
JAB Ashibetsu 10.24 244 P Pn 09 01 56.6 +3.3
JBT2 Biratori 2 10.60 240 P Pn 09 01 58.5 +0.3
JEM Erimo 10.66 235 P Pn 09 01 58.2 -0.8
JEM eS Sn 09 03 54.6 -2.2
ERM Erimo 10.66 235 iPN Pn 09 01 58.7 -0.3
ERM Erimo 10.66 235 ePn Pn 09 01 58.6 -0.3
JNBK Urakawa-nobuka 10.70 237 P Pn 09 01 57.6 -2.0
JNBK eS Sn 09 03 52.1 -5.7
MA2 Magadan 11.05 349 P Pn 09 02 06.1 +1.9
comp=Z,14nm,0.3s,baz=166,slow=10,SNR=86
MA2 LR LR 09 06 16.9
comp=Z,2µm,21.3s,baz=185,slow=37
MA2 Magadan 11.05 349 eP Pn 09 02 06.0 +1.8
JEW Eniwo 11.09 242 P Pn 09 02 06.1 +1.2
OSSR Ossora 11.51 22 PN Pn 09 02 10.1 -0.3
OSSR Ossora 11.51 22 eP Pn 09 02 10.1 -0.3
JNB Noboribetsu 11.56 242 P Pn 09 02 10.1 -1.1
JNB eS Sn 09 04 16.1 -2.6
JKB Kayabe 11.93 240 P Pn 09 02 13.8 -2.5
JKB eS Sn 09 04 19.7 -8.0
JSH Shimam 12.04 245 P Pn 09 02 18.5 +0.7
GRNR Gornyy 12.07 286 eP Pn 09 02 19.0 +0.7
GRNR AMB AMB 09 02 21.0
comp=Z,20nm,0.8s
JYM2 Yakumo 2 12.16 242 P Pn 09 02 18.8 -0.7
JSR Shiriuchi 12.51 240 P Pn 09 02 22.0 -2.2
JTM Tenmabayashi 12.64 236 P Pn 09 02 22.6 -3.5
JTM eS Sn 09 04 34.7 -11
JANG Nango 12.70 233 P Pn 09 02 21.7 -5.1
JOSM Okushiri--Mats 12.71 244 P Pn 09 02 24.9 -2.1
SMY Shemya 12.79 65 ePN Pn 09 02 25.1 -2.9
SMY Shemya 12.79 65 ePn Pn 09 02 25.1 -2.9
SMY eSn Sn 09 04 36.1 -12
JTH Tanohata 12.83 231 P Pn 09 02 22.9 -5.7
HABR Khabarovsk 13.10 276 ePN Pn 09 02 31.3 -1.0
HABR pmax pmax
comp=N,4.0nm,0.9s
HABR pmax pmax
comp=E,44nm,0.9s
HABR pmax pmax
comp=Z,52nm,0.9s
HABR MLR MLR
comp=Z,1µm,13.0s
HABR Khabarovsk 13.10 276 eP Pn 09 02 31.3 -1.0
OFUJ Ofunato 13.58 229 P Pn 09 02 33.8 -5.0
JRG Rokugo 13.87 233 P Pn 09 02 38.6 -4.2
JRG eS Sn 09 05 07.0 -8.1
JOG2 Oga 2 13.95 236 P Pn 09 02 40.2 -3.7
JIO Ouri 14.22 228 P Pn 09 02 41.9 -5.6
SEY Seymchan 14.22 355 P Pn 09 02 48.8 +1.4
comp=Z,3.5nm,0.3s,baz=162,slow=10.0,SNR=62
EKMR Ekimchan 14.43 295 eP Pn 09 02 52.8 +2.5
EKMR AMB AMB 09 03 00.2
comp=Z,80nm,0.6s
EKMR AMB AMB 09 03 00.2
comp=Z,160nm,0.6s
EKMR AMB AMB 09 03 00.2
comp=Z,340nm,0.6s
JYA Atsumi 14.95 233 P Pn 09 02 52.4 -4.6
KLR Kul'dur 15.16 280 diP P 09 03 04.5 +0.7
JFY Yanaizu 15.85 230 P Pn 09 03 05.1 -3.6
JSD Sado 16.13 234 P Pn 09 03 07.7 -4.5
USRK Ussuriysk Ar. 16.38 262 P P 09 03 16.6 -0.9
comp=Z,6.3nm,0.3s,baz=63,slow=12,SNR=69
USRK LR LR 09 10 27.2
comp=Z,558nm,18.8s,baz=54,slow=40
VLA Vladivostok 16.92 259 ceP P 09 03 23.0 -0.4
VLA Vladivostok 16.92 259 eP P 09 03 23.0 -0.4
BMKR Bomnak 17.09 300 eP P 09 03 25.8 +0.6
BMKR AMB AMB 09 03 30.9
comp=Z,60nm,0.5s
MJAR Matsushiro Arr 17.28 231 P Pn 09 03 24.8 -1.8
comp=Z,3.1nm,0.3s,baz=28,slow=14,SNR=80
MJAR LR LR 09 11 04.5
comp=Z,789nm,18.9s,baz=30,slow=40
MJB9 Matsu-Tunnel 17.28 231 ePn Pn 09 03 25.1 -1.5

comp=Z,72nm,0.7s
MAJO Matsushiro 17.28 231 ciP Pn 09 03 25.3 -1.3
MAJO pmax pmax
comp=Z,372nm,0.7s
MAJO Matsushiro 17.28 231 eP Pn 09 03 25.3 -1.3
MAJO Matsushiro 17.28 231 ePn Pn 09 03 25.6 -1.0
comp=Z,285nm,0.7s
MAT Matsushiro 17.28 231 P Pn 09 03 24.4 -2.2
MAT Matsushiro 17.28 231 P Pn 09 03 24.6 -2.0
JRY Ryogami san 17.34 228 P Pn 09 03 25.9 -1.4
MSHR Mys Shultsa 17.65 258 diP P 09 03 31.4 0.0
MDJ Mudanjiang 17.79 266 P Pn 09 03 32.3 -0.5
MDJ pP pP 09 03 43.9 -0.8
MDJ sP sP 09 03 50.3 -1.0
MDJ S Sn 09 06 51.0 +0.9
MDJ PcP PcP 09 08 08.5 +1.1
MDJ ScP ScP 09 11 39.3 +1.3
MDJ PcS PcS 09 11 45.3 +1.6
MDJ pmax pmax
comp=Z,99nm,1.0s
MDJ LR LR
comp=Z,600nm,18.5s
MDJ LR LR
comp=Z,540nm,21.1s
MDJ LR LR
comp=Z,1µm,22.5s
MDJ Mudanjiang 17.79 266 ePn P 09 03 33.7 +0.7
comp=Z,88nm,0.8s
JOD2 Odawara 2 17.85 227 P Pn 09 03 29.8 -3.8
ZEA Zeya 17.90 296 eP P 09 03 35.6 +1.5
ZEA AMB AMB 09 03 40.0
comp=Z,400nm,5.0s
ZEA AMB AMB 09 03 40.0
comp=Z,500nm,5.0s
ZEA AMB AMB 09 03 54.7
comp=Z,150nm,1.0s
KROS Kirovskiy 18.13 299 eP Pn 09 03 38.9 +2.0
KROS AMB AMB 09 03 43.5
comp=Z,20nm,0.6s
JGF Kuroka 18.44 231 P P 09 03 39.4 -0.8
INU Inuyama 18.81 231 eP Pn 09 03 45.1 -0.1
comp=Z,151nm,0.8s
YAK Yakutsk 19.30 323 eP P 09 03 48.6 -0.8
YAK pmax pmax
comp=Z,518nm,0.6s
YAK Yakutsk 19.30 323 eP P 09 03 48.6 -0.8
comp=Z,518nm,0.6s
JHJ2 Mitsune 19.31 221 eP Pn 09 03 51.1 0.0
comp=Z,304nm,0.9s
JHJ Hachijo jima 2 19.31 221 LR LR 09 11 18.4
comp=Z,336nm,21.2s,baz=94,slow=37
CLNS Chul'man 19.68 305 eP Pn 09 03 56.4 +1.0
CLNS pmax pmax
comp=Z,198nm,0.9s
CLNS pmax pmax
comp=E,134nm,0.9s
CLNS pmax pmax
comp=N,123nm,0.9s
CLNS MLR MLR
comp=N,417nm,14.0s
CLNS MLR MLR
comp=Z,1µm,18.0s
CLNS MLR MLR
comp=E,934nm,16.0s
JWT Wachi 19.71 234 P P 09 03 54.5 +0.5
BILL Bilibino 20.12 12 ciP P 09 03 56.7 -1.6
BILL pmax pmax
comp=Z,162nm,0.8s
BILL MLR MLR
comp=Z,1µm,19.0s
JAD Aida 20.63 235 P P 09 04 04.2 +0.2
CN2 Changchun 20.85 267 eP P 09 04 04.8 -1.6
CN2 esP sP 09 04 26.3 +1.4
CN2 eS S 09 07 48.5 -7.3
CN2 pmax pmax
comp=Z,50nm,0.7s
CN2 LR LR
comp=Z,400nm,18.0s
CN2 LR LR
comp=Z,800nm,18.0s
CN2 LR LR
comp=Z,800nm,19.0s
SPIA Saint Paul Isl 22.40 55 eP P 09 04 22.9 +0.1
comp=Z,196nm,1.2s
KSRS Korea Array 22.57 250 P P 09 04 25.6 +0.7
comp=Z,103nm,0.7s,baz=48,slow=9.4,SNR=102
KSRS PcP PcP 09 08 16.8 +0.4
comp=Z,8.9nm,0.8s,baz=26,slow=0.7,SNR=7.7
KSRS LR LR 09 12 39.3
comp=Z,797nm,19.7s,baz=56,slow=35
KS01 Wonju Array Si 22.58 250 eP P 09 04 25.7 +0.8
KS15 Wonju Array Si 22.61 250 eP P 09 04 26.4 +1.2
KSAR Wonju Array Be 22.61 250 P P 09 04 25.6 +0.4
KSAR 09 08 16.8
KSAR Wonju Array Be 22.61 250 P P 09 04 25.6 +0.4
KSAR PcP PcP 09 08 16.8 +0.3
HIA Hailar 22.90 284 eP P 09 04 28.4 +0.2
HIA pmax pmax
comp=Z,45nm,1.0s
HIA Hailar 22.90 284 eP P 09 04 28.4 +0.2
comp=Z,45nm,1.0s
SNY Shenyang 22.96 264 ⇑P P 09 04 29.3 +0.5
SNY pmax pmax
comp=Z,33nm,0.9s
SNY pmax pmax
comp=Z,230nm,3.5s
SNY LR LR
comp=Z,380nm,13.2s
SNY LR LR
comp=Z,670nm,21.1s
SNY LR LR
comp=Z,940nm,18.6s
NIKH Nikolski High 23.10 66 eP P 09 04 30.7 +0.5
comp=Z,57nm,0.9s
INCN Inchon 23.36 252 eP P 09 04 33.6 +0.7
comp=Z,168nm,1.1s
GAMB Gambell 23.47 38 eP P 09 04 32.7 -0.8
comp=Z,77nm,1.1s
JNU Nakatsue 23.80 238 P P 09 04 38.0 +1.0
comp=Z,95nm,0.9s,baz=12,slow=2.0,SNR=35
JNU Nakatsue 23.80 238 eP P 09 04 38.0 +1.0
comp=Z,127nm,0.9s
UNV Unalaska Valle 24.44 63 eP P 09 04 42.8 +0.2
comp=Z,95nm,1.6s
BOD Bodaibo 25.65 306 eP P 09 04 52.2 -1.3
BOD e 09 05 08.6
DL2 Dalian 25.74 260 P P 09 04 55.6 +1.1
DL2 sP sP 09 05 15.0 +1.0
DL2 eS S 09 09 20.9 +1.3
DL2 pmax pmax
comp=Z,100nm,1.0s
DL2 LR LR
comp=Z,1µm,14.5s
DL2 LR LR
comp=Z,1µm,17.0s
DL2 LR LR
comp=Z,930nm,19.5s
TIXI Tiksi 25.85 341 P P 09 04 54.5 -0.7
comp=Z,62nm,0.8s,baz=126,slow=11,SNR=15
TIXI LR LR 09 15 50.6
comp=Z,734nm,20.0s,baz=96,slow=38
TIXI Tiksi 25.85 341 diP P 09 04 54.0 -1.2
TIXI pmax pmax
comp=Z,83nm,0.9s
TIXI MLR MLR
comp=Z,702nm,19.0s
TIXI Tiksi 25.85 341 eP P 09 04 54.5 -0.7
comp=Z,147nm,0.9s
BJI Beijing 28.72 267 P P 09 05 21.1 -0.1
BJI S S 09 10 00.4 -6.2
BJI pmax pmax
comp=Z,11nm,0.6s
BJI LR LR
comp=Z,760nm,17.6s
BJI LR LR
comp=Z,230nm,11.7s
BJI LR LR
comp=Z,570nm,30.0s
BJT Baijiatuau 28.73 267 eP P 09 05 21.4 +0.1
BJT pmax pmax
comp=Z,35nm,1.1s
BJT Baijiatuau 28.73 267 eP P 09 05 21.4 +0.1
comp=Z,35nm,1.1s
CHGN Chignik 28.89 57 eP P 09 05 20.4 -2.2
comp=Z,32nm,1.1s
JOW Kunigami 30.10 233 eP P 09 05 34.3 +0.7

comp=Z,146nm,0.8s
TTA Tatalina 30.11 44 eP P 09 05 33.3 -0.1
TTA pmax pmax
comp=Z,51nm,0.9s
TTA Tatalina 30.11 44 eP P 09 05 33.3 -0.1
comp=Z,51nm,0.9s
TIA Tai'an 30.21 260 ⇓P P 09 05 35.1 +0.6
TIA pmax pmax
comp=Z,20nm,1.0s
SVW2 Sparrevohn 30.22 47 eP P 09 05 34.8 +0.5
comp=Z,43nm,0.8s
H11N2 WAKE ISLAND Hy 30.59 157 T T 09 37 32.9
baz=341,slow=75
H11N1 WAKE ISLAND Hy 30.61 157 T T 09 37 35.5
baz=341,slow=75
H11N3 WAKE ISLAND Hy 30.61 157 T T 09 37 31.8
baz=341,slow=75
HHC Hu-ho-hao-te 31.36 272 eP P 09 05 45.3 +0.6
HHC S S 09 10 45.8 -2.4
HHC pmax pmax
comp=Z,61nm,1.0s
HHC pmax pmax
comp=Z,140nm,7.4s
HHC LR LR
comp=Z,690nm,19.1s
HHC LR LR
comp=Z,650nm,18.2s
HHC LR LR
comp=Z,760nm,23.4s
ULN Ulaanbaatar 31.38 287 diP P 09 05 44.5 -0.4
ULN pmax pmax
comp=Z,12nm,0.9s
ULN Ulaanbaatar 31.38 287 eP P 09 05 44.7 -0.2
comp=Z,11nm,0.9s
OHAK Old Harbor 31.60 55 eP P 09 05 45.8 -0.7
comp=Z,45nm,1.0s
RSO Redoubt South 31.61 48 eP P 09 05 46.6 -0.2
H11S1 WAKE ISLAND Hy 31.71 158 T T 09 38 58.2
baz=345,slow=76
H11S3 WAKE ISLAND Hy 31.72 158 T T 09 38 58.6
baz=345,slow=76
H11S2 WAKE ISLAND Hy 31.73 158 T T 09 38 58.8
baz=345,slow=76
NJ2 Nanjing 31.74 252 eP P 09 05 49.0 +1.0
NJ2 pmax pmax
comp=Z,41nm,0.7s
SONA1 Songino Array 31.80 287 eP P 09 05 48.2 -0.3
SONM Songino Array 31.81 287 P P 09 05 48.2 -0.4
comp=Z,3.3nm,0.6s,baz=69,slow=8.4,SNR=20
SONM PcP PcP 09 08 38.8 +0.4
comp=Z,17nm,0.7s,baz=109,slow=1.9,SNR=18
SONM LR LR 09 20 02.6
comp=Z,2µm,18.4s,baz=75,slow=39
IRK Irkutsk 31.81 296 eP P 09 05 38.6 -10
IRK e 09 08 36.6
IRK pmax pmax
comp=Z,35nm,1.2s
PPLA Purkeypile 31.85 44 eP P 09 05 49.7 +0.9
comp=Z,74nm,1.0s
KDAK Kodiak Island 31.91 54 LR LR 09 17 51.1
comp=Z,664nm,22.0s,baz=268,slow=34
KDAK Kodiak Island 31.91 54 eP P 09 05 48.1 -1.1
KDAK pmax pmax
comp=Z,45nm,1.0s
KDAK Kodiak Island 31.91 54 eP P 09 05 48.1 -1.1
comp=Z,46nm,0.9s
CAST Castle Rocks 31.91 43 eP P 09 05 49.7 +0.5
comp=Z,38nm,0.8s
SPU Mount Spurr 31.93 47 eP P 09 05 49.8 +0.4
TLY Talaya 32.33 295 eP P 09 05 52.5 -0.5
TLY e 09 06 54.5
TLY pmax pmax
comp=Z,41nm,1.2s
TLY Talaya 32.33 295 eP P 09 05 52.6 -0.4
comp=Z,28nm,0.9s
CNPM China Poot 32.43 50 eP P 09 05 53.3 -0.5
comp=Z,245nm,1.7s
KTH Kantishna Hill 32.44 43 eP P 09 05 54.5 +0.6
comp=Z,212nm,1.2s
SUA Susitna One 32.55 47 eP P 09 05 54.4 -0.5
comp=Z,62nm,0.9s
BRLK Bradley Lake 32.59 50 eP P 09 05 54.4 -0.7
comp=Z,40nm,0.6s
TRF Thorofare Moun 32.72 43 eP P 09 05 56.5 0.0
comp=Z,54nm,0.9s
ZAK Zakamensk 32.92 293 eP P 09 05 57.8 -0.5
ZAK pmax pmax
comp=Z,20nm,1.1s
COLD Coldfoot 32.97 36 eP P 09 05 58.6 +0.2
comp=Z,56nm,0.7s
RC01 Rabbit Creek A 33.05 47 eP P 09 05 58.8 -0.4
comp=Z,56nm,0.8s
RC01 ePcP PcP 09 08 41.7 +0.2
SEW Seward 33.28 49 eP P 09 06 00.4 -0.7
comp=Z,70nm,1.0s
PMR Palmer 33.31 46 eP P 09 05 59.7 -1.7
PMR e 09 08 42.6
PMR pmax pmax
comp=Z,27nm,0.7s
PMR Palmer 33.31 46 eP P 09 05 59.7 -1.7
comp=Z,27nm,0.7s
PMR ePcP PcP 09 08 42.6 +0.5
MCK McKinley 33.33 42 eP P 09 06 01.5 -0.1
MCK e 09 08 42.6
MCK pmax pmax
comp=Z,94nm,0.9s
MCK McKinley 33.33 42 eP P 09 06 01.5 -0.1
MCK McKinley 33.33 42 eP P 09 06 01.5 -0.1
comp=Z,94nm,0.9s
MCK ePcP PcP 09 08 42.5 +0.3
RND Reindeer 33.37 43 eP P 09 06 01.4 -0.6
RND pmax pmax
comp=Z,106nm,0.9s
RND Reindeer 33.37 43 eP P 09 06 01.4 -0.6
comp=Z,106nm,0.9s
TOLK Toolik Lake Re 33.38 33 P P 09 06 02.2 +0.3
baz=263
MDM Murphy Dome 33.64 40 eP P 09 06 04.7 +0.5
comp=Z,71nm,0.8s
SML Sawmill 33.68 46 eP P 09 06 04.6 -0.1
SML pmax pmax
comp=Z,290nm,0.7s
SML Sawmill 33.68 46 eP P 09 06 04.5 -0.1
SML Sawmill 33.68 46 eP P 09 06 04.5 -0.1
comp=Z,293nm,0.7s
WRH Wood River Hil 33.69 41 eP P 09 06 04.7 0.0
comp=Z,106nm,1.3s
WRH ePcP PcP 09 08 42.9 -0.3
COLA College 33.80 40 eP P 09 06 05.9 +0.3
COLA pmax pmax
comp=Z,160nm,0.8s
COLA College 33.80 40 eP P 09 06 05.7 +0.1
COLA College 33.80 40 eP P 09 06 05.9 +0.3
comp=Z,164nm,0.8s
CCB Clear Creek Bu 33.82 41 eP P 09 06 06.0 +0.2
comp=Z,69nm,1.0s
DHY Denali Highway 34.05 43 eP P 09 06 07.4 -0.6
comp=Z,68nm,1.0s
SCM Sheep Creek Mo 34.15 46 eP P 09 06 09.0 +0.2
SCM pmax pmax
comp=Z,150nm,0.9s
SCM Sheep Creek Mo 34.15 46 eP P 09 06 09.0 +0.2
comp=Z,152nm,0.9s
HDA Harding Lake 34.19 41 eP P 09 06 08.2 -0.9
comp=Z,51nm,0.7s
IL1 Eielson Array 34.21 40 eP P 09 06 08.9 -0.3
ILAR Eielson Array 34.21 40 P P 09 06 08.6 -0.6
comp=Z,29nm,0.7s,baz=256,slow=7.8,SNR=242
ILAR PcP PcP 09 08 43.4 -1.3
comp=Z,3.9nm,0.7s,baz=269,slow=3.0,SNR=4.3
ILAR PKiKP PKiKP 09 16 05.6 -2.2
comp=Z,0.4nm,0.8s,baz=288,slow=0.9,SNR=3.3
ILAR LR LR 09 19 27.5
comp=Z,324nm,21.8s,baz=269,slow=35
ILB Eielson Array 34.21 40 eP P 09 06 08.7 -0.6
FID Port Fidalgo 34.67 48 eP P 09 06 12.4 -0.8
comp=Z,105nm,1.1s
KLU Klutina 34.85 46 eP P 09 06 14.9 0.0
comp=Z,75nm,1.0s
FYU Fort Yukon 34.89 37 eP P 09 06 15.8 +0.8
comp=Z,177nm,0.9s
PAX Paxson 34.92 44 eP P 09 06 15.7 +0.2
PAX pmax pmax
comp=Z,28nm,0.9s
PAX Paxson 34.92 44 eP P 09 06 15.7 +0.2
comp=Z,28nm,0.9s
MID Middleton Isla 34.92 50 eP P 09 06 15.9 +0.5

MID	**Middleton Isla**	**34.92**	**50**	*eP*		**P**		**09 06 15.9**	**+0.5**
	comp=Z,1µm,1.8s								
DIV	**Divide**	**34.97**	**47**	*eP*		**P**		**09 06 15.8**	**0.0**
DIV	**Divide**	**34.97**	**47**	*eP*		**P**		**09 06 15.9**	**0.0**
	comp=Z,90nm,0.7s								
EYAK	**Cordova Ski Ar**	**35.05**	**48**	*eP*		**P**		**09 06 16.7**	**+0.2**
	comp=Z,57nm,0.9s								
HARP	**HAARP**	**35.12**	**45**	*eP*		**P**		**09 06 17.5**	**+0.4**
	comp=Z,82nm,0.8s								
DOT	**Dot Lake**	**35.50**	**42**	*eP*		**P**		**09 06 19.5**	**-0.9**
	comp=Z,102nm,0.7s								
BMRM	**Bremner River**	**35.55**	**47**	*eP*		**P**		**09 06 21.1**	**+0.3**
	comp=Z,138nm,1.1s								
YHNB	**Yeheng**	**35.60**	**240**	*eP*		**P**		**09 06 21.9**	**+0.3**
	comp=Z,20nm,0.7s								
RAGM	**Ragged Mountai**	**35.60**	**48**	*eP*		**P**		**09 06 22.8**	**+1.5**
	comp=Z,217nm,1.1s								
WHN	**Wuhan**	**35.60**	**254**	P		**P**		**09 06 21.9**	**+0.4**
WHN				pmax		pmax			
	comp=Z,250nm,0.7s								
MENT	**Mentasta**	**35.72**	**43**	*eP*		**P**		**09 06 22.5**	**+0.3**
	comp=Z,39nm,1.0s								
NACB	**Ninganchiao**	**35.86**	**239**	*eP*		**P**		**09 06 22.1**	**-1.8**
	comp=Z,49nm,1.4s								
GUMO	**Guam**	**36.08**	**197**	*eP*		**P**		**09 06 23.2**	**-2.5**
GUMO				pmax		pmax			
	comp=Z,72nm,0.8s								
GUMO	**Guam**	**36.08**	**197**	*eP*		**P**		**09 06 23.2**	**-2.5**
	comp=Z,72nm,0.8s								
CRQM	**Cirque**	**36.29**	**47**	*eP*		**P**		**09 06 28.1**	**+0.8**
	comp=Z,351nm,1.2s								
SSLB	**Suanglung**	**36.53**	**239**	*eP*		**P**		**09 06 30.4**	**+0.9**
	comp=Z,39nm,1.1s								
YULB	**Yu-li**	**36.65**	**238**	*eP*		**P**		**09 06 31.4**	**+0.9**
	comp=Z,21nm,0.8s								
EGAK	**Eagle**	**36.66**	**40**	*eP*		**P**		**09 06 30.1**	**-0.1**
	comp=Z,88nm,0.8s								
XAN	**Xi'an**	**36.88**	**264**	P		**P**		**09 06 32.4**	**-0.1**
XAN				pP		pP		09 06 47.9	+1.8
XAN				pmax		pmax			
	comp=Z,32nm,0.7s								
XAN				LR		LR			
	comp=Z,350nm,21.1s								
XAN				LR		LR			
	comp=Z,540nm,19.6s								
XAN				LR		LR			
	comp=Z,740nm,21.1s								
QZH	**Quanzhou**	**37.01**	**243**	⇑*iP*		**P**		**09 06 34.3**	**+0.8**
QZH				S		**S**		**09 12 18.6**	**+3.3**
QZH				pmax		pmax			
	comp=Z,220nm,0.7s								
TPUB	**Ta-pu**	**37.09**	**239**	*eP*		**P**		**09 06 34.9**	**+0.5**
	comp=Z,87nm,1.1s								
TWG	**Pinlang**	**37.22**	**238**	*eP*		**P**		**09 06 35.9**	**+0.5**
	comp=Z,583nm,1.5s								
DAWY	**Dawson**	**37.51**	**41**	*eP*		**P**		**09 06 37.5**	**0.0**
	comp=Z,24nm,0.8s								
NRIK	**Noril'sk**	**37.62**	**328**	P		**P**		**09 06 37.0**	**-1.3**
	comp=Z,9.4nm,0.7s,baz=112,slow=7.1,SNR=7.6								
NRIK				LR		LR		09 22 54.9	
	comp=Z,403nm,19.3s,baz=74,slow=37								
NRIK	**Noril'sk**	**37.62**	**328**	P		**P**		**09 06 37.0**	**-1.3**
NRIK				pmax		pmax			
	comp=Z,9.0nm,0.7s								
NRIK				MLR		MLR			
	comp=Z,403nm,19.3s								
PCA	**Pinnacle**	**37.82**	**48**	*eP*		**P**		**09 06 40.7**	**+0.5**
	comp=Z,159nm,0.8s								
ENH	**Enshi**	**38.91**	**259**	*eP*		**P**		**09 06 49.6**	**0.0**
	comp=Z,53nm,0.7s								
LZH	**Lanzhou**	**39.02**	**270**	*eP*		**P**		**09 06 51.6**	**+0.9**
LZH				pP		pP		09 07 03.8	-0.5
LZH				sP		sP		09 07 12.8	+2.4
LZH				PP		**PnPn**		**09 08 27.0**	**+3.5**
LZH				PcP		**PcP**		**09 08 59.9**	**0.0**
LZH				S		**S**		**09 12 44.3**	**-1.7**
LZH				sS		sS		09 13 13.0	+4.0
LZH				SS		**SS**		**09 15 28.8**	**-11**
LZH				pmax		pmax			
	comp=Z,58nm,1.0s								
LZH				pmax		pmax			
	comp=Z,120nm,5.2s								
LZH				LR		LR			
	comp=Z,550nm,12.6s								
LZH				LR		LR			
	comp=Z,750nm,14.0s								
LZH				LR		LR			
	comp=Z,920nm,14.7s								
INK	**Inuvik**	**39.28**	**34**	*eP*		**P**		**09 06 53.0**	**+0.7**
INK				pmax		pmax			
	comp=Z,63nm,0.7s								
INK	**Inuvik**	**39.28**	**34**	*eP*		**P**		**09 06 52.9**	**+0.7**
INK	**Inuvik**	**39.28**	**34**	*eP*		**P**		**09 06 53.0**	**+0.7**
	comp=Z,63nm,0.7s								
GTA	**Gaotai**	**39.83**	**278**	⇓P		**P**		**09 06 57.9**	**+0.6**
GTA				pP		pP		09 07 13.3	+2.3
GTA				sP		sP		09 07 20.1	+3.0
GTA				PcP		**PcP**		**09 09 03.6**	**+1.2**
GTA				PcS		**PcS**		**09 12 53.8**	**+1.1**
GTA				S		**S**		**09 12 58.6**	**+0.5**
GTA				sS		sS		09 13 25.6	+4.5
GTA				SS		**SS**		**09 15 52.4**	**-3.1**
GTA				pmax		pmax			
	comp=Z,30nm,1.4s								
GTA				LR		LR			
	comp=Z,520nm,15.7s								
GTA				LR		LR			
	comp=Z,600nm,15.2s								
GTA				LR		LR			
	comp=Z,910nm,16.6s								
WHY	**Whitehorse**	**40.27**	**46**	*eP*		**P**		**09 07 02.1**	**+1.4**
	comp=Z,60nm,0.8s								
SKAG	**Skagway**	**40.40**	**48**	*eP*		**P**		**09 07 03.1**	**+1.6**
	comp=Z,42nm,1.0s								
BESE	**Bessie Mountai**	**40.89**	**49**	*eP*		**P**		**09 07 07.0**	**+1.2**
	comp=Z,37nm,0.8s								
SZP	**Santa**	**41.82**	**234**	*eP*		**P**		**09 07 13.6**	**-0.1**
	comp=Z,338nm,1.0s								
CD2	**Chengdu**	**42.24**	**264**	P		**P**		**09 07 17.4**	**+0.3**
CD2				S		**S**		**09 13 39.1**	**+5.3**
CD2				pmax		pmax			
	comp=Z,80nm,0.8s								
CD2				LR		LR			
	comp=Z,390nm,17.1s								
CD2				LR		LR			
	comp=Z,400nm,18.0s								
CD2				LR		LR			
	comp=Z,640nm,16.1s								
ZAA0	**Zalesovo Array**	**42.38**	**304**	*eP*		**P**		**09 07 16.7**	**-1.2**
ZALV	**Zalesovo Beam**	**42.38**	**304**	P		**P**		**09 07 16.5**	**-1.4**
	comp=Z,7.7nm,0.4s,baz=54,slow=6.7,SNR=17								
ZALV				PcP		**PcP**		**09 09 10.5**	**+0.3**
	comp=Z,7.1nm,0.5s,baz=80,slow=1.6,SNR=17								
ZALV				PKiKP		**PKiKP**		**09 16 13.1**	**-1.8**
	comp=Z,1.6nm,0.7s,baz=351,slow=0.3,SNR=4.6								
ZALV				LR		LR		09 25 59.5	
	comp=Z,517nm,18.0s,baz=68,slow=38								
WRAK	**Wrangell Islan**	**42.91**	**51**	*eP*		**P**		**09 07 24.0**	**+1.9**
	comp=Z,61nm,0.9s								
JOHN	**Johnston Islan**	**43.15**	**125**	*eP*		**P**		**09 07 26.9**	**+2.5**
GYA	**Guiyang**	**43.32**	**257**	⇑*iP*		**P**		**09 07 26.1**	**+0.2**
GYA				pP		pP		09 07 42.0	+2.2
GYA				PP		**PP**		**09 09 10.3**	**+3.0**
GYA				ScP		**ScP**		**09 13 00.8**	**+0.1**
GYA				S		**S**		**09 13 49.8**	**0.0**
GYA				sS		sS		09 14 15.6	+2.6
GYA				SS		**SS**		**09 16 55.3**	**-9.3**
GYA				pmax		pmax			
	comp=Z,150nm,1.0s								
GYA				pmax		pmax			
	comp=Z,210nm,5.3s								
GYA				LR		LR			
	comp=Z,830nm,18.2s								
GYA				LR		LR			
	comp=Z,760nm,18.4s								
GYA				LR		LR			
	comp=Z,720nm,18.8s								
DLBC	**Dease Lake**	**43.33**	**48**	*eP*		**P**		**09 07 27.4**	**+1.8**
	comp=Z,78nm,0.9s								
DIB	**Dawson Inlet,**	**44.12**	**56**	*eP*		**P**		**09 07 33.1**	**+1.2**
	comp=Z,180nm,1.8s								
WMQ	**Urumqi**	**45.30**	**290**	P		**P**		**09 07 41.3**	**-0.2**
WMQ				PcP		**PcP**		**09 09 21.3**	**+0.9**
WMQ				S		**S**		**09 14 17.6**	**-0.5**
WMQ				SS		**ScS**		**09 17 32.5**	**-0.7**
WMQ				pmax		pmax			
	comp=Z,31nm,0.9s								
WMQ				pmax		pmax			
	comp=Z,200nm,6.5s								
WMQ				LR		LR			
	comp=Z,790nm,15.3s								
WMQ				LR		LR			
	comp=Z,520nm,19.7s								
WMQ				LR		LR			
	comp=Z,600nm,19.7s								
QIZ	**Qiongzhong**	**46.74**	**247**	P		**P**		**09 07 53.8**	**+0.8**
QIZ				S		**S**		**09 14 41.8**	**+2.7**
QIZ				pmax		pmax			
	comp=Z,41nm,0.8s								
QIZ				LR		LR			
	comp=Z,240nm,17.6s								
QIZ				LR		LR			
	comp=Z,190nm,16.6s								
QIZ				LR		LR			
	comp=Z,320nm,18.1s								
QIZ	**Qiongzhong**	**46.74**	**247**	*eP*		**P**		**09 07 54.4**	**+1.3**
	comp=Z,157nm,1.6s								
KMI	**Kunming**	**46.78**	**259**	P		**P**		**09 07 54.3**	**+0.7**
KMI				LR		LR			
	comp=Z,210nm,19.8s								
KMI				LR		LR			
	comp=Z,210nm,15.2s								
KMI				LR		LR			
	comp=Z,310nm,18.6s								
MK31	**Makanchi Array**	**47.06**	**296**	*eP*		**P**		**09 07 54.6**	**-0.7**
MK31	**Makanchi Array**	**47.06**	**296**	*eP*		**P**		**09 07 54.6**	**-0.7**
MKAR	**Makanchi Array**	**47.06**	**296**	*eP*		**P**		**09 07 54.7**	**-0.6**
MKAR				pmax		pmax			
	comp=Z,100nm,0.7s								
MKAR	**Makanchi Array**	**47.06**	**296**	*eP*		**P**		**09 07 54.7**	**-0.6**
	comp=Z,100nm,0.7s								
MK01	**Makanchi Array**	**47.06**	**296**	*eP*		**P**		**09 07 54.7**	**-0.6**
KURK	**Kurchatov**	**47.22**	**303**	*cP*		**P**		**09 07 55.0**	**-1.4**
KURK				pmax		pmax			
	comp=Z,118nm,0.7s								
KURK	**Kurchatov**	**47.22**	**303**	*eP*		**P**		**09 07 55.3**	**-1.1**
	comp=Z,36nm,0.8s								
KURK				PKiKP		**PKiKP**		**09 16 18.2**	**-1.4**
MAKZ	**Makanchi**	**47.23**	**297**	*eP*		**P**		**09 07 56.0**	**-0.6**
MAKZ				pmax		pmax			
	comp=Z,11nm,0.8s								
MAKZ	**Makanchi**	**47.23**	**297**	*eP*		**P**		**09 07 56.0**	**-0.6**
	comp=Z,11nm,0.8s								
KURBB	**Kurchatov Arra**	**47.31**	**303**	PKiKP		**PKiKP**		**09 16 18.2**	**-1.5**
	comp=Z,0.4nm,0.7s,baz=53,slow=1.1,SNR=3.0								
RES	**Resolute Bay**	**48.50**	**19**	*eP*		**P**		**09 08 06.4**	**+0.4**
RES				pmax		pmax			
	comp=Z,56nm,1.0s								
RES	**Resolute Bay**	**48.50**	**19**	*eP*		**P**		**09 08 06.4**	**+0.4**
RES	**Resolute Bay**	**48.50**	**19**	*eP*		**P**		**09 08 06.4**	**+0.4**
	comp=Z,56nm,0.9s								
YKA	**Yellowknife Ar**	**48.57**	**38**	P		**P**		**09 08 06.9**	**+0.2**
	comp=Z,47nm,0.8s,baz=298,slow=7.6,SNR=81								
YKA				PcP		**PcP**		**09 09 32.1**	**+0.6**
	comp=Z,10nm,0.9s,baz=299,slow=3.4,SNR=6.2								
SLVN	**Son La**	**48.73**	**254**	*eP*		**P**		**09 08 09.7**	**+1.2**
	comp=Z,109nm,1.2s								
POHA	**Pohakuloa**	**49.04**	**108**	*eP*		**P**		**09 08 11.7**	**+0.7**
	comp=Z,121nm,1.3s								
MLH	**Mauna Loa**	**49.33**	**108**	*eP*		**P**		**09 08 13.3**	**0.0**
MLH				pmax		pmax			
	comp=Z,110nm,1.0s								
MLH	**Mauna Loa**	**49.33**	**108**	*eP*		**P**		**09 08 13.3**	**0.0**
	comp=Z,110nm,1.0s								
AIN	**Ainahou**	**49.37**	**108**	*eP*		**P**		**09 08 15.8**	**+2.2**
	comp=Z,358nm,1.7s								
BRVK	**Borovoye**	**50.51**	**309**	*cP*		**P**		**09 08 20.3**	**-1.3**
BRVK				pmax		pmax			
	comp=Z,22nm,0.6s								
BRVK	**Borovoye**	**50.51**	**309**	*eP*		**P**		**09 08 20.5**	**-1.0**
	comp=Z,31nm,0.8s								
PDGK	**Podgornoye**	**50.59**	**294**	P		**P**		**09 08 21.3**	**-1.2**
PDGK				pmax		pmax			
	comp=Z,12nm,0.8s								
KBS	**Kingsbay**	**50.64**	**351**	*eP*		**P**		**09 08 21.2**	**-1.0**
KBS				pmax		pmax			
	comp=Z,30nm,1.0s								
KBS	**Kingsbay**	**50.64**	**351**	*eP*		**P**		**09 08 21.2**	**-1.0**
	comp=Z,30nm,0.9s								
SPB1	**Spitsbergen Ar**	**50.79**	**350**	*eP*		**P**		**09 08 21.6**	**-1.8**
SPB5	**Spitsbergen Ar**	**50.79**	**350**	*eP*		**P**		**09 08 21.6**	**-1.8**
SPA1	**Spitsbergen Ar**	**50.79**	**350**	*eP*		**P**		**09 08 21.6**	**-1.8**
SPA0	**Spitsbergen Ar**	**50.79**	**350**	*eP*		**P**		**09 08 21.6**	**-1.8**
SPA2	**Spitsbergen Ar**	**50.79**	**350**	*eP*		**P**		**09 08 21.7**	**-1.7**
SPA3	**Spitsbergen Ar**	**50.79**	**350**	*eP*		**P**		**09 08 21.7**	**-1.7**
SPB2	**Spitsbergen Ar**	**50.79**	**350**	*eP*		**P**		**09 08 21.6**	**-1.8**
SPB4	**Spitsbergen Ar**	**50.79**	**350**	*eP*		**P**		**09 08 21.4**	**-2.0**
SPB3	**Spitsbergen Ar**	**50.80**	**350**	*eP*		**P**		**09 08 21.7**	**-1.8**
HOPEN	**Hopen**	**50.95**	**347**	*eP*		**P**		**09 08 24.1**	**-0.5**
MANU	**Maus Island**	**51.07**	**190**	*eP*		**P**		**09 08 26.8**	**+0.7**
	comp=Z,59nm,0.8s								
LLLB	**Lillooet**	**51.12**	**54**	*eP*		**P**		**09 08 26.8**	**+0.6**
	comp=Z,33nm,1.2s								
PGC	**Sidney**	**51.32**	**57**	*eP*		**P**		**09 08 28.0**	**+0.3**
	comp=Z,76nm,1.8s								
LSA	**Lhasa**	**51.34**	**273**	P		**P**		**09 08 30.0**	**+1.3**
LSA				pmax		pmax			
	comp=Z,28nm,0.6s								
LSA	**Lhasa**	**51.34**	**273**	*eP*		**P**		**09 08 29.5**	**+0.8**
LSA				pmax		pmax			
	comp=Z,40nm,0.6s								
LSA	**Lhasa**	**51.34**	**273**	*eP*		**P**		**09 08 29.5**	**+0.8**
	comp=Z,40nm,0.6s								
A04D	**Lummi Island**	**51.70**	**57**	P		**P**		**09 08 31.1**	**+0.6**
	baz=304								
NLWA	**Neilton Lookou**	**51.78**	**59**	*eP*		**P**		**09 08 31.9**	**+0.7**
	comp=Z,34nm,0.9s								
HSPB	**Hornsund (broa**	**51.87**	**349**	IAMs_20		IAMs_20		09 35 00.1	
	comp=Z,415nm,18.6s								
SKNT	**Sakhnakorn**	**51.91**	**251**	P		**P**		**09 08 33.6**	**+1.1**
	comp=Z,99nm,1.0s,comp=Z,4µm								
MBW	**Mount Baker**	**52.11**	**56**	P		**P**		**09 08 33.8**	**0.0**
B05A	**Bryant**	**52.29**	**57**	P		**P**		**09 08 35.1**	**+0.2**
	baz=304,SNR=11								
JCW	**Jim Creek**	**52.42**	**57**	*eP*		**P**		**09 08 36.1**	**+0.1**
E03A	**Lebam**	**52.43**	**59**	*eP*		**P**		**09 08 36.8**	**+0.9**
	comp=Z,25nm,0.9s								
B06A	**Marblemount**	**52.48**	**56**	*eP*		**P**		**09 08 36.7**	**+0.3**
	comp=Z,21nm,0.9s								
JAY	**Jayapura**	**52.58**	**198**	P		**P**		**09 08 37.9**	**+0.4**
	comp=Z,1.8nm,0.8s,baz=340,slow=23,SNR=5.5								
JAY	**Jayapura**	**52.58**	**198**	P		**P**		**09 08 37.3**	**-0.1**
GENI	**Genyem**	**52.77**	**199**	P		**P**		**09 08 40.2**	**+1.4**
	comp=Z,149nm,0.9s								
D05A	**Enumclaw**	**52.95**	**58**	*eP*		**P**		**09 08 40.8**	**+0.9**
	comp=Z,28nm,0.8s								
SVE	**Sverdlovsk**	**53.13**	**317**	⇑*iP*		**P**		**09 08 40.4**	**-0.6**
SVE				pmax		pmax			
	comp=Z,36nm,0.9s								
C06D	**Leavenworth**	**53.15**	**57**	P		**P**		**09 08 41.6**	**+0.2**
	baz=305								
TKM2	**Tokmak 2**	**53.16**	**296**	P		**P**		**09 08 41.0**	**-0.7**
TKM2				pmax		pmax			
	comp=Z,9.0nm,0.9s								
LON	**Longmire**	**53.30**	**58**	*eP*		**P**		**09 08 42.6**	**0.0**
LON				pmax		pmax			
	comp=Z,8.0nm,0.9s								
LON	**Longmire**	**53.30**	**58**	*eP*		**P**		**09 08 42.6**	**0.0**
	comp=Z,7.7nm,0.9s								
MYLDM	**Lahad Datu**	**53.31**	**227**	*eP*		**P**		**09 08 43.7**	**+0.9**
	comp=Z,64nm,0.9s								
G03D	**McMinnville, O**	**53.36**	**61**	P		**P**		**09 08 43.1**	**+0.1**
	baz=306								
F04A	**Amboy**	**53.43**	**60**	*eP*		**P**		**09 08 43.6**	**+0.2**
	comp=Z,27nm,0.8s								
UTTA	**Uttaradit**	**53.49**	**254**	P		**P**		**09 08 45.2**	**+1.0**
	comp=Z,32nm,0.8s,comp=Z,203nm								
MTMW	**Mount Mitchell**	**53.49**	**59**	P		**P**		**09 08 44.5**	**+0.5**
LAMP	**Lampang**	**53.51**	**256**	P		**P**		**09 08 45.7**	**+1.4**
	comp=Z,80nm,0.8s,comp=Z,604nm								
SDKM	**Sandakan**	**53.55**	**229**	⇓P		**P**		**09 08 45.5**	**+0.8**
SHL	**Shillong**	**53.60**	**268**	⇑*iP*		**P**		**09 08 45.5**	**+0.4**
TWW	**Teanaway**	**53.61**	**58**	P		**P**		**09 08 45.7**	**+0.9**
ETW	**Entiat**	**53.64**	**57**	*eP*		**P**		**09 08 45.1**	**0.0**
LTY	**Liberty**	**53.65**	**57**	*eP*		**P**		**09 08 45.0**	**-0.1**
	comp=Z,38nm,1.5s								
KKM	**Kota Kinabalu**	**53.70**	**230**	*eP*		**P**		**09 08 47.2**	**+1.4**
	comp=Z,30nm,1.1s								
COR	**Corvallis**	**53.70**	**61**	*eP*		**P**		**09 08 46.5**	**+1.1**
COR				pmax		pmax			
	comp=Z,37nm,1.0s								
COR	**Corvallis**	**53.70**	**61**	*eP*		**P**		**09 08 46.5**	**+1.1**
	comp=Z,37nm,1.0s								
CMMT	**Chiang Mai**	**53.74**	**257**	P		**P**		**09 08 46.9**	**+0.9**
	comp=Z,245nm,0.9s,comp=Z,2µm								
CHTO	**Chiang Mai**	**53.74**	**257**	P		**P**		**09 08 46.9**	**+0.9**
	comp=Z,1µm,0.9s,comp=Z,8µm								
CHTO	**Chiang Mai**	**53.74**	**257**	*eP*		**P**		**09 08 47.4**	**+1.4**
CHTO				pmax		pmax			
	comp=Z,200nm,0.9s								
CHTO	**Chiang Mai**	**53.74**	**257**	*eP*		**P**		**09 08 47.4**	**+1.4**
	comp=Z,201nm,0.9s								
B08A	**Colville Reser**	**53.75**	**56**	*eP*		**P**		**09 08 46.0**	**+0.2**
	comp=Z,50nm,1.3s								
GULW	**Guler Mountain**	**53.90**	**59**	P		**P**		**09 08 47.3**	**+0.3**
CHAI	**Chaiyaphum**	**53.97**	**252**	P		**P**		**09 08 48.4**	**+0.8**
	comp=Z,64nm,0.8s,comp=Z,462nm								
AAK	**Ala-Archa**	**53.98**	**296**	LR		LR		09 32 46.0	
	comp=Z,626nm,21.9s,baz=16,slow=37								
AAK	**Ala-Archa**	**53.98**	**296**	P		**P**		**09 08 46.6**	**-1.1**
AAK				pmax		pmax			
	comp=Z,10.0nm,0.8s								
AAK	**Ala-Archa**	**53.98**	**296**	*eP*		**P**		**09 08 47.5**	**-0.2**
	comp=Z,24nm,1.0s								
CM31	**Chiang Mai Arr**	**54.00**	**256**	*eP*		**P**		**09 08 49.8**	**+1.9**
CMAR	**Chiang Mai Arr**	**54.00**	**256**	P		**P**		**09 08 49.5**	**+1.6**
	comp=Z,95nm,0.6s,baz=34,slow=7.3,SNR=323								
CMAR				LR		LR		09 33 15.9	
	comp=Z,238nm,19.8s,baz=44,slow=38								
CM01	**Chiang Mai Arr**	**54.02**	**256**	*eP*		**P**		**09 08 49.5**	**+1.4**
EDM	**Edmonton**	**54.05**	**48**	*eP*		**P**		**09 08 48.4**	**+0.5**
EDM				pmax		pmax			
	comp=Z,167nm,0.8s								
EDM	**Edmonton**	**54.05**	**48**	*eP*		**P**		**09 08 48.4**	**+0.5**
	comp=Z,166nm,0.8s								
SAW	**Saint Andrews**	**54.10**	**56**	P		**P**		**09 08 47.9**	**-0.4**
PBKT	**Sadao Pong**	**54.10**	**253**	P		**P**		**09 08 49.6**	**+1.0**
	comp=Z,69nm,0.7s,comp=Z,988nm								
KEBM	**Edson Butte**	**54.11**	**64**	*eP*		**P**		**09 08 49.9**	**+1.4**
	comp=Z,36nm,1.1s								
TDH	**Tom, Dick, Har**	**54.16**	**60**	P		**P**		**09 08 49.1**	**+0.1**
I03D	**Drain, OR**	**54.20**	**62**	P		**P**		**09 08 50.2**	**+1.2**
	baz=306,SNR=6.7								
SUKH	**Sukhothai**	**54.28**	**255**	P		**P**		**09 08 51.2**	**+1.3**
	comp=Z,41nm,0.7s,comp=Z,284nm								
ARU	**Arti**	**54.29**	**317**	*cP*		**P**		**09 08 48.0**	**-1.5**
ARU				*PP		**pP**		**09 09 01.3**	**-2.4**
ARU								09 09 52.3	
ARU								09 10 52.0	
ARU				PPP		PPP		09 11 59.7	
ARU				S		**S**		**09 16 21.8**	**-1.3**
ARU				pmax		pmax			
	comp=Z,62nm,0.8s								
ARU				MLR		MLR			
	comp=Z,396nm,20.0s								
ARU	**Arti**	**54.29**	**317**	*eP*		**P**		**09 08 48.5**	**-1.0**
	comp=Z,52nm,0.6s								
G05D	**Wamic, OR**	**54.46**	**60**	P		**P**		**09 08 51.3**	**+0.3**
	baz=306,SNR=13								
E07A	**Sunnyside**	**54.51**	**58**	*eP*		**P**		**09 08 51.6**	**+0.3**
	comp=Z,16nm,0.7s								
KBO	**Bosley Butte**	**54.56**	**64**	*eP*		**P**		**09 08 52.6**	**+0.8**
	comp=Z,113nm,1.6s								
I04A	**Tendick Farm,**	**54.69**	**62**	P		**P**		**09 08 53.1**	**+0.5**
	baz=307,SNR=16								
D08A	**Wollman Farm,**	**54.74**	**57**	*eP*		**P**		**09 08 52.8**	**-0.1**
	comp=Z,14nm,0.9s								
HAWA	**Hanford**	**54.79**	**58**	*eP*		**P**		**09 08 53.5**	**+0.2**
	comp=Z,27nm,1.0s								
G06A	**Carlson Farm,**	**54.85**	**59**	*eP*		**P**		**09 08 53.5**	**-0.4**
	comp=Z,9.8nm,1.0s								
KSH	**Kashi**	**54.96**	**292**	P		**P**		**09 08 58.8**	**+4.0**
KSH				pP		sP		09 09 14.9	-0.1
KSH				sP		pP		09 09 21.8	+13
KSH				PcP		**PcP**		**09 09 58.9**	**+2.8**
KSH				S		**S**		**09 16 34.5**	**+1.7**
KSH				sS		sS		09 17 01.4	+4.7
KSH				SS		**SS**		**09 20 19.0**	**+2.6**
KSH				pmax		pmax			
	comp=Z,12nm,1.1s								
KSH				LR		LR			
	comp=Z,1µm,22.3s								
KSH				LR		LR			
	comp=Z,530nm,14.8s								
KSH				LR		LR			
	comp=Z,860nm,17.9s								
L02D	**Cave Junction,**	**54.97**	**64**	P		**P**		**09 08 55.6**	**+1.0**
	baz=307,SNR=13								
NEW	**Newport**	**55.01**	**55**	P		**P**		**09 08 55.1**	**+0.2**
	baz=306,SNR=13								
NEW	**Newport**	**55.01**	**55**	*eP*		**P**		**09 08 54.8**	**-0.1**
NEW				pmax		pmax			
	comp=Z,18nm,1.0s								
NEW	**Newport**	**55.01**	**55**	*eP*		**P**		**09 08 54.8**	**-0.1**
	comp=Z,18nm,0.9s								
KULLO	**Kullorsuaq**	**55.03**	**10**	*iP*		**P**		**09 08 54.0**	**-0.6**
	comp=Z,201nm,0.8s								
KULLO	**Kullorsuaq**	**55.03**	**10**	*iP*		**P**		**09 08 54.0**	**-0.6**
KULLO				pmax		pmax			
	comp=Z,200nm,0.8s								
HUMO	**Hull Mountain**	**55.08**	**63**	*eP*		**P**		**09 08 56.7**	**+1.2**
	comp=Z,32nm,1.3s								
FAKI	**Fak Fak**	**55.14**	**208**	P		**P**		**09 08 57.0**	**+0.9**
FAKI	**Fak Fak**	**55.14**	**208**	*eP*		**P**		**09 08 56.0**	**-0.2**
	comp=Z,72nm,0.9s								
TAP

ARCES PcP **PcP** **09 10 00.8 +0.3**
comp=Z,7.6nm,0.7s,baz=32,slow=3.6,SNR=6.9
ARCES LR LR 09 36 52.3
comp=Z,602nm,21.4s,baz=38,slow=40
ARE0 ARCESS Array S 56.29 341 *eP* **P 09 09 03.8 +0.1**
ARE0 IAmb IAmb 09 09 21.8
comp=Z,289nm,2.3s
ARE0 IAMs_20 IAMs_20 09 38 37.8
comp=Z,685nm,21.0s
ARE0 ARCESS Array S 56.29 341 *eP* **P 09 09 02.9 -0.8**
comp=Z,124nm,1.8s
F10A Beach Ranch, E 56.32 57 *eP* **P 09 09 04.5 +0.1**
comp=Z,15nm,0.9s
KKN Kakani 56.47 275 *eP* **P 09 09 06.5 +0.6**
comp=Z,146nm,0.7s
KCPM Cahto Peak 56.49 66 *eP* **P 09 09 06.1 +0.4**
comp=Z,54nm,1.2s
SANI Sanana 56.50 215 P **P 09 09 05.2 -0.7**
comp=Z,139nm,0.9s,comp=Z,1μm
BSMT Bassoo Peak 56.51 54 *eP* **P 09 09 06.5 +0.6**
PKI Pulchoki 56.53 275 *eP* **P 09 09 07.0 +0.6**
comp=Z,57nm,0.5s
PKIN Phulchoki 56.53 275 *eP* **P 09 09 07.0 +0.6**
comp=Z,93nm,0.7s
WDC Whiskeytown Da 56.56 65 *eP* **P 09 09 06.9 +0.8**
WDC pmax pmax
comp=Z,22nm,1.0s
WDC Whiskeytown Da 56.56 65 *eP* **P 09 09 06.9 +0.8**
comp=Z,22nm,1.0s
BLMT Blacktail Mon 56.63 54 *eP* **P 09 09 07.4 +0.7**
DMN Daman 56.70 275 *eP* **P 09 09 08.2 +0.6**
comp=Z,165nm,0.7s
GKN Gorkha 56.75 276 *eP* **P 09 09 08.5 +0.7**
comp=Z,164nm,0.6s
JTMT Jette 56.84 54 *eP* **P 09 09 08.6 +0.5**
YBMT Yellow Bay 56.91 53 *eP* **P 09 09 09.4 +0.8**
PATY Pattaya 56.93 250 P **P 09 09 11.4 +2.5**
comp=Z,19nm,1.1s,comp=Z,2μm
SRDT SRDT 56.94 253 P **P 09 09 10.7 +1.7**
comp=Z,166nm,0.9s
BMO Blue Mountains 56.97 58 *eP* **P 09 09 09.7 +0.7**
BMO pmax pmax
comp=Z,25nm,1.0s
BMO Blue Mountains 56.97 58 *eP* **P 09 09 09.7 +0.7**
comp=Z,25nm,0.9s
TMCR Tamitsa 57.06 332 *eP* **P 09 09 07.6 -1.6**
TMCR pmax pmax
comp=Z,100nm,1.5s
MOD Modoc Plateau 57.07 62 *eP* **P 09 09 10.7 +0.8**
comp=Z,33nm,0.9s
SWMT Swartz Lake 57.14 54 *eP* **P 09 09 10.6 +0.4**
KTK1 Kautokeino 57.20 341⇑*iP* **P 09 09 10.0 -0.1**
KTK1 IAmb IAmb 09 09 11.0
comp=Z,24nm,0.8s
HOPS Hopland Field 57.23 67 *eP* **P 09 09 11.4 +0.6**
comp=Z,94nm,1.6s
GDXM Geysers 57.52 67 *eP* **P 09 09 14.6 +1.6**
comp=Z,14nm,0.9s
TRO Tromso 57.55 343 *eP* **P 09 09 13.7 +1.1**
TRO IAmb IAmb 09 09 13.9
comp=Z,72nm,1.4s
SLMT Seeley Lake 57.57 54 *eP* **P 09 09 13.9 +0.6**
KOLN Koldanda 57.59 276 *eP* **P 09 09 14.5 +0.7**
comp=Z,86nm,0.6s
MSO Missoula 57.59 54 P **P 09 09 13.7 +0.2**
baz=309,SNR=26
MSO Missoula 57.59 54 *eP* **P 09 09 13.6 +0.2**
comp=Z,54nm,1.1s
WVOR Wild Horse Val 57.71 61 *eP* **P 09 09 15.0 +0.7**
WVOR pmax pmax
comp=Z,39nm,1.0s
WVOR Wild Horse Val 57.71 61 *eP* **P 09 09 15.0 +0.7**
comp=Z,39nm,1.0s
PYUN Piuthan 57.77 277 *eP* **P 09 09 15.7 +0.7**
comp=Z,344nm,1.0s
ORV Oroville 57.83 65 *eP* **P 09 09 14.9 -0.1**
ORV pmax pmax
comp=Z,18nm,0.9s
ORV Oroville 57.83 65 *eP* **P 09 09 15.2 +0.2**
comp=Z,18nm,0.8s
CHMT Chamberlain Mo 57.91 54 *eP* **P 09 09 15.8 0.0**
AB31 Akbulak array 58.01 310 P **P 09 09 14.7 -1.4**
AB31 pmax pmax
comp=Z,6.0nm,0.4s
ABKAR Akbulak array 58.01 310 *eP* **P 09 09 15.3 -0.8**
comp=Z,188nm,0.4s
PCI Palu 58.03 223 P **P 09 09 16.4 -0.2**
BEKR Beckworth 58.31 64 *eP* **P 09 09 19.2 +0.5**
comp=Z,32nm,1.0s
PMG Port Moresby 58.36 189 P **P 09 09 18.7 -0.2**
comp=Z,17nm,0.6s,baz=216,slow=12,SNR=6.4
PMG Port Moresby 58.36 189*c iP* **P 09 09 18.8 -0.1**
PMG pmax pmax
comp=Z,55nm,0.6s
PMG Port Moresby 58.36 189 *eP* **P 09 09 19.2 +0.3**
comp=Z,45nm,1.1s
FFC Flin Flon 58.41 42 *eP* **P 09 09 19.3 +0.4**
FFC pmax pmax
comp=Z,58nm,0.8s
FFC Flin Flon 58.41 42 *eP* **P 09 09 19.5 +0.6**
FFC Flin Flon 58.41 42 *eP* **P 09 09 19.3 +0.4**
comp=Z,58nm,0.8s
AFDM Forest Hills D 58.53 65 *eP* **P 09 09 20.5 +0.5**
comp=Z,16nm,1.1s
SUMG Summit 58.55 5⇑*iP* **P 09 09 20.2 +0.1**
comp=Z,144nm,0.9s
SUMG Summit 58.55 5⇑*iP* **P 09 09 20.2 +0.1**
SUMG pmax pmax
comp=Z,140nm,0.9s
SUMG Summit 58.55 5 *eP* **P 09 09 20.0 -0.1**
comp=Z,171nm,1.0s
BGC Bolinger Road 58.59 67 *eP* **P 09 09 17.4 -3.0**
MFID Camas Ranch 58.70 59 *eP* **P 09 09 21.7 +0.5**
comp=Z,24nm,0.9s
HRY Holter Researc 58.79 53 *eP* **P 09 09 22.6 +0.8**
SBUM Sibu 58.82 232 *eP* **P 09 09 23.8 +1.6**
comp=Z,19nm,0.9s
SBUM Sibu 58.82 232⇓*iP* **P 09 09 23.9 +1.6**
FCC Fort Churchill 58.90 35 *eP* **P 09 09 22.1 0.0**
FCC pmax pmax
comp=Z,48nm,0.6s
FCC Fort Churchill 58.90 35 *eP* **P 09 09 22.1 0.0**
comp=Z,48nm,0.6s
KLMR Klimovskoe 58.95 329 *eP* **P 09 09 19.9 -2.6**
KLMR *e* 09 10 09.6
KLMR pmax pmax
comp=Z,73nm,1.1s
PAHR Pah Rah Range 58.99 64 *eP* **P 09 09 23.7 +0.4**
comp=Z,27nm,0.9s
LRM Limekiln Ridge 59.03 55 *eP* **P 09 09 24.1 +0.4**
EGMT Eagleton 59.04 51 P **P 09 09 23.8 +0.3**
baz=310,SNR=18
EGMT Eagleton 59.04 51 *eP* **P 09 09 23.8 +0.3**
comp=Z,76nm,1.2s
DLMT Dillon 59.24 55 *eP* **P 09 09 25.3 +0.3**
comp=Z,75nm,1.8s
PNTR Pine Nut 59.26 65 *eP* **P 09 09 26.1 +0.8**
comp=Z,47nm,0.8s
HLID Hailey 59.39 58 P **P 09 09 26.8 +0.7**
baz=310,SNR=35
HLID Hailey 59.39 58 *eP* **P 09 09 26.8 +0.7**
comp=Z,37nm,1.3s
MCMT McKenzie Canyo 59.45 56 *eP* **P 09 09 27.2 +0.7**
CMB Columbia Colle 59.47 66 *eP* **P 09 09 26.8 +0.3**
CMB pmax pmax
comp=Z,18nm,1.0s
CMB Columbia Colle 59.47 66 *eP* **P 09 09 26.8 +0.3**
comp=Z,18nm,0.9s
YERR Yerington 59.54 64 *eP* **P 09 09 27.9 +0.7**
comp=Z,35nm,0.8s
BOZ Bozeman (W) 59.61 54 P **P 09 09 28.4 +0.9**
baz=310,SNR=82
BOZ Bozeman (W) 59.61 54 *eP* **P 09 09 27.5 0.0**
BOZ pmax pmax
comp=Z,90nm,1.2s
BOZ Bozeman (W) 59.61 54 *eP* **P 09 09 27.5 0.0**
BOZ Bozeman (W) 59.61 54 *eP* **P 09 09 28.1 +0.5**
comp=Z,90nm,1.3s
THN Thein Dam 59.61 286 *eP* P 09 09 21.0 -6.5
BGMT Barton Gulch 59.63 55 *eP* **P 09 09 28.5 +0.8**
BKB Balikpapan 59.69 225 P **P 09 09 29.7 +1.6**
comp=Z,269nm,1.0s,comp=Z,2μm
WAKR Walker 59.73 65 *eP* **P 09 09 29.6 +1.1**
comp=Z,29nm,0.8s
BMN Battle Mountai 59.80 62 *eP* **P 09 09 29.7 +0.8**
BMN pmax pmax
comp=Z,40nm,0.9s
BMN Battle Mountai 59.80 62 *eP* **P 09 09 29.7 +0.8**
comp=Z,40nm,0.8s
LOF Lofoten 59.84 344 *eP* **P 09 09 26.9 -1.6**
LOF IAmb IAmb 09 09 28.6
comp=Z,22nm,0.8s
TTSI Tana Toraja 59.94 221 P **P 09 09 33.3 +3.4**
comp=Z,29nm,1.0s
TVH1 TV Hill, Hawth 60.16 65 *eP* **P 09 09 32.4 +0.7**
comp=Z,28nm,1.0s
TVH3 East Aurora ar 60.20 65 *eP* **P 09 09 32.6 +0.8**
comp=Z,22nm,1.1s
QLMT Earthquake Lak 60.22 55 *eP* **P 09 09 32.7 +1.0**
TVH2 Borealis Mine 60.22 65 *eP* **P 09 09 33.0 +1.1**
comp=Z,11nm,1.0s
MTKI Muara Teweh, K 60.37 228 P **P 09 09 33.9 +1.1**
comp=Z,149nm,0.8s
PMPB Monarch Peak 60.39 68 *eP* **P 09 09 34.1 +1.2**
comp=Z,89nm,1.8s
YHB Horse Butte 60.40 55 *eP* **P 09 09 34.0 +1.0**
comp=Z,76nm,1.1s
GCMT Greycliff 60.53 53 *eP* **P 09 09 35.0 +1.2**
YHH Holmes Hill 60.56 55 *eP* **P 09 09 35.1 +0.9**
comp=Z,40nm,0.9s
YMR Madison River 60.57 55 *eP* **P 09 09 35.3 +1.1**
comp=Z,46nm,1.0s
KSM Kuching 60.65 234 *eP* **P 09 09 36.3 +1.5**
comp=Z,74nm,1.0s
KSM Kuching 60.65 234⇑P **P 09 09 36.8 +2.0**
MLAC Mammoth, Mammo 60.66 65 P **P 09 09 35.3 +0.4**
baz=311,SNR=6.8
YNR Norris Junctio 60.70 55 *eP* **P 09 09 36.6 +1.5**
comp=Z,38nm,1.0s
ILULI Ilulissat 60.74 10⇑*iP* **P 09 09 33.9 -0.8**
comp=Z,146nm,0.9s
ILULI Ilulissat 60.74 10⇑*iP* **P 09 09 33.9 -0.8**
ILULI pmax pmax
comp=Z,150nm,0.9s
MCID Moose Creek 60.77 55 *eP* **P 09 09 37.1 +1.5**
SPSI Sidrap Palu 60.78 221 P **P 09 09 35.5 -0.1**
YFT Old Faithful 60.78 55 *eP* **P 09 09 38.0 +2.3**
comp=Z,44nm,0.9s
YPP Pitchstone Pla 60.92 55 *eP* **P 09 09 38.6 +1.9**
comp=Z,22nm,1.1s
LKWY Lake 60.95 55 *eP* **P 09 09 39.1 +2.3**
LKWY pmax pmax
comp=Z,40nm,0.9s
LKWY Lake 60.95 55 *eP* **P 09 09 39.1 +2.3**
comp=Z,40nm,0.9s
H17A Grant Village 60.96 55 *eP* **P 09 09 39.4 +2.5**
comp=Z,63nm,1.0s
SCO Scoresbysund 61.00 359 *i* P **P 09 09 35.8 -0.6**
comp=Z,6.9nm,0.7s
SCO Scoresbysund 61.00 359 *i* P **P 09 09 35.8 -0.6**
SCO pmax pmax
comp=Z,7.0nm,0.7s
PAGB Antelope Grade 61.05 68 *eP* **P 09 09 38.0 +0.7**
comp=Z,26nm,0.9s
IMW Indian Meadow 61.09 55 *eP* **P 09 09 39.2 +1.4**
comp=Z,42nm,1.1s
RLMT Red Lodge 61.19 53 P **P 09 09 39.4 +1.0**
baz=312,SNR=52
RLMT Red Lodge 61.19 53 *eP* **P 09 09 39.5 +1.2**
comp=Z,80nm,1.1s
RCTC Rector, Farmer 61.28 67 P **P 09 09 39.1 +0.3**
baz=312,SNR=5.5
MOOW Moose Ponds 61.30 55 *eP* **P 09 09 40.3 +1.1**
comp=Z,24nm,1.0s
TPAW Teton Pass 61.35 56 *eP* **P 09 09 41.1 +1.5**
comp=Z,55nm,0.9s
KONS Konsvik 61.37 344 *eP* **P 09 09 38.7 -0.2**
KONS IAmb IAmb 09 09 44.1
comp=Z,21nm,1.2s
MOR8 Moi Rana 61.40 343 *eP* **P 09 09 37.0 -2.3**
MOR8 IAmb IAmb 09 09 37.3
comp=Z,19nm,0.9s
LOHW Long Hollow 61.46 56 *eP* **P 09 09 41.6 +1.3**
comp=Z,20nm,1.1s
HVU Hansel Valley 61.47 58 *eP* **P 09 09 41.2 +0.9**
HVU pmax pmax
comp=Z,24nm,0.9s
HVU Hansel Valley 61.47 58 *eP* **P 09 09 41.2 +0.9**
comp=Z,24nm,0.9s
SNOW Snow King Moun 61.48 56 *eP* **P 09 09 42.0 +1.6**
comp=Z,40nm,0.9s
REDW Red Top Meadow 61.49 56 *eP* **P 09 09 41.8 +1.3**
comp=Z,53nm,0.9s
KTGM Kuala Trenggan 61.51 243⇓P **P 09 09 43.0 +2.4**
STOK Stokkvaagen 61.53 344 *eP* **P 09 09 39.5 -0.5**
DGMT Dagmar 61.54 48 P **P 09 09 41.0 +0.6**
baz=313,SNR=28
DGMT Dagmar 61.54 48 *eP* **P 09 09 41.1 +0.6**
comp=Z,88nm,0.9s
SKLT Songkhla 61.55 246 P **P 09 09 42.8 +1.9**
comp=Z,60nm,1.0s,comp=Z,858nm
TRTT Trang 61.59 248 P **P 09 09 42.5 +1.4**
comp=Z,36nm,1.0s,comp=Z,962nm
VES Vestal, Richgr 61.69 67 P **P 09 09 41.3 -0.3**
baz=312,SNR=7.8
LAO LASA Array 61.73 51 P **P 09 09 42.5 +0.7**
baz=312,SNR=39
LAO LASA Array 61.73 51 *eP* **P 09 09 42.9 +1.1**
comp=Z,82nm,1.0s
KAPI Kappang 61.73 221 *eP* **P 09 09 42.0 0.0**
comp=Z,36nm,0.9s
BGU Big Grassy Mou 61.89 59 *eP* **P 09 09 43.6 +0.5**
comp=Z,10nm,0.9s
CWC Cottonwood Cre 61.90 66 P **P 09 09 43.4 +0.2**
baz=312
GRAC Grapevine Rang 61.96 65 P **P 09 09 44.2 +0.7**
baz=312,SNR=34
SPUT South Promonto 61.97 58 *eP* **P 09 09 44.8 +1.2**
comp=Z,50nm,0.9s
R11A Troy Canyon, C 62.12 63 P **P 09 09 44.8 +0.1**
baz=312,SNR=70
R11A Troy Canyon, C 62.12 63 *eP* **P 09 09 45.2 +0.5**
comp=Z,33nm,0.9s
ISA Isabella, Lake 62.17 67 P **P 09 09 44.7 -0.3**
baz=312
ISA Isabella, Lake 62.17 67 *eP* **P 09 09 44.7 -0.3**
ISA pmax pmax
comp=Z,11nm,0.9s
ISA Isabella, Lake 62.17 67 *eP* **P 09 09 44.7 -0.3**
comp=Z,11nm,0.8s
SBC Santa Barbara 62.23 69 P **P 09 09 45.0 -0.2**
baz=312
HWUT Hardware Ranch 62.26 58 *eP* **P 09 09 46.5 +0.8**
comp=Z,58nm,1.3s
DAC Darwin (Calif) 62.30 66 *eP* **P 09 09 46.1 +0.2**
DAC pmax pmax
comp=Z,18nm,1.2s
DAC Darwin (Calif) 62.30 66 *eP* **P 09 09 46.1 +0.2**
comp=Z,18nm,1.2s
ARVC Arvin 62.31 67 P **P 09 09 45.1 -0.7**
baz=312
KBL Kabul 62.40 292 *eP* **P 09 09 46.7 +0.1**
KBL pmax pmax
comp=Z,19nm,0.8s
KBL Kabul 62.40 292 *eP* **P 09 09 46.7 +0.1**
comp=Z,19nm,0.8s
FSU Fish Springs 62.48 60 *eP* **P 09 09 47.9 +0.8**
DUG Dugway, Tooele 62.50 60 P **P 09 09 47.9 +0.8**
baz=312,SNR=54
DUG Dugway, Tooele 62.50 60 *eP* **P 09 09 48.0 +0.8**
DUG pmax pmax
comp=Z,55nm,1.0s
DUG Dugway, Tooele 62.50 60 *eP* **P 09 09 48.0 +0.8**
DUG Dugway, Tooele 62.50 60 *eP* **P 09 09 48.0 +0.8**
comp=Z,55nm,0.9s
MPMC Manual Prospec 62.51 66 P **P 09 09 47.6 +0.3**
baz=312,SNR=40
BSC Santa Cruz Isl 62.58 69 P **P 09 09 48.1 +0.5**
baz=312
BBKI Banjar Baru 62.59 226 P **P 09 09 48.3 +0.5**
comp=Z,208nm,0.9s
BW06 Boulder Array 62.60 56 P **P 09 09 48.2 +0.3**
baz=312,SNR=68
BW06 Boulder Array 62.60 56 *eP* **P 09 09 48.4 +0.5**
PD31 Pinedale Array 62.60 56 *eP* **P 09 09 48.4 +0.5**
PDAR Pinedale Array 62.60 56 P **P 09 09 48.4 +0.5**
comp=Z,46nm,0.9s,baz=318,slow=2.0,SNR=231
FURC Furnace Creek, 62.61 65 P **P 09 09 48.4 +0.7**
baz=312,SNR=22
HRU Hogsback Ridge 62.63 59 *eP* **P 09 09 47.6 -0.5**
TPNV Topopah Spring 62.66 64 P **P 09 09 48.6 +0.3**
baz=312,SNR=57
TPNV Topopah Spring 62.66 64 *eP* **P 09 09 48.6 +0.3**
TPNV pmax pmax
comp=Z,50nm,1.0s
TPNV Topopah Spring 62.66 64 *eP* **P 09 09 48.6 +0.3**
comp=Z,50nm,0.9s
FIA1 FINESS Array S 62.67 335 *eP* **P 09 09 46.5 -1.3**
comp=Z,22nm,0.6s
FINES FINESS Array B 62.67 335 P **P 09 09 46.2 -1.5**
comp=Z,17nm,0.5s,baz=37,slow=7.2,SNR=129
FINES PcP **PcP** **09 10 25.9 -0.1**
comp=Z,14nm,0.6s,baz=64,slow=4.4,SNR=7.9
FINES LR LR 09 39 44.7
comp=Z,736nm,20.5s,baz=29,slow=39
PUL Pulkovo 62.77 332⇓*eP* **P 09 09 50.4 +2.0**
PUL pmax pmax
comp=Z,52nm,0.8s
LRMC Laurel Mtn Rad 62.78 66 P **P 09 09 49.2 +0.1**
baz=312
BLG Laguna Peak, P 62.85 68 P **P 09 09 48.9 -0.5**
baz=312
SFJD Kangerlussuaq 62.91 11⇑*iP* **P 09 09 48.7 -0.6**
comp=Z,78nm,0.5s
SFJD Kangerlussuaq 62.91 11⇑*iP* **P 09 09 48.7 -0.6**
SFJD pmax pmax
comp=Z,78nm,0.5s
SFJD Kangerlussuaq 62.91 11 *eP* **P 09 09 48.6 -0.6**
comp=Z,70nm,0.5s
JLU Jordanelle 63.00 59 *eP* **P 09 09 51.2 +0.6**
comp=Z,29nm,1.1s
PSUT Pine Spring 63.01 62 *eP* **P 09 09 51.5 +0.9**
comp=Z,17nm,1.0s
KULM Kulim 63.02 245 *eP* **P 09 09 52.0 +1.3**
comp=Z,71nm,0.9s
KULM Kulim 63.02 245⇑P **P 09 09 52.5 +1.8**
NLU North Lily Min 63.08 59 *eP* **P 09 09 51.8 +0.7**
comp=Z,42nm,0.8s
SNCC San Nicolas Is 63.14 69 P **P 09 09 51.9 +0.5**
baz=313
DECC Green Verdugo 63.20 68 P **P 09 09 52.1 +0.3**
baz=313,SNR=7.5
COEN Coen 63.34 193 *eP* **P 09 09 53.1 +0.4**
comp=Z,59nm,1.1s
SHOC Shoshone, Teco 63.34 65 P **P 09 09 52.8 +0.1**
baz=313
PASC Pasadena Art C 63.35 68 *eP* **P 09 09 52.8 +0.1**
comp=Z,16nm,0.8s
MWC Mount Wilson 63.39 68 *eP* **P 09 09 53.6 +0.4**
MWC pmax pmax
comp=Z,44nm,1.2s
MWC Mount Wilson 63.39 68 *eP* **P 09 09 53.6 +0.4**
comp=Z,44nm,1.2s
MOS Moscow 63.40 326 *eP* P 09 10 04.7 +12
GSC Goldstone, Bar 63.43 66 P **P 09 09 53.2 -0.1**
baz=313,SNR=21
GSC Goldstone, Bar 63.43 66 *eP* **P 09 09 53.4 +0.1**
GSC pmax pmax
comp=Z,26nm,0.9s
GSC Goldstone, Bar 63.43 66 *eP* **P 09 09 53.4 +0.1**
comp=Z,26nm,0.9s
IPM Ipoh 63.44 244 *eP* **P 09 09 54.6 +1.2**
comp=Z,41nm,1.0s
IPM Ipoh 63.44 244⇓P **P 09 09 54.5 +1.0**
PBKI Pangkalan Bun 63.49 230 P **P 09 09 56.7 +2.9**
SHPR Sheep Range 63.60 64 *eP* **P 09 09 55.3 +0.7**
comp=Z,28nm,1.0s
BFSC Mount Baldy Ra 63.62 67 P **P 09 09 54.6 -0.1**
baz=313,SNR=11
CIS Catalina Islan 63.73 69 P **P 09 09 55.1 -0.2**
baz=313,SNR=5.4
TCRU Three Creeks R 63.77 61 *eP* **P 09 09 57.1 +1.3**
comp=Z,26nm,0.8s
TUQ Turquoise Moun 63.87 65 P **P 09 09 56.5 +0.2**
baz=313,SNR=27
SCI San Clemente I 63.93 69 P **P 09 09 56.8 +0.2**
baz=313
MYKOM Kota Tinggi 63.96 240 *eP* **P 09 09 58.6 +1.7**
comp=Z,26nm,0.9s
CCUT Cedar City 63.96 62 *eP* **P 09 09 56.7 -0.3**
comp=Z,36nm,0.9s
MSU Marysvale 63.99 61 *eP* **P 09 09 58.1 +0.9**
MSU Marysvale 63.99 61 *eP* **P 09 09 58.1 +0.9**
TMUT Trail Mountain 64.02 59 *eP* **P 09 09 58.0 +0.6**
comp=Z,44nm,0.9s
HEC Hector,Ludlow 64.03 66 P **P 09 09 57.5 +0.2**
baz=313,SNR=28
BBRC Big Bear Solar 64.06 67 P **P 09 09 57.3 -0.3**
baz=313,SNR=11
SZCU Shurtz Canyon 64.09 62 *eP* **P 09 09 58.3 +0.5**
comp=Z,25nm,0.9s
MDND Maddock 64.20 46 P **P 09 09 58.8 +0.7**
baz=315,SNR=8.0
MDND Maddock 64.20 46 *eP* **P 09 09 58.9 +0.7**
comp=Z,88nm,0.8s
ULM Lac du Bonnet 64.20 42 P **P 09 09 57.9 -0.1**
comp=Z,32nm,0.7s,baz=315,slow=7.5,SNR=34
ULM PcP **PcP** **09 10 32.5 -0.1**
comp=Z,8.7nm,0.8s,baz=269,slow=5.8,SNR=3.0
ULM LR LR 09 38 38.8
comp=Z,218nm,20.5s,baz=314,slow=37
ULM Lac du Bonnet 64.20 42 *eP* **P 09 09 57.9 -0.1**
ULM pmax pmax
comp=Z,38nm,0.9s
ULM Lac du Bonnet 64.20 42 *eP* **P 09 09 57.9 -0.1**
comp=Z,38nm,0.8s
ULM PcP **PcP** **09 10 32.5 -0.1**
SOEI Soe 64.24 214 P **P 09 09 58.8 0.0**
comp=Z,91nm,0.9s
SOEI Soe 64.24 214 *eP* **P 09 09 58.1 -0.6**
comp=Z,67nm,0.8s
OBN Obninsk 64.27 326⇓*i*P **P 09 09 57.1 -1.3**
OBN *i* 09 10 31.5
OBN pmax pmax
comp=Z,12nm,0.8s
OBN MLR MLR
comp=Z,348nm,20.0s
MTPU Mount Pierson 64.31 61 *eP* **P 09 10 00.2 +0.8**
comp=Z,34nm,0.8s
K22A Casper 64.31 54 P **P 09 09 59.4 +0.3**
baz=314,SNR=14
K22A Casper 64.31 54 *eP* **P 09 09 59.5 +0.3**
comp=Z,120nm,1.8s
P18A Preston Nutter 64.34 59 *eP* **P 09 10 00.7 +1.1**
comp=Z,39nm,1.1s
MURC Murrieta 64.34 68 P **P 09 09 59.2 -0.1**
baz=313,SNR=14
LCMT Little Creek M 64.39 63 *eP* **P 09 10 00.6 +0.9**
comp=Z,60nm,0.8s
GMRC Granite Mounta 64.47 66 P **P 09 10 00.3 +0.1**
baz=313,SNR=33
SRU San Rafael Swe 64.53 59 *eP* **P 09 10 01.3 +0.6**
SRU pmax pmax
comp=Z,83nm,0.8s
SRU San Rafael Swe 64.53 59 *eP* **P 09 10 01.3 +0.6**
comp=Z,83nm,0.8s
LDFC Landfair 64.60 65 *eP* **P 09 10 01.4 +0.4**
comp=Z,91nm,0.8s
RSSD Black Hills 64.61 51 P **P 09 10 01.1 0.0**
baz=314
RSSD Black Hills 64.61 51 *eP* **P 09 10 01.3 +0.2**
RSSD pmax pmax
comp=Z,210nm,1.5s
RSSD Black Hills 64.61 51 *eP* **P 09 10 01.3 +0.2**
comp=Z,214nm,1.5s
RWWY Rawlins 64.61 55 *eP* **P 09 10 00.8 -0.4**
comp=Z,96nm,0.9s
B31A Greenbush Farm 64.71 45 P **P 09 10 01.8 +0.4**
baz=316,SNR=26
MMU Miners Mountai 64.72 60 *eP* **P 09 10 02.9 +0.9**
PFO Pinyon Flats O 64.78 67 P **P 09 10 02.2 -0.1**
baz=313
PFO Pinyon Flats O 64.78 67 *eP* **P 09 10 02.3 0.0**
PFO pmax pmax
comp=Z,18nm,1.3s
PFO Pinyon Flats O 64.78 67 *eP* **P 09 10 02.3 0.0**
comp=Z,18nm,1.3s
TPFO Pinon Flats 64.79 67 P **P 09 10 02.2 -0.1**
baz=313
BELC Belle Mtn. Jos 64.80 67 P **P 09 10 01.9 -0.5**
baz=313,SNR=12
109C Camp Elliot, M 64.88 68 P **P 09 10 02.6 -0.1**
baz=313
MTN Manton Dam 64.88 206 *eP* **P 09 10 03.3 +0.6**
comp=Z,122nm,1.0s
A32A Rocking H Ranc 64.88 44 P **P 09 10 02.4 -0.1**
baz=316,SNR=15
VSU Vasula 64.92 333*d iP* **P 09 10 02.0 -0.6**
VSU pmax pmax
comp=Z,54nm,0.7s

NEE2 **Needles Airpor** 65.11 65 P P 09 10 04.1 -0.2
baz=314
O20A **White River Ci** 65.11 57 P P 09 10 04.5 +0.1
baz=314,SNR=21
O20A **White River Ci** 65.11 57 eP P 09 10 04.7 +0.3
comp=Z,30nm,1.0s
C31A **Landman Farms,** 65.12 45 P P 09 10 04.1 0.0
baz=316,SNR=15
IRM **Iron Mountain** 65.21 66 P P 09 10 04.9 0.0
baz=314,SNR=25
B32A **Ashes, Strandq** 65.24 44 P P 09 10 04.6 -0.2
baz=317,SNR=11
LPSR **Galich'ya Gora** 65.27 323 eP P 09 10 03.9 -1.0
LPSR pmax pmax
comp=Z,40nm,0.8s
BAR **Barrett** 65.29 68 eP P 09 10 05.4 0.0
comp=Z,17nm,0.9s
MONP **Monument Peak,** 65.30 68 P P 09 10 05.4 -0.3
baz=314
LHMI **Lhok Sumawe** 65.31 248 eP P 09 10 09.2 +3.4
comp=Z,116nm,0.7s
W13A **Hualapai Mount** 65.32 64 eP P 09 10 06.0 +0.2
comp=Z,24nm,0.9s
U15A **North Rim** 65.35 62 eP P 09 10 06.8 +0.7
comp=Z,36nm,0.9s
BC3 **Big Chuckawall** 65.36 67 P P 09 10 05.8 -0.3
baz=314,SNR=8.2
A33A **Warroad** 65.37 43 P P 09 10 05.4 -0.3
baz=317,SNR=20
AGMN **Agassiz Nation** 65.62 44 P P 09 10 06.9 -0.4
baz=317,SNR=19
AGMN **Agassiz Nation** 65.62 44 eP P 09 10 07.2 -0.1
comp=Z,44nm,0.9s
IKP **In-Ko-Pah, Jac** 65.65 68 P P 09 10 08.0 +0.1
baz=314,SNR=7.1
C32A **Crookston** 65.66 44 P P 09 10 07.3 -0.2
baz=317
D31A **Mcclaflin, Tow** 65.66 46 P P 09 10 07.4 -0.2
baz=316,SNR=7.9
PDMCI **Parker Dam,Lak** 65.71 65 P P 09 10 08.4 +0.3
baz=314,SNR=29
PV09 **Paradox Valley** 65.74 59 eP P 09 10 08.8 +0.1
B33A **Robert and Kas** 65.77 44 P P 09 10 08.1 -0.2
baz=317,SNR=11
PHWY **Pilot Hill** 65.82 54 eP P 09 10 09.5 +0.4
comp=Z,10nm,0.9s
N23A **Red Feather La** 65.84 55 P P 09 10 09.6 +0.4
baz=315,SNR=21
N23A **Red Feather La** 65.84 55 eP P 09 10 10.1 +0.8
comp=Z,98nm,1.6s
Y12C **Blythe** 65.86 66 P P 09 10 09.4 +0.3
baz=314,SNR=17
Y12C **Blythe** 65.86 66 eP P 09 10 09.6 +0.5
comp=Z,30nm,0.8s
PV10 **Paradox Valley** 65.88 59 eP P 09 10 11.1 +1.6
D32A **Dogwood Acres,** 65.93 45 P P 09 10 09.3 -0.1
baz=317,SNR=7.4
E31A **Nome** 65.94 46 P P 09 10 09.3 -0.1
baz=316,SNR=26
PV04 **Paradox Valley** 65.94 59 eP P 09 10 10.1 +0.3
MOL **Molde** 65.96 344 eP P 09 10 09.0 -0.2
PLAI **Plampang** 65.99 221 P P 09 10 08.9 -1.1
PSI **Prapat** 66.03 245 eP P 09 10 11.1 +0.6
PSI pmax pmax
comp=Z,54nm,0.7s
PSI **Prapat** 66.03 245 eP P 09 10 11.1 +0.6
comp=Z,54nm,0.7s
B34A **Aery, Baudette** 66.03 43 P P 09 10 09.6 -0.4
baz=318,SNR=20
PV05 **Paradox Valley** 66.05 59 eP P 09 10 11.5 +1.0
C33A **Trail** 66.06 44 P P 09 10 10.1 0.0
baz=317
KCSI **Kotacane, Aceh** 66.15 246 P P 09 10 11.0 -0.1
GLA **Glamis** 66.16 67 P P 09 10 11.5 +0.4
baz=314,SNR=17
GLA **Glamis** 66.16 67 eP P 09 10 11.5 +0.4
GLA pmax pmax
comp=Z,40nm,0.9s
GLA **Glamis** 66.16 67 eP P 09 10 11.5 +0.4
comp=Z,40nm,0.9s
DOMB **Dombas** 66.16 343 eP P 09 10 09.7 -0.9
DOMB IAmb IAmb 09 10 12.3
comp=Z,18nm,0.8s
VSR **Storozhevoye** 66.22 322 eP P 09 10 09.3 -1.8
VSR pmax pmax
comp=Z,10.0nm,0.9s
F31A **Hecla** 66.27 47 P P 09 10 11.4 -0.1
baz=316,SNR=8.0
E32A **Braaten, Kindr** 66.30 46 P P 09 10 11.2 -0.5
baz=317
TWSI **Taliwang, Sumb** 66.30 222 P P 09 10 12.6 +0.6
comp=Z,33nm,0.9s
PV01 **Paradox Valley** 66.31 59 eP P 09 10 12.5 +0.3
MLSI **Meulaboh, Aceh** 66.40 248 P P 09 10 13.4 +0.7
AKN **Aaknes** 66.42 344 eP P 09 10 11.9 -0.3
AKN IAmb IAmb 09 10 13.3
comp=Z,17nm,0.8s
NC303 **NORSAR Array S** 66.45 342 eP P 09 10 11.3 -1.1
SRBI **Singaraja** 66.47 224 P P 09 10 14.6 +1.5
comp=Z,83nm,0.9s
D33A **AnnSam, Waubun** 66.47 45 P P 09 10 12.4 -0.4
baz=317,SNR=5.1
NC405 **NORSAR Array S** 66.48 341 eP P 09 10 11.7 -0.9
SMCO **Snowmass** 66.48 57 eP P 09 10 14.0 +0.5
comp=Z,32nm,0.8s
WUAZ **Wupatki** 66.52 63 P P 09 10 14.1 +0.7
baz=314,SNR=21
WUAZ **Wupatki** 66.52 63 eP P 09 10 14.2 +0.7
comp=Z,44nm,1.0s
NC204 **NORSAR Array S** 66.53 342 eP P 09 10 12.9 -0.1
C34A **RKJ Ranch, Bem** 66.53 44 P P 09 10 12.9 -0.3
baz=318,SNR=6.2
B35A **Bob, Littlefor** 66.54 43 P P 09 10 12.8 -0.4
baz=318,SNR=17
GEYT **Alibeck** 66.55 301 P P 09 10 13.0 -0.5
comp=Z,5.6nm,0.5s,baz=20,slow=4.7,SNR=6.8
GEYT LR LR 09 41 50.1
comp=Z,449nm,18.4s,baz=85,slow=38
NB201 **NORSAR Array S** 66.62 342 eP P 09 10 13.0 -0.6
Y14A **Wickenburg** 66.64 65 eP P 09 10 14.6 +0.4
comp=Z,120nm,0.8s
NB2 **NORSAR Subarra** 66.65 342 P P 09 10 12.3 -1.4
baz=26,slow=6.5
NB2 **NORSAR Subarra** 66.65 342 P P 09 10 12.3 -1.4
comp=Z,13nm,0.6s,baz=26,slow=6.5
NOA **NORSAR Array B** 66.65 342 P P 09 10 12.3 -1.4
comp=Z,14nm,0.6s,baz=26,slow=6.4,SNR=60
NOA LR LR 09 43 31.0
comp=Z,306nm,20.8s,baz=35,slow=40
NBO02 **NORSAR Array S** 66.71 342 eP P 09 10 13.1 -1.0
BORG **Borgarnes** 66.74 358 eP P 09 10 16.1 +1.9
BORG pmax pmax
comp=Z,63nm,0.8s
BORG **Borgarnes** 66.74 358 eP P 09 10 16.1 +1.9
comp=Z,63nm,0.8s
NBO00 **NORSAR Array S** 66.75 342 eP P 09 10 13.8 -0.6
BKNI **Bangkinang** 66.76 241 eP P 09 10 15.2 +0.1
comp=Z,102nm,0.9s
ISCO **Idaho Springs** 66.79 56 P P 09 10 15.2 -0.2
baz=315,SNR=46
ISCO **Idaho Springs** 66.79 56 eP P 09 10 16.1 +0.8
ISCO pmax pmax
comp=Z,36nm,1.0s
ISCO **Idaho Springs** 66.79 56 eP P 09 10 16.1 +0.8
comp=Z,36nm,0.9s
F32A **Veblen** 66.80 46 P P 09 10 14.5 -0.5
baz=317,SNR=5.2
D34A **Park Rapids** 66.82 44 P P 09 10 14.7 -0.3
baz=318,SNR=34
NC602 **NORSAR Array S** 66.86 341 eP P 09 10 14.0 -1.0
NC602 IAmb IAmb 09 10 16.4
comp=Z,16nm,0.9s
NC602 **NORSAR Array S** 66.86 341 eP P 09 10 13.7 -1.3
E33A **Westby DABS, E** 66.87 45 P P 09 10 15.3 -0.1
baz=317,SNR=10
NAO01 **NORSAR Array S** 66.89 342 eP P 09 10 15.0 -0.3
C35A **Jirik Farms, M** 66.92 43 P P 09 10 14.8 -0.8
baz=318,SNR=12
SUSD **Miller** 66.95 48 P P 09 10 15.4 -0.5
baz=317
113A **Mohawk Valley,** 67.00 66 eP P 09 10 16.4 +0.1
comp=Z,19nm,1.0s
MVCO **Mesa Verde** 67.00 59 P P 09 10 17.0 +0.4
baz=315,SNR=45
MVCO **Mesa Verde** 67.00 59 eP P 09 10 17.1 +0.5
comp=Z,41nm,0.8s
G32A **Webster** 67.07 47 P P 09 10 16.2 -0.5
baz=317
H31A **Wolsey** 67.16 48 P P 09 10 16.8 -0.4
baz=317,SNR=11
F33A **5 Mile Ranch,** 67.22 46 P P 09 10 17.2 -0.4
baz=318,SNR=12
MNSI **Mandailing Nat** 67.24 243 P P 09 10 17.8 -0.2
comp=Z,68nm,0.7s
X16A **Lo Mia Camp, P** 67.24 63 eP P 09 10 19.1 +0.9
comp=Z,41nm,0.9s
E34A **Wadena** 67.25 45 P P 09 10 18.0 +0.2
baz=318
D35A **Remer** 67.34 44 P P 09 10 17.8 -0.5
baz=318,SNR=5.9
C36A **Pine Crest Far** 67.39 43 P P 09 10 18.3 -0.3
baz=319,SNR=9.3
HYA **Hoyanger** 67.51 344 eP P 09 10 18.9 -0.2
SDSI **Sungai Dareh** 67.56 240 P P 09 10 22.0 +1.9
comp=Z,58nm,1.0s
S22A **4UR Ranch, Cre** 67.57 58 P P 09 10 20.6 +0.3
baz=315,SNR=55
S22A **4UR Ranch, Cre** 67.57 58 eP P 09 10 21.2 +1.0
comp=Z,39nm,0.9s
E35A **Pequot Lakes** 67.57 44 P P 09 10 19.4 -0.4
baz=318,SNR=11
G33A **Ortonville** 67.62 46 P P 09 10 19.8 -0.3
baz=318,SNR=26
Q24A **Divide** 67.64 56 P P 09 10 20.9 +0.2
baz=316
Q24A **Divide** 67.64 56 eP P 09 10 21.1 +0.4
comp=Z,14nm,0.8s
H32A **Carlson Farm,** 67.65 47 P P 09 10 19.8 -0.5
baz=317,SNR=7.4
D36A **Goodland** 67.68 43 P P 09 10 19.7 -0.7
baz=319,SNR=7.4
C37A **Embarrass** 67.70 42 P P 09 10 20.3 -0.3
baz=319,SNR=8.1
F34A **Alexandria** 67.74 45 P P 09 10 20.6 -0.3
baz=318,SNR=9.7
W18A **Petrified Fore** 67.75 62 P P 09 10 21.9 +0.6
baz=315,SNR=8.2
W18A **Petrified Fore** 67.75 62 eP P 09 10 21.1 -0.3
comp=Z,35nm,1.0s
OSL **Oslo** 67.75 341 eP P 09 10 20.7 0.0
OSL IAmb IAmb 09 10 23.0
comp=Z,31nm,1.1s
MICGM **Minsk** 67.81 330 eP P 09 10 20.0 -1.1
EYMN **Ely** 67.84 42 P P 09 10 20.9 -0.6
baz=319,SNR=21
EYMN **Ely** 67.84 42 eP P 09 10 21.2 -0.2
comp=Z,53nm,0.9s
NACGM **Naroch** 67.84 331 e P 09 10 20.0 -1.3
H33A **Prehn Over Nor** 67.86 47 P P 09 10 21.6 0.0
baz=318,SNR=14
SUE **Sulen** 67.86 345 eP P 09 10 21.3 0.0
J31A **Geddes** 67.89 49 P P 09 10 21.9 0.0
baz=317,SNR=16
OGNE **Ogallala** 67.90 53 P P 09 10 22.4 +0.3
baz=316,SNR=16
OGNE **Ogallala** 67.90 53 eP P 09 10 22.5 +0.4
comp=Z,222nm,1.4s
G34A **Benson** 67.97 46 P P 09 10 22.6 +0.3
baz=318
I32A **Karley and Nic** 67.98 48 P P 09 10 22.1 -0.3
baz=317,SNR=8.2
PWJI **Pagerwojo** 68.01 227 P P 09 10 22.3 -0.5
comp=Z,254nm,0.9s,comp=Z,2µm
F35A **Swanville** 68.02 45 P P 09 10 22.3 -0.3
baz=318,SNR=16
D37A **Cotton** 68.02 43 P P 09 10 21.9 -0.7
baz=319
X18A **Snowflake** 68.04 62 eP P 09 10 23.9 +0.8
comp=Z,44nm,1.0s
PDSI **Padang** 68.10 241 P P 09 10 24.2 +0.7
comp=Z,23nm,1.0s
C38A **Sawbill Land.** 68.11 42 P P 09 10 22.6 -0.6
baz=320,SNR=17
HYB **Hyderabad** 68.12 272 i P P 09 10 23.0 -0.7
E36A **McGregor** 68.13 44 P P 09 10 23.1 -0.2
baz=319,SNR=18
214A **Organ Pipe Nat** 68.14 66 P P 09 10 24.1 +0.5
baz=315
214A **Organ Pipe Nat** 68.14 66 eP P 09 10 23.9 +0.2
comp=Z,190nm,1.1s
KONO **Kongsberg** 68.25 342 eP P 09 10 24.2 +0.4
KONO **Kongsberg** 68.25 342 eP P 09 10 24.3 +0.5
KONO pmax pmax
comp=Z,15nm,0.8s
KONO **Kongsberg** 68.25 342 eP P 09 10 24.3 +0.5
comp=Z,15nm,0.8s
J32A **Parkston** 68.28 49 P P 09 10 23.5 -0.8
baz=317,SNR=9.1
I33A **Coleman** 68.30 47 P P 09 10 24.1 -0.3
baz=318,SNR=9.6
SDCO **Great Sand Dun** 68.31 57 P P 09 10 24.6 -0.3
baz=316,SNR=21
SDCO **Great Sand Dun** 68.31 57 eP P 09 10 25.4 +0.5
comp=Z,23nm,1.2s
ASK **Askoy** 68.32 344 eP P 09 10 24.5 +0.3
ASK IAmb IAmb 09 10 36.0
comp=Z,47nm,1.2s
H34A **Spellman Lake,** 68.33 46 P P 09 10 24.2 -0.4
baz=318,SNR=11
K31A **O'Neill** 68.37 50 P P 09 10 24.6 -0.3
baz=317,SNR=7.5
BER **Bergen** 68.39 344 eP P 09 10 24.9 +0.2
E37A **Wrenshall** 68.48 43 P P 09 10 24.8 -0.7
baz=319
F36A **Milaca** 68.50 44 P P 09 10 24.9 -0.8
baz=319,SNR=12
G35A **Watkins** 68.53 45 P P 09 10 25.8 -0.1
baz=319,SNR=21
C39A **Grand Marais** 68.54 41 P P 09 10 25.0 -0.8
baz=320,SNR=8.0
UGM **Wanagama** 68.54 228 eP P 09 10 25.9 -0.3
comp=Z,159nm,1.2s
ODD1 **Odda** 68.59 343 eP P 09 10 26.2 +0.2
ECSD **EROS Data Cent** 68.62 48 P P 09 10 26.0 -0.4
baz=318,SNR=38
ECSD **EROS Data Cent** 68.62 48 eP P 09 10 26.0 -0.4
comp=Z,48nm,0.9s
K32A **Verdigre** 68.74 49 P P 09 10 26.6 -0.6
baz=318
J33A **Davis** 68.75 48 P P 09 10 26.7 -0.5
baz=318,SNR=15
I34A **Hadley** 68.76 47 P P 09 10 27.0 -0.3
baz=318,SNR=6.7
H35A **Sunnyside Ranc** 68.76 46 P P 09 10 27.4 +0.2
baz=318,SNR=36
E38A **The Farm, Brul** 68.83 43 P P 09 10 27.1 -0.6
baz=320,SNR=8.4
G36A **St. Michael** 68.86 45 P P 09 10 27.4 -0.5
baz=319
KSCO **Kaye Shedlock'** 68.97 55 P P 09 10 28.7 -0.2
baz=316,SNR=8.0
KSCO **Kaye Shedlock'** 68.97 55 eP P 09 10 28.8 0.0
comp=Z,50nm,1.4s
CTA **Charters Tower** 69.01 189 P P 09 10 28.7 -0.3
comp=Z,20nm,0.8s,baz=4.7,slow=8.5,SNR=18
CTA **Charters Tower** 69.01 189 P P 09 10 28.7 -0.3
CTA pmax pmax
comp=Z,19nm,0.7s
CTAO **Charters Tower** 69.01 189 eP P 09 10 28.6 -0.3
CTAO pmax pmax
comp=Z,35nm,1.0s
CTAO **Charters Tower** 69.01 189 eP P 09 10 28.6 -0.3
comp=Z,36nm,1.0s
F37A **Hinrichs Farm,** 69.02 44 P P 09 10 28.3 -0.5
baz=319,SNR=10
BLS5 **Blasjo** 69.08 343 eP P 09 10 29.2 +0.2
TUC **Tucson** 69.11 65 P P 09 10 30.0 +0.3
baz=315
TUC **Tucson** 69.11 65 eP P 09 10 30.0 +0.3
TUC pmax pmax
comp=Z,22nm,0.9s
TUC **Tucson** 69.11 65 eP P 09 10 30.0 +0.3
comp=Z,22nm,0.9s
F38A **Pierce - Schro** 69.18 43 P P 09 10 29.8 0.0
baz=320,SNR=39
L32A **Elgin** 69.20 50 P P 09 10 29.7 -0.4
baz=318
K33A **Hardington** 69.26 49 P P 09 10 30.3 -0.2
baz=318,SNR=5.8
J34A **George** 69.27 48 P P 09 10 30.0 -0.4
baz=318,SNR=7.6
H36A **Jessenland, He** 69.28 45 P P 09 10 30.8 +0.4
baz=319,SNR=30
SPMN **Marine on St.** 69.31 44 P P 09 10 30.3 -0.3
baz=319,SNR=15
SPMN **Marine on St.** 69.31 44 eP P 09 10 30.4 -0.3
comp=Z,48nm,0.8s
I35A **Creekview Farm** 69.31 47 P P 09 10 30.3 -0.4
baz=319,SNR=6.8
T25A **Trinidad** 69.35 57 P P 09 10 31.3 0.0
baz=316,SNR=20
T25A **Trinidad** 69.35 57 eP P 09 10 31.6 +0.3
comp=Z,50nm,1.3s
MSVF **Nonsavu** 69.39 156 eP P 09 10 32.8 +1.4
MSVF pmax pmax
comp=Z,36nm,1.3s
MSVF **Nonsavu** 69.39 156 eP P 09 10 32.8 +1.4
comp=Z,36nm,1.3s
E39A **Mellen** 69.45 42 P P 09 10 30.9 -0.6
baz=320,SNR=14
KMY **Karmoy** 69.50 344 eP P 09 10 31.6 +0.1
MNAI **Manna** 69.51 237 eP P 09 10 32.3 +0.1
comp=Z,248nm,1.0s
BGNE **Belgrade** 69.57 50 P P 09 10 31.8 -0.6
baz=318,SNR=8.9
BGNE **Belgrade** 69.57 50 eP P 09 10 31.8 -0.6
comp=Z,74nm,1.0s
J35A **Milford** 69.57 47 P P 09 10 31.6 -0.8
baz=319
F39A **Loretta** 69.64 43 P P 09 10 32.3 -0.4
baz=320,SNR=18
I36A **Fitzsimmons Fa** 69.66 46 P P 09 10 32.7 -0.1
baz=319,SNR=16
E40A **Wakefield** 69.69 42 P P 09 10 33.1 +0.1
baz=321,SNR=30
H37A **Dierke Farm, C** 69.75 45 P P 09 10 33.6 +0.2
baz=320,SNR=14
LAZ **Ladron** 69.77 61 eP P 09 10 36.9 +3.0
ANMO **Albuquerque** 69.77 60 P P 09 10 34.4 +0.4
baz=316
ANMO **Albuquerque** 69.77 60 eP P 09 10 34.5 +0.6
ANMO pmax pmax
comp=Z,26nm,0.9s
ANMO **Albuquerque** 69.77 60 eP P 09 10 34.5 +0.6
comp=Z,26nm,0.8s
G38A **Ridgeland** 69.79 44 P P 09 10 33.0 -0.6
baz=320,SNR=20
D41A **Chassel** 69.80 41 P P 09 10 33.4 -0.2
baz=321
M33A **Taylor Creek F** 69.93 49 P P 09 10 34.0 -0.5
baz=318,SNR=9.0
SNART **Snartemo** 69.94 343 eP P 09 10 34.3 0.0
SNART IAmb IAmb 09 10 42.0
comp=Z,26nm,1.0s
I37A **Lemond, Waseca** 69.95 46 P P 09 10 35.0 +0.4
baz=319,SNR=40
H38A **Maiden Rock** 69.97 44 P P 09 10 34.4 -0.3
baz=320,SNR=9.8
F40A **Park Falls** 70.00 42 P P 09 10 34.4 -0.5
baz=321,SNR=13
G39A **Holcombe** 70.01 43 P P 09 10 34.2 -0.8
baz=320,SNR=12
J36A **Seneca 1, Swea** 70.02 47 P P 09 10 34.5 -0.6
baz=319,SNR=16
K35A **Storm Lake** 70.04 47 P P 09 10 34.5 -0.8
baz=319,SNR=16
L34A **Svendsen Farm,** 70.05 49 P P 09 10 34.5 -0.7
baz=318,SNR=14
E41A **Kenton** 70.09 41 P P 09 10 34.8 -0.6
baz=321
LPM **Los Pinos Moun** 70.12 61 eP P 09 10 39.1 +3.0
Y22D **IRIS PASSCAL I** 70.13 61 P P 09 10 35.6 -0.4
baz=316,SNR=7.2
Y22D **IRIS PASSCAL I** 70.13 61 eP P 09 10 37.6 +1.6
comp=Z,44nm,0.9s
KIV **Kislovodsk** 70.19 315 d iP P 09 10 36.3 +0.1
KIV pmax pmax
comp=Z,11nm,0.7s
KIV MLR MLR
comp=Z,341nm,21.0s
KIV **Kislovodsk** 70.19 315 eP P 09 10 36.0 -0.2
comp=Z,18nm,0.9s
BNM **Barren Site** 70.24 61 eP P 09 10 38.3 +1.4
KBZ **Khabaz** 70.27 314 P P 09 10 36.3 -0.2
comp=Z,12nm,0.8s,baz=80,slow=4.9,SNR=22
KBZ LR LR 09 44 22.7
comp=Z,488nm,21.9s,baz=26,slow=38
M34A **Aspy Farms, Fr** 70.29 49 P P 09 10 36.4 -0.4
baz=318
L35A **Bielow Farm, R** 70.35 48 P P 09 10 36.4 -0.7
baz=319
J37A **Redenius Farm,** 70.41 46 P P 09 10 37.3 -0.2
baz=320,SNR=14
N33A **J Bar K, Exete** 70.42 50 P P 09 10 36.7 -0.9
baz=318
H39A **Augusta** 70.43 44 P P 09 10 37.0 -0.6
baz=320,SNR=9.4
I38A **Scanlan Farm,** 70.43 45 P P 09 10 37.2 -0.4
baz=320,SNR=15
G40A **Rib Lake** 70.46 43 P P 09 10 37.2 -0.6
baz=321,SNR=11
AKASG **Malin Array Be** 70.48 327 P P 09 10 35.8 -1.9
comp=Z,8.6nm,0.4s,baz=32,slow=6.2,SNR=44
AKASG LR LR 09 44 13.0
comp=Z,404nm,20.1s,baz=45,slow=38
AKASG **Malin Array Be** 70.48 327 i P P 09 10 37.0 -0.7
AKASG pmax pmax
comp=Z,9.0nm,0.4s
AKBB **Malin Array Si** 70.48 327 eP P 09 10 37.5 -0.2
AKBB pmax pmax
comp=Z,15nm,0.8s
AKBB **Malin Array Si** 70.48 327 eP P 09 10 37.5 -0.2
comp=Z,15nm,0.8s
K36A **Gilmore City** 70.49 47 P P 09 10 37.3 -0.6
baz=319,SNR=9.4
KIEV **Kiev** 70.49 327 d iP P 09 10 37.3 -0.5
KIEV pmax pmax
comp=Z,16nm,0.8s
KIEV **Kiev** 70.49 327 eP P 09 10 37.2 -0.5
comp=Z,15nm,0.8s
ZEI **Tsey** 70.50 313 eP P 09 10 36.2 -2.1
AK11 **Malin Array Si** 70.52 327 eP P 09 10 37.5 -0.4
E42A **Champion** 70.57 41 P P 09 10 37.9 -0.5
baz=322
F41A **Three Lakes** 70.59 42 P P 09 10 37.8 -0.7
baz=321,SNR=14
CBKS **Cedar Bluff** 70.66 53 P P 09 10 38.3 -0.8
baz=318,SNR=7.5
CBKS **Cedar Bluff** 70.66 53 eP P 09 10 38.7 -0.4
CBKS pmax pmax
comp=Z,110nm,1.5s
CBKS **Cedar Bluff** 70.66 53 eP P 09 10 38.7 -0.4
comp=Z,113nm,1.5s
319A **Douglas** 70.67 64 eP P 09 10 40.1 +0.7
comp=Z,133nm,0.9s
NEY **Neytrino** 70.71 314 ⇑ eP P 09 10 39.9 +0.4
121A **Cookes Peak, D** 70.73 63 P P 09 10 40.5 +0.7
baz=316,SNR=26
121A **Cookes Peak, D** 70.73 63 eP P 09 10 40.6 +0.7
comp=Z,46nm,1.1s
M35A **Neola** 70.76 49 P P 09 10 39.3 -0.3
baz=319,SNR=11
K37A **Belmond** 70.78 47 P P 09 10 39.2 -0.5
baz=320,SNR=14
L36A **Harm Buss Farm** 70.79 48 P P 09 10 39.2 -0.6
baz=319
N34A **Lincoln** 70.83 50 P P 09 10 38.9 -1.1
baz=319,SNR=7.3
WRAB **Tennant Creek** 70.84 200 c iP P 09 10 39.9 -0.3
WRAB **Tennant Creek** 70.84 200 eP P 09 10 40.1 -0.1
comp=Z,54nm,0.9s
O33A **Hebron** 70.84 51 P P 09 10 39.4 -0.8
baz=318,SNR=8.2
WB2 **Warramunga Arr** 70.85 200 eP P 09 10 40.1 -0.1
comp=Z,74nm,1.1s
WRA **Warramunga Arr** 70.85 200 P P 09 10 39.9 -0.3
comp=Z,33nm,0.6s,baz=15,slow=6.4,SNR=224
WRA PKPPKP P'P'df 09 38 35.0 +2.3
comp=Z,0.7nm,0.9s,baz=202,slow=2.4,SNR=5.0
WRA LR LR 09 41 40.0
comp=Z,58nm,19.9s,baz=35,slow=36
WC3 **Warramunga Arr** 70.86 200 eP P 09 10 40.2 -0.1
comp=Z,50nm,0.9s
H40A **Chili** 70.88 43 P P 09 10 39.8 -0.5
baz=321,SNR=14
J38A **Wedel Dairy, R** 70.91 45 P P 09 10 40.0 -0.5
baz=320,SNR=9.6
I39A **Houston** 70.95 45 P P 09 10 40.1 -0.6
baz=320,SNR=19
SCHQ **Schefferville** 70.95 24 P P 09 10 40.6 +0.1
comp=Z,35nm,0.4s,baz=341,slow=5.9,SNR=53
SCHQ LR LR 09 43 14.9
comp=Z,128nm,21.6s,baz=318,slow=37

SCHQ Schefferville 70.95 24 *e*P P 09 10 40.6 +0.1
comp=Z,78nm,1.1s
G41A Antigo 70.96 42 P P 09 10 40.5 -0.3
baz=321,SNR=8.1
F42A Maple Grove Fa 71.00 41 P P 09 10 40.7 -0.3
baz=322,SNR=5.9
BSD Bornholm Skovb 71.13 337 *i* P P 09 10 40.9 -0.7
comp=Z,20nm,0.6s
BSD Bornholm Skovb 71.13 337 *i* P P 09 10 40.9 -0.7
BSD pmax pmax
comp=Z,20nm,0.6s
M36A Felix, Anita 71.21 48 P P 09 10 41.6 -0.8
baz=319,SNR=9.4
L37A Phoenix Point, 71.21 47 P P 09 10 41.9 -0.4
baz=320,SNR=30
H41A Junction City 71.22 43 P P 09 10 41.7 -0.6
baz=321,SNR=13
O34A Beatrice 71.22 50 P P 09 10 41.4 -1.1
baz=319,SNR=20
N35A Tabor 71.24 49 P P 09 10 42.2 -0.3
baz=319,SNR=9.9
J39A Decorah 71.26 45 P P 09 10 41.7 -0.9
baz=320,SNR=24
K38A Parkersburg 71.29 46 P P 09 10 42.3 -0.4
baz=320,SNR=8.0
DZM Mont Dzumac 71.31 169 P P 09 10 44.3 +1.2
comp=Z,36nm,0.9s,baz=41,slow=7.7,SNR=21
DZM Mont Dzumac 71.31 169 *e*P P 09 10 43.0 -0.1
comp=Z,108nm,1.1s
DZM Mont Dzumac 71.31 169 *e*LR LR 09 32 23.4
comp=Z,460nm,23.2s
DZM Mont Dzumac 71.31 169 *e*P P 09 10 42.9 -0.2
comp=Z,57nm,1.1s
I40A Norwalk 71.34 44 P P 09 10 42.5 -0.6
baz=321,SNR=16
HSIG 71.35 67 *e*P P 09 10 43.0 -0.4
comp=Z,29nm,1.1s
FITZ Fitzroy Crossi 71.52 209 *e*P P 09 10 45.0 +0.8
comp=Z,54nm,0.8s
I41A Arkdale 71.55 43 P P 09 10 43.9 -0.5
baz=321,SNR=6.6
O35A Humboldt 71.55 50 P P 09 10 43.5 -0.9
baz=319
L38A Oak Wood Farm, 71.58 47 P P 09 10 44.2 -0.4
baz=320,SNR=9.1
G43A Wallace 71.59 41 P P 09 10 43.9 -0.6
baz=322
M37A Trindle Farm, 71.61 48 P P 09 10 44.5 -0.3
baz=320,SNR=5.6
P34A Walnut Farm, R 71.63 51 P P 09 10 43.6 -1.3
baz=319,SNR=8.4
SCIA State Center 71.64 47 *e*P P 09 10 45.1 +0.2
comp=Z,124nm,0.8s
K39A Oelwein 71.66 46 P P 09 10 44.0 -1.1
baz=320,SNR=13
J40A Soldiers Grove 71.66 44 P P 09 10 44.0 -1.0
baz=321,SNR=6.2
AKH Akhalkalaki 71.74 312 ⇑*i*P P 09 10 46.6 +0.8
SRIG Santa Rosalia 71.78 69 *e*P P 09 10 45.7 -0.2
comp=Z,41nm,0.9s
SOC Sochi 71.86 316 *e*P P 09 10 45.9 -0.3
SOC *e*PPP PPP 09 15 06.8
SOC *e*S **S** **09 20 01.3 -1.4**
SOC *e*SS **SS** **09 24 33.2 -5.5**
SOC pmax pmax
comp=Z,22nm,0.7s
ANN Anapa 71.93 318 *e*P P 09 10 45.5 -1.1
ANN pmax pmax
comp=Z,12nm,0.7s
K40A Colesburg 72.02 45 P P 09 10 46.2 -1.0
baz=321,SNR=12
M38A Pleasantville 72.02 47 P P 09 10 46.7 -0.5
baz=320,SNR=9.1
J41A Loganville 72.02 44 P P 09 10 46.4 -0.8
baz=321,SNR=11
N37A Lee Faris, Mou 72.03 48 P P 09 10 47.1 -0.2
baz=320,SNR=18
Q34A Chapman 72.04 51 P P 09 10 46.3 -1.1
baz=319
P35A Duane Minner, 72.05 50 P P 09 10 46.5 -0.9
baz=319,SNR=7.6
L39A Vinton 72.05 46 P P 09 10 46.8 -0.6
baz=320,SNR=24
KSU1 Kansas State U 72.07 51 P P 09 10 46.3 -1.2
baz=319
GNI Garni 72.08 311 *de*P P 09 10 49.5 +1.7
GNI pmax pmax
comp=Z,41nm,0.9s
O36A Bolckow 72.13 49 P P 09 10 47.3 -0.6
baz=320,SNR=8.5
JFWS Jewell Farm 72.27 44 *e*P P 09 10 47.9 -0.8
JFWS pmax pmax
comp=Z,22nm,1.0s
JFWS Jewell Farm 72.27 44 *e*P P 09 10 47.9 -0.8
comp=Z,22nm,1.0s
R34A Isabella, Hill 72.34 52 P P 09 10 48.4 -0.9
baz=319,SNR=7.9
BEL Belsk 72.35 332 *e*P P 09 10 49.6 +0.6
BEL Belsk 72.35 332 *e*P P 09 10 49.6 +0.6
P36A Good Intent, A 72.39 50 P P 09 10 47.8 -1.7
baz=320
M39A Webster 72.47 47 P P 09 10 49.3 -0.5
baz=321,SNR=31
L40A Anamosa 72.47 46 P P 09 10 49.1 -0.8
baz=321,SNR=19
K41A Shullsburg 72.48 45 P P 09 10 49.0 -0.9
baz=321,SNR=10
N38A Joes South For 72.48 48 P P 09 10 49.4 -0.5
baz=320,SNR=16
AMTX Amarillo 72.50 57 P P 09 10 50.5 +0.2
baz=318
AMTX Amarillo 72.50 57 *e*P P 09 10 50.5 +0.2
comp=Z,37nm,0.9s
O37A Wolven Farm, M 72.51 49 P P 09 10 50.0 -0.1
baz=320,SNR=8.3
Q35A Mercer Eighty, 72.55 51 P P 09 10 49.3 -1.1
baz=319,SNR=6.4
MSTX Muleshoe 72.57 58 P P 09 10 50.7 -0.1
baz=318,SNR=25
MSTX Muleshoe 72.57 58 *e*P P 09 10 50.7 -0.1
comp=Z,52nm,1.0s
CPRX Cap Rock 72.64 60 *e*P P 09 10 53.5 +2.3
ARTV Artvin 72.67 313 *e*P P 09 10 52.1 +0.8
comp=Z,13nm,1.2s
MNTX Cornudas Mount 72.73 62 P P 09 10 51.7 +0.1
baz=317,SNR=51
MNTX Cornudas Mount 72.73 62 *e*P P 09 10 52.1 +0.4
comp=Z,31nm,1.0s
Q36A Arnold C. Orve 72.77 50 P P 09 10 50.5 -1.2
baz=320
N39A Derby Farms, D 72.77 47 P P 09 10 51.2 -0.5
baz=320,SNR=13
L41A Preston 72.80 45 P P 09 10 51.1 -0.7
baz=321,SNR=18
M40A Post Highland 72.84 46 P P 09 10 51.3 -0.8
baz=321,SNR=16
P37A Lathrop 72.85 49 P P 09 10 51.3 -0.9
baz=320,SNR=14
U32A Winter Ranch, 72.86 54 P P 09 10 51.8 -0.6
baz=319
R35A Emporia Munici 72.87 51 P P 09 10 51.3 -1.0
baz=319,SNR=13
O38A Galt 72.88 48 P P 09 10 51.8 -0.5
baz=320,SNR=22
SORM Soroca 72.92 326 ⇓*i*P P 09 10 50.2 -2.2
N40A Mertquake, Sal 73.21 47 P P 09 10 53.9 -0.4
baz=321,SNR=8.8
R36A Gordon, Harris 73.23 51 P P 09 10 53.6 -0.8
baz=320,SNR=14
P38A Dawn 73.23 49 P P 09 10 54.0 -0.4
baz=320,SNR=30
O39A Kirksville 73.23 48 P P 09 10 54.0 -0.5
baz=321,SNR=7.1
SIM Simferopol' 73.24 320 *i* P P 09 10 55.8 +1.4
SIM *e**PP **pP** 09 11 08.0 -1.2
SIM pmax pmax
comp=Z,18nm,1.1s
GLMI Grayling 73.25 40 *e*P P 09 10 55.3 +0.8
S35A Otter Creek Ra 73.29 52 P P 09 10 53.9 -0.9
baz=320,SNR=6.2
M41A Milan 73.32 46 P P 09 10 54.3 -0.6
baz=321,SNR=20
T34A McClaskey Farm 73.34 53 P P 09 10 54.2 -0.9
baz=319
Q37A Longview Farm, 73.34 50 P P 09 10 53.4 -1.6
baz=320,SNR=6.0
VLDQ Val d'Or 73.38 34 *e*P P 09 10 53.5 -1.6
comp=Z,67nm,0.9s

R37A Teagarden Farm 73.58 50 P P 09 10 55.3 -1.1
baz=320,SNR=8.7
M42A Sheffield 73.63 45 P P 09 10 56.0 -0.7
baz=322,SNR=5.1
S36A Lake Cedric, C 73.64 51 P P 09 10 55.9 -1.0
baz=320,SNR=11
KWP Kalwaria Pacla 73.64 330 *e*P P 09 10 57.2 +0.5
KWP Kalwaria Pacla 73.64 330 *e*P P 09 10 57.2 +0.5
O40A La Belle 73.66 47 P P 09 10 56.5 -0.4
baz=321,SNR=30
Q38A Cooks Store, C 73.69 49 P P 09 10 56.3 -0.8
baz=320,SNR=52
N41A Harden Midland 73.69 46 P P 09 10 56.7 -0.5
baz=321,SNR=12
P39B Salisbury 73.72 48 P P 09 10 56.8 -0.5
baz=321,SNR=16
MILM Milestii Mici 73.76 325 ⇓*i*P P 09 10 56.3 -1.1
T35A Sooner Cattle 73.77 52 P P 09 10 57.2 -0.5
baz=320,SNR=5.8
EIDS Eidsvold 73.92 184 *e*P P 09 10 59.1 +0.7
comp=Z,32nm,0.8s
Q39A Willow Grove F 73.95 49 P P 09 10 58.2 -0.4
baz=321
N42A Yates City 73.99 46 P P 09 10 58.5 -0.3
baz=322,SNR=13
T36A Boggs Farm, Ca 73.99 52 P P 09 10 58.4 -0.5
baz=320
S37A Fort Scott 74.00 51 P P 09 10 58.0 -1.0
baz=320,SNR=21
P40A Paris 74.03 48 P P 09 10 58.7 -0.4
baz=321,SNR=26
U35A Pawnee 74.07 53 P P 09 10 58.6 -0.8
baz=320
OJC Ojcow 74.07 332 *e*P P 09 10 59.5 +0.4
OJC Ojcow 74.07 332 *e*P P 09 10 59.0 -0.2
OJC pmax pmax
comp=Z,31nm,0.9s
OJC Ojcow 74.07 332 *e*P P 09 10 59.0 -0.2
comp=Z,31nm,0.9s
PALK Pallekele 74.13 263 *i* P P 09 11 00.8 +0.7
SNR=8.0
PALK Pallekele 74.13 263 *e*P P 09 11 00.8 +0.7
PALK pmax pmax
comp=Z,40nm,0.9s
PALK Pallekele 74.13 263 *e*P P 09 11 00.8 +0.7
comp=Z,40nm,0.8s
O41A Passleys Farm, 74.14 47 P P 09 10 59.4 -0.3
baz=321,SNR=36
R38A Fenwick Farm, 74.14 50 P P 09 10 58.5 -1.3
baz=320,SNR=25
WMOK Wichita Mounta 74.20 55 P P 09 11 00.2 -0.1
baz=319,SNR=31
WMOK Wichita Mounta 74.20 55 *e*P P 09 11 00.1 -0.1
WMOK pmax pmax
comp=Z,25nm,0.9s
WMOK Wichita Mounta 74.20 55 *e*P P 09 11 00.1 -0.1
comp=Z,25nm,0.8s
STHS Stebnicka Huta 74.31 331 *e*P P 09 11 01.1 +0.5
STHS pmax pmax
comp=Z,29nm,0.8s
STHS Stebnicka Huta 74.31 331 *e*P P 09 11 01.1 +0.5
P41A Barry, Barry 74.40 47 P P 09 11 00.7 -0.5
baz=321,SNR=26
Q40A Laux Farm, Aux 74.43 48 P P 09 11 00.8 -0.7
baz=321,SNR=16
T37A Cheneyville 18 74.44 51 P P 09 11 00.8 -0.7
baz=320,SNR=26
O42A Bath 74.46 46 P P 09 10 59.6 -2.0
baz=322
V35A Meyer Ranch, C 74.47 53 P P 09 11 01.4 -0.3
baz=320,SNR=14
R39A Chumby, Stover 74.48 49 P P 09 11 00.8 -1.0
baz=321,SNR=38
BUR08 Bucovina Ar. S 74.48 327 *e*P P 09 11 01.9 +0.2
BURAR Bucovina Array 74.50 327 ⇓*i*P P 09 11 01.5 -0.3
BURAR Bucovina Array 74.50 327 ⇓*i*P P 09 11 01.7 -0.1
BURAR Bucovina Array 74.50 327 P P 09 11 01.6 -0.3
AS01 Alice Springs 74.53 200 *e*P P 09 11 03.0 +0.9
AS31 Alice Springs 74.54 200 *e*P P 09 11 02.9 +0.8
comp=Z,13nm,0.5s
ASAR Alice Springs 74.54 200 P P 09 11 02.7 +0.6
comp=Z,32nm,0.6s,baz=13,slow=5.4,SNR=492
ASAR LR LR 09 43 13.5
comp=Z,58nm,20.4s,baz=304,slow=35
HDIL Hopedale 74.55 45 P P 09 11 01.7 -0.4
baz=322,SNR=25
HDIL Hopedale 74.55 45 *e*P P 09 11 01.9 -0.2
comp=Z,107nm,0.8s
KSP Ksiaz 74.57 334 *e*P P 09 11 02.8 +0.7
KSP Ksiaz 74.57 334 *e*P P 09 11 02.8 +0.7
S38A Stockton 74.57 50 P P 09 11 01.4 -0.9
baz=320,SNR=17
U36A Oologah 74.58 52 P P 09 11 02.1 -0.2
baz=320,SNR=11
NIE Niedzica 74.61 331 *e*P P 09 11 03.5 +1.1
NIE Niedzica 74.61 331 *e*P P 09 11 03.5 +1.1
ESK Eskdalemuir 74.62 347 *e*P P 09 11 02.5 +0.2
ESK pmax pmax
comp=Z,120nm,1.6s
ESK Eskdalemuir 74.62 347 *e*P P 09 11 02.2 0.0
comp=Z,117nm,1.6s
UZH Uzhgorod 74.64 330 *e*P P 09 11 02.5 0.0
UZH *i* 09 11 17.7
O43A Sugar Creek Fa 74.76 46 P P 09 11 02.5 -0.8
baz=322,SNR=12
P42A Winchester 74.81 47 P P 09 11 03.2 -0.4
baz=322,SNR=14
S39A Bolivar 74.82 50 P P 09 11 02.4 -1.3
baz=321,SNR=14
T38A Diamond 74.83 51 P P 09 11 03.2 -0.7
baz=320,SNR=47
Q41A Truxton 74.88 48 P P 09 11 03.9 -0.1
baz=322,SNR=38
R40A Maddies Statio 74.88 49 P P 09 11 03.2 -0.9
baz=321,SNR=30
U37A Salina 74.89 52 P P 09 11 03.7 -0.4
baz=320,SNR=21
TUL1 Leonard 74.91 52 P P 09 11 03.7 -0.6
baz=320,SNR=18
TUL1 Leonard 74.91 52 *e*P P 09 11 03.9 -0.4
comp=Z,154nm,1.6s
OKC Ostrava-Krasne 74.91 333 *e*P P 09 11 04.6 +0.6
OKC AMS AMS 09 47 10.0
comp=Z,400nm,15.4s
OKC Ostrava-Krasne 74.91 333 *e*P P 09 11 04.6 +0.6
OKC MLR MLR
comp=Z,400nm,15.4s
TESR Tescani 74.91 326 ⇓*i*P P 09 11 02.3 -1.8
W35A Tecumseh 74.92 54 P P 09 11 04.1 -0.3
baz=320,SNR=22
V36A Jenks 74.93 53 P P 09 11 04.1 -0.2
baz=320,SNR=19
UPC Upice 74.95 334 *e*P P 09 11 04.5 +0.2
UPC AMS AMS 09 47 20.0
comp=Z,500nm,17.1s
UPC Upice 74.95 334 *e*P P 09 11 04.5 +0.2
UPC MLR MLR
comp=Z,500nm,17.1s
TRPA Tarpa 74.99 329 ⇓*e*P P 09 11 05.4 +0.9
DPC Dobruska-Polom 75.00 334 *e*P P 09 11 05.0 +0.4
DPC *ex* x 09 11 12.3
DPC AMS AMS 09 46 50.0
comp=Z,400nm,20.1s
DPC Dobruska-Polom 75.00 334 *e*P P 09 11 05.0 +0.4
DPC *e* 09 11 12.3
DPC MLR MLR
comp=Z,400nm,20.1s
BMR Baia Mare 75.06 328 ⇓*i*P P 09 11 05.8 +0.9
CLL Collm 75.06 336 *e*P P 09 11 05.0 +0.2
CLL pmax pmax
comp=Z,29nm,0.9s
CLL Collm 75.06 336 ⇓*i*P P 09 11 04.7 -0.2
comp=Z,47nm,1.3s
CLL *i* P(2) 09 11 10.9
comp=Z,32nm,1.0s
CLL LmV 09 46 00.0
comp=Z,400nm,20.2s
CLL Collm 75.06 336 *e*P P 09 11 05.0 +0.2
comp=Z,29nm,0.9s
LANS Liptovska Anna 75.11 332 *e*P P 09 11 05.9 +0.6
LANS Liptovska Anna 75.11 332 *e*P P 09 11 05.9 +0.6
KRLC Kraliky 75.11 334 *e*P P 09 11 05.6 +0.3
KRLC *ex* x 09 11 12.5
KRLC Kraliky 75.11 334 *e*P P 09 11 05.6 +0.3
KRLC *e* 09 11 12.5
MORC Moravsky Berou 75.15 333 ⇓*i*P P 09 11 06.1 +0.6

MORC Moravsky Berou 75.15 333 *e*P P 09 11 05.5 0.0
MORC pmax pmax
comp=Z,210nm,1.0s
MORC Moravsky Berou 75.15 333 *e*P P 09 11 05.5 0.0
comp=Z,205nm,1.0s
P43A Skaggs, Pawnee 75.17 46 P P 09 11 05.2 -0.5
baz=322,SNR=13
TLCR 75.20 324 ⇓*i*P P 09 11 04.8 -0.9
BRG Berggiesshubel 75.20 336 *i* P P 09 11 05.5 -0.3
comp=Z,15nm,1.1s
BRG *i* 09 11 12.0
comp=Z,17nm,1.0s
comp=N,509nm,26.0s
comp=E,210nm,20.9s
comp=Z,664nm,23.7s
BRG Berggiesshubel 75.20 336 *i* P P 09 11 05.4 -0.3
BRG *i* 09 11 12.0
BRG pmax pmax
comp=Z,15nm,1.1s
BRG MLR MLR
comp=N,509nm,26.0s
BRG MLR MLR
comp=E,210nm,20.9s
BRG MLR MLR
comp=Z,664nm,23.7s
U38A Gravette 75.24 51 P P 09 11 05.6 -0.6
baz=320,SNR=13
Q42A Golden Eagle 75.25 47 P P 09 11 06.2 0.0
baz=322,SNR=20
ARCR ARCALIA 75.26 328 ⇑*i*P P 09 11 07.5 +1.4
W36A Wetumka 75.27 53 P P 09 11 06.3 -0.1
baz=320,SNR=27
V37A Hulbert 75.27 52 P P 09 11 06.0 -0.3
baz=320,SNR=34
S40A Lebanon 75.30 49 P P 09 11 05.7 -0.8
baz=321,SNR=24
T39A Clever 75.30 50 P P 09 11 05.7 -0.9
baz=321,SNR=8.1
ABTX Abilene, Hawle 75.31 57 P P 09 11 06.7 0.0
baz=319,SNR=9.0
ABTX Abilene, Hawle 75.31 57 *e*P P 09 11 06.8 +0.1
comp=Z,53nm,1.3s
R41A Rosebud 75.32 48 P P 09 11 06.4 -0.2
baz=322,SNR=16
PVCC Panska Ves 75.34 335 *e*P P 09 11 07.1 +0.6
PVCC AMS AMS 09 47 10.0
comp=Z,700nm,19.7s
PVCC Panska Ves 75.34 335 *e*P P 09 11 07.1 +0.6
PVCC MLR MLR
comp=Z,700nm,19.7s
PETR Petresti 75.36 325 ⇑*i*P P 09 11 06.3 -0.4
KECS Kecovo 75.37 331 *e*P P 09 11 06.6 -0.1
KECS pmax pmax
comp=Z,8.0nm,0.7s
KECS Kecovo 75.37 331 *e*P P 09 11 06.6 -0.1
ODBI Odobesti 75.39 325 ⇓*i*P P 09 11 08.0 +1.1
X35A Drake 75.43 54 P P 09 11 07.1 -0.2
baz=320,SNR=15
CFR Carcaliu 75.47 324 ⇑*i*P P 09 11 06.8 -0.5
PLOR Plostina 75.47 325 ⇑*i*P P 09 11 07.2 -0.2
TX31 Lajitas Ar. Si 75.47 62 *e*P P 09 11 08.3 +0.6
TXAR Lajitas Array 75.47 62 P P 09 11 08.1 +0.3
comp=Z,52nm,0.9s,baz=298,slow=4.2,SNR=301
SADO Sadowa 75.53 37 *e*P P 09 11 06.9 -0.8
comp=Z,37nm,1.1s
HHAR Hobbs 75.59 51 *e*P P 09 11 07.5 -0.7
comp=Z,28nm,0.7s
SLM Saint Louis 75.61 47 *e*P P 09 11 08.1 -0.1
SLM pmax pmax
comp=Z,49nm,0.7s
SLM Saint Louis 75.61 47 *e*P P 09 11 08.1 -0.1
comp=Z,49nm,0.6s
R42A Luebbering 75.62 48 P P 09 11 07.9 -0.4
baz=322,SNR=13
Q43A New Douglas 75.63 47 P P 09 11 08.0 -0.4
baz=322
X36A Centrahoma 75.64 54 P P 09 11 08.4 -0.1
baz=320,SNR=21
T40A Mansfield 75.64 50 P P 09 11 07.4 -1.1
baz=321,SNR=9.7
V38A Canehill 75.67 52 P P 09 11 08.3 -0.4
baz=321,SNR=38
S41A Jillco Farms, 75.69 49 P P 09 11 08.0 -0.7
baz=322,SNR=15
W37B Quinton 75.69 53 P P 09 11 08.7 0.0
baz=320,SNR=19
AAM Ann Arbor 75.70 41 *e*P P 09 11 08.7 0.0
AAM pmax pmax
comp=Z,58nm,0.8s
AAM Ann Arbor 75.70 41 *e*P P 09 11 09.1 +0.4
comp=Z,58nm,0.8s
SFIN Lafayette 75.72 44 P P 09 11 08.4 -0.4
baz=323,SNR=12
SFIN Lafayette 75.72 44 *e*P P 09 11 08.4 -0.4
comp=Z,39nm,0.8s
P44A Sand Creek, Wi 75.73 46 P P 09 11 08.7 -0.2
baz=323,SNR=19
U39A Green Forest 75.75 51 P P 09 11 08.6 -0.5
baz=321,SNR=58
Y35A Marietta 75.77 55 P P 09 11 09.1 -0.1
baz=320,SNR=7.0
PRA Prague 75.79 335 *e*P P 09 11 09.8 +0.7
PRA AMS AMS 09 47 10.0
comp=Z,800nm,18.3s
PRA Prague 75.79 335 *e*P P 09 11 09.8 +0.7
PRA MLR MLR
comp=Z,800nm,18.3s
SLBS Sierra La Lagu 75.83 70 *e*P P 09 11 10.5 +0.7
comp=Z,43nm,1.1s
GOPC GO Pecny, Ondr 75.83 335 *e*P P 09 11 09.8 +0.4
GOPC AMS AMS 09 47 00.0
comp=Z,600nm,18.1s
GOPC GO Pecny, Ondr 75.83 335 *e*P P 09 11 09.8 +0.4
GOPC MLR MLR
comp=Z,600nm,18.1s
PRU Pruhonice 75.83 335 *e*P P 09 11 09.9 +0.6
PRU *ex* x 09 11 15.0
PRU AMS AMS 09 47 10.0
comp=Z,700nm,20.9s
PRU Pruhonice 75.83 335 *e*P P 09 11 09.9 +0.6
PRU *e* 09 11 15.0
PRU MLR MLR
comp=Z,700nm,20.9s
VRAC Vranov 75.85 333 ⇓*i*P P 09 11 10.6 +1.1
VRAC Vranov 75.85 333 P P 09 11 10.5 +1.1
VYHS Vyhne 75.89 332 *e*P P 09 11 09.9 +0.2
VYHS pmax pmax
comp=Z,15nm,1.0s
VYHS Vyhne 75.89 332 *e*P P 09 11 09.9 +0.2
HARR Harsova 75.96 324 ⇑*i*P P 09 11 10.2 +0.1
TIRR Tirgusor 75.96 324 ⇓*i*P P 09 11 10.4 +0.3
TIRR Tirgusor 75.96 324 *e*P P 09 11 10.2 0.0
TIRR pmax pmax
comp=Z,25nm,0.9s
TIRR Tirgusor 75.96 324 *e*P P 09 11 10.2 0.0
comp=Z,25nm,0.9s
WTSB Winterswijk 75.97 340 *e*P P 09 11 09.8 -0.3
comp=Z,40nm,0.7s
Q44A Meyer Farm, Va 75.99 46 P P 09 11 10.2 -0.2
baz=322,SNR=15
TLB Topalu 76.00 324 ⇓*i*P P 09 11 09.1 -1.2
S42A Caledonia 76.02 48 P P 09 11 10.1 -0.5
baz=322,SNR=30
TRQ Mont Tremblant 76.03 33 *e*P P 09 11 10.0 -0.6
MLR Muntele Rosu 76.04 326 ⇑*i*P P 09 11 11.6 +0.9
MLR Muntele Rosu 76.04 326 *e*P P 09 11 11.1 +0.4
MLR pmax pmax
comp=Z,20nm,0.6s
MLR Muntele Rosu 76.04 326 *e*P P 09 11 11.1 +0.4
comp=Z,20nm,0.6s
R43A Red Bud 76.04 47 P P 09 11 10.4 -0.3
baz=322,SNR=15
PSZ Piszkesteto 76.05 331 ⇓*i*P P 09 11 12.1 +1.4
PSZ Piszkesteto 76.05 331 *e*P P 09 11 11.1 +0.4
PSZ pmax pmax
comp=Z,36nm,1.2s
PSZ Piszkesteto 76.05 331 ⇓*e*P P 09 11 11.7 +1.0
PSZ Piszkesteto 76.05 331 *e*P P 09 11 11.1 +0.4
comp=Z,36nm,1.2s
HPIG 76.06 65 *e*P P 09 11 11.5 +0.2
comp=Z,47nm,0.9s
V39A Pettigrew 76.08 51 P P 09 11 10.7 -0.4
baz=321
U40A Yellville 76.09 50 P P 09 11 10.4 -0.7
baz=321,SNR=42
DRGR 76.09 328 ⇓*i*P P 09 11 10.3 -0.6

T41A **Mountain View** 76.10 49 P P 09 11 10.2 -0.9
baz=322,SNR=14
PLVO **Plevna** 76.10 35 *e*P P 09 11 10.3 -0.7
comp=Z,42nm,0.8s
X37A **Clayton** 76.14 53 P P 09 11 10.9 -0.4
baz=320,SNR=5.2
Y36A **Durant** 76.18 54 P P 09 11 11.3 -0.2
baz=320,SNR=17
233A **Rising Star** 76.18 57 P P 09 11 11.7 0.0
baz=319,SNR=12
NKC **Novy Kostel** 76.19 336 *e*P P 09 11 11.7 +0.3
NKC *ex* x 09 11 17.0
NKC AMS AMS 09 47 40.0
comp=Z,500nm,21.8s
NKC **Novy Kostel** 76.19 336 *e*P P 09 11 11.7 +0.3
NKC *e* 09 11 17.0
NKC MLR MLR
comp=Z,500nm,21.8s
TREC **Trest** 76.19 334 *e*P P 09 11 11.7 +0.3
TREC AMS AMS 09 48 10.0
comp=Z,500nm,17.4s
TREC **Trest** 76.19 334 *e*P P 09 11 11.7 +0.3
TREC MLR MLR
comp=Z,500nm,17.4s
W38A **Poteau** 76.22 52 P P 09 11 11.0 -0.8
baz=321,SNR=15
MARD **Mardin** 76.24 311 *e*P P 09 11 12.8 +0.8
comp=Z,33nm,0.6s
BANOM **Banah** 76.25 294 P P 09 11 12.1 0.0
LMQ **La Malbaie** 76.33 30 *e*P P 09 11 12.2 -0.1
X38A **Whitesboro** 76.37 53 P P 09 11 12.3 -0.3
baz=321,SNR=15
MBWA **Marble Bar** 76.38 214 *e*P P 09 11 12.8 +0.2
comp=Z,90nm,1.4s
VOIR 76.42 326⇑ *i*P P 09 11 11.4 -1.4
VOIR 76.42 326 P P 09 11 11.4 -1.4
T42A **Van Buren** 76.45 49 P P 09 11 12.4 -0.7
baz=322,SNR=9.7
R44A **Waltonville** 76.47 47 P P 09 11 12.6 -0.6
baz=323,SNR=24
Y37A **Hugo** 76.48 54 P P 09 11 12.6 -0.6
baz=320
W39A **Magazine** 76.51 52 P P 09 11 13.2 -0.2
baz=321,SNR=13
S43A **Fulton Ridge,** 76.53 48 P P 09 11 13.0 -0.5
baz=322,SNR=16
V40A **Witts Springs** 76.53 51 P P 09 11 12.8 -0.7
baz=321,SNR=24
OLIL **Olney** 76.56 46 *e*P P 09 11 13.5 -0.1
comp=Z,45nm,0.8s
ILGA **Ilgaz** 76.56 318 *e*P P 09 11 14.6 +0.6
comp=Z,25nm,0.8s
U41A **Viola** 76.57 50 P P 09 11 13.1 -0.7
baz=322,SNR=12
Z36A **Blue Ridge** 76.58 55 P P 09 11 13.4 -0.5
baz=320,SNR=14
234A **Clairette** 76.62 57 P P 09 11 13.8 -0.3
baz=320,SNR=18
ARR **Arges** 76.63 326⇓ *i*P P 09 11 15.4 +1.4
333A **Richland Sprin** 76.66 58 P P 09 11 14.1 -0.3
baz=320,SNR=34
BUD **Budapest** 76.72 331 P P 09 11 16.0 +1.6
BUD **Budapest** 76.72 331⇓ *e*P P 09 11 15.4 +1.0
T43A **Greenville** 76.80 48 P P 09 11 14.7 -0.3
baz=322,SNR=12
CWF **Charnwood Fore** 76.82 345 *e*P P 09 11 15.2 +0.3
comp=Z,82nm,1.0s
S44A **Carbondale** 76.83 47 P P 09 11 14.8 -0.4
baz=323,SNR=9.3
JCT **Junction City** 76.84 59 P P 09 11 15.2 -0.2
baz=319,SNR=31
JCT **Junction City** 76.84 59 *e*P P 09 11 15.4 0.0
JCT pmax pmax
comp=Z,68nm,1.2s
JCT **Junction City** 76.84 59 *e*P P 09 11 15.4 0.0
comp=Z,68nm,1.2s
X39A **Fountain Ranch** 76.86 52 P P 09 11 15.2 -0.3
baz=321,SNR=19
KHC **Kasperske Hory** 76.88 335 *e*P P 09 11 16.0 +0.7
KHC *ex* x 09 11 20.8
KHC AMS AMS 09 47 40.0
comp=Z,900nm,23.2s
KHC **Kasperske Hory** 76.88 335 *e*P P 09 11 16.0 +0.7
KHC *e* 09 11 20.8
KHC MLR MLR
comp=Z,900nm,23.2s
KHC **Kasperske Hory** 76.88 335 *e*P P 09 11 14.8 -0.5
comp=Z,10nm,0.7s
W40A **Ferguson Farm,** 76.88 51 P P 09 11 15.2 -0.3
baz=321,SNR=17
V41A **Mountainview** 76.89 50 P P 09 11 14.7 -0.9
baz=322,SNR=22
SIRR **Siria** 76.91 329⇓ *i*P P 09 11 15.3 -0.2
U42A **Revenden** 76.91 49 P P 09 11 13.8 -1.8
baz=322
BLO **Bloomington** 76.95 44 *e*P P 09 11 15.8 0.0
BLO pmax pmax
comp=Z,30nm,0.9s
BLO **Bloomington** 76.95 44 *e*P P 09 11 15.8 0.0
comp=Z,30nm,0.9s
PBMO **Poplar Bluff** 76.97 48 *e*P P 09 11 15.8 -0.2
comp=Z,113nm,1.5s
Y38A **Idabel** 76.99 53 P P 09 11 15.5 -0.7
baz=321,SNR=7.0
WHTX **Lake Whitney,** 77.00 56 P P 09 11 16.2 0.0
baz=320,SNR=26
WHTX **Lake Whitney,** 77.00 56 *e*P P 09 11 16.3 0.0
comp=Z,48nm,0.8s
GRF **Grafenberg Arr** 77.00 337 P P 09 11 17.0 +1.0
GRFO **Grafenberg** 77.00 337 *e*P P 09 11 16.9 +0.9
GRFO pmax pmax
comp=Z,180nm,1.9s
GRFO **Grafenberg** 77.00 337 *e*P P 09 11 16.9 +0.9
comp=Z,184nm,1.9s
UOSS **Minazif** 77.03 293 *e*P P 09 11 16.7 +0.2
comp=Z,14nm,0.8s
433A **Art** 77.03 58 P P 09 11 16.2 -0.3
baz=320,SNR=29
CSKK **Cs ‡kako** 77.07 331⇓ *e*P P 09 11 17.2 +0.8
334A **Lometa** 77.07 57 P P 09 11 16.5 -0.1
baz=320,SNR=17
Z37A **Pogue Cattle C** 77.08 54 P P 09 11 16.0 -0.6
baz=320
DSB **Dublin** 77.08 349 *e*P P 09 11 16.4 +0.1
comp=Z,87nm,0.8s
GEC2 **GERESS Array S** 77.10 335 *e*P P 09 11 17.0 +0.3
GEC2 pmax pmax
comp=Z,52nm,1.6s
GEC2 **GERESS Array S** 77.10 335 *e*P P 09 11 17.0 +0.3
comp=Z,52nm,1.8s
GERES **GERESS Array B** 77.10 335 P P 09 11 16.7 +0.1
comp=Z,4.4nm,0.4s,baz=34,slow=5.7,SNR=43
GERES LR LR 09 48 34.0
comp=Z,836nm,20.6s,baz=14,slow=38
GEA0 **GERESS Array S** 77.11 335 *e*P P 09 11 16.5 -0.1
MIAR **Mount Ida** 77.12 52 P P 09 11 16.7 -0.1
baz=321,SNR=23
MIAR **Mount Ida** 77.12 52 *e*P P 09 11 16.8 -0.1
MIAR pmax pmax
comp=Z,42nm,0.8s
MIAR **Mount Ida** 77.12 52 *e*P P 09 11 16.8 -0.1
comp=Z,42nm,0.8s
136A **Ennis** 77.14 55 P P 09 11 16.9 -0.1
baz=320,SNR=17
T44A **Benton** 77.14 48 P P 09 11 16.7 -0.3
baz=322,SNR=21
HATD **Hatta, Dubai** 77.16 293 P P 09 11 17.5 +0.2
S45A **Carrier Mills** 77.17 47 P P 09 11 17.0 0.0
baz=323,SNR=6.8
BUF **Buffalo** 77.19 37 *e*P P 09 11 17.3 +0.2
X301 **Greenbrier Sit** 77.19 51 *e*P P 09 11 16.6 -0.6
comp=Z,25nm,0.6s
WHAR **Wooly Hollow** 77.20 51 *e*P P 09 11 16.9 -0.4
comp=Z,92nm,1.4s
V42A **Cord** 77.26 50 P P 09 11 16.8 -0.8
baz=322,SNR=17
GZR **Gura Zlata** 77.27 328⇓ *i*P P 09 11 16.5 -1.1
HGN **Heimansgroeve** 77.29 340 *e*P P 09 11 17.4 -0.1
comp=Z,76nm,1.1s
CONA **Conrad Observa** 77.30 333 *i*P P 09 11 17.9 +0.2
comp=Z,27nm,1.0s,SNR=20
U43A **Rector** 77.31 49 P P 09 11 17.7 -0.2
baz=322,SNR=6.4
ASHO **Ashiyiah** 77.31 293 P P 09 11 18.7 +0.6
SOP **Sopron** 77.31 333 P P 09 11 19.4 +1.7
SOP **Sopron** 77.31 333 *e*P P 09 11 18.1 +0.4
BEBN **Eben Emael** 77.31 341 P P 09 11 17.9 +0.3
comp=Z,19nm,1.1s
W41B **Gary Mavity, V** 77.31 51 P P 09 11 17.6 -0.4
baz=322,SNR=26
Y39A **Lockesburg** 77.32 53 P P 09 11 17.4 -0.6
baz=321,SNR=7.0
USIN **University of** 77.38 46 *e*P P 09 11 18.2 0.0
comp=Z,94nm,0.8s
LONY **Lake Ozonia** 77.39 34 *e*P P 09 11 17.8 -0.5
comp=Z,29nm,0.8s
ERPA **Erie** 77.40 39 *e*P P 09 11 18.6 +0.2
comp=Z,115nm,1.3s
PARMO **Parma** 77.40 48 *e*P P 09 11 18.9 +0.5
MEM **Membach** 77.42 340 P P 09 11 18.4 +0.1
comp=Z,40nm,1.1s
434A **Burnet** 77.45 58 P P 09 11 18.6 -0.2
baz=320,SNR=11
BZS **Buzias** 77.49 328⇑ *i*P P 09 11 18.0 -0.7
236A **Katherine and** 77.50 56 P P 09 11 19.0 -0.1
baz=320,SNR=12
X40A **Basin Creek Fa** 77.55 51 P P 09 11 19.1 -0.1
baz=322,SNR=10
FAQ **Al Faqa, Dubai** 77.55 293 *i*P P 09 11 20.0 +0.6
SNR=5.5
U44A **Portageville** 77.56 48 P P 09 11 18.3 -0.9
baz=323
335A **Moody** 77.56 57 P P 09 11 19.3 -0.1
baz=320,SNR=7.4
FRNY **Flat Rock** 77.57 33 *e*P P 09 11 18.5 -0.7
comp=Z,23nm,0.9s
UALR **University of** 77.58 51 *e*P P 09 11 19.2 -0.2
comp=Z,37nm,1.5s
533A **Kerrville** 77.58 59 P P 09 11 19.4 -0.2
baz=320,SNR=28
W42A **Bald Knob** 77.61 50 P P 09 11 18.7 -0.9
baz=322
BR131 **Keskin Array S** 77.68 318 *e*P P 09 11 19.9 -0.2
BRTR **Keskin Array B** 77.68 318 P P 09 11 19.9 -0.2
comp=Z,10nm,0.9s,baz=60,slow=3.3,SNR=32
BRTR PP PP 09 14 12.1 -3.0
comp=Z,0.8nm,0.5s,baz=6.9,slow=18,SNR=3.4
BRTR **Keskin Array B** 77.68 318 *i*P P 09 11 21.3 +1.2
BRTR pmax pmax
comp=Z,10.0nm,0.9s
ACSO **Alum Creek Sta** 77.68 42 *e*P P 09 11 19.8 -0.2
comp=Z,46nm,0.9s
Y40A **Okolona** 77.69 52 P P 09 11 19.3 -0.7
baz=321,SNR=5.8
X41A **Kaden, Bauxite** 77.71 51 P P 09 11 19.9 -0.2
baz=322,SNR=15
ALLY **Alegheny Colle** 77.72 39 *e*P P 09 11 19.4 -0.7
comp=Z,87nm,1.0s
MMNY **Mt. Morris Dam** 77.73 37 *e*P P 09 11 19.9 -0.2
BCLA **Clavier** 77.75 341 P P 09 11 20.2 +0.1
comp=Z,31nm,1.2s
138A **Matatall Enter** 77.77 54 P P 09 11 20.9 +0.3
baz=321
336A **Riesel** 77.80 56 P P 09 11 20.3 -0.4
baz=320,SNR=5.5
Z39A **Irene McRaven,** 77.81 53 P P 09 11 20.0 -0.7
baz=321
WCI **Wyandotte Cave** 77.81 45 *e*P P 09 11 20.6 -0.1
WCI pmax pmax
comp=Z,92nm,0.8s
WCI **Wyandotte Cave** 77.81 45 *e*P P 09 11 20.6 -0.1
comp=Z,92nm,0.8s
MOA **Moln** 77.84 334 *i*P P 09 11 20.9 +0.2
comp=Z,11nm,0.8s,SNR=8.9
PQI **Presque Isle** 77.85 29 *e*P P 09 11 20.2 -0.5
comp=Z,155nm,1.8s
435B **Jarrell** 77.85 57 P P 09 11 21.1 +0.1
baz=320
U44B **Burton Farm, H** 77.85 48 P P 09 11 20.1 -0.9
baz=323
SNF **Seneffe** 77.89 341 P P 09 11 21.0 +0.1
237A **Washetta, Mont** 77.89 55 P P 09 11 20.8 -0.4
baz=321
534A **Blanco** 77.93 58 P P 09 11 21.2 -0.2
baz=320,SNR=19
ANTO **Ankara** 77.93 318 *e*P P 09 11 23.3 +1.9
ANTO pmax pmax
comp=Z,44nm,1.5s
ANTO **Ankara** 77.93 318 *e*P P 09 11 21.7 +0.3
comp=Z,44nm,1.5s
633A **Saathoff Ranch** 77.96 59 P P 09 11 21.7 0.0
baz=320,SNR=13
BR231 **Keskin MP Arra** 77.97 318 *e*P P 09 11 21.3 -0.3
V44A **Blytheville** 77.99 49 P P 09 11 20.5 -1.2
baz=323
ARSA **Arzberg** 78.01 333 *i*P P 09 11 22.1 +0.4
comp=Z,32nm,1.6s,SNR=12
WLAR **White Oak Lake** 78.03 52 *e*P P 09 11 22.2 +0.3
comp=Z,57nm,0.8s
M54A **Oil Creek Stat** 78.04 39 P P 09 11 21.5 -0.5
baz=327,SNR=10
NCB **Newcomb** 78.08 34 *e*P P 09 11 21.7 -0.4
comp=Z,0.4nm,0.8s
UTMT **University of** 78.09 48 *e*P P 09 11 20.8 -1.4
comp=Z,146nm,1.2s
U45A **Rockin P Farm,** 78.13 48 P P 09 11 21.4 -1.1
baz=323,SNR=7.3
Y41A **Eaglette Beard** 78.14 52 P P 09 11 22.0 -0.6
baz=322
GIVF **Givet** 78.15 341 *e*P P 09 11 21.5 -0.9
GIVF pmax pmax
comp=Z,28nm,1.0s
HALT **Halls** 78.20 48 *e*P P 09 11 22.9 0.0
Z40A **Long Farm, Mag** 78.21 53 P P 09 11 22.6 -0.3
baz=321,SNR=9.8
DOU **Dourbes** 78.21 341 P P 09 11 22.9 +0.2
comp=Z,25nm,1.7s
238A **Jacksonville** 78.26 55 P P 09 11 23.3 +0.1
baz=321,SNR=5.8
WLF **Walferdange** 78.27 340 P P 09 11 23.7 +0.7
comp=Z,19nm,1.8s
WLF **Walferdange** 78.27 340 *e*P P 09 11 23.1 +0.1
WLF pmax pmax
comp=Z,32nm,1.2s
WLF **Walferdange** 78.27 340 *e*P P 09 11 23.1 +0.1
comp=Z,32nm,1.2s
436A **Wall Ranch, Ga** 78.30 57 P P 09 11 23.1 -0.4
baz=320
BAIF **Baives** 78.33 341 *e*P P 09 11 22.6 -0.7
BAIF pmax pmax
comp=Z,41nm,1.0s
BEHE **Becsehely** 78.33 332⇓ *e*P P 09 11 24.2 +0.8
N54A **Moraine State** 78.36 39 P P 09 11 23.3 -0.4
baz=327,SNR=14
STU **Stuttgart** 78.37 338 *e*P P 09 11 24.0 +0.4
STU pmax pmax
comp=Z,27nm,0.8s
STU **Stuttgart** 78.37 338 *e*P P 09 11 24.0 +0.4
comp=Z,27nm,0.8s
337A **Centerville** 78.38 56 P P 09 11 23.8 -0.1
baz=321
832A **Faith Ranch, C** 78.40 60 P P 09 11 23.9 -0.2
baz=320,SNR=11
DRLN **Deer Lake** 78.41 21 *e*P P 09 11 23.8 +0.1
comp=Z,251nm,1.7s
535A **Dale** 78.43 58 P P 09 11 23.7 -0.5
baz=320
MDV **Middlebury** 78.44 33 *e*P P 09 11 23.6 -0.4
733A **Divot King Ran** 78.46 60 P P 09 11 23.9 -0.5
baz=320,SNR=5.9
634A **China Grove, S** 78.49 59 P P 09 11 24.2 -0.3
baz=320
V45A **Humboldt** 78.52 48 P P 09 11 24.4 -0.2
baz=323,SNR=6.8
Z41A **Richland Creek** 78.52 52 P P 09 11 24.7 +0.1
baz=322
X43A **Marvell** 78.53 50 P P 09 11 24.7 0.0
baz=322,SNR=6.1
CCAR **Cane Creek** 78.54 51 *e*P P 09 11 25.7 +0.9
comp=Z,57nm,1.1s
140A **Cam and Jess,** 78.60 53 P P 09 11 25.0 -0.1
baz=321
Y42A **Garnett, Star** 78.60 51 P P 09 11 24.8 -0.2
baz=322,SNR=5.6
239A **Gary** 78.60 54 P P 09 11 24.8 -0.4
baz=321
437A **Phantom Ranch,** 78.61 56 P P 09 11 25.2 0.0
baz=321
338A **Crockett** 78.66 55 P P 09 11 25.9 +0.4
baz=321,SNR=6.0
SOKA **Soboth** 78.67 333 *i*P P 09 11 25.4 0.0
comp=Z,45nm,1.1s,SNR=36
536A **Bastrop** 78.68 57 P P 09 11 25.7 +0.1
baz=320
LBNH **Lisbon** 78.68 32 *e*P P 09 11 25.8 +0.4
LBNH pmax pmax
comp=Z,24nm,0.7s
LBNH **Lisbon** 78.68 32 *e*P P 09 11 25.8 +0.4
comp=Z,24nm,0.7s
MPEP **Malo Peshtene** 78.68 326 *e*P P 09 11 25.0 -0.4
PKME **Peaks-Kenny Pk** 78.68 30 *e*P P 09 11 25.8 +0.4
comp=Z,38nm,1.2s
PERS **Pernice** 78.69 333 *e*P P 09 11 25.5 +0.1
NATX **Nacogdoches** 78.70 54 P P 09 11 25.9 +0.2
baz=321,SNR=5.5
NATX **Nacogdoches** 78.70 54 *e*P P 09 11 25.9 +0.2
comp=Z,55nm,0.8s
833A **Chaparral WMA,** 78.70 60 P P 09 11 25.9 +0.2
baz=320,SNR=13
WVT **Waverly** 78.76 47 *e*P P 09 11 25.9 -0.1
WVT pmax pmax
comp=Z,21nm,0.9s
WVT **Waverly** 78.76 47 *e*P P 09 11 25.9 -0.1
comp=Z,21nm,0.9s
734A **La Parita Cree** 78.78 59 P P 09 11 26.3 +0.1
baz=320
ACCN **Adirondack Com** 78.79 34 *e*P P 09 11 25.6 -0.4
comp=Z,48nm,0.8s
KBA **Koelnbreinsper** 78.81 334 *i*P P 09 11 26.7 +0.5
comp=Z,50nm,0.5s,SNR=61
KBA **Koelnbreinsper** 78.81 334 P P 09 11 27.5 +1.3
W45A **Hickory Valley** 78.87 49 P P 09 11 26.3 -0.3
baz=323,SNR=6.4
X44A **Crenshaw** 78.91 50 P P 09 11 26.7 -0.1
baz=323
ARMA **Armidale** 78.92 183 *e*P P 09 11 27.8 +1.1
comp=Z,39nm,0.9s
BINY **Binghamton** 78.93 36 *e*P P 09 11 26.5 -0.3
comp=Z,27nm,0.9s
Z42A **Norrel Spur, H** 78.95 52 P P 09 11 27.1 +0.1
baz=322,SNR=12
240A **Hunter Patters** 78.96 54 P P 09 11 27.4 +0.3
baz=321
OBKA **Obir** 78.97 333 *i*P P 09 11 27.2 +0.1
comp=Z,29nm,0.9s,SNR=15
141A **Papa Simpson,** 78.98 53 P P 09 11 27.7 +0.6
baz=322
Y43A **Makayla and Ka** 78.98 51 P P 09 11 26.8 -0.4
baz=322
BFO **Black Forest** 79.00 338 *e*P P 09 11 27.4 +0.3
BFO pmax pmax
comp=Z,48nm,1.3s
BFO **Black Forest** 79.00 338 *e*P P 09 11 27.4 +0.3
comp=Z,48nm,1.3s
HNH **Hanover** 79.02 33 *e*P P 09 11 27.6 +0.4
comp=Z,39nm,0.7s
438A **Sam Houston St** 79.04 56 P P 09 11 28.2 +0.6
baz=321,SNR=12
WATA **Walderalm** 79.07 336 *i*P P 09 11 28.3 +0.6
comp=Z,30nm,0.7s,SNR=16
339A **Huntington** 79.08 55 P P 09 11 28.3 +0.5
baz=321
537A **Green Hill Far** 79.09 57 P P 09 11 28.3 +0.5
baz=321,SNR=6.8
WTTA **Wattenberg** 79.12 335 *i*P P 09 11 28.8 +0.8
comp=Z,41nm,0.7s,SNR=24
MYKA **Terra Mystica** 79.13 334 *i*P P 09 11 27.6 -0.3
comp=Z,9.9nm,0.5s,SNR=8.9
636A **Smothers Creek** 79.14 58 P P 09 11 28.3 +0.1
baz=320,SNR=11
RETA **Reutte** 79.15 336 *i*P P 09 11 28.4 +0.4
comp=Z,22nm,0.7s,SNR=9.6
WVL **Waterville** 79.18 31 *e*P P 09 11 28.3 +0.2
comp=Z,44nm,0.9s
MOTA **Moosalm** 79.19 336 *i*P P 09 11 28.7 +0.4
comp=Z,86nm,1.2s,SNR=35
735A **Kenedy** 79.20 58 P P 09 11 28.6 +0.2
baz=320
OXF **Oxford** 79.27 49 *e*P P 09 11 28.6 -0.1
OXF pmax pmax
comp=Z,54nm,0.9s
OXF **Oxford** 79.27 49 *e*P P 09 11 28.6 -0.1
comp=Z,54nm,0.8s
Y44A **Strider, Charl** 79.30 50 P P 09 11 29.1 +0.2
baz=323,SNR=13
933A **Laredo** 79.31 60 P P 09 11 30.1 +1.0
baz=320,SNR=32
834A **Tilden** 79.33 59 P P 09 11 30.4 +1.2
baz=320,SNR=12
ABTA **Abfaltersbach** 79.34 335 *i*P P 09 11 28.8 -0.3
comp=Z,36nm,1.2s,SNR=17
COCO **West Island** 79.34 238 *e*P P 09 11 29.5 +0.3
COCO pmax pmax
comp=Z,277nm,1.3s
COCO **West Island** 79.34 238 *e*P P 09 11 29.5 +0.3
comp=Z,277nm,1.3s
X45A **UM Field Stati** 79.35 49 P P 09 11 29.1 -0.1
baz=323
TRY **Troy** 79.36 34 *e*P P 09 11 29.0 -0.1
comp=Z,36nm,0.8s
Z43A **Armstrong Fami** 79.37 51 P P 09 11 29.6 +0.3
baz=322
DIVS **Divibare** 79.38 329 P P 09 11 28.2 -1.1
340A **Bronson** 79.38 54 P P 09 11 29.7 +0.3
baz=321
439A **Center Grove,** 79.39 55 P P 09 11 30.0 +0.6
baz=321,SNR=8.8
ECH **Echery** 79.39 339 *e*P P 09 11 29.3 +0.1
241A **Mo Tay, Goldon** 79.42 53 P P 09 11 29.7 0.0
baz=322,SNR=6.6
538A **Harpers Horsep** 79.44 56 P P 09 11 30.0 +0.2
baz=321
FFD **Franklin Falls** 79.45 32 *e*P P 09 11 30.2 +0.6
comp=Z,54nm,0.6s
CADS **Cadrg** 79.46 334 *i*P P 09 11 28.7 -1.0
DYA **Yadsworthy** 79.47 346 *e*P P 09 11 29.9 +0.4
comp=Z,121nm,0.9s
OZLJ **Ozalj** 79.50 332 P P 09 11 29.0 -0.7
SSPA **Standing Stone** 79.50 38 *e*P P 09 11 29.8 -0.2
comp=Z,35nm,0.8s
MCWV **Mont Chateau** 79.51 40 *e*P P 09 11 30.1 +0.2
comp=Z,29nm,1.0s
142A **Monroe** 79.52 52 P P 09 11 30.7 +0.5
baz=322
O56A **Blue Knob Stat** 79.53 39 P P 09 11 29.6 -0.6
baz=328,SNR=13
736A **Circle Diamond** 79.54 58 P P 09 11 31.0 +0.7
baz=321,SNR=10
VTS **Vitosha** 79.54 326 P P 09 11 29.8 -0.5
VTS **Vitosha** 79.54 326⇓ *i*P P 09 11 29.5 -0.8
VTS **Vitosha** 79.54 326 *e*P P 09 11 30.2 -0.1
VTS pmax pmax
comp=Z,49nm,0.9s
VTS **Vitosha** 79.54 326 *e*P P 09 11 30.0 -0.3
VTS **Vitosha** 79.54 326 *e*P P 09 11 30.2 -0.1
comp=Z,49nm,0.9s
KSPA **Keystone Colle** 79.56 36 *e*P P 09 11 26.0 -4.3
comp=Z,26nm,0.8s
DAVA **Damuels** 79.57 337 *i*P P 09 11 30.7 +0.3
comp=Z,42nm,0.9s,SNR=13
637A **Eagle Lake** 79.57 57 P P 09 11 29.3 -1.2
baz=321
LMN **Caledonia Moun** 79.57 27 *e*P P 09 11 30.5 +0.3
comp=Z,38nm,0.7s
FETA **Feichten** 79.59 336 *i*P P 09 11 31.0 +0.6
comp=Z,36nm,0.8s,SNR=37
GGN **Saint George** 79.61 29 *e*P P 09 11 30.1 -0.2
comp=Z,138nm,1.7s
835A **Beeville** 79.62 59 P P 09 11 31.6 +0.9
baz=320
THEF **They Montfort** 79.66 339⇑ *e*P P 09 11 30.8 +0.2
BOJS **Bojanci** 79.67 332 *i*P P 09 11 30.1 -0.7
143A **Socs Landing,** 79.68 52 P P 09 11 31.3 +0.3
baz=322
BOLV **Bolvadin** 79.69 319 *e*P P 09 11 31.5 +0.4
comp=Z,38nm,0.9s
Y45A **Yeager Farm, C** 79.72 50 P P 09 11 31.4 +0.2
baz=323,SNR=11
Z44A **Pea Ridge, Bel** 79.73 51 P P 09 11 31.5 +0.2
baz=323,SNR=5.4
MOF **Molkenrain** 79.73 339⇑ *e*P P 09 11 31.2 0.0
934A **Benavides** 79.75 60 P P 09 11 32.7 +1.2
baz=320,SNR=7.8
EMMW **East Machias** 79.77 29 *e*P P 09 11 30.9 -0.3
comp=Z,34nm,0.8s
242A **Grayson** 79.80 53 P P 09 11 31.9 +0.3
baz=322
341A **Kurthwood** 79.83 54 P P 09 11 32.2 +0.4
baz=322,SNR=12
HINF **Hinteralfeld** 79.83 339 *e*P P 09 11 30.6 -1.1
HINF pmax pmax
comp=Z,30nm,1.1s

440A	Kirbyville	79.86	55	P		P	09 11 32.2	+0.2				
	baz=322											
RDO	Rodhopi	79.89	324	P		P	09 11 31.9	-0.1				
RDO	Rodhopi	79.89	324	P		P	09 11 31.9	-0.1				
ALN	Alexandroupoli	79.90	323	P		P	09 11 31.7	-0.4				
ALN	Alexandroupoli	79.90	323	P		P	09 11 31.7	-0.4				
ALN	Alexandroupoli	79.90	323	P		P	09 11 31.7	-0.4				
TRI	Trieste	79.93	333	*e*P		P	09 11 31.6	-0.5				
TRI				pmax	pmax							
	comp=Z,39nm,1.2s											
TRI	Trieste	79.93	333	*e*P		P	09 11 31.6	-0.5				
	comp=Z,39nm,1.2s											
539A	Cross D Ranch,	79.94	56	P		P	09 11 33.1	+0.7				
	baz=321											
ENEZ	Enez	80.00	323	P		P	09 11 32.1	-0.5				
Z45A	Winona	80.03	50	P		P	09 11 32.9	0.0				
	baz=323,SNR=7.4											
Y46A	Houston	80.05	49	P		P	09 11 32.8	-0.1				
	baz=323,SNR=15											
034A	Hebbronville	80.06	60	P		P	09 11 34.3	+1.1				
	baz=320,SNR=16											
638A	Rosharon	80.08	56	P		P	09 11 33.1	-0.1				
	baz=321											
FUORN	Ofenpass-Fuorn	80.08	336	*e*P		P	09 11 34.2	+0.9				
	comp=Z,156nm,1.6s											
N59A	State Game Lan	80.11	36	P		P	09 11 32.7	-0.6				
	baz=329,SNR=15											
MMB	Musomiste	80.21	325	*e*P		P	09 11 33.0	-0.8				
KKB	Krupnik	80.21	326	*e*P		P	09 11 33.0	-0.8				
QUA2	Belchertown	80.23	34	*e*P		P	09 11 34.2	+0.4				
	comp=Z,100nm,1.9s											
342A	Flagon Creek P	80.24	53	P		P	09 11 34.7	+0.6				
	baz=322,SNR=6.2											
144A	Alexander Plac	80.25	51	P		P	09 11 34.1	+0.1				
	baz=323											
PLE	Pljevlja	80.26	329⇑	*i*P		P	09 11 33.2	-0.9				
441A	DeRidder	80.27	54	P		P	09 11 35.0	+0.8				
	baz=322											
LOMF	Lomont	80.28	339⇑	*e*P		P	09 11 34.3	+0.2				
243A	Waterproof	80.29	52	P		P	09 11 35.2	+0.9				
	baz=322											
HRV	Adam Dziewonsk	80.32	33	*e*P		P	09 11 34.7	+0.4				
HRV				pmax	pmax							
	comp=Z,34nm,1.0s											
HRV	Adam Dziewonsk	80.32	33	*e*P		P	09 11 34.7	+0.4				
	comp=Z,34nm,0.9s											
UDBI	Udbina	80.38	332	P		P	09 11 34.1	-0.6				
SWET	Sewanee	80.41	46	*e*P		P	09 11 34.5	-0.5				
	comp=Z,11nm,0.6s											
KAVA	Kavala	80.42	324	P		P	09 11 34.1	-0.8				
KAVA	Kavala	80.42	324	P		P	09 11 34.1	-0.8				
ODNJ	Ogdensburg	80.42	36	*e*P		P	09 11 34.5	-0.4				
	comp=Z,12nm,0.9s											
TZTN	Tazewell	80.45	44	*e*P		P	09 11 35.2	0.0				
	comp=Z,17nm,0.8s											
TUE	Stuetta	80.46	337	*e*P		P	09 11 35.9	+0.7				
	comp=Z,67nm,0.9s											
IVA	Berane	80.49	328	*e*P		P	09 11 34.7	-0.6				
035A	Encino	80.49	60	P		P	09 11 35.5	0.0				
	baz=320											
FLN	La Foliniere	80.50	344	*e*P		P	09 11 34.4	-0.7				
FLN				pmax	pmax							
	comp=Z,92nm,0.9s											
WES	Weston	80.51	33	*e*P		P	09 11 35.7	+0.4				
WES				pmax	pmax							
	comp=Z,68nm,0.9s											
WES	Weston	80.51	33	*e*P		P	09 11 35.7	+0.4				
	comp=Z,68nm,0.9s											
145A	Houston Renfro	80.52	51	P		P	09 11 35.5	0.0				
	baz=323											
VBMS	Vicksburg	80.53	51	P		P	09 11 35.7	+0.2				
	baz=323											
Y47A	UCPARC, Winfie	80.53	49	P		P	09 11 35.1	-0.5				
	baz=324,SNR=13											
UPM	Unac-Piva	80.54	329	*e*P		P	09 11 34.9	-0.8				
LUPA	Lehigh Univers	80.54	36	*e*P		P	09 11 35.4	-0.1				
	comp=Z,102nm,1.7s											
Z46A	Louisville	80.56	50	P		P	09 11 35.1	-0.7				
	baz=323											
244A	Avery, Jackson	80.58	52	P		P	09 11 36.4	+0.6				
	baz=323,SNR=16											
BCX	Boston College	80.61	33	*e*P		P	09 11 36.0	+0.2				
	comp=Z,70nm,0.9s											
NVLJ	Novalja	80.63	332	P		P	09 11 35.0	-0.9				
MVL	Millersville	80.66	37	*e*P		P	09 11 36.1	0.0				
	comp=Z,19nm,0.8s											
SRS	Serrai	80.67	325	P		P	09 11 35.8	-0.4				
SRS	Serrai	80.67	325	P		P	09 11 35.8	-0.4				
SRS	Serrai	80.67	325	P		P	09 11 35.8	-0.4				
PVY	Plav	80.71	328	*e*P		P	09 11 36.0	-0.6				
SKO	Skopje	80.73	327	P		P	09 11 36.5	0.0				
SKO	Skopje	80.73	327	*i* P		P	09 11 36.6	0.0				
SKO	Skopje	80.73	327	P		P	09 11 36.5	0.0				
SKO	Skopje	80.73	327	P		P	09 11 36.5	0.0				
PAL	Palisades	80.75	35	*e*P		P	09 11 36.7	0.0				
PAL				pmax	pmax							
	comp=Z,40nm,0.8s											
PAL	Palisades	80.75	35	*e*P		P	09 11 36.7	0.0				
	comp=Z,40nm,0.8s											
BRNJ	Basking Ridge	80.78	36	*e*P		P	09 11 36.8	0.0				
	comp=Z,26nm,0.9s											
541A	Lake Charles	80.81	55	P		P	09 11 37.2	+0.1				
	baz=322											
BRYW	Bryant College	80.84	33	*e*P		P	09 11 37.3	+0.2				
	comp=Z,70nm,0.8s											
035Z	Hargill	80.88	60	P		P	09 11 38.3	+0.8				
	baz=320											
VAY	Valandovo	80.88	326	P		P	09 11 37.4	+0.1				
VAY	Valandovo	80.88	326	*i* P		P	09 11 37.4	+0.1				
VAY	Valandovo	80.88	326	P		P	09 11 37.4	+0.1				
VAY	Valandovo	80.88	326	P		P	09 11 37.4	+0.1				
CPCT	Cooper Cave	80.89	45	*e*P		P	09 11 37.6	+0.1				
	comp=Z,18nm,1.0s											
KNT	Kendrikon	80.89	325	P		P	09 11 37.1	-0.3				
KNT	Kendrikon	80.89	325	P		P	09 11 37.1	-0.3				
KNT	Kendrikon	80.89	325	P		P	09 11 37.1	-0.3				
NKME	Niksic	80.91	329	*e*P		P	09 11 36.5	-1.0				
CPNY	Central Park	80.92	35	*e*P		P	09 11 37.6	+0.1				
	comp=Z,39nm,0.8s											
GRR	Gorron	80.93	344	*e*P		P	09 11 36.9	-0.5				
GRR				pmax	pmax							
	comp=Z,137nm,0.9s											
BRY	Bratogost	80.93	329	*e*P		P	09 11 36.6	-1.1				
146A	Union	80.94	50	P		P	09 11 37.9	+0.1				
	baz=323,SNR=12											
SDMD	Soldier's Deli	80.97	38	*e*P		P	09 11 37.6	-0.2				
	comp=Z,18nm,0.9s											
Z47A	Carrollton	80.99	49	P		P	09 11 37.8	-0.3				
	baz=324,SNR=16											
245A	Little AP, Sta	80.99	51	P		P	09 11 38.5	+0.4				
	baz=323,SNR=14											
344A	Westbrook Farm	81.02	52	P		P	09 11 38.6	+0.4				
	baz=323,SNR=12											
ZAIG	Zacatecas	81.03	66	*e*P		P	09 11 39.0	+0.2				
	comp=Z,21nm,1.0s											
TKL	Tuckaleechee C	81.07	45	*e*P		P	09 11 38.3	-0.2				
TKL				pmax	pmax							
	comp=Z,53nm,1.3s											
TKL	Tuckaleechee C	81.07	45	*e*P		P	09 11 38.3	-0.2				
	comp=Z,53nm,1.4s											
PSUB	Penn St. - Bra	81.08	37	*e*P		P	09 11 37.9	-0.5				
	comp=Z,24nm,0.8s											
SENIN	Lac Senin/Sane	81.08	338	*e*P		P	09 11 39.0	+0.4				
	comp=Z,30nm,0.8s											
PDG	Podgorica	81.10	328	P		P	09 11 38.1	-0.3				
PDG	Podgorica	81.10	328	⇓*i*P		P	09 11 37.9	-0.5				
TTG	Podgorica	81.10	328	P		P	09 11 38.1	-0.3				
TTG	Podgorica	81.10	328	⇑*i*P		P	09 11 37.7	-0.7				
TTG	Podgorica	81.10	328	P		P	09 11 38.1	-0.3				
Z48A	Northport	81.10	49	P		P	09 11 38.2	-0.5				
	baz=324,SNR=9.7											
CEME	Cevo	81.11	329⇑	*i*P		P	09 11 37.4	-1.2				
STKA	Stephens Creek	81.19	191	P		P	09 11 39.0	+0.2				
	comp=Z,12nm,0.6s,baz=2.4,slow=6.4,SNR=25											
STKA	Stephens Creek	81.19	191	*e*P		P	09 11 39.1	+0.2				
STKA				pmax	pmax							
	comp=Z,7.0nm,1.1s											
STKA	Stephens Creek	81.19	191	*e*P		P	09 11 39.1	+0.3				
	comp=Z,6.7nm,1.1s											
STON	Ston	81.24	330	P		P	09 11 37.6	-1.5				
LNIG	Linares	81.26	62	*e*P		P	09 11 38.9	-0.7				
	comp=Z,16nm,0.9s											
BLA	Blacksburg	81.30	42	*e*P		P	09 11 39.9	+0.2				
BLA				pmax	pmax							
	comp=Z,54nm,1.1s											
BLA	Blacksburg	81.30	42	*e*P		P	09 11 39.9	+0.2				
	comp=Z,54nm,1.1s											
147A	Livingston	81.31	50	P		P	09 11 40.1	+0.4				
	baz=324,SNR=16											
BUM	Brajici-Budva	81.34	329⇑	*i*P		P	09 11 38.6	-1.2				
DRME	Dracevica, Mon	81.34	328⇑	*i*P		P	09 11 39.2	-0.6				
HCY	Herceg Novi	81.35	329⇑	*i*P		P	09 11 38.5	-1.3				
PLG	Polygyros	81.37	325	P		P	09 11 39.3	-0.7				
PLG	Polygyros	81.37	325	P		P	09 11 39.3	-0.7				
PLG	Polygyros	81.37	325	P		P	09 11 39.3	-0.7				
SIGR	SIGRI	81.42	322	P		P	09 11 40.3	+0.1				
SIGR	SIGRI	81.42	322	P		P	09 11 40.3	+0.1				
345A	Thompson Farm,	81.50	52	P		P	09 11 41.9	+1.1				
	baz=323,SNR=6.1											
ULC	Ulcinj	81.52	328⇑	*i*P		P	09 11 39.3	-1.4				
444A	Pine Grove	81.59	52	P		P	09 11 42.6	+1.4				
	baz=323											
247A	Quitman	81.63	50	P		P	09 11 42.8	+1.3				
	baz=324											
LRAL	Lakeview Retre	81.65	48	*e*P		P	09 11 41.2	-0.3				
	comp=Z,16nm,0.7s											
PAIG	Paliouri	81.66	324	P		P	09 11 40.8	-0.7				
PAIG	Paliouri	81.66	324	P		P	09 11 40.8	-0.7				
PAIG	Paliouri	81.66	324	P		P	09 11 40.8	-0.7				
CSS	Mathiatis	81.71	315	P		P	09 11 41.9	0.0				
CSS	Mathiatis	81.71	315	*e*P		P	09 11 41.4	-0.4				
	comp=Z,11nm,1.1s											
OHR	Ohrid	81.71	327	*i* P		P	09 11 41.1	-0.8				
346A	Big Creek Wild	81.73	51	P		P	09 11 42.8	+0.9				
	baz=323											
CBN	Corbin Frederi	81.77	39	*e*P		P	09 11 42.0	0.0				
	comp=Z,42nm,1.0s											
FNA	Florina	81.79	326	P		P	09 11 41.5	-0.7				
FNA	Florina	81.79	326	P		P	09 11 41.5	-0.7				
FNA	Florina	81.79	326	P		P	09 11 41.5	-0.7				
445A	Amite	81.80	52	P		P	09 11 43.6	+1.2				
	baz=323											
TIR	Tirane	81.84	327⇑	*i*P		P	09 11 41.3	-1.1				
TIR	Tirane	81.84	327	*e*P		P	09 11 42.5	+0.1				
TIR				pmax	pmax							
	comp=Z,66nm,0.8s											
TIR	Tirane	81.84	327	*e*P		P	09 11 42.5	+0.1				
	comp=Z,66nm,0.8s											
LIT	Litokhoron	81.97	325	P		P	09 11 41.9	-1.2				
LIT	Litokhoron	81.97	325	P		P	09 11 41.9	-1.2				
LIT	Litokhoron	81.97	325	P		P	09 11 41.9	-1.2				
JSRW	J. Sargeant Re	81.99	40	*e*P		P	09 11 43.2	0.0				
LPL	La Plagne	82.02	338	*e*P		P	09 11 43.6	0.0				
LPL				pmax	pmax							
	comp=Z,87nm,0.7s											
LPG	La Plagne	82.03	338	*e*P		P	09 11 43.8	+0.1				
LPG				pmax	pmax							
	comp=Z,99nm,0.8s											
248A	Dixon Mills	82.04	50	P		P	09 11 44.3	+0.7				
	baz=324,SNR=11											
KZN	Kozani	82.06	326	P		P	09 11 42.9	-0.8				
KZN	Kozani	82.06	326	P		P	09 11 42.9	-0.8				
KZN	Kozani	82.06	326	P		P	09 11 42.9	-0.8				
347A	Saraland	82.19	51	P		P	09 11 45.5	+1.1				
	baz=324,SNR=5.5											
NEST	Nestorio	82.23	326	P		P	09 11 43.1	-1.5				
URVA	University of	82.24	39	*e*P		P	09 11 44.7	+0.2				
446A	Poplarville	82.25	51	P		P	09 11 45.4	+0.6				
	baz=323											
VLC	Villacollemand	82.31	335	*e*P		P	09 11 45.5	+0.6				
	comp=Z,46nm,0.8s											
PLDF	La Plantade	82.32	340	*e*P		P	09 11 45.8	+0.8				
AKAS	Kas	82.35	318	*e*P		P	09 11 45.3	0.0				
	comp=Z,19nm,0.8s											
AGO	Saint Agoulin	82.35	341⇑	*e*P		P	09 11 46.0	+0.9				
FYTO	Fytoko, Volos	82.40	324	P		P	09 11 44.0	-1.3				
FYTO	Fytoko, Volos	82.40	324	P		P	09 11 44.0	-1.3				
GDM	Grand'Maison	82.46	338⇑	*e*P		P	09 11 46.8	+1.0				
BNI	Bardonecchia	82.47	338	*e*P		P	09 11 46.7	+0.9				
BNI				pmax	pmax							
	comp=Z,41nm,0.7s											
BNI	Bardonecchia	82.47	338	*e*P		P	09 11 46.7	+0.9				
	comp=Z,41nm,0.7s											
PPT2	Papeete2	82.47	127	*e*LR		LR	09 37 33.7					
	comp=Z,354nm,22.8s											
PPT2	Papeete2	82.47	127	*e*T		T	10 42 32.2					
	comp=Z,55nm,0.3s											
348A	Jackson	82.50	50	P		P	09 11 46.4	+0.4				
	baz=324,SNR=5.5											
GRN	Grenoble	82.52	339⇑	*e*P		P	09 11 47.2	+1.2				
TIAR	Tiarei	82.56	127	*e*T		T	10 42 38.6					
	comp=Z,4.4nm,0.2s											
447A	Lucedale	82.62	51	P		P	09 11 47.5	+0.8				
	baz=324											
KMSC	Kings Mountain	82.62	43	P		P	09 11 46.4	-0.2				
	baz=327											
KMSC	Kings Mountain	82.62	43	*e*P		P	09 11 46.2	-0.3				
	comp=Z,20nm,0.8s											
BODT	Bodrum	82.64	320	P		P	09 11 46.2	-0.5				
BODT	Bodrum	82.64	320	P		P	09 11 46.2	-0.5				
PYM	Petit Puy Mans	82.67	341⇑	*e*P		P	09 11 47.5	+0.7				
645A	Chauvin	82.67	53	P		P	09 11 48.1	+1.2				
	baz=323											
COLF	Collangettes	82.73	340	*e*P		P	09 11 47.9	+0.8				
SSB	Saint Sauveur	82.77	339⇑	*e*P		P	09 11 47.9	+0.6				
SSB	Saint Sauveur	82.77	339	*e*P		P	09 11 47.9	+0.6				
SSB				pmax	pmax							
	comp=Z,59nm,0.8s											
SSB	Saint Sauveur	82.77	339	*e*P		P	09 11 47.9	+0.6				
	comp=Z,59nm,0.8s											
FORT	Forrest	82.77	203	*e*P		P	09 11 47.8	+0.7				
	comp=Z,1μm,0.7s											
448A	Bay Minette	82.91	50	P		P	09 11 49.1	+1.0				
	baz=324											
AGG	Agios Georgios	82.97	325	*e*P		P	09 11 47.4	-0.9				
AGG				pmax	pmax							
	comp=Z,40nm,1.1s											
AGG	Agios Georgios	82.97	325	*e*P		P	09 11 47.4	-0.9				
	comp=Z,40nm,1.1s											
JAN	Janina	82.97	326	P		P	09 11 48.3	-0.1				
JAN	Janina	82.97	326	P		P	09 11 48.3	-0.1				
JAN	Janina	82.97	326	P		P	09 11 48.3	-0.1				
BBOO	Buckleboo	82.97	196	*e*P		P	09 11 48.5	+0.4				
	comp=Z,30nm,0.8s											
LKR	Lokris	83.03	324	P		P	09 11 46.8	-1.9				
LKR	Lokris	83.03	324	P		P	09 11 46.8	-1.9				
GOGA	Godfrey	83.06	46	*e*P		P	09 11 48.8	-0.1				
GOGA	Godfrey	83.06	46	*e*P		P	09 11 49.0	+0.1				
	comp=Z,59nm,1.8s											
AQU	L'Aquila	83.08	332	*e*P		P	09 11 50.0	+1.1				
AQU				pmax	pmax							
	comp=Z,57nm,1.0s											
AQU	L'Aquila	83.08	332	*e*P		P	09 11 48.5	-0.4				
	comp=Z,57nm,1.0s											
LBL	Lubilhac	83.11	340	*e*P		P	09 11 50.1	+1.1				
VIVF	Saint-Julien-l	83.14	339	*e*P		P	09 11 49.1	0.0				
VIVF				pmax	pmax							
	comp=Z,69nm,0.9s											
SGD	Sagiada	83.23	326	P		P	09 11 49.0	-0.7				
OG26	St.-Nazaire-De	83.25	339⇑	*e*P		P	09 11 50.8	+1.0				
IGT	Igoumenitsa	83.27	326	P		P	09 11 48.8	-1.1				
IGT	Igoumenitsa	83.27	326	P		P	09 11 48.8	-1.1				
IGT	Igoumenitsa	83.27	326	P		P	09 11 48.8	-1.1				
KEK	Kerkira	83.30	327	P		P	09 11 49.5	-0.6				
KEK	Kerkira	83.30	327	P		P	09 11 49.5	-0.6				
DSL	Palaion Diasel	83.33	326	P		P	09 11 49.2	-1.1				
DSL	Palaion Diasel	83.33	326	P		P	09 11 49.2	-1.1				
JSC	Jenkinsville	83.37	44	*e*P		P	09 11 50.5	+0.1				
JSC				pmax	pmax							
	comp=Z,26nm,1.0s											
JSC	Jenkinsville	83.37	44	*e*P		P	09 11 50.5	+0.1				
	comp=Z,26nm,1.0s											
DSF	Desfina	83.42	324	P		P	09 11 49.3	-1.5				
DSF	Desfina	83.42	324	P		P	09 11 49.3	-1.5				
MON	Monaco	83.51	337	*e*P		P	09 11 50.6	-0.4				
SERG	Sergoula	83.60	325	P		P	09 11 48.2	-3.4				
CAF	Calviac	83.66	341	*e*P		P	09 11 51.8	0.0				
CAF				pmax	pmax							
	comp=Z,99nm,1.0s											
PDO	Prodromos	83.77	325	P		P	09 11 51.6	-0.9				
JRQG	Juriquilla Cam	83.88	66	*e*P		P	09 11 53.4	-0.2				
KLV	Kalavryta, Ach	83.89	324	P		P	09 11 51.7	-1.5				
KLV	Kalavryta, Ach	83.89	324	P		P	09 11 51.7	-1.5				
CAN	Canberra	83.92	185	*e*P		P	09 11 53.8	+0.8				
CAN				pmax	pmax							
	comp=Z,64nm,1.7s											
CAN	Canberra	83.92	185	*e*P		P	09 11 53.8	+0.8				
	comp=Z,64nm,1.7s											
KARP	Karpathos	83.99	320	P		P	09 11 52.4	-1.3				
KARP	Karpathos	83.99	320	*e*P		P	09 11 52.7	-1.0				
	comp=Z,31nm,0.9s											
CNNC	Cliffs of the	84.06	41	*e*P		P	09 11 54.5	+0.5				
	comp=Z,43nm,1.0s											
DRO	Drossia	84.14	325	P		P	09 11 53.5	-0.9				
MOIG	Morelia	84.21	67	*e*P		P	09 11 55.1	-0.1				
	comp=Z,53nm,0.7s											
KFL	Anninata	84.35	325	P		P	09 11 55.1	-0.3				
VLS	Valsamata	84.36	325	P		P	09 11 54.8	-0.7				
VLS	Valsamata	84.36	325	P		P	09 11 54.8	-0.7				
VLS	Valsamata	84.36	325	P		P	09 11 54.8	-0.7				
CUC	Castrocucco	84.44	330	*e*P		P	09 11 55.0	-0.9				
	comp=Z,17nm,0.9s											
TIGA	Tifton	84.62	47	P		P	09 11 57.1	+0.2				
	baz=326,SNR=7.0											
TIGA	Tifton	84.62	47	*e*P		P	09 11 57.5	+0.6				
	comp=Z,63nm,0.8s											
LAST	Lasithi	85.03	321	P		P	09 11 58.4	-0.6				
LAST	Lasithi	85.03	321	P		P	09 11 58.4	-0.6				
PYL	PYLOS	85.05	324	P		P	09 11 57.2	-1.8				
PYL	PYLOS	85.05	324	P		P	09 11 57.2	-1.8				
IDI	Anoyia	85.17	321	P		P	09 11 57.4	-2.3				
IDI	Anoyia	85.17	321	*e*P		P	09 11 57.9	-1.8				
	comp=Z,50nm,1.1s											
OUZ	Omahuta	85.31	165	*e*P		P	09 12 01.6	+1.7				
	comp=Z,166nm,2.0s											
ANKY	Antikythira Is	85.32	322	P		P	09 11 59.1	-1.2				
ANKY	Antikythira Is	85.32	322	P		P	09 11 59.1	-1.2				
IMMV	Iera Moni Meta	85.40	322	P		P	09 11 59.9	-0.8				
SIVA	Sivas	85.44	321	P		P	09 12 00.0	-0.9				
SIVA	Sivas	85.44	321	P		P	09 12 00.0	-0.9				
LRDF	Laroque-de-Fa	85.44	340⇑	*e*P		P	09 12 01.3	+0.4				
SJAF	Saint Jean de	85.80	340	*e*P		P	09 12 02.6	0.0				
FILF	Fillols	85.80	340⇑	*e*P		P	09 12 02.6	-0.1				
CEL	Celeste	85.97	329	*e*P		P	09 12 02.5	-1.1				
	comp=Z,27nm,0.6s											
VALF	Valcebollere	86.07	340	*e*P		P	09 12 04.1	-0.1				
LARF	Larrau	86.10	342⇑	*e*P		P	09 12 04.8	+0.7				
VSL	Villasalto	86.91	334	*e*P		P	09 12 08.1	0.0				
	comp=Z,65nm,1.1s											
TBI	Tubuai	87.32	131	*e*LR		LR	09 39 34.6					
	comp=Z,634nm,25.0s,baz=319											
TBI	Tubuai	87.32	131	*e*T		T	10 48 34.9					
	comp=Z,6.8nm,0.3s											
CLTB	Caltabellotta	87.49	330	*e*P		P	09 12 10.5	-0.6				
NWAO	Narrogin (SRO)	88.03	211	*e*P		P	09 12 13.5	+0.3				
NWAO				pmax	pmax							
	comp=Z,47nm,0.8s											
NWAO	Narrogin (SRO)	88.03	211	*e*P		P	09 12 13.5	+0.3				
	comp=Z,47nm,0.8s											
PBRG	Braganca	88.32	346	*e*P		P	09 12 13.8	-1.1				
PGAV	Gavieira, Arco	88.39	347	*e*P		P	09 12 14.3	-1.0				
	comp=Z,49nm,1.9s											
DWPF	Disney Wildern	88.42	47	*e*P		P	09 12 16.1	+0.6				
	comp=Z,45nm,0.8s											
HIZ	Hauiti	88.74	164	*e*P		P	09 12 17.8	+1.

PLCA	**Paso Flores**	**147.19**	**93**	PKPbc	**PKPdf**	**09 19 03.6**	**0.0**
	comp=Z,32nm,0.9s,baz=304,slow=3.5,SNR=32						
PLCA	**Paso Flores**	**147.19**	**93**	*e*PKPdf	**PKPdf**	**09 19 04.0**	**+0.3**
PLCA				*e*PKPbc	**PKPbc**	**09 19 06.3**	**+0.4**
CHRN	**Cochrane**	**148.63**	**105**	*e*PKPbc	**PKPbc**	**09 19 10.3**	**+0.9**
SPB	**Sao Paulo**	**149.29**	**43**	*e*PKPbc	**PKPbc**	**09 19 12.3**	**+0.4**
GO09	**Cerro Castillo**	**150.00**	**113**	*e*PKPdf	**PKPdf**	**09 19 07.2**	**-0.6**
GO09				*e*PKPbc	**PKiKP**	**09 19 13.4**	**-0.2**
TRQA	**Tornquist**	**151.44**	**82**	*e*PKPbc	**PKPbc**	**09 19 16.5**	**-0.1**
NVL	**N'lazarevskaya**	**152.00**	**205**	*e*PKIKP	**PKPbc**	**09 19 17.0**	**+0.2**
PMSA	**Palmer Station**	**153.95**	**142**	*e*PKPdf	**PKPdf**	**09 19 14.6**	**+1.4**
PMSA				*e*PKPbc	**PKPbc**	**09 19 21.1**	**-0.1**
PMSA				*e*PKPab	**PKPab**	**09 19 35.6**	**+0.8**
SNAA	**Sanae**	**154.86**	**196**	PKP	**PKPab**	**09 19 38.6**	**-0.1**
SNAA	**Sanae**	**154.86**	**196**	*e*PKIKP	**PKPdf**	**09 19 15.4**	**+0.9**
SNAA				*e*		09 19 38.9	
SNAA	**Sanae**	**154.86**	**196**	*e*PKPdf	**PKPdf**	**09 19 15.3**	**+0.9**
SNAA				*e*PKPbc	**PKPbc**	**09 19 22.5**	**-0.6**
SNAA				*e*PKPab	**pPKPbc**	**09 19 38.9**	**0.0**
VNA2	**Neumayer--Watz**	**156.29**	**194**	PKP	**PKPab**	**09 19 44.7**	**0.0**
	baz=134,slow=3.9						
VNA3	**Neumayer Olymp**	**156.36**	**192**	PKP	**PKPab**	**09 19 44.8**	**-0.3**
VNA1	**Neumayer--Stat**	**156.68**	**194**	PKP	**PKPab**	**09 19 46.3**	**0.0**

NEIC ***17*** *09:04:42.3±0.0, 16°.99N×94°.27W, h128km, MD4.2(MEX), After MEX.*

MEX 17 09:04:42.3±0.4, 16°.99N×94°.27W, h128km±7km, MD4.2, Oaxaca

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TGIG		**1.11**	**101**	*i* P	Pn	09 05 04.9	-1.3
TGIG				*e*S	Sn	09 05 22.7	-1.6
TGIG		**1.11**	**101**	*i* P	Pn	09 05 04.9	-1.3
TGIG				*e*S	Sn	09 05 22.7	-1.6
CCIG	**Comitan**	**2.16**	**109**	*e*P	Pn	09 05 16.7	-1.6
CCIG				*i* S	Sn	09 05 43.4	-2.4
CCIG	**Comitan**	**2.16**	**109**	*e*P	Pn	09 05 16.7	-1.6
CCIG				*i* S	Sn	09 05 43.4	-2.4
VHO	**Vista Hermosa**	**2.36**	**272**	*e*P	Sn	09 05 19.6	-1.3
VHO				*i* S	Sn	09 05 48.5	-2.0
VHO	**Vista Hermosa**	**2.36**	**272**	*e*P	Sn	09 05 19.6	-1.3
VHO				*i* S	Sn	09 05 48.5	-2.0
TPIG	**Tehuac#an**	**3.28**	**296**	*e*P	Sn	09 05 31.9	-0.7
TPIG				*i* S	Sn	09 06 09.7	-1.8
TPIG	**Tehuac#an**	**3.28**	**296**	*e*P	Pn	09 05 31.9	-0.7
TPIG				*i* S	Sn	09 06 09.7	-1.8
PNIG	**Pinotepa**	**3.75**	**261**	*i* P	Pn	09 05 34.9	-3.8
PNIG				*i* S	Sn	09 06 18.1	-4.3
PNIG	**Pinotepa**	**3.75**	**261**	*i* P	Pn	09 05 34.9	-3.8
PNIG				*i* S	Sn	09 06 18.1	-4.3

NIED ***17*** *09:04:00, 36°.30N×141°.00E, h41km, Mw4.3 Best double couple: M₀2.76000×10¹⁵ NP1:φs265.00000°, δ16.00000°, λ156.00000°. NP2:φs18.00000°, δ84.00000°, λ75.00000°.*

JMA 17 09:04:47.8±0.1, 36°.23N×140°.94E, h48km±1km, M4.0, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JHO	**Hitachi**	**0.48**	**322**	P	Pn	09 04 58.5	-0.3
JHO				S	Sn	09 05 05.8	-0.8
JYT	**Yasato**	**0.60**	**270**	P	Pn	09 04 59.8	-0.4
JYT				S	Sn	09 05 09.0	-0.1
ONAJ	**Iwakimizuishiy**	**0.88**	**353**	P	Pn	09 05 03.5	-0.4
ONAJ				S	Sn	09 05 14.4	-1.3
JFK	**Kawauchi**	**1.14**	**357**	P	Pn	09 05 06.9	-0.5
JAG	**Ashikaga**	**1.22**	**280**	P	Pn	09 05 09.3	+0.9
JAG				S	Sn	09 05 24.0	+0.2
JFT	**Otama**	**1.37**	**340**	P	Pn	09 05 12.0	+1.4
JFT				S	Sn	09 05 28.9	+1.3
JKT	**Katashina**	**1.46**	**292**	P	Pn	09 05 13.1	+1.2
JKT				S	Sn	09 05 31.5	+1.6
JFY	**Yanaizu**	**1.54**	**320**	P	Pn	09 05 13.8	+1.0
JMM	**Marumori**	**1.64**	**356**	P	Pn	09 05 14.6	+0.5
MAT	**Matsushiro**	**2.23**	**279**	P	Pn	09 05 23.7	+1.4
MAT				*e*S	Sn	09 05 48.9	+0.3

ISCJB ***17*** *09:05:49.3±0.8, 18°.85S±0°.1×177°.6W±0°.2, h570km, mb3.7/9, Error ellipse: s-maj=21.9km s-min=16.6km az=42.1*
IDC ***17*** *09:05:53.6±1.6, 18°.86S×177°.62W, h618km,21km, mb3.2/9, mb1 3.4/12,mb1mx3.1/32, mbtmp4.2/12, Error ellipse: s-maj=19.7km s-min=14.8km az=132.0*

ISC 17 09:05:50.2±0.8, 18°.8S±0°.2×177°.7W±0°.1, h570km, n14, σ1s75/16, mb3.6/9, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**7.45**	**50**	P	P	09 07 48.9	+5.5
	2.5nm,0.3s,baz=263,slow=8.1,SNR=4.0						
AFI				S	**S**	**09 09 19.2**	**+3.0**
	1.5nm,0.3s,baz=240,slow=20,SNR=2.7						
DZM	**Mont Dzumac**	**15.25**	**255**	P	**P**	**09 09 03.2**	**+1.3**
	0.3nm,0.3s,baz=120,slow=20,SNR=4.4						
URZ	**Urewera**	**19.91**	**192**	P	**P**	**09 09 44.2**	**-0.1**
	1.6nm,0.3s,baz=291,slow=1.9,SNR=15						
CTA	**Charters Tower**	**34.01**	**262**	P	**P**	**09 11 49.3**	**+1.5**
	5.4nm,0.4s,baz=68,slow=6.6,SNR=4.0						
JAY	**Jayapura**	**43.84**	**287**	P	**P**	**09 13 08.2**	**+1.2**
	1.0nm,0.5s,baz=118,slow=23,SNR=7.5						
WRA	**Warramunga Arr**	**45.18**	**260**	P	**P**	**09 13 17.6**	**+0.4**
	4.5nm,0.3s,baz=98,slow=6.2,SNR=62						
WRA				PcP	**PcP**	**09 14 43.9**	**-1.4**
	0.4nm,0.3s,baz=91,slow=3.5,SNR=4.2						
ASAR	**Alice Springs**	**45.24**	**255**	P	**P**	**09 13 18.6**	**+0.9**
	5.3nm,0.5s,baz=86,slow=8.4,SNR=25						
ASAR				PcP	**PcP**	**09 14 42.8**	**-2.7**
	0.7nm,0.5s,baz=103,slow=4.1,SNR=4.2						
MJAR	**Matsushiro Arr**	**69.05**	**323**	P	**P**	**09 15 59.0**	**-0.6**
	0.9nm,0.6s,baz=149,slow=6.2,SNR=3.4						
PETK	**Petropavlovsk-**	**74.72**	**345**	P	**P**	**09 16 31.3**	**-0.8**
	2.5nm,0.9s,baz=132,slow=5.4,SNR=3.7						
MAW	**Mawson**	**83.26**	**200**	P	**P**	**09 17 17.7**	**+0.6**
	0.6nm,0.9s,baz=158,slow=5.4,SNR=2.6						
TXAR	**Lajitas Array**	**85.88**	**57**	P	**P**	**09 17 31.5**	**+0.8**
	0.7nm,0.9s,baz=226,slow=6.2,SNR=4.1						
ILAR	**Eielson Array**	**86.60**	**13**	P	**P**	**09 17 31.9**	**-1.2**
	0.4nm,0.5s,baz=220,slow=5.3,SNR=6.5						
KURBB	**Kurchatov Arra**	**113.02**	**318**	PKiKP	**PKiKP**	**09 23 19.6**	**-3.3**
	0.1nm,0.3s,baz=104,slow=2.2,SNR=4.0						
ARCES	**ARCESS Array B**	**127.32**	**350**	PKP	**PKPdf**	**09 23 48.8**	**-1.1**
	1.1nm,0.6s,baz=13,slow=1.2,SNR=3.0						

NNC 17 09:12:06.4±6.7, 36°.95N×70°.83E, h0km, mb3.6, mpv3.2, 3C-3D, Error ellipse: s-maj=52.3km s-min=31.5km az=175.0, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZET	**Dzherino**	**2.44**	**320**	⇓P	Pn	09 12 47.1	-0.5
	21nm,0.3s						
DZET				⇑Sn	Sn	09 13 19.7	+1.4
	45nm,0.4s						
MNAS	**Manas**	**5.68**	**13**	⇑Pn	Pn	09 13 33.2	+0.9
	1.0nm,0.8s						
MNAS				⇑Sn	Sn	09 14 41.7	+3.4
	3.0nm,0.6s						
KK31	**Karatay Array**	**6.16**	**358**	⇓Pn	Pn	09 13 38.7	+0.1
	0.3nm,0.3s,baz=174,slow=12,SNR=7.1						
KK31				⇓Sn	Sn	09 14 47.0	-2.7
	2.8nm,0.9s,baz=180,slow=18,SNR=3.9						

ISK ***17*** *09:29:15.0, 36°.99N×34°.75E, h10km, MD2.5*
CSEM ***17*** *09:29:16.6±0.5, 36°.90N×34°.69E, h10km, MD2.5, Error ellipse: s-maj=14.8km s-min=5.9km az=112.0*
DDA ***17*** *09:29:16.4, 36°.85N×34°.60E, h7km, Md2.3*
ISCJB ***17*** *09:29:17.6±0.7, 36°.91N±0°.04×34°.62E±0°.06, h8km±7km, Error ellipse: s-maj=9.8km s-min=5.1km az=37.3*

ISC 17 09:29:17.2±1.1, 36°.94N±0°.04×34°.63E±0°.04, h9km±9km, n15, σ0s32/21, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MERS	**Mersin**	**0.12**	**231**	*e*PG	**Pg**	**09 29 19.9**	**-0.1**
MERS	**Mersin**	**0.12**	**231**	*e*Pg	**Pg**	**09 29 19.9**	**-0.1**
DED	**Mersin**	**0.13**	**81**	*i* P	**Pg**	**09 29 20.6**	**+0.3**
GULE	**Gulek**	**0.36**	**18**	*i* P	**Pg**	**09 29 24.2**	**-0.2**
GULE				*i* S	**Sb**	**09 29 31.9**	**+0.2**
GULE	**Gulek**	**0.36**	**18**	P	**Pg**	**09 29 24.2**	**-0.2**
GULE				S	**Sb**	**09 29 31.9**	**+0.2**
KIZK	**Mersin**	**0.61**	**221**	*e*PG	**Pg**	**09 29 29.1**	**+0.2**
KIZK				*e*SG	**Sb**	**09 29 39.2**	**+0.7**
KERG	**Konya-Eregli**	**0.62**	**319**	*i* P	**Pg**	**09 29 29.5**	**+0.2**
KERG				*i* S	**Sb**	**09 29 39.8**	**+0.5**
KERG	**Konya-Eregli**	**0.62**	**319**	P	**Pg**	**09 29 29.5**	**+0.2**
KERG				S	**Sb**	**09 29 39.8**	**+0.5**
AKO	**Adana**	**0.83**	**51**	*i* P	**Pb**	**09 29 33.9**	**+0.1**
AKO				*i* S	**Sn**	**09 29 47.2**	**-0.2**
KEBE	**Keben-Mersin**	**0.89**	**237**	*e*PG	**Pb**	**09 29 34.6**	**-0.2**
KEBE	**Keben-Mersin**	**0.89**	**237**	*e*Pg	**Pb**	**09 29 34.6**	**-0.2**
IKL	**Isikli**	**1.04**	**228**	*e*PN	**Pb**	**09 29 37.2**	**-0.1**
IKL	**Isikli**	**1.04**	**228**	*e*Pn	**Pb**	**09 29 37.2**	**-0.1**
TEKE	**Tekeli-Mersin**	**1.46**	**237**	*e*PN	**Pn**	**09 29 43.4**	**-0.3**
TEKE	**Tekeli-Mersin**	**1.46**	**237**	*e*Pn	**Pn**	**09 29 43.4**	**-0.3**

ISCJB ***17*** *09:34:34.5±0.9, 37°.35N±0°.05×28°.24E±0°.04, h0km, Error ellipse: s-maj=7.8km s-min=4.5km az=18.4*
CSEM ***17*** *09:34:34.9±0.4, 37°.31N×28°.22E, h2km, MD2.5, Error ellipse: s-maj=9.9km s-min=5.4km az=24.0*
ISK ***17*** *09:34:34.1, 37°.29N×28°.19E, h24km, MD2.5*
DDA ***17*** *09:34:36.1, 37°.23N×28°.18E, h7km, Md2.6, Suspected Mining explosion.*

ISC 17 09:34:35.2±0.9, 37°.25N±0°.04×28°.21E±0°.03, h0km, n22, σ1s19/32, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MLSB	**Milas**	**0.35**	**278**	*e*PG	**Pg**	**09 34 41.8**	**0.0**
MLSB				*e*SG	**Sg**	**09 34 47.7**	**+1.4**
MLSB	**Milas**	**0.35**	**278**	*e*Pg	**Pg**	**09 34 41.8**	**0.0**
MLSB				*e*Sg	**Sg**	**09 34 47.7**	**+1.4**
TURN	**Turunc**	**0.49**	**140**	*i* P	**Pg**	**09 34 44.3**	**-0.3**
TURN	**Turunc**	**0.49**	**140**	P	**Pg**	**09 34 44.3**	**-0.3**
DALY	**Dalyan (Mu˘la**	**0.56**	**140**	*e*PG	**Pb**	**09 34 46.7**	**-1.1**
DALY				*e*SG	**Sb**	**09 34 55.7**	**-0.7**
DALY	**Dalyan (Mu˘la**	**0.56**	**140**	*i* P	**Pg**	**09 34 44.8**	**-1.1**
DALY	**Dalyan (Mu˘la**	**0.56**	**140**	P	**Pg**	**09 34 44.8**	**-1.1**
DALY	**Dalyan (Mu˘la**	**0.56**	**140**	*e*Pg	**Pb**	**09 34 46.7**	**-1.1**
DALY				*e*Sg	**Sb**	**09 34 55.7**	**-0.7**
BDRM	**Kayabasi**	**0.64**	**253**	*i* P	**Pg**	**09 34 47.5**	**+0.1**
BDRM				*i* S	**Sb**	**09 34 57.4**	**-1.3**
BDRM	**Kayabasi**	**0.64**	**253**	P	**Pg**	**09 34 47.5**	**+0.1**
BDRM				S	**Sb**	**09 34 57.4**	**-1.3**
DAT	**Datca**	**0.72**	**224**	*e*PG	**Pg**	**09 34 48.8**	**-0.3**
DAT	**Datca**	**0.72**	**224**	*i* P	**Pb**	**09 34 50.5**	**-0.2**
DAT				*i* S	**Sn**	**09 35 02.8**	**-1.8**
DAT	**Datca**	**0.72**	**224**	*e*Pg	**Pg**	**09 34 48.8**	**-0.3**
DAT	**Datca**	**0.72**	**224**	P	**Pb**	**09 34 50.5**	**-0.2**
DAT				S	**Sn**	**09 35 02.8**	**-1.8**
AYDB	**Zeytinkoy-Aydi**	**0.74**	**340**	*e*PG	**Pg**	**09 34 48.3**	**-1.0**
AYDB	**Zeytinkoy-Aydi**	**0.74**	**340**	*e*Pg	**Pg**	**09 34 48.3**	**-1.0**
BODT	**Bodrum**	**0.74**	**256**	*e*PG	**Pg**	**09 34 49.3**	**-0.1**
BODT	**Bodrum**	**0.74**	**256**	*e*Pg	**Pg**	**09 34 49.3**	**-0.1**
GCAM	**G?zelcaml?**	**0.90**	**300**	*i* P	**Pn**	**09 34 55.7**	**+0.7**
GCAM	**G?zelcaml?**	**0.90**	**300**	P	**Pn**	**09 34 55.7**	**+0.7**
AKAS	**Kas**	**1.51**	**132**	*i* P	**Pb**	**09 35 04.1**	**-0.1**
AKAS				*i* S	**Sn**	**09 35 27.1**	**+3.0**
AKAS	**Kas**	**1.51**	**132**	P	**Pb**	**09 35 04.1**	**-0.1**
AKAS				S	**Sn**	**09 35 27.1**	**+3.0**

CSEM ***17*** *09:42:28.0±0.5, 39°.44N×29°.92E, h20km, MD2.6, Error ellipse: s-maj=12.1km s-min=3.7km az=114.0*

ISK 17 09:42:27.4, 39°.48N×29°.92E, h16km, MD2.6, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TVSB	**Tavsanli**	**0.35**	**265**	*e*PG	Pb	09 42 35.6	+0.3
TVSB				*e*SG	Sb	09 42 40.6	-0.2
TVSB	**Tavsanli**	**0.35**	**265**	*e*Pg	Pb	09 42 35.7	+0.3
TVSB				*e*Sg	Sb	09 42 40.6	-0.2
GEDZ	**Gediz**	**0.58**	**222**	*e*PG	Pg	09 42 39.0	0.0
GEDZ				*e*SG	Sb	09 42 48.3	+0.9
GEDZ	**Gediz**	**0.58**	**222**	*e*Pg	Pg	09 42 39.0	0.0
GEDZ				*e*Sg	Sb	09 42 48.3	+0.9
SIMA	**Simav-Kutahya**	**0.82**	**242**	*e*PG	Pg	09 42 43.5	+0.1
SIMA	**Simav-Kutahya**	**0.82**	**242**	*e*Pg	Pg	09 42 43.5	0.0
ADVT	**Abdulvahap**	**0.96**	**352**	*e*PG	Pn	09 42 46.3	+0.1
ADVT	**Abdulvahap**	**0.96**	**352**	*e*Pg	Pn	09 42 46.3	0.0
MDNY	**Mudanya-Bursa**	**1.19**	**319**	*e*PN	Pb	09 42 49.8	+0.2
MDNY	**Mudanya-Bursa**	**1.19**	**319**	*e*Pn	Pb	09 42 49.8	+0.2
ARMT	**Armutlu**	**1.35**	**324**	*e*PN	Pb	09 42 52.1	-0.2
ARMT	**Armutlu**	**1.35**	**324**	*e*Pn	Pb	09 42 52.2	-0.2
HRT	**Hereke**	**1.35**	**352**	*e*PN	Pb	09 42 52.5	+0.1
HRT	**Hereke**	**1.35**	**352**	*e*Pn	Pb	09 42 52.5	+0.1
SBT5	**Esenkoy-Cinarc**	**1.40**	**326**	*e*PN	Pb	09 42 52.9	-0.2
SBT5	**Esenkoy-Cinarc**	**1.40**	**326**	*e*Pn	Pb	09 42 52.9	-0.2
KCTX	**Karacabey (Bur**	**1.43**	**304**	*e*PN	Pn	09 42 52.8	+0.1
KCTX	**Karacabey (Bur**	**1.43**	**304**	*e*Pn	Pn	09 42 52.8	0.0
BALB	**Balikesir**	**1.58**	**276**	*e*PN	Pn	09 42 55.4	+0.6
BALB	**Balikesir**	**1.58**	**276**	*e*Pn	Pn	09 42 55.4	+0.6
KAVV	**Kandilli-Istan**	**1.71**	**338**	*e*PN	Pb	09 42 57.6	-0.8
KAVV	**Kandilli-Istan**	**1.71**	**338**	*e*Pn	Pb	09 42 57.7	-0.8
ISK	**Istanbul-Kandi**	**1.71**	**338**	*e*PN	Pn	09 42 57.2	+0.6
ISK	**Istanbul-Kandi**	**1.71**	**338**	*e*Pn	Pn	09 42 57.2	+0.6

DDA 17 09:43:28.6, 37°.21N×28°.16E, h7km, Md2.3, Suspected Mining explosion., Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TURN	**Turunc**	**0.48**	**133**	*i* P	Pg	09 43 37.1	-0.8
BDRM	**Kayabasi**	**0.59**	**257**	*i* S	Sb	09 43 49.0	-0.9
BDRM	**Kayabasi**	**0.59**	**257**	S	Sb	09 43 49.0	-0.8
BDRM	**Kayabasi**	**0.59**	**257**	*i* P	Pg	09 43 39.2	-0.8
DAT	**Datca**	**0.67**	**225**	*i* S	Sn	09 43 57.7	+2.4
DAT	**Datca**	**0.67**	**225**	S	Sn	09 43 57.7	+2.4
DAT	**Datca**	**0.67**	**225**	*i* P	Pb	09 43 42.7	+0.1

CASC 17 09:43:46.5±1.4, 12°.15N×87°.09W, h80km±15km, MD3.8, ML3.3,1D, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
COPN	**Copaltepe**	**0.49**	**86**	*e*P	Pn	09 44 00.4	+0.2
CNGN	**Cerro Negro**	**0.52**	**48**	*e*P	Pn	09 44 00.7	+0.1
CNGN				*e*S	Sn	09 44 12.1	+1.2
MOMN	**Momotombo**	**0.60**	**64**	*e*P	Pn	09 44 01.1	-0.1
XAVN	**Gruta Xavier**	**0.75**	**90**	*e*P	Pn	09 44 02.9	+0.2
CRUN	**El Crucero**	**0.79**	**102**	*e*P	Pn	09 44 03.4	+0.1
TISN	**Laguna Tiscapa**	**0.80**	**90**	*e*P	Pn	09 44 03.3	0.0
MGAN	**Managua**	**0.82**	**90**	*e*P	Pn	09 44 03.4	-0.2
MGAN				*e*S	Sn	09 44 17.2	+1.0
MGAN				AML	AML	09 44 17.9	
	comp=E,648nm,0.5s						
MASN	**Masaya**	**0.93**	**100**	*e*P	Pn	09 44 04.8	-0.1
CNCH	**Conchagua**	**1.33**	**327**	*e*P	Pn	09 44 09.9	+0.1
CNCH				*e*S	Sn	09 44 27.9	+0.5
CONN	**Concepcion**	**1.55**	**112**	*e*P	Pn	09 44 11.9	-0.5
LCY	**Lacayo**	**1.73**	**317**	*e*P	Pn	09 44 15.1	+0.2
LCY				*e*S	Sn	09 44 37.2	+0.8
PACA	**Pacayal**	**1.78**	**318**	*e*P	Pn	09 44 16.5	+0.8
PACA				*e*S	Sn	09 44 38.1	+0.3
TGUH	**Tegucigalpa,Un**	**1.91**	**355**	*e*P	Pn	09 44 17.1	0.0
GPS3	**Bodega del ICE**	**2.19**	**129**	*e*P	Pn	09 44 21.0	0.0
CUI	**Cuipilapa**	**2.40**	**128**	⇓*e*P	Pn	09 44 24.0	+0.2
LFRS	**El Faro**	**2.42**	**308**	*e*P	Pn	09 44 24.4	+0.2
LFRS				*e*S	Sn	09 44 52.6	-0.3
VCR	**Vista de Mar**	**2.47**	**144**	*e*P	Pn	09 44 25.4	+0.6
LBRS	**Las Brisas**	**2.47**	**310**	*e*P	Pn	09 44 25.6	+0.7
LBRS				*e*S	Sn	09 44 54.1	-0.1
LFU	**La Fuente**	**2.53**	**309**	*e*P	Pn	09 44 26.6	+1.0
LFU				*e*S	Sn	09 44 56.5	+0.8
BOQS	**Boqueron**	**2.65**	**307**	*e*P	Pn	09 44 28.4	+1.0
SBLS	**San Blas**	**2.99**	**305**	*e*P	Pn	09 44 32.7	+0.8
RBDL	**Robledal**	**3.19**	**308**	*e*P	Pn	09 44 35.7	+1.0
CGA2	**Cerro Gallo 2**	**3.34**	**129**	*e*P	Pn	09 44 37.5	+0.9
CGA2				*e*S	Sn	09 45 15.8	+0.5
LCR2	**La Lucha 2**	**3.86**	**128**	*e*P	Pn	09 44 44.1	+0.3
LCR2				*e*S	Sn	09 45 29.0	+0.9
QCR1	**Quepos**	**3.95**	**133**	*e*P	Pn	09 44 45.9	+1.2
URSC	**Urasca**	**3.98**	**125**	*e*P	Pn	09 44 46.1	+0.7
TBS2		**5.49**	**127**	*e*P	Pn	09 45 07.1	+1.2

SOME 17 09:44:30.9, 42°.20N×80°.97E, h10km, Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SHLS	**Shalkode**	**1.47**	**311**	*e*P	Pn	09 44 54.3	-3.2
	3.0nm,0.3s						
SHLS				*e*S	Sn	09 45 11.0	-5.8
	8.7nm,0.4s						
UZB	**Uzynbulak**	**1.72**	**304**	*e*P	Pb	09 45 02.8	+0.1
	0.6nm,0.2s						
UZB				*e*S	Sg	09 45 25.3	-0.8
	2.2nm,0.2s						
DJR	**Jarkent**	**2.30**	**338**	*e*P	Pb	09 45 12.9	+0.4
	1.4nm,0.1s						
DJR				*e*S	Sg	09 45 43.4	-1.3
	2.3nm,0.2s						
MNBS	**Baschi**	**2.66**	**316**	*e*P	Pb	09 45 17.2	-1.4
	2.8nm,0.2s						
MNBS				*e*S	Sb	09 45 51.2	-0.1
	12nm,0.2s						
MDOK	**Medeo**	**3.05**	**290**	*e*P	Pb	09 45 26.1	+0.9
	1.1nm,0.3s						
MDOK				*e*S	Sg	09 46 06.1	-2.6
	4.0nm,0.5s						
ARXS	**Arharly**	**3.05**	**312**	*e*P	Pb	09 45 27.2	+1.8
	1.4nm,0.3s						
ARXS				*e*S	Sg	09 46 07.2	-1.8
	6.1nm,0.2s						
KAPS	**Kapalarasan**	**3.30**	**340**	*e*P	Pb	09 45 30.9	+1.3
	0.8nm,0.2s						

IDC 17 09:47:41.2±1.1, 14°.22S×66°.40E, h0km, mb3.8/6, mb1 4.0/6, mb1mx3.6/41, mbtmp3.8/6, MS3.7/3, Ms1 3.8/3, ms1mx3.3/40, Error ellipse: s-maj=55.6km s-min=24.0km az=24.0, Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
H08S1	**Diego Carcia H**	**8.84**	**43**	T	T	09 58 59.5	
	baz=222,slow=76,SNR=1343						
H08S2	**Diego Garcia H**	**8.86**	**43**	T	T	09 59 00.5	
	baz=222,slow=76,SNR=1419						
H08S3	**Diego Garcia H**	**8.86**	**43**	T	T	09 58 58.3	
	baz=222,slow=76,SNR=899						
H08N3	**Diego Garcia H**	**9.03**	**30**	T	T	09 59 37.1	
	baz=209,slow=76,SNR=1034						
H08N1	**Diego Garcia H**	**9.05**	**31**	T	T	09 59 38.5	
	baz=209,slow=76,SNR=1336						
H08N2	**Diego Garcia H**	**9.05**	**30**	T	T	09 59 43.2	
	baz=209,slow=76,SNR=1951						
PALK	**Pallekele**	**25.64**	**34**	LR	LR	10 01 13.8	
	comp=Z,293nm,18.8s,baz=296,slow=32						
CMAR	**Chiang Mai Arr**	**45.64**	**46**	LR	LR	10 12 32.5	
	comp=Z,61nm,21.7s,baz=250,slow=33						
H01W3	**Cape Leeuwin H**	**47.53**	**124**	T	T	10 47 01.6	
	baz=283,slow=75,SNR=179						
H01W2	**Cape Leeuwin H**	**47.54**	**124**	T	T	10 47 01.4	
	baz=283,slow=75,SNR=291						
H01W1	**Cape Leeuwin H**	**47.55**	**124**	T	T	10 47 02.9	
	baz=283,slow=75,SNR=221						
TGY	**Tagaytay City**	**60.87**	**65**	LR	LR	10 20 24.8	
	comp=Z,67nm,20.0s,baz=58,slow=32						
ASAR	**Alice Springs**	**64.05**	**110**	P	P	09 58 17.4	0.0
	0.8nm,0.9s,baz=276,slow=6.2,SNR=8.9						
WRA	**Warramunga Arr**	**64.82**	**106**	P	P	09 58 22.7	+0.1
	1.4nm,0.9s,baz=266,slow=5.7,SNR=8.7						
TORD	**Tarodi Ar. Bea**	**69.61**	**290**	P	P	09 58 52.9	0.0
	0.1nm,0.3s,baz=101,slow=2.9,SNR=2.8						
ZALV	**Zalesovo Beam**	**69.70**	**11**	P	P	09 58 52.9	+0.3
	0.7nm,0.4s,baz=212,slow=5.3,SNR=4.7						
MJAR	**Matsushiro Arr**	**84.31**	**50**	P	P	10 00 15.2	-0.2
	0.8nm,0.8s,baz=205,slow=5.4,SNR=2.9						
ESDC	**Sonseca Array**	**84.47**	**313**	P	P	10 00 16.2	0.0
	0.7nm,0.7s,baz=90,slow=5.1,SNR=3.9						
PDAR	**Pinedale Array**	**151.34**	**354**	PKPbc	PKPbc	10 07 37.2	-0.

ISK 17 10:09:06.9, 38°.24N×28°.61E, h8km, MD2.6
CSEM 17 10:09:07.2±0.3, 38°.23N×28°.65E, h8km, MD2.6, Error ellipse: s-maj=9.4km s-min=3.5km az=118.0
ISC 17 10:09:06.9±1.2, 38°.24N±0°.03×28°.65E±0°.06, h6km±11km, n21, σ1§16/31, Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MANT	**Manisa**	**0.26**	**343**	*i* P	Pg	10 09 05.7	-6.4
MANT				*i* S	**Sg**	**10 09 10.6**	**-5.1**
KULA	**Kula-Manisa**	**0.28**	**1**	*e*PG	**Pg**	**10 09 12.9**	**+0.6**
KULA				*e*SG	**Sg**	**10 09 17.2**	**+1.2**
KULA	**Kula-Manisa**	**0.28**	**1**	*e*Pg	**Pg**	**10 09 12.9**	**+0.6**
KULA				*e*Sg	**Sg**	**10 09 17.2**	**+1.2**
AYDB	**Zeytinkoy-Aydi**	**0.67**	**245**	*e*PG	**Pg**	**10 09 19.7**	**0.0**
AYDB				*e*SG	**Sg**	**10 09 29.2**	**+0.7**
AYDB	**Zeytinkoy-Aydi**	**0.67**	**245**	*e*Pg	**Pg**	**10 09 19.7**	**0.0**
AYDB				*e*Sg	**Sg**	**10 09 29.2**	**+0.7**
DEMI	**Demirci**	**0.81**	**3**	*i* P	**Pg**	**10 09 22.8**	**+0.4**
DEMI				*i* S	**Sg**	**10 09 33.3**	**+0.4**
DEMI	**Demirci**	**0.81**	**3**	P	**Pg**	**10 09 22.8**	**+0.4**
DEMI				S	**Sg**	**10 09 33.3**	**+0.4**
SIMA	**Simav-Kutahya**	**0.88**	**17**	*e*PG	**Pb**	**10 09 24.7**	**0.0**
SIMA	**Simav-Kutahya**	**0.88**	**17**	*e*Pg	**Pb**	**10 09 24.7**	**0.0**
MLSB	**Milas**	**1.17**	**217**	*e*PN	**Pg**	**10 09 28.8**	**-0.5**
MLSB	**Milas**	**1.17**	**217**	*e*Pn	**Pg**	**10 09 28.8**	**-0.5**
GCAM	**G?zelcaml?**	**1.24**	**245**	*i* P	**Pg**	**10 09 31.2**	**+0.5**
GCAM				*i* S	**Sn**	**10 09 48.3**	**+0.4**
GCAM	**G?zelcaml?**	**1.24**	**245**	P	**Pg**	**10 09 31.2**	**+0.5**
GCAM				S	**Sn**	**10 09 48.3**	**+0.4**
TVSB	**Tavsanli**	**1.36**	**27**	*e*PN	**Pb**	**10 09 33.0**	**+0.1**
TVSB	**Tavsanli**	**1.36**	**27**	*e*Pn	**Pb**	**10 09 33.0**	**+0.1**
GMLD	**Gumuldur**	**1.38**	**264**	*e*PN	**Pn**	**10 09 32.1**	**-0.5**
GMLD	**Gumuldur**	**1.38**	**264**	*e*Pn	**Pn**	**10 09 32.2**	**-0.5**
DALY	**Dalyan (Mu˘la**	**1.42**	**180**	*e*PN	**Pg**	**10 09 33.8**	**-0.2**
DALY	**Dalyan (Mu˘la**	**1.42**	**180**	*e*Pn	**Pg**	**10 09 33.8**	**-0.2**
BDRM	**Kayabasi**	**1.51**	**220**	*i* P	**Pn**	**10 09 33.9**	**-0.6**
BDRM				*i* S	**Sg**	**10 09 56.6**	**+1.1**
BDRM	**Kayabasi**	**1.51**	**220**	P	**Pn**	**10 09 33.9**	**-0.6**
BDRM				S	**Sg**	**10 09 56.6**	**+1.1**

IDC 17 10:10:24.1±6.1, 55°.39N×84°.89E, h0km, Error ellipse: s-maj=39.7km s-min=22.9km az=2.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**1.44**	**182**	*i*		10 20 20.0	
	baz=5.3,slow=315,SNR=20						
ZALV	**Zalesovo Beam**	**1.44**	**182**	Pg	Pn	10 10 50.8	-0.6
	0.9nm,0.3s,baz=0.7,slow=17,SNR=5.2						
ZALV				Lg	Lg	10 11 09.9	
	0.9nm,0.3s,baz=357,slow=30,SNR=5.4						
I34MN	**SONGINO INFRAS**	**15.33**	**111**	*i*		11 39 20.0	
	baz=306,slow=324,SNR=0.2						

MAN 17 10:23:07, 7°.33N×123°.70E, h6km, mb4.3, ML3.1, MS2.9, 1C-1D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CTBH	**Cotabato--PC H**	**0.55**	**101**	⇓*i* P	Pg	10 23 18.1	+0.4
CTBH				*i* S	Sb	10 23 26.7	-0.7
PAGZ	**Pagadian**	**0.60**	**329**	*e*P	Pg	10 23 18.9	+0.3
PAGZ				*e*S	Sb	10 23 28.6	-0.1
CGP	**Cagayan de Oro**	**1.49**	**41**	⇑*e*P	Pn	10 23 34.0	-0.3
CGP				*i* S	Sb	10 23 54.6	+0.3

MEX 17 10:42:00.0±0.8, 18°.11N×103°.58W, h15km±9km, MD3.8, Near coast of Michoacan

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MMIG	**Aquila**	**0.29**	**50**	*e*P	Pg	10 42 05.6	-0.5
MMIG				*e*S	Sg	10 42 09.3	-0.9
R15V		**1.13**	**340**	*e*P	Pb	10 42 17.0	-4.2
R15V				*e*S	Sb	10 42 30.7	-5.0
EZ5V		**1.37**	**359**	*e*P	Pn	10 42 21.7	-3.1
EZ5V				*i* S	Sn	10 42 38.4	-4.4
ARIG	**Puente Sto Nin**	**3.08**	**86**	*i* P	Pn	10 42 45.2	-2.9
ARIG				*i* S	Sn	10 43 20.6	-4.1

ECX 17 10:57:10.0±0.5, 32°.17N×115°.28W, h8km, MD2.3, ML2.6
MEX 17 10:57:10.7±0.5, 32°.24N×115°.15W, h16km±7km, MD3.9
ISC 17 10:57:07.8±1.1, 32°.19N±0°.03×115°.21W±0°.05, h27km±9km, n19, σ0§55/29, 3C-5D, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MBIG	**Mexicali**	**0.21**	**4**	*e*P	**Pn**	**10 57 14.7**	**-0.6**
MBIG				*i* S	**Sb**	**10 57 17.1**	**-0.9**
CPBX	**Cerro Prieto**	**0.24**	**341**	*e*P	**Pn**	**10 57 14.6**	**-1.0**
CPBX				*e*S	**Sb**	**10 57 18.6**	**+0.1**
CPBX				⇓*e*		10 57 21.4	
CPBX				IAML		10 57 21.4	
	comp=E,4μm,0.3s						
EMSC	**East Mesa**	**0.58**	**20**	*e*P	**Pn**	**10 57 20.6**	**+0.3**
SGL	**Mount Signal**	**0.63**	**317**	⇓*i* P	**Pn**	**10 57 20.9**	**0.0**
DREC	**Desert Rsrch C**	**0.64**	**342**	*e*P	**Pn**	**10 57 21.5**	**+0.4**
WESC	**Westside Schoo**	**0.71**	**322**	*e*P	**Pb**	**10 57 22.6**	**+0.9**
ECBX	**El Chinero**	**0.73**	**169**	*e*P	**Pn**	**10 57 22.9**	**+0.5**
ECBX				*e*S	**Sn**	**10 57 32.3**	**-0.4**
YUH	**Yuha Desert**	**0.75**	**307**	⇑*i* P	**Pb**	**10 57 22.8**	**+0.5**
COK	**Cook Ranch**	**0.78**	**327**	⇑*i* P	**Pb**	**10 57 23.7**	**+0.8**
RMX	**La Rumorosa**	**0.84**	**299**	⇓*e* P	**Pb**	**10 57 24.1**	**+0.2**
RMX				*e*S	**Sn**	**10 57 34.5**	**-1.0**
RMX				IAML		10 57 36.4	
	comp=N,194nm,0.1s						
RMX				⇑*e*		10 57 36.4	
IKP	**In-Ko-Pah, Jac**	**0.88**	**301**	*e*P	**Pb**	**10 57 25.2**	**+0.6**
IKP				*e*S	**Sb**	**10 57 36.6**	**+0.5**
ZAX	**El Zacaton**	**1.13**	**233**	*e*P	**Pb**	**10 57 28.6**	**-0.1**
ZAX				*e*S	**Sb**	**10 57 43.3**	**+0.2**
SPIG	**San Pedro Mart**	**1.17**	**191**	*e*P	**Pb**	**10 57 29.7**	**+0.2**
SPIG	**San Pedro Mart**	**1.17**	**191**	*e*P	**Pb**	**10 57 29.9**	**+0.4**
SPIG				*e*S	**Sb**	**10 57 44.7**	**+0.3**
SPX	**San Pedro Mart**	**1.17**	**191**	⇓*e*P	**Pb**	**10 57 29.0**	**-0.6**
SPX				IAML		10 57 47.9	
	comp=N,54nm,0.3s						
SPX				*e*		10 57 47.9	
CBX	**Cerro Bola**	**1.23**	**276**	*e*P	**Pb**	**10 57 30.5**	**-0.1**
CBX				*e*S	**Sb**	**10 57 46.7**	**+0.5**
CBX				⇓*e*		10 57 48.2	
CBX				IAML		10 57 48.2	
	comp=N,164nm,0.6s						
CBX	**Cerro Bola**	**1.23**	**276**	*e*P	**Pb**	**10 57 30.6**	**-0.1**
CBX				*e*S	**Sb**	**10 57 46.5**	**+0.4**
TJIG	**Tijuana**	**1.26**	**281**	*e*P	**Pb**	**10 57 30.7**	**-0.3**
TJIG	**Tijuana**	**1.26**	**281**	*e*P	**Pb**	**10 57 30.6**	**-0.3**
TJIG				*e*S	**Sn**	**10 57 45.8**	**0.0**

NIED 17 11:16:00, 40°.30N×143°.10E, h26km, Mw4.1 Best double couple: M0 1.87000×10^15 NP1:φ§174.00000°, δ§29.00000°, λ48.00000°. NP2:φ§40.00000°, δ§69.00000°, λ110.00000°.
IDC 17 11:16:09.7±0.7, 40°.28N×143°.12E, h0km, mb4.0/14, mb1 4.2/18, mb1mx4.0/34, mbtmp4.1/18, ML3.9/2, MS3.4/12, Ms1 3.4/12, ms1mx3.1/40, Error ellipse: s-maj=21.4km s-min=15.2km az=105.0
JMA 17 11:16:12.2±0.2, 40°.26N×143°.05E, h17km±2km, M4.2
ISCJB 17 11:16:13.0±0.7, 40°.21N±0°.04×143°.14E±0°.06, h34km±5km, mb4.3/24, MS3.6/12, Error ellipse: s-maj=8.2km s-min=4.8km az=33.6
MOS 17 11:16:13.0±1.0, 40°.24N×143°.14E, h33km, mb4.6/16, Error ellipse: s-maj=14.7km s-min=8.1km az=85.7
NEIC 17 11:16:15.2±0.9, 40°.32N×143°.10E, h37km±8km, mb4.6/4, Error ellipse: s-maj=14.3km s-min=6.9km az=113.0
ISC 17 11:16:11.8±1.6, 40°.20N±0°.05×143°.15E±0°.05, h18km±11km, n69, σ1§68/68, mb4.3/24, MS3.6/12, 3C-5D, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JTH	**Tanohata**	**1.02**	**255**	P	**Pb**	**11 16 30.3**	**-0.6**
JTH				*e*S	**Sb**	**11 16 42.8**	**-1.2**
MIYJ	**Miyakonagasawa**	**1.20**	**239**	P	**Pn**	**11 16 33.3**	**-0.4**
MIYJ				*e*S	**Sb**	**11 16 48.1**	**-1.0**
JANG	**Nango**	**1.26**	**278**	P	**Pn**	**11 16 33.7**	**-0.8**
JKZ	**Kuzumaki**	**1.41**	**262**	P	**Pn**	**11 16 36.1**	**-0.6**
JOM	**Ohasama**	**1.60**	**244**	P	**Pn**	**11 16 39.7**	**+0.4**
JTM	**Tenmabayashi**	**1.69**	**291**	P	**Pn**	**11 16 40.4**	**0.0**
JTM				*e*S	**Sn**	**11 17 01.3**	**-0.3**
ERM	**Erimo**	**1.81**	**0**	*de*P	**Pn**	**11 16 43.1**	**+1.0**
ERM	**Erimo**	**1.81**	**0**	*e*Pn	**Pn**	**11 16 41.8**	**-0.3**
ERM				*e*Sn	**Sb**	**11 17 05.9**	**-0.8**
JEM	**Erimo**	**1.81**	**0**	P	**Pn**	**11 16 42.3**	**+0.2**
JEM				*e*S	**Sn**	**11 17 03.8**	**-0.8**
JAH	**Hinai**	**1.92**	**270**	P	**Pn**	**11 16 44.3**	**+0.7**
JAH				*e*S	**Sn**	**11 17 07.7**	**+0.3**
JMK	**Ichinoseki**	**1.94**	**231**	P	**Pb**	**11 16 45.6**	**-1.1**
JOT	**Ohata**	**1.98**	**307**	P	**Pn**	**11 16 44.6**	**+0.2**
JOT				*e*S	**Sn**	**11 17 08.0**	**-0.8**
JNBK	**Urakawa-nobuka**	**2.10**	**352**	P	**Pn**	**11 16 46.3**	**+0.3**
JRG	**Rokugo**	**2.10**	**248**	P	**Pn**	**11 16 47.4**	**+1.4**
ASAJ	**Asahikawa**	**3.93**	**354**	*e*Pn	**Pn**	**11 17 12.2**	**+0.9**
YUK	**Yuzh-Kuril'sk**	**4.33**	**27**	*i* P	**Pn**	**11 17 17.9**	**+1.2**
MAJO	**Matsushiro**	**5.33**	**228**	*e*P	**Pn**	**11 17 33.2**	**+2.7**
MAJO				pmax	pmax		
	comp=Z,29nm,0.7s						
MAJO	**Matsushiro**	**5.33**	**228**	*e*Pn	**Pn**	**11 17 33.2**	**+2.7**
	comp=Z,29nm,0.7s						
MJAR	**Matsushiro Arr**	**5.33**	**228**	Pn	**Pn**	**11 17 33.1**	**+2.6**
	comp=Z,1.8nm,0.3s,baz=325,slow=13,SNR=33						
MJAR				LR	LR	11 19 48.1	
	comp=Z,186nm,19.7s,baz=40,slow=41						
KUR	**Kuril'sk**	**6.11**	**33**	P	**Pn**	**11 17 41.7**	**+0.5**
KUR				*e*S	**Sn**	**11 18 46.4**	**-4.2**
KUR				pmax	pmax		
	comp=E,14nm,0.3s						
KUR				pmax	pmax		
	comp=Z,27nm,0.3s						
KUR				smax	smax		
	comp=N,80nm,0.4s						
KUR				smax	smax		
	comp=E,73nm,0.4s						
YSS	**Yuzh-Sakhalins**	**6.75**	**358**	*e*P	Pb	11 18 02.9	-5.7
YSS				MLR	MLR		
	comp=Z,200nm,18.0s						
JHJ	**Hachijo jima 2**	**7.57**	**202**	Pn	**Pn**	**11 18 03.0**	**+1.7**
	comp=Z,12nm,0.3s,baz=298,slow=20,SNR=6.3						
JHJ				Sn	**Sn**	**11 19 20.8**	**-5.8**
	comp=Z,6.8nm,0.3s,baz=74,slow=19,SNR=3.7						
USRK	**Ussuriysk Ar.**	**9.19**	**299**	Pn	**Pn**	**11 18 24.6**	**+1.1**
	comp=Z,0.2nm,0.3s,baz=89,slow=15,SNR=3.9						
USRK				LR	LR	11 21 49.0	
	comp=Z,251nm,19.5s,baz=82,slow=37						
KSRS	**Korea Array**	**12.19**	**262**	LR	LR	11 23 28.8	
	comp=Z,136nm,19.0s,baz=74,slow=36						
MA2	**Magadan**	**19.98**	**11**	P	**P**	**11 20 41.8**	**-1.2**
	comp=Z,0.7nm,0.3s,baz=195,slow=16,SNR=9.2						
BJT	**Baijiatuan**	**20.61**	**278**	*e*P	**P**	**11 20 46.1**	**-3.9**
BJT				pmax	pmax		
	comp=Z,11nm,0.9s						
BJT	**Baijiatuan**	**20.61**	**278**	*e*P	**P**	**11 20 46.1**	**-3.9**
	comp=Z,11nm,0.9s						
SEY	**Seymchan**	**23.43**	**11**	P	**P**	**11 21 18.3**	**-1.3**
	comp=Z,6.8nm,0.8s,baz=188,slow=11,SNR=14						
SEY	**Seymchan**	**23.43**	**11**	P	**P**	**11 21 18.3**	**-1.3**
SEY				pmax	pmax		
	comp=Z,6.0nm,0.7s						
BOD	**Bodaibo**	**25.69**	**323**	*e*P	**P**	**11 21 40.5**	**-0.1**
BOD				pmax	pmax		
	comp=Z,9.0nm,0.9s						
SONM	**Songino Array**	**27.30**	**298**	P	**P**	**11 21 55.2**	**-0.2**
	comp=Z,2.4nm,0.5s,baz=96,slow=8.8,SNR=8.7						
SONM				LR	LR	11 33 15.8	
	comp=Z,121nm,19.0s,baz=78,slow=38						
SONM	**Songino Array**	**27.30**	**298**	P	**P**	**11 21 55.2**	**-0.2**
SONM				pmax	pmax		
	comp=Z,3.0nm,0.7s						
SONM				MLR	MLR		
	comp=Z,121nm,19.0s						
H11N2	**WAKE ISLAND Hy**	**28.82**	**128**	T	T	11 53 05.7	
	baz=318,slow=75,SNR=102						
H11N1	**WAKE ISLAND Hy**	**28.83**	**128**	T	T	11 53 06.5	
	baz=318,slow=75,SNR=85						
H11N3	**WAKE ISLAND Hy**	**28.84**	**128**	T	T	11 53 07.1	
	baz=318,slow=75,SNR=126						
H11S1	**WAKE ISLAND Hy**	**29.65**	**130**	T	T	11 53 32.1	
	baz=322,slow=76,SNR=25						
H11S3	**WAKE ISLAND Hy**	**29.65**	**130**	T	T	11 54 01.8	
	baz=322,slow=76,SNR=18						
H11S2	**WAKE ISLAND Hy**	**29.66**	**130**	T	T	11 53 33.3	
	baz=322,slow=76,SNR=19						
BILL	**Bilibino**	**30.61**	**17**	*e*P	**P**	**11 22 26.5**	**+2.1**
BILL				pmax	pmax		
	comp=Z,5.0nm,1.0s						
ZALV	**Zalesovo Beam**	**40.86**	**310**	P	**P**	**11 23 52.5**	**+0.2**
	comp=Z,2.2nm,0.5s,baz=90,slow=7.9,SNR=9.0						
NRIK	**Noril'sk**	**41.00**	**333**	LR	LR	11 41 55.7	
	comp=Z,67nm,18.5s,baz=151,slow=38						
KURK	**Kurchatov**	**45.11**	**306**	*c i*P	**P**	**11 24 26.6**	**-0.2**
KURK				pmax	pmax		
	comp=Z,23nm,0.6s						
KURK	**Kurchatov**	**45.11**	**306**	*e*P	**P**	**11 24 26.6**	**-0.2**
	comp=Z,52nm,0.6s						
ILAR	**Eielson Array**	**46.10**	**34**	P	**P**	**11 24 35.4**	**+0.9**
	comp=Z,1.3nm,0.7s,baz=265,slow=6.4,SNR=18						
BRVK	**Borovoye**	**49.55**	**311**	⇑*e*P	**P**	**11 25 01.6**	**+0.3**
BRVK				pmax	pmax		
	comp=Z,8.0nm,0.8s						
INK	**Inuvik**	**50.95**	**28**	P	**P**	**11 25 13.1**	**+1.3**
	comp=Z,1.4nm,0.5s,baz=296,slow=9.1,SNR=7.5						
SVE	**Sverdlovsk**	**53.70**	**317**	*e*P	**P**	**11 25 33.2**	**+0.9**
ARU	**Arti**	**54.92**	**317**	*c i*P	**P**	**11 25 41.4**	**+0.2**
ARU						11 27 40.6	
ARU				S	**S**	**11 33 20.9**	**-0.8**
ARU				SS	**SS**	**11 36 59.3**	**-5.3**
ARU				pmax	pmax		
	comp=Z,9.0nm,1.2s						
ARU				MLR	MLR		
	comp=Z,135nm,17.0s						
ARU	**Arti**	**54.92**	**317**	*e*P	**P**	**11 25 40.5**	**-0.7**
	comp=Z,7.0nm,1.1s						
ABKAR	**Akbulak array**	**56.97**	**309**	*e*P	**P**	**11 25 56.0**	**+0.1**
	comp=Z,3.7nm,0.6s						
WRA	**Warramunga Arr**	**60.40**	**190**	P	**P**	**11 26 20.4**	**+0.4**
	comp=Z,0.5nm,0.5s,baz=7.5,slow=6.8,SNR=13						
ARCES	**ARCESS Array B**	**61.52**	**339**	LR	LR	11 55 28.9	
	comp=Z,16nm,19.5s,baz=264,slow=38						
GEYT	**Alibeck**	**63.51**	**298**	P	**P**	**11 26 41.4**	**+0.4**
	comp=Z,1.3nm,0.5s,baz=31,slow=6.7,SNR=3.8						
GEYT				LR	LR	11 54 10.7	
	comp=Z,21nm,20.3s,baz=20,slow=36						
ASAR	**Alice Springs**	**64.12**	**189**	P	**P**	**11 26 45.9**	**+0.9**
	comp=Z,0.2nm,0.4s,baz=1.4,slow=6.3,SNR=6.4						
OBN	**Obninsk**	**66.38**	**323**	⇓*e*P	**P**	**11 27 01.3**	**+2.0**
OBN				pmax	pmax		
	comp=Z,8.0nm,0.4s						
OBN				MLR	MLR		
	comp=Z,59nm,17.0s						
FINES	**FINESS Array B**	**66.65**	**332**	P	**P**	**11 27 01.1**	**+0.2**
	comp=Z,3.2nm,0.7s,baz=54,slow=9.7,SNR=10						
FINES				LR	LR	11 58 13.3	
	comp=Z,67nm,18.3s,baz=35,slow=38						
KIV	**Kislovodsk**	**69.86**	**311**	*d i*P	**P**	**11 27 23.1**	**+1.6**
KIV				pmax	pmax		
	comp=Z,9.0nm,1.0s						
KIV				MLR	MLR		
	comp=Z,48nm,19.0s						
KBZ	**Khabaz**	**69.87**	**311**	P	**P**	**11 27 22.8**	**+1.3**
	comp=Z,2.8nm,0.7s,baz=353,slow=8.9,SNR=7.5						
NEY	**Neytrino**	**70.26**	**310**	⇓*e*P	**P**	**11 27 26.6**	**+2.5**
NB2	**NORSAR Subarra**	**71.78**	**338**	P	**P**	**11 27 32.9**	**+0.1**
	comp=Z,0.9nm,0.7s,baz=38,slow=6.2						
NOA	**NORSAR Array B**	**71.78**	**338**	P	**P**	**11 27 32.3**	**-0.5**
	comp=Z,2.0nm,0.8s,baz=37,slow=6.0,SNR=6.0						
NOA				LR	LR	12 02 57.2	
	comp=Z,16nm,18.1s,baz=300,slow=39						
AKASG	**Malin Array Be**	**72.62**	**322**	P	**P**	**11 27 37.8**	**-0.2**
	comp=Z,0.3nm,0.3s,baz=40,slow=4.5,SNR=7.7						
KIEV	**Kiev**	**72.63**	**322**	⇓*e*P	**P**	**11 27 38.4**	**+0.4**
KIEV				pmax	pmax		
	comp=Z,6.0nm,1.0s						
BRTR	**Keskin Array B**	**77.76**	**312**	LR	LR	12 07 12.6	
	comp=Z,16nm,19.1s,baz=327,slow=39						
CLL	**Collm**	**79.01**	**331**	*e*P	**P**	**11 28 15.0**	**+0.6**
CLL				pmax	pmax		
	comp=Z,6.0nm,1.1s						
CLL	**Collm**	**79.01**	**331**	*e*P	**P**	**11 28 15.0**	**+0.6**
	comp=Z,6.0nm,1.1s						
GERES	**GERESS Array B**	**80.72**	**329**	P	**P**	**11 28 23.7**	**-0.2**
	comp=Z,0.3nm,0.3s,baz=48,slow=4.4,SNR=5.4						
GERES				LR	LR	12 07 15.9	
	comp=Z,36nm,18.3s,baz=232,slow=38						
TXAR	**Lajitas Array**	**87.13**	**53**	P	**P**	**11 28 58.1**	**+1.2**
	comp=Z,0.2nm,0.7s,baz=311,slow=5.9,SNR=3.0						
KEST	**Kesra**	**93.30**	**324**	LR	LR	12 15 37.2	
	comp=Z,43nm,18.1s,baz=254,slow=38						

CSEM 17 11:20:58.9±0.3, 38°.13N×35°.63E, h5km, MD2.6, Error ellipse: s-maj=7.6km s-min=5.8km az=165.0
DDA 17 11:21:00.6, 38°.00N×35°.53E, h7km, Md2.6
ISK 17 11:21:00.4, 37°.96N×35°.46E, h5km, MD2.6
ISC 17 11:21:00.6±1.1, 38°.01N±0°.03×35°.54E±0°.03, h6km±9km, n16, σ0§82/27, Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
YAHY	**KAYSERI_Yahyal**	**0.17**	**301**	*i* P	**Pg**	**11 21 04.1**	**+0.1**
YAHY				*i* S	**Sg**	**11 21 06.8**	**+0.6**
YAHY	**KAYSERI_Yahyal**	**0.17**	**301**	P	**Pg**	**11 21 04.1**	**+0.1**
YAHY				S	**Sg**	**11 21 06.8**	**+0.6**
AKO	**Adana**	**0.55**	**188**	*i* P	**Pg**	**11 21 11.0**	**-0.2**
AKO				*i* S	**Sg**	**11 21 17.9**	**-0.6**
KOZT	**Kozan**	**0.57**	**157**	*e*PG	**Pg**	**11 21 11.8**	**+0.1**
KOZT				*e*SG	**Sb**	**11 21 20.2**	**-1.3**
KOZT	**Kozan**	**0.57**	**157**	*e*Pg	**Pg**	**11 21 11.8**	**+0.1**
KOZT				*e*Sg	**Sb**	**11 21 20.2**	**-1.3**
ANDN	**Andirin**	**0.77**	**124**	*i* P	**Pg**	**11 21 15.2**	**-0.2**
ANDN				*i* S	**Sb**	**11 21 28.0**	**+0.8**
ANDN	**Andirin**	**0.77**	**124**	P	**Pg**	**11 21 15.2**	**-0.2**
SARI	**SarD1z-Kayseri**	**0.80**	**60**	*e*PG	**Pn**	**11 21 18.1**	**-0.5**
SARI				*e*SG	**Sn**	**11 21 30.6**	**-0.2**
BNN	**Bunyan**	**0.87**	**16**	*e*PG	**Pn**	**11 21 19.1**	**-0.5**
GULE	**Gulek**	**0.95**	**220**	*i* P	**Pg**	**11 21 18.3**	**-0.5**
GULE				*i* S	**Sb**	**11 21 31.4**	**-1.0**
GULE	**Gulek**	**0.95**	**220**	P	**Pg**	**11 21 18.3**	**-0.5**
GULA	**Gulagac**	**1.08**	**288**	*e*PG	**Pg**	**11 21 20.9**	**-0.5**
GULA	**Gulagac**	**1.08**	**288**	*e*Pg	**Pg**	**11 21 20.9**	**-0.5**
KAMA	**Osmaniye**	**1.22**	**132**	*i* P	**Pn**	**11 21 24.2**	**0.0**
KAMA				*i* S	**Sn**	**11 21 43.5**	**+2.5**
KERG	**Konya-Eregli**	**1.27**	**243**	*i* P	**Pn**	**11 21 25.4**	**+0.4**
KERG				*i* S	**Sn**	**11 21 43.3**	**+0.8**
KERG	**Konya-Eregli**	**1.27**	**243**	P	**Pn**	**11 21 25.5**	**+0.4**
KERG				S	**Sn**	**11 21 43.3**	**+0.8**

IDC 17 11:37:13.9±12.0, 21°.58N×143°.20E, h291km±120km, mb3.3/7, mb1 3.5/7, mb1mx3.0/45, mbtmp3.9/7, Error ellipse: s-maj=47.4km s-min=24.6km az=98.0
ISCJB 17 11:37:14.4±1.1, 21°.5N±0°.1×143°.3E±0°.5, h311km, mb3.5/7, Error ellipse: s-maj=60.5km s-min=18.0km az=6.1
ISC 17 11:37:15.9±1.1, 21°.5N±0°.2×143°.2E±0°.4, h311km, n7, σ0§84/8, mb3.3/7, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**42.12**	**192**	P	**P**	**11 44 38.7**	**+0.1**
	1.1nm,0.6s,baz=16,slow=8.9,SNR=17						
WRA				PcP	**PcP**	**11 46 26.8**	**+0.1**
	0.2nm,0.8s,baz=8.5,slow=2.8,SNR=2.6						
FITZ	**Fitzroy Crossi**	**42.98**	**205**	P	**P**	**11 44 45.2**	**-0.2**
	0.8nm,0.6s,baz=26,slow=12,SNR=6.8						
ASAR	**Alice Springs**	**45.83**	**192**	P	**P**	**11 45 07.8**	**0.0**
	0.2nm,0.5s,baz=16,slow=13,SNR=6.2						
YKA	**Yellowknife Ar**	**76.59**	**28**	P	**P**	**11 48 32.4**	**+0.2**
	0.4nm,0.6s,baz=295,slow=5.9,SNR=2.9						
ARCES	**ARCESS Array B**	**79.08**	**342**	P	**P**	**11 48 45.6**	**-0.2**
	2.1nm,0.8s,baz=72,slow=8.8,SNR=2.4						
KBZ	**Khabaz**	**82.50**	**314**	P	**P**	**11 49 05.2**	**+1.0**
	0.9nm,0.4s,baz=108,slow=3.2,SNR=2.4						
FINES	**FINESS Array B**	**83.34**	**334**	P	**P**	**11 49 06.6**	**-1.5**
	4.2nm,1.1s,baz=49,slow=3.8,SNR=7.6						

NIED 17 11:59:00, 37°.90N×143°.40E, h17km, Mw3.5 Best double couple: M0 1.74000×10^14 NP1:φ§160.00000°, δ75.00000°, λ7.00000°. NP2:φ§68.00000°, δ§83.00000°, λ164.00000°.
IDC 17 11:59:40.9±1.1, 37°.74N×143°.46E, h0km, mb3.7/6, mb1 3.9/8, mb1mx3.6/40, mbtmp3.7/8, ML3.5/2, MS3.5/1, Ms1 3.5/1, ms1mx2.2/49, Error ellipse: s-maj=29.8km s-min=21.1km az=121.0
JMA 17 11:59:41.4±0.4, 37°.88N×143°.39E, h14km, M3.7
ISCJB 17 11:59:42.3±0.7, 37°.85N±0°.04×143°.38E±0°.06, h19km, mb3.6/6, MS3.5/1, Error ellipse: s-maj=7.4km s-min=5.5km az=25.9
ISC 17 11:59:43.6±0.9, 37°.82N±0°.05×143°.42E±0°.08, h19km, n33, σ1§62/34, mb3.7/6, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res

σ2936/31, mb4.3/12, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.94**	**207**	P	**Pn**	**12 00 52.7**	**+2.3**
	21nm,0.3s,baz=1.8,slow=3.0,SNR=66						
PMG				S	**Sn**	**12 01 35.3**	**-0.1**
	35nm,0.3s,baz=14,slow=4.7,SNR=6.2						
PMG	**Port Moresby**	**3.94**	**207**	P	**Pn**	**12 00 52.7**	**+2.3**
PMG				S	**Sn**	**12 01 35.3**	**-0.1**
PMG				*e*Sn	Sn	12 01 37.5	+2.1
GUMO	**Guam**	**19.77**	**348**	LR	LR	12 11 10.0	
	comp=Z,33nm,18.4s,baz=153,slow=34						
WRAB	**Tennant Creek**	**19.94**	**224**	*e*P	**P**	**12 04 19.8**	**+0.2**
	27nm,0.6s						
WRAB				*e*S	**S**	**12 07 57.0**	**-3.8**
WRA	**Warramunga Arr**	**19.95**	**224**	P	**P**	**12 04 20.1**	**+0.3**
	2.3nm,0.3s,baz=49,slow=11,SNR=187						
WRA				S	**S**	**12 07 53.2**	**-7.8**
	0.1nm,0.3s,baz=37,slow=22,SNR=4.0						
WRA				ScP	**ScP**	**12 12 01.7**	**-4.2**
	baz=47,slow=1.6,SNR=3.5						
ASAR	**Alice Springs**	**22.88**	**218**	P	**P**	**12 04 51.3**	**+0.1**
	10nm,0.6s,baz=54,slow=9.7,SNR=109						
ASAR				pP	**pP**	**12 05 07.6**	**+3.2**
	6.8nm,0.8s,baz=48,slow=12,SNR=6.5						
ASAR				PcP	**PcP**	**12 08 39.0**	**-1.3**
	0.7nm,0.8s,baz=36,slow=1.7,SNR=4.3						
ASAR				S	**S**	**12 08 56.2**	**-0.3**
	2.9nm,0.9s,baz=31,slow=22,SNR=11						
DZM	**Mont Dzumac**	**23.32**	**135**	LR	LR	12 12 30.7	
	comp=Z,220nm,18.5s,baz=32,slow=33						
FITZ	**Fitzroy Crossi**	**25.82**	**240**	P	**P**	**12 05 18.3**	**0.0**
	23nm,0.7s,baz=63,slow=7.8,SNR=54						
FITZ				pP	**pP**	**12 05 36.0**	**+3.1**
	13nm,0.7s,baz=74,slow=9.8,SNR=7.6						
FITZ	**Fitzroy Crossi**	**25.82**	**240**	P	**P**	**12 05 18.3**	**0.0**
	19nm,0.8s						
FITZ				pP	**pP**	**12 05 36.0**	**+3.1**
STKA	**Stephens Creek**	**26.77**	**194**	P	**P**	**12 05 26.2**	**-0.5**
	1.2nm,0.7s,baz=3.9,slow=14,SNR=2.3						
JNU	**Nakatsue**	**42.43**	**337**	P	**P**	**12 07 41.8**	**+0.4**
	7.1nm,0.8s,baz=194,slow=8.6,SNR=4.1						
MJAR	**Matsushiro Arr**	**43.39**	**347**	P	**P**	**12 07 49.2**	**0.0**
	3.8nm,0.8s,baz=170,slow=7.2,SNR=16						
KSRS	**Korea Array**	**47.38**	**337**	P	**P**	**12 08 21.4**	**+0.8**
	2.1nm,0.8s,baz=152,slow=10,SNR=4.6						
KSAR	**Wonju Array Be**	**47.39**	**337**	P	**P**	**12 08 21.4**	**+0.7**
PETK	**Petropavlovsk-**	**59.23**	**6**	P	**P**	**12 09 48.1**	**+0.7**
	4.7nm,0.5s,baz=153,slow=6.2,SNR=31						
SONM	**Songino Array**	**65.28**	**330**	P	**P**	**12 10 28.9**	**+0.8**
	0.6nm,0.8s,baz=132,slow=6.2,SNR=3.5						
SONM				LR	LR	12 40 15.1	
	comp=Z,9.7nm,19.0s,baz=108,slow=37						
VNDA	**Vanda**	**71.92**	**177**	P	**P**	**12 11 07.8**	**-1.0**
	0.9nm,0.7s,baz=336,slow=7.0,SNR=6.7						
ZALV	**Zalesovo Beam**	**79.97**	**327**	P	**P**	**12 11 53.0**	**-2.1**
	1.0nm,0.6s,baz=125,slow=5.0,SNR=3.8						
TRF	**Thorofare Moun**	**82.67**	**23**	*e*P	**P**	**12 12 07.9**	**-1.4**
MCK	**McKinley**	**83.33**	**23**	*e*P	**P**	**12 12 11.2**	**-1.4**
	7.9nm,0.8s						
ILAR	**Eielson Array**	**84.60**	**23**	P	**P**	**12 12 17.2**	**-1.8**
	2.7nm,0.7s,baz=251,slow=5.3,SNR=34						
ILAR				pP	**pP**	**12 12 38.3**	**+2.4**
	0.1nm,0.5s,baz=261,slow=3.6,SNR=2.3						
TORD	**Torodi Ar. Bea**	**146.97**	**285**	PKPbc	**PKPdf**	**12 19 27.6**	**+0.3**
	0.9nm,0.4s,baz=89,slow=2.8,SNR=12						

IDC 17 12:09:41.9±2.9, 32.17S×178.14W, h0km, mb3.8/2, mb1 4.0/3, mb1mx3.7/20, mbtmpg3.8/3, ML3.3/1, 1C, Error ellipse: s-maj=68.2km s-min=35.8km az=116.0, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**7.21**	**211**	Pn	Pn	12 11 28.4	-0.2
	0.5nm,0.3s,baz=352,slow=7.1,SNR=4.8						
URZ				Sn	Sn	12 12 49.7	-1.5
	1.7nm,0.3s,baz=329,slow=19,SNR=9.1						
ASAR	**Alice Springs**	**42.92**	**269**	P	P	12 17 42.8	+0.1
	0.5nm,0.5s,baz=106,slow=7.3,SNR=13						
WRA	**Warramunga Arr**	**44.07**	**274**	P	P	12 17 51.9	0.0
	0.7nm,0.4s,baz=113,slow=7.9,SNR=25						
FINES	**FINESS Array B**	**146.75**	**339**	PKPbc	PKPdf	12 29 24.1	+0.8
	0.9nm,0.5s,baz=66,slow=3.5,SNR=8.4						
VRAC	**Vranov**	**159.62**	**331**	*i*P	PKPab	12 30 59.7	+39

*CSEM **17** 12:25:43.9±0.2, 43.64N×18.20E, h2km, ML1.8, Error ellipse: s-maj=3.6km s-min=3.2km az=84.0*
*BEO **17** 12:25:46.0±0.7, 43.63N×18.26E, h15km±8km, M1.6/6*
PDG 17 12:25:43.9±0.2, 43.66N×18.21E, h0km±11km, ML2.0/9, 9C-2D, Error ellipse: s-maj=0.3km s-min=0.6km az=0.0, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
UPM	**Unac-Piva**	**0.68**	**132**	*i*Pg	Pg	12 25 56.6	-0.4
UPM				*e*Sg	Sg	12 26 06.7	+0.8
UPM	**Unac-Piva**	**0.68**	**132**	*i*Pg	Pg	12 25 56.7	-0.3
UPM				*e*Sg	Sg	12 26 05.6	-0.2
BRY	**Bratogost**	**0.80**	**162**	*i*Pg	Pg	12 25 58.4	-0.8
BRY				*e*Sg	Sb	12 26 10.8	-1.3
BRY	**Bratogost**	**0.80**	**162**	*i*Pg	Pg	12 25 58.5	-0.7
BRY				*e*Sg	Sg	12 26 09.7	+0.2
STON	**Ston**	**0.87**	**205**	*e*Pg	Pg	12 25 59.7	-0.9
STON				*e*Sg	Sg	12 26 12.6	+0.7
STON	**Ston**	**0.87**	**205**	*e*Pg	Pg	12 25 59.7	-0.9
STON				*e*Sg	Sg	12 26 12.6	+0.6
BBLS	**Lazići**	**0.89**	**76**	*e*Pg	Pg	12 26 01.2	+0.3
BBLS				*e*Sg	Sg	12 26 13.4	+0.9
PLE	**Pljevlja**	**0.92**	**111**	*i*Pg	Pg	12 26 01.1	-0.4
PLE				*e*Sg	Sb	12 26 14.9	-0.7
PLE	**Pljevlja**	**0.92**	**111**	*i*Pg	Pg	12 26 01.1	-0.4
PLE				*e*Sg	Sb	12 26 14.9	-0.7
TREB	**Trebinje**	**0.95**	**174**	*e*Pg	Pg	12 26 01.9	-0.2
TREB				*e*Sg	Sg	12 26 14.7	+0.3
TREB	**Trebinje**	**0.95**	**174**	*e*Pg	Pg	12 26 01.4	-0.7
TREB				*e*Sg	Sg	12 26 14.8	+0.4
NKME	**Niksic**	**1.05**	**149**	*e*Pg	Pg	12 26 03.4	-0.6
NKME				*e*Sg	Sb	12 26 19.5	+0.3
NKME	**Niksic**	**1.05**	**149**	*e*Pg	Pg	12 26 03.4	-0.6
NKME				*e*Sg	Sb	12 26 19.5	+0.3
CEME	**Cevo**	**1.23**	**155**	*i*Pg	Pg	12 26 06.3	-1.2
CEME				*e*Sg	Sb	12 26 24.9	+0.4
CEME	**Cevo**	**1.23**	**155**	*i*Pg	Pg	12 26 06.3	-1.2
CEME				*e*Sg	Sb	12 26 24.9	+0.4
HCY	**Herceg Novi**	**1.23**	**170**	*e*Pg	Pg	12 26 06.8	-0.7
HCY				*e*Sg	Sn	12 26 26.0	+0.3
HCY	**Herceg Novi**	**1.23**	**170**	*e*Pg	Pg	12 26 06.7	-0.8
HCY				*e*Sg	Sg	12 26 23.0	-0.5
TEKS	**Tekeris**	**1.30**	**47**	*e*Pg	Pn	12 26 10.5	+1.2
TEKS				*e*Sg	Sn	12 26 27.2	-0.2
TEKS	**Tekeris**	**1.30**	**47**	*e*Pg	Pn	12 26 09.6	+0.3
TEKS				*e*Sg	Sn	12 26 27.0	-0.4
BLY	**Banja Luka**	**1.31**	**326**	*e*Pg	Pn	12 26 10.0	+0.5
BLY				*e*Sg	Sn	12 26 28.4	+0.7
SJES	**Sjenica**	**1.34**	**107**	*e*Pg	Pb	12 26 10.6	+0.6
SJES				*e*Sg	Sg	12 26 26.4	-0.7
DIVS	**Divibare**	**1.36**	**71**	*e*Pg	Pg	12 26 09.9	-0.1
DIVS				*e*Sg	Sb	12 26 28.3	+0.1
DIVS	**Divibare**	**1.36**	**71**	*e*Pg	Pn	12 26 10.1	-0.1
DIVS				*e*Sg	Sn	12 26 28.8	-0.2
IVAS	**Ivanjica**	**1.41**	**93**	*e*Pg	Pn	12 26 09.8	-1.1
IVAS	**Ivanjica**	**1.41**	**93**	*e*Pg	Pn	12 26 09.8	-1.1
BUM	**Brajici-Budva**	**1.45**	**160**	*e*Pg	Pn	12 26 11.4	0.0
BUM				*e*Sg	Sn	12 26 34.1	+2.9
BUM	**Brajici-Budva**	**1.45**	**160**	*e*Pg	Pn	12 26 11.4	0.0
BUM				*e*Sg	Sn	12 26 34.1	+2.9
PDG	**Podgorica**	**1.45**	**148**	*e*Sn	Sb	12 26 30.7	0.0
PDG				*e*Sg	Sn	12 26 32.9	+1.9
BEY	**Berane**	**1.46**	**122**	*i*Pg	Pn	12 26 10.7	-0.9
IVA	**Berane**	**1.46**	**122**	*i*Pg	Pn	12 26 10.7	-0.9
IVA				*e*Sg	Sn	12 26 33.8	+2.3
DRME	**Dracevica, Mon**	**1.64**	**154**	*e*Pn	Pb	12 26 14.8	-0.2
DRME				*e*Sn	Sg	12 26 39.9	+3.3
DRME	**Dracevica, Mon**	**1.64**	**154**	*i*Pn	Pn	12 26 14.1	+0.1
DRME				*e*Sn	Sn	12 26 35.1	-0.6
TRUS	**Trudelj**	**1.68**	**70**	*e*Pn	Pn	12 26 14.4	-0.2
TRUS	**Trudelj**	**1.68**	**70**	*e*Pn	Pn	12 26 14.4	-0.2
ULC	**Ulcinj**	**1.86**	**156**	*e*Pn	Pb	12 26 18.1	-0.7
ULC				*e*Sn	Sg	12 26 45.3	+1.6
ULC	**Ulcinj**	**1.86**	**156**	*e*Pn	Pb	12 26 18.1	-0.7
UDBI	**Udbina**	**1.96**	**297**	*e*Pn	Pg	12 26 22.5	+1.0
UDBI					Sg	12 26 50.3	+3.4
UDBI	**Udbina**	**1.96**	**297**	*e*Pn	Pg	12 26 22.5	+1.0
NVLJ	**Novalja**	**2.57**	**292**	*e*Pn	Pb	12 26 30.3	-0.5
NVLJ					Sb	12 27 02.5	-0.3
NVLJ	**Novalja**	**2.57**	**292**	*e*Pn	Pb	12 26 30.2	-0.6

IDC 17 12:25:46.9±1.6, 2.17S×128.42E, h0km, mb3.8/2, mb1 3.9/4, mb1mx3.6/34, mbtmpg3.8/4, ML3.6/2, MS3.1/6, Ms1 3.1/6, ms1mx2.8/37, Error ellipse: s-maj=117.0km s-min=24.0km az=76.0, Ceram Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**16.07**	**190**	Pn	Pn	12 29 36.1	+1.7
	0.1nm,0.3s,baz=11,slow=10,SNR=5.7						
FITZ				LR	LR	12 36 28.6	
	comp=Z,97nm,18.2s,baz=27,slow=40						
TGY	**Tagaytay City**	**17.79**	**336**	LR	LR	12 36 59.5	
	comp=Z,42nm,19.9s,baz=112,slow=38						
WRA	**Warramunga Arr**	**18.59**	**162**	P	P	12 30 05.2	-0.7
	0.3nm,0.3s,baz=343,slow=12,SNR=17						
WRA				S	Sn	12 33 29.2	-5.3
	0.1nm,0.3s,baz=349,slow=17,SNR=3.1						
PMG	**Port Moresby**	**19.97**	**112**	LR	LR	12 39 59.0	
	comp=Z,78nm,18.9s,baz=234,slow=43						
ASAR	**Alice Springs**	**22.02**	**166**	P	P	12 30 43.4	+0.2
	1.4nm,0.3s,baz=347,slow=12,SNR=45						
ASAR				S	S	12 34 38.6	-8.6
	0.5nm,0.8s,baz=351,slow=23,SNR=5.6						
GUMO	**Guam**	**22.61**	**46**	LR	LR	12 38 10.1	
	comp=Z,43nm,20.6s,baz=220,slow=33						
KSRS	**Korea Array**	**39.42**	**359**	LR	LR	12 47 34.7	
	comp=Z,15nm,20.2s,baz=129,slow=33						
MJAR	**Matsushiro Arr**	**39.58**	**12**	LR	LR	12 49 56.7	
	comp=Z,26nm,19.3s,baz=180,slow=37						
SONM	**Songino Array**	**53.39**	**342**	P	P	12 35 08.5	0.0
	0.6nm,0.7s,baz=153,slow=8.2,SNR=6.6						
TORD	**Torodi Ar. Bea**	**126.20**	**285**	PKP	PKPdf	12 44 51.9	-0.7
	0.4nm,0.7s,baz=50,slow=3.5,SNR=3.2						

*ISCJB **17** 12:27:55.3±0.2, 44.71N±0.01×10.26E±0.02, h13km±1km, Error ellipse: s-maj=1.9km s-min=1.7km az=37.2*
*BGR **17** 12:27:55.7±0.8, 44.47N×10.18E, h10km, ML3.6/8, Error ellipse: s-maj=14.5km s-min=12.2km az=36.0*
*CSEM **17** 12:27:56.4±0.1, 44.66N×10.30E, h10km, ML3.6/28, Error ellipse: s-maj=2.4km s-min=2.2km az=110.0*
*VIE **17** 12:27:56.1±0.4, 44.61N×10.45E, h6km, mb2.9/16, ML3.3/18, Error ellipse: s-maj=4.6km s-min=3.3km az=128.0*
*ROM **17** 12:27:57.4±0.1, 44.64N×10.22E, h20km±1km, MI3.2/57, Error ellipse: s-maj=1.5km s-min=1.1km az=79.0*
*GEN **17** 12:27:57.5, 44.63N×10.25E, h22km, ML3.2*
*LDG **17** 12:27:58.0±0.1, 44.66N×10.35E, h10km, MI3.4/17, Error ellipse: s-maj=3.0km s-min=2.4km az=45.0*
*PRU **17** 12:27:58.5, 44.64N×10.50E, h22km*
ISC 17 12:27:57.3±0.9, 44.66N±0.01×10.26E±0.01, h19km±2km, n252, σ1$20/355, 33C-3D, Northern Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PRMA	**PARMA**	**0.12**	**20**	*i*Pg	**Pg**	**12 28 01.4**	**+0.1**
PRMA				*e*Sg	**Sg**	**12 28 05.9**	**+2.0**
	21µm,0.6s						
PRMA	**PARMA**	**0.12**	**20**	*i*Pg	**Pg**	**12 28 01.4**	**+0.1**
GRAM	**Graiana**	**0.21**	**220**	P	**Pb**	**12 28 02.1**	**-0.2**
GRAM				S	**Sb**	**12 28 06.0**	**+0.5**
NOVE	**Novellara**	**0.36**	**66**	Pg	**Pg**	**12 28 05.2**	**+0.3**
NOVE				Sg	**Sb**	**12 28 12.5**	**+2.0**
	5µm,0.3s						
NOVE	**Novellara**	**0.36**	**66**	Pg	**Pg**	**12 28 05.2**	**+0.3**
SARO	**Sassorosso**	**0.48**	**168**	P	**Pg**	**12 28 06.4**	**-0.8**
SARO	**Sassorosso**	**0.48**	**168**	S	**Sg**	**12 28 13.6**	**-0.1**
VLC	**Villacollemand**	**0.50**	**169**	*i*Pg	**Pg**	**12 28 06.8**	**-0.7**
VLC				Sg	**Sg**	**12 28 14.6**	**+0.2**
	3µm,0.6s						
VLC	**Villacollemand**	**0.50**	**169**	*i*Pg	**Pg**	**12 28 06.8**	**-0.7**
VLC				Sg	**Sg**	**12 28 14.6**	**+0.2**
	3µm,0.6s						
SC2M	**Scurtabo**	**0.57**	**244**	*i*Pg	**Pb**	**12 28 07.9**	**-0.8**
SC2M				Sg	**Sb**	**12 28 17.1**	**+0.5**
	2µm,0.4s						
SC2M	**Scurtabo**	**0.57**	**244**	P	**Pb**	**12 28 08.0**	**-0.8**
SC2M				Sg	**Sb**	**12 28 17.1**	**+0.5**
	2µm,0.4s						
SC2M				S	**Sg**	**12 28 17.7**	**+1.1**
BOB	**Bobbio (Coli)**	**0.59**	**281**	Pg	**Pb**	**12 28 09.1**	**+0.1**
	982nm,0.5s						
BOB	**Bobbio (Coli)**	**0.59**	**281**	Pg	**Pb**	**12 28 09.1**	**+0.1**
	982nm,0.5s						
ZCCA	**Zocca**	**0.60**	**120**	Pg	**Pg**	**12 28 10.1**	**+0.8**
ZCCA				Sg	**Sg**	**12 28 18.4**	**+1.1**
	626nm,0.5s						
ZCCA	**Zocca**	**0.60**	**120**	Pg	**Pg**	**12 28 10.1**	**+0.8**
MSSA	**Maissana**	**0.63**	**238**	Pg	**Pb**	**12 28 08.8**	**-0.9**
MSSA				Sg	**Sb**	**12 28 18.0**	**-0.1**
	449nm,0.5s						
MSSA	**Maissana**	**0.63**	**238**	Pg	**Pb**	**12 28 08.8**	**-0.9**
MSSA				Sg	**Sb**	**12 28 18.0**	**-0.1**
	449nm,0.5s						
BDI	**Bagni Di Lucca**	**0.64**	**158**	*i*Pg	**Pb**	**12 28 09.3**	**-0.6**
BDI				Sg	**Sb**	**12 28 18.6**	**+0.1**
	1µm,0.6s						
BDI	**Bagni Di Lucca**	**0.64**	**158**	*i*Pg	**Pb**	**12 28 09.3**	**-0.6**
BDI				Sg	**Sb**	**12 28 18.6**	**+0.1**
	1µm,0.6s						
POPM	**Popiglio**	**0.71**	**149**	P	**Pb**	**12 28 10.8**	**-0.3**
POPM				S	**Sg**	**12 28 21.2**	**+0.5**
MAIM	**Mastiano**	**0.76**	**167**	Pg	**Pb**	**12 28 10.9**	**-1.0**
MAIM				Sg	**Sb**	**12 28 22.2**	**+0.3**
	531nm,0.5s						
MAIM	**Mastiano**	**0.76**	**167**	P	**Pb**	**12 28 11.0**	**-1.0**
MAIM				S	**Sb**	**12 28 21.1**	**-0.8**
MAIM				Sg	**Sb**	**12 28 22.2**	**+0.3**
	531nm,0.5s						
FNVD	**Fontana Vidola**	**0.79**	**128**	Pg	**Pb**	**12 28 12.5**	**0.0**
	743nm,0.8s						
FNVD	**Fontana Vidola**	**0.79**	**128**	Pg	**Pb**	**12 28 12.5**	**0.0**
	743nm,0.8s						
PTF	**Prato**	**0.91**	**140**	*e*Pg	**Pb**	**12 28 14.2**	**-0.3**
PTF	**Prato**	**0.91**	**140**	Pg	**Pb**	**12 28 14.2**	**-0.3**
PTF				Sg	**Sn**	**12 28 28.1**	**+0.3**
PTF	**Prato**	**0.91**	**140**	Pg	**Pb**	**12 28 14.2**	**-0.3**
PTF				Sg	**Sn**	**12 28 28.1**	**+0.3**
SALO	**Salr**	**0.98**	**11**	*i*Pg	**Pb**	**12 28 16.5**	**+0.7**
	3µm,0.5s						
SALO	**Salr**	**0.98**	**11**	*i*Pg	**Pb**	**12 28 16.5**	**+0.7**
	3µm,0.5s						
SEI	**Scarperia**	**0.99**	**127**	Pg	**Pn**	**12 28 16.8**	**+0.5**
SEI	**Scarperia**	**0.99**	**127**	Pg	**Pn**	**12 28 16.8**	**+0.5**
CRMI	**Carmignano**	**1.01**	**149**	Pg	**Pb**	**12 28 16.0**	**-0.2**
CRMI				Sg	**Sn**	**12 28 30.8**	**+0.6**
	520nm,0.8s						
CRMI	**Carmignano**	**1.01**	**149**	Pg	**Pb**	**12 28 16.0**	**-0.2**
CRMI				Sg	**Sn**	**12 28 30.8**	**+0.6**
	520nm,0.8s						
BALD	**Monte Baldo**	**1.10**	**21**	*e*Pg	**Pb**	**12 28 18.1**	**+0.1**
BALD				*e*Sg	**Sn**	**12 28 33.5**	**+0.6**
BALD	**Monte Baldo**	**1.10**	**21**	*e*Pg	**Pn**	**12 28 18.0**	**+0.1**
BALD				*e*Sg	**Sn**	**12 28 33.5**	**+0.6**
ROVR	**Rover¨¤ Verone**	**1.15**	**30**	*i*Pg	**Pn**	**12 28 18.2**	**-0.4**
ROVR				Sg	**Sn**	**12 28 34.8**	**+0.9**
	3µm,0.4s						
ROVR	**Rover¨¤ Verone**	**1.15**	**30**	*i*Pg	**Pn**	**12 28 18.2**	**-0.4**
ROVR				Sg	**Sn**	**12 28 34.8**	**+0.9**
	3µm,0.4s						
MAGA	**Magasa**	**1.15**	**13**	*i*Pg	**Pn**	**12 28 18.3**	**-0.3**
MAGA				Sg	**Sg**	**12 28 35.3**	**+0.5**
	3µm,0.4s						
MAGA	**Magasa**	**1.15**	**13**	*i*Pg	**Pn**	**12 28 18.3**	**-0.3**
MAGA				Sg	**Sg**	**12 28 35.3**	**+0.5**
	3µm,0.4s						
MARN	**Marana (Italy)**	**1.19**	**34**	*e*Pg	**Pn**	**12 28 18.7**	**-0.4**
MARN				*e*Sg	**Sn**	**12 28 35.4**	**+0.6**
MARN	**Marana (Italy)**	**1.19**	**34**	*e*Pg	**Pn**	**12 28 18.7**	**-0.4**
MARN	**Marana (Italy)**	**1.19**	**34**	*e*Sg	**Sn**	**12 28 35.4**	**+0.6**
TEOL	**Teolo**	**1.23**	**54**	*i*Pg	**Pn**	**12 28 19.0**	**-0.5**
TEOL				Sg	**Sn**	**12 28 36.8**	**+1.2**
	2µm,0.4s						
TEOL	**Teolo**	**1.23**	**54**	*e*Pg	**Pn**	**12 28 19.0**	**-0.5**
TEOL				*e*Sg	**Sn**	**12 28 36.1**	**+0.5**
TEOL	**Teolo**	**1.23**	**54**	*i*Pg	**Pn**	**12 28 19.0**	**-0.5**
TEOL				Sg	**Sn**	**12 28 36.8**	**+1.2**
	2µm,0.4s						
PCP	**Piancastagn**	**1.23**	**265**	Pg	**Pn**	**12 28 20.2**	**+0.6**
	385nm,0.5s						
PCP	**Piancastagn**	**1.23**	**265**	Pg	**Pn**	**12 28 20.2**	**+0.6**
	385nm,0.5s						
GROG	**Isola di Gorgo**	**1.26**	**192**	Pg	**Pn**	**12 28 19.2**	**-0.7**
GROG				Sg	**Sn**	**12 28 37.1**	**+0.8**
	274nm,0.5s						
GROG	**Isola di Gorgo**	**1.26**	**192**	Pg	**Pn**	**12 28 19.2**	**-0.7**
GROG				Sg	**Sn**	**12 28 37.1**	**+0.8**
	274nm,0.5s						
RNI	**Roncone**	**1.35**	**11**	*e*Pg	**Pn**	**12 28 21.3**	**-0.1**
RNI				*e*Sg	**Sb**	**12 28 40.7**	**+1.5**
RNI	**Roncone**	**1.35**	**11**	*e*Pg	**Pn**	**12 28 21.3**	**-0.1**
RNI				*e*Sg	**Sb**	**12 28 40.7**	**+1.5**
SFI	**Santa Sofia**	**1.37**	**123**	Pg	**Pg**	**12 28 23.6**	**-0.1**
	356nm,1.0s						
SFI	**Santa Sofia**	**1.37**	**123**	Pg	**Pg**	**12 28 23.6**	**-0.1**
	356nm,1.0s						
DDS	**Dosso del Somm**	**1.39**	**28**	*e*Pg	**Pn**	**12 28 21.6**	**-0.4**
DDS				*e*Sg	**Sn**	**12 28 40.9**	**+0.9**
DDS	**Dosso del Somm**	**1.39**	**28**	*e*Pg	**Pn**	**12 28 21.6**	**-0.4**
DDS	**Dosso del Somm**	**1.39**	**28**	*e*Sg	**Sn**	**12 28 40.8**	**+0.9**
ASQU	**Asqua**	**1.40**	**127**	Pg	**Pb**	**12 28 23.3**	**+0.4**
	233nm,1.0s						
ASQU	**Asqua**	**1.40**	**127**	Pg	**Pb**	**12 28 23.3**	**+0.4**
	233nm,1.0s						
CSNT	**Castellina Chi**	**1.40**	**147**	Pg	**Pn**	**12 28 22.6**	**+0.7**
	385nm,1.1s						
CSNT	**Castellina Chi**	**1.40**	**147**	Pg	**Pn**	**12 28 22.6**	**+0.7**
	385nm,1.1s						
QLNO	**Quiliano**	**1.41**	**257**	Pg	**Pn**	**12 28 22.3**	**+0.3**
	115nm,0.6s						
QLNO	**Quiliano**	**1.41**	**257**	Pg	**Pn**	**12 28 22.3**	**+0.3**
	115nm,0.6s						
MABI	**Malga Bissina**	**1.41**	**7**	*i*Pg	**Pn**	**12 28 22.3**	**0.0**
MABI				Sg	**Sb**	**12 28 42.3**	**+1.4**
	308nm,0.4s						
MABI	**Malga Bissina**	**1.41**	**7**	*i*Pg	**Pn**	**12 28 22.3**	**0.0**
MABI				Sg	**Sb**	**12 28 42.3**	**+1.4**
	308nm,0.4s						
SASS	**Sassa**	**1.43**	**167**	*i*Pg	**Pn**	**12 28 22.5**	**+0.1**
	231nm,0.9s						
SASS	**Sassa**	**1.43**	**167**	*i*Pg	**Pn**	**12 28 22.5**	**+0.1**
	231nm,0.9s						
FINB	**Finale Ligure**	**1.46**	**252**	Pg	**Pn**	**12 28 23.1**	**+0.3**
	334nm,0.4s						
FINB	**Finale Ligure**	**1.46**	**252**	Pg	**Pn**	**12 28 23.1**	**+0.3**
	334nm,0.4s						
MUGIO	**Muggio**	**1.53**	**326**	Pg	**Pn**	**12 28 23.7**	**-0.1**
	220nm,0.4s						
MUGIO	**Muggio**	**1.53**	**326**	Pg	**Pn**	**12 28 23.7**	**-0.1**
	220nm,0.4s						
FROS	**Frosini**	**1.58**	**155**	Pg	**Pn**	**12 28 24.9**	**+0.4**
FROS	**Frosini**	**1.58**	**155**	Pg	**Pn**	**12 28 24.9**	**+0.4**
PANI	**Panarotta**	**1.59**	**28**	*e*Pg	**Pn**	**12 28 24.5**	**-0.2**
CRE	**Caprese Michel**	**1.60**	**130**	Pg	**Pb**	**12 28 26.2**	**-0.2**
	172nm,0.7s						
CRE	**Caprese Michel**	**1.60**	**130**	Pg	**Pb**	**12 28 26.2**	**-0.2**
	172nm,0.7s						
TRIF	**Trifonti**	**1.61**	**163**	Pg	**Pn**	**12 28 25.3**	**+0.5**
	142nm,0.7s						
TRIF	**Trifonti**	**1.61**	**163**	Pg	**Pn**	**12 28 25.3**	**+0.5**
	142nm,0.7s						
CGRP	**Cima Grappa**	**1.64**	**41**	Pg	**Pn**	**12 28 24.6**	**-0.8**
	625nm,0.8s						
CGRP	**Cima Grappa**	**1.64**	**41**	*e*Pg	**Pn**	**12 28 24.6**	**-0.8**
CGRP	**Cima Grappa**	**1.64**	**41**	*e*Pg	**Pn**	**12 28 24.6**	**-0.8**
RORO	**Rocca Rossa**	**1.66**	**252**	Pg	**Pn**	**12 28 25.5**	**0.0**
	60nm,0.5s						
CPGN	**Carpegna, Ital**	**1.71**	**119**	Pg	**Pb**	**12 28 28.8**	**+0.5**
	3036µm,80.0s						
CPGN	**Carpegna, Ital**	**1.71**	**119**	Pg	**Pb**	**12 28 28.8**	**+0.5**

MBDF	**Montbardon**		**2.49**	**273**	*e*Pn		**Pn**	**12 28 37.8**	**+0.8**
	SNR=1.0								
MBDF	**Montbardon**		**2.49**	**273**	*e*P		**Pb**	**12 28 40.3**	**-1.2**
FUSE	**Fusea**		**2.61**	**47**	*e*Pn		**Pn**	**12 28 37.5**	**-1.1**
FUSE	**Fusea**		**2.61**	**47**	*e*Pn		**Pn**	**12 28 37.5**	**-1.1**
ABTA	**Abfaltersbach**		**2.62**	**36**	Pn		**Pn**	**12 28 39.9**	**+1.1**
	15nm,0.3s,SNR=16								
ABTA					Sn		**Sn**	**12 29 12.8**	**+2.6**
	23nm,0.3s								
ABTA					Sg		**Sg**	**12 29 23.4**	**+1.8**
	60nm,0.4s								
LPG	**La Plagne**		**2.62**	**290**	*e*Pn		**Pn**	**12 28 39.9**	**+0.9**
	SNR=1.0								
LPG					*e*Sn		**Sn**	**12 29 09.5**	**-1.0**
	18nm,0.3s,SNR=1.0								
LPG					*e*Sg		**Sg**	**12 29 21.6**	**-0.1**
	50nm,0.6s,SNR=1.0								
LPG	**La Plagne**		**2.62**	**290**	*e*Pn		**Pn**	**12 28 39.9**	**+0.9**
	SNR=1.0								
LPG					*e*Sn		**Sn**	**12 29 09.5**	**-1.0**
	8.8nm,0.3s,SNR=1.0								
LPL	**La Plagne**		**2.64**	**290**	*e*Pn		**Pn**	**12 28 40.0**	**+0.8**
	SNR=1.0								
LPL	**La Plagne**		**2.64**	**290**	*e*Pg		**Pg**	**12 28 47.1**	**-0.9**
LPL					*e*Sg		**Sg**	**12 29 21.1**	**-1.2**
	59nm,0.5s,SNR=1.0								
LPL	**La Plagne**		**2.64**	**290**	*e*Pn		**Pn**	**12 28 40.0**	**+0.8**
	SNR=1.0								
LPL	**La Plagne**		**2.64**	**290**	*e*Pg		**Pg**	**12 28 47.1**	**-0.9**
DAVA	**Damuels**		**2.65**	**354**	*e*Pn		**Pn**	**12 28 41.0**	**+1.8**
DAVA	**Damuels**		**2.65**	**354**	Pn		**Pn**	**12 28 41.0**	**+1.8**
VINO	**Villanova**		**2.66**	**52**	*e*Pn		**Pn**	**12 28 38.3**	**-1.0**
VINO	**Villanova**		**2.66**	**52**	*e*Pn		**Pn**	**12 28 38.3**	**-1.0**
TRI	**Trieste**		**2.69**	**66**⇓	*e*Pn		**Pn**	**12 28 38.6**	**-1.1**
TRI	**Trieste**		**2.69**	**66**	*e*Pn		**Pn**	**12 28 38.6**	**-1.1**
SABO	**M.te Sabotino**		**2.71**	**60**⇓	*e*Pn		**Pn**	**12 28 39.3**	**-0.6**
SABO	**M.te Sabotino**		**2.71**	**60**	*e*Pn		**Pn**	**12 28 39.3**	**-0.6**
OBER	**Oberstdorf**		**2.75**	**1**	*e*Pn		**Pn**	**12 28 42.6**	**+2.0**
OBER					*e*Sn		**Sn**	**12 29 16.3**	**+2.9**
OBER	**Oberstdorf**		**2.75**	**1**	Pn		**Pn**	**12 28 42.6**	**+2.0**
OBER					Sn		**Sn**	**12 29 16.3**	**+2.9**
MOTA	**Moosalm**		**2.75**	**12**	Pn		**Pn**	**12 28 42.8**	**+2.1**
	38nm,0.3s,SNR=60								
WTTA	**Wattenberg**		**2.78**	**20**	*e*PN		**Pn**	**12 28 42.8**	**+1.7**
WTTA	**Wattenberg**		**2.78**	**20**	*e*Pn		**Pn**	**12 28 42.8**	**+1.7**
WTTA	**Wattenberg**		**2.78**	**20**	Pn		**Pn**	**12 28 42.8**	**+1.7**
WTTA					Sn		**Sb**	**12 29 18.8**	**-1.5**
	14nm,0.3s								
SKDS	**Skadanscina**		**2.81**	**70**	*i* Pn		**Pn**	**12 28 40.1**	**-1.2**
SKDS					*i* Sn		**Sn**	**12 29 12.2**	**-2.4**
	comp=Z,15nm,0.1s								
SKDS	**Skadanscina**		**2.81**	**70**	Pn		**Pn**	**12 28 40.1**	**-1.2**
SKDS					*i* Sn		**Sn**	**12 29 12.2**	**-2.4**
	comp=Z,15nm,0.1s								
FRF	**La Foret Royal**		**2.82**	**248**	*e*Pn		**Pn**	**12 28 41.7**	**+0.2**
	SNR=1.0								
FRF					*e*Sn		**Sn**	**12 29 15.0**	**+0.1**
	comp=Z,44nm,0.5s,SNR=1.0								
FRF	**La Foret Royal**		**2.82**	**248**	*e*Pn		**Pn**	**12 28 41.7**	**+0.2**
	SNR=1.0								
FRF					*e*Sn		**Sn**	**12 29 15.0**	**+0.1**
	comp=Z,22nm,0.5s,SNR=1.0								
WATA	**Walderalm**		**2.83**	**18**	Pn		**Pn**	**12 28 44.1**	**+2.3**
	comp=Z,17nm,0.2s,SNR=22								
WATA					Sn		**Sn**	**12 29 18.7**	**+3.2**
	comp=Z,14nm,0.2s								
RETA	**Reutte**		**2.85**	**7**	Pn		**Pn**	**12 28 43.7**	**+1.7**
	comp=Z,6.7nm,0.2s,SNR=12								
JAVS	**Javornik**		**2.96**	**64**	*i* Pn		**Pn**	**12 28 42.5**	**-0.9**
JAVS					*i* Sn		**Sn**	**12 29 17.1**	**-1.4**
	comp=Z,33nm,0.3s								
JAVS	**Javornik**		**2.96**	**64**	*i* Pn		**Pn**	**12 28 42.5**	**-0.9**
JAVS					*i* Sn		**Sn**	**12 29 17.1**	**-1.4**
	comp=Z,33nm,0.3s								
LMR	**La Mourre**		**3.01**	**245**	*e*Pn		**Pn**	**12 28 44.0**	**0.0**
	SNR=1.0								
LMR					*e*Sn		**Sn**	**12 29 19.4**	**-0.2**
	comp=Z,34nm,0.4s,SNR=1.0								
LMR	**La Mourre**		**3.01**	**245**	*e*Pn		**Pn**	**12 28 44.0**	**0.0**
	SNR=1.0								
LMR					*e*Sn		**Sn**	**12 29 19.4**	**-0.2**
	comp=Z,17nm,0.4s,SNR=1.0								
MYKA	**Terra Mystica**		**3.09**	**49**	Pn		**Pn**	**12 28 46.2**	**+1.0**
	comp=Z,2.9nm,0.3s								
MYKA					Sn		**Sn**	**12 29 22.5**	**+0.9**
	comp=Z,15nm,0.3s								
MYKA					Sg		**Sg**	**12 29 36.0**	**-0.5**
	comp=Z,21nm,0.4s								
ORIF	**Oris-en-Rattie**		**3.13**	**276**	*e*Pn		**Pn**	**12 28 48.0**	**+2.2**
	SNR=1.0								
ORIF					*e*Sn		**Sn**	**12 29 25.1**	**+2.5**
	comp=Z,58nm,0.6s,SNR=1.0								
ORIF	**Oris-en-Rattie**		**3.13**	**276**	*e*Pn		**Pn**	**12 28 48.0**	**+2.2**
	SNR=1.0								
ORIF					*e*Sn		**Sn**	**12 29 25.1**	**+2.5**
	comp=Z,29nm,0.6s,SNR=1.0								
KBA	**Koelnbreinsper**		**3.24**	**41**	*e*Pn		**Pn**	**12 28 48.1**	**+0.7**
KBA	**Koelnbreinsper**		**3.24**	**41**	Pn		**Pn**	**12 28 48.1**	**+0.7**
KBA					Sn		**Sn**	**12 29 27.7**	**+2.1**
	comp=Z,21nm,0.5s								
KBA					Sg		**Sg**	**12 29 42.0**	**+0.4**
	comp=Z,38nm,0.5s								
NVLJ	**Novalja**		**3.30**	**90**	*e*Pn		**Pn**	**12 28 47.8**	**-0.2**
NVLJ	**Novalja**		**3.30**	**90**	*e*Pn		**Pn**	**12 28 47.7**	**-0.2**
GBRS	**Gornja Briga**		**3.34**	**73**	*i* Pn		**Pn**	**12 28 47.9**	**-0.7**
SMRF	**Simiane la Rot**		**3.43**	**260**	*e*Pn		**Pn**	**12 28 51.5**	**+1.7**
	SNR=1.0								
SMRF	**Simiane la Rot**		**3.43**	**260**	*e*Pn		**Pn**	**12 28 51.5**	**+1.7**
	SNR=1.0								
CABF	**La Chapelle**		**3.52**	**305**	*e*Pn		**Pn**	**12 28 52.5**	**+1.4**
	SNR=1.0								
CABF	**La Chapelle**		**3.52**	**305**	*e*Pn		**Pn**	**12 28 52.5**	**+1.4**
	SNR=1.0								
OBKA	**Obir**		**3.54**	**57**	Pn		**Pn**	**12 28 52.1**	**+0.7**
	comp=Z,1.2nm,0.2s								
RJOB	**Jochberg**		**3.55**	**29**	*e*Pn		**Pn**	**12 28 52.9**	**+1.4**
RJOB	**Jochberg**		**3.55**	**29**	Pn		**Pn**	**12 28 52.9**	**+1.4**
FUR	**Furstenfeldbru**		**3.58**	**11**	*e*Pn		**Pn**	**12 28 52.6**	**+0.7**
FUR	**Furstenfeldbru**		**3.58**	**11**	Pn		**Pn**	**12 28 52.6**	**+0.7**
OZLJ	**Ozalj**		**3.81**	**74**	*e*Pn		**Pn**	**12 28 54.8**	**-0.3**
OZLJ					Sn		**Sn**	**12 29 36.8**	**-2.5**
OZLJ	**Ozalj**		**3.81**	**74**	*e*Pn		**Pn**	**12 28 54.7**	**-0.3**
OZLJ					Sn		**Sn**	**12 29 36.7**	**-2.5**
BFO	**Black Forest**		**3.91**	**341**	*e*Pn		**Pn**	**12 28 56.3**	**-0.1**
BFO					*e*Sn		**Sn**	**12 29 39.4**	**-2.5**
BFO	**Black Forest**		**3.91**	**341**	Pn		**Pn**	**12 28 56.3**	**-0.1**
SOKA	**Soboth**		**3.91**	**57**	Sn		**Sn**	**12 29 42.3**	**+0.3**
	comp=Z,8.5nm,0.3s								
UDBI	**Udbina**		**3.94**	**90**	*e*Pn		**Pn**	**12 28 57.9**	**+1.0**
UDBI					Sn		**Sn**	**12 29 41.6**	**-1.0**
UDBI	**Udbina**		**3.94**	**90**	*e*Pn		**Pn**	**12 28 57.8**	**+1.0**
UDBI					Sn		**Sn**	**12 29 41.5**	**-1.0**
HINF	**Hinteralfeld**		**3.95**	**324**	*e*Pn		**Pn**	**12 28 57.3**	**+0.3**
	SNR=1.0								
HINF					*e*Sn		**Sn**	**12 29 41.3**	**-1.5**
	comp=Z,15nm,0.3s								
HINF	**Hinteralfeld**		**3.95**	**324**	*e*Pn		**Pn**	**12 28 57.3**	**+0.3**
	SNR=1.0								
HINF					*e*Sn		**Sn**	**12 29 41.3**	**-1.5**
	comp=Z,7.7nm,0.3s								
VIVF	**Saint-Julien-l**		**3.98**	**275**	*e*Pn		**Pn**	**12 28 59.0**	**+1.5**
	SNR=1.0								
VIVF					*e*Sn		**Sn**	**12 29 45.3**	**+1.6**
	comp=Z,7.3nm,0.4s,SNR=1.0								
VIVF	**Saint-Julien-l**		**3.98**	**275**	*e*Pn		**Pn**	**12 28 59.0**	**+1.5**
	SNR=1.0								
VIVF					*e*Sn		**Sn**	**12 29 45.3**	**+1.6**
	comp=Z,3.7nm,0.4s,SNR=1.0								
MOA	**Molln**		**4.24**	**40**	*e*Pn		**Pn**	**12 29 01.6**	**+0.6**
MOA	**Molln**		**4.24**	**40**	Pn		**Pn**	**12 29 01.5**	**+0.6**
	comp=Z,4.1nm,0.2s,SNR=6.0								
MOA					Sn		**Sn**	**12 29 50.3**	**+0.5**
	comp=Z,18nm,0.5s								
CDF	**Champ du Feu**		**4.28**	**332**	*e*Pn		**Pn**	**12 29 01.3**	**-0.3**
	SNR=1.0								
CDF					*e*Sn		**Sn**	**12 29 49.2**	**-1.9**
	comp=Z,17nm,0.3s								
CDF					*e*Sg		**Sg**	**12 30 15.7**	**+0.9**
	comp=Z,24nm,0.6s,SNR=1.0								
CDF	**Champ du Feu**		**4.28**	**332**	*e*Pn		**Pn**	**12 29 01.3**	**-0.3**
	SNR=1.0								
CDF					*e*Sg		**Sg**	**12 30 15.7**	**+0.9**
	comp=Z,12nm,0.6s,SNR=1.0								
HAU	**Haudompre**		**4.31**	**322**	*e*Pn		**Pn**	**12 29 02.5**	**+0.6**
	SNR=1.0								
HAU					*e*Sn		**Sn**	**12 29 49.1**	**-2.5**
	comp=Z,21nm,0.3s,SNR=1.0								
HAU	**Haudompre**		**4.31**	**322**	*e*Pn		**Pn**	**12 29 02.5**	**+0.6**
	SNR=1.0								
HAU					*e*Sn		**Sn**	**12 29 49.1**	**-2.5**
	comp=Z,10nm,0.3s,SNR=1.0								
ARSA	**Arzberg**		**4.50**	**53**	*e*Pn		**Pn**	**12 29 04.8**	**+0.3**
ARSA	**Arzberg**		**4.50**	**53**	Pn		**Pn**	**12 29 04.2**	**-0.3**
	comp=Z,1.9nm,0.2s								
LASF	**Ste Croix**		**4.62**	**265**	*e*Pn		**Pn**	**12 29 07.5**	**+1.2**
LASF					*e*Sn		**Sn**	**12 29 59.2**	**-0.3**
LASF	**Ste Croix**		**4.62**	**265**	*e*Pn		**Pn**	**12 29 07.5**	**+1.2**
LASF					*e*Sn		**Sn**	**12 29 59.2**	**-0.3**
GEC2	**GERESS Array S**		**4.81**	**28**	*e*Pn		**Pn**	**12 29 08.4**	**-0.5**
GEC2					*e*Sn		**Sn**	**12 30 01.9**	**-2.3**
GEC2	**GERESS Array S**		**4.81**	**28**	Pn		**Pn**	**12 29 08.4**	**-0.5**
GEC2					Sn		**Sn**	**12 30 01.9**	**-2.3**
WET	**Wettzell**		**4.84**	**21**	*e*Pn		**Pn**	**12 29 08.6**	**-0.6**
WET					*e*Sn		**Sn**	**12 30 02.5**	**-2.2**
WET	**Wettzell**		**4.84**	**21**	Pn		**Pn**	**12 29 08.6**	**-0.6**
WET					Sn		**Sn**	**12 30 02.5**	**-2.2**
SMF	**Signal de Mont**		**4.92**	**296**	*e*Pn		**Pn**	**12 29 11.5**	**+1.2**
	SNR=1.0								
SMF	**Signal de Mont**		**4.92**	**296**	*e*Pn		**Pn**	**12 29 11.5**	**+1.2**
	SNR=1.0								
KHC	**Kasperske Hory**		**5.02**	**26**	*e*PN		**Pn**	**12 29 11.5**	**-0.2**
KHC					*e*SN		**Sn**	**12 30 06.0**	**-3.3**
KHC					*e*SG		**Sg**	**12 30 36.4**	**-2.1**
KHC	**Kasperske Hory**		**5.02**	**26**	Pn		**Pn**	**12 29 11.5**	**-0.2**
KHC					Sn		**Sn**	**12 30 06.0**	**-3.3**
KHC					Sg		**Sg**	**12 30 36.4**	**-2.1**
CONA	**Conrad Observa**		**5.08**	**48**	Pn		**Pn**	**12 29 11.4**	**-1.2**
	comp=Z,0.6nm,0.2s								
LOR	**Lormes**		**5.17**	**303**	*e*Pn		**Pn**	**12 29 14.7**	**+1.0**
	SNR=1.0								
LOR					*e*Sn		**Sn**	**12 30 13.0**	**+0.1**
	comp=Z,21nm,0.4s,SNR=1.0								
LOR	**Lormes**		**5.17**	**303**	*e*Pn		**Pn**	**12 29 14.7**	**+1.0**
	SNR=1.0								
LOR					*e*Sn		**Sn**	**12 30 13.0**	**+0.1**
	comp=Z,11nm,0.4s,SNR=1.0								
ROTZ	**Rotzenmuhle**		**5.28**	**14**	*e*Pn		**Pn**	**12 29 13.6**	**-1.7**
ROTZ					*e*Sn		**Sn**	**12 30 12.6**	**-3.0**
ROTZ	**Rotzenmuhle**		**5.28**	**14**	Pn		**Pn**	**12 29 13.6**	**-1.7**
ROTZ					Sn		**Sn**	**12 30 12.6**	**-3.0**
AVF	**Avril sur Loir**		**5.29**	**296**	*e*Pn		**Pn**	**12 29 15.5**	**+0.2**
	SNR=1.0								
AVF	**Avril sur Loir**		**5.29**	**296**	*e*Pn		**Pn**	**12 29 15.5**	**+0.2**
	SNR=1.0								
SSF	**Saint Saulge**		**5.29**	**299**	*e*Pn		**Pn**	**12 29 16.0**	**+0.6**
	SNR=1.0								
SSF					*e*Sn		**Sn**	**12 30 14.8**	**-1.1**
	comp=Z,4.8nm,0.3s,SNR=1.0								
SSF	**Saint Saulge**		**5.29**	**299**	*e*Pn		**Pn**	**12 29 16.0**	**+0.6**
	SNR=1.0								
SSF					*e*Sn		**Sn**	**12 30 14.8**	**-1.1**
	comp=Z,2.4nm,0.3s,SNR=1.0								
MANZ	**Manzenberg**		**5.48**	**13**	*e*Pn		**Pn**	**12 29 16.2**	**-1.8**
MANZ	**Manzenberg**		**5.48**	**13**	Pn		**Pn**	**12 29 16.2**	**-1.8**
BGF	**Bois d'Agland**		**5.54**	**293**	*e*Pn		**Pn**	**12 29 19.5**	**+0.7**
	SNR=1.0								
BGF					*e*Sn		**Sn**	**12 30 22.8**	**+0.9**
	comp=Z,16nm,0.4s,SNR=1.0								
BGF	**Bois d'Agland**		**5.54**	**293**	*e*Pn		**Pn**	**12 29 19.5**	**+0.7**
	SNR=1.0								
STON	**Ston**		**5.68**	**106**	*e*Pn		**Pn**	**12 29 20.5**	**-0.2**
STON	**Ston**		**5.68**	**106**	*e*Pn		**Pn**	**12 29 20.5**	**-0.2**
TNS	**Taunus Mts**		**5.70**	**348**	*e*Pn		**Pn**	**12 29 21.0**	**-0.1**
TNS	**Taunus Mts**		**5.70**	**348**	Pn		**Pn**	**12 29 21.0**	**-0.1**
NKC	**Novy Kostel**		**5.78**	**14**	*e*PN		**Pn**	**12 29 20.9**	**-1.1**
NKC	**Novy Kostel**		**5.78**	**14**	Pn		**Pn**	**12 29 20.9**	**-1.1**
GUNZ	**Gunzen**		**5.88**	**13**	*e*Pn		**Pn**	**12 29 22.0**	**-1.5**
GUNZ	**Gunzen**		**5.88**	**13**	Pn		**Pn**	**12 29 22.0**	**-1.5**
TCF	**Toulx Ste Croi**		**5.89**	**289**	*e*Pn		**Pn**	**12 29 26.1**	**+2.5**
	SNR=1.0								
TCF					*e*Sn		**Sn**	**12 30 30.3**	**-0.3**
	comp=Z,6.7nm,0.5s,SNR=1.0								
TCF	**Toulx Ste Croi**		**5.89**	**289**	*e*Pn		**Pn**	**12 29 26.1**	**+2.5**
	SNR=1.0								
MTLF	**Montolieu**		**5.95**	**260**	*e*Pn		**Pn**	**12 29 26.6**	**+2.2**
	SNR=1.0								
MTLF					*e*Sn		**Sn**	**12 30 29.3**	**-2.7**
	comp=Z,4.2nm,0.6s,SNR=1.0								
MTLF	**Montolieu**		**5.95**	**260**	*e*Pn		**Pn**	**12 29 26.6**	**+2.2**
	SNR=1.0								
MOX	**Moxa**		**6.06**	**8**	*e*Pn		**Pn**	**12 29 25.0**	**-1.0**
MOX	**Moxa**		**6.06**	**8**	Pn		**Pn**	**12 29 25.0**	**-1.0**
PRU	**Pruhonice**		**6.08**	**27**	*e*PN		**Pn**	**12 29 24.4**	**-1.8**
PRU					*e*SN		**Sn**	**12 30 32.0**	**-3.2**
PRU					*ex*		x	12 31 09.9	
PRU	**Pruhonice**		**6.08**	**27**	Pn		**Pn**	**12 29 24.4**	**-1.8**
PRU					Sg		**Sg**	**12 31 09.9**	**-2.4**
GOPC	**GO Pecny, Ondr**		**6.10**	**29**	*e*PN		**Pn**	**12 29 26.0**	**-0.4**
GOPC					*ex*		x	12 31 09.3	
GOPC	**GO Pecny, Ondr**		**6.10**	**29**	Pn		**Pn**	**12 29 26.0**	**-0.4**
GOPC					Sg		**Sg**	**12 31 09.3**	**-3.5**
BRG	**Berggiesshubel**		**6.70**	**20**	PN		**Pn**	**12 29 34.1**	**-0.6**
BRG					SG		**Sg**	**12 31 32.2**	**+0.1**
	comp=Z,7.9nm,0.8s								
CLL	**Collm**		**6.91**	**14**	*e*Pn		**Pn**	**12 29 36.0**	**-1.5**
CLL					*e*Sg		**Sg**	**12 31 40.0**	**+1.2**
KRLC	**Kraliky**		**7.00**	**37**	*e*PN		**Pn**	**12 29 37.9**	**-1.0**
KRLC	**Kraliky**		**7.00**	**37**	Pn		**Pn**	**12 29 37.9**	**-1.0**
DPC	**Dobruska-Polom**		**7.02**	**34**	*e*PN		**Pn**	**12 29 37.4**	**-1.8**
DPC	**Dobruska-Polom**		**7.02**	**34**	Pn		**Pn**	**12 29 37.4**	**-1.8**

***IDC 17 12:40:55.2**±4.2,**3°.60N**×**128°.21E**,**h0**km,**mb3.7**/3,*
***mb1 3.9**/3,**mb1mx3.5**/32,**mbtmp3.7**/3,**MS3.4**/1,**Ms1 3.3**/1,*
ms1mx2.4**/30,**Error ellipse: s-maj=161.0km
s-min=64.4km az=77.0**,**North of Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**24.16**	**166**	P	P	12 46 13.9	+0.6
	0.9nm,0.4s,baz=345,slow=10.0,SNR=22						
ASAR	**Alice Springs**	**27.67**	**169**	P	P	12 46 45.6	+0.6
	0.4nm,0.5s,baz=353,slow=7.6,SNR=28						
STKA	**Stephens Creek**	**37.51**	**161**	P	P	12 48 09.6	-1.3
	0.5nm,0.3s,baz=341,slow=9.5,SNR=2.9						
STKA				LR	LR	13 06 38.9	
	comp=Z,51nm,18.4s,baz=25,slow=41						

*DDA **17** 12:48:40.6,37°.14N×31°.83E,h7km,Md2.4*
*CSEM **17** 12:48:40.6±1.0,37°.13N×31°.85E,h2km,MD2.6,Error*
ellipse: s-maj=21.8km s-min=8.4km az=78.0
*ISCJB **17** 12:48:41.1±1.3,37°.18N±0°.04×31°.9E±0°.1,h10km,Error*
ellipse: s-maj=12.6km s-min=5.6km az=167.3
*ISK **17** 12:48:44.4,37°.34N×32°.62E,h13km,MD2.6*
ISC 17 12:48:41.3±1.8,**37°.17N**±0°.04×**31°.85E**±0°.10,**h10**km,**n21,**
σ1§20/29,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HDMB	**Hadim**	**0.55**	**111**	*e*PG	**Pg**	**12 48 51.7**	**-0.4**
HDMB				*e*SG	**Sg**	**12 48 59.3**	**-0.1**
HDMB	**Hadim**	**0.55**	**111**	*e*Pg	**Pg**	**12 48 51.7**	**-0.4**
HDMB				*e*Sg	**Sg**	**12 48 59.3**	**-0.1**
KMER	**Konya-Meram**	**0.73**	**35**	*i* P	**Pg**	**12 48 54.8**	**-0.6**
KMER				*i* S	**Sg**	**12 49 04.7**	**-0.3**
KMER	**Konya-Meram**	**0.73**	**35**	P	**Pg**	**12 48 54.8**	**-0.6**
KMER				S	**Sg**	**12 49 04.7**	**-0.3**
KONT	**Konya--Tatoy**	**0.88**	**28**	*e*PG	**Pg**	**12 48 57.8**	**-0.4**
KONT				*e*SG	**Sg**	**12 49 07.0**	**-2.6**
KONT	**Konya--Tatoy**	**0.88**	**28**	*i* P	**Pg**	**12 48 57.9**	**-0.4**
KONT	**Konya--Tatoy**	**0.88**	**28**	*e*Pg	**Pg**	**12 48 57.8**	**-0.4**
KONT				*e*Sg	**Sg**	**12 49 07.0**	**-2.6**
ERMK	**Ermenek**	**1.00**	**121**	*i* P	**Pg**	**12 49 00.1**	**-0.5**
ERMK	**Ermenek**	**1.00**	**121**	P	**Pg**	**12 49 00.1**	**-0.5**
KDHN	**Kadinhani**	**1.37**	**9**	*i* P	**Pb**	**12 49 08.5**	**+1.5**
KDHN	**Kadinhani**	**1.37**	**9**	P	**Pb**	**12 49 08.5**	**+1.5**
BERE	**Bereket-Mersin**	**1.38**	**126**	*e*PN	**Pn**	**12 49 06.5**	**-0.2**
BERE	**Bereket-Mersin**	**1.38**	**126**	*e*Pn	**Pn**	**12 49 06.5**	**-0.2**
TEKE	**Tekeli-Mersin**	**1.45**	**135**	*e*PN	**Pn**	**12 49 08.2**	**+0.7**
TEKE	**Tekeli-Mersin**	**1.45**	**135**	*e*Pn	**Pn**	**12 49 08.2**	**+0.7**
TEVE	**Tevekalti-Mers**	**1.48**	**119**	*e*PN	**Pn**	**12 49 06.4**	**-1.6**
TEVE	**Tevekalti-Mers**	**1.48**	**119**	*e*Pn	**Pn**	**12 49 06.4**	**-1.6**
IKL	**Isikli**	**1.75**	**122**	*e*PN	**Pn**	**12 49 09.8**	**-1.8**
IKL	**Isikli**	**1.75**	**122**	*e*Pn	**Pn**	**12 49 09.8**	**-1.8**
KERG	**Konya-Eregli**	**1.83**	**82**	*i* P	**Pn**	**12 49 14.5**	**+1.5**
KERG				*i* S	**Sb**	**12 49 38.5**	**+0.4**
KERG	**Konya-Eregli**	**1.83**	**82**	P	**Pn**	**12 49 14.5**	**+1.5**
KERG				S	**Sb**	**12 49 38.5**	**+0.4**

*BGR **17** 13:02:10.8±1.0,44°.26N×10°.17E,h10km,ML3.5/6,Error*
ellipse: s-maj=21.1km s-min=16.7km az=161.0
*GEN **17** 13:02:14.6,44°.64N×10°.25E,h23km,ML3.0*
*CSEM **17** 13:02:14.0±0.1,44°.65N×10°.27E,h15km,ML3.4/30,Error*
ellipse: s-maj=2.4km s-min=2.1km az=129.0
*ROM **17** 13:02:14.6±0.1,44°.63N×10°.21E,h19km±2km,Ml3.1/40,*
Error ellipse: s-maj=1.8km s-min=1.5km az=115.0
*ISCJB **17** 13:02:14.7±0.2,44°.63N±0°.02×10°.22E±0°.02,h27km±2km,*
Error ellipse: s-maj=2.6km s-min=2.0km az=155.4
*LDG **17** 13:02:15.6±0.1,44°.62N×10°.31E,h10km,Ml3.3/20,Error*
ellipse: s-maj=3.4km s-min=2.4km az=39.0
*PRU **17** 13:02:16.1,44°.63N×10°.56E,h18km*
ISC 17 13:02:14.2±0.9,**44°.63N**±0°.01×**10°.28E**±0°.01,**h19**km±2km,
n220,σ1§26/335,20C-3D,Northern Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PRMA	**PARMA**	**0.13**	**12**⇓	*i*Pg	**Pg**	**13 02 18.7**	**+0.4**
PRMA				Sg	**Sg**	**13 02 23.1**	**+2.0**
	14μm,0.6s						
PRMA	**PARMA**	**0.13**	**12**⇓	*i*Pg	**Pg**	**13 02 18.7**	**+0.4**
GRAM	**Graiana**	**0.21**	**226**	P	**Pb**	**13 02 19.3**	**+0.4**
GRAM				S	**Sg**	**13 02 23.5**	**+0.6**
NOVE	**Novellara**	**0.35**	**62**	Pg	**Pb**	**13 02 22.6**	**+0.6**
NOVE				Sg	**Sn**	**13 02 30.1**	**-0.8**
NOVE	**Novellara**	**0.35**	**62**	Pg	**Pb**	**13 02 22.6**	**+0.6**
CODM	**Codolo**	**0.39**	**231**	P	**Pg**	**13 02 22.1**	**-0.2**
CODM				S	**Sg**	**13 02 28.7**	**+0.9**
SARO	**Sassorosso**	**0.46**	**169**	P	**Pg**	**13 02 23.8**	**+0.2**
SARO				S	**Sg**	**13 02 30.4**	**+0.5**
VLC	**Villacollemand**	**0.48**	**170**⇑	*i*Pg	**Pg**	**13 02 24.1**	**+0.1**
VLC				Sg	**Sb**	**13 02 31.8**	**+1.0**
	4μm,1.0s						
VLC	**Villacollemand**	**0.48**	**170**⇑	*i*Pg	**Pg**	**13 02 24.1**	**+0.1**
VLC				Sg	**Sb**	**13 02 31.8**	**+1.0**
	4μm,1.0s						
ZCCA	**Zocca**	**0.58**	**119**	Pg	**Pn**	**13 02 27.2**	**-0.3**
	442nm,0.5s						
ZCCA	**Zocca**	**0.58**	**119**	Pg	**Pn**	**13 02 27.2**	**-0.3**
	442nm,0.5s						
SC2M	**Scurtabo**	**0.58**	**247**⇑	*i*Pg	**Pb**	**13 02 25.1**	**-0.6**
SC2M				Sg	**Sg**	**13 02 34.3**	**+0.8**
	1μm,0.5s

PANI	**Panarotta**	1.60	27	⇑	*e*Pg		Pn	13 02 41.9	+0.1
PANI					*e*Sg		Sb	13 03 04.7	+1.5
CGRP	**Cima Grappa**	1.65	40		Pg		Pn	13 02 41.7	-0.6
	393nm,0.7s								
CGRP	**Cima Grappa**	1.65	40		*e*Pg		Pn	13 02 42.4	+0.1
CGRP	**Cima Grappa**	1.65	40		*e*Pg		Pn	13 02 42.4	+0.1
RORO	**Rocca Rossa**	1.67	253		Pg		Pn	13 02 42.9	+0.5
	57nm,0.5s								
CAFI	**Castiglion Fio**	1.79	136		Pg		Pb	13 02 46.2	-0.2
	42nm,0.7s								
BERNI	**Berninapass**	1.79	354		Pg		Pn	13 02 45.1	+0.8
	153nm,0.7s								
CARE	**Lago del Cares**	1.81	9		*e*Pn		Pn	13 02 45.5	+0.7
CARE	**Lago del Cares**	1.81	9		*e*Pn		Pn	13 02 45.5	+0.7
BRMO	**Bormio**	1.84	2		Pg		Pn	13 02 45.9	+0.9
	57nm,0.5s								
OZOL	**Ozolo**	1.85	17	⇓	*e*Pn		Pn	13 02 46.0	+0.9
OZOL	**Ozolo**	1.85	17		*e*Pn		Pn	13 02 46.0	+0.9
IMI	**Imperia**	1.86	248		Pg		Pn	13 02 45.1	0.0
	108nm,0.7s								
VARN	**Col Varnada, M**	1.88	43		*e*Pn		Pn	13 02 45.5	+0.2
VARN	**Col Varnada, M**	1.88	43		*e*Pn		Pn	13 02 45.5	+0.2
CASP	**Castiglione de**	1.89	167		Pg		Pn	13 02 46.3	+0.8
	87nm,0.6s								
TUE	**Stuetta**	1.95	341	⇑	*i*Pg		Pn	13 02 47.5	+1.0
	108nm,0.5s								
APPI	**Appiano**	1.96	20		Pg		Pn	13 02 47.5	+0.9
	249nm,0.5s								
PIEI	**Pieia**	1.96	123		Pg		Pb	13 02 49.6	+0.2
	56nm,0.9s								
FUORN	**Ofenpass-Fuorn**	1.99	360		Pg		Pn	13 02 48.4	+1.3
	125nm,0.9s								
KOSI	**Kohlern**	1.99	23	⇑	*i*Pg		Pn	13 02 47.7	+0.7
	220nm,0.7s								
MOSI	**Grossmontoni**	1.99	5		Pg		Pn	13 02 48.3	+1.2
	563nm,0.8s								
FUSIO	**Fusio**	2.14	329		Pg		Pn	13 02 49.4	+0.3
	114nm,0.5s								
DAVOX	**Davos/Dischmat**	2.17	353		Pg		Pn	13 02 51.2	+1.8
	88nm,0.5s								
SBF	**Sospel**	2.18	250		*e*Pn		Pn	13 02 50.4	+0.8
	SNR=1.0								
SBF	**Sospel**	2.18	250		*e*Pg		Pn	13 02 51.4	+1.8
	SNR=1.0								
SBF					*e*Sn		Sn	13 03 15.9	-0.2
	191nm,0.6s,SNR=1.0								
SBF	**Sospel**	2.18	250		*e*Pn		Pn	13 02 50.4	+0.8
	SNR=1.0								
SBF	**Sospel**	2.18	250		*e*Pg		Pn	13 02 51.4	+1.8
	SNR=1.0								
SBF					*e*Sn		Sn	13 03 15.9	-0.2
	95nm,0.6s,SNR=1.0								
ABSI	**Aberstueckl**	2.22	19		Pg		Pn	13 02 51.2	+1.0
	371nm,0.7s								
PGF	**Pioggiola**	2.28	204		*e*Pn		Pn	13 02 50.9	-0.1
	SNR=1.0								
PGF					*e*Sn		Sn	13 03 17.9	-0.7
	36nm,0.7s								
PGF	**Pioggiola**	2.28	204		*e*Pn		Pn	13 02 50.9	-0.1
	SNR=1.0								
PGF					*e*Sn		Sn	13 03 17.9	-0.7
	18nm,0.7s								
FETA	**Feichten**	2.41	7		*e*Pn		Pn	13 02 54.8	+2.0
	4.4nm,0.2s,SNR=11								
FETA					*e*Sn		Sb	13 03 28.6	+2.2
	20nm,0.5s								
FETA	**Feichten**	2.41	7		Pn		Pn	13 02 54.8	+2.0
	4.4nm,0.2s,SNR=11								
MBDF	**Montbardon**	2.50	273		*e*Pn		Pn	13 02 55.4	+1.4
	SNR=1.0								
MBDF					*e*Sn		Sn	13 03 24.3	+0.2
	SNR=1.0								
MBDF					*e*Sg		Sg	13 03 34.3	-0.3
	98nm,0.6s,SNR=1.0								
MBDF	**Montbardon**	2.50	273		*e*Pn		Pn	13 02 55.4	+1.4
	SNR=1.0								
MBDF					*e*Sn		Sn	13 03 24.3	+0.2
	SNR=1.0								
MBDF					*e*Sg		Sg	13 03 34.3	-0.3
	49nm,0.6s,SNR=1.0								
ABTA	**Abfaltersbach**	2.63	36		*e*Pn		Pn	13 02 57.2	+1.4
	11nm,0.3s,SNR=14								
ABTA					*e*Sn		Sb	13 03 31.3	-1.5
	23nm,0.5s								
ABTA					*e*Sg		Sg	13 03 40.9	+2.1
	35nm,0.5s								
ABTA	**Abfaltersbach**	2.63	36		Pn		Pn	13 02 57.2	+1.4
	11nm,0.3s,SNR=14								
ABTA					Sn		Sb	13 03 31.3	-1.5
	23nm,0.5s								
ABTA					Sg		Sg	13 03 40.9	+2.1
	35nm,0.5s								
LPG	**La Plagne**	2.64	290		*e*Pn		Pn	13 02 57.4	+1.3
	SNR=1.0								
LPG					*e*Sn		Sn	13 03 26.9	-0.9
	51nm,0.5s,SNR=1.0								
LPG	**La Plagne**	2.64	290		*e*Pn		Pn	13 02 57.4	+1.3
	SNR=1.0								
LPG					*e*Sn		Sn	13 03 26.9	-0.9
	26nm,0.5s,SNR=1.0								
LPL	**La Plagne**	2.66	291		*e*Pn		Pn	13 02 56.9	+0.6
	SNR=1.0								
LPL					*e*Sn		Sn	13 03 27.6	-0.5
	58nm,0.6s,SNR=1.0								
LPL	**La Plagne**	2.66	291		*e*Pn		Pn	13 02 56.9	+0.6
	SNR=1.0								
LPL					*e*Sn		Sn	13 03 27.6	-0.5
	29nm,0.6s,SNR=1.0								
VINO	**Villanova**	2.67	51		*e*Pn		Pn	13 02 55.7	-0.5
VINO	**Villanova**	2.67	51		*e*Pn		Pn	13 02 55.7	-0.5
DAVA	**Damuels**	2.67	354		*e*Pn		Pn	13 02 58.8	+2.4
	41nm,0.4s,SNR=28								
DAVA					*e*Sn		Sn	13 03 32.0	+3.7
	21nm,0.3s								
DAVA	**Damuels**	2.67	354		*e*Pn		Pn	13 02 58.6	+2.2
DAVA					*e*Sn		Sn	13 03 31.9	+3.7
DAVA	**Damuels**	2.67	354		Pn		Pn	13 02 58.6	+2.2
DAVA					Sn		Sn	13 03 31.9	+3.7
TRI	**Trieste**	2.69	65		*e*Pn		Pn	13 02 56.1	-0.4
TRI	**Trieste**	2.69	65		*e*Pn		Pn	13 02 56.1	-0.4
MOTA	**Moosalm**	2.77	12		*e*Pn		Pn	13 03 00.2	+2.4
	24nm,0.2s,SNR=40								
MOTA	**Moosalm**	2.77	12		Pn		Pn	13 03 00.2	+2.4
	24nm,0.2s,SNR=40								
OBER	**Oberstdorf**	2.77	0		*e*Pn		Pn	13 03 00.1	+2.4
OBER	**Oberstdorf**	2.77	0		Pn		Pn	13 03 00.1	+2.4
WTTA	**Wattenberg**	2.80	19		*e*Pn		Pn	13 03 00.2	+2.1
	17nm,0.3s,SNR=16								
WTTA					*e*Sn		Sn	13 03 35.1	+3.6
	19nm,0.4s								
WTTA	**Wattenberg**	2.80	19		*e*PN		Pn	13 03 00.1	+2.0
WTTA	**Wattenberg**	2.80	19		*e*Pn		Pn	13 03 00.2	+2.1
WTTA					*e*Sn		Sb	13 03 36.2	-1.4
WTTA	**Wattenberg**	2.80	19		Pn		Pn	13 03 00.2	+2.1
WTTA					Sn		Sn	13 03 35.1	+3.6
	19nm,0.4s								
SKDS	**Skadanscina**	2.80	70		*i*Pn		Pn	13 02 57.4	-0.6
SKDS					*i*Sn		Sn	13 03 29.6	-1.7
	comp=Z,10.0nm,0.1s								
SKDS	**Skadanscina**	2.80	70		Pn		Pn	13 02 57.4	-0.6
SKDS					*i*Sn		Sn	13 03 29.6	-1.7
	comp=Z,10.0nm,0.1s								
FRF	**La Foret Royal**	2.83	249		*e*Pn		Pn	13 02 59.4	+1.1
	SNR=1.0								
FRF					*e*Sn		Sn	13 03 31.0	-0.9
	comp=Z,37nm,0.5s,SNR=1.0								
FRF	**La Foret Royal**	2.83	249		*e*Pn		Pn	13 02 59.4	+1.1
	SNR=1.0								
FRF					*e*Sn		Sn	13 03 31.0	-0.9
	comp=Z,18nm,0.5s,SNR=1.0								
WATA	**Walderalm**	2.85	18		*e*Pn		Pn	13 03 01.1	+2.3
	comp=Z,10nm,0.2s,SNR=15								
WATA					*i*Sn		Sb	13 03 36.7	-2.4
WATA	**Walderalm**	2.85	18		Pn		Pn	13 03 01.1	+2.3
	comp=Z,10nm,0.2s,SNR=15								
WATA					Sn		Sb	13 03 36.7	-2.4
RETA	**Reutte**	2.87	7		*e*Pn		Pn	13 03 01.0	+1.9
	comp=Z,5.7nm,0.2s,SNR=7.6								
RETA	**Reutte**	2.87	7		Pn		Pn	13 03 01.0	+1.9
	comp=Z,5.7nm,0.2s,SNR=7.6								
ACOM	**Acomizza, Ital**	2.97	49		*e*Pn		Pn	13 03 01.0	+0.5
ACOM	**Acomizza, Ital**	2.97	49		*e*Pn		Pn	13 03 01.0	+0.5
LMR	**La Mourre**	3.01	246		*e*Pn		Pn	13 03 01.4	+0.5
	SNR=1.0								
LMR					*e*Sn		Sn	13 03 35.5	-1.0
	comp=Z,27nm,0.4s,SNR=1.0								
LMR	**La Mourre**	3.01	246		*e*Pn		Pn	13 03 01.4	+0.5
	SNR=1.0								
LMR					*e*Sn		Sn	13 03 35.5	-1.0
	comp=Z,13nm,0.4s,SNR=1.0								
KNDS	**Knezji Dol**	3.04	71		*i*Pn		Pn	13 03 01.0	-0.4
KNDS					*i*Sn		Sn	13 03 35.8	-1.6
	comp=Z,11nm,0.1s								
KNDS	**Knezji Dol**	3.04	71		*i*Pn		Pn	13 03 01.0	-0.4
KNDS					*i*Sn		Sn	13 03 35.8	-1.6
	comp=Z,11nm,0.1s								
ORIF	**Oris-en-Rattie**	3.14	277		*e*Pn		Pn	13 03 04.4	+1.6
	SNR=1.0								
ORIF					*e*Sn		Sn	13 03 39.0	-0.9
	comp=Z,53nm,0.6s,SNR=1.0								
ORIF	**Oris-en-Rattie**	3.14	277		*e*Pn		Pn	13 03 04.4	+1.6
	SNR=1.0								
ORIF					*e*Sn		Sn	13 03 39.0	-0.9
	comp=Z,26nm,0.6s,SNR=1.0								
KBA	**Koelnbreinsper**	3.25	40		*i*Pn		Pn	13 03 06.3	+1.9
	comp=Z,4.2nm,0.3s								
KBA					*i*Sg		Sg	13 04 00.7	+2.1
KBA	**Koelnbreinsper**	3.25	40		*e*Pn		Pn	13 03 06.3	+1.9
KBA	**Koelnbreinsper**	3.25	40		Pn		Pn	13 03 06.3	+1.9
KBA					Sg		Sg	13 04 00.7	+2.1
NVLJ	**Novalja**	3.28	90		*e*Pn		Pn	13 03 05.2	+0.5
NVLJ					Sn		Sn	13 03 42.0	-1.1
NVLJ	**Novalja**	3.28	90		*e*Pn		Pn	13 03 05.1	+0.5
NVLJ					Sn		Sn	13 03 42.0	-1.1
VISS	**Visnje**	3.43	68		*i*Pn		Pn	13 03 06.8	+0.1
VISS					*i*Sn		Sn	13 03 46.3	-0.5
	comp=Z,14nm,0.3s								
VISS	**Visnje**	3.43	68		*i*Pn		Pn	13 03 06.8	+0.1
VISS					*i*Sn		Sn	13 03 46.3	-0.5
	comp=Z,14nm,0.3s								
SMRF	**Simiane la Rot**	3.44	261		*e*Pn		Pn	13 03 08.5	+1.7
	SNR=1.0								
SMRF					*e*Sn		Sn	13 03 47.2	+0.2
	comp=Z,22nm,0.6s,SNR=1.0								
SMRF	**Simiane la Rot**	3.44	261		*e*Pn		Pn	13 03 08.5	+1.7
	SNR=1.0								
SMRF					*e*Sn		Sn	13 03 47.2	+0.2
	comp=Z,11nm,0.6s,SNR=1.0								
CABF	**La Chapelle**	3.54	305		*e*Pn		Pn	13 03 09.5	+1.2
	SNR=1.0								
CABF					*e*Sn		Sn	13 03 48.3	-1.4
CABF					*e*Sg		Sg	13 04 07.1	-0.8
	comp=Z,17nm,0.6s,SNR=1.0								
CABF	**La Chapelle**	3.54	305		*e*Pn		Pn	13 03 09.5	+1.2
	SNR=1.0								
CABF					*e*Sn		Sn	13 03 48.3	-1.4
CABF					*e*Sg		Sg	13 04 07.1	-0.8
	comp=Z,8.4nm,0.6s,SNR=1.0								
RJOB	**Jochberg**	3.56	29		*e*Pn		Pn	13 03 10.2	+1.6
RJOB	**Jochberg**	3.56	29		Pn		Pn	13 03 10.2	+1.6
OZLJ	**Ozalj**	3.80	73		*i*Pn		Pn	13 03 12.6	+0.9
OZLJ					Sn		Sn	13 03 55.1	-0.9
OZLJ	**Ozalj**	3.80	73		*i*Pn		Pn	13 03 12.6	+0.9
OZLJ					Sn		Sn	13 03 55.0	-0.9
SOKA	**Soboth**	3.91	57		*i*Pn		Pn	13 03 13.6	+0.2
	comp=Z,0.6nm,0.2s								
SOKA					*i*Sn		Sn	13 03 59.9	+1.1
	comp=Z,5.6nm,0.3s								
SOKA	**Soboth**	3.91	57		Pn		Pn	13 03 13.6	+0.2
	comp=Z,0.6nm,0.2s								
SOKA					Sn		Sn	13 03 59.9	+1.1
	comp=Z,5.6nm,0.3s								
UDBI	**Udbina**	3.92	90		*e*Pn		Pn	13 03 14.0	+0.5
UDBI					Sn		Sn	13 03 58.5	-0.6
UDBI	**Udbina**	3.92	90		*e*Pn		Pn	13 03 14.0	+0.5
UDBI					Sn		Sn	13 03 58.5	-0.6
BFO	**Black Forest**	3.93	341		*e*Pn		Pn	13 03 13.4	-0.2
BFO	**Black Forest**	3.93	341		Pn		Pn	13 03 13.4	-0.2
HINF	**Hinteralfeld**	3.97	324		*e*Pn		Pn	13 03 15.0	+0.9
	SNR=1.0								
HINF					*e*Sn		Sn	13 03 58.7	-1.5
	comp=Z,13nm,0.4s								
HINF	**Hinteralfeld**	3.97	324		*e*Pn		Pn	13 03 15.0	+0.9
	SNR=1.0								
HINF					*e*Sn		Sn	13 03 58.7	-1.5
	comp=Z,6.4nm,0.4s								
VIVF	**Saint-Julien-l**	4.00	275		*e*Pn		Pn	13 03 16.0	+1.5
	SNR=1.0								
VIVF					*e*Sn		Sn	13 03 59.6	-1.2
	comp=Z,9.2nm,0.4s,SNR=1.0								
VIVF	**Saint-Julien-l**	4.00	275		*e*Pn		Pn	13 03 16.0	+1.5
	SNR=1.0								
VIVF					*e*Sn		Sn	13 03 59.6	-1.2
	comp=Z,4.6nm,0.4s,SNR=1.0								
MOA	**Molln**	4.24	39		*i*Pn		Pn	13 03 18.9	+1.1
	comp=Z,3.0nm,0.2s								
MOA					*i*Sn		Sn	13 04 08.5	+1.6
	comp=Z,11nm,0.5s								
MOA	**Molln**	4.24	39		*e*Pn		Pn	13 03 19.0	+1.1
MOA					*e*Sn		Sn	13 04 08.5	+1.6
MOA	**Molln**	4.24	39		Pn		Pn	13 03 19.0	+1.1
MOA					Sn		Sn	13 04 08.5	+1.6
CDF	**Champ du Feu**	4.31	332		*e*Pn		Pn	13 03 19.0	+0.2
	SNR=1.0								
CDF					*e*Sn		Sn	13 04 06.1	-2.5
	comp=Z,9.5nm,0.2s,SNR=1.0								
CDF	**Champ du Feu**	4.31	332		*e*Pn		Pn	13 03 19.0	+0.2
	SNR=1.0								
CDF					*e*Sn		Sn	13 04 06.1	-2.5
	comp=Z,4.8nm,0.2s,SNR=1.0								
HAU	**Haudompre**	4.33	322		*e*Pn		Pn	13 03 19.6	+0.5
HAU					*e*Sn		Sn	13 04 07.8	-1.3
	comp=Z,18nm,0.3s								
HAU	**Haudompre**	4.33	322		*e*Pn		Pn	13 03 19.6	+0.5
HAU					*e*Sn		Sn	13 04 07.8	-1.3
	comp=Z,8.9nm,0.3s								
ARSA	**Arzberg**	4.50	53		*i*Pn		Pn	13 03 22.1	+0.7
	comp=Z,1.5nm,0.3s								
ARSA	**Arzberg**	4.50	53		Pn		Pn	13 03 22.1	+0.7
	comp=Z,1.5nm,0.3s								
LASF	**Ste Croix**	4.64	265		*e*Pn		Pn	13 03 23.8	+0.5
LASF	**Ste Croix**	4.64	265		*e*Pn		Pn	13 03 23.8	+0.5
GEC2	**GERESS Array S**	4.83	28		*e*Pn		Pn	13 03 25.8	-0.1
GEC2					*e*Sn		Sn	13 04 18.8	-2.6
GEC2	**GERESS Array S**	4.83	28		Pn		Pn	13 03 25.8	-0.1
GEC2					Sn		Sn	13 04 18.8	-2.6
WET	**Wettzell**	4.85	21		*e*Pn		Pn	13 03 25.9	-0.3
WET	**Wettzell**	4.85	21		Pn		Pn	13 03 25.9	-0.3
SMF	**Signal de Mont**	4.94	296		*e*Pn		Pn	13 03 28.0	+0.6
	SNR=1.0								
SMF					*e*Sn		Sn	13 04 23.4	-0.6
	comp=Z,17nm,0.5s,SNR=1.0								
SMF	**Signal de Mont**	4.94	296		*e*Pn		Pn	13 03 28.0	+0.6
	SNR=1.0								
SMF					*e*Sn		Sn	13 04 23.4	-0.6
	comp=Z,8.6nm,0.5s,SNR=1.0								
KHC	**Kasperske Hory**	5.04	26		*e*PN		Pn	13 03 28.8	0.0
KHC					*e*SN		Sn	13 04 24.0	-2.4
KHC					*e*SG		Sg	13 04 53.7	-2.0
	comp=Z,23nm,0.9s								
KHC	**Kasperske Hory**	5.04	26		Pn		Pn	13 03 28.8	0.0
KHC					Sn		Sn	13 04 24.0	-2.4
KHC					Sg		Sg	13 04 53.7	-2.0
	comp=Z,23nm,0.9s								
CONA	**Conrad Observa**	5.08	48		*i*Pn		Pn	13 03 30.0	+0.5
	comp=Z,0.5nm,0.2s								
CONA	**Conrad Observa**	5.08	48		Pn		Pn	13 03 30.0	+0.5
	comp=Z,0.5nm,0.2s								
LOR	**Lormes**	5.19	303		*e*Pn		Pn	13 03 31.5	+0.6
	baz=124,SNR=1.0								
LOR					*e*Sn		Sn	13 04 29.2	-1.0
	comp=Z,12nm,0.3s,baz=124,SNR=1.0								
LOR	**Lormes**	5.19	303		*e*Pn		Pn	13 03 31.5	+0.6
	SNR=1.0								
LOR					*e*Sn		Sn	13 04 29.2	-1.0
	comp=Z,6.2nm,0.3s,SNR=1.0								
ROTZ	**Rotzenmuhle**	5.30	14		*e*Pn		Pn	13 03 31.1	-1.3
ROTZ	**Rotzenmuhle**	5.30	14		Pn		Pn	13 03 31.1	-1.3
AVF	**Avril sur Loir**	5.31	296		*e*Pn		Pn	13 03 33.0	+0.6
	SNR=1.0								
AVF	**Avril sur Loir**	5.31	296		*e*Pn		Pn	13 03 33.0	+0.6
	SNR=1.0								
SSF	**Saint Saulge**	5.32	300		*e*Sn		Sn	13 04 33.2	-0.1
	comp=Z,7.2nm,0.4s,SNR=1.0								
SSF	**Saint Saulge**	5.32	300		*e*Sn		Sn	13 04 33.2	-0.1
	comp=Z,3.6nm,0.4s,SNR=1.0								
BGF	**Bois d'Agland**	5.56	293		*e*Pn		Pn	13 03 37.0	+1.1
BGF					*e*Sn		Sn	13 04 36.7	-2.5
	comp=Z,17nm,0.5s								
BGF	**Bois d'Agland**	5.56	293		*e*Pn		Pn	13 03 37.0	+1.1
BGF					*e*Sn		Sn	13 04 36.7	-2.5
	comp=Z,8.5nm,0.5s								
STON	**Ston**	5.66	106		*i*Pn		Pn	13 03 38.3	+1.0
STON					Sn		Sn	13 03 40.6	-1.2
STON	**Ston**	5.66	106		*i*Pn		Pn	13 03 38.2	+1.0
STON					Sn		Sn	13 04 40.5	-1.2
TNS	**Taunus Mts**	5.73	348		*e*Pn		Pn	13 03 38.4	+0.2
TNS	**Taunus Mts**	5.73	348		Pn		Pn	13 03 38.4	+0.2
CAF	**Calviac**	5.85	276		*e*Pn		Pn	13 03 40.4	+0.4
CAF	**Calviac**	5.85	276		*e*Pn		Pn	13 03 40.4	+0.4
TCF	**Toulx Ste Croi**	5.91	289		*e*Pn		Pn	13 03 43.6	+2.9
	SNR=1.0								
MTLF	**Montolieu**	5.96	260		*e*Pn		Pn	13 03 43.6	+2.2
	SNR=1.0								
MTLF					*e*Sn		Sn	13 04 46.6	-2.4
	comp=Z,3.1nm,0.5s,SNR=1.0								
MTLF	**Montolieu**	5.96	260		*e*Pn		Pn	13 03 43.6	+2.2
	SNR=1.0								
PRU	**Pruhonice**	6.09	27		*e*PN		Pn	13 03 42.4	-0.8
PRU					*e*SG		Sg	13 05 27.1	-2.4
	comp=Z,12nm,1.1s								
PRU	**Pruhonice**	6.09	27		Pn		Pn	13 03 42.4	-0.8
PRU					Sg		Sg	13 05 27.1	-2.4
	comp=Z,12nm,1.1s								
GOPC	**GO Pecny, Ondr**	6.11	29		*e*SN		Sn	13 04 50.8	-2.0
GOPC					*e*SG		Sg	13 05 26.9	-3.2
	comp=Z,14nm,0.9s								
GOPC	**GO Pecny, Ondr**	6.11	29		Sn		Sn	13 04 50.8	-2.0
GOPC					Sg		Sg	13 05 26.9	-3.2
	comp=Z,14nm,0.9s								
RJF	**Les Rejaudoux**	6.25	279		*e*Sg		Sg	13 05 34.4	-0.3
	comp=Z,5.5nm,0.6s,SNR=1.0								
RJF	**Les Rejaudoux**	6.25	279		*e*Sg		Sg	13 05 34.4	-0.3
	comp=Z,2.8nm,0.6s,SNR=1.0								
VRAC	**Vranov**	6.37	41	⇑	*i*P		Pg	13 04 12.7	-3.3
BRG	**Berggiesshubel**	6.71	20		PN		Pn	13 03 51.1	-0.6
BRG					SG		Sg	13 05 48.6	-0.9
	comp=Z,8.0nm,0.9s								
PDG	**Podgorica**	6.89	106	⇑	*i*P		Sn	13 05 09.2	-2.8
CLL	**Collm**	6.92	14		*e*Pn		Pn	13 03 53.0	-1.6
CLL					*e*Sn		Sn	13 05 01.0	-12
CLL					*e*Sg		Sg	13 05 56.0	-0.2
DPC	**Dobruska-Polom**	7.03	33		*e*PN		Pn	13 03 55.6	-0.6
DPC	**Dobruska-Polom**	7.03	33		Pn		Pn	13 03 55.6	-0.6

CSEM ***17*** *13:04:01.1, 44.14N×22.12E, h0km, ML1.3, Mining explosion.*

BEO 17 13:04:01.1±0.4, 44.14N×22.12E, h0km, M1.3/9, Mining explosion., Romania

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
BOLS	**Boljevac**	0.33	201	*e*Pg		Pg	13 04 05.7	-1.8
BOLS				*e*Sg		Sg	13 04 10.7	-1.1
BOLS	**Boljevac**	0.33	201	*e*Pg		Pg	13 04 05.7	-1.8
BOLS				*e*Sg		Sg	13 04 10.7	-1.1
ZAGS	**Zajecar**	0.34	166	*e*Sg		Sg	13 04 11.8	-0.1
ZAGS	**Zajecar**	0.34	166	*e*Sg		Sg	13 04 11.8	-0.1
KUBS	**Kucevo**	0.42	311	*e*Pg		Pg	13 04 07.4	-1.8
KUBS				*e*Sg		Sg	13 04 14.0	-0.6
KUBS	**Kucevo**	0.42	311	*e*Pg		Pg	13 04 07.4	-1.8
KUBS				*e*Sg		Sg	13 04 14.0	-0.6
BOVS	**Bovan**	0.59	211	*e*Pg		Pg	13 04 11.8	-0.5
BOVS	**Bovan**	0.59	211	*e*Pg		Pg	13 04 11.8	-0.5
ZAPS	**Zavoj**	0.94	157	*e*Pg		Pg	13 04 18.4	-0.7
ZAPS				*e*Sg		Sg	13 04 31.1	-0.3
SELS	**Selova**	1.17	219	*e*Pg		Pg	13 04 23.4	-0.1
SELS				*e*Sg		Sg	13 04 39.1	+0.4
BARS	**Barje**	1.34	190	*e*Pg		Pg	13 04 25.0	-1.8
BARS				*e*Sg		Sg	13 04 44.3	+0.1
BARS

	11µm,0.3s								
SACR	**S. Croce Del S**	**0.27**	**176**	⇑	*i*Pg	**Pg**	**13 41 51.0**	**-0.2**
SACR					Sg	**Sg**	**13 41 56.2**	**+0.8**
	11µm,0.3s								
FRES	**Fresagrandinar**	**0.31**	**358**		Pg	**Pg**	**13 41 51.5**	**-0.3**
FRES					Sg	**Sb**	**13 41 57.1**	**+0.5**
	9µm,0.5s								
FRES	**Fresagrandinar**	**0.31**	**358**		Pg	**Pg**	**13 41 51.5**	**-0.3**
FRES					Sg	**Sb**	**13 41 57.1**	**+0.5**
	9µm,0.5s								
PTRJ	**Pietraroja**	**0.32**	**201**	⇑	*i*Pg	**Pg**	**13 41 51.9**	**-0.2**
PTRJ					Sg	**Sb**	**13 41 58.1**	**+1.0**
	13µm,0.6s								
PTRJ	**Pietraroja**	**0.32**	**201**	⇑	*i*Pg	**Pg**	**13 41 51.9**	**-0.2**
PTRJ					Sg	**Sb**	**13 41 58.1**	**+1.0**
	13µm,0.6s								
RNI2	**Rionero Sannit**	**0.40**	**275**	⇓	*i*Pg	**Pb**	**13 41 54.0**	**+0.3**
RNI2					Sg	**Sn**	**13 42 01.8**	**-1.2**
	3µm,0.3s								
RNI2	**Rionero Sannit**	**0.40**	**275**	⇓	*i*Pg	**Pb**	**13 41 54.0**	**+0.3**
VAGA	**Valle Agricola**	**0.42**	**233**	⇑	*i*Pg	**Pg**	**13 41 54.1**	**+0.4**
	5µm,0.2s								
VAGA	**Valle Agricola**	**0.42**	**233**	⇑	*i*Pg	**Pg**	**13 41 54.1**	**+0.4**
	5µm,0.2s								
PSB1	**Pescosannita**	**0.45**	**168**	⇑	*i*Pg	**Pg**	**13 41 53.7**	**-0.6**
PSB1					Sg	**Sg**	**13 42 00.9**	**+0.4**
	3µm,0.4s								
PSB1	**Pescosannita**	**0.45**	**168**	⇑	*i*Pg	**Pg**	**13 41 53.7**	**-0.6**
PSB1					Sg	**Sg**	**13 42 00.9**	**+0.4**
	3µm,0.4s								
MOCO	**Biccari - m.te**	**0.46**	**130**	⇓	*i*Pg	**Pg**	**13 41 53.6**	**-0.9**
	4µm,0.4s								
CERA	**Filignano**	**0.50**	**262**		Pg	**Pg**	**13 41 55.4**	**+0.2**
CERA	**Filignano**	**0.50**	**262**		Pg	**Pg**	**13 41 55.4**	**+0.2**
MRB1	**Monte Rocchett**	**0.58**	**158**	⇑	*i*Pg	**Pb**	**13 41 55.8**	**-0.8**
MRB1					Sg	**Sb**	**13 42 03.3**	**-1.1**
	4µm,0.7s								
MRB1	**Monte Rocchett**	**0.58**	**158**	⇑	*i*Pg	**Pb**	**13 41 55.8**	**-0.8**
MRB1					Sg	**Sb**	**13 42 03.3**	**-1.1**
	4µm,0.7s								
CAFR	**Castel Frentan**	**0.61**	**336**		Pg	**Pb**	**13 41 56.7**	**-0.4**
	4µm,0.4s								
CAFR	**Castel Frentan**	**0.61**	**336**		Pg	**Pb**	**13 41 56.7**	**-0.4**
	4µm,0.4s								
PAOL	**Paolisi**	**0.64**	**188**	⇑	*i*Pg	**Pb**	**13 41 56.7**	**-0.9**
	1µm,0.3s								
PAOL	**Paolisi**	**0.64**	**188**	⇑	*i*Pg	**Pb**	**13 41 56.7**	**-0.9**
	1µm,0.3s								
INTR	**Introdacqua**	**0.68**	**301**	⇓	*i*Pg	**Pb**	**13 41 57.9**	**-0.3**
INTR					Sg	**Sn**	**13 42 09.3**	**-0.5**
	2µm,0.6s								
INTR	**Introdacqua**	**0.68**	**301**	⇓	*i*Pg	**Pb**	**13 41 57.9**	**-0.3**
POFI	**Posta Fibreno**	**0.73**	**274**		Pg	**Pb**	**13 41 59.0**	**-0.2**
	1µm,0.7s								
POFI	**Posta Fibreno**	**0.73**	**274**		Pg	**Pb**	**13 41 59.0**	**-0.2**
	1µm,0.7s								
SGTA	**Sant Agata di**	**0.74**	**136**		Pg	**Pb**	**13 41 57.7**	**-1.6**
	3µm,0.3s								
SGTA	**Sant Agata di**	**0.74**	**136**		Pg	**Pb**	**13 41 57.7**	**-1.6**
	3µm,0.3s								
NL9	**Nola**	**0.75**	**188**		Pg	**Pb**	**13 41 59.3**	**-0.2**
NL9	**Nola**	**0.75**	**188**		Pg	**Pb**	**13 41 59.3**	**-0.2**
CAFE	**Carife**	**0.76**	**147**		Pg	**Pb**	**13 41 58.4**	**-1.4**
CAFE	**Carife**	**0.76**	**147**		Pg	**Pb**	**13 41 58.4**	**-1.4**
MODR	**Mondragone**	**0.80**	**230**		Pg	**Pg**	**13 42 00.9**	**+0.2**
	1µm,0.4s								
MODR	**Mondragone**	**0.80**	**230**		Pg	**Pg**	**13 42 00.9**	**+0.2**
	1µm,0.4s								
SGRT	**San Giovanni R**	**0.80**	**83**		Pg	**Pb**	**13 41 57.7**	**-2.7**
SGRT					Sg	**Sb**	**13 42 09.0**	**-1.8**
	3µm,0.3s								
VVLD	**Villa Vallelon**	**0.82**	**285**	⇓	*i*Pg	**Pb**	**13 42 00.1**	**-0.6**
VVLD					Sg	**Sn**	**13 42 13.1**	**-0.3**
	954nm,0.5s								
VVLD	**Villa Vallelon**	**0.82**	**285**	⇓	*i*Pg	**Pb**	**13 42 00.1**	**-0.6**
SNAL	**S. Angelo Dei**	**0.84**	**152**		Pg	**Pb**	**13 41 59.3**	**-1.8**
	3µm,0.8s								
SNAL	**S. Angelo Dei**	**0.84**	**152**		Pg	**Pb**	**13 41 59.3**	**-1.8**
	3µm,0.8s								
MSAG	**Monte S. Angel**	**0.92**	**87**		Pg	**Pb**	**13 42 00.5**	**-1.9**
	7µm,0.6s								
MS1	**Monte Sant'Ang**	**0.94**	**87**		*e*Pg	**Pb**	**13 42 02.1**	**-0.7**
MS1					Sg	**Sg**	**13 42 16.2**	**+0.3**
MCRV	**Calabrutti - M**	**0.96**	**157**		Pg	**Pb**	**13 42 01.2**	**-1.9**
	3µm,0.8s								
MCRV	**Calabrutti - M**	**0.96**	**157**		Pg	**Pb**	**13 42 01.2**	**-1.9**
	3µm,0.8s								
VCEL	**Villa Celiera**	**0.96**	**319**		Pg	**Pb**	**13 42 02.3**	**-0.9**
	1µm,0.7s								
VCEL	**Villa Celiera**	**0.96**	**319**		Pg	**Pb**	**13 42 02.3**	**-0.9**
	1µm,0.7s								
VULT	**Monte Vulture**	**1.00**	**135**		Pg	**Pb**	**13 42 01.8**	**-2.0**
	5µm,0.3s								
FAGN	**Fagnano**	**1.01**	**306**		Pg	**Pb**	**13 42 03.1**	**-1.0**
	2µm,0.5s								
FAGN	**Fagnano**	**1.01**	**306**		Pg	**Pb**	**13 42 03.1**	**-1.0**
	2µm,0.5s								
PTQR	**Pietraquaria**	**1.02**	**291**		Pg	**Pb**	**13 42 03.5**	**-0.7**
PTQR	**Pietraquaria**	**1.02**	**291**		Pg	**Pb**	**13 42 03.5**	**-0.7**
MRLC	**Muro Lucano**	**1.09**	**146**		Pg	**Pn**	**13 42 04.2**	**-1.2**
	1µm,0.4s								
MRLC	**Muro Lucano**	**1.09**	**146**		Pg	**Pn**	**13 42 04.2**	**-1.2**
	1µm,0.4s								
AQU	**L'Aquila**	**1.18**	**306**		*e*Pn	**Pn**	**13 42 06.8**	**+0.2**
T0104	**Madonna delle**	**1.22**	**305**		Pg	**Pn**	**13 42 06.8**	**-0.3**
TERO	**Teramo**	**1.25**	**320**		Pg	**Pn**	**13 42 06.7**	**-0.8**
	311nm,0.5s								
TERO	**Teramo**	**1.25**	**320**		Pg	**Pn**	**13 42 06.7**	**-0.8**
	311nm,0.5s								
CDRU	**Civita di Ruta**	**1.27**	**158**		Pg	**Pn**	**13 42 07.6**	**-0.2**
	598nm,0.6s								
CDRU	**Civita di Ruta**	**1.27**	**158**		Pg	**Pn**	**13 42 07.6**	**-0.2**
	598nm,0.6s								
MRVN	**Minervino Murg**	**1.29**	**118**		Pg	**Pn**	**13 42 06.5**	**-1.6**
	713nm,0.4s								
MRVN	**Minervino Murg**	**1.29**	**118**		Pg	**Pn**	**13 42 06.5**	**-1.6**
	713nm,0.4s								
VENT	**Ventotene**	**1.29**	**228**		Pg	**Pn**	**13 42 08.5**	**+0.4**
	489nm,0.4s								
VENT	**Ventotene**	**1.29**	**228**		Pg	**Pn**	**13 42 08.5**	**+0.4**
	489nm,0.4s								
CERT	**Cerreto**	**1.30**	**283**		Pg	**Pn**	**13 42 07.9**	**-0.4**
	364nm,0.5s								
CERT	**Cerreto**	**1.30**	**283**		Pg	**Pn**	**13 42 07.9**	**-0.4**
	364nm,0.5s								
FIAM	**Fiamignano**	**1.31**	**298**		Pg	**Pn**	**13 42 08.0**	**-0.5**
	376nm,0.7s								
FIAM	**Fiamignano**	**1.31**	**298**		Pg	**Pn**	**13 42 08.0**	**-0.5**
	376nm,0.7s								
CDT	**Castel del Mon**	**1.33**	**116**		*e*Pg	**Pn**	**13 42 08.4**	**-0.3**
CDT					Sg	**Sn**	**13 42 26.2**	**+0.3**
SMA1	**SAN MARTINO**	**1.39**	**314**		Pg	**Pn**	**13 42 09.3**	**-0.3**
	383nm,0.7s								
SMA1	**SAN MARTINO**	**1.39**	**314**		Pg	**Pn**	**13 42 09.3**	**-0.3**
	383nm,0.7s								
CMPR	**Campora**	**1.43**	**161**		Pg	**Pn**	**13 42 10.1**	**+0.1**
	604nm,0.5s								
CMPR	**Campora**	**1.43**	**161**		Pg	**Pn**	**13 42 10.1**	**+0.1**
	604nm,0.5s								
SLCN	**Sala Consilina**	**1.46**	**150**		Pg	**Pn**	**13 42 10.9**	**+0.4**
	713nm,0.4s								
SLCN	**Sala Consilina**	**1.46**	**150**		Pg	**Pn**	**13 42 10.9**	**+0.4**
	713nm,0.4s								
MTCE	**Montecelio**	**1.49**	**284**		Pg	**Pb**	**13 42 12.8**	**+0.6**
	164nm,0.7s								
MTCE	**Montecelio**	**1.49**	**284**		Pg	**Pb**	**13 42 12.8**	**+0.6**
	164nm,0.7s								
MCEL	**Monticello**	**1.59**	**147**		Pg	**Pn**	**13 42 12.1**	**-0.1**
	379nm,0.6s								
MCEL	**Monticello**	**1.59**	**147**		Pg	**Pn**	**13 42 12.1**	**-0.1**
	379nm,0.6s								
MTSN	**Montesano sull**	**1.62**	**150**		Pg	**Pn**	**13 42 12.8**	**+0.2**
	364nm,0.5s								
MTSN	**Montesano sull**	**1.62**	**150**		Pg	**Pn**	**13 42 12.8**	**+0.2**
	364nm,0.5s								
AMUR	**Altamura**	**1.63**	**117**		Pg	**Pn**	**13 42 12.2**	**-0.6**
	674nm,0.4s								
AMUR	**Altamura**	**1.63**	**117**		Pg	**Pn**	**13 42 12.2**	**-0.6**
	674nm,0.4s								
MGR	**Morigerati**	**1.66**	**156**		Pg	**Pn**	**13 42 13.7**	**+0.5**
	271nm,0.5s								
MGR	**Morigerati**	**1.66**	**156**		Pg	**Pn**	**13 42 13.7**	**+0.5**
	271nm,0.5s								
BULG	**Bulgheria - Ca**	**1.67**	**161**		Pg	**Pn**	**13 42 13.9**	**+0.5**
	550nm,0.8s								
BULG	**Bulgheria - Ca**	**1.67**	**161**		Pg	**Pn**	**13 42 13.9**	**+0.5**
	550nm,0.8s								
MIGL	**Miglionico**	**1.70**	**128**		Pg	**Pn**	**13 42 13.4**	**-0.3**
	1µm,0.4s								
MIGL	**Miglionico**	**1.70**	**128**		Pg	**Pn**	**13 42 13.4**	**-0.3**
	1µm,0.4s								
SG1	**Sgolgore (BA)**	**1.72**	**118**		*e*Pn	**Pn**	**13 42 13.4**	**-0.6**
SG1					Sn	**Sb**	**13 42 39.3**	**+2.1**
BAI	**Bari**	**1.74**	**108**		*e*Pg	**Pn**	**13 42 13.6**	**-0.7**
BAI					Sg	**Sg**	**13 42 40.2**	**-1.1**
MATE	**Matera**	**1.83**	**123**		Pg	**Pn**	**13 42 15.2**	**-0.3**
	505nm,0.3s								
MATE	**Matera**	**1.83**	**123**		Pg	**Pn**	**13 42 15.2**	**-0.3**
	505nm,0.3s								
NOCI	**Noci**	**2.00**	**115**		Pg	**Pn**	**13 42 17.2**	**-0.6**
	714nm,0.2s								
NOCI	**Noci**	**2.00**	**115**		Pg	**Pn**	**13 42 17.2**	**-0.6**
	714nm,0.2s								
MASS	**Massafra**	**2.13**	**118**		*e*Pn	**Pn**	**13 42 19.0**	**-0.6**
FASA	**Fasano**	**2.19**	**112**		*i* Pn	**Pn**	**13 42 19.9**	**-0.5**
FASA					Sn	**Sn**	**13 42 47.6**	**+0.7**
TAR1	**Taranto**	**2.27**	**119**		*e*Pn	**Pn**	**13 42 21.3**	**-0.2**
CGL1	**Ceglie Messapi**	**2.34**	**115**		*e*Pn	**Pn**	**13 42 22.5**	**+0.3**
STON	**Ston**	**2.54**	**61**		*e*Pn	**Pn**	**13 42 25.0**	**+0.2**
STON					Sn	**Sn**	**13 42 56.0**	**+0.3**
STON	**Ston**	**2.54**	**61**		*e*Pn	**Pn**	**13 42 25.0**	**-0.2**
STON					Sn	**Sn**	**13 42 56.0**	**+0.3**
NVLJ	**Novalja**	**2.90**	**3**		*e*Pn	**Pn**	**13 42 30.1**	**0.0**
NVLJ					Sn	**Sn**	**13 43 05.0**	**+0.5**
NVLJ	**Novalja**	**2.90**	**3**		*e*Pn	**Pn**	**13 42 30.1**	**0.0**
NVLJ					Sn	**Sn**	**13 43 04.9**	**+0.5**
TREB	**Trebinje**	**2.92**	**68**		*e*Pn	**Pn**	**13 42 29.8**	**-0.7**
HCY	**Herceg Novi**	**2.94**	**73**	⇓	*i*Pn	**Pn**	**13 42 32.4**	**+1.6**
HCY					*e*Sn	**Sn**	**13 43 07.9**	**+2.3**
HCY	**Herceg Novi**	**2.94**	**73**	⇓	*i*Pn	**Pn**	**13 42 32.4**	**+1.6**
HCY					*e*Sn	**Sn**	**13 43 07.9**	**+2.3**
UDBI	**Udbina**	**2.97**	**15**		*i* Pn	**Pn**	**13 42 32.5**	**+1.2**
UDBI					Sn	**Sn**	**13 43 07.0**	**+0.6**
UDBI	**Udbina**	**2.97**	**15**		*i* Pn	**Pn**	**13 42 32.4**	**+1.2**
UDBI					Sn	**Sn**	**13 43 06.9**	**+0.6**
BRY	**Bratogost**	**3.12**	**65**	⇑	*i*Pn	**Pn**	**13 42 34.4**	**+1.1**
BRY					*e*Sn	**Sn**	**13 43 11.8**	**+1.7**
BRY	**Bratogost**	**3.12**	**65**	⇑	*i*Pn	**Pn**	**13 42 34.4**	**+1.1**
BRY					*e*Sn	**Sn**	**13 43 11.8**	**+1.7**
BUM	**Brajici-Budva**	**3.20**	**77**	⇑	*i*Pn	**Pn**	**13 42 35.3**	**+0.9**
BUM					*e*Sn	**Sn**	**13 43 14.0**	**+1.9**
BUM	**Brajici-Budva**	**3.20**	**77**	⇑	*i*Pn	**Pn**	**13 42 35.3**	**+0.9**
BUM					*e*Sn	**Sn**	**13 43 14.0**	**+1.9**
CEME	**Cevo**	**3.27**	**73**	⇑	*i*Pn	**Pn**	**13 42 36.3**	**+0.9**
CEME					*e*Sn	**Sn**	**13 43 15.1**	**+1.3**
CEME	**Cevo**	**3.27**	**73**	⇑	*i*Pn	**Pn**	**13 42 36.3**	**+0.9**
CEME					*e*Sn	**Sn**	**13 43 15.1**	**+1.3**
NKME	**Niksic**	**3.36**	**69**	⇑	*i*Pn	**Pn**	**13 42 38.3**	**+1.8**
NKME					*e*Sn	**Sn**	**13 43 17.4**	**+1.5**
NKME	**Niksic**	**3.36**	**69**	⇑	*i*Pn	**Pn**	**13 42 38.3**	**+1.8**
NKME					*e*Sn	**Sn**	**13 43 17.4**	**+1.5**
DRME	**Dracevica, Mon**	**3.40**	**80**	⇓	*i*Pn	**Pn**	**13 42 38.1**	**+1.0**
DRME					*e*Sn	**Sn**	**13 43 18.0**	**+1.2**
DRME	**Dracevica, Mon**	**3.40**	**80**	⇓	*i*Pn	**Pn**	**13 42 38.1**	**+1.0**
DRME					*e*Sn	**Sn**	**13 43 18.0**	**+1.2**
NKY	**Niksic**	**3.40**	**69**	⇓	*i*Pn	**Pn**	**13 42 38.5**	**+1.3**
NKY					*e*Sn	**Sn**	**13 43 18.6**	**+1.6**
NKY	**Niksic**	**3.40**	**69**	⇓	*i*Pn	**Pn**	**13 42 38.5**	**+1.3**
NKY					*e*Sn	**Sn**	**13 43 18.6**	**+1.6**
ULC	**Ulcinj**	**3.42**	**84**	⇓	*i*Pn	**Pn**	**13 42 38.1**	**+0.7**
ULC					*e*Sn	**Sn**	**13 43 19.1**	**+1.6**
ULC	**Ulcinj**	**3.42**	**84**	⇓	*i*Pn	**Pn**	**13 42 38.1**	**+0.7**
ULC					*e*Sn	**Sn**	**13 43 19.1**	**+1.6**
UPM	**Unac-Piva**	**3.48**	**62**	⇑	*i*Pn	**Pn**	**13 42 40.4**	**+2.0**
UPM					*e*Sn	**Sn**	**13 43 20.9**	**+1.7**
UPM	**Unac-Piva**	**3.48**	**62**	⇑	*i*Pn	**Pn**	**13 42 40.4**	**+2.0**
UPM					*e*Sn	**Sn**	**13 43 20.9**	**+1.7**
PDG	**Podgorica**	**3.49**	**76**	⇑	*i*P	**Pn**	**13 42 39.0**	**+0.7**
PDG	**Podgorica**	**3.49**	**76**	⇑	*i*P	**Pn**	**13 42 39.0**	**+0.7**
PDG	**Podgorica**	**3.49**	**76**	⇓	*i*Pn	**Pn**	**13 42 39.5**	**+1.2**
PDG					*e*Sn	**Sn**	**13 43 22.5**	**+1.4**
TTG	**Podgorica**	**3.49**	**76**	⇓	*i*Pn	**Pn**	**13 42 39.5**	**+1.2**
TTG					*e*Sn	**Sn**	**13 43 20.5**	**+1.4**
BLY	**Banja Luka**	**3.58**	**30**		*e*Pn	**Pn**	**13 42 41.3**	**+1.7**
PLE	**Pljevlja**	**3.85**	**63**	⇓	*i*Pn	**Pn**	**13 42 45.8**	**+2.4**
PLE					*e*Sn	**Sn**	**13 43 29.8**	**+1.5**
PLE	**Pljevlja**	**3.85**	**63**	⇓	*i*Pn	**Pn**	**13 42 45.8**	**+2.4**
PLE					*e*Sn	**Sn**	**13 43 29.8**	**+1.5**
BOJS	**Bojanci**	**3.86**	**6**		*i* Pn	**Pn**	**13 42 44.1**	**+0.8**
BOJS					*i* Sn	**Sn**	**13 43 28.9**	**+0.7**
	comp=Z,49nm,0.4s								
BOJS	**Bojanci**	**3.86**	**6**		*i* Pn	**Pn**	**13 42 44.1**	**+0.8**
BOJS					*i* Sn	**Sn**	**13 43 28.9**	**+0.7**
	comp=Z,49nm,0.4s								
SKDS	**Skadanscina**	**3.91**	**353**		*i* Pn	**Pn**	**13 42 44.0**	**-0.1**
SKDS					*i* Sn	**Sn**	**13 43 29.0**	**-0.5**
	comp=Z,51nm,0.4s								
SKDS	**Skadanscina**	**3.91**	**353**		Pn	**Pn**	**13 42 44.0**	**-0.1**
SKDS					*i* Sn	**Sn**	**13 43 29.0**	**-0.5**
	comp=Z,51nm,0.4s								
OZLJ	**Ozalj**	**3.99**	**8**		*e*Pn	**Pn**	**13 42 45.8**	**+0.6**
OZLJ					Sn	**Sn**	**13 43 30.8**	**-0.5**
OZLJ	**Ozalj**	**3.99**	**8**		*e*Pn	**Pn**	**13 42 45.7**	**+0.6**
OZLJ					Sn	**Sn**	**13 43 30.8**	**-0.5**
PVY	**Plav**	**4.03**	**75**	⇑	*i*Pn	**Pn**	**13 42 47.9**	**+2.0**
PVY					*e*Sn	**Sn**	**13 43 33.8**	**+1.2**
PVY	**Plav**	**4.03**	**75**	⇑	*i*Pn	**Pn**	**13 42 47.9**	**+2.0**
PVY					*e*Sn	**Sn**	**13 43 33.8**	**+1.2**
BEY	**Berane**	**4.05**	**71**	⇓	*i*Pn	**Pn**	**13 42 47.9**	**+1.8**
BEY					*e*Sn	**Sn**	**13 43 34.1**	**+1.1**
IVA	**Berane**	**4.05**	**71**	⇓	*i*Pn	**Pn**	**13 42 47.9**	**+1.8**
IVA					*e*Sn	**Sn**	**13 43 34.1**	**+1.1**
CEY	**Cerknica**	**4.08**	**357**		*e*Pn	**Pn**	**13 42 46.7**	**+0.3**
BBLS	**Lazići**	**4.11**	**56**		*e*Pn	**Pn**	**13 42 48.2**	**+1.3**
CRES	**Cresnjev**	**4.20**	**7**		*e*Pn	**Pn**	**13 42 48.7**	**+0.7**
PGF	**Pioggiola**	**4.32**	**284**		*e*P	**Pn**	**13 42 52.4**	**+2.6**
PGF					*e*Sn	**Sn**	**13 43 35.5**	**-4.2**
	comp=Z,5.2nm,0.4s								
PGF	**Pioggiola**	**4.32**	**284**		*e*P	**Pn**	**13 42 52.4**	**+2.6**
PGF					*e*Sn	**Sn**	**13 43 35.5**	**-4.2**
	comp=Z,2.6nm,0.4s								
KEK	**Kerkira**	**4.35**	**115**		P	**Pn**	**13 42 50.8**	**+0.6**
KEK	**Kerkira**	**4.35**	**115**		P	**Pn**	**13 42 50.8**	**+0.6**
IVAS	**Ivanjica**	**4.46**	**63**		*i* Pn	**Pn**	**13 42 52.2**	**+0.4**
TEKS	**Tekeris**	**4.57**	**49**		*e*Pn	**Pn**	**13 42 53.9**	**+0.7**
DIVS	**Divibare**	**4.59**	**56**		*e*Pn	**Pn**	**13 42 54.1**	**+0.5**
SGD	**Sagiada**	**4.70**	**114**		P	**Pn**	**13 42 56.2**	**+1.3**
SGD	**Sagiada**	**4.70**	**114**		P	**Pn**	**13 42 56.2**	**+1.3**
IGT	**Igoumenitsa**	**4.80**	**115**		P	**Pn**	**13 42 57.2**	**+0.9**
IGT	**Igoumenitsa**	**4.80**	**115**		P	**Pn**	**13 42 57.2**	**+0.9**
OBKA	**Obir**	**4.84**	**359**		*i* Pn	**Pn**	**13 42 56.3**	**-0.7**
	comp=Z,1.4nm,0.2s								
OBKA	**Obir**	**4.84**	**359**		Pn	**Pn**	**13 42 56.3**	**-0.7**
	comp=Z,1.4nm,0.2s								
TRUS	**Trudelj**	**4.92**	**57**	⇓	*i*Pn	**Pn**	**13 42 57.0**	**-0.9**
GRUS	**Gruza**	**4.96**	**61**		*e*Pn	**Pn**	**13 42 59.0**	**+0.4**
NEST	**Nestorio**	**4.97**	**102**		P	**Pn**	**13 43 00.6**	**+1.8**
NEST	**Nestorio**	**4.97**	**102**		P	**Pn**	**13 43 00.6**	**+1.8**
SELS	**Selova**	**5.01**	**70**	⇑	*i*Pn	**Pn**	**13 42 58.8**	**-0.4**
SOKA	**Soboth**	**5.02**	**3**		*i* Pn	**Pn**	**13 42 59.3**	**0.0**
	comp=Z,0.4nm,0.2s								
SOKA	**Soboth**	**5.02**	**3**		Pn	**Pn**	**13 42 59.3**	**0.0**
	comp=Z,0.4nm,0.2s								
MYKA	**Terra Mystica**	**5.02**	**352**		*e*Pn	**Pn**	**13 43 00.5**	**+1.1**
	comp=Z,0.9nm,0.1s								
MYKA					*i* Sn	**Sn**	**13 43 55.5**	**-1.4**
	comp=Z,18nm,0.5s								
MYKA	**Terra Mystica**	**5.02**	**352**		Pn	**Pn**	**13 43 00.5**	**+1.1**
	comp=Z,0.9nm,0.1s								
MYKA					Sn	**Sn**	**13 43 55.5**	**-1.4**
	comp=Z,18nm,0.5s								
JAN	**Janina**	**5.10**	**111**		P	**Pn**	**13 42 03.2**	**+1.8**
JAN	**Janina**	**5.10**	**111**		P	**Pn**	**13 42 03.2**	**+1.8**
FNA	**Florina**	**5.12**	**98**		P	**Pn**	**13 42 59.3**	**-1.5**
FNA	**Florina**	**5.12**	**98**		P	**Pn**	**13 42 59.3**	**-1.5**
ABTA	**Abfaltersbach**	**5.31**	**344**		*i* Pn	**Pn**	**13 43 04.9**	**+1.5**
	comp=Z,0.5nm,0.1s								
ABTA					*i* Sn	**Sn**	**13 44 03.1**	**-1.1**
	comp=Z,17nm,0.5s								
ABTA	**Abfaltersbach**	**5.31**	**344**		Pn	**Pn**	**13 43 04.9**	**+1.5**
	comp=Z,0.5nm,0.1s								
ABTA					Sn	**Sn**	**13 44 03.1**	**-1.1**
	comp=Z,17nm,0.5s								
LKD2	**Lefkada island**	**5.40**	**120**		P	**Pn**	**13 43 05.7**	**+1.1**
LKD2	**Lefkada island**	**5.40**	**120**		P	**Pn**	**13 43 05.7**	**+1.1**
KBA	**Koelnbreinsper**	**5.50**	**350**		*i* Pn	**Pn**	**13 43 05.9**	**-0.1**
	comp=Z,1.4nm,0.2s								
KBA					*i* Sn	**Sn**	**13 44 07.2**	**-1.6**
	comp=Z,11nm,0.5s								
KBA	**Koelnbreinsper**	**5.50**	**350**		Pn	**Pn**	**13 43 05.9**	**-0.1**
	comp=Z,1.4nm,0.2s								
KBA					Sn	**Sn**	**13 44 07.2**	**-1.6**
	comp=Z,11nm,0.5s								
DSL	**Palaion Diesel**	**5.51**	**115**		P	**Pn**	**13 43 07.3**	**+1.2**
DSL	**Palaion Diesel**	**5.51**	**115**		P	**Pn**	**13 43 07.3**	**+1.2**
ARSA	**Arzberg**	**5.62**	**6**		*i* Pn	**Pn**	**13 43 08.7**	**+1.2**
	comp=Z,1.4nm,0.3s								
ARSA					*i* Sn	**Sn**	**13 44 09.5**	**-2.0**
	comp=Z,7.0nm,0.5s								
ARSA	**Arzberg**	**5.62**	**6**		Pn	**Pn**	**13 43 08.7**	**+1.2**
	comp=Z,1.4nm,0.3s								
ARSA					Sn	**Sn**	**13 44 09.5**	**-2.0**
	comp=Z,7.0nm,0.5s								
VLS	**Valsamata**	**5.72**	**126**		P	**Pn**	**13 43 09.7**	**+0.7**
VLS	**Valsamata**	**5.72**	**126**		P	**Pn**	**13 43 09.7**	**+0.7**
SBF	**Sospel**	**5.77**	**295**		*e*P	**Pn**	**13 43 12.8**	**+3.1**
SBF					*e*Sn	**Sn**	**13 44 08.6**	**-6.8**
	comp=Z,6.9nm,0.6s								
BOLS	**Boljevac**	**5.77**	**66**		*e*Pn	**Pn**	**13 43 09.1**	**-0.6**
PDO	**Prodromos**	**5.85**	**119**		P	**Pn**	**13 43 12.1**	**+1.4**
PDO	**Prodromos**	**5.85**	**119**		P	**Pn**	**13 43 12.1**	**+1.4**
KFL	**Anninata**	**5.89**	**125**		P	**Pn**	**13 43 12.4**	**+1.1**
KFL	**Anninata**	**5.89**	**125**		P	**Pn**	**13 43 12.4**	**+1.1**
ZAGS	**Zajecar**	**5.96**	**66**		*e*Pn	**Pn**	**13 43 12.2**	**0.0**
THL	**Klokotos Trika**	**5.96**	**108**		P	**Pn**	**13 43 13.4**	**+1.2**
THL	**Klokotos Trika**	**5.96**	**108**		P	**Pn**	**13 43 13.4**	**+1.2**
FETA	**Feichten**	**6.06**	**333**		*i* Pn	**Pn**	**13 43 15.0**	**+1.3**
	comp=Z,0.4nm,0.2s								
FETA	**Feichten**	**6.06**	**333**		Pn	**Pn**	**13 43 15.0**	**+1.3**
	comp=Z,0.4nm,0.2s								
PVO	**Paravola**	**6.06**	**118**		P	**Pn**	**13 43 15.1**

BRBR	**Barbar**	**0.40**	**163**	*eP*		**Pb**	14 12 12.0	**+0.7**
	SNR=120								
BRBR				*eS*		**Sb**	14 12 17.8	**+0.7**
	comp=N,71nm,0.6s,SNR=119								
HWQ	**Hawqa**	**0.50**	**13**	*eP*		**Pb**	14 12 14.1	**+1.1**
HWQ	**Hawqa**	**0.50**	**13**	*eP*		**Pb**	14 12 14.1	**+1.1**
MARH	**Ras Al Marh**	**0.60**	**67**	*eP*		**Pg**	14 12 14.7	**-0.1**
MARH				*eS*		**Sn**	14 12 25.1	**-1.0**
MARH					AML	AML	14 12 31.9		
	comp=N,39nm,0.3s								
MARH	**Ras Al Marh**	**0.60**	**67**	*eP*		**Pg**	14 12 14.7	**-0.1**
	SNR=110								
MARH				*eS*		**Sn**	14 12 25.1	**-1.0**
	comp=N,39nm,0.3s,SNR=58								
ROOS	**tl_alroos**	**1.28**	**72**	*eP*		Pn	14 12 18.9	-6.9
ROOS				*eS*		Sb	14 12 32.2	-10
ROOS					AML	AML	14 12 40.0		
	comp=N,26nm,0.4s								
ARNB	**Al Arnab**	**2.07**	**4**	*eP*		**Pb**	14 12 40.4	**+0.6**
ARNB				*eS*		**Sg**	14 13 08.7	**-0.7**
ARNB					AML	AML	14 13 15.0		
	comp=N,15nm,0.3s								
ARNB	**Al Arnab**	**2.07**	**4**	*eP*		**Pb**	14 12 40.3	**+0.6**
	SNR=57								
ARNB				*eS*		**Sg**	14 13 08.7	**-0.7**
	comp=N,15nm,0.3s,SNR=58								

MAN 17 14:13:30,12″.50N×120°.62E, h9km, mb4.2, ML3.0, MS3.0, 1D, Mindoro

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BUSP	**Coron**	**0.64**	**219**	*eP*	Pg	14 13 42.9	+0.5
BUSP				*eS*	Sb	14 13 53.0	+0.5
PGP	**Puerto Galera**	**1.05**	**18⇓**	*eP*	Pg	14 13 49.4	-0.8
PGP				*i* S	Sg	14 14 03.1	-0.7
LUBP	**Lubang**	**1.27**	**344**	*eP*	Pn	14 13 53.9	-0.1
LUBP				*eS*	Sn	14 14 11.7	+0.4
OTRP	**Odiongan**	**1.38**	**96**	*eP*	Pn	14 13 55.4	-0.1
OTRP				*eS*	Sg	14 14 14.7	+0.2
BOAC	**Boac**	**1.53**	**51**	*eP*	Pn	14 13 55.1	-2.4
BOAC				*eS*	Sn	14 14 17.8	+0.3
ENPP	**El Nido**	**1.74**	**222**	*eP*	Pn	14 13 59.9	-0.5

*IDC **17** 14:33:00.5±2.0, 36°.44N×141°.43E, h0km, mb3.6/5, mb1 3.7/7, mb1mx3.4/49, mbtmp3.6/7, ML3.5/2, MS2.7/2, Ms1 2.7/2, ms1mx2.3/33, Error ellipse: s-maj=54.9km s-min=20.4km az=67.0*

*NIED **17** 14:33:00, 36°.20N×140°.90E, h44km, Mw3.7 Best double couple: M₀4.49000×10¹⁴ NP1:φ₈250.00000°, δ22.00000°, λ156.00000°. NP2:φ₈3.00000°, δ81.00000°, λ70.00000°.*

*ISCJB **17** 14:33:06.7±0.7, 36°.25N±0°.03×141°.00E±0°.06, h49km±6km, mb3.6/5, Error ellipse: s-maj=8.7km s-min=5.7km az=179.0*

*JMA **17** 14:33:07.8±0.1, 36°.23N×140°.93E, h46km±1km, M3.5*
JMA Felt I J1.

ISC 17 14:33:07.3±1.5, 36°.27N±0°.04×141°.01E±0°.07, h38km±2km, n21, σ0°62/23, mb3.6/5, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JHO	**Hitachi**	**0.50**	**314**	P	**Pn**	**14 33 18.2**	**+0.3**
JHO				S	**Sn**	**14 33 25.5**	**+0.2**
CHOJ	**Chosi**	**0.58**	**192**	P	**Pn**	**14 33 19.2**	**+0.1**
CHOJ				S	**Sn**	**14 33 26.8**	**-0.5**
JYT	**Yasato**	**0.66**	**267**	P	**Pn**	**14 33 20.1**	**-0.2**
JYT				S	**Sn**	**14 33 28.5**	**-0.9**
ONAJ	**Iwakimizuishiy**	**0.85**	**348**	P	**Pn**	**14 33 23.2**	**+0.3**
ONAJ				S	**Sn**	**14 33 34.0**	**-0.2**
JFK	**Kawauchi**	**1.10**	**354**	P	**Pn**	**14 33 26.6**	**+0.3**
JFK				S	**Sn**	**14 33 40.1**	**-0.2**
JAG	**Ashikaga**	**1.27**	**278**	P	**Pn**	**14 33 28.6**	**+0.1**
JAG				S	**Sn**	**14 33 43.7**	**-0.6**
MJAR	**Matsushiro Arr**	**2.28**	**278**	Pn	**Pn**	**14 33 43.6**	**+1.2**
	13nm,0.3s,baz=88,slow=12,SNR=213						
MJAR				Sn	**Sn**	**14 34 09.0**	**-0.2**
	6.7nm,0.3s,baz=118,slow=28,SNR=6.4						
MJAR				LR	LR	14 34 44.4	
	comp=Z,128nm,18.2s,baz=90,slow=40						
MAT	**Matsushiro**	**2.28**	**278**	P	**Pn**	**14 33 43.7**	**+1.3**
MAT				S	**Sn**	**14 34 10.1**	**+0.8**
JHJ	**Hachijo jima 2**	**3.30**	**198**	Pn	**Pn**	**14 33 57.3**	**+0.9**
	6.1nm,0.3s,baz=90,slow=20,SNR=3.6						
JHJ				Sn	**Sn**	**14 34 34.4**	**+0.1**
	20nm,0.3s,baz=44,slow=22,SNR=5.9						
KSRS	**Korea Array**	**10.56**	**280**	Pn	Pn	14 35 41.8	+5.8
	0.1nm,0.3s,baz=90,slow=13,SNR=2.6						
KSRS				LR	LR	14 39 30.1	
	comp=Z,31nm,18.7s,baz=45,slow=36						
SONM	**Songino Array**	**27.95**	**305**	P	**P**	**14 38 53.9**	**-0.3**
	0.4nm,0.5s,baz=116,slow=9.9,SNR=3.1						
H11N2	**WAKE ISLAND Hy**	**28.05**	**119**	T	T	15 08 20.3	
	baz=313,slow=75,SNR=8.1						
H11N1	**WAKE ISLAND Hy**	**28.05**	**119**	T	T	15 08 17.5	
	baz=313,slow=75,SNR=8.6						
H11N3	**WAKE ISLAND Hy**	**28.06**	**119**	T	T	15 08 20.3	
	baz=313,slow=75,SNR=6.9						
H11S1	**WAKE ISLAND Hy**	**28.73**	**121**	T	T	15 09 07.6	
	baz=311,slow=74,SNR=36						
H11S3	**WAKE ISLAND Hy**	**28.73**	**121**	T	T	15 09 07.7	
	baz=311,slow=74,SNR=7.4						
H11S2	**WAKE ISLAND Hy**	**28.74**	**121**	T	T	15 09 10.0	
	baz=311,SNR=17						
ZALV	**Zalesovo Beam**	**42.20**	**313**	P	**P**	**14 40 55.7**	**-0.4**
	0.5nm,0.4s,baz=101,slow=7.6,SNR=3.2						
KURBB	**Kurchatov Arra**	**46.22**	**309**	P	**P**	**14 41 28.6**	**+0.2**
	0.8nm,0.4s,baz=84,slow=7.6,SNR=8.7						
WRA	**Warramunga Arr**	**56.26**	**188**	P	**P**	**14 42 43.8**	**-0.1**
	0.3nm,0.4s,baz=4.1,slow=7.4,SNR=7.2						
ASAR	**Alice Springs**	**59.98**	**188**	P	**P**	**14 43 10.6**	**+0.6**
	0.2nm,0.6s,baz=11,slow=6.6,SNR=6.6						

*IDC **17** 14:38:29.8±0.7, 26°.94N×144°.01E, h0km, mb4.0/15, mb1 4.1/17, mb1mx3.9/39, mbtmp4.0/17, ML4.1/2, Error ellipse: s-maj=24.1km s-min=15.0km az=86.0*

*ISCJB **17** 14:38:32.8±0.6, 27°.04N±0°.08×143°.9E±0°.2, h33km, mb4.0/15, Error ellipse: s-maj=19.8km s-min=10.6km az=168.4*

ISC 17 14:38:35.2±0.7, 27°.05N±0°.10×143°.9E±0°.2, h35km, n23, σ1°65/21, mb4.1/15, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JHJ	**Hachijo jima 2**	**7.02**	**330**	Pn	**Pn**	**14 40 13.9**	**-1.5**
	7.5nm,0.3s,baz=75,slow=22,SNR=9.6						
JHJ				Sn	**Sn**	**14 41 29.7**	**-4.3**
	6.3nm,0.3s,baz=107,slow=19,SNR=3.1						
MJAR	**Matsushiro Arr**	**10.62**	**334**	Pn	**Pn**	**14 41 04.3**	**-0.6**
	1.6nm,0.3s,baz=157,slow=11,SNR=26						
MAT	**Matsushiro**	**10.62**	**334**	P	**Pn**	**14 41 04.1**	**-0.8**
KSRS	**Korea Array**	**17.01**	**312**	Pn	**P**	**14 42 34.7**	**+2.8**
	0.1nm,0.3s,baz=121,slow=12,SNR=3.9						
H11N2	**WAKE ISLAND Hy**	**22.31**	**104**	T	T	15 06 22.6	
	baz=290						
H11N1	**WAKE ISLAND Hy**	**22.32**	**104**	T	T	15 06 23.7	
	baz=290						
H11N3	**WAKE ISLAND Hy**	**22.33**	**104**	T	T	15 06 23.2	
	baz=290						
SONM	**Songino Array**	**35.81**	**315**	P	**P**	**14 45 33.1**	**+1.8**
	1.0nm,0.7s,baz=111,slow=7.5,SNR=5.3						
WRA	**Warramunga Arr**	**47.63**	**192**	P	**P**	**14 47 07.4**	**-0.6**
	3.8nm,0.9s,baz=12,slow=8.5,SNR=13						
FITZ	**Fitzroy Crossi**	**48.26**	**204**	P	**P**	**14 47 12.6**	**-0.3**
	2.2nm,0.7s,baz=20,slow=9.5,SNR=5.7						
ZALV	**Zalesovo Beam**	**50.52**	**319**	P	**P**	**14 47 31.3**	**+1.5**
	0.3nm,0.3s,baz=93,slow=5.8,SNR=2.6						
ASAR	**Alice Springs**	**51.34**	**192**	P	**P**	**14 47 34.8**	**-1.5**
	0.2nm,0.6s,baz=7.4,slow=5.4,SNR=7.5						
KDAK	**Kodiak Island**	**53.49**	**37**	P	**P**	**14 47 52.5**	**+0.7**
	3.1nm,0.8s,baz=270,slow=9.1,SNR=8.6						
KURBB	**Kurchatov Arra**	**54.16**	**314**	P	**P**	**14 47 57.3**	**+0.5**
	1.0nm,0.2s,baz=90,slow=7.4,SNR=4.6						
ILAR	**Eielson Array**	**57.02**	**29**	P	**P**	**14 48 17.4**	**+0.2**
	0.8nm,0.7s,baz=259,slow=5.8,SNR=7.4						
STKA	**Stephens Creek**	**58.64**	**182**	P	**P**	**14 48 26.5**	**-2.4**
	1.0nm,0.6s,baz=350,slow=3.3,SNR=3.1						
BVAR	**Borovoye Array**	**59.10**	**318**	P	**P**	**14 48 33.2**	**+1.2**
	0.7nm,0.4s,baz=81,slow=9.5,SNR=5.3						
INK	**Inuvik**	**62.44**	**25**	P	**P**	**14 48 53.0**	**-1.3**
	4.7nm,1.0s,baz=305,slow=1.3,SNR=3.9						
ARU	**Arti**	**65.39**	**322**	P	**P**	**14 49 14.6**	**+0.6**
	1.0nm,0.3s,baz=53,slow=4.7,SNR=5.9						
KBZ	**Khabaz**	**79.15**	**314**	P	**P**	**14 50 37.4**	**+1.0**
	2.1nm,1.1s,baz=145,slow=3.0,SNR=5.7						
AKASG	**Malin Array Be**	**83.55**	**324**	P	**P**	**14 51 00.1**	**+0.5**
	0.5nm,0.5s,baz=39,slow=4.8,SNR=4.1						
TXAR	**Lajitas Array**	**94.40**	**54**	P	**P**	**14 51 52.4**	**+0.5**
	0.2nm,0.7s,baz=289,slow=2.8,SNR=2.5						
LPAZ	**La Paz**	**148.46**	**77**	PKPbc	**PKPbc**	**14 58 20.1**	**+0.4**
	1.1nm,0.7s,baz=13,slow=2.3,SNR=3.8						

*IDC **17** 14:49:54.8±7.1, 7°.36S×127°.70E, h87km±64km, mb3.6/2, mb1 4.1/5, mb1mx3.5/33, mbtmp4.3/5, ML4.5/3, Error ellipse: s-maj=121.4km s-min=27.7km az=60.0*

*ISCJB **17** 14:49:59.3±0.8, 7°.76S±0°.05×127°.99E±0°.08, h150km, mb3.6/2, Error ellipse: s-maj=11.0km s-min=7.4km az=4.2*

*NEIC **17** 14:50:00.7±1.1, 7°.74S×127°.87E, h146km±15km, mb4.1/2, Error ellipse: s-maj=17.8km s-min=12.6km az=115.0*

ISC 17 14:50:00.9±0.9, 7°.87S±0°.06×127°.97E±0°.09, h150km, n11, σ3°56/18, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SOEI	**Soe**	**4.11**	**243**	*e*Pn	**Pn**	**14 51 02.7**	**-0.1**
SOEI				*e*Sn	Sn	14 51 39.3	-12
FAKI	**Fak Fak**	**6.50**	**41**	*e*Pn	**Pn**	**14 51 34.1**	**-0.4**
FAKI				*e*Sn	**Sn**	**14 52 43.4**	**-4.2**
FITZ	**Fitzroy Crossi**	**10.42**	**192**	P	**Pn**	**14 52 26.8**	**+0.2**
	3.5nm,0.3s,baz=10,slow=13,SNR=96						
FITZ				S	**Sn**	**14 54 17.7**	**-4.3**
	3.3nm,0.3s,baz=24,slow=12,SNR=14						
FITZ	**Fitzroy Crossi**	**10.42**	**192**	*e*Pn	**Pn**	**14 52 26.7**	**+0.2**
FITZ				*e*Sn	**Sn**	**14 54 15.9**	**-6.1**
WRAB	**Tennant Creek**	**13.49**	**153**	*e*Pn	**Pn**	**14 53 08.3**	**+1.8**
	3.4nm,0.4s						
WRAB				*e*Sn	**Sn**	**14 55 32.9**	**-3.1**
WRA	**Warramunga Arr**	**13.50**	**153**	P	**Pn**	**14 53 08.5**	**+1.9**
	1.8nm,0.3s,baz=332,slow=13,SNR=76						
WRA				S	**Sn**	**14 55 33.0**	**-3.1**
	2.4nm,0.3s,baz=333,slow=21,SNR=12						
MBWA	**Marble Bar**	**15.43**	**210**	*e*Pn	**P**	**14 53 31.8**	**-0.1**
	9.4nm,0.6s						
MBWA				*e*Sn	Sn	14 56 10.9	-11
ASAR	**Alice Springs**	**16.71**	**161**	P	**Pn**	**14 53 52.2**	**+5.8**
	1.7nm,0.3s,baz=340,slow=12,SNR=118						
ASAR				S	**S**	**14 56 49.2**	**-3.1**
	0.5nm,0.3s,baz=334,slow=14,SNR=5.7						
STKA	**Stephens Creek**	**27.05**	**154**	P	**P**	**14 55 34.8**	**+5.4**
	0.8nm,0.6s,baz=315,slow=13,SNR=3.9						
ZALV	**Zalesovo Beam**	**71.48**	**335**	P	**P**	**15 01 02.7**	**-2.4**
	0.7nm,0.5s,baz=132,slow=6.0,SNR=3.2						
LPAZ	**La Paz**	**151.19**	**146**	PKPbc	**PKPbc**	**15 09 40.6**	**+2.3**
	0.5nm,0.5s,baz=194,slow=12,SNR=3.1						
LPAZ				PKPab	**PKPab**	**15 09 49.2**	**+2.8**
	1.3nm,0.6s,baz=217,slow=5.1,SNR=5.3						

MEX 17 14:51:25.3±0.6, 16°.94N×100°.14W, h7km±6km, MD3.6, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CAIG	**El Cayaco**	**0.16**	**313**	*e*P	Pg	14 51 28.4	-0.3
CAIG				*e*S	Sg	14 51 30.8	-0.2
ACP2	**Acapulco**	**0.25**	**104**	*e*P	Pg	14 51 30.9	-0.4
ACP2				*i* S	Sg	14 51 33.7	0.0
ACX	**Acapulco**	**0.28**	**104**	*i* P	Pg	14 51 26.6	-4.2
ACX				*e*S	Sg	14 51 29.9	-4.6
MEIG	**Mezcala**	**1.10**	**27**	*e*P	Pg	14 51 42.6	-3.9
MEIG				*i* S	Sg	14 51 57.4	-3.5
ARIG	**Puente Sto Nin**	**1.35**	**352**	*e*P	Pn	14 51 46.9	-3.8
ARIG				*i* S	Sb	14 52 04.0	-4.5
ZIIG	**Zihuatanejo**	**1.43**	**298**	*e*P	Pn	14 51 47.6	-4.1
ZIIG				*i* S	Sn	14 52 05.7	-5.0
PLIG	**Platanillo**	**1.57**	**23**	*e*P	Pn	14 51 50.9	-2.8
PLIG				*e*S	Sn	14 52 08.7	-5.7
YAIG	**Yautepec**	**2.17**	**28**	*i* P	Pn	14 51 58.9	-3.1
YAIG				*i* S	Sn	14 52 25.2	-4.0

*NIED **17** 14:55:00, 43°.30N×142°.30E, h180km, Mw4.1 Best double couple: M₀1.72000×10¹⁵ NP1:φ₈156.00000°, δ55.00000°, λ32.00000°. NP2:φ₈47.00000°, δ65.00000°, λ141.00000°.*

*ISCJB **17** 14:55:42.0±0.2, 43°.34N±0°.02×142°.25E±0°.03, h168km±1km, mb4.2/48, Error ellipse: s-maj=4.4km s-min=3.5km az=33.9*

*NEIC **17** 14:55:42.5±0.5, 43°.32N×142°.29E, h164km±5km, mb4.4/10, Error ellipse: s-maj=10.2km s-min=6.7km az=127.0*

*MOS **17** 14:55:42.1±1.1, 43°.41N×142°.26E, h165km, mb4.3/31, Error ellipse: s-maj=8.8km s-min=5.5km az=99.5*

*JMA **17** 14:55:43.5±0.1, 43°.31N×142°.32E, h162km±1km, M4.0 Broadband fault plane solution: P waves. NP1: φ₈42.00000°, δ66.00000°, λ144.00000°. NP2: φ₈149.00000°, δ58.00000°, λ29.00000°. Principal axes: T Plg42.0000°, Azm3.0000°; N Plg48.0000°, Azm192.0000°; P Plg5.0000°, Azm97.0000°;*

*IDC **17** 14:55:43.1±0.8, 43°.43N×142°.25E, h160km±4km, mb3.8/20, mb1 4.0/25, mb1mx3.8/37, mbtmp4.2/25 Error ellipse: s-maj=18.0km s-min=11.5km az=153.0*

*BJI **17** 14:55:43.3, 43°.16N×142°.17E, h169km, mb4.7/6, mB4.6/6*

ISC 17 14:55:43.0±0.5, 43°.34N±0°.04×142°.23E±0°.04, h164km±4km, n133, σ1°20/152, mb4.2/48, 19C-13D, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JAB	**Ashibetsu**	**0.17**	**357**	⇑P	**Pn**	**14 56 05.2**	**+0.3**
JAB				*e*S	**Sn**	**14 56 21.5**	**-0.3**
JFR	**Furan**	**0.32**	**124**	⇑P	**Pn**	**14 56 05.3**	**0.0**
JFR				*e*S	**Sn**	**14 56 21.9**	**-0.4**
JHR	**Hokuryu**	**0.55**	**318**	P	**Pn**	**14 56 07.5**	**+1.4**
JHR				*e*S	**Sn**	**14 56 25.2**	**+1.2**
JBT2	**Biratori 2**	**0.57**	**170**	⇑P	**Pn**	**14 56 06.5**	**+0.2**
JBT2				*e*S	**Sn**	**14 56 24.2**	**+0.1**
JKK2	**Kamakawa 2**	**0.65**	**35**	⇑P	**Pn**	**14 56 07.2**	**+0.5**
JKK2				*e*S	**Sn**	**14 56 25.3**	**+0.3**
JEW	**Eniwo**	**0.76**	**229**	⇑P	**Pn**	**14 56 08.1**	**+0.7**
JEW				*e*S	**Sn**	**14 56 26.3**	**+0.3**
ASAJ	**Asahikawa**	**0.82**	**19**	P	**Pn**	**14 56 08.3**	**+0.6**
	3μm,0.3s,baz=150,slow=0.0,SNR=2.3						
ASAJ				S	**Sn**	**14 56 25.9**	**-1.0**
	13μm,0.3s,baz=273,slow=0.0,SNR=6.9						
JCH	**Churui**	**1.10**	**131**	⇑P	**Pn**	**14 56 09.1**	**-0.8**
JCH				*e*S	**Sn**	**14 56 28.4**	**-2.2**
JAR	**Ashorobuto**	**1.12**	**92**	⇑P	**Pn**	**14 56 10.4**	**+0.3**
JAR				*e*S	**Sn**	**14 56 30.7**	**-0.2**
JNBK	**Urakawa-nobuka**	**1.12**	**160**	⇑P	**Pn**	**14 56 10.7**	**+0.6**
JNBK				*e*S	**Sn**	**14 56 32.8**	**+1.8**
JYG	**Yagishiri**	**1.23**	**332**	⇓P	**Pn**	**14 56 11.6**	**+0.6**
JYG				*e*S	**Sn**	**14 56 33.1**	**+0.4**
JSK	**Shakotan**	**1.28**	**271**	⇓P	**Pn**	**14 56 12.3**	**+0.8**
JSK				*e*S	**Sn**	**14 56 34.0**	**+0.6**
JTKR	**Abashiri--Toko**	**1.37**	**62**	⇓P	**Pn**	**14 56 12.8**	**+0.5**
JTKR				*e*S	**Sn**	**14 56 34.9**	**0.0**
ERM	**Erimo**	**1.49**	**152**	*d* iPN	**Pn**	**14 56 13.9**	**+0.4**
ERM	**Erimo**	**1.49**	**152**	*e*Pn	**Pn**	**14 56 13.9**	**+0.4**
ERM				*e*Sn	**Sn**	**14 56 37.1**	**+0.1**
JSE	**Soyaes**	**1.64**	**9**	P	**Pn**	**14 56 15.5**	**+0.5**
JSE				*e*S	**Sn**	**14 56 39.2**	**-0.6**
JKB	**Kayabe**	**1.70**	**212**	⇑P	**Pn**	**14 56 16.1**	**+0.4**
JKB				*e*S	**Sn**	**14 56 40.3**	**-0.6**
JAK	**Akkeshi**	**1.83**	**100**	P	**Pn**	**14 56 16.1**	**-1.0**
JAK				*e*S	**Sn**	**14 56 41.3**	**-2.1**
JWK2	**Keihoku**	**1.99**	**353**	P	**Pn**	**14 56 20.1**	**+1.3**
JWK2				*e*S	**Sn**	**14 56 48.1**	**+1.5**
JOT	**Ohata**	**2.14**	**205**	⇑P	**Pn**	**14 56 20.8**	**+0.2**
JOT				*e*S	**Sn**	**14 56 48.4**	**-1.3**
JRA	**Rausu**	**2.18**	**73**	⇓P	**Pn**	**14 56 21.3**	**+0.3**
JRA				*e*S	**Sn**	**14 56 51.5**	**+1.1**
YUK	**Yuzh-Kuril'sk**	**2.72**	**74**	*d* iPN	**Pn**	**14 56 27.8**	**+0.4**
YUK				*e*S	**Sn**	**14 57 02.8**	**+0.9**
YUK				pmax	pmax		
	comp=Z,329nm,0.2s						
YUK				pmax	pmax		
	comp=N,47nm,0.1s						
YUK				pmax	pmax		
	comp=E,6.0nm,0.1s						
YUK				smax	smax		
	comp=N,417nm,0.5s						
YUK				smax	smax		
	comp=E,24nm,0.5s						
YSS	**Yuzh-Sakhalins**	**3.63**	**6⇑**	*i*PN	**Pn**	**14 56 39.3**	**+0.5**
YSS				*e*S	**Sn**	**14 57 21.3**	**-1.1**
YSS				smax	smax		
	comp=N,160nm,1.3s						
YSS				smax	smax		
	comp=E,60nm,0.8s						
YSS				smax	smax		
	comp=N,500nm,2.7s						
YSS				smax	smax		
	comp=E,400nm,3.7s						
YSS	**Yuzh-Sakhalins**	**3.63**	**6**	*e*Pn	**Pn**	**14 56 38.9**	**+0.1**
YSS				*e*Sn	**Sn**	**14 57 20.6**	**-1.8**
KUR	**Kuril'sk**	**4.47**	**63**	*d* iPN	**Pn**	**14 56 49.9**	**+0.4**
KUR				*e*S	**Sn**	**14 57 41.5**	**-0.1**
KUR				pmax	pmax		
	comp=Z,86nm,0.4s						
KUR				pmax	pmax		
	comp=E,28nm,0.3s						
KUR				pmax	pmax		
	comp=N,31nm,0.2s						
KUR				smax	smax		
	comp=N,32nm,0.2s						
KUR				smax	smax		
	comp=E,58nm,0.6s						
UGL	**Uglegorsk**	**5.74**	**359**	*e*PN	**Pn**	**14 57 04.5**	**-1.7**
UGL				*e*S	**Sn**	**14 58 09.3**	**-2.3**
HABR	**Khabarovsk**	**7.17**	**318**	*e*PN	**Pn**	**14 57 23.6**	**-1.6**
HABR				*e*S	**Sn**	**14 58 43.6**	**-2.0**
HABR				pmax	pmax		
	comp=Z,6.0nm,1.0s						
HABR				pmax	pmax		
	comp=E,12nm,1.0s						
HABR				pmax	pmax		
	comp=N,3.0nm,1.0s						
MAJO	**Matsushiro**	**7.46**	**206**	*e*PN	**Pn**	**14 57 27.1**	**-2.1**
MAJO				*e*		14 58 51.6	
MAJO				pmax	pmax		
	comp=Z,20nm,0.5s						
MAJO	**Matsushiro**	**7.46**	**206**	*e*Pn	**Pn**	**14 57 27.1**	**-2.1**
	comp=Z,20nm,0.5s						
MAJO				*e*Sn	**Sn**	**14 58 51.6**	**-1.1**
MAT	**Matsushiro**	**7.46**	**206**	P	**Pn**	**14 57 28.9**	**-0.3**
MAT				S	**Sn**	**14 58 51.5**	**-1.3**
MJAR	**Matsushiro Arr**	**7.46**	**206**	P	**Pn**	**14 57 29.9**	**+0.8**
	comp=Z,3.0nm,0.3s,baz=26,slow=12,SNR=48						
USRK	**Ussuriysk Ar.**	**7.47**	**280**	P	**Pn**	**14 57 29.7**	**+0.5**
	comp=Z,0.9nm,0.3s,baz=87,slow=15,SNR=13						
MSHR	**Mys Shultsa**	**8.16**	**268⇓**	*e*PN	**Pn**	**14 57 40.3**	**+1.9**
MDJ	**Mudanjiang**	**9.21**	**282**	*e*Pn	**Pn**	**14 57 50.2**	**-2.0**
	comp=Z,9.1nm,0.8s						
KLR	**Kul'dur**	**9.34**	**313⇓**	*e*PN	**Pn**	**14 57 54.7**	**+0.7**
JHJ	**Hachijo jima 2**	**10.38**	**191**	P	**Pn**	**14 58 04.6**	**-3.2**
	comp=Z,37nm,0.3s,baz=74,slow=23,SNR=20						
JHJ				S	Sn	14 59 53.0	-10
	comp=Z,19nm,0.3s,baz=60,slow=20,SNR=4.7						
JHJ2	**Mitsune**	**10.39**	**191**	*e*Pn	**Pn**	**14 58 04.7**	**-3.1**
KSRS	**Korea Array**	**12.39**	**246**	P	**Pn**	**14 58 34.6**	**+0.9**
	comp=Z,0.3nm,0.3s,baz=56,slow=13,SNR=9.6						
KSAR	**Wonju Array Be**	**12.42**	**247**	PN	**Pn**	**14 58 34.6**	**+0.4**
KSAR	**Wonju Array Be**	**12.42**	**247**	P	**Pn**	**14 58 34.6**	**+0.4**
PETK	**Petropavlovsk-**	**14.18**	**41**	P	**Pn**	**14 58 56.0**	**-0.3**
	comp=Z,0.4nm,0.3s,baz=229,slow=7.4,SNR=13						
PETK	**Petropavlovsk-**	**14.18**	**41**	P	**Pn**	**14 58 56.0**	**-0.3**
MA2	**Magadan**	**17.08**	**15**	P	**P**	**14 59 29.8**	**-1.1**
	comp=Z,1.6nm,0.3s,baz=196,slow=10,SNR=18						
SEY	**Seymchan**	**20.50**	**13**	P	**P**	**15 00 06.1**	**-1.7**
	comp=Z,7.8nm,0.3s,baz=167,slow=7.5,SNR=35						
ULN	**Ulaanbaatar**	**24.89**	**293⇑**	*i*P	**P**	**15 00 52.1**	**+1.5**
ULN				pmax	pmax		
	comp=Z,1.0nm,0.6s						
SONM	**Songino Array**	**25.33**	**293**	P	**P**	**15 00 55.9**	**+1.3**
	comp=Z,0.8nm,0.4s,baz=80,slow=9.0,SNR=9.3						
SONM	**Songino Array**	**25.33**	**293**	*e*P	**P**	**15 00 56.0**	**+1.5**
SONM				pmax	pmax		
	comp=Z,1.0nm,0.4s						
ZAK	**Zakamensk**	**27.30**	**299**	*e*P	**P**	**15 01 10.9**	**-1.2**
ZAK				pmax	pmax		
	comp=Z,2.0nm,1.2s						
TIXI	**Tiksi**	**29.13**	**351⇑**	*e*P	P	15 01 23.5	-4.4
TIXI				pmax	pmax		
	comp=Z,12nm,0.8s						
H11N2	**WAKE ISLAND Hy**	**31.34**	**131**	T	T	15 33 43.6	
	baz=326,slow=75,SNR=36						
H11N1	**WAKE ISLAND Hy**	**31.35**	**131**	T	T	15 33 45.1	
	baz=326,slow=75,SNR=40						
H11N3	**WAKE ISLAND Hy**	**31.36**	**131**	T	T	15 33 45.1	
	baz=326,slow=75,SNR=35						
H11S1	**WAKE ISLAND Hy**	**32.23**	**133**	T	T	15 34 49.6	
	baz=328,slow=75,SNR=78						
H11S3	**WAKE ISLAND Hy**	**32.23**	**133**	T	T	15 34 49.9	
	baz=328,slow=75,SNR=45						
H11S2	**WAKE

ARCES	**ARCESS Array B**	**58.35**	**338**	P		**P**		**15 05 20.4**	**+0.1**
	comp=Z,1.5nm,0.6s,baz=53,slow=8.0,SNR=4.2								
KLMR	**Klimovskoe**	**58.82**	**326**	*e*P		**P**		**15 05 23.3**	**-0.3**
KLMR				pmax	pmax				
	comp=Z,11nm,1.3s								
DAG	**Danmarks Havn**	**59.55**	**355**	*i* P		**P**		**15 05 28.3**	**-0.1**
DAG	**Danmarks Havn**	**59.55**	**355**	*i* P		**P**		**15 05 28.3**	**-0.1**
JOF	**Joensuu**	**60.74**	**331**	*e*P		**P**		**15 05 37.2**	**+0.5**
JOF				pmax	pmax				
	comp=Z,10.0nm,0.9s								
OUL	**Oulu**	**61.16**	**334**	P		**P**		**15 05 38.5**	**-1.0**
OUL				pmax	pmax				
	comp=Z,12nm,2.6s								
GEYT	**Alibeck**	**61.46**	**296**	P		**P**		**15 05 42.4**	**+0.4**
	comp=Z,1.1nm,0.4s,baz=354,slow=1.4,SNR=3.2								
WRA	**Warramunga Arr**	**63.38**	**188**	P		**P**		**15 05 55.3**	**+0.5**
	comp=Z,0.4nm,1.0s,baz=8.2,slow=6.8,SNR=2.9								
WRA				pP		**pP**		**15 06 33.7**	**+0.2**
	comp=Z,0.4nm,0.4s,baz=4.8,slow=6.9,SNR=3.4								
OBN	**Obninsk**	**63.48**	**322**↓	*e*P		**P**		**15 05 56.4**	**+1.4**
OBN				pmax	pmax				
	comp=Z,6.0nm,0.6s								
FINES	**FINESS Array B**	**63.56**	**331**	P		**P**		**15 05 55.3**	**-0.2**
	comp=Z,8.5nm,0.5s,baz=50,slow=7.5,SNR=94								
VAF	**Ylistaro**	**63.60**	**334**	*e*P		**P**		**15 05 56.0**	**+0.3**
VAF				pmax	pmax				
	comp=Z,13nm,1.6s								
SUMG	**Summit**	**64.39**	**0**	*i* P		**P**		**15 06 01.8**	**+0.6**
	comp=Z,7.9nm,0.7s								
SUMG	**Summit**	**64.39**	**0**	*i* P		**P**		**15 06 01.8**	**+0.6**
SUMG				pmax	pmax				
	comp=Z,8.0nm,0.7s								
SUMG	**Summit**	**64.39**	**0**	P		**P**		**15 06 01.0**	**-0.2**
	comp=Z,8.4nm,0.6s								
NCK	**Nalchik**	**67.09**	**309**↑	*e*P		**P**		**15 06 19.6**	**+1.1**
NCK				pmax	pmax				
	comp=Z,15nm,0.6s								
ASAR	**Alice Springs**	**67.11**	**188**	pP		pP		15 06 59.3	+1.5
	comp=Z,0.3nm,0.5s,baz=2.8,slow=6.0,SNR=2.6								
KIV	**Kislovodsk**	**67.32**	**309**	*de*P		**P**		**15 06 22.1**	**+2.1**
KIV				pmax	pmax				
	comp=Z,14nm,0.8s								
KBZ	**Khabaz**	**67.34**	**309**	P		**P**		**15 06 21.0**	**+1.0**
	comp=Z,4.7nm,0.8s,baz=71,slow=4.3,SNR=14								
KBZ	**Khabaz**	**67.34**	**309**	P		**P**		**15 06 21.0**	**+1.0**
KBZ				pmax	pmax				
	comp=Z,5.0nm,0.8s								
ZEI	**Tsey**	**67.35**	**308**	*e*P		**P**		**15 06 19.8**	**-0.6**
NEY	**Neytrino**	**67.74**	**309**↓	*e*P		**P**		**15 06 24.6**	**+1.8**
NEY				pmax	pmax				
	comp=Z,1.0nm,0.7s								
NB2	**NORSAR Subarra**	**68.63**	**337**	P		**P**		**15 06 27.3**	**-0.6**
NB2				pmax	pmax				
	comp=Z,3.0nm,0.6s								
NB2	**NORSAR Subarra**	**68.63**	**337**	P		**P**		**15 06 27.4**	**-0.5**
	comp=Z,3.3nm,0.6s,baz=35,slow=6.5								
NOA	**NORSAR Array B**	**68.63**	**337**	P		**P**		**15 06 27.7**	**-0.2**
	comp=Z,0.9nm,0.5s,baz=52,slow=7.8,SNR=18								
AKASG	**Malin Array Be**	**69.73**	**321**	P		**P**		**15 06 34.8**	**0.0**
	comp=Z,3.5nm,0.6s,baz=43,slow=6.9,SNR=8.1								
AKASG	**Malin Array Be**	**69.73**	**321**	*e*P		**P**		**15 06 34.7**	**0.0**
AKASG				pmax	pmax				
	comp=Z,1.0nm,0.3s								
KIEV	**Kiev**	**69.74**	**321**	*e i*P		**P**		**15 06 34.7**	**-0.1**
KIEV				pmax	pmax				
	comp=Z,5.0nm,0.9s								
DUG	**Dugway, Tooele**	**72.82**	**51**	P		**P**		**15 06 54.9**	**+1.2**
DUG				pmax	pmax				
	comp=Z,4.0nm,1.4s								
PDAR	**Pinedale Array**	**72.86**	**47**	P		**P**		**15 06 54.7**	**+0.7**
	comp=Z,2.5nm,0.6s,baz=281,slow=2.5,SNR=8.3								
ULM	**Lac du Bonnet**	**73.93**	**35**	P		**P**		**15 06 59.4**	**-0.4**
	comp=Z,2.0nm,0.5s,baz=333,slow=6.8,SNR=3.2								
BRTR	**Keskin Array B**	**75.17**	**311**	P		**P**		**15 07 07.8**	**+0.5**
	comp=Z,0.8nm,0.6s,baz=41,slow=8.1,SNR=4.3								
BRTR	**Keskin Array B**	**75.17**	**311**	*i* P		**P**		**15 07 08.3**	**+1.0**
BRTR				pmax	pmax				
	comp=Z,1.0nm,0.6s								
MORC	**Moravsky Berou**	**75.43**	**327**	P		**P**		**15 07 09.4**	**+0.9**
DPC	**Dobruska-Polom**	**75.47**	**328**	*e*P		**P**		**15 07 10.0**	**+1.3**
DPC	**Dobruska-Polom**	**75.47**	**328**	*e*P		**P**		**15 07 10.0**	**+1.3**
VOIR		**75.47**	**320**	P		**P**		**15 07 10.1**	**+1.3**
VOIR				pmax	pmax				
	comp=Z,3.0nm,1.2s								
CLL	**Collm**	**75.95**	**330**	*e*P		**P**		**15 07 12.0**	**+0.7**
CLL				pmax	pmax				
	comp=Z,3.0nm,0.5s								
CLL	**Collm**	**75.95**	**330**	*e*P		**P**		**15 07 12.0**	**+0.7**
	comp=Z,3.0nm,0.5s								
CLL				*i* P(2)				15 07 14.3	
	comp=Z,6.0nm,0.7s								
GOPC	**GO Pecny, Ondr**	**76.41**	**328**	*e*P		**P**		**15 07 18.1**	**+4.1**
PRU	**Pruhonice**	**76.44**	**328**	*e*P		**P**		**15 07 15.4**	**+1.2**
PRU				*ex*		x		15 07 18.2	
PRU	**Pruhonice**	**76.44**	**328**	*e*P		**P**		**15 07 15.4**	**+1.2**
KHC	**Kasperske Hory**	**77.51**	**328**	*e*P		**P**		**15 07 21.3**	**+1.1**
KHC				*ex*		x		15 07 24.5	
KHC	**Kasperske Hory**	**77.51**	**328**	*e*P		**P**		**15 07 21.3**	**+1.1**
KHC				*e*				15 07 24.5	
GERES	**GERESS Array B**	**77.69**	**328**	P		**P**		**15 07 21.5**	**+0.2**
	comp=Z,0.6nm,0.5s,baz=24,slow=4.8,SNR=5.8								
GERES	**GERESS Array B**	**77.69**	**328**	*e*P		**P**		**15 07 21.6**	**+0.3**
GERES				pmax	pmax				
	comp=Z,1.0nm,0.5s								
KBA	**Koelnbreinsper**	**79.27**	**327**	P		**P**		**15 07 31.5**	**+1.4**
KBA				pmax	pmax				
	comp=Z,3.0nm,0.6s								
ANMO	**Albuquerque**	**80.09**	**51**↑	*e*P		**P**		**15 07 36.7**	**+2.0**
ANMO				pmax	pmax				
	comp=Z,1.0nm,1.1s								
TXAR	**Lajitas Array**	**85.80**	**53**	P		**P**		**15 08 04.4**	**+0.3**
	comp=Z,0.7nm,1.0s,baz=294,slow=2.2,SNR=5.3								
ESDC	**Sonseca Array**	**91.89**	**335**	P		**P**		**15 08 32.2**	**-0.4**
	comp=Z,0.3nm,0.5s,baz=10,slow=4.7,SNR=3.3								

NIED **17** *15:13:00, 38.30N×141.90E, h50km, Mw4.4 Best double couple: M0 3.96000×10*15 *NP1:φ=199.00000°, δ=19.00000°, λ=88.00000°. NP2:φ=21.00000°, δ=71.00000°, λ=91.00000°.*

BJI **17** *15:13:20.9, 38.26N×142.03E, h56km, mb4.7/57, mB4.8/30, Ms4.2/22, Ms7 4.0/13*

MOS **17** *15:13:21.9±1.0, 38.37N×141.92E, h45km, mb4.8/48, Error ellipse: s-maj=8.6km s-min=5.4km az=109.1*

ISCJB **17** *15:13:22.1±0.5, 38.29N±0.03×141.92E±0.04, h51km±3km, mb4.5/70, MS3.5/21, Error ellipse: s-maj=6.3km s-min=3.5km az=26.9*

JMA **17** *15:13:23.0±0.1, 38.30N×141.90E, h47km±2km, M4.3*
JMA Felt III J1.

NEIC **17** *15:13:24.5±0.6, 38.31N×141.87E, h60km±4km, mb4.8/18, Error ellipse: s-maj=6.9km s-min=4.4km az=116.0*

NEIC Felt at Ichinoseki. Recorded [3 JMA] in Iwate and Miyagi.

IDC **17** *15:13:24.1±0.5, 38.25N×141.94E, h55km±4km, mb4.0/22, mb1 4.2/27, mb1mx4.0/43, mbtmp4.3/27, MS3.4/19, Ms1 3.4/19, ms1mx3.3/37, Error ellipse: s-maj=13.9km s-min=9.9km az=103.0*

ISC 17 15:13:23.3±0.5, 38°28N±0°.04×141°92E±0°.04, h49km±4km, h49km:pP-P, n206, σ1s25/230, mb4.6/70, MS3.6/21, 7C-17D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
JIO	**Ouri**	**0.48**	**291**	P		**Pn**	**15 13 33.7**	**-0.6**
JIO				S		**Sn**	**15 13 40.9**	**-1.2**
OFUJ	**Ofunato**	**0.82**	**346**	P		**Pn**	**15 13 38.1**	**-0.5**
OFUJ				S		**Sn**	**15 13 48.4**	**-1.4**
JMK	**Ichinoseki**	**0.87**	**321**	P		**Pn**	**15 13 39.0**	**-0.2**
JMK				S		**Sn**	**15 13 50.3**	**-0.5**
JMM	**Marumori**	**0.98**	**245**	P		**Pn**	**15 13 40.0**	**-0.8**
JMM				S		**Sn**	**15 13 51.5**	**-2.1**
JOU	**Okura**	**0.99**	**275**	P		**Pn**	**15 13 40.8**	**-0.1**
JOU				S		**Sn**	**15 13 53.5**	**-0.4**
JFK	**Kawauchi**	**1.23**	**223**	P		**Pn**	**15 13 43.6**	**-0.6**
JFK				*e*S		**Sn**	**15 13 58.6**	**-1.2**
JOM	**Ohasama**	**1.29**	**338**	P		**Pn**	**15 13 44.9**	**0.0**
JOM				*e*S		**Sn**	**15 14 01.1**	**+0.1**
JYK	**Kaneyama**	**1.38**	**298**	P		**Pn**	**15 13 46.1**	**-0.1**
JYS	**Shirataka**	**1.46**	**268**	P		**Pn**	**15 13 47.3**	**0.0**
JYS				*e*S		**Sn**	**15 14 05.2**	**-0.1**
JFT	**Otama**	**1.47**	**239**	P		**Pn**	**15 13 47.5**	**+0.1**
JFT				S		**Sn**	**15 14 05.1**	**-0.3**
JRG	**Rokugo**	**1.50**	**318**	P		**Pn**	**15 13 47.8**	**0.0**
JYA	**Atsumi**	**1.76**	**281**	P		**Pn**	**15 13 51.6**	**+0.2**
MJAR	**Matsushiro Arr**	**3.43**	**241**	P		**Pn**	**15 14 15.6**	**+1.3**
	15nm,0.3s,baz=57,slow=11,SNR=98							
MJAR				S		Sn	15 15 05.0	+11
	19nm,0.3s,baz=92,slow=27,SNR=4.8							
MJAR				LR		LR	15 15 48.4	
	comp=Z,531nm,20.1s,baz=50,slow=42							
MAJO	**Matsushiro**	**3.43**	**241**	*de*P		**Pn**	**15 14 15.7**	**+1.4**
MAJO	**Matsushiro**	**3.43**	**241**	*e*Pn		**Pn**	**15 14 15.6**	**+1.3**
MAJO				*e*Sn		**Sn**	**15 14 51.9**	**-1.8**
MAT	**Matsushiro**	**3.43**	**241**	P		**Pn**	**15 14 15.7**	**+1.4**
MAT				S		**Sn**	**15 14 52.1**	**-1.6**
MJB9	**Matsu-Tunnel**	**3.43**	**241**	*e*Pn		**Pn**	**15 14 15.6**	**+1.4**
ERM	**Erimo**	**3.85**	**14**↓	*e*P		**Pn**	**15 14 19.9**	**0.0**
ERM	**Erimo**	**3.85**	**14**	*e*Pn		**Pn**	**15 14 20.0**	**+0.1**
ERM				*e*Sn		**Sn**	**15 15 02.7**	**-1.2**
INU	**Inuyama**	**4.91**	**235**	*e*Pn		**Pn**	**15 14 34.9**	**+0.4**
JHJ2	**Mitsune**	**5.43**	**199**	*e*Pn		**Pn**	**15 14 42.1**	**+0.3**
JHJ	**Hachijo jima 2**	**5.44**	**199**	P		**Pn**	**15 14 42.4**	**+0.6**
	36nm,0.3s,baz=315,slow=23,SNR=21							
JHJ				S		**Sn**	**15 15 40.5**	**-2.6**
	46nm,0.3s,baz=73,slow=19,SNR=4.0							
ASAJ	**Asahikawa**	**5.85**	**5**	*e*Pn		**Pn**	**15 14 47.9**	**+0.5**
YUK	**Yuzh-Kuril'sk**	**6.47**	**26**	*i* P		**Pn**	**15 14 55.6**	**-0.3**
KUR	**Kuril'sk**	**8.24**	**31**	*e*P		**Pn**	**15 15 19.9**	**-0.3**
KUR				*i* S		**Sn**	**15 16 45.8**	**-6.0**
KUR				pmax	pmax			
	comp=Z,37nm,0.9s							
KUR				smax	smax			
	comp=E,64nm,0.3s							
KUR				smax	smax			
	comp=N,56nm,0.2s							
YSS	**Yuzh-Sakhalins**	**8.69**	**4**↓	*e*P		**Pn**	**15 15 25.9**	**-0.4**
YSS				pmax	pmax			
	comp=Z,20nm,0.8s							
USRK	**Ussuriysk Ar.**	**9.53**	**311**	P		**Pn**	**15 15 39.0**	**+1.2**
	comp=Z,3.1nm,0.3s,baz=121,slow=15,SNR=20							
USRK				LR		LR	15 19 07.6	
	comp=Z,214nm,19.1s,baz=147,slow=36							
JNU	**Nakatsue**	**10.35**	**244**	P		**Pn**	**15 15 50.8**	**+1.6**
	comp=Z,0.4nm,0.3s,baz=89,slow=8.0,SNR=6.7							
KSRS	**Korea Array**	**11.10**	**270**	P		**Pn**	**15 16 02.3**	**+3.0**
	comp=Z,0.5nm,0.3s,baz=79,slow=14,SNR=5.6							
KSRS				LR		LR	15 19 55.8	
	comp=Z,166nm,20.6s,baz=87,slow=35							
KSAR	**Wonju Array Be**	**11.13**	**270**	P		**Pn**	**15 16 02.3**	**+2.6**
KSAR	**Wonju Array Be**	**11.13**	**270**	P		**Pn**	**15 16 02.3**	**+2.6**
MDJ	**Mudanjiang**	**11.21**	**308**	P		**Pn**	**15 16 01.0**	**+0.3**
MDJ				S		**Sn**	**15 18 04.5**	**+0.1**
MDJ				pmax	pmax			
	comp=Z,7.0nm,1.7s							
MDJ				pmax	pmax			
	comp=Z,83nm,5.0s							
HABR	**Khabarovsk**	**11.34**	**336**	*e*P		**Pn**	**15 16 00.9**	**-1.6**
HABR				*e*S		**Sn**	**15 18 07.0**	**-0.7**
HABR				pmax	pmax			
	comp=E,22nm,1.7s							
HABR				pmax	pmax			
	comp=N,12nm,1.7s							
HABR				pmax	pmax			
	comp=Z,22nm,1.7s							
HABR				MLR	MLR			
	comp=Z,73nm,14.0s							
SNY	**Shenyang**	**14.49**	**290**	↓P		P	15 16 57.1	+6.2
SNY				S		S	15 19 59.3	+17
SNY				pmax	pmax			
	comp=Z,24nm,2.1s							
SNY				pmax	pmax			
	comp=Z,160nm,6.5s							
SNY				LR	LR			
	comp=N,190nm,4.9s							
SNY				LR	LR			
	comp=E,280nm,9.4s							
SNY				LR	LR			
	comp=Z,400nm,17.8s							
PETK	**Petropavlovsk-**	**18.41**	**31**	LR		LR	15 24 17.6	
	comp=Z,32nm,21.8s,baz=228,slow=36							
NJ2	**Nanjing**	**19.83**	**259**	*e*P		**P**	**15 17 49.3**	**-0.6**
NJ2				pmax	pmax			
	comp=Z,18nm,0.8s							
BJI	**Beijing**	**20.02**	**283**	P		**P**	**15 17 50.8**	**-1.2**
BJI				pmax	pmax			
	comp=Z,10.0nm,0.7s							
MA2	**Magadan**	**22.05**	**12**	P		**P**	**15 18 13.9**	**+0.3**
	comp=Z,15nm,0.9s,baz=193,slow=12,SNR=9.7							
HHC	**Hu-ho-hao-te**	**23.49**	**286**	*e*P		**P**	**15 18 28.0**	**-0.7**
HHC				S		**S**	**15 22 33.9**	**-5.0**
HHC				pmax	pmax			
	comp=Z,13nm,1.0s							
HHC				pmax	pmax			
	comp=Z,87nm,7.4s							
HHC				LR	LR			
	comp=Z,100nm,11.1s							
HHC				LR	LR			
	comp=Z,150nm,13.6s							
TWG	**Pinlang**	**23.58**	**235**	*e*P		**P**	**15 18 28.3**	**-1.3**
	comp=Z,88nm,1.0s							
CIT	**Chita**	**24.08**	**314**	*e*P		**P**	**15 18 34.2**	**+0.2**
CIT				*e*			15 18 44.0	
CIT				pmax	pmax			
	comp=Z,70nm,1.0s							
GUMO	**Guam**	**24.73**	**173**	LR		LR	15 28 11.5	
	comp=Z,46nm,20.6s,baz=6.5,slow=36							
SEY	**Seymchan**	**25.49**	**11**	P		**P**	**15 18 47.9**	**+1.3**
	comp=Z,5.4nm,0.8s,baz=205,slow=7.1,SNR=14							
BOD	**Bodaibo**	**26.71**	**326**	*e*P		**P**	**15 18 57.3**	**-0.4**
BOD				pmax	pmax			
	comp=Z,15nm,0.8s							
XAN	**Xi'an**	**26.90**	**271**	P		**P**	**15 18 59.1**	**-0.6**
XAN				pmax	pmax			
	comp=Z,88nm,4.3s							
ULN	**Ulaanbaatar**	**27.01**	**302**	*de*P		**P**	**15 19 01.3**	**+0.6**
ULN				pmax	pmax			
	comp=Z,9.0nm,1.2s							
ULN	**Ulaanbaatar**	**27.01**	**302**	*e*P		**P**	**15 18 59.7**	**-1.0**
	comp=Z,6.0nm,0.9s							
SONA1	**Songino Array**	**27.44**	**302**	*e*P		**P**	**15 19 03.4**	**-1.2**
SONM	**Songino Array**	**27.45**	**302**	P		**P**	**15 19 05.4**	**+0.7**
	comp=Z,2.2nm,0.6s,baz=111,slow=8.7,SNR=12							
SONM				PcP		**PcP**	**15 22 22.2**	**+0.1**
	comp=Z,0.5nm,0.5s,baz=126,slow=2.5,SNR=2.9							
SONM				LR		LR	15 30 14.3	
	comp=Z,54nm,19.1s,baz=102,slow=37							
H11N2	**WAKE ISLAND Hy**	**28.47**	**123**	T		T	15 49 28.0	
	baz=316,slow=75,SNR=1959							
H11N1	**WAKE ISLAND Hy**	**28.48**	**123**	T		T	15 49 28.3	
	baz=316,slow=75,SNR=2998							
H11N3	**WAKE ISLAND Hy**	**28.48**	**123**	T		T	15 49 29.4	
	baz=316,slow=75,SNR=2331							
H11S1	**WAKE ISLAND Hy**	**29.22**	**125**	T		T	15 50 26.6	
	baz=318,slow=76,SNR=816							
H11S3	**WAKE ISLAND Hy**	**29.23**	**125**	T		T	15 50 25.3	
	baz=318,slow=76,SNR=1440							
H11S2	**WAKE ISLAND Hy**	**29.24**	**125**	T		T	15 50 25.9	
	baz=318,slow=76,SNR=899							
ZAK	**Zakamensk**	**29.83**	**307**	*e*P		**P**	**15 19 25.1**	**-0.6**
ZAK				pmax	pmax			
	comp=Z,7.0nm,1.0s							
TLY	**Talaya**	**29.84**	**309**	*i* P		**P**	**15 19 26.8**	**+1.1**
TLY				pmax	pmax			
	comp=Z,13nm,1.2s							
LZH	**Lanzhou**	**30.28**	**278**	*e*P		**P**	**15 19 30.4**	**+0.5**
LZH				pP		pP	15 19 41.5	-1.1
LZH				sP		sP	15 19 46.3	-2.2
LZH				pmax	pmax			
	comp=Z,18nm,1.0s							
MOY	**Mondy**	**31.46**	**309**	*e*P		**P**	**15 19 40.4**	**+0.3**
GYA	**Guiyang**	**31.84**	**259**	*e*P		**P**	**15 19 45.0**	**+1.3**
GYA				pmax	pmax			
	comp=Z,10.0nm,0.8s							
CD2	**Chengdu**	**32.09**	**268**	*e*P		**P**	**15 19 44.9**	**-0.9**
CD2				sP		sP	15 20 02.0	-2.4
CD2				PP		**PP**	**15 20 57.0**	**-1.9**
CD2				S		**S**	**15 24 47.8**	**-6.9**
CD2				pmax	pmax			
	comp=Z,10.0nm,1.0s							
CD2				LR	LR			
	comp=Z,210nm,10.4s							
CD2				LR	LR			
	comp=Z,100nm,10.4s							
GTA	**Gaotai**	**32.60**	**285**	*e*P		**P**	**15 19 50.4**	**+0.1**
GTA				S		**S**	**15 25 02.1**	**-0.6**
GTA				SS		**SnSn**	**15 26 57.1**	**-3.3**
GTA				pmax	pmax			
	comp=Z,5.0nm,0.9s							
GTA				pmax	pmax			
	comp=Z,59nm,5.5s							
GTA				LR	LR			
	comp=Z,60nm,17.6s							
GTA				LR	LR			
	comp=Z,110nm,17.6s							
BILL	**Bilibino**	**32.72**	**17**	*e*P		**P**	**15 19 51.5**	**+0.7**
BILL				pmax	pmax			
	comp=Z,8.0nm,1.3s							
BILL				MLR	MLR			
	comp=Z,96nm,23.0s							
QIZ	**Qiongzhong**	**33.82**	**245**	P		**P**	**15 19 59.9**	**-1.0**
QIZ				S		**S**	**15 25 23.9**	**+2.3**
WMQ	**Urumqi**	**40.65**	**296**	P		**P**	**15 20 59.9**	**+1.3**
WMQ				pP	pP		15 21 12.0	+0.3
WMQ				pmax	pmax			
	comp=Z,43nm,0.7s							
WMQ				pmax	pmax			
	comp=Z,110nm,3.7s							
ZAA0	**Zalesovo Array**	**41.38**	**311**	*e*P		**P**	**15 21 04.0**	**-0.4**
ZALV	**Zalesovo Beam**	**41.38**	**311**	P		**P**	**15 21 04.5**	**+0.1**
	comp=Z,9.1nm,0.5s,baz=84,slow=7.4,SNR=36							
ZALV				PcP		**PcP**	**15 23 01.6**	**-0.1**
	comp=Z,2.7nm,0.7s,baz=122,slow=2.9,SNR=4.6							
ZALV				LR	LR		15 38 58.2	
	comp=Z,64nm,18.1s,baz=70,slow=37							
CMAR	**Chiang Mai Arr**	**42.21**	**254**	P		**P**	**15 21 11.7**	**+0.1**
	comp=Z,1.0nm,0.6s,baz=44,slow=6.8,SNR=7.2							
CMAR				LR	LR		15 40 14.6	
	comp=Z,13nm,18.3s,baz=40,slow=38							
CMAR	**Chiang Mai Arr**	**42.21**	**254**	*i* P		**P**	**15 21 11.6**	**0.0**
CMAR				pmax	pmax			
	comp=Z,2.0nm,0.8s							
CM01	**Chiang Mai Arr**	**42.22**	**254**	*e*P		**P**	**15 21 11.4**	**-0.2**
NVS	**Novosibirsk**	**42.28**	**313**↓	*i*P		**P**	**15 21 12.1**	**+0.4**
NVS				pmax	pmax			
	comp=E,11nm,1.3s							
NVS				pmax	pmax			
	comp=Z,15nm,1.3s							
NVS				pmax	pmax			
	comp=N,6.0nm,1.0s							
NRIK	**Noril'sk**	**42.31**	**335**	P		**P**	**15 21 10.5**	**-1.3**
	comp=N,1.3nm,0.4s,baz=92,slow=3.6,SNR=3.6							
NRIK				LR	LR		15 39 51.0	
	comp=N,90nm,18.9s,baz=106,slow=38							
MK01	**Makanchi Array**	**43.81**	**301**	*e*P		**P**	**15 21 23.8**	**-0.5**
MK31	**Makanchi Array**	**43.81**	**301**	*i* P		**P**	**15 21 24.6**	**+0.3**
MK31				pmax	pmax			
	comp=Z,10.0nm,0.8s							
MK31	**Makanchi Array**	**43.81**	**301**	*e*P		**P**	**15 21 24.1**	**-0.2**
MKAR	**Makanchi Array**	**43.81**	**301**	*e*P		**P**	**15 21 24.1**	**-0.2**
MKAR				pmax	pmax			
	comp=Z,47nm,0.6s							
MKAR	**Makanchi Array**	**43.81**	**301**	*e*P		**P**	**15 21 24.1**	**-0.2**
	comp=Z,46nm,0.6s							
MAKZ	**Makanchi**	**44.02**	**301**	P		**P**	**15 21 25.8**	**-0.1**
MAKZ				pmax	pmax			
	comp=Z,9.0nm,1.0s							
MAKZ	**Makanchi**	**44.02**	**301**	*e*P		**P**	**15 21 25.8**	**-0.1**
	comp=Z,6.9nm,0.9s							
KURK	**Kurchatov**	**45.49**	**307**	P		**P**	**15 21 37.2**	**-0.3**
KURK				pmax	pmax			
	comp=Z,30nm,0.9s							
KURK	**Kurchatov**	**45.49**	**307**	*e*P		**P**	**15 21 37.0**	**-0.5**
	comp=Z,26nm,0.8s							
KDAK	**Kodiak Island**	**45.91**	**43**	P		**P**	**15 21 39.9**	**-0.8**
	comp=Z,3.1nm,0.7s,baz=279,slow=6.2,SNR=4.2							
TAPN	**Taplejung**	**46.27**	**273**	*e*P		**P**	**15 21 44.1**	**-0.2**
	comp=Z,11nm,0.6s							
PDGK	**Podgornoye**	**46.56**	**297**	P		**P**	**15 21 45.8**	**-0.4**
PDGK				pmax	pmax			
	comp=Z,4.0nm,0.6s							
ODAN	**Odare**	**46.75**	**273**	*e*P		**P**	**15 21 48.4**	**+0.4**
	comp=Z,19nm,0.6s							
JIRN	**Jiri**	**47.32**	**274**	*e*P		**P**	**15 21 53.2**	**+0.6**
	comp=Z,115nm,0.5s							
RAMN	**Ramite**	**47.33**	**273**	*e*P		**P**	**15 21 52.7**	**+0.1**
	comp=Z,57nm,0.9s							
GUN	**Gumba**	**47.45**	**275**	*e*P		**P**	**15 21 53.8**	**+0.2**
	comp=Z,76nm,0.9s							
KKN	**Kakani**	**47.97**	**275**	*e*P		**P**	**15 21 58.0**	**+0.5**
	comp=Z,42nm,0.8s							
PKI	**Pulchoki**	**47.97**	**275**	*e*P		**P**	**15 21 57.6**	**0.0**
	comp=Z,13nm,0.5s							
PKIN	**Phulchoki**	**47.98**	**275**	*e*P		**P**	**15 21 57.9**	**+0.3**
	comp=Z,22nm,0.7s							
ILAR	**Eielson Array**	**48.23**	**33**	P		**P**	**15 21 59.3**	**+0.6**
	comp=Z,1.1nm,0.7s,baz=268,slow=6.7,SNR=15							
ILAR				pP		**pP**	**15 22 14.2**	**+2.1**
	comp=Z,1.0nm,0.7s,baz=263,slow=6.1,SNR=5.4							
ILB	**Eielson Array**	**48.23**	**33**	*e*P		**P**	**15 21 59.1**	**+0.3**
GKN	**Gorkha**	**48.38**	**276**	*e*P		**P**	**15 22 00.8**	**+0.2**
	comp=Z,54nm,0.9s							
KOLN	**Koldanda**	**49.30**	**276**	*e*P		**P**	**15 22 08.0**	**+0.3**
	comp=Z,11nm,0.5s							
TKM2	**Tokmak 2**	**49.40**	**298**	P		**P**	**15 22 08.9**	**+0.6**
TKM2				pmax	pmax			
	comp=Z,7.0nm,0.9s							
PYUN	**Piuthan**	**49.62**	**277**	*e*P		**P**	**15 22 10.5**	**+0.4**
	comp=Z,70nm,1.0s							
BRVK	**Borovoye**	**50.09**	**312**↑	*e*P		**P**	**15 22 13.1**	**0.0**
BRVK				pmax	pmax			
	comp=Z,26nm,2.5s							
BRVK	**Borovoye**	**50.09**	**312**	*e*P		**P**	**15 22 12.6**	**-0

comp=Z,6.0nm,1.0s
ARCES ARCESS Array B 62.97 339 P **P** **15 23 44.3 -0.1**
comp=Z,3.3nm,0.7s,baz=51,slow=7.9,SNR=7.5
ARCES LR LR 15 53 50.9
comp=Z,25nm,20.2s,baz=52,slow=38
GEYT Alibeck 63.59 299 P **P** **15 23 49.4 +0.4**
comp=Z,2.7nm,0.8s,baz=68,slow=8.2,SNR=5.7
GEYT LR LR 15 54 43.2
comp=Z,30nm,19.1s,baz=10.0,slow=39
OBN Obninsk 67.34 323⇓*iP* **P** **15 24 13.1 +0.2**
OBN pmax pmax
comp=Z,20nm,1.7s
OBN MLR MLR
comp=Z,25nm,16.0s
FIA1 FINESS Array S 67.90 332 *eP* **P** **15 24 16.1 -0.2**
FINES FINESS Array B 67.90 332 P **P** **15 24 16.4 +0.1**
comp=Z,11nm,0.8s,baz=45,slow=8.6,SNR=28
FINES pP **sP** **15 24 33.9 -1.8**
comp=Z,2.9nm,0.7s,baz=54,slow=9.7,SNR=3.9
FINES LR LR 15 55 21.4
comp=Z,44nm,19.3s,baz=30,slow=37
FINES FINESS Array B 67.90 332 *i* P **P** **15 24 16.5 +0.2**
FINES pmax pmax
comp=Z,11nm,0.8s
VSU Vasula 69.59 330⇓*eP* **P** **15 24 26.9 +0.1**
VSU pmax pmax
comp=Z,32nm,0.9s
STKA Stephens Creek 69.80 180 P **P** **15 24 28.9 +0.6**
comp=Z,0.6nm,0.5s,baz=359,slow=7.0,SNR=3.7
KIV Kislovodsk 70.40 311*d iP* **P** **15 24 33.5 +1.3**
KIV pmax pmax
comp=Z,23nm,1.0s
KIV MLR MLR
comp=Z,23nm,14.0s
KIV Kislovodsk 70.40 311 *eP* **P** **15 24 31.4 -0.9**
comp=Z,24nm,1.0s
KBZ Khabaz 70.40 311 P **P** **15 24 32.5 +0.5**
comp=Z,8.1nm,0.9s,baz=46,slow=3.2,SNR=18
NEY Neytrino 70.78 310⇑*eP* **P** **15 24 36.4 +1.7**
NEY pmax pmax
comp=Z,1.0nm,0.9s
NC405 NORSAR Array S 72.98 337 *eP* **P** **15 24 47.0 -0.4**
NC204 NORSAR Array S 73.14 338 *eP* **P** **15 24 48.0 -0.3**
NB201 NORSAR Array S 73.16 337 *eP* **P** **15 24 47.1 -1.3**
NB2 NORSAR Subarra 73.19 337 P **P** **15 24 48.5 -0.1**
NB2 pmax pmax
comp=Z,8.0nm,0.8s
NB2 NORSAR Subarra 73.19 337 P **P** **15 24 48.5 -0.1**
comp=Z,6.6nm,0.8s,baz=38,slow=6.2
NOA NORSAR Array B 73.19 337 P **P** **15 24 48.8 +0.2**
comp=Z,6.0nm,0.8s,baz=43,slow=5.5,SNR=27
NOA pP **PcP** **15 25 05.8 +0.8**
comp=Z,1.9nm,0.8s,baz=38,slow=5.9,SNR=2.6
NOA LR LR 15 59 33.6
comp=Z,34nm,21.6s,baz=35,slow=38
NOA NORSAR Array B 73.19 337 P **P** **15 24 48.8 +0.2**
NOA *PP **PcP** **15 25 05.8 +0.8**
NOA pmax pmax
comp=Z,8.0nm,0.8s
NOA MLR MLR
comp=Z,34nm,21.6s
NBO02 NORSAR Array S 73.29 337 *eP* **P** **15 24 49.3 +0.1**
AKASG Malin Array Be 73.56 322 P **P** **15 24 50.7 -0.2**
comp=Z,4.3nm,0.5s,baz=45,slow=6.0,SNR=27
AKASG LR LR 16 00 04.4
comp=Z,42nm,18.1s,baz=35,slow=38
AKBB Malin Array Si 73.56 322 *eP* **P** **15 24 49.9 -1.0**
AKBB pmax pmax
comp=Z,10.0nm,0.8s
AKBB Malin Array Si 73.56 322 *eP* **P** **15 24 49.9 -1.0**
comp=Z,9.8nm,0.8s
KIEV Kiev 73.57 322⇑*iP* **P** **15 24 50.6 -0.4**
KIEV pmax pmax
comp=Z,10.0nm,0.8s
KIEV Kiev 73.57 322 *eP* **P** **15 24 50.1 -0.8**
comp=Z,10.0nm,0.9s
AK11 Malin Array Si 73.60 322 *eP* **P** **15 24 49.3 -1.9**
DUG Dugway, Tooele 76.24 50 P **P** **15 25 07.1 +0.3**
PDAR Pinedale Array 76.51 46 P **P** **15 25 09.5 +1.2**
comp=Z,0.5nm,0.5s,baz=286,slow=1.6,SNR=2.8
PDAR pP **pP** **15 25 23.6 +1.2**
comp=Z,1.3nm,0.6s,baz=270,slow=2.8,SNR=4.2
BUR08 Bucovina Ar. S 77.57 322 *eP* **P** **15 25 14.8 +0.7**
CFR Carcaliu 77.78 319⇑*iP* **P** **15 25 14.9 -0.2**
CFR Carcaliu 77.78 319⇑P **P** **15 25 14.9 -0.2**
STHS Stebnicka Huta 78.17 325 *eP* **P** **15 25 18.5 +1.2**
STHS pmax pmax
comp=Z,4.0nm,1.2s
STHS Stebnicka Huta 78.17 325 *eP* **P** **15 25 18.5 +1.2**
OJC Ojcow 78.23 326 *eP* **P** **15 25 18.7 +1.1**
OJC Ojcow 78.23 326 *eP* **P** **15 25 17.6 0.0**
OJC pmax pmax
comp=Z,14nm,1.1s
OJC Ojcow 78.23 326 *eP* **P** **15 25 17.6 0.0**
comp=Z,14nm,1.1s
BRTR Keskin Array B 78.33 312 P **P** **15 25 18.8 +0.3**
comp=Z,1.2nm,0.6s,baz=90,slow=4.9,SNR=6.5
BRTR LR LR 16 03 16.2
comp=Z,13nm,19.0s,baz=68,slow=38
NIE Niedzica 78.59 325 *eP* **P** **15 25 20.8 +1.1**
NIE Niedzica 78.59 325 *eP* **P** **15 25 20.8 +1.1**
BR231 Keskin MP Arra 78.76 312 *eP* **P** **15 25 19.5 -1.3**
LANS Liptovska Anna 79.16 326 *eP* **P** **15 25 23.8 +1.1**
LANS Liptovska Anna 79.16 326 *eP* **P** **15 25 23.8 +1.1**
VOIR 79.19 320⇓*iP* **P** **15 25 23.7 +0.7**
VOIR 79.19 320⇓P **P** **15 25 23.7 +0.7**
KSP Ksiaz 79.25 328 *eP* **P** **15 25 24.2 +1.0**
KSP Ksiaz 79.25 328 *eP* **P** **15 25 24.2 +1.0**
ARR Arges 79.44 320⇑*iP* **P** **15 25 24.2 -0.2**
MORC Moravsky Berou 79.53 327⇓*iP* **P** **15 25 25.5 +0.7**
MORC Moravsky Berou 79.53 327 *eP* **P** **15 25 25.1 +0.3**
MORC pmax pmax
comp=Z,25nm,0.9s
MORC Moravsky Berou 79.53 327 *eP* **P** **15 25 25.1 +0.3**
comp=Z,25nm,0.9s
DPC Dobruska-Polom 79.62 328 *eP* **P** **15 25 26.1 +0.9**
DPC Dobruska-Polom 79.62 328 *eP* **P** **15 25 26.1 +0.9**
UPC Upice 79.63 328 *eP* **P** **15 25 26.1 +0.9**
UPC Upice 79.63 328 *eP* **P** **15 25 26.1 +0.9**
VYHS Vyhne 79.93 326 *eP* **P** **15 25 27.4 +0.5**
VYHS pmax pmax
comp=Z,2.0nm,1.1s
VYHS Vyhne 79.93 326 *eP* **P** **15 25 27.4 +0.5**
BRG Berggiesshubel 80.19 330 *eP* **P** **15 25 28.5 +0.3**
comp=Z,5.4nm,0.8s
BRG Berggiesshubel 80.19 330 *eP* **P** **15 25 28.5 +0.3**
BRG pmax pmax
comp=Z,5.0nm,0.9s
CLL Collm 80.22 330 *eP* **P** **15 25 28.6 +0.2**
CLL pmax pmax
comp=Z,7.0nm,0.8s
CLL Collm 80.22 330 *i P* **P** **15 25 28.5 +0.2**
comp=Z,8.0nm,0.9s
CLL Collm 80.22 330 *eP* **P** **15 25 28.6 +0.2**
comp=Z,6.6nm,0.8s
VRAC Vranov 80.29 327⇓*iP* **P** **15 25 29.8 +1.0**
VRAC Vranov 80.29 327⇓P **P** **15 25 29.8 +1.0**
GZR Gura Zlata 80.35 321⇓*iP* **P** **15 25 29.5 +0.2**
GZR Gura Zlata 80.35 321⇓P **P** **15 25 29.5 +0.2**
GOPC GO Pecny, Ondr 80.59 329 *eP* **P** **15 25 31.4 +1.0**
GOPC GO Pecny, Ondr 80.59 329 *eP* **P** **15 25 31.4 +1.0**
PRU Pruhonice 80.63 329 *eP* **P** **15 25 31.7 +1.1**
PRU Pruhonice 80.63 329 *eP* **P** **15 25 31.7 +1.1**
TREC Trest 80.77 328 *eP* **P** **15 25 32.3 +0.9**
TREC Trest 80.77 328 *eP* **P** **15 25 32.3 +0.9**
KHC Kasperske Hory 81.69 329 *eP* **P** **15 25 36.9 +0.6**
KHC Kasperske Hory 81.69 329 *eP* **P** **15 25 37.0 +0.6**
KHC pmax pmax
comp=Z,3.0nm,1.0s
KHC Kasperske Hory 81.69 329 *eP* **P** **15 25 37.0 +0.6**
comp=Z,3.3nm,1.0s
GEC2 GERESS Array S 81.86 328 *eP* **P** **15 25 37.8 +0.5**
GEC2 pmax pmax
comp=Z,4.0nm,1.1s
GEC2 GERESS Array S 81.86 328 *eP* **P** **15 25 37.8 +0.5**
comp=Z,3.8nm,1.1s
GERES GERESS Array B 81.86 328 P **P** **15 25 37.4 +0.1**
comp=Z,1.8nm,0.7s,baz=35,slow=4.9,SNR=18
GERES LR LR 16 04 38.8
comp=Z,46nm,19.8s,baz=60,slow=38
GEA0 GERESS Array S 81.87 328 *eP* **P** **15 25 37.4 +0.1**
WET Wettzell 81.97 329 P **P** **15 25 38.6 +0.8**
WET pmax pmax
comp=Z,8.0nm,1.1s
VTS Vitosha 82.14 319 *eP* **P** **15 25 40.1 +1.2**
VTS pmax pmax
comp=Z,6.0nm,0.8s
VTS Vitosha 82.14 319 *eP* **P** **15 25 40.1 +1.2**
comp=Z,5.5nm,0.8s
KBA Koelnbreinsper 83.40 327 P **P** **15 25 46.2 +0.8**
KBA pmax pmax
comp=Z,6.0nm,0.8s
BFO Black Forest 84.41 331 *i P* **P** **15 25 51.9 +1.5**
BFO Black Forest 84.41 331 *eP* **P** **15 25 50.9 +0.5**
comp=Z,6.3nm,1.0s
PPT Papeete 84.83 117 LR LR 15 58 22.5
comp=Z,32nm,19.5s,baz=93,slow=32
TXAR Lajitas Array 89.04 53 P **P** **15 26 14.4 +1.0**
comp=Z,0.6nm,0.7s,baz=292,slow=3.2,SNR=8.5
TXAR pP **pP** **15 26 29.0 +1.2**
comp=Z,1.4nm,0.6s,baz=299,slow=3.3,SNR=15
NCB Newcomb 91.83 25 *eP* P 15 26 22.7 -3.3
comp=Z,0.6nm,1.8s
KEST Kesra 94.27 323 LR LR 16 13 53.9
comp=Z,44nm,18.1s,baz=243,slow=38
MAW Mawson 120.84 206 PKP **PKPdf** **15 32 09.2 +0.4**
comp=Z,0.5nm,0.8s,baz=346,slow=4.2,SNR=4.0
LPAZ La Paz 145.71 59 PKPbc **PKPdf** **15 32 58.0 +0.5**
comp=Z,1.3nm,0.5s,baz=10,slow=5.3,SNR=6.4
LPAZ pPKPbc pPKPbc 15 33 12.7 +0.1
comp=Z,2.0nm,0.6s,baz=14,slow=4.1,SNR=4.3

*ISCJB **17** 15:15:03.0±0.6, 6.82N±0.03×73.00W±0.04, h148km±6km, Error ellipse: s-maj=6.8km s-min=4.0km az=35.0*
*FUNV **17** 15:15:04.1, 6.83N×73.10W, h150km, MW2.6*
*RSNC **17** 15:15:05.2±0.5, 6.79N×73.06W, h139km±4km, ML2.6*

ISC 17 15:15:02.6±1.3, 6.82N±0.04×72.99W±0.04, h154km±8km, n22, σ1§15/42, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BTLC	**Betulia, Santa**	**0.29**	**290**	*eP*	**Pn**	**15 15 24.0**	**+0.2**
BARC	**Barichara**	**0.30**	**220**	*eP*	**Pn**	**15 15 23.8**	**-0.1**
BARC				*eS*	**Sn**	**15 15 38.5**	**-1.6**
BARC				*i*		15 15 40.0	
	comp=Z,83nm,0.2s						
GIRC	**Giron, Santand**	**0.33**	**322**	*eP*	**Pn**	**15 15 24.2**	**+0.3**
GIRC				*eS*	**Sn**	**15 15 38.7**	**-1.4**
PAMC	**Pamplona, Colo**	**0.59**	**29**	*i P*	**Pn**	**15 15 26.8**	**+1.4**
PAMC				*eS*	**Sn**	**15 15 43.6**	**+0.8**
BRRC	**Barranca, Sant**	**0.77**	**292**	*eP*	**Pn**	**15 15 26.7**	**+0.7**
BRRC				*eS*	**Sn**	**15 15 42.6**	**-1.2**
BRRC				*i*		15 15 45.6	
	comp=Z,66nm,0.1s						
RUSC	**La Rusia**	**0.93**	**186**	*eP*	**Pn**	**15 15 27.9**	**+0.1**
RUSC				*eS*	**Sn**	**15 15 46.4**	**-0.5**
RUSC				*i*		15 15 47.7	
	comp=Z,40nm,0.4s						
CAPV	**Capacho**	**1.24**	**33**	*eP*	**Pn**	**15 15 31.7**	**+1.6**
CAPV				*eS*	**Sn**	**15 15 50.6**	**-0.5**
OCAC	**Ocana**	**1.45**	**347**	*eP*	**Pn**	**15 15 32.7**	**+0.6**
OCAC				*eS*	**Sn**	**15 15 54.9**	**+0.1**
OCAC				*i*		15 15 58.5	
	comp=Z,46nm,0.3s						
YOPC	**Yopal, Colombi**	**1.56**	**159**	*eP*	**Pn**	**15 15 34.6**	**+1.4**
YOPC				*eS*	**Sn**	**15 15 57.1**	**+0.3**
ZARC	**Zaragoza, Cauc**	**1.97**	**290**	*eP*	**Pn**	**15 15 38.2**	**+0.6**
ZARC				*eS*	**Sn**	**15 16 03.8**	**-0.8**
ZARC				*i*		15 16 07.6	
	comp=Z,53nm,0.4s						
NORC	**Norcasia**	**2.25**	**236**	*eP*	**Pn**	**15 15 40.8**	**-0.1**
NORC				*eS*	**Sn**	**15 16 09.5**	**-0.9**
CHIC	**Chingaza**	**2.30**	**199**	*eP*	**Pn**	**15 15 42.1**	**+0.3**
CHIC				*eS*	**Sn**	**15 16 11.5**	**-0.7**
CHIC				*i*		15 16 18.9	
	comp=Z,14nm,0.3s						
SOCV	**Socops**	**2.57**	**55**	*eP*	**Pn**	**15 15 46.2**	**+1.5**
SOCV				*eS*	**Sn**	**15 16 17.0**	**-0.2**
VIGV	**El Vigia**	**2.57**	**39**	*eP*	**Pn**	**15 15 46.3**	**+1.4**
VIGV				*eS*	**Sn**	**15 16 17.0**	**-0.4**
HELC	**Santa Helena**	**2.60**	**256**	*eP*	**Pn**	**15 15 46.1**	**+0.7**
HELC				*eS*	**Sn**	**15 16 18.2**	**-0.4**
HELC				*i*		15 16 23.9	
	comp=Z,24nm,0.4s						
VILC	**Villavicencio,**	**2.78**	**195**	*eP*	**Pn**	**15 15 48.4**	**+0.9**
VILC				*i*		15 16 25.6	
	comp=Z,14nm,0.3s						
GUYC	**Guyana, Colomb**	**2.87**	**237**	*eP*	**Pn**	**15 15 49.9**	**+1.0**
GUYC				*eS*	**Sn**	**15 16 24.7**	**+0.1**
GUYC				*i*		15 16 30.8	
	comp=Z,23nm,0.4s						
CODC	**Agust^n Codaz**	**3.13**	**352**	*eP*	**Pn**	**15 15 53.2**	**+1.5**
CODC				*i*		15 15 54.8	
	comp=Z,20nm,0.8s						
CODC				*eS*	**Sn**	**15 16 31.0**	**+1.2**
PRAC	**Prado**	**3.62**	**212**	*eP*	**Pn**	**15 15 58.6**	**+0.6**
PRAC				*eS*	**Sn**	**15 16 40.6**	**-0.6**
VIRV	**Villa del Rosa**	**3.71**	**9**	*eP*	**Pn**	**15 15 59.1**	**0.0**
VIRV				*eS*	**Sn**	**15 16 40.1**	**-3.0**
CURV	**Curarigua**	**4.36**	**43**	*eP*	**Pn**	**15 16 08.9**	**+1.1**
CURV				*eS*	**Sn**	**15 16 56.4**	**-2.2**
BAUV	**El Baul**	**5.34**	**66**	*eP*	**Pn**	**15 16 20.5**	**0.0**
BAUV				*eS*	**Sn**	**15 17 18.8**	**-2.6**

MEX 17 15:26:55.8±0.6, 32.32N×115.07W, h32km±8km, MD3.5, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SPIG	**San Pedro Mart**	**1.31**	**195**	*eP*	Pn	15 27 16.3	-1.9
SPIG				*i* S	Sn	15 27 31.9	-2.9
CBX	**Cerro Bola**	**1.35**	**270**	*eP*	Pn	15 27 16.6	-2.0
CBX				*i* S	Sn	15 27 32.7	-2.8
TJIG	**Tijuana**	**1.36**	**275**	*i* P	Pn	15 27 17.4	-1.2
TJIG				*i* S	Sn	15 27 32.4	-3.3

*IDC **17** 15:28:32.8±2.7, 36.21N×70.41E, h179km±23km, mb3.5/15, mb1 3.6/19, mb1mx3.3/43, mbtmp4.0/19, Error ellipse: s-maj=19.0km s-min=13.5km az=174.0*
*MOS **17** 15:28:32.0±0.8, 36.25N×70.32E, h185km, mb4.2/10, Error ellipse: s-maj=16.3km s-min=7.0km az=90.9*
*ISCJB **17** 15:28:35.6±0.3, 36.49N±0.03×70.44E±0.05, h213km, mb3.6/16, Error ellipse: s-maj=6.3km s-min=3.4km az=149.8*
*NNC **17** 15:28:38.5±7.4, 37.03N×70.20E, h0km, mb4.9, mpv4.5, Error ellipse: s-maj=60.1km s-min=53.2km az=133.0*

ISC 17 15:28:36.4±0.5, 36.48N±0.05×70.47E±0.05, h213km, n61, σ2§17/72, mb3.5/16, 9C-3D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CEP	**Cherat**	**2.90**	**156**	P	**Pn**	**15 29 26.1**	**+0.4**
CEP				S	**S**	**15 30 03.0**	**-1.0**
CHCP	**Chirah Chowk**	**3.63**	**140**	P	**Pn**	**15 29 35.3**	**+1.1**
THW	**Thamme Wali**	**3.82**	**164**	P	**Pn**	**15 29 36.8**	**+0.3**
KSH	**Kashi**	**5.30**	**53**	Pn	**Pn**	**15 29 50.8**	**-4.1**
KSH				pP		15 29 53.1	
KSH				Sn	S	15 30 40.8	-16
KSH				pmax	pmax		
	comp=Z,16nm,0.6s						
KSH				smax	smax		
	comp=N,120nm,0.5s						
KSH				smax	smax		
	comp=E,99nm,0.7s						
THN	**Thein Dam**	**5.92**	**131**	*eP*	**Pn**	**15 30 03.2**	**+0.4**
THN				*eS*	**S**	**15 31 07.0**	**-4.1**
MNAS	**Manas**	**6.20**	**14**	⇓P	**Pn**	**15 30 06.2**	**-0.2**
	comp=E,24nm,0.6s						
MNAS				⇑S	**S**	**15 31 13.2**	**-4.7**
	comp=E,139nm,0.6s						
MNAS	**Manas**	**6.20**	**14**	PN	**Pn**	**15 30 06.2**	**-0.2**
MNAS				pmax	pmax		
	comp=Z,24nm,0.6s						
PONG	**Pong**	**6.40**	**133**	*eS*	**S**	**15 31 18.0**	**-4.3**
DHRM	**DHARAMSHALA**	**6.40**	**130**	*eP*	**Pn**	**15 30 09.5**	**+0.3**
DHRM				*eS*	**S**	**15 31 20.4**	**-2.4**
DHRM				IAML		15 31 22.4	
	comp=N,377nm,0.1s						
DHRM				IAML		15 31 23.1	
	comp=E,570nm,0.1s						
KK31	**Karatay Array**	**6.62**	**0**	P	**Pn**	**15 30 10.9**	**-0.7**
	comp=E,28nm,0.7s,baz=187,slow=13,SNR=193						
KK31				⇑S	**S**	**15 31 22.5**	**-4.9**
	comp=E,42nm,0.5s,baz=189,slow=25						
KK31	**Karatay Array**	**6.62**	**0**	PN	**Pn**	**15 30 10.9**	**-0.7**
KK31				pmax	pmax		
	comp=Z,28nm,0.7s						
AAK	**Ala-Archa**	**6.89**	**26**	P	**Pn**	**15 30 15.6**	**+0.3**
	comp=Z,9.4nm,0.3s,baz=189,slow=6.6,SNR=58						
AAK				S	**S**	**15 31 30.9**	**-3.0**
	comp=Z,5.6nm,0.3s,baz=288,slow=3.6,SNR=27						
AAK	**Ala-Archa**	**6.89**	**26**	⇑P	**Pn**	**15 30 15.3**	**-0.1**
	comp=Z,19nm,0.6s						
AAK				⇑S	**S**	**15 31 30.7**	**-3.2**
	comp=Z,86nm,0.6s						
AAK	**Ala-Archa**	**6.89**	**26**	PN	**Pn**	**15 30 15.2**	**-0.1**
AAK				pmax	pmax		
	comp=Z,19nm,0.6s						
SDNR	**Sundarnagar**	**7.33**	**131**	*eP*	**Pn**	**15 30 23.0**	**+2.0**
SDNR				*eS*	**S**	**15 31 40.0**	**-4.4**
TKM2	**Tokmak 2**	**7.55**	**30**	⇑P	**Pn**	**15 30 23.8**	**0.0**
	comp=Z,38nm,0.5s						
TKM2				⇑S	**S**	**15 31 46.2**	**-3.3**
	comp=Z,28nm,0.8s						
TKM2	**Tokmak 2**	**7.55**	**30**	PN	**Pn**	**15 30 23.8**	**0.0**
TKM2				pmax	pmax		
	comp=Z,38nm,0.5s						
SMLA	**Simla**	**7.71**	**132**	*eP*	**Pn**	**15 30 26.3**	**+0.4**
SMLA				*eS*	**S**	**15 31 48.5**	**-4.8**
SMLA				IAML		15 32 19.9	
	comp=E,120nm,0.4s						
SMLA				IAML		15 32 20.6	
	comp=N,72nm,0.3s						
KHET	**Khetri**	**9.52**	**150**	*eP*	**Pn**	**15 30 47.4**	**-1.8**
KHET				*eS*	S	15 32 25.9	-10
KHET				IAML		15 32 31.0	
	comp=E,69nm,0.3s						
KHET				IAML		15 32 31.8	
	comp=N,45nm,0.5s						
JOSI	**Joshimath**	**9.61**	**125**	*eP*	**Pn**	**15 30 51.2**	**+0.6**
JOSI				*eS*	**S**	**15 32 33.0**	**-5.7**
JOSI				IAML		15 32 37.9	
	comp=E,248nm,0.8s						
JOSI				IAML		15 32 43.3	
	comp=N,226nm,0.7s						
SONA	**Sohna**	**9.93**	**144**	*eS*	S	15 32 36.4	-9.4
SONA				IAML		15 32 39.6	
	comp=N,49nm,0.5s						
SONA				IAML		15 32 40.9	
	comp=E,51nm,0.5s						
GEYT	**Alibeck**	**9.96**	**282**	P	**Pn**	**15 30 53.3**	**-1.6**
	comp=E,0.3nm,0.3s,baz=120,slow=8.8,SNR=2.4						
GEYT				S	**S**	**15 32 41.1**	**-5.5**
	comp=E,0.5nm,0.3s,baz=96,slow=13,SNR=2.8						
PYUN	**Puthan**	**13.48**	**125**	*eP*	**Pn**	**15 31 39.3**	**-0.3**
	comp=E,24nm,0.5s						
KOLN	**Koldanda**	**14.10**	**124**	*eP*	**Pn**	**15 31 47.3**	**0.0**
	comp=E,5.3nm,0.2s						
BHPL	**Bhopal**	**14.50**	**154**	*eP*	**P**	**15 31 56.1**	**+3.2**
GKN	**Gorkha**	**14.65**	**121**	*eP*	**P**	**15 31 55.0**	**+0.2**
	comp=E,29nm,0.3s						
AB31	**Akbulak array**	**14.90**	**332**	P	**Pn**	**15 31 55.1**	**-1.5**
AB31				pmax	pmax		
	comp=Z,11nm,1.0s						
DMN	**Daman**	**15.22**	**121**	*eP*	**Pn**	**15 32 01.4**	**+0.4**
	comp=Z,15nm,0.5s						
KKN	**Kakani**	**15.23**	**120**	*eP*	**P**	**15 32 01.7**	**+0.5**
	comp=Z,20nm,0.3s						
KURBB	**Kurchatov Arra**	**15.28**	**20**	P	**P**	**15 32 01.1**	**-0.2**
	comp=Z,0.1nm,0.3s,baz=211,slow=9.9,SNR=18						
KURK	**Kurchatov**	**15.39**	**20**⇓*eP*		**P**	**15 32 04.5**	**+2.0**
KURK				pmax	pmax		
	comp=Z,7.0nm,0.8s						
PKIN	**Phulchoki**	**15.44**	**121**	*eP*	**Pn**	**15 32 04.6**	**+0.9**
PKI	**Pulchoki**	**15.46**	**121**	*eP*	**Pn**	**15 32 04.9**	**+1.0**
	comp=Z,46nm,0.6s						
GUN	**Gumba**	**15.58**	**119**	*eP*	**Pn**	**15 32 07.4**	**+2.0**
	comp=Z,38nm,0.6s						
JIRN	**Jiri**	**15.95**	**119**	*eP*	**Pn**	**15 32 11.2**	**+1.3**
	comp=Z,322nm,0.4s						
BVAR	**Borovoye Array**	**16.54**	**360**	P	**Pn**	**15 32 16.8**	**+0.5**
	comp=Z,0.9nm,0.3s,baz=181,slow=13,SNR=20						
BRVK	**Borovoye**	**16.58**	**360***c iP*		**Pn**	**15 32 17.1**	**+0.4**
BRVK				pmax	pmax		
	comp=Z,31nm,1.2s						
AKTO	**Aktyubinsk**	**16.59**	**331**	P	**Pn**	**15 32 16.9**	**0.0**
	comp=Z,1.4nm,0.3s,baz=145,slow=9.6,SNR=42						
RAMN	**Ramite**	**16.67**	**120**	*eP*	**Pn**	**15 32 19.2**	**+0.8**
	comp=Z,41nm,0.5s						
ODAN	**Odare**	**17.28**	**119**	*eP*	**Pn**	**15 32 26.7**	**+1.2**
	comp=Z,27nm,0.7s						
ZALV	**Zalesovo Beam**	**20.11**	**25**	P	**P**	**15 32 55.2**	**+1.4**
	comp=Z,8.6nm,0.4s,baz=219,slow=11,SNR=37						
NVS	**Novosibirsk**	**20.36**	**22**⇓*iP*		**P**	**15 32 58.0**	**+1.7**
NVS				pmax	pmax		
	comp=N,6.0nm,0.7s						
NVS				pmax	pmax		
	comp=E,3.0nm,0.7s						
NVS				pmax	pmax		
	comp=Z,9.0nm,0.7s						
ARU	**Arti**	**21.52**	**342**	P	**P**	**15 33 09.7**	**+1.2**
	comp=Z,6.0nm,0.5s,baz=152,slow=6.5,SNR=18						
ARU	**Arti**	**21.52**	**342***c iP*		**P**	**15 33 10.1**	**+1.7**
ARU						15 33 39.0	
ARU				S	S	15 37 11.4	+19
ARU				SS		15 37 43.4	
ARU				pmax	pmax		
	comp=Z,17nm,1.2s						
KBZ	**Khabaz**	**22.23**	**298**	P	**P**	**15 33 14.6**	**-0.8**
	comp=Z,0.8nm,0.5s,baz=72,slow=3.2,SNR=2.4						
KIV	**Kislovodsk**	**22.42**	**298**⇑*eP*		**P**	**15 33 14.6**	**-2.7**
KIV				pmax	pmax		
	comp=Z,6.0nm,1.3s						
SONM	**Songino Array**	**28.70**	**55**	P	**P**	**15 34 14.5**	**+0.9**
	comp=Z,0.8nm,0.7s,baz=251,slow=9.0,SNR=3.8						
KLMR	**Klimovskoe**	**31.29**	**331**	*eP*	**P**	**15 34 36.4**	**+0.3**
KLMR				pmax	pmax		
	comp=Z,8.0nm,1.4s						
AKASG	**Malin Array Be**	**32.63**	**309**	P	**P**	**15 34 49.5**	**+1.6**
	comp=Z,0.2nm,0.3s,baz=86,slow=6.3,SNR=4.5						
NRIK	**Noril'sk**	**34.22**	**11**	P	**P**	**15 35 04.2**	**+2.8**
	comp=Z,5.5nm,0.5s,baz=196,slow=4.7,SNR=12						
FINES	**FINESS Array B**	**37.26**	**326**	P	**P**	**15 35 29.0**	**+1.7**
	comp=Z,2.2nm,0.6s,baz=119,slow=11,SNR=15						
ARCES	**ARCESS Array B**	**41.00**	**338**	P	**P**	**15 36 00.1**	**+1.9**
	comp=Z,3.7nm,0.6s,baz=113,slow=8.0,SNR=8.2						
NB2	**NORSAR Subarra**	**44.14**	**323**	P	**P**	**15 36 24.5**	**+1.0**
	comp=Z,1.0nm,0.6s,baz=97,slow=7.9						
NOA	**NORSAR Array B**	**44.14**	**323**	P	**P**	**15 36 24.7**	**+1.1**
	comp=Z,2.3nm,0.8s,baz=98,slow=7.8,SNR=6.0						
NOA	**NORSAR Array B**	**44.14**	**323**	*eP*	**P**	**15 36 24.3**	**+0.8**
NOA				pmax	pmax		
	comp=Z,2.0nm,0.8s						
TORD	**Torodi Ar. Bea**	**65.29**	**268**	P	**P**	**15 38 55.4**	**-0.4**
	comp=Z,0.6nm,0.6s,baz=52,slow=6.2,SNR=8.6						
INK	**Inuvik**	**73.99**	**9**	P	**P**	**15 39 50.1**	**+2.1**
	comp=Z,1.1nm,0.5s,baz=321,slow=7.4,SNR=4.9						
ILAR	**Eielson Array**	**74.91**	**16**	P	**P**	**15 39 54.5**	**+1.2**
	comp=Z,0.2nm,0.5s,baz=327,slow=6.5,SNR=3.0						
YKA	**Yellowknife Ar**	**81.28**	**2**	P	**P**	**15 40 29.6**	**+1.3**
	comp=Z,0.6nm,0.7s,baz=348,slow=5.6,SNR=2.9						
WRA	**Warramunga Arr**	**82.34**	**122**	P	**P**	**15 40 34.2**	**-0.3**
	comp=Z,0.2nm,0.4s,baz=322,slow=5.1,SNR=7.8						
ASAR	**Alice Springs**	**84.59**	**125**	P	**P**	**15 40 46.2**	**+0.3**
	comp=Z,0.2nm,0.4s,baz=312,slow=4.9,SNR=6.7						

MEX 17 15:40:19.2±0.3, 14.03N×91.74W, h84km±13km, MD3.6, Guatemala

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CCIG	**Comitan**	**2.27**	**350**	*eP*	Pn	15 40 54.1	-0.9
CCIG		

JANG	**Nango**	**1.33**	**276**	P	Pn	16 08 08.7 -0.2
JANG				S	Sb	16 08 25.9 -0.5
JOM	**Ohasama**	**1.69**	**244**	P	Pn	16 08 14.5 +0.7
JOM				S	Sb	16 08 36.2 -0.5
JTM	**Tenmabayashi**	**1.75**	**289**	P	Pn	16 08 15.6 +1.0
JTM				S	Sb	16 08 38.3 -0.1
JAH	**Hinai**	**2.00**	**269**	P	Pb	16 08 19.7 -1.2
JAH				S	Sb	16 08 45.3 -0.4
JOT	**Ohata**	**2.02**	**305**	P	Pn	16 08 19.5 +1.1
JMK	**Ichinoseki**	**2.03**	**231**	P	Pn	16 08 19.3 +0.9
JKB	**Kayabe**	**2.35**	**315**	S	Sb	16 08 54.3 -1.3
JCH	**Churui**	**2.37**	**2**	P	Pn	16 08 23.3 +0.1
JCH				S	Sn	16 08 50.4 -1.7

ISCJB ***17*** *16:09:16.2±0.6, 7°.77S±0°.04×74°.58W±0°.04, h162km±5km, mb4.3/33, Error ellipse: s-maj=8.3km s-min=5.6km az=40.1*

NEIC ***17*** *16:09:16.0±0.3, 7°.76S×74°.57W, mb4.5/22, Error ellipse: s-maj=9.6km s-min=6.2km az=57.0*

IDC ***17*** *16:09:16.7±0.5, 7°.77S×74°.53W, h146km±4km, mb4.1/11, mb1 4.2/18, mb1mx4.0/43, mbtmp4.5/18, MS2.8/2, Ms1 2.8/2, ms1mx2.6/21, Error ellipse: s-maj=15.4km s-min=10.4km az=63.0*

ISC 17 16:09:16.2±0.5, 7°.84S±0°.05×74°.58W±0°.06, h145km±4km, h145km:pP-P, n186, σ1°20/201, mb4.4/33, Peru-Brazil border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ATAH	**Atahualpa**	**3.85**	**280**	P	**Pn**	**16 10 14.8**	**+0.1**
	76nm,0.3s,baz=42,slow=4.0,SNR=499						
ATAH				S	**Sn**	**16 11 00.4**	**+0.2**
	61nm,0.3s,baz=31,slow=24,SNR=4.5						
ATAH				LR	LR	16 11 38.7	
	comp=Z,198nm,19.4s,baz=256,slow=36						
NNA	**Nana**	**4.69**	**208**	P	**Pn**	**16 10 26.5**	**+1.1**
	10nm,0.3s,baz=15,slow=7.6,SNR=15						
NNA				S	**Sn**	**16 11 18.0**	**-1.4**
	40nm,0.3s,baz=124,slow=19,SNR=13						
NNA				LR	LR	16 12 01.1	
	comp=Z,80nm,21.6s,baz=258,slow=34						
NNA	**Nana**	**4.69**	**208**	*e*Pn	**Pn**	**16 10 26.2**	**+0.8**
NNA				*e*Sn	**Sn**	**16 11 13.3**	**-6.0**
NNA				S	**Sn**	**16 11 18.0**	**-1.4**
OTAV	**Otavalo**	**8.91**	**334**	*e*Pn	**Pn**	**16 11 22.1**	**-0.2**
CMBC	**Cumbal**	**9.31**	**339**	*e*P	**Pn**	**16 11 28.0**	**+0.5**
LPAZ	**La Paz**	**10.49**	**144**	P	**Pn**	**16 11 43.5**	**0.0**
	1.3nm,0.3s,baz=318,slow=9.9,SNR=25						
LPAZ	**La Paz**	**10.49**	**144**	*e*Pn	**Pn**	**16 11 43.3**	**-0.1**
SAML	**Samuel**	**11.32**	**96**	*e*Pn	**Pn**	**16 11 51.9**	**-2.0**
SAML				Sn	**Sn**	**16 13 58.7**	**-0.3**
PRAC	**Prado**	**11.48**	**358**	*e*P	**P**	**16 12 05.3**	**+1.6**
CHIC	**Chingaza**	**12.42**	**4**	*e*P	**Pn**	**16 12 07.6**	**-0.9**
ROSC	**El Rosal**	**12.60**	**1**	P	**Pn**	**16 12 11.7**	**+0.8**
	0.4nm,0.3s,baz=53,slow=20,SNR=2.7						
RUSC	**La Rusia**	**13.72**	**6**	*e*P	**Pn**	**16 12 26.9**	**+1.5**
RUSC	**La Rusia**	**13.72**	**6**	*e*Pn	**Pn**	**16 12 24.4**	**-1.0**
ZARC	**Zaragoza, Cauc**	**15.23**	**359**	*e*P	**Pn**	**16 12 43.8**	**-0.1**
SIV	**San Ignacio**	**15.49**	**123**	P	**Pn**	**16 12 47.4**	**+0.3**
	2.0nm,0.3s,baz=318,slow=12,SNR=18						
LVC	**Limon Verde**	**15.66**	**160**	P	**P**	**16 12 51.7**	**+1.2**
	12nm,0.3s,baz=90,slow=10,SNR=4.0						
PTGA	**Pitinga**	**16.18**	**65**	P	**P**	**16 12 56.1**	**+0.1**
	5.5nm,0.3s,baz=244,slow=13,SNR=30						
PTGA	**Pitinga**	**16.18**	**65**	*e*Pn	**P**	**16 12 55.7**	**-0.3**
	24nm,0.8s						
MOTC	**Monteria, Cord**	**16.55**	**356**	*e*P	**P**	**16 12 58.5**	**-1.4**
SJCC	**San Jacinto, C**	**17.63**	**358**	*e*P	**Pn**	**16 13 12.7**	**-0.4**
CPUP	**Villa Florida**	**24.64**	**140**	P	**P**	**16 14 23.8**	**+0.4**
	4.9nm,0.7s,baz=331,slow=11,SNR=10						
SJG	**San Juan**	**27.10**	**18**	P	**P**	**16 14 46.9**	**+1.3**
	14nm,0.5s,baz=169,slow=5.6,SNR=6.4						
PLCA	**Paso Flores**	**32.95**	**174**	P	**P**	**16 15 38.5**	**+1.4**
	1.7nm,0.9s,baz=9.8,slow=9.0,SNR=13						
LNIG	**Linares**	**40.59**	**324**	*e*P	**P**	**16 16 41.1**	**-0.7**
	7.7nm,1.0s						
KMSC	**Kings Mountain**	**43.23**	**352**	P	**P**	**16 17 03.4**	**+0.4**
	baz=170						
Y47A	**UCPARC, Winfie**	**43.38**	**344**	P	**P**	**16 17 04.0**	**-0.3**
	baz=161						
633A	**Saathoff Ranch**	**44.00**	**328**	P	**P**	**16 17 10.3**	**+0.9**
	baz=144						
534A	**Blanco**	**44.11**	**330**	P	**P**	**16 17 10.6**	**+0.4**
	baz=145						
533A	**Kerrville**	**44.42**	**329**	P	**P**	**16 17 13.7**	**+1.0**
	baz=144						
433A	**Art**	**45.00**	**330**	P	**P**	**16 17 17.7**	**+0.4**
	baz=144,SNR=8.5						
334A	**Lometa**	**45.06**	**331**	P	**P**	**16 17 18.0**	**+0.2**
	baz=146						
BLA	**Blacksburg**	**45.15**	**353**	*e*P	**P**	**16 17 16.5**	**-1.8**
	14nm,0.6s						
333A	**Richland Sprin**	**45.41**	**330**	P	**P**	**16 17 21.0**	**+0.4**
	baz=145						
X40A	**Basin Creek Fa**	**45.51**	**339**	P	**P**	**16 17 21.3**	**+0.1**
	baz=154						
234A	**Clairette**	**45.56**	**332**	P	**P**	**16 17 22.5**	**+0.8**
	baz=146						
MIAR	**Mount Ida**	**45.83**	**338**	P	**P**	**16 17 23.7**	**0.0**
	baz=153						
W41B	**Gary Mavity, V**	**45.92**	**340**	P	**P**	**16 17 24.4**	**0.0**
	baz=155						
233A	**Rising Star**	**45.94**	**331**	P	**P**	**16 17 25.1**	**+0.5**
	baz=146						
X39A	**Fountain Ranch**	**46.00**	**337**	P	**P**	**16 17 25.1**	**0.0**
	baz=153						
Y37A	**Hugo**	**46.13**	**336**	P	**P**	**16 17 27.2**	**+1.1**
	baz=150						
V42A	**Cord**	**46.21**	**341**	P	**P**	**16 17 25.5**	**-1.1**
	baz=157						
Y36A	**Durant**	**46.34**	**335**	P	**P**	**16 17 26.8**	**-0.9**
	baz=150						
TXAR	**Lajitas Array**	**46.38**	**324**	P	**P**	**16 17 28.9**	**+0.7**
	1.5nm,0.7s,baz=149,slow=8.9,SNR=19						
TXAR				pP	**pP**	**16 18 01.2**	**+0.2**
	0.7nm,0.7s,baz=153,slow=8.3,SNR=4.0						
TXAR				PcP	**PcP**	**16 19 01.1**	**+0.2**
	0.6nm,0.7s,baz=146,slow=7.6,SNR=4.2						
TX31	**Lajitas Ar. Si**	**46.38**	**324**	*e*P	**P**	**16 17 26.4**	**-1.8**
X38A	**Whitesboro**	**46.42**	**337**	P	**P**	**16 17 29.0**	**+0.6**
	baz=152						
X37A	**Clayton**	**46.56**	**336**	P	**P**	**16 17 29.9**	**+0.5**
	baz=151						
U42A	**Revenden**	**46.66**	**341**	P	**P**	**16 17 29.7**	**-0.5**
	baz=157						
V40A	**Witts Springs**	**46.69**	**340**	P	**P**	**16 17 29.9**	**-0.6**
	baz=155						
ABTX	**Abilene, Hawle**	**46.80**	**331**	*e*P	**P**	**16 17 31.1**	**-0.2**
	13nm,0.8s						
V39A	**Pettigrew**	**47.01**	**339**	P	**P**	**16 17 33.1**	**+0.1**
	baz=154						
W37B	**Quinton**	**47.07**	**337**	P	**P**	**16 17 33.8**	**+0.4**
	baz=151						
T42A	**Van Buren**	**47.24**	**342**	P	**P**	**16 17 33.5**	**-1.2**
	baz=158						
V38A	**Canehill**	**47.31**	**338**	P	**P**	**16 17 34.8**	**-0.4**
	baz=153						
U39A	**Green Forest**	**47.44**	**339**	P	**P**	**16 17 35.5**	**-0.8**
	baz=154						
V37A	**Hulbert**	**47.61**	**337**	P	**P**	**16 17 38.0**	**+0.5**
	baz=152						
W35A	**Tecumseh**	**47.66**	**335**	P	**P**	**16 17 37.4**	**-0.6**
	baz=150						
T40A	**Mansfield**	**47.81**	**341**	P	**P**	**16 17 38.5**	**-0.6**
	baz=156,SNR=5.2						
U38A	**Gravette**	**47.82**	**338**	P	**P**	**16 17 38.0**	**-1.2**
	baz=153						
V36A	**Jenks**	**47.84**	**336**	P	**P**	**16 17 39.8**	**+0.5**
	baz=151						
TUL1	**Leonard**	**47.88**	**337**	P	**P**	**16 17 40.0**	**+0.3**
	baz=151						
S41A	**Jillco Farms,**	**47.96**	**342**	P	**P**	**16 17 39.7**	**-0.5**
	baz=157						
O56A	**Blue Knob Stat**	**48.01**	**356**	P	**P**	**16 17 41.2**	**+0.6**
	baz=175						
WMOK	**Wichita Mounta**	**48.14**	**333**	P	**P**	**16 17 41.9**	**+0.2**
	baz=147						
WMOK	**Wichita Mounta**	**48.14**	**333**	*e*P	**P**	**16 17 39.2**	**-2.5**
	4.7nm,1.0s						
S40A	**Lebanon**	**48.21**	**341**	P	**P**	**16 17 41.5**	**-0.6**
	baz=156						
T38A	**Diamond**	**48.31**	**339**	P	**P**	**16 17 42.4**	**-0.6**
	baz=154						
R41A	**Rosebud**	**48.50**	**342**	P	**P**	**16 17 43.7**	**-0.6**
	baz=158						
S39A	**Bolivar**	**48.57**	**340**	P	**P**	**16 17 44.2**	**-0.7**
	baz=155,SNR=5.2						
T37A	**Cheneyville 18**	**48.62**	**338**	P	**P**	**16 17 45.3**	**0.0**
	baz=153						
N54A	**Moraine State**	**48.82**	**355**	P	**P**	**16 17 47.0**	**+0.3**
	baz=173						
P44A	**Sand Creek, Wi**	**48.84**	**346**	P	**P**	**16 17 46.6**	**-0.3**
	baz=161						
T36A	**Boggs Farm, Ca**	**48.92**	**337**	P	**P**	**16 17 47.1**	**-0.5**
	baz=152						
R39A	**Chumby, Stover**	**49.04**	**341**	P	**P**	**16 17 47.6**	**-0.8**
	baz=156						
T35A	**Sooner Cattle**	**49.04**	**337**	P	**P**	**16 17 48.0**	**-0.5**
	baz=151						
Q41A	**Truxton**	**49.06**	**343**	P	**P**	**16 17 48.0**	**-0.6**
	baz=158						
MNTX	**Cornudas Mount**	**49.12**	**325**	P	**P**	**16 17 49.5**	**+0.3**
	baz=138						
MNTX	**Cornudas Mount**	**49.12**	**325**	*e*P	**P**	**16 17 47.2**	**-2.0**
	13nm,2.0s						
S37A	**Fort Scott**	**49.15**	**339**	P	**P**	**16 17 48.9**	**-0.5**
	baz=153,SNR=5.3						
R38A	**Fenwick Farm,**	**49.21**	**340**	P	**P**	**16 17 49.4**	**-0.4**
	baz=154						
P43A	**Skaggs, Pawnee**	**49.23**	**345**	P	**P**	**16 17 49.3**	**-0.5**
	baz=160						
SFIN	**Lafayette**	**49.35**	**347**	P	**P**	**16 17 49.6**	**-1.2**
	baz=164,SNR=5.3						
MSTX	**Muleshoe**	**49.44**	**329**	P	**P**	**16 17 51.4**	**-0.3**
	baz=142						
MSTX	**Muleshoe**	**49.44**	**329**	*e*P	**P**	**16 17 50.9**	**-0.8**
	6.0nm,0.8s						
S35A	**Otter Creek Ra**	**49.64**	**337**	P	**P**	**16 17 53.2**	**+0.2**
	baz=151						
Q39A	**Willow Grove F**	**49.68**	**341**	P	**P**	**16 17 52.7**	**-0.6**
	baz=156						
Q38A	**Cooks Store, C**	**49.81**	**341**	P	**P**	**16 17 53.9**	**-0.4**
	baz=155						
N42A	**Yates City**	**50.48**	**345**	P	**P**	**16 17 58.3**	**-1.0**
	baz=160						
R34A	**Isabella, Hill**	**50.53**	**337**	P	**P**	**16 17 60.0**	**+0.2**
	baz=150						
Q35A	**Mercer Eighty,**	**50.56**	**338**	P	**P**	**16 18 00.0**	**0.0**
	baz=152						
N41A	**Harden Midland**	**50.59**	**344**	P	**P**	**16 17 59.2**	**-0.9**
	baz=159						
P37A	**Lathrop**	**50.62**	**340**	P	**P**	**16 17 59.0**	**-1.4**
	baz=154						
N40A	**Mertquake, Sal**	**50.95**	**343**	P	**P**	**16 18 01.8**	**-1.0**
	baz=158						
N39A	**Derby Farms, D**	**51.21**	**343**	P	**P**	**16 18 03.9**	**-0.9**
	baz=157						
P34A	**Walnut Farm, R**	**51.46**	**338**	P	**P**	**16 18 06.3**	**-0.4**
	baz=151						
M39A	**Webster**	**51.67**	**343**	P	**P**	**16 18 07.2**	**-1.0**
	baz=158						
L41A	**Preston**	**51.77**	**345**	P	**P**	**16 18 07.6**	**-1.3**
	baz=160						
M38A	**Pleasantville**	**51.91**	**342**	P	**P**	**16 18 08.6**	**-1.3**
	baz=156						
ANMO	**Albuquerque**	**52.13**	**327**	P	**P**	**16 18 12.0**	**+0.1**
	baz=39						
ANMO	**Albuquerque**	**52.13**	**327**	*e*P	**P**	**16 18 09.9**	**-2.1**
	5.0nm,1.0s						
O33A	**Hebron**	**52.20**	**338**	P	**P**	**16 18 12.1**	**-0.1**
	baz=151						
T25A	**Trinidad**	**52.75**	**330**	P	**P**	**16 18 16.7**	**+0.2**
	baz=142,SNR=5.2						
T25A	**Trinidad**	**52.75**	**330**	*e*P	**P**	**16 18 14.0**	**-2.5**
	5.9nm,0.9s						
J40A	**Sanders Grove**	**53.07**	**345**	P	**P**	**16 18 17.4**	**-1.1**
	baz=160						
J39A	**Decorah**	**53.26**	**344**	P	**P**	**16 18 18.9**	**-1.0**
	baz=159						
L35A	**Bielow Farm, R**	**53.29**	**341**	P	**P**	**16 18 19.2**	**-0.9**
	baz=154						
K36A	**Gilmore City**	**53.41**	**342**	P	**P**	**16 18 20.4**	**-0.5**
	baz=155						
L34A	**Svendsen Farm,**	**53.44**	**340**	P	**P**	**16 18 20.5**	**-0.7**
	baz=153						
SDCO	**Great Sand Dun**	**53.76**	**330**	P	**P**	**16 18 24.7**	**+0.7**
	baz=141,SNR=7.7						
SDCO	**Great Sand Dun**	**53.76**	**330**	*e*P	**P**	**16 18 24.2**	**+0.2**
	5.8nm,0.9s						
H41A	**Junction City**	**53.96**	**347**	P	**P**	**16 18 24.0**	**-0.9**
	baz=161						
I38A	**Scanlan Farm,**	**54.09**	**344**	P	**P**	**16 18 25.1**	**-0.8**
	baz=158						
H40A	**Chili**	**54.14**	**346**	P	**P**	**16 18 25.5**	**-0.7**
	baz=161						
X16A	**Lo Mia Camp, P**	**54.62**	**323**	*e*P	**P**	**16 18 31.5**	**+1.3**
	2.2nm,0.6s						
G39A	**Holcombe**	**54.95**	**346**	P	**P**	**16 18 31.3**	**-0.8**
	baz=160						
G38A	**Ridgeland**	**55.01**	**345**	P	**P**	**16 18 31.6**	**-0.9**
	baz=159						
H36A	**Jessenland, He**	**55.02**	**343**	P	**P**	**16 18 32.1**	**-0.5**
	baz=156						
ECSD	**EROS Data Cent**	**55.09**	**341**	P	**P**	**16 18 32.2**	**-0.9**
	baz=153						
F40A	**Park Falls**	**55.30**	**347**	P	**P**	**16 18 34.0**	**-0.6**
	baz=161						
SPMN	**Marine on St.**	**55.31**	**344**	P	**P**	**16 18 34.1**	**-0.6**
	baz=158						
WUAZ	**Wupatki**	**55.33**	**324**	P	**P**	**16 18 34.8**	**-0.4**
	baz=134						
WUAZ	**Wupatki**	**55.33**	**324**	*e*P	**P**	**16 18 32.9**	**-2.3**
	7.4nm,0.9s						
H35A	**Sunnyside Ranc**	**55.40**	**343**	P	**P**	**16 18 34.5**	**-0.8**
	baz=155						
F39A	**Loretta**	**55.48**	**346**	P	**P**	**16 18 35.0**	**-0.8**
	baz=160						
E41A	**Kenton**	**55.57**	**348**	P	**P**	**16 18 35.9**	**-0.6**
	baz=163						
H34A	**Spellman Lake,**	**55.66**	**342**	P	**P**	**16 18 36.6**	**-0.5**
	baz=154						
E40A	**Wafield**	**55.75**	**347**	P	**P**	**16 18 37.0**	**-0.8**
	baz=162						
F38A	**Pierce - Schro**	**55.75**	**345**	P	**P**	**16 18 37.3**	**-0.5**
	baz=159						
H33A	**Prehn Over Nor**	**55.97**	**341**	P	**P**	**16 18 39.0**	**-0.4**
	baz=153						
F36A	**Milaca**	**56.09**	**344**	P	**P**	**16 18 39.8**	**-0.4**
	baz=157						
U15A	**North Rim**	**56.50**	**324**	*e*P	**P**	**16 18 40.1**	**-3.6**
	3.6nm,0.9s						
E36A	**McGregor**	**56.63**	**345**	P	**P**	**16 18 43.4**	**-0.6**
	baz=158						
IRM	**Iron Mountain**	**56.75**	**320**	P	**P**	**16 18 46.3**	**+1.1**
	baz=130						
E35A	**Pequot Lakes**	**56.97**	**344**	P	**P**	**16 18 46.3**	**-0.2**
	baz=156						
GMRC	**Granite Mounta**	**57.47**	**320**	P	**P**	**16 18 51.4**	**+1.0**
	baz=130						
C36A	**Pine Crest Far**	**57.67**	**346**	P	**P**	**16 18 50.9**	**-0.4**
	baz=158						
CIS	**Catalina Islan**	**58.43**	**317**	P	**P**	**16 18 53.8**	**-3.2**
	baz=126						
B35A	**Bob, Littlefor**	**58.45**	**345**	P	**P**	**16 18 56.1**	**-0.6**
	baz=158						
GSC	**Goldstone, Bar**	**58.53**	**320**	P	**P**	**16 18 58.8**	**+1.2**
	baz=129						
AGMN	**Agassiz Nation**	**58.97**	**344**	P	**P**	**16 18 59.5**	**-0.8**
	baz=155						
C31A	**Landman Farms,**	**59.06**	**342**	P	**P**	**16 19 00.6**	**-0.3**
	baz=153						
TPNV	**Topopah Spring**	**59.22**	**322**	P	**P**	**16 19 03.2**	**+0.7**
	baz=130,SNR=6.7						
FURC	**Furnace Creek,**	**59.30**	**321**	P	**P**	**16 19 03.8**	**+1.0**
	baz=129						
DUG	**Dugway, Tooele**	**59.41**	**327**	P	**P**	**16 19 04.5**	**+0.9**
	baz=135,SNR=7.6						
DUG	**Dugway, Tooele**	**59.41**	**327**	*e*P	**P**	**16 19 03.5**	**-0.2**
	7.3nm,1.0s						
MPMC	**Manual Prospec**	**59.43**	**320**	P	**P**	**16 19 04.1**	**+0.1**
	baz=128						
PDAR	**Pinedale Array**	**59.60**	**331**	P	**P**	**16 19 05.3**	**+0.2**
	0.9nm,0.6s,baz=103,slow=2.0,SNR=2.9						
PDAR				PcP	**PcP**	**16 19 50.8**	**0.0**
	1.0nm,0.5s,baz=121,slow=6.5,SNR=4.2						
MDND	**Maddock**	**59.70**	**341**	P	**P**	**16 19 06.2**	**+0.8**
	baz=151						
R11A	**Troy Canyon, C**	**59.73**	**323**	P	**P**	**16 19 06.9**	**+0.9**
	baz=131						
R11A	**Troy Canyon, C**	**59.73**	**323**	*e*P	**P**	**16 19 06.5**	**+0.6**
HWUT	**Hardware Ranch**	**59.75**	**329**	*e*P	**P**	**16 19 01.7**	**-4.4**
	6.3nm,0.7s						
GRAC	**Grapevine Rang**	**59.94**	**321**	P	**P**	**16 19 08.9**	**+1.7**
	baz=129						
CWC	**Cottonwood Cre**	**60.05**	**320**	P	**P**	**16 19 09.3**	**+1.1**
	baz=128						
ULM	**Lac du Bonnet**	**60.75**	**344**	P	**P**	**16 19 11.7**	**-0.7**
	6.0nm,0.5s,baz=152,slow=6.1,SNR=11						
ULM				pP	**pP**	**16 19 46.4**	**-0.4**
	6.5nm,0.9s,baz=164,slow=9.9,SNR=3.5						
IMW	**Indian Meadow**	**61.11**	**331**	*e*P	**P**	**16 19 11.3**	**-4.1**
	27nm,1.8s						
HLID	**Hailey**	**62.62**	**328**	P	**P**	**16 19 26.0**	**+0.7**
	baz=134						
HLID	**Hailey**	**62.62**	**328**	*e*P	**P**	**16 19 21.0**	**-4.3**
	14nm,2.0s						
BOZ	**Bozeman (W)**	**62.70**	**332**	P	**P**	**16 19 26.1**	**+0.3**
	baz=138						
EGMT	**Eagleton**	**63.70**	**334**	P	**P**	**16 19 32.8**	**+0.5**
	baz=140						
ORV	**Oroville**	**64.08**	**321**	*e*P	**P**	**16 19 30.7**	**-4.1**
	8.7nm,1.1s						
MSO	**Missoula**	**64.70**	**331**	P	**P**	**16 19 39.7**	**+0.9**
	baz=136						
MSO	**Missoula**	**64.70**	**331**	*e*P	**P**	**16 19 36.3**	**-2.5**
	12nm,1.1s						
NEW	**Newport**	**67.24**	**331**	P	**P**	**16 19 55.5**	**+0.6**
	baz=133						
EDM	**Edmonton**	**69.14**	**336**	*e*P	**P**	**16 20 07.0**	**+0.3**
	21nm,0.8s						
DBIC	**Dimbokro**	**71.00**	**80**	P	**P**	**16 20 18.9**	**+0.1**
	4.8nm,0.4s,baz=246,slow=4.8,SNR=18						
YKA	**Yellowknife Ar**	**76.57**	**342**	P	**P**	**16 20 50.1**	**-0.1**
	1.9nm,0.5s,baz=140,slow=6.2,SNR=19						
YKA				pP	**pP**	**16 21 26.5**	**+0.4**
	1.0nm,0.6s,baz=141,slow=5.8,SNR=3.4						
TOA0	**Torodi Ar. Sit**	**78.55**	**75**	*e*P	**P**	**16 21 01.9**	**-0.3**
TORD	**Torodi Ar. Bea**	**78.55**	**75**	P	**P**	**16 21 01.7**	**-0.5**
	2.7nm,0.6s,baz=264,slow=5.3,SNR=9.4						
TORD				pP	**pP**	**16 21 37.2**	**-1.1**
	1.3nm,0.8s,baz=278,slow=6.1,SNR=3.3						
ESDC	**Sonseca Array**	**80.35**	**48**	P	**P**	**16 21 11.9**	**+0.4**
	0.1nm,0.2s,baz=42,slow=22,SNR=3.4						
QSPA	**South Pole Qui**	**82.27**	**180**	*e*P	**P**	**16 21 22.7**	**+1.4**
	37nm,1.1s						
QSPA				*e*pP	**pP**	**16 21 59.5**	**+2.0**
INK	**Inuvik**	**86.32**	**341**	P	**P**	**16 21 41.7**	**+0.4**
	3.6nm,0.8s,baz=115,slow=8.7,SNR=5.0						
DOT	**Dot Lake**	**88.07**	**335**	*e*P	**P**	**16 21 48.5**	**-1.5**
	12nm,0.7s						
ILAR	**Eielson Array**	**89.62**	**336**	P	**P**	**16 21 57.1**	**-0.1**
	0.9nm,0.5s,baz=138,slow=4.1,SNR=11						
ILAR				pP	**pP**	**16 22 33.5**	**-0.5**
	1.8nm,0.8s,baz=131,slow=3.2,SNR=9.3						
STKA	**Stephens Creek**	**127.53**	**219**	PKP	**PKPdf**	**16 28 04.8**	**+0.1**
	1.3nm,0.6s,baz=105,slow=4.6,SNR=7.4						
STKA				pPKP	**pPKPdf**	**16 28 44.5**	**+1.2**
	2.8nm,0.8s,baz=22,slow=3.6,SNR=4.3						
ZALV	**Zalesovo Beam**	**131.11**	**16**	PKP	**PKPdf**	**16 28 11.7**	**+1.0**
	1.8nm,0.5s,baz=302,slow=2.8,SNR=11						
ZALV				pPKP	**pPKPdf**	**16 28 49.5**	**+0.2**
	2.1nm,0.6s,baz=298,slow=3.2,SNR=5.1						
ASAR	**Alice Springs**	**138.11**	**221**	PKhKP	PKPpre	16 28 16.1	
	0.7nm,0.5s,baz=136,slow=2.4,SNR=16						
ASAR				PKP	**PKPdf**	**16 28 24.6**	**-0.2**
	1.3nm,0.6s,baz=113,slow=2.0,SNR=6.7						
ASAR				pPKP	pPKPdf	16 29 04.7	+1.2
	1.3nm,0.8s,baz=116,slow=2.1,SNR=4.5						
KSH	**Kashi**	**138.87**	**35**	*e*PKP	**PKPdf**	**16 28 22.5**	**-3.4**
WRA	**Warramunga Arr**	**140.35**	**225**	PKhKP	PKPpre	16 28 22.3	
	0.5nm,0.4s,baz=134,slow=2.6,SNR=33						
WRA				PKP	**PKPdf**	**16 28 28.2**	**-0.8**
	2.0nm,0.6s,baz=130,slow=1.8,SNR=20						
KSRS	**Korea Array**	**144.15**	**329**	PKP	PKPbc	16 28 33.2	-0.4
	3.0nm,0.8s,baz=37,slow=3.1,SNR=6.9						
KSAR	**Wonju Array Be**	**144.18**	**329**	PKP	**PKPab**	**16 28 33.2**	**0.0**
JNU	**Nakatsue**	**145.53**	**320**	PKPbc	**PKPdf**	**16 28 37.3**	**-0.5**
	9.2nm,0.9s,baz=195,slow=2.4,SNR=5.8						
FITZ	**Fitzroy Crossi**	**147.40**	**218**	PKPbc	**PKPbc**	**16 28 44.5**	**+0.6**
	4.8nm,0.5s,baz=186,slow=2.2,SNR=25						
FITZ				pPKPbc	**pPKPab**	**16 29 23.6**	**0.0**
	4.9nm,0.8s,baz=170,slow=3.0,SNR=4.0						
GTA	**Gaotai**	**148.17**	**8**	*e*PKPbc	**PKPbc**	**16 28 46.0**	**+0.5**
GTA				pPKP	pPKPbc	16 29 23.6	-0.2
GTA				sPKP		16 29 39.5	
PYUN	**Piuthan**	**150.75**	**44**	*e*P	**PKPbc**	**16 28 53.2**	**+0.8**
	20nm,0.5s						
KOLN	**Koldanda**	**151.38**	**43**	*e*P	**PKPbc**	**16 28 54.1**	**+0.3**
	6.1nm,0.6s						
GKN	**Gorkha**	**151.93**	**42**	*e*P	**PKPbc**	**16 28 55.6**	**+0.6**
	13nm,0.5s						
KKN	**Kakani**	**152.49**	**41**	*e*P	**PKPbc**	**16 28 56.8**	**+0.5**
	8.3nm,0.6s						

ISCJB ***17*** *16:28:25.6±0.7, 20°.12S±0°.05×147°.77E±0°.05, h10km, mb3.8/1, Error ellipse: s-maj=8.6km s-min=5.6km az=138.8*

IDC ***17*** *16:28:27.0±2.8, 20°.11S×147°.75E, h0km, mb3.6/1, mb1 4.0/5, mb1mx3.7/29, mbtmp3.9/5, ML3.8/3, MS3.2/2, Ms1 3.1/2, ms1mx2.6/23, Error ellipse: s-maj=26.6km s-min=22.4km az=159.0*

AUST ***17*** *16:28:27.5±4.8, 20°.18S×147°.73E, h6km, Error ellipse: s-maj=1.5km s-min=0.8km az=33.0*

NEIC ***17*** *16:28:29.0±0.0, 20°.21S×147°.61E, h5km, mb4.3/3, ML4.1(AUST), After AUST.*

*NEIC Felt [III] at Ayr and Bowen

comp=Z,82nm,19.9s,baz=84,slow=38
CAN Canberra 15.12 176 *e*Pn **Pn 16 32 02.8 +1.2**
69nm,1.8s
BBOO Buckleboo 16.34 217 *e*Pn **Pn 16 32 16.6 -1.0**
47nm,1.8s
FITZ Fitzroy Crossi 21.00 272 P **P 16 33 12.3 +0.5**
2.0nm,0.6s,baz=117,slow=9.5,SNR=8.8
FITZ S Sn 16 37 09.4 -2.4
1.0nm,0.7s,baz=131,slow=20,SNR=3.0
FITZ Lg Lg 16 39 26.5
6.1nm,0.9s,baz=220,slow=21,SNR=6.9
FITZ Fitzroy Crossi 21.00 272 *e*P **P 16 33 12.6 +0.8**
15nm,1.9s
FITZ S Sn 16 37 09.4 -2.4

IDC 17 16:33:17.6±999.0, 49°53'N×55°16'E, h0km, Error ellipse: s-maj=2195.0km s-min=49.8km az=64.0, Western Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I31KZ	**AKTYUBINSK INF**	**2.05**	**64**	*i*		16 46 25.0	
	baz=246,slow=315,SNR=5.6						
I46RU	**ZALESOVO INFRA**	**18.82**	**65**	*i*		18 24 40.0	
	baz=269,slow=325,SNR=4.0						
I34MN	**SONGINO INFRAS**	**33.36**	**73**	*i*		20 03 00.0	
	baz=291,slow=333,SNR=0.3						

*IDC **17** 16:44:54.6±1.3, 36°25'N×141°20'E, h0km, mb3.7/6, mb1 3.8/8, mb1mx3.5/33, mbtmp3.7/8, ML3.6/2, MS2.6/2, Ms1 2.6/2, ms1mx2.3/37, Error ellipse: s-maj=34.5km s-min=18.5km az=73.0*
*ISCJB **17** 16:44:59.1±1.4, 36°22'N±0°04'×141°07'E±0°08, h43km±7km, mb3.6/6, Error ellipse: s-maj=10.5km s-min=6.5km az=165.0*
*JMA **17** 16:45:00.0±0.1, 36°20'N×140°99'E, h45km±1km, M3.6*
JMA Felt I J1.
*NIED **17** 16:45:00, 36°.20N×141°.00E, h41km, Mw3.7 Best double couple: M₀4.35000×10¹⁴ NP1:φ₀=234.00000°, δ9.00000°, λ138.00000°. NP2:φ₀5.00000°, δ84.00000°, λ83.00000°.*

ISC 17 16:44:59.1±1.4, 36°26'N±0°04'×141°08'E±0°07, h28km±9km, n22, σ0°83/22, mb3.7/6, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHO	**Hitachi**	**0.54**	**311**	P	**Pn**	**16 45 11.0**	**0.0**
JHO				S	**Sb**	**16 45 18.7**	**+1.0**
CHOJ	**Chosi**	**0.58**	**198**	P	**Pb**	**16 45 10.9**	**+0.1**
CHOJ				S	**Sb**	**16 45 18.3**	**-0.4**
JYT	**Yasato**	**0.72**	**268**	P	**Pb**	**16 45 12.9**	**-0.1**
JYT				S	**Sb**	**16 45 21.6**	**-0.9**
ONAJ	**Iwakimizuishiy**	**0.87**	**345**	P	**Pb**	**16 45 15.9**	**+0.2**
JFK	**Kawauchi**	**1.12**	**352**	P	**Pb**	**16 45 19.3**	**-0.6**
JAG	**Ashikaga**	**1.32**	**278**	P	**Pn**	**16 45 21.6**	**-0.2**
JAG				S	**Sn**	**16 45 37.2**	**-1.3**
MJAR	**Matsushiro Arr**	**2.33**	**278**	Pn	**Pn**	**16 45 36.0**	**+0.4**
	20nm,0.3s,baz=169,slow=3.8,SNR=216						
MJAR				Sn	**Sn**	**16 46 05.1**	**+1.7**
	12nm,0.3s,baz=62,slow=5.6,SNR=8.4						
MJAR				LR	LR	16 46 39.5	
	comp=Z,103nm,20.8s,baz=130,slow=44						
MAT	**Matsushiro**	**2.33**	**278**	P	**Pn**	**16 45 36.3**	**+0.6**
MAT				S	**Sn**	**16 46 03.8**	**+0.3**
JHJ	**Hachijo jima 2**	**3.31**	**199**	Pn	**Pn**	**16 45 49.4**	**+0.3**
	9.9nm,0.3s,baz=330,slow=23,SNR=12						
JHJ				Sn	**Sn**	**16 46 28.0**	**+0.6**
	23nm,0.3s,baz=82,slow=23,SNR=8.1						
KSRS	**Korea Array**	**10.61**	**280**	LR	LR	16 51 13.3	
	comp=Z,42nm,19.7s,baz=85,slow=35						
H11N2	**WAKE ISLAND Hy**	**27.99**	**119**	T	T	17 20 07.9	
	baz=311,slow=75,SNR=28						
H11N1	**WAKE ISLAND Hy**	**28.00**	**119**	T	T	17 20 07.8	
	baz=311,slow=75,SNR=30						
SONM	**Songino Array**	**28.00**	**305**	P	**P**	**16 50 46.2**	**-1.5**
	0.4nm,0.4s,baz=99,slow=7.4,SNR=3.6						
H11N3	**WAKE ISLAND Hy**	**28.01**	**119**	T	T	17 20 08.8	
	baz=311,slow=75,SNR=27						
H11S1	**WAKE ISLAND Hy**	**28.68**	**121**	T	T	17 20 53.0	
	baz=313,slow=76,SNR=69						
H11S3	**WAKE ISLAND Hy**	**28.68**	**121**	T	T	17 20 57.7	
	baz=313,slow=76,SNR=43						
H11S2	**WAKE ISLAND Hy**	**28.69**	**121**	T	T	17 20 54.1	
	baz=313,slow=76,SNR=50						
ZALV	**Zalesovo Beam**	**42.24**	**313**	P	**P**	**16 52 50.6**	**+0.9**
	0.6nm,0.3s,baz=111,slow=8.2,SNR=3.2						
WRA	**Warramunga Arr**	**56.26**	**188**	P	**P**	**16 54 36.4**	**-0.7**
	0.4nm,0.3s,baz=5.8,slow=7.4,SNR=15						
ASAR	**Alice Springs**	**59.98**	**188**	P	**P**	**16 55 02.8**	**-0.3**
	0.3nm,0.5s,baz=359,slow=5.4,SNR=5.0						
FINES	**FINESS Array B**	**69.38**	**332**	P	**P**	**16 56 04.6**	**+0.7**
	0.8nm,0.8s,baz=48,slow=4.5,SNR=4.4						
AKASG	**Malin Array Be**	**74.75**	**322**	P	**P**	**16 56 36.3**	**0.0**
	0.1nm,0.3s,baz=48,slow=5.8,SNR=4.3						

*NEIC **17** 16:45:46.7±0.0, 15°.10N×95°.16W, h26km, MD4.6(MEX), After MEX.*

MEX 17 16:45:46.7±0.9, 15°10N×95°16W, h26km±28km, MD4.6, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PANG	**Puerto Angel**	**1.39**	**294**	*e*P	Pn	16 46 08.6	-1.9
PANG				*i* S	Sn	16 46 23.5	-4.4
VHO	**Vista Hermosa**	**2.48**	**322**	*e*P	Pn	16 46 24.4	-1.2
VHO				*i* S	Sn	16 46 52.1	-3.0
VHO	**Vista Hermosa**	**2.48**	**322**	*e*P	Pn	16 46 24.4	-1.2
VHO				*i* S	Sn	16 46 52.1	-3.0
TGIG		**2.57**	**49**	*e*P	Pn	16 46 24.9	-1.9
TGIG				*e*S	Sn	16 46 54.0	-3.3
TGIG		**2.57**	**49**	*e*P	Pn	16 46 24.9	-1.9
TGIG				*e*S	Sn	16 46 54.0	-3.3
TUIG	**Tuzandepetl**	**3.00**	**13**	*i* P	Pn	16 46 30.9	-1.7
TUIG				*i* S	Sn	16 47 05.2	-2.6
TUIG	**Tuzandepetl**	**3.00**	**13**	*i* P	Pn	16 46 30.9	-1.7
TUIG				*i* S	Sn	16 47 05.2	-2.6
PNIG	**Pinotepa**	**3.13**	**295**	*e*P	Pn	16 46 32.0	-2.5
PNIG				*i* S	Sn	16 47 04.2	-6.9
PNIG	**Pinotepa**	**3.13**	**295**	*e*P	Pn	16 46 32.0	-2.5
PNIG				*i* S	Sn	16 47 04.2	-6.9
CCIG	**Comitan**	**3.14**	**68**	*e*P	Pn	16 46 33.4	-1.3
CCIG				*e*S	Sn	16 47 08.5	-3.0
CCIG	**Comitan**	**3.14**	**68**	*e*P	Pn	16 46 33.4	-1.3
CCIG				*e*S	Sn	16 47 08.5	-3.0
TPIG	**Tehuac#an**	**3.92**	**328**	*i* P	Pn	16 46 45.0	-0.4
TPIG				*i* S	Sn	16 47 28.6	-2.0
TPIG	**Tehuac#an**	**3.92**	**328**	*i* P	Pn	16 46 45.0	-0.4
TPIG				*i* S	Sn	16 47 28.6	-2.0
TLIG	**Tlapa**	**4.08**	**307**	*i* P	Pn	16 46 47.0	-0.7
TLIG				*i* S	Sn	16 47 32.2	-2.6

*NEIC **17** 16:48:14.5±0.0, 17°.32N×94°.57W, h139km±7km, MD4.0(MEX), After MEX.*

MEX 17 16:48:14.5±0.5, 17°32N×94°57W, h139km±7km, MD4.0, Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TGIG		**1.48**	**111**	*e*P	Pn	16 48 42.0	-1.2
TGIG				*i* S	Sn	16 49 03.0	-2.0
TGIG		**1.48**	**111**	*e*P	Pn	16 48 42.0	-1.2
TGIG				*i* S	Sn	16 49 03.0	-2.0
VHO	**Vista Hermosa**	**2.08**	**264**	*e*P	Pn	16 48 48.7	-1.5
VHO				*e*S	Sn	16 49 16.3	-1.3
VHO	**Vista Hermosa**	**2.08**	**264**	*e*P	Pn	16 48 48.7	-1.5
VHO				*e*S	Sn	16 49 16.3	-1.3
CCIG	**Comitan**	**2.55**	**114**	*i* P	Pn	16 48 54.7	-1.2
CCIG				*e*S	Sn	16 49 26.0	-1.7
CCIG	**Comitan**	**2.55**	**114**	*i* P	Pn	16 48 54.7	-1.2
CCIG				*e*S	Sn	16 49 26.0	-1.7
TPIG	**Tehuac#an**	**2.88**	**293**	*i* P	Pn	16 48 59.3	-0.7
TPIG				*i* S	Sn	16 49 33.0	-2.2
TPIG	**Tehuac#an**	**2.88**	**293**	*i* P	Pn	16 48 59.3	-0.7
TPIG				*i* S	Sn	16 49 33.0	-2.2
PNIG	**Pinotepa**	**3.53**	**255**	*e*P	Pn	16 49 04.1	-4.2
PNIG				*i* S	Sn	16 49 47.3	-2.7
PNIG	**Pinotepa**	**3.53**	**255**	*e*P	Pn	16 49 04.1	-4.2
PNIG				*i* S	Sn	16 49 47.3	-2.7

*IDC **17** 17:31:58.2±1.1, 51°.75N×176°.24W, h0km, mb3.6/5, mb1 3.9/7, mb1mx3.5/56, mbtmp3.6/7, ML4.0/2, MS3.0/3, Ms1 3.0/3, ms1mx2.6/55, Error ellipse: s-maj=62.9km s-min=19.0km az=141.0*
*ISCJB **17** 17:32:04.4±0.8, 51°.25N±0°.09×175°.4W±0°.2, h47km, mb3.5/5, MS2.7/2, Error ellipse: s-maj=18.7km s-min=7.3km az=35.8*
*NEIC **17** 17:32:07.9±0.0, 51°.31N×175°.03W, h35km, mb3.8/1, ML3.8(AEIC), After AEIC.*

ISC 17 17:32:05.6±1.2, 51°.4N±0°.1×175°.6W±0°.1, h47km, n30, σ1°11/29, mb3.6/5, Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATKA	**Atka Island**	**1.20**	**46**	P	**Pn**	**17 32 25.4**	**-0.6**
ATKA				S	**Sn**	**17 32 40.6**	**-0.6**
KOKL	**Mount Kliuchef**	**1.29**	**42**	P	**Pn**	**17 32 27.6**	**+0.4**
KOKL				S	**Sn**	**17 32 43.8**	**+0.6**
KOFP	**Korovin Flat P**	**1.30**	**45**	P	**Pn**	**17 32 27.7**	**+0.4**
KOWE	**Korovin West**	**1.30**	**40**	P	**Pn**	**17 32 27.9**	**+0.6**
KOKV	**Korovin Volcan**	**1.33**	**42**	P	**Pn**	**17 32 28.6**	**+0.8**
KOKV				S	**Sn**	**17 32 44.6**	**+0.2**
KOSE	**Korovin Southe**	**1.37**	**44**	P	**Pn**	**17 32 29.2**	**+0.9**
KONE	**Korovin Northe**	**1.37**	**41**	P	**Pn**	**17 32 29.5**	**+1.3**
KONE				S	**Sn**	**17 32 46.1**	**+0.9**
NIKH	**Nikolski High**	**4.45**	**66**	P	**Pn**	**17 33 11.1**	**+0.7**
OKCE	**Okmok Cone E**	**5.00**	**63**	P	**Pn**	**17 33 18.7**	**+0.8**
MSW	**Makushin Switc**	**5.94**	**61**	P	**Pn**	**17 33 32.3**	**+1.4**
SPIA	**Saint Paul Isl**	**6.60**	**26**	P	**Pn**	**17 33 41.7**	**+1.8**
DT1	**Dutton Round H**	**8.82**	**60**	P	**Pn**	**17 34 11.2**	**+1.0**
SDPT	**Sand Point**	**9.88**	**60**	*e*Pn	**Pn**	**17 34 25.1**	**+0.4**
KDAK	**Kodiak Island**	**14.76**	**55**	Pn	**Pn**	**17 35 30.0**	**-1.1**
	1.6nm,0.3s,baz=280,slow=7.5,SNR=20						
KDAK				Sn	**Sn**	**17 38 12.6**	**-0.6**
	0.1nm,0.3s,baz=75,slow=20,SNR=2.9						
KDAK				LR	LR	17 42 09.7	
	comp=Z,86nm,18.9s,baz=242,slow=41						
KDAK	**Kodiak Island**	**14.76**	**55**	*e*Pn	**Pn**	**17 35 30.7**	**-0.4**
KDAK				Sn	**Sn**	**17 38 12.6**	**-0.6**
KTH	**Kantishna Hill**	**17.87**	**38**	*e*Pn	**Pn**	**17 36 10.2**	**-0.3**
	8.0nm,0.9s						
ILAR	**Eielson Array**	**20.02**	**37**	P	**P**	**17 36 31.6**	**-2.5**
	0.1nm,0.3s,baz=238,slow=10.0,SNR=13						
ILAR				LR	LR	17 44 54.2	
	comp=Z,41nm,19.4s,baz=170,slow=39						
MA2	**Magadan**	**20.55**	**307**	LR	LR	17 44 40.5	
	comp=Z,25nm,19.0s,baz=136,slow=38						
DOT	**Dot Lake**	**20.66**	**41**	*e*P	**P**	**17 36 39.3**	**-1.7**
	23nm,0.7s						
INK	**Inuvik**	**26.32**	**34**	P	**P**	**17 37 34.5**	**-2.0**
	0.6nm,0.3s,baz=228,slow=5.9,SNR=2.7						
H11N2	**WAKE ISLAND Hy**	**34.45**	**210**	T	T	18 15 30.4	
	baz=18,slow=76,SNR=50						
H11N3	**WAKE ISLAND Hy**	**34.46**	**210**	T	T	18 15 28.4	
	baz=18,slow=76,SNR=52						
H11N1	**WAKE ISLAND Hy**	**34.47**	**210**	T	T	18 15 31.1	
	baz=18,slow=76,SNR=50						
H11S1	**WAKE ISLAND Hy**	**35.66**	**210**	T	T	18 17 09.8	
	baz=19,slow=76,SNR=28						
H11S2	**WAKE ISLAND Hy**	**35.68**	**210**	T	T	18 17 11.0	
	baz=19,slow=76,SNR=11						
H11S3	**WAKE ISLAND Hy**	**35.68**	**210**	T	T	18 17 10.9	
	baz=19,slow=76,SNR=8.9						
PDAR	**Pinedale Array**	**44.39**	**74**	P	**P**	**17 40 12.9**	**+1.4**
	0.8nm,0.5s,baz=300,slow=5.0,SNR=5.9						
TXAR	**Lajitas Array**	**56.67**	**84**	P	**P**	**17 41 45.1**	**+1.0**
	0.2nm,0.5s,baz=298,slow=5.0,SNR=3.8						
WRA	**Warramunga Arr**	**83.43**	**227**	P	**P**	**17 44 26.8**	**-1.1**
	0.7nm,1.2s,baz=30,slow=5.6,SNR=2.7						
ASAR	**Alice Springs**	**86.87**	**225**	P	**P**	**17 44 45.1**	**+0.1**
	0.3nm,0.9s,baz=20,slow=3.8,SNR=3.9						

*ISCJB **17** 17:34:15.8±0.8, 48°.1N±0°.1×148°.1E±0°.3, h391km, mb3.1/7, Error ellipse: s-maj=26.6km s-min=16.4km az=20.7*
*IDC **17** 17:34:22.0±4.5, 48°.04N×148°.01E, h451km±53km, mb2.8/7, mb1 3.0/8, mb1mx2.7/48, mbtmp3.6/8, Error ellipse: s-maj=25.8km s-min=16.3km az=93.0*

ISC 17 17:34:17.0±0.9, 48°.1N±0°.1×148°.1E±0°.2, h391km, n8, σ0°84/8, mb3.1/7, Northwest of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MJAR	**Matsushiro Arr**	**13.62**	**216**	P	**Pn**	**17 37 17.8**	**+0.7**
	0.2nm,0.3s,baz=23,slow=11,SNR=8.3						
ILAR	**Eielson Array**	**37.68**	**39**	P	**P**	**17 40 57.3**	**+1.1**
	0.3nm,0.6s,baz=263,slow=7.2,SNR=4.1						
ZALV	**Zalesovo Beam**	**39.06**	**303**	P	**P**	**17 41 07.7**	**0.0**
	0.6nm,0.5s,baz=39,slow=9.6,SNR=2.5						
FINES	**FINESS Array B**	**61.35**	**332**	P	**P**	**17 43 52.0**	**-0.5**
	0.7nm,0.5s,baz=38,slow=9.6,SNR=10						
NOA	**NORSAR Array B**	**65.83**	**339**	P	**P**	**17 44 21.2**	**-0.2**
	0.3nm,0.5s,baz=28,slow=6.5,SNR=3.3						
WRA	**Warramunga Arr**	**68.80**	**194**	P	**P**	**17 44 39.2**	**-1.1**
	0.5nm,1.0s,baz=9.6,slow=6.1,SNR=3.5						
ASAR	**Alice Springs**	**72.52**	**194**	P	**P**	**17 45 02.5**	**+0.1**
	0.3nm,0.7s,baz=14,slow=5.1,SNR=5.7						
TXAR	**Lajitas Array**	**79.74**	**57**	P	**P**	**17 45 42.1**	**-0.7**
	0.2nm,0.6s,baz=292,slow=4.9,SNR=3.5						

IDC 17 17:34:22.7±8.8, 7°.76S×128°.79E, h250km±76km, mb3.3/1, mb1 3.0/4, mb1mx2.8/37, mbtmp3.6/4, Error ellipse: s-maj=71.2km s-min=63.7km az=169.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**10.73**	**196**	P	Pn	17 36 50.0	-0.5
	0.1nm,0.3s,baz=6.6,slow=11,SNR=7.0						
FITZ				S	S	17 38 51.8	+1.0
	0.1nm,0.3s,baz=120,slow=20,SNR=4.4						
WRA	**Warramunga Arr**	**13.25**	**157**	P	P	17 37 23.1	-0.3
	0.1nm,0.3s,baz=336,slow=12,SNR=11						
WRA				S	S	17 39 47.7	-1.4
	0.1nm,0.3s,baz=334,slow=23,SNR=4.3						
ASAR	**Alice Springs**	**16.56**	**163**	P	P	17 38 00.7	+0.8
	0.1nm,0.3s,baz=343,slow=10,SNR=19						
STKA	**Stephens Creek**	**26.80**	**155**	P	P	17 39 39.9	-0.3
	1.0nm,0.5s,baz=332,slow=15,SNR=6.4						

*TAP **17** 17:35:18.6, 21°.64N×121°.14E, h54km, ML3.7, C*
*JMA **17** 17:35:18.7±0.3, 21°.69N×121°.11E, h35km, M4.2*

ISC 17 17:35:20.8±2.3, 21°.7N±0°.1×121°.13E±0°.04, h47km±12km, n58, σ0°78/99, 5C-2D, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TSEB	**Hengchuen, Pin**	**0.31**	**317**	*i* P	**Pn**	**17 35 29.3**	**-0.4**
	baz=308						
TSEB				*i* S	**Sn**	**17 35 37.5**	**+1.4**
	baz=308						
TWK1	**Hengchun**	**0.40**	**312**	⇑*i* P	**Pn**	**17 35 29.9**	**-0.8**
	baz=312						
TWK1				S	**Sn**	**17 35 38.3**	**+0.5**
	baz=312						
HEN	**Hengchun**	**0.49**	**313**	⇑*i* P	**Pn**	**17 35 31.3**	**-0.5**
	baz=306						
HEN				S	**Sn**	**17 35 40.0**	**+0.5**
	baz=306						
LAY	**Lan-yu**	**0.54**	**47**	⇓*i* P	**Pn**	**17 35 31.0**	**-1.3**
	baz=44						
LAY				*e*S	**Sn**	**17 35 41.1**	**+0.5**
	baz=44						
TAW	**Tawu**	**0.72**	**343**	P	**Pn**	**17 35 33.5**	**-1.1**
	baz=353						
TAW				S	**Sn**	**17 35 45.0**	**+0.4**
	baz=353						
EAST	**Anshuo**	**0.75**	**340**	⇑*i* P	**Pn**	**17 35 34.4**	**-0.8**
	baz=350						
EAST				S	**Sn**	**17 35 46.4**	**+0.8**
	baz=350						
SCZT	**Fangliau**	**0.84**	**326**	⇑P	**Pn**	**17 35 35.5**	**-0.8**
	baz=318						
SCZT				S	**Sn**	**17 35 47.7**	**+0.1**
	baz=318						
ECL	**Taimali**	**0.94**	**350**	⇓*i* P	**Pn**	**17 35 36.2**	**-1.4**
	baz=359						
ECL				S	**Sn**	**17 35 49.2**	**-0.6**
	baz=359						
TWP	**Hsiaoliuchiu**	**0.98**	**314**	*e*P	**Pn**	**17 35 37.6**	**-0.5**
	baz=304						
TTN	**Taitung**	**1.08**	**1**	*e*P	**Pn**	**17 35 39.1**	**-0.4**
	baz=1.0						
TTN				*e*S	**Sn**	**17 35 54.1**	**+0.8**
	baz=1.0						
TWG	**Pinlang**	**1.15**	**357**	⇑*i* P	**Pn**	**17 35 39.1**	**-1.3**
	baz=357						
SSD	**Sandimen**	**1.16**	**337**	P	**Pn**	**17 35 40.1**	**-0.6**
	baz=346						
SSD				*e*S	**Sn**	**17 35 55.8**	**+0.3**
	baz=346						
SGLT	**Jiouru**	**1.20**	**331**	*e*P	**Pn**	**17 35 42.4**	**+1.2**
	baz=331						
TWM1	**Shoushan**	**1.32**	**330**	*e*P	**Pn**	**17 35 43.1**	**+0.3**
	baz=317						
CHKT	**Chengkung**	**1.44**	**9**	*e*P	**Pn**	**17 35 43.2**	**-1.2**
	baz=360						
CHKT				*e*S	**Sn**	**17 36 02.4**	**+0.3**
	baz=360						
SGST	**Jiashian**	**1.49**	**340**	*e*P	**Pn**	**17 35 44.9**	**-0.2**
	baz=341						
SGST				*e*S	**Sn**	**17 36 04.1**	**+0.6**
	baz=341						
ELDTW	**Lidau**	**1.51**	**356**	*e*P	**Pn**	**17 35 44.0**	**-1.6**
	baz=2.0						
ELDTW				*e*S	**Sn**	**17 36 04.0**	**-0.2**
	baz=2.0						
STYT	**Tauyuan**	**1.52**	**347**	*e*P	**Pn**	**17 35 44.8**	**-0.8**
	baz=347						
STYT				*e*S	**Sn**	**17 36 04.5**	**+0.2**
	baz=347						
CHN1	**Nanshi**	**1.60**	**340**	*e*P	**Pn**	**17 35 46.0**	**-0.7**
	baz=352						
CHN1				*e*S	**Sn**	**17 36 06.6**	**+0.4**
	baz=352						
WTP	**Ta-pu**	**1.64**	**343**	*e*P	**Pn**	**17 35 46.9**	**-0.3**
	baz=343						
WTP				*e*S	**Sn**	**17 36 07.0**	**-0.1**
	baz=343						
TWF1	**Yuli**	**1.68**	**5**	*e*P	**Pn**	**17 35 46.1**	**-1.6**
	baz=360						
TWF1				*e*S	**Sn**	**17 36 08.1**	**0.0**
	baz=360						
TWK	**Hsinying**	**1.69**	**340**	*e*P	**Pn**	**17 35 47.9**	**0.0**
	baz=340						
SCLT	**Jiali**	**1.73**	**330**	*e*P	**Pn**	**17 35 48.7**	**+0.3**
	baz=319						
SCLT				*e*S	**Sn**	**17 36 09.5**	**+0.3**
	baz=319						
CHN4	**Tsaushan**	**1.74**	**344**	*e*P	**Pn**	**17 35 48.0**	**-0.6**
	baz=343						
EHY	**Hungye**	**1.83**	**6**	*e*P	**Pn**	**17 35 48.5**	**-1.4**
	baz=5.0						
EHY				*e*S	**Sn**	**17 36 11.7**	**-0.2**
	baz=5.0						
ALS	**Alishan**	**1.85**	**351**	*e*P	**Pn**	**17 35 50.6**	**+0.2**
	baz=351						
ALS				*e*S	**Sn**	**17 36 13.1**	**+0.3**
	baz=351						
CHN8	**Yiju**	**1.87**	**333**	*e*P	**Pn**	**17 35 49.6**	**-0.7**
	baz=322						
CHN8				*e*S	**Sn**	**17 36 12.5**	**-0.2**
	baz=322						
CHY	**Chiayi**	**1.93**	**340**	*e*P	**Pn**	**17 35 51.0**	**-0.1**
	baz=341						
CHY				*e*S	**Sn**	**17 36 14.1**	**-0.1**
	baz=341						
CHN2	**Minshiung**	**1.95**	**342**	*e*P	**Pn**	**17 35 51.0**	**-0.4**
	baz=342						
CHN2				*e*S	**Sn**	**17 36 15.1**	**+0.5**
	baz=342						
CHN5	**Tsauling**	**1.96**	**348**	*e*P	**Pn**	**17 35 51.2**	**-0.4**
	baz=348						
WGK	**Gukeng**	**2.07**	**346**	*e*P	**Pn**	**17 35 51.8**	**-1.3**
	baz=345						
WSF	**Szhu**	**2.13**	**337**	*e*P	**Pn**	**17 35 52.4**	**-1.5**
	baz=348						
WSF				*e*S	**Sn**	**17 36 18.9**	**-0.1**
	baz=348						
SMLT	**Sun Moon Lake**	**2.21**	**355**	*e*P	**Pn**	**17 35 55.0**	**-0.1**
	baz=355						
SMLT				*e*S	**Sn**	**17 36 21.7**	**+0.4**
	baz=355						
WNT	**Mingjian**	**2.23**	**350**	*e*P	**Pn**	**17 35 55.9**	**+0.6**
	baz=349						
TYC	**Yuchr**	**2.24**	**354**	*e*P	**Pn**	**17 35 55.0**	**-0.3**
	baz=354						
TYC				*e*S	**Sn**	**17 36 23.5**	**+1.8**
	baz=354						
WTCT	**Ta-ch'eng**	**2.32**	**340**	*e*P	**Pn**	**17 35 56.2**	**-0.2**
	baz=341						
WTCT				*e*S	**Sn**	**17 36 24.2**	**+0.4**
	baz=341						
PNG	**Penghu**	**2.38**	**323**	*e*P	**Pn**	**17 35 55.7**	**-1.6**
	baz=323						
TWD	**Chiawan**	**2.44**	**10**	*e*P	**Pn**	**17 35 58.2**	**+0.1**
	baz=3.0						
WHF	**Hehuan Shan**	**2.46**	**3**	*e*P	**Pn**	**17 35 59.0**	**+0.1**
	baz=350						
WHF				*e*S	**Sn**	**17 36 27.8**	**-0.2**
	baz=350						
TWT	**Tachien**	**2.57**	**1**	*e*P	**Pn**	**17 36 00.0**	**-0.1**
	baz=1.0						
TWT				*e*S	**Sn**	**17 36 31.6**	**+1.4**
	baz=1.0						
TWQ1	**Liyutan**	**2.68**	**353**	*e*P	**Pn**	**17 36 01.4**	**-0.1**
	baz=353						
NSY	**Sanyi**	**2.75**	**353**	*e*P	**Pn**	**17 36 03.4**	**+1.0**
	baz=353						
NNS	**Nan Shan**	**2.77**	**5**	*e*P	**Pn**	**17 36 04.5**	**+1.8**
	baz=352						
ENA	**Nanau**	**2.80**	**12**	*e*P	**Pn**	**17 36 02.9**	**-0.2**
	baz=359						
ENA				*e*S	**Sn**	**17 36 34.3**	**-1.4**
	baz=359						
NSTT	**Nanjuang**	**2.95**	**358**	*e*P	**Pn**	**17 36 04.9**	**-0.2**
	baz=358						
ENTT	**Nioudou**	**2.98**	**8**	*e*P	**Pn**	**17 36 05.8**	**+0.2**
	baz=14						
ENTT				*e*S	**Sn**	**17 36 40.7**	**+0.5**
	baz=14						
NSK	**Sanguang**	**3.00**	**4**	*e*P	**Pn**	**17 36 05.8**	**-0.1**
	baz=353						
NSK				*e*S	**Sn**	**17 36 40.6**	**0.0**
	baz=353						
TWC	**Suao**	**3.00**	**13**	*e*P	**Pn**	**17 36 07.4**	**+1.6**
	baz=1.0						
TWE	**Neicheng**	**3.08**	**9**	*e*P	**Pn**	**17 36 07.6**	**+0.8**
	baz=9.0						
TWE				*e*S	**Sn**	**17 36 42.3**	**-0.1**
	baz=9.0						
JYNG	**Yonagunijimaku**	**3.23**	**31**	P	**Pn**	**17 36 09.1**	**+0.1**
JYNG				S	**Sn**	**17 36 47.6**	**+1.3**
YOJ	**Yonaguni jima**	**3.27**

NEIC Felt [III] at Coquimbo and La Serena.
*SJA **17** 17:41:07.6±1.1,28.77S×71.11W,h34km±4km, ML4.6, MW4.6*
*IDC **17** 17:41:07.1±0.6,28.74S×70.98W,h42km±4km,mb4.0/7, mb1 4.0/12,mb1mx3.9/32,mbtmp4.1/12,ML3.8/4,MS3.6/6, Ms1 3.6/6,ms1mx3.3/24,Error ellipse: s-maj=21.4km s-min=12.6km az=93.0*
*GUC **17** 17:41:07.3±0.6,28.86S×70.38W,h48km±11km,ML4.7*

ISC 17 17:41:04.0±0.4,28.78S±0.03×71.43W±0.05,h29km±2km, h30km:pP-P,n131,σ2s02/168,mb4.8/43,MS3.8/3,2C-4D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
VACH	**Vallenar**	**0.62**	**71**	⇓	*i*	P	**Pn**	**17 41 19.5**	**+2.6**
VACH					*i*	S	**Sn**	**17 41 26.6**	**+0.7**
VACH					IAML			17 41 27.2	
	comp=N,100μm,0.1s								
LCO	**Las Campanas**	**0.68**	**110**	⇓	*i*	P	**Pn**	**17 41 17.8**	**0.0**
LCO					*i*	S	**Sb**	**17 41 25.8**	**-0.9**
LCO					IAML			17 41 26.6	
	comp=E,64μm,0.3s								
LCO	**Las Campanas**	**0.68**	**110**		*e*	P	**Pn**	**17 41 18.0**	**+0.2**
LCO					*i*	S	**Sb**	**17 41 26.0**	**-0.6**
LCO					IAML			17 41 26.6	
	comp=E,51μm,0.4s								
LCO	**Las Campanas**	**0.68**	**110**		*e*	Pn	**Pn**	**17 41 17.7**	**-0.1**
LCO						eSn	**Sb**	**17 41 25.8**	**-0.9**
TLL	**Tololo Astrono**	**1.48**	**159**	⇑	*i*	P	**Pb**	**17 41 31.6**	**+0.5**
TLL					*i*	S	**Sb**	**17 41 51.0**	**+1.4**
TLL					IAML			17 41 52.8	
	comp=E,25μm,0.6s								
CPCH	**Copiapo**	**1.71**	**34**	⇓	*i*	P	**Pb**	**17 41 33.3**	**-1.4**
CPCH					*i*	S	**Sn**	**17 41 53.6**	**+1.0**
AGUA	**GUANDACOL**	**2.66**	**106**		*e*	P	**Pb**	**17 41 49.0**	**-2.1**
AGUA						eS	**Sb**	**17 42 26.5**	**+3.2**
ACCO	**Cerro Coronel**	**2.73**	**132**		*e*	P	**Pb**	**17 41 50.0**	**-2.4**
ACCO					IAML			17 42 04.6	
	comp=E,2μm,0.6s								
ACCO						eS	**Sb**	**17 42 26.4**	**+0.8**
VCA	**Vinchina**	**2.83**	**90**		*e*	P	**Pb**	**17 41 51.6**	**-2.3**
AMOG	**MOGNA**	**3.33**	**131**		*e*	P	**Pn**	**17 41 57.9**	**+3.7**
RTLL	**Cerro Villicun**	**3.60**	**135**		*e*	P	**Pn**	**17 42 01.5**	**+3.6**
RTLL					*i*	S	**Sn**	**17 42 40.8**	**+1.3**
SJA	**San Juan**	**3.69**	**138**		*e*	P	**Pb**	**17 42 04.4**	**-4.2**
SJA					eS		**Sb**	**17 42 54.3**	**+1.4**
SJA					IAML			17 43 12.5	
	comp=Z,720nm,0.4s								
AUSP	**Uspallata**	**3.85**	**153**		*e*	P	**Pb**	**17 42 06.9**	**-4.6**
AUSP					*i*	S	**Sb**	**17 42 51.8**	**-6.1**
AVFE	**Valle Fertil**	**3.93**	**119**		*e*	P	**Pn**	**17 42 04.8**	**+2.4**
AVFE					*i*	S	**Sn**	**17 42 51.4**	**+3.8**
AVFE					IAML			17 42 60.0	
	comp=Z,746nm,0.5s								
RTCV	**Cerro Valdivia**	**3.96**	**142**		*e*	P	**Pn**	**17 42 06.6**	**+3.8**
RTCV						eS	**Sb**	**17 42 59.5**	**-1.0**
ROC1	**El Roble**	**4.20**	**175**		*e*	P	**Pn**	**17 42 09.0**	**+2.8**
ROC1						eS	**Sb**	**17 42 52.0**	**-4.9**
ROC1	**El Roble**	**4.20**	**175**		*e*	Pn	**Pn**	**17 42 08.8**	**+2.6**
ROC1						eSn	**Sb**	**17 43 02.8**	**-4.8**
PB14	**IPOC Station P**	**4.24**	**13**		*e*	P	**Pn**	**17 42 06.2**	**-0.7**
PB14						eS	**Sb**	**17 43 08.2**	**-0.7**
ASAL	**Salagasta**	**4.40**	**150**		*e*	P	**Pn**	**17 42 13.3**	**+4.4**
ARCO	**CERRO ARCO**	**4.58**	**153**		*e*	P	Pn	17 42 16.5	+5.1
ARCO					IAML			17 43 24.7	
	comp=Z,1μm,0.5s								
ACHE	**Chepes**	**4.76**	**121**		*e*	P	**Pn**	**17 42 16.1**	**+2.2**
AAGR	**Agrelo**	**4.83**	**153**		*e*	P	Pn	17 42 20.3	+5.4
ACAN	**Cantantal**	**5.05**	**135**		*e*	P	**Pn**	**17 42 20.4**	**+2.7**
FSA	**Cafayete**	**5.52**	**62**		*e*	P	**Pn**	**17 42 28.5**	**+4.1**
AHML	**Horco Molle**	**5.75**	**71**		*e*	P	**Pn**	**17 42 29.3**	**+1.8**
MRA	**San Martin**	**6.11**	**128**		*e*	P	**Pn**	**17 42 33.7**	**+1.2**
GO05	**HualaæØ**	**6.22**	**184**		*e*	Pn	**Pn**	**17 42 34.6**	**+0.7**
GO05						eSn	**Sb**	**17 44 06.6**	**+1.0**
TCA	**Tanti**	**6.45**	**115**		*e*	P	**Pn**	**17 42 37.0**	**0.0**
PB04	**IPOC Station P**	**6.52**	**10**		*e*	Pn	**Pn**	**17 42 36.2**	**-2.0**
LVC	**Limon Verde**	**6.55**	**21**		P		**Pn**	**17 42 38.4**	**-0.4**
	comp=Z,53nm,0.3s,baz=175,slow=6.3,SNR=12								
LVC					S		**Sn**	**17 43 49.7**	**-2.9**
	comp=Z,136nm,0.3s,baz=176,slow=16,SNR=3.4								
LVC					LR		LR	17 45 33.4	
	comp=Z,1μm,21.1s,baz=210,slow=42								
LVC	**Limon Verde**	**6.55**	**21**		*e*	P	**Pn**	**17 42 38.1**	**-0.6**
HJA	**Humahuaca**	**7.75**	**46**		*e*	P	**Pn**	**17 42 59.0**	**+3.8**
PB01	**IPOC Station P**	**7.90**	**13**		*e*	Pn	**Pn**	**17 42 54.6**	**-2.5**
PB11	**IPOC Station P**	**9.12**	**11**		*e*	Pn	**Pn**	**17 42 54.6**	**-2.4**
MNMC	**Minye Mitye**	**9.75**	**10**		*e*	Pn	**Pn**	**17 43 20.6**	**-2.0**
PLCA	**Paso Flores**	**11.94**	**177**		P		**Pn**	**17 43 54.3**	**+2.0**
	comp=Z,0.2nm,0.3s,baz=354,slow=10,SNR=5.9								
PLCA					LR		LR	17 48 59.1	
	comp=Z,261nm,21.2s,baz=347,slow=39								
PLCA	**Paso Flores**	**11.94**	**177**		*e*	Pn	**Pn**	**17 43 53.5**	**+1.2**
TRQA	**Tornquist**	**12.15**	**142**		*e*	Pn	**Pn**	**17 43 54.6**	**-0.5**
CPUP	**Villa Florida**	**12.74**	**82**		P		**Pn**	**17 44 00.0**	**-3.2**
	comp=Z,0.2nm,0.3s,baz=230,slow=16,SNR=3.0								
CPUP					LR		LR	17 49 25.7	
	comp=Z,270nm,20.1s,baz=261,slow=40								
CPUP	**Villa Florida**	**12.74**	**82**		*e*	Pn	**Pn**	**17 43 59.7**	**-3.6**
LPAZ	**La Paz**	**12.80**	**14**		P		**Pn**	**17 44 04.8**	**+0.1**
	comp=Z,0.1nm,0.3s,baz=198,slow=8.5,SNR=3.1								
LPAZ					LR		LR	17 49 11.8	
	comp=Z,179nm,21.8s,baz=164,slow=38								
LPAZ	**La Paz**	**12.80**	**14**		*e*	Pn	Pn	17 43 59.4	-5.2
SIV	**San Ignacio**	**15.92**	**39**		P		**Pn**	**17 44 44.7**	**-1.3**
	comp=Z,0.2nm,0.3s,baz=267,slow=7.6,SNR=2.2								
SAML	**Samuel**	**21.20**	**23**		*e*	P	**P**	**17 45 46.6**	**-0.7**
	comp=Z,13nm,1.1s								
GO09	**Cerro Castillo**	**22.47**	**181**		*e*	P	**P**	**17 45 58.5**	**-2.2**
	comp=Z,47nm,1.2s								
USHA	**Ushuaia**	**26.12**	**176**		P		**P**	**17 46 36.4**	**+1.3**
	comp=Z,93nm,1.0s,baz=325,slow=9.2,SNR=4.5								
OTAV	**Otavalo**	**29.63**	**346**		*e*	P	**P**	**17 47 06.5**	**-0.9**
	comp=Z,5.7nm,1.3s								
ROSC	**El Rosal**	**33.54**	**355**		*e*	P	**P**	**17 47 42.8**	**+1.0**
	comp=Z,4.4nm,0.8s								
RUSC	**La Rusia**	**34.51**	**357**		*e*	P	**P**	**17 47 51.3**	**+1.0**
	comp=Z,4.4nm,1.0s								
BCIP	**Isla Barro Col**	**38.59**	**347**		*e*	P	**P**	**17 48 24.1**	**-0.4**
SABA	**Saba**	**46.80**	**11**		*e*	P	**P**	**17 49 32.6**	**+1.5**
	comp=Z,98nm,1.1s								
CELP	**Cerrillos**	**46.82**	**6**		*e*	P	**P**	**17 49 32.2**	**+1.1**
VNA3	**Neumayer Olymp**	**54.01**	**159**		P		sP	17 50 38.0	+0.4
VNA2	**Neumayer--Watz**	**54.64**	**159**		P		sP	17 50 42.3	+0.2
	baz=286,slow=7.5								
SNAA	**Sanae**	**56.23**	**159**		P		**P**	**17 50 42.0**	**+0.8**
SNAA	**Sanae**	**56.23**	**159**		*e*	P	**P**	**17 50 41.8**	**+0.6**
	comp=Z,11nm,0.8s								
QSPA	**South Pole Qui**	**61.44**	**180**		*e*	P	**P**	**17 51 19.2**	**+1.7**
	comp=Z,18nm,1.5s								
BRAL	**Brewton**	**61.45**	**345**		*e*	P	**P**	**17 51 17.9**	**+0.2**
	comp=Z,90nm,1.5s								
JCT	**Junction City**	**64.85**	**333**		*e*	P	**P**	**17 51 41.8**	**+1.5**
	comp=Z,36nm,1.8s								
WLAR	**White Oak Lake**	**65.44**	**340**		*e*	P	**P**	**17 51 44.3**	**+0.3**
	comp=Z,47nm,1.8s								
LTX	**Lajitas**	**65.49**	**329**		*e*	P	**P**	**17 51 47.2**	**+2.6**
LTX						epP	**sP**	**17 51 59.8**	**+2.6**
TXAR	**Lajitas Array**	**65.49**	**329**		P		**P**	**17 51 47.2**	**+2.6**
	comp=Z,1.4nm,0.7s,baz=153,slow=7.6,SNR=22								
TXAR					pP		**sP**	**17 51 59.8**	**+2.6**
	comp=Z,0.7nm,0.8s,baz=141,slow=8.1,SNR=5.4								
TX31	**Lajitas Ar. Si**	**65.49**	**329**		*e*	P	**P**	**17 51 46.9**	**+2.3**
TZTN	**Tazewell**	**65.97**	**349**		*e*	P	**P**	**17 51 49.1**	**+1.6**
	comp=Z,59nm,1.9s								
MIAR	**Mount Ida**	**66.38**	**340**		*e*	P	**P**	**17 51 50.0**	**-0.1**
	comp=Z,13nm,1.8s								
WVT	**Waverly**	**66.39**	**346**		*e*	P	**P**	**17 51 50.4**	**+0.3**
	comp=Z,38nm,1.6s								
IP05	**Hopewell Churc**	**66.53**	**355**		*e*	P	**P**	**17 51 51.2**	**+0.3**
	comp=Z,60nm,0.1s								
IP06	**Yanceyville**	**66.65**	**354**		*e*	P	**P**	**17 51 52.7**	**+1.0**
	comp=Z,57nm,1.8s								
IP03	**Louisa**	**66.74**	**354**		*e*	P	**P**	**17 51 53.5**	**+1.2**
	comp=Z,11nm,0.6s								
CVRD	**Centerville Ro**	**66.77**	**355**		*e*	P	**P**	**17 51 52.1**	**-0.4**
	comp=Z,36nm,1.4s								
PBMO	**Poplar Bluff**	**67.62**	**344**		*e*	P	**P**	**17 51 58.9**	**+1.0**
	comp=Z,7.6nm,0.8s								
SDMD	**Soldier's Deli**	**68.03**	**355**		*e*	P	**P**	**17 52 02.8**	**+2.4**
	comp=Z,39nm,2.0s								
MNTX	**Cornudas Mount**	**68.27**	**329**		*e*	P	**P**	**17 52 03.4**	**+1.2**
	comp=Z,7.7nm,1.6s								
TUL1	**Leonard**	**68.32**	**339**		*e*	P	**P**	**17 52 02.8**	**+0.5**
	comp=Z,9.3nm,0.8s								
MSTX	**Muleshoe**	**69.11**	**332**		*e*	P	**P**	**17 52 09.0**	**+1.6**
	comp=Z,7.2nm,0.8s								
VNDA	**Vanda**	**69.31**	**191**		P		**P**	**17 52 11.1**	**+3.1**
	comp=Z,0.5nm,0.8s,baz=124,slow=5.5,SNR=4.7								
SYO	**Syowa Base**	**70.53**	**159**	⇓	*e*	P	**P**	**17 52 12.8**	**-2.8**
SYO	**Syowa Base**	**70.53**	**159**	⇓	*e*	pP	pP	17 52 26.7	+1.9
T25A	**Trinidad**	**72.52**	**333**		*e*	P	**P**	**17 52 30.9**	**+2.7**
	comp=Z,27nm,1.9s								
DBIC	**Dimbokro**	**73.06**	**72**		P		**P**	**17 52 31.7**	**0.0**
	comp=Z,6.2nm,1.0s,baz=253,slow=5.6,SNR=4.0								
DBIC						pP	**sP**	**17 52 43.4**	**-1.0**
	comp=Z,5.6nm,0.7s,baz=200,slow=4.6,SNR=4.1								
DBIC	**Dimbokro**	**73.06**	**72**		*e*	P	**P**	**17 52 30.7**	**-0.9**
DBIC					*e*	pP	**sP**	**17 52 43.4**	**-1.0**
PV01	**Paradox Valley**	**75.09**	**330**		*e*	P	**P**	**17 52 45.7**	**+2.4**
W13A	**Hualapai Mount**	**75.12**	**325**		*e*	P	**P**	**17 52 45.1**	**+1.6**
	comp=Z,15nm,2.0s								
SMCO	**Snowmass**	**75.30**	**332**		*e*	P	**P**	**17 52 46.9**	**+2.2**
	comp=Z,8.9nm,1.0s								
PV10	**Paradox Valley**	**75.50**	**330**		*e*	P	**P**	**17 52 48.3**	**+2.6**
ECSD	**EROS Data Cent**	**75.77**	**341**		*e*	P	**P**	**17 52 48.0**	**+1.2**
	comp=Z,6.6nm,0.8s								
O20A	**White River Ci**	**76.63**	**332**		*e*	P	**P**	**17 52 54.5**	**+2.4**
	comp=Z,6.7nm,0.8s								
SRU	**San Rafael Swe**	**76.76**	**330**		*e*	P	**P**	**17 52 54.5**	**+1.8**
	comp=Z,18nm,1.6s								
CCUT	**Cedar City**	**76.80**	**327**		*e*	P	**P**	**17 52 55.6**	**+2.5**
	comp=Z,3.3nm,1.0s								
IR2C	**Iron Canyon**	**76.94**	**322**		*e*	P	**P**	**17 52 53.2**	**-0.4**
MSU	**Marysvale**	**77.02**	**328**		*e*	P	**P**	**17 52 57.1**	**+2.8**
MSU						eS	**S**	**18 02 41.5**	**+0.5**
P18A	**Preston Nutter**	**77.06**	**330**		*e*	P	**P**	**17 52 57.6**	**+3.0**
	comp=Z,4.1nm,0.8s								
MAW	**Mawson**	**78.02**	**164**		P		**P**	**17 53 00.4**	**+1.1**
	comp=Z,4.4nm,0.8s,baz=216,slow=7.3,SNR=25								
MAW					pP		**sP**	**17 53 12.4**	**+0.4**
	comp=Z,2.4nm,0.7s,baz=225,slow=9.0,SNR=5.5								
MAW					LR		LR	18 29 48.7	
	comp=Z,38nm,18.1s,baz=238,slow=38								
MAW	**Mawson**	**78.02**	**164**		*e*	P	**P**	**17 52 59.6**	**+0.4**
MAW					*e*	pP	**sP**	**17 53 11.9**	**-0.2**
EYMN	**Ely**	**78.48**	**346**		*e*	P	**P**	**17 53 01.4**	**-0.5**
	comp=Z,42nm,1.8s								
DUG	**Dugway, Tooele**	**78.67**	**329**		*e*	P	**P**	**17 53 05.6**	**+2.3**
	comp=Z,20nm,1.9s								
HWUT	**Hardware Ranch**	**79.26**	**331**		*e*	P	**P**	**17 53 08.8**	**+2.2**
	comp=Z,6.3nm,0.8s								
BW06	**Boulder Array**	**79.37**	**332**		*e*	P	**P**	**17 53 08.4**	**+1.1**
PD31	**Pinedale Array**	**79.37**	**332**		*e*	P	**P**	**17 53 08.8**	**+1.5**
PDAR	**Pinedale Array**	**79.37**	**332**		P		**P**	**17 53 08.8**	**+1.5**
	comp=Z,0.7nm,0.5s,baz=123,slow=5.5,SNR=4.6								
TOA0	**Torodi Ar. Sit**	**81.95**	**70**		*e*	P	**P**	**17 53 19.9**	**-1.4**
	comp=Z,4.7nm,0.8s								
TOA1	**Torodi Ar. Sit**	**81.95**	**70**		*e*	P	**P**	**17 53 20.7**	**-0.7**
TOA1					*e*	pP	**sP**	**17 53 33.5**	**-0.6**
TORD	**Torodi Ar. Bea**	**81.95**	**70**		P		**P**	**17 53 20.7**	**-0.7**
	comp=Z,3.1nm,0.9s,baz=256,slow=4.9,SNR=13								
TORD					pP		**sP**	**17 53 33.5**	**-0.6**
	comp=Z,4.1nm,0.8s,baz=249,slow=4.8,SNR=13								
BOSA	**Boshof**	**82.05**	**118**		P		**P**	**17 53 21.2**	**-0.7**
	comp=Z,2.6nm,0.6s,baz=224,slow=3.6,SNR=6.2								
BOSA					pP		**sP**	**17 53 34.4**	**-0.4**
	comp=Z,1.0nm,0.5s,baz=308,slow=2.7,SNR=1.7								
BOSA					LR		LR	18 27 21.9	
	comp=Z,34nm,18.3s,baz=168,slow=34								
TUE	**Stuetta**	**104.41**	**45**		*e*	Pdif	**Pdif**	**17 55 05.0**	**-1.0**
ASAR	**Alice Springs**	**122.43**	**208**		PKP		**PKPdf**	**17 59 57.6**	**+0.5**
	comp=Z,0.7nm,0.8s,baz=131,slow=1.5,SNR=16								
AS31	**Alice Springs**	**122.43**	**208**		*e*	PKPdf	**PKPdf**	**17 59 57.6**	**+0.5**
WB2	**Warramunga Arr**	**125.54**	**210**		*e*	PKPdf	**PKPdf**	**18 00 03.7**	**+0.6**
WR1	**Warramunga Arr**	**125.54**	**210**		*e*	PKPdf	**PKPdf**	**18 00 04.1**	**+1.0**
WRA	**Warramunga Arr**	**125.54**	**210**		PKP		**PKPdf**	**18 00 04.1**	**+1.0**
	comp=Z,2.3nm,0.7s,baz=156,slow=1.7,SNR=24								
H11S2	**WAKE ISLAND Hyl**	**126.22**	**273**		T		T	20 19 13.0	
	baz=114,slow=74,SNR=51								
H11S1	**WAKE ISLAND Hyl**	**126.23**	**273**		T		T	20 19 08.9	
	baz=114,slow=74,SNR=47								
H11S3	**WAKE ISLAND Hyl**	**126.23**	**273**		T		T	20 19 13.1	
	baz=114,slow=74,SNR=43								
H11N3	**WAKE ISLAND Hyl**	**126.50**	**274**		T		T	20 19 28.6	
	baz=113,slow=75,SNR=25								
H11N1	**WAKE ISLAND Hyl**	**126.51**	**274**		T		T	20 19 29.8	
	baz=113,slow=75,SNR=14								
H11N2	**WAKE ISLAND Hyl**	**126.51**	**274**		T		T	20 19 30.4	
	baz=113,slow=75,SNR=40								
KKAR	**Karatay Array**	**146.34**	**55**		*e*	PKPdf	**PKPbc**	**18 00 41.7**	**-0.2**
KURK	**Kurchatov**	**148.57**	**37**		*e*	PKPbc	**PKPbc**	**18 00 48.5**	**+0.9**
KURK					*e*	pPKPab	**sPKPbc**	**18 01 01.2**	**+0.5**
KURBB	**Kurchatov Arra**	**148.57**	**38**		PKPbc		**PKPbc**	**18 00 48.9**	**+1.2**
	baz=303,slow=3.1								
KURBB					pPKPbc		**sPKPbc**	**18 01 01.2**	**+0.5**
	comp=Z,6.9nm,0.8s,baz=303,slow=3.1,SNR=6.7								
AAK	**Ala-Archa**	**149.29**	**54**		*e*	PKPbc	**PKPbc**	**18 00 51.4**	**+1.4**
ZAA1	**Zalesovo Array**	**149.46**	**28**		*e*	PKPbc	**PKPbc**	**18 00 50.9**	**+1.1**
ZAA1					*e*	pPKPab	**pPKPab**	**18 01 03.7**	**-0.6**
ZAA0	**Zalesovo Array**	**149.46**	**28**		*e*	PKPdf	**PKPdf**	**18 00 46.4**	**+1.0**
ZAA0					*e*	PKPbc	**PKiKP**	**18 00 50.6**	**-0.4**
ZAA0					*e*	PKPbc	**PKPbc**	**18 00 50.7**	**+0.9**
ZAA0					*e*	pPKPab	**sPKPbc**	**18 01 03.5**	**+0.6**
ZAA0					*e*	pPKPab	**pPKPab**	**18 01 03.8**	**-0.5**
ZALV	**Zalesovo Beam**	**149.46**	**28**		PKPbc		**PKPbc**	**18 00 50.9**	**+1.0**
	comp=Z,9.2nm,0.7s,baz=298,slow=3.5,SNR=33								
ZALV					pPKPbc		**pPKPab**	**18 01 03.7**	**-0.6**
	comp=Z,19nm,0.8s,baz=297,slow=3.5,SNR=25								
KSH	**Kashi**	**151.12**	**60**		*e*	PKPbc	**PKPdf**	**18 00 47.3**	**-1.3**
KSH					pPKP		pPKPdf	18 00 58.0	-0.4
KSH					sPKP			18 01 01.4	
KSH					PKS		**PKSdf**	**18 04 20.1**	**-3.3**
KSH					PP		**PP**	**18 04 32.8**	**-0.2**
KSH					SKS		**SKSdf**	**18 07 48.8**	**-5.5**
KSH					SS		**SS**	**18 23 47.0**	**-7.3**
KSH					AMB		AMB		
	comp=Z,94nm,6.8s								
KSH					LR		LR		
	comp=Z,110nm,7.1s								
KSH					LR		LR		
	comp=Z,82nm,11.7s								
KSH					LR		LR		
	comp=Z,100nm,11.6s								
MAKZ	**Makanchi**	**152.53**	**42**		*e*	PKPbc	**PKPbc**	**18 00 57.1**	**-0.2**
MAKZ					*e*	PKPab	**sPKPbc**	**18 01 10.5**	**+0.1**
MK31	**Makanchi Array**	**152.72**	**42**		*e*	PKPdf	**PKPdf**	**18 00 50.4**	**-0.2**
MK31					*e*	PKPbc	**PKiKP**	**18 00 58.1**	**+0.1**
MK31					*e*	PKPab	**sPKPbc**	**18 01 10.1**	**-0.7**
MKAR	**Makanchi Array**	**152.72**	**42**		*e*	PKPdf	**PKPdf**	**18 00 51.1**	**+0.4**
MKAR					*e*	PKPbc	**PKiKP**	**18 00 58.2**	**+0.3**
MKAR					*e*	PKPab	**PKPab**	**18 01 09.7**	**+1.1**
MK01	**Makanchi Array**	**152.74**	**42**		*e*	PKPdf	**PKPdf**	**18 00 51.1**	**+0.5**
MK01					*e*	PKPbc	**PKiKP**	**18 00 58.3**	**+0.3**
MK01					*e*	PKPab	**sPKPbc**	**18 01 10.4**	**-0.5**
WMQ	**Urumqi**	**157.54**	**42**		PKP		**PKPdf**	**18 00 57.3**	**-0.1**
NJ2	**Nanjing**	**170.54**	**293**		*e*	PKP	**PKPdf**	**18 01 09.1**	**-0.3**
GYA	**Guiyang**	**177.13**	**143**		*e*	PKP	**PKPdf**	**18 01 11.0**	**-1.1**
GYA					PKPab		PKPab	18 02 55.6	-0.5
GYA					PKS		**PKSdf**	**18 04 41.4**	**-3.0**
GYA					PP		**PP**	**18 06 50.5**	**+1.9**
GYA					AMB		AMB		
	comp=Z,120nm,8.2s								

mb5.1/284,MS4.9/82,Error ellipse: s-maj=3.5km s-min=2.3km az=150.7
*MOS **17** 17:54:46.3±1.1,40.40N×143.19E,h22km,mb5.3/109, MS5.0/42,Error ellipse: s-maj=6.1km s-min=3.6km az=105.4*
*NEIC **17** 17:54:47.4±1.3,40.25N×143.23E,h22km±9km,mb5.2/183, Error ellipse: s-maj=4.1km s-min=2.7km az=140.0*
NEIC Recorded [2 JMA] in Aomori and Iwate.
*GCMT **17** 17:54:47.4±0.2,40.35N×143.31E,h21km,MW5.2/108, Moment Tensor Solution. s68,c99; s108,c189; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr4.98±.16; Mθθ-1.11±.09; Mφφ-3.87±.10; Mrθ2.77±.17; Mrφ-1.63±.06; Mθφ3.82±.18; Best double couple: M0 6.73000×10^16 NP1:φs32.00000°,δ67.00000°,λ95.00000°. NP2: φs199.00000°,δ23.00000°,λ78.00000°. Principal axes: T 6.9460, Plg67.0000°, Azm312.0000°; N -0.4320, Plg5.0000°, Azm210.0000°; P -6.5130, Plg22.0000°, Azm118.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

ISC 17 17:54:46.8±0.3,40.24N±0.03×143.28E±0.03,h21km±3km, h21km:pP-P,n692,σ1s56/775,mb5.2/288,MS5.0/83, 62C-22D,Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
JTH	**Tanohata**	**1.12**	**255**		P		**Pn**	**17 55 06.1**	**-1.2**
JTH					*e*	S	**Sn**	**17 55 22.0**	**-0.2**
MIYJ	**Miyakonagasawa**	**1.30**	**240**		P		**Pn**	**17 55 09.3**	**-0.5**
MIYJ					*e*	S	**Sb**	**17 55 26.7**	**-0.1**
JANG	**Nango**	**1.35**	**276**		P		**Pn**	**17 55 09.9**	**-0.6**
JOM	**Ohasama**	**1.71**	**244**	⇑	P		**Pn**	**17 55 15.9**	**+0.5**
JOM					*e*	S	**Sb**	**17 55 38.5**	**0.0**
JTM	**Tenmabayashi**	**1.77**	**289**	⇑	P		**Pn**	**17 55 16.4**	**+0.2**
JTM					*e*	S	**Sb**	**17 55 39.5**	**-0.8**
ERM	**Erimo**	**1.77**	**357**	*d*	P		**Pn**	**17 55 15.1**	**-1.2**
ERM					pmax		pmax		
	comp=Z,359nm,1.2s								
ERM	**Erimo**	**1.77**	**357**		*e*	Pn	**Pn**	**17 55 15.2**	**-1.2**
JEM	**Erimo**	**1.78**	**357**		P		**Pn**	**17 55 15.2**	**-1.1**
JAH	**Hinai**	**2.02**	**269**	⇑	P		**Pn**	**17 55 20.6**	**+0.9**
JAH					*e*	S	**Sb**	**17 55 46.4**	**-1.1**
JOT	**Ohata**	**2.04**	**305**	⇑	P		**Pn**	**17 55 19.8**	**-0.1**
JMK	**Ichinoseki**	**2.04**	**232**	⇑	P		**Pn**	**17 55 20.7**	**+0.7**
JMK					*e*	S	**Sb**	**17 55 47.5**	**-0.7**
JNBK	**Urakawa-nobuka**	**2.08**	**349**	⇑	P		**Pn**	**17 55 19.9**	**-0.5**
JNBK					*e*	S	**Sn**	**17 55 45.2**	**-0.4**
JRG	**Rokugo**	**2.20**	**248**		P		**Pn**	**17 55 23.6**	**+1.4**
JRG					*e*	S	**Sb**	**17 55 52.7**	**0.0**
JKB	**Kayabe**	**2.36**	**315**		P		**Pn**	**17 55 24.1**	**-0.3**
JKB					*e*	S	**Sn**	**17 55 53.9**	**+1.2**
JCH	**Churui**	**2.37**	**2**	⇑	P		**Pn**	**17 55 23.4**	**-1.1**
JCH					*e*	S	**Sn**	**17 55 51.1**	**-1.9**
ASAJ	**Asahikawa**	**3.91**	**353**		*e*	Pn	**Pn**	**17 55 45.5**	**-0.1**
YUK	**Yuzh-Kuril'sk**	**4.25**	**26**		*e*	P	**Pn**	**17 55 48.5**	**-1.8**
MAJO	**Matsushiro**	**5.43**	**229**	*c*	P		**Pn**	**17 56 08.6**	**+2.0**
MAJO	**Matsushiro**	**5.43**	**229**		*e*	Pn	**Pn**	**17 56 08.5**	**+2.0**
MJAR	**Matsushiro Arr**	**5.43**	**229**		Pn		**Pn**	**17 56 08.2**	**+1.6**
	comp=Z,18nm,0.3s,baz=36,slow=12,SNR=288								
MJAR					LR		LR	17 58 26.9	
	comp=Z,5μm,19.4s,baz=50,slow=41								
KUR	**Kuril'sk**	**6.03**	**33**	*c*	*i*	P	**Pn**	**17 56 13.5**	**-1.2**
KUR					*i*	S	**Sn**	**17 57 17.8**	**-5.2**
KUR					pmax		pmax

KS15	**Wonju Array Si**	**12.32 262**	*e*Pn	**Pn**	**17 57 41.6 +0.6**				
KSAR	**Wonju Array Be**	**12.32 262**	P	**Pn**	**17 57 42.4 +1.4**				
KSAR	**Wonju Array Be**	**12.32 262**	Pn	**Pn**	**17 57 42.4 +1.4**				
NKL	**Nikolayevsk**	**13.04 353**	*e*P	**Pn**	**17 57 50.0 -0.6**				
NKL			MLR	MLR					
	comp=N,2μm,16.0s								
NKL			MLR	MLR					
	comp=E,4μm,16.0s								
NKL			MLR	MLR					
	comp=Z,9μm,16.0s								
OKH	**Okha**	**13.32 359**⇑	*i*P	**Pn**	**17 57 53.6 -0.9**				
OKH			*e*S	**Sn**	**18 00 25.7 +3.9**				
OKH			pmax	pmax					
	comp=Z,200nm,12.0s								
OKH			smax	smax					
	comp=E,300nm,13.0s								
OKH			MLR	MLR					
	comp=Z,4μm,19.0s								
CN2	**Changchun**	**13.72 291**	*e*P	**Pn**	**17 58 01.5 +1.4**				
CN2			*e*S	**Sn**	**18 00 37.8 +6.0**				
CN2			pmax	pmax					
	comp=Z,20nm,1.2s								
CN2			LR	LR					
	comp=Z,1μm,17.0s								
CN2			LR	LR					
	comp=Z,4μm,17.0s								
CN2			LR	LR					
	comp=Z,4μm,17.0s								
SNY	**Shenyang**	**14.95 282**	⇑P	Pn	17 58 11.0 -5.8				
SNY			S	**Sn**	**18 01 07.3 +5.5**				
SNY			pmax	pmax					
	comp=Z,21nm,2.5s								
SNY			pmax	pmax					
	comp=Z,400nm,3.5s								
SNY			LR	LR					
	comp=N,2μm,13.7s								
SNY			LR	LR					
	comp=E,5μm,18.1s								
SNY			LR	LR					
	comp=Z,8μm,17.1s								
PEA0	**Petropavlovsk-**	**16.19 33**	*e*Pn	**Pn**	**17 58 28.2 -4.7**				
PEA0B	**Petropavlovsk-**	**16.19 33**	*e*Pn	**Pn**	**17 58 27.9 -5.1**				
	comp=Z,44nm,1.2s								
PETK	**Petropavlovsk-**	**16.19 33**	Pn	**Pn**	**17 58 28.9 -4.0**				
	comp=Z,0.2nm,0.3s,baz=216,slow=6.8,SNR=6.9								
PETK			LR	LR	18 04 33.4				
	comp=Z,880nm,20.8s,baz=219,slow=36								
PET	**Petropavlovsk**	**16.54 34**	*e*P	**P**	**17 58 41.1 +1.4**				
PET			*e*S	**Sn**	**18 01 41.7 +1.6**				
PET			pmax	pmax					
	comp=Z,34nm,1.2s								
PET			pmax	pmax					
	comp=Z,100nm,13.7s								
PET			MLR	MLR					
	comp=Z,2μm,14.0s								
PET			MLR	MLR					
	comp=Z,2μm,18.0s								
PET	**Petropavlovsk**	**16.54 34**	*e*Pn	**Pn**	**17 58 35.4 -1.9**				
	comp=Z,93nm,1.6s								
DL2	**Dalian**	**16.74 272**	P	**P**	**17 58 42.8 +0.7**				
DL2			S	**Sn**	**18 01 46.6 +1.3**				
DL2			pmax	pmax					
	comp=Z,87nm,1.2s								
DL2			pmax	pmax					
	comp=Z,820nm,7.5s								
DL2			LR	LR					
	comp=Z,2μm,16.2s								
DL2			LR	LR					
	comp=Z,1μm,16.6s								
DL2			LR	LR					
	comp=Z,2μm,19.4s								
JOW	**Kunigami**	**18.27 228**	*e*Pn	**Pn**	**17 58 57.5 -1.6**				
	comp=Z,350nm,1.9s								
HIA	**Hailar**	**18.93 306**	*e*P	**P**	**17 59 03.2 -3.0**				
HIA			pmax	pmax					
	comp=Z,120nm,1.3s								
HIA	**Hailar**	**18.93 306**	*e*P	**P**	**17 59 03.2 -3.0**				
	comp=Z,120nm,1.3s								
MA2	**Magadan**	**19.92 11**	P	**P**	**17 59 15.5 -1.4**				
	comp=Z,1.7nm,0.3s,baz=201,slow=10,SNR=25								
MA2			LR	LR	18 07 44.9				
	comp=Z,525nm,18.1s,baz=196,slow=39								
SSE	**Sheshan**	**20.09 250**	P	**P**	**17 59 16.4 -2.6**				
SSE			pP	Pn	17 59 22.3 +1.4				
SSE			S	**S**	**18 03 01.3 -2.5**				
SSE			pmax	pmax					
	comp=Z,30nm,0.7s								
SSE			pmax	pmax					
	comp=Z,140nm,5.0s								
SSE			LR	LR					
	comp=Z,830nm,12.7s								
SSE			LR	LR					
	comp=Z,1μm,12.7s								
SSE			LR	LR					
	comp=Z,1μm,14.8s								
CLNS	**Chul'man**	**20.48 330**	*e*P	**P**	**17 59 21.3 -1.8**				
CLNS			*e**PP	**pP**	**17 59 30.1 +1.2**				
CLNS			*e*		17 59 39.0				
CLNS			*e*S	**S**	**18 03 08.4 -2.8**				
CLNS			*e*SS	**SnSn**	**18 03 30.2 +0.2**				
CLNS			*e*		18 03 32.6				
CLNS			pmax	pmax					
	comp=E,33nm,1.0s								
CLNS			pmax	pmax					
	comp=N,29nm,0.9s								
CLNS			pmax	pmax					
	comp=Z,57nm,1.1s								
CLNS			pmax	pmax					
	comp=Z,30nm,0.9s								
CLNS			pmax	pmax					
	comp=N,25nm,0.9s								
CLNS			pmax	pmax					
	comp=E,26nm,1.1s								
CLNS			smax	smax					
	comp=N,322nm,11.8s								
CLNS			smax	smax					
	comp=E,234nm,11.5s								
CLNS			MLR	MLR					
	comp=E,987nm,14.0s								
CLNS			MLR	MLR					
	comp=Z,2μm,15.0s								
CLNS			MLR	MLR					
	comp=N,2μm,15.0s								
BJI	**Beijing**	**20.70 278**	P	**P**	**17 59 22.5 -3.0**				
BJI			S	**S**	**18 03 14.6 -1.0**				
BJI			pmax	pmax					
	comp=N,23nm,2.0s								
BJI			LR	LR					
	comp=N,2μm,13.4s								
BJI			LR	LR					
	comp=N,3μm,17.7s								
BJI			LR	LR					
	comp=N,3μm,19.6s								
BJT	**Baijiatuau**	**20.70 278**	*e*P	**P**	**17 59 23.4 -2.2**				
BJT			pmax	pmax					
	comp=Z,43nm,0.9s								
BJT	**Baijiatuau**	**20.70 278**	*e*P	**P**	**17 59 23.4 -2.2**				
	comp=Z,43nm,0.9s								
TIA	**Tai'an**	**20.91 267**	⇓P	**P**	**17 59 26.3 -1.5**				
TIA			S	**S**	**18 03 12.8 -7.1**				
TIA			pmax	pmax					
	comp=Z,40nm,1.1s								
TIA			pmax	pmax					
	comp=Z,600nm,5.0s								
TIA			LR	LR					
	comp=Z,2μm,15.5s								
TIA			LR	LR					
	comp=Z,4μm,16.0s								
TIA			LR	LR					
	comp=Z,5μm,15.5s								
NJ2	**Nanjing**	**21.30 255**	*e*P	**P**	**17 59 30.0 -2.1**				
NJ2			pP	**pP**	**17 59 38.3 +0.3**				
NJ2			S	**S**	**18 03 24.3 -3.4**				
NJ2			pmax	pmax					
	comp=Z,18nm,0.7s								
NJ2			pmax	pmax					
	comp=Z,230nm,3.9s								
NJ2			LR	LR					
	comp=Z,2μm,15.2s								
NJ2			LR	LR					
	comp=Z,3μm,16.8s								
NJ2			LR	LR					
	comp=Z,4μm,19.0s								
SEY	**Seymchan**	**23.37 11**	P	**P**	**17 59 52.3 -1.4**				
	comp=Z,38nm,0.9s,baz=182,slow=7.5,SNR=39								
CIT	**Chita**	**23.55 310**	*e*P	**P**	**17 59 53.6 -2.1**				
CIT			*e*		18 00 06.2				
CIT			*e*		18 00 27.5				
CIT			*e*		18 00 41.8				
CIT			*e*S	**S**	**18 04 08.5 0.0**				
HHC	**Hu-ho-hao-te**	**24.04 282**	*e*P	**P**	**17 59 57.8 -2.7**				
HHC			PP	**PnPn**	**18 00 31.3 +1.9**				
HHC			S	**S**	**18 04 10.5 -6.1**				
HHC			sS	pS	18 04 21.4 -2.0				
HHC			pmax	pmax					
	comp=Z,21nm,1.0s								
HHC			pmax	pmax					
	comp=Z,280nm,7.4s								
HHC			LR	LR					
	comp=Z,1μm,12.7s								
HHC			LR	LR					
	comp=Z,3μm,17.2s								
HHC			LR	LR					
	comp=Z,4μm,16.3s								
YHNB	**Yeheng**	**24.04 236**	*e*P	**P**	**17 59 58.9 -1.7**				
	comp=Z,35nm,1.1s								
TIY	**Taiyuan**	**24.05 274**	*e*P	**P**	**18 00 03.8 +3.2**				
TIY			sP	**sP**	**18 00 11.5 +2.1**				
TIY			PP	**PnPn**	**18 00 35.8 +6.2**				
TIY			S	**S**	**18 04 16.5 -0.3**				
TIY			sS	**pS**	**18 04 22.4 -1.3**				
TIY			pmax	pmax					
	comp=Z,190nm,6.3s								
TIY			LR	LR					
	comp=Z,970nm,12.9s								
TIY			LR	LR					
	comp=Z,480nm,8.9s								
TIY			LR	LR					
	comp=Z,1μm,15.8s								
NACB	**Ninganchiao**	**24.26 235**	*e*P	**P**	**18 00 01.5 -1.0**				
	comp=Z,26nm,1.0s								
SSLB	**Suanglung**	**24.94 236**	*e*P	**P**	**18 00 08.4 -0.3**				
	comp=Z,26nm,1.3s								
YULB	**Yu-li**	**25.01 234**	*e*P	**P**	**18 00 10.0 +0.7**				
	comp=Z,23nm,1.1s								
BTO	**Baotou**	**25.24 282**	*e*P	**P**	**18 00 10.1 -1.3**				
WHN	**Wuhan**	**25.39 257**	⇑P	**P**	**18 00 13.5 +0.8**				
WHN			S	**S**	**18 04 35.9 -2.3**				
WHN			pmax	pmax					
	comp=Z,270nm,1.6s								
WHN			LR	LR					
	comp=Z,4μm,12.5s								
WHN			LR	LR					
	comp=Z,6μm,14.1s								
WHN			LR	LR					
	comp=Z,10μm,16.0s								
TPUB	**Ta-pu**	**25.50 235**	*e*P	**P**	**18 00 12.5 -1.2**				
	comp=Z,44nm,1.4s								
TWG	**Pinlang**	**25.57 234**	*e*P	**P**	**18 00 14.1 -0.3**				
	comp=Z,418nm,1.7s								
QZH	**Quanzhou**	**25.67 241**⇑	*i*P	**P**	**18 00 15.1 -0.2**				
QZH			S	**S**	**18 04 39.8 -2.9**				
QZH			LR	LR					
	comp=Z,1μm,13.0s								
QZH			LR	LR					
	comp=Z,3μm,13.8s								
QZH			LR	LR					
	comp=Z,4μm,14.6s								
BOD	**Bodaibo**	**25.72 323**	*e*P	**P**	**18 00 14.3 -1.1**				
BOD			pmax	pmax					
	comp=Z,71nm,1.0s								
GUMO	**Guam**	**26.59 177**	LR	LR	18 09 43.3				
	comp=Z,691nm,21.1s,baz=10.0,slow=34								
ULN	**Ulaanbaatar**	**26.93 299***c*	*i*P	**P**	**18 00 26.6 -0.1**				
ULN			pmax	pmax					
	comp=Z,48nm,1.2s								
ULN			MLR	MLR					
	comp=Z,4μm,16.0s								
ULN	**Ulaanbaatar**	**26.93 299**	*e*P	**P**	**18 00 26.9 +0.1**				
	comp=Z,22nm,0.7s								
ULN	**Ulaanbaatar**	**26.93 299**	P	**P**	**18 00 26.6 -0.1**				
	SNR=17								
ULN			P	**P**	**18 00 26.6 -0.1**				
	SNR=17								
SONA1	**Songino Array**	**27.37 298**	*e*P	**P**	**18 00 30.8 +0.2**				
SONM	**Songino Array**	**27.37 298**	P	**P**	**18 00 30.7 +0.1**				
	comp=Z,14nm,0.6s,baz=98,slow=8.4,SNR=99								
SONM			LR	LR	18 12 03.7				
	comp=Z,4μm,18.3s,baz=94,slow=38								
XAN	**Xi'an**	**27.96 268**	P	**P**	**18 00 35.6 -0.3**				
XAN			pP	pP	18 00 42.8 +0.6				
XAN			PP	**PnPn**	**18 01 27.3 +4.3**				
XAN			pmax	pmax					
	comp=Z,21nm,0.9s								
XAN			pmax	pmax					
	comp=Z,340nm,10.1s								
XAN			LR	LR					
	comp=Z,1μm,15.6s								
XAN			LR	LR					
	comp=Z,2μm,16.1s								
XAN			LR	LR					
	comp=Z,3μm,16.3s								
H11N2	**WAKE ISLAND Hy**	**28.76 128**	T	T	18 30 47.8				
	baz=321,slow=74,SNR=360								
H11N1	**WAKE ISLAND Hy**	**28.77 128**	T	T	18 30 47.9				
	baz=321,slow=74,SNR=330								
H11N3	**WAKE ISLAND Hy**	**28.78 128**	T	T	18 30 52.9				
	baz=321,slow=74,SNR=376								
IRK	**Irkutsk**	**29.17 307**	*e*P	**P**	**18 00 46.1 -0.3**				
IRK			pmax	pmax					
	comp=Z,109nm,2.7s								
ENH	**Enshi**	**29.18 261**	*e*P	**P**	**18 00 46.1 -0.6**				
	comp=Z,27nm,0.9s								
TLY	**Talaya**	**29.47 306**	*e*P	**P**	**18 00 49.8 +0.6**				
TLY			*e*		18 01 40.0				
TLY			*e*SS	SS	18 07 26.2 -21				
TLY			pmax	pmax					
	comp=Z,18nm,1.3s								
TLY			MLR	MLR					
	comp=Z,2μm,15.0s								
TLY	**Talaya**	**29.47 306**	*e*P	**P**	**18 00 48.9 -0.3**				
	comp=Z,54nm,1.7s								
TLY	**Talaya**	**29.47 306**	P	**P**	**18 00 49.1 -0.1**				
	SNR=9.9								
TLY			P	**P**	**18 00 49.1 -0.1**				
	SNR=9.9								
ZAK	**Zakamensk**	**29.57 304**	*e*P	**P**	**18 00 49.8 -0.3**				
ZAK			pmax	pmax					
	comp=Z,11nm,1.5s								
H11S1	**WAKE ISLAND Hy**	**29.59 130**	T	T	18 31 53.2				
	baz=323,slow=76,SNR=174								
H11S3	**WAKE ISLAND Hy**	**29.60 130**	T	T	18 31 52.6				
	baz=323,slow=76,SNR=170								
H11S2	**WAKE ISLAND Hy**	**29.61 130**	T	T	18 31 54.6				
	baz=323,slow=76,SNR=143								
GZH	**Guangzhou**	**30.48 245**	P	**P**	**18 00 53.9 -4.4**				
GZH			pP	**pP**	**18 01 02.6 -2.0**				
GZH			S	S	18 05 48.4 -10				
GZH			pmax	pmax					
	comp=Z,600nm,12.6s								
BILL	**Bilibino**	**30.54 17***c*	*i*P	**P**	**18 00 58.0 -0.4**				
BILL			*i*		18 01 07.9				
BILL			*e*S	**S**	**18 05 58.8 +0.2**				
BILL			pmax	pmax					
	comp=Z,49nm,1.4s								
LZH	**Lanzhou**	**31.10 275**	*e*P	**P**	**18 01 04.8 +0.9**				
LZH			pP	sP	18 01 12.1 -0.7				
LZH			sP	pP	18 01 14.6 +4.4				
LZH			PP	**PnPn**	**18 02 09.1 +3.7**				
LZH			S	**S**	**18 06 08.3 -0.1**				
LZH			sS	sS	18 06 19.0 +0.2				
LZH			SS	**SnSn**	**18 07 51.0 +1.0**				
LZH			pmax	pmax					
	comp=Z,35nm,1.0s								
LZH			pmax	pmax					
	comp=Z,210nm,4.6s								
LZH			LR	LR					
	comp=Z,1μm,11.9s								
LZH			LR	LR					
	comp=Z,2μm,12.3s								
LZH			LR	LR					
	comp=Z,2μm,13.2s								
MOY	**Mondy**	**31.11 306**	*e*P	**P**	**18 01 04.4 +0.6**				
MOY			pmax	pmax					
	comp=Z,36nm,1.9s								
TIXI	**Tiksi**	**32.31 352**	P	**P**	**18 01 13.1 -0.8**				
	comp=Z,10nm,0.6s,baz=122,slow=9.8,SNR=5.2								
TIXI			LR	LR	18 16 02.0				
	comp=Z,1μm,18.4s,baz=142,slow=40								
TIXI	**Tiksi**	**32.31 352***ce*	P	**P**	**18 01 12.6 -1.3**				
TIXI			pmax	pmax					
	comp=Z,12nm,0.8s								
TIXI			MLR	MLR					
	comp=Z,996nm,14.0s								
TIXI	**Tiksi**	**32.31 352**	*e*P	**P**	**18 01 12.8 -1.1**				
	comp=Z,15nm,0.8s								
GTA	**Gaotai**	**33.14 283**	⇑P	**P**	**18 01 21.8 +0.1**				
GTA			pP	pP	18 01 29.1 +1.0				
GTA			sP	sP	18 01 32.4 +1.7				
GTA			PcP	**PcP**	**18 04 06.0 +1.6**				
GTA			S	**S**	**18 06 38.1 -2.0**				
GTA			sS	sS	18 06 52.4 +1.9				
GTA			SS	**SnSn**	**18 08 38.3 -1.2**				
GTA			pmax	pmax					
	comp=Z,29nm,1.5s								
GTA			pmax	pmax					
	comp=Z,300nm,5.3s								
GTA			LR	LR					
	comp=Z,1μm,18.5s								
GTA			LR	LR					
	comp=Z,4μm,17.6s								
GTA			LR	LR					
	comp=Z,4μm,17.1s								
CD2	**Chengdu**	**33.23 266**	P	**P**	**18 01 21.9 -0.6**				
CD2			pP	pP	18 01 28.0 -0.8				
CD2			sP	sP	18 01 33.0 +1.6				
CD2			PP	**PP**	**18 02 37.0 -0.7**				
CD2			PcP	**PcP**	**18 04 05.1 +0.4**				
CD2			S	**S**	**18 06 38.6 -2.9**				
CD2			sS	sS	18 06 56.4 +4.5				
CD2			SS	**SnSn**	**18 08 41.5 -0.3**				
CD2			pmax	pmax					
	comp=Z,20nm,0.6s								
CD2			pmax	pmax					
	comp=Z,240nm,12.8s								
CD2			LR	LR					
	comp=Z,3μm,12.3s								
CD2			LR	LR					
	comp=Z,1μm,11.4s								
CD2			LR	LR					
	comp=Z,2μm,15.6s								
GYA	**Guiyang**	**33.28 257**⇑	*i*P	**P**	**18 01 22.1 -0.9**				
GYA			pP	sP	18 01 31.0 -1.0				
GYA			PP	**PnPn**	**18 02 35.6 +2.1**				
GYA			PcP	**PcP**	**18 04 06.8 +1.8**				
GYA			S	**S**	**18 06 41.3 -1.1**				
GYA			sS	sS	18 06 54.5 +1.6				
GYA			SS	**SnSn**	**18 08 41.0 -2.2**				
GYA			pmax	pmax					
	comp=Z,40nm,0.8s								
GYA			pmax	pmax					
	comp=Z,150nm,5.1s								
GYA			LR	LR					
	comp=Z,630nm,18.6s								
GYA			LR	LR					
	comp=Z,560nm,19.0s								
GYA			LR	LR					
	comp=Z,620nm,18.8s								
QIZ	**Qiongzhong**	**35.62 243**	P	**P**	**18 01 46.8 +3.6**				
QIZ			sP	**sP**	**18 01 52.8 +0.7**				
QIZ			S	**S**	**18 07 23.3 +4.9**				
QIZ			pmax	pmax					
	comp=Z,190nm,13.8s								
QIZ			LR	LR					
	comp=Z,1μm,16.8s								
QIZ			LR	LR					
	comp=Z,830nm,16.4s								
QIZ			LR	LR					
	comp=Z,1μm,15.7s								
KMI	**Kunming**	**36.96 258**	P	**P**	**18 01 55.6 +0.7**				
KMI			pP	pP	18 02 02.1 +0.8				
KMI			PP	**PnPn**	**18 03 21.4 +2.1**				
KMI			S	**S**	**18 07 36.5 -2.7**				
KMI			sS	pS	18 07 48.0 +1.3				
KMI			SS	**SnSn**	**18 10 06.1 -6.4**				
KMI			pmax	pmax					
	comp=Z,42nm,0.8s								
KMI			pmax	pmax					
	comp=Z,220nm,3.1s								
KMI			LR	LR					
	comp=Z,3μm,15.8s								
KMI			LR	LR					
	comp=Z,2μm,15.8s								
KMI			LR	LR					
	comp=Z,4μm,16.6s								
KWAJ	**Kwajalein Atol**	**38.08 139**	*e*P	**P**	**18 02 03.6 -0.5**				
KWAJ			pmax	pmax					
	comp=Z,580nm,1.4s								
KWAJ	**Kwajalein Atol**	**38.08 139**	*e*P	**P**	**18 02 03.6 -0.5**				
	comp=Z,580nm,1.4s								
SLVN	**Son La**	**38.33 252**	*e*P	**P**	**18 02 06.6 +0.3**				
	comp=Z,14nm,1.0s								
WMQ	**Urumqi**	**40.78 294**	P	**P**	**18 02 27.3 +0.7**				
WMQ			sP	sP	18 02 37.8 +2.2				
WMQ			PP	**PnPn**	**18 04 08.5 +3.8**				
WMQ			S	**S**	**18 08 36.0 -0.2**				
WMQ			pmax	pmax					
	comp=Z,46nm,0.9s								
WMQ			pmax	pmax					
	comp=Z,310nm,4.5s								
WMQ			LR	LR					
	comp=Z,2μm,13.5s								
WMQ			LR	LR					
	comp=Z,1μm,16.5s								
WMQ			LR	LR					
	comp=Z,1μm,19.7s								
ZAA0	**Zalesovo Array**	**40.91 310**	*e*P	**P**	**18 02 27.4 0.0**				
ZALV	**Zalesovo Beam**	**40.91 310**	P	**P**	**18 02 27.3 0.0**				
	comp=Z,10nm,0.5s,baz=95,slow=7.9,SNR=25								
ZALV			PcP	**PcP**	**18 04 27.4 -0.1**				
	comp=Z,13nm,0.7s,baz=78,slow=3.2,SNR=4.9								
ZALV			LR	LR	18 20 22.6				
	comp=Z,2μm,18.3s,baz=70,slow=38								
NRIK	**Noril'sk**	**41.01 333**	P	**P**	**18 02 27.5 -0.5**				
	comp=Z,9.1nm,0.5s,baz=110,slow=8.5,SNR=15								
NRIK			LR	LR	18 21 23.0				
	comp=Z,1μm,18.6s,baz=106,slow=39								
SKNT	**Sakolnakorn**	**41.09 247**	P	**P**	**18 02 30.9 +1.6**				
	comp=Z,30nm,1.2s								
UBPT	**Khong Chiam**	**41.22 244**	P	**P**	**18 02 32.4 +2.1**				
	comp=Z,14nm,1.5s,comp=Z,590nm								
MYLDM	**Lahad Datu**	**41.42 219**	*e*P	**P**	**18 02 34.4 +2.5**				
	comp=Z,85nm,1.4s								
DLV	**T Lat**	**41.62 237**	*e*P	**P**	**18 02 34.6 +0.8**				
	comp=Z,42nm,1.3s								
NVS	**Novosibirsk**	**41.76 311**⇑	*i*P	**P**	**18 02 35.3 +1.1**				
NVS			*e*S	**S**	**18 08 57.6 +7.5**				
NVS			pmax	pmax					
	comp=Z,53nm,1.8s								
NVS			pmax	pmax					
	comp=N,17nm,1.7s								
NVS			pmax	pmax					
	comp=E,35nm,1.9s								
NVS			smax	smax					
	comp=N,7.0nm,1.5s								
NVS			smax	smax					
	comp=E,24nm,1.8s								
TT01	**Tatalina**	**41.97 37**	*e*P	**P**	**18 02 36.1 +0.3**				
TTA	**Tatalina**	**41.97 37**	*e*P	**P**	**18 02 36.3 +0.3**				
TTA			pmax	pmax					
	comp=Z,14nm,1.3s								
TTA	**Tatalina**	**41.97 37**	*e*P	**P**	**18 02 36.3 +0.3**				
	comp=Z,14nm,1.3s								
SVW2	**Sparrevohn**	**42.11 39**	*e*P	**P**	**18 02 38.4 +1.4**				
	comp=Z,37nm,1.4s								
UTTA	**Uttaradit**	**43.04 251**	P	**P**	**18 02 46.8 +1.7**				
	comp=Z,4.1nm,0.8s								
LAMP	**Lampang**	**43.22 253**	P	**P**	**18 02 50.5 +3.9**				
	comp=Z,4.7nm,0.8s								
CHAI	**Chaiyaphum**	**43.23 248**	P	**P**	**18 02 47.7 +1.0**				
	comp=Z,6.9nm,0.9s,comp=Z,66nm								
LSA	**Lhasa**	**43.44 273**	P	**P**	**18 02 49.3 +0.4**				
LSA			pmax	pmax					
	comp=Z,3.0nm,0.8s								
LSA			LR	LR					
	comp=Z,400nm,18.6s								
LSA			LR	LR					
	comp=Z,1μm,18.6s								
LSA			LR	LR					
	comp=Z,2μm,22.3s								
LSA	**Lhasa**	**43.44 273**	*e*P	**P**	**18 02 49.0 +0.2**				
LSA			pmax	pmax					
	comp=Z,13nm,0.8s								
LSA	**Lhasa**	**43.44 273**	*e*P	**P**	**18 02 49.0 +0.2**				
	comp=Z,13nm,0.8s								
RSO	**Redoubt South**	**43.50 40**	*e*P	**P**	**18 02 49.8 +1.2**				
PBKT	**Sadao Pong**	**43.51 250**	P	**P**	**18 02 50.6 +1.7**				
	comp=Z,10nm,1.0s,comp=Z,1μm								

CMMT Chiang Mai 43.53 254 P **P 18 02 50.2 +1.0**
comp=Z,13nm,0.8s,comp=Z,336nm
CHTO Chiang Mai 43.54 254 P **P 18 02 50.3 +1.1**
comp=Z,54nm,0.9s,comp=Z,1µm
CHTO Chiang Mai 43.54 254 *eP* **P 18 02 48.6 -0.6**
CHTO pmax pmax
comp=Z,10.0nm,0.8s
CHTO Chiang Mai 43.54 254 *eP* **P 18 02 48.6 -0.6**
comp=Z,9.6nm,0.8s
PPLA Purkeypile 43.72 37 *eP* **P 18 02 51.7 +1.4**
comp=Z,98nm,1.4s
MK01 Makanchi Array 43.73 300 *eP* **P 18 02 49.9 -0.5**
MK31 Makanchi Array 43.73 300 *eP* **P 18 02 50.2 -0.2**
MK31 Makanchi Array 43.73 300 *eP* **P 18 02 50.2 -0.2**
MKAR Makanchi Array 43.73 300 *eP* **P 18 02 50.3 -0.1**
MKAR pmax pmax
comp=Z,151nm,0.7s
MKAR Makanchi Array 43.73 300 *eP* **P 18 02 50.3 -0.1**
comp=Z,151nm,0.7s
CM31 Chiang Mai Arr 43.76 254 *eP* **P 18 02 50.3 -0.7**
CMAR Chiang Mai Arr 43.76 254 P **P 18 02 51.7 +0.7**
comp=Z,2.4nm,0.8s,baz=44,slow=7.1,SNR=15
CMAR LR LR 18 22 11.4
comp=Z,520nm,18.0s,baz=61,slow=38
KDAK Kodiak Island 43.76 44 P **P 18 02 50.6 +0.1**
comp=Z,8.5nm,0.8s,baz=290,slow=4.3,SNR=6.0
KDAK Kodiak Island 43.76 44 *eP* **P 18 02 50.7 +0.2**
comp=Z,81nm,1.3s
CAST Castle Rocks 43.77 36 *eP* **P 18 02 51.8 +1.3**
comp=Z,24nm,1.1s
CM01 Chiang Mai Arr 43.77 253 *eP* **P 18 02 51.1 0.0**
SPU Mount Spurr 43.82 39 *eP* **P 18 02 51.8 +0.8**
SUKH Sukhothai 43.88 252 P **P 18 02 53.5 +1.6**
comp=Z,5.0nm,0.7s
MAKZ Makanchi 43.93 300 *eP* **P 18 02 51.6 -0.5**
MAKZ pmax pmax
comp=Z,31nm,0.9s
MAKZ Makanchi 43.93 300 *eP* **P 18 02 51.6 -0.5**
comp=Z,31nm,0.9s
FAKI Fak Fak 44.12 196 *eP* **P 18 02 53.9 0.0**
comp=Z,74nm,1.4s
SEM Semipalatinsk 44.22 305 *i* P **P 18 02 52.9 -1.7**
comp=Z,372nm,1.4s
SEM LR LR 18 21 51.9
comp=Z,488nm,13.6s
KTH Kantishna Hill 44.29 36 *eP* **P 18 02 55.3 +0.6**
comp=Z,76nm,1.4s
SUA Susitna One 44.44 39 *eP* **P 18 02 56.2 +0.2**
comp=Z,52nm,1.3s
TRF Thorofare Moun 44.57 36 *eP* **P 18 02 58.7 +1.5**
comp=Z,13nm,1.0s
COLD Coldfoot 44.65 31 *eP* **P 18 02 58.0 +0.5**
comp=Z,30nm,1.4s
RC01 Rabbit Creek A 44.94 39 *eP* **P 18 03 00.1 +0.2**
comp=Z,26nm,1.0s
TOLK Toolik Lake Re 44.96 29 P **P 18 03 01.0 +1.0**
baz=267
SEW Seward 45.17 41 *eP* **P 18 03 01.3 -0.4**
comp=Z,78nm,1.6s
KURK Kurchatov 45.17 306*c iP* **P 18 03 01.4 -0.5**
KURK pmax pmax
comp=Z,249nm,0.7s
KURK MLR MLR
comp=Z,3µm,14.0s
KURK Kurchatov 45.17 306 *eP* **P 18 03 01.1 -0.7**
comp=Z,68nm,0.8s
KURK Kurchatov 45.17 306 P **P 18 03 01.4 -0.5**
SNR=25
MCK McKinley 45.17 36 *eP* **P 18 03 01.8 +0.1**
MCK pmax pmax
comp=Z,38nm,1.3s
MCK McKinley 45.17 36 *eP* **P 18 03 01.8 +0.1**
comp=Z,38nm,1.3s
PMR Palmer 45.20 39 *eP* **P 18 03 00.8 -1.1**
PMR pmax pmax
comp=Z,45nm,1.4s
PMR Palmer 45.20 39 *eP* **P 18 03 00.8 -1.1**
comp=Z,45nm,1.4s
RND Reindeer 45.22 36 *eP* **P 18 03 01.8 -0.4**
RND pmax pmax
comp=Z,70nm,1.3s
RND Reindeer 45.22 36 *eP* **P 18 03 01.8 -0.4**
comp=Z,70nm,1.3s
KURBB Kurchatov Arra 45.25 306 P **P 18 03 02.1 -0.3**
comp=Z,74nm,0.7s,baz=78,slow=8.6,SNR=168
MDM Murphy Dome 45.44 34 *eP* **P 18 03 04.5 +0.7**
comp=Z,57nm,1.3s
WRH Wood River Hil 45.51 34 *eP* **P 18 03 05.2 +0.8**
comp=Z,19nm,1.2s
SML Sawmill 45.56 38 *eP* **P 18 03 05.3 +0.4**
SML pmax pmax
comp=Z,76nm,1.2s
SML Sawmill 45.56 38 *eP* **P 18 03 05.3 +0.4**
comp=Z,76nm,1.2s
COLA College 45.60 34 *eP* **P 18 03 05.0 0.0**
COLA pmax pmax
comp=Z,82nm,1.5s
COLA College 45.60 34 *eP* **P 18 03 05.0 0.0**
comp=Z,82nm,1.5s
CCB Clear Creek Bu 45.63 34 *eP* **P 18 03 05.1 -0.1**
comp=Z,46nm,1.8s
DHY Denali Highway 45.91 36 *eP* **P 18 03 07.7 0.0**
comp=Z,42nm,1.2s
HDA Harding Lake 46.01 35 *eP* **P 18 03 08.0 -0.3**
comp=Z,41nm,1.3s
IL1 Eielson Array 46.02 34 *eP* **P 18 03 08.5 +0.1**
ILAR Eielson Array 46.02 34 P **P 18 03 08.2 -0.2**
comp=Z,6.7nm,0.8s,baz=264,slow=6.2,SNR=68
ILAR LR LR 18 22 22.9
comp=Z,239nm,21.5s,baz=294,slow=36
ILB Eielson Array 46.02 34 *eP* **P 18 03 08.2 -0.2**
SCM Sheep Creek Mo 46.03 38 *eP* **P 18 03 08.7 +0.1**
SCM pmax pmax
comp=Z,27nm,1.0s
SCM Sheep Creek Mo 46.03 38 *eP* **P 18 03 08.7 +0.1**
comp=Z,27nm,1.0s
FYU Fort Yukon 46.61 31 *eP* **P 18 03 14.3 +1.3**
comp=Z,141nm,1.6s
SHLS Shalkode 46.71 296 *i* P **P 18 03 10.3 -3.9**
comp=Z,140nm,0.8s
SHLS *eS* **S 18 09 56.1 -6.7**
SHLS LR LR 18 23 36.0
comp=Z,582nm,14.0s
KLU Klutina 46.74 38 *eP* **P 18 03 14.7 +0.5**
comp=Z,32nm,1.0s
PAX Paxson 46.78 36 *eP* **P 18 03 15.1 +0.6**
PAX pmax pmax
comp=Z,22nm,1.4s
PAX Paxson 46.78 36 *eP* **P 18 03 15.1 +0.6**
comp=Z,22nm,1.4s
DIV Divide 46.85 39 *eP* **P 18 03 16.3 +1.2**
comp=Z,77nm,1.2s
EYAK Cordova Ski Ar 46.95 40 *eP* **P 18 03 16.7 +1.1**
comp=Z,44nm,1.1s
HARP HAARP 46.99 37 *eP* **P 18 03 16.6 +0.5**
comp=Z,62nm,1.2s
UZB Uzynbulak 47.01 296 *i* P **P 18 03 14.9 -1.8**
comp=Z,158nm,0.8s
UZB *eS* **S 18 10 04.4 -2.8**
UZB LR LR 18 23 10.4
comp=Z,441nm,13.9s
KPKS Kokpek 47.14 296 *i* P **P 18 03 15.5 -2.1**
comp=Z,416nm,1.5s
KPKS *i* S **S 18 10 05.1 -3.8**
KPKS LR LR 18 23 51.3
comp=Z,2µm,15.1s
TAPN Taplejung 47.23 272 *eP* **P 18 03 19.2 +0.5**
comp=Z,22nm,0.7s
DOT Dot Lake 47.34 35 *eP* **P 18 03 18.7 -0.1**
comp=Z,42nm,1.2s
BMRM Bremner River 47.44 39 *eP* **P 18 03 20.3 +0.7**
comp=Z,61nm,1.2s
RAGM Ragged Mountai 47.49 40 *eP* **P 18 03 21.6 +1.5**
comp=Z,65nm,0.8s
MENT Mentasta 47.58 36 *eP* **P 18 03 21.7 +1.0**
comp=Z,34nm,1.1s
ODAN Odare 47.73 272 *eP* **P 18 03 22.5 0.0**
comp=Z,39nm,0.8s
CRQM Cirque 48.18 39 *eP* **P 18 03 26.2 +0.7**
comp=Z,54nm,1.0s
JIRN Jiri 48.23 273 *eP* **P 18 03 27.1 +0.5**
comp=Z,332nm,0.7s
RAMN Ramite 48.28 272 *eP* **P 18 03 26.9 +0.1**
comp=Z,64nm,0.7s
GUN Gumba 48.35 274 *eP* **P 18 03 27.6 +0.2**
comp=Z,86nm,0.7s
MDOK Medeo 48.37 296 *i* P **P 18 03 25.1 -2.1**
comp=Z,182nm,1.2s
MDOK *i* S **S 18 10 23.0 -3.4**
MDOK LR LR 18 23 26.8
comp=Z,858nm,14.4s
AAA Alma-Ata 48.44 296 *eP* **P 18 03 27.9 +0.2**
AAA pmax pmax
comp=Z,400nm,5.5s
AAA MLR MLR
comp=Z,2µm,17.0s
EGAK Eagle 48.46 34 *eP* **P 18 03 27.1 -0.3**
comp=Z,49nm,1.6s
KSM Kuching 48.82 226 *eP* **P 18 03 31.0 +0.2**
comp=Z,12nm,1.0s
KKN Kakani 48.86 274 *eP* **P 18 03 31.4 +0.1**
comp=Z,78nm,0.8s
PKI Pulchoki 48.88 274 *eP* **P 18 03 31.3 -0.2**
comp=Z,47nm,0.9s
PKIN Phulchoki 48.88 274 *eP* **P 18 03 31.4 -0.1**
comp=Z,30nm,0.7s
BRZS Berezniki 49.04 306 *i* P **P 18 03 30.5 -1.5**
comp=Z,134nm,0.4s
DMN Daman 49.09 274 *eP* **P 18 03 33.1 +0.1**
comp=Z,93nm,1.1s
GKN Gorkha 49.25 275 *eP* **P 18 03 34.0 -0.1**
comp=Z,34nm,0.5s
DAWY Dawson 49.33 34 *eP* **P 18 03 34.3 +0.2**
comp=Z,7.4nm,1.0s
PMG Port Moresby 49.53 175 *eP* **P 18 03 37.1 +1.1**
PMG pmax pmax
comp=Z,38nm,1.1s
PMG Port Moresby 49.53 175 *eP* **P 18 03 37.1 +1.1**
comp=Z,38nm,1.1s
BVAR Borovoye Array 49.54 311 P **P 18 03 35.9 0.0**
comp=Z,9.6nm,0.4s,baz=79,slow=8.1,SNR=90
BRVK Borovoye 49.60 311*c iP* **P 18 03 36.3 +0.1**
BRVK pmax pmax
comp=Z,95nm,1.0s
BRVK MLR MLR
comp=Z,4µm,16.0s
BRVK Borovoye 49.60 311 *eP* **P 18 03 35.6 -0.6**
comp=Z,32nm,0.9s
BRVK Borovoye 49.60 311 P **P 18 03 36.3 +0.1**
SNR=18
BRVK P **P 18 03 36.3 +0.1**
SNR=18
FRU Bishkek 50.15 297*i iP* **P 18 03 41.0 +0.3**
FRU *e* 18 03 55.0
FRU *e* 18 05 40.0
FRU pmax pmax
comp=Z,70nm,2.0s
FRU MLR MLR
comp=E,2µm,17.0s
KOLN Koldanda 50.16 275 *eP* **P 18 03 41.2 +0.1**
comp=E,40nm,0.7s
AAK Ala-Archa 50.30 297 P **P 18 03 41.9 -0.1**
comp=E,7.6nm,0.6s,baz=92,slow=5.4,SNR=16
AAK Ala-Archa 50.30 297*c iP* **P 18 03 42.0 0.0**
AAK pmax pmax
comp=Z,22nm,1.0s
AAK MLR MLR
comp=Z,4µm,19.0s
AAK Ala-Archa 50.30 297 *eP* **P 18 03 41.2 -0.8**
comp=Z,22nm,1.2s
AAK Ala-Archa 50.30 297 P **P 18 03 41.9 -0.1**
SNR=8.0
AAK P **P 18 03 41.9 -0.1**
SNR=8.0
PYUN Piuthan 50.45 276 *eP* **P 18 03 43.6 +0.2**
comp=Z,112nm,1.0s
KSH Kashi 50.48 292 P **P 18 03 47.1 +3.7**
KSH pP sP 18 03 54.1 +1.6
KSH PcP **PcP 18 05 05.1 +3.8**
KSH PP **PP 18 05 44.0 +5.1**
KSH S **S 18 10 58.9 +2.7**
KSH sS sS 18 11 11.1 +4.2
KSH ScS **ScS 18 13 33.1 -0.2**
KSH SS **SS 18 14 29.8 0.0**
KSH pmax pmax
comp=Z,12nm,0.7s
KSH pmax pmax
comp=Z,190nm,4.0s
KSH LR LR
comp=Z,2µm,16.7s
KSH LR LR
comp=Z,1µm,17.0s
KSH LR LR
comp=Z,3µm,17.1s
INK Inuvik 50.88 28 P **P 18 03 46.2 +0.5**
comp=Z,12nm,0.7s,baz=298,slow=7.1,SNR=27
INK Inuvik 50.88 28 *eP* **P 18 03 46.0 +0.3**
comp=Z,13nm,0.8s
KEKH Kekaha 51.22 93 *eP* **P 18 03 49.6 +0.6**
comp=Z,193nm,1.2s
KULM Kulim 51.70 239 *eP* **P 18 03 53.2 +0.7**
comp=Z,21nm,1.1s
MNAS Manas 51.72 297 P **P 18 03 52.7 +0.1**
MNAS pmax pmax
comp=Z,43nm,0.7s
IPM Ipoh 52.06 238 *eP* **P 18 03 54.8 -0.4**
comp=Z,17nm,1.3s
WHY Whitehorse 52.16 38 *eP* **P 18 03 56.4 +0.8**
comp=Z,47nm,1.6s
SKAG Skagway 52.29 40 *eP* **P 18 03 56.7 +0.4**
MYKOM Kota Tinggi 52.34 233 *eP* **P 18 03 57.7 +0.4**
comp=Z,12nm,1.1s
MMRI Maumere 52.38 207 *eP* **P 18 03 57.8 +0.3**
comp=Z,60nm,1.2s
SOEI Soe 52.77 204 *eP* **P 18 04 00.2 -0.3**
comp=Z,92nm,1.4s
BESE Bessie Mountai 52.78 41 *eP* **P 18 04 00.5 +0.3**
comp=Z,29nm,1.2s
KKAR Karatay Array 52.83 299 *eP* **P 18 03 59.8 -0.9**
KKAR pmax pmax
comp=Z,115nm,0.6s
KKAR Karatay Array 52.83 299 *eP* **P 18 03 59.8 -0.9**
comp=Z,115nm,0.6s
IUG Iuzhnay 53.54 298 *i* P **P 18 04 04.3 -1.7**
IUG LR LR 18 27 17.8
comp=Z,260nm,13.5s
SVE Sverdlovsk 53.74 317*i eP* **P 18 04 07.4 +0.2**
SVE pmax pmax
comp=Z,83nm,1.1s
THN Thein Dam 53.80 284 *eP* **P 18 04 07.0 -0.9**
MTN Manton Dam 54.00 195 *eP* **P 18 04 11.2 +1.7**
comp=Z,31nm,1.1s
PSI Prapat 54.69 239 *eP* **P 18 04 13.9 -0.8**
PSI pmax pmax
comp=Z,11nm,0.9s
PSI Prapat 54.69 239 *eP* **P 18 04 13.9 -0.8**
comp=Z,11nm,0.9s
SOKR Solikamsk 54.70 322*d iP* **P 18 04 12.7 -1.3**
SOKR S **S 18 12 00.2 +7.4**
SOKR pmax pmax
comp=Z,58nm,1.3s
SOKR MLR MLR
comp=Z,1µm,16.0s
WRAK Wrangell Islan 54.78 43 *eP* **P 18 04 16.4 +1.6**
comp=Z,46nm,1.4s
ARU Arti 54.96 317 P **P 18 04 15.9 -0.1**
comp=Z,20nm,0.7s,baz=68,slow=4.3,SNR=54
ARU Arti 54.96 317*c iP* **P 18 04 15.7 -0.3**
ARU 18 05 15.0
ARU 18 06 20.0
ARU S **S 18 11 56.5 +0.1**
ARU SS **SS 18 15 39.8 +0.3**
ARU pmax pmax
comp=Z,112nm,1.7s
ARU MLR MLR
comp=Z,3µm,17.0s
ARU Arti 54.96 317 *eP* **P 18 04 15.5 -0.5**
comp=Z,49nm,0.9s
DLBC Dease Lake 55.22 40 P **P 18 04 19.0 +1.1**
comp=Z,2.9nm,0.9s,baz=305,slow=2.6,SNR=5.5
DLBC Dease Lake 55.22 40 *eP* **P 18 04 19.5 +1.5**
comp=Z,49nm,1.5s
BKNI Bangkinang 55.22 235 *eP* **P 18 04 18.5 +0.1**
comp=Z,166nm,1.4s
HPAH Hawaii Prepara 55.41 92 *eP* **P 18 04 19.4 -0.4**
comp=Z,355nm,1.9s
ABKAR Akbulak array 57.02 309 *eP* **P 18 04 30.3 -0.5**
comp=Z,243nm,0.6s
AKTO Aktyubinsk 57.65 311 P **P 18 04 35.7 +0.4**
comp=Z,15nm,0.7s,baz=69,slow=13,SNR=20
KBL Kabul 57.66 290 *eP* **P 18 04 35.2 -0.7**
KBL pmax pmax
comp=Z,30nm,0.8s
KBL Kabul 57.66 290 *eP* **P 18 04 35.2 -0.7**
comp=Z,30nm,0.8s
SPITS Spitsbergen Ar 57.67 349 P **P 18 04 35.6 +0.5**
comp=Z,16nm,1.1s,baz=64,slow=13,SNR=3.9
KBS Kingsbay 57.75 350*i eP* **P 18 04 36.6 +1.0**
KBS pmax pmax
comp=Z,107nm,1.7s
FUNA Funafuti 58.78 137 *eP* **P 18 04 44.1 +0.6**
comp=Z,165nm,1.1s
RES Resolute Bay 59.13 15 *eP* **P 18 04 46.5 +1.2**
RES pmax pmax
comp=Z,40nm,1.0s
RES Resolute Bay 59.13 15 *eP* **P 18 04 46.5 +1.2**
comp=Z,40nm,1.0s
HYB Hyderabad 59.77 268 *i* P **P 18 04 51.0 +0.5**
YKA Yellowknife Ar 60.31 32 P **P 18 04 54.0 +0.4**
comp=Z,2.3nm,0.8s,baz=297,slow=6.7,SNR=3.8
YKA LR LR 18 35 14.1
comp=Z,26nm,18.0s,baz=0.0,slow=40
YKA Yellowknife Ar 60.31 32 P **P 18 04 54.0 +0.4**
YKA pmax pmax
comp=Z,2.0nm,0.8s
YKA Yellowknife Ar 60.31 32 P **P 18 04 54.0 +0.4**
YKB5 Yellowknife Ar 60.31 32 *eP* **P 18 04 53.4 -0.1**
FITZ Fitzroy Crossi 60.32 199 *eP* **P 18 04 54.9 +0.9**
comp=Z,14nm,1.2s
APA Apatity 60.37 335*i iP* **P 18 04 53.3 -0.6**
APA pmax pmax
comp=Z,24nm,1.0s
WRAB Tennant Creek 60.44 190*i iP* **P 18 04 55.0 +0.1**
WRAB pmax pmax
comp=Z,48nm,2.5s
WRAB MLR MLR
comp=Z,468nm,19.0s
WRAB Tennant Creek 60.44 190 *eP* **P 18 04 53.9 -1.0**
comp=Z,12nm,1.0s
WB2 Warramunga Arr 60.45 190 *eP* **P 18 04 53.0 -1.9**
WRA Warramunga Arr 60.45 190 P **P 18 04 54.2 -0.7**
comp=Z,2.2nm,0.7s,baz=6.6,slow=6.9,SNR=20
WRA LR LR 18 31 06.2
comp=Z,174nm,19.9s,baz=45,slow=36
ARA0 ARCESS Array S 61.52 339 *eP* **P 18 05 01.5 -0.2**
ARCES ARCESS Array B 61.52 339 P **P 18 05 01.3 -0.4**
comp=Z,5.0nm,0.9s,baz=57,slow=8.8,SNR=4.4
ARCES LR LR 18 34 15.2
comp=Z,872nm,21.2s,baz=38,slow=39
KLMR Klimovskoe 61.84 327 *eP* **P 18 05 01.4 -2.5**
KLMR *e* 18 07 17.1
KLMR *eS* **S 18 13 23.2 -2.7**
KLMR pmax pmax
comp=Z,67nm,1.5s
KLMR MLR MLR
comp=Z,251nm,13.0s
DAG Danmarks Havn 62.70 355*i iP* **P 18 05 09.1 -0.4**
comp=Z,22nm,1.0s
DAG Danmarks Havn 62.70 355*i iP* **P 18 05 09.1 -0.4**
DAG pmax pmax
comp=Z,22nm,1.0s
LLLB Lillooet 62.95 45 *eP* **P 18 05 11.1 -0.6**
comp=Z,31nm,1.6s
GEYT Alibeck 63.58 298 P **P 18 05 16.6 +0.6**
comp=Z,12nm,0.6s,baz=43,slow=6.9,SNR=22
GEYT LR LR 18 35 04.5
comp=Z,1µm,18.3s,baz=45,slow=38
JOF Joensuu 63.83 332 P **P 18 05 18.0 +0.9**
JOF pmax pmax
comp=Z,39nm,1.6s
AS01 Alice Springs 64.17 190 *eP* **P 18 05 19.7 -0.1**
AS31 Alice Springs 64.17 190 *eP* **P 18 05 19.9 0.0**
comp=Z,1.8nm,0.9s
ASAR Alice Springs 64.17 190 P **P 18 05 19.9 0.0**
comp=Z,1.3nm,0.8s,baz=13,slow=6.3,SNR=16
ASAR LR LR 18 33 11.7
comp=Z,179nm,20.7s,baz=360,slow=36
B06A Marblemount 64.27 47 *eP* **P 18 05 20.2 -0.1**
comp=Z,21nm,1.1s
OUL Oulu 64.29 335 P **P 18 05 19.9 -0.2**
OUL pmax pmax
comp=Z,41nm,1.7s
D05A Enumclaw 64.69 49 *eP* **P 18 05 23.4 +0.3**
comp=Z,41nm,1.3s
MBWA Marble Bar 64.91 204 *eP* **P 18 05 23.2 -1.5**
comp=Z,18nm,1.2s
LON Longmire 65.03 49 *eP* **P 18 05 24.7 -0.7**
LON pmax pmax
comp=Z,25nm,1.5s
LON Longmire 65.03 49 *eP* **P 18 05 24.7 -0.7**
comp=Z,25nm,1.5s
F04A Amboy 65.12 50 *eP* **P 18 05 25.4 -0.5**
comp=Z,23nm,1.1s
COR Corvallis 65.32 52 *eP* **P 18 05 27.4 +0.2**
COR pmax pmax
comp=Z,172nm,1.8s
COR Corvallis 65.32 52 *eP* **P 18 05 27.4 +0.2**
comp=Z,172nm,1.8s
LTY Liberty 65.41 48 *eP* **P 18 05 27.6 -0.3**
comp=Z,16nm,1.1s
MOS Moscow 65.55 323 *eP* **P 18 05 27.8 -0.7**
MOS pmax pmax
comp=Z,200nm,1.9s
MOS pmax pmax
comp=Z,60nm,1.0s
MOS MLR MLR
comp=N,1µm,16.0s
MOS MLR MLR
comp=E,1µm,16.0s
MOS MLR MLR
comp=Z,2µm,16.0s
B08A Colville Reser 65.56 47 *eP* **P 18 05 28.9 +0.2**
comp=Z,38nm,1.4s
KEBM Edson Butte 65.62 54 *eP* **P 18 05 28.0 -1.3**
comp=Z,41nm,1.1s
DZM Mont Dzumac 65.64 156 LR LR 18 29 41.9
comp=Z,417nm,21.9s,baz=358,slow=32
DZM Mont Dzumac 65.64 156 *eP* **P 18 05 31.2 +1.7**
comp=Z,57nm,1.6s
DZM *eS* **S 18 14 13.9 -0.3**
comp=Z,484nm,25.9s
DZM Mont Dzumac 65.64 156 *e*LR LR 18 25 06.9
comp=Z,752nm,22.2s
DZM Mont Dzumac 65.64 156 *eP* **P 18 05 28.1 -1.4**
comp=Z,48nm,1.6s
EIDS Eidsvold 65.67 172 *eP* **P 18 05 28.7 -0.8**
comp=Z,24nm,1.7s
EDM Edmonton 65.94 40 *eP* **P 18 05 30.6 -0.6**
EDM pmax pmax
comp=Z,25nm,1.0s
EDM Edmonton 65.94 40 *eP* **P 18 05 30.6 -0.6**
comp=Z,25nm,1.0s
MSVF Nonsavu 66.14 144 *eP* **P 18 05 34.3 +1.5**
MSVF pmax pmax
comp=Z,31nm,1.4s
MSVF Nonsavu 66.14 144 *eP* **P 18 05 34.3 +1.5**
comp=Z,31nm,1.4s
E07A Sunnyside 66.26 48 *eP* **P 18 05 34.1 +0.8**
comp=Z,37nm,1.4s
OBN Obninsk 66.41 323 P **P 18 05 33.2 -0.8**
comp=Z,13nm,0.6s,baz=34,slow=4.3,SNR=12
OBN Obninsk 66.41 323*c iP* **P 18 05 33.8 -0.2**
OBN *i* 18 05 41.3
OBN *i* S S 18 14 41.6 +19
OBN pmax pmax
comp=Z,74nm,1.7s
OBN MLR MLR
comp=Z,2µm,16.0s
OBN Obninsk 66.41 323 *eP* **P 18 05 33.7 -0.3**
comp=Z,77nm,1.4s
L02D Cave Junction, 66.47 54 P **P 18 05 36.0 +1.3**
baz=304
D08A Wollman Farm, 66.52 48 *eP* **P 18 05 35.3 +0.4**
comp=Z,30nm,1.4s
HAWA Hanford 66.54 48 *eP* **P 18 05 34.9 -0.1**
comp=Z,22nm,1.3s
HUMO Hull Mountain 66.62 53 *eP* **P 18 05 35.0 -0.6**
comp=Z,15nm,1.5s
FIA1 FINESS Array S 66.66 332 *eP* **P 18 05 34.9 -0.6**
FINES FINESS Array B 66.66 332 P **P 18 05 35.4 -0.1**
comp=Z,19nm,0.7s,baz=44,slow=8.1,SNR=75
FINES LR LR 18 37 38.7
comp=Z,958nm,18.6s,baz=34,slow=39
VAF Ylistaro 66.73 335 P **P 18 05 35.4 -0.5**
VAF pmax pmax
comp=Z,28nm,1.0s
LPSR Galich'ya Gora 66.78 320 *eP* **P 18 05 36.8 +0.3**
LPSR pmax pmax
comp=Z,30nm,1.0s
NEW Newport 66.83 46 P **P 18 05 38.1 +1.1**
baz=305

NEW	**Newport**	**66.83**	**46**	*e*P		**P**	**18 05 37.9**	**+0.9**
NEW				pmax	pmax			
	comp=Z,26nm,1.1s							
NEW	**Newport**	**66.83**	**46**	*e*P		**P**	**18 05 37.9**	**+0.9**
	comp=Z,26nm,1.1s							
KHMM	**Horse Mountain**	**67.10**	**55**	*e*P		**P**	**18 05 38.5**	**-0.4**
	comp=Z,22nm,1.1s							
YBH	**Yreka Blue Hor**	**67.26**	**54**	*e*P		**P**	**18 05 39.6**	**-0.2**
YBH				pmax	pmax			
	comp=Z,14nm,1.1s							
YBH	**Yreka Blue Hor**	**67.26**	**54**	*e*P		**P**	**18 05 39.6**	**-0.2**
	comp=Z,14nm,1.1s							
E09A	**Wood Farm, Sta**	**67.26**	**48**	*e*P		**P**	**18 05 40.3**	**+0.7**
	comp=Z,45nm,1.4s							
J05D	**Fort Rock, OR**	**67.29**	**52**	P		**P**	**18 05 42.0**	**+2.0**
	baz=304							
M02C	**Callahan**	**67.36**	**54**	P		**P**	**18 05 42.6**	**+2.1**
	baz=304							
SUMG	**Summit**	**67.48**	**1**	*i* P		**P**	**18 05 41.4**	**+0.3**
	comp=Z,30nm,0.8s							
SUMG	**Summit**	**67.48**	**1**	*e*P		**P**	**18 05 41.7**	**+0.7**
SUMG				pmax	pmax			
	comp=Z,35nm,0.9s							
SUMG	**Summit**	**67.48**	**1**	*e*P		**P**	**18 05 41.7**	**+0.7**
	comp=Z,35nm,0.9s							
VSR	**Storozhevoye**	**67.49**	**319**	*e*P		**P**	**18 05 40.3**	**-0.7**
VSR				pmax	pmax			
	comp=Z,30nm,1.1s							
VSR				MLR	MLR			
	comp=Z,3µm,18.0s							
M04C	**Macdoel**	**67.77**	**54**	P		**P**	**18 05 44.1**	**+1.0**
	baz=305							
K05A	**Summer Lake**	**67.81**	**52**	*e*P		**P**	**18 05 45.1**	**+1.7**
	comp=Z,43nm,1.0s							
WDC	**Whiskeytown Da**	**68.01**	**55**	*e*P		**P**	**18 05 42.4**	**-2.1**
WDC				pmax	pmax			
	comp=Z,12nm,1.1s							
WDC	**Whiskeytown Da**	**68.01**	**55**	*e*P		**P**	**18 05 42.4**	**-2.1**
	comp=Z,12nm,1.1s							
F10A	**Beach Ranch, E**	**68.09**	**48**	*e*P		**P**	**18 05 44.8**	**-0.3**
	comp=Z,41nm,2.0s							
WALA	**Waterton Lakes**	**68.10**	**44**	*e*P		**P**	**18 05 45.5**	**+0.4**
	comp=Z,23nm,1.2s							
AFI	**Afiamalu**	**68.14**	**132**	LR		LR	18 31 16.9	
	comp=Z,305nm,19.3s,baz=334,slow=32							
BSMT	**Bassoo Peak**	**68.35**	**45**	*e*P		**P**	**18 05 44.9**	**-1.9**
VSU	**Vasula**	**68.43**	**330**⇑	*e*P		**P**	**18 05 46.6**	**-0.1**
VSU				pmax	pmax			
	comp=Z,54nm,1.0s							
VSU				MLR	MLR			
	comp=Z,1µm,15.0s							
MOD	**Modoc Plateau**	**68.64**	**53**	*e*P		**P**	**18 05 50.0**	**+1.4**
	comp=Z,49nm,1.9s							
BMO	**Blue Mountains**	**68.70**	**49**	*e*P		**P**	**18 05 50.4**	**+1.5**
BMO				*e*			18 06 13.9	
BMO				pmax	pmax			
	comp=Z,16nm,1.2s							
BMO	**Blue Mountains**	**68.70**	**49**	*e*P		**P**	**18 05 50.4**	**+1.5**
	comp=Z,16nm,1.2s							
BMO				*e*PcP		**PcP**	**18 06 13.9**	**+0.3**
SEKA	**Sheki**	**68.83**	**306**	P		**P**	**18 05 47.4**	**-2.3**
ZKTA	**Zakatala**	**68.93**	**307**	P		**P**	**18 05 48.0**	**-2.3**
SWMT	**Swartz Lake**	**68.98**	**45**	*e*P		**P**	**18 05 51.5**	**+1.0**
GOF	**Gofitskoye**	**69.05**	**312**⇑	*e*P		**P**	**18 05 51.7**	**+0.8**
GOF				pmax	pmax			
	comp=Z,57nm,1.0s							
MNGR	**Mingechevir, A**	**69.15**	**306**	P		**P**	**18 05 49.4**	**-2.2**
ORV	**Oroville**	**69.25**	**55**	*e*P		**P**	**18 05 53.0**	**+0.8**
ORV				pmax	pmax			
	comp=Z,45nm,1.8s							
ORV	**Oroville**	**69.25**	**55**	*e*P		**P**	**18 05 53.0**	**+0.8**
	comp=Z,45nm,1.8s							
LKRN	**Lenkeran, Azer**	**69.28**	**303**	P		**P**	**18 05 50.3**	**-2.1**
WVOR	**Wild Horse Val**	**69.34**	**52**	*e*P		**P**	**18 05 54.3**	**+1.4**
WVOR				pmax	pmax			
	comp=Z,17nm,1.0s							
WVOR	**Wild Horse Val**	**69.34**	**52**	*e*P		**P**	**18 05 54.2**	**+1.4**
	comp=Z,17nm,1.0s							
MSO	**Missoula**	**69.42**	**46**	P		**P**	**18 05 54.0**	**+0.7**
	baz=307							
MSO	**Missoula**	**69.42**	**46**	*e*P		**P**	**18 05 54.1**	**+0.7**
	comp=Z,19nm,1.1s							
NCK	**Nalchik**	**69.66**	**310**⇓	*i*P		**P**	**18 05 55.3**	**+0.6**
NCK				pmax	pmax			
	comp=Z,55nm,1.5s							
NCK				MLR	MLR			
	comp=Z,759nm,18.0s							
GANJ	**Ganja**	**69.70**	**306**	P		**P**	**18 05 52.7**	**-2.3**
BEKR	**Beckworth**	**69.79**	**55**	*e*P		**P**	**18 05 57.2**	**+1.4**
	comp=Z,19nm,1.1s							
ZEI	**Tsey**	**69.90**	**309**	*e*P		**P**	**18 05 54.5**	**-1.9**
ZEI				pmax	pmax			
	comp=Z,108nm,1.4s							
KVAR	**Kislovodsk Arr**	**69.91**	**311**	P		**P**	**18 05 57.1**	**+0.8**
	comp=Z,56nm,1.0s,baz=291,slow=3.8,SNR=44							
KIV	**Kislovodsk**	**69.91**	**311**	*i* P		**P**	**18 05 57.0**	**+0.7**
	SNR=15							
KIV	**Kislovodsk**	**69.91**	**311**	*c i*P		**P**	**18 05 56.8**	**+0.4**
KIV				*e*			18 06 03.0	
KIV				*i* S		**S**	**18 15 07.9**	**+2.8**
KIV				*i* SS		**SS**	**18 19 34.1**	**+0.7**
KIV				pmax	pmax			
	comp=Z,101nm,1.0s							
KIV	**Kislovodsk**	**69.91**	**311**	*e*P		**P**	**18 05 56.7**	**+0.3**
	comp=Z,76nm,0.9s							
KIV	**Kislovodsk**	**69.91**	**311**	P		**P**	**18 05 56.8**	**+0.4**
	SNR=26							
KIV				P		**P**	**18 05 56.8**	**+0.4**
	SNR=26							
KBZ	**Khabaz**	**69.92**	**311**	P		**P**	**18 05 57.4**	**+1.1**
	comp=Z,19nm,0.8s,baz=46,slow=4.9,SNR=52							
KBZ				LR		LR	18 42 03.9	
	comp=Z,846nm,19.2s,baz=32,slow=41							
TBLG	**Delisi**	**70.02**	**308**	P		**P**	**18 05 57.1**	**0.0**
TBLG	**Delisi**	**70.02**	**308**	P		**P**	**18 05 57.0**	**0.0**
NEY	**Neytrino**	**70.31**	**310**⇓	*e*P		**P**	**18 05 59.8**	**+0.9**
NEY				pmax	pmax			
	comp=Z,3.0nm,0.8s							
NEY				MLR	MLR			
	comp=Z,313nm,16.0s							
PAHR	**Pah Rah Range**	**70.49**	**54**	*e*P		**P**	**18 06 01.3**	**+1.3**
	comp=Z,23nm,1.1s							
MICGM	**Minsk**	**70.66**	**326**	*e*P		**P**	**18 06 01.0**	**+0.4**
MICGM				*e*LR		LR	18 38 34.0	
MNK	**Minsk**	**70.66**	**326**	*e*P		**P**	**18 06 01.0**	**+0.4**
CMB	**Columbia Colle**	**70.85**	**56**	*e*P		**P**	**18 06 03.1**	**+1.0**
CMB				pmax	pmax			
	comp=Z,15nm,1.0s							
CMB	**Columbia Colle**	**70.85**	**56**	*e*P		**P**	**18 06 03.1**	**+1.0**
	comp=Z,15nm,1.0s							
NACGM	**Naroch**	**70.85**	**327**	*e*		**P**	**18 06 02.0**	**+0.3**
NACGM				*e*LR		LR	18 38 26.0	
LRM	**Limekiln Ridge**	**70.85**	**46**	*e*P		**P**	**18 06 03.2**	**+0.9**
GNI	**Garni**	**70.96**	**307**	P		**P**	**18 06 04.2**	**+1.3**
	comp=Z,11nm,0.9s,baz=164,slow=7.1,SNR=5.2							
GNI	**Garni**	**70.96**	**307**	*c i*P		**P**	**18 06 04.0**	**+1.1**
GNI				pmax	pmax			
	comp=Z,133nm,1.6s							
GNI				MLR	MLR			
	comp=Z,2µm,18.0s							
AKH	**Akhalkalaki**	**70.96**	**308**	P		P	18 05 56.2	-6.8
AKH	**Akhalkalaki**	**70.96**	**308**⇑	*i*P		**P**	**18 06 03.7**	**+0.8**
AKH	**Akhalkalaki**	**70.96**	**308**	P		**P**	**18 06 03.8**	**+0.8**
YERR	**Yerington**	**71.01**	**55**	*e*P		**P**	**18 06 05.1**	**+1.9**
	comp=Z,26nm,1.0s							
DLMT	**Dillon**	**71.06**	**46**	*e*P		**P**	**18 06 04.3**	**+0.9**
	comp=Z,42nm,1.4s							
NAX	**Nakhchivan**	**71.08**	**305**	P		**P**	**18 06 01.3**	**-2.2**
HLID	**Hailey**	**71.14**	**49**	P		**P**	**18 06 05.2**	**+1.2**
	baz=308							
HLID	**Hailey**	**71.14**	**49**	*e*P		**P**	**18 06 05.2**	**+1.2**
	comp=Z,13nm,1.2s							
BMN	**Battle Mountai**	**71.38**	**53**	*e*P		**P**	**18 06 07.5**	**+2.0**
BMN				pmax	pmax			
	comp=Z,16nm,1.0s							
BMN	**Battle Mountai**	**71.38**	**53**	*e*P		**P**	**18 06 07.5**	**+2.0**
	comp=Z,16nm,1.0s							
BOZ	**Bozeman (W)**	**71.44**	**46**	P		**P**	**18 06 06.8**	**+1.0**
	baz=309							
BOZ	**Bozeman (W)**	**71.44**	**46**	*e*P		**P**	**18 06 06.7**	**+1.0**
BOZ				pmax	pmax			
	comp=Z,18nm,0.9s							
BOZ	**Bozeman (W)**	**71.44**	**46**	*e*P		**P**	**18 06 06.7**	**+0.9**
	comp=Z,18nm,0.9s							
NC405	**NORSAR Array S**	**71.58**	**337**	*e*P		**P**	**18 06 06.3**	**+0.2**
NC303	**NORSAR Array S**	**71.59**	**338**	*e*P		**P**	**18 06 06.3**	**+0.1**
TVH3	**East Aurora ar**	**71.65**	**55**	*e*P		**P**	**18 06 09.2**	**+2.0**
	comp=Z,17nm,1.2s							
NC204	**NORSAR Array S**	**71.73**	**338**	*e*P		**P**	**18 06 07.4**	**+0.4**
NB201	**NORSAR Array S**	**71.76**	**338**	*e*P		**P**	**18 06 07.3**	**+0.1**
HFS	**Hagfors**	**71.76**	**336**	P		**P**	**18 06 07.0**	**-0.1**
	comp=Z,12nm,0.6s,baz=32,slow=7.4,SNR=36							
STKA	**Stephens Creek**	**71.77**	**182**	LR		LR	18 36 23.3	
	comp=Z,155nm,21.9s,baz=21,slow=35							
NB2	**NORSAR Subarra**	**71.79**	**338**	P		**P**	**18 06 06.8**	**-0.6**
	baz=37,slow=6.2							
NB2	**NORSAR Subarra**	**71.79**	**338**	P		**P**	**18 06 07.0**	**-0.4**
NB2				pmax	pmax			
	comp=Z,20nm,0.9s							
NB2	**NORSAR Subarra**	**71.79**	**338**	P		**P**	**18 06 06.8**	**-0.6**
	comp=Z,27nm,0.9s,baz=37,slow=6.2							
NOA	**NORSAR Array B**	**71.79**	**338**	P		**P**	**18 06 07.5**	**+0.1**
	comp=Z,16nm,0.8s,baz=38,slow=6.0,SNR=36							
NOA				LR		LR	18 40 47.5	
	comp=Z,672nm,21.9s,baz=40,slow=38							
SOC	**Sochi**	**71.84**	**312**	*e*P		**P**	**18 06 08.2**	**+0.3**
SOC				*e*PPP		PPP	18 10 29.3	
SOC				*e*S		**S**	**18 15 27.9**	**+0.6**
SOC				*e*SSS		SSS	18 23 12.7	
SOC				pmax	pmax			
	comp=Z,21nm,0.9s							
SOC				MLR	MLR			
	comp=Z,803nm,16.0s							
BZMT	**Bozeman Pass**	**71.86**	**45**	*e*P		**P**	**18 06 06.9**	**-1.4**
NBO02	**NORSAR Array S**	**71.89**	**338**	*e*P		**P**	**18 06 07.8**	**-0.1**
NBO00	**NORSAR Array S**	**71.92**	**338**	*e*P		**P**	**18 06 09.1**	**+0.9**
QLMT	**Earthquake Lak**	**72.03**	**46**	*e*P		**P**	**18 06 11.8**	**+2.4**
ARTV	**Artvin**	**72.04**	**309**	*e*P		**P**	**18 06 10.6**	**+1.2**
	comp=Z,15nm,0.7s							
UOSS	**Minazif**	**72.22**	**288**	*e*P		**P**	**18 06 10.5**	**0.0**
	comp=Z,18nm,0.8s							
ANN	**Anapa**	**72.36**	**314**	*e*P		**P**	**18 06 10.0**	**-1.0**
ANN				pmax	pmax			
	comp=Z,48nm,2.0s							
ANN				MLR	MLR			
	comp=E,664nm,20.0s							
ANN				MLR	MLR			
	comp=Z,1µm,20.0s							
ANN				MLR	MLR			
	comp=N,1µm,20.0s							
YHH	**Holmes Hill**	**72.38**	**46**	*e*P		**P**	**18 06 13.2**	**+1.6**
	comp=N,12nm,1.2s							
AKASG	**Malin Array Be**	**72.65**	**323**	P		**P**	**18 06 12.1**	**-0.5**
	comp=N,14nm,0.7s,baz=43,slow=6.5,SNR=56							
AKASG				LR		LR	18 41 48.7	
	comp=N,1µm,18.2s,baz=45,slow=39							
AKASG	**Malin Array Be**	**72.65**	**323**	P		**P**	**18 06 12.1**	**-0.5**
AKASG				pmax	pmax			
	comp=Z,13nm,0.7s							
AKASG				MLR	MLR			
	comp=Z,1µm,18.3s							
AKBB	**Malin Array Si**	**72.65**	**323**	*e*P		**P**	**18 06 12.6**	**0.0**
AKBB				pmax	pmax			
	comp=Z,24nm,0.9s							
AKBB	**Malin Array Si**	**72.65**	**323**	*e*P		**P**	**18 06 12.6**	**0.0**
	comp=Z,24nm,0.9s							
KIEV	**Kiev**	**72.66**	**323**⇓	*e*P		**P**	**18 06 12.0**	**-0.7**
KIEV				pmax	pmax			
	comp=Z,29nm,0.9s							
KIEV				MLR	MLR			
	comp=Z,1µm,17.0s							
KIEV	**Kiev**	**72.66**	**323**	*e*P		**P**	**18 06 12.3**	**-0.4**
	comp=Z,24nm,0.9s							
AK11	**Malin Array Si**	**72.69**	**323**	*e*P		**P**	**18 06 12.8**	**-0.1**
IMW	**Indian Meadow**	**72.90**	**47**	*e*P		**P**	**18 06 16.3**	**+1.7**
	comp=Z,16nm,1.0s							
SUW	**Suwalki**	**72.97**	**328**	*e*P		**P**	**18 06 14.8**	**+0.4**
SUW	**Suwalki**	**72.97**	**328**	*e*P		**P**	**18 06 14.8**	**+0.4**
TPAW	**Teton Pass**	**73.15**	**47**	*e*P		**P**	**18 06 18.4**	**+2.3**
	comp=Z,31nm,1.4s							
HVU	**Hansel Valley**	**73.20**	**49**	*e*P		**P**	**18 06 18.0**	**+1.7**
HVU				pmax	pmax			
	comp=Z,14nm,1.0s							
HVU	**Hansel Valley**	**73.20**	**49**	*e*P		**P**	**18 06 18.0**	**+1.7**
	comp=Z,14nm,1.0s							
LOHW	**Long Hollow**	**73.27**	**47**	*e*P		**P**	**18 06 18.8**	**+2.0**
	comp=Z,18nm,1.5s							
REDW	**Red Top Meadow**	**73.29**	**47**	*e*P		**P**	**18 06 18.9**	**+2.0**
	comp=Z,20nm,1.2s							
BGU	**Big Grassy Mou**	**73.59**	**50**	*e*P		**P**	**18 06 20.4**	**+1.8**
	comp=Z,25nm,1.6s							
R11A	**Troy Canyon, C**	**73.66**	**54**	P		**P**	**18 06 20.2**	**+1.1**
	baz=309							
R11A	**Troy Canyon, C**	**73.66**	**54**	*e*P		**P**	**18 06 20.0**	**+0.9**
	comp=Z,21nm,1.4s							
MPMC	**Manual Prospec**	**73.89**	**56**	P		**P**	**18 06 21.4**	**+0.9**
	baz=308							
HWUT	**Hardware Ranch**	**74.00**	**49**	*e*P		**P**	**18 06 22.9**	**+1.9**
	comp=Z,34nm,1.4s							
FURC	**Furnace Creek,**	**74.03**	**56**	P		**P**	**18 06 22.6**	**+1.6**
	baz=308							
SIM	**Simferopol'**	**74.06**	**316**	*e*P		**P**	**18 06 22.0**	**+0.9**
SIM				*e*S		**S**	**18 15 56.0**	**+3.5**
SIM				pmax	pmax			
	comp=Z,13nm,0.8s							
SIM				MLR	MLR			
	comp=Z,700nm,16.0s							
TPNV	**Topopah Spring**	**74.12**	**55**	P		**P**	**18 06 23.0**	**+1.2**
	baz=309							
TPNV	**Topopah Spring**	**74.12**	**55**	*e*P		**P**	**18 06 23.4**	**+1.6**
TPNV				pmax	pmax			
	comp=Z,28nm,1.3s							
TPNV	**Topopah Spring**	**74.12**	**55**	*e*P		**P**	**18 06 23.4**	**+1.6**
	comp=Z,28nm,1.3s							
DUG	**Dugway, Tooele**	**74.17**	**51**	P		**P**	**18 06 23.3**	**+1.3**
	baz=310							
DUG	**Dugway, Tooele**	**74.17**	**51**	*e*P		**P**	**18 06 23.3**	**+1.3**
DUG				pmax	pmax			
	comp=Z,18nm,1.0s							
DUG	**Dugway, Tooele**	**74.17**	**51**	*e*P		**P**	**18 06 23.3**	**+1.3**
	comp=Z,18nm,1.0s							
BW06	**Boulder Array**	**74.40**	**47**	P		**P**	**18 06 24.4**	**+1.0**
	baz=311							
BW06	**Boulder Array**	**74.40**	**47**	*e*P		**P**	**18 06 23.4**	**0.0**
PD31	**Pinedale Array**	**74.40**	**47**	*e*P		**P**	**18 06 24.4**	**+1.0**
PDAR	**Pinedale Array**	**74.40**	**47**	P		**P**	**18 06 23.8**	**+0.4**
	comp=Z,1.1nm,0.7s,baz=255,slow=2.7,SNR=6.5							
PDAR				LR		LR	18 42 00.8	
	comp=Z,83nm,18.5s,baz=338,slow=38							
BORG	**Borgarnes**	**74.65**	**353**	P		**P**	**18 06 25.9**	**+1.7**
	comp=Z,17nm,1.0s,baz=319,slow=7.4,SNR=3.7							
NLU	**North Lily Min**	**74.77**	**50**	*e*P		**P**	**18 06 27.3**	**+1.8**
	comp=Z,12nm,1.2s							
SORM	**Soroca**	**74.83**	**321**⇑	*i*P		**P**	**18 06 23.3**	**-2.2**
SORM	**Soroca**	**74.83**	**321**⇑	P		**P**	**18 06 23.3**	**-2.2**
SHPR	**Sheep Range**	**75.08**	**55**	*e*P		**P**	**18 06 29.5**	**+2.1**
	comp=Z,21nm,1.3s							
MARD	**Mardin**	**75.15**	**306**	*e*P		**P**	**18 06 29.1**	**+1.4**
	comp=Z,48nm,0.9s							
TUQ	**Turquoise Moun**	**75.27**	**56**	P		**P**	**18 06 29.9**	**+1.5**
	baz=309							
HEC	**Hector,Ludlow**	**75.39**	**57**	P		**P**	**18 06 30.3**	**+1.2**
	baz=309							
KIS	**Kishinev**	**75.39**	**320**	*e*P		**P**	**18 06 27.0**	**-1.7**
KIS				*e*S		S	18 16 20.0	+13
KIS	**Kishinev**	**75.39**	**320**	*e*P		**P**	**18 06 27.0**	**-1.7**
KIS				*e*			18 06 40.0	
KIS				*e*PS		**PnS**	**18 16 40.0**	**-3.9**
KIS				MLR	MLR			
	comp=Z,1µm,15.0s							
KIS				MLR	MLR			
	comp=N,500nm,14.0s							
KIS				MLR	MLR			
	comp=E,400nm,14.0s							
KIS				MLR	MLR			
	comp=Z,800nm,16.0s							
CCUT	**Cedar City**	**75.53**	**53**	*e*P		**P**	**18 06 30.7**	**+0.7**
	comp=Z,17nm,1.3s							
BEL	**Belsk**	**75.55**	**327**	*e*P		**P**	**18 06 30.4**	**+0.9**
BEL	**Belsk**	**75.55**	**327**	*e*P		**P**	**18 06 30.4**	**+0.9**
LVV	**L'vov**	**75.64**	**324**	*e*P		**P**	**18 06 30.5**	**+0.4**
LVV				MLR	MLR			
	comp=Z,2µm,16.0s							
GMRC	**Granite Mounta**	**75.85**	**56**	P		**P**	**18 06 32.8**	**+1.1**
	baz=309							
ULM	**Lac du Bonnet**	**76.03**	**35**	LR		LR	18 42 41.0	
	comp=Z,120nm,19.0s,baz=329,slow=38							
KNB	**Kanab**	**76.20**	**53**	*e*P		**P**	**18 06 36.1**	**+2.3**
KNB				pmax	pmax			
	comp=Z,47nm,1.5s							
KNB	**Kanab**	**76.20**	**53**	*e*P		**P**	**18 06 36.1**	**+2.3**
	comp=Z,47nm,1.5s							
SRU	**San Rafael Swe**	**76.22**	**50**	*e*P		**P**	**18 06 35.4**	**+1.5**
SRU				pmax	pmax			
	comp=Z,11nm,0.9s							
SRU	**San Rafael Swe**	**76.22**	**50**	*e*P		**P**	**18 06 35.4**	**+1.5**
	comp=Z,11nm,0.9s							
KWP	**Kalwaria Pacla**	**76.36**	**325**	*e*P		**P**	**18 06 35.0**	**+0.7**
KWP	**Kalwaria Pacla**	**76.36**	**325**	*e*P		**P**	**18 06 35.0**	**+0.7**
IRM	**Iron Mountain**	**76.57**	**57**	P		**P**	**18 06 36.9**	**+1.1**
	baz=310							
BUR08	**Bucovina Ar. S**	**76.68**	**322**	*e*P		**P**	**18 06 36.5**	**+0.3**
BURAR	**Bucovina Array**	**76.69**	**322**⇓	*i*P		**P**	**18 06 36.6**	**+0.3**
TESR	**Tescani**	**76.80**	**321**⇓	*i*P		**P**	**18 06 36.2**	**-0.6**
ILGA	**Ilgaz**	**76.87**	**313**	*e*P		**P**	**18 06 40.0**	**+2.5**
	comp=Z,33nm,1.0s							
U15A	**North Rim**	**76.91**	**53**	*e*P		**P**	**18 06 39.4**	**+1.5**
	comp=Z,34nm,1.4s							
CFR	**Carcaliu**	**77.00**	**319**⇑	*i*P		**P**	**18 06 38.1**	**+0.2**
CFR	**Carcaliu**	**77.00**	**319**⇑	P		**P**	**18 06 38.1**	**+0.2**
STHS	**Stebnicka Huta**	**77.17**	**325**	*e*P		**P**	**18 06 40.8**	**+2.0**
STHS				pmax	pmax			
	comp=Z,12nm,0.7s							
STHS	**Stebnicka Huta**	**77.17**	**325**	*e*P		**P**	**18 06 40.8**	**+2.0**
KSRV	**Kasrt alli**	**77.17**	**306**	*e*P		**P**	**18 06 39.3**	**+0.2**
OJC	**Ojcow**	**77.18**	**327**	*e*P		**P**	**18 06 39.2**	**+0.3**
OJC	**Ojcow**	**77.18**	**327**	*e*P		**P**	**18 06 39.2**	**+0.3**
OJC	**Ojcow**	**77.18**	**327**	*e*P		**P**	**18 06 39.2**	**+0.3**
	comp=Z,39nm,0.9s							
A33A	**Warroad**	**77.22**	**35**	P		**P**	**18 06 39.1**	**0.0**
	baz=318							
UZH	**Uzhgorod**	**77.29**	**324**	*e*P		**P**	**18 06 39.1**	**-0.4**
UZH				*i*			18 06 44.3	
TLB	**Topalu**	**77.47**	**319**⇓	*i*P		**P**	**18 06 40.0**	**-0.5**
TLB	**Topalu**	**77.47**	**319**⇓	P		**P**	**18 06 40.1**	**-0.5**
TRPA	**Tarpa**	**77.55**	**324**⇑	*ex*		**P**	**18 06 41.4**	**+0.5**
NIE	**Niedzica**	**77.57**	**326**	*e*P		**P**	**18 06 41.8**	**+0.7**
NIE	**Niedzica**	**77.57**	**326**	*e*P		**P**	**18 06 41.8**	**+0.7**
PV10	**Paradox Valley**	**77.58**	**50**	*e*P		**P**	**18 06 43.5**	**+1.8**
PV05	**Paradox Valley**	**77.74**	**50**	*e*P		**P**	**18 06 43.9**	**+1.4**
BR131	**Keskin Array S**	**77.81**	**312**	*e*P		**P**	**18 06 43.1**	**+0.3**
BRTR	**Keskin Array B**	**77.81**	**312**	P		**P**	**18 06 42.8**	**+0.1**
	comp=Z,3.9nm,0.8s,baz=69,slow=4.1,SNR=22							
BRTR				LR		LR	18 45 39.9	
	comp=Z,291nm,18.3s,baz=21,slow=39							
E31A	**Nome**	**77.82**	**38**	P		**P**	**18 06 42.9**	**+0.4**
	baz=317							
MLR	**Muntele Rosu**	**77.87**	**320**	P		**P**	**18 06 43.9**	**+0.9**
	comp=Z,1.1nm,1.0s,baz=25,slow=8.4,SNR=9.5							
MLR	**Muntele Rosu**	**77.87**	**320**	*e*P		**P**	**18 06 43.7**	**+0.7**
MLR				pmax	pmax			
	comp=Z,37nm,1.6s							
MLR	**Muntele Rosu**	**77.87**	**320**	*e*P		**P**	**18 06 43.7**	**+0.7**
	comp=Z,37nm,1.6s							
RAO	**Raoul Island**	**77.97**	**146**	LR		LR	18 36 46.7	
	comp=Z,336nm,18.9s,baz=130,slow=32							
WUAZ	**Wupatki**	**78.06**	**54**	P		**P**	**18 06 45.6**	**+1.3**
	baz=311							
WUAZ	**Wupatki**	**78.06**	**54**	*e*P		**P**	**18 06 46.4**	**+2.1**
	comp=Z,12nm,1.0s							
Y14A	**Wickenburg**	**78.07**	**56**	*e*P		**P**	**18 06 45.9**	**+1.7**
	comp=Z,66nm,1.3s							
DRWC	**Darouich**	**78.10**	**308**	*e*P		**P**	**18 06 45.2**	**+0.9**
LANS	**Liptovska Anna**	**78.13**	**326**	*e*P		**P**	**18 06 46.4**	**+2.2**
LANS	**Liptovska Anna**	**78.13**	**326**	*e*P		**P**	**18 06 46.4**	**+2.2**
KSP	**Ksiaz**	**78.13**	**329**	*e*P		**P**	**18 06 44.5**	**+0.4**
KSP	**Ksiaz**	**78.13**	**329**	*e*P		**P**	**18 06 44.5**	**+0.4**
OKC	**Ostrava-Krasne**	**78.16**	**327**⇑	*e*P		**P**	**18 06 45.7**	**+1.4**
OKC				AMS	AMS		18 43 30.0	
	comp=Z,800nm,21.4s							
OKC	**Ostrava-Krasne**	**78.16**	**327**	*e*P		**P**	**18 06 45.7**	**+1.4**
OKC				MLR	MLR			
	comp=Z,800nm,21.4s							
ANTO	**Ankara**	**78.19**	**313**	*e*P		**P**	**18 06 46.6**	**+1.8**
ANTO				pmax	pmax			
	comp=Z,21nm,0.9s							
ANTO	**Ankara**	**78.19**	**313**	*e*P		**P**	**18 06 46.6**	**+1.8**
	comp=Z,21nm,0.9s							
KECS	**Kecovo**	**78.20**	**325**	*e*P		**P**	**18 06 45.4**	**+0.8**
KECS				pmax	pmax			
	comp=Z,4.0nm,1.1s							
KECS	**Kecovo**	**78.20**	**325**	*e*P		**P**	**18 06 45.4**	**+0.8**
BR231	**Keskin MP Arra**	**78.22**	**313**	*e*P		**P**	**18 06 43.5**	**-1.4**
VOIR		**78.34**	**321**⇓	*i*P		**P**	**18 06 45.3**	**-0.2**
**VOIR

comp=E,800nm,14.9s
PVCC Panska Ves 79.06 330 *e*P **P 18 06 50.8 +1.6**
PVCC MLR MLR
comp=Z,800nm,14.9s
VRAC Vranov 79.21 328 P **P 18 06 50.5 +0.4**
comp=Z,16nm,0.9s,baz=42,slow=5.3,SNR=24
VRAC Vranov 79.21 328 ⇓*i*P **P 18 06 49.3 -0.8**
S22A 4UR Ranch, Cre 79.30 49 *e*P **P 18 06 53.1 +2.0**
comp=Z,10nm,1.3s
ROOS tl_alroos 79.34 306 *e*P **P 18 06 49.7 -1.6**
GOPC GO Pecny, Ondr 79.46 329⇑*e*P **P 18 06 52.9 +1.4**
GOPC *ep*P **sP 18 07 02.4 +1.6**
GOPC AMS AMS 18 47 30.0
comp=Z,800nm,16.0s
GOPC GO Pecny, Ondr 79.46 329 *e*P **P 18 06 52.9 +1.4**
GOPC *e* 18 07 02.4
GOPC MLR MLR
comp=Z,800nm,16.0s
GZR Gura Zlata 79.47 322⇑*i*P **P 18 06 51.5 -0.2**
GZR Gura Zlata 79.47 322 ⇑P **P 18 06 51.5 -0.2**
PRA Prague 79.47 329⇑*e*P **P 18 06 53.0 +1.5**
PRA AMS AMS 18 47 40.0
comp=Z,1µm,14.8s
PRA Prague 79.47 329 *e*P **P 18 06 53.0 +1.5**
PRA MLR MLR
comp=Z,1µm,14.8s
SZH Strazhica 79.48 319 *i* P **P 18 06 52.6 +0.9**
SMOL Smolenice 79.48 327 *e*P **P 18 06 53.4 +1.8**
SMOL Smolenice 79.48 327 *e*P **P 18 06 53.4 +1.8**
PRU Pruhonice 79.50 329⇑*e*P **P 18 06 52.3 +0.7**
PRU *ep*P **sP 18 07 02.5 +1.5**
PRU AMS AMS 18 47 30.0
comp=Z,1µm,14.2s
PRU Pruhonice 79.50 329 *e*P **P 18 06 52.3 +0.7**
PRU *e* 18 07 02.5
PRU MLR MLR
comp=Z,1µm,14.2s
SRO2 Moca 79.65 326 *e*P **P 18 06 53.0 +0.5**
SRO2 Moca 79.65 326 *e*P **P 18 06 53.0 +0.5**
TREC Trest 79.67 328⇑*e*P **P 18 06 53.8 +1.1**
TREC AMS AMS 18 46 20.0
comp=Z,700nm,16.6s
TREC Trest 79.67 328 *e*P **P 18 06 53.8 +1.1**
TREC MLR MLR
comp=Z,700nm,16.6s
BZS Buzias 79.84 323⇓*i*P **P 18 06 53.5 -0.1**
BZS Buzias 79.84 323 ⇓P **P 18 06 53.6 -0.1**
MARH Ras Al Marh 79.94 306 *e*P **P 18 06 55.2 +0.5**
MOX Moxa 80.08 331 P **P 18 06 55.6 +0.8**
MOX pmax pmax
comp=Z,21nm,1.9s
NKC Novy Kostel 80.11 330⇑*e*P **P 18 06 55.7 +0.7**
NKC AMS AMS 18 48 50.0
comp=Z,1µm,14.4s
NKC Novy Kostel 80.11 330 *e*P **P 18 06 55.7 +0.7**
NKC MLR MLR
comp=Z,1µm,14.4s
TOTH TOTAH 80.41 306 *e*P **P 18 06 53.2 -3.8**
SOP Sopron 80.50 327 P **P 18 06 58.8 +1.7**
SOP pmax pmax
comp=Z,42nm,1.1s
SOP Sopron 80.50 327⇑*e*SKKPbc **P 18 06 57.9 +0.8**
MPEP Malo Peshtene 80.51 320 *i* P **P 18 06 58.2 +0.9**
ECSD EROS Data Cent 80.51 39 P **P 18 06 57.1 -0.2**
baz=318
ECSD EROS Data Cent 80.51 39 *e*P **P 18 06 56.9 -0.4**
comp=Z,18nm,1.3s
TUC Tucson 80.55 56 P **P 18 06 58.5 +0.7**
TUC pmax pmax
comp=Z,14nm,1.2s
KHC Kasperske Hory 80.56 329⇑*i*P **P 18 06 58.0 +0.5**
KHC *ep*P **sP 18 07 08.1 +1.3**
KHC *e*SKS **SKSac 18 17 12.2 -2.2**
KHC AMS AMS 18 47 50.0
comp=Z,900nm,13.6s
KHC Kasperske Hory 80.56 329 *e*P **P 18 06 57.9 +0.5**
KHC pmax pmax
comp=Z,10.0nm,0.9s
KHC Kasperske Hory 80.56 329 *e*P **P 18 06 57.9 +0.5**
comp=Z,9.8nm,0.9s
EKA Eskdalemuir Ar 80.58 341 P **P 18 06 57.4 0.0**
comp=Z,3.3nm,0.6s,baz=25,slow=4.7,SNR=15
CONA Conrad Observa 80.59 327 *i* P **P 18 06 58.4 +0.7**
comp=Z,6.9nm,0.7s,SNR=18
H35A Sunnyside Ranc 80.64 38 P **P 18 06 58.6 +0.7**
baz=319
SALA Sala 80.66 305 *e*P **P 18 06 58.5 0.0**
GEC2 GERESS Array S 80.74 329 *e*P **P 18 06 59.0 +0.5**
GEC2 pmax pmax
comp=Z,10.0nm,0.9s
GEC2 GERESS Array S 80.74 329 *e*P **P 18 06 59.0 +0.5**
comp=Z,10.0nm,0.9s
GERES GERESS Array B 80.74 329 P **P 18 06 58.6 +0.1**
comp=Z,3.9nm,0.6s,baz=35,slow=4.9,SNR=44
GERES LR LR 18 45 44.8
comp=Z,493nm,19.5s,baz=14,slow=38
GEA0 GERESS Array S 80.75 329 *e*P **P 18 06 58.5 -0.1**
WET Wettzell 80.82 330 P **P 18 06 59.9 +1.0**
WET pmax pmax
comp=Z,37nm,1.1s
RAR Rarotonga 80.91 128 LR LR 18 38 48.7
comp=Z,300nm,18.8s,baz=290,slow=33
GRF Grafenberg Arr 81.01 331 P **P 18 07 01.3 +1.5**
GRF pmax pmax
comp=Z,53nm,0.9s
GRFO Grafenberg 81.01 331 *e*P **P 18 07 01.0 +1.2**
GRFO pmax pmax
comp=Z,38nm,1.0s
GRFO Grafenberg 81.01 331 *e*P **P 18 07 01.0 +1.2**
comp=Z,38nm,1.0s
CSS Mathiatis 81.22 309 *e*P **P 18 07 01.9 +0.7**
comp=Z,3.4nm,0.9s
ARSA Arzberg 81.27 327 *i* P **P 18 07 02.0 +0.7**
comp=Z,5.2nm,0.7s,SNR=8.6
MOA Molln 81.31 328 *i* P **P 18 07 02.5 +1.0**
comp=Z,2.1nm,0.6s,SNR=5.9
VTS Vitosha 81.33 320 *e*P **P 18 07 02.7 +0.8**
VTS pmax pmax
comp=Z,18nm,1.0s
VTS Vitosha 81.33 320 *i* P **P 18 07 03.1 +1.2**
VTS Vitosha 81.33 320 *e*P **P 18 07 02.6 +0.8**
comp=Z,18nm,1.0s
LAZ Ladron 81.39 52 *e*P **P 18 07 00.2 -2.1**
ANMO Albuquerque 81.43 51 P **P 18 07 03.9 +1.3**
baz=314
ANMO Albuquerque 81.43 51⇓*e*P **P 18 07 04.0 +1.5**
ANMO pmax pmax
comp=Z,6.0nm,1.7s
ANMO Albuquerque 81.43 51 *e*P **P 18 07 04.0 +1.5**
comp=Z,20nm,1.4s
MMB Musomiste 81.82 319 *i* P **P 18 07 04.9 +0.6**
SCHQ Schefferville 81.85 17 LR LR 18 46 14.5
comp=Z,153nm,18.1s,baz=8.0,slow=38
GROS Grobnik 81.90 327 *i* P **P 18 07 04.7 -0.1**
SOKA Soboth 81.93 327 *i* P **P 18 07 05.2 +0.3**
comp=Z,20nm,0.9s,SNR=26
KKB Krupnik 81.93 319 *i* P **P 18 07 05.4 +0.5**
MEM Membach 82.09 334 P **P 18 07 06.6 +1.1**
319A Douglas 82.12 55 *e*P **P 18 07 08.0 +1.8**
comp=Z,20nm,1.1s
OBKA Obir 82.27 327 *i* P **P 18 07 06.8 +0.2**
comp=Z,9.8nm,0.7s,SNR=9.1
KBA Koelnbreinsper 82.30 328 *i* P **P 18 07 07.6 +0.7**
comp=Z,12nm,0.7s,SNR=18
KBA Koelnbreinsper 82.30 328 P **P 18 07 07.7 +0.7**
KBA pmax pmax
comp=Z,27nm,1.0s
BCLA Clavier 82.48 334 P **P 18 07 08.0 +0.5**
STU Stuttgart 82.52 331 *e*P **P 18 07 08.1 +0.3**
STU pmax pmax
comp=Z,25nm,0.8s
STU Stuttgart 82.52 331 *e*P **P 18 07 08.1 +0.3**
comp=Z,25nm,0.8s
MYKA Terra Mystica 82.54 328 *i* P **P 18 07 07.7 -0.3**
comp=Z,8.7nm,0.8s,SNR=9.1
OZLJ Ozalj 82.59 326 P **P 18 07 06.9 -1.3**
VAY Valandovo 82.60 319 *i* P **P 18 07 08.6 +0.3**
LJU Ljubljana 82.65 327 *i* P **P 18 07 08.1 -0.4**
SKO Skopje 82.67 320 *i* P **P 18 07 09.7 +1.0**
BOJS Bojanci 82.77 326 *i* P **P 18 07 08.9 -0.3**
WATA Walderalm 82.80 329 *i* PcP **P 18 07 10.6 +1.1**
comp=Z,27nm,1.3s,SNR=6.8
WTTA Wettenberg 82.83 329 *i* P **P 18 07 10.5 +0.8**
comp=Z,13nm,1.0s,SNR=6.2
ABTA Abfaltersbach 82.91 328 *i* P **P 18 07 09.4 -0.5**
comp=Z,17nm,1.3s,SNR=8.0
JAVS Javornik 82.96 327 *i* P **P 18 07 09.4 -0.9**
MOTA Moosalm 82.98 329 *i* PcP **P 18 07 11.6 +1.2**
comp=Z,29nm,1.0s,SNR=12
RETA Reutte 82.99 330 *i* P **P 18 07 10.6 +0.3**
comp=Z,25nm,0.8s,SNR=12
BFO Black Forest 83.20 332*ce*P **P 18 07 12.4 +1.0**
BFO Black Forest 83.20 332 *e*P **P 18 07 12.3 +0.9**
comp=Z,17nm,0.9s
TRI Trieste 83.23 327 *e*P **P 18 07 11.3 -0.2**
TRI pmax pmax
comp=Z,29nm,1.0s
TRI Trieste 83.23 327 *e*P **P 18 07 11.3 -0.2**
comp=Z,29nm,1.0s
UDBI Udbina 83.32 325 P **P 18 07 11.4 -0.7**
FETA Feichten 83.39 330 *i* PcP **P 18 07 13.3 +0.8**
comp=Z,22nm,1.2s,SNR=9.3
DAVA Damuels 83.50 330 *e*PcP **P 18 07 14.0 +0.9**
comp=Z,4.0nm,0.4s,SNR=8.6
FNA Florina 83.60 320 P **P 18 07 13.6 0.0**
FNA pmax pmax
comp=Z,13nm,0.9s
OHR Ohrid 83.63 320 *i* P **P 18 07 13.3 -0.5**
NVLJ Novalja 83.68 326 P **P 18 07 12.4 -1.4**
STON Ston 83.75 323 P **P 18 07 13.2 -1.1**
FUORN Ofenpass-Fuorn 83.90 330 *e*P **P 18 07 15.8 +0.6**
comp=Z,65nm,1.2s
DAVOX Davos/Dischmat 83.92 330 P **P 18 07 16.2 +1.0**
comp=Z,12nm,0.9s,baz=16,slow=4.4,SNR=12
MNTX Cornudas Mount 84.32 53 P **P 18 07 18.0 +0.6**
baz=314
MNTX Cornudas Mount 84.32 53 *e*P **P 18 07 18.9 +1.5**
comp=Z,12nm,1.2s
M39A Webster 84.36 38 P **P 18 07 17.5 +0.1**
baz=321
N38A Joes South For 84.37 40 P **P 18 07 17.8 +0.3**
baz=320
TUE Stuetta 84.38 330 *e*P **P 18 07 17.8 +0.2**
comp=Z,22nm,1.0s
O37A Wolven Farm, M 84.40 40 P **P 18 07 18.3 +0.6**
baz=320
R35A Emporia Munici 84.75 43 P **P 18 07 20.0 +0.6**
baz=319
PPT Papeete 84.81 118 LR LR 18 40 06.7
comp=Z,490nm,19.2s,baz=272,slow=32
PPT2 Papeete2 84.82 118 *e*LR LR 18 33 59.9
comp=Z,873nm,22.0s
R36A Gordon, Harris 85.11 42 P **P 18 07 21.3 +0.1**
baz=319
P38A Dawn 85.12 40 P **P 18 07 21.0 -0.2**
baz=320
S35A Otter Creek Ra 85.16 43 P **P 18 07 22.0 +0.4**
baz=319
SENIN Lac Senin/Sane 85.24 331 *e*P **P 18 07 22.8 +0.8**
comp=Z,16nm,0.9s
SFI Santa Sofia 85.50 327 P **P 18 07 24.6 +1.5**
O40A La Belle 85.55 39 P **P 18 07 23.8 +0.4**
baz=321
TAOE Nuku Hiva Isla 85.57 105 *e*LR LR 18 34 31.5
comp=Z,723nm,21.3s
IDI Anoyia 85.85 314 P **P 18 07 25.1 0.0**
comp=Z,4.5nm,0.8s,baz=37,slow=10,SNR=4.3
S37A Fort Scott 85.88 42 P **P 18 07 25.3 +0.2**
baz=320
WMOK Wichita Mounta 86.01 47 P **P 18 07 26.5 +0.7**
baz=318
AQU L'Aquila 86.09 325 *e*P **P 18 07 27.5 +1.4**
AQU pmax pmax
comp=Z,34nm,1.3s
AQU L'Aquila 86.09 325 *e*P **P 18 07 27.5 +1.4**
comp=Z,34nm,1.3s
R39A Chumby, Stover 86.37 41 P **P 18 07 26.1 -1.4**
baz=320
BNI Bardonecchia 86.58 331 *e*P **P 18 07 29.9 +1.3**
BNI pmax pmax
comp=Z,10.0nm,1.0s
BNI Bardonecchia 86.58 331 *e*P **P 18 07 29.9 +1.3**
comp=Z,10nm,1.0s
S39A Bolivar 86.71 42 P **P 18 07 29.0 -0.2**
baz=320
T38A Diamond 86.71 43 P **P 18 07 29.5 +0.3**
baz=320
TX31 Lajitas Ar. Si 87.03 54 *e*P **P 18 07 31.1 +0.1**
TXAR Lajitas Array 87.03 54 P **P 18 07 31.8 +0.7**
comp=Z,2.7nm,1.0s,baz=298,slow=4.1,SNR=15
TXAR LR LR 18 41 38.9
comp=Z,74nm,21.8s,baz=0.0,slow=32
SSB Saint Sauveur 87.17 332 *e*P **P 18 07 31.8 +0.5**
SSB pmax pmax
comp=Z,11nm,0.8s
SSB Saint Sauveur 87.17 332 *e*P **P 18 07 31.8 +0.5**
comp=Z,11nm,0.8s
333A Richland Sprin 88.40 49 P **P 18 07 38.0 +0.5**
baz=318
U41A Viola 88.46 42 P **P 18 07 37.8 +0.2**
baz=321
V41A Mountainview 88.77 42 P **P 18 07 39.0 -0.1**
baz=321
TBI Tubuai 88.95 122 *e*S **S 18 18 25.0 -1.8**
comp=Z,134nm,25.2s
TBI Tubuai 88.95 122 *e*LR LR 18 35 24.0
comp=Z,346nm,24.2s,baz=318
TBI Tubuai 88.95 122 *e*T T 19 45 50.1
comp=Z,6.4nm,0.3s
WHAR Wooly Hollow 89.08 42 *e*P **P 18 07 41.2 +0.6**
comp=Z,25nm,1.3s
V42A Cord 89.14 42 P **P 18 07 40.2 -0.6**
baz=322
ACSO Alum Creek Sta 89.50 34 *e*P **P 18 07 39.0 -3.4**
comp=Z,37nm,1.2s
KEST Kesra 93.32 324 LR LR 18 54 57.3
comp=Z,608nm,18.7s,baz=328,slow=39
ES19 SONSECA Array 94.98 335 *e*P **P 18 08 08.0 +0.1**
ESDC Sonseca Array 95.03 335 P **P 18 08 07.9 -0.2**
comp=Z,1.4nm,0.7s,baz=19,slow=3.9,SNR=7.5
ESDC LR LR 18 56 31.3
comp=Z,504nm,19.3s,baz=35,slow=39
RKT Rikitea 98.63 113 *e*LR LR 18 40 15.0
comp=Z,336nm,22.8s,baz=308
TORD Torodi Ar. Bea 116.03 318 PKP **PKPdf 18 13 28.4 -0.3**
comp=Z,0.5nm,0.7s,baz=12,slow=2.1,SNR=3.8
MAW Mawson 123.06 207 PKP **PKPdf 18 13 40.6 +0.2**
comp=Z,1.4nm,0.9s,baz=22,slow=3.7,SNR=4.4
SYO Syowa Base 131.72 208⇓*eX* **Pdif 18 10 47.5 -2.9**
SNAA Sanae 144.24 198 *e*PKIKP **PKPab 18 14 17.9 0.0**
SNAA Sanae 144.24 198 *e*PKPdif **PKPab 18 14 17.9 0.0**
PB11 IPOC Station P 145.22 64 *e*PKPbc **PKPdf 18 14 24.0 +0.6**

ROM 17 18:04:52.6±0.1, 42.55N×13.25E, h15km±1km, Md1.8/3, Ml1.4/2, Error ellipse: s-maj=1.2km s-min=0.8km az=29.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SMA1	**SAN MARTINO**	**0.11**	**38**	Pg		Pg	Pg	18 04 56.3	+0.1
SMA1				Sg		Sg	Sb	18 04 58.9	-0.1
	71nm,0.2s								
TERO	**Teramo**	**0.28**	**74**	Pg		Pg	Pg	18 04 58.9	+0.3
TERO				Sg		Sg	Sb	18 05 03.4	-0.4
NRCA	**Norcia**	**0.30**	**342**	Pg		Pg	Pg	18 04 59.3	+0.2
NRCA				Sg		Sg	Sb	18 05 04.2	-0.4
	36nm,0.1s								

NEIC ***17*** *18:23:04.8±1.2, 32.15S×178.00W, h10km, mb4.5/3, Error ellipse: s-maj=29.3km s-min=11.2km az=108.0*
IDC ***17*** *18:23:04.5±2.9, 32.03S×178.11W, h0km, mb3.8/2, mb1 4.0/4, mb1mx3.7/39, mbtmp3.8/4, ML3.7/2, Error ellipse: s-maj=67.7km s-min=24.9km az=115.0*
ISC 17 18:23:05.6±2.3, 32.2S±0.1×177.9W±0.4, h24km, n12, σ1§01/14, mb4.1/6, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**2.89**	**359**			**Pn**	**Pn**	**18 23 49.3**	**-0.8**
	38nm,0.3s,baz=66,slow=20,SNR=4.4								
RAO						Sn	**Sn**	**18 24 25.0**	**+0.8**
	56nm,0.3s,baz=90,slow=20,SNR=3.3								
URZ	**Urewera**	**7.35**	**213**	Pn		**Pn**	**Pn**	**18 24 50.9**	**-0.5**
	0.4nm,0.3s,baz=258,slow=4.7,SNR=8.3								
URZ						Sn	**Sn**	**18 26 14.7**	**+0.7**
	2.0nm,0.3s,baz=181,slow=17,SNR=13								
BFZ	**Birch Farm**	**9.74**	**207**	*e*Pn		**Pn**	**Pn**	**18 25 24.3**	**+0.1**
BBOO	**Buckleboo**	**38.63**	**256**	*e*P		**P**	**P**	**18 30 25.3**	**-1.8**
	17nm,1.4s								
AS31	**Alice Springs**	**43.16**	**269**	*e*P		**P**	**P**	**18 31 05.8**	**+1.2**
	0.9nm,1.3s								
ASAR	**Alice Springs**	**43.16**	**269**	P		**P**	**P**	**18 31 05.8**	**+1.2**
	0.5nm,0.6s,baz=108,slow=7.2,SNR=19								
WB2	**Warramunga Arr**	**44.29**	**274**	*e*P		**P**	**P**	**18 31 14.3**	**+0.5**
WRAB	**Tennant Creek**	**44.30**	**274**	*e*P		**P**	**P**	**18 31 14.4**	**+0.7**
	4.6nm,1.1s								
WR1	**Warramunga Arr**	**44.30**	**274**	*e*P		**P**	**P**	**18 31 14.5**	**+0.7**
	10nm,1.4s								
WRA	**Warramunga Arr**	**44.30**	**274**	P		**P**	**P**	**18 31 14.5**	**+0.7**
	1.1nm,0.5s,baz=113,slow=7.9,SNR=22								
FIA0	**FINESS Array S**	**146.82**	**339**	*e*PKPbc		**PKPab**	**18 42 47.1**	**+0.8**	
FINES	**FINESS Array B**	**146.82**	**339**	PKPbc		**PKPab**	**18 42 47.1**	**+0.8**	
	0.8nm,0.4s,baz=30,slow=3.7,SNR=7.2								

NIED ***17*** *18:23:00, 40.20N×143.30E, h26km, Mw3.7 Best double couple: M0 4.50000×10^14 NP1:φs78.00000°, δ36.00000°, λ-88.00000°. NP2:φs255.00000°, δ54.00000°, λ-91.00000°.*
IDC ***17*** *18:23:22.5±1.8, 40.38N×143.78E, h0km, mb3.5/4, mb1 3.8/6, mb1mx3.4/41, mbtmp3.8/6, ML3.7/2, Error ellipse: s-maj=52.1km s-min=23.8km az=82.0*
ISCJB ***17*** *18:23:24.9±0.7, 40.23N±0.04×143.58E±0.08, h16km, mb3.5/4, Error ellipse: s-maj=9.0km s-min=5.3km az=23.2*
JMA ***17*** *18:23:28.4±0.3, 40.24N×143.27E, h14km±4km, M3.7*
ISC 17 18:23:25.0±1.0, 40.35N±0.05×143.55E±0.07, h16km, n24, σ2§13/23, mb3.8/4, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
JTH	**Tanohata**	**1.36**	**253**	P		P	**Pn**	**18 23 49.1**	**-0.1**
JTH						*e*S	**Sn**	**18 24 04.3**	**-2.6**
MIYJ	**Miyakonagasawa**	**1.54**	**241**	P		P	**Pn**	**18 23 52.0**	**+0.3**
JANG	**Nango**	**1.56**	**272**	P		P	**Pn**	**18 23 52.6**	**+0.6**
JANG						*e*S	**Sn**	**18 24 10.1**	**-1.8**
JTM	**Tenmabayashi**	**1.94**	**284**	P		P	**Pb**	**18 23 59.1**	**-0.9**
JOM	**Ohasama**	**1.94**	**244**	P		P	**Pn**	**18 23 58.4**	**+1.1**
JOT	**Ohata**	**2.16**	**299**	P		P	**Pb**	**18 24 03.3**	**-0.4**
JCH	**Churui**	**2.27**	**356**	P		P	**Pb**	**18 24 05.9**	**+0.3**
JCH						*e*S	**Sb**	**18 24 32.9**	**-0.5**
JMK	**Ichinoseki**	**2.28**	**233**	P		P	**Pn**	**18 24 02.6**	**+0.7**
JKB	**Kayabe**	**2.45**	**310**	*e*S		S	**Sb**	**18 24 37.3**	**-1.2**
JAK	**Akkeshi**	**2.78**	**18**	*e*S		S	**Sb**	**18 24 46.0**	**-2.1**
JYK	**Kaneyama**	**2.85**	**241**	P		P	**Pn**	**18 24 11.2**	**+1.4**
MAT	**Matsushiro**	**5.66**	**230**	P		P	**Pn**	**18 24 50.5**	**+2.1**
MAT						*e*S	**Sn**	**18 25 57.7**	**+4.6**
MJAR	**Matsushiro Arr**	**5.66**	**230**	Pn		P	**Pn**	**18 24 50.7**	**+2.3**
	1.7nm,0.3s,baz=38,slow=12,SNR=46								
JHJ	**Hachijo jima 2**	**7.82**	**204**	Pn		P	**Pn**	**18 25 17.4**	**-0.7**
	4.9nm,0.3s,baz=66,slow=20,SNR=3.7								
JHJ						Sn	**Sn**	**18 26 40.4**	**-5.9**
	2.5nm,0.3s,baz=73,slow=19,SNR=4.0								
SONM	**Songino Array**	**27.51**	**298**	P		P	**P**	**18 29 11.8**	**+1.1**
	0.1nm,0.4s,baz=98,slow=9.6,SNR=2.2								
H11N2	**WAKE ISLAND Hy**	**28.66**	**129**	T		T		18 59 31.0	
	baz=321,slow=75,SNR=23								
H11N1	**WAKE ISLAND Hy**	**28.67**	**129**	T		T		18 59 34.5	
	baz=321,slow=75,SNR=25								
H11N3	**WAKE ISLAND Hy**	**28.68**	**129**	T		T		18 59 31.8	
	baz=321,slow=75,SNR=22								
H11S1	**WAKE ISLAND Hy**	**29.50**	**131**	T		T		19 00 38.5	
	baz=322,slow=76,SNR=11								
H11S3	**WAKE ISLAND Hy**	**29.50**	**131**	T		T		19 00 38.6	
	baz=322,slow=76,SNR=8.6								
H11S2	**WAKE ISLAND Hy**	**29.52**	**131**	T		T		19 00 37.3	
	baz=322,slow=76,SNR=9.1								
WRA	**Warramunga Arr**	**60.59**	**190**	P		P		**18 33 35.1**	**+0.3**
	0.7nm,0.7s,baz=8.2,slow=6.8,SNR=6.3								
ASAR	**Alice Springs**	**64.31**	**190**	P		P		**18 34 00.8**	**+1.1**
	0.5nm,0.9s,baz=14,slow=5.0,SNR=4.4								
FINES	**FINESS Array B**	**66.67**	**332**	P		P		**18 34 14.9**	**+0.4**
	0.8nm,0.8s,baz=58,slow=8.4,SNR=2.6								

IDC 17 18:27:08.4±3.0, 32.17S×178.20W, h0km, mb3.5/2, mb1 3.7/3, mb1mx3.5/40, mbtmp3.5/3, ML3.0/1, Error ellipse: s-maj=69.8km s-min=36.1km az=115.0, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**7.19**	**211**	Pn		Pn	Pn	18 28 53.9	-0.8
	0.2nm,0.3s,baz=101,slow=10,SNR=2.1								
URZ						Sn	Sn	18 30 17.6	+0.5
	0.4nm,0.3s,baz=208,slow=22,SNR=6.2								
ASAR	**Alice Springs**	**42.88**	**269**	P		P	P	18 35 09.2	+0.4
	0.3nm,0.5s,baz=108,slow=7.5,SNR=11								
WRA	**Warramunga Arr**	**44.02**	**274**	P		P	P	18 35 17.6	-0.4
	0.4nm,0.5s,baz=113,slow=7.9,SNR=8.7								
FINES	**FINESS Array B**	**146.74**	**339**	PKPbc		PKPdf		18 46 50.6	+0.8
	1.0nm,0.7s,baz=66,slow=4.6,SNR=6.9								

SJA ***17*** *18:27:31.6±1.5, 34.36S×72.34W, h40km±34km, ML4.0, MW4.3*
IDC ***17*** *18:27:31.1±1.1, 34.21S×71.90W, h0km, mb4.1/6, mb1 4.2/8, mb1mx4.0/30, mbtmp4.1/8, ML4.0/2, MS3.9/11, Ms1 3.9/11, ms1mx3.7/27, Error ellipse: s-maj=49.5km s-min=19.4km az=82.0*
ISCJB ***17*** *18:27:33.6±1.0, 34.28S±0.04×72.28W±0.08, h27km±6km, mb4.1/7, MS3.8/8, Error ellipse: s-maj=12.0km s-min=4.9km az=29.5*
NEIC ***17*** *18:27:34.0±0.0, 34.25S×72.27W, h15km, mb4.2/4, ML4.3(GUC), After GUC.*
NEIC Felt [III] at Rio Claro and Vichuquen; [II] at Pichilemu, San Fernando and Talca.
GUC ***17*** *18:27:35.2±0.4, 34.25S×72.20W, h19km±2km, ML4.1*
ISC 17 18:27:33.8±1.1, 34.19S±0.04×72.14W±0.07, h19km±3km, n49, σ1§13/49, mb4.2/7, MS3.8/8, 1C-1D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CHPI	**Pichilemu**	**0.23**	**151**	⇓*i*P		**Pg**		**18 27 39.9**	**+0.5**
CHPI				*i* S		**Sg**		**18 27 43.8**	**+0.7**
CHPI				IAML				18 27 44.1	
	comp=E,62µm,0.8s								
GO05	**Hualaaø**	**0.84**	**168**	*e*Pg		**Pb**		**18 27 48.5**	**-1.3**
RCDM	**Rinconada Maip**	**1.31**	**58**	*e*P		**Pn**		**18 27 56.6**	**-0.5**
RCDM				*i* S		**Sb**		**18 28 14.0**	**-0.3**
ANTU	**Antumapu**	**1.40**	**64**	*e*P		**Pg**		**18 27 59.9**	**-0.9**
ANTU				*i* S		**Sg**		**18 28 18.7**	**-0.4**
ANTU				IAML				18 28 24.2	
	comp=E,4µm,0.5s								
ROC1	**El Roble**	**1.53**	**38**	*e*P		**Pb**		**18 28 01.9**	**+0.2**
ROC1				*e*S		**Sg**		**18 28 23.2**	**-0.2**
ROC1	**El Roble**	**1.53**	**38**	*e*Pn		**Pb**		**18 28 01.6**	**-0.2**
ROCH	**El Roble**	**1.54**	**38**	*i* P		**Pg**		**18 28 02.4**	**-1.1**
ROCH				*i* S		**Sg**		**18 28 23.5**	**-0.1**
ROCH				IAML				18 28 33.8	
	comp=N,3µm,0.4s								
PEL	**Peldehue**	**1.60**	**50**	⇑*i*P		**Pb**		**18 28 03.1**	**+0.3**
PEL				*i* S		**Sg**		**18 28 24.3**	**-1.2**
PEL				IAML				18 28 30.6	
	comp=N,3µm,0.4s								
FCH	**Farellones**	**1.76**	**61**	*e*P		**Pb**		**18 28 05.3**	**-0.4**
FCH				*i* S		**Sb**		**18 28 28.7**	**+1.0**
FCH				IAML				18 28 33.5	
	comp=N,2µm,0.3s								
COCH	**Cobquecura**	**2.01**	**195**	*e*P		**Pn**		**18 28 05.3**	**-1.4**
COCH				*i* S		**Sn**		**18 28 31.2**	**-0.1**
COCH				IAML				18 28 39.2	
	comp=E,4µm,0.8s								
CCHI	**Chillan**	**2.41**	**179**	*i* P		**Pn**		**18 28 13.3**	**+1.1**
CCHI				*i* S		**Sn**		**18 28 42.1**	**+0.9**
AAGR	**Agrelo**	**2.97**	**69**	*e*P		**Pb**		**18 28 24.6**	**-1.7**
ARCO	**CERRO ARCO**	**3.00**	**64**	*e*P		**Pb**		**18 28 27.2**	**+0.4**
ARCO				IAML				18 28 35.3	
	comp=Z,252nm,0.4s								
AUSP	**Uspallata**	**3.03**	**50**	*e*P		**Pb**		**18 28 25.3**	**-2.0**
ASAL	**Salagasta**	**3.19**	**61**	*e*P		**Pb**		**18 28 29.2**	**-0.8**
RTCV	**Cerro Valdivia**	**3.81**	**53**	*e*P		**Pn**		**18 28 35.1**	**+3.6**
RTLL	**Cerro Villicun**	**4.20**	**48**	*e*P		**Pn**		**18 28 40.6**	**+3.7**
RTLL				IAML				18 29 48.1	
	comp=Z,136nm,0.6s								
ACCO	**Cerro Coronel**	**4.43**	**37**	IAML				18 30 05.4	
	comp=Z,116nm,0.5s								
AVFE	**Valle Fertil**	**5.30**	**50**	IAML				18 30 09.3	
	comp=Z,50nm,0.4s								
LCO	**Las Campanas**	**5.31**	**14**	*e*Pn		**Pn**		**18 28 53.0**	**+0.6**
VCA	**Vinchina**	**6.39**	**33**	IAML				18 30 48.0	

comp=Z,65nm,0.5s
PLCA Paso Flores 6.65 170 Pn **Pn 18 29 10.6 0.0**
comp=Z,0.9nm,0.3s,baz=354,slow=15,SNR=28
PLCA Lg Lg 18 30 52.9
comp=Z,2.1nm,0.3s,baz=285,slow=20,SNR=2.6
PLCA LR LR 18 31 42.1
comp=Z,670nm,18.4s,baz=3.5,slow=38
TRQA Tornquist 9.08 118 *e*Pn **Pn 18 29 43.9 +0.1**
LVC Limon Verde 11.88 15 LR LR 18 35 54.6
comp=Z,1μm,18.6s,baz=211,slow=42
CPUP Villa Florida 14.99 62 LR LR 18 37 25.8
comp=Z,387nm,19.1s,baz=242,slow=40
LPAZ La Paz 18.19 12 P **P 18 31 47.2 +1.0**
comp=Z,0.2nm,0.3s,baz=218,slow=3.7,SNR=7.9
LPAZ La Paz 18.19 12 *e*Pn **P 18 31 47.7 +1.6**
comp=Z,18nm,1.8s
SIV San Ignacio 20.68 32 LR LR 18 41 58.1
comp=Z,245nm,19.4s,baz=242,slow=42
USHA Ushuaia 20.80 174 LR LR 18 39 42.9
comp=Z,1μm,21.9s,baz=54,slow=35
NNA Nana 22.51 348 LR LR 18 39 22.2
comp=Z,135nm,20.1s,baz=171,slow=32
ATAH Atahualpa 27.54 346 LR LR 18 42 55.8
comp=Z,97nm,18.3s,baz=185,slow=34
PMSA Palmer Station 31.01 173 LR LR 18 46 00.9
comp=Z,127nm,18.9s,baz=353,slow=36
PTGA Pitinga 35.18 21 P **P 18 34 26.8 0.0**
comp=Z,1.9nm,0.7s,baz=192,slow=12,SNR=4.3
VNA3 Neumayer Olymp 49.22 158 P **P 18 36 20.7 +0.2**
VNA1 Neumayer--Stat 49.53 157 P **P 18 36 24.0 +1.1**
VNA2 Neumayer--Watz 49.87 157 P **P 18 36 25.4 0.0**
baz=288,slow=7.6
SNAA Sanae 51.44 158 P **P 18 36 37.3 -0.1**
SNAA Sanae 51.44 158 P **P 18 36 37.1 -0.2**
comp=Z,7.8nm,0.9s,baz=281,slow=7.3,SNR=23
SNAA Sanae 51.44 158 *e*P **P 18 36 37.2 -0.1**
comp=Z,12nm,1.0s
LPIG La Paz 68.38 323 LR LR 19 00 43.9
comp=Z,92nm,19.1s,baz=50,slow=29
LTX Lajitas 69.86 331 *e*P **P 18 38 44.5 +1.1**
TXAR Lajitas Array 69.86 331 P **P 18 38 44.5 +1.1**
comp=Z,0.1nm,0.2s,baz=152,slow=8.2,SNR=6.6
TXAR LR LR 19 04 46.6
comp=Z,173nm,18.5s,baz=0.0,slow=32
MAW Mawson 73.02 164 P **P 18 39 01.5 -0.4**
comp=Z,1.4nm,0.8s,baz=213,slow=3.9,SNR=4.5
MAW LR LR 19 09 45.5
comp=Z,87nm,21.9s,baz=243,slow=35
BOSA Boshof 80.06 118 P **P 18 39 42.2 -0.5**
comp=Z,5.2nm,0.9s,baz=83,slow=1.2,SNR=5.7
TOA0 Torodi Ar. Sit 84.35 70 *e*P **P 18 40 04.1 -0.9**
TOA1 Torodi Ar. Sit 84.35 70 *e*P **P 18 40 04.1 -1.0**
comp=Z,2.6nm,1.0s
TORD Torodi Ar. Bea 84.35 70 P **P 18 40 04.1 -1.0**
comp=Z,1.4nm,1.0s,baz=244,slow=3.6,SNR=5.2
ZAA1 Zalesovo Array 154.43 32 *e*PKPbc **PKPbc 18 47 32.5 +0.1**
ZAA1 *e*PKPab **PKPab 18 47 46.0 -0.8**
ZALV Zalesovo Beam 154.43 32 PKPbc **PKPbc 18 47 32.5 +0.1**
comp=Z,0.8nm,0.6s,baz=303,slow=4.5,SNR=5.4
ZALV PKPab **PKPab 18 47 46.0 -0.8**
comp=Z,0.8nm,0.6s,baz=285,slow=5.5,SNR=3.1

*JMA **17** 18:31:14.8±0.1,28.°79N×140.°10E,h494km,M3.8*
*ISCJB **17** 18:31:15.2±0.4,28.°73N±0.°03×139.°48E±0.°06,h450km, mb3.5/13,Error ellipse: s-maj=7.5km s-min=4.6km az=178.8*
*IDC **17** 18:31:16.2±1.1,28.°76N×139.°42E,h454km±12km, mb3.3/13,mb1 3.4/17,mb1mx3.2/45,mbtmp4.1/17,Error ellipse: s-maj=17.5km s-min=11.5km az=83.0*
ISC 17 18:31:16.1±0.7,28°81N±0.°07×139°61E±0.°09,h450km,n46, σ1s77/58,mb3.7/13,Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**2.85**	**126**	P		**P**	**P**	**18 32 22.7**	**+0.6**
CBIJ				*e*S			**S**	**18 33 15.6**	**0.0**
JHHJ	**Haha-jima-NKT**	**3.15**	**133**	P		**P**	**P**	**18 32 24.3**	**0.0**
JHHJ				*e*S			**S**	**18 33 20.2**	**+0.6**
JHJ2	**Mitsune**	**4.29**	**2**	P		**P**	**P**	**18 32 36.8**	**+3.1**
JHJ	**Hachijo jima 2**	**4.30**	**2**	P		**P**	**P**	**18 32 36.2**	**+2.5**
	41nm,0.3s,baz=36,slow=22,SNR=16								
JHJ				S			**S**	**18 33 37.7**	**+0.6**
	12nm,0.3s,baz=237,slow=17,SNR=3.4								
BSO1	**Boso 1**	**5.94**	**11**	P		**P**	**P**	**18 32 50.7**	**+1.7**
BSO1				*e*S			**S**	**18 34 08.3**	**+3.1**
BSO3	**Boso 3**	**6.02**	**7**	P		**P**	**P**	**18 32 52.0**	**+1.8**
BSO3				*e*S			**S**	**18 34 07.5**	**+0.3**
JIE	**Ise**	**6.09**	**337**	P		**P**	**P**	**18 32 54.9**	**+3.8**
JKN2	**Miekihoku**	**6.11**	**333**	P		**P**	**P**	**18 32 55.2**	**+3.8**
JOD2	**Odawara 2**	**6.45**	**356**	*e*S		**S**	**P**	**18 34 14.8**	**-1.0**
JNY	**Yasuok**	**6.69**	**348**	P		**P**	**P**	**18 32 59.8**	**+2.3**
JAO	**Obara**	**6.74**	**343**	P		**P**	**P**	**18 33 01.0**	**+3.1**
JAO				S			**S**	**18 34 22.6**	**+1.2**
JEG	**Eigenji**	**6.87**	**337**	P		**P**	**P**	**18 33 03.3**	**+4.0**
JHU	**Hanno**	**7.02**	**358**	*e*S		**S**	**P**	**18 34 23.3**	**-3.5**
JRY	**Ryogami san**	**7.21**	**355**	P		**P**	**P**	**18 33 04.5**	**+1.6**
JRY				*e*S			**S**	**18 34 29.6**	**-0.9**
JYT	**Yasato**	**7.41**	**4**	P		**P**	**P**	**18 33 06.6**	**+1.6**
JYT				*e*S			**S**	**18 34 31.0**	**-3.3**
JAG	**Ashikaga**	**7.59**	**359**	P		**P**	**P**	**18 33 07.5**	**+0.5**
JAG				*e*S			**S**	**18 34 34.4**	**-3.5**
MJAR	**Matsushiro Arr**	**7.80**	**352**	P		**P**	**P**	**18 33 09.6**	**+0.4**
	0.8nm,0.3s,baz=171,slow=11,SNR=20								
MJAR				S			**S**	**18 34 41.1**	**-0.9**
	0.4nm,0.3s,baz=284,slow=28,SNR=4.3								
MAT	**Matsushiro**	**7.80**	**352**	P		**P**	**P**	**18 33 09.7**	**+0.5**
MAT				S			**S**	**18 34 42.8**	**+0.8**
JHO	**Hitachi**	**7.82**	**6**	P		**P**	**P**	**18 33 10.6**	**+1.2**
JHO				*e*S			**S**	**18 34 41.3**	**-1.1**
JHS	**Saijyo**	**8.27**	**320**	P		**P**	**P**	**18 33 17.1**	**+2.7**
JFK	**Kawauchi**	**8.60**	**7**	*e*S		**S**	**S**	**18 34 56.3**	**-1.6**
JNU	**Nakatsue**	**8.64**	**302**	P		**P**	**P**	**18 33 20.6**	**+2.3**
	0.8nm,0.3s,baz=85,slow=2.6,SNR=10.0								
KSRS	**Korea Array**	**13.03**	**314**	P		**P**	**P**	**18 34 06.6**	**+0.6**
	1.0nm,0.3s,baz=129,slow=10,SNR=23								
USRK	**Ussuriysk Ar.**	**16.52**	**340**	P		**P**	**P**	**18 34 44.5**	**+1.4**
	1.0nm,0.3s,baz=176,slow=7.6,SNR=12								
SONM	**Songino Array**	**31.90**	**316**	P		**P**	**P**	**18 37 02.7**	**-0.1**
	3.4nm,0.5s,baz=128,slow=8.3,SNR=28								
ODAN	**Odare**	**45.91**	**281**	*e*P		**P**	**P**	**18 38 56.7**	**-0.7**
	9.6nm,0.4s								
RAMN	**Ramite**	**46.57**	**281**	*e*P		**P**	**P**	**18 39 01.8**	**-0.6**
	16nm,0.7s								
ZALV	**Zalesovo Beam**	**46.70**	**318**	P		**P**	**P**	**18 39 01.6**	**-1.0**
	1.2nm,0.4s,baz=100,slow=7.7,SNR=7.4								
JIRN	**Jiri**	**46.74**	**282**	*e*P		**P**	**P**	**18 39 03.8**	**0.0**
	108nm,0.4s								
GUN	**Gumba**	**46.94**	**282**	*e*P		**P**	**P**	**18 39 05.6**	**+0.2**
	20nm,0.5s								
KKN	**Kakani**	**47.49**	**282**	*e*P		**P**	**P**	**18 39 08.5**	**-0.8**
DMN	**Daman**	**47.68**	**282**	*e*P		**P**	**P**	**18 39 10.0**	**-0.8**
GKN	**Gorkha**	**47.98**	**283**	*e*P		**P**	**P**	**18 39 12.1**	**-0.9**
	3.4nm,0.3s								
WRA	**Warramunga Arr**	**48.74**	**187**	P		**P**	**P**	**18 39 17.4**	**-1.0**
	3.1nm,0.5s,baz=2.7,slow=7.7,SNR=66								
KOLN	**Koldanda**	**48.93**	**283**	*e*P		**P**	**P**	**18 39 19.8**	**-0.3**
	4.2nm,0.4s								
PYUN	**Piuthan**	**49.37**	**284**	*e*P		**P**	**P**	**18 39 23.3**	**-0.1**
	14nm,0.4s								
KURBB	**Kurchatov Arra**	**50.21**	**313**	P		**P**	**P**	**18 39 27.9**	**-1.0**
	6.8nm,0.5s,baz=91,slow=8.3,SNR=87								
ASAR	**Alice Springs**	**52.46**	**187**	P		**P**	**P**	**18 39 44.9**	**-0.9**
	0.9nm,0.6s,baz=15,slow=13,SNR=29								
KDAK	**Kodiak Island**	**54.38**	**38**	P		**P**	**P**	**18 39 59.9**	**+1.0**
	4.0nm,0.8s,baz=289,slow=3.2,SNR=7.1								
ILAR	**Eielson Array**	**57.32**	**29**	P		**P**	**P**	**18 40 19.5**	**+0.1**
	0.2nm,0.5s,baz=245,slow=6.8,SNR=4.1								
YKA	**Yellowknife Ar**	**71.71**	**28**	P		**P**	**P**	**18 41 51.5**	**+0.5**
	0.5nm,0.5s,baz=137,slow=45,SNR=2.8								
KBZ	**Khabaz**	**75.17**	**312**	P		**P**	**P**	**18 42 10.8**	**-0.4**
	2.6nm,0.8s,baz=106,slow=2.4,SNR=8.2								
FINES	**FINESS Array B**	**75.40**	**333**	P		**P**	**P**	**18 42 11.6**	**-0.6**
	1.0nm,0.4s,baz=76,slow=4.4,SNR=26								
AKASG	**Malin Array Be**	**79.88**	**323**	P		**P**	**P**	**18 42 35.8**	**-1.0**
	0.3nm,0.4s,baz=52,slow=6.2,SNR=5.5								
BRTR	**Keskin Array B**	**83.16**	**312**	P		**P**	**P**	**18 42 52.4**	**-1.7**
	0.3nm,0.4s,baz=117,slow=0.3,SNR=2.9								
TXAR	**Lajitas Array**	**96.37**	**52**	P		**P**	**P**	**18 43 57.2**	**+1.1**
	0.1nm,0.6s,baz=328,slow=3.3,SNR=2.4								

JMA 17 18:31:58.9,40.°82N×139.°33E,h19km±1km,M3.1,Near west coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
JIW	**Iwasaki**	**0.56**	**114**	P		**P**	Pb	18 32 09.8	-0.3
JIW				*e*S			Sb	18 32 17.6	-0.1
JSI2	**Shiura 2**	**0.85**	**73**	P		**P**	Pb	18 32 14.7	-0.4
JSI2				*e*S			Sb	18 32 26.0	-0.1
JSR	**Shiriuchi**	**1.08**	**49**	P		**P**	Pb	18 32 18.6	-0.4
JSR				*e*S			Sb	18 32 33.0	+0.2
JAH	**Hinai**	**1.18**	**122**	P		**P**	Pn	18 32 20.1	-0.3
JAH				*e*S			Sn	18 32 35.7	-0.2
JOSM	**Okushiri--Mats**	**1.27**	**5**	P		**P**	Pn	18 32 19.9	-1.7
JOSM				*e*S			Sb	18 32 35.2	-2.8
JTM	**Tenmabayashi**	**1.32**	**91**	P		**P**	Pn	18 32 21.7	-0.6
JTM				*e*S			Sn	18 32 38.2	-1.2
JOT	**Ohata**	**1.42**	**66**	P		**P**	Pn	18 32 23.5	-0.1
JOT				*e*S			Sn	18 32 41.2	-0.5
JYM2	**Yakumo 2**	**1.51**	**31**	P		**P**	Pn	18 32 25.2	+0.2

*IDC **17** 18:32:08.6±1.1,31.°92S×177.°92W,h0km,mb4.4/5, mb1 4.5/6,mb1mx4.0/30,mbtmp4.4/6,ML4.4/1,MS3.9/1, Ms1 3.9/1,ms1mx3.0/31,Error ellipse: s-maj=33.0km s-min=24.3km az=128.0*
*NEIC **17** 18:32:09.7±0.6,32.°14S×177.°97W,h10km,mb4.4/5,Error ellipse: s-maj=18.2km s-min=9.6km az=108.0*
*ISCJB **17** 18:32:11.4±1.0,32.°27S±0.°07×178.°2W±0.°2,h24km, mb4.3/9,Error ellipse: s-maj=21.4km s-min=8.0km az=14.6*
ISC 17 18:32:11.6±0.8,32.°12S±0.°08×178.°0W±0.°2,h24km,n39, σ1s85/41,mb4.5/9,South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**2.86**	**1**	Pn		**P**	**Pn**	**18 32 53.0**	**-2.8**
	67nm,0.3s,baz=128,slow=18,SNR=5.3								
RAO				Sn			**Sn**	**18 33 25.2**	**-4.3**
	75nm,0.3s,baz=90,slow=19,SNR=3.9								
MXZ	**Matakaoa Point**	**6.22**	**208**	*e*Pn		**P**	**Pn**	**18 33 40.1**	**-1.8**
URZ	**Urewera**	**7.31**	**212**	Pn		**P**	**Pn**	**18 33 55.3**	**-1.5**
	2.0nm,0.3s,baz=348,slow=2.0,SNR=15								
URZ				Sn			**Sn**	**18 35 16.7**	**-2.4**
	7.0nm,0.3s,baz=249,slow=3.6,SNR=14								
URZ	**Urewera**	**7.31**	**212**	*e*Pn		**P**	**Pn**	**18 33 55.3**	**-1.5**
URZ				*e*Sn			**Sn**	**18 35 16.7**	**-2.4**
URZ				*e*Sn			**Sn**	**18 35 18.9**	**-0.2**
BKZ	**Black Stump Fm**	**8.33**	**211**	*e*Pn		**P**	**Pn**	**18 34 12.4**	**+1.5**
BKZ				*e*Sn			**Sn**	**18 35 44.1**	**-0.2**
BFZ	**Birch Farm**	**9.71**	**207**	*e*Pn		**P**	**Pn**	**18 34 26.8**	**-3.1**
BFZ				*e*Sn			**Sn**	**18 36 13.6**	**-4.5**
KHZ	**Kahutara**	**12.28**	**211**	*e*Pn		**P**	**Pn**	**18 35 00.6**	**-4.3**
DZM	**Mont Dzumac**	**17.07**	**302**	LR		LR		18 40 24.3	
	comp=Z,357nm,18.9s,baz=196,slow=29								
CTA	**Charters Tower**	**34.11**	**282**	P		**P**	**P**	**18 38 55.9**	**+1.2**
	4.8nm,0.7s,baz=93,slow=11,SNR=6.2								
STKA	**Stephens Creek**	**34.12**	**259**	P		**P**	**P**	**18 38 57.3**	**+2.7**
	1.9nm,0.6s,baz=99,slow=13,SNR=8.2								
STKA	**Stephens Creek**	**34.12**	**259**	*e*P		**P**	**P**	**18 38 57.3**	**+2.7**
	5.8nm,2.0s								
AS31	**Alice Springs**	**43.04**	**269**	*e*P		**P**	**P**	**18 40 10.6**	**+0.9**
	1.2nm,0.9s								
ASAR	**Alice Springs**	**43.04**	**269**	P		**P**	**P**	**18 40 09.9**	**+0.3**
	1.7nm,0.5s,baz=116,slow=5.7,SNR=4.2								
WB2	**Warramunga Arr**	**44.18**	**274**	*e*P		**P**	**P**	**18 40 19.0**	**+0.2**
WRAB	**Tennant Creek**	**44.18**	**274**	*e*P		**P**	**P**	**18 40 18.6**	**-0.2**
	24nm,1.7s								
WR1	**Warramunga Arr**	**44.19**	**274**	*e*P		**P**	**P**	**18 40 19.0**	**+0.1**
	6.9nm,0.6s								
WRA	**Warramunga Arr**	**44.19**	**274**	P		**P**	**P**	**18 40 19.0**	**+0.1**
	3.8nm,0.4s,baz=113,slow=7.9,SNR=43								
SNAA	**Sanae**	**76.44**	**178**	P		P		18 44 10.0	+11
SNAA	**Sanae**	**76.44**	**178**	*e*P		**P**	**P**	**18 43 58.9**	**0.0**
	4.3nm,1.1s								
VNA3	**Neumayer Olymp**	**76.59**	**176**	P		**P**	**P**	**18 44 01.8**	**+2.1**
VNA2	**Neumayer--Watz**	**77.02**	**177**	P		P		18 44 11.8	+10
	baz=185,slow=1.8								
VNA1	**Neumayer--Stat**	**77.25**	**177**	P		P		18 44 15.3	+12
PETK	**Petropavlovsk-**	**87.48**	**346**	P		**P**	**P**	**18 44 58.0**	**+1.3**
	2.6nm,0.8s,baz=115,slow=6.7,SNR=4.0								
PEA1	**Petropavlovsk-**	**87.48**	**346**	*e*P		**P**	**P**	**18 44 58.0**	**+1.3**
KBZ	**Khabaz**	**146.04**	**302**	PKPbc		**PKPab**	**PKPab**	**18 51 50.1**	**+0.3**
	2.3nm,1.0s,baz=166,slow=8.5,SNR=5.3								
FIA0	**FINESS Array S**	**146.75**	**339**	*e*PKPdf		**PKPbc**	**PKPbc**	**18 51 51.2**	**+0.4**
FINES	**FINESS Array B**	**146.75**	**339**	PKPbc		**PKPbc**	**PKPab**	**18 51 51.2**	**+0.4**
	3.0nm,0.5s,baz=58,slow=4.1,SNR=50								
NB2	**NORSAR Subarra**	**150.45**	**351**	PKP		**PKPbc**	**PKPbc**	**18 52 01.0**	**+0.6**
	comp=Z,0.8nm,0.7s,baz=17,slow=2.6								
NB200	**NORSAR Array S**	**150.45**	**351**	*e*PKPbc		**PKPbc**	**PKPbc**	**18 52 00.2**	**-0.2**
NOA	**NORSAR Array B**	**150.45**	**351**	PKPbc		**PKPbc**	**PKPbc**	**18 52 00.2**	**-0.2**
	comp=Z,0.8nm,0.6s,baz=16,slow=4.2,SNR=4.3								
HFS	**Hagfors**	**150.93**	**348**	PKPbc		**PKPbc**	**PKPbc**	**18 52 01.9**	**+0.3**
	comp=Z,6.5nm,1.1s,baz=298,slow=3.1,SNR=5.9								
EIL	**Elat**	**151.68**	**274**	PKPbc		**PKPbc**	**PKPbc**	**18 52 04.9**	**+0.7**
	comp=Z,3.8nm,0.7s,baz=359,slow=3.3,SNR=5.5								
AKASG	**Malin Array Be**	**152.65**	**321**	PKPbc		**PKPbc**	**PKPbc**	**18 52 04.8**	**-0.9**
	comp=Z,0.3nm,0.4s,baz=56,slow=2.4,SNR=6.1								
AKBB	**Malin Array Si**	**152.65**	**321**	*e*PKPbc		**PKPbc**	**PKPbc**	**18 52 04.8**	**-0.9**
BR101	**Keskin Array S**	**153.38**	**295**	*e*PKPbc		**PKPbc**	**PKPbc**	**18 52 08.4**	**+0.5**
BRTR	**Keskin Array B**	**153.38**	**295**	PKPbc		**PKPbc**	**PKPbc**	**18 52 08.4**	**+0.5**
	comp=Z,1.2nm,0.8s,baz=217,slow=0.6,SNR=5.8								
CLL	**Collm**	**159.19**	**340**	*e*PKPab		**PKPab**	**PKPab**	**18 52 44.0**	**-0.4**
TORD	**Torodi Ar. Bea**	**161.11**	**179**	PKPab		**PKPab**	**PKPab**	**18 52 55.2**	**+1.6**
	comp=Z,0.5nm,0.7s,baz=165,slow=3.7,SNR=3.7								
TOA1	**Torodi Ar. Sit**	**161.12**	**179**	*e*PKPab		**PKPbc**	**PKPab**	**18 52 55.2**	**+1.6**

*RSNC **17** 18:45:27.3±0.8,11.°19N×72.°94W,h0km±10km,ML2.5*
*FUNV **17** 18:45:31.9,10.°64N×72.°72W,h1km,MW2.2*
ISC 17 18:45:24.7±1.7,11.°00N±0.°06×72.°78W±0.°05,h1km±12km, n11,σ2s19/17,Venezuela

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
VIRV	**Villa del Rosa**	**0.61**	**143**	*e*P		**P**	**Pb**	**18 45 38.2**	**-0.1**
VIRV				*e*S			**Sg**	**18 45 43.6**	**-0.8**
URIC	**Uribia, Colomb**	**1.04**	**48**	*e*P		**P**	**Pn**	**18 45 46.4**	**0.0**
URIC				*i*				18 45 52.6	
	comp=Z,92nm,0.1s								
URIC				*e*S			**Sn**	**18 46 01.4**	**-0.2**
CODC	**Agust`n Codaz**	**1.24**	**212**	*e*P		**P**	**Pg**	**18 45 50.4**	**+1.8**
CODC				*e*S			**Sn**	**18 46 10.0**	**+3.3**
CODC				*i*				18 46 22.5	
	comp=Z,86nm,0.5s								
DABV	**Dabajuro**	**2.10**	**92**	*e*P		**P**	**Pg**	**18 46 06.5**	**+1.4**
DABV				*e*S			**Sg**	**18 46 33.3**	**+0.8**
QARV	**Quebrada Arrib**	**2.35**	**109**	*e*P		**P**	**Pg**	**18 46 09.2**	**-0.6**
QARV				*e*S			**Sb**	**18 46 37.1**	**-0.5**
VIGV	**El Vigia**	**2.56**	**147**	*e*P		**P**	**Pb**	**18 46 10.2**	**-1.3**
VIGV				*e*S			**Sn**	**18 46 36.4**	**-2.8**
SJCC	**San Jacinto, C**	**2.60**	**245**	*e*S		**S**	**Sb**	**18 46 41.5**	**-3.3**
SJCC				*i*				18 47 05.0	
	comp=Z,7.6nm,0.5s								
OCAC	**Ocana**	**2.79**	**191**	*e*S		**S**	**Sg**	**18 46 51.5**	**-3.1**
OCAC				*i*				18 47 07.4	
	comp=Z,43nm,0.7s								
CURV	**Curarigua**	**2.94**	**109**	*e*P		**P**	**Pb**	**18 46 16.9**	**-1.2**
SOCV	**Socops**	**3.30**	**145**	*e*P		**P**	**Pn**	**18 46 19.7**	**+2.1**
BAUV	**El Baul**	**5.09**	**113**	*e*P		**P**	**Pn**	**18 46 45.2**	**+3.0**

*GUC **17** 18:52:47.4±0.7,34.°24S×72.°43W,h43km±2km,ML3.5*
*ISCJB **17** 18:52:48.7±1.4,34.°17S±0.°04×72.°36W±0.°10,h28km±7km, Error ellipse: s-maj=13.9km s-min=6.7km az=7.3*
*SJA **17** 18:52:48.4±1.1,33.°50S×72.°65W,h5km,ML3.3,MW3.6*
ISC 17 18:52:48.1±2.2,34.°09S±0.°05×72.°4W±0.°1,h21km±4km,n18, σ1s29/24,3C,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CHPI	**Pichilemu**	**0.42**	**136**	*i*	F	**P**	**Pb**	**18 52 56.5**	**-0.1**
CHPI				*i*	S	**S**	**Sb**	**18 53 03.3**	**+0.9**
NICH	**Los Niches**	**1.30**	**135**	*e*P		**P**	Pn	18 53 08.2	-2.7
NICH				*i*	S	**S**	**Sn**	**18 53 24.9**	**-2.8**
RCDM	**Rinconada Maip**	**1.42**	**65**	*e*P		**P**	**Pn**	**18 53 12.4**	**-0.3**
RCDM				*i*	S	**S**	**Sn**	**18 53 30.9**	**+0.1**
TALC	**Talca**	**1.43**	**156**	*i*	F	**P**	**Pn**	**18 53 13.5**	**+0.7**
TALC				*i*	S	**S**	**Sn**	**18 53 30.9**	**-0.1**
ANTU	**Antumapu**	**1.53**	**70**	*e*P		**P**	**Pn**	**18 53 14.3**	**+0.1**
ANTU				*i*	S	**S**	**Sn**	**18 53 34.5**	**+1.2**
ANTU				IAML				18 53 35.0	
	comp=E,751nm,0.8s								
ROC1	**El Roble**	**1.58**	**46**	*e*P		**P**	**Pb**	**18 53 15.7**	**-1.1**
ROC1				*e*S			**Sb**	**18 53 37.7**	**+1.4**
ROCH	**El Roble**	**1.58**	**46**	*e*P		**P**	**Pn**	**18 53 14.8**	**-0.3**
ROCH				*i*	S	**S**	**Sb**	**18 53 36.8**	**+0.4**
ROCH				IAML				18 53 46.3	
	comp=E,910nm,0.5s								
CLCH	**Cerro Calan**	**1.67**	**66**	*i*	P	**P**	**Pn**	**18 53 16.6**	**+0.4**
CLCH				*i*	S	**S**	**Sn**	**18 53 38.0**	**+1.1**
CLCH				IAML				18 53 44.3	
	comp=N,707nm,0.6s								
PEL	**Peldehue**	**1.69**	**56**	*e*P		**P**	**Pn**	**18 53 16.9**	**+0.6**
PEL				*i*	S	**S**	**Sb**	**18 53 38.7**	**-0.5**
PEL				IAML				18 53 47.8	
	comp=N,766nm,0.7s								
FCH	**Farellones**	**1.88**	**67**	*e*P		**P**	**Pn**	**18 53 19.7**	**+0.3**
FCH				*i*	S	**S**	**Sn**	**18 53 43.8**	**+1.2**
FCH				IAML				18 53 51.2	
	comp=E,497nm,0.5s								
AUSP	**Uspallata**	**3.11**	**54**	*e*P		**P**	**Pb**	**18 53 39.8**	**-3.1**
AAGR	**Agrelo**	**3.11**	**72**	*e*P		**P**	**Pb**	**18 53 43.1**	**+0.3**
ARCO	**CERRO ARCO**	**3.12**	**67**	*e*P		**P**	**Pb**	**18 53 42.1**	**-0.9**
ARCO				IAML				18 53 48.7	
	comp=Z,72nm,0.5s								
ASAL	**Salagasta**	**3.31**	**64**	*e*P		**P**	**Pb**	**18 53 44.8**	**-1.3**
RTCV	**Cerro Valdivia**	**3.90**	**56**	*e*P		**P**	Pb	18 53 51.4	-4.8
ACCO	**Cerro Coronel**	**4.47**	**39**	IAML				18 55 15.8	
	comp=Z,266nm,0.5s								
AROD	**Rodeo**	**4.62**	**33**	*e*P		**P**	**Pn**	**18 53 58.8**	**+1.9**
VCA	**Vinchina**	**6.41**	**35**	IAML				18 56 01.7	
	comp=Z,15nm,0.6s								

*ISK **17** 18:53:20.9,38.°43N×39.°59E,h13km,MD2.6*
*ISCJB **17** 18:53:21.9±0.9,38.°41N±0.°05×39.°37E±0.°09,h20km±11km, Error ellipse: s-maj=12.3km s-min=8.9km az=174.5*
*CSEM **17** 18:53:21.4±0.5,38.°43N×39.°43E,h15km,MD2.6,Error ellipse: s-maj=14.8km s-min=10.1km az=74.0*
*DDA **17** 18:53:23.8,38.°47N×39.°26E,h7km,Md2.0*
ISC 17 18:53:21.3±1.4,38.°44N±0.°04×39.°41E±0.°07,h14km±12km, n11,σ0s85/16,Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SVRC	**Sivrice-ELAZID**	**0.10**	**231**	*e*PG		**P**	**Pb**	**18 53 26.2**	**+1.0**
SVRC	**Sivrice-ELAZID**	**0.10**	**231**	*e*Pg		**P**	**Pb**	**18 53 26.3**	**+1.0**
ELZG	**Elazig**	**0.34**	**279**	*i*	P	**P**	**Pg**	**18 53 28.5**	**+0.2**
ELZG				*i*	S	**S**	**Sg**	**18 53 32.3**	**-0.7**
ELZG	**Elazig**	**0.34**	**279**	P		**P**	**Pg**	**18 53 28.5**	**+0.2**
ELZG				S			**Sg**	**18 53 32.3**	**-0.7**
PTK	**Pertek**	**0.45**	**358**	*e*PG		**P**	**Pg**	**18 53 31.0**	**+0.7**
PTK				*e*SG			**Sb**	**18 53 38.4**	**+0.6**
PTK	**Pertek**	**0.45**	**358**	*e*Pg		**P**	**Pg**	**18 53 31.0**	**+0.7**
PTK				*e*Sg			**Sb**	**18 53 38.4**	**+0.6**
KEMA	**Kemaliye**	**1.09**	**319**	*i*	P	**P**	**Pb**	**18 53 42.1**	**0.0**
KEMA				*i*	S		**Sb**	**18 53 56.4**	**+0.2**
URFA	**Urfa**	**1.10**	**205**	*e*PN		**P**	**Pg**	**18 53 43.2**	**+0.6**
URFA	**Urfa**	**1.10**	**205**	*e*Pn		**P**	**Pg**	**18 53 43.2**	**+0.6**
MAZI	**Mazidag**	**1.28**	**140**	*e*PN		**P**	**Pn**	**18 53 43.7**	**-1.2**
MAZI	**Mazidag**	**1.28**	**140**	*e*Pn		**P**	**Pn**	**18 53 43.7**	**-1.2**

**TRN 17

MSRU					Sg	S	19 08 33.1	-1.0	
	159nm,0.4s								
IACL	Alicudi	0.88	234	⇓	iPg	Pn	19 08 04.1	+0.7	
	135nm,1.1s								
IACL	Alicudi	0.88	234	⇓	iPg	Pn	19 08 04.1	+0.7	
	135nm,1.1s								
ATN	Antennamare	0.91	170	⇓	iPg	Pn	19 08 03.5	-0.2	
ATN					Sg	S	19 08 33.7	-1.3	
	132nm,0.3s								
ATN	Antennamare	0.91	170	⇓	iPg	Pn	19 08 03.5	-0.2	
ATN					Sg	S	19 08 33.7	-1.3	
	132nm,0.3s								
MPNC	Port Mandanici	0.91	175	⇓	iPg	Pn	19 08 03.6	0.0	
	236nm,0.4s								
MPNC	Port Mandanici	0.91	175	⇓	iPg	Pn	19 08 03.6	0.0	
	236nm,0.4s								
MSCL	Scilla	0.92	153	⇓	iPg	Pn	19 08 03.7	0.0	
	220nm,0.2s								
MSCL	Scilla	0.92	153	⇓	iPg	Pn	19 08 03.7	0.0	
	220nm,0.2s								
GRI	Girifalco	0.94	104		Pg	Pn	19 08 04.7	+1.1	
	142nm,0.4s								
GRI	Girifalco	0.94	104		Pg	Pn	19 08 04.7	+1.1	
	142nm,0.4s								
CEL	Celeste	0.94	148	⇓	iPg	Pn	19 08 03.8	+0.1	
CEL					Sg	S	19 08 33.3	-1.8	
	125nm,0.3s								
CEL	Celeste	0.94	148	⇓	iPg	Pn	19 08 03.8	+0.1	
CEL					Sg	S	19 08 33.3	-1.8	
	125nm,0.3s								
MCSR	Castroreale	0.99	180	⇓	iPg	Pn	19 08 04.7	+0.7	
	263nm,0.3s								
MCSR	Castroreale	0.99	180	⇓	iPg	Pn	19 08 04.7	+0.7	
	263nm,0.3s								
GMB	Gambarie	0.99	153		Pg	Pn	19 08 04.5	+0.4	
	443nm,0.3s								
GMB	Gambarie	0.99	153		Pg	Pn	19 08 04.5	+0.4	
	443nm,0.3s								
MMN	Mormanno	1.01	34		Pg	Pn	19 08 04.6	+0.8	
	20nm,0.6s								
MMN	Mormanno	1.01	34		Pg	Pn	19 08 04.6	+0.8	
	20nm,0.6s								
BULG	Bulgheria - Ca	1.03	5		Pg	Pn	19 08 05.3	+1.3	
	61nm,0.9s								
BULG	Bulgheria - Ca	1.03	5		Pg	Pn	19 08 05.3	+1.3	
	61nm,0.9s								
NOV	Novara	1.03	185	⇓	iPg	Pn	19 08 05.1	+0.9	
	140nm,0.3s								
NOV	Novara	1.03	185	⇓	iPg	Pn	19 08 05.1	+0.9	
	140nm,0.3s								
CUC	Castrocucco	1.03	25	⇓	iPg	Pn	19 08 04.7	+0.7	
	37nm,1.0s								
CUC	Castrocucco	1.03	25	⇓	iPg	Pn	19 08 04.7	+0.7	
	37nm,1.0s								
MUCR	Ucria	1.05	197	⇓	iPg	Pn	19 08 04.6	+0.2	
	44nm,0.4s								
MUCR	Ucria	1.05	197	⇓	iPg	Pn	19 08 04.6	+0.2	
	44nm,0.4s								
PLAC	Placanica	1.10	123	⇓	iPg	Pn	19 08 05.2	+0.7	
PLAC					Sg	S	19 08 35.2	-1.2	
	249nm,0.5s								
PLAC	Placanica	1.10	123	⇓	iPg	Pn	19 08 05.2	+0.7	
PLAC					Sg	S	19 08 35.2	-1.2	
	249nm,0.5s								
MGR	Morigerati	1.10	12		Pg	Pn	19 08 05.3	+1.0	
	34nm,0.8s								
MGR	Morigerati	1.10	12		Pg	Pn	19 08 05.3	+1.0	
	34nm,0.8s								
SERS	Sersale	1.11	91	⇓	iPg	Pn	19 08 05.5	+0.9	
SERS					Sg	S	19 08 35.6	-1.0	
	147nm,0.6s								
SERS	Sersale	1.11	91	⇓	iPg	Pn	19 08 05.5	+0.9	
SERS					Sg	S	19 08 35.6	-1.0	
	147nm,0.6s								
MMME	Mongiuffi-Meli	1.12	180	⇓	iPg	Pn	19 08 05.4	+0.7	
	147nm,0.3s								
MMME	Mongiuffi-Meli	1.12	180	⇓	iPg	Pn	19 08 05.4	+0.7	
	147nm,0.3s								
MSFR	San Fratello	1.15	207	⇓	iPg	Pn	19 08 05.6	+0.8	
	20nm,0.3s								
MSFR	San Fratello	1.15	207	⇓	iPg	Pn	19 08 05.6	+0.8	
	20nm,0.3s								
SOI	Samo	1.16	147	⇓	iPg	Pn	19 08 05.2	+0.4	
	68nm,0.5s								
SOI	Samo	1.16	147	⇓	iPg	Pn	19 08 05.2	+0.4	
	68nm,0.5s								
SALB	San Lorenzo Be	1.18	45	⇓	iPg	Pn	19 08 06.0	+1.1	
SALB					Sg	S	19 08 36.8	-0.3	
SALB	San Lorenzo Be	1.18	45	⇓	iPg	Pn	19 08 06.0	+1.1	
SALB					Sg	S	19 08 36.8	-0.3	
MNO	Monte Soro	1.20	202		Pg	Pn	19 08 06.7	+1.4	
	55µm,14.0s								
MNO	Monte Soro	1.20	202		Pg	Pn	19 08 06.7	+1.4	
	55µm,14.0s								
MPAZ	Palizzi	1.25	152		Pg	Pn	19 08 05.8	+0.5	
	135nm,0.2s								
MPAZ	Palizzi	1.25	152		Pg	Pn	19 08 05.8	+0.5	
	135nm,0.2s								
CMPR	Campora	1.26	2	⇑	iPg	Pn	19 08 06.5	+1.3	
	77nm,1.2s								
CMPR	Campora	1.26	2	⇑	iPg	Pn	19 08 06.5	+1.3	
	77nm,1.2s								
MTSN	Montesano sull	1.27	17		Pg	Pn	19 08 06.1	+0.8	
	34nm,0.7s								
MTSN	Montesano sull	1.27	17		Pg	Pn	19 08 06.1	+0.8	
	34nm,0.7s								
PIPA	Pietrapaola	1.28	70	⇓	iPg	Pn	19 08 06.5	+1.1	
PIPA					Sg	S	19 08 37.8	-0.2	
PIPA	Pietrapaola	1.28	70	⇓	iPg	Pn	19 08 06.5	+1.1	
PIPA					Sg	S	19 08 37.8	-0.2	
SCHR	S. Chirico Rap	1.30	29		Pg	Pn	19 08 07.1	+1.6	
	74nm,1.4s								
MCEL	Monticello	1.34	18		Pg	Pn	19 08 07.3	+1.6	
	81nm,0.7s								
MCEL	Monticello	1.34	18		Pg	Pn	19 08 07.3	+1.6	
	81nm,0.7s								
ORI	Oriolo Calabro	1.36	42		Pg	Pn	19 08 07.0	+1.2	
	233nm,0.7s								
ORI	Oriolo Calabro	1.36	42		Pg	Pn	19 08 07.0	+1.2	
	233nm,0.7s								
SLCN	Sala Consilina	1.36	12		Pg	Pn	19 08 07.7	+1.8	
	60nm,0.6s								
SLCN	Sala Consilina	1.36	12		Pg	Pn	19 08 07.7	+1.8	
	60nm,0.6s								
PLLN	Pollina	1.38	220		Pg	Pn	19 08 06.6	+0.5	
	78nm,0.4s								
PLLN	Pollina	1.38	220		Pg	Pn	19 08 06.6	+0.5	
	78nm,0.4s								
CDRU	Civita di Ruta	1.43	1	⇑	iPg	Pn	19 08 07.4	+1.1	
	35nm,1.5s								
CDRU	Civita di Ruta	1.43	1	⇑	iPg	Pn	19 08 07.4	+1.1	
	35nm,1.5s								
GIB	Gibilmanna	1.44	223	⇓	iPg	Pn	19 08 06.9	+0.4	
	148nm,0.5s								
GIB	Gibilmanna	1.44	223	⇓	iPg	Pn	19 08 06.9	+0.4	
	148nm,0.5s								
GALF	Gagliano Caste	1.45	202		Pg	Pn	19 08 07.8	+1.3	
	83nm,0.5s								
GALF	Gagliano Caste	1.45	202		Pg	Pn	19 08 07.8	+1.3	
	83nm,0.5s								
ECNV	Catenanuova	1.52	197	⇓	iPg	Pn	19 08 08.8	+1.8	
	222nm,1.0s								
ECNV	Catenanuova	1.52	197	⇓	iPg	Pn	19 08 08.8	+1.8	
	222nm,1.0s								
CAGR	Agira	1.55	203		Pg	Pn	19 08 09.1	+1.9	
	139nm,0.6s								
CAGR	Agira	1.55	203		Pg	Pn	19 08 09.1	+1.9	
	139nm,0.6s								
SOLUN	Solunto	1.66	235	⇓	iPg	Pn	19 08 08.3	+0.5	
	63nm,1.0s								
SOLUN	Solunto	1.66	235	⇓	iPg	Pn	19 08 08.3	+0.5	
	63nm,1.0s								
RESU	Resuttano	1.69	214		Pg	Pn	19 08 10.3	+2.1	
	48nm,0.5s								
RESU	Resuttano	1.69	214		Pg	Pn	19 08 10.3	+2.1	
	48nm,0.5s								
MRLC	Muro Lucano	1.71	6		Pg	Pn	19 08 09.1	+1.0	
	16nm,0.9s								
MRLC	Muro Lucano	1.71	6		Pg	Pn	19 08 09.1	+1.0	
	16nm,0.9s								
VAE	Valguarnera	1.71	203		P	Pn	19 08 10.3	+2.0	
	7.0nm,0.3s,baz=347,slow=11,SNR=3.7								
MCRV	Calabrutti - M	1.73	358		Pg	Pn	19 08 09.6	+1.2	
	55nm,1.4s								
MCRV	Calabrutti - M	1.73	358		Pg	Pn	19 08 09.6	+1.2	
	55nm,1.4s								
HLNI	Lentini	1.73	190	⇓	iPg	Pn	19 08 08.9	+0.5	
	60nm,0.3s								
HLNI	Lentini	1.73	190	⇓	iPg	Pn	19 08 08.9	+0.5	
	60nm,0.3s								
MPG	Monte Pellegri	1.73	240	⇓	iPg	Pn	19 08 09.0	+0.6	
	33nm,0.2s								
MPG	Monte Pellegri	1.73	240	⇓	iPg	Pn	19 08 09.0	+0.6	
	33nm,0.2s								
ALJA	Alia	1.76	223	⇓	iPg	Pn	19 08 09.9	+1.2	
	129nm,0.7s								
ALJA	Alia	1.76	223	⇓	iPg	Pn	19 08 09.9	+1.2	
	129nm,0.7s								
HAGA	Augusta	1.77	183		Pg	Pn	19 08 09.1	+0.4	
	72nm,0.3s								
HAGA	Augusta	1.77	183		Pg	Pn	19 08 09.1	+0.4	
	72nm,0.3s								
HCRL	Carlentini	1.78	186	⇓	iPg	Pn	19 08 09.5	+0.7	
	157nm,0.2s								
HCRL	Carlentini	1.78	186	⇓	iPg	Pn	19 08 09.5	+0.7	
	157nm,0.2s								
SSY	Sortino	1.90	184		Pg	Pn	19 08 10.4	+0.6	
	115nm,0.4s								
SSY	Sortino	1.90	184		Pg	Pn	19 08 10.4	+0.6	
	115nm,0.4s								
MCT	Mte Cammarata	1.91	222		Pg	Pn	19 08 12.0	+2.0	
	65nm,0.5s								
MCT	Mte Cammarata	1.91	222		Pg	Pn	19 08 12.0	+2.0	
	65nm,0.5s								
HVZN	Vizzini	1.92	193	⇓	iPg	Pn	19 08 10.9	+1.0	
	204nm,0.6s								
HVZN	Vizzini	1.92	193	⇓	iPg	Pn	19 08 10.9	+1.0	
	204nm,0.6s								
CORL	Corleone	1.92	234		Pg	Pn	19 08 10.7	+0.8	
	28nm,0.5s								
CORL	Corleone	1.92	234		Pg	Pn	19 08 10.7	+0.8	
	28nm,0.5s								
RAFF	Raffo Rosso	1.96	201		Pg	Pn	19 08 11.3	+1.1	
	45nm,0.7s								
RAFF	Raffo Rosso	1.96	201		Pg	Pn	19 08 11.3	+1.1	
	45nm,0.7s								
PAOL	Paolisi	2.04	345	⇑	iPg	Pn	19 08 11.6	+0.9	
	41nm,0.4s								
PAOL	Paolisi	2.04	345	⇑	iPg	Pn	19 08 11.6	+0.9	
	41nm,0.4s								
SG1	Sgolgore (BA)	2.09	31		ePn	Pn	19 08 11.3	+0.2	
HAVL	Avola	2.09	183	⇓	iPg	Pn	19 08 12.0	+0.7	
	108nm,0.5s								
HAVL	Avola	2.09	183	⇓	iPg	Pn	19 08 12.0	+0.7	
	108nm,0.5s								
AMUR	Altamura	2.12	29		Pg	Pn	19 08 11.5	+0.2	
AMUR	Altamura	2.12	29		Pg	Pn	19 08 11.5	+0.2	
HMDC	Modica	2.13	190		Pg	Pn	19 08 12.7	+1.1	
	133nm,1.0s								
HMDC	Modica	2.13	190		Pg	Pn	19 08 12.7	+1.1	
	133nm,1.0s								
MASS	Massafra	2.14	42		ePn	Pn	19 08 11.4	-0.1	
CDT	Castel del Mon	2.17	21		ePn	Pn	19 08 12.0	+0.3	
CLTB	Caltabellotta	2.18	228		Pg	Pn	19 08 12.7	+0.7	
	145nm,0.6s								
CLTB	Caltabellotta	2.18	228		Pg	Pn	19 08 12.7	+0.7	
	145nm,0.6s								
NOCI	Noci	2.22	38	⇓	iPg	Pn	19 08 12.1	-0.1	
NOCI	Noci	2.22	38	⇓	iPg	Pn	19 08 12.1	-0.1	
MMGO	Monte Magaggia	2.27	233		Pg	Pn	19 08 13.1	+0.4	
	40nm,0.3s								
MMGO	Monte Magaggia	2.27	233		Pg	Pn	19 08 13.1	+0.4	
	40nm,0.3s								
PTRJ	Pietraroja	2.37	347	⇑	iPg	Pn	19 08 14.8	+1.2	
	131nm,0.6s								
PTRJ	Pietraroja	2.37	347	⇑	iPg	Pn	19 08 14.8	+1.2	
	131nm,0.6s								
FASA	Fasano	2.38	42		ePn	Pn	19 08 13.6	0.0	
VAGA	Valle Agricola	2.48	342		Pg	Pn	19 08 15.7	+1.2	
	21nm,0.6s								
VAGA	Valle Agricola	2.48	342		Pg	Pn	19 08 15.7	+1.2	
	21nm,0.6s								
BSSO	Busso	2.54	349		Pg	Pn	19 08 16.6	+1.5	
	246nm,2.8s								
BSSO	Busso	2.54	349		Pg	Pn	19 08 16.6	+1.5	
	246nm,2.8s								
RNI2	Rionero Sannit	2.78	343	⇑	iPg	Pn	19 08 19.2	+1.9	
	31nm,0.6s								
RNI2	Rionero Sannit	2.78	343	⇑	iPg	Pn	19 08 19.2	+1.9	
	31nm,0.6s								
GIUL	Giuliano Di Ro	2.93	329	⇑	iPg	Pn	19 08 19.4	+0.6	
	20nm,0.7s								
GIUL	Giuliano Di Ro	2.93	329	⇑	iPg	Pn	19 08 19.4	+0.6	
	20nm,0.7s								
VVLD	Villa Vallelon	3.08	337		Pg	Pn	19 08 21.0	+0.7	
	14nm,0.6s								
VVLD	Villa Vallelon	3.08	337		Pg	Pn	19 08 21.0	+0.7	
	14nm,0.6s								
INTR	Introdacqua	3.13	341	⇑	iPg	Pn	19 08 21.9	+1.1	
INTR	Introdacqua	3.13	341	⇑	iPg	Pn	19 08 21.9	+1.1	
KEST	Kesra	5.76	237		P	Pn	19 08 50.4	-0.2	
	0.1nm,0.3s,baz=225,slow=7.1,SNR=3.0								
BOJS	Bojanci	6.45	360		iP	Pn	19 08 59.2	+0.6	
BOJS	Bojanci	6.45	360		P	Pn	19 08 59.2	+0.6	
KNDS	Knezji Dol	6.50	355		iP	Pn	19 08 59.2	-0.2	
KNDS	Knezji Dol	6.50	355		iP	Pn	19 08 59.2	-0.2	
SKDS	Skadanscina	6.55	352		iP	Pn	19 08 60.0	+0.1	
SKDS	Skadanscina	6.55	352		iP	Pn	19 09 00.0	+0.1	
JAVS	Javornik	6.89	353		iP	Pn	19 09 03.7	-0.4	
JAVS	Javornik	6.89	353		iP	Pn	19 09 03.7	-0.4	
CRNS	Crni Vrh	7.06	354		iP	Pn	19 09 06.0	-0.1	
CRNS	Crni Vrh	7.06	354		iP	Pn	19 09 06.0	-0.1	
GORS	Gorjuse	7.32	353		iP	Pn	19 09 08.9	-0.4	
GORS	Gorjuse	7.32	353		iP	Pn	19 09 08.9	-0.4	
OBKA	Obir	7.47	356		iPn	Pn	19 09 10.9	-0.2	
	2.6nm,0.4s								
OBKA	Obir	7.47	356		P	Pn	19 09 10.9	-0.2	
	2.6nm,0.4s								
SOKA	Soboth	7.62	359		iPn	Pn	19 09 12.7	-0.3	
	1.3nm,0.4s								
SOKA	Soboth	7.62	359		P	Pn	19 09 12.7	-0.3	
	1.3nm,0.4s								
ABTA	Abfaltersbach	7.95	346		iPn	Pn	19 09 17.1	+0.1	
	9.0nm,0.6s,SNR=12								
ABTA	Abfaltersbach	7.95	346		P	Pn	19 09 17.1	+0.1	
	9.0nm,0.6s,SNR=12								
KBA	Koelnbreinsper	8.14	351		iPn	Pn	19 09 20.3	+0.8	
	1.5nm,0.5s								
KBA	Koelnbreinsper	8.14	351		P	Pn	19 09 20.3	+0.8	
	1.5nm,0.5s								
ARSA	Arzberg	8.19	1		iPn	Pn	19 09 20.7	+0.7	
	1.8nm,0.6s								
ARSA	Arzberg	8.19	1		P	Pn	19 09 20.7	+0.7	
	1.8nm,0.6s								
IDI	Anoyia	8.56	113		P	P	19 09 28.0	-2.3	
	0.6nm,0.3s,baz=301,slow=14,SNR=6.9								
WTTA	Wattenberg	8.62	343		iPn	Pn	19 09 27.8	+2.4	
	5.6nm,0.8s								
WTTA	Wattenberg	8.62	343		P	Pn	19 09 27.8	+2.4	
	5.6nm,0.8s								
FETA	Feichten	8.62	339		iPn	Pn	19 09 27.2	+1.8	
	7.8nm,0.7s								
FETA	Feichten	8.62	339		P	Pn	19 09 27.2	+1.8	
	7.8nm,0.7s								
DAVOX	Davos/Dischmat	8.67	335		P	Pn	19 09 25.4	-0.6	
	0.7nm,0.3s,baz=167,slow=8.0,SNR=9.6								
WATA	Walderalm	8.70	343		iPn	Pn	19 09 28.7	+2.3	
	11nm,0.5s,SNR=9.0								
WATA	Walderalm	8.70	343		P	Pn	19 09 28.7	+2.3	
	11nm,0.5s,SNR=9.0								
MOA	Molln	8.82	356		iPn	Pn	19 09 27.7	0.0	
	1.8nm,0.4s								
MOA	Molln	8.82	356		P	Pn	19 09 27.7	0.0	
	1.8nm,0.4s								
MOTA	Moosalm	8.82	341		iPn	Pn	19 09 28.8	+0.9	
	1.5nm,0.5s,SNR=4.8								
MOTA	Moosalm	8.82	341		P	Pn	19 09 28.8	+0.9	
	1.5nm,0.5s,SNR=4.8								
CONA	Conrad Observa	8.88	3		iPn	Pn	19 09 28.3	-0.2	
CONA	Conrad Observa	8.88	3		P	Pn	19 09 28.3	-0.2	
RETA	Reutte	9.04	340		iPn	Pn	19 09 31.2	+0.7	
	2.9nm,0.6s								
RETA	Reutte	9.04	340		P	Pn	19 09 31.2	+0.7	
	2.9nm,0.6s								
DAVA	Damuels	9.12	336		iPn	Pn	19 09 32.0	+0.5	
	6.2nm,0.8s								
DAVA	Damuels	9.12	336		P	Pn	19 09 32.0	+0.5	
	6.2nm,0.8s								
GERES	GERESS Array B	9.85	354		P	Pn	19 09 39.9	-0.6	
	0.2nm,0.3s,baz=166,slow=12,SNR=8.4								
KHC	Kasperske Hory	10.14	354		eP	Pn	19 09 42.9	-1.1	
KHC					ex	x	19 09 47.9		
MLR	Muntele Rosu	10.20	47		P	P	19 09 49.5	+1.1	
	0.1nm,0.3s,baz=242,slow=5.5,SNR=11								
TREC	Trest	10.24	1		eP	Pn	19 09 45.7	+0.5	
TREC					ex	x	19 09 50.0		
VRAC	Vranov	10.29	5		P	Pn	19 09 44.8	-1.1	
	0.3nm,0.3s,baz=192,slow=11,SNR=9.6								
DPC	Dobruska-Polom	11.32	3		eP	P	19 10 01.5	+0.7	
DPC					ex	x	19 10 06.0		
BRTR	Keskin Array B	14.23	81		P	Pn	19 10 37.7	+3.8	
	0.1nm,0.3s,baz=265,slow=8.9,SNR=5.9								
AKASG	Malin Array Be	15.25	36		P	P	19 10 44.5	+0.3	
	2.5nm,0.3s,baz=228,slow=9.5,SNR=18								
MMAI	Mount Meron Ar	17.36	104		P	Pn	19 11 11.6	+1.0	
	1.1nm,0.3s,baz=296,slow=10,SNR=11								
EIL	Elat	18.73	114		P	Pn	19 11 26.1	-0.2	
	0.4nm,0.3s,baz=316,slow=8.3,SNR=6.3								
EKA	Eskdalemuir Ar	20.43	329		P	P	19 11 36.9	-2.8	
	0.6nm,0.3s,baz=142,slow=11,SNR=13								
HFS	Hagfors	21.12	358		P	P	19 11 44.5	-1.9	
	1.3nm,0.4s,baz=176,slow=11,SNR=11								
NOA	NORSAR Array B	22.15	355		P	P	19 11 55.1	-0.7	
	0.7nm,0.6s,baz=33,slow=17,SNR=4.3								
FINES	FINESS Array B	23.39	13		P	P	19 12 06.8	-0.2	
	3.3nm,0.3s,baz=189,slow=9.0,SNR=60								
TORD	Torodi Ar. Bea	28.46	209		P	P	19 12 54.8	+2.0	
	0.3nm,0.7s,baz=19,slow=8.8,SNR=3.6								
ARCES	ARCESS Array B	31.03	7		P	P	19 13 13.2	-1.6	
	0.9nm,0.4s,baz=187,slow=8.6,SNR=5.1								
SPITS	Spitsbergen Ar	39.24	0		P	P	19 14 24.6	+0.3	
	3.4nm,0.5s,baz=143,slow=8.4,SNR=8.5								
ZALV	Zalesovo Beam	48.17	48		P	P	19 15 35.8	+0.6	
	0.6nm,0.3s,baz=275,slow=7.2,SNR=2.9								
YKA	Yellowknife Ar	71.09	338		P	P	19 18 11.0	+0.5	
	0.4nm,0.3s,baz=36,slow=5.5,SNR=3.1								
PDAR	Pinedale Array	84.42	323		P	P	19 19 23.9	-0.4	
	0.5nm,0.4s,baz=54,slow=5.7,SNR=3.9								

WEL 17 19:10:02.9±0.1, 37°.93S×177°.22E, h65^{km}±1^{km}, ML3.5/25, 6C-18D, Error ellipse: s-maj=0.9km s-min=0.8km az=0.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
WHRZ	Whale Island	0.21	291	P*		Pn	19 10 13.1	+0.1
WHRZ				S*		Sn	19 10 21.3	+1.0
URZ	Urewera	0.34	195	⇑P*		Pn	19 10 13.5	-0.4
URZ				S*		Sn	19 10 21.6	-0.2
URZ				AML		AML	19 10 22.4	
RUGZ	Raukumara Rang	0.36	96	⇑P*		Pn	19 10 13.2	-1.0
WIZ	White Island	0.40	357	P*		Pn	19 10 14.0	-0.3
EDRZ	Edgecumbe	0.42	245	⇓P*		Pn	19 10 14.5	0.0
MARZ	Manawahe	0.43	262	⇓P*		Pn	19 10 14.5	-0.1
MWZ	Matawai	0.47	149	P*		Pn	19 10 14.3	-0.8
MWZ				AML		AML	19 10 27.8	
MWZ				AML		AML	19 10 30.5	
HAZ	Te Kaha	0.48	69	⇓P*		Pn	19 10 14.3	-0.7
HAZ				AML		AML	19 10 23.6	
HAZ				AML		AML	19 10 23.6	
HAZ				AML		AML	19 10 23.7	
HAZ				AML		AML	19 10 23.7	
OPRZ	Ohinepanea	0.53	279	⇓P*		Pn	19 10 15.4	-0.2
RAGZ	Rawiri	0.59	165	⇑P*		Pn	19 10 16.1	-0.2
RAGZ				AML		AML	19 10 30.6	
RAGZ				AML		AML	19 10 31.2	
MKRZ	Makatiti	0.63	250	P*		Pn	19 10 17.2	+0.4
TARZ	Mount Tarawera	0.64	241	⇓P*		Pn	19 10 17.1	+0.2
TWGZ	Tauwhareparae	0.65	113	⇓PN		Pn	19 10 17.6	+0.6
TWGZ				AML		AML	19 10 33.3	
TWGZ				AML		AML	19 10 33.5	
MUGZ	Murupara	0.65	213	P*		Pn	19 10 16.5	-0.4
PKGZ	Pakihiroa	0.68	87	PN		Pn	19 10 16.9	-0.4
RRRZ	Republican Roa	0.69	233	P*		Pn	19 10 17.2	-0.1
RTZ	Ruatahuna	0.71	195	⇑P*		Pn	19 10 17.2	-0.5
TKGZ	Te Karaka	0.71	136	PN		Pn	19 10 17.8	+0.2
TKGZ				AML		AML	19 10 33.5	
TKGZ				AML		AML	19 10 34.2	
KARZ	Kaharoa	0.78	263	⇓P*		Pn	19 10 18.3	-0.1
TGRZ	Tauranga	0.79	284	⇓P*		Pn	19 10 18.2	-0.2
PUZ	Puketiti	0.83	100	⇓PN		Pn	19 10 18.9	-0.2
PUZ				AML		AML	19 10 35.1	
PUZ				AML		AML	19 10 35.8	
SNGZ	Shannon Statio	0.86	174	PN		Pn	19 10 19.6	+0.2
SNGZ				AML		AML

mb1 3.4/13, mb1mx3.2/52, mbtmp3.8/13, Error ellipse: s-maj=28.6km s-min=16.4km az=179.0
*NNC **17** 19:13:43.9N 4.6, 38°05'N×71°99'E, h191km±59km, mb2.9, mpv4.0, Error ellipse: s-maj=44.8km s-min=27.5km az=14.0*

ISC 17 19:13:35.9±0.6, 37°44'N±0°06'×72°00'E±0°06, h130km, n27, σ2s28/35, mb3.4/7, 5C-5D, Tajikistan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MNAS	**Manas**	**5.05**	**4**	⇑P	**Pn**	**19 14 51.0**	**+1.3**
	25nm,0.4s						
MNAS				⇓S	**Sn**	**19 15 45.3**	**-2.0**
	27nm,0.5s						
AAK	**Ala-Archa**	**5.53**	**19**	P	**Pn**	**19 14 58.3**	**+2.1**
	11nm,0.3s,baz=175,slow=4.5,SNR=65						
AAK				S	**Sn**	**19 15 57.7**	**-1.0**
	2.0nm,0.3s,baz=324,slow=20,SNR=16						
AAK	**Ala-Archa**	**5.53**	**19**	P	**Pn**	**19 14 58.0**	**+1.8**
	22nm,0.5s						
AAK				S	**Sn**	**19 15 57.7**	**-1.0**
	16nm,0.5s						
KK31	**Karatay Array**	**5.77**	**349**	⇓P	**Pn**	**19 15 01.1**	**+2.0**
	1.7nm,0.3s,baz=165,slow=12,SNR=65						
KK31				⇑S	**Sn**	**19 16 01.0**	**-3.2**
	12nm,0.3s,baz=172,slow=23,SNR=18						
THN	**Thein Dam**	**5.86**	**148**	*e*P	**Pn**	**19 15 00.9**	**+0.5**
THN				*e*P	**Sn**	**19 16 05.0**	**-1.4**
TKM2	**Tokmak 2**	**6.12**	**26**	⇓P	**Pn**	**19 15 05.0**	**+0.8**
	8.7nm,0.6s						
TKM2				⇓S	**Sn**	**19 16 08.5**	**-4.6**
	3.5nm,0.6s						
GEYT	**Alibeck**	**11.02**	**277**	P	**Pn**	**19 16 10.1**	**+0.4**
	0.6nm,0.3s,baz=94,slow=10,SNR=7.9						
GEYT				S	**Sn**	**19 18 05.5**	**-5.7**
	1.2nm,0.3s,baz=98,slow=14,SNR=7.0						
PYUN	**Piuthan**	**13.12**	**132**	*e*P	**Pn**	**19 16 35.6**	**-1.9**
	7.1nm,0.3s						
PYUN				*e*S	Sn	19 18 50.1	-12
KOLN	**Koldanda**	**13.72**	**131**	*e*P	**Pn**	**19 16 44.1**	**-1.1**
	5.1nm,0.3s						
KOLN				*e*S	Sn	19 19 05.2	-12
KURBB	**Kurchatov Arra**	**13.98**	**17**	P	**P**	**19 16 52.1**	**+0.2**
	0.2nm,0.3s,baz=208,slow=10,SNR=9.3						
GKN	**Gorkha**	**14.19**	**128**	*e*P	**Pn**	**19 16 49.1**	**-2.1**
	4.8nm,0.3s						
AB31	**Akbulak array**	**14.68**	**327**	⇓P	**Pn**	**19 16 57.9**	**+0.9**
	1.0nm,0.5s,baz=153,slow=12,SNR=27						
AB31				⇑S	Sn	19 19 29.2	-10
	1.3nm,0.4s,baz=159,slow=24,SNR=9.1						
DMN	**Daman**	**14.76**	**128**	*e*P	**Pn**	**19 16 57.1**	**-1.4**
	3.7nm,0.4s						
PKIN	**Phulchoki**	**14.97**	**127**	*e*P	**Pn**	**19 16 59.4**	**-1.7**
	4.7nm,0.4s						
PKI	**Pulchoki**	**14.98**	**127**	*e*P	**Pn**	**19 16 59.5**	**-1.8**
GUN	**Gumba**	**15.05**	**125**	*e*P	**Pn**	**19 17 00.5**	**-1.7**
BVAR	**Borovoye Array**	**15.62**	**356**	P	**P**	**19 17 13.0**	**+2.8**
	0.1nm,0.3s,baz=165,slow=11,SNR=3.7						
AKTO	**Aktyubinsk**	**16.40**	**327**	P	**P**	**19 17 21.1**	**+2.4**
	0.7nm,0.3s,baz=159,slow=10,SNR=8.8						
AKTO	**Aktyubinsk**	**16.40**	**327**	⇑P	**P**	**19 17 18.6**	**-0.1**
	1.8nm,0.5s						
AKTO				⇑S	**Sn**	**19 20 14.9**	**-5.6**
	2.6nm,0.7s						
ZALV	**Zalesovo Beam**	**18.73**	**24**	P	**P**	**19 17 44.9**	**+0.7**
	0.4nm,0.3s,baz=223,slow=13,SNR=4.4						
SONM	**Songino Array**	**27.14**	**57**	P	**P**	**19 19 07.6**	**+0.7**
	0.3nm,0.5s,baz=280,slow=10,SNR=3.1						
BRTR	**Keskin Array B**	**29.92**	**286**	P	**P**	**19 19 34.2**	**+2.5**
	0.3nm,0.4s,baz=78,slow=7.2,SNR=2.7						
AKASG	**Malin Array Be**	**32.99**	**308**	P	**P**	**19 19 59.6**	**+1.4**
	0.4nm,0.3s,baz=87,slow=16,SNR=4.2						
FINES	**FINESS Array B**	**37.16**	**325**	P	**P**	**19 20 35.7**	**+1.9**
	0.6nm,0.3s,baz=121,slow=9.5,SNR=18						
NOA	**NORSAR Array B**	**44.12**	**322**	P	**P**	**19 21 31.9**	**+1.0**
	0.5nm,0.6s,baz=96,slow=7.6,SNR=2.9						
TORD	**Torodi Ar. Bea**	**66.54**	**269**	P	**P**	**19 24 12.4**	**+0.3**
	0.3nm,0.4s,baz=50,slow=5.8,SNR=9.1						
WRA	**Warramunga Arr**	**81.82**	**123**	P	**P**	**19 25 40.0**	**-0.5**
	0.8nm,1.2s,baz=329,slow=5.1,SNR=3.1						

IDC 17 19:14:36.1±6.0, 30°55S×178°87W, h0km, mb3.3/2, mb1 3.6/2, mb1mx3.4/21, mbtmp3.3/2, MS3.5/2, Ms1 3.5/2, ms1mx2.9/16, Error ellipse: s-maj=236.6km s-min=59.2km az=155.0, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ASAR	**Alice Springs**	**42.35**	**267**	P	P	19 22 31.6	-0.7
	0.2nm,0.7s,baz=109,slow=7.5,SNR=5.7						
WRA	**Warramunga Arr**	**43.36**	**273**	P	P	19 22 40.8	+0.4
	0.3nm,0.3s,baz=113,slow=7.9,SNR=9.9						
WRA				LR	LR	19 40 13.5	
	comp=Z,58nm,18.5s,baz=85,slow=36						
FITZ	**Fitzroy Crossi**	**51.61**	**270**	LR	LR	19 43 37.7	
	comp=Z,36nm,19.4s,baz=140,slow=34						
FINES	**FINESS Array B**	**145.03**	**339**	PKPbc	PKPbc	19 34 13.1	-0.9
	0.9nm,0.8s,baz=68,slow=4.9,SNR=5.1						

*DDA **17** 19:25:18.0, 41°67'N×43°50'E, h7km, Md3.1*
*MOS **17** 19:25:17.1±1.6, 41°59'N×43°22'E, h11km, mb4.0/1, Error ellipse: s-maj=9.2km s-min=5.1km az=77.1*
*NSSP **17** 19:25:17.6, 41°62'N×43°48'E, h15km, Ms3.1*
*TIF **17** 19:25:17.9, 41°71'N×43°48'E, h19km±1km*
*CSEM **17** 19:25:18.5±0.1, 41°68'N×43°48'E, h2km, ML2.7, Error ellipse: s-maj=3.6km s-min=2.7km az=110.0*
*AZER **17** 19:25:18.4±99.0, 41°32'N×43°25'E, h38km±1km, Error ellipse: s-maj=119.4km s-min=2.9km az=274.0*

ISC 17 19:25:18.0±1.0, 41°68N±0°01×43°48E±0°01, h9km±8km, n94, σ1s31/146, 22C-19D, Turkey-Georgia-Armenia border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AKH	**Akhalkalaki**	**0.27**	**178**	P	**Pb**	**19 25 24.8**	**-0.4**
AKH				S	**Sb**	**19 25 29.4**	**-0.6**
AKH	**Akhalkalaki**	**0.27**	**178**	PG	**Pb**	**19 25 24.8**	**-0.4**
AKH				S	**Sb**	**19 25 29.4**	**-0.6**
AKH	**Akhalkalaki**	**0.27**	**178**	P	**Pb**	**19 25 24.8**	**-0.4**
AKH				S	**Sb**	**19 25 29.4**	**-0.6**
BGD	**Bogdanovka**	**0.43**	**168**	P	**Pb**	**19 25 27.4**	**-0.4**
BGD				S	**Sb**	**19 25 33.6**	**-0.8**
BGD	**Bogdanovka**	**0.43**	**168**	P	**Pb**	**19 25 27.4**	**-0.4**
BGD				S	**Sb**	**19 25 34.0**	**-0.5**
EPOS	**Posof**	**0.59**	**253**	*i* P	**Pb**	**19 25 30.2**	**-0.5**
EPOS				*i* S	**Sb**	**19 25 39.1**	**-0.1**
EPOS	**Posof**	**0.59**	**253**	P	**Pb**	**19 25 30.2**	**-0.5**
EPOS				S	**Sb**	**19 25 39.1**	**-0.1**
KZR	**Kazreti**	**0.76**	**113**	P	**Pg**	**19 25 32.4**	**-0.3**
KZR				S	**Sg**	**19 25 42.8**	**+0.2**
KZR	**Kazreti**	**0.76**	**113**	P	**Pg**	**19 25 32.4**	**-0.3**
KZR				S	**Sg**	**19 25 42.8**	**+0.2**
ONI	**Oni**	**0.91**	**359**	P	**Pb**	**19 25 34.9**	**-1.0**
ONI				S	**Sb**	**19 25 47.5**	**-0.7**
ONI	**Oni**	**0.91**	**359**	PG	**Pb**	**19 25 34.8**	**-1.1**
ONI				S	**Sb**	**19 25 46.9**	**-1.3**
ONI	**Oni**	**0.91**	**359**	P	**Pb**	**19 25 34.9**	**-1.0**
ONI				S	**Sb**	**19 25 46.9**	**-1.3**
TBLG	**Delisi**	**0.94**	**87**	P	**Pb**	**19 25 35.7**	**-0.8**
TBLG				S	**Sg**	**19 25 49.0**	**+0.7**
TBLG	**Delisi**	**0.94**	**87**	PG	**Pb**	**19 25 35.8**	**-0.7**
TBLG	**Delisi**	**0.94**	**87**	P	**Pb**	**19 25 36.0**	**-0.5**
TBLG				S	**Sg**	**19 25 49.0**	**+0.7**
STE	**Stepanavan**	**0.95**	**135**	⇑P	**Pg**	**19 25 36.4**	**0.0**
STE				S	**Sn**	**19 25 50.0**	**-1.5**
STEZ	**Stepenevan**	**0.97**	**134**	⇑*i*P	**Pb**	**19 25 36.4**	**-0.7**
STEZ				⇑*i*S	**Sn**	**19 25 50.0**	**-1.9**
SEAG	**Tbilisi Sea**	**0.99**	**85**	P	**Pb**	**19 25 36.5**	**-0.9**
SEAG				S	**Sn**	**19 25 50.8**	**-1.5**
SEAG	**Tbilisi Sea**	**0.99**	**85**	P	**Pb**	**19 25 36.5**	**-0.9**
SEAG				S	**Sn**	**19 25 51.0**	**-1.3**
DUS	**Dusheti**	**1.00**	**66**	P	**Pn**	**19 25 37.5**	**-0.7**
DUS				S	**Sn**	**19 25 51.9**	**-0.6**
DUS	**Dusheti**	**1.00**	**66**	PG	**Pn**	**19 25 37.5**	**-0.7**
DUS	**Dusheti**	**1.00**	**66**	P	**Pn**	**19 25 37.5**	**-0.7**
EAK	**Akyaka**	**1.00**	**175**	*i* P	**Pg**	**19 25 37.1**	**-0.1**
EAK				*i* S	**Sn**	**19 25 50.9**	**-1.8**
EAK	**Akyaka**	**1.00**	**175**	P	**Pg**	**19 25 37.1**	**-0.1**
EAK				S	**Sn**	**19 25 50.9**	**-1.8**
GUDG	**Gudauri**	**1.08**	**43**	P	**Pb**	**19 25 38.7**	**-0.2**
GUDG				S	**Sg**	**19 25 53.4**	**+0.7**
GUDG	**Gudauri**	**1.08**	**43**	P	**Pg**	**19 25 39.0**	**+0.3**
GUDG				S	**Sg**	**19 25 53.3**	**+0.6**
KARS	**Kars**	**1.10**	**196**	*e*PG	**Pg**	**19 25 40.1**	**+1.0**
KARS				*e*SG	**Sn**	**19 25 54.3**	**-0.7**
KARS	**Kars**	**1.10**	**196**	*e*Pg	**Pg**	**19 25 40.1**	**+1.0**
KARS				*e*Sg	**Sn**	**19 25 54.3**	**-0.7**
ZEI	**Tsey**	**1.15**	**16**	⇓*i*PG	**Pb**	**19 25 39.3**	**-0.8**
DIGR	**Digorskoe uzhe**	**1.22**	**3**	⇓*i*PG	**Pn**	**19 25 40.4**	**-1.0**
DIGR				*i* S	**Sn**	**19 25 57.2**	**-0.9**
DIGR	**Digorskoe uzhe**	**1.22**	**3**	*i* Pg	**Pn**	**19 25 40.4**	**-1.0**
DIGR				*i* Sg	**Sn**	**19 25 57.2**	**-0.9**
DIGO	**Kars**	**1.27**	**184**	*i* P	**Pg**	**19 25 42.2**	**-0.2**
DIGO				*i* S	**Sg**	**19 25 58.7**	**-0.2**
DIGO	**Kars**	**1.27**	**184**	P	**Pg**	**19 25 42.2**	**-0.2**
DIGO				S	**Sg**	**19 25 58.7**	**-0.2**
ARTV	**Artvin**	**1.27**	**247**	*i* P	**Pb**	**19 25 42.0**	**-0.2**
ARTV				*i* S	**Sg**	**19 25 59.1**	**+0.2**
ARTV	**Artvin**	**1.27**	**247**	P	**Pb**	**19 25 42.0**	**-0.2**
ARTV				S	**Sg**	**19 25 59.1**	**+0.2**
LACR	**Lac**	**1.29**	**28**	⇓*i*PG	**Pn**	**19 25 41.7**	**-0.7**
LACR	**Lac**	**1.29**	**28**	*i* Pg	**Pn**	**19 25 41.7**	**-0.7**
DAGI	**Agillar**	**1.33**	**243**	*i* P	**Pb**	**19 25 43.0**	**-0.2**
DAGI				*i* S	**Sg**	**19 26 00.7**	**+0.1**
DBOC	**Borcka**	**1.41**	**257**	*i* P	**Pg**	**19 25 44.5**	**-0.4**
DBOC				*i* S	**Sg**	**19 26 03.5**	**+0.3**
DBOC	**Borcka**	**1.41**	**257**	P	**Pg**	**19 25 44.5**	**-0.4**
DBOC				S	**Sg**	**19 26 03.5**	**+0.3**
SENK	**Senkaya-Erzuru**	**1.41**	**218**	*e*PN	**Pg**	**19 25 44.5**	**-0.6**
SENK	**Senkaya-Erzuru**	**1.41**	**218**	*e*Pn	**Pg**	**19 25 44.5**	**-0.6**
DGRG	**David-gareji**	**1.44**	**99**	P	**Pg**	**19 25 45.3**	**-0.3**
DGRG				S	**Sg**	**19 26 05.6**	**+1.4**
DGRG	**David-gareji**	**1.44**	**99**	P	**Pb**	**19 25 45.0**	**0.0**
KORR	**Kora**	**1.47**	**17**	⇑*i*PG	**Pb**	**19 25 45.7**	**+0.2**
KORR	**Kora**	**1.47**	**17**	*i* Pg	**Pb**	**19 25 45.7**	**+0.2**
DDEM	**Demirkent**	**1.53**	**239**	*i* P	**Pb**	**19 25 46.5**	**0.0**
DDEM				*i* S	**Sg**	**19 26 07.3**	**+0.2**
DDEM	**Demirkent**	**1.53**	**239**	P	**Pb**	**19 25 46.5**	**0.0**
DDEM				S	**Sg**	**19 26 07.3**	**+0.2**
QZX	**Qazax, Azerbai**	**1.55**	**113**	⇑P	**Pb**	**19 25 46.0**	**-0.9**
	SNR=60						
QZX				⇓S	**Sg**	**19 26 07.1**	**-0.8**
ARNR	**Ardon**	**1.61**	**21**	⇓*i*PN	**Pg**	**19 25 49.4**	**+0.5**
ARNR				*e*S	**Sg**	**19 26 11.4**	**+1.7**
LSNR	**Lesken**	**1.61**	**9**	⇑*i*PN	**Pg**	**19 25 48.6**	**-0.4**
LSNR	**Lesken**	**1.61**	**9**	*i* Pn	**Pg**	**19 25 48.6**	**-0.4**
NEY	**Neytrino**	**1.66**	**340**	⇓*e*PN	**Pb**	**19 25 48.7**	**-0.2**
NEY				pmax	pmax		
	comp=Z,66nm,0.2s						
NEY	**Neytrino**	**1.66**	**340**	*e*Pn	**Pb**	**19 25 48.7**	**-0.2**
	comp=Z,66nm,0.2s						
KMGR	**Komgaron**	**1.71**	**36**	*i* PN	**Pg**	**19 25 50.8**	**-0.1**
KMGR				pmax	pmax		
	comp=Z,16nm,0.1s						
KMGR	**Komgaron**	**1.71**	**36**	*i* Pn	**Pg**	**19 25 50.8**	**-0.1**
	comp=Z,16nm,0.1s						
STDR	**Stavd-Durt**	**1.74**	**14**	⇑*i*PN	**Pg**	**19 25 52.2**	**+0.9**
STDR				*e*S	**Sg**	**19 26 15.7**	**+1.8**
STDR	**Stavd-Durt**	**1.74**	**14**	*i* Pn	**Pg**	**19 25 52.2**	**+0.9**
STDR				*e*Sg	**Sg**	**19 26 15.7**	**+1.8**
GNI	**Garni**	**1.81**	**148**	⇑*i*P	**Pg**	**19 25 52.3**	**-0.3**
GNI				⇓*i*S	**Sg**	**19 26 17.6**	**+1.6**
GNI	**Garni**	**1.81**	**148**	*c i*PN	**Pg**	**19 25 52.3**	**-0.3**
GNI	**Garni**	**1.81**	**148**	⇑P	**Pg**	**19 25 52.3**	**-0.3**
GNI				S	**Sg**	**19 26 17.6**	**+1.6**
NCK	**Nalchik**	**1.81**	**3**	⇓*e*PN	**Pg**	**19 25 52.1**	**-0.7**
NCK	**Nalchik**	**1.81**	**3**	*e*Pn	**Pg**	**19 25 52.1**	**-0.7**
BTKR	**Batakoyurt**	**1.86**	**25**	*e*PN	**Pg**	**19 25 53.0**	**-0.7**
BTKR	**Batakoyurt**	**1.86**	**25**	*e*Pn	**Pg**	**19 25 53.0**	**-0.7**
GDB	**GEDABAY**	**1.96**	**119**	⇑Pn	**Pb**	**19 25 52.9**	**-1.2**
	SNR=20						
GDB				⇓Sn	**Sb**	**19 26 18.2**	**-0.5**
AGRB	**Hanur-Agry**	**2.14**	**190**	*e*PN	**Pb**	**19 25 55.2**	**-1.8**
AGRB	**Hanur-Agry**	**2.14**	**190**	*e*Pn	**Pb**	**19 25 55.2**	**-1.8**
GROC	**Groznyy**	**2.29**	**48**	*e*PN	**Pg**	**19 26 01.8**	**0.0**
GROC				*e*S	**Sg**	**19 26 30.5**	**-1.0**
KIV	**Kislovodsk**	**2.34**	**346**	⇑*e*PN	**Pb**	**19 25 59.4**	**-1.1**
KIV				pmax	pmax		
	comp=Z,23nm,1.5s						
KIV	**Kislovodsk**	**2.34**	**346**	*e*Pn	**Pb**	**19 25 59.4**	**-1.1**
	comp=Z,23nm,1.5s						
ZKTA	**Zakatala**	**2.35**	**90**	⇑Pn	**Pb**	**19 25 59.4**	**-1.1**
	SNR=6.6						
ZKTA				⇑Sn	**Sg**	**19 26 31.3**	**-2.3**
ZKTA	**Zakatala**	**2.35**	**90**	PN	**Pb**	**19 25 59.4**	**-1.1**
ZKTA	**Zakatala**	**2.35**	**90**	Pn	**Pb**	**19 25 59.4**	**-1.1**
GANJ	**Ganja**	**2.38**	**115**	⇑Pn	**Pn**	**19 25 58.4**	**+1.1**
	SNR=8.2						
GANJ				⇑Sn	**Sb**	**19 26 30.1**	**-0.4**
GANJ	**Ganja**	**2.38**	**115**	PN	**Pn**	**19 25 58.3**	**+1.1**
GANJ	**Ganja**	**2.38**	**115**	Pn	**Pn**	**19 25 58.3**	**+1.1**
ERZM	**Erzurum**	**2.40**	**223**	*i* P	**Pg**	**19 26 03.5**	**-0.4**
GNBR	**Gunib**	**2.69**	**74**	⇓*e*PN	**Pb**	**19 26 06.5**	**+0.2**
GNBR	**Gunib**	**2.69**	**74**	*e*Pn	**Pb**	**19 26 06.5**	**+0.2**
SEKA	**Sheki**	**2.83**	**98**	⇑Pn	**Pb**	**19 26 05.9**	**-2.9**
	SNR=8.9						
SEKA				⇓Sn	**Sb**	**19 26 43.6**	**0.0**
SEKA	**Sheki**	**2.83**	**98**	PN	**Pb**	**19 26 05.8**	**-2.9**
SEKA	**Sheki**	**2.83**	**98**	Pn	**Pb**	**19 26 05.8**	**-2.9**
QBL	**Gabala**	**3.36**	**101**	⇑Pn	**Pn**	**19 26 12.9**	**+2.2**
	SNR=3.9						
XNQ	**Khinaliq**	**3.54**	**97**	⇓Pn	**Pn**	**19 26 15.2**	**+1.9**
XNQ				⇓Sn	**Sb**	**19 26 59.4**	**-4.6**
QSAR	**Qusar**	**3.59**	**91**	⇓Pn	**Pn**	**19 26 16.3**	**+2.5**
	SNR=4.1						
QSAR				⇑Sn	**Sb**	**19 27 01.1**	**-4.2**
IML	**Ismayilli**	**3.65**	**103**	⇑Pn	**Pn**	**19 26 15.4**	**+0.7**
IML				⇓Sn	**Sn**	**19 27 01.3**	**+3.4**
PQL	**Pirkuli**	**3.96**	**101**	⇑Pn	**Pn**	**19 26 20.1**	**+1.1**
PQL				⇓Sn	**Sn**	**19 27 08.7**	**+3.2**
OBN	**Obninsk**	**14.19**	**344**	⇑*e*P	**Pn**	**19 28 40.0**	**+1.0**
OBN				pmax	pmax		
	comp=Z,3.0nm,0.5s						
ARU	**Arti**	**17.70**	**28**	⇓*e*P	**P**	**19 29 27.3**	**+1.9**
ARU				pmax	pmax		
	comp=Z,4.0nm,1.5s						
VYHS	**Vyhne**	**18.64**	**300**	*e*P	**P**	**19 29 32.5**	**-3.3**
VYHS				pmax	pmax		
	comp=Z,6.0nm,2.0s						
VYHS	**Vyhne**	**18.64**	**300**	*e*P	**P**	**19 29 32.5**	**-3.3**
AAK	**Ala-Archa**	**22.95**	**77**	⇓*e*P	**P**	**19 30 26.5**	**+3.9**
KURK	**Kurchatov**	**25.73**	**57**	⇓*e*P	**P**	**19 30 51.8**	**+3.3**
KURK				pmax	pmax		
	comp=Z,1.0nm,0.6s						

*NIED **17** 19:30:00, 27°70N×140°50E, h420km, Mw4.6 Best double couple: M0 9.00000×10^15 NP1: φs 269.00000°, δ 22.00000°, λ -40.00000°. NP2: φs 37.00000°, δ 76.00000°, λ -107.00000°.*
*ISCJB **17** 19:30:41.8±0.3, 27°47'N±0°02×140°18'E±0°03, h455km±2km, mb4.5/199, Error ellipse: s-maj=3.9km s-min=3.5km az=42.9*
*MOS **17** 19:30:41.0±0.9, 27°47'N×140°12'E, h450km, mb4.5/82, Error ellipse: s-maj=8.5km s-min=4.8km az=107.7*
*BJI **17** 19:30:42.0, 27°34'N×140°10'E, h464km, mb4.7/35, mB4.5/25*
*JMA **17** 19:30:43.8±0.1, 27°69'N×140°53'E, h452km, M4.6*
*IDC **17** 19:30:43.4±0.9, 27°50'N×140°16'E, h460km±9km, mb4.0/28, mb1 4.1/33, mb1mx4.0/43, mbtmp4.8/33, Error ellipse: s-maj=10.6km s-min=6.3km az=86.0*
*NEIC **17** 19:30:43.2±0.3, 27°47'N×140°11'E, h461km±3km, mb4.5/153, Error ellipse: s-maj=3.2km s-min=2.6km az=123.0*

ISC 17 19:30:42.4±0.4, 27°47N±0°04×140°21E±0°05, h452km±4km, n427, σ1s13/475, mb4.5/210, 16C-17D, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CBIJ	**Chichi jima**	**1.79**	**102**	P	**P**	**19 31 42.7**	**+0.6**
CBIJ				S	**S**	**19 32 28.3**	**-2.1**
CBIJ	**Chichi jima**	**1.79**	**102**	*e*P	**P**	**19 31 42.7**	**+0.6**
CBIJ				*e*S	**S**	**19 32 27.8**	**-2.6**
JHHJ	**Haha-jima-NKT**	**1.94**	**115**	P	**P**	**19 31 44.0**	**+1.1**
JHHJ				*e*S	**S**	**19 32 31.9**	**+0.1**
JHCJ	**Hachijojimakas**	**5.59**	**356**	P	**P**	**19 32 12.8**	**+0.2**
JHCJ				S	**S**	**19 33 23.0**	**-3.3**
JHJ2	**Mitsune**	**5.63**	**357**	P	**P**	**19 32 13.3**	**+0.3**
JHJ2	**Mitsune**	**5.63**	**357**	*e*P	**P**	**19 32 13.5**	**+0.5**
JHJ2				*e*S	**S**	**19 33 24.1**	**-2.9**
JHJ	**Hachijo jima 2**	**5.64**	**356**	P	**P**	**19 32 13.4**	**+0.4**
	156nm,0.3s,baz=303,slow=6.9,SNR=126						
JHJ				S	**S**	**19 33 24.8**	**-2.4**
	55nm,0.3s,baz=308,slow=16,SNR=2.5						
TTO1	**TONANKAI O.B.S**	**6.81**	**335**	P	**P**	**19 32 28.3**	**+3.6**
JWZ	**Kozaga**	**7.18**	**328**	P	**P**	**19 32 31.4**	**+2.4**
BSO1	**Boso 1**	**7.19**	**5**	P	**P**	**19 32 29.5**	**+1.0**
BSO1				S	**S**	**19 33 53.6**	**-2.0**
JIE	**Ise**	**7.53**	**337**	P	**P**	**19 32 34.8**	**+2.1**
JOD2	**Odawara 2**	**7.83**	**353**	P	**P**	**19 32 35.8**	**-0.1**
INU	**Inuyama**	**8.31**	**342**	*e*P	**P**	**19 32 42.5**	**+1.4**
JRY	**Ryogami san**	**8.59**	**353**	P	**P**	**19 32 44.0**	**-0.2**
JRY				*e*S	**S**	**19 34 22.4**	**-1.8**
MJAR	**Matsushiro Arr**	**9.20**	**350**	P	**P**	**19 32 50.2**	**-0.6**
	7.5nm,0.3s,baz=172,slow=9.0,SNR=63						
MJAR				S	**S**	**19 34 33.6**	**-2.8**
	1.0nm,0.3s,baz=147,slow=19,SNR=3.3						
MAJO	**Matsushiro**	**9.20**	**350**	*e*P	**P**	**19 32 50.2**	**-0.6**
MAJO				pmax	pmax		
	comp=Z,52nm,0.6s						
MAJO	**Matsushiro**	**9.20**	**350**	*e*P	**P**	**19 32 50.2**	**-0.6**
	comp=Z,52nm,0.6s						
MJB9	**Matsu-Tunnel**	**9.21**	**350**	*e*P	**P**	**19 32 50.2**	**-0.7**
JHS	**Saijyo**	**9.65**	**323**	P	**P**	**19 32 58.5**	**+2.8**
JHS				S	**S**	**19 34 46.8**	**+1.4**
JAMN	**Amaminishikomi**	**9.80**	**277**	P	**P**	**19 33 00.8**	**+3.4**
JNU	**Nakatsue**	**9.84**	**307**	P	**P**	**19 33 00.3**	**+2.6**
	comp=Z,1.2nm,0.3s,baz=348,slow=9.6,SNR=12						
JNU				S	**S**	**19 34 50.8**	**+1.7**
	comp=Z,0.0nm,0.3s,baz=149,slow=18,SNR=4.1						
JOW	**Kunigami**	**10.65**	**269**	*e*P	**P**	**19 33 10.2**	**+3.5**
JKE	**Kume jima 2**	**12.04**	**268**	P	**P**	**19 33 23.7**	**+1.9**
KSRS	**Korea Array**	**14.37**	**317**	P	**P**	**19 33 47.2**	**+0.6**
	baz=128,slow=10,SNR=5.5						
KS15	**Wonju Array Si**	**14.38**	**317**	*e*P	**P**	19 33 51.9	+5.1
KSAR	**Wonju Array Be**	**14.38**	**317**	P	**P**	**19 33 47.2**	**+0.4**
KSAR	**Wonju Array Be**	**14.38**	**317**	P	**P**	**19 33 47.2**	**+0.4**
KS01	**Wonju Array Si**	**14.40**	**317**	*e*P	**P**	**19 33 51.8**	**+4.8**
GUMO	**Guam**	**14.48**	**162**	P	**P**	**19 33 49.5**	**+1.3**
	comp=Z,22nm,0.3s,baz=342,slow=3.6,SNR=18						
INCN	**Inchon**	**15.18**	**315**	*e*P	**P**	**19 33 59.9**	**+4.4**
	comp=Z,37nm,0.6s						
ASAJ	**Asahikawa**	**16.72**	**6**	*e*P	**P**	**19 34 14.7**	**+3.2**
	comp=Z,91nm,1.9s						
JTKR	**Abashiri--Toko**	**16.73**	**9**	P	**P**	**19 34 14.8**	**+3.2**
MSHR	**Mys Shultsa**	**16.78**	**336**	*d i*P	**P**	**19 34 13.9**	**+1.7**
VLA	**Vladivostok**	**17.01**	**339**	*c i*P	**P**	**19 34 16.1**	**+1.5**
NACB	**Ninganchiao**	**17.08**	**263**	*e*P	**P**	**19 34 15.7**	**+0.1**
	comp=Z,19nm,0.8s						
YHNB	**Yeheng**	**17.16**	**265**	*e*P	**P**	**19 34 15.3**	**-1.1**
	comp=Z,43nm,1.4s						
YULB	**Yu-li**	**17.56**	**261**	*e*P	**P**	**19 34 20.6**	**-0.1**
	comp=Z,10nm,0.8s						
SSLB	**Suanglung**	**17.75**	**262**	*e*P	**P**	**19 34 22.5**	**-0.2**
	comp=Z,47nm,0.9s						
TWG	**Pinlang**	**17.93**	**259**	*e*P	**P**	**19 34 23.4**	**-1.1**
	comp=Z,68nm,0.6s						
USRK	**Ussuriysk Ar.**	**17.96**	**341**	P	**P**	**19 34 25.8**	**+1.3**
	comp=Z,0.8nm,0.3s,baz=164,slow=9.3,SNR=23						
USRK				S	**S**	**19 37 27.4**	**+0.8**
	baz=189,slow=18,SNR=2.2						
TPUB	**Ta-pu**	**18.17**	**261**	*e*P	**P**	**19 34 27.9**	**+1.0**
	comp=Z,32nm,1.2s						
YSS	**Yuzh-Sakhalins**	**19.55**	**5**	P	**P**	**19 34 39.7**	**+0.3**
YSS	**Yuzh-Sakhalins**	**19.55**	**5**	*e*P	**P**	**19 34

comp=E,69nm,1.0s
CHTO Chiang Mai 38.77 266 *e*P P 19 37 26.9 0.0
CHTO pmax pmax
comp=E,12nm,0.8s
CHTO Chiang Mai 38.77 266 *e*P P 19 37 26.9 0.0
comp=E,12nm,0.8s
CM01 Chiang Mai Arr 38.90 266 *e*P P 19 37 27.6 -0.3
CM01 *e*PcP PcP 19 39 28.8 +1.0
CM31 Chiang Mai Arr 38.90 266 *e*P P 19 37 27.9 0.0
CMAR Chiang Mai Arr 38.90 266 P P 19 37 28.3 +0.4
comp=E,5.5nm,0.9s,baz=55,slow=8.3,SNR=24
CMAR PcP PcP 19 39 29.2 +1.4
comp=E,2.6nm,0.8s,baz=67,slow=1.5,SNR=12
CMAR ScP ScP 19 42 33.4 +0.8
comp=E,0.8nm,0.4s,baz=80,slow=2.0,SNR=7.6
UTHA Uthaitani 39.57 261 P P 19 37 34.6 +1.2
comp=E,6.1nm,0.6s
SOEI Soe 40.10 205 *e*P P 19 37 37.1 -0.7
comp=E,17nm,1.0s
MTN Manton Dam 41.03 194 *e*P P 19 37 44.5 -0.6
comp=E,18nm,0.6s
COEN Coen 41.28 176 *e*P P 19 37 47.7 +0.6
comp=E,40nm,1.2s
LSA Lhasa 42.89 285 *e*P P 19 38 01.1 +0.8
LSA pmax pmax
comp=E,22nm,1.4s
LSA Lhasa 42.89 285 *e*P P 19 38 01.1 +0.8
comp=E,22nm,1.4s
MYKOM Kota Tinggi 43.17 240 *e*P P 19 38 03.3 +1.2
comp=E,12nm,1.2s
BILL Bilibino 43.50 14⇑ *i*P P 19 38 04.3 +0.4
BILL pmax pmax
comp=E,40nm,0.9s
KULM Kulim 43.60 247 *e*P P 19 38 06.0 +0.5
comp=E,8.1nm,0.6s
JAGI Jajag, Banyuwa 43.74 219 *e*P P 19 38 06.3 -0.3
comp=E,21nm,1.2s
IPM Ipoh 43.77 246 *e*P P 19 38 06.7 -0.1
comp=E,9.2nm,0.6s
TIXI Tiksi 44.67 355 P P 19 38 13.1 0.0
comp=E,6.2nm,0.6s,baz=272,slow=3.7,SNR=3.7
TIXI Tiksi 44.67 355⇑ *e*P P 19 38 13.0 0.0
TIXI pmax pmax
comp=E,15nm,1.0s
TIXI Tiksi 44.67 355 *e*P P 19 38 13.2 +0.2
comp=E,12nm,0.9s
SMRI Semarang 44.80 224 *e*P P 19 38 14.8 -0.1
comp=E,41nm,1.1s
NIKH Nikolski High 45.24 41 *e*P P 19 38 18.4 +0.7
comp=E,86nm,1.2s
SPIA Saint Paul Isl 45.67 35 *e*P P 19 38 22.4 +1.5
comp=E,313nm,1.5s
TAPN Taplejung 46.31 283 *e*P P 19 38 27.3 +0.6
PSI Prapat 46.44 245 P P 19 38 28.3 +0.7
comp=E,8.0nm,0.5s,baz=34,slow=6.2,SNR=8.8
PSI PcP PcP 19 39 54.1 +0.5
comp=E,6.2nm,0.5s,baz=174,slow=3.0,SNR=5.2
PSI ScP ScP 19 43 01.4 -1.9
comp=E,2.0nm,0.5s,baz=329,slow=2.8,SNR=3.8
PSI Prapat 46.44 245 *e*P P 19 38 27.5 -0.2
comp=E,10nm,0.8s
PSI *e*PcP PcP 19 39 53.8 +0.2
PSI ScP ScP 19 43 01.4 -1.9
ODAN Odare 46.70 282 *e*P P 19 38 30.3 +0.7
RAMN Ramite 47.36 282 *e*P P 19 38 35.2 +0.5
comp=E,72nm,0.8s
FITZ Fitzroy Crossi 47.45 199 P P 19 38 35.4 +0.4
comp=E,2.3nm,0.5s,baz=21,slow=9.5,SNR=25
FITZ ScP ScP 19 43 05.7 -1.5
comp=E,5.8nm,0.8s,baz=346,slow=3.1,SNR=10
FITZ Fitzroy Crossi 47.45 199 *e*P P 19 38 34.9 -0.1
comp=E,6.1nm,1.1s
FITZ ScP ScP 19 43 05.7 -1.5
WRAB Tennant Creek 47.46 187 *c i*P P 19 38 34.8 -0.3
WRAB pmax pmax
comp=E,27nm,0.6s
WRAB Tennant Creek 47.46 187 *e*P P 19 38 34.3 -0.8
comp=E,15nm,0.5s
WB2 Warramunga Arr 47.47 187 *e*P P 19 38 33.4 -1.7
WRA Warramunga Arr 47.48 188 P P 19 38 35.0 -0.2
comp=E,17nm,0.5s,baz=6.6,slow=7.7,SNR=226
WRA ScP ScP 19 43 06.2 -1.1
comp=E,7.7nm,1.0s,baz=0.8,slow=4.5,SNR=12
WRA S S 19 44 51.5 -4.1
comp=E,1.3nm,0.8s,baz=358,slow=16,SNR=5.6
WRA Warramunga Arr 47.48 188 *i* P P 19 38 35.0 -0.2
WRA pmax pmax
comp=E,17nm,0.5s
JIRN Jiri 47.56 283 *e*P P 19 38 37.3 +1.0
comp=E,648nm,0.6s
CTA Charters Tower 47.64 172 P P 19 38 36.9 +0.5
comp=E,15nm,0.7s,baz=0.6,slow=8.6,SNR=24
CTAO Charters Tower 47.64 172 *e*P P 19 38 36.9 +0.5
CTAO pmax pmax
comp=E,17nm,0.8s
CTAO Charters Tower 47.64 172 *e*P P 19 38 36.9 +0.5
comp=E,17nm,0.8s
GUN Gumba 47.77 284 *e*P P 19 38 38.9 +1.1
comp=E,116nm,0.8s
ZAA0 Zalesovo Array 48.06 319 *e*P P 19 38 38.4 -0.8
ZAA0 *e*PcP PcP 19 39 57.9 -0.7
ZALV Zalesovo Beam 48.06 319 P P 19 38 38.6 -0.5
comp=E,7.1nm,0.5s,baz=99,slow=6.5,SNR=40
ZALV PcP PcP 19 39 58.0 -0.6
comp=E,4.6nm,0.4s,baz=113,slow=2.3,SNR=13
PKI Pulchoki 48.25 284 *e*P P 19 38 41.7 +0.2
PKIN Phulchoki 48.26 284 *e*P P 19 38 42.2 +0.7
comp=E,31nm,0.8s
KKN Kakani 48.31 284 *e*P P 19 38 42.4 +0.6
comp=E,57nm,0.9s
DMN Daman 48.51 284 *e*P P 19 38 43.8 +0.5
comp=E,50nm,0.8s
GKN Gorkha 48.82 284 *e*P P 19 38 46.0 +0.5
comp=E,84nm,1.1s
MK01 Makanchi Array 48.88 309 *e*P P 19 38 45.1 -0.4
MK01 *e*PcP PcP 19 40 01.3 -0.4
MK31 Makanchi Array 48.88 309 *e*P P 19 38 45.3 -0.2
MK31 *e* 19 40 01.1
MK31 Makanchi Array 48.88 309 *e*P P 19 38 45.3 -0.2
MK31 *e*PcP PcP 19 40 01.1 -0.7
MKAR Makanchi Array 48.88 309 *e*P P 19 38 45.3 -0.2
MKAR *e* 19 40 01.3
MKAR pmax pmax
comp=E,129nm,1.1s
MKAR Makanchi Array 48.88 309 *e*P P 19 38 45.3 -0.2
comp=E,129nm,1.1s
MKAR *e*PcP PcP 19 40 01.2 -0.6
MAKZ Makanchi 49.10 309 *e*P P 19 38 47.3 +0.2
MAKZ *e* 19 40 01.5
MAKZ pmax pmax
comp=E,21nm,1.0s
MAKZ Makanchi 49.10 309 *e*P P 19 38 47.3 +0.2
comp=E,21nm,1.0s
MAKZ *e*PcP PcP 19 40 01.5 -1.1
NVS Novosibirsk 49.13 320⇑ *i*P P 19 38 47.3 +0.2
NVS *i* 19 40 01.6
NVS *e* 19 40 48.2
NVS pmax pmax
comp=E,13nm,1.2s
NVS pmax pmax
comp=E,19nm,1.2s
NVS pmax pmax
comp=N,5.0nm,1.1s
KOLN Koldanda 49.77 284 *e*P P 19 38 53.1 +0.5
comp=N,46nm,0.9s
PYUN Piuthan 50.21 285 *e*P P 19 38 56.6 +0.7
comp=N,57nm,0.4s
PDGK Podgornoye 50.89 305 P P 19 39 00.3 -0.2
PDGK pmax pmax
comp=E,43nm,1.1s
AS01 Alice Springs 51.20 187 *e*P P 19 39 02.2 -0.5
AS01 *e*PcP PcP 19 40 11.3 +0.7
AS31 Alice Springs 51.20 187 *e*P P 19 39 02.4 -0.4
comp=E,4.4nm,0.6s
ASAR Alice Springs 51.20 187 P P 19 39 02.5 -0.3
comp=E,4.1nm,0.4s,baz=359,slow=5.1,SNR=198
ASAR PcP PcP 19 40 11.5 +0.9
comp=E,1.3nm,0.8s,baz=22,slow=4.0,SNR=4.5
ASAR ScP ScP 19 43 22.1 -1.1
comp=E,2.0nm,0.7s,baz=4.3,slow=4.6,SNR=11
ASAR S S 19 45 45.2 -1.4
comp=E,0.5nm,0.7s,baz=21,slow=19,SNR=5.4
KURK Kurchatov 51.47 314 *d i*P P 19 39 04.2 -0.3
KURK pmax pmax
comp=E,129nm,0.8s
KURK Kurchatov 51.47 314 *e*P P 19 39 04.0 -0.5
comp=E,34nm,0.7s
NRIK Noril'sk 51.67 339 P P 19 39 05.1 -0.5
comp=E,21nm,0.8s,baz=128,slow=7.3,SNR=12
MBWA Marble Bar 52.25 204 *e*P P 19 39 10.6 +0.1
comp=E,29nm,1.5s
EIDS Eidsvold 53.57 168 *e*P P 19 39 20.4 +0.6
comp=E,18nm,0.6s
KSH Kashi 53.88 300⇓ *i*P P 19 39 25.9 +3.7
KSH PcP PcP 19 40 24.0 +3.1
KSH pP pP 19 41 00.9 +8.4
KSH PP sP 19 41 36.6 -5.5
KSH S S 19 46 23.1 +0.7
KSH sS sS 19 49 11.3 +6.7
KSH SS SS 19 50 14.1 +2.8
KSH pmax pmax
comp=E,25nm,0.5s
KSH pmax pmax
comp=E,89nm,5.7s
TT01 Tatalina 54.00 31 *e*P P 19 39 23.4 +1.0
AAK Ala-Archa 54.60 304 *d i*P P 19 39 27.7 +0.4
AAK pmax pmax
comp=E,21nm,0.6s
AAK Ala-Archa 54.60 304 *e*P P 19 39 27.4 +0.1
comp=E,10nm,0.6s
KDAK Kodiak Island 55.12 37 *i* P P 19 39 30.5 +0.1
RSO Redoubt South 55.23 34 *e*P P 19 39 32.1 +0.7
DZM Mont Dzumac 55.40 150 P P 19 39 34.4 +1.5
comp=E,10nm,0.7s,baz=295,slow=4.3,SNR=11
DZM Mont Dzumac 55.40 150 *e*P P 19 39 33.1 +0.2
comp=E,13nm,0.8s
SPU Mount Spurr 55.63 33 *e*P P 19 39 34.5 +0.5
PPLA Purkeypile 55.74 31 *e*P P 19 39 35.8 +0.9
comp=E,35nm,1.8s
CAST Castle Rocks 55.84 30 *e*P P 19 39 36.5 +1.0
comp=E,16nm,1.1s
CNPM China Poot 55.92 35 *e*P P 19 39 35.7 -0.3
comp=E,75nm,1.6s
KIP Kipapa 56.07 82 *e*P P 19 39 37.2 -0.5
KIP pmax pmax
comp=E,327nm,1.9s
KIP Kipapa 56.07 82 *e*P P 19 39 37.2 -0.5
comp=E,327nm,1.9s
MNAS Manas 56.08 304 P P 19 39 38.1 +0.5
MNAS pmax pmax
comp=E,7.0nm,0.5s
BRLK Bradley Lake 56.11 35 *e*P P 19 39 37.6 +0.3
comp=E,76nm,1.8s
SUA Susitna One 56.28 33 *e*P P 19 39 37.8 -0.8
comp=E,11nm,0.6s
KTH Kantishna Hill 56.38 30 *e*P P 19 39 40.2 +1.0
comp=E,6.0nm,0.8s
BRVK Borovoye 56.64 317 *d i*P P 19 39 41.1 0.0
BRVK pmax pmax
comp=E,92nm,1.0s
BRVK Borovoye 56.64 317 *e*P P 19 39 40.7 -0.4
comp=E,31nm,0.9s
TRF Thorofare Moun 56.65 30 *e*P P 19 39 41.9 +0.7
comp=E,10nm,0.8s
RC01 Rabbit Creek A 56.75 33 *e*P P 19 39 41.5 -0.2
comp=E,26nm,1.2s
COLD Coldfoot 57.09 26 *e*P P 19 39 44.6 +0.6
comp=E,10nm,0.9s
MCK McKinley 57.27 30 *e*P P 19 39 45.4 +0.1
MCK pmax pmax
comp=E,24nm,0.8s
MCK McKinley 57.27 30 *e*P P 19 39 45.4 +0.1
comp=E,24nm,0.8s
RND Reindeer 57.29 30 *e*P P 19 39 45.3 -0.2
RND pmax pmax
comp=E,16nm,0.6s
RND Reindeer 57.29 30 *e*P P 19 39 45.2 -0.2
comp=E,16nm,0.6s
KKAR Karatay Array 57.44 305 *e*P P 19 39 46.9 0.0
KKAR Karatay Array 57.44 305 *e*P P 19 39 46.9 0.0
comp=E,262nm,0.6s
SML Sawmill 57.45 32 *e*P P 19 39 46.9 +0.3
SML pmax pmax
comp=E,20nm,0.8s
SML Sawmill 57.45 32 *e*P P 19 39 46.9 +0.3
comp=E,20nm,0.8s
MDM Murphy Dome 57.67 29 *e*P P 19 39 48.6 +0.6
comp=E,28nm,1.6s
WRH Wood River Hil 57.69 29 *e*P P 19 39 48.4 +0.3
comp=E,26nm,1.9s
COLA College 57.82 29 *e*P P 19 39 49.9 +0.9
COLA pmax pmax
comp=E,19nm,0.4s
COLA College 57.82 29 *e*P P 19 39 49.9 +0.9
comp=E,18nm,0.4s
CCB Clear Creek Bu 57.83 29 *e*P P 19 39 49.6 +0.6
comp=E,27nm,1.9s
CCB *e*PcP PcP 19 40 35.4 -0.3
SCM Sheep Creek Mo 57.93 32 *e*P P 19 39 50.2 +0.3
SCM pmax pmax
comp=E,20nm,0.6s
SCM Sheep Creek Mo 57.93 32 *e*P P 19 39 50.2 +0.3
comp=E,20nm,0.6s
DHY Denali Highway 57.94 31 *e*P P 19 39 50.3 +0.2
comp=E,6.0nm,0.6s
MSVF Nonsavu 58.00 136 *e*P P 19 39 50.7 -0.3
MSVF pmax pmax
comp=E,75nm,2.0s
MSVF Nonsavu 58.00 136 *e*P P 19 39 50.6 -0.3
comp=E,75nm,2.0s
HDA Harding Lake 58.18 29 *e*P P 19 39 50.6 -1.0
comp=E,25nm,1.3s
ILAR Eielson Array 58.23 29 P P 19 39 51.2 -0.6
comp=E,2.8nm,0.4s,baz=259,slow=5.6,SNR=44
ILB Eielson Array 58.23 29 *e*P P 19 39 51.1 -0.7
IL1 Eielson Array 58.23 29 *e*P P 19 39 51.4 -0.4
FID Port Fidalgo 58.33 34 *e*P P 19 39 52.4 -0.2
comp=E,34nm,1.2s
ARMA Armidale 58.59 168 *e*P P 19 39 54.6 -0.2
comp=E,9.9nm,0.7s
KLU Klutina 58.60 33 *e*P P 19 39 55.0 +0.5
comp=E,14nm,0.7s
EYAK Cordova Ski Ar 58.69 34 *e*P P 19 39 55.1 +0.1
comp=E,50nm,1.4s
PAX Paxson 58.81 31 *e*P P 19 39 56.1 +0.2
PAX pmax pmax
comp=E,34nm,1.6s
PAX Paxson 58.81 31 *e*P P 19 39 56.1 +0.2
comp=E,34nm,1.6s
HARP HAARP 58.95 32 *e*P P 19 39 57.5 +0.7
comp=E,44nm,0.8s
FYU Fort Yukon 58.99 27 *e*P P 19 39 58.5 +1.6
comp=E,39nm,1.4s
STKA Stephens Creek 59.03 179 P P 19 39 57.6 -0.1
comp=E,10.0nm,0.6s,baz=353,slow=7.1,SNR=45
STKA Stephens Creek 59.03 179 *e*P P 19 39 57.1 -0.6
comp=E,2.1nm,0.6s
FORT Forrest 59.08 192 *e*P P 19 39 57.4 -0.5
comp=E,192nm,0.7s
BMRM Bremner River 59.24 33 *e*P P 19 39 59.8 +1.0
comp=E,32nm,0.7s
DOT Dot Lake 59.44 30 *e*P P 19 40 00.0 -0.1
comp=E,32nm,0.9s
PALK Pallekele 59.67 262 *i* P P 19 40 00.1 -2.4
CRQM Cirque 59.97 33 *e*P P 19 40 03.9 0.0
comp=E,24nm,0.9s
BBOO Buckleboo 60.08 184 *e*P P 19 40 04.5 -0.1
comp=E,62nm,1.6s
KBL Kabul 60.28 296 *e*P P 19 40 05.8 -0.7
KBL pmax pmax
comp=E,19nm,0.8s
KBL Kabul 60.28 296 *e*P P 19 40 05.8 -0.7
comp=E,19nm,0.8s
EGAK Eagle 60.68 29 *e*P P 19 40 07.8 -0.4
comp=E,34nm,1.9s
PCA Pinnacle 61.45 34 *e*P P 19 40 13.3 -0.2
comp=E,61nm,1.2s
DAWY Dawson 61.49 30 *e*P P 19 40 14.4 +0.7
comp=E,8.5nm,1.1s
SVE Sverdlovsk 61.86 322⇓ *i*P P 19 40 16.7 +0.5
SVE pmax pmax
comp=E,19nm,1.1s
ARU Arti 63.05 322 *c i*P P 19 40 23.4 -0.5
ARU 19 40 55.9
ARU *PP pP 19 41 56.8 -1.2
ARU 19 42 47.7
ARU S S 19 48 18.6 +0.3
ARU SS SS 19 52 33.3 -0.3
ARU pmax pmax
comp=E,28nm,1.0s
ARU Arti 63.05 322 *e*P P 19 40 23.2 -0.8
comp=E,21nm,0.8s
INK Inuvik 63.42 25 P P 19 40 26.1 +0.1
comp=E,6.5nm,0.8s,baz=288,slow=5.9,SNR=13
INK Inuvik 63.42 25 *e*P P 19 40 25.8 -0.3
comp=E,18nm,1.3s
SOKR Solikamsk 63.46 326⇓ *i*P P 19 40 24.1 -2.4
SOKR pmax pmax
comp=E,19nm,1.0s
ABKAR Akbulak array 63.58 314 *e*P P 19 40 26.8 -0.7
comp=E,126nm,0.7s
WHY Whitehorse 64.01 33 *e*P P 19 40 30.5 +0.3
comp=E,8.9nm,0.8s
BESE Bessie Mountai 64.41 35 *e*P P 19 40 33.9 +1.2
comp=E,13nm,0.9s
XMAS Kiritimati 64.63 102 *e*P P 19 40 35.5 +0.8
comp=E,84nm,1.1s
DLBC Dease Lake 66.91 35 *e*P P 19 40 49.4 +1.0
comp=E,15nm,1.4s
DIB Dawson Inlet, 66.94 41 *e*P P 19 40 49.0 +0.4
comp=E,111nm,1.9s
GEYT Alibeck 67.82 302 P P 19 40 54.8 +0.3
comp=E,4.9nm,0.7s,baz=29,slow=3.4,SNR=19
SPA0 Spitsbergen Ar 69.70 349 *e*P P 19 41 05.6 +0.5
KBS Kingsbay 69.89 351 *e*P P 19 41 06.7 +0.5
KBS pmax pmax
comp=E,31nm,1.0s
KBS Kingsbay 69.89 351 *e*P P 19 41 06.7 +0.5
comp=E,31nm,1.0s
KLMR Klimovskoe 71.37 329 *e*P P 19 41 12.7 -2.6
KLMR pmax pmax
comp=E,11nm,0.7s
YKW3 Yellowknife Ar 72.61 28 *e*P P 19 41 22.5 +0.1
comp=E,9.6nm,0.8s
ARA0 ARCESS Array S 72.61 340 *e*P P 19 41 22.5 +0.2
ARCES ARCESS Array B 72.61 340 P P 19 41 22.4 0.0
comp=E,8.8nm,0.7s,baz=72,slow=8.1,SNR=20
ARE0 ARCESS Array S 72.61 340 *e*P P 19 41 22.3 -0.1
comp=E,134nm,1.9s
YKA Yellowknife Ar 72.64 28 P P 19 41 22.7 +0.1
comp=E,14nm,0.7s,baz=296,slow=6.1,SNR=28
YKB5 Yellowknife Ar 72.64 28 *e*P P 19 41 22.1 -0.6
BANOM Banah 73.48 291 P P 19 41 29.0 +0.8
UOSS Minazif 73.94 290 *e*P P 19 41 30.3 -0.6
comp=E,10nm,0.8s
URZ Urewera 73.95 151 *e*P P 19 41 29.5 -0.9
comp=E,39nm,1.5s
JOF Joensuu 73.97 333 P P 19 41 30.5 +0.3
JOF pmax pmax
comp=E,32nm,0.8s
LLLB Lillooet 73.99 41 *e*P P 19 41 32.3 +1.6
comp=E,13nm,0.4s
HATD Hatta, Dubai 74.05 290 *i* P P 19 41 31.9 +0.4
SNR=8.5
NLWA Neilton Lookou 74.07 45 *e*P P 19 41 33.1 +1.9
comp=E,102nm,1.9s
ASHO Ashiyiah 74.17 290 P P 19 41 32.3 +0.1
BKZ Black Stump Fm 74.44 151 *e*P P 19 41 33.1 -0.1
comp=E,45nm,1.5s
FAQ Al Faqa, Dubai 74.53 290 P P 19 41 34.1 -0.1
E03A Lebam 74.60 45 *e*P P 19 41 35.8 +1.7
comp=E,148nm,1.9s
JCW Jim Creek 74.94 43 P P 19 41 37.5 +1.3
LPSR Galich'ya Gora 75.08 322 *e*P P 19 41 36.0 -0.7
LPSR pmax pmax
comp=E,10.0nm,0.9s
DAG Danmarks Havn 75.19 355 *i* P P 19 41 36.2 -0.7
DAG Danmarks Havn 75.19 355 *i* P P 19 41 36.2 -0.7
HTW Haystack Looko 75.20 44 P P 19 41 39.0 +1.4
OBN Obninsk 75.22 325 *d i*P P 19 41 37.0 -0.4
OBN pmax pmax
comp=E,18nm,0.9s
TDL Tradedollar La 75.53 45 P P 19 41 41.0 +1.4
VSR Storozhevoye 75.54 320 *e*P P 19 41 38.7 -0.7
VSR pmax pmax
comp=E,30nm,1.1s
KEBM Edson Butte 75.58 49 *e*P P 19 41 41.7 +1.9
comp=E,30nm,1.0s
GOF Gofitskoye 75.81 314⇑ *e*P P 19 41 40.7 -0.3
ZEI Tsey 76.19 311 *e*P P 19 41 41.9 -1.6
ZEI pmax pmax
comp=E,27nm,0.9s
TDH Tom, Dick, Har 76.25 46 P P 19 41 45.0 +1.4
KBZ Khabaz 76.47 312 P P 19 41 45.0 +0.4
comp=E,13nm,0.8s,baz=93,slow=3.4,SNR=40
KIV Kislovodsk 76.51 313 P P 19 41 45.1 +0.1
KIV Kislovodsk 76.51 313⇓ *i*P P 19 41 46.7 +1.7
KIV pmax pmax
comp=E,15nm,1.0s
KIV Kislovodsk 76.51 313 *e*P P 19 41 45.6 +0.6
comp=E,8.0nm,0.9s
SAW Saint Andrews 76.69 43 P P 19 41 46.8 +0.9
GNI Garni 76.72 308 P P 19 41 44.0 -2.3
GNI Garni 76.72 308⇓ *e*P P 19 41 46.1 -0.3
GNI pmax pmax
comp=E,36nm,1.0s
NEY Neytrino 76.78 312⇓ *e*P P 19 41 48.2 +1.5
NEY pmax pmax
comp=E,1.0nm,0.9s
KHMM Horse Mountain 76.82 51 *e*P P 19 41 47.9 +1.0
comp=E,17nm,1.3s
FIA1 FINESS Array S 76.83 333 *e*P P 19 41 45.9 -0.4
FINES FINESS Array B 76.83 333 P P 19 41 45.9 -0.4
comp=E,26nm,0.5s,baz=69,slow=5.1,SNR=444
YBH Yreka Blue Hor 77.15 50 *e*P P 19 41 50.1 +1.5
YBH pmax pmax
comp=E,6.0nm,0.8s
YBH Yreka Blue Hor 77.15 50 *e*P P 19 41 50.1 +1.5
comp=E,5.6nm,0.8s
WDC Whiskeytown Da 77.76 51 *e*P P 19 41 52.3 +0.4
WDC pmax pmax
comp=E,6.0nm,1.0s
WDC Whiskeytown Da 77.76 51 *e*P P 19 41 52.3 +0.4
comp=E,5.8nm,1.0s
NEW Newport 77.81 42 *e*P P 19 41 52.4 +0.4
NEW pmax pmax
comp=E,11nm,0.9s
NEW Newport 77.81 42 *e*P P 19 41 52.4 +0.4
comp=E,11nm,0.9s
K05A Summer Lake 77.94 48 *e*P P 19 41 53.9 +0.8
comp=E,12nm,0.9s
E09A Wood Farm, Sta 77.99 44 *e*P P 19 41 54.1 +1.2
comp=E,7.6nm,0.8s
VSU Vasula 78.21 330⇑ *i*P P 19 41 54.0 +0.1
VSU pmax pmax
comp=E,52nm,0.9s
MOD Modoc Plateau 78.69 49 *e*P P 19 41 57.5 +0.4
comp=E,7.3nm,0.9s
ORV Oroville 78.93 51 *e*P P 19 41 58.6 +0.4
ORV pmax pmax
comp=E,9.0nm,0.9s
ORV Oroville 78.93 51 *e*P P 19 41 58.6 +0.4
comp=E,9.1nm,0.9s
BMO Blue Mountains 79.28 45 *e*P P 19 42 00.8 +0.7
BMO pmax pmax
comp=E,14nm,1.1s
BMO Blue Mountains 79.28 45 *e*P P 19 42 00.8 +0.7
comp=E,14nm,1.1s
WVOR Wild Horse Val 79.56 48 *e*P P 19 42 01.5 -0.1
WVOR pmax pmax
comp=E,5.0nm,0.8s
WVOR Wild Horse Val 79.56 48 *e*P P 19 42 01.5 -0.1
comp=E,4.9nm,0.8s
BEKR Beckworth 79.57 51 *e*P P 19 42 01.9 0.0
comp=E,18nm,0.8s
CBC Chamberlain 79.98 54 *e*P P 19 42 03.4 -0.4
SUMG Summit 80.22 360 *i* P P 19 42 04.9 +0.1
comp=E,5.8nm,0.6s
SUMG Summit 80.22 360 *i* P P 19 42 04.9 +0.1
SUMG pmax pmax
comp=E,6.0nm,0.6s
PAHR Pah Rah Range 80.31 50 *e*P P 19 42 05.8 +0.1
comp=E,8.0nm,0.8s
CMB Columbia Colle 80.39 52 *e*P P 19 42 06.4 +0.4
CMB pmax pmax
comp=E,5.0nm,0.8s
CMB Columbia Colle 80.39 52 *e*P P 19 42 06.4 +0.4
comp=E,5.4nm,0.8s
PNTR Pine Nut 80.45 51 *e*P P 19 42 07.3 +0.8
comp=E,11nm,0.8s
YERR Yerington 80.75 51 *e*P P 19 42 08.7 +0.7
comp=E,9.2nm,0.9s
WAKR Walker 80.84 51 *e*P P 19 42 09.7 +1.2
comp=E,5.2nm,0.7s
AKASG Malin Array Be 81.27 323 P P 19 42 09.4 -0.8
comp=E,2.8nm,0.4s,baz=45,slow=5.7,SNR=25
AKBB Malin Array Si 81.27 323 *e*P P 19 42 08.8 -1.4
AKBB pmax pmax

comp=Z,23nm,1.3s
AKBB Malin Array Si 81.27 323 *e*P **P** 19 42 08.8 -1.4
comp=Z,23nm,1.3s
KIEV Kiev 81.28 323 *d i*P **P** 19 42 09.5 -0.8
KIEV pmax pmax
comp=Z,21nm,1.3s
KIEV Kiev 81.28 323 *e*P **P** 19 42 08.6 -1.6
comp=Z,25nm,1.3s
AK11 Malin Array Si 81.31 323 *e*P **P** 19 42 09.7 -0.8
TVH1 TV Hill, Hawth 81.32 51 *e*P **P** 19 42 11.7 +0.4
comp=Z,7.8nm,0.8s
TVH3 East Aurora ar 81.33 51 *e*P **P** 19 42 12.0 +0.9
comp=Z,5.8nm,0.8s
HLID Hailey 81.73 45 *e*P **P** 19 42 14.3 +1.3
comp=Z,5.7nm,0.8s
LRM Limekiln Ridge 81.79 42 *e*P **P** 19 42 13.9 +0.6
DLMT Dillon 81.94 43 *e*P **P** 19 42 14.8 +0.8
comp=Z,8.0nm,0.8s
EGMT Eagleton 82.20 40 *e*P **P** 19 42 15.3 +0.1
comp=Z,19nm,0.9s
NC405 NORSAR Array S 82.38 337 *e*P **P** 19 42 14.4 -1.4
BOZ Bozeman (W) 82.39 42 *e*P **P** 19 42 16.6 +0.3
BOZ pmax pmax
comp=Z,6.0nm,0.8s
BOZ Bozeman (W) 82.39 42 *e*P **P** 19 42 16.6 +0.3
comp=Z,6.0nm,0.8s
SUW Suwalki 82.41 328 *e*P **P** 19 42 15.4 -0.6
SUW Suwalki 82.41 328 *e*P **P** 19 42 15.4 -0.6
NC303 NORSAR Array S 82.42 338 *e*P **P** 19 42 14.7 -1.2
NB201 NORSAR Array S 82.57 338 *e*P **P** 19 42 15.4 -1.4
NC204 NORSAR Array S 82.59 338 *e*P **P** 19 42 15.6 -1.3
NB2 NORSAR Subarra 82.61 338 P **P** 19 42 15.7 -1.2
baz=49,slow=4.6
NB2 NORSAR Subarra 82.61 338 P **P** 19 42 15.7 -1.2
NB2 pmax pmax
comp=Z,11nm,0.7s
NB2 NORSAR Subarra 82.61 338 P **P** 19 42 15.7 -1.2
comp=Z,12nm,0.7s,baz=49,slow=4.6
NOA NORSAR Array B 82.61 338 P **P** 19 42 15.7 -1.2
comp=Z,12nm,0.6s,baz=47,slow=4.9,SNR=36
NBO02 NORSAR Array S 82.72 338 *e*P **P** 19 42 16.8 -0.7
QLMT Earthquake Lak 82.92 43 *e*P **P** 19 42 19.8 +0.7
YHH Holmes Hill 83.29 43 *e*P **P** 19 42 22.2 +1.1
comp=Z,11nm,1.2s
YFT Old Faithful 83.48 43 *e*P **P** 19 42 22.2 +0.3
comp=Z,13nm,0.8s
R11A Troy Canyon, C 83.56 50 *e*P **P** 19 42 22.5 +0.1
comp=Z,6.0nm,0.9s
HVU Hansel Valley 83.67 46 *e*P **P** 19 42 23.6 +0.7
HVU pmax pmax
comp=Z,8.0nm,0.8s
HVU Hansel Valley 83.67 46 *e*P **P** 19 42 23.6 +0.7
comp=Z,8.4nm,0.8s
IMW Indian Meadow 83.71 43 *e*P **P** 19 42 24.3 +1.1
comp=Z,9.5nm,0.8s
TPNV Topopah Spring 83.80 52 *e*P **P** 19 42 23.8 +0.2
TPNV pmax pmax
comp=Z,10.0nm,0.8s
TPNV Topopah Spring 83.80 52 *e*P **P** 19 42 23.8 +0.2
comp=Z,10nm,0.8s
MOOW Moose Ponds 83.91 44 *e*P **P** 19 42 23.9 -0.1
comp=Z,19nm,1.7s
TPAW Teton Pass 83.92 44 *e*P **P** 19 42 25.1 +0.9
comp=Z,9.3nm,0.8s
LOHW Long Hollow 84.07 44 *e*P **P** 19 42 26.1 +1.2
comp=Z,4.6nm,0.8s
GSC Goldstone, Bar 84.22 53 *e*P **P** 19 42 25.9 +0.3
GSC pmax pmax
comp=Z,10.0nm,0.8s
GSC Goldstone, Bar 84.22 53 *e*P **P** 19 42 25.9 +0.3
comp=Z,9.7nm,0.8s
BR131 Keskin Array S 84.46 312 *e*P **P** 19 42 25.6 -1.1
BRTR Keskin Array B 84.46 312 P **P** 19 42 25.9 -0.9
comp=Z,3.0nm,0.6s,baz=85,slow=3.2,SNR=17
BRTR Keskin Array B 84.46 312 *i*P **P** 19 42 25.8 -1.0
BRTR pmax pmax
comp=Z,3.0nm,0.6s
DUG Dugway, Tooele 84.47 47 *e*P **P** 19 42 27.4 +0.6
DUG pmax pmax
comp=Z,11nm,1.3s
DUG Dugway, Tooele 84.47 47 *e*P **P** 19 42 27.4 +0.6
comp=Z,11nm,1.3s
HWUT Hardware Ranch 84.54 46 *e*P **P** 19 42 28.1 +0.9
comp=Z,12nm,1.1s
SHPR Sheep Range 84.78 52 *e*P **P** 19 42 29.2 +0.8
comp=Z,6.0nm,0.9s
LAO LASA Array 84.93 39 *e*P **P** 19 42 28.8 0.0
comp=Z,10nm,0.8s
CFR Carcaliu 84.94 319↑ *i*P **P** 19 42 26.9 -1.9
CFR Carcaliu 84.94 319 P **P** 19 42 26.8 -2.0
BR231 Keskin MP Arra 84.96 312 *e*P **P** 19 42 25.9 -3.3
TESR Tescani 85.04 321↑ *i*P **P** 19 42 27.1 -2.2
NLU North Lily Min 85.08 47 *e*P **P** 19 42 30.0 +0.1
comp=Z,2.3nm,0.7s
BW06 Boulder Array 85.17 44 *e*P **P** 19 42 30.1 -0.2
PD31 Pinedale Array 85.17 44 *e*P **P** 19 42 30.8 +0.5
PDAR Pinedale Array 85.17 44 P **P** 19 42 31.1 +0.8
comp=Z,3.9nm,0.9s,baz=263,slow=3.6,SNR=13
BUR08 Bucovina Ar. S 85.18 322 *e*P **P** 19 42 29.2 -0.9
BURAR Bucovina Array 85.19 322↑ *i*P **P** 19 42 29.1 -1.0
PFO Pinyon Flats O 85.30 55 *e*P **P** 19 42 31.5 +0.5
PFO pmax pmax
comp=Z,11nm,0.8s
PFO Pinyon Flats O 85.30 55 *e*P **P** 19 42 31.5 +0.5
comp=Z,11nm,0.8s
TLB Topalu 85.33 318↓ *i*P **P** 19 42 28.5 -2.2
HARR Harsova 85.34 319↓ *i*P **P** 19 42 29.6 -1.2
LCMT Little Creek M 85.84 50 *e*P **P** 19 42 33.7 +0.1
comp=Z,3.0nm,0.9s
KNB Kanab 86.12 50 *e*P **P** 19 42 35.7 +0.7
KNB pmax pmax
comp=Z,14nm,1.4s
KNB Kanab 86.12 50 *e*P **P** 19 42 35.7 +0.7
comp=Z,14nm,1.4s
SRU San Rafael Swe 86.55 47 *e*P **P** 19 42 36.9 -0.1
SRU pmax pmax
comp=Z,4.0nm,0.7s
SRU San Rafael Swe 86.55 47 *e*P **P** 19 42 36.9 -0.1
comp=Z,3.8nm,0.7s
VOIR 86.57 320↑ *i*P **P** 19 42 35.7 -1.1
VOIR 86.57 320 P **P** 19 42 35.7 -1.1
U15A North Rim 86.80 50 *e*P **P** 19 42 39.0 +0.7
comp=Z,18nm,2.0s
ARR Arges 86.85 320↑ *i*P **P** 19 42 36.6 -1.5
CSS Mathiatis 87.14 308 *e*P **P** 19 42 38.0 -1.6
comp=Z,1.9nm,0.9s
OKC Ostrava-Krasne 87.46 327 *e*P **P** 19 42 40.2 -0.6
OKC Ostrava-Krasne 87.46 327 *e*P **P** 19 42 40.2 -0.6
Y14A Wickenburg 87.61 53 *e*P **P** 19 42 42.2 +0.3
comp=Z,12nm,0.7s
KSP Ksiaz 87.68 328 *e*P **P** 19 42 40.8 -1.0
KSP Ksiaz 87.68 328 *e*P **P** 19 42 40.8 -1.0
PSZ Piszkesteto 87.83 324↑ *i*P **P** 19 42 41.5 -1.2
PSZ Piszkesteto 87.83 324 *e*P **P** 19 42 42.1 -0.6
PSZ pmax pmax
comp=Z,7.0nm,0.9s
PSZ Piszkesteto 87.83 324 *e*P **P** 19 42 42.1 -0.6
comp=Z,7.4nm,0.9s
PV10 Paradox Valley 87.92 47 *e*P **P** 19 42 44.1 +0.6
DPC Dobruska-Polom 88.00 328 *e*P **P** 19 42 42.9 -0.5
DPC Dobruska-Polom 88.00 328 *e*P **P** 19 42 42.9 -0.5
VYHS Vyhne 88.00 325 *e*P **P** 19 42 42.7 -0.7
VYHS pmax pmax
comp=Z,5.0nm,1.0s
VYHS Vyhne 88.00 325 *e*P **P** 19 42 42.7 -0.7
UPC Upice 88.04 328 *e*P **P** 19 42 42.9 -0.6
UPC Upice 88.04 328 *e*P **P** 19 42 42.9 -0.6
VRAC Vranov 88.57 327↑ *i*P **P** 19 42 44.9 -1.1
VRAC Vranov 88.57 327 P **P** 19 42 44.8 -1.2
BRG Berggiesshubel 88.74 329 *e*P **P** 19 42 45.9 -0.9
comp=Z,4.0nm,0.6s
BRG Berggiesshubel 88.74 329 *e*P **P** 19 42 45.9 -0.9
BRG pmax pmax
comp=Z,4.0nm,0.6s
CLL Collm 88.86 330 *e*P **P** 19 42 46.0 -1.3
CLL pmax pmax
comp=Z,3.0nm,0.5s
CLL Collm 88.86 330 *e*P **P** 19 42 46.0 -1.3
comp=Z,3.0nm,0.5s
PRU Pruhonice 89.08 328 *e*P **P** 19 42 47.2 -1.2
PRU Pruhonice 89.08 328 *e*P **P** 19 42 47.2 -1.2
VTS Vitosha 89.34 319↓ *i*P **P** 19 42 48.8 -1.1
VTS Vitosha 89.34 319 *e*P **P** 19 42 49.1 -0.8
VTS pmax pmax
comp=Z,6.0nm,0.9s
VTS Vitosha 89.34 319 *e*P **P** 19 42 49.1 -0.8
comp=Z,5.5nm,0.9s
CONA Conrad Observa 89.86 326 *i*PcP **P** 19 42 51.2 -0.9
comp=Z,7.0nm,1.0s
KHC Kasperske Hory 90.13 328 *e*P **P** 19 42 52.6 -0.7
KHC Kasperske Hory 90.13 328 *e*P **P** 19 42 52.6 -0.7
KHC Kasperske Hory 90.13 328 *e*P **P** 19 42 52.3 -1.0
comp=Z,1.8nm,0.9s
GEC2 GERESS Array S 90.27 328 *e*P **P** 19 42 52.8 -1.3
GEC2 pmax pmax
comp=Z,3.0nm,0.8s
GEC2 GERESS Array S 90.27 328 *e*P **P** 19 42 52.8 -1.3
comp=Z,3.1nm,0.8s
GERES GERESS Array B 90.27 328 P **P** 19 42 52.5 -1.6
comp=Z,1.8nm,0.7s,baz=42,slow=4.2,SNR=13
GEA0 GERESS Array S 90.28 328 *e*P **P** 19 42 52.8 -1.2
ARSA Arzberg 90.49 326 *i*PcP **P** 19 42 54.1 -0.9
comp=Z,5.4nm,1.1s
SDCO Great Sand Dun 90.57 46 *e*P **P** 19 42 55.9 0.0
comp=Z,7.2nm,1.1s
MOA Molln 90.70 327 *i*PcP **P** 19 42 55.5 -0.4
comp=Z,4.0nm,0.9s
SOKA Soboth 91.13 326 *i*PcP **P** 19 42 56.8 -1.2
comp=Z,6.1nm,1.0s
OBKA Obir 91.49 326 *i*PcP **P** 19 42 58.6 -1.1
comp=Z,1.8nm,0.9s
ANMO Albuquerque 91.57 49↑ *i*P **P** 19 43 01.8 +1.3
ANMO pmax pmax
comp=Z,7.0nm,1.1s
ANMO Albuquerque 91.57 49 *e*P **P** 19 43 00.7 +0.2
comp=Z,4.8nm,0.8s
KBA Koelnbreinsper 91.68 327 *i*PcP **P** 19 42 59.0 -1.7
comp=Z,3.2nm,1.0s
ABTA Abfaltersbach 92.32 327 *i*P **P** 19 43 01.5 -2.0
comp=Z,6.0nm,1.1s
WTTA Wattenberg 92.37 328 *i*PcP **P** 19 43 02.3 -1.6
comp=Z,2.3nm,0.6s
MOTA Moosalm 92.56 328 *i*PcP **P** 19 43 03.6 -1.1
comp=Z,3.6nm,1.0s
RETA Reutte 92.62 328 *i*PcP **P** 19 43 03.2 -1.6
comp=Z,4.0nm,1.1s
FETA Feichten 92.97 328 *i*PcP **P** 19 43 05.1 -1.5
comp=Z,4.6nm,1.0s
DAVA Damuels 93.18 329 *i*PcP **P** 19 43 06.5 -1.0
comp=Z,7.7nm,1.2s
CEL Celeste 96.40 319 *e*P **P** 19 43 21.0 -1.2
comp=Z,18nm,0.9s
TX31 Lajitas Ar. Si 96.77 52 *e*P **P** 19 43 24.2 +0.1
TXAR Lajitas Array 96.77 52 P **P** 19 43 25.0 +0.9
comp=Z,1.3nm,0.7s,baz=316,slow=2.7,SNR=17
TOA0 Torodi Ar. Sit 123.01 310 *e*PKPdf **PKPdf** 19 48 46.2 -1.1
TORD Torodi Ar. Bea 123.01 310 PKP **PKPdf** 19 48 46.8 -0.5
comp=Z,2.9nm,0.8s,baz=47,slow=1.0,SNR=17
BOSA Boshof 123.25 252 PKP **PKPdf** 19 48 48.0 +0.5
comp=Z,2.3nm,0.6s,baz=86,slow=3.3,SNR=7.3
BOSA Boshof 123.25 252 PKIKP **PKPdf** 19 48 48.0 +0.5
BOSA pmax pmax
comp=Z,2.0nm,0.6s
SMRT St. Maarten 129.43 29 *e*PKPpre PKPpre 19 48 52.3
DBIC Dimbokro 132.12 310 PKP **PKPdf** 19 49 04.5 -0.3
comp=Z,3.7nm,0.8s,baz=359,slow=1.1,SNR=3.9
PTGA Pitinga 147.11 39 *e*PKPbc **PKPbc** 19 49 34.5 0.0
SAML Samuel 151.23 55 *e*PKPbc **PKPbc** 19 49 44.5 -0.1
PLCA Paso Flores 151.46 126 PKPbc **PKPbc** 19 49 45.2 +0.7
comp=Z,4.2nm,0.6s,baz=254,slow=4.2,SNR=19
LPAZ La Paz 151.51 73 PKPbc **PKPbc** 19 49 46.6 +0.7
comp=Z,6.9nm,0.7s,baz=334,slow=2.8,SNR=32
LPAZ La Paz 151.51 73 *e*PKPbc **PKPbc** 19 49 46.4 +0.4
PB11 IPOC Station P 151.63 81 *e*PKPbc **PKPbc** 19 49 45.9 +0.3

NIED **17** *19:32:00, 37.70N×141.60E, h80km, Mw3.8 Best double couple: M₀6.67000×10¹⁴ NP1:φs65.00000°, δ46.00000°, λ-172.00000°. NP2:φs329.00000°, δ84.00000°, λ-44.00000°.*

JMA 17 19:32:19.6, 37.72N×141.56E, h56km±1km, M3.6, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
JMM	**Marumori**	**0.62**	**284**	P		Pn	19 32 32.8	+0.1
JMM				*e*S		Sn	19 32 42.4	+0.2
JFK	**Kawauchi**	**0.65**	**237**	P		Pn	19 32 33.0	0.0
JFK				*e*S		Sn	19 32 42.7	-0.1
JIO	**Ouri**	**0.75**	**347**	P		Pn	19 32 34.4	+0.1
JIO				*e*S		Sn	19 32 44.9	-0.1
ONAJ	**Iwakimizuishiy**	**0.86**	**225**	P		Pn	19 32 35.7	-0.1
ONAJ				*e*S		Sn	19 32 47.2	-0.5
JOU	**Okura**	**0.96**	**313**	P		Pn	19 32 37.0	+0.1
JOU				*e*S		Sn	19 32 50.1	+0.4
JFT	**Otama**	**0.99**	**259**	P		Pn	19 32 38.0	+0.6
JFT				*e*S		Sn	19 32 51.5	+1.0
JMK	**Ichinoseki**	**1.26**	**348**	P		Pn	19 32 41.2	+0.3
JMK				*e*S		Sn	19 32 57.2	+0.3
JYS	**Shirataka**	**1.28**	**293**	P		Pn	19 32 41.7	+0.4
JYS				*e*S		Sn	19 32 58.3	+0.8
JFY	**Yanaizu**	**1.51**	**259**	P		Pn	19 32 44.9	+0.6
JYK	**Kaneyama**	**1.52**	**322**	P		Pn	19 32 45.0	+0.5
JYA	**Atsumi**	**1.70**	**301**	P		Pn	19 32 47.5	+0.6
JRG	**Rokugo**	**1.82**	**337**	P		Pn	19 32 49.6	+1.0
JRG				S		Sn	19 33 12.8	+2.2

IDC 17 19:48:16.6±1.1, 57.20S×140.62W, h0km, mb3.6/3, mb1 3.8/3, mb1mx3.6/19, mbtmp3.6/3, MS3.5/2, Ms1 3.4/2, ms1mx3.1/12, Error ellipse: s-maj=182.24km s-min=28.2km az=172.0, Pacific-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
RKT	**Rikitea**	**34.29**	**9**	*e*T		T	20 30 55.5	
	2.1nm,0.3s							
TBI	**Tubuai**	**34.42**	**346**	*e*LR		LR	20 04 01.1	
	142nm,28.2s							
TBI	**Tubuai**	**34.42**	**346**	*e*T		T	20 31 05.3	
	16nm,0.3s							
PPT2	**Papeete2**	**40.11**	**347**	*e*LR		LR	20 06 33.5	
	141nm,29.8s							
PPT	**Papeete**	**40.13**	**347**	LR		LR	20 07 28.0	
	comp=Z,48nm,20.4s,baz=184,slow=29							
VAH	**Vaihoa**	**42.22**	**350**	*e*T		T	20 40 49.9	
	20nm,0.3s							
MAW	**Mawson**	**54.30**	**191**	LR		LR	20 20 03.6	
	comp=Z,47nm,18.7s,baz=230,slow=35							
LPAZ	**La Paz**	**66.98**	**84**	P		P	19 59 11.8	0.0
	1.1nm,0.7s,baz=194,slow=6.7,SNR=2.2							
ASAR	**Alice Springs**	**68.03**	**260**	P		P	19 59 17.9	+0.2
	0.3nm,0.8s,baz=145,slow=6.9,SNR=3.8							
H01W1	**Cape Leeuwin H**	**68.89**	**238**	T		T	21 15 34.4	
	baz=146,slow=76,SNR=18							
H01W2	**Cape Leeuwin H**	**68.89**	**238**	T		T	21 15 27.0	
	baz=146,slow=76,SNR=21							
H01W3	**Cape Leeuwin H**	**68.90**	**238**	T		T	21 15 18.5	
	baz=146,slow=76,SNR=16							
WRA	**Warramunga Arr**	**70.81**	**263**	P		P	19 59 34.8	-0.1
	0.4nm,0.8s,baz=148,slow=5.8,SNR=3.1							
H10S3	**ASCENSION HYDR**	**100.72**	**126**	T		T	21 55 10.9	
	baz=207,slow=74,SNR=14							
H10S2	**ASCENSION HYDR**	**100.72**	**126**	T		T	21 55 13.3	
	baz=207,slow=74,SNR=12							
H10S1	**ASCENSION HYDR**	**100.74**	**126**	T		T	21 55 11.6	
	baz=207,slow=74,SNR=12							
H10N3	**ASCENSION HYDR**	**101.78**	**125**	T		T	21 56 35.4	
	baz=206,slow=74,SNR=9.5							
H10N1	**ASCENSION HYDR**	**101.78**	**125**	T		T	21 56 33.1	
	baz=206,slow=74,SNR=12							
H10N2	**ASCENSION HYDR**	**101.80**	**125**	T		T	21 56 37.9	
	baz=206,slow=74,SNR=12							
ILAR	**Eielson Array**	**121.74**	**357**	PKP		PKPdf	20 07 10.5	-0.3
	0.3nm,0.7s,baz=186,slow=0.9,SNR=3.1							

JMA **17** *19:50:21.9±0.1, 24.89N×122.78E, h30km±2km, M2.2*
ISCJB **17** *19:50:23.3±0.8, 24.80N±0.08×122.80E±0.05, h35km, Error ellipse: s-maj=12.6km s-min=4.8km az=25.5*
TAP **17** *19:50:24.5, 24.58N×122.60E, h3km±2km, ML2.7, C*
ISC 17 19:50:23.4±1.5, 24.78N±0.08×122.78E±0.05, h35km, n24, σ1s58, 27, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
JYNG	**Yonagunijimaku**	**0.36**	**155**	P		**Pn**	**19 50 31.4**	**-0.7**
JYNG				S		**Sn**	**19 50 38.1**	**+0.1**
YOJ	**Yonaguni jima**	**0.38**	**146**	*i*P		**Pn**	**19 50 31.9**	**-0.5**
	baz=106							
YOJ				S		**Sn**	**19 50 38.6**	**+0.1**
TWB1	**Santiao Chiao**	**0.76**	**288**	*e*P		**Pn**	**19 50 37.8**	**+0.3**
	baz=307							
TWB1				*e*S		**Sn**	**19 50 44.8**	**-3.0**
	baz=307							
EGS		**0.78**	**275**	*e*P		**Pn**	**19 50 37.0**	**-0.8**
	baz=293							
TWC	**Suao**	**0.86**	**259**	*e*P		**Pn**	**19 50 36.1**	**-3.0**
	baz=272							
NWF	**Wu-fen Shan**	**0.95**	**288**	*e*P		**Pn**	**19 50 42.0**	**+1.6**
	baz=303							
ENA	**Nanau**	**1.01**	**250**	*e*P		**Pn**	**19 50 39.5**	**-1.5**
	baz=258							
TWE	**Neicheng**	**1.01**	**267**	*e*P		**Pn**	**19 50 39.7**	**-1.4**
	baz=279							
ENTT	**Nioudou**	**1.11**	**263**	*e*P		**Pn**	**19 50 41.6**	**-0.9**
	baz=273							
HATJ	**Hateruma jima**	**1.18**	**127**	P		**Pn**	**19 50 43.3**	**-0.1**
TWY	**Chenhua**	**1.18**	**295**	*e*P		**Pn**	**19 50 45.7**	**+2.3**
	baz=307							
JKRS	**Kuro-shima**	**1.24**	**115**	P		**Pn**	**19 50 44.8**	**+0.6**
NSK	**Sanguang**	**1.30**	**266**	*e*P		**Pn**	**19 50 44.1**	**-1.0**
	baz=274							
JIJ	**Ishigaki jima**	**1.31**	**108**	P		**Pn**	**19 50 45.2**	**+0.1**
NNS	**Nan Shan**	**1.32**	**256**	*e*P		**Pn**	**19 50 46.0**	**+0.5**
	baz=262							
NSTT	**Nanjuang**	**1.63**	**265**	*e*P		**Pn**	**19 50 50.4**	**+0.9**
	baz=271							
TWQ1	**Liyutan**	**1.88**	**257**	*e*P		**Pn**	**19 50 54.9**	**+1.9**
	baz=261							
SMLT	**Sun Moon Lake**	**1.93**	**243**	*e*P		**Pn**	**19 50 55.3**	**+1.4**
	baz=245							
TYC	**Yuchr**	**1.96**	**244**	*e*P		**Pn**	**19 50 55.2**	**+1.1**
	baz=246							
ALS	**Alishan**	**2.20**	**235**	*e*P		**Pn**	**19 50 59.3**	**+1.5**
	baz=236							
CHN5	**Tsauling**	**2.25**	**239**	*e*P		**Pn**	**19 51 00.4**	**+2.2**
	baz=240							
CHN4	**Tsaushan**	**2.45**	**235**	*e*P		**Pn**	**19 51 03.8**	**+2.9**
	baz=236							
WTP	**Ta-pu**	**2.50**	**233**	*e*P		**Pn**	**19 51 03.2**	**+1.6**
	baz=233							

JMA **17** *19:54:45.5±0.2, 24.95N×122.71E, h13km±3km, M2.7*
TAP **17** *19:54:45.5, 24.90N×122.70E, h6km, ML3.3, D*
ISCJB **17** *19:54:46.0±1.0, 24.94N±0.05×122.77E±0.03, h6km±6km, Error ellipse: s-maj=9.4km s-min=3.6km az=23.2*
ISC 17 19:54:45.6±1.5, 24.92N±0.05×122.72E±0.03, h11km±13km, n42, σ0s96/47, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
JYNG	**Yonagunijimaku**	**0.51**	**156**	P		**Pg**	**19 54 55.9**	**+0.4**
JYNG				S		**Sb**	**19 55 03.6**	**-0.3**
YOJ	**Yonaguni jima**	**0.53**	**150**	*i*P		**Pb**	**19 54 56.6**	**-0.2**
	baz=147							
YOJ				*e*S		**Sb**	**19 55 04.2**	**-0.3**
	baz=147							
YOJ	**Yonaguni jima**	**0.53**	**150**	P		**Pg**	**19 54 56.4**	**+0.5**
YOJ				S		**Sb**	**19 55 04.1**	**-0.3**
TWB1	**Santiao Chiao**	**0.67**	**278**	*e*P		**Pn**	**19 55 00.2**	**-0.8**
	baz=279							
TWB1				*e*S		**Sb**	**19 55 09.2**	**+0.6**
	baz=279							
EGS		**0.72**	**264**	*e*P		**Pn**	**19 55 00.9**	**-0.8**
	baz=265							
TWC	**Suao**	**0.85**	**249**	*e*P		**Pb**	**19 55 02.0**	**-0.3**
	baz=249							
NWF	**Wu-fen Shan**	**0.87**	**280**	*e*P		**Pn**	**19 55 03.7**	**-0.1**
	baz=281							
PCYT	**Pengchaiyu**	**0.92**	**320**	*e*P		**Pn**	**19 55 04.5**	**0.0**
	baz=322							
TWE	**Neicheng**	**0.98**	**259**	P		**Pb**	**19 55 04.5**	**0.0**
	baz=259							
ENA	**Nanau**	**1.02**	**241**	*e*P		**Pg**	**19 55 04.9**	**-0.3**
	baz=242							
TWA	**Mucha**	**1.03**	**274**	*e*P		**Pn**	**19 55 08.4**	**+2.3**
	baz=274							
TWY	**Chenhua**	**1.08**	**289**	*e*P		**Pn**	**19 55 09.1**	**+2.5**
	baz=290							
ENTT	**Nioudou**	**1.09**	**255**	*e*P		**Pn**	**19 55 06.5**	**-0.2**
	baz=256							
IRIF	**Iriomote-Funau**	**1.09**	**122**	P		**Pb**	**19 55 06.0**	**-0.4**
TAP1	**Taipei**	**1.09**	**276**	*e*P		**Pg**	**19 55 05.7**	**-0.9**
	baz=277							
TWS1	**Kuangyinshan**	**1.20**	**279**	*e*P		**Pg**	**19 55 08.7**	**+0.1**
	baz=280							
NSK	**Sanguang**	**1.26**	**259**	*e*P		**Pb**	**19 55 09.3**	**-0.1**
	baz=277							
HATJ	**Hateruma jima**	**1.31**	**131**	S		**Sb**	**19 55 26.0**	**-0.9**
NNS	**Nan Shan**	**1.32**	**249**	*e*P		**Pg**	**19 55 11.5**	**+0.6**
	baz=249							
JKRS	**Kuro-shima**	**1.35**	**120**	P		**Pn**	**19 55 10.8**	**+0.4**
JIJ	**Ishigaki jima**	**1.41**	**113**	P		**Pn**	**19 55 10.8**	**-0.3**
JIJ				S		**Sn**	**19 55 29.4**	**-0.3**
JISG	**Ishigakijimahi**	**1.48**	**103**	P		**Pb**	**19 55 13.3**	**+0.2**
WHF	**Hehuan Shan**	**1.54**	**240**	P		**Pb**	**19 55 14.2**	**-0.1**
	baz=241							
TWT	**Tachien**	**1.56**	**245**	*e*P		**Pg**	**19 55 15.1**	**-0.4**
	baz=246							
NSTT	**Nanjuang**	**1.59**	**260**	*e*P		**Pg**	**19 55 16.6**	**+0.5**
	baz=260							
NSY	**Sanyi**	**1.85**	**255**	*e*P		**Pg**	**19 55 20.1**	**-1.0**
	baz=272							
TWQ1	**Liyutan**	**1.86**	**253**	*e*P		**Pg**	**19 55 20.5**	**-0.8**
	baz=253							
EHY	**Hungye**	**1.90**	**223**	*e*P		**Pn**	**19 55 18.9**	**+1.0**
	baz=223							
SMLT	**Sun Moon Lake**	**1.96**	**239**	*e*P		**Pb**	**19 55 21.0**	**-0.3**
	baz=222							
TYC	**Yuchr**	**1.98**	**240**	*e*P		**Pb**	**19 55 22.1**	**+0.5**
	baz=225							
TWF1	**Yuli**	**2.03**	**220**	*e*P		**Pn**	**19 55 18.6**	**-1.1**
	baz=206							
WNT	**Mingjian**	**2.13**	**241**	*e*P		**Pb**	**19 55 23.7**	**-0.4**
	baz=242							
ALS	**Alishan**	**2.24**	**232**	*e*P		**Pb**	**19 55 25.2**	**-1.1**
	baz=217							
CHN5	**Tsauling**	**2.28**	**235**	*e*P		**Pb**	**19 55 26.9**	**0.0**
	baz=218							
WGK	**Gukeng**	**2.32**	**239**	*e*P		**Pb**	**19 55 26.9**	**-0.5**
	baz=239							
CHN4	**Tsaushan**	**2.50**	**232**	*e*P		**Pb**	**19 55 29.4**	**-1.0**
	baz=216							
STYT	**Tauyuan**	**2.51**	**226**	*e*P		**Pn**	**19 55 28.2**	**+1.8**
	baz=212							
WTP	**Ta-pu**	**2.55**	**230**	*e*P		**Pn**	**19 55 28.6**	**+1.7**
	baz=230							
TWK	**Hsinying**	**2.62**	**232**	*e*P		**Pb**	**19 55 31.9**	**-0.8**
	baz=232							
CHN1	**Nanshi**	**2.65**	**230**	*e*P		**Pb**	**19 55 31.4**	**-1.6**
	baz=230							
SSD	**Sandimen**	**2.89**	**222**	*e*P		**Pn**	**19 55 33.5**	**+1.9**
	baz=223							
EAST	**Anshuo**	**3.05**	**215**	*e*P		**Pn**	**19 55 35.4**	**+1.6**
	baz=216							

GII **17** *20:00:27.7±0.0, 32.03N×35.48E, h4km, MD2.8/5*
HLW **17** *20:00:28.2, 32.24N×35.70E, h17km±11km, Md3.0, Ml2.9*
CSEM **17** *20:00:28.5±0.1, 32.02N×35.48E, h2km, MD2.8, Error ellipse: s-maj=3.2km s-min=1.4km az=103.0*
NSSC **17** *20:00:28.8±1.2, 32.03N×35.54E, h0km±8km, MD1.2, ML2.8*
ISCJB **17** *20:00:28.5±0.3, 32.02N±0.01×35.50E±0.03, h5km±3km, Error ellipse: s-maj=5.0km s-min=2.1km az=17.1*
JSO **17** *20:00:29.5±1.0, 32.04N×35.53E, h4km±6km, MD3.7*
GRAL **17** *20:00:29.6±0.9, 32.00N×35.48E, h0km±4km, MD3.6*
ISC 17 20:00:29.0±0.9, 32.03N±0.01×35.49E±0.03, h10km±8km, n79, σ1s01/117, Dead Sea region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
HMDT	**Nahal Hemdat**	**0.23**	**7**	Pg		**Pg**	**20 00 33.3**	**-0.4**
HMDT				Sg		**Sg**	**20 00 37.6**	**+0.7**
HMDT	**

SLTI				Sg	**Sg**	20 00 44.7	+1.3
SLTI	**Sal'it**	0.44	299	Pg	**Pg**	20 00 36.8	-0.8
DSI	**Dead Sea**	0.46	192	Pg	**Pg**	20 00 37.4	-0.6
DSI				Sg	**Sb**	20 00 44.5	-1.7
DSI	**Dead Sea**	0.46	192	Pg	**Pg**	20 00 37.4	-0.6
DSI				Sg	**Sb**	20 00 44.5	-1.7
WALJ	**Wala**	0.54	149	*e*P	**Pb**	20 00 39.4	-1.1
AMAZ	**Amatzia**	0.69	225	Pg	**Pg**	20 00 41.9	-0.5
AMAZ				Sg	**Sb**	20 00 53.6	+0.7
AMAZ	**Amatzia**	0.69	225	Pg	**Pg**	20 00 41.9	-0.5
MZDA	**Masada**	0.72	189	Pg	**Pg**	20 00 42.5	-0.4
MZDA				Sg	**Sb**	20 00 53.4	-0.2
MZDA	**Masada**	0.72	189	Pg	**Pg**	20 00 42.5	-0.4
MZDA				Sg	**Sb**	20 00 53.4	-0.2
OFRI	**'Ofer**	0.73	324	Pg	**Pg**	20 00 42.4	-0.8
OFRI	**'Ofer**	0.73	324	Pg	**Pg**	20 00 42.4	-0.8
YTIR	**Yattir**	0.73	206	Pg	**Pg**	20 00 43.0	-0.2
YTIR	**Yattir**	0.73	206	Pg	**Pg**	20 00 43.0	-0.2
SHMJ	**Saham**	0.74	18	*e*P	**Pg**	20 00 42.9	-0.3
BLGI	**Bet Lehem HaGe**	0.75	340	Pg	**Pg**	20 00 42.9	-0.6
BLGI	**Bet Lehem HaGe**	0.75	340	Pg	**Pg**	20 00 42.9	-0.6
TCHB	**Talchebab**	0.76	32	*e*P	**Pg**	20 00 43.5	-0.2
TCHB				*e*S	**Sb**	20 00 53.9	-0.9
TCHB				AML	AML	20 00 57.8	
	comp=E,545nm,0.7s						
TCHB				AML	AML	20 01 00.7	
	comp=N,152nm,0.4s						
TCHB	**Talchebab**	0.76	32	*e*P	**Pg**	20 00 43.5	-0.2
	SNR=75						
TCHB				*e*S	**Sb**	20 00 53.9	-0.9
	comp=N,152nm,0.4s,SNR=59						
LISJ	**El Lisan**	0.78	181	*e*P	**Pn**	20 00 44.9	-1.2
SWQJ	**Swaqa**	0.92	148	*e*P	**Pg**	20 00 44.9	-1.8
MMA0B	**Mount Meron ar**	0.99	356	Pg	**Pg**	20 00 46.9	-1.2
MMA0B				Sg	**Sb**	20 01 01.4	-0.1
MMA0B	**Mount Meron ar**	0.99	356	Pg	**Pg**	20 00 46.9	-1.2
MMA0B				Sg	**Sb**	20 01 01.4	-0.1
KSHT	**Keshet**	0.99	16	Pg	**Pg**	20 00 47.7	-0.4
KSHT	**Keshet**	0.99	16	Pg	**Pg**	20 00 47.7	-0.4
KSDI	**Kefar Szold**	1.17	7	Pg	**Pg**	20 00 50.3	-1.2
KSDI	**Kefar Szold**	1.17	7	Pg	**Pg**	20 00 50.3	-1.2
SALA	**Sala**	1.25	57	*e*P	**Pb**	20 00 52.2	-0.7
SALA				*e*S	**Sb**	20 01 08.6	-0.6
SALA				AML	AML	20 01 13.0	
	comp=N,348nm,0.8s						
SALA	**Sala**	1.25	57	*e*P	**Pb**	20 00 52.2	-0.7
	SNR=57						
SALA				*e*S	**Sb**	20 01 08.6	-0.6
	comp=N,348nm,0.8s,SNR=49						
JDRJ	**Daraweish**	1.30	173	*e*P	**Pn**	20 00 52.7	-0.8
BRBR	**Barbar**	1.44	15	*e*P	**Pn**	20 00 54.8	-0.6
BRBR				*e*S	**Sb**	20 01 13.9	-0.5
BRBR				AML	AML	20 01 19.3	
	comp=N,242nm,0.3s						
BRBR				AML	AML	20 01 19.7	
	comp=E,240nm,0.6s						
BRBR	**Barbar**	1.44	15	*e*P	**Pn**	20 00 54.8	-0.6
	SNR=57						
BRBR				*e*S	**Sb**	20 01 13.9	-0.5
	comp=E,240nm,0.6s,SNR=49						
KZIT	**Kziot**	1.46	220	Pn	**Pn**	20 00 55.2	-0.2
KZIT	**Kziot**	1.46	220	Pn	**Pn**	20 00 55.2	-0.2
ZFRI	**Zfri**	1.49	190	Pn	**Pb**	20 00 56.1	-0.7
ZFRI				Sn	**Sg**	20 01 16.5	-0.5
ZFRI	**Zfri**	1.49	190	Pn	**Pb**	20 00 56.1	-0.7
ZFRI				Sn	**Sg**	20 01 16.5	-0.5
RCY	**Rachaya**	1.50	11	*e*P	**Pn**	20 00 55.8	-0.3
TOTH	**TOTAH**	1.55	30	*e*P	**Pn**	20 00 56.9	+0.1
TOTH				*e*S	**Sb**	20 01 17.7	+0.1
TOTH				AML	AML	20 01 21.2	
	comp=N,255nm,0.3s						
TOTH				AML	AML	20 01 22.7	
	comp=E,124nm,0.8s						
TOTH	**TOTAH**	1.55	30	*e*P	**Pn**	20 00 56.8	+0.1
	SNR=57						
TOTH				*e*S	**Sb**	20 01 17.7	+0.1
	comp=E,124nm,0.8s,SNR=49						
BYRJ	**Bayer**	1.63	148	*e*P	**Pb**	20 00 58.6	-0.6
QASN	**Qassioun**	1.64	23	*e*P	**Pb**	20 00 59.1	-0.4
QASN				*e*S	**Sg**	20 01 21.0	-0.8
QASN				AML	AML	20 01 25.1	
	comp=N,560nm,0.4s						
QASN				AML	AML	20 01 25.2	
	comp=E,280nm,0.3s						
QASN	**Qassioun**	1.64	23	*e*P	**Pb**	20 00 59.1	-0.4
	SNR=57						
QASN				*e*S	**Sg**	20 01 21.0	-0.8
	comp=E,280nm,0.3s,SNR=49						
DQRL	**Deir Qamar**	1.68	2	*e*P	**Pb**	20 00 59.6	-0.5
DQRL				*e*S	**Sb**	20 01 21.3	0.0
DQRL	**Deir Qamar**	1.68	2	*e*P	**Pb**	20 00 59.6	-0.5
DQRL				*e*S	**Sb**	20 01 21.3	0.0
PRNI	**Paran**	1.72	194	Pn	**Pn**	20 00 59.0	-0.1
PRNI				Sn	**Sb**	20 01 22.6	+0.2
PRNI	**Paran**	1.72	194	Pn	**Pn**	20 00 59.0	-0.1
PRNI				Sn	**Sb**	20 01 22.6	+0.2
RSH		1.85	235	P	**Pn**	20 01 00.9	+0.1
	baz=234						
RSH				S	**Sb**	20 01 25.7	-0.4
	baz=234						
RSH		1.85	235	P	**Pn**	20 01 00.9	+0.1
RSH				S	**Sb**	20 01 25.7	-0.4
BHL	**Bhannes**	1.88	4	*e*P	**Pn**	20 01 02.2	+0.8
BHL	**Bhannes**	1.88	4	*e*P	**Pn**	20 01 02.2	+0.8
HRFI	**Mount Harif**	2.02	191	Pn	**Pn**	20 01 03.2	0.0
HRFI				Sn	**Sb**	20 01 30.5	-0.6
HRFI	**Mount Harif**	2.02	191	Pn	**Pn**	20 01 03.2	0.0
HRFI				Sn	**Sb**	20 01 30.5	-0.6
MARH	**Ras Al Marh**	2.16	22	*e*P	**Pb**	20 01 07.2	-1.3
MARH				AML	AML	20 01 39.8	
	comp=E,191nm,0.4s						
MARH				AML	AML	20 01 43.1	
	comp=N,114nm,0.7s						
MARH	**Ras Al Marh**	2.16	22	*e*P	**Pb**	20 01 07.2	-1.3
	SNR=45						
HWQ	**Hawqa**	2.28	9	*e*P	**Pn**	20 01 07.7	+0.8
HWQ				*e*S	**Sn**	20 01 36.0	+0.9
HWQ	**Hawqa**	2.28	9	*e*P	**Pn**	20 01 07.7	+0.8
HWQ				*e*S	**Sn**	20 01 36.0	+0.9
MBRI	**Mt Berech**	2.28	193	Pn	**Pn**	20 01 06.8	0.0
MBRI	**Mt Berech**	2.28	193	Pn	**Pn**	20 01 06.8	0.0
HITJ	**Hittiya**	2.29	172	*e*P	Pg	20 01 17.8	+4.8
HITJ				*e*S	**Sg**	20 01 50.4	+7.6
AQBJ	**Aqaba**	2.32	190	*e*P	**Pn**	20 01 08.0	+0.6
EIL	**Elat**	2.39	191	Pn	**Pn**	20 01 08.3	0.0
EIL	**Elat**	2.39	191	Pn	**Pn**	20 01 08.3	0.0
HNKL	**Nakhl**	2.46	212	P	**Pn**	20 01 09.2	-0.1
	baz=214						
HNKL				AMP		20 01 00.0	
	comp=N,70µm,0.3s,logA/T=5.3,baz=214						
HNKL				S	**Sn**	20 01 40.5	+1.1
	baz=214						
HNKL	**Nakhl**	2.46	212	P	**Pn**	20 01 09.2	-0.1
HNKL				S	**Sn**	20 01 40.5	+1.1
ROOS	**tl_alroos**	2.62	35	*e*P	**Pn**	20 01 13.0	+1.5
ROOS				*e*S	**Sn**	20 01 44.0	+0.6
ROOS				AML	AML	20 01 55.0	
	comp=N,85nm,0.6s						
ROOS				AML	AML	20 02 09.6	
	comp=E,66nm,0.4s						
ROOS	**tl_alroos**	2.62	35	*e*P	**Pn**	20 01 13.0	+1.5
	SNR=45						
ROOS				*e*S	**Sn**	20 01 44.0	+0.6
	comp=E,66nm,0.4s,SNR=40						
SUZ	**Suez**	3.16	227	P	**Pn**	20 01 19.0	+0.2
	baz=227						
SUZ	**Suez**	3.16	227	P	**Pn**	20 01 19.0	+0.2
KOT	**Kottamia**	3.78	237	P	**Pn**	20 01 27.1	-0.3
	baz=237						
KOT	**Kottamia**	3.78	237	P	**Pn**	20 01 27.1	-0.3
SH2	**Sharm el Sheik**	4.31	197	P	**Pn**	20 01 34.5	-0.1
	baz=199						
SH2	**Sharm el Sheik**	4.31	197	P	**Pn**	20 01 34.6	-0.1
GRB	**Gharib**	4.42	213	P	**Pn**	20 01 36.2	+0.1
	baz=214						
GRB	**Gharib**	4.42	213	P	**Pn**	20 01 36.2	+0.1

*IDC **17** 20:01:41.8±2.4, 33.°40N×141.°33E, h0km, mb3.3/2, mb1 3.4/3, mb1mx3.1/29, mbtmp3.1/3, ML2.7/1, Error ellipse: s-maj=43.2km s-min=25.5km az=26.0*
*ISCJB **17** 20:01:44.6±1.1, 33.°55N±0.°06×141.°34E±0.°09, h41km, mb3.4/2, Error ellipse: s-maj=11.0km s-min=8.7km az=21.3*
*JMA **17** 20:01:46.8±0.4, 33.°63N×141.°18E, h52km, M2.6*

ISC 17 20:01:46.1±1.6, 33.°56N±0.°07×141.°3E±0.°1, h41km, n11, σ1s08/14, 1C, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JHJ2	**Mitsune**	**1.31**	**250**	P	**Pn**	**20 02 08.1**	**+0.2**
JHJ2				*e*S	**Sn**	**20 02 24.8**	**+0.7**
JHJ	**Hachijo jima 2**	**1.33**	**251**	Pn	**Pn**	**20 02 08.2**	**0.0**
	23nm,0.3s,baz=160,slow=23,SNR=33						
JHJ				Sn	**Sn**	**20 02 24.9**	**+0.1**
	28nm,0.3s,baz=48,slow=23,SNR=13						
JHCJ	**Hachijojimakas**	**1.33**	**249**	*e*S	**Sn**	**20 02 24.3**	**-0.5**
BSO3	**Boso 3**	**1.39**	**333**	P	**Pn**	**20 02 09.2**	**+0.4**
KTJJ	**Kamata 2**	**2.29**	**307**	P	**Pn**	**20 02 21.5**	**+0.2**
KTJJ				*e*S	**Sn**	**20 02 47.5**	**-0.8**
JIZS	**Izushimoda**	**2.30**	**301**	P	**Pn**	**20 02 22.1**	**+0.5**
JOD2	**Odawara 2**	**2.48**	**314**	P	**Pn**	**20 02 24.1**	**0.0**
MJAR	**Matsushiro Arr**	**3.90**	**321**	Pn	**Pn**	**20 02 44.1**	**+0.6**
	0.5nm,0.3s,baz=152,slow=14,SNR=7.9						
WRA	**Warramunga Arr**	**53.62**	**188**	P	**P**	**20 11 03.3**	**-0.1**
	0.2nm,0.3s,baz=4.4,slow=7.6,SNR=6.4						
ASAR	**Alice Springs**	**57.34**	**188**	P	**P**	**20 11 30.7**	**+0.6**
	0.3nm,0.9s,baz=1.9,slow=6.4,SNR=2.8						
SYO	**Syowa Base**	**125.05**	**206**↑	*e*P	**Pdif**	**20 17 14.2**	**-3.2**

*IDC **17** 20:16:03.1±2.3, 33.°06N×140.°97E, h0km, mb3.3/2, mb1 3.5/3, mb1mx3.2/28, mbtmp3.2/3, ML2.9/1, Error ellipse: s-maj=46.6km s-min=20.9km az=35.0*
*ISCJB **17** 20:16:05.8±1.0, 33.°34N±0.°06×141.°00E±0.°10, h48km, mb3.4/2, Error ellipse: s-maj=11.8km s-min=7.8km az=168.8*
*JMA **17** 20:16:06.8±0.4, 33.°44N×140.°99E, h40km, M2.9*

ISC 17 20:16:07.3±1.5, 33.°34N±0.°07×141.°0E±0.°1, h48km, n10, σ0s92/14, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JHJ2	**Mitsune**	**0.99**	**257**	P	**Pn**	**20 16 24.9**	**+0.1**
JHJ	**Hachijo jima 2**	**1.01**	**258**	Pn	**Pn**	**20 16 25.0**	**-0.2**
	40nm,0.3s,baz=20,slow=22,SNR=118						
JHJ				Sn	**Sn**	**20 16 37.5**	**-0.9**
	66nm,0.3s,baz=74,slow=20,SNR=24						
BSO1	**Boso 1**	**1.31**	**0**	P	**Pn**	**20 16 28.0**	**-0.8**
JIM2	**Oshima 3**	**1.88**	**318**	P	**Pn**	**20 16 36.2**	**-0.8**
JIZS	**Izushimoda**	**2.21**	**309**	P	**Pn**	**20 16 41.9**	**+0.3**
KTJJ	**Kamata 2**	**2.24**	**316**	P	**Pn**	**20 16 41.9**	**0.0**
KTJJ				S	**Sn**	**20 17 07.6**	**-0.7**
JOD2	**Odawara 2**	**2.47**	**322**	P	**Pn**	**20 16 44.8**	**-0.4**
JOD2				S	**Sn**	**20 17 13.0**	**-1.1**
MJAR	**Matsushiro Arr**	**3.92**	**325**	Pn	**Pn**	**20 17 06.9**	**+1.9**
	0.7nm,0.3s,baz=140,slow=14,SNR=10						
MJAR				Sn	**Sn**	**20 17 50.7**	**+0.9**
	0.3nm,0.3s,baz=162,slow=25,SNR=4.3						
WRA	**Warramunga Arr**	**53.35**	**188**	P	**P**	**20 25 21.6**	**-0.3**
	0.2nm,0.5s,baz=4.1,slow=7.6,SNR=8.2						
ASAR	**Alice Springs**	**57.08**	**188**	P	**P**	**20 25 49.5**	**+0.8**
	0.3nm,0.7s,baz=6.3,slow=7.3,SNR=8.5						

*IPEC **17** 20:46:37.4±0.2, 49.°81N×18.°54E, h0km, ML1.1/3, Error ellipse: s-maj=2.1km s-min=1.1km az=161.0*
*CSEM **17** 20:46:37.1±0.4, 49.°85N×18.°46E, h1km, ML1.9/5, Error ellipse: s-maj=8.7km s-min=3.7km az=30.0*

PRU 17 20:46:39.1, 49.°83N×18.°40E, h0km, 2D, Czech and Slovak Republics

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OKC	**Ostrava-Krasne**	**0.16**	**273**	*i* P	Pg	20 46 42.3	+0.1
OKC				*e*SG	Sg	20 46 45.3	+1.0
	comp=Z,21nm,0.4s						
OKC	**Ostrava-Krasne**	**0.16**	**273**	Pg	Pg	20 46 42.3	+0.1
OKC				Sg	Sg	20 46 45.3	+1.0
	21nm,0.4s						
MORC	**Moravsky Berou**	**0.56**	**265**	*e*Pg	Pg	20 46 49.6	-0.2
	baz=87						
MORC				*e*Sg	Sg	20 46 57.8	+0.8
	4.7nm,0.3s,baz=87						
LANS	**Liptovska Anna**	**0.97**	**134**	*e*Pg	Pg	20 46 56.0	-1.7
LANS				*e*Sg	Sb	20 47 11.6	-0.7
LANS	**Liptovska Anna**	**0.97**	**134**	*e*PG	Pg	20 46 56.0	-1.7
LANS				*e*SG	Sb	20 47 11.6	-0.7
KRLC	**Kraliky**	**1.07**	**284**	*e*PG	Pg	20 46 57.7	-2.0
KRLC				*e*SG	Sg	20 47 13.4	-0.2
KRLC	**Kraliky**	**1.07**	**284**	Pg	Pg	20 46 57.7	-2.0
KRLC				Sg	Sg	20 47 13.4	-0.2
VRAC	**Vranov**	**1.29**	**247**	*e*Pg	Pg	20 47 02.6	-1.1
	baz=68						
VRAC				*e*Sg	Sg	20 47 20.2	-0.2
	2.2nm,0.2s,baz=68						
VYHS	**Vyhne**	**1.37**	**168**	*e*Pg	Pg	20 47 03.1	-2.2
VYHS				*e*Sg	Sg	20 47 21.8	-1.2
VYHS	**Vyhne**	**1.37**	**168**	*e*PG	Pg	20 47 03.1	-2.2
VYHS				*e*SG	Sg	20 47 21.8	-1.2
VYHS				*e*LG	Lg	20 47 23.3	
DPC	**Dobruska-Polom**	**1.44**	**292**	*e*PG	Pn	20 47 04.7	-1.7
DPC				*e*SG	Sg	20 47 24.9	-0.3
	comp=Z,2.0nm,0.4s						
DPC	**Dobruska-Polom**	**1.44**	**292**	Pg	Pn	20 47 04.7	-1.7
DPC				Sg	Sg	20 47 24.9	-0.3
	2.0nm,0.4s						
KRUC	**Moravsky**	**1.52**	**240**	*e*Pg	Pn	20 47 06.0	-1.5
	baz=61						
KRUC				*e*Sg	Sg	20 47 27.1	-0.7
	2.0nm,0.3s,baz=61						
PRU	**Pruhonice**	**2.50**	**275**↓	*e*SG	Sb	20 47 56.9	+0.8
PRU	**Pruhonice**	**2.50**	**275**	Sg	Sb	20 47 56.9	+0.8
KHC	**Kasperske Hory**	**3.22**	**259**	*e*SG	Sg	20 48 20.9	-1.6
KHC	**Kasperske Hory**	**3.22**	**259**	Sg	Sg	20 48 20.9	-1.6

*CSEM **17** 20:48:00.7±0.2, 49.°85N×18.°44E, h1km, ML2.2/9, Error ellipse: s-maj=6.2km s-min=3.2km az=11.0*
*IPEC **17** 20:48:01.0±0.2, 49.°82N×18.°53E, h0km, ML1.6/3, Error ellipse: s-maj=2.1km s-min=1.1km az=161.0*
*VIE **17** 20:48:04.5±1.3, 49.°70N×18.°23E, h0km, mb2.0/2, ML2.1/4, Error ellipse: s-maj=10.1km s-min=4.3km az=33.0, Suspected Mining induced.*

PRU 17 20:48:03.9, 49.°84N×18.°34E, h0km, 3C, Czech and Slovak Republics

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OKC	**Ostrava-Krasne**	**0.12**	**269**↑	*i* PG	Pg	20 48 06.3	0.0
OKC				*e*SG	Sg	20 48 09.6	+1.7
	comp=Z,52nm,0.4s						
OKC	**Ostrava-Krasne**	**0.12**	**269**	Pg	Pg	20 48 06.3	0.0
OKC				Sg	Sg	20 48 09.6	+1.7
	52nm,0.4s						
MORC	**Moravsky Berou**	**0.52**	**263**	*e*Pg	Pg	20 48 13.1	-0.8
MORC				*e*Sg	Sg	20 48 21.0	+0.4
	13nm,0.3s,baz=86						
LANS	**Liptovska Anna**	**1.01**	**133**	*e*Pg	Pg	20 48 19.4	-3.8
LANS				*e*Sg	Sg	20 48 34.3	-2.0
LANS	**Liptovska Anna**	**1.01**	**133**	*e*PG	Pg	20 48 19.3	-3.9
LANS				*e*SG	Sg	20 48 34.3	-2.0
OJC	**Ojcow**	**1.01**	**67**	*e*Pg	Pg	20 48 18.6	-4.7
OJC				*e*Sg	Sg	20 48 31.0	-5.5
OJC	**Ojcow**	**1.01**	**67**	*e*Pg	Pg	20 48 18.6	-4.7
OJC				*e*Sg	Sg	20 48 31.0	-5.5
KRLC	**Kraliky**	**1.03**	**284**	*e*PG	Pg	20 48 21.0	-1.9
KRLC				*e*SG	Sg	20 48 37.3	+0.2
KRLC	**Kraliky**	**1.03**	**284**	Pg	Pg	20 48 21.8	-1.9
KRLC				Sg	Sg	20 48 37.3	+0.2
VRAC	**Vranov**	**1.25**	**246**	*e*Pg	Pg	20 48 26.4	-1.5
	baz=67						
VRAC				*e*Sg	Sg	20 48 43.9	-0.3
	7.3nm,0.2s,baz=67						
NIE	**Niedzica**	**1.34**	**108**	*e*Pg	Pg	20 48 25.8	-3.8
NIE				*e*Sg	Sg	20 48 43.7	-3.3
NIE	**Niedzica**	**1.34**	**108**	*e*Pg	Pg	20 48 25.8	-3.8
NIE				*e*Sg	Sg	20 48 43.7	-3.3
VYHS	**Vyhne**	**1.39**	**166**	*e*Pg	Pg	20 48 26.7	-3.7
VYHS				*e*Sn	Sg	20 48 44.8	-3.6
VYHS	**Vyhne**	**1.39**	**166**	*e*PG	Pg	20 48 26.7	-3.7
VYHS				*e*SN	Sg	20 48 44.8	-3.6
VYHS				*e*LG	Lg	20 48 46.3	
DPC	**Dobruska-Polom**	**1.40**	**292**	*e*PG	Pg	20 48 28.7	-1.9
DPC				*e*SG	Sg	20 48 48.4	-0.3
	comp=Z,4.9nm,0.3s						
DPC	**Dobruska-Polom**	**1.40**	**292**	Pg	Pg	20 48 28.7	-1.9
DPC				Sg	Sg	20 48 48.4	-0.3
	4.9nm,0.3s						
KRUC	**Moravsky**	**1.49**	**239**	*e*Pg	Pn	20 48 29.6	-2.3
	baz=61						
KRUC				*e*Sg	Sg	20 48 50.7	-1.0
	5.3nm,0.3s,baz=61						
UPC	**Upice**	**1.64**	**295**↑	*e*PG	Pn	20 48 33.4	-0.6
UPC				*e*SG	Sn	20 48 55.7	-0.1
UPC	**Upice**	**1.64**	**295**	Pg	Pn	20 48 33.4	-0.6
UPC				Sg	Sn	20 48 55.7	-0.1
KECS	**Kecovo**	**1.96**	**133**	*e*Sn	Sn	20 48 59.2	-4.4
KECS	**Kecovo**	**1.96**	**133**	*e*SN	Sn	20 48 59.2	-4.4
KECS				*e*LG	Lg	20 49 01.1	
PRU	**Pruhonice**	**2.46**	**275**↑	*e*PG	Pn	20 48 46.8	+1.6
PRU				*e*SG	Sb	20 49 20.3	+0.5
	comp=Z,3.6nm,0.5s						
PRU	**Pruhonice**	**2.46**	**275**	Pg	Pn	20 48 46.8	+1.6
PRU				Sg	Sb	20 49 20.3	+0.5
	3.6nm,0.5s						
CONA	**Conrad Observa**	**2.52**	**221**	Pn	Pn	20 48 44.3	-1.8
CONA				Sn	Sn	20 49 14.5	-3.0
	0.1nm,0.1s						
BRG	**Berggiesshubel**	**3.00**	**292**	SG	Sg	20 49 38.4	-1.8
	1.3nm,0.5s						
KHC	**Kasperske Hory**	**3.19**	**259**	*e*PG	Pb	20 49 01.8	+0.4
KHC				*e*SG	Sb	20 49 43.3	+2.6
	comp=Z,2.1nm,0.4s						
KHC	**Kasperske Hory**	**3.19**	**259**	Pg	Pb	20 49 01.8	+0.4
KHC				Sg	Sb	20 49 43.3	+2.6
	2.1nm,0.4s						
MOA	**Molln**	**3.35**	**235**	Sg	Sg	20 49 49.3	-2.1
	0.4nm,0.2s						

*ISCJB **17** 20:53:18.4±0.5, 26.°86N±0.°07×126.°79E±0.°06, h114km, 6km, mb3.4/4, Error ellipse: s-maj=13.9km s-min=4.2km az=143.0*
*IDC **17** 20:53:19.4±5.3, 26.°88N×126.°82E, h104km, 66km, mb3.2/4, mb1 3.3/4, mb1mx3.1/35, mbtmp3.5/4, Error ellipse: s-maj=103.6km s-min=18.6km az=64.0*
*JMA **17** 20:53:20.5±0.3, 26.°86N×126.°86E, h106km, 3km, M3.2*

ISC 17 20:53:19.5±0.9, 26.°89N±0.°09×126.°78E±0.°07, h111km, n21, σ1s16/34, mb3.4/4, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JAGN	**Aguni-jima**	**0.51**	**126**	P	**Pn**	**20 53 36.7**	**+0.3**
JAGN				S	**Sn**	**20 53 49.1**	**-0.1**
JKE	**Kume jima 2**	**0.56**	**180**	P	**Pn**	**20 53 37.0**	**+0.2**
JKE				*e*S	**Sn**	**20 53 50.3**	**+0.5**
JIH	**Iheya**	**1.07**	**82**	P	**Pn**	**20 53 41.9**	**+0.5**
JIH				S	**Sn**	**20 53 57.1**	**-0.9**
JJT2	**Tamagusuku 2**	**1.14**	**130**	P	**Pn**	**20 53 42.8**	**+0.6**
JJT2				S	**Sn**	**20 53 59.4**	**0.0**
JNTH	**Nagotoyohara**	**1.17**	**108**	P	**Pn**	**20 53 42.7**	**+0.2**
JNTH				S	**Sn**	**20 53 58.3**	**-1.6**
JOW	**Kunigami**	**1.33**	**92**	P	**Pn**	**20 53 44.5**	**+0.2**
	73nm,0.3s,baz=112,slow=25,SNR=327						
JOW				S	**Sn**	**20 54 01.3**	**-2.0**
	28nm,0.3s,baz=116,slow=21,SNR=7.7						
JOW	**Kunigami**	**1.33**	**92**	P	**Pn**	**20 53 44.6**	**+0.2**
JOW				S	**Sn**	**20 54 01.5**	**-1.8**
JOKE	**Okinoerabujima**	**1.66**	**73**	P	**Pn**	**20 53 48.4**	**+0.1**
JOKE				S	**Sn**	**20 54 09.0**	**-1.2**
JTK	**Tokunoshima**	**2.13**	**65**	P	**Pn**	**20 53 54.5**	**+0.4**
JTK				*e*S	**Sn**	**20 54 19.6**	**-1.0**
JIKM	**Ikemajima**	**2.39**	**216**	S	**Sn**	**20 54 27.3**	**+0.6**
JIRB	**Irabujima**	**2.51**	**216**	P	**Pn**	**20 53 59.2**	**+0.1**
JAMN	**Amaminishikomi**	**2.52**	**57**	P	**Pn**	**20 53 59.1**	**0.0**
JTJ	**Tarama**	**2.92**	**220**	S	**Sn**	**20 54 37.1**	**-1.9**
JAM	**Amami Oshima**	**2.93**	**58**	P	**Pn**	**20 54 04.7**	**+0.2**
JAM				S	**Sn**	**20 54 37.9**	**-1.3**
JISG	**Ishigakijimahi**	**3.20**	**225**	P	**Pn**	**20 54 07.8**	**-0.3**
JISG				S	**Sn**	**20 54 44.4**	**-1.2**
JIJ	**Ishigaki jima**	**3.46**	**224**	P	**Pn**	**20 54 11.1**	**-0.6**
JIJ				S	**Sn**	**20 54 49.2**	**-2.8**
JKRS	**Kuro-shima**	**3.64**	**224**	P	**Pn**	**20 54 15.1**	**+1.1**
JKRS				S	**Sn**	**20 54 54.8**	**-1.4**
SONM	**Songino Array**	**26.31**	**328**	P	**P**	**20 58 47.3**	**+2.5**
	0.4nm,0.3s,baz=141,slow=10,SNR=5.8						
ZALV	**Zalesovo Beam**	**40.94**	**323**	P	**P**	**21 00 50.1**	**-0.8**
	0.4nm,0.5s,baz=101,slow=7.5,SNR=2.6						
WRA	**Warramunga Arr**	**47.12**	**170**	P	**P**	**21 01 40.5**	**-0.1**
	0.3nm,0.5s,baz=349,

JTH	Tanohata	1.19 259	P	Pb	21 05 48.8	-0.2
JTH			eS	Sb	21 06 04.3	-0.4
MIYJ	Miyakonagasawa	1.35 244	P	Pg	21 05 52.2	+0.6
MIYJ			eS	Sn	21 06 09.2	-0.5
JANG	Nango	1.44 278	P	Pb	21 05 53.0	-0.3
JANG			eS	Sn	21 06 09.8	-2.3
JOM	Ohasama	1.76 247	P	Pb	21 05 58.8	+0.2
ERM	Erimo	1.84 355	ePn	Pg	21 06 01.0	-0.1
ERM			eSn	Sb	21 06 21.9	-1.5
JEM	Erimo	1.84 355	P	Pb	21 05 59.4	-0.7
JTM	Tenmabayashi	1.87 290	P	Pb	21 05 59.6	-0.9
JTM			eS	Sn	21 06 22.2	-0.4
JMK	Ichinoseki	2.07 234	P	Pb	21 06 03.3	-0.7
JAH	Hinai	2.11 271	P	Pb	21 06 03.6	-0.9
JAH			eS	Sn	21 06 28.9	+0.5
JOT	Ohata	2.14 305	P	Pn	21 06 02.9	+0.6
JNBK	Urakawa-nobuka	2.15 347	P	Pb	21 06 04.0	-1.4
JNBK			eS	Sn	21 06 29.0	-0.6
JRG	Rokugo	2.26 251	P	Pb	21 06 06.2	-1.0
JCH	Churui	2.43 360	P	Pn	21 06 06.4	+0.1
JCH			eS	Sn	21 06 33.5	-3.0
JKB	Kayabe	2.47 315	P	Pb	21 06 08.5	-2.2
JKB			eS	Sn	21 06 37.3	0.0
MJAR	Matsushiro Arr	5.45 230	Pn	Pn	21 06 50.7	+2.8
	3.5nm,0.3s,baz=38,slow=12,SNR=86					
MAJO	Matsushiro	5.45 230	ePn	Pn	21 06 51.2	+3.4
	26nm,0.5s					
MAT	Matsushiro	5.45 230	P	Pn	21 06 50.9	+3.1
MAT			eS	Sb	21 07 59.0	-8.3
JHJ	Hachijo jima 2	7.62 203	Pn	Pn	21 07 17.9	+0.4
	8.0nm,0.3s,baz=203,slow=17,SNR=2.2					
JHJ			Sn	Sn	21 08 37.7	-6.5
	6.9nm,0.3s,baz=102,slow=23,SNR=3.6					
USRK	Ussuriysk Ar.	9.36 299	Pn	Pn	21 07 45.5	+4.1
	0.2nm,0.3s,baz=100,slow=14,SNR=4.7					
USRK			LR	LR	21 11 13.5	
	comp=Z,135nm,19.4s,baz=112,slow=37					
KSRS	Korea Array	12.36 262	LR	LR	21 12 44.5	
	comp=Z,112nm,19.5s,baz=70,slow=35					
MA2	Magadan	19.97 11	LR	LR	21 17 30.1	
	comp=Z,54nm,19.9s,baz=142,slow=36					
SEY	Seymchan	23.42 10	P	P	21 10 35.3	-0.2
	1.1nm,0.3s,baz=154,slow=13,SNR=4.6					
SONM	Songino Array	27.48 299	P	P	21 11 13.8	+0.8
	0.7nm,0.6s,baz=104,slow=8.6,SNR=5.9					
SONM			LR	LR	21 22 39.9	
	comp=Z,91nm,18.6s,baz=96,slow=38					
H11N2	WAKE ISLAND Hy	28.66 128	T	T	21 41 28.9	
	baz=322,slow=75,SNR=90					
H11N1	WAKE ISLAND Hy	28.67 128	T	T	21 42 30.9	
	SNR=61					
H11N3	WAKE ISLAND Hy	28.68 128	T	T	21 41 35.6	
	baz=312,slow=75,SNR=63					
H11S1	WAKE ISLAND Hy	29.49 130	T	T	21 42 39.8	
	baz=322,slow=76,SNR=26					
H11S3	WAKE ISLAND Hy	29.49 130	T	T	21 42 41.1	
	baz=322,slow=76,SNR=18					
H11S2	WAKE ISLAND Hy	29.51 130	T	T	21 42 41.4	
	baz=322,slow=76,SNR=19					
ZALV	Zalesovo Beam	41.02 310	P	P	21 13 10.2	+0.5
	1.2nm,0.5s,baz=83,slow=6.1,SNR=4.3					
ZALV			LR	LR	21 30 56.3	
	comp=Z,62nm,18.4s,baz=70,slow=37					
NRIK	Noril'sk	41.10 333	LR	LR	21 30 47.8	
	comp=Z,59nm,18.6s,baz=130,slow=37					
KURK	Kurchatov	45.27 306	eP	P	21 13 44.1	-0.1
	30nm,0.6s					
ILAR	Eielson Array	46.02 34	P	P	21 13 51.0	+1.1
	1.1nm,0.7s,baz=266,slow=6.7,SNR=14					
BRVK	Borovoye	49.70 311	eP	P	21 14 18.5	-0.2
	5.9nm,0.8s					
AAK	Ala-Archa	50.41 297	eP	P	21 14 24.7	+0.3
	1.0nm,0.8s					
INK	Inuvik	50.89 28	P	P	21 14 28.3	+0.9
	1.1nm,0.5s,baz=319,slow=7.7,SNR=3.9					
KKAR	Karatay Array	52.93 299	eP	P	21 14 43.4	+0.3
	0.7nm,0.5s					
ABKAR	Akbulak array	57.12 309	eP	P	21 15 13.5	+0.2
	2.2nm,0.6s					
WRA	Warramunga Arr	60.40 190	P	P	21 15 36.5	+0.3
	1.7nm,0.7s,baz=7.5,slow=6.9,SNR=25					
ASAR	Alice Springs	64.13 190	P	P	21 16 02.1	+0.9
	0.7nm,0.7s,baz=13,slow=5.9,SNR=11					
FINES	FINESS Array B	66.75 332	P	P	21 16 18.2	+0.5
	1.3nm,0.7s,baz=57,slow=7.0,SNR=5.5					
KBZ	Khabaz	70.03 311	P	P	21 16 39.8	+1.2
	0.9nm,0.7s,baz=16,slow=3.5,SNR=4.1					
NOA	NORSAR Array B	71.88 338	LR	LR	21 51 39.8	
	comp=Z,19nm,19.3s,baz=290,slow=39					
K22A	Casper	76.14 46	eP	P	21 17 16.0	+1.0
CLL	Collm	79.12 331	epP	pP	21 17 41.0	+8.2
GERES	GERESS Array B	80.84 329	P	P	21 17 40.3	-0.5
	0.2nm,0.5s,baz=39,slow=5.1,SNR=3.9					
TXAR	Lajitas Array	87.00 54	P	P	21 18 13.4	+0.8
	0.3nm,0.6s,baz=299,slow=5.5,SNR=5.3					

*ISCJB **17** 21:23:43.8±0.6,37.01N±0.04×28.84E±0.05,h0km, Error ellipse: s-maj=6.4km s-min=5.2km az=177.2*
*ISK **17** 21:23:43.5,36.98N×28.85E,h9km,MD2.6*
*CSEM **17** 21:23:44.5±0.3,36.98N×28.86E,h12km,MD2.6, Error ellipse: s-maj=10.8km s-min=7.1km az=179.0*
*DDA **17** 21:23:45.2,37.00N×28.85E,h7km,Md2.4, Suspected Mining explosion.*

ISC 17 21:23:43.1±0.9, 37.05N±0.04×28.89E±0.03, h0km, n22, σ0.56/28, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
TURN	Turunc	0.29	232	*i* P		Pb	21 23 52.5	+1.3
TURN	Turunc	0.29	232	P		Pb	21 23 52.5	+1.3
DALY	Dalyan (Mu˘la	0.30	219	ePG		Pg	21 23 48.1	-0.8
DALY				eSG		Sg	21 23 52.7	-0.1
DALY	Dalyan (Mu˘la	0.30	219	ePg		Pg	21 23 48.1	-0.8
DALY				eSg		Sg	21 23 52.7	-0.1
FETY	Fethiye	0.44	159	ePG		Pg	21 23 51.9	+0.3
FETY				eSG		Sg	21 23 57.5	+0.2
FETY	Fethiye	0.44	159	ePg		Pg	21 23 51.9	+0.3
FETY				eSg		Sg	21 23 57.5	+0.2
GLHS	Glhisar (BURDU	0.50	78	ePG		Pb	21 23 54.7	-0.1
GLHS	Glhisar (BURDU	0.50	78	ePg		Pb	21 23 54.7	-0.1
GOLH	Golhisar	0.57	71	*i* P		Pb	21 23 57.1	+1.1
GOLH				*i* S		Sn	21 24 08.5	-0.2
GOLH	Golhisar	0.57	71	P		Pb	21 23 57.1	+1.1
GOLH				S		Sn	21 24 08.5	-0.2
ELL	Elmali	0.87	110	ePG		Pb	21 24 00.9	-0.3
ELL	Elmali	0.87	110	ePg		Pb	21 24 00.9	-0.3
AKAS	Kas	1.00	145	*i* P		Pn	21 24 04.3	-0.2
AKAS	Kas	1.00	145	P		Pn	21 24 04.3	-0.2
DAT	Datca	1.10	253	ePG		Pg	21 24 03.9	-0.3
DAT	Datca	1.10	253	ePg		Pg	21 24 03.9	-0.3
BDRM	Kayabasi	1.16	271	*i* P		Pn	21 24 06.5	-0.1
BDRM	Kayabasi	1.16	271	P		Pn	21 24 06.5	-0.1
AYDB	Zeytinkoy-Aydi	1.20	319	ePN		Pn	21 24 07.6	+0.3
AYDB	Zeytinkoy-Aydi	1.20	319	ePn		Pn	21 24 07.6	+0.3
BODT	Bodrum	1.26	271	ePN		Pb	21 24 07.6	-0.2
BODT	Bodrum	1.26	271	ePn		Pb	21 24 07.6	-0.2

*IDC **17** 21:38:47.8±15.0, 16.11S×168.64E, h0km, mb4.0/4, mb1 4.3/5, mb1mx3.8/26, mbtmp4.2/5, ML4.5/1, Error ellipse: s-maj=257.6km s-min=55.1km az=66.0*
*NEIC **17** 21:38:48.8±0.8, 16.18S×168.70E, h10km, mb4.4/1, Error ellipse: s-maj=14.5km s-min=12.2km az=186.0*
*ISCJB **17** 21:38:49.5±1.0, 16.15S±0.1×168.7E±0.1, h33km, mb4.0/4, Error ellipse: s-maj=18.7km s-min=15.3km az=1.2*

ISC 17 21:38:51.7±1.2, 16.25S±0.1×168.7E±0.1, h35km, n9, σ0.92/9, mb4.0/4, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
DZM	Mont Dzumac	6.28	200	Pn		Pn	21 40 21.5	-0.4
	12nm,0.3s,baz=17,slow=20,SNR=31							
DZM				Sn		Sn	21 41 23.4	-9.1
	6.6nm,0.3s,baz=334,slow=23,SNR=6.6							
DZM	Mont Dzumac	6.28	200	ePn		Pn	21 40 20.5	-1.4
	21nm,0.4s							
DZM				Sn		Sn	21 41 23.4	-9.1
HNR	Honiara	10.87	307	ePn		Pn	21 41 24.1	-0.8
	259nm,1.2s							
AFI	Afiamalu	18.95	86	P		Pn	21 43 10.8	-0.1
	15nm,0.7s							
CTA	Charters Tower	21.72	256	P		P	21 43 40.1	0.0
	2.3nm,0.6s,baz=90,slow=9.1,SNR=1.7							
STKA	Stephens Creek	29.21	233	P		P	21 44 51.4	+1.2
	4.0nm,0.7s,baz=45,slow=8.3,SNR=7.5							
WRA	Warramunga Arr	32.89	258	P		P	21 45 22.4	-0.3
	0.4nm,0.8s,baz=90,slow=9.0,SNR=2.9							
ASAR	Alice Springs	33.53	251	P		P	21 45 28.6	+0.2
	5.8nm,0.7s,baz=78,slow=8.6,SNR=40							
COCO	West Island	69.52	263	eP		P	21 49 58.2	+0.8

*IDC **17** 21:41:12.8±3.2, 18.65S×167.70E, h0km, mb3.8/5, mb1 4.0/5, mb1mx3.7/25, mbtmp3.8/5, MS3.6/2, Ms1 3.6/2, ms1mx2.9/26, Error ellipse: s-maj=117.9km s-min=32.6km az=138.0*

ISC 17 21:41:14.2±2.4, 19.05S±0.5×168.06E±0.5, h20km, n15, σ1.75/12, mb3.8/5, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
AFI	Afiamalu	20.02	78	LR		LR	21 51 43.5	
	comp=Z,175nm,18.2s,baz=207,slow=31							
STKA	Stephens Creek	27.01	236	P		P	21 46 56.9	+1.9
	0.9nm,0.8s,baz=70,slow=15,SNR=1.3							
WRA	Warramunga Arr	31.74	263	P		P	21 47 36.0	-1.2
	0.3nm,0.8s,baz=82,slow=6.1,SNR=1.7							
ASAR	Alice Springs	32.07	256	P		P	21 47 39.5	-0.7
	1.9nm,0.5s,baz=83,slow=8.5,SNR=13							
FITZ	Fitzroy Crossi	40.12	264	LR		LR	22 05 43.8	
	comp=Z,52nm,18.1s,slow=37							
SONM	Songino Array	86.34	324	P		P	21 53 55.5	+0.5
	0.3nm,0.5s,baz=106,slow=5.1,SNR=2.9							
ILAR	Eielson Array	90.35	18	P		P	21 54 13.9	+0.4
	0.8nm,0.9s,baz=223,slow=6.3,SNR=4.8							
CONA	Conrad Observa	143.34	328	*i* PKPbc		PKPab	22 00 42.7	-0.5
	4.8nm,1.7s							
KBA	Koelnbreinsper	145.16	329	*i* PKPbc		PKPbc	22 00 49.1	-1.1
	2.6nm,0.9s							
ABTA	Abfaltersbach	145.80	330	*i* PKiKP		PKPab	22 00 53.3	+0.8
	3.9nm,0.9s							
MOTA	Moosalm	146.02	332	*i* PKPab		PKPab	22 00 54.9	+1.5
	5.2nm,0.9s							
RETA	Reutte	146.06	332	*i* PKPdf		PKPdf	22 00 48.8	-3.2
	4.6nm,1.2s							
SQTA	Sankt Quirin	146.06	331	*i* PKPab		PKPab	22 00 55.0	+1.5
	0.1nm,0.9s							
FETA	Feichten	146.43	331	*i* PKPab		PKPab	22 00 56.6	+1.6
	3.8nm,1.0s							
DAVA	Damuels	146.60	333	*i* PKPab		PKPab	22 00 57.2	+1.6
	5.4nm,1.1s							

*IDC **17** 21:47:37.6±4.2, 18.97S×173.51W, h0km, mb4.1/5, mb1 4.3/6, mb1mx3.8/37, mbtmp4.1/6, ML4.0/1, Error ellipse: s-maj=130.4km s-min=27.8km az=134.0*
*ISCJB **17** 21:47:40.1±0.9, 18.85S±0.1×173.6W±0.2, h28km, mb4.3/12, Error ellipse: s-maj=27.5km s-min=10.3km az=35.8*
*NEIC **17** 21:47:42.8±0.6, 18.88S×173.52W, h35km, mb4.4/8, Error ellipse: s-maj=21.4km s-min=10.0km az=134.0*

ISC 17 21:47:41.7±1.0, 18.9S±0.1×173.5W±0.2, h28km, n19, σ0.84/20, mb4.3/12, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
AFI	Afiamalu	5.20	19	Pn		Pn	21 48 56.1	-1.6
	4.7nm,0.3s,baz=102,slow=13,SNR=2.4							
AFI				Sn		Sn	21 49 47.1	-10
	8.1nm,0.3s,baz=194,slow=23,SNR=2.3							
AFI	Afiamalu	5.20	19	ePn		Pn	21 48 57.2	-0.5
AFI				eSn		Sn	21 49 57.0	+0.2
EIDS	Eidsvold	33.37	252	eP		P	21 54 17.8	-0.1
	3.1nm,0.9s							
CTA	Charters Tower	37.90	261	P		P	21 54 57.1	+0.3
	4.4nm,0.6s,baz=103,slow=13,SNR=2.7							
CTAO	Charters Tower	37.90	261	eP		P	21 54 57.1	+0.3
	24nm,0.6s							
ASAR	Alice Springs	49.03	255	P		P	21 56 25.9	-0.6
	4.0nm,0.9s,baz=87,slow=8.6,SNR=25							
WRAB	Tennant Creek	49.03	260	eP		P	21 56 26.3	-0.3
	2.5nm,0.9s							
WRA	Warramunga Arr	49.04	260	P		P	21 56 25.7	-1.0
	1.4nm,0.6s,baz=97,slow=6.8,SNR=9.4							
QSPA	South Pole Qui	71.20	180	eP		P	21 58 57.5	-0.5
	7.3nm,1.0s							
MJAR	Matsushiro Arr	71.53	321	P		P	21 59 01.9	+1.7
	0.4nm,0.4s,baz=141,slow=5.1,SNR=3.2							
MAJO	Matsushiro	71.53	321	eP		P	21 58 59.4	-0.8
	1.4nm,0.4s							
PMR	Palmer	82.52	11	eP		P	22 00 01.9	+0.5
	3.0nm,0.6s							
ILAR	Eielson Array	85.85	11	P		P	22 00 19.5	+1.2
	0.4nm,0.7s,baz=227,slow=4.7,SNR=3.6							
BJT	Baijiatuan	87.77	314	eP		P	22 00 27.6	-0.6
	6.9nm,0.4s							
RSSD	Black Hills	89.07	42	eP		P	22 00 34.7	+0.2
	0.8nm,0.5s							
KIV	Kislovodsk	140.74	318	ePKPdf		PKPdf	22 07 09.6	+0.5
GNI	Garni	140.94	311	ePKPdf		PKPdf	22 07 09.3	-0.3
CLL	Collm	147.22	352	ePKPbc		PKPab	22 07 25.0	+1.1
CSS	Mathiatis	151.32	309	ePKPbc		PKPbc	22 07 33.6	+0.4

WEL 17 21:49:01.9±0.5, 39.15S×174.88E, h238km±4km, ML3.5/9, 1C-3D, Error ellipse: s-maj=2.8km s-min=2.6km az=0.0, North Island

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
FWVZ	Far West T-bar	0.53	102	PN		Pn	21 49 33.3	-0.5
WNVZ	Wahianoa	0.58	108	PN		Pn	21 49 33.6	-0.3
PREZ	Palmer Road	0.59	251	PN		Pn	21 49 33.4	-0.4
WAZ	Wanganui	0.61	173	PN		Pn	21 49 34.0	+0.3
WAZ				SN		S	21 49 58.3	-0.5
NEZ	North Egmont	0.62	258	PN		Pn	21 49 33.6	-0.3
KHEZ	Kahui Hut	0.69	258	PN		Pn	21 49 34.0	-0.2
MOVZ	Moawhango	0.72	111	⇓PN		Pn	21 49 33.8	-0.5
MOVZ				SN		S	21 49 57.2	-2.5
BHHZ	Black Hill Sta	0.98	111	PN		Pn	21 49 35.1	-0.5
KWHZ	Kaweka Forest	1.23	103	⇓PN		Pn	21 49 37.2	+0.1
KWHZ				AML		AML	21 50 04.8	
KWHZ				AML		AML	21 50 05.2	
TSZ	Takapari Road	1.23	138	PN		Pn	21 49 37.4	+0.2
BKZ	Black Stump Fm	1.25	91	PN		Pn	21 49 36.7	-0.6
KRHZ	Kereru	1.25	114	PN		Pn	21 49 37.3	0.0
KRHZ				AML		AML	21 50 04.4	
POWZ	Post Office Ro	1.42	152	PN		Pn	21 49 38.3	-0.1
MCHZ	McNeill Hill	1.44	102	PN		Pn	21 49 39.2	+0.6
WPHZ	Waipukurau	1.51	128	PN		Pn	21 49 39.5	+0.4
DVHZ	Dannevirke	1.52	140	PN		Pn	21 49 39.2	0.0
DVHZ				AML		AML	21 50 09.3	
MRZ	Mangatainoka R	1.60	161	PN		Pn	21 49 39.7	-0.1
MRZ				AML		AML	21 50 10.3	
PRWZ	Pori Road	1.64	150	PN		Pn	21 49 40.4	+0.3
KAHZ	Kahuranaki	1.67	113	PN		Pn	21 49 40.8	+0.4
OGWZ	Otaki Gorge	1.68	173	PN		Pn	21 49 40.5	+0.1
OGWZ				AML		AML	21 50 11.3	
OGWZ				AML		AML	21 50 11.3	
KIW	Kapiti Island	1.71	179	PN		Pn	21 49 40.5	-0.2
KIW				AML		AML	21 50 12.1	
KIW				AML		AML	21 50 12.2	
PXZ	Pawanui	1.76	121	PN		Pn	21 49 41.2	0.0
TIWZ	Tintock	1.80	155	PN		Pn	21 49 41.6	+0.1
DUWZ	D'Urville Isla	1.81	204	PN		Pn	21 49 41.3	-0.4
HOWZ	Holdsworth Sta	1.81	165	PN		Pn	21 49 41.2	-0.4
BFZ	Birch Farm	1.86	146	PN		Pn	21 49 41.7	-0.3
CAW	Cannon Point	1.96	176	PN		Pn	21 49 42.7	-0.2
CAW				AML		AML	21 50 15.5	
CAW				AML		AML	21 50 15.8	
MTW	Mount Morrison	2.06	167	PN		Pn	21 49 43.6	-0.3
TCW	Tory Channel	2.11	193	PN		Pn	21 49 44.3	0.0
TCW				AML		AML	21 50 17.5	
TCW				AML		AML	21 50 18.5	
MSWZ	Moikau Station	2.28	173	PN		Pn	21 49 45.6	-0.4
NNZ	Nelson	2.37	209	⇑PN		Pn	21 49 46.1	-0.8
TUWZ	Tuamarina	2.39	197	PN		Pn	21 49 46.7	-0.4
TUWZ				AML		AML	21 50 22.5	
TUWZ				AML		AML	21 50 22.6	
PLWZ	Palliser	2.44	173	PN		Pn	21 49 47.3	-0.4
QRZ	Quartz Range	2.47	226	PN		Pn	21 49 46.2	-1.7
RUGZ	Raukumara Rang	2.49	63	PN		Pn	21 49 45.7	-2.6
BSWZ	Blackbirch Sta	2.68	196	PN		Pn	21 49 50.1	0.0
THZ	Tophouse	3.02	209	PN		Pn	21 49 52.7	-1.1
WMGZ	Waiomatatini S	3.07	66	PN		Pn	21 49 52.8	-1.6
MXZ	Matakaoa Point	3.12	61	PN		Pn	21 49 53.6	-1.5
KHZ	Kahutara	3.42	197	PN		Pn	21 49 57.6	-0.6
DSZ	Denniston Nort	3.50	221	⇓PN		Pn	21 49 57.4	-1.9
LTZ	Lake Taylor	4.13	208	PN		Pn	21 50 05.2	-1.6
INZ	Inchbonnie	4.42	215	PN		Pn	21 50 08.1	-2.0
OXZ	Oxford	4.69	206	PN		Pn	21 50 11.2	-2.3
MQZ	McQueen's Vall	4.85	199	PN		Pn	21 50 12.9	-2.5
WVZ	Waitaha Valley	5.02	217	PN		Pn	21 50 15.3	-2.2
ODZ	Otahua Downs	6.68	207	PN		Pn	21 50 36.9	-1.4

MAN 17 21:50:35,13.46N×120.42E, h19km, mb3.8, ML2.6, MS2.2, 1D, Mindoro

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
LUBP	Lubang	0.33	329	eP		Pn	21 50 43.5	-1.2
LUBP				eS		Sn	21 50 52.7	+1.8
PGP	Puerto Galera	0.52	85	⇓*i* P		Pg	21 50 46.5	+0.9
PGP				*i* S		Sn	21 50 57.5	+1.7
BOAC	Boac	1.39	90	eP		Sn	21 51 15.0	-2.1
ENPP	El Nido	2.44	204	eP		Pn	21 51 14.7	+0.8
ENPP				eS		Sn	21 51 45.0	+1.8

WEL 17 21:51:32.1±0.3, 35.19S×179.03E, h228km±6km, ML3.8/9, Error ellipse: s-maj=9.3km s-min=4.5km az=90.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
MXZ	Matakaoa Point	2.44	194	PN		Pn	21 52 16.8	-0.3
WMGZ	Waiomatatini S	2.67	190	PN		Pn	21 52 20.0	+0.4
WMGZ				AML		AML	21 53 01.5	
WMGZ				AML		AML	21 53 02.2	
HAZ	Te Kaha	2.75	201	PN		Pn	21 52 21.2	+0.9
HAZ				SN		S	21 52 58.1	-0.3
PKGZ	Pakihiroa	2.80	196	PN		Pn	21 52 20.8	-0.2
PUZ	Puketiti	2.94	192	PN		Pn	21 52 22.7	+0.1
PUZ				SN		S	21 53 02.8	+0.6
RUGZ	Raukumara Rang	2.98	201	PN		Pn	21 52 23.5	+0.5
CNGZ	Carnagh Statio	3.36	191	PN		Pn	21 52 27.7	+0.5
URZ	Urewera	3.43	206	PN		Pn	21 52 28.4	+0.3
RIGZ	Rimuhau	3.66	196	PN		Pn	21 52 31.2	+0.4
RIGZ				AML		AML	21 53 21.1	
KNZ	Kokohu	3.98	195	PN		Pn	21 52 34.4	-0.1
KAHZ	Kahuranaki	4.91	200	PN		Pn	21 52 46.1	+0.1
BFZ	Birch Farm	5.91	201	PN		Pn	21 52 57.7	-0.8
HOWZ	Holdsworth Sta	6.34	205	PN		Pn	21 53 02.5	-1.5
KIW	Kapiti Island	6.53	209	PN		Pn	21 53 06.0	-0.5

*TAP **17** 21:54:53.6,24.96N×122.77E, h2km±1km, ML3.4, D*
*JMA **17** 21:54:54.8±0.1,24.97N×122.74E, h25km±2km, M2.9*
*ISCJB **17** 21:54:55.3±0.6,24.97N±0.04×122.80E±0.04, h16km, mb3.3/4, MS3.7/1, Error ellipse: s-maj=6.9km s-min=3.9km az=31.5*
*IDC **17** 21:54:56.6±1.3,24.53N×121.62E, h0km, mb3.4/4, mb1 3.5/5, mb1mx3.2/45, mbtmp3.4/5, ML3.2/1, MS3.6/1, Ms1 3.5/1, ms1mx2.7/27, Error ellipse: s-maj=76.2km s-min=22.6km az=70.0*

ISC 17 21:54:56.5±0.8, 24.93N±0.04×122.78E±0.03, h16km, n49, σ1.63/50, mb3.3/4, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
JYNG	Yonagunijimaku	0.50	162	P		Pg	21 55 05.5	-0.9
JYNG				S		Sg	21 55 12.9	-0.2
YOJ	Yonaguni jima	0.51	155	*i* P		Pg	21 55 05.7	-0.9
	baz=156							
YOJ				eS		Sg	21 55 14.5	+1.0
	baz=156							
YOJ	Yonaguni jima	0.51	155	P		Pg	21 55 05.6	-1.0
TWB1	Santiao Chiao	0.72	277	eP		Pg	21 55 09.4	-1.2
	baz=273							
EGS		0.77	264	eP		Pg	21 55 09.7	-1.9
	baz=260							
TWC	Suao	0.90	250	eP		Pb	21 55 10.9	-2.8
	baz=246							
NWF	Wu-fen Shan	0.92	279	eP		Pb	21 55 12.1	-1.9
	baz=276							
PCYT	Pengchaiyu	0.95	318	eP		Pb	21 55 12.3	-2.2
	baz=316							
TWE	Neicheng	1.03	259	eP		Pb	21 55 12.6	-3.3
	baz=256							
IRIF	Iriomote-Funau	1.05	124	P		Pb	21 55 14.5	-1.8
ENA	Nanau	1.06	242	eP		Pb	21 55 14.2	-2.4
	baz=239							
TWA	Mucha	1.08	273	eP		Pg	21 55 17.5	0.0
	baz=270							
TWY	Chenhua	1.12	288	eP		Pn	21 55 16.7	-0.8
	baz=286							
ENTT	Nioudou	1.14	256	eP		Pb	21 55 14.8	-2.9
	baz=253							
TAP1	Taipei	1.14	276	eP		Pg	21 55 19.2	+0.6
	baz=273							
TWS1	Kuangyinshan	1.25	278	eP		Pn	21 55 16.1	-3.2
	baz=276							
HATJ	Hateruma jima	1.28	132	P		Pn	21 55 18.1	-1.6
NSK	Sanguang	1.31	259	eP		Pn	21 55 19.2	-1.1
	baz=257							
JIJ	Ishigaki jima	1.36	114	P		Pn	21 55 18.9	-2.0
NNS	Nan Shan	1.36	250	eP		Pn	21 55 19.4	-1.6
	baz=247							
TWD	Chiawan	1.37	232	eP		Pb	21 55 21.1	-0.6
	baz=230							
HWA	Hwalien	1.43	229	eP		Pg	21 55 23.4	-0.6
	baz=226							
JISG	Ishigakijimahi	1.44	103	P		Pn	21 55 20.1	-1.8
WHF	Hehuan Shan	1.58

TAP **17** *21:56:11.8, 24°.89N×122°.73E, h14km±1km, ML3.6, D*
IDC **17** *21:56:11.3±1.1, 24°.49N×121°.62E, h0km, mb3.7/7, mb1 3.9/8, mb1mx3.5/47, mbtmp3.8/8, ML3.3/1, Error ellipse: s-maj=70.7km s-min=18.4km az=68.0*
JMA **17** *21:56:11.5±0.3, 24°.97N×122°.74E, h19km±4km, M3.4*
ISC 17 21:56:12.4±0.7, 24°.88N±0°.04×122°.72E±0°.03, h16km, n55, σ0≦97/60, mb3.7/7, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
JYNG	**Yonagunijimaku**	**0.48**	**154**	P		**Pb**		**21 56 22.4**	**0.0**
JYNG				eS		**Sb**		**21 56 30.0**	**+0.8**
YOJ	**Yonaguni jima**	**0.50**	**147**	P		**Pb**		**21 56 22.3**	**-0.5**
	baz=149								
YOJ				S		**Sb**		**21 56 30.1**	**+0.3**
	baz=149								
YOJ	**Yonaguni jima**	**0.50**	**147**	P		**Pb**		**21 56 22.3**	**-0.5**
YOJ				S		**Sb**		**21 56 30.1**	**+0.3**
TWB1	**Santiao Chiao**	**0.67**	**281**	*e*P		**Pb**		**21 56 25.3**	**-0.4**
	baz=279								
TWB1				*e*S		**Sb**		**21 56 35.3**	**+0.5**
	baz=279								
EGS		**0.71**	**267**	*e*P		**Pn**		**21 56 26.9**	**-0.9**
	baz=266								
TWC	**Suao**	**0.83**	**251**	P		**Pb**		**21 56 27.6**	**-0.9**
	baz=250								
TWC				*e*S		**Sg**		**21 56 39.8**	**+0.2**
	baz=250								
NWF	**Wu-fen Shan**	**0.87**	**283**	*e*P		**Pb**		**21 56 28.3**	**-0.8**
	baz=281								
PCYT	**Pengchaiyu**	**0.94**	**322**	*e*P		**Pg**		**21 56 30.1**	**-0.7**
	baz=321								
TWE	**Neicheng**	**0.97**	**261**	*e*P		**Pb**		**21 56 30.4**	**-0.3**
	baz=259								
ENA	**Nanau**	**0.99**	**243**	*e*P		**Pb**		**21 56 30.5**	**-0.8**
	baz=242								
TWA	**Mucha**	**1.03**	**276**	*e*P		**Pg**		**21 56 33.0**	**+0.6**
	baz=274								
ENTT	**Nioudou**	**1.07**	**257**	*e*P		**Pg**		**21 56 32.8**	**-0.4**
	baz=256								
TWY	**Chenhua**	**1.08**	**291**	*e*P		**Pg**		**21 56 33.0**	**-0.4**
	baz=290								
TAP1	**Taipei**	**1.09**	**278**	*e*P		**Pn**		**21 56 34.0**	**+0.5**
	baz=277								
TWS1	**Kuangyinshan**	**1.20**	**281**	*e*P		**Pn**		**21 56 33.0**	**-1.5**
	baz=280								
NSK	**Sanguang**	**1.25**	**261**	*e*P		**Pb**		**21 56 35.3**	**-0.3**
	baz=260								
HATJ	**Hateruma jima**	**1.29**	**129**	P		**Pn**		**21 56 34.5**	**-1.2**
TWD	**Chiawan**	**1.30**	**232**	*e*P		**Pb**		**21 56 36.4**	**0.0**
	baz=231								
NNS	**Nan Shan**	**1.30**	**250**	*e*P		**Pb**		**21 56 35.9**	**-0.6**
	baz=249								
JKRS	**Kuro-shima**	**1.34**	**118**	P		**Pn**		**21 56 36.0**	**-0.5**
JIJ	**Ishigaki jima**	**1.40**	**111**	P		**Pn**		**21 56 36.6**	**-0.6**
JISG	**Ishigakijimahi**	**1.48**	**101**	P		**Pb**		**21 56 38.5**	**-1.0**
WHF	**Hehuan Shan**	**1.51**	**241**	*e*P		**Pb**		**21 56 39.3**	**-1.0**
	baz=240								
TWT	**Tachien**	**1.54**	**246**	*e*P		**Pn**		**21 56 39.2**	**0.0**
	baz=245								
NSTT	**Nanjuang**	**1.58**	**261**	*e*P		**Pn**		**21 56 39.9**	**+0.2**
	baz=260								
JTJ	**Tarama**	**1.82**	**97**	P		**Pn**		**21 56 43.2**	**+0.1**
NSY	**Sanyi**	**1.84**	**256**	*e*P		**Pb**		**21 56 45.6**	**0.0**
	baz=255								
TWQ1	**Liyutan**	**1.85**	**254**	*e*P		**Pb**		**21 56 46.0**	**+0.3**
	baz=253								
EHY	**Hungye**	**1.87**	**223**	*e*P		**Pn**		**21 56 42.9**	**-0.8**
	baz=222								
SMLT	**Sun Moon Lake**	**1.93**	**239**	*e*P		**Pb**		**21 56 46.9**	**-0.4**
	baz=238								
TYC	**Yuchr**	**1.96**	**240**	*e*P		**Pb**		**21 56 47.0**	**-0.6**
	baz=239								
TCU	**Taichung**	**2.00**	**249**	*e*P		**Pn**		**21 56 47.1**	**-1.2**
	baz=248								
TWF1	**Yuli**	**2.00**	**221**	*e*P		**Pn**		**21 56 45.3**	**-0.3**
	baz=220								
WNT	**Mingjian**	**2.10**	**242**	*e*P		**Pb**		**21 56 50.4**	**+0.2**
	baz=241								
CHKT	**Chengkung**	**2.16**	**215**	*e*P		**Pn**		**21 56 46.5**	**-1.3**
	baz=214								
ALS	**Alishan**	**2.22**	**232**	*e*P		**Pn**		**21 56 49.8**	**+1.0**
	baz=231								
CHN5	**Tsauling**	**2.26**	**236**	*e*P		**Pb**		**21 56 51.1**	**-1.7**
	baz=235								
CHN4	**Tsaushan**	**2.47**	**232**	*e*P		**Pb**		**21 56 53.7**	**-2.7**
	baz=231								
STYT	**Tauyuan**	**2.48**	**227**	*e*P		**Pn**		**21 56 53.5**	**+1.3**
	baz=226								
WTP	**Ta-pu**	**2.52**	**230**	*e*P		**Pn**		**21 56 52.5**	**-0.2**
	baz=229								
TWK	**Hsinying**	**2.59**	**232**	*e*P		**Pb**		**21 56 56.6**	**-1.9**
	baz=231								
CHN1	**Nanshi**	**2.62**	**230**	*e*P		**Pn**		**21 56 54.1**	**0.0**
	baz=229								
SGST	**Jiashian**	**2.65**	**228**	*e*P		**Pb**		**21 56 57.2**	**-2.3**
	baz=227								
SSD	**Sandimen**	**2.86**	**222**	*e*P		**Pn**		**21 56 59.0**	**+1.6**
	baz=221								
EAST	**Anshuo**	**3.02**	**215**	*e*P		**Pn**		**21 57 00.1**	**+0.4**
	baz=214								
SCZT	**Fangliau**	**3.15**	**218**	*e*P		**Pn**		**21 57 02.6**	**+1.2**
	baz=217								
TWK1	**Hengchun**	**3.41**	**211**	*e*P		**Pn**		**21 57 03.7**	**-1.2**
	baz=210								
KSRS	**Korea Array**	**13.30**	**18**	Pn		**P**		**21 59 32.6**	**+2.4**
	0.1nm,0.3s,baz=193,slow=12,SNR=6.5								
SONM	**Songino Array**	**26.30**	**335**	P		**P**		**22 01 47.1**	**-0.2**
	1.4nm,1.1s,baz=148,slow=10.0,SNR=4.4								
ZALV	**Zalesovo Beam**	**40.43**	**326**	P		**P**		**22 03 49.4**	**-0.5**
	1.1nm,0.5s,baz=128,slow=9.6,SNR=4.7								
KURBB	**Kurchatov Arra**	**42.49**	**319**	P		**P**		**22 04 05.7**	**-1.1**
	1.8nm,1.2s,baz=109,slow=7.6,SNR=7.3								
WRA	**Warramunga Arr**	**45.97**	**165**	P		**P**		**22 04 35.2**	**+0.3**
	1.4nm,0.9s,baz=346,slow=8.8,SNR=4.0								
BVAR	**Borovoye Array**	**48.03**	**320**	P		**P**		**22 04 51.0**	**+0.3**
	0.3nm,0.6s,baz=104,slow=12,SNR=3.6								
ASAR	**Alice Springs**	**49.47**	**166**	P		**P**		**22 05 02.5**	**+0.5**
	0.3nm,0.9s,baz=350,slow=8.5,SNR=3.4								
FINES	**FINESS Array B**	**71.55**	**330**	P		**P**		**22 07 31.6**	**-0.8**
	2.1nm,0.8s,baz=29,slow=4.4,SNR=4.4								

NIED **17** *22:00:00, 25°.00N×122°.70E, h5km, Mw4.5 Best double couple: M0=6.73000×10^15 NP1:φs=282.00000°, δ=36.00000°, λ=-64.00000°. NP2:φs=71.00000°, δ=58.00000°, λ=-108.00000°.*
JMA **17** *22:00:48.6±0.2, 25°.00N×122°.74E, h0km, M3.5*
TAP **17** *22:00:49.8, 24°.88N×122°.70E, h2km, ML3.8, D*
ISCJB **17** *22:00:50.5±0.6, 24°.96N±0°.03×122°.79E±0°.03, h16km±4km, mb3.8/8, MS3.9/11, Error ellipse: s-maj=5.6km s-min=3.6km az=18.1*
IDC **17** *22:00:50.6±1.1, 24°.48N×121°.62E, h0km, mb3.7/7, mb1 3.9/8, mb1mx3.5/51, mbtmp3.8/8, ML3.4/1, MS3.8/16, Ms1 3.8/16, ms1mx3.6/40, Error ellipse: s-maj=69.9km s-min=18.6km az=68.0*
NEIC **17** *22:00:52.4±0.8, 24°.44N×121°.61E, h10km, mb4.0/1, Error ellipse: s-maj=28.1km s-min=14.5km az=76.0*
ISC 17 22:00:50.0±1.3, 24°.88N±0°.04×122°.73E±0°.02, h3km±9km, n89, σ1≦01/88, mb3.8/8, MS4.0/11, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
JYNG	**Yonagunijimaku**	**0.47**	**156**	P		**Pb**		**22 01 00.2**	**-0.8**
JYNG				S		**Sb**		**22 01 08.9**	**+0.6**
YOJ	**Yonaguni jima**	**0.49**	**149**	*i* P		**Pg**		**22 01 00.2**	**+0.8**
	baz=145								
YOJ				*e*S		**Sb**		**22 01 09.2**	**+0.4**
	baz=145								
YOJ	**Yonaguni jima**	**0.49**	**149**	P		**Pg**		**22 01 00.4**	**+1.0**
YOJ				S		**Sb**		**22 01 08.7**	**-0.2**
YOJ	**Yonaguni jima**	**0.49**	**149**	*e*Pn		**Pb**		**22 01 01.1**	**-0.2**
TWB1	**Santiao Chiao**	**0.69**	**281**	P		**Pg**		**22 01 03.7**	**+0.5**
	baz=281								
TWB1				*e*S		**Sb**		**22 01 13.8**	**-0.7**
	baz=281								
TWC	**Suao**	**0.85**	**251**	*e*P		**Pg**		**22 01 06.4**	**+0.2**
	baz=250								
TWC				*e*S		**Sb**		**22 01 19.2**	**0.0**
	baz=250								
NWF	**Wu-fen Shan**	**0.88**	**282**	*e*P		**Pb**		**22 01 07.7**	**-0.4**
	baz=282								
PCYT	**Pengchaiyu**	**0.95**	**321**	P		**Pb**		**22 01 09.0**	**-0.2**
	baz=323								
TWE	**Neicheng**	**0.98**	**261**	*e*P		**Pg**		**22 01 08.8**	**-0.1**
	baz=260								
TWE				*e*S		**Sb**		**22 01 22.7**	**-0.3**
	baz=260								
ENA	**Nanau**	**1.01**	**244**	*e*P		**Pg**		**22 01 09.2**	**-0.2**
	baz=242								
TWA	**Mucha**	**1.05**	**276**	*e*P		**Pg**		**22 01 09.9**	**-0.2**
	baz=275								
IRIF	**Irkutsk-Funau**	**1.06**	**121**	P		**Pg**		**22 01 10.6**	**+0.2**
ENTT	**Nioudou**	**1.09**	**257**	*e*P		**Pg**		**22 01 11.0**	**+0.1**
	baz=256								
ENTT				*e*S		**Sg**		**22 01 24.9**	**-0.1**
	baz=256								
TWY	**Chenhua**	**1.10**	**291**	*e*P		**Pg**		**22 01 11.2**	**+0.1**
	baz=291								
TAP1	**Taipei**	**1.11**	**278**	*e*P		**Pn**		**22 01 14.3**	**+1.9**
	baz=278								
TATO	**Taipei**	**1.13**	**275**	*e*Pn		**Pg**		**22 01 11.6**	**-0.2**
TWS1	**Kuangyinshan**	**1.21**	**281**	*e*P		**Pn**		**22 01 14.5**	**+0.6**
	baz=280								
YHNB	**Yeheng**	**1.25**	**261**	*e*Pn		**Pb**		**22 01 14.2**	**-0.1**
NACB	**Ninganchiao**	**1.25**	**236**	*e*Pn		**Pn**		**22 01 14.7**	**+0.3**
	825nm,0.8s								
NSK	**Sanguang**	**1.27**	**261**	*e*P		**Pg**		**22 01 13.9**	**-0.4**
	baz=260								
NSK				*e*S		**Sn**		**22 01 31.9**	**-0.3**
	baz=260								
HATJ	**Hateruma jima**	**1.28**	**130**	P		**Pn**		**22 01 14.8**	**0.0**
TWD	**Chiawan**	**1.31**	**233**	*e*P		**Pb**		**22 01 15.3**	**+0.1**
	baz=231								
NNS	**Nan Shan**	**1.31**	**251**	*e*P		**Pg**		**22 01 15.1**	**-0.1**
	baz=249								
NNS				*e*S		**Sg**		**22 01 32.0**	**-0.2**
	baz=249								
JKRS	**Kuro-shima**	**1.33**	**119**	P		**Pn**		**22 01 14.8**	**-0.7**
HWA	**Hwalien**	**1.37**	**229**	*e*P		**Pg**		**22 01 17.9**	**+1.7**
	baz=227								
JIJ	**Ishigaki jima**	**1.39**	**112**	P		**Pn**		**22 01 15.2**	**-1.0**
JISG	**Ishigakijimahi**	**1.47**	**101**	P		**Pn**		**22 01 17.4**	**0.0**
WHF	**Hehuan Shan**	**1.52**	**241**	P		**Pn**		**22 01 18.8**	**+0.2**
	baz=240								
TWT	**Tachien**	**1.55**	**246**	*e*P		**Pb**		**22 01 19.2**	**-0.2**
	baz=245								
NSTT	**Nanjuang**	**1.59**	**261**	*e*P		**Pg**		**22 01 20.8**	**+0.2**
	baz=260								
NSTT				*e*S		**Sg**		**22 01 41.3**	**+0.1**
	baz=260								
NSY	**Sanyi**	**1.85**	**256**	*e*P		**Pb**		**22 01 24.7**	**+0.2**
	baz=255								
NSY				*e*S		**Sg**		**22 01 49.2**	**-0.4**
	baz=255								
TWQ1	**Liyutan**	**1.86**	**254**	*e*P		**Pb**		**22 01 23.8**	**-0.8**
	baz=253								
EHY	**Hungye**	**1.88**	**223**	*e*P		**Pn**		**22 01 21.0**	**-2.1**
	baz=222								
SMLT	**Sun Moon Lake**	**1.94**	**240**	*e*P		**Pn**		**22 01 25.0**	**+0.9**
	baz=238								
SSLB	**Suanglung**	**1.95**	**236**	*e*Pn		**Pn**		**22 01 24.9**	**+0.7**
TYC	**Yuchr**	**1.97**	**241**	*e*P		**Pb**		**22 01 25.6**	**-0.8**
	baz=239								
TWF1	**Yuli**	**2.01**	**221**	*e*P		**Pn**		**22 01 24.1**	**-0.7**
	baz=219								
TCU	**Taichung**	**2.01**	**249**	*e*P		**Pb**		**22 01 27.1**	**-0.1**
	baz=248								
WNT	**Mingjian**	**2.12**	**242**	*e*P		**Pn**		**22 01 27.6**	**+1.3**
	baz=241								
CHKT	**Chengkung**	**2.17**	**215**	*e*P		**Pn**		**22 01 26.5**	**-0.6**
	baz=214								
ALS	**Alishan**	**2.23**	**233**	*e*P		**Pn**		**22 01 28.6**	**+0.5**
	baz=231								
ALS				*e*S		**Sn**		**22 01 57.4**	**+1.1**
	baz=231								
CHN5	**Tsauling**	**2.27**	**236**	*e*P		**Pb**		**22 01 30.3**	**-1.4**
	baz=235								
ELDTW	**Lidau**	**2.30**	**223**	*e*P		**Pn**		**22 01 29.1**	**+0.1**
	baz=222								
WGK	**Gukeng**	**2.31**	**239**	*e*P		**Pn**		**22 01 30.1**	**+1.1**
	baz=236								
CHN2	**Minshiung**	**2.46**	**237**	*e*P		**Pn**		**22 01 32.3**	**+1.3**
	baz=236								
CHN4	**Tsaushan**	**2.48**	**232**	*e*P		**Pn**		**22 01 32.7**	**+1.4**
	baz=231								
TPUB	**Ta-pu**	**2.48**	**231**	*e*Pn		**Pn**		**22 01 32.9**	**+1.5**
STYT	**Tauyuan**	**2.49**	**227**	*e*P		**Pn**		**22 01 32.1**	**+0.7**
	baz=225								
STYT				*e*S		**Sn**		**22 02 04.1**	**+1.7**
	baz=225								
CHY	**Chiayi**	**2.52**	**237**	*e*P		**Pb**		**22 01 35.4**	**-0.5**
	baz=236								
WTP	**Ta-pu**	**2.53**	**230**	*e*P		**Pn**		**22 01 33.4**	**+1.3**
	baz=229								
TWG	**Pinlang**	**2.55**	**217**	*e*P		**Pn**		**22 01 31.8**	**-0.6**
	baz=215								
TWG	**Pinlang**	**2.55**	**217**	*e*Pn		**Pn**		**22 01 32.9**	**+0.5**
	903nm,1.1s								
TWK	**Hsinying**	**2.61**	**232**	*e*P		**Pn**		**22 01 35.2**	**+2.1**
	baz=231								
CHN1	**Nanshi**	**2.63**	**230**	*e*P		**Pn**		**22 01 33.4**	**0.0**
	baz=229								
SGST	**Jiashian**	**2.66**	**228**	*e*P		**Pn**		**22 01 35.3**	**+1.5**
	baz=227								
ECL	**Taimali**	**2.80**	**216**	*e*P		**Pn**		**22 01 35.6**	**-0.1**
	baz=214								
SSD	**Sandimen**	**2.87**	**223**	*e*P		**Pn**		**22 01 38.8**	**+2.1**
	baz=221								
TWM1	**Shoushan**	**2.94**	**226**	*e*P		**Pn**		**22 01 36.5**	**-1.3**
	baz=225								
TAW	**Tawu**	**3.02**	**214**	*e*P		**Pb**		**22 01 42.3**	**-2.2**
	baz=213								
EAST	**Anshuo**	**3.03**	**215**	*e*P		**Pn**		**22 01 38.7**	**-0.2**
	baz=214								
SCZT	**Fangliau**	**3.16**	**218**	*e*P		**Pn**		**22 01 42.1**	**+1.4**
	baz=217								
PNG	**Penghu**	**3.18**	**246**	*e*P		**Pn**		**22 01 41.5**	**+0.5**
	baz=245								
TWK1	**Hengchun**	**3.42**	**212**	*e*P		**Pn**		**22 01 44.6**	**+0.4**
	baz=210								
KNM	**Kinmen**	**3.94**	**264**	*e*P		**Pb**		**22 01 57.0**	**-3.1**
	baz=263								
JOW	**Kunigami**	**5.36**	**68**	LR		LR		22 04 26.1	
	comp=Z,468nm,18.6s,baz=132,slow=33								
TGY	**Tagaytay City**	**10.86**	**189**	LR		LR		22 07 34.7	
	comp=Z,556nm,19.3s,baz=5.0,slow=39								
KSAR	**Wonju Array Be**	**13.27**	**18**	Pn		**P**		**22 04 11.8**	**+2.4**
KSRS	**Korea Array**	**13.29**	**18**	Pn		**P**		**22 04 11.8**	**+2.2**
	0.2nm,0.3s,baz=191,slow=13,SNR=7.9								
KSRS						LR		22 09 57.3	
	comp=Z,469nm,19.1s,baz=195,slow=39								
JHJ	**Hachijo jima 2**	**17.01**	**57**	LR		LR		22 11 50.0	
	comp=Z,115nm,18.3s,baz=260,slow=36								
MJAR	**Matsushiro Arr**	**17.64**	**45**	LR		LR		22 12 35.0	
	comp=Z,152nm,19.1s,baz=255,slow=38								
USRK	**Ussuriysk Ar.**	**20.70**	**11**	LR		LR		22 13 23.0	
	comp=Z,227nm,18.2s,baz=184,slow=35								
GUMO	**Guam**	**23.69**	**114**	LR		LR		22 15 31.5	
	comp=Z,68nm,18.9s,baz=288,slow=36								
SONM	**Songino Array**	**26.31**	**335**	P		**P**		**22 06 27.3**	**+0.3**
	0.5nm,0.6s,baz=162,slow=8.9,SNR=8.0								
SONM						LR		22 18 13.5	
	comp=Z,424nm,18.6s,baz=141,slow=40								
PETK	**Petropavlovsk-**	**38.51**	**34**	LR		LR		22 24 53.9	
	comp=Z,116nm,18.1s,baz=230,slow=37								
ZALV	**Zalesovo Beam**	**40.44**	**326**	P		**P**		**22 08 28.8**	**-0.8**
	1.3nm,0.7s,baz=119,slow=9.0,SNR=5.0								
KURK	**Kurchatov**	**42.48**	**319**	*e*P		**P**		**22 08 46.4**	**+0.1**
KURBB	**Kurchatov Arra**	**42.50**	**319**	P		**P**		**22 08 45.5**	**-1.0**
	1.2nm,0.8s,baz=111,slow=8.2,SNR=8.8								
WRA	**Warramunga Arr**	**45.97**	**165**	P		**P**		**22 09 13.9**	**-0.7**
	2.8nm,1.0s,baz=345,slow=8.1,SNR=5.3								
BVAR	**Borovoye Array**	**48.04**	**320**	P		**P**		**22 09 29.4**	**-1.0**
	0.5nm,0.6s,baz=109,slow=11,SNR=4.4								
NRIK	**Norilsk**	**49.10**	**344**	LR		LR		22 32 05.9	
	comp=Z,241nm,18.6s,baz=151,slow=38								
ASAR	**Alice Springs**	**49.46**	**166**	P		**P**		**22 09 42.5**	**+0.8**
	0.3nm,0.7s,baz=349,slow=7.5,SNR=2.9								
ABKAR	**Akbulak array**	**53.97**	**314**	*e*P		**P**		**22 10 14.1**	**-1.1**
	1.1nm,0.6s								
GEYT	**Alibeck**	**55.66**	**300**	LR		LR		22 36 34.4	
	comp=Z,131nm,19.4s,baz=105,slow=39								
ILAR	**Eielson Array**	**67.95**	**28**	LR		LR		22 41 48.6	
	comp=Z,32nm,21.9s,baz=304,slow=36								
ARCES	**ARCESS Array B**	**69.42**	**338**	LR		LR		22 45 47.5	
	comp=Z,132nm,18.9s,baz=77,slow=39								
FINES	**FINESS Array B**	**71.56**	**330**	P		**P**		**22 12 10.7**	**-1.5**
	2.9nm,0.9s,baz=79,slow=12,SNR=4.6								
BRTR	**Keskin Array B**	**73.89**	**307**	LR		LR		22 49 21.6	
	comp=Z,32nm,18.9s,baz=48,slow=40								
NOA	**NORSAR Array B**	**78.26**	**332**	LR		LR		22 50 01.6	
	comp=Z,110nm,19.6s,baz=80,slow=38								
GERES	**GERESS Array B**	**83.19**	**321**	LR		LR		22 50 12.5	
	comp=Z,114nm,19.1s,baz=52,slow=36								

SOF **17** *22:01:09.3, 40°.13N×27°.81E, h2km, MD3.4*
ATH **17** *22:01:12.3, 40°.29N×27°.60E, h22km±2km, ML3.1/30, Error ellipse: s-maj=3.8km s-min=1.3km az=57.0*
IASPEI **17** *22:01:14.8±0.8, 40°.28N±0°.02×27°.50E±0°.02, h13km±5km, Error ellipse: s-maj=2.7km s-min=2.4km az=156.2, GT5 selection from ISC bulletin GT5 identified by Bondˇjr and McLaughlin (2009) selection criteria Bondˇjr and McLaughlin, A new ground truth data set for seismic studies, Seism. Res. Let., 80, 465-472, 2009*
ISK **17** *22:01:14.4, 40°.28N×27°.48E, h8km, MD2.8*
THE **17** *22:01:14.9, 40°.29N×27°.48E, h2km±1km, ML3.7/5, Error ellipse: s-maj=1.7km s-min=0.9km az=284.0*
DDA **17** *22:01:14.4, 40°.28N×27°.48E, h15km, MI3.7*
CSEM **17** *22:01:14.9±0.1, 40°.27N×27°.48E, h8km, MD2.8, Error ellipse: s-maj=1.9km s-min=1.5km az=157.0*
ISCJB **17** *22:01:14.5±0.3, 40°.28N±0°.01×27°.47E±0°.02, h10km±2km, Error ellipse: s-maj=2.4km s-min=2.1km az=168.1*
ISC 17 22:01:14.9±0.8, 40°.28N±0°.01×27°.49E±0°.01, h14km±5km, n271, σ0≦96/330, 10C-4D, Turkey

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
KNL	**Bal¨–kesir**	**0.03**	**115**	*i* P		**Pg**		**22 01 17.2**	**-0.2**
KNL				*i* S		**Sg**		**22 01 18.8**	**-0.3**
KRBG	**Karabiga-Canak**	**0.18**	**307**	PG		**Pg**		**22 01 18.9**	**-0.3**
KRBG				SG		**Sg**		**22 01 22.0**	**-0.1**
KRBG	**Karabiga-Canak**	**0.18**	**307**	*i* Pg		**Pg**		**22 01 18.9**	**-0.3**
KRBG				*i* Sg		**Sg**		**22 01 22.0**	**-0.1**
EDC	**Edincik**	**0.29**	**77**	*e*PG		**Pg**		**22 01 20.7**	**-0.3**
EDC				*e*SG		**Sg**		**22 01 25.4**	**+0.3**
EDC	**Edincik**	**0.29**	**77**	*e*Pg		**Pg**		**22 01 20.7**	**-0.3**
EDC				*e*Sg		**Sg**		**22 01 25.4**	**+0.3**
MRMT	**Marmara Adasi**	**0.33**	**14**	*e*PG		**Pg**		**22 01 21.7**	**0.0**
MRMT	**Marmara Adasi**	**0.33**	**14**	*e*Pg		**Pg**		**22 01 21.7**	**0.0**
SART	**Tekirdag**	**0.47**	**330**	*i* P		**Pb**		**22 01 24.3**	**-0.7**
SART				*i* S		**Sg**		**22 01 30.7**	**+0.1**
SART	**Tekirdag**	**0.47**	**330**	P		**Pb**		**22 01 24.3**	**-0.7**
SART				S		**Sg**		**22 01 30.7**	**+0.1**
BALY	**Balya**	**0.55**	**170**	*i* P		**Pb**		**22 01 25.7**	**-0.6**
BALY				*i* S		**Sb**		**22 01 33.6**	**-0.5**
BALY				*i* S		Sn		22 01 56.5	+19
BALY	**Balya**	**0.55**	**170**	P		**Pb**		**22 01 25.7**	**-0.6**
BALY				S		**Sb**		**22 01 33.6**	**-0.5**
LPK	**Lapseki**	**0.57**	**279**	*e*PG		**Pb**		**22 01 26.0**	**-0.6**
LPK	**Lapseki**	**0.57**	**279**	*e*Pg		**Pb**		**22 01 26.0**	**-0.6**
KCTX	**Karacabey (Bur**	**0.66**	**91**	*e*PG		**Pg**		**22 01 27.4**	**-0.4**
KCTX	**Karacabey (Bur**	**0.66**	**91**	*e*Pg		**Pg**		**22 01 27.4**	**-0.4**
SBT3	**Marmara-Eregli**	**0.70**	**31**	*e*PG		**Pb**		**22 01 28.5**	**-0.3**
SBT3	**Marmara-Eregli**	**0.70**	**31**	*e*Pg		**Pb**		**22 01 28.5**	**-0.3**
TKR	**Tekirdag**	**0.71**	**3**	*e*PG		**Pg**		**22 01 28.4**	**-0.3**
TKR	**Tekirdag**	**0.71**	**3**	*e*Pg		**Pg**		**22 01 28.4**	**-0.3**
BALB	**Balikesir**	**0.71**	**155**	*e*PG		**Pb**		**22 01 28.6**	**-0.3**
BALB	**Balikesir**	**0.71**	**155**	*e*Pg		**Pb**		**22 01 28.7**	**-0.3**
BOTS	**Marmara Eregli**	**0.80**	**28**	*e*PG		**Pb**		**22 01 30.6**	**+0.1**
BOTS	**Marmara Eregli**	**0.80**	**28**	*e*Pg		**Pb**		**22 01 30.6**	**+0.1**
KESN	**Edirne-Kesan**	**0.82**	**311**	*i* P		**Pg**		**22 01 30.4**	**-0.5**
KESN				*i* S		**Sb**		**22 01 42.5**	**+0.2**
KESN	**Edirne-Kesan**	**0.82**	**311**	P		**Pg**		**22 01 30.4**	**-0.5**
KESN				S		**Sb**		**22 01 42.5**	**+0.2**
ERIK	**Erikli-Kesan**	**0.84**	**298**	*e*PG		**Pg**		**22 01 30.8**	**-0.4**
ERIK	**Erikli-Kesan**	**0.84**	**298**	*e*Pg		**Pg**		**22 01 30.8**	**-0.4**
CRLT	**Corlu**	**0.86**	**12**	*e*PG		**Pb**		**22 01 31.5**	**-0.2**
CRLT	**Corlu**	**0.86**	**12**	*e*Pg		**Pb**		**22 01 31.5**	**-0.2**
SBT2	**Guzelce-Avcila**	**0.98**	**52**	*e*PG		**Pb**		**22 01 33.8**	**+0.2**
SBT2	**Guzelce-Avcila**	**0.98**	**52**	*e*Pg		**Pb**		**22 01 33.8**

comp=E,3688µm,0.4s
SMTH AML AML 22 02 04.5
comp=N,6327µm,0.5s
KLYT Kilyos 1.52 50 *e*PN **Pb 22 01 42.8 -0.1**
KLYT Kilyos 1.52 50 *e*Pn **Pb 22 01 42.8 -0.1**
DEMI Demirci 1.56 142 *i* P **Pn 22 01 43.0 +0.8**
DEMI *i* S **Sb 22 02 04.0 +0.9**
DEMI Demirci 1.56 142 P **Pn 22 01 43.0 +0.8**
DEMI S **Sb 22 02 04.0 +0.9**
SIGR SIGRI 1.66 230 P **Pn 22 01 43.7 +0.2**
SIGR S **Sg 22 02 07.4 -0.7**
SIGR SIGRI 1.66 230 P **Pn 22 01 43.7 +0.2**
SIGR S **Sn 22 02 04.7 +0.2**
SIGR SIGRI 1.66 230 P **Pb 22 01 44.3 -0.8**
SIGR S **Sn 22 02 04.6 +0.1**
SIGR AML AML 22 02 09.4
comp=E,2018µm,0.3s
SIGR AML AML 22 02 13.8
comp=N,2479µm,0.4s
SIMA Simav-Kutahya 1.66 136 *e*PN **Pn 22 01 44.5 +0.9**
SIMA Simav-Kutahya 1.66 136 *e*Pn **Pn 22 01 44.5 +0.9**
EDRB Edirne 1.66 340 *e*PN **Pb 22 01 44.6 -0.6**
EDRB Edirne 1.66 340 P **Pn 22 01 43.9 +0.3**
EDRB S **Sb 22 02 06.6 +0.5**
EDRB Edirne 1.66 340 P **Pn 22 01 43.9 +0.3**
EDRB Edirne 1.66 340 *e*Pn **Pb 22 01 44.6 -0.6**
EDRB S **Sb 22 02 06.6 +0.5**
RDO Rodhopi 1.72 301 P **Pb 22 01 45.5 -0.7**
RDO S **Sn 22 02 06.4 +0.3**
RDO Rodhopi 1.72 301 P **Pb 22 01 45.5 -0.7**
RDO S **Sn 22 02 06.6 +0.5**
RDO Rodhopi 1.72 301 P **Pb 22 01 45.9 -0.3**
RDO S **Sn 22 02 06.6 +0.5**
RDO AML AML 22 02 12.9
comp=N,1175µm,0.4s
RDO AML AML 22 02 16.2
comp=E,872µm,0.3s
ADVT Abdulvahap 1.72 84 *e*PN **Pb 22 01 45.7 -0.6**
ADVT Abdulvahap 1.72 84 *e*Pn **Pb 22 01 45.7 -0.6**
TVSB Tavsanli 1.73 118 *e*PN **Pn 22 01 45.4 +0.8**
TVSB Tavsanli 1.73 118 *e*Pn **Pn 22 01 45.4 +0.8**
HRT Hereke 1.74 71 *e*PN **Pb 22 01 46.3 -0.4**
HRT Hereke 1.74 71 *e*Pn **Pb 22 01 46.3 -0.4**
LIA Limnos Island 1.81 259 P **Pb 22 01 46.8 -1.0**
LIA S **Sb 22 02 10.1 -0.3**
LIA Limnos Island 1.81 259 P **Pn 22 01 46.4 +0.8**
LIA S **Sb 22 02 10.1 -0.3**
LIA Limnos Island 1.81 259 P **Pn 22 01 46.4 +0.8**
LIA S **Sg 22 02 11.7 -1.5**
LIA AML AML 22 02 12.4
comp=E,2076µm,0.4s
LIA AML AML 22 02 12.8
comp=N,2509µm,0.4s
SILT Sile 1.85 61 *e*PN **Pb 22 01 47.7 -0.8**
SILT Sile 1.85 61 *e*Pn **Pb 22 01 47.7 -0.8**
GEDZ Gediz 1.93 129 *e*PN **Pb 22 01 48.8 -1.1**
GEDZ Gediz 1.93 129 *e*Pn **Pb 22 01 48.8 -1.1**
KULA Kula-Manisa 1.98 152 *e*PN **Pn 22 01 49.2 +1.2**
KULA Kula-Manisa 1.98 152 P **Pn 22 01 48.9 +0.8**
KULA Kula-Manisa 1.98 152 P **Pn 22 01 48.9 +0.8**
KULA Kula-Manisa 1.98 152 *e*Pn **Pn 22 01 49.3 +1.2**
URLA Izmir 2.04 200 *i* P **Pn 22 01 48.4 -0.5**
URLA Izmir 2.04 200 P **Pn 22 01 48.3 -0.5**
KDZ Kurdzhali 2.08 312 *i* P **Pn 22 01 50.2 +0.8**
ZEY ˙zmir 2.18 201 *i* P **Pn 22 01 50.2 -0.5**
SPNC Sapanca-Adapaz 2.19 78 *e*PN **Pn 22 01 52.5 +1.7**
SPNC Sapanca-Adapaz 2.19 78 *e*Pn **Pn 22 01 52.5 +1.7**
CHOS Chios island 2.20 211 P **Pn 22 01 51.6 +0.6**
CHOS S **Sn 22 02 19.8 +1.8**
CHOS Chios island 2.20 211 P **Pn 22 01 51.6 +0.6**
CHOS S **Sn 22 02 19.8 +1.8**
CHOS Chios island 2.20 211 P **Pn 22 01 52.3 +1.3**
CHOS S **Sb 22 02 20.2 -1.3**
CHOS AML AML 22 02 29.6
comp=E,1181µm,0.4s
CHOS AML AML 22 02 31.8
comp=N,1034µm,0.4s
KAND Kocaeli-Kandir 2.21 68 *i* P **Pb 22 01 53.8 -0.7**
KAND Kocaeli-Kandir 2.21 68 P **Pb 22 01 53.8 -0.7**
DGB ˙zmir 2.28 192 *i* P **Pn 22 01 52.7 +0.6**
GULT Gulveren 2.31 85 *e*PN **Pn 22 01 54.1 +1.4**
GULT Gulveren 2.31 85 *e*Pn **Pn 22 01 54.1 +1.4**
AYDB Zeytinkoy-Aydi 2.35 172 *e*PN **Pn 22 01 53.6 +0.4**
AYDB Zeytinkoy-Aydi 2.35 172 *e*Pn **Pn 22 01 53.6 +0.4**
KAVA Kavala 2.38 288 P **Pn 22 01 53.9 +0.5**
KAVA Kavala 2.38 288 P **Pn 22 01 53.9 +0.5**
KAVA Kavala 2.38 288 P **Pn 22 01 54.0 +0.5**
KAVA AML AML 22 02 31.9
comp=E,449µm,0.5s
KAVA AML AML 22 02 31.9
comp=N,657µm,0.6s
RZN Rozhen 2.53 305 *i* P **Pn 22 01 56.5 +0.8**
SMG Samos 2.62 191 P **Pn 22 01 56.9 +0.1**
SMG Samos 2.62 191 P **Pn 22 01 56.9 +0.1**
SMG Samos 2.62 191 P **Pn 22 01 57.0 +0.1**
SMG AML AML 22 02 45.5
comp=E,653µm,0.5s
SMG AML AML 22 02 46.4
comp=N,597µm,0.6s
OUR Ouranopolis 2.69 272 P **Pn 22 01 57.7 +0.1**
OUR Ouranopolis 2.69 272 P **Pn 22 01 58.3 +0.7**
OUR S **Sn 22 02 29.0 -0.9**
OUR Ouranopolis 2.69 272 P **Pn 22 01 58.3 +0.7**
OUR S **Sn 22 02 28.9 -1.0**
OUR AML AML 22 02 41.9
comp=N,476µm,0.6s
OUR AML AML 22 02 44.1
comp=E,536µm,0.6s
PAIG Paliouri 2.95 264 P **Pn 22 02 02.0 +0.8**
PAIG Paliouri 2.95 264 P **Pn 22 02 02.0 +0.8**
PAIG S **Sn 22 02 39.2 +2.8**
PAIG Paliouri 2.95 264 P **Pn 22 02 00.3 -1.0**
PAIG S **Sn 22 02 39.0 +2.7**
PAIG AML AML 22 02 53.6
comp=E,92µm,0.3s
PAIG AML AML 22 02 56.9
comp=N,131µm,0.7s
AOS Alonnisos 3.00 249 P **Pn 22 02 02.3 +0.3**
AOS Alonnisos 3.00 249 P **Pn 22 02 02.3 +0.3**
AOS Alonnisos 3.00 249 P **Pn 22 02 01.8 -0.2**
AOS AML AML 22 02 54.9
comp=N,172µm,0.5s
AOS AML AML 22 03 04.1
comp=E,242µm,0.7s
SRS Serrai 3.08 287 P **Pn 22 02 03.5 +0.4**
SRS Serrai 3.08 287 P **Pn 22 02 03.5 +0.4**
SRS S **Sn 22 02 38.7 -1.1**
SRS Serrai 3.08 287 P **Pn 22 02 03.4 +0.3**
SRS S **Sn 22 02 38.7 -1.1**
SRS AML AML 22 02 55.8
comp=E,357µm,0.5s
SRS AML AML 22 02 56.8
comp=N,196µm,0.4s
PLG Polygyros 3.10 273 P **Pn 22 02 04.0 +0.7**
PLG Polygyros 3.10 273 P **Pn 22 02 04.0 +0.7**
PLG S **Sn 22 02 43.1 +2.9**
PLG Polygyros 3.10 273 P **Pn 22 02 01.8 -1.5**
PLG S **Sn 22 02 43.0 +2.9**
PLG AML AML 22 02 55.1
comp=E,183µm,0.5s
PLG AML AML 22 02 57.1
comp=N,149µm,0.4s
MMB Musomiste 3.14 296 *i* P **Pn 22 02 04.4 +0.5**
SOH Sokhos 3.20 281 P **Pn 22 02 05.1 +0.3**
SOH Sokhos 3.20 281 P **Pn 22 02 05.1 +0.3**
SOH Sokhos 3.20 281 P **Pn 22 02 05.0 +0.2**
SOH AML AML 22 02 57.7
comp=E,202µm,0.5s
SOH AML AML 22 02 58.8
comp=N,181µm,0.6s
SZH Strazhica 3.20 339 *i* P **Pn 22 02 05.5 +0.7**
KARY Karystos 3.27 228 P **Pn 22 02 05.4 -0.3**
KARY Karystos 3.27 228 P **Pn 22 02 05.3 -0.3**
SKIA Skiathos 3.30 252 P **Pn 22 02 07.8 +1.7**
SKIA Skiathos 3.30 252 P **Pn 22 02 07.8 +1.7**
SKIA AML AML 22 03 01.7
comp=E,437µm,0.5s
SKIA AML AML 22 03 02.3
comp=N,251µm,0.4s
EREA Eretria 3.33 237 P **Pn 22 02 06.6 +0.1**
EREA Eretria 3.33 237 P **Pn 22 02 06.6 +0.1**
EREA S **Sn 22 02 45.8 -0.1**
EREA Eretria 3.33 237 P **Pn 22 02 06.0 -0.5**
EREA S **Sn 22 02 45.7 -0.1**
HORT Hortiatis 3.37 277 P **Pn 22 02 08.0 +0.9**
HORT Hortiatis 3.37 277 P **Pn 22 02 07.3 +0.2**
HORT Hortiatis 3.37 277 P **Pn 22 02 07.3 +0.2**
NEO Neokhori 3.43 255 P **Pn 22 02 09.0 +1.1**
NEO Neokhori 3.43 255 P **Pn 22 02 09.0 +1.1**
NEO Neokhori 3.43 255 P **Pn 22 02 07.0 -0.9**
NEO AML AML 22 03 03.6
comp=E,66µm,0.5s
NEO AML AML 22 03 06.6
comp=N,107µm,0.5s
XOR Xorichti 3.44 256 P **Pn 22 02 09.0 +1.0**
XOR Xorichti 3.44 256 P **Pn 22 02 09.0 +1.0**
XOR Xorichti 3.44 256 P **Pn 22 02 09.0 +1.0**
XOR AML AML 22 03 04.2
comp=E,48µm,0.5s
XOR AML AML 22 03 05.0
comp=N,69µm,0.7s
APE Apeiranthos 3.56 206 P **Pn 22 02 10.1 +0.4**
APE Apeiranthos 3.56 206 P **Pn 22 02 10.1 +0.4**
APE Apeiranthos 3.56 206 P **Pn 22 02 08.4 -1.3**
APE AML AML 22 02 55.9
comp=N,48µm,0.4s
APE AML AML 22 03 09.3
comp=E,92µm,0.6s
PTL Penteli 3.59 233 P **Pn 22 02 10.7 +0.5**
PTL Penteli 3.59 233 P **Pn 22 02 10.6 +0.4**
PTL Penteli 3.59 233 P **Pn 22 02 10.6 +0.4**
PTL AML AML 22 03 16.0
comp=E,68µm,0.7s
PTL AML AML 22 03 16.9
comp=N,64µm,0.6s
SMIA Simia 3.59 248 P **Pn 22 02 10.0 -0.2**
SMIA Simia 3.59 248 P **Pn 22 02 09.9 -0.2**
SMIA AML AML 22 03 13.8
comp=E,454µm,0.6s
SMIA AML AML 22 03 15.7
comp=N,427µm,0.6s
KNT Kendrikon 3.60 286 P **Pn 22 02 11.3 +1.0**
KNT Kendrikon 3.60 286 P **Pn 22 02 11.3 +1.0**
KNT Kendrikon 3.60 286 P **Pn 22 02 12.0 +1.8**
KNT AML AML 22 03 14.0
comp=E,70µm,0.5s
KNT AML AML 22 03 16.0
comp=N,131µm,0.4s
KKB Krupnik 3.69 297 *i* P **Pn 22 02 12.5 +1.0**
ATHU Athens Univers 3.70 232 P **Pn 22 02 10.6 -1.0**
ATHU Athens Univers 3.70 232 P **Pn 22 02 10.6 -1.0**
VLY Voula,Athens 3.77 231 P **Pn 22 02 13.0 +0.5**
VLY Voula,Athens 3.77 231 P **Pn 22 02 12.8 +0.3**
VLY Voula,Athens 3.77 231 P **Pn 22 02 12.8 +0.3**
VLY AML AML 22 03 04.6
comp=N,96µm,1.1s
VLY AML AML 22 03 08.3
comp=E,113µm,0.6s
FETY Fethiye 3.85 161 P **Pn 22 02 15.2 +1.5**
FETY Fethiye 3.85 161 P **Pn 22 02 15.2 +1.5**
VILL Villia 3.88 238 P **Pn 22 02 13.4 -0.7**
VIL2 Platees 3.88 239 P **Pn 22 02 13.3 -0.7**
VIL2 AML AML 22 03 01.9
comp=E,74µm,1.2s
VIL2 AML AML 22 03 23.8
comp=N,62µm,0.6s
VTS Vitosha 3.96 307 P **Pn 22 02 16.8 +1.5**
VTS Vitosha 3.96 307 P **Pn 22 02 16.8 +1.5**
ARG Arkhangelos 4.09 173 P **Pn 22 02 15.3 -1.7**
ARG Arkhangelos 4.09 173 P **Pn 22 02 15.4 -1.5**
ARG AML AML 22 03 11.6
comp=E,154µm,0.3s
ARG AML AML 22 03 12.2
comp=N,124µm,0.4s
MPEP Malo Peshtene 4.16 319 *i* P **Pn 22 02 18.9 +1.0**
AGG Agios Georgios 4.18 254 P **Pn 22 02 18.7 +0.5**
AGG Agios Georgios 4.18 254 P **Pn 22 02 18.7 +0.5**
AGG Agios Georgios 4.18 254 P **Pn 22 02 18.2 0.0**
AGG AML AML 22 03 30.6
comp=N,49µm,0.6s
AGG AML AML 22 03 37.3
comp=E,95µm,0.8s
LTK Loutraki 4.18 239 P **Pn 22 02 18.4 +0.2**
LTK Loutraki 4.18 239 P **Pn 22 02 18.4 +0.2**
LTK Loutraki 4.18 239 P **Pn 22 02 17.4 -0.8**
THL Klokotos Trika 4.27 262 P **Pn 22 02 19.9 +0.4**
THL Klokotos Trika 4.27 262 P **Pn 22 02 19.9 +0.4**
TLB Topalu 4.32 5⇑*i*P **Pn 22 02 21.5 +1.4**
TLB Topalu 4.32 5⇑*i*P **Pn 22 02 21.5 +1.4**
DID Didima 4.33 231 P **Pn 22 02 20.7 +0.5**
DID Didima 4.33 231 P **Pn 22 02 20.7 +0.5**
DID Didima 4.33 231 P **Pn 22 02 20.3 +0.1**
HARR Harsova 4.42 4⇓*i*P **Pn 22 02 23.0 +1.6**
HARR Harsova 4.42 4⇓*i*P **Pn 22 02 23.0 +1.6**
KALE Kalithea 4.56 247 P **Pn 22 02 24.0 +0.4**
KALE Kalithea 4.56 247 P **Pn 22 02 23.9 +0.4**
KALE Kalithea 4.56 247 P **Pn 22 02 23.9 +0.4**
KALE AML AML 22 02 35.3
comp=N,32µm,0.6s
KALE AML AML 22 02 38.7
comp=E,27µm,0.4s
TRAZ Trapeza 4.61 244 P **Pn 22 02 23.3 -0.9**
TRAZ Trapeza 4.61 244 P **Pn 22 02 23.3 -0.9**
TRAZ AML AML 22 02 44.4
comp=N,50µm,0.4s
TRAZ AML AML 22 02 53.8
comp=E,34µm,0.4s
TRIZ Trizonia 4.62 247 P **Pn 22 02 24.5 +0.3**
TRIZ Trizonia 4.62 247 P **Pn 22 02 24.5 +0.3**
FNA Florina 4.69 278 P **Pn 22 02 26.6 +1.4**
FNA Florina 4.69 278 P **Pn 22 02 26.6 +1.4**
FNA Florina 4.69 278 P **Pn 22 02 26.9 +1.7**
KPRO Kipourio 4.71 268 P **Pn 22 02 27.1 +1.5**
KPRO Kipourio 4.71 268 P **Pn 22 02 26.9 +1.3**
KPRO Kipourio 4.71 268 P **Pn 22 02 26.9 +1.3**
KLV Kalavryta, Ach 4.72 243 P **Pn 22 02 26.2 +0.6**
KLV Kalavryta, Ach 4.72 243 P **Pn 22 02 26.2 +0.6**
KLV Kalavryta, Ach 4.72 243 P **Pn 22 02 25.8 +0.1**
KARP Karpathos 4.74 183 P **Pn 22 02 26.6 +0.7**
KARP Karpathos 4.74 183 P **Pn 22 02 26.6 +0.7**
KARP Karpathos 4.74 183 P **Pn 22 02 24.5 -1.4**
KARP AML AML 22 03 26.6
comp=E,25µm,0.2s
KARP AML AML 22 03 27.3
comp=N,30µm,0.3s
LAKA Lakka 4.74 246 P **Pn 22 02 27.1 +1.2**
LAKA Lakka 4.74 246 P **Pn 22 02 27.1 +1.2**
LAKA Lakka 4.74 246 P **Pn 22 02 27.6 +1.7**
CFR Carcaliu 4.92 5⇑*i*P **Pn 22 02 29.1 +0.8**
CFR Carcaliu 4.92 5⇑*i*P **Pn 22 02 29.1 +0.8**
TRIP Tripoli 4.92 238 P **Pn 22 02 29.6 +1.2**
TRIP Tripoli 4.92 238 P **Pn 22 02 29.6 +1.2**
NEST Nestorio 4.92 274 P **Pn 22 02 29.5 +1.0**
NEST Nestorio 4.92 274 P **Pn 22 02 29.5 +1.0**
NEST AML AML 22 03 35.6
comp=N,12µm,0.4s
NEST AML AML 22 03 39.2
comp=E,10µm,0.4s
BARS Barje 4.96 303 *i* Pn **Pn 22 02 30.1 +1.2**
DRO Drossia 5.06 244 P **Pn 22 02 31.3 +0.9**
DRO Drossia 5.06 244 P **Pn 22 02 31.3 +0.9**
DSL Palaion Diasel 5.07 259 P **Pn 22 02 31.1 +0.7**
DSL Palaion Diasel 5.07 259 P **Pn 22 02 31.1 +0.7**
DSL Palaion Diasel 5.07 259 P **Pn 22 02 32.3 +1.9**
ZAGS Zajecar 5.27 314 *e*Pn **Pn 22 02 35.9 +2.7**
BOLS Boljevac 5.44 312 *i* Pn **Pn 22 02 35.8 +0.3**
VOIR 5.46 342⇑*i*P **Pn 22 02 38.5 +2.7**
VOIR 5.46 342⇑*i*P **Pn 22 02 38.5 +2.7**
BOVS Bovan 5.46 310 *i* Pn **Pn 22 02 37.1 +1.3**
ARR Arges 5.50 338⇓*i*P **Pn 22 02 38.6 +2.2**
ARR Arges 5.50 338⇓*i*P **Pn 22 02 38.6 +2.2**
IGT Igoumenitsa 5.56 265 P **Pn 22 02 39.2 +2.1**
IGT Igoumenitsa 5.56 265 P **Pn 22 02 39.2 +2.1**
KUBS Kucevo 5.97 316 *i* Pn **Pn 22 02 43.5 +0.8**
GRUS Gruza 6.20 308 *i* Pn **Pn 22 02 47.6 +1.7**
TESR Tescani 6.26 355⇑*i*P **Pn 22 02 49.2 +2.5**
TESR Tescani 6.26 355⇑*i*P **Pn 22 02 49.2 +2.5**
IVAS Ivanjica 6.39 303 *e*Pn **Pn 22 02 49.4 +0.8**
BZS Buzias 6.85 323⇑*i*P **Pn 22 02 53.7 -1.2**
BZS Buzias 6.85 323⇑*i*P **Pn 22 02 53.7 -1.2**

IDC ***17*** *22:04:23.5±1.1,24˚.40N×121˚.48E,h0km,mb3.6/7, mb1 3.8/8,mb1mx3.5/49,mbtmp3.7/8,ML3.2/1, Error ellipse: s-maj=72.5km s-min=19.3km az=68.0*
TAP ***17*** *22:04:23.7,24˚.85N×122˚.71E,h15km,ML3.5,D*
JMA ***17*** *22:04:23.6±0.2,24˚.87N×122˚.67E,h2km±3km,M3.2*
ISCJB ***17*** *22:04:24.2±0.6,24˚.87N±0˚.04×122˚.71E±0˚.03,h22km±4km, mb3.6/7, Error ellipse: s-maj=7.1km s-min=3.9km az=22.4*

ISC 17 22:04:23.3±1.3,24.79N±0˚.04×122.67E±0˚.02,h6km±10km, n60,σt̄87/65,mb3.5/7,Taiwan region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
						ISC	h m s	ISC
JYNG	**Yonagunijimaku**	**0.42**	**144**	P		**Pb**	**22 04 33.3**	**+0.2**
JYNG				*e*S		**Sb**	**22 04 40.0**	**+0.2**
YOJ	**Yonaguni jima**	**0.45**	**137**	*i* P		**Pb**	**22 04 33.6**	**-0.1**
	baz=144							
YOJ				*i* S		**Sb**	**22 04 40.9**	**+0.2**
	baz=144							
YOJ	**Yonaguni jima**	**0.45**	**137**	P		**Pb**	**22 04 33.5**	**-0.1**
YOJ				S		**Sb**	**22 04 40.5**	**-0.2**
YOJ	**Yonaguni jima**	**0.45**	**137**	*e*Pn		**Pb**	**22 04 33.6**	**0.0**
	1µm,0.6s							
TWB1	**Santiao Chiao**	**0.65**	**289**	*e*P		**Pb**	**22 04 37.3**	**+0.2**
	baz=283							
TWC	**Suao**	**0.77**	**256**	P		**Pb**	**22 04 39.4**	**+0.4**
	baz=252							
TWC				*e*S		**Sb**	**22 04 50.6**	**+0.9**
	baz=252							
NWF	**Wu-fen Shan**	**0.85**	**289**	*e*P		**Pb**	**22 04 40.7**	**+0.2**
	baz=284							
TWE	**Neicheng**	**0.91**	**266**	*e*P		**Pb**	**22 04 41.7**	**+0.1**
	baz=262							
ENA	**Nanau**	**0.92**	**247**	*e*P		**Pb**	**22 04 41.8**	**+0.2**
	baz=244							
PCYT	**Pengchaiyu**	**0.99**	**327**	*e*P		**Pg**	**22 04 41.8**	**-0.6**
	baz=323							
TWA	**Mucha**	**1.00**	**281**	*e*P		**Pg**	**22 04 41.9**	**-0.6**
	baz=277							
ENTT	**Nioudou**	**1.01**	**262**	*e*P		**Pb**	**22 04 43.4**	**+0.1**
	baz=258							
IRIF	**Iriomote-Funau**	**1.07**	**115**	P		**Pn**	**22 04 45.1**	**+0.3**
TAP1	**Taipei**	**1.07**	**283**	*e*P		**Pn**	**22 04 46.3**	**+1.5**
	baz=279							
TWY	**Chenhua**	**1.08**	**297**	*e*P		**Pn**	**22 04 44.3**	**-0.6**
	baz=292							
TATO	**Taipei**	**1.09**	**280**	*e*Pn		**Pb**	**22 04 44.4**	**-0.1**
NACB	**Ninganchiao**	**1.16**	**238**	*e*Pn		**Pn**	**22 04 46.6**	**+0.7**
TWS1	**Kuangyinshan**	**1.18**	**285**	*e*P		**Pg**	**22 04 45.0**	**-0.9**
	baz=282							
YHNB	**Yeheng**	**1.18**	**264**	*e*Pn		**Pn**	**22 04 46.8**	**+0.4**
NSK	**Sanguang**	**1.20**	**265**	*e*P		**Pn**	**22 04 46.4**	**-0.2**
	baz=261							
TWD	**Chiawan**	**1.21**	**234**	*e*P		**Pg**	**22 04 44.4**	**-2.0**
	baz=232							
NNS	**Nan Shan**	**1.23**	**254**	*e*P		**Pb**	**22 04 46.9**	**-0.1**
	baz=251							
HWA	**Hwalien**	**1.27**	**230**	*e*P		**Pg**	**22 04 49.0**	**+1.4**
	baz=229							
HATJ	**Hateruma jima**	**1.27**	**125**	P		**Pn**	**22 04 46.3**	**-1.2**
HATJ				*e*S		**Sg**	**22 05 04.3**	**+0.2**
JKRS	**Kuro-shima**	**1.34**	**114**	P		**Pg**	**22 04 49.3**	**+0.3**
JIJ	**Ishigaki jima**	**1.41**	**107**	P		**Pn**	**22 04 49.6**	**+0.2**
WHF	**Hehuan Shan**	**1.43**	**244**	*e*P		**Pb**	**22 04 50.7**	**+0.1**
	baz=241							
JISG	**Ishigakijimahi**	**1.51**	**98**	P		**Pg**	**22 04 52.1**	**-0.1**
NSTT	**Nanjuang**	**1.53**	**264**	*e*P		**Pg**	**22 04 53.4**	**+0.8**
	baz=262							
EHY	**Hungye**	**1.78**	**224**	*e*P		**Pn**	**22 04 54.3**	**-0.3**
	baz=223							
NSY	**Sanyi**	**1.78**	**258**	*e*P		**Pb**	**22 04 56.5**	**+0.3**
	baz=256							
TWQ1	**Liyutan**	**1.78**	**256**	*e*P		**Pb**	**22 04 56.0**	**-0.3**
	baz=254							
SMLT	**Sun Moon Lake**	**1.85**	**241**	*e*P		**Pb**	**22 04 57.6**	**0.0**
	baz=239							
SSLB	**Suanglung**	**1.86**	**238**	*e*Pn		**Pb**	**22 04 57.5**	**-0.1**
TYC	**Yuchr**	**1.88**	**242**	*e*P		**Pn**	**22 04 56.9**	**+1.0**
	baz=240							
TWF1	**Yuli**	**1.91**	**221**	*e*P		**Pn**	**22 04 55.4**	**-0.9**
	baz=220							
TCU	**Taichung**	**1.93**	**251**	*e*P		**Pn**	**22 04 55.7**	**-0.9**
	baz=249							
WNT	**Mingjian**	**2.03**	**244**	*e*P		**Pb**	**22 04 59.5**	**-1.1**
	baz=242							
ALS	**Alishan**	**2.13**	**234**	*e*P		**Pb**	**22 05 01.1**	**-1.3**
	baz=232							
CHN5	**Tsauling**	**2.17**	**237**	*e*P		**Pn**	**22 05 01.6**	**+1.5**
	baz=236							
ELDTW	**Lidau**	**2.20**	**224**	*e*P		**Pn**	**22 05 01.6**	**+1.2**
	baz=223							
CHN4	**Tsaushan**	**2.38**	**233**	*e*P		**Pn**	**22 05 03.9**	**+1.0**
	baz=232							
TPUB	**Ta-pu**	**2.38**	**232**	*e*Pn		**Pb**	**22 05 06.1**	**-0.5**
STYT	**Tauyuan**	**2.39**	**228**	*e*P		**Pn**	**22 05 02.1**	**-0.9**
	baz=226							
WTP	**Ta-pu**	**2.43**	**231**	*e*P		**Pn**	**22 05 03.6**	**0.0**
	baz=230							
TWK	**Hsinying**	**2.51**	**233**	*e*P		**Pb**	**22 05 08.5**	**-0.3**
	baz=232							
CHN1	**Nanshi**	**2.53**	**231**	*e*P		**Pb**	**22 05 08.1**	**-1.0**
	baz=230							
SGST	**Jiashian**	**2.56**	**229**	*e*P		**Pn**	**22 05 04.3**	**-1.0**
	baz=227							
SSD	**Sandimen**	**2.76**	**223**	*e*P		**Pn**	**22 05 09.8**	**+1.7**
	baz=222							
EAST	**Anshuo**	**2.92**	**215**	*e*P		**Pn**	**22 05 10.9**	**+0.5**
	baz=214							
SCZT	**Fangliau**	**3.06**	**218**	*e*P		**Pn**	**22 05 12.4**	**+0.3**
	baz=217							
TWK1	**Hengchun**	**3.31**	**211**	*e*P		**Pn**	**22 05 15.5**	**-0.2**
	baz=211							
KSRS	**Korea Array**	**13.39**	**18**	Pn		**P**	**22 07 46.0**	**+2.4**
	0.1nm,0.3s,baz=196,slow=9.6,SNR=4.3							
SONM	**Songino Array**	**26.36**	**335**	P		**P**	**22 10 00.3**	**0.0**
	1.1nm,1.0s,baz=149,slow=8.2,SNR=4.3							
ZALV	**Zalesovo Beam**	**40.48**	**326**	P		**P**	**22 12 01.1**	**-1.6**
	0.3nm,0.3s,baz=122,slow=7.5,SNR=2.1							
KURBB	**Kurchatov Arra**	**42.53**	**319**	P		**P**	**22 12 17.6**	**-1.9**
	0.8nm,0.9s,baz=111,slow=7.0,SNR=4.7							
WRA	**Warramunga Arr**	**45.90**	**165**	P		**P**	**22 12 46.7**	**-0.1**
	2.1nm,0.9s,baz=348,slow=8.8,SNR=8.0							
BVAR	**Borovoye Array**	**48.07**	**320**	P		**P**	**22 13 03.0**	**-0.4**
	0.1nm,0.3s,baz=120,slow=8.5,SNR=1.9							
ASAR	**Alice Springs**	**49.39**	**166**	P		**P**	**22 13 14.9**	**+1.0**
	0.2nm,0.6s,baz=350,slow=9.2,SNR=4.4							
FINES	**FINESS Array B**	**71.60**	**330**	P		**P**	**22 15 44.0**	**-1.2**
	1.7nm,0.8s,baz=47,slow=8.4,SNR=5.0							

ISCJB ***17*** *22:04:40.8±1.8,36˚.53N±0˚.06×70˚.7E±0˚.2,h110km,Error ellipse: s-maj=27.2km s-min=5.7km az=165.6*
NNC ***17*** *22:04:43.3±6.1,37˚.04N×70˚.10E,h0km,mb4.0,mpv3.6, Error ellipse: s-maj=57.3km s-min=44.9km az=110.0*

ISC 17 22:04:40.3±2.3,36˚.51N±0˚.10×70˚.5E±0˚.2,h110km,n12, σt̄69/15,2C-6D,Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
						ISC	h m s	ISC
THN	**Thein Dam**	**5.93**	**132**	*e*P		**Pn**	**22 06 07.4**	**+1.7**
THN				*e*S		**Sn**	**22 07 12.4**	**+0.1**
MNAS	**Manas**	**6.17**	**14**	⇓P		**Pn**	**22 06 10.9**	**+1.9**
	2.1nm,0.4s							
MNAS				⇑S		**Sn**	**22 07 17.4**	**-0.9**
	4.3nm,0.4s							
KK31	**Karatay Array**	**6.58**	**0**	⇓P		**Pn**	**22 06 16.0**	**+1.4**
	2.1nm,0.4s,baz=191,slow=14,SNR=107							
KK31				⇓S		**Sn**	**22 07 25.1**	**-3.0**
	1.2nm,0.3s,baz=190,slow=24,SNR=9.1							
AAK	**Ala-Archa**	**6.86**	**26**	⇓P		**Pn**	**22 06 19.9**	**+1.5**
	3.3nm,0.6s							
AAK				⇓S		**Sn**	**22 07 35.2**	**+0.2**
	3.5nm,0.6s							
TKM2	**Tokmak 2**	**7.51**	**30**	⇓P		**Pn**	**22 06 28.1**	**+0.7**
	4.2nm,0.6s							
TKM2				⇑S		Sn	22 07 58.4	+7.4
	1.5nm,0.7s							
KOLN	**Koldanda**	**14.11**	**124**	*e*P		**Pn**	**22 07 54.2**	**-1.2**
	4.3nm,0.3s							
GKN	**Gorkha**	**14.66**	**121**	*e*P		**Pn**	**22 08 01.9**	**-0.5**
	13nm,0.4s							
DMN	**Daman**	**15.23**	**122**	*e*P		**Pn**	**22 08 08.7**	**-1.0**
	6.9nm,0.4s							
KKN	**Kakani**	**15.24**	**121**	*e*P		**Pn**	**22 08 08.8**	**-1.0**
	27nm,0.6s							
PKIN	**Phulchoki**	**15.45**	**121**	*e*P		**Pn**	**22 08 10.5**	**-2.0**
PKI	**Pulchoki**	**15.46**	**121**	*e*P		**Pn**	**22 08 10.5**	**-2.2**
	28nm,0.6s							
RAMN	**Ramite**	**16.68**	**120**	*e*P		Pn	22 08 21.7	-6.0

TIF 17 22:06:47.2, 41.64N×42.71E, h9km±2km
ISCJB 17 22:06:48.5±0.8, 41.60N±0.04×42.71E±0.04, h10km±5km, Error ellipse: s-maj=7.4km s-min=4.7km az=147.1
CSEM 17 22:06:48.1±0.1, 41.61N×42.73E, h5km, MD2.6, Error ellipse: s-maj=3.9km s-min=2.7km az=149.0
DDA 17 22:06:49.8, 41.47N×42.72E, h8km, Md2.6

ISC 17 22:06:47.8±1.0, 41.62N±0.04×42.73E±0.03, h16km±7km, n17, σ0945/28, Turkey-Georgia-Armenia border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
EPOS	**Posof**	**0.11**	**179**	*i* P	**Pg**	**22 06 51.2**	**-0.4**
EPOS				*i* S	**Sb**	**22 06 53.3**	**-0.9**
EPOS	**Posof**	**0.11**	**179**	P	**Pg**	**22 06 51.2**	**-0.4**
EPOS				S	**Sb**	**22 06 53.3**	**-0.9**
AKH	**Akhalkalaki**	**0.61**	**109**	P	Pn	22 07 08.9	+7.0
ARTV	**Artvin**	**0.74**	**235**	*i* P	**Pb**	**22 07 02.8**	**+0.4**
ARTV				*i* S	**Sg**	**22 07 12.5**	**+0.4**
ARTV	**Artvin**	**0.74**	**235**	P	**Pb**	**22 07 02.8**	**+0.4**
ARTV				S	**Sg**	**22 07 12.5**	**+0.4**
BGD	**Bogdanovka**	**0.74**	**118**	P	**Pb**	**22 07 02.6**	**+0.1**
BGD				S	**Sb**	**22 07 13.2**	**+0.7**
BGD	**Bogdanovka**	**0.74**	**118**	P	**Pb**	**22 07 02.6**	**+0.1**
BGD				S	**Sb**	**22 07 13.1**	**+0.7**
DAGI	**Agillar**	**0.81**	**229**	*i* P	**Pb**	**22 07 03.6**	**0.0**
DAGI				*i* S	**Sg**	**22 07 15.1**	**+0.7**
DBOC	**Borcka**	**0.84**	**252**	*i* P	**Pb**	**22 07 04.2**	**+0.2**
DBOC	**Borcka**	**0.84**	**252**	P	**Pb**	**22 07 04.2**	**+0.2**
DDEM	**Demirkent**	**1.03**	**226**	*i* P	**Pn**	**22 07 07.8**	**+0.1**
DDEM	**Demirkent**	**1.03**	**226**	P	**Pn**	**22 07 07.8**	**+0.1**
ONI	**Oni**	**1.11**	**29**	P	**Pb**	**22 07 08.8**	**+0.1**
ONI				S	**Sg**	**22 07 24.1**	**+0.1**
EAK	**Akyaka**	**1.14**	**144**	*i* P	**Pb**	**22 07 09.6**	**+0.4**
EAK				*i* S	**Sn**	**22 07 24.4**	**-0.3**
EAK	**Akyaka**	**1.14**	**144**	P	**Pb**	**22 07 09.6**	**+0.4**
EAK				S	**Sn**	**22 07 24.4**	**-0.3**
GUDG	**Gudauri**	**1.56**	**56**	P	**Pg**	**22 07 17.4**	**-0.4**
GUDG				S	**Sg**	**22 07 38.2**	**+0.2**
GUDG	**Gudauri**	**1.56**	**56**	P	**Pg**	**22 07 17.4**	**-0.4**
GUDG				S	**Sg**	**22 07 38.2**	**+0.2**

ISCJB 17 22:40:25.1±0.7, 22.55S±0.08×179.5W±0.1, h600km, mb4.0/14, Error ellipse: s-maj=17.0km s-min=10.0km az=177.2
IDC 17 22:40:30.0±2.3, 22.41S×179.78W, h632km±25km, mb3.5/14, mb1 3.6/14, mb1mx3.4/34, mbtmp4.5/14, Error ellipse: s-maj=21.4km s-min=13.2km az=143.0

ISC 17 22:40:27.2±0.6, 22.65S±0.10×179.7W±0.1, h600km, n51, σ2805/52, mb4.0/14, 6C-2D, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**6.77**	**167**	P	**P**	**22 42 13.2**	**-1.8**
	269nm,0.3s,baz=70,slow=5.1,SNR=19						
URZ	**Urewera**	**15.80**	**189**	P	**P**	**22 43 40.5**	**-2.0**
	3.7nm,0.3s,baz=264,slow=2.6,SNR=33						
URZ				S	**S**	**22 46 21.1**	**-0.7**
	1.1nm,0.3s,baz=253,slow=24,SNR=14						
CTA	**Charters Tower**	**31.78**	**268**	P	**P**	**22 46 04.8**	**+0.5**
	3.3nm,0.3s,baz=99,slow=11,SNR=9.5						
PMG	**Port Moresby**	**34.38**	**287**	P	**P**	**22 46 25.8**	**-0.3**
	13nm,0.8s,baz=103,slow=8.8,SNR=3.7						
STKA	**Stephens Creek**	**35.47**	**246**	P	**P**	**22 46 36.1**	**+1.1**
	1.6nm,0.4s,baz=108,slow=9.6,SNR=6.1						
ASAR	**Alice Springs**	**42.54**	**259**	P	**P**	**22 47 32.3**	**+0.4**
	3.0nm,0.4s,baz=98,slow=7.4,SNR=57						
ASAR				PcP	**PcP**	**22 49 10.8**	**+0.5**
	1.6nm,0.5s,baz=96,slow=5.8,SNR=7.5						
ASAR				S	**S**	**22 53 11.9**	**-0.4**
	2.4nm,0.9s,baz=99,slow=15,SNR=11						
WRA	**Warramunga Arr**	**42.80**	**265**	P	**P**	**22 47 33.6**	**-0.3**
	4.5nm,0.5s,baz=92,slow=6.0,SNR=225						
WRA				S	**S**	**22 53 13.0**	**-3.0**
	1.2nm,0.8s,baz=101,slow=14,SNR=6.5						
FITZ	**Fitzroy Crossi**	**51.23**	**264**	P	**P**	**22 48 37.4**	**+0.4**
	2.4nm,0.3s,baz=59,slow=6.8,SNR=22						
MJAR	**Matsushiro Arr**	**71.03**	**325**	P	**P**	**22 50 44.4**	**-1.4**
	3.0nm,0.8s,baz=158,slow=6.0,SNR=9.9						
KSRS	**Korea Array**	**77.48**	**320**	P	**P**	**22 51 21.4**	**-0.6**
	1.2nm,0.6s,baz=129,slow=6.9,SNR=4.1						
PETK	**Petropavlovsk-**	**77.95**	**346**	P	**P**	**22 51 22.9**	**-1.3**
	6.2nm,0.7s,baz=117,slow=4.2,SNR=11						
MAW	**Mawson**	**79.02**	**200**	P	**P**	**22 51 31.1**	**+1.3**
	0.6nm,0.4s,baz=111,slow=6.3,SNR=6.7						
USRK	**Ussuriysk Ar.**	**79.87**	**327**	P	**P**	**22 51 34.1**	**-0.3**
	2.4nm,0.6s,baz=119,slow=6.7,SNR=4.7						
MA2	**Magadan**	**85.44**	**345**	P	**P**	**22 52 00.7**	**-1.3**
	1.1nm,0.3s,baz=357,slow=23,SNR=3.6						
CMAR	**Chiang Mai Arr**	**89.37**	**290**	P	**P**	**22 52 22.5**	**+1.1**
	3.7nm,0.8s,baz=137,slow=3.3,SNR=15						
ILAR	**Eielson Array**	**90.75**	**13**	P	**P**	**22 52 24.4**	**-2.3**
	0.3nm,0.4s,baz=228,slow=5.2,SNR=6.0						
ZALV	**Zalesovo Beam**	**111.17**	**321**	PKiKP	**PKiKP**	**22 57 52.0**	**-1.2**
	0.4nm,0.4s,baz=27,slow=1.6,SNR=2.8						
FINES	**FINESS Array B**	**137.35**	**342**	PKhKP	PKPpre	22 58 30.5	
	0.7nm,0.4s,baz=43,slow=4.7,SNR=9.6						
FINES				SKP		23 01 21.1	
	0.7nm,0.8s,baz=9.2,slow=6.0,SNR=4.8						
NOA	**NORSAR Array B**	**140.89**	**352**	PKhKP	PKPpre	22 58 42.8	
	0.5nm,0.5s,baz=17,slow=4.1,SNR=4.2						
AKASG	**Malin Array Be**	**144.07**	**328**	PKP	PKPbc	22 58 53.4	**-1.5**
	3.1nm,0.3s,baz=42,slow=4.3,SNR=22						
MUD	**Monsted U'grnd**	**145.61**	**351**	*i* P	**PKPdf**	**22 58 58.9**	**+1.2**
DRWC	**Darouich**	**145.69**	**302**	*e*P	**PKPdf**	**22 58 59.1**	**+0.5**
ROOS	**tl_alroos**	**145.69**	**298**	*e*P	**PKPdf**	**22 58 59.4**	**+0.8**
BSD	**Bornholm Skovb**	**145.79**	**345**	*i* P	**PKPdf**	**22 59 00.5**	**+2.5**
BTCH	**Batrach**	**145.99**	**301**	*e*P	**PKPdf**	**22 59 00.3**	**+1.2**
SALA	**Sala**	**146.37**	**295**	*e*P	**PKPdf**	**22 59 01.7**	**+1.7**
MARH	**Ras Al Marh**	**146.37**	**298**	*e*P	**PKPdf**	**22 59 02.1**	**+2.0**
ARNB	**Al Arnab**	**146.41**	**300**	*e*P	**PKPdf**	**22 59 01.4**	**+1.5**
BRBR	**Barbar**	**146.91**	**297**	*e*P	**PKPdf**	**22 59 03.6**	**+2.7**
BRTR	**Keskin Array B**	**147.04**	**309**	PKPbc	**PKPdf**	**22 59 03.1**	**+2.3**
	2.6nm,0.6s,baz=141,slow=5.1,SNR=20						
CFR	**Carcaliu**	**148.05**	**321**	*i* P	**PKPdf**	**22 59 05.0**	**+2.9**
TESR	**Tescani**	**148.07**	**325**	*i* P	**PKPdf**	**22 59 04.1**	**+2.0**
TLB	**Topalu**	**148.45**	**321**	*i* P	**PKPdf**	**22 59 05.2**	**+2.5**
HARR	**Harsova**	**148.45**	**321**	*i* P	**PKPdf**	**22 59 06.4**	**+3.6**
VOIR		**149.61**	**324**	*i* P	**PKPdf**	**22 59 08.6**	**+3.9**
ARR	**Arges**	**149.88**	**325**	*i* P	**PKPbc**	**22 59 10.4**	**-0.3**
DRGR		**149.89**	**329**	*i* P	**PKPdf**	**22 59 09.6**	**+4.5**
BZS	**Buzias**	**151.26**	**328**	*i* P	**PKPdf**	**22 59 12.3**	**+5.2**
GERES	**GERESS Array B**	**151.78**	**341**	PKPbc	**PKPdf**	**22 59 12.8**	**+4.9**
	1.1nm,0.7s,baz=8.5,slow=2.7,SNR=10						
CONA	**Conrad Observa**	**151.87**	**338**	*i* PKPbc	**PKPbc**	**22 59 14.2**	**-1.0**
	1.3nm,0.7s						
MOA	**Molln**	**152.48**	**339**	*i* PKPbc	**PKPbc**	**22 59 15.8**	**-0.6**
ARSA	**Arzberg**	**152.57**	**337**	*i* PKPdf	**PKPdf**	**22 59 12.5**	**+3.4**
	0.4nm,0.2s						
KBA	**Koelnbreinsper**	**153.46**	**340**	*i* PKPbc	**PKPbc**	**22 59 18.0**	**-0.7**
	0.6nm,0.4s						
WATA	**Walderalm**	**153.75**	**343**	*i* PKPab	**PKPab**	**22 59 34.6**	**-0.7**
	1.6nm,0.4s						
WTTA	**Wattenberg**	**153.80**	**342**	*i* PKPab	**PKPab**	**22 59 34.8**	**-0.8**
	2.5nm,0.5s						
RETA	**Reutte**	**153.83**	**344**	*i* PKPab	**PKPab**	**22 59 34.7**	**-0.9**
	1.3nm,0.5s						
MOTA	**Moosalm**	**153.87**	**343**	*i* PKPab	**PKPab**	**22 59 35.0**	**-0.9**
	1.6nm,0.5s						
ABTA	**Abfaltersbach**	**154.01**	**341**	*i* PKPbc	**PKPbc**	**22 59 18.3**	**-1.6**
	0.7nm,0.4s						
DAVA	**Damuels**	**154.24**	**345**	*i* PKPab	**PKPab**	**22 59 36.3**	**-1.2**
	2.8nm,0.7s						
KEST	**Kesra**	**164.77**	**331**	PKPab	**PKPab**	**23 00 22.7**	**-1.0**
	2.6nm,0.9s,baz=205,slow=1.4,SNR=5.9						
TORD	**Torodi Ar. Bea**	**170.46**	**188**	PKPab	**PKPab**	**23 00 49.3**	**+0.2**
	0.4nm,0.6s,baz=165,slow=4.3,SNR=5.7						

IDC 17 22:42:58.7±1.5, 17.92N×146.03E, h0km, mb3.7/5, mb1 4.0/5, mb1mx3.6/43, mbtmp3.7/5, MS3.6/1, Ms1 3.6/1, ms1mx2.5/46, Error ellipse: s-maj=48.0km s-min=25.9km az=94.0, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**39.34**	**197**	P	P	22 50 29.8	-0.1
	1.8nm,0.7s,baz=16,slow=9.0,SNR=11						
ASAR	**Alice Springs**	**42.99**	**196**	P	P	22 50 59.7	-0.2
	0.4nm,0.5s,baz=17,slow=9.5,SNR=3.5						
SONM	**Songino Array**	**43.94**	**322**	P	P	22 51 07.6	0.0
	0.3nm,0.5s,baz=111,slow=7.9,SNR=2.4						
CMAR	**Chiang Mai Arr**	**44.63**	**278**	P	P	22 51 13.4	+0.1
	1.3nm,0.4s,baz=82,slow=6.5,SNR=1.9						
RAO	**Raoul Island**	**58.40**	**143**	LR	LR	23 14 56.5	
	comp=Z,49nm,18.6s,baz=7.5,slow=33						
ILAR	**Eielson Array**	**64.20**	**26**	P	P	22 53 34.9	-0.2
	0.3nm,0.6s,baz=259,slow=5.5,SNR=2.4						

IDC 17 23:06:27.2±8.1, 31.96S×179.72E, h357km±92km, mb3.0/2, mb1 3.3/3, mb1mx2.8/30, mbtmp3.9/3, Error ellipse: s-maj=102.3km s-min=38.5km az=4.0, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
URZ	**Urewera**	**6.64**	**198**	P	P	23 08 07.4	+0.7
	3.8nm,0.3s,baz=273,slow=5.1,SNR=31						
URZ				S	S	23 09 23.2	-2.0
	4.3nm,0.3s,baz=56,slow=23,SNR=23						
ASAR	**Alice Springs**	**41.11**	**270**	P	P	23 13 37.9	+0.1
	0.3nm,0.4s,baz=104,slow=7.6,SNR=5.5						
WRA	**Warramunga Arr**	**42.24**	**275**	P	P	23 13 46.8	-0.2
	0.8nm,0.3s,baz=112,slow=8.0,SNR=27						
FINES	**FINESS Array B**	**145.89**	**338**	PKPbc	PKPdf	23 25 23.3	+0.3
	1.2nm,0.5s,baz=54,slow=4.9,SNR=15						

NEIC 17 23:22:48.4±0.0, 60.16N×153.19W, h144km, mb4.3/2, After AEIC., Southern Alaska

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ILIM	**Iliamna**	**0.14**	**123**	P	Pn	23 23 07.3	-0.7
RED	**Redoubt Volcan**	**0.34**	**38**	P	Pn	23 23 07.7	-0.8
RED				S	Sn	23 23 23.1	-0.7
RDWB	**Redoubt West**	**0.38**	**27**	P	Pn	23 23 08.0	-0.7
RDWB				S	Sn	23 23 23.1	-1.1
RDJH	**Redoubt Jeurge**	**0.48**	**24**	P	Pn	23 23 08.5	-0.7
RDJH				S	Sn	23 23 24.3	-0.7
BGRM	**Barrier Glacie**	**0.71**	**32**	P	Pn	23 23 09.7	-0.8
AUL	**Augustine Lava**	**0.79**	**189**	P	Pn	23 23 10.4	-0.5
AUL				S	Sn	23 23 27.5	-0.5
AUE	**Augustine Isla**	**0.81**	**187**	P	Pn	23 23 10.4	-0.6
AUI	**Augustine Isla**	**0.83**	**188**	P	Pn	23 23 10.6	-0.6
AUI				S	Sn	23 23 27.6	-0.9
CKL	**Chakachamna La**	**1.12**	**22**	P	Pn	23 23 13.5	-0.3
MCNL	**McNeil River**	**1.13**	**211**	P	Pn	23 23 13.0	-0.9
SPCR	**Spurr Chakacha**	**1.16**	**24**	P	Pn	23 23 13.5	-0.6
SPWE	**Spurr West**	**1.16**	**15**	P	Pn	23 23 14.0	-0.3
CNPM	**China Poot**	**1.17**	**122**	P	Pn	23 23 13.6	-0.6
CNPM				S	Sn	23 23 32.9	-0.9
SPBG	**Spurr Blockage**	**1.18**	**20**	P	Pn	23 23 14.1	-0.2
SPBG				S	Sn	23 23 34.4	+0.3
BRLK	**Bradley Lake**	**1.22**	**108**	P	Pn	23 23 14.5	-0.2
BRLK				S	Sn	23 23 33.6	-1.2
CDLL	**Cape Douglas**	**1.25**	**191**	P	Pn	23 23 13.4	-1.1
FOSS	**Fourpeaked Sta**	**1.39**	**191**	P	Pn	23 23 15.4	-1.0
FOPK	**Fourpeaked Vol**	**1.41**	**186**	P	Pn	23 23 15.3	-1.3
STLK	**Strandline Lak**	**1.50**	**26**	P	Pn	23 23 17.1	-0.5
SVW2	**Sparrevohn**	**1.51**	**310**	P	Pn	23 23 16.4	-1.3
SVW2				S	Sn	23 23 37.6	-2.3
SLKM	**Skilak Lake**	**1.52**	**75**	P	Pn	23 23 17.0	-0.7
VOGL	**Vogel Lake**	**1.60**	**57**	P	Pn	23 23 18.9	+0.3
KAPH	**Katmai Pasha**	**1.67**	**201**	P	Pn	23 23 18.8	-0.7
KAPH				S	Sn	23 23 42.5	-0.7
KAHC	**Katmai Hardscr**	**1.77**	**212**	P	Pn	23 23 19.6	-1.1
SUA	**Susitna One**	**1.78**	**41**	P	Pn	23 23 20.0	-0.7
FIB	**Fire Island**	**1.80**	**54**	P	Pn	23 23 20.7	0.0
KARR	**Katmai Rainbow**	**1.83**	**206**	P	Pn	23 23 20.6	-0.7
SEW	**Seward**	**1.87**	**90**	P	Pn	23 23 20.9	-0.7
SEW				S	Sn	23 23 45.0	-2.1
RC01	**Rabbit Creek A**	**1.94**	**60**	P	Pn	23 23 21.0	-1.4
RC01				S	Sn	23 23 47.1	-1.5
KAWH	**Katmai**	**1.96**	**206**	P	Pn	23 23 21.7	-1.1
SKT	**Skwentna**	**2.00**	**23**	P	Pn	23 23 22.4	-0.7
KVTA	**Katmai Vly 10**	**2.08**	**212**	P	Pn	23 23 23.3	-0.9
KAKN	**Katmai Knife C**	**2.10**	**208**	P	Pn	23 23 23.5	-1.0
KELA	**Mount Kelaz**	**2.16**	**218**	P	Pn	23 23 24.1	-1.0
KABU	**Katmai Buttres**	**2.18**	**211**	P	Pn	23 23 24.7	-0.7
KABR	**Katmai Barrier**	**2.23**	**205**	P	Pn	23 23 24.7	-1.2
KDAK	**Kodiak Island**	**2.40**	**172**	P	Pn	23 23 25.9	-2.1
PMR	**Palmer**	**2.45**	**52**	P	Pn	23 23 26.6	-1.9
PWL	**Port Wells**	**2.50**	**72**	P	Pn	23 23 27.3	-1.9
GHO	**Glory Hole Cre**	**2.64**	**50**	P	Pn	23 23 29.1	-1.8
KNK	**Knik Glacier**	**2.64**	**59**	P	Pn	23 23 29.0	-1.9
PPLA	**Purkeypile**	**2.79**	**9**	P	Pn	23 23 32.9	-0.1
PLK5	**Peulik 5**	**2.88**	**223**	P	Pn	23 23 33.6	-0.3
SML	**Sawmill**	**2.89**	**53**	P	Pn	23 23 32.2	-1.9
OHAK	**Old Harbor**	**2.94**	**181**	P	Pn	23 23 32.7	-2.1
PLK3	**Peulik 3**	**2.94**	**214**	P	Pn	23 23 34.3	-0.5
PLK1	**Peulik 1**	**2.95**	**218**	P	Pn	23 23 34.3	-0.5
TT01	**Tatalina**	**3.08**	**335**	P	Pn	23 23 35.2	-1.2
SCM	**Sheep Creek Mo**	**3.31**	**57**	P	Pn	23 23 37.8	-1.7
JPK	**Jack Peak**	**3.37**	**72**	P	Pn	23 23 40.1	-0.2
FID	**Port Fidalgo**	**3.38**	**77**	P	Pn	23 23 38.8	-1.6
VLZ	**Valdez**	**3.52**	**71**	P	Pn	23 23 40.5	-1.6
KTH	**Kantishna Hill**	**3.58**	**17**	P	Pn	23 23 41.8	-1.1
TRF	**Thorofare Moun**	**3.58**	**21**	P	Pn	23 23 42.1	-1.0
EYAK	**Cordova Ski Ar**	**3.72**	**81**	P	Pn	23 23 44.0	-0.8
CHUM	**Lake Minchumin**	**3.76**	**6**	P	Pn	23 23 44.6	-0.7
DIV	**Divide**	**3.78**	**72**	P	Pn	23 23 44.2	-1.5
KLU	**Klutina**	**3.80**	**66**	P	Pn	23 23 44.2	-1.8
RND	**Reindeer**	**3.86**	**30**	P	Pn	23 23 45.5	-1.1
DHY	**Denali Highway**	**4.04**	**41**	P	Pn	23 23 47.7	-1.3
MCK	**McKinley**	**4.11**	**27**	P	Pn	23 23 49.5	-0.4
ANNE	**Aniakchak Nort**	**4.13**	**220**	P	Pn	23 23 49.2	-1.0
ANNW	**Aniakchak Nort**	**4.14**	**222**	P	Pn	23 23 49.7	-0.7
PS12	**TAPS Pump St12**	**4.16**	**68**	P	Pn	23 23 49.4	-1.1
ANPK	**Aniakchak Peak**	**4.21**	**220**	P	Pn	23 23 50.6	-0.8
GOAT	**Goat Mountain**	**4.22**	**81**	P	Pn	23 23 50.8	-0.7
ANPB	**Aniakchak Plen**	**4.29**	**221**	P	Pn	23 23 51.3	-1.1
BMRM	**Bremner River**	**4.32**	**75**	P	Pn	23 23 51.7	-1.0
HARP	**HAARP**	**4.49**	**56**	P	Pn	23 23 54.0	-0.8
PAX	**Paxson**	**4.65**	**49**	P	Pn	23 23 56.5	-0.5
WRH	**Wood River Hil**	**4.94**	**27**	P	Pn	23 23 59.2	-1.6
KHIT	**Khitrov Hills**	**4.96**	**82**	P	Pn	23 23 59.6	-1.5
CRQM	**Cirque**	**5.01**	**79**	P	Pn	23 24 01.4	-0.5
VNHG	**Veniaminof 1**	**5.05**	**221**	P	Pn	23 24 01.7	-0.8
MCARA	**McCarthy VSAT**	**5.13**	**72**	P	Pn	23 24 02.8	-0.6
CCB	**Clear Creek Bu**	**5.16**	**27**	P	Pn	23 24 02.0	-1.6
TGL	**Tana Glacier**	**5.17**	**79**	P	Pn	23 24 02.6	-1.3
MDM	**Murphy Dome**	**5.34**	**23**	P	Pn	23 24 04.8	-1.2
COLA	**College**	**5.34**	**25**	P	Pn	23 24 04.0	-2.1
ILB	**Eielson Array**	**5.48**	**30**	P	Pn	23 24 06.3	-1.6
DOT	**Dot Lake**	**5.56**	**47**	P	Pn	23 24 07.8	-1.2
PS06	**TAPS Pump Stn6**	**5.93**	**14**	P	Pn	23 24 13.2	-0.8
PNL	**Peninsula**	**6.96**	**88**	P	Pn	23 24 27.4	-0.3
DTNA	**Dutton South F**	**6.98**	**228**	P	Pn	23 24 27.3	-0.8
COLD	**Coldfoot**	**7.22**	**9**	P	Pn	23 24 29.7	-1.5
EGAK	**Eagle**	**7.25**	**45**	*e*Pn	Pn	23 24 30.1	-1.4
	5.7nm,0.6s						
SSLW	**Shishaldin Wes**	**7.99**	**232**	P	Pn	23 24 40.3	-1.3
AMTX	**Amarillo**	**41.50**	**104**	P	P	23 30 21.0	-0.2
	3.1nm,0.4s						

NEIC 17 23:25:53.9±0.6, 23.13N×124.85E, h10km, mb4.3/4, Error ellipse: s-maj=12.0km s-min=7.5km az=162.0
JMA 17 23:25:56.3±0.3, 23.27N×124.93E, h45km, M3.9
IDC 17 23:25:58.1±6.0, 23.31N×125.25E, h46km±66km, mb3.4/5, mb1 3.6/7, mb1mx3.2/47, mbtmp3.8/7, ML3.9/2, MS2.5/3, Ms1 2.6/3, ms1mx2.5/20, Error ellipse: s-maj=56.2km s-min=19.4km az=72.0

ISC 17 23:25:51.9±2.6, 23.20N±0.06×124.97E±0.04, h0km±16km, n44, σ2825/65, mb4.2/9, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JKRS	**Kuro-shima**	**1.36**	**320**	P	**Pn**	**23 26 18.7**	**+0.6**
JKRS				S	**Sg**	**23 26 34.7**	**-0.8**
HATJ	**Hateruma jima**	**1.37**	**309**	P	**Pn**	**23 26 18.2**	**0.0**
HATJ				S	**Sg**	**23 26 33.9**	**-2.0**
JIJ	**Ishigaki jima**	**1.38**	**327**	P	**Pn**	**23 26 18.5**	**+0.1**
JIJ				S	**Sg**	**23 26 34.4**	**-2.0**
JTJ	**Tarama**	**1.45**	**350**	P	**Pn**	**23 26 19.9**	**+0.5**
JTJ				S	**Sn**	**23 26 37.3**	**-1.9**
JISG	**Ishigakijimahi**	**1.51**	**336**	P	**Pn**	**23 26 20.3**	**+0.2**
JISG				S	**Sn**	**23 26 38.3**	**-2.2**
JOGS	**Gusukube**	**1.60**	**14**	P	**Pn**	**23 26 21.9**	**+0.5**
JOGS				S	**Sn**	**23 26 41.7**	**-1.1**
IRIF	**Iriomote-Funau**	**1.60**	**315**	P	**Pn**	**23 26 22.2**	**+0.8**
IRIF				S	**Sn**	**23 26 40.4**	**-2.4**
JIRB	**Irabujima**	**1.63**	**6**	P	**Pn**	**23 26 22.0**	**+2.2**
JIRB				S	**Sn**	**23 26 41.8**	**-1.7**
JMJ	**Miyako jima 2**	**1.63**	**10**	P	**Pn**	**23 26 22.4**	**+0.5**
JMJ				S	**Sn**	**23 26 42.6**	**-1.0**
JIKM	**Ikemajima**	**1.73**	**8**	P	**Pn**	**23 26 23.8**	**+0.6**
JIKM				*e*S	**Sn**	**23 26 44.4**	**-1.7**
YOJ	**Yonaguni jima**	**2.19**	**305**	P	**Pn**	**23 26 30.3**	**+0.8**
YOJ				S	**Sn**	**23 26 54.5**	**-2.9**
JYNG	**Yonagunijimaku**	**2.23**	**304**	P	**Pn**	**23 26 30.9**	**+0.8**
JYNG				S	**Sn**	**23 26 55.6**	**-2.8**
NACB	**Ninganchiao**	**3.24**	**288**	*e*Pn	**Pn**	**23 26 43.3**	**-0.7**
NACB				*e*Sn	Sn	23 27 16.3	-7.1
YULB	**Yu-li**	**3.38**	**274**	*e*Pn	**Pn**	**23 26 44.6**	**-1.4**
JIKE	**Kume jima 2**	**3.52**	**28**	P	**Pn**	**23 26 47.3**	**-0.5**
JIKE				*e*S	**Sn**	**23 27 27.9**	**-2.3**
YHNB	**Yeheng**	**3.60**	**295**	*e*Pn	**Pn**	**23 26 49.8**	**+0.8**
TWG	**Pinlang**	**3.61**	**265**	*e*Pn	**Pn**	**23 26 47.7**	**-1.4**
TWG				*e*Sn	**Sn**	**23 27 27.4**	**-5.2**
TATO	**Taipei**	**3.64**	**300**	*e*Pn	**Pn**	**23 26 50.7**	**+1.2**
TATO				*e*Sn	**Sn**	**23 27 29.3**	**-3.9**
SSLB	**Suanglung**	**3.73**	**280**	*e*Pn	**Pn**	**23 26 50.3**	**-0.5**
SSLB				*e*Sn	**Sn**	**23 27 32.4**	**-3.2**
JJT2	**Tamagusuku 2**	**3.87**	**40**	P	**Pn**	**23 26 53.3**	**+0.7**
JJT2				*e*S	**Sn**	**23 27 35.1**	**-3.6**
JAGN	**Aguni-jima**	**3.95**	**31**	P	**Pn**	**23 26 54.3**	**+0.5**
JAGN				*e*S	**Sn**	**23 27 36.3**	**-4.5**
TPUB	**Ta-pu**	**4.00**	**272**	*e*Pn	**Pn**	**23 26 54.5**	**+0.1**
TPUB				*e*Sn	**Sn**	**23 27 38.6**	**-3.4**
JNTH	**Nagotoyohara**	**4.31**	**39**	S	**Sn**	**23 27 44.6**	**-5.1**
JIH	**Iheya**	**4.68**	**35**	P	**Pn**	**23 27 03.2**	**-0.6**
JIH				*e*S	**Sn**	**23 27 53.1**	**-5.8**
JOW	**Kunigami**	**4.70**	**39**	P	**Pn**	**23 27 03.9**	**-0.2**
	21nm,0.3s,baz=214,slow=13,SNR=35						
JOW				S	**Sn**	**23 27 53.7**	**-5.5**
	7.4nm,0.3s,baz=279,slow=29,SNR=7.5						
JOW	**Kunigami**	**4.70**	**39**	P	**Pn**	**23 27 03.8**	**-0.2**
JOW				S	**Sn**	**23 27 53.9**	**-5.3**
JOKE	**Okinoerabujima**	**5.27**	**37**	P	**Pn**	**23 27 10.9**	**-1.0**
JTK	**Tokunoshima**	**5.81**	**37**	P	**Pn**	**23 27 18.2**	**-1.1**
JAMN	**Amaminishikomi**	**6.29**	**36**	P	**Pn**	**23 27 24.1**	**-1.8**
JAM	**Amami Oshima**	**6.66**	**38**	P	**Pn**	**23 27 29.6**	**-1.4**
JAM				*e*S	Sn	23 28 39.2	-8.4
KSAR	**Wonju Array Be**	**14.41**	**9**	P	**Pn**	**23 29 18.6**	**+1.4**
KSRS	**Korea Array**	**14.43**	**9**	P	**Pn**	**23 29 18.5**	**+1.1**
	0.2nm,0.3s,baz=189,slow=12,SNR=3.9						
KSRS				LR	LR	23 34 38.5	
	comp=Z,28nm,21.2s,baz=153,slow=36						
MAJO	**Matsushiro**	**17.54**	**38**	*e*Pn	**

CHMN	Cheshme madani	4.45	64	*e*Pn		Pn	23 38 35.9	+1.3		
ICHK	Chekchek	4.46	16	*e*Pn		Pn	23 38 35.9	+1.3		
ICHK				*e*AMB		AMB	23 38 46.0			
	comp=Z,2µm,0.3s									
ICHK	Chekchek	4.46	16	*e*Pn		Pn	23 38 35.9	+1.3		
ICHK	Chekchek	4.46	16	Pn		Pn	23 38 35.9	+1.3		
IGAR	Gharneh	4.50	350	*e*Pn		Pn	23 38 36.3	+1.1		
IGAR				*e*AMB		AMB	23 39 33.9			
	comp=Z,791nm,0.3s									
NASN	Na'in	4.83	359	*e*Pn		Pn	23 38 40.4	+0.6		
NASN				AML		AML	23 39 38.7			
	comp=N,59nm,0.7s									
NASN	Na'in	4.83	359	*e*Pn		Pn	23 38 40.0	+0.2		
NASN	Na'in	4.83	359	*e*Pn		Pn	23 38 40.0	+0.2		
IZEF	Zefreh	4.95	354	*e*Pn		Pn	23 38 41.5	+0.1		
IZEF				*e*AMB		AMB	23 39 09.8			
	comp=Z,522nm,0.4s									
IZEF	Zefreh	4.95	354	*e*Pn		Pn	23 38 41.5	+0.1		
IPIR	Pirpir	5.04	340	*e*Pn		Pn	23 38 42.4	-0.2		
IPIR				*e*AMB		AMB	23 39 46.3			
	comp=Z,624nm,0.2s									
IPIR	Pirpir	5.04	340	*e*Pn		Pn	23 38 42.4	-0.2		
IKLH	Kolahrood	5.47	348	*e*Pn		Pn	23 38 49.1	+0.5		
IKLH				*e*AMB		AMB	23 40 40.4			
	comp=Z,643nm,0.4s									
IKLH	Kolahrood	5.47	348	Pn		Pn	23 38 49.0	+0.5		
IKLH	Kolahrood	5.47	348	Pn		Pn	23 38 49.0	+0.5		
NSR	Nassriya	6.67	299	*e*Pn		Pn	23 39 04.0	-0.7		
	SNR=4.0									
NSR				*e*Sn		Sn	23 40 19.0	-1.5		
	SNR=4.0									
WSAR	Wadi Sarin	6.96	131	Pn		Pn	23 39 08.8	+0.1		
	comp=Z,2.8nm,0.3s,baz=315,slow=7.5,SNR=61									
WSAR				Sn		Sn	23 40 26.2	-1.5		
	comp=Z,3.8nm,0.3s,baz=190,slow=18,SNR=2.8									
WSAR				LR		LR	23 42 34.9			
	comp=Z,120nm,20.6s,baz=320,slow=45									
ITEG	Tejag	7.02	44	*e*Pn		Pn	23 39 11.0	+1.2		
ITEG				*e*AMB		AMB	23 41 45.3			
	comp=Z,253nm,0.5s									
ITEG	Tejag	7.02	44	*e*Pn		Pn	23 39 11.0	+1.2		
BHD	Baghdad	9.08	308	*e*Pn		Pn	23 39 38.0	+0.1		
	SNR=4.0									
BHD				*e*Sn		Sn	23 41 20.0	+0.1		
	SNR=4.0									
GEYT	Alibeck	10.85	22	Pn		Pn	23 40 03.4	+1.3		
	comp=Z,0.3nm,0.3s,baz=204,slow=13,SNR=8.5									
RTB	Rutbah	12.01	298	*e*Pn		Pn	23 40 18.0	-0.1		
	SNR=4.0									
RTB				*e*Sn		Sn	23 42 30.0	-1.9		
	SNR=4.0									
GNI	Garni	13.93	333	Pn		P	23 40 54.3	+1.9		
	comp=Z,1.7nm,0.3s,baz=352,slow=4.2,SNR=5.7									
GNI	Garni	13.93	333	*e*P		Pn	23 40 47.6	+3.3		
GNI	Garni	13.93	333	*e*Pn		Pn	23 40 47.6	+3.3		
GNI	Garni	13.93	333	*e*Pn		Pn	23 40 47.6	+3.3		
ASF	Jabal al Asfar	14.52	291	Pn		P	23 40 56.1	-2.8		
	comp=Z,0.2nm,0.3s,baz=70,slow=7.1,SNR=3.2									
EIL	Elat	15.87	280	Pn		P	23 41 14.0	+0.1		
	comp=Z,0.2nm,0.3s,baz=65,slow=8.9,SNR=4.2									
EIL				Lg		Lg	23 46 08.8			
	comp=Z,0.2nm,0.3s,baz=338,slow=22,SNR=1.0									
EIL	Elat	15.87	280	Pn		P	23 41 14.0	+0.1		
MMAI	Mount Meron Ar	15.94	293	Pn		Pn	23 41 12.5	+1.4		
	comp=Z,0.3nm,0.3s,baz=84,slow=15,SNR=4.0									
ARTV	Artvin	16.00	328	*e*Pn		Pn	23 41 08.5	-3.5		
	comp=Z,4.1nm,1.0s									
ARTV	Artvin	16.00	328	*e*Pn		Pn	23 41 08.5	-3.5		
	comp=Z,4.1nm,1.0s									
GROC	Groznyy	16.28	341	*e*P		P	23 41 19.5	+1.2		
GROC				pmax		pmax				
	comp=Z,22nm,0.9s									
GROC	Groznyy	16.28	341	*e*P		P	23 41 19.5	+1.2		
	comp=Z,22nm,0.9s									
ZEI	Tsey	16.52	336	*e*P		Pn	23 41 18.9	+0.3		
ZEI				pmax		pmax				
	comp=Z,31nm,0.6s									
NCK	Nalchik	17.25	336⇑	*e*P		Pn	23 41 27.8	+0.2		
NCK	Nalchik	17.25	336	*e*P		Pn	23 41 27.8	+0.2		
NEY	Neytrino	17.35	334⇑	*e*P		Pn	23 41 27.1	-2.0		
NEY				pmax		pmax				
	comp=Z,2.0nm,1.7s									
KBZ	Khabaz	17.70	335	P		P	23 41 34.4	+0.3		
	comp=Z,0.1nm,0.3s,baz=160,slow=10,SNR=5.3									
KVAR	Kislovodsk Arr	17.97	335	P		P	23 41 37.8	+0.6		
	baz=281,slow=7.7,SNR=4.7									
KIV	Kislovodsk	17.97	335⇓	*e*P		P	23 41 37.3	+0.1		
KIV				pmax		pmax				
	comp=Z,6.0nm,0.8s									
KIV				MLR		MLR				
	comp=Z,32nm,15.0s									
KIV	Kislovodsk	17.97	335	*e*P		P	23 41 37.3	+0.1		
	comp=Z,32nm,15.0s									
KIV	Kislovodsk	17.97	335	*e*Pn		P	23 41 39.8	+2.6		
	comp=Z,8.8nm,1.0s									
KIV	Kislovodsk	17.97	335	*e*Pn		P	23 41 39.8	+2.6		
	comp=Z,8.8nm,1.0s									
ATD	Arta Tunnel	18.89	212	LR		LR	23 49 53.3			
	comp=Z,47nm,18.8s,baz=332,slow=40									
BR131	Keskin Array S	19.83	311	*e*P		Pn	23 41 59.2	0.0		
BR131	Keskin Array S	19.83	311	*e*P		Pn	23 41 59.2	0.0		
BRTR	Keskin Array B	19.83	311	P		Pn	23 41 59.0	-0.2		
	comp=Z,0.2nm,0.3s,baz=122,slow=10,SNR=4.6									
KK31	Karatay Array	20.74	39	*ce*P		P	23 42 06.8	-0.6		
KK31				pmax		pmax				
	comp=Z,3.0nm,0.6s									
KK31	Karatay Array	20.74	39	*e*P		P	23 42 06.8	-0.6		
	comp=Z,3.0nm,0.6s									
KKAR	Karatay Array	20.74	39	*e*P		P	23 42 07.3	-0.1		
KKAR				pmax		pmax				
	comp=Z,4.0nm,0.6s									
KKAR	Karatay Array	20.74	39	*e*P		P	23 42 07.2	-0.1		
	comp=Z,4.2nm,0.6s									
KKAR	Karatay Array	20.74	39	*e*P		P	23 42 07.2	-0.1		
	comp=Z,4.2nm,0.6s									
AB31	Akbulak array	21.94	12	*ce*P		P	23 42 19.9	-0.3		
AB31				pmax		pmax				
	comp=Z,2.0nm,0.4s									
AB31	Akbulak array	21.94	12	*e*P		P	23 42 19.9	-0.3		
	comp=Z,2.0nm,0.4s									
ABKAR	Akbulak array	21.94	12	*e*P		P	23 42 20.2	0.0		
	comp=Z,3.5nm,0.6s									
ABKAR	Akbulak array	21.94	12	*e*P		P	23 42 20.2	0.0		
	comp=Z,3.5nm,0.6s									
KSH	Kashi	22.29	53	P		P	23 42 18.6	-5.6		
KSH				pP		pP	23 42 23.8	-4.4		
KSH				PP		PnPn	23 42 44.4	-2.4		
KSH				S		S	23 46 12.0	-17		
KSH				pmax		pmax				
	comp=Z,8.0nm,0.5s									
KSH				LR		LR				
	comp=Z,84nm,5.5s									
KSH				LR		LR				
	comp=Z,83nm,5.9s									
KSH				LR		LR				
	comp=Z,120nm,8.4s									
SIM	Simferopol'	22.65	323	*e*P		P	23 42 29.8	+2.0		
SIM				pmax		pmax				
	comp=Z,9.0nm,1.1s									
SIM	Simferopol'	22.65	323	*e*P		P	23 42 29.8	+2.0		
	comp=Z,9.0nm,1.1s									
AKTK	Aktyubinsk	22.78	8	P		P	23 42 29.3	+0.1		
	comp=Z,57nm,19.6s									
AKTO	Aktyubinsk	22.78	8	P		P	23 42 29.2	+0.1		
	comp=Z,3.0nm,0.6s,baz=192,slow=12,SNR=8.9									
AKTO				LR		LR	23 53 35.7			
	comp=Z,57nm,19.6s,baz=173,slow=42									
AAK	Ala-Archa	22.80	44	P		P	23 42 32.2	+2.6		
	comp=Z,1.7nm,0.6s,baz=224,slow=7.4,SNR=5.4									
AAK				LR		LR	23 52 45.9			
	comp=Z,82nm,20.1s,baz=236,slow=40									
AAK	Ala-Archa	22.80	44	*e*P		P	23 42 31.3	+1.7		
	comp=Z,3.7nm,0.8s									
AAK	Ala-Archa	22.80	44	*e*P		P	23 42 31.3	+1.7		
	comp=Z,3.7nm,0.8s									
SANT	Santorini	24.67	297	*e*P		P	23 42 47.3	-0.4		
	comp=Z,31nm,1.1s									
SANT	Santorini	24.67	297	*e*P		P	23 42 47.3	-0.4		
	comp=Z,31nm,1.1s									
IDI	Anoyia	24.93	294	P		P	23 42 50.2	+0.2		
	comp=Z,13nm,0.7s,baz=90,slow=11,SNR=12									
IDI	Anoyia	24.93	294	*e*P		P	23 42 52.3	+2.2		
	comp=Z,14nm,0.7s									
IDI	Anoyia	24.93	294	*e*P		P	23 42 52.3	+2.2		
	comp=Z,14nm,0.7s									
VSR	Storozhevoye	25.46	340	*e*P		P	23 42 53.6	-0.9		
VSR				pmax		pmax				
	comp=Z,20nm,1.1s									
VSR	Storozhevoye	25.46	340	*e*P		P	23 42 53.6	-0.9		
	comp=Z,20nm,1.1s									
HARR	Harsova	26.02	317⇓	*i*P		P	23 43 00.4	+0.6		
HARR	Harsova	26.02	317	⇓P		P	23 43 00.4	+0.6		
HARR	Harsova	26.02	317	P		P	23 43 00.4	+0.6		
CFR	Carcaliu	26.16	318	⇓*i*P		P	23 43 03.1	+2.1		
CFR	Carcaliu	26.16	318	⇓P		P	23 43 03.1	+2.1		
CFR	Carcaliu	26.16	318	P		P	23 43 03.1	+2.1		
LPSR	Galich'ya Gora	26.74	341	*e*P		P	23 43 05.6	-0.6		
LPSR				pmax		pmax				
	comp=Z,10.0nm,0.9s									
LPSR	Galich'ya Gora	26.74	341	*e*P		P	23 43 05.6	-0.6		
	comp=Z,10.0nm,0.9s									
TESR	Tescani	27.75	319⇓	*i*P		P	23 43 15.8	+0.4		
TESR	Tescani	27.75	319⇓	*i*P		P	23 43 15.8	+0.4		
BRVK	Borovoye	28.18	22	*ce*P		P	23 43 19.0	0.0		
BRVK				pmax		pmax				
	comp=Z,12nm,1.5s									
BRVK	Borovoye	28.18	22	*e*P		P	23 43 19.0	0.0		
	comp=Z,12nm,1.5s									
BVAR	Borovoye Array	28.18	23	P		P	23 43 19.3	+0.1		
	comp=Z,4.0nm,0.8s,baz=205,slow=6.6,SNR=9.9									
ARU	Arti	28.74	6	P		P	23 43 24.6	+0.7		
	comp=Z,0.7nm,0.4s,baz=332,slow=12,SNR=3.9									
ARU				LR		LR	23 56 30.7			
	comp=Z,62nm,19.1s,slow=40									
ARU	Arti	28.74	6	*c i*P		P	23 43 24.5	+0.5		
ARU							23 44 12.2			
ARU				S		S	23 48 16.2	+3.5		
ARU				SS		SnSn	23 49 33.4	-0.3		
ARU				pmax		pmax				
	comp=Z,6.0nm,1.7s									
KIEV	Kiev	28.97	328⇑	*e*P		P	23 43 26.2	+0.1		
KIEV				pmax		pmax				
	comp=Z,3.0nm,1.0s									
KIEV	Kiev	28.97	328	*e*P		P	23 43 26.2	+0.1		
	comp=Z,3.0nm,1.0s									
BURAR	Bucovina Array	29.17	320⇑	*i*P		P	23 43 28.1	0.0		
BURAR	Bucovina Array	29.17	320⇑	*i*P		P	23 43 28.1	0.0		
BUR08	Bucovina Ar. S	29.20	320	*e*P		P	23 43 27.8	-0.5		
BUR08	Bucovina Ar. S	29.20	320	*e*P		P	23 43 27.8	-0.5		
MAKZ	Makanchi	29.52	43	*e*P		P	23 43 31.2	+0.1		
MAKZ				pmax		pmax				
	comp=Z,6.0nm,0.9s									
MAKZ	Makanchi	29.52	43	*e*P		P	23 43 31.2	+0.1		
	comp=Z,6.0nm,0.9s									
MAKZ	Makanchi	29.52	43	*e*P		P	23 43 31.2	+0.1		
	comp=Z,5.6nm,0.9s									
OBN	Obninsk	29.62	341⇑	*i*P		P	23 43 31.5	-0.3		
OBN				pmax		pmax				
	comp=Z,17nm,1.4s									
OBN				MLR		MLR				
	comp=Z,30nm,15.0s									
OBN	Obninsk	29.62	341	*i* P		P	23 43 31.5	-0.3		
	comp=Z,30nm,15.0s									
MK01	Makanchi Array	29.69	43	*e*P		P	23 43 32.6	-0.1		
MK01	Makanchi Array	29.69	43	*e*P		P	23 43 32.6	-0.1		
MK31	Makanchi Array	29.70	43	*ce*P		P	23 43 32.6	-0.1		
MK31				pmax		pmax				
	comp=Z,2.0nm,0.5s									
MK31	Makanchi Array	29.70	43	*e*P		P	23 43 32.6	-0.1		
	comp=Z,2.0nm,0.5s									
MK31	Makanchi Array	29.70	43	*e*P		P	23 43 33.0	+0.3		
MKAR	Makanchi Array	29.70	43	*e*P		P	23 43 33.0	+0.3		
MKAR				pmax		pmax				
	comp=Z,16nm,0.7s									
MKAR	Makanchi Array	29.70	43	*e*P		P	23 43 33.0	+0.3		
	comp=Z,16nm,0.7s									
MKAR	Makanchi Array	29.70	43	*e*P		P	23 43 33.0	+0.3		
	comp=Z,16nm,0.7s									
KURBB	Kurchatov Arra	29.80	34	P		P	23 43 33.5	0.0		
	comp=Z,5.8nm,0.8s,baz=234,slow=9.0,SNR=34									
KURK	Kurchatov	29.91	34	*c i*P		P	23 43 34.8	+0.4		
KURK				pmax		pmax				
	comp=Z,21nm,1.0s									
KURK	Kurchatov	29.91	34	*i* P		P	23 43 34.8	+0.4		
	comp=Z,21nm,1.0s									
KURK	Kurchatov	29.91	34	*e*P		P	23 43 34.9	+0.5		
	comp=Z,6.4nm,1.0s									
DRGR		30.24	317⇓	*i*P		P	23 43 39.1	+1.6		
DRGR		30.24	317	⇓P		P	23 43 39.1	+1.6		
DRGR		30.24	317	P		P	23 43 39.1	+1.6		
WMQ	Urumqi	32.02	51	P		P	23 43 55.6	+2.4		
WMQ				pmax		pmax				
	comp=Z,8.0nm,0.9s									
WMQ				pmax		pmax				
	comp=Z,130nm,4.9s									
WMQ				LR		LR				
	comp=Z,110nm,21.3s									
WMQ				LR		LR				
	comp=Z,46nm,23.1s									
CUC	Castrocucco	32.82	301	*e*P		P	23 44 00.4	+0.1		
	comp=Z,3.2nm,0.7s									
CUC	Castrocucco	32.82	301	*e*P		P	23 44 00.4	+0.1		
	comp=Z,3.2nm,0.7s									
KLMR	Klimovskoe	34.12	348	*e*P		P	23 44 09.3	-2.0		
KLMR				*e*			23 45 23.7			
KLMR				pmax		pmax				
	comp=Z,10.0nm,1.2s									
KLMR	Klimovskoe	34.12	348	*e*P		P	23 44 09.3	-2.0		
	comp=Z,10.0nm,1.2s									
ZALV	Zalesovo Beam	34.89	33	P		P	23 44 17.9	-0.2		
	comp=Z,13nm,0.8s,baz=226,slow=10,SNR=16									
ZALV				LR		LR	23 59 58.6			
	comp=Z,43nm,18.8s,baz=250,slow=39									
GERES	GERESS Array B	36.62	316	P		P	23 44 34.1	+1.0		
	comp=Z,0.2nm,0.5s,baz=108,slow=8.6,SNR=3.5									
KHC	Kasperske Hory	36.79	316	*e*P		P	23 44 34.9	+0.4		
KHC	Kasperske Hory	36.79	316	*e*P		P	23 44 34.3	-0.2		
KHC				pmax		pmax				
	comp=Z,1.0nm,1.0s									
KHC	Kasperske Hory	36.79	316	*e*P		P	23 44 34.3	-0.2		
	comp=Z,1.0nm,1.0s									
KHC	Kasperske Hory	36.79	316	*e*P		P	23 44 34.3	-0.2		
	comp=Z,1.2nm,1.0s									
CLL	Collm	37.93	319	*e*P		P	23 44 43.0	-1.1		
CLL	Collm	37.93	319	*e*P		P	23 44 43.0	-1.1		
CLL	Collm	37.93	319	*e*P		P	23 44 43.0	-1.1		
FIA1	FINESS Array S	37.99	339	*e*P		P	23 44 44.0	-0.4		
FIA1	FINESS Array S	37.99	339	*e*P		P	23 44 44.0	-0.4		
FINES	FINESS Array B	37.99	339	P		P	23 44 43.9	-0.5		
	comp=Z,2.1nm,0.5s,baz=143,slow=9.3,SNR=32									
GTA	Gaotai	40.23	61	*e*P		P	23 45 04.3	+0.6		
GTA				pP		sP	23 45 10.3	+0.6		
GTA				sP		pP	23 45 13.5	+5.5		
GTA				pmax		pmax				
	comp=Z,7.0nm,1.0s									
BNI	Bardonecchia	40.32	308	*e*P		P	23 45 04.9	+0.6		
BNI				pmax		pmax				
	comp=Z,16nm,1.5s									
BNI	Bardonecchia	40.32	308	*e*P		P	23 45 04.9	+0.6		
	comp=Z,16nm,1.5s									
BNI	Bardonecchia	40.32	308	*e*P		P	23 45 04.9	+0.6		
	comp=Z,16nm,1.5s									
TAM	Tamanrasset	42.95	274	*e*P		P	23 45 27.6	+1.5		
TAM				pmax		pmax				
	comp=Z,4.0nm,1.1s									
TAM	Tamanrasset	42.95	274	*e*P		P	23 45 27.6	+1.5		
	comp=Z,4.0nm,1.1s									
TAM	Tamanrasset	42.95	274	*e*P		P	23 45 27.6	+1.5		
	comp=Z,4.1nm,1.1s									
CHTO	Chiang Mai	42.98	92	*e*P		P	23 45 26.0	-0.2		
CHTO				pmax		pmax				
	comp=Z,5.0nm,0.8s									
CHTO	Chiang Mai	42.98	92	*e*P		P	23 45 26.0	-0.2		
	comp=Z,5.0nm,0.8s									
CHTO	Chiang Mai	42.98	92	*e*P		P	23 45 26.0	-0.2		
	comp=Z,5.0nm,0.8s									
NC405	NORSAR Array S	43.05	332	*e*P		P	23 45 25.1	-1.2		
NC405	NORSAR Array S	43.05	332	*e*P		P	23 45 25.1	-1.2		
CMAR	Chiang Mai Arr	43.11	92	P		P	23 45 26.3	-1.0		
	comp=Z,1.6nm,0.4s,baz=283,slow=9.9,SNR=7.5									
NB201	NORSAR Array S	43.20	332	*e*P		P	23 45 25.9	-1.6		
NB201	NORSAR Array S	43.20	332	*e*P		P	23 45 25.9	-1.6		
NB2	NORSAR Subarra	43.22	332	P		P	23 45 26.4	-1.3		
	comp=Z,0.6nm,0.5s,baz=123,slow=9.3									
NOA	NORSAR Array B	43.22	332	P		P	23 45 26.3	-1.4		
	comp=Z,1.5nm,0.8s,baz=131,slow=7.6,SNR=4.2									
NOA				LR		LR	00 06 53.6			
	comp=Z,10.0nm,19.5s,baz=65,slow=41									
ARCES	ARCESS Array B	44.55	347	P		P	23 45 37.9	-0.3		
	comp=Z,0.9nm,0.5s,baz=148,slow=8.6,SNR=1.4									
SONM	Songino Array	45.61	49	P		P	23 45 47.0	-0.1		
	comp=Z,2.3nm,1.1s,baz=264,slow=9.8,SNR=6.9									
NRIK	Noril'sk	46.02	16	P		P	23 45 49.9	+0.1		
	comp=Z,2.5nm,0.6s,baz=180,slow=14,SNR=3.8									
ULN	Ulaanbaatar	46.05	49⇑	*e*P		P	23 45 51.5	+0.9		
ULN				pmax		pmax				
	comp=Z,2.0nm,1.0s									
ULN	Ulaanbaatar	46.05	49	*e*P		P	23 45 51.5	+0.9		
	comp=Z,2.0nm,1.0s									
XAN	Xi'an	47.87	68	P		P	23 46 04.1	-0.8		
XAN				pmax		pmax				
	comp=Z,7.0nm,1.0s									
ESDC	Sonseca Array	47.99	300	P		P	23 46 05.5	-0.3		
	comp=Z,0.2nm,0.4s,baz=73,slow=7.7,SNR=4.3									
HHC	Hu-ho-hao-te	49.21	59	*e*P		P	23 46 15.8	+0.6		
HHC				pmax		pmax				
	comp=Z,23nm,0.9s									
HHC				pmax		pmax				
	comp=Z,65nm,7.4s									
TOA0	Torodi Ar. Sit	49.85	264	*e*P		P	23 46 20.3	0.0		
TOA0	Torodi Ar. Sit	49.85	264	*e*P		P	23 46 20.3	0.0		
TORD	Torodi Ar. Bea	49.85	264	P		P	23 46 20.1	-0.2		
	comp=Z,1.6nm,0.6s,baz=59,slow=8.0,SNR=13									
BOD	Bodaibo	51.46	37	*e*P		P	23 46 31.4	-0.4		
BOD				pmax		pmax				
	comp=Z,8.0nm,1.2s									
BOD	Bodaibo	51.46	37	*e*P		P	23 46 31.4	-0.4		
	comp=Z,8.0nm,1.2s									
NJ2	Nanjing	56.43	68	*e*P		P	23 47 08.3	-0.3		
NJ2				pmax		pmax				
	comp=Z,11nm,0.6s									
DBIC	Dimbokro	58.53	260	P		P	23 47 23.3	-0.3		
	comp=Z,4.7nm,0.9s,baz=70,slow=23,SNR=3.1									
LBTB	Lobatse	58.88	209	*e*P		P	23 47 27.5	+1.6		
LBTB				pmax		pmax				
	comp=Z,8.0nm,0.6s									
LBTB	Lobatse	58.88	209	*e*P		P	23 47 27.5	+1.6		
	comp=Z,8.0nm,0.6s									
LBTB	Lobatse	58.88	209	*e*P		P	23 47 27.5	+1.6		
	comp=Z,7.7nm,0.6s									
BOSA	Boshof	62.19	208	P		P	23 47 49.0	+0.6		
	comp=Z,2.0nm,0.6s,baz=29,slow=4.8,SNR=6.0									
BOSA	Boshof	62.19	208	P		P	23 47 49.0	+0.6		
BOSA				pmax		pmax				
	comp=Z,2.0nm,0.6s									
BOSA	Boshof	62.19	208	P		P	23 47 49.0	+0.6		
	comp=Z,2.0nm,0.6s									
KSAR	Wonju Array Be	62.27	60	P		P	23 47 48.1	-0.8		
KSAR	Wonju Array Be	62.27	60	P		P	23 47 48.1	-0.8		
KSAR	Wonju Array Be	62.27	60	P		P	23 47 48.0	-0.8		
KSRS	Korea Array	62.30	60	P		P	23 47 48.0	-1.0		
	comp=Z,2.2nm,0.8s,baz=272,slow=7.2,SNR=4.1									
KSRS				LR		LR	00 17 52.7			
	comp=Z,19nm,19.4s,baz=215,slow=39									
ILAR	Eielson Array	86.29	8	P		P	23 50 06.9	-1.4		
	comp=Z,0.3nm,0.6s,baz=334,slow=6.0,SNR=3.2									
WRA	Warramunga Arr	91.92	111	P		P	23 50 34.3	-1.4		
	comp=Z,0.3nm,0.7s,baz=312,slow=4.4,SNR=2.4									
ASAR	Alice Springs	93.36	115	P		P	23 50 40.9	-1.4		
	comp=Z,0.6nm,0.7s,baz=291,slow=5.0,SNR=6.3									

MAN 17 23:52:17,9.59N×122.21E,h26km,mb4.7,ML3.6,MS3.5, Negros

IDC 17 23:57:40.2±72.0,19.21S×179.47E,h0km,mb3.9/3, mb1 4.1/3,mb1mx3.7/20,mbtmp3.9/3,Error ellipse: s-maj=1289.0km s-min=166.3km az=80.0,South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
STKA	Stephens Creek	36.24	242	P		P	00 04 45.1	-0.1
	0.7nm,0.5s,baz=78,slow=9.3,SNR=2.0							
WRA	Warramunga Arr	42.43	261	P		P	00 05 37.4	+0.3
	0.8nm,0.3s,baz=95,slow=7.7,SNR=15							
ASAR	Alice Springs	42.51	256	P		P	00 05 37.2	-0.5
	1.5nm,0.7s,baz=91,slow=7.7,SNR=16							

*SJA **18** 00:16:36.8±1.2,33.77S×72.94W,h1km±14km

s-min=4.5km az=18.6
*NEIC **18** 00:32:41.9±1.3,24.85N×122.68E,h17km±9km,mb4.7/9, Error ellipse: s-maj=8.1km s-min=6.3km az=141.0*
*MOS **18** 00:32:41.8±1.2,24.80N×122.66E,h33km,mb4.6/12, MS4.5/9, Error ellipse: s-maj=14.6km s-min=7.8km az=106.4*

ISC 18 00:32:43.9±0.6, 24.77N±0.04×122.81E±0.03, h32km±4km, n108, σ2.22/95, mb4.4/32, MS4.4/46, 3C-5D, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JYNG	**Yonagunijimaku**	**0.34**	**158**	P	**Pb**	**00 32 50.5**	**-1.5**
JYNG				*eS*	**Sb**	**00 32 57.2**	**-0.3**
YOJ	**Yonaguni jima**	**0.35**	**148**	P	**Pb**	**00 32 50.8**	**-1.4**
YOJ				S	**Sb**	**00 32 57.5**	**-0.4**
YOJ	**Yonaguni jima**	**0.35**	**148**	P	**Pb**	**00 32 50.9**	**-1.3**
YOJ	**Yonaguni jima**	**0.35**	**148**	P	**Pb**	**00 32 50.9**	**-1.3**
IRIF	**Iriomote-Funau**	**0.94**	**117**	P	**Pn**	**00 32 59.6**	**-1.3**
HATJ	**Hateruma jima**	**1.15**	**127**	P	**Pn**	**00 33 03.3**	**-0.5**
HATJ				S	**Sn**	**00 33 18.7**	**+0.3**
TATO	**Taipei**	**1.21**	**280**	*e*Pn	**Pn**	**00 33 02.0**	**-2.6**
JKRS	**Kuro-shima**	**1.22**	**115**	P	**Pn**	**00 33 03.7**	**-0.9**
JKRS				*eS*	**Sn**	**00 33 19.5**	**-0.5**
NACB	**Ninganchiao**	**1.25**	**242**	*e*Pn	**Pn**	**00 33 04.4**	**-0.7**
JIJ	**Ishigaki jima**	**1.28**	**108**	P	**Pn**	**00 33 03.8**	**-1.8**
JIJ				*eS*	**Sn**	**00 33 20.6**	**-1.0**
YHNB	**Yeheng**	**1.30**	**266**	*e*Pn	**Pn**	**00 33 03.9**	**-2.0**
JISG	**Ishigakijimahi**	**1.38**	**97**	P	**Pn**	**00 33 05.3**	**-1.6**
JTJ	**Tarama**	**1.73**	**94**	P	**Pn**	**00 33 11.6**	**-0.1**
YULB	**Yu-li**	**1.94**	**226**	*e*Pn	**Pn**	**00 33 13.6**	**-1.0**
SSLB	**Suanglung**	**1.95**	**240**	*e*Pn	**Pn**	**00 33 14.5**	**-0.3**
JIRB	**Irabujima**	**2.15**	**88**	P	**Pn**	**00 33 17.4**	**-0.1**
TWG	**Pinlang**	**2.50**	**220**	*e*Pn	**Pn**	**00 33 21.2**	**-1.1**
QZH	**Quanzhou**	**3.83**	**274**	Pn	**Pb**	**00 33 48.9**	**-1.9**
QZH				Sn	**Sb**	**00 34 39.4**	**+2.7**
QZH				*s*max	*s*max		
	comp=N,530nm,1.1s						
QZH				*s*max	*s*max		
	comp=E,280nm,0.9s						
QZH				LR	LR		
	comp=N,12μm,11.7s						
QZH				LR	LR		
	comp=E,9μm,10.1s						
QZH				LR	LR		
	comp=Z,10μm,9.9s						
JOW	**Kunigami**	**5.34**	**66**	Pn	**Pn**	**00 34 03.6**	**+2.2**
	comp=Z,1.3nm,0.3s,baz=264,slow=12,SNR=4.4						
TGY	**Tagaytay City**	**10.75**	**190**	LR	LR	00 39 24.3	
	comp=Z,1μm,21.9s,baz=14,slow=38						
KSAR	**Wonju Array Be**	**13.36**	**18**	P	**P**	**00 35 57.5**	**-2.9**
KSAR	**Wonju Array Be**	**13.36**	**18**	Pn	**P**	**00 35 57.5**	**-2.9**
KSRS	**Korea Array**	**13.38**	**18**	Pn	**P**	**00 35 57.5**	**-3.1**
	baz=199,slow=14,SNR=3.6						
KSRS				LR	LR	00 41 46.9	
	comp=Z,1μm,18.4s,baz=195,slow=41						
KSRS	**Korea Array**	**13.38**	**18**	*e*P	**P**	**00 36 03.1**	**+2.5**
KSRS				*p*max	*p*max		
	comp=Z,1.0nm,0.3s						
XAN	**Xi'an**	**15.21**	**311**	P	P	00 36 30.6	+10
XAN				S	**S**	**00 39 16.4**	**-3.6**
XAN				*p*max	*p*max		
	comp=Z,11nm,1.1s						
XAN				LR	LR		
	comp=N,4μm,13.9s						
XAN				LR	LR		
	comp=E,2μm,15.1s						
XAN				LR	LR		
	comp=Z,4μm,11.9s						
BJI	**Beijing**	**16.22**	**341**	P	**P**	**00 36 37.6**	**+5.5**
BJI				S	**S**	**00 39 39.9**	**-0.5**
BJI				*p*max	*p*max		
	comp=Z,9.0nm,0.7s						
BJI				*p*max	*p*max		
	comp=Z,250nm,4.0s						
BJI				LR	LR		
	comp=N,2μm,12.6s						
BJI				LR	LR		
	comp=E,1μm,15.7s						
BJI				LR	LR		
	comp=Z,920nm,22.1s						
JHJ	**Hachijo jima 2**	**17.02**	**57**	LR	LR	00 42 38.9	
	comp=Z,209nm,19.4s,baz=253,slow=35						
MJAR	**Matsushiro Arr**	**17.68**	**45**	P	**Pn**	**00 36 47.9**	**+0.2**
	comp=Z,0.2nm,0.3s,baz=203,slow=8.6,SNR=4.3						
MJAR				LR	LR	00 44 57.5	
	comp=Z,297nm,18.8s,baz=245,slow=42						
MJA0	**Matsu Arr-Jizo**	**17.70**	**45**	*e*P	**P**	**00 36 50.7**	**+2.1**
KMI	**Kunming**	**18.20**	**275**	P	**P**	**00 36 56.4**	**+2.0**
KMI				S	**S**	**00 40 25.9**	**+4.5**
KMI				*p*max	*p*max		
	comp=Z,21nm,0.5s						
KMI				*p*max	*p*max		
	comp=Z,120nm,3.8s						
KMI				LR	LR		
	comp=N,930nm,9.7s						
KMI				LR	LR		
	comp=E,2μm,10.4s						
KMI				LR	LR		
	comp=Z,2μm,11.2s						
MSHR	**Mys Shultsa**	**19.06**	**19**	*c* iP	**Pn**	**00 37 04.6**	**+0.2**
LZH	**Lanzhou**	**19.83**	**309**	*e*P	**P**	**00 37 12.4**	**+0.3**
LZH				pP	Pn	00 37 16.5	+2.7
LZH				sP	pP	00 37 19.5	-1.1
LZH				PP	**PnPn**	**00 37 32.0**	**+3.9**
LZH				*e*S	**S**	**00 40 54.5**	**+0.6**
LZH				sS	Sn	00 41 01.0	+5.1
LZH				SS	**SnSn**	**00 41 22.0**	**+12**
LZH				*p*max	*p*max		
	comp=Z,35nm,1.0s						
LZH				*p*max	*p*max		
	comp=Z,360nm,6.2s						
LZH				LR	LR		
	comp=N,3μm,13.0s						
LZH				LR	LR		
	comp=E,2μm,14.0s						
LZH				LR	LR		
	comp=Z,3μm,15.8s						
USRK	**Ussuriysk Ar.**	**20.79**	**19**	P	Pn	00 37 23.9	-0.8
	comp=Z,9.5nm,0.9s,baz=209,slow=9.2,SNR=13						
USRK				LR	LR	00 46 07.2	
	comp=Z,434nm,18.6s,baz=183,slow=39						
CMAR	**Chiang Mai Arr**	**23.04**	**259**	P	**P**	**00 37 47.9**	**+1.4**
	comp=Z,0.4nm,0.2s,baz=60,slow=8.5,SNR=5.3						
CMAR				LR	LR	00 47 37.6	
	comp=Z,671nm,20.1s,baz=73,slow=39						
GUMO	**Guam**	**23.58**	**114**	LR	LR	00 47 30.2	
	comp=Z,183nm,19.3s,baz=285,slow=37						
GTOI	**Gorontalo**	**23.99**	**179**	P	**P**	**00 37 56.1**	**+0.4**
	comp=Z,42nm,1.4s,comp=Z,4μm						
MRSI	**Marisa**	**24.16**	**182**	P	**P**	**00 38 02.5**	**+5.2**
GTA	**Gaotai**	**24.25**	**313**	*e*P	**P**	**00 37 58.3**	**+0.1**
GTA				pP	pP	00 38 02.6	-4.8
GTA				sP	sP	00 38 05.3	-6.0
GTA				S	S	00 42 26.8	+12
GTA				sS	sS	00 42 34.4	+4.4
GTA				SS	SnSn	00 43 32.8	+34
GTA				*p*max	*p*max		
	comp=Z,16nm,1.4s						
GTA				*p*max	*p*max		
	comp=Z,140nm,6.2s						
GTA				LR	LR		
	comp=N,2μm,15.2s						
GTA				LR	LR		
	comp=E,1μm,16.6s						
GTA				LR	LR		
	comp=Z,1μm,14.7s						
KLR	**Kul'dur**	**25.41**	**14**	*d* iP	**P**	**00 38 08.0**	**-0.3**
HABR	**Khabarovsk**	**25.56**	**19**	*e*P	**P**	**00 38 08.4**	**-1.3**
HABR				*e**SP	**sP**	**00 38 22.2**	**-0.6**
HABR				*e*		00 38 45.2	
HABR				*e*PPP	PPP	00 38 53.6	
HABR				*e*		00 41 38.5	
HABR				*e*S	**S**	**00 42 35.1**	**-0.2**
HABR				*e**SS	**sS**	**00 42 51.4**	**+0.9**
HABR				*e*SS	**SnSn**	**00 43 31.8**	**+1.6**
HABR				*e*SSS	SSS	00 43 46.0	
HABR				*p*max	*p*max		
	comp=Z,8.0nm,0.8s						
HABR				*p*max	*p*max		
	comp=E,12nm,0.9s						
HABR				*p*max	*p*max		
	comp=N,6.0nm,0.8s						
HABR				MLR	MLR		
	comp=Z,983nm,14.0s						
ULN	**Ulaanbaatar**	**26.21**	**336**	*c* iP	**P**	**00 38 16.0**	**+0.1**
ULN				*p*max	*p*max		
	comp=Z,8.0nm,1.2s						
ULN				MLR	MLR		
	comp=Z,1μm,15.0s						
ULN	**Ulaanbaatar**	**26.21**	**336**	*e*P	**P**	**00 38 15.6**	**-0.3**
	comp=Z,16nm,1.4s						
SONM	**Songino Array**	**26.44**	**335**	P	**P**	**00 38 17.3**	**-0.6**
	comp=Z,1.6nm,0.5s,baz=155,slow=7.9,SNR=20						
SONM				LR	LR	00 50 04.0	
	comp=Z,903nm,19.9s,baz=147,slow=40						
YSS	**Yuzh-Sakhalins**	**27.27**	**31**	*e*P	**P**	**00 38 29.7**	**+4.5**
YSS				*e*		00 39 12.0	
YSS				*e*S	**S**	**00 43 02.0**	**-0.3**
YSS				MLR	MLR		
	comp=Z,400nm,10.0s						
YSS				MLR	MLR		
	comp=N,500nm,11.0s						
YSS				MLR	MLR		
	comp=E,300nm,11.0s						
ZAK	**Zakamensk**	**29.71**	**334**	*e*P	**P**	**00 38 45.2**	**-1.8**
ZAK				*p*max	*p*max		
	comp=Z,4.0nm,1.3s						
TLY	**Talaya**	**30.61**	**336**	*e*P	**P**	**00 38 54.6**	**-0.3**
TLY				*p*max	*p*max		
	comp=Z,9.0nm,1.7s						
TLY	**Talaya**	**30.61**	**336**	*e*P	**P**	**00 38 54.3**	**-0.6**
	comp=Z,4.5nm,0.8s						
PWJI	**Pangkwojo**	**34.31**	**200**	P	**P**	**00 39 29.1**	**+1.6**
PETK	**Petropavlovsk-**	**38.56**	**34**	LR	LR	00 56 16.1	
	comp=Z,226nm,19.0s,baz=230,slow=37						
PDGK	**Podgornoye**	**39.87**	**309**	P	**P**		
PDGK				*p*max	*p*max		
	comp=Z,13nm,1.1s						
ZALV	**Zalesovo Beam**	**40.58**	**326**	P	**P**	**00 40 19.0**	**-1.2**
	comp=Z,3.5nm,0.8s,baz=116,slow=9.6,SNR=9.6						
ZALV				LR	LR	00 57 56.4	
	comp=Z,433nm,21.1s,baz=70,slow=38						
PMG	**Port Moresby**	**41.45**	**142**	LR	LR	00 57 21.0	
	comp=Z,135nm,19.9s,baz=246,slow=36						
KSH	**Kashi**	**41.83**	**302**	*e*P	**P**	**00 40 33.9**	**+2.9**
KSH				pP	sP	00 40 46.6	+2.3
KSH				*p*max	*p*max		
	comp=Z,17nm,1.8s						
KSH				*p*max	*p*max		
	comp=Z,48nm,5.2s						
KURK	**Kurchatov**	**42.61**	**319**	*d* iP	**P**	**00 40 35.7**	**-1.3**
KURK				*p*max	*p*max		
	comp=Z,91nm,2.5s						
KURK				MLR	MLR		
	comp=Z,1μm,15.0s						
KURK	**Kurchatov**	**42.61**	**319**	*e*P	**P**	**00 40 35.6**	**-1.3**
	comp=Z,157nm,1.6s						
KURBB	**Kurchatov Arra**	**42.63**	**319**	P	**P**	**00 40 36.5**	**-0.7**
	comp=Z,2.5nm,0.9s,baz=111,slow=7.9,SNR=18						
FITZ	**Fitzroy Crossi**	**42.70**	**176**	*e*P	**P**	**00 40 38.5**	**+0.6**
	comp=Z,15nm,1.2s						
AAK	**Ala Archa**	**43.34**	**307**	LR	LR	00 58 56.7	
	comp=Z,773nm,21.8s,baz=90,slow=37						
MNAS	**Manas**	**44.78**	**306**	P	**P**	**00 40 54.7**	**0.0**
MNAS				*p*max	*p*max		
	comp=Z,5.0nm,1.1s						
WRAB	**Tennant Creek**	**45.83**	**165**	*d* iP	**P**	**00 41 04.1**	**+1.1**
WRAB				*p*max	*p*max		
	comp=Z,33nm,1.0s						
WRAB				MLR	MLR		
	comp=Z,151nm,13.0s						
WRAB	**Tennant Creek**	**45.83**	**165**	*e*P	**P**	**00 41 03.6**	**+0.6**
	comp=Z,24nm,1.1s						
WRA	**Warramunga Arr**	**45.83**	**165**	P	**P**	**00 41 04.0**	**+1.0**
	comp=Z,10nm,0.9s,baz=348,slow=8.5,SNR=34						
TIXI	**Tiksi**	**47.04**	**3**	LR	LR	01 03 07.6	
	comp=Z,846nm,18.9s,baz=184,slow=39						
TIXI	**Tiksi**	**47.04**	**3**	*c* iP	**P**	**00 41 11.1**	**-0.8**
TIXI				*p*max	*p*max		
	comp=Z,25nm,1.1s						
TIXI				MLR	MLR		
	comp=Z,825nm,16.0s						
TIXI	**Tiksi**	**47.04**	**3**	*e*P	**P**	**00 41 10.9**	**-1.0**
	comp=Z,13nm,0.8s						
KBL	**Kabul**	**47.25**	**295**	P	**P**	**00 41 14.3**	**-0.1**
KBL				*p*max	*p*max		
	comp=Z,8.0nm,1.9s						
BVAR	**Borovoye Array**	**48.17**	**320**	LR	LR	01 02 15.3	
	comp=Z,365nm,18.1s,baz=77,slow=37						
BRVK	**Borovoye**	**48.24**	**320**	*e*P	**P**	**00 41 20.6**	**-0.9**
BRVK				*p*max	*p*max		
	comp=Z,24nm,1.7s						
BRVK				MLR	MLR		
	comp=Z,747nm,15.0s						
BRVK	**Borovoye**	**48.24**	**320**	*e*P	**P**	**00 41 20.6**	**-0.9**
	comp=Z,12nm,0.9s						
NRIK	**Noril'sk**	**49.24**	**344**	P	**P**	**00 41 27.9**	**-1.0**
	comp=Z,3.5nm,0.9s,baz=113,slow=6.9,SNR=7.3						
NRIK				LR	LR	01 03 55.7	
	comp=Z,508nm,18.4s,baz=138,slow=38						
ASAR	**Alice Springs**	**49.33**	**167**	P	**P**	**00 41 31.9**	**+1.7**
	comp=Z,1.3nm,0.8s,baz=356,slow=7.0,SNR=9.7						
ASAR				LR	LR	01 02 41.8	
	comp=Z,102nm,20.9s,baz=328,slow=36						
ASAR	**Alice Springs**	**49.33**	**167**	*e*P	**P**	**00 41 32.0**	**+1.7**
ASAR				*p*max	*p*max		
	comp=Z,1.0nm,0.9s						
CTA	**Charters Tower**	**50.08**	**151**	LR	LR	01 02 55.1	
	comp=Z,131nm,20.8s,baz=332,slow=36						
ABKAR	**Akbulak array**	**54.10**	**314**	*e*P	**P**	**00 42 05.0**	**-0.5**
	comp=Z,2.9nm,0.6s						
SVE	**Sverdlovsk**	**54.46**	**323**	*e*P	**P**	**00 42 06.5**	**-1.5**
AKTO	**Aktyubinsk**	**55.40**	**315**	LR	LR	01 05 59.4	
	comp=Z,307nm,18.1s,baz=97,slow=36						
ARU	**Arti**	**55.54**	**323**	LR	LR	01 07 43.2	
	comp=Z,187nm,19.0s,baz=96,slow=38						
ARU	**Arti**	**55.54**	**323**	*d* iP	**P**	**00 42 13.8**	**-2.1**
ARU						00 44 14.5	
ARU				S	**S**	**00 49 57.1**	**-1.9**
ARU				SS	**SS**	**00 53 40.8**	**-3.1**
ARU				*p*max	*p*max		
	comp=Z,9.0nm,1.7s						
ARU				MLR	MLR		
	comp=Z,283nm,16.0s						
ARU	**Arti**	**55.54**	**323**	*e*P	**P**	**00 42 14.4**	**-1.5**
	comp=Z,4.4nm,0.9s						
GEYT	**Alibeck**	**55.78**	**300**	P	**P**	**00 42 18.3**	**+0.3**
	comp=Z,1.6nm,0.7s,baz=44,slow=4.9,SNR=5.1						
GEYT				LR	LR	01 09 39.9	
	comp=Z,276nm,18.0s,baz=105,slow=40						
STKA	**Stephens Creek**	**59.12**	**161**	LR	LR	01 10 03.4	
	comp=Z,131nm,19.1s,baz=22,slow=38						
KLMR	**Klimovskoe**	**65.46**	**328**	*e*P	**P**	**00 43 20.5**	**-3.0**
KLMR				*p*max	*p*max		
	comp=Z,12nm,1.5s						
GNI	**Garni**	**65.69**	**305**	LR	LR	01 14 05.9	
	comp=Z,124nm,19.5s,baz=76,slow=38						
KBZ	**Khabaz**	**66.27**	**309**	LR	LR	01 14 35.5	
	comp=Z,185nm,18.2s,baz=64,slow=38						
KVAR	**Kislovodsk Arr**	**66.36**	**309**	LR	LR	01 13 30.0	
	comp=Z,184nm,18.3s,slow=37						
KIV	**Kislovodsk**	**66.37**	**309**	*e*P	**P**	**00 43 27.7**	**-2.1**
KIV				*p*max	*p*max		
	comp=Z,4.0nm,1.0s						
KIV				MLR	MLR		
	comp=Z,254nm,17.0s						
ILAR	**Eielson Array**	**68.02**	**28**	LR	LR	01 15 24.0	
	comp=Z,87nm,19.2s,baz=290,slow=38						
ARCES	**ARCESS Array B**	**69.55**	**338**	LR	LR	01 17 26.7	
	comp=Z,172nm,21.4s,baz=71,slow=39						
OUL	**Oulu**	**70.67**	**334**	P	**P**	**00 43 53.5**	**-2.6**
OUL				*p*max	*p*max		
	comp=Z,11nm,2.0s						
FINES	**FINESS Array B**	**71.69**	**330**	P	**P**	**00 44 01.2**	**-1.1**
	comp=Z,3.8nm,0.8s,baz=63,slow=8.1,SNR=13						
FINES				LR	LR	01 18 56.7	
	comp=Z,516nm,18.3s,baz=74,slow=39						
AKASG	**Malin Array Be**	**73.42**	**319**	LR	LR	01 18 02.0	
	comp=Z,187nm,18.2s,baz=55,slow=37						
BRTR	**Keskin Array B**	**74.02**	**307**	LR	LR	01 21 58.3	
	comp=Z,70nm,18.6s,baz=48,slow=40						
NB2	**NORSAR Subarra**	**78.40**	**332**	P	**P**	**00 44 38.7**	**-2.4**
	comp=Z,1.2nm,0.8s,baz=54,slow=5.6						
NOA	**NORSAR Array B**	**78.40**	**332**	P	**P**	**00 44 39.6**	**-1.5**
	comp=Z,2.0nm,0.8s,baz=56,slow=5.6,SNR=6.5						
NOA				LR	LR	01 22 46.5	
	comp=Z,342nm,18.1s,baz=75,slow=38						
OKC	**Ostrava-Krasne**	**80.30**	**321**	AMS	AMS	01 24 50.0	
	comp=Z,300nm,15.6s						
VYHS	**Vyhne**	**80.50**	**319**	*e*P	P	00 45 05.5	+13
DPC	**Dobruska-Polom**	**81.11**	**322**	AMS	AMS	01 20 50.0	
	comp=Z,300nm,14.6s						
YKA	**Yellowknife Ar**	**81.86**	**23**	P	**P**	**00 44 59.9**	**+0.2**
	comp=Z,1.7nm,0.7s,baz=307,slow=5.3,SNR=6.6						
YKA				LR	LR	01 24 17.0	
	comp=Z,7.3nm,18.6s,baz=0.0,slow=38						
YKA	**Yellowknife Ar**	**81.86**	**23**	*e*P	**P**	**00 44 59.5**	**-0.2**
YKA				*p*max	*p*max		
	comp=Z,2.0nm,0.7s						
PVCC	**Panska Ves**	**82.00**	**322**	AMS	AMS	01 25 40.0	
	comp=Z,300nm,15.6s						
TREC	**Trest**	**82.08**	**321**	AMS	AMS	01 20 30.0	
	comp=Z,200nm,15.1s						
GOPC	**GO Pecny, Ondr**	**82.18**	**322**	AMS	AMS	01 21 30.0	
	comp=Z,300nm,14.7s						
PRU	**Pruhonice**	**82.28**	**322**	AMS	AMS	01 25 20.0	
	comp=Z,300nm,14.5s						
PRA	**Prague**	**82.30**	**322**	AMS	AMS	01 24 30.0	
	comp=Z,400nm,15.4s						
KHC	**Kasperske Hory**	**83.25**	**321**	AMS	AMS	01 24 30.0	
	comp=Z,300nm,15.9s						
GERES	**GERESS Array B**	**83.33**	**321**	P	**P**	**00 45 05.5**	**-2.2**
	comp=Z,0.4nm,0.8s,baz=285,slow=4.6,SNR=3.3						
GERES				LR	LR	01 26 08.6	
	comp=Z,182nm,18.0s,baz=57,slow=39						
PPT	**Papeete**	**95.10**	**107**	LR	LR	01 21 26.0	
	comp=Z,23nm,20.8s,baz=184,slow=31						
ULM	**Lac du Bonnet**	**97.83**	**24**	LR	LR	01 35 06.2	
	comp=Z,79nm,18.4s,baz=12,slow=38						

*CSEM **18** 00:38:05.1,39.57N×29.83W,h10km,ML2.4*
PDA 18 00:38:05.1±0.9, 39.57N×29.83W, h10km, MD3.5, ML2.4, Error ellipse: s-maj=25.0km s-min=8.3km az=50.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PCED	**Cedros**	**1.29**	**137**	*e*S	Sb	00 38 38.4	-7.5
PCED				A	A	00 38 41.0	
	18nm,0.3s						
PCED	**Cedros**	**1.29**	**137**	*e*S	Sb	00 38 38.4	-7.5
CALA	**Caldeira**	**1.32**	**138**	*e*P	Pn	00 38 24.9	-4.8
CALA				*e*S	Sb	00 38 40.2	-6.8
CALA	**Caldeira**	**1.32**	**138**	*e*P	Pn	00 38 24.9	-4.8
CALA				*e*S	Sb	00 38 40.2	-6.8
ROSA	**Rosais**	**1.50**	**124**	*e*S	Sn	00 38 44.0	-7.7
ROSA				A	A	00 38 44.8	
	6.3nm,0.1s						
ROSA	**Rosais**	**1.50**	**124**	*e*S	Sn	00 38 44.0	-7.7
PCAN	**Candelaria**	**1.52**	**136**	*e*P	Pn	00 38 27.7	-4.7
PCAN				*e*S	Sn	00 38 44.8	-7.5
PCAN				A	A	00 38 46.7	
	36nm,0.2s						
PCAN	**Candelaria**	**1.52**	**136**	*e*P	Pn	00 38 27.7	-4.7
PCAN				*e*S	Sn	00 38 44.8	-7.5
PICO	**Pico**	**1.53**	**134**	*e*P	Pn	00 38 28.0	-4.5
PICO				*e*S	Sn	00 38 45.4	-7.1
PICO				A	A	00 38 48.0	
	44nm,0.2s						
PICO	**Pico**	**1.53**	**134**	*e*P	Pn	00 38 28.0	-4.5
PICO				*e*S	Sn	00 38 45.4	-7.1

*IDC **18** 00:43:35.2±0.9,24.69N×122.10E,h0km,mb3.9/10, mb1 4.0/10,mb1mx3.7/50,mbtmp3.9/10,MS3.6/1, Ms1 3.6/1,ms1mx2.7/44, Error ellipse: s-maj=56.3km s-min=17.5km az=69.0*
*NEIC **18** 00:43:35.8±1.2,24.95N×122.75E,h9km±7km,mb4.3/1, Error ellipse: s-maj=9.0km s-min=7.4km az=57.0*
*ISCJB **18** 00:43:36.3±0.6,24.96N±0.04×122.82E±0.03,h23km±4km, mb3.9/10, Error ellipse: s-maj=6.4km s-min=3.5km az=18.5*
*JMA **18** 00:43:36.1±0.1,24.94N×122.78E,h22km±2km,M3.4*
*TAP **18** 00:43:37.5,24.86N×122.73E,h9km±2km,ML3.6,D*
ISC 18 00:43:36.0±1.2, 24.93N±0.04×122.79E±0.03, h10km±9km, n69, σ0.99/75, mb4.0/10, 1C, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JYNG	**Yonagunijimaku**	**0.50**	**164**	P	**Pg**	**00 43 46.2**	**+0.5**
JYNG				S	**Sg**	**00 43 53.4**	**+1.1**
YOJ	**Yonaguni jima**	**0.51**	**157**	*i* P	**Pg**	**00 43 46.5**	**+0.5**
	baz=147						
YOJ	**Yonaguni jima**	**0.51**	**157**	P	**Pg**	**00 43 46.3**	**+0.4**
YOJ				*e*S	**Sg**	**00 43 53.7**	**+1.0**
YOJ	**Yonaguni jima**	**0.51**	**157**	*e*Pg	**Pg**	**00 43 46.4**	**+0.5**
YOJ				*e*Sg	**Sb**	**00 43 54.5**	**0.0**
TWB1	**Santiao Chiao**	**0.73**	**276**	*i* P	**Pb**	**00 43 50.4**	**-0.5**
	baz=282						
EGS		**0.78**	**264**	*i* P	**Pb**	**00 43 51.5**	**-0.3**
	baz=268						
TWC	**Suao**	**0.91**	**250**	*i* P	**Pg**	**00 43 52.8**	**-0.8**
	baz=252						
NWF	**Wu-fen Shan**	**0.93**	**279**	P	**Pb**	**00 43 53.8**	**-0.4**
	baz=283						
PCYT	**Pengchaiyu**	**0.95**	**317**	*e*P	**Pb**	**00 43 54.4**	**-0.2**
	baz=322						
TWE	**Neicheng**	**1.04**	**259**	P	**Pg**	**00 43 55.4**	**-0.6**
	baz=261						
IRIF	**Iriomote-Funau**	**1.04**	**125**	P	**Pg**	**00 43 55.2**	**-0.9**
IRIF				S	**Sg**	**00 44 09.5**	**-0.1**
TWA	**Mucha**	**1.10**	**273**	P	**Pb**	**00 43 56.7**	**-0.3**
	baz=276						
TWY	**Chenhua**	**1.13**	**288**	*e*P	**Pg**	**00 43 56.5**	**-1.3**
	baz=292						
ENTT	**Nioudou**	**1.15**	**256**	P	**Pg**	**00 43 56.8**	**-1.3**
	baz=258						
TAP1	**Taipei**	**1.15**	**276**	*e*P	**Pn**	**00 43 58.2**	**0.0**
	baz=279						
TATO	**Taipei**	**1.18**	**272**	*e*Pg	**Pb**	**00 43 57.6**	**-0.9**
HATJ	**Hateruma jima**	**1.27**	**133**	P	**Pn**	**00 43 59.0**	**-0.8**
HATJ				*e*S	**Sb**	**00 44 15.7**	**-0.8**
JKRS	**Kuro-shima**	**1.31**	**122**	P	**Pn**	**00 43 59.5**	**-0.8**
JKRS				*e*S	**Sb**	**00 44 16.0**	**-1.5**
YHNB	**Yeheng**	**1.31**	**259**	*e*Pn	**Pn**	**00 43 59.7**	**-0.8**
NACB	**Ninganchiao**	**1.32**	**235**	*e*Pn	**Pn**	**00 44 00.3**	**-0.3**
NSK	**Sanguang**	**1.33**	**259**	P	**Pn**	**00 44 00.1**	**-0.5**
	baz=261						
JIJ	**Ishigaki jima**	**1.36**	**114**	P	**Pn**	**00 43 59.8**	**-1.2**
JIJ				S	**Sb**	**00 44 16.4**	**-2.5**
NNS	**Nan Shan**	**1.38**	**249**	*e*P	**Pb**	**00 44 01.6**	**-0.4**
	baz=251						
TWD	**Chiawan**	**1.38**	**232**	*e*P	**Pn**	**00 44 00.5**	**-0.9**
	baz=232						
JISG	**Ishigakijimahi**	**1.43**	**104**	P	**Pn**	**00 44 01.1**	**-0.8**
HWA	**Hwalien**	**1.44**	**229**	*e*P	**Pn**	**00 44 00.6**	**-1.6**
	baz=229						
WHF	**Hehuan Shan**	**1.59**	**241**

TWG	Pinlang	2.63 217	*e*Pn	Pn	00 44 17.8	-0.7
TWK	Hsinying	2.68 232	*e*P	Pn	00 44 19.7	+0.4
	baz=232					
CHN1	Nanshi	2.70 230	*e*P	Pn	00 44 20.5	+0.9
	baz=230					
SGST	Jiashian	2.73 228	*e*P	Pn	00 44 21.2	+1.2
	baz=227					
SSD	Sandimen	2.94 223	*e*P	Pn	00 44 23.4	+0.6
	baz=222					
LAY	Lan-yu	3.10 202	*e*P	Pn	00 44 22.0	-3.0
	baz=200					
EAST	Anshuo	3.10 215	*e*P	Pn	00 44 25.8	+0.7
	baz=214					
SCZT	Fangliau	3.23 218	*e*P	Pn	00 44 28.0	+1.1
	baz=217					
TWK1	Hengchun	3.49 212	*e*P	Pn	00 44 30.1	-0.3
	baz=211					
KSRS	Korea Array	13.23 18	Pn	P	00 46 57.1	+3.3
	0.1nm,0.3s,baz=194,slow=12,SNR=6.8					
KSRS			LR	LR	00 52 32.6	
	comp=Z,237nm,18.7s,baz=192,slow=39					
USRK	Ussuriysk Ar.	20.63 19	P	Pn	00 48 22.2	+4.3
	3.3nm,0.8s,baz=239,slow=13,SNR=4.1					
SONM	Songino Array	26.28 335	P	P	00 49 11.9	+0.1
	1.6nm,0.8s,baz=138,slow=8.6,SNR=7.1					
ZALV	Zalesovo Beam	40.43 326	P	P	00 51 13.2	-1.1
	0.6nm,0.3s,baz=119,slow=12,SNR=4.2					
KURK	Kurchatov	42.47 319	P	P	00 51 31.9	+0.7
KURBB	Kurchatov Arra	42.49 319	P	P	00 51 31.9	+0.5
	0.6nm,0.3s,baz=110,slow=8.3,SNR=5.0					
WRA	Warramunga Arr	46.00 165	P	P	00 51 59.6	-0.1
	4.4nm,0.8s,baz=346,slow=8.5,SNR=21					
BVAR	Borovoye Array	48.03 320	P	P	00 52 15.4	+0.1
	0.7nm,0.7s,baz=105,slow=9.3,SNR=5.0					
ASAR	Alice Springs	49.50 167	P	P	00 52 27.6	+0.7
	0.8nm,0.8s,baz=351,slow=8.3,SNR=7.6					
ABKAR	Akbulak array	53.97 314	*e*P	P	00 53 00.4	+0.3
	2.5nm,0.8s					
FINES	FINESS Array B	71.54 330	P	P	00 54 57.0	0.0
	1.0nm,0.7s,baz=60,slow=7.7,SNR=5.8					
HFS	Hagfors	77.63 331	P	P	00 55 31.9	-0.4
	1.8nm,0.7s,baz=52,slow=5.7,SNR=3.1					
NB2	NORSAR Subarra	78.24 332	P	P	00 55 34.7	-1.1
	comp=Z,1.5nm,0.8s,baz=62,slow=5.3					
NOA	NORSAR Array B	78.24 332	P	P	00 55 34.3	-1.5
	comp=Z,1.0nm,0.8s,baz=56,slow=5.2,SNR=3.8					

CSEM ***18*** *00:44:50.5, 39.°60N×29.°70W, h10km, ML2.5*
PDA 18 00:44:50.5±1.1, 39.°60N×29.°70W, h10km, MD3.6, ML2.5, Error ellipse: s-maj=28.0km s-min=9.6km az=56.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PCED	Cedros	1.24	141	*e*P	Pn	00 45 09.0	-4.9
PCED				*e*S	Sb	00 45 22.4	-7.6
PCED				A	A	00 45 25.0	
	28nm,0.4s						
PCED	Cedros	1.24	141	*e*P	Pn	00 45 09.0	-4.9
PCED				*e*S	Sb	00 45 22.4	-7.6
CALA	Caldeira	1.27	142	*e*S	Sb	00 45 24.3	-6.8
CALA	Caldeira	1.27	142	*e*S	Sb	00 45 24.3	-6.8
HOR	Horta	1.35	142	*e*S	Sb	00 45 25.9	-7.3
HOR				A	A	00 45 26.9	
	54nm,0.2s						
HOR	Horta	1.35	142	*e*S	Sb	00 45 25.9	-7.3
ROSA	Rosais	1.43	127	*e*S	Sn	00 45 27.6	-7.8
ROSA				A	A	00 45 28.6	
	32nm,0.5s						
ROSA	Rosais	1.43	127	*e*S	Sn	00 45 27.6	-7.8
PCAN	Candelaria	1.47	140	*e*P	Pn	00 45 12.6	-4.5
PCAN				*e*S	Sn	00 45 29.2	-7.2
PCAN				A	A	00 45 32.0	
	51nm,0.2s						
PCAN	Candelaria	1.47	140	*e*P	Pn	00 45 12.6	-4.5
PCAN				*e*S	Sn	00 45 29.2	-7.2
PICO	Pico	1.48	137	*e*P	Pn	00 45 12.6	-4.6
PICO				*e*S	Sn	00 45 29.5	-7.1
PICO				A	A	00 45 33.4	
	53nm,0.2s						
PICO	Pico	1.48	137	*e*P	Pn	00 45 12.6	-4.6
PICO				*e*S	Sn	00 45 29.5	-7.1

NIED ***18*** *00:55:00, 38.°30N×142.°20E, h14km, Mw3.7 Best double couple: M0=4.47000×10^14 NP1:φs=95.00000°, δs=35.00000°, λ=114.00000°. NP2:φs=246.00000°, δs=58.00000°, λ=74.00000°.*
IDC ***18*** *00:55:30.5±3.3, 38.°36N×142.°72E, h0km, mb4.0/3, mb1 3.9/5, mb1mx3.4/61, mbtmp3.9/5, ML3.5/2, Error ellipse: s-maj=66.9km s-min=28.8km az=113.0*
JMA ***18*** *00:55:36.9±0.1, 38.°34N×142.°14E, h38km±2km, M4.1*
JMA Felt I J1.
NEIC ***18*** *00:55:37.6±1.4, 38.°52N×142.°45E, h37km±11km, mb4.2/7, Error ellipse: s-maj=20.6km s-min=10.3km az=131.0*
NEIC Recorded [1 JMA] in Iwate and Miyagi.
ISC 18 00:55:33.7±2.6, 38.°29N±0.°04×142.°24E±0.°07, h13km±14km, n27, σ1ᵍ63/38, mb4.0/9, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JIO	Ouri	0.72	284	P	Pb	00 55 49.3	+1.1
JIO				S	Sg	00 55 57.7	+0.5
OFUJ	Ofunato	0.91	331	P	Pb	00 55 52.1	+0.7
OFUJ				*e*S	Sb	00 56 02.9	-0.5
JMK	Ichinoseki	1.04	310	P	Pn	00 55 54.1	+0.1
JMK				*e*S	Sb	00 56 06.0	-1.1
JMM	Marumori	1.22	250	P	Pb	00 55 56.4	-0.2
JMM				*e*S	Sb	00 56 10.9	-1.4
JOU	Okura	1.24	274	P	Pb	00 55 57.3	+0.2
JOU				*e*S	Sn	00 56 12.2	-1.3
JOM	Ohasama	1.40	328	P	Pn	00 55 59.6	+0.7
JOM				*e*S	Sn	00 56 16.0	-1.2
JYK	Kaneyama	1.60	294	P	Pn	00 56 02.4	+0.6
JRG	Rokugo	1.67	312	P	Pn	00 56 03.6	+0.9
JFT	Otama	1.69	244	P	Pb	00 56 03.9	-0.8
JFT				*e*S	Sn	00 56 24.3	-0.2
JYS	Shirataka	1.71	268	P	Pn	00 56 03.8	+0.5
JYS				*e*S	Sn	00 56 24.1	-1.0
MJAR	Matsushiro Arr	3.65	243	Pn	Pb	00 56 34.7	-3.4
	1.2nm,0.3s,baz=68,slow=8.5,SNR=13						
MJAR				Sn	Sb	00 57 19.9	-2.5
	1.1nm,0.3s,baz=79,slow=27,SNR=3.4						
MAJO	Matsushiro	3.66	243	*e*Pn	Pb	00 56 35.2	-3.0
MAT	Matsushiro	3.66	243	P	Pn	00 56 33.2	+3.2
MAT				S	Sn	00 57 16.8	+3.8
ERM	Erimo	3.79	10	Pn	Pn	00 56 30.1	-1.7
JHJ	Hachijo jima 2	5.53	202	Pn	Pn	00 56 56.5	+0.8
	9.2nm,0.3s,baz=16,slow=7.4,SNR=4.3						
JHJ				Sn	Sn	00 57 58.6	-0.6
	5.2nm,0.3s,baz=72,slow=20,SNR=3.0						
HIA	Hailar	19.53	311	*e*P	P	01 00 01.6	+0.8
	9.8nm,0.6s						
QIZ	Qiongzhong	34.05	245	P	P	01 02 21.0	+3.2
	2.1nm,0.3s						
ZALV	Zalesovo Beam	41.57	311	P	P	01 03 21.5	+0.6
	0.8nm,0.3s,baz=81,slow=8.9,SNR=3.7						
KURK	Kurchatov	45.69	307	P	P	01 03 54.8	+0.7
KURBB	Kurchatov Arra	45.76	307	P	P	01 03 54.8	+0.2
	1.4nm,0.6s,baz=80,slow=8.0,SNR=9.8						
BRVK	Borovoye	50.28	312	*e*P	P	01 04 30.1	+0.5
	3.1nm,0.9s						
ARU	Arti	55.86	318	*e*P	P	01 05 11.1	+0.4
	0.5nm,0.5s						
FINES	FINESS Array B	68.01	332	P	P	01 06 32.0	-0.3
	0.8nm,0.7s,baz=57,slow=7.0,SNR=5.5						
NEW	Newport	68.77	45	P	P	01 06 35.8	-1.6
	1.0nm,0.9s						
HWUT	Hardware Ranch	75.90	48	*e*P	P	01 07 19.8	-0.4
	0.8nm,0.6s						
MORC	Moravsky Berou	79.67	327	*e*P	P	01 07 38.2	-2.6
	1.6nm,0.4s						
PSZ	Piszkesteto	80.02	325	P	P	01 07 42.7	-0.1

JMA ***18*** *00:56:36.2±0.1, 24.°96N×122.°77E, h23km±2km, M3.3*
ISCJB ***18*** *00:56:37.5±1.4, 24.°91N±0.°09×122.°82E±0.°07, h25km±10km, mb3.6/5, MS3.7/3, Error ellipse: s-maj=16.2km s-min=8.8km az=26.0*
IDC ***18*** *00:56:37.0±1.1, 24.°43N×121.°60E, h0km, mb3.8/5, mb1 4.0/6, mb1mx3.5/60, mbtmp3.9/6, ML3.4/1, MS3.6/4, Ms1 3.6/4, ms1mx3.0/44, Error ellipse: s-maj=73.4km s-min=19.8km az=70.0*
ISC 18 00:56:38.3±1.7, 24.°89N±0.°07×122.°92E±0.°06, h15km±11km, n16, σ1ᵍ21/19, mb3.6/5, MS3.2/3, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
YOJ	Yonaguni jima	0.43	169	P	Pg	00 56 46.8	-0.2
YOJ				*e*S	Sb	00 56 54.7	+0.8
JYNG	Yonagunijimaku	0.44	177	P	Pg	00 56 46.7	-0.3
JYNG				S	Sg	00 56 53.9	+0.9
IRIF	Iriomote-Funau	0.92	127	P	Pg	00 56 55.5	-0.6
IRIF				S	Sb	00 57 09.6	+1.6
HATJ	Hateruma jima	1.16	136	P	Pb	00 56 59.4	-0.6
JKRS	Kuro-shima	1.19	123	P	Pb	00 57 00.0	-0.5
JKRS				*e*S	Sg	00 57 16.7	+0.1
JIJ	Ishigaki jima	1.23	115	P	Pn	00 57 00.2	-0.7
JIJ				S	Sb	00 57 16.9	0.0
JISG	Ishigakijimahi	1.30	103	P	Pn	00 57 01.4	-0.5
JTJ	Tarama	1.64	98	P	Pb	00 57 07.5	-0.7
KSRS	Korea Array	13.23	18	Pn	P	00 59 58.6	+3.2
	0.2nm,0.3s,baz=200,slow=12,SNR=3.2						
KSRS				LR	LR	01 05 24.2	
	comp=Z,120nm,18.6s,baz=198,slow=38						
SONM	Songino Array	26.37	334	P	P	01 02 14.6	+0.6
	0.6nm,0.5s,baz=144,slow=9.0,SNR=4.7						
SONM				LR	LR	01 14 53.3	
	comp=Z,68nm,18.0s,baz=130,slow=42						
PETK	Petropavlovsk-	38.40	34	LR	LR	01 19 10.8	
	comp=Z,37nm,21.6s,baz=192,slow=34						
KURBB	Kurchatov Arra	42.60	319	P	P	01 04 32.2	-1.5
	0.2nm,0.6s,baz=106,slow=7.8,SNR=4.3						
WRA	Warramunga Arr	45.93	165	P	P	01 05 00.2	-0.4
	3.1nm,0.7s,baz=346,slow=8.5,SNR=19						
ASAR	Alice Springs	49.43	167	P	P	01 05 28.6	+0.8
	0.4nm,0.5s,baz=349,slow=11,SNR=6.1						
FINES	FINESS Array B	71.64	330	P	P	01 07 57.5	-1.4
	1.2nm,0.8s,baz=67,slow=6.4,SNR=6.5						
RAO	Raoul Island	78.27	130	LR	LR	01 39 21.9	
	comp=Z,255nm,18.3s,baz=189,slow=32						

IDC ***18*** *01:20:28.4±1.4, 30.°00S×178.°52W, h0km, mb4.0/3, mb1 4.1/4, mb1mx3.7/24, mbtmp3.9/4, ML3.3/1, Error ellipse: s-maj=43.4km s-min=20.8km az=137.0*
ISCJB ***18*** *01:20:29.1±0.9, 30.°05S±0.°1×178.°7W±0.°2, h10km, mb4.2/5, Error ellipse: s-maj=24.2km s-min=14.2km az=39.9*
NEIC ***18*** *01:20:29.8±0.8, 29.°92S×178.°56W, h10km, mb4.2/1, Error ellipse: s-maj=22.3km s-min=13.9km az=130.0*
ISC 18 01:20:30.1±0.9, 29.°9S±0.°1×178.°6W±0.°2, h10km, n9, σ1ᵍ29/9, mb4.2/5, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RAO	Raoul Island	0.87	39	Pn	Pn	01 20 49.1	+0.8
	45nm,0.3s,baz=273,slow=23,SNR=4.6						
URZ	Urewera	9.05	202	Pn	Pn	01 22 41.3	+0.5
	0.3nm,0.3s,baz=17,slow=14,SNR=3.4						
STKA	Stephens Creek	34.13	256	P	P	01 27 16.8	+1.5
	2.2nm,0.5s,baz=111,slow=8.6,SNR=5.2						
ASAR	Alice Springs	42.66	267	P	P	01 28 26.4	-0.8
	1.1nm,0.8s,baz=110,slow=8.0,SNR=4.8						
WRAB	Tennant Creek	43.60	272	*e*P	P	01 28 34.0	-0.7
	4.7nm,1.1s						
WRA	Warramunga Arr	43.61	272	P	P	01 28 34.2	-0.6
	1.5nm,0.8s,baz=111,slow=8.1,SNR=7.9						
QSPA	South Pole Qui	60.18	180	*e*P	P	01 30 38.2	+0.3
	16nm,0.9s						
FINES	FINESS Array B	144.54	340	PKP	PKPdf	01 40 04.5	-1.6
	1.6nm,0.9s,baz=72,slow=6.2,SNR=4.0						
TORD	Torodi Ar. Bea	163.30	181	PKPab	PKPab	01 41 22.3	-1.6
	0.7nm,0.8s,baz=178,slow=1.8,SNR=3.8						

ISCJB ***18*** *01:21:46.2±0.6, 30.°1S±0.°1×178.°6W±0.°1, h10km, mb4.6/9, Error ellipse: s-maj=16.9km s-min=11.8km az=135.5*
IDC ***18*** *01:21:46.0±1.1, 29.°99S×178.°57W, h0km, mb4.4/4, mb1 4.4/5, mb1mx4.0/25, mbtmp4.3/5, ML3.3/1, Error ellipse: s-maj=26.4km s-min=19.9km az=154.0*
NEIC ***18*** *01:21:47.4±0.4, 29.°96S×178.°57W, h10km, mb4.7/5, Error ellipse: s-maj=12.0km s-min=9.1km az=138.0*
ISC 18 01:21:47.6±0.7, 30.°0S±0.°1×178.°6W±0.°1, h10km, n17, σ1ᵍ67/17, mb4.5/9, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RAO	Raoul Island	0.91	39	Pn	Pn	01 22 06.4	-0.1
	92nm,0.3s,baz=220,slow=20,SNR=4.6						
URZ	Urewera	9.01	202	Pn	Pn	01 23 56.6	-1.1
	0.3nm,0.3s,baz=107,slow=18,SNR=2.2						
CTA	Charters Tower	33.24	279	P	P	01 28 25.6	+0.5
	2.6nm,0.7s,baz=99,slow=13,SNR=2.7						
CTAO	Charters Tower	33.24	279	*e*P	P	01 28 24.0	-1.2
	37nm,0.9s						
STKA	Stephens Creek	34.10	256	P	P	01 28 32.5	0.0
	3.5nm,0.6s,baz=96,slow=10,SNR=4.9						
ASAR	Alice Springs	42.64	267	P	P	01 29 44.1	-0.3
	2.5nm,0.7s,baz=105,slow=7.9,SNR=16						
WRAB	Tennant Creek	43.58	272	*e*P	P	01 29 52.5	+0.3
	3.9nm,0.6s						
WRA	Warramunga Arr	43.59	272	P	P	01 29 52.0	-0.2
	7.2nm,1.0s,baz=111,slow=8.0,SNR=16						
SBA	Scott Base	48.43	184	*e*P	P	01 30 30.4	+0.9
	26nm,1.5s						
FITZ	Fitzroy Crossi	51.87	270	*e*P	P	01 30 56.0	-0.4
	15nm,1.1s						
MBWA	Marble Bar	55.78	264	*e*P	P	01 31 26.2	+1.1
QSPA	South Pole Qui	60.14	180	*e*P	P	01 31 55.9	+0.7
SNAA	Sanae	78.60	179	*e*P	P	01 33 48.8	-0.3
CMB	Columbia Colle	86.77	42	*e*P	P	01 34 32.1	+0.1
	6.6nm,0.8s						
TUC	Tucson	89.23	52	*e*P	P	01 34 43.4	-0.5
	1.4nm,0.8s						
FINES	FINESS Array B	144.57	340	PKP	PKPab	01 41 22.0	-0.1
	4.0nm,1.0s,baz=58,slow=3.3,SNR=14						
TORD	Torodi Ar. Bea	163.26	181	PKPab	PKPab	01 42 41.0	-0.3
	2.9nm,1.1s,baz=166,slow=3.4,SNR=7.4						

ISCJB ***18*** *01:25:03.7±0.5, 29.°74S±0.°09×178.°60W±0.°08, h10km, mb4.8/9, MS3.6/1, Error ellipse: s-maj=14.3km s-min=7.1km az=146.8*
IDC ***18*** *01:25:03.9±1.1, 29.°75S×178.°59W, h0km, mb4.4/4, mb1 4.4/6, mb1mx4.0/31, mbtmp4.2/6, ML3.3/2, MS4.0/4, Ms1 4.0/4, ms1mx3.4/26, Error ellipse: s-maj=36.0km s-min=17.2km az=153.0*
NEIC ***18*** *01:25:05.1±0.4, 29.°72S×178.°59W, h10km, mb4.8/4, Error ellipse: s-maj=10.6km s-min=8.0km az=153.0*
ISC 18 01:25:05.3±0.6, 29.°73S±0.°10×178.°59W±0.°08, h10km, n22, σ0ᵍ75/21, mb4.8/9, 1D, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RAO	Raoul Island	0.76	51	Pn	Pn	01 25 22.2	+0.2
	44nm,0.3s,baz=93,slow=19,SNR=2.8						
RAO	Raoul Island	0.76	51	*e*Pg	Pg	01 25 19.3	-0.6
RAO				*e*Sn	Sg	01 25 29.9	+0.1
URZ	Urewera	9.22	202	Pn	Pn	01 27 16.9	-1.4
	0.5nm,0.3s,baz=344,slow=15,SNR=3.8						
URZ				LR	LR	01 30 18.3	
	comp=Z,1μm,19.2s,baz=37,slow=34						
DZM	Mont Dzumac	15.47	296	Pn	Pn	01 28 44.1	+0.4
	0.1nm,0.3s,baz=16,slow=20,SNR=2.2						
DZM				LR	LR	01 33 37.2	
	comp=Z,429nm,18.3s,baz=36,slow=33						
DZM	Mont Dzumac	15.47	296	*e*Pn	Pn	01 28 42.9	-0.8
	129nm,0.6s						
RPZ	Rata Peaks	16.22	208	LR	LR	01 35 01.1	
	comp=Z,659nm,18.5s,baz=36,slow=37						
CTA	Charters Tower	33.19	279	P	P	01 31 41.6	-0.8
	3.5nm,0.7s,baz=80,slow=6.1,SNR=2.8						
CTAO	Charters Tower	33.19	279	*e*P	P	01 31 41.2	-1.2
	86nm,1.1s						
STKA	Stephens Creek	34.14	256	P	P	01 31 51.4	+0.8
	6.2nm,0.9s,baz=85,slow=13,SNR=7.2						
PMG	Port Moresby	37.86	295	LR	LR	01 44 37.3	
	comp=Z,97nm,18.4s,baz=102,slow=31						
ASAR	Alice Springs	42.64	266	P	P	01 33 02.3	+0.1
	3.0nm,1.0s,baz=117,slow=8.1,SNR=12						
WRAB	Tennant Creek	43.56	272	*e*P	P	01 33 09.5	-0.1
	39nm,1.4s						
WRA	Warramunga Arr	43.56	272	P	P	01 33 10.0	+0.3
	11nm,1.1s,baz=110,slow=7.7,SNR=14						
SBA	Scott Base	48.66	184	*e*P	P	01 33 49.6	+0.6
	16nm,1.4s						
FITZ	Fitzroy Crossi	51.85	270	*e*P	P	01 34 13.5	-0.5
	11nm,1.0s						
MBWA	Marble Bar	55.79	264	*e*P	P	01 34 44.2	+1.4
QSPA	South Pole Qui	60.37	180	*e*P	P	01 35 14.5	0.0
SYO	Syowa Base	77.64	193	*e*P	P	01 37 02.2	+0.7
SNAA	Sanae	78.83	179	*e*P	P	01 37 08.0	-0.1
	107nm,0.8s						
TUC	Tucson	89.10	52	*e*P	P	01 38 01.5	+0.5
	6.6nm,1.4s						
FINES	FINESS Array B	144.35	340	PKP	PKPdf	01 44 40.1	-0.9
	1.4nm,0.7s,baz=67,slow=4.7,SNR=9.1						
TORD	Torodi Ar. Bea	163.49	181	PKPab	PKPab	01 45 59.9	-0.2
	2.4nm,1.0s,baz=172,slow=3.7,SNR=6.5						

TAP ***18*** *01:26:19.6, 24.°98N×122.°89E, h37km±1km, ML3.1, D*
JMA ***18*** *01:26:21.0±0.5, 24.°81N×122.°73E, h0km, M2.5*
ISCJB ***18*** *01:26:22.8±0.7, 24.°73N±0.°08×122.°68E±0.°04, h16km, Error ellipse: s-maj=12.5km s-min=3.8km az=18.7*
ISC 18 01:26:22.3±1.1, 24.°76N±0.°08×122.°70E±0.°04, h16km, n19, σ1ᵍ03/23, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JYNG	Yonagunijimaku	0.38	144	P	Pg	01 26 29.8	-0.3
JYNG				*e*S	Sg	01 26 35.0	-0.4
YOJ	Yonaguni jima	0.41	136	*i* P	Pg	01 26 30.6	0.0
	baz=169						
YOJ				S	Sb	01 26 38.4	+1.2
	baz=169						
YOJ	Yonaguni jima	0.41	136	P	Pg	01 26 29.5	-1.2
YOJ				S	Sg	01 26 36.3	0.0
TWB1	Santiao Chiao	0.69	291	*e*P	Pg	01 26 36.0	+0.2
	baz=272						
EGS		0.70	277	*e*P	Pg	01 26 35.7	-0.4
	baz=261						
TWC	Suao	0.79	259	*e*P	Pb	01 26 36.8	-0.8
	baz=249						
NWF	Wu-fen Shan	0.89	291	*e*P	Pb	01 26 38.4	-1.0
	baz=275						
ENA	Nanau	0.93	249	*e*P	Pb	01 26 38.6	-1.5
	baz=243						
IRIF	Iriomote-Funau	1.03	114	P	Pb	01 26 41.8	0.0
ENTT	Nioudou	1.04	264	*e*P	Pb	01 26 42.6	+0.6
	baz=255						
NSK	Sanguang	1.22	266	*e*P	Pn	01 26 44.6	-0.2
	baz=258						
JIJ	Ishigaki jima	1.37	106	P	Pn	01 26 47.3	+0.4
JIJ				*e*S	Sg	01 27 06.1	-0.6
WHF	Hehuan Shan	1.44	245	*e*P	Pn	01 26 48.6	+0.4
	baz=228						
ESL	Shilin	1.49	231	*e*P	Pn	01 26 48.5	0.0
	baz=229						
NSTT	Nanjuang	1.55	266	*e*P	Pn	01 26 49.3	0.0
	baz=259						
NSY	Sanyi	1.80	259	*e*P	Pn	01 26 54.4	+1.7
	baz=266						
TYC	Yuchr	1.88	243	*e*P	Pn	01 26 55.7	+1.8
	baz=230						
CHN5	Tsauling	2.18	238	*e*P	Pn	01 27 00.5	+2.5
	baz=237						
CHN4	Tsaushan	2.38	234	*e*P	Pn	01 27 00.1	-0.6
	baz=233						

GUC 18 01:28:58.7±0.5, 23.°94S×67.°50W, h240km±20km, ML4.0, 3C, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PB06	IPOC Station P	2.26	302	*i*P	Pn	01 29 44.7	+1.6
PB06				*i* S	S	01 30 20.0	+2.1
PB06				IAML		01 30 22.7	
	comp=E,240nm,0.1s						
PB09	IPOC Station P	2.67	323	*i*P	Pn	01 29 49.0	+1.7
PB09				*e*S	S	01 30 27.6	+2.2
PB09				IAML		01 30 28.8	
	comp=N,244nm,0.3s						
PB14	IPOC Station P	2.73	255	*e*P	Pn	01 29 50.0	+2.0
PB14				*e*S	S	01 30 29.4	+2.6
PB04	IPOC Station P	2.91	303	*i*P	Pn	01 29 52.1	+2.3
PB04				*i* S	S	01 30 32.7	+2.6
PB04				IAML		01 30 35.2	
	comp=N,216nm,0.5s						
PB01	IPOC Station P	3.42	327	*e*P	Pn	01 29 56.2	+0.8
PB01				*e*S	S	01 30 40.5	+0.4
PB02	IPOC Station P	3.42	319	*e*P	Pn	01 29 56.6	+1.2
PB02				*e*S	S	01 30 41.2	+1.0
PB08	IPOC Station P	4.08	338	*e*P	Pn	01 30 04.4	+1.0
PB08				*i* S	S	01 30 55.3	+0.6

IDC 18 01:31:53.0±5.3, 29.°14S×178.°72W, h0km, mb3.6/3, mb1 3.8/3, mb1mx3.5/35, mbtmp3.6/3, Error ellipse: s-maj=200.3km s-min=81.1km az=157.0, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
STKA	Stephens Creek	34.17	255	P	P	01 38 40.0	-0.1
	0.9nm,0.4s,baz=108,slow=16,SNR=2.2						
ASAR	Alice Springs	42.56	266	P	P	01 39 51.0	+0.1
	0.4nm,0.7s,baz=103,slow=7.8,SNR=6.6						
WRA	Warramunga Arr	43.44	271	P	P	01 39 57.7	-0.2
	0.6nm,0.7s,baz=111,slow=7.9,SNR=3.7						
FINES	FINESS Array B	143.75	340	PKP	PKPdf	01 51 28.6	-0.7
	1.0nm,0.9s,baz=8.2,slow=12,SNR=3.3						

ISCJB ***18*** *01:33:58.7±0.6, 30.°0S±0.°1×178.°73W±0.°10, h10km, mb4.7/9, MS3.9/6, Error ellipse: s-maj=17.3km s-min=9.3km az=147.6*
IDC ***18*** *01:33:58.4±1.2, 30.°08S×178.°61W, h0km, mb4.6/4, mb1 4.8/4, mb1mx4.0/31, mbtmp4.6/4, MS4.0/10, Ms1 3.9/10, ms1mx3.7/30, Error ellipse: s-maj=43.9km s-min=19.5km az=149.0*
NEIC ***18*** *01:33:59.9±0.4, 29.°96S×178.°64W, h10km, mb4.8/6, Error ellipse: s-maj=13.7km s-min=9.0km az=154.0*
ISC 18 01:34:00.0±0.6, 30.°0S±0.°1×178.°65W±0.°09, h10km, n31, σ0ᵍ93/23, mb4.8/9, MS4.0/6, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RAO	Raoul Island	0.95	42	Pn	Pn	01 34 20.2	+0.7
	69nm,0.3s,baz=

PLCA	**Paso Flores**	**83.21**	**133**	LR	LR	02 14 12.0		
	comp=Z,92nm,20.9s,baz=255,slow=29							
CMB	**Columbia Colle**	**86.82**	**42**	*e*P	**P**	**01 46 44.1**	**-0.6**	
	4.6nm,0.6s							
TUC	**Tucson**	**89.28**	**52**	*e*P	**P**	**01 46 57.0**	**+0.4**	
	1.4nm,0.6s							
KDAK	**Kodiak Island**	**90.12**	**14**	LR	LR	02 19 35.9		
	comp=Z,165nm,22.0s,baz=216,slow=30							
PDAR	**Pinedale Array**	**96.21**	**44**	LR	LR	02 22 55.4		
	comp=Z,38nm,21.5s,baz=263,slow=30							
GNI	**Garni**	**143.37**	**298**	*e*PKPdf	**PKPdf**	**01 53 34.1**	**-0.8**	
FINES	**FINESS Array B**	**144.55**	**340**	PKP	PKPbc	01 53 34.9	+0.2	
	2.3nm,0.6s,baz=68,slow=4.0,SNR=24							
NOA	**NORSAR Array B**	**148.24**	**351**	PKPbc	**PKPbc**	**01 53 45.6**	**-0.1**	
	2.0nm,0.9s,baz=14,slow=4.3,SNR=4.2							
AKASG	**Malin Array Be**	**150.62**	**323**	PKPbc	**PKPbc**	**01 53 51.3**	**-0.6**	
	1.9nm,0.8s,baz=49,slow=2.3,SNR=5.7							
TORD	**Torodi Ar. Bea**	**163.26**	**181**	PKP	**PKPdf**	**01 54 03.0**	**-0.6**	
	1.4nm,1.1s,baz=199,slow=3.1,SNR=3.1							
TORD				PKPab	**PKPab**	**01 54 53.1**	**-0.7**	
	2.7nm,0.9s,baz=182,slow=3.0,SNR=6.4							

IDC ***18*** *01:37:22.8±2.7,29˚.92S×178˚.40W, h0km, mb4.0/3, mb1 4.2/3, mb1mx3.7/29, mbtmp4.0/3, MS3.7/1, Ms1 3.6/1, ms1mx3.0/27, Error ellipse: s-maj=96.1km s-min=43.3km az=17.0*

ISCJB ***18*** *01:37:23.1±1.8, 30˚.3S±0˚.3×178˚.5W±0˚.3, h10km, mb4.1/6, MS3.6/1, Error ellipse: s-maj=49.5km s-min=13.5km az=136.7*

NEIC ***18*** *01:37:24.9±0.8, 30˚.26S×178˚.47W, h10km, mb4.2/3, Error ellipse: s-maj=25.9km s-min=10.8km az=135.0*

ISC 18 01:37:25.0±1.3**, 30˚.2S**±0˚.2×**178˚.5W**±0˚.2**, h10**km**, n9, σ0s77/9, mb4.2**/6**, Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**1.09**	**25**	*e*Pg	**Pn**	**01 37 46.8**	**+0.5**
STKA	**Stephens Creek**	**34.14**	**257**	P	**P**	**01 44 11.3**	**+1.1**
	1.9nm,0.6s,baz=80,slow=6.1,SNR=4.7						
STKA				LR	LR	01 55 22.6	
	comp=Z,115nm,19.0s,baz=32,slow=32						
ASAR	**Alice Springs**	**42.73**	**267**	P	**P**	**01 45 22.0**	**-0.7**
	1.0nm,0.7s,baz=105,slow=7.3,SNR=7.3						
WRAB	**Tennant Creek**	**43.70**	**272**	*e*P	**P**	**01 45 29.9**	**-0.6**
	4.5nm,1.1s						
WRA	**Warramunga Arr**	**43.70**	**272**	P	**P**	**01 45 29.8**	**-0.8**
	2.0nm,0.9s,baz=111,slow=8.1,SNR=9.8						
FITZ	**Fitzroy Crossi**	**51.97**	**270**	*e*P	**P**	**01 46 34.4**	**-0.3**
	2.5nm,0.9s						
TUC	**Tucson**	**89.32**	**52**	*e*P	**P**	**01 50 21.2**	**-0.6**
	1.0nm,0.4s						
FINES	**FINESS Array B**	**144.86**	**340**	PKP	**PKPab**	**01 57 00.4**	**-0.3**
	1.3nm,0.7s,baz=109,slow=7.6,SNR=4.4						
TORD	**Torodi Ar. Bea**	**162.99**	**180**	PKPab	**PKPab**	**01 58 18.0**	**+0.4**
	0.3nm,0.7s,baz=194,slow=4.6,SNR=3.2						

IDC ***18*** *01:40:54.2±4.3,25˚.93S×70˚.51W, h0km, mb4.4/1, mb1 4.0/2, mb1mx3.6/29, mbtmp3.9/2, ML3.6/1, MS2.6/1, Ms1 2.7/1, ms1mx2.5/23, Error ellipse: s-maj=131.7km s-min=63.0km az=81.0*

GUC ***18*** *01:40:58.0±0.5,25˚.82S×70˚.49W, h48km±999km, ML4.2*

ISC 18 01:40:56.1±1.7**, 25˚.82S**±0˚.04×**70˚.7W**±0˚.3**, h14**km±11**km, n12, σ0s93/19, 2C-2D, Near coast of northern Chile**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PB14	**IPOC Station P**	**1.22**	**12**	⇓*i*P	**Pg**	**01 41 19.8**	**+0.1**
PB14				*e*S	**Sn**	**01 41 35.6**	**+0.1**
PB14				IAML		01 41 38.6	
	comp=E,9μm,0.4s						
CDCH	**Caldera**	**1.25**	**186**	*e*P	**Pb**	**01 41 20.2**	**+0.8**
CDCH				*e*S	**Sn**	**01 41 36.4**	**+0.6**
CPCH	**Copiapo**	**1.56**	**169**	*e*P	**Pg**	**01 41 26.1**	**0.0**
CPCH				*i* S	**Sg**	**01 41 46.3**	**-0.1**
ANCH	**Antofagasta**	**2.14**	**7**	⇓*i*P	**Pn**	**01 41 32.1**	**+0.7**
ANCH				*i* S	**Sn**	**01 41 57.6**	**-0.3**
VACH	**Vallenar**	**2.74**	**181**	*e*P	**Pb**	**01 41 44.1**	**-0.9**
VACH				*e*S	**Sb**	**01 42 16.4**	**-2.1**
LCO	**Las Campanas**	**3.18**	**180**	*e*P	**Pn**	**01 41 47.3**	**+1.3**
LCO				*i* S	**Sn**	**01 42 25.1**	**+1.3**
LCO				IAML		01 42 43.6	
	comp=E,294nm,0.3s						
PB06	**IPOC Station P**	**3.26**	**18**	⇑*i*P	**Pn**	**01 41 47.6**	**+0.6**
PB06				*i* S	**Sn**	**01 42 25.6**	**-0.2**
PB06				IAML		01 42 42.2	
	comp=E,731nm,0.6s						
PB04	**IPOC Station P**	**3.51**	**8**	⇑*i*P	**Pn**	**01 41 49.8**	**-0.6**
PB09	**IPOC Station P**	**4.22**	**18**	*e*P	**Pn**	**01 42 01.4**	**+1.2**
LPAZ	**La Paz**	**9.78**	**15**	Pn	**Pn**	**01 43 17.7**	**+0.7**
	comp=E,0.3nm,0.3s,baz=221,slow=4.5,SNR=6.7						
LPAZ				LR	LR	01 46 52.4	
	comp=E,34nm,19.3s,baz=302,slow=36						
TORD	**Torodi Ar. Bea**	**80.33**	**70**	P	**P**	**01 53 07.2**	**-0.1**
	comp=E,1.9nm,0.6s,baz=258,slow=5.0,SNR=49						
ZALV	**Zalesovo Beam**	**146.53**	**26**	PKPbc	**PKPbc**	**02 00 36.4**	**-0.3**
	comp=E,0.7nm,0.4s,baz=292,slow=3.9,SNR=3.8						

JMA ***18*** *02:05:35.9±0.1,23˚.28N×121˚.47E, h40km±3km*

TAP ***18*** *02:05:36.8,23˚.29N×121˚.51E, h33km, ML3.1, C*

ISCJB ***18*** *02:05:37.0±0.3,23˚.29N±0˚.02×121˚.51E±0˚.02, h32km±2km, Error ellipse: s-maj=3.6km s-min=2.5km az=29.3*

ISC 18 02:05:37.2±1.0**, 23˚.29N**±0˚.02×**121˚.49E**±0˚.03**, h33**km±4**km, n42, σ0s64/79, 1C, Taiwan**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TWF1	**Yuli**	**0.19**	**289**	*i* P	**Pb**	**02 05 43.9**	**+0.2**
TWF1	baz=287			S	**Sb**	**02 05 48.8**	**+0.7**
	baz=287						
CHKT	**Chengkung**	**0.22**	**212**	*i* P	**Pb**	**02 05 44.5**	**+0.4**
CHKT	baz=212			S	**Sb**	**02 05 49.2**	**+0.5**
	baz=212						
EHY	**Hungye**	**0.27**	**324**	*i* P	**Pb**	**02 05 44.6**	**0.0**
EHY	baz=321			*i* S	**Sb**	**02 05 49.7**	**+0.2**
	baz=321						
ELDTW	**Lidau**	**0.45**	**257**	⇑*i*P	**Pb**	**02 05 46.4**	**-0.8**
ELDTW	baz=256			*i* S	**Sb**	**02 05 52.8**	**-1.2**
	baz=256						
ESL	**Shilin**	**0.52**	**354**	P	**Pb**	**02 05 47.4**	**-0.8**
ESL	baz=353			S	**Sb**	**02 05 54.9**	**-0.9**
	baz=353						
WDT	**Danda**	**0.57**	**325**	*e*P	**Pb**	**02 05 48.9**	**-0.2**
WDT	baz=323			*e*S	**Sb**	**02 05 57.0**	**-0.3**
	baz=323						
TWG	**Pinlang**	**0.61**	**220**	*e*P	**Pb**	**02 05 48.3**	**-1.2**
TWG	baz=219			S	**Sb**	**02 05 55.9**	**-2.1**
	baz=219						
TTN	**Taitung**	**0.62**	**211**	*e*P	**Pb**	**02 05 49.6**	**-0.2**
TTN	baz=211			S	**Sb**	**02 05 58.8**	**+0.5**
	baz=211						
ALS	**Alishan**	**0.67**	**289**	*i* P	**Pb**	**02 05 50.7**	**-0.1**
ALS	baz=288			*i* S	**Sb**	**02 06 00.4**	**+0.5**
	baz=288						
STYT	**Tauyuan**	**0.69**	**259**	P	**Pb**	**02 05 50.2**	**-0.7**
STYT	baz=259			*i* S	**Sb**	**02 05 59.9**	**-0.4**
	baz=259						
TWD	**Chiawan**	**0.79**	**7**	P	**Pb**	**02 05 51.5**	**-1.1**
TWD	baz=6.0			*e*S	**Sb**	**02 06 02.7**	**-0.4**
	baz=6.0						
SMLT	**Sun Moon Lake**	**0.80**	**317**	*e*P	**Pb**	**02 05 52.8**	**0.0**
SMLT	baz=316			S	**Sb**	**02 06 03.4**	**-0.1**
	baz=316						
CHN5	**Tsauling**	**0.81**	**292**	P	**Pb**	**02 05 53.0**	**+0.1**
CHN5	baz=291			S	**Sn**	**02 06 04.5**	**+1.2**
	baz=291						
WTP	**Ta-pu**	**0.81**	**267**	*e*P	**Pn**	**02 05 52.7**	**+0.3**
WTP	baz=266			*e*S	**Sb**	**02 06 04.1**	**+0.5**
	baz=266						

CHN4	**Tsaushan**	**0.83**	**274**	*i* P		**Pn**	**02 05 53.1**	**+0.5**
	baz=273							
CHN4				*e*S		**Sb**	**02 06 04.1**	**0.0**
	baz=273							
TYC	**Yuchr**	**0.84**	**316**	*e*P		**Pn**	**02 05 53.4**	**+0.6**
	baz=316							
TYC				*e*S		**Sb**	**02 06 04.5**	**-0.1**
	baz=316							
ECL	**Taimali**	**0.85**	**216**	*e*P		**Pn**	**02 05 53.1**	**+0.2**
	baz=215							
ECL				*e*S		**Sb**	**02 06 04.9**	**+0.2**
	baz=215							
SGST	**Jiashian**	**0.86**	**256**	P		**Pn**	**02 05 53.6**	**+0.5**
	baz=255							
SGST				*e*S		**Sb**	**02 06 05.5**	**+0.4**
	baz=255							
WHF	**Hehuan Shan**	**0.88**	**346**	P		**Pn**	**02 05 53.2**	**-0.4**
	baz=345							
WHF				*e*S		**Sb**	**02 06 04.7**	**-1.2**
	baz=345							
CHN1	**Nanshi**	**0.89**	**263**	P		**Pn**	**02 05 54.1**	**+0.6**
	baz=263							
CHN1				*e*S		**Sb**	**02 06 06.2**	**+0.3**
	baz=263							
TWK	**Hsinying**	**0.92**	**269**	*e*P		**Pn**	**02 05 53.7**	**-0.2**
	baz=268							
TWK				*e*S		**Sb**	**02 06 06.8**	**-0.1**
	baz=268							
WNT	**Mingjian**	**0.94**	**308**	*e*P		**Pn**	**02 05 54.1**	**-0.1**
	baz=307							
WNT				*e*S		**Sn**	**02 06 06.8**	**+0.2**
	baz=307							
SSD	**Sandimen**	**0.96**	**236**	P		**Pn**	**02 05 54.7**	**+0.2**
	baz=235							
SSD				*e*S		**Sn**	**02 06 07.4**	**+0.4**
	baz=235							
TWT	**Tachien**	**1.00**	**343**	*e*P		**Pn**	**02 05 55.3**	**+0.2**
	baz=341							
TWT				S		**Sn**	**02 06 07.8**	**-0.4**
	baz=341							
EAST	**Anshuo**	**1.08**	**213**	*e*P		**Pn**	**02 05 56.5**	**+0.4**
	baz=213							
EAST				*e*S		**Sn**	**02 06 10.8**	**+0.8**
	baz=213							
TWM1	**Shoushan**	**1.09**	**245**	*e*P		**Pn**	**02 05 56.7**	**+0.5**
	baz=244							
TWM1				*e*S		**Sn**	**02 06 09.8**	**-0.4**
	baz=244							
TCU	**Taichung**	**1.13**	**319**	*e*P		**Pn**	**02 05 56.6**	**-0.2**
	baz=318							
TCU				*e*S		**Sn**	**02 06 12.1**	**+0.8**
	baz=318							
NNS	**Nan Shan**	**1.15**	**355**	*e*P		**Pn**	**02 05 57.4**	**+0.2**
	baz=354							
NNS				*e*S		**Sn**	**02 06 11.8**	**0.0**
	baz=354							
ENA	**Nanau**	**1.15**	**11**	*e*P		**Pn**	**02 05 57.4**	**+0.3**
	baz=11							
ENA				*e*S		**Sn**	**02 06 12.5**	**+0.7**
	baz=11							
SCZT	**Fangliau**	**1.22**	**222**	*e*P		**Pn**	**02 05 58.8**	**+0.8**
	baz=221							
SCZT				*e*S		**Sn**	**02 06 13.6**	**+0.3**
	baz=221							
TWQ1	**Liyutan**	**1.24**	**328**	*e*P		**Pn**	**02 05 58.9**	**+0.6**
	baz=327							
TWQ1				*e*S		**Sn**	**02 06 14.5**	**+0.6**
	baz=327							
LAY	**Lan-yu**	**1.25**	**178**	*e*P		**Pn**	**02 05 57.0**	**-1.4**
	baz=177							
LAY				*e*S		**Sn**	**02 06 14.3**	**+0.3**
	baz=177							
ENTT	**Nioudou**	**1.34**	**3**	*e*P		**Pn**	**02 05 59.9**	**+0.2**
	baz=2.0							
ENTT				*e*S		**Sn**	**02 06 16.6**	**+0.1**
	baz=2.0							
TWC	**Suao**	**1.35**	**14**	*e*P		**Pn**	**02 06 00.3**	**+0.5**
	baz=13							
TWC				*e*S		**Sn**	**02 06 16.8**	**+0.1**
	baz=13							
NSK	**Sanguang**	**1.38**	**355**	*e*P		**Pn**	**02 06 01.1**	**+0.7**
	baz=354							
NSK				*e*S		**Sn**	**02 06 17.1**	**-0.4**
	baz=354							
NSTT	**Nanjuang**	**1.41**	**341**	*e*P		**Pn**	**02 06 00.7**	**+0.1**
	baz=341							
NSTT				*e*S		**Sn**	**02 06 18.2**	**+0.2**
	baz=341							
YOJ	**Yonaguni jima**	**1.81**	**50**	P		**Pn**	**02 06 06.9**	**+0.7**
HATJ	**Hateruma jima**	**2.25**	**70**	P		**Pn**	**02 06 12.8**	**+0.6**
HATJ				*e*S		**Sn**	**02 06 39.3**	**+0.4**
IRIF	**Iriomote-Funau**	**2.30**	**63**	S		**Sn**	**02 06 41.5**	**+1.6**
JKRS	**Kuro-shima**	**2.49**	**67**	S		**Sn**	**02 06 45.7**	**+1.0**
JIJ	**Ishigaki jima**	**2.65**	**66**	S		**Sn**	**02 06 49.3**	**+0.6**
JISG	**Ishigakijimahi**	**2.88**	**63**	P		**Pn**	**02 06 21.3**	**+0.4**

ISCJB ***18*** *02:13:14.1±1.0,52˚.0N±0˚.2×171˚.36W±0˚.08, h42km, mb3.4/3, Error ellipse: s-maj=23.3km s-min=4.3km az=165.3*

IDC ***18*** *02:13:14.7±7.1,52˚.20N×170˚.43W, h0km, mb3.5/3, mb1 3.9/4, mb1mx3.5/45, mbtmp3.5/4, ML3.2/1, Error ellipse: s-maj=139.0km s-min=62.3km az=104.0*

NEIC ***18*** *02:13:15.2±0.0,52˚.21N×171˚.43W, h41km, ML3.2(AEIC), After AEIC.*

ISC 18 02:13:15.5±1.3**, 52˚.1N**±0˚.2×**171˚.39W**±0˚.07**, h42**km**, n27, σ0s62/26, mb3.5/3, Fox Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KOSE	**Korovin Southe**	**1.66**	**281**	P	**Pn**	**02 13 42.4**	**+0.2**
KONE	**Korovin Northe**	**1.71**	**282**	P	**Pn**	**02 13 42.8**	**-0.1**
ATKA	**Atka Island**	**1.74**	**276**	P	**Pn**	**02 13 42.5**	**-0.7**
ATKA				S	**Sn**	**02 14 03.0**	**-1.1**
KOKL	**Mount Kliuchef**	**1.75**	**280**	P	**Pn**	**02 13 43.5**	**+0.1**
NIKH	**Nikolski High**	**1.80**	**58**	P	**Pn**	**02 13 42.2**	**-1.8**
NIKH				S	**Sn**	**02 14 04.8**	**-0.9**
OKSP	**Okmok Steeple**	**2.24**	**56**	P	**Pn**	**02 13 49.5**	**-0.6**
OKSO	**Okmok South**	**2.36**	**55**	P	**Pn**	**02 13 51.1**	**-0.6**
OKSO				S	**Sn**	**02 14 19.3**	**-0.2**
OKCE	**Okmok Cone E**	**2.39**	**54**	P	**Pn**	**02 13 52.3**	**+0.1**
OKTU	**Okmok Mt. Tuli**	**2.43**	**56**	P	**Pn**	**02 13 52.7**	**0.0**
OKFG	**Magazine Ridge**	**2.51**	**56**	P	**Pn**	**02 13 53.5**	**-0.4**
OKFG				S	**Sn**	**02 14 23.9**	**+0.7**
MSOM	**Makushin Julie**	**3.21**	**55**	P	**Pn**	**02 14 03.5**	**+0.1**
MREP	**Makushin Rep't**	**3.31**	**56**	P	**Pn**	**02 14 05.2**	**+0.4**
MSW	**Makushin Switc**	**3.35**	**54**	P	**Pn**	**02 14 05.9**	**+0.5**
UNV	**Unalaska Valle**	**3.46**	**57**	P	**Pn**	**02 14 06.6**	**-0.2**
UNV				S	**Sn**	**02 14 46.4**	**0.0**
AKSA	**Akutan Strait**	**4.01**	**57**	P	**Pn**	**02 14 14.1**	**-0.3**
WESP	**Westdahl Peak**	**4.69**	**56**	P	**Pn**	**02 14 23.8**	**0.0**
KDAK	**Kodiak Island**	**12.22**	**55**	Pn	**Pn**	**02 16 06.1**	**-0.7**
	0.1nm,0.3s,baz=231,slow=13,SNR=3.6						
RAGM	**Ragged Mountai**	**16.93**	**50**	P	**Pn**	**02 17 09.6**	**+0.5**
YKA	**Yellowknife Ar**	**31.38**	**48**	P	**P**	**02 19 31.8**	**-0.1**
	0.3nm,0.4s,baz=274,slow=8.2,SNR=2.4						
H11N2	**WAKE ISLAND Hy**	**36.45**	**216**	T	T	02 58 48.5	
	baz=22,slow=75,SNR=12						
H11N3	**WAKE ISLAND Hy**	**36.46**	**216**	T	T	02 58 50.1	
	baz=22,slow=75,SNR=12						
H11N1	**WAKE ISLAND Hy**	**36.47**	**216**	T	T	02 58 49.8	
	baz=22,slow=75,SNR=8.9						
H11S1	**WAKE ISLAND Hy**	**37.65**	**215**	T	T	03 01 03.7	
	baz=22,slow=76,SNR=11						
H11S2	**WAKE ISLAND Hy**	**37.66**	**215**	T	T	03 00 46.5	
	baz=22,slow=76,SNR=6.3						
H11S3	**WAKE ISLAND Hy**	**37.66**	**215**	T	T	03 01 05.0	
	baz=22,slow=76,SNR=5.3						
PDAR	**Pinedale Array**	**41.68**	**77**	P	**P**	**02 21 00.7**	**+0.5**
	0.4nm,0.4s,baz=318,slow=3.6,SNR=3.9						
TXAR	**Lajitas Array**	**54.00**	**87**	P	**P**	**02 22 35.7**	**+0.3**
	0.3nm,0.5s,baz=305,slow=6.4,SNR=5.9						

NIED ***18*** *02:22:00,40˚.20N×143˚.30E, h5km, Mw3.5 Best double couple: M0 2.31000×10^14 NP1:φs265.00000°, δ28.00000°, λ-18.00000°. NP2:φs10.00000°, δ82.00000°, λ-117.00000°.*

JMA 18 02:22:47.6±0.1**, 40˚.24N×143˚.25E, h9**km±2**km, M3.5, Off east coast of Honshu**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JTH	**Tanohata**	**1.10**	**255**	P	Pg	02 23 08.4	-0.4
JTH				*e*S	Sb	02 23 23.4	0.0

MIYJ	**Miyakonagasawa**	**1.28**	**239**	P		Pn	02 23 11.2	-0.5
MIYJ				*e*S		Sb	02 23 28.2	-0.3
JANG	**Nango**	**1.33**	**276**	P		Pn	02 23 12.0	-0.4
JANG				*e*S		Sb	02 23 29.4	-0.6
JOM	**Ohasama**	**1.69**	**244**	P		Pn	02 23 17.7	+0.4
JTM	**Tenmabayashi**	**1.75**	**289**	P		Pn	02 23 18.5	+0.4
JTM				*e*S		Sn	02 23 41.1	+0.6
JAH	**Hinai**	**2.00**	**269**	P		Pn	02 23 22.6	+1.0
JAH				*e*S		Sb	02 23 48.0	-1.2
JOT	**Ohata**	**2.02**	**305**	P		Pn	02 23 23.1	+1.2
JOT				*e*S		Sb	02 23 49.2	-0.6
JMK	**Ichinoseki**	**2.03**	**231**	P		Pn	02 23 22.4	+0.5
JNBK	**Urakawa-nobuka**	**2.07**	**350**	*e*S		Sn	02 23 49.4	+0.9
JRG	**Rokugo**	**2.18**	**248**	P		Pn	02 23 25.4	+1.3
JRG				*e*S		Sn	02 23 52.3	+1.1
JKB	**Kayabe**	**2.35**	**315**	P		Pn	02 23 27.9	+1.6
JKB				*e*S		Sn	02 23 57.0	+1.7
JCH	**Churui**	**2.37**	**2**	P		Pn	02 23 26.5	-0.2
JCH				*e*S		Sn	02 23 55.4	-0.5
JOU	**Okura**	**2.74**	**228**	P		Pn	02 23 32.3	+0.5
JFT	**Otama**	**3.54**	**221**	P		Pn	02 23 43.9	+1.1

ISCJB ***18*** *02:24:37.4±1.1,24˚.92N±0˚.06×122˚.79E±0˚.04, h19km±9km, mb4.0/16, MS3.8/13, Error ellipse: s-maj=10.4km s-min=5.8km az=9.7*

NEIC ***18*** *02:24:37.4±0.4,24˚.93N×122˚.78E, h10km, mb4.3/8, Error ellipse: s-maj=8.4km s-min=6.7km az=74.0*

IDC ***18*** *02:24:38.0±1.0,24˚.47N×121˚.69E, h0km, mb3.9/8, mb1 4.0/9, mb1mx3.8/44, mbtmp3.9/9, ML3.5/1, MS3.8/16, Ms1 3.8/16, ms1mx3.6/34, Error ellipse: s-maj=68.1km s-min=15.6km az=69.0*

JMA ***18*** *02:24:39.2±0.1,24˚.79N×122˚.77E, h31km±3km, M3.4*

ISC 18 02:24:36.7±1.8**, 24˚.86N**±0˚.06×**122˚.77E**±0˚.03**, h5**km±13**km, n45, σ1s10/39, mb4.0**/16**, MS3.7**/13**, Taiwan region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JYNG	**Yonagunijimaku**	**0.44**	**159**	P	**Pb**	**02 24 47.5**	**+0.5**
JYNG				S	**Sb**	**02 24 53.3**	**-0.6**
YOJ	**Yonaguni jima**	**0.46**	**151**	P	**Pb**	**02 24 47.7**	**+0.5**
YOJ				*e*S	**Sb**	**02 24 53.6**	**-0.7**
YOJ	**Yonaguni jima**	**0.46**	**151**	*e*Pg	**Pb**	**02 24 47.5**	**+0.2**
IRIF	**Iriomote-Funau**	**1.02**	**121**	P	**Pg**	**02 24 56.5**	**+0.2**
IRIF				*e*S	**Sg**	**02 25 08.7**	**-0.8**
TATO	**Taipei**	**1.17**	**276**	*e*Pn	**Pb**	**02 24 58.7**	**-0.6**
HATJ	**Hateruma jima**	**1.24**	**130**	P	**Pn**	**02 25 00.6**	**-0.1**
NACB	**Ninganchiao**	**1.27**	**238**	*e*Pn	**Pb**	**02 25 01.4**	**+0.2**
YHNB	**Yeheng**	**1.28**	**262**	*e*Pn	**Pn**	**02 25 00.8**	**-0.5**
JKRS	**Kuro-shima**	**1.29**	**119**	P	**Pn**	**02 25 00.9**	**-0.5**
JKRS				*e*S	**Sb**	**02 25 17.2**	**-1.1**
JIJ	**Ishigaki jima**	**1.35**	**111**	P	**Pn**	**02 25 01.9**	**-0.3**
JIJ				*e*S	**Sb**	**02 25 19.7**	**-0.3**
JISG	**Ishigakijimahi**	**1.43**	**101**	P	**Pn**	**02 25 03.7**	**+0.4**
JTJ	**Tarama**	**1.77**	**97**	P	**Pb**	**02 25 09.5**	**-0.2**
SSLB	**Suanglung**	**1.97**	**237**	*e*Pn	**Pb**	**02 25 13.3**	**+0.2**
TPUB	**Ta-pu**	**2.50**	**232**	*e*Pn	**Pn**	**02 25 19.8**	**+1.7**
TWG	**Pinlang**	**2.56**	**218**	*e*Pn	**Pn**	**02 25 18.3**	**-0.6**
TGY	**Tagaytay City**	**10.84**	**189**	LR	LR	02 31 20.6	
	comp=Z,436nm,21.9s,baz=28,slow=39						
KSAR	**Wonju Array Be**	**13.28**	**18**	Pn	**P**	**02 27 59.2**	**+3.4**
KSRS	**Korea Array**	**13.30**	**18**	Pn	**P**	**02 27 59.2**	**+3.1**
	0.2nm,0.3s,baz=190,slow=14,SNR=7.8						
KSRS				LR	LR	02 33 25.6	
	comp=Z,444nm,20.4s,baz=196,slow=38						
CBIJ	**Chichi jima**	**17.60**	**79**	*e*Pn	**Pn**	**02 28 41.8**	**-1.0**
MJAR	**Matsushiro Arr**	**17.63**	**45**	LR	LR	02 36 10.6	
	comp=Z,132nm,19.0s,baz=240,slow=37						
USRK	**Ussuriysk Ar.**	**20.70**	**19**	LR	LR	02 38 12.7	
	comp=Z,147nm,19.3s,baz=180,slow=38						
CMAR	**Chiang Mai Arr**	**23.02**	**259**	LR	LR	02 39 34.8	
	comp=Z,221nm,19.9s,baz=79,slow=41						
ULN	**Ulaanbaatar**	**26.11**	**336**	*e*P	**P**	**02 30 11.4**	**-0.2**
	1.3nm,0.4s						
SONM	**Songino Array**	**26.34**	**335**	P	**P**	**02 30 14.8**	**+1.1**
	0.9nm,0.5s,baz=148,slow=9.4,SNR=9.6						
SONM				LR	LR	02 41 10.8	
	comp=Z,228nm,20.9s,baz=149,slow=38						
TLY	**Talaya**	**30.51**	**336**	*e*P	**P**	**02 30 47.9**	**-2.8**
	2.9nm,0.8s						
PETK	**Petropavlovsk-**	**38.50**	**34**	LR	LR	02 48 21.4	
	comp=Z,84nm,18.6s,baz=225,slow=36						
ZALV	**Zalesovo Beam**	**40.48**	**326**	P	**P**	**02 32 15.7**	**-0.6**
	0.7nm,0.5s,baz=101,slow=7.7,SNR=4.1						
ZALV				LR	LR	02 49 52.9	
	comp=Z,136nm,21.9s,baz=70,slow=38						
KURK	**Kurchatov**	**42.51**	**319**	*e*P	**P**	**02 32 32.7**	**-0.3**
	15nm,0.9s						
KURBB	**Kurchatov Arra**	**42.53**	**319**	P	**P**	**02 32 32.7**	**-0.4**
	1.7nm,1.0s,baz=112,slow=7.2,SNR=7.9						
FITZ	**Fitzroy Crossi**	**42.80**	**176**	P	**P**	**02 32 35.5**	**-0.1**
	1.7nm,1.0s,baz=352,slow=14,SNR=2.7						
AAK	**Ala-Archa**	**43.25**	**307**	*e*P	**P**	**02 32 38.8**	**-0.6**
	1.1nm,0.6s						
WRAB	**Tennant Creek**	**45.93**	**165**	*e*P	**P**	**02 33 00.8**	**+0.1**
	8.9nm,1.1s						
WRA	**Warramunga Arr**	**45.94**	**165**	P	**P**	**02 33 01.2**	**+0.5**
	5.5nm,1.1s,baz=348,slow=8.3,SNR=15						
BVAR	**Borovoye Array**	**48.07**	**320**	P	**P**	**02 33 17.8**	**+0.6**
	0.6nm,0.7s,baz=78,slow=9.0,S

CHN5			*e*S	Sn	02 25 23.6	+0.5
	baz=281						

THR ***18*** *02:38:51.3±0.3,28°.99N×57°.50E,h17km±3km, ML3.9*
ISCJB ***18*** *02:38:52.9±0.5,28°.83N±0°.03×57°.40E±0°.07,h10km, mb3.5/9, Error ellipse: s-maj=9.1km s-min=4.6km az=176.8*
IDC ***18*** *02:38:53.2±3.9,29°.00N×57°.09E,h54km±49km, mb3.4/9, mb1 3.5/10,mb1mx3.3/35,mbtmp3.7/10,ML4.1/2, Error ellipse: s-maj=32.5km s-min=21.4km az=142.0*
OMAN ***18*** *02:38:55.6±8.5,28°.65N×57°.82E,h25km, Error ellipse: s-maj=6.7km s-min=0.9km az=309.0*
CSEM ***18*** *02:38:56.4±0.3,28°.84N×57°.39E,h20km, ML3.6, Error ellipse: s-maj=10.9km s-min=6.3km az=87.0*
TEH ***18*** *02:38:58.1,28°.90N×57°.30E,h25km, ML3.6*
DSN ***18*** *02:39:01.6±1.4,28°.11N×57°.92E,h15km,ML4.1/8, Error ellipse: s-maj=31.3km s-min=8.0km az=140.0*

ISC 18 02:38:54.7±1.0, 28°.80N±0°.03×57°.38E±0°.05, h10km, n65, σ1s26/57, mb3.6/9, Southern Iran

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NGRK	**Negar Kerman**	**1.01**	**326**	*e*Pg	**Pn**	**02 39 17.3**	**+1.9**
NGRK	**Negar Kerman**	**1.01**	**326**	*e*Pg	**Pn**	**02 39 17.3**	**+1.9**
CHMN	**Cheshme madani**	**1.06**	**7**	*e*Pg	**Pn**	**02 39 17.1**	**+1.1**
CHMN	**Cheshme madani**	**1.06**	**7**	*e*Pg	**Pn**	**02 39 17.1**	**+1.1**
TVBK	**TV Kerman**	**1.30**	**335**	*e*Pg	**Pg**	**02 39 21.1**	**+1.4**
TVBK	**TV Kerman**	**1.30**	**335**	*e*Pg	**Pg**	**02 39 21.1**	**+1.4**
NIAN	**Nian**	**1.33**	**202**	*e*Pn	**Pg**	**02 39 22.2**	**+2.0**
NIAN	**Nian**	**1.33**	**202**	*e*Pn	**Pg**	**02 39 22.2**	**+2.0**
IBND	**Bandar-abas**	**1.54**	**209**	*e*Pn	**Pg**	**02 39 24.9**	**+0.6**
IBND				*e*AMB	AMB	02 39 52.9	
	comp=Z,54μm,0.1s						
IBND	**Bandar-abas**	**1.54**	**209**	*e*Pn	**Pg**	**02 39 24.9**	**+0.6**
KHGB	**Koh Gabri**	**1.76**	**333**	*e*Pn	**Pn**	**02 39 25.5**	**0.0**
KHGB	**Koh Gabri**	**1.76**	**333**	*e*Pn	**Pn**	**02 39 25.5**	**0.0**
BNDS	**Bandar-Abbas**	**1.76**	**218**	*e*Pg	**Pb**	**02 39 27.3**	**+0.1**
BNDS				AML	AML	02 39 51.5	
	comp=N,2μm,0.6s						
BNDS	**Bandar-Abbas**	**1.76**	**218**	*e*Pg	**Pb**	**02 39 27.3**	**+0.1**
KHSK	**Kohestak**	**2.06**	**188**	*e*Pn	**Pb**	**02 39 32.0**	**-0.2**
KHSK	**Kohestak**	**2.06**	**188**	*e*Pn	**Pb**	**02 39 32.0**	**-0.2**
BANOM	**Banah**	**3.02**	**199**	*e*P	**Pn**	**02 39 43.5**	**+0.8**
	SNR=294						
BANOM	**Banah**	**3.02**	**199**	P	**Pn**	**02 39 43.6**	**+0.8**
	SNR=294						
BANOM				S	**Sn**	**02 40 19.0**	**0.0**
BANOM	**Banah**	**3.02**	**199**	P	**Pn**	**02 39 43.6**	**+0.8**
	SNR=294						
BANOM				S	**Sn**	**02 40 19.0**	**0.0**
ZHSF	**Zahedan**	**3.07**	**74**	*e*Pg	**Pn**	**02 39 44.2**	**+0.7**
ZHSF				AML	AML	02 40 21.4	
	comp=N,161nm,0.9s						
ZHSF	**Zahedan**	**3.07**	**74**	*e*Pg	**Pn**	**02 39 44.2**	**+0.7**
IBAF	**Bafgh**	**3.19**	**331**	*e*AMB	AMB	02 40 45.2	
	comp=Z,1μm,0.2s						
IMEH	**Mehriz**	**3.52**	**318**	*e*Pn	**Pn**	**02 39 49.0**	**-0.8**
IMEH				*e*AMB	AMB	02 40 03.7	
	comp=Z,752nm,0.1s						
IMEH	**Mehriz**	**3.52**	**318**	*e*Pn	**Pn**	**02 39 49.0**	**-0.8**
ISRV	**Sarvestan**	**3.78**	**280**	*e*Pn	**Pn**	**02 39 54.0**	**+0.6**
ISRV				*e*AMB	AMB	02 40 43.8	
	comp=Z,1μm,0.1s						
ISRV	**Sarvestan**	**3.78**	**280**	*e*Pn	**Pn**	**02 39 54.0**	**+0.6**
GHIR	**Ghir-Karzin**	**3.90**	**263**	*e*Pn	**Pn**	**02 39 54.4**	**-0.5**
GHIR				AML	AML	02 40 41.9	
	comp=E,210nm,0.3s						
GHIR	**Ghir-Karzin**	**3.90**	**263**	*e*Pn	**Pn**	**02 39 54.4**	**-0.5**
UOSS	**Minazif**	**3.98**	**196**	P	**Pn**	**02 39 55.4**	**-0.5**
	SNR=17						
NAZ	**Nazwa, Dubai**	**4.10**	**202**	*i* P	**Pn**	**02 39 58.7**	**+1.3**
	SNR=32						
NAZ	**Nazwa, Dubai**	**4.10**	**202**	P	**Pn**	**02 39 58.7**	**+1.3**
	SNR=32						
HATD	**Hatta, Dubai**	**4.12**	**196**	*i* P	**Pn**	**02 39 58.1**	**+0.4**
	SNR=11						
HATD	**Hatta, Dubai**	**4.12**	**196**	P	**Pn**	**02 39 58.1**	**+0.4**
	SNR=11						
CHBR	**Chabahar**	**4.22**	**138**	*e*Pn	**Pn**	**02 39 58.0**	**-1.1**
CHBR	**Chabahar**	**4.22**	**138**	*e*Pn	**Pn**	**02 39 58.0**	**-1.1**
ITEG	**Tejag**	**4.25**	**16**	*e*Pn	**Pn**	**02 39 58.8**	**-0.9**
ITEG				*e*AMB	AMB	02 40 07.6	
	comp=Z,770nm,0.2s						
ITEG	**Tejag**	**4.25**	**16**	*e*Pn	**Pn**	**02 39 58.8**	**-0.9**
ASHO	**Ashiyiah**	**4.27**	**196**	*i* P	**Pn**	**02 40 00.7**	**+0.9**
	SNR=126						
ASHO	**Ashiyiah**	**4.27**	**196**	P	**Pn**	**02 40 00.8**	**+0.9**
ASHO	**Ashiyiah**	**4.27**	**196**	P	**Pn**	**02 40 00.8**	**+0.9**
ICHK	**Chekchek**	**4.29**	**324**	*e*Pn	**Pn**	**02 40 00.1**	**-0.1**
ICHK				*e*AMB	AMB	02 40 46.6	
	comp=Z,370nm,0.2s						
ICHK	**Chekchek**	**4.29**	**324**	*e*Pn	**Pn**	**02 40 00.1**	**-0.1**
FAQ	**Al Faqa, Dubai**	**4.35**	**202**	*i* P	**Pn**	**02 40 01.8**	**+0.9**
	SNR=44						
FAQ	**Al Faqa, Dubai**	**4.35**	**202**	P	**Pn**	**02 40 01.8**	**+0.9**
	SNR=44						
IDAH	**Dahanechah**	**4.47**	**28**	*e*Pn	**Pn**	**02 40 03.0**	**+0.2**
IDAH				*e*AMB	AMB	02 46 08.0	
	comp=Z,361nm,0.1s						
IDAH	**Dahanechah**	**4.47**	**28**	*e*Pn	**Pn**	**02 40 03.0**	**+0.2**
IRAM	**Ramesheh**	**5.26**	**306**	*e*Pn	**Pn**	**02 40 11.7**	**-1.9**
IRAM				*e*AMB	AMB	02 41 13.4	
	comp=Z,360nm,0.3s						
IRAM	**Ramesheh**	**5.26**	**306**	*e*Pn	**Pn**	**02 40 11.7**	**-1.9**
WSAR	**Wadi Sarin**	**5.65**	**168**	P	**Pn**	**02 40 18.0**	**-0.8**
	comp=Z,9.7nm,0.3s,baz=351,slow=7.2,SNR=83						
WSAR				S	**Sn**	**02 41 18.3**	**-5.5**
	comp=Z,39nm,0.3s,baz=57,slow=20,SNR=28						
IGAR	**Gharneh**	**5.84**	**309**	*e*Pn	**Pn**	**02 40 20.7**	**-0.9**
IGAR				*e*AMB	AMB	02 41 38.8	
	comp=Z,159nm,0.2s						
IZEF	**Zefreh**	**5.96**	**314**	*e*Pn	**Pn**	**02 40 22.4**	**-0.9**
IZEF				*e*AMB	AMB	02 40 59.5	
	comp=Z,74nm,0.2s						
IZEF	**Zefreh**	**5.96**	**314**	*e*Pn	**Pn**	**02 40 22.4**	**-0.9**
IPIR	**Pirpir**	**6.80**	**306**	*e*Pn	**Pn**	**02 40 33.2**	**-1.6**
IPIR				*e*AMB	AMB	02 41 54.9	
	comp=Z,139nm,0.2s						
IPIR	**Pirpir**	**6.80**	**306**	*e*Pn	**Pn**	**02 40 33.2**	**-1.6**
GEYT	**Alibeck**	**9.12**	**4**	P	**Pn**	**02 41 05.7**	**-0.8**
	comp=Z,1.1nm,0.3s,baz=192,slow=13,SNR=5.4						
ASF	**Jabal al Asfar**	**17.97**	**286**	P	Pn	02 42 55.7	-9.2
	comp=Z,0.3nm,0.3s,baz=126,slow=18,SNR=2.4						
AKTO	**Aktyubinsk**	**21.61**	**1**	P	P	02 43 36.6	-8.2
	comp=Z,4.2nm,0.7s,baz=175,slow=10.0,SNR=19						
BRTR	**Keskin Array B**	**22.38**	**305**	P	P	02 43 44.0	-9.3
	comp=Z,1.6nm,0.7s,baz=187,slow=7.3,SNR=9.1						
BVAR	**Borovoye Array**	**26.04**	**18**	P	P	02 44 20.2	-7.7
	comp=Z,1.6nm,0.7s,baz=187,slow=7.3,SNR=9.1						
KURBB	**Kurchatov Arra**	**27.02**	**30**	P	P	02 44 29.8	-7.0
	comp=Z,0.2nm,0.4s,baz=224,slow=8.7,SNR=3.8						
AKASG	**Malin Array Be**	**30.46**	**324**	P	P	02 44 57.8	-10
	comp=Z,0.3nm,0.4s,baz=129,slow=8.5,SNR=4.6						
FINES	**FINESS Array B**	**38.68**	**336**	P	P	02 46 09.1	-9.2
	comp=Z,1.1nm,0.4s,baz=135,slow=7.5,SNR=19						
GERES	**GERESS Array B**	**38.82**	**313**	P	P	02 46 09.8	-10
	comp=Z,0.5nm,0.6s,baz=106,slow=7.5,SNR=6.6						
NOA	**NORSAR Array B**	**44.40**	**330**	P	P	02 46 55.1	-10
	comp=Z,1.1nm,1.0s,baz=108,slow=7.5,SNR=2.7						
TORD	**Torodi Ar. Bea**	**53.83**	**265**	P	P	02 48 09.3	-8.8
	comp=Z,0.5nm,0.7s,baz=64,slow=7.0,SNR=10						

IDC ***18*** *03:00:57.5±3.2,39°.13N×143°.86E,h0km,mb3.5/2, mb1 3.7/3,mb1mx3.3/25,mbtmp3.5/3,ML3.4/1, Error ellipse: s-maj=72.0km s-min=36.1km az=60.0*
ISCJB ***18*** *03:00:59.4±1.1,39°.12N±0°.06×143°.62E±0°.09,h20km, mb3.4/2, Error ellipse: s-maj=10.3km s-min=8.3km az=158.3*
JMA ***18*** *03:00:59.3±0.1,39°.10N×143°.58E,h19km±2km, M3.8*

ISC 18 03:01:01.8±1.8, 39°.17N±0°.07×143°.5E±0°.1, h20km, n16, σ1s28/23, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MIYJ	**Miyakonagasawa**	**1.39**	**288**	P	**Pn**	**03 01 24.8**	**-1.2**
MIYJ				*e*S	**Sn**	**03 01 43.3**	**-0.5**
OFUJ	**Ofunato**	**1.46**	**267**	P	**Pn**	**03 01 25.5**	**-1.4**
OFUJ				S	**Sn**	**03 01 44.4**	**-1.0**
JTH	**Tanohata**	**1.50**	**301**	P	**Pn**	**03 01 26.6**	**-1.0**
JOM	**Ohasama**	**1.77**	**281**	P	**Pn**	**03 01 30.5**	**-0.7**
JOM				S	**Sn**	**03 01 53.2**	**+0.1**
JMK	**Ichinoseki**	**1.82**	**264**	P	**Pn**	**03 01 30.8**	**-1.1**
JIO	**Ouri**	**1.85**	**248**	P	**Pn**	**03 01 30.7**	**-1.6**
JANG	**Nango**	**1.97**	**308**	P	**Pn**	**03 01 33.4**	**-0.6**
JRG	**Rokugo**	**2.26**	**277**	P	**Pn**	**03 01 37.4**	**-0.6**
JOU	**Okura**	**2.38**	**251**	P	**Pn**	**03 01 38.9**	**-0.8**
JOU				*e*S	**Sn**	**03 02 07.6**	**-0.8**
JAH	**Hinai**	**2.46**	**295**	P	**Pn**	**03 01 40.6**	**-0.1**
JAH				*e*S	**Sn**	**03 02 11.2**	**+1.1**
JYK	**Kaneyama**	**2.49**	**265**	P	**Pn**	**03 01 40.6**	**-0.5**
JTM	**Tenmabayashi**	**2.49**	**311**	P	**Pn**	**03 01 41.1**	**0.0**
JTM				*e*S	**Sn**	**03 02 12.3**	**+1.4**
MJAR	**Matsushiro Arr**	**4.96**	**240**	Pn	**Pn**	**03 02 15.8**	**+0.6**
	1.3nm,0.3s,baz=51,slow=10,SNR=25						
MAT	**Matsushiro**	**4.97**	**240**	P	**Pn**	**03 02 15.8**	**+0.6**
MAT				*e*S	**Sn**	**03 03 15.9**	**+3.9**
SONM	**Songino Array**	**28.07**	**300**	P	**P**	**03 06 52.9**	**+1.0**
	0.4nm,0.5s,baz=84,slow=8.8,SNR=2.7						
WRA	**Warramunga Arr**	**59.43**	**190**	P	**P**	**03 11 01.9**	**-1.1**
	0.5nm,1.1s,baz=7.4,slow=6.4,SNR=2.9						

CSEM ***18*** *03:03:00.2±0.2,37°.13N×50°.11E,h10km,ML3.7, Error ellipse: s-maj=8.2km s-min=3.3km az=57.0*
TEH ***18*** *03:03:01.0,37°.10N×50°.16E,h5km,ML3.7*
AZER ***18*** *03:03:01.3±0.8,37°.19N×49°.90E,h5km, Error ellipse: s-maj=10.2km s-min=6.2km az=67.0*

ISC 18 03:03:02.4±1.7, 37°.14N±0°.04×50°.15E±0°.05, h25km±19km, n50, σ1s05/63, 12C-7D, Caspian Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ZNJK	**Zanjan**	**1.26**	**248**	*e*Pg	**Pb**	**03 03 25.0**	**-0.7**
THKV	**Tehran--Karaj**	**1.36**	**154**	*e*Pg	**Pn**	**03 03 24.9**	**-1.1**
CHTH	**Charan**	**1.47**	**147**	*e*Pg	**Pn**	**03 03 26.7**	**-0.8**
IMHD	**Mahdasht**	**1.52**	**164**	*e*Pn	**Pn**	**03 03 27.6**	**-0.5**
IMHD				*e*AMB	AMB	03 03 49.0	
	comp=Z,40μm,0.1s						
IMHD	**Mahdasht**	**1.52**	**164**	*e*Pn	**Pn**	**03 03 27.6**	**-0.5**
IRAZ	**Razeghan**	**1.75**	**186**	*e*Pn	**Pn**	**03 03 31.2**	**-0.1**
IRAZ				*e*Sg	**Sb**	**03 03 54.1**	**-1.4**
IRAZ				*e*AMB	AMB	03 03 55.1	
	comp=Z,36μm,0.2s						
IRAZ	**Razeghan**	**1.75**	**186**	*e*Pn	**Pn**	**03 03 31.2**	**-0.1**
IRAZ				*e*Sg	**Sb**	**03 03 54.1**	**-1.4**
ASTR	**Astara**	**1.77**	**323**	⇓P	**Pn**	**03 03 31.0**	**-0.5**
	SNR=5.2						
ASTR				⇑S	**Sn**	**03 03 53.3**	**+0.1**
ASTR	**Astara**	**1.77**	**323**	P	**Pn**	**03 03 31.0**	**-0.5**
	SNR=5.2						
ASTR				S	**Sn**	**03 03 53.3**	**+0.1**
IAFJ	**Afjeh**	**1.80**	**135**	*e*Pn	**Pn**	**03 03 32.1**	**-0.1**
IAFJ				*e*AMB	AMB	03 04 00.4	
	comp=Z,6μm,0.1s						
IAFJ	**Afjeh**	**1.80**	**135**	*e*Pn	**Pn**	**03 03 32.1**	**-0.1**
LKRN	**Lenkeran, Azer**	**1.90**	**326**	⇑P	**Pn**	**03 03 32.6**	**-0.6**
LKRN				⇑S	**Sn**	**03 03 54.6**	**-1.8**
LKRN	**Lenkeran, Azer**	**1.90**	**326**	P	**Pn**	**03 03 32.6**	**-0.6**
LKRN				S	**Sn**	**03 03 54.6**	**-1.8**
IPRN	**Peran**	**1.98**	**116**	*e*Pn	**Pn**	**03 03 33.1**	**-1.3**
LRK	**Lerik**	**2.07**	**317**	⇑P	**Pn**	**03 03 34.8**	**-0.9**
	SNR=6.9						
LRK				⇓S	**Sn**	**03 04 00.5**	**-0.3**
LRK	**Lerik**	**2.07**	**317**	P	**Pn**	**03 03 34.8**	**-0.9**
	SNR=6.9						
LRK				S	**Sn**	**03 04 00.5**	**-0.3**
ISRB	**Sarab**	**2.09**	**290**	*e*AMB	AMB	03 03 42.0	
	comp=Z,3μm,0.1s						
IDMV	**Damavand**	**2.18**	**135**	*e*Pn	**Pn**	**03 03 38.0**	**+0.6**
IDMV				*e*AMB	AMB	03 04 11.2	
	comp=Z,2μm,0.1s						
IDMV	**Damavand**	**2.18**	**135**	*e*Pn	**Pn**	**03 03 38.0**	**+0.6**
GLBA	**Clilabad**	**2.51**	**327**	⇑P	**Pn**	**03 03 40.8**	**-0.8**
	SNR=8.5						
GLBA				⇑S	**Sn**	**03 04 11.1**	**-0.3**
GLBA	**Clilabad**	**2.51**	**327**	P	**Pn**	**03 03 40.8**	**-0.8**
	SNR=8.5						
GLBA				S	**Sn**	**03 04 11.1**	**-0.3**
IFIR	**Firoozkooh**	**2.58**	**125**	*e*Pn	**Pn**	**03 03 43.5**	**+0.6**
IFIR				*e*AMB	AMB	03 04 27.2	
	comp=Z,2μm,0.1s						
IFIR	**Firoozkooh**	**2.58**	**125**	*e*Pn	**Pn**	**03 03 43.5**	**+0.6**
ASAO	**Ashtian**	**2.59**	**182**	*e*Pg	**Pn**	**03 03 43.8**	**+0.8**
IHRS	**Heris**	**2.73**	**296**	*e*Pn	**Pn**	**03 03 45.7**	**+0.9**
IHRS				*e*AMB	AMB	03 04 21.6	
	comp=Z,813nm,0.2s						
IHRS	**Heris**	**2.73**	**296**	*e*Pn	**Pn**	**03 03 45.7**	**+0.9**
GHVR	**GHOM**	**2.82**	**160**	*e*Pn	**Pn**	**03 03 46.2**	**+0.3**
ISHM	**Shahmirzad**	**2.87**	**117**	*e*Pn	**Pn**	**03 03 47.0**	**+0.2**
ISHM				*e*AMB	AMB	03 04 35.0	
	comp=Z,3μm,0.2s						
IKIA	**Kiasar**	**2.99**	**107**	*e*Pn	**Pn**	**03 03 47.9**	**-0.6**
IKIA				*e*AMB	AMB	03 04 40.7	
	comp=Z,946nm,0.2s						
IKIA	**Kiasar**	**2.99**	**107**	*e*Pn	**Pn**	**03 03 47.9**	**-0.6**
IGLO	**Ghaloghah**	**3.02**	**101**	*e*Pn	**Pn**	**03 03 47.7**	**-1.2**
IGLO				*e*AMB	AMB	03 04 49.9	
	comp=Z,3μm,0.3s						
QAM	**Ghamsar**	**3.54**	**162**	*e*Pn	**Pn**	**03 03 56.3**	**+0.3**
QAM				*e*AMB	AMB	03 04 59.2	
	comp=Z,2μm,0.2s						
ISHB	**Shabestar**	**3.77**	**289**	*e*Pn	**Pb**	**03 04 11.6**	**+3.2**
ISHB				*e*AMB	AMB	03 04 18.2	
	comp=Z,345nm,0.2s						
ATGJ	**Altiaghaj**	**3.83**	**346**	⇓S	**Sn**	**03 04 45.9**	**+1.8**
ATGJ	**Altiaghaj**	**3.83**	**346**	S	**Sn**	**03 04 45.9**	**+1.8**
PQL	**Pirkuli**	**3.83**	**342**	⇑P	**Pn**	**03 04 00.1**	**+0.1**
PQL				⇑S	**Sn**	**03 04 46.0**	**+1.7**
PQL	**Pirkuli**	**3.83**	**342**	P	**Pn**	**03 04 00.1**	**+0.1**
PQL				S	**Sn**	**03 04 46.0**	**+1.7**
QBL	**Gabala**	**4.20**	**335**	⇓P	**Pn**	**03 04 03.7**	**-1.2**
QBL				⇑S	**Sn**	**03 04 52.8**	**-0.4**
QBL	**Gabala**	**4.20**	**335**	P	**Pn**	**03 04 03.7**	**-1.2**
QBL				S	**Sn**	**03 04 52.8**	**-0.4**
XNQ	**Khinaliq**	**4.31**	**339**	⇓P	**Pn**	**03 04 06.1**	**-0.5**
XNQ	**Khinaliq**	**4.31**	**339**	P	**Pn**	**03 04 06.1**	**-0.5**
QUBA	**Quba, Azerbaij**	**4.40**	**344**	⇑P	**Pn**	**03 04 07.2**	**-0.4**
QUBA	**Quba, Azerbaij**	**4.40**	**344**	P	**Pn**	**03 04 07.2**	**-0.4**
QSAR	**Qusar**	**4.60**	**342**	⇓P	**Pn**	**03 04 09.3**	**-1.1**
QSAR	**Qusar**	**4.60**	**342**	P	**Pn**	**03 04 09.3**	**-1.1**
SEKA	**Sheki**	**4.66**	**331**	⇑P	**Pn**	**03 04 09.8**	**-1.5**
SEKA	**Sheki**	**4.66**	**331**	P	**Pn**	**03 04 09.8**	**-1.5**
GDB	**GEDABAY**	**4.95**	**318**	⇑P	**Pn**	**03 04 13.8**	**-1.5**
GDB	**GEDABAY**	**4.95**	**318**	P	**Pn**	**03 04 13.8**	**-1.5**
ZKTA	**Zakatala**	**5.25**	**330**	⇓P	**Pn**	**03 04 17.9**	**-1.4**

KRSC 18 03:14:20.9±1.3, 51°.21N×154°.71E, h111km±22km, ML3.6, Northwest of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KDTR	**Khodutka, Kamc**	**2.19**	**73**	*e*P	Pn	03 14 57.6	+1.4
KDTR				*e*S	Sn	03 15 24.6	+1.3
APC	**Apacha**	**2.29**	**40**	*e*P	Pn	03 14 58.6	+1.1
APC				*e*S	Sn	03 15 27.4	+1.7
RUS	**Russkaya**	**2.66**	**61**	*e*P	Pn	03 15 05.2	+2.8
RUS				*e*S	Sn	03 15 37.1	+2.8
UGLR	**Uglovaya**	**3.23**	**50**	P	Pn	03 15 12.6	+2.6
SDLR	**Sedlovina**	**3.30**	**49**	P	Pn	03 15 13.8	+2.9
SPN	**Mys Shipunski**	**3.78**	**58**	*e*P	Pn	03 15 19.0	+1.8
SPN				*e*S	Sn	03 16 02.3	+1.5
MKZ	**Mys Kozlova**	**5.41**	**49**	*e*P	Pn	03 15 40.7	+1.6

NIED ***18*** *03:23:00,37°.80N×141°.80E,h41km,Mw4.0 Best double couple: M₀1.09000×10¹⁵ NP1:φs209.00000°,δ10.00000°, λ109.00000°. NP2:φs10.00000°,δ81.00000°,λ87.00000°.*
ISCJB ***18*** *03:23:53.6±0.8,37°.83N±0°.03×141°.77E±0°.08,h47km±7km, mb3.9/13,MS3.3/2, Error ellipse: s-maj=10.5km s-min=5.0km az=15.7*
JMA ***18*** *03:23:53.6±0.1,37°.82N×141°.77E,h42km±2km,M4.1*
JMA Felt I J1.
IDC ***18*** *03:23:55.1±0.7,37°.85N×141°.64E,h44km±6km,mb3.7/13, mb1 3.9/15,mb1mx3.7/48,mbtmp4.0/15,ML3.4/2,MS3.2/2, Ms1 3.3/2,ms1mx2.6/32, Error ellipse: s-maj=19.1km s-min=14.4km az=102.0*

ISC 18 03:23:53.5±0.6, 37°.81N±0°.04×141°.77E±0°.05, h29km±3km, n33, σ1s59/47, mb3.9/13, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JIO	**Ouri**	**0.73**	**333**	P	**Pb**	**03 24 07.4**	**-0.3**
JIO				*e*S	**Sb**	**03 24 16.4**	**-1.0**
JMM	**Marumori**	**0.78**	**275**	P	**Pb**	**03 24 08.4**	**-0.2**
JMM				S	**Sb**	**03 24 18.5**	**-0.3**
JFK	**Kawauchi**	**0.84**	**239**	P	**Pn**	**03 24 09.2**	**-0.2**
JFK				*e*S	**Sb**	**03 24 19.7**	**-0.9**
JOU	**Okura**	**1.04**	**303**	P	**Pn**	**03 24 12.1**	**0.0**
JOU				*e*S	**Sn**	**03 24 25.2**	**-0.5**
ONAJ	**Iwakimizuishiy**	**1.05**	**228**	P	**Pn**	**03 24 12.0**	**-0.3**
ONAJ				*e*S	**Sn**	**03 24 25.2**	**-0.8**
JFT	**Otama**	**1.18**	**256**	P	**Pn**	**03 24 14.7**	**+0.7**
JFT				*e*S	**Sn**	**03 24 29.7**	**+0.6**
JMK	**Ichinoseki**	**1.22**	**339**	P	**Pn**	**03 24 14.4**	**-0.2**
JMK				*e*S	**Sn**	**03 24 29.2**	**-1.0**
JYS	**Shirataka**	**1.41**	**288**	P	**Pn**	**03 24 17.5**	**+0.2**
JYS				*e*S	**Sn**	**03 24 35.7**	**+0.8**
JYK	**Kaneyama**	**1.57**	**315**	P	**Pn**	**03 24 19.5**	**+0.1**
JYK				*e*S	**Sn**	**03 24 38.2**	**-0.6**
JFY	**Yanaizu**	**1.69**	**257**	P	**Pn**	**03 24 21.6**	**+0.5**
JFY				*e*S	**Sn**	**03 24 42.4**	**+0.6**
JOM	**Ohasama**	**1.71**	**347**	P	**Pn**	**03 24 21.4**	**+0.1**
JOM				*e*S	**Sn**	**03 24 41.6**	**-0.5**
MJAR	**Matsushiro Arr**	**3.12**	**247**	P	**Pn**	**03 24 42.1**	**+1.5**
	2.9nm,0.3s,baz=79,slow=14,SNR=26						
MAT	**Matsushiro**	**3.12**	**247**	P	**Pn**	**03 24 42.4**	**+1.7**
MAT				*e*S	**Sn**	**03 25 18.0**	**+1.0**
JHJ	**Hachijo jima 2**	**4.95**	**200**	P	**Pn**	**03 25 08.1**	**+2.2**
	6.2nm,0.3s,baz=221,slow=20,SNR=3.7						
JHJ				S	**Sn**	**03 25 59.9**	**-2.3**
	13nm,0.3s,baz=108,slow=23,SNR=5.7						
USRK	**Ussuriysk Ar.**	**9.77**	**314**	P	**Pn**	**03 26 16.1**	**+4.2**
	0.4nm,0.3s,baz=127,slow=14,SNR=9.9						
KSRS	**Korea Array**	**10.99**	**272**	P	**Pn**	**03 26 32.8**	**+4.1**
	0.2nm,0.3s,baz=81,slow=14,SNR=4.7						
PETK	**Petropavlovsk-**	**18.88**	**31**	P	**Pn**	**03 28 18.1**	**+6.0**
	0.1nm,0.3s,baz=232,slow=7.1,SNR=2.9						
SONM	**Songino Array**	**27.60**	**303**	P	**P**	**03 29 37.7**	**-0.6**
	1.3nm,0.6s,baz=96,slow=9.2,SNR=7.5						
H11N2	**WAKE ISLAND Hy**	**28.31**	**123**	T	T	04 00 01.8	
	baz=316,slow=76,SNR=160						
H11N1	**WAKE ISLAND Hy**	**28.32**	**123**	T	T	04 00 02.8	
	baz=316,slow=76,SNR=182						
H11N3	**WAKE ISLAND Hy**	**28.33**	**123**	T	T	04 00 03.5	
	baz=316,slow=76,SNR=130						
ZALV	**Zalesovo Beam**	**41.61**	**312**	P	**P**	**03 31 38.1**	**-0.6**
	3.1nm,0.7s,baz=87,slow=7.0,SNR=13						
ZALV				LR	LR	03 49 52.8	
	comp=Z,37nm,18.1s,baz=70,slow=38						
KURBB	**Kurchatov Arra**	**45.76**	**307**	P	**P**	**03 32 11.2**	**-0.9**
	3.7nm,0.5s,baz=83,slow=8.3,SNR=25						
ILAR	**Eielson Array**	**48.69**	**33**	P	**P**	**03 32 35.0**	**+0.2**
	0.3nm,0.9s,baz=276,slow=5.5,SNR=3.8						
ILAR				pP	**sP**	**03 32 46.3**	**-0.8**
	0.6nm,0.7s,baz=259,slow=6.0,SNR=4.9						
WRA	**Warramunga Arr**	**57.87**	**188**	P	**P**	**03 33 41.6**	**-1.0**
	2.5nm,0.6s,baz=5.3,slow=7.1,SNR=50						
ASAR	**Alice Springs**	**61.59**	**188**	P	**P**	**03 34 08.0**	**-0.2**
	0.8nm,0.7s,baz=13,slow=7.3,SNR=9.9						
ASAR				pP	**sP**	**03 34 20.9**	**+0.1**
	0.6nm,0.6s,baz=8.3,slow=6.0,SNR=4.7						
FINES	**FINESS Array B**	**68.27**	**332**	P	**P**	**03 34 50.3**	**-0.9**
	2.7nm,0.7s,baz=28,slow=8.6,SNR=11						
KBZ	**Khabaz**	**70.62**	**311**	P	**P**	**03 35 04.5**	**-1.6**

WRA	**Warramunga Arr**	**59.47**	**187**	P	**P**	**03 38 38.8**	**-0.9**
	0.9nm,0.6s,baz=2.2,slow=7.4,SNR=12							
YKA	**Yellowknife Ar**	**62.00**	**31**	P	**P**	**03 38 56.8**	**+0.4**
	0.5nm,0.6s,baz=300,slow=6.4,SNR=3.0							
ASAR	**Alice Springs**	**63.20**	**187**	P	**P**	**03 39 04.3**	**-0.6**
	1.2nm,0.8s,baz=6.0,slow=5.0,SNR=13							
FINES	**FINESS Array B**	**66.24**	**331**	P	**P**	**03 39 23.7**	**-0.5**
	0.8nm,0.7s,baz=64,slow=11,SNR=2.5							
BMO	**Blue Mountains**	**70.76**	**47**	*e*P	**P**	**03 39 53.5**	**+0.6**
	2.5nm,1.0s							
R11A	**Troy Canyon, C**	**75.78**	**52**	*e*P	**P**	**03 40 23.7**	**+0.8**
	0.9nm,0.5s							
PDAR	**Pinedale Array**	**76.42**	**45**	P	**P**	**03 40 26.9**	**+0.5**
	1.6nm,0.7s,baz=273,slow=1.7,SNR=18							
BRTR	**Keskin Array B**	**76.63**	**311**	P	**P**	**03 40 26.6**	**-1.0**
	0.5nm,0.8s,baz=104,slow=6.1,SNR=2.5							
TXAR	**Lajitas Array**	**89.15**	**52**	P	**P**	**03 41 33.4**	**+0.8**
	0.7nm,0.6s,baz=296,slow=3.1,SNR=11							
LPAZ	**La Paz**	**145.95**	**55**	PKPbc	**PKPdf**	**03 48 16.4**	**-0.4**
	2.2nm,0.8s,baz=356,slow=5.1,SNR=9.6							

IDC ***18*** *03:34:56.7±1.1,25.95N×128.64E,h0km,mb3.9/8, mb1 4.1/9,mb1mx3.7/41,mbtmp3.9/9,ML4.1/1,MS3.0/1, Ms1 3.0/1,ms1mx2.5/25,Error ellipse: s-maj=40.9km s-min=20.7km az=77.0*

ISCJB ***18*** *03:34:58.5±1.1,25.91N±0.03×128.71E±0.03,h30km±8km, mb3.8/10,Error ellipse: s-maj=6.3km s-min=3.7km az=43.2*

JMA ***18*** *03:35:00.9±0.2,26.02N×128.70E,h42km,M4.0*

NIED ***18*** *03:35:00,26.00N×128.70E,h17km,Mw3.9 Best double couple: M₀6.70000×10¹⁴ NP1:φs347.00000°,δ86.00000°, λ-176.00000°. NP2:φs257.00000°,δ86.00000°, λ-4.00000°.*

NEIC ***18*** *03:35:01.8±0.8,25.92N×128.42E,h35km,mb4.1/1,Error ellipse: s-maj=16.9km s-min=9.8km az=125.0*

ISC 18 03:34:58.2±1.5,25.94N±0.04×128.76E±0.04,h15km±8km, n40,σ1§83/60,mb3.9/10,Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JNTH	**Nagotoyohara**	**0.88**	**312**	P	**Pg**	**03 35 15.4**	**+0.1**
JNTH				S	**Sg**	**03 35 26.1**	**-0.7**
JJT2	**Tamagusuku 2**	**0.93**	**283**	P	**Pg**	**03 35 16.9**	**+0.6**
JJT2				S	**Sg**	**03 35 28.8**	**+0.3**
JOW	**Kunigami**	**0.99**	**334**	Pn	**Pg**	**03 35 17.7**	**+0.2**
	237nm,0.3s,baz=144,slow=14,SNR=401						
JOW				Sn	**Sg**	**03 35 29.2**	**-1.2**
	325nm,0.3s,baz=329,slow=19,SNR=56						
JOW	**Kunigami**	**0.99**	**334**	P	**Pg**	**03 35 17.4**	**0.0**
JOW				S	**Sg**	**03 35 29.1**	**-1.3**
JIH	**Iheya**	**1.30**	**327**	P	**Pn**	**03 35 22.2**	**+0.3**
JIH				S	**Sb**	**03 35 37.5**	**-1.4**
JOKE	**Okinoerabujima**	**1.43**	**353**	P	**Pn**	**03 35 23.9**	**+0.3**
JOKE				S	**Sn**	**03 35 40.4**	**-1.8**
JAGN	**Aguni-jima**	**1.51**	**296**	P	**Pn**	**03 35 25.2**	**+0.5**
JAGN				S	**Sn**	**03 35 43.4**	**-0.6**
JKE	**Kume jima 2**	**1.81**	**283**	P	**Pn**	**03 35 28.8**	**-0.1**
JKE				S	**Sn**	**03 35 49.9**	**-1.7**
JTK	**Tokunoshima**	**1.85**	**5**	P	**Pn**	**03 35 29.5**	**+0.1**
JTK				*e*S	**Sn**	**03 35 49.6**	**-3.0**
JMZ	**Minamidaito 2**	**2.22**	**92**	P	**Pn**	**03 35 33.8**	**-0.7**
JMZ				S	**Sn**	**03 35 57.7**	**-4.0**
JAMN	**Amaminishikomi**	**2.33**	**9**	P	**Pn**	**03 35 36.2**	**+0.2**
JAMN				*e*S	**Sn**	**03 36 04.2**	**-0.1**
JAM	**Amami Oshima**	**2.58**	**17**	P	**Pn**	**03 35 39.2**	**-0.2**
JAM				*e*S	**Sn**	**03 36 08.5**	**-2.0**
JZK	**Kikaishima**	**2.61**	**24**	P	**Pn**	**03 35 40.5**	**+0.7**
JZK				*e*S	**Sn**	**03 36 10.7**	**-0.5**
JTAJ	**Takarajima**	**3.23**	**7**	P	**Pn**	**03 35 48.5**	**+0.1**
JTAJ				*e*S	**Sn**	**03 36 23.9**	**-2.7**
JOGS	**Gusukube**	**3.25**	**250**	P	**Pn**	**03 35 49.2**	**+0.6**
JOGS				*e*S	**Sn**	**03 36 25.3**	**-1.7**
JMJ	**Miyako jima 2**	**3.32**	**251**	P	**Pn**	**03 35 49.8**	**+0.1**
JMJ				*e*S	**Sn**	**03 36 26.9**	**-2.0**
JIKM	**Ikemajima**	**3.33**	**253**	P	**Pn**	**03 35 49.8**	**+0.1**
JIKM				*e*S	**Sn**	**03 36 26.3**	**-2.7**
JIRB	**Irabujima**	**3.42**	**252**	P	**Pn**	**03 35 50.7**	**-0.3**
JIRB				*e*S	**Sn**	**03 36 27.9**	**-3.4**
JTJ	**Tarama**	**3.89**	**252**	P	**Pn**	**03 35 56.9**	**-0.5**
JTJ				*e*S	**Sn**	**03 36 39.0**	**-3.8**
JISG	**Ishigakijimahi**	**4.24**	**252**	P	**Pn**	**03 36 00.9**	**-1.4**
JISG				S	**Sn**	**03 36 47.5**	**-4.0**
JIJ	**Ishigaki jima**	**4.46**	**250**	P	**Pn**	**03 36 04.1**	**-1.2**
JIJ				S	**Sn**	**03 36 52.2**	**-4.8**
JKRS	**Kuro-shima**	**4.62**	**250**	P	**Pn**	**03 36 06.7**	**-0.8**
YHNB	**Yeheng**	**6.80**	**261**	*e*Pn	**Pn**	**03 36 38.3**	**+0.8**
YULB	**Yu-li**	**7.24**	**251**	*e*Pn	Pn	03 36 40.0	-3.6
JNU	**Nakatsue**	**7.40**	**14**	Pn	**Pn**	**03 36 47.4**	**+1.7**
	3.0nm,0.3s,baz=338,slow=4.7,SNR=21						
JNU				Sn	**Sn**	**03 38 05.7**	**-3.6**
	1.0nm,0.3s,baz=315,slow=2.9,SNR=4.3						
JNU	**Nakatsue**	**7.40**	**14**	*e*Pn	**Pn**	**03 36 46.7**	**+1.1**
JNU				Sn	**Sn**	**03 38 05.7**	**-3.6**
SSLB	**Suanglung**	**7.40**	**255**	*e*Pn	**Pn**	**03 36 43.7**	**-2.1**
	16nm,0.3s						
TWG	**Pinlang**	**7.66**	**248**	*e*Pn	Pn	03 36 44.9	-4.4
	88nm,0.3s						
TPUB	**Ta-pu**	**7.84**	**252**	*e*Pn	**Pn**	**03 36 50.1**	**-1.7**
	36nm,0.9s						
JHJ	**Hachijo jima 2**	**11.97**	**51**	LR	LR	03 41 42.7	
	comp=Z,72nm,21.9s,baz=240,slow=34						
SONM	**Songino Array**	**28.06**	**327**	P	**P**	**03 40 52.0**	**+3.0**
	1.1nm,0.4s,baz=145,slow=11,SNR=7.7						
ZALV	**Zalesovo Beam**	**42.77**	**323**	P	**P**	**03 42 54.4**	**-0.5**
	0.6nm,0.3s,baz=128,slow=9.3,SNR=2.5						
WRAB	**Tennant Creek**	**45.92**	**173**	*e*P	**P**	**03 43 21.2**	**+0.7**
	1.3nm,0.6s						
WRA	**Warramunga Arr**	**45.93**	**173**	P	**P**	**03 43 21.6**	**+1.1**
	0.7nm,0.5s,baz=354,slow=8.5,SNR=12						
ILAR	**Eielson Array**	**64.47**	**28**	P	**P**	**03 45 34.6**	**+0.8**
	0.3nm,0.7s,baz=267,slow=6.8,SNR=4.7						
KBZ	**Khabaz**	**69.71**	**310**	P	**P**	**03 46 07.8**	**+0.3**
	2.4nm,0.8s,baz=131,slow=7.8,SNR=5.2						
FINES	**FINESS Array B**	**73.35**	**331**	P	**P**	**03 46 29.9**	**+0.8**
	0.8nm,0.4s,baz=77,slow=6.7,SNR=9.9						
AKASG	**Malin Array Be**	**76.06**	**320**	P	**P**	**03 46 45.5**	**+0.5**
	0.2nm,0.3s,baz=58,slow=6.2,SNR=4.2						
BRTR	**Keskin Array B**	**77.59**	**308**	P	**P**	**03 46 55.4**	**+1.3**
	1.0nm,0.9s,baz=100,slow=6.4,SNR=5.4						
NOA	**NORSAR Array B**	**79.78**	**334**	P	**P**	**03 47 06.0**	**+0.4**
	1.2nm,0.9s,baz=57,slow=4.9,SNR=3.6						

SGS 18 04:46:56.2,25.20N×37.79E,h17km,Western Arabian Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LNY06	**LNY06**	**0.02**	**303**	S	Sg	04 47 01.7	+0.2
LNY06				P	Pg	04 46 59.3	0.0
LNY06	**LNY06**	**0.02**	**303**	S	Sg	04 47 01.7	+0.2
LNY06				P	Pg	04 46 59.3	-0.1
LNY12	**LNY12**	**0.07**	**345**	S	Sg	04 47 01.8	-0.1
LNY12				P	Pg	04 46 59.5	-0.2
LNY02	**LNY02**	**0.09**	**136**	P	Pg	04 46 59.6	-0.2
LNY02	**LNY02**	**0.09**	**136**	S	Sg	04 47 02.0	-0.1
LNY02				P	Pg	04 46 59.5	-0.3
LNY10	**LNY10**	**0.09**	**42**	P	Pg	04 46 59.6	-0.2
LNY10	**LNY10**	**0.09**	**42**	S	Sg	04 47 02.2	0.0
LNY10				P	Pg	04 46 59.6	-0.2
LNY11	**LNY11**	**0.12**	**351**	P	Pg	04 46 59.9	-0.2
LNY04	**LNY04**	**0.15**	**298**	P	Pg	04 47 00.2	-0.2
LNY04	**LNY04**	**0.15**	**298**	S	Sg	04 47 03.0	-0.2
LNY04				P	Pg	04 47 00.2	-0.2
LNY01	**LNY01**	**0.15**	**83**	P	Pg	04 47 00.2	-0.3
LNY01	**LNY01**	**0.15**	**83**	S	Sg	04 47 03.0	-0.3
LNY01				P	Pg	04 47 00.2	-0.3
LNY08	**LNY08**	**0.17**	**163**	P	Pg	04 47 00.6	-0.2
LNY08	**LNY08**	**0.17**	**163**	S	Sg	04 47 03.9	0.0
LNY08				P	Pg	04 47 00.6	-0.2
LNY05	**LNY05**	**0.18**	**210**	P	Pg	04 47 00.6	-0.2
LNY05	**LNY05**	**0.18**	**210**	S	Sg	04 47 03.8	-0.1
LNY05				P	Pg	04 47 00.6	-0.2
LNY03	**LNY03**	**0.19**	**17**	P	Pg	04 47 00.6	-0.3
LNY03	**LNY03**	**0.19**	**17**	S	Sg	04 47 03.8	-0.3
LNY03				P	Pg	04 47 00.6	-0.3
LNY07	**LNY07**	**0.21**	**251**	P	Pg	04 47 01.1	-0.2
LNY07	**LNY07**	**0.21**	**251**	S	Sg	04 47 04.6	-0.1
LNY07				P	Pg	04 47 01.1	-0.2
LNY09	**LNY09**	**0.23**	**329**	S	Sg	04 47 04.9	-0.4
LNY09				P	Pg	04 47 01.6	0.0
UMJS	**Umm Lajj**	**0.44**	**274**	P	Pg	04 47 04.8	-0.3

IDC 18 04:55:37.2±27.0,5.56N×124.16E,h0km,mb4.2/4, mb1 4.3/4,mb1mx3.7/39,mbtmp4.2/4,Error ellipse: s-maj=465.9km s-min=128.8km az=145.0,Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**23.56**	**176**	P	P	05 00 49.9	+0.4
	1.8nm,0.4s,baz=0.9,slow=9.1,SNR=8.6						
WRA	**Warramunga Arr**	**27.25**	**159**	P	P	05 01 22.9	-0.4
	4.1nm,0.3s,baz=336,slow=9.8,SNR=68						
ASAR	**Alice Springs**	**30.56**	**162**	P	P	05 01 52.5	-0.3
	0.7nm,0.5s,baz=341,slow=7.3,SNR=21						
STKA	**Stephens Creek**	**40.77**	**157**	P	P	05 03 20.6	+0.3
	1.2nm,0.4s,baz=329,slow=8.0,SNR=5.0						

CSEM ***18*** *05:05:28.8±0.2,44.52N×8.37E,h8km,ML2.9/23,Error ellipse: s-maj=3.3km s-min=2.9km az=133.0*

GEN ***18*** *05:05:28.6,44.53N×8.40E,h4km,ML2.3*

ROM ***18*** *05:05:28.3±0.1,44.51N×8.42E,h10km±1km,Md2.4/15, Ml2.4/15,Error ellipse: s-maj=2.5km s-min=1.2km az=103.0*

LDG ***18*** *05:05:29.1±0.2,44.49N×8.43E,h2km,Md2.7/5,Ml2.7/17, Error ellipse: s-maj=3.8km s-min=2.8km az=105.0*

ISC 18 05:05:28.7±0.8,44.52N±0.02×8.41E±0.02,h13km±5km, n91,σ1§10/153,Northern Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCP	**Piancastagn**	**0.10**	**78**	Pg	**Pg**	**05 05 31.2**	**-0.6**
PCP				Sg	**Sg**	**05 05 32.9**	**-1.0**
	2µm,0.2s						
PCP	**Piancastagn**	**0.10**	**78**	P	**Pg**	**05 05 31.2**	**-0.6**
PCP				Sg	**Sg**	**05 05 32.9**	**-1.0**
	2µm,0.2s						
QLNO	**Quiliano**	**0.20**	**193**	Pg	**Pg**	**05 05 33.2**	**0.0**
QLNO				Sg	**Sg**	**05 05 36.5**	**+0.2**
	305nm,0.1s						
QLNO	**Quiliano**	**0.20**	**193**	Pg	**Pg**	**05 05 33.2**	**0.0**
QLNO				Sg	**Sg**	**05 05 36.5**	**+0.2**
	305nm,0.1s						
ROTM	**Rocchetta Tana**	**0.33**	**353**	Pg	**Pg**	**05 05 35.8**	**+0.3**
ROTM				Sg	**Sb**	**05 05 41.4**	**-0.3**
	2µm,0.2s						
ROTM	**Rocchetta Tana**	**0.33**	**353**	P	**Pg**	**05 05 35.8**	**+0.3**
ROTM				S	**Sb**	**05 05 41.3**	**-0.4**
FINB	**Finale Ligure**	**0.35**	**190**	Pg	**Pg**	**05 05 35.6**	**-0.2**
FINB				Sg	**Sg**	**05 05 40.7**	**+0.2**
	219nm,0.2s						
FINB	**Finale Ligure**	**0.35**	**190**	Pg	**Pg**	**05 05 35.6**	**-0.2**
FINB				Sg	**Sg**	**05 05 40.7**	**+0.2**
	219nm,0.2s						
RORO	**Rocca Rossa**	**0.48**	**211**	Pg	**Pg**	**05 05 37.8**	**-0.3**
RORO				Sg	**Sg**	**05 05 44.6**	**+0.1**
	142nm,0.1s						
RORO	**Rocca Rossa**	**0.48**	**211**	P	**Pg**	**05 05 37.8**	**-0.3**
RORO				S	**Sg**	**05 05 44.6**	**+0.1**
MONC	**Moncucco Torin**	**0.65**	**328**	Pg	**Pb**	**05 05 42.1**	**+0.1**
MONC				Sg	**Sb**	**05 05 52.0**	**+1.0**
	226nm,0.3s						
MONC	**Moncucco Torin**	**0.65**	**328**	Pg	**Pb**	**05 05 42.1**	**+0.1**
IMI	**Imperia**	**0.71**	**212**	Pg	**Pg**	**05 05 42.2**	**-0.4**
IMI				Sg	**Sb**	**05 05 53.3**	**+0.5**
	84nm,0.4s						
IMI	**Imperia**	**0.71**	**212**	P	**Pg**	**05 05 42.3**	**-0.4**
IMI				S	**Sb**	**05 05 53.0**	**+0.2**
IMI				Sg	**Sb**	**05 05 53.3**	**+0.5**
	84nm,0.4s						
ENR	**Entracque**	**0.77**	**248**	Pg	**Pg**	**05 05 43.1**	**-0.5**
	170nm,0.1s						
ENR	**Entracque**	**0.77**	**248**	P	**Pg**	**05 05 43.1**	**-0.5**
ENR				S	**Sg**	**05 05 53.3**	**-0.4**
SC2M	**Scurtabo**	**0.81**	**98**	Pg	**Pg**	**05 05 43.5**	**-1.0**
SC2M	**Scurtabo**	**0.81**	**98**	Pg	**Pg**	**05 05 43.5**	**-1.0**
SC2M				S	**Sg**	**05 05 54.5**	**-0.6**
STV	**Sant Anna di V**	**0.82**	**251**	Pg	**Pg**	**05 05 44.5**	**-0.3**
STV				Sg	**Sg**	**05 05 54.9**	**-0.6**
	78nm,0.2s						
STV	**Sant Anna di V**	**0.82**	**251**	P	**Pg**	**05 05 44.4**	**-0.3**
STV				S	**Sg**	**05 05 54.8**	**-0.7**
DOI	**San Damiano**	**0.83**	**269**	Pg	**Pg**	**05 05 44.3**	**-0.6**
DOI				Sg	**Sg**	**05 05 55.2**	**-0.6**
	180nm,0.3s						
DOI	**San Damiano**	**0.83**	**269**	Pg	**Pg**	**05 05 44.3**	**-0.6**
DOI				Sg	**Sg**	**05 05 55.2**	**-0.6**
	180nm,0.3s						
NEGI	**Seborga**	**0.84**	**217**	Pg	**Pg**	**05 05 45.2**	**+0.2**
NEGI				Sg	**Sb**	**05 05 57.4**	**+0.9**
	80nm,0.5s						
NEGI	**Seborga**	**0.84**	**217**	Pg	**Pg**	**05 05 45.2**	**+0.2**
NEGI				Sg	**Sb**	**05 05 57.4**	**+0.9**
	80nm,0.5s						
NEGI				S	**Sg**	**05 05 57.7**	**+1.6**
BHB	**Bricherasio**	**0.88**	**292**	Pg	**Pg**	**05 05 45.1**	**-0.6**
BHB				Sg	**Sg**	**05 05 56.8**	**-0.4**
	75nm,0.1s						
BHB	**Bricherasio**	**0.88**	**292**	P	**Pg**	**05 05 45.1**	**-0.6**
BHB				S	**Sg**	**05 05 56.6**	**-0.6**
PZZ	**Stroppo**	**0.93**	**270**	Pg	**Pg**	**05 05 46.0**	**-0.6**
PZZ				Sg	**Sg**	**05 05 58.3**	**-0.5**
	104nm,0.4s						
PZZ	**Stroppo**	**0.93**	**270**	Pg	**Pg**	**05 05 46.0**	**-0.6**
PZZ				S	**Sg**	**05 05 57.9**	**-0.9**
PZZ				Sg	**Sg**	**05 05 58.3**	**-0.5**
	104nm,0.4s						
SBF	**Sospel**	**0.96**	**227**	*e*Pn	**Pg**	**05 05 47.0**	**-0.3**
	SNR=1.0						
SBF				*e*Sg	**Sg**	**05 05 58.8**	**-1.1**
	101nm,0.2s,SNR=1.0						
SBF	**Sospel**	**0.96**	**227**	*e*Pn	**Pg**	**05 05 47.0**	**-0.3**
	SNR=1.0						
SBF				*e*Sg	**Sg**	**05 05 58.8**	**-1.1**
	50nm,0.2s,SNR=1.0						
RSP	**Reno Superiore**	**1.03**	**308**	Pg	**Pg**	**05 05 47.4**	**-1.2**
RSP				Sg	**Sg**	**05 06 01.5**	**-0.5**
	45nm,0.4s						
RSP	**Reno Superiore**	**1.03**	**308**	Pg	**Pg**	**05 05 47.4**	**-1.2**
RSP				Sg	**Sg**	**05 06 01.5**	**-0.5**
	45nm,0.4s						
CODM	**Codolo**	**1.04**	**97**	P	**Pg**	**05 05 47.4**	**-1.4**
TRAV	**Traversella**	**1.10**	**335**	Pg	**Pg**	**05 05 49.1**	**-0.8**
	28nm,0.4s						
TRAV	**Traversella**	**1.10**	**335**	P	**Pg**	**05 05 49.1**	**-0.8**
GRAM	**Graiana**	**1.19**	**91**	P	**Pg**	**05 05 50.4**	**-1.1**
MBDF	**Montbardon**	**1.19**	**281**	*e*Pn	**Pg**	**05 05 50.5**	**-1.1**
	SNR=1.0						
MBDF				*e*Sn	**Sg**	**05 06 05.9**	**-1.2**
	37nm,0.3s						
MBDF	**Montbardon**	**1.19**	**281**	*e*Pn	**Pg**	**05 05 50.5**	**-1.1**
	SNR=1.0						
MBDF				*e*Sn	**Sg**	**05 06 05.9**	**-1.2**
	19nm,0.3s						
RRL	**Rocca Remolon**	**1.22**	**290**	P	**Pg**	**05 05 50.6**	**-1.7**
LPG	**La Plagne**	**1.53**	**310**	*e*Pn	**Pn**	**05 05 56.0**	**0.0**
	SNR=1.0						
LPG				*e*Sn	**Sn**	**05 06 15.6**	**-0.3**
	5.8nm,0.3s,SNR=1.0						
LPG	**La Plagne**	**1.53**	**310**	*e*Pn	**Pn**	**05 05 56.0**	**0.0**
	SNR=1.0						
LPG				*e*Sn	**Sn**	**05 06 15.6**	**-0.3**
	2.9nm,0.3s,SNR=1.0						
LPL	**La Plagne**	**1.55**	**310**	*e*Pn	**Pn**	**05 05 56.8**	**+0.5**
	SNR=1.0						
LPL				*e*Sn	**Sn**	**05 06 16.5**	**+0.1**
	9.5nm,0.3s						
LPL	**La Plagne**	**1.55**	**310**	*e*Pn	**Pn**	**05 05 56.8**	**+0.5**
	SNR=1.0						
LPL				*e*Sn	**Sn**	**05 06 16.5**	**+0.1**
	4.8nm,0.3s						
FRF	**La Foret Royal**	**1.59**	**234**	*e*Pn	**Pn**	**05 05 56.6**	**0.0**
	SNR=1.0						
FRF	**La Foret Royal**	**1.59**	**234**	*e*P	**Pb**	**05 05 58.4**	**+0.4**
FRF				*e*Sn	**Sb**	**05 06 19.0**	**+1.0**
	132nm,0.6s,SNR=1.0						
FRF	**La Foret Royal**	**1.59**	**234**	*e*Pn	**Pn**	**05 05 56.6**	**0.0**
	SNR=1.0						
FRF	**La Foret Royal**	**1.59**	**234**	*e*P	**Pb**	**05 05 58.4**	**+0.4**
FRF				*e*Sn	**Sb**	**05 06 19.0**	**+1.0**
	66nm,0.6s,SNR=1.0						
LMR	**La Mourre**	**1.81**	**230**	*e*Pn	**Pn**	**05 05 59.4**	**-0.3**
	SNR=1.0						
LMR	**La Mourre**	**1.81**	**230**	*e*P	**Pb**	**05 06 01.6**	**-0.2**
LMR	**La Mourre**	**1.81**	**230**	*e*Pg	**Pb**	**05 06 02.8**	**+1.0**
LMR				*e*Sn	**Sn**	**05 06 21.5**	**-1.0**
	8.3nm,0.3s,SNR=1.0						
LMR				*e*Sg	**Sb**	**05 06 25.9**	**+1.5**
	30nm,0.2s						
LMR	**La Mourre**	**1.81**	**230**	*e*Pn	**Pn**	**05 05 59.4**	**-0.3**
	SNR=1.0						
LMR	**La Mourre**	**1.81**	**230**	*e*P	**Pb**	**05 06 01.6**	**-0.2**
LMR	**La Mourre**	**1.81**	**230**	*e*Pg	**Pb**	**05 06 02.8**	**+1.0**
LMR				*e*Sn	**Sn**	**05 06 21.5**	**-1.0**
	4.2nm,0.3s,SNR=1.0						
LMR				*e*Sg	**Sb**	**05 06 25.9**	**+1.5**
	15nm,0.2s						
ORIF	**Oris-en-Rattie**	**1.85**	**283**	*e*Pn	**Pb**	**05 06 02.4**	**0.0**
	SNR=1.0						
ORIF				*e*Sn	**Sn**	**05 06 22.5**	**-1.0**
	13nm,0.3s,SNR=1.0						
ORIF				*e*Sg	**Sg**	**05 06 28.0**	**-0.1**
	14nm,0.3s						
ORIF	**Oris-en-Rattie**	**1.85**	**283**	*e*Pn	**Pb**	**05 06 02.4**	**0.0**
	SNR=1.0						
ORIF				*e*Sn	**Sn**	**05 06 22.5**	**-1.0**
	6.6nm,0.3s,SNR=1.0						
ORIF				*e*Sg	**Sg**	**05 06 28.0**	**-0.1**
	7.1nm,0.3s						
PGF	**Pioggiola**	**2.02**	**168**	*e*Pn	**Pn**	**05 06 00.4**	**-2.2**
PGF				*e*Sn	**Sn**	**05 06 26.1**	**-1.6**
	3.8nm,0.3s,SNR=1.0						
PGF	**Pioggiola**	**2.02**	**168**	*e*Pn	**Pn**	**05 06 00.4**	**-2.2**
PGF				*e*Sn	**Sn**	**05 06 26.1**	**-1.6**
	1.9nm,0.3s,SNR=1.0						
SMRF	**Simiane la Rot**	**2.11**	**256**	*e*P	**Pn**	**05 06 05.6**	**+1.9**
	SNR=1.0						
SMRF	**Simiane la Rot**	**2.11**	**256**	*e*Pg	**Pb**	**05 06 08.2**	**+1.4**
SMRF				*e*Sg	**Sg**	**05 06 36.4**	**-0.1**
	10nm,0.2s						
SMRF	**Simiane la Rot**	**2.11**	**256**	*e*P	**Pn**	**05 06 05.6**	**+1.9**
	SNR=1.0						
SMRF	**Simiane la Rot**	**2.11**	**256**	*e*Pg	**Pb**	**05 06 08.2**	**+1.4**
SMRF				*e*Sg	**Sg**	**05 06 36.4**	**-0.1**
	5.1nm,0.2s						
CABF	**La Chapelle**	**2.65**	**323**	*e*Pn	**Pn**	**05 06 10.0**	**-1.3**
	SNR=1.0						
CABF				*e*Sn	**Sn**	**05 06 42.3**	**-1.0**
	5.2nm,0.4s,SNR=1.0						
CABF	**La Chapelle**	**2.65**	**323**	*e*Pn	**Pn**	**05 06 10.0**	**-1.3**
	SNR=1.0						
CABF				*e*Sn	**Sn**	**05 06 42.3**	**-1.0**
	2.6nm,0.4s,SNR=1.0						
VIVF	**Saint-Julien-l**	**2.69**	**278**	*e*Pn	**Pn**	**05 06 12.7**	**+1.0**
	SNR=1.0						
VIVF				*e*Sn	**Sn**	**05 06 43.3**	**-0.8**
	2.2nm,0.2s						
VIVF	**Saint-Julien-l**	**2.69**	**278**	*e*Pn	**Pn**	**05 06 12.7**	**+1.0**
	SNR=1.0						
VIVF				*e*Sn	**Sn**	**05 06 43.3**	**-0.8**
	1.1nm,0.2s						
DAVA	**Damuels**	**2.95**	**20**	Pn	**Pn**	**05 06 18.3**	**+2.9**
	0.6nm,0.2s						
DAVA	**Damuels**	**2.95**	**20**	Pn	**Pn**	**05 06 18.3**	**+2.9**
	0.6nm,0.2s						
FETA	**Feichten**	**2.98**	**32**	Pn	**Pn**	**05 06 19.0**	**+3.2**
FETA	**Feichten**	**2.98**	**32**	Pn	**Pn**	**05 06 19.0**	**+3.2**
MOTA	**Moosalm**	**3.39**	**33**	*i* Pn	**Pn**	**05 06 23.7**	**+2.2**
	0.3nm,0.2s						
MOTA	**Moosalm**	**3.39**	**33**	Pn	**Pn**	**05 06 23.7**	**+2.2**
	0.3nm,0.2s						
HINF	**Hinteralfeld**	**3.47**	**342**	*e*Pn	**Pn**	**05 06 23.0**	**+0.5**
	SNR=1.0						
HINF				*e*Sn	**Sn**	**05 07 02.4**	**-1.0**
	1.1nm,0.3s						
HINF	**Hinteralfeld**	**3.47**	**342**	*e*Pn	**Pn**	**05 06 23.0**	**+0.5**
	SNR=1.0						
HINF				*e*Sn	**Sn**	**05 07 02.4**	**-1.0**
	0.6nm,0.3s						
WATA	**Walderalm**	**3.58**	**37**	*i* Pn	**Pn**	**05 06 26.9**	**+2.9**
	0.5nm,0.2s						
WATA	**Walderalm**	**3.58**	**37**	Pn	**Pn**	**05 06 26.9**	**+2.9**
	0.5nm,0.2s						
ABTA	**Abfaltersbach**	**3.64**	**51**	*i* Pn	**Pn**	**05 06 26.8**	**+2.0**
	0.5nm,0.2s						
ABTA	**Abfaltersbach**	**3.64**	**51**	Pn	**Pn**	**05 06 26.8**	**+2.0**
	0.5nm,0.2s						
SMF	**Signal de Mont**	**3.85**	**305**	*e*Pn	**Pn**	**05 06 28.1**	**+0.5**
	SNR=1.0						
SMF				*e*Sn	**Sn**	**05 07 11.2**	**-1.5**
	1.4nm,0.2s,SNR=1.0						
SMF	**Signal de Mont**	**3.85

YOJ	**Yonaguni jima**	**0.47 170**	P	**Pb**	**05 30 05.7**	**0.0**
YOJ			S	**Sb**	**05 30 12.6**	**+0.2**
JYNG	**Yonagunijimaku**	**0.48 177**	P	**Pg**	**05 30 05.3**	**0.0**
JYNG			S	**Sb**	**05 30 12.1**	**-0.4**
IRIF	**Iriomote-Funau**	**0.95 129**	P	**Pb**	**05 30 13.6**	**-0.2**
HATJ	**Hateruma jima**	**1.19 137**	P	**Pb**	**05 30 17.6**	**-0.3**
JKRS	**Kuro-shima**	**1.21 125**	P	**Pb**	**05 30 18.0**	**-0.3**
JIJ	**Ishigaki jima**	**1.25 117**	S	**Sg**	**05 30 35.8**	**-0.4**
JISG	**Ishigakijimahi**	**1.31 105**	P	**Pn**	**05 30 19.4**	**0.0**
TGY	**Tagaytay City**	**10.93 190**	LR	LR	05 36 59.0	
	comp=Z,133nm,20.9s,baz=77,slow=40					
KSRS	**Korea Array**	**13.20 18**	Pn	**P**	**05 33 13.2**	**+0.8**
	0.2nm,0.3s,baz=198,slow=14,SNR=6.8					
KSRS			LR	LR	05 38 41.5	
	comp=Z,220nm,19.5s,baz=192,slow=39					
JHJ	**Hachijo jima 2**	**16.84 57**	LR	LR	05 40 25.6	
	comp=Z,80nm,20.1s,baz=169,slow=36					
MJAR	**Matsushiro Arr**	**17.49 45**	LR	LR	05 42 31.6	
	comp=Z,82nm,18.0s,baz=255,slow=42					
USRK	**Ussuriysk Ar.**	**20.60 19**	P	Pn	05 34 39.1	+2.8
	3.2nm,0.8s,baz=192,slow=12,SNR=4.1					
USRK			LR	LR	05 43 05.2	
	comp=Z,90nm,19.9s,baz=141,slow=38					
CMAR	**Chiang Mai Arr**	**23.17 259**	LR	LR	05 44 00.5	
	comp=Z,59nm,18.4s,baz=68,slow=38					
SONM	**Songino Array**	**26.34 334**	P	**P**	**05 35 31.8**	**+0.8**
	1.5nm,0.9s,baz=143,slow=8.8,SNR=7.2					
SONM			LR	LR	05 45 37.1	
	comp=Z,101nm,19.5s,baz=115,slow=36					
PSI	**Prapat**	**31.92 230**	LR	LR	05 47 49.4	
	comp=Z,84nm,19.0s,baz=21,slow=34					
PETK	**Petropavlovsk-**	**38.37 34**	LR	LR	05 53 36.4	
	comp=Z,100nm,18.6s,baz=251,slow=37					
ZALV	**Zalesovo Beam**	**40.50 326**	P	**P**	**05 37 32.7**	**-1.0**
	0.8nm,0.5s,baz=131,slow=8.2,SNR=3.5					
ZALV			LR	LR	05 55 09.8	
	comp=Z,62nm,19.6s,baz=70,slow=38					
KURBB	**Kurchatov Arra**	**42.57 319**	P	**P**	**05 37 50.4**	**-0.4**
	1.0nm,1.0s,baz=110,slow=8.3,SNR=5.7					
WRA	**Warramunga Arr**	**45.97 165**	P	**P**	**05 38 18.5**	**+0.2**
	2.0nm,0.9s,baz=347,slow=8.4,SNR=8.4					
BVAR	**Borovoye Array**	**48.11 320**	P	**P**	**05 38 32.7**	**-2.0**
	0.2nm,0.4s,baz=76,slow=6.1,SNR=2.7					
NRIK	**Noril'sk**	**49.11 344**	LR	LR	06 02 21.2	
	comp=Z,100nm,18.5s,baz=123,slow=40					
ASAR	**Alice Springs**	**49.47 167**	P	**P**	**05 38 46.8**	**+1.4**
	0.6nm,0.9s,baz=354,slow=7.7,SNR=3.8					
ILAR	**Eielson Array**	**67.83 28**	LR	LR	06 14 55.5	
	comp=Z,40nm,18.1s,baz=264,slow=40					
FINES	**FINESS Array B**	**71.60 330**	P	**P**	**05 41 15.9**	**-0.2**
	1.0nm,0.7s,baz=74,slow=8.1,SNR=7.0					
FINES			LR	LR	06 15 45.2	
	comp=Z,57nm,18.0s,baz=18,slow=38					
HFS	**Hagfors**	**77.69 331**	LR	LR	06 17 12.2	
	comp=Z,64nm,18.4s,baz=56,slow=37					
NOA	**NORSAR Array B**	**78.30 332**	LR	LR	06 18 57.6	
	comp=Z,20nm,18.9s,baz=325,slow=38					

ISCJB ***18*** *06:22:10.7±0.7, 16°.5S±0°.1×42°.04E±0°.07, h10km, mb3.5/9, Error ellipse: s-maj=16.4km s-min=10.1km az=2.1*

IDC ***18*** *06:22:10.8±0.8, 16°.51S×42°.08E, h0km, mb3.5/8, mb1 3.8/13, mb1mx3.7/45, mbtmp3.8/13, ML4.2/5, Error ellipse: s-maj=22.7km s-min=19.1km az=179.0*

ISC 18 06:22:12.0±0.7, 16°.47S±0°.09×41°.93E±0°.06, h10km, n18, σ3=55/21, mb3.6/9, Mozambique Channel

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
OPO	**Ambohidratompo**	**5.44**	**113**	Pn		**Pn**	**06 23 32.3**	**-1.1**
	6.4nm,0.3s,baz=283,slow=20,SNR=55							
OPO				Sn		**Sn**	**06 24 30.8**	**-5.3**
	3.8nm,0.3s,baz=22,slow=23,SNR=7.7							
LSZ	**Lusaka**	**13.27**	**273**	Pn		**Pn**	**06 25 21.7**	**+0.9**
	1.0nm,0.3s,baz=96,slow=11,SNR=16							
MATP	**Matopo**	**13.34**	**251**	*i* P		**Pn**	**06 25 23.4**	**+1.8**
MATP	**Matopo**	**13.34**	**251**	Pn		**Pn**	**06 25 22.7**	**+1.1**
	0.6nm,0.3s,baz=73,slow=13,SNR=8.0							
MATP				Sn		**Sn**	**06 27 42.3**	**-7.8**
	0.4nm,0.3s,baz=342,slow=20,SNR=3.7							
KMBO	**Kilima Mbogo**	**15.93**	**343**	Sn		**Sn**	**06 28 46.9**	**-6.5**
	0.3nm,0.3s,baz=66,slow=20,SNR=3.3							
LBTB	**Lobatse**	**17.47**	**238**	P		**Pn**	**06 26 16.3**	**+0.3**
	0.6nm,0.3s,baz=48,slow=13,SNR=7.2							
LBTB				S		**Sn**	**06 29 24.2**	**-6.5**
	0.3nm,0.3s,baz=310,slow=21,SNR=3.4							
BOSA	**Boshof**	**19.55**	**229**	*i* P		**Pn**	**06 26 43.5**	**+2.1**
BOSA	**Boshof**	**19.55**	**229**	P		**Pn**	**06 26 41.8**	**+0.4**
	0.4nm,0.3s,baz=46,slow=11,SNR=9.2							
TSUM	**Tsumeb**	**23.33**	**260**	P		**P**	**06 27 22.2**	**+1.5**
	2.8nm,0.7s,baz=70,slow=14,SNR=9.7							
SUR	**Sutherland**	**24.84**	**222**	P		**P**	**06 27 36.5**	**+1.6**
	0.3nm,0.6s,baz=56,slow=13,SNR=7.7							
TORD	**Torodi Ar. Bea**	**49.47**	**304**	P		**P**	**06 31 03.3**	**+0.4**
	0.2nm,0.5s,baz=144,slow=6.7,SNR=2.9							
MAW	**Mawson**	**52.87**	**170**	P		**P**	**06 31 29.4**	**+1.8**
	0.3nm,0.5s,baz=338,slow=11,SNR=5.6							
SNAA	**Sanae**	**61.13**	**195**	P		**P**	**06 32 30.4**	**+4.1**
	0.5nm,0.9s,baz=63,slow=9.0,SNR=4.8							
AKASG	**Malin Array Be**	**67.80**	**351**	P		**P**	**06 33 11.6**	**+1.7**
	0.3nm,0.3s,baz=160,slow=5.8,SNR=5.8							
GERES	**GERESS Array B**	**69.70**	**341**	P		**P**	**06 33 24.8**	**+2.8**
	0.1nm,0.4s,baz=130,slow=2.9,SNR=3.2							
ASAR	**Alice Springs**	**85.29**	**113**	P		**P**	**06 34 48.0**	**-1.8**
	0.3nm,0.7s,baz=260,slow=4.8,SNR=4.4							
WRA	**Warramunga Arr**	**86.70**	**110**	P		**P**	**06 34 54.8**	**-2.0**
	0.6nm,0.5s,baz=251,slow=2.9,SNR=4.7							
TXAR	**Lajitas Array**	**145.95**	**298**	PKPbc		**PKPdf**	**06 41 51.9**	**-0.1**
	0.3nm,0.7s,baz=117,slow=5.0,SNR=5.2							

ISCJB ***18*** *06:26:57.9±0.3, 16°.17S±0°.04×42°.19E±0°.04, h10km, mb4.5/62, MS4.3/10, Error ellipse: s-maj=7.1km s-min=5.3km az=41.1*

IDC ***18*** *06:26:58.2±0.5, 16°.16S×42°.19E, h0km, mb4.1/34, mb1 4.2/36, mb1mx4.2/52, mbtmp4.1/36, ML4.9/3, MS4.3/11, Ms1 4.3/11, ms1mx4.0/37, Error ellipse: s-maj=15.3km s-min=11.9km az=89.0*

MOS ***18*** *06:26:58.1±1.9, 16°.22S×42°.09E, h10km, mb4.8/17, Error ellipse: s-maj=11.5km s-min=7.5km az=99.5*

GCMT ***18*** *06:26:59.9±0.2, 16°.16S×42°.20E, h26km, MW5.2/90, Moment Tensor Solution. s58,c81; s90,c135; Duration: 0 Moment tensor: Scale 10^16 Nm; Mrr-2.64±.21; Mθθ-1.86±.19; Mϕϕ4.50±.20; Mrθ1.51±.35; Mrϕ-4.94±.14; Mθϕ1.57±.34; Best double couple: M0 6.56700×10^16 NP1:ϕs291.00000°, δ54.00000°, λ-158.00000°. NP2: ϕs191.00000°, δ70.00000°, λ-27.00000°. Principal axes: T 7.2400, Plg4.0000°, Azm242.0000°; N -1.3460, Plg57.0000°, Azm338.0000°; P -5.8950, Plg33.0000°, Azm150.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

NEIC ***18*** *06:26:59.9±0.3, 16°.17S×42°.16E, h10km, mb4.7/8 Error ellipse: s-maj=9.2km s-min=7.0km az=221.0*

BJI ***18*** *06:27:03.4, 16°.70S×42°.10E, h10km, mb4.7/18, mB5.0/9, Ms4.9/6, Ms7 4.7/6*

PRE ***18*** *06:27:09.3±2.8, 15°.91S×40°.39E, h5km, ML6.0*

ISC 18 06:26:59.9±0.3, 16°.24S±0°.06×42°.12E±0°.06, h10km, n184, σ2=17/138, mb4.6/76, MS4.3/11, 13C-11D, Mozambique Channel

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
OPO	**Ambohidratompo**	**5.37**	**116**	Pn		**Pn**	**06 28 20.8**	**+0.5**
	59nm,0.3s,baz=285,slow=21,SNR=112							
OPO				Sn		**Sn**	**06 29 18.7**	**-3.6**
	50nm,0.3s,baz=16,slow=23,SNR=10							
ABPO	**Ambohimpanom**	**5.60**	**120**	*e*P		**Pn**	**06 28 23.7**	**+0.1**
ABPO				*e*			06 29 26.5	
ABPO	**Ambohimpanom**	**5.60**	**120**	*e*Pn		**Pn**	**06 28 23.7**	**+0.1**
ABPO				*e*Sn		**Sn**	**06 29 26.5**	**-1.6**
BLWY	**Bulawayo**	**13.41**	**251**	*i* S		**Pn**	**06 30 09.6**	**-1.0**
LSZ	**Lusaka**	**13.44**	**272**	Pn		**Pn**	**06 30 10.1**	**-0.9**
	4.2nm,0.3s,baz=95,slow=11,SNR=25							
LSZ				LR		LR	06 35 01.1	
	comp=Z,2μm,19.4s,baz=83,slow=36							
LSZ	**Lusaka**	**13.44**	**272**	*e*P		**Pn**	**06 30 11.5**	**+0.5**
LSZ	**Lusaka**	**13.44**	**272**	*e*Pn		**Pn**	**06 30 11.5**	**+0.5**
MATP	**Matopo**	**13.58**	**250**	Pn		Pn	06 30 08.3	-4.6
	2.2nm,0.3s,baz=98,slow=16,SNR=11							
MATP				Sn		Sn	06 32 29.1	-15
	1.0nm,0.3s,baz=164,slow=20,SNR=2.9							
MATP				LR		LR	06 35 38.6	
	comp=Z,1μm,18.5s,baz=70,slow=38							
MATP	**Matopo**	**13.58**	**250**	*i* S		**Pn**	**06 30 09.4**	**-3.5**
CNG	**Changalane**	**13.62**	**221**	*e*P		**Pn**	**06 30 15.2**	**+2.0**
CNG				*e*S		Sn	06 32 31.8	-13
CNG				AML		AML	06 33 08.7	
	comp=Z,38nm,0.5s							
RER	**Riviere de l'E**	**13.81**	**113**	*e*Pn		**Pn**	**06 30 15.5**	**-0.5**
MRIV	**Mauritius Mete**	**15.15**	**108**	*e*Pn		**Pn**	**06 30 33.1**	**-1.2**
KMBO	**Kilima Mbogo**	**15.76**	**342**	Pn		**Pn**	**06 30 39.5**	**-2.9**
	comp=Z,0.7nm,0.3s,baz=185,slow=13,SNR=4.1							
KMBO				Sn		Sn	06 33 22.8	-15
	comp=Z,0.5nm,0.3s,baz=216,slow=19,SNR=2.6							
KMBO				LR		LR	06 37 05.6	
	comp=Z,959nm,18.3s,baz=186,slow=39							
MSEY	**Mahe Island**	**17.44**	**50**	*e*P		P	06 31 13.7	+8.9
MSEY	**Mahe Island**	**17.44**	**50**	*e*P		P	06 31 13.7	+8.9
LBTB	**Lobatse**	**17.74**	**238**	P		**Pn**	**06 31 03.4**	**-3.9**
	comp=Z,0.7nm,0.3s,baz=46,slow=14,SNR=12							
LBTB				S		Sn	06 34 10.3	-15
	comp=Z,1.4nm,0.3s,baz=141,slow=18,SNR=4.5							
LBTB				LR		LR	06 38 25.9	
	comp=Z,2μm,18.5s,baz=56,slow=38							
LBTB	**Lobatse**	**17.74**	**238**	*e*P		**Pn**	**06 31 05.2**	**-2.1**
LBTB				*e*S		Sn	06 33 57.8	-27
LBTB				AML		AML	06 35 08.6	
	comp=Z,15nm,0.6s							
LBTB	**Lobatse**	**17.74**	**238**	*e*P		**Pn**	**06 31 03.3**	**-4.0**
LBTB				*e*			06 34 13.5	
LBTB				pmax		pmax		
	comp=Z,212nm,2.0s							
LBTB	**Lobatse**	**17.74**	**238**	*e*Pn		**Pn**	**06 31 03.3**	**-4.0**
	comp=Z,212nm,2.0s							
LBTB				*e*Sn		Sn	06 34 13.5	-12
BOSA	**Boshof**	**19.83**	**229**	P		**P**	**06 31 29.4**	**-1.7**
	comp=Z,1.8nm,0.3s,baz=59,slow=9.3,SNR=19							
BOSA				S		S	06 34 60.0	-15
	comp=Z,0.6nm,0.3s,baz=310,slow=7.9,SNR=3.0							
BOSA				LR		LR	06 39 44.3	
	comp=Z,2μm,18.8s,baz=60,slow=38							
BOSA	**Boshof**	**19.83**	**229**	*e*P		**P**	**06 31 31.3**	**+0.1**
BOSA				*e*S		S	06 35 04.0	-11
BOSA				AML		AML	06 35 56.1	
	comp=Z,6.9nm,0.7s							
BOSA	**Boshof**	**19.83**	**229**	*e*P		**P**	**06 31 29.7**	**-1.4**
BOSA				S		S	06 35 00.0	-15
BOSA				pmax		pmax		
	comp=Z,31nm,1.1s							
BOSA	**Boshof**	**19.83**	**229**	*e*P		**P**	**06 31 29.7**	**-1.4**
	comp=Z,31nm,1.1s							
BOSA				S		S	06 34 60.0	-15
BOSA	**Boshof**	**19.83**	**229**	*i* S		**P**	**06 31 31.3**	**+0.2**
TSUM	**Tsumeb**	**23.55**	**259**	P		**P**	**06 32 11.2**	**+0.3**
	comp=Z,24nm,0.6s,baz=86,slow=7.2,SNR=50							
TSUM				LR		LR	06 41 22.2	
	comp=Z,1μm,20.0s,baz=112,slow=37							
SUR	**Sutherland**	**25.13**	**226**	P		**P**	**06 32 26.6**	**+1.2**
	comp=Z,3.6nm,0.8s,baz=54,slow=9.6,SNR=24							
SUR				LR		LR	06 42 32.5	
	comp=Z,83nm,18.7s,baz=53,slow=37							
SUR	**Sutherland**	**25.13**	**226**	*e*P		**P**	**06 32 24.3**	**-1.1**
	comp=Z,56nm,0.8s							
FURI	**Furi**	**25.20**	**352**	*e*P		**P**	06 32 35.8	+9.4
ATD	**Arta Tunnel**	**27.60**	**2**	P		**P**	**06 32 47.4**	**-0.3**
	comp=Z,3.5nm,0.3s,baz=90,slow=20,SNR=3.2							
ATD				LR		LR	06 44 13.7	
	comp=Z,275nm,19.4s,baz=178,slow=38							
ASF	**Jabal al Asfar**	**48.39**	**354**	P		**P**	**06 35 41.8**	**-0.5**
	comp=Z,1.1nm,0.4s,baz=150,slow=8.1,SNR=2.5							
TOA0	**Torodi Ar. Sit**	**49.49**	**304**	*e*P		P	06 35 56.2	+5.2
TORD	**Torodi Ar. Bea**	**49.49**	**304**	P		**P**	**06 35 50.1**	**-0.8**
	comp=Z,0.7nm,0.5s,baz=130,slow=6.9,SNR=13							
TORD				LR		LR	06 57 26.9	
	comp=Z,1μm,19.0s,baz=125,slow=37							
KIC	**Kosan Boka**	**51.52**	**292**	*e*P		**P**	**06 36 05.6**	**-0.7**
	comp=Z,82nm,1.4s							
LIC	**Lamto**	**51.71**	**292**	*e*P		**P**	**06 36 08.3**	**+0.5**
	comp=Z,79nm,1.7s							
DBIC	**Dimbokro**	**51.76**	**292**	P		**P**	**06 36 07.7**	**-0.5**
	comp=Z,3.7nm,0.5s,baz=107,slow=6.9,SNR=11							
DBIC				LR		LR	06 57 02.7	
	comp=Z,341nm,20.0s,baz=103,slow=35							
TIC	**Toumodi**	**51.89**	**292**	*e*P		**P**	**06 36 08.7**	**-0.5**
SYO	**Syowa Base**	**52.77**	**181**	*je*X		**P**	**06 36 14.7**	**-0.1**
MAW	**Mawson**	**53.06**	**170**	P		**P**	**06 36 17.8**	**+0.8**
	comp=Z,2.6nm,0.8s,baz=345,slow=7.0,SNR=14							
MAW				LR		LR	06 54 28.3	
	comp=Z,186nm,21.1s,baz=341,slow=31							
MAW	**Mawson**	**53.06**	**170**	*e*P		**P**	**06 36 16.7**	**-0.3**
	comp=Z,1.7nm,1.4s							
IDI	**Anoyia**	**53.79**	**343**	P		**P**	**06 36 22.6**	**-0.3**
	comp=Z,4.4nm,0.8s,baz=176,slow=14,SNR=2.9							
GEYT	**Ailbeck**	**55.94**	**15**	P		**P**	**06 36 38.1**	**-0.2**
	comp=Z,1.3nm,0.4s,baz=225,slow=18,SNR=2.7							
GNI	**Garni**	**56.15**	**2**	P		**P**	**06 36 38.9**	**-1.0**
	comp=Z,2.6nm,0.4s,baz=108,slow=20,SNR=2.4							
BR131	**Keskin Array S**	**56.23**	**352**	*e*P		P	06 36 48.2	+7.7
BRTR	**Keskin Array B**	**56.23**	**352**	P		**P**	**06 36 39.9**	**-0.7**
	comp=Z,1.3nm,0.8s,baz=180,slow=9.6,SNR=5.8							
ZEI	**Tsey**	**58.76**	**2**	*e*P		**P**	**06 36 57.5**	**-0.8**
ZEI				pmax		pmax		
	comp=Z,64nm,1.4s							
NEY	**Neytrino**	**59.20**	**1**	*c iP*		P	06 37 13.8	+12
NEY				pmax		pmax		
	comp=Z,8.0nm,1.6s							
KBZ	**Khabaz**	**59.68**	**1**	P		**P**	**06 37 05.2**	**+0.8**
	comp=Z,0.5nm,0.5s,baz=23,slow=14,SNR=2.1							
KIV	**Kislovodsk**	**59.90**	**0**	*e*P		P	06 37 17.8	+12
KIV				pmax		pmax		
	comp=Z,11nm,1.0s							
KIV				MLR		MLR		
	comp=Z,120nm,16.0s							
GOF	**Gofitskoye**	**61.01**	**1**	*e*P		P	06 37 25.4	+12
GOF				pmax		pmax		
	comp=Z,68nm,1.6s							
SNAA	**Sanae**	**61.40**	**195**	P		**P**	**06 37 15.8**	**-0.2**
SNAA	**Sanae**	**61.40**	**195**	P		**P**	**06 37 17.2**	**+1.3**
	comp=Z,0.7nm,0.5s,baz=45,slow=10,SNR=8.1							
SNAA	**Sanae**	**61.40**	**195**	*e*P		**P**	**06 37 17.3**	**+1.3**
	comp=Z,106nm,0.8s							
VNA2	**Neumayer--Watz**	**62.13**	**196**	P		**P**	**06 37 23.0**	**+2.2**
	baz=31,slow=6.7							
VNA1	**Neumayer--Stat**	**62.21**	**197**	P		**P**	**06 37 23.5**	**+2.1**
CFR	**Carcaliu**	**62.43**	**349**	*j* P		**P**	**06 37 19.9**	**-3.2**
CFR	**Carcaliu**	**62.43**	**349**	*j* P		**P**	**06 37 19.9**	**-3.2**
VNA3	**Neumayer Olymp**	**62.92**	**197**	P		**P**	**06 37 27.9**	**+1.7**
MLR	**Muntele Rosu**	**63.16**	**347**	P		**P**	**06 37 28.1**	**0.0**
	comp=Z,0.8nm,1.0s,baz=157,slow=8.4,SNR=4.0							
VOIR		**63.31**	**347**	*j* P		**P**	**06 37 27.8**	**-1.3**
VOIR		**63.31**	**347**	*j* P		**P**	**06 37 27.8**	**-1.3**
ARR	**Arges**	**63.33**	**346**	*j* P		**P**	**06 37 28.2**	**-1.0**
PLOR	**Plostina**	**63.36**	**348**	*j* P		P	06 37 34.5	+5.1
PLOR	**Plostina**	**63.36**	**348**	*j* P		P	06 37 34.5	+5.1
LOT	**Lotru**	**63.61**	**346**	*j* P		**P**	**06 37 30.1**	**-1.0**
GZR	**Gura Zlata**	**63.80**	**345**	*j* P		**P**	**06 37 31.8**	**-0.5**
GZR	**Gura Zlata**	**63.80**	**345**	*j* P		**P**	**06 37 31.8**	**-0.5**
KSH	**Kashi**	**63.84**	**29**	*e*P		P	06 37 41.3	+8.5
KSH				pP		sP	06 37 45.1	+7.9
KSH				PP		PP	06 40 04.0	+11
KSH				S		S	06 46 17.6	+9.4
KSH				sS		sS	06 46 25.8	+12
KSH				pmax		pmax		
	comp=Z,4.0nm,0.6s							
KSH				pmax		pmax		
	comp=Z,57nm,4.0s							
KSH				LR		LR		
	comp=Z,60nm,4.3s							
KSH				LR		LR		
	comp=Z,71nm,5.2s							
KSH				LR		LR		
	comp=Z,120nm,8.4s							
BZS	**Buzias**	**64.31**	**344**	*j* P		**P**	**06 37 35.9**	**+0.4**
BZS	**Buzias**	**64.31**	**344**	*j* P		**P**	**06 37 35.9**	**+0.4**
KKAR	**Karatay Array**	**64.55**	**23**	*e*P		**P**	**06 37 35.8**	**-1.4**
KKAR				pmax		pmax		
	comp=Z,4.0nm,0.6s							
KKAR	**Karatay Array**	**64.55**	**23**	*e*P		**P**	**06 37 35.8**	**-1.4**
	comp=Z,4.3nm,0.6s							
ARCR	**ARCALIA**	**65.02**	**347**	*j* P		**P**	**06 37 44.7**	**+4.5**
DRGR		**65.13**	**345**	*j* P		P	06 37 34.6	-6.4
DRGR		**65.13**	**345**	*j* P		P	06 37 34.6	-6.4
BURAR	**Bucovina Array**	**65.34**	**348**	*j* P		**P**	**06 37 42.0**	**-0.4**
BURAR	**Bucovina Array**	**65.34**	**348**	*j* P		**P**	**06 37 42.0**	**-0.4**
BUR08	**Bucovina Ar. S**	**65.37**	**348**	*e*P		**P**	**06 37 47.2**	**+4.6**
CMAR	**Chiang Mai Arr**	**65.70**	**61**	P		**P**	**06 37 44.9**	**-0.4**
	comp=Z,0.4nm,0.3s,baz=285,slow=31,SNR=4.6							
AAK	**Ala-Archa**	**65.73**	**26**	P		**P**	**06 37 45.5**	**+0.4**
	comp=Z,0.8nm,0.3s,baz=327,slow=17,SNR=2.0							
AAK	**Ala-Archa**	**65.73**	**26**	*i* P		P	06 37 57.0	+12
AAK				pmax		pmax		
	comp=Z,7.0nm,1.0s							
AAK	**Ala-Archa**	**65.73**	**26**	*e*P		**P**	**06 37 49.1**	**+4.0**
	comp=Z,21nm,2.1s							
PSZ	**Piszkesteto**	**66.89**	**344**	*e*P		P	06 37 58.9	+6.6
PSZ				pmax		pmax		
	comp=Z,13nm,0.5s							
PSZ	**Piszkesteto**	**66.89**	**344**	*e*P		P	06 37 58.9	+6.6
	comp=Z,13nm,0.5s							
ABKAR	**Akbulak array**	**67.09**	**13**	*e*P		**P**	**06 37 51.8**	**-1.7**
	comp=Z,2.8nm,0.6s							
SOKA	**Soboth**	**67.21**	**340**	*i* sP		P	06 37 59.5	+5.2
	comp=Z,7.7nm,1.1s							
OBKA	**Obir**	**67.22**	**340**	*i* pP		**P**	**06 37 58.4**	**+3.9**
	comp=Z,8.2nm,0.8s							
KECS	**Kecovo**	**67.25**	**345**	*e*P		P	06 37 59.3	+4.8
KECS				pmax		pmax		
	comp=Z,5.0nm,1.2s							
KECS	**Kecovo**	**67.25**	**345**	*e*P		P	06 37 59.3	+4.8
ARSA	**Arzberg**	**67.56**	**341**	*i* sP		P	06 38 03.5	+7.0
	comp=Z,6.0nm,1.0s							
KIEV	**Kiev**	**67.60**	**351**	*e*P		P	06 38 08.0	+11
KIEV				pmax		pmax		
	comp=Z,5.0nm,1.0s							
AKASG	**Malin Array Be**	**67.61**	**351**	P		**P**	**06 37 55.8**	**-0.8**
	comp=Z,0.2nm,0.3s,baz=170,slow=5.2,SNR=3.8							
MYKA	**Terra Mystica**	**67.63**	**339**	*i* sP		P	06 38 03.9	+6.8
	comp=Z,3.6nm,0.9s							
VYHS	**Vyhne**	**67.70**	**343**	*e*P		**P**	**06 38 01.1**	**+3.8**
VYHS				pmax		pmax		
	comp=Z,6.0nm,1.4s							
VYHS	**Vyhne**	**67.70**	**343**	*e*P		**P**	**06 38 01.1**	**+3.8**
AKTO	**Aktyubinsk**	**67.84**	**11**	P		**P**	**06 37 57.7**	**-0.5**
	comp=Z,1.2nm,0.6s,baz=80,slow=2.8,SNR=3.9							
STHS	**Stebnicka Huta**	**67.93**	**345**	*e*P		P	06 38 05.6	+6.8
STHS				pmax		pmax		
	comp=Z,6.0nm,1.4s							
STHS	**Stebnicka Huta**	**67.93**	**345**	*e*P		P	06 38 05.6	+6.8
CONA	**Conrad Observa**	**68.05**	**341**	*i* pP		**P**	**06 38 03.9**	**+4.2**
	comp=Z,8.4nm,1.4s							
KBA	**Koelnbreinsper**	**68.12**	**339**	*i* pP		P	06 38 05.2	+4.9
	comp=Z,5.5nm,0.8s							
ABTA	**Abfaltersbach**	**68.13**	**339**	*i* sP		P	06 38 07.4	+7.2
	comp=Z,4.9nm,1.2s							
LANS	**Liptovska Anna**	**68.13**	**344**	*e*P		P	06 38 05.3	+5.2
LANS	**Liptovska Anna**	**68.13**	**344**	*e*P		P	06 38 05.3	+5.2
MOA	**Molln**	**68.49**	**340**	*i* sP		P	06 38 07.8	+5.5
	comp=Z,10nm,0.9s							
WTTA	**Wattenberg**	**68.88**	**338**	*i* sP		P	06 38 12.6	+7.6
	comp=Z,7.2nm,1.1s							
WATA	**Walderalm**	**68.96**	**338**	*i* sP		P	06 38 12.5	+7.0
	comp=Z,2.4nm,0.6s							
BNI	**Bardonecchia**	**68.98**	**334**	*e*P		P	06 38 12.4	+6.8
BNI				pmax		pmax		
	comp=Z,33nm,1.6s							
BNI	**Bardonecchia**	**68.98**	**334**	*e*P		P	06 38 12.4	+6.8
	comp=Z,33nm,1.6s							
FETA	**Feichten**	**69.00**	**338**	*i* sP		P	06 38 12.4	+6.7
	comp=Z,12nm,1.2s							
VRAC	**Vranov**	**69.07**	**342**	P		**P**	**06 38 06.4**	**+0.5**
	comp=Z,1.2nm,0.5s,baz=170,slow=19,SNR=2.7							
OKC	**Ostrava-Krasne**	**69.11**	**344**	*e*P		**P**	**06 38 09.5**	**+3.4**
OKC	**Ostrava-Krasne**	**69.11**	**344**	*e*P		**P**	**06 38 09.5**	**+3.4**
DAVOX	**Davos/Dischmat**	**69.11**	**337**	P		**P**	**06 38 06.8**	**+0.4**
	comp=Z,0.7nm,0.5s,baz=164,slow=20,SNR=2.5							
MOTA	**

	comp=Z,1.0nm,0.5s								
ZALV	**Zalesovo Beam**	**78.86**	**24**	P		**P**		**06 39 00.5**	**-2.6**
	comp=Z,1.0nm,0.5s,baz=224,slow=8.0,SNR=2.8								
HFS	**Hagfors**	**79.50**	**346**	P		**P**		**06 39 04.4**	**-2.0**
	comp=Z,2.5nm,0.9s,baz=125,slow=4.0,SNR=2.9								
VNDA	**Vanda**	**80.35**	**169**	P		**P**		**06 39 11.0**	**0.0**
	comp=Z,1.1nm,0.7s,baz=278,slow=6.7,SNR=5.2								
VNDA	**Vanda**	**80.35**	**169**	*e*P		**P**		**06 39 11.4**	**+0.4**
VNDA				pmax	pmax				
	comp=Z,12nm,1.5s								
VNDA	**Vanda**	**80.35**	**169**	*e*P		**P**		**06 39 11.4**	**+0.4**
	comp=Z,12nm,1.5s								
XAN	**Xi'an**	**80.83**	**51**	P		P		06 39 19.6	+5.3
XAN				pmax	pmax				
	comp=Z,10.0nm,1.1s								
NB2	**NORSAR Subarra**	**80.89**	**345**	P		**P**		**06 39 13.7**	**-0.3**
	comp=Z,6.5nm,0.9s,baz=150,slow=5.6								
NOA	**NORSAR Array B**	**80.89**	**345**	P		**P**		**06 39 14.0**	**0.0**
	comp=Z,1.5nm,0.9s,baz=142,slow=5.3,SNR=2.9								
EKA	**Eskdalemuir Ar**	**80.90**	**336**	P		**P**		**06 39 13.7**	**-0.4**
	comp=Z,0.4nm,0.6s,baz=129,slow=5.6,SNR=2.1								
ASAR	**Alice Springs**	**85.21**	**113**	P		**P**		**06 39 36.2**	**-1.2**
	comp=Z,1.4nm,0.8s,baz=254,slow=4.1,SNR=13								
SONM	**Songino Array**	**85.67**	**37**	P		**P**		**06 39 38.5**	**-0.5**
	comp=Z,0.9nm,0.7s,baz=261,slow=5.7,SNR=4.5								
HHC	**Hu-ho-hao-te**	**85.71**	**45**	*e*P		P		06 39 46.1	+6.7
HHC				pmax	pmax				
	comp=Z,24nm,0.9s								
HHC				pmax	pmax				
	comp=Z,79nm,7.4s								
ULN	**Ulaanbaatar**	**86.07**	**38**	*e*P		P		06 39 49.2	+8.1
ULN				pmax	pmax				
	comp=Z,1.0nm,0.9s								
WRA	**Warramunga Arr**	**86.61**	**110**	P		**P**		**06 39 42.9**	**-1.4**
	comp=Z,1.2nm,0.8s,baz=252,slow=3.1,SNR=12								
WRAB	**Tennant Creek**	**86.62**	**110**	*e*P		**P**		**06 39 44.0**	**-0.4**
WRAB				pmax	pmax				
	comp=Z,3.0nm,0.6s								
WRAB	**Tennant Creek**	**86.62**	**110**	*e*P		**P**		**06 39 44.0**	**-0.4**
	comp=Z,3.1nm,0.6s								
NJ2	**Nanjing**	**87.69**	**56**	*e*P		P		06 39 54.1	+5.0
NJ2				pmax	pmax				
	comp=Z,24nm,0.5s								
CN2	**Changchun**	**96.37**	**46**	*e*P		P		06 40 35.1	+6.0
CN2				pmax	pmax				
	comp=Z,10.0nm,0.7s								
YKA	**Yellowknife Ar**	**130.98**	**346**	PKP		**PKPdf**		**06 46 11.0**	**-0.4**
	comp=Z,0.4nm,0.6s,baz=30,slow=1.8,SNR=3.5								
YKA	**Yellowknife Ar**	**130.98**	**346**	PKIKP		**PKPdf**		**06 46 11.0**	**-0.4**
YKA	**Yellowknife Ar**	**130.98**	**346**	PKP		**PKPdf**		**06 46 11.0**	**-0.4**
ILAR	**Eielson Array**	**131.13**	**5**	PKP		**PKPdf**		**06 46 11.5**	**-0.2**
	comp=Z,0.2nm,0.5s,baz=324,slow=4.5,SNR=3.2								
DLMT	**Dillon**	**144.04**	**329**	*e*PKPdf		**PKPdf**		**06 46 39.5**	**+3.3**
PDAR	**Pinedale Array**	**144.16**	**323**	PKP		PKPbc		06 46 34.5	-0.2
	comp=Z,1.0nm,0.8s,baz=57,slow=5.5,SNR=6.3								
TXAR	**Lajitas Array**	**146.00**	**299**	PKPbc		**PKPdf**		**06 46 40.1**	**+0.1**
	comp=Z,2.9nm,0.7s,baz=103,slow=3.8,SNR=39								
HWUT	**Hardware Ranch**	**146.05**	**323**	*e*PKPdf		**PKPab**		**06 46 41.0**	**-0.2**
PV01	**Paradox Valley**	**146.24**	**316**	*e*PKPdf		**PKPbc**		**06 46 41.5**	**+0.1**
HAWA	**Hanford**	**146.27**	**337**	*e*PKPdf		**PKPab**		**06 46 42.2**	**+0.6**
ANMO	**Albuquerque**	**146.29**	**309**	*c i*PKP2		**PKPab**		**06 46 48.7**	**+6.4**
ANMO				pmax	pmax				
	comp=Z,6.0nm,1.2s								
PV04	**Paradox Valley**	**146.33**	**317**	*e*PKPdf		**PKPbc**		**06 46 41.9**	**+0.3**
BMO	**Blue Mountains**	**146.62**	**333**	*e*PKP2		**PKPbc**		**06 46 42.2**	**+0.1**
BMO	**Blue Mountains**	**146.62**	**333**	*e*PKPdf		**PKPbc**		**06 46 42.1**	**+0.1**
DUG	**Dugway, Tooele**	**147.69**	**323**	*e*PKP2		**PKPdf**		**06 46 43.6**	**+1.0**
DUG	**Dugway, Tooele**	**147.69**	**323**	*e*PKPdf		**PKPdf**		**06 46 43.6**	**+1.0**
WUAZ	**Wupatki**	**149.54**	**314**	*e*PKPdf		**PKPbc**		**06 46 48.1**	**-2.2**
WUAZ				*e*PKPbc		**PKiKP**		**06 46 51.3**	**-0.1**
WUAZ				*e*PKPab		**pPKPab**		**06 46 59.1**	**+0.5**
MOD	**Modoc Plateau**	**150.29**	**333**	*e*PKPdf		**PKPdf**		**06 46 49.0**	**+2.2**
MOD				*e*PKPbc		**PKiKP**		**06 46 53.0**	**+0.3**
MOD				*e*PKPab		**pPKPab**		**06 47 01.4**	**0.0**
TUC	**Tucson**	**150.69**	**308**	*e*PKIKP		**PKPdf**		**06 46 49.2**	**+1.7**
TUC	**Tucson**	**150.69**	**308**	*e*PKPdf		**PKPdf**		**06 46 49.2**	**+1.7**

IDC 18 06:28:38.6±1.8, 16°09S×43°32E, h0km, mb3.7/5, mb1 3.9/5, mb1mx3.5/52, mbtmp3.7/5, Error ellipse: s-maj=73.5km s-min=39.5km az=45.0, Mozambique Channel

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op		ISC	h m s	ISC
TORD	**Torodi Ar. Bea**	**50.37**	**303**	P		P	06 37 38.0	+0.1
	1.1nm,0.7s,baz=116,slow=6.5,SNR=2.2							
BRTR	**Keskin Array B**	**56.25**	**351**	P		P	06 38 21.9	+0.9
	0.7nm,0.8s,baz=183,slow=9.7,SNR=2.6							
AKASG	**Malin Array Be**	**67.64**	**350**	P		P	06 39 37.2	0.0
	0.3nm,0.4s,baz=175,slow=5.9,SNR=3.8							
GERES	**GERESS Array B**	**69.80**	**340**	P		P	06 39 49.8	-1.1
	0.6nm,0.6s,baz=148,slow=5.8,SNR=3.8							
ASAR	**Alice Springs**	**84.21**	**113**	P		P	06 41 12.7	0.0
	0.7nm,0.8s,baz=258,slow=4.5,SNR=2.7							
TXAR	**Lajitas Array**	**146.94**	**299**	PKPbc		PKPbc	06 48 23.5	-0.5
	0.5nm,0.7s,baz=88,slow=4.8,SNR=2.4							

JMA 18 06:33:51.2, 35°06N×134°53E, h12km, M0.2, Western Honshu

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op		ISC	h m s	ISC
JKS	**Kasai**	**0.27**	**107**	P		Pg	06 33 56.7	-0.1
JKS				S		Sg	06 34 00.4	-0.1
JAD	**Aida**	**0.32**	**248**	S		Sg	06 34 02.0	0.0

NEIC 18 06:37:06.0±0.0, 52°.71N×169°.27W, h0km, ML3.3(AEIC), After AEIC.
IDC 18 06:37:09.7±4.5, 52°.78N×168°.30W, h0km, mb3.5/2, mb1 3.7/4, mb1mx3.3/59, mbtmp3.4/4, ML3.0/2, Error ellipse: s-maj=82.9km s-min=38.0km az=109.0
ISC 18 06:37:05.4±2.0, 52°56N±0°.09×168°.98W±0°.08, h1km±12km, n24, σ1s20/25, Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op		ISC	h m s	ISC
NIKH	**Nikolski High**	**0.42**	**10**	P		**Pb**	**06 37 15.3**	**-0.3**
NIKH				S		**Sb**	**06 37 22.7**	**+0.3**
OKSP	**Okmok Steeple**	**0.81**	**31**	P		**Pb**	**06 37 23.0**	**+0.8**
OKSO	**Okmok South**	**0.94**	**31**	P		**Pb**	**06 37 24.7**	**+0.3**
OKSO				S		**Sn**	**06 37 39.8**	**0.0**
OKCE	**Okmok Cone E**	**1.00**	**29**	P		**Pb**	**06 37 25.7**	**+0.3**
OKCE				S		**Sn**	**06 37 42.5**	**+1.3**
OKTU	**Okmok Mt. Tuli**	**1.00**	**34**	P		**Pn**	**06 37 26.6**	**+0.1**
OKFG	**Magazine Ridge**	**1.07**	**37**	P		**Pn**	**06 37 27.3**	**-0.1**
OKFG				S		**Sn**	**06 37 43.5**	**+0.6**
MGOD	**Makushin Gods**	**1.77**	**45**	P		**Pg**	**06 37 39.2**	**-0.1**
MCIR	**Makushin Cirqu**	**1.87**	**41**	P		**Pb**	**06 37 40.6**	**+0.2**
MSW	**Makushin Switc**	**1.89**	**43**	P		**Pb**	**06 37 39.9**	**-0.8**
MSW				S		**Sg**	**06 38 06.9**	**+0.7**
UNV	**Unalaska Valle**	**1.97**	**48**	P		**Pb**	**06 37 40.8**	**-1.1**
UNV				S		**Sg**	**06 38 08.1**	**-0.5**
MTBL	**Makushin Table**	**1.97**	**43**	P		**Pb**	**06 37 42.4**	**+0.3**
AKMO	**Akutan Morgan**	**2.35**	**48**	P		**Pb**	**06 37 47.6**	**-0.8**
AKGG	**Akutan Green G**	**2.43**	**46**	P		**Pb**	**06 37 48.5**	**-1.3**
ATKA	**Atka Island**	**3.22**	**266**	P		**Pn**	**06 37 56.1**	**-0.9**
KDAK	**Kodiak Island**	**10.72**	**54**	Pn		**Pn**	**06 39 40.9**	**+1.0**
KDAK						Sn	**06 41 36.7**	**-3.7**
	0.1nm,0.3s,baz=255,slow=10,SNR=4.6							
ILAR	**Eielson Array**	**16.66**	**34**	Pn		**Pn**	**06 40 57.8**	**-1.9**
	0.0nm,0.3s,baz=232,slow=11,SNR=3.3							
H11N2	**WAKE ISLAND Hy**	**37.75**	**219**	T		T	07 24 48.6	
	baz=23							
H11N3	**WAKE ISLAND Hy**	**37.76**	**219**	T		T	07 24 45.8	
	baz=23							
H11N1	**WAKE ISLAND Hy**	**37.77**	**219**	T		T	07 24 46.4	
	baz=23							
H11S1	**WAKE ISLAND Hy**	**38.94**	**218**	T		T	07 25 51.8	
	baz=22							
H11S2	**WAKE ISLAND Hy**	**38.95**	**218**	T		T	07 26 20.3	
	baz=22							
H11S3	**WAKE ISLAND Hy**	**38.96**	**218**	T		T	07 25 53.6	
	baz=22							
PDAR	**Pinedale Array**	**40.13**	**80**	P		**P**	**06 44 43.7**	**+0.9**
	0.4nm,0.4s,baz=317,slow=3.8,SNR=5.5							
TXAR	**Lajitas Array**	**52.50**	**89**	P		**P**	**06 46 21.4**	**+1.4**
	0.2nm,0.4s,baz=302,slow=4.9,SNR=6.7							

IDC 18 06:45:35.8±0.8, 0°.89S×97°.70E, h0km, mb4.1/12, mb1 4.2/14, mb1mx4.0/37, mbtmp4.1/14, ML4.2/2, MS4.0/1, Ms1 4.0/1, ms1mx3.0/37, Error ellipse: s-maj=29.8km s-min=15.8km az=52.0
NEIC 18 06:45:37.0±0.4, 0°.97S×97°.76E, h10km, mb4.5/6, Error ellipse: s-maj=7.7km s-min=5.0km az=52.0
ISCJB 18 06:45:38.0±0.5, 0°.95S±0°.04×97°.79E±0°.04, h26km, mb4.5/27, MS4.2/4, Error ellipse: s-maj=7.4km s-min=4.6km az=136.9
KLM 18 06:45:38.7, 0°.98S×97°.83E, h10km, mb4.2
DJA 18 06:45:40.1±0.9, 1°S±2°×9°8E±°, h16km±6km, M4.4/12, mb4.6/11, mB5.1/3, MLv4.3/12, Mw(mB)4.5/3
ISC 18 06:45:40.0±0.6, 0°.89S±0°.05×97°.83E±0°.07, h26km, n73, σ1s65/76, mb4.5/27, MS4.1/4, 1C-1D, Southwest of Sumatera

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op		ISC	h m s	ISC
PBSI	**Pulau Batu**	**0.94**	**29**	P		**Pn**	**06 45 56.9**	**-0.7**
PBSI				S		**Sb**	**06 46 05.3**	**-4.5**
SISI	**Saibi**	**1.33**	**109**	P		**Pn**	**06 46 02.7**	**-0.2**
SISI				S		**Sn**	**06 46 19.6**	**-0.2**
MNSI	**Mandailing Nat**	**2.42**	**46**	P		**Pn**	**06 46 18.3**	**+0.4**
MNSI				S		**Sn**	**06 46 47.0**	**+0.3**
PPI	**Padang Panjang**	**2.60**	**81**	P		**Pn**	**06 46 20.3**	**-0.1**
PDSI	**Padang**	**2.63**	**91**	P		**Pn**	**06 46 20.7**	**-0.1**
BKNI	**Bangkinang**	**3.43**	**69**	P		**Pn**	**06 46 34.1**	**+2.3**
BKNI	**Bangkinang**	**3.43**	**69**	*e*Pn		**Pn**	**06 46 32.5**	**+0.7**
SDSI	**Sungai Dareh**	**3.60**	**91**	P		**Pn**	**06 46 35.0**	**+0.9**
PSI	**Prapat**	**3.83**	**17**	Pn		**Pn**	**06 46 35.1**	**-2.2**
	4.7nm,0.3s,baz=182,slow=9.7,SNR=15							
KCSI	**Kotacane, Aceh**	**4.38**	**359**	P		**Pn**	**06 46 42.9**	**-2.0**
KCSI				S		**Sn**	**06 47 31.7**	**-3.5**
MLSI	**Meulaboh, Aceh**	**5.32**	**344**	P		**Pb**	**06 47 08.9**	**-3.3**
KSI	**Kapahiang**	**5.50**	**120**	P		**Pn**	**06 47 00.6**	**+0.3**
	363nm,0.6s,1.2nm							
LHMI	**Lhok Sumawe**	**6.14**	**352**	*e*Pn		**Pn**	**06 47 09.9**	**+0.8**
MNAI	**Manna**	**6.17**	**124**	P		**Pn**	**06 47 07.5**	**-2.0**
	484nm,0.9s,8μm2.1nm							
MNAI	**Manna**	**6.17**	**124**	*e*Pn		**Pn**	**06 47 08.1**	**-1.4**
MNAI				*e*Sn		**Sn**	**06 48 13.7**	**-5.7**
KGM	**Kluang**	**6.20**	**62**	↑P		**Pn**	**06 47 11.0**	**+1.0**
IPM	**Ipoh**	**6.22**	**31**	*e*Pn		**Pn**	**06 47 11.3**	**+1.2**
IPM	**Ipoh**	**6.22**	**31**	↓P		**Pn**	**06 47 11.9**	**+1.8**
MYKOM	**Kota Tinggi**	**6.58**	**66**	*e*Pn		**Pn**	**06 47 15.4**	**+0.3**
KULM	**Kulim**	**6.75**	**25**	*e*Pn		**Pn**	**06 47 17.4**	**-0.1**
KLSI		**7.86**	**119**	P		**Pn**	**06 47 34.8**	**+2.1**
	55nm,0.8s,0.1nm							
KSM	**Kuching**	**12.70**	**79**	*e*Pn		**Pn**	**06 48 39.2**	**+0.2**
SBUM	**Sibu**	**14.77**	**77**	*e*Pn		**Pn**	**06 49 07.6**	**+0.4**
NAYO	**Nakonayok**	**15.50**	**13**	P		**P**	**06 49 21.1**	**0.0**
	23nm,1.1s							
UTHA	**Uthani**	**16.42**	**6**	P		**P**	**06 49 32.0**	**+0.6**
	13nm,0.8s,101nm							
DLV	**T Lat**	**16.57**	**39**	*e*Pn		**Pn**	**06 49 31.9**	**+1.0**
PBKT	**Sadao Pong**	**17.62**	**10**	P		**P**	**06 49 46.0**	**+1.3**
	14nm,0.9s,606nm							
JAGI	**Jajag, Banyuwa**	**17.92**	**115**	*e*Pn		**Pn**	**06 49 45.9**	**-1.6**
	20nm,0.9s							
SUKH	**Sukhothai**	**18.34**	**5**	P		**Pn**	**06 49 53.9**	**+1.2**
	4.3nm,1.0s							
UTTA	**Uttaradit**	**18.71**	**8**	P		**Pn**	**06 49 58.0**	**+0.9**
	3.3nm,0.9s							
SKNT	**Sakolnakorn**	**18.76**	**19**	P		Pn	06 50 05.6	+7.8
	9.6nm,1.9s							
CM01	**Chiang Mai Arr**	**19.22**	**3**	*e*P		**Pn**	**06 50 03.1**	**-0.2**
CM31	**Chiang Mai Arr**	**19.26**	**3**	*e*P		**Pn**	**06 50 03.5**	**-0.3**
CMAR	**Chiang Mai Arr**	**19.26**	**3**	P		**P**	**06 50 01.1**	**-1.6**
	0.7nm,0.3s,baz=192,slow=11,SNR=15							
KKM	**Kota Kinabalu**	**19.61**	**69**	*e*P		**P**	**06 50 06.7**	**+0.1**
	14nm,0.7s							
CMMT	**Chiang Mai**	**19.61**	**3**	P		**Pn**	**06 50 08.8**	**+0.8**
	9.9nm,1.2s							
CHTO	**Chiang Mai**	**19.61**	**3**	P		**Pn**	**06 50 08.9**	**+0.9**
	32nm,1.0s							
CHTO	**Chiang Mai**	**19.61**	**3**	*e*P		**Pn**	**06 50 07.4**	**-0.6**
	5.0nm,0.8s							
KAPI	**Kappang**	**22.27**	**101**	*e*P		**P**	**06 50 34.6**	**-0.8**
	322nm,0.9s							
SLVN	**Son La**	**22.87**	**15**	*e*P		**P**	**06 50 41.5**	**-0.2**
	9.1nm,0.8s							
QIZ	**Qiongzhong**	**23.05**	**30**	P		**P**	**06 50 45.3**	**+1.8**
MRSI	**Marisa**	**24.15**	**87**	P		**P**	**06 50 54.4**	**+0.2**
	25nm,1.0s							
H08S2	**Diego Garcia H**	**26.13**	**254**	T		T	07 18 12.6	
	baz=75,slow=75,SNR=359							
H08S3	**Diego Garcia H**	**26.13**	**254**	T		T	07 18 12.9	
	baz=75,slow=75,SNR=591							
H08S1	**Diego Carcia H**	**26.14**	**254**	T		T	07 18 13.9	
	baz=75,slow=75,SNR=385							
GYA	**Guiyang**	**28.49**	**17**	*e*P		**P**	**06 51 35.8**	**+2.4**
GYA				pmax	pmax			
	comp=Z,10.0nm,0.8s							
MBWA	**Marble Bar**	**29.37**	**135**	*e*P		**P**	**06 51 40.8**	**-0.4**
	comp=Z,42nm,1.8s							
ENH	**Enshi**	**32.92**	**19**	*e*P		**P**	**06 52 12.1**	**-0.3**
	comp=Z,17nm,0.6s							
XAN	**Xi'an**	**36.27**	**16**	P		**P**	**06 52 43.4**	**+2.0**
XAN				S		**S**	**06 58 22.8**	**+2.2**
XAN				pmax	pmax			
	comp=Z,28nm,0.8s							
XAN				LR	LR			
	comp=N,91nm,13.7s							
XAN				LR	LR			
	comp=E,230nm,13.5s							
XAN				LR	LR			
	comp=Z,200nm,16.3s							
LZH	**Lanzhou**	**37.21**	**8**	*e*P		**P**	**06 52 50.8**	**+1.4**
LZH				pP		sP	06 52 59.1	-1.3
LZH				sP		pP	06 53 02.5	+5.3
LZH				PP		**PnPn**	**06 54 19.0**	**+3.8**
LZH				pmax	pmax			
	comp=Z,20nm,1.3s							
LZH				pmax	pmax			
	comp=Z,63nm,5.2s							
LZH				LR	LR			
	comp=N,170nm,12.7s							
LZH				LR	LR			
	comp=E,180nm,13.0s							
LZH				LR	LR			
	comp=Z,220nm,16.3s							
GTA	**Gaotai**	**40.15**	**2**	*e*P		**P**	**06 53 14.8**	**+0.8**
GTA				pP		pP	06 53 22.3	+0.5
GTA				sP		sP	06 53 25.8	+0.8
GTA				pmax	pmax			
	comp=Z,5.0nm,1.2s							
WRA	**Warramunga Arr**	**40.42**	**120**	P		**P**	**06 53 16.2**	**-0.3**
	comp=Z,7.5nm,0.8s,baz=299,slow=9.1,SNR=21							
WRAB	**Tennant Creek**	**40.43**	**120**	*e*P		**P**	**06 53 15.1**	**-1.5**
	comp=Z,8.5nm,1.1s							
ASAR	**Alice Springs**	**41.66**	**126**	P		**P**	**06 53 27.1**	**+0.4**
	comp=Z,2.5nm,0.7s,baz=298,slow=7.8,SNR=32							
ASAR				LR		LR	07 13 04.6	
	comp=Z,193nm,20.1s,baz=326,slow=40							
HHC	**Hu-ho-hao-te**	**43.38**	**15**	*e*P		**P**	**06 53 43.9**	**+3.5**
HHC				pmax	pmax			
	comp=Z,28nm,1.0s							
HHC				pmax	pmax			
	comp=Z,70nm,8.6s							
KSH	**Kashi**	**44.92**	**336**	*e*P		**P**	**06 53 55.1**	**+2.3**
KSH				pP		pP	06 53 59.9	-0.8
KSH				pmax	pmax			
	comp=Z,42nm,3.8s							
WMQ	**Urumqi**	**45.43**	**350**	P		**P**	**06 53 58.6**	**+1.9**
WMQ				pP		sP	06 54 06.3	-1.5
WMQ				sP		pP	06 54 09.9	+5.3
WMQ				pmax	pmax			
	comp=Z,10.0nm,0.7s							
WMQ				pmax	pmax			
	comp=Z,130nm,5.5s							
WMQ				LR	LR			
	comp=N,130nm,15.1s							
WMQ				LR	LR			
	comp=E,270nm,21.7s							
WMQ				LR	LR			
	comp=Z,540nm,19.5s							
KSAR	**Wonju Array Be**	**47.20**	**33**	P		**P**	**06 54 10.1**	**-0.6**
KSRS	**Korea Array**	**47.23**	**33**	P		**P**	**06 54 10.1**	**-0.8**
	comp=Z,2.6nm,0.7s,baz=214,slow=8.1,SNR=5.2							
SONM	**Songino Array**	**49.10**	**8**	P		**P**	**06 54 26.0**	**+0.7**
	comp=Z,1.7nm,0.8s,baz=187,slow=8.0,SNR=7.3							
ULN	**Ulaanbaatar**	**49.22**	**8**	*e*P		**P**	**06 54 26.2**	**0.0**
	comp=Z,12nm,0.9s							
CN2	**Changchun**	**50.89**	**26**	*e*P		**P**	**06 54 41.8**	**+3.0**
CN2				pmax	pmax			
	comp=Z,10.0nm,0.5s							
STKA	**Stephens Creek**	**51.51**	**131**	P		**P**	**06 54 44.6**	**+0.8**
	comp=Z,1.7nm,0.7s,baz=315,slow=20,SNR=2.9							
USRK	**Ussuriysk Ar.**	**54.24**	**30**	P		**P**	**06 55 04.0**	**+0.3**
	comp=Z,6.5nm,0.9s,baz=226,slow=8.7,SNR=7.2							
ZALV	**Zalesovo Beam**	**55.71**	**351**	P		**P**	**06 55 14.1**	**0.0**
	comp=Z,4.9nm,0.7s,baz=190,slow=6.5,SNR=15							
ABKAR	**Akbulak array**	**59.64**	**332**	*e*P		**P**	**06 55 40.9**	**-0.9**
	comp=Z,0.4nm,0.5s							
KBZ	**Khabaz**	**66.06**	**320**	P		**P**	**06 56 25.2**	**+0.6**
	comp=Z,1.6nm,0.9s,baz=69,slow=5.0,SNR=3.5							
BRTR	**Keskin Array B**	**70.98**	**313**	P		**P**	**06 56 55.0**	**-0.7**
	comp=Z,0.6nm,0.7s,baz=118,slow=8.6,SNR=2.2							
AKASG	**Malin Array Be**	**77.29**	**323**	P		**P**	**06 57 30.1**	**-2.0**
	comp=Z,0.2nm,0.3s,baz=88,slow=5.0,SNR=4.1							
FINES	**FINESS Array B**	**82.13**	**333**	P		**P**	**06 57 58.0**	**-0.1**
	comp=Z,2.3nm,1.0s,baz=108,slow=6.2,SNR=4.4							
GERES	**GERESS Array B**	**86.79**	**319**	P		**P**	**06 58 22.1**	**-0.1**
	comp=Z,0.1nm,0.3s,baz=127,slow=6.2,SNR=3.4							
TXAR	**Lajitas Array**	**145.07**	**34**	PKPbc		**PKPdf**	**07 05 16.2**	**+0.3**
	comp=Z,1.9nm,0.6s,baz=265,slow=1.7,SNR=32							
JCT	**Junction City**	**146.14**	**28**	*e*PKPbc		**PKPbc**	**07 05 18.9**	**+0.3**

ISCJB 18 06:48:17.5±0.5, 6°.84N±0°.03×73°.09W±0°.03, h155km±4km, Error ellipse: s-maj=6.3km s-min=3.5km az=38.2
FUNV 18 06:48:19.3, 6°.81N×73°.07W, h165km, MW3.0
RSNC 18 06:48:19.9±1.0, 6°.80N×73°.15W, h143km±4km, ML3.1
ISC 18 06:48:17.1±1.3, 6°.84N±0°.03×73°.07W±0°.04, h159km±8km, n36, σ1s32/57, 1C, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op		ISC	h m s	ISC
BTLC	**Betulia, Santa**	**0.22**	**292**	*e*P		**Pn**	**06 48 39.3**	**+0.5**
BARC	**Barichara**	**0.27**	**206**	*i*P		**Pn**	**06 48 39.2**	**+0.2**
BARC				*e*S		**Sn**	**06 48 53.8**	**-1.9**
BARC				*i*			06 48 55.5	
	comp=Z,243nm,0.4s							
GIRC	**Giron, Santand**	**0.27**	**332**	*e*P		**Pn**	**06 48 39.2**	**+0.3**
GIRC				*e*S		**Sn**	**06 48 54.5**	**-1.0**
PAMC	**Pamplona, Colo**	**0.62**	**36**	*e*P		**Pn**	**06 48 42.0**	**+1.3**
PAMC				*e*S		**Sn**	**06 48 59.1**	**+0.3**
BRRC	**Barranca, Sant**	**0.70**	**293**	↑*i*P		**Pn**	**06 48 41.0**	**+0.4**
BRRC				*e*S		**Sn**	**06 48 57.8**	**-0.7**
BRRC				*i*			06 49 00.3	
	comp=Z,197nm,0.2s							
CBRI	**Barrientos, No**	**0.92**	**17**	*e*P		**Pn**	**06 48 43.6**	**+1.3**
RUSC	**La Rusia**	**0.94**	**181**	*i*P		**Pn**	**06 48 43.1**	**+0.2**
RUSC				*i*			06 48 44.5	
	comp=Z,118nm,0.1s							
RUSC				*e*S		**Sn**	**06 49 01.4**	**-1.2**
CAPV	**Capacho**	**1.27**	**36**	*e*P		**Pn**	**06 48 47.1**	**+1.7**
CAPV				*e*S		**Sn**	**06 49 08.5**	**+1.4**
OCAC	**Ocana**	**1.42**	**350**	*e*P		**Pn**	**06 48 48.2**	**+1.4**
OCAC				*e*S		**Sn**	**06 49 09.3**	**-0.2**
OCAC				*i*			06 49 12.9	
	comp=Z,146nm,0.2s							
YOPC	**Yopal, Colombi**	**1.61**	**156**	*i*P		**Pn**	**06 48 50.1**	**+1.4**
YOPC				*e*S		**Sn**	**06 49 13.4**	**+0.5**
ZARC	**Zaragoza, Cauc**	**1.89**	**290**	*e*P		**Pn**	**06 48 51.7**	**+0.1**
ZARC				*e*S		**Sn**	**06 49 16.3**	**-1.9**
NORC	**Norcasia**	**2.19**	**235**	*e*P		**Pn**	**06 48 55.5**	**+0.3**
NORC				*e*S		**Sn**	**06 49 23.3**	**-1.1**
CHIC	**Chingaza**	**2.29**	**197**	*e*P		**Pn**	**06 48 57.4**	**+0.8**
CHIC				*e*S		**Sn**	**06 49 25.9**	**-1.2**
CHIC				*i*			06 49 38.1	
	comp=Z,65nm,0.4s							
ROSC	**El Rosal**	**2.34**	**212**	*e*P		**Pn**	**06 48 59.2**	**+2.0**
ROSC				*e*S		**Sn**	**06 49 29.0**	**+0.8**
ROSC				*i*			06 49 33.2	
	comp=Z,131nm,0.6s							
HELC	**Santa Helena**	**2.53**	**255**	*e*P		**Pn**	**06 48 59.4**	**-0.1**
HELC				*e*

h25km:pP-P,n1411,σ1s54/1564,mb5.7/340,MS5.4/245,
208C-24D,Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op		h m s	ISC
JTH	**Tanohata**	**1.01**	**275**	⇓P	**Pn**	**07 04 37.0**	**-1.5**
JTH				*e*S	**Sb**	**07 04 50.7**	**-1.0**
MIYJ	**Miyakonagasawa**	**1.09**	**255**	⇓P	**Pn**	**07 04 38.5**	**-1.0**
MIYJ				*e*S	**Sn**	**07 04 53.1**	**-0.7**
JANG	**Nango**	**1.37**	**292**	⇓P	**Pn**	**07 04 42.1**	**-1.4**
OFUJ	**Ofunato**	**1.41**	**237**	⇓P	**Pn**	**07 04 43.4**	**-0.5**
JOM	**Ohasama**	**1.51**	**256**	⇓P	**Pn**	**07 04 45.4**	**+0.1**
JOM				*e*S	**Sb**	**07 05 05.5**	**-0.4**
JMK	**Ichinoseki**	**1.77**	**240**	⇑P	**Pn**	**07 04 49.0**	**+0.1**
JMK				*e*S	**Sb**	**07 05 12.5**	**-0.9**
JTM	**Tenmabayashi**	**1.86**	**300**	⇓P	**Pn**	**07 04 50.2**	**+0.1**
JTM				*e*S	**Sn**	**07 05 13.8**	**+1.0**
JAH	**Hinai**	**1.98**	**280**	⇓P	**Pn**	**07 04 52.2**	**+0.4**
JAH				*e*S	**Sb**	**07 05 18.8**	**-0.6**
JIO	**Ouri**	**2.00**	**226**	⇑P	**Pn**	**07 04 51.6**	**-0.5**
JIO				*e*S	**Sn**	**07 05 17.8**	**+1.5**
JRG	**Rokugo**	**2.02**	**257**	⇑P	**Pn**	**07 04 53.0**	**+0.7**
JRG				*e*S	**Sb**	**07 05 19.7**	**-0.9**
ERM	**Erimo**	**2.15**	**360**	*de*P	**Pn**	**07 04 53.9**	**-0.2**
ERM				pmax	pmax		
	comp=Z,521nm,1.2s						
ERM	**Erimo**	**2.15**	**360**	*e*Pn	**Pn**	**07 04 54.0**	**-0.1**
JOT	**Ohata**	**2.22**	**314**	⇑P	**Pn**	**07 04 55.0**	**-0.1**
JOT				*e*S	**Sn**	**07 05 22.7**	**+1.0**
JYW	**Yuwa**	**2.31**	**263**	⇑P	**Pn**	**07 04 57.5**	**+1.1**
JYK	**Kaneyama**	**2.38**	**248**	⇑P	**Pn**	**07 04 58.1**	**+0.8**
JYK				*e*S	**Sn**	**07 05 27.8**	**+2.1**
JNBK	**Urakawa-nobuka**	**2.44**	**353**	⇑P	**Pn**	**07 04 58.3**	**+0.3**
JOU	**Okura**	**2.46**	**233**	⇑P	**Pn**	**07 04 58.6**	**+0.1**
JIW	**Iwasaki**	**2.54**	**288**	⇑P	**Pn**	**07 05 00.6**	**+1.2**
JKB	**Kayabe**	**2.60**	**322**	P	**Pn**	**07 05 00.0**	**-0.2**
JKB				*e*S	**Sn**	**07 05 32.9**	**+2.0**
JMM	**Marumori**	**2.73**	**224**	P	**Pn**	**07 05 01.5**	**-0.6**
JYS	**Shirataka**	**2.93**	**237**	⇑P	**Pn**	**07 05 05.7**	**+0.9**
JAW	**Awa shima**	**3.36**	**247**	⇑P	**Pn**	**07 05 11.9**	**+1.1**
JNS	**Sasagawa**	**3.64**	**237**	⇑P	**Pn**	**07 05 15.7**	**+1.1**
JHO	**Hitachi**	**3.84**	**213**	P	**Pn**	**07 05 16.0**	**-1.4**
JHK	**Hiroka**	**4.18**	**233**	⇑P	**Pn**	**07 05 23.2**	**+1.2**
JIZZ	**Izumozaki**	**4.20**	**238**	⇑P	**Pn**	**07 05 24.4**	**+2.1**
JSD	**Sado**	**4.25**	**246**	⇑P	**Pn**	**07 05 23.8**	**+0.9**
ASAJ	**Asahikawa**	**4.27**	**354**	*e*Pn	**Pn**	**07 05 23.9**	**+0.6**
JKT	**Katashina**	**4.37**	**226**	P	**Pn**	**07 05 26.2**	**+1.4**
JAG	**Ashikaga**	**4.52**	**222**	P	**Pn**	**07 05 27.0**	**+0.3**
YUK	**Yuzh-Kuril'sk**	**4.62**	**25**	*e*P	**Pn**	**07 05 27.4**	**-0.7**
YUK				*i* S	**Sn**	**07 06 17.5**	**-3.4**
YUK				pmax	pmax		
	comp=Z,842nm,0.4s						
YUK				pmax	pmax		
	comp=E,26nm,0.1s						
YUK				pmax	pmax		
	comp=N,289nm,0.3s						
YUK				smax	smax		
	comp=E,294nm,0.3s						
YUK				smax	smax		
	comp=N,11μm,0.6s						
YUK				MLR	MLR		
	comp=Z,18μm,15.0s						
YUK				MLR	MLR		
	comp=N,24μm,14.0s						
JJN	**Nakama**	**4.80**	**237**	P	**Pn**	**07 05 32.6**	**+2.0**
SHO	**Shikotan**	**4.84**	**33**	*e*P	**Pn**	**07 05 29.3**	**-1.8**
SHO				*i* S	**Sn**	**07 06 20.7**	**-5.6**
SHO				pmax	pmax		
	comp=E,491nm,0.9s						
SHO				pmax	pmax		
	comp=Z,684nm,0.9s						
SHO				pmax	pmax		
	comp=N,307nm,0.7s						
SHO				smax	smax		
	comp=N,4μm,0.6s						
SHO				smax	smax		
	comp=E,7μm,0.5s						
JGK	**Kuni**	**4.86**	**229**	P	**Pn**	**07 05 33.2**	**+1.7**
JRY	**Ryogami san**	**5.12**	**223**	⇑P	**Pn**	**07 05 35.2**	**+0.3**
MAJO	**Matsushiro**	**5.13**	**231**	*c i*P	**Pn**	**07 05 36.6**	**+1.5**
MAJO	**Matsushiro**	**5.13**	**231**	*e*Pn	**Pn**	**07 05 36.9**	**+1.7**
MAJO				*e*Sg	**Sb**	**07 06 56.7**	**+6.6**
MAT	**Matsushiro**	**5.13**	**231**	P	**Pn**	**07 05 36.8**	**+1.7**
MAT				*e*S	**Sn**	**07 06 37.6**	**+4.0**
MAT	**Matsushiro**	**5.13**	**231**	P	**Pn**	**07 05 36.8**	**+1.7**
MJAR	**Matsushiro Arr**	**5.13**	**231**	Pn	**Pn**	**07 05 36.7**	**+1.6**
	comp=E,53nm,0.3s,baz=37,slow=13,SNR=548						
MJAR				Sn	**Sn**	**07 06 35.1**	**+1.6**
	baz=33,slow=20,SNR=2.5						
MJAR				LR	LR	07 07 48.5	
	comp=E,34μm,18.7s,baz=50,slow=41						
MJB9	**Matsu-Tunnel**	**5.13**	**231**	*e*Pn	**Pn**	**07 05 36.9**	**+1.8**
JSZ	**Suzu**	**5.15**	**244**	P	**Pn**	**07 05 36.7**	**+1.3**
JHG	**Hegura jima**	**5.28**	**250**	P	**Pn**	**07 05 39.2**	**+2.0**
JNS	**Nsakai**	**5.29**	**231**	⇑P	**Pn**	**07 05 38.8**	**+1.5**
BSO3	**Boso 3**	**5.48**	**204**	P	**Pn**	**07 05 38.3**	**-1.4**
JNT	**Takato**	**5.64**	**227**	P	**Pn**	**07 05 43.0**	**+0.8**
JTT	**Ttatey**	**5.64**	**237**	P	**Pn**	**07 05 44.2**	**+2.2**
AJI	**Ajiro2**	**5.81**	**215**	P	**Pn**	**07 05 43.5**	**-0.9**
JJH	**Hakui**	**5.82**	**242**	P	**Pn**	**07 05 46.3**	**+1.8**
JGN	**Niukaw**	**5.88**	**234**	⇑P	**Pn**	**07 05 47.5**	**+2.0**
JNY	**Yasuok**	**6.17**	**225**	⇑P	**Pn**	**07 05 50.0**	**+0.6**
SHZ3	**Shizuoka 3**	**6.21**	**221**	P	**Pn**	**07 05 50.5**	**+0.5**
JGF	**Kuroka**	**6.28**	**229**	⇑P	**Pn**	**07 05 52.0**	**+1.1**
KUR	**Kuril'sk**	**6.38**	**31**	*e*P	**Pn**	**07 05 51.6**	**-0.7**
KUR				*i* S	**Sn**	**07 07 00.7**	**-3.6**
KUR				pmax	pmax		
	comp=Z,512nm,0.6s						
KUR				pmax	pmax		
	comp=E,166nm,0.3s						
KUR				pmax	pmax		
	comp=N,170nm,0.2s						
KUR				smax	smax		
	comp=N,1μm,0.3s						
KUR				smax	smax		
	comp=E,2μm,0.4s						
KUR				MLR	MLR		
	comp=Z,16μm,17.0s						
KUR				MLR	MLR		
	comp=N,15μm,12.0s						
KUR				MLR	MLR		
	comp=E,11μm,14.0s						
JKG	**Kaga**	**6.48**	**239**	P	**Pn**	**07 05 55.5**	**+1.9**
INU	**Inuyama**	**6.65**	**229**	*e*Pn	**Pn**	**07 05 56.1**	**+0.1**
YSS	**Yuzh-Sakhalins**	**7.09**	**358**	⇑*i*P	**Pn**	**07 06 02.6**	**+0.6**
YSS				*e*S	**Sn**	**07 07 25.0**	**+3.3**
YSS				pmax	pmax		
	comp=Z,160nm,1.6s						
YSS				MLR	MLR		
	comp=Z,30μm,14.0s						
YSS				MLR	MLR		
	comp=N,27μm,13.0s						
YSS				MLR	MLR		
	comp=E,17μm,17.0s						
YSS	**Yuzh-Sakhalins**	**7.09**	**358**	*e*Pn	**Pn**	**07 06 02.6**	**+0.6**
JFM	**Mihama**	**7.16**	**235**	⇑P	**Pn**	**07 06 05.2**	**+2.2**
JHJ2	**Mitsune**	**7.26**	**203**	*e*Pn	**Pn**	**07 06 03.4**	**-0.9**
JHJ	**Hachijo jima 2**	**7.26**	**203**	Pn	**Pn**	**07 06 03.1**	**-1.3**
	comp=E,78nm,0.3s,baz=302,slow=20,SNR=20						
JHJ				Sn	**Sn**	**07 07 20.9**	**-5.2**
	comp=E,157nm,0.3s,baz=16,slow=23,SNR=5.3						
JHJ				LR	LR	07 09 22.1	
	comp=E,12μm,20.1s,baz=46,slow=42						
VLA	**Vladivostok**	**9.08**	**295**	*c i*P	**Pn**	**07 06 31.2**	**+2.0**
VLA				pmax	pmax		
	comp=Z,336nm,1.4s						
UGL	**Uglegorsk**	**9.25**	**355**	*e*P	**Pn**	**07 06 31.0**	**-0.5**
UGL				S	**Sn**	**07 08 16.0**	**+1.4**
UGL				pmax	pmax		
	comp=Z,146nm,1.0s						
UGL				pmax	pmax		
	comp=Z,2μm,6.0s						
UGL				smax	smax		
	comp=N,4μm,10.0s						
UGL				smax	smax		
	comp=E,4μm,10.0s						
UGL				MLR	MLR		
	comp=Z,20μm,14.0s						
UGL				MLR	MLR		
	comp=N,21μm,16.0s						
UGL				MLR	MLR		
	comp=E,22μm,16.0s						
USRK	**Ussuriysk Ar.**	**9.38**	**301**	Pn	**Pn**	**07 06 35.8**	**+2.4**
	comp=E,8.2nm,0.3s,baz=107,slow=12,SNR=141						
USRK				LR	LR	07 10 03.8	
	comp=E,40μm,19.0s,baz=96,slow=36						
MSHR	**Mys Shultsa**	**9.46**	**291**	*e*P	**Pn**	**07 06 34.3**	**-0.1**
HABR	**Khabarovsk**	**10.39**	**329**	*ce*P	**Pn**	**07 06 45.3**	**-1.9**
HABR				*e*S	**Sn**	**07 08 41.0**	**-1.8**
HABR				pmax	pmax		
	comp=N,131nm,1.8s						
HABR				pmax	pmax		
	comp=E,139nm,1.8s						
HABR				pmax	pmax		
	comp=Z,293nm,1.8s						
HABR				MLR	MLR		
	comp=Z,24μm,13.0s						
TYV	**Tymovskoe**	**11.01**	**358**	*e*P	**Pn**	**07 06 54.2**	**-1.4**
TYV				*e*S	**Sn**	**07 08 53.6**	**-4.2**
TYV				pmax	pmax		
	comp=Z,2μm,14.5s						
TYV				smax	smax		
	comp=E,3μm,7.4s						
TYV				MLR	MLR		
	comp=Z,31μm,18.0s						
MDJ	**Mudanjiang**	**11.13**	**300**	P	**Pn**	**07 06 59.3**	**+1.9**
MDJ				S	**Sn**	**07 09 06.0**	**+5.0**
MDJ				PcP	**PcP**	**07 12 51.6**	**-1.4**
MDJ				ScP	**ScP**	**07 16 21.4**	**-2.5**
MDJ				PcS	**PcS**	**07 16 25.0**	**-1.7**
MDJ				ScS	**ScS**	**07 19 59.1**	**0.0**
MDJ				pmax	pmax		
	comp=Z,380nm,1.3s						
MDJ				pmax	pmax		
	comp=Z,3μm,5.2s						
MDJ				LR	LR		
	comp=Z,20μm,13.1s						
MDJ				LR	LR		
	comp=Z,22μm,14.3s						
MDJ				LR	LR		
	comp=Z,43μm,16.2s						
MDJ	**Mudanjiang**	**11.13**	**300**	*e*Pn	**Pn**	**07 06 59.1**	**+1.8**
	comp=Z,488nm,1.1s						
MDJ				*e*Sn	**Sn**	**07 09 06.8**	**+5.9**
JUS	**Usuki**	**11.43**	**237**	P	**Pn**	**07 07 02.3**	**+0.9**
JNU	**Nakatsue**	**11.96**	**240**	Pn	**Pn**	**07 07 08.7**	**-0.2**
	comp=Z,2.1nm,0.3s,baz=40,slow=4.6,SNR=23						
JNU				LR	LR	07 11 57.1	
	comp=Z,128nm,18.4s,baz=50,slow=38						
JNU	**Nakatsue**	**11.96**	**240**	*e*Pn	**Pn**	**07 07 09.1**	**+0.3**
KSRS	**Korea Array**	**12.17**	**263**	Pn	**Pn**	**07 07 13.8**	**+2.2**
	comp=Z,1.4nm,0.3s,baz=74,slow=11,SNR=79						
KSRS				Sn	**Sn**	**07 09 32.9**	**+6.5**
	comp=Z,0.7nm,0.3s,baz=86,slow=32,SNR=3.4						
KSRS				LR	LR	07 11 37.1	
	comp=Z,26μm,18.6s,baz=74,slow=36						
KS01	**Wonju Array Si**	**12.19**	**264**	*e*Pn	**Pn**	**07 07 11.6**	**-0.2**
KS15	**Wonju Array Si**	**12.20**	**263**	*e*Pn	**Pn**	**07 07 14.2**	**+2.2**
KSAR	**Wonju Array Be**	**12.20**	**263**	P	**Pn**	**07 07 13.8**	**+1.8**
KSAR						07 09 32.9	
KSAR	**Wonju Array Be**	**12.20**	**263**	Pn	**Pn**	**07 07 13.8**	**+1.8**
KSAR				Sn	**Sn**	**07 09 32.9**	**+5.7**
KLR	**Kul'dur**	**12.40**	**323**	*c i*P	**Pn**	**07 07 13.4**	**-1.3**
CBIJ	**Chichi jima**	**12.76**	**184**	*e*Pn	**Pn**	**07 07 17.4**	**-2.4**
INCN	**Inchon**	**13.15**	**265**	*e*Pn	**Pn**	**07 07 27.0**	**+2.0**
INCN				*e*Sn	Sn	07 10 00.4	+10
NKL	**Nikolayevsk**	**13.40**	**353**	*i* P	**Pn**	**07 07 28.0**	**-0.3**
NKL				pmax	pmax		
	comp=N,86nm,1.5s						
NKL				pmax	pmax		
	comp=Z,300nm,1.5s						
NKL				pmax	pmax		
	comp=N,3μm,5.0s						
NKL				pmax	pmax		
	comp=Z,4μm,5.0s						
NKL				MLR	MLR		
	comp=N,12μm,27.0s						
NKL				MLR	MLR		
	comp=E,40μm,27.0s						
NKL				MLR	MLR		
	comp=Z,24μm,27.0s						
OKH	**Okha**	**13.69**	**359**	⇑*i*P	**Pn**	**07 07 30.8**	**-1.4**
OKH				*i* S	**Sn**	**07 10 07.5**	**+4.1**
OKH				pmax	pmax		
	comp=Z,400nm,10.0s						
OKH				smax	smax		
	comp=N,400nm,8.0s						
OKH				MLR	MLR		
	comp=Z,14μm,18.0s						
CN2	**Changchun**	**13.79**	**292**	⇓P	**Pn**	**07 07 33.6**	**-0.1**
CN2				*ep*P	P	07 07 41.5	-0.4
CN2				*e*S	**Sn**	**07 10 08.8**	**+2.8**
CN2				pmax	pmax		
	comp=Z,70nm,1.1s						
CN2				pmax	pmax		
	comp=Z,200nm,4.0s						
CN2				LR	LR		
	comp=Z,9μm,15.0s						
CN2				LR	LR		
	comp=Z,23μm,15.0s						
CN2				LR	LR		
	comp=Z,24μm,17.0s						
SKR	**Severo-Kuril's**	**14.12**	**36**	*e*P	**Pn**	**07 07 37.0**	**-1.1**
SNY	**Shenyang**	**14.97**	**284**	⇑P	**Pn**	**07 07 49.3**	**-0.4**
SNY				S	**Sn**	**07 10 38.9**	**+4.3**
SNY				pmax	pmax		
	comp=Z,66nm,1.0s						
SNY				pmax	pmax		
	comp=Z,4μm,11.6s						
SNY				LR	LR		
	comp=Z,12μm,13.8s						
SNY				LR	LR		
	comp=Z,29μm,16.8s						
SNY				LR	LR		
	comp=Z,41μm,17.7s						
PEA0	**Petropavlovsk-**	**16.55**	**32**	*e*Pn	**Pn**	**07 08 06.3**	**-3.8**
PEA0B	**Petropavlovsk-**	**16.55**	**32**	*e*Pn	**Pn**	**07 08 06.7**	**-3.4**
	comp=Z,186nm,1.4s						
PETK	**Petropavlovsk-**	**16.55**	**32**	Pn	**Pn**	**07 08 09.5**	**-0.6**
	comp=Z,0.4nm,0.3s,baz=189,slow=8.7,SNR=5.4						
PETK				LR	LR	07 14 06.1	
	comp=Z,6μm,21.7s,baz=217,slow=35						
DL2	**Dalian**	**16.69**	**274**	⇑*i*P	**Pn**	**07 08 11.3**	**-0.6**
DL2				S	**Sn**	**07 11 17.6**	**+1.1**
DL2				pmax	pmax		
	comp=Z,350nm,1.2s						
DL2				pmax	pmax		
	comp=Z,2μm,5.7s						
DL2				LR	LR		
	comp=Z,10μm,16.4s						
DL2				LR	LR		
	comp=Z,8μm,16.1s						
DL2				LR	LR		
	comp=Z,17μm,19.4s						
PET	**Petropavlovsk**	**16.89**	**34**	*e*P	**P**	**07 08 17.3**	**+1.1**
PET				*e*S	**Sn**	**07 11 23.5**	**+2.4**
PET				pmax	pmax		
	comp=Z,500nm,4.1s						
PET				pmax	pmax		
	comp=Z,104nm,1.1s						
PET				pmax	pmax		
	comp=Z,200nm,15.9s						
PET				MLR	MLR		
	comp=Z,6μm,16.0s						
PET				MLR	MLR		
	comp=Z,6μm,15.0s						
PET	**Petropavlovsk**	**16.89**	**34**	*e*Pn	**Pn**	**07 08 11.5**	**-2.9**
	comp=Z,102nm,1.1s						
JOW	**Kunigami**	**17.97**	**228**	P	**Pn**	**07 08 27.6**	**-0.3**
	comp=Z,2.0nm,0.3s,baz=13,slow=6.9,SNR=6.5						
JOW	**Kunigami**	**17.97**	**228**	*e*Pn	**Pn**	**07 08 22.8**	**-5.1**
	comp=Z,262nm,1.1s						
HIA	**Hailar**	**19.10**	**307**	*e*P	**P**	**07 08 38.0**	**-2.6**
HIA				*e*S	**Sn**	**07 12 05.0**	**-10**
HIA				pmax	pmax		
	comp=Z,328nm,1.1s						
HIA	**Hailar**	**19.10**	**307**	*e*P	**P**	**07 08 38.0**	**-2.6**
	comp=Z,328nm,1.1s						
HIA				*e*S	**Sn**	**07 12 05.0**	**-10**
SSE	**Sheshan**	**19.90**	**251**	P	**P**	**07 08 49.9**	**+0.5**
SSE				pP	**pP**	**07 08 57.1**	**+0.8**
SSE				sP	**sP**	**07 09 02.1**	**+2.6**
SSE				pmax	pmax		
	comp=Z,160nm,1.1s						
SSE				pmax	pmax		
	comp=Z,870nm,4.5s						
SSE				LR	LR		
	comp=Z,10μm,15.8s						
SSE				LR	LR		
	comp=Z,4μm,15.8s						
SSE				LR	LR		
	comp=Z,7μm,16.0s						
MA2	**Magadan**	**20.31**	**11**	P	**P**	**07 08 54.4**	**+0.7**
	comp=Z,123nm,0.8s,baz=194,slow=8.7,SNR=89						
MA2				LR	LR	07 18 01.4	
	comp=Z,5μm,19.1s,baz=198,slow=40						
MA2	**Magadan**	**20.31**	**11**	*ce*P	**P**	**07 08 52.8**	**-0.9**
BJI	**Beijing**	**20.68**	**279**	P	**P**	**07 08 55.5**	**-2.4**
BJI				pP	**pP**	**07 09 05.9**	**+1.1**
BJI				sP	**sP**	**07 09 12.4**	**+4.4**
BJI				S	**S**	**07 12 47.0**	**-0.6**
BJI				pmax	pmax		
	comp=Z,240nm,1.0s						
BJI				pmax	pmax		
	comp=Z,1μm,3.6s						
BJI				LR	LR		
	comp=Z,7μm,14.0s						
BJI				LR	LR		
	comp=Z,17μm,17.7s						
BJI				LR	LR		
	comp=Z,13μm,20.0s						
BJT	**Baijiatuau**	**20.69**	**279**	*e*P	**P**	**07 08 55.2**	**-2.8**
BJT				*e*S	Sn	07 12 52.6	-0.5
BJT				pmax	pmax		
	comp=Z,352nm,1.2s						
BJT				MLR	MLR		
	comp=Z,18μm,19.0s						
BJT	**Baijiatuau**	**20.69**	**279**	*e*P	**P**	**07 08 55.2**	**-2.8**
	comp=Z,352nm,1.2s						
BJT				*e*S	Sn	07 12 52.6	-0.4
BJT				LR	LR		
	comp=Z,18μm,19.0s						
CLNS	**Chul'man**	**20.77**	**331**	*e*P	**P**	**07 08 57.8**	**-1.0**
CLNS				*e**PP	**pP**	**07 09 05.6**	**-0.1**
CLNS				*e*		07 09 17.9	
CLNS				*e*SS	Sn	07 13 19.1	+24
CLNS				*e*		07 20 23.3	
CLNS				pmax	pmax		
	comp=Z,200nm,1.2s						
CLNS				pmax	pmax		
	comp=N,121nm,1.1s						
CLNS				pmax	pmax		
	comp=E,76nm,1.2s						
CLNS				pmax	pmax		
	comp=N,247nm,1.3s						
CLNS				pmax	pmax		
	comp=E,213nm,1.1s						
CLNS				pmax	pmax		
	comp=Z,143nm,1.2s						
CLNS				MLR	MLR		
	comp=Z,17μm,15.0s						
CLNS				MLR	MLR		
	comp=N,16μm,15.0s						
CLNS				MLR	MLR		
	comp=E,5μm,13.0s						
TIA	**Tai'an**	**20.82**	**268**	⇑P	**P**	**07 08 56.8**	**-2.6**
TIA				S	**S**	**07 12 42.8**	**-7.7**
TIA				pmax	pmax		
	comp=E,470nm,1.0s						
TIA				pmax	pmax		
	comp=E,2μm,3.5s						
TIA				LR	LR		
	comp=E,9μm,13.0s						
TIA				LR	LR		
	comp=E,28μm,14.0s						
TIA				LR	LR		
	comp=E,40μm,15.0s						
NJ2	**Nanjing**	**21.14**	**256**	*e*P	**P**	**07 09 00.8**	**-2.0**
NJ2				pP	**pP**	**07 09 09.8**	**0.0**
NJ2				sP	**sP**	**07 09 13.0**	**0.0**
NJ2				pmax	pmax		
	comp=E,170nm,0.8s						
NJ2				pmax	pmax		
	comp=E,2μm,4.9s						
NJ2				LR	LR		
	comp=E,12μm,15.7s						
NJ2				LR	LR		
	comp=E,15μm,15.7s						
NJ2				LR	LR		
	comp=E,18μm,16.3s						
YOJ	**Yonaguni jima**	**22.89**	**234**	*e*P	**P**	**07 09 22.4**	**+0.8**
YOJ				pmax	pmax		
	comp=Z,270nm,0.9s						
YOJ	**Yonaguni jima**	**22.89**	**234**	*e*P	**P**	**07 09 22.4**	**+0.8**
	comp=Z,267nm,0.9s						
TATO	**Taipei**	**23.49**	**237**	*e*P	**P**	**07 09 26.1**	**-1.6**
	comp=Z,306nm,0.9s						
TATO				LR	LR		
	comp=Z,17μm,19.0s						
YAK	**Yakutsk**	**23.67**	**344**	PFAKE		07 09 40.0	+11
YAK				LR	LR		
	comp=Z,43μm,22.0s						
CIT	**Chita**	**23.74**	**311**	*e*P	**P**	**07 09 27.7**	**-2.3**
CIT				*e*		07 09 38.7	
CIT				*e*		07 09 55.2	
CIT				*e*S	**S**	**07 13 40.0**	**-3.6**
CIT				pmax	pmax		
	comp=Z,1μm,1.5s						
SEY	**Seymchan**	**23.75**	**10**	P	**P**	**07 09 29.8**	**-0.1**
	comp=Z,190nm,1.0s,baz=201,slow=8.0,SNR=110						
SEY	**Seymchan**	**23.75**	**10**	*ce*P	**P**	**07 09 29.4**	**-0.5**
YHNB	**Yeheng**	**23.77**	**237**	*e*P	**P**	**07 09 27.9**	**-2.7**
	comp=Z,232nm,1.0s						
YHNB				LR	LR		
	comp=Z,16μm,19.0s						
NACB	**Ninganchiao**	**23.98**	**236**	*e*P	**P**	**07 09 29.5**	**-2.9**
	comp=Z,124nm,1.0s						
TIY	**Taiyuan**	**24.01**	**275**	*e*P	**P**	**07 09 29.1**	**-3.5**
TIY				pP	**pP**	**07 09 37.4**	**-2.6**
TIY				sP	**sP**	**07 09 43.5**	**+0.3**
TIY				S	**S**	**07 13 47.0**	**-1.2**
TIY				sS	**pS**	**07 13 55.5**	**-0.7**
TIY				pmax	pmax		
	comp=Z,170nm,1.2s						
TIY				pmax	pmax		
	comp=Z,910nm,11.6s						
TIY				LR	LR		
	comp=Z,10μm,14.8s						
TIY				LR	LR		
	comp=Z,7μm,15.4s						
TIY				LR	LR		
	comp=Z,10μm,17.5s						
HHC	**Hu-ho-hao-te**	**24.05**	**283**	*e*P	**P**	**07 09 30.5**	**-2.6**
HHC				PP	**PnPn**	**07 10 02.9**	**+0.7**
HHC				S	**S**	**07 13 45.5**	**-3.4**
HHC				SS	**SnSn**	**07 14 33.5**	**+3.3**
HHC				pmax	pmax		
	comp=Z,98nm,1.0s						
HHC				pmax	pmax		
	comp=Z,1μm,7.4s						
HHC				LR	LR		
	comp=Z,5μm,13.0s						
HHC				LR	LR		
	comp=Z,21μm,17.5s						
HHC				LR	LR		
	comp=Z,25μm,17.2s						
SSLB	**Suanglung**	**24.67**	**236**	*e*P	**P**	**07 09 36.4**	**-2.4**
SSLB				*ep*P	pP	07 09 36.7	-9.4
YULB	**Yu-li**	**24.73**	**235**	*e*P	**P**	**07 09 36.3**	**-3.0**
YULB				*ep*P	pP	07 09 37.6	-9.2
TPUB	**Ta-pu**	**25.22**	**236**	*e*P	**P**	**07 09 41.0**	**-2.8**
	comp=Z,219nm,0.9s						
WHN	**Wuhan**	**25.24**	**257**	P	**P**	**07 09 41.8**	**-2.0**
WHN				pP	**pP**	**07 09 52.3**	**+1.1**
WHN				S	**S**	**07 14 03.3**	**-4.5**
WHN				LR	LR		
	comp=Z,4μm,7.0s						
WHN				LR	LR		
	comp=Z,30μm,15.9s						
WHN				LR	LR		
	comp=Z,33μm,17.9s						
BTO	**Baotou**	**25.25**	**282**	*e*P	**P**	**07 09 41.4**	**-2.5**
TWG	**Pinlang**	**25.29**	**234**	*e*P	**P**	**07 09 42.5**	**-1.9**
	comp=Z,1μm,1.0s						
QZH	**Quanzhou**	**25.43**	**242**	⇑*i*P	**P**	**07 09 44.0**	**-1.6**
QZH				pP	**pP**	**07 09 53.3**	**+0.4**
QZH				S	**S**	**07 14 07.8**	**-3.2**
QZH				pmax	pmax		
	comp=Z,300nm,1.0s						
QZH				pmax	pmax		
	comp=Z,4μm,2.8s						
QZH				LR	LR		
	comp=Z,14μm,13.3s						
QZH				LR	LR		
	comp=Z,5μm,14.2s						
QZH				LR	L

comp=Z,16μm,17.2s
BOD Bodaibo 25.98 323 *e*P **P 07 09 49.9 -0.4**
BOD pmax pmax
comp=Z,587nm,1.2s
GUMO Guam 26.22 176 LR LR 07 19 04.6
comp=Z,4μm,20.7s,baz=12,slow=34
ULN Ulaanbaatar 27.05 299*ce*P **P 07 09 59.9 -0.4**
ULN pmax pmax
comp=Z,495nm,1.7s
ULN Ulaanbaatar 27.05 299 *e*P **P 07 10 00.2 0.0**
ULN *e*pP **pP 07 10 00.6 -7.1**
ULN LR LR
comp=Z,19μm,20.0s
ULN Ulaanbaatar 27.05 299 P **P 07 10 00.3 0.0**
SNR=133
ULN P **P 07 10 00.3 0.0**
SNR=133
ULN P **P 07 10 00.3 0.0**
SNR=133
SONM Songino Array 27.49 299 P **P 07 10 04.4 +0.2**
comp=Z,189nm,1.2s,baz=105,slow=7.7,SNR=416
SONM LR LR 07 21 29.4
comp=Z,23μm,19.3s,baz=93,slow=37
SONM Songino Array 27.49 299 P **P 07 10 04.4 +0.2**
SONM pmax pmax
comp=Z,189nm,1.2s
SONM MLR MLR
comp=Z,23μm,19.3s
XAN Xi'an 27.88 269 P **P 07 10 06.3 -1.3**
XAN pP pP 07 10 15.6 +0.5
XAN pmax pmax
comp=Z,220nm,1.3s
XAN pmax pmax
comp=Z,1μm,8.1s
XAN LR LR
comp=Z,3μm,14.3s
XAN LR LR
comp=Z,14μm,14.5s
XAN LR LR
comp=Z,22μm,15.4s
H11N2 WAKE ISLAND Hy 28.59 128 T T 07 41 12.0
baz=318,slow=75,SNR=2863
H11N1 WAKE ISLAND Hy 28.60 128 T T 07 41 12.3
baz=318,slow=75,SNR=2862
H11N3 WAKE ISLAND Hy 28.61 128 T T 07 41 02.7
baz=318,slow=75,SNR=2388
WAKE Wake Island 28.78 129 PFAKE 07 10 30.0 +14
WAKE LR LR
comp=Z,7μm,19.0s
ENH Enshi 29.05 261 *e*P **P 07 10 17.2 -0.8**
comp=Z,843nm,1.1s
ENH LR LR
comp=Z,8μm,19.0s
IRK Irkutsk 29.34 308 *e*P **P 07 10 20.3 -0.1**
IRK pmax pmax
comp=Z,318nm,2.3s
H11S1 WAKE ISLAND Hy 29.41 130 T T 07 41 17.9
baz=326,slow=74,SNR=253
H11S3 WAKE ISLAND Hy 29.41 130 T T 07 42 17.0
SNR=186
H11S2 WAKE ISLAND Hy 29.43 130 T T 07 41 21.6
baz=3.6,slow=74,SNR=238
TLY Talaya 29.64 307 *e*P **P 07 10 23.5 +0.4**
TLY *e*S **S 07 15 13.3 -3.7**
TLY pmax pmax
comp=Z,114nm,1.3s
TLY MLR MLR
comp=Z,12μm,17.0s
TLY Talaya 29.64 307 *e*P **P 07 10 23.9 +0.8**
TLY LR LR
comp=Z,8μm,19.0s
TLY Talaya 29.64 307 P **P 07 10 23.6 +0.5**
SNR=29
TLY P **P 07 10 23.6 +0.5**
SNR=29
TLY P **P 07 10 23.6 +0.5**
SNR=29
SZP Santa 29.70 228 *e*P **P 07 10 21.1 -2.8**
comp=Z,273nm,1.0s
ZAK Zakamensk 29.72 304 *e*P **P 07 10 22.8 -1.1**
ZAK pmax pmax
comp=Z,180nm,1.5s
BILL Bilibino 30.92 17*c i*P **P 07 10 34.7 +0.5**
BILL *e**PP **pP 07 10 40.8 -0.9**
BILL *e* 07 11 31.2
BILL *i* S **S 07 15 36.5 -0.2**
BILL pmax pmax
comp=Z,68nm,1.6s
LZH Lanzhou 31.06 276 ⇑P **P 07 10 35.6 -0.4**
LZH pP sP 07 10 45.8 -0.8
LZH sP pP 07 10 49.8 +6.3
LZH PP **PnPn 07 11 39.3 +1.8**
LZH S **S 07 15 37.1 -2.8**
LZH sS sS 07 15 55.4 +3.2
LZH SS **SnSn 07 17 24.0 +2.4**
LZH pmax pmax
comp=Z,620nm,1.5s
LZH pmax pmax
comp=Z,1μm,4.1s
LZH LR LR
comp=Z,5μm,13.0s
LZH LR LR
comp=Z,13μm,12.0s
LZH LR LR
comp=Z,17μm,14.2s
MOY Mondy 31.28 306 *e*P **P 07 10 37.9 +0.2**
MOY pmax pmax
comp=Z,238nm,3.1s
ATKA Atka Island 31.60 53 *e*pP pP 07 10 43.2 -4.6
TGY Tagaytay City 32.24 224 P **P 07 10 46.6 +0.2**
comp=Z,78nm,0.3s,baz=39,slow=14,SNR=2.3
TIXI Tiksi 32.67 352 P **P 07 10 49.2 -0.4**
comp=Z,7.5nm,0.8s,baz=141,slow=9.8,SNR=15
TIXI LR LR 07 25 27.7
comp=Z,4μm,19.0s,baz=129,slow=39
TIXI Tiksi 32.67 352*ce*P **P 07 10 49.0 -0.5**
TIXI pmax pmax
comp=Z,59nm,2.5s
TIXI MLR MLR
comp=Z,4μm,18.0s
TIXI Tiksi 32.67 352 *e*P **P 07 10 49.1 -0.4**
comp=Z,45nm,1.0s
GYA Guiyang 33.13 257⇑ *i*P **P 07 10 53.5 -0.7**
GYA pP sP 07 11 04.6 -0.2
GYA PP **PP 07 12 06.8 -2.4**
GYA PcP **PcP 07 13 37.0 0.0**
GYA S **S 07 16 10.3 -1.8**
GYA ScP **ScP 07 17 16.8 -2.7**
GYA ScS **ScS 07 21 16.3 -3.9**
GYA pmax pmax
comp=Z,580nm,1.1s
GYA pmax pmax
comp=Z,760nm,6.2s
GYA LR LR
comp=Z,5μm,16.4s
GYA LR LR
comp=Z,9μm,15.2s
GYA LR LR
comp=Z,11μm,15.8s
CD2 Chengdu 33.14 267⇓ *i*P **P 07 10 53.9 -0.2**
CD2 pP pP 07 11 02.6 +1.0
CD2 sP sP 07 11 08.0 +3.3
CD2 PP **PnPn 07 11 57.9 -6.3**
CD2 S **S 07 16 08.4 -3.7**
CD2 pmax pmax
comp=Z,220nm,0.9s
CD2 pmax pmax
comp=Z,980nm,11.4s
CD2 LR LR
comp=Z,14μm,12.0s
CD2 LR LR
comp=Z,8μm,16.1s
CD2 LR LR
comp=Z,18μm,14.2s
GTA Gaotai 33.16 283 ⇑P **P 07 10 54.3 0.0**
GTA pP sP 07 11 03.5 -1.4
GTA sP pP 07 11 07.4 +5.6
GTA PcP **PcP 07 13 38.5 +1.6**
GTA S **S 07 16 12.4 0.0**
GTA sS sS 07 16 26.8 +2.0
GTA PcS **PcS 07 17 23.3 +0.8**
GTA ScS **ScS 07 21 19.9 -0.1**
GTA pmax pmax
comp=Z,170nm,1.5s
GTA pmax pmax
comp=Z,1μm,6.5s
GTA LR LR
comp=Z,6μm,19.5s
GTA LR LR
comp=Z,23μm,18.1s
GTA LR LR
comp=Z,27μm,17.6s
MIDW Midway 34.44 97 PFAKE 07 11 20.0 +15
MIDW LR LR
comp=Z,3μm,21.0s
QIZ Qiongzhong 35.39 244 P **P 07 11 14.0 +0.3**
QIZ pP **sP 07 11 25.1 +0.8**
QIZ S **S 07 16 50.5 +3.6**
QIZ ScS **ScS 07 21 31.9 -0.2**
QIZ pmax pmax
comp=Z,49nm,1.9s
QIZ LR LR
comp=Z,6μm,20.5s
QIZ LR LR
comp=Z,4μm,14.6s
QIZ LR LR
comp=Z,8μm,16.5s
QIZ Qiongzhong 35.39 244 *e*P **P 07 11 14.5 +0.8**
comp=Z,201nm,1.7s
QIZ LR LR
comp=Z,7μm,19.0s
DAV Davao City (W) 36.27 210 PFAKE 07 11 30.0 +8.7
DAV LR LR
comp=Z,2μm,20.0s
KMI Kunming 36.81 259 ⇑P **P 07 11 26.3 +0.2**
KMI pP sP 07 11 35.6 -1.1
KMI sP pP 07 11 40.0 +6.3
KMI PP **PP 07 12 49.8 -0.3**
KMI S **S 07 17 05.3 -3.8**
KMI sS sS 07 17 20.3 -1.2
KMI SS **SnSn 07 19 35.1 -6.3**
KMI pmax pmax
comp=Z,480nm,1.3s
KMI pmax pmax
comp=Z,2μm,4.7s
KMI LR LR
comp=Z,10μm,15.2s
KMI LR LR
comp=Z,9μm,16.4s
KMI LR LR
comp=Z,14μm,16.0s
SLVN Son La 38.15 253 *e*P **P 07 11 36.9 -0.4**
comp=Z,98nm,1.0s
WMQ Urumqi 40.87 294 P **P 07 12 00.8 +1.1**
WMQ pP sP 07 12 10.8 +0.4
WMQ sP pP 07 12 15.9 +8.6
WMQ PP **PnPn 07 13 39.8 +1.5**
WMQ PcP **PcP 07 13 59.3 -0.8**
WMQ S **S 07 18 11.4 +1.8**
WMQ pmax pmax
comp=Z,350nm,1.3s
WMQ pmax pmax
comp=Z,2μm,3.6s
WMQ LR LR
comp=Z,6μm,14.1s
WMQ LR LR
comp=Z,4μm,15.9s
WMQ LR LR
comp=Z,3μm,19.1s
SKNT Sakolnakorn 40.88 248 P **P 07 12 00.0 0.0**
comp=Z,209nm,1.6s,comp=Z,3μm
UBPT Khong Chiam 40.99 244 P **P 07 12 01.2 +0.4**
comp=Z,144nm,1.2s,comp=Z,2μm
ZALV Zalesovo Beam 41.10 310 P **P 07 12 01.3 0.0**
comp=Z,68nm,0.8s,baz=89,slow=7.1,SNR=199
ZALV PcP **PcP 07 14 01.4 +0.9**
comp=Z,22nm,0.7s,baz=78,slow=3.1,SNR=4.7
ZALV LR LR 07 29 51.2
comp=Z,11μm,18.8s,baz=72,slow=37
ZALV Zalesovo Beam 41.10 310 P **P 07 12 01.3 0.0**
ZALV 07 14 01.4
ZALV pmax pmax
comp=Z,68nm,0.8s
ZALV MLR MLR
comp=Z,11μm,18.8s
NRIK Noril'sk 41.31 334 P **P 07 12 03.0 0.0**
comp=Z,61nm,1.1s,baz=110,slow=8.1,SNR=66
NRIK LR LR 07 30 23.2
comp=Z,13μm,18.7s,baz=104,slow=38
NRIK Noril'sk 41.31 334 P **P 07 12 03.0 0.0**
NRIK pmax pmax
comp=Z,61nm,1.1s
NRIK MLR MLR
comp=Z,13μm,18.7s
DLV T Lat 41.36 237 *e*P **P 07 12 04.7 +0.5**
KKM Kota Kinabalu 41.49 223 *e*P **P 07 12 06.0 +0.9**
comp=Z,132nm,1.0s
KKM LR LR
comp=Z,2μm,21.0s
NVS Novosibirsk 41.95 311⇓ *i*P **P 07 12 09.0 +0.7**
NVS *i* S **S 07 18 33.5 +8.4**
NVS pmax pmax
comp=Z,335nm,1.9s
NVS pmax pmax
comp=N,27nm,1.8s
NVS pmax pmax
comp=E,224nm,1.8s
NVS smax smax
comp=N,6.0nm,1.9s
NVS smax smax
comp=E,132nm,1.9s
JAY Jayapura 42.23 184 P **P 07 12 12.0 +1.0**
comp=E,1.3nm,1.0s,baz=0.0,slow=20,SNR=6.2
JAY Jayapura 42.23 184 P **P 07 12 12.8 +1.8**
TT01 Tatalina 42.31 36 *e*P **P 07 12 12.7 +1.6**
TTA Tatalina 42.32 36 *e*P **P 07 12 12.8 +1.5**
TTA Tatalina 42.32 36 *e*P **P 07 12 12.8 +1.5**
GENI Genyem 42.34 184 P **P 07 12 15.5 +3.6**
comp=E,138nm,0.9s,comp=E,3μm
SVW2 Sparrevohn 42.44 39 *e*P **P 07 12 14.7 +2.4**
UTTA Uttaradit 42.85 252 P **P 07 12 16.2 +0.1**
comp=E,38nm,1.1s,comp=E,340nm
CHAI Chaiyaphum 43.02 248 P **P 07 12 17.3 -0.1**
comp=E,75nm,1.0s,comp=E,690nm
LAMP Lampang 43.04 253 P **P 07 12 18.1 +0.5**
comp=E,51nm,0.9s,comp=E,411nm
GTOI Gorontalo 43.16 210 P **P 07 12 18.2 -0.3**
comp=E,82nm,1.1s,comp=E,1μm
PBKT Sadao Pong 43.31 250 P **P 07 12 19.8 0.0**
comp=E,139nm,1.1s,comp=E,2μm
CMMT Chiang Mai 43.36 254 P **P 07 12 20.2 0.0**
comp=E,148nm,1.3s,comp=E,2μm
CHTO Chiang Mai 43.36 254 P **P 07 12 20.2 0.0**
comp=E,552nm,1.3s,comp=E,8μm
CHTO Chiang Mai 43.36 254 *e*P **P 07 12 20.6 +0.4**
CHTO Chiang Mai 43.36 254 *e*P **P 07 12 20.6 +0.4**
CHTO LR LR
comp=Z,2μm,20.0s
CHTO Chiang Mai 43.36 254 P **P 07 12 20.5 +0.2**
SNR=43
LSA Lhasa 43.39 273 P **P 07 12 21.6 +0.7**
LSA pmax pmax
comp=Z,64nm,1.1s
LSA LR LR
comp=Z,3μm,18.1s
LSA LR LR
comp=Z,6μm,18.1s
LSA LR LR
comp=Z,13μm,19.4s
LSA Lhasa 43.39 273 *e*P **P 07 12 21.7 +0.8**
LSA pmax pmax
comp=Z,540nm,1.4s
LSA MLR MLR
comp=Z,13μm,19.0s
LSA Lhasa 43.39 273 *e*P **P 07 12 21.7 +0.8**
comp=Z,540nm,1.4s
LSA LR LR
comp=Z,13μm,19.0s
CMAR Chiang Mai Arr 43.59 254 P **P 07 12 22.6 +0.5**
comp=Z,27nm,0.8s,baz=49,slow=6.3,SNR=103
CMAR LR LR 07 31 27.2
comp=Z,2μm,18.4s,baz=68,slow=37
CMAR Chiang Mai Arr 43.59 254 P **P 07 12 22.6 +0.5**
CMAR pmax pmax
comp=Z,28nm,0.9s
CMAR MLR MLR
comp=Z,2μm,18.4s
SUKH Sukhothai 43.70 252 P **P 07 12 23.3 +0.4**
comp=Z,46nm,1.0s,comp=Z,411nm
MRSI Marisa 43.73 212 P **P 07 12 24.1 +1.0**
FAKI Fak Fak 43.74 196 P **P 07 12 24.0 +0.8**
FAKI Fak Fak 43.74 196 *e*P **P 07 12 24.0 +0.8**
OHAK Old Harbor 43.75 45 *e*P **P 07 12 23.8 +0.9**
RSO Redoubt South 43.84 40 *e*P **P 07 12 25.6 +1.8**
MK01 Makanchi Array 43.85 300 *e*P **P 07 12 22.9 -1.0**
MK31 Makanchi Array 43.85 300 *i* P **P 07 12 23.6 -0.3**
MK31 pmax pmax
comp=Z,268nm,1.2s
MK31 Makanchi Array 43.85 300 *e*P **P 07 12 24.0 +0.1**
MKAR Makanchi Array 43.85 300 *e*P **P 07 12 24.0 +0.1**
MKAR Makanchi Array 43.85 300 *e*P **P 07 12 24.0 +0.1**
MAKZ Makanchi 44.06 300 P **P 07 12 25.3 -0.2**
MAKZ pmax pmax
comp=Z,236nm,1.2s
MAKZ Makanchi 44.06 300 *e*P **P 07 12 25.9 +0.3**
PPLA Purkeypile 44.06 37 *e*P **P 07 12 28.1 +2.6**
KDAK Kodiak Island 44.09 44 P **P 07 12 26.2 +0.6**
comp=Z,18nm,0.8s,baz=262,slow=5.0,SNR=23
KDAK Kodiak Island 44.09 44*ce*P **P 07 12 26.0 +0.5**
KDAK Kodiak Island 44.09 44 *e*P **P 07 12 26.6 +1.1**
KDAK LR LR
comp=Z,1μm,21.0s
SPU Mount Spurr 44.15 39 *e*P **P 07 12 28.2 +2.0**
NAYO Nakonayok 44.56 247 P **P 07 12 30.4 +0.6**
comp=Z,83nm,1.1s,comp=Z,2μm
SANI Sanana 44.59 205 P **P 07 12 29.4 -0.6**
KTH Kantishna Hill 44.64 36 *e*P **P 07 12 32.2 +2.2**
CNPM China Poot 44.65 41 *e*P **P 07 12 32.0 +1.9**
SUA Susitna One 44.77 39 *e*P **P 07 12 33.5 +2.3**
SHL Shillong 44.87 268⇑ *i*P **P 07 12 32.0 -0.5**
SHL *ex* **S 07 19 08.0 -0.9**
TRF Thorofare Moun 44.92 36 *e*P **P 07 12 33.9 +1.5**
CHBT CHBT 44.92 245 P P 07 12 40.0 +7.3
COLD Coldfoot 45.01 30 *e*P **P 07 12 34.8 +2.0**
UTHA Uthaitani 45.08 250 P **P 07 12 34.7 +0.8**
comp=Z,26nm,1.0s,comp=Z,238nm
UMPA Umpang Tak 45.08 251 P **P 07 12 36.1 +2.1**
comp=Z,55nm,1.1s,comp=Z,1μm
RC01 Rabbit Creek A 45.28 39 *e*P **P 07 12 36.3 +1.2**
TOLK Toolik Lake Re 45.32 28 P **P 07 12 35.4 +0.1**
baz=267
KURK Kurchatov 45.33 306*ce*P **P 07 12 35.4 -0.2**
KURK pmax pmax
comp=Z,1μm,1.2s
KURK Kurchatov 45.33 306 *e*P **P 07 12 35.7 +0.1**
KURK PcP **PcP 07 14 15.8 +1.0**
KURK LR LR
comp=Z,6μm,21.0s
KURK Kurchatov 45.33 306 P **P 07 12 35.6 +0.1**
SNR=226
KURK P **P 07 12 35.6 +0.1**
SNR=226
KURBB Kurchatov Arra 45.41 306 P **P 07 12 36.2 0.0**
comp=Z,285nm,1.1s,baz=81,slow=8.7,SNR=507
KURBB PcP **PcP 07 14 15.8 +0.7**
SEW Seward 45.50 40 *e*P **P 07 12 37.8 +1.0**
comp=Z,48nm,1.0s
MCK McKinley 45.52 35 *e*P **P 07 12 38.3 +1.3**
MCK pmax pmax
comp=Z,26nm,0.8s
MCK McKinley 45.52 35 *e*P **P 07 12 38.2 +1.3**
comp=Z,26nm,0.8s
PMR Palmer 45.54 38 *e*P **P 07 12 38.0 +1.0**
PMR Palmer 45.54 38 *e*P **P 07 12 38.0 +1.0**
PATY Pattaya 45.83 246 P **P 07 12 40.8 +0.9**
comp=Z,30nm,1.1s,comp=Z,3μm
SML Sawmill 45.90 38 *e*P **P 07 12 41.3 +1.3**
SML pmax pmax
comp=Z,21nm,1.0s
SML Sawmill 45.90 38 *e*P **P 07 12 41.3 +1.3**
comp=Z,21nm,1.0s
COLA College 45.95 34 *e*P **P 07 12 42.3 +2.0**
COLA College 45.95 34 *e*P **P 07 12 42.3 +2.0**
COLA LR LR
comp=Z,2μm,19.0s
CCB Clear Creek Bu 45.98 34 *e*P **P 07 12 41.5 +1.0**
SRDT SRDT 46.11 249 P **P 07 12 42.8 +0.7**
comp=Z,224nm,1.5s,comp=Z,5μm
HDA Harding Lake 46.36 34 *e*P **P 07 12 44.4 +0.9**
ILAR Eielson Array 46.37 34 P **P 07 12 44.3 +0.7**
comp=Z,12nm,0.8s,baz=265,slow=6.4,SNR=80
ILAR LR LR 07 33 34.2
comp=Z,1μm,20.5s,baz=294,slow=38
ILB Eielson Array 46.37 34 *e*P **P 07 12 44.5 +0.9**
SCM Sheep Creek Mo 46.38 38 *e*P **P 07 12 45.4 +1.6**
SCM Sheep Creek Mo 46.38 38 *e*P **P 07 12 45.4 +1.6**
PHET Kaeng Krachan 46.71 247 P **P 07 12 47.9 +1.0**
comp=Z,69nm,1.0s,comp=Z,587nm
PDGK Podgornoye 46.73 296 P **P 07 12 46.6 -0.3**
PDGK pmax pmax
comp=Z,267nm,1.3s
SHLS Shalkode 46.80 296 *i* P P 07 12 42.3 -5.2
comp=Z,1μm,1.1s
SHLS *e*S **S 07 19 29.2 -7.0**
SHLS LR LR 07 32 18.2
comp=Z,4μm,15.1s
TARA Tarawa 46.91 137 PFAKE 07 13 00.0 +12
TARA LR LR
comp=Z,257nm,20.0s
JOHN Johnston Islan 46.93 105 PFAKE 07 13 00.0 +11
JOHN LR LR
comp=Z,360nm,20.0s
KLU Klutina 47.08 38 *e*P **P 07 12 51.1 +1.8**
UZB Uzynbulak 47.11 296 *i* P **P 07 12 47.0 -2.9**
comp=Z,1μm,1.3s
UZB *e*S **S 07 19 37.1 -3.6**
UZB LR LR 07 32 41.3
comp=Z,3μm,15.1s
TAPN Taplejung 47.17 272 *e*P **P 07 12 51.3 +0.6**
comp=Z,585nm,1.1s
DIV Divide 47.19 39 *e*P **P 07 12 52.1 +1.9**
KPKS Kokpek 47.24 296 *i* P **P 07 12 48.0 -2.9**
comp=Z,2μm,1.4s
KPKS *e*S **S 07 19 39.5 -2.9**
KPKS LR LR 07 33 00.9
comp=Z,3μm,13.1s
BKB Balikpapan 47.47 217 P **P 07 12 54.1 +1.4**
KDI Kendari 47.53 208 P **P 07 12 53.8 +0.6**
comp=Z,74nm,1.4s,comp=Z,1μm
SATY Saty 47.56 296 *i* P **P 07 12 50.9 -2.5**
comp=Z,1μm,1.2s
SATY LR LR 07 32 56.8
comp=Z,3μm,16.2s
ODAN Odare 47.66 272 *e*P **P 07 12 55.0 +0.5**
comp=Z,561nm,1.0s
DOT Dot Lake 47.69 35 *e*P **P 07 12 54.6 +0.7**
comp=Z,43nm,0.9s
BMRM Bremner River 47.78 39 *e*P **P 07 12 55.3 +0.6**
comp=Z,59nm,1.0s
TTSI Tana Toraja 47.78 212 P **P 07 12 55.1 -0.1**
MENT Mentasta 47.93 36 *e*P **P 07 12 57.8 +2.0**
MTKI Muara Teweh, K 48.14 220 P **P 07 12 58.9 +0.9**
JIRN Jiri 48.18 274 *e*P **P 07 12 59.2 +0.5**
comp=Z,656nm,1.1s
RAMN Ramite 48.23 273 *e*P **P 07 12 59.2 +0.3**
comp=Z,1μm,1.0s
GUN Gumba 48.30 274 *e*P **P 07 13 00.0 +0.5**
comp=Z,959nm,1.0s
MDOK Medeo 48.47 297 *i* P **P 07 12 57.6 -2.8**
comp=Z,2μm,1.3s
MDOK *i* S **S 07 19 57.0 -2.9**
MDOK LR LR 07 33 24.3
comp=Z,4μm,14.7s
KSM Kuching 48.51 226 *e*P **P 07 13 01.3 +0.5**
comp=Z,131nm,1.2s
KSM LR LR
comp=Z,1μm,19.0s
AAA Alma-Ata 48.54 297 *e*P **P 07 13 01.8 +0.9**
AAA *e*S **S 07 20 07.4 +6.6**
AAA pmax pmax
comp=Z,2μm,3.5s
AAA smax smax
comp=E,1μm,8.9s
AAA MLR MLR
comp=Z,17μm,17.0s
SPSI Sidrap Palu 48.64 212 P **P 07 13 01.7 0.0**
EGAK Eagle 48.81 33 *e*P **P 07 13 03.7 +1.1**
EGAK LR LR
comp=Z,2μm,21.0s
KKN Kakani 48.82 274 *e*P **P 07 13 03.8 +0.4**
comp=Z,581nm,1.1s
PKI Pulchoki 48.83 274 *e*P **P 07 13 03.6 0.0**
PKIN Phulchoki 48.84 274 *e*P **P 07 13 03.6 0.0**
comp=Z,415nm,1.3s
STKI Sintang 49.04 224 P **P 07 13 05.7 +0.8**
DMN Daman 49.04 274 *e*P **P 07 13 05.5 +0.3**
comp=Z,621nm,1.3s

PMG **Port Moresby** 49.16 175 P **P** 07 13 05.6 -0.1
comp=Z,19nm,1.0s,baz=12,slow=15,SNR=1.9
PMG **Port Moresby** 49.16 175 P **P** 07 13 05.6 -0.1
PMG LR LR
comp=Z,1µm,20.0s
BRZS **Berezniki** 49.20 306 *i* P **P** 07 13 03.8 -2.0
comp=Z,277nm,1.4s
BRZS *i* S **S** 07 20 07.9 -1.9
BRZS LR LR 07 33 28.2
GKN **Gorkha** 49.21 275 *eP* **P** 07 13 06.5 +0.2
comp=Z,859nm,1.3s
KAPI **Kappang** 49.60 211 *eP* **P** 07 13 09.6 +0.6
comp=Z,262nm,1.4s
KAPI LR LR
comp=Z,494nm,21.0s
KAPI **Kappang** 49.60 211 P **P** 07 13 09.7 +0.6
SNR=14
KAPI P **P** 07 13 09.7 +0.6
SNR=14
KAPI P **P** 07 13 09.7 +0.6
SNR=14
DAWY **Dawson** 49.68 34 *eP* **P** 07 13 08.8 -0.5
comp=Z,17nm,1.0s
BVAR **Borovoye Array** 49.73 311 P **P** 07 13 10.2 +0.4
comp=Z,50nm,0.7s,baz=79,slow=7.7,SNR=205
BVAR LR LR 07 35 18.5
comp=Z,7µm,18.2s,baz=76,slow=37
BVAR **Borovoye Array** 49.73 311 P **P** 07 13 10.2 +0.4
BVAR pmax pmax
comp=Z,51nm,0.7s
BVAR MLR MLR
comp=Z,7µm,18.2s
BRVK **Borovoye** 49.79 311 *ceP* **P** 07 13 10.5 +0.3
BRVK pmax pmax
comp=Z,570nm,1.7s
BRVK **Borovoye** 49.79 311 *eP* **P** 07 13 10.6 +0.5
BRVK LR LR
comp=Z,3µm,20.0s
BRVK **Borovoye** 49.79 311 P **P** 07 13 10.8 +0.6
SNR=91
BRVK P **P** 07 13 10.8 +0.6
SNR=91
BRVK P **P** 07 13 10.8 +0.6
SNR=91
SKLT **Songkhla** 50.08 241 P **P** 07 13 14.1 +1.3
comp=Z,109nm,0.9s,comp=Z,2µm
KOLN **Koldanda** 50.12 275 *eP* **P** 07 13 13.8 +0.5
comp=Z,430nm,1.0s
TRTT **Trang** 50.23 243 P **P** 07 13 14.9 +0.9
comp=Z,114nm,1.3s,comp=Z,2µm
FRU **Bishkek** 50.25 297⇑ *iP* **P** 07 13 14.0 +0.1
FRU *eS* **S** 07 20 30.0 +5.3
FRU pmax pmax
comp=Z,650nm,2.0s
FRU MLR MLR
comp=E,7µm,15.0s
BSSI **Bau Bau, Buton** 50.34 210 P **P** 07 13 15.4 +0.7
BBKI **Banjar Baru** 50.36 218 P **P** 07 13 14.8 -0.1
AAK **Ala-Archa** 50.41 297 *c iP* **P** 07 13 15.4 +0.1
AAK pmax pmax
comp=Z,442nm,1.4s
AAK **Ala-Archa** 50.41 297 *eP* **P** 07 13 15.4 +0.1
comp=Z,158nm,1.3s
AAK LR LR
comp=Z,10µm,20.0s
AAK **Ala-Archa** 50.41 297 P **P** 07 13 15.4 +0.1
SNR=83
AAK P **P** 07 13 15.4 +0.1
SNR=83
AAK P **P** 07 13 15.4 +0.1
SNR=83
PYUN **Piuthan** 50.42 276 *eP* **P** 07 13 16.0 +0.4
comp=Z,2µm,1.2s
KSH **Kashi** 50.56 293⇑ *iP* **P** 07 13 20.5 +4.1
KSH pP sP 07 13 30.4 +3.2
KSH PcP **PcP** 07 14 36.5 +2.5
KSH PP **PP** 07 15 17.8 +5.7
KSH S **S** 07 20 34.0 +4.7
KSH sS sS 07 20 51.1 +9.1
KSH SS **SS** 07 24 07.1 +3.9
KSH pmax pmax
comp=Z,250nm,1.4s
KSH pmax pmax
comp=Z,1µm,3.5s
KSH LR LR
comp=Z,2µm,13.1s
KSH LR LR
comp=Z,2µm,13.9s
KSH LR LR
comp=Z,4µm,13.8s
INK **Inuvik** 51.24 28 P **P** 07 13 21.7 +0.8
comp=Z,9.4nm,0.6s,baz=302,slow=7.6,SNR=23
INK **Inuvik** 51.24 28 *eP* **P** 07 13 21.9 +1.0
comp=Z,56nm,1.0s
KULM **Kulim** 51.44 239 *eP* **P** 07 13 23.7 +0.6
comp=Z,100nm,1.0s
KULM LR LR
comp=Z,2µm,22.0s
HNR **Honiara** 51.45 159 P **P** 07 13 23.8 +0.7
comp=Z,106nm,0.7s,baz=155,slow=15,SNR=2.5
HNR **Honiara** 51.45 159 P **P** 07 13 23.8 +0.7
HNR LR LR
comp=Z,3µm,22.0s
IPM **Ipoh** 51.80 238 *eP* **P** 07 13 25.6 -0.2
comp=Z,108nm,1.2s
MNAS **Manas** 51.83 297 P **P** 07 13 25.8 -0.1
MNAS pmax pmax
comp=Z,366nm,1.2s
MMRI **Maumere** 52.01 207 P **P** 07 13 27.2 0.0
MMRI **Maumere** 52.01 207 *eP* **P** 07 13 27.3 0.0
comp=Z,240nm,1.1s
SOEI **Soe** 52.39 204 P **P** 07 13 30.0 -0.2
SOEI **Soe** 52.39 204 *eP* **P** 07 13 29.4 -0.8
comp=Z,296nm,1.1s
SOEI *eS* **S** 07 20 56.6 +1.8
KIP **Kipapa** 52.90 92 *c iP* **P** 07 13 33.2 -0.7
KIP pmax pmax
comp=Z,275nm,0.9s
KK31 **Karatay Array** 52.94 299 *i* P **P** 07 13 33.8 -0.2
KK31 pmax pmax
comp=Z,145nm,1.2s
KKAR **Karatay Array** 52.94 299 *eP* **P** 07 13 33.7 -0.3
KKAR pmax pmax
comp=Z,104nm,0.9s
KKAR **Karatay Array** 52.94 299 *eP* **P** 07 13 33.7 -0.3
comp=Z,104nm,0.9s
SDNR **Sundarnagar** 53.33 283 *eP* **P** 07 13 36.0 -1.0
BRLS **Borolday** 53.43 299 *i* P **P** 07 13 37.3 -0.3
comp=Z,142nm,1.4s
BRLS *eS* **S** 07 21 09.2 +0.9
BRLS LR LR 07 37 01.1
comp=Z,392nm,14.0s
COEN **Coen** 53.54 180 *eP* **P** 07 13 38.7 +0.2
comp=Z,59nm,0.9s
IUG **Iuzhnay** 53.65 298 *i* P **P** 07 13 37.0 -2.4
comp=Z,1µm,1.3s
IUG *i* S **S** 07 21 08.9 -2.6
IUG LR LR 07 36 28.7
comp=Z,2µm,14.2s
THN **Thein Dam** 53.83 285 *eP* **P** 07 13 38.6 -2.0
THN *eS* **S** 07 21 17.6 +3.7
PLAI **Plampang** 53.86 212 P **P** 07 13 38.6 -2.3
PONG **Pong** 53.88 284 *eP* **P** 07 13 39.5 -1.5
PONG *eP* **P** 07 13 39.5 -1.5
SVE **Sverdlovsk** 53.97 318 *d iP* **P** 07 13 42.2 +0.9
SVE *e* 07 15 43.6
SVE *eS* **S** 07 21 15.6 +0.4
SVE *eSSS* SSS 07 26 45.2
SVE pmax pmax
comp=Z,357nm,1.2s
SVE MLR MLR
comp=E,14µm,15.0s
SVE MLR MLR
comp=Z,20µm,15.0s
TWSI **Taliwang, Sumb** 54.14 213 P **P** 07 13 42.2 -0.8
SRBI **Singaraja** 54.27 215 P **P** 07 13 45.0 +1.1
PSI **Prapat** 54.44 239 LR LR 07 36 57.8
comp=Z,2µm,21.7s,slow=36
NDI **New Delhi** 54.53 280 *eP* **P** 07 13 45.0 -0.8
KCSI **Kotacane, Aceh** 54.67 241 P **P** 07 13 45.5 -1.4
CHLP **Challavanipeta** 54.81 265 *eP* **P** 07 13 47.6 -0.3
CHLP IAmb IAmb 07 13 49.2
comp=Z,110nm,1.0s
CHLP *eS* **S** 07 21 28.4 +1.0
CHLP IVMs_BB IVMs_BB 07 40 26.9
comp=Z,697nm,15.1s

SOKR **Solikamsk** 54.95 322 *c iP* **P** 07 13 46.4 -1.9
SOKR 07 15 49.2
SOKR S **S** 07 21 27.0 -1.2
SOKR SS **SS** 07 25 08.8 -2.4
SOKR pmax pmax
comp=Z,142nm,1.1s
SOKR MLR MLR
comp=Z,4µm,15.0s
BKNI **Bangkinang** 54.95 235 P **P** 07 13 49.9 +1.0
BKNI **Bangkinang** 54.95 235 *eP* **P** 07 13 49.6 +0.7
comp=Z,242nm,1.0s
MLSI **Meulaboh, Aceh** 55.05 242 P **P** 07 13 49.3 -0.4
WRAK **Wrangell Islan** 55.11 42 PFAKE 07 14 00.0 +10
WRAK LR LR
comp=Z,1µm,20.0s
ARU **Arti** 55.18 318 P **P** 07 13 50.5 +0.4
comp=Z,133nm,1.0s,baz=75,slow=4.3,SNR=159
ARU **Arti** 55.18 318 *c iP* **P** 07 13 50.4 +0.3
ARU 07 14 49.4
ARU 07 15 54.9
ARU PPP PPP 07 17 06.1
ARU S **S** 07 21 33.6 +2.1
ARU 07 23 33.1
ARU pmax pmax
comp=Z,529nm,1.7s
ARU MLR MLR
comp=Z,18µm,16.0s
ARU **Arti** 55.18 318 *eP* **P** 07 13 50.3 +0.2
comp=Z,536nm,1.3s
ARU LR LR
comp=Z,11µm,19.0s
GMJI **Gumukmas** 55.24 217 P **P** 07 13 49.8 -1.1
JBP **Jabalpur** 55.31 273⇑ *eP* **P** 07 13 51.5 0.0
JBP *ex* x 07 21 21.6
NGJI **Ngawi** 55.38 219 P **P** 07 13 53.5 +1.5
MNSI **Mandailing Nat** 55.52 237 P P 07 13 59.8 +6.8
DLBC **Dease Lake** 55.55 40 P **P** 07 13 54.2 +1.3
comp=Z,6.6nm,0.9s,baz=314,slow=5.6,SNR=9.6
DLBC **Dease Lake** 55.55 40 *eP* **P** 07 13 56.0 +3.2
comp=Z,28nm,1.2s
SMRI **Semarang** 55.62 221 P **P** 07 13 54.1 +0.4
SMRI **Semarang** 55.62 221 *eP* **P** 07 13 53.7 0.0
comp=Z,179nm,1.0s
SDSI **Sungai Dareh** 55.68 234 P **P** 07 13 55.0 +0.8
POHA **Pohakuloa** 55.75 92 PFAKE 07 14 10.0 +15
POHA LR LR
comp=Z,1µm,20.0s
PWJI **Pagerwojo** 55.79 219 P **P** 07 13 53.8 -1.1
DZET **Dzherino** 55.90 295 P **P** 07 13 54.7 -1.0
DZET pmax pmax
comp=Z,194nm,1.2s
PPI **Padang Panjang** 55.96 235 P **P** 07 13 56.6 +0.5
WOJI **Wonogiri, Jawa** 56.05 220 P **P** 07 13 58.6 +1.8
comp=Z,73nm,1.2s,comp=Z,3µm
PDSI **Padang** 56.27 235 P **P** 07 13 57.4 -1.0
UGM **Wanagama** 56.32 220 P **P** 07 13 58.5 -0.2
KPJI **Karang Pucung** 56.62 222 P **P** 07 14 00.1 -0.7
KLSI **Kupahiang** 56.71 228 P **P** 07 14 02.7 +1.2
comp=Z,143nm,2.1s,comp=Z,2µm
KSI **Kapahiang** 57.12 231 P **P** 07 14 06.0 +1.5
comp=Z,95nm,1.2s,comp=Z,15µm
NGP **Nagpur** 57.15 271 *eP* **P** 07 14 04.2 -0.5
AB31 **Akbulak array** 57.20 309 P **P** 07 14 03.9 -0.7
AB31 pmax pmax
comp=Z,107nm,0.8s
ABKAR **Akbulak array** 57.20 309 *eP* **P** 07 14 04.8 +0.2
comp=Z,114nm,0.8s
PVM **Polavaram** 57.42 266 *eP* **P** 07 14 04.6 -2.0
CNJI **Cibinong** 57.55 224 P P 07 14 19.5 +12
HOPEN **Hopen** 57.64 346 *eP* **P** 07 14 10.2 +2.9
HOPEN IAMs_20 IAMs_20 07 43 36.3
comp=Z,3µm,18.2s
AKTO **Aktyubinsk** 57.84 311 P **P** 07 14 09.3 +0.2
comp=Z,52nm,0.8s,baz=71,slow=7.4,SNR=5.6
SPA0 **Spitsbergen Ar** 58.02 349 *eP* **P** 07 14 10.3 +0.3
SPA0 IAmb IAmb 07 14 18.8
comp=Z,122nm,1.3s
SPA0 *eS* **S** 07 22 08.9 +0.3
SPA0 IAMs_20 IAMs_20 07 39 30.8
comp=Z,3µm,21.5s
SPITS **Spitsbergen Ar** 58.02 349 P **P** 07 14 10.1 +0.1
comp=Z,19nm,0.9s,baz=64,slow=13,SNR=4.7
KBS **Kingsbay** 58.11 350⇑ *iP* **P** 07 14 11.8 +1.2
KBS IAmb IAmb 07 14 12.9
comp=Z,288nm,1.6s
KBS *eS* **S** 07 22 10.8 +1.2
KBS **Kingsbay** 58.11 350 *eP* **P** 07 14 12.2 +1.6
KBS pmax pmax
comp=Z,174nm,1.4s
KBS MLR MLR
comp=Z,974nm,19.0s
KBS **Kingsbay** 58.11 350 *eP* **P** 07 14 12.2 +1.6
comp=Z,174nm,1.4s
KBS LR LR
comp=Z,974nm,19.0s
RPR **Rampur** 58.27 269 *eP* **P** 07 14 11.7 -0.8
RPR IAmb IAmb 07 14 13.8
comp=Z,210nm,1.2s
RPR *eS* **S** 07 22 14.1 +0.8
RPR IVMs_BB IVMs_BB 07 41 33.2
comp=Z,1µm,14.8s
FUNA **Funafuti** 58.55 137 PFAKE 07 14 30.0 +16
FUNA LR LR
comp=Z,11µm,21.0s
SRSP **Sriramsagar** 58.96 269 *eP* **P** 07 14 16.0 -1.4
SRSP IAmb IAmb 07 14 18.4
comp=Z,459nm,1.2s
SRSP *eS* **S** 07 22 21.1 -1.3
SRSP IVMs_BB IVMs_BB 07 42 50.2
comp=Z,881nm,13.7s
HSPB **Hornsund (broa** 58.97 348⇑ *iP* **P** 07 14 17.6 +1.0
HSPB IAmb IAmb 07 14 18.7
comp=Z,424nm,1.5s
HSPB *eS* **S** 07 22 22.1 +1.2
HSPB IAMs_20 IAMs_20 07 41 32.5
comp=Z,3µm,21.3s
RES **Resolute Bay** 59.51 15 P **P** 07 14 20.8 +0.5
comp=Z,24nm,0.8s,baz=304,slow=9.0,SNR=3.6
ADKI **Addanki** 59.53 265 *eP* **P** 07 14 21.1 -0.2
ADKI IAmb IAmb 07 14 23.1
comp=Z,114nm,1.2s
ADKI *eS* **S** 07 22 29.7 +0.1
ADKI IVMs_BB IVMs_BB 07 43 32.5
comp=Z,959nm,14.3s
NJS **Nagarjunasagar** 59.61 267 *eP* **P** 07 14 20.9 -1.0
NJS IAmb IAmb 07 14 22.3
comp=Z,89nm,1.2s
NJS *eS* **S** 07 22 33.7 +2.9
NJS IVMs_BB IVMs_BB 07 42 10.2
comp=Z,868nm,16.7s
HYB **Hyderabad** 59.68 268 *i* P **P** 07 14 23.0 +0.6
HYB *esP* **pP** 07 14 30.0 -0.3
HYB *e* 07 15 24.0
HYB *ePP* **PP** 07 16 35.0 +0.8
HYB *eS* **S** 07 22 32.0 +0.3
HYB *eScS* **ScS** 07 24 10.0 -1.4
HYBB **Hyderabad (bro** 59.68 268 *eP* **P** 07 14 21.6 -0.8
HYBB IAmb IAmb 07 14 23.2
comp=Z,287nm,1.8s
HYBB *eS* **S** 07 22 31.9 +0.2
HYBB IVMs_BB IVMs_BB 07 44 46.0
comp=Z,743nm,15.2s
CTAO **Charters Tower** 59.71 177 *eP* **P** 07 14 23.1 +0.8
CTAO pmax pmax
comp=Z,125nm,1.1s
CTAO MLR MLR
comp=Z,1µm,19.0s
CTAO **Charters Tower** 59.71 177 *eP* **P** 07 14 23.1 +0.8
comp=Z,125nm,1.1s
CTAO LR LR
comp=Z,1µm,19.0s
FITZ **Fitzroy Crossi** 59.94 199 *eP* **P** 07 14 23.5 -0.4
comp=Z,203nm,1.4s
WRAB **Tennant Creek** 60.05 190 *ceP* **P** 07 14 24.2 -0.5
WRAB pmax pmax
comp=Z,223nm,1.2s
WRAB **Tennant Creek** 60.05 190 *eP* **P** 07 14 24.3 -0.5
comp=Z,83nm,0.8s
WRAB LR LR
comp=Z,1µm,20.0s
WRA **Warramunga Arr** 60.06 190 P **P** 07 14 24.4 -0.4
comp=Z,36nm,0.8s,baz=7.0,slow=7.2,SNR=120
WRA LR LR 07 39 37.5
comp=Z,755nm,20.7s,baz=10.0,slow=35
WRA PKP2bc 07 43 59.1
comp=Z,4.5nm,0.9s,baz=203,slow=2.2,SNR=21
WRA **Warramunga Arr** 60.06 190 *i* P **P** 07 14 24.0 -0.8
WRA pmax pmax
comp=Z,36nm,0.8s
LVZ **Lovozero** 60.11 336 *eP* **P** 07 14 24.3 -0.3
LVZ pmax pmax
comp=Z,57nm,1.2s
LVZ MLR MLR
comp=Z,2µm,22.0s
LVZ **Lovozero** 60.11 336 *eP* **P** 07 14 24.3 -0.3
comp=Z,57nm,1.2s
LVZ LR LR
comp=Z,2µm,22.0s
SRLM **Srisailam** 60.20 266 *eP* **P** 07 14 25.4 -0.6
SRLM IAmb IAmb 07 14 26.2
comp=Z,68nm,1.1s
SRLM *eS* **S** 07 22 37.9 -0.5
SRLM IVMs_BB IVMs_BB 07 42 28.7
comp=Z,894nm,13.8s
RCLA **Racherla** 60.54 266 *eP* **P** 07 14 27.3 -0.9
RCLA IAmb IAmb 07 14 28.9
comp=Z,98nm,1.0s
RCLA *eS* **S** 07 22 43.3 +0.6
RCLA IVMs_BB IVMs_BB 07 41 47.9
comp=Z,853nm,25.5s
YKA **Yellowknife Ar** 60.67 31 P **P** 07 14 29.0 +0.5
comp=Z,3.6nm,0.8s,baz=300,slow=6.5,SNR=13
YKA LR LR 07 43 54.9
comp=Z,112nm,19.7s,baz=0.0,slow=39
YKA **Yellowknife Ar** 60.67 31 *ceP* **P** 07 14 29.3 +0.8
YKA pmax pmax
comp=Z,4.0nm,0.8s
YKA **Yellowknife Ar** 60.67 31 P **P** 07 14 29.0 +0.5
APA **Apatity** 60.69 336⇑ *iP* **P** 07 14 27.9 -0.6
APA pmax pmax
comp=Z,24nm,1.0s
APA MLR MLR
comp=Z,5µm,16.0s
KLRI **Killari** 60.80 270 *eP* **P** 07 14 28.7 -1.4
KLRI IAmb IAmb 07 14 30.8
comp=Z,419nm,1.2s
KLRI *eS* **S** 07 22 50.0 +3.9
KLRI IVMs_BB IVMs_BB 07 45 22.2
comp=Z,1µm,14.4s
SKHT **Srikalahasti** 61.00 264 *eP* **P** 07 14 31.1 -0.3
SKHT IAmb IAmb 07 14 33.2
comp=Z,359nm,1.5s
SKHT *eS* **S** 07 22 50.1 +1.5
SKHT IVMs_BB IVMs_BB 07 45 02.1
comp=Z,842nm,17.2s
KEV **Kevo** 61.29 339 PFAKE 07 14 50.0 +17
KEV LR LR
comp=Z,2µm,19.0s
HAMF **Hammerfest** 61.61 341 *eP* **P** 07 14 34.7 0.0
HAMF IAmb IAmb 07 14 35.1
comp=Z,159nm,1.4s
HAMF *eS* **S** 07 22 55.7 +0.9
ARCES **ARCESS Array B** 61.84 339 P **P** 07 14 36.7 +0.4
comp=Z,17nm,0.9s,baz=51,slow=9.7,SNR=14
ARCES LR LR 07 44 10.3
comp=Z,3µm,21.6s,baz=40,slow=39
ARE0 **ARCESS Array S** 61.84 339 *eP* **P** 07 14 36.9 +0.6
ARE0 IAmb IAmb 07 14 37.9
comp=Z,288nm,1.9s
ARE0 *eS* **S** 07 23 00.2 +2.3
KLMR **Klimovskoe** 62.11 327 *c iP* **P** 07 14 38.2 0.0
KLMR *e* 07 16 56.0
KLMR *eS* **S** 07 23 00.3 -1.2
KLMR pmax pmax
comp=Z,203nm,1.4s
KLMR MLR MLR
comp=Z,1µm,14.0s
URV **Uravakonda** 62.15 266 *eP* **P** 07 14 38.4 -0.8
URV IAmb IAmb 07 14 40.1
comp=Z,291nm,2.0s
URV *eS* **S** 07 23 02.4 -0.8
URV IVMs_BB IVMs_BB 07 43 22.7
comp=Z,743nm,22.5s
KTK1 **Kautokeino** 62.80 339⇑ *iP* **P** 07 14 44.1 +1.4
KTK1 IAmb IAmb 07 14 45.1
comp=Z,274nm,1.7s
DAG **Danmarks Havn** 63.07 355⇑ *iP* **P** 07 14 44.8 +0.4
comp=Z,73nm,1.1s
DAG **Danmarks Havn** 63.07 355⇑ *iP* **P** 07 14 44.8 +0.4
DAG pmax pmax
comp=Z,93nm,1.1s
TRO **Tromso** 63.49 341⇑ *iP* **P** 07 14 50.6 +3.4
TRO IAmb IAmb 07 14 51.4
comp=Z,309nm,1.6s
GEYT **Alibeck** 63.69 298 P **P** 07 14 49.4 +0.2
comp=Z,95nm,1.0s,baz=29,slow=3.4,SNR=87
GEYT LR LR 07 44 28.9
comp=Z,4µm,18.0s,baz=65,slow=38
ASAR **Alice Springs** 63.79 189 P **P** 07 14 49.8 0.0
comp=Z,17nm,0.8s,baz=6.0,slow=5.1,SNR=153
ASAR LR LR 07 41 30.8
comp=Z,1µm,21.4s,baz=10,slow=35
ASAR PKP2ab 07 43 56.4
comp=Z,2.6nm,1.1s,baz=185,slow=2.2,SNR=4.5
NLWA **Neilton Lookou** 63.80 49 PFAKE 07 15 00.0 +10
NLWA LR LR
comp=Z,1µm,22.0s
JOF **Joensuu** 64.12 332 P **P** 07 14 51.4 -0.1
JOF pmax pmax
comp=Z,89nm,1.6s
MBWA **Marble Bar** 64.53 204 *eP* **P** 07 14 54.5 -0.2
comp=Z,411nm,1.3s
MBWA LR LR
comp=Z,884nm,19.0s
MBWA **Marble Bar** 64.53 204 P **P** 07 14 54.4 -0.2
SNR=6.9
MBWA P **P** 07 14 54.4 -0.2
SNR=6.9
OUL **Oulu** 64.60 335 P **P** 07 14 54.2 -0.4
OUL pmax pmax
comp=Z,106nm,1.4s
EIDS **Eidsvold** 65.31 172 *eP* **P** 07 15 00.6 +0.9
comp=Z,36nm,0.8s
DZM **Mont Dzumac** 65.33 156 *eP* **P** 07 15 00.6 +0.7
comp=Z,214nm,1.1s
DZM *eS* **S** 07 23 38.9 -3.5
comp=Z,763nm,27.6s
DZM **Mont Dzumac** 65.33 156 *e* LR LR 07 34 47.2
comp=Z,4µm,21.9s
DZM **Mont Dzumac** 65.33 156 *eP* **P** 07 15 00.7 +0.7
comp=Z,105nm,1.1s
COR **Corvallis** 65.61 52 *eP* **P** 07 15 04.3 +2.8
COR **Corvallis** 65.61 52 *eP* **P** 07 15 04.3 +2.8
STEI **Steigen** 65.65 341 *eP* **P** 07 15 01.5 +0.1
STEI IAmb IAmb 07 15 13.1
comp=Z,79nm,1.2s
MOS **Moscow** 65.81 323 *eP* **P** 07 15 01.2 -1.4
MOS *e* 07 15 11.0
MOS *e* 07 15 29.5
MOS *e* 07 17 24.0
MOS *eS* **S** 07 23 44.7 -2.7
MOS *e* 07 24 13.2
MOS *e* 07 24 53.1
MOS *eSS* **SS** 07 28 00.3 -1.1
MOS pmax pmax
comp=Z,1µm,2.4s
MOS pmax pmax
comp=Z,333nm,1.6s
MOS pmax pmax
comp=N,116nm,1.4s
MOS pmax pmax
comp=E,74nm,1.6s
MOS smax smax
comp=N,600nm,3.5s
MOS MLR MLR
comp=Z,10µm,16.0s
MOS MLR MLR
comp=N,5µm,15.0s
MOS MLR MLR
comp=E,7µm,16.0s
MSVF **Nonsavu** 65.89 143 PFAKE 07 15 20.0 +16
MSVF LR LR
comp=Z,2µm,19.0s
LOF **Lofoten** 65.92 342 *eP* **P** 07 15 02.7 -0.4
LOF IAmb IAmb 07 15 03.9
comp=Z,40nm,1.1s
LOF *eS* **S** 07 23 48.9 +0.5
I03D **Drain, OR** 66.06 52 P **P** 07 15 06.1 +1.6
baz=303
EDM **Edmonton** 66.28 40 *eP* **P** 07 15 06.3 +0.5
EDM pmax pmax

comp=Z,118nm,1.6s
EDM Edmonton 66.28 40 *e*P **P** 07 15 06.3 +0.5
comp=Z,118nm,1.6s
PUL Pulkovo 66.47 329 *e*P **P** 07 15 06.3 -0.4
PUL pmax pmax
comp=Z,101nm,1.1s
OBN Obninsk 66.66 323 P **P** 07 15 08.4 +0.3
comp=Z,40nm,0.7s,baz=27,slow=2.5,SNR=36
OBN Obninsk 66.66 323*c i*P **P** 07 15 08.2 +0.1
OBN *i* *PP **sP** 07 15 18.4 -0.6
OBN *e* 07 15 36.5
OBN *e* 07 17 35.0
OBN *e*S **S** 07 23 58.7 +0.9
OBN *e* 07 24 39.2
OBN *e* 07 25 03.8
OBN pmax pmax
comp=Z,292nm,1.7s
OBN MLR MLR
comp=Z,9μm,16.0s
OBN Obninsk 66.66 323 *e*P **P** 07 15 08.0 -0.1
comp=Z,614nm,1.8s
OBN LR LR
comp=Z,5μm,19.0s
L02D Cave Junction, 66.75 54 P **P** 07 15 11.1 +2.2
baz=303,SNR=6.3
HAWA Hanford 66.84 48 *e*P **P** 07 15 11.3 +1.8
comp=Z,54nm,1.4s
HAWA LR LR
comp=Z,1μm,19.0s
HUMO Hull Mountain 66.90 53 *e*P **P** 07 15 11.7 +1.8
comp=Z,74nm,1.3s
I05D Terrebonne, OR 66.93 51 P **P** 07 15 10.9 +0.8
baz=304
FINES FINESS Array B 66.96 332 P **P** 07 15 10.1 +0.2
comp=Z,40nm,0.8s,baz=46,slow=8.2,SNR=104
FINES LR LR 07 47 09.9
comp=Z,9μm,18.2s,baz=40,slow=38
LPSR Galich'ya Gora 67.02 320 *e*P **P** 07 15 10.4 0.0
LPSR pmax pmax
comp=Z,160nm,1.0s
LPSR MLR MLR
comp=Z,7μm,13.0s
VAF Ylistaro 67.03 335 P **P** 07 15 10.8 +0.5
VAF pmax pmax
comp=Z,78nm,1.2s
J04D Umpqua Nationa 67.07 52 P **P** 07 15 12.5 +1.3
baz=304
NEW Newport 67.15 46 P **P** 07 15 12.5 +1.1
baz=305,SNR=12
NEW Newport 67.15 46 *e*P **P** 07 15 12.7 +1.3
NEW pmax pmax
comp=Z,25nm,1.2s
NEW MLR MLR
comp=Z,903nm,21.0s
NEW Newport 67.15 46 *e*P **P** 07 15 12.7 +1.3
comp=Z,25nm,1.2s
NEW LR LR
comp=Z,903nm,21.0s
MOR8 Moi Rana 67.19 340 *e*P **P** 07 15 10.1 -1.2
MOR8 IAmb IAmb 07 15 11.3
comp=Z,271nm,1.5s
MOR8 IAMs_20 IAMs_20 07 47 53.9
comp=Z,4μm,18.0s
KONS Konsvik 67.28 341 *e*P **P** 07 15 11.6 -0.2
KONS IAmb IAmb 07 15 13.0
comp=Z,89nm,1.3s
VORR Voronezh 67.43 319 *e*P **P** 07 15 12.0 -1.0
VORR pmax pmax
comp=Z,400nm,1.4s
STOK Stokkvaagen 67.44 340 *e*P **P** 07 15 12.7 -0.1
comp=Z,72nm,1.2s
STOK IAmb IAmb 07 15 14.6
comp=Z,72nm,1.2s
J05D Fort Rock, OR 67.58 52 P **P** 07 15 16.4 +2.1
baz=304,SNR=13
JMIC Jan Mayen 67.60 350 P **P** 07 15 14.6 +0.9
comp=Z,28nm,0.5s,baz=234,slow=10,SNR=3.1
K04D Chiloquin, OR 67.63 53 P **P** 07 15 16.6 +2.0
baz=304
M02C Callahan 67.64 54 P **P** 07 15 15.9 +1.3
baz=304,SNR=14
VSR Storozhevoye 67.72 319 *e*P **P** 07 15 15.0 +0.1
VSR pmax pmax
comp=Z,310nm,1.7s
VSR MLR MLR
comp=Z,8μm,17.0s
MAK Makhachkala 67.81 308 *e*P **P** 07 15 16.0 +0.4
MAK *e* 07 17 42.4
MAK *e*PPP PPP 07 19 27.5
MAK *e*S **S** 07 24 10.2 -1.8
MAK *e*SS **SS** 07 28 29.6 -3.4
SUMG Summit 67.85 1⇑ *i*P **P** 07 15 17.2 +1.3
comp=Z,98nm,1.0s
SUMG Summit 67.85 1 *e*P **P** 07 15 17.0 +1.1
SUMG pmax pmax
comp=Z,101nm,1.0s
SUMG Summit 67.85 1 *e*P **P** 07 15 17.0 +1.1
comp=Z,101nm,1.0s
AFI Afiamalu 67.94 132 PFAKE 07 15 30.0 +13
AFI LR LR
comp=Z,2μm,19.0s
N02D Trinity Center 67.96 55 P **P** 07 15 18.4 +1.7
baz=304,SNR=13
M04C Macdoel 68.05 53 P **P** 07 15 18.8 +1.5
baz=304,SNR=15
WALA Waterton Lakes 68.42 44 *e*P **P** 07 15 21.1 +1.5
comp=Z,18nm,1.0s
VSU Vasula 68.72 330*ce*P **P** 07 15 21.2 +0.2
VSU pmax pmax
comp=Z,489nm,1.7s
MOD Modoc Plateau 68.92 53 *e*P **P** 07 15 23.9 +1.1
comp=Z,29nm,1.2s
BMO Blue Mountains 69.01 49 *e*P **P** 07 15 24.5 +1.3
BMO pmax pmax
comp=Z,28nm,1.3s
BMO MLR MLR
comp=Z,879nm,21.0s
BMO Blue Mountains 69.01 49 *e*P **P** 07 15 24.5 +1.3
comp=Z,28nm,1.3s
BMO LR LR
comp=Z,879nm,21.0s
GOF Gofitskoye 69.25 312⇑ *i*P **P** 07 15 25.5 +1.0
GOF *e*S **PnS** 07 24 56.7 +1.0
GOF pmax pmax
comp=Z,589nm,1.3s
SCO Scoresbysund 69.43 355 *i* P **P** 07 15 26.3 +1.1
comp=Z,174nm,1.7s
SCO Scoresbysund 69.43 355 *i* P **P** 07 15 26.3 +1.1
SCO pmax pmax
comp=Z,170nm,1.7s
WVOR Wild Horse Val 69.63 51 *e*P **P** 07 15 28.8 +1.6
WVOR pmax pmax
comp=Z,42nm,1.3s
WVOR MLR MLR
comp=Z,697nm,19.0s
WVOR Wild Horse Val 69.63 51 *e*P **P** 07 15 28.8 +1.6
comp=Z,42nm,1.3s
WVOR LR LR
comp=Z,697nm,19.0s
MSO Missoula 69.74 46 P **P** 07 15 28.4 +0.7
baz=307
NCK Nalchik 69.84 310*c i*P **P** 07 15 28.9 +0.6
NCK pmax pmax
comp=Z,169nm,1.2s
GUDG Gudauri 69.92 309 P **P** 07 15 30.4 +1.4
DGRG David-gareji 69.97 308 P **P** 07 15 29.8 +0.6
DGRG David-gareji 69.97 308 P **P** 07 15 29.7 +0.6
DUS Dusheti 70.01 308 P **P** 07 15 31.3 +1.8
DUS Dusheti 70.01 308 P **P** 07 15 31.2 +1.8
ZEI Tsey 70.08 309 *e*P **P** 07 15 25.6 -4.4
ZEI pmax pmax
comp=Z,288nm,1.0s
KVAR Kislovodsk Arr 70.10 311 P **P** 07 15 31.0 +1.1
comp=Z,518nm,1.2s,baz=257,slow=1.7,SNR=157
KIV Kislovodsk 70.10 311 *i* P **P** 07 15 31.0 +1.1
SNR=87
KIV Kislovodsk 70.10 311 *e*P **P** 07 15 30.9 +1.1
KIV *e*S **S** 07 24 39.8 +0.4
KIV *e*SS **SS** 07 29 10.7 +2.2
KIV pmax pmax
comp=Z,541nm,1.1s
KIV pmax pmax
comp=Z,307nm,3.8s
KIV MLR MLR
comp=Z,7μm,18.0s
KIV Kislovodsk 70.10 311 *e*P **P** 07 15 30.8 +0.9
comp=Z,694nm,1.2s
KIV LR LR
comp=Z,8μm,19.0s
KIV Kislovodsk 70.10 311 P **P** 07 15 31.1 +1.1
SNR=125
KIV P **P** 07 15 31.1 +1.1
SNR=125
KIV P **P** 07 15 31.1 +1.1
SNR=125
KBZ Khabaz 70.11 311 P **P** 07 15 30.8 +1.0
comp=Z,122nm,1.0s,baz=60,slow=6.2,SNR=156
KBZ PKPPKP **P'P'df** 07 43 33.2 -5.0
comp=Z,3.7nm,0.4s,baz=188,slow=5.7,SNR=28
KBZ LR LR 07 50 39.3
comp=Z,4μm,18.8s,baz=36,slow=40
SEAG Tbilisi Sea 70.14 308 P **P** 07 15 31.5 +1.3
TBLG Delisi 70.20 308 P **P** 07 15 31.4 +0.9
TBLG Delisi 70.20 308 P **P** 07 15 31.4 +0.9
ARMA Armidale 70.36 172 *e*P **P** 07 15 33.1 +1.6
comp=Z,68nm,1.2s
ONI Oni 70.46 309 P **P** 07 15 33.5 +1.4
ONI Oni 70.46 309 P **P** 07 15 33.5 +1.4
NEY Neytrino 70.50 310*c i*P **P** 07 15 33.4 +0.9
NEY pmax pmax
comp=Z,27nm,1.0s
FFC Flin Flon 70.58 34 *e*P **P** 07 15 33.1 +0.6
FFC pmax pmax
comp=Z,29nm,1.0s
FFC MLR MLR
comp=Z,1μm,20.0s
FFC Flin Flon 70.58 34 *e*P **P** 07 15 33.1 +0.6
comp=Z,29nm,1.0s
FFC LR LR
comp=Z,1μm,20.0s
TBLU Trondheim 70.60 339 *e*P **P** 07 15 31.9 -0.6
TBLU IAmb IAmb 07 15 32.8
comp=Z,190nm,1.6s
MICGM Minsk 70.93 326⇑ *i*P **P** 07 15 34.0 -0.7
MICGM ⇑ *i*P **P** 07 15 34.0 -0.7
MICGM PM 07 15 35.0
comp=Z,0.4nm,1.0s
MICGM *e*PcP **PcP** 07 15 55.0 -0.1
MICGM *e*PP PP 07 18 20.0 +8.6
MICGM *e*PPP PPP 07 19 44.0
MICGM *e*S **S** 07 24 46.0 -2.4
MICGM *e*PS **PnS** 07 25 08.0 -10
MICGM *e*ScS **ScS** 07 25 38.0 +1.3
MICGM *e*SS **SS** 07 29 30.0 +10
MICGM *e*LQ LQ 07 39 34.0
MICGM *e*LR LR 07 43 32.0
MICGM LRM MLR 07 48 46.0
comp=E,5.0nm,16.0s
MICGM LRM MLR 07 49 24.0
comp=N,3.7nm,16.0s
MICGM LRM MLR 07 49 26.0
comp=N,3.0nm,16.0s
MICGM LRM MLR 07 49 28.0
comp=Z,4.2nm,16.0s
MICGM LRM MLR 07 49 28.0
comp=Z,11nm,16.0s
MNK Minsk 70.93 326*c i*P **P** 07 15 34.0 -0.7
MNK *e* 07 15 55.0
MNK *e* 07 18 20.0
MNK *e*S **S** 07 24 46.0 -2.4
MNK *e*PS **PnS** 07 25 08.0 -10
MNK *e* 07 25 38.0
MNK pmax pmax
comp=Z,420nm,1.0s
MNK MLR MLR
comp=E,5μm,16.0s
MNK MLR MLR
comp=N,4μm,16.0s
MNK MLR MLR
comp=N,3μm,16.0s
MNK MLR MLR
comp=Z,11μm,16.0s
MNK MLR MLR
comp=Z,4μm,16.0s
CMB Columbia Colle 71.12 56 *e*P **P** 07 15 37.5 +1.3
CMB pmax pmax
comp=Z,88nm,0.9s
CMB Columbia Colle 71.12 56 *e*P **P** 07 15 37.5 +1.3
comp=Z,88nm,0.9s
NACGM Naroch 71.12 327 *e* **P** 07 15 35.0 -0.8
NACGM *e*LQ LQ 07 41 06.0
NACGM *e*LR LR 07 45 10.0
NACGM LRM MLR 07 49 20.0
comp=Z,11nm,16.0s
GNI Garni 71.13 307 P **P** 07 15 37.3 +0.9
comp=Z,236nm,1.4s,baz=183,slow=2.1,SNR=65
GNI Garni 71.13 307 *i* P **P** 07 15 37.8 +1.4
SNR=24
GNI Garni 71.13 307*ce*P **P** 07 15 37.8 +1.4
GNI pmax pmax
comp=Z,843nm,1.7s
GNI Garni 71.13 307 *e*P **P** 07 15 37.8 +1.4
comp=Z,1μm,1.3s
GNI LR LR
comp=Z,5μm,19.0s
GNI Garni 71.13 307 P **P** 07 15 37.8 +1.4
SNR=47
GNI P **P** 07 15 37.8 +1.4
SNR=47
AKH Akhalkalaki 71.14 308 P **P** 07 15 37.7 +1.3
AKH Akhalkalaki 71.14 308⇓ *i*P **P** 07 15 37.9 +1.5
AKH Akhalkalaki 71.14 308 P **P** 07 15 37.7 +1.3
BGD Bogdanovka 71.16 308 P **P** 07 15 38.3 +1.6
EGMT Eagleton 71.24 43 P **P** 07 15 38.2 +1.4
baz=309,SNR=8.1
EGMT Eagleton 71.24 43 *e*P **P** 07 15 38.2 +1.4
comp=Z,25nm,0.7s
EGMT LR LR
comp=Z,1μm,19.0s
DLMT Dillon 71.37 46 *e*P **P** 07 15 39.3 +1.5
comp=Z,7.6nm,0.9s
STKA Stephens Creek 71.39 181 P **P** 07 15 38.1 +0.6
comp=Z,2.6nm,0.6s,baz=334,slow=7.9,SNR=7.2
STKA LR LR 07 46 58.6
comp=Z,592nm,21.4s,baz=15,slow=36
HLID Hailey 71.44 48 P **P** 07 15 39.8 +1.5
baz=308,SNR=12
HLID Hailey 71.44 48 *e*P **P** 07 15 39.5 +1.3
comp=Z,12nm,1.0s
HLID LR LR
comp=Z,831nm,19.0s
EAK Akyaka 71.50 308⇑ *i*P **P** 07 15 39.7 +1.1
BANOM Banah 71.62 289 *i* P **P** 07 15 39.7 +0.3
SNR=13
BANOM Banah 71.62 289 P **P** 07 15 39.7 +0.3
SNR=5.9
BANOM P **P** 07 15 39.7 +0.3
SNR=5.9
BMN Battle Mountai 71.67 52 *e*P **P** 07 15 41.0 +1.4
BMN pmax pmax
comp=Z,40nm,1.3s
BMN Battle Mountai 71.67 52 *e*P **P** 07 15 41.0 +1.4
comp=Z,40nm,1.3s
FORT Forrest 71.67 194 *e*P **P** 07 15 39.5 +0.3
comp=Z,739nm,0.8s
BIDO Bidbid 71.68 286 P **P** 07 15 40.5 +0.7
SNR=19
BIDO P **P** 07 15 40.5 +0.7
SNR=19
BOZ Bozeman (W) 71.76 46 P **P** 07 15 41.4 +1.3
baz=309,SNR=13
BOZ Bozeman (W) 71.76 46 *e*P **P** 07 15 41.1 +1.0
BOZ pmax pmax
comp=Z,30nm,1.1s
BOZ MLR MLR
comp=Z,1μm,19.0s
BOZ Bozeman (W) 71.76 46 *e*P **P** 07 15 41.1 +1.0
comp=Z,30nm,1.1s
BOZ LR LR
comp=Z,1μm,19.0s
DIGO Kars 71.81 308⇑ *i*P **P** 07 15 41.6 +1.0
MOL Molde 71.88 340⇑ *i*P **P** 07 15 40.9 +0.7
MOL IAmb IAmb 07 15 42.8
comp=Z,260nm,1.9s
DOMB Dombas 71.91 339 *e*P **P** 07 15 40.9 +0.4
DOMB IAmb IAmb 07 15 41.8
comp=Z,279nm,1.7s
DOMB *e*S **S** 07 25 00.4 +0.8
DOMB IAMs_20 IAMs_20 07 50 54.1
comp=Z,4μm,19.5s
SOC Sochi 72.04 312*c i*P **P** 07 15 42.0 +0.4
SOC *e**PP **sP** 07 15 51.7 -0.9
SOC *e*PPP PPP 07 19 58.7
SOC *e*S **S** 07 25 02.1 +0.5
SOC *e*SS **SS** 07 29 41.0 +3.0
SOC *e*SSS SSS 07 32 51.5
SOC pmax pmax
comp=Z,173nm,1.2s
SOC MLR MLR
comp=Z,3μm,17.0s
HFS Hagfors 72.08 336 P **P** 07 15 41.6 +0.1
comp=Z,32nm,0.7s,baz=37,slow=8.3,SNR=47
NB2 NORSAR Subarra 72.11 338 P **P** 07 15 41.8 0.0
baz=39,slow=6.2
NB2 NORSAR Subarra 72.11 338 P **P** 07 15 41.7 0.0
NB2 pmax pmax
comp=Z,368nm,1.8s
NB2 NORSAR Subarra 72.11 338 P **P** 07 15 41.8 0.0
comp=Z,449nm,1.7s,baz=39,slow=6.2
NOA NORSAR Array B 72.11 338 P **P** 07 15 42.0 +0.3
comp=Z,34nm,0.8s,baz=39,slow=5.9,SNR=112
NOA LR LR 07 51 26.8
comp=Z,2μm,19.2s,baz=40,slow=39
NOA NORSAR Array B 72.11 338 P **P** 07 15 42.0 +0.3
NOA pmax pmax
comp=Z,35nm,0.8s
NOA MLR MLR
comp=Z,2μm,19.2s
DYDN Diyadin 72.14 307⇑ *i*P **P** 07 15 43.9 +1.4
ARTV Artvin 72.22 309⇑ *i*P **P** 07 15 44.0 +1.1
NC602 NORSAR Array S 72.25 337 *e*P **P** 07 15 42.4 -0.2
NC602 IAmb IAmb 07 15 43.7
comp=Z,152nm,1.6s
NC602 *e*S **S** 07 25 04.9 +1.3
NC602 IAMs_20 IAMs_20 07 50 52.6
comp=Z,4μm,21.9s
UOSS Minazif 72.26 288 P **P** 07 15 42.8 -0.4
UOSS P **P** 07 15 42.8 -0.4
DBOC Borcka 72.27 309⇑ *i*P **P** 07 15 43.8 +0.7
DAGI Agillar 72.29 309⇑ *i*P **P** 07 15 44.4 +1.1
MLAC Mammoth, Mammo 72.34 56 P **P** 07 15 45.4 +1.6
baz=307
AKN Aaknes 72.35 340⇑ *i*P **P** 07 15 43.3 +0.2
AKN IAmb IAmb 07 15 45.0
comp=Z,179nm,1.5s
AKN IAMs_20 IAMs_20 07 50 46.1
comp=Z,2μm,18.0s
HATD Hatta, Dubai 72.39 288 *i* P **P** 07 15 45.0 +1.0
SNR=33
HATD Hatta, Dubai 72.39 288 P **P** 07 15 44.2 +0.3
SNR=13
HATD P **P** 07 15 44.2 +0.3
SNR=13
ASHO Ashiyiah 72.52 288 *i* P **P** 07 15 45.0 +0.1
SNR=31
ASHO Ashiyiah 72.52 288 P **P** 07 15 44.9 +0.1
SNR=16
ASHO P **P** 07 15 44.9 +0.1
SNR=16
VMUR Van-Muradiye 72.55 306⇑ *i*P **P** 07 15 46.1 +1.1
ANN Anapa 72.56 314*c i*P **P** 07 15 44.6 -0.1
ANN *e*PPP PPP 07 20 09.6
ANN *e*S **S** 07 25 07.1 -0.5
ANN *e*SS **SS** 07 29 45.9 0.0
ANN pmax pmax
comp=Z,216nm,1.3s
ANN MLR MLR
comp=Z,4μm,16.0s
BBOO Buckleboo 72.61 186 *e*P **P** 07 15 45.4 +0.6
comp=Z,75nm,1.0s
NAZ Nazwa, Dubai 72.64 288 *i* P **P** 07 15 45.4 0.0
SNR=6.6
NAZ Nazwa, Dubai 72.64 288 P **P** 07 15 45.3 -0.1
SNR=8.8
NAZ P **P** 07 15 45.3 -0.1
SNR=8.8
TUTA Tutak 72.76 307⇑ *i*P **P** 07 15 47.5 +1.2
FAQ Al Faqa, Dubai 72.83 288 *i* P **P** 07 15 46.5 -0.1
SNR=8.1
FAQ Al Faqa, Dubai 72.83 288 P **P** 07 15 46.5 -0.1
SNR=9.5
FAQ P **P** 07 15 46.5 -0.1
SNR=9.5
AKASG Malin Array Be 72.90 323 P **P** 07 15 46.5 0.0
comp=Z,33nm,0.9s,baz=42,slow=6.6,SNR=152
AKASG PP **PP** 07 18 26.2 -2.2
comp=Z,7.2nm,0.9s,baz=44,slow=9.2,SNR=4.6
AKASG LR LR 07 49 59.6
comp=Z,1μm,18.0s,baz=45,slow=38
KIEV Kiev 72.92 323*c i*P **P** 07 15 46.3 -0.3
KIEV pmax pmax
comp=Z,76nm,1.3s
KIEV Kiev 72.92 323 *e*P **P** 07 15 46.7 +0.1
comp=Z,66nm,0.8s
KIEV *e*PP **PP** 07 18 27.7 -0.8
KIEV LR LR
comp=Z,2μm,20.0s
HOMI Horasan 72.92 308⇑ *i*P **P** 07 15 48.5 +1.3
SFJD Kangerlussuaq 72.94 6 P **P** 07 15 47.4 +0.8
comp=Z,27nm,0.8s,baz=357,slow=5.7,SNR=8.8
SFJD Kangerlussuaq 72.94 6 *i* P **P** 07 15 47.3 +0.8
comp=Z,45nm,0.9s
SFJD Kangerlussuaq 72.94 6 *e*P **P** 07 15 47.2 +0.7
SFJD pmax pmax
comp=Z,83nm,1.1s
SFJD MLR MLR
comp=Z,3μm,20.0s
SFJD Kangerlussuaq 72.94 6 *e*P **P** 07 15 47.1 +0.7
comp=Z,83nm,1.1s
SFJD LR LR
comp=Z,3μm,20.0s
LKWY Lake 73.08 46 PFAKE 07 16 00.0 +12
LKWY LR LR
comp=Z,2μm,19.0s
H17A Grant Village 73.10 46 P **P** 07 15 51.0 +2.8
baz=310
H17A Grant Village 73.10 46 *e*P **P** 07 15 51.7 +3.5
comp=Z,40nm,1.1s
OSL Oslo 73.14 337 *e*P **P** 07 15 48.2 +0.4
OSL IAmb IAmb 07 15 49.4
comp=Z,351nm,1.7s
OSL *e*pP **sP** 07 15 59.8 +1.0
IMW Indian Meadow 73.21 47 *e*P **P** 07 15 51.1 +2.2
comp=Z,33nm,1.1s
SUW Suwalki 73.25 328 *e*P **P** 07 15 48.7 +0.1
SUW LMZ LR 07 50 24.2
comp=Z,5μm,18.7s
SUW Suwalki 73.25 328⇑ *e*P **P** 07 15 48.7 +0.1
SUW MLR MLR
comp=Z,5μm,18.7s
VES Vestal, Richgr 73.26 57 P **P** 07 15 50.1 +1.1
baz=307,SNR=16
GEVA Gevas 73.28 306⇑ *i*P **P** 07 15 50.1 +0.9
EKAR Karacoban 73.31 307⇑ *i*P **P** 07 15 51.5 +2.0
HAKT HAKKARI 73.33 305⇑ *i*P **P** 07 15 49.9 +0.2
FOO Floro 73.34 341 *e*P **P** 07 15 49.7 +0.8
FOO IAmb IAmb 07 16 21.4
comp=Z,468nm,2.3s
FOO *e*S **SKiKP** 07 25 17.1 -1.0
RLMT Red Lodge 73.35 45 PFAKE 07 16 00.0 +10
RLMT LR LR
comp=Z,1μm,21.0s
PKM Mcpherson Peak 73.36 58 P **P** 07 15 51.4 +1.6
baz=307
HYA Hoyanger 73.41 340 *e*P **P** 07 15 50.4 +1.1
HYA *e*pP **sP** 07 16 01.0 +0.6
HYA IAmb IAmb 07 16 01.6
comp=Z,148nm,1.3s
MOOW Moose Ponds 73.41 47 *e*P **P** 07 15 51.0 +1.0
comp=Z,34nm,1.3s
TPAW Teton Pass 73.46 47 *e*P **P** 07 15 51.9 +1.5
comp=Z,29nm,0.6s
CWC Cottonwood Cre 73.55 56 P **P** 07 15 52.0 +1.1
baz=308
SNOW Snow King Moun 73.59 47 *e*P **P** 07 15 53.3 +2.2
comp=Z,19nm,1.1s
MACK Trabzon 73.65 310⇑ *i*P **P** 07 15 51.7 +0.5
GRAC Grapevine Rang 73.66 55 P **P** 07 15 53.0 +1.6
baz=308,SNR=13
KONO Kongsberg 73.71 337 *e*P **P** 07 15 51.4 +0.3
KONO IAmb IAmb 07 15 51.8
comp=Z,59nm,1.1s
KONO *e*S **S** 07 25 22.0 +1.9
KONO Kongsberg 73.71 337 *e*P **P** 07 15 50.4 -0.8
KONO pmax pmax
comp=Z,416nm,1.7s
KONO Kongsberg 73.71 337 *e*P **P** 07 15 50.6 -0.5
comp=Z,72nm,1.4s

KONO LR LR
comp=Z,3µm,20.0s
DGMT Dagmar 73.77 40 P **P 07 15 52.4 +0.6**
baz=312
DGMT Dagmar 73.77 40 *e*P **P 07 15 52.6 +0.8**
comp=Z,31nm,1.0s
DGMT LR LR
comp=Z,1µm,20.0s
SUE Sulen 73.87 340 *e*P **P 07 15 52.9 +0.8**
SUE IAmb IAmb 07 15 53.2
comp=Z,207nm,1.5s
SUE IAMs_20 IAMs_20 07 51 51.4
comp=Z,3µm,19.6s
LAO LASA Array 73.94 42 P **P 07 15 54.3 +1.5**
baz=312
LAO LASA Array 73.94 42 *e*P **P 07 15 53.8 +1.0**
comp=Z,100nm,1.6s
LAO LR LR
comp=Z,1µm,20.0s
R11A Troy Canyon, C 73.94 53 P **P 07 15 54.6 +1.4**
baz=308,SNR=17
R11A Troy Canyon, C 73.94 53 *e*P **P 07 15 54.6 +1.4**
comp=Z,52nm,1.6s
DAC Darwin (Calif) 73.95 56 *e*P **P 07 15 54.0 +0.7**
DAC pmax pmax
comp=Z,15nm,1.0s
DAC Darwin (Calif) 73.95 56 *e*P **P 07 15 54.0 +0.7**
comp=Z,15nm,1.0s
KLNR Kaliningrad 74.00 329 *e*P **P 07 15 52.4 -0.6**
KLNR pmax pmax
comp=Z,195nm,1.2s
BNGL BINGOL 74.06 308⇑*i*P **P 07 15 55.8 +1.9**
MPMC Manual Prospec 74.16 56 P **P 07 15 55.3 +0.8**
baz=308,SNR=12
OSI Osito Audit: C 74.24 58 P **P 07 15 56.0 +1.2**
baz=308
ASK Askoy 74.25 340⇑*i*P **P 07 15 55.0 +0.7**
ASK IAmb IAmb 07 15 56.0
comp=Z,342nm,1.9s
SIM Simferopol' 74.28 316*c i*P **P 07 15 55.0 +0.2**
SIM *e*S **S 07 25 27.0 0.0**
SIM pmax pmax
comp=Z,80nm,1.2s
SIM MLR MLR
comp=Z,3µm,17.0s
BER Bergen 74.30 340 *e*P **P 07 15 55.5 +1.0**
BER IAmb IAmb 07 15 55.8
comp=Z,82nm,1.0s
BER *e*S **S 07 25 28.3 +1.7**
BER IAMs_20 IAMs_20 07 52 30.5
comp=Z,4µm,19.0s
FURC Furnace Creek, 74.30 56 P **P 07 15 56.8 +1.8**
baz=308,SNR=14
HWUT Hardware Ranch 74.31 49 *e*P **P 07 15 56.5 +1.3**
comp=Z,56nm,1.5s
HWUT LR LR
comp=Z,770nm,21.0s
ODD1 Odda 74.34 339 *e*P **P 07 15 55.7 +0.8**
ODD1 IAmb IAmb 07 16 07.2
comp=Z,107nm,1.3s
LRMC Laurel Mtn Rad 74.39 57 P **P 07 15 57.1 +1.4**
baz=308,SNR=9.6
TPNV Topopah Spring 74.39 55 P **P 07 15 57.5 +1.7**
baz=308,SNR=21
KELT Kelkit 74.45 309⇑*i*P **P 07 15 57.2 +1.0**
DUG Dugway, Tooele 74.47 50 P **P 07 15 57.7 +1.5**
baz=309,SNR=17
DUG Dugway, Tooele 74.47 50 *e*P **P 07 15 57.6 +1.4**
DUG pmax pmax
comp=Z,27nm,1.1s
DUG MLR MLR
comp=Z,721nm,19.0s
DUG Dugway, Tooele 74.47 50 *e*P **P 07 15 57.5 +1.4**
comp=Z,27nm,1.1s
DUG LR LR
comp=Z,721nm,19.0s
BTMN Batman 74.65 307*i*P **P 07 15 58.2 +1.1**
BW06 Boulder Array 74.71 47 P **P 07 15 58.1 +0.5**
baz=310,SNR=9.8
BW06 Boulder Array 74.71 47 *e*P **P 07 15 57.8 +0.2**
comp=Z,10nm,0.9s
BW06 LR LR
comp=Z,1µm,19.0s
PDAR Pinedale Array 74.71 47 P **P 07 15 58.5 +0.9**
comp=Z,3.2nm,0.7s,baz=266,slow=2.5,SNR=33
PDAR LR LR 07 45 15.6
comp=Z,495nm,22.0s,baz=341,slow=33
DECC Green Verdugo 74.72 58 P **P 07 15 59.4 +1.9**
baz=308
ORDU Ordu-Boztepe 74.74 311*i*P **P 07 15 58.2 +0.6**
BLS5 Blasjo 74.80 339 *e*P **P 07 15 58.4 +0.8**
BLS5 IAmb IAmb 07 16 15.9
comp=Z,115nm,1.3s
BLS5 *e*S **S 07 25 32.4 0.0**
BLS5 IAMs_20 IAMs_20 07 51 09.2
comp=Z,3µm,18.0s
PASC Pasadena Art C 74.86 58 *e*P **P 07 15 59.4 +1.0**
comp=Z,24nm,1.4s
TNCL Tunceli-Merkez 74.93 308*i*P **P 07 16 00.0 +1.2**
CAN Canberra 75.01 175 PFAKE 07 16 10.0 +11
CAN LR LR
comp=Z,950nm,19.0s
BORG Borgarnes 75.02 353 P **P 07 16 00.9 +2.2**
comp=Z,66nm,1.2s,baz=70,slow=3.5,SNR=5.0
SHOC Shoshone, Teco 75.03 56 P **P 07 16 00.7 +1.4**
baz=309
GSC Goldstone, Bar 75.06 56 P **P 07 16 00.9 +1.3**
baz=308
SORM Soroca 75.08 321⇑*i*P **P 07 15 59.7 +0.4**
BFSC Mount Baldy Ra 75.17 58 P **P 07 16 01.9 +1.7**
baz=308
HOMB Homborsund 75.17 337*i*P **P 07 16 00.6 +0.9**
HOMB IAMs_20 IAMs_20 07 50 55.9
comp=Z,5µm,21.5s
MARD Mardin 75.31 306*i*P **P 07 16 01.9 +0.9**
SAMS Samsun-Alacam 75.47 312*i*P **P 07 16 02.8 +1.1**
SNART Snartemo 75.49 338 *e*P **P 07 16 02.4 +0.9**
SNART IAmb IAmb 07 16 02.5
comp=Z,48nm,1.0s
CUZAR Zara_SIVAS 75.50 310*i*P **P 07 16 02.5 +0.4**
TUQ Turquoise Moun 75.54 56 P **P 07 16 03.7 +1.3**
baz=309,SNR=26
BSD Bornholm Skovb 75.60 332*i*P **P 07 16 02.4 +0.2**
comp=Z,290nm,1.6s
BSD Bornholm Skovb 75.60 332*i*P **P 07 16 02.4 +0.2**
BSD pmax pmax
comp=Z,290nm,1.6s
KIS Kishinev 75.63 320*i*P **P 07 16 02.0 -0.6**
comp=Z,500nm,2.0s
KIS Kishinev 75.63 320 *e*PP PP 07 18 52.0 +0.4
KIS Kishinev 75.63 320*α i*P **P 07 16 02.0 -0.6**
KIS *e* 07 18 52.0
KIS *e*PPP PPP 07 20 38.0
KIS *e*S **S 07 25 40.0 -2.0**
KIS *e*PS PnS 07 26 02.0 -18
KIS pmax pmax
comp=Z,500nm,2.0s
KIS pmax pmax
comp=Z,500nm,4.0s
KIS MLR MLR
comp=Z,8µm,16.0s
KIS MLR MLR
comp=N,5µm,16.0s
KIS MLR MLR
comp=E,8µm,16.0s
KIS MLR MLR
comp=Z,9µm,16.0s
HEC Hector,Ludlow 75.66 57 P **P 07 16 04.2 +1.2**
baz=309
BEL Belsk 75.83 327 *e*P **P 07 16 04.9 +1.3**
BEL LMZ LR 07 51 57.2
comp=Z,6µm,18.3s
BEL Belsk 75.83 327*i*P **P 07 16 04.9 +1.3**
BEL MLR MLR
comp=Z,6µm,18.3s
MURC Murrieta 75.86 58 P **P 07 16 04.8 +0.6**
baz=309
LVV L'vov 75.90 324 *e*P **P 07 16 04.5 +0.4**
LVV *e*S **S 07 25 43.0 -1.9**
LVV pmax pmax
comp=Z,300nm,1.4s
TOKA Tokat 75.97 311⇑*i*P **P 07 16 05.8 +1.1**
CUKAN kangal_SIVAS 76.04 310*i*P **P 07 16 06.2 +1.0**
GMRC Granite Mounta 76.12 56 P **P 07 16 06.9 +1.1**
baz=309,SNR=6.9
GKP Gorka Klasztor 76.17 330 *e*P **P 07 16 06.1 +0.6**
GKP LMZ LR 07 52 26.0
comp=Z,4µm,17.8s
GKP Gorka Klasztor 76.17 330⇑*e*P **P 07 16 06.1 +0.6**
GKP MLR MLR
comp=Z,4µm,17.8s
PFO Pinyon Flats O 76.33 58 P **P 07 16 08.0 +1.0**
baz=309
PFO Pinyon Flats O 76.33 58 *e*P **P 07 16 08.2 +1.2**
PFO pmax pmax
comp=Z,20nm,1.0s
PFO MLR MLR
comp=Z,1µm,21.0s
PFO Pinyon Flats O 76.33 58 *e*P **P 07 16 08.2 +1.2**
comp=Z,20nm,1.0s
PFO LR LR
comp=Z,1µm,21.0s
TPFO Pinon Flats 76.34 58 P **P 07 16 08.1 +1.1**
baz=309,SNR=12
ULM Lac du Bonnet 76.38 35 P **P 07 16 07.8 +1.0**
comp=Z,5.6nm,0.7s,baz=322,slow=4.5,SNR=6.4
BELC Belle Mtn. Jos 76.39 57 P **P 07 16 08.2 +0.9**
baz=309
MDND Maddock 76.42 38 P **P 07 16 08.2 +1.1**
baz=315,SNR=7.6
MDND Maddock 76.42 38 *e*P **P 07 16 07.6 +0.5**
comp=Z,73nm,1.1s
MUD Monsted U'grnd 76.46 336⇑*i*P **P 07 16 07.8 +0.8**
comp=Z,70nm,1.1s
MUD Monsted U'grnd 76.46 336⇑*i*P **P 07 16 07.8 +0.8**
MUD pmax pmax
comp=Z,70nm,1.1s
K22A Casper 76.47 45 P **P 07 16 08.6 +1.0**
baz=312
K22A Casper 76.47 45 *e*P **P 07 16 08.7 +1.0**
comp=Z,43nm,1.3s
CUALT Altinyayla-SIV 76.49 310⇑*i*P **P 07 16 09.4 +1.6**
CUGUR Gurin_S`VAS 76.54 309⇑*i*P **P 07 16 09.6 +1.5**
KWP Kalwaria Pacla 76.63 325 *e*P **P 07 16 09.4 +1.2**
KWP LMZ LR 07 52 47.2
comp=Z,5µm,17.1s
KWP Kalwaria Pacla 76.63 325⇑*e*P **P 07 16 09.4 +1.2**
KWP MLR MLR
comp=Z,5µm,17.1s
CUSAR Sarkisla-SIVAS 76.70 310⇑*i*P **P 07 16 10.2 +1.2**
CTAK Corum_Osmancik 76.73 312⇑*i*P **P 07 16 10.4 +1.2**
ATAB Bozova 76.74 308⇑*i*P **P 07 16 10.9 +1.8**
RSSD Black Hills 76.81 43 P **P 07 16 09.7 +0.1**
baz=313
RSSD Black Hills 76.81 43 *e*P **P 07 16 10.5 +0.9**
RSSD pmax pmax
comp=Z,22nm,1.1s
RSSD Black Hills 76.81 43 *e*P **P 07 16 10.5 +0.9**
comp=Z,22nm,1.1s
MONP Monument Peak, 76.81 58 P **P 07 16 10.2 +0.4**
baz=309
IRM Iron Mountain 76.84 57 P **P 07 16 10.8 +1.1**
baz=309,SNR=11
COAL Corum-Alaca 76.88 312⇑*i*P **P 07 16 10.9 +1.0**
TLCR 76.89 319⇓*i*P **P 07 16 09.8 +0.1**
B31A Greenbush Farm 76.92 37 P **P 07 16 10.3 +0.4**
baz=316,SNR=5.2
SURC SANLIURFA_SURC 76.92 307⇑*i*P **P 07 16 11.2 +1.1**
BURAR Bucovina Array 76.94 322⇑*i*P **P 07 16 10.7 +0.6**
BURAR Bucovina Array 76.94 322 P **P 07 16 10.8 +0.6**
BC3 Big Chuckawall 76.96 57 P **P 07 16 11.2 +0.7**
baz=309,SNR=9.5
TESR Tescani 77.04 321⇑*i*P **P 07 16 11.1 +0.5**
A32A Rocking H Ranc 77.09 36 P **P 07 16 11.0 +0.2**
baz=317,SNR=6.4
IKP In-Ko-Pah, Jac 77.17 58 P **P 07 16 12.6 +1.0**
baz=309
O20A White River Ci 77.18 48 P **P 07 16 12.0 +0.3**
baz=312
O20A White River Ci 77.18 48 *e*P **P 07 16 13.3 +1.6**
comp=Z,24nm,1.0s
SWSC Sam W. Stewart 77.18 58 P **P 07 16 12.7 +1.1**
baz=309
CFR Carcaliu 77.24 319⇑*i*P **P 07 16 12.2 +0.5**
PETR Petresti 77.31 320⇓*i*P **P 07 16 13.8 +1.7**
KSRV Kasrt alli 77.33 306 *e*P **P 07 16 13.5 +1.1**
C31A Landman Farms, 77.34 37 P **P 07 16 12.3 +0.1**
baz=317,SNR=7.3
PDMCI Parker Dam,Lak 77.39 56 P **P 07 16 13.6 +0.9**
baz=310,SNR=10.0
STHS Stebnicka Huta 77.43 325 *e*P **P 07 16 13.8 +1.1**
STHS pmax pmax
comp=Z,42nm,1.0s
STHS Stebnicka Huta 77.43 325 *e*P **P 07 16 13.8 +1.1**
B32A Ashes, Strandq 77.45 36 P **P 07 16 12.7 -0.2**
baz=317,SNR=8.0
OJC Ojcow 77.45 327 *e*P **P 07 16 13.8 +1.0**
OJC LMZ LR 07 53 18.2
comp=Z,8µm,18.2s
OJC Ojcow 77.45 327⇑*e*P **P 07 16 13.8 +1.0**
OJC MLR MLR
comp=Z,8µm,18.2s
Y12C Blythe 77.50 56 P **P 07 16 14.1 +0.8**
baz=310
UZH Uzhgorod 77.55 324*i*P **P 07 16 12.6 -0.8**
UZH *e* 07 16 20.2
UZH *e*S **S 07 26 03.2 +0.3**
UZH MLR MLR
comp=N,3µm,14.5s
UZH MLR MLR
comp=E,4µm,14.5s
UZH MLR MLR
comp=Z,2µm,14.5s
A33A Warroad 77.56 35 P **P 07 16 13.5 +0.1**
baz=318,SNR=7.3
TIRR Tirgusor 77.60 318⇑*i*P **P 07 16 14.3 +0.6**
TIRR Tirgusor 77.60 318 *e*P **P 07 16 14.0 +0.3**
TIRR pmax pmax
comp=Z,53nm,1.0s
TIRR Tirgusor 77.60 318 *e*P **P 07 16 14.0 +0.3**
comp=Z,54nm,1.0s
CDAG Cicekdag 77.65 312⇑*i*P **P 07 16 14.8 +0.6**
RAO Raoul Island 77.70 146 PFAKE 07 16 30.0 +16
RAO LR LR
comp=Z,2µm,20.0s
TLB Topalu 77.70 319⇓*i*P **P 07 16 14.9 +0.6**
ARCR ARCALIA 77.73 322⇑*i*P **P 07 16 16.1 +1.7**
SLMH Al Salmeh 77.77 307 *e*P **P 07 16 16.1 +1.2**
TRPA Tarpa 77.81 324⇑*e*PKPPKPdP **P 07 16 16.0 +1.2**
AGMN Agassiz Nation 77.83 36 P **P 07 16 15.1 +0.1**
baz=318,SNR=5.2
AGMN Agassiz Nation 77.83 36 *e*P **P 07 16 14.4 -0.5**
comp=Z,17nm,1.1s
AGMN LR LR
comp=Z,1µm,19.0s
ANDN Andirin 77.84 309⇑*i*P **P 07 16 16.6 +1.3**
NIE Niedzica 77.84 326 *e*P **P 07 16 16.4 +1.4**
NIE LMZ LR 07 53 35.8
comp=Z,5µm,18.3s
NIE Niedzica 77.84 326⇑*e*P **P 07 16 16.4 +1.4**
NIE MLR MLR
comp=Z,5µm,18.3s
KUZU Kuzuini 77.93 308⇑*i*P **P 07 16 17.0 +1.2**
PV04 Paradox Valley 77.95 50 *e*P **P 07 16 17.1 +1.1**
PHWY Pilot Hill 77.96 46 *e*P **P 07 16 17.2 +1.0**
comp=Z,20nm,1.4s
N23A Red Feather La 77.97 46 P **P 07 16 17.6 +1.4**
baz=313
BRTR Keskin Array B 78.00 312 P **P 07 16 16.8 +0.5**
comp=Z,85nm,1.3s,baz=98,slow=4.2,SNR=88
BRTR PP **PP 07 19 18.2 +6.3**
comp=Z,15nm,1.1s,baz=69,slow=6.8,SNR=3.6
BRTR LR LR 07 54 40.8
comp=Z,2µm,18.1s,baz=41,slow=39
DOPR Dopca 78.04 321⇓*i*P **P 07 16 18.0 +1.8**
ISR Istrita 78.08 320⇑*i*P **P 07 16 17.9 +1.4**
YAHY KAYSERI_Yahyal 78.09 310⇑*i*P **P 07 16 17.7 +1.0**
MLR Muntele Rosu 78.11 320 P **P 07 16 17.3 +0.6**
comp=Z,18nm,1.4s,baz=24,slow=4.7,SNR=35
BCAM Yenicaga 78.16 314*i*P **P 07 16 17.8 +0.7**
E31A Nome 78.16 38 P **P 07 16 17.2 +0.4**
baz=317,SNR=7.6
B34A Aery_Baudette 78.23 35 P **P 07 16 17.3 +0.1**
baz=318
RAC Raciborz 78.23 327 *e*P **P 07 16 18.6 +1.5**
RAC *e*S **S 07 26 10.0 -0.2**
RAC MLR MLR
comp=Z,8µm,19.3s
PSN Preselentsi 78.26 318 *i* P **P 07 16 18.2 +0.8**
C33A Trail 78.27 36 P **P 07 16 17.9 +0.5**
baz=318
DRWC Darouich 78.28 308 *e*P **P 07 16 18.5 +0.8**
PV01 Paradox Valley 78.31 50 *e*P **P 07 16 19.6 +1.4**
comp=Z,4µm,1.6s
WUAZ Wupatki 78.34 53 P **P 07 16 20.0 +1.7**
baz=311,SNR=14
WUAZ Wupatki 78.34 53 *e*P **P 07 16 19.8 +1.5**
comp=Z,36nm,1.1s
WUAZ LR LR
comp=Z,1µm,21.0s
CJR Cluj-Napoca 78.36 322⇑*i*P **P 07 16 19.4 +1.4**
ANTO Ankara 78.39 313 *e*P **P 07 16 19.2 +0.9**
ANTO pmax pmax
comp=Z,594nm,1.2s
ANTO MLR MLR
comp=Z,1µm,20.0s
ANTO Ankara 78.39 313 *e*P **P 07 16 19.2 +0.9**
comp=Z,594nm,1.2s
ANTO LR LR
comp=Z,1µm,20.0s
ANTO Ankara 78.39 313 P **P 07 16 19.2 +0.9**
SNR=27
ANTO P **P 07 16 19.2 +0.9**
SNR=27
LANS Liptovska Anna 78.40 326 *e*P **P 07 16 19.7 +1.5**
LANS *e* 07 16 30.8
LANS *e* 07 19 10.8
LANS Liptovska Anna 78.40 326 *e*P **P 07 16 19.6 +1.4**
LANS *e* 07 16 30.8
LANS *e*PP **PP 07 19 10.8 -4.1**
KSP Ksiaz 78.42 329 *e*P **P 07 16 19.2 +1.0**
KSP LMZ LR 07 53 49.7
comp=Z,6µm,17.2s
KSP Ksiaz 78.42 329⇑*e*P **P 07 16 19.2 +1.0**
KSP MLR MLR
comp=Z,6µm,17.2s
BBAL Bala 78.42 312⇑*i*P **P 07 16 19.4 +0.8**
OKC Ostrava-Krasne 78.44 327⇑*i*P **P 07 16 19.4 +1.1**
OKC *e*PCP **sP 07 16 30.1 +0.8**
OKC *e*PP **PP 07 19 08.6 -6.5**
OKC *e*S **S 07 26 11.5 -1.0**
OKC AMS AMS 07 53 50.0
comp=Z,6µm,17.9s
OKC Ostrava-Krasne 78.44 327⇑*i*P **P 07 16 19.4 +1.1**
OKC *e* 07 16 30.1
OKC *e*S **S 07 26 11.5 -1.0**
OKC MLR MLR
comp=Z,6µm,17.9s
KECS Kecovo 78.46 325 *e*P **P 07 16 19.2 +0.7**
KECS pmax pmax
comp=Z,14nm,1.0s
KECS Kecovo 78.46 325 *e*P **P 07 16 19.2 +0.7**
VOIR 78.59 321⇓*i*P **P 07 16 20.1 +0.8**
VOIR 78.59 321 P **P 07 16 20.1 +0.8**
AKSY AKSARAY - Alti 78.66 311⇑*i*P **P 07 16 20.6 +0.8**
DRGR 78.71 323⇑*i*P **P 07 16 20.6 +0.6**
B35A Bob, Littlefor 78.73 35 P **P 07 16 20.3 +0.4**
baz=319,SNR=6.0
MORC Moravsky Berou 78.73 328⇓*i*P **P 07 16 20.8 +0.8**
MORC Moravsky Berou 78.73 328 *e*P **P 07 16 20.7 +0.8**
MORC pmax pmax
comp=Z,448nm,1.3s
MORC Moravsky Berou 78.73 328 *e*P **P 07 16 20.7 +0.8**
comp=Z,448nm,1.3s
BTCH Batrach 78.79 308 *e*P **P 07 16 21.2 +0.7**
UPC Upice 78.79 329⇑*e*P **P 07 16 21.3 +1.1**
UPC *e*PP **PP 07 19 14.4 -3.6**
UPC *e*S **S 07 26 15.9 -0.3**
UPC AMS AMS 07 54 00.0
comp=Z,5µm,16.7s
UPC Upice 78.79 329 *e*P **P 07 16 21.3 +1.1**
UPC *e* 07 19 14.4
UPC *e*S **S 07 26 15.9 -0.3**
UPC MLR MLR
comp=Z,5µm,16.7s
KRLC Kraliky 78.81 328⇑*i*P **P 07 16 21.5 +1.1**
KRLC *e*PCP **sP 07 16 30.8 -0.7**
KRLC Kraliky 78.81 328⇑*i*P **P 07 16 21.5 +1.1**
KRLC *e* 07 16 30.8
ARR Arges 78.84 321⇑*i*P **P 07 16 22.4 +1.7**
ISCO Idaho Springs 78.90 47 P **P 07 16 22.0 +0.6**
baz=313,SNR=5.5
ISCO Idaho Springs 78.90 47 *e*P **P 07 16 22.8 +1.4**
ISCO pmax pmax
comp=Z,18nm,1.2s
ISCO MLR MLR
comp=Z,1µm,20.0s
ISCO Idaho Springs 78.90 47 *e*P **P 07 16 22.8 +1.4**
comp=Z,18nm,1.2s
ISCO LR LR
comp=Z,1µm,20.0s
BTAS Taskesti 78.92 314⇑*i*P **P 07 16 21.6 +0.4**
MVCO Mesa Verde 78.97 51 P **P 07 16 22.8 +1.0**
baz=312,SNR=9.6
MVCO Mesa Verde 78.97 51 *e*P **P 07 16 23.5 +1.7**
comp=Z,23nm,1.0s
MVCO LR LR
comp=Z,1µm,20.0s
G31A Conde 78.98 39 P **P 07 16 21.8 +0.5**
baz=317
PRD Provadia 79.01 318 *i* P **P 07 16 22.6 +1.1**
D34A Park Rapids 79.03 36 P **P 07 16 22.1 +0.5**
baz=318
C35A Jirik Farms, M 79.12 35 P **P 07 16 21.5 -0.6**
baz=319
PSZ Piszkesteto 79.15 325⇑*i*P **P 07 16 23.3 +0.9**
PSZ Piszkesteto 79.15 325 *e*P **P 07 16 23.2 +0.9**
PSZ pmax pmax
comp=Z,91nm,1.1s
PSZ MLR MLR
comp=Z,5µm,19.0s
PSZ Piszkesteto 79.15 325⇑*e*PKPPKPdP **P 07 16 23.5 +1.2**
PSZ Piszkesteto 79.15 325 *e*P **P 07 16 23.2 +0.9**
comp=Z,91nm,1.1s
PSZ LR LR
comp=Z,5µm,19.0s
VYHS Vyhne 79.17 326 *e*P **P 07 16 23.3 +0.9**
VYHS *e* 07 16 34.8
VYHS *e*S **S 07 26 23.4 +3.0**
VYHS pmax pmax
comp=Z,49nm,1.4s
VYHS MLR MLR
comp=Z,4µm,18.1s
VYHS Vyhne 79.17 326 *e*P **P 07 16 23.3 +0.9**
VYHS *e* 07 16 34.8
VYHS *e*PP **PP 07 19 15.3 -6.0**
VYHS *e*S **S 07 26 23.4 +3.0**
VYHS *e*L L 07 54 35.2
SUSD Miller 79.17 40 P **P 07 16 23.1 +0.6**
baz=316
ARNB Al Arnab 79.20 308 *e*P **P 07 16 23.7 +0.8**
LOT Lotru 79.20 321⇓*i*P **P 07 16 23.2 +0.5**
KERG Konya-Eregli 79.27 310⇑*i*P **P 07 16 23.4 +0.1**
G32A Webster 79.30 39 P **P 07 16 23.6 +0.4**
baz=317
BRG Berggiesshubel 79.31 330⇑*i*P **P 07 16 23.5 +0.4**
comp=Z,76nm,1.3s
BRG *i* 07 16 40.3
comp=Z,49nm,1.1s
BRG PP **PP 07 19 18.0 -4.3**
BRG S **S 07 26 22.0 +0.3**
BRG SS **SS 07 31 30.0 +2.5**
comp=N,3µm,16.5s
comp=E,2µm,15.7s
comp=Z,5µm,16.4s
BRG Berggiesshubel 79.31 330⇑*i*P **P 07 16 23.5 +0.4**
BRG 07 19 18.0
BRG S **S 07 26 22.0 +0.3**
BRG SS **SS 07 31 30.0 +2.5**
BRG pmax pmax
comp=Z,76nm,1.3s
BRG MLR MLR
comp=N,3µm,16.5s
BRG MLR MLR
comp=E,2µm,15.7s
BRG MLR MLR
comp=Z,5µm,16.4s
CLL Collm 79.32 331⇑*i*P **P 07 16 23.5 +0.4**
CLL *i* 07 16 34.5
CLL *e*S **S 07 26 18.0 -3.8**
CLL pmax pmax
comp=Z,90nm,1.1s
CLL MLR MLR
comp=Z,4µm,19.2s
CLL Collm 79.32 331⇑*i*P **P 07 16 23.5 +0.4**
comp=Z,90nm,1.1s
CLL *e*Pmax 07 16 26.0

CLL *i* 07 16 34.5
CLL *i* 07 16 39.5
CLL *i* 07 19 09.0
CLL *e*PP **PP** **07 19 20.0 -2.4**
CLL *e*PPP PPP 07 21 10.0
CLL *e*S **S** **07 26 22.0 +0.2**
CLL *e*ScS **ScS** **07 26 48.0 +3.7**
CLL *e*PS **PnS** **07 27 13.0 +6.7**
CLL *e*SS **SS** **07 31 24.0 -3.6**
CLL *e* 07 32 24.0
CLL *e* 07 36 48.0
CLL LmH 07 52 00.0
comp=N,1µm,20.2s
CLL LmH 07 52 00.0
comp=E,4µm,19.5s
CLL LmV 07 54 00.0
comp=Z,4µm,19.2s
CLL Lmax 07 55 00.0
PVCC Panska Ves 79.34 330⇑*i*P **P** **07 16 24.3 +1.1**
PVCC *e*PCP **sP** **07 16 35.3 +1.0**
PVCC *e*S **S** **07 26 22.4 +0.3**
PVCC AMS AMS 07 54 30.0
comp=Z,5µm,16.7s
PVCC Panska Ves 79.34 330⇑*i*P **P** **07 16 24.3 +1.1**
PVCC *e* 07 16 35.3
PVCC *e*S **S** **07 26 22.4 +0.3**
PVCC MLR MLR
comp=Z,5µm,16.7s
H31A Wolsey 79.39 40 P **P** **07 16 24.2 +0.6**
baz=317,SNR=5.5
F33A 5 Mile Ranch, 79.44 38 P **P** **07 16 24.3 +0.5**
baz=318,SNR=5.7
VRAC Vranov 79.49 328 P **P** **07 16 25.3 +1.2**
comp=Z,60nm,1.1s,baz=44,slow=5.6,SNR=61
VRAC Vranov 79.49 328⇑*i*P **P** **07 16 25.3 +1.2**
ROOS tl_alroos 79.50 306 *e*P **P** **07 16 26.1 +1.5**
D35A Remer 79.55 36 P **P** **07 16 24.6 +0.1**
baz=319
C36A Pine Crest Far 79.58 35 P **P** **07 16 24.8 +0.2**
baz=320
S22A 4UR Ranch, Cre 79.60 49 P **P** **07 16 26.0 +0.7**
baz=313,SNR=12
W18A Petrified Fore 79.62 53 *e*P **P** **07 16 26.3 +1.1**
comp=Z,20nm,1.1s
KDHN Kadinhani 79.69 312⇑*i*P **P** **07 16 25.4 -0.1**
SZH Strazhica 79.71 319 *i*P **P** **07 16 25.6 +0.2**
GZR Gura Zlata 79.72 322µ*i*P **P** **07 16 26.0 +0.5**
GOPC GO Pecny, Ondr 79.74 329⇑*i*P **P** **07 16 26.6 +1.1**
GOPC *ex* x 07 16 37.5
GOPC *e*S **S** **07 26 26.1 -0.3**
GOPC AMS AMS 07 54 40.0
comp=Z,5µm,17.6s
GOPC GO Pecny, Ondr 79.74 329⇑*i*P **P** **07 16 26.6 +1.1**
GOPC *e* 07 16 37.5
GOPC *e*S **S** **07 26 26.1 -0.3**
GOPC MLR MLR
comp=Z,5µm,17.6s
214A Organ Pipe Nat 79.75 57 P **P** **07 16 26.7 +0.9**
baz=311
214A Organ Pipe Nat 79.75 57 *e*P **P** **07 16 27.5 +1.6**
comp=Z,36nm,0.8s
SMOL Smolenice 79.76 327 *e*P **P** **07 16 27.5 +2.0**
SMOL *e* 07 16 38.8
SMOL Smolenice 79.76 327 *e*P **P** **07 16 27.5 +2.0**
SMOL *e* 07 16 38.8
PRA Prague 79.76 329⇑*e*P **P** **07 16 26.6 +1.1**
PRA *ex* x 07 16 37.7
PRA *e*PP **PP** **07 19 26.6 +0.6**
PRA *e*S **S** **07 26 26.1 -0.4**
PRA AMS AMS 07 54 50.0
comp=Z,5µm,16.0s
PRA Prague 79.76 329 *e*P **P** **07 16 26.6 +1.1**
PRA *e* 07 16 37.7
PRA *e* 07 19 26.6
PRA *e*S **S** **07 26 26.1 -0.4**
PRA MLR MLR
comp=Z,5µm,16.0s
PRU Pruhonice 79.78 329⇑*i*P **P** **07 16 26.7 +1.1**
PRU *e*PCP **sP** **07 16 37.6 +0.9**
PRU *e*PP **PP** **07 19 27.4 +1.2**
PRU *e*S **S** **07 26 27.5 +0.7**
PRU AMS AMS 07 54 40.0
comp=Z,4µm,17.1s
PRU Pruhonice 79.78 329⇑*i*P **P** **07 16 26.7 +1.1**
PRU *e* 07 16 37.6
PRU *e* 07 19 27.4
PRU *e*S **S** **07 26 27.5 +0.7**
PRU MLR MLR
comp=Z,4µm,17.1s
E35A Pequot Lakes 79.78 36 P **P** **07 16 25.7 0.0**
baz=319
G33A Ortonville 79.85 38 P **P** **07 16 26.3 +0.2**
baz=318,SNR=7.5
BUD Budapest 79.86 325 P **P** **07 16 27.8 +1.7**
BUD Budapest 79.86 325⇑*e*PKPPKPdf **P** **07 16 27.1 +1.0**
D36A Goodland 79.87 35 P **P** **07 16 26.2 -0.1**
baz=320
H32A Carlson Farm, 79.88 39 P **P** **07 16 26.1 -0.2**
baz=317
C37A Embarrass 79.88 34 P **P** **07 16 26.6 +0.4**
baz=320
KIZK Mersin 79.89 309⇑*i*P **P** **07 16 26.6 +0.2**
SRO2 Moca 79.92 326 *e*P **P** **07 16 27.3 +0.9**
SRO2 Moca 79.92 326 *e*P **P** **07 16 27.3 +0.9**
TREC Trest 79.95 328⇑*e*P **P** **07 16 27.8 +1.2**
TREC *ex* x 07 16 38.5
TREC AMS AMS 07 54 50.0
comp=Z,4µm,17.4s
TREC Trest 79.95 328 *e*P **P** **07 16 27.8 +1.2**
TREC *e* 07 16 38.5
TREC MLR MLR
comp=Z,4µm,17.4s
F34A Alexandria 79.96 37 P **P** **07 16 26.1 -0.6**
baz=318
EYMN Ely 80.01 34 P **P** **07 16 27.1 +0.2**
baz=320
EYMN Ely 80.01 34 *e*P **P** **07 16 27.1 +0.2**
comp=Z,20nm,0.9s
EYMN LR LR
comp=Z,904nm,19.0s
OGNE Ogallala 80.08 44 P **P** **07 16 28.5 +1.0**
baz=315
OGNE Ogallala 80.08 44 *e*P **P** **07 16 28.9 +1.3**
comp=Z,76nm,1.3s
OGNE LR LR
comp=Z,1µm,20.0s
H33A Prehn Over Nor 80.08 39 P **P** **07 16 27.8 +0.4**
baz=318,SNR=12
BZS Buzias 80.10 323⇑*i*P **P** **07 16 27.7 +0.3**
MARH Ras Al Marh 80.10 306 *e*P **P** **07 16 28.7 +0.7**
J31A Geddes 80.11 41 P **P** **07 16 28.1 +0.5**
baz=317,SNR=7.2
G34A Benson 80.20 38 P **P** **07 16 28.5 +0.5**
baz=318,SNR=7.7
I32A Karley and Nic 80.21 40 P **P** **07 16 28.4 +0.3**
baz=317
D37A Cotton 80.22 35 P **P** **07 16 27.9 -0.1**
baz=320
F35A Swanville 80.23 37 P **P** **07 16 28.3 +0.2**
baz=319
C38A Sawbill Land. 80.29 34 P **P** **07 16 28.7 +0.2**
baz=321
CSKK Cs˙ˇtkako 80.29 326⇑*e*PKPPKPdf **P** **07 16 29.4 +1.0**
EDRB Edirne 80.31 317 P **P** **07 16 29.6 +1.0**
EDRB Edirne 80.31 317 P **P** **07 16 29.6 +1.0**
E36A McGregor 80.33 36 P **P** **07 16 28.7 0.0**
baz=320,SNR=5.4
SDCO Great Sand Dun 80.37 49 P **P** **07 16 29.8 +0.4**
baz=314
SDCO Great Sand Dun 80.37 49 PFAKE 07 16 40.0 +11
SDCO LR LR
comp=Z,758nm,19.0s
NKC Novy Kostel 80.40 330⇑*i*P **P** **07 16 29.8 +0.8**
NKC *ex* x 07 16 40.8
NKC *e*PP **PP** **07 19 29.8 -1.5**
NKC *e*S **S** **07 26 31.9 -1.4**
NKC AMS AMS 07 58 30.0
comp=Z,4µm,14.7s
NKC Novy Kostel 80.40 330⇑*i*P **P** **07 16 29.8 +0.8**
NKC *e* 07 16 40.8
NKC *e* 07 19 29.8
NKC *e*S **S** **07 26 31.9 -1.4**
NKC MLR MLR
comp=Z,4µm,14.7s

J32A Parkston 80.50 40 P **P** **07 16 29.8 +0.2**
baz=317
ERMK Ermenek 80.51 310⇑*i*P **P** **07 16 29.9 -0.1**
I33A Coleman 80.52 39 P **P** **07 16 30.3 +0.5**
baz=318,SNR=6.9
H34A Spellman Lake, 80.56 38 P **P** **07 16 30.3 +0.4**
baz=318
TOTH TOTAH 80.57 306 *e*P **P** **07 16 33.0 +2.7**
K31A O'Neill 80.59 41 P **P** **07 16 30.7 +0.5**
baz=317
RAR Rarotonga 80.74 128 PFAKE 07 16 40.0 +9.0
RAR LR LR
comp=Z,2µm,20.0s
MPEP Malo Peshtene 80.75 320 *i*P **P** **07 16 32.3 +1.3**
SOP Sopron 80.77 327 P **P** **07 16 32.4 +1.4**
SOP Sopron 80.77 327⇑*e*PKKPdf **P** **07 16 32.3 +1.3**
SALA Sala 80.81 305 *e*P **P** **07 16 33.2 +1.4**
TUC Tucson 80.82 56 P **P** **07 16 32.8 +1.1**
baz=312
TUC Tucson 80.82 56 *e*P **P** **07 16 33.3 +1.6**
TUC pmax pmax
comp=Z,45nm,1.5s
TUC MLR MLR
comp=Z,1µm,20.0s
TUC Tucson 80.82 56 *e*P **P** **07 16 33.3 +1.6**
comp=Z,45nm,1.5s
TUC LR LR
comp=Z,1µm,20.0s
KHC Kasperske Hory 80.84 329⇑*i*P **P** **07 16 32.3 +0.9**
KHC *ex* x 07 16 43.2
KHC *e*PP **PP** **07 19 37.3 +2.2**
KHC *e*S **S** **07 26 37.0 -1.1**
KHC AMS AMS 07 55 20.0
comp=Z,5µm,16.7s
KHC Kasperske Hory 80.84 329⇑*i*P **P** **07 16 32.3 +0.9**
KHC *e* 07 16 43.2
KHC *e* 07 19 37.3
KHC *e*S **S** **07 26 37.0 -1.1**
KHC MLR MLR
comp=Z,5µm,16.7s
KHC Kasperske Hory 80.84 329 *e*P **P** **07 16 32.3 +0.9**
comp=Z,43nm,1.1s
ECSD EROS Data Cent 80.84 39 P **P** **07 16 31.9 +0.4**
baz=318,SNR=8.5
ECSD EROS Data Cent 80.84 39 *e*P **P** **07 16 31.5 0.0**
comp=Z,21nm,1.0s
ECSD LR LR
comp=Z,2µm,19.0s
CONA Conrad Observa 80.87 327 *i*pP **P** **07 16 32.7 +1.1**
comp=Z,98nm,1.5s,SNR=30
EKA Eskdalemuir Ar 80.92 341 P **P** **07 16 32.4 +0.8**
comp=Z,12nm,0.8s,baz=22,slow=4.5,SNR=28
EKA PP **PP** **07 19 42.1 +6.7**
comp=Z,5.9nm,1.0s,baz=38,slow=11,SNR=3.8
ESK Eskdalemuir 80.94 341 *e*P **P** **07 16 32.4 +0.7**
ESK pmax pmax
comp=Z,21nm,0.8s
ESK MLR MLR
comp=Z,2µm,20.0s
ESK Eskdalemuir 80.94 341 *e*P **P** **07 16 32.4 +0.7**
comp=Z,21nm,0.8s
ESK LR LR
comp=Z,2µm,20.0s
KSCO Kaye Shedlock' 81.11 46 P **P** **07 16 33.2 0.0**
baz=315
KSCO Kaye Shedlock' 81.11 46 *e*P **P** **07 16 34.2 +1.0**
comp=Z,44nm,1.3s
PLD Plovdiv 81.18 319 P **P** **07 16 34.6 +1.3**
DEMI Demirci 81.24 314⇑*i*P **P** **07 16 33.5 -0.2**
ALN Alexandroupoli 81.36 317 P **P** **07 16 34.7 +0.5**
ALN Alexandroupoli 81.36 317 P **P** **07 16 34.7 +0.5**
ALN Alexandroupoli 81.36 317 P **P** **07 16 34.7 +0.5**
F38A Pierce - Schro 81.38 35 P **P** **07 16 34.4 +0.2**
baz=320,SNR=10
CSS Mathiatis 81.40 309 P **P** **07 16 35.2 +0.6**
CSS Mathiatis 81.40 309 *e*P **P** **07 16 34.7 +0.1**
comp=Z,18nm,0.9s
CSS LR LR
comp=Z,526nm,20.0s
T25A Trinidad 81.41 48 P **P** **07 16 35.7 +0.7**
baz=314,SNR=8.4
ENEZ Enez 81.42 317 P **P** **07 16 35.0 +0.5**
L32A Elgin 81.42 41 P **P** **07 16 35.1 +0.4**
baz=317
RDO Rodhopi 81.44 317 P **P** **07 16 35.8 +1.1**
RDO Rodhopi 81.44 317 P **P** **07 16 35.8 +1.1**
RZN Rozhen 81.47 318 *i*P **P** **07 16 36.4 +1.3**
K33A Hardington 81.49 40 P **P** **07 16 35.2 +0.3**
baz=318
H36A Jessenland, He 81.50 37 P **P** **07 16 35.6 +0.7**
baz=319
J34A George 81.50 39 P **P** **07 16 35.0 0.0**
baz=318
SPMN Marine on St. 81.52 36 P **P** **07 16 35.4 +0.3**
baz=320
ARSA Arzberg 81.55 327 *i*pP **P** **07 16 36.2 +1.0**
comp=Z,46nm,1.2s,SNR=25
VTS Vitosha 81.57 320 P **P** **07 16 36.9 +1.3**
VTS Vitosha 81.57 320µ*i*P **P** **07 16 36.5 +0.9**
VTS Vitosha 81.57 320 P **P** **07 16 36.9 +1.3**
VTS Vitosha 81.57 320 *i*P **P** **07 16 36.9 +1.3**
VTS Vitosha 81.57 320 P **P** **07 16 36.9 +1.3**
MOA Molln 81.59 328 *i*pP **P** **07 16 36.3 +0.9**
comp=Z,46nm,1.4s,SNR=16
BEHE Becsehely 81.62 326⇑*e*PKKPdf **P** **07 16 35.9 +0.3**
E39A Mellen 81.64 34 P **P** **07 16 35.7 +0.1**
baz=321
ANMO Albuquerque 81.72 51 P **P** **07 16 38.2 +1.6**
baz=313
ANMO Albuquerque 81.72 51*ce*P **P** **07 16 35.6 -0.9**
ANMO pmax pmax
comp=Z,17nm,1.2s
ANMO Albuquerque 81.72 51 *e*P **P** **07 16 38.1 +1.6**
comp=Z,19nm,1.1s
ANMO LR LR
comp=Z,874nm,20.0s
KORT Korkueli 81.75 312⇑*i*P **P** **07 16 36.0 -0.6**
BGNE Belgrade 81.78 42 P **P** **07 16 37.5 +0.9**
baz=317
BGNE Belgrade 81.78 42 *e*P **P** **07 16 37.1 +0.5**
comp=Z,77nm,1.0s
F39A Loretta 81.84 35 P **P** **07 16 37.2 +0.5**
baz=321
E40A Wakefield 81.87 34 P **P** **07 16 37.1 +0.3**
baz=322
K34A Le Mars 81.88 40 P **P** **07 16 37.4 +0.4**
baz=318
I36A Fitzsimmons Fa 81.88 38 P **P** **07 16 37.3 +0.4**
baz=319
SMTH Samothraki Isl 81.94 317 P **P** **07 16 37.6 +0.3**
SMTH Samothraki Isl 81.94 317 P **P** **07 16 37.6 +0.3**
H37A Dierke Farm, C 81.96 37 P **P** **07 16 37.4 0.0**
baz=320
EZN Ezine 81.98 316 P **P** **07 16 38.1 +0.6**
EZN Ezine 81.98 316 P **P** **07 16 38.1 +0.6**
EZN Ezine 81.98 316 P **P** **07 16 38.1 +0.6**
G38A Ridgeland 82.00 36 P **P** **07 16 37.6 0.0**
baz=321
DIVS Divibare 82.00 322 P **P** **07 16 38.1 +0.4**
GOLH Golhisar 82.03 312⇑*i*P **P** **07 16 37.9 -0.1**
MMB Musomiste 82.05 319 *i*P **P** **07 16 34.3 -3.7**
KAVA Kavala 82.08 318 P **P** **07 16 38.6 +0.5**
KAVA Kavala 82.08 318 P **P** **07 16 38.6 +0.5**
M33A Taylor Creek F 82.15 41 P **P** **07 16 39.1 +0.6**
baz=318
AYVA Ayvalik 82.16 315⇑*i*P **P** **07 16 38.6 +0.1**

I37A Lemond, Waseca 82.17 37 P **P** **07 16 39.3 +0.8**
baz=320,SNR=5.9
KKB Krupnik 82.17 319 *i*P **P** **07 16 39.8 +1.2**
F40A Park Falls 82.18 34 P **P** **07 16 38.8 +0.3**
baz=322
PERS Pernice 82.20 327 *i*P **P** **07 16 39.3 +0.6**
SOKA Soboth 82.20 327 *i*pP **P** **07 16 39.4 +0.7**
comp=Z,143nm,1.3s,SNR=68
SCHQ Schefferville 82.23 17 P **P** **07 16 38.8 +0.1**
comp=Z,5.4nm,0.8s,baz=314,slow=6.3,SNR=5.0
SCHQ LR LR 07 58 37.2
comp=Z,1µm,18.1s,baz=353,slow=40
J36A Seneca 1, Swea 82.25 38 P **P** **07 16 39.1 +0.2**
baz=319
E41A Kenton 82.25 33 P **P** **07 16 38.9 +0.1**
baz=322
L34A Svendsen Farm, 82.27 40 P **P** **07 16 39.1 0.0**
baz=318
K35A Storm Lake 82.27 39 P **P** **07 16 39.1 0.0**
baz=319
HGN Heimansgroeve 82.28 334 *e*P **P** **07 16 39.0 +0.1**
comp=Z,170nm,1.6s
HGN Heimansgroeve 82.28 334 *e*S **S** **07 26 58.1 +5.3**
BEBN Eben Emael 82.34 334 P **P** **07 16 39.6 +0.4**
MEM Membach 82.39 334 P **P** **07 16 39.9 +0.4**
comp=Z,36nm,1.5s
MEM Membach 82.39 334 P **P** **07 16 40.1 +0.6**
SRS Serrai 82.47 318 P **P** **07 16 40.1 0.0**
SRS Serrai 82.47 318 P **P** **07 16 40.1 0.0**
SRS Serrai 82.47 318 P **P** **07 16 40.1 0.0**
TAU Tasmania Unive 82.48 177 PFAKE 07 16 50.0 +10
TAU LR LR
comp=Z,887nm,20.0s
M34A Aspy Farms, Fr 82.51 41 P **P** **07 16 40.5 +0.1**
baz=318
OBKA Obir 82.54 327 *i*P **P** **07 16 41.0 +0.5**
comp=Z,26nm,0.8s,SNR=14
121A Cookes Peak, D 82.55 54 P **P** **07 16 42.3 +1.4**
baz=313,SNR=8.1
121A Cookes Peak, D 82.55 54 *e*P **P** **07 16 41.4 +0.4**
comp=Z,18nm,0.9s
KBA Koelnbreinsper 82.58 328 *i*pP **P** **07 16 41.4 +0.6**
comp=Z,119nm,1.6s,SNR=41
KBA Koelnbreinsper 82.58 328 P **P** **07 16 41.4 +0.6**
H39A Augusta 82.63 36 P **P** **07 16 41.1 +0.2**
baz=321
J37A Redenius Farm, 82.64 38 P **P** **07 16 41.2 +0.3**
baz=320
G40A Rib Lake 82.66 35 P **P** **07 16 41.1 +0.1**
baz=322
SIGR SIGRI 82.67 316 P **P** **07 16 41.3 +0.1**
SIGR SIGRI 82.67 316 P **P** **07 16 41.3 +0.1**
AKAS Kas 82.71 312⇑*i*P **P** **07 16 40.9 -0.7**
K36A Gilmore City 82.72 39 P **P** **07 16 41.5 +0.1**
baz=319
E42A Champion 82.72 33 P **P** **07 16 41.9 +0.6**
baz=323
FETY Fethiye 82.73 312 P **P** **07 16 41.9 +0.3**
FETY Fethiye 82.73 312 P **P** **07 16 41.9 +0.3**
KSL Kastellorizon 82.78 312 P **P** **07 16 41.2 -0.6**
KNT Kendrikon 82.79 319 P **P** **07 16 42.2 +0.4**
KNT Kendrikon 82.79 319 P **P** **07 16 42.2 +0.4**
KNT Kendrikon 82.79 319 P **P** **07 16 42.2 +0.4**
BCLA Clavier 82.79 334 P **P** **07 16 42.0 +0.4**
comp=Z,35nm,1.5s
SOH Sokhos 82.81 318 P **P** **07 16 42.4 +0.5**
SOH Sokhos 82.81 318 P **P** **07 16 42.4 +0.5**
SOH Sokhos 82.81 318 P **P** **07 16 42.4 +0.5**
STU Stuttgart 82.81 331 *e*P **P** **07 16 42.3 +0.5**
STU pmax pmax
comp=Z,26nm,0.8s
STU Stuttgart 82.81 331 *e*P **P** **07 16 42.3 +0.5**
comp=Z,26nm,0.8s
MYKA Terra Mystica 82.82 328 *i*P **P** **07 16 41.9 0.0**
comp=Z,68nm,1.0s,SNR=29
CBKS Cedar Bluff 82.83 45 P **P** **07 16 42.1 -0.1**
baz=316
CBKS Cedar Bluff 82.83 45 PFAKE 07 16 50.0 +7.9
CBKS LR LR
comp=Z,887nm,19.0s
VAY Valandovo 82.83 319 P **P** **07 16 42.8 +0.8**
VAY Valandovo 82.83 319 *i*P **P** **07 16 42.8 +0.8**
VAY Valandovo 82.83 319 P **P** **07 16 42.8 +0.8**
VAY Valandovo 82.83 319 P **P** **07 16 42.8 +0.8**
TURN Turunc 82.83 313⇑*i*P **P** **07 16 44.0 +1.9**
OUR Ouranopolis 82.84 318 P **P** **07 16 42.4 +0.4**
OUR Ouranopolis 82.84 318 P **P** **07 16 42.4 +0.4**
OUR Ouranopolis 82.84 318 P **P** **07 16 42.4 +0.4**
PLE Pljevlja 82.87 322⇑*i*P **P** **07 16 42.9 +0.6**
URLA Izmir 82.89 315⇑*i*P **P** **07 16 41.6 -0.8**
SKO Skopje 82.91 320 *i*P **P** **07 16 43.7 +1.3**
LJU Ljubljana 82.92 327 *e*P **P** **07 16 42.5 +0.1**
IVA Berane 82.98 322⇑*i*P **P** **07 16 43.6 +0.8**
VISS Visnje 82.98 326 *i*P **P** **07 16 42.6 -0.1**
M35A Neola 82.98 40 P **P** **07 16 43.2 +0.5**
baz=319,SNR=8.0
K37A Belmond 83.01 38 P **P** **07 16 43.4 +0.5**
baz=320,SNR=9.0
L36A Harm Buss Farm 83.02 39 P **P** **07 16 43.5 +0.6**
baz=319
BOJS Bojanci 83.04 326 *i*P **P** **07 16 43.2 +0.2**
N34A Lincoln 83.05 41 P **P** **07 16 43.4 +0.3**
baz=318,SNR=6.8
SNF Seneffe 83.05 335 P **P** **07 16 43.7 +0.8**
SNF AP **PcP** **07 16 47.9 +0.3**
O33A Hebron 83.05 42 P **P** **07 16 43.1 -0.1**
baz=318
WATA Walderalm 83.08 329 *i*pP **P** **07 16 43.9 +0.5**
comp=Z,54nm,1.0s,SNR=24
PLG Polygyros 83.09 318 P **P** **07 16 43.6 +0.2**
PLG Polygyros 83.09 318 P **P** **07 16 43.6 +0.2**
PLG Polygyros 83.09 318 P **P** **07 16 43.6 +0.2**
HORT Hortiatis 83.10 318 P **P** **07 16 43.5 0.0**
HORT Hortiatis 83.10 318 P **P** **07 16 43.5 0.0**
WTTA Wattenberg 83.12 329 *i*pP **P** **07 16 44.4 +0.8**
comp=Z,58nm,1.1s,SNR=17
E43A Lone Tree Farm 83.14 32 P **P** **07 16 42.9 -0.6**
baz=324
WLF Walferdange 83.14 334 P **P** **07 16 44.2 +0.8**
comp=Z,57nm,2.4s
WLF Walferdange 83.14 334 *e*P **P** **07 16 44.0 +0.5**
WLF pmax pmax
comp=Z,266nm,2.3s
WLF MLR MLR
comp=Z,4µm,20.0s
WLF Walferdange 83.14 334 *e*P **P** **07 16 44.0 +0.5**
comp=Z,266nm,2.3s
WLF LR LR
comp=Z,4µm,20.0s
THE Thessaloniki 83.15 319 P **P** **07 16 43.6 0.0**
THE Thessaloniki 83.15 319 P **P** **07 16 43.6 0.0**
THE Thessaloniki 83.15 319 P **P** **07 16 43.6 0.0**
PVY Plav 83.16 322 *e*P **P** **07 16 44.0 +0.2**
I39A Houston 83.16 36 P **P** **07 16 43.3 -0.4**
baz=321
CHOS Chios island 83.16 315 P **P** **07 16 44.8 +0.9**
CHOS Chios island 83.16 315 P **P** **07 16 44.8 +0.9**
ABTA Abfaltersbach 83.19 328 *i*P **P** **07 16 43.9 0.0**
comp=Z,60nm,1.3s,SNR=20
UPM Unac-Piva 83.19 323⇑*i*P **P** **07 16 43.9 -0.2**
SMG Samos 83.22 314 P **P** **07 16 43.5 -0.6**
SMG Samos 83.22 314 P **P** **07 16 43.5 -0.6**
JAVS Javornik 83.23 327 *e*P **P** **07 16 43.6 -0.5**
MOTA Moosalm 83.26 329 *i*pP **P** **07 16 44.8 +0.5**
comp=Z,127nm,1.3s,SNR=51
RETA Reutte 83.28 330 *i*pP **P** **07 16 45.1 +0.8**
comp=Z,116nm,1.1s,SNR=42
PAIG Paliouri 83.30 318 P **P** **07 16 44.4 0.0**
PAIG Paliouri 83.30 318 P **P** **07 16 44.4 0.0**
PAIG Paliouri 83.30 318 P **P** **07 16 44.4 0.0**
DOU Dourbes 83.30 335 P **P** **07 16 44.4 +0.1**
comp=Z,28nm,2.0s
BDRM Kayabasi 83.35 313⇑*i*P **P** **07 16 45.3 +0.5**
H41A Junction City 83.41 35 P **P** **07 16 45.3 +0.4**
baz=322
BODT Bodrum 83.43 314 P **P** **07 16 45.6 +0.4**
BODT Bodrum 83.43 314 P **P** **07 16 45.6 +0.4**
O34A Beatrice 83.43 42 P **P** **07 16 45.0 -0.1**
baz=318,SNR=6.3
M36A Felix, Anita 83.44 40 P **P** **07 16 45.6 +0.5**
baz=319,SNR=8.7
L37A Phoenix Point, 83.44 39 P **P** **07 16 45.5 +0.4**
baz=320,SNR=5.6
NKY Niksic 83.45 322⇑*i*P **P** **07 16 45.3 0.0**
BAIF Baives 83.46 335 *e*P **P** **07 16 44.6 -0.4**

BAIF pmax pmax
comp=Z,79nm,1.6s
N35A Tabor 83.46 41 P **P** 07 16 45.8 +0.6
baz=319,SNR=10
J39A Decorah 83.48 37 P **P** 07 16 45.2 -0.2
baz=321,SNR=5.5
BFO Black Forest 83.50 332 *i* P **P** 07 16 46.1 +0.8
BFO Black Forest 83.50 332 *e*P **P** 07 16 45.5 +0.2
comp=Z,133nm,1.4s
BFO LR LR
comp=Z,3µm,20.0s
NKME Niksic 83.50 322 *e*P **P** 07 16 45.3 -0.2
TRI Trieste 83.51 327 *e*P **P** 07 16 44.9 -0.5
TRI pmax pmax
comp=Z,65nm,1.1s
TRI Trieste 83.51 327 *e*P **P** 07 16 44.9 -0.5
comp=Z,65nm,1.1s
ARG Arkhangelos 83.57 313 P **P** 07 16 46.7 +0.8
ARG Arkhangelos 83.57 313 P **P** 07 16 46.7 +0.8
ARG Arkhangelos 83.57 313 P **P** 07 16 46.7 +0.8
BRY Bratogost 83.59 323 *e*P **P** 07 16 45.7 -0.4
PDG Podgorica 83.62 322 P **P** 07 16 46.4 +0.4
PDG Podgorica 83.62 322 ⇓ *i*P **P** 07 16 46.3 +0.3
TTG Podgorica 83.62 322 P **P** 07 16 46.4 +0.4
TTG Podgorica 83.62 322 ⇑ *i*P **P** 07 16 46.4 +0.4
TTG Podgorica 83.62 322 P **P** 07 16 46.4 +0.4
FETA Feichten 83.67 329 *i* pP **P** 07 16 47.1 +0.7
comp=Z,77nm,1.3s,SNR=30
BIA Bitola 83.68 320 *i* P **P** 07 16 46.8 +0.3
CEME Cevo 83.69 322 *i*P **P** 07 16 46.3 -0.2
I41A Arkdale 83.75 35 P **P** 07 16 47.2 +0.5
baz=322
LIT Litokhoron 83.78 318 P **P** 07 16 47.0 +0.1
LIT Litokhoron 83.78 318 P **P** 07 16 47.0 +0.1
LIT Litokhoron 83.78 318 P **P** 07 16 47.0 +0.1
DAVA Damuels 83.78 330 *i* pP **P** 07 16 47.7 +0.7
comp=Z,111nm,1.1s,SNR=27
L38A Oak Wood Farm, 83.81 38 P **P** 07 16 47.3 +0.3
baz=320
CDF Champ du Feu 83.81 332 *e*P **P** 07 16 46.7 -0.3
CDF pmax pmax
comp=Z,183nm,1.8s
NIS1 Nisyros Isl. 83.83 313 P **P** 07 16 47.1 -0.1
NIS1 Nisyros Isl. 83.83 313 P **P** 07 16 47.1 -0.1
FNA Florina 83.83 320 P **P** 07 16 47.0 -0.2
FNA Florina 83.83 320 P **P** 07 16 47.3 +0.1
FNA Florina 83.83 320 P **P** 07 16 47.0 -0.2
P34A Walnut Farm, R 83.84 42 P **P** 07 16 47.5 +0.2
baz=318
DRME Dracevica, Mon 83.84 322 ⇑ *i*P **P** 07 16 47.2 0.0
M37A Trindle Farm, 83.84 40 P **P** 07 16 47.8 +0.6
baz=320
SCIA State Center 83.87 39 *e*P **P** 07 16 48.4 +1.1
comp=Z,66nm,1.2s
SCIA LR LR
comp=Z,1µm,20.0s
OHR Ohrid 83.87 320 *i* P **P** 07 16 47.6 +0.2
J40A Soldiers Grove 83.88 36 P **P** 07 16 46.8 -0.6
baz=321
K39A Oelwein 83.88 37 P **P** 07 16 46.9 -0.5
baz=321,SNR=5.5
BUM Brajici-Budva 83.89 322 ⇑ *i*P **P** 07 16 47.3 -0.2
HCY Herceg Novi 83.97 322 ⇑ *i*P **P** 07 16 47.3 -0.5
XOR Xorichti 83.97 318 P **P** 07 16 47.3 -0.6
XOR Xorichti 83.97 318 P **P** 07 16 47.3 -0.6
SKIA Skiathos 83.97 317 P **P** 07 16 48.1 +0.2
ULC Ulcinj 83.98 322 ⇑ *i*P **P** 07 16 48.0 +0.1
KZN Kozani 83.99 319 P **P** 07 16 47.7 -0.4
KZN Kozani 83.99 319 P **P** 07 16 47.7 -0.4
KZN Kozani 83.99 319 P **P** 07 16 47.7 -0.4
ECH Echery 84.02 332 ⇑ *e*P **P** 07 16 48.4 +0.4
TIR Tirane 84.15 321 *e*P **P** 07 16 48.8 0.0
TIR pmax pmax
comp=Z,147nm,1.1s
TIR MLR MLR
comp=Z,5µm,19.0s
TIR Tirane 84.15 321 *e*P **P** 07 16 48.8 0.0
comp=Z,147nm,1.1s
TIR LR LR
comp=Z,5µm,19.0s
DAVOX Davos/Dischmat 84.20 330 P **P** 07 16 50.0 +0.8
comp=Z,32nm,1.0s,baz=26,slow=1.3,SNR=34
DAVOX PP **PP** 07 19 55.6 -7.3
comp=Z,9.5nm,1.0s,baz=15,slow=8.2,SNR=3.0
DAVOX Davos/Dischmat 84.20 330 P **P** 07 16 50.0 +0.8
DAVOX pmax pmax
comp=Z,32nm,1.0s
J41A Loganville 84.23 36 P **P** 07 16 49.3 +0.1
baz=322
K40A Colesburg 84.24 37 P **P** 07 16 49.3 +0.1
baz=321
M38A Pleasantville 84.25 39 P **P** 07 16 49.9 +0.6
baz=320,SNR=8.7
N37A Lee Faris, Mou 84.25 40 P **P** 07 16 49.9 +0.6
baz=320
P35A Duane Minner, 84.27 42 P **P** 07 16 49.5 +0.1
baz=318
L39A Vinton 84.28 38 P **P** 07 16 50.0 +0.6
baz=321,SNR=10.0
KSU1 Kansas State U 84.28 43 P **P** 07 16 50.3 +0.8
baz=318
KSU1 Kansas State U 84.28 43 PFAKE 07 17 00.0 +11
KSU1 LR LR
comp=Z,1µm,20.0s
MOF Molkenrain 84.33 332 ⇑ *e*P **P** 07 16 49.9 +0.2
O36A Bolckow 84.35 41 P **P** 07 16 50.6 +0.8
baz=319,SNR=6.3
PENT Pentalofos 84.40 319 P **P** 07 16 49.5 -0.7
THEF They Montfort 84.43 333 ⇑ *e*P **P** 07 16 50.3 +0.2
THL Klokotos Trika 84.43 318 P **P** 07 16 49.2 -1.0
KPRO Kipourio 84.47 319 P **P** 07 16 49.9 -0.6
HINF Hinteralfeld 84.47 332 *e*P **P** 07 16 49.9 -0.4
HINF pmax pmax
comp=Z,212nm,2.2s
JFWS Jewell Farm 84.48 36 PFAKE 07 17 00.0 +10
JFWS LR LR
comp=Z,1µm,20.0s
R34A Isabella, Hill 84.54 43 P **P** 07 16 51.2 +0.3
baz=318
AMTX Amarillo 84.57 48 P **P** 07 16 52.3 +1.2
baz=316
AMTX Amarillo 84.57 48 *e*P **P** 07 16 52.9 +1.7
comp=Z,15nm,0.8s
MSTX Muleshoe 84.58 50 P **P** 07 16 52.0 +0.7
baz=315,SNR=9.0
MSTX Muleshoe 84.58 50 *e*P **P** 07 16 52.1 +0.9
comp=Z,51nm,1.5s
KARP Karpathos 84.60 313 P **P** 07 16 51.1 -0.1
KARP Karpathos 84.60 313 P **P** 07 16 51.1 -0.1
LKR Lokris 84.60 317 P **P** 07 16 50.0 -1.1
LKR Lokris 84.60 317 P **P** 07 16 50.0 -1.1
MNTX Cornudas Mount 84.60 53 P **P** 07 16 52.0 +0.7
baz=314,SNR=24
MNTX Cornudas Mount 84.60 53 *e*P **P** 07 16 52.3 +1.0
comp=Z,22nm,1.2s
MNTX LR LR
comp=Z,716nm,19.0s
P36A Good Intent, A 84.61 41 P **P** 07 16 51.7 +0.6
baz=319
TUE Stuetta 84.66 330 *e*P **P** 07 16 52.0 +0.5
comp=Z,109nm,1.2s
TUE LR LR
comp=Z,4µm,19.0s
AGG Agios Georgios 84.67 318 P **P** 07 16 50.2 -1.3
AGG Agios Georgios 84.67 318 P **P** 07 16 50.2 -1.3
AGG Agios Georgios 84.67 318 P **P** 07 16 50.2 -1.3
L40A Anamosa 84.69 37 P **P** 07 16 51.4 -0.1
baz=321
K41A Shullsburg 84.69 37 P **P** 07 16 51.7 +0.2
baz=322
PPT Papeete 84.69 118 P **P** 07 16 51.5 -0.3
comp=Z,26nm,0.9s,baz=238,slow=23,SNR=1.8
PPT LR LR 07 47 24.7
comp=Z,2µm,21.3s,baz=290,slow=30
M39A Webster 84.69 38 P **P** 07 16 52.0 +0.4
baz=321,SNR=12
N38A Joes South For 84.71 39 P **P** 07 16 52.0 +0.4
baz=320,SNR=5.1
PPT2 Papeete2 84.71 118 *e*S **S** 07 27 17.0 -1.1
comp=Z,2µm,34.2s
PPT2 *e*SS **SS** 07 32 48.7 -1.9
comp=Z,377nm,24.0s
PPT2 Papeete2 84.71 118 *e*LR LR 07 43 31.0
comp=Z,4µm,22.2s,baz=317
PPT2 Papeete2 84.71 118 *e*T T 08 50 10.6
comp=Z,9.2nm,0.3s
O37A Wolven Farm, M 84.73 40 P **P** 07 16 52.2 +0.4
baz=320,SNR=5.8
Q35A Mercer Eighty, 84.76 42 P **P** 07 16 52.3 +0.4
baz=319,SNR=6.0
TIAR Tiarei 84.84 118 *e*T T 08 50 20.0
comp=Z,5.3nm,0.4s
LOMF Lomont 84.87 332 ⇑ *e*P **P** 07 16 52.9 +0.5
JAN Janina 84.95 319 P **P** 07 16 53.3 +0.4
JAN Janina 84.95 319 P **P** 07 16 53.3 +0.4
JAN Janina 84.95 319 P **P** 07 16 53.3 +0.4
SANT Santorini 84.95 314 *e*P P 07 16 47.4 -5.6
SANT LR LR
comp=Z,143nm,1.1s
comp=Z,2µm,20.0s
Q36A Arnold C. Orve 84.98 42 P **P** 07 16 53.1 +0.1
baz=319
N39A Derby Farms, D 85.00 39 P **P** 07 16 53.4 +0.3
baz=320,SNR=7.7
L41A Preston 85.02 37 P **P** 07 16 53.1 0.0
baz=322
DSF Desfina 85.02 317 P **P** 07 16 51.9 -1.4
DSF Desfina 85.02 317 P **P** 07 16 51.9 -1.4
S34A Willow Spring 85.05 44 P **P** 07 16 54.0 +0.6
baz=318
M40A Post Highland 85.06 38 P **P** 07 16 53.8 +0.4
baz=321,SNR=9.7
P37A Lathrop 85.07 41 P **P** 07 16 54.0 +0.5
baz=320,SNR=5.1
R35A Emporia Munici 85.07 43 P **P** 07 16 54.0 +0.5
baz=318
O38A Galt 85.10 40 P **P** 07 16 54.4 +0.8
baz=320
DSL Palaion Diasel 85.22 319 P **P** 07 16 54.2 0.0
DSL Palaion Diasel 85.22 319 P **P** 07 16 54.2 0.0
KALE Kalithea 85.24 317 P **P** 07 16 53.5 -0.9
KALE Kalithea 85.24 317 P **P** 07 16 53.5 -0.9
SERG Sergoula 85.27 318 P **P** 07 16 53.6 -0.9
SGD Sagiada 85.29 319 P **P** 07 16 54.4 -0.1
IGT Igoumenitsa 85.30 319 P **P** 07 16 54.4 -0.2
IGT Igoumenitsa 85.30 319 P **P** 07 16 54.4 -0.2
IGT Igoumenitsa 85.30 319 P **P** 07 16 54.4 -0.2
PVO Paravola 85.39 318 P **P** 07 16 55.1 +0.1
KEK Kerkira 85.43 320 P **P** 07 16 55.1 -0.2
KEK Kerkira 85.43 320 P **P** 07 16 55.1 -0.2
R36A Gordon, Harris 85.43 42 P **P** 07 16 55.8 +0.5
baz=319,SNR=15
N40A Mertquake, Sal 85.44 38 P **P** 07 16 55.6 +0.4
baz=321
LAKA Lakka 85.44 317 P **P** 07 16 54.9 -0.4
LAKA Lakka 85.44 317 P **P** 07 16 54.9 -0.4
P38A Dawn 85.45 40 P **P** 07 16 55.9 +0.5
baz=320,SNR=5.7
S35A Otter Creek Ra 85.49 43 P **P** 07 16 56.2 +0.6
baz=318,SNR=20
KLV Kalavryta, Ach 85.50 317 P **P** 07 16 54.8 -0.9
KLV Kalavryta, Ach 85.50 317 P **P** 07 16 54.8 -0.9
T34A McClaskey Farm 85.52 44 P **P** 07 16 56.5 +0.7
baz=318,SNR=6.4
M41A Milan 85.55 37 P **P** 07 16 56.3 +0.5
baz=322
Q37A Longview Farm, 85.56 41 P **P** 07 16 56.0 +0.1
baz=320
PDO Prodromos 85.58 318 P **P** 07 16 55.8 -0.2
NPS Neapolis 85.67 313 P **P** 07 16 56.4 -0.2
NPS Neapolis 85.67 313 P **P** 07 16 56.4 -0.2
NPS Neapolis 85.67 313 P **P** 07 16 56.4 -0.2
LKD2 Lefkada island 85.70 319 P **P** 07 16 56.4 -0.3
LKD2 Lefkada island 85.70 319 P **P** 07 16 56.4 -0.3
SNZO South Karori 85.73 157 PFAKE 07 17 10.0 +14
SNZO LR LR
comp=Z,2µm,21.0s
CABF La Chapelle 85.77 332 *e*P **P** 07 16 56.7 -0.2
CABF pmax pmax
comp=Z,143nm,1.6s
R37A Teagarden Farm 85.79 42 P **P** 07 16 57.5 +0.4
baz=319,SNR=8.1
DRO Drossia 85.79 317 P **P** 07 16 57.2 +0.1
LAST Lasithi 85.82 313 P **P** 07 16 57.1 -0.3
LAST Lasithi 85.82 313 P **P** 07 16 57.1 -0.3
S36A Lake Cedric, C 85.84 43 P **P** 07 16 57.9 +0.6
baz=319
M42A Sheffield 85.85 37 P **P** 07 16 57.6 +0.3
baz=322
O40A La Belle 85.89 39 P **P** 07 16 58.1 +0.6
baz=321
Q38A Cooks Store, C 85.92 41 P **P** 07 16 57.9 +0.3
baz=320,SNR=6.9
P39B Salisbury 85.94 40 P **P** 07 16 58.1 +0.3
baz=320
T35A Sooner Cattle 85.96 44 P **P** 07 16 58.1 +0.2
baz=318,SNR=5.5
IDI Anoyia 86.06 314 *e*P **P** 07 16 57.2 -1.3
comp=Z,132nm,1.0s
FLN La Foliniere 86.08 337 *e*P **P** 07 16 58.0 -0.3
FLN pmax pmax
comp=Z,145nm,1.4s
VLC Villacollemand 86.17 328 PFAKE 07 17 10.0 +11
VLC LR LR
comp=Z,3µm,19.0s
Q39A Willow Grove F 86.17 40 P **P** 07 16 59.5 +0.6
baz=320
T36A Boggs Farm, Ca 86.19 43 P **P** 07 16 59.6 +0.5
baz=319,SNR=8.2
S37A Fort Scott 86.21 42 P **P** 07 16 59.6 +0.5
baz=319,SNR=10
N42A Yates City 86.21 38 P **P** 07 16 59.4 +0.4
baz=322,SNR=5.7
U35A Pawnee 86.24 44 P **P** 07 16 59.9 +0.5
baz=318
P40A Paris 86.26 40 P **P** 07 16 59.8 +0.4
baz=321,SNR=7.0
ITM Ithomi 86.26 317 P **P** 07 16 58.7 -0.7
ITM Ithomi 86.26 317 P **P** 07 16 58.7 -0.7
WMOK Wichita Mounta 86.32 47 P **P** 07 17 00.1 +0.3
baz=317,SNR=7.4
WMOK Wichita Mounta 86.32 47 *e*P **P** 07 17 00.5 +0.7
WMOK pmax pmax
comp=Z,11nm,1.0s
WMOK MLR MLR
comp=Z,875nm,20.0s
WMOK Wichita Mounta 86.32 47 *e*P **P** 07 17 00.5 +0.7
comp=Z,11nm,1.0s
WMOK LR LR
comp=Z,875nm,20.0s
AQU L'Aquila 86.36 325 *e*P **P** 07 17 00.4 +0.5
AQU pmax pmax
comp=Z,72nm,1.0s
AQU MLR MLR
comp=Z,5µm,19.0s
AQU L'Aquila 86.36 325 *e*P **P** 07 17 00.4 +0.5
comp=Z,72nm,1.0s
AQU LR LR
comp=Z,5µm,19.0s
R38A Fenwick Farm, 86.36 42 P **P** 07 16 59.5 -0.4
baz=320
O41A Passleys Farm, 86.37 38 P **P** 07 16 60.0 +0.1
baz=322
IMMV Iera Moni Meta 86.43 314 P **P** 07 17 00.3 0.0
LPL La Plagne 86.46 331 *e*P **P** 07 17 00.4 -0.1
LPL pmax pmax
comp=Z,61nm,1.1s
LPG La Plagne 86.47 331 *e*P **P** 07 17 00.5 -0.1
LPG pmax pmax
comp=Z,81nm,1.1s
GRR Gorron 86.52 337 *e*P **P** 07 17 00.4 -0.1
GRR pmax pmax
comp=Z,165nm,1.3s
PYL PYLOS 86.57 317 P **P** 07 16 59.9 -1.0
PYL PYLOS 86.57 317 P **P** 07 16 59.9 -1.0
AVF Avril sur Loir 86.57 334 *e*P **P** 07 17 00.6 -0.1
AVF pmax pmax
comp=Z,140nm,1.0s
P41A Barry, Barry 86.63 39 P **P** 07 17 01.6 +0.5
baz=321
T37A Cheneyville 18 86.64 43 P **P** 07 17 01.8 +0.6
baz=319
Q40A Laux Farm, Aux 86.66 40 P **P** 07 17 01.9 +0.6
baz=321,SNR=6.9
R39A Chumby, Stover 86.70 41 P **P** 07 17 01.7 +0.1
baz=320,SNR=8.0
HDIL Hopedale 86.77 37 P **P** 07 17 02.1 +0.2
baz=322
HDIL Hopedale 86.77 37 *e*P **P** 07 17 02.5 +0.6
comp=Z,54nm,1.1s
HDIL LR LR
comp=Z,1µm,20.0s
S38A Stockton 86.78 42 P **P** 07 17 01.7 -0.3
baz=320
BNI Bardonecchia 86.87 331 *e*P **P** 07 17 02.5 0.0
BNI pmax pmax
comp=Z,29nm,1.0s
BNI MLR MLR
comp=Z,4µm,20.0s
BNI Bardonecchia 86.87 331 *e*P **P** 07 17 02.5 0.0
comp=Z,29nm,1.0s
BNI LR LR
comp=Z,4µm,20.0s
GDM Grand'Maison 86.95 331 ⇑ *e*P **P** 07 17 03.3 +0.4
O43A Sugar Creek Fa 86.98 37 P **P** 07 17 03.3 +0.5
baz=322
T38A Diamond 87.03 42 P **P** 07 17 03.5 +0.3
baz=320,SNR=11
S39A Bolivar 87.04 41 P **P** 07 17 03.2 0.0
baz=320,SNR=10
P42A Winchester 87.04 38 P **P** 07 17 03.6 +0.5
baz=322,SNR=5.2
GRN Grenoble 87.06 331 ⇑ *e*P **P** 07 17 04.1 +0.8
W35A Tecumseh 87.07 45 P **P** 07 17 04.2 +0.7
baz=318
U37A Salina 87.08 43 P **P** 07 17 04.0 +0.6
baz=319
TUL1 Leonard 87.09 44 P **P** 07 17 03.4 -0.1
baz=319
V36A Jenks 87.10 44 P **P** 07 17 03.9 +0.3
baz=319
Q41A Truxton 87.11 39 P **P** 07 17 04.0 +0.5
baz=321,SNR=5.7
R40A Maddies Statio 87.11 40 P **P** 07 17 03.8 +0.2
baz=321,SNR=7.5
CUC Castrocucco 87.14 322 *e*P **P** 07 17 02.6 -1.1
comp=Z,18nm,1.1s
CUC LR LR
comp=Z,3µm,22.0s
PLDF La Plantade 87.19 333 *e*P **P** 07 17 04.9 +1.0
AGO Saint Agoulin 87.29 333 ⇑ *e*P **P** 07 17 05.6 +1.3
TXAR Lajitas Array 87.31 53 P **P** 07 17 05.4 +0.6
comp=Z,2.3nm,0.8s,baz=291,slow=3.6,SNR=28
TXAR LR LR 07 50 57.1
comp=Z,543nm,21.6s,baz=0.0,slow=32
ABTX Abilene, Hawle 87.37 49 P **P** 07 17 05.6 +0.7
baz=317
ABTX Abilene, Hawle 87.37 49 *e*P **P** 07 17 05.7 +0.8
comp=Z,26nm,1.2s
P43A Skaggs, Pawnee 87.39 38 P **P** 07 17 05.0 +0.1
baz=322
W36A Wetumka 87.43 45 P **P** 07 17 05.3 +0.2
baz=319
U38A Gravette 87.44 43 P **P** 07 17 05.4 +0.2
baz=320
V37A Hulbert 87.46 44 P **P** 07 17 06.0 +0.7
baz=319
SSB Saint Sauveur 87.46 332 *e*P **P** 07 17 05.6 +0.4
SSB pmax pmax
comp=Z,38nm,1.3s
SSB MLR MLR
comp=Z,2µm,20.0s
SSB Saint Sauveur 87.46 332 *e*P **P** 07 17 05.6 +0.4
comp=Z,38nm,1.3s
SSB LR LR
comp=Z,2µm,20.0s
Q42A Golden Eagle 87.48 39 P **P** 07 17 06.2 +0.9
baz=322
T39A Clever 87.52 42 P **P** 07 17 05.9 +0.3
baz=320
S40A Lebanon 87.52 41 P **P** 07 17 05.8 +0.3
baz=321,SNR=9.3
R41A Rosebud 87.54 40 P **P** 07 17 06.0 +0.4
baz=321,SNR=8.9
PYM Petit Puy Mans 87.60 333 ⇑ *e*P **P** 07 17 06.9 +1.0
QUIF Quistinic 87.63 338 *e*P **P** 07 17 05.9 +0.1
QUIF pmax pmax
comp=Z,38nm,1.2s
VIVF Saint-Julien-l 87.78 332 *e*P **P** 07 17 06.6 -0.1
VIVF pmax pmax
comp=Z,75nm,1.4s
OG26 St.-Nazaire-De 87.79 331 *e*P **P** 07 17 07.4 +0.6
X36A Centrahoma 87.79 45 P **P** 07 17 07.4 +0.5
baz=319
R42A Luebbering 87.84 40 P **P** 07 17 07.7 +0.7
baz=322
AAM Ann Arbor 87.85 33 PFAKE 07 17 20.0 +13
AAM LR LR
comp=Z,2µm,19.0s
T40A Mansfield 87.86 41 P **P** 07 17 07.2 0.0
baz=321,SNR=5.1
V38A Canehill 87.86 43 P **P** 07 17 06.3 -1.0
baz=320
Y35A Marietta 87.91 46 P **P** 07 17 08.0 +0.5
baz=318
S41A Jillco Farms, 87.91 41 P **P** 07 17 07.6 +0.2
baz=321,SNR=7.2
SFIN Lafayette 87.92 36 P **P** 07 17 07.8 +0.4
baz=324
SFIN Lafayette 87.92 36 *e*P **P** 07 17 08.2 +0.8
comp=Z,13nm,0.8s
P44A Sand Creek, Wi 87.95 37 P **P** 07 17 07.6 +0.1
baz=323,SNR=5.5
U39A Green Forest 87.95 42 P **P** 07 17 08.1 +0.5
baz=320,SNR=10
LBL Lubilhac 87.96 333 *e*P **P** 07 17 08.8 +1.2
LMQ La Malbaie 88.00 22 *e*P **P** 07 17 08.6 +0.9
Q44A Meyer Farm, Va 88.21 38 P **P** 07 17 09.3 +0.6
baz=323
233A Rising Star 88.24 49 P **P** 07 17 10.0 +0.8
baz=317
S42A Caledonia 88.24 40 P **P** 07 17 09.6 +0.6
baz=322,SNR=12
R43A Red Bud 88.27 39 P **P** 07 17 09.4 +0.3
baz=322
V39A Pettigrew 88.28 43 P **P** 07 17 09.7 +0.4
baz=320,SNR=7.9
U40A Yellville 88.30 42 P **P** 07 17 09.9 +0.6
baz=320,SNR=15
X37A Clayton 88.31 45 P **P** 07 17 09.5 +0.1
baz=319
T41A Mountain View 88.33 41 P **P** 07 17 09.6 +0.2
baz=321,SNR=6.2
Y36A Durant 88.33 46 P **P** 07 17 09.8 +0.4
baz=319
W38A Poteau 88.41 44 P **P** 07 17 10.6 +0.9
baz=320
CEL Celeste 88.47 321 *e*P **P** 07 17 09.5 -0.7
comp=Z,22nm,0.9s
CEL *e*PP **PP** 07 20 39.0 +1.6
CEL LR LR
comp=Z,2µm,21.0s
X38A Whitesboro 88.54 44 P **P** 07 17 11.2 +0.7
baz=319
CAF Calviac 88.64 334 *e*P **P** 07 17 11.3 +0.5
CAF pmax pmax
comp=Z,113nm,1.4s
T42A Van Buren 88.67 41 P **P** 07 17 11.1 +0.1
baz=322
333A Richland Sprin 88.70 49 P **P** 07 17 11.8 +0.5
baz=317,SNR=9.5
R44A Waltonville 88.70 39 P **P** 07 17 11.7 +0.6
baz=323
W39A Magazine 88.70 43 P **P** 07 17 11.7 +0.5
baz=320
Z36A Blue Ridge 88.72 46 P **P** 07 17 11.9 +0.6
baz=319
V40A Witts Springs 88.74 42 P **P** 07 17 11.7 +0.3
baz=320
S43A Fulton Ridge, 88.75 40 P **P** 07 17 11.8 +0.4
baz=322
U41A Viola 88.79 41 P **P** 07 17 11.8 +0.2
baz=321,SNR=5.3
TBI Tubuai 88.81 122 *e*S **S** 07 27 54.8 -2.7
comp=Z,849nm,26.8s
TBI Tubuai 88.81 122 *e*LR LR 07 45 13.8
comp=Z,2µm,26.0s,baz=317
TBI Tubuai 88.81 122 *e*T T 08 55 15.9
comp=Z,42nm,0.3s
JCT Junction City 88.83 50 P **P** 07 17 12.5 +0.6
baz=317
JCT Junction City 88.83 50 *e*P **P** 07 17 12.2 +0.3
JCT pmax pmax
comp=Z,14nm,1.0s
JCT MLR MLR
comp=Z,1µm,22.0s
JCT Junction City 88.83 50 *e*P **P** 07 17 12.2 +0.3
comp=Z,14nm,1.0s
JCT LR LR

comp=Z,1µm,22.0s
T43A Greenville 89.03 40 P **P** 07 17 13.3 +0.6
baz=322,SNR=5.9
X39A Fountain Ranch 89.05 44 P **P** 07 17 13.6 +0.8
baz=320
S44A Carbondale 89.06 39 P **P** 07 17 13.6 +0.8
baz=323,SNR=7.4
W40A Ferguson Farm, 89.08 43 P **P** 07 17 13.7 +0.7
baz=320
WHTX Lake Whitney, 89.09 48 P **P** 07 17 13.3 +0.3
baz=318
WHTX Lake Whitney, 89.09 48 P **P** 07 17 13.7 +0.7
V41A Mountainview 89.10 42 P **P** 07 17 13.4 +0.3
baz=321,SNR=7.4
334A Lometa 89.12 49 P **P** 07 17 13.6 +0.3
baz=318
U42A Revenden 89.13 41 P **P** 07 17 13.2 +0.1
baz=321
Y38A Idabel 89.16 45 P **P** 07 17 13.6 +0.3
baz=320
LONY Lake Ozonia 89.29 26 PFAKE 07 17 30.0 +16
LONY LR LR
comp=Z,2µm,19.0s
MIAR Mount Ida 89.31 44 P **P** 07 17 15.1 +1.0
baz=320,SNR=8.2
MIAR Mount Ida 89.31 44 *e*P **P** 07 17 14.9 +0.9
MIAR pmax pmax
comp=Z,20nm,0.9s
MIAR MLR MLR
comp=Z,2µm,19.0s
MIAR Mount Ida 89.31 44 *e*P **P** 07 17 14.9 +0.9
comp=Z,20nm,0.9s
MIAR LR LR
comp=Z,2µm,19.0s
T44A Benton 89.37 40 P **P** 07 17 15.2 +0.9
baz=322
S45A Carrier Mills 89.39 39 P **P** 07 17 15.0 +0.6
baz=323
V42A Cord 89.47 41 P **P** 07 17 15.2 +0.5
baz=321
434A Burnet 89.49 49 P **P** 07 17 15.5 +0.5
baz=318
Y39A Lockesburg 89.49 44 P **P** 07 17 15.1 +0.2
baz=320
W41B Gary Mavity, V 89.52 42 P **P** 07 17 15.5 +0.5
baz=321,SNR=5.1
U43A Rector 89.53 41 P **P** 07 17 15.9 +0.8
baz=322,SNR=5.0
X40A Basin Creek Fa 89.75 43 P **P** 07 17 17.0 +0.9
baz=320
ACSO Alum Creek Sta 89.85 34 *e*P **P** 07 17 17.6 +1.1
ACSO LR LR
comp=Z,2,27nm,0.8s
comp=Z,1µm,20.0s
Y40A Okolona 89.87 44 P **P** 07 17 17.6 +0.9
baz=320
X41A Kaden, Bauxite 89.91 43 P **P** 07 17 17.8 +1.0
baz=321
534A Blanco 89.94 50 P **P** 07 17 17.5 +0.3
baz=318,SNR=6.4
633A Saathoff Ranch 89.95 51 P **P** 07 17 17.6 +0.5
baz=317
WCI Wyandotte Cave 90.03 37 *e*P **P** 07 17 17.8 +0.4
WCI pmax pmax
comp=Z,86nm,0.9s
WCI Wyandotte Cave 90.03 37 *e*P **P** 07 17 17.8 +0.4
comp=Z,86nm,0.9s
U44B Burton Farm, H 90.08 40 P **P** 07 17 18.5 +0.9
baz=322
M54A Oil Creek Stat 90.13 31 P **P** 07 17 18.5 +0.7
baz=329
CLTB Caltabellotta 90.29 322 PFAKE 07 17 30.0 +11
CLTB LR LR
comp=Z,1µm,19.0s
832A Faith Ranch, C 90.32 52 P **P** 07 17 19.5 +0.6
baz=317
Y41A Eaglette Beard 90.33 43 P **P** 07 17 19.8 +1.0
baz=321
PKME Peaks-Kenny Pk 90.38 22 PFAKE 07 17 30.0 +11
PKME LR LR
comp=Z,2µm,19.0s
Z40A Long Farm, Mag 90.39 44 P **P** 07 17 19.4 +0.3
baz=320
VSL Villasalto 90.45 326 *e*P **P** 07 17 19.1 -0.2
comp=Z,30nm,1.4s
VSL *e*PP **PP** 07 20 54.9 +1.9
VSL LR LR
comp=Z,2µm,20.0s
N54A Moraine State 90.47 31 P **P** 07 17 20.1 +0.7
baz=328
Y42A Garnett, Star 90.80 43 P **P** 07 17 21.8 +0.8
baz=321
NATX Nacogdoches 90.83 46 PFAKE 07 17 30.0 +8.8
NATX LR LR
comp=Z,1µm,20.0s
BINY Binghamton 90.93 28 PFAKE 07 17 30.0 +8.5
BINY LR LR
comp=Z,1µm,20.0s
WDD Wied Dalam 91.06 321 PFAKE 07 17 30.0 +7.8
WDD LR LR
comp=Z,2µm,19.0s
Z42A Norrel Spur, H 91.15 43 P **P** 07 17 24.2 +1.5
baz=321
636A Smothers Creek 91.18 49 P **P** 07 17 24.6 +1.7
baz=318
MSEY Mahe Island 91.20 265 PFAKE 07 17 30.0 +6.8
MSEY LR LR
comp=Z,2µm,21.0s
SSPA Standing Stone 91.57 30 *e*P **P** 07 17 25.6 +1.2
comp=Z,30nm,0.8s
034A Hebbronville 91.99 52 P **P** 07 17 28.2 +1.5
baz=317
KVTX Kingsville 92.11 51 PFAKE 07 17 40.0 +13
KVTX LR LR
comp=Z,918nm,19.0s
N59A State Game Lan 92.12 28 P **P** 07 17 27.5 +0.4
baz=331
Y46A Houston 92.27 41 P **P** 07 17 28.0 +0.2
baz=323
BLA Blacksburg 93.47 33 PFAKE 07 17 50.0 +17
BLA LR LR
comp=Z,2µm,21.0s
KEST Kesra 93.58 324 P **P** 07 17 34.0 +0.1
comp=Z,11nm,1.1s,baz=196,slow=2.1,SNR=7.9
KEST PP **PP** 07 21 20.4 +2.5
comp=Z,5.1nm,1.0s,baz=304,slow=4.5,SNR=5.0
KEST LR LR 08 04 27.7
comp=Z,4µm,19.0s,baz=345,slow=38
CMAH Djebel Manchou 93.69 326 P **PP** 07 21 14.4 -4.3
CBN Corbin Frederi 93.87 31 PFAKE 07 17 50.0 +15
CBN LR LR
comp=Z,1µm,20.0s
DFRA Djebel Bou Aff 94.42 327 P PP 07 21 16.3 -8.1
GOGA Godfrey 95.28 38 PFAKE 07 17 50.0 +8.3
GOGA LR LR
comp=Z,1µm,19.0s
ESDC Sonseca Array 95.34 335 P **P** 07 17 41.9 0.0
comp=Z,3.0nm,0.7s,baz=21,slow=4.2,SNR=16
ESDC PP PP 07 21 14.3 -17
comp=Z,3.2nm,0.9s,baz=22,slow=6.6,SNR=5.3
ESDC LR LR 08 06 14.0
comp=Z,3µm,18.9s,baz=25,slow=39
BRAL Brewton 95.35 41 PFAKE 07 17 50.0 +8.0
BRAL LR LR
comp=Z,831nm,19.0s
PAB San Pablo 95.58 335 PFAKE 07 17 50.0 +7.0
PAB LR LR
comp=Z,4µm,20.0s
MTE Manteigas 95.77 338 PFAKE 07 18 00.0 +16
MTE LR LR
comp=Z,2µm,20.0s
CNNC Cliffs of the 96.22 33 PFAKE 07 18 00.0 +14
CNNC LR LR
comp=Z,1µm,19.0s
NHSC New Hope 97.04 35 PFAKE 07 18 00.0 +10
NHSC LR LR
comp=Z,2µm,21.0s
RKT Rikitea 98.56 113 *e*SKSac **SKSac** 07 28 32.0 -0.9
comp=Z,480nm,27.2s
RKT *e*SP **SP** 07 30 46.0 -3.0
comp=Z,484nm,30.2s
RKT *e*SS **SS** 07 36 10.1 +0.3
comp=Z,603nm,25.8s
RKT Rikitea 98.56 113 *e*LR LR 07 49 46.7
comp=Z,2µm,22.2s,baz=306
CMLA Cha da Macela 102.05 351 PFAKE 07 18 20.0 +8.0
CMLA LR LR
comp=Z,984nm,22.0s
KMBO Kilima Mbogo 102.92 279 Pdiff **Pdif** 07 18 17.3 +0.8
comp=Z,1.6nm,0.4s,baz=4.9,slow=7.5,SNR=6.5
KMBO PP **PP** 07 22 29.0 -1.8
comp=Z,1.0nm,0.3s,baz=32,slow=6.1,SNR=3.7
KMBO Kilima Mbogo 102.92 279*c i*P **Pdif** 07 18 17.2 +0.7
KMBO *i* 07 22 36.0
KMBO pmax pmax
comp=Z,2.0nm,0.4s
KMBO pmax pmax
comp=Z,3.0nm,0.8s
KMBO Kilima Mbogo 102.92 279 *e*Pdif **Pdif** 07 18 16.3 -0.2
comp=Z,26nm,1.7s
KMBO PP **PP** 07 22 29.0 -1.8
KMBO LR LR
comp=Z,1µm,22.0s
PTCN Pitcairn Islan 103.25 112 PFAKE 07 18 30.0 +13
PTCN LR LR
comp=Z,1µm,19.0s
TEIG Tepich 103.35 49 PFAKE 07 18 30.0 +12
TEIG LR LR
comp=Z,78nm,21.0s
BBSR BB Station 103.62 24 PFAKE 07 18 30.0 +11
BBSR LR LR
comp=Z,859nm,20.0s
TAM Tamanrasset 106.21 320 *e*PKPdf **PKiKP** 07 22 43.0 +0.5
TAM LR LR
comp=Z,2µm,20.0s
ABPO Ambohimpanom 106.40 259 PFAKE 07 22 50.0
ABPO LR LR
comp=Z,458nm,20.0s
GTBY Guantanamo Bay 110.61 39 PFAKE 07 23 00.0
GTBY LR LR
comp=Z,598nm,20.0s
MTDJ Mount Denham 110.86 42 PFAKE 07 23 00.0
MTDJ LR LR
comp=Z,779nm,22.0s
GRTK Grand Turk 111.05 34 PFAKE 07 23 00.0
GRTK LR LR
comp=Z,1µm,21.0s
JTS JuntasAbangare 113.09 53 PFAKE 07 23 10.0
JTS LR LR
comp=Z,55nm,20.0s
SDDR Presa de Saban 113.21 36 PFAKE 07 23 10.0
SDDR LR LR
comp=Z,1µm,19.0s
SJG San Juan 116.16 31 PFAKE 07 23 10.0 +8.8
SJG LR LR
comp=Z,474nm,20.0s
TORD Torodi Ar. Bea 116.25 317 PKP **PKPdf** 07 23 00.0 -1.5
comp=Z,2.0nm,1.0s,baz=16,slow=1.9,SNR=6.4
TORD PP **PP** 07 24 03.5 -2.8
comp=Z,24nm,1.1s,baz=30,slow=6.4,SNR=16
TORD PKKPab **PKKPab** 07 33 38.9 +1.5
comp=Z,0.8nm,0.8s,baz=238,slow=1.2,SNR=3.5
BCIP Isla Barro Col 117.04 49 PFAKE 07 23 20.0 +17
BCIP LR LR
comp=Z,371nm,20.0s
VNDA Vanda 117.68 175 PKP **PKPdf** 07 23 01.6 -0.7
comp=Z,0.9nm,1.0s,baz=295,slow=1.5,SNR=2.7
PAYG Puerto Ayora 117.75 65 PFAKE 07 23 20.0 +16
PAYG LR LR
comp=Z,902nm,22.0s
ANWB Willy Bob 118.21 27 PFAKE 07 23 20.0 +15
ANWB LR LR
comp=Z,605nm,20.0s
SBA Scott Base 118.33 174 PFAKE 07 23 20.0 +16
SBA LR LR
comp=Z,286nm,19.0s
LSZ Lusaka 118.75 274 PFAKE 07 23 20.0 +14
LSZ LR LR
comp=Z,1µm,19.0s
FDF Fort de France 121.14 28 PFAKE 07 23 20.0 +9.0
FDF LR LR
comp=Z,801nm,22.0s
SDV Santo Domingo 122.27 41 PFAKE 07 23 30.0 +17
SDV LR LR
comp=Z,927nm,22.0s
GIRC Giron, Santand 122.47 44 *e*P **PKPdf** 07 23 13.4 -0.3
MAW Mawson 122.69 207 PKP **PKPdf** 07 23 11.8 -0.3
comp=Z,2.8nm,0.8s,baz=22,slow=4.0,SNR=13
GUYC Guyana, Colomb 122.79 48 *e*P **PKPdf** 07 23 14.0 -0.7
BBGH Gun Hill 123.18 27 PFAKE 07 23 30.0 +15
BBGH LR LR
comp=Z,1µm,20.0s
GRGR Grenville 123.35 29 PFAKE 07 23 30.0 +15
GRGR LR LR
comp=Z,761nm,22.0s
RUSC La Rusia 123.52 45 *e*P **PKPdf** 07 23 16.7 +0.6
ROSC El Rosal 123.71 47 PKP **PKPdf** 07 23 17.1 +0.8
comp=Z,1.8nm,0.3s,baz=69,slow=13,SNR=3.1
SACV Santiago Islan 124.08 345 PFAKE 07 23 30.0 +13
SACV LR LR
comp=Z,308nm,19.0s
CHIC Chingaza 124.21 46 *e*P **PKPdf** 07 23 17.3 -0.1
VILC Villavicencio, 124.66 47 *e*P **PKPdf** 07 23 15.1 -2.8
OTAV Otavalo 124.94 54 PFAKE 07 23 30.0 +11
OTAV LR LR
comp=Z,443nm,21.0s
DBIC Dimbokro 125.10 320 PKP **PKPdf** 07 23 18.2 -0.3
comp=Z,6.9nm,0.9s,baz=189,slow=6.2,SNR=3.8
DBIC PP **PP** 07 25 04.5 -2.2
comp=Z,10nm,0.9s,baz=50,slow=4.0,SNR=4.8
TIC Toumodi 125.20 320 *e*P **PP** 07 25 06.1 -1.4
KIC Kosan Boka 125.31 320 *e*P **PP** 07 25 05.2 -3.0
comp=Z,196nm,1.7s
LIC Lamto 125.56 320 *e*P **PP** 07 25 07.0 -2.9
comp=Z,138nm,1.6s
GUVC San Jose del G 126.54 47 *e*P **PKPdf** 07 23 18.9 -2.4
BOSA Boshof 128.39 262 PKP **PKPdf** 07 23 25.5 +1.0
comp=Z,16nm,1.2s,baz=138,slow=22,SNR=6.1
QSPA South Pole Qui 129.60 180 *e*PKPdf **PKPdf** 07 23 24.8 -0.7
QSPA LR LR
comp=Z,661nm,22.0s
SYO Syowa Base 131.35 208 *e*P **Pdif** 07 20 22.2 +1.0
SUR Sutherland 133.54 260 PFAKE 07 23 50.0 +16
SUR LR LR
comp=Z,2µm,20.0s
NNA Nana 135.11 63 *i* PKIKP **PKPdf** 07 23 40.1 +2.6
NNA Nana 135.11 63 PFAKE 07 23 50.0 +13
NNA LR LR
comp=Z,511nm,20.0s
NVL N'lazarevskaya 140.43 203 *e*PKHKP PKPpre 07 23 40.6
SAML Samuel 141.26 45 *e*PKPdf **PKPdf** 07 23 45.7 -3.0
SAML LR LR
comp=Z,877nm,20.0s
ASCN Ascension 142.38 322 PFAKE 07 24 00.0 +9.2
ASCN LR LR
comp=Z,2µm,21.0s
SNAA Sanae 143.86 197 PKP PKPbc 07 23 49.4 -0.2
SNAA Sanae 143.86 197*c i* PKHKP PKPbc 07 23 48.6 -0.9
SNAA Sanae 143.86 197 *e*PKPdf PKPbc 07 23 49.2 -0.3
LPAZ La Paz 144.04 58 PKP PKPbc 07 23 53.0 +0.7
comp=Z,4.0nm,0.8s,baz=346,slow=2.4,SNR=10
VNA2 Neumayer--Watz 145.42 197 PKP **PKPdf** 07 23 54.3 -0.1
baz=81,slow=1.1
VNA3 Neumayer Olymp 145.66 195 PKP **PKPdf** 07 23 54.9 +0.1
VNA1 Neumayer--Stat 145.82 196 PKP **PKPab** 07 23 56.0 -0.1
RCBR Riachuelo 146.10 358 PFAKE 07 24 10.0 +11
RCBR LR LR
comp=Z,750nm,20.0s
LVC Limon Verde 147.84 67 *e*PKPdf **PKPdf** 07 24 01.1 +0.7
LVC *e*PKPbc **PKiKP** 07 24 05.0 -0.3
LVC LR LR
comp=Z,857nm,19.0s
LCO Las Campanas 150.19 79 *e*PKPbc **PKPbc** 07 24 10.1 +1.1
LCO *e*PKPab **PKPab** 07 24 16.8 +1.7
LCO LR LR
comp=Z,2µm,19.0s
PLCA Paso Flores 154.34 103 PKPbc **PKPbc** 07 24 18.6 +0.9
comp=Z,3.9nm,1.0s,baz=289,slow=4.4,SNR=5.5
TRQA Tornquist 160.37 93 PFAKE 07 24 30.0 +13
TRQA LR LR
comp=Z,1µm,22.0s
SPB Sao Paulo 161.46 32 PFAKE 07 24 30.0 +11
SPB LR LR
comp=Z,920nm,20.0s
HOPE Hope Point 165.57 181 PFAKE 07 24 30.0 +8.6
HOPE LR LR
comp=Z,633nm,19.0s

*CSEM **18** 07:05:19.5±0.2, 46°.04N×6°.45E, h5km, ML1.8/10, Error ellipse: s-maj=4.4km s-min=3.2km az=91.0*
*LDG **18** 07:05:19.8±0.1, 46°.04N×6°.49E, h2km, Md2.0/3, Ml2.0/7,*

Error ellipse: s-maj=2.0km s-min=1.6km az=88.0
ZUR 18 07:05:20.1, 46°.04N×6°.51E, h5km±5km, ML1.5/5, 4C-4D, Switzerland

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
SALAN	**Lac Salanfe**	**0.34**	**71**	↑ *i*	Pg	Pg	07 05 26.6	-0.2
SALAN				*e*	Sg	Sg	07 05 31.8	+0.4
SALAN	**Lac Salanfe**	**0.34**	**71**	↑ *i*	Pg	Pg	07 05 26.6	-0.2
SALAN				*e*	Sg	Sg	07 05 31.8	+0.4
RSL	**Roselend**	**0.36**	**167**	↑ *i*	Pg	Pg	07 05 26.9	-0.1
RSL	**Roselend**	**0.36**	**167**	↑ *i*	Pg	Pg	07 05 26.9	-0.1
MRGE	**Morge** 47nm,0.5s	**0.47**	**124**	↓ *i*	Pg	Pg	07 05 29.3	+0.1
MRGE	**Morge** 47nm,0.5s	**0.47**	**124**	↓ *i*	Pg	Pg	07 05 29.3	+0.1
GIMEL	**St. Georges /** 120nm,0.5s	**0.53**	**342**	*e*	Pg	Pg	07 05 30.7	+0.4
GIMEL	**St. Georges /** 120nm,0.5s	**0.53**	**342**	*e*	Pg	Pg	07 05 30.7	+0.4
LPL	**La Plagne** 3.0nm,0.2s	**0.54**	**163**	*e*	Pg	Pg	07 05 28.6	-1.9
LPL				*e*	Sg	Sg	07 05 37.7	+0.1
LPG	**La Plagne** 3.5nm,0.2s	**0.56**	**162**	*e*	Pg	Pg	07 05 29.2	-1.8
LPG				*e*	Sg	Sg	07 05 38.8	+0.5
DIX	**Grande Dixence** 13nm,0.3s	**0.63**	**86**	↓ *i*	Pg	Pg	07 05 32.0	-0.2
DIX				*i*	Sg	Sg	07 05 32.2	-8.2
DIX	**Grande Dixence** 13nm,0.3s	**0.63**	**86**	↓ *i*	Pg	Pg	07 05 32.0	-0.2
CABF	**La Chapelle**	**0.65**	**333**	*e*	Pg	Pg	07 05 32.1	-0.4
CABF	**La Chapelle** 5.2nm,0.3s	**0.65**	**333**	*e*	Pn	Pb	07 05 34.3	+0.4
CABF				*e*	Sg	Sg	07 05 38.8	-2.1
CABF	**La Chapelle** 2.6nm,0.3s	**0.65**	**333**	*e*	Pg	Pg	07 05 32.1	-0.4
CABF	**La Chapelle**	**0.65**	**333**	*e*	Pn	Pb	07 05 34.3	+0.4
CABF				*e*	Sg	Sg	07 05 38.8	-2.1
LAUCH	**Lauchernalp** 37nm,0.2s	**0.96**	**66**	*e*	Pg	Pn	07 05 40.6	+0.2
LAUCH	**Lauchernalp** 37nm,0.2s	**0.96**	**66**	*e*	Pg	Pn	07 05 40.6	+0.2
ORIF	**Oris-en-Rattie**	**1.20**	**202**	*e*	Pg	Pg	07 05 41.9	-1.2
ORIF	**Oris-en-Rattie**	**1.20**	**202**	*e*	P	Pn	07 05 43.5	-0.1
ORIF	0.9nm,0.2s			*e*	Sg	Sg	07 05 57.7	-1.0
ORIF				*e*	S	Sn	07 06 00.7	+0.4
ORIF	**Oris-en-Rattie**	**1.20**	**202**	*e*	Pg	Pg	07 05 41.9	-1.2
ORIF	**Oris-en-Rattie**	**1.20**	**202**	*e*	P	Pn	07 05 43.5	-0.1
ORIF	0.4nm,0.2s			*e*	Sg	Sg	07 05 57.7	-1.0
ORIF				*e*	S	Sn	07 06 00.7	+0.4
VIVF	**Saint-Julien-l**	**1.75**	**228**	*e*	Pg	Pb	07 05 52.4	-0.3
VIVF	1.0nm,0.2s			*e*	Sn	Sn	07 06 12.1	-1.7
VIVF				*e*	Sg	Sb	07 06 14.8	-0.1
VIVF	**Saint-Julien-l**	**1.75**	**228**	*e*	Pg	Pb	07 05 52.4	-0.3
VIVF	3.0nm,0.2s			*e*	Sn	Sn	07 06 12.1	-1.7
VIVF	0.5nm,0.2s			*e*	Sg	Sb	07 06 14.8	-0.1
HINF	**Hinteralfeld**	**1.80**	**7**	*e*	Pg	Pb	07 05 53.3	-0.2
HINF	1.5nm,0.2s			*e*	Sg	Sb	07 06 16.3	-0.1
HINF	**Hinteralfeld**	**1.80**	**7**	*e*	Pg	Pb	07 05 53.3	-0.2
HINF	3.1nm,0.3s			*e*	Sg	Sb	07 06 16.3	-0.1
SMF	**Signal de Mont**	**1.94**	**289**	*e*	Pg	Pb	07 05 55.3	-0.7
SMF	1.5nm,0.3s			*e*	Sg	Sb	07 06 20.1	-0.5
SMF	**Signal de Mont**	**1.94**	**289**	*e*	Pg	Pb	07 05 55.3	-0.7
SMF	1.8nm,0.2s			*e*	Sg	Sb	07 06 20.1	-0.5
HAU	**Haudompre**	**1.97**	**357**	*e*	Pg	Pb	07 05 56.3	-0.2
HAU	0.9nm,0.2s			*e*	Sg	Sb	07 06 21.6	+0.2
HAU	**Haudompre**	**1.97**	**357**	*e*	Pg	Pb	07 05 56.3	-0.2
HAU	1.9nm,0.2s			*e*	Sg	Sb	07 06 21.6	+0.2
FRF	**La Foret Royal**	**2.48**	**178**	*e*	Pg	Pg	07 06 06.7	-0.8
FRF	0.9nm,0.2s			*e*	Sg	Sg	07 06 39.0	-0.6
FRF	**La Foret Royal**	**2.48**	**178**	*e*	Pg	Pg	07 06 06.7	-0.8
FRF	1.0nm,0.2s			*e*	Sg	Sg	07 06 39.0	-0.6
	0.5nm,0.2s							

*CSEM **18** 07:35:22.5±0.2, 39°.12N×29°.10E, h19km±1km, MD2.1, Error ellipse: s-maj=19.5km s-min=2.6km az=138.0*
*ISK **18** 07:35:22.2, 39°.09N×29°.14E, h15km, MD2.1*
*DDA **18** 07:35:23.5, 39°.10N×29°.07E, h12km, Md2.6*
ISC 18 07:35:22.8±1.1, 39°.09N±0°.05×29°.12E±0°.05, h16km±7km, n9, σ0s61/18, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
SIMA	**Simav-Kutahya**	**0.11**	**269**	*e*	PG	**Pg**	**07 35 26.6**	**+0.2**
SIMA				*e*	SG	**Sg**	**07 35 28.6**	**-0.2**
SIMA	**Simav-Kutahya**	**0.11**	**269**	*e*	Pg	**Pg**	**07 35 26.6**	**+0.2**
SIMA				*e*	Sg	**Sg**	**07 35 28.6**	**-0.2**
DEMI	**Demirci**	**0.32**	**262**	*i*	P	**Pb**	**07 35 30.0**	**-0.1**
DEMI				*i*	S	**Sb**	**07 35 34.2**	**-0.8**
DEMI	**Demirci**	**0.32**	**262**		P	**Pb**	**07 35 30.0**	**-0.1**
DEMI					S	**Sb**	**07 35 34.2**	**-0.8**
TVSB	**Tavsanli**	**0.45**	**36**	*e*	PG	**Pg**	**07 35 31.6**	**-0.3**
TVSB				*e*	SG	**Sg**	**07 35 38.0**	**-0.1**
TVSB	**Tavsanli**	**0.45**	**36**	*e*	Pg	**Pg**	**07 35 31.6**	**-0.3**
TVSB				*e*	Sg	**Sg**	**07 35 38.0**	**-0.1**
KULA	**Kula-Manisa**	**0.67**	**212**	*e*	PG	**Pb**	**07 35 36.0**	**-0.2**
KULA				*e*	SG	**Sb**	**07 35 45.9**	**+0.6**
KULA	**Kula-Manisa**	**0.67**	**212**	*e*	Pg	**Pb**	**07 35 36.0**	**-0.2**
KULA				*e*	Sg	**Sb**	**07 35 45.9**	**+0.6**
IGD	**Bursa**	**1.18**	**3**	*i*	P	**Pg**	**07 35 45.8**	**+0.2**
IGD				*i*	S	**Sg**	**07 36 02.6**	**+1.6**

*ISCJB **18** 07:38:41.5±0.7, 6°.84N±0°.04×73°.09W±0°.05, h156km±6km, Error ellipse: s-maj=9.1km s-min=4.7km az=37.7*
*FUNV **18** 07:38:42.3, 6°.83N×73°.08W, h176km, MW2.5*
*RSNC **18** 07:38:43.9±1.1, 6°.79N×73°.11W, h145km±7km, ML2.6*
ISC 18 07:38:41.0±1.4, 6°.84N±0°.04×73°.07W±0°.05, h162km±8km, n19, σ1s29/32, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
BTLC	**Betulia, Santa**	**0.21**	**291**	*e*	P	**Pn**	**07 39 03.6**	**+0.5**
BTLC				*e*	S	**Sn**	**07 39 18.8**	**-1.1**
GIRC	**Giron, Santand**	**0.26**	**332**	*e*	P	**Pn**	**07 39 03.5**	**+0.4**
GIRC				*e*	S	**Sn**	**07 39 18.6**	**-1.5**
PAMC	**Pamplona, Colo**	**0.61**	**37**	*e*	P	**Pn**	**07 39 06.3**	**+1.3**
PAMC				*e*	S	**Sn**	**07 39 23.1**	**-0.1**
BRRC	**Barranca, Sant**	**0.69**	**292**	*e*	S	**Sn**	**07 39 22.7**	**-0.2**
RUSC	**La Rusia**	**0.95**	**181**	*e*	P	**Pn**	**07 39 07.2**	**+0.1**
RUSC				*e*	S	**Sn**	**07 39 25.5**	**-1.7**
CAPV	**Capacho**	**1.26**	**36**	*e*	P	**Pn**	**07 39 11.3**	**+1.8**
CAPV				*e*	S	**Sn**	**07 39 32.7**	**+1.3**
YOPC	**Yopal, Colombi**	**1.61**	**156**	*e*	P	**Pn**	**07 39 13.8**	**+0.9**
ZARC	**Zaragoza, Cauc**	**1.89**	**290**	*e*	P	**Pn**	**07 39 16.0**	**+0.3**
ZARC				*e*	S	**Sn**	**07 39 41.2**	**-1.1**
ZARC	comp=Z,58nm,0.6s			*i*			07 39 47.1	
NORC	**Norcasia**	**2.19**	**235**	*e*	P	**Pn**	**07 39 19.0**	**-0.2**
NORC				*e*	S	**Sn**	**07 39 47.3**	**-1.4**
CHIC	**Chingaza**	**2.30**	**197**	*e*	P	**Pn**	**07 39 21.6**	**+0.9**
CHIC				*e*	S	**Sn**	**07 39 50.9**	**-0.6**
CHIC	comp=Z,20nm,0.4s			*i*			07 40 00.3	
HELC	**Santa Helena**	**2.53**	**255**	*e*	P	**Pn**	**07 39 25.2**	**+1.7**
HELC	comp=Z,15nm,0.2s			*i*			07 40 04.0	
VIGV	**El Vigia**	**2.60**	**40**	*e*	P	**Pn**	**07 39 25.6**	**+1.5**
VIGV				*e*	S	**Sn**	**07 39 57.2**	**-0.2**
SOCV	**Socops**	**2.62**	**57**	*e*	P	**Pn**	**07 39 24.7**	**+0.5**
SOCV				*e*	S	**Sn**	**07 39 57.4**	**-0.3**
VILC	**Villavicencio,**	**2.78**	**193**	*e*	S	**Sn**	**07 40 00.7**	**-0.9**
VILC	comp=Z,11nm,0.5s			*i*			07 40 10.6	
GUYC	**Guyana, Colomb**	**2.81**	**235**	*e*	P	**Pn**	**07 39 28.9**	**+1.9**
GUYC	comp=Z,36nm,0.4s			*i*			07 40 10.9	
ELOV	**Elorza**	**3.56**	**87**	*e*	P	**Pn**	**07 39 36.7**	**+0.7**

PRAC	**Prado**	**3.60**	**210**	*e*P	**Pn**	**07 39 37.5**	**+1.0**
PRAC				*e*S	**Sn**	**07 40 19.2**	**-0.5**
VIRV	**Villa del Rosa**	**3.69**	**10**	*e*P	**Pn**	**07 39 38.7**	**+1.0**
VIRV				*e*S	**Sn**	**07 40 19.5**	**-2.3**
CURV	**Curarigua**	**4.40**	**44**	*e*P	**Pn**	**07 39 47.1**	**+0.2**
CURV				*e*S	**Sn**	**07 40 35.3**	**-3.1**

IDC ***18*** *07:50:02.9±1.2,38.89N×145.03E,h0km,mb3.7/4, mb1 3.8/5,mb1mx3.4/39,mbtmp3.6/5,ML3.1/1,Error ellipse: s-maj=66.4km s-min=23.1km az=125.0*

ISCJB ***18*** *07:50:04.8±0.9,39.22N±0.05×144.60E±0.06,h19km, mb3.7/4,Error ellipse: s-maj=9.1km s-min=5.2km az=139.3*

JMA ***18*** *07:50:07.9±0.1,39.12N×144.48E,h36km,M3.6*

ISC 18 07:50:05.7±1.1,39.21N±0.07×144.63E±0.08,h19km,n14, σ1913/22,mb3.7/4,Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
MIYJ	**Miyakonagasawa**	**2.21**	**280**	P		**Pn**	**07 50 42.0**	**+0.6**
MIYJ				S		**Sn**	**07 51 07.2**	**-1.0**
JTH	**Tanohata**	**2.26**	**290**	P		**Pn**	**07 50 43.2**	**+1.1**
OFUJ	**Ofunato**	**2.31**	**268**	P		**Pn**	**07 50 43.2**	**+0.5**
OFUJ				*e*S		**Sn**	**07 51 09.3**	**-1.3**
JOM	**Ohasama**	**2.60**	**277**	P		**Pn**	**07 50 47.9**	**+1.1**
JOM				S		**Sn**	**07 51 17.5**	**-0.4**
JMK	**Ichinoseki**	**2.67**	**266**	P		**Pn**	**07 50 48.4**	**+0.8**
JMK				*e*S		**Sn**	**07 51 18.5**	**-0.9**
JOU	**Okura**	**3.21**	**256**	P		**Pn**	**07 50 55.8**	**+0.6**
JOU				*e*S		**Sn**	**07 51 31.5**	**-1.4**
JNBK	**Urakawa-nobuka**	**3.38**	**336**	P		**Pn**	**07 50 58.2**	**+0.7**
JNBK				*e*S		**Sn**	**07 51 37.6**	**+0.5**
JCH	**Churui**	**3.54**	**345**	P		**Pn**	**07 50 59.4**	**-0.2**
JCH				*e*S		**Sn**	**07 51 40.1**	**-0.8**
JFT	**Otama**	**3.77**	**245**	S		**Sn**	**07 51 45.1**	**-1.7**
MJAR	**Matsushiro Arr**	**5.74**	**244**	Pn		**Pn**	**07 51 31.3**	**+1.4**
	0.6nm,0.3s,baz=53,slow=10,SNR=5.9							
MJAR				Sn		**Sn**	**07 52 37.3**	**+2.2**
	0.1nm,0.3s,baz=210,slow=10,SNR=2.2							
KDAK	**Kodiak Island**	**43.78**	**44**	P		**P**	**07 58 10.2**	**+0.4**
	4.4nm,1.1s,baz=280,slow=11,SNR=3.3							
ILAR	**Eielson Array**	**46.29**	**33**	P		**P**	**07 58 30.6**	**+0.9**
	0.4nm,0.6s,baz=263,slow=7.0,SNR=6.2							
INK	**Inuvik**	**51.29**	**28**	P		**P**	**07 59 08.5**	**+0.5**
	1.0nm,0.7s,baz=271,slow=7.2,SNR=3.5							
WRA	**Warramunga Arr**	**59.62**	**191**	P		**P**	**08 00 06.9**	**-1.6**
	0.4nm,0.8s,baz=14,slow=7.5,SNR=2.9							

SCB ***18*** *07:55:26.2±0.7,23.94S×67.13W,h174km,Ml4.5/2,Error ellipse: s-maj=17.1km s-min=9.9km az=35.0*

SJA ***18*** *07:55:28.6±0.9,24.01S×66.88W,h211km±11km,ML4.3, MW4.0*

IDC ***18*** *07:55:29.8±0.8,23.93S×66.73W,h188km±7km,mb4.2/20, mb1 4.3/25,mb1mx4.3/33,mbtmp4.7/25,MS3.9/1, Ms1 3.9/1,ms1mx3.1/24,Error ellipse: s-maj=11.0km s-min=8.5km az=76.0*

ISCJB ***18*** *07:55:29.2±0.3,23.97S±0.02×66.83W±0.04,h199km±2km, mb4.4/100,Error ellipse: s-maj=5.6km s-min=3.7km az=156.9*

NEIC ***18*** *07:55:29.6±0.4,23.98S×66.72W,h186km±4km,mb4.5/85, Error ellipse: s-maj=5.8km s-min=3.6km az=69.0*

GUC ***18*** *07:55:31.5±0.6,23.91S×67.64W,h250km±16km,ML5.3*

ISC 18 07:55:29.8±0.6,24.02S±0.04×66.92W±0.04,h191km±5km, n509,σ0997/543,mb4.4/100,6C-8D,Salta Province

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
AZAP	**Zapla**	**1.71**	**97**	*e*P		**Pn**	**07 56 05.9**	**+1.0**
AZAP				*e*S		**Sn**	**07 56 33.1**	**+1.0**
YJA	**Yavi**	**2.25**	**35**	*e*P		**Pn**	**07 56 11.6**	**+0.7**
YJA				IAML			07 56 14.2	
	comp=Z,288nm,0.5s							
ASTB	**Santa Barbara**	**2.26**	**89**	*e*P		**Pn**	**07 56 11.2**	**+0.5**
LVC	**Limon Verde**	**2.31**	**307**	P		**Pn**	**07 56 12.8**	**+1.4**
	comp=Z,24μm,0.3s,baz=136,slow=6.4,SNR=3942							
LVC				S		**Sn**	**07 56 45.2**	**+1.6**
	comp=Z,14μm,0.3s,baz=143,slow=20,SNR=28							
LVC	**Limon Verde**	**2.31**	**307**	*e*P		**Pn**	**07 56 12.7**	**+1.3**
LVC				*e*S		**Sn**	**07 56 44.2**	**+0.6**
LVC	**Limon Verde**	**2.31**	**307**	*e*Pn		**Pn**	**07 56 12.9**	**+1.4**
LVC				*e*Sn		**Sn**	**07 56 45.7**	**+2.0**
PB06	**IPOC Station P**	**2.77**	**298**	⇑*i*P		**Pn**	**07 56 17.6**	**+1.2**
PB06				*i* S		**Sn**	**07 56 52.4**	**-0.3**
PB06				IAML			07 56 56.8	
	comp=E,3μm,0.5s							
MOCB	**Mochara**	**3.00**	**24**	⇓*i*Pn		**Pn**	**07 56 20.7**	**+1.2**
MOCB				*e*Sn		**Sn**	**07 56 59.7**	**+1.4**
PB09	**IPOC Station P**	**3.08**	**316**	⇑*i*P		**Pn**	**07 56 21.5**	**+1.4**
PB09				*i* S		**Sn**	**07 56 59.8**	**+0.4**
PB09				IAML			07 57 00.9	
	comp=N,12μm,0.6s							
PB14	**IPOC Station P**	**3.23**	**259**	⇑*i*P		**Pn**	**07 56 22.6**	**+0.5**
PB14				*i* S		**Sn**	**07 57 01.3**	**-1.6**
PB14				IAML			07 57 05.5	
	comp=E,5μm,0.5s							
PB14	**IPOC Station P**	**3.23**	**259**	*e*P		**Pn**	**07 56 22.5**	**+0.3**
PB14				*e*S		**Sn**	**07 57 01.4**	**-1.5**
PB04	**IPOC Station P**	**3.41**	**299**	⇑*i*P		**Pn**	**07 56 24.5**	**+0.3**
PB04				*i* S		**Sn**	**07 57 04.6**	**-2.1**
PB04				IAML			07 57 10.1	
	comp=N,3μm,0.6s							
PB04	**IPOC Station P**	**3.41**	**299**	*e*Pn		**Pn**	**07 56 24.7**	**+0.5**
PB04				*e*Sn		**Sn**	**07 57 05.1**	**-1.5**
PB07	**IPOC Station P**	**3.56**	**309**	⇑*i*P		**Pn**	**07 56 26.5**	**+0.4**
PB07				*i* S		**Sn**	**07 57 08.3**	**-1.8**
PB07				IAML			07 57 10.1	
	comp=E,4μm,1.1s							
PB01	**IPOC Station P**	**3.80**	**321**	*e*Pn		**Pn**	**07 56 29.0**	**+0.1**
PB01				*e*Sn		**Sn**	**07 57 12.8**	**-2.3**
VCA	**Vinchina**	**4.83**	**194**	*e*P		**Pn**	**07 56 43.6**	**+1.6**
VCA				IAML			07 56 45.1	
	comp=Z,185nm,0.5s							
AGUA	**GUANDACOL**	**5.62**	**194**	*e*P		**Pn**	**07 56 52.7**	**+0.6**
LCO	**Las Campanas**	**6.01**	**213**	*e*Pn		**Pn**	**07 56 56.0**	**-1.4**
AVFE	**Valle Fertil**	**6.63**	**184**	*e*P		**Pn**	**07 57 04.0**	**-1.2**
AVFE				*e*S		**Sn**	**07 58 16.9**	**-3.8**
AVFE				IAML			07 58 21.2	
	comp=Z,162nm,0.4s							
BBOJ	**La Paz, Jacaqu**	**7.11**	**350**	⇓*i*Pn		**Pn**	**07 57 13.3**	**+1.3**
ACHE	**Chepes**	**7.12**	**178**	*e*P		**Pn**	**07 57 10.3**	**-1.3**
ACHE				*e*S		**Sn**	**07 58 27.2**	**-5.1**
BBOE	**La Paz, Chanca**	**7.24**	**352**	⇓*i*Pn		**Pn**	**07 57 15.0**	**+1.2**
BBOD	**La Paz, Gloria**	**7.51**	**348**	⇓*i*Pn		**Pn**	**07 57 17.9**	**+0.6**
BBOD				⇓*i*Sn		**Sn**	**07 58 40.4**	**-2.1**
	comp=Z,88nm,0.7s							
LPAZ	**La Paz**	**7.78**	**351**	P		**Pn**	**07 57 20.9**	**0.0**
	comp=Z,6.6nm,0.3s,baz=171,slow=10,SNR=93							
LPAZ				S		**Sn**	**07 58 47.1**	**-1.7**
	comp=Z,2.9nm,0.3s,baz=15,slow=20,SNR=8.3							
LPAZ	**La Paz**	**7.78**	**351**	⇓*i*Pn		**Pn**	**07 57 20.7**	**-0.2**
LPAZ				*e*Sn		**Sn**	**07 58 46.6**	**-2.2**
LPAZ	**La Paz**	**7.78**	**351**	*e*Pn		**Pn**	**07 57 20.9**	**0.0**
LPAZ				*e*Sn		**Sn**	**07 58 46.0**	**-2.8**
BBOB	**La Paz, Bander**	**7.92**	**352**	⇓*i*Pn		**Pn**	**07 57 22.3**	**-0.3**
BBOB				⇓*i*Sn		**Sn**	**07 58 48.8**	**-3.3**
	comp=Z,114nm,0.6s							
CPUP	**Villa Florida**	**8.99**	**107**	P		**Pn**	**07 57 33.9**	**-2.1**
	comp=Z,1.2nm,0.3s,baz=295,slow=12,SNR=48							
CPUP	**Villa Florida**	**8.99**	**107**	*e*Pn		**Pn**	**07 57 34.4**	**-1.6**
ROC1	**El Roble**	**9.62**	**201**	*e*Pn		**Pn**	**07 57 42.6**	**-1.8**
SIV	**San Ignacio**	**9.70**	**36**	P		**Pn**	**07 57 43.0**	**-2.4**
	comp=Z,15nm,0.3s,baz=227,slow=12,SNR=244							
SIV				S		Sn	07 59 19.7	-14
	baz=248,slow=17,SNR=3.0							
SIV	**San Ignacio**	**9.70**	**36**	*e*P		**Pn**	**07 57 42.9**	**-2.4**
GO05	**HualaæØ**	**11.78**	**201**	*e*Pn		**Pn**	**07 58 13.7**	**+1.6**
TRQA	**Tornquist**	**14.61**	**164**	*e*Pn		**Pn**	**07 58 45.3**	**-2.3**
NNA	**Nana**	**15.23**	**320**	P		**P**	**07 58 56.8**	**+0.8**
	comp=Z,1.8nm,0.3s,baz=167,slow=16,SNR=6.3							
NNA				S		**S**	**08 01 42.7**	**-2.7**
	comp=Z,1.0nm,0.3s,baz=180,slow=20,SNR=3.0							
NNA	**Nana**	**15.23**	**320**	*e*Pn		**P**	**07 58 56.6**	**+0.5**
	comp=Z,23nm,1.0s							
NNA				S		**S**	**08 01 42.7**	**-2.7**
SAML	**Samuel**	**15.41**	**14**	*e*Pn		**Pn**	**07 58 56.1**	**-1.4**
	comp=Z,18nm,0.7s							
PLCA	**Paso Flores**	**16.94**	**190**	P		**P**	**07 59 14.9**	**+0.3**
	comp=Z,3.1nm,0.3s,baz=30,slow=9.7,SNR=77							
PLCA				PcP		**PcP**	**08 03 50.4**	**0.0**
	comp=Z,0.2nm,0.3s,baz=328,slow=2.5,SNR=3.7							
PLCA				ScP		**ScP**	**08 07 08.1**	**+0.9**
	comp=Z,0.0nm,0.3s,baz=326,slow=1.7,SNR=5.2							
PLCA	**Paso Flores**	**16.94**	**190**	*e*P		**P**	**07 59 14.9**	**+0.3**
	comp=Z,31nm,0.7s							
PLCA				PcP		**PcP**	**08 03 50.4**	**0.0**
PLCA				ScP		**ScP**	**08 07 08.1**	**+0.9**
SPB	**Sao Paulo**	**17.84**	**93**	*e*P		**P**	**07 59 23.8**	**-0.8**
	comp=Z,70nm,0.7s							
ATAH	**Atahualpa**	**20.08**	**325**	P		**P**	**07 59 48.4**	**-0.9**
	comp=Z,6.1nm,1.0s,baz=149,slow=18,SNR=2.5							
ATAH				LR		LR	08 09 20.5	
	comp=Z,352nm,19.8s,baz=299,slow=41							
CHRN	**Cochrane**	**23.62**	**190**	*e*P		**P**	**08 00 24.2**	**+0.8**
	comp=Z,9.0nm,0.8s							
PTGA	**Pitinga**	**24.11**	**17**	P		**P**	**08 00 26.3**	**-1.9**
	comp=Z,2.6nm,0.3s,baz=262,slow=23,SNR=17							
PTGA	**Pitinga**	**24.11**	**17**	*e*P		**P**	**08 00 26.9**	**-1.4**
	comp=Z,5.2nm,0.6s							
PRAC	**Prado**	**28.64**	**343**	*e*P		**P**	**08 01 08.7**	**-0.1**
	comp=Z,30nm,1.8s							
ROSC	**El Rosal**	**29.58**	**345**	P		**P**	**08 01 17.7**	**+0.2**
	comp=Z,2.0nm,0.6s,baz=171,slow=19,SNR=3.9							
RUSC	**La Rusia**	**30.33**	**348**	*e*P		**P**	**08 01 24.0**	**-0.3**
	comp=Z,8.4nm,1.3s							
USHA	**Ushuaia**	**30.79**	**182**	P		**P**	**08 01 27.6**	**+0.4**
	comp=Z,40nm,0.6s,baz=4.8,slow=10,SNR=5.3							
HELC	**Santa Helena**	**31.18**	**343**	*e*P		**P**	**08 01 30.0**	**-1.6**
	comp=Z,20nm,0.7s							
PCRV	**Puerto La Cruz**	**34.06**	**4**	P		**P**	**08 01 56.3**	**+0.1**
	comp=Z,6.0nm,0.8s,baz=174,slow=10,SNR=2.9							
RCBR	**Riachuelo**	**34.87**	**64**	P		**P**	**08 02 02.6**	**-0.6**
	comp=Z,13nm,0.5s,baz=231,slow=11,SNR=16							
BCIP	**Isla Barro Col**	**35.32**	**338**	*e*P		**P**	**08 02 08.7**	**+1.7**
	comp=Z,11nm,0.8s							
PMSA	**Palmer Station**	**40.79**	**178**	P		**P**	**08 02 53.3**	**+1.2**
	comp=Z,9.2nm,0.7s,baz=18,slow=6.5,SNR=8.7							
VNA3	**Neumayer Olymp**	**57.11**	**161**	P		**P**	**08 04 56.6**	**+0.7**
VNA1	**Neumayer--Stat**	**57.30**	**160**	P		**P**	**08 04 58.4**	**+1.2**
VNA2	**Neumayer--Watz**	**57.67**	**160**	P		**P**	**08 05 00.6**	**+0.8**
	baz=285,slow=7.6							
LNIG	**Linares**		**57.96**	**325**	*e*P	**P**	**08 05 02.5**	**+0.1**
	comp=Z,6.4nm,1.1s							
ZAIG	**Zacatecas**		**57.99**	**321**	*e*P	**P**	**08 05 03.9**	**+0.9**
	comp=Z,6.1nm,0.8s							
347A	**Saraland**		**58.87**	**338**	P	**P**	**08 05 08.6**	**+0.1**
	baz=157							
248A	**Dixon Mills**		**59.24**	**339**	P	**P**	**08 05 11.0**	**-0.2**
	baz=158							
SNAA	**Sanae**		**59.31**	**161**	P	**P**	**08 05 11.8**	**+0.6**
SNAA	**Sanae**		**59.31**	**161**	P	**P**	**08 05 11.6**	**+0.4**
	comp=Z,6.1nm,0.6s,baz=282,slow=8.3,SNR=64							
SNAA					PcP	**PcP**	**08 05 57.4**	**+0.2**
	comp=Z,1.8nm,0.5s,baz=262,slow=7.7,SNR=3.8							
SNAA	**Sanae**		**59.31**	**161**	*e*P	**P**	**08 05 11.6**	**+0.4**
	comp=Z,8.1nm,0.8s							
SNAA					PcP	**PcP**	**08 05 57.4**	**+0.2**
738A	**Farr-Stevens R**		**59.39**	**331**	P	**P**	**08 05 13.9**	**+1.7**
	baz=149							
541A	**Lake Charles**		**59.39**	**334**	P	**P**	**08 05 14.0**	**+1.8**
	baz=152							
737A	**Port Lavaca**		**59.68**	**330**	P	**P**	**08 05 16.1**	**+1.9**
	baz=148							
344A	**Westbrook Farm**		**59.69**	**336**	P	**P**	**08 05 15.0**	**+0.8**
	baz=155							
934A	**Benavides**		**59.69**	**327**	P	**P**	**08 05 15.3**	**+1.0**
	baz=146							
LRAL	**Lakeview Retre**		**59.88**	**341**	*e*P	**P**	**08 05 14.8**	**-0.7**
	comp=Z,13nm,1.3s							
245A	**Little AP, Sta**		**59.91**	**337**	P	**P**	**08 05 16.0**	**+0.3**
	baz=156							
835A	**Beeville**		**59.93**	**328**	P	**P**	**08 05 17.1**	**+1.2**
	baz=147							
933A	**Laredo**		**60.08**	**327**	P	**P**	**08 05 17.7**	**+0.8**
	baz=146,SNR=5.1							
736A	**Circle Diamond**		**60.13**	**330**	P	**P**	**08 05 19.0**	**+1.7**
	baz=148,SNR=5.5							
834A	**Tilden**		**60.14**	**328**	P	**P**	**08 05 18.5**	**+1.1**
	baz=146							
244A	**Avery, Jackson**		**60.20**	**337**	P	**P**	**08 05 17.9**	**+0.2**
	baz=155							
637A	**Eagle Lake**		**60.21**	**330**	P	**P**	**08 05 19.1**	**+1.3**
	baz=149							
342A	**Flagon Creek P**		**60.21**	**335**	P	**P**	**08 05 19.0**	**+1.3**
	baz=153							
Z47A	**Carrollton**		**60.37**	**340**	P	**P**	**08 05 18.4**	**-0.4**
	baz=158							
Z48A	**Northport**		**60.37**	**340**	P	**P**	**08 05 18.2**	**-0.6**
	baz=158,SNR=5.3							
KMSC	**Kings Mountain**		**60.41**	**346**	P	**P**	**08 05 19.2**	**+0.2**
	baz=165							
145A	**Houston Renfro**		**60.44**	**338**	P	**P**	**08 05 20.0**	**+0.7**
	baz=156							
341A	**Kurthwood**		**60.51**	**334**	P	**P**	**08 05 19.9**	**+0.2**
	baz=152							
636A	**Smothers Creek**		**60.57**	**330**	P	**P**	**08 05 21.0**	**+0.7**
	baz=148							
833A	**Chaparral WMA,**		**60.72**	**327**	P	**P**	**08 05 22.1**	**+0.8**
	baz=146,SNR=20							
537A	**Green Hill Far**		**60.75**	**331**	P	**P**	**08 05 22.3**	**+0.9**
	baz=149							
734A	**La Parita Cree**		**60.75**	**328**	P	**P**	**08 05 22.3**	**+0.9**
	baz=147							
242A	**Grayson**		**60.76**	**335**	P	**P**	**08 05 21.8**	**+0.4**
	baz=153							
635A	**Leesville**		**60.83**	**329**	P	**P**	**08 05 22.4**	**+0.4**
	baz=147							
Y47A	**UCPARC, Winfie**		**60.95**	**340**	P	**P**	**08 05 22.3**	**-0.4**
	baz=158,SNR=6.2							
832A	**Faith Ranch, C**		**60.98**	**327**	P	**P**	**08 05 23.1**	**0.0**
	baz=145,SNR=7.3							
733A	**Divot King Ran**		**61.00**	**327**	P	**P**	**08 05 23.8**	**+0.6**
	baz=146							
241A	**Mo Tay, Goldon**		**61.02**	**335**	P	**P**	**08 05 24.0**	**+0.8**
	baz=153							
Z45A	**Winona**		**61.06**	**338**	P	**P**	**08 05 24.1**	**+0.7**
	baz=156							
Y46A	**Houston**		**61.25**	**339**	P	**P**	**08 05 24.4**	**-0.3**
	baz=157							
338A	**Crockett**		**61.41**	**332**	P	**P**	**08 05 27.3**	**+1.5**
	baz=150							
CPCT	**Cooper Cave**		**61.45**	**344**	*e*P	**P**	**08 05 25.5**	**-0.6**
	comp=Z,4.3nm,0.7s							
NATX	**Nacogdoches**		**61.49**	**333**	P	**P**	**08 05 27.7**	**+1.3**
	baz=151							
141A	**Papa Simpson,**		**61.53**	**335**	P	**P**	**08 05 27.6**	**+1.0**
	baz=153							
633A	**Saathoff Ranch**		**61.55**	**328**	P	**P**	**08 05 27.3**	**+0.5**
	baz=146,SNR=7.6							
SWET	**Sewanee**		**61.61**	**342**	*e*P	**P**	**08 05 26.7**	**-0.5**
	comp=Z,4.6nm,0.7s							
239A	**Gary**		**61.63**	**333**	P	**P**	**08 05 28.2**	**+0.9**
	baz=151							
534A	**Blanco**		**61.69**	**329**	P	**P**	**08 05 27.7**	**-0.1**
	baz=147							
140A	**Cam and Jess,**		**61.82**	**335**	P	**P**	**08 05 29.4**	**+0.8**
	baz=152							
238A	**Jacksonville**		**61.89**	**333**	P	**P**	**08 05 30.4**	**+1.4**
	baz=151							
435B	**Jarrell**		**61.92**	**330**	P	**P**	**08 05 30.2**	**+0.9**
	baz=148							
X45A	**UM Field Stati**		**61.92**	**339**	P	**P**	**08 05 29.2**	**0.0**
	baz=156							
336A	**Riesel**		**62.10**	**331**	P	**P**	**08 05 31.1**	**+0.7**
	baz=149							
237A	**Washetta, Mont**		**62.18**	**332**	P	**P**	**08 05 32.2**	**+1.3**
	baz=150							
X44A	**Crenshaw**		**62.24**	**338**	P	**P**	**08 05 30.8**	**-0.6**
	baz=156							
434A	**Burnet**		**62.26**	**330**	P	**P**	**08 05 31.6**	**0.0**
	baz=147							
335A	**Moody**		**62.27**	**331**	P	**P**	**08 05 31.8**	**+0.2**
	baz=148							
Z40A	**Long Farm, Mag**		**62.30**	**335**	P	**P**	**08 05 32.4**	**+0.7**
	baz=152							
236A	**Katherine and**		**62.48**	**332**	P	**P**	**08 05 32.5**	**-0.5**
	baz=149							
X43A	**Marvell**		**62.51**	**338**	P	**P**	**08 05 33.1**	**0.0**
	baz=155							
W45A	**Hickory Valley**		**62.53**	**340**	P	**P**	**08 05 32.6**	**-0.6**
	baz=157,SNR=7.3							
WLAR	**White Oak Lake**		**62.57**	**336**	*e*P	**P**	**08 05 34.6**	**+1.0**
	comp=Z,27nm,0.9s							
433A	**Art**		**62.59**	**329**	P	**P**	**08 05 34.0**	**+0.3**
	baz=147,SNR=12							
137A	**Heron Place, G**		**62.67**	**333**	P	**P**	**08 05 35.3**	**+1.1**
	baz=150,SNR=5.8							
334A	**Lometa**		**62.68**	**330**	P	**P**	**08 05 34.4**	**+0.1**
	baz=148							
JCT	**Junction City**		**62.70**	**328**	P	**P**	**08 05 35.0**	**+0.5**
	baz=146,SNR=12							
JCT	**Junction City**		**62.70**	**328**	*e*P	**P**	**08 05 34.8**	**+0.3**
	comp=Z,16nm,0.6s							
X42A	**Stuttgart**		**62.80**	**337**	P	**P**	**08 05 36.0**	**+1.0**
	baz=154							
WHTX	**Lake Whitney,**		**62.88**	**331**	P	**P**	**08 05 36.1**	**+0.4**
	baz=148							
136A	**Ennis**		**62.89**	**332**	P	**P**	**08 05 35.9**	**+0.3**
	baz=149							
Y40A	**Okolona**		**62.92**	**336**	P	**P**	**08 05 36.4**	**+0.5**
	baz=153							
HPIG			**62.98**	**321**	*e*P	**P**	**08 05 37.1**	**+0.5**
	comp=Z,5.5nm,0.9s							
V45A	**Humboldt**		**62.99**	**340**	P	**P**	**08 05 36.3**	**0.0**
	baz=157							
WVT	**Waverly**		**63.01**	**341**	*e*P	**P**	**08 05 35.5**	**-0.9**
	comp=Z,23nm,0.7s							
333A	**Richland Sprin**		**63.02**	**329**	P	**P**	**08 05 36.6**	**+0.1**
	baz=147,SNR=9.3							
Z37A	**Pogue Cattle C**		**63.14**	**333**	P	**P**	**08 05 37.8**	**+0.5**
	baz=150							
Y39A	**Lockesburg**		**63.17**	**335**	P	**P**	**08 05 38.0**	**+0.5**
	baz=152							
234A	**Claiette**		**63.20**	**330**	P	**P**	**08 05 38.0**	**+0.2**
	baz=148,SNR=14							
Y38A	**Idabel**		**63.41**	**334**	P	**P**	**08 05 39.4**	**+0.3**
	baz=151							
U45A	**Rockin P Farm,**		**63.49**	**340**	P	**P**	**08 05 39.4**	**-0.1**
	baz=158							
MIAR	**Mount Ida**		**63.51**	**336**	P	**P**	**08 05 39.6**	**-0.1**
	baz=153,SNR=5.0							
MIAR	**Mount Ida**		**63.51**	**336**	*e*P	**P**	**08 05 39.9**	**+0.2**
	comp=Z,8.1nm,0.9s							
Z36A	**Blue Ridge**		**63.54**	**333**	P	**P**	**08 05 40.3**	**+0.4**
	baz=150,SNR=7.6							
233A	**Rising Star**		**63.56**	**330**	P	**P**	**08 05 40.2**	**+0.1**
	baz=147,SNR=6.9							
W41B	**Gary Mavity, V**		**63.58**	**337**	P	**P**	**08 05 39.9**	**-0.2**
	baz=154							
U44B	**Burton Farm, H**		**63.66**	**340**	P	**P**	**08 05 40.6**	**-0.1**
	baz=157							
X39A	**Fountain Ranch**		**63.68**	**335**	P	**P**	**08 05 41.1**	**+0.2**
	baz=152							
TX31	**Lajitas Ar. Si**		**63.74**	**324**	*e*P	**P**	**08 05 41.9**	**+0.4**
TXAR	**Lajitas Array**		**63.74**	**324**	P	**P**	**08 05 41.9**	**+0.5**
	comp=Z,2.1nm,0.7s,baz=153,slow=8.1,SNR=32							
Y37A	**Hugo**		**63.81**	**334**	P	**P**	**08 05 42.0**	**+0.3**
	baz=151							
W40A	**Ferguson Farm,**		**63.89**	**336**	P	**P**	**08 05 42.7**	**+0.6**
	baz=153							
U43A	**Rector**		**64.03**	**339**	P	**P**	**08 05 43.6**	**+0.5**
	baz=156							
PARMO	**Parma**		**64.09**	**340**	*e*P	**P**	**08 05 43.6**	**+0.2**
V41A	**Mountainview**		**64.10**	**337**	P	**P**	**08 05 43.0**	**-0.5**
	baz=154,SNR=6.2							
X38A	**Whitesboro**		**64.10**	**335**	P	**P**	**08 05 44.4**	**+0.8**
	baz=152							
W39A	**Magazine**		**64.16**	**336**	P	**P**	**08 05 44.8**	**+0.9**
	baz=153,SNR=6.2							
X37A	**Clayton**		**64.25**	**334**	P	**P**	**08 05 45.1**	**+0.6**
	baz=151							
U42A	**Revenden**		**64.29**	**338**	P	**P**	**08 05 44.3**	**-0.5**
	baz=155							
W38A	**Poteau**		**64.33**	**335**	P	**P**	**08 05 45.5**	**+0.4**
	baz=152,SNR=6.0							
Y35A	**Marietta**		**64.34**	**332**	P	**P**	**08 05 45.9**	**+0.7**
	baz=149							
V40A	**Witts Springs**		**64.35**	**337**	P	**P**	**08 05 44.9**	**-0.3**
	baz=154							
ABTX	**Abilene, Hawle**		**64.41**	**330**	P	**P**	**08 05 45.6**	**-0.1**
	baz=147							
ABTX	**Abilene, Hawle**		**64.41**	**330**	*e*P	**P**	**08 05 45.7**	**+0.1**
	comp=Z,6.3nm,0.6s							
PBMO	**Poplar Bluff**		**64.41**	**339**	*e*P	**P**	**08 05 44.9**	**-0.6**
	comp=Z,17nm,0.6s							
U41A	**Viola**		**64.52**	**338**	P	**P**	**08 05 45.9**	**-0.4**
	baz=154,SNR=5.8							
WCI	**Wyandotte Cave**		**64.54**	**343**	*e*P	**P**	**08 05 45.2**	**-1.2**
	comp=Z,15nm,0.5s							
X36A	**Centrahoma**		**64.62**	**333**	P	**P**	**08 05 46.8**	**-0.1**
	baz=152							

baz=142,SNR=12
MNTX **Cornudas Mount** 66.51 325 *e*P P 08 05 59.2 +0.1
comp=Z,6.0nm,0.8s
T36A **Boggs Farm, Ca** 66.60 335 P P 08 05 59.3 -0.3
baz=151
Q41A **Truxton** 66.65 340 P P 08 05 59.1 -0.7
baz=156
R39A **Chumby, Stover** 66.68 338 P P 08 05 59.8 -0.2
baz=154,SNR=6.3
T35A **Sooner Cattle** 66.72 334 P P 08 06 00.7 +0.3
baz=150
P43A **Skaggs, Pawnee** 66.76 341 P P 08 05 59.7 -0.8
baz=157
SFIN **Lafayette** 66.77 343 P P 08 05 59.2 -1.4
baz=160
S37A **Fort Scott** 66.82 336 P P 08 06 00.9 -0.1
baz=152,SNR=7.7
R38A **Fenwick Farm,** 66.87 337 P P 08 06 01.0 -0.2
baz=153,SNR=10
P42A **Winchester** 66.95 340 P P 08 06 00.8 -0.9
baz=157
MSTX **Muleshoe** 67.00 328 P P 08 06 02.4 +0.1
baz=144,SNR=9.8
MSTX **Muleshoe** 67.00 328 *e*P P 08 06 02.7 +0.4
comp=Z,18nm,0.8s
S36A **Lake Cedric, C** 67.08 336 P P 08 06 02.4 -0.1
baz=151,SNR=6.6
T34A **McClaskey Farm** 67.08 334 P P 08 06 02.9 +0.2
baz=150
AMTX **Amarillo** 67.22 329 P P 08 06 03.1 -0.6
baz=146
P41A **Barry, Barry** 67.26 340 P P 08 06 02.7 -1.0
baz=156,SNR=5.1
O43A **Sugar Creek Fa** 67.29 342 P P 08 06 02.8 -1.0
baz=158
R37A **Teagarden Farm** 67.31 336 P P 08 06 03.7 -0.3
baz=152,SNR=9.0
Q39A **Willow Grove F** 67.31 338 P P 08 06 03.8 -0.2
baz=154
S35A **Otter Creek Ra** 67.32 335 P P 08 06 03.9 -0.2
baz=151
LIC **Lamto** 67.38 72 *e*PKP1 P 08 06 05.6 +0.6
comp=Z,81nm,1.9s
O42A **Bath** 67.44 341 P P 08 06 03.9 -0.8
baz=157
P40A **Paris** 67.44 339 P P 08 06 04.2 -0.6
baz=155
Q38A **Cooks Store, C** 67.46 338 P P 08 06 04.9 -0.1
baz=154,SNR=10
HDIL **Hopedale** 67.54 342 P P 08 06 04.4 -1.0
baz=158
TIC **Toumodi** 67.59 71 *e*PKP1 P 08 06 06.5 +0.2
O41A **Passleys Farm,** 67.61 340 P P 08 06 04.8 -1.0
baz=156
P39B **Salisbury** 67.64 339 P P 08 06 05.6 -0.4
baz=154,SNR=13
HSIG 67.64 319 *e*P P 08 06 07.5 +1.2
comp=Z,16nm,1.2s
Q37A **Longview Farm,** 67.67 337 P P 08 06 06.1 -0.2
baz=153
KIC **Kosan Boka** 67.69 72 *e*PKP1 P 08 06 05.2 -1.8
comp=Z,23nm,0.6s
DBIC **Dimbokro** 67.74 71 P P 08 06 05.9 -1.4
comp=Z,6.1nm,0.5s,baz=247,slow=2.0,SNR=19
O40A **La Belle** 67.92 340 P P 08 06 07.2 -0.6
baz=155,SNR=6.0
N42A **Yates City** 68.00 341 P P 08 06 07.6 -0.7
baz=157
P38A **Dawn** 68.02 338 P P 08 06 08.0 -0.4
baz=154,SNR=12
Q35A **Mercer Eighty,** 68.24 336 P P 08 06 09.5 -0.3
baz=151
P37A **Lathrop** 68.27 337 P P 08 06 09.5 -0.5
baz=153,SNR=5.9
319A **Douglas** 68.40 322 *e*P P 08 06 11.7 +0.6
comp=Z,15nm,0.6s
121A **Cookes Peak, D** 68.44 324 P P 08 06 12.2 +0.8
baz=140,SNR=7.9
121A **Cookes Peak, D** 68.44 324 *e*P P 08 06 13.1 +1.7
comp=Z,12nm,0.9s
O38A **Galt** 68.45 338 P P 08 06 10.7 -0.4
baz=154,SNR=7.0
N40A **Mertquake, Sal** 68.52 340 P P 08 06 10.9 -0.6
baz=156
P36A **Good Intent, A** 68.60 337 P P 08 06 11.6 -0.5
baz=152
M41A **Milan** 68.66 341 P P 08 06 11.5 -0.9
baz=157
O37A **Wolven Farm, M** 68.72 338 P P 08 06 12.3 -0.4
baz=153
N39A **Derby Farms, D** 68.81 339 P P 08 06 12.7 -0.6
baz=155,SNR=7.5
L43A **Garden Prairie** 68.89 343 P P 08 06 13.3 -0.5
baz=158
N38A **Joes South For** 68.97 339 P P 08 06 13.6 -0.7
baz=154
O36A **Bolckow** 68.97 337 P P 08 06 13.7 -0.6
baz=152
M40A **Post Highland** 68.98 340 P P 08 06 13.7 -0.6
baz=156,SNR=15
P34A **Walnut Farm, R** 69.14 336 P P 08 06 14.8 -0.6
baz=151
M39A **Webster** 69.25 340 P P 08 06 15.4 -0.6
baz=155
N37A **Lee Faris, Mou** 69.27 338 P P 08 06 15.7 -0.4
baz=153
L41A **Preston** 69.29 341 P P 08 06 15.4 -0.8
baz=157
L40A **Anamosa** 69.49 341 P P 08 06 17.3 -0.1
baz=156
M38A **Pleasantville** 69.52 339 P P 08 06 17.1 -0.5
baz=154,SNR=8.5
ANMO **Albuquerque** 69.61 326 P P 08 06 19.3 +0.7
baz=142
ANMO **Albuquerque** 69.61 326 *e*P P 08 06 19.3 +0.7
comp=Z,6.0nm,0.8s
O34A **Beatrice** 69.64 336 P P 08 06 18.4 -0.1
baz=151
CBKS **Cedar Bluff** 69.66 333 P P 08 06 18.9 +0.3
baz=148
CBKS **Cedar Bluff** 69.66 333 *e*P P 08 06 19.6 +1.0
comp=Z,13nm,0.6s
K41A **Shullsburg** 69.72 342 P P 08 06 18.4 -0.4
baz=157,SNR=5.4
L39A **Vinton** 69.78 340 P P 08 06 18.7 -0.6
baz=156
M37A **Trindle Farm,** 69.79 339 P P 08 06 19.3 0.0
baz=154,SNR=8.7
N35A **Tabor** 69.86 337 P P 08 06 19.5 -0.3
baz=152,SNR=5.9
O33A **Hebron** 69.88 335 P P 08 06 19.9 0.0
baz=150,SNR=7.9
TUC **Tucson** 69.94 321 P P 08 06 21.7 +1.1
baz=138
TUC **Tucson** 69.94 321 *e*P P 08 06 22.2 +1.7
comp=Z,8.2nm,1.4s
SCIA **State Center** 69.97 339 *e*P P 08 06 20.3 -0.1
comp=Z,33nm,0.4s
JFWS **Jewell Farm** 69.99 342 *e*P P 08 06 20.0 -0.5
comp=Z,23nm,0.6s
K40A **Colesburg** 70.05 341 P P 08 06 20.3 -0.6
baz=156
M36A **Felix, Anita** 70.09 338 P P 08 06 20.9 -0.3
baz=153,SNR=5.5
L38A **Oak Wood Farm,** 70.10 340 P P 08 06 20.7 -0.4
baz=155
N34A **Lincoln** 70.14 337 P P 08 06 21.0 -0.5
baz=151,SNR=12
K39A **Oelwein** 70.28 341 P P 08 06 21.6 -0.6
baz=156,SNR=5.7
L37A **Phoenix Point,** 70.34 339 P P 08 06 22.1 -0.5
baz=154
J41A **Loganville** 70.34 342 P P 08 06 22.3 -0.3
baz=158
T25A **Trinidad** 70.34 329 P P 08 06 24.3 +1.3
baz=144,SNR=8.9
T25A **Trinidad** 70.34 329 *e*P P 08 06 24.4 +1.3
comp=Z,6.5nm,0.7s
M35A **Neola** 70.41 337 P P 08 06 22.9 -0.1
baz=152
K38A **Parkersburg** 70.50 340 P P 08 06 23.3 -0.3
baz=155
J40A **Soldiers Grove** 70.57 342 P P 08 06 23.7 -0.4
baz=157,SNR=7.0
L36A **Harm Buss Farm** 70.62 338 P P 08 06 24.1 -0.2
baz=153,SNR=9.0
J39A **Decorah** 70.80 341 P P 08 06 24.8 -0.6
baz=156

214A **Organ Pipe Nat** 70.86 320 P P 08 06 27.7 +1.7
baz=136,SNR=6.4
K37A **Belmond** 70.88 339 P P 08 06 25.2 -0.7
baz=154,SNR=5.9
L35A **Bielow Farm, R** 70.93 338 P P 08 06 25.9 -0.3
baz=152,SNR=10
I41A **Arkdale** 70.94 343 P P 08 06 25.9 -0.3
baz=158
I40A **Norwalk** 70.99 342 P P 08 06 26.0 -0.6
baz=157
J38A **Wedel Dairy, R** 71.01 341 P P 08 06 26.5 -0.1
baz=155
K36A **Gilmore City** 71.03 339 P P 08 06 26.5 -0.3
baz=153,SNR=10
M33A **Taylor Creek F** 71.04 336 P P 08 06 27.0 +0.1
baz=151
KSCO **Kaye Shedlock'** 71.05 331 P P 08 06 27.4 +0.2
baz=146
L34A **Svendsen Farm,** 71.09 337 P P 08 06 26.8 -0.3
baz=152,SNR=7.9
X18A **Snowflake** 71.13 323 *e*P P 08 06 29.4 +1.6
comp=Z,6.3nm,1.0s
I39A **Houston** 71.22 341 P P 08 06 27.5 -0.4
baz=156
BGNE **Belgrade** 71.25 336 P P 08 06 28.2 0.0
baz=150,SNR=9.4
BGNE **Belgrade** 71.25 336 *e*P P 08 06 28.5 +0.3
comp=Z,74nm,0.8s
J37A **Redenius Farm,** 71.34 340 P P 08 06 28.2 -0.4
baz=154
SDCO **Great Sand Dun** 71.34 329 P P 08 06 30.5 +1.3
baz=143,SNR=14
SDCO **Great Sand Dun** 71.34 329 *e*P P 08 06 30.4 +1.3
comp=Z,4.9nm,0.8s
K35A **Storm Lake** 71.36 338 P P 08 06 28.7 -0.1
baz=153
J36A **Seneca 1, Swea** 71.61 339 P P 08 06 29.9 -0.4
baz=154,SNR=6.7
K34A **Le Mars** 71.62 338 P P 08 06 30.7 +0.3
baz=152
I38A **Scanlan Farm,** 71.63 341 P P 08 06 30.0 -0.3
baz=155
L32A **Elgin** 71.71 336 P P 08 06 30.8 -0.1
baz=150
X16A **Lo Mia Camp, P** 71.87 322 *e*P P 08 06 34.0 +1.7
comp=Z,8.4nm,1.1s
K33A **Hardington** 71.87 337 P P 08 06 32.1 +0.2
baz=151,SNR=5.7
I37A **Lemond, Waseca** 71.93 340 P P 08 06 31.9 -0.2
baz=154,SNR=5.8
S22A **4UR Ranch, Cre** 71.99 328 P P 08 06 34.0 +1.0
baz=142
S22A **4UR Ranch, Cre** 71.99 328 *e*P P 08 06 34.2 +1.2
comp=Z,12nm,2.0s
113A **Mohawk Valley,** 72.01 320 *e*P P 08 06 34.3 +1.4
comp=Z,3.4nm,0.9s
J34A **George** 72.11 338 P P 08 06 33.6 +0.4
baz=152
I36A **Fitzsimmons Fa** 72.12 340 P P 08 06 33.0 -0.3
baz=154
Q24A **Divide** 72.15 330 P P 08 06 35.4 +1.4
baz=143,SNR=6.6
I35A **Creekview Farm** 72.29 339 P P 08 06 34.1 -0.2
baz=153,SNR=6.2
H37A **Dierke Farm, C** 72.29 341 P P 08 06 34.0 -0.3
baz=155
OGNE **Ogallala** 72.40 333 P P 08 06 36.7 +1.5
baz=146
MVCO **Mesa Verde** 72.40 326 P P 08 06 36.5 +1.1
baz=140,SNR=5.4
MVCO **Mesa Verde** 72.40 326 *e*P P 08 06 36.6 +1.1
comp=Z,5.8nm,0.8s
G39A **Holcombe** 72.43 342 P P 08 06 34.7 -0.4
baz=157
J33A **Davis** 72.48 337 P P 08 06 35.4 -0.1
baz=151,SNR=15
G38A **Ridgeland** 72.52 342 P P 08 06 35.0 -0.6
baz=156
K31A **O'Neill** 72.53 336 P P 08 06 36.2 +0.4
baz=150
H36A **Jessenland, He** 72.60 340 P P 08 06 36.1 0.0
baz=154,SNR=9.2
WUAZ **Wupatki** 72.64 323 P P 08 06 38.1 +1.4
baz=138,SNR=6.6
WUAZ **Wupatki** 72.64 323 *e*P P 08 06 38.1 +1.4
comp=Z,9.1nm,0.8s
E42A **Champion** 72.66 345 P P 08 06 36.6 +0.2
baz=160
ECSD **EROS Data Cent** 72.73 338 P P 08 06 36.6 -0.3
baz=152,SNR=11
ECSD **EROS Data Cent** 72.73 338 *e*P P 08 06 36.8 -0.1
comp=Z,14nm,1.0s
F40A **Park Falls** 72.73 343 P P 08 06 36.6 -0.2
baz=158
GLA **Glamis** 72.84 319 P P 08 06 39.2 +1.4
baz=135
J32A **Parkston** 72.84 337 P P 08 06 37.2 -0.3
baz=150,SNR=6.4
SPMN **Marine on St.** 72.84 341 P P 08 06 37.1 -0.4
baz=155
SPMN **Marine on St.** 72.84 341 *e*P P 08 06 37.2 -0.3
comp=Z,22nm,1.2s
F39A **Loretta** 72.94 343 P P 08 06 37.9 -0.2
baz=157
H35A **Sunnyside Ranc** 72.99 340 P P 08 06 37.9 -0.4
baz=153,SNR=8.2
ISCO **Idaho Springs** 73.04 330 P P 08 06 39.7 +0.5
baz=143
ISCO **Idaho Springs** 73.04 330 *e*P P 08 06 40.3 +1.1
comp=Z,3.0nm,0.8s
I33A **Coleman** 73.07 338 P P 08 06 38.7 -0.1
baz=151,SNR=5.6
J31A **Geddes** 73.10 336 P P 08 06 39.7 +0.6
baz=150,SNR=9.8
G36A **St. Michael** 73.14 341 P P 08 06 39.4 +0.2
baz=154
PV01 **Paradox Valley** 73.15 327 *e*P P 08 06 41.6 +1.8
Y12C **Blythe** 73.15 320 P P 08 06 41.0 +1.4
baz=135,SNR=5.0
Y12C **Blythe** 73.15 320 *e*P P 08 06 41.6 +2.0
comp=Z,8.2nm,1.0s
E40A **Wakefield** 73.16 344 P P 08 06 39.7 +0.3
baz=158
F37A **Hinrichs Farm,** 73.25 342 P P 08 06 39.8 0.0
baz=155,SNR=7.3
F38A **Pierce - Schro** 73.25 342 P P 08 06 39.8 0.0
baz=156
E39A **Melleh** 73.27 343 P P 08 06 39.8 -0.2
baz=157
H34A **Spellman Lake,** 73.27 339 P P 08 06 39.7 -0.3
baz=152,SNR=8.0
I32A **Karley and Nic** 73.28 337 P P 08 06 40.1 0.0
baz=151,SNR=8.0
PDMCI **Parker Dam,Lak** 73.32 321 P P 08 06 41.7 +1.1
baz=136
IKP **In-Ko-Pah, Jac** 73.33 318 P P 08 06 41.9 +1.2
baz=134
G35A **Watkins** 73.35 340 P P 08 06 40.4 -0.1
baz=154
D41A **Chassel** 73.40 345 P P 08 06 41.2 +0.4
baz=159
SYO **Syowa Base** 73.50 159⇑ *i*P P 08 06 40.3 -0.8
PV10 **Paradox Valley** 73.57 327 *e*P P 08 06 43.2 +1.0
H33A **Prehn Over Nor** 73.61 338 P P 08 06 42.4 +0.3
baz=152,SNR=12
BC3 **Big Chuckawall** 73.64 319 P P 08 06 44.0 +1.4
baz=134,SNR=9.9
F36A **Milaca** 73.64 341 P P 08 06 41.8 -0.3
baz=155,SNR=8.1
H32A **Carlson Farm,** 73.69 338 P P 08 06 42.9 +0.4
baz=151
MONP **Monument Peak,** 73.69 318 P P 08 06 44.4 +1.4
baz=134,SNR=6.0
BAR **Barrett** 73.70 318 *e*P P 08 06 44.4 +1.5
comp=Z,6.7nm,0.7s
G34A **Benson** 73.74 339 P P 08 06 42.5 -0.2
baz=153
IRM **Iron Mountain** 73.80 320 P P 08 06 44.8 +1.3
baz=135,SNR=7.5
F35A **Swanville** 73.95 340 P P 08 06 43.7 -0.3
baz=154
G33A **Ortonville** 73.96 339 P P 08 06 43.8 -0.2
baz=152,SNR=6.6
H31A **Wolsey** 74.03 337 P P 08 06 44.5 +0.1
baz=150
N23A **Red Feather La** 74.06 330 P P 08 06 46.1 +1.0
baz=143
N23A **Red Feather La** 74.06 330 *e*P P 08 06 45.6 +0.5
comp=Z,7.4nm,0.9s
E36A **McGregor** 74.15 341 P P 08 06 44.7 -0.4
baz=155
SUSD **Miller** 74.17 337 P P 08 06 45.4 +0.1
baz=150
PHWY **Pilot Hill** 74.17 331 *e*P P 08 06 47.1 +1.3
comp=Z,12nm,1.5s
BELC **Belle Mtn. Jos** 74.20 319 P P 08 06 47.0 +1.2
baz=134,SNR=5.4
TPFO **Pinon Flats** 74.20 319 P P 08 06 47.0 +1.2
baz=134
PFO **Pinyon Flats O** 74.21 319 P P 08 06 47.4 +1.5
baz=134
PFO **Pinyon Flats O** 74.21 319 *e*P P 08 06 46.8 +0.9
comp=Z,4.6nm,0.8s
F33A **5 Mile Ranch,** 74.48 339 P P 08 06 46.6 -0.4
baz=152
D37A **Cotton** 74.50 342 P P 08 06 46.9 -0.2
baz=156
E35A **Pequot Lakes** 74.53 341 P P 08 06 47.2 0.0
baz=154
O20A **White River Ci** 74.54 328 P P 08 06 49.1 +1.4
baz=141,SNR=7.2
O20A **White River Ci** 74.54 328 *e*P P 08 06 49.2 +1.4
comp=Z,9.3nm,0.8s
GMRC **Granite Mounta** 74.55 320 P P 08 06 49.2 +1.4
baz=134,SNR=9.0
MURC **Murrieta** 74.65 318 P P 08 06 49.7 +1.4
baz=133
VNDA **Vanda** 74.69 190 P P 08 06 49.8 +1.8
comp=Z,3.3nm,0.9s,baz=133,slow=4.0,SNR=14
VNDA **Vanda** 74.69 190 *e*P P 08 06 49.4 +1.5
comp=Z,6.1nm,1.1s
D36A **Goodland** 74.72 342 P P 08 06 48.4 0.0
baz=155
E34A **Wadena** 74.72 340 P P 08 06 48.1 -0.3
baz=153
LCMT **Little Creek M** 74.76 323 *e*P P 08 06 50.1 +1.1
comp=Z,4.6nm,0.8s
F32A **Veblen** 74.78 339 P P 08 06 48.5 -0.3
baz=151
SRU **San Rafael Swe** 74.88 326 *e*P P 08 06 51.3 +1.5
comp=Z,7.4nm,0.6s
D35A **Remer** 74.89 341 P P 08 06 49.5 +0.2
baz=154
BBRC **Big Bear Solar** 74.93 319 P P 08 06 52.1 +1.9
baz=133
C37A **Embarrass** 74.95 343 P P 08 06 49.6 -0.1
baz=156
EYMN **Ely** 74.97 343 P P 08 06 49.7 -0.1
baz=157
EYMN **Ely** 74.97 343 *e*P P 08 06 49.3 -0.5
HEC **Hector,Ludlow** 74.97 320 P P 08 06 51.7 +1.5
baz=134,SNR=9.5
F31A **Hecla** 75.15 338 P P 08 06 51.1 +0.2
baz=150,SNR=5.1
TUQ **Turquoise Moun** 75.16 320 P P 08 06 52.6 +1.3
baz=134
C36A **Pine Crest Far** 75.16 342 P P 08 06 50.8 -0.1
baz=155
CCUT **Cedar City** 75.22 323 *e*P P 08 06 52.3 +0.5
comp=Z,9.9nm,0.8s
CIS **Catalina Islan** 75.26 317 P P 08 06 53.4 +1.6
baz=132
MSU **Marysvale** 75.29 325 *e*P P 08 06 53.9 +1.7
BFSC **Mount Baldy Ra** 75.36 318 P P 08 06 54.1 +1.6
baz=133
C35A **Jirik Farms, M** 75.43 341 P P 08 06 52.2 -0.2
baz=154
SHPR **Sheep Range** 75.47 322 *e*P P 08 06 54.3 +1.2
comp=Z,8.7nm,1.3s
GSC **Goldstone, Bar** 75.58 320 P P 08 06 54.6 +0.9
baz=134,SNR=5.4
GSC **Goldstone, Bar** 75.58 320 *e*P P 08 06 55.3 +1.6
comp=Z,4.3nm,0.8s
MWC **Mount Wilson** 75.59 318 *e*P P 08 06 55.6 +1.7
comp=Z,29nm,0.3s
E31A **Nome** 75.64 338 P P 08 06 53.8 +0.2
baz=151,SNR=5.2
PASC **Pasadena Art C** 75.64 318 *e*P P 08 06 55.3 +1.4
comp=Z,8.7nm,0.6s
K22A **Casper** 75.73 331 P P 08 06 55.7 +1.2
baz=143
RSSD **Black Hills** 75.86 333 P P 08 06 56.0 +0.8
baz=145
RSSD **Black Hills** 75.86 333 *e*P P 08 06 56.2 +1.0
comp=Z,6.1nm,0.9s
B35A **Bob, Littlefor** 75.95 342 P P 08 06 55.2 -0.1
baz=155,SNR=6.3
D31A **Mcclaflin, Tow** 76.01 339 P P 08 06 56.1 +0.3
baz=151
C33A **Trail** 76.02 340 P P 08 06 55.8 0.0
baz=153
LRMC **Laurel Mtn Rad** 76.22 319 P P 08 06 58.3 +1.0
baz=133
NLU **North Lily Min** 76.31 326 *e*P P 08 06 59.6 +1.8
comp=Z,4.1nm,1.1s
B34A **Aery, Baudette** 76.33 341 P P 08 06 57.6 0.0
baz=154
TPNV **Topopah Spring** 76.40 321 P P 08 06 59.8 +1.4
baz=134,SNR=13
TPNV **Topopah Spring** 76.40 321 *e*P P 08 07 00.3 +1.9
comp=Z,12nm,1.3s
B33A **Robert and Kas** 76.42 341 P P 08 06 58.0 0.0
baz=153
FURC **Furnace Creek,** 76.42 321 P P 08 06 59.9 +1.6
baz=134,SNR=6.0
JLU **Jordanelle** 76.47 327 *e*P P 08 06 59.8 +0.9
comp=Z,4.6nm,0.6s
TORD **Torodi Ar. Bea** 76.51 69 P P 08 06 57.9 -1.4
comp=Z,5.2nm,0.4s,baz=261,slow=6.0,SNR=112
TORD pP pP 08 07 47.9 +2.7
comp=Z,3.7nm,0.8s,baz=256,slow=5.4,SNR=3.3
AGMN **Agassiz Nation** 76.53 341 P P 08 06 58.6 0.0
baz=153
C31A **Landman Farms,** 76.67 339 P P 08 06 59.8 +0.4
baz=151
DAC **Darwin (Calif)** 76.72 320 *e*P P 08 06 59.8 -0.4
comp=Z,7.1nm,0.9s
SBC **Santa Barbara** 76.76 317 P P 08 07 01.6 +1.4
baz=132
ISA **Isabella, Lake** 76.82 319 P P 08 07 00.8 +0.2
baz=133
DUG **Dugway, Tooele** 76.86 326 P P 08 07 02.1 +1.2
baz=138
DUG **Dugway, Tooele** 76.86 326 *e*P P 08 07 01.7 +0.8
comp=Z,3.3nm,0.9s
A33A **Warroad** 76.96 341 P P 08 07 01.1 +0.2
baz=153,SNR=5.8
R11A **Troy Canyon, C** 77.01 323 P P 08 07 03.2 +1.3
baz=135,SNR=7.8
R11A **Troy Canyon, C** 77.01 323 *e*P P 08 07 03.1 +1.3
comp=Z,3.3nm,0.7s
GRAC **Grapevine Rang** 77.08 321 P P 08 07 03.4 +1.4
baz=134
CWC **Cottonwood Cre** 77.11 320 P P 08 07 03.7 +1.3
baz=133
PKM **Mcpherson Peak** 77.11 318 P P 08 07 03.7 +1.3
baz=132
B31A **Greenbush Farm** 77.19 340 P P 08 07 02.2 -0.1
baz=151
BW06 **Boulder Array** 77.20 329 P P 08 07 03.3 +0.5
baz=140,SNR=5.6
BW06 **Boulder Array** 77.20 329 *e*P P 08 07 02.3 -0.5
comp=Z,3.6nm,1.1s
PDAR **Pinedale Array** 77.20 329 P P 08 07 03.4 +0.6
comp=Z,1.9nm,0.6s,baz=124,slow=7.4,SNR=23
HWUT **Hardware Ranch** 77.28 327 *e*P P 08 07 04.1 +0.9
comp=Z,5.1nm,0.6s
VES **Vestal, Richgr** 77.31 319 P P 08 07 04.9 +1.6
baz=132,SNR=7.5
MDND **Maddock** 77.34 338 P P 08 07 04.0 +0.8
baz=150,SNR=9.5
SPUT **South Promonto** 77.50 327 *e*P P 08 07 05.2 +0.8
comp=Z,32nm,1.8s
SMMC **Simmler** 77.51 318 P P 08 07 06.0 +1.5
baz=132
REDW **Red Top Meadow** 78.27 329 *e*P P 08 07 09.2 +0.5
comp=Z,5.2nm,0.9s
ULM **Lac du Bonnet** 78.27 341 P P 08 07 08.2 -0.1
comp=Z,1.1nm,0.6s,baz=162,slow=7.4,SNR=23
SNOW **Snow King Moun** 78.30 329 *e*P P 08 07 08.8 -0.1
comp=Z,5.2nm,0.8s
LOHW **Long Hollow** 78.34 329 *e*P P 08 07 09.6 +0.5
comp=Z,4.6nm,0.7s
MLAC **Mammoth, Mammo** 78.36 320 P P 08 07 10.8 +1.4
baz=133
IMW **Indian Meadow** 78.72 329 *e*P P 08 07 12.3 +1.1

comp=Z,7.6nm,0.9s
LAO LASA Array 78.84 334 P **P** 08 07 12.2 +0.7
baz=144,SNR=5.6
TVH1 TV Hill, Hawth 78.89 321 *e*P **P** 08 07 13.9 +1.5
comp=Z,6.9nm,1.2s
RLMT Red Lodge 78.90 331 P **P** 08 07 13.1 +1.1
baz=141,SNR=7.0
RLMT Red Lodge 78.90 331 *e*P **P** 08 07 13.1 +1.1
comp=Z,3.6nm,0.4s
WAKR Walker 79.30 321 *e*P **P** 08 07 16.0 +1.6
comp=Z,4.7nm,0.9s
YHB Horse Butte 79.49 330 *e*P **P** 08 07 16.7 +1.4
comp=Z,7.0nm,0.8s
DGMT Dagmar 79.51 336 P **P** 08 07 16.3 +1.2
baz=146,SNR=7.7
DGMT Dagmar 79.51 336 *e*P **P** 08 07 15.9 +0.9
comp=Z,29nm,0.8s
HLID Hailey 80.15 327 P **P** 08 07 20.3 +1.5
baz=137,SNR=16
HLID Hailey 80.15 327 *e*P **P** 08 07 20.4 +1.5
comp=Z,9.1nm,0.8s
BOZ Bozeman (W) 80.33 330 P **P** 08 07 20.5 +0.8
baz=139
DLMT Dillon 80.60 329 *e*P **P** 08 07 22.0 +0.9
comp=Z,8.9nm,1.4s
BOSA Boshof 80.66 117 P **P** 08 07 21.2 -0.8
comp=Z,3.4nm,0.5s,baz=259,slow=2.1,SNR=15
EGMT Eagleton 81.37 333 P **P** 08 07 25.2 +0.1
baz=141
MAW Mawson 81.39 163 P **P** 08 07 25.7 +0.8
comp=Z,9.8nm,0.6s,baz=209,slow=6.7,SNR=78
MSO Missoula 82.31 330 P **P** 08 07 31.0 +0.9
baz=137
N02D Trinity Center 82.83 321 P **P** 08 07 32.8 0.0
baz=130
M04C Macdoel 82.86 322 P **P** 08 07 33.8 +0.8
baz=131,SNR=5.8
M02C Callahan 83.18 321 P **P** 08 07 35.3 +0.7
baz=130
J05D Fort Rock, OR 83.51 323 P **P** 08 07 37.4 +1.1
baz=132
J04D Umpqua Nationa 83.96 323 P **P** 08 07 39.4 +0.7
baz=131
HUMO Hull Mountain 84.02 322 *e*P **P** 08 07 38.9 +0.1
L02D Cave Junction, 84.10 321 P **P** 08 07 40.0 +0.9
baz=130
I05D Terrebonne, OR 84.27 324 P **P** 08 07 41.2 +1.1
baz=132
TAM Tamanrasset 84.34 62 *e*P **P** 08 07 41.2 +0.2
comp=Z,5.1nm,1.0s
I04A Tendick Farm, 84.49 323 P **P** 08 07 41.5 +0.4
baz=131
NEW Newport 84.84 329 P **P** 08 07 43.3 +0.5
baz=135
G05D Wamic, OR 84.86 325 P **P** 08 07 43.7 +0.8
baz=132
D08A Wollman Farm, 84.86 327 *e*P **P** 08 07 43.5 +0.6
comp=Z,19nm,1.4s
ESDC Sonseca Array 86.36 44 P **P** 08 07 51.4 +0.9
comp=Z,1.3nm,0.7s,baz=249,slow=5.1,SNR=6.2
ES19 SONSECA Array 86.42 44 *e*P **P** 08 07 50.6 -0.2
B05A Bryant 87.26 327 P **P** 08 07 54.7 +0.1
baz=131
URZ Urewera 93.76 225 P **P** 08 08 26.2 +1.0
comp=Z,7.3nm,1.0s,baz=112,slow=5.4,SNR=2.1
YKA Yellowknife Ar 94.17 340 P **P** 08 08 26.3 0.0
comp=Z,3.5nm,0.5s,baz=134,slow=4.6,SNR=45
RPZ Rata Peaks 94.18 218 P **P** 08 08 27.8 +0.8
comp=Z,8.9nm,1.0s,baz=358,slow=11,SNR=2.2
STKA Stephens Creek 118.09 207 PKP **PKPdf** 08 13 54.4 -0.1
comp=Z,0.5nm,0.4s,baz=140,slow=16,SNR=2.1
HNR Honiara 123.43 240 PKP **PKPdf** 08 14 04.4 -0.7
comp=Z,108nm,0.6s,baz=208,slow=4.8,SNR=2.5
CTA Charters Tower 125.53 219 PKP **PKPdf** 08 14 09.5 +0.5
comp=Z,2.7nm,0.7s,baz=79,slow=5.2,SNR=2.7
ASAR Alice Springs 128.47 205 PKP **PKPdf** 08 14 14.3 -0.3
comp=Z,3.8nm,0.5s,baz=134,slow=1.8,SNR=44
WRA Warramunga Arr 131.64 207 PKP **PKPdf** 08 14 20.6 0.0
comp=Z,2.8nm,0.3s,baz=153,slow=2.0,SNR=74
ABKAR Akbulak array 131.70 45 *e*PKPdf **PKPdf** 08 14 20.0 +0.2
PETK Petropavlovsk- 135.67 323 PKP **PKPdf** 08 14 28.4 +1.3
comp=Z,1.4nm,0.3s,baz=318,slow=54,SNR=3.3
ZALV Zalesovo Beam 143.38 28 PKP PKPbc 08 14 38.9 +0.1
comp=Z,6.1nm,0.6s,baz=297,slow=4.5,SNR=24
SOEI Soe 144.69 199 *e*PKPdf **PKPab** **08 14 43.7 -0.3**
KSH Kashi 145.15 55 PKP **PKPbc** **08 14 44.6 -0.2**
KSH pPKP pPKPab 08 15 26.6 -6.8
KSH PP **PP** **08 18 06.8 +0.9**
KSH PKS **PKSdf** **08 18 18.8 -1.6**
KSH SKS **SKSdf** **08 21 35.4 -0.7**
MJAR Matsushiro Arr 155.05 306 PKPab **PKPab** **08 15 26.1 +0.4**
comp=Z,2.5nm,0.9s,baz=70,slow=2.1,SNR=6.5
SONM Songino Array 155.65 11 PKP **PKPdf** **08 15 02.0 +1.2**
comp=Z,0.6nm,0.8s,baz=337,slow=2.9,SNR=3.9
SONM PKPab **PKPab** **08 15 27.5 -0.4**
comp=Z,1.6nm,0.7s,baz=321,slow=3.9,SNR=6.5
KSRS Korea Array 161.54 320 PKPab **PKPab** **08 15 53.9 +0.3**
comp=Z,1.4nm,0.8s,baz=23,slow=4.3,SNR=3.8
KSAR Wonju Array Be 161.57 320 PKPab **PKPab** **08 15 53.9 +0.1**
LZH Lanzhou 165.57 31 *e*PKP **PKPdf** **08 15 08.5 -3.5**
LZH pPKP pPKPdf 08 15 58.8 -3.2
LZH PKP **PKPab** **08 16 10.3 -1.3**
LZH sPKP 08 16 18.8
LZH LR LR
comp=N,93nm,18.1s
LZH LR LR
comp=E,100nm,18.0s
LZH LR LR
comp=Z,130nm,20.0s
CMAR Chiang Mai Arr 165.71 110 PKP **PKPdf** **08 15 12.8 +0.5**
comp=Z,0.9nm,0.3s,baz=208,slow=2.7,SNR=6.7
CMAR PKPab **PKPab** **08 16 12.5 -0.1**
comp=Z,2.0nm,0.5s,baz=253,slow=4.8,SNR=6.8

*ISCJB **18** 08:01:28.3±0.8, 39°.69N±0°.04×34°.48E±0°.07, h10km±8km, Error ellipse: s-maj=10.0km s-min=5.6km az=25.6*
*CSEM **18** 08:01:28.0±0.1, 39°.67N×34°.49E, h10km, MD2.9, Error ellipse: s-maj=4.1km s-min=2.6km az=113.0*
*DDA **18** 08:01:30.1, 39°.65N×34°.80E, h7km, Md2.9*
ISC 18 08:01:29.2±0.9, 39°.69N±0°.03×34°.57E±0°.04, h17km±7km, n16, σ2§01/26, Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CDAG	**Cicekdag**	**0.16**	**247**	*i* P	**Pg**	**08 01 31.2**	**-2.5**
CDAG				*i* S	**Sg**	**08 01 42.8**	**+6.1**
CDAG	**Cicekdag**	**0.16**	**247**	P	**Pg**	**08 01 31.2**	**-2.5**
CORM	**Corum**	**0.49**	**6**	*e*PG	**Pg**	**08 01 38.3**	**-0.9**
CORM				*e*SG	**Sg**	**08 01 45.8**	**-0.1**
CORM	**Corum**	**0.49**	**6**	*e*Pg	**Pg**	**08 01 38.3**	**-0.9**
CORM				*e*Sg	**Sg**	**08 01 45.8**	**-0.1**
COAL	**Corum-Alaca**	**0.65**	**30**	*i* P	**Pg**	**08 01 41.2**	**-0.9**
COAL				*i* S	**Sb**	**08 01 51.7**	**+0.7**
COAL	**Corum-Alaca**	**0.65**	**30**	P	**Pg**	**08 01 41.2**	**-0.9**
COAL				S	**Sb**	**08 01 51.7**	**+0.7**
AVNS	**Nevsehir-Avano**	**0.91**	**166**	*i* P	**Pg**	**08 01 45.5**	**-1.3**
AVNS				*i* S	**Sb**	**08 01 58.3**	**0.0**
AVNS	**Nevsehir-Avano**	**0.91**	**166**	P	**Pg**	**08 01 45.5**	**-1.3**
AVNS				S	**Sb**	**08 01 58.3**	**0.0**
SERE	**Sereflikochisa**	**1.07**	**227**	*e*PN	**Pg**	**08 01 48.5**	**-1.5**
SERE	**Sereflikochisa**	**1.07**	**227**	*e*Pn	**Pg**	**08 01 48.5**	**-1.5**
AFSR	**Af˙ar-Bala (A**	**1.18**	**259**	*e*PN	**Pn**	**08 01 49.8**	**-1.1**
AFSR	**Af˙ar-Bala (A**	**1.18**	**259**	*e*Pn	**Pn**	**08 01 49.8**	**-1.1**
AKSY	**AKSARAY - Alti**	**1.21**	**211**	*i* P	**Pb**	**08 01 50.9**	**-0.8**
AKSY				*i* S	**Sn**	**08 02 10.7**	**+3.3**
AKSY	**AKSARAY - Alti**	**1.21**	**211**	P	**Pb**	**08 01 50.8**	**-0.8**
CUSAR	**Sarkisla-SIVAS**	**1.32**	**101**	*i* P	**Pg**	**08 01 53.1**	**-1.6**
CUSAR				*i* S	**Sn**	**08 02 12.1**	**+1.8**
CUSAR	**Sarkisla-SIVAS**	**1.32**	**101**	P	**Pg**	**08 01 53.1**	**-1.6**
CUSAR				S	**Sn**	**08 02 12.1**	**+1.8**

*NIED **18** 08:15:00, 40°.30N×142°.90E, h17km, Mw3.8 Best double couple: M₀5.88000×10¹⁴ NP1:φ=23.00000°, δ21.00000°, λ107.00000°. NP2:φ=185.00000°, δ70.00000°, λ84.00000°.*
*ISCJB **18** 08:15:02.8±1.1, 40°.32N±0°.04×142°.86E±0°.09, h10km, mb3.6/1, Error ellipse: s-maj=10.6km s-min=5.2km az=21.0*
*JMA **18** 08:15:03.6±0.2, 40°.26N×142°.89E, h24km±2km, M3.6*
*IDC **18** 08:15:50.9±3.4, 38°.13N×139°.61E, h106km±35km, mb3.2/2, mb1 3.6/2, mb1mx3.0/31, mbtmp3.6/2, Error ellipse: s-maj=70.1km s-min=31.3km az=106.0*

ISC 18 08:15:02.8±1.4, 40°.37N±0°.05×142°.82E±0°.08, h10km, n12, σ1§56/17, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JTH	**Tanohata**	**0.85**	**240**	P	**Pn**	**08 15 19.6**	**-1.2**
JANG	**Nango**	**1.00**	**271**	P	**Pn**	**08 15 22.7**	**-0.2**
MIYJ	**Miyakonagasawa**	**1.10**	**225**	P	**Pb**	**08 15 22.8**	**-1.1**
MIYJ				*e*S	**Sg**	**08 15 36.5**	**-1.8**
JKZ	**Kuzumaki**	**1.20**	**252**	P	**Pb**	**08 15 25.3**	**-0.4**
JTM	**Tenmabayashi**	**1.40**	**288**	P	**Pg**	**08 15 29.4**	**-0.3**
JTM				*e*S	**Sg**	**08 15 48.1**	**+0.3**
JOM	**Ohasama**	**1.47**	**233**	P	**Pb**	**08 15 29.2**	**-1.1**
JOM				*e*S	**Sn**	**08 15 47.7**	**-1.1**
JEM	**Erimo**	**1.67**	**9**	P	**Pb**	**08 15 32.9**	**-0.8**
JEM				*e*S	**Sb**	**08 15 54.6**	**-0.1**
JAH	**Hinai**	**1.68**	**265**	P	**Pb**	**08 15 33.5**	**-0.3**
JOT	**Ohata**	**1.68**	**308**	P	**Pb**	**08 15 33.7**	**-0.2**
JOT				*e*S	**Sb**	**08 15 55.1**	**-0.1**
MAT	**Matsushiro**	**5.26**	**225**	P	**Pn**	**08 16 23.0**	**+1.5**
MAT				*e*S	**Sn**	**08 17 26.4**	**+4.2**
MJAR	**Matsushiro Arr**	**5.26**	**225**	P	**Pn**	**08 16 23.7**	**+2.2**
	0.7nm,0.3s,baz=30,slow=13,SNR=16						
MJAR				S	Sn	08 16 47.5	-35
	0.5nm,0.3s,baz=37,slow=12,SNR=4.4						
WRA	**Warramunga Arr**	**60.51**	**189**	P	P	08 25 32.5	+19
	0.4nm,0.7s,baz=6.5,slow=7.1,SNR=4.7						

*IDC **18** 08:21:48.7±2.3, 53°.63N×88°.07E, h0km, mb3.5/3, mb1 3.8/3, mb1mx3.4/28, mbtmp3.5/3, Error ellipse: s-maj=56.0km s-min=17.5km az=176.0*
*ISCJB **18** 08:21:51.6±1.1, 53°.55N±0°.07×88°.08E±0°.2, h33km, mb3.7/3, Error ellipse: s-maj=13.6km s-min=8.3km az=24.0*
*NNC **18** 08:21:52.0±2.4, 53°.47N×87°.79E, h0km, mb4.1, mpv3.8, Error ellipse: s-maj=18.9km s-min=10.5km az=70.0*
ISC 18 08:21:53.8±1.3, 53°.61N±0°.08×88°.1E±0°.1, h35km, n9, σ1§40/14, mb3.6/3, 7C-7D, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ZAA0	**Zalesovo Array**	**1.96**	**281**	⇓Pn	**Pn**	**08 22 23.6**	**-0.9**
	7.5nm,0.8s						
ZAA0				⇓Sn	**Sn**	**08 22 50.3**	**+2.5**
	10nm,0.7s						
ZALV	**Zalesovo Beam**	**1.96**	**281**	Pg	**Pn**	**08 22 23.6**	**-0.9**
	15nm,0.3s,baz=102,slow=16,SNR=151						
ZALV				Lg	Lg	08 22 50.5	
	11nm,0.3s,baz=100,slow=25,SNR=6.1						
KURK	**Kurchatov**	**6.50**	**247**	⇑Pn	**Pn**	**08 23 26.9**	**+0.2**
	8.6nm,0.6s						
KURK				⇑Sn	**Sn**	**08 24 37.7**	**-1.9**
	7.3nm,0.7s						
KURK				⇓Lg	Lg	08 25 12.8	
	32nm,0.8s						
KURBB	**Kurchatov Arra**	**6.59**	**247**	⇑Pn	**Pn**	**08 23 28.1**	**0.0**
	19nm,0.5s						
KURBB				⇓Sn	**Sn**	**08 24 40.2**	**-1.7**
	19nm,0.6s						
KURBB				⇑Lg	Lg	08 25 13.8	
	24nm,0.6s						
MK31	**Makanchi Array**	**7.76**	**211**	⇑Pn	**Pn**	**08 23 44.0**	**-0.1**
	3.0nm,0.6s,baz=33,slow=15,SNR=3.0						
MK31				⇑Sn	**Sn**	**08 25 11.6**	**+0.8**
	4.4nm,0.7s,baz=34,slow=25,SNR=4.4						
MK31				⇓Lg	Lg	08 25 53.3	
	10nm,0.7s,baz=34,slow=30,SNR=7.1						
MAKZ	**Makanchi**	**7.85**	**212**	⇓Pn	**Pn**	**08 23 44.0**	**-1.3**
	4.4nm,0.7s						
MAKZ				⇓Sn	**Sn**	**08 25 14.7**	**+1.9**
	4.8nm,0.7s						
MAKZ				⇑Lg	Lg	08 25 53.3	
	7.2nm,0.7s						
AKASG	**Malin Array Be**	**35.33**	**290**	P	**P**	**08 28 45.3**	**0.0**
	0.3nm,0.3s,baz=53,slow=9.0,SNR=2.3						
ILAR	**Eielson Array**	**54.62**	**25**	P	**P**	**08 31 17.6**	**-0.6**
	0.3nm,0.6s,baz=308,slow=5.3,SNR=3.5						
ESDC	**Sonseca Array**	**60.38**	**297**	P	**P**	**08 32 00.2**	**+1.0**
	0.6nm,0.5s,baz=44,slow=8.2,SNR=2.3						

*MDD **18** 08:26:52.8±0.9, 37°.22N×14°.06W, h20km, mb4.6/19, Error ellipse: s-maj=12.5km s-min=7.0km az=140.0, PRXIMO*
*CNRM **18** 08:26:53.1, 37°.34N×13°.99W, h30km, MD4.0*
*IGIL **18** 08:26:55.5, 37°.22N×14°.07W, h50km, ML3.4*
*INMG **18** 08:26:57.2±1.0, 37°.22N×14°.07W, h10km±9km, ML3.4, Error ellipse: s-maj=3.8km s-min=2.5km az=124.0*
*CSEM **18** 08:26:59.8±0.3, 37°.52N×13°.44W, h20km, ML3.8/8, Error ellipse: s-maj=4.9km s-min=3.9km az=60.0*
ISC 18 08:26:54.2±3.1, 37°.44N±0°.08×13°.7W±0°.2, h10km, n132, σ1§72/237, 1C, Azores-Cape St. Vincent Ridge

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PMST	**Lisbon--Monsan**	**3.79**	**69**	*e*Pn	**Pn**	**08 27 54.5**	**+1.9**
PMST				*e*Sn	**Sn**	**08 28 37.4**	**+0.2**
PMST				A	A	08 28 43.8	
	76nm,0.6s						
PMST	**Lisbon--Monsan**	**3.79**	**69**	*e*Pn	**Pn**	**08 27 54.5**	**+1.9**
PMST				*e*Sn	**Sn**	**08 28 37.4**	**+0.2**
	76nm,0.6s						
PMAFR	**Mafra**	**3.79**	**65**	*e*Pn	**Pn**	**08 27 55.1**	**+2.4**
PMAFR				*e*Sn	**Sn**	**08 28 38.1**	**+0.8**
PMAFR				A	A	08 28 44.9	
	197nm,0.4s						
PMAFR	**Mafra**	**3.79**	**65**	P	**Pn**	**08 27 55.0**	**+2.4**
	7.1nm,0.1s,SNR=6.1						
PMAFR				S	**Sn**	**08 28 38.1**	**+0.8**
	229nm,0.3s,SNR=14						
PMAFR	**Mafra**	**3.79**	**65**	P	**Pn**	**08 27 55.0**	**+2.4**
	7.1nm,0.1s,SNR=6.1						
PMAFR				S	**Sn**	**08 28 38.1**	**+0.8**
	229nm,0.3s,SNR=14						
LIS	**Lisbon**	**3.81**	**69**	*e*S	**Sn**	**08 28 37.8**	**+0.2**
LIS				AML	AML	08 28 38.1	
	comp=N,140nm,0.5s						
LIS	**Lisbon**	**3.81**	**69**	S	**Sn**	**08 28 37.8**	**+0.2**
	comp=N,140nm,0.5s						
PFVI	**Vila Bisbo**	**3.89**	**93**	*e*Pn	**Pn**	**08 27 55.3**	**+1.3**
PFVI				*e*Sn	**Sn**	**08 28 38.3**	**-1.5**
PFVI				A	A	08 28 48.6	
	comp=N,34nm,0.4s						
PFVI	**Vila Bisbo**	**3.89**	**93**	⇑P	**Pn**	**08 27 55.3**	**+1.3**
	comp=N,24nm,0.1s,SNR=18						
PFVI				S	**Sn**	**08 28 38.4**	**-1.4**
	comp=N,46nm,0.2s,SNR=6.4						
PFVI	**Vila Bisbo**	**3.89**	**93**	P	**Pn**	**08 27 55.3**	**+1.3**
	comp=N,24nm,0.1s,SNR=18						
PFVI				S	**Sn**	**08 28 38.4**	**-1.4**
	comp=N,46nm,0.2s,SNR=6.4						
PTEO	**Sao Teotonio**	**3.95**	**87**	*e*Pn	**Pn**	**08 27 56.4**	**+1.5**
PTEO				*e*Sn	**Sn**	**08 28 40.1**	**-1.2**
PTEO				A	A	08 28 48.8	
	comp=N,57nm,0.6s						
PTEO	**Sao Teotonio**	**3.95**	**87**	P	**Pn**	**08 27 56.4**	**+1.5**
PTEO				S	**Sn**	**08 28 40.1**	**-1.2**
	comp=N,28nm,0.6s						
PTEO	**Sao Teotonio**	**3.95**	**87**	P	**Pn**	**08 27 56.4**	**+1.5**
PTEO				S	**Sn**	**08 28 40.1**	**-1.2**
	comp=N,28nm,0.6s						
MORF	**Marmelete**	**4.02**	**90**	*e*P	**Pn**	**08 27 56.9**	**+1.1**
MORF				*e*S	**Sn**	**08 28 41.9**	**-1.1**
MORF				AML	AML	08 28 43.8	
	comp=E,62nm,0.7s						
MORF	**Marmelete**	**4.02**	**90**	*e*Pn	**Pn**	**08 27 57.2**	**+1.4**
MORF				*e*Sn	**Sn**	**08 28 41.9**	**-1.1**
MORF				A	A	08 28 51.5	
	comp=E,46nm,0.7s						
MORF	**Marmelete**	**4.02**	**90**	P	**Pn**	**08 27 56.9**	**+1.1**
MORF				S	**Sn**	**08 28 41.9**	**-1.1**
	comp=E,62nm,0.7s						
MORF	**Marmelete**	**4.02**	**90**	P	**Pn**	**08 27 56.9**	**+1.1**
MORF	**Marmelete**	**4.02**	**90**	*e*Pn	**Pn**	**08 27 57.2**	**+1.4**
MORF				*e*Sn	**Sn**	**08 28 41.9**	**-1.1**
	comp=E,46nm,0.7s						
PNCL	**Nicolau / Gran**	**4.15**	**79**	*e*Pn	**Pn**	**08 27 59.0**	**+1.5**
PNCL				*e*Sn	**Sn**	**08 28 45.2**	**-0.8**
PNCL				A	A	08 28 46.9	
	comp=E,48nm,0.3s						
PNCL	**Nicolau / Gran**	**4.15**	**79**	*e*Pn	**Pn**	**08 27 59.0**	**+1.5**
PNCL				*e*Sn	**Sn**	**08 28 45.2**	**-0.8**
	comp=E,48nm,0.3s						
MESJ	**Messejana**	**4.36**	**83**	*e*P	**Pn**	**08 28 01.7**	**+1.2**
MESJ				*e*S	**Sn**	**08 28 50.4**	**-1.0**
MESJ				AML	AML	08 28 53.9	
	comp=E,50nm,0.2s						
MESJ	**Messejana**	**4.36**	**83**	*e*Pn	**Pn**	**08 28 01.9**	**+1.4**
MESJ				*e*Sn	**Sn**	**08 28 50.4**	**-1.0**
MESJ				A	A	08 28 54.1	
	comp=E,38nm,0.7s						
MESJ	**Messejana**	**4.36**	**83**	P	**Pn**	**08 28 01.7**	**+1.2**
MESJ				S	**Sn**	**08 28 50.4**	**-1.0**
	comp=E,50nm,0.2s						
MESJ	**Messejana**	**4.36**	**83**	*e*Pn	**Pn**	**08 28 01.9**	**+1.4**
MESJ				S	**Sn**	**08 28 50.4**	**-1.0**
	comp=E,50nm,0.2s						
PCVE	**Castro Verde**	**4.50**	**86**	*e*Pn	**Pn**	**08 28 03.4**	**+1.0**
PCVE				*e*Sn	**Sn**	**08 28 53.0**	**-1.7**
PCVE				A	A	08 28 58.4	
	comp=E,28nm,0.4s						
PCVE	**Castro Verde**	**4.50**	**86**	P	**Pn**	**08 28 03.4**	**+1.0**
PCVE				S	**Sn**	**08 28 53.0**	**-1.7**
	comp=E,28nm,0.4s						
PCVE	**Castro Verde**	**4.50**	**86**	P	**Pn**	**08 28 03.4**	**+1.0**
PCVE				S	**Sn**	**08 28 53.0**	**-1.7**
	comp=E,28nm,0.4s						
PBDV	**Barranco-do-Ve**	**4.60**	**91**	*e*Pn	**Pn**	**08 28 05.2**	**+1.5**
PBDV				*e*Sn	**Sn**	**08 28 56.9**	**-0.3**
PBDV				A	A	08 28 59.7	
	comp=E,29nm,0.6s						
PBDV	**Barranco-do-Ve**	**4.60**	**91**	P	**Pn**	**08 28 05.2**	**+1.5**
PBDV				S	**Sn**	**08 28 56.9**	**-0.3**
	comp=E,29nm,0.6s						
PBDV	**Barranco-do-Ve**	**4.60**	**91**	P	**Pn**	**08 28 05.2**	**+1.5**
PBDV				S	**Sn**	**08 28 56.9**	**-0.3**
	comp=E,29nm,0.6s						
EVO	**Evora**	**4.62**	**75**	*e*Pn	**Pn**	**08 28 06.1**	**+2.1**
EVO				*e*Sn	**Sn**	**08 28 56.7**	**-1.0**
EVO				A	A	08 29 00.9	
	comp=E,43nm,0.2s						
EVO	**Evora**	**4.62**	**75**	P	**Pn**	**08 28 06.1**	**+2.1**
EVO				S	**Sn**	**08 28 56.7**	**-1.0**
	comp=E,43nm,0.2s						
EVO	**Evora**	**4.62**	**75**	P	**Pn**	**08 28 06.1**	**+2.1**
EVO				S	**Sn**	**08 28 56.7**	**-1.0**
	comp=E,43nm,0.2s						
PBEJ	**Beja**	**4.66**	**81**	*e*Pn	**Pn**	**08 28 06.3**	**+1.8**
PBEJ				*e*Sn	**Sn**	**08 28 57.6**	**-1.0**
PBEJ				A	A	08 29 02.8	
	comp=E,22nm,0.5s						
PBEJ	**Beja**	**4.66**	**81**	P	**Pn**	**08 28 06.3**	**+1.8**
PBEJ				S	**Sn**	**08 28 57.6**	**-1.0**
	comp=E,11nm,0.5s						
PBEJ	**Beja**	**4.66**	**81**	P	**Pn**	**08 28 06.3**	**+1.8**
PBEJ				S	**Sn**	**08 28 57.6**	**-1.0**
	comp=E,11nm,0.5s						
PTOM	**Tomar**	**4.68**	**61**	*e*Pn	**Pn**	**08 28 07.1**	**+2.3**
PTOM				*e*Sn	**Sn**	**08 28 59.1**	**-0.1**
PTOM				A	A	08 29 02.8	
	comp=E,57nm,0.4s						
PTOM	**Tomar**	**4.68**	**61**	P	**Pn**	**08 28 07.1**	**+2.3**
PTOM				S	**Sn**	**08 28 59.1**	**-0.1**
	comp=E,28nm,0.4s						
PTOM	**Tomar**	**4.68**	**61**	P	**Pn**	**08 28 07.1**	**+2.3**
PTOM				S	**Sn**	**08 28 59.1**	**-0.1**
	comp=E,28nm,0.4s						
PVAQ	**Vaqueiros**	**4.76**	**89**	*e*Pn	**Pn**	**08 28 07.2**	**+1.3**
PVAQ				*e*Sn	**Sn**	**08 28 59.6**	**-1.5**
PVAQ				A	A	08 29 06.5	
	comp=E,29nm,0.4s						
PVAQ	**Vaqueiros**	**4.76**	**89**	P	**Pn**	**08 28 07.2**	**+1.3**
PVAQ				S	**Sn**	**08 28 59.6**	**-1.5**
	comp=E,29nm,0.4s						
PVAQ	**Vaqueiros**	**4.76**	**89**	P	**Pn**	**08 28 07.2**	**+1.3**
PVAQ				S	**Sn**	**08 28 59.6**	**-1.5**
	comp=E,29nm,0.4s						
PCAS	**Casmilo, Conde**	**4.83**	**56**	*e*Pn	**Pn**	**08 28 08.7**	**+1.8**
PCAS				*e*Sn	**Sn**	**08 29 02.4**	**-0.5**
PCAS				A	A	08 29 07.1	
	comp=E,29nm,0.5s						
PCAS	**Casmilo, Conde**	**4.83**	**56**	*e*Pn	**Pn**	**08 28 08.7**	**+1.8**
PCAS				*e*Sn	**Sn**	**08 29 02.4**	**-0.5**
	comp=E,29nm,0.5s						
PMPS	**Porto Santo**	**4.87**	**207**	*e*Pn	Pn	08 27 58.1	-9.4
PMPS				*e*Sn	Sn	08 28 43.9	-20
PMPS				A	A	08 28 51.3	
	comp=E,29nm,0.9s						
PMPS	**Porto Santo**	**4.87**	**207**	P	Pn	08 27 58.1	-9.4
PMPS				S	Sn	08 28 43.9	-20
	comp=E,15nm,0.9s						
EGRO	**El Granado**	**4.94**	**87**	P	**Pn**	**08 28 09.4**	**+1.0**
	comp=E,6.7nm,0.2s,SNR=14						
EGRO				S	**Sn**	**08 29 04.5**	**-1.1**
	comp=E,27nm,0.3s,SNR=9.0						
EGRO	**El Granado**	**4.94**	**87**	P	**Pn**	**08 28 09.4**	**+1.0**
	comp=E,6.7nm,0.2s,SNR=14						
EGRO				S	**Sn**	**08 29 04.5**	**-1.1**
	comp=E,27nm,0.3s,SNR=9.0						
COI	**Coimbra**	**4.97**	**55**	S	**Sn**	**08 29 06.3**	**+0.1**
	comp=E,21nm,0.3s						
COI	**Coimbra**	**4.97**	**55**	S	**Sn**	**08 29 06.3**	**+0.1**
	comp=E,21nm,0.3s						
PESTR	**Estremoz**	**5.02**	**72**	*e*Pn	**Pn**	**08 28 11.4**	**+1.9**
PESTR				*e*Sn	**Sn**	**08 29 06.3**	**-1.3**
PESTR				A	A	08 29 14.1	
	comp=E,25nm,0.5s						
PESTR	**Estremoz**	**5.02**	**72**	*e*Pn	**Pn**	**08 28 11.4**	**+1.9**
PESTR				*e*Sn	**Sn**	**08 29 06.3**	**-1.3**
	comp=E,25nm,0.5s						
PBAR	**Barrancos**	**5.32**	**80**	*e*Pn	**Pn**	**08 28 15.9**	**+2.2**
PBAR				*e*Sn	**Sn**	**08 29 14.0**	**-1.0**
PBAR				A	A	08 29 21.7	
	comp=E,46nm,0.4s						
PBAR	**Barrancos**	**5.32**	**80**	P	**Pn**	**08 28 15.9**	**+2.2**
PBAR				S	**Sn**	**08 29 14.0**	**-1.0**
	comp=E,46nm,0.4s						
PBAR	**Barrancos**	**5.32**	**80**	P	**Pn**	**08 28 15.9**	**+2.2**
PBAR				S	**Sn**	**08 29 14.0**	**-1.0**
	comp=E,46nm,0.4s						
PMRV	**Marv??o**	**5.33**	**66**	*e*Pn	**Pn**	**08 28 15.7**	**+1.9**
PMRV				*e*Sn	**Sn**	**08 29 14.3**	**-1.0**
PMRV				A	A	08 29 19.6	
	comp=E,41nm,0.4s						
PMRV	**Marv??o**	**5.33**	**66**	P	**Pn**	**08 28 15.7**	**+1.9**
PMRV				S	**Sn**	**08 29 14.3**	**-1.0**
	comp=E,41nm,0.4s						
PMRV	**Marv??o**	**5.33**	**66**	P	**Pn**	**08 28 15.7**	**+1.9**
PMRV				S	**Sn**	**08 29 14.3**	**-1.0**
	comp=E,41nm,0.4s						
PMAR	**Madeira**	**5.39**	**210**	*e*Pn	Pn	08 28 05.8	-9.

	comp=E,56nm,0.2s							
FUL	**Funchal**	**5.45**	**210**	S		Sn	08 28 58.9	-19
	comp=E,28nm,0.2s							
PVIS	**Viseu**	**5.57**	**52**	*e*Pn		**Pn**	**08 28 19.6**	**+2.4**
PVIS				*e*Sn		**Sn**	**08 29 20.9**	**-0.4**
PVIS				A		A	08 29 22.6	
	comp=E,19nm,0.6s							
PVIS	**Viseu**	**5.57**	**52**	P		**Pn**	**08 28 19.6**	**+2.4**
PVIS				S		**Sn**	**08 29 20.9**	**-0.4**
	comp=E,9.3nm,0.6s							
PVIS	**Viseu**	**5.57**	**52**	P		**Pn**	**08 28 19.6**	**+2.4**
PVIS				S		**Sn**	**08 29 20.9**	**-0.4**
	comp=E,9.3nm,0.6s							
EMIN	**Mina Concepcio**	**5.58**	**84**	P		**Pn**	**08 28 18.7**	**+1.4**
	comp=E,2.4nm,0.2s,SNR=39							
EMIN				S		**Sn**	**08 29 18.8**	**-2.7**
	comp=E,15nm,0.4s,SNR=9.3							
EMIN	**Mina Concepcio**	**5.58**	**84**	P		**Pn**	**08 28 18.7**	**+1.4**
	comp=E,2.4nm,0.2s,SNR=39							
EMIN				S		**Sn**	**08 29 18.8**	**-2.7**
	comp=E,15nm,0.4s,SNR=9.3							
MTE	**Manteigas**	**5.63**	**56**	*e*Pn		**Pn**	**08 28 20.5**	**+2.5**
MTE				*e*Sn		**Sn**	**08 29 22.1**	**-0.7**
MTE				A		A	08 29 26.6	
	comp=E,33nm,0.4s							
MTE	**Manteigas**	**5.63**	**56**	P		**Pn**	**08 28 20.5**	**+2.5**
MTE				S		**Sn**	**08 29 22.1**	**-0.7**
	comp=E,17nm,0.4s							
MTE	**Manteigas**	**5.63**	**56**	P		**Pn**	**08 28 20.5**	**+2.5**
MTE				S		**Sn**	**08 29 22.1**	**-0.7**
	comp=E,17nm,0.4s							
PVRL	**Vila Real**	**6.01**	**49**	*e*Pn		**Pn**	**08 28 25.3**	**+2.1**
PVRL				*e*Sn		**Sn**	**08 29 30.7**	**-1.4**
PVRL				A		A	08 29 34.9	
	comp=E,24nm,0.5s							
PVRL	**Vila Real**	**6.01**	**49**	P		**Pn**	**08 28 25.3**	**+2.1**
PVRL				S		**Sn**	**08 29 30.7**	**-1.4**
	comp=E,12nm,0.5s							
PVRL	**Vila Real**	**6.01**	**49**	P		**Pn**	**08 28 25.3**	**+2.1**
PVRL				S		**Sn**	**08 29 30.7**	**-1.4**
	comp=E,12nm,0.5s							
POLO	**Lamas de Olo**	**6.03**	**47**	*e*Pn		**Pn**	**08 28 25.0**	**+1.6**
POLO				*e*Sn		**Sn**	**08 29 31.0**	**-1.5**
POLO				A		A	08 29 35.6	
	comp=E,4.4nm,0.4s							
POLO	**Lamas de Olo**	**6.03**	**47**	*e*Pn		**Pn**	**08 28 25.0**	**+1.6**
POLO				*e*Sn		**Sn**	**08 29 31.0**	**-1.5**
	comp=E,4.4nm,0.4s							
PCAB	**Cabril**	**6.11**	**44**	*e*Pn		**Pn**	**08 28 26.7**	**+2.1**
PCAB				*e*Sn		**Sn**	**08 29 33.6**	**-1.0**
PCAB	**Cabril**	**6.11**	**44**	P		**Pn**	**08 28 26.7**	**+2.1**
PCAB				S		**Sn**	**08 29 33.6**	**-1.0**
PCAB	**Cabril**	**6.11**	**44**	P		**Pn**	**08 28 26.7**	**+2.1**
PCAB				S		**Sn**	**08 29 33.6**	**-1.0**
PGAV	**Gavieira, Arco**	**6.16**	**41**	*e*Pn		**Pn**	**08 28 27.2**	**+1.9**
PGAV				*e*Sn		**Sn**	**08 29 34.2**	**-1.6**
PGAV				A		A	08 29 46.2	
	comp=E,13nm,0.4s							
PGAV	**Gavieira, Arco**	**6.16**	**41**	*e*Pn		**Pn**	**08 28 27.2**	**+1.9**
PGAV				*e*Sn		**Sn**	**08 29 34.2**	**-1.6**
	comp=E,13nm,0.4s							
ELOB	**Lobios**	**6.20**	**43**	P		**Pn**	**08 28 27.6**	**+1.8**
	comp=E,6.4nm,0.2s,SNR=18							
ELOB				S		**Sn**	**08 29 34.1**	**-2.7**
	comp=E,5.5nm,0.1s,SNR=6.3							
ELOB	**Lobios**	**6.20**	**43**	P		**Pn**	**08 28 27.6**	**+1.8**
	comp=E,6.4nm,0.2s,SNR=18							
ELOB				S		**Sn**	**08 29 34.1**	**-2.7**
	comp=E,5.5nm,0.1s,SNR=6.3							
ESPR	**Espera**	**6.29**	**93**	P		**Pn**	**08 28 28.7**	**+1.8**
	comp=E,6.0nm,0.1s,SNR=13							
ESPR				S		**Sn**	**08 29 37.3**	**-1.5**
	comp=E,68nm,0.4s,SNR=5.2							
ESPR	**Espera**	**6.29**	**93**	P		**Pn**	**08 28 28.7**	**+1.8**
	comp=E,6.0nm,0.1s,SNR=13							
ESPR				S		**Sn**	**08 29 37.3**	**-1.5**
	comp=E,68nm,0.4s,SNR=5.2							
MVO	**Moncorvo**	**6.37**	**52**	*e*Pn		**Pn**	**08 28 29.5**	**+1.5**
MVO				*e*Sn		**Sn**	**08 29 38.9**	**-2.0**
MVO				A		A	08 29 43.2	
	comp=E,14nm,0.4s							
MVO	**Moncorvo**	**6.37**	**52**	P		**Pn**	**08 28 29.6**	**+1.5**
	comp=E,8.5nm,0.6s,SNR=8.1							
MVO				S		**Sn**	**08 29 39.2**	**-1.7**
	comp=E,7.3nm,0.2s,SNR=9.0							
MVO	**Moncorvo**	**6.37**	**52**	P		**Pn**	**08 28 29.6**	**+1.5**
	comp=E,8.5nm,0.6s,SNR=8.1							
MVO				*e*Sn		**Sn**	**08 29 38.9**	**-2.0**
	comp=E,14nm,0.4s							
MVO				S		**Sn**	**08 29 39.2**	**-1.7**
	comp=E,7.3nm,0.2s,SNR=9.0							
EPLA	**Plasencia**	**6.50**	**64**	S		**Sn**	**08 29 42.9**	**-1.3**
	comp=E,32nm,0.4s,SNR=7.9							
EPLA	**Plasencia**	**6.50**	**64**	S		**Sn**	**08 29 42.9**	**-1.3**
	comp=E,32nm,0.4s,SNR=7.9							
EMAZ	**Mazaricos**	**6.58**	**32**	P		**Pn**	**08 28 31.6**	**+0.6**
	comp=E,2.7nm,0.2s,SNR=7.9							
EMAZ				S		**Sn**	**08 29 42.2**	**-3.9**
	comp=E,2.9nm,0.1s,SNR=7.9							
EMAZ	**Mazaricos**	**6.58**	**32**	P		**Pn**	**08 28 31.6**	**+0.6**
	comp=E,2.7nm,0.2s,SNR=7.9							
ECAB	**El Cabril**	**6.59**	**82**	P		**Pn**	**08 28 32.2**	**+1.1**
	comp=E,26nm,0.6s,SNR=95							
ECAB				S		**Sn**	**08 29 43.3**	**-2.9**
	comp=E,5.0nm,0.2s,SNR=5.9							
ECAB	**El Cabril**	**6.59**	**82**	P		**Pn**	**08 28 32.2**	**+1.1**
	comp=E,26nm,0.6s,SNR=95							
ECAB				S		**Sn**	**08 29 43.3**	**-2.9**
	comp=E,5.0nm,0.2s,SNR=5.9							
EAGO	**Agolada(Pontev**	**6.87**	**37**	P		**Pn**	**08 28 35.6**	**+0.7**
	comp=E,5.2nm,0.2s,SNR=7.9							
EAGO				S		**Sn**	**08 29 50.1**	**-3.0**
	comp=E,3.8nm,0.1s,SNR=7.9							
EAGO	**Agolada(Pontev**	**6.87**	**37**	P		**Pn**	**08 28 35.6**	**+0.7**
	comp=E,5.2nm,0.2s,SNR=7.9							
EAGO				S		**Sn**	**08 29 50.1**	**-3.0**
	comp=E,3.8nm,0.1s,SNR=7.9							
PBRG	**Braganca**	**6.91**	**49**	*e*Pn		**Pn**	**08 28 37.0**	**+1.4**
PBRG				*e*Sn		**Sn**	**08 29 52.6**	**-1.7**
PBRG				A		A	08 29 55.6	
	comp=E,9.1nm,0.5s							
PBRG	**Braganca**	**6.91**	**49**	P		**Pn**	**08 28 37.0**	**+1.4**
PBRG				S		**Sn**	**08 29 52.6**	**-1.7**
	comp=E,4.6nm,0.5s							
PBRG	**Braganca**	**6.91**	**49**	P		**Pn**	**08 28 37.0**	**+1.4**
PBRG				S		**Sn**	**08 29 52.6**	**-1.7**
	comp=E,4.6nm,0.5s							
ECAL	**Calabor**	**7.00**	**48**	P		**Pn**	**08 28 38.4**	**+1.6**
	comp=E,4.2nm,0.3s,SNR=8.1							
ECAL				S		**Sn**	**08 29 54.1**	**-2.4**
	comp=E,22nm,0.3s,SNR=6.1							
ECAL	**Calabor**	**7.00**	**48**	P		**Pn**	**08 28 38.4**	**+1.6**
	comp=E,4.2nm,0.3s,SNR=8.1							
ECAL				S		**Sn**	**08 29 54.1**	**-2.4**
	comp=E,22nm,0.3s,SNR=6.1							
EMIJ	**Mijas**	**7.19**	**94**	P		**Pn**	**08 28 42.2**	**+2.8**
	comp=E,2.9nm,0.4s,SNR=7.9							
EMIJ				S		**Sn**	**08 29 58.1**	**-3.1**
	comp=E,11nm,0.5s,SNR=7.9							
EMIJ	**Mijas**	**7.19**	**94**	P		**Pn**	**08 28 42.2**	**+2.8**
	comp=E,2.9nm,0.4s,SNR=7.9							
EMIJ				S		**Sn**	**08 29 58.1**	**-3.1**
	comp=E,11nm,0.5s,SNR=7.9							
EADA	**Adamuz**	**7.25**	**81**	P		**Pn**	**08 28 42.1**	**+1.9**
	comp=E,15nm,0.3s,SNR=54							
EADA				S		**Sn**	**08 29 59.7**	**-3.0**
	comp=E,7.1nm,0.2s,SNR=5.1							
EADA	**Adamuz**	**7.25**	**81**	P		**Pn**	**08 28 42.1**	**+1.9**
	comp=E,15nm,0.3s,SNR=54							
EADA				S		**Sn**	**08 29 59.7**	**-3.0**
	comp=E,7.1nm,0.2s,SNR=5.1							
EGOR	**Sierra Gorda,**	**7.65**	**90**	P		**Pn**	**08 28 47.3**	**+1.6**
	comp=E,2.2nm,0.4s,SNR=7.9							
EGOR				S		**Sn**	**08 30 11.9**	**-0.7**
	comp=E,16nm,0.6s,SNR=7.9							
EGOR	**Sierra Gorda,**	**7.65**	**90**	P		**Pn**	**08 28 47.3**	**+1.6**
	comp=E,2.2nm,0.4s,SNR=7.9							
EGOR				S		**Sn**	**08 30 11.9**	**-0.7**
	comp=E,16nm,0.6s,SNR=7.9							
EPON	**Pontenova**	**7.71**	**38**	P		**Pn**	**08 28 48.0**	**+1.5**
	comp=E,5.5nm,0.3s,SNR=7.4							
EPON				S		**Sn**	**08 30 09.9**	**-4.1**
	comp=E,2.3nm,0.2s,SNR=7.9							
EPON	**Pontenova**	**7.71**	**38**	P		**Pn**	**08 28 48.0**	**+1.5**
	comp=E,5.5nm,0.3s,SNR=7.4							
ESDC	**Sonseca Array**	**7.95**	**71**	P		**Pn**	**08 28 51.4**	**+1.7**
	comp=E,4.8nm,0.1s,baz=253,slow=13,SNR=31							
ESDC				S		**Sn**	**08 30 16.7**	**-3.0**
	comp=E,4.2nm,0.3s,baz=258,slow=23,SNR=11							
ESDC	**Sonseca Array**	**7.95**	**71**	P		**Pn**	**08 28 51.4**	**+1.7**
	comp=E,4.8nm,0.1s,SNR=31							
ESDC				S		**Sn**	**08 30 16.7**	**-3.0**
	comp=E,4.2nm,0.3s,SNR=11							
GUD	**Guadarrama**	**8.08**	**64**	P		**Pn**	**08 28 54.8**	**+3.1**
	comp=E,0.8nm,0.3s,SNR=5.8							
GUD				S		**Sn**	**08 30 20.2**	**-3.0**
	comp=E,5.3nm,0.3s,SNR=7.3							
GUD	**Guadarrama**	**8.08**	**64**	P		**Pn**	**08 28 54.8**	**+3.1**
	comp=E,0.8nm,0.3s,SNR=5.8							
GUD				S		**Sn**	**08 30 20.2**	**-3.0**
	comp=E,5.3nm,0.3s,SNR=7.3							
EQUE	**Quentar**	**8.17**	**89**	P		**Pn**	**08 28 54.9**	**+2.0**
	comp=E,7.5nm,0.4s,SNR=11							
EQUE				S		**Sn**	**08 30 24.4**	**-1.0**
	comp=E,6.8nm,0.6s,SNR=5.6							
EQUE	**Quentar**	**8.17**	**89**	P		**Pn**	**08 28 54.9**	**+2.0**
	comp=E,7.5nm,0.4s,SNR=11							
EQUE				S		**Sn**	**08 30 24.4**	**-1.0**
	comp=E,6.8nm,0.6s,SNR=5.6							
CZD	**Col de Zad**	**8.33**	**119**	*e*P		**Pn**	**08 28 54.0**	**-1.2**
EQES	**Quesada**	**8.44**	**84**	P		**Pn**	**08 28 57.7**	**+1.1**
	comp=E,0.1nm,0.1s,SNR=7.9							
EQES				S		**Sn**	**08 30 29.9**	**-2.0**
	comp=E,0.8nm,0.2s,SNR=7.9							
EQES	**Quesada**	**8.44**	**84**	P		**Pn**	**08 28 57.7**	**+1.1**
	comp=E,0.1nm,0.1s,SNR=7.9							
EQES				S		**Sn**	**08 30 29.9**	**-2.0**
	comp=E,0.8nm,0.2s,SNR=7.9							
EBER	**Berja**	**8.64**	**90**	P		**Pn**	**08 29 01.2**	**+1.8**
	comp=E,3.2nm,0.5s,SNR=5.7							
EBER				S		**Sn**	**08 30 35.0**	**-2.0**
	comp=E,25nm,0.9s,SNR=7.9							
EBER	**Berja**	**8.64**	**90**	P		**Pn**	**08 29 01.2**	**+1.8**
	comp=E,3.2nm,0.5s,SNR=5.7							
EBER				S		**Sn**	**08 30 35.0**	**-2.0**
	comp=E,25nm,0.9s,SNR=7.9							
CFUE	**Fuerteventura**	**8.77**	**181**	S		Sn	08 30 18.8	-21
	comp=E,11nm,0.3s,SNR=7.9							
SESP	**Santiago Espad**	**8.86**	**82**	P		**Pn**	**08 29 03.2**	**+0.9**
	comp=E,6.3nm,0.5s,SNR=7.9							
SESP				S		**Sn**	**08 30 40.1**	**-2.1**
	comp=E,19nm,0.6s,SNR=7.9							
SESP	**Santiago Espad**	**8.86**	**82**	P		**Pn**	**08 29 03.2**	**+0.9**
	comp=E,6.3nm,0.5s,SNR=7.9							
SESP				S		**Sn**	**08 30 40.1**	**-2.1**
	comp=E,19nm,0.6s,SNR=7.9							

*JMA **18** 08:31:54.6±0.1, 24°.77N×121°.85E, h73km±2km, M2.8*
*ISCJB **18** 08:31:55.6±0.5, 24°.79N±0°.03×121°.89E±0°.02, h69km±4km,*
Error ellipse: s-maj=5.0km s-min=2.9km az=161.0
*TAP **18** 08:31:55.4, 24°.75N×121°.83E, h68km, ML3.8, B*
ISC 18 08:31:56.3±1.3, 24°.77N±0°.04×121°.89E±0°.03, h65km±6km, n49, σ0.96/95, Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
EGS		**0.09**	**25**	P		**Pn**	**08 32 06.1**	**+0.2**
	baz=48							
EGS				*e*S		**Sn**	**08 32 13.8**	**+0.8**
	baz=48							
ILA	**Ilan**	**0.13**	**269**	P		**Pn**	**08 32 06.2**	**+0.1**
	baz=292							
ILA				*e*S		**Sn**	**08 32 13.8**	**+0.7**
	baz=292							
TWC	**Suao**	**0.16**	**194**	P		**Pn**	**08 32 06.3**	**+0.1**
	baz=170							
TWC				*e*S		**Sn**	**08 32 13.8**	**+0.4**
	baz=170							
TWE	**Neicheng**	**0.21**	**257**	P		**Pn**	**08 32 06.3**	**-0.1**
	baz=257							
TWE				*e*S		**Sn**	**08 32 14.3**	**+0.5**
	baz=257							
TWB1	**Santiao Chiao**	**0.26**	**20**	P		**Pn**	**08 32 06.6**	**0.0**
	baz=35							
TWB1				*e*S		**Sn**	**08 32 14.3**	**+0.1**
	baz=35							
NWF	**Wu-fen Shan**	**0.32**	**342**	P		**Pn**	**08 32 06.9**	**-0.3**
	baz=357							
NWF				*e*S		**Sn**	**08 32 15.0**	**-0.2**
	baz=357							
ENTT	**Nioudou**	**0.32**	**247**	P		**Pn**	**08 32 06.9**	**-0.3**
	baz=255							
ENTT				*e*S		**Sn**	**08 32 15.2**	**+0.2**
	baz=255							
TWA	**Mucha**	**0.35**	**307**	P		**Pn**	**08 32 06.8**	**-0.5**
	baz=320							
TWA				*e*S		**Sn**	**08 32 15.4**	**-0.1**
	baz=320							
ENA	**Nanau**	**0.36**	**202**	P		**Pn**	**08 32 07.4**	**-0.1**
	baz=193							
ENA				*e*S		**Sn**	**08 32 16.5**	**+0.9**
	baz=193							
TAP1	**Taipei**	**0.43**	**309**	*e*P		**Pn**	**08 32 07.5**	**-0.5**
	baz=315							
TAP1				*e*S		**Sn**	**08 32 16.3**	**-0.2**
	baz=315							
TAP	**Taipei**	**0.44**	**308**	P		**Pn**	**08 32 07.6**	**-0.5**
	baz=315							
TAP				*e*S		**Sn**	**08 32 16.5**	**-0.2**
	baz=315							
NSK	**Sanguang**	**0.49**	**259**	P		**Pn**	**08 32 08.0**	**-0.7**
	baz=260							
NSK				*e*S		**Sn**	**08 32 16.8**	**-1.0**
	baz=260							
TWS1	**Kuangyinshan**	**0.54**	**308**	*e*P		**Pn**	**08 32 08.9**	**-0.2**
	baz=321							
TWS1				*e*S		**Sn**	**08 32 18.8**	**+0.2**
	baz=321							
TWY	**Chenhua**	**0.57**	**332**	*e*P		**Pn**	**08 32 09.2**	**-0.2**
	baz=339							
TWY				*e*S		**Sn**	**08 32 20.7**	**+1.7**
	baz=339							
NNS	**Nan Shan**	**0.57**	**236**	P		**Pn**	**08 32 09.3**	**-0.4**
	baz=238							
NNS				*e*S		**Sn**	**08 32 19.3**	**0.0**
	baz=238							
NCU	**National Centr**	**0.67**	**288**	P		**Pn**	**08 32 09.9**	**-0.6**
	baz=283							
NCU				*e*S		**Sn**	**08 32 21.0**	**-0.1**
	baz=283							
TWD	**Chiawan**	**0.74**	**202**	*e*P		**Pn**	**08 32 10.4**	**-0.9**
	baz=206							
TWD				*e*S		**Sn**	**08 32 21.8**	**-0.6**
	baz=206							
NSTT	**Nanjuang**	**0.82**	**261**	P		**Pn**	**08 32 11.6**	**-0.7**
	baz=261							
NSTT				*e*S		**Sn**	**08 32 23.3**	**-0.9**
	baz=261							
HWA	**Hwalien**	**0.83**	**198**	*e*P		**Pn**	**08 32 11.7**	**-0.7**
	baz=204							
HWA				*e*S		**Sn**	**08 32 24.1**	**-0.2**
	baz=204							
TWT	**Tachien**	**0.83**	**232**	P		**Pn**	**08 32 12.6**	**0.0**
	baz=230							
TWT				*e*S		**Sn**	**08 32 25.7**	**+1.1**
	baz=230							
HSN	**Hsinchu**	**0.84**	**273**	*e*P		**Pn**	**08 32 11.5**	**-1.0**
	baz=276							
HSN				*e*S		**Sn**	**08 32 23.4**	**-1.1**
	baz=276							
WHF	**Hehuan Shan**	**0.84**	**223**	P		**Pn**	**08 32 12.7**	**-0.3**
	baz=213							
WHF				*e*S		**Sn**	**08 32 25.3**	**0.0**
	baz=213							
JYNG	**Yonagunijimaku**	**1.01**	**108**	P		**Pn**	**08 32 14.3**	**-0.3**
JYNG				S		**Sn**	**08 32 28.2**	**-0.1**
YOJ	**Yonaguni jima**	**1.06**	**106**	P		**Pn**	**08 32 14.7**	**-0.6**
YOJ				S		**Sn**	**08 32 29.2**	**-0.3**
NSY	**Sanyi**	**1.09**	**251**	P		**Pn**	**08 32 15.4**	**-0.3**
	baz=261							
NSY				*e*S		**Sn**	**08 32 30.3**	**+0.1**
	baz=261							
TWQ1	**Liyutan**	**1.10**	**248**	P		**Pn**	**08 32 15.4**	**-0.5**
	baz=257							
TWQ1				*e*S		**Sn**	**08 32 30.1**	**-0.4**
	baz=257							
WDT	**Danda**	**1.22**	**215**	*e*P		**Pn**	**08 32 17.2**	**-0.5**
	baz=205							
WDT				*e*S		**Sn**	**08 32 34.3**	**+0.6**
	baz=205							
SMLT	**Sun Moon Lake**	**1.26**	**226**	P		**Pn**	**08 32 18.0**	**-0.1**
	baz=232							
SMLT				*e*S		**Sn**	**08 32 35.3**	**+0.9**
	baz=232							
TCU	**Taichung**	**1.27**	**241**	*e*P		**Pn**	**08 32 17.3**	**-0.7**
	baz=240							
TCU				*e*S		**Sn**	**08 32 32.5**	**-1.8**
	baz=240							
EHY	**Hungye**	**1.36**	**203**	*e*P		**Pn**	**08 32 17.5**	**-1.8**
	baz=199							
EHY				*e*S		**Sn**	**08 32 34.5**	**-2.0**
	baz=199							
TWF1	**Yuli**	**1.51**	**201**	*e*P		**Pn**	**08 32 19.5**	**-1.7**
	baz=199							
ALS	**Alishan**	**1.60**	**219**	P		**Pn**	**08 32 23.3**	**+0.6**
	baz=227							
ALS				*e*S		**Sn**	**08 32 43.6**	**+1.0**
	baz=227							
CHN5	**Tsauling**	**1.61**	**224**	*e*P		**Pn**	**08 32 22.4**	**-0.3**
	baz=222							
CHN5				*e*S		**Sn**	**08 32 43.2**	**+0.6**
	baz=222							
WGK	**Gukeng**	**1.62**	**229**	*e*P		**Pn**	**08 32 22.5**	**-0.3**
	baz=238							
WGK				*e*S		**Sn**	**08 32 43.4**	**+0.7**
	baz=238							
IRIF	**Iriomote-Funau**	**1.73**	**104**	P		**Pn**	**08 32 23.7**	**-0.5**
IRIF				S		**Sn**	**08 32 45.0**	**-0.3**
ELDTW	**Lidau**	**1.76**	**207**	*e*P		**Pn**	**08 32 24.5**	**-0.3**
	baz=198							
CHN4	**Tsaushan**	**1.84**	**220**	*e*P		**Pn**	**08 32 26.3**	**+0.6**
	baz=218							
CHN4				*e*S		**Sn**	**08 32 50.5**	**+2.4**
	baz=218							
HATJ	**Hateruma jima**	**1.88**	**112**	S		**Sn**	**08 32 50.0**	**+1.0**
STYT	**Tauyuan**	**1.91**	**213**	*e*P		**Pn**	**08 32 27.7**	**+1.0**
	baz=222							
STYT				*e*S		**Sn**	**08 32 51.0**	**+1.3**
	baz=222							
WTP	**Ta-pu**	**1.91**	**218**	*e*P		**Pn**	**08 32 28.1**	**+1.4**
	baz=226							
WTP				*e*S		**Sn**	**08 32 51.5**	**+1.6**
	baz=226							
JKRS	**Kuro-shima**	**2.00**	**105**	P		**Pn**	**08 32 27.8**	**0.0**
JKRS				S		**Sn**	**08 32 52.2**	**+0.4**
CHN1	**Nanshi**	**2.01**	**219**	*e*P		**Pn**	**08 32 28.2**	**+0.2**
	baz=216							
CHN1				*e*S		**Sn**	**08 32 52.8**	**+0.6**
	baz=216							
SGST	**Jiashian**	**2.06**	**216**	*e*P		**Pn**	**08 32 29.2**	**+0.5**
	baz=223							
SGST				*e*S		**Sn**	**08 32 55.3**	**+1.9**
	baz=223							
TWG	**Pinlang**	**2.08**	**201**	*e*P		**Pn**	**08 32 30.3**	**+1.4**
	baz=187							
TWG				*e*S		**Sn**	**08 32 51.4**	**-2.4**
	baz=187							
JIJ	**Ishigaki jima**	**2.09**	**101**	P		**Pn**	**08 32 28.5**	**-0.5**
JIJ				S		**Sn**	**08 32 53.5**	**-0.5**
JISG	**Ishigakijimahi**	**2.21**	**94**	P		**Pn**	**08 32 30.6**	**0.0**
JISG				S		**Sn**	**08 32 58.1**	**+1.2**
SSD	**Sandimen**	**2.32**	**210**	*e*P		**Pn**	**08 32 33.4**	**+1.2**
	baz=219							
SSD				*e*S		**Sn**	**08 33 02.7**	**+3.1**
	baz=219							
EAST	**Anshuo**	**2.56**	**202**	*e*P		**Pn**	**08 32 36.5**	**+1.0**
	baz=193							
EAST				*e*S		**Sn**	**08 33 06.1**	**+0.5**
	baz=193							
LAY	**Lan-yu**	**2.73**	**187**	*e*P		**Pn**	**08 32 36.4**	**-1.5**
	baz=179							
LAY				*e*S		**Sn**	**08 33 07.1**	**-2.7**
	baz=179							

*ISCJB **18** 08:38:30.7±0.5, 37°.09N±0°.02×36°.16E±0°.03, h6km±5km,*
Error ellipse: s-maj=4.6km s-min=3.9km az=16.3
*CSEM **18** 08:38:30.9±0.2, 37°.08N×36°.13E, h10km, MD2.5, Error*
ellipse: s-maj=4.5km s-min=3.6km az=91.0
*DDA **18** 08:38:30.3, 37°.08N×36°.15E, h7km, Md2.9*
*ISK **18** 08:38:30.8, 37°.08N×36°.13E, h10km, MD2.5*
ISC 18 08:38:30.3±1.1, 37°.07N±0°.02×36°.14E±0°.03, h7km±13km, n25, σ0.57/41, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
CEYT	**Ceyhan**	**0.32**	**259**	*e*PG		**Pb**	**08 38 38.1**	**-0.2**
CEYT	**Ceyhan**	**0.32**	**259**	*e*Pg		**Pb**	**08 38 38.1**	**-0.2**
KAMA	**Osmaniye**	**0.44**	**75**	*i* P		**Pg**	**08 38 38.9**	**0.0**
KAMA				*i* S		**Sg**	**08 38 43.9**	**-0.8**
KOZT	**Kozan**	**0.48**	**329**	*e*PG		**Pg**	**08 38 40.0**	**+0.5**
KOZT				*e*SG		**Sb**	**08 38 47.3**	**-1.0**
KOZT	**Kozan**	**0.48**	**329**	*e*Pg		**Pg**	**08 38 40.0**	**+0.5**
KOZT				*e*Sg		**Sb**	**08 38 47.3**	**-1.0**
ANDN	**Andirin**	**0.53**	**18**	*i* P		**Pg**	**08 38 39.8**	**-0.9**
ANDN				*i* S		**Sg**	**08 38 48.8**	**+1.1**
ANDN	**Andirin**	**0.53**	**18**	P		**Pg**	**08 38 39.8**	**-0.9**
ANDN				S		**Sg**	**08 38 48.8**	**+1.1**
DRWC	**Darouich**	**0.62**	**136**	*e*P		**Pb**	**08 38 43.8**	**+0.3**
	SNR=91							
DRWC				*e*S		**Sb**	**08 38 51.7**	**-0.8**
	87nm,0.4s,SNR=91							
HCB	**Kahramanmara˜**	**0.67**	**66**	*i* P		**Pg**	**08 38 42.9**	**-0.4**
HCB				*i* S		**Sg**	**08 38 51.7**	**-0.4**
TAHT	**Tahtakopru-Hat**	**0.70**	**177**	*e*PG		**Pb**	**08 38 44.9**	**+0.1**
TAHT				*e*SG		**Sb**	**08 38 54.9**	**+0.3**
TAHT	**Tahtakopru-Hat**	**0.70**	**177**	*e*Pg		**Pb**	**08 38 44.9**	**+0.1**
TAHT				*e*Sg		**Sb**	**08 38 54.9**	**+0.3**
KMRS	**Kahramanm

ISC 18 08:54:28.2±0.8, 26°67N±0°07×140°7E±0°1, h400km, n27, σ2§12/38, mb3.4/7, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHHJ	**Haha-jima-NKT**	**1.34**	**91**	P	**Pn**	**08 55 21.0**	**+0.4**
JHHJ				S	**S**	**08 56 01.6**	**-1.3**
CBIJ	**Chichi jima**	**1.41**	**72**	P	**Pn**	**08 55 20.9**	**0.0**
CBIJ				S	**S**	**08 56 00.8**	**-2.7**
JHJ	**Hachijo jima 2**	**6.48**	**353**	P	**Pn**	**08 56 08.8**	**+2.9**
	32nm,0.3s,baz=78,slow=18,SNR=7.6						
JHJ				S	**S**	**08 57 25.3**	**-0.4**
	19nm,0.3s,baz=90,slow=20,SNR=4.2						
BSO1	**Boso 1**	**7.96**	**2**	eS	**S**	**08 57 54.4**	**-1.1**
BSO3	**Boso 3**	**8.11**	**359**	P	**P**	**08 56 25.5**	**+1.1**
BSO3				eS	**S**	**08 57 57.0**	**-2.0**
BSO4	**Boso 4**	**8.30**	**358**	P	**P**	**08 56 28.8**	**+2.1**
JOD2	**Odawara 2**	**8.68**	**351**	P	**P**	**08 56 32.3**	**+1.3**
JOD2				eS	**S**	**08 58 09.3**	**-2.2**
JNY	**Yasuok**	**8.99**	**345**	P	**P**	**08 56 35.9**	**+1.3**
JAO	**Obara**	**9.06**	**342**	P	**P**	**08 56 37.4**	**+2.1**
JHU	**Hanno**	**9.23**	**353**	P	**Pn**	**08 56 37.6**	**+0.4**
JHU				eS	**S**	**08 58 16.4**	**-6.8**
JRY	**Ryogami san**	**9.44**	**351**	P	**P**	**08 56 38.4**	**-1.1**
JRY				eS	**S**	**08 58 22.7**	**-4.9**
JYT	**Yasato**	**9.54**	**358**	P	**Pn**	**08 56 41.9**	**+1.2**
JAG	**Ashikaga**	**9.78**	**354**	P	**Pn**	**08 56 43.5**	**-0.1**
JAG				eS	**S**	**08 58 30.3**	**-4.2**
JHO	**Hitachi**	**9.91**	**359**	P	**Pn**	**08 56 46.2**	**+1.1**
MJAR	**Matsushiro Arr**	**10.07**	**349**	P	**P**	**08 56 45.9**	**-0.5**
	1.1nm,0.3s,baz=170,slow=10,SNR=12						
MJAR				S	**S**	**08 58 40.0**	**-0.4**
	0.4nm,0.3s,baz=168,slow=12,SNR=4.4						
MAT	**Matsushiro**	**10.07**	**349**	P	**Pn**	**08 56 46.8**	**-0.1**
MAT				S	**S**	**08 58 39.4**	**-0.9**
JNU	**Nakatsue**	**10.66**	**309**	P	**Pn**	**08 56 55.3**	**+1.5**
	1.4nm,0.3s,baz=72,slow=1.0,SNR=13						
KSRS	**Korea Array**	**15.23**	**318**	P	**P**	**08 57 43.8**	**+0.7**
	0.3nm,0.3s,baz=130,slow=12,SNR=4.9						
USRK	**Ussuriysk Ar.**	**18.85**	**340**	P	**P**	**08 58 22.8**	**+1.3**
	0.8nm,0.3s,baz=137,slow=9.8,SNR=7.7						
SEY	**Seymchan**	**37.08**	**9**	P	**P**	**09 01 04.0**	**+2.3**
	1.2nm,0.5s,baz=182,slow=18,SNR=4.4						
WRA	**Warramunga Arr**	**46.74**	**188**	P	**P**	**09 02 17.2**	**-2.2**
	2.1nm,0.3s,baz=7.5,slow=8.0,SNR=65						
WRA				PcP	**PcP**	**09 03 44.4**	**-0.9**
	0.5nm,1.0s,baz=0.9,slow=3.8,SNR=3.1						
ZALV	**Zalesovo Beam**	**48.94**	**320**	P	**P**	**09 02 35.1**	**-0.4**
	0.7nm,0.3s,baz=112,slow=6.4,SNR=2.9						
ASAR	**Alice Springs**	**50.47**	**188**	P	**P**	**09 02 44.8**	**-2.6**
	0.4nm,0.4s,baz=7.0,slow=6.4,SNR=15						
ILAR	**Eielson Array**	**58.73**	**29**	P	**P**	**09 03 46.3**	**+1.0**
	0.1nm,0.5s,baz=265,slow=5.5,SNR=5.1						
FINES	**FINESS Array B**	**77.73**	**333**	P	**P**	**09 05 41.4**	**-0.4**
	0.6nm,0.4s,baz=65,slow=4.7,SNR=10						
NOA	**NORSAR Array B**	**83.50**	**338**	P	**P**	**09 06 11.7**	**-0.5**
	0.7nm,0.8s,baz=54,slow=6.4,SNR=2.9						
LPAZ	**La Paz**	**151.33**	**75**	PKPbc	**PKPbc**	**09 13 37.4**	**+0.7**
	0.7nm,0.5s,baz=346,slow=4.2,SNR=4.5						

*NEIC **18** 08:54:35.3±0.0, 16°.46N×98°.54W, h5km, MD4.1(MEX), After MEX.*

MEX 18 08:54:35.3±0.6, 16°.46N×98°.54W, h5km, MD4.1, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.41**	**100**	eP	Pg	08 54 42.7	-0.5
PNIG				eS	Sg	08 54 48.6	+0.1
PNIG	**Pinotepa**	**0.41**	**100**	eP	Pg	08 54 42.7	-0.5
PNIG				eS	Sg	08 54 48.6	+0.1
TLIG	**Tlapa**	**1.09**	**359**	eP	Pg	08 54 52.7	-3.6
TLIG				eS	Sg	08 55 07.0	-3.5
ACX	**Acapulco**	**1.32**	**288**	eP	Pn	08 54 59.9	-0.6
ACX				eS	Sg	08 55 17.2	-0.7
ACX	**Acapulco**	**1.32**	**288**	eP	Pn	08 54 59.9	-0.6
ACX				eS	Sg	08 55 17.2	-0.7
ACP2	**Acapulco**	**1.35**	**288**	eP	Pn	08 54 56.7	-4.1
ACP2				eS	Sb	08 55 14.7	-4.0
CAIG	**El Cayaco**	**1.75**	**290**	eP	Pn	08 55 02.4	-4.0
CAIG				i S	Sn	08 55 24.7	-4.4
CAIG	**El Cayaco**	**1.75**	**290**	eP	Pn	08 55 02.4	-4.0
CAIG				i S	Sn	08 55 24.7	-4.4
MEIG	**Mezcala**	**1.78**	**325**	eP	Pn	08 55 03.9	-2.9
MEIG				i S	Sn	08 55 26.0	-3.9
MEIG	**Mezcala**	**1.78**	**325**	eP	Pn	08 55 03.9	-2.9
MEIG				i S	Sn	08 55 26.0	-3.9
VHO	**Vista Hermosa**	**1.84**	**70**	eP	Pn	08 55 04.8	-3.0
VHO				i S	Sn	08 55 26.8	-4.7
VHO	**Vista Hermosa**	**1.84**	**70**	eP	Pn	08 55 04.8	-3.0
VHO				i S	Sn	08 55 26.8	-4.7
PLIG	**Platanillo**	**2.13**	**335**	eP	Pn	08 55 08.8	-2.8
PLIG				i S	Sn	08 55 34.5	-3.9
PLIG	**Platanillo**	**2.13**	**335**	eP	Pn	08 55 08.8	-2.8
PLIG				i S	Sn	08 55 34.5	-3.9
TPIG	**Tehuac#an**	**2.25**	**30**	eP	Pn	08 55 10.6	-2.8
TPIG				i S	Sn	08 55 37.6	-4.0
TPIG	**Tehuac#an**	**2.25**	**30**	eP	Pn	08 55 10.6	-2.8
TPIG				i S	Sn	08 55 37.6	-4.0
ARIG	**Puente Sto Nin**	**2.50**	**317**	eP	Pn	08 55 13.8	-2.9
ARIG				i S	Sn	08 55 43.2	-4.4
PPM	**Popocatepetl**	**2.59**	**358**	eP	Pn	08 55 15.5	-2.9
PPM				i S	Sn	08 55 46.6	-3.9
PPM	**Popocatepetl**	**2.59**	**358**	eP	Pn	08 55 15.5	-2.9
PPM				i S	Sn	08 55 46.6	-3.9
UNM	**Universidad Na**	**2.91**	**348**	i P	Pn	08 55 19.0	-3.6
UNM				eS	Sn	08 55 53.7	-4.5
UNM	**Universidad Na**	**2.91**	**348**	i P	Pn	08 55 19.0	-3.6
UNM				eS	Sn	08 55 53.7	-4.5
ZIIG	**Zihuatanejo**	**3.02**	**293**	eP	Pn	08 55 21.5	-2.2
ZIIG				i S	Sn	08 55 57.1	-3.2
ZIIG	**Zihuatanejo**	**3.02**	**293**	eP	Pn	08 55 21.5	-2.2
ZIIG				i S	Sn	08 55 57.1	-3.2
LVIG	**Laguna Verde**	**3.82**	**32**	eP	Pn	08 55 31.2	-3.6
LVIG				i S	Sn	08 56 15.9	-4.2
LVIG	**Laguna Verde**	**3.82**	**32**	eP	Pn	08 55 31.2	-3.6
LVIG				i S	Sn	08 56 15.9	-4.2

IDC 18 09:18:10.7±4.9, 18°.82N×145°.55E, h88km±33km, mb3.1/5, mb1 3.3/7, mb1mx3.1/35, mbtmp3.5/7, MS3.4/1, Ms1 3.4/1, ms1mx2.7/13, Error ellipse: s-maj=134.4km s-min=15.8km az=84.0, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**5.24**	**187**	P	Pn	09 19 25.4	-1.2
	10nm,0.3s,baz=37,slow=7.5,SNR=7.3						
GUMO				S	Sn	09 20 26.9	+1.2
	baz=356,slow=17,SNR=2.3						
MJAR	**Matsushiro Arr**	**18.81**	**341**	P	Pn	09 22 24.4	-0.3
	0.1nm,0.3s,baz=158,slow=11,SNR=2.8						
KSRS	**Korea Array**	**24.14**	**324**	P	P	09 23 18.4	0.0
	3.0nm,1.1s,baz=92,slow=33,SNR=2.5						
USRK	**Ussuriysk Ar.**	**27.75**	**339**	P	P	09 23 50.5	-0.4
	0.5nm,0.5s,baz=154,slow=11,SNR=3.9						
HNR	**Honiara**	**31.45**	**152**	LR	LR	09 36 01.3	
	comp=Z,68nm,18.0s,baz=100,slow=34						
WRA	**Warramunga Arr**	**40.06**	**197**	P	P	09 25 37.4	-0.1
	0.4nm,0.7s,baz=23,slow=8.5,SNR=2.4						
SONM	**Songino Array**	**42.97**	**321**	P	P	09 26 00.9	-0.3
	0.2nm,0.3s,baz=104,slow=6.1,SNR=2.2						
ASAR	**Alice Springs**	**43.73**	**196**	P	P	09 26 07.3	-0.1
	0.1nm,0.3s,baz=23,slow=10,SNR=2.9						

*DDA **18** 09:49:02.7, 39°.37N×38°.31E, h14km, Ml3.6*
*ISK **18** 09:49:02.1, 39°.36N×38°.28E, h5km, MD3.0*
*CSEM **18** 09:49:03.3±0.1, 39°.38N×38°.29E, h2km, ML3.6, Error ellipse: s-maj=3.1km s-min=2.5km az=24.0*

ISC 18 09:49:03.0±1.1, 39°.36N±0°.02×38°.28E±0°.01, h3km±9km, n64, σ1§03/109, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KEMA	**Kemaliye**	**0.19**	**119**	i P	**Pg**	**09 49 07.3**	**+0.5**
KEMA				i S	**Sg**	**09 49 10.1**	**+0.8**
KEMA	**Kemaliye**	**0.19**	**119**	P	**Pg**	**09 49 07.3**	**+0.5**
KEMA				S	**Sg**	**09 49 10.1**	**+0.8**
REFA	**Refahiye_ERZ~**	**0.38**	**85**	i P	**Pn**	**09 49 15.8**	**+0.2**
REFA				i S	**Sb**	**09 49 25.6**	**+6.8**
CUKAN	**kangal_SIVAS**	**0.63**	**266**	i P	**Pg**	**09 49 15.6**	**+0.5**
CUKAN				i S	**Sg**	**09 49 24.1**	**+0.8**
CUKAN	**kangal_SIVAS**	**0.63**	**266**	P	**Pg**	**09 49 15.6**	**+0.5**
CUKAN				S	**Sg**	**09 49 24.1**	**+0.8**
CUZAR	**Zara_SIVAS**	**0.66**	**323**	i P	**Pb**	**09 49 16.2**	**-1.0**
CUZAR	**Zara_SIVAS**	**0.66**	**323**	P	**Pb**	**09 49 16.2**	**-1.0**
SUSE	**Susehri**	**0.85**	**356**	i P	**Pb**	**09 49 19.7**	**-0.8**
SUSE				i S	**Sb**	**09 49 31.4**	**-0.9**
SUSE	**Susehri**	**0.85**	**356**	P	**Pb**	**09 49 19.7**	**-0.8**
SUSE				S	**Sb**	**09 49 31.4**	**-0.9**
EZC	**Erzincan**	**0.92**	**65**	ePn	**Pn**	**09 49 24.2**	**+1.3**
PTK	**Pertek**	**0.98**	**118**	ePG	**Pg**	**09 49 21.4**	**-0.4**
PTK				eSG	**Sb**	**09 49 36.6**	**+0.3**
PTK	**Pertek**	**0.98**	**118**	ePg	**Pg**	**09 49 21.5**	**-0.4**
PTK				eSg	**Sb**	**09 49 36.6**	**+0.3**
DARE	**Darende-Malaty**	**1.00**	**218**	ePG	**Pg**	**09 49 22.2**	**-0.1**
DARE				eSG	**Sb**	**09 49 37.0**	**+0.3**
DARE	**Darende-Malaty**	**1.00**	**218**	ePg	**Pg**	**09 49 22.2**	**-0.1**
DARE				eSg	**Sb**	**09 49 37.0**	**+0.3**
CUGUR	**Gurin_S¯VAS**	**1.01**	**231**	i P	**Pb**	**09 49 23.0**	**-0.2**
CUGUR				i S	**Sb**	**09 49 37.4**	**+0.4**
CUGUR	**Gurin_S¯VAS**	**1.01**	**231**	P	**Pb**	**09 49 23.0**	**-0.2**
CUGUR				S	**Sb**	**09 49 37.4**	**+0.4**
TNCL	**Tunceli-Merkez**	**1.01**	**104**	i P	**Pg**	**09 49 21.9**	**-0.5**
TNCL				i S	**Sg**	**09 49 35.4**	**-0.2**
TNCL	**Tunceli-Merkez**	**1.01**	**104**	P	**Pg**	**09 49 21.9**	**-0.5**
TNCL				S	**Sg**	**09 49 35.3**	**-0.2**
SCER	**sogukcermik**	**1.02**	**300**	i P	**Pg**	**09 49 22.2**	**-0.4**
SCER				i S	**Sb**	**09 49 37.4**	**+0.2**
SCER	**sogukcermik**	**1.02**	**300**	P	**Pg**	**09 49 22.2**	**-0.4**
SCER				S	**Sb**	**09 49 37.4**	**+0.2**
ELZG	**Elazig**	**1.02**	**147**	i P	**Pg**	**09 49 21.8**	**-0.8**
ELZG				i S	**Sb**	**09 49 36.8**	**-0.6**
ELZG	**Elazig**	**1.02**	**147**	P	**Pg**	**09 49 21.8**	**-0.8**
ELZG				S	**Sb**	**09 49 36.8**	**-0.6**
KELT	**Kelkit**	**1.09**	**44**	i P	**Pg**	**09 49 23.4**	**-0.5**
KELT				i S	**Sg**	**09 49 37.2**	**-0.8**
KELT	**Kelkit**	**1.09**	**44**	P	**Pg**	**09 49 23.4**	**-0.5**
KELT				S	**Sg**	**09 49 37.2**	**-0.8**
SVSK	**Karacayir**	**1.13**	**300**	ePN	**Pb**	**09 49 25.0**	**-0.2**
SVSK				eSN	**Sn**	**09 49 42.3**	**+0.5**
SVSK	**Karacayir**	**1.13**	**300**	ePn	**Pb**	**09 49 25.0**	**-0.2**
SVSK				eSn	**Sn**	**09 49 42.3**	**+0.5**
ERZN	**Erzincan**	**1.14**	**78**	ePN	**Pg**	**09 49 24.2**	**-0.7**
EUZM	**Uzumlu**	**1.15**	**72**	i P	**Pg**	**09 49 24.7**	**-0.4**
EUZM				i S	**Sg**	**09 49 39.5**	**-0.5**
EUZM	**Uzumlu**	**1.15**	**72**	P	**Pg**	**09 49 24.7**	**-0.4**
EUZM				S	**Sg**	**09 49 39.5**	**-0.5**
CUALT	**Altinyayla-SIV**	**1.18**	**266**	i P	**Pg**	**09 49 25.4**	**-0.3**
CUALT				i S	**Sn**	**09 49 42.5**	**-0.7**
CUALT	**Altinyayla-SIV**	**1.18**	**266**	P	**Pg**	**09 49 25.4**	**-0.3**
CUALT				S	**Sn**	**09 49 42.5**	**-0.7**
RSDY	**Resadiye-TOKAT**	**1.27**	**325**	ePN	**Pb**	**09 49 27.1**	**-0.4**
RSDY				eSN	**Sn**	**09 49 46.3**	**+1.1**
RSDY	**Resadiye-TOKAT**	**1.27**	**325**	ePn	**Pb**	**09 49 27.1**	**-0.4**
RSDY				eSn	**Sn**	**09 49 46.3**	**+1.1**
SVRC	**Sivrice-ELAZID**	**1.27**	**140**	ePN	**Pn**	**09 49 27.4**	**-0.4**
SVRC				eSN	**Sn**	**09 49 45.8**	**+0.4**
SVRC	**Sivrice-ELAZID**	**1.27**	**140**	ePn	**Pn**	**09 49 27.4**	**-0.4**
SVRC				eSn	**Sn**	**09 49 45.8**	**+0.4**
GRSN	**GIRESUNGRSN**	**1.56**	**360**	i P	**Pb**	**09 49 32.0**	**-0.6**
GRSN				i S	**Sg**	**09 49 53.5**	**+0.3**
GRSN	**GIRESUNGRSN**	**1.56**	**360**	P	**Pb**	**09 49 32.0**	**-0.6**
GRSN				S	**Sg**	**09 49 53.5**	**+0.3**
CUSAR	**Sarkisla-SIVAS**	**1.58**	**273**	i P	**Pb**	**09 49 32.8**	**-0.1**
CUSAR				i S	**Sg**	**09 49 56.2**	**+2.5**
CUSAR	**Sarkisla-SIVAS**	**1.58**	**273**	P	**Pb**	**09 49 32.8**	**-0.1**
CUSAR				S	**Sg**	**09 49 56.2**	**+2.5**
ESPY	**Espiye-Giresun**	**1.59**	**12**	ePN	**Pg**	**09 49 32.9**	**-0.6**
ESPY				eSN	**Sg**	**09 49 54.8**	**+0.7**
ESPY	**Espiye-Giresun**	**1.59**	**12**	ePn	**Pg**	**09 49 32.9**	**-0.6**
ESPY				eSn	**Sg**	**09 49 54.8**	**+0.7**
ORDU	**Ordu-Boztepe**	**1.66**	**349**	i P	**Pn**	**09 49 32.9**	**-0.1**
ORDU				i S	**Sn**	**09 49 54.4**	**-0.5**
ORDU	**Ordu-Boztepe**	**1.66**	**349**	P	**Pn**	**09 49 32.9**	**-0.1**
ORDU				S	**Sn**	**09 49 54.3**	**-0.5**
TOKA	**Tokat**	**1.69**	**305**	i P	**Pb**	**09 49 34.2**	**-0.5**
TOKA				i S	**Sb**	**09 49 56.2**	**-0.1**
TOKA	**Tokat**	**1.69**	**305**	P	**Pb**	**09 49 34.2**	**-0.5**
TOKA				S	**Sb**	**09 49 56.2**	**-0.1**
YEDI	**Yedisu-Bingol**	**1.76**	**87**	ePN	**Pb**	**09 49 35.3**	**-0.7**
YEDI	**Yedisu-Bingol**	**1.76**	**87**	ePn	**Pb**	**09 49 35.3**	**-0.7**
BINT	**Bingol**	**1.79**	**105**	ePn	**Pg**	**09 49 37.2**	**-0.1**
BNGB	**Bing¶ll**	**1.90**	**100**	ePN	**Pb**	**09 49 37.2**	**-1.2**
URFA	**Urfa**	**1.96**	**167**	ePN	**Pb**	**09 49 38.2**	**-1.2**
URFA	**Urfa**	**1.96**	**167**	ePn	**Pb**	**09 49 38.2**	**-1.2**
DYBB	**Diyarbakir**	**2.03**	**133**	ePN	**Pb**	**09 49 38.8**	**-1.6**
DIY	**Diyarbakir**	**2.12**	**133**	ePn	**Pn**	**09 49 38.8**	**-0.5**
HCB	**Kahramanmara¯**	**2.29**	**209**	i P	**Pb**	**09 49 45.2**	**+0.3**
HCB				i S	**Sg**	**09 50 15.6**	**-0.9**
ANDN	**Andirin**	**2.34**	**221**	i P	**Pb**	**09 49 44.3**	**-1.5**
ANDN				i S	**Sg**	**09 50 17.3**	**-0.9**
ANDN	**Andirin**	**2.34**	**221**	P	**Pb**	**09 49 44.3**	**-1.5**
MAZI	**Mazidag**	**2.55**	**137**	ePN	**Pn**	**09 49 46.2**	**+0.8**
MAZI	**Mazidag**	**2.55**	**137**	ePn	**Pn**	**09 49 46.2**	**+0.8**
SVAN	**Silvan-Diyarba**	**2.58**	**117**	ePN	**Pn**	**09 49 46.9**	**+1.2**
SVAN	**Silvan-Diyarba**	**2.58**	**117**	ePn	**Pn**	**09 49 46.9**	**+1.2**
AVNS	**Nevsehir-Avano**	**2.73**	**259**	i P	**Pb**	**09 49 52.9**	**+0.4**
AVNS				i S	**Sg**	**09 50 29.7**	**-0.9**
BTMN	**Batman**	**2.77**	**121**	i P	**Pb**	**09 49 53.4**	**+0.3**
CDAG	**Cicekdag**	**3.03**	**276**	i P	**Pn**	**09 49 52.5**	**+0.5**
CDAG				i S	**Sg**	**09 50 37.9**	**-2.6**
CDAG	**Cicekdag**	**3.03**	**276**	P	**Pn**	**09 49 52.5**	**+0.5**

*ISCJB **18** 10:01:29.7±0.2, 18°.60N±0°.04×145°.36E±0°.04, h250km, mb4.4/150, Error ellipse: s-maj=6.3km s-min=4.9km az=40.1*
*NEIC **18** 10:01:29.4±0.7, 18°.53N×145°.49E, h235km±7km, mb4.6/137, Error ellipse: s-maj=5.4km s-min=3.6km az=111.0*
*IDC **18** 10:01:30.1±2.3, 18°.62N×145°.40E, h247km±23km, mb3.5/11, mb1 3.7/13, mb1mx3.4/40, mbtmp4.1/13, Error ellipse: s-maj=29.6km s-min=12.5km az=102.0*

ISC 18 10:01:30.3±0.4, 18°.46N±0°.06×145°.47E±0°.07, h250km, n198, σ1§00/195, mb4.5/149, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**4.88**	**187**	P	**Pn**	**10 02 45.1**	**+0.4**
	10nm,0.3s,baz=242,slow=1.5,SNR=14						
GUMO				S	**S**	**10 03 40.2**	**-3.7**
	36nm,0.3s,baz=156,slow=23,SNR=8.9						
GUMO	**Guam**	**4.88**	**187**	ePn	**Pn**	**10 02 43.8**	**-0.9**
GUMO				eS	**S**	**10 03 42.5**	**-1.5**
JOW	**Kunigami**	**17.91**	**301**	eP	**Pn**	**10 05 22.9**	**-1.9**
	286nm,1.7s						
MJAR	**Matsushiro Arr**	**19.11**	**342**	P	**P**	**10 05 34.4**	**-0.4**
	0.3nm,0.3s,baz=165,slow=9.4,SNR=8.8						
MAJO	**Matsushiro**	**19.11**	**342**	eP	**P**	**10 05 34.3**	**-0.5**
	44nm,1.9s						
MJB9	**Matsu-Tunnel**	**19.12**	**342**	eP	**P**	**10 05 34.7**	**-0.2**
	12nm,1.9s						
H11S3	**WAKE ISLAND Hy**	**20.13**	**87**	T	T	10 27 15.6	
	baz=274						
H11S1	**WAKE ISLAND Hy**	**20.14**	**86**	T	T	10 27 17.3	
	baz=274						
H11S2	**WAKE ISLAND Hy**	**20.14**	**87**	T	T	10 27 19.5	
	baz=274						
H11N1	**WAKE ISLAND Hy**	**20.28**	**83**	T	T	10 27 31.0	
	baz=264,slow=75,SNR=5.1						
H11N2	**WAKE ISLAND Hy**	**20.29**	**83**	T	T	10 27 31.0	
	baz=264,slow=75,SNR=3.9						
H11N3	**WAKE ISLAND Hy**	**20.30**	**83**	T	T	10 27 31.0	
	baz=264,slow=75,SNR=3.9						
MANU	**Manus Island**	**20.46**	**175**	eP	**P**	**10 05 49.7**	**+0.3**
	175nm,1.9s						
SSLB	**Suanglung**	**23.46**	**287**	eP	**P**	**10 06 18.2**	**+0.5**
	15nm,0.8s						
NJ2	**Nanjing**	**27.52**	**305**	eP	**P**	**10 06 52.0**	**-2.0**
NJ2				pmax	pmax		
	comp=Z,16nm,0.6s						
CN2	**Changchun**	**30.36**	**331**	eP	**P**	**10 07 19.4**	**+0.4**
KKM	**Kota Kinabalu**	**31.07**	**250**	eP	**P**	**10 07 27.1**	**+1.5**
	comp=Z,7.8nm,1.0s						
BJI	**Beijing**	**33.15**	**317**	P	**P**	**10 07 42.0**	**-1.3**
BJI				S	**S**	**10 12 43.9**	**0.0**
BJI				pmax	pmax		
	comp=Z,6.0nm,0.8s						
BJI				LR	LR		
	comp=Z,72nm,18.6s						
PEA0	**Petropavlovsk-**	**35.87**	**13**	eP	**P**	**10 08 07.0**	**+0.7**
	comp=Z,86nm,1.9s						
PETK	**Petropavlovsk-**	**35.87**	**13**	P	**P**	**10 08 05.6**	**-0.7**
	comp=Z,1.2nm,0.6s,baz=185,slow=11,SNR=2.9						
SBUM	**Sibu**	**36.25**	**248**	eP	**P**	**10 08 11.5**	**+1.4**
	comp=Z,14nm,1.5s						
HHC	**Hu-ho-hao-te**	**36.61**	**315**	eP	**P**	**10 08 12.8**	**-0.1**
HHC				pmax	pmax		
	comp=Z,18nm,1.0s						
HHC				pmax	pmax		
	comp=Z,79nm,5.6s						
GYA	**Guiyang**	**36.62**	**290**	eP	**P**	**10 08 12.0**	**-1.3**
GYA				pmax	pmax		
	comp=Z,10.0nm,0.8s						
WRAB	**Tennant Creek**	**39.69**	**197**	eP	**P**	**10 08 40.1**	**+1.6**
	comp=Z,35nm,1.9s						
WB2	**Warramunga Arr**	**39.70**	**196**	eP	**P**	**10 08 39.8**	**+1.2**
	comp=Z,31nm,1.8s						
WRA	**Warramunga Arr**	**39.70**	**197**	P	**P**	**10 08 39.8**	**+1.1**
	comp=Z,1.3nm,0.6s,baz=21,slow=9.1,SNR=20						
WC3	**Warramunga Arr**	**39.70**	**196**	eP	**P**	**10 08 39.9**	**+1.1**
	comp=Z,21nm,1.6s						
LZH	**Lanzhou**	**40.60**	**304**	eP	**P**	**10 08 44.3**	**-1.8**
LZH				pP	pP	10 09 32.0	-5.8
LZH				sP	sP	10 09 57.3	-8.9
LZH				PP	**PP**	**10 10 24.1**	**-1.2**
LZH				pmax	pmax		
	comp=Z,23nm,1.2s						
LZH				pmax	pmax		
	comp=Z,76nm,4.9s						
FITZ	**Fitzroy Crossi**	**41.23**	**209**	eP	**P**	**10 08 52.3**	**+1.1**
	comp=Z,10nm,1.4s						
SONA1	**Songino Array**	**43.19**	**322**	eP	**P**	**10 09 07.7**	**+0.8**
AS01	**Alice Springs**	**43.35**	**195**	eP	**P**	**10 09 09.5**	**+1.2**
AS31	**Alice Springs**	**43.37**	**196**	eP	**P**	**10 09 09.7**	**+1.4**
	comp=Z,1.0nm,1.1s						
ASAR	**Alice Springs**	**43.37**	**196**	P	**P**	**10 09 09.8**	**+1.4**
	comp=Z,0.2nm,0.3s,baz=13,slow=6.7,SNR=7.0						
CMAR	**Chiang Mai Arr**	**44.03**	**279**	P	**P**	**10 09 15.5**	**+1.7**
	comp=Z,0.4nm,0.3s,baz=59,slow=9.0,SNR=4.2						
KULM	**Kulim**	**45.63**	**259**	eP	**P**	**10 09 28.3**	**+1.9**
	comp=Z,24nm,1.5s						
ATKA	**Atka Island**	**46.10**	**34**	eP	**P**	**10 09 29.8**	**+0.4**
MBWA	**Marble Bar**	**46.76**	**214**	eP	**P**	**10 09 35.5**	**+0.6**
	comp=Z,22nm,1.3s						
UNV	**Unalaska Valle**	**50.97**	**35**	eP	**P**	**10 10 06.0**	**-0.5**
	comp=Z,171nm,1.9s						
AKUT	**Akutan**	**51.49**	**34**	eP	**P**	**10 10 10.4**	**+0.2**
	comp=Z,164nm,1.4s						
WMQ	**Urumqi**	**54.30**	**311**	P	**P**	**10 10 31.3**	**+0.2**
WMQ				pP	pP	10 11 21.3	-4.5
WMQ				pmax	pmax		
	comp=Z,13nm,0.7s						
WMQ				pmax	pmax		
	comp=Z,120nm,5.7s						
SDPT	**Sand Point**	**54.79**	**34**	eP	**P**	**10 10 34.6**	**+0.4**
	comp=Z,77nm,1.6s						
CHGN	**Chignik**	**56.20**	**34**	eP	**P**	**10 10 43.9**	**-0.3**
	comp=Z,26nm,1.7s						
ZALV	**Zalesovo Beam**	**58.07**	**323**	P	**P**	**10 10 56.7**	**-0.6**
	comp=Z,0.4nm,0.3s,baz=99,slow=8.9,SNR=2.8						
XMAS	**Kiritimati**	**58.23**	**99**	eP	**P**	**10 10 58.8**	**-0.2**
	comp=Z,100nm,1.0s						
MK01	**Makanchi Array**	**58.46**	**314**	eP	**P**	**10 11 00.5**	**+0.3**
MAKZ	**Makanchi**	**58.68**	**314**	eP	**P**	**10 11 00.9**	**-0.9**
	comp=Z,6.2nm,0.6s						
SVW2	**Sparrevohn**	**59.14**	**29**	eP	**P**	**10 11 05.3**	**+0.7**
	comp=Z,15nm,1.8s						
OHAK	**Old Harbor**	**59.17**	**34**	eP	**P**	**10 11 05.1**	**+0.3**
	comp=Z,84nm,2.0s						
TT01	**Tatalina**	**59.55**	**27**	eP	**P**	**10 11 07.6**	**+0.3**
KDAK	**Kodiak Island**	**59.67**	**33**	P	**P**	**10 11 08.3**	**+0.1**
	comp=Z,2.0nm,0.5s,baz=231,slow=2.1,SNR=17				

	comp=Z,34nm,1.7s								
KEBM	**Edson Butte**	**77.82**	**49**	*e*P		**P**	**10 13 01.6**	**+1.3**
	comp=Z,73nm,1.6s								
YKA	**Yellowknife Ar**	**78.30**	**28**	P		**P**	**10 13 02.0**	**-0.4**
	comp=Z,2.9nm,0.7s,baz=291,slow=5.4,SNR=9.6								
YKB5	**Yellowknife Ar**	**78.30**	**28**	*e*P		**P**	**10 13 02.2**	**-0.2**
D05A	**Enumclaw**	**78.38**	**44**	*e*P		**P**	**10 13 04.6**	**+1.4**
	comp=Z,28nm,1.4s								
F04A	**Amboy**	**78.40**	**45**	*e*P		**P**	**10 13 04.3**	**+0.9**
	comp=Z,30nm,1.4s								
KRMB	**Red Mountain**	**78.46**	**50**	*e*P		**P**	**10 13 05.1**	**+1.2**
	comp=Z,27nm,1.7s								
JCC	**Jacoby Creek,**	**78.54**	**51**	*e*P		**P**	**10 13 05.4**	**+1.2**
	comp=Z,32nm,1.4s								
LON	**Longmire**	**78.61**	**44**	*e*P		**P**	**10 13 05.1**	**+0.5**
	comp=Z,11nm,1.4s								
KHMM	**Horse Mountain**	**78.75**	**51**	*e*P		**P**	**10 13 07.3**	**+1.7**
	comp=Z,40nm,2.0s								
HUMO	**Hull Mountain**	**78.87**	**49**	*e*P		**P**	**10 13 08.6**	**+2.6**
	comp=Z,26nm,1.8s								
KCPM	**Cahto Peak**	**79.16**	**52**	*e*P		**P**	**10 13 08.9**	**+1.1**
	comp=Z,90nm,2.0s								
LTY	**Liberty**	**79.23**	**44**	*e*P		**P**	**10 13 08.4**	**+0.5**
	comp=Z,19nm,1.6s								
YBH	**Yreka Blue Hor**	**79.27**	**50**	*e*P		**P**	**10 13 09.6**	**+1.3**
	comp=Z,14nm,1.9s								
WDC	**Whiskeytown Da**	**79.70**	**51**	*e*P		**P**	**10 13 11.3**	**+0.8**
	comp=Z,2.9nm,0.8s								
B08A	**Colville Reser**	**79.79**	**42**	*e*P		**P**	**10 13 11.3**	**+0.4**
	comp=Z,16nm,1.4s								
E07A	**Sunnyside**	**79.95**	**44**	*e*P		**P**	**10 13 12.7**	**+0.9**
	comp=Z,37nm,2.0s								
HAWA	**Hanford**	**80.22**	**44**	*e*P		**P**	**10 13 14.1**	**+0.9**
	comp=Z,25nm,1.9s								
K05A	**Summer Lake**	**80.30**	**48**	*e*P		**P**	**10 13 15.1**	**+1.1**
	comp=Z,7.1nm,0.6s								
D08A	**Wollman Farm,**	**80.43**	**44**	*e*P		**P**	**10 13 15.0**	**+0.7**
	comp=Z,21nm,1.8s								
ORV	**Oroville**	**80.74**	**51**	*e*P		**P**	**10 13 16.5**	**+0.4**
	comp=Z,3.2nm,0.9s								
MOD	**Modoc Plateau**	**80.96**	**49**	*e*P		**P**	**10 13 17.9**	**+0.6**
	comp=Z,2.5nm,0.6s								
E09A	**Wood Farm, Sta**	**81.10**	**44**	*e*P		**P**	**10 13 18.8**	**+1.0**
	comp=Z,3.9nm,0.8s								
NEW	**Newport**	**81.23**	**42**	*e*P		**P**	**10 13 18.9**	**+0.4**
	comp=Z,10nm,1.4s								
AFDM	**Forest Hills D**	**81.31**	**52**	*e*P		**P**	**10 13 19.9**	**+0.7**
	comp=Z,1.9nm,0.7s								
F10A	**Beach Ranch, E**	**81.87**	**44**	*e*P		**P**	**10 13 23.0**	**+1.1**
	comp=Z,34nm,1.9s								
EDM	**Edmonton**	**81.90**	**37**	*e*P		**P**	**10 13 22.3**	**+0.3**
	comp=Z,40nm,2.0s								
WVOR	**Wild Horse Val**	**81.98**	**48**	*e*P		**P**	**10 13 23.5**	**+0.8**
	comp=Z,12nm,1.8s								
CMB	**Columbia Colle**	**82.01**	**53**	*e*P		**P**	**10 13 23.5**	**+0.7**
	comp=Z,4.7nm,0.6s								
BMO	**Blue Mountains**	**82.16**	**45**	*e*P		**P**	**10 13 24.1**	**+0.5**
	comp=Z,14nm,1.8s								
PAHR	**Pah Rah Range**	**82.26**	**51**	*e*P		**P**	**10 13 24.7**	**+0.5**
	comp=Z,3.3nm,1.0s								
PNTR	**Pine Nut**	**82.29**	**51**	*e*P		**P**	**10 13 25.6**	**+1.2**
	comp=Z,7.1nm,0.6s								
WAKR	**Walker**	**82.59**	**52**	*e*P		**P**	**10 13 27.2**	**+1.2**
	comp=Z,3.6nm,0.6s								
YERR	**Yerington**	**82.59**	**51**	*e*P		**P**	**10 13 26.9**	**+0.9**
	comp=Z,4.3nm,0.6s								
BSMT	**Bassoo Peak**	**82.85**	**42**	*e*P		**P**	**10 13 27.9**	**+0.8**
WALA	**Waterton Lakes**	**82.99**	**41**	*e*P		**P**	**10 13 29.6**	**+1.9**
	comp=Z,37nm,2.0s								
TVH3	**East Aurora ar**	**83.09**	**52**	*e*P		**P**	**10 13 29.5**	**+0.9**
	comp=Z,3.9nm,1.0s								
TVH1	**TV Hill, Hawth**	**83.10**	**52**	*e*P		**P**	**10 13 29.6**	**+0.7**
	comp=Z,5.7nm,0.6s								
TVH2	**Borealis Mine**	**83.13**	**52**	*e*P		**P**	**10 13 29.8**	**+1.0**
	comp=Z,2.2nm,0.6s								
SWMT	**Swartz Lake**	**83.47**	**42**	*e*P		**P**	**10 13 30.9**	**+0.7**
MFID	**Camas Ranch**	**83.63**	**46**	*e*P		**P**	**10 13 31.7**	**+0.6**
	comp=Z,6.0nm,1.3s								
SLMT	**Seeley Lake**	**83.88**	**42**	*e*P		**P**	**10 13 32.9**	**+0.5**
CHMT	**Chamberlain Mo**	**84.15**	**43**	*e*P		**P**	**10 13 32.5**	**-1.3**
HLID	**Hailey**	**84.55**	**46**	*e*P		**P**	**10 13 36.2**	**+0.4**
	comp=Z,7.5nm,1.6s								
LRM	**Limekiln Ridge**	**85.06**	**43**	*e*P		**P**	**10 13 39.0**	**+0.6**
DLMT	**Dillon**	**85.13**	**44**	*e*P		**P**	**10 13 39.2**	**+0.6**
	comp=Z,16nm,1.6s								
HRY	**Holter Researc**	**85.14**	**42**	*e*P		**P**	**10 13 39.2**	**+0.6**
MCMT	**McKenzie Canyo**	**85.16**	**44**	*e*P		**P**	**10 13 39.7**	**+0.8**
TPNV	**Topopah Spring**	**85.48**	**53**	*e*P		**P**	**10 13 41.2**	**+0.7**
	comp=Z,5.2nm,0.6s								
R11A	**Troy Canyon, C**	**85.50**	**51**	*e*P		**P**	**10 13 41.3**	**+0.7**
	comp=Z,4.6nm,1.4s								
BOZ	**Bozeman (W)**	**85.68**	**43**	*e*P		**P**	**10 13 41.7**	**+0.4**
	comp=Z,14nm,1.8s								
QLMT	**Earthquake Lak**	**86.10**	**44**	*e*P		**P**	**10 13 45.0**	**+1.5**
YHB	**Horse Butte**	**86.28**	**44**	*e*P		**P**	**10 13 45.8**	**+1.4**
	comp=Z,23nm,1.6s								
HVU	**Hansel Valley**	**86.31**	**47**	*e*P		**P**	**10 13 45.3**	**+0.8**
	comp=Z,3.2nm,0.9s								
SHPR	**Sheep Range**	**86.45**	**53**	*e*P		**P**	**10 13 46.4**	**+1.1**
	comp=Z,1.8nm,0.8s								
YMR	**Madison River**	**86.47**	**44**	*e*P		**P**	**10 13 46.8**	**+1.5**
	comp=Z,11nm,1.3s								
YHH	**Holmes Hill**	**86.49**	**44**	*e*P		**P**	**10 13 46.9**	**+1.4**
	comp=Z,11nm,1.6s								
SPUT	**South Promonto**	**86.71**	**48**	*e*P		**P**	**10 13 46.8**	**+0.3**
	comp=Z,13nm,1.2s								
IMW	**Indian Meadow**	**86.78**	**45**	*e*P		**P**	**10 13 48.4**	**+1.5**
	comp=Z,9.9nm,1.7s								
DUG	**Dugway, Tooele**	**86.86**	**49**	*e*P		**P**	**10 13 47.9**	**+0.7**
	comp=Z,2.6nm,0.7s								
TPAW	**Teton Pass**	**86.92**	**45**	*e*P		**P**	**10 13 48.4**	**+0.9**
	comp=Z,15nm,1.9s								
MOOW	**Moose Ponds,**	**86.96**	**45**	*e*P		**P**	**10 13 48.0**	**+0.3**
	comp=Z,12nm,1.9s								
FIA1	**FINESS Array S**	**87.00**	**335**	*e*P		**P**	**10 13 44.0**	**-3.1**
	comp=Z,62nm,2.0s								
FINES	**FINESS Array B**	**87.01**	**335**	P		**P**	**10 13 44.6**	**-2.6**
	comp=Z,0.8nm,0.4s,baz=57,slow=4.5,SNR=11								
REDW	**Red Top Meadow**	**87.04**	**45**	*e*P		**P**	**10 13 49.4**	**+1.3**
	comp=Z,24nm,1.9s								
SNOW	**Snow King Moun**	**87.07**	**45**	*e*P		**P**	**10 13 48.9**	**+0.7**
	comp=Z,20nm,1.9s								
LOHW	**Long Hollow**	**87.11**	**45**	*e*P		**P**	**10 13 49.2**	**+0.8**
	comp=Z,6.0nm,1.6s								
HWUT	**Hardware Ranch**	**87.22**	**47**	*e*P		**P**	**10 13 49.5**	**+0.6**
	comp=Z,2.8nm,0.8s								
FFC	**Flin Flon**	**87.41**	**32**	*e*P		**P**	**10 13 49.5**	**+0.2**
	comp=Z,45nm,1.9s								
CCUT	**Cedar City**	**87.43**	**51**	*e*P		**P**	**10 13 50.2**	**+0.2**
	comp=Z,2.2nm,0.7s								
SZCU	**Shurtz Canyon**	**87.61**	**51**	*e*P		**P**	**10 13 50.6**	**-0.2**
	comp=Z,2.2nm,0.7s								
LCMT	**Little Creek M**	**87.71**	**52**	*e*P		**P**	**10 13 50.8**	**-0.4**
	comp=Z,9.8nm,1.8s								
TCRU	**Three Creeks R**	**87.71**	**50**	*e*P		**P**	**10 13 52.5**	**+1.1**
	comp=Z,12nm,1.7s								
GLA	**Glamis**	**87.91**	**56**	*e*P		**P**	**10 13 52.6**	**+0.5**
	comp=Z,13nm,1.8s								
W13A	**Hualapai Mount**	**87.91**	**54**	*e*P		**P**	**10 13 53.2**	**+0.9**
	comp=Z,1.9nm,0.7s								
MSU	**Marysvale**	**87.94**	**50**	*e*P		**P**	**10 13 53.5**	**+1.1**
BW06	**Boulder Array**	**88.14**	**45**	*e*P		**P**	**10 13 53.3**	**0.0**
PDAR	**Pinedale Array**	**88.14**	**45**	P		**P**	**10 13 53.2**	**-0.1**
	comp=Z,0.4nm,0.4s,baz=84,slow=1.3,SNR=11								
U15A	**North Rim**	**88.64**	**52**	*e*P		**P**	**10 13 57.0**	**+1.2**
	comp=Z,2.5nm,0.6s								
LAO	**LASA Array**	**88.68**	**41**	*e*P		**P**	**10 13 56.3**	**+0.8**
	comp=Z,22nm,1.9s								
SRU	**San Rafael Swe**	**88.91**	**49**	*e*P		**P**	**10 13 57.4**	**+0.4**
	comp=Z,3.3nm,0.7s								
Y14A	**Wickenburg**	**89.01**	**55**	*e*P		**P**	**10 13 58.1**	**+0.8**
	comp=Z,20nm,0.6s								
WUAZ	**Wupatki**	**89.67**	**53**	*e*P		**P**	**10 14 01.9**	**+1.4**
	comp=Z,3.6nm,0.8s								
X16A	**Lo Mia Camp, P**	**90.03**	**54**	*e*P		**P**	**10 14 03.4**	**+1.1**
	comp=Z,7.2nm,1.9s								
PV09	**Paradox Valley**	**90.15**	**49**	*e*P		**P**	**10 14 04.1**	**+1.3**
PV01	**Paradox Valley**	**90.70**	**49**	*e*P		**P**	**10 14 05.5**	**+0.2**
N23A	**Red Feather La**	**91.38**	**46**	*e*P		**P**	**10 14 09.5**	**+1.0**
	comp=Z,31nm,1.9s								
SMCO	**Snowmass**	**91.40**	**48**	*e*P		**P**	**10 14 09.4**	**+0.6**
	comp=Z,3.4nm,1.1s								
ISCO	**Idaho Springs**	**92.08**	**47**	*e*P		**P**	**10 14 12.5**	**+0.7**
	comp=Z,14nm,1.9s								
MNTX	**Cornudas Mount**	**95.79**	**54**	*e*P		**P**	**10 14 29.2**	**+0.7**
	comp=Z,10nm,1.9s								
TXAR	**Lajitas Array**	**98.15**	**56**	P		Pdif	10 14 38.9	-0.4
	comp=Z,0.1nm,0.5s,baz=289,slow=2.8,SNR=2.8								

SNAA	**Sanae**	**123.65**	**192**	*e*PKPdf		**PKPdf**	**10 19 57.1**	**-0.4**
LCO	**Las Campanas**	**145.39**	**114**	*e*PKPdf		**PKPbc**	**10 20 39.0**	**-0.8**
PB11	**IPOC Station P**	**146.82**	**98**	*e*PKPbc		**PKPab**	**10 20 44.6**	**-1.3**
PB01	**IPOC Station P**	**147.04**	**100**	*e*PKPbc		**PKPab**	**10 20 45.1**	**-1.6**
LVC	**Limon Verde**	**147.59**	**103**	*e*PKPbc		**PKPab**	**10 20 47.1**	**-2.0**
LPAZ	**La Paz**	**147.89**	**91**	PKPbc		**PKPbc**	**10 20 48.2**	**+0.7**
	comp=Z,2.3nm,0.8s,baz=39,slow=11,SNR=6.5								
TRQA	**Tornquist**	**149.11**	**135**	*e*PKPbc		**PKPbc**	**10 20 48.9**	**-0.4**
PTGA	**Pitinga**	**149.44**	**58**	*e*PKPbc		**PKPbc**	**10 20 50.6**	**-0.2**
SAML	**Samuel**	**150.64**	**75**	*e*PKPbc		**PKPbc**	**10 20 53.3**	**-0.3**

ISK ***18*** *10:12:38.9, 37.40N×36.29E, h2km, MD2.6*
ISCJB ***18*** *10:12:39.5±0.6, 37.37N±0.04×36.32E±0.04, h3km±8km, Error ellipse: s-maj=7.1km s-min=4.3km az=36.4*
DDA ***18*** *10:12:40.0, 37.40N×36.39E, h7km, Md2.9*
CSEM ***18*** *10:12:39.9±0.2, 37.41N×36.30E, h2km, MD2.9, Error ellipse: s-maj=5.8km s-min=4.1km az=19.0*

ISC 18 10:12:39.4±1.1, 37.36N±0.04×36.32E±0.03, h5km±13km, n20, σ0=52/31, Turkey

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
ANDN	**Andirin**	**0.22**	**6**	*i* P			**Pg**	**10 12 43.4**	**-0.3**
ANDN				*i* S			**Sg**	**10 12 47.0**	**+0.4**
ANDN	**Andirin**	**0.22**	**6**	P			**Pg**	**10 12 43.4**	**-0.3**
ANDN				S			**Sg**	**10 12 47.0**	**+0.4**
KAMA	**Osmaniye**	**0.33**	**122**	*i* P			**Pg**	**10 12 45.6**	**-0.2**
KAMA				*i* S			**Sg**	**10 12 50.4**	**+0.3**
KOZT	**Kozan**	**0.41**	**287**	*e*PG			**Pg**	**10 12 46.8**	**-0.4**
KOZT				*e*SG			**Sg**	**10 12 53.4**	**+0.8**
KOZT	**Kozan**	**0.41**	**287**	*e*Pg			**Pg**	**10 12 46.8**	**-0.4**
KOZT				*e*Sg			**Sg**	**10 12 53.4**	**+0.8**
HCB	**Kahramanmara¯**	**0.47**	**92**	*i* P			**Pg**	**10 12 48.3**	**-0.2**
HCB				*i* S			**Sg**	**10 12 54.6**	**0.0**
KMRS	**Kahramanmaras**	**0.49**	**73**	*e*PG			**Pg**	**10 12 48.6**	**-0.1**
KMRS	**Kahramanmaras**	**0.49**	**73**	*e*Pg			**Pg**	**10 12 48.6**	**-0.1**
GAZ	**Gaziantep**	**0.74**	**104**	*e*PG			**Pb**	**10 12 54.8**	**0.0**
GAZ				*e*SG			**Sb**	**10 13 06.0**	**+0.8**
GAZ	**Gaziantep**	**0.74**	**104**	*e*Pg			**Pb**	**10 12 54.8**	**0.0**
GAZ				*e*Sg			**Sb**	**10 13 06.0**	**+0.8**
KUZU	**Kuzuini**	**0.84**	**134**	*i* P			**Pn**	**10 12 57.5**	**-0.4**
KUZU				*i* S			**Sg**	**10 13 07.0**	**+0.5**
KUZU	**Kuzuini**	**0.84**	**134**	P			**Pn**	**10 12 57.5**	**-0.4**
KUZU				S			**Sg**	**10 13 07.0**	**+0.5**
TAHT	**Tahtakopru-Hat**	**0.99**	**186**	*e*PG			**Pn**	**10 12 59.8**	**-0.1**
TAHT	**Tahtakopru-Hat**	**0.99**	**186**	*e*Pg			**Pn**	**10 12 59.8**	**-0.1**
GZT	**Gaziantep**	**0.99**	**90**	*i* P			**Pg**	**10 12 58.7**	**+0.2**
GZT				*i* S			**Sg**	**10 13 11.6**	**+0.3**
SARI	**SarD1z-Kayseri**	**1.05**	**4**	*e*PG			**Pg**	**10 12 59.6**	**+0.2**
DARE	**Darende-Malaty**	**1.52**	**37**	*e*PN			**Pb**	**10 13 08.0**	**-0.1**
DARE	**Darende-Malaty**	**1.52**	**37**	*e*Pn			**Pb**	**10 13 08.0**	**-0.1**
URFA	**Urfa**	**2.00**	**87**	*e*PN			**Pb**	**10 13 15.1**	**-1.1**
URFA	**Urfa**	**2.00**	**87**	*e*Pn			**Pb**	**10 13 15.1**	**-1.1**

DDA 18 10:19:42.7, 39.68N×29.46E, h8km, Md2.6, Suspected Mining explosion., Turkey

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
IGD	**Bursa**	**0.62**	**341**	*i* P			Pg	10 19 54.8	+0.2
IGD				*i* S			Sb	10 20 04.3	-0.3
DEMI	**Demirci**	**0.86**	**222**	*i* P			Pg	10 19 59.2	+0.1
DEMI				*i* S			Sn	10 20 15.5	+1.5
BALY	**Balya**	**1.42**	**273**	*i* P			Pb	10 20 09.5	0.0
BALY				*i* S			Sg	10 20 31.0	+2.7

MEX 18 10:19:46.5±0.6, 15.26N×92.00W, h172km±5km, MD3.9, Mexico-Guatemala border region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
CCIG	**Comitan**	**1.02**	**353**	*e*P			Pn	10 20 12.8	-1.1
CCIG				*i* S			Sn	10 20 32.6	-2.4
TGIG		**1.85**	**325**	*e*P			Pn	10 20 20.2	-1.3
TGIG				*e*S			Sn	10 20 46.4	-2.3

CSEM ***18*** *10:35:33.5, 43.10N×13.40E, h22km, MD2.3/21*
ROM 18 10:35:33.5±0.1, 43.10N×13.40E, h22km±1km, Md2.3/21, Ml2.1/20, 2C-6D, Error ellipse: s-maj=1.6km s-min=1.1km az=89.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
FDMO	**Fiordimonte**	**0.24**	**255**		Pg		Pb	10 35 39.3	-0.1
FDMO					Sg		Sb	10 35 43.7	+0.2
	510nm,0.2s								
FDMO	**Fiordimonte**	**0.24**	**255**		Pg		Pb	10 35 39.3	-0.1
FDMO					Sg		Sb	10 35 43.7	+0.2
	510nm,0.2s								
CING	**Cingoli**	**0.31**	**332**	*i* Pg			Pb	10 35 40.7	+0.1
CING					Sg		Sb	10 35 46.1	+0.7
	206nm,0.3s								
CING	**Cingoli**	**0.31**	**332**	*i* Pg			Pb	10 35 40.7	+0.1
CING					Sg		Sb	10 35 46.1	+0.7
	206nm,0.3s								
NRCA	**Norcia**	**0.34**	**218**	Pg			Pb	10 35 41.0	0.0
NRCA					Sg		Sb	10 35 46.7	+0.6
	1µm,0.1s								
NRCA	**Norcia**	**0.34**	**218**	Pg			Pb	10 35 41.0	0.0
NRCA					Sg		Sb	10 35 46.7	+0.6
	1µm,0.1s								
SNTG	**Esanatoglia**	**0.37**	**295**	*i* Pg			Pb	10 35 41.4	-0.1
SNTG					Sg		Sb	10 35 47.4	+0.5
	272nm,0.2s								
SNTG	**Esanatoglia**	**0.37**	**295**	*i* Pg			Pb	10 35 41.4	-0.1
SNTG					Sg		Sb	10 35 47.4	+0.5
	272nm,0.2s								
CESI	**CESI - Serrava**	**0.37**	**256**		Pg		Pb	10 35 41.6	0.0
CESI					Sg		Sb	10 35 47.7	+0.6
	61nm,0.3s								
CESI	**CESI - Serrava**	**0.37**	**256**		Pg		Pb	10 35 41.6	0.0
CESI					Sg		Sb	10 35 47.7	+0.6
	61nm,0.3s								
GUMA	**Gualdo di Mace**	**0.40**	**95**		Pg		Pb	10 35 37.7	-4.2
GUMA					Sg		Sb	10 35 40.8	-6.8
	1µm,0.2s								
GUMA	**Gualdo di Mace**	**0.40**	**95**		Pg		Pb	10 35 37.7	-4.2
GUMA					Sg		Sb	10 35 40.8	-6.8
	1µm,0.2s								
SMA1	**SAN MARTINO**	**0.47**	**186**	*i* Pg			Pb	10 35 43.1	-0.1
SMA1					Sg		Sb	10 35 51.0	+1.2
	74nm,0.2s								
SMA1	**SAN MARTINO**	**0.47**	**186**	*i* Pg			Pb	10 35 43.1	-0.1
SMA1					Sg		Sb	10 35 51.0	+1.2
	74nm,0.2s								
AOI	**Ancona**	**0.47**	**18**	Pg			Pb	10 35 43.7	+0.5
AOI	**Ancona**	**0.47**	**18**	Pg			Pb	10 35 43.7	+0.5
TERO	**Teramo**	**0.50**	**162**	Pg			Pb	10 35 43.9	+0.2
	66nm,0.1s								
TERO	**Teramo**	**0.50**	**162**	Pg			Pb	10 35 43.9	+0.2
	66nm,0.1s								
ARVD	**Arcevia**	**0.52**	**320**	Pg			Pb	10 35 44.1	+0.1
ARVD				Sg			Sb	10 35 52.0	+0.8
	35nm,0.3s								
ARVD	**Arcevia**	**0.52**	**320**	Pg			Pb	10 35 44.1	+0.1
ARVD				Sg			Sb	10 35 52.0	+0.8
	35nm,0.3s								
ATCC	**AVT- Casa Cast**	**0.56**	**279**	*i* Pg			Pb	10 35 44.6	-0.1
ATCC					Sg		Sb	10 35 53.4	+1.0
	86nm,0.1s								
ATCC	**AVT- Casa Cast**	**0.56**	**279**	*i* Pg			Pb	10 35 44.6	-0.1
ATCC					Sg		Sb	10 35 53.4	+1.0
	86nm,0.1s								
LNSS	**Leonessa**	**0.56**	**208**	Pg			Pb	10 35 44.7	-0.1
LNSS					Sg		Sn	10 35 53.7	-1.2
	88nm,0.2s								
LNSS	**Leonessa**	**0.56**	**208**	Pg			Pb	10 35 44.7	-0.1
LNSS					Sg		Sn	10 35 53.7	-1.2
	88nm,0.2s								
CAMP	**Campotosto**	**0.56**	**179**	Pg			Pb	10 35 44.9	+0.1
CAMP	**Campotosto**	**0.56**	**179**	Pg			Pb	10 35 44.9	+0.1
SSFR	**Montelago di S**	**0.56**	**307**	Pg			Pb	10 35 44.7	-0.1
SSFR					Sg		Sb	10 35 53.4	+1.0
	277nm,0.3s								
SSFR	**Montelago di S**	**0.56**	**307**	Pg			Pb	10 35 44.7	-0.1
SSFR					Sg		Sb	10 35 53.4	+1.0
	277nm,0.3s								
FRON	**Frontone**	**0.65**	**311**	Pg			Pb	10 35 46.1	0.0
FRON					Sg		Sn	10 35 56.0	-0.9
	69nm,0.4s								
FRON	**Frontone**	**0.65**	**311**	Pg			Pb	10 35 46.1	0.0
FRON					Sg		Sn	10 35 56.0	-0.9
	69nm,0.4s								
MURB	**Monte Urbino**	**0.66**	**285**	Pg			Pb	10 35 46.4	0.0
	200nm,0.2s								
MURB	**Monte Urbino**	**0.66**	**285**	Pg			Pb	10 35 46.4	0.0
	200nm,0.2s								
MPAG	**Monte Paganucc**	**0.71**	**319**	Pg			Pb	10 35 47.3	+0.1
	35nm,0.3s								
MPAG	**Monte Paganucc**	**0.71**	**319**	Pg			Pb	10 35 47.3	+0.1
	35nm,0.3s								
FSSB	**Fossombrone**	**0.75**	**323**	Pg			Pn	10 35 48.8	+0.1
	84nm,0.2s								
FSSB	**Fossombrone**	**0.75**	**323**	Pg			Pn	10 35 48.8	+0.1
	84nm,0.2s								
PIEI	**Pieia**	**0.77**	**305**	Pg			Pb	10 35 47.9	-0.3
PIEI					Sg		Sn	10 35 59.5	-0.4
	42nm,0.2s								
PIEI	**Pieia**	**0.77**	**305**	Pg			Pb	10 35 47.9	-0.3
PIEI					Sg		Sn	10 35 59.5	-0.4
	42nm,0.2s								
ATTE	**AVT- Monte Tez**	**0.77**	**278**	Pg			Pb	10 35 47.1	-1.2
	49nm,1.3s								
ATTE	**AVT- Monte Tez**	**0.77**	**278**	Pg			Pb	10 35 47.1	-1.2
	49nm,1.3s								
ATVO	**AVT- Monte Val**	**0.78**	**292**	Pg			Pb	10 35 48.2	-0.2
ATVO					Sg		Sn	10 35 59.8	-0.4
	31nm,0.4s								
ATVO	**AVT- Monte Val**	**0.78**	**292**	Pg			Pb	10 35 48.2	-0.2
ATVO					Sg		Sn	10 35 59.8	-0.4
	31nm,0.4s								
ATPC	**Poggio Castell**	**0.79**	**299**	Pg			Pb	10 35 48.8	+0.3
	67nm,0.3s								
ATPC	**Poggio Castell**	**0.79**	**299**	Pg			Pb	10 35 48.8	+0.3
	67nm,0.3s								
BADI	**Badiali**	**0.94**	**296**	Pg			Pn	10 35 51.3	0.0
	38nm,0.9s								
BADI	**Badiali**	**0.94**	**296**	Pg			Pn	10 35 51.3	0.0
	38nm,0.9s								
NVLJ	**Novalja**	**1.81**	**36**	Sn			Sn	10 36 26.4	+0.9

NIED ***18*** *10:39:00, 42.00N×142.40E, h59km, Mw5.1 Best double couple: M0 4.25000×10^16 NP1:φs213.00000°, δ25.00000°, λ98.00000°. NP2:φs25.00000°, δ66.00000°, λ86.00000°.*
BJI ***18*** *10:39:43.0, 41.82N×142.63E, h64km, mb5.1/71, mB5.2/46, Ms4.4/56, Ms7 4.2/56*
MOS ***18*** *10:39:45.6±0.9, 42.09N×142.34E, h57km, mb5.5/110, MS4.0/21, Error ellipse: s-maj=5.4km s-min=3.5km az=100.8*
ISCJB ***18*** *10:39:46.3±0.2, 41.99N±0.02×142.36E±0.02, h66km±1km, mb5.0/406, Error ellipse: s-maj=2.8km s-min=1.7km az=151.3*
JMA ***18*** *10:39:46.3±0.1, 41.94N×142.44E, h66km±2km, M5.0 Broadband fault plane solution: P waves. NP1: φs29.00000°, δ68.00000°, λ89.00000°. NP2:φs212.00000°, δ22.00000°, λ93.00000°. Principal axes: T Plg67.0000°, Azm297.0000°; N Plg1.0000°, Azm30.0000°; P Plg23.0000°, Azm120.0000°;*
JMA Felt IV J1.
IDC ***18*** *10:39:47.9±0.3, 41.98N×142.40E, h70km±2km, mb4.6/30, mb1 4.8/35, mb1mx4.6/43, mbtmp4.9/35, MS4.1/28, Ms1 4.1/28, ms1mx4.0/38 Error ellipse: s-maj=10.6km s-min=7.8km az=104.0*
GCMT ***18*** *10:39:48.4±0.2, 42.02N×142.54E, h62km±1km, MW5.1/101, Moment Tensor Solution. s67,c90; s101,c153; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr3.88±.13; Mϑϑ-0.93

comp=N,820nm,0.2s
SHO smax smax
comp=E,4µm,0.6s
SHO smax smax
comp=N,7µm,0.4s
JOU Okura 3.83 201 P Pn 10 40 43.9 -0.2
YSS Yuzh-Sakhalins 5.00 3⇑iPN Pn 10 41 01.2 +1.3
YSS eS Sn 10 41 51.0 -5.3
YSS pmax pmax
comp=Z,290nm,0.8s
YSS pmax pmax
comp=Z,800nm,5.0s
YSS smax smax
comp=N,120nm,1.0s
YSS smax smax
comp=E,150nm,1.2s
YSS MLR MLR
comp=Z,2µm,11.0s
YSS MLR MLR
comp=N,2µm,13.0s
YSS Yuzh-Sakhalins 5.00 3 ePn Pn 10 41 01.4 +1.5
JSD Sado 5.05 220 ⇑P Pn 10 41 01.9 +1.2
KUR Kuril'sk 5.14 49d iPN Pn 10 41 02.0 +0.2
KUR eS Sn 10 42 00.3 +0.6
KUR pmax pmax
comp=E,372nm,0.3s
KUR pmax pmax
comp=Z,829nm,0.3s
KUR pmax pmax
comp=N,188nm,0.4s
KUR pmax pmax
comp=Z,2µm,1.5s
KUR smax smax
comp=N,4µm,1.9s
KUR smax smax
comp=E,2µm,2.0s
KUR smax smax
comp=N,813nm,0.4s
KUR smax smax
comp=E,591nm,0.4s
KUR MLR MLR
comp=Z,939nm,12.0s
KUR MLR MLR
comp=E,899nm,11.0s
MJB9 Matsu-Tunnel 6.32 212 ePn Pn 10 41 19.2 +1.1
MAJO Matsushiro 6.32 212⇓iPN Pn 10 41 18.4 +0.3
MAJO Matsushiro 6.32 212 ePn Pn 10 41 18.9 +0.9
MAT Matsushiro 6.32 212 P Pn 10 41 18.5 +0.4
MAT eS Sn 10 42 30.9 +2.1
MJAR Matsushiro Arr 6.32 212 P Pn 10 41 18.7 +0.6
comp=E,8.3nm,0.3s,baz=20,slow=14,SNR=88
MJAR LR LR 10 44 19.4
comp=E,999nm,21.8s,baz=30,slow=43
UGL Uglegorsk 7.12 358 ePN Pn 10 41 26.8 -2.1
UGL eS Sn 10 42 46.7 -1.6
INU Inuyama 7.83 214 ePn Pn 10 41 40.0 +1.2
VLA Vladivostok 7.86 282c iPN Pn 10 41 41.0 +1.9
USRK Ussuriysk Ar. 7.95 290 P Pn 10 41 40.8 +0.5
comp=E,3.9nm,0.3s,baz=94,slow=15,SNR=107
USRK LR LR 10 44 48.7
comp=E,1µm,19.9s,baz=122,slow=38
HABR Khabarovsk 8.33 324 ePN Pn 10 41 43.7 -1.7
HABR eS Sn 10 43 16.9 -0.9
HABR pmax pmax
comp=Z,99nm,1.1s
HABR pmax pmax
comp=N,60nm,1.1s
HABR pmax pmax
comp=E,73nm,1.1s
HABR MLR MLR
comp=Z,954nm,14.0s
MSHR Mys Shultsa 8.37 278c ePN Pn 10 41 46.4 +0.4
TYV Tymovskoe 8.90 1 ePN Pn 10 41 54.2 +0.9
TYV pmax pmax
comp=Z,300nm,3.7s
JHJ Hachijo jima 2 9.07 194 P Pn 10 41 52.0 -3.7
comp=Z,39nm,0.3s,baz=280,slow=21,SNR=15
JHJ S Sn 10 43 28.4 -7.9
comp=Z,111nm,0.3s,baz=71,slow=23,SNR=9.0
JHJ2 Mitsune 9.07 194 ePn Pn 10 41 53.0 -2.7
JHJ2 eSn Sn 10 43 29.0 -7.3
MDJ Mudanjiang 9.72 290 P Pn 10 42 05.3 +0.8
MDJ S Sn 10 43 53.6 +1.6
MDJ PcP PcP 10 48 14.3 +0.3
MDJ ScP ScP 10 51 41.3 +0.9
MDJ PcS PcS 10 51 47.8 +0.5
MDJ pmax pmax
comp=Z,58nm,1.0s
MDJ pmax pmax
comp=Z,89nm,3.2s
MDJ LR LR
comp=Z,300nm,11.2s
MDJ LR LR
comp=Z,1µm,16.8s
MDJ LR LR
comp=Z,2µm,16.1s
MDJ Mudanjiang 9.72 290 ePn Pn 10 42 06.7 +2.2
KLR Kul'dur 10.41 318c iPN Pn 10 42 14.6 +0.6
NKL Nikolayevsk 11.25 355 ePN Pn 10 42 26.0 +0.7
NKL pmax pmax
comp=N,60nm,1.0s
NKL pmax pmax
comp=Z,86nm,1.0s
OKH Okha 11.60 2⇑iPN Pn 10 42 28.2 -1.9
OKH iS Sn 10 44 43.3 +5.6
OKH pmax pmax
comp=Z,100nm,7.0s
OKH smax smax
comp=E,300nm,12.0s
OKH MLR MLR
comp=Z,700nm,21.0s
KSRS Korea Array 12.03 253 P Pn 10 42 38.0 +2.0
comp=Z,2.5nm,0.3s,baz=64,slow=14,SNR=39
KSRS S Sn 10 44 55.3 +6.9
comp=Z,2.0nm,0.3s,baz=65,slow=24,SNR=7.6
KSRS LR LR 10 46 48.4
comp=Z,1µm,20.9s,baz=70,slow=35
KS01 Wonju Array Si 12.04 253 ePn Pn 10 42 38.6 +2.4
KS15 Wonju Array Si 12.06 253 ePn Pn 10 42 38.0 +1.5
KS15 eSn Sn 10 44 57.0 +7.7
KSAR Wonju Array Be 12.06 253 PN Pn 10 42 38.1 +1.6
KSAR S Sn 10 44 55.3 +6.0
KSAR Wonju Array Be 12.06 253 P Pn 10 42 38.0 +1.6
KSAR S Sn 10 44 55.3 +6.0
CN2 Changchun 12.58 284 eP Pn 10 42 44.8 +1.3
CN2 esP sP 10 43 05.9
CN2 eS Sn 10 45 04.0 +2.2
CN2 pmax pmax
comp=Z,30nm,1.0s
CN2 pmax pmax
comp=Z,200nm,4.0s
CN2 LR LR
comp=Z,600nm,13.0s
CN2 LR LR
comp=Z,1µm,13.0s
CN2 LR LR
comp=Z,900nm,15.0s
JNU Nakatsue 12.70 230 P Pn 10 42 45.2 -0.1
comp=Z,1.0nm,0.3s,baz=3.3,slow=1.5,SNR=11
JNU Nakatsue 12.70 230 ePn Pn 10 42 45.5 +0.2
SKR Severo-Kuril's 12.86 43 ePN Pn 10 42 45.5 -1.7
INCN Inchon 12.94 255 ePn Pn 10 42 49.3 +0.8
SNY Shenyang 14.03 276 ⇓P Pn 10 43 04.1 +1.0
SNY pmax pmax
comp=Z,21nm,1.0s
SNY pmax pmax
comp=Z,420nm,3.5s
SNY LR LR
comp=Z,570nm,16.7s
SNY LR LR
comp=Z,770nm,24.9s
SNY LR LR
comp=Z,2µm,30.3s
PEA0 Petropavlovsk- 15.16 37 ePn Pn 10 43 15.6 -2.0
PEA0B Petropavlovsk- 15.16 37 ePn Pn 10 43 15.7 -1.9
comp=Z,70nm,1.3s
PETK Petropavlovsk- 15.16 37 P Pn 10 43 15.4 -2.2
comp=Z,0.8nm,0.3s,baz=175,slow=6.8,SNR=17
PETK LR LR 10 50 25.0
comp=Z,337nm,19.0s,baz=218,slow=42
PET Petropavlovsk 15.54 39 eP P 10 43 26.4 +0.8
PET eS S 10 46 20.0 -5.7
PET pmax pmax
comp=Z,31nm,0.9s
PET MLR MLR
comp=Z,500nm,20.0s
PET MLR MLR
comp=Z,500nm,20.0s
PET Petropavlovsk 15.54 39 ePn Pn 10 43 21.0 -1.5
comp=Z,149nm,1.9s
DL2 Dalian 16.11 266 P Pn 10 43 23.4 -6.4
DL2 S Sn 10 46 14.0 -14
DL2 pmax pmax
comp=Z,130nm,0.9s
DL2 LR LR
comp=N,1µm,21.6s
DL2 LR LR
comp=E,2µm,21.9s
DL2 LR LR
comp=Z,1µm,20.6s
HIA Hailar 17.42 303 eP Pn 10 43 45.4 -0.6
HIA pmax pmax
comp=Z,52nm,1.0s
HIA Hailar 17.42 303 ePn Pn 10 43 45.4 -0.6
comp=Z,52nm,1.0s
MA2 Magadan 18.38 14 P P 10 43 54.3 -2.6
comp=Z,1.0nm,0.3s,baz=193,slow=9.2,SNR=25
MA2 pP pP 10 44 10.9 +0.4
comp=Z,2.0nm,0.3s,baz=195,slow=9.7,SNR=6.9
MA2 Magadan 18.38 14d eP P 10 43 54.1 -2.8
CLNS Chul'man 18.66 329 eP P 10 43 58.9 -1.2
CLNS pmax pmax
comp=N,27nm,0.8s
CLNS pmax pmax
comp=Z,93nm,0.9s
CLNS pmax pmax
comp=E,25nm,0.7s
JOW Kunigami 19.04 222 P P 10 44 03.9 -0.4
comp=E,4.3nm,0.3s,baz=67,slow=10,SNR=4.9
BJI Beijing 19.87 273 P P 10 44 11.0 -2.3
BJI pP pP 10 44 24.8 -2.2
BJI sP sP 10 44 32.8 -2.4
BJI S S 10 47 47.8 -5.6
BJI pmax pmax
comp=E,120nm,1.1s
BJI LR LR
comp=E,670nm,14.5s
BJI LR LR
comp=E,730nm,21.6s
BJI LR LR
comp=E,1µm,29.6s
BJT Baijiatuau 19.88 273 eP P 10 44 11.6 -1.9
BJT Baijiatuau 19.88 273 eP P 10 44 11.6 -1.9
BJT ePn Pn 10 44 12.2 -3.3
TIA Tai'an 20.42 262 ⇑P P 10 44 17.0 -2.3
TIA pmax pmax
comp=E,180nm,1.1s
NJ2 Nanjing 21.20 250 eP P 10 44 25.1 -2.5
NJ2 pmax pmax
comp=E,51nm,0.8s
SEY Seymchan 21.81 12 P P 10 44 31.4 -2.6
comp=E,20nm,0.8s,baz=186,slow=9.0,SNR=29
SEY Seymchan 21.81 12⇓eP P 10 44 31.2 -2.8
HHC Hu-ho-hao-te 23.11 278 eP P 10 44 46.9 -1.1
HHC S S 10 48 56.3 +2.2
HHC pmax pmax
comp=E,15nm,0.7s
HHC LR LR
comp=E,310nm,11.2s
HHC LR LR
comp=E,510nm,21.8s
HHC LR LR
comp=E,620nm,21.6s
BOD Bodaibo 23.96 321 eP P 10 44 51.7 -3.8
BOD pmax pmax
comp=Z,25nm,1.3s
TATO Taipei 24.22 232 eP P 10 44 57.7 -0.4
comp=Z,125nm,0.8s
YHNB Yeheng 24.52 232 eP P 10 44 59.4 -1.5
comp=Z,337nm,2.0s
NACB Ninganchiao 24.77 231 eP P 10 45 02.3 -0.9
comp=Z,36nm,1.1s
WHN Wuhan 25.22 252 P P 10 45 05.1 -2.1
WHN sP sP 10 45 30.0 -0.4
WHN S S 10 49 30.5 +2.5
WHN LR LR
comp=Z,2µm,17.3s
SSLB Suanglung 25.44 231 eP P 10 45 09.3 0.0
comp=Z,86nm,1.7s
YULB Yu-li 25.55 230 eP P 10 45 11.5 +1.2
comp=Z,40nm,1.2s
ULN Ulaanbaatar 25.57 295c eP P 10 45 09.1 -1.3
ULN pmax pmax
comp=Z,58nm,1.2s
ULN Ulaanbaatar 25.57 295 eP P 10 45 09.9 -0.5
comp=Z,79nm,1.4s
ULN Ulaanbaatar 25.57 295 P P 10 45 09.0 -1.4
SNR=21
TPUB Ta-pu 26.00 231 eP P 10 45 13.7 -0.7
comp=Z,104nm,1.5s
SONA1 Songino Array 26.01 295 eP P 10 45 14.3 -0.1
SONM Songino Array 26.01 295 P P 10 45 14.1 -0.3
comp=Z,16nm,0.7s,baz=90,slow=8.3,SNR=72
SONM PcP PcP 10 48 41.1 +0.2
comp=Z,2.3nm,0.7s,baz=141,slow=4.0,SNR=3.6
SONM LR LR 10 56 15.0
comp=Z,794nm,19.1s,baz=102,slow=38
TWG Pinlang 26.12 230 eP P 10 45 15.8 +0.4
comp=Z,94nm,0.8s
XAN Xi'an 27.42 264 P P 10 45 27.1 0.0
XAN pP pP 10 45 42.3 -0.4
XAN S S 10 49 58.0 -4.8
XAN pmax pmax
comp=Z,65nm,1.1s
XAN pmax pmax
comp=Z,110nm,3.9s
XAN LR LR
comp=Z,230nm,19.7s
XAN LR LR
comp=Z,400nm,19.4s
XAN LR LR
comp=Z,470nm,24.6s
IRK Irkutsk 27.62 305 eP P 10 45 27.3 -1.4
IRK pmax pmax
comp=Z,97nm,2.9s
TLY Talaya 27.95 304 eP P 10 45 31.0 -0.7
TLY pmax pmax
comp=Z,37nm,0.9s
TLY Talaya 27.95 304 eP P 10 45 31.8 +0.2
comp=Z,45nm,1.0s
TLY Talaya 27.95 304 P P 10 45 31.3 -0.3
SNR=10
TLY Talaya 27.95 304 P P 10 45 31.3 -0.3
SNR=10
ZAK Zakamensk 28.10 301 eP P 10 45 31.8 -1.3
ZAK pmax pmax
comp=Z,17nm,1.2s
GUMO Guam 28.35 175 LR LR 10 55 30.8
comp=Z,299nm,20.3s,baz=14,slow=33
ENH Enshi 28.87 257 eP P 10 45 38.4 -1.6
comp=Z,59nm,0.9s
BILL Bilibino 29.10 18⇓eP P 10 45 40.8 -0.8
BILL e*PP pP 10 45 56.4 -0.9
BILL e*SP sP 10 46 06.0 +1.1
BILL 10 48 49.0
BILL SS SS 10 51 54.0 -40
BILL pmax pmax
comp=Z,5.0nm,0.4s
BILL MLR MLR
comp=Z,222nm,20.0s
MOY Mondy 29.60 303 eP P 10 45 46.2 -0.2
MOY pmax pmax
comp=Z,88nm,2.5s
LZH Lanzhou 30.35 272 eP P 10 45 51.8 -1.4
LZH pP pP 10 46 08.3 -0.6
LZH sP sP 10 46 17.0 +0.5
LZH PP PnPn 10 46 53.0 -0.7
LZH PcP PcP 10 48 52.3 +0.5
LZH eS S 10 50 46.3 -2.7
LZH sS sS 10 51 13.5 -2.4
LZH SS ScP 10 52 28.4 -0.1
LZH pmax pmax
comp=Z,93nm,1.5s
LZH pmax pmax
comp=Z,210nm,5.0s
LZH LR LR
comp=Z,350nm,12.0s
LZH LR LR
comp=Z,400nm,12.6s
LZH LR LR
comp=Z,540nm,15.7s
H11N2 WAKE ISLAND Hy 30.35 129 T T 11 17 30.0
baz=323,slow=75,SNR=678
H11N1 WAKE ISLAND Hy 30.36 129 T T 11 17 19.1
baz=323,slow=75,SNR=663
H11N3 WAKE ISLAND Hy 30.37 129 T T 11 17 31.3
baz=323,slow=75,SNR=624
TIXI Tiksi 30.51 352 eP P 10 45 54.7 +0.7
TIXI pmax pmax
comp=Z,4.0nm,0.9s
TIXI MLR MLR
comp=Z,242nm,25.0s
H11S1 WAKE ISLAND Hy 31.21 131 T T 11 18 37.6
baz=325,slow=76,SNR=656
H11S3 WAKE ISLAND Hy 31.21 131 T T 11 18 15.5
baz=325,slow=76,SNR=765
H11S2 WAKE ISLAND Hy 31.23 131 T T 11 18 40.8
baz=325,slow=76,SNR=859
GTA Gaotai 32.16 280 P P 10 46 08.8 -0.3
GTA pP pP 10 46 23.8 -1.1
GTA sP sP 10 46 30.8 -1.7
GTA PcP PcP 10 48 57.9 +1.3
GTA S S 10 51 15.9 -1.3
GTA sS sS 10 51 42.0 -2.2
GTA ScP ScP 10 52 35.3 +0.9
GTA PcS PcS 10 52 42.8 +1.2
GTA SS SnSn 10 53 12.8 -0.5
GTA ScS ScS 10 56 33.1 -0.4
GTA pmax pmax
comp=Z,13nm,0.9s
GTA pmax pmax
comp=Z,100nm,5.9s
GTA LR LR
comp=Z,380nm,15.2s
GTA LR LR
comp=Z,400nm,17.2s
GTA LR LR
comp=Z,430nm,17.6s
CD2 Chengdu 32.74 263⇓iP P 10 46 12.5 -1.7
CD2 pP pP 10 46 29.5 -0.5
CD2 S S 10 51 26.4 +0.1
CD2 sS sS 10 51 55.0 +1.8
CD2 pmax pmax
comp=Z,40nm,0.8s
CD2 pmax pmax
comp=Z,60nm,7.6s
CD2 LR LR
comp=Z,450nm,14.2s
CD2 LR LR
comp=Z,480nm,26.6s
GYA Guiyang 33.09 254⇑iP P 10 46 15.6 -1.7
GYA pP pP 10 46 35.3 +2.2
GYA PP PnPn 10 47 30.0 +1.1
GYA S S 10 51 31.4 -0.4
GYA pmax pmax
comp=Z,20nm,0.8s
GYA pmax pmax
comp=Z,120nm,5.2s
QIZ Qiongzhong 35.85 240 P P 10 46 42.0 +0.9
QIZ S S 10 52 15.5 +1.2
QIZ pmax pmax
comp=Z,16nm,1.2s
QIZ LR LR
comp=Z,250nm,16.5s
QIZ LR LR
comp=Z,260nm,15.1s
QIZ LR LR
comp=Z,300nm,14.8s
QIZ Qiongzhong 35.85 240 eP P 10 46 42.5 +1.5
comp=Z,14nm,0.9s
KMI Kunming 36.71 255 P P 10 46 48.8 +0.2
KMI pP pP 10 47 07.4 +2.8
KMI S S 10 52 25.1 -2.6
KMI pmax pmax
comp=Z,25nm,0.7s
KMI LR LR
comp=Z,270nm,19.8s
KMI LR LR
comp=Z,210nm,20.8s
KMI LR LR
comp=Z,310nm,21.0s
SLVN Son La 38.27 250 eP P 10 47 01.9 +0.2
comp=Z,54nm,1.1s
NRIK Noril'sk 39.18 333 P P 10 47 06.7 -1.9
comp=Z,19nm,0.9s,baz=111,slow=11,SNR=9.4
NRIK PcP PcP 10 49 17.0 +0.4
comp=Z,8.0nm,0.3s,baz=102,slow=5.5,SNR=4.1
NRIK LR LR 11 04 37.8
comp=Z,776nm,20.0s,baz=111,slow=38
ZAA0 Zalesovo Array 39.32 308 eP P 10 47 10.0 0.0
ZALV Zalesovo Beam 39.32 308 P P 10 47 09.5 -0.5
comp=Z,43nm,0.7s,baz=87,slow=7.6,SNR=126
ZALV PcP PcP 10 49 17.4 0.0
comp=Z,16nm,0.9s,baz=83,slow=1.8,SNR=5.1
ZALV ScP ScP 10 53 00.0 -0.1
comp=Z,0.7nm,0.4s,baz=82,slow=2.0,SNR=4.2
ZALV LR LR 11 04 15.8
comp=Z,466nm,19.3s,baz=70,slow=37
WMQ Urumqi 39.52 292 P P 10 47 11.9 +0.1
WMQ pP pP 10 47 30.3 +2.3
WMQ sP sP 10 47 36.3 +0.8
WMQ PcP PcP 10 49 18.5 +0.2
WMQ S S 10 53 10.5 +1.0
WMQ sS sS 10 53 40.5 +3.7
WMQ SS SS 10 56 00.5 -5.4
WMQ pmax pmax
comp=Z,62nm,1.1s
WMQ pmax pmax
comp=Z,330nm,4.1s
WMQ LR LR
comp=Z,320nm,21.5s
WMQ LR LR
comp=Z,460nm,15.9s
WMQ LR LR
comp=Z,420nm,19.7s
CHGN Chignik 39.99 48 eP P 10 47 15.4 -0.2
comp=Z,33nm,1.7s
NVS Novosibirsk 40.14 310⇓iP P 10 47 16.8 0.0
NVS i 10 47 35.6
NVS pmax pmax
comp=N,7.0nm,0.8s
NVS pmax pmax
comp=E,24nm,0.8s
NVS pmax pmax
comp=Z,34nm,0.8s
TT01 Tatalina 40.99 38 eP P 10 47 23.8 +0.1
SVW2 Sparrevohn 41.21 41 eP P 10 47 26.2 +0.7
comp=Z,17nm,1.4s
UBPT Khong Chiam 41.43 241 P P 10 47 28.3 +0.5
comp=Z,38nm,1.1s,comp=Z,739nm
DLV T Lat 42.05 235 eP P 10 47 34.2 +1.1
comp=Z,45nm,0.7s
MK01 Makanchi Array 42.33 298 eP P 10 47 34.9 0.0
MK31 Makanchi Array 42.33 298 iP P 10 47 34.3 -0.6
MK31 pmax pmax
comp=Z,71nm,0.9s
MK31 Makanchi Array 42.33 298 eP P 10 47 34.9 0.0
MKAR Makanchi Array 42.33 298 eP P 10 47 34.7 -0.2
MKAR pmax pmax
comp=Z,339nm,0.8s
MKAR Makanchi Array 42.33 298 eP P 10 47 34.6 -0.2
comp=Z,339nm,0.8s
MYLDM Lahad Datu 42.37 217 eP P 10 47 36.4 +0.9
comp=Z,70nm,1.2s
MAKZ Makanchi 42.53 298 eP P 10 47 36.7 +0.2
MAKZ pmax pmax
comp=Z,76nm,0.9s
MAKZ Makanchi 42.53 298 eP P 10 47 36.7 +0.2
comp=Z,76nm,0.9s
RSO Redoubt South 42.63 41 eP P 10 47 37.8 +0.5
KKM Kota Kinabalu 42.67 220 eP P 10 47 39.3 +1.2
comp=Z,21nm,0.9s
OHAK Old Harbor 42.70 46 eP P 10 47 37.2 -0.4
comp=Z,60nm,1.5s
LSA Lhasa 42.74 270 P P 10 47 39.8 +0.9
LSA pmax pmax
comp=Z,37nm,1.2s
LSA Lhasa 42.74 270 eP P 10 47 39.9 +0.9
LSA pmax pmax
comp=Z,53nm,1.2s
LSA Lhasa 42.74 270 eP P 10 47 39.9 +0.9
comp=Z,53nm,1.2s
PPLA Purkeypile 42.75 38 eP P 10 47 39.4 +1.2
comp=Z,49nm,1.5s
CAST Castle Rocks 42.77 37 eP P 10 47 38.8 +0.5
comp=Z,11nm,0.8s
SPU Mount Spurr 42.91 40 eP P 10 47 40.1 +0.7
KDAK Kodiak Island 43.00 45 P P 10 47 39.6 -0.5

comp=Z,7.3nm,0.6s,baz=352,slow=1.4,SNR=30
KDAK Kodiak Island 43.00 45 *i* P **P 10 47 39.2 -0.9**
KDAK Kodiak Island 43.00 45 *e*P **P 10 47 39.7 -0.5**
comp=Z,15nm,0.8s
UTTA Uttaradit 43.02 249 P **P 10 47 41.0 +0.3**
comp=Z,18nm,0.8s,comp=Z,137nm
LAMP Lampang 43.13 250 P **P 10 47 42.4 +0.7**
comp=Z,26nm,0.8s
KTH Kantishna Hill 43.29 37 *e*P **P 10 47 42.9 +0.4**
comp=Z,21nm,0.9s
CHAI Chaiyaphum 43.31 245 P **P 10 47 42.9 -0.2**
comp=Z,27nm,0.9s,comp=Z,233nm
CMMT Chiang Mai 43.42 251 P **P 10 47 44.2 +0.2**
comp=Z,58nm,0.8s,comp=Z,515nm
CHTO Chiang Mai 43.43 251 P **P 10 47 44.3 +0.3**
comp=Z,253nm,0.9s,comp=Z,2µm
CHTO Chiang Mai 43.43 251 *e*P **P 10 47 45.4 +1.4**
CHTO pmax pmax
comp=Z,41nm,0.8s
CHTO Chiang Mai 43.43 251 *e*P **P 10 47 45.4 +1.4**
comp=Z,41nm,0.8s
CHTO Chiang Mai 43.43 251 P **P 10 47 44.2 +0.1**
SNR=10
CHTO Chiang Mai 43.43 251 P **P 10 47 44.2 +0.1**
SNR=10
CNPM China Poot 43.48 43 *e*P **P 10 47 43.0 -1.0**
comp=Z,24nm,1.2s
COLD Coldfoot 43.51 31 *e*P **P 10 47 44.0 -0.1**
comp=Z,9.7nm,1.0s
SUA Susitna One 43.52 40 *e*P **P 10 47 44.8 +0.4**
comp=Z,11nm,0.8s
PBKT Sadao Pong 43.53 247 P **P 10 47 45.0 +0.1**
comp=Z,31nm,1.1s
TRF Thorofare Moun 43.58 37 *e*P **P 10 47 45.0 +0.1**
comp=Z,14nm,1.0s
BRLK Bradley Lake 43.63 42 *e*P **P 10 47 45.1 -0.1**
comp=Z,13nm,0.8s
KURK Kurchatov 43.65 304*ce*P **P 10 47 44.8 -0.6**
KURK Kurchatov 43.65 304 *e*P **P 10 47 44.8 -0.6**
comp=Z,134nm,0.9s
KURK Kurchatov 43.65 304 P **P 10 47 44.9 -0.6**
SNR=63
KURK Kurchatov 43.65 304 P **P 10 47 44.9 -0.6**
SNR=63
CM31 Chiang Mai Arr 43.66 251 *e*P **P 10 47 46.9 +1.0**
CMAR Chiang Mai Arr 43.66 251 P **P 10 47 46.4 +0.4**
comp=Z,12nm,0.8s,baz=43,slow=6.8,SNR=38
CMAR PcP **PcP 10 49 32.9 +0.7**
comp=Z,3.5nm,0.7s,baz=335,slow=1.1,SNR=4.9
CMAR ScP **ScP 10 53 19.1 +1.2**
comp=Z,1.7nm,0.8s,baz=19,slow=3.3,SNR=6.0
CMAR LR LR 11 07 26.0
comp=Z,293nm,18.1s,baz=57,slow=38
CM01 Chiang Mai Arr 43.68 251 *e*P **P 10 47 47.0 +0.9**
TOLK Toolik Lake Re 43.77 29 P **P 10 47 45.3 -1.0**
baz=269
SUKH Sukhothai 43.84 249 P **P 10 47 47.9 +0.6**
comp=Z,17nm,0.9s,comp=Z,122nm
RC01 Rabbit Creek A 44.04 40 *e*P **P 10 47 48.4 0.0**
comp=Z,19nm,1.2s
MCK McKinley 44.16 37 *e*P **P 10 47 49.4 0.0**
MCK pmax pmax
comp=Z,18nm,1.1s
MCK McKinley 44.16 37 *e*P **P 10 47 49.4 0.0**
comp=Z,18nm,1.1s
RND Reindeer 44.23 37 *e*P **P 10 47 49.6 -0.4**
RND pmax pmax
comp=Z,55nm,1.9s
RND Reindeer 44.23 37 *e*P **P 10 47 49.6 -0.4**
comp=Z,55nm,1.9s
PMR Palmer 44.27 40 *e*P **P 10 47 49.8 -0.5**
PMR pmax pmax
comp=Z,11nm,0.9s
PMR Palmer 44.27 40 *e*P **P 10 47 49.8 -0.5**
comp=Z,11nm,0.9s
JAY Jayapura 44.30 182 P **P 10 47 51.8 +0.8**
comp=Z,0.5nm,0.8s,baz=17,slow=20,SNR=2.7
SEW Seward 44.30 42 *e*P **P 10 47 51.7 +1.2**
comp=Z,40nm,1.3s
MDM Murphy Dome 44.38 35 *e*P **P 10 47 51.1 -0.1**
comp=Z,12nm,0.8s
SHL Shillong 44.43 265⇑ *i*P **P 10 47 52.0 -0.2**
WRH Wood River Hil 44.48 35 *e*P **P 10 47 51.8 -0.1**
comp=Z,13nm,0.8s
COLA College 44.55 35 *e*P **P 10 47 52.5 +0.1**
COLA pmax pmax
comp=Z,31nm,0.8s
COLA College 44.55 35 *e*P **P 10 47 52.5 +0.1**
comp=Z,31nm,0.8s
CCB Clear Creek Bu 44.58 35 *e*P **P 10 47 52.3 -0.5**
comp=Z,8.8nm,1.0s
SML Sawmill 44.63 39 *e*P **P 10 47 53.3 +0.1**
SML pmax pmax
comp=Z,35nm,1.1s
SML Sawmill 44.63 39 *e*P **P 10 47 53.2 +0.1**
comp=Z,35nm,1.1s
NAYO Nakonayok 44.88 245 P **P 10 47 56.6 +0.9**
comp=Z,28nm,1.1s
DHY Denali Highway 44.92 37 *e*P **P 10 47 55.5 -0.2**
comp=Z,17nm,0.9s
IL1 Eielson Array 44.97 35 *e*P **P 10 47 55.3 -0.5**
ILAR Eielson Array 44.97 35 P **P 10 47 54.9 -0.9**
comp=Z,9.6nm,0.9s,baz=267,slow=6.3,SNR=72
ILAR LR LR 11 08 24.3
comp=Z,68nm,19.0s,baz=280,slow=38
ILB Eielson Array 44.97 35 *e*P **P 10 47 55.4 -0.4**
HDA Harding Lake 44.97 35 *e*P **P 10 47 55.2 -0.7**
comp=Z,26nm,1.4s
SCM Sheep Creek Mo 45.10 39 *e*P **P 10 47 57.2 +0.3**
SCM pmax pmax
comp=Z,27nm,1.0s
SCM Sheep Creek Mo 45.10 39 *e*P **P 10 47 57.2 +0.3**
comp=Z,27nm,1.0s
UMPA Umpang Tak 45.24 249 P **P 10 48 00.7 +2.1**
comp=Z,20nm,0.9s,comp=Z,782nm
UTHA Uthaitani 45.29 248 P **P 10 47 59.9 +1.0**
comp=Z,12nm,0.8s
PDGK Podgornoye 45.31 294 P **P 10 47 57.9 -1.1**
PDGK pmax pmax
comp=Z,38nm,1.1s
FYU Fort Yukon 45.49 32 *e*P **P 10 48 00.2 +0.3**
comp=Z,15nm,0.8s
FAKI Fak Fak 45.62 194 *e*P **P 10 48 01.5 0.0**
comp=Z,49nm,0.9s
FID Port Fidalgo 45.66 41 *e*P **P 10 48 01.5 +0.1**
comp=Z,53nm,1.2s
KLU Klutina 45.81 39 *e*P **P 10 48 03.0 +0.4**
comp=Z,18nm,0.8s
DIV Divide 45.94 40 *e*P **P 10 48 04.1 +0.5**
comp=Z,28nm,1.2s
HARP HAARP 46.02 38 *e*P **P 10 48 05.1 +0.9**
comp=Z,46nm,1.0s
EYAK Cordova Ski Ar 46.05 41 *e*P **P 10 48 04.6 +0.2**
comp=Z,81nm,1.7s
PATY Pattaya 46.19 244 P **P 10 48 07.4 +1.4**
comp=Z,14nm,0.9s,comp=Z,3µm
DOT Dot Lake 46.33 36 *e*P **P 10 48 05.9 -0.7**
comp=Z,17nm,0.8s
BMRM Bremner River 46.53 40 *e*P **P 10 48 08.3 +0.1**
comp=Z,25nm,1.0s
TAPN Taplejung 46.55 270 *e*P **P 10 48 09.4 +0.3**
comp=Z,231nm,1.0s
MENT Mentasta 46.59 37 *e*P **P 10 48 09.0 +0.3**
comp=Z,18nm,1.1s
RABL Rabaul 46.78 167 *e*P **P 10 48 11.6 +1.0**
comp=Z,69nm,0.6s
PHET Kaeng Krachan 47.03 245 P **P 10 48 13.9 +1.3**
comp=Z,31nm,0.9s,comp=Z,320nm
ODAN Odare 47.05 270 *e*P **P 10 48 13.0 0.0**
comp=Z,52nm,0.6s
CRQM Cirque 47.27 40 *e*P **P 10 48 15.2 +1.0**
comp=Z,33nm,0.9s
EGAK Eagle 47.40 34 *e*P **P 10 48 14.4 -0.5**
comp=Z,14nm,1.0s
JIRN Jiri 47.51 271 *e*P **P 10 48 17.0 +0.3**
comp=Z,52nm,0.4s
RAMN Ramite 47.59 270 *e*P **P 10 48 17.1 -0.1**
comp=Z,268nm,0.8s
GUN Gumba 47.61 272 *e*P **P 10 48 17.5 +0.1**
comp=Z,244nm,0.5s
SBUM Sibu 47.75 223 *e*P **P 10 48 18.8 +0.6**
comp=Z,13nm,0.7s
BRVK Borovoye 47.99 309*ce*P **P 10 48 19.4 -0.1**
BRVK pmax pmax
comp=Z,121nm,1.2s
BRVK Borovoye 47.99 309 *e*P **P 10 48 19.7 +0.1**
comp=Z,32nm,0.9s
BRVK Borovoye 47.99 309 P **P 10 48 19.5 -0.1**
SNR=22
BRVK Borovoye 47.99 309 P **P 10 48 19.5 -0.1**
SNR=22
KKN Kakani 48.12 272 *e*P **P 10 48 21.3 +0.1**
comp=Z,180nm,0.9s
PKI Pulchoki 48.14 272 *e*P **P 10 48 21.2 -0.3**
PKIN Phulchoki 48.15 272 *e*P **P 10 48 21.1 -0.4**
comp=Z,55nm,0.7s
DAWY Dawson 48.29 35 *e*P **P 10 48 21.6 -0.2**
comp=Z,13nm,1.4s
DMN Daman 48.35 272 *e*P **P 10 48 23.1 +0.1**
comp=Z,126nm,0.9s
GKN Gorkha 48.49 273 *e*P **P 10 48 23.7 -0.3**
FRU Bishkek 48.81 295 *i*P **P 10 48 26.0 -0.1**
FRU *e* 10 48 44.0
FRU pmax pmax
comp=Z,65nm,1.9s
AAK Ala-Archa 48.97 295*c i*P **P 10 48 27.0 -0.5**
AAK pmax pmax
comp=Z,75nm,0.9s
AAK Ala-Archa 48.97 295 *e*P **P 10 48 27.2 -0.3**
comp=Z,31nm,0.9s
AAK Ala-Archa 48.97 295 P **P 10 48 27.2 -0.3**
SNR=13
AAK Ala-Archa 48.97 295 P **P 10 48 27.2 -0.3**
SNR=13
KSH Kashi 49.25 291⇑ *i*P **P 10 48 33.0 +3.4**
KSH pP sP 10 48 51.0 -2.6
KSH sP pP 10 49 00.3 +14
KSH PP **PP 10 50 29.1 +5.4**
KSH S **S 10 55 33.0 +2.2**
KSH sS sS 10 56 05.0 +6.0
KSH SS **SS 10 59 02.1 -0.5**
KSH pmax pmax
comp=Z,27nm,0.8s
KSH pmax pmax
comp=Z,140nm,2.8s
KSH LR LR
comp=Z,130nm,6.9s
KSH LR LR
comp=Z,120nm,6.8s
KSH LR LR
comp=Z,340nm,15.0s
KOLN Koldanda 49.38 273 *e*P **P 10 48 30.9 0.0**
KSM Kuching 49.56 224 *e*P **P 10 48 33.2 +1.1**
comp=Z,66nm,0.7s
PYUN Piuthan 49.66 274 *e*P **P 10 48 33.1 +0.1**
comp=Z,341nm,0.9s
INK Inuvik 49.68 29 P **P 10 48 31.9 -0.4**
comp=Z,11nm,0.6s,baz=294,slow=9.0,SNR=91
INK Inuvik 49.68 29 *e*P **P 10 48 31.9 -0.4**
comp=Z,13nm,0.8s
MNAS Manas 50.37 296 P **P 10 48 38.2 +0.1**
MNAS pmax pmax
comp=Z,83nm,0.7s
SURT Suratani 50.47 242 P **P 10 48 40.4 +1.5**
comp=Z,25nm,1.0s
SKLT Songkhla 50.63 239 P **P 10 48 41.5 +1.4**
comp=Z,90nm,0.8s,comp=Z,872nm
TRTT Trang 50.72 240 P **P 10 48 42.0 +1.2**
comp=Z,52nm,0.9s
WHY Whitehorse 51.22 39 *e*P **P 10 48 44.4 +0.2**
comp=Z,67nm,2.0s
SKAG Skagway 51.39 40 *e*P **P 10 48 46.5 +1.2**
KK31 Karatay Array 51.45 297 *i*P **P 10 48 44.9 -1.1**
KK31 pmax pmax
comp=Z,51nm,0.9s
KKAR Karatay Array 51.45 297 *e*P **P 10 48 45.5 -0.5**
KKAR Karatay Array 51.45 297 *e*P **P 10 48 45.5 -0.5**
comp=Z,325nm,0.7s
KEKH Kekaha 51.98 94 *e*P **P 10 48 52.1 +1.9**
comp=Z,213nm,1.3s
SVE Sverdlovsk 52.04 316*d i*P **P 10 48 50.3 +0.1**
SVE pmax pmax
comp=Z,98nm,1.0s
SVE MLR MLR
comp=Z,480nm,22.0s
KULM Kulim 52.05 237 *e*P **P 10 48 51.6 +0.9**
comp=Z,70nm,0.7s
SDNR Sundarnagar 52.33 281 *e*P **P 10 48 52.0 -0.7**
IPM Ipoh 52.44 236 *e*P **P 10 48 54.1 +0.4**
comp=Z,32nm,0.7s
MYKOM Kota Tinggi 52.87 231 *e*P **P 10 48 58.2 +1.3**
comp=Z,33nm,0.8s
SOKR Solikamsk 52.95 321*c i*P **P 10 48 54.8 -2.0**
SOKR pmax pmax
comp=Z,73nm,1.1s
SOKR MLR MLR
comp=Z,204nm,19.0s
ARU Arti 53.25 316*c i*P **P 10 48 58.6 -0.5**
ARU *PP **pP 10 49 16.6 +0.7**
ARU 10 50 03.2
ARU 10 50 57.8
ARU S **S 10 56 26.9 +1.6**
ARU SS **SKiKP 11 00 09.8 +0.2**
ARU pmax pmax
comp=Z,81nm,1.0s
ARU MLR MLR
comp=Z,445nm,19.0s
ARU Arti 53.25 316 *e*P **P 10 48 58.8 -0.4**
comp=Z,104nm,1.2s
SOEI Soe 54.09 202 *e*P **P 10 49 05.5 -0.3**
comp=Z,83nm,1.0s
DLBC Dease Lake 54.32 40 P **P 10 49 08.2 +1.2**
comp=Z,6.4nm,0.8s,baz=281,slow=7.5,SNR=8.6
DLBC Dease Lake 54.32 40 *e*P **P 10 49 08.9 +1.9**
comp=Z,31nm,1.4s
DZET Dzherino 54.52 293 P **P 10 49 06.8 -2.0**
DZET pmax pmax
comp=Z,39nm,0.6s
JBP Jabalpur 54.67 271 *e*S **P 10 49 09.4 -0.5**
PSI Prapat 55.05 237 P **P 10 49 13.4 +0.5**
comp=Z,30nm,0.9s,baz=4.6,slow=4.9,SNR=22
PSI Prapat 55.05 237 *e*P **P 10 49 14.0 +1.1**
PSI pmax pmax
comp=Z,33nm,0.9s
PSI Prapat 55.05 237 *e*P **P 10 49 14.0 +1.1**
comp=Z,33nm,0.9s
AB31 Akbulak array 55.44 308 P **P 10 49 14.6 -0.5**
AB31 pmax pmax
comp=Z,7.0nm,0.5s
ABKAR Akbulak array 55.44 308 *e*P **P 10 49 14.9 -0.2**
comp=Z,337nm,1.2s
MTN Manton Dam 55.51 193 *e*P **P 10 49 15.8 -0.1**
comp=Z,105nm,1.6s
COEN Coen 55.64 179 *e*P **P 10 49 17.7 +0.9**
comp=Z,64nm,1.3s
SPA0 Spitsbergen Ar 55.85 348 *e*P **P 10 49 17.1 -0.6**
KBS Kingsbay 55.94 350 *e*P **P 10 49 18.8 +0.5**
KBS pmax pmax
comp=Z,41nm,1.2s
KBS Kingsbay 55.94 350 *e*P **P 10 49 18.8 +0.5**
comp=Z,41nm,1.2s
KBL Kabul 56.48 288 *e*P **P 10 49 22.1 -1.0**
KBL pmax pmax
comp=Z,43nm,0.8s
KBL Kabul 56.48 288 *e*P **P 10 49 22.1 -1.0**
comp=Z,43nm,0.8s
UGM Wanagama 57.58 218 *e*P **P 10 49 29.6 -1.1**
comp=Z,98nm,0.9s
RES Resolute Bay 57.65 15 P **P 10 49 29.5 -0.8**
comp=Z,34nm,0.8s,baz=325,slow=4.3,SNR=18
RES Resolute Bay 57.65 15 *e*P **P 10 49 29.6 -0.8**
RES pmax pmax
comp=Z,35nm,0.8s
RES Resolute Bay 57.65 15 *e*P **P 10 49 29.6 -0.8**
comp=Z,34nm,0.8s
YKA Yellowknife Ar 59.19 32 P **P 10 49 40.9 -0.4**
comp=Z,12nm,0.8s,baz=305,slow=6.4,SNR=48
YKA LR LR 11 17 20.9
comp=Z,13nm,19.9s,baz=0.0,slow=38
HYB Hyderabad 59.21 266 *i*P **P 10 49 41.0 -1.2**
ARA0 ARCESS Array S 59.67 339 *e*P **P 10 49 45.2 +0.6**
ARCES ARCESS Array B 59.67 339 P **P 10 49 44.1 -0.5**
comp=Z,5.1nm,0.8s,baz=48,slow=7.2,SNR=8.8
ARCES pP **pP 10 50 01.9 +0.2**
comp=Z,2.0nm,0.5s,baz=56,slow=7.4,SNR=2.1
ARCES LR LR 11 18 18.2
comp=Z,203nm,21.4s,baz=42,slow=39
ARCES ARCESS Array B 59.67 339 *e*P **P 10 49 43.4 -1.2**
KLMR Klimovskoe 60.04 327 *e*P **P 10 49 43.8 -3.4**
KLMR *e* 10 51 57.3
KLMR pmax pmax
comp=Z,41nm,1.1s
DAG Danmarks Havn 60.94 355 *i*P **P 10 49 51.5 -1.6**
comp=Z,10nm,1.0s
DAG Danmarks Havn 60.94 355 *i*P **P 10 49 51.5 -1.6**
DAG pmax pmax
comp=Z,10.0nm,1.0s
FITZ Fitzroy Crossi 61.74 198 P **P 10 49 59.0 -0.1**
comp=Z,5.3nm,0.9s,baz=37,slow=7.5,SNR=6.9
FITZ pP **pP 10 50 17.6 +1.3**
comp=Z,4.4nm,0.7s,baz=357,slow=5.8,SNR=4.0
FITZ Fitzroy Crossi 61.74 198 *e*P **P 10 49 59.4 +0.3**
FITZ pP **pP 10 50 17.6 +1.3**
CTA Charters Tower 61.84 176 P **P 10 49 59.9 +0.1**
comp=Z,2.3nm,0.5s,baz=343,slow=6.2,SNR=3.9
CTA pP **pP 10 50 17.7 +0.7**
comp=Z,11nm,0.8s,baz=1.3,slow=8.2,SNR=6.8
CTAO Charters Tower 61.84 176 *e*P **P 10 49 59.3 -0.5**
CTAO pmax pmax
comp=Z,13nm,0.8s
CTAO Charters Tower 61.84 176 *e*P **P 10 49 59.3 -0.5**
comp=Z,13nm,0.8s
WRAB Tennant Creek 62.03 189*d i*P **P 10 50 00.3 -0.8**
WRAB pmax pmax
comp=Z,43nm,0.9s
WRAB Tennant Creek 62.03 189 *e*P **P 10 50 00.2 -0.9**
comp=Z,34nm,0.9s
WB2 Warramunga Arr 62.04 189 *e*P **P 10 50 00.1 -1.0**
comp=Z,40nm,0.8s
WRA Warramunga Arr 62.04 189 P **P 10 50 00.2 -1.0**
comp=Z,13nm,0.6s,baz=6.4,slow=6.9,SNR=246
WRA pP **pP 10 50 18.7 +0.3**
comp=Z,28nm,0.7s,baz=5.8,slow=6.8,SNR=16
WRA LR LR 11 17 12.0
comp=Z,48nm,21.0s,baz=55,slow=36
GEYT Alibeck 62.20 297 P **P 10 50 01.8 -0.5**
comp=Z,36nm,0.9s,baz=51,slow=3.8,SNR=48
GEYT pP **pP 10 50 21.0 +1.5**
comp=Z,17nm,0.9s,baz=59,slow=5.7,SNR=4.4
GEYT LR LR 11 18 54.1
comp=Z,451nm,20.5s,baz=55,slow=38
LLLB Lilooet 62.21 46 *e*P **P 10 50 02.8 +0.6**
comp=Z,13nm,1.0s
MBW Mount Baker 63.21 48 P **P 10 50 09.4 +0.5**
B05A Bryant 63.39 48 P **P 10 50 10.1 +0.2**
baz=304
E03A Lebam 63.52 50 *e*P **P 10 50 12.5 +1.8**
comp=Z,124nm,1.6s
B06A Marblemount 63.59 48 *e*P **P 10 50 12.0 +0.8**
comp=Z,18nm,0.9s
RPW Rockport 63.61 48 *e*P **P 10 50 11.8 +0.3**
MOS Moscow 63.78 322 *e*P **P 10 50 10.5 -1.9**
MOS *e* 10 50 29.6
MOS pmax pmax
comp=Z,64nm,1.3s
D05A Enumclaw 64.05 49 *e*P **P 10 50 15.4 +1.1**
comp=Z,46nm,1.4s
LON Longmire 64.40 49 *e*P **P 10 50 17.3 +0.6**
LON pmax pmax
comp=Z,6.0nm,0.8s
LON Longmire 64.40 49 *e*P **P 10 50 17.3 +0.6**
comp=Z,5.9nm,0.8s
NLW Nelson Butte 64.47 47 P **P 10 50 17.8 +0.6**
F04A Amboy 64.52 50 *e*P **P 10 50 18.7 +1.3**
comp=Z,22nm,0.8s
OBN Obninsk 64.64 322*c i*P **P 10 50 17.1 -0.9**
OBN *e* 10 50 31.7
OBN *i* *PP **pP 10 50 38.3 +3.1**
OBN S **S 10 58 53.0 +0.4**
OBN pmax pmax
comp=Z,77nm,1.4s
OBN MLR MLR
comp=Z,260nm,18.0s
OBN Obninsk 64.64 322 *e*P **P 10 50 17.6 -0.4**
comp=Z,58nm,1.1s
TWW Teanaway 64.71 49 P **P 10 50 20.0 +1.3**
LTY Liberty 64.75 48 *e*P **P 10 50 19.4 +0.5**
comp=Z,7.2nm,0.8s
FIA1 FINESS Array S 64.83 332 *e*P **P 10 50 18.3 -0.9**
comp=Z,44nm,0.9s
FINES FINESS Array B 64.83 332 P **P 10 50 18.2 -1.0**
comp=Z,28nm,0.7s,baz=56,slow=6.9,SNR=122
FINES pP **pP 10 50 37.2 +0.8**
comp=Z,18nm,0.6s,baz=46,slow=8.2,SNR=6.4
FINES LR LR 11 21 16.5
comp=Z,518nm,19.8s,baz=37,slow=38
B08A Colville Reser 64.85 47 *e*P **P 10 50 20.0 +0.4**
comp=Z,24nm,1.5s
WTV Waterville 64.90 48 *e*P **P 10 50 20.1 +0.2**
EDM Edmonton 65.04 40 *e*P **P 10 50 20.8 +0.1**
EDM pmax pmax
comp=Z,44nm,0.8s
EDM Edmonton 65.04 40 *e*P **P 10 50 20.8 +0.1**
comp=Z,44nm,0.8s
LPSR Galich'ya Gora 65.05 319 *e*P **P 10 50 19.7 -1.0**
LPSR pmax pmax
comp=Z,50nm,0.9s
KEBM Edson Butte 65.14 54 *e*P **P 10 50 22.8 +1.2**
comp=Z,69nm,1.4s
I03D Drain, OR 65.25 53 P **P 10 50 23.2 +1.0**
baz=305
G05D Wamic, OR 65.55 50 P **P 10 50 25.0 +0.9**
baz=306
KBO Bosley Butte 65.58 55 *e*P **P 10 50 25.9 +1.4**
comp=Z,54nm,1.5s
E07A Sunnyside 65.61 49 *e*P **P 10 50 24.3 -0.2**
comp=Z,12nm,0.9s
I04A Tendick Farm, 65.75 52 P **P 10 50 26.3 +0.8**
baz=306
SUMG Summit 65.76 0 *i*P **P 10 50 25.1 -0.4**
comp=Z,27nm,0.8s
SUMG Summit 65.76 0 *e*P **P 10 50 25.5 0.0**
SUMG pmax pmax
comp=Z,30nm,0.8s
SUMG Summit 65.76 0 *e*P **P 10 50 25.5 0.0**
comp=Z,30nm,0.8s
AS01 Alice Springs 65.76 189 *e*P **P 10 50 25.3 -0.3**
VSR Storozhevoye 65.77 318 *e*P **P 10 50 24.2 -1.2**
VSR pmax pmax
comp=Z,50nm,1.0s
AS31 Alice Springs 65.77 189 *e*P **P 10 50 25.6 -0.1**
comp=Z,3.9nm,0.6s
ASAR Alice Springs 65.77 189 P **P 10 50 25.3 -0.3**
comp=Z,5.5nm,0.7s,baz=7.6,slow=7.4,SNR=84
ASAR pP **pP 10 50 43.2 +0.2**
comp=Z,9.8nm,0.8s,baz=6.7,slow=6.7,SNR=11
ASAR LR LR 11 18 41.6
comp=Z,115nm,22.0s,baz=5.0,slow=36
ASAR Alice Springs 65.77 189 P **P 10 50 25.3 -0.3**
ASAR *PP **pP 10 50 43.2 +0.2**
ASAR pmax pmax
comp=Z,5.0nm,0.7s
D08A Wollman Farm, 65.84 48 *e*P **P 10 50 26.5 +0.5**
comp=Z,9.8nm,0.8s
HAWA Hanford 65.89 49 *e*P **P 10 50 27.1 +0.8**
comp=Z,9.3nm,0.8s
G06A Carlson Farm, 65.95 50 *e*P **P 10 50 27.6 +0.9**
comp=Z,61nm,1.9s
L02D Cave Junction, 65.99 54 P **P 10 50 27.9 +0.9**
baz=306
I05D Terrebonne, OR 66.06 51 P **P 10 50 28.4 +0.9**
baz=306
NEW Newport 66.10 46 P **P 10 50 28.1 +0.5**
baz=307,SNR=7.1
NEW Newport 66.10 46 *e*P **P 10 50 28.1 +0.5**
NEW pmax pmax
comp=Z,9.0nm,0.8s
NEW Newport 66.10 46 *e*P **P 10 50 28.1 +0.5**
comp=Z,9.2nm,0.8s
HUMO Hull Mountain 66.12 54 *e*P **P 10 50 28.8 +0.9**
comp=Z,22nm,1.8s
KRMB Red Mountain 66.17 55 *e*P **P 10 50 29.6 +1.3**
comp=Z,7.3nm,1.0s
MBWA Marble Bar 66.22 203 *e*P **P 10 50 30.6 +2.1**
comp=Z,24nm,1.0s
J04D Umpqua Nationa 66.25 53 P **P 10 50 29.3 +0.4**
baz=306,SNR=5.1
JCC Jacoby Creek, 66.51 56 *e*P **P 10 50 32.0 +1.7**
comp=Z,47nm,1.6s
E09A Wood Farm, Sta 66.59 48 *e*P **P 10 50 31.6 +0.8**
comp=Z,17nm,0.8s
VSU Vasula 66.62 329*ce*P **P 10 50 29.8 -0.9**
VSU pmax pmax
comp=Z,62nm,0.9s
KHMM Horse Mountain 66.66 55 *e*P **P 10 50 33.4 +1.9**
comp=Z,18nm,1.1s
J05D Fort Rock, OR 66.74 52 P **P 10 50 32.6 +0.6**
baz=306,SNR=5.5
YBH Yreka Blue Hor 66.78 54 *e*P **P 10 50 33.5 +1.4**
YBH pmax pmax
comp=Z,5.0nm,0.8s

YBH Yreka Blue Hor 66.78 54 *e*P P 10 50 33.5 +1.4
comp=Z,5.4nm,0.8s
M02C Callahan 66.89 55 P P 10 50 33.8 +0.9
baz=306,SNR=7.7
N02D Trinity Center 67.23 55 P P 10 50 35.8 +0.9
baz=306,SNR=9.1
M04C Macdoel 67.27 54 P P 10 50 36.1 +0.8
baz=307
K05A Summer Lake 67.28 53 *e*P P 10 50 36.6 +1.2
comp=Z,18nm,1.0s
WALA Waterton Lakes 67.31 44 *e*P P 10 50 36.1 +0.7
comp=Z,11nm,0.8s
GOF Gofitskoye 67.42 311⇑ *i*P P 10 50 36.3 +0.3
GOF pmax pmax
comp=Z,117nm,0.9s
F10A Beach Ranch, E 67.43 48 *e*P P 10 50 37.1 +0.9
comp=Z,14nm,1.3s
KCPM Cahto Peak 67.45 56 *e*P P 10 50 37.6 +1.2
comp=Z,74nm,1.7s
EIDS Eidsvold 67.47 172 *e*P P 10 50 37.1 +0.7
comp=Z,22nm,0.8s
DZM Mont Dzumac 67.48 156 *e*LR LR 11 11 02.6
comp=Z,363nm,23.4s
WDC Whiskeytown Da 67.56 55 *e*P P 10 50 37.5 +0.5
WDC pmax pmax
comp=Z,9.0nm,1.1s
WDC Whiskeytown Da 67.56 55 *e*P P 10 50 37.5 +0.5
comp=Z,8.9nm,1.1s
BSMT Bassoo Peak 67.60 45 *e*P P 10 50 37.8 +0.4
BLMT Blacktail Moun 67.72 45 *e*P P 10 50 39.2 +1.0
JTMT Jette 67.93 45 *e*P P 10 50 39.9 +0.5
YBMT Yellow Bay 68.00 45 *e*P P 10 50 40.3 +0.5
NCK Nalchik 68.06 309 *e*P P 10 50 40.3 +0.2
NCK pmax pmax
comp=Z,38nm,1.0s
BMO Blue Mountains 68.06 49 *e*P P 10 50 40.8 +0.6
BMO pmax pmax
comp=Z,7.0nm,0.9s
BMO Blue Mountains 68.06 49 *e*P P 10 50 40.8 +0.6
comp=Z,6.8nm,0.9s
MOD Modoc Plateau 68.12 53 *e*P P 10 50 41.7 +1.0
comp=Z,4.3nm,0.8s
SWMT Swartz Lake 68.23 45 *e*P P 10 50 41.8 +0.5
DGRG David-gareji 68.25 307 P P 10 50 41.1 -0.3
DGRG David-gareji 68.25 307 P P 10 50 41.0 -0.3
KIV Kislovodsk 68.30 310 *i* P P 10 50 42.2 +0.5
SNR=15
KIV Kislovodsk 68.30 310 *e*P P 10 50 42.2 +0.5
KIV *e**PP **pP** 10 51 00.9 +1.8
KIV *e*S **S** 10 59 38.1 +0.6
KIV *e*SS **SS** 11 04 03.7 +2.8
KIV pmax pmax
comp=Z,138nm,1.1s
KIV pmax pmax
comp=Z,25nm,2.9s
KIV MLR MLR
comp=Z,161nm,17.0s
KIV Kislovodsk 68.30 310 *e*P P 10 50 42.6 +1.0
comp=Z,120nm,1.0s
KIV Kislovodsk 68.30 310 P P 10 50 42.2 +0.5
SNR=30
ZEI Tsey 68.31 308 *e*P P 10 50 39.2 -2.7
ZEI pmax pmax
comp=Z,80nm,0.9s
KBZ Khabaz 68.32 310 P P 10 50 42.0 +0.4
comp=Z,32nm,0.9s,baz=45,slow=4.1,SNR=52
KBZ LR LR 11 26 09.8
comp=Z,164nm,18.2s,baz=41,slow=41
KBZ Khabaz 68.32 310 P P 10 50 42.0 +0.4
KBZ pmax pmax
comp=Z,32nm,0.9s
KBZ MLR MLR
comp=Z,164nm,18.2s
TBLG Delisi 68.46 307 P P 10 50 42.9 +0.3
TBLG Delisi 68.46 307 P P 10 50 42.9 +0.3
SLMT Seeley Lake 68.66 45 *e*P P 10 50 44.7 +0.7
MSO Missoula 68.69 46 P P 10 50 44.2 +0.1
baz=309,SNR=5.6
MSO Missoula 68.69 46 *e*P P 10 50 44.6 +0.6
comp=Z,13nm,1.1s
ONI Oni 68.69 308 P P 10 50 44.6 +0.5
ONI Oni 68.69 308 P P 10 50 44.6 +0.5
NEY Neytrino 68.71 309 *d i*P P 10 50 45.5 +1.1
NEY pmax pmax
comp=Z,7.0nm,1.0s
WVOR Wild Horse Val 68.78 52 *e*P P 10 50 45.8 +1.0
WVOR pmax pmax
comp=Z,7.0nm,1.0s
WVOR Wild Horse Val 68.78 52 *e*P P 10 50 45.8 +1.0
comp=Z,6.8nm,1.0s
ORV Oroville 68.82 56 *e*P P 10 50 45.1 +0.2
ORV pmax pmax
comp=Z,7.0nm,0.6s
ORV Oroville 68.82 56 *e*P P 10 50 45.1 +0.2
comp=Z,6.5nm,0.6s
CHMT Chamberlain Mo 69.00 45 *e*P P 10 50 46.5 +0.4
NACGM Naroch 69.05 326 *e* P 10 50 44.0 -2.0
FFC Flin Flon 69.17 34 *e*P P 10 50 46.7 -0.1
FFC pmax pmax
comp=Z,42nm,0.8s
FFC Flin Flon 69.17 34 *e*P P 10 50 46.7 -0.1
comp=Z,42nm,0.8s
FCC Fort Churchill 69.27 28 *e*P P 10 50 46.8 -0.5
FCC pmax pmax
comp=Z,33nm,0.9s
FCC Fort Churchill 69.27 28 *e*P P 10 50 46.8 -0.5
comp=Z,33nm,0.9s
AKH Akhalkalaki 69.39 307 P P 10 50 49.3 +0.6
AKH Akhalkalaki 69.39 307⇑ *i*P P 10 50 49.5 +0.9
AKH Akhalkalaki 69.39 307 P P 10 50 49.2 +0.6
BGD Bogdanovka 69.42 307 P P 10 50 49.3 +0.5
GNI Garni 69.42 306 *i* P P 10 50 49.8 +1.0
SNR=7.2
GNI Garni 69.42 306 *ce*P P 10 50 49.6 +0.8
GNI pmax pmax
comp=Z,107nm,1.1s
GNI Garni 69.42 306 *e*P P 10 50 48.0 -0.7
comp=Z,40nm,0.9s
GNI Garni 69.42 306 P P 10 50 49.7 +1.0
SNR=10
AFDM Forest Hills D 69.51 56 *e*P P 10 50 49.2 0.0
comp=Z,12nm,1.2s
NC405 NORSAR Array S 69.74 337 *e*P P 10 50 49.8 -0.4
NC303 NORSAR Array S 69.75 337 *e*P P 10 50 49.7 -0.6
AFI Afiamalu 69.78 132 LR LR 11 15 09.4
comp=Z,116nm,21.6s,baz=330,slow=30
MFID Camas Ranch 69.79 49 *e*P P 10 50 51.6 +0.7
comp=Z,6.3nm,1.0s
HRY Holter Researc 69.88 45 *e*P P 10 50 52.4 +0.9
NC204 NORSAR Array S 69.89 337 *e*P P 10 50 50.4 -0.8
NB201 NORSAR Array S 69.92 337 *e*P P 10 50 50.8 -0.6
NB2 NORSAR Subarra 69.95 337 P P 10 50 50.3 -1.2
baz=37,slow=6.5
NB2 NORSAR Subarra 69.95 337 P P 10 50 50.3 -1.2
NB2 pmax pmax
comp=Z,26nm,0.8s
NB2 NORSAR Subarra 69.95 337 P P 10 50 50.3 -1.2
comp=Z,31nm,0.8s,baz=37,slow=6.5
NOA NORSAR Array B 69.95 337 P P 10 50 50.7 -0.8
comp=Z,28nm,0.8s,baz=37,slow=6.2,SNR=80
NOA pP **pP** 10 51 11.1 +2.1
comp=Z,8.6nm,0.7s,baz=37,slow=6.2,SNR=4.8
NOA LR LR 11 24 57.7
comp=Z,186nm,21.4s,baz=45,slow=39
PAHR Pah Rah Range 70.02 54 *e*P P 10 50 53.5 +1.0
comp=Z,8.7nm,1.0s
NBO02 NORSAR Array S 70.05 337 *e*P P 10 50 51.7 -0.4
NBO00 NORSAR Array S 70.08 337 *e*P P 10 50 51.9 -0.4
EGMT Eagleton 70.10 43 P P 10 50 52.8 +0.1
baz=311,SNR=11
EGMT Eagleton 70.10 43 *e*P P 10 50 53.0 +0.3
comp=Z,30nm,0.9s
NC602 NORSAR Array S 70.10 337 *e*P P 10 50 51.2 -1.2
LRM Limekiln Ridge 70.12 46 *e*P P 10 50 53.6 +0.5
NAO01 NORSAR Array S 70.20 337 *e*P P 10 50 52.1 -0.9
SOC Sochi 70.21 311 *e*P P 10 50 52.8 -0.6
SOC *e*S **S** 11 00 02.7 +2.9
SOC *e**SS **sS** 11 00 30.2 +0.8
SOC *e*SS **SS** 11 04 37.8 +7.6
SOC pmax pmax
comp=Z,38nm,0.9s
PNTR Pine Nut 70.27 55 *e*P P 10 50 54.7 +0.6
comp=Z,13nm,0.7s
DLMT Dillon 70.34 46 *e*P P 10 50 55.4 +1.0
comp=Z,17nm,0.9s
BANOM Banah 70.42 288 P P 10 50 54.7 -0.3

CMB Columbia Colle 70.43 56 *e*P P 10 50 55.8 +0.9
CMB pmax pmax
comp=Z,30nm,1.6s
CMB Columbia Colle 70.43 56 *e*P P 10 50 55.8 +0.9
comp=Z,30nm,1.6s
ARTV Artvin 70.45 308 *e*P P 10 50 55.9 +0.7
comp=Z,30nm,1.0s
HLID Hailey 70.50 49 P P 10 50 56.0 +0.6
baz=310,SNR=8.0
HLID Hailey 70.50 49 *e*P P 10 50 55.7 +0.4
comp=Z,7.1nm,1.0s
MCMT McKenzie Canyo 70.55 47 *e*P P 10 50 56.5 +0.8
YERR Yerington 70.55 55 *e*P P 10 50 56.8 +1.0
comp=Z,16nm,0.9s
BIDO Bidbid 70.58 284 P P 10 50 57.0 +1.1
SNR=5.3
ANN Anapa 70.70 313 *e*P P
ANN pmax pmax
comp=Z,68nm,1.0s
BOZ Bozeman (W) 70.71 46 P P 10 50 57.2 +0.6
baz=311,SNR=23
BOZ Bozeman (W) 70.71 46 *e*P P 10 50 57.2 +0.6
BOZ pmax pmax
comp=Z,15nm,0.8s
BOZ Bozeman (W) 70.71 46 *e*P P 10 50 57.2 +0.6
comp=Z,15nm,0.8s
WAKR Walker 70.73 55 *e*P P 10 50 58.3 +1.4
comp=Z,8.7nm,0.9s
AKASG Malin Array Be 70.89 322 P P 10 50 56.5 -0.8
comp=Z,26nm,0.7s,baz=45,slow=6.4,SNR=119
AKASG pP **pP** 10 51 15.3 +0.5
comp=Z,9.8nm,0.7s,baz=42,slow=6.7,SNR=4.7
AKASG LR LR 11 24 45.2
comp=Z,276nm,20.1s,baz=35,slow=38
AKBB Malin Array Si 70.89 322 *e*P P 10 50 56.3 -1.1
AKBB pmax pmax
comp=Z,46nm,0.8s
AKBB Malin Array Si 70.89 322 *e*P P 10 50 56.2 -1.1
comp=Z,46nm,0.8s
KIEV Kiev 70.90 322 *c i*P P 10 50 56.4 -1.0
KIEV pmax pmax
comp=Z,44nm,0.9s
KIEV Kiev 70.90 322 *e*P P 10 50 56.3 -1.1
comp=Z,48nm,0.9s
AK11 Malin Array Si 70.93 322 *e*P P 10 50 57.0 -0.6
UOSS Minazif 71.08 287 *e*P P 10 50 58.6 -0.4
comp=Z,35nm,0.8s
SUW Suwalki 71.17 327 *e*P P 10 50 58.0 -1.0
SUW Suwalki 71.17 327 *e*P P 10 50 58.0 -1.0
TVH1 TV Hill, Hawth 71.17 55 *e*P P 10 51 00.8 +1.0
comp=Z,8.8nm,0.9s
TVH3 East Aurora ar 71.20 55 *e*P P 10 51 01.2 +1.4
comp=Z,8.0nm,1.0s
HATD Hatta, Dubai 71.21 287 *i* P P 10 50 59.7 -0.1
SNR=11
TVH2 Borealis Mine 71.22 55 *e*P P 10 51 01.3 +1.3
comp=Z,4.9nm,0.8s
ASHO Ashiyiah 71.35 287 *i* P P 10 51 00.4 -0.2
SNR=7.8
NAZ Nazwa, Dubai 71.44 287 P P 10 51 00.8 -0.3
YHB Horse Butte 71.49 46 *e*P P 10 51 02.6 +1.1
comp=Z,17nm,0.8s
KONO Kongsberg 71.55 337 *ce*P P 10 50 59.9 -1.3
KONO pmax pmax
comp=Z,44nm,0.8s
GCMT Greycliff 71.62 45 *e*P P 10 51 02.8 +0.7
FAQ Al Faqa, Dubai 71.64 287 P P 10 51 01.8 -0.5
YHH Holmes Hill 71.65 46 *e*P P 10 51 03.5 +1.0
comp=Z,10.0nm,1.0s
YMR Madison River 71.67 46 *e*P P 10 51 03.8 +1.2
comp=Z,13nm,0.9s
YNR Norris Junctio 71.79 46 *e*P P 10 51 04.0 +0.7
comp=Z,10nm,1.1s
YFT Old Faithful 71.88 46 *e*P P 10 51 05.5 +1.7
comp=Z,14nm,0.9s
PAGB Antelope Grade 71.95 58 *e*P P 10 51 05.5 +1.4
comp=Z,17nm,1.1s
YPP Pitchstone Pla 72.02 46 *e*P P 10 51 06.8 +2.1
comp=Z,5.5nm,0.9s
KOPT Kop Dagi 72.04 308 *e*P P 10 51 05.9 +1.1
comp=Z,221nm,0.4s
H17A Grant Village 72.06 46 P P 10 51 07.0 +2.1
baz=312,SNR=12
H17A Grant Village 72.06 46 *e*P P 10 51 07.5 +2.6
comp=Z,22nm,1.0s
IMW Indian Meadow 72.19 47 *e*P P 10 51 07.1 +1.4
comp=Z,14nm,0.9s
RLMT Red Lodge 72.27 45 P P 10 51 06.1 0.0
baz=312,SNR=5.2
RLMT Red Lodge 72.27 45 *e*P P 10 51 06.8 +0.7
comp=Z,17nm,1.3s
SIM Simferopol' 72.38 315 *c i*P P 10 51 06.0 -0.4
SIM *e**PP **sP** 10 51 28.0 -3.1
SIM pmax pmax
comp=Z,35nm,0.7s
SIM MLR MLR
comp=Z,150nm,17.3s
MOOW Moose Ponds 72.40 47 *e*P P 10 51 08.1 +1.2
comp=Z,17nm,1.1s
TPAW Teton Pass 72.46 47 *e*P P 10 51 08.8 +1.6
comp=Z,22nm,1.2s
DGMT Dagmar 72.53 40 P P 10 51 07.1 -0.2
baz=314,SNR=12
DGMT Dagmar 72.53 40 *e*P P 10 51 07.5 +0.2
comp=Z,35nm,0.9s
LOHW Long Hollow 72.56 47 *e*P P 10 51 08.9 +1.1
comp=Z,9.2nm,1.3s
HVU Hansel Valley 72.57 49 *e*P P 10 51 09.1 +1.2
HVU pmax pmax
comp=Z,9.0nm,0.8s
HVU Hansel Valley 72.57 49 *e*P P 10 51 09.1 +1.2
comp=Z,8.5nm,0.8s
SNOW Snow King Moun 72.58 47 *e*P P 10 51 09.0 +1.0
comp=Z,9.5nm,0.9s
REDW Red Top Meadow 72.59 47 *e*P P 10 51 09.4 +1.4
comp=Z,10nm,0.9s
VES Vestal, Richgr 72.62 57 P P 10 51 08.0 0.0
baz=310
LAO LASA Array 72.77 42 P P 10 51 09.2 +0.4
baz=314,SNR=7.0
LAO LASA Array 72.77 42 *e*P P 10 51 07.5 -1.4
comp=Z,20nm,1.0s
CWC Cottonwood Cre 72.87 56 P P 10 51 10.2 +0.5
baz=310
GRAC Grapevine Rang 72.95 55 P P 10 51 11.2 +1.2
baz=310,SNR=7.6
BGU Big Grassy Mou 72.98 50 *e*P P 10 51 11.6 +1.2
comp=Z,7.0nm,1.0s
SPUT South Promonto 73.06 49 *e*P P 10 51 12.0 +1.2
comp=Z,12nm,1.0s
SORM Soroca 73.09 320⇑ *i*P P 10 51 10.0 -0.5
R11A Troy Canyon, C 73.16 53 P P 10 51 11.6 +0.1
baz=311,SNR=9.5
R11A Troy Canyon, C 73.16 53 *e*P P 10 51 12.0 +0.5
comp=Z,9.4nm,1.3s
DAC Darwin (Calif) 73.27 56 *e*P P 10 51 13.0 +0.9
DAC pmax pmax
comp=Z,7.0nm,1.0s
DAC Darwin (Calif) 73.27 56 *e*P P 10 51 13.0 +0.9
comp=Z,7.4nm,1.0s
HWUT Hardware Ranch 73.36 49 *e*P P 10 51 13.3 +0.8
comp=Z,15nm,1.0s
MPMC Manual Prospec 73.48 56 P P 10 51 13.8 +0.5
baz=310,SNR=8.4
STKA Stephens Creek 73.48 181 P P 10 51 13.1 +0.3
comp=Z,3.3nm,0.7s,baz=354,slow=7.0,SNR=6.7
STKA pP **pP** 10 51 30.4 0.0
comp=Z,15nm,0.9s,baz=346,slow=7.2,SNR=14
STKA LR LR 11 22 55.1
comp=Z,63nm,22.0s,baz=22,slow=35
STKA Stephens Creek 73.48 181 *e*P P 10 51 13.5 +0.6
STKA *PP **pP** 10 51 30.4 0.0
STKA pmax pmax
comp=Z,4.0nm,0.9s
STKA Stephens Creek 73.48 181 *e*P P 10 51 13.5 +0.6
comp=Z,4.1nm,0.9s
STKA pP **pP** 10 51 30.4 0.0
FORT Forrest 73.58 193 *e*P P 10 51 13.7 +0.2
comp=Z,1μm,1.8s
DUG Dugway, Tooele 73.59 51 P P 10 51 14.6 +0.7
baz=312,SNR=9.8
DUG Dugway, Tooele 73.59 51 *e*P P 10 51 14.8 +0.9
DUG pmax pmax
comp=Z,13nm,0.8s
DUG Dugway, Tooele 73.59 51 *e*P P 10 51 14.8 +0.9
comp=Z,13nm,0.8s
FURC Furnace Creek, 73.60 56 P P 10 51 14.8 +1.0
baz=310,SNR=18
MARD Mardin 73.61 306 *e*P P 10 51 14.8 +0.8
comp=Z,108nm,0.8s
TPNV Topopah Spring 73.67 55 P P 10 51 14.8 +0.4
baz=311,SNR=15
TPNV Topopah Spring 73.67 55 *e*P P 10 51 15.2 +0.8
TPNV pmax pmax
comp=Z,16nm,0.8s
TPNV Topopah Spring 73.67 55 *e*P P 10 51 15.2 +0.8
comp=Z,16nm,0.8s
BW06 Boulder Array 73.70 47 P P 10 51 14.5 -0.1
baz=313,SNR=17
BW06 Boulder Array 73.70 47 *e*P P 10 51 14.8 +0.2
comp=Z,14nm,0.8s
PD31 Pinedale Array 73.70 47 *e*P P 10 51 14.8 +0.2
PDAR Pinedale Array 73.70 47 P P 10 51 14.7 +0.2
comp=Z,9.6nm,0.7s,baz=266,slow=2.8,SNR=86
PDAR pP **pP** 10 51 32.4 +0.2
comp=Z,3.9nm,0.7s,baz=270,slow=3.0,SNR=4.7
PDAR LR LR 11 25 24.9
comp=Z,42nm,19.4s,baz=331,slow=37
LRMC Laurel Mtn Rad 73.73 57 P P 10 51 15.0 +0.2
baz=310
BEL Belsk 73.75 327 *e*P P 10 51 14.6 +0.2
BEL Belsk 73.75 327 *e*P P 10 51 14.6 +0.2
KBSD Kabsdagh 73.95 305 *e*P P 10 51 13.9 -2.0
PSUT Pine Spring 74.07 52 *e*P P 10 51 16.9 +0.1
comp=Z,13nm,0.6s
JLU Jordanelle 74.10 50 *e*P P 10 51 18.0 +1.1
comp=Z,18nm,1.4s
NLU North Lily Min 74.17 50 *e*P P 10 51 18.5 +1.1
comp=Z,11nm,0.9s
SHOC Shoshone, Teco 74.33 56 P P 10 51 18.8 +0.7
baz=311
GSC Goldstone, Bar 74.39 57 P P 10 51 19.1 +0.6
baz=311
GSC Goldstone, Bar 74.39 57 *e*P P 10 51 19.5 +1.0
GSC pmax pmax
comp=Z,13nm,1.2s
GSC Goldstone, Bar 74.39 57 *e*P P 10 51 19.5 +1.0
comp=Z,13nm,1.2s
BFSC Mount Baldy Ra 74.54 58 P P 10 51 19.1 -0.4
baz=311
KWP Kalwaria Pacla 74.58 324 *e*P P 10 51 19.7 +0.4
KWP Kalwaria Pacla 74.58 324 *e*P P 10 51 19.7 +0.4
SFNV Sufian 74.60 305 *e*P P 10 51 19.3 -0.4
SHPR Sheep Range 74.62 55 *e*P P 10 51 21.4 +1.4
comp=Z,12nm,1.0s
BBOO Buckleboo 74.64 186 *e*P P 10 51 20.8 +1.2
comp=Z,17nm,0.9s
TUQ Turquoise Moun 74.85 56 P P 10 51 21.8 +0.6
baz=311,SNR=14
TCRU Three Creeks R 74.85 52 *e*P P 10 51 21.7 +0.3
comp=Z,6.5nm,0.8s
BUR08 Bucovina Ar. S 74.92 321 *e*P P 10 51 21.3 -0.1
BURAR Bucovina Array 74.93 321⇑ *i*P P 10 51 21.5 0.0
BURAR Bucovina Array 74.93 321 P P 10 51 21.4 0.0
ULM Lac du Bonnet 74.98 34 P P 10 51 21.2 -0.4
comp=Z,18nm,0.9s,baz=322,slow=6.1,SNR=14
ULM LR LR 11 26 03.6
comp=Z,76nm,18.5s,baz=312,slow=37
ULM Lac du Bonnet 74.98 34 *e*P P 10 51 21.0 -0.6
comp=Z,36nm,1.1s
CCUT Cedar City 75.01 53 *e*P P 10 51 22.6 +0.3
comp=Z,21nm,1.8s
TESR Tescani 75.06 320⇑ *i*P P 10 51 21.8 -0.3
MSU Marysvale 75.07 52 *e*P P 10 51 23.9 +1.3
MSU Marysvale 75.07 52 *e*P P 10 51 23.9 +1.3
TMUT Trail Mountain 75.11 50 *e*P P 10 51 23.7 +0.8
comp=Z,1nm,0.7s
MDND Maddock 75.13 38 P P 10 51 22.5 0.0
baz=317,SNR=8.8
MDND Maddock 75.13 38 *e*P P 10 51 23.1 +0.6
comp=Z,48nm,0.9s
SZCU Shurtz Canyon 75.15 53 *e*P P 10 51 24.2 +1.2
comp=Z,7.7nm,1.3s
ILGA Ilgaz 75.22 312 *e*P P 10 51 24.4 +1.0
comp=Z,61nm,0.9s
CFR Carcaliu 75.28 318⇑ *i*P P 10 51 23.3 -0.1
PETR Petresti 75.34 319⇑ *i*P P 10 51 24.8 +1.1
STHS Stebnicka Huta 75.38 325 *e*P P 10 51 24.1 +0.2
STHS pmax pmax
comp=Z,22nm,1.0s
STHS Stebnicka Huta 75.38 325 *e*P P 10 51 24.1 +0.2
OJC Ojcow 75.39 326 *e*P P 10 51 23.9 0.0
OJC Ojcow 75.39 326 *e*P P 10 51 23.3 -0.6
OJC pmax pmax
comp=Z,72nm,0.9s
OJC Ojcow 75.39 326 *e*P P 10 51 23.3 -0.6
comp=Z,72nm,0.9s
K22A Casper 75.41 45 P P 10 51 24.3 -0.1
baz=314,SNR=6.9
K22A Casper 75.41 45 *e*P P 10 51 24.8 +0.4
comp=Z,18nm,1.1s
P18A Preston Nutter 75.44 50 *e*P P 10 51 25.9 +1.2
comp=Z,11nm,0.9s
GMRC Granite Mounta 75.44 56 P P 10 51 24.9 +0.2
baz=311,SNR=6.2
LCMT Little Creek M 75.44 53 *e*P P 10 51 25.8 +1.2
comp=Z,8.1nm,1.0s
UZH Uzhgorod 75.51 324 *e*P P 10 51 23.2 -1.4
PLOR Plostina 75.53 319⇑ *i*P P 10 51 25.7 +0.8
LDFC Landfair 75.58 56 *e*P P 10 51 25.6 +0.1
comp=Z,26nm,1.0s
B31A Greenbush Farm 75.59 37 P P 10 51 24.6 -0.5
baz=318,SNR=12
SRU San Rafael Swe 75.63 50 *e*P P 10 51 26.4 +0.7
SRU pmax pmax
comp=Z,20nm,0.9s
SRU San Rafael Swe 75.63 50 *e*P P 10 51 26.4 +0.7
comp=Z,20nm,0.9s
KSRV Kasrt alli 75.64 305 *e*P P 10 51 26.1 +0.5
TIRR Tirgusor 75.66 318 *e*P P 10 51 25.9 +0.4
TIRR pmax pmax
comp=Z,20nm,1.1s
TIRR Tirgusor 75.66 318 *e*P P 10 51 25.9 +0.4
comp=Z,20nm,1.1s
RSSD Black Hills 75.67 43 P P 10 51 25.5 -0.5
baz=315
RSSD Black Hills 75.67 43 *e*P P 10 51 25.6 -0.3
RSSD pmax pmax
comp=Z,14nm,0.8s
RSSD Black Hills 75.67 43 *e*P P 10 51 25.6 -0.3
comp=Z,14nm,0.8s
PFO Pinyon Flats O 75.70 58 P P 10 51 26.4 +0.2
baz=311
PFO Pinyon Flats O 75.70 58 *e*P P 10 51 26.9 +0.7
PFO pmax pmax
comp=Z,7.0nm,0.9s
PFO Pinyon Flats O 75.70 58 *e*P P 10 51 26.9 +0.7
comp=Z,7.5nm,0.9s
RWWY Rawlins 75.71 46 *e*P P 10 51 26.7 +0.4
comp=Z,24nm,0.9s
ARCR ARCALIA 75.72 322⇑ *i*P P 10 51 26.9 +1.0
A32A Rocking H Ranc 75.72 36 P P 10 51 25.4 -0.4
baz=319,SNR=10.0
HARR Harsova 75.73 318⇑ *i*P P 10 51 25.5 -0.5
BELC Belle Mtn. Jos 75.74 57 P P 10 51 26.3 -0.1
baz=311,SNR=5.3
TLB Topalu 75.75 318⇑ *i*P P 10 51 25.4 -0.7
NIE Niedzica 75.78 325 *e*P P 10 51 26.7 +0.5
NIE Niedzica 75.78 325 *e*P P 10 51 26.7 +0.5
C31A Landman Farms, 76.02 37 P P 10 51 27.0 -0.6
baz=318,SNR=12
DOPR Dopca 76.05 320‖ *i*P P 10 51 28.8 +1.0
B32A Ashes, Strandq 76.10 36 P P 10 51 27.3 -0.7
baz=319,SNR=14
ISR Istrita 76.11 319⇑ *i*P P 10 51 28.8 +0.6
MLR Muntele Rosu 76.13 320 *e*P P 10 51 28.1 -0.3
MLR pmax pmax
comp=Z,25nm,1.3s
MLR Muntele Rosu 76.13 320 *e*P P 10 51 28.1 -0.3
comp=Z,25nm,1.3s
IRM Iron Mountain 76.17 57 P P 10 51 29.0 +0.3
baz=312
BR131 Keskin Array S 76.17 311 *e*P P 10 51 28.8 0.0
BRTR Keskin Array B 76.18 311 P P 10 51 28.7 -0.1
comp=Z,12nm,0.8s,baz=66,slow=3.8,SNR=51
BRTR pP **pP** 10 51 48.3 +1.9
comp=Z,3.5nm,0.6s,baz=86,slow=3.9,SNR=2.9
BRTR PP **PP** 10 54 19.9 -0.1
comp=Z,3.4nm,0.9s,baz=60,slow=5.9,SNR=5.2
BRTR LR LR 11 28 07.1
comp=Z,62nm,21.4s,baz=52,slow=38
BAR Barrett 76.18 59 *e*P P 10 51 27.8 -1.0
comp=Z,18nm,1.6s

A33A	Warroad	76.19	35	P	P	10 51 27.8	-0.7		baz=320,SNR=14	
O20A	White River Ci	76.22	48	P	P	10 51 28.9	-0.2		baz=314,SNR=13	
O20A	White River Ci	76.22	48	eP	P	10 51 28.8	-0.2		comp=Z,17nm,0.9s	
BC3	Big Chuckawall	76.31	57	P	P	10 51 29.6	0.0		baz=312,SNR=5.1	
KSP	Ksiaz	76.32	328	eP	P	10 51 29.4	+0.1			
KSP	Ksiaz	76.32	328	eP	P	10 51 29.4	+0.1			
W13A	Hualapai Mount	76.32	55	eP	P	10 51 30.9	+1.1		comp=Z,8.2nm,0.9s	
LANS	Liptovska Anna	76.34	325	eP	P	10 51 29.7	+0.3			
LANS	Liptovska Anna	76.34	325	eP	P	10 51 29.7	+0.3			
CJR	Cluj-Napoca	76.35	322	⇓iP	P	10 51 30.5	+1.0			
OKC	Ostrava-Krasne	76.36	327	⇑eP	P	10 51 29.7	+0.2			
OKC				epP	pP	10 51 45.9	-1.2			
OKC	Ostrava-Krasne	76.36	327	eP	P	10 51 29.7	+0.2			
OKC				e		10 51 45.9				
U15A	North Rim	76.40	53	eP	P	10 51 31.8	+1.5		comp=Z,12nm,1.0s	
SECR		76.40	319	⇓iP	P	10 51 30.3	+0.5			
KECS	Kecovo	76.41	324	eP	P	10 51 29.7	-0.1			
KECS				pmax	pmax					
KECS	Kecovo	76.41	324	eP	P	10 51 29.7	-0.1		comp=Z,6.0nm,0.9s	
AGMN	Agassiz Nation	76.47	36	P	P	10 51 29.3	-0.8		baz=320,SNR=12	
AGMN	Agassiz Nation	76.47	36	eP	P	10 51 29.6	-0.5		comp=Z,20nm,0.9s	
DRWC	Darouich	76.54	307	eP	P	10 51 28.8	-2.0			
ANTO	Ankara	76.55	312	eP	P	10 51 31.3	+0.5			
ANTO				pmax	pmax					
ANTO	Ankara	76.55	312	eP	P	10 51 31.3	+0.5		comp=Z,53nm,0.8s	
ANTO	Ankara	76.55	312	P	P	10 51 31.5	+0.6		SNR=7.4	
BR231	Keskin MP Arra	76.58	312	eP	P	10 51 31.8	+0.7			
D31A	Mcclaflin, Tow	76.58	38	P	P	10 51 29.9	-0.8		baz=318	
VOIR		76.60	320	⇑iP	P	10 51 31.2	+0.2			
VOIR		76.60	320	P	P	10 51 31.2	+0.2			
B33A	Robert and Kas	76.61	36	P	P	10 51 30.1	-0.7		baz=320,SNR=6.5	
MORC	Moravsky Berou	76.66	327	⇓iP	P	10 51 31.0	-0.2			
MORC	Moravsky Berou	76.66	327	eP	P	10 51 31.0	-0.2			
MORC				pmax	pmax				comp=Z,144nm,0.9s	
MORC	Moravsky Berou	76.66	327	eP	P	10 51 31.0	-0.2		comp=Z,144nm,0.9s	
PDMCI	Parker Dam,Lak	76.69	56	P	P	10 51 31.9	+0.2		baz=312,SNR=6.4	
DRGR		76.70	322	⇑iP	P	10 51 30.7	-0.8			
UPC	Upice	76.70	328	⇑iP	P	10 51 31.6	+0.2			
UPC				AMS	AMS	11 26 20.0				
UPC	Upice	76.70	328	⇑iP	P	10 51 31.6	+0.2		comp=Z,200nm,16.2s	
UPC				MLR	MLR				comp=Z,200nm,16.2s	
DPC	Dobruska-Polom	76.70	328	⇑iP	P	10 51 31.9	+0.5			
DPC				epP	pP	10 51 51.8	+2.7			
DPC	Dobruska-Polom	76.70	328	⇑iP	P	10 51 31.9	+0.5			
DPC				e		10 51 51.8				
KRLC	Kraliky	76.73	327	⇑eP	P	10 51 32.1	+0.5			
KRLC				epP	pP	10 51 51.7	+2.4			
KRLC	Kraliky	76.73	327	eP	P	10 51 32.1	+0.5			
KRLC				e		10 51 51.7				
Y12C	Blythe	76.83	56	eP	P	10 51 33.6	+1.2		comp=Z,14nm,1.1s	
D32A	Dogwood Acres,	76.83	37	P	P	10 51 31.7	-0.5		baz=319,SNR=5.9	
PV09	Paradox Valley	76.84	50	eP	P	10 51 33.8	+1.1			
B34A	Aery, Baudette	76.85	35	P	P	10 51 31.6	-0.7		baz=320,SNR=8.7	
ARR	Arges	76.85	320	⇑iP	P	10 51 33.3	+0.9			
E31A	Nome	76.87	38	P	P	10 51 32.0	-0.4		baz=318,SNR=19	
C33A	Trail	76.92	36	P	P	10 51 31.9	-0.7		baz=320,SNR=8.3	
PHWY	Pilot Hill	76.92	46	eP	P	10 51 33.3	+0.1		comp=Z,9.9nm,1.0s	
N23A	Red Feather La	76.94	46	P	P	10 51 34.0	+0.7		baz=315,SNR=7.8	
N23A	Red Feather La	76.94	46	eP	P	10 51 33.9	+0.7		comp=Z,18nm,1.1s	
PV10	Paradox Valley	76.97	50	eP	P	10 51 34.8	+1.3			
PV04	Paradox Valley	77.04	50	eP	P	10 51 34.5	+0.7			
GLA	Glamis	77.10	57	P	P	10 51 34.9	+0.9		baz=312,SNR=6.0	
GLA	Glamis	77.10	57	eP	P	10 51 35.2	+1.2			
GLA				pmax	pmax				comp=Z,10.0nm,0.9s	
GLA	Glamis	77.10	57	eP	P	10 51 35.2	+1.2		comp=Z,9.9nm,0.9s	
PSZ	Piszkesteto	77.10	324	⇑iP	P	10 51 34.1	+0.3			
PSZ	Piszkesteto	77.10	324	eP	P	10 51 34.0	+0.3			
PSZ				pmax	pmax				comp=Z,36nm,1.0s	
PSZ	Piszkesteto	77.10	324	eP	P	10 51 34.0	+0.2		comp=Z,36nm,1.0s	
VYHS	Vyhne	77.11	325	eP	P	10 51 33.1	-0.7			
VYHS				pmax	pmax				comp=Z,13nm,1.1s	
VYHS	Vyhne	77.11	325	eP	P	10 51 33.1	-0.7			
PV05	Paradox Valley	77.14	50	eP	P	10 51 35.5	+1.1			
BRG	Berggiesshubel	77.21	329	eP	P	10 51 33.8	-0.4		comp=Z,18nm,1.1s	
BRG				esP	sP	10 51 58.6	-0.5		comp=Z,4.3nm,0.6s comp=N,186nm,20.1s comp=E,212nm,30.0s comp=Z,336nm,22.8s	
BRG	Berggiesshubel	77.21	329	eP	P	10 51 33.8	-0.4			
BRG				e*SP	sP	10 51 58.6	-0.5			
BRG				pmax	pmax				comp=Z,18nm,1.1s	
BRG				MLR	MLR				comp=N,186nm,20.1s	
BRG				MLR	MLR				comp=Z,336nm,22.8s	
CLL	Collm	77.21	330	eP	P	10 51 33.7	-0.5			
CLL				pmax	pmax				comp=Z,29nm,0.8s	
CLL	Collm	77.21	330	⇑iP	P	10 51 33.6	-0.6		comp=Z,35nm,0.9s	
CLL				epP	pP	10 51 52.0	+0.1			
CLL				isP	sP	10 51 58.3	-0.8			
CLL				Lm	MLR	11 28 00.0				
CLL	Collm	77.21	330	eP	P	10 51 33.6	-0.6		comp=Z,300nm,21.1s comp=Z,29nm,0.8s	
E32A	Braaten, Kindr	77.22	38	P	P	10 51 33.8	-0.6			
F31A	Hecla	77.22	39	P	P	10 51 33.9	-0.6		baz=319,SNR=5.1	
PVCC	Panska Ves	77.24	329	⇑eP	P	10 51 34.8	+0.4		baz=318,SNR=19	
PVCC				epP	pP	10 51 55.4	+3.3			
PVCC				AMS	AMS	11 26 50.0				
PVCC	Panska Ves	77.24	329	eP	P	10 51 34.8	+0.4		comp=Z,200nm,14.6s	
PVCC				e		10 51 55.4				
PVCC				MLR	MLR				comp=Z,200nm,14.6s	
B35A	Bob, Littlefor	77.34	35	P	P	10 51 34.3	-0.7		baz=321,SNR=15	
D33A	AnnSam, Waubun	77.35	37	P	P	10 51 34.3	-0.9		baz=320	
C34A	RKJ Ranch, Bem	77.38	36	P	P	10 51 34.4	-0.9		baz=320	
PV01	Paradox Valley	77.41	50	eP	P	10 51 36.7	+0.8			
VRAC	Vranov	77.41	327	⇑iP	P	10 51 35.7	+0.3			
VRAC	Vranov	77.41	327	P	P	10 51 35.7	+0.3			
ARNB	Al Arnab	77.46	307	eP	P	10 51 33.1	-2.9			
WUAZ	Wupatki	77.56	53	P	P	10 51 37.6	+0.9		baz=313,SNR=8.4	
WUAZ	Wupatki	77.56	53	eP	P	10 51 38.1	+1.4		comp=Z,12nm,1.0s	
SIRR	Siria	77.57	322	⇓iP	P	10 51 36.5	+0.1			
SMCO	Snowmass	77.58	48	eP	P	10 51 37.3	+0.3		comp=Z,11nm,0.8s	
Y14A	Wickenburg	77.64	55	eP	P	10 51 37.8	+0.8		comp=Z,37nm,0.9s	
GOPC	GO Pecny, Ondr	77.65	328	⇑eP	P	10 51 37.0	+0.3			
GOPC				epP	pP	10 51 56.8	+2.3			
GOPC	GO Pecny, Ondr	77.65	328	eP	P	10 51 37.0	+0.3			
GOPC				e		10 51 56.8				
PRA	Prague	77.66	329	⇑eP	P	10 51 37.4	+0.7			
PRA	Prague	77.66	329	eP	P	10 51 37.4	+0.7			
D34A	Park Rapids	77.68	36	P	P	10 51 36.2	-0.8		baz=320,SNR=6.7	
PRU	Pruhonice	77.69	329	⇑iP	P	10 51 37.0	+0.1			
PRU				epP	pP	10 51 56.9	+2.3			
PRU	Pruhonice	77.69	329	⇑iP	P	10 51 37.0	+0.1			
PRU				e		10 51 56.9				
GZR	Gura Zlata	77.71	321	⇑iP	P	10 51 37.1	-0.1			
G31A	Conde	77.72	39	P	P	10 51 36.5	-0.7		baz=318,SNR=9.4	
F32A	Veblen	77.74	38	P	P	10 51 36.7	-0.6		baz=319,SNR=7.5	
C35A	Jirik Farms, M	77.74	35	P	P	10 51 36.4	-0.8		baz=321,SNR=10	
E33A	Westby DABS, E	77.77	37	P	P	10 51 36.9	-0.5		baz=320,SNR=17	
BUD	Budapest	77.81	325	P	P	10 51 38.8	+1.2			
TREC	Trest	77.86	328	⇑eP	P	10 51 38.0	+0.1			
TREC				epP	pP	10 51 57.6	+1.9			
TREC	Trest	77.86	328	eP	P	10 51 38.0	+0.1			
TREC				e		10 51 57.6				
ISCO	Idaho Springs	77.89	47	P	P	10 51 39.2	+0.5		baz=315,SNR=7.8	
ISCO	Idaho Springs	77.89	47	eP	P	10 51 39.5	+0.8			
ISCO				pmax	pmax				comp=Z,8.0nm,0.8s	
ISCO	Idaho Springs	77.89	47	eP	P	10 51 39.5	+0.8		comp=Z,7.7nm,0.8s	
SUSD	Miller	77.94	40	P	P	10 51 38.0	-0.5		baz=318,SNR=11	
G32A	Webster	78.03	39	P	P	10 51 38.5	-0.5		baz=319	
BZS	Buzias	78.08	322	⇑iP	P	10 51 38.8	-0.4			
MVCO	Mesa Verde	78.09	50	P	P	10 51 40.3	+0.6		baz=314,SNR=7.1	
MVCO	Mesa Verde	78.09	50	eP	P	10 51 39.7	0.0		comp=Z,9.1nm,0.8s	
E34A	Wadena	78.13	37	P	P	10 51 38.7	-0.7		baz=320,SNR=6.5	
F33A	5 Mile Ranch,	78.14	38	P	P	10 51 38.9	-0.6		baz=320,SNR=13	
H31A	Wolsey	78.15	40	P	P	10 51 39.0	-0.6		baz=318,SNR=11	
C36A	Pine Crest Far	78.18	34	P	P	10 51 39.0	-0.7		baz=321,SNR=13	
D35A	Remer	78.19	36	P	P	10 51 38.9	-0.9		baz=321,SNR=5.4	
X16A	Lo Mia Camp, P	78.27	54	eP	P	10 51 42.0	+1.3		comp=Z,9.7nm,0.9s	
NKC	Novy Kostel	78.29	330	⇑eP	P	10 51 40.5	+0.2			
NKC	Novy Kostel	78.29	330	eP	P	10 51 40.5	+0.2			
BOLV	Bolvadin	78.38	312	eP	P	10 51 41.7	+0.6		comp=Z,60nm,0.9s	
MARH	Ras Al Marh	78.40	305	eP	P	10 51 40.5	-1.1			
E35A	Pequot Lakes	78.44	36	P	P	10 51 40.3	-0.8		baz=321,SNR=5.1	
C37A	Embarrass	78.48	34	P	P	10 51 40.7	-0.7		baz=322,SNR=11	
D36A	Goodland	78.50	35	P	P	10 51 40.6	-0.8		baz=321	
G33A	Ortonville	78.56	38	P	P	10 51 41.5	-0.4		baz=320,SNR=14	
EYMN	Ely	78.59	34	P	P	10 51 41.3	-0.7		baz=322,SNR=7.5	
EYMN	Ely	78.59	34	eP	P	10 51 41.5	-0.5		comp=Z,38nm,0.9s	
H32A	Carlson Farm,	78.62	39	P	P	10 51 41.6	-0.6		baz=319	
F34A	Alexandria	78.64	37	P	P	10 51 41.7	-0.6		baz=320,SNR=8.3	
S22A	4UR Ranch, Cre	78.67	49	P	P	10 51 43.8	+0.9		baz=315,SNR=9.8	
S22A	4UR Ranch, Cre	78.67	49	eP	P	10 51 43.0	0.0		comp=Z,8.1nm,0.9s	
SOP	Sopron	78.70	326	P	P	10 51 43.2	+0.7			
KHC	Kasperske Hory	78.75	329	⇑iP	P	10 51 42.9	+0.1			
KHC				epP	pP	10 52 02.3	+1.7			
KHC				AMS	AMS	11 26 30.0				
KHC	Kasperske Hory	78.75	329	⇑iP	P	10 51 42.9	+0.1		comp=Z,300nm,24.6s	
KHC				e		10 52 02.3				
KHC				MLR	MLR				comp=Z,300nm,24.6s	
KHC	Kasperske Hory	78.75	329	eP	P	10 51 43.0	+0.1		comp=Z,10nm,0.8s	
MPEP	Malo Peshtene	78.77	319	iP	P	10 51 43.3	+0.3			
CONA	Conrad Observa	78.80	327	iP	P	10 51 43.5	+0.3		comp=Z,19nm,1.0s,SNR=14	
H33A	Prehn Over Nor	78.81	39	P	P	10 51 42.7	-0.6		baz=319,SNR=24	
D37A	Cotton	78.82	35	P	P	10 51 42.4	-0.8		baz=322	
C38A	Sawbill Land.	78.87	34	P	P	10 51 42.7	-0.8		baz=322,SNR=12	
G34A	Benson	78.89	38	P	P	10 51 43.2	-0.4		baz=320,SNR=22	
F35A	Swanville	78.90	37	P	P	10 51 42.9	-0.8		baz=321,SNR=8.5	
J31A	Geddes	78.91	41	P	P	10 51 43.3	-0.5		baz=318,SNR=14	
GEC2	GERESS Array S	78.93	328	eP	P	10 51 43.6	-0.4			
GEC2				pmax	pmax				comp=Z,11nm,0.9s	
GEC2	GERESS Array S	78.93	328	eP	P	10 51 43.6	-0.4		comp=Z,11nm,0.9s	
GERES	GERESS Array B	78.93	328	P	P	10 51 43.5	-0.4		comp=Z,7.5nm,0.8s,baz=33,slow=5.1,SNR=63	
GERES				pP	pP	10 52 03.9	+2.2		comp=Z,3.5nm,0.7s,baz=37,slow=5.0,SNR=6.3	
GERES				LR	LR	11 30 26.4				
GEA0	GERESS Array S	78.94	328	eP	P	10 51 43.5	-0.5		comp=Z,159nm,18.2s,baz=36,slow=38	
I32A	Karley and Nic	78.97	39	P	P	10 51 43.3	-0.8		baz=319,SNR=6.1	
E36A	McGregor	78.97	36	P	P	10 51 43.4	-0.6		baz=321,SNR=7.9	
OGNE	Ogallala	78.98	44	P	P	10 51 43.7	-0.6		baz=317	
OGNE	Ogallala	78.98	44	eP	P	10 51 44.8	+0.5		comp=Z,48nm,0.9s	
X18A	Snowflake	79.09	53	eP	P	10 51 45.6	+0.5		comp=Z,5.4nm,0.8s	
214A	Organ Pipe Nat	79.10	57	P	P	10 51 44.6	-0.4		baz=313	
BRBR	Barbar	79.14	305	eP	P	10 51 44.6	-0.9			
PGB	Panagyurishte	79.16	318	iP	P	10 51 45.4	+0.1			
C39A	Grand Marais	79.26	33	P	P	10 51 45.0	-0.6		baz=323	
I33A	Coleman	79.27	39	P	P	10 51 45.5	-0.2		baz=320,SNR=37	
H34A	Spellman Lake,	79.27	38	P	P	10 51 45.1	-0.7		baz=320,SNR=6.8	
J32A	Parkston	79.28	40	P	P	10 51 45.3	-0.5		baz=319,SNR=16	
E37A	Wrenshall	79.30	35	P	P	10 51 45.2	-0.6		baz=322	
F36A	Milaca	79.36	36	P	P	10 51 45.4	-0.8		baz=321	
K31A	O'Neill	79.40	41	P	P	10 51 46.0	-0.5		baz=319,SNR=15	
SDCO	Great Sand Dun	79.41	48	P	P	10 51 47.4	+0.5		baz=316,SNR=11	
SDCO	Great Sand Dun	79.41	48	eP	P	10 51 47.5	+0.5		comp=Z,5.7nm,0.9s	
G35A	Watkins	79.43	37	P	P	10 51 46.0	-0.6		baz=321,SNR=7.2	
ARSA	Arzberg	79.47	326	iP	P	10 51 47.0	+0.2		comp=Z,12nm,0.9s,SNR=7.3	
MOA	Molln	79.51	327	iP	P	10 51 46.9	-0.1		comp=Z,8.4nm,0.9s	
ECSD	EROS Data Cent	79.59	39	P	P	10 51 47.1	-0.4		baz=320,SNR=25	
ECSD	EROS Data Cent	79.59	39	eP	P	10 51 47.1	-0.4		comp=Z,26nm,0.9s	
VTS	Vitosha	79.60	319	⇑iP	P	10 51 48.2	+0.4			
VTS	Vitosha	79.60	319	eP	P	10 51 48.2	+0.4			
VTS				pmax	pmax				comp=Z,40nm,0.8s	
VTS	Vitosha	79.60	319	iP	P	10 51 48.2	+0.4		comp=Z,40nm,0.8s	
VTS	Vitosha	79.60	319	eP	P	10 51 48.1	+0.4			
E38A	The Farm, Brul	79.63	35	P	P	10 51 47.1	-0.5		baz=322,SNR=8.0	
CSS	Mathiatis	79.64	308	P	P	10 51 48.4	+0.4			
CSS	Mathiatis	79.64	308	eP	P	10 51 48.4	+0.4		comp=Z,5.0nm,0.8s	
H35A	Sunnyside Ranc	79.68	38	P	P	10 51 47.6	-0.3		baz=321,SNR=20	
I34A	Hadley	79.71	39	P	P	10 51 47.7	-0.5		baz=320,SNR=6.2	
J33A	Davis	79.74	40	P	P	10 51 47.6	-0.7		baz=320,SNR=8.9	
G36A	St. Michael	79.75	37	P	P	10 51 47.5	-0.8		baz=321	
K32A	Verdigre	79.75	41	P	P	10 51 47.5	-0.9		baz=319	
RAO	Raoul Island	79.76	145	LR	LR	11 23 03.3			comp=Z,137nm,20.1s,baz=54,slow=32	
F37A	Hinrichs Farm,	79.86	36	P	P	10 51 48.0	-0.9		baz=322	
F38A	Pierce - Schro	80.00	35	P	P	10 51 49.2	-0.5		baz=322,SNR=16	
KSCO	Kaye Shedlock'	80.07	46	P	P	10 51 50.2	-0.2		baz=317	
KSCO	Kaye Shedlock'	80.07	46	eP	P	10 51 50.9	+0.5		comp=Z,23nm,1.0s	
MMB	Musomiste	80.10	318	iP	P	10 51 50.7	+0.4			
TUC	Tucson	80.11	55	P	P	10 51 51.0	+0.4		baz=314	
TUC	Tucson	80.11	55	eP	P	10 51 51.3	+0.7			
TUC				pmax	pmax				comp=Z,6.0nm,1.0s	
TUC	Tucson	80.11	55	eP	P	10 51 51.3	+0.7		comp=Z,6.0nm,1.0s	
PERS	Pernice	80.13	326	eP	P	10 51 50.2	-0.2			
SOKA	Soboth	80.13	326	iP	P	10 51 50.4	0.0		comp=Z,42nm,0.9s,SNR=22	
SPMN	Marine on St.	80.18	36	P	P	10 51 49.9	-0.7		baz=322,SNR=5.9	
SPMN	Marine on St.	80.18	36	eP	P	10 51 50.3	-0.4		comp=Z,17nm,0.9s	
H36A	Jessenland, He	80.18	37	P	P	10 51 50.3	-0.3		baz=321,SNR=8.6	
BEBN	Eben Emael	80.20	334	P	P	10 51 50.4	-0.2		comp=Z,13nm,0.9s	
KKB	Krupnik	80.21	319	iP	P	10 51 51.2	+0.3			
L32A	Elgin	80.23	41	P	P	10 51 50.8	-0.2		baz=319,SNR=7.1	
E39A	Mellen	80.23	34	P	P	10 51 50.4	-0.5		baz=323,SNR=6.8	
J34A	George	80.24	39	P	P	10 51 50.5	-0.6		baz=320	
MEM	Membach	80.25	334	P	P	10 51 50.2	-0.7		comp=Z,17nm,1.3s	
I35A	Creekview Farm	80.26	38	P	P	10 51 50.5	-0.7		baz=321,SNR=9.0	
K33A	Hardington	80.26	40	P	P	10 51 50.8	-0.4		baz=320,SNR=5.3	
SCHQ	Schefferville	80.40	17	P	P	10 51 51.3	-0.3		comp=Z,17nm,0.8s,baz=349,slow=6.6,SNR=9.5	
SCHQ	Schefferville	80.40	17	eP	P	10 51 51.4	-0.3		comp=Z,21nm,0.9s	
F39A	Loretta	80.44	35	P	P	10 51 51.4	-0.6		baz=323	
E40A	Wakefield	80.45	34	P	P	10 51 52.0	0.0		baz=323,SNR=23	
T25A	Trinidad	80.45	48	P	P	10 51 52.8	+0.3		baz=316,SNR=11	
T25A	Trinidad	80.45	48	eP	P	10 51 53.4	+0.8		comp=Z,17nm,0.9s	
L33A	Hoskins	80.47	41	P	P	10 51 51.7	-0.6		baz=319	
OBKA	Obir	80.47	326	iP	P	10 51 52.2	-0.1		comp=Z,20nm,0.8s,SNR=9.4	
D41A	Chassel	80.50	33	P	P	10 51 51.7	-0.6		baz=324	
KBA	Koelnbreinsper	80.50	327	iP	P	10 51 53.0	+0.4		comp=Z,34nm,1.1s,SNR=14	
KBA	Koelnbreinsper	80.50	327	P	P	10 51 52.5	-0.1			
SRS	Serrai	80.52	318	P	P	10 51 51.4	-1.1			
SRS	Serrai	80.52	318	eP	P	10 51 51.4	-1.1			
SRS	Serrai	80.52	318	eP	P	10 51 51.4	-1.1			
SISC	Sisak	80.53	325	P	P	10 51 52.8	+0.3			
J35A	Milford	80.53	39	P	P	10 51 51.8	-0.8		baz=320	
I36A	Fitzsimmons Fa	80.58	38	P	P	10 51 51.2	-1.5		baz=321,SNR=5.5	
CWF	Charnwood Fore	80.60	339	eP	P	10 51 52.3	-0.4		comp=Z,65nm,1.7s	
BGNE	Belgrade	80.61	42	P	P	10 51 52.4	-0.6		baz=319	
BGNE	Belgrade	80.61	42	eP	P	10 51 53.6	+0.6		comp=Z,41nm,0.8s	
H37A	Dierke Farm, C	80.63	37	P	P	10 51 52.3	-0.8		baz=322,SNR=5.1	
G38A	Ridgeland	80.63	36	P	P	10 51 52.2	-0.9		baz=322,SNR=7.4	
K34A	Le Mars	80.63	40	P	P	10 51 52.6	-0.6		baz=320,SNR=8.1	
BCLA	Clavier	80.65	334	P	P	10 51 52.5	-0.6		comp=Z,14nm,1.2s	
STU	Stuttgart	80.69	331	eP	P	10 51 53.0	-0.3			
STU				pmax	pmax				comp=Z,33nm,0.9s	
STU	Stuttgart	80.69	331	eP	P	10 51 53.0	-0.3		comp=Z,33nm,0.9s	
MYKA	Terra Mystica	80.74	327	iP	P	10 51 53.2	-0.6		comp=Z,14nm,0.8s,SNR=8.1	
F40A	Park Falls	80.78	34	P	P	10 51 53.1	-0.7		baz=323	
OZLJ	Ozalj	80.80	325	P	P	10 51 53.4	-0.6			
E41A	Kenton	80.82	33	P	P	10 51 53.5	-0.5		baz=324,SNR=7.0	
G39A	Holcombe	80.84	35	P	P	10 51 52.7	-1.5		baz=323	
H38A	Maiden Rock	80.84	36	P	P	10 51 53.4	-0.7		baz=322	
ANMO	Albuquerque	80.85	51	P	P	10 51 55.6	+0.9		baz=315	
ANMO	Albuquerque	80.85	51	ceP	P	10 51 53.7	-1.0			
ANMO				pmax	pmax				comp=Z,12nm,1.7s	
ANMO	Albuquerque	80.85	51	eP	P	10 51 55.8	+1.1		comp=Z,6.6nm,1.0s	
I37A	Lemond, Waseca	80.86	37	P	P	10 51 53.7	-0.6		baz=322,SNR=7.9	
PLE	Pljevlja	80.86	322	⇑iP	P	10 51 54.3	-0.2			
VAY	Valandovo	80.87	319	iP	P	10 51 54.5	+0.1			
AKAS	Kas	80.89	311	eP	P	10 51 54.0	-0.7			
SNF	Seneffe	80.90	334	P	P	10 51 53.8	-0.5			
VISS	Visnje	80.91	326	iP	P	10 51 53.6	-1.0			
SKO	Skopje	80.93	320	iP	P	10 51 55.3	+0.6			
M33A	Taylor Creek F	80.95	41	P	P	10 51 54.2	-0.6		baz=320,SNR=8.0	
J36A	Seneca 1, Swea	80.96	38	P	P	10 51 54.5	-0.4		baz=321,SNR=6.7	
IVA	Berane	80.98	321	⇑iP	P	10 51 54.4	-0.7			
BOJS	Bojanci	80.98	325	iP	P	10 51 54.4	-0.5			
WATA	Walderalm	80.99	329	iP	P	10 51 55.0	-0.1		comp=Z,12nm,0.7s,SNR=14	
WLF	Walferdange	81.01	333	P	P	10 51 55.5	+0.5			
WLF	Walferdange	81.01	333	eP	P	10 51 55.5	+0.5			
WLF				pmax	pmax				comp=Z,12nm,0.8s	
WLF	Walferdange	81.01	333	eP	P	10 51 55.5	+0.5		comp=Z,12nm,0.8s	
K35A	Storm Lake	81.02	39	P	P	10 51 54.2	-0.9		baz=321,SNR=9.0	
WTTA	Wattenberg	81.02	329	iP	P	10 51 55.4	0.0		comp=Z,17nm,0.8s,SNR=7.5	
L34A	Svendsen Farm,	81.05	40	P	P	10 51 54.6	-0.8		baz=320,SNR=12	
GIVF	Givet	81.08	334	eP	P	10 51 53.8	-1.6			
GIVF				pmax	pmax				comp=Z,22nm,1.0s	
ABTA	Abfaltersbach	81.10	328	iP	P	10 51 55.0	-0.7		comp=Z,14nm,1.2s,SNR=6.1	
PLG	Polygyros	81.15	317	P	P	10 51 55.9	-0.1			
PLG	Polygyros	81.15	317	P	P	10 51 55.9	-0.1			
PLG	Polygyros	81.15	317	P	P	10 51 55.9	-0.1			
PVY	Plav	81.16	321	⇑iP	P	10 51 55.6	-0.5			
DOU	Dourbes	81.16	334	P	P	10 51 55.5	-0.3			
JAVS	Javornik	81.16	326	iP	P	10 51 54.7	-1.3			
MOTA	Moosalm	81.16	329	iP	P	10 51 55.9	-0.2		comp=Z,50nm,0.9s,SNR=38	
RETA	Reutte	81.18	329	iP	P	10 51 56.0	0.0		comp=

E42A **Champion** 81.27 33 P P 10 51 55.7 -0.7
baz=325
H39A **Augusta** 81.27 36 P P 10 51 55.5 -0.9
baz=323,SNR=5.5
M34A **Aspy Farms, Fr** 81.30 41 P P 10 51 56.1 -0.6
baz=320
I38A **Scanlan Farm,** 81.31 37 P P 10 51 56.1 -0.6
baz=322
BAIF **Baives** 81.32 334 eP P 10 51 55.1 -1.5
BAIF pmax pmax
comp=Z,14nm,0.9s
L35A **Bielow Farm, R** 81.34 40 P P 10 51 55.9 -1.0
baz=320
J37A **Redenius Farm,** 81.34 38 P P 10 51 56.5 -0.4
baz=322,SNR=8.2
F41A **Three Lakes** 81.34 34 P P 10 51 56.6 -0.3
baz=324
BFO **Black Forest** 81.38 331 ceP P 10 51 57.0 -0.1
BFO **Black Forest** 81.38 331 eP P 10 51 56.9 -0.1
comp=Z,26nm,1.2s
NKY **Niksic** 81.44 322 ⇑iP P 10 51 56.8 -0.8
K36A **Gilmore City** 81.45 39 P P 10 51 57.2 -0.3
baz=321,SNR=12
NKME **Niksic** 81.50 322 eP P 10 51 56.9 -0.9
FETA **Feichten** 81.58 329 iP P 10 51 57.9 -0.4
comp=Z,31nm,1.0s,SNR=13
BRY **Bratogost** 81.58 322 ⇑iP P 10 51 57.4 -0.9
PDG **Podgorica** 81.62 321 P P 10 51 58.1 -0.2
PDG **Podgorica** 81.62 321 ⇑iP P 10 51 57.9 -0.4
TTG **Podgorica** 81.62 321 P P 10 51 58.1 -0.2
TTG **Podgorica** 81.62 321 ⇑iP P 10 51 57.9 -0.4
TTG **Podgorica** 81.62 321 P P 10 51 58.1 -0.2
319A **Douglas** 81.68 55 eP P 10 52 00.2 +1.2
comp=Z,19nm,1.0s
DAVA **Damuels** 81.68 330 iP P 10 51 58.7 -0.1
comp=Z,41nm,0.9s,SNR=8.4
CEME **Cevo** 81.68 321 ⇑iP P 10 51 57.9 -0.9
CDF **Champ du Feu** 81.69 332 eP P 10 51 57.4 -1.3
CDF pmax pmax
comp=Z,20nm,0.9s
K37A **Belmond** 81.72 38 P P 10 51 58.3 -0.6
baz=322,SNR=14
G41A **Antigo** 81.74 34 P P 10 51 58.5 -0.5
baz=324
CBKS **Cedar Bluff** 81.74 44 P P 10 51 58.3 -0.8
baz=318
CBKS **Cedar Bluff** 81.74 44 eP P 10 51 59.1 0.0
CBKS pmax pmax
comp=Z,19nm,0.8s
CBKS **Cedar Bluff** 81.74 44 eP P 10 51 59.1 0.0
comp=Z,19nm,0.8s
M35A **Neola** 81.76 40 P P 10 51 58.7 -0.5
baz=320,SNR=12
121A **Cookes Peak, D** 81.77 53 P P 10 52 00.7 +1.1
baz=315,SNR=13
121A **Cookes Peak, D** 81.77 53 eP P 10 52 00.5 +0.9
comp=Z,13nm,0.9s
I39A **Houston** 81.82 36 P P 10 51 58.4 -1.0
baz=323,SNR=5.7
AOS **Alonnisos** 81.83 316 P P 10 52 09.3 +10
DRME **Dracevica, Mon** 81.84 321 ⇑iP P 10 51 59.3 -0.2
N34A **Lincoln** 81.85 41 P P 10 51 58.9 -0.8
baz=320,SNR=9.3
FNA **Florina** 81.87 319 P P 10 51 59.7 -0.1
BUM **Brajici-Budva** 81.89 321 ⇑iP P 10 51 59.2 -0.6
NVLJ **Novalja** 81.89 325 P P 10 51 58.1 -1.6
O33A **Hebron** 81.89 42 P P 10 51 58.5 -1.4
baz=320
ECH **Echery** 81.90 332 eP P 10 51 59.2 -0.5
OHR **Ohrid** 81.90 319 iP P 10 51 59.5 -0.4
HCY **Herceg Novi** 81.96 322 ⇑iP P 10 51 59.1 -1.0
ULC **Ulcinj** 81.98 321 ⇑iP P 10 51 59.6 -0.7
H41A **Junction City** 82.02 35 P P 10 51 59.6 -0.8
baz=324
F43A **Flat Rock, Esc** 82.06 33 P P 10 51 59.7 -0.9
baz=325
J39A **Decorah** 82.15 37 P P 10 51 59.9 -1.2
baz=323,SNR=6.7
L37A **Phoenix Point,** 82.17 39 P P 10 52 00.6 -0.7
baz=322
I40A **Norwalk** 82.19 36 P P 10 52 00.7 -0.6
baz=323
M36A **Felix, Anita** 82.20 40 P P 10 52 00.9 -0.5
baz=321,SNR=6.4
K38A **Parkersburg** 82.21 38 P P 10 52 00.7 -0.8
baz=322
MOF **Molkenrain** 82.21 331 eP P 10 52 00.9 -0.6
N35A **Tabor** 82.25 41 P P 10 52 01.4 -0.3
baz=320,SNR=14
O34A **Beatrice** 82.25 42 P P 10 52 00.4 -1.3
baz=320,SNR=12
NEST **Nestorio** 82.31 319 P P 10 52 01.7 -0.4
HINF **Hinteralfeld** 82.34 332 eP P 10 52 00.3 -1.8
HINF pmax pmax
comp=Z,8.0nm,0.8s
I41A **Arkdale** 82.38 35 P P 10 52 01.6 -0.7
baz=324
L38A **Oak Wood Farm,** 82.52 38 P P 10 52 02.6 -0.5
baz=322
J40A **Soldiers Grove** 82.53 36 P P 10 52 02.0 -1.1
baz=323
TUE **Stuetta** 82.56 329 eP P 10 52 03.1 -0.4
comp=Z,19nm,0.8s
K39A **Oelwein** 82.57 37 P P 10 52 02.4 -0.9
baz=323,SNR=7.0
O35A **Humboldt** 82.58 41 P P 10 52 02.7 -0.8
baz=320
M37A **Trindle Farm,** 82.59 39 P P 10 52 03.2 -0.2
baz=321
SCIA **State Center** 82.59 38 eP P 10 52 03.8 +0.3
comp=Z,48nm,0.9s
N36A **Muff Farm, Cla** 82.61 40 P P 10 52 03.5 -0.1
baz=321
LKR **Lokris** 82.67 317 P P 10 52 03.2 -0.7
LKR **Lokris** 82.67 317 P P 10 52 03.2 -0.7
P34A **Walnut Farm, R** 82.67 42 P P 10 52 03.1 -0.9
baz=320,SNR=8.5
AGG **Agios Georgios** 82.73 317 eP P 10 52 03.4 -0.9
AGG pmax pmax
comp=Z,46nm,1.0s
AGG **Agios Georgios** 82.73 317 eP P 10 52 03.4 -0.9
comp=Z,46nm,1.0s
LOMF **Lomont** 82.75 331 eP P 10 52 03.8 -0.5
KARP **Karpathos** 82.75 312 eP P 10 52 03.9 -0.5
comp=Z,11nm,0.8s
ATH **Athens Observa** 82.81 316 P P 10 52 17.4 +13
J41A **Loganville** 82.87 36 P P 10 52 03.1 -1.7
baz=324
K40A **Colesburg** 82.91 37 P P 10 52 04.2 -0.8
baz=323,SNR=7.0
L39A **Vinton** 82.98 38 P P 10 52 04.6 -0.8
baz=322,SNR=7.6
M38A **Pleasantville** 82.98 39 P P 10 52 05.3 -0.2
baz=322,SNR=9.6
JAN **Janina** 82.99 318 P P 10 52 05.7 +0.1
JAN **Janina** 82.99 318 P P 10 52 05.7 +0.1
JAN **Janina** 82.99 318 P P 10 52 05.7 +0.1
N37A **Lee Faris, Mou** 83.02 40 P P 10 52 05.2 -0.6
baz=321,SNR=9.8
KSU1 **Kansas State U** 83.12 42 P P 10 52 05.9 -0.4
baz=320
JFWS **Jewell Farm** 83.13 36 eP P 10 52 05.7 -0.5
JFWS pmax pmax
comp=Z,16nm,0.9s
JFWS **Jewell Farm** 83.13 36 eP P 10 52 05.7 -0.5
comp=Z,16nm,0.9s
O36A **Bolckow** 83.14 41 P P 10 52 06.4 0.0
baz=321,SNR=11
LTK **Loutraki** 83.16 316 P P 10 51 56.8 -10
KALE **Kalithea** 83.31 317 P P 10 52 06.2 -1.1
KALE **Kalithea** 83.31 317 eP P 10 52 06.2 -1.1
SGD **Sagiada** 83.33 319 P P 10 52 07.0 -0.3
SERG **Sergoula** 83.33 317 P P 10 52 05.9 -1.5
IGT **Igoumenitsa** 83.34 319 P P 10 52 07.0 -0.4
IGT **Igoumenitsa** 83.34 319 eP P 10 52 07.0 -0.4
IGT **Igoumenitsa** 83.34 319 eP P 10 52 07.0 -0.4
K41A **Shullsburg** 83.35 36 P P 10 52 06.7 -0.7
baz=324
L40A **Anamosa** 83.38 37 P P 10 52 06.7 -0.8
baz=323
M39A **Webster** 83.41 38 P P 10 52 07.2 -0.4
baz=322,SNR=12
SENIN **Lac Senin/Sane** 83.42 331 eP P 10 52 07.6 -0.3
comp=Z,16nm,0.8s
P36A **Good Intent, A** 83.42 41 P P 10 52 07.4 -0.4
baz=321,SNR=7.5

N38A **Joes South For** 83.45 39 P P 10 52 07.8 -0.2
baz=322,SNR=6.8
KEK **Kerkira** 83.46 319 P P 10 52 07.5 -0.5
KEK **Kerkira** 83.46 319 P P 10 52 07.5 -0.5
LAKA **Lakka** 83.50 317 P P 10 52 07.5 -0.8
LAKA **Lakka** 83.50 317 eP P 10 52 07.5 -0.8
O37A **Wolven Farm, M** 83.51 40 P P 10 52 08.3 0.0
baz=321,SNR=11
KLV **Kalavryta, Ach** 83.56 317 P P 10 52 07.0 -1.6
KLV **Kalavryta, Ach** 83.56 317 eP P 10 52 07.0 -1.6
Q35A **Mercer Eighty,** 83.59 42 P P 10 52 08.0 -0.7
baz=320
AMTX **Amarillo** 83.61 48 P P 10 52 08.5 -0.4
baz=318
AMTX **Amarillo** 83.61 48 eP P 10 52 09.8 +0.8
comp=Z,11nm,0.9s
PDO **Prodromos** 83.63 318 P P 10 52 08.0 -0.9
VLDQ **Val d'Or** 83.64 26 eP P 10 52 07.4 -1.3
comp=Z,62nm,0.8s
CABF **La Chapelle** 83.64 331 eP P 10 52 07.5 -1.4
CABF pmax pmax
comp=Z,10.0nm,0.9s
MSTX **Muleshoe** 83.66 49 P P 10 52 09.4 +0.1
baz=317
MSTX **Muleshoe** 83.66 49 eP P 10 52 09.5 +0.2
comp=Z,7.4nm,0.9s
L41A **Preston** 83.69 37 P P 10 52 08.3 -0.8
baz=323
SFI **Santa Sofia** 83.70 326 P P 10 52 09.9 +0.7
SFI pmax pmax
comp=Z,2.0nm,1.2s
N39A **Derby Farms, D** 83.73 39 P P 10 52 09.0 -0.3
baz=322,SNR=7.9
LKD2 **Lefkada island** 83.75 318 P P 10 52 08.9 -0.6
LKD2 **Lefkada island** 83.75 318 P P 10 52 08.9 -0.6
M40A **Post Highland** 83.77 38 P P 10 52 09.2 -0.4
baz=323,SNR=10
MNTX **Cornudas Mount** 83.80 53 P P 10 52 10.3 +0.4
baz=316,SNR=12
MNTX **Cornudas Mount** 83.80 53 eP P 10 52 10.6 +0.7
comp=Z,11nm,1.1s
P37A **Lathrop** 83.86 41 P P 10 52 09.7 -0.3
baz=321,SNR=9.1
O38A **Galt** 83.87 40 P P 10 52 09.9 -0.2
baz=322,SNR=6.4
GLMI **Grayling** 83.90 32 eP P 10 52 10.1 -0.1
comp=Z,69nm,0.8s
RLS **Riolos of Patr** 83.90 317 P P 10 52 10.0 -0.3
RLS **Riolos of Patr** 83.90 317 P P 10 52 09.9 -0.3
FLN **La Foliniere** 83.92 336 eP P 10 52 08.6 -1.6
FLN pmax pmax
comp=Z,25nm,1.0s
R35A **Emporia Munici** 83.92 42 P P 10 52 10.1 -0.3
baz=320
U32A **Winter Ranch,** 83.95 45 P P 10 52 10.7 +0.1
baz=319
LAST **Lasithi** 83.97 313 P P 10 52 10.8 0.0
LAST **Lasithi** 83.97 313 P P 10 52 10.8 0.0
VLC **Villacollemand** 84.08 327 eP P 10 52 12.6 +1.5
comp=Z,175nm,1.7s
N40A **Mertquake, Sal** 84.15 38 P P 10 52 11.1 -0.3
baz=323,SNR=6.4
VLI **Veliai** 84.16 315 P P 10 52 06.8 -4.8
VLI **Veliai** 84.16 315 P P 10 52 06.8 -4.8
AMT **Artemida-Makis** 84.18 317 P P 10 52 10.2 -1.5
IDI **Anoyia** 84.19 313 eP P 10 52 10.4 -1.5
comp=Z,38nm,0.8s
O39A **Kirksville** 84.20 39 P P 10 52 11.5 -0.3
baz=322,SNR=5.8
KFL **Anninata** 84.21 318 P P 10 52 11.7 -0.1
P38A **Dawn** 84.23 40 P P 10 52 11.7 -0.2
baz=322,SNR=8.3
M41A **Milan** 84.23 37 P P 10 52 11.6 -0.3
baz=324,SNR=6.8
VLS **Valsamata** 84.25 318 P P 10 52 11.3 -0.8
VLS **Valsamata** 84.25 318 P P 10 52 11.3 -0.8
VLS **Valsamata** 84.25 318 P P 10 52 11.3 -0.8
R36A **Gordon, Harris** 84.27 42 P P 10 52 11.7 -0.4
baz=321,SNR=6.6
AQU **L'Aquila** 84.31 325 eP P 10 52 12.7 +0.3
AQU pmax pmax
comp=Z,39nm,0.9s
AQU **L'Aquila** 84.31 325 eP P 10 52 12.7 +0.3
comp=Z,39nm,0.9s
ITM **Ithomi** 84.34 316 P P 10 52 11.7 -0.8
ITM **Ithomi** 84.34 316 P P 10 52 11.7 -0.8
LPL **La Plagne** 84.34 330 eP P 10 52 11.8 -0.9
LPL pmax pmax
comp=Z,29nm,1.0s
LPG **La Plagne** 84.35 330 eP P 10 52 12.0 -0.8
LPG pmax pmax
comp=Z,43nm,1.2s
S35A **Otter Creek Ra** 84.36 43 P P 10 52 12.4 -0.2
baz=320,SNR=18
GRR **Gorron** 84.37 336 eP P 10 52 09.3 -3.1
GRR pmax pmax
comp=Z,30nm,0.8s
L43A **Garden Prairie** 84.38 36 P P 10 52 11.7 -0.9
baz=324
T34A **McClaskey Farm** 84.41 44 P P 10 52 12.8 -0.2
baz=320,SNR=6.2
SIVA **Sivas** 84.44 313 P P 10 52 13.1 +0.1
SIVA **Sivas** 84.44 313 P P 10 52 13.1 +0.1
AVF **Avril sur Loir** 84.44 333 eP P 10 52 11.7 -1.1
AVF pmax pmax
comp=Z,40nm,0.8s
VAM **Vamos** 84.48 314 P P 10 52 12.2 -1.0
VAM **Vamos** 84.48 314 P P 10 52 12.2 -1.0
VAM **Vamos** 84.48 314 P P 10 52 12.2 -1.0
M42A **Sheffield** 84.52 37 P P 10 52 12.5 -0.8
baz=324
ANKY **Antikythira Is** 84.61 315 P P 10 52 11.5 -2.4
ANKY **Antikythira Is** 84.61 315 eP P 10 52 11.5 -2.4
R37A **Teagarden Farm** 84.62 42 P P 10 52 13.0 -0.9
baz=321,SNR=7.9
O40A **La Belle** 84.62 39 P P 10 52 13.6 -0.3
baz=323,SNR=11
N41A **Harden Midland** 84.62 38 P P 10 52 13.6 -0.3
baz=323
PYL **PYLOS** 84.65 316 P P 10 52 12.8 -1.3
PYL **PYLOS** 84.65 316 eP P 10 52 12.8 -1.3
S36A **Lake Cedric, C** 84.69 42 P P 10 52 14.0 -0.3
baz=321,SNR=9.2
Q38A **Cooks Store, C** 84.71 40 P P 10 52 13.7 -0.6
baz=322,SNR=7.3
P39B **Salisbury** 84.71 40 P P 10 52 14.2 -0.1
baz=322
BNI **Bardonecchia** 84.76 330 eP P 10 52 14.7 0.0
BNI pmax pmax
comp=Z,16nm,0.9s
BNI **Bardonecchia** 84.76 330 eP P 10 52 14.7 0.0
comp=Z,16nm,0.9s
T35A **Sooner Cattle** 84.84 44 P P 10 52 15.1 0.0
baz=320,SNR=8.2
N42A **Yates City** 84.90 37 P P 10 52 14.9 -0.3
baz=324,SNR=5.7
Q39A **Willow Grove F** 84.95 40 P P 10 52 15.4 -0.2
baz=322
P40A **Paris** 85.01 39 P P 10 52 15.6 -0.2
baz=323,SNR=9.3
S37A **Fort Scott** 85.05 42 P P 10 52 15.6 -0.5
baz=321,SNR=9.1
T36A **Boggs Farm, Ca** 85.06 43 P P 10 52 15.8 -0.4
baz=321,SNR=9.2
PLDF **La Plantade** 85.06 333 eP P 10 52 16.9 +0.8
O41A **Passleys Farm,** 85.08 38 P P 10 52 15.8 -0.4
baz=323,SNR=6.3
CUC **Castrocucco** 85.13 322 eP P 10 52 15.2 -1.3
comp=Z,9.8nm,1.1s
U35A **Pawnee** 85.15 44 P P 10 52 16.6 0.0
baz=320,SNR=7.6
AGO **Saint Agoulin** 85.16 333 eP P 10 52 16.5 0.0
R38A **Fenwick Farm,** 85.17 41 P P 10 52 15.4 -1.3
baz=322
WMOK **Wichita Mounta** 85.30 46 P P 10 52 17.3 -0.1
baz=319,SNR=12
WMOK **Wichita Mounta** 85.30 46 eP P 10 52 17.4 -0.1
WMOK pmax pmax
comp=Z,14nm,1.1s
WMOK **Wichita Mounta** 85.30 46 eP P 10 52 17.4 -0.1
comp=Z,14nm,1.1s
SSB **Saint Sauveur** 85.34 332 eP P 10 52 17.2 -0.3
SSB pmax pmax
comp=Z,15nm,0.8s
SSB **Saint Sauveur** 85.34 332 eP P 10 52 17.2 -0.3
comp=Z,15nm,0.8s

P41A **Barry, Barry** 85.35 38 P P 10 52 17.4 -0.2
baz=323,SNR=11
O42A **Bath** 85.39 38 P P 10 52 17.0 -0.7
baz=324
Q40A **Laux Farm, Aux** 85.42 40 P P 10 52 17.7 -0.2
baz=323,SNR=5.4
HDIL **Hopedale** 85.45 37 P P 10 52 17.8 -0.2
baz=324,SNR=5.9
HDIL **Hopedale** 85.45 37 eP P 10 52 18.1 +0.1
comp=Z,34nm,0.8s
PYM **Petit Puy Mans** 85.46 333 eP P 10 52 18.1 0.0
QUIF **Quistinic** 85.47 338 eP P 10 52 16.8 -1.1
QUIF pmax pmax
comp=Z,99nm,1.7s
R39A **Chumby, Stover** 85.49 41 P P 10 52 17.7 -0.6
baz=322,SNR=8.5
T37A **Cheneyville 18** 85.50 42 P P 10 52 17.9 -0.4
baz=321,SNR=9.7
S38A **Stockton** 85.60 42 P P 10 52 18.0 -0.8
baz=322
U36A **Oologah** 85.65 43 P P 10 52 19.0 0.0
baz=321
O43A **Sugar Creek Fa** 85.66 37 P P 10 52 18.7 -0.4
baz=324
P42A **Winchester** 85.76 38 P P 10 52 19.3 -0.3
baz=324,SNR=5.3
LBL **Lubilhac** 85.83 332 eP P 10 52 20.3 +0.4
S39A **Bolivar** 85.84 41 P P 10 52 19.3 -0.8
baz=322,SNR=11
Q41A **Truxton** 85.85 39 P P 10 52 19.8 -0.2
baz=323,SNR=10
T38A **Diamond** 85.88 42 P P 10 52 19.6 -0.6
baz=322,SNR=15
R40A **Maddies Statio** 85.88 40 P P 10 52 19.7 -0.5
baz=323,SNR=6.9
U37A **Salina** 85.95 43 P P 10 52 20.2 -0.3
baz=321,SNR=6.4
TUL1 **Leonard** 85.99 44 P P 10 52 20.5 -0.3
baz=321
TUL1 **Leonard** 85.99 44 eP P 10 52 20.9 +0.2
comp=Z,13nm,0.8s
W35A **Tecumseh** 86.00 45 P P 10 52 20.5 -0.4
baz=320
V36A **Jenks** 86.00 44 P P 10 52 20.7 -0.2
baz=321
P43A **Skaggs, Pawnee** 86.09 38 P P 10 52 20.8 -0.4
baz=324
PPT **Papeete** 86.19 118 LR LR 11 22 49.9
comp=Z,120nm,21.7s,baz=312,slow=30
PPT2 **Papeete2** 86.20 118 eLR LR 11 19 31.2
comp=Z,526nm,26.2s
PPT2 **Papeete2** 86.20 118 eT T 12 26 50.8
comp=Z,5.9nm,0.3s
Q42A **Golden Eagle** 86.21 39 P P 10 52 21.6 -0.2
baz=324,SNR=5.2
TRQ **Mont Tremblant** 86.23 25 eP P 10 52 21.2 -0.7
LMQ **La Malbaie** 86.27 22 eP P 10 52 21.7 -0.2
comp=Z,39nm,1.1s
U38A **Gravette** 86.30 43 P P 10 52 21.7 -0.6
baz=322,SNR=7.7
R41A **Rosebud** 86.30 40 P P 10 52 22.1 -0.2
baz=323,SNR=7.5
S40A **Lebanon** 86.32 41 P P 10 52 21.3 -1.1
baz=322,SNR=6.1
T39A **Clever** 86.34 42 P P 10 52 21.8 -0.7
baz=322
V37A **Hulbert** 86.34 43 P P 10 52 21.9 -0.6
baz=321,SNR=7.5
W36A **Wetumka** 86.36 45 P P 10 52 22.1 -0.5
baz=321
ABTX **Abilene, Hawle** 86.42 48 P P 10 52 22.9 -0.1
baz=319
PLVO **Plevna** 86.46 27 eP P 10 52 22.6 -0.4
comp=Z,27nm,0.9s
CEL **Celeste** 86.48 321 eP P 10 52 22.0 -1.2
comp=Z,20nm,0.9s
CAF **Calviac** 86.51 333 eP P 10 52 22.9 -0.3
CAF pmax pmax
comp=Z,44nm,0.8s
TX31 **Lajitas Ar. Si** 86.52 53 eP P 10 52 24.3 +0.6
TXAR **Lajitas Array** 86.53 53 P P 10 52 24.3 +0.6
comp=Z,4.5nm,0.8s,baz=294,slow=3.6,SNR=56
TXAR pP pP 10 52 42.3 +0.7
comp=Z,7.9nm,0.9s,baz=293,slow=4.0,SNR=11
TXAR PKKPbc PKKPbc 11 10 20.7 +3.1
comp=Z,0.4nm,0.7s,baz=152,slow=5.7,SNR=5.4
X35A **Drake** 86.53 45 P P 10 52 23.0 -0.5
baz=320,SNR=8.5
SFIN **Lafayette** 86.56 36 P P 10 52 22.5 -1.0
baz=326
Q43A **New Douglas** 86.57 38 P P 10 52 23.0 -0.6
baz=324
R42A **Luebbering** 86.59 39 P P 10 52 23.5 -0.2
baz=324
SLBS **Sierra La Lagu** 86.62 61 eP P 10 52 24.9 +0.7
comp=Z,15nm,1.1s
P44A **Sand Creek, Wi** 86.64 37 P P 10 52 23.3 -0.6
baz=325
HHAR **Hobbs** 86.64 42 eP P 10 52 23.8 -0.3
comp=Z,11nm,1.1s
T40A **Mansfield** 86.66 41 P P 10 52 23.7 -0.4
baz=322,SNR=7.1
S41A **Jillco Farms,** 86.69 40 P P 10 52 23.5 -0.7
baz=323,SNR=7.6
X36A **Centrahoma** 86.73 45 P P 10 52 24.2 -0.2
baz=320,SNR=8.1
V38A **Canehill** 86.73 43 P P 10 52 24.2 -0.2
baz=322,SNR=7.4
W37B **Quinton** 86.77 44 P P 10 52 24.4 -0.2
baz=321
U39A **Green Forest** 86.79 42 P P 10 52 24.2 -0.6
baz=322,SNR=10
S42A **Caledonia** 87.00 39 P P 10 52 25.4 -0.4
baz=324,SNR=13
HPIG 87.05 56 eP P 10 52 26.7 +0.3
comp=Z,17nm,1.1s
T41A **Mountain View** 87.12 41 P P 10 52 25.8 -0.5
baz=323,SNR=7.7
U40A **Yellville** 87.13 42 P P 10 52 25.9 -0.5
baz=322,SNR=14
V39A **Pettigrew** 87.14 42 P P 10 52 25.8 -0.7
baz=322,SNR=8.0
Y36A **Durant** 87.28 45 P P 10 52 26.7 -0.4
baz=321
233A **Rising Star** 87.29 48 P P 10 52 26.9 -0.4
baz=319
W38A **Poteau** 87.29 43 P P 10 52 26.8 -0.4
baz=322
R44A **Waltonville** 87.42 38 P P 10 52 27.3 -0.4
baz=324,SNR=5.9
X38A **Whitesboro** 87.44 44 P P 10 52 27.9 0.0
baz=321
T42A **Van Buren** 87.45 40 P P 10 52 27.3 -0.6
baz=323
OLIL **Olney** 87.47 37 eP P 10 52 28.3 +0.3
comp=Z,27nm,0.9s
S43A **Fulton Ridge,** 87.50 39 P P 10 52 27.8 -0.4
baz=324,SNR=8.0
U41A **Viola** 87.59 41 P P 10 52 28.1 -0.5
baz=323,SNR=5.9
LONY **Lake Ozonia** 87.66 25 eP P 10 52 28.2 -0.5
comp=Z,15nm,1.4s
PQI **Presque Isle** 87.70 20 eP P 10 52 28.6 -0.2
comp=Z,29nm,0.8s
234A **Clairette** 87.72 48 P P 10 52 29.1 -0.1
baz=320
333A **Richland Sprin** 87.76 49 P P 10 52 29.1 -0.4
baz=319,SNR=6.8
FRNY **Flat Rock** 87.78 25 eP P 10 52 29.0 -0.2
comp=Z,6.6nm,0.8s
S44A **Carbondale** 87.78 39 P P 10 52 29.4 -0.1
baz=324,SNR=12
T43A **Greenville** 87.79 40 P P 10 52 29.2 -0.3
baz=324,SNR=8.3
U42A **Revenden** 87.92 41 P P 10 52 29.7 -0.4
baz=323
V41A **Mountainview** 87.92 42 P P 10 52 29.4 -0.8
baz=323,SNR=6.1
JCT **Junction City** 87.93 50 eP P 10 52 29.6 -0.8
JCT pmax pmax
comp=Z,12nm,1.3s
JCT **Junction City** 87.93 50 eP P 10 52 29.6 -0.8
comp=Z,12nm,1.3s
W40A **Ferguson Farm,** 87.94 42 P P 10 52 29.5 -0.7
baz=322,SNR=5.3
X39A **Fountain Ranch** 87.94 44 P P 10 52 30.3 +0.1
baz=322
PBMO **Poplar Bluff** 87.97 40 eP P 10 52 30.3 0.0

	comp=Z,26nm,0.9s								
S45A	**Carrier Mills**	**88.11**	**38**	P		**P**		**10 52 30.6**	**-0.4**
	baz=325,SNR=9.6								
T44A	**Benton**	**88.12**	**39**	P		**P**		**10 52 30.7**	**-0.3**
	baz=324								
334A	**Lometa**	**88.17**	**48**	P		**P**		**10 52 31.7**	**+0.2**
	baz=320								
MIAR	**Mount Ida**	**88.19**	**43**	P		**P**		**10 52 31.5**	**+0.1**
	baz=322,SNR=8.1								
MIAR	**Mount Ida**	**88.19**	**43**	*e*P		**P**		**10 52 31.6**	**+0.1**
MIAR					pmax	pmax			
	comp=Z,12nm,0.8s								
MIAR	**Mount Ida**	**88.19**	**43**	*e*P		**P**		**10 52 31.6**	**+0.1**
	comp=Z,12nm,0.8s								
MMNY	**Mt. Morris Dam**	**88.20**	**28**	*e*P		**P**		**10 52 31.2**	**-0.1**
X301	**Greenbrier Sit**	**88.23**	**42**	*e*P		**P**		**10 52 31.6**	**-0.1**
	comp=Z,49nm,1.9s								
WHAR	**Wooly Hollow**	**88.25**	**42**	*e*P		**P**		**10 52 31.8**	**0.0**
	comp=Z,18nm,0.9s								
V42A	**Cord**	**88.28**	**41**	P		**P**		**10 52 31.5**	**-0.4**
	baz=323								
U43A	**Rector**	**88.31**	**40**	P		**P**		**10 52 31.9**	**-0.1**
	baz=324,SNR=6.5								
ALLY	**Alegheny Colle**	**88.32**	**30**	*e*P		**P**		**10 52 32.4**	**+0.4**
	comp=Z,50nm,0.9s								
NCB	**Newcomb**	**88.35**	**26**	*e*P		**P**		**10 52 32.1**	**0.0**
	comp=Z,0.2nm,0.9s								
W41B	**Gary Mavity, V**	**88.36**	**42**	P		**P**		**10 52 32.1**	**-0.1**
	baz=323,SNR=5.2								
Y39A	**Lockesburg**	**88.39**	**44**	P		**P**		**10 52 32.4**	**0.0**
	baz=322,SNR=6.1								
ACSO	**Alum Creek Sta**	**88.42**	**33**	*e*P		**P**		**10 52 32.5**	**+0.1**
	comp=Z,31nm,0.8s								
Z38A	**Mt. Pleasant**	**88.47**	**45**	P		**P**		**10 52 32.1**	**-0.6**
	baz=321								
X40A	**Basin Creek Fa**	**88.61**	**43**	P		**P**		**10 52 33.3**	**-0.1**
	baz=322,SNR=5.5								
M54A	**Oil Creek Stat**	**88.62**	**30**	P		**P**		**10 52 33.0**	**-0.4**
	baz=330,SNR=6.4								
PKME	**Peaks-Kenny Pk**	**88.65**	**22**	*e*P		**P**		**10 52 33.0**	**-0.4**
	comp=Z,62nm,1.8s								
MDV	**Middlebury**	**88.66**	**25**	*e*P		**P**		**10 52 33.4**	**0.0**
WCI	**Wyandotte Cave**	**88.69**	**36**	*e*P		**P**		**10 52 33.7**	**-0.1**
WCI					pmax	pmax			
	comp=Z,24nm,0.9s								
WCI	**Wyandotte Cave**	**88.69**	**36**	*e*P		**P**		**10 52 33.7**	**-0.1**
	comp=Z,24nm,0.9s								
Y40A	**Okolona**	**88.75**	**43**	P		**P**		**10 52 33.9**	**-0.2**
	baz=322								
U44B	**Burton Farm, H**	**88.84**	**39**	P		**P**		**10 52 34.5**	**0.0**
	baz=324								
N54A	**Moraine State**	**88.97**	**31**	P		**P**		**10 52 35.0**	**-0.1**
	baz=330,SNR=9.7								
WLAR	**White Oak Lake**	**89.10**	**43**	*e*P		**P**		**10 52 36.6**	**+0.9**
	comp=Z,25nm,0.5s								
WVL	**Waterville**	**89.19**	**22**	*e*P		**P**		**10 52 36.3**	**+0.3**
	comp=Z,96nm,1.9s								
Y41A	**Eaglette Beard**	**89.20**	**43**	P		**P**		**10 52 36.1**	**-0.1**
	baz=323								
LMN	**Caledonia Moun**	**89.26**	**19**	*e*P		**P**		**10 52 36.6**	**+0.3**
	comp=Z,20nm,0.8s								
Z40A	**Long Farm, Mag**	**89.29**	**44**	P		**P**		**10 52 37.1**	**+0.5**
	baz=322								
238A	**Jacksonville**	**89.36**	**46**	P		**P**		**10 52 37.6**	**+0.6**
	baz=321								
GGN	**Saint George**	**89.44**	**20**	*e*P		**P**		**10 52 37.0**	**-0.1**
	comp=Z,18nm,1.0s								
Y42A	**Garnett, Star**	**89.65**	**42**	P		**P**		**10 52 38.5**	**+0.2**
	baz=323								
WVT	**Waverly**	**89.72**	**38**	*e*P		**P**		**10 52 38.9**	**+0.3**
WVT					pmax	pmax			
	comp=Z,9.0nm,0.8s								
WVT	**Waverly**	**89.72**	**38**	*e*P		**P**		**10 52 38.9**	**+0.3**
	comp=Z,8.8nm,0.8s								
Z42A	**Norrel Spur, H**	**90.02**	**43**	P		**P**		**10 52 40.6**	**+0.5**
	baz=323								
SSPA	**Standing Stone**	**90.04**	**29**	*e*P		**P**		**10 52 40.5**	**+0.5**
	comp=Z,29nm,0.9s								
O56A	**Blue Knob Stat**	**90.11**	**30**	P		**P**		**10 52 40.6**	**+0.2**
	baz=331,SNR=8.1								
MCWV	**Mont Chateau**	**90.15**	**31**	*e*P		**P**		**10 52 41.0**	**+0.4**
	comp=Z,9.3nm,0.8s								
OXF	**Oxford**	**90.28**	**40**	*e*P		**P**		**10 52 41.4**	**+0.1**
OXF					pmax	pmax			
	comp=Z,24nm,1.0s								
OXF	**Oxford**	**90.28**	**40**	*e*P		**P**		**10 52 41.4**	**+0.1**
	comp=Z,24nm,1.0s								
933A	**Laredo**	**90.39**	**51**	P		**P**		**10 52 42.7**	**+0.9**
	baz=319								
TBI	**Tubuai**	**90.41**	**121**	*e*LR		LR		11 21 10.4	
	comp=Z,303nm,35.0s								
TBI	**Tubuai**	**90.41**	**121**	*e*T		T		12 32 05.0	
	comp=Z,16nm,0.3s								
N59A	**State Game Lan**	**90.55**	**28**	P		**P**		**10 52 42.7**	**+0.2**
	baz=333,SNR=7.4								
WES	**Weston**	**90.69**	**24**	*e*P		**P**		**10 52 43.7**	**+0.7**
WES					pmax	pmax			
	comp=Z,33nm,0.9s								
WES	**Weston**	**90.69**	**24**	*e*P		**P**		**10 52 43.7**	**+0.7**
	comp=Z,33nm,0.9s								
ODNJ	**Ogdensburg**	**90.81**	**27**	*e*P		**P**		**10 52 43.6**	**0.0**
	comp=Z,30nm,1.5s								
TZTN	**Tazewell**	**91.29**	**35**	*e*P		**P**		**10 52 46.1**	**+0.2**
	comp=Z,12nm,1.0s								
KEST	**Kesra**	**91.55**	**324**	P		**P**		**10 52 46.4**	**-0.9**
	comp=Z,6.5nm,0.9s,baz=308,slow=2.8,SNR=8.9								
KEST					PP		**PP**	**10 56 28.5**	**+3.4**
	comp=Z,2.9nm,0.8s,baz=80,slow=3.2,SNR=4.7								
KEST					LR		LR	11 38 43.1	
	comp=Z,225nm,18.7s,baz=258,slow=39								
KEST	**Kesra**	**91.55**	**324**	*e*P		**P**		**10 52 46.4**	**-0.9**
	comp=Z,8.2nm,0.9s								
KEST					PP		**PP**	**10 56 28.5**	**+3.4**
ES19	**SONSECA Array**	**93.15**	**335**	*e*P		**P**		**10 52 54.3**	**-0.2**
ESDC	**Sonseca Array**	**93.19**	**335**	P		**P**		**10 52 54.5**	**-0.3**
	comp=Z,4.3nm,0.8s,baz=17,slow=4.3,SNR=16								
ESDC					LR		LR	11 40 35.0	
	comp=Z,108nm,18.3s,baz=75,slow=39								
ESLA	**Sonseca Array**	**93.19**	**335**	*e*P		**P**		**10 52 54.5**	**-0.2**
	comp=Z,39nm,1.8s								
PAB	**San Pablo**	**93.43**	**335**	*e*P		**P**		**10 52 56.2**	**+0.3**
PAB					pmax	pmax			
	comp=Z,12nm,1.1s								
PAB	**San Pablo**	**93.43**	**335**	*e*P		**P**		**10 52 56.2**	**+0.3**
	comp=Z,12nm,1.1s								
RKT	**Rikitea**	**99.89**	**112**	*e*LR		LR		11 25 40.8	
	comp=Z,329nm,34.8s								
KMBO	**Kilima Mbogo**	**102.01**	**279**	P		**Pdif**		**10 53 35.6**	**+0.6**
	comp=Z,1.1nm,0.3s,baz=51,slow=7.1,SNR=7.3								
KMBO	**Kilima Mbogo**	**102.01**	**279**	*i* P		**Pdif**		**10 53 35.5**	**+0.4**
KMBO					pmax	pmax			
	comp=Z,1.0nm,0.3s								
TORD	**Torodi Ar. Bea**	**114.32**	**317**	PKP		PKPdf		10 58 19.1	-1.1
	comp=Z,1.0nm,0.8s,baz=351,slow=2.1,SNR=5.9								
TORD					pPKP		pPKiKP	10 58 40.2	+1.2
	comp=Z,2.3nm,0.9s,baz=353,slow=3.1,SNR=8.0								
TORD					PP		**PP**	**10 59 12.3**	**-3.4**
	comp=Z,9.0nm,1.1s,baz=28,slow=5.7,SNR=17								
LSZ	**Lusaka**	**118.02**	**274**	PKP		**PKPdf**		**10 58 27.3**	**0.0**
	comp=Z,0.9nm,0.4s,baz=101,slow=5.2								
LSZ					pPKP		**pPKPdf**	**10 58 47.0**	**+0.8**
	comp=Z,3.8nm,0.9s,baz=106,slow=1.5,SNR=3.2								
VNDA	**Vanda**	**119.82**	**175**	PKP		**PKPdf**		**10 58 29.1**	**+0.2**
	comp=Z,1.2nm,0.9s,baz=18,slow=3.1,SNR=4.0								
VNDA					pPKP		**pPKPdf**	**10 58 49.5**	**+1.8**
	comp=Z,1.1nm,0.7s,baz=358,slow=2.7,SNR=3.2								
SBA	**Scott Base**	**120.47**	**174**	*e*PKIKP		**PKPdf**		**10 58 31.6**	**+1.5**
SBA	**Scott Base**	**120.47**	**174**	*e*PKPdf		**PKPdf**		**10 58 31.6**	**+1.5**
MATP	**Matopo**	**120.97**	**270**	PKP		**PKPdf**		**10 58 32.1**	**-0.8**
	comp=Z,2.7nm,0.6s,baz=254,slow=8.4,SNR=6.6								
MATP					pPKP		**pPKPdf**	**10 58 51.4**	**-0.3**
	comp=Z,3.6nm,0.7s,baz=83,slow=2.9,SNR=4.6								
DBIC	**Dimbokro**	**123.11**	**320**	pPKP		pPKPdf		10 58 57.3	+1.4
	comp=Z,6.2nm,0.9s,baz=148,slow=8.5,SNR=3.6								
TIC	**Toumodi**	**123.22**	**320**	*e*PKIKP		pPKPdf		10 58 58.1	+2.0
KIC	**Kosan Boka**	**123.33**	**320**	*e*PKIKP		pPKPdf		10 58 58.1	+1.7
	comp=Z,24nm,0.9s								
LIC	**Lamto**	**123.59**	**320**	*e*PKIKP		pPKPdf		10 58 57.6	+0.8
	comp=Z,81nm,1.7s								
MAW	**Mawson**	**124.29**	**207**	PKP		**PKPdf**		**10 58 37.9**	**+0.3**
	comp=Z,1.9nm,0.7s,baz=302,slow=0.8,SNR=12								
MAW					pPKP		**pPKPdf**	**10 58 57.5**	**+1.1**
	comp=Z,3.8nm,0.8s,baz=309,slow=5.9,SNR=5.3								
BOSA	**Boshof**	**128.07**	**264**	PKhKP		PKPpre		10 58 41.0	
	comp=Z,2.6nm,0.8s,baz=141,slow=6.5,SNR=3.0								
TSUM	**Tsumeb**	**128.34**	**278**	PKhKP		PKPpre		10 58 39.6	
	baz=323,slow=5.1								
QSPA	**South Pole Qui**	**131.70**	**180**	*e*PKPdf		**PKPdf**		**10 58 52.2**	**+0.3**

NVL	**N'lazarevskaya**	**142.12**	**204**	*e*PKIKP		pPKPdf		10 59 29.7	0.0
LPAZ	**La Paz**	**143.38**	**55**	PKP		PKPbc		10 59 13.6	+0.8
	comp=Z,1.5nm,0.8s,baz=34,slow=10,SNR=4.8								
LPAZ					pPKP		pPKPdf	10 59 34.8	+0.4
	comp=Z,2.4nm,0.8s,baz=356,slow=2.8,SNR=3.9								
LPAZ	**La Paz**	**143.38**	**55**	*e*PKPdf		**PKPdf**		**10 59 14.4**	**-1.2**
LPAZ					pPKP		**pPKPdf**	**10 59 34.8**	**+0.4**
PB11	**IPOC Station P**	**145.00**	**61**	*e*PKPbc		**PKPab**		**10 59 17.4**	**+0.2**
SNAA	**Sanae**	**145.67**	**199**	PKP		**PKPdf**		**10 59 17.0**	**-0.3**
SNAA	**Sanae**	**145.67**	**199**	*e*PKP2		**PKPdf**		**10 59 17.4**	**+0.1**
SNAA	**Sanae**	**145.67**	**199**	*e*PKPdf		**PKPdf**		**10 59 17.4**	**+0.1**
PB01	**IPOC Station P**	**146.02**	**62**	*e*PKPdf		**PKPab**		**10 59 20.9**	**-0.1**
PB04	**IPOC Station P**	**146.48**	**64**	*e*PKPdf		**PKPbc**		**10 59 21.8**	**+0.1**
VNA2	**Neumayer--Watz**	**147.25**	**198**	PKP		**PKPdf**		**10 59 20.3**	**+0.5**
	baz=99,slow=1.6								
LVC	**Limon Verde**	**147.50**	**63**	*e*PKPbc		**PKPab**		**10 59 25.9**	**-1.1**
VNA3	**Neumayer Olymp**	**147.51**	**196**	PKP		**PKPdf**		**10 59 20.5**	**+0.2**
VNA1	**Neumayer--Stat**	**147.65**	**198**	PKP		**PKPdf**		**10 59 21.2**	**+0.7**
LCO	**Las Campanas**	**150.29**	**75**	*e*PKPbc		**PKPbc**		**10 59 31.8**	**+0.1**
ROC1	**El Roble**	**152.14**	**82**	*e*PKPbc		**PKPbc**		**10 59 36.2**	**+0.4**
GO05	**HualaæØ**	**152.37**	**87**	*e*PKPbc		**PKPbc**		**10 59 36.8**	**+0.9**
PLCA	**Paso Flores**	**155.30**	**98**	PKPbc		PKPbc		10 59 42.4	
	comp=Z,2.3nm,0.8s,baz=329,slow=4.1,SNR=4.1								
PLCA					PKPab		sPKPdf	10 59 59.9	+1.0
	comp=Z,2.6nm,0.8s,baz=21,slow=5.0,SNR=3.9								
PLCA	**Paso Flores**	**155.30**	**98**	*e*PKPbc		PKPbc		10 59 43.4	
PLCA					PKPab		sPKPdf	10 59 59.9	+1.0

*ISCJB **18** 10:56:27.0±0.3,59°.82N±0°.03×153°.39W±0°.06, h139km±3km, mb4.2/1, Error ellipse: s-maj=5.4km s-min=3.4km az=37.3*

*IDC **18** 10:56:27.3±1.8, 59°.79N×153°.46W, h122km±30km, mb4.0/1, mb1 3.7/5, mb1mx3.1/41, mbtmp4.0/5, MS3.5/2, Ms1 3.5/2, ms1mx2.6/33, Error ellipse: s-maj=37.7km s-min=19.2km az=109.0*

*NEIC **18** 10:56:29.1±0.0, 59°.81N×153°.41W, h131km, MG3.3(AEIC), After AEIC.*

ISC 18 10:56:27.5±0.9, 59°.82N±0°.04×153°.40W±0°.04, h139km±6km, n103, σ0°.86/114, Southern Alaska

Code	Station Name	Δ°	AZ°	Phase ID			Time		Res
				Op		ISC	h	m	s	ISC
ILS	**Iliamna Low So**	**0.21**	**50**	P		**Pn**	**10**	**56**	**46.6**	**0.0**
IVE	**Iliamna Volcan**	**0.27**	**44**	P		**Pn**	**10**	**56**	**46.7**	**0.0**
INE	**Iliamna NE**	**0.29**	**35**	P		**Pn**	**10**	**56**	**46.7**	**-0.2**
ILIM	**Iliamna**	**0.34**	**40**	P		**Pn**	**10**	**56**	**46.9**	**-0.1**
AUL	**Augustine Lava**	**0.44**	**183**	P		**Pn**	**10**	**56**	**47.5**	**+0.2**
AUE	**Augustine Isla**	**0.46**	**178**	P		**Pn**	**10**	**56**	**47.5**	**+0.2**
AUI	**Augustine Isla**	**0.49**	**182**	P		**Pn**	**10**	**56**	**47.7**	**+0.1**
RED	**Redoubt Volcan**	**0.68**	**27**	P		**Pn**	**10**	**56**	**48.8**	**+0.1**
RED				S		**Sn**	**10**	**57**	**04.4**	**-0.5**
RDWB	**Redoubt West**	**0.72**	**22**	P		**Pn**	**10**	**56**	**49.1**	**-0.1**
RDWB				S		**Sn**	**10**	**57**	**04.8**	**-0.8**
RDJH	**Redoubt Jeurge**	**0.83**	**21**	P		**Pn**	**10**	**56**	**50.0**	**+0.1**
RDJH				S		**Sn**	**10**	**57**	**06.8**	**-0.1**
CDD	**Cape Douglas**	**0.90**	**188**	P		**Pn**	**10**	**56**	**50.5**	**+0.1**
HOM	**Homer**	**0.90**	**100**	P		**Pn**	**10**	**56**	**51.0**	**+0.6**
HOM				S		**Sn**	**10**	**57**	**08.2**	**+0.5**
FONW	**Fourpeaked Sta**	**1.02**	**195**	P		**Pn**	**10**	**56**	**51.6**	**+0.1**
FOSS	**Fourpeaked Sta**	**1.04**	**189**	P		**Pn**	**10**	**56**	**51.7**	**+0.1**
BGRM	**Barrier Glacie**	**1.06**	**27**	P		**Pn**	**10**	**56**	**52.1**	**+0.3**
FOPK	**Fourpeaked Vol**	**1.07**	**182**	P		**Pn**	**10**	**56**	**51.7**	**-0.2**
CNPM	**China Poot**	**1.14**	**104**	P		**Pn**	**10**	**56**	**52.6**	**+0.2**
CNPM				S		**Sn**	**10**	**57**	**-0.8**	
BRLK	**Bradley Lake**	**1.27**	**92**	P		**Pn**	**10**	**56**	**54.1**	**+0.3**
BRLK				S		**Sn**	**10**	**57**	**13.2**	**-0.6**
KAPH	**Katmai Pasha**	**1.32**	**202**	P		**Pn**	**10**	**56**	**54.7**	**+0.2**
KAPH				S		**Sn**	**10**	**57**	**14.0**	**-0.8**
KAHC	**Katmai Hardscr**	**1.44**	**216**	P		**Pn**	**10**	**56**	**55.6**	**-0.1**
KAHG	**Katmai Hook Gl**	**1.46**	**204**	P		**Pn**	**10**	**56**	**56.2**	**+0.4**
CKL	**Chakachamna La**	**1.48**	**20**	P		**Pn**	**10**	**56**	**56.7**	**+0.7**
SPCR	**Spurr Chakacha**	**1.50**	**23**	P		**Pn**	**10**	**56**	**56.8**	**+0.5**
SPWE	**Spurr West**	**1.52**	**16**	P		**Pn**	**10**	**56**	**57.3**	**+0.8**
KAWH	**Katmai**	**1.61**	**207**	P		**Pn**	**10**	**56**	**57.8**	**+0.2**
SVW2	**Sparrevohn**	**1.68**	**321**	P		**Pn**	**10**	**56**	**57.9**	**-0.3**
SLKM	**Skilak Lake**	**1.73**	**65**	P		**Pn**	**10**	**56**	**59.1**	**+0.3**
KVTA	**Katmai Vly 10**	**1.75**	**215**	P		**Pn**	**10**	**56**	**59.2**	**+0.2**
KAKN	**Katmai Knife C**	**1.75**	**210**	P		**Pn**	**10**	**56**	**59.4**	**+0.2**
KAKN				S		**Sn**	**10**	**57**	**22.2**	**-1.1**
KABU	**Katmai Buttres**	**1.84**	**213**	P		**Pn**	**10**	**57**	**00.6**	**+0.5**
KABU				S		**Sn**	**10**	**57**	**25.0**	**-0.1**
KELA	**Mount Kelaz**	**1.84**	**222**	P		**Pn**	**10**	**57**	**02.1**	**0.0**
STLK	**Strandline Lak**	**1.85**	**24**	P		**Pn**	**10**	**57**	**00.9**	**+0.7**
KABR	**Katmai Barrier**	**1.88**	**206**	P		**Pn**	**10**	**57**	**00.8**	**+0.2**
VOGL	**Vogel Lake**	**1.89**	**50**	P		**Pn**	**10**	**57**	**02.3**	**+1.8**
VOGL				S		**Sn**	**10**	**57**	**26.9**	**+1.1**
SEW	**Seward**	**2.01**	**80**	P		**Pn**	**10**	**57**	**02.4**	**+0.4**
KDAK	**Kodiak Island**	**2.09**	**168**	P		**Pn**	**10**	**57**	**02.2**	**-0.8**
	11nm,0.3s,baz=4.8,slow=9.2,SNR=431									
KDAK				S		**Sn**	**10**	**57**	**28.2**	**-2.0**
	40nm,0.3s,baz=138,slow=20,SNR=38									
FIB	**Fire Island**	**2.09**	**48**	P		**Pn**	**10**	**57**	**04.3**	**+1.4**
SUA	**Susitna One**	**2.10**	**37**	P		**Pn**	**10**	**57**	**03.9**	**+0.7**
RC01	**Rabbit Creek A**	**2.21**	**53**	P		**Pn**	**10**	**57**	**04.6**	**+0.1**
SKT	**Skwentna**	**2.35**	**22**	P		**Pn**	**10**	**57**	**06.7**	**+0.5**
DHAK	**Diamond Harbor**	**2.61**	**179**	P		**Pn**	**10**	**57**	**08.3**	**-1.1**
PLK1	**Peulik 1**	**2.62**	**221**	P		**Pn**	**10**	**57**	**10.5**	**+0.9**
PWL	**Port Wells**	**2.72**	**65**	P		**Pn**	**10**	**57**	**10.5**	**-0.4**
PMR	**Palmer**	**2.75**	**48**	P		**Pn**	**10**	**57**	**10.4**	**-0.8**
KNK	**Knik Glacier**	**2.91**	**55**	P		**Pn**	**10**	**57**	**12.8**	**-0.5**
GHO	**Glory Hole Cre**	**2.94**	**46**	P		**Pn**	**10**	**57**	**13.1**	**-0.6**
PPLA	**Purkeypile**	**3.14**	**10**	P		**Pn**	**10**	**57**	**17.6**	**+1.2**
SML	**Sawmill**	**3.18**	**49**	P		**Pn**	**10**	**57**	**16.5**	**-0.3**
GLI	**Glacier Island**	**3.31**	**69**	P		**Pn**	**10**	**57**	**17.9**	**-0.5**
TT01	**Tatalina**	**3.34**	**339**	P		**Pn**	**10**	**57**	**18.6**	**-0.2**
HIN	**Hinchinbrook I**	**3.50**	**78**	P		**Pn**	**10**	**57**	**21.5**	**+0.6**
FID	**Port Fidalgo**	**3.57**	**72**	P		**Pn**	**10**	**57**	**21.8**	**0.0**
JPK	**Jack Peak**	**3.59**	**67**	P		**Pn**	**10**	**57**	**22.3**	**+0.3**
SCM	**Sheep Creek Mo**	**3.59**	**53**	P		**Pn**	**10**	**57**	**21.7**	**-0.4**
VLZ	**Valdez**	**3.74**	**66**	P		**Pn**	**10**	**57**	**23.6**	**-0.2**
ANNE	**Aniakchak Nort**	**3.81**	**222**	P		**Pn**	**10**	**57**	**25.4**	**+0.4**
EYAK	**Cordova Ski Ar**	**3.89**	**76**	P		**Pn**	**10**	**57**	**26.4**	**+0.5**
KTH	**Kantishna Hill**	**3.93**	**16**	P		**Pn**	**10**	**57**	**26.6**	**+0.1**
TRF	**Thorofare Moun**	**3.93**	**21**	P		**Pn**	**10**	**57**	**26.8**	**+0.1**
DIV	**Divide**	**4.00**	**68**	P		**Pn**	**10**	**57**	**28.1**	**+0.7**
RND	**Reindeer**	**4.20**	**29**	P		**Pn**	**10**	**57**	**30.0**	**-0.1**
DHY	**Denali Highway**	**4.36**	**39**	P		**Pn**	**10**	**57**	**32.0**	**-0.3**
RAGM	**Ragged Mountai**	**4.40**	**79**	P		**Pn**	**10**	**57**	**33.5**	**+0.7**
MCK	**McKinley**	**4.46**	**26**	P		**Pn**	**10**	**57**	**33.7**	**+0.2**
BMRM	**Bremner River**	**4.51**	**71**	P		**Pn**	**10**	**57**	**34.6**	**+0.4**
VNHG	**Veniaminof 1**	**4.74**	**223**	P		**Pn**	**10**	**57**	**38.9**	**+1.6**
HARP	**HAARP**	**4.76**	**53**	P		**Pn**	**10**	**57**	**37.8**	**+0.2**
BERG	**Berg Lake**	**4.88**	**79**	P		**Pn**	**10**	**57**	**39.1**	**-0.1**
PAX	**Paxson**	**4.95**	**47**	P		**Pn**	**10**	**57**	**40.1**	**+0.1**
CRQM	**Cirque**	**5.19**	**75**	P		**Pn**	**10**	**57**	**44.5**	**+1.1**
WRH	**Wood River Hil**	**5.29**	**26**	P		**Pn**	**10**	**57**	**43.9**	**-0.5**
TGL	**Tana Glacier**	**5.34**	**75**	P		**Pn**	**10**	**57**	**46.1**	**+0.8**
MCARA	**McCarthy VSAT**	**5.35**	**68**	P		**Pn**	**10**	**57**	**46.1**	**+0.8**
KULT	**Kultieth River**	**5.37**	**81**	P		**Pn**	**10**	**57**	**46.3**	**+0.7**
CCB	**Clear Creek Bu**	**5.50**	**26**	P		**Pn**	**10**	**57**	**46.7**	**-0.6**
MENT	**Mentasta**	**5.60**	**52**	P		**Pn**	**10**	**57**	**49.4**	**+0.7**
MDM	**Murphy Dome**	**5.69**	**23**	P		**Pn**	**10**	**57**	**49.5**	**-0.3**
BAGL	**Bagley Icefiel**	**5.69**	**78**	P		**Pn**	**10**	**57**	**50.8**	**+1.0**
COLA	**College**	**5.69**	**25**	P		**Pn**	**10**	**57**	**49.6**	**-0.2**
MESA	**MESA**	**5.76**	**81**	P		**Pn**	**10**	**57**	**51.9**	**+0.9**
ILAR	**Eielson Array**	**5.82**	**29**	P		**Pn**	**10**	**57**	**50.9**	**-0.6**
	4.3nm,0.3s,baz=216,slow=13,SNR=325									
ILAR				S		**Sn**	**10**	**58**	**52.4**	**-4.8**
	2.2nm,0.3s,baz=216,slow=20,SNR=7.5									
ILB	**Eielson Array**	**5.82**	**29**	P		**Pn**	**10**	**57**	**51.0**	**-0.6**
YAH	**Yahtse**	**5.86**	**80**	P		**Pn**	**10**	**57**	**53.5**	**+1.3**
DOT	**Dot Lake**	**5.86**	**45**	P		**Pn**	**10**	**57**	**52.4**	**+0.2**
GRNC	**Granite Creek**	**5.87**	**76**	P		**Pn**	**10**	**57**	**53.5**	**+1.1**
TABL	**Table Mountain**	**6.16**	**79**	P		**Pn**	**10**	**57**	**57.6**	**+1.3**
IM3	**Indian Mountai**	**6.19**	**359**	P		**Pn**	**10**	**57**	**57.8**	**+1.3**
LOGN	**Logan Glacier**	**6.24**	**75**	P		**Pn**	**10**	**57**	**58.1**	**+0.8**
BCA3	**Beaver Creek A**	**6.45**	**55**	P		**Pn**	**10**	**58**	**00.8**	**+0.8**
PCA	**Pinnacle**	**6.61**	**82**	P		**Pn**	**10**	**58**	**03.1**	**+0.9**
BCPM	**Bancas Point**	**6.93**	**83**	P		**Pn**	**10**	**58**	**07.6**	**+1.2**
PNL	**Peninsula**	**7.08**	**85**	P		**Pn**	**10**	**58**	**08.6**	**+0.1**
EGAK	**Eagle**	**7.56**	**44**	P		**Pn**	**10**	**58**	**15.1**	**+0.3**
COLD	**Coldfoot**	**7.57**	**9**	P		**Pn**	**10**	**58**	**14.2**	**-0.8**
DHAK	**Deception Hill**	**7.77**	**89**	P		**Pn**	**10**	**58**	**18.3**	**+0.5**
DAWY	**Dawson**	**7.85**	**51**	*e*Pn		**Pn**	**10**	**58**	**19.9**	**+1.2**
	2.1nm,0.4s									
PLBC	**Pleasant Camp**	**8.64**	**85**	P		**Pn**	**10**	**58**	**29.6**	**+0.3**
DLBC	**Dease Lake**	**12.07**	**86**	P		**P**	**10**	**59**	**20.0**	**-1.8**
	0.3nm,0.3s,baz=253,slow=9.2,SNR=7.5									
DLBC				S		**Sn**	**11**	**01**	**27.3**	**-0.6**
	0.2nm,0.3s,baz=176,slow=15,SNR=3.1									
INK	**Inuvik**	**12.10**	**37**	P		**Pn**	**10**	**59**	**15.9**	**+0.8**
	0.2nm,0.3s,baz=248,slow=12,SNR=6.6									
YKA	**Yellowknife Ar**	**18.71**	**65**	P		**P**	**11**	**00**	**36.8**	**+1.9**
	0.1nm,0.3s,baz=278,slow=9.8,SNR=6.5									
RES	**Resolute Bay**	**25.56**	**32**	LR		LR		11 14 30.9		
	comp=Z,51nm,18.5s,baz=1.5,slow=42									
LPIG	**La Paz**	**46.56**	**121**	LR		LR		11 21 53.3		
	comp=Z,79nm,18.8s,baz=311,slow=33									
ZALV	**Zalesovo Beam**	**57.40**	**323**	P		**P**	**11**	**06**	**02.3**	**+1.4**
	1.9nm,0.4s,baz=27,slow=6.4,SNR=7.0									

*ISCJB **18** 10:59:26.2±0.4, 38°.02N±0°.02×37°.70E±0°.04, h0km, Error ellipse: s-maj=4.4km s-min=3.1km az=7.6*

*CSEM **18** 10:59:26.4±0.2, 38°.01N×37°.71E, h1km, MD2.7, Error ellipse: s-maj=

DRO	**Drossia**	**0.28**	**201**	P	Pg	11 44 51.0	+0.2
DRO				S	Sb	11 44 55.9	-1.1
DRO	**Drossia**	**0.28**	**201**	P	Pg	11 44 51.0	+0.2
DRO				S	Sb	11 44 55.9	-1.1
DRO				AML	AML	11 44 56.5	
	comp=E,1464μm,0.2s						
DRO				AML	AML	11 44 57.0	
	comp=N,701μm,0.2s						
KALE	**Kalithea**	**0.29**	**53**	P	Pn	11 44 55.9	+0.4
KALE				S	Sb	11 45 00.6	+3.2
KALE	**Kalithea**	**0.29**	**53**	P	Pn	11 44 55.9	+0.4
KALE				S	Sb	11 45 00.6	+3.2
KALE	**Kalithea**	**0.29**	**53**	P	Pg	11 44 51.2	+0.2
KALE	**Kalithea**	**0.29**	**53**	P	Pg	11 44 51.2	+0.2
TRAZ	**Trapeza**	**0.30**	**99**	P	Pg	11 44 51.0	-0.1
TRAZ	**Trapeza**	**0.30**	**99**	P	Pg	11 44 51.0	-0.1
KLV	**Kalavryta, Ach**	**0.30**	**125**	P	Pn	11 44 56.1	+0.5
KLV				S	Sb	11 45 00.9	+3.3
KLV	**Kalavryta, Ach**	**0.30**	**125**	P	Pn	11 44 56.1	+0.5
KLV				S	Sb	11 45 00.9	+3.3
KLV	**Kalavryta, Ach**	**0.30**	**125**	P	Pg	11 44 51.1	0.0
KLV	**Kalavryta, Ach**	**0.30**	**125**	P	Pg	11 44 51.1	0.0
RLS	**Riolos of Patr**	**0.33**	**242**	P	Pn	11 44 56.6	+0.6
RLS				S	Sb	11 45 02.2	+3.7
RLS	**Riolos of Patr**	**0.33**	**242**	P	Pn	11 44 56.6	+0.6
RLS				S	Sb	11 45 02.2	+3.7
RLS	**Riolos of Patr**	**0.33**	**242**	P	Pg	11 44 51.5	-0.2
RLS	**Riolos of Patr**	**0.33**	**242**	P	Pg	11 44 51.5	-0.3
AXS	**Araxos**	**0.37**	**267**	P	Pn	11 44 57.4	+1.0
AXS				S	Sb	11 45 02.9	+3.5
AXS	**Araxos**	**0.37**	**267**	P	Pn	11 44 57.4	+1.0
AXS				S	Sb	11 45 02.9	+3.5
AXS	**Araxos**	**0.37**	**267**	P	Pg	11 44 52.2	-0.1
AXS	**Araxos**	**0.37**	**267**	P	Pg	11 44 52.2	-0.1
PVO	**Paravola**	**0.47**	**328**	P	Pn	11 44 59.1	+1.2
PVO				S	Sb	11 45 07.7	+5.3
PVO	**Paravola**	**0.47**	**328**	P	Pn	11 44 59.1	+1.2
PVO				S	Sb	11 45 07.7	+5.3
PVO	**Paravola**	**0.47**	**328**	P	Pg	11 44 54.2	-0.1
PVO	**Paravola**	**0.47**	**328**	P	Pg	11 44 54.2	0.0
DSF	**Desfina**	**0.57**	**70**	P	Pn	11 45 01.4	+2.0
DSF				S	Sn	11 45 10.4	+1.5
DSF	**Desfina**	**0.57**	**70**	P	Pn	11 45 01.4	+2.0
DSF				S	Sn	11 45 10.4	+1.5
DSF	**Desfina**	**0.57**	**70**	P	Pg	11 44 55.5	-0.7
DSF	**Desfina**	**0.57**	**70**	P	Pg	11 44 55.5	-0.7
PDO	**Prodromos**	**0.64**	**307**	P	Pn	11 45 03.2	+3.0
PDO				S	Sn	11 45 13.6	+3.1
PDO	**Prodromos**	**0.64**	**307**	P	Pn	11 45 03.2	+3.0
PDO				S	Sn	11 45 13.6	+3.1
PDO	**Prodromos**	**0.64**	**307**	P	Pb	11 44 58.2	-0.2
PDO	**Prodromos**	**0.64**	**307**	P	Pb	11 44 58.2	-0.2
THAL	**Thalero**	**0.67**	**105**	P	Pn	11 45 04.0	+3.4
THAL	**Thalero**	**0.67**	**105**	P	Pn	11 45 04.0	+3.4
EVR	**Evrytania**	**0.70**	**358**	P	Pn	11 45 04.5	+3.4
EVR				S	Sn	11 45 14.4	+2.3
EVR	**Evrytania**	**0.70**	**358**	P	Pn	11 45 04.5	+3.4
EVR				S	Sn	11 45 14.4	+2.3
EVR	**Evrytania**	**0.70**	**358**	P	Pg	11 44 58.3	-0.3
EVR	**Evrytania**	**0.70**	**358**	P	Pg	11 44 58.3	-0.3
KFL	**Anninata**	**0.84**	**263**	P	Pn	11 45 06.4	+3.5
KFL				S	Sn	11 45 18.7	+3.5
KFL	**Anninata**	**0.84**	**263**	P	Pn	11 45 06.4	+3.5
KFL				S	Sn	11 45 18.7	+3.5
KFL	**Anninata**	**0.84**	**263**	P	Pb	11 45 01.7	0.0
KFL	**Anninata**	**0.84**	**263**	P	Pb	11 45 01.7	+0.1
AGG	**Agios Georgios**	**0.89**	**25**	P	Pn	11 45 07.9	+4.2
AGG				S	Sn	11 45 20.3	+3.6
AGG	**Agios Georgios**	**0.89**	**25**	P	Pn	11 45 07.9	+4.2
AGG				S	Sn	11 45 20.3	+3.6
LTK	**Loutraki**	**0.91**	**102**	P	Pn	11 45 07.9	+4.0
LTK	**Loutraki**	**0.91**	**102**	P	Pn	11 45 07.9	+4.0
VLX	**Vlachokerasia**	**0.95**	**153**	P	Pn	11 45 08.9	+4.4
VLX				S	Sn	11 45 21.5	+3.4
VLX	**Vlachokerasia**	**0.95**	**153**	P	Pn	11 45 08.9	+4.4
VLX				S	Sn	11 45 21.5	+3.4
VLS	**Valsamata**	**0.99**	**268**	P	Pn	11 45 09.7	+4.7
VLS	**Valsamata**	**0.99**	**268**	P	Pn	11 45 09.7	+4.7
VLS	**Valsamata**	**0.99**	**268**	P	Pg	11 45 02.3	-1.7
VLS	**Valsamata**	**0.99**	**268**	P	Pg	11 45 02.3	-1.7
VLS				AML	AML	11 45 08.7	
	comp=N,79μm,0.2s						
VLS				AML	AML	11 45 08.7	
	comp=E,103μm,0.2s						
LKR	**Lokris**	**1.01**	**64**	P	Pn	11 45 10.3	+5.0
LKR				S	Sn	11 45 23.5	+4.0
LKR	**Lokris**	**1.01**	**64**	P	Pn	11 45 10.3	+5.0
LKR				S	Sn	11 45 23.5	+4.0
VILL	**Villia**	**1.16**	**92**	P	Pn	11 45 12.5	+5.1
VILL	**Villia**	**1.16**	**92**	P	Pn	11 45 12.5	+5.1
SMIA	**Simia**	**1.26**	**58**	P	Pg	11 45 14.8	+5.5
SMIA				S	Sn	11 45 33.7	+7.9
SMIA	**Simia**	**1.26**	**58**	P	Pg	11 45 14.8	+5.5
SMIA				S	Sn	11 45 33.7	+7.9
DID	**Didima**	**1.31**	**122**	P	Pg	11 45 14.7	+4.4
DID	**Didima**	**1.31**	**122**	P	Pg	11 45 14.7	+4.4
PYL	**PYLOS**	**1.32**	**183**	P	Pg	11 45 15.9	+5.5
PYL				S	Sg	11 45 35.0	+7.5
PYL	**PYLOS**	**1.32**	**183**	P	Pg	11 45 15.9	+5.5
PYL				S	Sg	11 45 35.0	+7.5
THL	**Klokotos Trika**	**1.35**	**6**	P	Pg	11 45 16.2	+5.1
THL	**Klokotos Trika**	**1.35**	**6**	P	Pg	11 45 16.2	+5.1

*ISCJB **18** 11:48:46.9±0.5,9.°94N±0.°02×69.°70W±0.°02, h12km±3km, Error ellipse: s-maj=3.8km s-min=2.9km az=177.5*
*FUNV **18** 11:48:47.1,9.°95N×69.°73W, h2km, MW3.6*

ISC 18 11:48:46.8±1.0,9.°96N±0.°03×69.°71W±0.°02, h11km±8km, n38,σ1°52/58, 6C-6D, Venezuela

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CURV	**Curarigua**	**0.25**	**282**	*e*P	**Pg**	**11 48 51.4**	**-0.7**
CURV				*e*S	**Sg**	**11 48 54.4**	**-1.3**
SANV	**Sanarito**	**0.49**	**159**	*e*P	**Pg**	**11 48 56.4**	**0.0**
SANV				*e*S	**Sg**	**11 49 02.9**	**+0.1**
TEPV	**Terepaima**	**0.51**	**89**	*e*P	**Pg**	**11 48 57.5**	**+0.7**
TEPV				*e*S	**Sg**	**11 49 04.8**	**+1.3**
SIQV	**Siquisique**	**0.69**	**352**	*i*P	**Pg**	**11 49 00.2**	**0.0**
SIQV				*e*S	**Sb**	**11 49 10.5**	**0.0**
QARV	**Quebrada Arrib**	**0.84**	**287**	*e*P	**Pb**	**11 49 03.4**	**-0.1**
QARV				*e*S	**Sb**	**11 49 14.8**	**0.0**
DABV	**Dabajuro**	**1.32**	**316**	*e*P	**Pg**	**11 49 12.5**	**+0.3**
DABV				*e*S	**Sg**	**11 49 29.7**	**+0.3**
SDV	**Santo Domingo**	**1.40**	**221**	*e*P	**Pn**	**11 49 12.5**	**0.0**
SDV				*e*S	**Sg**	**11 49 32.1**	**+0.1**
TURV	**Turiamo**	**1.90**	**75**	*e*P	**Pn**	**11 49 20.7**	**+1.5**
TURV				*e*S	**Sb**	**11 49 45.5**	**+0.1**
BAUV	**El Baul**	**1.93**	**121**	*e*P	**Pb**	**11 49 21.5**	**-0.5**
BAUV				*e*S	**Sb**	**11 49 45.7**	**-0.4**
VIGV	**El Vigia**	**1.98**	**236**	*e*P	**Pn**	**11 49 21.3**	**+1.1**
VIGV				*e*S	**Sn**	**11 49 45.4**	**+0.3**
MONV	**Montecano**	**2.00**	**353**	*e*P	**Pn**	**11 49 21.8**	**+1.2**
MONV				*e*S	**Sn**	**11 49 47.0**	**+1.4**
SOCV	**Socops**	**2.01**	**214**	*e*P	**Pn**	**11 49 22.0**	**+1.2**
SOCV				*e*S	**Sn**	**11 49 45.8**	**-0.2**
VIRV	**Villa del Rosa**	**2.71**	**282**	*e*P	**Pn**	**11 49 31.2**	**+0.9**
VIRV				*e*S	**Sn**	**11 50 02.9**	**-0.2**
FUNV	**FUNVISIS**	**2.90**	**80**	*e*P	**Pn**	**11 49 33.6**	**+0.6**
FUNV				*e*S	**Sn**	**11 50 07.5**	**-0.5**
ELOV	**Elorza**	**2.95**	**176**	*e*P	**Pn**	**11 49 34.6**	**+1.0**
ELOV				*e*S	**Sn**	**11 50 08.4**	**-0.6**
CAPV	**Capacho**	**3.31**	**231**	*e*P	**Pn**	**11 49 39.1**	**+0.3**
CAPV				*e*S	**Sn**	**11 50 18.4**	**-1.9**
BIRV	**Birongo**	**3.42**	**81**	*e*P	**Pn**	**11 49 41.2**	**+1.0**
BIRV				*e*S	**Sn**	**11 50 19.6**	**-1.2**
MERV	**Las Mercedes**	**3.44**	**102**	*e*P	**Pn**	**11 49 41.3**	**+1.0**
MERV				*e*S	**Sn**	**11 50 20.3**	**-0.8**
CODC	**Agust`>n Codaz**	**3.68**	**270**	*e*P	**Pn**	**11 49 45.6**	**+2.0**
CUPV	**Cœpira**	**3.86**	**88**	*e*P	**Pn**	**11 49 47.3**	**+1.0**
CUPV				*e*S	**Sn**	**11 50 31.0**	**-0.8**
PAMC	**Pamplona, Colo**	**3.94**	**229**	*e*P	**Pn**	**11 49 49.8**	**+2.2**
OCAC	**Ocana**	**3.95**	**245**	*e*P	**Pn**	**11 49 48.7**	**+1.1**
GIRC	**Giron, Santand**	**4.48**	**231**	*e*P	**Pn**	**11 49 57.8**	**+3.0**
BARC	**Barichara**	**4.80**	**226**	*e*P	**Pn**	**11 50 00.6**	**+1.3**
BRRC	**Barranca, Sant**	**4.87**	**235**	*e*P	**Pn**	**11 50 02.6**	**+2.5**
PCRV	**Puerto La Cruz**	**5.00**	**87**	*e*P	**Pn**	**11 50 03.5**	**+1.6**
PCRV				*e*S	**Sn**	**11 50 57.7**	**-2.1**
RUSC	**La Rusia**	**5.24**	**220**	*e*P	**Pn**	**11 50 05.1**	**-0.5**
YOPC	**Yopal, Colombi**	**5.31**	**211**	*e*P	**Pn**	**11 50 09.7**	**+3.5**
SJCC	**San Jacinto, C**	**5.39**	**270**	*e*P	**Pn**	**11 50 08.0**	**+0.7**
ZARC	**Zaragoza, Cauc**	**5.65**	**245**	*e*P	**Pn**	**11 50 11.9**	**+1.2**
MOTC	**Monteria, Cord**	**5.99**	**259**	*e*P	**Pn**	**11 50 13.1**	**-2.4**
CHIC	**Chingaza**	**6.63**	**217**	*e*P	**Pn**	**11 50 26.8**	**+2.2**
GUNV	**Guanoco**	**6.67**	**88**	*e*P	**Pn**	**11 50 24.0**	**-0.7**
GUNV				*e*S	**Sn**	**11 51 35.7**	**-5.1**
ROSC	**El Rosal**	**6.84**	**222**	*e*P	**Pn**	**11 50 28.9**	**+1.5**
HELC	**Santa Helena**	**6.87**	**237**	*e*P	**Pn**	**11 50 29.5**	**+1.6**
VILC	**Villavicencio,**	**7.03**	**215**	*e*P	Pn	11 50 35.2	+5.4
GUYC	**Guyana, Colomb**	**7.34**	**231**	*e*P	**Pn**	**11 50 31.8**	**-2.6**
PRAC	**Prado**	**8.06**	**220**	*e*P	**Pn**	**11 50 45.4**	**+1.5**

IDC 18 11:55:21.9±1.4, 36.°42S×52.°52E, h0km, mb3.6/3, mb1 3.8/3, mb1mx3.4/32, mbtmp3.6/3, Error ellipse: s-maj=135.7km s-min=30.1km az=15.0, Southwest Indian Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BOSA	**Boshof**	**24.21**	**281**	P	P	12 00 40.6	+0.1
	3.5nm,0.9s,baz=118,slow=10,SNR=3.9						
H01W2	**Cape Leeuwin H**	**49.32**	**108**	T	T	12 56 55.6	
	baz=248,slow=75,SNR=9.7						
H01W3	**Cape Leeuwin H**	**49.33**	**108**	T	T	12 56 52.4	
	baz=248,slow=75,SNR=7.3						
H01W1	**Cape Leeuwin H**	**49.34**	**108**	T	T	12 56 55.6	
	baz=248,slow=75,SNR=9.5						
ASAR	**Alice Springs**	**69.72**	**105**	P	P	12 06 33.9	0.0
	0.3nm,0.7s,baz=236,slow=5.9,SNR=6.4						
WRA	**Warramunga Arr**	**72.04**	**102**	P	P	12 06 48.1	+0.1
	0.4nm,0.8s,baz=231,slow=4.9,SNR=6.2						
ILAR	**Eielson Array**	**149.33**	**16**	PKPbc	PKPbc	12 15 11.1	-0.6
	0.3nm,0.8s,baz=310,slow=2.3,SNR=3.6						

IDC 18 12:03:23.8±68.0, 19.°63S×175.°95E, h0km, mb3.6/3, mb1 3.8/3, mb1mx3.6/21, mbtmp3.6/3, Error ellipse: s-maj=1191.0km s-min=139.6km az=79.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**33.12**	**241**	P	P	12 10 02.3	+0.5
	1.0nm,0.7s,baz=61,slow=10,SNR=2.8						
WRA	**Warramunga Arr**	**39.09**	**262**	P	P	12 10 52.8	-0.3
	0.2nm,0.3s,baz=97,slow=8.7,SNR=12						
ASAR	**Alice Springs**	**39.19**	**256**	P	P	12 10 53.5	-0.4
	0.8nm,0.7s,baz=90,slow=8.6,SNR=14						

*ISCJB **18** 12:34:19.7±0.8, 10.°38N±0.°05×73.°22W±0.°04, h29km±6km, Error ellipse: s-maj=9.8km s-min=4.4km az=139.8*
*FUNV **18** 12:34:19.0, 10.°64N×73.°26W, h5km, MW2.9*
*RSNC **18** 12:34:20.9±0.5, 10.°38N×73.°26W, h21km±3km, ML2.9*

ISC 18 12:34:18.9±1.3, 10.°45N±0.°05×73.°25W±0.°04, h20km±6km, n18,σ1°15/28, 2C, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CODC	**Agust`>n Codaz**	**0.54**	**200**	*e*P	**Pg**	**12 34 29.8**	**-0.1**
CODC				*e*S	**Sg**	**12 34 37.2**	**-0.1**
CODC				*i*		12 34 38.2	
	comp=Z,862nm,0.2s						
VIRV	**Villa del Rosa**	**0.83**	**86**	*i*P	**Pg**	**12 34 35.1**	**-0.2**
VIRV				*e*S	**Sg**	**12 34 46.2**	**-0.3**
URIC	**Uribia, Colomb**	**1.75**	**45**	*e*P	**Pb**	**12 34 50.0**	**-0.4**
URIC				*e*S	**Sb**	**12 35 12.6**	**+0.5**
URIC				*i*		12 35 19.7	
	comp=Z,62nm,0.1s						
SJCC	**San Jacinto, C**	**1.97**	**254**	*e*P	**Pn**	**12 34 52.4**	**+1.1**
SJCC				*e*S	**Sn**	**12 35 16.0**	**+0.4**
SJCC				*i*		12 35 32.2	
	comp=Z,47nm,0.8s						
OCAC	**Ocana**	**2.20**	**182**	*e*P	**Pn**	**12 34 54.7**	**+0.2**
OCAC				*e*S	**Sn**	**12 35 21.0**	**-0.1**
OCAC				*i*		12 35 30.5	
	comp=Z,143nm,0.3s						
VIGV	**El Vigia**	**2.46**	**130**	*e*P	**Pn**	**12 35 00.9**	**+3.0**
VIGV				*e*S	**Sb**	**12 35 31.8**	**-0.5**
DABV	**Dabajuro**	**2.62**	**79**	*e*P	**Pn**	**12 35 00.6**	**+0.5**
DABV				*e*S	**Sn**	**12 35 32.6**	**+1.3**
CAPV	**Capacho**	**2.73**	**160**	*e*P	**Pn**	**12 35 05.1**	**+3.2**
CAPV				*e*S	**Sb**	**12 35 39.6**	**-0.7**
PAMC	**Pamplona, Colo**	**3.14**	**170**	*e*P	**Pn**	**12 35 07.5**	**-0.2**
CURV	**Curarigua**	**3.27**	**97**	*e*P	**Pn**	**12 35 09.9**	**+0.7**
GIRC	**Giron, Santand**	**3.35**	**179**	*e*P	**Pn**	**12 35 10.3**	**0.0**
BRRC	**Barranca, Sant**	**3.35**	**188**	*e*P	**Pn**	**12 35 09.7**	**-0.6**
BRRC				*e*S	**Sn**	**12 35 48.3**	**-1.1**
BRRC				*i*		12 36 06.3	
	comp=Z,25nm,0.1s						
SIQV	**Siquisique**	**3.39**	**86**	*e*P	**Pn**	**12 35 11.5**	**+0.6**
MONV	**Montecano**	**3.55**	**65**	*e*P	**Pn**	**12 35 13.4**	**+0.4**
MONV				*e*S	**Sn**	**12 35 52.4**	**-2.0**
BARC	**Barichara**	**3.83**	**179**	*e*P	**Pn**	**12 35 17.7**	**+0.7**
BARC				*i*		12 36 28.7	
	comp=Z,25nm,0.7s						
TEPV	**Terepaima**	**4.03**	**97**	*e*P	**Pn**	**12 35 19.7**	**+0.1**
TURV	**Turiamo**	**5.33**	**90**	*e*P	**Pn**	**12 35 37.3**	**0.0**
BAUV	**El Baul**	**5.35**	**106**	*e*P	**Pn**	**12 35 38.4**	**+0.7**

*BJI **18** 12:40:45.7, 27.°70N×88.°20E, h20km, mb6.5/61, mB6.7/75, Ms6.9/92, Ms7 6.8/88*
*NDI **18** 12:40:46.9±2.1, 27.°85N×88.°06E, h46km±4km, mb6.7, ML6.6, MW6.9*
*ISCJB **18** 12:40:47.4±0.4, 27.°75N±0.°01×88.°12E±0.°01, h26km±2km, mb6.3/451, MS6.6/513, Error ellipse: s-maj=2.4km s-min=1.4km az=25.5*
*NEIC **18** 12:40:48.0±0.0, 27.°53N×87.°97E, h60km, Moment Tensor Solution. s71 Moment tensor: Scale 10^{19}Nm; M_{rr}=0.54; $M_{\theta\theta}$=-2.01; $M_{\phi\phi}$2.55; $M_{r\theta}$0.44; $M_{\theta\phi}$-0.63; $M_{\phi r}$-0.39; Best double couple: M_o2.50000×10^{19} NP1:ϕ308.00000°, δ86.00000°, λ-164.00000°. NP2:ϕ217.00000°, δ75.00000°, λ-4.00000°. Principal axes: T 2.6900, Plg7.0000°, Azm81.0000°; N -0.5100, Plg74.0000°, Azm321.0000°; P -2.1900, Plg13.0000°, Azm173.0000°;*
*MOS **18** 12:40:48.9±1.2, 27.°77N×88.°21E, h40km, mb6.4/109, MS6.6/92 Error ellipse: s-maj=5.6km s-min=3.2km az=124.3*
*IDC **18** 12:40:50.5±1.1, 27.°77N×88.°22E, h37km±8km, mb5.6/49, mb1 5.6/51, mb1mx5.6/53, mbtmp5.8/51, ML5.3/2, MS6.4/41, Ms1 6.4/41, ms1mx6.4/52, Error ellipse: s-maj=7.5km s-min=5.9km az=38.0*
*GCMT **18** 12:40:51.8±0.1, 27.°44N×88.°35E, h46km, MW6.9/151, Moment Tensor Solution. s145,c338; s151,c681; Duration: 69 Moment tensor: Scale 10^{19}Nm; M_{rr}-0.41±.01; $M_{\theta\theta}$-2.32±.01; $M_{\phi\phi}$2.73±.01; $M_{r\theta}$0.90±.02; $M_{\theta\phi}$-0.64±.01; $M_{\phi r}$-0.12±.01; Best double couple: M_o2.77900×10^{19} NP1:ϕ310.00000°, δ79.00000°, λ-162.00000°. NP2:ϕ216.00000°, δ72.00000°, λ-12.00000°. Principal axes: T 2.8260, Plg4.0000°, Azm82.0000°; N -0.0940, Plg69.0000°, Azm341.0000°; P -2.7310, Plg21.0000°, Azm174.0000°; nsta1 refers to body waves, cutoff=50s. nsta2 refers to surface/mantle waves, cutoff=50s.*
*DMN **18** 12:40:51.1±0.3, 27.°69N×88.°30E, h50km, Ml6.8/6 Error ellipse: s-maj=6.8km s-min=3.7km az=37.0*
*NEIC **18** 12:40:51.8±0.1, 27.°73N×88.°16E, h50km, mb6.6/235, ME7.7, MS6.7/295, MW6.9, MW6.9, Error ellipse: s-maj=3.1km s-min=2.3km az=27.0 Broadband fault plane solution: P waves. NP1:ϕ219.00000°, δ75.00000°, λ-5.00000°. NP2:ϕ310.00000°, δ85.00000°, λ-165.00000°. Principal axes: T Plg7.0000°, Azm83.0000°; N Plg0.0000°, Azm0.0000°; P Plg14.0000°, Azm175.0000°; Depth from synthetics of broadband displacement seismograms. Energy computed from BB mechanism.*
NEIC At least 97 people killed, several injured, 5,000 displaced and 3,917 buildings and many roads and bridges destroyed or damaged in Sikkim, eastern Bihar and northern West Bengal; 6 people killed, 25 injured and at least 4,300 buildings destroyed or damaged in the Sankhuwasabha-Panchthar-Ilam area, Nepal; 7 people killed and 136 injured in Tibet, China; 1 person killed, 16 injured and at least 6,000 buildings damaged in the Paro-Thimphu area, Bhutan; minor damage to several buildings in Dhaka, Bangladesh. Total economic loss in India estimated at 22.3 billion US dollars. Electricity, telecommunications and water supplies disrupted and landslides and mudslides occurred in Sikkim, India, eastern Nepal and the Paro-Thimphu area, Bhutan. Felt [VII] at Gangtok and Shiliguri; [VI] at Jalpaiguri; [V] at Bandel, Baranagar, Barddhaman, Darjiling, Dispur, Guwahati and Koch Bihar; [IV] at Barakpur, Calcutta, Dhanbad, Durgapur, Haora, Iranagar, Muzaffarpur, Nagaon, Patna, Ranchi, Shillong and Tura, India. Felt throughout northeastern India, in much of north-central India and as far as Bhubaneshwar, Bombay and Chandigarh. Felt [VI] at Damak; [V] at Biratnagar, Dhulikhel, Kathmandu and Pokhara; [IV] at Bhaktapur, Bharatpur, Patan and Tansen, Nepal. Also felt [VI] at Thimphu and [V] at Paro, Bhutan; [V] at Lhasa, China; [IV] at Barguna, Chittagong, Dhaka, Rajshahi and Sylhet, Bangladesh. Felt throughout Bangladesh and Bhutan and in much of eastern and central Nepal.
*BKK **18** 12:40:51.5±1.9, 28.°N±14.°×8.°9E±1.°0, h15km±12km, M6.3/16, mb6.3/16, mB6.4/15, Mw(mB)6.1/15, Mwp7.4/4*
*NEIC **18** 12:41:18.1±0.0, 28.°05N×88.°16E, h35km, Moment Tensor Solution. s66 Moment tensor: Scale 10^{19}Nm; M_{rr}=0.45; $M_{\theta\theta}$-2.36; $M_{\phi\phi}$2.81; $M_{r\theta}$0.32; $M_{\theta\phi}$-0.51; $M_{\phi r}$-0.45; Best double couple: M_o2.70000×10^{19} NP1:ϕ130.00000°, δ90.00000°, λ168.00000°. NP2:ϕ220.00000°, δ78.00000°, λ0.00000°. Principal axes: T 2.9300, Plg8.0000°, Azm84.0000°; N -0.4800, Plg78.0000°, Azm309.0000°; P -2.4500, Plg8.0000°, Azm175.0000°;*

ISC 18 12:40:49.6±0.3, 27.°80N±0.°02×88.°15E±0.°02, h30km±1km, h30km:pP-P, n2022, σ1°93/2099, mb6.5/452, MS6.7/524, 189C-61D, Sikkim

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TAPN	**Taplejung**	**0.60**	**221**	*e*Pg	**Pn**	**12 41 04.8**	**+2.4**
TAPN	**Taplejung**	**0.60**	**221**	*e*Pg	**Pn**	**12 41 04.8**	**+2.4**
GTK	**Tadong**	**0.63**	**140**	*i*P	**Pn**	**12 41 04.3**	**+1.7**
GTK				*ex*	x	12 41 34.5	
SLGI	**Shiliguri**	**1.12**	**168**	*e*P	**Pb**	**12 41 12.1**	**+1.7**
SLGI				*e*S	**Sb**	**12 41 28.0**	**+3.3**
ODAN	**Odare**	**1.16**	**216**	*e*Pg	**Pb**	**12 41 12.2**	**+1.0**
ODAN	**Odare**	**1.16**	**216**	*e*Pg	**Pb**	**12 41 12.1**	**+0.9**
RAMN	**Ramite**	**1.62**	**239**	*e*Pg	**Pb**	**12 41 18.3**	**-0.7**
RAMN	**Ramite**	**1.62**	**239**	*e*Pg	**Pb**	**12 41 18.3**	**-0.7**
JIRN	**Jiri**	**1.75**	**266**	*e*Pn	**Pb**	**12 41 21.3**	**+0.1**
JIRN	**Jiri**	**1.75**	**266**	*e*Pn	**Pb**	**12 41 21.3**	**+0.1**
GUN	**Gumba**	**2.02**	**274**	*e*Pn	**Pb**	**12 41 25.0**	**-0.8**
GUN	**Gumba**	**2.02**	**274**	*e*Pn	**Pb**	**12 41 25.0**	**-0.8**
DHUB	**DHUBRI**	**2.42**	**137**	*i*P	**Pn**	**12 41 28.5**	**+1.3**
DHUB				*e*S	**Sn**	**12 41 57.9**	**+2.1**
PKI	**Pulchoki**	**2.44**	**265**	*e*P	**Pn**	**12 41 30.3**	**+2.5**
PKI	**Pulchoki**	**2.44**	**265**	*e*Pn	**Pn**	**12 41 30.3**	**+2.5**
PKI	**Pulchoki**	**2.44**	**265**	*e*Pn	**Pn**	**12 41 30.3**	**+2.5**
PKI	**Pulchoki**	**2.44**	**265**	*e*Pn	**Pn**	**12 41 30.4**	**+2.6**
PKI				*e*Sn	**Sn**	**12 41 59.5**	**+2.6**
	87μm,0.3s						
PKIN	**Phulchoki**	**2.46**	**265**	*e*Pn	**Pn**	**12 41 30.4**	**+2.6**
PKIN	**Phulchoki**	**2.46**	**265**	*e*Pn	**Pn**	**12 41 30.5**	**+2.6**
PKIN				*e*Sn	**Sn**	**12 41 59.8**	**+2.7**
KKN	**Kakani**	**2.55**	**270**	*e*P	**Pn**	**12 41 31.9**	**+2.8**
KKN	**Kakani**	**2.55**	**270**	*e*Pn	**Pn**	**12 41 31.9**	**+2.8**
KKN	**Kakani**	**2.55**	**270**	*e*Pn	**Pn**	**12 41 31.9**	**+2.8**
KKN	**Kakani**	**2.55**	**270**	*e*Pn	**Pn**	**12 41 32.0**	**+2.8**
KKN				*e*Sn	**Sn**	**12 42 01.2**	**+2.0**
	103μm,0.4s						
DMN	**Daman**	**2.71**	**267**	*e*Pn	**Pn**	**12 41 33.8**	**+2.4**
DMN	**Daman**	**2.71**	**267**	*e*Pn	**Pn**	**12 41 33.8**	**+2.4**
DMN				*e*Sn	**Sn**	**12 42 05.5**	**+2.2**
	333μm,1.0s						
TURI	**Tura**	**2.97**	**139**	*e*P	**Pn**	**12 41 35.4**	**+0.6**
TURI				*e*S	**Sn**	**12 42 10.6**	**+1.1**
GKN	**Gorkha**	**3.12**	**274**	*e*Pn	**Pn**	**12 41 38.7**	**+1.8**
GKN	**Gorkha**	**3.12**	**274**	*e*Pn	**Pn**	**12 41 39.3**	**+2.4**
GKN				*e*Sn	**Sn**	**12 42 15.8**	**+2.5**
	245μm,0.8s						
LSA	**Lhasa**	**3.24**	**54**	Pg	**Pb**	**12 41 45.1**	**-1.6**
LSA				LR	LR		
	comp=E,1150μm,5.1s						
LSA				LR	LR		
	comp=Z,1114μm,5.6s						
LSA	**Lhasa**	**3.24**	**54**	*e*P	**Pn**	**12 41 42.3**	**+3.5**
LSA	**Lhasa**	**3.24**	**54**	*e*Pn	**Pn**	**12 41 42.3**	**+3.5**
GUWA	**GUWAHATI**	**3.54**	**116**	*e*P	**Pn**	**12 41 43.7**	**+1.1**
SHL	**Shillong**	**4.01**	**123**	*e*P	**Pn**	**12 41 50.0**	**+0.8**
SHL				*e*S	**Sn**	**12 42 36.6**	**+1.2**
SHL				AML	AML	12 42 54.6	
	comp=E,326μm,0.6s						
SHL				AML	AML	12

CHLP Challavanipeta 9.99 203 *e*Pn Pn **12 43 10.2 -0.9**
CHLP IAmb IAmb 12 43 14.9
comp=Z,5µm,1.6s
CHLP Sn **Sn** **12 44 59.0 -3.4**
CHLP IVMs_BB IVMs_BB 12 46 33.1
comp=Z,433µm,4.6s
SMLA Simla 10.13 292⇑ *i*P **Pn** **12 43 12.1 -1.0**
SMLA *e*S **Sn** **12 45 00.5 -5.2**
SMLA IAML 12 46 26.4
comp=E,34µm,1.9s
SMLA IAML 12 46 30.9
comp=N,32µm,1.7s
KKR Kurukshetra 10.16 285 *e*P **Pn** **12 43 12.9 -0.6**
SDNR Sundarnagar 10.40 293 *e*P **Pn** **12 43 17.6 +0.8**
RTK Rohtak 10.41 280 *e*P **Pn** **12 43 15.8 -1.0**
NGP Nagpur 10.61 233 *e*P **Pn** **12 43 18.8 -0.9**
NGP *e*S **Sn** **12 45 13.6 -3.9**
BHPL Bhopal 10.70 247 *ex* **Pn** **12 43 18.7 -2.2**
BHPL *e*S **Sn** **12 45 14.9 -4.9**
BHK Bhakra 10.83 292 *e*P **Pn** **12 43 22.8 +0.2**
BHK *ex* x 12 45 01.0
KHET Khetri 10.92 274 *e*P **Pn** **12 43 22.7 -1.2**
KHET *e*S **Sn** **12 45 20.1 -5.0**
VIS Vishakhapatnam 10.98 205 *i*P **Pn** **12 43 25.0 +0.3**
VIS IAmb IAmb 12 43 39.0
comp=Z,6µm,0.3s
VIS *i* x x 12 46 35.1
VIS IAML 12 46 37.4
comp=N,22µm,3.6s
VIS IAML 12 46 49.0
comp=E,41µm,2.1s
DHRM DHARAMSHALA 11.19 296⇑ *i*P **Pn** **12 43 26.8 -0.9**
DHRM *ex* x 12 43 29.1
DHRM *i* S **Sn** **12 45 26.1 -5.8**
DHRM IAML 12 46 44.9
comp=N,10µm,0.6s
DHRM IAML 12 46 51.4
comp=E,10µm,1.3s
PONG Pong 11.37 294 *e*P **Pn** **12 43 29.0 -1.0**
PONG *e*S **Sn** **12 45 30.0 -6.0**
THN Thein Dam 11.71 296 *e*P **Pn** **12 43 34.8 +0.1**
THN *e*S **Sn** **12 45 36.6 -7.8**
RPR Rampur 12.06 224 *e*Pn **Pn** **12 43 38.1 -1.4**
RPR IAmb IAmb 12 43 49.0
comp=Z,1µm,0.6s
RPR Sn **Sn** **12 45 44.1 -8.9**
RPR IVMs_BB IVMs_BB 12 47 26.1
comp=Z,429µm,4.3s
AJM Ajmer 12.11 267⇑ *i*x **Pn** **12 43 37.4 -2.7**
AJM *e*S **Sn** **12 45 46.5 -7.7**
AJM IAML 12 47 35.0
comp=E,10µm,3.4s
AJM IAML 12 47 38.1
comp=N,12µm,1.7s
PVM Polavaram 12.11 211 *e*Pn **Pn** **12 43 37.9 -2.3**
PVM IAmb IAmb 12 43 43.5
comp=Z,660nm,0.6s
PVM Sn Sn 12 45 45.1 -9.1
PVM IVMs_BB IVMs_BB 12 47 13.5
comp=Z,442µm,4.1s
KGD Kothagudem 12.30 216 *i* x **Pn** **12 43 41.0 -1.8**
SRSP Sriramsagar 12.61 228 *e*Pn **Pn** **12 43 43.6 -3.5**
SRSP IAmb IAmb 12 43 53.9
comp=Z,641nm,0.9s
SRSP Sn Sn 12 45 57.3 -9.3
SRSP IVMs_BB IVMs_BB 12 47 37.0
comp=Z,389µm,5.1s
KMI Kunming 13.34 98⇑ P **Pn** **12 43 55.5 -1.6**
KMI pP P 12 43 58.6 -7.8
KMI PP **PnPn** **12 44 07.3 +2.3**
KMI S **Sn** **12 46 20.3 -4.3**
KMI pmax pmax
comp=Z,840nm,2.0s
KMI pmax pmax
comp=Z,32µm,11.3s
KMI LR LR
comp=Z,287µm,8.1s
KMI LR LR
comp=Z,424µm,11.3s
CHTO Chiang Mai 13.35 130 P **Pn** **12 43 56.0 -1.1**
comp=Z,7µm,0.9s,comp=Z,148µm
CHTO Chiang Mai 13.35 130 *e*P **Pn** **12 43 56.0 -1.1**
CHTO Chiang Mai 13.35 130 *e*Pn **Pn** **12 43 56.0 -1.1**
CHTO *e*Sn **S** **12 46 43.9 -4.1**
CHTO Chiang Mai 13.35 130 Pn **Pn** **12 43 54.9 -2.2**
SNR=173
CMMT Chiang Mai 13.35 130 P **Pn** **12 43 55.9 -1.3**
comp=Z,2µm,0.8s,comp=Z,32µm
CM31 Chiang Mai Arr 13.60 131 *e*Pn **Pn** **12 43 58.5 -2.0**
CMAR Chiang Mai Arr 13.60 131 Pn **Pn** **12 43 59.2 -1.3**
comp=Z,8.1nm,0.3s,baz=309,slow=13,SNR=284
CMAR Sn **Sn** **12 46 30.8 +0.1**
baz=334,slow=14,SNR=2.6
CMAR LR LR 12 50 35.1
comp=Z,406µm,20.9s,baz=324,slow=43
HYBB Hyderabad (bro 13.61 223 *e*Pn **Pn** **12 43 57.0 -3.7**
HYBB IAmb IAmb 12 44 03.6
comp=Z,638nm,0.7s
HYBB Sn Sn 12 46 18.5 -12
HYBB IVMs_BB IVMs_BB 12 49 01.8
comp=Z,245µm,3.7s
HYB Hyderabad 13.61 223⇓ *i*P **Pn** **12 43 57.0 -3.7**
comp=Z,270nm,1.0s
HYB *e*S **Sn** **12 46 28.0 -3.0**
HYB LR LR
comp=Z,81nm,20.0s
HYB Hyderabad 13.61 223 *e*P **Pn** **12 43 57.4 -3.3**
HYB IAmb IAmb 12 44 13.5
comp=Z,4µm,1.2s
HYB *ex* x 12 46 15.8
HYB Hyderabad 13.61 223 *e*P **Pn** **12 43 57.0 -3.7**
HYB *e*S **Sn** **12 46 28.0 -3.0**
HYB Hyderabad 13.61 223 *e*P **Pn** **12 43 57.0 -3.7**
HYB *e*S **Sn** **12 46 28.0 -3.0**
CM01 Chiang Mai Arr 13.63 131 *e*Pn **Pn** **12 43 57.4 -3.7**
NJS Nagarjunasagar 13.87 218 *e*Pn **Pn** **12 44 00.5 -3.7**
NJS IAmb IAmb 12 44 12.6
comp=Z,1µm,1.2s
NJS Sn Sn 12 46 27.8 -9.4
NJS IVMs_BB IVMs_BB 12 48 28.2
comp=Z,354µm,4.3s
CD2 Chengdu 13.96 73⇑ *i*P **Pn** **12 44 05.3 -0.1**
CD2 sP P 12 44 14.9 +1.8
CD2 S **Sn** **12 46 38.3 -1.1**
CD2 SS **S** **12 47 00.8 +0.3**
CD2 pmax pmax
comp=Z,730nm,1.9s
CD2 pmax pmax
comp=Z,78µm,7.6s
CD2 LR LR
comp=Z,597µm,8.5s
CD2 LR LR
comp=Z,461µm,11.4s
LAMP Lampang 14.02 129 P **Pn** **12 44 04.0 -2.3**
comp=Z,409nm,0.8s,comp=Z,4µm
SARP Sargodha 14.04 291 P **Pn** **12 44 02.7 -3.9**
CHCP Chirah Chowk 14.07 298⇑ P **Pn** **12 44 04.0 -2.9**
ADKI Addanki 14.11 214 *e*Pn **Pn** **12 44 03.8 -3.8**
ADKI IAmb IAmb 12 44 13.4
comp=Z,379nm,0.7s
ADKI Sn Sn 12 46 33.8 -9.4
ADKI IVMs_BB IVMs_BB 12 48 25.9
comp=Z,710µm,3.9s
KLRI Killari 14.38 230 *e*Pn **Pn** **12 44 06.6 -4.8**
KLRI IAmb IAmb 12 44 14.4
comp=Z,2µm,1.1s
KLRI Sn Sn 12 46 37.3 -13
KLRI IVMs_BB IVMs_BB 12 48 33.3
comp=Z,397µm,4.2s
SRLM Srisailam 14.46 218 *e*Pn **Pn** **12 44 08.8 -3.6**
SRLM IAmb IAmb 12 44 22.5
comp=Z,1µm,0.8s
SRLM Sn Sn 12 46 42.8 -9.1
SRLM IVMsBB 12 49 33.3
comp=Z,365µm,3.0s
SUKH Sukhothai 14.75 132 P **Pn** **12 44 13.0 -3.2**
comp=Z,730nm,0.8s,comp=Z,5µm
RCLA Racherla 14.96 217 *e*Pn **Pn** **12 44 14.7 -4.4**
RCLA IAmb IAmb 12 44 22.6
comp=Z,496nm,0.6s
RCLA Sn Sn 12 46 53.6 -10
RCLA IVMs_BB IVMs_BB 12 49 08.1
comp=Z,434µm,4.0s
THW Thamme Wali 15.02 293⇑ P **Pn** **12 44 16.0 -3.8**

GTA Gaotai 15.10 37⇑ P **Pn** **12 44 18.0 -2.9**
GTA pP P 12 44 23.1 -2.7
GTA sP pP 12 44 26.4 -7.3
GTA S **Sn** **12 47 00.4 -6.8**
GTA pmax pmax
comp=Z,12µm,9.9s
GTA LR LR
comp=Z,1207µm,18.1s
GTA LR LR
comp=Z,256µm,15.7s
CEP Cherat 15.19 297 P **Pn** **12 44 17.8 -4.3**
UTTA Uttaradit 15.19 129 P **Pn** **12 44 20.7 -1.4**
comp=Z,637nm,1.1s,comp=Z,5µm
UMPA Umpang Tak 15.21 137 P **Pn** **12 44 21.0 -1.4**
comp=Z,689nm,0.8s,comp=Z,5µm
DGPR DIGLIPUR 15.22 162 *e*P **Pn** **12 44 18.4 -4.2**
DGPR IAmb IAmb 12 44 27.7
comp=Z,10µm,0.6s
DGPR *ex* **Sn** **12 47 10.3 0.0**
JASL Jaisalmer 15.36 271 *e*P **Pn** **12 44 20.8 -3.4**
KSH Kashi 15.45 322⇓ *i*P **Pn** **12 44 22.8 -2.7**
KSH pP P 12 44 26.5 -3.3
KSH sP pP 12 44 30.9 -6.7
KSH PP **PnPn** **12 44 34.8 +0.8**
KSH S **Sn** **12 47 10.4 -5.4**
KSH pmax pmax
comp=Z,620nm,0.6s
KSH pmax pmax
comp=Z,3µm,3.2s
KSH LR LR
comp=Z,167µm,9.3s
KSH LR LR
comp=Z,161µm,9.0s
KSH LR LR
comp=Z,309µm,16.4s
LZH Lanzhou 15.66 54⇑ P **Pn** **12 44 26.0 -2.3**
LZH pP P 12 44 30.5 -1.6
LZH sP pP 12 44 34.6 -5.4
LZH PP **PnPn** **12 44 39.3 +2.5**
LZH S **Sn** **12 47 21.1 +0.2**
LZH sS S 12 47 28.4 -7.0
LZH SS **SnSn** **12 47 40.0 +6.1**
LZH pmax pmax
comp=Z,4µm,1.1s
LZH pmax pmax
comp=Z,38µm,5.2s
LZH LR LR
comp=Z,663µm,10.0s
LZH LR LR
comp=Z,344µm,9.2s
LZH LR LR
comp=Z,327µm,11.0s
SLVN Son La 15.70 111 *e*Pn **Pn** **12 44 28.1 -0.8**
comp=Z,1µm,1.1s
WMQ Urumqi 15.99 359 P **P** **12 44 35.8 +0.2**
WMQ pP pP 12 44 39.3 -4.2
WMQ sP sP 12 44 42.8 -4.5
WMQ S **Sn** **12 47 30.9 +2.2**
WMQ sS S 12 47 40.3 -1.6
WMQ PcP **PcP** **12 49 33.5 +4.9**
WMQ pmax pmax
comp=Z,720nm,1.3s
WMQ pmax pmax
comp=Z,7µm,6.3s
WMQ LR LR
comp=Z,112µm,21.9s
WMQ LR LR
comp=Z,106µm,10.5s
WMQ LR LR
comp=Z,135µm,27.5s
POO Poona 16.06 238⇑ *i*P **Pn** **12 44 29.2 -4.2**
POO *ex* x 12 44 32.3
SKHT Srikalahasti 16.06 211 *e*Pn **Pn** **12 44 29.6 -3.7**
SKHT IAmb IAmb 12 44 37.9
comp=Z,586nm,1.2s
SKHT Sn **Sn** **12 47 23.7 -6.8**
SKHT IVMs_BB IVMs_BB 12 49 26.7
comp=Z,202µm,4.2s
UTHA Uthaitani 16.07 137 P **Pn** **12 44 30.4 -3.1**
PBKT Sadao Pong 16.29 131 P **Pn** **12 44 35.7 -0.6**
comp=Z,3µm,1.1s,comp=Z,40µm
URV Uravakonda 16.31 221 *e*P **Pn** **12 44 30.9 -5.7**
MDRS Chennai 16.42 208 *i*P **Pn** **12 44 34.3 -3.7**
MDRS *ex* **Sn** **12 47 33.1 -6.2**
GYA Guiyang 16.54 90⇑ *i*P **Pn** **12 44 36.3 -3.2**
GYA PP **sP** **12 44 54.0 +0.5**
GYA S **Sn** **12 47 44.1 +1.8**
GYA SS **SnSn** **12 48 03.4 +8.0**
GYA PcP **PcP** **12 49 31.3 +1.5**
GYA pmax pmax
comp=Z,2µm,0.7s
GYA pmax pmax
comp=Z,24µm,7.5s
GYA LR LR
comp=Z,200µm,17.2s
GYA LR LR
comp=Z,270µm,15.2s
KOLH KOLHAPUR, MAHA 16.83 232 *i* x **Pn** **12 44 39.6 -3.6**
SRDT SRDT 16.84 140 P **Pn** **12 44 41.8 -1.4**
comp=Z,5µm,2.2s,comp=Z,101µm
SHLS Shalkode 16.86 338 *i*P **Pn** **12 44 39.8 -3.7**
comp=Z,2µm,0.8s
SHLS *i* S **Sn** **12 47 45.9 -4.0**
SHLS LRM MLR 12 52 54.8
comp=Z,62µm,11.8s
PDGK Podgornoye 17.00 338 P **P** **12 44 47.0 +0.1**
PDGK pmax pmax
comp=Z,5µm,1.1s
UZB Uzynbulak 17.00 337⇓ *i*P **Pn** **12 44 44.1 -1.2**
UZB *i* S **Sn** **12 47 53.9 +0.5**
UZB LRM MLR 12 52 41.5
comp=Z,45µm,12.7s
SATY Saty 17.15 335 *i*P **Pn** **12 44 46.5 -0.6**
comp=Z,3µm,1.2s
SATY *e*S **Sn** **12 47 57.5 +0.5**
SATY LR LR 12 51 21.8
comp=Z,52µm,12.6s
ZHN Zhinishke 17.23 335 *i*P **Pn** **12 44 47.5 -0.7**
ZHN LRM MLR 12 52 27.1
BHJ Bhuj 17.30 259⇑ *i*P **Pn** **12 44 44.9 -4.1**
BHJ IAmb IAmb 12 45 00.3
comp=Z,6µm,1.7s
BHJ *ex* x 12 47 41.6
KPKS Kokpek 17.40 336 *i*P **Pn** **12 44 49.3 -0.9**
comp=Z,3µm,0.5s
KPKS *i* S **Sn** **12 48 03.4 +0.4**
KPKS LR LR 12 51 13.0
comp=Z,87µm,13.5s
KGF KGF 17.44 214⇓ *i*x **Pn** **12 44 46.4 -4.4**
KGF ⇓ *i*P **Pn** **12 44 46.4 -4.4**
KBL Kabul 17.67 297 *e*P **Pn** **12 44 51.0 -2.7**
KBL pmax pmax
comp=Z,3µm,0.9s
KBL Kabul 17.67 297 *e*Pn **Pn** **12 44 50.8 -3.0**
comp=Z,3µm,0.9s
MDOK Medeo 17.77 332⇑ *i*P **Pn** **12 44 54.1 -0.7**
comp=Z,375nm,1.1s
MDOK *i* S **Sn** **12 48 12.7 +0.7**
MDOK LR LR 12 51 37.7
comp=Z,63µm,13.9s
AAA Alma-Ata 17.86 332 *e*P **P** **12 44 57.7 +1.3**
AAA *e*S **Sn** **12 48 04.7 -9.4**
AAA pmax pmax
comp=Z,15µm,1.7s
AAA smax smax
comp=E,121µm,6.5s
AAA MLR MLR
comp=Z,119µm,9.0s
GOA Goa 18.07 230 *ex* **Pn** **12 45 00.7 +2.1**
NAYO Nakonayok 18.18 135 P **Pn** **12 44 59.2 -0.6**
comp=Z,2µm,2.2s,comp=Z,61µm
TKM2 Tokmak 2 18.20 329 P **P** **12 45 01.5 +1.3**
TKM2 pmax pmax
comp=Z,3µm,1.5s
PHET Kaeng Krachan 18.29 142 P **Pn** **12 45 01.6 +0.3**
AAK Ala-Archa 18.50 327 P **Pn** **12 45 04.0 +0.3**
comp=Z,4.9nm,0.3s,baz=128,slow=10.0,SNR=150
AAK S **S** **12 48 32.6 -0.4**
comp=Z,4.5nm,0.3s,baz=342,slow=20,SNR=1.9
AAK LR LR 12 52 56.0
comp=Z,165µm,20.5s,baz=126,slow=39
AAK Ala-Archa 18.50 327 P **Pn** **12 45 06.6 +2.8**
AAK pmax pmax
comp=Z,1µm,1.0s
AAK Ala-Archa 18.50 327 *e*P **Pn** **12 45 05.4 +1.6**
comp=Z,9µm,1.8s
AAK S **S** **12 48 32.6 -0.4**
AAK Ala-Archa 18.50 327 P **Pn** **12 45 05.1 +1.3**
SNR=574
FRU Bishkek 18.59 327⇓ *e*P **Pn** **12 45 06.0 +1.3**
FRU *e*S **Sn** **12 48 30.0 -1.6**
FRU pmax pmax
comp=Z,2µm,1.8s
FRU pmax pmax
comp=E,20µm,7.0s
FRU MLR MLR
comp=Z,62µm,9.0s
ENH Enshi 18.81 77 *e*P **P** **12 45 06.4 -0.5**
comp=Z,4µm,0.8s
XAN Xi'an 18.86 66 P **P** **12 45 04.4 -3.0**
XAN pP Pn 12 45 09.3 +1.2
XAN PP **sP** **12 45 19.6 +0.5**
XAN S **Sn** **12 48 27.8 -11**
XAN pmax pmax
comp=Z,2µm,1.1s
XAN pmax pmax
comp=Z,102µm,8.3s
XAN LR LR
comp=Z,301µm,15.3s
XAN LR LR
comp=Z,120µm,16.8s
XAN LR LR
comp=Z,332µm,20.6s
PATY Pattaya 18.98 139 P **P** **12 45 08.5 -0.3**
comp=Z,748nm,1.0s,comp=Z,7µm
MNAS Manas 19.40 323 P **Pn** **12 45 14.1 -0.6**
MNAS pmax pmax
comp=Z,2µm,1.0s
MK01 Makanchi Array 19.48 348 *e*P **Pn** **12 45 15.2 -0.2**
MK31 Makanchi Array 19.51 348 *e*P **P** **12 45 14.8 +0.4**
MK31 pmax pmax
comp=Z,4µm,1.0s
MK31 Makanchi Array 19.51 348 *e*P **P** **12 45 15.0 +0.6**
MKAR Makanchi Array 19.51 348 *e*P **Pn** **12 45 15.1 -0.7**
MKAR pmax pmax
comp=Z,10µm,1.5s
MKAR Makanchi Array 19.51 348 *e*P **Pn** **12 45 15.1 -0.7**
comp=Z,33µm,1.5s
MAKZ Makanchi 19.58 347 P **P** **12 45 15.0 -0.2**
MAKZ pmax pmax
comp=Z,3µm,1.5s
MAKZ Makanchi 19.58 347 *e*P **P** **12 45 15.2 0.0**
comp=Z,5µm,1.3s
UBPT Khong Chiam 20.33 124 P **P** **12 45 22.9 -0.6**
comp=Z,7µm,1.0s
PCHI Peechi 20.46 215⇓ *i*x **P** **12 45 25.2 +0.4**
IUG Iuzhnay 20.56 319 *i* P **P** **12 45 25.2 -0.8**
comp=Z,4µm,1.0s
IUG *i* S **S** **12 49 14.7 +0.2**
IUG LR LR 12 53 03.1
comp=Z,25µm,8.9s
KK31 Karatay Array 20.90 322 *e*P **P** **12 45 30.2 +0.7**
KK31 pmax pmax
comp=Z,970nm,0.9s
KKAR Karatay Array 20.90 322 *e*P **P** **12 45 29.8 +0.2**
KKAR pmax pmax
comp=Z,8µm,0.9s
KKAR Karatay Array 20.90 322 *e*P **P** **12 45 29.8 +0.2**
comp=Z,8µm,0.9s
KKAR LR LR
comp=Z,20µm,21.0s
BRLS Borolday 21.23 320 *i* P **P** **12 45 31.9 -1.2**
comp=Z,92nm,0.7s
BRLS LR LR 12 53 44.3
comp=Z,11µm,10.6s
CMBY CAMPBELL BAY 21.39 164⇓ *i*P **P** **12 45 32.3 -2.6**
CMBY IAmb IAmb 12 45 43.8
comp=Z,10µm,1.5s
CMBY *ex* x 12 49 28.8
CMBY *e*S **S** **12 49 28.8 -2.2**
PALK Pallekele 21.61 200 P **P** **12 45 36.8 -0.6**
comp=Z,336nm,0.7s,baz=295,slow=2.9,SNR=50
PALK S **S** **12 49 35.2 -0.1**
comp=Z,179nm,0.6s,baz=294,slow=20,SNR=4.0
PALK LR LR 12 53 25.9
comp=Z,201µm,21.7s,baz=116,slow=35
PALK Pallekele 21.61 200 *i* P **P** **12 45 38.0 +0.7**
SNR=103
PALK Pallekele 21.61 200 *i* P **P** **12 45 38.0 +0.7**
SNR=103
PALK Pallekele 21.61 200 *i* P **P** **12 45 37.8 +0.5**
PALK Pallekele 21.61 200 *e*P **P** **12 45 36.7 -0.6**
comp=Z,2µm,1.4s
PALK S **S** **12 49 35.2 -0.1**
PALK Pallekele 21.61 200 P **P** **12 45 37.2 -0.1**
SNR=80
PALK Pallekele 21.61 200 P **P** **12 45 37.2 -0.1**
SNR=80
PALK P **P** **12 45 37.2 -0.1**
SNR=80
PALK P **P** **12 45 37.2 -0.1**
SNR=80
QIZ Qiongzhong 21.71 109 P **P** **12 45 38.0 -0.4**
QIZ pP **pP** **12 45 43.0 -3.4**
QIZ S **S** **12 49 31.6 -5.7**
QIZ sS Sn 12 49 41.9 -5.2
QIZ LR LR
comp=Z,325µm,21.1s
QIZ LR LR
comp=Z,206µm,19.3s
QIZ LR LR
comp=Z,164µm,18.0s
QIZ Qiongzhong 21.71 109 *e*P **P** **12 45 37.6 -0.7**
comp=Z,11µm,1.7s
TRD Trivandrum 21.91 211 *ex* **P** **12 45 41.8 +1.2**
TRD IAmb IAmb 12 45 47.1
comp=Z,6µm,1.9s
BTO Baotou 22.07 49 *e*P **P** **12 45 41.3 -0.9**
BTO S **S** **12 49 41.1 -2.9**
BTO LR LR
comp=Z,127µm,15.3s
BTO LR LR
comp=Z,22µm,8.2s
KRAB Krabi 22.10 150 P **P** **12 45 45.3 +2.7**
TIY Taiyuan 22.63 58 *e*P **P** **12 45 46.5 -1.7**
TIY pP **pP** **12 45 56.1 -0.1**
TIY PP **PnPn** **12 46 15.8 +3.6**
TIY S **S** **12 49 49.9 -4.4**
TIY SS **SnSn** **12 50 33.3 +8.5**
TIY pmax pmax
comp=Z,2µm,0.8s
TIY pmax pmax
comp=Z,29µm,9.1s
TIY LR LR
comp=Z,65µm,7.7s
TIY LR LR
comp=Z,745µm,24.1s
TRTT Trang 22.66 149 P **P** **12 45 48.3 -0.3**
WHN Wuhan 23.02 77 P **P** **12 45 51.0 -1.2**
WHN S **S** **12 49 51.1 -10**
WHN pmax pmax
comp=Z,32µm,2.5s
WHN pmax pmax
comp=Z,74µm,4.0s
WHN LR LR
comp=Z,271µm,7.8s
WHN LR LR
comp=Z,363µm,9.9s
WHN LR LR
comp=Z,458µm,9.6s
GZH Guangzhou 23.21 96⇑ *i*P **P** **12 45 53.3 -0.9**
GZH S **S** **12 50 01.3 -3.0**
GZH pmax pmax
comp=Z,82µm,5.6s
HHC Hu-ho-hao-te 23.22 50 *e*P **P** **12 45 54.1 -0.2**
HHC S **S** **12 50 05.0 +0.6**
HHC sS pS 12 50 10.3 -2.9
HHC pmax pmax
comp=Z,510nm,1.6s
HHC pmax pmax
comp=Z,31µm,7.5s
HHC LR LR
comp=Z,241µm,12.9s
HHC LR LR
comp=Z,205µm,21.5s
SEM Semipalatinsk 23.36 347 *i*P **P** **12 45 54.7 -1.1**
comp=Z,2µm,0.8s
SEM *i* S **S** **12 50 06.7 -0.1**
SEM LR LR 12 54 54.1
comp=Z,45µm,15.9s
MCO Taipa Grande 23.69 98 P **P** **12 46 00.0 +1.0**

KURBB **Kurchatov Arra** 23.94 345 P **P** 12 46 01.3 +0.4
comp=Z,525nm,0.8s,baz=167,slow=8.4,SNR=415
KURBB S **S** 12 50 15.9 +0.4
comp=Z,164nm,1.1s,baz=159,slow=16,SNR=4.9
KURBB P3KPbc 13 19 17.1
comp=Z,3.3nm,0.9s,baz=333,slow=4.5,SNR=2.4
LHMI Lhok Sumawe 23.96 158 P **P** 12 46 02.5 +1.1
comp=Z,8μm,1.6s,comp=Z,227μmcomp=Z,318μm
LHMI Lhok Sumawe 23.96 158 *e*P **P** 12 46 00.8 -0.7
comp=Z,7μm,0.9s
KURK Kurchatov 24.00 345 *de*P **P** 12 46 01.5 -0.1
KURK pmax pmax
comp=Z,3μm,1.0s
KURK MLR MLR
comp=Z,373μm,20.0s
KURK Kurchatov 24.00 345 *e*P **P** 12 46 01.6 +0.1
comp=Z,8μm,1.3s
KURK S **S** 12 50 15.9 -0.7
KURK *e* 13 19 17.1
KURK Kurchatov 24.00 345 P **P** 12 46 01.4 -0.2
SNR=633
KURK Kurchatov 24.00 345 P **P** 12 46 01.4 -0.2
SNR=633
KURK P **P** 12 46 01.4 -0.2
SNR=633
KURK P **P** 12 46 01.4 -0.2
SNR=633
HKC Hong Kong Obse 24.18 97 ⇑P **P** 12 46 05.0 +1.5
I34MN SONGINO INFRAS 24.52 31 P **P** 12 46 12.4 +5.9
baz=216,slow=12,SNR=1.3
I34MN *i* 15 11 50.0
baz=220,slow=330,SNR=0.3
SONM Songino Array 24.53 31 P **P** 12 46 07.3 +0.6
comp=Z,252nm,0.7s,baz=215,slow=10,SNR=173
SONM S **S** 12 50 30.4 +4.9
comp=Z,60nm,1.1s,baz=195,slow=16,SNR=2.3
SONM ScP **ScP** 12 53 20.0 -1.0
comp=Z,34nm,1.1s,baz=220,slow=4.0,SNR=2.6
SONA1 Songino Array 24.55 31 *e*P **P** 12 46 07.5 +0.7
MLSI Meulaboh, Aceh 24.69 160 P **P** 12 46 06.3 -1.9
comp=Z,1μm,0.9s,comp=Z,35μm
DLV T Lat 24.73 126 *e*P **P** 12 46 08.6 -0.2
comp=Z,3μm,0.8s
DLV LR LR
comp=Z,279μm,20.0s
ULN Ulaanbaatar 24.86 31 *de*P **P** 12 46 09.7 +0.1
ULN pmax pmax
comp=Z,847nm,1.7s
ULN MLR MLR
comp=Z,118μm,18.0s
ULN Ulaanbaatar 24.86 31 *e*P **P** 12 46 10.0 +0.4
comp=Z,8μm,1.7s
ULN LR LR
comp=Z,143μm,20.0s
ULN Ulaanbaatar 24.86 31 P **P** 12 46 10.1 +0.5
SNR=1241
ULN Ulaanbaatar 24.86 31 P **P** 12 46 10.1 +0.5
SNR=1241
ULN P **P** 12 46 10.1 +0.5
SNR=1241
ULN P **P** 12 46 10.1 +0.5
SNR=1241
BRZS Berezniki 25.11 336 *i* P **P** 12 46 10.9 -0.8
comp=Z,317nm,0.9s
BRZS *i* S **S** 12 50 34.7 +0.2
BRZS LR LR 12 55 58.9
comp=Z,2μm,12.1s
ZAK Zakamensk 25.32 23 *e*P **P** 12 46 15.4 +1.7
ZAK pmax pmax
comp=Z,376nm,1.1s
KULM Kulim 25.35 150 *e*P **P** 12 46 13.6 -0.5
comp=Z,3μm,1.2s
KULM Kulim 25.35 150 ⇑P **P** 12 46 15.2 +1.1
MOY Mondy 25.72 19 *e*P **P** 12 46 19.4 +2.1
MOY pmax pmax
comp=Z,745nm,2.5s
KCSI Kotacane, Aceh 25.83 157 P **P** 12 46 16.1 -2.4
comp=Z,716nm,0.8s,comp=Z,50μmcomp=Z,168μm
TPTI 25.88 159 P **P** 12 46 16.8 -2.2
comp=Z,1μm,1.2s,comp=Z,30μm
TIA Tai'an 25.89 64 ⇑P **P** 12 46 18.8 -0.1
TIA S **S** 12 50 48.3 +1.3
TIA pmax pmax
comp=Z,510nm,1.4s
TIA pmax pmax
comp=Z,41μm,8.0s
TIA LR LR
comp=Z,234μm,16.0s
TIA LR LR
comp=Z,307μm,17.0s
TSI Tuntungan 26.13 156 P **P** 12 46 21.7 +0.5
comp=Z,1μm,0.7s,comp=Z,71μmcomp=Z,322μm
BJT Baijiatuan 26.13 55 *e*P **P** 12 46 21.9 +0.8
BJT pmax pmax
comp=Z,4μm,1.5s
BJT MLR MLR
comp=Z,124μm,18.0s
BJT Baijiatuan 26.13 55 *e*P **P** 12 46 21.9 +0.8
comp=Z,4μm,1.5s
BJT LR LR
comp=Z,124μm,18.0s
BJI Beijing 26.15 55 P **P** 12 46 21.8 +0.6
BJI pP **pP** 12 46 25.8 -3.9
BJI sP **sP** 12 46 27.4 -6.0
BJI S **S** 12 50 51.8 +0.8
BJI LR LR
comp=Z,610μm,25.0s
ZAA0 Zalesovo Array 26.23 356 *e*P **P** 12 46 22.4 +0.6
ZALV Zalesovo Beam 26.23 356 P **P** 12 46 22.1 +0.3
comp=Z,85nm,0.4s,baz=182,slow=9.1,SNR=298
ZALV S **S** 12 50 51.5 -0.6
comp=Z,132nm,1.1s,baz=190,slow=13,SNR=2.9
ZALV ScS **ScS** 12 57 10.2 -5.1
comp=Z,49nm,1.0s,baz=187,slow=5.8,SNR=5.4
ZALV LR LR 12 57 45.8
comp=Z,72μm,18.1s,baz=171,slow=39
ZALV P3KPbc 13 19 10.9
comp=Z,2.6nm,0.6s,baz=225,slow=1.8,SNR=4.0
ZALV Zalesovo Beam 26.23 356 P **P** 12 46 22.1 +0.3
ZALV S **S** 12 50 51.5 -0.6
ZALV 12 57 10.2
ZALV pmax pmax
comp=Z,86nm,0.4s
ZALV smax smax
comp=N,132nm,1.1s
ZALV MLR MLR
comp=Z,72μm,18.1s
IPM Ipoh 26.24 150 *e*P **P** 12 46 20.9 -1.3
comp=Z,3μm,1.5s
IPM Ipoh 26.24 150 ⇓P **P** 12 46 23.0 +0.7
KTGM Kuala Trenggan 26.51 145 ⇓P **P** 12 46 24.8 +0.2
TLY Talaya 26.54 22 *e*P **P** 12 46 26.5 +1.8
TLY *e*S **S** 12 50 56.0 -1.1
TLY pmax pmax
comp=Z,400nm,1.6s
TLY MLR MLR
comp=Z,92μm,18.0s
TLY Talaya 26.54 22 *e*P **P** 12 46 26.4 +1.7
comp=Z,1μm,1.7s
TLY LR LR
comp=Z,123μm,19.0s
TLY Talaya 26.54 22 P **P** 12 46 27.4 +2.7
SNR=50
ASHT Ashkhabad 26.87 300 P **P** 12 46 34.8 +7.1
ASHT pmax pmax
comp=Z,4μm,1.3s
NJ2 Nanjing 26.89 73 *e*P **P** 12 46 28.8 +0.8
NJ2 pP **pP** 12 46 35.3 -1.3
NJ2 sP **sP** 12 46 39.1 -1.1
NJ2 S **S** 12 51 00.1 -2.9
NJ2 sS **sS** 12 51 17.5 +0.3
NJ2 pmax pmax
comp=Z,500nm,1.0s
NJ2 pmax pmax
comp=Z,23μm,5.4s
NJ2 LR LR
comp=Z,183μm,15.7s
NJ2 LR LR
comp=Z,240μm,11.7s
PSI Prapat 26.91 156 P **P** 12 46 27.4 -1.0
comp=Z,88nm,0.7s,baz=321,slow=10,SNR=27
PSI S **S** 12 51 10.6 +7.0
comp=Z,36nm,0.9s,baz=13,slow=18,SNR=2.1
PSI LR LR 12 59 17.5
comp=Z,131μm,21.6s,baz=332,slow=41
PSI Prapat 26.91 156 *e*P **P** 12 46 27.4 -1.0
PSI pmax pmax
comp=Z,5μm,1.8s
PSI Prapat 26.91 156 *e*P **P** 12 46 27.4 -1.0
comp=Z,5μm,1.8s
PSI S **S** 12 51 10.6 +7.0
WSAR Wadi Sarin 26.99 267 P **P** 12 46 29.6 +0.5
comp=Z,63nm,0.9s,baz=104,slow=11,SNR=21
WSAR S **S** 12 51 13.7 +8.9
comp=Z,56nm,1.0s,baz=116,slow=13,SNR=1.5
WSAR LR LR 12 58 51.2
comp=Z,60μm,19.7s,baz=100,slow=40
GEYT Alibeck 27.07 300 P **P** 12 46 30.5 +0.9
comp=Z,176nm,1.1s,baz=111,slow=8.1,SNR=67
GEYT S **S** 12 51 07.5 +1.6
comp=Z,43nm,0.8s,baz=90,slow=10,SNR=1.7
GEYT LR LR 12 59 23.5
comp=Z,100μm,18.6s,baz=100,slow=41
IRK Irkutsk 27.23 22 *e*P **P** 12 46 32.7 +1.9
IRK *e* 12 46 52.9
IRK pmax pmax
comp=Z,836nm,3.0s
NVS Novosibirsk 27.25 354 *e*P **P** 12 46 31.9 +1.0
NVS *e*S **S** 12 51 08.4 +0.3
NVS pmax pmax
comp=Z,2μm,1.2s
NVS pmax pmax
comp=N,1μm,1.0s
NVS pmax pmax
comp=E,76nm,0.4s
NVS smax smax
comp=N,209nm,1.1s
NVS smax smax
comp=E,2μm,2.0s
BIDO Bidbid 27.36 268 P **P** 12 46 32.7 +0.4
SNR=35
QZH Quanzhou 27.39 89 ⇑*i*P **P** 12 46 32.3 -0.2
QZH S **S** 12 51 10.4 -0.5
QZH SS **SnSn** 12 52 30.0 +8.7
QZH pmax pmax
comp=E,790nm,0.8s
QZH pmax pmax
comp=E,44μm,8.3s
QZH LR LR
comp=E,654μm,13.0s
QZH LR LR
comp=E,135μm,8.8s
QZH LR LR
comp=E,287μm,13.7s
FRIM Kepong 27.61 150 ⇑P **P** 12 46 35.4 +0.9
BVAR Borovoye Array 28.44 337 P **P** 12 46 41.5 -0.1
comp=E,43nm,0.5s,baz=134,slow=8.5,SNR=88
BVAR LR LR 13 00 08.0
comp=E,29μm,19.4s,baz=148,slow=41
BVAR P3KPbc 13 18 57.9
comp=E,2.5nm,0.6s,baz=353,slow=3.8,SNR=5.4
BANOM Banah 28.44 274 P **P** 12 46 41.8 -0.2
BANOM Banah 28.44 274 P **P** 12 46 41.8 -0.2
BRVK Borovoye 28.50 337 *de*P **P** 12 46 42.5 +0.3
BRVK pmax pmax
comp=Z,323nm,1.0s
BRVK MLR MLR
comp=Z,221μm,20.0s
BRVK Borovoye 28.50 337 *e*P **P** 12 46 42.3 +0.2
comp=Z,717nm,1.0s
BRVK Borovoye 28.50 337 P **P** 12 46 42.4 +0.3
SNR=104
BRVK Borovoye 28.50 337 P **P** 12 46 42.4 +0.3
SNR=104
BRVK P **P** 12 46 42.4 +0.3
SNR=104
BRVK P **P** 12 46 42.4 +0.3
SNR=104
UOSS Minazif 28.72 272 *e*P **P** 12 46 42.6 -1.9
comp=Z,228nm,1.0s
UOSS LR LR
comp=Z,33μm,19.0s
HATD Hatta, Dubai 28.81 271 P **P** 12 46 45.2 -0.1
HATD Hatta, Dubai 28.81 271 P **P** 12 46 45.2 -0.1
SSE Sheshan 28.89 75 P **P** 12 46 46.8 +0.9
SSE pP **pP** 12 46 52.9 -1.6
SSE S **S** 12 51 38.3 +3.8
SSE sS **sS** 12 51 48.8 +0.1
SSE pmax pmax
comp=Z,120nm,0.7s
SSE pmax pmax
comp=Z,12μm,9.9s
SSE LR LR
comp=Z,59μm,15.8s
SSE LR LR
comp=Z,109μm,12.5s
ASHO Ashiyiah 28.91 271 *i* P **P** 12 46 46.0 -0.1
SNR=43
ASHO Ashiyiah 28.91 271 *i* P **P** 12 46 46.0 -0.1
SNR=43
ASHO Ashiyiah 28.91 271 P **P** 12 46 45.0 -1.2
SNR=24
ASHO Ashiyiah 28.91 271 P **P** 12 46 45.0 -1.2
SNR=24
ASHO P **P** 12 46 45.0 -1.2
SNR=24
MNSI Mandailing Nat 29.00 156 P **P** 12 46 44.9 -2.0
comp=Z,2μm,0.9s,comp=Z,33μmcomp=Z,105μm
NAZ Nazwa, Dubai 29.19 272 *i* P **P** 12 46 49.2 +0.6
SNR=15
NAZ Nazwa, Dubai 29.19 272 *i* P **P** 12 46 49.2 +0.6
SNR=15
FAQ Al Faqa, Dubai 29.31 272 *i* P **P** 12 46 50.2 +0.5
SNR=10.0
FAQ Al Faqa, Dubai 29.31 272 *i* P **P** 12 46 50.2 +0.5
SNR=10.0
KGM Kluang 29.46 148 ⇓P **P** 12 46 52.0 +0.9
TPUB Ta-pu 29.59 91 *e*P **P** 12 46 52.7 +0.5
comp=Z,670nm,1.1s
TPUB LR LR
comp=Z,68μm,20.0s
SSLB Suanglung 29.75 90 *e*P **P** 12 46 53.9 +0.2
comp=Z,930nm,1.2s
SSLB LR LR
comp=Z,182μm,19.0s
MYKOM Kota Tinggi 29.91 147 *e*P **P** 12 46 54.5 -0.6
comp=Z,2μm,1.6s
MYKOM LR LR
comp=Z,75μm,19.0s
MYKOM Kota Tinggi 29.91 147 ⇓P **P** 12 46 55.8 +0.7
YHNB Yeheng 29.91 88 *e*P **P** 12 46 55.9 +0.8
comp=Z,862nm,0.9s
YHNB LR LR
comp=Z,146μm,20.0s
DL2 Dalian 29.92 60 ⇑*i*P **P** 12 46 56.1 +1.2
DL2 S **S** 12 51 51.5 +1.1
DL2 pmax pmax
comp=Z,700nm,0.8s
DL2 pmax pmax
comp=Z,12μm,8.3s
DL2 LR LR
comp=Z,284μm,20.1s
DL2 LR LR
comp=Z,184μm,19.1s
DL2 LR LR
comp=Z,428μm,19.5s
TATO Taipei 29.94 88 *e*P **P** 12 46 55.0 -0.2
comp=Z,672nm,0.9s
TATO LR LR
comp=Z,131μm,21.0s
BKNI Bangkinang 29.99 154 P **P** 12 46 55.4 -0.3
comp=Z,2μm,0.9s,comp=Z,31μmcomp=Z,113μm
BKNI Bangkinang 29.99 154 *e*P **P** 12 46 55.2 -0.5
comp=Z,2μm,0.9s
TWG Pinlang 30.11 92 *e*P **P** 12 46 57.2 +0.4
comp=Z,11μm,1.8s
TWG LR LR
comp=Z,342μm,19.0s
YULB Yu-li 30.16 91 *e*P **P** 12 46 58.2 +1.0
comp=Z,2μm,1.3s
YULB LR LR
comp=Z,108μm,19.0s
NACB Ninganchiao 30.22 89 *e*P **P** 12 46 59.0 +1.2
comp=Z,2μm,1.0s
NACB LR LR
comp=Z,118μm,18.0s
AB31 Akbulak array 30.46 322 P **P** 12 47 01.9 +2.3
AB31 pmax pmax
comp=Z,196nm,0.6s
ABKAR Akbulak array 30.46 322 *e*P **P** 12 47 00.1 +0.5
comp=Z,3μm,0.6s
ABKAR LR LR
comp=Z,35μm,20.0s
PPI Padang Panjang 30.46 155 P **P** 12 46 58.3 -1.5
comp=Z,933nm,1.0s,comp=Z,20μmcomp=Z,120μm
CIT Chita 30.76 31 *e*P **P** 12 47 05.9 +3.6
CIT *e* 12 47 58.5
CIT pmax pmax
comp=Z,208nm,1.6s
YOJ Yonaguni jima 31.41 88 *e*P P 12 47 14.1 +5.9
YOJ pmax pmax
comp=Z,940nm,1.2s
YOJ Yonaguni jima 31.41 88 *e*P **P** 12 47 08.5 +0.3
comp=Z,945nm,1.2s
YOJ LR LR
comp=Z,93μm,18.0s
SZP Santa 31.42 102 *e*P **P** 12 47 10.0 +1.7
comp=Z,2μm,1.0s
BOLP Bolinao 31.45 104 *e*P **P** 12 47 09.9 +1.3
ABRA Dolores 31.60 102 *e*P **P** 12 47 11.3 +1.3
SCZP Santa Cruz 31.73 105 *e*P **P** 12 47 11.7 +0.6
SNY Shenyang 32.03 55 P **P** 12 47 13.3 -0.2
SNY S **S** 12 52 23.3 -0.1
SNY pmax pmax
comp=Z,140nm,1.3s
SNY pmax pmax
comp=Z,16μm,7.7s
SNY LR LR
comp=Z,406μm,18.6s
SNY LR LR
comp=Z,119μm,19.0s
SNY LR LR
comp=Z,390μm,23.7s
AKTO Aktyubinsk 32.15 323 P **P** 12 47 14.2 -0.3
comp=Z,52nm,0.7s,baz=125,slow=8.2,SNR=85
AKTO S **S** 12 52 19.1 -6.1
comp=Z,48nm,0.9s,baz=69,slow=17,SNR=1.7
AKTO LR LR 13 00 04.8
comp=Z,74μm,19.7s,baz=134,slow=36
HIA Hailar 32.34 40 *e*P **P** 12 47 17.0 +0.8
HIA pmax pmax
comp=Z,444nm,0.9s
HIA MLR MLR
comp=Z,88μm,19.0s
HIA Hailar 32.34 40 *e*P **P** 12 47 17.0 +0.8
comp=Z,444nm,0.9s
HIA LR LR
comp=Z,88μm,19.0s
SGCP Mt. Cagua 32.52 100 *e*P **P** 12 47 18.0 0.0
CVP Callao Caves 32.54 101 ⇑*e*P **P** 12 47 20.5 +2.3
PCPH Palayan 32.84 105 ⇑*e*P **P** 12 47 23.0 +2.2
JMBI JAMBI 32.84 151 P **P** 12 47 23.0 +2.2
comp=Z,4μm,1.2s,comp=Z,52μm
CAUP Cauayan 32.86 102 *e*P **P** 12 47 21.6 +0.6
LUBP Lubang 32.99 109 *e*P **P** 12 47 19.8 -2.3
TGY Tagaytay City 33.39 107 P **P** 12 47 24.5 -1.2
comp=Z,238nm,0.4s,baz=286,slow=14,SNR=2.2
TGY S **S** 12 52 40.1 -5.1
comp=Z,95nm,0.3s,baz=300,slow=20,SNR=1.9
INCN Inchon 33.61 63 *e*P **P** 12 47 28.5 +1.1
comp=Z,2μm,1.4s
INCN LR LR
comp=Z,126μm,20.0s
ENPP El Nido 33.65 113 *e*P **P** 12 47 28.6 +0.7
KSM Kuching 33.69 137 *e*P **P** 12 47 28.6 +0.4
comp=Z,919nm,1.0s
KSM LR LR
comp=Z,90μm,21.0s
KSM Kuching 33.69 137 ⇓P **P** 12 47 29.0 +0.7
PGP Puerto Galera 33.70 108 ⇓*e*P **P** 12 47 27.2 -1.2
BATP Bataraza 33.75 118 *e*P **P** 12 47 29.1 +0.3
BUSP Coron 33.85 111 *e*P **P** 12 47 30.1 +0.5
CN2 Changchun 33.87 52 ⇑P **P** 12 47 29.8 +0.2
CN2 *es*P pP 12 47 38.6 +0.4
CN2 *e*S **S** 12 52 51.8 -0.2
CN2 LR LR
comp=Z,61μm,15.0s
CN2 LR LR
comp=Z,124μm,15.0s
CN2 LR LR
comp=Z,157μm,17.0s
LQP Lukban 33.90 107 ⇑*e*P **P** 12 47 32.3 +2.0
PPR Puerto Princes 33.90 116 ⇑*e*P **P** 12 47 32.1 +2.0
SBUM Sibu 34.13 133 *e*P **P** 12 47 32.2 +0.1
comp=Z,1μm,1.1s
SBUM LR LR
comp=Z,111μm,18.0s
SBUM Sibu 34.13 133 ⇑P **P** 12 47 33.1 +1.0
BTM Bintulu 34.13 131 ⇑P **P** 12 47 34.0 +1.9
KDM Kudat 34.20 122 ⇓P **P** 12 47 33.9 +1.2
KSI Kapahiang 34.23 154 P **P** 12 47 30.8 -2.2
comp=Z,2μm,0.8s,comp=Z,20μm
KSI Kapahiang 34.23 154 P **P** 12 47 31.4 -1.6
KKM Kota Kinabalu 34.31 124 *e*P **P** 12 47 34.0 +0.2
comp=Z,2μm,1.1s
KKM LR LR
comp=Z,179μm,20.0s
KKM Kota Kinabalu 34.31 124 ⇑P **P** 12 47 35.1 +1.3
BOAC Boac 34.47 108 *e*P **P** 12 47 35.0 0.0
PMBI Palembang 34.49 150 P **P** 12 47 38.0 +2.8
comp=Z,3μm,0.9s,comp=Z,47μm
KS15 Wonju Array Si 34.60 64 *e*P **P** 12 47 35.4 -0.6
KSAR Wonju Array Be 34.60 64 P **P** 12 47 34.4 -1.6
KSAR S **S** 12 53 02.8 -0.6
KSAR Wonju Array Be 34.60 64 P **P** 12 47 34.4 -1.6
KSAR S **S** 12 53 02.8 -0.6
KSAR ScP **ScP** 12 53 52.5 -0.8
KS01 Wonju Array Si 34.61 64 *e*P **P** 12 47 35.7 -0.4
KSRS Korea Array 34.63 64 P **P** 12 47 34.4 -1.9
comp=Z,78nm,0.9s,baz=259,slow=8.4,SNR=84
KSRS S **S** 12 53 02.8 -1.1
comp=Z,5.7nm,1.0s,baz=263,slow=2.7,SNR=3.1
KSRS ScP **ScP** 12 53 52.5 -0.9
comp=Z,56nm,1.0s,baz=249,slow=4.0,SNR=8.0
KSRS LR LR 13 01 41.4
comp=Z,96μm,21.5s,baz=265,slow=36
GQP Guinayangan 34.77 106 ⇑*e*P **P** 12 47 38.3 +0.7
SVE Sverdlovsk 34.97 334 *d i*P **P** 12 47 40.6 +1.7
SVE *e*S **S** 12 53 10.1 +1.5
SVE *e* 12 55 22.1
SVE pmax pmax
comp=Z,2μm,1.4s
SVE MLR MLR
comp=N,51μm,15.0s
SVE MLR MLR
comp=E,74μm,18.0s
SVE MLR MLR
comp=Z,105μm,16.0s
MNAI Manna 35.02 154 P **P** 12 47 41.4 +1.7
comp=Z,842nm,0.7s,comp=Z,16μm
MNAI Manna 35.02 154 *e*P **P** 12 47 38.8 -1.0
comp=Z,1μm,1.0s
MNAI LR LR
comp=Z,59μm,19.0s
BOD Bodaibo 35.06 24 *e*P **P** 12 47 39.6 0.0
BOD pmax pmax
comp=Z,1μm,1.5s
OTRP Odiongan 35.17 109 *e*P **P** 12 47 40.2 -1.0
AUQP San Andres 35.24 107 *e*P **P** 12 47 45.3 +3.6
SDKM Sandakan 35.31 123 ⇑P **P** 12 47 43.1 +0.7
STKI Sintang 35.51 137 P **P** 12 47 45.0 +1.0
comp=Z,2μm,1.2s,comp=Z,23μmcomp=Z,46μm
ARU Arti 35.54 332 P **P** 12 47 43.7 -0.1
comp=Z,176nm,0.6s,baz=137,slow=4.5,SNR=96
ARU Arti 35.54 332 *d i*P **P** 12 47 43.5 -0.3
ARU 12 49 02.6
ARU 12 50 15.8
ARU S **S** 12 53 18.8 +1.4
ARU SS **SnSn** 12 55 36.3 -2.4
ARU pmax pmax
comp=Z,141nm,0.6s
ARU pmax pmax
comp=Z,2μm,8.5s
ARU MLR MLR
comp=Z,91μm,20.0s
ARU Arti 35.54 332 *e*P **P** 12 47 43.6 -0.1
comp=Z,2μm,1.5s
ARU LR LR
comp=Z,107μm,21.0s
JOW Kunigami 35.55 82 P **P** 12 47 43.8 -0.5
comp=Z,282nm,0.6s,baz=240,slow=1.8,SNR=6.4
JOW Kunigami 35.55 82 *e*P **P** 12 47 43.6 -0.7
comp=Z,471nm,0.9s
SEKA Sheki 35.97 303 P **P** 12 47 46.5 -1.3
MNGR Mingechevir, A 35.99 302 P **P** 12 47 46.7 -1.2
KLSI 36.05 151 P **P** 12 47 47.3 -1.3
comp=Z,397nm,0.9s,comp=Z,10μm
MAK Makhachkala 36.05 306 *e*P **P** 12 47 49.0 +0.6
MAK *e* 12 49 06.8

MAK ePPP PPP 12 49 24.6
MAK eS **S** **12 53 25.2 -0.4**
MAK eSSS SSS 12 56 17.9
MAK MLR MLR
comp=Z,693µm,16.0s
RCP Roxas 36.19 110⇑ eP **P** **12 47 51.6 +1.7**
PVCP Virac 36.37 105 eP **P** **12 47 51.8 +0.4**
ZKTA Zakatala 36.47 303 P **P** **12 47 50.7 -1.3**
GANJ Ganja 36.55 302 P **P** **12 47 51.4 -1.4**
MYLDM Lahad Datu 36.58 122 eP **P** **12 47 52.8 -0.3**
comp=Z,3µm,1.1s
MYLDM LR LR
comp=Z,153µm,20.0s
MYLDM Lahad Datu 36.58 122⇑ P **P** **12 47 54.8 +1.6**
TSM Tawau 36.71 124⇓ P **P** **12 47 54.5 +0.2**
MDJ Mudanjiang 36.96 52 P **P** **12 47 57.0 +0.9**
MDJ pP pP 12 48 00.1 -4.7
MDJ sP sP 12 48 01.5 -6.9
MDJ PP **PP** **12 49 20.5 0.0**
MDJ PcP **PcP** **12 50 20.6 +3.7**
MDJ S **S** **12 53 39.6 +0.2**
MDJ ScP **ScP** **12 54 03.8 +2.0**
MDJ PcS **PcS** **12 54 06.5 +1.6**
MDJ pmax pmax
comp=Z,200nm,0.7s
MDJ pmax pmax
comp=Z,7µm,8.1s
MDJ LR LR
comp=Z,264µm,22.9s
MDJ LR LR
comp=Z,74µm,22.9s
MDJ LR LR
comp=Z,163µm,24.6s
MDJ Mudanjiang 36.96 52 eP **P** **12 47 56.6 +0.5**
comp=Z,286nm,0.9s
MDJ LR LR
comp=Z,119µm,20.0s
JNU Nakatsue 37.02 71 P **P** **12 47 56.2 -0.6**
comp=Z,180nm,0.7s,baz=272,slow=5.2,SNR=22
JNU Nakatsue 37.02 71 eP **P** **12 47 57.4 +0.6**
comp=Z,580nm,1.1s
JNU LR LR
comp=Z,1µm,18.0s
NAX Nakhchivan 37.03 299 P **P** **12 47 55.4 -1.5**
GROC Groznyy 37.33 306 eP **P** **12 48 01.1 +1.8**
GROC eS **S** **12 53 46.9 +1.8**
GROC pmax pmax
comp=Z,854nm,1.3s
DGRG David-gareji 37.37 303 P **P** **12 48 02.0 +2.3**
DGRG David-gareji 37.37 303 P **P** **12 48 02.0 +2.3**
MSHR Mys Shultsa 37.69 55c eP **P** **12 48 03.9 +1.6**
GNI Garni 37.70 301 P **P** **12 48 04.9 +2.2**
comp=Z,48nm,1.1s,baz=128,slow=1.9,SNR=27
GNI LR LR 13 07 04.7
comp=Z,33µm,18.7s,baz=112,slow=42
GNI Garni 37.70 301 *i* P **P** **12 48 04.2 +1.6**
SNR=152
GNI Garni 37.70 301 *i* P **P** **12 48 04.2 +1.6**
SNR=152
GNI Garni 37.70 301c *i* P **P** **12 48 04.6 +2.0**
GNI pmax pmax
comp=Z,852nm,1.6s
GNI MLR MLR
comp=Z,94µm,18.0s
GNI Garni 37.70 301 eP **P** **12 48 04.7 +2.0**
comp=Z,3µm,1.4s
GNI Garni 37.70 301 P **P** **12 48 05.3 +2.6**
SNR=163
SNPH Sibulan 37.79 112 eP **P** **12 48 04.7 +1.1**
SEAG Tbilisi Sea 37.83 303 P **P** **12 48 07.1 +3.5**
PBKI Pangkalan Bun 37.85 139 P **P** **12 48 07.8 +3.9**
comp=Z,1µm,1.3s,comp=Z,25µm
TBLG Delisi 37.88 303 P **P** **12 48 05.5 +1.5**
TBLG Delisi 37.88 303 P **P** **12 48 05.5 +1.5**
DUS Dusheti 37.95 304 P P 12 48 14.1 +9.5
DUS Dusheti 37.95 304 P P 12 48 14.1 +9.4
DGAR Diego Garcia 38.16 206 eP **P** **12 48 08.1 +1.6**
DGAR Diego Garcia 38.16 206 PFAKE 12 48 20.0 +14
DGAR LR LR
comp=Z,46µm,19.0s
GUDG Gudauri 38.17 304 P **P** **12 48 09.9 +3.2**
CGJI Cibinong 38.19 151 P **P** **12 48 04.3 -2.4**
comp=Z,371nm,0.8s,comp=Z,8µm
PLP Palo 38.27 108⇓ eP **P** **12 48 07.3 -0.2**
VLA Vladivostok 38.31 55c *i* P **P** **12 48 07.5 0.0**
VLA pmax pmax
comp=Z,2µm,0.9s
VLA MLR MLR
comp=Z,198µm,19.0s
DCPH Dipolog City 38.31 113⇑ eP **P** **12 48 08.7 +0.9**
SOKR Solikamsk 38.35 335c *i* P **P** **12 48 07.2 -0.4**
SOKR PPP PPP 12 49 42.5
SOKR S **S** **12 53 56.8 -3.2**
SOKR pmax pmax
comp=Z,630nm,1.9s
SOKR MLR MLR
comp=Z,94µm,23.0s
HAKT HAKKARI 38.35 296⇑ *i* P **P** **12 48 09.3 +1.0**
MTKI Muara Teweh, K 38.43 134 P **P** **12 48 10.4 +1.6**
comp=Z,2µm,1.0s,comp=Z,25µmcomp=Z,54µm
DYDN Diyadin 38.46 299⇑ *i* P **P** **12 48 11.1 +2.0**
USRK Ussuriysk Ar. 38.56 53 P **P** **12 48 09.2 -0.4**
comp=Z,33nm,0.5s,baz=260,slow=7.6,SNR=47
USRK S **S** **12 54 00.8 -2.9**
comp=Z,6.7nm,0.7s,baz=249,slow=12,SNR=2.7
USRK LR LR 13 05 39.7
comp=Z,106µm,20.6s,baz=248,slow=39
EAK Akyaka 38.61 301⇑ *i* P **P** **12 48 12.3 +1.9**
ZEI Tsey 38.64 305 eP **P** **12 48 09.7 -0.9**
ZEI eS **S** **12 54 05.4 +0.1**
ZEI pmax pmax
comp=Z,1µm,0.7s
ZEI pmax pmax
comp=N,852nm,0.8s
ZEI pmax pmax
comp=E,2µm,0.9s
BGD Bogdanovka 38.67 302 P **P** **12 48 13.7 +2.8**
PAGZ Pagadian 38.75 114 eP **P** **12 48 12.2 +0.6**
DIGO Kars 38.76 301⇑ *i* P **P** **12 48 13.2 +1.5**
AKH Akhalkalaki 38.77 302 P **P** **12 48 14.2 +2.6**
AKH Akhalkalaki 38.77 302⇓ *i* P **P** **12 48 15.1 +3.5**
AKH Akhalkalaki 38.77 302 P **P** **12 48 14.2 +2.6**
GEVA Gevas 38.89 297⇑ *i* P **P** **12 48 13.9 +1.2**
ONI Oni 38.94 304 P **P** **12 48 15.0 +2.1**
ONI Oni 38.94 304 P **P** **12 48 15.0 +2.1**
CLNS Chul'man 38.94 32 eP **P** **12 48 14.3 +1.6**
CLNS e*PP **sP** **12 48 24.5 -0.6**
CLNS e 12 49 41.8
CLNS e 12 50 22.0
CLNS eS **S** **12 54 09.1 -0.1**
CLNS eSS **SnSn** **12 56 52.2 -8.8**
CLNS e 12 58 19.4
CLNS pmax pmax
comp=Z,324nm,1.3s
CLNS pmax pmax
comp=E,303nm,1.4s
CLNS pmax pmax
comp=N,170nm,1.3s
CLNS pmax pmax
comp=N,147nm,1.0s
CLNS pmax pmax
comp=Z,173nm,1.1s
CLNS pmax pmax
comp=E,211nm,0.9s
CLNS smax smax
comp=E,2µm,11.0s
CLNS smax smax
comp=N,7µm,11.5s
CLNS MLR MLR
comp=E,27µm,14.0s
CLNS MLR MLR
comp=N,36µm,12.0s
CLNS MLR MLR
comp=Z,50µm,12.0s
NCK Nalchik 38.96 306 eP **P** **12 48 13.9 +0.9**
NCK pmax pmax
comp=Z,57nm,0.6s
NCK MLR MLR
comp=Z,67µm,17.0s
EPOS Posof 39.35 302⇑ *i* P **P** **12 48 18.1 +1.6**
SCPH Surigao 39.42 110⇑ eP **P** **12 48 18.0 +0.9**
CNJI Cibinong 39.44 149 P **P** **12 48 19.5 +2.3**
comp=Z,282nm,1.0s,comp=Z,5µm
CGP Cagayan de Oro 39.48 112⇓ eP **P** **12 48 19.6 +2.0**
KBZ Khabaz 39.50 306 P **P** **12 48 18.3 +0.9**
comp=Z,25nm,0.7s,baz=104,slow=7.3,SNR=32
KBZ S **S** **12 54 13.1 -4.7**
comp=Z,23nm,0.9s,baz=91,slow=18,SNR=1.7
KBZ LR LR 13 06 53.6
comp=Z,66µm,19.5s,baz=88,slow=40
KBZ P3KPbc 13 18 14.0
comp=Z,2.5nm,0.8s,baz=337,slow=7.7,SNR=5.4
NEY Neytrino 39.56 305 *i* P **P** **12 48 19.2 +1.0**
NEY MLR MLR
comp=Z,26µm,17.0s
KLR Kul'dur 39.56 45c *i* P **P** **12 48 17.6 -0.3**
GOF Gofitskoye 39.61 308⇑ eP **P** **12 48 20.2 +1.8**
GOF eS **S** **12 54 18.3 -1.2**
GOF pmax pmax
comp=Z,1µm,1.1s
GOF smax smax
comp=N,1µm,1.8s
KVAR Kislovodsk Arr 39.67 306 P **P** **12 48 20.1 +1.0**
baz=250,slow=2.6
KVAR LR LR 13 07 19.5
comp=N,65µm,18.8s,slow=40
KIV Kislovodsk 39.68 306 *i* P **P** **12 48 19.1 0.0**
SNR=77
KIV Kislovodsk 39.68 306 *i* P **P** **12 48 19.1 0.0**
SNR=77
KIV Kislovodsk 39.68 306 eP **P** **12 48 19.7 +0.6**
KIV ePPP PPP 12 50 12.8
KIV e 12 50 24.3
KIV eS **S** **12 54 21.9 +1.1**
KIV eSS **SS** **12 57 15.4 -1.2**
KIV eSSS SSS 12 57 41.4
KIV pmax pmax
comp=Z,633nm,6.6s
KIV pmax pmax
comp=Z,233nm,1.1s
KIV MLR MLR
comp=Z,46µm,16.0s
KIV Kislovodsk 39.68 306 eP **P** **12 48 19.6 +0.4**
comp=Z,932nm,1.1s
KIV LR LR
comp=Z,63µm,18.0s
KIV Kislovodsk 39.68 306 P **P** **12 48 20.3 +1.2**
SNR=76
EKAR Karacoban 39.70 299⇑ *i* P **P** **12 48 22.0 +2.5**
CTBH Cotabato--PC H 39.81 114⇑ eP **P** **12 48 21.4 +0.9**
HOMI Horasan 39.86 300⇑ *i* P **P** **12 48 22.8 +1.9**
ARTV Artvin 39.92 302⇑ *i* P **P** **12 48 22.2 +1.0**
ARTV Artvin 39.92 302 eP **P** **12 48 22.3 +1.0**
comp=Z,308nm,1.0s
DAGI Agillar 39.92 302⇑ *i* P **P** **12 48 21.9 +0.7**
CISI Cisompet, Garu 39.97 149 P **P** **12 48 20.0 -1.7**
comp=Z,322nm,0.7s,comp=Z,8µmcomp=Z,53µm
CISI Cisompet, Garu 39.97 149 eP **P** **12 48 18.9 -2.7**
comp=Z,305nm,0.9s
CISI LR LR
comp=Z,89µm,20.0s
DDEM Demirkent 40.03 301⇑ *i* P **P** **12 48 23.8 +1.6**
DBOC Borcka 40.13 302⇑ *i* P **P** **12 48 24.1 +1.3**
ERZM Erzurum 40.27 300 *i* P **P** **12 48 27.1 +2.8**
BTMN Batman 40.29 297⇑ *i* P **P** **12 48 25.3 +1.0**
KPJI Karang Pucung 40.30 147 P **P** **12 48 24.5 +0.2**
comp=Z,1µm,0.6s,comp=Z,19µmcomp=Z,68µm
BNGL BINGOL 40.40 298 *i* P **P** **12 48 21.0 -4.3**
CMJI Cimerak 40.46 148 P **P** **12 48 28.2 +2.5**
comp=Z,205nm,0.8s,comp=Z,7µm
KCP Kidapawan 40.62 114⇓ eP **P** **12 48 28.3 +1.2**
COCO West Island 40.64 167 eP **P** **12 48 28.8 +1.7**
COCO pmax pmax
comp=Z,4µm,1.5s
COCO West Island 40.64 167 eP **P** **12 48 25.4 -1.7**
comp=Z,4µm,1.5s
COCO LR LR
comp=Z,57µm,20.0s
COCO West Island 40.64 167 P **P** **12 48 29.4 +2.4**
SNR=8.9
COCO West Island 40.64 167 P **P** **12 48 29.4 +2.4**
SNR=8.9
COCO P **P** **12 48 29.4 +2.4**
SNR=8.9
COCO P **P** **12 48 29.4 +2.4**
SNR=8.9
MARD Mardin 40.68 296⇑ *i* P **P** **12 48 28.2 +0.7**
MARD Mardin 40.68 296 eP **P** **12 48 28.4 +0.9**
comp=Z,823nm,0.8s
SMRI Semarang 40.80 145 P **P** **12 48 31.2 +2.7**
comp=Z,4µm,1.8s,comp=Z,84µmcomp=Z,101µm
SMRI Semarang 40.80 145 eP **P** **12 48 29.1 +0.6**
comp=Z,4µm,1.2s
KBSD Kabsdagh 40.87 295 eP **P** **12 48 31.2 +2.1**
DMPH Davao City--Mi 40.91 113⇓ eP **P** **12 48 31.4 +1.8**
DMPH eS **S** **12 54 47.3 +7.7**
KOPT Kop Dagi 40.94 300⇑ *i* P **P** **12 48 30.8 +1.0**
DAV Davao City (W) 40.98 113⇑ eP **P** **12 48 32.1 +2.0**
DAV Davao City (W) 40.98 113⇑ S **S** **12 54 41.0 +0.4**
DAV Davao City (W) 40.98 113 eP **P** **12 48 31.7 +1.6**
comp=Z,2µm,1.1s
DAV Davao City (W) 40.98 113 P **P** **12 48 33.0 +2.9**
SNR=12
BIPH Bislig 41.00 111⇓ *i* P **P** **12 48 32.3 +2.1**
DIYA Diyarbakir 41.20 297⇑ *i* P **P** **12 48 33.3 +1.5**
SFNV Sufian 41.24 295 eP **P** **12 48 34.9 +2.8**
TBJI Tambak Boyo 41.34 143 P **P** **12 48 34.8 +1.8**
comp=Z,2µm,1.3s,comp=Z,37µm
HABR Khabarovsk 41.48 47c *i* P **P** **12 48 32.0 -1.8**
HABR e*PP **pP** **12 48 41.7 -0.9**
HABR e*SP **sP** **12 48 45.9 -0.3**
HABR e 12 50 08.2
HABR e 12 50 29.0
HABR ePPP PPP 12 50 37.2
HABR eS **S** **12 54 45.7 -1.6**
HABR e*SS **sS** **12 55 02.5 +0.7**
HABR eSS **SS** **12 57 52.4 +0.3**
HABR eSSS SSS 12 58 21.1
HABR e 12 58 33.3
HABR pmax pmax
comp=N,36nm,2.1s
HABR pmax pmax
comp=Z,412nm,2.1s
HABR pmax pmax
comp=E,276nm,2.1s
HABR pmax pmax
comp=Z,8µm,6.7s
HABR MLR MLR
comp=Z,75µm,20.0s
MACK Trabzon 41.53 301⇑ *i* P **P** **12 48 35.9 +1.5**
NRIK Noril'sk 41.57 360 P **P** **12 48 35.1 +0.9**
comp=Z,84nm,0.8s,baz=169,slow=6.6,SNR=28
NRIK S **S** **12 54 46.2 -1.8**
comp=Z,41nm,0.9s,baz=287,slow=17,SNR=1.9
NRIK LR LR 13 09 31.2
comp=Z,27µm,18.6s,baz=182,slow=41
UGM Wanagama 41.58 145 P P 12 48 40.1 +5.1
UGM Wanagama 41.58 145 eP **P** **12 48 34.2 -0.8**
comp=Z,710nm,1.2s
NGJI Ngawi 41.60 144 P **P** **12 48 38.1 +3.0**
comp=Z,1µm,1.1s,comp=Z,37µm
MATI Mati 41.60 113 eP **P** **12 48 34.1 -1.1**
XMIS Christmas Isla 41.66 154 eP **P** **12 48 35.2 -0.4**
comp=Z,1µm,1.4s
XMIS LR LR
comp=Z,29µm,21.0s
PCI Palu 41.72 128 P **P** **12 48 37.6 +1.5**
comp=Z,1µm,1.4s,comp=Z,23µmcomp=Z,58µm
PCI Palu 41.72 128 P **P** **12 48 37.3 +1.2**
PCI pmax pmax
comp=Z,1µm,1.4s
WOJI Wonogiri, Jawa 41.72 145 P **P** **12 48 37.6 +1.5**
comp=Z,448nm,0.8s,comp=Z,12µm
SOC Sochi 41.77 305c *i* P **P** **12 48 36.8 +0.6**
SOC e*SP **sP** **12 48 48.4 -0.2**
SOC e 12 50 12.5
SOC ePPP PPP 12 50 41.9
SOC *i* S **S** **12 54 50.2 -1.5**
SOC pmax pmax
comp=Z,171nm,1.3s
SOC MLR MLR
comp=Z,50µm,20.0s
KELT Kelkit 41.90 300⇑ *i* P **P** **12 48 39.2 +1.6**
INU Inuyama 41.96 67 eP **P** **12 48 36.6 -1.3**
comp=Z,314nm,0.9s
ELZG Elazig 42.09 298⇑ *i* P **P** **12 48 40.4 +1.2**
PCJI Pacitan 42.15 145 P **P** **12 48 40.9 +1.3**
comp=Z,537nm,1.2s,comp=Z,13µm
KSRV Kasrt alli 42.16 294 eP **P** **12 48 43.2 +3.6**
REFA Refahiye_ERZ¯ 42.26 299 *i* P **P** **12 48 41.5 +0.9**

MRSI Marisa 42.27 124 P **P** **12 48 39.1 -1.5**
comp=Z,1µm,1.2s,comp=Z,13µm
PWJI Pagerwojo 42.33 144 P **P** **12 48 39.6 -1.4**
comp=Z,581nm,0.7s,comp=Z,12µmcomp=Z,41µm
KEMA Kemaliye 42.47 299⇑ *i* P **P** **12 48 43.3 +1.1**
DHBB Dhamar BB 42.66 261 eP **P** **12 48 44.4 +0.2**
GRSN GIRESUNGRSN 42.67 301 *i* P **P** **12 48 47.6 +3.9**
KMMI Kalianget 42.70 140 P **P** **12 48 44.8 +0.7**
comp=Z,2µm,0.9s,comp=Z,30µm
MJB9 Matsu-Tunnel 42.85 65 eP **P** **12 48 44.0 -1.2**
comp=Z,160nm,1.0s
MAJO Matsushiro 42.85 65c *i* P **P** **12 48 43.2 -2.0**
MAJO pmax pmax
comp=Z,564nm,1.2s
MAJO Matsushiro 42.85 65 eP **P** **12 48 44.0 -1.2**
comp=Z,606nm,0.9s
MJAR Matsushiro Arr 42.85 65 P **P** **12 48 43.9 -1.3**
comp=Z,85nm,1.0s,baz=278,slow=9.6,SNR=54
MJAR ScP **ScP** **12 54 24.9 0.0**
comp=Z,36nm,1.0s,baz=276,slow=4.0,SNR=4.7
MJAR LR LR 13 08 34.2
comp=Z,35µm,19.2s,baz=280,slow=39
MJAR Matsushiro Arr 42.85 65 P **P** **12 48 43.9 -1.3**
MJAR pmax pmax
comp=Z,35nm,0.7s
MJAR MLR MLR
comp=Z,35µm,19.2s
HAJJ Hajjah 42.88 263 eP **P** **12 48 45.0 -0.8**
HAJJ AMb AMB 12 48 50.4
comp=Z,1µm,1.8s
SGSI Sangihe 42.93 117 P **P** **12 48 48.2 +2.2**
comp=Z,1µm,0.9s,comp=Z,23µm
ORDU Ordu-Boztepe 42.98 301 *i* P **P** **12 48 47.5 +1.3**
SLMH Al Salmeh 43.01 294 eP **P** **12 48 49.1 +2.6**
CUZAR Zara_SIVAS 43.03 300⇑ *i* P **P** **12 48 48.3 +1.5**
BLJI Banyuglugur 43.06 141 P **P** **12 48 48.0 +1.0**
comp=Z,1µm,1.6s,comp=Z,26µmcomp=Z,57µm
GZT Gaziantep 43.24 296 *i* P **P** **12 48 50.3 +1.8**
TTSI Tana Toraja 43.24 130 P **P** **12 48 49.2 +0.7**
comp=Z,2µm,1.1s,comp=Z,24µm
CUKAN kangal_SIVAS 43.27 299⇑ *i* P **P** **12 48 50.0 +1.3**
GMJI Gumukmas 43.42 142 P **P** **12 48 49.7 -0.2**
comp=Z,487nm,1.2s,comp=Z,17µmcomp=Z,50µm
VSR Storozhevoye 43.42 316 eP **P** **12 48 49.3 -0.2**
VSR eS **S** **12 55 12.8 -2.9**
VSR pmax pmax
comp=Z,140nm,0.6s
VSR MLR MLR
comp=Z,74µm,22.0s
CUGUR Gurin_S¯VAS 43.43 298⇑ *i* P **P** **12 48 51.7 +1.7**
ABJI Asem Bagus 43.46 141 P **P** **12 48 52.3 +2.1**
comp=Z,1µm,0.8s,comp=Z,29µm
TRBA At Turbah 43.48 260 eP **P** **12 48 51.2 +0.5**
VORR Voronezh 43.50 317 eP **P** **12 48 50.0 -0.2**
VORR eS **S** **12 55 15.0 -1.9**
VORR pmax pmax
comp=Z,1µm,1.2s
ANN Anapa 43.52 307 eP **P** **12 48 49.6 -0.8**
ANN e*PP **pP** **12 48 59.3 0.0**
ANN e 12 50 31.4
ANN *i* S **S** **12 55 13.9 -3.5**
ANN *i* SSS SSS 12 59 16.1
ANN pmax pmax
comp=E,13nm,0.5s
ANN pmax pmax
comp=N,39nm,0.9s
ANN pmax pmax
comp=Z,162nm,0.9s
ANN MLR MLR
comp=E,30µm,15.0s
ANN MLR MLR
comp=Z,35µm,15.0s
ANN MLR MLR
comp=N,20µm,15.0s
KUZU Kuzuini 43.66 295⇑ *i* P **P** **12 48 52.5 +0.7**
ROOS tl_alroos 43.70 291 eP **P** **12 48 55.0 +2.9**
KMSI Cibinong 43.71 122 P **P** **12 48 53.6 +1.3**
comp=N,4µm,0.9s,comp=N,41µm
HCB Kahramanmara¯ 43.76 296⇑ *i* P **P** **12 48 53.3 +0.7**
YAK Yakutsk 43.79 27 PFAKE 12 49 00.0 +7.7
YAK LR LR
comp=Z,6µm,20.0s
CUALT Altinyayla-SIV 43.82 299⇑ *i* P **P** **12 48 53.7 +0.6**
SPSI Sidrap Palu 43.89 131 P **P** **12 48 53.3 -0.4**
comp=Z,754nm,1.0s,comp=Z,25µm
LPSR Galich'ya Gora 43.90 318 eP **P** **12 48 53.0 -0.4**
LPSR eS **S** **12 55 20.2 -2.5**
LPSR pmax pmax
comp=Z,190nm,1.0s
LPSR smax smax
comp=E,160nm,2.3s
LPSR MLR MLR
comp=Z,33µm,14.0s
KAMA Osmaniye 43.96 296⇑ *i* P **P** **12 48 54.3 +0.1**
JAGI Jajag, Banyuwa 43.97 141 P **P** **12 48 54.4 +0.1**
comp=Z,426nm,0.7s,comp=Z,14µmcomp=Z,47µm
JAGI Jajag, Banyuwa 43.97 141 eP **P** **12 48 53.2 -1.1**
comp=Z,832nm,1.2s
JAGI LR LR
comp=Z,25µm,20.0s
DRWC Darouich 44.00 295 eP **P** **12 48 58.1 +3.6**
ANDN Andirin 44.20 296⇑ *i* P **P** **12 48 56.0 -0.2**
BTCH Batrach 44.21 294 eP **P** **12 48 59.8 +3.6**
CUSAR Sarkisla-SIVAS 44.21 299⇑ *i* P **P** **12 48 57.7 +1.4**
SRBI Singaraja 44.25 140 P **P** **12 48 56.5 -0.1**
comp=Z,2µm,1.5s,comp=Z,35µm
SAMS Samsun-Alacam 44.25 302 *i* P **P** **12 48 58.2 +1.9**
ASF Jabal al Asfar 44.27 289 P **P** **12 48 58.3 +1.5**
comp=Z,139nm,0.8s,baz=40,slow=3.8,SNR=89
ASF LR LR 13 11 22.2
comp=Z,28µm,18.5s,baz=48,slow=41
SALA Sala 44.34 289 eP **P** **12 49 01.2 +3.8**
MARH Ras Al Marh 44.38 291 eP **P** **12 49 01.3 +3.4**
JHJ Hachijo jima 2 44.46 70 P **P** **12 48 59.2 +1.1**
comp=Z,891nm,0.8s,baz=227,slow=7.0,SNR=20
JHJ LR LR 13 09 15.1
comp=Z,74µm,20.1s,baz=290,slow=38
JHJ2 Mitsune 44.48 70 eP **P** **12 48 59.0 +0.7**
comp=Z,986nm,0.9s
TOTH TOTAH 44.51 290 eP **P** **12 49 02.1 +3.6**
HAVZ Havza 44.60 301⇑ *i* P **P** **12 49 00.3 +1.0**
QASN Qassioun 44.61 291 eP **P** **12 49 03.9 +4.4**
ARNB Al Arnab 44.62 294 eP **P** **12 49 03.0 +3.5**
KAPI Kappang 44.65 132 eP **P** **12 48 59.1 -0.7**
comp=Z,518nm,1.1s
KAPI LR LR
comp=Z,46µm,21.0s
KAPI Kappang 44.65 132 P **P** **12 48 59.0 -0.8**
SNR=31
DNP Denpasar 44.73 140 P **P** **12 49 00.7 +0.3**
comp=Z,859nm,1.1s,comp=Z,29µmcomp=Z,57µm
HWQ Hawqa 44.79 292 eP **P** **12 49 03.1 +2.1**
IGBI Denpasar 44.81 140 P **P** **12 49 00.5 -0.5**
comp=Z,1µm,1.3s,comp=Z,23µm
BRBR Barbar 44.90 291 eP **P** **12 49 04.9 +3.0**
AKO Adana 44.92 296⇑ *i* P **P** **12 49 02.5 +0.6**
RCY Rachaya 44.98 291 eP **P** **12 49 04.9 +2.5**
TCHB Talchebab 44.98 289 eP **P** **12 49 06.7 +4.3**
BHL Bhannes 45.08 291 eP **P** **12 49 04.3 +1.1**
MSEY Mahe Island 45.12 229 *i* P **P** **12 49 03.9 +0.3**
SNR=8.8
MSEY Mahe Island 45.12 229 *i* P **P** **12 49 03.9 +0.3**
SNR=8.8
MSEY Mahe Island 45.12 229 *i* P **P** **12 49 05.3 +1.7**
MSEY Mahe Island 45.12 229 eP **P** **12 49 02.5 -1.1**
comp=Z,795nm,1.5s
MSEY LR LR
comp=Z,47µm,20.0s
MSEY Mahe Island 45.12 229 P **P** **12 49 02.9 -0.6**
SNR=7.5
MSEY Mahe Island 45.12 229 P **P** **12 49 02.9 -0.6**
SNR=7.5
MSEY P **P** **12 49 02.9 -0.6**
SNR=7.5
MSEY P **P** **12 49 02.9 -0.6**
SNR=7.5
COAL Corum-Alaca 45.16 300⇑ *i* P **P** **12 49 04.2 +0.4**
DQRL Deir Qamar 45.17 291 eP **P** **12 49 06.2 +2.2**
BEYL Beirut 45.22 291 eP **P** **12 49 05.7 +1.6**
CTAK Corum_Osmancik 45.31 301⇑ *i* P **P** **12 49 04.9 -0.1**
AVNS Nevsehir-Avano 45.32 298⇑ *i* P **P** **12 49 05.3 +0.2**
MMAI Mount Meron Ar 45.40 290 P **P** **12 49 07.5 +1.8**
comp=Z,155nm,0.8s,baz=75,slow=9.6,SNR=63
MMAI LR LR 13 12 33.2
comp=Z,39µm,19.1s,baz=65,slow=42

DED	**Mersin**	**45.47**	**296**	⇑	*i*	P	**P**	**12 49 06.1**	**-0.1**
MOS	**Moscow**	**45.48**	**322**	*α*	*i*	P	**P**	**12 49 06.4**	**+0.5**
MOS				*e*				12 50 52.7	
MOS					*e*	PPP	PPP	12 51 32.3	
MOS				*i*	S		**S**	**12 55 41.1**	**-4.5**
MOS				*i*				12 56 06.4	
MOS						pmax	pmax		
	comp=E,136nm,1.0s								
MOS						pmax	pmax		
	comp=E,800nm,2.5s								
MOS						pmax	pmax		
	comp=Z,378nm,1.0s								
MOS						pmax	pmax		
	comp=Z,2μm,2.2s								
MOS						smax	smax		
	comp=E,6μm,3.4s								
MOS						MLR	MLR		
	comp=Z,71μm,15.0s								
CDAG	**Cicekdag**	**45.65**	**299**	⇑	*i*	P	**P**	**12 49 07.6**	**-0.1**
TWSI	**Taliwang, Sumb**	**45.74**	**138**			P	**P**	**12 49 09.9**	**+1.4**
	comp=Z,248nm,0.9s,comp=Z,9μm								
KDI	**Kendari**	**45.83**	**128**			P	**P**	**12 49 09.6**	**+0.4**
	comp=Z,384nm,1.2s,comp=Z,10μmcomp=Z,48μm								
SIM	**Simferopol'**	**45.88**	**307**	*c*	*i*	P	**P**	**12 49 10.0**	**+0.7**
SIM				*e*				12 51 00.0	
SIM				*e*	S		**S**	**12 55 51.0**	**-0.7**
SIM				*e*	SS		**SS**	**12 59 10.0**	**-6.4**
SIM						pmax	pmax		
	comp=Z,2μm,1.7s								
SIM						MLR	MLR		
	comp=Z,33μm,16.0s								
OBN	**Obninsk**	**45.89**	**321**			LR	LR	13 11 01.5	
	comp=Z,55μm,22.0s,baz=118,slow=39								
OBN	**Obninsk**	**45.89**	**321**	*c*	*i*	P	**P**	**12 49 09.5**	**+0.3**
OBN					*i*	*SP	**pP**	**12 49 19.0**	**+0.9**
OBN					*e*			12 49 26.2	
OBN					*e*			12 51 03.5	
OBN					*i*	S	**S**	**12 55 48.1**	**-3.4**
OBN						pmax	pmax		
	comp=Z,509nm,1.7s								
OBN						MLR	MLR		
	comp=Z,53μm,21.0s								
OBN	**Obninsk**	**45.89**	**321**		*e*	P	**P**	**12 49 09.5**	**+0.3**
	comp=Z,3μm,1.5s								
KAST	**KASTAMONU**	**45.95**	**302**		*i*	P	**P**	**12 49 11.3**	**+1.4**
KERG	**Konya-Eregli**	**45.97**	**296**	⇑	*i*	P	**P**	**12 49 09.5**	**-0.8**
NKL	**Nikolayevsk**	**45.97**	**42**		*i*	P	**P**	**12 49 10.5**	**+0.7**
NKL						*S	**S**	**12 55 52.0**	**-0.7**
NKL						pmax	pmax		
	comp=N,43nm,1.0s								
NKL						pmax	pmax		
	comp=E,43nm,1.0s								
NKL						pmax	pmax		
	comp=Z,190nm,1.0s								
NKL						pmax	pmax		
	comp=N,6μm,8.0s								
NKL						pmax	pmax		
	comp=Z,14μm,8.0s								
NKL						smax	smax		
	comp=N,39μm,24.0s								
NKL						smax	smax		
	comp=E,32μm,24.0s								
NKL						smax	smax		
	comp=Z,16μm,24.0s								
BSSI	**Bau Bau, Buton**	**45.98**	**132**			P	**P**	**12 49 08.8**	**-1.6**
	comp=Z,799nm,0.8s,comp=Z,14μm								
KIZK	**Mersin**	**46.03**	**295**	⇑	*i*	P	**P**	**12 49 10.4**	**-0.2**
ILGA	**Ilgaz**	**46.12**	**301**	⇑	*i*	P	**P**	**12 49 12.4**	**+0.9**
ILGA	**Ilgaz**	**46.12**	**301**		*e*	P	**P**	**12 49 12.2**	**+0.8**
	comp=Z,2μm,1.3s								
ASAJ	**Asahikawa**	**46.14**	**54**		*e*	P	**P**	**12 49 11.1**	**-0.2**
	comp=Z,2μm,1.4s								
ASAJ						LR	LR		
	comp=Z,175μm,20.0s								
AKSY	**AKSARAY - Alti**	**46.18**	**298**	⇑	*i*	P	**P**	**12 49 12.2**	**+0.4**
BR131	**Keskin Array S**	**46.22**	**300**		*e*	P	**P**	**12 49 12.0**	**-0.2**
BRTR	**Keskin Array B**	**46.22**	**300**			P	**P**	**12 49 12.4**	**+0.3**
	comp=Z,35nm,0.7s,baz=106,slow=7.8,SNR=40								
KLMR	**Klimovskoe**	**46.28**	**329**	*c*	*i*	P	**P**	**12 49 12.5**	**+0.4**
KLMR					*e*	S	**S**	**12 55 59.5**	**+2.6**
KLMR						pmax	pmax		
	comp=Z,832nm,1.3s								
KLMR						MLR	MLR		
	comp=Z,19μm,12.0s								
EIL	**Elat**	**46.34**	**286**			P	**P**	**12 49 13.3**	**+0.2**
	comp=Z,143nm,0.9s,baz=74,slow=3.7,SNR=60								
EIL						PKPPKP	P'P'df	13 20 20.9	-21
	comp=Z,1.3nm,0.4s,baz=231,slow=6.5,SNR=2.2								
PLAI	**Plampang**	**46.34**	**138**			P	**P**	**12 49 13.3**	**+0.1**
	comp=Z,408nm,1.0s,comp=Z,13μmcomp=Z,44μm								
YSS	**Yuzh-Sakhalins**	**46.41**	**50**	⇑	*e*	P	**P**	**12 49 13.4**	**+0.1**
YSS					*e*	*SP	**pP**	**12 49 21.0**	**-1.3**
YSS					*e*			12 50 55.0	
YSS					*e*			12 51 04.0	
YSS					*e*	S	**S**	**12 55 57.0**	**-2.1**
YSS					*e*	SS	**ScS**	**12 59 11.0**	**+4.7**
YSS						pmax	pmax		
	comp=Z,340nm,1.6s								
YSS						pmax	pmax		
	comp=Z,11μm,8.0s								
YSS						pmax	pmax		
	comp=E,5μm,9.0s								
YSS						pmax	pmax		
	comp=Z,5μm,8.0s								
YSS						pmax	pmax		
	comp=N,1μm,6.0s								
YSS						pmax	pmax		
	comp=E,3μm,9.0s								
YSS						smax	smax		
	comp=E,24μm,17.0s								
YSS						MLR	MLR		
	comp=Z,85μm,16.0s								
YSS						MLR	MLR		
	comp=N,64μm,17.0s								
YSS						MLR	MLR		
	comp=E,100μm,19.0s								
YSS	**Yuzh-Sakhalins**	**46.41**	**50**		*e*	P	**P**	**12 49 13.6**	**+0.3**
	comp=E,3μm,1.0s								
YSS						LR	LR		
	comp=Z,46μm,21.0s								
ERM	**Erimo**	**46.53**	**57**		*de*	P	**P**	**12 49 15.7**	**+1.3**
ERM						pmax	pmax		
	comp=Z,1μm,1.0s								
ERM	**Erimo**	**46.53**	**57**		*e*	P	**P**	**12 49 14.6**	**+0.2**
	comp=Z,866nm,0.8s								
ERM						LR	LR		
	comp=Z,134μm,19.0s								
BBAL	**Bala**	**46.62**	**299**	⇑	*i*	P	**P**	**12 49 15.5**	**+0.1**
TYV	**Tymovskoe**	**46.77**	**45**		*e*	P	**P**	**12 49 18.3**	**+2.1**
TYV						pmax	pmax		
	comp=Z,8μm,11.5s								
KKUL	**Konya-Kulu**	**46.80**	**299**	⇑	*i*	P	**P**	**12 49 17.0**	**+0.3**
CSS	**Mathiatis**	**46.85**	**293**		*e*	P	**P**	**12 49 17.0**	**-0.1**
	comp=Z,154nm,1.1s								
CSS	**Mathiatis**	**46.85**	**293**			P	**P**	**12 49 18.1**	**+1.0**
ANTO	**Ankara**	**46.86**	**300**		*e*	P	**P**	**12 49 18.5**	**+1.4**
ANTO						pmax	pmax		
	comp=Z,2μm,1.6s								
ANTO	**Ankara**	**46.86**	**300**		*e*	P	**P**	**12 49 17.1**	**0.0**
	comp=Z,2μm,1.6s								
ANTO	**Ankara**	**46.86**	**300**			P	**P**	**12 49 16.8**	**-0.4**
	SNR=63								
ANTO	**Ankara**	**46.86**	**300**			P	**P**	**12 49 16.8**	**-0.4**
	SNR=63								
BR231	**Keskin MP Arra**	**46.88**	**300**		*e*	P	**P**	**12 49 19.0**	**+1.7**
BBSI	**Bau Bau**	**46.89**	**130**			P	**P**	**12 49 18.9**	**+1.4**
	comp=Z,248nm,1.2s,comp=Z,5μm								
MAMC	**Mammari**	**46.92**	**293**			P	**P**	**12 49 20.2**	**+2.6**
SANI	**Sanana**	**46.95**	**123**			P	**P**	**12 49 17.1**	**-0.9**
	comp=Z,164nm,0.9s,comp=Z,11μmcomp=Z,33μm								
ERMK	**Ermenek**	**47.01**	**295**	⇑	*i*	P	**P**	**12 49 18.2**	**-0.2**
CMDR	**Camlidere-ANKA**	**47.08**	**301**	⇑	*i*	P	**P**	**12 49 18.1**	**-0.8**
BTIN	**Bart¯–n**	**47.21**	**302**		*i*	P	**P**	**12 49 19.1**	**-0.6**
SZAC	**Souni**	**47.25**	**293**			P	**P**	**12 49 21.7**	**+1.5**
KMER	**Konya-Meram**	**47.33**	**297**	⇑	*i*	P	**P**	**12 49 20.8**	**-0.2**
BCAM	**Yenicaga**	**47.37**	**301**	⇑	*i*	P	**P**	**12 49 21.2**	**0.0**
ALFC	**Alefka**	**47.43**	**293**			P	**P**	**12 49 22.8**	**+1.2**
KDHN	**Kadinhani**	**47.47**	**298**	⇑	*i*	P	**P**	**12 49 21.4**	**-0.6**
CBIJ	**Chichi jima**	**47.62**	**78**		*e*	P	**P**	**12 49 22.3**	**-0.8**
	comp=Z,299nm,0.8s								
AKMC	**Akamas**	**47.66**	**293**			P	**P**	**12 49 24.0**	**+0.6**
PPCY	**Paphos**	**47.67**	**293**			P	**P**	**12 49 24.2**	**+0.8**
BTAS	**Taskesti**	**48.19**	**301**	⇑	*i*	P	**P**	**12 49 28.0**	**+0.5**
SAHE	**Sakarya_HENDEK**	**48.29**	**301**		*i*	P	**P**	**12 49 27.4**	**-0.8**
BOLV	**Bolvadin**	**48.36**	**298**	⇑	*i*	P	**P**	**12 49 28.9**	**0.0**
BOLV	**Bolvadin**	**48.36**	**298**		*e*	P	**P**	**12 49 28.8**	**-0.1**
	comp=Z,924nm,1.1s								
YUK	**Yuzh-Kuril'sk**	**48.49**	**55**	*c*	*i*	P	**P**	**12 49 29.1**	**-0.5**
YUK					*e*			12 51 22.9	
YUK					*i*	S	**S**	**12 56 28.6**	**-0.2**
YUK					*e*	*SS	**pS**	**12 56 39.1**	**-0.2**
YUK					*i*	SS	**SS**	**12 59 58.6**	**-0.1**
YUK						pmax	pmax		
	comp=N,2μm,0.8s								
YUK						MLR	MLR		
	comp=Z,122μm,22.0s								
YUK						MLR	MLR		
	comp=N,103μm,21.0s								
WSI	**Waingapu**	**48.54**	**136**			P	**P**	**12 49 28.5**	**-1.8**
	comp=N,2μm,0.7s,comp=N,32μmcomp=N,41μm								
BAGO	**Egridir - ISPA**	**48.56**	**297**	⇑	*i*	P	**P**	**12 49 29.8**	**-0.6**
BORA	**Eskisehir**	**48.66**	**300**	⇑	*i*	P	**P**	**12 49 30.6**	**-0.5**
KAND	**Kocaeli-Kandir**	**48.78**	**302**		*i*	P	**P**	**12 49 31.7**	**-0.1**
MMRI	**Maumere**	**48.99**	**133**			P	**P**	**12 49 31.3**	**-2.4**
	comp=N,862nm,0.8s,comp=N,14μmcomp=N,36μm								
MMRI	**Maumere**	**48.99**	**133**		*e*	P	**P**	**12 49 32.0**	**-1.7**
	comp=N,4μm,1.8s								
MMRI						LR	LR		
	comp=Z,43μm,22.0s								
KORT	**Korkueli**	**49.01**	**296**	⇑	*i*	P	**P**	**12 49 32.7**	**-1.2**
BASI	**Baing, Sumba**	**49.14**	**136**			P	**P**	**12 49 35.3**	**+0.4**
	comp=Z,2μm,0.8s,comp=Z,31μm								
TIXI	**Tiksi**	**49.25**	**16**		*de*	P	**P**	**12 49 34.0**	**-1.0**
TIXI						pmax	pmax		
	comp=Z,399nm,1.7s								
TIXI						MLR	MLR		
	comp=Z,49μm,18.0s								
TIXI	**Tiksi**	**49.25**	**16**		*e*	P	**P**	**12 49 35.5**	**+0.5**
	comp=Z,613nm,1.3s								
TIXI					*e*	S	**S**	**12 56 37.4**	**-1.3**
TIXI						LR	LR		
	comp=Z,64μm,18.0s								
AKASG	**Malin Array Be**	**49.55**	**314**			P	**P**	**12 49 36.9**	**-0.7**
	comp=Z,98nm,0.7s,baz=80,slow=6.6,SNR=104								
AKASG						S	**S**	**12 56 39.8**	**-3.7**
	comp=Z,62nm,1.1s,baz=89,slow=14,SNR=5.5								
AKASG						LR	LR	13 13 48.0	
	comp=Z,55μm,18.4s,baz=90,slow=40								
AKASG						PKPPKP	P'P'df	13 20 22.6	-17
	comp=Z,0.2nm,0.3s,baz=260,slow=2.3,SNR=4.9								
AKASG	**Malin Array Be**	**49.55**	**314**			P	**P**	**12 49 36.9**	**-0.7**
AKASG						S	**S**	**12 56 39.8**	**-3.7**
AKASG						pmax	pmax		
	comp=Z,43nm,0.6s								
AKASG						smax	smax		
	comp=N,62nm,1.1s								
AKASG						MLR	MLR		
	comp=Z,55μm,18.4s								
AKBB	**Malin Array Si**	**49.55**	**314**		*e*	P	**P**	**12 49 36.2**	**-1.4**
AKBB						pmax	pmax		
	comp=Z,500nm,1.0s								
AKBB	**Malin Array Si**	**49.55**	**314**		*e*	P	**P**	**12 49 36.2**	**-1.4**
	comp=Z,496nm,1.0s								
KIEV	**Kiev**	**49.56**	**314**	*c*	*i*	P	**P**	**12 49 37.1**	**-0.6**
KIEV						pmax	pmax		
	comp=Z,209nm,0.8s								
KIEV						MLR	MLR		
	comp=Z,48μm,17.0s								
KIEV	**Kiev**	**49.56**	**314**		*e*	P	**P**	**12 49 37.3**	**-0.4**
	comp=Z,493nm,1.0s								
KIEV						LR	LR		
	comp=Z,51μm,18.0s								
AK11	**Malin Array Si**	**49.58**	**314**		*e*	P	**P**	**12 49 37.1**	**-0.8**
AK11					*e*	S	**S**	**12 56 42.5**	**-1.5**
IGD	**Bursa**	**49.59**	**301**	⇑	*i*	P	**P**	**12 49 37.6**	**-0.4**
GOLH	**Golhisar**	**49.61**	**297**	⇑	*i*	P	**P**	**12 49 36.9**	**-1.6**
ISK	**Istanbul-Kandi**	**49.63**	**302**			P	**P**	**12 49 39.5**	**+1.1**
KIS	**Kishinev**	**49.65**	**309**	⇑	*i*	P	**P**	**12 49 37.0**	**-1.4**
	comp=Z,1μm,2.0s								
KIS	**Kishinev**	**49.65**	**309**		*e*	PcP	**PcP**	**12 51 03.0**	**+3.5**
KIS	**Kishinev**	**49.65**	**309**		*e*	PP	PP	12 51 28.0	-4.8
KIS	**Kishinev**	**49.65**	**309**	*c*	*i*	P	**P**	**12 49 37.0**	**-1.4**
KIS					*e*			12 51 03.0	
KIS					*e*			12 51 28.0	
KIS					*i*	S	**S**	**12 56 40.0**	**-5.0**
KIS					*e*			13 00 07.0	
KIS						pmax	pmax		
	comp=Z,1μm,2.0s								
KIS						pmax	pmax		
	comp=Z,2μm,6.0s								
KIS						smax	smax		
	comp=N,8μm,12.0s								
KIS						smax	smax		
	comp=E,9μm,9.0s								
KIS						MLR	MLR		
	comp=Z,43μm,19.0s								
KIS						MLR	MLR		
	comp=Z,39μm,17.0s								
AKAS	**Kas**	**49.70**	**295**	⇑	*i*	P	**P**	**12 49 37.9**	**-1.3**
AKAS	**Kas**	**49.70**	**295**		*e*	P	**P**	**12 49 37.7**	**-1.5**
	comp=Z,277nm,0.8s								
KSL	**Kastellorizon**	**49.73**	**295**			P	**P**	**12 49 41.9**	**+2.7**
EFOR	**EFORIE**	**49.80**	**306**	⇑	*i*	P	**P**	**12 49 38.6**	**-1.0**
KUR	**Kuril'sk**	**49.91**	**53**	*c*	*i*	P	**P**	**12 49 39.8**	**-0.6**
KUR					*i*			12 51 41.5	
KUR					*i*	S	**S**	**12 56 45.2**	**-3.5**
KUR						pmax	pmax		
	comp=Z,8μm,4.9s								
KUR						pmax	pmax		
	comp=N,3μm,3.2s								
KUR						pmax	pmax		
	comp=E,6μm,6.4s								
KUR						pmax	pmax		
	comp=Z,1μm,1.1s								
KUR						pmax	pmax		
	comp=E,734nm,1.2s								
KUR						pmax	pmax		
	comp=N,477nm,2.6s								
TIRR	**Tirgusor**	**49.95**	**306**	⇓	*i*	P	**P**	**12 49 41.8**	**+1.1**
TIRR	**Tirgusor**	**49.95**	**306**		*e*	P	**P**	**12 49 40.0**	**-0.7**
TIRR						pmax	pmax		
	comp=Z,830nm,1.5s								
TIRR	**Tirgusor**	**49.95**	**306**		*e*	P	**P**	**12 49 40.0**	**-0.7**
	comp=Z,829nm,1.5s								
SORM	**Soroca**	**49.99**	**311**	⇓	*i*	P	**P**	**12 49 40.1**	**-0.9**
LEOM	**Leova**	**50.03**	**309**	⇑	*i*	P	**P**	**12 49 41.9**	**+0.5**
FETY	**Fethiye**	**50.06**	**296**			P	**P**	**12 49 44.6**	**+2.8**
DEMI	**Demirci**	**50.07**	**299**	⇑	*i*	P	**P**	**12 49 40.8**	**-1.1**
ELBA	**Catalca**	**50.10**	**302**		*i*	P	**P**	**12 49 42.5**	**+0.5**
CFR	**Carcaliu**	**50.12**	**307**	⇑	*i*	P	**P**	**12 49 42.8**	**+0.7**
CFR	**Carcaliu**	**50.12**	**307**	⇑	*i*	P	P'P'df	13 20 28.1	-10
KULA	**Kula-Manisa**	**50.17**	**298**			P	**P**	**12 49 44.1**	**+1.4**
TLB	**Topalu**	**50.21**	**306**	⇑	*i*	P	**P**	**12 49 42.2**	**-0.5**
MANT	**Manisa**	**50.25**	**298**		*i*	P	P	12 49 35.8	-7.7
MANT	**Manisa**	**50.25**	**298**		*e*	P	**P**	**12 49 42.0**	**-1.4**
	comp=Z,512nm,1.1s								
HARR	**Harsova**	**50.28**	**306**	⇓	*i*	P	**P**	**12 49 44.0**	**+0.7**
PUL	**Pulkovo**	**50.30**	**326**		*e*	P	**P**	**12 49 44.6**	**+1.5**
PUL						pmax	pmax		
	comp=Z,361nm,0.8s								
PUL						MLR	MLR		
	comp=Z,58μm,18.0s								
JOF	**Joensuu**	**50.63**	**330**			P	**P**	**12 49 46.6**	**+1.0**
JOF						pmax	pmax		
	comp=Z,1μm,1.2s								
AMRR	**Amara**	**50.71**	**306**	⇑	*i*	P	**P**	**12 49 47.7**	**+1.2**
MICGM	**Minsk**	**50.72**	**319**	⇓	*i*	P	**P**	**12 49 45.0**	**-1.4**
MICGM						PM		12 49 47.0	
	comp=Z,0.3nm,1.0s								
MICGM						PM		12 49 48.0	
	comp=E,0.2nm,1.0s								
MICGM						PM		12 49 54.0	
	comp=N,0.1nm,1.0s								
MICGM					*e*	PcP	PcP	12 51 12.0	+8.7
MICGM					*e*	PP	PP	12 52 00.0	+18
MICGM					*e*	PPP	PPP	12 52 48.0	
MICGM					*e*	PcS	PcS	12 55 22.0	+22
MICGM					*e*	S	**S**	**12 56 56.0**	**-3.7**
MICGM					*e*	PS	pS	12 57 20.0	+10
MICGM					*e*	ScS	ScS	12 59 08.0	-27
MICGM					*e*	SS	SS	13 00 48.0	+14
MICGM					*e*	SSS	SSS	13 01 24.0	
MICGM					*e*	LQ	LQ	13 06 00.0	
MICGM					*e*	LR	LR	13 07 00.0	
MICGM						LRM	MLR	13 11 20.0	
	comp=N,193nm,18.0s								
MICGM						LRM	MLR	13 11 24.0	
	comp=N,62nm,18.0s								
MICGM						LRM	MLR	13 13 18.0	
	comp=E,111nm,20.0s								
MICGM						LRM	MLR	13 13 20.0	
	comp=E,51nm,20.0s								
MICGM						LRM	MLR	13 13 20.0	
	comp=Z,161nm,20.0s								
MICGM						LRM	MLR	13 13 22.0	
	comp=Z,76nm,20.0s								
MNK	**Minsk**	**50.72**	**319**	⇓	*i*	P	**P**	**12 49 45.0**	**-1.4**
MNK					*e*	PPP	PPP	12 52 48.0	
MNK					*e*	S	**S**	**12 56 56.0**	**-3.7**
MNK					*e*	PS	pS	12 57 20.0	+10
MNK						pmax	pmax		
	comp=Z,340nm,1.0s								
MNK						pmax	pmax		
	comp=E,230nm,1.0s								
MNK						pmax	pmax		
	comp=N,90nm,1.0s								
MNK						MLR	MLR		
	comp=N,193μm,18.0s								
MNK						MLR	MLR		
	comp=N,62μm,18.0s								
MNK						MLR	MLR		
	comp=E,11μm,20.0s								
MNK						MLR	MLR		
	comp=Z,161μm,20.0s								
MNK						MLR	MLR		
	comp=E,51μm,20.0s								
MNK						MLR	MLR		
	comp=Z,76μm,20.0s								
PETR	**Petresti**	**50.75**	**308**	⇑	*i*	P	**P**	**12 49 49.4**	**+2.6**
AKHS	**Akhisar**	**50.79**	**299**	⇑	*i*	P	**P**	**12 49 46.7**	**-0.5**
BALY	**Balya**	**50.84**	**300**	⇑	*i*	P	**P**	**12 49 47.5**	**-0.2**
ODBI	**Odobesti**	**50.87**	**308**	⇑	*i*	P	**P**	**12 49 49.1**	**+1.4**
GRER		**50.94**	**307**	⇑	*i*	P	**P**	**12 49 50.5**	**+2.2**
LVZ	**Lovozero**	**51.03**	**337**		*e*	P	**P**	**12 49 50.1**	**+1.5**
LVZ						pmax	pmax		
	comp=Z,134nm,0.8s								
LVZ						MLR	MLR		
	comp=Z,43μm,17.0s								
LVZ	**Lovozero**	**51.03**	**337**		*e*	P	**P**	**12 49 49.1**	**+0.5**
	comp=Z,774nm,1.1s								
BATI	**Baumata**	**51.09**	**133**			P	**P**	**12 49 50.9**	**+1.2**
	comp=Z,267nm,1.4s,comp=Z,5μm								
TESR	**Tescani**	**51.14**	**309**	⇑	*i*	P	**P**	**12 49 50.6**	**+0.9**
SOEI	**Soe**	**51.15**	**132**			P	**P**	**12 49 49.0**	**-1.3**
	comp=Z,2μm,1.9s,comp=Z,23μmcomp=Z,47μm								
SOEI	**Soe**	**51.15**	**132**		*e*	P	**P**	**12 49 49.6**	**-0.7**
	comp=Z,2μm,0.9s								
SOEI						LR	LR		
	comp=Z,63μm,22.0s								
PLOR	**Plostina**	**51.15**	**308**	⇑	*i*	P	**P**	**12 49 51.5**	**+1.6**
PLOR	**Plostina**	**51.15**	**308**			P	**P**	**12 49 51.5**	**+1.6**
ISR	**Istrita**	**51.25**	**307**	⇑	*i*	P	**P**	**12 49 53.1**	**+2.4**
BDRM	**Kayabasi**	**51.31**	**297**	⇑	*i*	P	**P**	**12 49 50.1**	**-1.1**
EDRB	**Edirne**	**51.31**	**303**			P	**P**	**12 49 53.9**	**+2.8**
APA	**Apatity**	**51.34**	**336**	⇑	*i*	P	**P**	**12 49 54.9**	**+4.0**
APA					*i*			12 51 52.0	
APA					*i*	S	**S**	**12 57 06.0**	**-2.0**
APA						pmax	pmax		
	comp=Z,46nm,0.7s								
APA						MLR	MLR		
	comp=Z,68μm,15.0s								
GCAM	**G?zelcaml?**	**51.39**	**297**		*i*	P	**P**	**12 49 50.9**	**-0.8**
NACGM	**Naroch**	**51.40**	**320**		*e*	P	**P**	**12 49 50.0**	**-1.5**
NACGM					*e*	P	**P**	**12 49 50.0**	**-1.5**
NACGM					*e*	PP	**PP**	**12 51 54.0**	**+5.4**
NACGM					*e*	PPP	PPP	12 52 54.0	
NACGM					*e*	S	**S**	**12 57 02.0**	**-7.1**
NACGM					*e*	SS	**ScS**	**12 59 38.0**	**-1.6**
NACGM					*e*	SSS	SSS	13 00 56.0	
NACGM					*e*	LQ	LQ	13 05 40.0	
NACGM					*e*	LR	LR	13 10 06.0	
PRAR	**RASCA**	**51.41**	**310**	⇑	*i*	P	**P**	**12 49 51.8**	**0.0**
BODT	**Bodrum**	**51.41**	**297**			P	**P**	**12 49 52.5**	**+0.5**
KESN	**Edirne-Kesan**	**51.45**	**302**	⇑	*i*	P	**P**	**12 49 51.3**	**-1.3**
SULR		**51.48**	**306**	⇑	*i*	P	**P**	**12 49 55.8**	**+3.5**
BNDI	**Bandanaira**	**51.50**	**122**			P	**P**	**12 49 54.5**	**+1.7**
	comp=Z,1μm,0.8s,comp=Z,20μm								
NIS1	**Nisyros Isl.**	**51.59**	**296**			P	**P**	**12 49 53.2**	**-0.1**
SECR		**51.59**	**307**	⇑	*i*	P	**P**	**12 49 57.9**	**+4.7**
AYVA	**Ayvalik**	**51.60**	**300**	⇑	*i*	P	**P**	**12 49 52.5**	**-0.8**
DGB	**¯zmir**	**51.61**	**298**	⇑	*i*	P	**P**	**12 49 53.0**	**-0.3**
NISR	**Nisiros**	**51.63**	**296**			P	**P**	**12 49 57.0**	**+3.5**
MLR	**Muntele Rosu**	**51.66**	**307**			PKPPKP	**P'P'df**	**13 20 31.1**	**-5.2**
	comp=Z,1.5nm,1.1s,baz=261,slow=5.2,SNR=3.7								
MLR	**Muntele Rosu**	**51.66**	**307**		*e*	P	**P**	**12 49 54.0**	**+0.2**
MLR	**Muntele Rosu**	**51.66**	**307**		*e*	P	**P**	**12 49 54.0**	**+0.2**
	comp=Z,10μm,1.8s								
MLR						P'P'		13 20 31.1	
SMG	**Samos**	**51.70**	**298**			P	**P**	**12 49 54.6**	**+0.5**
KARP	**Karpathos**	**51.77**	**295**			P	**P**	**12 49 55.1**	**+0.4**
KARP	**Karpathos**	**51.77**	**295**		*e*	P	**P**	**12 49 54.1**	**-0.5**
	comp=Z,760nm,1.2s								
SZH	**Strazhica**	**51.80**	**305**		*e*	P	P	12 50 00.7	+6.0
EZN	**Ezine**	**51.83**	**300**			P	**P**	**12 49 56.0**	**+1.1**
ENEZ	**Enez**	**51.86**	**301**			P	**P**	**12 49 59.5**	**+4.3**
VSU	**Vasula**	**51.87**	**324**	*ce*		P	**P**	**12 49 55.1**	**+0.2**
VSU						pmax	pmax		
	comp=Z,385nm,0.7s								
VSU						MLR	MLR		
	comp=Z,109μm,15.0s								
ALN	**Al

NPS	**Neapolis**	**53.06 295**	P	**P**	**12 50 04.5 +0.3**	**KLNR**	**Kaliningrad**	**55.19 319**	*d* P	**P**	**12 50 18.3 -1.0**
THR5	**Thira Island,**	**53.07 296**	P	**P**	**12 50 04.7 +0.4**	KLNR				pmax	pmax	
PGB	**Panagyurishte**	**53.15 304**	*e*P	P	12 50 10.4 +5.6		comp=Z,450nm,0.9s					
LAST	**Lasithi**	**53.19 295**	P	**P**	**12 50 06.4 +1.1**	KLNR				MLR	MLR	
LOT	**Lotru**	**53.19 308**⇑	*i*P	**P**	**12 50 06.3 +1.1**		comp=Z,60µm,21.0s					
CJR	**Cluj-Napoca**	**53.23 309**⇑	*i*P	**P**	**12 50 06.8 +1.4**	**KZN**	**Kozani**	**55.22 301**	P	**P**	**12 50 20.5 +0.5**
BMR	**Baia Mare**	**53.26 310**⇓	*i*P	**P**	**12 50 06.8 +1.4**	**KECS**	**Kecovo**	**55.23 311**	*e*P	**P**	**12 50 20.4 +0.6**
MPEP	**Malo Peshtene**	**53.38 305**	*e*P	**P**	**12 50 08.4 +1.9**	KECS				pmax	pmax	
SUW	**Suwalki**	**53.43 318**	*e*P	**P**	**12 50 06.3 -0.3**		comp=Z,130nm,1.1s					
SUW			*e*S	**S**	**12 57 35.2 -1.7**	**KECS**	**Kecovo**	**55.23 311**	*e*P	**P**	**12 50 20.4 +0.6**
SUW			LMZ	LR	13 11 41.0	KECS			*e*		13 20 24.4	
	comp=Z,90µm,31.6s					KECS			*e*		13 21 05.2	
SUW	**Suwalki**	**53.43 318**	*e*P	**P**	**12 50 06.3 -0.3**	**SKO**	**Skopje**	**55.23 304**	P	P	12 50 25.2 +5.3	
SUW			*e*S	**S**	**12 57 35.3 -1.7**	**SKO**	**Skopje**	**55.23 304**	*i* P	**P**	**12 50 20.1 +0.1**	
OUL	**Oulu**	**53.49 332**	P	**P**	**12 50 07.1 +0.3**	**VLX**	**Vlachokerasia**	**55.25 298**	P	**P**	**12 50 19.5 -0.8**	
OUL			pmax	pmax		**KALE**	**Kalithea**	**55.25 299**	P	**P**	**12 50 22.6 +2.4**	
	comp=Z,455nm,1.4s					**NIE**	**Niedzica**	**55.29 313**	*e*P	**P**	**12 50 21.7 +1.4**	
OUR	**Ouranopolis**	**53.55 301**	P	**P**	**12 50 09.7 +2.0**	NIE			*e*S	**S**	**12 58 00.3 -1.9**	
MMB	**Musomiste**	**53.58 303**	*e*P	**P**	**12 50 09.2 +1.2**	NIE			LMZ	LR	13 15 03.0	
IDI	**Anoyia**	**53.64 295**	P	**P**	**12 50 09.2 +0.7**		comp=Z,65µm,24.7s					
IDI	**Anoyia**	**53.64 295**	*e*P	**P**	**12 50 07.2 -1.3**	**NIE**	**Niedzica**	**55.29 313**	*e*P	**P**	**12 50 21.7 +1.4**	
	comp=Z,2µm,1.8s					NIE			*e*S	**S**	**12 58 00.3 -1.9**	
SRE	**Strehaia**	**53.65 307**⇑	*i*P	**P**	**12 50 09.4 +1.0**	NIE			MLR	MLR		
KWP	**Kalwaria Pacla**	**53.71 313**	*e*P	**P**	**12 50 09.7 +0.9**		comp=Z,65µm,24.7s					
KWP			*e*S	**S**	**12 57 38.3 -2.6**	**SKR**	**Severo-Kuril's**	**55.29 46**	*e*P	**P**	**12 50 19.5 -0.6**	
KWP			LMZ	LR	13 13 52.7	SKR			*e*PPP	PPP	12 53 44.3	
	comp=Z,114µm,27.1s					SKR			*e*S	**S**	**12 57 59.2 -2.8**	
KWP	**Kalwaria Pacla**	**53.71 313**	*e*P	**P**	**12 50 09.7 +0.9**	SKR			*e*PS	**PnS**	**12 58 18.0 +3.8**	
KWP			*e*S	**S**	**12 57 38.3 -2.6**	SKR			pmax	pmax		
KWP			MLR	MLR			comp=Z,65nm,1.5s					
	comp=Z,114µm,27.1s					SKR			pmax	pmax		
SRS	**Serrai**	**53.74 302**	P	**P**	**12 50 09.9 +0.8**		comp=Z,2µm,5.9s					
SIVA	**Sivas**	**53.75 295**	P	**P**	**12 50 09.8 +0.5**	SKR			MLR	MLR		
DEV	**Deva**	**53.77 308**⇑	*i*P	**P**	**12 50 10.6 +1.4**		comp=Z,38µm,18.0s					
MHLO	**Agia Marina, M**	**53.78 297**	P	**P**	**12 50 13.3 +3.9**	**KLV**	**Kalavryta, Ach**	**55.31 299**	P	**P**	**12 50 20.6 0.0**	
AOS	**Alonnisos**	**53.79 300**	P	P	12 50 18.2 +8.7	**SERG**	**Sergoula**	**55.31 299**	P	P	12 50 25.6 +5.0	
PAIG	**Paliouri**	**53.83 301**	P	**P**	**12 50 10.8 +1.0**	**KTK1**	**Kautokeino**	**55.38 337**	*e*P	**P**	**12 50 19.9 -0.7**	
DRGR		**53.84 309**⇑	*i*P	**P**	**12 50 11.0 +1.2**	KTK1			IVmB_BB		12 50 46.2	
DRGR		**53.84 309**⇑	*i*P	P'P'df	13 20 43.6 +10		comp=Z,7µm,2.7s					
VTS	**Vitosha**	**53.85 304**	P	**P**	**12 50 11.7 +1.6**	KTK1			*e*S	**S**	**12 58 02.7 -0.1**	
VTS	**Vitosha**	**53.85 304**⇑	*i*P	**P**	**12 50 11.3 +1.2**	**LAKA**	**Lakka**	**55.41 299**	P	**P**	**12 50 22.8 +1.5**	
VTS	**Vitosha**	**53.85 304**⇓	*i*P	P'P'df	13 20 43.3 +10	**EVR**	**Evrytania**	**55.42 300**	P	**P**	**12 50 21.7 +0.2**	
VTS	**Vitosha**	**53.85 304**	*e*P	**P**	**12 50 09.5 -0.6**	**FNA**	**Florina**	**55.45 302**	P	**P**	**12 50 22.7 +1.1**	
VTS			pmax	pmax		**FNA**	**Florina**	**55.45 302**	P	**P**	**12 50 21.2 -0.4**	
	comp=Z,910nm,1.3s					FNA			pmax	pmax		
VTS	**Vitosha**	**53.85 304**	*e*P	**P**	**12 50 13.5 +3.4**		comp=Z,350nm,1.0s					
VTS	**Vitosha**	**53.85 304**	*e*P	**P**	**12 50 09.4 -0.6**	**BIA**	**Bitola**	**55.45 302**	*i* P	**P**	**12 50 25.6 +4.0**	
	comp=Z,913nm,1.3s					**OJC**	**Ojcow**	**55.56 314**	*e*P	**P**	**12 50 22.4 +0.2**	
TRPA	**Tarpa**	**53.88 311**⇑	*e*P	**P**	**12 50 11.3 +1.3**	OJC			*e*S	**S**	**12 58 04.4 -1.4**	
GZR	**Gura Zlata**	**53.89 308**⇑	*i*P	**P**	**12 50 10.5 +0.3**	OJC			LMZ	LR	13 11 29.1	
GZR	**Gura Zlata**	**53.89 308**⇑	*i*P	**P'P'df**	**13 20 37.5 +4.5**		comp=Z,95µm,36.3s					
SEY	**Seymchan**	**53.93 31**	P	**P**	**12 50 10.8 +0.7**	**OJC**	**Ojcow**	**55.56 314**	*e*P	**P**	**12 50 22.4 +0.2**	
	comp=Z,139nm,1.0s,baz=271,slow=8.1,SNR=24					OJC			*e*S	**S**	**12 58 04.4 -1.4**	
SEY			S	**S**	**12 57 41.0 -2.4**	**OJC**	**Ojcow**	**55.56 314**	*e*P	**P**	**12 50 22.2 0.0**	
	comp=Z,4.9nm,0.9s,baz=325,slow=12,SNR=1.8						comp=Z,304nm,0.8s					
SEY			LR	LR	13 16 19.3	**KPRO**	**Kipourio**	**55.59 301**	P	**P**	**12 50 25.7 +3.1**	
	comp=Z,49µm,19.2s,baz=262,slow=40					**HAMF**	**Hammerfest**	**55.62 339**	*e*P	**P**	**12 50 22.4 +0.2**	
SEY			PKPPKP	P'P'df	13 20 24.0 -9.1	HAMF			IVmB_BB		12 50 45.4	
	comp=Z,4.0nm,0.9s,baz=352,slow=5.5,SNR=4.1						comp=Z,16µm,0.8s					
SEY	**Seymchan**	**53.93 31**	*ce*P	**P**	**12 50 12.8 +2.7**	HAMF			*e*S	**S**	**12 58 05.9 0.0**	
PLG	**Polygyros**	**53.95 301**	P	**P**	**12 50 11.6 +0.9**	HAMF			IVMs_BB	IVMs_BB	13 15 42.1	
SOH	**Sokhos**	**53.96 302**	P	**P**	**12 50 11.7 +0.9**		comp=Z,27µm,12.5s					
PTL	**Penteli**	**53.97 298**	P	**P**	**12 50 13.5 +2.6**	**ITM**	**Ithomi**	**55.64 298**	P	**P**	**12 50 24.4 +1.4**	
UZH	**Uzhgorod**	**54.02 312**	*e*P	**P**	**12 50 11.8 +0.8**	**DRO**	**Drossia**	**55.66 299**	P	**P**	**12 50 26.0 +2.9**	
UZH			*e*		12 52 18.0	**PSZ**	**Piszkesteto**	**55.66 311**⇓	*i*P	**P**	**12 50 24.4 +1.4**	
UZH			*i* S	**S**	**12 57 42.8 -2.2**	**PSZ**	**Piszkesteto**	**55.66 311**	*e*P	**P**	**12 50 24.1 +1.1**	
UZH			*e*SP	**SPn**	**12 58 02.0 +9.2**	PSZ			pmax	pmax		
UZH			*i* SS	**SKiKP**	**13 01 23.0 +1.6**		comp=Z,650nm,1.3s					
UZH			MLR	MLR		**PSZ**	**Piszkesteto**	**55.66 311**⇑	*e*P	**P**	**12 50 23.6 +0.6**	
	comp=N,6µm,13.0s					**PSZ**	**Piszkesteto**	**55.66 311**	*e*P	**P**	**12 50 22.2 -0.8**	
UZH			MLR	MLR			comp=Z,650nm,1.3s					
	comp=E,25µm,13.0s					**PVO**	**Paravola**	**55.69 299**	P	**P**	**12 50 27.5 +4.2**	
UZH			MLR	MLR		**PENT**	**Pentalofos**	**55.72 301**	P	**P**	**12 50 24.1 +0.5**	
	comp=Z,11µm,13.0s					**AMT**	**Artemida-Makis**	**55.74 298**	P	**P**	**12 50 25.4 +1.7**	
KKB	**Krupnik**	**54.03 303**	*e*P	**P**	**12 50 15.8 +4.6**	**NEST**	**Nestorio**	**55.75 302**	P	**P**	**12 50 23.9 +0.1**	
ATHU	**Athens Univers**	**54.05 298**	P	**P**	**12 50 14.6 +3.2**	**OHR**	**Ohrid**	**55.83 303**	*i* P	**P**	**12 50 23.3 -1.0**	
VLY	**Voula,Athens**	**54.06 298**	P	**P**	**12 50 11.5 0.0**	**RLS**	**Riolos of Patr**	**55.84 299**	P	**P**	**12 50 27.2 +2.9**	
SKIA	**Skiathos**	**54.10 300**	P	**P**	**12 50 15.8 +4.0**	**PYL**	**PYLOS**	**55.84 297**	P	**P**	**12 50 23.6 -0.8**	
VAM	**Vamos**	**54.17 295**	P	**P**	**12 50 13.7 +1.4**	**LANS**	**Liptovska Anna**	**55.85 312**	*e*P	**P**	**12 50 25.2 +0.9**	
HORT	**Hortiatis**	**54.18 302**	P	**P**	**12 50 15.2 +2.8**	**LANS**	**Liptovska Anna**	**55.85 312**	*e*P	**P**	**12 50 25.2 +0.9**	
KNT	**Kendrikon**	**54.25 302**	P	**P**	**12 50 13.7 +0.8**	**AXS**	**Araxos**	**55.88 299**	P	**P**	**12 50 28.4 +3.8**	
NEO	**Neokhori**	**54.27 300**	P	**P**	**12 50 17.0 +4.0**	**DSL**	**Palaion Diasel**	**55.93 300**	P	P	12 50 34.8 +10	
THE	**Thessaloniki**	**54.27 302**	P	**P**	**12 50 16.2 +3.2**	**PDO**	**Prodromos**	**55.96 300**	P	**P**	**12 50 25.0 -0.2**	
THE	**Thessaloniki**	**54.27 302**	P	**P**	**12 50 17.0 +4.0**	**DIVS**	**Divibare**	**56.00 306**	P	**P**	**12 50 26.6 +1.1**	
THE			pmax	pmax		**JAN**	**Janina**	**56.03 301**	P	**P**	**12 50 25.6 -0.1**	
	comp=Z,618nm,1.4s					**PEA0**	**Petropavlovsk-**	**56.16 43**	*e*P	**P**	**12 50 25.2 -1.2**	
KEV	**Kevo**	**54.28 338**	*e*P	**P**	**12 50 13.0 +0.4**	**PEA0B**	**Petropavlovsk-**	**56.16 43**	*e*P	**P**	**12 50 25.7 -0.7**	
KEV			pmax	pmax			comp=Z,433nm,1.0s					
	comp=Z,351nm,0.8s					PEA0B			*e*S	**S**	**12 58 12.7 -1.0**	
KEV			MLR	MLR		PEA0B			LR	LR		
	comp=Z,57µm,19.0s						comp=Z,90µm,20.0s					
KEV	**Kevo**	**54.28 338**	*e*P	**P**	**12 50 13.0 +0.4**	**PETK**	**Petropavlovsk-**	**56.16 43**	P	**P**	**12 50 26.5 +0.1**	
	comp=Z,351nm,0.8s						comp=Z,62nm,0.6s,baz=326,slow=1.8,SNR=32					
KEV			LR	LR		PETK			LR	LR	13 16 41.9	
	comp=Z,57µm,19.0s						comp=Z,79µm,19.4s,baz=269,slow=38					
XOR	**Xorichti**	**54.29 300**	P	**P**	**12 50 16.1 +2.9**	PETK			PKP2bc		13 20 31.6	
IMMV	**Iera Moni Meta**	**54.34 295**	P	**P**	**12 50 14.7 +1.2**		comp=Z,3.7nm,1.0s,baz=45,slow=6.9,SNR=4.2					
SMIA	**Simia**	**54.35 300**	P	**P**	**12 50 14.3 +0.7**	**PETK**	**Petropavlovsk-**	**56.16 43**	P	**P**	**12 50 26.5 +0.1**	
GVD	**Gavdhos**	**54.37 294**	P	**P**	**12 50 13.7 -0.1**	PETK			pmax	pmax		
VILL	**Villia**	**54.38 299**	P	**P**	**12 50 13.7 -0.2**		comp=Z,64nm,0.7s					
FYTO	**Fytoko, Volos**	**54.47 300**	P	**P**	**12 50 18.4 +3.9**	PETK			MLR	MLR		
GUMO	**Guam**	**54.48 93**	P	**P**	**12 50 14.9 0.0**		comp=Z,79µm,19.4s					
	comp=Z,290nm,0.8s,baz=192,slow=8.9,SNR=20					**PVY**	**Plav**	**56.23 304**⇓	*i*P	**P**	**12 50 26.5 -0.7**	
GUMO	**Guam**	**54.48 93**	*e*P	**P**	**12 50 14.8 0.0**	**IVA**	**Berane**	**56.24 305**	*e*P	**P**	**12 50 26.7 -0.5**	
	comp=Z,1µm,1.4s					**MRIV**	**Mauritius Mete**	**56.27 215**	*e*P	**P**	**12 50 26.8 -0.8**	
VAY	**Valandovo**	**54.48 303**	P	**P**	**12 50 14.9 +0.4**	**BUD**	**Budapest**	**56.29 310**	P	**P**	**12 50 28.8 +1.4**	
VAY	**Valandovo**	**54.48 303**	*i* P	**P**	**12 50 14.6 +0.1**	BUD			pmax	pmax		
VAY	**Valandovo**	**54.48 303**	P	**P**	**12 50 17.0 +2.5**		comp=Z,240nm,1.1s					
VAF	**Ylistaro**	**54.51 329**	P	**P**	**12 50 14.6 +0.3**	**BUD**	**Budapest**	**56.29 310**⇑	*e*P	**P**	**12 50 27.2 -0.2**	
VAF			pmax	pmax		**VYHS**	**Vyhne**	**56.32 312**	*e*P	**P**	**12 50 28.1 +0.5**	
	comp=Z,1µm,1.2s					VYHS			pmax	pmax		
LKR	**Lokris**	**54.55 299**	P	**P**	**12 50 17.0 +2.0**		comp=Z,358nm,1.5s					
DID	**Didima**	**54.55 298**	P	**P**	**12 50 16.6 +1.5**	**VYHS**	**Vyhne**	**56.32 312**	*e*P	**P**	**12 50 28.1 +0.5**	
SIRR	**Siria**	**54.60 309**⇑	*i*P	**P**	**12 50 16.9 +1.6**	VYHS			*e*S	**S**	**12 58 12.5 -3.4**	
STHS	**Stebnicka Huta**	**54.67 313**	*e*P	**P**	**12 50 16.2 +0.4**	VYHS			*e*L	L	13 12 31.1	
STHS			pmax	pmax		VYHS			*e*		13 20 42.7	
	comp=Z,164nm,1.0s					**LKD2**	**Lefkada island**	**56.33 300**	P	**P**	**12 50 27.5 -0.4**	
STHS	**Stebnicka Huta**	**54.67 313**	*e*P	**P**	**12 50 16.2 +0.4**	**KFL**	**Anninata**	**56.35 299**	P	**P**	**12 50 27.5 -0.5**	
LOUT	**Loutraki**	**54.67 298**	P	P	12 50 10.7 -5.3	**IGT**	**Igoumenitsa**	**56.44 301**	P	**P**	**12 50 28.1 -0.6**	
LTK	**Loutraki**	**54.67 299**	P	**P**	**12 50 16.6 +0.6**	**TIR**	**Tirane**	**56.49 303**	*i* P	**P**	**12 50 29.9 +0.9**	
BZS	**Buzias**	**54.69 308**⇑	*i*P	**P**	**12 50 16.6 +0.7**	**TIR**	**Tirane**	**56.49 303**⇑	*i*P	**P**	**12 50 29.1 +0.2**	
BZS	**Buzias**	**54.69 308**⇑	*i*P	**P'P'df**	**13 20 36.8 +5.0**	**TIR**	**Tirane**	**56.49 303**	*e*P	**P**	**12 50 28.5 -0.5**	
LIT	**Litokhoron**	**54.71 301**	P	**P**	**12 50 16.9 +0.7**	TIR			pmax	pmax		
LIT	**Litokhoron**	**54.71 301**	P	**P**	**12 50 16.4 +0.2**		comp=Z,1µm,1.0s					
LIT			pmax	pmax		**TIR**	**Tirane**	**56.49 303**	*e*P	**P**	**12 50 28.4 -0.5**	
	comp=Z,689nm,1.1s						comp=Z,1µm,1.0s					
ARA0	**ARCESS Array S**	**54.73 338**	*e*P	**P**	**12 50 15.7 -0.2**	**VLS**	**Valsamata**	**56.49 299**	P	**P**	**12 50 27.8 -1.2**	
ARCES	**ARCESS Array B**	**54.73 338**	P	**P**	**12 50 15.6 -0.2**	**SGD**	**Sagiada**	**56.50 301**	P	**P**	**12 50 28.4 -0.7**	
	comp=Z,16nm,0.3s,baz=103,slow=7.0,SNR=39					**PLE**	**Pljevlja**	**56.54 305**	*e*P	**P**	**12 50 29.1 -0.3**	
ARCES			LR	LR	13 14 47.6	**RAC**	**Raciborz**	**56.60 314**	*e*P	**P**	**12 50 30.0 +0.4**	
	comp=Z,59µm,18.0s,baz=108,slow=37					RAC			*e*S	**S**	**12 58 18.0 -1.6**	
ARE0	**ARCESS Array S**	**54.73 338**	*e*P	**P**	**12 50 15.7 -0.2**	RAC			MLR	MLR		
ARE0			IVmB_BB		12 50 41.9		comp=E,67µm,27.9s					
	comp=Z,7µm,2.6s					RAC			MLR	MLR		
ARE0			*e*S	**S**	**12 57 55.0 +0.9**		comp=Z,50µm,23.2s					
ARE0			IVMs_BB	IVMs_BB	13 14 35.7	**OKC**	**Ostrava-Krasne**	**56.65 313**	*e*P	**P**	**12 50 28.6 -1.4**	
	comp=Z,23µm,14.1s					OKC			*ex*	x	12 50 58.7	
ARE0	**ARCESS Array S**	**54.73 338**	*e*P	**P**	**12 50 16.8 +0.9**	OKC			*e*S	**S**	**12 58 18.5 -1.8**	
	comp=Z,464nm,0.8s					OKC			AMS	AMS	13 15 10.0	
ANKY	**Antikythira Is**	**54.80 296**	P	P	12 50 11.7 -5.2		comp=Z,49µm,22.1s					
SAUI	**Saumlaki**	**54.82 124**	P	**P**	**12 50 17.2 0.0**	**OKC**	**Ostrava-Krasne**	**56.65 313**	*e*P	**P**	**12 50 28.6 -1.4**	
	comp=Z,1µm,0.7s,comp=Z,21µmcomp=Z,47µm					OKC			*e*S	**S**	**12 58 18.5 -1.8**	
SAUI	**Saumlaki**	**54.82 124**	*e*P	**P**	**12 50 17.2 0.0**	OKC			MLR	MLR		
	comp=Z,3µm,1.6s						comp=Z,49µm,22.1s					
SAUI			LR	LR		**KMBO**	**Kilima Mbogo**	**56.67 248**	P	**P**	**12 50 32.0 +1.2**	
	comp=Z,44µm,18.0s						comp=Z,52nm,1.1s,baz=39,slow=8.9,SNR=32					
LRSO	**Larissa Observ**	**54.85 301**	P	P	12 50 26.5 +9.3	KMBO			S	**S**	**12 58 16.1 -5.8**	
BEL	**Belsk**	**54.87 316**	*e*P	**P**	**12 50 17.8 +0.7**		comp=Z,2.4nm,0.7s,baz=341,slow=8.6,SNR=1.7					
BEL			*e*S	**S**	**12 57 54.5 -2.0**	KMBO			LR	LR	13 16 03.2	
BEL			LMZ	LR	13 12 42.5		comp=Z,14µm,18.8s,baz=58,slow=37					
	comp=Z,96µm,30.2s					KMBO			PKPPKP	**P'P'df**	**13 20 28.3 +4.0**	
BEL	**Belsk**	**54.87 316**	*e*P	**P**	**12 50 17.8 +0.7**		comp=Z,0.6nm,0.2s,baz=194,slow=12,SNR=3.7					
BEL			*e*S	**S**	**12 57 54.5 -2.0**	**KMBO**	**Kilima Mbogo**	**56.67 248**	*e*P	**P**	**12 50 29.8 -1.0**	
THAL	**Thalero**	**54.91 299**	P	**P**	**12 50 16.2 -1.4**		comp=Z,1µm,1.8s					
KYTH	**Kithira**	**54.93 296**	P	**P**	**12 50 18.9 +1.0**	KMBO			S	**S**	**12 58 16.1 -5.8**	
VLI	**Veliai**	**54.93 297**	P	**P**	**12 50 16.8 -1.0**	KMBO			P'P'		13 20 28.3	
DSF	**Desfina**	**54.95 299**	P	**P**	**12 50 17.6 -0.4**	**SRO2**	**Moca**	**56.69 311**	*e*P	**P**	**12 50 30.4 +0.2**	
AGG	**Agios Georgios**	**55.00 300**	P	**P**	**12 50 18.4 0.0**	**SRO2**	**Moca**	**56.69 311**	*e*P	**P**	**12 50 30.4 +0.2**	
AGG	**Agios Georgios**	**55.00 300**	*e*P	**P**	**12 50 17.5 -0.9**	**PET**	**Petropavlovsk**	**56.74 43**	*ce*P	**P**	**12 50 29.6 -0.9**	
AGG	**Agios Georgios**	**55.00 300**	*e*P	**P**	**12 50 17.5 -0.9**	**PET**	**Petropavlovsk**	**56.74 43**	*ce*P	**P**	**12 50 29.6 -0.9**	
	comp=Z,3µm,0.9s					PET			pmax	pmax		
AGG			*e*S	**S**	**12 57 58.2 -0.5**		comp=Z,3µm,9.0s					
THL	**Klokotos Trika**	**55.16 301**	P	**P**	**12 50 19.2 -0.2**	PET			pmax	pmax		
							comp=Z,3µm,6.0s					
						PET			MLR	MLR		
							comp=Z,86µm,19.0s					
						PET			MLR	MLR		
							comp=Z,58µm,17.0s					
						PET	**Petropavlovsk**	**56.74 43**	*e*P	**P**	**12 50 29.6 -0.9**	
							comp=Z,1µm,2.0s					
						PET			LR	LR		
							comp=Z,64µm,20.0s					
						PDG	**Podgorica**	**56.77 304**	P	**P**	**12 50 31.3 +0.4**	
						PDG	**Podgorica**	**56.77 304**⇓	*i*P	**P**	**12 50 30.8 -0.1**	
						TTG	**Podgorica**	**56.77 304**⇓	*i*P	**P**	**12 50 30.7 -0.1**	
						KEK	**Kerkira**	**56.82 301**	P	**P**	**12 50 30.6 -0.7**	
						CSKK	**Cs˙ákako**	**56.82 310**⇓	*e*P	**P**	**12 50 33.7 +2.5**	
						ULC	**Ulcinj**	**56.85 304**	*e*P	**P**	**12 50 31.0 -0.5**	
						DRME	**Dracevica, Mon**	**56.86 304**⇓	*i*P	**P**	**12 50 30.7 -0.9**	
						NKY	**Niksic**	**56.90 305**⇓	*i*P	**P**	**12 50 31.6 -0.4**	
						UPM	**Unac-Piva**	**56.91 305**⇓	*i*P	**P**	**12 50 31.4 -0.7**	
						NKME	**Niksic**	**56.94 305**	*e*P	**P**	**12 50 32.0 -0.2**	
						HOPEN	**Hopen**	**56.98 346**	*e*P	**P**	**12 50 33.4 +1.6**	
						HOPEN			IVmB_BB		12 50 54.2	
							comp=Z,8µm,2.7s					
						HOPEN			*e*S	**S**	**12 58 26.2 +2.5**	
						HOPEN			IVMs_BB	IVMs_BB	13 19 46.6	
							comp=Z,28µm,17.0s					
						GKP	**Gorka Klasztor**	**56.98 317**	*e*P	**P**	**12 50 32.5 +0.3**	
						GKP			*i* S	**S**	**12 58 23.3 -1.1**	
						GKP			LMZ	LR	13 13 38.7	
							comp=Z,67µm,31.7s					
						GKP	**Gorka Klasztor**	**56.98 317**	*e*P	**P**	**12 50 32.5 +0.3**	
						GKP			*i* S	**S**	**12 58 23.3 -1.1**	
						CEME	**Cevo**	**57.00 305**⇓	*i*P	**P**	**12 50 32.1 -0.5**	
						TRO	**Tromso**	**57.00 337**	*e*P	**P**	**12 50 34.1 +2.0**	
						TRO			IVmB_BB		12 50 58.6	
							comp=Z,7µm,1.5s					
						TRO			*e*		12 58 20.6	
						TRO			IVMs_BB	IVMs_BB	13 16 32.9	
							comp=Z,23µm,13.3s					
						MORC	**Moravsky Berou**	**57.05 313**⇑	*i*P	**P**	**12 50 32.7 -0.1**	
						MORC	**Moravsky Berou**	**57.05 313**⇓	*i*P	**P'P'df**	**13 20 35.8 +7.4**	
						MORC	**Moravsky Berou**	**57.05 313**	*e*P	**P**	**12 50 32.2 -0.6**	
						MORC			pmax	pmax		
							comp=Z,2µm,1.1s					
						MORC	**Moravsky Berou**	**57.05 313**	*e*P	**P**	**12 50 32.2 -0.6**	
							comp=Z,2µm,1.1s					
						BUM	**Brajici-Budva**	**57.05 304**⇓	*i*P	**P**	**12 50 32.9 -0.1**	
						BRY	**Bratogost**	**57.22 305**	*e*P	**P**	**12 50 33.7 -0.6**	
						SMOL	**Smolenice**	**57.25 312**	*e*P	**P**	**12 50 35.3 +1.1**	
						SMOL	**Smolenice**	**57.25 312**	*e*P	**P**	**12 50 35.3 +1.1**	
						HCY	**Herceg Novi**	**57.32 304**⇓	*i*P	**P**	**12 50 34.5 -0.3**	
						MBWA	**Marble Bar**	**57.46 145**	*e*P	**P**	**12 50 34.5 -1.4**	
							comp=Z,776nm,0.9s					
						MBWA	**Marble Bar**	**57.46 145**	P	**P**	**12 50 34.4 -1.6**	
							SNR=52					
						KRLC	**Kraliky**	**57.51 314**	*e*P	**P**	**12 50 36.8 +0.7**	
						KRLC	**Kraliky**	**57.51 314**	*e*P	**P**	**12 50 36.8 +0.7**	
						VRAC	**Vranov**	**57.71 313**⇑	*i*P	**P**	**12 50 37.6 +0.1**	
						KSP	**Ksiaz**	**57.75 315**	*e*P	**P**	**12 50 38.5 +0.8**	
						KSP			*e*S	**S**	**12 58 31.5 -3.1**	
						KSP			LMZ	LR	13 12 29.9	
							comp=Z,108µm,38.3s					
						KSP	**Ksiaz**	**57.75 315**	*e*P	**P**	**12 50 38.5 +0.8**	
						KSP			*e*S	**S**	**12 58 31.5 -3.1**	
						DPC	**Dobruska-Polom**	**57.78 314**	*e*P	**P**	**12 50 37.7 -0.3**	
						DPC			*ex*	x	12 51 07.1	
						DPC			*e*S	**S**	**12 58 33.7 -1.5**	
						DPC			AMS	AMS	13 15 30.0	
							comp=Z,61µm,25.7s					
						DPC			*e*PKPPKP	P'P'df	13 20 18.1 -9.2	
						DPC	**Dobruska-Polom**	**57.78 314**	*e*P	**P**	**12 50 37.7 -0.3**	
						DPC			*e*S	**S**	**12 58 33.7 -1.5**	
						DPC			MLR	MLR		
							comp=Z,61µm,25.7s					
						STON	**Ston**	**57.83 305**	P	**P**	**12 50 37.5 -0.8**	
						BJO	**Bjornoya**	**57.83 343**	*e*P	**P**	**12 50 40.0 +2.2**	
						BJO			IVmB_BB		12 51 05.6	
							comp=Z,10µm,3.6s					
						BJO			*e*S	**S**	**12 58 36.0 +1.0**	
						BJO			IVMs_BB	IVMs_BB	13 18 55.9	
							comp=Z,18µm,13.6s					
						RER	**Riviere de l'E**	**57.89 216**	*e*P	**P**	**12 50 40.2 +1.2**	
							comp=Z,646nm,1.0s					
						RER			LR	LR		
							comp=Z,81µm,21.0s					
						SOP	**Sopron**	**57.92 311**	P	**P**	**12 50 39.3 +0.3**	
						SOP			pmax	pmax		
							comp=Z,527nm,1.4s					
						SOP	**Sopron**	**57.92 311**⇑	*e*P	**P**	**12 50 39.2 +0.3**	
						BEHE	**Becsehely**	**57.94 309**⇑	*e*P	**P**	**12 50 40.1 +1.0**	
						UPC	**Upice**	**57.96 314**	*e*P	**P**	**12 50 39.6 +0.4**	
						UPC			*ex*	x	12 50 50.0	
						UPC			*ex*	x	12 51 08.1	
						UPC			*e*S	**S**	**12 58 35.9 -1.5**	
						UPC			AMS	AMS	13 15 40.0	
							comp=Z,70µm,25.3s					
						UPC			*e*

PVCC **Panska Ves** 58.87 314 *e*P **P** 12 50 46.1 +0.6
PVCC *e*S **S** 12 58 46.7 -2.6
PVCC MLR MLR
comp=Z,55µm,23.5s
KONS **Konsvik** 58.88 333 *e*P **P** 12 50 44.9 -0.4
KONS IVmB_BB 12 51 08.0
comp=Z,6µm,1.6s
KONS *e*S **S** 12 58 48.7 -0.2
STOK **Stokkvaagen** 58.92 333 *e*P **P** 12 50 45.2 -0.3
STOK IVmB_BB 12 51 22.8
comp=Z,9µm,1.4s
STOK *e*S **S** 12 58 48.5 -0.9
UDBI **Udbina** 58.94 307 P **P** 12 50 46.1 -0.1
PRU **Pruhonice** 58.95 314 *e*P **P** 12 50 45.9 -0.2
PRU *ex* x 12 51 14.4
PRU *e*S **S** 12 58 48.8 -1.6
PRU AMS AMS 13 16 10.0
comp=Z,70µm,24.5s
PRU *e*PKPPKP **P'P'df** 13 20 20.5 -4.9
PRU *ex* x 13 20 32.5
PRU **Pruhonice** 58.95 314 *e*P **P** 12 50 45.9 -0.2
PRU *e*S **S** 12 58 48.8 -1.6
PRU MLR MLR
comp=Z,70µm,24.5s
OZLJ **Ozalj** 58.97 309 P **P** 12 50 46.0 -0.2
PRA **Prague** 59.01 314 *e*P **P** 12 50 47.7 +1.2
PRA *e*S **S** 12 58 50.2 -1.0
PRA AMS AMS 13 16 20.0
comp=Z,68µm,24.8s
PRA **Prague** 59.01 314 *e*P **P** 12 50 47.7 +1.2
PRA *e*S **S** 12 58 50.2 -1.0
PRA MLR MLR
comp=Z,68µm,24.8s
PERS **Pernice** 59.05 310 *e*P **P** 12 50 47.4 +0.4
PERS *e*S **S** 12 58 47.6 -4.3
PERS *e* 12 59 16.2
SOKA **Soboth** 59.10 310 *i* P **P** 12 50 46.8 -0.5
comp=Z,146nm,0.7s,SNR=94
BOJS **Bojanci** 59.13 308 *i* P **P** 12 50 47.8 +0.3
BOJS *i* PcP sP 12 51 15.1 +15
BOJS *e*S **S** 12 58 49.2 -3.6
BOJS *e* 12 59 17.5
RGN **Rugen** 59.19 319 *e*P **P** 12 50 48.9 +1.3
comp=Z,1µm,0.9s
RGN LR LR
comp=Z,62µm,22.0s
HSPB **Hornsund (broa** 59.21 345 *e*P **P** 12 50 47.5 +0.1
HSPB IVmB_BB 12 51 13.5
comp=Z,5µm,1.9s
HSPB *e*S **S** 12 58 55.2 +2.2
HSPB IVMs_BB IVMs_BB 13 20 17.4
comp=Z,32µm,17.4s
HSPB **Hornsund (broa** 59.21 345 *e*P **P** 12 50 50.4 +2.9
HSPB *e*S **S** 12 59 00.1 +7.1
BRG **Berggiesshubel** 59.22 315 *i* P **P** 12 50 48.3 +0.3
comp=Z,246nm,1.0s
BRG *i* 12 51 16.4
comp=Z,656nm,1.3s
BRG S **S** 12 58 51.0 -2.9
BRG SS **SS** 13 02 51.0 +2.9
BRG *i* pPKP 13 20 31.9
comp=Z,70nm,1.7s
comp=N,340µm,32.0s
comp=E,117µm,34.3s
comp=Z,126µm,38.0s
BRG **Berggiesshubel** 59.22 315 *i* P **P** 12 50 48.3 +0.3
BRG S **S** 12 58 51.0 -2.9
BRG SS **SS** 13 02 51.0 +2.9
BRG pmax pmax
comp=Z,246nm,1.0s
SPA0 **Spitsbergen Ar** 59.26 347 *e*P **P** 12 50 48.4 +0.6
VISS **Visnje** 59.37 309 *i* P **P** 12 50 49.5 +0.4
VISS *i* PcP sP 12 51 17.3 +16
VISS *e*S **S** 12 58 52.4 -3.5
VISS *e* 12 59 18.9
MOA **Molln** 59.43 311 *i* P **P** 12 50 48.7 -0.9
comp=Z,134nm,0.7s,SNR=97
OBKA **Obir** 59.45 310 *i* P **P** 12 50 50.4 +0.7
comp=Z,145nm,1.1s,SNR=58
LJU **Ljubljana** 59.54 309 *e*P **P** 12 50 51.2 +0.9
NVLJ **Novalja** 59.56 307 P **P** 12 50 49.0 -1.4
NC405 **NORSAR Array S** 59.57 327 *e*P **P** 12 50 49.4 -0.8
GEC2 **GERESS Array S** 59.66 312 *e*P **P** 12 50 50.7 -0.4
GEC2 pmax pmax
comp=Z,700nm,1.1s
GEC2 **GERESS Array S** 59.66 312 *e*P **P** 12 50 50.7 -0.4
comp=Z,697nm,1.1s
GEC2 LR LR
comp=Z,42µm,19.0s
GERES **GERESS Array B** 59.66 312 P **P** 12 50 50.5 -0.6
comp=Z,116nm,0.7s,baz=84,slow=6.8,SNR=175
GERES S **S** 12 58 59.0 -0.8
comp=Z,2.4nm,0.8s,baz=85,slow=22,SNR=2.5
GERES LR LR 13 19 28.9
comp=Z,41µm,20.3s,baz=78,slow=39
GERES PKPPKP **P'P'df** 13 20 20.3 -4.1
comp=Z,0.8nm,0.8s,baz=268,slow=4.8,SNR=4.0
GERES **GERESS Array B** 59.66 312 P **P** 12 50 50.6 -0.6
GERES S **S** 12 58 59.0 -0.8
GERES pmax pmax
comp=Z,115nm,0.7s
GERES smax smax
comp=N,2.0nm,0.8s
GERES MLR MLR
comp=Z,41µm,20.3s
GEA0 **GERESS Array S** 59.66 312 *e*P **P** 12 50 50.4 -0.7
NC602 **NORSAR Array S** 59.67 326 *e*P **P** 12 50 50.0 -0.9
NC602 IVmB_BB 12 51 12.4
comp=Z,7µm,1.6s
NC602 *e*S **S** 12 58 57.8 -1.6
NC602 IVMs_BB IVMs_BB 13 19 43.7
comp=Z,27µm,12.4s
NC602 **NORSAR Array S** 59.67 326 *e*P **P** 12 50 50.1 -0.9
KHC **Kasperske Hory** 59.69 313 *e*P **P** 12 50 50.6 -0.7
KHC *ex* x 12 51 01.7
KHC *e*S **S** 12 58 58.9 -1.2
KHC AMS AMS 13 16 40.0
comp=Z,69µm,24.0s
KHC *e*PKPPKP **P'P'df** 13 20 27.0 +2.8
KHC **Kasperske Hory** 59.69 313 *e*P **P** 12 50 50.6 -0.7
KHC *e* 12 51 01.7
KHC *e*S **S** 12 58 58.9 -1.2
KHC MLR MLR
comp=Z,69µm,24.0s
KHC **Kasperske Hory** 59.69 313 *e*P **P** 12 50 51.1 -0.2
comp=Z,142nm,1.0s
KHC LR LR
comp=Z,16µm,18.0s
NC303 **NORSAR Array S** 59.73 327 *e*P **P** 12 50 50.4 -0.9
LLD **Lille Linde** 59.75 320 *i* P **P** 12 50 54.5 +3.0
LLD **Lille Linde** 59.75 320 *i* P **P** 12 50 54.5 +3.0
CLL **Collm** 59.76 315 *e*P **P** 12 50 52.0 +0.4
CLL *e*S **S** 12 58 59.0 -1.7
CLL pmax pmax
comp=Z,60nm,1.1s
CLL **Collm** 59.76 315 *e*P **P** 12 50 52.0 +0.4
comp=Z,60nm,1.1s
CLL *i* pP **sP** 12 51 05.6 +1.3
CLL *i* sP pP 12 51 11.6 +11
comp=Z,198nm,0.9s
CLL *e* 12 51 20.0
comp=Z,789nm,1.8s
CLL *e*Pmax 12 51 25.0
CLL *e*PP **PP** 12 53 06.0 +2.6
CLL *e*PPPP 12 54 58.0
CLL *e*S **S** 12 58 59.0 -1.7
CLL *e* 12 59 08.0
CLL *e*PS **PnS** 12 59 23.0 +7.4
CLL *e* 13 01 09.0
CLL *e*SS **SS** 13 03 00.0 +3.6
CLL *e*SSS SSS 13 05 42.0
CLL *e*PKPPKPbc **P'P'bc** 13 20 30.0 -4.2
CLL *e*Lmax 13 20 44.0
CLL **Collm** 59.76 315 *e*P **P** 12 50 51.6 0.0
comp=Z,461nm,1.4s
CLL LR LR
comp=Z,36µm,20.0s
CUC **Castrocucco** 59.77 302 *e*P **P** 12 50 50.7 -1.3
comp=Z,787nm,1.3s
CUC LR LR
comp=Z,11µm,21.0s
NB201 **NORSAR Array S** 59.78 327 *e*P **P** 12 50 50.5 -1.2
NB2 **NORSAR Subarra** 59.82 327 P **P** 12 50 51.3 -0.7
baz=87,slow=6.9
NB2 **NORSAR Subarra** 59.82 327 P **P** 12 50 51.3 -0.7
comp=Z,2µm,1.4s,baz=87,slow=6.9
NOA **NORSAR Array B** 59.82 327 P **P** 12 50 51.3 -0.7
comp=Z,55nm,1.0s,baz=90,slow=6.7,SNR=53
NOA S **S** 12 58 58.9 -2.4
comp=Z,4.7nm,0.8s,baz=299,slow=10,SNR=2.8
NOA LR LR 13 18 53.3
comp=Z,53µm,18.8s,baz=85,slow=38
NOA PKP2bc 13 20 26.7
comp=Z,2.3nm,1.0s,baz=291,slow=3.0,SNR=3.4
JAVS **Javornik** 59.89 309 *e*P **P** 12 50 52.7 0.0
JAVS *i* PcP sP 12 51 20.0 +15
JAVS *e*S **S** 12 58 58.8 -4.0
JAVS *e* 12 59 24.9
NAO01 **NORSAR Array S** 59.99 327 *e*P **P** 12 50 51.8 -1.3
NBO02 **NORSAR Array S** 59.99 327 *e*P **P** 12 50 52.4 -0.8
NC204 **NORSAR Array S** 60.02 327 *e*P **P** 12 50 52.2 -1.2
NBO00 **NORSAR Array S** 60.03 327 *e*P **P** 12 50 52.6 -0.8
MYKA **Terra Mystica** 60.05 310 *i* P **P** 12 50 53.1 -0.8
comp=Z,32nm,0.6s,SNR=26
CEL **Celeste** 60.09 300 *e*P **P** 12 50 53.2 -1.1
comp=Z,2µm,1.1s
BILL **Bilibino** 60.10 25 *de*P **P** 12 50 54.5 +0.8
BILL *i* *SP **pP** 12 51 03.6 +0.8
BILL *e* 12 51 15.5
BILL 12 51 39.0
BILL *i* S **S** 12 59 04.1 -0.5
BILL *e*SS **SS** 13 02 54.2 -7.0
BILL pmax pmax
comp=Z,18nm,0.7s
BILL MLR MLR
comp=Z,64µm,18.0s
TRI **Trieste** 60.13 309 *e*P **P** 12 50 53.5 -0.8
TRI pmax pmax
comp=Z,806nm,1.0s
TRI **Trieste** 60.13 309 *e*P **P** 12 50 53.5 -0.8
comp=Z,806nm,1.0s
OSL **Oslo** 60.13 325 *e*P **P** 12 50 54.1 +0.1
OSL IVmB_BB 12 51 16.6
comp=Z,8µm,1.2s
OSL *e*S **S** 12 59 05.2 0.0
TBLU **Trondheim** 60.14 329 *e*P **P** 12 50 53.8 -0.3
TBLU IVmB_BB 12 51 17.0
comp=Z,7µm,1.4s
TBLU *e*S **S** 12 59 03.8 -1.5
TBLU IVMs_BB IVMs_BB 13 17 33.6
comp=Z,28µm,21.0s
WET **Wettzell** 60.15 313 P **P** 12 50 54.5 +0.1
WET pmax pmax
comp=Z,580nm,1.3s
KBA **Koelnbreinsper** 60.17 311 *i* P **P** 12 50 53.6 -1.2
comp=Z,62nm,0.8s,SNR=36
KBA **Koelnbreinsper** 60.17 311 P **P** 12 50 54.3 -0.5
KBA pmax pmax
comp=Z,187nm,1.2s
NKC **Novy Kostel** 60.26 314 *e*P **P** 12 50 56.0 +0.9
NKC *e*pP **pP** 12 51 05.6 +1.3
NKC *ex* x 12 51 23.4
NKC *e*S **S** 12 59 05.9 -1.3
NKC AMS AMS 13 18 10.0
comp=Z,56µm,21.1s
NKC *e*PKPPKP **P'P'df** 13 20 25.9 +2.5
NKC **Novy Kostel** 60.26 314 *e*P **P** 12 50 56.0 +0.9
NKC *e* 12 51 05.6
NKC *e*S **S** 12 59 05.9 -1.3
NKC MLR MLR
comp=Z,56µm,21.1s
KBS **Kingsbay** 60.26 348 *e*P **P** 12 50 55.5 +0.8
KBS IVmB_BB 12 51 20.3
comp=Z,3µm,2.4s
KBS *e*S **S** 12 59 08.8 +2.4
KBS IVMs_BB IVMs_BB 13 20 53.5
comp=Z,17µm,14.1s
KBS **Kingsbay** 60.26 348 *e*P **P** 12 50 56.0 +1.3
KBS pmax pmax
comp=Z,700nm,1.5s
KBS **Kingsbay** 60.26 348 *e*P **P** 12 50 56.0 +1.3
comp=Z,696nm,1.5s
MOX **Moxa** 60.72 315 P **P** 12 50 58.4 +0.1
MOX pmax pmax
comp=Z,305nm,1.1s
KONO **Kongsberg** 60.73 325 *e*P **P** 12 50 58.7 +0.6
KONO IVmB_BB 12 51 19.8
comp=Z,8µm,1.9s
KONO *e*S **S** 12 59 11.9 -1.0
KONO IVMs_BB IVMs_BB 13 18 34.4
comp=Z,27µm,16.1s
KONO **Kongsberg** 60.73 325 *de*P **P** 12 50 58.7 +0.6
KONO pmax pmax
comp=Z,1µm,1.2s
KONO MLR MLR
comp=Z,269µm,17.0s
KONO **Kongsberg** 60.73 325 *e*P **P** 12 50 59.0 +0.9
comp=Z,978nm,1.3s
KONO LR LR
comp=Z,73µm,21.0s
DOMB **Dombas** 60.77 328 *e*P **P** 12 50 58.1 -0.3
DOMB IVmB_BB 12 51 20.2
comp=Z,7µm,1.2s
DOMB *e* 12 59 08.9
DOMB *e*S **S** 12 59 12.2 -1.4
DOMB IVMs_BB IVMs_BB 13 17 51.7
comp=Z,30µm,18.2s
ABTA **Abfaltersbach** 60.79 310 *i* P **P** 12 50 58.2 -0.7
comp=Z,114nm,0.8s,SNR=29
AQU **L'Aquila** 61.04 305 *e*P **P** 12 51 00.6 -0.1
AQU pmax pmax
comp=Z,3µm,1.9s
AQU MLR MLR
comp=Z,41µm,22.0s
AQU **L'Aquila** 61.04 305 *e*P **P** 12 51 00.6 -0.1
comp=Z,3µm,1.9s
AQU LR LR
comp=Z,41µm,22.0s
ABPO **Ambohimpanom** 61.12 225 *e*P **P** 12 51 00.6 -0.9
ABPO pmax pmax
comp=Z,360nm,1.3s
ABPO **Ambohimpanom** 61.12 225 *e*P **P** 12 51 00.6 -0.9
comp=Z,364nm,1.4s
ABPO LR LR
comp=Z,44µm,19.0s
WTTA **Wattenberg** 61.29 311 *i* P **P** 12 51 00.7 -1.7
comp=Z,219nm,1.0s,SNR=49
WATA **Walderalm** 61.31 311 *i* P **P** 12 51 01.4 -1.2
comp=Z,160nm,0.8s,SNR=62
MUD **Monsted U'grnd** 61.32 322 *i* P **P** 12 51 04.1 +1.9
MUD **Monsted U'grnd** 61.32 322 *i* P **P** 12 51 04.1 +1.9
FUR **Furstenfeldbru** 61.36 312 P **P** 12 51 03.5 +0.8
FUR pmax pmax
comp=Z,776nm,1.9s
VAE **Valguarnera** 61.42 300 S **S** 12 59 26.6 +4.1
comp=Z,10.0nm,0.9s,baz=233,slow=20,SNR=2.6
MOL **Molde** 61.43 329 *e*P **P** 12 51 04.1 +1.2
MOL IVmB_BB 12 51 26.0
comp=Z,7µm,1.7s
MOL *e*S **S** 12 59 23.2 +1.4
MOL IVMs_BB IVMs_BB 13 18 15.4
comp=Z,30µm,17.8s
HOMB **Homborsund** 61.44 324 *e*P **P** 12 51 03.8 +0.8
HOMB IVmB_BB 12 51 25.8
comp=Z,7µm,1.6s
HOMB *e*S **S** 12 59 20.6 -1.4
HOMB IVMs_BB IVMs_BB 13 16 44.7
comp=Z,25µm,37.4s
MOTA **Moosalm** 61.63 311 *i* P **P** 12 51 03.2 -1.5
comp=Z,187nm,0.7s,SNR=196
AKN **Aaknes** 61.73 328 *e*P **P** 12 51 06.0 +1.1
AKN IVmB_BB 12 51 42.0
comp=Z,6µm,1.9s
AKN *e*S **S** 12 59 27.5 +1.8
AKN IVMs_BB IVMs_BB 13 19 17.9
comp=Z,30µm,13.8s
WDD **Wied Dalam** 61.75 298 *e*P **P** 12 51 03.5 -1.9
comp=Z,4µm,1.8s
RETA **Reutte** 61.83 311 *i* P **P** 12 51 04.7 -1.3
comp=Z,206nm,1.1s,SNR=57
FETA **Feichten** 61.94 311 *i* P **P** 12 51 05.0 -1.8
comp=Z,195nm,1.2s,SNR=71
SNART **Snartemo** 62.11 324 *e*P **P** 12 51 07.9 +0.4
SNART IVmB_BB 12 51 30.5
comp=Z,5µm,2.0s
SNART *e*S **S** 12 59 32.2 +1.8
ODD1 **Odda** 62.19 326 *e*P **P** 12 51 08.6 +0.6
ODD1 IVmB_BB 12 51 36.7
comp=Z,5µm,3.0s
ODD1 *e*S **S** 12 59 33.2 +1.7
ODD1 *e*S **SS** 13 03 37.3 +3.0
ODD1 IVMs_BB IVMs_BB 13 19 29.9
comp=Z,31µm,17.2s
HYA **Hoyanger** 62.23 327 IVmB_BB 12 51 30.1
comp=Z,5µm,2.2s
HYA IVMs_BB IVMs_BB 13 18 45.2
comp=Z,17µm,23.6s
CLTB **Caltabellotta** 62.31 300 *e*P **P** 12 51 09.1 -0.2
comp=Z,869nm,1.4s
BLS5 **Blasjo** 62.34 325 *e*P **P** 12 51 09.2 +0.1
BLS5 IVmB_BB 12 51 32.2
comp=Z,5µm,1.7s
BLS5 *e*S **S** 12 59 33.0 -0.5
BLS5 IVMs_BB IVMs_BB 13 19 33.4
comp=Z,28µm,15.0s
DAVA **Damuels** 62.45 311 *i* P **P** 12 51 09.1 -1.2
comp=Z,356nm,0.9s,SNR=99
DAVOX **Davos/Dischmat** 62.56 311 S **S** 12 59 31.4 -5.6
comp=Z,21nm,1.0s,baz=167,slow=21,SNR=6.2
STU **Stuttgart** 62.60 313 *e*P **P** 12 51 10.7 -0.3
STU pmax pmax
comp=Z,410nm,0.9s
STU **Stuttgart** 62.60 313 *e*P **P** 12 51 10.7 -0.3
comp=Z,406nm,0.9s
TOD **Tromm** 62.68 314 P **P** 12 51 12.1 +0.5
FOO **Floro** 62.72 328 *e*P **P** 12 51 11.8 +0.3
FOO IVmB_BB 12 51 37.0
comp=Z,4µm,3.4s
FOO *e*S **S** 12 59 37.8 -0.2
FOO IVMs_BB IVMs_BB 13 20 22.0
comp=Z,25µm,15.3s
BER **Bergen** 62.76 326 *e*P **P** 12 51 13.9 +2.2
BER IVmB_BB 12 51 33.8
comp=Z,7µm,1.7s
BER *e*S **S** 12 59 37.7 -0.8
BER IVMs_BB IVMs_BB 13 20 32.0
comp=Z,24µm,14.9s
BER **Bergen** 62.76 326 P **P** 12 51 14.2 +2.4
BER pmax pmax
comp=Z,179nm,1.0s
VLC **Villacollemand** 62.79 308 *e*P **P** 12 51 12.5 +0.1
comp=Z,882nm,1.0s
STAV **Stavanger** 62.80 325 *e*P **P** 12 51 13.8 +1.8
STAV IVmB_BB 12 51 34.9
comp=Z,5µm,2.0s
STAV *e*S **S** 12 59 40.1 +1.0
STAV IVMs_BB IVMs_BB 13 17 40.5
comp=Z,24µm,37.9s
ASK **Askoy** 62.81 326 *e*P **P** 12 51 14.3 +2.2
ASK IVmB_BB 12 51 48.7
comp=Z,5µm,2.1s
ASK *e*S **S** 12 59 40.4 +1.1
SUE **Sulen** 62.94 327 *e*P **P** 12 51 13.8 +0.9
SUE IVmB_BB 12 51 35.7
comp=Z,5µm,1.6s
SUE *e*S **S** 12 59 40.9 +0.2
SUE IVMs_BB IVMs_BB 13 19 07.9
comp=Z,23µm,17.4s
TUE **Stuetta** 62.99 310 *e*P **P** 12 51 13.3 -0.5
comp=Z,475nm,1.1s
TUE LR LR
comp=Z,49µm,19.0s
KMY **Karmoy** 62.99 325 *e*P **P** 12 51 13.6 +0.3
KMY *e*S **S** 12 59 42.7 +1.3
BFO **Black Forest** 63.26 313 *i* P **P** 12 51 15.9 +0.5
BFO **Black Forest** 63.26 313 *e*P **P** 12 51 14.8 -0.6
comp=Z,386nm,1.5s
BUG **Bochum--Univer** 63.27 316 P **P** 12 51 15.9 +0.5
BUG pmax pmax
comp=Z,365nm,1.3s
WIT **Witteveen** 63.36 318 P **P** 12 51 19.0 +3.1
WIT pmax pmax
comp=Z,3µm,1.3s
LANF **Langenberg** 63.45 313 *e*P **P** 12 51 17.0 +0.3
WTSB **Winterswijk** 63.45 317 *e*P **P** 12 51 17.0 +0.5
comp=Z,742nm,1.4s
ECH **Echery** 64.04 313 *e*P **P** 12 51 20.6 0.0
MANU **Manus Island** 64.11 107 *e*P **P** 12 51 21.8 +0.4
comp=Z,524nm,0.9s
MOF **Molkenrain** 64.14 312 *e*P **P** 12 51 21.5 +0.2
MOF **Molkenrain** 64.14 312 P **P** 12 51 21.5 +0.2
MEM **Membach** 64.23 316 P **P** 12 51 21.9 +0.2
comp=Z,206nm,1.4s
HGN **Heimansgroeve** 64.24 316 *e*P **P** 12 51 21.7 0.0
comp=Z,299nm,1.4s
HGN *e*S **S** 12 59 49.4 -8.0
HINF **Hinteralfeld** 64.34 312 *e*P **P** 12 51 21.7 -0.8
HINF pmax pmax
comp=Z,281nm,1.3s
WLF **Walferdange** 64.36 314 P **P** 12 51 23.7 +1.1
comp=Z,60nm,1.5s
WLF **Walferdange** 64.36 314 *e*P **P** 12 51 22.6 +0.1
WLF pmax pmax
comp=Z,910nm,1.2s
WLF **Walferdange** 64.36 314 *e*P **P** 12 51 22.6 +0.1
comp=Z,907nm,1.2s
WLF LR LR
comp=Z,42µm,22.0s
SENIN **Lac Senin/Sane** 64.39 311 *e*P **P** 12 51 23.0 -0.1
comp=Z,932nm,1.4s
SENIN LR LR
comp=Z,58µm,18.0s
BEBN **Eben Emael** 64.39 316 P **P** 12 51 23.3 +0.6
comp=Z,92nm,1.7s
LOMF **Lomont** 64.47 312 *e*P **P** 12 51 23.2 -0.2
VSL **Villasalto** 64.70 303 *e*P **P** 12 51 24.9 -0.1
comp=Z,1µm,1.7s
BCLA **Clavier** 64.71 315 P **P** 12 51 25.1 +0.2
comp=Z,258nm,1.6s
THEF **They Montfort** 64.80 313 *e*P **P** 12 51 27.6 +2.1
LPG **La Plagne** 64.98 310 *e*P **P** 12 51 26.8 -0.2
LPG pmax pmax
comp=Z,207nm,0.7s
LPL **La Plagne** 64.98 310 *e*P **P** 12 51 26.7 -0.3
LPL pmax pmax
comp=Z,117nm,0.5s
GIVF **Givet** 65.09 315 *e*P **P** 12 51 27.0 -0.3
GIVF pmax pmax
comp=Z,47nm,0.8s
WB0 **Warramunga Arr** 65.10 131 PFAKE 12 51 40.0 +12
WB0 LR LR
comp=Z,40µm,21.0s
WB9 **Warramunga Arr** 65.11 131 PFAKE 12 51 40.0 +12
WB9 LR LR
comp=Z,81µm,21.0s
WB8 **Warramunga Arr** 65.12 131 PFAKE 12 51 40.0 +12
WB8 LR LR
comp=Z,39µm,22.0s
BNI **Bardonecchia** 65.14 309 *e*P **P** 12 51 27.3 -0.6
BNI pmax pmax
comp=Z,544nm,1.2s
BNI **Bardonecchia** 65.14 309 *e*P **P** 12 51 27.3 -0.6
comp=Z,544nm,1.2s
WB6 **Warramunga Arr** 65.14 132 PFAKE 12 51 40.0 +12
WB6 LR LR
comp=Z,38µm,22.0s
WB5 **Warramunga Arr** 65.16 132 PFAKE 12 51 40.0 +12
WB5 LR LR
comp=Z,36µm,22.0s
WB4 **Warramunga Arr** 65.17 132 PFAKE 12 51 40.0 +12
WB4 LR LR
comp=Z,35µm,22.0s
WC1 **Warramunga Arr** 65.17 132 PFAKE 12 51 40.0 +12
WC1 LR LR
comp=Z,28µm,22.0s
WB3 **Warramunga Arr** 65.19 132 PFAKE 12 51 40.0 +12
WB3 LR LR
comp=Z,38µm,22.0s
WRA **Warramunga Arr** 65.19 132 P **P** 12 51 27.0 -1.3
comp=Z,170nm,0.5s,baz=324,slow=6.5,SNR=1004
WRA S **S** 13 00 07.0 -2.8
comp=Z,5.9nm,1.1s,baz=316,slow=12,SNR=6.0
WRA PKP2ab 13 20 16.6
comp=Z,9.4nm,1.2s,baz=122,slow=3.8,SNR=7.0
WRA LR LR 13 23 24.7
comp=Z,33µm,21.7s,baz=310,slow=39
WR1 **Warramunga Arr** 65.19 132 PFAKE 12 51 40.0 +12
WR1 LR LR
comp=Z,35µm,22.0s
WRAB **Tennant Creek** 65.19 132 *d* iP **P** 12 51 28.3 0.0
WRAB pmax pmax
comp=Z,1µm,0.8s
WRAB MLR MLR
comp=Z,138µm,25.0s
WRAB **Tennant Creek** 65.19 132 *e*P **P** 12 51 27.4 -0.9

comp=Z,1µm,1.1s
WRAB LR LR
comp=Z,36µm,22.0s
WC2 Warramunga Arr 65.19 132 PFAKE 12 51 40.0 +12
WC2 LR LR
comp=Z,41µm,22.0s
WB2 Warramunga Arr 65.20 132 *eP* **P 12 51 27.2 -1.2**
comp=Z,1µm,1.1s
WB2 LR LR
comp=Z,42µm,22.0s
WC4 Warramunga Arr 65.20 132 PFAKE 12 51 40.0 +12
WC4 LR LR
comp=Z,38µm,22.0s
WR2 Warramunga Arr 65.21 132 PFAKE 12 51 40.0 +12
WR2 LR LR
comp=Z,33µm,22.0s
WC3 Warramunga Arr 65.22 132 PFAKE 12 51 40.0 +11
WC3 LR LR
comp=Z,35µm,22.0s
WR3 Warramunga Arr 65.22 132 PFAKE 12 51 40.0 +11
WR3 LR LR
comp=Z,38µm,22.0s
DOU Dourbes 65.23 315 P **P 12 51 30.0 +1.8**
comp=Z,153nm,1.7s
WR4 Warramunga Arr 65.24 132 PFAKE 12 51 40.0 +11
WR4 LR LR
comp=Z,34µm,22.0s
WR5 Warramunga Arr 65.26 132 PFAKE 12 51 40.0 +11
WR5 LR LR
comp=Z,38µm,22.0s
WR7 Warramunga Arr 65.29 132 PFAKE 12 51 40.0 +11
WR7 LR LR
comp=Z,37µm,22.0s
WR9 Warramunga Arr 65.32 131 PFAKE 12 51 40.0 +11
WR9 LR LR
comp=Z,36µm,22.0s
SNF Seneffe 65.32 316 P **P 12 51 29.4 +0.6**
WR0 Warramunga Arr 65.33 131 PFAKE 12 51 40.0 +11
WR0 LR LR
comp=Z,37µm,21.0s
BAIF Baives 65.48 315 *eP* **P 12 51 29.5 -0.4**
BAIF pmax pmax
comp=Z,321nm,1.7s
GDM Grand'Maison 65.49 310 *eP* **P 12 51 30.1 -0.1**
GRN Grenoble 65.73 310 *eP* **P 12 51 32.0 +0.3**
KEST Kesra 65.82 299 P **P 12 51 33.2 +0.8**
comp=Z,348nm,1.0s,baz=15,slow=1.4,SNR=88
KEST S **S 13 00 15.7 -1.7**
comp=Z,68nm,1.3s,baz=232,slow=21,SNR=8.7
KEST PKP2bc 13 20 12.2
comp=Z,7.2nm,1.1s,baz=164,slow=5.4,SNR=5.6
KEST LR LR 13 26 56.2
comp=Z,11µm,19.2s,baz=14,slow=42
KEST Kesra 65.82 299 *eP* **P 12 51 32.0 -0.3**
comp=Z,2µm,1.3s
KEST S **S 13 00 15.7 -1.7**
KEST ⇑*e* 13 20 12.2
SMY Shemya 66.02 42 *eP* **P 12 51 33.9 +0.6**
SMY pmax pmax
comp=Z,980nm,0.8s
SMY Shemya 66.02 42 *eP* **P 12 51 33.9 +0.6**
comp=Z,985nm,0.8s
SMY LR LR
comp=Z,42µm,20.0s
JMIC Jan Mayen 66.13 339 LR LR 13 22 26.6
comp=Z,18µm,21.4s,baz=84,slow=38
JMIC Jan Mayen 66.13 339 IVmB_BB 12 52 34.3
comp=Z,8µm,3.5s
JMIC *eS* **S 13 00 20.5 +0.6**
JMIC IVMs_BB IVMs_BB 13 25 29.6
comp=Z,6µm,19.2s
OG26 St.-Nazaire-De 66.21 309 *eP* **P 12 51 35.5 +0.7**
NWAO Narrogin (SRO) 66.42 154 *eP* **P 12 51 35.0 -1.0**
NWAO pmax pmax
comp=Z,890nm,1.1s
NWAO Narrogin (SRO) 66.42 154 *eP* **P 12 51 34.7 -1.2**
comp=Z,893nm,1.1s
NWAO LR LR
comp=Z,49µm,22.0s
NWAO Narrogin (SRO) 66.42 154 P **P 12 51 37.1 +1.1**
SNR=10
NWAO Narrogin (SRO) 66.42 154 P **P 12 51 37.1 +1.1**
SNR=10
NWAO P **P 12 51 37.1 +1.1**
SNR=10
NWAO P **P 12 51 37.1 +1.1**
SNR=10
SSB Saint Sauveur 66.54 310 *eP* **P 12 51 36.4 -0.4**
SSB pmax pmax
comp=Z,240nm,1.0s
SSB Saint Sauveur 66.54 310 *eP* **P 12 51 36.4 -0.4**
comp=Z,243nm,1.0s
SSF Saint Saulge 66.73 312 *eP* **P 12 51 37.1 -0.8**
SSF pmax pmax
comp=Z,159nm,0.8s
DAG Danmarks Havn 66.89 346 *i* P **P 12 51 39.6 +1.2**
comp=Z,116nm,0.9s
DAG *i* S **S 13 00 26.1 -2.8**
DAG Danmarks Havn 66.89 346 *eP* **P 12 51 39.6 +1.2**
DAG *i* S **S 13 00 26.1 -2.8**
DAG pmax pmax
comp=Z,97nm,0.9s
AVF Avril sur Loir 66.90 312 *eP* **P 12 51 38.1 -0.9**
AVF pmax pmax
comp=Z,108nm,0.8s
WACR West Acre 66.95 319 *eP* **P 12 51 39.6 +0.4**
WACR AMB AMB 12 51 42.6
comp=Z,338nm,1.1s
WACR AMS AMS 13 20 29.0
comp=Z,49µm,25.3s
PLDF La Plantade 66.96 311 *eP* **P 12 51 39.5 0.0**
H01W3 Cape Leeuwin H 67.02 157 P **P 12 51 40.5 +1.1**
baz=339,slow=4.9,SNR=9.7
CMAH Djebel Manchou 67.02 300 P **P 12 51 40.6 +0.5**
H01W2 Cape Leeuwin H 67.03 157 P **P 12 51 42.5 +3.0**
baz=339,slow=4.9,SNR=5.8
H01W1 Cape Leeuwin H 67.03 157 P **P 12 51 40.2 +0.7**
baz=339,slow=4.9,SNR=7.6
ABSA Djebel Ababsia 67.09 300 P **P 12 51 40.7 +0.1**
AGO Saint Agoulin 67.26 311 *eP* **P 12 51 40.9 -0.5**
LMK Market Rasen 67.30 320 *eP* **P 12 51 42.2 +0.9**
LMK AMB AMB 12 51 47.7
comp=Z,368nm,2.8s
CAEH 'Ain El Ouahch 67.41 301 P **P 12 51 41.9 -0.6**
LBL Lubilhac 67.42 310 *eP* **P 12 51 42.9 +0.4**
PYM Petit Puy Mans 67.43 311 *eP* **P 12 51 42.5 0.0**
DRUM Mains of Drumt 67.51 324 *eP* **P 12 51 42.5 -0.2**
DRUM AMB AMB 12 51 47.0
comp=Z,249nm,1.8s
DRUM AMS AMS 13 19 18.2
comp=Z,56µm,27.2s
COEN Coen 67.55 121 *eP* **P 12 51 43.1 -0.4**
comp=Z,362nm,1.4s
MLA1 Latheron 67.56 325 *eP* **P 12 51 43.0 0.0**
AS31 Alice Springs 67.57 135 *eP* **P 12 51 43.0 -0.6**
comp=Z,161nm,0.7s
ASAR Alice Springs 67.57 135 P **P 12 51 43.2 -0.3**
comp=Z,194nm,0.7s,baz=317,slow=6.4,SNR=1130
ASAR S **S 13 00 39.1 +0.6**
comp=Z,2.9nm,0.9s,baz=309,slow=12,SNR=2.2
ASAR PKP2bc 13 20 08.5
comp=Z,5.9nm,0.8s,baz=140,slow=3.6,SNR=13
ASAR LR LR 13 24 36.4
comp=Z,15µm,19.0s,baz=309,slow=39
AS01 Alice Springs 67.60 135 *eP* **P 12 51 43.5 -0.2**
CKFL Kef-Lekhel 67.63 300 P **P 12 51 43.8 -0.2**
MME1 Meikle Cairn 67.64 324 *eP* **P 12 51 43.9 +0.3**
MCD Coleburn Disti 67.72 324 *eP* **P 12 51 44.2 +0.2**
CASM Ain Smara 67.85 300 P **P 12 51 46.2 +0.9**
ESY Stoneypath 67.86 323 *eP* **P 12 51 44.7 -0.2**
EDU Dundee 67.89 323 *eP* **P 12 51 45.0 -0.1**
CTEI Djebel Teioual 67.98 300 P **P 12 51 46.7 +0.5**
PMG Port Moresby 67.99 114 S **S 13 00 42.2 -1.6**
comp=Z,23nm,1.0s,baz=0.0,slow=20,SNR=2.5
PMG Port Moresby 67.99 114*ceP* **P 12 51 46.9 +0.6**
PMG pmax pmax
comp=Z,2µm,0.8s
PMG MLR MLR
comp=Z,50µm,23.0s
PMG Port Moresby 67.99 114 *eP* **P 12 51 46.4 +0.1**
comp=Z,534nm,0.9s
PMG S **S 13 00 42.2 -1.6**
CWF Charnwood Fore 68.07 319 *eP* **P 12 51 46.2 -0.1**
CWF AMS AMS 13 25 23.8
comp=Z,41µm,16.6s
CWF Charnwood Fore 68.07 319 *eP* **P 12 51 46.6 +0.3**

comp=Z,131nm,0.7s
EDI Edinburgh 68.17 323 *eP* **P 12 51 46.3 -0.5**
EDI AMS AMS 13 20 11.3
comp=Z,53µm,32.8s
DFRA Djebel Bou Aff 68.22 301 P **P 12 51 48.4 +0.7**
MDO Dochfour 68.33 324 *eP* **P 12 51 47.8 -0.1**
ECK Cauldkaine Hil 68.36 322 *eP* **P 12 51 47.8 -0.3**
ESK Eskdalemuir 68.36 322 *eP* **P 12 51 48.0 -0.1**
ESK AMB AMB 12 51 53.0
comp=Z,173nm,1.5s
ESK AMS AMS 13 20 16.5
comp=Z,51µm,33.0s
ESK Eskdalemuir 68.36 322 *eP* **P 12 51 48.2 +0.1**
ESK pmax pmax
comp=Z,420nm,0.9s
ESK Eskdalemuir 68.36 322 *eP* **P 12 51 48.2 +0.1**
comp=Z,421nm,0.8s
ESK LR LR
comp=Z,64µm,20.0s
BHH Howats Hill 68.44 322 *eP* **P 12 51 48.5 -0.1**
WOL Wolverton 68.45 318 *eP* **P 12 51 48.6 -0.1**
WOL AMB AMB 12 51 53.1
comp=Z,408nm,1.6s
WOL AMS AMS 13 26 11.0
comp=Z,40µm,19.0s
RSC Scourie 68.46 326 *eP* **P 12 51 48.8 +0.2**
KESW Keswick, Cumbr 68.53 321 *eP* **P 12 51 48.9 -0.2**
KESW AMB AMB 12 51 54.2
comp=Z,205nm,1.4s
KESW AMS AMS 13 21 29.7
comp=Z,44µm,26.7s
BBO1 Bothel 68.56 321 *eP* **P 12 51 49.0 -0.3**
LRDF Laroque-de-Fa 68.61 308 *eP* **P 12 51 49.9 0.0**
SSW Stow on the Wo 68.62 318 *eP* **P 12 51 50.2 +0.4**
CKHR Kef el Ahmar 68.68 300 P **P 12 51 52.3 +1.7**
SET Setif 68.70 301 P **P 12 51 53.0 +2.3**
EAB Aberfoyle 68.70 323 *eP* **P 12 51 50.7 +0.5**
FILF Fillols 68.72 308 *eP* **P 12 51 50.3 -0.3**
SWN1 Swindon 68.73 318 AMB AMB 12 52 03.5
comp=Z,297nm,1.3s
SWN1 AMS AMS 13 26 19.5
comp=Z,46µm,17.8s
KAC Achnashellach 68.79 325 *eP* **P 12 51 50.4 -0.3**
STRD Stroud 68.87 318 *eP* **P 12 51 51.5 +0.2**
STRD AMB AMB 12 51 55.9
comp=Z,251nm,1.3s
STRD AMS AMS 13 26 22.6
comp=Z,46µm,18.1s
PGBU Glenifferbraes 68.90 323 *eP* **P 12 51 51.7 +0.3**
PGBU AMB AMB 12 51 55.9
comp=Z,233nm,2.4s
PGBU AMS AMS 13 20 48.6
comp=Z,57µm,32.3s
KPL Plockton 69.02 325 *eP* **P 12 51 51.8 -0.4**
KPL AMB AMB 12 51 58.8
comp=Z,149nm,2.3s
BATH Bath 69.07 318 *eP* **P 12 51 52.0 -0.5**
BATH AMS AMS 13 26 39.8
comp=Z,47µm,18.2s
FOEL Foel Wylfa 69.12 320 *eP* **P 12 51 53.2 +0.3**
FOEL AMB AMB 12 51 57.5
comp=Z,235nm,1.7s
FOEL AMS AMS 13 24 16.2
comp=Z,33µm,18.6s
VALF Valcebollere 69.15 308 *eP* **P 12 51 53.6 +0.1**
MONM Monmouth 69.22 318 *eP* **P 12 51 53.2 -0.3**
MONM AMB AMB 12 51 57.6
comp=Z,167nm,1.8s
MONM AMS AMS 13 21 34.5
comp=Z,44µm,27.2s
HGH Gray Hill 69.29 318 *eP* **P 12 51 53.8 -0.2**
PATS Pohnpei 69.30 93 *eP* **P 12 51 54.4 -0.2**
comp=Z,2µm,1.2s
GAL1 Galloway 69.33 322 *eP* **P 12 51 54.0 -0.1**
GAL1 AMB AMB 12 51 58.5
comp=Z,90nm,1.9s
GAL1 AMS AMS 13 22 08.4
comp=Z,28µm,24.6s
RRH Rhenigidale 69.36 325 *eP* **P 12 51 53.8 -0.4**
WPM1 Penmaenmawr 69.40 320 *eP* **P 12 51 54.5 -0.1**
FORT Forrest 69.60 144 *eP* **P 12 51 56.0 0.0**
comp=Z,20µm,1.6s
GMK Mull of Kintyr 69.65 323 *eP* **P 12 51 56.3 +0.2**
ATAF Djebel Tarf 69.67 301 P **P** 12 52 02.8 +6.1
WLF1 Llynfaes 69.67 320 *eP* **P 12 51 55.6 -0.6**
WLF1 AMB AMB 12 52 00.7
comp=Z,374nm,1.4s
WLF1 AMS AMS 13 23 02.4
comp=Z,60µm,24.4s
GAMB Gambell 69.73 28 *eP* **P 12 51 56.8 +0.4**
GAMB comp=Z,469nm,1.2s LR LR
comp=Z,67µm,21.0s
MELF Melles 69.87 309 *eP* **P 12 51 59.4 +1.6**
LPW Lampeter 69.87 319 *eP* **P 12 51 58.1 +0.6**
LPW AMB AMB 12 52 02.0
comp=Z,192nm,1.4s
LPW AMS AMS 13 22 08.0
comp=Z,43µm,22.6s
ABMS Boumerdes 69.97 302 P **P 12 52 00.9 +2.5**
RESF Ens 70.18 309 *eP* **P 12 52 00.4 +0.6**
ADJB Djebel Djouab 70.21 301 P **P 12 52 01.5 +1.5**
GMM Mts of Mourne 70.22 322 *eP* **P 12 51 59.4 -0.1**
ABA Alger-Bouzarea 70.29 302 P **P 12 51 59.8 -0.6**
DYA Yadsworthy 70.36 317 *eP* **P 12 52 00.6 +0.1**
DYA AMS AMS 13 26 59.0
comp=Z,38µm,16.7s
DYA Yadsworthy 70.36 317 *eP* **P 12 52 03.4 +2.9**
comp=Z,217nm,0.8s
DYA LR LR
comp=Z,49µm,20.0s
VIEF Viey 70.38 309 *eP* **P 12 52 03.3 +2.4**
SCO Scoresbysund 70.45 340 *i* P **P 12 52 03.9 +3.2**
SCO Scoresbysund 70.45 340 *i* P **P 12 52 03.9 +3.2**
EMHD Djebel Mahouad 70.56 301 P **P 12 52 03.8 +1.6**
QUIF Quistinic 70.75 315 *eP* **P 12 52 02.1 -0.9**
QUIF pmax pmax
comp=Z,90nm,1.0s
DSB Dublin 70.80 321 *eP* **P 12 52 05.6 +2.5**
comp=Z,143nm,0.9s
DSB LR LR
comp=Z,22µm,22.0s
ATE Arette 70.80 309 *eP* **P 12 52 05.9 +2.5**
LARF Larrau 71.02 309 *eP* **P 12 52 07.8 +3.0**
OSSF Osses 71.13 309 *eP* **P 12 52 05.1 -0.3**
WAKE Wake Island 71.39 78 *eP* **P 12 52 08.1 +0.8**
comp=Z,3µm,1.7s
H11N2 WAKE ISLAND Hy 71.42 77 P **P 12 52 06.9 -0.3**
baz=312,slow=75,SNR=18
H11N1 WAKE ISLAND Hy 71.42 77 P **P 12 52 07.3 0.0**
baz=312,slow=75,SNR=36
H11N3 WAKE ISLAND Hy 71.44 77 P **P 12 52 07.2 -0.1**
baz=312,slow=75,SNR=22
EBNR Beni Rached 71.60 302 P **P 12 52 09.7 +1.3**
ECHA Ech Chlef 71.78 302 P **P 12 52 12.0 +2.6**
EANR 'Ain N'Sour 72.05 302 P **P 12 52 11.7 +0.6**
ETRT Tiaret 72.11 301 P **P 12 52 12.5 +0.9**
LSZ Lusaka 72.16 241 *eP* **P 12 52 11.1 -0.9**
LSZ Lusaka 72.16 241 *eP* **P 12 52 11.1 -0.9**
comp=Z,182nm,0.8s
LSZ LR LR
comp=Z,32µm,22.0s
LSZ Lusaka 72.16 241 P **P 12 52 12.0 0.0**
SNR=57
LSZ Lusaka 72.16 241 P **P 12 52 12.0 0.0**
SNR=57
OKGL Djebel Kef Gue 72.36 302 P P 12 52 18.0 +5.0
OJGS Djebel Guires 72.48 301 P P 12 52 19.0 +5.3
OJBR Djebel Berber 72.76 301 P **P 12 52 18.0 +2.6**
ATKA Atka Island 72.95 40 *eP* **P 12 52 17.7 +1.6**
comp=Z,170nm,0.9s
ATKA LR LR
comp=Z,39µm,22.0s
BORG Borgarnes 73.00 335 P **P 12 52 19.8 +3.7**
comp=Z,101nm,1.2s,baz=118,slow=5.0,SNR=2.8
SPIA Saint Paul Isl 73.01 34 *eP* **P 12 52 17.9 +1.6**
comp=Z,947nm,1.4s
SPIA LR LR
comp=Z,64µm,20.0s
ODJA Bouhanifia 73.23 301 P **P 12 52 17.0 -1.1**
USTO Oran 73.38 302 P **P 12 52 21.0 +2.1**
VAL Valentia 73.48 320 *eP* **P 12 52 17.9 -1.3**
VAL *eS* **SPn 13 02 12.4 -4.7**
TAM Tamanrasset 73.53 287 *eP* **P 12 52 20.6 +0.4**
TAM pmax pmax

comp=Z,680nm,1.6s
TAM Tamanrasset 73.53 287 *eP* **P 12 52 20.6 +0.4**
comp=Z,676nm,1.6s
TAM LR LR
comp=Z,24µm,20.0s
SUMG Summit 73.54 345 *i* P **P 12 52 22.5 +2.8**
SUMG *i* S **SKiKP 13 01 48.7 +0.9**
SUMG Summit 73.54 345 *i* P **P 12 52 22.5 +2.8**
SUMG *i* S **SKiKP 13 01 48.7 +0.9**
SUMG Summit 73.54 345 *eP* **P 12 52 20.5 +0.7**
comp=Z,1µm,1.5s
SUMG LR LR
comp=Z,22µm,22.0s
CTAO Charters Tower 73.65 124 *eP* **P 12 52 20.3 -0.3**
CTAO pmax pmax
comp=Z,590nm,1.0s
CTAO Charters Tower 73.65 124 *eP* **P 12 52 20.3 -0.3**
comp=Z,595nm,1.0s
CTAO LR LR
comp=Z,25µm,22.0s
OTSS Djebel Tessala 73.73 302 P **P 12 52 19.0 -2.2**
OLHC Oulhaca 74.22 302 P **P 12 52 20.0 -3.9**
ES19 SONSECA Array 74.29 307 *eP* **P 12 52 24.4 +0.1**
ESDC Sonseca Array 74.35 307 P **P 12 52 25.1 +0.5**
comp=Z,66nm,1.0s,baz=56,slow=6.0,SNR=71
ESDC LR LR 13 29 55.1
comp=Z,8µm,20.6s,baz=75,slow=40
ESLA Sonseca Array 74.35 307 *eP* **P 12 52 25.3 +0.7**
comp=Z,742nm,1.4s
PAB San Pablo 74.67 307 *eP* **P 12 52 26.8 +0.2**
PAB pmax pmax
comp=Z,480nm,1.0s
PAB San Pablo 74.67 307 *eP* **P 12 52 26.8 +0.2**
comp=Z,480nm,1.0s
MATP Matopo 75.00 237 *i* P **P 12 52 28.0 -0.7**
MATP *i* 12 52 28.3
baz=67,slow=4.3
TOLK Toolik Lake Re 75.02 19 P **P 12 52 29.7 +1.7**
baz=309
KULLO Kullorsuaq ||*i* P **P 12 52 31.8 +1.8**
KULLO Kullorsuaq ||*i* P **P 12 52 31.8 +1.8**
PBRG Braganca 75.43 310 *eP* **P 12 52 29.6 -1.2**
comp=Z,560nm,1.7s
PBRG *eS* **S 13 02 06.8 -2.3**
BBOO Buckleboo 75.53 140 *eP* **P 12 52 30.7 -0.6**
comp=Z,657nm,0.9s
BBOO LR LR
comp=Z,41µm,22.0s
NIKH Nikolski High 75.58 37 PFAKE 12 52 40.0 +8.6
NIKH LR LR
comp=Z,30µm,20.0s
COLD Coldfoot 75.73 20 *eP* **P 12 52 33.2 +1.2**
comp=Z,295nm,1.0s
COLD LR LR
comp=Z,63µm,21.0s
MVO Moncorvo 75.89 309 *eP* **P 12 52 35.3 +1.8**
comp=Z,670nm,1.3s
MVO *eS* **S 13 02 10.2 -4.0**
MVO Moncorvo 75.89 309 *eLQ* LQ 13 15 09.0
MVO *eLR* LR 13 18 53.5
comp=Z,16µm,20.0s
PVRL Vila Real 76.31 309 *eP* **P 12 52 39.3 +3.4**
comp=Z,495nm,1.5s
POLO Lamas de Olo 76.32 310 *eP* **P 12 52 37.8 +1.8**
comp=Z,189nm,1.6s
POLO *eS* **S 13 02 16.9 -2.2**
PCAB Cabril 76.34 310 *eP* **P 12 52 38.2 +2.2**
comp=Z,831nm,1.7s
TTA Tatalina 76.35 25 *eP* **P 12 52 37.1 +1.4**
TTA pmax pmax
comp=Z,950nm,1.9s
TTA Tatalina 76.35 25 *eP* **P 12 52 37.1 +1.4**
comp=Z,945nm,1.9s
TTA LR LR
comp=Z,45µm,19.0s
TT01 Tatalina 76.36 25 *eP* **P 12 52 37.0 +1.3**
PGAV Gavieira, Arco 76.40 310 *eP* **P 12 52 37.1 +0.7**
comp=Z,682nm,1.3s
PGAV *eS* **S 13 02 17.3 -2.5**
PGAV Gavieira, Arco 76.40 310 *eLQ* LQ 13 14 48.5
PGAV *eLR* LR 13 17 38.6
comp=Z,10µm,22.0s
UNV Unalaska Valle 76.42 36 *eP* **P 12 52 37.3 +1.2**
comp=Z,85nm,0.9s
UNV LR LR
comp=Z,46µm,21.0s
MTE Manteigas 76.56 309 *eP* **P 12 52 39.7 +2.4**
comp=Z,965nm,1.3s
MTE *eS* **S 13 02 17.1 -4.6**
MTE Manteigas 76.56 309 *eLQ* LQ 13 13 26.9
MTE *eLR* LR 13 17 42.0
comp=Z,19µm,18.0s
MTE Manteigas 76.56 309 *eP* **P 12 52 37.4 0.0**
comp=Z,575nm,1.2s
MTE LR LR
comp=Z,22µm,19.0s
AKUT Akutan 76.66 36 *eP* **P 12 52 36.8 -0.7**
comp=Z,499nm,1.4s
AKUT LR LR
comp=Z,32µm,21.0s
PVIS Viseu 76.67 309 *eP* **P 12 52 40.4 +2.5**
comp=Z,900nm,1.7s
PCBR Castelo Branco 76.75 308 *eP* **P 12 52 40.0 +1.7**
comp=Z,676nm,1.4s
PMRV Marv??o 76.87 308 *eP* **P 12 52 42.1 +3.1**
comp=Z,654nm,1.9s
PMRV *eS* **S 13 02 22.6 -2.3**
PMRV Marv??o 76.87 308 *eLQ* LQ 13 15 10.7
PMRV *eLR* LR 13 21 36.6
comp=Z,15µm,22.0s
PTO Porto 76.97 310 *eP* **P 12 52 42.5 +3.0**
comp=Z,778nm,1.3s
PBAR Barrancos 77.15 306 *eP* **P 12 52 40.9 +0.3**
comp=Z,2µm,1.4s
PBAR *eS* **S 13 02 27.1 -0.9**
PESTR Estremoz 77.25 307 *eP* **P 12 52 42.9 +1.7**
comp=Z,488nm,1.6s
PESTR *eS* **S 13 02 27.0 -2.1**
PCAS Casmilo, Conde 77.37 309 *eP* **P 12 52 43.8 +2.0**
comp=Z,453nm,2.1s
PCAS *eS* **S 13 02 26.2 -4.2**
CAST Castle Rocks 77.49 24 *eP* **P 12 52 42.4 +0.3**
comp=Z,1µm,1.0s
CAST LR LR
comp=Z,42µm,21.0s
PTOM Tomar 77.50 308 *eP* **P 12 52 43.8 +1.3**
comp=Z,1µm,2.3s
SVW2 Sparrevohn 77.58 26 *eP* **P 12 52 43.5 +0.9**
comp=Z,592nm,1.3s
SVW2 LR LR
comp=Z,63µm,21.0s
FYU Fort Yukon 77.64 19 *eP* **P 12 52 44.6 +1.8**
comp=Z,1µm,1.4s
FYU LR LR
comp=Z,34µm,19.0s
EVO Evora 77.69 307 *eP* **P 12 52 44.3 +0.7**
comp=Z,957nm,1.6s
RES Resolute Bay 77.75 1 *eP* **P 12 52 46.0 +2.8**
RES pmax pmax
comp=Z,300nm,1.1s
RES Resolute Bay 77.75 1 *eP* **P 12 52 43.8 +0.6**
comp=Z,300nm,1.1s
RES LR LR
comp=Z,20µm,22.0s
PPLA Purkeypile 77.78 24 *eP* **P 12 52 44.2 +0.4**
comp=Z,5µm,1.9s
PPLA LR LR
comp=Z,38µm,20.0s
PBEJ Beja 77.80 307 *eP* **P 12 52 46.1 +1.8**
comp=Z,636nm,1.7s
MDM Murphy Dome 77.81 21 *eP* **P 12 52 45.0 +1.2**
comp=Z,1µm,1.3s
MDM LR LR
comp=Z,42µm,22.0s
KTH Kantishna Hill 77.82 23 *eP* **P 12 52 45.5 +1.6**
comp=Z,713nm,1.2s
KTH LR LR
comp=Z,34µm,22.0s
PVAQ Vaqueiros 77.97 306 *eP* **P 12 52 45.9 +0.7**
comp=Z,1µm,1.3s
PVAQ *eS* **S 13 02 33.1 -3.7**
PVAQ Vaqueiros 77.97 306 *eLQ* LQ 13 15 22.2
PVAQ *eLR* LR 13 19 37.0
comp=Z,11µm,22.0s
COLA College 77.99 21 *eP* **P 12 52 44.8 +0.1**
COLA pmax pmax
comp=Z,1µm,1.3s

COLA College 77.99 21 *e*P P 12 52 44.8 +0.1
comp=Z,1µm,1.4s
COLA LR LR
comp=Z,41µm,20.0s
PCVE Castro Verde 78.10 306 *e*P P 12 52 47.6 +1.7
comp=Z,496nm,1.5s
PCVE *e*S S 13 02 35.5 -2.8
TRF Thorofare Moun 78.10 23 *e*P P 12 52 46.3 +0.7
comp=Z,682nm,1.6s
TRF LR LR
comp=Z,46µm,20.0s
MESJ Messejana 78.14 306 *e*P P 12 52 45.1 -1.0
MESJ *e*S S 13 02 36.2 -2.4
MESJ AMS AMS 13 28 00.2
comp=N,26µm,21.7s
MESJ Messejana 78.14 306 *e*P P 12 52 48.0 +1.9
comp=N,782nm,1.5s
MESJ Messejana 78.14 306 *e*P P 12 52 45.1 -1.0
MESJ *e*S S 13 02 36.2 -2.4
CCB Clear Creek Bu 78.15 21 *e*P P 12 52 45.2 -0.5
comp=N,116nm,0.7s
CCB LR LR
comp=Z,32µm,19.0s
STKA Stephens Creek 78.17 136 P P 12 52 45.5 -0.7
comp=Z,164nm,0.9s,baz=318,slow=6.1,SNR=55
STKA LR LR 13 34 15.8
comp=Z,19µm,18.1s,baz=302,slow=41
STKA Stephens Creek 78.17 136 *e*P P 12 52 44.9 -1.3
comp=Z,89nm,0.9s
WRH Wood River Hil 78.18 22 *e*P P 12 52 45.9 +0.1
comp=Z,176nm,1.0s
WRH LR LR
comp=Z,34µm,20.0s
PBDV Barranco-do-Ve 78.19 306 *e*P P 12 52 47.6 +1.1
comp=Z,2µm,1.4s
PBDV *e*S S 13 02 37.4 -1.9
PNCL Nicolau / Gran 78.24 307 *e*P P 12 52 47.7 +1.1
comp=Z,703nm,1.5s
PNCL *e*S S 13 02 38.0 -1.7
ILAR Eielson Array 78.36 21 P P 12 52 46.6 -0.3
comp=Z,83nm,1.1s,baz=301,slow=4.3,SNR=60
ILAR PKKP PKKPdf 13 11 31.9 +0.4
comp=Z,1.6nm,0.8s,baz=193,slow=2.7,SNR=4.0
ILAR PKKPbc PKKPbc 13 11 44.8 -0.2
comp=Z,1.9nm,0.8s,baz=190,slow=2.3,SNR=4.6
ILAR PKPPKP P'P'df 13 19 39.9 -12
comp=Z,1.6nm,0.9s,baz=237,slow=1.9,SNR=6.2
ILAR LR LR 13 30 08.6
comp=Z,46µm,20.3s,baz=320,slow=38
ILB Eielson Array 78.36 21 *e*P P 12 52 47.3 +0.4
IL1 Eielson Array 78.36 21 *e*P P 12 52 47.2 +0.4
MCK McKinley 78.38 22 *e*P P 12 52 47.8 +0.8
MCK pmax pmax
comp=Z,700nm,1.4s
MCK McKinley 78.38 22 *e*P P 12 52 47.0 0.0
comp=Z,695nm,1.4s
MCK LR LR
comp=Z,38µm,21.0s
PMAFR Mafra 78.40 308 *e*P P 12 52 51.0 +3.5
comp=Z,1µm,1.9s
PMAFR *e*S S 13 02 38.9 -2.5
LIS Lisbon 78.41 308 *e*P P 12 52 46.2 -1.4
LIS *e*S S 13 02 39.3 -2.3
LIS AMS AMS 13 28 32.6
comp=N,21µm,21.5s
LIS Lisbon 78.41 308 *e*P P 12 52 46.2 -1.4
LIS *e*S S 13 02 39.2 -2.3
PMST Lisbon--Monsan 78.42 308 *e*P P 12 52 51.3 +3.6
comp=N,1µm,1.6s
PAF Port-aux-Franc 78.46 192 PFAKE 12 53 00.0 +13
PAF LR LR
comp=Z,46µm,20.0s
HDA Harding Lake 78.59 21 *e*P P 12 52 49.0 +0.9
comp=Z,206nm,0.9s
HDA LR LR
comp=Z,38µm,21.0s
HNR Honiara 78.61 107 *e*P P 12 52 51.0 +2.0
PTEO Sao Teotonio 78.62 306 *e*P P 12 52 50.4 +1.6
comp=Z,1µm,1.9s
RND Reindeer 78.62 23 *e*P P 12 52 48.6 +0.2
RND pmax pmax
comp=Z,1µm,1.5s
RND Reindeer 78.62 23 *e*P P 12 52 48.6 +0.2
comp=Z,1µm,1.5s
RND LR LR
comp=Z,46µm,22.0s
SDPT Sand Point 78.67 33 *e*P P 12 52 49.0 +0.3
comp=Z,397nm,1.1s
SDPT LR LR
comp=Z,55µm,22.0s
MORF Marmelete 78.68 306 *e*P P 12 52 47.9 -1.3
MORF *e*S S 13 02 42.2 -2.4
MORF AMS AMS 13 28 07.4
comp=N,28µm,21.0s
MORF Marmelete 78.68 306 *e*P P 12 52 51.2 +2.0
comp=N,802nm,1.7s
MORF *e*S S 13 02 41.9 -2.7
MORF Marmelete 78.68 306 *e*P P 12 52 47.9 -1.3
MORF *e*S S 13 02 42.2 -2.4
ILULI Ilulissat 78.82 346 *i*P P 12 52 50.8 +1.5
ILULI Ilulissat 78.82 346 *i*P P 12 52 50.8 +1.5
PFVI Vila Bisbo 78.88 306 *e*P P 12 52 53.0 +2.8
comp=N,992nm,1.4s
PFVI *e*S S 13 02 44.8 -1.9
PFVI Vila Bisbo 78.88 306 *e*P P 12 52 49.5 -0.7
comp=N,606nm,1.1s
PFVI LR LR
comp=Z,13µm,19.0s
SPU Mount Spurr 78.89 25 *e*P P 12 52 50.9 +1.0
RSO Redoubt South 79.07 26 *e*P P 12 52 51.7 +0.6
CHGN Chignik 79.11 31 *e*P P 12 52 50.7 -0.4
comp=Z,462nm,1.2s
CHGN LR LR
comp=Z,30µm,21.0s
SUA Susitna One 79.21 25 *e*P P 12 52 51.8 +0.1
comp=Z,1µm,1.3s
DHY Denali Highway 79.35 22 *e*P P 12 52 52.9 +0.4
comp=Z,758nm,1.8s
DHY LR LR
comp=Z,40µm,19.0s
INK Inuvik 79.35 15 P P 12 52 52.7 +0.5
comp=Z,170nm,1.0s,baz=303,slow=6.8,SNR=37
INK Inuvik 79.35 15 *e*P P 12 52 51.8 -0.4
comp=Z,1µm,1.3s
INK LR LR
comp=Z,36µm,20.0s
PMR Palmer 79.72 24 *e*P P 12 52 53.6 -0.6
PMR pmax pmax
comp=Z,1µm,1.2s
PMR Palmer 79.72 24 *e*P P 12 52 53.6 -0.6
comp=Z,1µm,1.3s
PMR LR LR
comp=Z,40µm,19.0s
RC01 Rabbit Creek A 79.82 25 *e*P P 12 52 54.5 -0.4
comp=Z,1µm,1.2s
RC01 LR LR
comp=Z,56µm,21.0s
SML Sawmill 79.86 24 *e*P P 12 52 54.9 -0.2
SML pmax pmax
comp=Z,2µm,1.1s
SML Sawmill 79.86 24 *e*P P 12 52 54.9 -0.2
comp=Z,2µm,1.1s
SML LR LR
comp=Z,36µm,20.0s
HOM Homer 80.01 26 *e*P P 12 52 56.5 +0.6
comp=Z,1µm,1.1s
HOM LR LR
comp=Z,48µm,22.0s
DOT Dot Lake 80.04 21 *e*P P 12 52 56.3 +0.2
comp=Z,804nm,1.2s
DOT LR LR
comp=Z,86µm,21.0s
PAX Paxson 80.06 22 *e*P P 12 52 56.8 +0.6
PAX pmax pmax
comp=Z,426nm,1.2s
PAX MLR MLR
comp=Z,33µm,21.0s
PAX Paxson 80.06 22 *e*P P 12 52 56.8 +0.6
comp=Z,426nm,1.2s
PAX LR LR
comp=Z,33µm,21.0s
EGAK Eagle 80.11 19 *e*P P 12 52 57.1 +0.7
comp=Z,268nm,0.9s
EGAK LR LR
comp=Z,33µm,20.0s
SCM Sheep Creek Mo 80.20 23 *e*P P 12 52 57.1 +0.1
SCM pmax pmax
comp=Z,620nm,0.8s
SCM Sheep Creek Mo 80.20 23 *e*P P 12 52 57.1 +0.1
comp=Z,619nm,0.8s
SCM LR LR
comp=Z,38µm,21.0s
BRLK Bradley Lake 80.24 26 *e*P P 12 52 56.1 -1.1
comp=Z,616nm,0.9s
BRLK LR LR
comp=Z,54µm,19.0s
CNPM China Poot 80.25 26 *e*P P 12 52 57.6 +0.3
comp=Z,516nm,1.1s
CNPM LR LR
comp=Z,54µm,21.0s
EIDS Eidsvold 80.39 125 *e*P P 12 52 58.0 -0.4
comp=Z,806nm,1.4s
EIDS LR LR
comp=Z,19µm,22.0s
SFJD Kangerlussuaq 80.51 345 P P 12 52 58.3 -0.2
comp=Z,196nm,1.1s,baz=45,slow=6.0,SNR=15
SFJD Kangerlussuaq 80.51 345 *i*P P 12 52 59.2 +0.7
SFJD Kangerlussuaq 80.51 345 *e*P P 12 52 59.2 +0.7
SFJD Kangerlussuaq 80.51 345 *e*P P 12 52 58.4 -0.1
comp=Z,601nm,1.1s
SFJD LR LR
comp=Z,19µm,22.0s
HARP HAARP 80.55 22 *e*P P 12 52 59.5 +0.6
comp=Z,1µm,1.1s
HARP LR LR
comp=Z,33µm,20.0s
SEW Seward 80.57 25 *e*P P 12 52 59.6 +0.7
comp=Z,970nm,1.2s
SEW LR LR
comp=Z,54µm,21.0s
MENT Mentasta 80.65 21 *e*P P 12 52 59.7 +0.3
comp=Z,381nm,1.4s
MENT LR LR
comp=Z,58µm,21.0s
KDAK Kodiak Island 80.80 28 P P 12 52 59.4 -0.8
comp=Z,50nm,0.5s,baz=270,slow=4.5,SNR=62
KDAK PKKPbc PKKPbc 13 11 39.8 +0.4
comp=Z,1.1nm,0.5s,baz=104,slow=4.2,SNR=5.1
KDAK Kodiak Island 80.80 28 *i*P P 12 52 59.2 -1.0
KDAK Kodiak Island 80.80 28 *e*P P 12 52 59.7 -0.5
comp=Z,1µm,1.1s
KDAK PKKPbc PKKPbc 13 11 39.8 +0.4
KDAK LR LR
comp=Z,72µm,20.0s
OHAK Old Harbor 80.85 29 *e*P P 12 52 59.8 -0.6
comp=Z,1µm,1.4s
OHAK *e*S S 13 03 08.8 +2.2
OHAK LR LR
comp=Z,68µm,20.0s
TOB2 Torodi Ar. Sit 80.89 280 PFAKE 12 53 10.0 +8.6
TOB2 LR LR
comp=Z,45µm,19.0s
TOA2 Torodi Ar. Sit 80.89 280 PFAKE 12 53 10.0 +8.5
TOA2 LR LR
comp=Z,300nm,19.0s
TOB3 Torodi Ar. Sit 80.90 280 PFAKE 12 53 10.0 +8.5
TOB3 LR LR
comp=Z,44µm,19.0s
TOA0 Torodi Ar. Sit 80.90 280 *e*P P 12 53 01.1 -0.5
comp=Z,338nm,1.1s
TOA0 LR LR
comp=Z,44µm,19.0s
TORD Torodi Ar. Bea 80.90 280 P P 12 53 00.9 -0.6
comp=Z,11nm,0.4s,baz=60,slow=4.5,SNR=42
TORD ScS ScS 13 03 28.7 +1.4
comp=Z,11nm,1.2s,baz=60,slow=6.5,SNR=3.5
TORD PKKPbc PKKPbc 13 11 41.5 +3.2
comp=Z,4.8nm,1.0s,baz=219,slow=0.8,SNR=8.6
TORD PKPPKP P'P'df 13 19 47.1 +1.0
comp=Z,1.9nm,0.9s,baz=282,slow=3.5,SNR=3.6
TORD LR LR 13 33 43.3
comp=Z,40µm,18.3s,baz=70,slow=39
TOA3 Torodi Ar. Sit 80.90 280 PFAKE 12 53 10.0 +8.5
TOA3 LR LR
comp=Z,300nm,19.0s
TOC4 Torodi Ar. Sit 80.91 280 PFAKE 12 53 10.0 +8.5
TOC4 LR LR
comp=Z,45µm,19.0s
TOB5 Torodi Ar. Sit 80.91 280 PFAKE 12 53 10.0 +8.4
TOB5 LR LR
comp=Z,47µm,19.0s
KLU Klutina 80.92 23 *e*P P 12 53 01.4 +0.5
comp=Z,1µm,1.4s
KLU LR LR
comp=Z,42µm,18.0s
TOC5 Torodi Ar. Sit 80.92 280 PFAKE 12 53 10.0 +8.4
TOC5 LR LR
comp=Z,50µm,19.0s
GLI Glacier Island 80.93 24 *e*P P 12 53 01.5 +0.6
comp=Z,319nm,0.9s
GLI LR LR
comp=Z,45µm,21.0s
DAWY Dawson 81.15 19 *e*P P 12 53 03.0 +0.9
comp=Z,972nm,1.8s
DAWY LR LR
comp=Z,36µm,20.0s
DIV Divide 81.23 23 *e*P P 12 53 02.4 -0.1
comp=Z,616nm,1.2s
DIV LR LR
comp=Z,38µm,21.0s
FID Port Fidalgo 81.24 24 *e*P P 12 53 02.6 +0.1
comp=Z,1µm,1.3s
FID LR LR
comp=Z,44µm,19.0s
EYAK Cordova Ski Ar 81.64 24 *e*P P 12 53 04.8 +0.2
comp=Z,961nm,1.3s
EYAK LR LR
comp=Z,57µm,19.0s
BMRM Bremner River 81.75 23 *e*P P 12 53 05.6 +0.3
comp=Z,1µm,1.3s
BMRM LR LR
comp=Z,42µm,20.0s
RAGM Ragged Mountai 82.13 24 *e*P P 12 53 07.8 +0.5
comp=Z,662nm,0.9s
MID Middleton Isla 82.19 25 PFAKE 12 53 20.0 +12
MID LR LR
comp=Z,62µm,20.0s
BOSA Boshof 82.31 232 *i*P P 12 53 08.5 -0.3
BOSA *i* 12 53 08.8
baz=356,slow=6.2
BOSA Boshof 82.31 232 P P 12 53 08.4 -0.3
comp=Z,133nm,0.9s,baz=42,slow=2.6,SNR=42
BOSA LR LR 13 26 04.1
comp=Z,30µm,21.5s,baz=66,slow=33
BOSA Boshof 82.31 232 *e*P P 12 53 08.1 -0.6
comp=Z,485nm,1.2s
CRQM Cirque 82.40 23 *e*P P 12 53 08.9 +0.1
comp=Z,2µm,1.6s
ARMA Armidale 83.80 129 *e*P P 12 53 16.9 +0.5
comp=Z,988nm,1.8s
ARMA LR LR
comp=Z,16µm,21.0s
PCA Pinnacle 83.86 22 *e*P P 12 53 17.5 +1.2
comp=Z,1µm,1.4s
PCA LR LR
comp=Z,65µm,20.0s
YKU2 Yakutat 84.50 22 PFAKE 12 53 30.0 +11
YKU2 LR LR
comp=Z,40µm,19.0s
CAN Canberra 85.08 134 *e*P P 12 53 22.2 -0.5
CAN pmax pmax
comp=Z,1µm,1.7s
CAN Canberra 85.08 134 *e*P P 12 53 22.2 -0.5
comp=Z,1µm,1.7s
CAN LR LR
comp=Z,21µm,20.0s
WHY Whitehorse 85.13 20 *e*P P 12 53 22.1 -0.6
comp=Z,302nm,0.9s
WHY LR LR
comp=Z,39µm,21.0s
DHAK Deception Hill 85.31 22 *e*P P 12 53 28.0 +4.5
comp=Z,858nm,1.2s
DHAK LR LR
comp=Z,65µm,20.0s
SKAG Skagway 85.95 21 *e*P P 12 53 27.2 +0.6
comp=Z,640nm,1.0s
PMPS Porto Santo 86.23 305 *e*P P 12 53 31.6 +3.0
comp=Z,834nm,1.6s
BESE Bessie Mountai 86.80 21 *e*P P 12 53 35.0 +4.1
comp=Z,670nm,1.2s
BESE LR LR
comp=Z,40µm,21.0s
PMAR Madeira 86.82 305 *e*P P 12 53 34.6 +2.9
comp=Z,1µm,1.5s
FUL Funchal 86.84 305 *e*P P 12 53 35.1 +3.5
comp=Z,568nm,1.4s
PMOZ Porto Moniz, M 86.97 306 *e*P P 12 53 34.3 +1.9
comp=Z,820nm,1.6s
PMOZ Porto Moniz, M 86.97 306 *e*LQ LQ 13 16 27.0
PMOZ Porto Moniz, M 86.97 306 *e*LR LR 13 26 43.0
comp=Z,7µm,20.0s
SUR Sutherland 87.62 231 *e*P P 12 53 34.2 -1.2
comp=Z,220nm,1.0s
SUR LR LR
comp=Z,26µm,19.0s
YKA Yellowknife Ar 88.18 10 P P 12 53 37.0 -0.4
comp=Z,18nm,0.7s,baz=336,slow=4.9,SNR=31
YKA PKKPbc PKKPbc 13 11 20.8 -1.6
comp=Z,2.7nm,0.5s,baz=181,slow=1.3,SNR=25
YKA PKPPKP P'P'df 13 19 27.6 -6.3
comp=Z,1.1nm,0.8s,baz=141,slow=1.8,SNR=3.7
YKA LR LR 13 36 22.2
comp=Z,2µm,20.9s,baz=0.0,slow=38
YKA Yellowknife Ar 88.18 10 *i*P P 12 53 39.4 +2.0
YKA pmax pmax
comp=Z,18nm,0.7s
DLBC Dease Lake 88.37 19 *e*P P 12 53 39.7 +1.1
comp=Z,497nm,1.4s
DLBC LR LR
comp=Z,44µm,21.0s
TAU Tasmania Unive 88.92 141 *e*P P 12 53 44.2 +3.2
TAU pmax pmax
comp=Z,460nm,1.2s
TAU Tasmania Unive 88.92 141 *e*P P 12 53 41.4 +0.4
comp=Z,456nm,1.2s
TAU LR LR
comp=Z,18µm,19.0s
WRAK Wrangell Islan 89.34 21 *e*P P 12 53 46.3 +3.3
comp=Z,382nm,1.3s
WRAK LR LR
comp=Z,40µm,21.0s
DBIC Dimbokro 89.58 277 P P 12 53 44.2 -0.7
comp=Z,13nm,0.5s,baz=30,slow=5.0,SNR=16
DBIC LR LR 13 38 27.6
comp=Z,20µm,18.1s,baz=49,slow=39
DBIC Dimbokro 89.58 277 *e*P P 12 53 45.2 +0.3
DBIC pmax pmax
comp=Z,810nm,1.5s
DBIC Dimbokro 89.58 277 *e*P P 12 53 44.7 -0.2
comp=Z,806nm,1.5s
KIC Kosan Boka 89.62 277 *e*PKP2 P 12 53 45.0 -0.1
comp=Z,2µm,1.6s
LHI Lord Howe Isla 89.65 126 PFAKE 12 54 00.0 +15
LHI LR LR
comp=Z,14µm,21.0s
TIC Toumodi 89.73 277 *e*PKP2 P 12 53 45.2 -0.5
CRAG Craig 89.87 22 PFAKE 12 54 00.0 +15
CRAG LR LR
comp=Z,30µm,21.0s
PCALD Caldeiras da R 89.90 313 *e*P P 12 53 45.9 -0.1
comp=Z,93nm,0.4s
LIC Lamto 89.94 277 *e*PKP2 P 12 53 46.3 -0.3
comp=Z,810nm,1.2s
CMLA Cha da Macela 89.94 313 *e*P P 12 53 45.7 -0.5
comp=Z,82nm,1.1s
CMLA Cha da Macela 89.94 313 *e*S SKSac 13 04 12.7 -2.5
CMLA Cha da Macela 89.94 313 PFAKE 12 54 00.0 +14
CMLA LR LR
comp=Z,12µm,20.0s
PSET Sete Cidades 90.03 314 *e*P P 12 53 50.0 +3.3
comp=Z,256nm,1.6s
PSET Sete Cidades 90.03 314 *e*S SKSac 13 04 19.6 +3.8
PSET Sete Cidades 90.03 314 *e*LQ LQ 13 17 04.3
PSET *e*LR LR 13 23 18.1
PSET A A 13 24 02.3
comp=Z,2µm,9.5s
PSMN Pico do Norte, 90.09 313 *e*P P 12 53 50.3 +3.4
comp=Z,85nm,1.0s
PSMN Pico do Norte, 90.09 313 *e*S SKSac 13 04 16.3 +0.2
PSMN Pico do Norte, 90.09 313 *e*LQ LQ 13 17 09.3
PSMN *e*LR LR 13 23 05.6
comp=Z,2µm,13.7s
PSMA Santa Maria 90.13 313 *e*P P 12 53 48.8 +1.7
comp=Z,26nm,1.4s
DZM Mont Dzumac 90.38 115 *e*P P 12 53 49.7 +1.2
comp=Z,436nm,1.3s
DZM Mont Dzumac 90.38 115 *e*PP PP 12 57 21.8 -1.5
comp=Z,3µm,26.4s
DZM *e*S S 13 04 44.9 +3.4
comp=Z,35µm,26.9s
DZM Mont Dzumac 90.38 115 *e*PS PS 13 05 54.6 +2.6
comp=Z,16µm,25.2s
DZM *e*SS SS 13 10 47.9 +5.3
comp=Z,20µm,25.9s
DZM *e*LQ LQ 13 19 01.9
comp=Z,46µm,44.9s
DZM *e*LR LR 13 22 52.4
comp=Z,33µm,31.1s
DZM Mont Dzumac 90.38 115 *e*P P 12 53 48.8 +0.3
comp=Z,336nm,1.4s
ADH Angra Heroismo 90.50 315 *e*P P 12 53 51.8 +3.0
comp=Z,18nm,0.5s
PGRA Graciosa 90.74 316 *e*P P 12 53 54.9 +5.0
comp=Z,45nm,0.8s
PGRA Graciosa 90.74 316 *e*S SKSac 13 04 22.5 +2.7
PGRA Graciosa 90.74 316 *e*LQ LQ 13 17 36.7
PGRA *e*LR LR 13 23 13.1
comp=Z,2µm,11.1s
PMAN Manadas 91.05 315 *e*P P 12 53 53.7 +2.4
comp=Z,88nm,0.8s
ROSA Rosais 91.09 316 *e*P P 12 53 53.4 +1.8
comp=Z,109nm,1.2s
ROSA Rosais 91.09 316 *e*S SKSac 13 04 26.5 +4.7
ROSA Rosais 91.09 316 *e*LQ LQ 13 17 49.2
ROSA *e*LR LR 13 23 30.6
comp=Z,2µm,14.3s
ROSA Rosais 91.09 316 PFAKE 12 54 00.0 +8.4
ROSA LR LR
comp=Z,18µm,21.0s
PICO Pico 91.34 315 *e*P P 12 53 54.9 +2.1
comp=Z,270nm,1.2s
PCAN Candelaria 91.40 315 *e*P P 12 53 57.7 +4.7
comp=Z,96nm,1.2s
PCED Cedros 91.43 316 *e*P P 12 53 57.7 +4.6
comp=Z,21nm,0.6s
DIB Dawson Inlet, 91.94 23 *e*P P 12 53 57.1 +2.0
comp=Z,204nm,1.1s
DIB LR LR
comp=Z,28µm,20.0s
H07N1 FLORES T-PHASE 92.24 318 *e*P P 12 54 00.8 +3.9
H07S1 FLORES T-PHASE 92.49 317 *e*P P 12 54 06.9 +8.8
FCC Fort Churchill 93.74 1 *e*P P 12 54 06.5 +3.2
FCC Fort Churchill 93.74 1 *e*P P 12 54 03.4 0.0
comp=Z,627nm,1.5s
FCC LR LR
comp=Z,24µm,20.0s
MIR Mirnyy 94.13 178⇑ *i*P P 12 54 05.0 +0.4
MIR *i*S SKSac 13 04 36.0 -0.8
MIR pmax pmax
comp=Z,17nm,1.8s
MIR pmax pmax
comp=Z,4µm,6.0s
MIR smax smax
comp=N,16µm,11.0s
SCHQ Schefferville 94.93 346 P P 12 54 10.3 +1.4
comp=N,32nm,1.1s,baz=3.5,slow=8.0,SNR=6.7
SCHQ PKKPbc PKKPbc 13 11 04.9 -0.4
comp=N,9.7nm,0.9s,baz=208,slow=2.6,SNR=5.9
SCHQ LR LR 13 42 57.9
comp=N,14µm,20.1s,baz=20,slow=39
SCHQ Schefferville 94.93 346 *e*P P 12 54 08.6 -0.4
comp=N,141nm,1.0s
SCHQ PKKPbc PKKPbc 13 11 04.9 -0.4
MAW Mawson 96.99 189 P P 12 54 17.9 +0.2
comp=N,22nm,0.9s,baz=1.3,slow=6.0,SNR=30
MAW PKKP PKKPdf 13 11 02.9 -0.4
comp=N,9.2nm,0.8s,baz=210,slow=3.4,SNR=13
MAW LR LR 13 32 08.3
comp=N,15µm,21.5s,baz=16,slow=32
MAW Mawson 96.99 189 *e*P P 12 54 16.5 -1.1
comp=N,58nm,1.8s
MAW PKKP PKKPdf 13 11 02.9 -0.4
EDM Edmonton 97.17 13 *e*P Pdif 12 54 21.5 +2.2
EDM Edmonton 97.17 13 *e*P P 12 54 18.6 -0.5
comp=N,439nm,1.7s
EDM LR LR
comp=Z,29µm,19.0s
FFC Flin Flon 97.35 6 *e*P Pdif 12 54 22.2 +2.2
FFC Flin Flon 97.35 6 *e*P Pdif 12 54 20.6 +0.7
comp=Z,159nm,1.1s
FFC LR LR
comp=Z,22µm,20.0s

DRLN **Deer Lake** 97.39 338 *e*P **P** 12 54 19.9 -0.3
comp=Z,317nm,1.1s
DRLN LR LR
comp=Z,19µm,22.0s
LLLB Lillooet 97.53 19 *e*P Pdif 12 54 25.3 +4.4
comp=Z,134nm,1.4s
LLLB LR LR
comp=Z,39µm,21.0s
PGC Sidney 98.80 21 PFAKE 12 54 40.0 +13
PGC LR LR
comp=Z,31µm,20.0s
NLWA Neilton Lookou 99.78 21 PFAKE 12 54 40.0 +9.0
NLWA LR LR
comp=Z,30µm,22.0s
SHEL Horse Pasture 100.64 258 PFAKE 12 54 50.0 +15
SHEL LR LR
comp=Z,14µm,20.0s
NEW Newport 100.95 17 *e*P **Pdif** 12 54 40.2 +4.0
NEW pmax pmax
comp=Z,24nm,1.7s
NEW MLR MLR
comp=Z,34µm,21.0s
NEW Newport 100.95 17 *e*Pdif **Pdif** 12 54 40.2 +4.0
comp=Z,24nm,1.7s
NEW LR LR
comp=Z,34µm,21.0s
WALA Waterton Lakes 100.98 15 PFAKE 12 54 50.0 +14
WALA LR LR
comp=Z,57µm,22.0s
SACV Santiago Islan 101.44 294 PFAKE 12 54 50.0 +11
SACV LR LR
comp=Z,5µm,19.0s
HAWA Hanford 102.01 19 *e*Pdif **Pdif** 12 54 43.0 +2.1
comp=Z,13nm,1.4s
HAWA LR LR
comp=Z,22µm,20.0s
OUZ Omahuta 102.05 123 PFAKE 12 54 50.0 +8.9
OUZ LR LR
comp=Z,19µm,21.0s
DCZ Deep Cove 102.16 135 PFAKE 12 54 50.0 +8.7
DCZ LR LR
comp=Z,11µm,22.0s
PYZ Puysegur Point 102.19 136 PFAKE 12 54 50.0 +8.6
PYZ LR LR
comp=Z,13µm,20.0s
ULM Lac du Bonnet 102.21 3 P **Pdif** 12 54 42.7 +1.0
comp=Z,3.8nm,0.8s,baz=354,slow=8.0,SNR=4.0
ULM PKKP **PKKPdf** 13 10 50.8 +0.4
comp=Z,8.8nm,0.8s,baz=188,slow=4.2,SNR=5.8
ULM Lac du Bonnet 102.21 3 P **Pdif** 12 54 42.7 +1.0
ULM PKKP **PKKPdf** 13 10 50.8 +0.4
ULM LR LR
comp=Z,23µm,20.0s
COR Corvallis 102.44 22 PFAKE 12 54 50.0 +7.2
COR LR LR
comp=Z,33µm,22.0s
LMQ La Malbaie 102.53 345 PFAKE 12 54 50.0 +6.8
LMQ LR LR
comp=Z,19µm,21.0s
LMN Caledonia Moun 102.69 341 PFAKE 12 55 00.0 +16
LMN LR LR
comp=Z,18µm,22.0s
MLZ Mavora Lakes 102.72 135 PFAKE 12 54 50.0 +6.1
MLZ LR LR
comp=Z,12µm,21.0s
SYO Syowa Base 102.80 196 ‖ *e*Pdiff **Pdif** 12 54 43.6 0.0
SYO Syowa Base 102.80 196 ‖ *i*PKiKP **PKiKP** 12 59 06.0 +2.1
SYO Syowa Base 102.80 196 ‖ *i*pPKiKP pPKiKP 12 59 22.4 +8.7
EGMT Eagleton 102.82 12 PFAKE 12 55 00.0 +15
EGMT LR LR
comp=Z,28µm,20.0s
WHZ Wether Hill Ro 102.85 135 PFAKE 12 55 00.0 +16
WHZ LR LR
comp=Z,14µm,20.0s
FOZ Fox Glacier 103.00 132 PFAKE 12 55 00.0 +15
FOZ LR LR
comp=Z,16µm,20.0s
WKZ Wanaka 103.06 134 PFAKE 12 55 00.0 +15
WKZ LR LR
comp=Z,37µm,22.0s
MSO Missoula 103.08 15 PFAKE 12 55 00.0 +14
MSO LR LR
comp=Z,36µm,20.0s
DGMT Dagmar 103.27 8 *e*Pdif **Pdif** 12 54 49.6 +3.1
comp=Z,104nm,1.3s
DGMT LR LR
comp=Z,20µm,20.0s
VLDQ Val d'Or 103.33 350 PFAKE 12 55 00.0 +13
VLDQ LR LR
comp=Z,24µm,22.0s
KEBM Edson Butte 103.58 24 PFAKE 12 55 00.0 +12
KEBM LR LR
comp=Z,22µm,20.0s
LBZ Lake Benmore 103.61 133 PFAKE 12 55 00.0 +12
LBZ LR LR
comp=Z,22µm,20.0s
RPZ Rata Peaks 103.89 132 PFAKE 12 55 00.0 +11
RPZ LR LR
comp=Z,23µm,21.0s
BMO Blue Mountains 104.05 18 *e*P **Pdif** 12 54 51.2 +1.1
BMO pmax pmax
comp=Z,129nm,1.2s
BMO MLR MLR
comp=Z,23µm,21.0s
BMO Blue Mountains 104.05 18 *e*Pdif **Pdif** 12 54 51.2 +1.1
comp=Z,129nm,1.2s
BMO LR LR
comp=Z,23µm,21.0s
AGMN Agassiz Nation 104.16 3 PFAKE 12 55 00.0 +10
AGMN LR LR
comp=Z,19µm,22.0s
KBO Bosley Butte 104.19 24 PFAKE 12 55 00.0 +9.2
KBO LR LR
comp=Z,25µm,22.0s
ODZ Otahua Downs 104.19 134 PFAKE 12 55 00.0 +10
ODZ LR LR
comp=Z,22µm,22.0s
HUMO Hull Mountain 104.30 23 PFAKE 12 55 00.0 +8.8
HUMO LR LR
comp=Z,26µm,22.0s
LTZ Lake Taylor 104.31 131 PFAKE 12 55 00.0 +9.0
LTZ LR LR
comp=Z,20µm,20.0s
THZ Tophouse 104.32 130 PFAKE 12 55 00.0 +8.9
THZ LR LR
comp=Z,34µm,22.0s
HIZ Hauiti 104.34 126 PFAKE 12 55 00.0 +8.8
HIZ LR LR
comp=Z,24µm,22.0s
OXZ Oxford 104.38 131 PFAKE 12 55 00.0 +8.7
OXZ LR LR
comp=Z,16µm,22.0s
PKME Peaks-Kenny Pk 104.43 344 *e*Pdif **Pdif** 12 54 53.3 +1.6
comp=Z,47nm,1.5s
PKME LR LR
comp=Z,24µm,21.0s
L02D Cave Junction, 104.46 24 Pdiff **Pdif** 12 54 50.0 -1.9
baz=331
EYMN Ely 104.60 360 PFAKE 12 55 00.0 +7.6
EYMN LR LR
comp=Z,20µm,21.0s
ASCN Ascension 104.70 269 PFAKE 12 55 00.0 +6.6
ASCN LR LR
comp=Z,12µm,22.0s
LAO LASA Array 104.72 10 PFAKE 12 55 00.0 +6.9
LAO LR LR
comp=Z,31µm,20.0s
BOZ Bozeman (W) 104.76 14 *e*P **Pdif** 12 54 55.0 +1.6
BOZ pmax pmax
comp=Z,11nm,0.8s
BOZ MLR MLR
comp=Z,23µm,21.0s
BOZ Bozeman (W) 104.76 14 *e*Pdif **Pdif** 12 54 55.0 +1.6
comp=Z,11nm,0.8s
BOZ LR LR
comp=Z,23µm,21.0s
DLMT Dillon 104.77 15 *e*Pdif **Pdif** 12 54 54.1 +0.7
comp=Z,47nm,0.6s
DLMT LR LR
comp=Z,40µm,22.0s
CRLZ Canterbury Las 104.87 132 PFAKE 12 55 00.0 +6.6
CRLZ LR LR
comp=Z,10µm,19.0s
KRMB Red Mountain 104.91 24 PFAKE 12 55 10.0 +16
KRMB LR LR
comp=Z,25µm,22.0s
MQZ McQueen's Vall 104.95 132 PFAKE 12 55 00.0 +6.3
MQZ LR LR
comp=Z,8µm,19.0s
KHZ Kahutara 105.01 130 PFAKE 12 55 10.0 +16
KHZ LR LR
comp=Z,22µm,22.0s
YBH Yreka Blue Hor 105.16 23 PFAKE 12 59 20.0
YBH LR LR
comp=Z,22µm,22.0s
WVL Waterville 105.18 344 PFAKE 12 59 20.0
WVL LR LR
comp=Z,33µm,21.0s
SNZO South Karori 105.37 129 PFAKE 12 59 20.0
SNZO LR LR
comp=Z,30µm,22.0s
D37A Cotton 105.39 0 PKiKP **PKiKP** 12 59 08.4 -1.2
baz=360
JCC Jacoby Creek, 105.48 25 PFAKE 12 59 20.0
JCC LR LR
comp=Z,24µm,21.0s
KHMM Horse Mountain 105.54 25 PFAKE 12 59 20.0
KHMM LR LR
comp=Z,30µm,21.0s
RLMT Red Lodge 105.70 13 PFAKE 12 59 20.0
RLMT LR LR
comp=Z,25µm,19.0s
BKZ Black Stump Fm 105.78 126 PFAKE 12 59 20.0
BKZ LR LR
comp=Z,18µm,22.0s
MFID Camas Ranch 105.78 18 PFAKE 12 59 20.0
MFID LR LR
comp=Z,18µm,21.0s
MOD Modoc Plateau 105.82 22 PFAKE 12 59 20.0
MOD LR LR
comp=Z,30µm,21.0s
URZ Urewera 105.87 125 PFAKE 12 59 20.0
URZ LR LR
comp=Z,21µm,21.0s
WVOR Wild Horse Val 105.87 20 *e*P **Pdif** 12 54 59.3 +0.9
WVOR pmax pmax
comp=Z,16nm,1.0s
WVOR MLR MLR
comp=Z,29µm,22.0s
WVOR Wild Horse Val 105.87 20 *e*Pdif **Pdif** 12 54 59.2 +0.9
comp=Z,16nm,1.0s
WVOR LR LR
comp=Z,29µm,22.0s
HLID Hailey 106.02 17 *e*Pdif **Pdif** 12 55 01.5 +2.5
comp=Z,9.9nm,1.1s
HLID LR LR
comp=Z,28µm,21.0s
LBNH Lisbon 106.02 345 PFAKE 12 59 20.0
LBNH LR LR
comp=Z,26µm,22.0s
KMRM Mail Ridge 106.12 25 PFAKE 12 59 20.0
KMRM LR LR
comp=Z,31µm,22.0s
H17A Grant Village 106.14 14 PFAKE 12 59 20.0
H17A LR LR
comp=Z,41µm,20.0s
BFZ Birch Farm 106.19 128 PFAKE 12 59 20.0
BFZ LR LR
comp=Z,20µm,21.0s
LONY Lake Ozonia 106.22 347 PFAKE 12 59 20.0
LONY LR LR
comp=Z,15µm,20.0s
WDC Whiskeytown Da 106.23 24 PFAKE 12 59 20.0
WDC LR LR
comp=Z,22µm,22.0s
PLVO Plevna 106.27 349 PFAKE 12 59 20.0
PLVO LR LR
comp=Z,18µm,22.0s
MXZ Matakaoa Point 106.47 124 PFAKE 12 59 20.0
MXZ LR LR
comp=Z,16µm,22.0s
IMW Indian Meadow 106.53 14 *e*Pdif **Pdif** 12 55 04.9 +3.4
comp=Z,34nm,1.3s
IMW LR LR
comp=Z,37µm,22.0s
HNH Hanover 106.61 345 PFAKE 12 59 20.0
HNH LR LR
comp=Z,41µm,22.0s
KCPM Cahto Peak 106.63 25 PFAKE 12 59 20.0
KCPM LR LR
comp=Z,22µm,22.0s
FFD Franklin Falls 106.69 345 PFAKE 12 59 20.0
FFD LR LR
comp=Z,26µm,21.0s
MOOW Moose Ponds 106.72 14 PFAKE 12 59 20.0
MOOW LR LR
comp=Z,39µm,22.0s
SADO Sadowa 106.85 351 PKKPbc PKKPbc 13 10 29.7 -1.3
comp=Z,5.2nm,0.8s,baz=136,slow=3.3,SNR=4.7
LOHW Long Hollow 106.88 14 PFAKE 12 59 20.0
LOHW LR LR
comp=Z,35µm,22.0s
TPAW Teton Pass 106.92 14 PFAKE 12 59 20.0
TPAW LR LR
comp=Z,54µm,22.0s
SNOW Snow King Moun 106.99 14 PFAKE 12 59 20.0
SNOW LR LR
comp=Z,52µm,22.0s
REDW Red Top Meadow 107.06 14 PFAKE 12 59 20.0
REDW LR LR
comp=Z,57µm,22.0s
SPMN Marine on St. 107.32 1 PFAKE 12 59 20.0
SPMN LR LR
comp=Z,21µm,22.0s
GLMI Grayling 107.42 355 PFAKE 12 59 20.0
GLMI LR LR
comp=Z,23µm,21.0s
HOPS Hopland Field 107.43 25 PFAKE 12 59 20.0
HOPS LR LR
comp=Z,15µm,21.0s
ORV Oroville 107.51 24 PFAKE 12 59 20.0
ORV LR LR
comp=Z,11µm,21.0s
RSSD Black Hills 107.56 9 *e*P **Pdif** 12 55 08.4 +2.5
RSSD pmax pmax
comp=Z,11nm,0.8s
RSSD MLR MLR
comp=Z,24µm,22.0s
RSSD Black Hills 107.56 9 *e*Pdif **Pdif** 12 55 08.4 +2.5
comp=Z,11nm,0.8s
RSSD LR LR
comp=Z,24µm,22.0s
HRV Adam Dziewonsk 107.58 344 PFAKE 12 59 20.0
HRV LR LR
comp=Z,23µm,21.0s
WES Weston 107.64 344 PFAKE 12 59 20.0
WES LR LR
comp=Z,35µm,20.0s
BCX Boston College 107.65 344 PFAKE 12 59 20.0
BCX LR LR
comp=Z,47µm,20.0s
GDXM Geysers 107.70 25 PFAKE 12 59 30.0
GDXM LR LR
comp=Z,19µm,20.0s
TRY Troy 107.84 346 PFAKE 12 59 30.0
TRY LR LR
comp=Z,32µm,21.0s
BW06 Boulder Array 107.91 14 PFAKE 12 59 30.0
BW06 LR LR
comp=Z,22µm,20.0s
PDAR Pinedale Array 107.91 14 Pdiff **Pdif** 12 55 11.6 +4.0
comp=Z,0.2nm,0.4s,baz=344,slow=6.1,SNR=3.5
PDAR PKiKP **PKiKP** 12 59 15.4 +0.7
comp=Z,5.3nm,0.6s,baz=17,slow=6.2,SNR=4.6
PDAR PKKPbc **PKKPbc** 13 10 27.7 -0.3
comp=Z,1.9nm,0.6s,baz=134,slow=4.2,SNR=5.5
QUA2 Belchertown 107.98 345 PFAKE 12 59 30.0
QUA2 LR LR
comp=Z,18µm,20.0s
BMN Battle Mountai 108.13 20 PFAKE 12 59 30.0
BMN LR LR
comp=Z,25µm,21.0s
BRYW Bryant College 108.13 344 PFAKE 12 59 30.0
BRYW LR LR
comp=Z,42µm,20.0s
AFDM Forest Hills D 108.23 24 PFAKE 12 59 30.0
AFDM LR LR
comp=Z,15µm,22.0s
MCCM Marconi Confer 108.25 25 PFAKE 12 59 30.0
MCCM LR LR
comp=Z,22µm,22.0s
I33A Coleman 108.36 4 PKiKP **PKiKP** 12 59 14.1 -1.0
baz=355
HWUT Hardware Ranch 108.57 15 *e*Pdif **Pdif** 12 55 14.0 +3.5
comp=Z,17nm,1.0s
HWUT LR LR
comp=Z,38µm,22.0s
PNTR Pine Nut 108.58 22 PFAKE 12 59 30.0
PNTR LR LR
comp=Z,24µm,22.0s
K22A Casper 108.60 11 PFAKE 12 59 30.0
K22A LR LR
comp=Z,23µm,22.0s
I40A Norwalk 108.65 359 PKiKP **PKiKP** 12 59 15.3 -0.4
baz=1.1
ECSD EROS Data Cent 108.68 4 PKiKP **PKiKP** 12 59 14.6 -1.2
baz=356
ECSD EROS Data Cent 108.68 4 *e*Pdif **Pdif** 12 55 12.7 +2.1
comp=Z,115nm,0.4s
ECSD LR LR
comp=Z,20µm,20.0s
I39A Houston 108.69 360 PKiKP **PKiKP** 12 59 14.5 -1.2
baz=0.3
YERR Yerington 108.80 22 PFAKE 12 59 30.0
YERR LR LR
comp=Z,15µm,20.0s
BINY Binghamton 108.82 348 PFAKE 12 59 30.0
BINY LR LR
comp=Z,18µm,22.0s
YLE Yale 109.03 345 PFAKE 12 59 30.0
YLE LR LR
comp=Z,24µm,20.0s
J35A Milford 109.11 3 PKiKP **PKiKP** 12 59 16.0 -0.6
baz=357
J34A George 109.16 3 PKiKP **PKiKP** 12 59 16.1 -0.5
baz=356
WAKR Walker 109.17 23 PFAKE 12 59 30.0
WAKR LR LR
comp=Z,26µm,22.0s
J39A Decorah 109.21 360 PKiKP **PKiKP** 12 59 15.7 -1.0
baz=0.1
CMB Columbia Colle 109.26 24 PFAKE 12 59 30.0
CMB LR LR
comp=Z,36µm,22.0s
RWWY Rawlins 109.41 12 PFAKE 12 59 30.0
RWWY LR LR
comp=Z,20µm,20.0s
TVH1 TV Hill, Hawth 109.43 22 PFAKE 12 59 30.0
TVH1 LR LR
comp=Z,16µm,22.0s
TVH2 Borealis Mine 109.51 22 PFAKE 12 59 30.0
TVH2 LR LR
comp=Z,12µm,21.0s
TVH3 East Aurora ar 109.51 22 PFAKE 12 59 30.0
TVH3 LR LR
comp=Z,13µm,21.0s
ERPA Erie 109.57 351 PFAKE 12 59 30.0
ERPA LR LR
comp=Z,14µm,22.0s
DUG Dugway, Tooele 109.59 17 PFAKE 12 59 30.0
DUG LR LR
comp=Z,18µm,21.0s
JFWS Jewell Farm 109.62 359 PFAKE 12 59 30.0
JFWS LR LR
comp=Z,24µm,22.0s
AAM Ann Arbor 109.84 354 PFAKE 12 59 30.0
AAM LR LR
comp=Z,34µm,22.0s
K38A Parkersburg 109.89 1 PKiKP **PKiKP** 12 59 16.9 -1.2
baz=359
SAO San Andreas Ge 110.00 25 PFAKE 12 59 30.0
SAO LR LR
comp=Z,15µm,22.0s
N59A State Game Lan 110.02 347 PKiKP **PKiKP** 12 59 17.0 -1.4
baz=15
PHWY Pilot Hill 110.10 11 PFAKE 12 59 30.0
PHWY LR LR
comp=Z,20µm,20.0s
M54A Oil Creek Stat 110.12 350 PKiKP **PKiKP** 12 59 17.7 -0.8
baz=11
L33A Hoskins 110.20 4 PKiKP **PKiKP** 12 59 17.2 -1.5
baz=355
L43A Garden Prairie 110.30 358 PKiKP **PKiKP** 12 59 18.4 -0.5
baz=2.9
L32A Elgin 110.31 5 PKiKP **PKiKP** 12 59 17.3 -1.7
baz=354
L35A Bielow Farm, R 110.35 3 PKiKP **PKiKP** 12 59 18.7 -0.3
baz=356
L36A Harm Buss Farm 110.40 2 PKiKP **PKiKP** 12 59 17.7 -1.4
baz=357
L38A Oak Wood Farm, 110.40 1 PKiKP **PKiKP** 12 59 17.4 -1.6
baz=359
L37A Phoenix Point, 110.40 2 PKiKP **PKiKP** 12 59 17.4 -1.6
baz=358
N23A Red Feather La 110.41 11 PKiKP **PKiKP** 12 59 18.8 -0.7
baz=347
N23A Red Feather La 110.41 11 PFAKE 12 59 30.0
N23A LR LR
comp=Z,23µm,21.0s
L39A Vinton 110.42 0 PKiKP **PKiKP** 12 59 17.5 -1.6
baz=360
XMAS Kiritimati 110.44 76 PFAKE 12 59 30.0
XMAS LR LR
comp=Z,14µm,22.0s
L34A Svendsen Farm, 110.45 4 PKiKP **PKiKP** 12 59 18.3 -0.8
baz=356
L41A Preston 110.46 359 PKiKP **PKiKP** 12 59 17.7 -1.4
baz=1.3
L40A Anamosa 110.48 360 PKiKP **PKiKP** 12 59 17.9 -1.3
baz=0.6
R11A Troy Canyon, C 110.54 20 PKiKP **PKiKP** 12 59 18.0 -1.7
baz=338
R11A Troy Canyon, C 110.54 20 *e*PKPdf **PKiKP** 12 59 21.1 +1.4
R11A LR LR
comp=Z,21µm,22.0s
SCIA State Center 110.63 1 PFAKE 12 59 30.0
SCIA LR LR
comp=Z,34µm,21.0s
SSPA Standing Stone 110.69 349 PFAKE 12 59 30.0
SSPA LR LR
comp=Z,15µm,19.0s
O20A White River Ci 110.71 13 PKiKP **PKiKP** 12 59 18.4 -1.5
baz=344
O20A White River Ci 110.71 13 PFAKE 12 59 30.0
O20A LR LR
comp=Z,23µm,20.0s
BGNE Belgrade 110.89 5 PKiKP **PKiKP** 12 59 18.4 -1.7
baz=354
BGNE Belgrade 110.89 5 *e*PKPdf **PKiKP** 12 59 22.5 +2.4
BGNE LR LR
comp=Z,36µm,20.0s
PSUB Penn St. - Bra 110.91 347 PFAKE 12 59 30.0
PSUB LR LR
comp=Z,16µm,21.0s
OGNE Ogallala 110.95 8 PFAKE 12 59 30.0
OGNE LR LR
comp=Z,26µm,22.0s
M35A Neola 110.99 3 PKiKP **PKiKP** 12 59 18.3 -1.9
baz=356
PAGB Antelope Grade 111.36 25 PFAKE 12 59 30.0
PAGB LR LR
comp=Z,12µm,20.0s
ISCO Idaho Springs 111.53 11 PFAKE 12 59 30.0
ISCO LR LR
comp=Z,21µm,21.0s
N34A Lincoln 111.57 4 PKiKP **PKiKP** 12 59 19.5 -1.8
baz=356
N33A J Bar K, Exete 111.61 5 PKiKP **PKiKP** 12 59 19.6 -1.8
baz=355
NVL N'lazarevskaya 111.61 200 *e*P **Pdif** 12 55 29.9 +7.1
NVL *e* 12 59 15.4
NVL *i* 13 09 35.3
TPNV Topopah Spring 111.62 21 PFAKE 12 59 30.0
TPNV LR LR
comp=Z,29µm,22.0s
N42A Yates City 111.69 359 PKiKP **PKiKP** 12 59 21.2 -0.3
baz=1.7
N37A Lee Faris, Mou 111.75 2 PKiKP **PKiKP** 12 59 19.9 -1.7
baz=358
DAC Darwin (Calif) 111.80 22 *e*PKiKP **PKiKP** 12 59 22.9 +0.8
DAC MLR MLR
comp=Z,24µm,22.0s
DAC Darwin (Calif) 111.80 22 *e*PKPdf **PKiKP** 12 59 22.9 +0.8
DAC LR LR
comp=Z,24µm,22.0s
ACSO Alum Creek Sta 111.81 353 *e*PKPdf **PKiKP** 12 59 21.5 -0.2
ACSO LR LR
comp=Z,30µm,21.0s

SMCO Snowmass 111.88 13 PFAKE 12 59 30.0
SMCO LR LR
comp=Z,25µm,20.0s
HDIL Hopedale 111.95 358 PFAKE 12 59 30.0
HDIL LR LR
comp=Z,25µm,22.0s
MCWV Mont Chateau 111.96 350 PFAKE 12 59 30.0
MCWV LR LR
comp=Z,9µm,19.0s
SFIN Lafayette 112.02 356 PFAKE 12 59 30.0
SFIN LR LR
comp=Z,25µm,19.0s
O34A Beatrice 112.21 4 PKIKP **PKiKP** 12 59 20.9 -1.6
baz=355
SHPR Sheep Range 112.37 20 PFAKE 12 59 30.0
SHPR LR LR
comp=Z,23µm,20.0s
Q24A Divide 112.42 11 PFAKE 12 59 30.0
Q24A LR LR
comp=Z,29µm,21.0s
KSCO Kaye Shedlock' 112.77 9 PKIKP **PKiKP** 12 59 21.7 -2.2
baz=350
KSCO Kaye Shedlock' 112.77 9 *e*PKPdf **PKiKP** 12 59 21.4 -2.4
KSCO LR LR
comp=Z,28µm,21.0s
P34A Walnut Farm, R 112.83 4 PKIKP **PKiKP** 12 59 23.2 -0.6
baz=355
P36A Good Intent, A 112.85 3 PKIKP **PKiKP** 12 59 23.3 -0.5
baz=357
P38A Dawn 112.90 1 PKIKP **PKiKP** 12 59 21.9 -2.0
baz=358
P35A Duane Minner, 112.90 4 PKIKP **PKiKP** 12 59 21.6 -2.3
baz=356
OSI Osito Audit: C 112.91 24 PFAKE 12 59 40.0
OSI LR LR
comp=Z,29µm,22.0s
P37A Lathrop 112.92 2 PKIKP **PKiKP** 12 59 22.0 -1.9
baz=358
CBN Corbin Frederi 112.95 348 PFAKE 12 59 40.0
CBN LR LR
comp=Z,22µm,21.0s
GSC Goldstone, Bar 112.95 22 PFAKE 12 59 40.0
GSC LR LR
comp=Z,16µm,22.0s
P40A Paris 113.01 0 PKIKP **PKiKP** 12 59 23.4 -0.6
baz=360
BLO Bloomington 113.19 356 PFAKE 12 59 40.0
BLO LR LR
comp=Z,23µm,20.0s
U15A North Rim 113.27 18 PFAKE 12 59 40.0
U15A LR LR
comp=Z,13µm,22.0s
KSU1 Kansas State U 113.29 4 *e*PKPdf **PKiKP** 12 59 26.3 +1.7
KSU1 LR LR
comp=Z,23µm,22.0s
S22A 4UR Ranch, Cre 113.30 13 PFAKE 12 59 40.0
S22A LR LR
comp=Z,24µm,20.0s
CBKS Cedar Bluff 113.32 7 PFAKE 12 59 40.0
CBKS LR LR
comp=Z,24µm,20.0s
Q34A Chapman 113.45 4 PKIKP **PKiKP** 12 59 23.4 -1.6
baz=355
MVCO Mesa Verde 113.46 14 PFAKE 12 59 40.0
MVCO LR LR
comp=Z,18µm,20.0s
Q39A Willow Grove F 113.49 1 PKIKP **PKiKP** 12 59 23.5 -1.5
baz=359
MWC Mount Wilson 113.50 24 PFAKE 12 59 40.0
MWC LR LR
comp=Z,20µm,21.0s
PASC Pasadena Art C 113.50 24 PFAKE 12 59 40.0
PASC LR LR
comp=Z,19µm,21.0s
VNDA Vanda 113.50 167 Pdiff **Pdif** 12 55 33.5 +2.5
comp=Z,0.4nm,0.7s,baz=284,slow=8.9,SNR=2.7
VNDA PKiKP **PKiKP** 12 59 24.2 +0.4
comp=Z,4.7nm,1.0s,baz=280,slow=5.1,SNR=3.1
VNDA PKKPab **PKKPbc** 13 10 11.5 +1.3
comp=Z,2.8nm,0.9s,baz=141,slow=2.8,SNR=4.7
SDCO Great Sand Dun 113.55 12 PFAKE 12 59 40.0
SDCO LR LR
comp=Z,22µm,22.0s
Q35A Mercer Eighty, 113.57 4 PKIKP **PKiKP** 12 59 23.6 -1.6
baz=356
Q43A New Douglas 113.57 358 PKIKP **PKiKP** 12 59 24.6 -0.6
baz=2.1
Q41A Truxton 113.59 359 PKIKP **PKiKP** 12 59 23.9 -1.2
baz=0.6
Q42A Golden Eagle 113.62 359 PKIKP **PKiKP** 12 59 23.6 -1.6
baz=1.3
LDFC Landfair 113.70 21 PFAKE 12 59 40.0
LDFC LR LR
comp=Z,15µm,22.0s
SNCC San Nicolas Is 113.84 25 PFAKE 12 59 40.0
SNCC LR LR
comp=Z,28µm,22.0s
SLM Saint Louis 113.89 359 PFAKE 12 59 40.0
SLM LR LR
comp=Z,27µm,21.0s
TRIS Tristan da Cun 114.03 239 PFAKE 12 59 40.0 +14
TRIS LR LR
comp=Z,17µm,22.0s
R34A Isabella, Hill 114.05 5 PKIKP PKPdf 12 59 25.5 -0.6
baz=355
W13A Hualapai Mount 114.06 20 PFAKE 12 59 40.0 +13
W13A LR LR
comp=Z,18µm,21.0s
R35A Emporia Munici 114.09 4 PKIKP PKPdf 12 59 24.7 -1.5
baz=356
WCI Wyandotte Cave 114.11 355 PFAKE 12 59 40.0 +14
WCI LR LR
comp=Z,18µm,20.0s
R36A Gordon, Harris 114.13 3 PKIKP PKPdf 12 59 24.9 -1.3
baz=356
R37A Teagarden Farm 114.17 3 PKIKP PKPdf 12 59 24.7 -1.6
baz=357
R39A Chumby, Stover 114.22 1 PKIKP PKPdf 12 59 25.8 -0.6
baz=359
R43A Red Bud 114.24 358 PKIKP PKPdf 12 59 25.3 -1.2
baz=1.9
R41A Rosebud 114.24 360 PKIKP PKPdf 12 59 25.4 -1.1
baz=0.5
R44A Waltonville 114.24 358 PKIKP PKPdf 12 59 25.9 -0.6
baz=2.7
R40A Maddies Statio 114.25 0 PKIKP PKPdf 12 59 24.6 -1.9
baz=360
R42A Luebbering 114.25 359 PKIKP PKPdf 12 59 25.5 -0.9
baz=1.0
R38A Fenwick Farm, 114.33 2 PKIKP PKPdf 12 59 24.7 -1.9
baz=358
T25A Trinidad 114.33 11 PFAKE 12 59 40.0 +13
T25A LR LR
comp=Z,30µm,20.0s
WUAZ Wupatki 114.38 17 *e*PKPdf PKPdf 12 59 28.9 +1.8
WUAZ LR LR
comp=Z,18µm,21.0s
BLA Blacksburg 114.44 350 PFAKE 12 59 40.0 +13
BLA LR LR
comp=Z,21µm,22.0s
USIN University of 114.46 356 PFAKE 12 59 40.0 +13
USIN LR LR
comp=Z,22µm,20.0s
SBA Scott Base 114.61 167 *e*PKIKP PKPdf 12 59 26.1 +0.3
SBA MLR MLR
comp=Z,15µm,21.0s
SBA Scott Base 114.61 167 *e*PKPdf PKPdf 12 59 26.1 +0.3
SBA LR LR
comp=Z,15µm,21.0s
PFO Pinyon Flats O 114.61 22 *e*PKIKP PKPdf 12 59 27.1 -0.4
PFO MLR MLR
comp=Z,26µm,21.0s
PFO Pinyon Flats O 114.61 22 *e*PKPdf PKPdf 12 59 27.1 -0.4
PFO LR LR
comp=Z,26µm,21.0s
S36A Lake Cedric, C 114.72 3 PKIKP PKPdf 12 59 26.4 -1.0
baz=356
S35A Otter Creek Ra 114.72 4 PKIKP PKPdf 12 59 26.9 -0.5
baz=356
S42A Caledonia 114.76 359 PKIKP PKPdf 12 59 25.7 -1.8
baz=1.0
BBSR BB Station 114.82 335 PFAKE 12 59 40.0 +12
BBSR LR LR
comp=Z,14µm,22.0s
S39A Bolivar 114.83 1 PKIKP PKPdf 12 59 26.0 -1.6
baz=359

S38A Stockton 114.88 2 PKIKP PKPdf 12 59 26.3 -1.5
baz=358
S40A Lebanon 114.94 1 PKIKP PKPdf 12 59 26.5 -1.3
baz=359
S41A Jillco Farms, 114.95 360 PKIKP PKPdf 12 59 26.5 -1.4
baz=0.1
Y12C Blythe 115.11 21 PFAKE 12 59 40.0 +12
Y12C LR LR
comp=Z,13µm,22.0s
W18A Petrified Fore 115.17 16 *e*PKPdf **PKPdf** 12 59 30.7 +2.1
W18A LR LR
comp=Z,19µm,20.0s
T34A McClaskey Farm 115.32 5 PKIKP **PKPdf** 12 59 26.3 -2.3
baz=355
T37A Cheneyville 18 115.35 3 PKIKP **PKPdf** 12 59 27.1 -1.6
baz=357
T36A Boggs Farm, Ca 115.37 4 PKIKP **PKPdf** 12 59 27.9 -0.7
baz=356
BAR Barrett 115.38 23 *e*PKPdf **PKPdf** 12 59 28.4 -0.5
BAR LR LR
comp=Z,11µm,21.0s
T40A Mansfield 115.39 1 PKIKP **PKPdf** 12 59 26.4 -2.3
baz=359
X16A Lo Mia Camp, P 115.39 18 *e*PKPdf **PKPdf** 12 59 28.6 -0.5
X16A LR LR
comp=Z,22µm,20.0s
Y14A Wickenburg 115.40 19 PFAKE 12 59 40.0 +11
Y14A LR LR
comp=Z,70µm,21.0s
T44A Benton 115.42 358 PKIKP **PKPdf** 12 59 26.6 -2.1
baz=2.2
T43A Greenville 115.44 359 PKIKP **PKPdf** 12 59 27.4 -1.4
baz=1.5
T38A Diamond 115.46 2 PKIKP **PKPdf** 12 59 27.2 -1.7
baz=358
T35A Sooner Cattle 115.47 4 PKIKP **PKPdf** 12 59 27.6 -1.3
baz=355
T42A Van Buren 115.50 359 PKIKP **PKPdf** 12 59 27.7 -1.2
baz=0.7
TZTN Tazewell 115.52 353 *e*PKPdf **PKPdf** 12 59 28.9 -0.1
IKP In-Ko-Pah, Jac 115.61 23 PKIKP **PKPdf** 12 59 30.0 +0.7
baz=336
GLA Glamis 115.66 21 PKIKP **PKPdf** 12 59 30.2 +0.8
baz=338
GLA Glamis 115.66 21 *e*PKIKP **PKPdf** 12 59 30.4 +1.0
GLA MLR MLR
comp=Z,23µm,21.0s
GLA Glamis 115.66 21 *e*PKPdf **PKPdf** 12 59 30.4 +1.0
GLA LR LR
comp=Z,23µm,21.0s
X18A Snowflake 115.68 17 PFAKE 12 59 40.0 +10
X18A LR LR
comp=Z,21µm,22.0s
PBMO Poplar Bluff 115.75 359 *e*PKPdf **PKPdf** 12 59 28.5 -0.9
PBMO LR LR
comp=Z,20µm,21.0s
PARMO Parma 115.84 358 *e*PKPdf **PKPdf** 12 59 28.7 -0.8
CNNC Cliffs of the 115.92 347 PFAKE 12 59 40.0 +10
CNNC LR LR
comp=Z,20µm,22.0s
U35A Pawnee 116.00 4 PKIKP **PKPdf** 12 59 29.6 -0.3
baz=355
U36A Oologah 116.04 3 PKIKP **PKPdf** 12 59 29.6 -0.3
baz=356
U38A Gravette 116.05 2 PKIKP **PKPdf** 12 59 29.0 -1.0
baz=358
U37A Salina 116.06 3 PKIKP **PKPdf** 12 59 29.4 -0.6
baz=357
ANMO Albuquerque 116.08 13 PFAKE 12 59 40.0 +10
ANMO LR LR
comp=Z,16µm,22.0s
PVMO Portageville 116.09 358 PFAKE 12 59 40.0 +10
PVMO LR LR
comp=Z,34µm,21.0s
U39A Green Forest 116.14 1 PKIKP **PKPdf** 12 59 29.7 -0.5
baz=358
U40A Yellville 116.17 1 PKIKP **PKPdf** 12 59 28.9 -1.4
baz=359
U42A Revenden 116.18 359 PKIKP **PKPdf** 12 59 29.4 -0.8
baz=0.6
U41A Viola 116.19 0 PKIKP **PKPdf** 12 59 29.5 -0.8
baz=360
HHAR Hobbs 116.23 2 *e*PKPdf **PKPdf** 12 59 29.1 -1.2
113A Mohawk Valley, 116.26 21 PFAKE 12 59 40.0 +10
113A LR LR
comp=Z,18µm,21.0s
WVT Waverly 116.30 356 *e*PKIKP **PKPdf** 12 59 29.8 -0.7
WVT MLR MLR
comp=Z,23µm,20.0s
WVT Waverly 116.30 356 *e*PKPdf **PKPdf** 12 59 29.8 -0.7
WVT LR LR
comp=Z,23µm,20.0s
TKL Tuckaleechee C 116.42 353 *e*PKIKP **PKPdf** 12 59 30.5 -0.2
TKL MLR MLR
comp=Z,28µm,21.0s
TKL Tuckaleechee C 116.42 353 *e*PKPdf **PKPdf** 12 59 30.5 -0.2
TKL LR LR
comp=Z,28µm,21.0s
SNAA Sanae 116.42 201 P **PKKPab** 13 09 59.8 -0.7
SNAA Sanae 116.42 201 PKP **PKPdf** 12 59 29.7 +0.2
SNAA Sanae 116.42 201 PKP **PKPdf** 12 59 29.8 +0.2
comp=Z,5.3nm,0.8s,baz=33,slow=3.9,SNR=13
SNAA PKKPab **PKKPab** 13 10 01.1 +0.5
comp=Z,3.7nm,0.8s,baz=305,slow=4.6,SNR=6.4
SNAA Sanae 116.42 201 *e*PKPdf **PKPdf** 12 59 29.4 -0.1
SNAA PKKPab **PKKPab** 13 10 01.1 +0.5
SNAA LR LR
comp=Z,12µm,20.0s
LAZ Ladron 116.46 14 *e*PKPdf **PKPdf** 12 59 28.9 -2.2
TUL1 Leonard 116.52 4 PKIKP **PKPdf** 12 59 30.1 -0.9
baz=356
TUL1 Leonard 116.52 4 *e*PKPdf **PKPdf** 12 59 30.2 -0.7
TUL1 LR LR
comp=Z,23µm,22.0s
V37A Hulbert 116.58 3 PKIKP **PKPdf** 12 59 30.2 -0.9
baz=357
V35A Meyer Ranch, C 116.60 5 PKIKP **PKPdf** 12 59 30.4 -0.7
baz=355
KMSC Kings Mountain 116.61 350 PKIKP **PKPdf** 12 59 30.6 -0.5
baz=10
KMSC Kings Mountain 116.61 350 *e*PKPdf **PKPdf** 12 59 31.2 +0.1
V38A Canehill 116.63 2 PKIKP **PKPdf** 12 59 30.1 -1.0
baz=358
V36A Jenks 116.63 4 PKIKP **PKPdf** 12 59 30.4 -0.7
baz=356
V39A Pettigrew 116.67 2 PKIKP **PKPdf** 12 59 30.2 -1.1
baz=358
CPCT Cooper Cave 116.71 353 *e*PKPdf **PKPdf** 12 59 30.9 -0.3
V40A Witts Springs 116.73 1 PKIKP **PKPdf** 12 59 29.8 -1.6
baz=359
V42A Cord 116.73 360 PKIKP **PKPdf** 12 59 30.5 -0.8
baz=0.5
V45A Humboldt 116.74 357 PKIKP **PKPdf** 12 59 30.8 -0.5
baz=2.9
V43A Jonesboro 116.74 359 PKIKP **PKPdf** 12 59 31.5 +0.1
baz=1.3
V41A Mountainview 116.75 0 PKIKP **PKPdf** 12 59 30.0 -1.4
baz=360
BNM Barren Site 116.81 14 *e*PKPdf **PKPdf** 12 59 31.7 -0.1
Y22D IRIS PASSCAL I 116.82 14 PKIKP **PKPdf** 12 59 31.1 -0.6
baz=345
Y22D IRIS PASSCAL I 116.82 14 PFAKE 12 59 40.0 +8.2
Y22D LR LR
comp=Z,32µm,22.0s
AMTX Amarillo 116.96 9 PKIKP **PKPdf** 12 59 31.4 -0.5
baz=350
AMTX Amarillo 116.96 9 PFAKE 12 59 40.0 +8.1
AMTX LR LR
comp=Z,28µm,20.0s
SWET Sewanee 117.07 355 *e*PKPdf **PKPdf** 12 59 32.2 +0.2
W35A Tecumseh 117.20 5 PKIKP **PKPdf** 12 59 32.0 -0.2
baz=355
WHAR Wooly Hollow 117.24 0 *e*PKPdf **PKPdf** 12 59 31.2 -1.1
W36A Wetumka 117.26 4 PKIKP **PKPdf** 12 59 31.6 -0.8
baz=356
W37B Quinton 117.31 3 PKIKP **PKPdf** 12 59 31.8 -0.6
baz=356
214A Organ Pipe Nat 117.31 20 PKIKP **PKPdf** 12 59 32.7 +0.1
baz=339
214A Organ Pipe Nat 117.31 20 *e*PKPdf **PKPdf** 12 59 33.0 +0.4
W39A Magazine 117.31 2 PKIKP **PKPdf** 12 59 31.7 -0.8
baz=358
W45A Hickory Valley 117.33 358 PKIKP **PKPdf** 12 59 32.2 -0.3
baz=2.6
W40A Ferguson Farm, 117.33 1 PKIKP **PKPdf** 12 59 31.8 -0.7
baz=359

W41B Gary Mavity, V 117.36 0 PKIKP **PKPdf** 12 59 32.3 -0.2
baz=360
MET Memphis--Engin 117.39 358 PFAKE 12 59 40.0 +7.4
MET LR LR
comp=Z,21µm,20.0s
W38A Poteau 117.41 2 PKIKP **PKPdf** 12 59 31.9 -0.7
baz=357
JSC Jenkinsville 117.44 350 *e*PKIKP **PKPdf** 12 59 32.2 -0.5
JSC Jenkinsville 117.44 350 *e*PKPdf **PKPdf** 12 59 32.2 -0.5
WMOK Wichita Mounta 117.45 6 PKIKP **PKPdf** 12 59 31.5 -1.3
baz=353
WMOK Wichita Mounta 117.45 6 *e*PKIKP **PKPdf** 12 59 31.8 -1.0
WMOK Wichita Mounta 117.45 6 *e*PKPdf **PKPdf** 12 59 31.8 -1.0
TUC Tucson 117.56 18 PKIKP **PKPdf** 12 59 32.9 -0.3
baz=341
TUC Tucson 117.56 18 *e*PKIKP **PKPdf** 12 59 34.0 +0.9
TUC MLR MLR
comp=Z,21µm,22.0s
TUC Tucson 117.56 18 *e*PKPdf **PKPdf** 12 59 34.0 +0.9
TUC LR LR
comp=Z,21µm,22.0s
QSPA South Pole Qui 117.61 180 *e*PKPdf **PKPdf** 12 59 31.2 -0.7
QSPA LR LR
comp=Z,19µm,21.0s
MSTX Muleshoe 117.70 10 PKIKP **PKPdf** 12 59 32.8 -0.5
baz=349
MSTX Muleshoe 117.70 10 *e*PKPdf **PKPdf** 12 59 33.8 +0.4
MSTX LR LR
comp=Z,28µm,20.0s
UALR University of 117.76 0 *e*PKPdf **PKPdf** 12 59 32.6 -0.7
UALR LR LR
comp=Z,38µm,22.0s
VNA2 Neumayer--Watz 117.80 202 P **PKKPab** 13 09 54.8 +0.4
baz=295,slow=4.8
VNA2 Neumayer--Watz 117.80 202 PKP **PKPdf** 12 59 32.7 +0.5
baz=41,slow=2.3
X38A Whitesboro 117.80 3 PKIKP **PKPdf** 12 59 32.7 -0.7
baz=357
X36A Centrahoma 117.82 4 PKIKP **PKPdf** 12 59 33.2 -0.2
baz=356
X37A Clayton 117.86 3 PKIKP **PKPdf** 12 59 32.6 -0.9
baz=356
X35A Drake 117.94 5 PKIKP **PKPdf** 12 59 32.6 -1.2
baz=355
MIAR Mount Ida 117.97 2 PKIKP **PKPdf** 12 59 32.6 -1.1
baz=358
MIAR Mount Ida 117.97 2 *e*PKIKP **PKPdf** 12 59 32.8 -0.9
MIAR MLR MLR
comp=Z,29µm,20.0s
MIAR Mount Ida 117.97 2 *e*PKPdf **PKPdf** 12 59 32.8 -0.9
MIAR LR LR
comp=Z,29µm,20.0s
OXF Oxford 117.98 358 *e*PKIKP **PKPdf** 12 59 33.1 -0.7
OXF MLR MLR
comp=Z,32µm,20.0s
OXF Oxford 117.98 358 *e*PKPdf **PKPdf** 12 59 33.1 -0.7
OXF LR LR
comp=Z,32µm,20.0s
X42A Stuttgart 117.98 360 PKIKP **PKPdf** 12 59 33.4 -0.3
baz=0.2
X39A Fountain Ranch 117.99 2 PKIKP **PKPdf** 12 59 33.0 -0.8
baz=358
X43A Marvell 118.01 359 PKIKP **PKPdf** 12 59 33.6 -0.1
baz=1.0
X44A Crenshaw 118.01 358 PKIKP **PKPdf** 12 59 32.9 -0.9
baz=1.7
X41A Kaden, Bauxite 118.04 1 PKIKP **PKPdf** 12 59 33.2 -0.6
baz=359
X40A Basin Creek Fa 118.04 1 PKIKP **PKPdf** 12 59 33.7 -0.2
baz=359
VNA1 Neumayer--Stat 118.06 202 PKP **PKPdf** 12 59 33.3 +0.7
X45A UM Field Stati 118.07 358 PKIKP **PKPdf** 12 59 33.3 -0.6
baz=2.5
121A Cookes Peak, D 118.11 15 PKIKP **PKPdf** 12 59 34.3 0.0
baz=344
121A Cookes Peak, D 118.11 15 *e*PKPdf **PKPdf** 12 59 34.0 -0.3
NHSC New Hope 118.42 349 PFAKE 12 59 50.0 +15
NHSC LR LR
comp=Z,25µm,19.0s
Y35A Marietta 118.43 5 PKIKP **PKPdf** 12 59 34.0 -0.6
baz=355
CPRX Cap Rock 118.43 11 *e*PKPdf **PKPdf** 12 59 36.2 +1.3
Y37A Hugo 118.45 4 PKIKP **PKPdf** 12 59 34.2 -0.5
baz=356
Y36A Durant 118.49 4 PKIKP **PKPdf** 12 59 33.8 -1.0
baz=356
Y40A Okolona 118.50 1 PKIKP **PKPdf** 12 59 34.3 -0.5
baz=359
Y47A UCPARC, Winfie 118.51 356 PKIKP **PKPdf** 12 59 33.8 -1.0
baz=4.0
Y38A Idabel 118.54 3 PKIKP **PKPdf** 12 59 34.5 -0.4
baz=357
Y44A Strider, Charl 118.55 358 PKIKP **PKPdf** 12 59 34.4 -0.4
baz=1.6
VNA3 Neumayer Olymp 118.56 201 P **PKKPab** 13 09 55.1 +3.9
VNA3 Neumayer Olymp 118.56 201 PKP **PKPdf** 12 59 33.0 -0.6
Y39A Lockesburg 118.56 2 PKIKP **PKPdf** 12 59 34.0 -0.8
baz=358
Y46A Houston 118.58 357 PKIKP **PKPdf** 12 59 34.2 -0.8
baz=3.0
GOGA Godfrey 118.60 352 *e*PKIKP **PKPdf** 12 59 35.7 +0.7
GOGA MLR MLR
comp=Z,32µm,22.0s
GOGA Godfrey 118.60 352 *e*PKPdf **PKPdf** 12 59 35.7 +0.7
GOGA LR LR
comp=Z,32µm,22.0s
Y43A Makayla and Ka 118.61 359 PKIKP **PKPdf** 12 59 33.9 -1.1
baz=0.9
Y45A Yeager Farm, C 118.63 358 PKIKP **PKPdf** 12 59 34.7 -0.3
baz=2.3
Y41A Eaglette Beard 118.65 1 PKIKP **PKPdf** 12 59 34.8 -0.2
baz=359
WLAR White Oak Lake 118.83 1 *e*PKPdf **PKPdf** 12 59 35.0 -0.4
319A Douglas 118.85 17 PFAKE 12 59 50.0 +14
319A LR LR
comp=Z,21µm,21.0s
Z48A Northport 119.02 356 PKIKP **PKPdf** 12 59 35.0 -0.8
baz=4.3
Z36A Blue Ridge 119.11 4 PKIKP **PKPdf** 12 59 35.6 -0.4
baz=355
Z45A Winona 119.13 358 PKIKP **PKPdf** 12 59 35.4 -0.6
baz=2.2
Z38A Mt. Pleasant 119.21 3 PKIKP **PKPdf** 12 59 36.0 -0.1
baz=357
Z47A Carrollton 119.23 356 PKIKP **PKPdf** 12 59 35.5 -0.7
baz=3.8
Z37A Pogue Cattle C 119.23 4 PKIKP **PKPdf** 12 59 35.4 -0.8
baz=356
Z44A Pea Ridge, Bel 119.24 359 PKIKP **PKPdf** 12 59 35.4 -0.8
baz=1.4
Z39A Irene McRaven, 119.25 2 PKIKP **PKPdf** 12 59 35.6 -0.6
baz=358
Z40A Long Farm, Mag 119.25 1 PKIKP **PKPdf** 12 59 36.3 +0.1
baz=358
Z42A Norrel Spur, H 119.26 0 PKIKP **PKPdf** 12 59 35.7 -0.5
baz=360
Z41A Richland Creek 119.27 1 PKIKP **PKPdf** 12 59 35.9 -0.3
baz=359
Z46A Louisville 119.28 357 PKIKP **PKPdf** 12 59 35.8 -0.4
baz=2.9
LRAL Lakeview Retre 119.32 355 *e*PKPdf **PKPdf** 12 59 35.8 -0.5
LRAL LR LR
comp=Z,31µm,21.0s
MNTX Cornudas Mount 119.44 13 PKIKP **PKPdf** 12 59 37.1 +0.4
baz=346
MNTX Cornudas Mount 119.44 13 *e*PKPdf **PKPdf** 12 59 36.8 +0.1
MNTX LR LR
comp=Z,21µm,20.0s
ABTX Abilene, Hawle 119.45 8 PKIKP **PKPdf** 12 59 36.8 +0.1
baz=352
ABTX Abilene, Hawle 119.45 8 *e*PKPdf **PKPdf** 12 59 36.7 +0.1
ABTX LR LR
comp=Z,36µm,21.0s
147A Livingston 119.76 357 PKIKP **PKPdf** 12 59 36.7 -0.5
baz=3.6
137A Heron Place, G 119.82 4 PKIKP **PKPdf** 12 59 37.3 0.0
baz=356
146A Union 119.83 357 PKIKP **PKPdf** 12 59 34.2 -3.2
baz=2.8
144A Alexander Plac 119.88 359 PKIKP **PKPdf** 12 59 38.4 +1.0
baz=1.4
136A Ennis 119.89 5 PKIKP **PKPdf** 12 59 38.7 +1.2
baz=355
145A Houston Renfro 119.90 358 PKIKP **PKPdf** 12 59 38.5 +1.0
baz=1.9
141A Papa Simpson, 119.92 1 PKIKP **PKPdf** 12 59 38.2 +0.7
baz=359

233A	**Rising Star**	**120.13**	**7**	PKIKP	**PKPdf**	**12 59 37.3**	**-0.7**
	baz=353								
234A	**Clairette**	**120.22**	**6**	PKIKP	**PKPdf**	**12 59 37.2**	**-0.9**
	baz=354								
VBMS	**Vicksburg**	**120.30**	**359**	PFAKE		12 59 50.0	+12
VBMS				LR	LR		
	comp=Z,21µm,20.0s						
WHTX	**Lake Whitney,**	**120.30**	**6**	PKIKP	**PKPdf**	**12 59 37.8**	**-0.5**
	baz=354						
WHTX	**Lake Whitney,**	**120.30**	**6**	*e*PKPdf	**PKPdf**	**12 59 39.1**	**+0.8**
WHTX				LR	LR		
	comp=Z,21µm,20.0s						
248A	**Dixon Mills**	**120.31**	**356**	PKIKP	**PKPdf**	**12 59 38.8**	**+0.5**
	baz=4.2						
236A	**Katherine and**	**120.36**	**5**	PKIKP	**PKPdf**	**12 59 38.6**	**+0.2**
	baz=355						
247A	**Quitman**	**120.39**	**357**	PKIKP	**PKPdf**	**12 59 39.3**	**+0.8**
	baz=3.3						
239A	**Gary**	**120.46**	**3**	PKIKP	**PKPdf**	**12 59 38.4**	**-0.1**
	baz=357						
242A	**Grayson**	**120.47**	**0**	PKIKP	**PKPdf**	**12 59 39.5**	**+0.9**
	baz=360						
245A	**Little AP, Sta**	**120.47**	**358**	PKIKP	**PKPdf**	**12 59 38.1**	**-0.5**
	baz=2.0						
241A	**Mo Tay, Goldon**	**120.50**	**1**	PKIKP	**PKPdf**	**12 59 38.7**	**0.0**
	baz=359						
TIGA	**Tifton**	**120.56**	**352**	PKIKP	**PKPdf**	**12 59 38.0**	**-0.8**
	baz=8.5						
TIGA	**Tifton**	**120.56**	**352**	*e*PKPdf	**PKPdf**	**12 59 42.5**	**+3.7**
TIGA				LR	LR		
	comp=Z,24µm,22.0s						
HSIG		**120.61**	**19**	*e*PKPdf	**PKPdf**	**12 59 38.2**	**-0.8**
HSIG				LR	LR		
	comp=Z,12µm,21.0s						
NATX	**Nacogdoches**	**120.71**	**3**	PKIKP	**PKPdf**	**12 59 39.2**	**+0.1**
	baz=357						
NATX	**Nacogdoches**	**120.71**	**3**	*e*PKPdf	**PKPdf**	**12 59 38.5**	**-0.6**
NATX				LR	LR		
	comp=Z,17µm,20.0s						
333A	**Richland Sprin**	**120.81**	**7**	PKIKP	**PKPdf**	**12 59 39.1**	**-0.2**
	baz=353						
334A	**Lometa**	**120.88**	**6**	PKIKP	**PKPdf**	**12 59 38.9**	**-0.5**
	baz=353						
336A	**Riesel**	**120.95**	**5**	PKIKP	**PKPdf**	**12 59 39.1**	**-0.5**
	baz=355						
348A	**Jackson**	**120.99**	**356**	PKIKP	**PKPdf**	**12 59 38.5**	**-1.2**
	baz=4.1						
335A	**Moody**	**121.00**	**6**	PKIKP	**PKPdf**	**12 59 38.8**	**-0.9**
	baz=354						
347A	**Saraland**	**121.04**	**357**	PKIKP	**PKPdf**	**12 59 39.0**	**-0.7**
	baz=3.4						
344A	**Westbrook Farm**	**121.06**	**359**	PKIKP	**PKPdf**	**12 59 39.5**	**-0.2**
	baz=1.1						
338A	**Crockett**	**121.08**	**3**	PKIKP	**PKPdf**	**12 59 40.0**	**+0.2**
	baz=356						
340A	**Bronson**	**121.08**	**2**	PKIKP	**PKPdf**	**12 59 39.6**	**-0.2**
	baz=358						
337A	**Centerville**	**121.08**	**4**	PKIKP	**PKPdf**	**12 59 40.3**	**+0.5**
	baz=356						
346A	**Big Creek Wild**	**121.09**	**358**	PKIKP	**PKPdf**	**12 59 40.8**	**+1.0**
	baz=2.5						
342A	**Flagon Creek P**	**121.15**	**0**	PKIKP	**PKPdf**	**12 59 39.6**	**-0.3**
	baz=360						
341A	**Kurthwood**	**121.18**	**1**	PKIKP	**PKPdf**	**12 59 39.7**	**-0.2**
	baz=359						
BRAL	**Brewton**	**121.18**	**355**	*e*PKPdf	**PKPdf**	**12 59 42.5**	**+2.5**
BRAL				LR	LR		
	comp=Z,21µm,21.0s						
345A	**Thompson Farm,**	**121.19**	**358**	PKIKP	**PKPdf**	**12 59 40.3**	**+0.2**
	baz=1.9						
433A	**Art**	**121.36**	**7**	PKIKP	**PKPdf**	**12 59 39.9**	**-0.5**
	baz=352						
434A	**Burnet**	**121.39**	**6**	PKIKP	**PKPdf**	**12 59 39.4**	**-1.0**
	baz=353						
435B	**Jarrell**	**121.48**	**6**	PKIKP	**PKPdf**	**12 59 40.6**	**0.0**
	baz=354						
JCT	**Junction City**	**121.55**	**8**	PKIKP	**PKPdf**	**12 59 40.9**	**+0.1**
	baz=352						
JCT	**Junction City**	**121.55**	**8**	*e*PKIKP	**PKPdf**	**12 59 40.1**	**-0.7**
JCT				MLR	MLR		
	comp=Z,23µm,19.0s						
JCT	**Junction City**	**121.55**	**8**	*e*PKPdf	**PKPdf**	**12 59 40.1**	**-0.7**
JCT				LR	LR		
	comp=Z,23µm,19.0s						
437A	**Phantom Ranch,**	**121.55**	**4**	PKIKP	**PKPdf**	**12 59 41.0**	**+0.3**
	baz=356						
439A	**Center Grove,**	**121.66**	**3**	PKIKP	**PKPdf**	**12 59 41.4**	**+0.5**
	baz=357						
438A	**Sam Houston St**	**121.67**	**4**	PKIKP	**PKPdf**	**12 59 41.2**	**+0.2**
	baz=356						
440A	**Kirbyville**	**121.74**	**2**	PKIKP	**PKPdf**	**12 59 41.4**	**+0.3**
	baz=358						
SRIG	**Santa Rosalia**	**121.80**	**21**	PFAKE		12 59 50.0	+8.7
SRIG				LR	LR		
	comp=Z,13µm,21.0s						
442A	**Mamou**	**121.81**	**1**	PKIKP	**PKPdf**	**12 59 41.6**	**+0.4**
	baz=359						
533A	**Kerrville**	**122.04**	**7**	PKIKP	**PKPdf**	**12 59 41.8**	**+0.1**
	baz=352						
TX31	**Lajitas Ar. Si**	**122.07**	**12**	*e*PKPdf	**PKPdf**	**12 59 41.5**	**-0.4**
TXAR	**Lajitas Array**	**122.07**	**12**	PKP	**PKPdf**	**12 59 41.7**	**-0.2**
	comp=Z,11nm,0.5s,baz=72,slow=0.4,SNR=46						
TXAR				PKKPab	**PKKPab**	**13 09 40.5**	**-1.3**
	comp=Z,3.5nm,0.7s,baz=164,slow=6.2,SNR=9.9						
TXAR				SKKPbc	SKKPbc	13 13 14.9	-8.2
	comp=Z,4.0nm,1.1s,baz=163,slow=3.4,SNR=3.7						
TXAR	**Lajitas Array**	**122.07**	**12**	PKIKP	**PKPdf**	**12 59 41.7**	**-0.2**
TXAR				pmax	pmax		
	comp=Z,12nm,0.5s						
534A	**Blanco**	**122.14**	**7**	PKIKP	**PKPdf**	**12 59 41.5**	**-0.4**
	baz=353						
536A	**Bastrop**	**122.23**	**5**	PKIKP	**PKPdf**	**12 59 42.1**	**+0.1**
	baz=355						
535A	**Dale**	**122.23**	**6**	PKIKP	**PKPdf**	**12 59 41.3**	**-0.8**
	baz=354						
537A	**Green Hill Far**	**122.28**	**5**	PKIKP	**PKPdf**	**12 59 41.8**	**-0.4**
	baz=355						
633A	**Saathoff Ranch**	**122.63**	**8**	PKIKP	**PKPdf**	**12 59 42.6**	**-0.2**
	baz=352						
RCBR	**Riachuelo**	**122.71**	**282**	PKKP	**PKKPdf**	**13 10 07.5**	**-5.4**
	comp=Z,53nm,1.2s,baz=222,slow=4.1,SNR=3.7						
634A	**China Grove, S**	**122.80**	**7**	PKIKP	**PKPdf**	**12 59 43.0**	**-0.1**
	baz=353						
636A	**Smothers Creek**	**122.82**	**5**	PKIKP	**PKPdf**	**12 59 43.6**	**+0.5**
	baz=354						
635A	**Leesville**	**122.85**	**6**	PKIKP	**PKPdf**	**12 59 42.8**	**-0.5**
	baz=354						
637A	**Eagle Lake**	**122.92**	**5**	PKIKP	**PKPdf**	**12 59 43.7**	**+0.3**
	baz=355						
734A	**La Parita Cree**	**123.30**	**7**	PKIKP	**PKPdf**	**12 59 44.6**	**+0.4**
	baz=353						
736A	**Circle Diamond**	**123.34**	**5**	PKIKP	**PKPdf**	**12 59 44.2**	**0.0**
	baz=354						
733A	**Divot King Ran**	**123.35**	**8**	PKIKP	**PKPdf**	**12 59 44.4**	**+0.2**
	baz=352						
735A	**Kenedy**	**123.37**	**6**	PKIKP	**PKPdf**	**12 59 44.5**	**+0.3**
	baz=354						
DWPF	**Disney Wildern**	**123.51**	**349**	PFAKE		13 00 00.0	+15
DWPF				LR	LR		
	comp=Z,15µm,20.0s						
832A	**Faith Ranch, C**	**123.69**	**9**	PKIKP	**PKPdf**	**12 59 44.8**	**-0.1**
	baz=351						
833A	**Chaparral WMA,**	**123.72**	**8**	PKIKP	**PKPdf**	**12 59 45.1**	**+0.2**
	baz=352						
835A	**Beeville**	**123.93**	**6**	PKIKP	**PKPdf**	**12 59 45.4**	**+0.1**
	baz=354						
HPIG		**123.98**	**15**	*e*PKPdf	**PKPdf**	**12 59 45.4**	**-0.4**
HPIG				LR	LR		
	comp=Z,24µm,22.0s						
834A	**Tilden**	**124.02**	**7**	PKIKP	**PKPdf**	**12 59 45.4**	**-0.1**
	baz=353						
933A	**Laredo**	**124.44**	**8**	PKIKP	**PKPdf**	**12 59 46.3**	**0.0**
	baz=352						
934A	**Benavides**	**124.54**	**7**	PKIKP	**PKPdf**	**12 59 45.8**	**-0.8**
	baz=353						
KVTX	**Kingsville**	**124.66**	**7**	*e*PKPdf	**PKPdf**	**12 59 48.3**	**+1.5**
034A	**Hebbronville**	**125.05**	**7**	PKIKP	**PKPdf**	**12 59 47.2**	**-0.3**
	baz=353						
035A	**Encino**	**125.24**	**7**	PKIKP	**PKPdf**	**12 59 47.7**	**-0.2**
	baz=353						
SLBS	**Sierra La Lagu**	**125.91**	**21**	PFAKE		13 00 00.0	+11
SLBS				LR	LR		
	comp=Z,13µm,22.0s						
PPT	**Papeete**	**126.18**	**92**	PKP	**PKPdf**	**12 59 53.2**	**+3.4**
	comp=Z,50nm,0.9s,baz=95,slow=14,SNR=3.7						
PPT2	**Papeete2**	**126.19**	**92**	*e*PKiKP	**PKPdf**	**12 59 48.0**	**-1.9**
	comp=Z,220nm,1.2s						
PPT2	**Papeete2**	**126.19**	**92**	*e*PP	PP	13 01 43.2	-1.5
	comp=Z,3µm,28.0s						
PPT2	**Papeete2**	**126.19**	**92**	*e*LR	LR	13 39 29.7	
	comp=Z,18µm,24.0s						
PAE	**Paea**	**126.22**	**92**	*e*PKiKP	**PKPdf**	**12 59 47.7**	**-2.1**
	comp=Z,33nm,1.3s						
ANWB	**Willy Bob**	**126.23**	**324**	PFAKE		13 00 00.0	+10
ANWB				LR	LR		
	comp=Z,8µm,20.0s						
TIAR	**Tiarei**	**126.38**	**92**	*e*PKiKP	**PKPdf**	**12 59 48.2**	**-2.0**
	comp=Z,29nm,0.9s						
SMRT	**St. Maarten**	**126.57**	**325**	PFAKE		13 00 00.0	+9.4
SMRT				LR	LR		
	comp=Z,9µm,22.0s						
SEUS	**St. Eustatius**	**126.99**	**325**	PFAKE		13 00 00.0	+8.6
SEUS				LR	LR		
	comp=Z,9µm,22.0s						
VAH	**Vaihoa**	**127.02**	**89**	*e*PKiKP	**PKPdf**	**12 59 49.8**	**-1.6**
	comp=Z,149nm,1.0s						
SABA	**Saba**	**127.02**	**325**	PFAKE		13 00 00.0	+8.5
SABA				LR	LR		
	comp=Z,9µm,22.0s						
GRTK	**Grand Turk**	**127.04**	**336**	PFAKE		13 00 00.0	+8.6
GRTK				LR	LR		
	comp=Z,12µm,22.0s						
LNIG	**Linares**	**127.09**	**9**	*e*PKPdf	**PKPdf**	**12 59 50.4**	**-1.1**
GDHS	**Morne Mazeau,**	**127.37**	**323**	PFAKE		13 00 00.0	+7.7
GDHS				LR	LR		
	comp=Z,8µm,20.0s						
HUMP	**Col San Antoni**	**127.84**	**328**	*e*PKPdf	**PKPdf**	**12 59 52.4**	**-0.6**
SJG	**San Juan**	**128.01**	**328**	PKP	**PKPdf**	**12 59 54.5**	**+1.1**
	comp=Z,12nm,0.7s,baz=9.1,slow=4.8,SNR=5.5						
SJG	**San Juan**	**128.01**	**328**	PKIKP	**PKPdf**	**12 59 54.5**	**+1.1**
SJG				pmax	pmax		
	comp=Z,22nm,0.8s						
SJG	**San Juan**	**128.01**	**328**	*e*P	PKPpre	12 59 48.8	
SJG	**San Juan**	**128.01**	**328**	*e*PKPdf	**PKPdf**	**12 59 54.0**	**+0.6**
SJG				LR	LR		
	comp=Z,8µm,22.0s						
AGP	**Aguadilla**	**128.20**	**330**	*e*PKPdf	**PKPdf**	**12 59 54.1**	**+0.3**
TBI	**Tubuai**	**128.24**	**99**	*e*PKiKP	**PKPdf**	**12 59 51.8**	**-1.8**
	comp=Z,403nm,1.3s						
TBI	**Tubuai**	**128.24**	**99**	*e*PP	PP	13 01 56.1	-2.0
	comp=Z,3µm,30.2s						
TBI	**Tubuai**	**128.24**	**99**	*e*SS	SS	13 19 18.0	+6.2
	comp=Z,12µm,28.0s						
TBI	**Tubuai**	**128.24**	**99**	*e*LQ	LQ	13 34 46.5	
	comp=Z,29µm,38.2s						
TBI				*e*LR	LR	13 40 21.7	
	comp=Z,18µm,32.0s						
CELP	**Cerrillos**	**128.24**	**329**	*e*PKPdf	**PKPdf**	**12 59 53.3**	**-0.5**
CXM	**Morne La Croix**	**128.24**	**321**	*e*P	**PKPdf**	**12 59 57.2**	**+3.2**
FDF	**Fort de France**	**128.30**	**321**	*e*P	**PKPdf**	**12 59 59.0**	**+4.9**
FDF	**Fort de France**	**128.30**	**321**	PFAKE		13 00 10.0	+16
FDF				LR	LR		
	comp=Z,9µm,22.0s						
ZAIG	**Zacatecas**	**128.67**	**13**	*e*PKPdf	**PKPdf**	**12 59 55.1**	**+0.2**
ZAIG				LR	LR		
	comp=Z,27µm,22.0s						
SDDR	**Presa de Saban**	**129.41**	**335**	*e*PKPdf	**PKPdf**	**12 59 57.1**	**+1.0**
GTBY	**Guantanamo Bay**	**129.86**	**339**	PFAKE		13 00 10.0	+13
GTBY				LR	LR		
	comp=Z,16µm,22.0s						
GRGR	**Grenville**	**130.68**	**320**	*e*P	**PKPdf**	**13 00 03.1**	**+4.6**
GRGR	**Grenville**	**130.68**	**320**	*e*PKPdf	**PKPdf**	**13 00 00.7**	**+2.2**
GRGR				LR	LR		
	comp=Z,5µm,21.0s						
MOIG	**Morelia**	**131.94**	**12**	PFAKE		13 00 10.0	+8.9
MOIG				LR	LR		
	comp=Z,26µm,22.0s						
TEIG	**Tepich**	**132.13**	**355**	PFAKE		13 00 10.0	+8.9
TEIG				LR	LR		
	comp=Z,16µm,21.0s						
MTDJ	**Mount Denham**	**132.19**	**342**	*e*PKPdf	**PKPdf**	**13 00 00.7**	**-0.7**
MTDJ				LR	LR		
	comp=Z,13µm,21.0s						
LVIG	**Laguna Verde**	**132.55**	**6**	PFAKE		13 00 10.0	+8.1
LVIG				LR	LR		
	comp=Z,13µm,21.0s						
UNM	**Universidad Na**	**132.61**	**9**	PFAKE		13 00 10.0	+7.6
UNM				LR	LR		
	comp=Z,24µm,21.0s						
PCRV	**Puerto La Cruz**	**133.96**	**321**	PKP	**PKPdf**	**13 00 06.2**	**+1.4**
	comp=Z,5.4nm,0.4s,baz=11,slow=9.9						
PCRV				SKPbc	**SKPbc**	**13 03 29.2**	**-2.7**
	comp=Z,69nm,1.1s,baz=62,slow=0.9,SNR=4.4						
TLIG	**Tlapa**	**134.44**	**9**	*e*PKPdf	**PKPdf**	**13 00 06.5**	**+0.8**
TLIG				LR	LR		
	comp=Z,14µm,22.0s						
CMIG	**Matias Romero**	**135.27**	**4**	PKP	**PKPdf**	**13 00 08.6**	**+1.5**
	comp=Z,18nm,0.8s,baz=47,slow=2.1						
CMIG				SKPbc	**SKPbc**	**13 03 34.5**	**-1.5**
	comp=Z,15nm,0.8s,baz=102,slow=3.5,SNR=4.3						
CCIG	**Comitan**	**136.18**	**0**	*e*PKPdf	**PKPdf**	**13 00 09.3**	**+0.3**
CCIG				LR	LR		
	comp=Z,16µm,21.0s						
URIC	**Uribia, Colomb**	**136.27**	**331**	*e*P	PKPpre	13 00 04.2	
SDV	**Santo Domingo**	**138.14**	**328**	*e*PKPdf	**PKPdf**	**13 00 12.2**	**-0.6**
SDV				LR	LR		
	comp=Z,9µm,21.0s						
TGUH	**Tegucigalpa,Un**	**138.15**	**353**	*e*PKPdf	**PKPdf**	**13 00 10.7**	**-1.8**
TGUH				LR	LR		
	comp=Z,12µm,22.0s						
CODC	**Agust´›n Codaz**	**138.47**	**332**	*e*P	PKPpre	13 00 07.5	
PMSA	**Palmer Station**	**139.03**	**198**	PKhKP	PKPpre	13 00 07.5	
	comp=Z,7.7nm,0.7s,baz=167,slow=2.6,SNR=7.0						
PMSA	**Palmer Station**	**139.03**	**198**	*e*PKPdf	**PKPdf**	**13 00 10.3**	**-2.2**
PMSA				LR	LR		
	comp=Z,15µm,20.0s						
SJCC	**San Jacinto, C**	**139.19**	**334**	*e*P	PKPpre	13 00 07.0	
PTGA	**Pitinga**	**139.29**	**306**	PKhKP	PKPpre	13 00 07.2	
	comp=Z,4.6nm,1.1s,baz=292,slow=1.9,SNR=4.5						
PTGA				PKP	**PKPdf**	**13 00 14.6**	**-0.1**
	comp=Z,9.7nm,0.5s,baz=346,slow=12,SNR=15						
PTGA	**Pitinga**	**139.29**	**306**	PKPpre	PKPpre	13 00 07.2	
PTGA				PKP	**PKPdf**	**13 00 14.6**	**-0.1**
PTGA				LR	LR		
	comp=Z,14µm,22.0s						
SPB	**Sao Paulo**	**139.92**	**266**	PFAKE		13 00 30.0	+15
SPB				LR	LR		
	comp=Z,16µm,19.0s						
OCAC	**Ocana**	**139.94**	**331**	*e*P	**PKPdf**	**13 00 18.3**	**+2.3**
MOTC	**Monteria, Cord**	**140.40**	**334**	*e*P	PKPpre	13 00 11.3	
PAMC	**Pamplona, Colo**	**140.46**	**329**	*e*P	**PKPdf**	**13 00 17.3**	**0.0**
GIRC	**Giron, Santand**	**140.91**	**330**	*e*P	PKPpre	13 00 10.3	
RKT	**Rikitea**	**140.93**	**93**	*e*PKiKP	**PKPdf**	**13 00 15.1**	**-2.2**
	comp=Z,159nm,1.3s						
RKT	**Rikitea**	**140.93**	**93**	*e*PP	PP	13 03 22.4	+3.8
	comp=Z,3µm,34.2s						
RKT	**Rikitea**	**140.93**	**93**	*e*SS	SS	13 21 52.6	+8.0
	comp=Z,5µm,27.8s						
RKT	**Rikitea**	**140.93**	**93**	*e*LR	LR	13 46 16.9	
	comp=Z,17µm,28.2s						
BRRC	**Barranca, Sant**	**141.12**	**331**	*e*P	**PKPdf**	**13 00 17.8**	**-0.2**
CAPC	**Capurgana**	**141.15**	**337**	*e*P	PKPpre	13 00 14.1	
ZARC	**Zaragoza, Cauc**	**141.25**	**332**	*e*P	PKPpre	13 00 15.0	
BARC	**Barichara**	**141.34**	**329**	*e*P	**PKPdf**	**13 00 20.6**	**+2.0**
BCIP	**Isla Barro Col**	**141.45**	**341**	*e*PKPpre	PKPpre	13 00 09.6	
BCIP				*e*PKPdf	**PKPdf**	**13 00 16.7**	**-1.9**
BCIP				LR	LR		
	comp=Z,8µm,21.0s						
JTS	**JuntasAbangare**	**141.55**	**349**	PKhKP	PKPpre	13 00 15.3	
	comp=Z,2.8nm,0.4s,baz=0.0,slow=20,SNR=5.5						
HDC	**Heredia**	**141.68**	**348**	PFAKE		13 00 30.0	+11
HDC				LR	LR		
	comp=Z,10µm,22.0s						
RUSC	**La Rusia**	**141.91**	**329**	*e*P	PKPpre	13 00 16.9	
RUSC	**La Rusia**	**141.91**	**329**	*e*PKPdf	PKPpre	13 00 16.8	
HELC	**Santa Helena**	**142.71**	**333**	*e*P	**PKPdf**	**13 00 19.7**	**-1.6**
HELC	**Santa Helena**	**142.71**	**333**	*e*PKPdf	**PKPdf**	**13 00 19.9**	**-1.3**
NORC	**Norcasia**	**143.00**	**331**	*e*P	PKPpre	13 00 19.7	
CTAB	**Cerro Tablazo,**	**143.20**	**330**	*e*P	**PKPdf**	**13 00 22.5**	**+0.2**
CHIC	**Chingaza**	**143.32**	**329**	*e*P	**PKPdf**	**13 00 25.8**	**+3.3**
ROSC	**El Rosal**	**143.40**	**330**	PKP	**PKPdf**	**13 00 21.4**	**-1.1**
	comp=Z,40nm,0.7s,baz=63,slow=3.7,SNR=30						
ROSC	**El Rosal**	**143.40**	**330**	*e*P	**PKPdf**	**13 00 22.0**	**-0.5**
ROSC	**El Rosal**	**143.40**	**330**	*e*PKPdf	PKPbc	13 00 20.9	+1.3
ROSC				LR	LR		
	comp=Z,10µm,22.0s						
SOLC	**Bahia Solano**	**143.41**	**335**	*e*P	PKPbc	13 00 20.1	+1.0
GUYC	**Guyana, Colomb**	**143.52**	**332**	*e*P	PKPbc	13 00 20.6	+0.5
VILC	**Villavicencio,**	**143.76**	**328**	*e*P	PKPbc	13 00 21.5	+1.2
TOLC	**Tolima**	**144.07**	**331**	*e*P	PKPbc	13 00 21.5	0.0
GUVC	**San Jose del G**	**144.61**	**325**	*e*P	**PKPdf**	**13 00 24.3**	**+0.2**
PRAC	**Prado**	**144.66**	**330**	*e*P	**PKPdf**	**13 00 24.8**	**+0.5**
PRAC	**Prado**	**144.66**	**330**	*e*PKPdf	PKPbc	13 00 23.2	+0.1
PRAC				LR	LR		
	comp=Z,8µm,21.0s						
EFI	**East Falkland**	**145.24**	**217**	*e*PKIKP	**PKPbc**	**13 00 23.1**	**-0.6**
EFI	**East Falkland**	**145.24**	**217**	*e*PKPbc	**PKPbc**	**13 00 23.1**	**-0.6**
MALC	**Bahia Malaga**	**145.41**	**334**	*e*P	**PKPab**	**13 00 28.1**	**+2.5**
PTCN	**Pitcairn Islan**	**145.73**	**94**	*e*PKPdf	**PKPab**	**13 00 26.4**	**-0.2**
BETC	**Betania**	**145.82**	**330**	*e*P	**PKPab**	**13 00 28.1**	**+0.9**
GRGC	**Isla de Gorgon**	**146.66**	**335**	*e*P	PKPpre	13 00 23.4	
MAPC	**Malpelo**	**146.87**	**341**	*e*P	**PKPab**	**13 00 30.9**	**-0.2**
SAML	**Samuel**	**147.10**	**299**	*e*PKPbc	**PKPbc**	**13 00 29.9**	**-0.5**
SAML				LR	LR		
	comp=Z,10µm,22.0s						
CRUC	**La Cruz**	**147.47**	**331**	*e*P	**PKPab**	**13 00 35.6**	**+1.6**
TUMC	**Tumaco**	**147.95**	**335**	*e*P	**PKPab**	**13 00 35.6**	**+0.2**
TUMC				*e*P	**pPKPdf**	**13 00 37.4**	**-2.2**
USHA	**Ushuaia**	**148.08**	**206**	PKPbc	**PKPbc**	**13 00 32.0**	**+0.2**
	comp=Z,353nm,0.9s,baz=101,slow=4.2,SNR=21						
CMBC	**Cumbal**	**148.40**	**332**	*e*P	**PKPab**	**13 00 36.5**	**-1.2**
SIV	**San Ignacio**	**149.21**	**286**	PKPbc	**PKPbc**	**13 00 34.8**	**-1.2**
	comp=Z,58nm,0.8s,baz=111,slow=4.1,SNR=29						
CPUP	**Villa Florida**	**149.28**	**265**	PKPbc	**PKPdf**	**13 00 33.6**	**+2.1**
	comp=Z,52nm,0.8s,baz=76,slow=3.1,SNR=68						
CPUP	**Villa Florida**	**149.28**	**265**	*e*PKPdf	**PKPdf**	**13 00 31.4**	**-0.2**
OTAV	**Otavalo**	**149.30**	**333**	*e*PKPdf	**PKPdf**	**13 00 33.8**	**+1.2**
OTAV				LR	LR		
	comp=Z,11µm,22.0s						
GO09	**Cerro Castillo**	**152.32**	**207**	PFAKE		13 00 50.0	-2.3
GO09				LR	LR		
	comp=Z,17µm,22.0s						
PAYG	**Puerto Ayora**	**152.98**	**357**	*e*PKPbc	**PKPbc**	**13 00 43.4**	**-1.5**
PAYG				*e*PKPab	**pPKPbc**	**13 00 54.7**	**0.0**
PAYG				LR	LR		
	comp=Z,6µm,22.0s						
TRQA	**Tornquist**	**153.03**	**240**	*e*PKPdf	**PKPdf**	**13 00 38.7**	**+1.8**
TRQA				*e*PKPab	**pPKPbc**	**13 00 54.7**	**+0.6**
TRQA				LR	LR		
	comp=Z,13µm,22.0s						
LPAZ	**La Paz**	**155.26**	**293**	PKP	**PKPdf**	**13 00 42.0**	**+0.6**
	comp=Z,9.1nm,1.1s,baz=37,slow=3.6,SNR=18						
LPAZ				PKPab	sPKPbc	13 01 04.1	+0.5
	comp=Z,18nm,0.8s,baz=113,slow=1.4,SNR=12						
LPAZ	**La Paz**	**155.26**	**293**	*e*PKPdf	**PKPdf**	**13 00 41.0**	**-0.4**
LPAZ				*e*PKPbc	PKPbc	13 00 46.5	
LPAZ				*e*PKPab	sPKPbc	13 01 04.4	+0.8
ATAH	**Atahualpa**	**155.81**	**326**	PKP	**PKPdf**	**13 00 43.6**	**+1.5**
	comp=Z,19nm,1.0s,baz=137,slow=2.4,SNR=16						
ATAH				PKPab	**PKPab**	**13 01 07.0**	**-1.6**
	comp=Z,71nm,1.0s,baz=94,slow=3.3,SNR=9.5						
PB11	**IPOC Station P**	**158.20**	**287**	*e*PKPdf	**PKPdf**	**13 00 46.1**	**+1.6**
PB11				LR	LR		
	comp=Z,14µm,22.0s						
PLCA	**Paso Flores**	**158.25**	**228**	PKP	**PKPdf**	**13 00 44.6**	**+0.7**
	comp=Z,24nm,1.2s,baz=158,slow=4.2,SNR=8.8						
PLCA	**Paso Flores**	**158.25**	**228**	*e*PKPdf	**PKPdf**	**13 00 45.1**	**+1.1**
PB01	**IPOC Station P**	**158.57**	**283**	*e*PKPdf	**PKPdf**	**13 00 46.7**	**+1.8**
PB01				*e*PKPab	**PKPab**	**13 01 20.4**	**+0.3**
PB01				LR	LR		
	comp=Z,11µm,21.0s						
LVC	**Limon Verde**	**158.62**	**279**	PKP	**PKPdf**	**13 00 46.2**	**+0.9**
	comp=Z,25nm,0.7s,baz=96,slow=4.7,SNR=9.0						
LVC				PKPab	**PKPab**	**13 01 19.1**	**-1.5**
	comp=Z,91nm,0.6s,baz=101,slow=5.1,SNR=7.5						
LVC	**Limon Verde**	**158.62**	**279**	*e*PKPdf	**PKPdf**	**13 00 45.8**	**+0.5**
LVC				PKPab	**PKPab**	**13 01 19.1**	**-1.5**
LVC				LR	LR		
	comp=Z,10µm,22.0s						
NNA	**Nana**	**158.90**	**315**	PKP	**PKPdf**	**13 00 47.0**	**+1.6**
	comp=Z,16nm,0.7s,baz=260,slow=6.1,SNR=6.3						
NNA	**Nana**	**158.90**	**315**	*e*PKPdf	**PKPdf**	**13 00 47.3**	**+1.8**
NNA				LR	LR		
	comp=Z,12µm,22.0s						
PB04	**IPOC Station P**	**159.62**	**281**	PFAKE		13 01 00.0	+14
PB04				LR	LR		
	comp=Z,10µm,22.0s						
LCO	**Las Campanas**	**161.36**	**261**	*e*PKPdf	**PKPdf**	**13 00

NEIC Recorded [2 JMA] in Fukushima and Miyagi.
ISC 18 13:03:25.2±1.9, **37.27N**±0.04×**141.86E**±0.07, **h14**km±10km, **n27**, σ1s**62**/36, **mb4.4**/8, **Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JFK	**Kawauchi**	**0.79**	**277**	P	**Pg**	**13 03 41.6**	**+1.0**
JFK				S	**Sg**	**13 03 50.7**	**-0.3**
ONAJ	**Iwakimizuishiy**	**0.87**	**259**	P	**Pg**	**13 03 42.7**	**+0.7**
ONAJ				S	**Sg**	**13 03 52.7**	**-0.6**
JMM	**Marumori**	**1.03**	**305**	P	**Pg**	**13 03 45.0**	**-0.2**
JMM				S	**Sg**	**13 03 57.2**	**-1.5**
JHO	**Hitachi**	**1.23**	**238**	P	**Pb**	**13 03 47.7**	**-0.4**
JHO				S	**Sb**	**13 04 02.2**	**-1.6**
JFT	**Otama**	**1.24**	**282**	P	**Pb**	**13 03 48.6**	**+0.3**
JFT				S	**Sg**	**13 04 02.7**	**-2.5**
JIO	**Ouri**	**1.25**	**341**	P	**Pb**	**13 03 48.7**	**+0.2**
JIO				S	**Sb**	**13 04 02.8**	**-1.6**
JOU	**Okura**	**1.45**	**319**	P	**Pn**	**13 03 51.4**	**+0.5**
JOU				S	**Sb**	**13 04 08.9**	**-1.2**
JYS	**Shirataka**	**1.71**	**304**	P	**Pn**	**13 03 55.2**	**+0.7**
JYS				S	**Sn**	**13 04 15.6**	**-0.6**
JFY	**Yanaizu**	**1.72**	**275**	P	**Pn**	**13 03 55.1**	**+0.4**
JFY				S	**Sn**	**13 04 15.8**	**-0.7**
JMK	**Ichinoseki**	**1.75**	**343**	P	**Pn**	**13 03 56.2**	**+1.1**
MJAR	**Matsushiro Arr**	**3.02**	**257**	Pn	**Pn**	**13 04 14.4**	**+1.9**
	8.2nm,0.3s,baz=82,slow=8.1,SNR=134						
MJAR				Sn	**Sn**	**13 04 50.7**	**+2.2**
	22nm,0.3s,baz=65,slow=24,SNR=8.7						
MAJO	**Matsushiro**	**3.02**	**257**	*e*Pn	**Pn**	**13 04 14.2**	**+1.6**
MAT	**Matsushiro**	**3.02**	**257**	P	**Pn**	**13 04 13.9**	**+1.4**
MAT				*e*S	**Sn**	**13 04 48.2**	**-0.3**
JHJ2	**Mitsune**	**4.48**	**203**	*e*Pn	**Pn**	**13 04 33.1**	**+0.6**
JHJ	**Hachijo jima 2**	**4.48**	**203**	Pn	**Pn**	**13 04 33.4**	**+0.8**
	119nm,0.3s,baz=317,slow=16,SNR=32						
JHJ				Sn	**Sn**	**13 05 22.7**	**-1.8**
	20nm,0.3s,baz=73,slow=19,SNR=3.2						
ERM	**Erimo**	**4.84**	**12**	*e*Pn	**Pn**	**13 04 38.8**	**+1.3**
USRK	**Ussuriysk Ar.**	**10.19**	**316**	Pn	Pn	13 05 56.9	+5.9
	0.6nm,0.3s,baz=128,slow=14,SNR=14						
KSRS	**Korea Array**	**11.10**	**275**	Pn	**Pn**	**13 06 08.0**	**+4.6**
	0.3nm,0.3s,baz=84,slow=14,SNR=7.2						
KSAR	**Wonju Array Be**	**11.13**	**275**	Pn	**Pn**	**13 06 08.0**	**+4.2**
SONM	**Songino Array**	**27.95**	**303**	P	**P**	**13 09 14.6**	**-0.5**
	1.5nm,0.4s,baz=96,slow=8.4,SNR=5.4						
KURK	**Kurchatov**	**46.07**	**308**	*e*P	**P**	**13 11 47.0**	**-1.3**
	57nm,0.6s						
KURBB	**Kurchatov Arra**	**46.14**	**308**	P	**P**	**13 11 47.6**	**-1.2**
	6.2nm,0.6s,baz=84,slow=8.2,SNR=5.6						
WRAB	**Tennant Creek**	**57.34**	**188**	*e*P	**P**	**13 13 12.0**	**-0.8**
	2.7nm,0.6s						
WRA	**Warramunga Arr**	**57.35**	**188**	P	P	13 13 11.9	-0.9
	3.1nm,0.5s,baz=6.3,slow=7.0,SNR=44						
ASAR	**Alice Springs**	**61.08**	**188**	P	**P**	**13 13 38.3**	**-0.3**
	1.3nm,0.7s,baz=18,slow=11,SNR=11						
FINES	**FINESS Array B**	**68.77**	**332**	P	**P**	**13 14 29.1**	**+0.9**
	2.9nm,1.0s,baz=34,slow=8.4,SNR=3.4						
NB2	**NORSAR Subarra**	**74.10**	**337**	P	P	13 15 13.1	+13
	comp=Z,3.4nm,0.9s,baz=42,slow=6.2						

*ISCJB **18** 13:05:48.8±0.5, 36.57N±0.04×70.91E±0.07, h188km, mb3.8/11, Error ellipse: s-maj=8.1km s-min=4.4km az=157.8*
*IDC **18** 13:05:48.6±2.6, 36.39N×71.08E, h190km±21km, mb3.7/11, mb1 3.7/17, mb1mx3.4/53, mbtmp4.2/17, Error ellipse: s-maj=19.0km s-min=15.5km az=168.0*
*NNC **18** 13:05:56.6±2.1, 37.03N×70.92E, h220km±29km, mb3.0, mpv3.9, Error ellipse: s-maj=21.6km s-min=14.8km az=3.0*
ISC 18 13:05:49.9±0.6, **36.59N**±0.06×**70.99E**±0.08, **h188**km, **n30**, σ1s**79**/38, **mb3.9**/11, **4C-5D, Hindu Kush region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
THN	**Thein Dam**	**5.69**	**135**	*e*P	**Pn**	**13 07 14.5**	**+1.5**
THN				*e*S	**Sn**	**13 08 17.0**	**-1.4**
MNAS	**Manas**	**6.00**	**11**	↑P	**Pn**	**13 07 19.0**	**+1.9**
	3.6nm,0.3s						
MNAS				↓S	**Sn**	**13 08 24.7**	**-1.3**
	42nm,0.5s						
DHRM	**DHARAMSHALA**	**6.16**	**133**	*e*P	**Pn**	**13 07 22.3**	**+3.0**
DHRM				*e*S	**Sn**	**13 08 30.5**	**+0.6**
DHRM				IAML		13 08 33.1	
	comp=N,324nm,0.3s						
DHRM				IAML		13 08 33.3	
	comp=E,707nm,0.5s						
KK31	**Karatay Array**	**6.52**	**357**	P	**Pn**	**13 07 25.6**	**+1.9**
	comp=E,5.8nm,0.5s,baz=177,slow=12,SNR=126						
KK31				↑↑S	**Sn**	**13 08 35.0**	**-2.9**
	comp=E,10.0nm,0.4s,baz=184,slow=17,SNR=11						
AAK	**Ala-Archa**	**6.62**	**23**	P	**Pn**	**13 07 26.8**	**+1.7**
	comp=E,4.1nm,0.3s,baz=212,slow=5.4,SNR=18						
AAK				S	**Sn**	**13 08 40.6**	**+0.2**
	comp=E,3.5nm,0.3s,baz=317,slow=23,SNR=20						
AAK	**Ala-Archa**	**6.62**	**23**	↓P	**Pn**	**13 07 27.2**	**+2.1**
	comp=E,7.7nm,0.5s						
AAK				↓S	**Sn**	**13 08 40.8**	**+0.4**
	comp=E,27nm,0.7s						
TKM2	**Tokmak 2**	**7.25**	**28**	↓P	**Pn**	**13 07 35.1**	**+1.7**
	comp=E,6.1nm,0.6s						
TKM2				↑↑S	**Sn**	**13 08 55.1**	**-0.3**
	comp=E,6.2nm,0.6s						
SMLA	**Simla**	**7.49**	**135**	*e*P	**Pn**	**13 07 38.7**	**+2.3**
SMLA				*e*S	**Sn**	**13 08 59.8**	**-1.1**
SMLA				IAML		13 09 02.8	
	comp=E,189nm,0.4s						
SMLA				IAML		13 09 02.9	
	comp=N,187nm,0.2s						
GEYT	**Alibeck**	**10.35**	**281**	P	**Pn**	**13 08 14.7**	**+0.8**
	comp=N,1.2nm,0.3s,baz=114,slow=12,SNR=6.8						
MK31	**Makanchi Array**	**13.22**	**36**	P	**Pn**	**13 08 51.1**	**+0.7**
	comp=N,0.9nm,0.4s,baz=218,slow=15,SNR=25						
BHPL	**Bhopal**	**14.42**	**156**	*e*P	**P**	**13 09 09.9**	**+2.7**
AB31	**Akbulak array**	**15.00**	**331**	↓P	**Pn**	**13 09 12.7**	**+0.3**
	comp=N,4.1nm,0.6s,baz=148,slow=12,SNR=44						
KURBB	**Kurchatov Arra**	**15.04**	**19**	P	**P**	**13 09 14.4**	**+0.7**
	comp=N,0.1nm,0.3s,baz=204,slow=11,SNR=3.6						
BVAR	**Borovoye Array**	**16.44**	**359**	P	**Pn**	**13 09 30.6**	**+0.8**
	comp=N,0.8nm,0.3s,baz=165,slow=10.0,SNR=11						
AKTO	**Aktyubinsk**	**16.70**	**330**	P	**Pn**	**13 09 33.6**	**+0.7**
	comp=N,1.2nm,0.3s,baz=135,slow=9.2,SNR=10.0						
AKTO	**Aktyubinsk**	**16.70**	**330**	↑↑P	**Pn**	**13 09 33.2**	**+0.2**
	comp=N,3.2nm,0.5s						
BOK	**Bokaro**	**18.09**	**131**	*ex*	**P**	**13 09 41.3**	**-6.2**
ZALV	**Zalesovo Beam**	**19.84**	**25**	P	**P**	**13 10 05.8**	**-0.2**
	comp=N,1.7nm,0.3s,baz=216,slow=11,SNR=18						
NRIK	**Noril'sk**	**34.04**	**10**	P	**P**	**13 12 16.3**	**+0.7**
	comp=N,3.7nm,0.5s,baz=188,slow=6.3,SNR=3.6						
FINES	**FINESS Array B**	**37.41**	**326**	P	**P**	**13 12 44.8**	**+0.4**
	comp=N,2.0nm,0.4s,baz=117,slow=9.7,SNR=10						
ARCES	**ARCESS Array B**	**41.06**	**338**	P	**P**	**13 13 15.1**	**+0.6**
	comp=N,1.7nm,0.5s,baz=113,slow=8.3,SNR=6.0						
NB2	**NORSAR Subarra**	**44.30**	**323**	P	**P**	**13 13 40.5**	**-0.2**
	comp=Z,1.5nm,0.6s,baz=94,slow=7.9						
NOA	**NORSAR Array B**	**44.30**	**323**	P	**P**	**13 13 40.5**	**-0.2**
	comp=Z,2.3nm,0.7s,baz=97,slow=7.8,SNR=9.8						
TORD	**Torodi Ar. Bea**	**65.71**	**269**	P	**P**	**13 16 12.8**	**-1.8**
	comp=Z,2.1nm,0.7s,baz=50,slow=6.0,SNR=15						
INK	**Inuvik**	**73.82**	**9**	P	**P**	**13 17 03.2**	**0.0**
	comp=Z,2.7nm,0.7s,baz=348,slow=6.6,SNR=8.9						
ILAR	**Eielson Array**	**74.69**	**16**	P	**P**	**13 17 07.2**	**-1.2**
	comp=Z,0.7nm,0.9s,baz=293,slow=4.6,SNR=4.6						
KDAK	**Kodiak Island**	**79.12**	**22**	P	**P**	**13 17 32.4**	**-0.7**
	comp=Z,2.6nm,1.0s,baz=345,slow=12,SNR=3.6						
YKA	**Yellowknife Ar**	**81.16**	**3**	P	**P**	**13 17 43.4**	**-0.6**
	comp=Z,0.7nm,0.5s,baz=351,slow=5.3,SNR=8.4						
WRA	**Warramunga Arr**	**82.04**	**122**	P	**P**	**13 17 47.1**	**-2.1**
	comp=Z,1.0nm,0.9s,baz=325,slow=5.0,SNR=8.1						
ASAR	**Alice Springs**	**84.31**	**125**	P	**P**	**13 17 58.6**	**-2.2**
	comp=Z,0.9nm,0.8s,baz=304,slow=5.0,SNR=7.7						

*BJI **18** 13:11:55.5, 27.39N×88.42E, h20km, mb4.5/36, Ms4.9/9, Ms7 4.9/4*
*MOS **18** 13:11:58.5±1.6, 27.51N×88.69E, h33km, mb4.6/25, Error ellipse: s-maj=9.5km s-min=6.0km az=118.6*
*DMN **18** 13:11:59.6±0.5, 27.51N×88.59E, h10km, Ml5.2/4, Error ellipse: s-maj=10.1km s-min=7.1km az=136.0*
*NDI **18** 13:11:59.3±3.8, 27.60N×88.44E, h15km±8km, ML4.9, mb4.8(NEIC)*
*IDC **18** 13:11:59.9±2.9, 27.56N×88.52E, h30km±20km, mb4.0/27, mb1 4.2/29, mb1mx4.0/56, mbtmp4.2/29, ML4.0/2, Error ellipse: s-maj=15.8km s-min=11.5km az=33.0*
*NEIC **18** 13:12:00.3±0.6, 27.52N×88.58E, h40km±6km, mb4.8/13, Error ellipse: s-maj=8.1km s-min=5.1km az=199.0*
NEIC Felt in Sikkim. Also felt in parts of Nepal.
ISC 18 13:11:59.1±0.8, **27.55N**±0.03×**88.50E**±0.02, **h29**km±6km, **n165**, σ2s**56**/192, **mb4.4**/50, **8C, Sikkim**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GTK	**Tadong**	**0.24**	**158**	*e*P	**Pb**	**13 12 07.2**	**+1.3**
GTK				*e*S	**Sb**	**13 12 12.8**	**+2.3**
GTK				AML	AML	13 12 13.6	
	comp=E,171μm,0.2s						
GTK				AML	AML	13 12 13.6	
	comp=N,179μm,0.2s						
TAPN	**Taplejung**	**0.73**	**255**	*e*Pg	**Pn**	**13 12 14.4**	**+0.7**
TAPN	**Taplejung**	**0.73**	**255**	*e*Pg	**Pn**	**13 12 14.4**	**+0.7**
TAPN				*e*Sg	**Sn**	**13 12 25.4**	**+1.4**
ODAN	**Odare**	**1.20**	**236**	*e*Pg	**Pb**	**13 12 22.4**	**+1.0**
ODAN	**Odare**	**1.20**	**236**	*e*Pg	**Pb**	**13 12 22.4**	**+1.0**
ODAN				*e*Sg	**Sb**	**13 12 39.2**	**+2.6**
RAMN	**Ramite**	**1.79**	**251**	*e*Pn	**Pb**	**13 12 30.4**	**-1.0**
RAMN	**Ramite**	**1.79**	**251**	*e*Pn	**Pb**	**13 12 30.4**	**-1.0**
RAMN				*e*Sn	**Sn**	**13 12 52.1**	**+1.9**
DHUB	**DHUBRI**	**2.02**	**138**	*e*P	**Pb**	**13 12 34.4**	**-0.8**
DHUB				AML	AML	13 13 01.8	
	comp=E,17μm,0.3s						
DHUB				AML	AML	13 13 02.7	
	comp=N,29μm,0.3s						
JIRN	**Jiri**	**2.05**	**274**	*e*Pn	**Pb**	**13 12 34.5**	**-1.4**
JIRN	**Jiri**	**2.05**	**274**	*e*Pn	**Pb**	**13 12 34.5**	**-1.4**
GUN	**Gumba**	**2.35**	**279**	*e*Pn	**Pn**	**13 12 38.4**	**+2.4**
GUN	**Gumba**	**2.35**	**279**	*e*Pn	**Pn**	**13 12 38.4**	**+2.4**
TURI	**Tura**	**2.58**	**140**	*e*P	**Pb**	**13 12 41.2**	**-3.5**
TURI				*e*S	**Sn**	**13 13 11.2**	**+1.9**
PKI	**Pulchoki**	**2.74**	**271**	*e*P	**Pn**	**13 12 43.4**	**+2.0**
PKI	**Pulchoki**	**2.74**	**271**	*e*Pn	**Pn**	**13 12 43.4**	**+2.0**
PKI	**Pulchoki**	**2.74**	**271**	*e*Pn	**Pn**	**13 12 43.4**	**+2.0**
PKI				*e*Sn	**Sn**	**13 13 15.8**	**+2.0**
PKIN	**Phulchoki**	**2.75**	**271**	*e*Pn	**Pn**	**13 12 43.5**	**+2.0**
KKN	**Kakani**	**2.87**	**276**	*e*P	**Pn**	**13 12 45.1**	**+2.1**
KKN	**Kakani**	**2.87**	**276**	*e*Pn	**Pn**	**13 12 45.1**	**+2.1**
KKN	**Kakani**	**2.87**	**276**	*e*Pn	**Pn**	**13 12 45.1**	**+2.1**
KKN				*e*Sn	**Sn**	**13 13 18.7**	**+2.1**
	comp=N,6μm,0.4s						
DMN	**Daman**	**3.01**	**272**	*e*Pn	**Pn**	**13 12 46.8**	**+1.7**
DMN	**Daman**	**3.01**	**272**	*e*Pn	**Pn**	**13 12 46.8**	**+1.7**
GUWA	**GUWAHATI**	**3.15**	**115**	*e*P	**Pn**	**13 12 49.3**	**+2.5**
GUWA				*e*S	**Sb**	**13 13 27.6**	**-4.8**
GUWA				AML	AML	13 13 39.0	
	comp=E,8μm,0.4s						
LSA	**Lhasa**	**3.17**	**47**	*e*P	**Pb**	**13 12 51.7**	**-3.2**
LSA	**Lhasa**	**3.17**	**47**	*e*Pn	**Pb**	**13 12 51.7**	**-3.2**
GKN	**Gorkha**	**3.45**	**278**	*e*Pn	**Pn**	**13 12 53.4**	**+2.4**
GKN	**Gorkha**	**3.45**	**278**	*e*Pn	**Pn**	**13 12 53.4**	**+2.4**
GKN				*e*Sn	**Sn**	**13 13 31.5**	**+0.5**
	comp=E,1μm,0.3s						
SHL	**Shillong**	**3.62**	**122**	*e*P	**Pn**	**13 12 54.7**	**+1.4**
SHL				*e*S	**Sn**	**13 13 36.5**	**+1.4**
SHL				AML	AML	13 13 54.0	
	comp=E,7μm,0.5s						
SHL				AML	AML	13 13 54.4	
	comp=N,7μm,0.6s						
TEZP	**TEZPUR**	**3.94**	**103**	*e*P	**Pn**	**13 12 58.8**	**+1.2**
TEZP				*e*S	**Sn**	**13 13 43.5**	**+0.6**
TEZP				*e*S	**Sn**	**13 13 43.5**	**+0.6**
TEZP				AML	AML	13 14 06.1	
	comp=N,8μm,0.3s						
TEZP				AML	AML	13 14 06.1	
	comp=E,4μm,0.3s						
KOLN	**Koldanda**	**4.35**	**274**	*e*Pn	**Pn**	**13 13 04.4**	**+1.0**
KOLN				*e*Sn	**Sn**	**13 13 53.7**	**+0.4**
	comp=E,925nm,0.4s						
AGT	**Agartala**	**4.41**	**145**	*e*P	**Pn**	**13 13 07.5**	**+3.5**
AGT				*e*S	**Sn**	**13 13 56.6**	**+2.2**
AGT				AML	AML	13 14 25.9	
	comp=E,4μm,0.5s						
AGT				AML	AML	13 14 26.8	
	comp=N,4μm,0.7s						
BOK	**Bokaro**	**4.42**	**213**	*e*P	**Pn**	**13 13 05.5**	**+1.3**
BOK				*e*S	**Sn**	**13 13 55.7**	**+1.1**
BOK				AML	AML	13 14 31.7	
	comp=N,1μm,0.8s						
BOK				AML	AML	13 14 32.2	
	comp=E,2μm,1.0s						
ITAN	**ITANAGAR**	**4.66**	**94**	*e*P	**Pn**	**13 13 09.8**	**+2.3**
ITAN				AML	AML	13 14 31.8	
	comp=E,7μm,0.8s						
ITAN				AML	AML	13 14 32.9	
	comp=N,8μm,0.5s						
PYUN	**Piuthan**	**4.91**	**278**	*e*Pn	**Pn**	**13 13 11.9**	**+0.8**
PYUN				*e*Sn	**Sn**	**13 14 06.2**	**-0.9**
	comp=N,390nm,0.5s						
JORH	**JORHAT**	**5.19**	**98**	*e*P	**Pn**	**13 13 16.7**	**+2.0**
JORH				*e*S	**Sn**	**13 14 13.5**	**-0.1**
JORH				AML	AML	13 14 44.8	
	comp=E,4μm,0.0s						
JORH				AML	AML	13 14 45.1	
	comp=N,4μm,0.2s						
MOKO	**MOKOCHONG**	**5.51**	**101**	*e*P	**Pn**	**13 13 20.3**	**+1.0**
MOKO				*e*S	**Sn**	**13 14 22.2**	**+0.4**
IMP	**Imphal**	**5.59**	**118**	*e*P	**Pn**	**13 13 22.9**	**+2.5**
IMP				*e*S	**Sn**	**13 14 25.3**	**+1.6**
LKP	**Lekhapani**	**6.53**	**90**	*e*S	**Sn**	**13 14 45.0**	**-1.7**
JBP	**Jabalpur**	**8.85**	**242**	‖eP	**Pn**	**13 14 07.4**	**+2.4**
JBP				*e*S	**Sn**	**13 15 39.7**	**-4.1**
JHNI	**Jhansi**	**9.16**	**259**	*e*P	Pn	13 14 04.0	-5.3
JHNI				*e*S	Sn	13 15 38.0	-13
DDI	**Dehra Dun**	**9.56**	**289**	*e*P	**Pn**	**13 14 15.7**	**+0.9**
DDI				AMB	AMB	13 14 20.1	
	comp=Z,58nm,0.5s						
DDI				*e*S	**Sn**	**13 15 56.2**	**-5.1**
CHLP	**Challavanipeta**	**9.88**	**205**	*e*Pn	**Pn**	**13 14 19.9**	**+0.7**
CHLP				Sn	**Sn**	**13 16 02.7**	**-6.4**
SMLA	**Simla**	**10.51**	**293**	*e*P	**Pn**	**13 14 26.9**	**-0.8**
SMLA				AMB	AMB	13 14 37.0	
	comp=Z,87nm,1.3s						
SMLA				*ex*	**Sn**	**13 16 17.9**	**-6.6**
NGP	**Nagpur**	**10.71**	**236**	*e*P	**Pn**	**13 14 29.8**	**-0.7**
NGP				*e*S	**Sn**	**13 16 22.2**	**-7.3**
BHPL	**Bhopal**	**10.89**	**249**	*e*P	**Pn**	**13 14 31.6**	**-1.4**
BHPL				*e*S	Sn	13 16 23.9	-10
BHPL				IAML		13 17 52.0	
	comp=E,180nm,0.8s						
BHPL				IAML		13 17 53.2	
	comp=N,310nm,1.4s						
DHRM	**DHARAMSHALA**	**11.57**	**297**	*e*P	**Pn**	**13 14 41.2**	**-1.4**
DHRM				*e*S	Sn	13 16 42.2	-8.7
PVM	**Polavaram**	**12.06**	**213**	*e*Pn	**Pn**	**13 14 47.3**	**-1.6**
PVM				Sn	**Sn**	**13 16 58.2**	**-4.2**
RPR	**Rampur**	**12.10**	**226**	*e*Pn	**Pn**	**13 14 47.7**	**-1.8**
RPR				Sn	**Sn**	**13 16 55.4**	**-8.0**
SRSP	**Sriramsagar**	**12.67**	**230**	*e*Pn	**Pn**	**13 14 54.3**	**-3.1**
SRSP				Sn	Sn	13 17 08.7	-8.8
CHTO	**Chiang Mai**	**12.95**	**130**	*e*P	**Pn**	**13 14 59.0**	**-2.2**
CHTO	**Chiang Mai**	**12.95**	**130**	*e*Pn	**Pn**	**13 14 59.0**	**-2.2**
KMI	**Kunming**	**13.00**	**97**	P	**P**	**13 15 08.1**	**-4.1**
KMI				pmax	pmax		
	comp=N,24nm,0.8s						
CMAR	**Chiang Mai Arr**	**13.20**	**131**	Pn	**Pn**	**13 15 03.2**	**-1.4**
	comp=N,0.5nm,0.3s,baz=316,slow=13,SNR=9.5						
CM01	**Chiang Mai Arr**	**13.23**	**131**	*e*Pn	**Pn**	**13 15 03.7**	**-1.3**
HYBB	**Hyderabad (bro**	**13.63**	**224**	*e*Pn	**Pn**	**13 15 07.7**	**-2.9**
HYBB				Sn	Sn	13 17 31.9	-9.2
CD2	**Chengdu**	**13.74**	**72**	*e*P	**Pn**	**13 15 14.1**	**+2.1**
CD2				pmax	pmax		
	comp=N,30nm,1.0s						
NJS	**Nagarjunasagar**	**13.86**	**220**	*e*Pn	**Pn**	**13 15 11.4**	**-2.2**
NJS				Sn	Sn	13 17 37.8	-8.7
ADKI	**Addanki**	**14.08**	**216**	*e*Pn	**Pn**	**13 15 16.0**	**-0.6**
ADKI				Sn	**Sn**	**13 17 44.1**	**-7.8**
SRLM	**Srisailam**	**14.46**	**220**	*e*Pn	**Pn**	**13 15 18.7**	**-3.1**
SRLM				*e*P	P	13 15 21.3	-6.9
SRLM				Sn	Sn	13 17 50.9	-10
KLRI	**Killari**	**14.46**	**232**	*e*Pn	**Pn**	**13 15 17.6**	**-4.3**
KLRI				Sn	Sn	13 17 50.0	-11
RCLA	**Racherla**	**14.94**	**218**	*e*Pn	**Pn**	**13 15 24.4**	**-4.0**
RCLA				Sn	Sn	13 18 03.0	-10
GTA	**Gaotai**	**15.12**	**36**	*e*P	**P**	**13 15 38.8**	**+3.2**
GTA				pP	sP	13 15 43.1	-4.1
GTA				sP	pP	13 15 46.8	+3.4
GTA				pmax	pmax		
	comp=Z,15nm,0.9s						
GTA	**Gaotai**	**15.12**	**36**	*e*P	**Pn**	**13 15 32.6**	**+1.9**
GTA				pP	pP	13 15 38.8	-4.6
GTA				sP	sP	13 15 42.0	-5.2
GTA				pmax	pmax		
	comp=Z,5.0nm,0.9s						
SLVN	**Son La**	**15.33**	**110**	*e*Pn	**Pn**	**13 15 31.9**	**-1.6**
	comp=Z,12nm,1.0s						
KSH	**Kashi**	**15.84**	**322**	*e*P	**Pn**	**13 15 36.6**	**-3.5**
KSH				pP	P	13 15 41.6	-2.0
KSH				PP	**PnPn**	**13 15 49.5**	**+0.7**
KSH				S	**Sn**	**13 18 27.6**	**-7.2**
KSH				pmax	pmax		
	comp=Z,9.0nm,0.8s						
KSH				LR	LR		
	comp=Z,1μm,7.2s						
KSH				LR	LR		
	comp=Z,3μm,9.3s						
SKHT	**Srikalahasti**	**16.00**	**213**	*e*Pn	**Pn**	**13 15 40.5**	**-1.6**
GYA	**Guiyang**	**16.23**	**90**	↑*i*P	**Pn**	**13 15 43.3**	**-1.8**
GYA				pP	pP	13 15 51.0	-4.8
GYA				SS	**S**	**13 19 05.6**	**+8.9**
WMQ	**Urumqi**	**16.25**	**358**	P	**Pn**	**13 15 44.8**	**-0.5**
WMQ				pP	P	13 15 50.8	+2.7
WMQ				sP	pP	13 15 54.0	-1.9
WMQ				*e*S	**Sn**	**13 18 38.9**	**-5.8**
WMQ				pmax	pmax		
	comp=Z,33nm,0.9s						
WMQ				LR	LR		
	comp=Z,7μm,20.1s						
URV	**Uravakonda**	**16.32**	**222**	*e*Pn	**Pn**	**13 15 42.9**	**-3.4**
URV				Sn	**Sn**	**13 18 37.5**	**-9.1**
PDGK	**Podgornoye**	**17.36**	**337**	P	**P**	**13 16 01.9**	**+1.5**
PDGK				pmax	pmax		
	comp=Z,39nm,0.8s						
KBL	**Kabul**	**18.06**	**297**	*e*P	**Pn**	**13 16 05.7**	**-2.3**
KBL				pmax	pmax		
	comp=Z,60nm,1.0s						
KBL	**Kabul**	**18.06**	**297**	*e*Pn	**Pn**	**13 16 05.7**	**-2.3**
	comp=Z,60nm,1.0s						
ENH	**Enshi**	**18.57**	**77**	*e*P	**P**	**13 16 11.8**	**-2.0**
	comp=Z,70nm,1.2s						
AAK	**Ala-Archa**	**18.88**	**327**	Pn	**Pn**	**13 16 20.5**	**+2.5**
	comp=Z,0.2nm,0.3s,baz=190,slow=6.1,SNR=5.2						
AAK	**Ala-Archa**	**18.88**	**327**	*e*P	**Pn**	**13 16 20.8**	**+2.9**
AAK	**Ala-Archa**	**18.88**	**327**	*e*P	**Pn**	**13 16 18.9**	**+1.0**
	comp=Z,2nm,0.8s						
FRU	**Bishkek**	**18.97**	**327**	*e*P	**Pn**	**13 16 22.0**	**+3.1**
FRU				*e*		13 19 47.0	
MNAS	**Manas**	**19.79**	**323**	P	**Pn**	**13 16 30.1**	**+1.3**
MNAS				pmax	pmax		
	comp=Z,18nm,1.4s						
MK01	**Makanchi Array**	**19.80**	**347**	*e*P	**P**	**13 16 27.6**	**+0.5**
MK31	**Makanchi Array**	**19.83**	**347**	*e*P	**P**	**13 16 26.9**	**-0.5**
MK31	**Makanchi Array**	**19.83**	**347**	*e*P	**P**	**13 16 26.9**	**-0.5**
MKAR	**Makanchi Array**	**19.83**	**347**	*e*P	**P**	**13 16 27.1**	**-0.2**
MKAR				pmax	pmax		
	comp=Z,104nm,0.8s						
MKAR	**Makanchi Array**	**19.83**	**347**	*e*P	**P**	**13 16 27.1**	**-0.2**
	comp=Z,104nm,0.8s						
MAKZ	**Makanchi**	**19.90**	**347**	*e*P	**P**	**13 16 27.8**	**-0.4**
MAKZ				pmax	pmax		
	comp=Z,31nm,1.1s						
MAKZ	**Makanchi**	**19.90**	**347**	*e*P	**P**	**13 16 27.8**	**-0.4**
	comp=Z,31nm,1.1s						
KKAR	**Karatay Array**	**21.29**	**321**	*e*P	**P**	**13 16 41.4**	**-1.9**
KKAR				pmax	pmax		
	comp=Z,81nm,0.8s						
KKAR	**Karatay Array**	**21.29**	**321**	*e*P	**P**	**13 16 41.4**	**-1.9**
	comp=Z,81nm,0.8s						
QIZ	**Qiongzhong**	**21.34**	**109**	P	**P**	**13 16 43.9**	**0.0**
QIZ	**Qiongzhong**	**21.34**	**109**	*e*P	**P**	**13 16 43.1**	**-0.8**
	comp=Z,52nm,1.2s						
HHC	**Hu-ho-hao-te**	**23.15**	**49**	*e*P	**P**	**13 17 04.5**	**+1.3**
HHC				pmax	pmax		
	comp=Z,11nm,1.1s						
KURBB	**Kurchatov Arra**	**24.26**	**344**	P	**P**	**13 17 13.9**	**+0.4**
	comp=Z,4.2nm,0.6s,baz=167,slow=9.0,SNR=31						
KURK	**Kurchatov**	**24.33**	**345**	*ce*P	**P**	**

comp=Z,0.8nm,0.6s,baz=84,slow=5.9,SNR=3.6
BRTR Keskin Array B 46.61 300 *i* P **P 13 20 27.7 +2.9**
BRTR pmax pmax
comp=Z,1.0nm,0.6s
TIXI Tiksi 49.41 16 P **P 13 20 45.1 -0.7**
comp=Z,3.4nm,0.3s,baz=238,slow=1.2,SNR=7.6
AKASG Malin Array Be 49.95 314 P **P 13 20 49.5 -0.7**
comp=Z,1.0nm,0.5s,baz=83,slow=6.7,SNR=9.0
KIEV Kiev 49.95 314 *eP* **P 13 20 49.7 -0.5**
KIEV pmax pmax
comp=Z,8.0nm,0.9s
KIEV Kiev 49.95 314 *eP* **P 13 20 49.7 -0.5**
comp=Z,7.6nm,0.9s
TIRR Tirgusor 50.34 306 P **P 13 20 53.0 -0.3**
TIRR pmax pmax
comp=Z,18nm,1.4s
JOF Joensuu 51.01 330 P **P 13 21 00.6 +2.6**
JOF pmax pmax
comp=Z,23nm,2.8s
PLOR Plostina 51.55 308⇑ *i*P **P 13 21 04.3 +1.9**
PLOR Plostina 51.55 308 ⇑P **P 13 21 04.4 +2.0**
MLR Muntele Rosu 52.06 308 P **P 13 21 07.3 +0.9**
comp=Z,1.9nm,0.8s,baz=151,slow=10,SNR=5.8
FINES FINESS Array B 53.06 328 P **P 13 21 13.6 +0.3**
comp=Z,1.1nm,0.4s,baz=95,slow=8.6,SNR=8.3
ARCES ARCESS Array B 55.08 338 P **P 13 21 27.1 -0.8**
comp=Z,2.8nm,0.9s,baz=102,slow=8.4,SNR=2.5
ARCES ARCESS Array B 55.08 338 *eP* **P 13 21 32.0 +4.1**
ARCES pmax pmax
comp=Z,1.0nm,0.4s
SPITS Spitsbergen Ar 59.58 347 P **P 13 22 01.0 +1.4**
comp=Z,17nm,1.1s,baz=88,slow=13,SNR=3.7
SPITS Spitsbergen Ar 59.58 347 P **P 13 22 01.0 +1.4**
SPITS pmax pmax
comp=Z,18nm,1.1s
GERES GERESS Array B 60.05 313 P **P 13 22 04.2 +0.9**
comp=Z,0.6nm,0.5s,baz=74,slow=7.2,SNR=5.6
NB2 NORSAR Subarra 60.20 327 P **P 13 22 04.4 +0.3**
comp=Z,3.6nm,0.7s,baz=87,slow=7.4
NOA NORSAR Array B 60.20 327 P **P 13 22 04.3 +0.3**
comp=Z,1.0nm,0.7s,baz=87,slow=6.7,SNR=3.5
NOA NORSAR Array B 60.20 327 *eP* P 13 22 10.6 +6.5
NOA pmax pmax
comp=Z,2.0nm,0.6s
WRA Warramunga Arr 64.79 132 P **P 13 22 36.3 +1.0**
comp=Z,8.5nm,0.6s,baz=328,slow=6.6,SNR=66
ASAR Alice Springs 67.17 135 P **P 13 22 51.6 +1.1**
comp=Z,3.1nm,0.6s,baz=317,slow=6.0,SNR=27
ESDC Sonseca Array 74.75 307 P **P 13 23 36.3 -0.1**
comp=Z,0.7nm,0.6s,baz=62,slow=3.5,SNR=4.1
CAST Castle Rocks 77.61 24 *eP* **P 13 23 52.6 +0.4**
comp=Z,11nm,0.8s
STKA Stephens Creek 77.77 136 P **P 13 23 54.0 +0.5**
comp=Z,1.3nm,0.4s,baz=322,slow=3.1,SNR=5.4
STKA Stephens Creek 77.77 136 *eP* **P 13 23 54.2 +0.7**
STKA pmax pmax
comp=Z,1.0nm,0.4s
PPLA Purkeypile 77.89 24 *eP* **P 13 23 52.4 -1.5**
ILAR Eielson Array 78.49 21 P **P 13 23 57.8 +0.7**
comp=Z,1.7nm,0.8s,baz=300,slow=4.8,SNR=8.6
INK Inuvik 79.53 15 P **P 13 24 03.8 +1.2**
comp=Z,6.5nm,1.0s,baz=315,slow=4.3,SNR=7.4
TORD Torodi Ar. Bea 81.25 280 P **P 13 24 13.1 +0.2**
comp=Z,0.6nm,0.7s,baz=46,slow=4.2,SNR=3.4
BMRM Bremner River 81.86 23 *eP* **P 13 24 16.6 +1.2**
BMRM comp=Z,13nm,0.9s
eS **S 13 34 33.4 +6.7**
BOSA Boshof 82.40 232 P **P 13 24 18.9 +0.2**
comp=Z,4.4nm,1.1s,baz=77,slow=14,SNR=1.8
YKA Yellowknife Ar 88.38 11 P **P 13 24 48.4 +0.5**
comp=Z,0.2nm,0.4s,baz=332,slow=4.9,SNR=2.8
TXAR Lajitas Array 122.25 13 PKP **PKPdf 13 30 52.2 +0.4**
comp=Z,0.1nm,0.3s,baz=20,slow=1.1,SNR=6.3
TXAR Lajitas Array 122.25 13 *e*PKIKP **PKPdf 13 30 53.0 +1.2**
GUYC Guyana, Colomb 143.90 332 *eP* PKPab 13 31 28.5 -1.6
PRAC Prado 145.03 330 *eP* **PKPbc 13 31 32.5 -1.3**
CPUP Villa Florida 149.57 264 PKPbc **PKPbc 13 31 45.6 -0.5**
comp=Z,3.0nm,0.8s,baz=53,slow=4.3,SNR=7.0

NDI 18 13:26:40.4±1.9, 27°.33N×88°.90E, h26km±76km, ML3.4, Sikkim

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GTK	**Tadong**	**0.26**	**267**	*eP*	Pb	13 26 47.9	+0.8
GTK				*eS*	Sb	13 26 51.8	0.0
GTK				AML	AML	13 26 52.4	
	comp=N,3μm,0.2s						
GTK				AML	AML	13 26 52.4	
	comp=E,5μm,0.1s						
TURI	**Tura**	**2.19**	**144**	*eP*	Pb	13 27 19.8	+0.4
TURI				*eS*	Sb	13 27 46.6	+0.4
TURI				AML	AML	13 27 58.3	
	comp=N,208nm,0.2s						
TURI				AML	AML	13 27 59.0	
	comp=E,253nm,0.2s						
GUWA	**GUWAHATI**	**2.74**	**114**	*eP*	Pb	13 27 27.7	-1.1
GUWA				*eS*	Sb	13 27 59.6	-2.4
GUWA				AML	AML	13 28 14.5	
	comp=E,177nm,0.6s						
TEZP	**TEZPUR**	**3.55**	**101**	*eP*	Pn	13 27 38.1	+4.3
TEZP				*eS*	Sb	13 28 20.3	-5.0
TEZP				AML	AML	13 28 38.2	
	comp=E,121nm,0.5s						
TEZP				AML	AML	13 28 38.6	
	comp=N,124nm,0.1s						
ZIRO	**ZIRO**	**4.41**	**86**	*ex*	Pb	13 27 58.3	+1.1
ZIRO				*eS*	Sn	13 28 40.5	+4.1
MOKO	**MOKOCHONG**	**5.12**	**100**	*eS*	Sn	13 28 56.9	+3.0

*IDC **18** 13:26:49.9±1.7, 29°.93S×176°.25W, h0km, mb3.8/3, mb1 4.0/4, mb1mx3.7/21, mbtmp3.9/4, ML3.3/1, Error ellipse: s-maj=35.7km s-min=26.6km az=41.0*
*ISCJB **18** 13:26:51.6±2.2, 30°.07S±0°.09×176°.1W±0°.2, h33km, mb3.8/3, Error ellipse: s-maj=25.2km s-min=11.0km az=165.1*

ISC 18 13:26:54.5±1.7, 30°.0S±0°.1×176°.2W±0°.2, h35km, n7, σ1s77/9, mb4.0/3, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**1.66**	**295**	Pn	**Pn**	**13 27 20.5**	**-0.5**
	57nm,0.3s,baz=17,slow=21,SNR=6.5						
RAO				Sn	**Sn**	**13 27 41.5**	**+0.5**
	323nm,0.3s,baz=60,slow=20,SNR=9.6						
URZ	**Urewera**	**9.95**	**212**	Pn	**Pn**	**13 29 12.4**	**-2.5**
	0.2nm,0.3s,baz=254,slow=3.9,SNR=12						
URZ				Sn	**Sn**	**13 31 06.7**	**+1.4**
	1.7nm,0.3s,baz=202,slow=23,SNR=14						
STKA	**Stephens Creek**	**36.09**	**256**	P	**P**	**13 33 54.8**	**+1.8**
	2.4nm,0.8s,baz=85,slow=11,SNR=4.2						
ASAR	**Alice Springs**	**44.69**	**266**	P	**P**	**13 35 04.3**	**+0.1**
	0.2nm,0.4s,baz=106,slow=8.3,SNR=20						
WRA	**Warramunga Arr**	**45.64**	**271**	P	**P**	**13 35 10.7**	**-1.1**
	1.2nm,0.5s,baz=113,slow=6.7,SNR=20						
FINES	**FINESS Array B**	**145.26**	**341**	PKPbc	**PKPab**	**13 46 26.6**	**-1.0**
	0.8nm,0.6s,baz=135,slow=0.8,SNR=7.7						
TORD	**Torodi Ar. Bea**	**163.14**	**173**	PKPab	**PKPab**	**13 47 46.0**	**+2.2**
	0.4nm,1.0s,baz=190,slow=4.5,SNR=4.8						

NDI 18 13:30:04.0±0.9, 27°.33N×88°.96E, h12km±23km, ML3.5, Sikkim

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GTK	**Tadong**	**0.32**	**269**	*eP*	Pg	13 30 10.1	-0.4
GTK				*eS*	Sb	13 30 15.9	-1.0
GTK				AML	AML	13 30 16.5	
	comp=E,3μm,0.2s						
GTK				AML	AML	13 30 16.8	
	comp=N,5μm,0.1s						
TURI	**Tura**	**2.15**	**145**	*eP*	Pb	13 30 44.1	+1.1
TURI				*eS*	Sg	13 31 12.5	-0.9
TURI				AML	AML	13 31 24.5	
	comp=N,518nm,0.3s						
TURI				AML	AML	13 31 24.8	
	comp=E,602nm,0.2s						
GUWA	**GUWAHATI**	**2.69**	**114**	*eP*	Pb	13 30 51.5	-0.6
GUWA				*eS*	Sb	13 31 25.4	+0.3
TEZP	**TEZPUR**	**3.50**	**101**	*eP*	Pb	13 31 02.2	-3.7
TEZP				*eS*	Sb	13 31 45.2	-3.2
TEZP				AML	AML	13 32 05.4	
	comp=N,129nm,0.2s						
TEZP				AML	AML	13 32 06.1	
	comp=E,124nm,0.1s						

JMA 18 13:53:25.0±0.1, 38°.58N×144°.41E, h12km, M3.7, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OFUJ	**Ofunato**	**2.20**	**284**	P	Pn	13 54 02.4	+1.1
OFUJ				*eS*	Sn	13 54 30.0	+1.6
MIYJ	**Miyakonagasawa**	**2.25**	**297**	P	Pn	13 54 02.6	+0.6
MIYJ				*eS*	Sn	13 54 30.4	+0.7
JMK	**Ichinoseki**	**2.52**	**279**	P	Pn	13 54 07.1	+1.3
JMK				*eS*	Sn	13 54 38.2	+1.8
JOM	**Ohasama**	**2.59**	**291**	P	Pn	13 54 08.0	+1.3
JOM				*eS*	Sn	13 54 39.3	+1.3
JOU	**Okura**	**2.95**	**267**	P	Pn	13 54 13.2	+1.5
JOU				*eS*	Sn	13 54 48.7	+1.7
JRG	**Rokugo**	**3.05**	**287**	P	Pn	13 54 15.1	+2.0
JRG				*eS*	Sn	13 54 52.3	+2.8
JYK	**Kaneyama**	**3.19**	**277**	P	Pn	13 54 17.2	+2.3
JYK				*eS*	Sn	13 54 55.9	+3.1
JFT	**Otama**	**3.39**	**253**	P	Pn	13 54 19.2	+1.5
JFT				*eS*	Sn	13 54 59.1	+1.3
JTM	**Tenmabayashi**	**3.39**	**312**	*eS*	Sn	13 54 58.3	+0.4
JCH	**Churui**	**4.11**	**349**	P	Pn	13 54 24.7	-2.9
JCH				*eS*	Sn	13 55 10.0	-5.5
NEM2	**Nemuro 2**	**4.89**	**11**	P	Pn	13 54 33.2	-5.0
NEM2				*eS*	Sn	13 55 24.5	-10
JRY	**Ryogami san**	**5.08**	**241**	P	Pn	13 54 41.3	+0.3
JTKR	**Abashiri--Toko**	**5.40**	**356**	P	Pn	13 54 42.3	-3.0
JTKR				*eS*	Sn	13 55 40.7	-6.6

*NDI **18** 13:54:14.9±2.7, 27°.48N×88°.33E, h37km±9km, ML4.7, mb4.7(NEIC)*
*IDC **18** 13:54:15.5±0.6, 27°.33N×88°.24E, h0km, mb4.1/18, mb1 4.3/19, mb1mx4.0/39, mbtmp4.1/19, ML4.1/1, Error ellipse: s-maj=23.6km s-min=13.1km az=50.0*
*BJI **18** 13:54:16.9, 27°.45N×88°.36E, h19km, mb4.4/26, mB4.9/6, Ms4.6/9, Ms7 4.4/9*
*ISCJB **18** 13:54:16.5±0.2, 27°.28N±0°.02×88°.33E±0°.02, h22km, mb4.4/53, Error ellipse: s-maj=3.1km s-min=2.7km az=176.7*
*NEIC **18** 13:54:19.6±1.9, 27°.35N×88°.45E, h28km±14km, mb4.7/18, ML4.7(DMN), Error ellipse: s-maj=9.1km s-min=5.9km az=202.0*
NEIC Felt in Sikkim.
*MOS **18** 13:54:20.3±1.1, 27°.63N×88°.39E, h33km, mb4.4/28, Error ellipse: s-maj=9.7km s-min=5.3km az=117.7*
*DMN **18** 13:54:22.1±0.8, 27°.28N×88°.24E, h2km, Ml4.7/3, Error ellipse: s-maj=16.6km s-min=12.9km az=89.0*

ISC 18 13:54:18.4±0.3, 27°.35N±0°.03×88°.28E±0°.02, h22km, n189, σ2s26/223, mb4.5/56, 21C-4D, Sikkim

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GTK	**Tadong**	**0.29**	**95**	*eP*	**Pb**	**13 54 22.4**	**-2.7**
GTK				*eS*	**Sb**	**13 54 25.3**	**-4.5**
GTK				AML	AML	13 54 25.6	
	comp=N,100μm,0.2s						
GTK				AML	AML	13 54 25.9	
	comp=E,171μm,0.5s						
TAPN	**Taplejung**	**0.51**	**271**	*e*Pg	**Pn**	**13 54 30.4**	**-0.2**
TAPN	**Taplejung**	**0.51**	**271**	*e*Pg	**Pn**	**13 54 30.4**	**-0.2**
SLGI	**Shiliguri**	**0.66**	**169**	*eP*	**Pb**	**13 54 31.0**	**-0.1**
SLGI				*ex*	**Sb**	**13 54 38.0**	**-1.8**
ODAN	**Odare**	**0.93**	**239**	*e*Pg	**Pn**	**13 54 38.1**	**+1.8**
ODAN	**Odare**	**0.93**	**239**	*e*Pg	**Pn**	**13 54 38.1**	**+1.8**
RAMN	**Ramite**	**1.55**	**256**	*e*Pn	**Pb**	**13 54 49.1**	**+2.6**
RAMN	**Ramite**	**1.55**	**256**	*e*Pn	**Pb**	**13 54 49.1**	**+2.6**
JIRN	**Jiri**	**1.88**	**280**	*e*Pn	**Pb**	**13 54 54.0**	**+1.8**
JIRN	**Jiri**	**1.88**	**280**	*e*Pn	**Pb**	**13 54 54.0**	**+1.8**
GUN	**Gumba**	**2.20**	**285**	*e*Pn	**Pb**	**13 54 58.1**	**+0.4**
GUN	**Gumba**	**2.20**	**285**	*e*Pn	**Pb**	**13 54 58.1**	**+0.4**
PKI	**Pulchoki**	**2.56**	**276**	*eP*	**Pb**	**13 55 03.1**	**-0.7**
PKI	**Pulchoki**	**2.56**	**276**	*e*Pn	**Pb**	**13 55 03.1**	**-0.7**
PKI	**Pulchoki**	**2.56**	**276**	*e*Pn	**Pb**	**13 55 03.1**	**-0.7**
TURI	**Tura**	**2.57**	**134**	*eP*	**Pn**	**13 54 58.9**	**+0.3**
TURI				*eS*	**Sn**	**13 55 29.9**	**+0.7**
TURI				AML	AML	13 55 35.1	
	comp=N,6μm,0.1s						
TURI				AML	AML	13 55 35.3	
	comp=E,8μm,0.5s						
PKIN	**Phulchoki**	**2.57**	**276**	*e*Pn	**Pb**	**13 55 02.9**	**-1.1**
PKIN	**Phulchoki**	**2.57**	**276**	*e*Pn	**Pb**	**13 55 02.9**	**-1.1**
KKN	**Kakani**	**2.70**	**280**	*eP*	**Pb**	**13 55 04.8**	**-1.3**
KKN	**Kakani**	**2.70**	**280**	*e*Pn	**Pb**	**13 55 04.8**	**-1.3**
KKN	**Kakani**	**2.70**	**280**	*e*Pn	**Pb**	**13 55 04.8**	**-1.3**
DMN	**Daman**	**2.83**	**276**	*e*Pn	**Pb**	**13 55 06.4**	**-2.0**
DMN	**Daman**	**2.83**	**276**	*e*Pn	**Pb**	**13 55 06.4**	**-2.0**
GUWA	**GUWAHATI**	**3.26**	**110**	*eP*	**Pn**	**13 55 08.7**	**+0.5**
GUWA				*eS*	**Sn**	**13 55 45.2**	**-1.1**
GUWA				AML	AML	13 56 03.1	
	comp=E,2μm,0.5s						
GKN	**Gorkha**	**3.29**	**282**	*e*Pn	**Pb**	**13 55 12.8**	**-3.4**
GKN	**Gorkha**	**3.29**	**282**	*e*Pn	**Pb**	**13 55 12.8**	**-3.4**
GKN				*e*Sn	**Sn**	**13 55 50.8**	**+3.4**
	comp=E,331nm,0.3s						
LSA	**Lhasa**	**3.45**	**46**	*eP*	**Pn**	**13 55 13.4**	**+2.2**
LSA	**Lhasa**	**3.45**	**46**	*e*Pn	**Pn**	**13 55 13.4**	**+2.2**
SHL	**Shillong**	**3.69**	**118**	*eP*	**Pn**	**13 55 13.8**	**-0.4**
SHL				*eS*	**Sn**	**13 55 53.8**	**-3.3**
SHL				AML	AML	13 56 11.5	
	comp=E,1μm,0.7s						
SHL				AML	AML	13 56 11.6	
	comp=N,1μm,0.5s						
TEZP	**TEZPUR**	**4.10**	**99**	*eP*	**Pn**	**13 55 18.9**	**-0.8**
BOK	**Bokaro**	**4.14**	**212**	*eP*	**Pn**	**13 55 23.2**	**+2.8**
BOK				*ex*	**Sn**	**13 56 12.7**	**+4.5**
BOK				AML	AML	13 56 35.8	
	comp=N,818nm,0.5s						
BOK				AML	AML	13 56 36.0	
	comp=E,809nm,0.7s						
KOLN	**Koldanda**	**4.17**	**277**	*e*Pn	**Pn**	**13 55 24.4**	**+3.4**
KOLN				*e*Sn	**Sn**	**13 56 11.8**	**+2.6**
	comp=E,485nm,0.5s						
AGT	**Agartala**	**4.37**	**141**	*eP*	**Pn**	**13 55 25.2**	**+1.8**
PYUN	**Piuthan**	**4.75**	**280**	*e*Pn	**Pn**	**13 55 31.6**	**+2.8**
PYUN				*e*Sn	**Sn**	**13 56 25.0**	**+1.7**
	comp=E,403nm,0.5s						
ITAN	**ITANAGAR**	**4.85**	**91**	*ex*	**Pb**	**13 55 43.8**	**+1.2**
ITAN				*ex*	**Sb**	**13 56 45.7**	**+5.1**
ITAN				AML	AML	13 56 48.4	
	comp=E,2μm,0.6s						
ITAN				AML	AML	13 56 48.7	
	comp=N,3μm,0.4s						
ZIRO	**ZIRO**	**4.96**	**87**	*ex*	**Pb**	**13 55 47.2**	**+2.7**
ZIRO				*ex*	**Sb**	**13 56 48.6**	**+4.9**
ZIRO				AML	AML	13 56 49.7	
	comp=N,9μm,0.5s						
ZIRO				AML	AML	13 56 49.7	
	comp=E,3μm,0.3s						
BELO	**BELONIA**	**4.99**	**144**	*ex*	**Pn**	**13 55 34.8**	**+2.9**
MOKO	**MOKOCHONG**	**5.67**	**99**	*eP*	**Pn**	**13 55 40.2**	**-1.2**
MOKO				*ex*	**Sn**	**13 56 42.6**	**-3.3**
MOKO				AML	AML	13 57 22.2	
	comp=N,1μm,0.7s						
MOKO				AML	AML	13 57 22.3	
	comp=E,874nm,0.7s						
IMP	**Imphal**	**5.68**	**115**	*ex*	**Sn**	**13 56 47.4**	**+1.3**
JBP	**Jabalpur**	**8.58**	**243**	*eP*	**Pn**	**13 56 25.0**	**+3.7**
JBP				*eS*	**Sn**	**13 57 58.7**	**+1.2**
CHLP	**Challavanipeta**	**9.62**	**205**	*e*Pn	**Pn**	**13 56 38.3**	**+2.8**
CHLP				Sn	**Sn**	**13 58 23.9**	**+1.0**
SMLA	**Simla**	**10.41**	**294**	*eP*	**Pn**	**13 56 48.0**	**+1.7**
SMLA				*eS*	**Sn**	**13 58 36.8**	**-5.5**
NGP	**Nagpur**	**10.43**	**236**	*eP*	**Pn**	**13 56 48.6**	**+1.9**
NGP				*eS*	**Sn**	**13 58 40.9**	**-2.2**
VIS	**Vishakhapatnam**	**10.61**	**207**	*i* P	**Pn**	**13 56 50.6**	**+1.5**
VIS				*i* x	x	13 59 47.1	
VIS				*ex*	x	13 59 50.4	
	comp=N,170nm,1.2s						
VIS				*ex*	x	13 59 51.0	
	comp=E,306nm,1.1s						
DHRM	**DHARAMSHALA**	**11.49**	**298**	*eP*	**Pn**	**13 57 01.4**	**0.0**
DHRM				*eS*	**Sn**	**13 59 03.5**	**-5.7**
PVM	**Polavaram**	**11.78**	**213**	*e*Pn	**Pn**	**13 57 05.2**	**0.0**
PVM				Sn	**Sn**	**13 59 11.8**	**-4.2**
RPR	**Rampur**	**11.81**	**226**	*e*Pn	**Pn**	**13 57 06.9**	**+1.3**
RPR				Sn	**Sn**	**13 59 13.5**	**-3.3**
THN	**Thein Dam**	**12.02**	**298**	*ex*	Pn	13 57 01.0	-7.3
THN				*ex*	**Sn**	**13 59 27.0**	**+5.3**
SRSP	**Sriramsagar**	**12.39**	**230**	*e*Pn	**Pn**	**13 57 13.4**	**-0.1**
SRSP				Sn	**Sn**	**13 59 24.6**	**-6.4**
CHTO	**Chiang Mai**	**12.97**	**129**	*eP*	**Pn**	**13 57 18.0**	**-3.5**
CHTO	**Chiang Mai**	**12.97**	**129**	*e*Pn	**Pn**	**13 57 18.0**	**-3.5**
CM31	**Chiang Mai Arr**	**13.21**	**130**	*e*Pn	**Pn**	**13 57 22.5**	**-2.2**
CMAR	**Chiang Mai Arr**	**13.21**	**130**	Pn	**Pn**	**13 57 22.8**	**-2.0**
	comp=E,0.3nm,0.3s,baz=310,slow=13,SNR=14						
CM01	**Chiang Mai Arr**	**13.25**	**130**	*e*Pn	**Pn**	**13 57 23.3**	**-2.0**
HYB	**Hyderabad**	**13.35**	**224**	*i* P	**Pn**	**13 57 26.0**	**-0.7**
HYBB	**Hyderabad (bro**	**13.35**	**224**	*e*Pn	**Pn**	**13 57 25.0**	**-1.7**
HYBB				Sn	**Sn**	**13 59 51.5**	**-3.1**
NJS	**Nagarjunasagar**	**13.58**	**220**	*e*Pn	**Pn**	**13 57 30.1**	**+0.4**
NJS				Sn	**Sn**	**13 59 58.2**	**-1.8**
ADKI	**Addanki**	**13.80**	**216**	*e*Pn	**Pn**	**13 57 35.2**	**+2.5**
ADKI				Sn	**Sn**	**14 00 02.0**	**-3.4**
SRLM	**Srisailam**	**14.18**	**220**	*e*Pn	**Pn**	**13 57 36.5**	**-1.4**
SRLM				Sn	**Sn**	**14 00 11.6**	**-3.1**
KLRI	**Killari**	**14.18**	**232**	*e*Pn	**Pn**	**13 57 38.0**	**0.0**
KLRI				Sn	Sn	14 00 04.9	-10
RCLA	**Racherla**	**14.66**	**218**	*e*Pn	**Pn**	**13 57 43.1**	**-1.5**
RCLA				Sn	**Sn**	**14 00 21.2**	**-5.3**
GTA	**Gaotai**	**15.40**	**36**	*eP*	**P**	**13 57 57.3**	**-1.5**
GTA				pP	pP	13 58 01.8	-3.1
GTA				sP	sP	13 58 05.5	-2.3
GTA				pmax	pmax		
	comp=E,4.0nm,0.8s						
SKHT	**Srikalahasti**	**15.72**	**212**	*e*Pn	**Pn**	**13 58 00.1**	**+1.5**
SKHT				Sn	**Sn**	**14 00 49.7**	**-2.6**
LZH	**Lanzhou**	**15.84**	**53**	*eP*	**Pn**	**13 57 58.1**	**-2.1**
LZH				pP	P	13 58 02.8	-1.0
LZH				sP	pP	13 58 06.6	-3.3
LZH				PP	**sP**	**13 58 11.3**	**-1.5**
LZH				pmax	pmax		
	comp=E,27nm,1.0s						
LZH				pmax	pmax		
	comp=E,86nm,4.1s						
LZH				LR	LR		
	comp=E,2μm,10.0s						
LZH				LR	LR		
	comp=E,1μm,10.3s						
LZH				LR	LR		
	comp=E,2μm,13.5s						
KSH	**Kashi**	**15.88**	**323**	P	**Pn**	**13 57 56.5**	**-4.1**
KSH				pP	P	13 58 01.5	-2.7
KSH				sP	pP	13 58 05.6	-4.7
KSH				PP	**PnPn**	**13 58 09.4**	**+0.1**
KSH				S	**Sn**	**14 00 47.3**	**-8.8**
KSH				pmax	pmax		
	comp=E,8.0nm,0.7s						
KSH				pmax	pmax		
	comp=E,160nm,4.0s						
KSH				LR	LR		
	comp=E,1μm,14.3s						
KSH				LR	LR		
	comp=E,2μm,13.4s						
KSH				LR	LR		
	comp=E,1μm,12.5s						
URV	**Uravakonda**	**16.04**	**222**	*e*Pn	**Pn**	**13 58 00.8**	**-2.0**
URV				Sn	**Sn**	**14 00 50.4**	**-10**
GYA	**Guiyang**	**16.43**	**89**	*eP*	**Pn**	**13 58 06.8**	**-0.9**
GYA				pmax	pmax		
	comp=E,10.0nm,0.8s						
WMQ	**Urumqi**	**16.45**	**359**	P	**Pn**	**13 58 06.8**	**-1.0**
WMQ				pP	pP	13 58 14.1	-2.4
WMQ				*e*S	**Sn**	**14 01 09.5**	**-0.2**
WMQ				pmax	pmax		
	comp=E,19nm,0.9s						
WMQ				LR	LR		
	comp=E,5μm,13.9s						
WMQ				LR	LR		
	comp=E,2μm,13.3s						
WMQ				LR	LR		
	comp=E,2μm,22.1s						
PDGK	**Podgornoye**	**17.47**	**338**	P	**Pn**	**13 58 20.9**	**+0.2**
PDGK				pmax	pmax		
	comp=Z,10.0nm,0.7s						
KBL	**Kabul**	**17.98**	**298**	*eP*	**Pn**	**13 58 25.7**	**-1.4**
KBL				pmax	pmax		
	comp=Z,24nm,0.9s						
KBL	**Kabul**	**17.98**	**298**	*e*Pn	**Pn**	**13 58 25.7**	**-1.4**
	comp=Z,24nm,0.9s						
TKM2	**Tokmak 2**	**18.65**	**330**	P	**Pn**	**13 58 35.6**	**+0.4**
TKM2				pmax	pmax		
	comp=Z,12nm,1.2s						
ENH	**Enshi**	**18.81**	**76**	*eP*	**P**	**13 58 36.4**	**-0.2**
	comp=Z,22nm,1.1s						
AAK	**Ala-Archa**	**18.94**	**327**	P	**Pn**	**13 58 40.3**	**+1.6**
	comp=Z,0.3nm,0.3s,baz=148,slow=7.9,SNR=10						
AAK	**Ala-Archa**	**18.94**	**327**	P	**Pn**	**13 58 38.9**	**+0.2**
AAK				pmax	pmax		
	comp=Z,12nm,1.3s						
AAK	**Ala-Archa**	**18.94**	**327**	*eP*	**Pn**	**13 58 38.6**	**-0.2**
	comp=Z,7.1nm,0.8s						
FRU	**Bishkek**	**19.03**	**328**	*eP*	**Pn**	**13 58 42.0**	**+2.3**
MNAS	**Manas**	**19.84**	**324**	P	**Pn**	**13 58 48.7**	**-0.8**
MNAS				pmax	pmax		
	comp=Z,8.0nm,1.0s						
MK01	**Makanchi Array**	**19.95**	**348**	*eP*	**P**	**13 58 49.0**	**+0.1**
MK31	**Makanchi Array**	**19.98**	**348**	P	**P**	**13 58 49.1**	**-0.1**
MK31				pmax	pmax		
	comp=Z,5.0nm,0.5s						
MK31	**Makanchi Array**	**19.98**	**348**	*eP*	**P**	**13 58 48.9**	**-0.3**
MKAR	**Makanchi Array**	**19.98**	**348**	*eP*	**P**	**13 58 49.0**	**-0.2**
MKAR				pmax	pmax		
	comp=Z,82nm,0.5s						
MKAR	**Makanchi Array**	**19.98**	**348**	*eP*	**P**	**13 58 49.0**	**-0.2**
	comp=Z,82nm,0.5s						
MAKZ	**Makanchi**	**20.05**	**347**	P	**P**	**13 58 50.3**	**+0.3**
MAKZ				pmax	pmax		
	comp=Z,9.0nm,0.6s						
MAKZ	**Makanchi**	**20.05**	**347**	*eP*	**P**	**13 58 49.0**	**-1.0**
	comp=Z,13nm,0.6s						
KK31	**Karatay Array**	**21.33**	**322**	*i* P	**P**	**13 59 04.7**	**+0.9**
KK31				pmax	pmax		
	comp=Z,10.0nm,1.1s						
KKAR	**Karatay Array**	**21.33**	**322**	*eP*	**P**	**13 59 03.3**	**-0.5**
KKAR				pmax	pmax		
	comp=Z,42nm,0.8s						
KKAR	**Karatay Array**	**21.33**	**322**	*eP*	**P**	**13 59 03.3**	**-0.5**
	comp=Z,42nm,0.8s						
HHC	**Hu-ho-hao-te**	**23.43**	**49**	*eP*	**P**	**13 59 24.6**	**-1.5**
HHC				pmax	pmax		
	comp=Z,9.0nm,1.1s						
KURBB	**Kurchatov Arra**	**24.41**	**345**	P

comp=Z,1.8nm,0.6s,baz=123,slow=9.3,SNR=6.8
CN2 Changchun 34.07 51 *e*P **P 14 01 01.0 0.0**
BOD Bodaibo 35.43 24 *e*P **P 14 01 12.3 -0.3**
BOD pmax pmax
comp=Z,6.0nm,1.0s
ARU Arti 35.99 332 P **P 14 01 17.9 +0.5**
comp=Z,1.9nm,0.3s,baz=95,slow=11,SNR=5.5
ARU Arti 35.99 332*c i*P **P 14 01 17.2 -0.3**
ARU 14 02 35.0
ARU 14 03 39.9
ARU S **S 14 06 53.7 -1.1**
ARU SS **SnSn 14 09 08.9 -11**
ARU pmax pmax
comp=Z,7.0nm,1.7s
KLR Kul'dur 39.81 45 *i*P **P 14 01 48.8 -1.0**
NEY Neytrino 39.91 306 *e*P **P 14 01 52.7 +1.7**
KIV Kislovodsk 40.04 307 *e*P **P 14 01 53.0 +1.1**
KIV pmax pmax
comp=Z,6.0nm,0.9s
MAJO Matsushiro 42.94 65 *i*P **P 14 02 15.6 -0.1**
MAJO pmax pmax
comp=Z,16nm,0.4s
OBN Obninsk 46.32 321⇑ *e*P **P 14 02 43.4 +1.1**
OBN pmax pmax
comp=Z,5.0nm,0.5s
BRTR Keskin Array B 46.54 300 P **P 14 02 46.2 +1.7**
comp=Z,0.8nm,0.4s,baz=145,slow=9.0,SNR=4.5
BRTR Keskin Array B 46.54 300*ce*P **P 14 02 46.7 +2.2**
BRTR pmax pmax
comp=Z,1.0nm,0.4s
TIXI Tiksi 49.66 16 *i*P **P 14 03 06.8 -1.1**
TIXI pmax pmax
comp=Z,3.0nm,0.8s
AKASG Malin Array Be 49.95 315 P **P 14 03 11.1 +0.6**
comp=Z,0.6nm,0.5s,baz=78,slow=7.0,SNR=6.7
KIEV Kiev 49.96 315 *i*P **P 14 03 10.0 -0.5**
KIEV pmax pmax
comp=Z,3.0nm,0.9s
TESR Tescani 51.51 309⇑ *i*P **P 14 03 24.3 +1.9**
PLOR Plostina 51.52 308⇑ *i*P **P 14 03 25.2 +2.7**
PLOR Plostina 51.52 308 ⇑P **P 14 03 25.2 +2.7**
MLR Muntele Rosu 52.03 308 *e*P **P 14 03 27.8 +1.4**
MLR pmax pmax
comp=Z,13nm,0.8s
MLR Muntele Rosu 52.03 308 *e*P **P 14 03 27.8 +1.4**
comp=Z,13nm,0.8s
BURAR Bucovina Array 52.48 310⇑ *i*P **P 14 03 31.4 +1.8**
BURAR Bucovina Array 52.48 310 ⇑P **P 14 03 31.4 +1.8**
VOIR 52.66 308⇑ *i*P **P 14 03 32.7 +1.7**
VOIR 52.66 308 ⇑P **P 14 03 32.7 +1.7**
MA2 Magadan 52.96 34 *e*P **P 14 03 33.3 +0.4**
FINES FINESS Array B 53.13 328 P **P 14 03 34.5 +0.4**
comp=Z,1.5nm,0.4s,baz=105,slow=8.0,SNR=30
VTS Vitosha 54.20 304⇑ *i*P **P 14 03 44.6 +2.1**
VTS Vitosha 54.20 304 ⇑P **P 14 03 44.6 +2.1**
DRGR 54.21 310⇓ *i*P **P 14 03 44.2 +1.8**
DRGR 54.21 310 ⇓P **P 14 03 44.2 +1.8**
GZR Gura Zlata 54.26 308⇑ *i*P **P 14 03 44.3 +1.6**
SEY Seymchan 54.27 30 *e*P **P 14 03 42.2 -0.2**
ARCES ARCESS Array B 55.19 338 P **P 14 03 49.4 +0.4**
comp=Z,4.0nm,0.9s,baz=108,slow=10,SNR=3.3
NIE Niedzica 55.68 313 P **P 14 03 54.3 +1.4**
NIE pmax pmax
comp=Z,2.0nm,1.1s
PSZ Piszkesteto 56.05 311 P **P 14 03 57.5 +1.9**
PSZ pmax pmax
comp=Z,17nm,0.6s
PETK Petropavlovsk- 56.42 43 P **P 14 04 00.6 +2.5**
comp=Z,2.5nm,1.1s,baz=262,slow=9.5,SNR=3.3
VYHS Vyhne 56.70 312 *e*P P 14 04 08.1 +7.9
VYHS Vyhne 56.70 312 *e*P P 14 04 08.1 +7.9
PDG Podgorica 57.12 305⇑ *i*P **P 14 04 03.0 -0.2**
MORC Moravsky Berou 57.44 313⇑ *i*P **P 14 04 07.0 +1.5**
MORC Moravsky Berou 57.44 313 ⇑P **P 14 04 07.0 +1.5**
VRAC Vranov 58.10 313⇑ *i*P **P 14 04 11.1 +1.0**
VRAC Vranov 58.10 313 ⇑P **P 14 04 11.1 +1.0**
DPC Dobruska-Polom 58.17 314 *e*P **P 14 04 12.5 +1.9**
DPC *ep*P **pP 14 04 17.5 -0.1**
DPC Dobruska-Polom 58.17 314 *e*P **P 14 04 12.5 +1.9**
DPC *e* 14 04 17.5
CONA Conrad Observa 58.74 311 *i*pP pP 14 04 20.8 -0.9
comp=Z,9.4nm,1.2s
ARSA Arzberg 59.06 311 *i*P **P 14 04 20.0 +3.2**
comp=Z,2.4nm,0.7s
SOKA Soboth 59.48 310 *i*P **P 14 04 20.9 +1.2**
comp=Z,4.3nm,0.6s
MOA Molln 59.82 311 *i*P **P 14 04 22.8 +0.7**
comp=Z,6.0nm,0.8s
OBKA Obir 59.83 310 *i*pP pP 14 04 28.5 -0.7
comp=Z,4.4nm,0.8s
GEC2 GERESS Array S 60.05 313 *e*P **P 14 04 24.0 +0.3**
GEC2 pmax pmax
comp=Z,4.0nm,1.0s
GEC2 GERESS Array S 60.05 313 *e*P **P 14 04 24.0 +0.3**
comp=Z,4.4nm,1.0s
GERES GERESS Array B 60.05 313 P **P 14 04 24.7 +1.0**
comp=Z,1.4nm,0.7s,baz=79,slow=6.9,SNR=13
GEA0 GERESS Array S 60.05 313 *e*P **P 14 04 24.2 +0.5**
KHC Kasperske Hory 60.09 313 *e*P **P 14 04 25.3 +1.4**
KHC *ep*P **pP 14 04 30.4 -0.5**
KHC *ex* x 14 04 32.4
KHC Kasperske Hory 60.09 313 *e*P **P 14 04 25.3 +1.4**
KHC *e* 14 04 32.4
CUC Castrocucco 60.10 302 *e*P **P 14 04 25.2 +1.1**
comp=Z,3.8nm,0.8s
NB2 NORSAR Subarra 60.26 327 P **P 14 04 24.5 -0.3**
NB2 pmax pmax
comp=Z,1.0nm,0.6s
NB2 NORSAR Subarra 60.26 327 P **P 14 04 24.3 -0.5**
comp=Z,1.4nm,0.6s,baz=87,slow=6.9
NOA NORSAR Array B 60.26 327 P **P 14 04 24.4 -0.5**
comp=Z,1.7nm,0.6s,baz=87,slow=6.8,SNR=7.7
BILL Bilibino 60.46 25⇑ *e*P **P 14 04 27.4 +1.3**
BILL *PP **pP 14 04 34.0 +0.9**
BILL *SP sP 14 04 44.0 +8.3
BILL 14 05 14.0
BILL pmax pmax
comp=Z,7.0nm,1.1s
KBA Koelnbreinsper 60.56 311 *i*P **P 14 04 27.5 +0.3**
comp=Z,2.3nm,0.6s
ABTA Abfaltersbach 61.17 310 *i*P **P 14 04 30.6 -0.8**
comp=Z,2.2nm,0.7s
WATA Walderalm 61.70 311 *i*P **P 14 04 37.2 +2.2**
comp=Z,2.4nm,0.8s
MOTA Moosalm 62.01 311 *i*pP P 14 04 42.4 +5.3
comp=Z,5.2nm,0.9s
FETA Feichten 62.33 311 *i*P **P 14 04 36.8 -2.4**
comp=Z,7.5nm,2.2s
DAVA Damuels 62.84 311 *i*P **P 14 04 46.7 +4.1**
comp=Z,14nm,1.1s
WRA Warramunga Arr 64.80 132 P **P 14 04 56.3 +0.6**
comp=Z,2.4nm,0.5s,baz=326,slow=6.7,SNR=48
WRA Warramunga Arr 64.80 132*ce*P **P 14 04 55.4 -0.3**
WRA pmax pmax
comp=Z,2.0nm,0.5s
WB2 Warramunga Arr 64.81 132 *e*P **P 14 04 56.0 +0.3**
comp=Z,38nm,1.9s
ASAR Alice Springs 67.17 135 P **P 14 05 11.6 +0.7**
comp=Z,1.3nm,0.7s,baz=314,slow=6.1,SNR=30
STKA Stephens Creek 77.76 136 P **P 14 06 16.5 +2.7**
comp=Z,1.3nm,0.7s,baz=304,slow=3.6,SNR=3.3
CAST Castle Rocks 77.87 24 *e*P **P 14 06 15.3 +1.3**
comp=Z,12nm,1.0s
PPLA Purkeypile 78.15 24 *e*P **P 14 06 16.3 +0.5**
comp=Z,45nm,1.8s
MDM Murphy Dome 78.20 21 *e*P **P 14 06 16.9 +1.1**
comp=Z,8.9nm,1.2s
IL1 Eielson Array 78.75 21 *e*P **P 14 06 19.1 +0.2**
ILAR Eielson Array 78.75 21 P **P 14 06 18.7 -0.2**
comp=Z,1.7nm,1.0s,baz=302,slow=5.6,SNR=9.4
SML Sawmill 80.23 24 *e*P **P 14 06 27.6 +0.6**
SML pmax pmax
comp=Z,11nm,0.8s
SML Sawmill 80.23 24 *e*P **P 14 06 27.6 +0.6**
comp=Z,11nm,0.8s
TORD Torodi Ar. Bea 81.09 280 P **P 14 06 32.7 +0.3**
comp=Z,0.3nm,0.4s,baz=71,slow=4.3,SNR=8.7
KDAK Kodiak Island 81.15 28*ce*P **P 14 06 33.0 +1.1**
OHAK Old Harbor 81.20 29 *e*P **P 14 06 33.2 +1.1**
comp=Z,112nm,2.0s
TXAR Lajitas Array 122.49 12 PKP **PKPdf 14 13 13.4 +0.7**
comp=Z,0.2nm,0.5s,baz=13,slow=0.5,SNR=6.1
CPUP Villa Florida 149.35 264 PKPbc **PKPbc 14 14 04.0 -1.9**
comp=Z,2.8nm,0.9s,baz=116,slow=2.8,SNR=4.7
SIV San Ignacio 149.44 285 PKPbc **PKPbc 14 14 07.8 +1.3**

comp=Z,0.9nm,0.4s,baz=129,slow=0.9,SNR=2.5

NDI 18 14:54:45.0±1.7, 27.57N×88.46E, h40km±6km, ML3.5, Sikkim

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GTK	**Tadong**	**0.28**	**153**	*eP*	Pn	14 54 54.4	+1.2
GTK				*eS*	Sn	14 54 59.8	+0.8
GTK				AML	AML	14 55 00.8	
	comp=N,3μm,0.1s						
GTK				AML	AML	14 55 00.9	
	comp=E,5μm,0.1s						
TURI	**Tura**	**2.62**	**140**	*eP*	Pn	14 55 28.3	+3.5
TURI				*eS*	Sn	14 55 59.0	+3.7
TURI				AML	AML	14 56 10.1	
	comp=N,253nm,0.2s						
TURI				AML	AML	14 56 10.5	
	comp=E,354nm,0.2s						
GUWA	**GUWAHATI**	**3.19**	**115**	*eP*	Pn	14 55 36.2	+3.5
GUWA				*eS*	Sn	14 56 14.5	+5.0
GUWA				AML	AML	14 56 27.0	
	comp=E,158nm,0.3s						
SHL	**Shillong**	**3.66**	**122**	*eS*	Sn	14 56 23.6	+2.4
SHL				AML	AML	14 56 41.0	
	comp=N,105nm,0.5s						
SHL				AML	AML	14 56 41.5	
	comp=E,142nm,0.6s						
TEZP	**TEZPUR**	**3.98**	**103**	*eP*	Pn	14 55 47.1	+3.6
TEZP				AML	AML	14 56 53.1	
	comp=E,159nm,0.2s						
TEZP				AML	AML	14 56 53.8	
	comp=N,162nm,0.2s						
ZIRO	**ZIRO**	**4.79**	**89**	*eS*	Sn	14 56 51.7	+2.6
ZIRO				AML	AML	14 57 19.2	
	comp=N,396nm,0.8s						
ZIRO				AML	AML	14 57 19.6	
	comp=E,248nm,0.7s						
MOKO	**MOKOCHONG**	**5.54**	**102**	*eP*	Pn	14 56 08.0	+2.8
MOKO				*eS*	Sn	14 57 10.8	+3.1
MOKO				AML	AML	14 57 47.4	
	comp=N,45nm,0.7s						
MOKO				AML	AML	14 57 48.8	
	comp=E,46nm,0.6s						

NDI 18 14:58:34.1±1.3, 26.97N×88.05E, h19km±20km, ML3.2, India-Bangladesh border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GTK	**Tadong**	**0.60**	**55**	*eP*	Pg	14 58 46.9	+0.6
GTK				*eS*	Sg	14 58 55.5	+1.1
GTK				AML	AML	14 58 56.1	
	comp=N,1μm,0.1s						
GTK				AML	AML	14 58 56.1	
	comp=E,815nm,0.2s						
TURI	**Tura**	**2.50**	**124**	*eP*	Pb	14 59 17.7	-0.6
TURI				*eS*	Sb	14 59 49.6	+1.0
TURI				AML	AML	15 00 04.7	
	comp=N,77nm,0.1s						
TURI				AML	AML	15 00 05.1	
	comp=E,130nm,0.1s						
GUWA	**GUWAHATI**	**3.35**	**103**	*eP*	Pb	14 59 30.2	-2.7
GUWA				*eS*	Sb	15 00 10.1	-3.3
SHL	**Shillong**	**3.72**	**111**	*eP*	Pn	14 59 33.5	+2.8
SHL				AML	AML	15 00 29.5	
	comp=E,117nm,0.1s						
SHL				AML	AML	15 00 29.5	
	comp=N,135nm,0.1s						

JMA 18 14:59:15.2±0.3, 38.53N×144.57E, h43km, M3.7, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OFUJ	**Ofunato**	**2.33**	**285**	P	Pn	14 59 52.4	+1.4
MIYJ	**Miyakonagasawa**	**2.38**	**297**	P	Pn	14 59 52.5	+0.8
JIO	**Ouri**	**2.53**	**269**	P	Pn	14 59 55.0	+1.3
JIO				*eS*	Sn	15 00 24.0	+0.7
JMK	**Ichinoseki**	**2.65**	**280**	*eS*	Sn	15 00 28.4	+2.0
JOM	**Ohasama**	**2.72**	**291**	P	Pn	14 59 58.1	+1.7
JYK	**Kaneyama**	**3.32**	**278**	P	Pn	15 00 07.0	+2.4
JYK				*eS*	Sn	15 00 46.3	+3.6
JFT	**Otama**	**3.49**	**254**	P	Pn	15 00 09.4	+2.4
JFT				*eS*	Sn	15 00 49.5	+2.4
JRY	**Ryogami san**	**5.17**	**243**	P	Pn	15 00 31.4	+1.3
JRY				*eS*	Sn	15 01 28.0	-0.4

*CSEM **18** 15:17:06.1±0.6, 38.82N×29.10E, h2km, MD2.5, Error ellipse: s-maj=13.9km s-min=7.6km az=137.0*
*ISK **18** 15:17:08.9, 39.08N×29.08E, h5km, MD2.5*
*DDA **18** 15:17:09.2, 39.06N×29.05E, h8km, Md2.8*

ISC 18 15:17:07.7±1.3, 38.96N±0.04×29.09E±0.04, h4km±11km, n16, σ1.9 17/22, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SIMA	**Simav-Kutahya**	**0.15**	**326**	*e*PG	**Pg**	**15 17 10.9**	**0.0**
SIMA	**Simav-Kutahya**	**0.15**	**326**	*e*Pg	**Pg**	**15 17 10.9**	**0.0**
DEMI	**Demirci**	**0.31**	**287**	*i*P	**Pg**	**15 17 14.7**	**+1.0**
DEMI				*i*S	**Sg**	**15 17 18.3**	**+0.5**
DEMI	**Demirci**	**0.31**	**287**	P	**Pg**	**15 17 14.7**	**+1.0**
DEMI				S	**Sg**	**15 17 18.3**	**+0.5**
KULA	**Kula-Manisa**	**0.56**	**218**	*e*PG	**Pg**	**15 17 21.8**	**+1.8**
TVSB	**Tavsanli**	**0.57**	**30**	*e*PG	**Pg**	**15 17 18.9**	**+0.2**
TVSB				*e*SG	**Sg**	**15 17 25.6**	**-0.6**
TVSB	**Tavsanli**	**0.57**	**30**	*e*Pg	**Pg**	**15 17 18.9**	**+0.2**
MANT	**Manisa**	**0.62**	**222**	*i*P	Pg	15 17 15.7	-4.1
MANT				*i*S	**Sg**	**15 17 25.0**	**-2.9**
MANT	**Manisa**	**0.62**	**222**	P	Pg	15 17 15.7	-4.0
MANT				S	**Sg**	**15 17 25.0**	**-2.9**
BALB	**Balikesir**	**1.16**	**306**	*e*PN	**Pb**	**15 17 30.5**	**+0.1**
BALB	**Balikesir**	**1.16**	**306**	*e*Pn	**Pb**	**15 17 30.5**	**+0.1**
IGD	**Bursa**	**1.31**	**4**	*i*P	**Pn**	**15 17 32.7**	**-0.1**
IGD				*i*S	**Sn**	**15 17 49.7**	**-1.0**
BORA	**Eskisehir**	**1.40**	**48**	*i*P	**Pg**	**15 17 35.1**	**+0.5**
BORA				*i*S	**Sn**	**15 17 53.4**	**+0.3**
BORA	**Eskisehir**	**1.40**	**48**	P	**Pg**	**15 17 35.1**	**+0.5**
BORA				S	**Sn**	**15 17 53.4**	**+0.3**
KCTX	**Karacabey (Bur**	**1.43**	**337**	*e*PN	**Pg**	**15 17 34.8**	**-0.3**
KCTX	**Karacabey (Bur**	**1.43**	**337**	*e*Pn	**Pg**	**15 17 34.8**	**-0.3**

*ISCJB **18** 15:27:07.4±0.4, 56.18N±0.04×155.83W±0.05, h77km±6km, mb3.9/9, Error ellipse: s-maj=8.2km s-min=3.0km az=152.8*
*IDC **18** 15:27:09.6±3.5, 56.49N×156.15W, h46km±30km, mb3.7/9, mb1 3.9/13, mb1mx3.6/48, mbtmp3.9/13, ML3.9/4, Error ellipse: s-maj=31.4km s-min=17.5km az=16.0*
*NEIC **18** 15:27:10.9±0.0, 56.27N×156.00W, h44km, ML3.6(AEIC), After AEIC.*

ISC 18 15:27:09.9±1.1, 56.28N±0.07×155.99W±0.04, h59km±12km, n113, σ0.987/122, mb4.1/9, Alaska Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ANNE	**Aniakchak Nort**	**1.31**	**300**	P	**Pn**	**15 27 31.8**	**-0.2**
ANPK	**Aniakchak Peak**	**1.31**	**297**	P	**Pn**	**15 27 32.0**	**0.0**
CHGN	**Chignik**	**1.35**	**272**	P	**Pn**	**15 27 32.2**	**-0.2**
CHGN				S	**Sn**	**15 27 48.5**	**-0.8**
ANPB	**Aniakchak Plen**	**1.37**	**294**	P	**Pn**	**15 27 33.1**	**+0.3**
ANPB				S	**Sn**	**15 27 49.9**	**-0.1**
PLK4	**Peulik 4**	**1.37**	**352**	P	**Pn**	**15 27 33.9**	**+1.0**
AZAC	**Aniakchak**	**1.39**	**298**	P	**Pn**	**15 27 33.2**	**+0.2**
AZAC				S	**Sn**	**15 27 50.1**	**-0.3**
ANNW	**Aniakchak Nort**	**1.41**	**300**	P	**Pn**	**15 27 33.2**	**-0.1**
PLK3	**Peulik 3**	**1.42**	**354**	P	**Pn**	**15 27 34.6**	**+1.1**
PLK3				S	**Sn**	**15 27 52.9**	**+1.7**
PLBL	**Peulik Blue Cr**	**1.50**	**343**	P	**Pn**	**15 27 35.0**	**+0.5**
PLK2	**Peulik 2**	**1.50**	**353**	P	**Pn**	**15 27 35.5**	**+1.0**
PLK1	**Peulik 1**	**1.57**	**348**	P	**Pn**	**15 27 36.0**	**+0.6**
VNSG	**Veniaminof 6**	**1.73**	**266**	P	**Pn**	**15 27 38.5**	**+0.8**
OHAK	**Old Harbor**	**1.77**	**56**	P	**Pn**	**15 27 38.1**	**0.0**
OHAK				S	**Sn**	**15 27 59.0**	**-0.4**
VNHG	**Veniaminof 1**	**1.77**	**270**	P	**Pn**	**15 27 39.3**	**+1.1**
PLWL	**Peulik Whale M**	**1.78**	**354**	P	**Pn**	**15 27 38.5**	**+0.2**
PLK5	**Peulik 5**	**1.79**	**345**	P	**Pn**	**15 27 39.0**	**+0.6**
VNNF	**Veniaminof 3**	**1.85**	**272**	P	**Pn**	**15 27 38.9**	**-0.5**
KABR	**Katmai Barrier**	**1.94**	**16**	P	**Pn**	**15 27 41.1**	**+0.6**
VNWF	**Veniaminof 8**	**2.00**	**268**	P	**Pn**	**15 27 42.4**	**+1.0**
VNSW	**Veniaminof 7**	**2.00**	**266**	P	**Pn**	**15 27 42.4**	**+1.0**
KABU	**Katmai Buttres**	**2.04**	**11**	P	**Pn**	**15 27 42.3**	**+0.5**
KAKN	**Katmai Knife C**	**2.09**	**14**	P	**Pn**	**15 27 43.0**	**+0.5**
KVTA	**Katmai Vly 10**	**2.15**	**10**	P	**Pn**	**15 27 43.4**	**+0.1**
KELA	**Mount Kelaz**	**2.17**	**4**	P	**Pn**	**15 27 43.6**	**-0.1**
KAWH	**Katmai**	**2.21**	**17**	P	**Pn**	**15 27 44.2**	**+0.1**
KDAK	**Kodiak Island**	**2.40**	**50**	P	**Pn**	**15 27 46.7**	**+0.1**
	34nm,0.3s,baz=191,slow=5.7,SNR=1817						
KDAK				S	**Sn**	**15 28 13.1**	**-1.7**
	26nm,0.3s,baz=47,slow=22,SNR=22						
KAHC	**Katmai Hardscr**	**2.44**	**12**	P	**Pn**	**15 27 47.5**	**+0.2**
KAPH	**Katmai Pasha**	**2.49**	**20**	P	**Pn**	**15 27 48.6**	**+0.6**
KAPH				S	**Sn**	**15 28 17.3**	**0.0**
SDPT	**Sand Point**	**2.69**	**252**	P	**Pn**	**15 27 50.3**	**-0.4**
SDPT				S	**Sn**	**15 28 20.9**	**-1.2**
FOSS	**Fourpeaked Sta**	**2.82**	**25**	P	**Pn**	**15 27 52.8**	**+0.4**
FOPK	**Fourpeaked Vol**	**2.84**	**28**	P	**Pn**	**15 27 53.1**	**+0.4**
CDD	**Cape Douglas**	**2.95**	**24**	P	**Pn**	**15 27 54.8**	**+0.6**
AUW	**Augustine West**	**3.38**	**22**	P	**Pn**	**15 28 00.9**	**+0.8**
PVV	**Pavlof Volcano**	**3.39**	**257**	P	**Pn**	**15 28 01.3**	**+1.0**
AUL	**Augustine Lava**	**3.40**	**23**	P	**Pn**	**15 28 01.2**	**+0.9**
PS4A	**Pavlof South-4**	**3.44**	**257**	P	**Pn**	**15 28 00.9**	**0.0**
DOL	**Dolgoi Island**	**3.51**	**254**	P	**Pn**	**15 28 01.6**	**-0.2**
DTNA	**Dutton South F**	**3.72**	**255**	P	**Pn**	**15 28 04.4**	**-0.3**
DT1	**Dutton Round H**	**3.75**	**254**	P	**Pn**	**15 28 05.3**	**+0.2**
DRIA	**Deer Island**	**3.79**	**252**	P	**Pn**	**15 28 05.1**	**-0.6**
ILS	**Iliamna Low So**	**4.00**	**22**	P	**Pn**	**15 28 09.6**	**+0.9**
IVE	**Iliamna Volcan**	**4.07**	**22**	P	**Pn**	**15 28 10.4**	**+0.8**
HOM	**Homer**	**4.11**	**33**	P	**Pn**	**15 28 10.6**	**+0.6**
HOM				S	**Sn**	**15 28 55.4**	**-1.3**
CNPM	**China Poot**	**4.13**	**36**	P	**Pn**	**15 28 10.6**	**+0.2**
BRLK	**Bradley Lake**	**4.43**	**36**	P	**Pn**	**15 28 14.0**	**-0.4**
RED	**Redoubt Volcan**	**4.49**	**21**	P	**Pn**	**15 28 16.1**	**+0.8**
RDWB	**Redoubt West**	**4.54**	**20**	P	**Pn**	**15 28 16.6**	**+0.6**
SVW2	**Sparrevohn**	**4.84**	**2**	P	**Pn**	**15 28 19.9**	**-0.1**
SSLW	**Shishaldin Wes**	**4.86**	**255**	P	**Pn**	**15 28 20.3**	**-0.1**
SEW	**Seward**	**5.17**	**39**	P	**Pn**	**15 28 23.6**	**-0.9**
SLKM	**Skilak Lake**	**5.22**	**33**	P	**Pn**	**15 28 24.6**	**-0.6**
CKL	**Chakachamna La**	**5.29**	**20**	P	**Pn**	**15 28 27.4**	**+1.1**
SPWE	**Spurr West**	**5.32**	**18**	P	**Pn**	**15 28 27.5**	**+0.8**
STLK	**Strandline Lak**	**5.66**	**21**	P	**Pn**	**15 28 31.9**	**+0.6**
RC01	**Rabbit Creek A**	**5.83**	**31**	P	**Pn**	**15 28 33.2**	**-0.3**
SUA	**Susitna One**	**5.87**	**25**	P	**Pn**	**15 28 34.4**	**+0.2**
PWL	**Port Wells**	**6.09**	**38**	P	**Pn**	**15 28 36.5**	**-0.7**
SKT	**Skwentna**	**6.16**	**20**	P	**Pn**	**15 28 37.1**	**-0.6**
PMR	**Palmer**	**6.40**	**31**	P	**Pn**	**15 28 40.5**	**-0.9**
KNK	**Knik Glacier**	**6.46**	**34**	P	**Pn**	**15 28 41.6**	**-0.7**
HIN	**Hinchinbrook I**	**6.48**	**46**	P	**Pn**	**15 28 41.7**	**-0.8**
UNV	**Unalaska Valle**	**6.51**	**252**	*e*Pn	**Pn**	**15 28 42.0**	**-0.8**
GHO	**Glory Hole Cre**	**6.61**	**31**	P	**Pn**	**15 28 43.6**	**-0.7**
TT01	**Tatalina**	**6.65**	**360**	P	**Pn**	**15 28 44.8**	**0.0**
FID	**Port Fidalgo**	**6.70**	**44**	P	**Pn**	**15 28 43.7**	**-1.8**
SML	**Sawmill**	**6.81**	**32**	*e*Pn	**Pn**	**15 28 45.2**	**-1.8**
	1.8nm,0.5s						
JPK	**Jack Peak**	**6.85**	**42**	P	**Pn**	**15 28 46.7**	**-0.9**
EYAK	**Cordova Ski Ar**	**6.88**	**47**	P	**Pn**	**15 28 47.0**	**-0.9**
VLZ	**Valdez**	**7.00**	**42**	P	**Pn**	**15 28 49.0**	**-0.5**
SCM	**Sheep Creek Mo**	**7.14**	**35**	P	**Pn**	**15 28 50.6**	**-1.0**
DIV	**Divide**	**7.21**	**43**	P	**Pn**	**15 28 52.1**	**-0.4**
RAGM	**Ragged Mountai**	**7.24**	**51**	P	**Pn**	**15 28 52.5**	**-0.4**
NICH	**Nichawak Mount**	**7.48**	**53**	P	**Pn**	**15 28 54.9**	**-1.8**
BMRM	**Bremner River**	**7.58**	**47**	P	**Pn**	**15 28 56.6**	**-0.9**
BERG	**Berg Lake**	**7.67**	**52**	P	**Pn**	**15 28 57.6**	**-1.1**
TRF	**Thorofare Moun**	**7.75**	**19**	P	**Pn**	**15 28 59.4**	**-0.5**
KHIT	**Khitrov Hills**	**7.89**	**53**	P	**Pn**	**15 29 00.7**	**-1.2**
KULT	**Kultieth River**	**8.05**	**55**	P	**Pn**	**15 29 02.8**	**-1.2**
DHY	**Denali Highway**	**8.09**	**29**	P	**Pn**	**15 29 03.5**	**-1.1**
BARK	**Barkley Ridge**	**8.21**	**54**	P	**Pn**	**15 29 05.5**	**-0.8**
TGL	**Tana Glacier**	**8.22**	**51**	P	**Pn**	**15 29 04.9**	**-1.5**
ISLE	**Juniper Island**	**8.37**	**53**	P	**Pn**	**15 29 07.8**	**-0.6**
MESA	**MESA**	**8.38**	**56**	P	**Pn**	**15 29 08.0**	**-0.6**
BAGL	**Bagley Icefiel**	**8.43**	**54**	P	**Pn**	**15 29 08.6**	**-0.5**
MCARA	**McCarthy VSAT**	**8.45**	**47**	P	**Pn**	**15 29 08.8**	**-0.6**
YAH	**Yahtse**	**8.54**	**55**	P	**Pn**	**15 29 10.2**	**-0.6**
PAX	**Paxson**	**8.56**	**34**	*e*Pn	**Pn**	**15 29 10.6**	**-0.4**
	4.1nm,0.5s						
PTPK	**Patty Peak**	**8.58**	**49**	P	**Pn**	**15 29 10.8**	**-0.5**
GRNC	**Granite Creek**	**8.68**	**53**	P	**Pn**	**15 29 12.1**	**-0.7**
RKAV	**Rock Avalanche**	**8.70**	**56**	P	**Pn**	**15 29 12.3**	**-0.7**
TABL	**Table Mountain**	**8.85**	**56**	P	**Pn**	**15 29 14.3**	**-0.7**
CTGM	**Chitina Glacie**	**8.97**	**52**	P	**Pn**	**15 29 16.0**	**-0.6**
LOGN	**Logan Glacier**	**9.06**	**54**	P	**Pn**	**15 29 16.6**	**-1.2**
PCA	**Pinnacle**	**9.14**	**59**	P	**Pn**	**15 29 17.9**	**-1.1**
CCB	**Clear Creek Bu**	**9.31**	**22**	P	**Pn**	**15 29 19.5**	**-1.6**
BCPM	**Bancas Point**	**9.40**	**60**	P	**Pn**	**15 29 21.5**	**-0.9**
PNL	**Peninsula**	**9.45**	**62**	P	**Pn**	**15 29 21.6**	**-1.5**
DOT	**Dot Lake**	**9.49**	**34**	*e*Pn	**Pn**	**15 29 24.2**	**+0.6**
	8.2nm,0.9s						
MDM	**Murphy Dome**	**9.50**	**20**	P	**Pn**	**15 29 23.5**	**-0.3**
ILAR	**Eielson Array**	**9.62**	**24**	P	**Pn**	**15 29 23.1**	**-2.2**
	0.5nm,0.3s,baz=208,slow=12,SNR=24						
ILAR				S	Sn	15 31 02.0	-10
	0.9nm,0.3s,baz=55,slow=26,SNR=7.7						
ILB	**Eielson Array**	**9.62**	**24**	P	**Pn**	**15 29 24.6**	**-0.7**
BCA3	**Beaver Creek A**	**9.88**	**41**	P	**Pn**	**15 29 27.7**	**-1.3**
DLBC	**Dease Lake**	**14.15**	**70**	P	**Pn**	**15 30 29.0**	**+2.0**
	0.3nm,0.3s,baz=267,slow=19,SNR=5.9						
INK	**Inuvik**	**15.82**	**31**	P	**Pn**	**15 30 47.9**	**-0.5**
	0.2nm,0.3s,baz=177,slow=8.5,SNR=5.6						
YKA	**Yellowknife Ar**	**21.66**	**56**	P	**P**	**15 31 55.4**	**+0.4**
	1.3nm,0.5s,baz=275,slow=9.4,SNR=11						
PETK	**Petropavlovsk-**	**26.56**	**283**	P	**P**	**15 32 40.8**	**-1.1**
	1.2nm,0.5s,baz=75,slow=12,SNR=6.3						
PDAR	**Pinedale Array**	**32.37**	**95**	P	**P**	**15 33 36.2**	**+2.5**
	0.5nm,0.5s,baz=315,slow=4.3,SNR=5.1						
TIXI	**Tiksi**	**33.64**	**326**	P	**P**	**15 33 43.0**	**-1.2**
	1.6nm,0.4s,baz=82,slow=4.3

KLY	**Klyuchi**	**3.83**	**341**	*e*P	Pn	15 33 44.7	+3.4
KLY				*e*S	Sn	15 34 27.4	+2.3
SMKR	**Semkarok**	**3.96**	**348**	*e*P	Pn	15 33 47.4	+4.3
SMKR				*e*S	Sn	15 34 32.1	+3.7
ESO	**Esso**	**4.04**	**324**	*e*P	Pn	15 33 47.9	+3.6
ESO				*e*S	Sn	15 34 32.7	+2.3
SKR	**Severo-Kuril's**	**4.69**	**247**	*e*P	Pn	15 33 55.8	+2.8
SKR				*e*S	Sn	15 34 45.5	-0.5

IDC 18 15:43:33.5±8.0, 17°93S×174°73W, h0km, mb3.5/3, mb1 3.8/3, mb1mx3.6/22, mbtmp3.5/3, Error ellipse: s-maj=348.7km s-min=36.1km az=142.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**48.07**	**259**	P	P	15 52 16.6	+1.4
	0.2nm,0.3s,baz=92,slow=8.3,SNR=18						
ASAR	**Alice Springs**	**48.16**	**254**	P	P	15 52 14.1	-1.7
	0.6nm,1.0s,baz=97,slow=7.7,SNR=11						
ILAR	**Eielson Array**	**85.16**	**12**	P	P	15 56 11.1	0.0
	0.3nm,0.6s,baz=194,slow=3.3,SNR=3.0						

ISCJB 18 15:58:56.4±0.8, 37°.70N±0°.03×141°.82E±0°.07, h56km±6km, mb3.9/13, Error ellipse: s-maj=9.8km s-min=5.0km az=15.8
JMA 18 15:58:57.5, 37°.74N×141°.74E, h51km±1km, M4.1
JMA Felt I J1.
IDC 18 15:58:58.4±0.6, 37°.73N×141°.66E, h59km±5km, mb3.7/13, mb1 3.9/15, mb1mx3.6/41, mbtmp4.0/15, MS3.1/1, Ms1 3.1/1, ms1mx2.9/31, Error ellipse: s-maj=18.5km s-min=13.5km az=106.0
ISC 18 15:58:58.0±0.7, 37°.70N±0°.04×141°.80E±0°.06, h56km±5km, n38, σ1§34/53, mb3.9/13, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JFK	**Kawauchi**	**0.80**	**246**	P	Pn	15 59 12.4	-1.0
JFK				S	Sn	15 59 23.1	-1.6
JMM	**Marumori**	**0.81**	**282**	P	Pn	15 59 12.1	-1.4
JMM				S	Sn	15 59 22.6	-2.2
JIO	**Ouri**	**0.84**	**335**	P	Pn	15 59 12.4	-1.4
JIO				S	Sn	15 59 23.0	-2.3
ONAJ	**Iwakimizuishiy**	**0.99**	**234**	P	Pn	15 59 15.1	-0.8
ONAJ				S	Sn	15 59 27.9	-1.2
JOU	**Okura**	**1.12**	**307**	P	Pn	15 59 16.2	-1.3
JOU				S	Sn	15 59 30.5	-1.5
JFT	**Otama**	**1.17**	**262**	P	Pn	15 59 17.9	-0.4
JFT				S	Sn	15 59 32.3	-1.0
JMK	**Ichinoseki**	**1.33**	**340**	P	Pn	15 59 19.6	-0.8
JMK				S	Sn	15 59 35.4	-1.7
JYS	**Shirataka**	**1.47**	**291**	P	Pn	15 59 21.2	-1.0
JYS				S	Sn	15 59 39.9	-0.4
JYK	**Kaneyama**	**1.66**	**318**	P	Pn	15 59 23.9	-1.0
JYK				S	Sn	15 59 43.8	-1.3
JFY	**Yanaizu**	**1.69**	**261**	P	Pn	15 59 24.7	-0.5
JFY				S	Sn	15 59 45.3	-0.4
JOM	**Ohasama**	**1.82**	**348**	P	Pn	15 59 26.3	-0.7
JOM				S	Sn	15 59 48.0	-0.9
JYA	**Atsumi**	**1.87**	**299**	P	Pn	15 59 26.9	-0.8
JYA				S	Sn	15 59 50.1	-0.1
JRG	**Rokugo**	**1.93**	**332**	P	Pn	15 59 28.1	-0.3
JRG				S	Sn	15 59 51.5	-0.1
MJAR	**Matsushiro Arr**	**3.09**	**249**	P	Pn	15 59 45.1	+0.7
	8.9nm,0.3s,baz=52,slow=11,SNR=208						
MJAR				LR	LR	16 00 24.7	
	comp=Z,348nm,21.8s,baz=320,slow=29						
MAT	**Matsushiro**	**3.09**	**249**	P	Pn	15 59 45.1	+0.7
MAT				*e*S	Sn	16 00 21.1	+1.0
JHJ	**Hachijo jima 2**	**4.85**	**200**	P	Pn	16 00 08.1	-0.4
	31nm,0.3s,baz=121,slow=24,SNR=8.2						
JHJ				S	Sn	16 00 59.4	-4.0
	59nm,0.3s,baz=79,slow=23,SNR=14						
USRK	**Ussuriysk Ar.**	**9.86**	**314**	P	Pn	16 01 20.5	+3.6
	0.3nm,0.3s,baz=128,slow=14,SNR=9.7						
KSRS	**Korea Array**	**11.02**	**273**	P	Pn	16 01 35.8	+3.0
	0.2nm,0.3s,baz=82,slow=14,SNR=6.5						
SONM	**Songino Array**	**27.68**	**303**	P	P	16 04 40.5	-0.2
	1.0nm,0.6s,baz=87,slow=9.1,SNR=5.9						
H11N2	**WAKE ISLAND Hy**	**28.23**	**122**	T	T	16 35 06.4	
	baz=316,slow=76,SNR=269						
H11N1	**WAKE ISLAND Hy**	**28.24**	**122**	T	T	16 35 14.7	
	baz=316,slow=76,SNR=329						
H11N3	**WAKE ISLAND Hy**	**28.25**	**122**	T	T	16 35 09.4	
	baz=316,slow=76,SNR=266						
H11S1	**WAKE ISLAND Hy**	**28.97**	**124**	T	T	16 36 12.0	
	baz=317,slow=76,SNR=182						
H11S3	**WAKE ISLAND Hy**	**28.97**	**124**	T	T	16 36 01.9	
	baz=317,slow=76,SNR=202						
H11S2	**WAKE ISLAND Hy**	**28.99**	**124**	T	T	16 36 12.4	
	baz=317,slow=76,SNR=144						
ZALV	**Zalesovo Beam**	**41.70**	**312**	P	P	16 06 40.4	-0.6
	1.0nm,0.6s,baz=91,slow=9.1,SNR=4.2						
KDAK	**Kodiak Island**	**46.40**	**42**	P	P	16 07 19.9	+1.3
	2.4nm,1.1s,baz=256,slow=12,SNR=2.4						
KDAK				pP	pP	16 07 34.3	+1.0
	2.3nm,0.6s,baz=252,slow=4.9,SNR=3.1						
ILAR	**Eielson Array**	**48.77**	**33**	P	P	16 07 37.5	+0.6
	0.4nm,0.6s,baz=261,slow=6.4,SNR=7.0						
ILAR				pP	pP	16 07 52.7	+1.0
	0.7nm,0.6s,baz=265,slow=6.4,SNR=5.0						
WRA	**Warramunga Arr**	**57.76**	**188**	P	P	16 08 43.0	-0.2
	4.9nm,0.5s,baz=5.7,slow=7.1,SNR=124						
WRA				PcP	PcP	16 09 35.8	+0.2
	0.7nm,0.5s,baz=360,slow=4.6,SNR=5.6						
ASAR	**Alice Springs**	**61.48**	**188**	P	P	16 09 08.9	0.0
	1.7nm,0.7s,baz=13,slow=6.4,SNR=25						
FINES	**FINESS Array B**	**68.37**	**332**	P	P	16 09 52.7	-0.5
	1.7nm,0.8s,baz=37,slow=13,SNR=3.9						
FINES				pP	pP	16 10 07.5	-1.3
	1.0nm,0.6s,baz=64,slow=6.3,SNR=1.9						
STKA	**Stephens Creek**	**69.22**	**180**	P	P	16 09 59.2	+0.5
	0.8nm,0.5s,baz=322,slow=12,SNR=3.1						
NOA	**NORSAR Array B**	**73.69**	**337**	P	P	16 10 24.3	-1.2
	1.1nm,0.7s,baz=40,slow=5.7,SNR=4.2						
AKASG	**Malin Array Be**	**73.96**	**322**	P	P	16 10 26.3	-0.9
	1.2nm,0.5s,baz=43,slow=6.4,SNR=5.7						
PDAR	**Pinedale Array**	**76.99**	**46**	P	P	16 10 43.9	-1.1
	0.6nm,0.6s,baz=280,slow=1.9,SNR=4.9						
PDAR				pP	pP	16 11 02.1	+1.3
	0.9nm,0.7s,baz=289,slow=4.5,SNR=4.1						
GERES	**GERESS Array B**	**82.31**	**328**	P	P	16 11 13.2	-0.4
	0.4nm,0.5s,baz=42,slow=9.3,SNR=3.6						
TXAR	**Lajitas Array**	**89.48**	**53**	P	P	16 11 50.2	+0.9
	0.4nm,0.6s,baz=301,slow=2.9,SNR=7.5						
TXAR				pP	pP	16 12 06.6	+1.2
	1.2nm,0.8s,baz=290,slow=3.5,SNR=13						
LPAZ	**La Paz**	**146.09**	**59**	PKPbc	PKPbc	16 18 32.9	0.0
	1.5nm,0.7s,baz=306,slow=2.0,SNR=8.7						
LPAZ				pPKPbc	pPKPbc	16 18 49.5	0.0
	2.1nm,0.8s,baz=343,slow=4.1,SNR=5.3						

IDC 18 16:14:53.6±1.8, 18°.10S×177°.04W, h0km, mb3.9/4, mb1 4.1/4, mb1mx3.8/21, mbtmp3.9/4, Error ellipse: s-maj=157.4km s-min=30.8km az=156.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**39.69**	**242**	P	P	16 22 27.8	+0.1
	2.2nm,1.0s,baz=90,slow=12,SNR=3.1						
WRA	**Warramunga Arr**	**45.88**	**260**	P	P	16 23 17.9	-0.2
	0.6nm,0.3s,baz=97,slow=7.1,SNR=41						
ASAR	**Alice Springs**	**46.00**	**254**	P	P	16 23 18.8	-0.3
	1.3nm,0.7s,baz=87,slow=8.5,SNR=43						
TXAR	**Lajitas Array**	**85.00**	**57**	P	P	16 27 31.4	0.0
	0.4nm,0.7s,baz=226,slow=7.6,SNR=4.8						

IDC 18 17:00:20.0±1.0, 28°.75N×66°.24E, h0km, mb3.6/6, mb1 3.8/7, mb1mx3.4/51, mbtmp3.6/7, ML3.6/1, Error ellipse: s-maj=29.5km s-min=23.7km az=42.0
ISCJB 18 17:00:23.3±0.9, 28°.7N±0°.1×66°.1E±0°.2, h33km, mb3.5/6, Error ellipse: s-maj=21.9km s-min=17.9km az=34.5
ISC 18 17:00:25.3±1.1, 28°.6N±0°.1×66°.0E±0°.2, h35km, n7, σ1§60/8, mb3.6/6, Pakistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WSAR	**Wadi Sarin**	**8.55**	**233**	Pn	Pn	17 02 27.9	+1.3
	0.7nm,0.3s,baz=81,slow=5.7,SNR=17						
WSAR				Sn	Sn	17 03 59.4	-2.5
	0.7nm,0.3s,baz=63,slow=14,SNR=2.9						
BVAR	**Borovoye Array**	**24.58**	**6**	P	P	17 05 40.3	-1.6
	1.4nm,0.5s,baz=178,slow=10,SNR=9.9						
FINES	**FINESS Array B**	**42.11**	**333**	P	P	17 08 13.2	-0.4
	0.7nm,0.4s,baz=125,slow=7.5,SNR=10						
GERES	**GERESS Array B**	**44.54**	**312**	P	P	17 08 34.0	+0.4
	0.2nm,0.5s,baz=117,slow=7.9,SNR=3.0						
TORD	**Torodi Ar. Bea**	**61.40**	**270**	P	P	17 10 39.7	+1.4
	0.6nm,0.9s,baz=207,slow=12,SNR=3.5						
WRA	**Warramunga Arr**	**81.72**	**118**	P	P	17 12 40.4	-0.1
	0.3nm,0.8s,baz=313,slow=4.6,SNR=3.2						
ASAR	**Alice Springs**	**83.50**	**121**	P	P	17 12 49.5	-0.3
	0.3nm,0.7s,baz=304,slow=5.2,SNR=6.2						

NSSP 18 17:05:46.1, 39°.30N×44°.50E, h10km, Ms3.1
TEH 18 17:05:46.8, 39°.45N×44°.34E, h18km, ML2.9
CSEM 18 17:05:48.3±0.3, 39°.39N×44°.53E, h2km, MD2.8, Error ellipse: s-maj=7.3km s-min=5.2km az=27.0
ISK 18 17:05:50.2, 39°.42N×44°.26E, h5km, MD2.8
DDA 18 17:06:50.0, 39°.46N×44°.45E, h1km, Md3.3
ISC 18 17:05:48.5±1.2, 39°.41N±0°.02×44°.46E±0°.02, h2km±11km, n32, σ1§15/54, 1C-2D, Iran-Armenia-Azerbaijan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CLDR	**Caldiran**	**0.50**	**238**	*e*Pg	Pg	17 05 58.4	+0.3
CLDR				*e*Sg	Sg	17 06 05.4	+0.8
CLDR	**Caldiran**	**0.50**	**238**	*e*Pg	Pg	17 05 58.4	+0.3
CLDR				*e*Sg	Sg	17 06 05.4	+0.8
DYDN	**Diyadin**	**0.61**	**283**	*i* P	Pg	17 05 59.8	-0.5
DYDN				*i* S	Sb	17 06 10.4	-1.0
DYDN	**Diyadin**	**0.61**	**283**	P	Pg	17 05 59.8	-0.5
DYDN				S	Sb	17 06 10.4	-1.0
GNI	**Garni**	**0.77**	**16**	⇑*i* P	Pg	17 06 03.3	-0.1
GNI				⇑*i* S	Sb	17 06 16.0	+0.1
GNI	**Garni**	**0.77**	**16**	⇓P	Pg	17 06 03.3	-0.1
GNI				S	Sb	17 06 16.0	+0.1
VMUR	**Van-Muradiye**	**0.81**	**239**	*i* P	Pn	17 06 05.8	-1.4
VMUR				*i* S	Sb	17 06 15.6	-1.3
VMUR	**Van-Muradiye**	**0.81**	**239**	P	Pn	17 06 05.8	-1.4
VMUR				S	Sb	17 06 15.6	-1.3
AGRB	**Hanur-Agry**	**1.15**	**279**	*e*PG	Pb	17 06 10.5	-0.8
AGRB				*e*SG	Sg	17 06 25.1	-0.4
AGRB	**Hanur-Agry**	**1.15**	**279**	*e*Pg	Pb	17 06 10.5	-0.8
AGRB				*e*Sg	Sg	17 06 25.1	-0.4
IMRD	**Marand**	**1.19**	**125**	*e*Pg	Pg	17 06 10.6	-0.7
IMRD				*e*Sg	Sb	17 06 28.0	+0.2
IMRD				*e*AMB	AMB	17 06 29.0	
	comp=Z,13μm,0.1s						
IMRD	**Marand**	**1.19**	**125**	*e*Pg	Pg	17 06 10.6	-0.7
IMRD				*e*Sg	Sb	17 06 28.0	+0.2
TUTA	**Tutak**	**1.28**	**270**	*i* P	Pn	17 06 13.1	-0.6
TUTA				*i* S	Sn	17 06 32.5	+0.9
TUTA	**Tutak**	**1.28**	**270**	P	Pn	17 06 13.1	-0.6
TUTA				S	Sn	17 06 32.5	+0.9
DIGO	**Kars**	**1.31**	**321**	*i* P	Pb	17 06 13.9	-0.1
DIGO				*i* S	Sn	17 06 33.5	+1.1
DIGO	**Kars**	**1.31**	**321**	P	Pb	17 06 13.9	-0.1
DIGO				S	Sn	17 06 33.5	+1.1
EAK	**Akyaka**	**1.44**	**333**	*i* P	Pn	17 06 15.0	-0.8
EAK				*i* S	Sn	17 06 37.3	+1.9
EAK	**Akyaka**	**1.44**	**333**	P	Pn	17 06 15.0	-0.8
EAK				S	Sn	17 06 37.3	+1.9
ISHB	**Shabestar**	**1.44**	**141**	*e*Pg	Pn	17 06 14.6	-1.3
ISHB				*e*AMB	AMB	17 06 40.9	
	comp=Z,3μm,0.1s						
KARS	**Kars**	**1.62**	**319**	*e*PN	Pg	17 06 19.2	-0.4
KARS	**Kars**	**1.62**	**319**	*e*Pn	Pg	17 06 19.2	-0.4
ITBZ	**Tabriz**	**1.76**	**131**	*e*Pg	Pn	17 06 44.5	0.0
ITBZ				*e*Sg	Sb	17 06 44.5	+0.1
ITBZ				*e*AMB	AMB	17 06 47.0	
	comp=Z,800nm,0.1s						
ITBZ	**Tabriz**	**1.76**	**131**	*e*Pg	Pn	17 06 20.3	0.0
ITBZ				*e*Sg	Sb	17 06 44.5	+0.1
EKAR	**Karacoban**	**1.87**	**266**	*i* P	Pg	17 06 24.6	+0.3
EKAR				*i* S	Sg	17 06 52.9	+4.4
EKAR	**Karacoban**	**1.87**	**266**	P	Pg	17 06 24.6	+0.3
HAKT	**HAKKARI**	**1.94**	**198**	*i* P	Pb	17 06 24.2	-0.6
HAKT				*i* S	Sg	17 06 54.1	+3.2
HAKT	**HAKKARI**	**1.94**	**198**	P	Pb	17 06 24.2	-0.6
SENK	**Senkaya-Erzuru**	**1.99**	**306**	*e*PN	Pb	17 06 24.7	-1.0
SENK	**Senkaya-Erzuru**	**1.99**	**306**	*e*Pn	Pb	17 06 24.7	-1.0
CUKT	**Cukurca**	**2.26**	**198**	*e*PN	Pb	17 06 29.7	-0.5
IHRS	**Heris**	**2.29**	**118**	*e*Pg	Pb	17 06 29.3	-1.4
IHRS				*e*AMB	AMB	17 07 06.4	
	comp=Z,635nm,0.2s						
IHRS	**Heris**	**2.29**	**118**	*e*Pg	Pb	17 06 29.3	-1.4

MEX 18 17:24:42.7±0.4, 18°.00N×101°.71W, h6km±7km, MD3.8, Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZIIG	**Zihuatanejo**	**0.46**	**149**	*e*P	Pg	17 24 50.9	-0.7
ZIIG				*i* S	Sg	17 24 58.0	+0.5
ARIG	**Puente Sto Nin**	**1.32**	**78**	*e*P	Pn	17 25 04.0	-3.7
ARIG				*i* S	Sb	17 25 20.6	-4.7
MMIG	**Aquila**	**1.58**	**281**	*e*P	Pn	17 25 07.9	-3.4
MMIG				*i* S	Sn	17 25 27.0	-5.1
MEIG	**Mezcala**	**1.99**	**92**	*i* P	Pn	17 25 14.2	-2.8
MEIG				*i* S	Sn	17 25 37.6	-4.7
PLIG	**Platanillo**	**2.13**	**79**	*i* P	Pn	17 25 16.6	-2.4
PLIG				*i* S	Sn	17 25 41.2	-4.6

ISCJB 18 17:34:39.6±0.6, 56°.02N±0°.05×153°.08W±0°.07, h22km, mb4.0/13, MS3.5/3, Error ellipse: s-maj=7.5km s-min=4.5km az=150.6
IDC 18 17:34:39.6±1.1, 56°.09N×153°.47W, h0km, mb3.9/14, mb1 4.1/15, mb1mx3.9/34, mbtmp3.9/15, ML3.6/1, MS3.4/3, Ms1 3.4/3, ms1mx2.7/50, Error ellipse: s-maj=26.2km s-min=17.2km az=165.0
NEIC 18 17:34:43.3±0.0, 56°.01N×153°.16W, h2km, ML3.4(AEIC), After AEIC.
ISC 18 17:34:42.1±0.8, 56°.09N±0°.08×153°.23W±0°.06, h22km, n60, σ1§19/59, mb4.0/13, MS3.5/3, Kodiak Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KDAK	**Kodiak Island**	**1.74**	**12**	Pn	Pn	17 35 11.1	+0.2
	43nm,0.3s,baz=203,slow=7.1,SNR=1081						
KDAK				Sn	Sn	17 35 31.9	-0.4
	41nm,0.3s,baz=294,slow=22,SNR=31						
KABR	**Katmai Barrier**	**2.26**	**336**	P	Pn	17 35 17.8	-0.4
PLK3	**Peulik 3**	**2.31**	**315**	P	Pn	17 35 18.8	0.0
KAWH	**Katmai**	**2.46**	**340**	P	Pn	17 35 21.1	+0.3
PLK1	**Peulik 1**	**2.53**	**314**	P	Pn	17 35 22.0	+0.3
KVTA	**Katmai Vly 10**	**2.56**	**335**	P	Pn	17 35 23.1	+0.9
FOPK	**Fourpeaked Vol**	**2.68**	**357**	P	Pn	17 35 24.9	+1.0
KELA	**Mount Kelaz**	**2.73**	**331**	P	Pn	17 35 24.2	-0.3
FOSS	**Fourpeaked Sta**	**2.73**	**355**	P	Pn	17 35 24.7	+0.1
KAHC	**Katmai Hardscr**	**2.74**	**340**	P	Pn	17 35 25.1	+0.3
ANNE	**Aniakchak Nort**	**2.80**	**289**	P	Pn	17 35 26.1	+0.6
ANPK	**Aniakchak Peak**	**2.82**	**288**	P	Pn	17 35 25.1	-0.7
CDD	**Cape Douglas**	**2.86**	**356**	P	Pn	17 35 27.4	+1.0
VNSG	**Veniaminof 6**	**3.28**	**273**	P	Pn	17 35 31.5	-0.6
AUE	**Augustine Isla**	**3.28**	**359**	P	Pn	17 35 32.8	+0.6
VNHG	**Veniaminof 1**	**3.32**	**275**	P	Pn	17 35 32.3	-0.5
CNPM	**China Poot**	**3.61**	**16**	P	Pn	17 35 37.2	+0.5
SDPT	**Sand Point**	**4.16**	**263**	P	Pn	17 35 43.4	-0.8
SDPT				S	Sn	17 36 29.1	-3.0
RED	**Redoubt Volcan**	**4.35**	**3**	P	Pn	17 35 47.8	+0.9
RED				S	Sn	17 36 38.0	+1.1
RDWB	**Redoubt West**	**4.42**	**3**	P	Pn	17 35 48.5	+0.6
RDWB				S	Sn	17 36 39.0	+0.3
SLKM	**Skilak Lake**	**4.71**	**18**	P	Pn	17 35 51.5	-0.2
PWL	**Port Wells**	**5.43**	**26**	P	Pn	17 36 00.6	-1.0
PWL				S	Sn	17 37 00.7	-2.7
HIN	**Hinchinbrook I**	**5.59**	**37**	P	Pn	17 36 03.1	-0.8
HIN				S	Sn	17 37 05.2	-2.3
EYAK	**Cordova Ski Ar**	**5.96**	**38**	P	Pn	17 36 08.9	0.0
EYAK				S	Sn	17 37 13.0	-3.4
KAIM	**Kayak Island**	**6.06**	**47**	P	Pn	17 36 10.0	-0.3
JPK	**Jack Peak**	**6.07**	**32**	P	Pn	17 36 09.8	-0.7
SGAM	**Sherman Glacie**	**6.12**	**40**	P	Pn	17 36 10.9	-0.2
RAGM	**Ragged Mountai**	**6.25**	**43**	P	Pn	17 36 12.8	0.0
GOAT	**Goat Mountain**	**6.35**	**41**	P	Pn	17 36 14.3	0.0
BARK	**Barkley Ridge**	**7.13**	**48**	P	Pn	17 36 24.9	-0.1
PTPK	**Patty Peak**	**7.59**	**43**	P	Pn	17 36 30.7	-0.8
MSW	**Makushin Switc**	**8.09**	**260**	P	Pn	17 36 36.6	-1.5
PNL	**Peninsula**	**8.20**	**58**	P	Pn	17 36 38.8	-0.8
DHAK	**Deception Hill**	**8.61**	**63**	P	Pn	17 36 44.0	-1.3
ILAR	**Eielson Array**	**9.26**	**17**	Pn	Pn	17 36 52.4	-1.7
	baz=204,slow=14,SNR=7.2						
ILAR				Sn	Sn	17 38 34.0	-3.4
	0.3nm,0.3s,baz=193,slow=20,SNR=4.2						
INK	**Inuvik**	**15.21**	**29**	Pn	P	17 38 17.7	-2.3
	0.2nm,0.3s,baz=249,slow=6.8,SNR=4.3						
YKA	**Yellowknife Ar**	**20.48**	**56**	P	Pn	17 39 19.9	-0.3
	1.1nm,0.8s,baz=265,slow=8.6,SNR=6.2						
SEY	**Seymchan**	**27.66**	**307**	P	P	17 40 27.0	-0.8
	2.8nm,0.8s,baz=88,slow=5.0,SNR=5.6						
PETK	**Petropavlovsk-**	**28.10**	**285**	P	P	17 40 31.1	-0.7
	3.4nm,1.0s,baz=122,slow=16,SNR=3.6						
TXAR	**Lajitas Array**	**43.86**	**106**	P	P	17 42 48.6	+2.0
	0.5nm,0.7s,baz=312,slow=5.0,SNR=7.5						
H11N2	**WAKE ISLAND Hy**	**46.91**	**236**	T	T	18 33 29.3	
	baz=29,slow=76,SNR=28						
H11N3	**WAKE ISLAND Hy**	**46.91**	**236**	T	T	18 33 29.8	
	baz=29,slow=76,SNR=32						
H11N1	**WAKE ISLAND Hy**	**46.92**	**236**	T	T	18 33 30.7	
	baz=29,slow=76,SNR=24						
NRIK	**Noril'sk**	**47.38**	**335**	P	P	17 43 14.2	+0.4
	4.9nm,0.6s,baz=70,slow=5.8,SNR=5.6						
H11S1	**WAKE ISLAND Hy**	**48.06**	**235**	T	T	18 34 51.8	
	baz=29,slow=75,SNR=86						
H11S2	**WAKE ISLAND Hy**	**48.07**	**235**	T	T	18 34 53.1	
	baz=29,slow=75,SNR=48						
H11S3	**WAKE ISLAND Hy**	**48.08**	**235**	T	T	18 34 57.1	
	baz=29,slow=75,SNR=38						
MJAR	**Matsushiro Arr**	**49.01**	**277**	P	P	17 43 26.8	0.0
	0.7nm,0.6s,baz=44,slow=7.0,SNR=3.4						
KSRS	**Korea Array**	**54.00**	**285**	P	P	17 44 04.7	+0.6
	1.3nm,0.6s,baz=46,slow=7.0,SNR=5.0						
KSAR	**Wonju Array Be**	**54.03**	**285**	P	P	17 44 04.7	+0.3
SONM	**Songino Array**	**57.05**	**308**	P	P	17 44 27.1	+1.0
	2.1nm,0.8s,baz=43,slow=7.0,SNR=15						
SONM				LR	LR	18 10 19.8	
	comp=Z,47nm,19.6s,baz=270,slow=38						
ZALV	**Zalesovo Beam**	**60.49**	**325**	P	P	17 44 49.8	+0.1
	1.2nm,0.6s,baz=34,slow=7.1,SNR=5.1						
NOA	**NORSAR Array B**	**62.57**	**8**	P	P	17 45 04.6	+0.8
	0.7nm,0.9s,baz=351,slow=6.8,SNR=3.7						
FINES	**FINESS Array B**	**62.81**	**0**	P	P	17 45 06.0	+0.8
	1.7nm,1.0s,baz=3.4,slow=9.5,SNR=4.9						
FINES	**FINESS Array B**	**62.81**	**0**	P	P	17 45 06.0	+0.8
VRAC	**Vranov**	**74.63**	**7**	LR	LR	18 21 57.4	
	comp=Z,16nm,18.0s,baz=152,slow=38						
GERES	**GERESS Array B**	**74.87**	**9**	P	P	17 46 21.6	+1.0
	0.4nm,0.6s,baz=350,slow=5.4,SNR=4.4						
ESDC	**Sonseca Array**	**81.10**	**24**	P	P	17 46 56.4	+1.0
	0.4nm,0.6s,baz=328,slow=7.1,SNR=3.1						
CMAR	**Chiang Mai Arr**	**84.39**	**295**	P	P	17 47 13.1	+0.5
	1.3nm,0.7s,baz=15,slow=5.2,SNR=10						
VAE	**Valguarnera**	**86.21**	**10**	LR	LR	18 25 20.5	
	comp=Z,19nm,20.8s,baz=328,slow=35						

RSNC 18 17:44:30.6±0.3, 10°.04N×72°.90W, h24km±3km, ML2.5
FUNV 18 17:44:33.5, 9°.75N×73°.96W, h28km, MW3.0
ISC 18 17:44:37.1±1.5, 9°.70N±0°.07×73°.48W±0°.04, h10km±14km, n14, σ1§66/20, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CODC	**Agust¯n Codaz**	**0.23**	**7**	*e*P	Pg	17 44 41.0	-1.0
CODC				*i*		17 45 03.4	
	comp=Z,261nm,0.9s						
VIRV	**Villa del Rosa**	**1.32**	**53**	*e*P	Pn	17 45 00.1	-1.5
VIRV				*e*S	Sg	17 45 21.5	+1.8
OCAC	**Ocana**	**1.46**	**174**	*e*P	Pn	17 44 59.8	-3.9
OCAC				*e*S	Sn	17 45 22.7	-0.3
OCAC				*i*		17 45 34.8	
	comp=Z,40nm,0.6s						
SJCC	**San Jacinto, C**	**1.69**	**277**	*e*P	Pn	17 45 05.5	-1.2
SJCC				*e*S	Sg	17 45 33.1	+1.6
SJCC				*i*		17 45 52.9	
	comp=Z,19nm,0.7s						
CAPV	**Capacho**	**2.15**	**148**	*e*P	Pn	17 45 11.8	-1.5
CAPV				*e*S	Sn	17 45 39.4	-0.8
VIGV	**El Vigia**	**2.25**	**112**	*e*P	Pn	17 45 14.4	-0.1
VIGV				*e*S	Sn	17 45 44.1	+1.8
MOTC	**Monteria, Cord**	**2.35**	**247**	*e*P	Pn	17 45 15.6	-0.1

AAK	Ala-Archa	5.26	19	⇓P	Pn	17 58 30.0	+0.8	
	1.9nm,0.3s							
AAK				⇓S	Sn	17 59 30.9	+0.2	
	28nm,0.8s							
KK31	Karatay Array	5.59	347	P	Pn	17 58 34.3	+1.1	
	2.1nm,0.5s,baz=161,slow=12,SNR=26							
KK31				S	Sn	17 59 36.6	-1.5	
	16nm,0.4s,baz=158,slow=22,SNR=25							
TKM2	Tokmak 2	5.85	25	⇓P	Pn	17 58 37.5	+0.7	
	5.0nm,0.7s							
TKM2				⇑S	Sn	17 59 45.0	+0.6	
	5.3nm,0.8s							
PYUN	Piuthan	13.13	133	*eP*	P	18 00 13.9	+0.1	
KURBB	Kurchatov Arra	13.71	17	P	P	18 00 18.7	-1.1	
	0.1nm,0.3s,baz=205,slow=11,SNR=27							
KOLN	Koldanda	13.73	133	*eP*	P	18 00 20.4	-0.1	
	6.6nm,0.4s							
GKN	Gorkha	14.19	129	*eP*	P	18 00 25.4	0.0	
	35nm,0.5s							
AB31	Akbulak array	14.60	326	⇑P	P	18 00 30.4	+0.7	
	0.9nm,0.5s,baz=138,slow=12,SNR=4.0							
AB31				⇑S	S	18 03 06.7	-3.9	
	0.4nm,0.3s,baz=159,slow=24,SNR=5.0							
KKN	Kakani	14.73	128	*eP*	P	18 00 32.4	+0.8	
	9.9nm,0.6s							
DMN	Daman	14.76	129	*eP*	P	18 00 31.9	0.0	
	14nm,0.5s							
PKIN	Phulchoki	14.96	128	*eP*	P	18 00 34.5	+0.4	
	7.2nm,0.5s							
PKI	Pulchoki	14.97	128	*eP*	P	18 00 34.5	+0.2	
JIRN	Jiri	15.40	126	*eP*	P	18 00 39.3	+0.2	
	31nm,0.6s							
BVAR	Borovoye Array	15.41	356	P	P	18 00 39.4	+0.7	
	0.3nm,0.3s,baz=161,slow=10,SNR=7.1							
RAMN	Ramite	16.16	127	*eP*	Pn	18 00 47.4	-0.5	
	31nm,0.6s							
AKTO	Aktyubinsk	16.31	326	P	Pn	18 00 51.8	+2.6	
	0.5nm,0.3s,baz=129,slow=12,SNR=7.9							
AKTO	Aktyubinsk	16.31	326	⇑P	Pn	18 00 51.7	+2.4	
	2.4nm,0.6s							
ZALV	Zalesovo Beam	18.45	24	P	Pn	18 01 13.2	-1.2	
	1.6nm,0.3s,baz=222,slow=10,SNR=29							
FINES	FINESS Array B	37.08	325	P	P	18 04 02.9	+0.9	
	1.5nm,0.9s,baz=122,slow=5.1,SNR=5.1							
NOA	NORSAR Array B	44.05	322	P	P	18 04 59.7	+0.7	
	0.5nm,0.5s,baz=94,slow=7.6,SNR=3.1							
YKA	Yellowknife Ar	80.03	3	P	P	18 08 58.8	+0.6	
	0.4nm,0.3s,baz=350,slow=5.4,SNR=6.9							
WRA	Warramunga Arr	81.78	123	P	P	18 09 06.0	-2.1	
	0.6nm,1.1s,baz=320,slow=4.5,SNR=6.6							

DJA 18 17:57:48.9±0.5, 9°S±4°×11°0E±°, h10km, M3.6/13, MLv3.6/13, South of Jawa

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PCJI	Pacitan	1.33	33	P	Pn	17 58 12.5	-1.0
UGM	Wanagama	1.40	3	P	Pn	17 58 12.2	-2.4
UGM				S	Sn	17 58 31.6	-1.5
WOJI	Wonogiri, Jawa	1.55	18	P	Pn	17 58 14.9	-1.6
WOJI				S	Sn	17 58 31.0	-5.7
PWJI	Pagerwojo	1.86	46	P	Pn	17 58 19.5	-1.3
PWJI				S	Sn	17 58 41.6	-2.8
NGJI	Ngawi	2.18	27	P	Pb	17 58 28.4	-0.1
SMRI	Semarang	2.26	360	P	Pn	17 58 27.7	+1.4
SMRI				S	Sb	17 58 56.2	-1.6
KPJI	Karang Pucung	2.48	323	P	Pn	17 58 30.8	+1.4
CMJI	Cimerak	2.50	307	P	Pn	17 58 29.1	-0.5
CMJI				S	Sn	17 58 59.9	-0.3
GMJI	Gumukmas	3.14	71	P	Pn	17 58 37.9	-0.5
CISI	Cisompet, Garu	3.14	304	P	Pn	17 58 38.6	+0.1
CISI				S	Sn	17 59 16.4	+0.2
JAGI	Jajag, Banyuwa	3.75	77	P	Pn	17 58 46.2	-0.7
CNJI	Cibinong	3.85	301	P	Pn	17 58 48.2	0.0

*ISCJB **18** 18:08:10.8±0.7, 45°.1S±0°.1×95°.7E±0°.2, h10km, mb4.1/9, MS4.0/8, Error ellipse: s-maj=23.9km s-min=14.6km az=34.3*
*IDC **18** 18:08:11.1±0.8, 45°.10S×95°.68E, h0km, mb4.1/9, mb1 4.3/9, mb1mx4.0/33, mbtmp4.1/9, MS4.0/8, Ms1 4.0/8, ms1mx3.7/27, Error ellipse: s-maj=27.0km s-min=17.5km az=129.0*
ISC 18 18:08:12.6±0.8, 45°.1S±0°.1×95°.7E±0°.2, h10km, n19, σ0°79/9, mb4.2/9, MS4.0/8, Southeast Indian Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
H01W2	Cape Leeuwin H	17.39	61	T	T	18 29 55.8	
	baz=228,slow=74,SNR=331						
H01W3	Cape Leeuwin H	17.40	61	T	T	18 29 51.4	
	baz=228,slow=74,SNR=485						
H01W1	Cape Leeuwin H	17.41	61	T	T	18 29 51.8	
	baz=228,slow=74,SNR=385						
NWAO	Narrogin (SRO)	20.62	61	LR	LR	18 18 41.4	
	comp=Z,283nm,20.9s,baz=260,slow=31						
MAW	Mawson	28.34	206	P	P	18 14 06.1	-0.1
	1.7nm,1.0s,baz=72,slow=20,SNR=3.3						
MAW				LR	LR	18 22 55.3	
	comp=Z,413nm,20.9s,baz=59,slow=31						
FITZ	Fitzroy Crossi	36.71	53	P	P	18 15 19.9	0.0
	3.2nm,0.8s,baz=215,slow=8.1,SNR=8.7						
ASAR	Alice Springs	37.63	68	P	P	18 15 27.4	-0.3
	2.1nm,0.9s,baz=224,slow=7.4,SNR=17						
ASAR				LR	LR	18 28 52.3	
	comp=Z,116nm,18.4s,baz=224,slow=33						
STKA	Stephens Creek	37.80	86	LR	LR	18 28 19.2	
	comp=Z,257nm,18.9s,baz=209,slow=32						
WRA	Warramunga Arr	40.57	65	P	P	18 15 51.9	-0.4
	4.8nm,0.9s,baz=224,slow=8.2,SNR=25						
VNDA	Vanda	41.30	162	P	P	18 15 57.8	+0.1
	0.7nm,0.8s,baz=301,slow=5.8,SNR=3.6						
VNDA				LR	LR	18 31 34.3	
	comp=Z,207nm,18.6s,baz=288,slow=34						
H08S2	Diego Garcia H	42.38	325	T	T	19 01 12.2	
	baz=156,slow=76,SNR=12						
H08S1	Diego Carcia H	42.39	325	T	T	19 01 12.7	
	baz=156,slow=76,SNR=11						
H08S3	Diego Garcia H	42.40	325	T	T	19 01 22.7	
	baz=156,slow=76,SNR=14						
SNAA	Sanae	50.47	204	P	P	18 17 10.6	+0.5
	2.0nm,0.9s,baz=136,slow=6.3,SNR=9.3						
URZ	Urewera	58.78	114	LR	LR	18 40 12.7	
	comp=Z,221nm,18.0s,baz=182,slow=33						
CMAR	Chiang Mai Arr	63.32	3	P	P	18 18 43.1	+1.4
	5.3nm,1.2s,baz=203,slow=6.0,SNR=10						
KMBO	Kilima Mbogo	67.38	293	P	P	18 19 07.9	-0.7
	1.6nm,0.3s,baz=115,slow=1.4,SNR=8.0						
KMBO				LR	LR	18 42 01.5	
	comp=Z,138nm,22.0s,baz=93,slow=30						
SONM	Songino Array	93.03	7	P	P	18 21 25.0	-0.9
	0.9nm,0.9s,baz=186,slow=2.6,SNR=3.3						
PLCA	Paso Flores	93.66	190	LR	LR	19 01 42.0	
	comp=Z,108nm,21.9s,baz=172,slow=34						

*IASPEI **18** 18:18:33.8±0.9, 39°.68N±0°.02×27°.88E±0°.02, h5km±7km, Error ellipse: s-maj=3.5km s-min=3.4km az=105.0, GT5 selection from ISC bulletin GT5 identified by Bond˜ji and McLaughlin (2009) selection criteria Bond˜ji and McLaughlin, A new ground truth data set for seismic studies, Seism. Res. Let., 80, 465-472, 2009*
*ISCJB **18** 18:18:33.5±0.5, 39°.68N±0°.02×27°.88E±0°.03, h1km±5km, Error ellipse: s-maj=4.3km s-min=4.1km az=172.4*
*CSEM **18** 18:18:33.8±0.1, 39°.69N×27°.87E, h5km, MD2.8, Error ellipse: s-maj=2.2km s-min=1.8km az=108.0*
*DDA **18** 18:18:33.9, 39°.69N×27°.85E, h7km, Md2.9*
*ISK **18** 18:18:33.4, 39°.69N×27°.86E, h5km, MD2.8*
ISC 18 18:18:33.6±0.9, 39°.67N±0°.02×27°.88E±0°.02, h5km±7km, n47, σ1°§04/59, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BALB	Balikesir	0.03	173	*eP*	Pg	18 18 34.7	0.0
BALB	Balikesir	0.03	173	*eP*	Pg	18 18 34.7	0.0
BALY	Balya	0.21	289	*i* P	Pg	18 18 37.6	-0.1
BALY				*i* S	Sg	18 18 41.3	+0.9
BALY	Balya	0.21	289	P	Pg	18 18 37.6	-0.1
BALY				S	Sg	18 18 41.3	+0.9
KNL	Bal¯–kesir	0.65	336	*i* P	Pg	18 18 45.9	-0.2
KNL				*i* S	Sb	18 18 55.9	-1.0
EDC	Edincik	0.67	359	*e*Pg	Pg	18 18 46.6	+0.1
EDC				*e*SG	Sb	18 18 56.0	-1.3
EDC	Edincik	0.67	359	*e*Pg	Pg	18 18 46.6	+0.1
EDC				*e*Sg	Sb	18 18 56.1	-1.3
KCTX	Karacabey (Bur	0.70	32	*e*PG	Pg	18 18 46.9	-0.1
KCTX				*e*SG	Sg	18 18 56.7	+0.6
KCTX	Karacabey (Bur	0.70	32	*e*Pg	Pg	18 18 46.9	-0.1
KCTX				*e*Sg	Sg	18 18 56.7	+0.6
DEMI	Demirci	0.91	134	*i* P	Pb	18 18 52.0	+0.2
DEMI				*i* S	Sg	18 19 03.3	+0.5
DEMI	Demirci	0.91	134	P	Pb	18 18 52.0	+0.2
DEMI				S	Sg	18 19 03.3	+0.5
MRMT	Marmara Adasi	0.95	347	*e*PG	Pg	18 18 52.0	+0.1
MRMT	Marmara Adasi	0.95	347	*e*Pg	Pg	18 18 52.0	+0.1
DKL	Dikili	0.96	232	*e*PG	Pg	18 18 52.2	+0.2
DKL	Dikili	0.96	232	*e*Pg	Pg	18 18 52.2	+0.2
AYVA	Ayvalik	0.99	249	*i* P	Pb	18 18 53.1	0.0
AYVA				*i* S	Sb	18 19 06.8	+0.4
AYVA	Ayvalik	0.99	249	P	Pb	18 18 53.1	0.0
AYVA				S	Sb	18 19 06.8	+0.4
MDNY	Mudanya-Bursa	1.04	48	*e*PG	Pb	18 18 54.1	+0.1
MDNY	Mudanya-Bursa	1.04	48	*e*Pg	Pb	18 18 54.1	+0.1
SIMA	Simav-Kutahya	1.04	124	*e*PG	Pg	18 18 54.3	+0.7
SIMA	Simav-Kutahya	1.04	124	*e*Pg	Pg	18 18 54.3	+0.7
ARMT	Armutlu	1.17	40	*e*PN	Pg	18 18 56.0	0.0
ARMT	Armutlu	1.17	40	*e*Pn	Pg	18 18 56.0	0.0
IGD	Bursa	1.18	60	*i* P	Pg	18 18 56.5	+0.4
IGD				*i* S	Sn	18 19 12.9	-0.2
SBT3	Marmara-Eregli	1.21	4	*e*PN	Pb	18 18 56.8	-0.1
SBT3	Marmara-Eregli	1.21	4	*e*Pn	Pb	18 18 56.8	-0.1
SBT5	Esenkoy-Cinarc	1.23	39	*e*PN	Pg	18 18 57.1	0.0
SBT5	Esenkoy-Cinarc	1.23	39	*e*Pn	Pg	18 18 57.1	0.0
TVSB	Tavsanli	1.25	100	*e*PN	Pg	18 18 57.9	+0.4
TVSB	Tavsanli	1.25	100	*e*Pn	Pg	18 18 57.9	+0.4
GEMT	Gemlik	1.26	53	*e*PN	Pn	18 18 58.4	+0.6
GEMT	Gemlik	1.26	53	*e*Pn	Pn	18 18 58.4	+0.6
MANT	Manisa	1.30	156	*i* P	Pg	18 18 52.1	-6.4
MANT				*i* S	Sg	18 19 08.4	-6.8
SBT2	Guzelce-Avcila	1.30	22	*e*PN	Pg	18 18 58.7	+0.2
SBT2	Guzelce-Avcila	1.30	22	*e*Pn	Pg	18 18 58.7	+0.2
KULA	Kula-Manisa	1.31	152	*e*PN	Pb	18 18 59.2	+0.5
KULA	Kula-Manisa	1.31	152	*e*Pn	Pb	18 18 59.2	+0.5
ERIK	Erikli-Kesan	1.44	314	*e*PN	Pn	18 19 00.3	0.0
ERIK	Erikli-Kesan	1.44	314	*e*Pn	Pn	18 19 00.3	0.0
CTKS	Kestanelik-??a	1.63	17	*e*PN	Pn	18 19 03.3	+0.4
CTKS	Kestanelik-??a	1.63	17	*e*Pn	Pn	18 19 03.3	+0.4
AYDB	Zeytinkoy-Aydi	1.73	180	*e*PN	Pn	18 19 05.1	+0.8
AYDB	Zeytinkoy-Aydi	1.73	180	*e*Pn	Pn	18 19 05.1	+0.8
HRT	Hereke	1.79	50	*e*PN	Pn	18 19 05.4	+0.3
HRT	Hereke	1.79	50	*e*Pn	Pn	18 19 05.4	+0.3
GULT	Gulveren	2.16	69	*e*PN	Pn	18 19 11.0	+0.7
GULT	Gulveren	2.16	69	*e*Pn	Pn	18 19 11.0	+0.7

*ISCJB **18** 18:22:10.8±0.8, 55°.99N±0°.06×153°.20W±0°.08, h23km, mb3.8/1, Error ellipse: s-maj=8.5km s-min=5.8km az=154.5*
*NEIC **18** 18:22:15.9±0.0, 56°.00N×153°.41W, h7km, ML3.0(AEIC), After AEIC.*
*IDC **18** 18:22:15.8±2.8, 56°.39N×154°.36W, h0km, mb3.5/2, mb1 3.8/3, mb1mx3.3/57, mbtmp3.5/3, ML3.4/1, Error ellipse: s-maj=52.5km s-min=25.5km az=139.0*
ISC 18 18:22:14.2±1.6, 56°.17N±0°.10×153°.33W±0°.07, h23km, n39, σ1°§41/44, Kodiak Island region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OHAK	Old Harbor	1.05	1	P	Pb	18 22 34.5	+0.8
OHAK				S	Sn	18 22 49.7	+2.2
KDAK	Kodiak Island	1.66	14	Pn	Pb	18 22 43.2	-0.9
	20nm,0.3s,baz=202,slow=6.7,SNR=480						
KDAK				Sn	Sb	18 23 04.4	-0.2
	8.4nm,0.3s,baz=218,slow=10,SNR=8.8						
KABR	Katmai Barrier	2.16	336	P	Pn	18 22 49.6	+0.8
KCE	Katmai Mt Cerb	2.31	335	P	Pn	18 22 51.0	+0.1
KBM	Katmai Bkd Mtn	2.34	335	P	Pn	18 22 51.8	+0.5
FOPK	Fourpeaked Vol	2.59	358	P	Pn	18 22 56.4	+1.7
KELA	Mount Kelaz	2.62	331	P	Pn	18 22 55.3	+0.1
FOSS	Fourpeaked Sta	2.64	356	P	Pn	18 22 55.9	+0.5
FONW	Fourpeaked Sta	2.69	353	P	Pn	18 22 56.5	+0.5
ANPK	Aniakchak Peak	2.74	286	P	Pn	18 22 56.1	-0.7
CDD	Cape Douglas	2.77	357	P	Pn	18 22 57.9	+0.7
VNHG	Veniaminof 1	3.26	273	P	Pn	18 23 02.2	-1.8
CNPM	China Poot	3.54	18	P	Pn	18 23 09.2	+1.4
CNPM				S	Sn	18 23 51.0	+2.1
BRLK	Bradley Lake	3.83	19	P	Pn	18 23 12.4	+0.7
RED	Redoubt Volcan	4.27	4	P	Pn	18 23 18.4	+0.6
RED				S	Sn	18 24 00.3	+1.5
SEW	Seward	4.44	26	P	Pn	18 23 21.2	+1.2
SLKM	Skilak Lake	4.64	19	P	Pn	18 23 23.8	+0.9
PWL	Port Wells	5.38	27	P	Pn	18 23 33.4	+0.5
PWL				S	Sn	18 24 32.6	-1.5
STLK	Strandline Lak	5.40	8	P	Pn	18 23 34.0	+0.7
HIN	Hinchinbrook I	5.56	38	P	Pn	18 23 35.3	-0.1
HIN				S	Sn	18 24 36.8	-1.7
GLI	Glacier Island	5.74	32	P	Pn	18 23 38.5	+0.6
FID	Port Fidalgo	5.83	35	P	Pn	18 23 38.5	-0.6
FID				S	Sn	18 24 43.6	-1.5
SKT	Skwentna	5.90	8	P	Pn	18 23 40.8	+0.7
KAIM	Kayak Island	6.04	48	P	Pn	18 23 43.3	+1.2
KAIM				S	Sn	18 24 51.0	+0.6
GHO	Glory Hole Cre	6.06	20	P	Pn	18 23 43.2	+0.8
GOAT	Goat Mountain	6.32	42	P	Pn	18 23 46.5	+0.5
KLU	Klutina	6.57	33	P	Pn	18 23 50.1	+0.7
BARK	Barkley Ridge	7.11	49	P	Pn	18 23 57.7	+0.9
BAGL	Bagley Icefiel	7.33	49	P	Pn	18 24 00.8	+1.1
AKGG	Akhan Green G	7.51	260	P	Pn	18 24 00.7	-1.6
DHY	Denali Highway	7.55	21	P	Pn	18 24 03.4	+0.5
PTPK	Patty Peak	7.56	44	P	Pn	18 24 03.9	+0.7
PNL	Peninsula	8.20	59	P	Pn	18 24 12.6	+0.9
ILAR	Eielson Array	9.19	18	Pn	Pn	18 24 24.1	-1.1
	0.1nm,0.3s,baz=202,slow=13,SNR=13						
ILAR				Sn	Sn	18 26 01.8	-5.9
	0.0nm,0.3s,baz=212,slow=5.1,SNR=2.6						
YKA	Yellowknife Ar	20.48	56	P	Pn	18 26 59.2	+7.0
	0.9nm,0.8s,baz=271,slow=9.8,SNR=4.6						
H11S1	WAKE ISLAND Hy	48.07	235	T	T	19 22 28.8	
	baz=28						
H11S2	WAKE ISLAND Hy	48.08	235	T	T	19 22 29.9	
	baz=28						
H11S3	WAKE ISLAND Hy	48.08	235	T	T	19 22 30.4	
	baz=28						
SONM	Songino Array	56.95	308	P	P	18 31 58.0	+0.6
	0.8nm,0.7s,baz=35,slow=5.3,SNR=5.5						

*SJA **18** 18:31:04.9±0.7, 24°.25S×67°.18W, h195km±8km, ML2.8, MW3.8*
*ISCJB **18** 18:31:05.4±0.5, 24°.25S±0°.04×67°.24W±0°.04, h184km±5km, mb3.3/3, Error ellipse: s-maj=7.5km s-min=4.6km az=36.1*
*IDC **18** 18:31:05.8±1.5, 24°.19S×67°.02W, h170km±12km, mb3.2/3, mb1 3.5/7, mb1mx3.4/25, mbtmp3.8/7, MS2.9/2, Ms1 2.9/2, ms1mx2.7/7, Error ellipse: s-maj=25.4km s-min=17.0km az=25.0*
*GUC **18** 18:31:07.8±0.6, 24°.09S×67°.84W, h230km±14km, ML4.9*
ISC 18 18:31:06.3±0.8, 24°.21S±0°.05×67°.21W±0°.05, h178km±8km, n27, σ1°§38/41, mb3.4/3, 8C-2D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SLA	San Lorenzo	1.63	108	*e*P	Pn	18 31 40.2	+0.6
SLA				IAML		18 31 41.6	
	comp=Z,243nm,0.6s						
SLA				*e*S	Sn	18 32 05.7	+0.3
HJA	Humahuaca	1.93	59	*e*P	Pn	18 31 43.7	+0.8
FSA	Cafayete	2.19	150	*i*P	Pn	18 31 45.7	+0.1
FSA				IAML		18 32 16.6	
	comp=Z,14nm,0.6s						
LVC	Limon Verde	2.23	315	P	Pn	18 31 47.4	+1.1
	comp=Z,4μm,0.3s,baz=121,slow=8.2,SNR=839						
LVC				S	Sn	18 32 17.9	+0.7
	comp=Z,9μm,0.3s,baz=280,slow=19,SNR=40						
LVC				LR	LR	18 32 54.6	
	comp=Z,447nm,21.2s,baz=176,slow=46						
LVC	Limon Verde	2.23	315	*i*P	Pn	18 31 47.4	+1.1
LVC				*e*S	Sn	18 32 17.9	+0.7
LVC	Limon Verde	2.23	315	*e*P	Pn	18 31 47.5	+1.1
LVC				*e*S	Sn	18 32 18.0	+0.8
ASTB	Santa Barbara	2.53	85	*e*P	Pn	18 31 49.2	-0.2
YJA	Yavi	2.56	38	*e*P	Pn	18 31 50.6	+0.6
YJA				*e*S	Sn	18 32 25.3	+1.4
YJA				IAML		18 32 28.6	
	comp=Z,22nm,0.6s						
PB06	IPOC Station P	2.64	304	⇑*i*P	Pn	18 31 51.7	+0.9
PB06				*i* S	Sn	18 32 24.5	-0.7
PB06				IAML		18 32 26.9	
	comp=E,2μm,0.2s						
PB14	IPOC Station P	2.94	261	⇑*i*P	Pn	18 31 54.5	-0.1
PB14				*i* S	Sn	18 32 30.5	-1.5
ANCH	Antofagasta	2.98	280	⇑*i*P	Pn	18 31 55.9	+1.3
ANCH				*i* S	Sn	18 32 31.5	-0.7
PB09	IPOC Station P	3.05	322	⇑*i*P	Pn	18 31 56.9	+1.2
PB09				*i* S	Sn	18 32 34.4	+0.3
PB09				IAML		18 32 35.1	
	comp=N,4μm,0.7s						
AHML	Horco Molle	3.07	147	*e*P	Pn	18 31 55.4	-0.4
AHML				IAML		18 31 57.6	
	comp=Z,15nm,0.8s						
AHML				*e*S	Sn	18 32 32.2	-2.2
PB04	IPOC Station P	3.29	304	⇑*i*P	Pn	18 31 58.8	+0.1
PB04				*i* S	Sn	18 32 36.8	-2.6
PB04				IAML		18 32 41.8	
	comp=N,1μm,0.2s						
PB07	IPOC Station P	3.50	315	⇑*i*P	Pn	18 32 01.5	+0.3
PB07				*i* S	Sn	18 32 42.0	-2.0
PB07				IAML		18 32 43.5	
	comp=N,2μm,0.5s						
PB01	IPOC Station P	3.79	326	⇑*i*P	Pn	18 32 04.7	-0.2
PB01				*i* S	Sn	18 32 48.9	-1.7
PB01				IAML		18 32 51.0	
	comp=N,723nm,0.4s						
PB08	IPOC Station P	4.43	336	⇑*i*P	Pn	18 32 13.9	+0.5
PB08				*i* S	Sn	18 33 05.1	-0.7
LPAZ	La Paz	7.93	354	P	Pn	18 32 59.6	+0.3
	comp=N,3.1nm,0.3s,baz=164,slow=9.4,SNR=23						
LPAZ				S	Sn	18 34 24.4	-4.4
	comp=N,0.4nm,0.3s,baz=22,slow=11,SNR=2.7						
CPUP	Villa Florida	9.19	105	P	Pn	18 33 13.2	-2.0
	comp=N,0.2nm,0.3s,baz=272,slow=7.4,SNR=5.1						
SIV	San Ignacio	10.00	36	P	Pn	18 33 23.1	-2.9
	comp=N,0.8nm,0.3s,baz=226,slow=14,SNR=17						
SIV				S	Sn	18 35 05.6	-12
	comp=N,0.3nm,0.3s,baz=222,slow=12,SNR=3.1						
SIV				LR	LR	18 37 13.0	
	comp=N,34nm,19.6s,baz=345,slow=31						
PLCA	Paso Flores	16.71	189	P	P	18 34 49.5	0.0
	comp=N,0.1nm,0.3s,baz=20,slow=9.3,SNR=5.1						
TXAR	Lajitas Array	63.74	325	P	P	18 41 20.6	+1.3
	comp=N,0.3nm,0.6s,baz=149,slow=6.5,SNR=5.0						
TORD	Torodi Ar. Bea	76.82	69	P	P	18 42 38.3	-0.6
	comp=N,1.1nm,1.0s,baz=270,slow=6.3,SNR=7.7						
PDAR	Pinedale Array	77.23	329	P	P	18 42 41.7	+0.9
	comp=N,0.3nm,0.5s,baz=138,slow=8.3,SNR=3.4						
ASAR	Alice Springs	128.19	205	PKP	PKPdf	18 49 52.3	+0.2
	comp=N,0.9nm,0.8s,baz=104,slow=1.8,SNR=5.4						
WRA	Warramunga Arr	131.35	207	PKP	PKPdf	18 49 58.6	+0.5
	comp=N,0.9nm,0.8s,baz=159,slow=1.8,SNR=4.1						
ZALV	Zalesovo Beam	143.67	28	PKP	PKPbc	18 50 18.2	+0.7
	comp=N,0.9nm,0.5s,baz=316,slow=6.0,SNR=3.6						

*NIED **18** 18:32:00, 37°.80N×141°.60E, h50km, Mw5.4 Best double couple: M0 1.23000×10^17 NP1:φ±192.00000°, δ20.00000°, λ76.00000°. NP2:φ±26.00000°, δ71.00000°, λ95.00000°.*
*BJI **18** 18:32:20.1, 37°.71N×141°.76E, h46km, mb5.1/79, mB5.1/60, Ms5.0/77, Ms7 4.8/76*
*ISCJB **18** 18:32:23.7±0.3, 37°.79N±0°.02×141°.52E±0°.02, h53km±2km, mb5.2/214, MS4.8/77, Error ellipse: s-maj=3.4km s-min=2.2km az=145.4*
*JMA **18** 18:32:23.6, 37°.77N×141°.61E, h48km±1km, Ms2 Broadband fault plane solution: P waves. NP1: φ±19.00000°, δ69.00000°, λ90.00000°. NP2:φ±199.00000°, δ21.00000°, λ90.00000°. Principal axes: T Plg66.0000°, Azm289.0000°; N Plg0.0000°, Azm19.0000°; P Plg24.0000°, Azm109.0000°;*
JMA Felt III J1.
*MOS **18** 18:32:23.3±0.8, 38°.04N×141°.45E, h39km, mb5.6/73, MS4.9/37 Error ellipse: s-maj=6.1km s-min=3.8km az=106.2*
*IDC **18** 18:32:24.6±1.4, 37°.77N×141°.52E, h53km±13km, mb4.7/28, mb1 4.8/35, mb1mx4.6/53, mbtmp5.0/35, ML4.1/6, MS4.6/41, Ms1 4.6/41, ms1mx4.5/54, Error ellipse: s-maj=13.1km s-min=8.5km az=110.0*
*GCMT **18** 18:32:25.7±0.2, 37°.82N×141°.70E, h52km, MW5.4/113, Moment Tensor Solution. s76,c125; s113,c207; Duration: 1s2 Moment tensor: Scale 10^17Nm; Mrr 1.31±.04; Mθθ-0.24±.03; Mφφ-1.07±.03; Mrθ 0.40±.02; Mθφ-0.37±.02; Mφr 0.81±.02; Best double couple: M0 1.55200×10^17 NP1:φ±24.00000°, δ63.00000°, λ93.00000°. NP2:φ±198.00000°, δ27.00000°, λ85.00000°. Principal axes: T 1.6030, Plg72.0000°, Azm300.0000°; N -0.1010, Plg2.0000°, Azm203.0000°; P -1.5000, Plg18.0000°, Azm112.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*NEIC **18** 18:32:25.7±0.5, 37°.84N×141°.40E, h54km±4km, mb5.1/89 Error ellipse: s-maj=4.8km s-min=2.8km az=147.0*
NEIC Felt at Tokyo and Utsunomiya. Recorded [3 JMA] in Fukushima and Miyagi.
**ISC 18 18:32:24.

comp=Z,442nm,0.3s,baz=99,slow=24,SNR=14
JHJ LR LR 18 35 51.8

comp=Z,5μm,20.1s,baz=21,slow=43
ASAJ Asahikawa 6.36 7 P **Pn 18 33 55.1 -0.1**
ASAJ S **Sn 18 35 09.1 +2.6**

comp=Z,92nm,0.3s,baz=90,slow=34,SNR=22
ASAJ Asahikawa 6.36 7 *e*Pn **Pn 18 33 55.0 -0.2**
ASAJ Sn **Sn 18 35 01.0 -5.5**
ASAJ S **Sn 18 35 09.1 +2.6**
YUK Yuzh-Kuril'sk 7.03 26 *e*P **Pn 18 34 02.5 -1.9**
YUK *i* S **Sn 18 35 18.9 -4.1**
YUK pmax pmax

comp=Z,471nm,0.3s
YUK pmax pmax

comp=N,369nm,0.4s
YUK pmax pmax

comp=E,19nm,0.2s
SHO Shikotan 7.27 32 *e*P **Pn 18 34 04.8 -2.8**
SHO *e*S **Sn 18 35 22.8 -5.9**
SHO pmax pmax

comp=Z,205nm,0.4s
KUR Kuril'sk 8.81 31 *d i*P **Pn 18 34 27.6 -1.1**
KUR *i* S **Sn 18 36 01.7 -4.8**
KUR pmax pmax

comp=N,71nm,0.4s
KUR pmax pmax

comp=E,97nm,0.4s
KUR pmax pmax

comp=Z,152nm,0.4s
KUR smax smax

comp=N,690nm,0.6s
KUR smax smax

comp=E,346nm,0.4s
KUR MLR MLR

comp=Z,3μm,17.0s
VLA Vladivostok 9.08 309 *e*P **Pn 18 34 33.8 +1.3**
YSS Yuzh-Sakhalins 9.19 5⇑ *e*P **Pn 18 34 34.0 0.0**
YSS *e*S **Sn 18 36 14.0 -2.0**
YSS pmax pmax

comp=Z,100nm,1.0s
YSS Yuzh-Sakhalins 9.19 5 *e*Pn **Pn 18 34 33.8 -0.2**
MSHR Mys Shultsa 9.27 304⇓ *e*P **Pn 18 34 35.7 +0.6**
USRK Ussuriysk Ar. 9.65 315 P **Pn 18 34 40.2 0.0**
comp=Z,5.7nm,0.3s,baz=132,slow=13,SNR=58
USRK LR LR 18 38 15.0

comp=Z,8μm,19.0s,baz=121,slow=36
JNU Nakatsue 9.87 245 P **Pn 18 34 45.2 +1.8**
comp=Z,2.6nm,0.3s,baz=54,slow=5.4,SNR=26
JNU LR LR 18 38 58.8

comp=Z,39nm,18.4s,baz=58,slow=40
JNU Nakatsue 9.87 245 *e*Pn **Pn 18 34 42.8 -0.6**
CBIJ Chichi jima 10.69 177 *e*Pn **Pn 18 34 52.4 -2.1**
KSRS Korea Array 10.82 272 P **Pn 18 34 57.7 +1.5**
comp=Z,1.7nm,0.3s,baz=90,slow=12,SNR=27
KSRS LR LR 18 39 02.0

comp=Z,5μm,19.3s,baz=75,slow=37
KSAR Wonju Array Be 10.85 272 P **Pn 18 34 57.7 +1.0**
KSAR Wonju Array Be 10.85 272 P **Pn 18 34 57.7 +1.0**
MDJ Mudanjiang 11.29 311 P **Pn 18 35 06.9 +4.3**
MDJ S **Sn 18 37 05.8 -1.5**
MDJ PcP **PcP 18 40 56.0 +1.4**
MDJ ScP **ScP 18 44 26.1 +2.7**
MDJ PcS **PcS 18 44 30.0 +1.7**
MDJ ScS **ScS 18 48 00.1 +1.4**
MDJ pmax pmax

comp=Z,220nm,1.1s
MDJ pmax pmax

comp=Z,1μm,4.9s
MDJ LR LR

comp=Z,2μm,18.0s
MDJ LR LR

comp=Z,3μm,17.6s
MDJ LR LR

comp=Z,6μm,18.9s
HABR Khabarovsk 11.67 338 *de*P **Pn 18 35 05.3 -2.6**
HABR *e*S **Sn 18 37 13.3 -3.3**
HABR pmax pmax

comp=N,14nm,1.6s
HABR pmax pmax

comp=E,22nm,1.6s
HABR pmax pmax

comp=Z,41nm,1.6s
HABR MLR MLR

comp=Z,1μm,10.0s
CN2 Changchun 13.58 301 *e*P **Pn 18 35 35.9 +1.9**
CN2 *es*P P 18 35 50.5 +8.6
CN2 *e*S **Sn 18 38 05.5 +2.1**
CN2 pmax pmax

comp=Z,30nm,1.3s
CN2 pmax pmax

comp=Z,200nm,4.0s
CN2 LR LR

comp=Z,1μm,15.0s
CN2 LR LR

comp=Z,3μm,15.0s
CN2 LR LR

comp=Z,3μm,17.0s
SNY Shenyang 14.39 292 P **P 18 35 48.4 -2.4**
SNY pmax pmax

comp=Z,32nm,1.0s
SNY pmax pmax

comp=Z,1μm,12.0s
SNY LR LR

comp=Z,1μm,13.2s
SNY LR LR

comp=Z,7μm,15.5s
SNY LR LR

comp=Z,8μm,15.9s
JOW Kunigami 15.65 230 LR LR 18 41 41.2
comp=Z,950nm,21.8s,baz=74,slow=36
DL2 Dalian 15.67 280 P **P 18 36 04.8 -0.3**
DL2 sP **sP 18 36 19.4 -2.1**
DL2 S **S 18 39 01.3 -6.2**
DL2 pmax pmax

comp=Z,290nm,1.0s
DL2 pmax pmax

comp=Z,660nm,4.3s
DL2 LR LR

comp=Z,3μm,21.9s
DL2 LR LR

comp=Z,4μm,21.9s
OKH Okha 15.78 3⇑ *i*P **Pn 18 36 01.1 -1.9**
OKH *e*S **Sn 18 38 52.5 -4.2**
OKH pmax pmax

comp=Z,200nm,19.0s
OKH smax smax

comp=E,300nm,24.0s
OKH MLR MLR

comp=Z,2μm,22.0s
SKR Severo-Kuril's 16.54 34 *e*P **P 18 36 18.7 +4.1**
SKR *e*S **Sn 18 39 15.9 +0.9**
SKR pmax pmax

comp=Z,39nm,0.7s
SKR pmax pmax

comp=Z,400nm,3.3s
SKR MLR MLR

comp=Z,1μm,18.0s
SSE Sheshan 18.06 254 P **P 18 36 30.3 -1.3**
SSE sP **sP 18 36 46.9 -1.2**
SSE S **Sn 18 39 49.6 -2.6**
SSE pmax pmax

comp=Z,29nm,0.7s
SSE pmax pmax

comp=Z,400nm,4.9s
SSE LR LR

comp=Z,2μm,31.3s
SSE LR LR

comp=Z,2μm,31.3s
SSE LR LR

comp=Z,2μm,26.1s
PEA0B Petropavlovsk- 18.98 31 *e*P **Pn 18 36 42.3 -0.2**
comp=Z,60nm,1.0s
PETK Petropavlovsk- 18.98 31 P **P 18 36 41.2 -0.3**
comp=Z,0.3nm,0.3s,baz=206,slow=9.5,SNR=13
PETK LR LR 18 45 12.3

comp=Z,773nm,18.0s,baz=220,slow=40
PET Petropavlovsk 19.31 32 *e*P **P 18 36 45.3 +0.2**
PET *e*S **S 18 40 16.1 -5.0**
PET pmax pmax

comp=Z,400nm,7.6s
PET pmax pmax

comp=Z,47nm,1.1s
PET pmax pmax

comp=Z,200nm,15.6s
PET MLR MLR

comp=N,1μm,18.0s
PET MLR MLR

comp=Z,2μm,20.0s
NJ2 Nanjing 19.45 260 *e*P **P 18 36 46.5 -0.4**
NJ2 S **S 18 40 25.3 +1.0**
NJ2 pmax pmax

comp=Z,31nm,1.0s
NJ2 LR LR

comp=Z,800nm,8.7s
NJ2 LR LR

comp=Z,3μm,12.5s
NJ2 LR LR

comp=Z,3μm,13.3s
TIA Tai'an 19.56 273 *e*P **P 18 36 47.1 -0.9**
TIA S **S 18 40 23.9 -2.6**
TIA pmax pmax

comp=Z,170nm,1.1s
TIA LR LR

comp=Z,1μm,16.0s
TIA LR LR

comp=Z,2μm,14.0s
TIA LR LR

comp=Z,2μm,17.0s
BJI Beijing 19.85 284 P **P 18 36 50.1 -1.0**
BJI pP **pP 18 37 01.1 -0.8**
BJI sP **sP 18 37 05.5 -2.2**
BJI S **S 18 40 23.5 -8.7**
BJI sS **sS 18 40 47.8 -1.7**
BJI pmax pmax

comp=Z,79nm,1.4s
BJI pmax pmax

comp=Z,440nm,4.8s
BJI LR LR

comp=Z,1μm,16.4s
BJI LR LR

comp=Z,1μm,22.2s
BJI LR LR

comp=Z,2μm,32.8s
CLNS Chul'man 22.03 335 *e*P **P 18 37 13.9 -0.6**
CLNS *e* 18 37 28.2
CLNS *e*S **S 18 41 12.7 -2.1**
CLNS *e*SS **SnSn 18 41 47.1 +3.9**
CLNS pmax pmax

comp=N,62nm,1.2s
CLNS pmax pmax

comp=Z,64nm,1.0s
CLNS pmax pmax

comp=E,26nm,1.0s
CLNS smax smax

comp=N,52nm,1.3s
CLNS smax smax

comp=E,29nm,1.1s
CLNS MLR MLR

comp=E,1μm,19.0s
CLNS MLR MLR

comp=Z,2μm,20.0s
CLNS MLR MLR

comp=N,2μm,21.0s
SSLB Suanglung 22.47 237 *e*P **P 18 37 17.8 -1.7**
comp=N,44nm,1.0s
MA2 Magadan 22.59 12 P **P 18 37 20.0 -0.4**
comp=N,46nm,0.8s,baz=196,slow=8.2,SNR=32
MA2 LR LR 18 46 04.9

comp=N,654nm,21.2s,baz=200,slow=36
MA2 Magadan 22.59 12 *ce*P **P 18 37 20.8 +0.4**
TIY Taiyuan 22.98 279 *e*P **P 18 37 30.3 +5.5**
TIY pP sP 18 37 53.1 +12
TIY S **S 18 41 29.0 -2.9**
TIY sS sS 18 42 09.3 +18
TIY SS **SnSn 18 42 16.4 +10**
TIY pmax pmax

comp=Z,75nm,1.2s
TIY pmax pmax

comp=Z,240nm,5.4s
TIY LR LR

comp=N,810nm,15.7s
TIY LR LR

comp=E,2μm,14.7s
TIY LR LR

comp=Z,2μm,16.3s
TPUB Ta-pu 23.02 237 *e*P **P 18 37 22.6 -2.7**
comp=Z,67nm,1.0s
TWG Pinlang 23.07 235 *e*P **P 18 37 24.9 -0.7**
comp=Z,185nm,0.8s
HHC Hu-ho-hao-te 23.34 287 *e*P **P 18 37 26.8 -1.6**
HHC sP sP 18 37 48.8 +3.4
HHC S **S 18 41 30.8 -7.1**
HHC SS **SnSn 18 42 23.3 +7.7**
HHC pmax pmax

comp=Z,81nm,1.0s
HHC pmax pmax

comp=Z,200nm,6.8s
HHC LR LR

comp=Z,1μm,13.3s
HHC LR LR

comp=Z,2μm,16.3s
HHC LR LR

comp=Z,2μm,14.9s
QZH Quanzhou 23.35 243 *e*P **P 18 37 28.6 +0.2**
QZH S **S 18 41 37.5 -0.4**
QZH LR LR

comp=Z,4μm,20.0s
WHN Wuhan 23.59 260 P **P 18 37 30.8 +0.2**
WHN S **S 18 41 35.3 -6.4**
WHN LR LR

comp=Z,6μm,15.2s
CIT Chita 24.21 315 *e*P **P 18 37 36.7 +0.4**
CIT *e* 18 37 47.6
CIT *e* 18 37 53.2
CIT *e* 18 38 10.7
CIT pmax pmax

comp=Z,414nm,1.2s
GUMO Guam 24.29 172 LR LR 18 47 31.1
comp=Z,486nm,21.3s,baz=24,slow=37
BTO Baotou 24.53 286 *e*P **P 18 37 35.8 -3.6**
SEY Seymchan 26.02 11 P **P 18 37 53.1 +0.6**
comp=Z,68nm,1.0s,baz=199,slow=7.9,SNR=58
SEY LR LR 18 49 47.9

comp=Z,791nm,18.4s,baz=179,slow=40
BOD Bodaibo 26.95 327 *e*P **P 18 37 59.8 -1.1**
BOD pmax pmax

comp=Z,104nm,1.1s
ULN Ulaanbaatar 27.02 303 *ce*P **P 18 38 01.2 -0.7**
ULN pmax pmax

comp=Z,67nm,1.2s
ULN Ulaanbaatar 27.02 303 *e*P **P 18 38 00.7 -1.2**
comp=Z,58nm,1.1s
ULN Ulaanbaatar 27.02 303 P **P 18 38 00.4 -1.5**
SNR=28
SONA1 Songino Array 27.45 303 *e*P **P 18 38 05.5 -0.3**
SONM Songino Array 27.46 303 P **P 18 38 05.2 -0.6**
comp=Z,35nm,0.8s,baz=95,slow=9.2,SNR=72
SONM LR LR 18 49 27.5

comp=Z,2μm,18.2s,baz=119,slow=37
H11N2 WAKE ISLAND Hy 28.45 122 T T 19 08 37.7
baz=316,slow=75,SNR=945
H11N1 WAKE ISLAND Hy 28.46 122 T T 19 08 30.4
baz=316,slow=75,SNR=828
H11N3 WAKE ISLAND Hy 28.47 122 T T 19 08 31.2
baz=316,slow=75,SNR=991
H11S1 WAKE ISLAND Hy 29.19 124 T T 19 08 43.6
baz=316,slow=76,SNR=699
H11S3 WAKE ISLAND Hy 29.19 124 T T 19 08 45.8
baz=316,slow=76,SNR=942
H11S2 WAKE ISLAND Hy 29.21 124 T T 19 08 46.3
baz=316,slow=76,SNR=188
IRK Irkutsk 29.67 311 *e*P **P 18 38 25.1 -0.2**
IRK pmax pmax

comp=Z,37nm,4.2s
TGY Tagaytay City 29.87 223 LR LR 18 49 43.1
comp=Z,320nm,21.7s,baz=36,slow=35
ZAK Zakamensk 29.89 307 *e*P **P 18 38 27.2 -0.1**
ZAK pmax pmax

comp=Z,29nm,1.1s
TLY Talaya 29.92 310 *e*P **P 18 38 27.9 +0.4**
TLY *e*S **S 18 43 17.8 -3.8**
TLY pmax pmax

comp=Z,41nm,1.4s
TLY MLR MLR

comp=Z,2μm,18.0s
TLY Talaya 29.92 310 *e*P **P 18 38 26.2 -1.3**
comp=Z,24nm,0.9s
TLY Talaya 29.92 310 P **P 18 38 27.2 -0.3**
SNR=8.8
TLY Talaya 29.92 310 P **P 18 38 27.2 -0.3**
SNR=8.8
TLY P **P 18 38 27.2 -0.3**
LZH Lanzhou 30.05 278 ⇑P **P 18 38 29.8 +0.8**
LZH pP pP 18 38 40.8 -0.3
LZH sP sP 18 38 46.5 0.0
LZH PP **PnPn 18 39 30.0 +2.8**
LZH S **S 18 43 23.3 -1.1**
LZH sS sS 18 43 43.0 -1.6
LZH SS **SnSn 18 45 02.8 +3.3**
LZH pmax pmax

comp=Z,100nm,1.3s
LZH pmax pmax

comp=Z,260nm,6.0s
LZH LR LR

comp=Z,960nm,13.0s
LZH LR LR

comp=Z,2μm,13.2s
LZH LR LR

comp=Z,3μm,16.5s
GYA Guiyang 31.46 259⇑ *i*P **P 18 38 40.4 -1.1**
GYA pP pP 18 38 54.8 +1.2
GYA PP **PnPn 18 39 47.0 +1.4**
GYA PcP **PcP 18 41 36.3 +2.4**
GYA S **S 18 43 44.6 -1.9**
GYA sS sS 18 44 06.0 -0.7
GYA SS **SnSn 18 45 33.3 -0.6**
GYA pmax pmax

comp=Z,130nm,1.0s
GYA pmax pmax

comp=Z,190nm,5.4s
GYA LR LR

comp=Z,580nm,17.6s
GYA LR LR

comp=Z,510nm,17.2s
GYA LR LR

comp=Z,560nm,17.8s
MOY Mondy 31.53 309 *e*P **P 18 38 43.0 +1.1**
MOY pmax pmax

comp=Z,27nm,1.3s
CD2 Chengdu 31.79 269⇓ *i*P **P 18 38 44.8 +0.6**
CD2 pP pP 18 38 51.6 -4.7
CD2 PP **PnPn 18 39 48.4 -1.3**
CD2 S **S 18 43 46.6 -4.7**
CD2 sS sS 18 44 06.5 -5.1
CD2 SS **SnSn 18 45 40.5 -1.1**
CD2 ScS **ScS 18 49 05.5 -7.1**
CD2 pmax pmax

comp=Z,40nm,0.9s
CD2 pmax pmax

comp=Z,340nm,5.7s
CD2 LR LR

comp=Z,2μm,15.2s
CD2 LR LR

comp=Z,1μm,19.0s
CD2 LR LR

comp=Z,2μm,15.2s
GTA Gaotai 32.45 286 P **P 18 38 48.5 -1.6**
GTA pP pP 18 39 00.3 -1.9
GTA sP sP 18 39 05.1 -2.5
GTA PcP **PcP 18 41 37.3 +0.9**
GTA S **S 18 43 57.3 -4.4**
GTA sS sS 18 44 17.3 -4.7
GTA ScS **ScS 18 49 14.3 -1.5**
GTA pmax pmax

comp=Z,6.0nm,1.0s
GTA pmax pmax

comp=Z,190nm,5.5s
GTA LR LR

comp=Z,890nm,20.4s
GTA LR LR

comp=Z,2μm,20.4s
GTA LR LR

comp=Z,2μm,20.0s
BILL Bilibino 33.26 17 *ce*P **P 18 38 55.8 -0.9**
BILL *e**PP **pP 18 39 11.4 +2.6**
BILL *e* 18 40 10.4
BILL *e*S **S 18 44 20.3 +6.9**
BILL *e*SS **SnSn 18 46 18.0 +1.5**
BILL pmax pmax

comp=Z,18nm,1.1s
BILL MLR MLR

comp=Z,453nm,18.0s
QIZ Qiongzhong 33.35 245 P **P 18 38 58.3 +0.4**
QIZ S **S 18 44 17.5 +1.9**
QIZ LR LR

comp=Z,940nm,19.4s
QIZ LR LR

comp=Z,790nm,18.0s
QIZ LR LR

comp=Z,1μm,17.4s
TIXI Tiksi 34.55 353 P **P 18 39 07.3 -0.4**
comp=Z,9.5nm,0.5s,baz=123,slow=5.2,SNR=11
TIXI Tiksi 34.55 353 *ce*P **P 18 39 08.0 +0.3**
TIXI *e* 18 40 24.7
TIXI pmax pmax

comp=Z,30nm,1.2s
TIXI Tiksi 34.55 353 *e*P **P 18 39 08.0 +0.3**
comp=Z,55nm,1.5s
KMI Kunming 35.19 260 P **P 18 39 14.0 -0.1**
KMI pP pP 18 39 24.1 -2.2
KMI sP sP 18 39 30.8 -0.9
KMI PP **PnPn 18 40 27.8 -5.0**
KMI S **S 18 44 44.4 -0.1**
KMI pmax pmax

comp=Z,93nm,1.2s
KMI pmax pmax

comp=Z,390nm,4.7s
KMI LR LR

comp=Z,1μm,22.5s
KMI LR LR

comp=Z,1μm,23.8s
KMI LR LR

comp=Z,2μm,25.5s
SLVN Son La 36.34 254 *e*P **P 18 39 23.9 +0.1**
comp=Z,20nm,0.9s
MYLDM Lahad Datu 38.67 219 *e*P **P 18 39 45.4 +1.9**
comp=Z,58nm,1.0s
UBPT Khong Chiam 38.95 245 P **P 18 39 46.8 +1.0**
comp=Z,36nm,1.3s,comp=Z,680nm
DLV T Lat 39.18 238 *e*P **P 18 39 48.9 +0.9**
comp=Z,51nm,1.1s
JAY Jayapura 40.12 181 P P 18 40 01.6 +6.1
comp=Z,37nm,1.3s
GENI Genyem 40.21 182 P **P 18 39 58.4 +2.2**
KMSI Cibinong 40.43 208 P **P 18 39 59.0 +1.0**
WMQ Urumqi 40.60 296 P **P 18 39 59.9 +0.6**
WMQ pP pP 18 40 12.1 +0.4
WMQ sP sP 18 40 15.5 -1.5
WMQ PP **PnPn 18 41 38.5 +1.0**
WMQ PcP **PcP 18 42 02.9 +2.2**
WMQ S **S 18 46 06.0 +0.3**
WMQ sS sS 18 46 25.8 -0.5
WMQ SS **SS 18 49 05.8 -0.8**
WMQ pmax pmax

comp=Z,110nm,1.1s
WMQ pmax pmax

comp=Z,490nm,3.7s
WMQ LR LR

comp=Z,1μm,13.9s
WMQ LR LR

comp=Z,950nm,18.5s
WMQ LR LR

comp=Z,2μm,25.5s
GTOI Gorontalo 40.73 209 P **P 18 40 00.1 -0.5**
comp=Z,40nm,0.8s,comp=Z,447nm
UTTA Uttaradit 41.00 252 P **P 18 40 03.9 +1.1**
comp=Z,4.4nm,1.0s
CHAI Chaiyaphum 41.08 249 P **P 18 40 03.8 +0.3**
comp=Z,18nm,1.0s,comp=Z,127nm
LAMP Lampang 41.24 254 P **P 18 40 06.0 +1.3**
comp=Z,7.2nm,0.9s
MRSI Marisa 41.30 211 P **P 18 40 06.4 +1.2**
comp=Z,31nm,0.8s
PBKT Sadao Pong 41.41 251 P **P 18 40 06.6 +0.4**
comp=Z,22nm,1.0s,comp=Z,513nm
ZAA0 Zalesovo Array 41.48 312 *e*P **P 18 40 06.5 +0.1**
ZALV Zalesovo Beam 41.48 312 P **P 18 40 06.5 +0.1**
comp=Z,65nm,0.8s,baz=88,slow=6.8,SNR=119
ZALV LR LR 18 58 05.2

comp=Z,2μm,18.3s,baz=70,slow=37
CMMT Chiang Mai 41.59 255 P **P 18 40 08.0 +0.4**
comp=Z,27nm,1.1s,comp=Z,691nm
CHTO Chiang Mai 41.59 255 P **P 18 40 08.1 +0.4**
comp=Z,87nm,1.4s
CHTO Chiang Mai 41.59 255 *e*P **P 18 40 07.7 0.0**
CHTO pmax pmax

comp=Z,20nm,1.0s
CHTO Chiang Mai 41.59 255 eP P 18 40 07.7 0.0
comp=Z,20nm,1.0s
CHTO Chiang Mai 41.59 255 P P 18 40 07.3 -0.4
SNR=8.7
CHTO Chiang Mai 41.59 255 P P 18 40 07.3 -0.4
SNR=8.7
CM31 Chiang Mai Arr 41.80 255 eP P 18 40 10.5 +1.1
CMAR Chiang Mai Arr 41.80 255 P P 18 40 09.3 -0.1
comp=Z,4.1nm,0.7s,baz=44,slow=8.3,SNR=27
CMAR LR LR 18 59 59.3
comp=Z,510nm,18.4s,baz=50,slow=40
CM01 Chiang Mai Arr 41.81 255 eP P 18 40 08.7 -0.7
SUKH Sukhothai 41.86 253 P P 18 40 11.0 +1.2
comp=Z,6.3nm,1.2s
SANI Sanana 42.19 204 P P 18 40 11.5 -1.0
comp=Z,50nm,0.8s,comp=Z,645nm
NVS Novosibirsk 42.39 313 ⇓ iP P 18 40 14.0 +0.2
NVS pmax pmax
comp=E,50nm,1.0s
NVS pmax pmax
comp=Z,75nm,1.0s
NVS pmax pmax
comp=N,7.0nm,0.7s
NRIK Noril'sk 42.62 335 P P 18 40 15.0 -0.4
comp=N,7.9nm,0.3s,baz=113,slow=7.2,SNR=21
NRIK LR LR 18 59 03.7
comp=N,2μm,18.8s,baz=110,slow=38
NRIK Noril'sk 42.62 335 P P 18 40 15.0 -0.4
NRIK pmax pmax
comp=Z,8.0nm,0.4s
NRIK MLR MLR
comp=Z,2μm,18.8s
UMPA Umpang Tak 43.22 252 P P 18 40 23.8 +2.8
comp=Z,11nm,1.0s,comp=Z,106nm
PCI Palu 43.42 213 P P 18 40 22.4 -0.1
comp=Z,42nm,1.2s,comp=Z,574nm
SHL Shillong 43.53 269 eP P 18 40 24.0 +0.4
MK01 Makanchi Array 43.81 301 eP P 18 40 25.2 -0.2
MK31 Makanchi Array 43.81 301 i P P 18 40 25.2 -0.2
MK31 pmax pmax
comp=Z,94nm,1.0s
MK31 Makanchi Array 43.81 301 eP P 18 40 25.3 -0.1
MAKZ Makanchi 44.02 302 P P 18 40 25.8 -1.3
MAKZ pmax pmax
comp=Z,87nm,1.0s
MAKZ Makanchi 44.02 302 eP P 18 40 27.3 +0.2
comp=Z,76nm,1.0s
SRDT SRDT 44.19 250 P P 18 40 31.4 +2.7
comp=Z,78nm,0.8s
SBUM Sibu 44.28 225 eP P 18 40 29.6 +0.1
comp=Z,8.7nm,0.9s
PHET Kaeng Krachan 44.75 248 P P 18 40 35.1 +1.9
comp=Z,13nm,0.7s,comp=Z,147nm
SVW2 Sparrevohn 44.85 38 eP P 18 40 35.0 +1.5
comp=Z,18nm,1.0s
KURK Kurchatov 45.55 308 ceP P 18 40 38.8 -0.3
KURK pmax pmax
comp=Z,450nm,1.1s
KURK Kurchatov 45.55 308 eP P 18 40 38.8 -0.3
comp=Z,153nm,0.8s
KURK Kurchatov 45.55 308 P P 18 40 38.7 -0.4
SNR=76
KURK Kurchatov 45.55 308 P P 18 40 38.7 -0.4
SNR=76
KURK P P 18 40 38.7 -0.4
SNR=76
KURBB Kurchatov Arra 45.62 307 P P 18 40 39.3 -0.4
comp=Z,84nm,0.9s,baz=83,slow=8.1,SNR=132
MTKI Muara Teweh, K 45.74 219 P P 18 40 42.2 +1.2
comp=Z,34nm,0.8s
TAPN Taplejung 46.00 273 eP P 18 40 43.6 +0.2
OHAK Old Harbor 46.12 43 eP P 18 40 44.1 +0.6
comp=Z,20nm,0.8s
KSM Kuching 46.16 226 eP P 18 40 44.6 +0.3
comp=Z,18nm,0.8s
RSO Redoubt South 46.24 39 eP P 18 40 45.7 +1.0
KDAK Kodiak Island 46.46 42 P P 18 40 46.2 0.0
comp=Z,24nm,1.0s,baz=297,slow=2.9,SNR=13
KDAK LR LR 19 00 10.4
comp=Z,809nm,21.1s,baz=250,slow=36
KDAK Kodiak Island 46.46 42 ceP P 18 40 46.8 +0.6
KDAK Kodiak Island 46.46 42 eP P 18 40 46.9 +0.8
comp=Z,27nm,0.8s
ODAN Odare 46.48 273 eP P 18 40 47.0 -0.1
comp=Z,147nm,0.9s
PPLA Purkeypile 46.48 35 eP P 18 40 46.5 +0.1
comp=Z,32nm,1.2s
PDGK Podgornoye 46.52 297 P P 18 40 45.0 -2.0
PDGK pmax pmax
comp=Z,87nm,1.0s
CAST Castle Rocks 46.53 35 eP P 18 40 47.2 +0.5
comp=Z,12nm,0.9s
SPU Mount Spurr 46.56 38 eP P 18 40 47.4 +0.3
STKI Sintang 46.67 224 P sP 18 41 09.7 +3.5
KTH Kantishna Hill 47.05 34 eP P 18 40 51.9 +1.0
comp=Z,27nm,1.1s
JIRN Jiri 47.06 275 eP P 18 40 51.9 +0.1
comp=Z,320nm,1.0s
RAMN Ramite 47.06 273 eP P 18 40 51.6 0.0
comp=Z,371nm,1.1s
SUA Susitna One 47.18 37 eP P 18 40 53.8 +1.9
comp=Z,17nm,1.0s
GUN Gumba 47.19 275 eP P 18 40 53.0 +0.2
comp=Z,364nm,0.9s
COLD Coldfoot 47.43 29 eP P 18 40 56.1 +2.4
comp=Z,8.9nm,1.0s
PKI Pulchoki 47.72 275 eP P 18 40 56.4 -0.4
comp=Z,92nm,0.9s
KKN Kakani 47.72 275 eP P 18 40 56.7 0.0
comp=Z,188nm,1.0s
PKIN Phulchoki 47.73 275 eP P 18 40 56.3 -0.5
comp=Z,38nm,0.6s
TOLK Toolik Lake Re 47.74 27 P P 18 40 56.4 +0.2
baz=267
MCK McKinley 47.94 34 eP P 18 40 58.5 +0.8
MCK pmax pmax
comp=Z,13nm,0.9s
MCK McKinley 47.94 34 eP P 18 40 58.5 +0.8
comp=Z,13nm,0.9s
DMN Daman 47.94 275 eP P 18 40 58.1 -0.4
RND Reindeer 47.99 35 eP P 18 40 58.5 +0.4
RND pmax pmax
comp=Z,40nm,1.5s
RND Reindeer 47.99 35 eP P 18 40 58.5 +0.4
comp=Z,40nm,1.5s
GKN Gorkha 48.13 276 eP P 18 40 59.8 0.0
comp=Z,470nm,1.1s
MDM Murphy Dome 48.21 32 eP P 18 41 01.2 +1.4
comp=Z,36nm,1.1s
WRH Wood River Hil 48.29 33 eP P 18 41 01.1 +0.8
comp=Z,10nm,0.7s
SML Sawmill 48.31 37 eP P 18 41 01.5 +0.9
SML pmax pmax
comp=Z,32nm,1.0s
SML Sawmill 48.31 37 eP P 18 41 01.5 +0.9
comp=Z,32nm,1.0s
AAA Alma-Ata 48.36 298 eP P 18 41 01.5 +0.2
AAA eS S 18 47 50.9 -7.4
AAA pmax pmax
comp=Z,500nm,4.8s
AAA smax smax
comp=E,500nm,13.2s
AAA MLR MLR
comp=Z,2μm,20.0s
CCB Clear Creek Bu 48.40 33 eP P 18 41 02.8 +1.6
comp=Z,8.7nm,1.0s
DHY Denali Highway 48.67 35 eP P 18 41 04.2 +0.7
comp=Z,22nm,1.2s
HDA Harding Lake 48.78 33 eP P 18 41 04.5 +0.4
comp=Z,37nm,1.4s
ILAR Eielson Array 48.79 33 P P 18 41 04.3 +0.1
comp=Z,5.6nm,0.7s,baz=266,slow=5.7,SNR=47
ILAR LR LR 19 02 47.6
comp=Z,231nm,21.2s,baz=276,slow=37
ILB Eielson Array 48.79 33 eP P 18 41 04.3 +0.1
IL1 Eielson Array 48.79 33 eP P 18 41 04.1 -0.1
KOLN Koldanda 49.05 276 eP P 18 41 06.9 -0.1
comp=Z,111nm,0.9s
TKM2 Tokmak 2 49.37 298 P P 18 41 08.8 -0.4
TKM2 pmax pmax
comp=Z,77nm,0.9s
PYUN Piuthan 49.38 277 eP P 18 41 09.7 +0.2
comp=Z,486nm,1.1s
FYU Fort Yukon 49.39 30 eP P 18 41 11.1 +2.3
comp=Z,38nm,1.0s
KLU Klutina 49.49 37 eP P 18 41 10.6 +0.9
comp=Z,18nm,1.0s
PAX Paxson 49.55 35 eP P 18 41 12.7 +2.6
PAX pmax pmax
comp=Z,8.0nm,1.0s
PAX Paxson 49.55 35 eP P 18 41 12.7 +2.6
comp=Z,8.3nm,1.0s
DIV Divide 49.60 37 eP P 18 41 12.3 +1.8
comp=Z,27nm,1.0s
IPM Ipoh 49.63 238 eP P 18 41 10.8 -0.4
PAX comp=Z,22nm,0.9s
EYAK Cordova Ski Ar 49.69 38 eP P 18 41 13.0 +2.0
comp=Z,21nm,1.0s
HARP HAARP 49.75 36 eP P 18 41 14.1 +2.5
comp=Z,25nm,0.7s
SOEI Soe 49.99 202 P sP 18 41 29.4 -2.5
FRU Bishkek 50.08 298 eP P 18 41 14.5 +0.1
FRU pmax pmax
comp=Z,105nm,1.7s
FRU MLR MLR
comp=E,1μm,18.0s
DOT Dot Lake 50.11 34 eP P 18 41 14.7 +0.4
comp=E,26nm,0.8s
BMRM Bremner River 50.19 38 eP P 18 41 16.2 +1.2
comp=E,27nm,1.0s
BRVK Borovoye 50.20 312 ceP P 18 41 15.2 +0.1
BRVK pmax pmax
comp=Z,83nm,1.2s
BRVK Borovoye 50.20 312 eP P 18 41 15.3 +0.3
comp=Z,27nm,0.9s
BRVK Borovoye 50.20 312 P P 18 41 14.2 -0.9
SNR=13
BRVK Borovoye 50.20 312 P P 18 41 14.2 -0.9
SNR=13
BRVK P P 18 41 14.2 -0.9
SNR=13
KSH Kashi 50.20 294 ⇑ iP P 18 41 19.1 +3.7
KSH pP pP 18 41 30.8 +2.7
KSH sP sP 18 41 36.5 +3.1
KSH PP **PP** **18 43 15.8 +5.0**
KSH S **S** **18 48 26.9 +2.6**
KSH sS sS 18 48 48.8 +3.4
KSH SS **SS** **18 51 58.9 +1.2**
KSH pmax pmax
comp=Z,37nm,1.0s
KSH pmax pmax
comp=Z,180nm,4.1s
KSH LR LR
comp=Z,1μm,18.5s
KSH LR LR
comp=Z,800nm,14.5s
KSH LR LR
comp=Z,1μm,15.8s
AAK Ala-Archa 50.23 298 d iP P 18 41 16.3 +0.7
AAK pmax pmax
comp=Z,90nm,0.8s
AAK Ala-Archa 50.23 298 eP P 18 41 15.7 +0.1
comp=Z,37nm,0.8s
AAK Ala-Archa 50.23 298 P P 18 41 13.8 -1.9
SNR=17
RAGM Ragged Mountai 50.23 38 eP P 18 41 18.5 +3.2
comp=Z,26nm,1.0s
MENT Mentasta 50.35 35 eP P 18 41 17.8 +1.7
comp=Z,18nm,0.9s
PPBI Pangkal Pinang 51.52 228 P P 18 41 25.3 -0.1
comp=Z,21nm,0.9s
MNAS Manas 51.66 298 i P P 18 41 24.5 -2.0
MNAS pmax pmax
comp=Z,53nm,0.8s
TWSI Taliwang, Sumb 51.72 212 P P 18 41 25.8 -1.0
comp=Z,27nm,0.9s,comp=Z,1μm
BKNI Bangkinang 52.72 235 P P 18 41 34.8 +0.4
comp=Z,75nm,0.9s
BKNI Bangkinang 52.72 235 eP P 18 41 35.5 +1.1
comp=Z,57nm,0.8s
KK31 Karatay Array 52.84 300 i P P 18 41 34.8 -0.2
KK31 pmax pmax
comp=Z,35nm,1.1s
KKAR Karatay Array 52.84 300 eP P 18 41 35.1 +0.1
KKAR pmax pmax
comp=Z,208nm,1.0s
KKAR Karatay Array 52.84 300 eP P 18 41 35.1 +0.1
comp=Z,208nm,1.0s
BHK Bhakra 53.03 284 eP P 18 41 39.2 +2.6
PWJI Pagerwojo 53.38 218 P P 18 41 38.0 -1.1
comp=Z,66nm,0.8s,comp=Z,978nm
SDSI Sungai Dareh 53.43 233 P P 18 41 39.0 -0.6
comp=Z,38nm,0.8s
INK Inuvik 53.66 27 P P 18 41 41.2 +0.7
comp=Z,11nm,0.6s,baz=313,slow=6.4,SNR=18
INK Inuvik 53.66 27 eP P 18 41 41.5 +0.9
INK pmax pmax
comp=Z,14nm,0.8s
INK Inuvik 53.66 27 eP P 18 41 41.5 +0.9
comp=Z,14nm,0.8s
JBP Jabalpur 54.14 273 ⇑ eP P 18 41 43.2 -1.5
JBP eS S 18 49 17.9 -0.5
KPJI Karang Pucung 54.24 221 P P 18 41 45.1 -0.3
comp=Z,24nm,1.4s
SVE Sverdlovsk 54.65 318 d iP P 18 41 48.1 +0.1
SVE eS S 18 49 23.6 -0.8
SVE pmax pmax
comp=Z,100nm,0.9s
SVE MLR MLR
comp=Z,2μm,17.0s
SVE MLR MLR
comp=E,2μm,17.0s
SOKR Solikamsk 55.79 322 c iP P 18 41 54.8 -1.2
SOKR S S 18 49 40.4 +1.0
SOKR pmax pmax
comp=Z,49nm,1.1s
SOKR MLR MLR
comp=Z,678nm,18.0s
ARU Arti 55.86 318 c iP P 18 41 56.4 -0.3
ARU *PP **pP** **18 42 10.3 +0.8**
ARU 18 42 53.0
ARU 18 44 02.1
ARU PPP PPP 18 45 13.6
ARU S S **18 49 40.9 +0.3**
ARU *SS **pS** **18 49 57.8 +2.3**
ARU 18 51 38.9
ARU SS **SS** **18 53 29.2 +3.0**
ARU pmax pmax
comp=Z,137nm,1.2s
ARU MLR MLR
comp=Z,2μm,17.0s
ARU Arti 55.86 318 eP P 18 41 56.4 -0.3
comp=Z,141nm,1.2s
KBL Kabul 57.25 291 eP P 18 42 06.9 -0.3
KBL pmax pmax
comp=Z,92nm,1.1s
KBL Kabul 57.25 291 eP P 18 42 06.9 -0.3
comp=Z,92nm,1.1s
AB31 Akbulak array 57.53 310 i P P 18 42 08.2 -0.5
AB31 pmax pmax
comp=Z,21nm,0.7s
ABKAR Akbulak array 57.53 310 eP P 18 42 08.2 -0.5
comp=Z,239nm,0.8s
FITZ Fitzroy Crossi 57.58 198 P P 18 42 09.7 +0.5
baz=36,SNR=11
FITZ Fitzroy Crossi 57.58 198 eP P 18 42 09.9 +0.6
comp=Z,30nm,0.8s
WRA Warramunga Arr 57.83 188 P P 18 42 10.2 -0.8
comp=Z,11nm,0.6s,baz=5.5,slow=7.3,SNR=16
WRA LR LR 19 06 28.5
comp=Z,284nm,20.6s,baz=65,slow=35
AKTO Aktyubinsk 58.25 312 LR LR 19 08 32.1
comp=Z,1μm,18.3s,slow=37
AKTO Aktyubinsk 58.25 312 P P 18 42 13.5 -0.2
AKTO pmax pmax
comp=Z,38nm,1.0s
BBB Bella Bella 61.44 45 LR LR 19 06 32.3
comp=Z,225nm,21.8s,baz=295,slow=33
LVZ Lovozero 61.46 336 ceP P 18 42 35.7 +0.2
LVZ pmax pmax
comp=Z,36nm,1.1s
ASAR Alice Springs 61.56 188 P P 18 42 36.4 -0.2
comp=Z,6.9nm,0.8s,baz=9.9,slow=7.6,SNR=11
ASAR LR LR 19 08 44.0
comp=Z,329nm,21.3s,baz=358,slow=35
ASAR Alice Springs 61.56 188 P P 18 42 36.4 -0.2
ASAR pmax pmax
comp=Z,8.0nm,0.9s
ASAR MLR MLR
comp=Z,329nm,21.3s
RES Resolute Bay 61.83 15 LR LR 19 12 40.5
comp=Z,241nm,18.4s,baz=310,slow=39
APA Apatity 62.04 336 ⇓ iP P 18 42 38.6 -0.7
APA pmax pmax
comp=Z,27nm,0.8s
MBWA Marble Bar 62.13 203 eP P 18 42 40.4 0.0
comp=Z,25nm,0.8s
PALK Pallekele 62.64 257 ceP P 18 42 47.0 +2.8
YKA Yellowknife Ar 63.09 30 P P 18 42 46.4 -0.1
comp=Z,9.4nm,1.0s,baz=296,slow=6.7,SNR=21
KLMR Klimovskoe 63.17 328 eP P 18 42 45.4 -1.6
KLMR e 18 45 04.4
KLMR pmax pmax
comp=Z,114nm,1.5s
KLMR MLR MLR
comp=Z,338nm,17.0s
ARA0 ARCESS Array S 63.32 339 eP P 18 42 47.8 -0.1
ARCES ARCESS Array B 63.32 339 P P 18 42 47.2 -0.7
comp=Z,14nm,0.9s,baz=57,slow=8.8,SNR=13
ARCES LR LR 19 14 29.7
comp=Z,412nm,18.2s,baz=46,slow=40
ARCES ARCESS Array B 63.32 339 P P 18 42 47.2 -0.7
ARCES pmax pmax
comp=Z,13nm,0.9s
ARCES MLR MLR
comp=Z,412nm,18.2s
GEYT Alibeck 63.56 299 P P 18 42 49.9 -0.1
comp=Z,35nm,0.9s,baz=29,slow=3.7,SNR=50
GEYT LR LR 19 12 15.8
comp=Z,505nm,20.8s,baz=25,slow=38
DZM Mont Dzumac 63.99 154 eS S 18 51 29.6 +3.8
comp=Z,375nm,28.6s
DZM Mont Dzumac 63.99 154 eLR LR 19 02 18.6
comp=Z,1μm,21.4s
DAG Danmarks Havn 65.02 355 i P P 18 42 58.5 -0.4
comp=Z,27nm,0.9s
DAG Danmarks Havn 65.02 355 i P P 18 42 58.5 -0.4
DAG pmax pmax
comp=Z,22nm,0.9s
MOS Moscow 66.70 323 eP P 18 43 09.3 -0.7
MOS e 18 45 35.7
MOS pmax pmax
comp=Z,200nm,1.5s
MOS pmax pmax
comp=Z,133nm,1.3s
MOS MLR MLR
comp=Z,900nm,19.0s
OBN Obninsk 67.55 323 d iP P 18 43 15.4 0.0
OBN e 18 43 34.1
OBN e 18 45 43.3
OBN i S S **18 52 12.5 +4.1**
OBN e 18 53 11.3
OBN eSS SS **18 56 23.9 -4.7**
OBN pmax pmax
comp=Z,145nm,1.7s
OBN MLR MLR
comp=Z,491nm,17.0s
OBN Obninsk 67.55 323 eP P 18 43 16.3 +0.9
comp=Z,155nm,1.4s
PUL Pulkovo 67.59 329 ceP P 18 43 16.5 +1.0
PUL pmax pmax
comp=Z,67nm,0.8s
LPSR Galich'ya Gora 67.79 320 eP P 18 43 16.7 -0.2
LPSR pmax pmax
comp=Z,90nm,0.9s
FIA1 FINESS Array S 68.19 332 eP P 18 43 19.1 -0.2
FINES FINESS Array B 68.19 332 P P 18 43 18.9 -0.4
comp=Z,48nm,0.8s,baz=44,slow=5.7,SNR=77
FINES LR LR 19 15 23.5
comp=Z,609nm,18.7s,baz=51,slow=38
FINES FINESS Array B 68.19 332 i P P 18 43 18.8 -0.5
FINES pmax pmax
comp=Z,48nm,0.8s
I03D Drain, OR 68.34 51 P P 18 43 22.0 +1.5
baz=302
VSR Storozhevoye 68.43 319 eP P 18 43 20.2 -0.8
VSR pmax pmax
comp=Z,90nm,0.9s
VSR MLR MLR
comp=Z,2μm,16.0s
EDM Edmonton 68.68 39 eP P 18 43 23.4 +0.8
EDM pmax pmax
comp=Z,35nm,1.3s
EDM Edmonton 68.68 39 eP P 18 43 23.4 +0.8
comp=Z,35nm,1.3s
I04A Tendick Farm, 68.87 51 P P 18 43 23.9 -0.1
baz=303,SNR=5.1
L02D Cave Junction, 69.00 53 P P 18 43 24.9 +0.1
baz=302
STKA Stephens Creek 69.32 180 LR LR 19 12 25.5
comp=Z,267nm,21.8s,baz=14,slow=35
J04D Umpqua Nationa 69.35 51 P P 18 43 26.8 -0.3
baz=303
NEW Newport 69.51 44 P P 18 43 27.7 -0.1
baz=304
GOF Gofitskoye 69.67 312 ⇑ eP P 18 43 29.1 +0.3
GOF pmax pmax
comp=Z,190nm,1.4s
VSU Vasula 69.85 329 ceP P 18 43 29.4 -0.2
VSU pmax pmax
comp=Z,351nm,1.7s
J05D Fort Rock, OR 69.86 51 P P 18 43 30.2 0.0
baz=303,SNR=7.9
M02C Callahan 69.89 53 P P 18 43 30.3 0.0
baz=303,SNR=5.4
SUMG Summit 69.92 0 eP P 18 43 31.2 +0.8
SUMG pmax pmax
comp=Z,30nm,1.0s
SUMG Summit 69.92 0 eP P 18 43 31.2 +0.8
comp=Z,30nm,1.0s
NCK Nalchik 70.20 310 eP P 18 43 29.6 -2.5
NCK pmax pmax
comp=Z,34nm,1.0s
N02D Trinity Center 70.21 53 P P 18 43 32.4 +0.1
baz=303
GUDG Gudauri 70.22 309 P P 18 43 33.1 +0.6
DUS Dusheti 70.29 308 P P 18 43 39.0 +6.2
DUS Dusheti 70.29 308 P P 18 43 39.0 +6.2
M04C Macdoel 70.31 52 P P 18 43 32.8 -0.1
baz=304,SNR=11
ZEI Tsey 70.40 309 eP P 18 43 29.1 -4.5
ZEI pmax pmax
comp=Z,70nm,1.0s
TBLG Delisi 70.46 308 P P 18 43 35.2 +1.4
KVAR Kislovodsk Arr 70.48 311 LR LR 19 19 27.9
comp=Z,535nm,18.0s,slow=40
KBZ Khabaz 70.49 311 P P 18 43 34.0 +0.2
comp=Z,44nm,0.9s,baz=53,slow=4.4,SNR=62
KBZ LR LR 19 17 17.4
comp=Z,528nm,18.4s,baz=46,slow=38
KBZ Khabaz 70.49 311 P P 18 43 34.0 +0.2
KBZ pmax pmax
comp=Z,44nm,0.9s
KBZ MLR MLR
comp=Z,528nm,18.4s
KIV Kislovodsk 70.49 311 i P P 18 43 34.2 +0.2
SNR=24
KIV Kislovodsk 70.49 311 eP P 18 43 34.1 +0.2
KIV e 18 46 10.2
KIV eS S **18 52 43.3 -0.5**
KIV pmax pmax
comp=Z,178nm,1.1s
KIV pmax pmax
comp=Z,108nm,4.5s
KIV MLR MLR
comp=Z,542nm,18.0s
KIV Kislovodsk 70.49 311 eP P 18 43 33.6 -0.4
comp=Z,149nm,1.0s
KIV Kislovodsk 70.49 311 P P 18 43 34.4 +0.4
SNR=47
KIV Kislovodsk 70.49 311 P P 18 43 34.4 +0.4
SNR=47
KIV P P 18 43 34.4 +0.4
SNR=47
WSAR Wadi Sarin 70.78 285 LR LR 19 20 14.2
comp=Z,253nm,18.5s,slow=41
ONI Oni 70.78 309 P P 18 43 36.3 +0.5
WALA Waterton Lakes 70.80 42 eP P 18 43 36.8 +1.0
comp=Z,96nm,1.9s
NEY Neytrino 70.86 310 d iP P 18 43 37.2 +0.8
NEY pmax pmax
comp=Z,9.0nm,1.3s
BIDO Bidbid 71.01 285 P P 18 43 39.0 +1.7
SNR=7.4
BANOM Banah 71.07 288 i P P 18 43 37.8 +0.1
SNR=9.6
BMO Blue Mountains 71.33 47 eP P 18 43 40.1 +1.0
BMO pmax pmax

comp=Z,9.0nm,1.0s
BMO Blue Mountains 71.33 47 *e*P **P** 18 43 40.1 +1.0
comp=Z,9.2nm,1.0s
GNI Garni 71.34 307 LR LR 19 17 41.5
comp=Z,634nm,18.6s,baz=62,slow=38
GNI Garni 71.34 307 *i* P **P** 18 43 40.7 +1.4
SNR=6.1
GNI Garni 71.34 307 *e*P **P** 18 43 39.2 -0.1
GNI pmax pmax
comp=Z,144nm,1.2s
GNI Garni 71.34 307 P **P** 18 43 41.0 +1.7
SNR=9.0
AKH Akhalkalaki 71.42 308⇑ *i*P **P** 18 43 40.3 +0.5
AKH Akhalkalaki 71.42 308 P **P** 18 43 41.9 +2.1
UOSS Minazif 71.68 288 *e*P **P** 18 43 41.3 -0.1
comp=Z,68nm,1.3s
HATD Hatta, Dubai 71.80 288 *i* P **P** 18 43 43.0 +0.9
SNR=15
BLDU Ballidu 71.91 202 P **P** 18 43 41.7 -0.7
baz=46,SNR=12
MICGM Minsk 71.92 326⇑ *e*P **P** 18 43 42.0 -0.3
MICGM PM 18 43 43.0
comp=Z,0.2nm,1.0s
MICGM *e*LR LR 19 16 24.0
MNK Minsk 71.92 326⇑ *e*P **P** 18 43 42.0 -0.3
MNK pmax pmax
comp=Z,170nm,1.0s
ASHO Ashiyiah 71.94 287 *i* P **P** 18 43 43.3 +0.4
SNR=17
ASHO Ashiyiah 71.94 287 P **P** 18 43 42.6 -0.3
SNR=7.5
ASHO Ashiyiah 71.94 287 P **P** 18 43 42.6 -0.3
SNR=7.5
ASHO P **P** 18 43 42.6 -0.3
SNR=7.5
NAZ Nazwa, Dubai 72.06 288 P **P** 18 43 44.0 +0.3
MSO Missoula 72.09 44 P **P** 18 43 43.5 -0.2
baz=306
SLMT Seeley Lake 72.10 44 *e*P **P** 18 43 43.8 +0.1
FAQ Al Faqa, Dubai 72.25 288 P **P** 18 43 44.2 -0.6
SOC Sochi 72.47 312 *c i*P **P** 18 43 45.4 -0.4
SOC *e**PP **pP** 18 43 58.4 -0.6
SOC *e* 18 46 24.7
SOC *e*S **S** 18 53 03.9 -2.5
SOC *e*SS **SS** 18 57 39.7 -5.1
SOC pmax pmax
comp=Z,41nm,0.8s
SOC MLR MLR
comp=Z,559nm,18.0s
ARTV Artvin 72.52 309 *e*P **P** 18 43 46.8 +0.4
comp=Z,41nm,1.3s
FFC Flin Flon 73.00 33 *e*P **P** 18 43 48.7 0.0
FFC pmax pmax
comp=Z,17nm,0.9s
FFC Flin Flon 73.00 33 *e*P **P** 18 43 48.7 0.0
comp=Z,17nm,0.9s
PAHR Pah Rah Range 73.02 53 *e*P **P** 18 43 49.6 +0.3
comp=Z,11nm,0.9s
ANN Anapa 73.08 314 *e*P P 18 43 44.5 -4.8
ANN *e**PP pP 18 43 59.6 -3.0
ANN *e* 18 46 33.5
ANN *e*PPP PPP 18 48 12.0
ANN *e*S **S** 18 53 07.1 -6.2
ANN pmax pmax
comp=Z,93nm,1.3s
ANN MLR MLR
comp=Z,573nm,20.0s
NC405 NORSAR Array S 73.31 337 *e*P **P** 18 43 50.5 0.0
HRY Holter Researc 73.33 43 *e*P **P** 18 43 51.2 +0.2
NC303 NORSAR Array S 73.33 337 *e*P **P** 18 43 50.9 +0.3
NC204 NORSAR Array S 73.48 338 *e*P **P** 18 43 51.5 0.0
NB201 NORSAR Array S 73.49 337 *e*P **P** 18 43 51.5 -0.1
LRM Limekiln Ridge 73.53 45 *e*P **P** 18 43 51.4 -0.9
NB2 NORSAR Subarra 73.53 337 P **P** 18 43 51.3 -0.5
baz=38,slow=5.9
NB2 NORSAR Subarra 73.53 337 P **P** 18 43 51.2 -0.5
NB2 pmax pmax
comp=Z,67nm,1.2s
NB2 NORSAR Subarra 73.53 337 P **P** 18 43 51.3 -0.5
comp=Z,79nm,1.1s,baz=38,slow=5.9
NOA NORSAR Array B 73.53 337 P **P** 18 43 51.5 -0.2
comp=Z,40nm,1.0s,baz=39,slow=5.8,SNR=45
NOA LR LR 19 18 35.6
comp=Z,973nm,22.0s,baz=40,slow=38
EGMT Eagleton 73.63 42 P **P** 18 43 52.1 -0.6
baz=309
EGMT Eagleton 73.63 42 *e*P **P** 18 43 53.6 +1.0
comp=Z,26nm,0.7s
NBO02 NORSAR Array S 73.63 337 *e*P **P** 18 43 52.2 -0.1
NC602 NORSAR Array S 73.66 337 *e*P **P** 18 43 52.3 -0.2
NBO00 NORSAR Array S 73.67 337 *e*P **P** 18 43 53.1 +0.6
DLMT Dillon 73.72 45 *e*P **P** 18 43 54.5 +1.1
comp=Z,15nm,0.9s
AKASG Malin Array Be 73.76 322 P **P** 18 43 52.7 -0.5
comp=Z,15nm,0.6s,baz=45,slow=6.4,SNR=81
AKASG LR LR 19 18 22.9
comp=Z,496nm,19.7s,baz=50,slow=37
AKBB Malin Array Si 73.76 322 *e*P **P** 18 43 52.7 -0.6
AKBB Malin Array Si 73.76 322 *e*P **P** 18 43 52.7 -0.6
KIEV Kiev 73.77 322 *c i*P **P** 18 43 52.6 -0.7
KIEV pmax pmax
comp=Z,92nm,1.4s
KIEV Kiev 73.77 322 *e*P **P** 18 43 52.6 -0.7
comp=Z,98nm,1.3s
HLID Hailey 73.77 47 P **P** 18 43 53.8 0.0
baz=307
NAO01 NORSAR Array S 73.78 337 *e*P **P** 18 43 53.6 +0.4
AK11 Malin Array Si 73.80 322 *e*P **P** 18 43 52.9 -0.6
BOZ Bozeman (W) 74.12 44 P **P** 18 43 55.2 -0.4
baz=308
BOZ Bozeman (W) 74.12 44 *e*P **P** 18 43 56.8 +1.1
BOZ pmax pmax
comp=Z,10.0nm,0.8s
BOZ Bozeman (W) 74.12 44 *e*P **P** 18 43 56.8 +1.1
comp=Z,9.7nm,0.8s
TVH3 East Aurora ar 74.16 54 *e*P **P** 18 43 57.9 +1.8
comp=Z,11nm,1.0s
SUW Suwalki 74.30 327 *e*P **P** 18 43 56.8 +0.4
SUW Suwalki 74.30 327 *e*P **P** 18 43 56.8 +0.4
PAGB Antelope Grade 74.76 57 *e*P **P** 18 44 02.2 +2.8
comp=Z,21nm,0.9s
SIM Simferopol' 74.86 315 *c i*P **P** 18 44 00.0 +0.2
SIM *e*S **S** 18 53 32.0 -1.3
SIM pmax pmax
comp=Z,57nm,0.8s
SIM MLR MLR
comp=Z,580nm,16.6s
KONO Kongsberg 75.12 337 *e*P **P** 18 44 01.2 +0.2
KONO pmax pmax
comp=Z,252nm,1.7s
KLNR Kaliningrad 75.13 329 *e*P **P** 18 44 00.6 -0.5
KLNR pmax pmax
comp=Z,65nm,1.0s
H17A Grant Village 75.45 45 P **P** 18 44 03.4 -0.2
baz=309
H17A Grant Village 75.45 45 *e*P **P** 18 44 06.6 +3.0
VES Vestal, Richgr 75.46 56 P **P** 18 44 03.5 +0.1
baz=306
MARD Mardin 75.50 306 *e*P **P** 18 44 04.6 +0.8
comp=Z,47nm,0.8s
PKM Mcpherson Peak 75.54 57 P **P** 18 44 04.3 +0.1
baz=306
IMW Indian Meadow 75.56 45 *e*P **P** 18 44 06.1 +1.9
comp=Z,14nm,0.8s
RLMT Red Lodge 75.72 44 P **P** 18 44 04.7 -0.3
baz=310
MOOW Moose Ponds 75.76 45 *e*P **P** 18 44 06.9 +1.6
comp=Z,52nm,1.9s
CWC Cottonwood Cre 75.76 55 P **P** 18 44 05.4 +0.1
baz=307
TPAW Teton Pass 75.81 46 *e*P **P** 18 44 07.3 +1.7
comp=Z,85nm,1.8s
HVU Hansel Valley 75.82 48 *e*P **P** 18 44 07.0 +1.4
HVU pmax pmax
comp=Z,8.0nm,0.8s
HVU Hansel Valley 75.82 48 *e*P **P** 18 44 07.0 +1.4
comp=Z,8.4nm,0.8s
SORM Soroca 75.87 321⇑ *i*P **P** 18 44 03.9 -1.6
GRAC Grapevine Rang 75.89 54 P **P** 18 44 05.8 -0.1
baz=307
LOHW Long Hollow 75.93 45 *e*P **P** 18 44 07.8 +1.5
comp=Z,24nm,1.6s
SNOW Snow King Moun 75.94 46 *e*P **P** 18 44 08.2 +1.9
comp=Z,20nm,1.3s
REDW Red Top Meadow 75.94 46 *e*P **P** 18 44 07.9 +1.6
comp=Z,17nm,1.3s

DGMT Dagmar 76.17 39 P **P** 18 44 07.2 0.0
baz=312
DGMT Dagmar 76.17 39 *e*P **P** 18 44 07.7 +0.4
comp=Z,25nm,1.0s
R11A Troy Canyon, C 76.21 52 P **P** 18 44 07.8 -0.1
baz=308
R11A Troy Canyon, C 76.21 52 *e*P **P** 18 44 08.6 +0.7
LAO LASA Array 76.33 41 P **P** 18 44 08.1 -0.1
baz=311
LAO LASA Array 76.33 41 *e*P **P** 18 44 09.4 +1.2
comp=Z,66nm,1.6s
MPMC Manual Prospec 76.37 55 P **P** 18 44 08.8 0.0
baz=307
KIS Kishinev 76.38 319 *e*P **P** 18 44 07.0 -1.4
comp=Z,100nm,1.3s
KIS Kishinev 76.38 319 *e*PP PP 18 47 06.0 +6.1
KIS Kishinev 76.38 319 *e*PPP PPP 18 48 48.0
KIS *e*S **S** 18 53 52.0 +1.9
KIS Kishinev 76.38 319 *e*P **P** 18 44 07.0 -1.4
KIS *e* 18 47 06.0
KIS *e*PPP PPP 18 48 48.0
KIS *e*S **S** 18 53 52.0 +1.9
KIS *e*PS **PnS** 18 54 32.0 -0.1
KIS pmax pmax
comp=Z,140nm,1.3s
KIS pmax pmax
comp=Z,300nm,4.0s
KIS MLR MLR
comp=Z,2μm,17.0s
KIS MLR MLR
comp=N,1μm,17.0s
KIS MLR MLR
comp=E,1μm,17.0s
KIS MLR MLR
comp=Z,2μm,17.0s
SFNV Sufian 76.47 306 *e*P **P** 18 44 10.5 +1.3
FURC Furnace Creek, 76.53 54 P **P** 18 44 09.8 +0.4
baz=307
LRMC Laurel Mtn Rad 76.59 56 P **P** 18 44 10.1 +0.1
baz=307
HWUT Hardware Ranch 76.63 48 *e*P **P** 18 44 11.6 +1.4
comp=Z,66nm,1.8s
TPNV Topopah Spring 76.63 54 P **P** 18 44 10.2 0.0
baz=308
TPNV Topopah Spring 76.63 54 *e*P **P** 18 44 11.3 +1.0
TPNV pmax pmax
comp=Z,16nm,0.8s
TPNV Topopah Spring 76.63 54 *e*P **P** 18 44 11.3 +1.0
comp=Z,16nm,0.8s
EDW2 Edwards Air Fo 76.75 56 P **P** 18 44 11.2 +0.4
baz=307
DUG Dugway, Tooele 76.77 49 P **P** 18 44 11.1 +0.1
baz=309
DUG Dugway, Tooele 76.77 49 *e*P **P** 18 44 12.1 +1.1
DUG pmax pmax
comp=Z,69nm,1.8s
DUG Dugway, Tooele 76.77 49 *e*P **P** 18 44 12.1 +1.1
comp=Z,69nm,1.8s
BSD Bornholm Skovb 76.82 332 *i* P **P** 18 44 10.3 -0.4
comp=Z,131nm,1.2s
BSD Bornholm Skovb 76.82 332 *i* P **P** 18 44 10.3 -0.4
BSD pmax pmax
comp=Z,130nm,1.2s
LVV L'vov 76.83 324 *e*P **P** 18 44 12.0 +1.1
LVV MLR MLR
comp=Z,1μm,16.0s
BEL Belsk 76.87 327 *e*P **P** 18 44 11.6 +0.5
BEL Belsk 76.87 327 *e*P **P** 18 44 11.6 +0.5
BW06 Boulder Array 77.05 46 P **P** 18 44 12.6 0.0
baz=310
BW06 Boulder Array 77.05 46 *e*P **P** 18 44 10.2 -2.4
PD31 Pinedale Array 77.05 46 *e*P **P** 18 44 13.1 +0.5
PDAR Pinedale Array 77.05 46 P **P** 18 44 12.8 +0.2
comp=Z,3.7nm,0.6s,baz=270,slow=1.8,SNR=32
SHOC Shoshone, Teco 77.25 54 P **P** 18 44 14.0 +0.4
baz=308
GSC Goldstone, Bar 77.27 55 P **P** 18 44 14.0 +0.2
baz=308
GSC Goldstone, Bar 77.27 55 *e*P **P** 18 44 14.6 +0.8
GSC pmax pmax
comp=Z,9.0nm,0.9s
GSC Goldstone, Bar 77.27 55 *e*P **P** 18 44 14.6 +0.8
comp=Z,9.3nm,0.9s
GKP Gorka Klasztor 77.31 329 *e*P **P** 18 44 14.6 +1.0
GKP Gorka Klasztor 77.31 329 *e*P **P** 18 44 14.5 +1.0
JLU Jordanelle 77.33 48 *e*P **P** 18 44 16.1 +1.8
comp=Z,31nm,1.6s
BFSC Mount Baldy Ra 77.35 57 P **P** 18 44 14.5 +0.2
baz=307
CIS Catalina Islan 77.35 58 P **P** 18 44 16.0 +1.8
baz=307
NLU North Lily Min 77.37 49 *e*P **P** 18 44 15.6 +1.2
comp=Z,9.1nm,0.9s
KSRV Kasrt alli 77.52 306 *e*P **P** 18 44 16.8 +1.8
ILGA Ilgaz 77.54 312 *e*P **P** 18 44 16.7 +1.3
comp=Z,51nm,0.8s
KWP Kalwaria Pacla 77.57 324 *e*P **P** 18 44 15.7 +0.6
KWP Kalwaria Pacla 77.57 324 *e*P **P** 18 44 15.7 +0.6
SHPR Sheep Range 77.60 53 *e*P **P** 18 44 17.1 +1.4
comp=Z,11nm,0.9s
TUQ Turquoise Moun 77.76 55 P **P** 18 44 16.8 +0.2
baz=308
BUR08 Bucovina Ar. S 77.77 322 *e*P **P** 18 44 16.6 +0.3
BURAR Bucovina Array 77.78 322 P **P** 18 44 16.4 0.0
MUD Monsted U'grnd 77.81 335 *i* P **P** 18 44 16.7 +0.5
comp=Z,78nm,1.2s
MUD Monsted U'grnd 77.81 335 *e*P **P** 18 44 16.7 +0.5
MUD pmax pmax
comp=Z,78nm,1.2s
TESR Tescani 77.82 320⇑ *i*P **P** 18 44 16.5 0.0
HEC Hector,Ludlow 77.86 55 P **P** 18 44 17.2 +0.1
baz=308
CFR Carcaliu 77.95 318⇓ *i*P **P** 18 44 17.3 +0.1
CFR Carcaliu 77.95 318 P **P** 18 44 17.3 +0.1
MURC Murrieta 78.05 57 P **P** 18 44 18.3 +0.2
baz=308
PETR Petresti 78.05 319⇑ *i*P **P** 18 44 18.2 +0.4
CCUT Cedar City 78.08 52 *e*P **P** 18 44 19.3 +0.8
comp=Z,39nm,1.7s
MSU Marysvale 78.21 50 *e*P **P** 18 44 20.8 +1.7
MSU Marysvale 78.21 50 *e*P **P** 18 44 20.8 +1.7
PLOR Plostina 78.27 320⇓ *i*P **P** 18 44 19.3 +0.2
TIRR Tirgusor 78.28 318⇑ *i*P **P** 18 44 19.0 -0.1
TIRR Tirgusor 78.28 318 *e*P **P** 18 44 20.3 +1.2
TIRR Tirgusor 78.28 318 *e*P **P** 18 44 20.3 +1.2
TMUT Trail Mountain 78.30 49 *e*P **P** 18 44 21.6 +1.8
GMRC Granite Mounta 78.33 55 P **P** 18 44 19.6 -0.1
baz=308
TLB Topalu 78.39 318⇓ *i*P **P** 18 44 19.9 +0.2
TLB Topalu 78.39 318 P **P** 18 44 19.8 +0.1
STHS Stebnicka Huta 78.40 325 *e*P **P** 18 44 20.8 +1.1
STHS pmax pmax
comp=Z,27nm,1.3s
STHS Stebnicka Huta 78.40 325 *e*P **P** 18 44 20.8 +1.1
BR131 Keskin Array S 78.43 311 *e*P **P** 18 44 19.9 -0.3
BRTR Keskin Array B 78.43 311 P **P** 18 44 20.1 -0.1
comp=Z,33nm,1.2s,baz=83,slow=3.1,SNR=46
BRTR LR LR 19 23 43.3
comp=Z,272nm,18.2s,baz=51,slow=39
BRTR Keskin Array B 78.43 311 P **P** 18 44 20.1 -0.1
BRTR pmax pmax
comp=Z,31nm,1.2s
BRTR MLR MLR
comp=Z,272nm,18.3s
OJC Ojcow 78.47 326 *e*P **P** 18 44 20.3 +0.3
OJC Ojcow 78.47 326 *e*P **P** 18 44 20.3 +0.3
OJC Ojcow 78.47 326 *e*P **P** 18 44 20.3 +0.3
UZH Uzhgorod 78.47 324 *e*P **P** 18 44 20.6 +0.5
UZH *e* 18 44 31.0
UZH *e*S **S** 18 54 10.6 -2.0
UZH MLR MLR
comp=N,400nm,16.0s
UZH MLR MLR
comp=E,600nm,16.0s
UZH MLR MLR
comp=Z,400nm,16.0s
LCMT Little Creek M 78.49 52 *e*P **P** 18 44 22.0 +1.4
comp=Z,12nm,0.9s
LDFC Landfair 78.51 55 *e*P **P** 18 44 19.4 -1.3
comp=Z,24nm,0.4s
PFO Pinyon Flats O 78.53 56 P **P** 18 44 20.9 +0.1
comp=Z,2.6nm,0.8s,baz=354,slow=5.6,SNR=4.3
PFO LR LR 19 11 55.4
comp=Z,393nm,21.7s,baz=336,slow=30
PFO Pinyon Flats O 78.53 56 P **P** 18 44 20.9 +0.1
baz=308

PFO Pinyon Flats O 78.53 56 *e*P **P** 18 44 22.9 +2.1
comp=Z,47nm,1.8s
TPFO Pinon Flats 78.53 56 P **P** 18 44 21.0 +0.1
baz=308
ARCR ARCALIA 78.57 322⇑ *i*P **P** 18 44 21.7 +1.0
BELC Belle Mtn. Jos 78.59 56 P **P** 18 44 21.3 +0.1
baz=308
KNB Kanab 78.75 52 *e*P **P** 18 44 23.8 +1.7
KNB Kanab 78.75 52 *e*P **P** 18 44 23.8 +1.7
ULM Lac du Bonnet 78.81 33 P **P** 18 44 21.6 -0.3
comp=Z,10nm,1.1s,baz=312,slow=8.6,SNR=5.4
ULM Lac du Bonnet 78.81 33 *e*P **P** 18 44 22.2 +0.3
ISR Istrita 78.82 319⇑ *i*P **P** 18 44 22.1 0.0
ISR Istrita 78.82 319 P **P** 18 44 22.1 0.0
NIE Niedzica 78.82 325 *e*P **P** 18 44 23.0 +0.9
NIE Niedzica 78.82 325 *e*P **P** 18 44 23.0 +0.9
K22A Casper 78.83 44 P **P** 18 44 22.3 -0.1
baz=312
K22A Casper 78.83 44 *e*P **P** 18 44 24.1 +1.7
DOPR Dopca 78.83 320⇓ *i*P **P** 18 44 23.3 +1.2
SRU San Rafael Swe 78.83 49 *e*P **P** 18 44 23.6 +1.1
SRU San Rafael Swe 78.83 49 *e*P **P** 18 44 23.6 +1.1
ANTO Ankara 78.83 312 *e*P **P** 18 44 23.0 +0.6
ANTO Ankara 78.83 312 *e*P **P** 18 44 23.0 +0.6
ANTO Ankara 78.83 312 P **P** 18 44 22.9 +0.6
SNR=6.6
ANTO Ankara 78.83 312 P **P** 18 44 22.9 +0.6
SNR=6.6
ANTO P **P** 18 44 22.9 +0.6
SNR=6.6
BR231 Keskin MP Arra 78.86 312 *e*P **P** 18 44 21.1 -1.4
MONP Monument Peak, 78.99 57 P **P** 18 44 24.4 +0.9
baz=308
IRM Iron Mountain 79.05 55 P **P** 18 44 23.8 +0.2
baz=308
SECR 79.12 319⇓ *i*P **P** 18 44 24.8 +1.0
BC3 Big Chuckawall 79.16 56 P **P** 18 44 24.6 +0.3
baz=308
RSSD Black Hills 79.19 42 P **P** 18 44 24.1 -0.3
baz=313
RSSD Black Hills 79.19 42 *e*P **P** 18 44 24.7 +0.3
RSSD Black Hills 79.19 42 *e*P **P** 18 44 24.7 +0.3
CJR Cluj-Napoca 79.20 322⇓ *i*P **P** 18 44 24.1 -0.1
RAC Raciborz 79.27 327 *e*P **P** 18 44 25.3 +0.9
IKP In-Ko-Pah, Jac 79.35 57 P **P** 18 44 25.5 +0.2
baz=308
VOIR 79.37 320⇓ *i*P **P** 18 44 25.4 +0.2
VOIR 79.37 320 P **P** 18 44 25.3 +0.1
SWSC Sam W. Stewart 79.37 57 P **P** 18 44 25.4 +0.1
baz=308
LANS Liptovska Anna 79.39 326 *e*P **P** 18 44 25.9 +0.7
LANS Liptovska Anna 79.39 326 *e*P **P** 18 44 25.9 +0.7
KECS Kecovo 79.42 325 *e*P **P** 18 44 26.0 +0.7
KECS pmax pmax
comp=Z,8.0nm,1.2s
KECS Kecovo 79.42 325 *e*P **P** 18 44 26.0 +0.7
ARNB Al Arnab 79.45 307 *e*P **P** 18 44 25.2 -0.6
OKC Ostrava-Krasne 79.47 327 *e*P **P** 18 44 25.7 +0.2
OKC *ex* x 18 53 54.4
OKC AMS AMS 19 22 40.0
comp=Z,1μm,17.7s
OKC Ostrava-Krasne 79.47 327 *e*P **P** 18 44 25.7 +0.2
OKC MLR MLR
comp=Z,1μm,17.7s
KSP Ksiaz 79.51 328 *e*P **P** 18 44 26.0 +0.3
KSP Ksiaz 79.51 328 *e*P **P** 18 44 26.0 +0.3
O20A White River Ci 79.51 47 P **P** 18 44 25.9 -0.3
baz=311
O20A White River Ci 79.51 47 *e*P **P** 18 44 27.4 +1.2
DRGR 79.58 322⇓ *i*P **P** 18 44 26.3 0.0
PDMCI Parker Dam,Lak 79.61 55 P **P** 18 44 26.8 +0.2
baz=309
ARR Arges 79.63 320⇑ *i*P **P** 18 44 27.2 +0.6
ROOS tl alroos 79.67 305 *e*P **P** 18 44 28.6 +1.6
Y12C Blythe 79.71 55 P **P** 18 44 27.2 +0.1
baz=309
Y12C Blythe 79.71 55 *e*P **P** 18 44 28.7 +1.6
MORC Moravsky Berou 79.78 327⇑ *i*P **P** 18 44 27.4 +0.1
MORC Moravsky Berou 79.78 327 *e*P **P** 18 44 27.0 -0.3
MORC Moravsky Berou 79.78 327 *e*P **P** 18 44 27.0 -0.3
B32A Ashes, Strandq 79.87 35 P **P** 18 44 27.4 -0.3
baz=317
DPC Dobruska-Polom 79.87 328 *e*P **P** 18 44 28.5 +0.7
DPC AMS AMS 19 23 10.0
comp=Z,800nm,19.0s
DPC Dobruska-Polom 79.87 328 *e*P **P** 18 44 28.5 +0.7
DPC MLR MLR
comp=Z,800nm,19.0s
UPC Upice 79.88 328 *e*P **P** 18 44 28.3 +0.5
UPC AMS AMS 19 22 20.0
comp=Z,900nm,19.0s
UPC Upice 79.88 328 *e*P **P** 18 44 28.3 +0.5
UPC MLR MLR
comp=Z,900nm,19.0s
KRLC Kraliky 79.88 327 *e*P **P** 18 44 28.4 +0.6
KRLC Kraliky 79.88 327 *e*P **P** 18 44 28.4 +0.6
GLA Glamis 79.94 56 P **P** 18 44 28.6 +0.1
baz=309
A33A Warroad 79.99 34 P **P** 18 44 28.1 -0.3
baz=318
LOT Lotru 80.00 321⇓ *i*P **P** 18 44 29.0 +0.3
HUMR Humele 80.03 319⇑ *i*P **P** 18 44 28.7 0.0
PV09 Paradox Valley 80.05 49 *e*P **P** 18 44 30.6 +1.3
PSZ Piszkesteto 80.10 324⇓ *i*P **P** 18 44 29.4 +0.3
PSZ Piszkesteto 80.10 324 *e*P **P** 18 44 29.6 +0.5
PSZ Piszkesteto 80.10 324 *ex* **P** 18 44 29.6 +0.5
PSZ Piszkesteto 80.10 324 *e*P **P** 18 44 29.6 +0.5
VYHS Vyhne 80.16 325 *e*P **P** 18 44 29.7 +0.4
VYHS pmax pmax
comp=Z,34nm,1.6s
VYHS Vyhne 80.16 325 *e*P **P** 18 44 29.7 +0.4
VYHS *e*PP PP 18 47 15.4 -16
PV10 Paradox Valley 80.19 49 *e*P **P** 18 44 31.4 +1.4
AGMN Agassiz Nation 80.25 35 P **P** 18 44 29.6 -0.2
baz=318
AGMN Agassiz Nation 80.25 35 *e*P **P** 18 44 28.2 -1.5
MARH Ras Al Marh 80.28 306 *e*P **P** 18 44 30.9 +0.4
D31A Mcclaflin, Tow 80.30 37 P **P** 18 44 30.3 +0.2
baz=316
N23A Red Feather La 80.32 45 P **P** 18 44 31.2 +0.5
baz=312
N23A Red Feather La 80.32 45 *e*P **P** 18 44 32.0 +1.4
PV05 Paradox Valley 80.35 49 *e*P **P** 18 44 32.1 +1.3
BRG Berggiesshubel 80.45 329⇑ *i*P **P** 18 44 30.7 -0.1
comp=Z,26nm,1.1s
BRG *i* 18 44 43.8
comp=Z,9.7nm,1.0s
comp=N,763nm,19.0s
comp=E,569nm,17.8s
comp=Z,1μm,19.9s
BRG Berggiesshubel 80.45 329⇑ *i*P **P** 18 44 30.7 -0.1
BRG *i* 18 44 43.8
BRG pmax pmax
comp=Z,26nm,1.1s
BRG MLR MLR
comp=N,763nm,19.0s
BRG MLR MLR
comp=E,569nm,17.8s
BRG MLR MLR
comp=Z,1μm,19.9s
PVCC Panska Ves 80.46 329 *e*P **P** 18 44 31.7 +0.8
PVCC AMS AMS 19 22 40.0
comp=Z,800nm,19.7s
PVCC Panska Ves 80.46 329 *e*P **P** 18 44 31.7 +0.8
PVCC MLR MLR
comp=Z,800nm,19.7s
CLL Collm 80.49 330⇑ *i*P **P** 18 44 30.6 -0.4
CLL *e* 18 44 45.0
CLL pmax pmax
comp=Z,68nm,1.2s
CLL MLR MLR
comp=Z,800nm,18.5s
CLL Collm 80.49 330⇑ *i*P **P** 18 44 30.6 -0.4
comp=Z,68nm,1.2s
CLL *e*pP **pP** 18 44 45.0 +0.6
CLL *e* 18 47 25.0
CLL *e*S **S** 18 54 36.0 +2.1
CLL *e*PPS PPS 18 55 36.0
CLL *e*SS **SS** 18 59 54.0 +8.7
CLL *e* 19 00 36.0
CLL Lm MLR 19 23 00.0
comp=Z,800nm,18.5s
CLL Collm 80.49 330 *e*P **P** 18 44 30.3 -0.7
GZR Gura Zlata 80.54 321⇑ *i*P **P** 18 44 31.4 -0.1

GZR Gura Zlata 80.54 321 P P 18 44 31.4 -0.1
VRAC Vranov 80.54 327⇑ iP P 18 44 32.0 +0.7
VRAC Vranov 80.54 327 P P 18 44 32.0 +0.7
D32A Dogwood Acres, 80.57 36 P P 18 44 31.3 -0.2
baz=317
E31A Nome 80.57 37 P P 18 44 31.4 -0.2
baz=316
WUAZ Wupatki 80.61 52 P P 18 44 32.0 -0.2
baz=310
WUAZ Wupatki 80.61 52 eP P 18 44 33.5 +1.4
PV01 Paradox Valley 80.63 49 eP P 18 44 33.5 +1.1
B34A Aery, Baudette 80.65 34 P P 18 44 31.6 -0.3
baz=318
BOLV Bolvadin 80.67 312 eP P 18 44 34.1 +1.8
C33A Trail 80.68 35 P P 18 44 31.6 -0.6
baz=318
BUD Budapest 80.82 325 P P 18 44 35.0 +2.2
GOPC GO Pecny, Ondr 80.84 328 eP P 18 44 33.5 +0.5
GOPC AMS AMS 19 23 10.0
comp=Z,800nm,18.7s
GOPC GO Pecny, Ondr 80.84 328 eP P 18 44 33.5 +0.5
GOPC MLR MLR
comp=Z,800nm,18.7s
PRA Prague 80.87 329 eP P 18 44 33.8 +0.7
PRA AMS AMS 19 23 10.0
comp=Z,800nm,16.0s
PRA Prague 80.87 329 eP P 18 44 33.8 +0.7
PRA MLR MLR
comp=Z,800nm,16.0s
SMCO Snowmass 80.88 47 eP P 18 44 34.8 +1.0
PRU Pruhonice 80.89 329 eP P 18 44 33.8 +0.6
PRU ex x 18 54 54.1
PRU AMS AMS 19 23 20.0
comp=Z,800nm,18.0s
PRU Pruhonice 80.89 329 eP P 18 44 33.8 +0.6
PRU MLR MLR
comp=Z,800nm,18.0s
F31A Hecla 80.90 38 P P 18 44 33.2 -0.1
baz=316
SALA Sala 80.94 304 eP P 18 44 32.4 -1.6
BZS Buzias 80.95 322⇑ iP P 18 44 33.2 -0.4
BRBR Barbar 81.01 305 eP P 18 44 34.5 +0.2
TREC Trest 81.02 328 eP P 18 44 34.4 +0.5
TREC AMS AMS 19 23 10.0
comp=Z,700nm,15.4s
TREC Trest 81.02 328 eP P 18 44 34.4 +0.5
TREC MLR MLR
comp=Z,700nm,15.4s
D33A AnnSam, Waubun 81.11 36 P P 18 44 34.2 -0.2
baz=318
B35A Bob, Littlefor 81.15 34 P P 18 44 34.4 -0.2
baz=319
C34A RKJ Ranch, Bem 81.16 35 P P 18 44 34.5 -0.2
baz=318
ASF Jabal al Asfar 81.17 304 LR LR 19 24 21.4
comp=Z,420nm,19.6s,slow=38
ISCO Idaho Springs 81.24 46 P P 18 44 36.4 +0.8
baz=313
ISCO Idaho Springs 81.24 46 eP P 18 44 36.8 +1.1
ISCO Idaho Springs 81.24 46 eP P 18 44 36.8 +1.1
MVCO Mesa Verde 81.27 49 P P 18 44 36.1 +0.3
baz=311
MVCO Mesa Verde 81.27 49 eP P 18 44 37.0 +1.2
G31A Conde 81.38 38 P P 18 44 35.6 -0.3
baz=316
F32A Veblen 81.44 37 P P 18 44 36.1 -0.1
baz=317
D34A Park Rapids 81.45 35 P P 18 44 36.0 -0.2
baz=318
MPEP Malo Peshtene 81.49 319 eP P 18 44 36.5 0.0
E33A Westby DABS, E 81.50 36 P P 18 44 36.2 -0.3
baz=318
C35A Jirik Farms, M 81.54 34 P P 18 44 36.5 -0.2
baz=319
NKC Novy Kostel 81.55 330 eP P 18 44 36.9 +0.2
NKC epP sP 18 44 53.7 -1.6
NKC AMS AMS 19 23 40.0
comp=Z,800nm,17.2s
NKC Novy Kostel 81.55 330 eP P 18 44 36.9 +0.2
NKC e 18 44 53.7
NKC MLR MLR
comp=Z,800nm,17.2s
SUSD Miller 81.58 39 P P 18 44 36.9 -0.1
baz=316
MMAI Mount Meron Ar 81.61 305 LR LR 19 24 52.6
comp=Z,444nm,18.4s,baz=35,slow=39
CSS Mathiatis 81.68 308 P P 18 44 38.1 +0.4
CSS Mathiatis 81.68 308 eP P 18 44 37.6 0.0
G32A Webster 81.70 38 P P 18 44 37.6 0.0
baz=317
SOP Sopron 81.78 326 P P 18 44 39.7 +1.8
SOP Sopron 81.78 326 eSKSac P 18 44 38.6 +0.7
PGB Panagyurishte 81.84 318 eP P 18 44 38.5 +0.1
F33A 5 Mile Ranch, 81.86 37 P P 18 44 38.2 -0.2
baz=318
CONA Conrad Observa 81.90 327 i P P 18 44 39.4 +0.7
comp=Z,42nm,1.3s,SNR=17
S22A 4UR Ranch, Cre 81.91 48 P P 18 44 39.7 +0.5
baz=312
S22A 4UR Ranch, Cre 81.91 48 eP P 18 44 40.4 +1.2
KHC Kasperske Hory 81.95 328 eP P 18 44 39.0 +0.1
KHC epP sP 18 44 57.0 -0.4
KHC ex x 18 55 02.3
KHC AMS AMS 19 25 20.0
comp=Z,700nm,18.8s
KHC Kasperske Hory 81.95 328 eP P 18 44 39.0 +0.1
KHC e 18 44 57.0
KHC MLR MLR
comp=Z,700nm,18.8s
KHC Kasperske Hory 81.95 328 eP P 18 44 38.8 -0.1
RDO Rodhopi 82.09 317 P P 18 44 40.5 +0.8
GEC2 GERESS Array S 82.12 328 eP P 18 44 39.8 -0.1
GEC2 GERESS Array S 82.12 328 eP P 18 44 39.8 -0.1
GERES GERESS Array B 82.12 328 P P 18 44 39.6 -0.3
comp=Z,9.3nm,1.0s,baz=39,slow=5.1,SNR=42
GERES LR LR 19 26 15.5
comp=Z,521nm,18.1s,baz=37,slow=39
GEA0 GERESS Array S 82.13 328 eP P 18 44 39.5 -0.4
G33A Ortonville 82.26 37 P P 18 44 40.2 -0.4
baz=318
WTSB Winterswijk 82.27 334 eP P 18 44 39.8 -0.6
comp=Z,18nm,0.8s
C37A Embarrass 82.31 33 P P 18 44 40.6 -0.1
baz=320
VTS Vitosha 82.31 319 P P 18 44 41.7 +0.7
VTS Vitosha 82.31 319⇓ iP P 18 44 41.8 +0.7
VTS Vitosha 82.31 319 eP P 18 44 41.2 +0.2
VTS Vitosha 82.31 319 eP P 18 44 41.0 0.0
VTS Vitosha 82.31 319 eP P 18 44 41.1 +0.2
F34A Alexandria 82.38 36 P P 18 44 40.9 -0.2
baz=318
EYMN Ely 82.44 33 P P 18 44 41.2 -0.2
baz=320
EYMN Ely 82.44 33 eP P 18 44 40.8 -0.6
H33A Prehn Over Nor 82.49 38 P P 18 44 41.2 -0.6
baz=317
J31A Geddes 82.51 40 P P 18 44 41.9 0.0
baz=316
ARSA Arzberg 82.57 326 i P P 18 44 42.7 +0.5
comp=Z,26nm,1.4s,SNR=10.0
G34A Benson 82.61 37 P P 18 44 42.3 0.0
baz=318
F35A Swanville 82.65 36 P P 18 44 42.5 -0.1
baz=319
MOA Molln 82.65 327 i PcP P 18 44 43.9 +1.4
comp=Z,41nm,1.4s,SNR=15
SDCO Great Sand Dun 82.69 47 P P 18 44 43.7 +0.4
baz=313
SDCO Great Sand Dun 82.69 47 eP P 18 44 44.9 +1.6
C38A Sawbill Land. 82.71 33 P P 18 44 42.6 -0.3
baz=321
KAVA Kavala 82.75 317 P P 18 44 44.4 +1.3
E36A McGregor 82.75 35 P P 18 44 42.9 -0.2
baz=320
DIVS Divibare 82.85 322 P P 18 44 45.2 +1.5
KKB Krupnik 82.89 319 eP P 18 44 44.0 +0.1
H34A Spellman Lake, 82.97 37 P P 18 44 44.1 -0.1
baz=318
K31A O'Neill 82.98 40 P P 18 44 44.2 -0.1
baz=316
PRK Paraskevi 83.00 315 P P 18 44 45.8 +1.4
TUC Tucson 83.05 54 P P 18 44 45.2 +0.2
baz=311
TUC Tucson 83.05 54 eP P 18 44 46.1 +1.1
TUC Tucson 83.05 54 eP P 18 44 46.1 +1.1
FETY Fethiye 83.16 312 P P 18 44 45.8 +0.4
G35A Watkins 83.17 36 P P 18 44 45.3 0.0
baz=319
PERS Pernice 83.22 326 i P P 18 44 45.3 -0.3
SOKA Soboth 83.22 326 i P P 18 44 45.5 -0.1
comp=Z,66nm,1.3s,SNR=18
ECSD EROS Data Cent 83.25 38 P P 18 44 45.6 -0.2
baz=318
ECSD EROS Data Cent 83.25 38 eP P 18 44 45.8 +0.1
H35A Sunnyside Ranc 83.39 37 P P 18 44 46.2 -0.2
baz=319
E38A The Farm, Brul 83.44 34 P P 18 44 46.3 -0.3
baz=321
KNT Kendrikon 83.49 318 P P 18 44 47.6 +0.6
G36A St. Michael 83.50 36 P P 18 44 47.0 0.0
baz=319
VAY Valandovo 83.55 318 P P 18 44 49.1 +1.9
VAY Valandovo 83.55 318 i P P 18 44 48.1 +0.9
OBKA Obir 83.56 326 i PcP P 18 44 48.5 +1.1
comp=Z,26nm,1.7s
HGN Heimansgroeve 83.58 333 eP P 18 44 46.7 -0.5
comp=Z,29nm,1.2s
BEBN Eben Emael 83.64 334 P P 18 44 47.3 -0.2
KBA Koelnbreinsper 83.64 327 i PcP P 18 44 48.4 +0.5
comp=Z,25nm,0.8s
SKO Skopje 83.67 320 i P P 18 44 49.2 +1.4
MEM Membach 83.68 333 P P 18 44 47.3 -0.5
comp=Z,21nm,1.5s
MEM AP pP 18 45 04.0 +2.8
PLE Pljevlja 83.71 322 eP P 18 44 47.9 -0.3
T25A Trinidad 83.74 47 P P 18 44 48.6 0.0
baz=314
T25A Trinidad 83.74 47 eP P 18 44 49.1 +0.5
PLG Polygyros 83.76 317 P P 18 44 48.4 0.0
IVA Berane 83.80 321⇑ iP P 18 44 48.6 0.0
F38A Pierce - Schro 83.80 34 P P 18 44 48.1 -0.4
baz=320
THE Thessaloniki 83.83 318 P P 18 44 49.6 +0.9
MYKA Terra Mystica 83.87 327 i P P 18 44 48.6 -0.3
comp=Z,24nm,0.9s,SNR=7.0
BODT Bodrum 83.91 313 P P 18 44 49.6 +0.4
H36A Jessenland, He 83.91 36 P P 18 44 48.9 -0.1
baz=319
SPMN Marine on St. 83.94 35 P P 18 44 48.9 -0.3
baz=320
SPMN Marine on St. 83.94 35 eP P 18 44 49.0 -0.3
PAIG Paliouri 83.95 317 P P 18 44 50.0 +0.7
PVY Plav 83.97 321⇑ iP P 18 44 49.3 -0.2
VISS Visnje 83.98 326 eP P 18 44 49.1 -0.3
STU Stuttgart 84.00 331 eP P 18 44 49.3 -0.1
STU Stuttgart 84.00 331 eP P 18 44 49.3 -0.1
ANMO Albuquerque 84.01 50 P P 18 44 51.0 +1.0
baz=313
ANMO Albuquerque 84.01 50 ceP P 18 44 50.7 +0.7
ANMO pmax pmax
comp=Z,14nm,1.2s
ANMO Albuquerque 84.01 50 eP P 18 44 51.3 +1.3
BOJS Bojanci 84.02 325 eP P 18 44 50.2 +0.6
UPM Unac-Piva 84.04 322⇑ iP P 18 44 49.7 -0.3
E39A Mellen 84.06 33 P P 18 44 49.6 -0.2
baz=321
BCLA Clavier 84.08 334 P P 18 44 49.6 -0.2
comp=Z,23nm,1.8s
WATA Walderalm 84.19 328 i PcP P 18 44 51.2 +0.6
comp=Z,9.6nm,0.8s
J35A Milford 84.21 38 P P 18 44 50.6 -0.1
baz=318
WTTA Wattenberg 84.22 328 i PcP P 18 44 51.6 +0.8
comp=Z,19nm,1.4s
JAVS Javornik 84.25 326 i P P 18 44 50.2 -0.7
F39A Loretta 84.26 34 P P 18 44 50.7 -0.1
baz=321
ABTA Abfaltersbach 84.26 328 i P P 18 44 51.0 +0.1
comp=Z,21nm,1.2s,SNR=5.6
NKY Niksic 84.28 321 eP P 18 44 50.6 -0.5
E40A Wakefield 84.29 33 P P 18 44 50.8 -0.2
baz=322
NKME Niksic 84.34 321 eP P 18 44 50.7 -0.6
SNF Seneffe 84.36 334 P P 18 44 51.8 +0.6
AOS Alonnisos 84.38 316 P P 18 44 52.4 +0.9
MOTA Moosalm 84.38 329 i P P 18 44 51.5 0.0
comp=Z,42nm,1.3s,SNR=10
H37A Dierke Farm, C 84.38 36 P P 18 44 51.8 +0.3
baz=320
RETA Reutte 84.40 329 i P P 18 44 51.6 0.0
comp=Z,70nm,1.3s,SNR=26
WLF Walferdange 84.41 333 P P 18 44 53.2 +1.7
comp=Z,34nm,1.9s
WLF Walferdange 84.41 333 eP P 18 44 52.9 +1.4
WLF Walferdange 84.41 333 eP P 18 44 52.9 +1.4
G38A Ridgeland 84.42 35 P P 18 44 51.5 -0.1
baz=320
PDG Podgorica 84.44 321 P P 18 44 52.4 +0.7
PDG Podgorica 84.44 321⇓ iP P 18 44 51.9 +0.2
TTG Podgorica 84.44 321⇑ iP P 18 44 51.5 -0.2
BRY Bratogost 84.44 322 eP P 18 44 51.2 -0.8
LIT Litokhoron 84.47 318 P P 18 44 51.7 -0.3
CEME Cevo 84.52 321⇑ iP P 18 44 51.7 -0.6
GIVF Givet 84.52 334 eP P 18 44 51.6 -0.4
GIVF pmax pmax
comp=Z,38nm,1.3s
M33A Taylor Creek F 84.55 40 P P 18 44 52.1 -0.3
baz=317
FNA Florina 84.56 319 P P 18 44 52.1 -0.4
FNA Florina 84.56 319 P P 18 44 53.1 +0.6
SCHQ Schefferville 84.57 16 LR LR 19 24 54.4
comp=Z,283nm,20.8s,baz=293,slow=37
I37A Lemond, Waseca 84.58 36 P P 18 44 52.3 -0.2
baz=320
F40A Park Falls 84.60 33 P P 18 44 52.2 -0.4
baz=322
DOU Dourbes 84.60 334 P P 18 44 51.9 -0.6
XOR Xorichti 84.61 317 P P 18 44 52.6 -0.2
OHR Ohrid 84.62 319 i P P 18 44 53.3 +0.5
G39A Holcombe 84.63 34 P P 18 44 52.6 -0.1
baz=321
NEO Neokhori 84.64 317 P P 18 44 52.9 0.0
DRME Dracevica, Mon 84.65 321⇑ iP P 18 44 52.8 -0.1
J36A Seneca 1, Swea 84.66 37 P P 18 44 52.7 -0.2
baz=319
L34A Svendsen Farm, 84.67 39 P P 18 44 53.0 0.0
baz=318
E41A Kenton 84.67 32 P P 18 44 52.6 -0.3
baz=322
BFO Black Forest 84.69 331 i P P 18 44 53.1 +0.1
BFO Black Forest 84.69 331 eP P 18 44 52.8 -0.2
KZN Kozani 84.70 318 P P 18 44 53.5 +0.3
BUM Brajici-Budva 84.71 321⇑ iP P 18 44 52.8 -0.5
FYTO Fytoko, Volos 84.72 317 P P 18 44 53.8 +0.6
BAIF Baives 84.77 334 eP P 18 44 52.9 -0.4
BAIF pmax pmax
comp=Z,25nm,1.2s
FETA Feichten 84.79 329 i P P 18 44 53.7 0.0
comp=Z,25nm,1.1s,SNR=6.7
ULC Ulcinj 84.79 321⇑ iP P 18 44 53.0 -0.6
HCY Herceg Novi 84.80 321⇑ iP P 18 44 53.7 +0.1
121A Cookes Peak, D 84.81 53 P P 18 44 54.6 +0.6
baz=312
PPT Papeete 84.88 117 LR LR 19 17 31.2
comp=Z,467nm,19.5s,baz=348,slow=32
PPT2 Papeete2 84.89 117 eLR LR 19 11 20.3
comp=Z,1µm,25.0s,baz=315
PPT2 Papeete2 84.89 117 eT T 20 18 18.6
comp=Z,6.2nm,0.3s
DAVA Damuels 84.92 329 i P P 18 44 54.2 -0.1
comp=Z,50nm,1.1s,SNR=12
TIR Tirane 84.93 320 eP P 18 44 55.5 +1.2
TIR Tirane 84.93 320 eP P 18 44 55.5 +1.2
SMIA Simia 84.95 316 P P 18 44 55.2 +0.7
L35A Bielow Farm, R 84.98 39 P P 18 44 54.5 0.0
baz=318
NEST Nestorio 85.00 319 P P 18 44 55.0 +0.2
CDF Champ du Feu 85.03 331 eP P 18 44 53.2 -1.5
CDF pmax pmax
comp=Z,48nm,1.2s
TIAR Tiarei 85.03 117 eT T 20 18 28.7
comp=Z,6.1nm,0.3s
KARP Karpathos 85.04 312 eP P 18 44 55.0 0.0
J37A Redenius Farm, 85.05 37 P P 18 44 54.6 -0.2
baz=320
H39A Augusta 85.05 35 P P 18 44 54.7 -0.1
baz=321
I38A Scanlan Farm, 85.06 36 P P 18 44 54.6 -0.3
baz=320
G40A Rib Lake 85.08 34 P P 18 44 54.7 -0.3
baz=322
K36A Gilmore City 85.12 38 P P 18 44 55.0 -0.3
baz=319
E42A Champion 85.14 32 P P 18 44 55.0 -0.3
baz=323
F41A Three Lakes 85.19 33 P P 18 44 54.4 -1.1
baz=322
LKR Lokris 85.23 316 P P 18 44 55.0 -0.8
ECH Echery 85.23 331 eP P 18 44 55.3 -0.4
ATH Athens Observa 85.32 315 P P 18 44 56.0 -0.2
K37A Belmond 85.42 37 P P 18 44 56.5 -0.2
baz=320
H40A Chili 85.50 34 P P 18 44 56.9 -0.2
baz=322
MOF Molkenrain 85.54 331 eP P 18 44 56.8 -0.5
J38A Wedel Dairy, R 85.55 36 P P 18 44 57.1 -0.3
baz=320
E43A Lone Tree Farm 85.57 31 P P 18 44 57.0 -0.3
baz=324
I39A Houston 85.58 35 P P 18 44 57.2 -0.3
baz=321
JAN Janina 85.66 318 P P 18 44 59.1 +1.1
DSF Desfina 85.66 316 P P 18 44 57.3 -0.7
THEF They Montfort 85.67 332 eP P 18 44 57.3 -0.5
HINF Hinteralfeld 85.68 331 eP P 18 44 57.2 -0.8
HINF pmax pmax
comp=Z,22nm,1.2s
TUE Stuetta 85.80 329 eP P 18 44 59.6 +0.8
O34A Beatrice 85.82 41 P P 18 44 58.5 -0.3
baz=318
M36A Felix, Anita 85.84 39 P P 18 44 58.5 -0.3
baz=319
J39A Decorah 85.90 36 P P 18 44 58.9 -0.2
baz=321
DSL Palaion Diasel 85.91 318 P P 18 44 58.9 -0.3
SERG Sergoula 85.91 317 P P 18 44 59.3 0.0
SGD Sagiada 86.01 319 P P 18 45 00.6 +0.9
IGT Igoumenitsa 86.02 318 P P 18 44 59.4 -0.3
LAKA Lakka 86.08 317 P P 18 44 59.6 -0.5
KLV Kalavryta, Ach 86.13 316 P P 18 44 59.6 -0.8
KEK Kerkira 86.17 319 P P 18 45 01.0 +0.5
L38A Oak Wood Farm, 86.22 37 P P 18 45 00.4 -0.3
baz=320
P34A Walnut Farm, R 86.22 41 P P 18 45 00.6 -0.2
baz=318
TAOE Nuku Hiva Isla 86.25 104 eLR LR 19 12 23.3
comp=Z,2µm,29.7s
SCIA State Center 86.27 38 eP P 18 45 02.4 +1.5
J40A Soldiers Grove 86.29 35 P P 18 45 00.6 -0.4
baz=321
LAST Lasithi 86.29 312 P P 18 45 01.5 +0.2
K39A Oelwein 86.30 36 P P 18 45 00.7 -0.4
baz=321
IDI Anoyia 86.55 313 eP P 18 45 02.8 +0.3
Q34A Chapman 86.62 42 P P 18 45 02.7 0.0
baz=318
J41A Loganville 86.65 35 P P 18 45 02.5 -0.3
baz=322
M38A Pleasantville 86.66 38 P P 18 45 02.7 -0.1
baz=320
P35A Duane Minner, 86.66 41 P P 18 45 02.9 0.0
baz=318
L39A Vinton 86.69 37 P P 18 45 02.7 -0.3
baz=321
SENIN Lac Senin/Sane 86.70 330 eP P 18 45 03.5 +0.2
O36A Bolckow 86.75 40 P P 18 45 03.6 +0.3
baz=319
MNTX Cornudas Mount 86.87 52 P P 18 45 04.0 -0.1
baz=313
MNTX Cornudas Mount 86.87 52 eP P 18 45 05.1 +1.0
ITM Ithomi 86.88 316 P P 18 45 04.0 0.0
VLS Valsamata 86.88 317 P P 18 45 05.2 +1.2
MSTX Muleshoe 86.89 49 P P 18 45 04.8 +0.5
baz=315
AMTX Amarillo 86.90 47 P P 18 45 04.1 -0.1
baz=315
AMTX Amarillo 86.90 47 eP P 18 45 04.8 +0.5
CABF La Chapelle 86.97 331 eP P 18 45 03.8 -0.6
CABF pmax pmax
comp=Z,29nm,1.4s
P36A Good Intent, A 87.01 40 P P 18 45 04.4 -0.2
baz=319
M39A Webster 87.11 37 P P 18 45 04.3 -0.7
baz=320
L40A Anamosa 87.11 36 P P 18 45 04.7 -0.3
baz=321
N38A Joes South For 87.11 38 P P 18 45 04.4 -0.6
baz=320
O37A Wolven Farm, M 87.13 39 P P 18 45 04.5 -0.7
baz=319
Q35A Mercer Eighty, 87.14 41 P P 18 45 05.1 -0.2
baz=318
AQU L'Aquila 87.31 324 eP P 18 45 06.4 +0.4
AQU L'Aquila 87.31 324 eP P 18 45 06.4 +0.4
N39A Derby Farms, D 87.41 38 P P 18 45 06.3 -0.2
baz=320
L41A Preston 87.44 36 P P 18 45 06.3 -0.3
baz=322
R35A Emporia Munici 87.45 42 P P 18 45 06.5 -0.3
baz=318
FLN La Foliniere 87.46 336 eP P 18 45 05.8 -0.7
FLN pmax pmax
comp=Z,49nm,1.3s
P37A Lathrop 87.47 40 P P 18 45 06.6 -0.2
baz=319
M40A Post Highland 87.48 37 P P 18 45 06.5 -0.3
baz=321
LDF La Druitiere 87.49 336 eP P 18 45 06.2 -0.5
LDF pmax pmax
comp=Z,111nm,1.6s
O38A Galt 87.50 39 P P 18 45 06.8 -0.2
baz=320
SSF Saint Saulge 87.56 333 eP P 18 45 07.8 +0.7
SSF pmax pmax
comp=Z,45nm,1.2s
LPL La Plagne 87.63 330 eP P 18 45 07.2 -0.5
LPL pmax pmax
comp=Z,27nm,1.3s
LPG La Plagne 87.64 330 eP P 18 45 07.4 -0.5
LPG pmax pmax
comp=Z,34nm,1.1s
VLDQ Val d'Or 87.68 25 eP P 18 45 06.5 -1.1
R36A Gordon, Harris 87.82 41 P P 18 45 08.3 -0.3
baz=318
N40A Mertquake, Sal 87.85 37 P P 18 45 07.9 -0.6
baz=321
P38A Dawn 87.85 39 P P 18 45 08.6 -0.1
baz=320
S35A Otter Creek Ra 87.87 42 P P 18 45 08.6 -0.2
baz=318
GRR Gorron 87.91 336 eP P 18 45 08.5 -0.2
GRR pmax pmax
comp=Z,44nm,1.0s
M41A Milan 87.96 36 P P 18 45 09.4 +0.3
baz=322
CUC Castrocucco 87.98 321 eP P 18 45 08.5 -0.8
R37A Teagarden Farm 88.18 41 P P 18 45 09.9 -0.3
baz=319
S36A Lake Cedric, C 88.22 42 P P 18 45 09.9 -0.6
baz=318
M42A Sheffield 88.27 36 P P 18 45 10.7 +0.1
baz=322
O40A La Belle 88.29 38 P P 18 45 10.6 -0.1
baz=321
Q38A Cooks Store, C 88.31 40 P P 18 45 10.8 0.0
baz=320
N41A Harden Midland 88.33 37 P P 18 45 10.6 -0.3
baz=321
P39B Salisbury 88.35 39 P P 18 45 10.9 -0.1
baz=320
T36A Boggs Farm, Ca 88.56 42 P P 18 45 12.2 +0.1
baz=316
Q39A Willow Grove F 88.57 39 P P 18 45 11.9 -0.1
baz=320
S37A Fort Scott 88.59 41 P P 18 45 12.2 0.0
baz=319
N42A Yates City 88.63 36 P P 18 45 12.4 +0.1
baz=322
P40A Paris 88.66 39 P P 18 45 12.3 -0.1
baz=321
WMOK Wichita Mounta 88.67 46 P P 18 45 12.5 -0.1
baz=317
WMOK Wichita Mounta 88.67 46 eP P 18 45 13.5 +0.9
WMOK Wichita Mounta 88.67 46 eP P 18 45 13.5 +0.9
R38A Fenwick Farm, 88.75 40 P P 18 45 12.9 0.0
baz=320

TBI Tubuai 88.82 121 *e*LR LR 19 13 00.6
comp=Z,1µm,33.8s,baz=311
TBI Tubuai 88.82 121 *e*T T 20 23 01.7
comp=Z,124nm,0.3s
VIVF Saint-Julien-I 88.98 331 *e*P **P 18 45 14.7 +0.8**
VIVF pmax pmax
comp=Z,17nm,1.4s
T37A Cheneyville 18 89.03 42 P **P 18 45 14.1 -0.2**
baz=319
P41A Barry, Barry 89.03 38 P **P 18 45 14.2 -0.1**
baz=321
Q40A Laux Farm, Aux 89.06 39 P **P 18 45 14.3 0.0**
baz=321
R39A Chumby, Stover 89.10 40 P **P 18 45 14.5 -0.1**
baz=320
S38A Stockton 89.17 41 P **P 18 45 14.7 -0.2**
baz=320
HDIL Hopedale 89.19 36 P **P 18 45 14.5 -0.4**
baz=322
HDIL Hopedale 89.19 36 *e*P **P 18 45 15.0 +0.1**
CEL Celeste 89.27 320 *e*P **P 18 45 16.3 +0.9**
T38A Diamond 89.42 41 P **P 18 45 16.0 -0.1**
baz=319
S39A Bolivar 89.43 40 P **P 18 45 16.1 0.0**
baz=320
P42A Winchester 89.45 37 P **P 18 45 16.0 -0.2**
baz=322
R40A Maddies Statio 89.51 39 P **P 18 45 16.4 -0.1**
baz=320
Q41A Truxton 89.51 38 P **P 18 45 16.3 -0.1**
baz=321
TX31 Lajitas Ar. Si 89.57 52 *e*P **P 18 45 17.2 +0.2**
TXAR Lajitas Array 89.57 52 P **P 18 45 17.3 +0.2**
comp=Z,2.7nm,0.6s,baz=303,slow=3.2,SNR=43
ABTX Abilene, Hawle 89.69 48 P **P 18 45 17.4 -0.1**
baz=316
ABTX Abilene, Hawle 89.69 48 *e*P **P 18 45 18.6 +1.1**
ATD Arta Tunnel 89.79 284 LR LR 19 29 23.4
comp=Z,136nm,19.9s,slow=38
P43A Skaggs, Pawnee 89.80 37 P **P 18 45 17.6 -0.2**
baz=322
U38A Gravette 89.82 42 P **P 18 45 17.7 -0.3**
baz=319
V37A Hulbert 89.83 43 P **P 18 45 17.8 -0.2**
baz=319
Q42A Golden Eagle 89.89 38 P **P 18 45 18.4 +0.2**
baz=322
CAF Calviac 89.90 333 *e*P **P 18 45 19.3 +1.1**
CAF pmax pmax
comp=Z,23nm,1.2s
T39A Clever 89.91 41 P **P 18 45 18.1 -0.2**
baz=320
S40A Lebanon 89.92 40 P **P 18 45 18.1 -0.3**
baz=320
X35A Drake 89.93 45 P **P 18 45 18.0 -0.5**
baz=318
R41A Rosebud 89.94 39 P **P 18 45 18.8 +0.3**
baz=321
X36A Centrahoma 90.15 44 P **P 18 45 19.4 -0.1**
baz=318
V38A Canehill 90.24 42 P **P 18 45 19.7 -0.2**
baz=319
R42A Luebbering 90.25 39 P **P 18 45 19.7 -0.2**
baz=321
T40A Mansfield 90.25 40 P **P 18 45 19.8 -0.2**
baz=320
TRQ Mont Tremblant 90.29 24 *e*P **P 18 45 20.6 +0.6**
S41A Jillco Farms, 90.31 40 P **P 18 45 20.0 -0.2**
baz=321
U39A Green Forest 90.34 41 P **P 18 45 20.2 -0.2**
baz=320
SFIN Lafayette 90.34 35 P **P 18 45 19.9 -0.4**
baz=324
P44A Sand Creek, Wi 90.36 36 P **P 18 45 20.5 +0.1**
baz=323
LMQ La Malbaie 90.39 21 *e*P **P 18 45 21.4 +1.0**
233A Rising Star 90.56 48 P **P 18 45 21.5 0.0**
baz=317
S42A Caledonia 90.64 39 P **P 18 45 21.6 -0.2**
baz=321
V39A Pettigrew 90.67 42 P **P 18 45 21.7 -0.3**
baz=320
X37A Clayton 90.68 44 P **P 18 45 22.2 +0.2**
baz=319
U40A Yellville 90.69 41 P **P 18 45 21.9 -0.1**
baz=320
T41A Mountain View 90.72 40 P **P 18 45 22.0 -0.2**
baz=321
W38A Poteau 90.78 43 P **P 18 45 22.3 -0.1**
baz=319
X38A Whitesboro 90.91 43 P **P 18 45 22.5 -0.6**
baz=319
333A Richland Sprin 91.02 48 P **P 18 45 23.4 -0.2**
baz=317
234A Clairette 91.02 47 P **P 18 45 23.9 +0.2**
baz=317
T42A Van Buren 91.07 40 P **P 18 45 23.6 -0.2**
baz=321
W39A Magazine 91.08 42 P **P 18 45 23.2 -0.6**
baz=320
JCT Junction City 91.14 49 P **P 18 45 24.4 +0.1**
baz=316
U41A Viola 91.18 40 P **P 18 45 24.5 +0.2**
baz=321
433A Art 91.36 49 P **P 18 45 25.5 +0.2**
baz=317
X39A Fountain Ranch 91.42 43 P **P 18 45 25.1 -0.3**
baz=319
WHTX Lake Whitney, 91.42 47 P **P 18 45 25.2 -0.3**
baz=318
WHTX Lake Whitney, 91.42 47 *e*P **P 18 45 27.2 +1.7**
334A Lometa 91.45 48 P **P 18 45 25.6 -0.1**
baz=317
W40A Ferguson Farm, 91.46 42 P **P 18 45 25.5 -0.1**
baz=320
V41A Mountainview 91.49 41 P **P 18 45 25.5 -0.3**
baz=321
PBMO Poplar Bluff 91.60 39 *e*P **P 18 45 27.1 +0.9**
MIAR Mount Ida 91.68 43 P **P 18 45 26.0 -0.7**
baz=320
MIAR Mount Ida 91.68 43 *e*P **P 18 45 27.2 +0.5**
MIAR Mount Ida 91.68 43 *e*P **P 18 45 27.2 +0.5**
WHAR Wooly Hollow 91.80 41 *e*P **P 18 45 26.9 -0.3**
434A Burnet 91.81 48 P **P 18 45 26.8 -0.5**
baz=317
Y39A Lockesburg 91.86 43 P **P 18 45 27.3 -0.1**
baz=319
V42A Cord 91.87 40 P **P 18 45 26.9 -0.6**
baz=321
W41B Gary Mavity, V 91.91 41 P **P 18 45 27.5 -0.1**
baz=320
534A Blanco 92.25 49 P **P 18 45 29.1 -0.4**
baz=317
LMN Caledonia Moun 93.42 18 *e*P **P 18 45 35.3 +0.8**
KEST Kesra 94.48 323 P **P 18 45 39.5 -0.1**
comp=Z,9.1nm,1.2s,baz=282,slow=3.9,SNR=3.7
KEST LR LR 19 33 25.9
comp=Z,708nm,19.3s,baz=346,slow=39
ES19 SONSECA Array 96.61 334 *e*P **P 18 45 48.9 -0.4**
ESDC Sonseca Array 96.65 334 P **P 18 45 48.3 -1.1**
comp=Z,0.9nm,0.6s,baz=18,slow=4.8,SNR=5.3
ESDC LR LR 19 34 03.2
comp=Z,738nm,20.8s,baz=50,slow=38
RKT Rikitea 98.94 112 *e*LR LR 19 18 16.0
comp=Z,1µm,28.2s,baz=312
TORD Torodi Ar. Bea 116.87 315 PKP **PKPdf 18 51 02.3 -1.8**
comp=Z,1.2nm,1.0s,baz=6.4,slow=1.4,SNR=4.6
DBIC Dimbokro 125.81 317 PKP **PKPdf 18 51 20.6 -0.8**
comp=Z,2.2nm,0.6s,baz=215,slow=2.3,SNR=4.4
BOSA Boshof 126.82 260 PKP **PKPdf 18 51 22.4 -0.6**
comp=Z,5.7nm,1.1s,baz=146,slow=3.6,SNR=3.3
SYO Syowa Base 128.94 207 *e*pPdif pPdif 18 48 29.4 +3.7
SNAA Sanae 141.51 197 PKP PKPpre 18 51 43.0
VNA2 Neumayer--Watz 143.08 196 PKP PKPbc 18 51 49.3 +0.5
baz=112,slow=2.2
VNA3 Neumayer Olymp 143.33 195 PKP PKPab 18 51 48.6 +0.3
VNA1 Neumayer--Stat 143.48 196 PKP PKPbc 18 51 49.4 -0.4
LPAZ La Paz 146.21 59 PKPbc **PKPbc 18 52 00.2 -0.4**
comp=Z,10nm,0.9s,baz=343,slow=4.0,SNR=27

BJI ***18*** *18:35:21.8, 10.˚23S×162.˚06E, h67km, mb4.8/39, mB5.2/27, Ms5.2/15, Ms7 4.7/15*
ISCJB ***18*** *18:35:22.1±0.1, 10.˚54S±0.˚03×161.˚38E±0.˚03, h61km, mb5.1/109, Error ellipse: s-maj=5.2km s-min=3.9km az=137.7*

IDC ***18*** *18:35:22.8±2.4, 10.˚48S×161.˚51E, h59km±21km, mb4.5/22, mb1 4.7/25, mb1mx4.6/37, mbtmp4.8/25, ML2.1/1, MS4.2/19, Ms1 4.2/19, ms1mx4.0/36, Error ellipse: s-maj=16.9km s-min=10.9km az=81.0*
MOS ***18*** *18:35:23.7±1.1, 10.˚41S×161.˚33E, h77km, mb5.4/29, Error ellipse: s-maj=9.8km s-min=8.0km az=64.3*
NEIC ***18*** *18:35:23.6±1.0, 10.˚58S×161.˚41E, h67km±9km, mb5.2/78, Error ellipse: s-maj=7.0km s-min=5.7km az=91.0*
ISC 18 18:35:22.8±0.3, 10.˚62S±0.˚05×161.˚53E±0.˚05, h61km, n288, σ1°61/289, mb5.1/109, 5C-3D, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
HNR	**Honiara**	**1.96**	**307**	P		**Pn**	**18 35 52.5**	**-1.3**
	507nm,0.3s,baz=151,slow=6.1,SNR=236							
HNR				S		**Sn**	**18 36 17.6**	**+0.2**
	2µm,0.3s,baz=348,slow=22,SNR=23							
HNR				LR		LR	18 36 51.5	
	comp=Z,10µm,20.0s,baz=174,slow=48							
HNR	**Honiara**	**1.96**	**307**	*i* P		**Pn**	**18 35 51.5**	**-2.3**
HNR				*i* S		Sn	18 36 25.0	+7.7
HNR	**Honiara**	**1.96**	**307**	*e*Pn		**Pn**	**18 35 52.6**	**-1.2**
HNR				*e*Sn		**Sn**	**18 36 15.2**	**-2.1**
HNR				S		**Sn**	**18 36 17.6**	**+0.2**
RABL	**Rabaul**	**11.28**	**304**	*e*Pn		**Pn**	**18 38 02.6**	**+1.3**
DZM	**Mont Dzumac**	**12.32**	**158**	P		**Pn**	**18 38 16.9**	**+1.4**
	5.4nm,0.3s,baz=352,slow=7.0,SNR=79							
DZM				S		**Sn**	**18 40 30.3**	**-0.9**
	2.1nm,0.3s,baz=270,slow=19,SNR=5.8							
DZM				LR		LR	18 42 44.2	
	comp=Z,659nm,19.6s,baz=333,slow=35							
DZM	**Mont Dzumac**	**12.32**	**158**	*e*Pn		**Pn**	**18 38 15.9**	**+0.4**
	25nm,0.3s							
DZM				*e*Sn		**Sn**	**18 40 24.3**	**-6.9**
	18nm,0.3s							
DZM				*e*LR		LR	18 41 12.5	
	997nm,24.4s							
DZM	**Mont Dzumac**	**12.32**	**158**	*e*Pn		**Pn**	**18 38 15.3**	**-0.2**
DZM				S		**Sn**	**18 40 30.3**	**-0.9**
PMG	**Port Moresby**	**14.21**	**274**	P		**Pn**	**18 38 40.5**	**-0.5**
	0.4nm,0.3s,baz=80,slow=9.7,SNR=9.2							
PMG				LR		LR	18 43 48.2	
	comp=Z,3µm,21.4s,baz=109,slow=36							
PMG	**Port Moresby**	**14.21**	**274**	*d i* P		**P**	**18 38 43.5**	**-3.2**
PMG	**Port Moresby**	**14.21**	**274**	Pn		**Pn**	**18 38 38.1**	**-2.9**
MANU	**Manus Island**	**16.45**	**300**	*e*P		**P**	**18 39 13.4**	**+1.8**
	31nm,0.8s							
CTA	**Charters Tower**	**17.47**	**236**	P		**P**	**18 39 24.4**	**+1.6**
	6.9nm,0.3s,baz=67,slow=13,SNR=65							
CTA				LR		LR	18 45 49.0	
	comp=Z,959nm,18.1s,baz=104,slow=36							
CTAO	**Charters Tower**	**17.47**	**236**	P		**P**	**18 39 23.1**	**+0.3**
CTAO				pmax	pmax			
	comp=Z,136nm,0.8s							
CTAO	**Charters Tower**	**17.47**	**236**	Pn		**P**	**18 39 23.1**	**+0.3**
	comp=Z,136nm,0.8s							
MSVF	**Nonsavu**	**17.50**	**116**	*e*P		**Pn**	**18 39 19.4**	**-3.4**
MSVF				pmax	pmax			
	comp=Z,146nm,1.4s							
MSVF	**Nonsavu**	**17.50**	**116**	*e*P		**Pn**	**18 39 19.4**	**-3.4**
	comp=Z,146nm,1.4s							
EIDS	**Eidsvold**	**17.70**	**213**	P		**P**	**18 39 28.0**	**+2.6**
	baz=18,SNR=36							
EIDS	**Eidsvold**	**17.70**	**213**	*e*P		**P**	**18 39 26.8**	**+1.4**
COEN	**Coen**	**18.24**	**258**	P		**Pn**	**18 39 33.3**	**+1.5**
	baz=18,SNR=13							
COEN	**Coen**	**18.24**	**258**	P		**P**	**18 39 31.0**	**-0.4**
	comp=Z,157nm,1.3s							
MTSU	**Mount Surprise**	**18.26**	**244**	P		**Pn**	**18 39 33.7**	**+1.6**
	baz=18,SNR=89							
RMQ	**Roma**	**19.86**	**216**	P		**Pn**	**18 39 52.4**	**+1.3**
	baz=20,SNR=178							
ARMA	**Armidale**	**21.75**	**204**	P		**P**	**18 40 11.2**	**+1.8**
	baz=22,SNR=7.6							
ARMA	**Armidale**	**21.75**	**204**	*e*P		**P**	**18 40 06.7**	**-2.7**
	comp=Z,22nm,0.9s							
JAY	**Jayapura**	**22.19**	**290**	P		**P**	**18 40 13.3**	**-0.9**
	comp=Z,1.0nm,0.7s,baz=348,slow=24,SNR=8.5							
QLP	**Quilpie**	**22.77**	**223**	P		**P**	**18 40 21.3**	**+1.0**
	baz=23,SNR=14							
QIS	**Mount Isa**	**23.29**	**242**	P		**P**	**18 40 26.3**	**+0.8**
	baz=23,SNR=41							
CMSA	**Cobar Meteorol**	**25.46**	**213**	P		**P**	**18 40 46.5**	**+1.3**
	baz=26,SNR=20							
RAO	**Raoul Island**	**26.69**	**137**	LR		LR	18 50 28.6	
	comp=Z,171nm,19.2s,baz=312,slow=34							
WRAB	**Tennant Creek**	**27.77**	**247**	*e*P		**P**	**18 41 04.7**	**-1.5**
WRAB				pmax	pmax			
	comp=Z,57nm,1.0s							
WRAB	**Tennant Creek**	**27.77**	**247**	*e*P		**P**	**18 41 03.3**	**-2.9**
	comp=Z,152nm,1.8s							
WB2	**Warramunga Arr**	**27.77**	**247**	*e*P		**P**	**18 41 05.9**	**-0.3**
WRA	**Warramunga Arr**	**27.78**	**247**	P		**P**	**18 41 06.6**	**+0.3**
	comp=Z,22nm,0.9s,baz=76,slow=9.3,SNR=146							
WRA				LR		LR	18 51 57.9	
	comp=Z,1µm,18.2s,baz=70,slow=36							
STKA	**Stephens Creek**	**28.05**	**218**	P		**P**	**18 41 09.9**	**+1.4**
	comp=Z,6.6nm,1.1s,baz=35,slow=13,SNR=6.2							
STKA				LR		LR	18 52 03.7	
	comp=Z,2µm,19.9s,baz=39,slow=36							
STKA	**Stephens Creek**	**28.05**	**218**	P		**P**	**18 41 10.1**	**+1.6**
	baz=28,SNR=4.5							
STKA	**Stephens Creek**	**28.05**	**218**	*e*P		**P**	**18 41 09.6**	**+1.1**
STKA				pmax	pmax			
	comp=Z,16nm,1.8s							
STKA	**Stephens Creek**	**28.05**	**218**	*e*P		**P**	**18 41 09.6**	**+1.1**
	comp=Z,16nm,1.8s							
KDU	**Kakadu**	**28.53**	**263**	P		**P**	**18 41 12.8**	**-0.1**
	baz=28,SNR=3.4							
AS01	**Alice Springs**	**29.30**	**240**	*e*P		**P**	**18 41 18.6**	**-1.2**
AS31	**Alice Springs**	**29.34**	**240**	*e*P		**P**	**18 41 17.8**	**-2.4**
	comp=Z,3.0nm,0.8s							
ASAR	**Alice Springs**	**29.34**	**240**	P		**P**	**18 41 19.8**	**-0.4**
	comp=Z,4.4nm,0.7s,baz=64,slow=10,SNR=66							
ASAR				LR		LR	18 52 41.9	
	comp=Z,2µm,19.9s,baz=58,slow=35							
MTN	**Manton Dam**	**29.84**	**263**	P		**P**	**18 41 24.1**	**-0.4**
	baz=30,SNR=7.5							
MTN	**Manton Dam**	**29.84**	**263**	*e*P		**P**	**18 41 24.2**	**-0.4**
	comp=Z,23nm,0.7s							
TOO	**Toolangi**	**30.47**	**206**	P		**P**	**18 41 32.1**	**+2.2**
	baz=31,SNR=11							
HTT	**Hallett**	**30.76**	**219**	P		**P**	**18 41 34.0**	**+1.4**
	baz=31,SNR=4.2							
URZ	**Urewera**	**30.86**	**156**	P		**P**	**18 41 35.1**	**+1.8**
	comp=Z,24nm,0.6s,baz=37,slow=2.9,SNR=18							
URZ	**Urewera**	**30.86**	**156**	*e*P		**P**	**18 41 34.5**	**+1.3**
	comp=Z,27nm,0.7s							
BKZ	**Black Stump Fm**	**31.40**	**157**	*e*P		**P**	**18 41 39.7**	**+1.6**
	comp=Z,27nm,0.6s							
BBOO	**Buckleboo**	**32.20**	**223**	P		**P**	**18 41 46.3**	**+1.1**
	baz=32,SNR=18							
KNRA	**Kununurra**	**32.28**	**257**	P		**P**	**18 41 46.5**	**+0.5**
	baz=32,SNR=18							
THZ	**Tophouse**	**32.59**	**164**	*e*P		**P**	**18 41 49.7**	**+1.2**
	comp=Z,49nm,0.9s							
KHZ	**Kahutara**	**33.37**	**164**	*e*P		**P**	**18 41 55.9**	**+0.7**
	comp=Z,71nm,1.2s							
LTZ	**Lake Taylor**	**33.38**	**166**	*e*P		**P**	**18 41 56.4**	**+1.0**
	comp=Z,48nm,1.0s							
OXZ	**Oxford**	**33.84**	**166**	*e*P		**P**	**18 42 00.1**	**+0.8**
	comp=Z,40nm,0.8s							
RPZ	**Rata Peaks**	**33.99**	**168**	P		**P**	**18 42 01.8**	**+1.1**
	comp=Z,31nm,0.8s,baz=330,slow=2.8,SNR=8.4							
RPZ	**Rata Peaks**	**33.99**	**168**	*e*P		**P**	**18 42 02.1**	**+1.5**
	comp=Z,33nm,0.9s							
WRKA	**Warakurna**	**34.62**	**241**	P		**P**	**18 42 06.2**	**-0.2**
	baz=35,SNR=24							
RAR	**Rarotonga**	**38.57**	**111**	LR		LR	18 55 43.6	
	comp=Z,297nm,18.5s,baz=269,slow=32							
MEEK	**Meekatharra**	**43.44**	**242**	P		**P**	**18 43 21.3**	**+1.2**
	baz=44,SNR=13							
KLBR	**Kellerberrin**	**45.48**	**236**	P		**P**	**18 43 36.6**	**+0.4**
	baz=46,SNR=6.6							
MORW	**Morawa**	**46.23**	**240**	P		**P**	**18 43 42.9**	**+0.7**
	baz=46,SNR=3.6							
NWAO	**Narrogin (SRO)**	**46.30**	**234**	P		**P**	**18 43 43.6**	**+0.9**
	baz=46,SNR=7.2							
NWAO				P		**P**	**18 43 43.6**	**+0.9**
	baz=46,SNR=7.2							
JAGI	**Jajag, Banyuwa**	**46.74**	**268**	*e*P		P	18 43 40.5	-5.9
	comp=Z,68nm,0.9s							
PPT2	**Papeete2**	**47.81**	**104**	*e*S		S	18 50 57.9	+10
	comp=Z,163nm,26.5s							
PPT2				*e*LR		LR	18 57 46.0	
	comp=Z,886nm,25.2s							
TBI	**Tubuai**	**48.33**	**112**	*e*S		S	18 51 05.8	+11
	comp=Z,261nm,31.0s							
TBI				*e*LR		LR	18 57 53.9	
	comp=Z,583nm,29.5s							
OPA	**Opana**	**51.07**	**51**	*e*P		**P**	**18 44 19.7**	**+0.3**
OPA				pmax	pmax			
	comp=Z,142nm,0.7s							
OPA	**Opana**	**51.07**	**51**	*e*P		**P**	**18 44 19.7**	**+0.3**
	comp=Z,142nm,0.7s							
MJAR	**Matsushiro Arr**	**51.80**	**336**	P		**P**	**18 44 23.0**	**-1.6**
	comp=Z,2.2nm,0.5s,baz=166,slow=8.3,SNR=22							
MAJO	**Matsushiro**	**51.80**	**336**	*ce*P		**P**	**18 44 23.7**	**-0.9**
MAJO				pmax	pmax			
	comp=Z,22nm,1.2s							
MAJO	**Matsushiro**	**51.80**	**336**	P		P	18 44 19.7	-4.9
	comp=Z,40nm,1.4s							
MAT	**Matsushiro**	**51.80**	**336**	P		**P**	**18 44 22.4**	**-2.2**
MAT				*e*S		**S**	**18 51 42.6**	**+0.2**
MJB9	**Matsu-Tunnel**	**51.81**	**336**	*e*P		**P**	**18 44 23.3**	**-1.4**
	comp=Z,11nm,1.4s							
KSM	**Kuching**	**52.35**	**280**	*e*P		**P**	**18 44 24.8**	**-4.3**
	comp=Z,21nm,1.0s							
JNU	**Nakatsue**	**52.41**	**327**	P		**P**	**18 44 27.8**	**-1.4**
	comp=Z,11nm,0.8s,baz=52,slow=5.3,SNR=5.5							
CISI	**Cisompet, Garu**	**53.08**	**268**	P		**P**	**18 44 30.1**	**-4.5**
	comp=Z,224nm,1.8s							
KSRS	**Korea Array**	**57.27**	**328**	P		**P**	**18 45 04.2**	**-0.1**
	comp=Z,4.0nm,0.7s,baz=142,slow=7.8,SNR=7.6							
KSAR	**Wonju Array Be**	**57.28**	**328**	P		**P**	**18 45 04.2**	**-0.1**
KSAR	**Wonju Array Be**	**57.28**	**328**	P		**P**	**18 45 04.2**	**-0.1**
NJ2	**Nanjing**	**58.87**	**318**	*e*P		**P**	**18 45 15.6**	**+0.1**
NJ2				pmax	pmax			
	comp=Z,24nm,1.5s							
USRK	**Ussuriysk Ar.**	**60.80**	**336**	P		**P**	**18 45 28.7**	**+0.2**
	comp=Z,13nm,0.9s,baz=152,slow=6.1,SNR=18							
RKT	**Rikitea**	**61.61**	**111**	*e*LR		LR	19 04 01.2	
	comp=Z,801nm,26.8s							
MDJ	**Mudanjiang**	**62.12**	**335**	P		**P**	**18 45 37.1**	**-0.3**
MDJ				pmax	pmax			
	comp=Z,12nm,1.1s							
MDJ				pmax	pmax			
	comp=Z,300nm,6.8s							
CN2	**Changchun**	**63.33**	**331**	*e*P		**P**	**18 45 49.3**	**+3.8**
CN2				*es*P	sP	18 46 13.0	+4.3	
CN2				*e*S		**S**	**18 54 15.6**	**+2.4**
CN2				pmax	pmax			
	comp=Z,20nm,1.0s							
CN2				pmax	pmax			
	comp=Z,300nm,6.0s							
HABR	**Khabarovsk**	**63.33**	**341**	*e*P		**P**	**18 45 43.3**	**-2.1**
HABR				*e**SP		**sP**	**18 46 06.4**	**-2.2**
HABR				*e*			18 46 20.1	
HABR				*e*			18 48 02.7	
HABR				*e*PPP		PPP	18 49 31.7	
HABR				*e*S		**S**	**18 54 10.3**	**-2.7**
HABR				*e*			18 55 30.6	
HABR				*e*SS		**SS**	**18 58 18.3**	**-2.6**
HABR				pmax	pmax			
	comp=N,15nm,1.7s							
HABR				pmax	pmax			
	comp=Z,33nm,1.7s							
HABR				pmax	pmax			
	comp=E,8.0nm,0.9s							
HABR				MLR	MLR			
	comp=Z,129nm,17.0s							
PEA0	**Petropavlovsk-**	**63.56**	**357**	*e*P		**P**	**18 45 46.3**	**-0.6**
PETK	**Petropavlovsk-**	**63.56**	**357**	P		**P**	**18 45 46.5**	**-0.4**
	comp=Z,4.9nm,0.9s,baz=142,slow=7.1,SNR=7.9							
PETK				LR		LR	19 08 25.3	
	comp=Z,205nm,21.8s,baz=181,slow=31							
PSI	**Prapat**	**63.72**	**279**	LR		LR	19 16 40.2	
	comp=Z,126nm,19.3s,baz=112,slow=39							
GYA	**Guiyang**	**64.79**	**306**	P		**P**	**18 45 58.0**	**+2.4**
GYA				pP		sP	18 46 15.3	-3.6
GYA				PP		**PP**	**18 48 23.0**	**+4.1**
GYA				S		**S**	**18 54 31.8**	**-0.4**
GYA				sS		sS	18 55 01.9	+1.9
GYA				SKS		**SKSac**	**18 55 41.4**	**-4.0**
GYA				pmax	pmax			
	comp=Z,20nm,1.0s							
GYA				pmax	pmax			
	comp=Z,120nm,5.9s							
KLR	**Kul'dur**	**65.10**	**339**	*i* P		**P**	**18 45 55.5**	**-1.5**
BJI	**Beijing**	**65.61**	**323**	P		**P**	**18 45 56.9**	**-3.5**
BJI				PP		**PP**	**18 48 27.8**	**+2.1**
BJI				S		S	18 54 23.6	-18
BJI				pmax	pmax			
	comp=Z,12nm,1.9s							
BJI				LR	LR			
	comp=Z,220nm,24.8s							
VNDA	**Vanda**	**66.88**	**180**	P		**P**	**18 46 09.8**	**+1.8**
	comp=Z,10.0nm,0.8s,baz=344,slow=6.8,SNR=32							
VNDA	**Vanda**	**66.88**	**180**	*e*P		**P**	**18 46 09.8**	**+1.8**
VNDA				pmax	pmax			
	comp=Z,15nm,0.9s							
VNDA	**Vanda**	**66.88**	**180**	*e*P		**P**	**18 46 09.8**	**+1.8**
	comp=Z,15nm,0.9s							
SBA	**Scott Base**	**67.27**	**179**	P		**P**	**18 46 09.3**	**-1.2**
SBA				pmax	pmax			
	comp=Z,16nm,1.0s							
SBA	**Scott Base**	**67.27**	**179**	P		**P**	**18 46 09.3**	**-1.2**
	comp=Z,16nm,1.0s							
CM01	**Chiang Mai Arr**	**68.14**	**295**	*e*P		**P**	**18 46 17.6**	**+0.6**
CMAR	**Chiang Mai Arr**	**68.17**	**295**	P		**P**	**18 46 17.3**	**+0.1**
	comp=Z,3.6nm,0.7s,baz=126,slow=5.1,SNR=24							
CMAR	**Chiang Mai Arr**	**68.17**	**295**	*i* P		**P**	**18 46 18.2**	**+1.0**
CMAR				pmax	pmax			
	comp=Z,4.0nm,0.7s							
CHTO	**Chiang Mai**	**68.29**	**295**	*e*P		**P**	**18 46 16.6**	**-1.3**
CHTO				pmax	pmax			
	comp=Z,12nm,1.0s							
CHTO	**Chiang Mai**	**68.29**	**295**	*e*P		**P**	**18 46 16.6**	**-1.3**
	comp=Z,12nm,1.0s							
HHC	**Hu-ho-hao-te**	**68.88**	**321**	*e*P		**P**	**18 46 23.8**	**+2.5**
HHC				pmax	pmax			
	comp=Z,15nm,1.0s							
HHC				pmax	pmax			
	comp=Z,1µm,8.6s							
CD2	**Chengdu**	**69.09**	**309**	P		**P**	**18 46 23.3**	**+0.6**
CD2				pP		pP	18 46 38.3	-1.1
CD2				sP		PcP	18 46 47.3	+0.9
CD2				LR		LR		
	comp=Z,340nm,14.2s							
CD2				LR		LR		
	comp=Z,480nm,13.3s							
MA2	**Magadan**	**70.50**	**354**	P		**P**	**18 46 29.9**	**-0.8**
	comp=Z,5.9nm,0.7s,baz=179,slow=13,SNR=4.8							
MA2	**Magadan**	**70.50**	**354**	*de*P		**P**	**18 46 30.2**	**-0.5**
LZH	**Lanzhou**	**71.45**	**314**	*e*P		**P**	**18 46 38.5**	**+1.3**
LZH				pP		PcP	18 46 55.8	-0.7
LZH				sP		sP	18 47 03.5	+2.8
LZH				PP		**PP**	**18 49 19.6**	**+3.0**
LZH				pmax	pmax			
	comp=Z,29nm,1.3s							
LZH				pmax	pmax			
	comp=Z,98nm,7.1s							
LZH				LR	LR			
	comp=Z,410nm,15.2s							
LZH				LR	LR			
	comp=Z,430nm,15.5s							
LZH				LR	LR			
	comp=Z,620nm,18.3s							
MIR	**Mirnyy**	**71.82**	**203**	*i* P		**P**	**18 46 41.0**	**+2.3**
MIR				pmax	pmax			
	comp=Z,4.0nm,1.0s							
SEY	**Seymchan**	**73.67**	**356**	P		**P**	**18 46 49.0**	**-0.6**
	comp=Z,2.4nm,0.5s,baz=180,slow=6.9,SNR=7.8							
SEY	**Seymchan**	**73.67**	**356**	*e*P		**P**	**18 46 47.9**	**-1.7**
ULN	**Ulaanbaatar**	**75.57**	**326**	*ce*P		**P**	**18 47 01.5**	**+0.3**
ULN				pmax	pmax			
	comp=Z,34nm,1.7s							
ULN	**Ulaanbaatar**	**75.57**	**326**	*e*P		**P**	**18 47 01.0**	**-0.1**
GTA	**Gaotai**	**75.82**	**315**	P		**P**	**18 47 03.0**	**+0.3**
GTA				pP		pP	18 47 20.8	+1.2
GTA				sP		sP	18 47 27.6	+1.3
GTA				pmax	pmax			
	comp=Z,10.0nm,1.2s							
SONM	**Songino Array**

KDAK **Kodiak Island** 77.76 23 P P 18 47 13.5 +0.4
comp=Z,24nm,0.8s,baz=212,slow=4.0,SNR=13
KDAK **Kodiak Island** 77.76 23 *i* P P 18 47 13.3 +0.2
KDAK **Kodiak Island** 77.76 23 *e* P P 18 47 12.5 -0.6
comp=Z,32nm,0.9s
BOD **Bodaibo** 78.43 336 *e* P P 18 47 14.6 -2.2
BOD pmax pmax
comp=Z,12nm,1.4s
BILL **Bilibino** 78.53 2 *d i* P P 18 47 17.5 +0.4
BILL *e* 18 47 24.1
BILL *e** SP **sP** 18 47 40.2 -0.6
BILL pmax pmax
comp=Z,42nm,1.3s
ZAK **Zakamensk** 79.02 326 *e* P P 18 47 19.5 -0.8
ZAK pmax pmax
comp=Z,12nm,1.3s
SVW2 **Sparrevohn** 79.06 20 *e* P P 18 47 21.1 +0.9
comp=Z,54nm,0.8s
QSPA **South Pole Qui** 79.38 180 *e* P P 18 47 15.9 -6.2
HOM **Homer** 79.42 22 *e* P P 18 47 23.8 +1.6
comp=Z,102nm,1.0s
CNPM **China Poot** 79.48 22 *e* P P 18 47 24.0 +1.5
comp=Z,33nm,0.9s
TLY **Talaya** 79.51 328 *e* P P 18 47 22.1 -0.8
TLY pmax pmax
comp=Z,21nm,1.5s
TLY **Talaya** 79.51 328 *e* P P 18 47 22.8 -0.1
comp=Z,25nm,1.3s
RSO **Redoubt South** 79.57 21 *e* P P 18 47 23.6 +0.4
BRLK **Bradley Lake** 79.77 22 *e* P P 18 47 24.8 +0.7
comp=Z,29nm,1.0s
TT01 **Tatalina** 80.25 18 *e* P P 18 47 27.6 +1.0
TTA **Tatalina** 80.27 18 *e* P P 18 47 27.5 +0.7
TTA pmax pmax
comp=Z,23nm,1.0s
TTA **Tatalina** 80.27 18 *e* P P 18 47 27.5 +0.7
comp=Z,23nm,1.0s
SEW **Seward** 80.53 23 *e* P P 18 47 26.7 -1.5
comp=Z,22nm,1.0s
MOY **Mondy** 80.92 327 *e* P P 18 47 41.8 +11
SUA **Susitna One** 80.97 21 *e* P P 18 47 30.7 +0.1
comp=Z,81nm,1.7s
PMR **Palmer** 81.64 22 *e* P P 18 47 35.6 +1.6
PMR pmax pmax
comp=Z,14nm,0.9s
PMR **Palmer** 81.64 22 *e* P P 18 47 35.6 +1.6
comp=Z,14nm,0.9s
GLI **Glacier Island** 81.93 23 *e* P P 18 47 35.6 0.0
comp=Z,20nm,0.8s
SML **Sawmill** 82.06 22 *e* P P 18 47 35.0 -1.3
SML pmax pmax
comp=Z,44nm,1.4s
SML **Sawmill** 82.06 22 *e* P P 18 47 35.0 -1.3
comp=Z,44nm,1.4s
FID **Port Fidalgo** 82.08 23 *e* P P 18 47 36.9 +0.6
comp=Z,28nm,1.0s
EYAK **Cordova Ski Ar** 82.24 23 *e* P P 18 47 38.5 +1.3
comp=Z,18nm,0.9s
KTH **Kantishna Hill** 82.34 19 P P 18 47 33.9 -3.8
comp=Z,27nm,1.0s
PALK **Pallekele** 82.39 279 LR LR 19 29 01.1
comp=Z,49nm,19.3s,baz=117,slow=39
SCM **Sheep Creek Mo** 82.45 22 *e* P P 18 47 39.4 +1.0
SCM pmax pmax
comp=Z,15nm,0.8s
SCM **Sheep Creek Mo** 82.45 22 *e* P P 18 47 39.4 +1.0
comp=Z,15nm,0.8s
TRF **Thorofare Moun** 82.48 20 P P 18 47 35.8 -2.8
comp=Z,16nm,1.1s
RAGM **Ragged Mountai** 82.56 24 *e* P P 18 47 40.4 +1.5
comp=Z,42nm,1.3s
KLU **Klutina** 82.76 23 *e* P P 18 47 41.4 +1.5
comp=Z,20nm,0.9s
RND **Reindeer** 82.93 20 *e* P P 18 47 40.7 -0.1
RND pmax pmax
comp=Z,83nm,1.6s
RND **Reindeer** 82.93 20 *e* P P 18 47 40.7 -0.1
comp=Z,83nm,1.6s
BMRM **Bremner River** 82.94 23 *e* P P 18 47 42.1 +1.2
comp=Z,38nm,1.4s
MCK **McKinley** 83.12 20 *e* P P 18 47 41.6 -0.1
MCK pmax pmax
comp=Z,52nm,1.0s
MCK **McKinley** 83.12 20 *e* P P 18 47 41.6 -0.1
comp=Z,52nm,1.0s
DHY **Denali Highway** 83.22 21 *e* P P 18 47 42.7 +0.2
comp=Z,6.3nm,0.8s
MAW **Mawson** 83.54 202 P P 18 47 44.9 +1.0
comp=Z,16nm,0.8s,baz=102,slow=6.6,SNR=57
MAW LR LR 19 19 39.9
comp=Z,60nm,21.7s,baz=62,slow=32
MAW **Mawson** 83.54 202 P P 18 47 45.1 +1.3
baz=84,SNR=40
MAW **Mawson** 83.54 202 *e* P P 18 47 45.2 +1.3
MAW pmax pmax
comp=Z,4.0nm,0.8s
MAW **Mawson** 83.54 202 *e* P P 18 47 45.2 +1.3
comp=Z,3.9nm,0.8s
WRH **Wood River Hil** 83.88 20 *e* P P 18 47 45.2 -0.3
comp=Z,16nm,0.9s
CCB **Clear Creek Bu** 84.09 20 *e* P P 18 47 45.7 -0.9
comp=Z,7.1nm,0.7s
MDM **Murphy Dome** 84.15 19 *e* P P 18 47 46.6 -0.4
comp=Z,18nm,1.0s
PCA **Pinnacle** 84.20 25 *e* P P 18 47 49.0 +1.6
comp=Z,46nm,0.9s
COLA **College** 84.22 19 *e* P P 18 47 45.5 -1.8
COLA pmax pmax
comp=Z,18nm,0.8s
COLA **College** 84.22 19 *e* P P 18 47 45.5 -1.8
comp=Z,18nm,0.8s
HDA **Harding Lake** 84.22 20 *e* P P 18 47 47.4 0.0
comp=Z,23nm,0.9s
MENT **Mentasta** 84.45 22 *e* P P 18 47 49.2 +0.6
comp=Z,13nm,0.9s
ILAR **Eielson Array** 84.47 20 P P 18 47 47.9 -0.7
comp=Z,9.3nm,1.0s,baz=247,slow=4.1,SNR=28
ILAR LR LR 19 21 03.9
comp=Z,278nm,19.5s,baz=248,slow=32
ILB **Eielson Array** 84.47 20 *e* P P 18 47 48.2 -0.3
IL1 **Eielson Array** 84.47 20 *e* P P 18 47 47.5 -1.1
DOT **Dot Lake** 84.75 21 *e* P P 18 47 49.4 -0.7
comp=Z,34nm,0.7s
TIXI **Tiksi** 84.93 350 *c e* P P 18 47 51.2 +0.5
KEBM **Edson Butte** 85.79 45 *e* P P 18 47 56.8 +1.1
comp=Z,59nm,1.3s
WMQ **Urumqi** 85.89 316 P P 18 47 55.9 -0.3
WMQ pP pP 18 48 15.3 +1.9
WMQ sP sP 18 48 21.6 +1.5
WMQ pmax pmax
comp=Z,11nm,0.6s
WMQ pmax pmax
comp=Z,96nm,3.7s
WMQ LR LR
comp=Z,140nm,18.5s
WMQ LR LR
comp=Z,140nm,14.4s
WMQ LR LR
comp=Z,110nm,18.5s
L02D **Cave Junction,** 86.08 46 P P 18 47 58.9 +1.8
baz=252
TOLK **Toolik Lake Re** 86.20 16 P P 18 47 58.5 +1.3
baz=228
N02D **Trinity Center** 86.36 47 P P 18 48 00.5 +1.8
baz=253
WDC **Whiskeytown Da** 86.36 48 *e* P P 18 48 00.2 +1.6
WDC pmax pmax
comp=Z,24nm,1.4s
WDC **Whiskeytown Da** 86.36 48 *e* P P 18 48 00.2 +1.6
comp=Z,24nm,1.4s
M02C **Callahan** 86.38 47 P P 18 48 01.1 +2.3
baz=253
YBH **Yreka Blue Hor** 86.58 47 *e* P P 18 48 01.1 +1.4
YBH pmax pmax
comp=Z,14nm,1.0s
YBH **Yreka Blue Hor** 86.58 47 *e* P P 18 48 01.1 +1.4
comp=Z,14nm,1.0s
SNCC **San Nicolas Is** 86.67 55 *e* P P 18 48 01.3 +1.1
comp=Z,37nm,0.8s
HUMO **Hull Mountain** 86.67 46 *e* P P 18 48 00.6 +0.5
comp=Z,19nm,1.0s
PKM **Mcpherson Peak** 86.86 54 P P 18 48 03.0 +1.6
baz=255
M04C **Macdoel** 87.22 47 P P 18 48 04.8 +1.9
baz=253
CMB **Columbia Colle** 87.25 51 *e* P P 18 48 02.3 -0.7
CMB **Columbia Colle** 87.25 51 *e* P P 18 48 02.3 -0.7

I04A **Tendick Farm,** 87.41 45 P P 18 48 05.4 +1.7
baz=253
CIS **Catalina Islan** 87.61 56 P P 18 48 06.1 +1.3
baz=256
VES **Vestal, Richgr** 87.68 53 P P 18 48 06.6 +1.5
baz=255
ARVC **Arvin** 87.70 54 P P 18 48 06.4 +1.2
baz=256
J05D **Fort Rock, OR** 88.08 45 P P 18 48 08.3 +1.4
baz=254
ISA **Isabella, Lake** 88.12 53 P P 18 48 08.3 +1.0
baz=256
PNTR **Pine Nut** 88.13 50 *e* P P 18 48 08.5 +1.1
comp=Z,12nm,1.0s
K05A **Summer Lake** 88.16 46 *e* P P 18 48 09.2 +1.7
comp=Z,31nm,1.1s
TDH **Tom, Dick, Har** 88.27 43 P P 18 48 08.8 +0.9
EDW2 **Edwards Air Fo** 88.31 54 P P 18 48 09.2 +1.0
baz=256
VBEM **Beaver Butte** 88.34 44 P P 18 48 10.1 +1.9
BFSC **Mount Baldy Ra** 88.42 55 P P 18 48 09.5 +0.7
baz=256
109C **Camp Elliot, M** 88.55 56 P P 18 48 10.3 +1.1
baz=256
MCW **Mount Constitu** 88.60 40 P P 18 48 10.9 +1.7
MCW **Mount Constitu** 88.60 40 P P 18 48 10.8 +1.7
CWC **Cottonwood Cre** 88.62 53 P P 18 48 10.9 +1.2
baz=256
MURC **Murrieta** 88.65 56 P P 18 48 10.9 +1.1
baz=256
LRMC **Laurel Mtn Rad** 88.70 54 P P 18 48 11.3 +1.2
baz=256
BAR **Barrett** 88.86 57 *e* P P 18 48 12.3 +1.5
comp=Z,32nm,1.2s
DAC **Darwin (Calif)** 88.96 53 *e* P P 18 48 12.1 +0.7
DAC pmax pmax
comp=Z,39nm,1.3s
DAC **Darwin (Calif)** 88.96 53 *e* P P 18 48 12.1 +0.7
comp=Z,39nm,1.3s
MPMC **Manual Prospec** 88.99 53 P P 18 48 12.8 +1.2
baz=256
MONP **Monument Peak,** 89.11 56 P P 18 48 13.5 +1.3
baz=257
PFO **Pinyon Flats O** 89.25 56 P P 18 48 11.9 -0.8
comp=Z,7.5nm,0.9s,baz=251,slow=3.8,SNR=10
PFO **Pinyon Flats O** 89.25 56 P P 18 48 13.7 +1.0
baz=257
TPFO **Pinon Flats** 89.25 56 P P 18 48 13.7 +1.0
baz=257
GRAC **Grapevine Rang** 89.31 52 P P 18 48 14.3 +1.4
baz=256
IKP **In-Ko-Pah, Jac** 89.31 57 P P 18 48 14.3 +1.3
baz=257
GSC **Goldstone, Bar** 89.36 54 P P 18 48 14.0 +0.9
baz=257
LTY **Liberty** 89.57 42 *e* P P 18 48 14.8 +1.0
comp=Z,6.4nm,0.9s
FURC **Furnace Creek,** 89.58 53 P P 18 48 15.3 +1.3
baz=257
HEC **Hector,Ludlow** 89.62 55 P P 18 48 15.5 +1.2
baz=257
SWSC **Sam W. Stewart** 89.64 57 P P 18 48 15.7 +1.3
baz=257
WVOR **Wild Horse Val** 89.69 47 P P 18 48 15.5 +0.9
WVOR pmax pmax
comp=Z,47nm,1.3s
WVOR **Wild Horse Val** 89.69 47 P P 18 48 15.5 +0.9
comp=Z,47nm,1.3s
BELC **Belle Mtn. Jos** 89.71 55 P P 18 48 16.2 +1.3
baz=257
ETW **Entiat** 89.89 41 P P 18 48 16.5 +1.1
SHOC **Shoshone, Teco** 89.91 54 P P 18 48 16.6 +1.0
baz=257
BC3 **Big Chuckawall** 90.07 56 P P 18 48 17.7 +1.2
baz=257
TUQ **Turquoise Moun** 90.09 54 P P 18 48 17.7 +1.1
baz=257
GMRC **Granite Mounta** 90.15 55 P P 18 48 18.2 +1.3
baz=257
TPNV **Topopah Spring** 90.17 53 P P 18 48 18.3 +1.3
baz=257
TPNV **Topopah Spring** 90.17 53 *e* P P 18 48 18.3 +1.3
TPNV pmax pmax
comp=Z,33nm,1.0s
TPNV **Topopah Spring** 90.17 53 *e* P P 18 48 18.2 +1.3
comp=Z,33nm,1.0s
BMN **Battle Mountai** 90.23 49 P P 18 48 16.1 -1.1
BMN pmax pmax
comp=Z,24nm,1.0s
BMN **Battle Mountai** 90.23 49 P P 18 48 16.1 -1.1
comp=Z,24nm,1.0s
MK01 **Makanchi Array** 90.39 318 *e* P P 18 48 16.4 -1.2
MK31 **Makanchi Array** 90.40 318 *e* P P 18 48 17.3 -0.3
MK31 **Makanchi Array** 90.40 318 *e* P P 18 48 17.3 -0.3
MKAR **Makanchi Array** 90.40 318 *e* P P 18 48 17.3 -0.3
MKAR pmax pmax
comp=Z,45nm,0.6s
MKAR **Makanchi Array** 90.40 318 *e* P P 18 48 17.3 -0.3
comp=Z,45nm,0.6s
IRM **Iron Mountain** 90.43 55 P P 18 48 19.5 +1.4
baz=258
GLA **Glamis** 90.46 57 P P 18 48 19.9 +1.6
baz=258
SAW **Saint Andrews** 90.52 42 P P 18 48 19.6 +1.4
ZAA0 **Zalesovo Array** 90.81 325 *e* P P 18 48 17.6 -1.7
ZALV **Zalesovo Beam** 90.81 325 P P 18 48 17.9 -1.3
comp=Z,1.3nm,0.5s,baz=125,slow=5.6,SNR=4.7
ZALV LR LR 19 29 05.7
comp=Z,53nm,19.5s,baz=70,slow=36
ZALV **Zalesovo Beam** 90.81 325 P P 18 48 18.0 -1.3
Y12C **Blythe** 90.85 56 P P 18 48 21.4 +1.4
baz=258
INK **Inuvik** 90.88 20 LR LR 19 24 37.1
comp=Z,281nm,20.2s,baz=256,slow=33
SHPR **Sheep Range** 90.93 53 *e* P P 18 48 22.0 +1.5
comp=Z,24nm,0.9s
SYO **Syowa Base** 90.95 198 *i e* X 18 48 34.6
R11A **Troy Canyon, C** 91.00 51 P P 18 48 22.0 +1.2
baz=257
R11A **Troy Canyon, C** 91.00 51 *e* P P 18 48 19.5 -1.3
comp=Z,21nm,1.1s
W13A **Hualapai Mount** 91.64 55 *e* P P 18 48 25.4 +1.4
214A **Organ Pipe Nat** 91.90 58 P P 18 48 26.5 +1.5
baz=259
MFID **Camas Ranch** 91.93 46 *e* P P 18 48 24.2 -0.8
comp=Z,25nm,1.3s
NEW **Newport** 92.14 41 P P 18 48 26.6 +0.8
baz=257
NEW **Newport** 92.14 41 *e* P P 18 48 24.0 -1.7
NEW pmax pmax
comp=Z,13nm,1.1s
NEW **Newport** 92.14 41 *e* P P 18 48 24.0 -1.7
comp=Z,13nm,1.1s
HLID **Hailey** 92.97 46 P P 18 48 31.4 +1.6
baz=258
U15A **North Rim** 93.18 54 *e* P P 18 48 32.9 +1.8
KSH **Kashi** 93.28 309 *e* P P 18 48 35.6 +4.3
KSH pP sP 18 48 52.8 -2.4
KSH PP **PP** 18 52 22.8 +6.9
KSH S **S** 18 59 34.8 +0.7
KSH sS sS 19 00 03.8 +0.3
KSH SS **SS** 19 05 55.8 +4.4
KSH pmax pmax
comp=Z,7.0nm,1.4s
KSH pmax pmax
comp=Z,200nm,8.3s
KSH LR LR
comp=Z,110nm,6.4s
KSH LR LR
comp=Z,78nm,5.0s
KSH LR LR
comp=Z,110nm,6.9s
DUG **Dugway, Tooele** 93.48 50 P P 18 48 34.0 +1.8
baz=259
X16A **Lo Mia Camp, P** 93.49 56 *e* P P 18 48 34.2 +1.7
TUC **Tucson** 93.66 58 P P 18 48 34.6 +1.5
baz=260
KURK **Kurchatov** 93.69 321 *i* P P 18 48 31.4 -1.3
KURK pmax pmax
comp=Z,17nm,1.1s
NRIK **Noril'sk** 94.30 340 LR LR 19 29 38.2
comp=Z,191nm,21.9s,baz=132,slow=35
319A **Douglas** 94.76 59 *e* P P 18 48 39.9 +1.7
comp=Z,14nm,1.2s
BOZ **Bozeman (W)** 95.30 45 P P 18 48 41.8 +1.4
baz=260
BOZ **Bozeman (W)** 95.30 45 *e* P P 18 48 41.8 +1.4
BOZ pmax pmax
comp=Z,6.0nm,0.9s
BOZ **Bozeman (W)** 95.30 45 *e* P P 18 48 41.8 +1.4
comp=Z,6.1nm,0.9s
PDAR **Pinedale Array** 96.32 48 P P 18 48 43.3 -2.0
comp=Z,1.7nm,0.9s,baz=244,slow=3.5,SNR=5.5
YKA **Yellowknife Ar** 96.51 28 P P 18 48 44.6 -0.7
comp=Z,3.0nm,0.6s,baz=260,slow=4.6,SNR=18
YKA LR LR 19 26 30.5
comp=Z,16nm,20.9s,baz=180,slow=32
EGMT **Eagleton** 96.94 43 P P 18 48 49.3 +1.5
baz=262
SNAA **Sanae** 97.22 185 *e* P Pdif 18 48 49.1 +0.4
SNAA **Sanae** 97.22 185 *e* P P 18 48 48.1 -0.5
comp=Z,4.8nm,0.9s
ANMO **Albuquerque** 97.63 56 P Pdif 18 48 52.4 +1.1
baz=262
ANMO **Albuquerque** 97.63 56 *e* P P 18 48 50.7 -0.6
ANMO pmax pmax
comp=Z,5.0nm,1.0s
TXAR **Lajitas Array** 99.27 62 PP PP 18 53 02.4 0.0
comp=Z,1.0nm,1.1s,baz=244,slow=8.2,SNR=4.8
TXAR LR LR 19 25 12.5
comp=Z,188nm,21.5s,baz=0.0,slow=30
ARCES **ARCESS Array B** 114.85 344 PKP PKPdf 18 53 56.0 -0.1
comp=Z,3.0nm,1.0s,baz=94,slow=1.3,SNR=3.3
ARCES **ARCESS Array B** 114.85 344 PKIKP PKPdf 18 53 56.0 -0.1
GNI **Garni** 117.21 310 *c i* PKIKP **PKPdf** 18 54 03.6 +1.9
GNI pmax pmax
comp=Z,44nm,1.2s
KIV **Kislovodsk** 117.99 314 *e* PKIKP **PKPdf** 18 54 04.3 +1.3
KIV pmax pmax
comp=Z,4.0nm,1.1s
OBN **Obninsk** 118.27 328 *i* PKIKP **PKPdf** 18 54 04.0 +1.0
OBN pmax pmax
comp=Z,36nm,2.5s
KMBO **Kilima Mbogo** 123.37 262 *i* PKIKP PKPpre 18 54 08.6
KMBO pmax pmax
comp=Z,2.0nm,0.4s
AKASG **Malin Array Be** 124.21 325 PKP **PKPdf** 18 54 13.8 -0.8
comp=Z,0.3nm,0.2s,baz=68,slow=1.5,SNR=5.9
GERES **GERESS Array B** 133.41 331 PKP **PKPdf** 18 54 32.1 -0.2
comp=Z,0.2nm,0.5s,baz=90,slow=0.3,SNR=4.4
BFO **Black Forest** 136.22 334 *i* PKIKP **PKPdf** 18 54 36.3 -1.2
KEST **Kesra** 144.48 319 PKP PKPbc 18 54 51.9 +0.3
comp=Z,6.6nm,0.9s,baz=322,slow=1.2,SNR=7.3
ESDC **Sonseca Array** 148.32 338 PKPbc **PKPbc** 18 55 02.6 0.0
comp=Z,1.0nm,0.7s,baz=15,slow=3.3,SNR=6.5
TORD **Torodi Ar. Bea** 160.11 279 PKP **PKPdf** 18 55 16.1 -0.2
comp=Z,0.7nm,0.7s,baz=69,slow=2.1,SNR=3.6
TORD PKPab **PKPab** 18 55 54.5 -2.0
comp=Z,1.6nm,1.0s,baz=82,slow=3.8,SNR=3.6

---

*IDC **18** 19:05:26.1±3.3,36°.43N×70°.93E,h135km±31km,mb3.4/6, mb1 3.5/11,mb1mx3.2/53,mbtmp3.9/11,Error ellipse: s-maj=24.3km s-min=17.1km az=16.0*
*ISCJB **18** 19:05:28.2±0.6,36°.61N±0°.04×71°.08E±0°.08,h188km, mb3.6/5,Error ellipse: s-maj=9.5km s-min=5.1km az=163.3*
*NNC **18** 19:05:31.3±5.2,36°.87N×70°.64E,h155km±94km,mb3.3, mpv4.3,Error ellipse: s-maj=45.2km s-min=36.9km az=9.0*

ISC 18 19:05:30.3±0.8,36°.67N±0°.07×71°.2E±0°.1,h188km,n26, σ1§71/30,mb3.6/5,6C-4D,Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
MNAS	**Manas**	**5.90**	**10**	⇑P			**Pn**	**19 06 55.5**	**-0.7**
MNAS	31nm,0.8s			⇑S			**Sn**	**19 08 02.2**	**-1.7**
KK31	**Karatay Array**	**6.44**	**356**	⇓P			**Pn**	**19 07 02.2**	**-0.9**
KK31	11nm,0.3s,baz=175,slow=13,SNR=352			⇑S			**Sn**	**19 08 13.2**	**-3.3**
AAK	**Ala-Archa**	**6.49**	**22**	P			**Pn**	**19 07 04.2**	**+0.3**
AAK	32nm,0.7s,baz=183,slow=24,SNR=4.0			S			**Sn**	**19 08 17.8**	**+0.1**
AAK	**Ala-Archa**	**6.49**	**22**	⇓P			**Pn**	**19 07 03.9**	**+0.1**
AAK	7.2nm,0.3s,baz=188,slow=12,SNR=40			⇑S			**Sn**	**19 08 18.2**	**+0.4**
SDNR	**Sundarnagar**	**7.06**	**135**	*e* P			**Pn**	**19 07 09.0**	**-2.3**
SDNR	3.0nm,0.3s,baz=351,slow=21,SNR=10			*e* S			Sn	19 08 22.6	-8.6
TKM2	**Tokmak 2**	**7.11**	**27**	⇑P			**Pn**	**19 07 11.8**	**-0.2**
TKM2	6.3nm,0.5s			⇓S			**Sn**	**19 08 33.5**	**+0.9**
GEYT	**Alibeck**	**10.47**	**281**	P			Pn	19 07 50.5	-5.4
GEYT	8.7nm,0.7s			S			Sn	19 09 41.1	-11
PYUN	**Piuthan**	**13.14**	**127**	*e* P			**Pn**	**19 08 26.2**	**-4.0**
KOLN	**Koldanda**	**13.76**	**127**	*e* P			**Pn**	**19 08 34.7**	**-3.3**
GKN	**Gorkha**	**14.29**	**123**	*e* P			**Pn**	**19 08 42.1**	**-2.4**
DMN	**Daman**	**14.86**	**124**	*e* P			**Pn**	**19 08 50.3**	**-1.3**
KKN	**Kakani**	**14.86**	**123**	*e* P			**Pn**	**19 08 50.4**	**-1.2**
KURBB	**Kurchatov Arra**	**14.92**	**18**	P			**Pn**	**19 08 51.9**	**+0.1**
AB31	**Akbulak array**	**15.00**	**330**	P			**Pn**	**19 08 51.9**	**-0.9**
AB31	1.5nm,0.5s,baz=155,slow=22,SNR=6.1			⇑S			Sn	19 11 27.6	-13
PKIN	**Phulchoki**	**15.07**	**123**	*e* P			**Pn**	**19 08 54.0**	**-0.3**
PKI	**Pulchoki**	**15.09**	**123**	*e* P			**Pn**	**19 08 54.3**	**-0.2**
BVAR	**Borovoye Array**	**16.36**	**358**	P			**Pn**	**19 09 09.8**	**+0.5**
AKTO	**Aktyubinsk**	**16.70**	**330**	P			**Pn**	**19 09 13.3**	**-0.1**
AKTO	**Aktyubinsk**	**16.70**	**330**	⇓P			**Pn**	**19 09 13.3**	**-0.1**
ZALV	**Zalesovo Beam**	**19.70**	**24**	P			**Pn**	**19 09 48.5**	**-0.3**
CMAR	**Chiang Mai Arr**	**30.42**	**119**	P			**P**	**19 11 27.8**	**+2.6**
FINES	**FINESS Array B**	**37.41**	**326**	P			**P**	**19 12 27.1**	**+2.3**
NB2	**NORSAR Subarra**	**44.32**	**323**	P			**P**	**19 13 23.3**	**+1.9**
NOA	**NORSAR Array B**	**44.32**	**323**	P			**P**	**19 13 23.2**	**+1.9**
TORD	**Torodi Ar. Bea**	**65.86**	**269**	P			**P**	**19 15 55.5**	**-0.5**
WRA	**Warramunga Arr**	**81.97**	**122**	P			**P**	**19 17 30.1**	**+0.8**

comp=Z,1.3nm,0.5s,baz=244,slow=4.1,SNR=28
comp=Z,0.4nm,0.6s,baz=51,slow=6.7,SNR=3.4
comp=Z,0.7nm,0.5s,baz=328,slow=5.0,SNR=14
comp=Z,2.0nm,0.6s,baz=51,slow=7.9,SNR=4.5
comp=Z,3.2nm,0.4s,baz=210,slow=10,SNR=17
comp=Z,2.8nm,0.5s,baz=96,slow=7.9
comp=Z,1.4nm,0.7s,baz=96,slow=7.9,SNR=4.5
comp=Z,0.7nm,0.5s,baz=328,slow=5.0,SNR=14

DJA 18 19:07:23.2±0.7,2°N±4°×9°6E±°,h10km,M3.6/7,MLv3.6/7, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
TPTI		**1.09**	**39**	P			Pb	19 07 43.7	-0.5
TPTI				S			Sb	19 07 58.5	0.0
KCSI	**Kotacane, Aceh**	**1.69**	**49**	P			Pn	19 07 52.6	-0.2
KCSI				S			Sb	19 08 15.4	-0.4
MLSI	**Meulaboh, Aceh**	**1.85**	**357**	P			Pn	19 07 55.0	0.0
MLSI				S			Sb	19 08 19.5	-0.8
TSI	**Tuntungan**	**2.34**	**62**	P			Pn	19 08 02.6	+0.9
LHMI	**Lhok Sumawe**	**2.84**	**9**	P			Pn	19 08 07.8	-0.8
MNSI	**Mandailing Nat**	**3.48**	**117**	P			Pn	19 08 17.5	+0.1

IDC 18 19:12:55.4±8.1,5°85S×150°75E,h86km±57km,mb3.3/3, mb1 3.5/4,mb1mx3.1/45,mbtmp3.7/4,ML1.2/1,Error ellipse: s-maj=105.4km s-min=54.4km az=127.0,New Britain region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.01**	**225**	P			Pn	19 14 08.2	0.0
PMG	0.6nm,0.3s,baz=357,slow=17,SNR=2.4			S			Sn	19 15 05.8	+0.9
WRA	**Warramunga Arr**	**21.23**	**227**	P			P	19 17 33.8	-0.8
ASAR	**Alice Springs**	**24.01**	**221**	P			P	19 18 02.6	+0.2

0.5nm,0.3s,baz=85,slow=12,SNR=2.6
0.7nm,0.5s,baz=53,slow=11,SNR=12
1.1nm,0.7s,baz=58,slow=9.0,SNR=9.8

FITZ	**Fitzroy Crossi**	**27.37 241**	P	P	19 18 32.9	+0.1
	1.1nm,0.6s,baz=54,slow=6.6,SNR=6.0					
TORD	**Torodi Ar. Bea**	**148.66 286**	PKPbc	PKPbc	19 32 33.2	-0.5
	0.4nm,0.6s,baz=60,slow=2.0,SNR=3.2					

AUST ***18*** *19:13:26.0±0.1, 32°.21S×138°.24E, h7km, Error ellipse: s-maj=0.2km s-min=0.1km az=4.0*
ISCJB ***18*** *19:13:27.0±0.6, 32°.10S±0°.04×138°.27E±0°.05, h27km, Error ellipse: s-maj=6.7km s-min=5.2km az=40.5*
IDC ***18*** *19:13:29.4±5.3, 31°.90S×138°.37E, h0km, mb1 3.1/3, mb1mx3.0/35, mbtmp2.9/3, ML2.9/3, Error ellipse: s-maj=74.9km s-min=17.0km az=26.0*

ISC 18 19:13:28.8±0.8, 32°.24S±0°.06×138°.17E±0°.04, h27km, n9, σ1°21/18, Near coast of South Australia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HTT	**Hallett**	**1.34**	**152**	P	**Pn**	**19 13 50.7**	**-1.1**
	baz=1.4						
HTT				S	**Sn**	**19 14 09.8**	**+1.0**
	baz=1.4						
BBOO	**Buckleboo**	**1.87**	**252**	P	**Pn**	**19 14 00.5**	**+1.5**
	baz=1.9						
BBOO				S	**Sb**	**19 14 25.2**	**-0.1**
	baz=1.9						
STKA	**Stephens Creek**	**2.93**	**84**	Pn	**Pn**	**19 14 14.3**	**+0.8**
	1.7nm,0.3s,baz=245,slow=12,SNR=5.3						
STKA				Pg	**Pb**	**19 14 20.4**	**+0.1**
	1.7nm,0.3s,baz=259,slow=15,SNR=10						
STKA				Sn	**Sn**	**19 14 49.5**	**+1.6**
	2.2nm,0.3s,baz=2.5,slow=20,SNR=4.8						
STKA				Lg	Lg	19 14 55.9	
	6.0nm,0.3s,baz=339,slow=23,SNR=14						
STKA	**Stephens Creek**	**2.93**	**84**	P	**Pn**	**19 14 14.4**	**+0.8**
	baz=2.9						
STKA				S	**Sn**	**19 14 47.3**	**-0.6**
	baz=2.9						
ARPS	**Mount Arapiles**	**5.44**	**147**	P	**Pn**	**19 14 47.7**	**-0.3**
	baz=5.4						
CMSA	**Cobar Meteorol**	**6.43**	**86**	P	**Pn**	**19 15 01.4**	**-0.4**
	baz=6.4						
CMSA				S	**Sn**	**19 16 12.2**	**-2.1**
	baz=6.4						
FORT	**Forrest**	**8.76**	**277**	P	**Pn**	**19 15 34.5**	**+0.9**
	baz=8.8						
FORT				S	**Sn**	**19 17 09.7**	**-1.7**
	baz=8.8						
ASAR	**Alice Springs**	**9.34**	**335**	Pn	**Pn**	**19 15 42.9**	**+1.2**
	0.1nm,0.3s,baz=151,slow=14,SNR=7.6						
ASAR				Sn	**Sn**	**19 17 24.8**	**-1.1**
	0.1nm,0.3s,baz=158,slow=22,SNR=4.5						
WRA	**Warramunga Ar**	**12.72**	**343**	Pn	**Pn**	**19 16 28.4**	**+0.4**
	0.1nm,0.3s,baz=165,slow=14,SNR=5.3						
WRA				Sn	**Sn**	**19 18 47.3**	**-1.5**
	0.0nm,0.3s,baz=168,slow=22,SNR=2.7						

IDC ***18*** *19:17:21.3±2.0, 27°.62N×88°.08E, h0km, mb3.7/5, mb1 3.9/5, mb1mx3.3/62, mbtmp3.7/5, Error ellipse: s-maj=78.7km s-min=21.0km az=71.0*
ISCJB ***18*** *19:17:27.7±0.8, 27°.83N±0°.05×88°.53E±0°.05, h35km, mb3.6/5, Error ellipse: s-maj=7.3km s-min=6.4km az=35.1*
NDI ***18*** *19:17:30.2±2.2, 27°.64N×88°.75E, h30km, ML3.7*

ISC 18 19:17:28.0±1.2, 27.76N±0°.07×88°.38E±0°.09, h35km, n15, σ1°36/23, mb3.8/5, Sikkim

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GTK	**Tadong**	**0.48**	**156**	*e*P	**Pn**	**19 17 39.4**	**+0.9**
GTK				*e*S	**Sn**	**19 17 47.1**	**+1.2**
GTK				AML	AML	19 17 48.0	
	comp=N,6μm,0.3s						
GTK				AML	AML	19 17 48.6	
	comp=E,7μm,0.3s						
TURI	**Tura**	**2.81**	**141**	*e*P	**Pn**	**19 18 11.0**	**+0.5**
TURI				*e*S	**Sn**	**19 18 42.7**	**-0.4**
TURI				AML	AML	19 19 00.8	
	comp=E,1μm,0.3s						
TURI				AML	AML	19 19 00.9	
	comp=N,718nm,0.4s						
SHL	**Shillong**	**3.82**	**124**	*e*P	**Pn**	**19 18 25.5**	**+1.0**
SHL				*e*S	**Sn**	**19 19 06.6**	**-1.7**
SHL				AML	AML	19 19 26.9	
	comp=E,283nm,0.4s						
SHL				AML	AML	19 19 27.0	
	comp=N,420nm,0.3s						
TEZP	**TEZPUR**	**4.10**	**105**	*e*P	**Pn**	**19 18 29.5**	**+1.4**
TEZP				*e*S	**Sn**	**19 19 15.0**	**+0.2**
TEZP				AML	AML	19 19 35.9	
	comp=N,214nm,0.5s						
TEZP				AML	AML	19 19 36.4	
	comp=E,219nm,0.2s						
ITAN	**ITANAGAR**	**4.79**	**96**	*e*P	**Pn**	**19 18 39.0**	**+1.4**
ITAN				*e*S	**Sn**	**19 19 31.9**	**+0.1**
ITAN				AML	AML	19 20 08.9	
	comp=E,301nm,0.2s						
ITAN				AML	AML	19 20 09.8	
	comp=N,244nm,0.2s						
ZIRO	**ZIRO**	**4.86**	**92**	*e*P	**Pn**	**19 18 40.8**	**+2.0**
ZIRO				*e*S	**Sn**	**19 19 33.5**	**-0.3**
ZIRO				AML	AML	19 19 37.9	
	comp=E,584nm,0.3s						
ZIRO				AML	AML	19 19 37.9	
	comp=N,768nm,0.2s						
JORH	**JORHAT**	**5.32**	**100**	*e*S	**Sn**	**19 19 44.0**	**-1.0**
JORH				AML	AML	19 20 21.7	
	comp=N,233nm,0.4s						
JORH				AML	AML	19 20 22.9	
	comp=E,306nm,0.4s						
MOKO	**MOKOCHONG**	**5.66**	**103**	*e*P	**Pn**	**19 18 51.1**	**+1.5**
MOKO				*e*S	**Sn**	**19 19 51.9**	**-1.6**
MOKO				AML	AML	19 19 60.0	
	comp=N,103nm,0.2s						
MOKO				AML	AML	19 20 00.7	
	comp=E,160nm,0.5s						
IMP	**Imphal**	**5.79**	**119**	*e*P	**Pn**	**19 18 53.6**	**+2.2**
IMP				*e*S	**Sn**	**19 19 54.7**	**-1.9**
IMP				AML	AML	19 20 42.7	
	comp=E,19nm,0.6s						
IMP				AML	AML	19 20 42.9	
	comp=N,17nm,0.6s						
LKP	**Lekhapani**	**6.64**	**92**	*e*P	Pn	19 19 06.0	+2.9
LKP				*e*S	**Sn**	**19 20 15.7**	**-1.8**
KURBB	**Kurchatov Arra**	**24.03**	**344**	P	**P**	**19 22 38.2**	**-1.3**
	comp=N,0.6nm,0.7s,baz=161,slow=9.1,SNR=5.2						
SONM	**Songino Array**	**24.47**	**30**	P	**P**	**19 22 44.8**	**+1.0**
	comp=N,1.4nm,0.4s,baz=218,slow=10.0,SNR=12						
ZALV	**Zalesovo Beam**	**26.29**	**355**	P	**P**	**19 22 59.3**	**-0.7**
	comp=N,0.5nm,0.3s,baz=177,slow=8.3,SNR=3.0						
WRA	**Warramunga Arr**	**65.01**	**132**	P	**P**	**19 28 04.0**	**-0.7**
	comp=N,0.7nm,0.6s,baz=326,slow=6.6,SNR=12						
ASAR	**Alice Springs**	**67.40**	**135**	P	**P**	**19 28 19.4**	**-0.7**
	comp=N,0.6nm,0.6s,baz=316,slow=6.0,SNR=13						

IDC ***18*** *19:19:12.0±0.7, 45°.51N×75°.24W, h0km, mb3.7/10, mb1 4.0/14, mb1mx3.7/53, mbtmp3.8/14, ML3.1/4, Error ellipse: s-maj=13.8km s-min=6.6km az=143.0*
ISCJB ***18*** *19:19:12.1±0.3, 45°.56N±0°.02×75°.24W±0°.03, h10km±2km, mb3.9/12, Error ellipse: s-maj=3.3km s-min=2.9km az=11.9*
OTT ***18*** *19:19:13.5±0.1, 45°.58N×75°.21W, h13km±1km, MN4.1/13*
OTT 4km southeast from Thurso, Qc, Felt locally Western Quebec Seismic Zone.
NEIC ***18*** *19:19:13.5±0.0, 45°.58N×75°.21W, h12km, mb3.9/2, ML4.0(LDO), MN4.1(OTT), After OTT.*
NEIC Felt [IV] at Bourget and Rockland; [III] at Alexandria, Alfred, Casselman, Embrun, Kemptville, Osgoode and Winchester; [II] at Cornwall, Hawkesbury, Kanata, Metcalfe and Ottawa, Ontario. Felt [III] at Buckingham and Papineauville; [II] at Montreal, Rigaud and Saint-Jerome, Quebec. Felt widely in southeastern Ontario and southern Quebec. Felt [III] at Malone and Norfolk; [II] at Canton, Lake Placid, Madrid, Massena, Ogdensburg and Potsdam, New York. Felt widely in northeastern New York and in parts of Vermont.

ISC 18 19:19:13.4±0.8, 45°.57N±0°.02×75°.22W±0°.02, h12km±5km, n87, σ1°40/101, mb4.0/12, 6C-15D, Southern Ontario

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GAC	**Glen Almond**	**0.22**	**306**	⇑P	**Pg**	**19 19 18.2**	**0.0**
GAC				S	**Sg**	**19 19 21.3**	**-0.1**
GAC				Trac		19 19 21.9	
	comp=Z,4μm,0.3s						
GAC	**Glen Almond**	**0.22**	**306**	⇑P	**Pg**	**19 19 18.2**	**0.0**
GAC				S	**Sg**	**19 19 21.3**	**-0.1**
ORIO	**Orleans, Innes**	**0.24**	**239**	⇓P	**Pg**	**19 19 18.5**	**+0.1**
ORIO				S	**Sg**	**19 19 21.8**	**0.0**
ORIO				Trac		19 19 23.2	
	comp=Z,958nm,0.0s						
ORIO	**Orleans, Innes**	**0.24**	**239**	⇓P	**Pg**	**19 19 18.5**	**+0.1**
ORIO				S	**Sg**	**19 19 21.8**	**0.0**
ALFO	**Alfred**	**0.24**	**77**	⇓P	**Pg**	**19 19 18.5**	**0.0**
ALFO				S	**Sg**	**19 19 21.8**	**-0.1**
ALFO				Trac		19 19 22.1	
	comp=Z,2μm,0.1s						
ALFO	**Alfred**	**0.24**	**77**	⇓P	**Pg**	**19 19 18.5**	**0.0**
ALFO				S	**Sg**	**19 19 21.8**	**-0.1**
OTT	**Ottawa**	**0.39**	**243**	⇓P	**Pg**	**19 19 21.1**	**-0.1**
OTT				S	**Sg**	**19 19 26.5**	**+0.1**
OTT				Trac		19 19 28.6	
	comp=Z,834nm,0.1s						
OTT	**Ottawa**	**0.39**	**243**	⇓P	**Pg**	**19 19 21.1**	**-0.1**
OTT				S	**Sg**	**19 19 26.5**	**+0.1**
VABQ	**Val Des Bois**	**0.43**	**321**	⇑P	**Pg**	**19 19 21.7**	**-0.2**
VABQ				S	**Sg**	**19 19 27.2**	**-0.4**
VABQ				Trac		19 19 33.4	
	comp=Z,203nm,0.0s						
WBO	**Williamsburg**	**0.57**	**184**	⇓P	**Pg**	**19 19 24.4**	**-0.2**
WBO				S	**Sg**	**19 19 31.8**	**-0.4**
WBO				Trac		19 19 32.7	
	comp=Z,2μm,0.1s						
WBO	**Williamsburg**	**0.57**	**184**	⇓P	**Pg**	**19 19 24.4**	**-0.2**
WBO				S	**Sg**	**19 19 31.8**	**-0.4**
TRQ	**Mont Tremblant**	**0.80**	**35**	⇓P	**Pg**	**19 19 28.0**	**-0.8**
TRQ				Trac		19 19 40.6	
	comp=Z,634nm,0.1s						
TRQ	**Mont Tremblant**	**0.80**	**35**	*e*Pg	**Pg**	**19 19 28.0**	**-0.8**
LONY	**Lake Ozonia**	**1.06**	**154**	⇑P	**Pg**	**19 19 32.5**	**-1.1**
LONY				S	**Sb**	**19 19 46.4**	**-1.0**
LONY	**Lake Ozonia**	**1.06**	**154**	*e*Pg	**Pb**	**19 19 32.3**	**-1.2**
GRQ	**Grand Remous**	**1.12**	**337**	⇓P	**Pb**	**19 19 33.8**	**-0.9**
GRQ				S	**Sb**	**19 19 48.1**	**-1.2**
GRQ				Trac		19 19 54.9	
	comp=Z,286nm,0.1s						
GRQ	**Grand Remous**	**1.12**	**337**	⇓Pg	**Pb**	**19 19 33.8**	**-0.9**
GRQ				Sg	**Sb**	**19 19 48.1**	**-1.2**
MNTQ	**Montreal, Queb**	**1.12**	**93**	⇓PG	**Pb**	**19 19 33.5**	**-1.2**
MNTQ				SG	**Sb**	**19 19 48.5**	**-0.8**
MNTQ				Trac		19 19 54.8	
	comp=Z,625nm,0.1s						
FRNY	**Flat Rock**	**1.37**	**122**	⇑PG	**Pn**	**19 19 37.5**	**-0.8**
FRNY	**Flat Rock**	**1.37**	**122**	*e*Pn	**Pn**	**19 19 37.6**	**-0.6**
PLVO	**Plevna**	**1.41**	**248**	⇓PG	**Pn**	**19 19 38.2**	**-0.6**
PLVO				SG	**Sn**	**19 19 57.3**	**-0.1**
PLVO	**Plevna**	**1.41**	**248**	*e*Pn	**Pn**	**19 19 38.3**	**-0.6**
PLVO				Sg	**Sn**	**19 19 57.3**	**-0.1**
PEMO	**Pembroke**	**1.43**	**275**	⇓PG	**Pn**	**19 19 38.7**	**-0.3**
PEMO				SG	**Sn**	**19 19 57.4**	**-0.3**
PEMO	**Pembroke**	**1.43**	**275**	⇓Pg	**Pn**	**19 19 38.7**	**-0.3**
PEMO				Sg	**Sn**	**19 19 57.4**	**-0.3**
CRLO	**Chalk River**	**1.58**	**288**	Trac		19 20 04.5	
	comp=Z,409nm,0.2s						
KGNO	**Kingston**	**1.62**	**214**	PG	**Pn**	**19 19 42.0**	**+0.3**
KGNO				Trac		19 20 05.4	
KGNO	**Kingston**	**1.62**	**214**	Pg	**Pn**	**19 19 42.0**	**+0.3**
NCB	**Newcomb**	**1.75**	**156**	⇑Pg	**Pn**	**19 19 43.8**	**+0.2**
NCB				SG	**Sb**	**19 20 07.1**	**-0.3**
NCB	**Newcomb**	**1.75**	**156**	*e*Pn	**Pn**	**19 19 43.9**	**+0.3**
DPQ	**Saint Jean**	**2.03**	**56**	Trac		19 20 17.8	
	comp=Z,358nm,0.1s						
MOQ	**Mont Orford**	**2.10**	**96**	Trac		19 20 21.5	
	comp=Z,161nm,0.1s						
MDV	**Middlebury**	**2.14**	**137**	*e*Pn	**Pn**	**19 19 49.4**	**+0.6**
ACCN	**Adirondack Com**	**2.46**	**153**	*e*Pn	**Pn**	**19 19 54.1**	**+0.9**
LBNH	**Lisbon**	**2.69**	**119**	*e*Pn	**Pn**	**19 19 57.5**	**+1.0**
HNH	**Hanover**	**2.81**	**131**	*e*Pn	**Pn**	**19 19 59.2**	**+1.2**
SADO	**Sadowa**	**2.89**	**255**	Pn	**Pn**	**19 19 59.0**	**-0.2**
	4.1nm,0.3s,baz=97,slow=17,SNR=43						
SADO				Pg	**Pb**	**19 20 02.7**	**-2.0**
	60nm,0.3s,baz=88,slow=18,SNR=102						
SADO				Lg	Lg	19 20 40.2	
	160nm,0.3s,baz=179,slow=19,SNR=30						
SADO	**Sadowa**	**2.89**	**255**	Trac		19 20 45.8	
	comp=Z,478nm,0.3s						
SADO	**Sadowa**	**2.89**	**255**	*e*Pn	**Pn**	**19 19 59.3**	**+0.2**
VLDQ	**Val d'Or**	**2.97**	**330**	Trac		19 20 57.7	
	comp=Z,97nm,0.3s						
VLDQ	**Val d'Or**	**2.97**	**330**	*e*Pn	**Pn**	**19 20 03.2**	**+3.0**
QCQ	**Quebec**	**2.99**	**65**	Trac		19 20 46.0	
	comp=Z,574nm,0.3s						
TRY	**Troy**	**3.05**	**158**	*e*Pn	**Pn**	**19 20 02.8**	**+1.3**
FFD	**Franklin Falls**	**3.31**	**128**	*e*Pn	**Pn**	**19 20 06.3**	**+1.5**
BINY	**Binghamton**	**3.42**	**190**	*e*Pn	**Pn**	**19 20 07.5**	**+1.1**
MMNY	**Mt. Morris Dam**	**3.44**	**215**	*e*Pn	**Pn**	**19 20 06.9**	**+0.3**
DAQ	**Lac Daran**	**3.63**	**47**	Trac		19 21 09.7	
	comp=Z,790nm,0.5s						
BUF	**Buffalo**	**3.72**	**226**	*e*Pn	**Pn**	**19 20 14.4**	**+3.9**
A54	**Misere**	**3.82**	**59**	Trac		19 21 14.1	
	comp=Z,378nm,0.4s						
QUA2	**Belchertown**	**3.89**	**147**	*e*Pn	**Pn**	**19 20 14.3**	**+1.4**
LMQ	**La Malbaie**	**3.91**	**58**	Trac		19 21 17.1	
	comp=Z,550nm,0.5s						
LMQ	**La Malbaie**	**3.91**	**58**	*e*Pn	**Pn**	**19 20 13.3**	**+0.1**
HRV	**Adam Dziewonsk**	**4.05**	**138**	*e*Pn	**Pn**	**19 20 15.9**	**+0.9**
A16	**Riviere Ouelle**	**4.07**	**60**	Trac		19 21 19.6	
	comp=Z,256nm,0.3s						
PKME	**Peaks-Kenny Pk**	**4.19**	**92**	*e*Pn	**Pn**	**19 20 17.3**	**+0.4**
WES	**Weston**	**4.25**	**137**	*e*Pn	**Pn**	**19 20 18.1**	**+0.3**
ODNJ	**Ogdensburg**	**4.51**	**174**	*e*Pn	**Pn**	**19 20 21.7**	**+0.3**
BRYW	**Bryant College**	**4.52**	**143**	*e*Pn	**Pn**	**19 20 22.3**	**+0.6**
PAL	**Palisades**	**4.67**	**168**	*e*Pn	**Pn**	**19 20 24.8**	**+1.3**
N59A	**State Game Lan**	**4.67**	**185**	P	**Pn**	**19 20 23.9**	**+0.2**
	baz=4.7						
LUPA	**Lehigh Univers**	**4.97**	**181**	*e*Pn	**Pn**	**19 20 27.9**	**+0.1**
PQI	**Presque Isle**	**5.13**	**75**	*e*Pn	**Pn**	**19 20 29.9**	**+0.1**
M54A	**Oil Creek Stat**	**5.19**	**220**	P	**Pn**	**19 20 30.6**	**-0.2**
	baz=36						
M54A				S	**Sn**	**19 21 30.5**	**-0.1**
	baz=36						
SSPA	**Standing Stone**	**5.31**	**203**	*e*Pn	**Pn**	**19 20 32.9**	**+0.5**
PSUB	**Penn St. - Bra**	**5.65**	**182**	*e*Pn	**Pn**	**19 20 37.9**	**+0.9**
N54A	**Moraine State**	**5.78**	**219**	P	**Pn**	**19 20 39.3**	**+0.5**
	baz=35						
N54A				S	**Sn**	**19 21 44.7**	**-0.3**
	baz=35						
O56A	**Blue Knob Stat**	**5.84**	**206**	P	**Pn**	**19 20 40.3**	**+0.5**
	baz=23						
GGN	**Saint George**	**5.92**	**91**	*e*Pn	**Pn**	**19 20 42.7**	**+1.9**
SDMD	**Soldier's Deli**	**6.28**	**192**	*e*Pn	**Pn**	**19 20 46.0**	**+0.3**
SCHQ	**Schefferville**	**10.71**	**27**	Pn	**Pn**	**19 21 44.4**	**-2.0**
	2.7nm,0.3s,baz=217,slow=13,SNR=6.9						
SCHQ				Sn	**Sn**	**19 23 39.5**	**-6.5**
	4.4nm,0.3s,baz=91,slow=18,SNR=6.7						
SCHQ				Lg	Lg	19 24 44.0	
	14nm,0.3s,baz=306,slow=17,SNR=11						
TKL	**Tuckaleechee C**	**11.84**	**216**	Pn	**Pn**	**19 22 00.2**	**-1.8**
	0.4nm,0.3s,baz=25,slow=9.1,SNR=5.6						
TKL				Sn	**Sn**	**19 24 07.2**	**-6.8**
	0.6nm,0.3s,baz=305,slow=6.3,SNR=3.1						
TKL				Lg	Lg	19 25 15.8	
	3.1nm,0.3s,baz=126,slow=22,SNR=6.2						
ULM	**Lac du Bonnet**	**14.61**	**296**	Pn	Pn	19 22 35.0	-4.6
	0.5nm,0.3s,baz=126,slow=14,SNR=3.2						
ULM				Sn	Sn	19 25 08.4	-13
	0.4nm,0.3s,baz=126,slow=6.0,SNR=4.4						
ULM				Lg	Lg	19 26 42.3	
	0.8nm,0.3s,baz=188,slow=22,SNR=3.9						
HHAR	**Hobbs**	**16.89**	**243**	*e*Pn	**P**	**19 23 12.6**	**+1.1**
	13nm,0.7s						
MIAR	**Mount Ida**	**17.81**	**238**	*e*Pn	**P**	**19 23 25.4**	**+3.8**
	4.9nm,0.8s						
PDAR	**Pinedale Array**	**24.68**	**276**	P	**P**	**19 24 35.1**	**+0.8**
	0.5nm,0.6s,baz=62,slow=12,SNR=3.0						
TXAR	**Lajitas Array**	**27.60**	**244**	P	**P**	**19 24 59.6**	**-1.0**
	0.6nm,1.0s,baz=59,slow=7.6,SNR=5.5						
YKA	**Yellowknife Ar**	**28.06**	**321**	P	**P**	**19 25 04.6**	**+0.4**
	0.5nm,0.5s,baz=107,slow=10,SNR=4.7						
INK	**Inuvik**	**37.06**	**328**	P	**P**	**19 26 23.9**	**+1.2**
	2.1nm,0.7s,baz=19,slow=22,SNR=3.7						
ILAR	**Eielson Array**	**42.45**	**323**	P	**P**	**19 27 08.1**	**+0.4**
	0.2nm,0.5s,baz=86,slow=6.1,SNR=6.4						
FINES	**FINESS Array B**	**56.07**	**35**	P	**P**	**19 28 52.8**	**+1.1**
	1.1nm,0.7s,baz=273,slow=7.1,SNR=6.0						
LPAZ	**La Paz**	**61.90**	**172**	P	**P**	**19 29 33.6**	**+0.3**
	0.9nm,0.5s,baz=260,slow=1.3,SNR=4.6						
AKASG	**Malin Array Be**	**64.03**	**43**	P	**P**	**19 29 47.3**	**+0.8**
	0.5nm,0.4s,baz=301,slow=6.3,SNR=5.0						
BVAR	**Borovoye Array**	**77.46**	**20**	P	**P**	**19 31 09.3**	**+1.1**
	0.4nm,0.6s,baz=310,slow=7.6,SNR=4.1						
SONM	**Songino Array**	**86.96**	**359**	P	**P**	**19 31 58.6**	**+0.3**
	0.7nm,0.8s,baz=96,slow=1.5,SNR=4.3						
WMQ	**Urumqi**	**89.70**	**12**	*e*P	**P**	**19 32 14.1**	**+2.9**
WMQ				pmax	pmax		
	comp=Z,8.0nm,0.8s						
HHC	**Hu-ho-hao-te**	**93.75**	**355**	*e*P	**P**	**19 32 31.3**	**+1.2**
HHC				pmax	pmax		
	comp=Z,9.0nm,0.9s						
HHC				pmax	pmax		
	comp=Z,94nm,8.6s						
WRA	**Warramunga Arr**	**144.70**	**307**	PKP	**PKPab**	**19 38 48.9**	**+0.1**
	comp=Z,0.6nm,0.9s,baz=39,slow=3.7,SNR=19						
ASAR	**Alice Springs**	**147.85**	**303**	PKPbc	**PKPbc**	**19 38 58.2**	**-0.1**
	comp=Z,0.3nm,0.5s,baz=49,slow=2.7,SNR=4.8						

IDC ***18*** *19:20:49.7±0.8, 25°.74N×90°.98E, h0km, mb3.7/14, mb1 3.9/15, mb1mx3.6/58, mbtmp3.8/15, ML3.9/1, Error ellipse: s-maj=33.6km s-min=15.8km az=51.0*
ISCJB ***18*** *19:20:54.0±0.4, 25°.78N±0°.06×90°.99E±0°.03, h34km, mb3.7/15, Error ellipse: s-maj=8.4km s-min=3.5km az=12.2*
NEIC ***18*** *19:20:54.8±0.9, 25°.76N×91°.18E, h37km±9km, mb4.0/2, Error ellipse: s-maj=14.2km s-min=8.3km az=209.0*
DMN ***18*** *19:20:54.6±0.6, 25°.29N×90°.89E, h10km, Ml4.8/4, Error ellipse: s-maj=38.1km s-min=11.0km az=31.0*

ISC 18 19:20:54.1±0.6, 25°.61N±0°.05×91°.02E±0°.03, h34km, n47, σ1°36/57, mb3.6/15, India-Bangladesh border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TURI	**Tura**	**0.63**	**264**	*e*P	**Pb**	**19 21 07.8**	**+0.9**
SHL	**Shillong**	**0.78**	**93**	*e*P	**Pb**	**19 21 09.4**	**-0.1**
SHL				*e*S	**Sn**	**19 21 19.3**	**-0.1**
SHL				AML	AML	19 21 20.0	
	comp=N,11μm,0.0s						
AGT	**Agartala**	**1.73**	**173**	*e*P	**Pb**	**19 21 25.3**	**-0.1**
TEZP	**TEZPUR**	**1.88**	**58**	*e*P	**Pb**	**19 21 28.0**	**+0.1**
GTK	**Tadong**	**2.76**	**309**	*ex*	**Pn**	**19 21 37.6**	**+1.5**
GTK				*e*S	**Sb**	**19 22 15.8**	**-0.5**
GTK				AML	AML	19 22 21.8	
	comp=E,752nm,0.2s						
GTK				AML	AML	19 22 23.3	
	comp=N,519nm,0.3s						
IMP	**Imphal**	**2.76**	**106**	*e*P	**Pn**	**19 21 38.7**	**+2.6**
ITAN	**ITANAGAR**	**2.86**	**57**	*e*P	**Pn**	**19 21 39.4**	**+2.0**
ITAN				*e*S	**Sn**	**19 22 11.6**	**+1.0**
ITAN				AML	AML	19 22 13.0	
	comp=N,529nm,0.3s						
ITAN				AML	AML	19 22 13.3	
	comp=E,434nm,0.2s						
ZIRO	**ZIRO**	**3.17**	**52**	*ex*	**Pb**	**19 21 51.7**	**+1.8**
MOKO	**MOKOCHONG**	**3.22**	**77**	*e*P	**Pn**	**19 21 44.0**	**+1.6**
TAPN	**Taplejung**	**3.44**	**301**	*e*Pn	**Pn**	**19 21 47.8**	**+2.2**
TAPN	**Taplejung**	**3.44**	**301**	*e*Pn	**Pn**	**19 21 47.8**	**+2.2**
ODAN	**Odare**	**3.49**	**292**	*e*Pn	**Pn**	**19 21 48.0**	**+1.7**
ODAN				*e*Sn	**Sn**	**19 22 27.6**	**+1.0**
ODAN	**Odare**	**3.49**	**292**	*e*Pn	**Pn**	**19 21 48.0**	**+1.7**
ODAN				*e*Sn	**Sn**	**19 22 27.6**	**+1.0**
LSA	**Lhasa**	**4.07**	**2**	*e*Pn	**Pn**	**19 21 55.0**	**+0.5**
RAMN	**Ramite**	**4.19**	**289**	*e*Pn	**Pn**	**19 21 57.8**	**+1.9**
RAMN	**Ramite**	**4.19**	**289**	*e*Pn	**Pn**	**19 21 57.8**	**+1.9**
JIRN	**Jiri**	**4.78**	**296**	*e*Pn	**Pn**	**19 22 05.3**	**+1.1**
JIRN				*e*Sn	**Sn**	**19 22 57.9**	**-0.7**
JIRN	**Jiri**	**4.78**	**296**	*e*Pn	**Pn**	**19 22 05.3**	**+1.1**
JIRN				*e*Sn	**Sn**	**19 22 57.9**	**-0.7**
	comp=E,325nm,0.2s						
BOK	**Bokaro**	**5.01**	**250**	*ex*	**Pn**	**19 22 07.5**	**+0.5**
GUN	**Gumba**	**5.14**	**298**	*e*Pn	**Pn**	**19 22 10.4**	**+1.4**
GUN	**Gumba**	**5.14**	**298**	*e*Pn	**Pn**	**19 22 10.4**	**+1.4**
GUN				*e*Sn	**Sn**	**19 23 06.6**	**-0.7**
	comp=E,262nm,0.3s						
PKI	**Pulchoki**	**5.39**	**292**	*e*Pn	**Pn**	**19 22 13.3**	**+0.8**
PKIN	**Phulchoki**	**5.40**	**292**	*e*Pn	**Pn**	**19 22 13.3**	**+0.7**
KKN	**Kakani**	**5.58**	**294**	*e*Pn	**Pn**	**19 22 16.6**	**+1.7**
KKN				*e*Sn	**Sn**	**19 23 16.8**	**-1.2**
	comp=E,74nm,0.2s						
DMN	**Daman**	**5.66**	**292**	*e*Pn	**Pn**	**19 22 16.7**	**+0.6**
GKN	**Gorkha**	**6.18**	**294**	*e*Pn	**Pn**	**19 22 24.2**	**+1.0**
GKN				*e*Sn	**Sn**	**19 23 31.0**	**-1.8**
	comp=E,208nm,0.3s						
KOLN	**Koldanda**	**6.98**	**290**	*e*Pn	**Pn**	**19 22 34.9**	**+0.7**
PYUN	**Piuthan**	**7.59**	**291**	*e*Pn	**Pn**	**19 22 42.6**	**0.0**
CMAR	**Chiang Mai Ar

TURI					AML	AML	19 28 49.3
	comp=N,1µm,0.1s						
TURI					AML	AML	19 28 50.0
	comp=E,1µm,0.2s						
JIRN	**Jiri**	**2.43**	**281**	*e*Pn	**Pn**		**19 28 24.6 +1.4**
GUN	**Gumba**	**2.75**	**285**	*e*Pn	**Pn**		**19 28 29.1 +1.5**
PKI	**Pulchoki**	**3.10**	**277**	*e*Pn	**Pn**		**19 28 33.0 +0.6**
PKIN	**Phulchoki**	**3.12**	**277**	*e*Pn	**Pn**		**19 28 33.1 +0.6**
SHL	**Shillong**	**3.16**	**121**	*e*PN	**Pn**		**19 28 35.0 +2.0**
SHL				*i* x	**Sb**		**19 29 22.0 +3.9**
KKN	**Kakani**	**3.25**	**281**	*e*Pn	**Pn**		**19 28 35.2 +0.9**
KKN				*e*Sn	**Sn**		**19 29 12.1 -0.8**
	comp=E,211nm,0.2s						
DMN	**Daman**	**3.38**	**277**	*e*Pn	**Pn**		**19 28 36.4 +0.3**
TEZP	**TEZPUR**	**3.55**	**99**	*e*P	**Pn**		**19 28 38.0 -0.2**
TEZP				*e*S	**Sn**		**19 29 18.9 -1.2**
TEZP				AML	AML		19 29 34.4
	comp=E,182nm,0.2s						
TEZP				AML	AML		19 29 34.5
	comp=N,338nm,0.1s						
GKN	**Gorkha**	**3.84**	**283**	*e*Pn	**Pn**		**19 28 43.8 +1.4**
GKN				*e*Sn	**Sn**		**19 29 26.5 -1.1**
	comp=N,122nm,0.2s						
AGT	**Agartala**	**3.96**	**147**	*ex*	**Sg**		**19 29 50.1 -0.5**
AGT				AML	AML		19 29 52.0
	comp=E,181nm,0.5s						
AGT				AML	AML		19 29 52.1
	comp=N,145nm,0.5s						
ITAN	**ITANAGAR**	**4.31**	**90**	*e*P	**Pn**		**19 28 47.8 -0.9**
ZIRO	**ZIRO**	**4.43**	**85**	*e*P	**Pn**		**19 28 50.1 -0.4**
ZIRO				*e*S	**Sn**		**19 29 40.8 -1.2**
KOLN	**Koldanda**	**4.72**	**278**	*e*Pn	**Pn**		**19 28 54.4 -0.1**
IMP	**Imphal**	**5.14**	**116**	*e*P	**Pn**		**19 29 01.3 +1.1**
IMP				*ex*	**Sn**		**19 30 00.4 +0.9**
IMP				AML	AML		19 30 04.3
	comp=N,11nm,0.9s						
IMP				AML	AML		19 30 30.5
	comp=E,453nm,0.6s						
IMP				AML	AML		19 30 32.3
	comp=N,236nm,0.4s						
PYUN	**Piuthan**	**5.30**	**281**	*e*Pn	**Pn**		**19 29 01.7 -0.7**

*ISCJB **18** 19:28:05.6±0.7, 6.84N±0.04×73.12W±0.05, h158km±6km, Error ellipse: s-maj=8.6km s-min=4.2km az=35.3*
*FUNV **18** 19:28:05.5, 6.73N×73.16W, h172km, MW2.6*
*RSNC **18** 19:28:07.6±0.4, 6.79N×73.12W, h148km±4km, ML2.3*

ISC 18 19:28:05.7±1.4, 6.81N±0.04×73.09W±0.05, h160km±9km, n17, σ0.80/30, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GIRC	**Giron, Santand**	**0.28**	**339**	*e*P	**Pn**	**19 28 27.6**	**+0.1**
GIRC				*e*S	**Sn**	**19 28 42.8**	**-1.5**
PAMC	**Pamplona, Colo**	**0.65**	**37**	*e*P	**Pn**	**19 28 30.3**	**+0.8**
PAMC				*e*S	**Sn**	**19 28 47.4**	**-0.4**
BRRC	**Barranca, Sant**	**0.68**	**296**	*e*S	**Sn**	**19 28 46.6**	**-0.4**
RUSC	**La Rusia**	**0.91**	**179**	*e*P	**Pn**	**19 28 31.5**	**+0.2**
RUSC				*e*S	**Sn**	**19 28 50.0**	**-0.9**
RUSC				*i*		19 28 51.7	
	comp=Z,15nm,0.4s						
CAPV	**Capacho**	**1.30**	**36**	*e*P	**Pn**	**19 28 35.5**	**+1.2**
CAPV				*e*S	**Sn**	**19 28 57.3**	**+1.0**
ZARC	**Zaragoza, Cauc**	**1.88**	**291**	*e*S	**Sn**	**19 29 05.8**	**-0.7**
ZARC				*i*		19 29 11.8	
	comp=Z,16nm,0.4s						
NORC	**Norcasia**	**2.16**	**235**	*e*P	**Pn**	**19 28 43.6**	**+0.3**
NORC				*e*S	**Sn**	**19 29 11.3**	**-1.0**
CHIC	**Chingaza**	**2.26**	**196**	*e*P	**Pn**	**19 28 45.4**	**+0.6**
CHIC				*e*S	**Sn**	**19 29 15.2**	**+0.1**
CHIC				*i*		19 29 23.4	
	comp=Z,7.1nm,0.8s						
ROSC	**El Rosal**	**2.31**	**212**	*e*P	**Pn**	**19 28 46.0**	**+0.5**
ROSC				*e*S	**Sn**	**19 29 16.0**	**-0.1**
ROSC				*i*		19 29 25.3	
	comp=Z,18nm,0.5s						
HELC	**Santa Helena**	**2.50**	**256**	*e*P	**Pn**	**19 28 48.5**	**+0.9**
HELC				*e*S	**Sn**	**19 29 19.3**	**-0.7**
HELC				*i*		19 29 26.6	
	comp=Z,5.6nm,0.4s						
VIGV	**El Vigia**	**2.64**	**40**	*e*P	**Pn**	**19 28 50.1**	**+1.0**
VIGV				*e*S	**Sn**	**19 29 22.2**	**-0.6**
SOCV	**Socops**	**2.66**	**56**	*e*P	**Pn**	**19 28 49.9**	**+0.7**
SOCV				*e*S	**Sn**	**19 29 22.9**	**0.0**
CODC	**Agust`n Codaz**	**3.12**	**354**	*e*P	**Pn**	**19 28 55.5**	**+0.5**
CODC				*e*S	**Sn**	**19 29 34.5**	**+1.1**
CODC				*i*		19 29 52.9	
	comp=Z,18nm,1.0s						
PRAC	**Prado**	**3.56**	**210**	*e*P	**Pn**	**19 29 01.2**	**+0.5**
PRAC				*e*S	**Sn**	**19 29 43.4**	**0.0**
VIRV	**Villa del Rosa**	**3.73**	**10**	*e*P	**Pn**	**19 29 02.6**	**-0.2**
VIRV				*e*S	**Sn**	**19 29 45.5**	**-1.7**
CURV	**Curarigua**	**4.44**	**44**	*e*P	**Pn**	**19 29 11.6**	**-0.5**
BAUV	**El Baul**	**5.43**	**67**	*e*P	**Pn**	**19 29 24.5**	**-0.5**

MAN 18 19:38:24, 10.07N×121.67E, h70km, mb4.5, ML3.4, MS3.3, 1C, Panay

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GUIM	**Jordan**	**1.06**	**59**	*e*P	Pn	19 38 43.7	+0.4
GUIM				*e*S	Sn	19 38 59.7	+2.1
RCP	**Roxas**	**1.82**	**36**	*e*P	Pn	19 38 56.2	+2.9
RCP				*e*S	Sn	19 39 21.0	+5.6
BUSP	**Coron**	**2.40**	**323**	*e*P	Pn	19 39 02.4	+1.3
BUSP				*e*S	Sn	19 39 39.8	+10
PAGZ	**Pagadian**	**2.79**	**142**	*e*P	Pn	19 39 08.4	+2.1
PAGZ				*e*S	Sn	19 39 41.2	+2.3
LUBP	**Lubang**	**3.90**	**339**	*e*P	Pn	19 39 23.7	+2.2
LUBP				*e*S	Sn	19 40 08.8	+2.8

*CSEM **18** 19:43:13.7±0.2, 41.77N×20.27E, h2km, ML2.0, Error ellipse: s-maj=4.8km s-min=3.7km az=10.0*
*SKO **18** 19:43:13.1, 41.73N×20.27E, h15km, M1.2, ML2.2*
*PDG **18** 19:43:14.1±0.2, 41.74N×20.25E, h10km, ML2.5/13, Error ellipse: s-maj=0.2km s-min=0.3km az=0.0*
*BEO **18** 19:43:14.8±0.3, 41.82N×20.25E, h0km, M2.0/1*
*TIR **18** 19:43:18.4, 41.24N×20.26E, h5km, ML2.5*

ISC 18 19:43:13.6±1.1, 41.74N±0.02×20.26E±0.02, h6km±10km, n57, σ1.900/102, 5C-10D, Albania

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TIR	**Tirane**	**0.49**	**217**	*i* Pg	**Pb**	**19 43 23.8**	**-0.9**
TIR				*i* Sg	**Sb**	**19 43 31.0**	**-1.0**
TIR	**Tirane**	**0.49**	**217**	*e*Pg	**Pb**	**19 43 23.9**	**-0.7**
TIR				*e*Sg	**Sb**	**19 43 32.0**	**0.0**
TIR	**Tirane**	**0.49**	**217**	*e*Pg	**Pb**	**19 43 23.9**	**-0.7**
TIR				*i* Sg	**Sb**	**19 43 31.0**	**-1.0**
OHR	**Ohrid**	**0.74**	**147**	*i* Pg	**Pg**	**19 43 28.1**	**+0.1**
OHR				*i* Sg	**Sb**	**19 43 39.7**	**+0.2**
OHR				*e*Lg	Lg	19 43 39.9	
	comp=N,45nm,0.3s						
OHR				*e*Lg	Lg	19 43 40.2	
	comp=E,55nm,0.5s						
OHR	**Ohrid**	**0.74**	**147**	*i* Pg	**Pg**	**19 43 28.0**	**+0.1**
OHR				*i* Sg	**Sb**	**19 43 39.7**	**+0.2**
OHR				*e*Lg	Lg	19 43 39.9	
	comp=E,45nm,0.3s						
ULC	**Ulcinj**	**0.79**	**287**	⇓*i* Pg	**Pg**	**19 43 28.7**	**-0.1**
ULC				*e*Sg	**Sb**	**19 43 41.2**	**+0.4**
ULC	**Ulcinj**	**0.79**	**287**	⇓*i* Pg	**Pg**	**19 43 28.7**	**-0.1**
ULC				*e*Sg	**Sb**	**19 43 41.2**	**+0.4**
PVY	**Plav**	**0.89**	**346**	⇓*i* Pg	**Pg**	**19 43 30.3**	**-0.4**
PVY				*e*Sg	**Sb**	**19 43 44.2**	**+0.5**
PVY	**Plav**	**0.89**	**346**	⇓*i* Pg	**Pg**	**19 43 30.3**	**-0.4**
PVY				*e*Sg	**Sb**	**19 43 44.2**	**+0.5**
SKO	**Skopje**	**0.91**	**75**	*e*Pg	**Pg**	**19 43 31.0**	**-0.2**
SKO				*i* Sg	**Sg**	**19 43 43.4**	**+0.3**
SKO				*e*Lg	Lg	19 43 43.6	
	comp=N,3.5nm,0.4s						
SKO				*e*Lg	Lg	19 43 43.8	
	comp=E,2.3nm,0.3s						
SKO	**Skopje**	**0.91**	**75**	*e*Pg	**Pg**	**19 43 30.9**	**-0.2**
SKO				*i* Sg	**Sg**	**19 43 43.3**	**+0.3**
SKO				*e*Lg	Lg	19 43 43.6	
	comp=E,3.5nm,0.4s						
DRME	**Dracevica, Mon**	**0.92**	**300**	*e*Pg	**Pg**	**19 43 30.4**	**-0.9**
DRME				*e*Sg	**Sb**	**19 43 45.0**	**+0.5**
DRME	**Dracevica, Mon**	**0.92**	**300**	*e*Pg	**Pg**	**19 43 30.4**	**-0.9**
DRME				*e*Sg	**Sb**	**19 43 45.0**	**+0.5**
PDG	**Podgorica**	**1.02**	**313**	*e*Pg	**Pg**	**19 43 32.4**	**-0.8**
PDG				*e*Sg	**Sg**	**19 43 45.5**	**-0.9**
PDG	**Podgorica**	**1.02**	**313**	*e*Pg	**Pg**	**19 43 32.4**	**-0.8**
PDG				*e*Sg	**Sg**	**19 43 45.5**	**-0.9**
TTG	**Podgorica**	**1.02**	**313**	⇑*i* Pg	**Pg**	**19 43 32.3**	**-0.9**
TTG				*e*Sg	**Sn**	**19 43 48.4**	**-0.7**
BUM	**Brajici-Budva**	**1.16**	**299**	*e*Pg	**Pg**	**19 43 35.4**	**-0.5**
BUM				*e*Sg	**Sn**	**19 43 53.5**	**+0.7**
BUM	**Brajici-Budva**	**1.16**	**299**	*e*Pg	**Pg**	**19 43 35.4**	**-0.5**
BUM				*e*Sg	**Sn**	**19 43 53.5**	**+0.7**
BEY	**Berane**	**1.17**	**347**	*e*Pg	**Pg**	**19 43 35.4**	**-0.6**
BEY				*e*Sg	**Sn**	**19 43 53.6**	**+0.6**
IVA	**Berane**	**1.17**	**347**	*e*Pg	**Pg**	**19 43 35.4**	**-0.6**
IVA				*e*Sg	**Sn**	**19 43 53.6**	**+0.6**
CEME	**Cevo**	**1.28**	**310**	⇑*i* Pg	**Pn**	**19 43 37.2**	**-1.0**
CEME				*e*Sg	**Sn**	**19 43 57.3**	**+1.5**
CEME	**Cevo**	**1.28**	**310**	⇑*i* Pg	**Pn**	**19 43 37.2**	**-1.0**
CEME				*e*Sg	**Sn**	**19 43 57.3**	**+1.5**
NKME	**Niksic**	**1.42**	**317**	*e*Pg	**Pn**	**19 43 40.0**	**0.0**
NKME				*e*Sg	**Sg**	**19 44 02.1**	**+3.0**
NKME	**Niksic**	**1.42**	**317**	*e*Pg	**Pn**	**19 43 40.0**	**0.0**
NKME				*e*Sg	**Sg**	**19 44 02.1**	**+3.0**
NKY	**Niksic**	**1.43**	**319**	⇓*i* Pg	**Pn**	**19 43 40.5**	**+0.3**
NKY				*e*Sg	**Sg**	**19 44 02.3**	**+2.7**
NKY	**Niksic**	**1.43**	**319**	⇓*i* Pg	**Pn**	**19 43 40.5**	**+0.3**
NKY				*e*Sg	**Sg**	**19 44 02.3**	**+2.7**
HCY	**Herceg Novi**	**1.49**	**299**	⇑*i* Pg	**Pn**	**19 43 40.9**	**-0.1**
HCY				*e*Sg	**Sg**	**19 44 03.7**	**+2.1**
HCY	**Herceg Novi**	**1.49**	**299**	⇑*i* Pg	**Pn**	**19 43 40.9**	**-0.1**
HCY				*e*Sg	**Sg**	**19 44 03.7**	**+2.1**
SJES	**Sjenica**	**1.54**	**352**	*e*Pg	**Pb**	**19 43 42.4**	**-0.2**
SJES				*e*Sg	**Sn**	**19 43 59.6**	**-2.6**
SJES	**Sjenica**	**1.54**	**352**	*e*Pg	**Pb**	**19 43 42.4**	**-0.2**
BARS	**Barje**	**1.58**	**46**	*e*Pg	**Pb**	**19 43 43.0**	**-0.3**
BARS				*e*Sg	**Sn**	**19 44 03.2**	**+0.1**
BARS	**Barje**	**1.58**	**46**	*e*Pg	**Pb**	**19 43 43.0**	**-0.3**
BARS				*e*Sg	**Sn**	**19 44 03.2**	**+0.1**
SELS	**Selova**	**1.61**	**23**	*e*Pg	**Pn**	**19 43 42.2**	**-0.5**
PLE	**Pljevlja**	**1.72**	**338**	⇓*i* Pn	**Pb**	**19 43 45.1**	**-0.6**
PLE				*e*Sn	**Sg**	**19 44 09.1**	**+0.3**
PLE	**Pljevlja**	**1.72**	**338**	⇓*i* Pn	**Pb**	**19 43 45.1**	**-0.6**
PLE				*e*Sn	**Sg**	**19 44 09.1**	**+0.3**
TREB	**Trebinje**	**1.72**	**305**	*e*Pg	**Pn**	**19 43 44.8**	**+0.6**
TREB				*e*Sg	**Sg**	**19 44 08.5**	**-0.5**
TREB	**Trebinje**	**1.72**	**305**	*e*Pg	**Pn**	**19 43 44.8**	**+0.6**
TREB				*e*Sg	**Sg**	**19 44 08.5**	**-0.5**
BRY	**Bratogost**	**1.73**	**313**	*e*Pn	**Pn**	**19 43 45.0**	**+0.6**
BRY				*e*Sn	**Sg**	**19 44 09.7**	**+0.6**
BRY	**Bratogost**	**1.73**	**313**	*e*Pn	**Pn**	**19 43 45.0**	**+0.6**
BRY				*e*Sn	**Sg**	**19 44 09.7**	**+0.6**
UPM	**Unac-Piva**	**1.78**	**326**	⇓*i* Pn	**Pb**	**19 43 46.0**	**-0.7**
UPM				*e*Sn	**Sg**	**19 44 10.7**	**0.0**
UPM	**Unac-Piva**	**1.78**	**326**	⇓*i* Pn	**Pb**	**19 43 46.0**	**-0.7**
UPM				*e*Sn	**Sg**	**19 44 10.7**	**0.0**
BOVS	**Bovan**	**2.18**	**29**	*e*Pn	**Pb**	**19 43 52.3**	**-1.2**
BOVS	**Bovan**	**2.18**	**29**	*e*Pn	**Pb**	**19 43 52.3**	**-1.2**
GRUS	**Gruza**	**2.18**	**9**	*e*Pn	**Pn**	**19 43 50.1**	**-0.3**
GRUS				*e*Sn	**Sn**	**19 44 17.8**	**+0.1**
GRUS	**Gruza**	**2.18**	**9**	*e*Pn	**Pn**	**19 43 50.1**	**-0.3**
GRUS				*e*Sn	**Sn**	**19 44 17.8**	**+0.1**
STON	**Ston**	**2.21**	**302**	*e*Pn	**Pn**	**19 43 51.5**	**+0.6**
STON				Sn	**Sb**	**19 44 21.0**	**-0.7**
STON	**Ston**	**2.21**	**302**	*e*Pn	**Pn**	**19 43 51.4**	**+0.6**
STON				Sn	**Sb**	**19 44 20.9**	**-0.7**
BBLS	**Lazići**	**2.22**	**344**	*e*Pg	**Pn**	**19 43 52.3**	**+1.2**
BBLS				*e*Sg	**Sb**	**19 44 22.8**	**+0.8**
ZAPS	**Zavoj**	**2.33**	**48**	*e*Pn	**Pn**	**19 43 54.4**	**+1.8**
ZAPS	**Zavoj**	**2.33**	**48**	*e*Pn	**Pn**	**19 43 54.4**	**+1.8**
DIVS	**Divibare**	**2.37**	**355**	*e*Pg	**Pn**	**19 43 55.0**	**+1.8**
DIVS				*e*Sn	**Sn**	**19 44 21.8**	**-0.8**
BOLS	**Boljevac**	**2.44**	**30**	*e*Pn	**Pb**	**19 43 56.1**	**-1.8**
BOLS	**Boljevac**	**2.44**	**30**	*e*Pn	**Pb**	**19 43 56.1**	**-1.8**
TRUS	**Trudelj**	**2.49**	**2**	*e*Pn	**Pn**	**19 43 54.9**	**+0.2**
TRUS	**Trudelj**	**2.49**	**2**	*e*Pn	**Pn**	**19 43 54.9**	**+0.2**
ZAGS	**Zajecar**	**2.53**	**34**	*e*Pn	**Pn**	**19 43 55.0**	**-0.3**
ZAGS	**Zajecar**	**2.53**	**34**	*e*Pn	**Pn**	**19 43 55.0**	**-0.3**

IDC 18 19:55:00.7±1.8, 18.11S×167.38E, h0km, mb4.0/5, mb1 4.2/6, mb1mx3.7/37, mbtmp4.0/6, ML3.5/1, MS3.4/2, Ms1 3.4/2, ms1mx2.8/31, Error ellipse: s-maj=51.1km s-min=28.8km az=125.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**4.04**	**192**	Pn	Pn	19 56 04.2	+0.3
	3.0nm,0.3s,baz=106,slow=14,SNR=8.5						
DZM				Sn	Sn	19 56 49.2	-2.8
	6.1nm,0.3s,baz=137,slow=22,SNR=5.6						
STKA	**Stephens Creek**	**27.01**	**235**	P	P	20 00 44.6	+0.1
	4.7nm,0.9s,baz=59,slow=12,SNR=3.5						
RAR	**Rarotonga**	**31.06**	**101**	LR	LR	20 12 03.9	
	comp=Z,91nm,19.2s,baz=61,slow=33						
WRA	**Warramunga Arr**	**31.26**	**261**	P	P	20 01 21.6	-0.8
	0.5nm,0.9s,baz=84,slow=7.7,SNR=5.6						
ASAR	**Alice Springs**	**31.71**	**254**	P	P	20 01 26.4	0.0
	1.3nm,0.4s,baz=84,slow=8.1,SNR=26						
ASAR				LR	LR	20 12 18.6	
	comp=Z,40nm,20.0s,baz=102,slow=33						
CMAR	**Chiang Mai Arr**	**76.43**	**295**	P	P	20 06 53.2	+0.6
	0.2nm,0.3s,baz=124,slow=4.5,SNR=3.6						
ILAR	**Eielson Array**	**89.69**	**18**	P	P	20 07 60.0	-0.2
	1.0nm,0.6s,baz=238,slow=4.5,SNR=11						

MEX 18 19:59:25.3±0.3, 14.35N×92.50W, h20km±77km, MD3.6, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CCIG	**Comitan**	**1.95**	**10**	*e*P	Pn	19 59 55.5	-2.0
CCIG				*i* S	Sn	20 00 17.8	-3.8
TGIG		**2.49**	**346**	*e*P	Pn	20 00 02.2	-2.5
TGIG				*e*S	Sn	20 00 31.1	-3.4

JMA 18 20:00:01.8±0.2, 38.15N×144.21E, h40km, M3.5, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OFUJ	**Ofunato**	**2.20**	**296**	P	Pn	20 00 37.0	+1.2
OFUJ				S	Sn	20 01 03.5	+1.8
JIO	**Ouri**	**2.27**	**279**	P	Pn	20 00 38.3	+1.5
JIO				*e*S	Sn	20 01 04.9	+1.4
MIYJ	**Miyakonagasawa**	**2.35**	**308**	P	Pn	20 00 38.9	+1.0
MIYJ				*e*S	Sn	20 01 06.2	+0.8
JMK	**Ichinoseki**	**2.48**	**290**	P	Pn	20 00 42.0	+2.4
JMK				S	Sn	20 01 10.5	+1.9
JTH	**Tanohata**	**2.56**	**315**	P	Pn	20 00 42.3	+1.6
JTH				*e*S	Sn	20 01 11.6	+1.0
JOM	**Ohasama**	**2.63**	**301**	P	Pn	20 00 43.6	+1.8
JOM				*e*S	Sn	20 01 14.6	+2.1
JMM	**Marumori**	**2.71**	**265**	P	Pn	20 00 44.2	+1.3
JMM				S	Sn	20 01 15.6	+1.1
JFK	**Kawauchi**	**2.76**	**255**	*e*S	Sn	20 01 16.8	+1.2
JOU	**Okura**	**2.80**	**275**	P	Pn	20 00 46.6	+2.5
JOU				S	Sn	20 01 19.0	+2.4
JKZ	**Kuzumaki**	**2.90**	**310**	P	Pn	20 00 47.0	+1.6
JKZ				*e*S	Sn	20 01 20.4	+1.4
ONAJ	**Iwakimizuishiy**	**2.90**	**250**	P	Pn	20 00 46.1	+0.5
ONAJ				S	Sn	20 01 19.2	0.0
JRG	**Rokugo**	**3.06**	**295**	P	Pn	20 00 50.2	+2.6
JRG				S	Sn	20 01 26.5	+3.5
JFT	**Otama**	**3.13**	**260**	P	Pn	20 00 50.7	+2.1
JFT				S	Sn	20 01 27.1	+2.3

*NIED **18** 20:05:00, 40.10N×143.40E, h20km, Mw4.3 Best double couple: M0 3.73000×10^15 NP1:φs183.00000°, δ51.00000°, λ-171.00000°. NP2:φs88.00000°, δ83.00000°, λ-39.00000°.*
*IDC **18** 20:05:19.0±0.7, 40.10N×143.43E, h0km, mb4.0/15, mb1 4.2/19, mb1mx4.0/47, mbtmp4.1/19, ML4.5/3, MS3.5/14, Ms1 3.5/14, ms1mx3.3/38, Error ellipse: s-maj=20.7km s-min=14.5km az=104.0*
*JMA **18** 20:05:20.1±0.2, 40.14N×143.37E, h3km±2km, M4.2*
*NEIC **18** 20:05:24.3±0.5, 40.13N×143.31E, h35km, mb4.2/1, Error ellipse: s-maj=11.9km s-min=6.8km az=117.0*

ISC 18 20:05:18.7±1.9, 40.11N±0.04×143.45E±0.06, h1km±11km, n54, σ1.971/51, mb4.1/15, MS3.7/10, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JTH	**Tanohata**	**1.23**	**263**	P	Pg	**20 05 42.2**	**-0.1**
JTH				S	Sg	**20 05 58.1**	**-0.1**
MIYJ	**Miyakonagasawa**	**1.36**	**248**	P	Pn	**20 05 45.0**	**+0.2**
JANG	**Nango**	**1.50**	**281**	P	Pn	**20 05 46.7**	**-0.1**
JANG				S	Sn	**20 06 05.8**	**-1.2**
JOM	**Ohasama**	**1.78**	**250**	P	Pn	**20 05 51.5**	**+0.9**
ERM	**Erimo**	**1.92**	**354**	*e*Pn	**Pg**	**20 05 55.8**	**+0.3**
ERM				*e*Sn	**Sn**	**20 06 16.3**	**-1.0**
JTM	**Tenmabayashi**	**1.94**	**291**	P	Pn	**20 05 53.8**	**+1.0**
JTM				S	Sn	**20 06 17.1**	**-0.7**
JMK	**Ichinoseki**	**2.07**	**237**	P	Pn	**20 05 55.6**	**+1.0**
JAH	**Hinai**	**2.16**	**273**	P	Pn	**20 05 57.0**	**+1.2**
JAH				*e*S	Sn	**20 06 23.9**	**+0.8**
JOT	**Ohata**	**2.22**	**306**	P	Pn	**20 05 58.2**	**+1.5**
JRG	**Rokugo**	**2.28**	**253**	P	Pn	**20 05 59.5**	**-1.2**
JIO	**Ouri**	**2.32**	**225**	P	Pn	**20 05 58.5**	**+0.5**
JYK	**Kaneyama**	**2.67**	**245**	P	Pn	**20 06 04.8**	**+2.0**
JOU	**Okura**	**2.77**	**232**	P	Pn	**20 06 05.6**	**+1.3**
JFT	**Otama**	**3.55**	**224**	P	Pn	**20 06 16.7**	**+1.8**
ASAJ	**Asahikawa**	**4.06**	**351**	Pn	Pn	**20 06 23.9**	**+2.0**
	88nm,0.3s,baz=90,slow=20,SNR=4.5						
ASAJ				Sn	Sb	**20 07 15.4**	**-5.0**
	39nm,0.3s,baz=270,slow=20,SNR=4.5						
ASAJ	**Asahikawa**	**4.06**	**351**	*e*Pn	**Pn**	**20 06 22.3**	**+0.4**
ASAJ				Sn	**Sn**	**20 07 10.2**	**+0.2**
MJAR	**Matsushiro Arr**	**5.44**	**231**	Pn	Pn	**20 06 42.8**	**+1.8**
	1.7nm,0.3s,baz=112,slow=22,SNR=6.9						
MJAR				LR	LR	20 08 55.7	
	comp=Z,344nm,19.1s,baz=60,slow=40						
MAJO	**Matsushiro**	**5.44**	**231**	Pn	Pn	**20 06 41.8**	**+0.8**
	40nm,0.8s						
MAT	**Matsushiro**	**5.44**	**231**	P	Pn	**20 06 43.2**	**+2.2**
MAT				*e*S	Sn	**20 07 46.4**	**+2.1**
JHJ	**Hachijo jima 2**	**7.57**	**204**	Pn	Pn	**20 07 09.7**	**-0.5**
	7.8nm,0.3s,baz=112,slow=22,SNR=6.9						
JHJ				Sn	Sn	**20 08 28.8**	**-7.8**
	5.0nm,0.3s,baz=257,slow=18,SNR=1.9						
JHJ				LR	LR	20 10 26.6	
	comp=Z,260nm,20.7s,baz=6.0,slow=41						
USRK	**Ussuriysk Ar.**	**9.44**	**299**	Pn	Pn	**20 07 37.4**	**+1.7**
	baz=94,slow=15,SNR=3.8						
USRK				LR	LR	20 10 56.1	
	comp=Z,124nm,20.5s,baz=124,slow=36						
PETK	**Petropavlovsk-**	**16.24**	**32**	LR	LR	20 14 53.4	
	comp=Z,67nm,20.7s,baz=222,slow=35						
MA2	**Magadan**	**20.03**	**11**	P	P	**20 09 53.6**	**+0.8**
	3.1nm,0.6s,baz=221,slow=9.9,SNR=4.0						
MA2				LR	LR	20 17 52.3	
	comp=Z,65nm,18.6s,baz=136,slow=38						
SEY	**Seymchan**	**23.48**	**10**	P	P	**20 10 29.7**	**+0.2**
	9.1nm,0.8s,baz=190,slow=6.5,SNR=13						
ULN	**Ulaanbaatar**	**27.11**	**299**	*e*P	P	**20 11 02.5**	**-0.7**
SONM	**Songino Array**	**27.55**	**299**	P	P	**20 11 07.6**	**+0.5**
	1.1nm,0.6s,baz=90,slow=8.8,SNR=7.8						
SONM				LR	LR	20 22 24.3	
	comp=Z,90nm,21.2s,baz=58,slow=37						
H11N2	**WAKE ISLAND Hy**	**28.58**	**128**	T	T	20 41 17.8	
	baz=313,slow=74						
H11N1	**WAKE ISLAND Hy**	**28.59**	**128**	T	T	20 41 17.8	
	baz=313						
H11N3	**WAKE ISLAND Hy**	**28.59**	**128**	T	T	20 41 17.5	
	baz=313,slow=74						
H11S1	**WAKE ISLAND Hy**	**29.41**	**130**	T	T	20 42 24.2	
	baz=322,slow=76,SNR=28						
H11S3	**WAKE ISLAND Hy**	**29.41**	**130**	T	T	20 42 19.7	
	baz=322,slow=76,SNR=25						
H11S2	**WAKE ISLAND Hy**	**29.43**	**130**	T	T	20 42 27.5	
	baz=322,slow=76,SNR=22						
TIXI	**Tiksi**	**32.46**	**351**	LR	LR	20 26 31.9	
	comp=Z,129nm,19.4s,baz=150,slow=39						
ZALV	**Zalesovo Beam**	**41.10**	**310**	P	P	**20 13 04.1**	**+0.3**
	1.7nm,0.7s,baz=86,slow=7.8,SNR=8.0						
ZALV				PcP	PcP	**20 15 03.1**	**-0.2**
	0.9nm,0.6s,baz=80,slow=3.5,SNR=3.7						
NRIK	**Noril'sk**	**41.19**	**333**	LR	LR	20 31 20.8	
	comp=Z,101

STON				Sg	**Sb**	**20 06 42.9**	**+0.1**
NKME	**Niksic**	**0.93**	**156**	⇓iPg	**Pg**	**20 06 29.0**	**-1.5**
NKME				eSg	**Sb**	**20 06 44.1**	**+0.9**
NKME	**Niksic**	**0.93**	**156**	⇓iPg	**Pg**	**20 06 29.0**	**-1.5**
NKME				eSg	**Sb**	**20 06 44.1**	**+0.9**
CEME	**Cevo**	**1.13**	**162**	⇑iPg	**Pb**	**20 06 32.6**	**-1.6**
CEME				eSg	**Sn**	**20 06 50.6**	**+0.6**
CEME	**Cevo**	**1.13**	**162**	⇑iPg	**Pb**	**20 06 32.6**	**-1.6**
CEME				eSg	**Sn**	**20 06 50.6**	**+0.6**
DOB	**Doboj**	**1.14**	**348**	eSg	**Sg**	**20 06 49.3**	**0.0**
HCY	**Herceg Novi**	**1.17**	**178**	⇓iPg	**Pb**	**20 06 33.9**	**-1.0**
HCY				eSg	**Sn**	**20 06 52.0**	**+1.0**
HCY	**Herceg Novi**	**1.17**	**178**	ePg	**Pb**	**20 06 33.5**	**-1.4**
HCY				eSg	**Sb**	**20 06 48.9**	**-1.2**
SJES	**Sjenica**	**1.18**	**107**	⇑iPg	**Pb**	**20 06 33.7**	**-1.3**
SJES				eSg	**Sn**	**20 06 50.8**	**-0.5**
TEKS	**Tekeris**	**1.22**	**40**	*i* Pg	**Pb**	**20 06 35.7**	**0.0**
TEKS				eSg	**Sn**	**20 06 52.5**	**+0.3**
TEKS	**Tekeris**	**1.22**	**40**	*i* Pg	**Pb**	**20 06 35.7**	**0.0**
TEKS				eSg	**Sn**	**20 06 52.3**	**+0.1**
DIVS	**Divibare**	**1.22**	**66**	⇑iPg	**Pn**	**20 06 35.1**	**-0.7**
DIVS				eSg	**Sb**	**20 06 51.4**	**-0.3**
DIVS	**Divibare**	**1.22**	**66**	⇑iPg	**Pn**	**20 06 35.1**	**-0.7**
DIVS				eSg	**Sb**	**20 06 51.4**	**-0.3**
BEY	**Berane**	**1.30**	**125**	⇑iPg	**Pn**	**20 06 36.2**	**-0.7**
BEY				eSg	**Sg**	**20 06 57.2**	**+2.8**
IVA	**Berane**	**1.30**	**125**	⇑*i*Pg	**Pn**	**20 06 36.2**	**-0.7**
IVA				eSg	**Sg**	**20 06 57.2**	**+2.8**
PDG	**Podgorica**	**1.33**	**153**	⇓iPg	**Pn**	**20 06 35.7**	**-1.5**
PDG				eSg	**Sg**	**20 06 56.7**	**+1.3**
PDG	**Podgorica**	**1.33**	**153**	⇑iP	**Pn**	**20 06 36.0**	**-1.2**
PDG				S	**Sg**	**20 06 58.3**	**+2.9**
PDG	**Podgorica**	**1.33**	**153**	⇑iP	**Pn**	**20 06 36.0**	**-1.2**
PDG	**Podgorica**	**1.33**	**153**	⇓iPg	**Pn**	**20 06 36.2**	**-1.0**
PDG				eSg	**Sg**	**20 06 55.4**	**0.0**
TTG	**Podgorica**	**1.33**	**153**	⇓iPg	**Pn**	**20 06 36.2**	**-1.0**
TTG				eSg	**Sg**	**20 06 57.8**	**+2.4**
BUM	**Brajici-Budva**	**1.36**	**166**	⇓iPg	**Pn**	**20 06 37.6**	**-0.1**
BUM				eSg	**Sg**	**20 06 58.9**	**+2.6**
BUM	**Brajici-Budva**	**1.36**	**166**	⇓iPg	**Pn**	**20 06 37.6**	**-0.1**
BUM				eSg	**Sg**	**20 06 58.9**	**+2.6**
BLY	**Banja Luka**	**1.45**	**322**	⇑iPg	**Pb**	**20 06 39.2**	**-0.4**
BLY				eSg	**Sb**	**20 06 58.3**	**+0.3**
BLY	**Banja Luka**	**1.45**	**322**	⇑*i*Pg	**Pb**	**20 06 39.2**	**-0.4**
BLY				eSg	**Sb**	**20 06 58.3**	**+0.3**
PVY	**Plav**	**1.51**	**132**	⇓iPg	**Pb**	**20 06 40.4**	**-0.4**
PVY				eSg	**Sg**	**20 07 03.5**	**+2.2**
DRME	**Dracevica, Mon**	**1.53**	**159**	⇑iPg	**Pn**	**20 06 40.2**	**+0.2**
DRME				eSg	**Sg**	**20 07 04.6**	**+2.7**
DRME	**Dracevica, Mon**	**1.53**	**159**	⇑iPg	**Pn**	**20 06 40.2**	**+0.2**
DRME	**Dracevica, Mon**	**1.53**	**159**	ePn	**Pb**	**20 06 40.5**	**-0.6**
DRME				eSn	**Sg**	**20 07 01.4**	**-0.5**
DRME				eSg	**Sg**	**20 07 04.6**	**+2.7**
TRUS	**Trudelj**	**1.55**	**66**	⇓iPn	**Pn**	**20 06 40.2**	**0.0**
TRUS				eSg	**Sg**	**20 07 03.7**	**+1.4**
TRUS	**Trudelj**	**1.55**	**66**	⇓iPn	**Pn**	**20 06 40.2**	**0.0**
TRUS				eSg	**Sg**	**20 07 03.7**	**+1.4**
GRUS	**Gruza**	**1.67**	**80**	⇓iPg	**Pn**	**20 06 42.2**	**+0.3**
GRUS				eSg	**Sg**	**20 07 08.0**	**+1.6**
GRUS	**Gruza**	**1.67**	**80**	⇓iPg	**Pn**	**20 06 42.2**	**+0.3**
GRUS				eSg	**Sg**	**20 07 08.0**	**+1.6**
ULC	**Ulcinj**	**1.76**	**160**	⇑iPn	**Pb**	**20 06 44.8**	**-0.1**
ULC				eSn	**Sg**	**20 07 10.9**	**+1.8**
ULC	**Ulcinj**	**1.76**	**160**	⇑iPn	**Pb**	**20 06 44.8**	**-0.1**
FGSL	**Fruska Gora**	**1.83**	**32**	⇓iPn	**Pn**	**20 06 43.5**	**-0.5**
FRGS	**Fruska Gora**	**1.83**	**32**	⇓iPn	**Pn**	**20 06 43.5**	**-0.5**
SELS	**Selova**	**2.00**	**101**	ePn	**Pn**	**20 06 46.7**	**+0.3**
SELS				eSn	**Sb**	**20 07 12.9**	**-0.9**
SELS	**Selova**	**2.00**	**101**	ePn	**Pn**	**20 06 46.7**	**+0.3**
SELS				eSn	**Sb**	**20 07 12.9**	**-0.9**
UDBI	**Udbina**	**2.13**	**296**	ePn	**Pn**	**20 06 49.6**	**+1.4**
UDBI				Sn	**Sb**	**20 07 19.2**	**+1.5**
UDBI	**Udbina**	**2.13**	**296**	ePn	**Pn**	**20 06 49.6**	**+1.4**
UDBI				Sn	**Sb**	**20 07 19.2**	**+1.5**
BOVS	**Bovan**	**2.37**	**88**	ePn	**Pn**	**20 06 51.7**	**+0.2**
BOVS				eSn	**Sn**	**20 07 21.8**	**+1.1**
BOVS	**Bovan**	**2.37**	**88**	ePn	**Pn**	**20 06 51.7**	**+0.2**
BOVS				eSn	**Sn**	**20 07 21.8**	**+1.1**
BOLS	**Boljevac**	**2.56**	**84**	ePn	**Pn**	**20 06 53.2**	**-0.9**
BOLS	**Boljevac**	**2.56**	**84**	ePn	**Pn**	**20 06 53.2**	**-0.9**
BARS	**Barje**	**2.60**	**107**	ePn	**Pn**	**20 06 55.1**	**+0.5**
BARS	**Barje**	**2.60**	**107**	ePn	**Pn**	**20 06 55.1**	**+0.5**
NVLJ	**Novalja**	**2.74**	**291**	ePn	**Pn**	**20 06 58.3**	**+1.8**
NVLJ				Sn	**Sb**	**20 07 33.7**	**-1.4**
NVLJ	**Novalja**	**2.74**	**291**	ePn	**Pn**	**20 06 58.3**	**+1.8**
NVLJ				Sn	**Sb**	**20 07 33.7**	**-1.4**
ZAGS	**Zajecar**	**2.76**	**85**	ePn	**Pn**	**20 06 55.6**	**-1.2**
ZAGS				eSn	**Sn**	**20 07 29.5**	**-0.7**
ZAGS	**Zajecar**	**2.76**	**85**	ePn	**Pn**	**20 06 55.6**	**-1.2**
ZAGS				eSn	**Sn**	**20 07 29.5**	**-0.7**
OZLJ	**Ozalj**	**2.91**	**314**	ePn	**Pn**	**20 06 59.6**	**+0.6**
OZLJ	**Ozalj**	**2.91**	**314**	ePn	**Pn**	**20 06 59.5**	**+0.6**
BOJS	**Bojanci**	**2.96**	**311**	*i* Pn	**Pn**	**20 07 00.9**	**+1.4**
BOJS	**Bojanci**	**2.96**	**311**	Pn	**Pn**	**20 07 00.9**	**+1.4**
BZS	**Buzias**	**3.02**	**48**	⇑iP	**Pn**	**20 07 00.2**	**-0.3**
BZS	**Buzias**	**3.02**	**48**	⇑iP	**Pn**	**20 07 00.2**	**-0.3**
CRES	**Cresnjev**	**3.06**	**317**	*i* Pn	**Pn**	**20 07 02.4**	**+1.4**
CRES	**Cresnjev**	**3.06**	**317**	*i* Pn	**Pn**	**20 07 02.4**	**+1.4**
ZAPS	**Zavoj**	**3.08**	**95**	eSn	**Sn**	**20 07 39.1**	**+1.0**
DOBS	**Dobrina**	**3.29**	**321**	*i* Pn	**Pn**	**20 07 04.9**	**+0.7**
DOBS	**Dobrina**	**3.29**	**321**	*i* Pn	**Pn**	**20 07 04.9**	**+0.7**
PDKS	**Podkum**	**3.46**	**316**	*i* Pn	**Pn**	**20 07 07.8**	**+1.3**
PDKS	**Podkum**	**3.46**	**316**	*i* Pn	**Pn**	**20 07 07.8**	**+1.3**
GZR	**Gura Zlata**	**3.58**	**59**	⇓iP	**Pn**	**20 07 08.2**	**+0.1**
GZR	**Gura Zlata**	**3.58**	**59**	⇓iP	**Pn**	**20 07 08.2**	**+0.1**
PERS	**Pernice**	**3.82**	**323**	*i* Pn	**Pn**	**20 07 12.3**	**+0.8**
PERS	**Pernice**	**3.82**	**323**	*i* Pn	**Pn**	**20 07 12.3**	**+0.8**
SOKA	**Soboth**	**3.89**	**323**	*i* Pn	**Pn**	**20 07 13.3**	**+0.8**
	1.4nm,0.2s						
SOKA				*i* Sn	**Sn**	**20 07 56.6**	**-1.7**
	1.8nm,0.3s						
SOKA	**Soboth**	**3.89**	**323**	Pn	**Pn**	**20 07 13.3**	**+0.8**
	1.4nm,0.2s						
SOKA				Sn	**Sn**	**20 07 56.6**	**-1.7**
	1.8nm,0.3s						
OBKA	**Obir**	**3.99**	**318**	ePn	**Pn**	**20 07 15.9**	**+2.1**
	1.2nm,0.3s						
OBKA				eSn	**Sn**	**20 08 00.1**	**-0.6**
	4.4nm,0.4s						
OBKA	**Obir**	**3.99**	**318**	Pn	**Pn**	**20 07 15.9**	**+2.1**
	1.2nm,0.3s						
OBKA				Sn	**Sn**	**20 08 00.1**	**-0.6**
	4.4nm,0.4s						
ARSA	**Arzberg**	**4.17**	**332**	ePn	**Pn**	**20 07 17.2**	**+0.9**
	2.4nm,0.3s						
ARSA				eSn	**Sn**	**20 08 03.0**	**-2.0**
	2.9nm,0.4s						
ARSA	**Arzberg**	**4.17**	**332**	Pn	**Pn**	**20 07 17.2**	**+0.9**
	2.4nm,0.3s						
ARSA				Sn	**Sn**	**20 08 03.0**	**-2.0**
	2.9nm,0.4s						
LOT	**Lotru**	**4.23**	**63**	⇑iP	**Pn**	**20 07 18.6**	**+1.5**
LOT	**Lotru**	**4.23**	**63**	⇑iP	**Pn**	**20 07 18.6**	**+1.5**
MOA	**Molln**	**5.14**	**327**	*i* Pn	**Pn**	**20 07 30.9**	**+1.3**
	0.4nm,0.1s						
MOA				*i* Sn	**Sn**	**20 08 28.1**	**-0.8**
	2.8nm,0.4s						
MOA	**Molln**	**5.14**	**327**	Pn	**Pn**	**20 07 30.9**	**+1.3**
	0.4nm,0.1s						
MOA				Sn	**Sn**	**20 08 28.1**	**-0.8**
	2.8nm,0.4s						
ABTA	**Abfaltersbach**	**5.23**	**309**	ePn	**Pn**	**20 07 32.7**	**+1.9**
	0.3nm,0.1s						
ABTA	**Abfaltersbach**	**5.23**	**309**	Pn	**Pn**	**20 07 32.7**	**+1.9**
	0.3nm,0.1s						
KHC	**Kasperske Hory**	**6.46**	**330**	eSN	**Sn**	**20 08 59.5**	**-1.8**

*ATH **18** 20:07:06.2, 38.21N×21.86E, h10km±2km, ML1.8/5, Error ellipse: s-maj=2.6km s-min=0.7km az=41.0*
*CSEM **18** 20:07:06.5±0.1, 38.20N×21.85E, h2km, ML1.6, Error ellipse: s-maj=2.5km s-min=2.2km az=46.0*

THE 18 20:07:07.0, 38.22N×21.84E, h3km±4km, ML1.6/2, Error ellipse: s-maj=4.5km s-min=0.6km az=342.0, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
UPR	**University Cam**	**0.08**	**327**	P	Pg	20 07 08.4	-0.3
UPR	**University Cam**	**0.08**	**327**	P	Pg	20 07 08.4	-0.3
UPR				S	Sg	20 07 09.8	0.0
UPR	**University Cam**	**0.08**	**327**	P	Pg	20 07 08.0	-0.6
UPR				S	Sg	20 07 09.8	0.0
LAKA	**Lakka**	**0.11**	**77**	P	Pg	20 07 09.0	-0.2
LAKA				S	Sg	20 07 11.0	+0.4
LAKA	**Lakka**	**0.11**	**77**	P	Pg	20 07 09.1	-0.1
LAKA				S	Sg	20 07 11.0	+0.4
LAKA	**Lakka**	**0.11**	**77**	P	Pg	20 07 09.1	-0.1
LAKA				S	Sg	20 07 10.9	+0.3
TRIZ	**Trizonia**	**0.23**	**50**	P	Pg	20 07 11.2	-0.3
TRIZ				S	Sg	20 07 13.9	-0.7
TRIZ	**Trizonia**	**0.23**	**50**	P	Pg	20 07 11.2	-0.3
TRIZ				S	Sg	20 07 13.9	-0.7
SERG	**Sergoula**	**0.26**	**40**	P	Pg	20 07 11.6	-0.4
SERG				S	Sg	20 07 16.2	+0.8
SERG	**Sergoula**	**0.26**	**40**	P	Pg	20 07 11.6	-0.4
SERG				S	Sg	20 07 16.2	+0.8
DRO	**Drossia**	**0.28**	**202**	P	Pg	20 07 11.9	-0.5
DRO				S	Sg	20 07 17.1	+1.0
DRO	**Drossia**	**0.28**	**202**	P	Pg	20 07 11.9	-0.5
DRO				S	Sg	20 07 17.1	+1.0
DRO	**Drossia**	**0.28**	**202**	P	Pg	20 07 11.8	-0.6
DRO				AML	AML	20 07 17.1	
	comp=N,1677μm,0.2s						
DRO				AML	AML	20 07 17.3	
	comp=E,1866μm,0.1s						
DRO				S	Sg	20 07 17.6	+1.5
KALE	**Kalithea**	**0.29**	**53**	P	Pg	20 07 12.2	-0.4
KALE				S	Sg	20 07 17.8	+1.3
KALE	**Kalithea**	**0.29**	**53**	P	Pg	20 07 12.2	-0.4
KALE				S	Sg	20 07 17.0	+0.5
KALE	**Kalithea**	**0.29**	**53**	P	Pg	20 07 12.1	-0.6
KALE				S	Sg	20 07 17.1	+0.6
KALE				AML	AML	20 07 18.1	
	comp=E,613μm,0.2s						
KALE				AML	AML	20 07 18.7	
	comp=N,604μm,0.2s						
TRAZ	**Trapeza**	**0.29**	**99**	P	Pg	20 07 11.1	-1.6
TRAZ				S	Sg	20 07 14.2	-2.3
TRAZ	**Trapeza**	**0.29**	**99**	P	Pg	20 07 11.1	-1.5
TRAZ				S	Sg	20 07 14.2	-2.3
KLV	**Kalavryta, Ach**	**0.30**	**125**	P	Pg	20 07 12.2	-0.5
KLV				S	Sg	20 07 16.7	+0.1
KLV	**Kalavryta, Ach**	**0.30**	**125**	P	Pg	20 07 12.5	-0.2
KLV				S	Sg	20 07 16.7	+0.1
KLV	**Kalavryta, Ach**	**0.30**	**125**	P	Pg	20 07 12.5	-0.2
KLV				S	Sg	20 07 17.0	+0.4
RLS	**Riolos of Patr**	**0.34**	**242**	P	Pg	20 07 13.6	+0.1
RLS				S	Sg	20 07 19.2	+1.4
RLS	**Riolos of Patr**	**0.34**	**242**	P	Pg	20 07 13.6	+0.1
RLS				S	Sg	20 07 17.6	-0.2
RLS	**Riolos of Patr**	**0.34**	**242**	P	Pg	20 07 12.4	-1.0
RLS				S	Sg	20 07 17.6	-0.2
RLS				AML	AML	20 07 19.3	
	comp=E,187μm,0.1s						
RLS				AML	AML	20 07 19.4	
	comp=N,173μm,0.1s						
AXS	**Araxos**	**0.37**	**267**	P	Pg	20 07 13.2	-0.9
AXS				S	Sg	20 07 18.9	0.0
AXS	**Araxos**	**0.37**	**267**	P	Pg	20 07 13.2	-0.9
AXS				S	Sg	20 07 18.9	0.0
AXS	**Araxos**	**0.37**	**267**	P	Pg	20 07 12.3	-1.8
AXS				S	Sg	20 07 18.6	-0.3
PVO	**Paravola**	**0.47**	**328**	P	Pg	20 07 15.3	-0.8
PVO				S	Sg	20 07 23.5	+1.3
PVO	**Paravola**	**0.47**	**328**	P	Pg	20 07 15.3	-0.8
PVO				S	Sg	20 07 23.5	+1.3
PVO	**Paravola**	**0.47**	**328**	P	Pg	20 07 14.7	-1.4
PVO				AML	AML	20 07 23.7	
	comp=N,249μm,0.2s						
PVO				AML	AML	20 07 24.0	
	comp=E,377μm,0.2s						
PVO				S	Sb	20 07 24.2	-1.2
DSF	**Desfina**	**0.57**	**70**	P	Pg	20 07 17.0	-1.0
DSF	**Desfina**	**0.57**	**70**	P	Pg	20 07 17.0	-1.0
DSF				S	Sg	20 07 25.3	-0.1
DSF	**Desfina**	**0.57**	**70**	P	Pg	20 07 16.3	-1.7
DSF				S	Sg	20 07 25.3	-0.1
PDO	**Prodromos**	**0.65**	**307**	P	Pg	20 07 19.1	-0.3
PDO				S	Sb	20 07 29.5	-0.9
PDO	**Prodromos**	**0.65**	**307**	P	Pg	20 07 19.1	-0.3
PDO				S	Sg	20 07 28.6	+0.8
PDO	**Prodromos**	**0.65**	**307**	P	Pg	20 07 18.7	-0.7
PDO				S	Sg	20 07 28.6	+0.9
THAL	**Thalero**	**0.67**	**105**	P	Pg	20 07 20.1	+0.3
THAL	**Thalero**	**0.67**	**105**	P	Pg	20 07 19.5	-0.3
THAL	**Thalero**	**0.67**	**105**	P	Pg	20 07 19.5	-0.3
AMT	**Artemida-Makis**	**0.69**	**189**	P	Pg	20 07 20.2	0.0
AMT				S	Sg	20 07 30.0	+0.8
AMT	**Artemida-Makis**	**0.69**	**189**	P	Pg	20 07 20.2	0.0
AMT				S	Sg	20 07 30.0	+0.8
AMT	**Artemida-Makis**	**0.69**	**189**	P	Pg	20 07 20.7	+0.5
AMT				AML	AML	20 07 35.3	
	comp=N,113μm,0.3s						
AMT				AML	AML	20 07 36.1	
	comp=E,148μm,0.4s						
EVR	**Evrytania**	**0.70**	**358**	P	Pg	20 07 20.4	-0.1
EVR				S	Sg	20 07 30.8	+1.2
EVR	**Evrytania**	**0.70**	**358**	P	Pg	20 07 20.4	-0.1
EVR				S	Sg	20 07 30.8	+1.2
EVR	**Evrytania**	**0.70**	**358**	P	Pg	20 07 18.6	-1.8
EVR				S	Sb	20 07 31.0	-1.1
TRIP	**Tripoli**	**0.77**	**154**	P	Pg	20 07 20.4	-1.3
TRIP	**Tripoli**	**0.77**	**154**	P	Pg	20 07 20.4	-1.2
KFL	**Anninata**	**0.84**	**263**	P	Pg	20 07 23.1	0.0
KFL	**Anninata**	**0.84**	**263**	P	Pg	20 07 23.1	0.0
AGG	**Agios Georgios**	**0.89**	**25**	P	Pg	20 07 24.5	+0.4
AGG				S	Sg	20 07 36.0	+0.3
AGG	**Agios Georgios**	**0.89**	**25**	P	Pg	20 07 24.5	+0.4
AGG				S	Sg	20 07 36.0	+0.3
AGG	**Agios Georgios**	**0.89**	**25**	P	Pg	20 07 22.0	-2.1
LTK	**Loutraki**	**0.91**	**102**	P	Pg	20 07 24.2	-0.2
LTK	**Loutraki**	**0.91**	**102**	P	Pg	20 07 24.2	-0.2
LTK	**Loutraki**	**0.91**	**102**	P	Pg	20 07 21.2	-3.2
VLX	**Vlachokerasia**	**0.94**	**153**	P	Pg	20 07 25.0	-0.1
VLX				S	Sb	20 07 39.2	+0.2
VLX	**Vlachokerasia**	**0.94**	**153**	P	Pg	20 07 25.0	-0.1
VLX				S	Sb	20 07 39.2	+0.2
VLX	**Vlachokerasia**	**0.94**	**153**	P	Pg	20 07 22.7	-2.4
ITM	**Ithomi**	**1.04**	**176**	P	Pg	20 07 25.8	-1.0
ITM	**Ithomi**	**1.04**	**176**	P	Pg	20 07 25.8	-1.0
DSL	**Palaion Diasel**	**1.09**	**328**	P	Pg	20 07 28.1	+0.2
DSL	**Palaion Diasel**	**1.09**	**328**	P	Pg	20 07 28.1	+0.2
DSL	**Palaion Diasel**	**1.09**	**328**	P	Pg	20 07 27.5	-0.4
DSL	**Palaion Diasel**	**1.09**	**328**	P	Pg	20 07 27.5	-0.4
LKD2	**Lefkada island**	**1.09**	**302**	P	Pg	20 07 26.5	-1.5
LKD2	**Lefkada island**	**1.09**	**302**	P	Pg	20 07 26.5	-1.5
LKD2	**Lefkada island**	**1.09**	**302**	P	Pg	20 07 25.5	-2.5
VIL2	**Platees**	**1.12**	**90**	P	Pb	20 07 29.1	0.0
VILL	**Villia**	**1.16**	**92**	P	Pg	20 07 28.6	-0.6
VILL	**Villia**	**1.16**	**92**	P	Pg	20 07 28.6	-0.6
DID	**Didima**	**1.31**	**122**	P	Pg	20 07 31.3	-0.8
DID	**Didima**	**1.31**	**122**	P	Pg	20 07 31.3	-0.8
PYL	**PYLOS**	**1.32**	**184**	P	Pg	20 07 29.6	-2.7
PYL	**PYLOS**	**1.32**	**184**	P	Pg	20 07 29.6	-2.7

*JMA **18** 20:07:42.3±0.2, 23.95N×122.75E, h24km±5km, M2.6*
*TAP **18** 20:07:43.9, 23.99N×122.64E, h13km±1km, ML3.0, D*

ISC 18 20:07:40.5±1.2, 23.97N±0.04×122.79E±0.02, h9km±10km, n27, σ0.56/54, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JYNG	**Yonagunijimaku**	**0.50**	**17**	P	**Pn**	**20 07 52.8**	**-1.1**
JYNG				*eS*	**Sb**	**20 07 59.8**	**+0.8**
YOJ	**Yonaguni jima**	**0.53**	**23**	P	**Pn**	**20 07 53.4**	**-0.9**
YOJ				*eS*	**Sb**	**20 08 00.6**	**+0.8**
HATJ	**Hateruma jima**	**0.94**	**84**	P	**Pn**	**20 07 59.6**	**-0.3**
HATJ				S	**Sb**	**20 08 11.9**	**+0.4**
IRIF	**Iriomote-Funau**	**0.94**	**67**	P	**Pn**	**20 08 00.3**	**+0.4**
IRIF				*eS*	**Sn**	**20 08 12.7**	**-0.7**
ENA	**Nanau**	**1.06**	**296**	P	**Pn**	**20 08 01.9**	**+0.4**
	baz=297						
ENA				S	**Sb**	**20 08 15.2**	**+0.2**
	baz=297						
TWC	**Suao**	**1.06**	**307**	*eP*	**Pn**	**20 08 01.8**	**+0.1**
	baz=310						
TWC				S	**Sb**	**20 08 15.4**	**+0.2**
	baz=310						
TWD	**Chiawan**	**1.09**	**276**	P	**Pn**	**20 08 02.6**	**+0.6**
	baz=275						
TWD				S	**Sg**	**20 08 15.8**	**+0.1**
	baz=275						
JKRS	**Kuro-shima**	**1.15**	**76**	P	**Pn**	**20 08 03.5**	**+0.7**
JKRS				*eS*	**Sn**	**20 08 18.6**	**-0.1**
TWE	**Neicheng**	**1.27**	**307**	*eP*	**Pg**	**20 08 05.5**	**+0.7**
	baz=309						
TWE				S	**Sg**	**20 08 21.2**	**0.0**
	baz=309						
ENTT	**Nioudou**	**1.30**	**301**	*eP*	**Pg**	**20 08 06.0**	**+0.6**
	baz=303						
ENTT				S	**Sn**	**20 08 22.6**	**+0.3**
	baz=303						
JIJ	**Ishigaki jima**	**1.30**	**72**	P	**Pg**	**20 08 06.2**	**+0.7**
JIJ				S	**Sn**	**20 08 23.1**	**+0.7**
NNS	**Nan Shan**	**1.37**	**290**	*eP*	**Pg**	**20 08 07.1**	**+0.3**
	baz=291						
NNS				*eS*	**Sb**	**20 08 23.9**	**-0.2**
	baz=291						
WHF	**Hehuan Shan**	**1.40**	**277**	*eP*	**Pn**	**20 08 06.7**	**0.0**
	baz=276						
WHF				*eS*	**Sb**	**20 08 24.4**	**-0.9**
	baz=276						
EHY	**Hungye**	**1.42**	**251**	*eP*	**Pn**	**20 08 06.2**	**-0.3**
	baz=247						
EHY				*eS*	**Sb**	**20 08 23.9**	**-1.4**
	baz=247						
NWF	**Wu-fen Shan**	**1.43**	**320**	*eP*	**Pg**	**20 08 07.9**	**0.0**
	baz=323						
NWF				*eS*	**Sg**	**20 08 26.7**	**+0.2**
	baz=323						
NSK	**Sanguang**	**1.48**	**299**	P	**Pg**	**20 08 08.6**	**-0.3**
	baz=300						
NSK				S	**Sn**	**20 08 26.6**	**-0.4**
	baz=300						
TWF1	**Yuli**	**1.50**	**246**	*eP*	**Pn**	**20 08 08.0**	**+0.4**
	baz=242						
TWF1				*eS*	**Sn**	**20 08 27.1**	**-0.1**
	baz=242						
JISG	**Ishigakijimahi**	**1.52**	**66**	P	**Pg**	**20 08 09.4**	**-0.3**
JISG				S	**Sg**	**20 08 29.0**	**-0.5**
CHKT	**Chengkung**	**1.56**	**237**	*eP*	**Pb**	**20 08 10.3**	**+0.7**
	baz=232						
CHKT				*eS*	**Sn**	**20 08 29.4**	**+0.5**
	baz=232						
SMLT	**Sun Moon Lake**	**1.73**	**268**	*eP*	**Pb**	**20 08 12.3**	**-0.2**
	baz=265						
SMLT				*eS*	**Sn**	**20 08 33.1**	**0.0**
	baz=265						
ELDTW	**Lidau**	**1.80**	**245**	*eP*	**Pn**	**20 08 10.9**	**-0.9**
	baz=241						
ELDTW				*eS*	**Sn**	**20 08 34.8**	**0.0**
	baz=241						
ALS	**Alishan**	**1.87**	**256**	*eP*	**Pn**	**20 08 13.8**	**+0.8**
	baz=253						
ALS				*eS*	**Sn**	**20 08 37.0**	**+0.1**
	baz=253						
JTJ	**Tarama**	**1.87**	**69**	P	**Pg**	**20 08 16.4**	**0.0**
JTJ				*eS*	**Sg**	**20 08 40.5**	**-0.2**
TWG	**Pinlang**	**1.94**	**234**	*eP*	**Pb**	**20 08 15.7**	**-0.4**
	baz=230						
TWG				*eS*	**Sn**	**20 08 38.6**	**+0.3**
	baz=230						
CHN5	**Tsauling**	**1.96**	**260**	*eP*	**Pb**	**20 08 16.4**	**-0.1**
	baz=257						
CHN5				*eS*	**Sn**	**20 08 39.4**	**+0.4**
	baz=257						
STYT	**Tauyuan**	**2.03**	**247**	*eP*	**Pb**	**20 08 17.0**	**-0.6**
	baz=244						
STYT				*eS*	**Sn**	**20 08 40.8**	**+0.4**
	baz=244						
CHN4	**Tsaushan**	**2.10**	**253**	*eP*	**Pb**	**20 08 17.9**	**-0.9**
	baz=251						
CHN4				*eS*	**Sn**	**20 08 43.0**	**+0.8**
	baz=251						

TAP 18 20:08:13.1, 21.05N×122.08E, h141km±1km, ML3.7, D, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LAY	**Lan-yu**	**1.10**	**333**	*eP*	**Pn**	**20 08 37.9**	**-0.1**
	baz=334						
LAY				*eS*	**Sn**	**20 08 52.8**	**-4.2**
	baz=334						
TSEB	**Hengchuen, Pin**	**1.39**	**308**	P	**Pn**	**20 08 41.7**	**+0.9**
	baz=302						
TSEB				S	**Sn**	**20 09 03.0**	**+1.1**
	baz=302						
TWK1	**Hengchun**	**1.48**	**307**	P

ellipse: s-maj=2.3km s-min=2.1km az=135.0
GEN ***18*** *20:25:22.6,44°.66N×10°.30E,h23km,Ml3.2*
VIE ***18*** *20:25:22.8±0.3,44°.63N×10°.55E,h9km±3km,mb2.6/9, Ml2.9/13,Error ellipse: s-maj=4.3km s-min=1.9km az=124.0*
ROM ***18*** *20:25:23.4±0.1,44°.63N×10°.22E,h18km±1km, Ml3.2/34, Error ellipse: s-maj=1.6km s-min=1.2km az=88.0*
PRU ***18*** *20:25:23.4,44°.57N×10°.61E,h18km*
LDG ***18*** *20:25:24.0±0.2,44°.63N×10°.32E,h2km,Md3.0/3,Ml3.5/17, Error ellipse: s-maj=4.5km s-min=3.8km az=106.0*
STR ***18*** *20:25:24.0±0.2,44°.71N×10°.19E,h10km,Ml3.6,Error ellipse: s-maj=0.0km s-min=0.0km az=0.0*

ISC 18 20:25:23.2±0.8,44°.64N±0°.01×10°.31E±0°.01,h17km±5km, n230,σ1§49/354,1D,Northern Italy

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
PRMA	**PARMA**	**0.12**	**2**	*i*Pg			**Pg**	**20 25 27.2**	**+0.3**
PRMA					Sg		**Sg**	**20 25 31.6**	**+2.2**
	22μm,0.9s								
GRAM	**Graiana**	**0.23**	**229**	P			**Pg**	**20 25 27.6**	**-0.9**
GRAM				S			**Sg**	**20 25 32.2**	**+0.1**
NOVE	**Novellara**	**0.33**	**62**	Pg			**Pb**	**20 25 31.1**	**+0.4**
NOVE				Sg			**Sb**	**20 25 38.5**	**+2.8**
	4μm,1.0s								
CODM	**Codolo**	**0.41**	**233**	P			**Pg**	**20 25 30.3**	**-1.3**
CODM				S			**Sg**	**20 25 37.6**	**+0.2**
SARO	**Sassorosso**	**0.46**	**172**	P			**Pg**	**20 25 32.0**	**-0.6**
SARO				S			**Sg**	**20 25 39.0**	**+0.1**
VLC	**Villacollemand**	**0.49**	**173**	Pg			**Pg**	**20 25 32.7**	**-0.3**
VLC				Sg			**Sg**	**20 25 40.3**	**+0.7**
	3μm,0.7s								
VLC	**Villacollemand**	**0.49**	**173**	Pg			**Pg**	**20 25 32.7**	**-0.3**
VLC				Sg			**Sg**	**20 25 40.3**	**+0.7**
	3μm,0.7s								
ZCCA	**Zocca**	**0.56**	**121**	Pg			**Pb**	**20 25 35.8**	**+1.2**
	451nm,0.6s								
ZCCA	**Zocca**	**0.56**	**121**	Pg			**Pb**	**20 25 35.8**	**+1.2**
	451nm,0.6s								
RAVA	**Ravarino**	**0.59**	**79**	Pg			**Pn**	**20 25 36.8**	**0.0**
SBPO	**S.Benedetto Po**	**0.60**	**47**	Pg			**Pn**	**20 25 36.8**	**-0.1**
SBPO				Sg			**Sb**	**20 25 45.2**	**+1.8**
SC2M	**Scurtabo**	**0.60**	**247**	Pg			**Pg**	**20 25 33.8**	**-1.3**
SC2M				Sg			**Sg**	**20 25 43.0**	**-0.2**
SC2M	**Scurtabo**	**0.60**	**247**	P			**Pg**	**20 25 33.9**	**-1.2**
SC2M				Sg			**Sg**	**20 25 43.0**	**-0.2**
BDI	**Bagni Di Lucca**	**0.62**	**160**	Pg			**Pg**	**20 25 35.2**	**-0.2**
BDI				Sg			**Sb**	**20 25 44.5**	**+0.5**
	1μm,0.7s								
BDI	**Bagni Di Lucca**	**0.62**	**160**	Pg			**Pg**	**20 25 35.2**	**-0.2**
BDI				Sg			**Sb**	**20 25 44.5**	**+0.5**
	1μm,0.7s								
BOB	**Bobbio (Coli)**	**0.63**	**282**	Pg			**Pg**	**20 25 35.3**	**-0.3**
BOB				Sg			**Sg**	**20 25 43.1**	**-0.8**
	1μm,0.5s								
BOB	**Bobbio (Coli)**	**0.63**	**282**	Pg			**Pg**	**20 25 35.3**	**-0.3**
BOB				Sg			**Sg**	**20 25 43.1**	**-0.8**
	1μm,0.5s								
MSSA	**Maissana**	**0.65**	**240**	Pg			**Pg**	**20 25 35.6**	**-0.5**
MSSA				Sg			**Sg**	**20 25 43.5**	**-1.3**
MSSA	**Maissana**	**0.65**	**240**	Pg			**Pg**	**20 25 35.6**	**-0.5**
MSSA				Sg			**Sg**	**20 25 43.5**	**-1.3**
POPM	**Popiglio**	**0.68**	**152**	P			**Pg**	**20 25 36.3**	**-0.2**
POPM				S			**Sb**	**20 25 46.4**	**+0.6**
MAIM	**Mastiano**	**0.74**	**170**	Pg			**Pg**	**20 25 37.0**	**-0.7**
MAIM				Sg			**Sg**	**20 25 47.0**	**-0.5**
	435nm,0.5s								
MAIM	**Mastiano**	**0.74**	**170**	Pg			**Pg**	**20 25 37.0**	**-0.7**
MAIM				Sg			**Sg**	**20 25 47.0**	**-0.5**
	435nm,0.5s								
MAIM				S			**Sb**	**20 25 47.9**	**+0.4**
FNVD	**Fontana Vidola**	**0.75**	**129**	Pg			**Pb**	**20 25 38.2**	**+0.3**
FNVD				Sg			**Sb**	**20 25 49.9**	**+1.9**
	633nm,0.8s								
FNVD	**Fontana Vidola**	**0.75**	**129**	Pg			**Pb**	**20 25 38.2**	**+0.3**
PTF	**Prato**	**0.88**	**141**	Pg			**Pg**	**20 25 40.0**	**-0.2**
PTF				Sg			**Sn**	**20 25 54.0**	**+0.8**
PTF	**Prato**	**0.88**	**141**	Pg			**Pg**	**20 25 40.0**	**-0.2**
SEI	**Scarperia**	**0.95**	**128**	Pg			**Pg**	**20 25 41.7**	**0.0**
SEI	**Scarperia**	**0.95**	**128**	Pg			**Pg**	**20 25 41.7**	**0.0**
CRMI	**Carmignano**	**0.98**	**151**	Pg			**Pg**	**20 25 41.8**	**-0.4**
CRMI				Sg			**Sb**	**20 25 56.2**	**+1.9**
	451nm,0.8s								
CRMI	**Carmignano**	**0.98**	**151**	Pg			**Pg**	**20 25 41.8**	**-0.4**
CRMI				Sg			**Sb**	**20 25 56.2**	**+1.9**
	451nm,0.8s								
SALO	**Salr**	**0.99**	**9**	Pg			**Pb**	**20 25 42.4**	**+0.5**
SALO				Sg			**Sn**	**20 25 56.9**	**+0.9**
	3μm,0.7s								
SALO	**Salr**	**0.99**	**9**	Pg			**Pb**	**20 25 42.4**	**+0.5**
BALD	**Monte Baldo**	**1.10**	**19**	*e*Pg			**Pg**	**20 25 43.8**	**-0.8**
BALD				*e*Sg			**Sn**	**20 25 59.7**	**+0.6**
BALD	**Monte Baldo**	**1.10**	**19**	*e*Pg			**Pg**	**20 25 43.8**	**-0.8**
BALD				*e*Sg			**Sn**	**20 25 59.7**	**+0.6**
ROVR	**Rover˜¤ Verone**	**1.14**	**28**	Pg			**Pb**	**20 25 44.1**	**-0.5**
ROVR				Sg			**Sn**	**20 26 00.7**	**+0.8**
	1μm,0.5s								
ROVR	**Rover˜¤ Verone**	**1.14**	**28**	Pg			**Pb**	**20 25 44.1**	**-0.5**
MAGA	**Magasa**	**1.16**	**11**	Pg			**Pb**	**20 25 44.2**	**-0.6**
MAGA				Sg			**Sn**	**20 26 00.9**	**+0.6**
	2μm,0.4s								
MAGA	**Magasa**	**1.16**	**11**	Pg			**Pb**	**20 25 44.2**	**-0.6**
MARN	**Marana (Italy)**	**1.18**	**32**	*e*Pg			**Pb**	**20 25 44.5**	**-0.7**
MARN				*e*Sg			**Sn**	**20 26 01.7**	**+0.9**
MARN	**Marana (Italy)**	**1.18**	**32**	*e*Pg			**Pb**	**20 25 44.5**	**-0.7**
MARN				*e*Sg			**Sn**	**20 26 01.7**	**+0.9**
TEOL	**Teolo**	**1.20**	**53**	Pg			**Pb**	**20 25 44.8**	**-0.8**
TEOL				Sg			**Sn**	**20 26 02.5**	**+1.2**
	2μm,0.8s								
TEOL	**Teolo**	**1.20**	**53**	*e*Pg			**Pb**	**20 25 44.8**	**-0.8**
TEOL				*e*Sg			**Sn**	**20 26 02.4**	**+1.2**
TEOL	**Teolo**	**1.20**	**53**	Pg			**Pb**	**20 25 44.8**	**-0.8**
TEOL				Sg			**Sn**	**20 26 02.5**	**+1.2**
	2μm,0.8s								
GROG	**Isola di Gorgo**	**1.25**	**194**	Pg			**Pn**	**20 25 45.6**	**-0.4**
	342nm,0.6s								
GROG	**Isola di Gorgo**	**1.25**	**194**	Pg			**Pn**	**20 25 45.6**	**-0.4**
	342nm,0.6s								
PCP	**Piancastagn**	**1.26**	**266**	Pg			**Pn**	**20 25 46.2**	**0.0**
PCP	**Piancastagn**	**1.26**	**266**	Pg			**Pn**	**20 25 46.2**	**0.0**
SFI	**Santa Sofia**	**1.33**	**123**	Pg			**Pg**	**20 25 49.5**	**+0.7**
	444nm,1.2s								
SFI	**Santa Sofia**	**1.33**	**123**	Pg			**Pg**	**20 25 49.5**	**+0.7**
	444nm,1.2s								
ASQU	**Asqua**	**1.36**	**128**	Pg			**Pg**	**20 25 49.7**	**+0.3**
	197nm,1.0s								
ASQU	**Asqua**	**1.36**	**128**	Pg			**Pg**	**20 25 49.7**	**+0.3**
	197nm,1.0s								
CSNT	**Castellina Chi**	**1.37**	**148**	Pg			**Pn**	**20 25 48.3**	**+0.7**
	225nm,0.9s								
CSNT	**Castellina Chi**	**1.37**	**148**	Pg			**Pn**	**20 25 48.3**	**+0.7**
	225nm,0.9s								
DDS	**Dosso del Somm**	**1.39**	**26**	*e*Pg			**Pn**	**20 25 47.4**	**-0.6**
DDS				*e*Sg			**Sn**	**20 26 07.0**	**+1.0**
DDS	**Dosso del Somm**	**1.39**	**26**	*e*Pg			**Pn**	**20 25 47.4**	**-0.6**
DDS				*e*Sg			**Sn**	**20 26 07.0**	**+1.0**
SASS	**Sassa´´´´**	**1.41**	**169**	Pg			**Pn**	**20 25 48.2**	**0.0**
SASS	**Sassa´´´´**	**1.41**	**169**	Pg			**Pn**	**20 25 48.2**	**0.0**
MABI	**Malga Bissina**	**1.42**	**6**	Pg			**Pn**	**20 25 48.3**	**-0.2**
MABI				Sg			**Sn**	**20 26 08.1**	**+1.2**
	210nm,0.5s								
MABI	**Malga Bissina**	**1.42**	**6**	Pg			**Pn**	**20 25 48.3**	**-0.2**
MABI				Sg			**Sn**	**20 26 08.1**	**+1.2**
	210nm,0.5s								
FINB	**Finale Ligure**	**1.50**	**253**	Pg			**Pn**	**20 25 48.9**	**-0.4**
FINB				Sg			**Sn**	**20 26 08.1**	**-0.3**
	558nm,0.4s								
FINB	**Finale Ligure**	**1.50**	**253**	Pg			**Pn**	**20 25 48.9**	**-0.4**
T0502	**Localit` San**	**1.51**	**119**	Pg			**Pg**	**20 25 52.3**	**0.0**
	1584μm,52.0s								
FROS	**Frosini**	**1.56**	**157**	Pg			**Pn**	**20 25 50.8**	**+0.6**
	549nm,1.3s								
FROS	**Frosini**	**1.56**	**157**	Pg			**Pn**	**20 25 50.8**	**+0.6**
	549nm,1.3s								
PANI	**Panarotta**	**1.58**	**27**	*e*Pg			**Pn**	**20 25 50.3**	**-0.5**
PANI				*e*Sg			**Sn**	**20 26 11.3**	**+0.3**
TRIF	**Trifonti**	**1.59**	**164**	Pg			**Pn**	**20 25 51.2**	**+0.6**
	191nm,1.0s								
TRIF	**Trifonti**	**1.59**	**164**	Pg			**Pn**	**20 25 51.2**	**+0.6**
	191nm,1.0s								
CGRP	**Cima Grappa**	**1.62**	**40**	Pg			**Pn**	**20 25 50.8**	**-0.5**
	667nm,1.0s								
CGRP	**Cima Grappa**	**1.62**	**40**	*e*Pg			**Pn**	**20 25 50.8**	**-0.5**
CGRP	**Cima Grappa**	**1.62**	**40**	Pg			**Pn**	**20 25 50.8**	**-0.5**
	667nm,1.0s								
RORO	**Rocca Rossa**	**1.69**	**253**	Pg			**Pn**	**20 25 51.6**	**-0.4**
BERNI	**Berninapass**	**1.78**	**354**	Pg			**Pn**	**20 25 53.8**	**+0.3**
	179nm,0.5s								
BERNI	**Berninapass**	**1.78**	**354**	Pg			**Pn**	**20 25 53.8**	**+0.3**
	179nm,0.5s								
BADI	**Badiali**	**1.80**	**128**	Pg			**Pn**	**20 25 55.3**	**+1.8**
	146nm,1.0s								
BADI	**Badiali**	**1.80**	**128**	Pg			**Pn**	**20 25 55.3**	**+1.8**
	146nm,1.0s								
CARE	**Lago del Cares**	**1.80**	**9**	*e*Pn			**Pn**	**20 25 53.9**	**+0.1**
CARE	**Lago del Cares**	**1.80**	**9**	*e*Pn			**Pn**	**20 25 53.9**	**+0.1**
OZOL	**Ozolo**	**1.84**	**16**	*e*Pn			**Pn**	**20 25 54.4**	**+0.2**
OZOL	**Ozolo**	**1.84**	**16**	*e*Pn			**Pn**	**20 25 54.4**	**+0.2**
IMI	**Imperia**	**1.88**	**248**	Pg			**Pn**	**20 25 53.7**	**-1.0**
ATPC	**Poggio Castell**	**1.94**	**126**	Pg			**Pn**	**20 25 57.3**	**+1.9**
	233nm,1.1s								
ATPC	**Poggio Castell**	**1.94**	**126**	Pg			**Pn**	**20 25 57.3**	**+1.9**
	233nm,1.1s								
TUE	**Stuetta**	**1.95**	**340**	Pg			**Pn**	**20 25 56.1**	**+0.3**
	165nm,0.7s								
ATVO	**AVT- Monte Val**	**1.97**	**129**	Pg			**Pn**	**20 25 57.2**	**+1.3**
	286nm,1.5s								
AGOR	**Agordo**	**2.05**	**36**	Pg			**Pn**	**20 25 57.1**	**+0.2**
	162nm,0.8s								
AGOR	**Agordo**	**2.05**	**36**	*e*Pn			**Pn**	**20 25 56.7**	**-0.2**
ENR	**Entracque**	**2.11**	**260**	Pg			**Pn**	**20 25 58.0**	**+0.1**
DAVOX	**Davos/Dischmat**	**2.16**	**352**	Pg			**Pn**	**20 25 59.9**	**+1.3**
	123nm,0.6s								
STV	**Sant Anna di V**	**2.17**	**260**	Pg			**Pn**	**20 25 58.8**	**+0.1**
DOI	**San Damiano**	**2.19**	**267**	Pg			**Pn**	**20 25 59.5**	**+0.5**
	295nm,0.5s								
SBF	**Sospel**	**2.21**	**250**	*e*Pn			**Pn**	**20 25 58.7**	**-0.5**
	SNR=1.0								
SBF	**Sospel**	**2.21**	**250**	*e*Pg			**Pg**	**20 26 06.9**	**+1.4**
	SNR=1.0								
SBF				*e*Sn			**Sn**	**20 26 27.3**	**+1.2**
	109nm,0.3s,SNR=1.0								
SBF	**Sospel**	**2.21**	**250**	*e*Pn			**Pn**	**20 25 58.7**	**-0.5**
	SNR=1.0								
SBF	**Sospel**	**2.21**	**250**	*e*Pg			**Pg**	**20 26 06.9**	**+1.4**
	SNR=1.0								
SBF				*e*Sn			**Sn**	**20 26 27.3**	**+1.2**
	109nm,0.3s,SNR=1.0								
CIMO	**Cimolais**	**2.24**	**41**	*e*Pn			**Pn**	**20 25 58.8**	**-0.8**
CIMO	**Cimolais**	**2.24**	**41**	*e*Pn			**Pn**	**20 25 58.8**	**-0.8**
PGF	**Pioggiola**	**2.30**	**205**	*e*Pn			**Pn**	**20 26 00.4**	**-0.1**
	SNR=1.0								
PGF				*e*Sn			**Sn**	**20 26 26.6**	**-1.9**
	97nm,0.8s								
PGF	**Pioggiola**	**2.30**	**205**	*e*Pn			**Pn**	**20 26 00.4**	**-0.1**
	SNR=1.0								
PGF				*e*Sn			**Sn**	**20 26 26.6**	**-1.9**
	48nm,0.8s								
FETA	**Feichten**	**2.40**	**7**	Pn			**Pn**	**20 26 03.3**	**+1.4**
	6.5nm,0.5s,SNR=6.8								
FETA				Sg			**Sg**	**20 26 41.6**	**+1.3**
	44nm,0.8s								
OG22	**Abries**	**2.40**	**275**	Pn			**Pn**	**20 26 00.9**	**-1.1**
OG22	**Abries**	**2.40**	**275**	Pg			**Pb**	**20 26 07.8**	**+1.7**
OG22				Sg			**Sg**	**20 26 39.2**	**-1.3**
OG22	**Abries**	**2.40**	**275**	Pn			**Pn**	**20 26 00.9**	**-1.1**
OG22	**Abries**	**2.40**	**275**	Pg			**Pb**	**20 26 07.8**	**+1.7**
OG22				Sg			**Sg**	**20 26 39.2**	**-1.3**
PLONS	**Plons/SG**	**2.49**	**345**	Pg			**Pn**	**20 26 04.4**	**+1.3**
	71nm,0.7s								
MBDF	**Montbardon**	**2.52**	**273**	*e*Pn			**Pn**	**20 26 03.6**	**0.0**
	SNR=1.0								
MBDF	**Montbardon**	**2.52**	**273**	*e*Pn			**Pn**	**20 26 03.6**	**0.0**
	SNR=1.0								
BNALP	**Bannalp**	**2.59**	**330**	Pg			**Pn**	**20 26 05.8**	**+1.3**
	73nm,0.6s								
ABTA	**Abfaltersbach**	**2.61**	**36**	Pn			**Pn**	**20 26 05.6**	**+0.9**
	4.6nm,0.3s,SNR=9.4								
ABTA				Sg			**Sg**	**20 26 48.2**	**+1.1**
	30nm,0.5s								
VINO	**Villanova**	**2.64**	**51**	*e*Pn			**Pn**	**20 26 04.0**	**-1.1**
VINO	**Villanova**	**2.64**	**51**	*e*Pn			**Pn**	**20 26 04.0**	**-1.1**
DAVA	**Damuels**	**2.66**	**354**	*e*Pn			**Pn**	**20 26 07.3**	**+1.8**
DAVA				*e*Sn			**Sn**	**20 26 40.6**	**+3.1**
DAVA	**Damuels**	**2.66**	**354**	Pn			**Pn**	**20 26 07.1**	**+1.6**
	56nm,0.4s,SNR=20								
DAVA				Sn			**Sn**	**20 26 40.6**	**+3.1**
LPG	**La Plagne**	**2.66**	**290**	*e*Pn			**Pn**	**20 26 05.4**	**-0.2**
	SNR=1.0								
LPG	**La Plagne**	**2.66**	**290**	*e*Pn			**Pn**	**20 26 05.4**	**-0.2**
	SNR=1.0								
TRI	**Trieste**	**2.67**	**65**	*e*Pn			**Pn**	**20 26 04.3**	**-1.1**
TRI	**Trieste**	**2.67**	**65**	*e*Pn			**Pn**	**20 26 04.3**	**-1.1**
LPL	**La Plagne**	**2.68**	**290**	*e*Pn			**Pn**	**20 26 06.4**	**+0.6**
	SNR=1.0								
LPL	**La Plagne**	**2.68**	**290**	*e*Pn			**Pn**	**20 26 06.4**	**+0.6**
	SNR=1.0								
SABO	**M.te Sabotino**	**2.68**	**59**	*e*Pn			**Pn**	**20 26 05.2**	**-0.4**
SABO	**M.te Sabotino**	**2.68**	**59**	*e*Pn			**Pn**	**20 26 05.2**	**-0.4**
MOTA	**Moosalm**	**2.76**	**11**	Pn			**Pn**	**20 26 08.7**	**+1.9**
	26nm,0.4s,SNR=42								
MOTA				Sn			**Sn**	**20 26 42.6**	**+2.7**
	10nm,0.4s								
OBER	**Oberstdorf**	**2.76**	**360**	*e*Pn			**Pn**	**20 26 08.4**	**+1.6**
OBER	**Oberstdorf**	**2.76**	**360**	Pn			**Pn**	**20 26 08.4**	**+1.6**
ROBS	**Robic**	**2.77**	**53**	*i* Pn			**Pn**	**20 26 05.9**	**-0.9**
ROBS	**Robic**	**2.77**	**53**	*i* Pn			**Pn**	**20 26 05.9**	**-0.9**
SKDS	**Skadanscina**	**2.78**	**70**	*i* Pn			**Pn**	**20 26 05.9**	**-1.1**
SKDS	**Skadanscina**	**2.78**	**70**	Pn			**Pn**	**20 26 05.9**	**-1.1**
WTTA	**Wattenberg**	**2.78**	**19**	Pg			**Pn**	**20 26 08.5**	**+1.3**
	47nm,0.6s								
WTTA	**Wattenberg**	**2.78**	**19**	*e*PN			**Pn**	**20 26 08.4**	**+1.3**
WTTA	**Wattenberg**	**2.78**	**19**	*e*Pn			**Pn**	**20 26 08.8**	**+1.6**
WTTA	**Wattenberg**	**2.78**	**19**	Pn			**Pn**	**20 26 08.7**	**+1.6**
	39nm,0.5s,SNR=15								
WTTA				Sg			**Sg**	**20 26 54.6**	**+2.0**
	72nm,0.0s								
WATA	**Walderalm**	**2.83**	**18**	Pn			**Pn**	**20 26 09.8**	**+1.9**
	8.8nm,0.2s,SNR=9.0								
WATA				Sn			**Sn**	**20 26 45.1**	**+3.4**
	0.5nm,0.1s								
FRF	**La Foret Royal**	**2.85**	**249**	*e*Pn			**Pn**	**20 26 07.3**	**-0.7**
	SNR=1.0								
FRF				*e*Sn			**Sn**	**20 26 41.8**	**-0.1**
	78nm,0.4s,SNR=1.0								
FRF	**La Foret Royal**	**2.85**	**249**	*e*Pn			**Pn**	**20 26 07.3**	**-0.7**
	SNR=1.0								
FRF				*e*Sn			**Sn**	**20 26 41.8**	**-0.1**
	39nm,0.4s,SNR=1.0								
RETA	**Reutte**	**2.86**	**6**	Pn			**Pn**	**20 26 09.3**	**+1.1**
	5.3nm,0.3s,SNR=5.7								
RETA				Sn			**Sn**	**20 26 46.0**	**+3.7**
	9.0nm,0.3s								
JAVS	**Javornik**	**2.93**	**63**	*i* Pn			**Pn**	**20 26 08.3**	**-0.9**
JAVS	**Javornik**	**2.93**	**63**	*i* Pn			**Pn**	**20 26 08.3**	**-0.9**
LMR	**La Mourre**	**3.04**	**246**	*e*Pn			**Pn**	**20 26 09.7**	**-0.8**
	SNR=1.0								
LMR				*e*Sn			**Sn**	**20 26 44.5**	**-2.0**
	65nm,0.4s								
LMR	**La Mourre**	**3.04**	**246**	*e*Pn			**Pn**	**20 26 09.7**	**-0.8**
	SNR=1.0								
LMR				*e*Sn			**Sn**	**20 26 44.5**	**-2.0**
	32nm,0.4s								
MYKA	**Terra Mystica**	**3.07**	**48**	Pn			**Pn**	**20 26 09.2**	**-1.8**
	0.2nm,0.1s								
MYKA				Sg			**Sg**	**20 27 00.8**	**-1.0**
	7.0nm,0.4s								
ORIF	**Oris-en-Rattie**	**3.17**	**277**	*e*Pn			**Pn**	**20 26 13.9**	**+1.5**
	SNR=1.0								
ORIF				*e*Sn			**Sn**	**20 26 51.1**	**+1.3**
	79nm,0.6s,SNR=1.0								
ORIF	**Oris-en-Rattie**	**3.17**	**277**	*e*Pn			**Pn**	**20 26 13.9**	**+1.5**
	SNR=1.0								
ORIF				*e*Sn			**Sn**	**20 26 51.1**	**+1.3**
	40nm,0.6s,SNR=1.0								
KBA	**Koelnbreinsper**	**3.23**	**40**	Sg			**Sg**	**20 27 05.1**	**-1.9**
	39nm,0.6s								
NVLJ	**Novalja**	**3.26**	**90**	*e*Pn			**Pn**	**20 26 12.9**	**-0.6**
NVLJ				Sn			**Sn**	**20 26 50.5**	**-1.5**
NVLJ	**Novalja**	**3.26**	**90**	*e*Pn			**Pn**	**20 26 12.9**	**-0.6**
NVLJ				Sn			**Sn**	**20 26 50.4**	**-1.5**
SMRF	**Simiane la Rot**	**3.46**	**261**	*e*Pn			**Pn**	**20 26 17.8**	**+1.4**
	SNR=1.0								
SMRF				*e*Sn			**Sn**	**20 26 59.9**	**+2.9**
	28nm,0.5s,SNR=1.0								
SMRF	**Simiane la Rot**	**3.46**	**261**	*e*Pn			**Pn**	**20 26 17.8**	**+1.4**
	SNR=1.0								
SMRF				*e*Sn			**Sn**	**20 26 59.9**	**+2.9**
	14nm,0.5s,SNR=1.0								
OBKA	**Obir**	**3.51**	**56**	Pn			**Pn**	**20 26 15.3**	**-1.9**
	0.2nm,0.1s								
OBKA				Sg			**Sg**	**20 27 14.8**	**-1.3**
	8.3nm,0.4s								
RJOB	**Jochberg**	**3.54**	**28**	*e*Pn			**Pn**	**20 26 18.6**	**+1.0**
RJOB	**Jochberg**	**3.54**	**28**	Pn			**Pn**	**20 26 18.6**	**+1.0**
CABF	**La Chapelle**	**3.56**	**305**	*e*Pn			**Pn**	**20 26 18.6**	**+0.9**
	SNR=1.0								
CABF				*e*Sn			**Sn**	**20 27 01.1**	**+1.7**
	31nm,0.5s,SNR=1.0								
CABF	**La Chapelle**	**3.56**	**305**	*e*Pn			**Pn**	**20 26 18.6**	**+0.9**
	SNR=1.0								
CABF				*e*Sn			**Sn**	**20 27 01.1**	**+1.7**
	16nm,0.5s,SNR=1.0								
FELD	**Feldberg im Sc**	**3.61**	**335**	Pn			**Pn**	**20 26 16.4**	**-2.1**
FELD	**Feldberg im Sc**	**3.61**	**335**	Pg			**Pb**	**20 26 29.3**	**+2.7**
FELD				Sg			**Sg**	**20 27 18.9**	**-0.1**
LOMF	**Lomont**	**3.63**	**319**	Pn			**Pn**	**20 26 17.4**	**-1.4**
LOMF				Sg			**Sg**	**20 27 20.3**	**+0.4**
LOMF	**Lomont**	**3.63**	**319**	Pn			**Pn**	**20 26 17.4**	**-1.4**
LOMF				Sg			**Sg**	**20 27 20.3**	**+0.4**
OZLJ	**Ozalj**	**3.78**	**73**	*i* Pn			**Pn**	**20 26 20.5**	**-0.2**
OZLJ				Sn			**Sn**	**20 27 02.4**	**-2.4**
OZLJ	**Ozalj**	**3.78**	**73**	*i* Pn			**Pn**	**20 26 20.4**	**-0.2**
OZLJ				Sn			**Sn**	**20 27 02.3**	**-2.4**
SOKA	**Soboth**	**3.89**	**57**	Pn			**Pn**	**20 26 20.6**	**-1.7**
	895nm,0.0s								
SOKA				Sg			**Sg**	**20 27 27.3**	**-0.7**
	9.8nm,0.7s								
MOF	**Molkenrain**	**3.89**	**327**	Pn			**Pn**	**20 26 20.9**	**-1.5**
MOF				Sg			**Sg**	**20 27 28.0**	**-0.1**
MOF	**Molkenrain**	**3.89**	**327**	Pn			**Pn**	**20 26 20.9**	**-1.5**
MOF				Sg			**Sg**	**20 27 28.0**	**-0.1**
UDBI	**Udbina**	**3.90**	**90**	*e*Pn			**Pn**	**20 26 22.7**	**+0.3**
UDBI				Sn			**Sn**	**20 27 06.0**	**-1.8**
UDBI	**Udbina**	**3.90**	**90**	*e*Pn			**Pn**	**20 26 22.7**	**+0.3**
UDBI				Sn			**Sn**	**20 27 06.0**	**-1.8**
BFO	**Black Forest**	**3.93**	**340**	*e*Pn			**Pn**	**20 26 21.9**	**-1.0**
BFO	**Black Forest**	**3.93**	**340**	Pn			**Pn**	**20 26 21.9**	**-1.0**
HINF	**Hinteralfeld**	**3.98**	**324**	*e*Pn			**Pn**	**20 26 24.1**	**+0.6**
	SNR=1.0								
HINF				*e*Sn			**Sn**	**20 27 06.1**	**-3.6**
	19nm,0.4s,SNR=1.0								
HINF	**Hinteralfeld**	**3.98**	**324**	*e*Pn			**Pn**	**20 26 24.1**	**+0.6**
	SNR=1.0								
HINF				*e*Sn			**Sn**	**20 27 06.1**	**-3.6**
	9.5nm,0.4s,SNR=1.0								
VIVF	**Saint-Julien-l**	**4.02**	**275**	*e*Pn			**Pn**	**20 26 24.8**	**+0.7**
	SNR=1.0								
VIVF				*e*Sn			**Sn**	**20 27 09.1**	**-1.7**
	11nm,0.

TNS	**Taunus Mts**	**5.72**	**348**	Pn		**Pn**	**20 26 46.9**	**-0.5**
CAF	**Calviac**	**5.88**	**276**	*e*Pn		**Pn**	**20 26 50.8**	**+1.3**
	SNR=1.0							
CAF	**Calviac**	**5.88**	**276**	*e*Pn		**Pn**	**20 26 50.8**	**+1.3**
	SNR=1.0							
TCF	**Toulx Ste Croi**	**5.93**	**289**	*e*Pn		**Pn**	**20 26 52.1**	**+1.8**
	SNR=1.0							
TCF				*e*Sn		**Sn**	**20 27 57.3**	**-0.5**
	6.6nm,0.4s,SNR=1.0							
TCF	**Toulx Ste Croi**	**5.93**	**289**	*e*Pn		**Pn**	**20 26 52.1**	**+1.8**
	SNR=1.0							
TCF				*e*Sn		**Sn**	**20 27 57.3**	**-0.5**
	3.3nm,0.4s,SNR=1.0							
MTLF	**Montolieu**	**5.98**	**260**	*e*Pn		**Pn**	**20 26 52.0**	**+1.0**
	SNR=1.0							
MTLF				*e*Sn		**Sn**	**20 27 58.3**	**-0.7**
	7.1nm,0.6s,SNR=1.0							
MTLF	**Montolieu**	**5.98**	**260**	*e*Pn		**Pn**	**20 26 52.0**	**+1.0**
	SNR=1.0							
MTLF				*e*Sn		**Sn**	**20 27 58.3**	**-0.7**
	3.5nm,0.6s,SNR=1.0							
PRU	**Pruhonice**	**6.07**	**27**	*e*PN		**Pn**	**20 26 51.1**	**-1.1**
PRU				*e*SG		**Sg**	**20 28 35.0**	**-3.0**
	13nm,1.0s							
PRU	**Pruhonice**	**6.07**	**27**	Pn		**Pn**	**20 26 51.1**	**-1.1**
PRU				Sg		**Sg**	**20 28 35.0**	**-3.0**
	13nm,1.0s							
GOPC	**GO Pecny, Ondr**	**6.09**	**28**	*e*PN		**Pn**	**20 26 51.8**	**-0.7**
GOPC				*e*SG		**Sg**	**20 28 35.1**	**-3.4**
	comp=Z,11nm,0.8s							
GOPC	**GO Pecny, Ondr**	**6.09**	**28**	Pn		**Pn**	**20 26 51.8**	**-0.7**
GOPC				Sg		**Sg**	**20 28 35.1**	**-3.4**
	11nm,0.8s							
RJF	**Les Rejaudoux**	**6.27**	**279**	*e*Pn		**Pn**	**20 26 57.6**	**+2.6**
	SNR=1.0							
BRG	**Berggiesshubel**	**6.70**	**20**	PN		**Pn**	**20 26 59.9**	**-0.8**
BRG				SN		**Sn**	**20 28 23.6**	**+7.0**
BRG				SG		**Sg**	**20 28 56.9**	**-1.0**
	7.8nm,0.9s							
CLL	**Collm**	**6.91**	**14**	*e*Pn		**Pn**	**20 27 02.0**	**-1.7**
CLL				*e*Sn		Sn	20 28 12.0	-10
CLL				*e*Sg		**Sg**	**20 29 06.0**	**+1.3**
DPC	**Dobruska-Polom**	**7.01**	**33**	*e*SG		**Sg**	**20 29 03.2**	**-4.9**
	13nm,1.2s							
UPC	**Upice**	**7.02**	**31**	*e*SG		**Sg**	**20 29 05.6**	**-2.7**
	22nm,1.2s							
UPC	**Upice**	**7.02**	**31**	Sg		**Sg**	**20 29 05.6**	**-2.7**
	22nm,1.2s							

NIED ***18*** *20:30:00, 40°.20N×143°.20E, h26km, Mw3.7 Best double couple: M₀3.55000×10¹⁴ NP1:φs163.00000°, δ29.00000°, λ42.00000°. NP2:φs35.00000°, δ71.00000°, λ113.00000°.*

JMA 18 20:30:08.7±0.2, 40°.24N×143°.20E, h8km±2km, M3.7, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
JTH	**Tanohata**	**1.07**	**254**	P		Pg	20 30 28.7	-0.5
JTH				*e*S		Sb	20 30 43.4	-0.1
MIYJ	**Miyakonagasawa**	**1.25**	**238**	P		Pn	20 30 31.8	-0.7
MIYJ				S		Sb	20 30 48.6	-0.2
JANG	**Nango**	**1.29**	**276**	P		Pn	20 30 32.7	-0.4
JKZ	**Kuzumaki**	**1.46**	**261**	P		Pn	20 30 35.4	0.9
JKZ				*e*S		Sb	20 30 55.1	+0.3
JOM	**Ohasama**	**1.66**	**243**	P		Pn	20 30 38.5	+0.5
JOM				*e*S		Sb	20 31 00.7	+0.2
JTM	**Tenmabayashi**	**1.71**	**289**	P		Pn	20 30 39.3	+0.5
JTM				S		Sn	20 31 01.0	+0.1
JAH	**Hinai**	**1.96**	**269**	P		Pn	20 30 43.3	+1.0
JAH				S		Sb	20 31 09.2	-0.1
JOT	**Ohata**	**1.99**	**306**	S		Sb	20 31 09.2	-0.9
JMK	**Ichinoseki**	**2.00**	**231**	P		Pn	20 30 43.3	+0.6
JRG	**Rokugo**	**2.15**	**248**	P		Pb	20 30 46.5	-1.3
JOU	**Okura**	**2.72**	**227**	P		Pn	20 30 53.3	+0.7

MEX 18 20:30:52.8±0.4, 14°.44N×92°.89W, h16km±59km, MD3.7, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
CCIG	**Comitan**	**1.97**	**22**	*e*P		Pn	20 31 23.1	-2.6
CCIG				*i* S		Sn	20 31 46.3	-4.0
TGIG		**2.34**	**355**	*i* P		Pn	20 31 27.2	-3.5
TGIG				*i* S		Sn	20 31 54.3	-4.8

NEIC ***18*** *21:01:34.2±0.6, 32°.43S×178°.80W, h10km, mb4.9/7, Error ellipse: s-maj=19.7km s-min=12.1km az=152.0*
ISCJB ***18*** *21:01:36.8±0.5, 32°.79S±0°.03×178°.97W±0°.08, h35km, mb4.8/11, MS3.3/1, Error ellipse: s-maj=9.9km s-min=4.4km az=15.7*
IDC ***18*** *21:01:40.0±2.7, 32°.76S×179°.04W, h52km±22km, mb4.2/2, mb1 4.5/4, mb1mx3.8/27, mbtmp4.5/4, ML4.4/2, MS3.4/2, Ms1 3.4/2, ms1mx2.8/23, Error ellipse: s-maj=36.1km s-min=18.6km az=115.0*

ISC 18 21:01:38.6±0.6, 32°.83S±0°.06×178°.76W±0°.09, h35km, n66, σ2s38/73, mb4.8/11, 1C-1D, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
RAO	**Raoul Island**	**3.64**	**12**	P		**Pn**	**21 02 33.7**	**+1.2**
	45nm,0.3s,baz=72,slow=20,SNR=4.3							
RAO				S		**Sn**	**21 03 12.1**	**-2.2**
	41nm,0.3s,baz=253,slow=19,SNR=2.8							
RAO	**Raoul Island**	**3.64**	**12**	*e*Pn		Pn	21 02 25.8	-6.7
RAO				*e*Sn		**Sn**	**21 03 12.1**	**-2.2**
MXZ	**Matakaoa Point**	**5.29**	**206**	*e*Pn		**Pn**	**21 02 55.0**	**-0.2**
MXZ				*e*Sn		**Sn**	**21 03 59.3**	**+4.4**
MXZ	**Matakaoa Point**	**5.29**	**206**	*e*PN		**Pn**	**21 02 55.0**	**+0.9**
MXZ				*e*SN		**Sn**	**21 03 55.0**	**+0.1**
WMGZ	**Waiomatatini S**	**5.48**	**204**	*e*PN		**Pn**	**21 02 58.9**	**+1.1**
PKGZ	**Pakihiroa**	**5.67**	**206**	*e*PN		**Pn**	**21 03 01.1**	**+0.7**
PUZ	**Puketiti**	**5.76**	**204**	*e*PN		**Pn**	**21 03 02.0**	**+0.3**
PUZ				*e*SN		**Sn**	**21 04 05.0**	**-1.5**
RUGZ	**Raukumara Rang**	**5.89**	**209**	PN		**Pn**	**21 03 06.0**	**+2.5**
TWGZ	**Tauwhareparae**	**5.96**	**206**	*e*PN		**Pn**	**21 03 06.2**	**+1.8**
TWGZ				*e*SN		**Sn**	**21 04 11.8**	**+0.4**
CNGZ	**Carnagh Statio**	**6.15**	**203**	*e*PN		**Pn**	**21 03 07.7**	**+0.7**
MWZ	**Matawai**	**6.27**	**208**	*e*PN		**Pn**	**21 03 09.4**	**+0.9**
MWZ				*e*SN		**Sn**	**21 04 18.9**	**0.0**
URZ	**Urewera**	**6.37**	**211**	P		**Pn**	**21 03 10.9**	**+0.9**
	5.5nm,0.3s,baz=237,slow=3.1,SNR=35							
URZ				S		**Sn**	**21 04 21.0**	**-0.5**
	11nm,0.3s,baz=215,slow=14,SNR=8.7							
URZ	**Urewera**	**6.37**	**211**	*e*PN		**Pn**	**21 03 10.0**	**0.0**
URZ				*e*SN		**Sn**	**21 04 21.0**	**-0.5**
RIGZ	**Rimuhau**	**6.50**	**205**	*e*PN		**Pn**	**21 03 13.5**	**+1.7**
MUGZ	**Murupara**	**6.70**	**212**	*e*PN		**Pn**	**21 03 14.6**	**+0.1**
OUZ	**Omahuta**	**6.78**	**247**	*e*PN		**Pn**	**21 03 17.0**	**+1.5**
OUZ				*e*Sn		**Sn**	**21 04 30.4**	**-1.1**
OUZ	**Omahuta**	**6.78**	**247**	*e*PN		**Pn**	**21 03 19.9**	**+4.4**
BKZ	**Black Stump Fm**	**7.40**	**210**	*e*Pn		**Pn**	**21 03 24.3**	**+0.2**
BKZ				*e*Sn		**Sn**	**21 04 46.8**	**0.0**
BKZ	**Black Stump Fm**	**7.40**	**210**	*e*PN		**Pn**	**21 03 24.6**	**+0.5**
HIZ	**Hauiti**	**7.69**	**221**	*e*Pn		**Pn**	**21 03 31.7**	**+3.6**
BHHZ	**Black Hill Sta**	**7.85**	**211**	*e*PN		**Pn**	**21 03 31.0**	**+0.6**
BFZ	**Birch Farm**	**8.80**	**206**	*e*Pn		**Pn**	**21 03 40.8**	**-2.5**
BFZ				*e*Sn		**Sn**	**21 05 12.9**	**-8.2**
KIW	**Kapiti Island**	**9.48**	**211**	*e*PN		**Pn**	**21 03 50.5**	**-2.1**
TCW	**Tory Channel**	**10.04**	**212**	*e*PN		**Pn**	**21 03 57.6**	**-2.7**
CTZ	**Chatham Island**	**11.02**	**172**	*e*PN		**Pn**	**21 04 16.0**	**+2.4**
CTZ				*e*SN		Sn	21 06 08.1	-7.4
THZ	**Tophouse**	**11.11**	**214**	*e*Pn		Pn	21 04 10.8	-4.1
THZ				*e*Sn		**Sn**	**21 06 13.8**	**-4.0**
THZ	**Tophouse**	**11.11**	**214**	PN		**Pn**	**21 04 11.3**	**-3.6**
THZ				*e*SN		Sn	21 06 09.3	-8.5
KHZ	**Kahutara**	**11.34**	**210**	*e*Pn		Pn	21 04 14.0	-4.1
KHZ				*e*Sn		Sn	21 06 13.8	-10
KHZ	**Kahutara**	**11.34**	**210**	*e*PN		**Pn**	**21 04 14.6**	**-3.5**
OXZ	**Oxford**	**12.73**	**212**	*e*SN		Sn	21 06 43.5	-14
MQZ	**McQueen's Vall**	**12.77**	**209**	*e*Pn		Pn	21 04 32.7	-4.9
MQZ	**McQueen's Vall**	**12.77**	**209**	*e*SN		Sn	21 06 44.9	-14
ODZ	**Otahua Downs**	**14.70**	**211**	*e*Pn		Pn	21 04 59.4	-4.6
DZM	**Mont Dzumac**	**16.93**	**306**	LR		LR	21 10 51.9	
	comp=Z,117nm,18.1s,baz=231,slow=33							
STKA	**Stephens Creek**	**33.37**	**261**	LR		LR	21 20 06.2	
	comp=Z,61nm,18.9s,baz=202,slow=33							
CTAO	**Charters Tower**	**33.63**	**283**	*e*P		**P**	**21 08 16.5**	**+0.4**
	51nm,1.9s							
COEN	**Coen**	**39.39**	**289**	*e*P		**P**	**21 09 05.0**	**-0.1**
	44nm,1.8s							
AS01	**Alice Springs**	**42.35**	**270**	*e*P		**P**	**21 09 27.9**	**-1.7**
AS31	**Alice Springs**	**42.39**	**270**	*e*P		**P**	**21 09 27.9**	**-2.0**
	3.0nm,1.4s							
AS31				*e*PcP		**PcP**	**21 11 20.6**	**-2.1**
ASAR	**Alice Springs**	**42.39**	**270**	P		**P**	**21 09 27.9**	**-2.0**
	1.1nm,0.5s,baz=108,slow=7.9,SNR=24							
ASAR				PcP		**PcP**	**21 11 20.6**	**-2.2**
	0.7nm,1.0s,baz=113,slow=5.0,SNR=3.1							
WB2	**Warramunga Arr**	**43.59**	**275**	*e*P		**P**	**21 09 38.3**	**-1.3**
WRAB	**Tennant Creek**	**43.60**	**275**	*e*P		**P**	**21 09 38.8**	**-0.9**
	8.9nm,0.8s							
WR1	**Warramunga Arr**	**43.60**	**275**	*e*P		**P**	**21 09 37.7**	**-1.9**
	12nm,0.4s							
WR1				*e*PP		**PP**	**21 11 24.2**	**+2.7**
WRA	**Warramunga Arr**	**43.60**	**275**	P		**P**	**21 09 37.7**	**-2.0**
	6.9nm,0.3s,baz=113,slow=7.9,SNR=212							
WRA				PcP		**PP**	**21 11 24.2**	**+2.7**
	0.3nm,0.7s,baz=132,slow=3.5,SNR=3.0							
MTN	**Manton Dam**	**49.77**	**281**	*e*P		**P**	**21 10 26.2**	**-1.8**
	26nm,1.6s							
FITZ	**Fitzroy Crossi**	**51.75**	**272**	*e*P		**P**	**21 10 41.4**	**-1.5**
	23nm,1.8s							
QSPA	**South Pole Qui**	**57.28**	**180**	*e*P		**P**	**21 11 26.0**	**+3.4**
	4.1nm,0.7s							
SYO	**Syowa Base**	**74.61**	**193**	*e*P		**P**	**21 13 12.0**	**-1.6**
SYO	**Syowa Base**	**74.61**	**193**	*e*pP		**P**	**21 13 18.0**	**+4.4**
SNAA	**Sanae**	**75.75**	**179**	P		**P**	**21 13 21.1**	**+0.8**
VNA3	**Neumayer Olymp**	**75.93**	**176**	P		**P**	**21 13 22.2**	**+0.9**
VNA2	**Neumayer--Watz**	**76.35**	**177**	P		**P**	**21 13 25.3**	**+1.6**
	baz=173,slow=4.7							
CIAC	**Catalina I. Ai**	**86.98**	**47**	*e*P		**P**	**21 14 19.7**	**-0.4**
CHGN	**Chignik**	**90.46**	**11**	*e*P		P	21 14 32.3	-3.7
	196nm,0.9s							
YBMT	**Yellow Bay**	**99.04**	**38**	*e*P		**Pdif**	**21 15 10.0**	**-5.7**
ARCES	**ARCESS Array B**	**140.81**	**347**	PKP		**PKPdf**	**21 21 01.0**	**-2.7**
	6.7nm,1.1s,baz=18,slow=0.3,SNR=3.2							
FIA0	**FINESS Array S**	**147.18**	**338**	*e*PKPdf		**PKPdf**	**21 21 15.3**	**+0.3**
FINES	**FINESS Array B**	**147.18**	**338**	PKPbc		**PKPdf**	**21 21 15.3**	**+0.3**
	4.3nm,0.5s,baz=42,slow=3.9,SNR=41							
NB200	**NORSAR Array S**	**151.04**	**350**	*e*PKPbc		**PKPdf**	**21 21 25.8**	**+4.4**
NOA	**NORSAR Array B**	**151.04**	**350**	PKPbc		**PKPdf**	**21 21 25.8**	**+4.4**
	2.0nm,0.7s,baz=17,slow=4.2,SNR=7.3							
AKASG	**Malin Array Be**	**152.78**	**319**	PKPbc		**PKPbc**	**21 21 29.5**	**-1.8**
	0.5nm,0.3s,baz=52,slow=2.8,SNR=5.0							
AKBB	**Malin Array Si**	**152.78**	**319**	*e*PKPbc		**PKPbc**	**21 21 29.5**	**-1.8**
BR101	**Keskin Array S**	**153.09**	**294**	*e*PKPbc		**PKPbc**	**21 21 31.5**	**-1.1**
BRTR	**Keskin Array B**	**153.09**	**294**	PKPbc		**PKPbc**	**21 21 31.5**	**-1.1**
	0.6nm,0.5s,baz=135,slow=3.7,SNR=7.6							
TORD	**Torodi Ar. Bea**	**160.40**	**181**	PKPab		**PKPab**	**21 22 16.4**	**+0.5**
	0.8nm,0.6s,baz=175,slow=4.5,SNR=8.7							
TOA1	**Torodi Ar. Sit**	**160.41**	**181**	*e*PKPab		**PKPab**	**21 22 16.4**	**+0.5**

ISCJB ***18*** *21:24:32.8±0.7, 38°.44N±0°.04×28°.29E±0°.05, h9km, Error ellipse: s-maj=6.6km s-min=4.8km az=137.3*
ISK ***18*** *21:24:33.2, 38°.39N×28°.33E, h7km, MD2.4*
CSEM ***18*** *21:24:33.1±0.1, 38°.44N×28°.30E, h5km, MD2.4, Error ellipse: s-maj=3.3km s-min=2.3km az=136.0*
DDA ***18*** *21:24:33.3, 38°.47N×28°.31E, h7km, Md2.5*

ISC 18 21:24:33.2±1.1, 38°.44N±0°.03×28°.30E±0°.03, h9km, n12, σ0s46/20, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
KULA	**Kula-Manisa**	**0.29**	**75**	*e*PG		**Pg**	**21 24 39.0**	**-0.1**
KULA				*e*SG		**Sg**	**21 24 43.4**	**+0.4**
KULA	**Kula-Manisa**	**0.29**	**75**	*e*Pg		**Pg**	**21 24 39.0**	**-0.1**
KULA				*e*Sg		**Sg**	**21 24 43.4**	**+0.4**
AKHS	**Akhisar**	**0.58**	**319**	*i* P		**Pg**	**21 24 44.3**	**-0.2**
AKHS				*i* S		**Sg**	**21 24 52.7**	**+0.6**
AKHS	**Akhisar**	**0.58**	**319**	P		**Pg**	**21 24 44.3**	**-0.2**
AKHS				S		**Sg**	**21 24 52.7**	**+0.6**
AYDB	**Zeytinkoy-Aydi**	**0.59**	**213**	*e*PG		**Pg**	**21 24 44.3**	**-0.3**
AYDB				*e*SG		**Sg**	**21 24 52.3**	**0.0**
AYDB	**Zeytinkoy-Aydi**	**0.59**	**213**	*e*Pg		**Pg**	**21 24 44.3**	**-0.3**
AYDB				*e*Sg		**Sg**	**21 24 52.3**	**0.0**
DEMI	**Demirci**	**0.69**	**28**	*i* P		**Pg**	**21 24 46.4**	**-0.1**
DEMI				*i* S		**Sg**	**21 24 54.4**	**-1.1**
DEMI	**Demirci**	**0.69**	**28**	P		**Pg**	**21 24 46.3**	**-0.1**
DEMI				S		**Sg**	**21 24 54.4**	**-1.1**
SIMA	**Simav-Kutahya**	**0.84**	**39**	*e*PG		**Pg**	**21 24 49.5**	**+0.2**
SIMA	**Simav-Kutahya**	**0.84**	**39**	*e*Pg		**Pg**	**21 24 49.5**	**+0.2**
TVSB	**Tavsanli**	**1.36**	**42**	*e*PN		**Pb**	**21 24 59.0**	**+0.2**
TVSB	**Tavsanli**	**1.36**	**42**	*e*Pn		**Pb**	**21 24 59.0**	**+0.2**

MAN 18 21:32:53, 13°.68N×120°.44E, h56km, mb4.1, ML2.9, MS2.6, 1C, Mindoro

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
LUBP	**Lubang**	**0.19**	**285**	*e*P		Pn	21 33 03.6	+1.7
LUBP				*e*S		Sn	21 33 11.1	+2.7
PGP	**Puerto Galera**	**0.53**	**110**	*e*P		Pn	21 33 07.3	+2.2
PGP				*e*S		Sn	21 33 17.0	+3.2
BUSP	**Coron**	**1.69**	**188**	*e*P		Pn	21 33 21.8	+1.6
BUSP				*e*S		Sn	21 33 43.1	+2.5
ENPP	**El Nido**	**2.65**	**202**	*e*P		Pn	21 33 34.6	+1.2
ENPP				*e*S		Sn	21 34 04.5	+0.2

IDC ***18*** *21:51:46.2±0.8, 27°.44N×88°.18E, h0km, mb3.7/10, mb1 3.9/11, mb1mx3.6/44, mbtmp3.7/11, ML3.7/1, MS2.8/4, Ms1 2.9/4, ms1mx2.6/41, Error ellipse: s-maj=33.2km s-min=15.5km az=53.0*
ISCJB ***18*** *21:51:51.8±0.3, 27°.46N±0°.05×88°.51E±0°.02, h60km±4km, mb3.8/11, Error ellipse: s-maj=8.4km s-min=3.0km az=11.0*
DMN ***18*** *21:51:51.2±0.4, 27°.46N×88°.58E, h10km, Ml4.7/6, Error ellipse: s-maj=8.0km s-min=5.4km az=141.0*
BJI ***18*** *21:51:51.0, 27°.39N×88°.51E, h6km, mb4.1/4, ML4.5/1, Ms3.7/1, Ms7 3.4/1*
NDI ***18*** *21:51:53.6±1.4, 27°.23N×88°.94E, h10km, ML4.1*

ISC 18 21:51:52.7±0.8, 27°.46N±0°.06×88°.49E±0°.03, h42km±8km, n38, σ1s56/55, mb3.9/11, Sikkim

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
GTK	**Tadong**	**0.17**	**145**	*e*P		**Pn**	**21 51 59.9**	**-0.3**
GTK				*e*S		**Sn**	**21 52 05.2**	**-0.2**
GTK				AML		AML	21 52 06.1	
	comp=E,40μm,0.2s							
GTK				AML		AML	21 52 06.2	
	comp=N,30μm,0.2s							
TAPN	**Taplejung**	**0.70**	**261**	*e*Pg		**Pn**	**21 52 06.3**	**-0.2**
TAPN				*e*Sg		**Sn**	**21 52 16.8**	**+0.4**
	comp=N,16μm,0.4s							
ODAN	**Odare**	**1.15**	**239**	*e*Pg		**Pn**	**21 52 13.9**	**+1.4**
ODAN				*e*Sg		**Sn**	**21 52 29.9**	**+2.8**
	comp=N,11μm,0.3s							
ODAN				*e*Sg		**Sn**	**21 52 30.0**	**+2.8**
RAMN	**Ramite**	**1.76**	**254**	*e*Pn		**Pn**	**21 52 21.8**	**+0.9**
JIRN	**Jiri**	**2.05**	**276**	*e*Pn		**Pn**	**21 52 26.0**	**+1.0**
GUN	**Gumba**	**2.36**	**281**	*e*Pn		**Pn**	**21 52 30.1**	**+0.9**
TURI	**Tura**	**2.52**	**139**	*e*P		**Pn**	**21 52 32.5**	**+1.3**
TURI				*e*S		**Sn**	**21 53 01.9**	**+1.2**
TURI				AML		AML	21 53 20.2	
	comp=N,2μm,0.5s							
TURI				AML		AML	21 53 20.2	
	comp=E,3μm,0.5s							
PKI	**Pulchoki**	**2.74**	**273**	*e*Pn		**Pn**	**21 52 35.0**	**+0.6**
PKI				*e*Sn		**Sn**	**21 53 06.7**	**+0.2**
	comp=E,267nm,0.3s							
PKIN	**Phulchoki**	**2.75**	**273**	*e*Pn		**Pn**	**21 52 35.0**	**+0.5**
PKIN				*e*Sn		**Sn**	**21 53 06.9**	**+0.3**
KKN	**Kakani**	**2.87**	**277**	*e*Pn		**Pn**	**21 52 36.8**	**+0.7**
KKN				*e*Sn		**Sn**	**21 53 10.7**	**+1.2**
DMN	**Daman**	**3.01**	**274**	*e*Pn		**Pn**	**21 52 38.4**	**+0.3**
DMN				*e*Sn		**Sn**	**21 53 14.0**	**+1.0**
	comp=E,2μm,0.7s							
GKN	**Gorkha**	**3.46**	**280**	*e*Pn		**Pn**	**21 52 44.9**	**+0.8**
GKN				*e*Sn		**Sn**	**21 53 23.9**	**0.0**
	comp=E,454nm,0.4s							
SHL	**Shillong**	**3.58**	**121**	*e*P		**Pn**	**21 52 47.0**	**+1.2**
SHL				*e*S		**Sn**	**21 53 26.4**	**-0.6**
SHL				AML		AML	21 53 45.3	
	comp=N,553nm,0.4s							
SHL				AML		AML	21 53 45.7	
	comp=E,481nm,0.6s							
TEZP	**TEZPUR**	**3.94**	**101**	*e*P		**Pn**	**21 52 51.6**	**+1.1**
TEZP				*e*S		**Sn**	**21 53 35.8**	**+0.3**
TEZP				AML		AML	21 53 58.2	
	comp=N,848nm,0.2s							
TEZP				AML		AML	21 53 58.3	
	comp=E,454nm,0.1s							
KOLN	**Koldanda**	**4.35**	**275**	*e*Pn		**Pn**	**21 52 56.0**	**-0.4**
KOLN				*e*Sn		**Sn**	**21 53 44.4**	**-1.6**
	comp=E,316nm,0.4s							
ITAN	**ITANAGAR**	**4.67**	**93**	*e*P		**Pn**	**21 53 02.6**	**+2.0**
ITAN				*e*S		**Sn**	**21 53 54.0**	**+0.5**
ITAN				AML		AML	21 54 24.4	
	comp=E,1μm,0.4s							
ITAN				AML		AML	21 54 26.3	
	comp=N,792nm,0.4s							
ZIRO	**ZIRO**	**4.76**	**88**	*e*P		**Pn**	**21 53 04.2**	**+2.1**
ZIRO				*e*S		**Sn**	**21 53 56.1**	**0.0**
ZIRO				AML		AML	21 54 26.0	
	comp=N,5μm,0.5s							
ZIRO				AML		AML	21 54 27.1	
	comp=E,2μm,0.6s							
PYUN	**Piuthan**	**4.91**	**279**	*e*Pn		**Pn**	**21 53 03.7**	**-0.5**
PYUN				*e*Sn		**Sn**	**21 53 58.0**	**-1.9**
	comp=E,195nm,0.3s							
BELO	**BELONIA**	**4.98**	**147**	*e*S		**Sn**	**21 53 59.2**	**-2.0**
MOKO	**MOKOCHONG**	**5.50**	**101**	*e*P		**Pn**	**21 53 13.9**	**+1.7**
MOKO				*e*S		**Sn**	**21 54 13.0**	**-1.3**
MOKO				AML		AML	21 54 53.4	
	comp=E,280nm,0.4s							
MOKO				AML		AML	21 54 53.6	
	comp=N,400nm,0.5s							
IMP	**Imphal**	**5.56**	**117**	*e*P		**Pn**	**21 53 15.0**	**+2.1**
IMP				*e*S		**Sn**	**21 54 14.2**	**-1.5**
IMP				AML		AML	21 54 25.4	
	comp=N,79nm,0.5s							
IMP				AML		AML	21 54 25.5	
	comp=E,67nm,0.6s							
DIBR	**DIBRUGARH**	**5.71**	**88**	AML		AML	21 54 53.1	
	comp=N,374nm,0.6s							
DIBR				AML		AML	21 54 54.4	
	comp=E,396nm,0.2s							
CMAR	**Chiang Mai Arr**	**13.15**	**131**	Pn		**Pn**	**21 54 56.4**	**-0.5**
	comp=E,0.1nm,0.3s,baz=313,slow=13,SNR=5.2							
CMAR				LR		LR	22 01 46.6	
	comp=E,21nm,19.9s,baz=331,slow=45							
HYB	**Hyderabad**	**13.57**	**225**	*e*P		**Pn**	**21 55 03.0**	**+0.3**
HYB				*e*S		**Sn**	**21 57 31.0**	**-1.1**
KSH	**Kashi**	**15.90**	**322**	P		**P**	**21 55 42.8**	**+6.1**
WMQ	**Urumqi**	**16.34**	**358**	P		**P**	**21 55 43.3**	**+1.9**
WMQ				pmax		pmax		
	comp=E,7.0nm,0.8s							
AAK	**Ala-Archa**	**18.95**	**327**	LR		LR	22 04 22.5	
	comp=E,27nm,20.1s,baz=84,slow=40							
KURBB	**Kurchatov Arra**	**24.34**	**344**	P		**P**	**21 57 05.3**	**-1.0**
	comp=E,0.6nm,0.3s,baz=166,slow=8.8,SNR=6.1							
SONM	**Songino Array**	**24.68**	**30**	P		**P**	**21 57 10.2**	**+0.6**
	comp=E,2.3nm,0.7s,baz=216,slow=9.8,SNR=15							
SONM				LR		LR	22 08 19.0	
	comp=E,52nm,21.8s,baz=230,slow=40							
ZALV	**Zalesovo Beam**	**26.40**	**355**	P		**P**	**21 57 26.1**	**-0.7**
	comp=E,0.5nm,0.3s,baz=186,slow=11,SNR=3.5							
ZALV				LR		LR	22 09 38.9	
	comp=E,30nm,21.8s,baz=70,slow=40							
BVAR	**Borovoye Array**	**28.86**	**337**	P		**P**	**21 57 46.2**	**-0.9**
	comp=E,0.3nm,0.5s,baz=165,slow=12,SNR=4.3							
AKASG	**Malin Array Be**	**50.00**	**314**	P		**P**	**22 00 40.7**	**-1.9**
	comp=E,0.5nm,0.4s,baz=83,slow=7.1,SNR=4.0							
FINES	**FINESS Array B**	**53.13**	**328**	P		**P**	**22 01 04.4**	**-1.4**
	comp=E,1.7nm,0.8s,baz=96,slow=10,SNR=3.3							
GERES	**GERESS Array B**	**60.10**	**313**	P		**P**	**22 01 54.8**	**-0.9**
	comp=E,0.2nm,0.4s,baz=94,slow=3.9,SNR=3.4							
NOA	**NORSAR Array B**	**60.26**	**327**	P		**P**	**22 01 54.2**

CHKT	**Chengkung**	**0.90**	**225**	*eP*	**Pb**	**22 12 52.0**	**0.0**
	baz=214							
CHKT				*eS*	**Sb**	**22 13 02.6**	**-0.9**
	baz=214							
NNS	**Nan Shan**	**0.93**	**319**	P	**Pn**	**22 12 53.4**	**+0.2**
	baz=319							
NNS				S	**Sn**	**22 13 05.6**	**-0.5**
	baz=319							
TWT	**Tachien**	**0.95**	**303**	P	**Pn**	**22 12 54.0**	**+0.5**
	baz=302							
TWT				S	**Sb**	**22 13 05.3**	**0.0**
	baz=302							
ENTT	**Nioudou**	**1.00**	**334**	*eP*	**Pg**	**22 12 54.5**	**-0.1**
	baz=334							
ENTT				S	**Sn**	**22 13 07.4**	**-0.3**
	baz=334							
TWE	**Neicheng**	**1.04**	**340**	P	**Pg**	**22 12 55.3**	**0.0**
	baz=342							
TWE				*eS*	**Sg**	**22 13 08.2**	**-0.8**
	baz=342							
SMLT	**Sun Moon Lake**	**1.06**	**278**	P	**Pg**	**22 12 55.6**	**-0.2**
	baz=284							
SMLT				S	**Sb**	**22 13 08.0**	**-0.5**
	baz=284							
ELDTW	**Lidau**	**1.10**	**240**	*eP*	**Pb**	**22 12 55.3**	**-0.1**
	baz=238							
ELDTW				*eS*	**Sb**	**22 13 07.9**	**-1.5**
	baz=238							
NSK	**Sanguang**	**1.13**	**326**	P	**Pg**	**22 12 56.3**	**-0.6**
	baz=316							
NSK				*eS*	**Sb**	**22 13 09.6**	**-0.7**
	baz=316							
ALS	**Alishan**	**1.17**	**259**	P	**Pg**	**22 12 57.6**	**-0.1**
	baz=267							
ALS				S	**Sb**	**22 13 11.9**	**+0.3**
	baz=267							
WNT	**Mingjian**	**1.26**	**277**	*eP*	**Pg**	**22 12 59.3**	**-0.1**
	baz=275							
WNT				*eS*	**Sg**	**22 13 16.2**	**+0.2**
	baz=275							
CHN5	**Tsauling**	**1.27**	**264**	P	**Pg**	**22 12 59.4**	**-0.2**
	baz=262							
CHN5				S	**Sn**	**22 13 15.1**	**+0.8**
	baz=262							
TWG	**Pinlang**	**1.28**	**225**	*eP*	**Pn**	**22 12 57.9**	**-0.1**
	baz=234							
TWG				*eS*	**Sb**	**22 13 13.2**	**-1.5**
	baz=234							
NSTT	**Nanjuang**	**1.31**	**313**	*eP*	**Pg**	**22 13 00.0**	**-0.4**
	baz=313							
NSTT				*eS*	**Sb**	**22 13 14.8**	**-0.6**
	baz=313							
TWA	**Mucha**	**1.31**	**341**	*eP*	**Pb**	**22 12 59.0**	**0.0**
	baz=330							
TWA				*eS*	**Sn**	**22 13 15.2**	**-0.1**
	baz=330							
TWQ1	**Liyutan**	**1.32**	**298**	*eP*	**Pg**	**22 13 00.5**	**-0.1**
	baz=297							
TWQ1				*eS*	**Sn**	**22 13 15.3**	**-0.1**
	baz=297							
STYT	**Tauyuan**	**1.32**	**245**	*eP*	**Pb**	**22 12 59.5**	**+0.2**
	baz=235							
STYT				*eS*	**Sn**	**22 13 15.0**	**-0.6**
	baz=235							
TCU	**Taichung**	**1.32**	**288**	P	**Pg**	**22 13 00.9**	**+0.3**
	baz=287							
TCU				S	**Sg**	**22 13 17.2**	**-0.7**
	baz=287							
NWF	**Wu-fen Shan**	**1.35**	**350**	P	**Pb**	**22 13 00.0**	**+0.2**
	baz=350							
NWF				*eS*	**Sn**	**22 13 15.8**	**-0.6**
	baz=350							
NSY	**Sanyi**	**1.36**	**300**	*eP*	**Pb**	**22 12 59.9**	**0.0**
	baz=300							
NSY				*eS*	**Sn**	**22 13 15.8**	**-0.7**
	baz=300							
WGK	**Gukeng**	**1.37**	**268**	*eP*	**Pb**	**22 13 00.1**	**+0.1**
	baz=267							
WGK				*eS*	**Sn**	**22 13 16.8**	**+0.1**
	baz=267							
CHN4	**Tsaushan**	**1.39**	**254**	*eP*	**Pg**	**22 13 01.6**	**-0.4**
	baz=253							
CHN4				*eS*	**Sb**	**22 13 18.3**	**+0.4**
	baz=253							
WTP	**Ta-pu**	**1.41**	**250**	*eP*	**Pb**	**22 13 01.3**	**+0.6**
	baz=248							
WTP				*eS*	**Sn**	**22 13 18.2**	**+0.4**
	baz=248							
TWS1	**Kuangyinshan**	**1.47**	**337**	*eP*	**Pb**	**22 13 01.7**	**-0.2**
	baz=337							
TWS1				*eS*	**Sn**	**22 13 19.4**	**0.0**
	baz=337							
SGST	**Jiashian**	**1.50**	**244**	*eP*	**Pb**	**22 13 02.4**	**+0.1**
	baz=233							
SGST				*eS*	**Sn**	**22 13 20.8**	**+0.9**
	baz=233							
CHN1	**Nanshi**	**1.50**	**249**	*eP*	**Pb**	**22 13 03.2**	**+0.9**
	baz=247							
CHN1				*eS*	**Sb**	**22 13 21.6**	**+0.5**
	baz=247							
TWK	**Hsinying**	**1.51**	**252**	*eP*	**Pb**	**22 13 02.5**	**0.0**
	baz=250							
TWK				*eS*	**Sn**	**22 13 21.0**	**+0.7**
	baz=250							
ECL	**Taimali**	**1.52**	**222**	*eP*	**Pn**	**22 13 01.7**	**+0.5**
	baz=220							
ECL				*eS*	**Sn**	**22 13 18.7**	**-1.7**
	baz=220							
WTCT	**Ta-ch'eng**	**1.63**	**275**	*eP*	**Pb**	**22 13 04.6**	**+0.2**
	baz=274							
WTCT				*eS*	**Sb**	**22 13 25.2**	**+0.6**
	baz=274							
HATJ	**Hateruma jima**	**1.64**	**78**	P	**Pn**	**22 13 03.8**	**+1.0**
HATJ				S	**Sn**	**22 13 23.5**	**+0.2**
IRIF	**Iriomote-Funau**	**1.65**	**69**	P	**Pb**	**22 13 04.4**	**-0.4**
IRIF				S	**Sn**	**22 13 24.4**	**+0.9**
CHN8	**Yiju**	**1.73**	**257**	*eP*	**Pb**	**22 13 05.6**	**-0.7**
	baz=256							
CHN8				*eS*	**Sn**	**22 13 26.2**	**+0.5**
	baz=256							
EAST	**Anshuo**	**1.75**	**220**	*eP*	**Pb**	**22 13 06.0**	**-0.5**
	baz=218							
EAST				*eS*	**Sn**	**22 13 26.8**	**+0.7**
	baz=218							
LAY	**Lan-yu**	**1.75**	**195**	*eP*	**Pn**	**22 13 04.3**	**-0.1**
	baz=194							
LAY				*eS*	**Sn**	**22 13 23.1**	**-3.2**
	baz=194							
JKRS	**Kuro-shima**	**1.86**	**74**	P	**Pb**	**22 13 07.5**	**-0.9**
JKRS				S	**Sn**	**22 13 29.7**	**+0.9**
SCZT	**Fangliau**	**1.89**	**224**	*eP*	**Pb**	**22 13 08.6**	**-0.4**
	baz=219							
SCZT				*eS*	**Sn**	**22 13 30.7**	**+1.1**
	baz=219							
JIJ	**Ishigaki jima**	**2.01**	**72**	P	**Pn**	**22 13 08.8**	**+0.9**
JIJ				S	**Sn**	**22 13 32.1**	**-0.5**
TWK1	**Hengchun**	**2.12**	**213**	*eP*	**Pn**	**22 13 11.2**	**+1.7**
	baz=212							
TWK1				*eS*	**Sn**	**22 13 35.2**	**-0.1**
	baz=212							
JISG	**Ishigakijimahi**	**2.23**	**67**	P	**Pn**	**22 13 11.7**	**+0.8**
JISG				S	**Sn**	**22 13 37.2**	**-0.8**
PNG	**Penghu**	**2.30**	**266**	*eP*	**Pn**	**22 13 13.4**	**+1.5**
	baz=253							
PNG				*eS*	**Sn**	**22 13 39.5**	**-0.1**
	baz=253							
JTJ	**Tarama**	**2.58**	**69**	*eS*	**Sn**	**22 13 47.2**	**+0.6**

IDC 18 22:23:09.3±2.3, 6.57S×128.34E, h342km±28km, mb3.0/2, mb1 3.3/5, mb1mx3.0/31, mbtmp4.0/5, Error ellipse: s-maj=50.7km s-min=12.9km az=78.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIJI	**Sorong**	**6.37**	**27**	P	Pn	22 24 44.0	-0.3
	25nm,0.3s,baz=360,slow=19,SNR=2.5						
SIJI				S	S	22 25 55.0	-6.2
	29nm,0.3s,baz=180,slow=19,SNR=3.0						
FITZ	**Fitzroy Crossi**	**11.77**	**193**	P	Pn	22 25 47.3	-1.2
	0.5nm,0.3s,baz=15,slow=6.9,SNR=16						
WRA	**Warramunga Arr**	**14.52**	**157**	P	P	22 26 19.4	+0.3
	1.1nm,0.3s,baz=330,slow=12,SNR=46						
WRA				S	S	22 28 55.6	-0.9
	0.1nm,0.3s,baz=338,slow=21,SNR=5.3						
ASAR	**Alice Springs**	**17.82**	**163**	P	P	22 26 55.8	+0.9
	1.0nm,0.3s,baz=343,slow=12,SNR=46						
ASAR				S	S	22 30 02.5	+0.5
	0.1nm,0.3s,baz=340,slow=19,SNR=3.9						
STKA	**Stephens Creek**	**28.06**	**155**	P	P	22 28 30.2	-0.2
	0.9nm,0.5s,baz=335,slow=17,SNR=2.8						
SONM	**Songino Array**	**57.52**	**343**	P	P	22 32 23.9	-0.1
	0.3nm,0.6s,baz=159,slow=8.6,SNR=2.9						

*IDC **18** 22:30:45.7±1.0, 53.82N×35.63W, h0km, mb3.7/8, mb1 3.9/8, mb1mx3.7/43, mbtmp3.7/8, MS3.5/22, Ms1 3.5/22, ms1mx3.4/40, Error ellipse: s-maj=35.3km s-min=19.9km az=16.0*

*ISCJB **18** 22:30:46.6±0.8, 53.8N±0.2×35.6W±0.2, h16km, mb3.7/8, MS3.5/18, Error ellipse: s-maj=27.6km s-min=15.1km az=15.2*

ISC 18 22:30:48.5±0.9, 53.8N±0.2×35.6W±0.1, h16km, n25, σ1°33/9, mb3.7/8, MS3.5/18, Reykjanes Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BORG	**Borgarnes**	**13.15**	**28**	LR	LR	22 37 38.9	
	comp=Z,124nm,18.9s,baz=241,slow=32						
SFJD	**Kangerlussuaq**	**15.11**	**337**	LR	LR	22 38 35.7	
	comp=Z,119nm,18.9s,baz=152,slow=31						
SCHQ	**Schefferville**	**18.17**	**286**	LR	LR	22 40 50.4	
	comp=Z,164nm,19.6s,baz=97,slow=33						
FRB	**Frobisher Bay**	**19.53**	**314**	LR	LR	22 41 06.4	
	comp=Z,254nm,18.8s,baz=122,slow=32						
JMIC	**Jan Mayen**	**21.00**	**25**	LR	LR	22 41 23.3	
	comp=Z,137nm,18.4s,baz=252,slow=30						
ESDC	**Sonseca Array**	**25.62**	**111**	P	**P**	**22 36 17.4**	**+0.3**
	0.8nm,0.7s,baz=314,slow=9.0,SNR=5.2						
ESDC				LR	LR	22 44 52.5	
	comp=Z,122nm,18.2s,baz=265,slow=33						
NOA	**NORSAR Array B**	**25.74**	**55**	LR	LR	22 44 29.5	
	comp=Z,60nm,20.5s,baz=280,slow=32						
HFS	**Hagfors**	**27.07**	**57**	LR	LR	22 45 40.4	
	comp=Z,124nm,18.9s,baz=305,slow=33						
SADO	**Sadowa**	**29.38**	**270**	LR	LR	22 47 39.7	
	comp=Z,262nm,19.1s,baz=46,slow=34						
DAVOX	**Davos/Dischmat**	**29.48**	**85**	LR	LR	22 47 21.3	
	comp=Z,161nm,20.1s,baz=262,slow=34						
GERES	**GERESS Array B**	**30.71**	**79**	LR	LR	22 48 39.6	
	comp=Z,104nm,18.1s,baz=282,slow=35						
ARCES	**ARCESS Array B**	**31.32**	**36**	LR	LR	22 47 03.0	
	comp=Z,31nm,19.6s,baz=290,slow=31						
FINES	**FINESS Array B**	**32.74**	**51**	P	**P**	**22 37 21.3**	**+1.3**
	2.9nm,0.9s,baz=278,slow=10,SNR=3.9						
FINES				LR	LR	22 48 38.2	
	comp=Z,72nm,21.0s,baz=290,slow=33						
ULM	**Lac du Bonnet**	**36.28**	**290**	LR	LR	22 51 23.1	
	comp=Z,160nm,18.5s,baz=64,slow=34						
AKASG	**Malin Array Be**	**38.59**	**67**	LR	LR	22 54 39.4	
	comp=Z,33nm,19.8s,baz=275,slow=37						
YKA	**Yellowknife Ar**	**40.04**	**315**	LR	LR	22 53 16.9	
	comp=Z,7.6nm,19.6s,baz=0.0,slow=34						
BRTR	**Keskin Array B**	**47.59**	**78**	P	**P**	**22 39 22.6**	**-0.8**
	1.9nm,1.0s,baz=322,slow=7.2,SNR=3.9						
BRTR				LR	LR	23 01 19.3	
	comp=Z,28nm,18.4s,baz=300,slow=38						
PDAR	**Pinedale Array**	**48.28**	**289**	P	**P**	**22 39 28.4**	**-0.5**
	0.9nm,0.5s,baz=51,slow=8.7,SNR=4.7						
PDAR				LR	LR	22 58 40.6	
	comp=Z,122nm,18.6s,baz=52,slow=35						
TORD	**Torodi Ar. Bea**	**50.09**	**130**	P	**P**	**22 39 41.7**	**-1.0**
	1.1nm,0.9s,baz=321,slow=6.5,SNR=5.3						
TORD				LR	LR	22 59 48.9	
	comp=Z,45nm,18.8s,baz=40,slow=35						
ILAR	**Eielson Array**	**50.58**	**329**	P	**P**	**22 39 44.1**	**-1.6**
	0.5nm,0.9s,baz=22,slow=7.8,SNR=5.3						
DBIC	**Dimbokro**	**53.18**	**141**	LR	LR	23 00 16.2	
	comp=Z,81nm,19.6s,baz=330,slow=33						
TXAR	**Lajitas Array**	**54.12**	**272**	P	**P**	**22 40 13.9**	**+1.3**
	0.3nm,0.6s,baz=81,slow=5.8,SNR=3.5						
TXAR				LR	LR	23 02 53.0	
	comp=Z,113nm,18.9s,baz=0.0,slow=36						
GEYT	**Alibeck**	**62.47**	**63**	LR	LR	23 10 30.0	
	comp=Z,26nm,19.2s,baz=20,slow=38						
SONM	**Songino Array**	**73.75**	**26**	P	**P**	**22 42 21.5**	**-0.1**
	0.2nm,0.4s,baz=14,slow=6.4,SNR=2.5						
ASAR	**Alice Springs**	**148.90**	**19**	PKPbc	**PKPdf**	**22 50 33.0**	**+1.7**
	0.6nm,0.5s,baz=351,slow=2.3,SNR=8.5						

*ATH **18** 22:33:43.1, 39.38N×21.57E, h26km±1km, ML2.0/15, Error ellipse: s-maj=1.3km s-min=0.6km az=270.0*

*CSEM **18** 22:33:43.9±0.1, 39.38N×21.58E, h10km, ML2.1, Error ellipse: s-maj=2.4km s-min=1.9km az=60.0*

THE 18 22:33:44.2, 39.38N×21.59E, h0km±1km, ML2.1/3, Error ellipse: s-maj=1.7km s-min=0.4km az=90.0, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THL	**Klokotos Trika**	**0.37**	**61**	P	Pg	22 33 51.6	+0.2
THL				S	Sg	22 33 57.6	+1.4
THL	**Klokotos Trika**	**0.37**	**61**	P	Pg	22 33 51.6	+0.2
THL				S	Sg	22 33 57.6	+1.4
THL	**Klokotos Trika**	**0.37**	**61**	P	Pg	22 33 51.8	+0.5
THL				S	Sg	22 33 57.6	+1.4
THL				AML	AML	22 33 59.0	
	comp=E,306μm,0.2s						
THL				AML	AML	22 34 04.7	
	comp=N,175μm,0.4s						
THL	**Klokotos Trika**	**0.37**	**61**	P	Pg	22 33 51.4	0.0
THL				S	Sg	22 33 57.7	+1.5
THL				AML	AML	22 33 58.9	
	comp=E,306μm,0.2s						
THL				AML	AML	22 33 59.1	
	comp=N,134μm,0.3s						
DSL	**Palaion Diasel**	**0.46**	**237**	P	Pg	22 33 52.5	-0.5
DSL				S	Sg	22 33 59.2	+0.3
DSL	**Palaion Diasel**	**0.46**	**237**	P	Pg	22 33 52.5	-0.5
DSL				S	Sg	22 33 59.2	+0.3
DSL	**Palaion Diasel**	**0.46**	**237**	P	Pg	22 33 52.0	-0.9
DSL				S	Sg	22 33 59.0	+0.1
DSL				AML	AML	22 33 59.5	
	comp=E,491μm,0.4s						
DSL				AML	AML	22 34 00.8	
	comp=N,550μm,0.3s						
DSL	**Palaion Diasel**	**0.46**	**237**	P	Pg	22 33 52.2	-0.8
DSL				S	Sg	22 33 59.4	+0.5
DSL				AML	AML	22 33 59.7	
	comp=E,491μm,0.4s						
DSL				AML	AML	22 34 00.8	
	comp=N,550μm,0.3s						
EVR	**Evrytania**	**0.50**	**160**	P	Pg	22 33 53.3	-0.4
EVR				S	Sb	22 34 02.1	-1.6
EVR	**Evrytania**	**0.50**	**160**	P	Pg	22 33 53.3	-0.4
EVR				S	Sg	22 34 00.8	+0.7
EVR	**Evrytania**	**0.50**	**160**	P	Pg	22 33 53.1	-0.6
EVR				AML	AML	22 34 02.0	
	comp=E,329μm,0.2s						
EVR				S	Sb	22 34 02.2	-1.5
EVR				AML	AML	22 34 02.8	
	comp=N,415μm,0.1s						
EVR	**Evrytania**	**0.50**	**160**	P	Pg	22 33 52.9	-0.8
EVR				S	Sg	22 34 00.8	+0.6
EVR				AML	AML	22 34 02.0	
	comp=E,329μm,0.2s						
EVR				AML	AML	22 34 02.8	
	comp=N,407μm,0.2s						
KPRO	**Kipourio**	**0.60**	**343**	P	Pg	22 33 54.8	-0.9
KPRO				S	Sb	22 34 05.3	-1.3
KPRO	**Kipourio**	**0.60**	**343**	P	Pg	22 33 54.8	-0.9
KPRO				S	Sg	22 34 03.4	0.0
KPRO	**Kipourio**	**0.60**	**343**	P	Pg	22 33 53.8	-1.9
KPRO				S	Sg	22 34 04.5	+1.1
KPRO	**Kipourio**	**0.60**	**343**	P	Pg	22 33 54.4	-1.3
KPRO				S	Sg	22 34 03.4	0.0
JAN	**Janina**	**0.64**	**296**	P	Pg	22 33 56.5	+0.1
JAN				S	Sg	22 34 05.7	+1.1
JAN	**Janina**	**0.64**	**296**	P	Pg	22 33 56.5	+0.1
JAN				S	Sg	22 34 04.0	-0.6
JAN	**Janina**	**0.64**	**296**	P	Pg	22 33 57.0	+0.6
JAN				S	Sg	22 34 03.8	-0.8
JAN	**Janina**	**0.64**	**296**	P	Pg	22 33 57.1	+0.7
JAN				S	Sg	22 34 04.0	-0.6
JAN				AML	AML	22 34 07.2	
	comp=E,200μm,0.2s						
JAN				AML	AML	22 34 12.9	
	comp=N,181μm,0.6s						
AGG	**Agios Georgios**	**0.68**	**122**	P	Pg	22 33 57.2	0.0
AGG				S	Sb	22 34 07.6	-1.3
AGG	**Agios Georgios**	**0.68**	**122**	P	Pg	22 33 57.5	+0.3
AGG				S	Sb	22 34 07.6	-1.3
AGG	**Agios Georgios**	**0.68**	**122**	P	Pg	22 33 57.5	+0.4
AGG				S	Sg	22 34 06.3	+0.3
AGG				AML	AML	22 34 09.0	
	comp=N,1711μm,0.5s						
AGG				AML	AML	22 34 09.8	
	comp=E,1535μm,0.5s						
AGG	**Agios Georgios**	**0.68**	**122**	P	Pg	22 33 57.5	+0.3
AGG				S	Sb	22 34 08.0	-0.8
AGG				AML	AML	22 34 09.0	
	comp=N,1711μm,0.5s						
AGG				AML	AML	22 34 09.6	
	comp=E,1535μm,0.5s						
PVO	**Paravola**	**0.77**	**184**	P	Pg	22 33 58.2	-0.7
PVO				S	Sb	22 34 11.1	-0.3
PVO	**Paravola**	**0.77**	**184**	P	Pg	22 33 58.2	-0.7
PVO				S	Sg	22 34 10.0	+1.2
PVO	**Paravola**	**0.77**	**184**	P	Pg	22 33 57.7	-1.2
PVO	**Paravola**	**0.77**	**184**	P	Pg	22 33 57.8	-1.1
PVO				S	Sg	22 34 10.0	+1.2
PVO				AML	AML	22 34 14.5	
	comp=N,119μm,0.5s						
PVO				AML	AML	22 34 14.7	
	comp=E,121μm,0.3s						
PDO	**Prodromos**	**0.85**	**202**	P	Pg	22 34 00.2	-0.2
PDO	**Prodromos**	**0.85**	**202**	P	Pg	22 34 00.2	-0.2
PDO	**Prodromos**	**0.85**	**202**	P	Pg	22 34 00.7	+0.3
PDO	**Prodromos**	**0.85**	**202**	P	Pg	22 34 00.7	+0.3
PENT	**Pentalofos**	**0.88**	**337**	P	Pg	22 34 00.8	-0.3
PENT	**Pentalofos**	**0.88**	**337**	P	Pg	22 34 00.8	-0.3
PENT				S	Sg	22 34 13.0	+0.4
PENT	**Pentalofos**	**0.88**	**337**	P	Pg	22 33 59.5	-1.7
PENT	**Pentalofos**	**0.88**	**337**	P	Pg	22 33 59.2	-1.9
PENT				S	Sg	22 34 13.0	+0.4
PENT				AML	AML	22 34 18.8	
	comp=N,84μm,0.3s						
PENT				AML	AML	22 34 19.7	
	comp=E,76μm,0.5s						
KZN	**Kozani**	**0.93**	**8**	P	Pg	22 34 01.0	-1.1
KZN				S	Sb	22 34 15.9	-0.4
KZN	**Kozani**	**0.93**	**8**	P	Pg	22 34 01.0	-1.1
KZN				S	Sb	22 34 15.5	-0.8
KZN	**Kozani**	**0.93**	**8**	P	Pg	22 33 58.8	-3.3
KZN				S	Sg	22 34 15.1	+1.0
KZN				AML	AML	22 34 16.3	
	comp=N,243μm,0.4s						
KZN				AML	AML	22 34 16.6	
	comp=E,646μm,0.4s						
KZN	**Kozani**	**0.93**	**8**	P	Pg	22 34 00.0	-2.0
KZN				S	Sb	22 34 15.5	-0.8
KZN				AML	AML	22 34 16.3	
	comp=N,243μm,0.4s						
KZN				AML	AML	22 34 16.6	
	comp=E,646μm,0.4s						
LKD2	**Lefkada island**	**0.94**	**231**	P	Pg	22 34 01.7	-0.5
LKD2				S	Sb	22 34 16.6	+0.2
LKD2	**Lefkada island**	**0.94**	**231**	P	Pg	22 34 01.7	-0.5
LKD2	**Lefkada island**	**0.94**	**231**	P	Pg	22 34 02.2	0.0
LKD2	**Lefkada island**	**0.94**	**231**	P	Pg	22 34 02.3	+0.1
IGT	**Igoumenitsa**	**0.99**	**279**	P	Pg	22 34 02.6	-0.5
IGT				S	Sb	22 34 17.0	-0.7
IGT	**Igoumenitsa**	**0.99**	**279**	P	Pg	22 34 02.6	-0.5
IGT				S	Sb	22 34 17.0	-0.7
IGT	**Igoumenitsa**	**0.99**	**279**	P	Pg	22 34 02.3	-0.8
IGT	**Igoumenitsa**	**0.99**	**279**	P	Pg	22 34 02.3	-0.8
IGT				S	Sb	22 34 17.5	-0.2
IGT				AML	AML	22 34 19.9	
	comp=E,87μm,0.4s						
IGT				AML	AML	22 34 22.4	
	comp=N,84μm,0.4s						
LIT	**Litokhoron**	**1.00**	**44**	P	Pg	22 34 02.8	-0.5
LIT				S	Sb	22 34 17.6	-0.5
LIT	**Litokhoron**	**1.00**	**44**	P	Pg	22 34 02.8	-0.5
LIT				S	Sb	22 34 17.6	-0.5
LIT	**Litokhoron**	**1.00**	**44**	P	Pg	22 34 00.9	-2.4
LIT	**Litokhoron**	**1.00**	**44**	P	Pg	22 34 01.8	-1.5
LIT				S	Sb	22 34 18.2	+0.1
LIT				AML	AML	22 34 18.4	
	comp=N,176μm,0.4s						
LIT				AML	AML	22 34 21.2	
	comp=E,226μm,0.6s						
SERG	**Sergoula**	**1.03**	**159**	P	Pg	22 34 03.0	-1.0
SERG				S	Sb	22 34 18.9	-0.2
SERG	**Sergoula**	**1.03**	**159**	P	Pg	22 34 03.0	-1.0
SERG				S	Sg	22 34 17.4	0.0
SERG	**Sergoula**	**1.03**	**159**	P	Pg	22 34 02.3	-1.7
SERG				S	Sg	22 34 17.4	0.0
SERG				AML	AML	22 34 22.4	
	comp=E,207μm,0.5s						
SERG				AML	AML	22 34 23.3	
	comp=N,196μm,0.2s						
FYTO	**Fytoko, Volos**	**1.04**	**88**	P	Pg	22 34 03.6	-0.6
FYTO				S	Sg	22 34 18.5	+0.7
FYTO	**Fytoko, Volos**	**1.04**	**88**	P	Pg	22 34 03.6	-0.6
FYTO				S	Sg	22 34 18.5	+0.7
SGD	**Sagiada**	**1.07**	**283**	P	Pg	22 34 04.2	-0.6
SGD	**Sagiada**	**1.07**	**283**	P	Pg	22 34 04.2	-0.6
SGD	**Sagiada**	**1.07**	**283**	P	Pg	22 34 03.2	-1.6
SGD	**Sagiada**	**1.07**	**283**	P	Pg	22 34 05.2	+0.4
KALE	**Kalithea**	**1.08**	**156**	P	Pg	22 34 04.8	-0.1
KALE				S	Sb	22 34 20.4	-0.1
KALE	**Kalithea**	**1.08**	**156**	P	Pg	22 34 04.8	-0.1
KALE				S	Sg	22 34 20.4	-0.1
KALE	**Kalithea**	**1.08**	**156**	P	Pg	22 34 02.7	-2.2
KALE				S	Sg	22 34 18.9	0.0
KALE	**Kalithea**	**1.08**	**156**	P	Pg	22 34 02.7	-2.2
KALE				S	Sb	22 34 20.5	0.0
KALE				AML	AML	22 34 24.2	
	comp=E,147μm,0.4s						
KALE				AML	AML	22 34 24.2	
	comp=N,185μm,0.3s						
TRIZ	**Trizonia**	**1.08**	**160**	P	Pg	22 34 03.5	-1.5
TRIZ				S	Sg	22 34 19.4	+0.4
TRIZ	**Trizonia**	**1.08**	**160**	P	Pg	22 34 03.5	-1.4
TRIZ	**Trizonia**	**1.08**	**160**	P	Pg	22 34 03.5	-1.5
TRIZ				S	Sg	22 34 19.4	+0.4
NEST	**Nestorio**	**1.11**	**338**	P	Pg	22 34 05.0	-0.5
NEST				S	Sb	22 34 21.6	+0.2
NEST	**Nestorio**	**1.11**	**338**	P	Pg	22 34 05.0	-0.5
NEST				S	Sg	22 34 19.0	-0.9
NEST	**Nestorio**	**1.11**	**338**	P	Pg	22 34 03.9	-1.6
NEST	**Nestorio**	**1.11**	**338**	P	Pg	22 34 03.8	-1.7
NEST				S	Sg	22 34 19.0	-0.9
NEST				AML	AML	22 34 25.3	
	comp=N,125μm,0.5s						
NEST				AML	AML	22 34 32.1	
	comp=E,119μm,0.6s						
LAKA	**Lakka**	**1.18**	**165**	P	Pg	22 34 06.0	-0.8
LAKA	**Lakka**	**1.18**	**165**	P	Pg	22 34 06.3	-0.5
LAKA	**Lakka**	**1.18**	**165**	P	Pg	22 34 06.8	0.0
LAKA	**Lakka**	**1.18**	**165**	P	Pg	22 34 06.3	-0.5

LKR	Lokris	1.32	123	P	Pg	22 34 08.5	-1.0	
LKR	Lokris	1.32	123	P	Pg	22 34 08.5	-1.0	
RLS	Riolos of Patr	1.33	184	P	Pg	22 34 07.8	-1.8	
FNA	Florina	1.41	353	P	Pn	22 34 09.8	-1.4	
FNA	Florina	1.41	353	P	Pn	22 34 09.8	-1.4	
FNA	Florina	1.41	353	P	Pn	22 34 08.8	-2.4	
FNA	Florina	1.41	353	P	Pn	22 34 09.0	-2.2	
KLV	Kalavryta, Ach	1.41	162	P	Pn	22 34 10.2	-1.0	
KLV	Kalavryta, Ach	1.41	162	P	Pn	22 34 10.2	-1.0	
KLV	Kalavryta, Ach	1.41	162	P	Pn	22 34 08.4	-2.8	
KLV	Kalavryta, Ach	1.41	162	P	Pn	22 34 08.0	-3.2	
KEK	Kerkira	1.43	284	P	Pn	22 34 11.4	+0.1	
KEK				S	Sn	22 34 31.0	+0.2	
KEK	Kerkira	1.43	284	P	Pn	22 34 11.2	-0.1	
KEK	Kerkira	1.43	284	P	Pn	22 34 11.2	-0.1	
DRO	Drossia	1.43	176	P	Pn	22 34 10.9	-0.6	
DRO	Drossia	1.43	176	P	Pn	22 34 10.9	-0.6	
DRO	Drossia	1.43	176	P	Pn	22 34 11.1	-0.3	
DRO	Drossia	1.43	176	P	Pn	22 34 11.4	-0.1	
PAIG	Paliouri	1.70	71	P	Pn	22 34 11.8	-3.4	
AOS	Alonnisos	1.79	96	P	Pn	22 34 12.4	-3.9	

*IDC **18** 23:01:18.5±0.6,54.08N×35.41W,h0km,mb4.1/19, mb1 4.2/21,mb1mx4.1/42,mbtmp4.1/21,ML3.3/2,MS3.8/31, Ms1 3.8/31,ms1mx3.7/48,Error ellipse: s-maj=21.1km s-min=11.2km az=1.0*

*ISCJB **18** 23:01:19.5±0.3,54.00N±0.10×35.30W±0.06,h16km, mb4.5/40,MS3.8/37,Error ellipse: s-maj=13.7km s-min=4.8km az=175.0*

*NEIC **18** 23:01:20.4±0.3,54.10N×35.30W,h10km,mb4.8/20,Error ellipse: s-maj=13.7km s-min=5.3km az=178.0*

ISC 18 23:01:21.1±0.5,54.0N±0.1×35.34W±0.06,h16km,n202, σ0s76/179,mb4.6/40,MS3.9/37,Reykjanes Ridge

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
							h m s	
BORG	**Borgarnes**	**12.86**	**28**	LR	LR		23 07 46.8	
	comp=Z,257nm,20.3s,baz=271,slow=30							
SFJD	**Kangerlussuaq**	**14.95**	**336**	LR	LR		23 09 31.3	
	comp=Z,398nm,20.4s,baz=138,slow=33							
SCHQ	**Schefferville**	**18.27**	**285**	P	**Pn**		**23 05 33.1**	**-0.5**
	0.5nm,0.3s,baz=79,slow=9.2,SNR=4.4							
SCHQ				LR	LR		23 11 13.1	
	comp=Z,349nm,19.7s,baz=86,slow=33							
EKA	**Eskdalemuir Ar**	**18.56**	**73**	P	**Pn**		**23 05 37.3**	**+0.1**
	baz=285,slow=9.4,SNR=5.5							
FRB	**Frobisher Bay**	**19.48**	**313**	LR	LR		23 11 40.3	
	comp=Z,482nm,19.8s,baz=97,slow=32							
JMIC	**Jan Mayen**	**20.70**	**25**	LR	LR		23 11 47.4	
	comp=Z,253nm,20.6s,baz=240,slow=30							
NOA	**NORSAR Array B**	**25.47**	**55**	P	**P**		**23 06 48.0**	**-0.1**
	3.1nm,1.0s,baz=274,slow=9.0,SNR=3.0							
NOA				LR	LR		23 15 25.8	
	comp=Z,115nm,20.7s,baz=270,slow=33							
ESDC	**Sonseca Array**	**25.55**	**111**	P	**P**		**23 06 48.8**	**-0.2**
	4.1nm,0.9s,baz=314,slow=8.8,SNR=13							
ESDC				LR	LR		23 14 41.5	
	comp=Z,264nm,21.1s,baz=310,slow=31							
HFS	**Hagfors**	**26.79**	**57**	LR	LR		23 16 05.0	
	comp=Z,209nm,20.7s,baz=295,slow=33							
CLL	**Collm**	**28.99**	**75**	*e*P	**P**		**23 07 20.0**	**+0.3**
	comp=Z,25nm,1.9s							
CLL				*e*PP	**PnPn**		**23 08 10.0**	**-1.4**
NKC	**Novy Kostel**	**29.13**	**78**	AMS	AMS		23 20 40.0	
	comp=Z,200nm,13.0s							
DAVOX	**Davos/Dischmat**	**29.29**	**86**	LR	LR		23 17 55.7	
	comp=Z,397nm,21.6s,baz=281,slow=34							
SADO	**Sadowa**	**29.54**	**270**	P	**P**		**23 07 22.9**	**-1.7**
	comp=Z,8.1nm,1.1s,baz=38,slow=10,SNR=3.3							
SADO				LR	LR		23 18 22.5	
	comp=Z,581nm,18.4s,baz=55,slow=35							
PVCC	**Panska Ves**	**30.22**	**76**	AMS	AMS		23 19 50.0	
	comp=Z,300nm,15.3s							
KHC	**Kasperske Hory**	**30.29**	**79**	AMS	AMS		23 21 20.0	
	comp=Z,200nm,15.7s							
PRA	**Prague**	**30.34**	**77**	AMS	AMS		23 19 50.0	
	comp=Z,300nm,17.0s							
PRU	**Pruhonice**	**30.45**	**77**	AMS	AMS		23 21 00.0	
	comp=Z,200nm,19.2s							
GERES	**GERESS Array B**	**30.50**	**79**	P	**P**		**23 07 33.6**	**+0.4**
	comp=Z,1.7nm,1.1s,baz=292,slow=5.2,SNR=6.7							
GERES				LR	LR		23 18 45.9	
	comp=Z,150nm,19.0s,baz=286,slow=34							
GOPC	**GO Pecny, Ondr**	**30.62**	**77**	AMS	AMS		23 21 20.0	
	comp=Z,200nm,14.9s							
ARCES	**ARCESS Array B**	**31.02**	**37**	LR	LR		23 17 48.2	
	comp=Z,89nm,21.2s,baz=278,slow=32							
UPC	**Upice**	**31.05**	**75**	AMS	AMS		23 20 20.0	
	comp=Z,400nm,14.7s							
DPC	**Dobruska-Polom**	**31.30**	**75**	AMS	AMS		23 20 30.0	
	comp=Z,300nm,14.9s							
TREC	**Trest**	**31.31**	**78**	AMS	AMS		23 19 40.0	
	comp=Z,200nm,15.2s							
FINES	**FINESS Array B**	**32.46**	**52**	P	**P**		**23 07 49.8**	**-0.4**
	comp=Z,1.5nm,0.8s,baz=262,slow=9.6,SNR=3.6							
FINES				LR	LR		23 19 45.7	
	comp=Z,107nm,21.9s,baz=274,slow=34							
OKC	**Ostrava-Krasne**	**32.58**	**75**	AMS	AMS		23 21 20.0	
	comp=Z,200nm,14.3s							
E38A	**The Farm, Brul**	**35.80**	**282**	P	**P**		**23 08 19.1**	**-0.3**
	baz=57							
H41A	**Junction City**	**35.81**	**278**	P	**P**		**23 08 19.5**	**0.0**
	baz=55							
F39A	**Loretta**	**35.82**	**280**	P	**P**		**23 08 19.8**	**+0.3**
	baz=56							
KEST	**Kesra**	**35.83**	**102**	P	**P**		**23 08 20.1**	**+0.3**
	comp=Z,9.1nm,1.0s,baz=307,slow=5.1,SNR=6.6							
KEST				LR	LR		23 22 07.1	
	comp=Z,132nm,19.6s,baz=265,slow=35							
C36A	**Pine Crest Far**	**35.92**	**284**	P	**P**		**23 08 21.2**	**+0.8**
	baz=58							
D37A	**Cotton**	**36.01**	**283**	P	**P**		**23 08 21.6**	**+0.4**
	baz=57							
H40A	**Chili**	**36.24**	**278**	P	**P**		**23 08 23.7**	**+0.5**
	baz=55							
F38A	**Pierce - Schro**	**36.35**	**281**	P	**P**		**23 08 24.9**	**+0.8**
	baz=56							
ULM	**Lac du Bonnet**	**36.35**	**289**	P	**P**		**23 08 22.6**	**-1.4**
	comp=Z,4.7nm,0.9s,baz=52,slow=10.0,SNR=3.4							
ULM				LR	LR		23 21 57.5	
	comp=Z,255nm,19.4s,baz=74,slow=34							
B34A	**Aery, Baudette**	**36.57**	**286**	P	**P**		**23 08 26.6**	**+0.7**
	baz=58							
C35A	**Jirik Farms, M**	**36.60**	**285**	P	**P**		**23 08 26.3**	**+0.1**
	baz=58							
H39A	**Augusta**	**36.73**	**279**	P	**P**		**23 08 27.6**	**+0.3**
	baz=55							
I40A	**Norwalk**	**36.80**	**277**	P	**P**		**23 08 27.7**	**-0.2**
	baz=54							
E36A	**McGregor**	**36.83**	**283**	P	**P**		**23 08 28.8**	**+0.6**
	baz=56							
SFIN	**Lafayette**	**36.87**	**270**	P	**P**		**23 08 29.0**	**+0.5**
	baz=50							
D35A	**Remer**	**36.98**	**284**	P	**P**		**23 08 29.8**	**+0.3**
	baz=57							
SPMN	**Marine on St.**	**37.30**	**281**	P	**P**		**23 08 32.5**	**+0.4**
	baz=55							
SPMN	**Marine on St.**	**37.30**	**281**	*e*P	**P**		**23 08 33.2**	**+1.1**
	comp=Z,18nm,1.5s							
H38A	**Maiden Rock**	**37.31**	**279**	P	**P**		**23 08 33.2**	**+1.0**
	baz=54							
I39A	**Houston**	**37.35**	**278**	P	**P**		**23 08 32.9**	**+0.3**
	baz=54							
H37A	**Dierke Farm, C**	**37.74**	**280**	P	**P**		**23 08 36.1**	**+0.2**
	baz=54							
TKL	**Tuckaleechee C**	**38.06**	**261**	LR	LR		23 23 30.9	
	comp=Z,228nm,19.8s,baz=44,slow=35							
J38A	**Wedel Dairy, R**	**38.22**	**278**	P	**P**		**23 08 40.5**	**+0.5**
	baz=53							
K39A	**Oelwein**	**38.25**	**277**	P	**P**		**23 08 40.8**	**+0.6**
	baz=52							
AKASG	**Malin Array Be**	**38.34**	**68**	P	**P**		**23 08 40.9**	**0.0**
	comp=Z,1.0nm,0.6s,baz=307,slow=8.2,SNR=7.8							
AKASG				LR	LR		23 23 19.8	
	comp=Z,64nm,19.9s,baz=285,slow=34							
P44A	**Sand Creek, Wi**	**38.35**	**270**	P	**P**		**23 08 41.5**	**+0.4**
	baz=49							
L39A	**Vinton**	**38.67**	**276**	P	**P**		**23 08 42.8**	**-0.9**
	baz=52							
J37A	**Redenius Farm,**	**38.86**	**279**	P	**P**		**23 08 45.6**	**+0.3**
	baz=53							
Q44A	**Meyer Farm, Va**	**38.95**	**270**	P	**P**		**23 08 46.5**	**+0.4**
	baz=49							
K37A	**Belmond**	**39.24**	**278**	P	**P**		**23 08 48.9**	**+0.4**
	baz=52,SNR=7.8							
P42A	**Winchester**	**39.30**	**271**	P	**P**		**23 08 48.8**	**-0.2**
	baz=50							
J36A	**Seneca 1, Swea**	**39.30**	**279**	P	**P**		**23 08 49.2**	**+0.2**
	baz=53							
H34A	**Spellman Lake,**	**39.34**	**282**	P	**P**		**23 08 50.1**	**+0.7**
	baz=54,SNR=6.4							
E31A	**Nome**	**39.46**	**286**	P	**P**		**23 08 51.4**	**+1.1**
	baz=55							
S45A	**Carrier Mills**	**39.51**	**268**	P	**P**		**23 08 50.8**	**0.0**
	baz=48							
P41A	**Barry, Barry**	**39.66**	**272**	P	**P**		**23 08 52.4**	**+0.4**
	baz=50							
L37A	**Phoenix Point,**	**39.70**	**277**	P	**P**		**23 08 52.7**	**+0.4**
	baz=52							
M38A	**Pleasantville**	**39.81**	**276**	P	**P**		**23 08 53.5**	**+0.3**
	baz=51							
O40A	**La Belle**	**39.85**	**273**	P	**P**		**23 08 53.6**	**0.0**
	baz=50							
H33A	**Prehn Over Nor**	**39.89**	**282**	P	**P**		**23 08 54.7**	**+0.8**
	baz=54							
S44A	**Carbondale**	**39.90**	**268**	P	**P**		**23 08 54.3**	**+0.3**
	baz=48,SNR=6.2							
R43A	**Red Bud**	**39.91**	**270**	P	**P**		**23 08 54.4**	**+0.3**
	baz=48							
YKA	**Yellowknife Ar**	**39.99**	**315**	P	**P**		**23 08 52.1**	**-2.4**
	comp=Z,1.1nm,0.8s,baz=61,slow=9.3,SNR=3.7							
YKA				LR	LR		23 23 50.9	
	comp=Z,21nm,18.8s,baz=0.0,slow=34							
G32A	**Webster**	**39.99**	**284**	P	**P**		**23 08 55.2**	**+0.5**
	baz=54							
K35A	**Storm Lake**	**40.19**	**279**	P	**P**		**23 08 57.0**	**+0.6**
	baz=52							
ECSD	**EROS Data Cent**	**40.38**	**281**	P	**P**		**23 08 58.6**	**+0.6**
	baz=53,SNR=9.2							
ECSD	**EROS Data Cent**	**40.38**	**281**	*e*P	**P**		**23 08 59.0**	**+1.0**
	comp=Z,15nm,1.1s							
H32A	**Carlson Farm,**	**40.40**	**283**	P	**P**		**23 08 59.0**	**+0.9**
	baz=53							
S43A	**Fulton Ridge,**	**40.46**	**269**	P	**P**		**23 08 59.0**	**+0.3**
	baz=48							
R41A	**Rosebud**	**40.75**	**271**	P	**P**		**23 09 01.4**	**+0.4**
	baz=48							
L35A	**Bielow Farm, R**	**40.75**	**278**	P	**P**		**23 09 01.5**	**+0.4**
	baz=52							
S42A	**Caledonia**	**40.75**	**270**	P	**P**		**23 09 01.5**	**+0.4**
	baz=48							
P39B	**Salisbury**	**40.78**	**273**	P	**P**		**23 09 01.7**	**+0.5**
	baz=49							
T43A	**Greenville**	**40.91**	**269**	P	**P**		**23 09 02.5**	**+0.1**
	baz=47							
R40A	**Maddies Statio**	**41.27**	**272**	P	**P**		**23 09 05.7**	**+0.3**
	baz=48							
T42A	**Van Buren**	**41.42**	**269**	P	**P**		**23 09 06.9**	**+0.3**
	baz=47							
S41A	**Jillco Farms,**	**41.43**	**270**	P	**P**		**23 09 07.0**	**+0.3**
	baz=48							
Y47A	**UCPARC, Winfie**	**41.68**	**263**	P	**P**		**23 09 08.9**	**+0.1**
	baz=44							
R39A	**Chumby, Stover**	**41.71**	**272**	P	**P**		**23 09 09.3**	**+0.3**
	baz=48							
T41A	**Mountain View**	**41.81**	**270**	P	**P**		**23 09 10.1**	**+0.3**
	baz=47,SNR=6.1							
S40A	**Lebanon**	**41.87**	**271**	P	**P**		**23 09 10.7**	**+0.4**
	baz=48,SNR=6.1							
U42A	**Revenden**	**41.97**	**269**	P	**P**		**23 09 10.9**	**-0.2**
	baz=47							
T40A	**Mansfield**	**42.18**	**270**	P	**P**		**23 09 13.1**	**+0.3**
	baz=47							
S39A	**Bolivar**	**42.30**	**272**	P	**P**		**23 09 13.9**	**+0.2**
	baz=48							
R38A	**Fenwick Farm,**	**42.31**	**273**	P	**P**		**23 09 14.1**	**+0.2**
	baz=48,SNR=6.0							
V42A	**Cord**	**42.43**	**268**	P	**P**		**23 09 15.1**	**+0.3**
	baz=46							
S38A	**Stockton**	**42.68**	**272**	P	**P**		**23 09 17.2**	**+0.3**
	baz=48,SNR=7.2							
Y45A	**Yeager Farm, C**	**42.70**	**264**	P	**P**		**23 09 17.3**	**+0.3**
	baz=45							
T39A	**Clever**	**42.77**	**271**	P	**P**		**23 09 17.8**	**+0.2**
	baz=47							
V41A	**Mountainview**	**42.90**	**269**	P	**P**		**23 09 18.9**	**+0.3**
	baz=46							
U40A	**Yellville**	**42.92**	**270**	P	**P**		**23 09 19.0**	**+0.2**
	baz=47,SNR=5.6							
Q35A	**Mercer Eighty,**	**43.12**	**275**	P	**P**		**23 09 20.5**	**+0.1**
	baz=49							
P34A	**Walnut Farm, R**	**43.13**	**276**	P	**P**		**23 09 20.4**	**-0.1**
	baz=49							
S37A	**Fort Scott**	**43.14**	**273**	P	**P**		**23 09 20.7**	**+0.2**
	baz=48,SNR=5.7							
R36A	**Gordon, Harris**	**43.16**	**274**	P	**P**		**23 09 20.7**	**-0.1**
	baz=48							
O33A	**Hebron**	**43.23**	**278**	P	**P**		**23 09 21.1**	**-0.3**
	baz=49							
U39A	**Green Forest**	**43.27**	**270**	P	**P**		**23 09 21.9**	**+0.2**
	baz=47,SNR=6.5							
V40A	**Witts Springs**	**43.28**	**269**	P	**P**		**23 09 22.0**	**+0.2**
	baz=46,SNR=12							
T38A	**Diamond**	**43.31**	**272**	P	**P**		**23 09 22.2**	**+0.2**
	baz=47,SNR=8.0							
W41B	**Gary Mavity, V**	**43.38**	**268**	P	**P**		**23 09 22.7**	**+0.2**
	baz=46,SNR=5.1							
R35A	**Emporia Munici**	**43.57**	**275**	P	**P**		**23 09 24.2**	**+0.2**
	baz=48							
T37A	**Cheneyville 18**	**43.62**	**272**	P	**P**		**23 09 24.6**	**+0.2**
	baz=47							
V39A	**Pettigrew**	**43.74**	**270**	P	**P**		**23 09 25.7**	**+0.2**
	baz=46,SNR=7.5							
347A	**Saraland**	**43.88**	**261**	P	**P**		**23 09 27.3**	**+0.7**
	baz=43							
LAO	**LASA Array**	**44.06**	**291**	P	**P**		**23 09 29.1**	**+1.2**
	baz=53							
V38A	**Canehill**	**44.17**	**271**	P	**P**		**23 09 28.6**	**-0.3**
	baz=46							
X40A	**Basin Creek Fa**	**44.20**	**268**	P	**P**		**23 09 29.1**	**-0.1**
	baz=45,SNR=6.0							
U37A	**Salina**	**44.22**	**272**	P	**P**		**23 09 29.3**	**0.0**
	baz=47							
T36A	**Boggs Farm, Ca**	**44.23**	**273**	P	**P**		**23 09 29.3**	**-0.1**
	baz=47,SNR=6.4							
W39A	**Magazine**	**44.27**	**269**	P	**P**		**23 09 29.5**	**-0.1**
	baz=46,SNR=5.8							
U36A	**Oologah**	**44.59**	**272**	P	**P**		**23 09 32.0**	**-0.2**
	baz=47							
V37A	**Hulbert**	**44.59**	**271**	P	**P**		**23 09 32.0**	**-0.2**
	baz=46							
MIAR	**Mount Ida**	**44.59**	**269**	P	**P**		**23 09 32.2**	**-0.1**
	baz=46,SNR=7.9							
MIAR	**Mount Ida**	**44.59**	**269**	*e*P	**P**		**23 09 32.8**	**+0.5**
	comp=Z,14nm,1.1s							
X39A	**Fountain Ranch**	**44.94**	**269**	P	**P**		**23 09 35.0**	**0.0**
	baz=45							
TUL1	**Leonard**	**44.96**	**272**	P	**P**		**23 09 35.3**	**+0.1**
	baz=46							
TUL1	**Leonard**	**44.96**	**272**	*e*P	**P**		**23 09 35.2**	**0.0**
	comp=Z,5.8nm,0.9s							
X38A	**Whitesboro**	**45.25**	**270**	P	**P**		**23 09 37.8**	**+0.3**
	baz=46							
W37B	**Quinton**	**45.28**	**271**	P	**P**		**23 09 37.9**	**+0.2**
	baz=46							
W36A	**Wetumka**	**45.74**	**271**	P	**P**		**23 09 40.7**	**-0.7**
	baz=46							
W35A	**Tecumseh**	**46.12**	**272**	P	**P**		**23 09 44.2**	**-0.2**
	baz=46							
RLMT	**Red Lodge**	**46.70**	**291**	P	**P**		**23 09 50.3**	**+1.2**
	baz=51							
RLMT	**Red Lodge**	**46.70**	**291**	*e*P	**P**		**23 09 48.9**	**-0.2**
	comp=Z,16nm,1.4s							
X35A	**Drake**	**46.70**	**271**	P	**P**		**23 09 48.7**	**-0.3**
	baz=45,SNR=12							
K22A	**Casper**	**46.73**	**286**	P	**P**		**23 09 49.9**	**+0.5**
	baz=50							
K22A	**Casper**	**46.73**	**286**	*e*P	**P**		**23 09 49.9**	**+0.5**
	comp=Z,10nm,1.1s							
BRTR	**Kein Array B**	**47.37**	**78**	P	**P**		**23 09 55.5**	**+1.2**
	comp=Z,2.0nm,0.9s,baz=318,slow=6.1,SNR=7.3							
BRTR				LR	LR		23 32 57.3	
	comp=Z,41nm,18.1s,baz=295,slow=40							
WMOK	**Wichita Mounta**	**47.53**	**273**	P	**P**		**23 09 55.2**	**-0.3**
	baz=46							
N23A	**Red Feather La**	**47.54**	**284**	P	**P**		**23 09 56.6**	**+0.8**
	baz=49,SNR=9.6							
BOZ	**Bozeman (W)**	**47.69**	**293**	P	**P**		**23 09 57.8**	**+1.0**
	baz=51,SNR=7.5							
ISCO	**Idaho Springs**	**48.07**	**283**	P	**P**		**23 10 00.2**	**+0.2**
	baz=48,SNR=9.2							
ISCO	**Idaho Springs**	**48.07**	**283**	*e*P	**P**		**23 10 01.1**	**+1.1**
	comp=Z,16nm,1.3s							
PDAR	**Pinedale Array**	**48.36**	**289**	P	**P**		**23 10 00.5**	**-1.6**
	comp=Z,1.3nm,0.2s,baz=46,slow=6.6,SNR=12							
PDAR				LR	LR		23 29 24.5	
	comp=Z,202nm,18.2s,baz=44,slow=35							
MOOW	**Moose Ponds**	**48.39**	**290**	*e*P	**P**		**23 10 02.9**	**+0.7**
	comp=Z,20nm,1.9s							
DLBC	**Dease Lake**	**48.59**	**316**	LR	LR		23 29 10.9	
	comp=Z,147nm,21.3s,baz=350,slow=34							
WHTX	**Lake Whitney,**	**48.69**	**269**	P	**P**		**23 10 03.7**	**-0.8**
	baz=44							
WHTX	**Lake Whitney,**	**48.69**	**269**	*e*P	**P**		**23 10 04.2**	**-0.2**
	comp=Z,12nm,1.0s							
NEW	**Newport**	**48.92**	**299**	LR	LR		23 30 38.3	
	comp=Z,205nm,19.8s,baz=32,slow=36							
234A	**Clairette**	**49.08**	**270**	P	**P**		**23 10 07.3**	**-0.2**
	baz=44							
AMTX	**Amarillo**	**49.13**	**275**	P	**P**		**23 10 08.2**	**+0.2**
	baz=45							
AMTX	**Amarillo**	**49.13**	**275**	*e*P	**P**		**23 10 08.8**	**+0.9**
	comp=Z,33nm,1.2s							
T25A	**Trinidad**	**49.17**	**279**	P	**P**		**23 10 08.0**	**-0.4**
	baz=46,SNR=5.8							
SMCO	**Snowmass**	**49.27**	**283**	*e*P	**P**		**23 10 10.4**	**+1.1**
	comp=Z,4.8nm,1.1s							
SDCO	**Great Sand Dun**	**49.39**	**281**	P	**P**		**23 10 09.8**	**-0.3**
	baz=47							
334A	**Lometa**	**49.63**	**269**	P	**P**		**23 10 11.3**	**-0.3**
	baz=43,SNR=5.4							
KBZ	**Khabaz**	**49.95**	**68**	P	**P**		**23 10 12.6**	**-1.3**
	comp=Z,1.6nm,0.9s,baz=310,slow=10,SNR=2.7							
KBZ				LR	LR		23 32 31.7	
	comp=Z,72nm,18.1s,baz=326,slow=38							
333A	**Richland Sprin**	**50.07**	**270**	P	**P**		**23 10 14.1**	**-0.9**
	baz=43,SNR=5.6							
NRIK	**Noril'sk**	**50.12**	**23**	LR	LR		23 32 06.3	
	comp=Z,32nm,20.9s,baz=339,slow=37							
TORD	**Torodi Ar. Bea**	**50.12**	**130**	P	**P**		**23 10 14.2**	**-1.3**
	comp=Z,2.9nm,0.9s,baz=332,slow=5.9,SNR=14							
TORD				LR	LR		23 30 11.9	
	comp=Z,103nm,18.0s,baz=315,slow=34							
HWUT	**Hardware Ranch**	**50.25**	**289**	*e*P	**P**		**23 10 16.8**	**+0.3**
	comp=Z,11nm,0.9s							
MSTX	**Muleshoe**	**50.42**	**275**	P	**P**		**23 10 18.1**	**+0.4**
	baz=45,SNR=5.8							
MSTX	**Muleshoe**	**50.42**	**275**	*e*P	**P**		**23 10 18.4**	**+0.6**
	comp=Z,19nm,1.2s							
ILAR	**Eielson Array**	**50.45**	**329**	P	**P**		**23 10 17.9**	**+0.5**
	comp=Z,1.7nm,1.0s,baz=43,slow=5.7,SNR=14							
ILAR				LR	LR		23 30 32.8	
	comp=Z,110nm,20.4s,baz=77,slow=35							
433A	**Art**	**50.55**	**269**	P	**P**		**23 10 18.1**	**-0.5**
	baz=43							
PV04	**Paradox Valley**	**50.91**	**284**	*e*P	**P**		**23 10 22.5**	**+1.0**
MVCO	**Mesa Verde**	**51.49**	**282**	*e*P	**P**		**23 10 27.4**	**+1.5**
	comp=Z,17nm,1.4s							
BBB	**Bella Bella**	**51.78**	**308**	LR	LR		23 30 46.3	
	comp=Z,145nm,20.9s,baz=79,slow=34							
ANMO	**Albuquerque**	**51.89**	**279**	P	**P**		**23 10 28.8**	**0.0**
	baz=45							
DUG	**Dugway, Tooele**	**51.90**	**288**	P	**P**		**23 10 29.1**	**+0.3**
	baz=47,SNR=6.7							
DUG	**Dugway, Tooele**	**51.90**	**288**	*e*P	**P**		**23 10 29.2**	**+0.4**
	comp=Z,13nm,1.4s							
834A	**Tilden**	**52.16**	**267**	P	**P**		**23 10 31.0**	**+0.3**
	baz=42							
933A	**Laredo**	**52.97**	**267**	P	**P**		**23 10 36.7**	**0.0**
	baz=41							
DBIC	**Dimbokro**	**53.26**	**141**	LR	LR		23 30 20.0	
	comp=Z,205nm,21.1s,baz=335,slow=33							
MNTX	**Cornudas Mount**	**53.57**	**275**	P	**P**		**23 10 41.2**	**+0.1**
	baz=43,SNR=5.0							
TXAR	**Lajitas Array**	**54.29**	**272**	P	**P**		**23 10 46.6**	**+0.1**
	comp=Z,1.5nm,0.9s,baz=90,slow=6.3,SNR=12							
TXAR				LR	LR		23 33 27.1	
	comp=Z,242nm,19.1s,baz=0.0,slow=36							
J05D	**Fort Rock, OR**	**54.38**	**296**	P	**P**		**23 10 48.7**	**+1.7**
	baz=46							
121A	**Cookes Peak, D**	**54.38**	**278**	P	**P**		**23 10 48.0**	**+0.8**
	baz=44							
121A	**Cookes Peak, D**	**54.38**	**278**	*e*P	**P**		**23 10 48.0**	**+0.8**
	comp=Z,7.1nm,1.1s							
R11A	**Troy Canyon, C**	**54.73**	**288**	P	**P**		**23 10 50.4**	**+0.7**
	baz=45,SNR=5.4							
TPNV	**Topopah Spring**	**56.09**	**288**	P	**P**		**23 10 59.8**	**+0.3**
	baz=44							
TUC	**Tucson**	**56.29**	**280**	P	**P**		**23 11 01.7**	**+0.8**
	baz=43							
TUC	**Tucson**	**56.29**	**280**	*e*P	**P**		**23 11 02.0**	**+1.2**
	comp=Z,6.4nm,1.2s							
GMRC	**Granite Mounta**	**57.30**	**285**	P	**P**		**23 11 08.6**	**+0.5**
	baz=44							
Y12C	**Blythe**	**57.40**	**284**	P	**P**		**23 11 09.2**	**+0.5**
	baz=43,SNR=5.7							
MPMC	**Manual Prospec**	**57.42**	**288**	P	**P**		**23 11 09.7**	**+0.7**
	baz=44,SNR=6.8							
214A	**Organ Pipe Nat**	**57.72**	**281**	P	**P**		**23 11 11.7**	**+0.7**
	baz=43,SNR=5.2							
214A	**Organ Pipe Nat**	**57.72**	**281**	*e*P	**

*MOS **18**23:09:20.0₀1.0,2.'05S₀125.'15E,h28ᵏᵐ,mb5.6/56,Error ellipse: s-maj=8.8km s-min=5.0km az=118.2*
*DJA **18**23:09:21.8₀0.7,2.'5S₀2.'₁12.'5E₀.',h22ᵏᵐ₀5ᵏᵐ,M5.1/59, mb5.2/59,mB5.6/37,MLv5.4/13,Mw(mB)5.1/37,Mwp5.2/1*
ISC 18 23:09:21.2₀0.5,2.'11S₀0.'03₀125.'17E₀0.'04,h24ᵏᵐ₀3ᵏᵐ, h25ᵏᵐ:pP-P,n616,σ1ᵍ28/656,mb5.3/148,MS4.0/30, 36C-13D,Ceram Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LUWI	**Luwuk**	**2.62**	**294**	*e*Pn	**Pn**	**23 10 00.8**	**-1.3**
LUWI				*e*Pg	**Pb**	**23 10 09.7**	**+2.1**
KMSI	**Cibinong**	**2.92**	**336**	P	**Pn**	**23 10 07.5**	**+1.3**
KMSI				S	**Sb**	**23 10 45.9**	**-2.0**
KDI	**Kendari**	**3.14**	**234**	P	**Pn**	**23 10 06.6**	**-2.6**
GTOI	**Gorontalo**	**3.48**	**322**	P	**Pn**	**23 10 16.6**	**+2.7**
MRSI	**Marisa**	**4.13**	**308**	P	**Pn**	**23 10 22.9**	**+0.1**
BBSI	**Bau Bau**	**4.24**	**218**	P	**Pn**	**23 10 23.1**	**-1.3**
BNDI	**Bandanaira** 1μm,0.9s,15μm5.7nm	**5.30**	**117**	P	**Pn**	**23 10 40.8**	**+2.0**
TTSI	**Tana Toraja** 227nm,0.7s,3μm2.7nm	**5.43**	**260**	P	**Pn**	**23 10 39.2**	**-1.5**
PCI	**Palu** 2μm,1.0s,17μm6.6nm	**5.47**	**283**	P	**Pn**	**23 10 41.2**	**0.0**
PCI	2μm,1.0s,17μm6.6nm			S	**Sn**	**23 11 45.2**	**+1.8**
PCI	**Palu**	**5.47**	**283**	P	**Pn**	**23 10 41.7**	**+0.5**
PCI	comp=Z,2μm,1.0s			pmax	pmax		
SPSI	**Sidrap Palu** comp=Z,370nm,0.7s,comp=Z,5μmcomp=Z,2.5nm	**5.70**	**251**	P	**Pn**	**23 10 43.1**	**-1.3**
SPSI	comp=Z,370nm,0.7s,comp=Z,5μmcomp=Z,2.5nm			S	**Sn**	**23 11 47.5**	**-1.7**
KAPI	**Kappang** comp=Z,410nm,1.1s	**6.13**	**242**	*e*Pn	**Pn**	**23 10 49.9**	**-0.5**
KAPI	**Kappang** SNR=28	**6.13**	**242**	Pn	**Pn**	**23 10 47.9**	**-2.4**
KAPI	**Kappang** SNR=28	**6.13**	**242**	P	**Pn**	**23 10 47.9**	**-2.4**
BSSI	**Bau Bau, Buton** comp=Z,832nm,1.6s,comp=Z,10μmcomp=Z,2.6nm	**6.15**	**229**	P	**Pn**	**23 10 49.3**	**-1.3**
SIJI	**Sorong** comp=Z,12nm,0.3s,baz=356,slow=15,SNR=2.1	**6.21**	**79**	Pn	**Pn**	**23 10 49.5**	**-2.0**
SIJI	comp=Z,31nm,0.3s,baz=85,slow=22,SNR=8.2			Sn	**Sn**	**23 12 01.2**	**-0.6**
MMRI	**Maumere** comp=Z,194nm,0.9s,comp=Z,5μmcomp=Z,0.7nm	**7.11**	**204**	P	**Pn**	**23 11 02.7**	**-1.1**
MMRI	**Maumere**	**7.11**	**204**	*e*Pn	**Pn**	**23 11 03.2**	**-0.6**
FAKI	**Fak Fak** comp=Z,234nm,0.9s,comp=Z,2μmcomp=Z,1.4nm	**7.11**	**97**	P	**Pn**	**23 11 03.5**	**-0.3**
FAKI	**Fak Fak**	**7.11**	**97**	*e*Pn	**Pn**	**23 11 03.2**	**-0.6**
FAKI				*e*Sn	**Sn**	**23 12 18.2**	**-5.7**
EDFI	**Ende, Flores**	**7.45**	**208**	P	**Pn**	**23 11 07.1**	**-1.5**
SOEI	**Soe** comp=Z,674nm,0.9s,comp=Z,5μmcomp=Z,2.0nm	**7.65**	**187**	P	**Pn**	**23 11 11.0**	**-0.3**
SOEI	**Soe**	**7.65**	**187**	*e*Pn	**Pn**	**23 11 13.2**	**+2.0**
SOEI				*e*Sn	**Sn**	**23 12 42.8**	**+5.5**
BATI	**Baumata** comp=Z,175nm,1.0s,comp=Z,1μm	**8.18**	**191**	P	**Pn**	**23 11 19.2**	**+0.7**
SAUI	**Saumlaki**	**8.44**	**134**	P	Pn	23 11 33.0	+11
WSI	**Waingapu** comp=Z,758nm,0.7s	**8.94**	**213**	P	**Pn**	**23 11 30.1**	**+1.2**
BASI	**Baing, Sumba** comp=Z,432nm,0.7s,comp=Z,8μm	**9.26**	**209**	P	**Pn**	**23 11 32.0**	**-1.3**
MYLDM	**Lahad Datu**	**9.84**	**317**	*e*Pn	**Pn**	**23 11 43.2**	**+1.9**
MYLDM				*e*Sn	**Sn**	**23 13 30.9**	**-0.2**
MYLDM	**Lahad Datu**	**9.84**	**317**	⇑P	**Pn**	**23 11 43.5**	**+2.2**
PLAI	**Plampang** comp=Z,133nm,1.5s,comp=Z,1μm	**9.94**	**228**	P	**Pn**	**23 11 43.4**	**+0.8**
MTKI	**Muara Teweh, K** comp=Z,61nm,0.8s	**10.34**	**276**	P	**Pn**	**23 11 50.3**	**+2.2**
TWSI	**Taliwang, Sumb** comp=Z,50nm,1.4s,comp=Z,1μm	**10.56**	**231**	P	**Pn**	**23 11 50.0**	**-1.1**
KKM	**Kota Kinabalu**	**12.07**	**312**	*e*Pn	**Pn**	**23 12 12.1**	**+0.2**
KKM	**Kota Kinabalu**	**12.07**	**312**	⇓P	**Pn**	**23 12 12.7**	**+0.9**
MTN	**Manton Dam** baz=12,SNR=14	**12.19**	**151**	P	**Pn**	**23 12 14.8**	**+1.4**
MTN	**Manton Dam**	**12.19**	**151**	*e*Pn	**Pn**	**23 12 15.7**	**+2.3**
KMMI	**Kalianget** comp=Z,179nm,1.6s	**12.20**	**246**	P	**Pn**	**23 12 14.5**	**+0.9**
KDM	**Kudat**	**12.23**	**317**	⇓P	**Pn**	**23 12 15.8**	**+1.8**
JAGI	**Jajag, Banyuwa**	**12.66**	**240**	P	**P**	**23 12 28.2**	**-2.8**
KDU	**Kakadu** baz=13,SNR=3.4	**12.75**	**146**	P	**Pn**	**23 12 22.1**	**+0.9**
GMJI	**Gumukmas** comp=Z,92nm,1.3s,comp=Z,1μm	**13.18**	**242**	P	**Pn**	**23 12 27.9**	**+0.9**
BTM	**Bintulu**	**13.19**	**294**	⇑P	**Pn**	**23 12 29.1**	**+2.0**
SBUM	**Sibu**	**13.72**	**289**	*e*Pn	**Pn**	**23 12 34.4**	**+0.1**
SBUM	**Sibu**	**13.72**	**289**	⇓P	**Pn**	**23 12 36.1**	**+1.7**
STKI	**Sintang** comp=Z,27nm,0.6s,comp=Z,13μm	**13.86**	**279**	P	**Pn**	**23 12 38.4**	**+2.1**
KNRA	**Kununurra** baz=14,SNR=4.7	**13.94**	**166**	P	**Pn**	**23 12 36.9**	**-0.4**
PWJI	**Pagerwojo** comp=Z,112nm,1.3s,comp=Z,1μm	**14.55**	**246**	P	**Pn**	**23 12 46.4**	**+0.7**
NGJI	**Ngawi**	**14.63**	**249**	P	P	23 13 02.9	+10
GENI	**Genyem** comp=Z,345nm,1.4s,comp=Z,5μm	**14.99**	**92**	P	**Pn**	**23 12 53.0**	**+1.3**
PCJI	**Pacitan** comp=Z,163nm,1.2s,comp=Z,2μm	**15.19**	**246**	P	**Pn**	**23 12 55.4**	**+1.1**
KSM	**Kuching** comp=Z,87nm,1.0s	**15.28**	**283**	*e*Pn	**Pn**	**23 12 55.8**	**+0.2**
KSM	**Kuching**	**15.28**	**283**	⇓P	**Pn**	**23 12 55.8**	**+0.2**
WOJI	**Wonogiri, Jawa** comp=Z,71nm,1.0s,comp=Z,3μm	**15.29**	**248**	P	**Pn**	**23 12 56.6**	**+1.0**
SMRI	**Semarang** comp=Z,165nm,1.6s,comp=Z,6μm	**15.48**	**251**	P	**Pn**	**23 13 00.0**	**+1.9**
SMRI	**Semarang** comp=Z,219nm,1.2s	**15.48**	**251**	*e*Pn	**Pn**	**23 12 57.9**	**-0.3**
JAY	**Jayapura** comp=Z,0.1nm,0.3s,baz=235,slow=23,SNR=12	**15.52**	**92**	Pn	**Pn**	**23 12 56.5**	**-2.2**
JAY	**Jayapura** comp=Z,40nm,1.1s,comp=Z,718nm	**15.52**	**92**	P	**Pn**	**23 12 59.9**	**+1.2**
UGM	**Wanagama**	**15.69**	**248**	⇑P	**Pn**	**23 13 00.7**	**-0.2**
FITZ	**Fitzroy Crossi** baz=16,slow=12	**15.90**	**178**	Pn	**Pn**	**23 13 00.5**	**-3.0**
FITZ	comp=Z,374nm,18.0s,baz=356,slow=39			LR	LR	23 19 38.9	
TGY	**Tagaytay City** comp=Z,65nm,0.3s,baz=15,slow=11,SNR=4.1	**16.65**	**346**	Pn	**Pn**	**23 13 11.2**	**-1.9**
TGY	comp=Z,401nm,20.4s,baz=182,slow=39			LR	LR	23 20 02.2	
KPJI	**Karang Pucung** comp=Z,242nm,1.1s,comp=Z,3μm	**16.99**	**252**	P	**P**	**23 13 18.9**	**-0.3**
LEM	**Lembang**	**18.11**	**254**	⇑P	**P**	**23 13 31.8**	**+0.1**
CISI	**Cisompet, Garu**	**18.12**	**252**	P	**P**	**23 13 38.6**	**+6.9**
CISI	**Cisompet, Garu** comp=Z,80nm,1.0s	**18.12**	**252**	*e*Pn	**P**	**23 13 32.4**	**+0.7**
CNJI	**Cibinong** comp=Z,107nm,1.2s	**18.70**	**253**	P	**Pn**	**23 13 39.3**	**+0.8**
MBWA	**Marble Bar** comp=Z,122nm,1.5s	**19.66**	**195**	*e*P	**P**	**23 13 46.0**	**-2.5**
WRAB	**Tennant Creek**	**19.86**	**154**	⇓*i*P	**P**	**23 13 48.6**	**-2.0**
WRAB	comp=Z,69nm,0.9s			pmax	pmax		
WRAB	**Tennant Creek** comp=Z,121nm,1.0s	**19.86**	**154**	*e*P	**P**	**23 13 49.6**	**-1.1**
WRA	**Warramunga Arr** comp=Z,1.8nm,0.3s,baz=335,slow=11,SNR=143	**19.86**	**154**	P	**P**	**23 13 49.0**	**-1.7**
WRA	baz=340,slow=21,SNR=4.7			S	**S**	**23 17 31.0**	**-2.3**
WRA				ScP	**ScP**	**23 21 46.4**	**+3.7**
SZP	**Santa** comp=Z,167nm,1.1s	**20.08**	**347**	*e*P	**P**	**23 13 52.3**	**-0.8**
KLSI	comp=Z,128nm,1.2s,comp=Z,1μm	**20.57**	**262**	P	Pn	23 14 00.1	-0.6
COEN	**Coen** baz=21,SNR=13	**21.33**	**124**	P	**P**	**23 14 05.4**	**-1.3**
COEN	**Coen** comp=Z,133nm,1.0s	**21.33**	**124**	*e*P	**P**	**23 14 05.7**	**-1.0**
MYKOM	**Kota Tinggi** comp=Z,86nm,1.1s	**21.67**	**280**	*e*P	**P**	**23 14 11.3**	**+1.0**
MYKOM	**Kota Tinggi**	**21.67**	**280**	⇑P	**P**	**23 14 11.2**	**+1.0**
DLV	**T Lat** comp=Z,94nm,1.2s	**21.68**	**310**	*e*P	**P**	**23 14 10.4**	**-0.2**
MANU	**Manus Island** comp=Z,180nm,1.4s	**22.18**	**90**	*e*P	**P**	**23 14 17.9**	**+2.1**
KGM	**Kluang**	**22.23**	**280**	⇓P	**P**	**23 14 16.5**	**+0.1**
WRKA	**Warakurna** baz=23,SNR=42	**22.99**	**173**	P	**P**	**23 14 23.6**	**-0.8**
PMG	**Port Moresby** comp=Z,209nm,1.0s,baz=292,slow=6.6,SNR=24	**23.03**	**109**	P	**P**	**23 14 25.4**	**+0.6**
PMG	comp=Z,230nm,20.7s,baz=322,slow=41			LR	LR	23 25 05.8	
PMG	**Port Moresby**	**23.03**	**109**	*c i*P	**P**	**23 14 25.6**	**+0.8**
PMG	comp=Z,1μm,1.1s			pmax	pmax		
PMG	**Port Moresby**	**23.03**	**109**	*e*P	**P**	**23 14 26.3**	**+1.5**
AS31	**Alice Springs** comp=Z,38nm,0.8s	**23.04**	**159**	*e*P	**P**	**23 14 23.8**	**-1.0**
ASAR	**Alice Springs** comp=Z,66nm,0.9s,baz=333,slow=8.4,SNR=350	**23.04**	**159**	P	**P**	**23 14 23.6**	**-1.2**
ASAR	comp=Z,5.4nm,0.8s,baz=345,slow=2.3,SNR=5.7			PcP	**PcP**	**23 18 13.8**	**-0.3**
ASAR	comp=Z,4.7nm,1.0s,baz=345,slow=21,SNR=4.4			S	**S**	**23 18 32.1**	**-2.2**
ASAR	comp=Z,1.5nm,0.7s,baz=334,slow=2.1,SNR=4.1			ScP	**ScP**	**23 21 55.8**	**+5.1**
AS01	**Alice Springs**	**23.05**	**159**	*e*P	**P**	**23 14 22.9**	**-2.1**
QIS	**Mount Isa** baz=23,SNR=18	**23.12**	**144**	P	**P**	**23 14 24.8**	**-0.9**
KTGM	**Kuala Trenggan**	**23.22**	**289**	⇑P	**P**	**23 14 26.6**	**-0.1**
SDSI	**Sungai Dareh** comp=Z,59nm,1.1s,comp=Z,50μm	**23.77**	**272**	P	**P**	**23 14 32.7**	**+0.6**
FRIM	**Kepong**	**24.13**	**283**	⇓P	**P**	**23 14 35.5**	**0.0**
BKNI	**Bangkinang** comp=Z,88nm,0.5s	**24.25**	**275**	*e*P	**P**	**23 14 34.3**	**-2.4**
MTSU	**Mount Surprise** baz=25,SNR=9.4	**24.62**	**132**	P	**P**	**23 14 40.2**	**+0.2**
PDSI	**Padang** comp=Z,61nm,1.1s	**24.73**	**272**	P	**P**	**23 14 40.4**	**-0.6**
PPI	**Padang Panjang** comp=Z,119nm,1.1s,comp=Z,1μm	**24.82**	**273**	P	**P**	**23 14 42.4**	**+0.6**
GUMO	**Guam** comp=Z,27nm,0.4s,baz=176,slow=19,SNR=2.9	**25.00**	**51**	P	**P**	**23 14 44.2**	**+0.9**
GUMO	comp=Z,134nm,18.7s,baz=236,slow=34			LR	LR	23 23 41.6	
IPM	**Ipoh** comp=Z,152nm,1.4s	**25.00**	**285**	*e*P	**P**	**23 14 41.3**	**-2.1**
IPM	**Ipoh**	**25.00**	**285**	⇓P	**P**	**23 14 44.2**	**+0.8**
TWG	**Pinlang** comp=Z,127nm,0.5s	**25.10**	**351**	*e*P	**P**	**23 14 49.2**	**+5.0**
MEEK	**Meekatharra** baz=25,SNR=8.2	**25.19**	**194**	P	**P**	**23 14 44.2**	**-0.8**
KULM	**Kulim** comp=Z,97nm,1.2s	**25.58**	**287**	*e*P	**P**	**23 14 47.6**	**-1.1**
YULB	**Yu-li** comp=Z,66nm,1.3s	**25.63**	**352**	*e*P	**P**	**23 14 45.9**	**-3.1**
QIZ	**Qiongzhong**	**25.86**	**325**	P	**P**	**23 14 51.0**	**-0.1**
QIZ				S	**S**	**23 19 23.9**	**+4.3**
QIZ	comp=Z,38nm,1.2s			pmax	pmax		
QIZ	comp=Z,450nm,14.3s			LR	LR		
QIZ	comp=Z,390nm,23.6s			LR	LR		
QIZ	**Qiongzhong** comp=Z,12nm,0.5s	**25.86**	**325**	*e*P	**P**	**23 14 50.5**	**-0.6**
UBPT	**Khong Chiam** comp=Z,38nm,1.5s,comp=Z,860nm	**26.05**	**312**	P	**P**	**23 14 52.9**	**0.0**
SSLB	**Suanglung** comp=Z,50nm,1.0s	**26.07**	**351**	*e*P	**P**	**23 14 51.2**	**-1.7**
SKLT	**Songkhla** comp=Z,55nm,1.4s,comp=Z,755nm	**26.18**	**291**	P	**P**	**23 14 56.1**	**+2.0**
PSI	**Prapat** comp=Z,9.1nm,0.5s,baz=120,slow=9.2,SNR=5.1	**26.69**	**280**	P	**P**	**23 14 57.9**	**-1.0**
PSI	comp=Z,699nm,20.7s,baz=92,slow=38			LR	LR	23 25 56.7	
YHNB	**Yeheng** comp=Z,182nm,1.5s	**26.87**	**352**	*e*P	**P**	**23 14 57.0**	**-3.3**
CHBT	**CHBT** comp=Z,402nm,0.7s	**27.06**	**304**	P	**P**	**23 15 03.0**	**+0.9**
CTA	**Charters Tower** comp=Z,11nm,1.0s,baz=328,slow=7.1,SNR=5.2	**27.26**	**132**	P	**P**	**23 15 03.0**	**-0.8**
CTAO	**Charters Tower**	**27.26**	**132**	*e*P	**P**	**23 15 05.0**	**+1.1**
CTAO	comp=Z,61nm,1.4s			pmax	pmax		
CTAO	**Charters Tower** comp=Z,61nm,1.4s	**27.26**	**132**	*e*P	**P**	**23 15 05.0**	**+1.1**
TRTT	**Trang** comp=Z,63nm,1.3s,comp=Z,980nm	**27.27**	**292**	P	**P**	**23 15 04.7**	**+0.7**
KRAB	**Krabi** comp=Z,52nm,1.1s	**27.86**	**292**	P	**P**	**23 15 10.6**	**+1.3**
SURT	**Suratani** comp=Z,30nm,1.4s	**28.50**	**293**	P	**P**	**23 15 15.4**	**+0.5**
FORT	**Forrest** baz=29,SNR=18	**28.64**	**175**	P	**P**	**23 15 15.6**	**-0.5**
FORT	**Forrest** comp=Z,1μm,0.9s	**28.64**	**175**	*e*P	**P**	**23 15 15.5**	**-0.5**
NAYO	**Nakonayok** comp=Z,38nm,1.3s	**28.72**	**305**	P	**P**	**23 15 16.8**	**-0.1**
JOW	**Kunigami** comp=Z,120nm,0.9s,baz=183,slow=11,SNR=5.4	**28.93**	**6**	P	**P**	**23 15 18.6**	**0.0**
JOW	**Kunigami** comp=Z,179nm,1.1s	**28.93**	**6**	*e*P	**P**	**23 15 20.2**	**+1.7**
CHAI	**Chaiyaphum** comp=Z,15nm,1.0s	**29.08**	**309**	P	**P**	**23 15 19.5**	**-0.6**
PHET	**Kaeng Krachan** comp=Z,15nm,1.0s,comp=Z,173nm	**29.42**	**301**	P	**P**	**23 15 23.1**	**0.0**
PBKT	**Sao Pong** comp=Z,25nm,1.2s,comp=Z,988nm	**30.26**	**309**	P	**P**	**23 15 30.2**	**-0.3**
QLP	**Quilpie** baz=30,SNR=8.6	**30.45**	**145**	P	**P**	**23 15 31.9**	**-0.2**
SRDT	**SRDT** comp=Z,109nm,1.0s	**30.56**	**303**	P	**P**	**23 15 33.9**	**+0.7**
UTHA	**Uthaitani** comp=Z,18nm,1.2s,comp=Z,172nm	**30.91**	**305**	P	**P**	**23 15 35.8**	**-0.5**
SLVN	**Son La** comp=Z,18nm,1.4s	**31.24**	**319**	*e*P	**P**	**23 15 37.6**	**-1.6**
UTTA	**Uttaradit** comp=Z,6.9nm,1.2s,comp=Z,91nm	**31.27**	**310**	P	**P**	**23 15 39.2**	**-0.2**
UMPA	**Umpang Tak** comp=Z,11nm,1.1s,comp=Z,848nm	**31.73**	**306**	P	**P**	**23 15 43.5**	**-0.1**
SUKH	**Sukhothai** comp=Z,14nm,1.1s,comp=Z,162nm	**31.83**	**309**	P	**P**	**23 15 44.6**	**+0.2**
BBOO	**Buckleboo** comp=Z,181nm,1.7s	**32.20**	**163**	*e*P	**P**	**23 15 47.2**	**-0.3**
LAMP	**Lampang** comp=Z,8.0nm,1.2s	**32.44**	**310**	P	**P**	**23 15 50.0**	**+0.3**
CM01	**Chiang Mai Arr**	**32.89**	**309**	*e*P	**P**	**23 15 52.5**	**-1.2**
CM31	**Chiang Mai Arr**	**32.93**	**309**	*e*P	**P**	**23 15 54.5**	**+0.5**
CMAR	**Chiang Mai Arr** comp=Z,19nm,1.0s,baz=142,slow=7.7,SNR=73	**32.93**	**309**	P	**P**	**23 15 53.8**	**-0.2**
CMAR	comp=Z,9.3nm,0.9s,baz=165,slow=2.0,SNR=19			PcP	**PcP**	**23 18 39.2**	**+1.0**
CMAR	**Chiang Mai Arr**	**32.93**	**309**	*c e*P	**P**	**23 15 54.2**	**+0.2**
CMAR	comp=Z,19nm,1.0s			pmax	pmax		
CMMT	**Chiang Mai** comp=Z,59nm,1.2s,comp=Z,755nm	**33.13**	**310**	P	**P**	**23 15 55.4**	**-0.4**
CHTO	**Chiang Mai** comp=Z,265nm,1.3s,comp=Z,3μm	**33.13**	**310**	P	**P**	**23 15 55.5**	**-0.3**
CHTO	**Chiang Mai**	**33.13**	**310**	*e*P	**P**	**23 15 55.3**	**-0.5**
CHTO				*e*		23 18 40.0	
CHTO	comp=Z,124nm,1.4s			pmax	pmax		
CHTO	**Chiang Mai** comp=Z,124nm,1.4s	**33.13**	**310**	*e*P	**P**	**23 15 55.3**	**-0.5**
CHTO				*e*PcP	**PcP**	**23 18 40.0**	**+1.2**
CHTO	**Chiang Mai** SNR=18	**33.13**	**310**	P	**P**	**23 15 54.9**	**-0.9**
CHTO	**Chiang Mai** SNR=18	**33.13**	**310**	P	**P**	**23 15 54.9**	**-0.9**
RMQ	**Roma** baz=33,SNR=13	**33.17**	**139**	P	**P**	**23 15 55.7**	**-0.4**
STKA	**Stephens Creek** comp=Z,21nm,0.9s,baz=331,slow=9.3,SNR=12	**33.41**	**154**	P	**P**	**23 15 56.7**	**-1.4**
STKA	**Stephens Creek** baz=34,SNR=8.8	**33.41**	**154**	P	**P**	**23 15 57.3**	**-0.8**
STKA	**Stephens Creek**	**33.41**	**154**	*e*P	**P**	**23 15 57.3**	**-0.8**
STKA	comp=Z,13nm,1.1s			pmax	pmax		
STKA	**Stephens Creek** comp=Z,13nm,1.1s	**33.41**	**154**	*e*P	**P**	**23 15 57.2**	**-0.8**
GYA	**Guiyang**	**33.56**	**329**	⇓*i*P	**P**	**23 15 59.1**	**-0.5**
GYA				PP	**PP**	**23 17 14.0**	**-1.8**
GYA				PcP	**PcP**	**23 18 40.6**	**+0.6**
GYA				S	**S**	**23 21 24.3**	**+3.6**
GYA				ScP	**ScP**	**23 22 25.6**	**+2.4**
GYA				SS	**SnSn**	**23 23 27.8**	**+3.3**
GYA				ScS	**ScS**	**23 26 25.0**	**+0.4**
GYA	comp=Z,20nm,0.8s			pmax	pmax		
GYA	comp=Z,130nm,5.0s			pmax	pmax		
GYA	comp=Z,780nm,17.6s			LR	LR		
GYA	comp=Z,680nm,17.2s			LR	LR		
GYA	comp=Z,760nm,17.8s			LR	LR		
HTT	**Hallett**	**33.72**	**159**	P	**P**	**23 16 00.9**	**+0.1**
	baz=34,SNR=4.2						
EIDS	**Eidsvold** comp=Z,18nm,1.1s	**34.02**	**135**	*e*P	**P**	**23 16 02.1**	**-1.4**
WHN	**Wuhan**	**34.07**	**343**	P	**P**	**23 16 04.4**	**+0.6**
NJ2	**Nanjing**	**34.50**	**351**	*e*P	**P**	**23 16 07.8**	**+0.3**
NJ2	comp=Z,41nm,0.9s			pmax	pmax		
CMSA	**Cobar Meteorol** baz=35,SNR=26	**35.09**	**149**	P	**P**	**23 16 12.3**	**-0.3**
JNU	**Nakatsue** comp=Z,84nm,1.5s	**35.45**	**8**	*e*P	**P**	**23 16 15.8**	**+0.1**
ENH	**Enshi** comp=Z,42nm,1.1s	**35.51**	**336**	*e*P	**P**	**23 16 15.3**	**-1.0**
ARMA	**Armidale** baz=38,SNR=9.9	**37.70**	**141**	P	**P**	**23 16 35.5**	**+0.4**
ARMA	**Armidale** comp=Z,48nm,1.0s	**37.70**	**141**	*e*P	**P**	**23 16 35.5**	**+0.4**
ARPS	**Mount Arapiles** baz=38,SNR=8.9	**37.77**	**158**	P	**P**	**23 16 35.5**	**+0.1**
CD2	**Chengdu**	**38.66**	**330**	⇓*i*P	**P**	**23 16 41.8**	**-1.2**
CD2	comp=Z,50nm,1.0s			pmax	pmax		
CD2	comp=Z,170nm,9.5s			pmax	pmax		
CD2	comp=Z,530nm,20.8s			LR	LR		
CD2	comp=Z,480nm,20.2s			LR	LR		
TIA	**Tai'an**	**38.86**	**350**	*e*P	**P**	**23 16 40.8**	**-3.8**
TIA	comp=Z,30nm,1.3s			pmax	pmax		
INU	**Inuyama** comp=Z,44nm,1.1s	**38.88**	**16**	*e*P	**P**	**23 16 45.0**	**+0.2**
MGCD	**Mangrove Creek** baz=39,SNR=5.4	**39.34**	**145**	P	**P**	**23 16 50.0**	**+1.3**
KS15	**Wonju Array Si**	**39.43**	**3**	*e*P	**P**	**23 16 50.5**	**+1.1**
KSAR	**Wonju Array Be**	**39.43**	**3**	P	**P**	**23 16 49.5**	**+0.2**
KSAR	**Wonju Array Be**	**39.43**	**3**	P	**P**	**23 16 49.5**	**+0.2**
KSRS	**Korea Array** comp=Z,13nm,0.5s,baz=179,slow=9.6,SNR=49	**39.45**	**3**	P	**P**	**23 16 49.5**	**0.0**
KSRS	comp=Z,85nm,18.2s,baz=182,slow=41			LR	LR	23 36 27.0	
KS01	**Wonju Array Si**	**39.47**	**3**	*e*P	**P**	**23 16 50.1**	**+0.5**
CAN	**Canberra**	**39.77**	**149**	*e*P	**P**	**23 16 52.0**	**-0.3**
CAN	comp=Z,67nm,0.9s			pmax	pmax		
CAN	**Canberra** comp=Z,67nm,0.9s	**39.77**	**149**	*e*P	**P**	**23 16 52.0**	**-0.3**
TOO	**Toolangi** baz=40,SNR=6.0	**39.93**	**155**	P	**P**	**23 16 54.4**	**+0.8**
CNB	**Canberra Magne** baz=40,SNR=6.3	**39.95**	**149**	P	**P**	**23 16 55.2**	**+1.4**
MJAR	**Matsushiro Arr** comp=Z,14nm,1.0s,baz=188,slow=9.2,SNR=20	**40.33**	**16**	P	**P**	**23 16 55.7**	**-1.2**
MJAR	comp=Z,6.1nm,1.0s,baz=186,slow=2.5,SNR=7.5			PcP	**PcP**	**23 18 59.8**	**-0.3**
MJAR	comp=Z,95nm,21.1s,baz=150,slow=34			LR	LR	23 32 05.2	
MAJO	**Matsushiro**	**40.33**	**16**	*e*P	**P**	**23 16 54.9**	**-1.9**
MAJO	comp=Z,105nm,1.0s			pmax	pmax		
MAJO	**Matsushiro** comp=Z,70nm,1.4s	**40.33**	**16**	*e*P	**P**	**23 16 55.8**	**-1.0**
MAT	**Matsushiro**	**40.33**	**16**	P	**P**	**23 16 55.5**	**-1.3**
MAT				*e*S	**S**	**23 23 03.4**	**+0.1**
MJB9	**Matsu-Tunnel** comp=Z,17nm,1.3s	**40.33**	**16**	*e*P	**P**	**23 16 56.2**	**-0.6**
DL2	**Dalian**	**40.95**	**356**	P	**P**	**23 17 00.9**	**-1.0**
DL2	comp=Z,81nm,1.2s			pmax	pmax		
SHL	**Shillong**	**42.37**	**313**	*e*P	**P**	**23 17 13.4**	**-0.6**
BJT	**Baijiatuao**	**42.73**	**350**	*e*P	**P**	**23 17 15.7**	**-0.7**
BJT	comp=Z,72nm,1.1s			pmax	pmax		
BJT	**Baijiatuao** comp=Z,72nm,1.1s	**42.73**	**350**	*e*P	**P**	**23 17 15.7**	**-0.7**
BJI	**Beijing**	**42.75**	**350**	P	**P**	**23 17 15.4**	**-1.2**
BJI				S	**S**	**23 23 44.8**	**+5.8**
BJI	comp=Z,62nm,1.3s			pmax	pmax		
BJI	comp=Z,570nm,3.7s			pmax	pmax		
BJI	comp=Z,250nm,33.2s			LR	LR		
LZH	**Lanzhou**	**42.90**	**334**	*e*P	**P**	**23 17 17.3**	**-0.8**
LZH				pP	pP	23 17 19.0	-6.6
LZH				PP	**PP**	**23 18 59.5**	**+1.5**
LZH				*e*S	**S**	**23 23 41.0**	**-0.7**
LZH				*e*SS	**SS**	**23 26 47.3**	**-6.5**
LZH	comp=Z,97nm,1.5s			pmax	pmax		
LZH	comp=Z,230nm,4.8s			pmax	pmax		
LZH	comp=Z,470nm,17.0s			LR	LR		
SNY	**Shenyang**	**43.76**	**358**	⇑P	**P**	**23 17 24.8**	**+0.1**
SNY	comp=Z,100nm,1.2s			pmax	pmax		
HHC	**Hu-ho-hao-te**	**44.52**	**345**	*e*P	**P**	**23 17 33.4**	**+2.4**
HHC	comp=Z,17nm,1.0s			pmax	pmax		
HHC	comp=Z,100nm,8.6s			pmax	pmax		
DZM	**Mont Dzumac** comp=Z,127nm,1.4s	**44.73**	**120**	*e*P	**P**	**23 17 32.5**	**-0.5**
DZM	**Mont Dzumac** comp=Z,46nm,1.0s	**44.73**	**120**	*e*P	**P**	**23 17 32.8**	**-0.2**
MSHR	**Mys Shultsa**	**44.81**	**6**	*ce*P	**P**	**23 17 33.1**	**0.0**
LSA	**Lhasa**	**45.36**	**317**	P	**P**	**23 17 38.8**	**+0.4**
LSA	**Lhasa** comp=Z,10.0nm,0.5s	**45.36**	**317**	*e*P	**P**	**23 17 38.7**	**+0.4**
LSA	comp=Z,230nm,4.8s			pmax	pmax		
LSA	**Lhasa** comp=Z,9.8nm,0.5s	**45.36**	**317**	*e*P	**P**	**23 17 38.7**	**+0.4**
VLA	**Vladivostok**	**45.43**	**7**	*i*P	**P**	**23 17 37.2**	**-0.8**
VLA	comp=Z,39nm,1.2s			pmax	pmax		
VIS	**Vishakhapatnam**	**45.69**	**297**	*e*P	**P**	**23 17 39.8**	**-0.7**
BOK	**Bokaro**	**46.07**	**306**	*e*P	**P**	**23 17 43.4**	**0.0**
BOK	comp=Z,9.1nm,1.0s			IAmb	IAmb	23 17 43.6	
ODAN	**Odare** comp=Z,57nm,0.9s	**46.44**	**311**	*e*P	**P**	**23 17 46.0**	**-0.6**
TAPN	**Taplejung** comp=Z,76nm,1.0s	**46.46**	**312**	*e*P	**P**	**23 17 46.0**	**-0.9**
USRK	**Ussuri

GTA LR LR
comp=Z,210nm,19.5s
JIRN Jiri 47.77 311 *e*P **P 23 17 56.5 -0.7**
comp=Z,72nm,0.6s
GUN Gumba 48.13 311 *e*P **P 23 17 59.1 -0.9**
comp=Z,68nm,0.5s
PKI Pulchoki 48.31 311 *e*P **P 23 18 00.2 -1.1**
comp=Z,22nm,0.5s
PKIN Phulchoki 48.33 311 *e*P **P 23 18 00.7 -0.6**
comp=Z,13nm,0.4s
KKN Kakani 48.52 311 *e*P **P 23 18 01.8 -1.0**
comp=Z,23nm,0.5s
DMN Daman 48.56 310 *e*P **P 23 18 02.4 -0.8**
comp=Z,28nm,0.5s
GKN Gorkha 49.12 311 *e*P **P 23 18 06.4 -0.9**
comp=Z,49nm,0.6s
KOLN Koldanda 49.80 310 *e*P **P 23 18 12.0 -0.5**
comp=Z,56nm,0.6s
HYB Hyderabad 49.88 295 *i* P **P 23 18 12.0 -1.1**
HYB Hyderabad 49.88 295 *e*P **P 23 18 11.8 -1.3**
HYB IAmb IAmb 23 18 12.6
comp=Z,27nm,0.7s
PYUN Piuthan 50.43 310 *e*P **P 23 18 16.9 -0.4**
comp=Z,124nm,0.8s
NGP Nagpur 50.70 300 *e*P **P 23 18 17.6 -1.6**
HABR Khabarovsk 51.11 8 *e*P **P 23 18 19.3 -2.5**
HABR *e**PP **pP 23 18 29.1 -0.3**
HABR *e**SP **sP 23 18 33.4 +1.1**
HABR *e* 23 19 34.6
HABR *e* 23 20 16.0
HABR *e*PPP PPP 23 21 14.8
HABR *e*S **S 23 25 34.8 -3.3**
HABR *e**SS **sS 23 25 51.8 +1.2**
HABR *e* 23 28 07.1
HABR *e*SS **SS 23 29 12.5 -1.2**
HABR *e*SSS SSS 23 30 45.8
HABR pmax pmax
comp=Z,141nm,1.4s
HABR pmax pmax
comp=N,17nm,0.7s
HABR pmax pmax
comp=E,33nm,0.7s
HABR MLR MLR
comp=Z,319nm,19.0s
YSS Yuzh-Sakhalins 51.25 15⇑ *e*P **P 23 18 24.0 +1.1**
YSS pmax pmax
comp=Z,44nm,1.0s
HIA Hailar 51.39 355 *e*P **P 23 18 24.9 +0.9**
HIA pmax pmax
comp=Z,122nm,1.4s
HIA Hailar 51.39 355 *e*P **P 23 18 24.9 +0.9**
comp=Z,122nm,1.4s
KLR Kul'dur 51.45 6*c i*P **P 23 18 22.4 -2.0**
ULN Ulaanbaatar 52.23 345*ce*P **P 23 18 30.3 -0.1**
ULN pmax pmax
comp=Z,208nm,1.7s
ULN Ulaanbaatar 52.23 345 *e*P **P 23 18 30.2 -0.3**
comp=Z,190nm,1.3s
ULN Ulaanbaatar 52.23 345 P **P 23 18 30.4 0.0**
SNR=56
ULN Ulaanbaatar 52.23 345 P **P 23 18 30.4 0.0**
SNR=56
SONM Songino Array 52.38 344 P **P 23 18 31.3 -0.2**
comp=Z,50nm,1.0s,baz=160,slow=7.5,SNR=125
SONA1 Songino Array 52.39 344 *e*P **P 23 18 31.0 -0.6**
BHPL Bhopal 52.87 301 *e*P **P 23 18 34.5 -0.9**
GOA Goa 53.70 291 *e*P **P 23 18 40.0 -1.6**
MSVF Nonsavu 54.13 110 *e*P **P 23 18 46.9 +2.0**
MSVF pmax pmax
comp=Z,51nm,0.9s
MSVF Nonsavu 54.13 110 *e*P **P 23 18 46.9 +2.0**
comp=Z,51nm,0.9s
POO Poona 54.48 294 *e*P **P 23 18 45.9 -1.5**
POO IAmb IAmb 23 18 46.8
comp=Z,24nm,0.6s
POO Poona 54.48 294⇓ *i*P P 23 18 41.0 -6.4
comp=Z,70nm,1.0s
CIT Chita 54.82 351 *e*P **P 23 18 50.3 +1.1**
CIT *e* 23 19 07.0
CIT pmax pmax
comp=Z,136nm,1.4s
ZAK Zakamensk 55.56 343 *e*P **P 23 18 54.6 -0.1**
ZAK pmax pmax
comp=Z,46nm,1.3s
SMLA Simla 56.32 310 *e*P **P 23 18 59.6 -0.8**
TLY Talaya 56.62 344 *e*P **P 23 19 01.6 -0.5**
TLY pmax pmax
comp=Z,110nm,1.5s
TLY Talaya 56.62 344 *e*P **P 23 19 02.9 +0.8**
comp=Z,148nm,1.5s
TLY Talaya 56.62 344 P **P 23 19 03.3 +1.1**
SNR=23
TLY Talaya 56.62 344 P **P 23 19 03.3 +1.1**
SNR=23
WMQ Urumqi 56.72 328 P **P 23 19 03.6 +0.6**
WMQ pP pP 23 19 09.3 -1.4
WMQ sP sP 23 19 11.9 -1.7
WMQ S **S 23 26 55.3 +0.9**
WMQ pmax pmax
comp=Z,77nm,1.3s
WMQ pmax pmax
comp=Z,450nm,3.7s
WMQ LR LR
comp=Z,140nm,12.9s
WMQ LR LR
comp=Z,190nm,14.9s
WMQ LR LR
comp=Z,230nm,22.5s
IRK Irkutsk 56.96 345 *e*P **P 23 19 04.9 +0.4**
IRK pmax pmax
comp=Z,172nm,2.1s
MOY Mondy 57.37 342 *e*P **P 23 19 08.3 +0.7**
MOY pmax pmax
comp=Z,194nm,1.7s
DHRM DHARAMSHALA 57.48 311 *e*P **P 23 19 07.8 -1.1**
RPZ Rata Peaks 58.02 142 *e*P **P 23 19 12.4 +0.2**
comp=Z,97nm,1.2s
CLNS Chul'man 58.76 360 *e*P **P 23 19 16.9 -0.2**
CLNS pmax pmax
comp=N,16nm,1.0s
CLNS pmax pmax
comp=E,12nm,0.9s
CLNS pmax pmax
comp=Z,26nm,0.8s
BKZ Black Stump Fm 59.43 135 *e*P **P 23 19 22.1 0.0**
comp=Z,27nm,0.9s
URZ Urewera 59.50 134 *e*P **P 23 19 23.5 +0.9**
comp=Z,87nm,1.5s
BOD Bodaibo 60.41 353 *e*P **P 23 19 28.1 -0.3**
BOD pmax pmax
comp=Z,63nm,1.4s
PDGK Podgornoye 61.02 323 *i* P **P 23 19 33.0 -0.1**
PDGK pmax pmax
comp=Z,132nm,1.1s
KSH Kashi 61.19 318⇑ *i*P **P 23 19 35.0 +0.8**
KSH PcP **PcP 23 20 17.0 +0.1**
KSH PP **PP 23 21 53.0 +3.8**
KSH S **S 23 27 52.3 -0.4**
KSH ScS **SKKSac 23 29 20.4 -3.9**
KSH SS **SS 23 31 53.4 +0.2**
KSH pmax pmax
comp=Z,48nm,1.2s
KSH pmax pmax
comp=Z,210nm,3.5s
KSH LR LR
comp=Z,67nm,4.8s
KSH LR LR
comp=Z,83nm,5.1s
KSH LR LR
comp=Z,120nm,7.4s
PEA0 Petropavlovsk- 61.39 22 *e*P **P 23 19 36.2 +1.0**
PEA0B Petropavlovsk- 61.39 22 *e*P **P 23 19 36.8 +1.6**
PETK Petropavlovsk- 61.39 22 P **P 23 19 35.1 -0.1**
comp=Z,17nm,0.9s,baz=197,slow=3.1,SNR=13
MK01 Makanchi Array 61.52 328 *e*P **P 23 19 35.5 -0.7**
MK31 Makanchi Array 61.54 328*ce*P **P 23 19 36.2 -0.1**
MK31 pmax pmax
comp=Z,113nm,1.0s
MK31 Makanchi Array 61.54 328 *e*P **P 23 19 36.3 -0.1**
MKAR Makanchi Array 61.54 328 *e*P **P 23 19 36.3 -0.1**
MKAR Makanchi Array 61.54 328 *e*P **P 23 19 36.3 -0.1**
PET Petropavlovsk 61.68 22 *e*P **P 23 19 38.4 +1.3**
PET eS **S 23 27 57.1 -1.0**
PET pmax pmax
comp=Z,51nm,1.2s

PET MLR MLR
comp=Z,200nm,20.0s
MAKZ Makanchi 61.72 328 *e*P **P 23 19 37.7 +0.2**
MAKZ Makanchi 61.72 328 *e*P **P 23 19 37.7 +0.2**
TKM2 Tokmak 2 63.18 321 *i* P **P 23 19 47.8 +0.2**
TKM2 pmax pmax
comp=Z,111nm,1.1s
AAK Ala-Archa 63.73 320*ce*P **P 23 19 51.9 +0.7**
AAK pmax pmax
comp=Z,119nm,1.3s
AAK Ala-Archa 63.73 320 *e*P **P 23 19 51.7 +0.5**
AAK Ala-Archa 63.73 320 P **P 23 19 52.2 +0.9**
SNR=51
AAK Ala-Archa 63.73 320 P **P 23 19 52.2 +0.9**
SNR=51
AAK P P 23 19 52.2 +0.9
SNR=51
FRU Bishkek 63.75 321⇑ *i*P **P 23 19 52.0 +0.8**
FRU pmax pmax
comp=Z,150nm,2.1s
KBL Kabul 63.95 310 *e*P **P 23 19 52.7 -0.2**
KBL Kabul 63.95 310 *e*P **P 23 19 52.7 -0.2**
MA2 Magadan 64.71 14 LR LR 23 46 18.7
comp=Z,70nm,20.7s,baz=218,slow=34
MA2 Magadan 64.71 14*ce*P **P 23 19 58.3 +1.2**
MNAS Manas 64.94 320 *i* P **P 23 20 00.0 +0.9**
MNAS pmax pmax
comp=Z,190nm,1.3s
ZALV Zalesovo Beam 65.12 335 P **P 23 19 59.4 -0.5**
comp=Z,175nm,1.1s,baz=119,slow=5.2,SNR=205
ZALV LR LR 23 48 41.4
comp=Z,101nm,21.7s,baz=70,slow=36
ZALV PKP2bc 23 48 47.5
comp=Z,0.9nm,0.8s,baz=268,slow=4.5,SNR=4.7
KURK Kurchatov 65.88 330*ce*P **P 23 20 04.9 +0.1**
KURK Kurchatov 65.88 330 *e*P **P 23 20 05.0 +0.1**
KURK Kurchatov 65.88 330 P **P 23 20 05.2 +0.4**
SNR=195
KURK Kurchatov 65.88 330 P **P 23 20 05.2 +0.4**
SNR=195
NVS Novosibirsk 66.41 335⇓ *i*P **P 23 20 08.2 +0.1**
NVS *e*S **S 23 28 58.1 +1.3**
NVS pmax pmax
comp=Z,184nm,1.3s
NVS pmax pmax
comp=N,78nm,1.2s
NVS pmax pmax
comp=E,94nm,1.1s
NVS smax smax
comp=N,2.0nm,0.4s
NVS smax smax
comp=E,13nm,1.4s
KK31 Karatay Array 66.52 319*ce*P **P 23 20 08.0 -1.2**
KK31 pmax pmax
comp=Z,82nm,1.1s
KKAR Karatay Array 66.52 319 *e*P **P 23 20 09.4 +0.2**
KKAR pmax pmax
comp=Z,112nm,1.3s
KKAR Karatay Array 66.52 319 *e*P **P 23 20 09.4 +0.2**
comp=Z,112nm,1.3s
SEY Seymchan 68.03 13*ce*P **P 23 20 19.5 +1.2**
MSEY Mahe Island 69.60 266 *i* P **P 23 20 32.1 +3.0**
BIDO Bidbid 69.93 296 P **P 23 20 30.0 -0.9**
SNR=12
BIDO Bidbid 69.93 296 P **P 23 20 30.0 -0.9**
SNR=12
BVAR Borovoye Array 71.40 329 PKPPKP **P'P'ab 23 48 29.0 +0.9**
comp=Z,0.4nm,0.7s,baz=236,slow=1.6,SNR=3.8
BRVK Borovoye 71.47 329*ce*P **P 23 20 39.7 0.0**
BRVK pmax pmax
comp=Z,192nm,1.2s
BRVK Borovoye 71.47 329 *e*P **P 23 20 39.9 +0.2**
BRVK Borovoye 71.47 329 P **P 23 20 39.9 +0.2**
SNR=44
BRVK Borovoye 71.47 329 P **P 23 20 39.9 +0.2**
SNR=44
UOSS Minazif 71.93 297 *e*P **P 23 20 42.4 -0.7**
HATD Hatta, Dubai 71.97 297 *i* P **P 23 20 42.9 -0.4**
SNR=8.4
HATD Hatta, Dubai 71.97 297 P **P 23 20 42.9 -0.4**
SNR=6.7
HATD Hatta, Dubai 71.97 297 P **P 23 20 42.9 -0.4**
SNR=6.7
ASHO Ashiyiah 72.01 297 *i* P **P 23 20 43.1 -0.5**
SNR=9.8
ASHO Ashiyiah 72.01 297 P **P 23 20 42.6 -0.9**
SNR=5.4
ASHO Ashiyiah 72.01 297 P **P 23 20 42.6 -0.9**
SNR=5.4
ASHO P P 23 20 42.6 -0.9
SNR=5.4
BANOM Banah 72.03 298 P **P 23 20 43.5 -0.2**
NAZ Nazwa, Dubai 72.42 297 *i* P **P 23 20 45.4 -0.6**
SNR=5.1
FAQ Al Faqa, Dubai 72.44 297 *i* P **P 23 20 45.2 -1.0**
SNR=17
FAQ Al Faqa, Dubai 72.44 297 P **P 23 20 45.1 -1.0**
SNR=6.2
FAQ Al Faqa, Dubai 72.44 297 P **P 23 20 45.1 -1.0**
SNR=6.2
FAQ P P 23 20 45.1 -1.0
SNR=6.2
GEYT Alibeck 73.40 311 P **P 23 20 51.6 0.0**
comp=Z,26nm,1.1s,baz=134,slow=4.3,SNR=44
TIXI Tiksi 73.67 1 LR LR 23 56 42.1
comp=Z,70nm,18.9s,baz=182,slow=39
TIXI Tiksi 73.67 1*ce*P **P 23 20 52.0 -0.4**
TIXI pmax pmax
comp=Z,117nm,1.2s
TIXI Tiksi 73.67 1 *e*P **P 23 20 51.6 -0.7**
BILL Bilibino 75.56 15⇑ *i*P **P 23 21 04.4 +1.0**
BILL *e**PP **pP 23 21 11.4 +0.1**
BILL *e* 23 21 18.8
BILL 23 23 53.0
BILL *i*S **S 23 30 42.8 +0.3**
BILL pmax pmax
comp=Z,12nm,1.2s
BILL MLR MLR
comp=Z,105nm,23.0s
NRIK Noril'sk 75.72 347 P **P 23 21 04.3 0.0**
comp=Z,17nm,0.9s,baz=136,slow=5.5,SNR=27
NRIK LR LR 23 58 32.5
comp=Z,72nm,19.0s,baz=148,slow=39
AB31 Akbulak array 75.72 322*ce*P **P 23 21 04.1 -0.6**
AB31 pmax pmax
comp=Z,87nm,1.3s
ABKAR Akbulak array 75.72 322 *e*P **P 23 21 04.2 -0.5**
comp=Z,78nm,1.1s
MAW Mawson 77.77 200 P **P 23 21 15.2 -0.8**
comp=Z,12nm,1.1s,baz=65,slow=7.4,SNR=22
MAW Mawson 77.77 200 P **P 23 21 15.7 -0.2**
baz=78,SNR=14
VNDA Vanda 77.88 172 P **P 23 21 15.5 -0.9**
comp=Z,1.9nm,1.0s,baz=340,slow=5.4,SNR=5.1
VNDA LR LR 23 55 56.5
comp=Z,108nm,18.1s,baz=332,slow=36
VNDA Vanda 77.88 172 *e*P **P 23 21 15.6 -0.8**
SVE Sverdlovsk 78.13 330*di*P **P 23 21 17.7 -0.5**
SVE pmax pmax
comp=Z,99nm,1.5s
ARU Arti 79.05 329*c i*P **P 23 21 22.0 -1.3**
ARU 23 24 18.2
ARU S **S 23 31 20.0 -0.8**
ARU SS **SS 23 36 20.6 -6.3**
ARU pmax pmax
comp=Z,98nm,1.7s
ARU Arti 79.05 329 *e*P **P 23 21 21.9 -1.3**
comp=Z,67nm,1.1s
LKRN Lenkeran, Azer 80.73 310 P **P 23 21 32.1 -0.6**
SOKR Solikamsk 81.04 331*c i*P **P 23 21 30.9 -2.9**
SOKR pmax pmax
comp=Z,34nm,1.2s
SEKA Sheki 82.35 312 P **P 23 21 40.7 -0.7**
MNGR Mingechevir, A 82.37 311 P **P 23 21 40.8 -0.5**
ZKTA Zakatala 82.85 312 P **P 23 21 43.3 -0.6**
GANJ Ganja 82.92 311 P **P 23 21 43.6 -0.7**
NAX Nakhchivan 83.33 310 P **P 23 21 45.8 -0.7**
GROC Groznyy 83.70 314 *e*P P 23 21 39.2 -9.0
GROC pmax pmax
comp=Z,63nm,1.5s
DGRG David-gareji 83.75 312 P **P 23 21 49.2 +0.7**
DGRG David-gareji 83.75 312 P **P 23 21 49.2 +0.7**
GNI Garni 84.04 311 P P 23 21 44.0 -6.2
GNI Garni 84.04 311*ce*P **P 23 21 49.0 -1.2**
GNI pmax pmax
comp=Z,87nm,1.2s

GNI Garni 84.04 311 *e*P **P 23 21 50.8 +0.6**
comp=Z,197nm,1.1s
TBLG Delisi 84.26 312 P **P 23 21 51.3 +0.2**
TBLG Delisi 84.26 312 P **P 23 21 51.3 +0.2**
GUDG Gudauri 84.55 313 P **P 23 21 53.3 +0.5**
PPT Papeete 84.84 107 LR LR 23 54 55.0
comp=Z,62nm,21.3s,baz=332,slow=32
PPT2 Papeete2 84.84 107 *e*LR LR 23 48 38.0
comp=Z,613nm,35.5s
TBI Tubuai 84.92 113 *e*LR LR 23 48 48.3
comp=Z,162nm,33.2s
ZEI Tsey 85.02 313 *e*P **P 23 21 51.5 -3.7**
ZEI pmax pmax
comp=Z,118nm,1.2s
AKH Akhalkalaki 85.14 312 P **P 23 21 56.9 +1.1**
AKH Akhalkalaki 85.14 312 P **P 23 21 56.9 +1.1**
ONI Oni 85.32 313 P **P 23 21 56.9 +0.4**
ONI Oni 85.32 313 P **P 23 21 56.9 +0.4**
NCK Nalchik 85.33 314*c i*P **P 23 21 56.0 -0.5**
NCK pmax pmax
comp=Z,21nm,1.1s
KBZ Khabaz 85.86 314 P **P 23 21 58.6 -0.5**
comp=Z,12nm,1.0s,baz=66,slow=3.0,SNR=18
KBZ LR LR 00 06 34.8
comp=Z,43nm,18.9s,baz=95,slow=40
GOF Gofitskoye 85.92 315⇑ *e*P **P 23 21 59.5 +0.2**
GOF pmax pmax
comp=Z,69nm,1.1s
NEY Neytrino 85.93 313*c i*P **P 23 21 59.7 0.0**
NEY pmax pmax
comp=Z,6.0nm,1.1s
KIV Kislovodsk 86.04 314 *i* P **P 23 21 59.6 -0.5**
SNR=6.2
KIV Kislovodsk 86.04 314 *e*P **P 23 21 59.5 -0.5**
KIV pmax pmax
comp=Z,11nm,1.1s
KIV Kislovodsk 86.04 314 *e*P **P 23 21 59.4 -0.7**
comp=Z,22nm,1.2s
KIV Kislovodsk 86.04 314 P **P 23 21 59.6 -0.5**
SNR=6.5
KIV P P 23 21 59.6 -0.5
SNR=6.5
SYO Syowa Base 86.45 201⇑ *e*P **P 23 22 00.0 -1.4**
KDAK Kodiak Island 87.63 32 LR LR 23 56 15.4
comp=Z,154nm,20.0s,baz=276,slow=32
QSPA South Pole Qui 87.83 180 *e*P **P 23 22 06.9 -1.5**
comp=Z,46nm,1.3s
KMBO Kilima Mbogo 87.88 269 P **P 23 22 09.9 +0.1**
comp=Z,5.8nm,0.9s,baz=52,slow=3.7,SNR=11
KMBO LR LR 00 01 27.5
comp=Z,74nm,18.7s,baz=83,slow=36
KMBO Kilima Mbogo 87.88 269*ce*P **P 23 22 10.6 +0.7**
KMBO pmax pmax
comp=Z,6.0nm,0.9s
PPLA Purkeypile 88.50 27 *e*P **P 23 22 11.5 -0.1**
comp=Z,20nm,1.4s
VSR Storozhevoye 89.12 321 *e*P **P 23 22 12.7 -1.9**
VSR pmax pmax
comp=Z,20nm,1.2s
LPSR Galich'ya Gora 89.37 323 *e*P **P 23 22 14.3 -1.4**
LPSR pmax pmax
comp=Z,20nm,0.8s
KLMR Klimovskoe 89.70 331 *e*P **P 23 22 13.7 -3.4**
KLMR pmax pmax
comp=Z,29nm,1.4s
COLD Coldfoot 89.84 23 *e*P **P 23 22 18.2 +0.5**
comp=Z,23nm,1.2s
MCK McKinley 90.05 26 *e*P **P 23 22 18.2 -0.5**
MCK pmax pmax
comp=Z,32nm,1.4s
MCK McKinley 90.05 26 *e*P **P 23 22 18.2 -0.5**
comp=Z,32nm,1.4s
SML Sawmill 90.18 28 *e*P **P 23 22 19.3 -0.1**
SML pmax pmax
comp=Z,7.0nm,1.1s
SML Sawmill 90.18 28 *e*P **P 23 22 19.3 -0.1**
comp=Z,7.5nm,1.1s
TOLK Toolik Lake Re 90.21 21 P **P 23 22 18.6 -0.9**
baz=265
MOS Moscow 90.34 326 *e*P **P 23 22 21.7 +1.5**
MOS pmax pmax
comp=Z,47nm,0.7s
OBN Obninsk 90.92 325 LR LR 00 05 01.4
comp=Z,66nm,22.0s,baz=89,slow=37
OBN Obninsk 90.92 325*c i*P **P 23 22 20.9 -1.9**
OBN 23 22 27.0
OBN pmax pmax
comp=Z,41nm,1.7s
OBN MLR MLR
comp=Z,89nm,22.0s
ILAR Eielson Array 91.01 25 P **P 23 22 21.5 -1.6**
comp=Z,3.3nm,1.1s,baz=266,slow=3.9,SNR=15
ILAR PP **PP 23 25 56.4 -3.2**
comp=Z,2.6nm,1.1s,baz=257,slow=6.4,SNR=8.3
ILAR PKKPbc **PKKPdf 23 39 47.0 +0.7**
comp=Z,1.1nm,0.9s,baz=53,slow=2.0,SNR=8.1
ILAR LR LR 23 59 59.8
comp=Z,62nm,19.8s,baz=248,slow=33
DIV Divide 91.37 29 *e*P **P 23 22 25.3 +0.3**
comp=Z,56nm,1.5s
BMRM Bremner River 91.94 29 *e*P **P 23 22 27.8 +0.2**
comp=Z,21nm,1.4s
BRTR Keskin Array B 92.52 309 P **P 23 22 29.2 -1.6**
comp=Z,2.8nm,1.0s,baz=133,slow=5.4,SNR=8.1
BRTR LR LR 00 11 08.5
comp=Z,43nm,19.8s,baz=100,slow=40
EGAK Eagle 93.47 25 *e*P **P 23 22 34.7 +0.3**
comp=Z,9.3nm,1.2s
DAWY Dawson 94.27 26 *e*P **P 23 22 39.0 +0.7**
comp=Z,37nm,1.3s
ARCES ARCESS Array B 95.35 340 P **P 23 22 41.1 -1.9**
comp=Z,4.1nm,0.9s,baz=96,slow=5.6,SNR=3.6
AKASG Malin Array Be 95.40 321 P **P 23 22 41.4 -2.2**
comp=Z,1.2nm,0.5s,baz=76,slow=4.1,SNR=12
KIEV Kiev 95.41 321 *i* P **P 23 22 41.6 -2.1**
KIEV pmax pmax
comp=Z,6.0nm,1.1s
INK Inuvik 96.13 22 P **P 23 22 46.0 -0.5**
comp=Z,13nm,1.1s,baz=272,slow=5.4,SNR=10
FINES FINESS Array B 96.20 331 P **P 23 22 46.6 -0.4**
comp=Z,0.9nm,0.5s,baz=58,slow=4.7,SNR=10
FINES FINESS Array B 96.20 331*ce*P **P 23 22 49.2 +2.2**
FINES pmax pmax
comp=Z,1.0nm,0.4s
BOSA Boshof 97.69 241 P **P 23 22 53.9 -0.9**
comp=Z,13nm,1.0s,baz=36,slow=2.4,SNR=5.7
BOSA LR LR 00 04 15.3
comp=Z,118nm,18.2s,baz=56,slow=34
UZH Uzhgorod 100.09 319 *e*P **Pdif 23 23 03.2 -1.6**
STHS Stebnicka Huta 100.65 320 *e*P **Pdif 23 23 07.7 +0.4**
STHS pmax pmax
comp=Z,6.0nm,1.5s
STHS Stebnicka Huta 100.65 320 *e*P **Pdif 23 23 07.7 +0.4**
KECS Kecovo 101.30 319 *e*P **Pdif 23 23 09.1 -1.2**
KECS pmax pmax
comp=Z,3.0nm,1.1s
KECS Kecovo 101.30 319 *e*P **Pdif 23 23 09.0 -1.2**
VYHS Vyhne 102.38 319 *e*PP PP 23 27 26.8 -0.8
DPC Dobruska-Polom 103.59 321 *e*PP PP 23 27 40.0 +3.4
UPC Upice 103.75 322 *e*PP PP 23 27 38.2 +0.5
YKA Yellowknife Ar 105.42 25 PKKPbc PKKPbc 23 39 05.5 -4.0
comp=Z,0.4nm,0.4s,baz=116,slow=3.2,SNR=4.2
GERES GERESS Array B 105.61 320 PKiKP **PKiKP 23 27 42.5 -0.2**
comp=Z,0.5nm,0.6s,baz=64,slow=2.3,SNR=5.1
KHC Kasperske Hory 105.61 321 *e*PKP **PKiKP 23 27 36.6 -6.0**
KHC *e*PP **PP 23 27 50.8 -0.9**
I04A Tendick Farm, baz=284 107.53 45 P **PKiKP 23 27 46.3 0.0**
J05D Fort Rock, OR baz=285 108.48 45 P **PKiKP 23 27 48.8 +0.5**
MSO Missoula baz=292 112.26 40 P **PKiKP 23 27 55.5 +0.3**
EDW2 Edwards Air Fo baz=284 113.06 53 P **PKiKP 23 27 58.0 +0.9**
HLID Hailey baz=290 113.13 43 P **PKiKP 23 27 58.0 +0.9**
TPNV Topopah Spring baz=286 113.88 50 P **PKiKP 23 27 59.4 +0.7**
R11A Troy Canyon, C baz=288 113.98 49 P **PKiKP 23 27 59.7 +0.8**
SHOC Shoshone, Teco baz=286 114.15 51 P PKPdf 23 27 59.6 +0.5
BOZ Bozeman (W) baz=294 114.22 40 P PKPdf 23 27 60.0 +0.9
TUQ Turquoise Moun baz=286 114.55 52 P PKPdf 23 28 00.7 +0.7

PFO	Pinyon Flats O	114.61	54	PKP	PKPdf	23 28 01.3	+1.1	
	comp=Z,3.1nm,0.8s,baz=297,slow=4.5,SNR=5.1							
PFO	Pinyon Flats O	114.61	54	P	PKPdf	23 28 00.8	+0.7	
	baz=285							
TPFO	Pinon Flats	114.61	54	P	PKPdf	23 28 01.0	+0.8	
	baz=285							
MONP	Monument Peak,	114.82	55	P	PKPdf	23 28 02.2	+1.5	
	baz=284							
BELC	Belle Mtn. Jos	114.88	53	P	PKPdf	23 28 01.8	+1.1	
	baz=285							
IKP	In-Ko-Pah, Jac	115.13	55	P	**PKPdf**	**23 28 02.2**	**+1.1**	
	baz=285							
SWSC	Sam W. Stewart	115.31	54	P	**PKPdf**	**23 28 02.5**	**+1.2**	
	baz=285							
BC3	Big Chuckawall	115.41	54	P	**PKPdf**	**23 28 02.8**	**+1.2**	
	baz=286							
DUG	Dugway, Tooele	115.42	46	P	**PKPdf**	**23 28 02.2**	**+0.6**	
	baz=290							
IRM	Iron Mountain	115.52	53	P	**PKPdf**	**23 28 03.1**	**+1.3**	
	baz=286							
REDW	Red Top Meadow	115.61	42	*e*PKPdf	**PKPdf**	**23 28 02.7**	**+0.7**	
LOHW	Long Hollow	115.68	42	*e*PKPdf	**PKPdf**	**23 28 03.0**	**+0.9**	
BW06	Boulder Array	116.72	42	P	**PKPdf**	**23 28 04.3**	**+0.2**	
	baz=294							
PDAR	Pinedale Array	116.72	42	PKP	**PKPdf**	**23 28 04.3**	**+0.2**	
	comp=Z,1.0nm,0.4s,baz=222,slow=2.0,SNR=13							
PDAR				PKKPbc	**PKKPbc**	**23 38 30.5**	**-1.7**	
	comp=Z,0.9nm,0.9s,baz=103,slow=6.4,SNR=4.9							
LAO	LASA Array	117.11	37	P	**PKPdf**	**23 28 05.1**	**+0.6**	
	baz=299							
LAO	LASA Array	117.11	37	*e*PKPdf	**PKPdf**	**23 28 05.6**	**+1.0**	
214A	Organ Pipe Nat	118.01	55	P	**PKPdf**	**23 28 06.9**	**+0.3**	
	baz=286							
WUAZ	Wupatki	118.07	50	P	**PKPdf**	**23 28 07.8**	**+1.0**	
	baz=289							
WUAZ	Wupatki	118.07	50	*e*PKPdf	**PKPdf**	**23 28 08.2**	**+1.4**	
O20A	White River Ci	118.69	45	P	**PKPdf**	**23 28 08.7**	**+0.7**	
	baz=294							
O20A	White River Ci	118.69	45	*e*PKPdf	**PKPdf**	**23 28 08.7**	**+0.7**	
RWWY	Rawlins	118.76	43	*e*PKPdf	**PKPdf**	**23 28 08.3**	**+0.2**	
PV01	Paradox Valley	119.25	47	*e*PKPdf	**PKPdf**	**23 28 09.8**	**+0.7**	
W18A	Petrified Fore	119.47	50	P	**PKPdf**	**23 28 10.1**	**+0.5**	
	baz=290							
W18A	Petrified Fore	119.47	50	*e*PKPdf	**PKPdf**	**23 28 10.7**	**+1.1**	
TUC	Tucson	119.55	54	P	**PKPdf**	**23 28 10.1**	**+0.5**	
	baz=288							
TUC	Tucson	119.55	54	*e*PKIKP	**PKPdf**	**23 28 09.9**	**+0.3**	
TUC	Tucson	119.55	54	*e*PKPdf	**PKPdf**	**23 28 09.9**	**+0.3**	
MVCO	Mesa Verde	119.65	48	P	**PKPdf**	**23 28 10.5**	**+0.6**	
	baz=292							
RSSD	Black Hills	119.71	39	P	**PKPdf**	**23 28 09.4**	**-0.4**	
	baz=300							
N23A	Red Feather La	119.96	43	P	**PKPdf**	**23 28 11.2**	**+0.8**	
	baz=296							
S22A	4UR Ranch, Cre	120.66	47	P	**PKPdf**	**23 28 13.1**	**+1.2**	
	baz=294							
ISCO	Idaho Springs	120.67	44	P	**PKPdf**	**23 28 12.3**	**+0.4**	
	baz=296							
ESDC	Sonseca Array	120.67	316	PKP	**PKPdf**	**23 28 11.4**	**-0.2**	
	comp=Z,1.5nm,0.9s,baz=38,slow=2.5,SNR=4.8							
ULM	Lac du Bonnet	120.79	29	PKP	**PKPdf**	**23 28 10.7**	**-0.7**	
	comp=Z,2.9nm,0.6s,baz=227,slow=3.0,SNR=6.5							
Q24A	Divide	121.35	45	P	**PKPdf**	**23 28 13.2**	**-0.1**	
	baz=296							
C31A	Landman Farms,	121.37	33	P	**PKPdf**	**23 28 12.3**	**-0.3**	
	baz=307							
SDCO	Great Sand Dun	121.62	46	P	**PKPdf**	**23 28 14.5**	**+0.8**	
	baz=295							
SDCO	Great Sand Dun	121.62	46	*e*PKPdf	**PKPdf**	**23 28 14.5**	**+0.8**	
E31A	Nome	122.03	34	P	**PKPdf**	**23 28 13.8**	**-0.1**	
	baz=306							
ANMO	Albuquerque	122.03	49	PKP	**PKPdf**	**23 28 14.9**	**+0.4**	
	comp=Z,8.7nm,0.9s,baz=211,slow=3.2,SNR=28							
ANMO	Albuquerque	122.03	49	P	**PKPdf**	**23 28 15.5**	**+1.0**	
	baz=293							
ANMO	Albuquerque	122.03	49	*c i*PKIKP	**PKPdf**	**23 28 13.5**	**-1.0**	
ANMO				pmax	pmax			
	comp=Z,13nm,1.0s							
AGMN	Agassiz Nation	122.04	31	P	**PKPdf**	**23 28 13.1**	**-0.7**	
	baz=309							
B34A	Aery, Baudette	122.54	30	P	**PKPdf**	**23 28 14.5**	**-0.3**	
	baz=311							
T25A	Trinidad	122.67	46	P	**PKPdf**	**23 28 16.4**	**+0.7**	
	baz=295							
G32A	Webster	123.02	35	P	**PKPdf**	**23 28 15.7**	**-0.2**	
	baz=306							
TORD	Torodi Ar. Bea	123.04	284	PKP	**PKPdf**	**23 28 16.1**	**-0.6**	
	comp=Z,6.1nm,0.9s,baz=60,slow=2.1,SNR=26							
TORD				PKKPbc	**PKKPab**	**23 38 09.1**	**+1.1**	
	comp=Z,4.0nm,1.0s,baz=288,slow=4.0,SNR=11							
KSCO	Kaye Shedlock'	123.09	44	P	**PKPdf**	**23 28 16.6**	**+0.2**	
	baz=298							
B35A	Bob, Littlefor	123.09	30	P	**PKPdf**	**23 28 15.8**	**-0.1**	
	baz=312							
E33A	Westby DABS, E	123.09	33	P	**PKPdf**	**23 28 15.8**	**-0.1**	
	baz=308							
D34A	Park Rapids	123.16	32	P	**PKPdf**	**23 28 15.9**	**-0.1**	
	baz=310							
F33A	5 Mile Ranch,	123.34	34	P	**PKPdf**	**23 28 16.5**	**0.0**	
	baz=308,SNR=8.8							
C35A	Jirik Farms, M	123.40	31	P	**PKPdf**	**23 28 15.5**	**-1.0**	
	baz=311							
H32A	Carlson Farm,	123.49	36	P	**PKPdf**	**23 28 16.8**	**0.0**	
	baz=306,SNR=5.8							
E34A	Wadena	123.54	32	P	**PKPdf**	**23 28 16.8**	**0.0**	
	baz=309							
G33A	Ortonville	123.65	34	P	**PKPdf**	**23 28 16.9**	**-0.1**	
	baz=307							
D35A	Remer	123.76	31	P	**PKPdf**	**23 28 16.6**	**-0.6**	
	baz=311,SNR=5.5							
C36A	Pine Crest Far	123.94	30	P	**PKPdf**	**23 28 17.3**	**-0.2**	
	baz=312							
MNTX	Cornudas Mount	124.08	53	P	**PKPdf**	**23 28 19.1**	**+0.8**	
	baz=291							
MNTX	Cornudas Mount	124.08	53	*e*PKPdf	**PKPdf**	**23 28 19.1**	**+0.8**	
D36A	Goodland	124.16	31	P	**PKPdf**	**23 28 17.8**	**-0.2**	
	baz=312							
K32A	Verdigre	124.23	38	P	**PKPdf**	**23 28 17.9**	**-0.4**	
	baz=304							
H34A	Spellman Lake,	124.35	35	P	**PKPdf**	**23 28 18.1**	**-0.3**	
	baz=308,SNR=11							
ECSD	EROS Data Cent	124.42	36	P	**PKPdf**	**23 28 18.5**	**-0.1**	
	baz=306,SNR=8.6							
ECSD	EROS Data Cent	124.42	36	*e*PKPdf	**PKPdf**	**23 28 18.2**	**-0.4**	
J33A	Davis	124.46	36	P	**PKPdf**	**23 28 17.5**	**-1.1**	
	baz=306							
D37A	Cotton	124.55	30	P	**PKPdf**	**23 28 18.2**	**-0.5**	
	baz=312							
E36A	McGregor	124.55	31	P	**PKPdf**	**23 28 18.4**	**-0.3**	
	baz=311,SNR=6.8							
I34A	Hadley	124.68	35	P	**PKPdf**	**23 28 18.8**	**-0.3**	
	baz=307							
G35A	Watkins	124.72	33	P	**PKPdf**	**23 28 18.9**	**-0.2**	
	baz=309							
BGNE	Belgrade	124.82	39	P	**PKPdf**	**23 28 19.2**	**-0.3**	
	baz=304							
BGNE	Belgrade	124.82	39	*e*PKPdf	**PKPdf**	**23 28 19.6**	**+0.2**	
F36A	Milaca	124.83	32	P	**PKPdf**	**23 28 19.1**	**-0.2**	
	baz=311,SNR=10							
H35A	Sunnyside Ranc	124.86	34	P	**PKPdf**	**23 28 19.2**	**-0.2**	
	baz=309,SNR=11							
G36A	St. Michael	125.11	33	P	**PKPdf**	**23 28 19.8**	**-0.1**	
	baz=310							
MSTX	Muleshoe	125.22	49	P	**PKPdf**	**23 28 21.0**	**+0.5**	
	baz=295							
MSTX	Muleshoe	125.22	49	*e*PKPdf	**PKPdf**	**23 28 20.8**	**+0.3**	
E38A	The Farm, Brul	125.36	30	P	**PKPdf**	**23 28 20.0**	**-0.2**	
	baz=313							
F37A	Hinrichs Farm,	125.40	32	P	**PKPdf**	**23 28 20.2**	**-0.2**	
	baz=311							
H36A	Jessenland, He	125.44	34	P	**PKPdf**	**23 28 21.1**	**+0.6**	
	baz=309							
F38A	Pierce - Schro	125.63	31	P	**PKPdf**	**23 28 20.6**	**-0.2**	
	baz=312,SNR=5.9							
SPMN	Marine on St.	125.63	32	P	**PKPdf**	**23 28 20.6**	**-0.2**	
	baz=311							
AMTX	Amarillo	125.64	48	P	**PKPdf**	**23 28 20.9**	**-0.3**	
	baz=296							
K35A	Storm Lake	125.84	36	P	**PKPdf**	**23 28 21.1**	**-0.2**	
	baz=307							
O33A	Hebron	125.91	40	P	**PKPdf**	**23 28 21.3**	**-0.2**	
	baz=303							
J36A	Seneca 1, Swea	125.99	35	P	**PKPdf**	**23 28 21.4**	**-0.2**	
	baz=308							
H37A	Dierke Farm, C	125.99	33	P	**PKPdf**	**23 28 21.4**	**-0.1**	
	baz=310							
L35A	Bielow Farm, R	126.02	37	P	**PKPdf**	**23 28 21.4**	**-0.3**	
	baz=306							
E39A	Mellen	126.02	30	P	**PKPdf**	**23 28 21.4**	**-0.1**	
	baz=314,SNR=6.1							
I37A	Lemond, Waseca	126.09	34	P	**PKPdf**	**23 28 21.8**	**+0.1**	
	baz=310							
F39A	Loretta	126.15	31	P	**PKPdf**	**23 28 21.8**	**-0.1**	
	baz=313							
H38A	Maiden Rock	126.27	33	P	**PKPdf**	**23 28 21.9**	**-0.1**	
	baz=311							
E40A	Wakefield	126.30	30	P	**PKPdf**	**23 28 22.0**	**-0.1**	
	baz=315,SNR=5.1							
TXAR	Lajitas Array	126.31	55	PKP	**PKPdf**	**23 28 23.6**	**+0.8**	
	comp=Z,3.1nm,0.9s,baz=251,slow=1.3,SNR=26							
K36A	Gilmore City	126.35	36	P	**PKPdf**	**23 28 22.1**	**-0.2**	
	baz=308							
O34A	Beatrice	126.42	39	P	**PKPdf**	**23 28 22.4**	**-0.1**	
	baz=304							
J37A	Redenius Farm,	126.45	35	P	**PKPdf**	**23 28 22.2**	**-0.3**	
	baz=311							
G39A	Holcombe	126.45	31	P	**PKPdf**	**23 28 22.3**	**-0.1**	
	baz=313							
SCHQ	Schefferville	126.54	9	PKP	**PKPdf**	**23 28 22.4**	**+0.1**	
	comp=Z,9.6nm,1.0s,baz=306,slow=3.0,SNR=3.8							
F40A	Park Falls	126.55	30	P	**PKPdf**	**23 28 22.5**	**-0.2**	
	baz=314,SNR=5.8							
I38A	Scanlan Farm,	126.66	33	P	**PKPdf**	**23 28 22.7**	**-0.2**	
	baz=311							
P34A	Walnut Farm, R	126.68	40	P	**PKPdf**	**23 28 22.8**	**-0.3**	
	baz=304							
K37A	Belmond	126.74	35	P	**PKPdf**	**23 28 22.8**	**-0.2**	
	baz=309							
H39A	Augusta	126.80	32	P	**PKPdf**	**23 28 22.9**	**-0.2**	
	baz=312,SNR=5.7							
U32A	Winter Ranch,	126.87	45	P	**PKPdf**	**23 28 23.2**	**-0.4**	
	baz=300							
Q34A	Chapman	126.95	41	P	**PKPdf**	**23 28 23.3**	**-0.3**	
	baz=303							
G40A	Rib Lake	126.96	31	P	**PKPdf**	**23 28 23.3**	**-0.1**	
	baz=314							
J38A	Wedel Dairy, R	127.05	34	P	**PKPdf**	**23 28 23.3**	**-0.3**	
	baz=310							
KSU1	Kansas State U	127.07	41	P	**PKPdf**	**23 28 23.5**	**-0.3**	
	baz=304							
R34A	Isabella, Hill	127.08	42	P	**PKPdf**	**23 28 23.6**	**-0.3**	
	baz=302							
F41A	Three Lakes	127.19	30	P	**PKPdf**	**23 28 23.4**	**-0.4**	
	baz=315							
I39A	Houston	127.22	33	P	**PKPdf**	**23 28 23.8**	**-0.2**	
	baz=312,SNR=5.2							
H40A	Chili	127.31	31	P	**PKPdf**	**23 28 23.8**	**-0.3**	
	baz=313							
M37A	Trindle Farm,	127.33	37	P	**PKPdf**	**23 28 24.0**	**-0.2**	
	baz=308							
J39A	Decorah	127.46	33	P	**PKPdf**	**23 28 24.1**	**-0.3**	
	baz=311,SNR=6.9							
L38A	Oak Wood Farm,	127.52	35	P	**PKPdf**	**23 28 24.4**	**-0.1**	
	baz=309							
Q35A	Mercer Eighty,	127.58	40	P	**PKPdf**	**23 28 24.5**	**-0.3**	
	baz=304							
I40A	Norwalk	127.69	32	P	**PKPdf**	**23 28 24.7**	**-0.1**	
	baz=312							
E43A	Lone Tree Farm	127.74	28	P	**PKPdf**	**23 28 24.7**	**-0.1**	
	baz=318							
R35A	Emporia Munici	127.77	41	P	**PKPdf**	**23 28 25.0**	**-0.2**	
	baz=304							
K39A	Oelwein	127.77	34	P	**PKPdf**	**23 28 24.8**	**-0.2**	
	baz=310							
T34A	McClaskey Farm	127.80	43	P	**PKPdf**	**23 28 25.0**	**-0.3**	
	baz=302							
WMOK	Wichita Mounta	127.82	46	P	**PKPdf**	**23 28 25.1**	**-0.2**	
	baz=299							
WMOK	Wichita Mounta	127.82	46	*e*PKIKP	**PKPdf**	**23 28 24.8**	**-0.6**	
WMOK	Wichita Mounta	127.82	46	*e*PKPdf	**PKPdf**	**23 28 24.8**	**-0.6**	
M38A	Pleasantville	127.83	36	P	**PKPdf**	**23 28 25.1**	**-0.1**	
	baz=308,SNR=5.6							
S35A	Otter Creek Ra	128.04	42	P	**PKPdf**	**23 28 25.4**	**-0.3**	
	baz=303							
L39A	Vinton	128.08	35	P	**PKPdf**	**23 28 25.6**	**0.0**	
	baz=310							
ABTX	Abilene, Hawle	128.16	49	P	**PKPdf**	**23 28 27.1**	**+1.0**	
	baz=296							
ABTX	Abilene, Hawle	128.16	49	*e*PKPdf	**PKPdf**	**23 28 27.3**	**+1.2**	
K40A	Colesburg	128.19	34	P	**PKPdf**	**23 28 25.7**	**-0.1**	
	baz=311							
G43A	Wallace	128.23	29	P	**PKPdf**	**23 28 25.8**	**+0.1**	
	baz=316							
P37A	Lathrop	128.24	39	P	**PKPdf**	**23 28 25.9**	**-0.1**	
	baz=306							
T35A	Sooner Cattle	128.32	43	P	**PKPdf**	**23 28 26.1**	**-0.2**	
	baz=302							
J41A	Loganville	128.36	32	P	**PKPdf**	**23 28 26.1**	**0.0**	
	baz=313							
M39A	Webster	128.40	36	P	**PKPdf**	**23 28 26.1**	**-0.1**	
	baz=310							
U35A	Pawnee	128.45	44	P	**PKPdf**	**23 28 27.2**	**+0.7**	
	baz=302							
S36A	Lake Cedric, C	128.50	41	P	**PKPdf**	**23 28 26.8**	**+0.3**	
	baz=304							
L40A	Anamosa	128.56	34	P	**PKPdf**	**23 28 25.9**	**-0.6**	
	baz=311,SNR=5.8							
N39A	Derby Farms, D	128.58	36	P	**PKPdf**	**23 28 26.8**	**+0.2**	
	baz=309							
R37A	Teagarden Farm	128.66	40	P	**PKPdf**	**23 28 26.6**	**-0.3**	
	baz=305							
T36A	Boggs Farm, Ca	128.67	42	P	**PKPdf**	**23 28 26.8**	**-0.1**	
	baz=303							
V35A	Meyer Ranch, C	128.69	44	P	**PKPdf**	**23 28 26.8**	**-0.1**	
	baz=301							
K41A	Shullsburg	128.72	33	P	**PKPdf**	**23 28 26.7**	**-0.1**	
	baz=312							
P38A	Dawn	128.72	38	P	**PKPdf**	**23 28 26.7**	**-0.2**	
	baz=307,SNR=8.4							
JCT	Junction City	128.96	52	P	**PKPdf**	**23 28 28.4**	**+0.7**	
	baz=295							
S37A	Fort Scott	128.98	41	P	**PKPdf**	**23 28 27.6**	**+0.1**	
	baz=304,SNR=8.1							
W35A	Tecumseh	128.98	45	P	**PKPdf**	**23 28 27.8**	**+0.2**	
	baz=301							
233A	Rising Star	128.99	49	P	**PKPdf**	**23 28 28.7**	**+1.0**	
	baz=297,SNR=6.0							
333A	Richland Sprin	129.23	50	P	**PKPdf**	**23 28 28.5**	**+0.4**	
	baz=296,SNR=16							
T37A	Cheneyville 18	129.28	42	P	**PKPdf**	**23 28 27.9**	**-0.1**	
	baz=304							
P39B	Salisbury	129.28	38	P	**PKPdf**	**23 28 27.9**	**-0.1**	
	baz=308							
X35A	Drake	129.29	46	P	**PKPdf**	**23 28 28.1**	**0.0**	
	baz=300							
V36A	Jenks	129.30	44	P	**PKPdf**	**23 28 28.0**	**-0.1**	
	baz=302,SNR=6.2							
R38A	Fenwick Farm,	129.33	40	P	**PKPdf**	**23 28 27.9**	**-0.2**	
	baz=306,SNR=5.3							
433A	Art	129.40	51	P	**PKPdf**	**23 28 29.0**	**+0.5**	
	baz=296,SNR=13							
Q39A	Willow Grove F	129.41	39	P	**PKPdf**	**23 28 28.2**	**-0.1**	
	baz=307							
W36A	Wetumka	129.44	45	P	**PKPdf**	**23 28 29.0**	**+0.6**	
	baz=301							
234A	Clairette	129.57	49	P	**PKPdf**	**23 28 29.2**	**+0.4**	
	baz=297,SNR=5.8							
X36A	Centrahoma	129.65	45	P	**PKPdf**	**23 28 28.5**	**-0.3**	
	baz=301,SNR=6.8							
S38A	Stockton	129.65	41	P	**PKPdf**	**23 28 28.8**	**0.0**	
	baz=305,SNR=7.7							
T38A	Diamond	129.74	41	P	**PKPdf**	**23 28 28.8**	**-0.1**	
	baz=304,SNR=7.5							
334A	Lometa	129.80	50	P	**PKPdf**	**23 28 29.0**	**-0.2**	
	baz=297,SNR=7.3							
V37A	Hulbert	129.80	43	P	**PKPdf**	**23 28 29.5**	**+0.5**	
	baz=303,SNR=6.4							
R39A	Chumby, Stover	129.81	39	P	**PKPdf**	**23 28 29.0**	**0.0**	
	baz=307,SNR=6.6							
633A	Saathoff Ranch	129.88	53	P	**PKPdf**	**23 28 29.9**	**+0.5**	
	baz=295							
DBIC	Dimbokro	129.99	277	PKP	**PKPdf**	**23 28 30.2**	**+0.2**	
	comp=Z,7.2nm,1.0s,baz=0.0,slow=2.0,SNR=5.2							
S39A	Bolivar	130.00	40	P	**PKPdf**	**23 28 29.4**	**0.0**	
	baz=306,SNR=17							
W37B	Quinton	130.00	44	P	**PKPdf**	**23 28 30.1**	**+0.6**	
	baz=302							
Q40A	Laux Farm, Aux	130.00	38	P	**PKPdf**	**23 28 29.4**	**+0.1**	
	baz=308							
434A	Burnet	130.01	51	P	**PKPdf**	**23 28 29.4**	**-0.3**	
	baz=296,SNR=12							
U38A	Gravette	130.01	42	P	**PKPdf**	**23 28 30.3**	**+0.8**	
	baz=304,SNR=5.6							
O41A	Passleys Farm,	130.02	36	P	**PKPdf**	**23 28 29.3**	**-0.1**	
	baz=310							
Y36A	Durant	130.03	46	P	**PKPdf**	**23 28 30.3**	**+0.7**	
	baz=300							
WHTX	Lake Whitney,	130.09	49	P	**PKPdf**	**23 28 30.1**	**+0.4**	
	baz=298							
WHTX	Lake Whitney,	130.09	49	*e*PKPdf	**PKPdf**	**23 28 30.6**	**+0.9**	
P41A	Barry, Barry	130.19	37	P	**PKPdf**	**23 28 30.1**	**+0.4**	
	baz=310							
Z36A	Blue Ridge	130.24	47	P	**PKPdf**	**23 28 29.8**	**-0.1**	
	baz=300							
R40A	Maddies Statio	130.31	39	P	**PKPdf**	**23 28 29.9**	**0.0**	
	baz=307,SNR=8.3							
T39A	Clever	130.35	41	P	**PKPdf**	**23 28 30.4**	**+0.3**	
	baz=305,SNR=6.8							
335A	Moody	130.44	50	P	**PKPdf**	**23 28 31.2**	**+0.7**	
	baz=297,SNR=6.0							
Q41A	Truxton	130.54	38	P	**PKPdf**	**23 28 30.5**	**+0.1**	
	baz=309							
435B	Jarrell	130.55	50	P	**PKPdf**	**23 28 32.0**	**+1.3**	
	baz=297							
136A	Ennis	130.56	48	P	**PKPdf**	**23 28 32.6**	**+2.0**	
	baz=299							
U39A	Green Forest	130.65	42	P	**PKPdf**	**23 28 30.6**	**-0.1**	
	baz=305,SNR=5.8							
X38A	Whitesboro	130.67	44	P	**PKPdf**	**23 28 32.2**	**+1.4**	
	baz=302							
P42A	Winchester	130.68	36	P	**PKPdf**	**23 28 30.6**	**0.0**	
	baz=310							
236A	Katherine and	130.78	48	P	**PKPdf**	**23 28 30.9**	**-0.1**	
	baz=299							
T40A	Mansfield	130.83	40	P	**PKPdf**	**23 28 30.9**	**-0.1**	
	baz=306							
V39A	Pettigrew	130.84	42	P	**PKPdf**	**23 28 30.9**	**-0.2**	
	baz=304							
R41A	Rosebud	130.86	38	P	**PKPdf**	**23 28 31.0**	**0.0**	
	baz=308,SNR=9.8							
S41A	Jillco Farms,	131.06	39	P	**PKPdf**	**23 28 31.9**	**+0.4**	
	baz=307,SNR=5.7							
U40A	Yellville	131.07	41	P	**PKPdf**	**23 28 30.9**	**-0.6**	
	baz=305,SNR=8.7							
W39A	Magazine	131.10	43	P	**PKPdf**	**23 28 32.2**	**+0.7**	
	baz=304							
X39A	Fountain Ranch	131.25	44	P	**PKPdf**	**23 28 32.0**	**+0.2**	
	baz=303,SNR=9.1							
237A	Washetta, Mont	131.32	48	P	**PKPdf**	**23 28 33.3**	**+1.2**	
	baz=299							
V40A	Witts Springs	131.41	42	P	**PKPdf**	**23 28 32.4**	**+0.2**	
	baz=305,SNR=8.3							
138A	Matatall Enter	131.52	47	P	**PKPdf**	**23 28 34.5**	**+2.1**	
	baz=300							
MIAR	Mount Ida	131.60	44	P	**PKPdf**	**23 28 34.0**	**+1.5**	
	baz=303,SNR=8.2							
U41A	Viola	131.69	41	P	**PKPdf**	**23 28 32.7**	**0.0**	
	baz=306							
T42A	Van Buren	131.81	39	P	**PKPdf**	**23 28 33.4**	**+0.5**	
	baz=308							
U42A	Revenden	132.13	40	P	**PKPdf**	**23 28 34.1**	**+0.7**	
	baz=307							
SADO	Sadowa	132.40	23	PKP	**PKPdf**	**23 28 32.6**	**-1.2**	
	comp=Z,8.5nm,1.0s,baz=180,slow=1.0,SNR=3.9							
WCI	Wyandotte Cave	133.93	35	*e*PKIKP	**PKPdf**	**23 28 37.4**	**+0.6**	
WCI	Wyandotte Cave	133.93	35	*e*PKPdf	**PKPdf**	**23 28 37.4**	**+0.6**	
OXF	Oxford	134.43	41	*e*PKIKP	**PKPdf**	**23 28 38.4**	**+0.6**	
OXF	Oxford	134.43	41	*e*PKPdf	**PKPdf**	**23 28 38.4**	**+0.6**	
TKL	Tuckaleechee C	137.17	35	PKP	**PKPdf**	**23 28 43.1**	**+0.2**	
	comp=Z,17nm,1.0s,baz=117,slow=4.5,SNR=6.4							
CMIG	Matias Romero	137.92	67	PKP	**PKPdf**	**23 28 45.1**	**+0.3**	
	comp=Z,4.6nm,0.8s,baz=316,slow=1.2,SNR=4.0							
LCO	Las Campanas	145.52	155	*e*PKPdf	**PKPbc**	**23 28 58.5**	**0.0**	
CPUP	Villa Florida	151.62	175	PKP	**PKPdf**	**23 29 08.0**	**0.0**	
	comp=Z,8.1nm,1.1s,baz=78,slow=2.5,SNR=6.4							
CPUP				PKPbc	**PKiKP**	**23 29 14.7**	**0.0**	
	comp=Z,51nm,1.0s,baz=176,slow=1.6,SNR=46							
CPUP				PKPab	**pPKPbc**	**23 29 22.5**	**0.0**	
	comp=Z,13nm,0.9s,baz=144,slow=4.9,SNR=8.1							
LVC	Limon Verde	151.85	152	*e*PKPdf	**PKPdf**	**23 29 10.3**	**+1.4**	
OTAV	Otavalo	156.31	94	*e*PKPdf	**PKPdf**	**23 29 16.1**	**+0.5**	
LPAZ	La Paz	157.48	145	PKP	**PKPdf**	**23 29 18.3**	**+1.1**	
	comp=Z,5.9nm,0.8s,baz=308,slow=7.0,SNR=9.6							
LPAZ				PKPab	**PKPab**	**23 29 48.7**	**+0.1**	
	comp=Z,16nm,1.0s,baz=203,slow=2.8,SNR=13							
ROSC	El Rosal	160.36	82	PKP	**PKPdf**	**23 29 21.2**	**+0.8**	
	comp=Z,6.7nm,0.8s,baz=76,slow=4.3,SNR=5.4							
ROSC				PKPab	**PKPab**	**23 30 02.8**	**+1.6**	
	comp=Z,2.2nm,0.4s,baz=188,slow=14,SNR=4.0							
SDV	Santo Domingo	162.89	66	*e*PKPdf	**PKPdf**	**23 29 22.6**	**-0.2**	
SAML	Samuel	166.21	143	*e*PKPdf	**PKPdf**	**23 29 25.6**	**+0.2**	

MEX 18 23:10:42.0±0.5, 13°.96N×92°.34W, h15^{km}, MD4.0, Off coast of Chiapas

| Code |

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**3.34**	**224**	*e*PN	**Pn**	**23 40 39.0**	**-1.1**
MXZ				*e*SN	**Sn**	**23 41 17.4**	**-1.0**
WMGZ	**Waiomatatini S**	**3.47**	**220**	*e*PN	**Pn**	**23 40 42.5**	**+0.7**
PKGZ	**Pakihiroa**	**3.70**	**223**	*e*PN	**Pn**	**23 40 44.8**	**-0.2**
PKGZ				*e*SN	**Sn**	**23 41 27.1**	**-0.3**
PUZ	**Puketiti**	**3.74**	**219**	*e*PN	**Pn**	**23 40 43.8**	**-1.7**
PUZ				*e*SN	**Sn**	**23 41 26.6**	**-1.7**
HAZ	**Te Kaha**	**3.78**	**226**	PN	**Pn**	**23 40 46.4**	**+0.4**
HAZ				*e*SN	**Sn**	**23 41 31.5**	**+2.2**
TWGZ	**Tauwhareparae**	**3.96**	**220**	*e*PN	**Pn**	**23 40 49.5**	**+0.9**
TWGZ				SN	**Sn**	**23 41 34.4**	**+0.5**
RUGZ	**Raukumara Rang**	**3.98**	**225**	*e*PN	**Pn**	**23 40 49.1**	**+0.2**
CNGZ	**Carnagh Statio**	**4.08**	**216**	*e*PN	**Pn**	**23 40 50.5**	**+0.2**
TKGZ	**Te Karaka**	**4.23**	**219**	PN	**Pn**	**23 40 53.3**	**+1.1**
TKGZ				SN	**Sn**	**23 41 40.2**	**0.0**
MWZ	**Matawai**	**4.32**	**222**	*e*PN	**Pn**	**23 40 53.8**	**+0.3**
MWZ				*e*SN	**Sn**	**23 41 41.4**	**-1.3**
URZ	**Urewera**	**4.51**	**226**	Pn	**Pn**	**23 40 55.7**	**-0.3**
	9.8nm,0.3s,baz=271,slow=3.3,SNR=13						
URZ				Sn	**Sn**	**23 41 46.3**	**-0.9**
	6.7nm,0.3s,baz=165,slow=21,SNR=8.3						
URZ	**Urewera**	**4.51**	**226**	PN	**Pn**	**23 40 55.6**	**-0.5**
URZ				*e*SN	**Sn**	**23 41 45.0**	**-2.2**
KNZ	**Kokohu**	**4.76**	**216**	PN	**Pn**	**23 40 58.9**	**-0.6**
ARHZ	**Aropaoanui**	**5.28**	**219**	*e*PN	**Pn**	**23 41 05.7**	**-1.0**
RAO	**Raoul Island**	**5.97**	**7**	Pn	**Pn**	**23 41 14.9**	**-1.3**
CTZ	**Chatham Island**	**8.69**	**170**	*e*PN	**Pn**	**23 41 52.2**	**-1.1**
CTZ				*e*SN	Sn	23 43 20.9	-9.1
ASAR	**Alice Springs**	**42.44**	**273**	P	**P**	**23 47 40.5**	**-0.8**
	0.7nm,0.6s,baz=110,slow=6.1,SNR=7.1						
WRA	**Warramunga Arr**	**43.86**	**278**	P	**P**	**23 47 52.0**	**-0.8**
	0.9nm,0.6s,baz=119,slow=7.5,SNR=8.9						
QSPA	**South Pole Qui**	**54.93**	**180**	*e*P	**P**	**23 49 18.2**	**+1.5**
	3.4nm,0.8s						
COCO	**West Island**	**78.55**	**263**	*e*P	**P**	**23 51 48.0**	**+0.2**
ANMO	**Albuquerque**	**97.05**	**52**	*e*P	Pdif	23 53 20.0	+1.9
	0.3nm,0.5s						
RES	**Resolute Bay**	**122.00**	**18**	*e*PKPdf	**PKPdf**	**23 58 39.1**	**+0.2**
KURK	**Kurchatov**	**123.82**	**312**	PKP	**PKPdf**	**23 58 44.4**	**+1.3**
KURBB	**Kurchatov Arra**	**123.85**	**312**	PKP	**PKPdf**	**23 58 44.4**	**+1.2**
	0.4nm,0.2s,baz=126,slow=1.6,SNR=2.9						
BVAR	**Borovoye Array**	**129.30**	**313**	PKP	**PKPdf**	**23 58 55.2**	**+1.7**
	0.4nm,0.7s,baz=85,slow=3.5,SNR=3.4						
FINES	**FINESS Array B**	**149.35**	**337**	PKPbc	**PKPbc**	**23 59 34.1**	**+0.3**
	1.3nm,0.6s,baz=42,slow=3.1,SNR=4.9						

*NEIC **18** 23:50:39.7±0.0, 17.54N×101.21W, h26km, MD4.1(MEX), After MEX.*

MEX 18 23:50:39.7±0.8, 17.54N×101.21W, h26km±14km, MD4.1, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZIIG	**Zihuatanejo**	**0.26**	**285**	*e*P	Pb	23 50 44.4	-1.8
ZIIG				*e*S	Sb	23 50 49.8	-0.9
ZIIG	**Zihuatanejo**	**0.26**	**285**	*e*P	Pb	23 50 44.4	-1.8
ZIIG				*e*S	Sb	23 50 49.8	-0.9
CAIG	**El Cayaco**	**1.02**	**119**	*e*P	Pn	23 50 55.0	-3.3
CAIG				*e*S	Sb	23 51 08.0	-3.8
CAIG	**El Cayaco**	**1.02**	**119**	*e*P	Pn	23 50 55.0	-3.3
CAIG				*e*S	Sb	23 51 08.0	-3.8
ARIG	**Puente Sto Nin**	**1.10**	**48**	*e*P	Pn	23 50 56.2	-3.2
ARIG				*e*S	Sn	23 51 10.1	-3.7
ACP2	**Acapulco**	**1.42**	**118**	*e*P	Pn	23 51 02.4	-1.5
ACP2				*i* S	Sn	23 51 18.0	-3.7
ACX	**Acapulco**	**1.45**	**117**	*e*P	Pb	23 51 05.5	-0.6
ACX				*i* S	Sn	23 51 22.3	-0.1
ACX	**Acapulco**	**1.45**	**117**	*e*P	Pb	23 51 05.5	-0.6
ACX				*i* S	Sn	23 51 22.3	-0.1
MEIG	**Mezcala**	**1.56**	**76**	*e*P	Pn	23 51 03.9	-1.9
MEIG				*e*S	Sn	23 51 22.0	-3.2
MEIG	**Mezcala**	**1.56**	**76**	*e*P	Pn	23 51 03.9	-1.9
MEIG				*e*S	Sn	23 51 22.0	-3.2
PLIG	**Platanillo**	**1.83**	**62**	*e*P	Pn	23 51 07.9	-1.6
PLIG				*e*S	Sn	23 51 28.7	-3.2
PLIG	**Platanillo**	**1.83**	**62**	*e*P	Pn	23 51 07.9	-1.6
PLIG				*e*S	Sn	23 51 28.7	-3.2
TLIG	**Tlapa**	**2.52**	**89**	*e*P	Pn	23 51 16.9	-2.1
TLIG				*i* S	Sn	23 51 46.9	-2.0
EZ5V		**2.98**	**311**	*e*P	Pn	23 51 24.1	-1.4
EZ5V				*i* S	Sn	23 51 58.1	-2.5
R15V		**3.10**	**302**	*e*P	Pn	23 51 24.9	-2.1
R15V				*i* S	Sn	23 52 00.5	-2.6

*ATH **18** 23:53:57.8, 38.22N×21.84E, h13km±1km, ML2.2/17, Error ellipse: s-maj=1.8km s-min=0.6km az=3.0*
*CSEM **18** 23:53:58.0±0.1, 38.23N×21.84E, h5km, ML2.2, Error ellipse: s-maj=2.1km s-min=1.7km az=20.0*

THE 18 23:53:58.5, 38.23N×21.83E, h4km±1km, ML2.3/6, Error ellipse: s-maj=1.6km s-min=0.4km az=335.0, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
UPR	**University Cam**	**0.07**	**327**	P	Pg	23 54 00.2	+0.1
UPR	**University Cam**	**0.07**	**327**	P	Pg	23 54 00.2	+0.1
UPR				S	Sg	23 54 01.1	0.0
UPR	**University Cam**	**0.07**	**327**	P	Pg	23 53 59.9	-0.2
UPR				S	Sg	23 54 01.1	0.0
LAKA	**Lakka**	**0.12**	**83**	P	Pg	23 54 00.8	-0.1
LAKA				S	Sg	23 54 02.7	+0.3
LAKA	**Lakka**	**0.12**	**83**	P	Pg	23 54 00.8	-0.1
LAKA				S	Sg	23 54 02.7	+0.3
LAKA	**Lakka**	**0.12**	**83**	P	Pg	23 54 00.4	-0.4
LAKA				S	Sg	23 54 02.2	-0.2
LAKA				AML	AML	23 54 02.9	
	comp=E,1868μm,0.3s						
LAKA				AML	AML	23 54 03.2	
	comp=N,1635μm,0.2s						
TRIZ	**Trizonia**	**0.23**	**53**	P	Pg	23 54 03.0	-0.1
TRIZ				S	Sg	23 54 06.6	+0.5
TRIZ	**Trizonia**	**0.23**	**53**	P	Pg	23 54 03.0	-0.1
TRIZ				S	Sg	23 54 06.6	+0.5
SERG	**Sergoula**	**0.26**	**43**	P	Pg	23 54 03.4	-0.1
SERG				S	Sg	23 54 07.3	+0.4
SERG	**Sergoula**	**0.26**	**43**	P	Pg	23 54 03.4	-0.1
SERG				S	Sg	23 54 06.9	0.0
SERG	**Sergoula**	**0.26**	**43**	P	Pg	23 54 03.4	-0.1
SERG				S	Sg	23 54 06.9	0.0
SERG				AML	AML	23 54 07.8	
	comp=E,2021μm,0.2s						
SERG				AML	AML	23 54 08.0	
	comp=N,3316μm,0.3s						
DRO	**Drossia**	**0.29**	**200**	P	Pg	23 54 03.8	-0.3
DRO				S	Sg	23 54 08.9	+1.0
DRO	**Drossia**	**0.29**	**200**	P	Pg	23 54 04.0	-0.1
DRO				S	Sg	23 54 08.4	+0.5
DRO	**Drossia**	**0.29**	**200**	P	Pg	23 54 04.0	-0.2
DRO				S	Sg	23 54 08.5	+0.5
DRO				AML	AML	23 54 09.5	
	comp=E,5968μm,0.2s						
DRO				AML	AML	23 54 09.6	
	comp=N,3446μm,0.2s						
KALE	**Kalithea**	**0.29**	**55**	P	Pg	23 54 04.0	-0.2
KALE				S	Sg	23 54 08.5	+0.4
KALE	**Kalithea**	**0.29**	**55**	P	Pg	23 54 04.0	-0.2
KALE				S	Sg	23 54 08.5	+0.4
KALE	**Kalithea**	**0.29**	**55**	P	Pg	23 54 04.0	-0.2
KALE				S	Sg	23 54 08.6	+0.6
KALE				AML	AML	23 54 09.5	
	comp=N,1669μm,0.2s						
KALE				AML	AML	23 54 10.4	
	comp=E,1541μm,0.2s						
TRAZ	**Trapeza**	**0.30**	**101**	P	Pg	23 54 02.6	-1.8
TRAZ				S	Sg	23 54 07.5	-0.9
TRAZ	**Trapeza**	**0.30**	**101**	P	Pg	23 54 02.6	-1.8
TRAZ				S	Sg	23 54 07.5	-0.9
TRAZ				AML	AML	23 54 10.7	
	comp=E,1819μm,0.1s						
TRAZ				AML	AML	23 54 11.3	
	comp=N,2723μm,0.1s						
KLV	**Kalavryta, Ach**	**0.31**	**126**	P	Pg	23 54 04.0	-0.5
KLV				S	Sg	23 54 10.0	+1.4
KLV	**Kalavryta, Ach**	**0.31**	**126**	P	Pg	23 54 04.0	-0.5
KLV				S	Sg	23 54 08.6	0.0
KLV	**Kalavryta, Ach**	**0.31**	**126**	P	Pg	23 54 04.0	-0.5
KLV				S	Sg	23 54 08.6	+0.1
KLV				AML	AML	23 54 11.3	
	comp=E,853μm,0.2s						
KLV				AML	AML	23 54 11.5	
	comp=N,817μm,0.3s						
RLS	**Riolos of Patr**	**0.34**	**240**	P	Pg	23 54 04.6	-0.4
RLS				S	Sg	23 54 10.6	+1.3
RLS	**Riolos of Patr**	**0.34**	**240**	P	Pg	23 54 04.6	-0.4
RLS				S	Sg	23 54 10.4	+1.1
RLS	**Riolos of Patr**	**0.34**	**240**	P	Pg	23 54 04.5	-0.5
RLS				S	Sg	23 54 10.4	+1.1
RLS				AML	AML	23 54 11.9	
	comp=N,1175μm,0.2s						
RLS				AML	AML	23 54 12.0	
	comp=E,584μm,0.1s						
AXS	**Araxos**	**0.36**	**266**	P	Pg	23 54 05.0	-0.5
AXS				S	Sg	23 54 10.7	+0.5
AXS	**Araxos**	**0.36**	**266**	P	Pg	23 54 05.0	-0.5
AXS				S	Sg	23 54 10.7	+0.5
AXS	**Araxos**	**0.36**	**266**	P	Pg	23 54 04.7	-0.8
AXS				S	Sg	23 54 08.6	-1.6
PVO	**Paravola**	**0.46**	**328**	P	Pg	23 54 07.1	-0.3
PVO				S	Sb	23 54 15.0	-1.3
PVO	**Paravola**	**0.46**	**328**	P	Pg	23 54 07.1	-0.3
PVO				S	Sg	23 54 12.1	-1.3
PVO	**Paravola**	**0.46**	**328**	P	Pg	23 54 07.4	0.0
PVO				S	Sg	23 54 12.1	-1.3
PVO				AML	AML	23 54 17.3	
	comp=E,1234μm,0.2s						
PVO				AML	AML	23 54 17.6	
	comp=N,1125μm,0.4s						
DSF	**Desfina**	**0.58**	**71**	P	Pg	23 54 08.6	-1.0
DSF				S	Sb	23 54 18.5	-1.2
DSF	**Desfina**	**0.58**	**71**	P	Pg	23 54 08.6	-1.0
DSF				S	Sg	23 54 16.2	-0.9
DSF	**Desfina**	**0.58**	**71**	P	Pg	23 54 08.2	-1.3
DSF				S	Sg	23 54 16.2	-0.9
DSF				AML	AML	23 54 18.5	
	comp=N,453μm,0.1s						
DSF				AML	AML	23 54 20.2	
	comp=E,397μm,0.2s						
PDO	**Prodromos**	**0.63**	**306**	P	Pg	23 54 10.5	-0.2
PDO				S	Sb	23 54 20.4	-0.9
PDO	**Prodromos**	**0.63**	**306**	P	Pg	23 54 10.5	-0.2
PDO				S	Sb	23 54 20.2	-1.1
PDO	**Prodromos**	**0.63**	**306**	P	Pg	23 54 11.1	+0.5
PDO				S	Sb	23 54 20.2	-1.1
THAL	**Thalero**	**0.68**	**106**	P	Pb	23 54 12.3	-0.6
THAL	**Thalero**	**0.68**	**106**	P	Pg	23 54 10.9	-0.7
THAL	**Thalero**	**0.68**	**106**	P	Pg	23 54 10.9	-0.7
EVR	**Evrytania**	**0.69**	**358**	P	Pg	23 54 10.9	-0.9
EVR				S	Sg	23 54 21.6	+0.8
EVR	**Evrytania**	**0.69**	**358**	P	Pg	23 54 10.9	-0.9
EVR				S	Sg	23 54 21.6	+0.8
EVR	**Evrytania**	**0.69**	**358**	P	Pg	23 54 10.9	-0.9
EVR				S	Sb	23 54 22.7	-0.4
EVR				AML	AML	23 54 25.0	
	comp=N,247μm,0.2s						
EVR				AML	AML	23 54 28.3	
	comp=E,214μm,0.3s						
AMT	**Artemida-Makis**	**0.70**	**188**	P	Pg	23 54 11.8	-0.1
AMT				S	Sg	23 54 21.8	+0.8
AMT	**Artemida-Makis**	**0.70**	**188**	P	Pg	23 54 11.8	-0.1
AMT				S	Sg	23 54 21.8	+0.8
AMT	**Artemida-Makis**	**0.70**	**188**	P	Pb	23 54 12.9	-0.3
TRIP	**Tripoli**	**0.78**	**153**	P	Pg	23 54 12.1	-1.3
TRIP				S	Sb	23 54 24.7	-0.8
TRIP	**Tripoli**	**0.78**	**153**	P	Pg	23 54 12.1	-1.3
TRIP				S	Sb	23 54 24.7	-0.8
TRIP				AML	AML	23 54 30.6	
	comp=N,286μm,0.7s						
TRIP				AML	AML	23 54 31.0	
	comp=E,396μm,0.5s						
KFL	**Anninata**	**0.83**	**262**	P	Pg	23 54 13.9	-0.6
KFL				S	Sb	23 54 26.3	-0.7
KFL	**Anninata**	**0.83**	**262**	P	Pg	23 54 13.9	-0.6
KFL				S	Sb	23 54 26.3	-0.7
KFL	**Anninata**	**0.83**	**262**	P	Pg	23 54 13.5	-1.0
PROD	**Prodromos**	**0.84**	**87**	P	Pb	23 54 15.2	-0.4
PROD	**Prodromos**	**0.84**	**87**	P	Pb	23 54 15.2	-0.4
AGG	**Agios Georgios**	**0.89**	**26**	P	Pg	23 54 15.3	-0.2
AGG				S	Sg	23 54 27.5	+0.5
AGG	**Agios Georgios**	**0.89**	**26**	P	Pg	23 54 15.3	-0.2
AGG				S	Sg	23 54 27.5	+0.5
LTK	**Loutraki**	**0.92**	**102**	P	Pg	23 54 15.4	-0.7
LTK				S	Sb	23 54 30.0	+0.5
LTK	**Loutraki**	**0.92**	**102**	P	Pg	23 54 15.4	-0.7
LTK				S	Sb	23 54 30.0	+0.5
LTK	**Loutraki**	**0.92**	**102**	P	Pg	23 54 15.3	-0.7
LOUT	**Loutraki**	**0.93**	**104**	P	Pg	23 54 16.0	-0.3
LOUT	**Loutraki**	**0.93**	**104**	P	Pg	23 54 16.0	-0.3
VLX	**Vlachokerasia**	**0.96**	**153**	P	Pg	23 54 16.6	-0.2
VLX				S	Sg	23 54 29.6	+0.3
VLX	**Vlachokerasia**	**0.96**	**153**	P	Pg	23 54 16.6	-0.2
VLX				S	Sg	23 54 29.6	+0.3
VLX	**Vlachokerasia**	**0.96**	**153**	P	Pg	23 54 15.5	-1.4
VLX				S	Sb	23 54 30.1	-0.6
VLX				AML	AML	23 54 33.5	
	comp=N,304μm,0.7s						
VLX				AML	AML	23 54 37.2	
	comp=E,458μm,0.6s						
VLS	**Valsamata**	**0.98**	**268**	P	Pg	23 54 16.2	-1.1
VLS	**Valsamata**	**0.98**	**268**	P	Pg	23 54 16.2	-1.1
VLS				S	Sb	23 54 30.7	-0.6
VLS	**Valsamata**	**0.98**	**268**	P	Pg	23 54 15.3	-2.0
VLS				S	Sg	23 54 30.7	+0.6
VLS				AML	AML	23 54 33.2	
	comp=N,465μm,0.2s						
VLS				AML	AML	23 54 37.2	
	comp=E,207μm,0.4s						
LKR	**Lokris**	**1.01**	**65**	P	Pg	23 54 16.6	-1.2
LKR				S	Sg	23 54 31.3	+0.4
LKR	**Lokris**	**1.01**	**65**	P	Pg	23 54 16.6	-1.2
LKR				S	Sg	23 54 31.3	+0.4
LKR	**Lokris**	**1.01**	**65**	P	Pg	23 54 16.6	-1.3
LKR				S	Sb	23 54 31.6	-0.5
LKR				AML	AML	23 54 34.7	
	comp=N,260μm,0.2s						
LKR				AML	AML	23 54 37.1	
	comp=E,179μm,0.3s						
ITM	**Ithomi**	**1.05**	**176**	P	Pg	23 54 18.5	-0.1
ITM				S	Sb	23 54 33.5	+0.3
ITM	**Ithomi**	**1.05**	**176**	P	Pg	23 54 18.5	-0.1
ITM				S	Sb	23 54 33.5	+0.3
ITM				AML	AML	23 54 36.1	
	comp=E,230μm,0.3s						
ITM				AML	AML	23 54 36.3	
	comp=N,197μm,0.6s						
DSL	**Palaion Diasel**	**1.07**	**328**	P	Pg	23 54 18.6	-0.5
DSL				S	Sn	23 54 34.9	-0.8
DSL	**Palaion Diasel**	**1.07**	**328**	P	Pg	23 54 18.6	-0.5
DSL				S	Sb	23 54 33.8	-0.3
DSL	**Palaion Diasel**	**1.07**	**328**	P	Pg	23 54 18.6	-0.5
DSL				S	Sb	23 54 33.8	-0.2
DSL				AML	AML	23 54 41.3	
	comp=E,222μm,0.3s						
DSL				AML	AML	23 54 42.9	
	comp=N,195μm,0.6s						
LKD2	**Lefkada island**	**1.08**	**302**	P	Pg	23 54 18.2	-1.0
LKD2				S	Sb	23 54 34.2	0.0
LKD2	**Lefkada island**	**1.08**	**302**	P	Pg	23 54 18.2	-1.0
LKD2				S	Sb	23 54 34.2	0.0
LKD2	**Lefkada island**	**1.08**	**302**	P	Pg	23 54 17.4	-1.8
VIL2	**Platees**	**1.13**	**90**	P	Pb	23 54 20.6	0.0
VILL	**Villia**	**1.17**	**93**	P	Pg	23 54 20.1	-0.8
VILL				S	Sn	23 54 37.5	-0.5
VILL	**Villia**	**1.17**	**93**	P	Pg	23 54 20.1	-0.8
VILL				S	Sn	23 54 37.5	-0.5
SMIA	**Simia**	**1.26**	**58**	P	Pg	23 54 21.6	-1.1
SMIA	**Simia**	**1.26**	**58**	P	Pg	23 54 21.7	-1.0
SMIA	**Simia**	**1.26**	**58**	P	Pg	23 54 21.7	-1.0
DID	**Didima**	**1.32**	**122**	P	Pn	23 54 22.8	-0.9
DID				S	Sn	23 54 42.3	+0.5
DID	**Didima**	**1.32**	**122**	P	Pn	23 54 22.8	-0.9
DID				S	Sn	23 54 41.9	+0.1
DID	**Didima**	**1.32**	**122**	P	Pn	23 54 22.4	-1.3
DID				S	Sn	23 54 41.9	+0.1
DID				AML	AML	23 54 44.0	
	comp=N,215μm,0.4s						
DID				AML	AML	23 54 46.2	
	comp=E,317μm,0.5s						
PYL	**PYLOS**	**1.33**	**183**	P	Pn	23 54 22.2	-1.6
PYL	**PYLOS**	**1.33**	**183**	P	Pn	23 54 22.2	-1.6
PYL	**PYLOS**	**1.33**	**183**	P	Pn	23 54 21.5	-2.3
THL	**Klokotos Trika**	**1.34**	**6**	P	Pn	23 54 23.6	-0.4
THL	**Klokotos Trika**	**1.34**	**6**	P	Pg	23 54 24.4	+0.1
EREA	**Eretria**	**1.66**	**83**	P	Pn	23 54 27.1	-1.3
EREA	**Eretria**	**1.66**	**83**	P	Pn	23 54 27.1	-1.3
VLI	**Veliai**	**1.74**	**149**	P	Pn	23 54 27.9	-1.6
VLI	**Veliai**	**1.74**	**149**	P	Pn	23 54 27.9	-1.6

*ISCJB **18** 23:54:39.8±0.5, 32.15N±0.03×115.16W±0.04, h27km±5km, Error ellipse: s-maj=6.4km s-min=4.7km az=157.6*
*MEX **18** 23:54:41.6±0.6, 32.16N×115.14W, h9km±12km, MD3.7*
*ECX **18** 23:54:41.0±0.5, 32.13N×115.19W, h8km, MD2.7, ML2.9*

ISC 18 23:54:38.5±1.2, 32.18N±0.03×115.17W±0.04, h17km±10km, n24, σ0.942/32, 3C-4D, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CPBX	**Cerro Prieto**	**0.26**	**334**	*e*P	**Pn**	**23 54 46.9**	**-0.7**
CPBX				IAML		23 54 54.6	
	comp=N,5μm,0.2s						
CPBX				⇓*e*		23 54 54.6	
EMSC	**East Mesa**	**0.58**	**15**	*e*P	**Pn**	**23 54 52.3**	**+0.3**
YMD	**Yuma Desert**	**0.65**	**55**	⇑*i*P	**Pn**	**23 54 52.8**	**-0.1**
SGL	**Mount Signal**	**0.66**	**315**	*e*P	**Pn**	**23 54 53.0**	**-0.1**
COA	**Coachella**	**0.68**	**3**	*e*P	**Pn**	**23 54 53.6**	**+0.3**
ECBX	**El Chinero**	**0.71**	**172**	⇓*e*P	**Pg**	**23 54 52.6**	**0.0**
ECBX				*e*S	**Sb**	**23 55 01.8**	**-0.2**
WESC	**Westside Schoo**	**0.75**	**321**	⇑*i*P	**Pn**	**23 54 55.3**	**+1.0**
RMX	**La Rumorosa**	**0.88**	**299**	*e*P	**Pn**	**23 54 56.1**	**-0.1**
RMX				*e*S	**Sg**	**23 55 07.6**	**+0.3**
RMX				IAML		23 55 09.9	
	comp=N,303nm,0.1s						
GLA	**Glamis**	**0.91**	**18**	P	**Pn**	**23 54 56.9**	**+0.3**
	baz=198						
GLA				S	**Sn**	**23 55 09.6**	**+0.2**
	baz=198						
IKP	**In-Ko-Pah, Jac**	**0.92**	**301**	P	**Pn**	**23 54 57.1**	**+0.3**
	baz=121						
IKP				S	**Sn**	**23 55 09.9**	**+0.2**
	baz=121						
IKP	**In-Ko-Pah, Jac**	**0.92**	**301**	⇓*i*P	**Pn**	**23 54 57.1**	**+0.3**
SWSC	**Sam W. Stewart**	**0.93**	**325**	P	**Pg**	**23 54 56.7**	**0.0**
	baz=145						
SPIG	**San Pedro Mart**	**1.16**	**193**	*e*P	**Pb**	**23 55 00.4**	**+0.1**
SPIG	**San Pedro Mart**	**1.16**	**193**	*e*P	**Pn**	**23 55 00.3**	**0.0**
SPIG				*i* S	**Sb**	**23 55 15.1**	**-0.1**
SPX	**San Pedro Mart**	**1.16**	**193**	*e*P	**Pb**	**23 55 00.4**	**0.0**
SPX				IAML		23 55 16.2	
	comp=E,162nm,0.3s						
SPX				⇑*e*		23 55 16.2	
CBX	**Cerro Bola**	**1.27**	**276**	*e*P	**Pb**	**23 55 02.6**	**+0.4**
CBX				IAML		23 55 22.9	
	comp=E,457nm,0.4s						
CBX				⇓*e*		23 55 22.9	
CBX	**Cerro Bola**	**1.27**	**276**	*e*P	**Pb**	**23 55 02.5**	**+0.4**
CBX				*e*S	**Sb**	**23 55 18.0**	**-0.3**
MONP	**Monument Peak,**	**1.27**	**304**	P	**Pb**	**23 55 02.3**	**0.0**
	baz=124						
MONP				S	**Sg**	**23 55 20.6**	**+0.7**
	baz=124						
TJIG	**Tijuana**	**1.30**	**282**	*e*P	**Pb**	**23 55 02.8**	**+0.3**
TJIG	**Tijuana**	**1.30**	**282**	*e*P	**Pb**	**23 55 02.6**	**+0.1**
TJIG				*i* S	**Sn**	**23 55 18.5**	**-0.4**
BAR	**Barrett**	**1.37**	**292**	*e*P	**Pg**	**23 55 04.4**	**-0.5**
BC3	**Big Chuckawall**	**1.49**	**351**	P	**Pb**	**23 55 05.4**	**-0.4**
	baz=170						
109C	**Camp Elliot, M**	**1.78**	**294**	Sb	**Sg**	**23 55 35.1**	**-0.9**
	baz=113						
PFO	**Pinyon Flats O**	**1.79**	**323**	P	**Pn**	**23 55 09.3**	**+0.5**
	baz=143						

*NSSC **18** 23:55:30.8±1.6, 35.59N×29.48E, h358km±91km, ML3.1*
*ISCJB **18** 23:55:34.3±0.4, 35.56N±0.03×29.00E±0.03, h62km±9km, mb3.3/3, Error ellipse: s-maj=6.2km s-min=3.2km az=25.1*
*CSEM **18** 23:55:35.1±0.2, 35.54N×28.94E, h30km, MD3.4, Error ellipse: s-maj=7.0km s-min=3.4km az=31.0*
*IDC **18** 23:55:35.2±1.1, 35.61N×28.98E, h45km±19km, mb3.2/3, mb1 3.4/10, mb1mx3.2/42, mbtmp3.4/10, ML3.6/6, MS3.8/1, Ms1 3.8/1, ms1mx2.5/20, Error ellipse: s-maj=14.6km s-min=9.1km az=4.0*
*ISK **18** 23:55:35.6, 35.68N×28.88E, h29km, MD3.5*
*DDA **18** 23:55:41.8, 36.17N×28.68E, h24km, Md3.4*

ISC 18 23:55:35.1±1.0, 35.64N±0.04×28.94E±0.03, h42km±17km, n103, σ1.988/128, mb3.4/3, Eastern Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FETY	**Fethiye**	**1.00**	**7**	*e*PG	**Pn**	**23 55 52.3**	**-0.4**
FETY				*e*SG	**Sn**	**23 56 06.4**	**+0.7**
FETY	**Fethiye**	**1.00**	**7**	*e*Sg	**Sn**	**23 56 06.4**	**+0.7**
FETY	**Fethiye**	**1.00**	**7**	*e*Pg	**Pn**	**23 55 52.3**	**-0.4**
FETI	**Fethiye-Mugla**	**1.06**	**7**	*e*PG	**Pn**	**23 55 53.6**	**+0.2**
FETI	**Fethiye-Mugla**	**1.06**	**7**	*e*Pg	**Pn**	**23 55 53.6**	**+0.2**
DALY	**Dalyan (Mu¨la**	**1.20**	**349**	*e*PN	**Pn**	**23 55 55.9**	**+0.6**
DALY				*e*SN	**Sn**	**23 56 11.6**	**+1.2**
DALY	**Dalyan (Mu¨la**	**1.20**	**349**	*e*Pn	**Pn**	**23 55 55.9**	**+0.6**
DALY				*e*Sn	**Sn**	**23 56 11.6**	**+1.2**
MRSB	**Marmaris-Mugla**	**1.23**	**331**	*e*PN	**Pn**	**23 55 56.2**	**+0

GEDZ	**Gediz**	**3.42**	**6**	*e*Pn		**Pn**	**23 56 28.0**	**+2.0**
MAMC	**Mammari**	**3.53**	**96**	P		**Pn**	**23 56 31.0**	**+3.6**
CHOS	**Chios island**	**3.58**	**321**	*e*Pn		**Pn**	**23 56 30.1**	**+1.9**
CHOS	**Chios island**	**3.58**	**321**	*e*Pn		**Pn**	**23 56 30.1**	**+1.9**
KONT	**Konya--Tatoy**	**3.59**	**49**	*e*PN		**Pn**	**23 56 31.2**	**+3.0**
KONT	**Konya--Tatoy**	**3.59**	**49**	*e*Pn		**Pn**	**23 56 31.2**	**+3.0**
CSS	**Mathiatis**	**3.66**	**99**	P		**Pn**	**23 56 31.5**	**+2.4**
DKL	**Dikili**	**3.79**	**335**	*e*PN		**Pn**	**23 56 33.2**	**+2.3**
DKL	**Dikili**	**3.79**	**335**	*e*PN		**Pn**	**23 56 33.2**	**+2.3**
TVSB	**Tavsanli**	**3.83**	**6**	*e*PN		**Pn**	**23 56 34.1**	**+2.5**
TVSB	**Tavsanli**	**3.83**	**6**	*e*Pn		**Pn**	**23 56 34.1**	**+2.5**
KIZT	**Kizilcal**	**4.00**	**35**	*e*PN		**Pn**	**23 56 36.8**	**+2.9**
KIZT	**Kizilcal**	**4.00**	**35**	*e*Pn		**Pn**	**23 56 36.8**	**+2.9**
BALB	**Balikesir**	**4.08**	**348**	*e*PN		**Pn**	**23 56 37.5**	**+2.5**
BALB	**Balikesir**	**4.08**	**348**	*e*Pn		**Pn**	**23 56 37.5**	**+2.5**
BRTR	**Keskin Array B**	**5.53**	**41**	P		**Pn**	**23 56 54.7**	**-0.3**
	0.1nm,0.3s,baz=12,slow=12,SNR=4.1							
BRTR				S		**Sn**	**23 57 57.7**	**+0.4**
	0.6nm,0.3s,baz=216,slow=26,SNR=7.9							
ARNB	**Al Arnab**	**5.73**	**86**	AML	AML		23 58 21.6	
	comp=E,24nm,0.4s							
ARNB				AML	AML		23 58 27.0	
	comp=N,23nm,0.4s							
MMAI	**Mount Meron Ar**	**5.96**	**114**	P		**Pn**	**23 57 02.1**	**+1.4**
	comp=N,1.6nm,0.3s,baz=297,slow=13,SNR=12							
MMAI				S		**Sn**	**23 58 07.8**	**0.0**
	comp=N,9.8nm,0.3s,baz=311,slow=25,SNR=15							
BTCH	**Batrach**	**6.12**	**84**	*e*P		**Pn**	**23 57 04.7**	**+1.6**
BTCH				*e*Pn		**Sn**	**23 58 10.5**	**-1.4**
BTCH				*e*S		**Sn**	**23 58 11.8**	**-0.1**
BTCH				AML	AML		23 58 36.7	
	comp=N,73nm,0.5s							
BTCH				AML	AML		23 58 40.7	
	comp=E,20nm,0.1s							
BTCH	**Batrach**	**6.12**	**84**	*e*P		**Pn**	**23 57 04.7**	**+1.6**
	SNR=118							
BTCH				*e*S		**Sn**	**23 58 11.8**	**-0.1**
	comp=E,20nm,0.1s,SNR=118							
BRBR	**Barbar**	**6.20**	**109**	*e*P		**Pn**	**23 57 05.3**	**+1.0**
BRBR				*e*S		**Sn**	**23 58 13.9**	**-0.1**
BRBR				AML	AML		23 58 32.3	
	comp=N,79nm,0.7s							
BRBR	**Barbar**	**6.20**	**109**	*e*P		**Pn**	**23 57 05.3**	**+1.0**
	SNR=118							
BRBR				*e*S		**Sn**	**23 58 13.9**	**-0.1**
	comp=N,79nm,0.7s,SNR=118							
DRWC	**Darouich**	**6.33**	**79**	*e*P		**Pn**	**23 57 06.1**	**+0.1**
DRWC				*e*S		**Sn**	**23 58 15.2**	**-1.9**
DRWC				AML	AML		23 58 35.4	
	comp=E,19nm,0.5s							
DRWC				AML	AML		23 58 44.3	
	comp=N,7.6nm,0.5s							
DRWC	**Darouich**	**6.33**	**79**	*e*P		**Pn**	**23 57 06.1**	**+0.1**
	SNR=117							
MARH	**Ras Al Marh**	**6.41**	**102**	*e*P		**Pn**	**23 57 07.3**	**+0.1**
MARH				*e*S		**Sn**	**23 58 17.0**	**-2.3**
MARH				AML	AML		23 58 24.8	
	comp=N,34nm,0.5s							
MARH				AML	AML		23 58 37.0	
	comp=E,31nm,0.5s							
MARH	**Ras Al Marh**	**6.41**	**102**	*e*P		**Pn**	**23 57 07.3**	**+0.1**
	SNR=117							
MARH				*e*S		**Sn**	**23 58 17.0**	**-2.3**
	comp=E,31nm,0.5s,SNR=117							
TCHB	**Talchebab**	**6.54**	**115**	*e*P		**Pn**	**23 57 09.5**	**+0.8**
TCHB				*e*S		**Sn**	**23 58 19.3**	**-2.8**
TCHB				AML	AML		23 58 47.7	
	comp=N,59nm,0.7s							
TCHB				AML	AML		23 58 48.9	
	comp=E,24nm,0.6s							
TCHB	**Talchebab**	**6.54**	**115**	*e*P		**Pn**	**23 57 09.5**	**+0.8**
	SNR=117							
TCHB				*e*S		**Sn**	**23 58 19.3**	**-2.8**
	comp=E,24nm,0.6s,SNR=117							
TOTH	**TOTAH**	**6.59**	**108**	*e*P		**Pn**	**23 57 09.9**	**+0.4**
TOTH				*e*S		**Sn**	**23 58 20.4**	**-2.9**
TOTH				AML	AML		23 58 41.7	
	comp=E,28nm,0.7s							
TOTH				AML	AML		23 58 49.8	
	comp=N,18nm,0.7s							
TOTH	**TOTAH**	**6.59**	**108**	*e*P		**Pn**	**23 57 09.9**	**+0.4**
	SNR=116							
ROOS	**tl_alroos**	**7.02**	**100**	*e*P		**Pn**	**23 57 15.4**	**0.0**
ROOS				*e*S		**Sn**	**23 58 30.5**	**-3.4**
ROOS				AML	AML		23 58 52.8	
	comp=N,39nm,0.6s							
ROOS				AML	AML		23 58 55.4	
	comp=E,40nm,0.8s							
ROOS	**tl_alroos**	**7.02**	**100**	*e*P		**Pn**	**23 57 15.4**	**0.0**
	SNR=115							
SALA	**Sala**	**7.09**	**112**	*e*P		**Pn**	**23 57 15.7**	**-0.8**
SALA				*e*S		**Sn**	**23 58 32.9**	**-2.9**
SALA	**Sala**	**7.09**	**112**	*e*P		**Pn**	**23 57 15.6**	**-0.8**
	SNR=115							
SALA				*e*S		**Sn**	**23 58 32.9**	**-2.9**
	SNR=115							
ASF	**Jabal al Asfar**	**7.47**	**115**	P		**Pn**	**23 57 21.8**	**+0.3**
	comp=E,0.3nm,0.3s,baz=342,slow=3.2,SNR=4.3							
ASF				S		**Sn**	**23 58 43.5**	**-1.4**
	comp=E,0.3nm,0.3s,baz=288,slow=19,SNR=3.0							
EIL	**Elat**	**7.82**	**138**	P		**Pn**	**23 57 26.5**	**+0.2**
	comp=E,0.6nm,0.3s,baz=325,slow=3.2,SNR=8.4							
EIL				S		**Sn**	**23 58 50.8**	**-2.7**
	comp=E,1.9nm,0.3s,baz=313,slow=18,SNR=6.0							
STON	**Ston**	**11.31**	**313**	*e*Pg		**Pn**	**23 58 12.5**	**-1.5**
STON				Sg			23 58 28.7	
KEST	**Kesra**	**15.92**	**276**	P		**Pn**	**23 59 16.2**	**+0.1**
	comp=E,0.3nm,0.3s,baz=49,slow=10,SNR=12							
GERES	**GERESS Array B**	**17.32**	**324**	P		**P**	**23 59 34.5**	**-0.1**
	comp=E,0.1nm,0.3s,baz=125,slow=12,SNR=3.7							
FINES	**FINESS Array B**	**25.89**	**357**	P		**P**	**00 01 02.8**	**+0.1**
	comp=E,3.0nm,1.0s,baz=174,slow=14,SNR=2.5							
ESDC	**Sonseca Array**	**26.27**	**289**	P		**P**	**00 01 05.8**	**-0.7**
	comp=E,0.1nm,0.3s,baz=70,slow=8.3,SNR=2.1							
TORD	**Torodi Ar. Bea**	**33.22**	**234**	P		**P**	**00 02 08.6**	**+0.5**
	comp=E,0.3nm,0.6s,baz=32,slow=10,SNR=3.5							
DBIC	**Dimbokro**	**42.32**	**235**	LR	LR		00 21 58.4	
	comp=E,131nm,21.8s,baz=86,slow=37							

*ISCJB **18** 23:55:47.2±0.6,35°.63N±0°.07×28°.95E±0°.05,h30km, mb3.4/2, Error ellipse: s-maj=9.9km s-min=6.1km az=0.4*
*IDC **18** 23:55:50.1±1.4,35°.66N×28°.90E, h42km±25km, mb3.3/2, mb1 3.7/7, mb1mx3.3/40, mbtmp3.7/7, ML3.6/5, Error ellipse: s-maj=19.1km s-min=10.1km az=174.0*
ISC 18 23:55:49.5±0.9,**35°.63N**±0°.09×**28°.90E**±0°.06,**h30**km,**n7,**
σ1$ 38/11,Eastern Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
IDI	**Anoyia**	**3.29**	**265**	P	**Pn**	**23 56 39.8**	**+0.7**
	13nm,0.3s,baz=91,slow=16,SNR=24						
IDI				S	**Sn**	**23 57 17.3**	**0.0**
	4.1nm,0.3s,baz=347,slow=19,SNR=4.3						
BRTR	**Keskin Array B**	**5.55**	**41**	P	**Pn**	**23 57 09.2**	**-0.9**
	0.3nm,0.3s,baz=222,slow=16,SNR=9.5						
BRTR				S	**Sn**	**23 58 13.1**	**+0.1**
	0.6nm,0.3s,baz=212,slow=26,SNR=7.5						
MMAI	**Mount Meron Ar**	**5.98**	**114**	P	**Pn**	**23 57 18.2**	**+2.1**
	3.3nm,0.3s,baz=305,slow=12,SNR=8.5						
MMAI				S	**Sn**	**23 58 22.9**	**-0.6**
	9.3nm,0.3s,baz=313,slow=26,SNR=8.0						
EIL	**Elat**	**7.83**	**138**	P	**Pn**	**23 57 42.5**	**+1.2**
	1.0nm,0.3s,baz=12,slow=13,SNR=6.5						
EIL				S	**Sn**	**23 59 06.7**	**-2.4**
	2.7nm,0.3s,baz=145,slow=11,SNR=5.9						
KEST	**Kesra**	**15.89**	**276**	P	**Pn**	**23 59 31.3**	**+0.2**
	0.5nm,0.3s,baz=46,slow=16,SNR=12						
ESDC	**Sonseca Array**	**26.25**	**289**	P	**P**	**00 01 20.7**	**-1.3**
	0.6nm,0.6s,baz=87,slow=9.7,SNR=4.2						
TORD	**Torodi Ar. Bea**	**33.19**	**234**	P	**P**	**00 02 23.6**	**-0.1**
	0.5nm,0.7s,baz=33,slow=8.5,SNR=4.6						

*ISCJB **18** 23:57:50.9±1.2,38°.88N±0°.05×29°.18E±0°.08,h2km±10km, Error ellipse: s-maj=11.2km s-min=6.1km az=34.3*
*CSEM **18** 23:57:50.7±0.8,38°.83N×29°.21E,h2km, MD2.5, Error ellipse: s-maj=17.7km s-min=8.7km az=126.0*
*ISK **18** 23:57:54.6,39°.10N×29°.08E,h6km,MD2.5*
*DDA **18** 23:57:55.0,39°.08N×29°.06E,h7km,Md2.8*
ISC 18 23:57:48.4±1.8,**38.78N**±0°.06×**29.15E**±0°.07,**h9**km±11km,
n16,σ0$ 77/25,Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SIMA	**Simav-Kutahya**	**0.33**	**336**	*e*PG	**Pb**	**23 57 57.1**	**+0.6**
SIMA				*e*SG	**Sg**	**23 57 58.1**	**-1.1**
SIMA	**Simav-Kutahya**	**0.33**	**336**	*e*Pg	**Pb**	**23 57 57.1**	**+0.6**
SIMA				*e*Sg	**Sg**	**23 57 58.2**	**-1.1**
DEMI	**Demirci**	**0.43**	**308**	*i* P	**Pn**	**23 58 01.1**	**+0.3**
DEMI				*i* S	**Sb**	**23 58 04.5**	**-0.2**
DEMI	**Demirci**	**0.43**	**308**	P	**Pn**	**23 58 01.1**	**+0.3**
DEMI				S	**Sb**	**23 58 04.5**	**-0.2**
KULA	**Kula-Manisa**	**0.47**	**235**	*e*PG	**Sb**	**23 58 07.8**	**+1.9**
MANT	**Manisa**	**0.55**	**238**	*i* P	**Pn**	**23 58 01.8**	**-0.8**
MANT				*i* S	**Sn**	**23 58 11.2**	**-0.8**
MANT	**Manisa**	**0.55**	**238**	P	**Pn**	**23 58 01.8**	**-0.8**
MANT				S	**Sn**	**23 58 11.2**	**-0.8**
TVSB	**Tavsanli**	**0.71**	**20**	*e*PG	**Pn**	**23 58 04.1**	**-0.6**
TVSB				*e*SG	**Sg**	**23 58 10.8**	**-0.5**
TVSB	**Tavsanli**	**0.71**	**20**	*e*Pg	**Pn**	**23 58 04.1**	**-0.6**
TVSB				*e*Sg	**Sg**	**23 58 10.9**	**-0.5**
ORLT	**Orhaneli**	**1.28**	**351**	*e*PG	**Pg**	**23 58 13.4**	**+0.5**
ORLT	**Orhaneli**	**1.28**	**351**	*e*Pg	**Pg**	**23 58 13.4**	**+0.5**
IGD	**Bursa**	**1.48**	**2**	*i* P	**Pg**	**23 58 17.6**	**+0.8**
IGD				*i* S	**Sn**	**23 58 34.5**	**-0.1**
MDNY	**Mudanya-Bursa**	**1.60**	**353**	*e*PN	**Pg**	**23 58 19.5**	**+0.5**
MDNY	**Mudanya-Bursa**	**1.60**	**353**	*e*Pn	**Pg**	**23 58 19.5**	**+0.5**
KCTX	**Karacabey (Bur**	**1.60**	**338**	*e*PN	**Pg**	**23 58 19.5**	**+0.4**
KCTX	**Karacabey (Bur**	**1.60**	**338**	*e*Pn	**Pg**	**23 58 19.5**	**+0.4**

*IDC **19** 00:02:51.1±0.7,35°.09S×178°.85W,h0km,mb4.4/7, mb1 4.6/9,mb1mx4.3/22,mbtmp4.4/9,ML4.5/2,MS3.6/9, Ms1 3.6/9,ms1mx3.3/23, Error ellipse: s-maj=25.1km s-min=22.1km az=162.0*
*ISCJB **19** 00:02:55.7±0.5,35°.23S±0°.05×178°.91W±0°.07,h42km, mb4.3/9,MS3.6/7, Error ellipse: s-maj=9.9km s-min=5.1km az=37.0*
*NEIC **19** 00:02:56.6±0.5,35°.18S×178°.91W,h35km,mb4.5/2, Error ellipse: s-maj=13.2km s-min=11.9km az=105.0*
ISC 19 00:02:57.4±0.6,**35°.27S**±0°.08×**178°.81W**±0°.08,**h42**km,**n78,**
σ1$ 34/81,mb4.4/9,MS3.5/7,1C-1D,East of North Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MXZ	**Matakaoa Point**	**3.26**	**225**	PN	**Pn**	**00 03 45.1**	**-0.9**
MXZ				SN	**Sn**	**00 04 24.3**	**+0.8**
WMGZ	**Waiomatatini S**	**3.38**	**220**	PN	**Pn**	**00 03 47.8**	**+0.1**
WMGZ				SN	**Sn**	**00 04 28.7**	**+2.1**
PKGZ	**Pakihiroa**	**3.62**	**223**	PN	**Pn**	**00 03 50.8**	**-0.1**
PKGZ				SN	**Sn**	**00 04 34.5**	**+2.1**
PUZ	**Puketiti**	**3.65**	**219**	PN	**Pn**	**00 03 50.7**	**-0.8**
HAZ	**Te Kaha**	**3.70**	**227**	PN	**Pn**	**00 03 52.6**	**+0.6**
TWGZ	**Tauwhareparae**	**3.88**	**221**	PN	**Pn**	**00 03 55.1**	**+0.5**
RUGZ	**Raukumara Rang**	**3.90**	**225**	PN	**Pn**	**00 03 55.1**	**+0.2**
CNGZ	**Carnagh Statio**	**4.00**	**216**	PN	**Pn**	**00 03 56.3**	**+0.1**
MWZ	**Matawai**	**4.24**	**223**	PN	**Pn**	**00 03 58.9**	**-0.6**
WHRZ	**Whale Island**	**4.26**	**232**	PN	**Pn**	**00 04 00.1**	**+0.3**
RIGZ	**Rimuhau**	**4.39**	**218**	PN	**Pn**	**00 04 01.6**	**+0.1**
RIGZ				SN	**Sn**	**00 04 53.1**	**+1.7**
URZ	**Urewera**	**4.43**	**226**	Pn	**Pn**	**00 04 01.7**	**-0.3**
	44nm,0.3s,baz=32,slow=3.1,SNR=112						
URZ				Sn	**Sn**	**00 04 53.6**	**+1.3**
	44nm,0.3s,baz=203,slow=7.3,SNR=8.7						
URZ				LR	LR	00 06 03.1	
	comp=Z,360nm,19.6s,baz=16,slow=42						
URZ	**Urewera**	**4.43**	**226**	PN	**Pn**	**00 04 01.6**	**-0.5**
PRGZ	**Paritu Road**	**4.50**	**215**	PN	**Pn**	**00 04 02.1**	**-0.9**
OPRZ	**Ohinepanea**	**4.53**	**234**	PN	**Pn**	**00 04 03.0**	**-0.5**
SNGZ	**Shannon Statio**	**4.66**	**220**	PN	**Pn**	**00 04 05.6**	**+0.2**
SNGZ				SN	**Sn**	**00 04 59.4**	**+1.2**
KUZ	**Kuaotunu**	**4.67**	**250**	PN	**Pn**	**00 04 04.8**	**-0.6**
MHGZ	**Mahia Peninsul**	**4.67**	**213**	PN	**Pn**	**00 04 04.3**	**-1.2**
KNZ	**Kokohu**	**4.68**	**216**	PN	**Pn**	**00 04 04.4**	**-1.1**
RTZ	**Ruatahuna**	**4.74**	**224**	PN	**Pn**	**00 04 06.6**	**+0.2**
MUGZ	**Murupara**	**4.77**	**227**	PN	**Pn**	**00 04 06.1**	**-0.7**
MUGZ				SN	**Sn**	**00 05 01.2**	**+0.3**
WHHZ	**Waihua**	**4.94**	**219**	PN	**Pn**	**00 04 08.3**	**-0.7**
PRRZ	**Plateau Road**	**5.01**	**229**	PN	**Pn**	**00 04 09.8**	**-0.3**
NMHZ	**Naumai**	**5.18**	**221**	PN	**Pn**	**00 04 13.0**	**+0.5**
ARHZ	**Aropaoanui**	**5.20**	**219**	PN	**Pn**	**00 04 12.2**	**-0.5**
MKAZ	**Moumakai**	**5.21**	**248**	PN	**Pn**	**00 04 13.0**	**+0.2**
BKZ	**Black Stump Fm**	**5.40**	**223**	PN	**Pn**	**00 04 14.7**	**-0.7**
BKZ				SN	**Sn**	**00 05 16.2**	**-0.1**
CKHZ	**Cape Kidnapper**	**5.46**	**216**	PN	**Pn**	**00 04 15.8**	**-0.5**
MCHZ	**McNeill Hill**	**5.49**	**219**	PN	**Pn**	**00 04 16.8**	**+0.1**
WCZ	**Waipu Caves**	**5.61**	**261**	PN	**Pn**	**00 04 18.1**	**-0.2**
KWHZ	**Kaweka Forest**	**5.62**	**221**	PN	**Pn**	**00 04 17.5**	**-0.9**
KAHZ	**Kahuranaki**	**5.67**	**216**	PN	**Pn**	**00 04 17.5**	**-1.6**
KRVZ	**Karewarewa**	**5.84**	**228**	PN	**Pn**	**00 04 21.3**	**-0.3**
PXZ	**Pawanui**	**5.86**	**215**	PN	**Pn**	**00 04 18.9**	**-2.8**
BHHZ	**Black Hill Sta**	**5.86**	**223**	PN	**Pn**	**00 04 21.1**	**-0.7**
FWVZ	**Far West T-bar**	**6.00**	**227**	PN	**Pn**	**00 04 24.1**	**+0.3**
WNVZ	**Wahianoa**	**6.02**	**226**	PN	**Pn**	**00 04 22.6**	**-1.5**
DVHZ	**Dannevirke**	**6.40**	**217**	PN	**Pn**	**00 04 27.7**	**-1.4**
BFZ	**Birch Farm**	**6.66**	**214**	PN	**Pn**	**00 04 30.2**	**-2.5**
BFZ				SN	**Sn**	**00 05 43.1**	**-4.2**
MRZ	**Mangatainoka R**	**6.97**	**218**	PN	**Pn**	**00 04 34.7**	**-2.2**
MRZ				SN	**Sn**	**00 05 51.1**	**-3.8**
HOWZ	**Holdsworth Sta**	**7.18**	**217**	PN	**Pn**	**00 04 36.9**	**-2.9**
NNZ	**Nelson**	**8.54**	**224**	PN	**Pn**	**00 04 57.5**	**-0.9**
CTZ	**Chatham Island**	**8.62**	**169**	PN	**Pn**	**00 04 58.3**	**-1.2**
THZ	**Tophouse**	**9.17**	**223**	PN	Pn	00 05 02.3	-4.9
KHZ	**Kahutara**	**9.30**	**218**	PN	**Pn**	**00 05 06.3**	**-2.5**
RPZ	**Rata Peaks**	**11.50**	**220**	Pn	**Pn**	**00 05 37.3**	**-1.6**
	1.9nm,0.3s,baz=331,slow=4.1,SNR=5.1						
RPZ				Sn	Sn	00 07 36.2	-10
	4.9nm,0.3s,baz=324,slow=21,SNR=9.8						
DZM	**Mont Dzumac**	**18.42**	**312**	P	**P**	**00 07 08.7**	**-0.6**
	0.4nm,0.3s,baz=138,slow=7.0,SNR=6.3						
DZM				LR	LR	00 13 18.7	
	comp=Z,294nm,19.1s,baz=174,slow=34						
RAR	**Rarotonga**	**21.80**	**55**	LR	LR	00 16 58.1	
	comp=Z,144nm,18.0s,baz=288,slow=39						
PPT	**Papeete**	**31.40**	**63**	LR	LR	00 22 04.1	
	comp=Z,78nm,18.3s,baz=50,slow=37						
STKA	**Stephens Creek**	**33.01**	**264**	LR	LR	00 21 51.9	
	comp=Z,50nm,19.1s,baz=37,slow=35						
CTA	**Charters Tower**	**34.23**	**287**	P	**P**	**00 09 39.0**	**-0.4**
	3.6nm,0.7s,baz=113,slow=13,SNR=3.9						
ASAR	**Alice Springs**	**42.40**	**273**	P	**P**	**00 10 47.2**	**-0.9**
	7.6nm,0.9s,baz=114,slow=7.8,SNR=52						
ASAR				LR	LR	00 27 57.2	
	comp=Z,181nm,18.9s,baz=114,slow=36						
WRAB	**Tennant Creek**	**43.83**	**278**	*e*P	**P**	**00 10 58.3**	**-1.3**
	5.8nm,0.6s						
WRA	**Warramunga Arr**	**43.83**	**278**	P	**P**	**00 10 58.1**	**-1.5**
	3.8nm,0.5s,baz=118,slow=7.7,SNR=84						
WRA				LR	LR	00 29 57.1	
	comp=Z,62nm,18.6s,baz=230,slow=37						
QSPA	**South Pole Qui**	**54.85**	**180**	*e*P	**P**	**00 12 24.3**	**+1.1**
	4.2nm,0.9s						
MAW	**Mawson**	**67.53**	**201**	P	**P**	**00 13 51.2**	**+2.4**
	1.3nm,0.7s,baz=140,slow=12,SNR=3.7						
SYO	**Syowa Base**	**72.23**	**194**‖	*e*P	**P**	**00 14 18.0**	**+0.4**
SYO	**Syowa Base**	**72.23**	**194**‖	*e*pP	pP	00 14 28.0	-2.1
SNAA	**Sanae**	**73.32**	**179**	P	**P**	**00 14 25.9**	**+1.7**
VNA3	**Neumayer Olymp**	**73.50**	**176**	P	**P**	**00 14 26.7**	**+1.4**
VNA2	**Neumayer--Watz**	**73.92**	**177**	P	**P**	**00 14 29.6**	**+1.9**
	baz=176,slow=5.7						
VNA1	**Neumayer--Stat**	**74.16**	**177**	P	**P**	**00 14 30.9**	**+1.9**
PLCA	**Paso Flores**	**79.70**	**133**	P	**P**	**00 15 02.1**	**+1.2**
	2.0nm,0.7s,baz=231,slow=10,SNR=3.1						
PSI	**Prapat**	**85.29**	**277**	LR	LR	00 52 35.8	
	comp=Z,51nm,21.8s,slow=35						
PETK	**Petropavlovsk-**	**90.36**	**346**	P	**P**	**00 15 53.5**	**0.0**
	4.2nm,0.7s,baz=111,slow=6.7,SNR=6.6						
TXAR	**Lajitas Array**	**95.57**	**58**	P	**P**	**00 16 17.7**	**-0.6**
	0.5nm,0.9s,baz=212,slow=4.4,SNR=3.9						
LPAZ	**La Paz**	**96.74**	**115**	LR	LR	00 51 03.0	
	comp=Z,31nm,21.5s,baz=87,slow=30						
ZALV	**Zalesovo Beam**	**121.15**	**317**	PKP	**PKPdf**	**00 21 44.6**	**-0.4**
	0.6nm,0.5s,baz=90,slow=4.4,SNR=3.8						
GNI	**Garni**	**145.46**	**291**	*e*PKPbc	**PKPab**	**00 22 31.3**	**+0.1**
KBZ	**Khabaz**	**147.01**	**298**	PKPbc	**PKPbc**	**00 22 34.5**	**-0.7**
	5.0nm,0.9s,baz=147,slow=4.1,SNR=11						
FINES	**FINESS Array B**	**149.41**	**337**	PKPbc	**PKPbc**	**00 22 41.1**	**+0.1**
	5.6nm,0.8s,baz=20,slow=5.1,SNR=22						
LIC	**Lamto**	**150.53**	**167**	*e*PKP1	**PKPbc**	**00 22 46.2**	**+1.0**
	59nm,1.3s						
KIC	**Kosan Boka**	**150.71**	**168**	*e*PKP1	**PKPbc**	**00 22 46.2**	**+0.6**
	40nm,1.1s						
TIC	**Toumodi**	**150.94**	**167**	*e*PKP1	**PKPbc**	**00 22 47.2**	**+1.0**
DBIC	**Dimbokro**	**151.00**	**168**	PKPbc	**PKPbc**	**00 22 47.2**	**+0.9**
	5.0nm,0.8s,baz=168,slow=1.0,SNR=7.6						
BRTR	**Keskin Array B**	**153.96**	**290**	PKPbc	**PKPbc**	**00 22 51.4**	**-1.0**
	1.7nm,1.0s,baz=121,slow=5.9,SNR=6.1						
AKASG	**Malin Array Be**	**154.55**	**316**	PKPbc	**PKPbc**	**00 22 51.0**	**-2.1**
	0.9nm,0.6s,baz=48,slow=1.4,SNR=4.2						
TORD	**Torodi Ar. Bea**	**157.97**	**181**	PKPab	**PKPab**	**00 23 22.4**	**-0.8**
	2.3nm,0.8s,baz=157,slow=3.6,SNR=12						

*ISCJB **19** 00:16:24.8±0.6,6°.82N±0°.03×73°.05W±0°.04,h157km±5km, Error ellipse: s-maj=7.9km s-min=3.9km az=34.9*
*FUNV **19** 00:16:24.9,6°.79N×73°.19W,h170km,MW2.6*
*RSNC **19** 00:16:26.7±1.2,6°.80N×73°.07W,h150km±7km,ML3.3*
*IDC **19** 00:16:30.2±6.7,6°.06N×75°.98W,h145km±67km,mb1 3.0/1, mb1mx2.7/28,mbtmp3.4/1, Error ellipse: s-maj=142.2km s-min=89.1km az=48.0*
ISC 19 00:16:24.5±1.1,**6°.82N**±0°.04×**73°.07W**±0°.05,**h161**km±6km,
n29,σ0$ 98/45,2C,Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BTLC	**Betulia, Santa**	**0.22**	**295**	*e*P	**Pn**	**00 16 46.8**	**+0.4**
BARC	**Barichara**	**0.26**	**207**	*i* P	**Pn**	**00 16 46.6**	**+0.1**
BARC				*e*S	**Sn**	**00 17 02.1**	**-1.3**
BARC				*i*		00 17 03.5	
	comp=Z,378nm,0.3s						
GIRC	**Giron, Santand**	**0.28**	**334**	*i* P	**Pn**	**00 16 46.7**	**+0.2**
GIRC				*e*S	**Sn**	**00 17 02.6**	**-0.7**
PAMC	**Pamplona, Colo**	**0.63**	**35**	*i* P	**Pn**	**00 16 49.4**	**+1.1**
PAMC				*e*S	**Sn**	**00 17 06.8**	**+0.3**
BRRC	**Barranca, Sant**	**0.70**	**294**⇑	*i* P	**Pn**	**00 16 48.5**	**+0.4**
BRRC				*i*		00 16 48.8	
	comp=Z,572nm,0.2s						
BRRC				*e*S	**Sn**	**00 17 06.3**	**0.0**
RUSC	**La Rusia**	**0.92**	**181**	*e*P	**Pn**	**00 16 50.5**	**+0.2**
RUSC				*e*S	**Sn**	**00 17 08.9**	**-1.2**
RUSC				*i*		00 17 10.3	
	comp=Z,172nm,0.4s						
CAPV	**Capacho**	**1.28**	**36**⇑	*i* P	**Pn**	**00 16 54.5**	**+1.5**
CAPV				*e*S	**Sn**	**00 17 16.0**	**+1.2**
OCAC	**Ocana**	**1.43**	**350**	*e*P	**Pn**	**00 16 55.0**	**+0.6**
OCAC				*e*S	**Sn**	**00 17 17.2**	**-0.2**
	comp=Z,246nm,0.3s						
OCAC				*i*		00 17 22.9	
	comp=Z,246nm,0.3s						
YOPC	**Yopal, Colombi**	**1.59**	**156**	*e*P	**Pn**	**00 16 57.0**	**+1.0**
ZARC	**Zaragoza, Cauc**	**1.90**	**291**	*e*P	**Pn**	**00 16 59.2**	**0.0**
ZARC				*i*		00 17 31.6	
	comp=Z,256nm,0.3s						
CTAB	**Cerro Tablazo,**	**2.13**	**212**	*e*P	**Pn**	**00 17 03.9**	**+1.6**
NORC	**Norcasia**	**2.19**	**235**	*e*P	**Pn**	**00 17 02.4**	**-0.1**
CHIC	**Chingaza**	**2.28**	**197**	*e*P	**Pn**	**00 17 04.5**	**+0.6**
CHIC				*e*S	**Sn**	**00 17 34.6**	**+0.2**
ROSC	**El Rosal**	**2.33**	**212**	P	**Pn**	**00 17 06.0**	**+1.5**
	comp=Z,8.1nm,0.3s,baz=305,slow=11,SNR=18						
ROSC		

RTCV	**Cerro Valdivia**	**4.41**	**179**	*eP*	**Pn**	**00 38 08.8**	**+0.5**
RTCV				*eS*	**Sn**	**00 38 57.1**	**-1.9**

*CSEM **19** 00:40:33.1±0.2,37.22N×22.00E,h2km,ML2.0, Error ellipse: s-maj=5.0km s-min=4.6km az=25.0*

ATH 19 00:40:33.2, 37°20N×22°02E, h1km±3km, ML2.0/6, Error ellipse: s-maj=3.3km s-min=0.8km az=258.0, Southern Greece

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
ITM	**Ithomi**	**0.08**	**254**	P		Pg	00 40 34.9	+0.1
ITM				S		Sg	00 40 36.6	+0.8
ITM	**Ithomi**	**0.08**	**254**	P		Pg	00 40 34.9	+0.2
ITM				S		Sg	00 40 36.6	+0.8
ITM				AML		AML	00 40 36.8	
	comp=N,8536μm,0.2s							
ITM				AML		AML	00 40 37.0	
	comp=E,12526μm,0.3s							
VLX	**Vlachokerasia**	**0.33**	**59**	P		Pg	00 40 40.2	+0.7
VLX				S		Sg	00 40 45.0	+1.2
VLX	**Vlachokerasia**	**0.33**	**59**	P		Pg	00 40 40.2	+0.7
VLX				S		Sg	00 40 45.0	+1.2
VLX				AML		AML	00 40 46.0	
	comp=N,996μm,0.3s							
VLX				AML		AML	00 40 46.1	
	comp=E,1260μm,0.3s							
PYL	**PYLOS**	**0.38**	**216**	P		Pg	00 40 40.1	-0.4
PYL				S		Sg	00 40 47.2	+1.8
PYL	**PYLOS**	**0.38**	**216**	P		Pg	00 40 40.1	-0.3
PYL				S		Sg	00 40 47.2	+1.8
PYL				AML		AML	00 40 47.7	
	comp=N,446μm,0.2s							
PYL				AML		AML	00 40 48.1	
	comp=E,653μm,0.3s							
TRIP	**Tripoli**	**0.38**	**31**	P		Pg	00 40 41.0	+0.5
TRIP				S		Sg	00 40 45.5	+0.1
TRIP	**Tripoli**	**0.38**	**31**	P		Pg	00 40 41.0	+0.5
TRIP				S		Sg	00 40 45.5	0.0
TRIP				AML		AML	00 40 48.0	
	comp=N,251μm,0.4s							
TRIP				AML		AML	00 40 48.5	
	comp=E,252μm,0.3s							
AMT	**Artemida-Makis**	**0.41**	**323**	P		Pg	00 40 40.8	-0.3
AMT				S		Sb	00 40 48.4	-1.7
AMT	**Artemida-Makis**	**0.41**	**323**	P		Pg	00 40 40.8	-0.3
AMT				S		Sb	00 40 48.4	-1.7
VLI	**Veliai**	**0.88**	**123**	P		Pg	00 40 50.2	+0.2
VLI				S		Sb	00 41 02.4	-1.0
VLI	**Veliai**	**0.88**	**123**	P		Pg	00 40 50.3	+0.3
VLI				S		Sb	00 41 02.4	-1.0
VLI				AML		AML	00 41 07.3	
	comp=E,146μm,0.5s							
VLI				AML		AML	00 41 10.1	
	comp=N,83μm,0.5s							
DID	**Didima**	**1.01**	**72**	P		Pg	00 40 52.5	-0.1
DID	**Didima**	**1.01**	**72**	P		Pg	00 40 52.5	-0.1
LTK	**Loutraki**	**1.11**	**42**	P		Pg	00 40 54.0	-0.5
LTK	**Loutraki**	**1.11**	**42**	P		Pg	00 40 54.0	-0.4
VILL	**Villia**	**1.40**	**46**	P		Pb	00 41 00.4	+0.2
VIL2	**Platees**	**1.41**	**44**	P		Pb	00 41 00.4	+0.1
PVO	**Paravola**	**1.47**	**345**	AML		AML	00 41 01.9	
	comp=N,110μm,0.3s							
PVO				AML		AML	00 41 02.1	
	comp=E,97μm,0.3s							

*ATH **19** 00:40:42.2,38.20N×21.84E,h12km±5km, ML1.1/2, Error ellipse: s-maj=5.1km s-min=1.2km az=26.0*
*CSEM **19** 00:40:42.2±0.1,38.21N×21.86E,h8km, ML1.1, Error ellipse: s-maj=3.6km s-min=2.3km az=7.0*

THE 19 00:40:42.6, 38°22N×21°84E, h9km±1km, ML1.4/7, Error ellipse: s-maj=1.5km s-min=0.4km az=52.0, Greece

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
UPR	**University Cam**	**0.08**	**328**	P		Pg	00 40 44.7	-0.1
UPR				S		Sg	00 40 46.2	-0.1
UPR	**University Cam**	**0.08**	**328**	P		Pg	00 40 44.7	-0.1
UPR				S		Sg	00 40 46.2	-0.1
LAKA	**Lakka**	**0.11**	**79**	P		Pg	00 40 45.3	0.0
LAKA				S		Sg	00 40 47.1	-0.1
LAKA	**Lakka**	**0.11**	**79**	P		Pg	00 40 45.2	-0.1
LAKA				S		Sg	00 40 47.2	0.0
LAKA	**Lakka**	**0.11**	**79**	P		Pg	00 40 45.2	0.0
LAKA				S		Sg	00 40 47.2	+0.1
LAKA				AML		AML	00 40 47.5	
	comp=N,156μm,0.1s							
LAKA				AML		AML	00 40 47.9	
	comp=E,234μm,0.1s							
TRIZ	**Trizonia**	**0.24**	**51**	P		Pg	00 40 47.4	0.0
TRIZ				S		Sg	00 40 51.5	+0.9
TRIZ	**Trizonia**	**0.24**	**51**	P		Pg	00 40 47.4	0.0
TRIZ				S		Sg	00 40 51.5	+0.9
SERG	**Sergoula**	**0.26**	**41**	P		Pg	00 40 47.8	0.0
SERG				S		Sg	00 40 52.1	+0.7
SERG	**Sergoula**	**0.26**	**41**	P		Pg	00 40 47.8	0.0
SERG				S		Sg	00 40 52.1	+0.7
DRO	**Drossia**	**0.28**	**201**	P		Pg	00 40 48.1	-0.2
DRO				S		Sg	00 40 53.0	+0.9
DRO	**Drossia**	**0.28**	**201**	P		Pg	00 40 48.1	-0.2
KALE	**Kalithea**	**0.29**	**54**	P		Pg	00 40 48.4	-0.1
KALE				S		Sg	00 40 52.9	+0.5
KALE	**Kalithea**	**0.29**	**54**	P		Pg	00 40 48.5	0.0
KALE				S		Sg	00 40 53.0	+0.6
KALE	**Kalithea**	**0.29**	**54**	P		Pg	00 40 48.5	0.0
KALE				S		Sg	00 40 53.0	+0.5
KALE				AML		AML	00 40 53.6	
	comp=E,120μm,0.2s							
KALE				AML		AML	00 40 53.6	
	comp=N,170μm,0.2s							
TRAZ	**Trapeza**	**0.30**	**99**	P		Pg	00 40 47.3	-1.3
TRAZ	**Trapeza**	**0.30**	**99**	P		Pg	00 40 47.3	-1.2
KLV	**Kalavryta, Ach**	**0.30**	**125**	P		Pg	00 40 48.5	-0.1
KLV				S		Sg	00 40 52.6	-0.1
KLV	**Kalavryta, Ach**	**0.30**	**125**	P		Pg	00 40 49.0	+0.4
KLV				S		Sg	00 40 52.6	-0.1
KLV	**Kalavryta, Ach**	**0.30**	**125**	P		Pg	00 40 48.5	-0.1
KLV	**Kalavryta, Ach**	**0.30**	**125**	P		Pg	00 40 49.0	+0.3
RLS	**Riolos of Patr**	**0.33**	**241**	P		Pg	00 40 49.0	-0.2
RLS				S		Sg	00 40 54.3	+0.7
RLS	**Riolos of Patr**	**0.33**	**241**	P		Pg	00 40 49.0	-0.2
AXS	**Araxos**	**0.36**	**267**	P		Pg	00 40 49.4	-0.4
AXS				S		Sg	00 40 54.9	+0.3
AXS	**Araxos**	**0.36**	**267**	P		Pg	00 40 49.2	-0.6
AXS				S		Sg	00 40 55.2	+0.6
AXS	**Araxos**	**0.36**	**267**	P		Pg	00 40 49.2	-0.5
AXS				S		Sg	00 40 55.2	+0.6
PVO	**Paravola**	**0.47**	**328**	P		Pg	00 40 51.6	-0.1
PVO				S		Sg	00 40 58.0	+0.1
PVO	**Paravola**	**0.47**	**328**	P		Pg	00 40 51.6	-0.1
PVO				S		Sg	00 40 58.0	+0.1
DSF	**Desfina**	**0.57**	**70**	P		Pg	00 40 53.1	-0.7
DSF	**Desfina**	**0.57**	**70**	P		Pg	00 40 53.1	-0.7
PDO	**Prodromos**	**0.64**	**307**	P		Pg	00 40 55.0	0.0
PDO				S		Sb	00 41 04.4	-0.6
PDO	**Prodromos**	**0.64**	**307**	P		Pg	00 40 55.0	0.0
PDO				S		Sb	00 41 04.4	-0.6
KFL	**Anninata**	**0.83**	**263**	P		Pg	00 40 58.5	-0.2
KFL	**Anninata**	**0.83**	**263**	P		Pg	00 40 58.5	-0.2
VLS	**Valsamata**	**0.98**	**268**	P		Pg	00 41 00.4	-1.1
VLS	**Valsamata**	**0.98**	**268**	P		Pg	00 41 00.4	-1.1

PGC 19 00:43:42.6±2.3, 58°30N×138°03W, h1km, ML2.4/3, 138km southeast of Yakutat, Ak Southeastern Alaska, Southeastern Alaska

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
PLBC	**Pleasant Camp**	**1.45**	**36**	Pn		Pn	00 44 08.7	-1.3
PLBC				Sg		Sg	00 44 27.5	-1.6
PNL	**Peninsula**	**1.54**	**333**	Pn		Pn	00 44 10.1	-1.2
PNL				Sg		Sn	00 44 31.1	-0.9
BESE	**Bessie Mountai**	**1.69**	**79**	Pn		Pn	00 44 12.4	-0.9
BESE				Sg		Sn	00 44 34.5	-1.2
PCA	**Pinnacle**	**2.13**	**328**	Pn		Pn	00 44 19.8	+0.3
PCA				Sg		Sn	00 44 47.7	+1.1
WHY	**Whitehorse**	**2.86**	**33**	Pn		Pn	00 44 29.8	+0.3
WHY				Sg		Sb	00 45 11.5	+1.5
CTGM	**Chitina Glacie**	**3.15**	**329**	Pg		Pb	00 44 39.3	-0.2
YUK3	**Moose Creek**	**3.69**	**342**	Pn		Pn	00 44 40.5	-0.5
YUK3				Sg		Sb	00 45 36.9	+2.9
DLBC	**Dease Lake**	**4.22**	**85**	Sg		Sb	00 45 52.5	+3.5

*GUC **19** 00:43:58.6±0.5,31.75N×69.68W,h107km±23km, ML3.1*
*ISCJB **19** 00:43:59.3±0.8,31.97S±0.03×69.37W±0.04,h116km±9km, Error ellipse: s-maj=7.2km s-min=3.9km az=39.6*
*SJA **19** 00:43:59.5±1.0,31.92S×69.35W,h107km±7km, ML3.1, MW3.3*

ISC 19 00:43:59.6±1.6, 31°96S±0°04×69°39W±0°04, h114km±13km, n21, σ0.665/36, 1C-20D, San Juan Province

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
AUSP	**Uspallata**	**0.27**	**180**	*eP*		**Pn**	**00 44 16.0**	**-0.2**
RTCV	**Cerro Valdivia**	**0.72**	**83**	*eP*		**Pn**	**00 44 18.7**	**0.0**
RTCV				*eS*		**Sn**	**00 44 32.5**	**-0.5**
ASAL	**Salagasta**	**0.79**	**144**	*eP*		**Pn**	**00 44 19.5**	**+0.3**
ASAL				*eS*		**Sn**	**00 44 33.8**	**-0.2**
SJA	**San Juan**	**0.82**	**59**	*eP*		**Pn**	**00 44 19.6**	**0.0**
ARCO	**CERRO ARCO**	**0.96**	**157**	*eP*		**Pn**	**00 44 21.7**	**+0.7**
ARCO				*eS*		**Sn**	**00 44 37.2**	**+0.1**
ARCO				IAML			00 44 39.8	
	comp=Z,663nm,0.2s							
AAGR	**Agrelo**	**1.22**	**157**	*eP*		**Pn**	**00 44 24.3**	**+0.7**
AMOG	**MOGNA**	**1.27**	**37**	*eP*		**Pn**	**00 44 24.2**	**+0.1**
ACCO	**Cerro Coronel**	**1.39**	**11**	*eP*		**Pn**	**00 44 25.7**	**-0.1**
ACCO				*eS*		**Sn**	**00 44 45.6**	**0.0**
ACCO				IAML			00 44 47.9	
	comp=Z,320nm,0.5s							
FCH	**Farellones**	**1.56**	**209**	*iP*		**Pn**	**00 44 28.7**	**+0.9**
FCH				IAML			00 44 57.5	
	comp=E,158nm,0.6s							
PEL	**Peldehue**	**1.61**	**223**	*eP*		**Pn**	**00 44 27.6**	**-0.5**
PEL				*i* S		**Sn**	**00 44 49.9**	**+0.1**
PEL				IAML			00 44 51.3	
	comp=E,340nm,0.3s							
ROCH	**El Roble**	**1.71**	**233**	*iP*		**Pn**	**00 44 28.8**	**-0.6**
ROCH				*i* S		**Sn**	**00 44 51.6**	**-0.5**
ROCH				IAML			00 44 53.3	
	comp=E,566nm,0.4s							
ROC1	**El Roble**	**1.71**	**233**	*eP*		**Pn**	**00 44 28.9**	**-0.6**
ROC1				*eS*		**Sn**	**00 44 51.4**	**-0.9**
CLCH	**Cerro Calan**	**1.73**	**214**	*iP*		**Pn**	**00 44 30.0**	**+0.4**
CLCH				*i* S		**Sn**	**00 44 53.5**	**+1.1**
CLCH				IAML			00 44 54.2	
	comp=E,163nm,0.4s							
AROD	**Rodeo**	**1.79**	**358**	*eP*		**Pn**	**00 44 31.1**	**+0.6**
AROD				*eS*		**Sn**	**00 44 53.7**	**-0.3**
ACDV	**Cuesta del Vie**	**1.80**	**7**	*eP*		**Pn**	**00 44 31.1**	**+0.6**
ACDV				*eS*		**Sn**	**00 44 54.9**	**+0.9**
ACAN	**Cantantal**	**1.89**	**100**	*eP*		**Pn**	**00 44 31.9**	**+0.4**
ACAN				*eS*		**Sn**	**00 44 55.3**	**-0.5**
ANTU	**Antumapu**	**1.92**	**213**	*iP*		**Pn**	**00 44 32.2**	**+0.3**
ANTU				*i* S		**Sn**	**00 44 57.9**	**+1.4**
RCDM	**Rinconada Maip**	**1.94**	**218**	*eP*		**Pn**	**00 44 31.0**	**-1.1**
RCDM				*eS*		**Sn**	**00 44 55.9**	**-1.0**
AVFE	**Valle Fertil**	**2.10**	**52**	*eP*		**Pn**	**00 44 33.9**	**-0.3**
AVFE				*eS*		**Sn**	**00 45 00.3**	**-0.3**
AVFE				IAML			00 45 05.1	
	comp=Z,43nm,0.6s							
ACHE	**Chepes**	**2.46**	**72**	*eP*		**Pn**	**00 44 38.1**	**-0.6**
ACHE				*eS*		**Sn**	**00 45 08.1**	**-0.7**
AGUA	**GUANDACOL**	**2.58**	**18**	*eP*		**Pn**	**00 44 41.1**	**+0.7**

*IDC **19** 00:49:30.9±2.8,36.42N×71.11E,h199km±25km, mb3.3/10, mb1 3.5/16, mb1mx3.2/50, mbtmp3.9/16, MS2.2/1, Ms1 2.2/1, ms1mx2.0/34, Error ellipse: s-maj=22.4km s-min=14.6km az=175.0*
*ISCJB **19** 00:49:31.1±0.6,36.66N±0.06×71.17E±0.07,h200km, mb3.5/13, Error ellipse: s-maj=9.4km s-min=5.7km az=136.1*
*MOS **19** 00:49:32.4±0.9,36.64N×71.19E,h219km, mb4.0/7, Error ellipse: s-maj=15.2km s-min=7.8km az=87.6*
*BJI **19** 00:49:33.9,36.84N×71.14E,h211km, mb4.4/2*
*NNC **19** 00:49:34.8±6.3,37.07N×71.27E,h0km, mb4.6, mpv4.2, Error ellipse: s-maj=46.3km s-min=44.3km az=5.0*

ISC 19 00:49:32.1±0.7, 36°66N±0°07×71°19E±0°06, h200km, n42, σ1.9551/50, mb3.7/13, 6C-5D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
KSH	**Kashi**	**4.73**	**51**	P		**Pn**	**00 50 41.4**	**-1.8**
KSH				pP			00 50 43.9	
KSH				S		Sn	00 51 29.5	-10
KSH				smax		smax		
	comp=N,290nm,0.5s							
KSH				smax		smax		
	comp=E,180nm,0.7s							
MNAS	**Manas**	**5.91**	**9**	⇓Pn		**Pn**	**00 50 59.8**	**+1.5**
	21nm,0.3s							
MNAS				⇓Sn		**Sn**	**00 52 02.7**	**-3.8**
	55nm,0.5s							
MNAS	**Manas**	**5.91**	**9**	PN		**Pn**	**00 50 59.8**	**+1.5**
MNAS				pmax		pmax		
	comp=Z,21nm,0.3s							
KK31	**Karatay Array**	**6.46**	**356**	⇑Pn		**Pn**	**00 51 06.5**	**+1.2**
	comp=Z,4.1nm,0.3s,baz=183,slow=13,SNR=264							
KK31				⇑Sn		**Sn**	**00 52 16.6**	**-2.6**
	comp=Z,38nm,0.5s,baz=181,slow=23,SNR=22							
KK31	**Karatay Array**	**6.46**	**356**	PN		**Pn**	**00 51 06.5**	**+1.2**
KK31				pmax		pmax		
	comp=Z,4.0nm,0.3s							
AAK	**Ala-Archa**	**6.49**	**22**	P		**Pn**	**00 51 07.9**	**+2.0**
	comp=Z,9.7nm,0.3s,baz=183,slow=6.4,SNR=74							
AAK				S		**Sn**	**00 52 18.6**	**-1.6**
	comp=Z,6.5nm,0.3s,baz=193,slow=5.9,SNR=6.0							
AAK				LR		LR	00 54 04.3	
	comp=Z,19nm,18.8s,baz=346,slow=41							
AAK	**Ala-Archa**	**6.49**	**22**	⇑Pn		**Pn**	**00 51 07.5**	**+1.7**
	comp=Z,25nm,0.7s							
AAK				⇓Sn		**Sn**	**00 52 19.9**	**-0.3**
	comp=Z,51nm,0.9s							
AAK	**Ala-Archa**	**6.49**	**22**	*c* PN		**Pn**	**00 51 07.7**	**+1.8**
TKM2	**Tokmak 2**	**7.12**	**27**	⇑Pn		**Pn**	**00 51 15.7**	**+1.7**
	comp=Z,19nm,0.6s							
TKM2				⇓Sn		**Sn**	**00 52 32.8**	**-2.1**
	comp=Z,30nm,0.8s							
TKM2	**Tokmak 2**	**7.12**	**27**	PN		**Pn**	**00 51 15.7**	**+1.7**
TKM2				pmax		pmax		
	comp=Z,19nm,0.6s							
PDGK	**Podgornoye**	**9.21**	**41**	⇑Pn		**Pn**	**00 51 40.5**	**-0.7**
	comp=Z,1.5nm,0.6s							
PDGK				⇓Sn		**Sn**	**00 53 22.7**	**-1.7**
	comp=Z,11nm,1.1s							
PDGK	**Podgornoye**	**9.21**	**41**	P		**Pn**	**00 51 40.5**	**-0.7**
PDGK				S		**Sn**	**00 53 22.7**	**-1.7**
PDGK				pmax		pmax		
	comp=Z,2.0nm,0.6s							
PDGK				smax		smax		
	comp=Z,11nm,1.1s							
GEYT	**Alibeck**	**10.49**	**281**	P		**Pn**	**00 51 56.9**	**-0.9**
	comp=Z,0.8nm,0.3s,baz=104,slow=12,SNR=8.5							
KURBB	**Kurchatov Arra**	**14.93**	**18**	P		**Pn**	**00 52 53.9**	**+0.6**
	comp=Z,0.2nm,0.3s,baz=207,slow=11,SNR=14							
KURK	**Kurchatov**	**15.03**	**18**	*i* P		**Pn**	**00 52 55.9**	**+1.4**
BVAR	**Borovoye Array**	**16.38**	**358**	P		**Pn**	**00 53 12.6**	**+1.9**
	comp=Z,0.3nm,0.3s,baz=157,slow=8.8,SNR=5.1							
BRVK	**Borovoye**	**16.41**	**358**	*i* P		**P**	**00 53 11.0**	**+0.6**
AKTO	**Aktyubinsk**	**16.72**	**330**	P		**Pn**	**00 53 16.1**	**+1.2**
	comp=Z,0.3nm,0.3s,baz=122,slow=10,SNR=11							
AKTO				S		**S**	**00 56 17.2**	**-0.9**
	comp=Z,0.1nm,0.3s,baz=110,slow=20,SNR=1.7							
WSAR	**Wadi Sarin**	**17.22**	**223**	P		**Pn**	**00 53 21.8**	**+0.7**
	comp=Z,0.4nm,0.3s,baz=62,slow=12,SNR=5.8							
ZALV	**Zalesovo Beam**	**19.71**	**24**	P		**P**	**00 53 46.3**	**+0.2**
	comp=Z,1.6nm,0.3s,baz=214,slow=12,SNR=23							
KBZ	**Khabaz**	**22.67**	**297**	P		**P**	**00 54 17.2**	**+0.9**
	comp=Z,1.3nm,0.8s,baz=205,slow=5.5,SNR=3.8							
KIV	**Kislovodsk**	**22.85**	**297**	*eP*		**P**	**00 54 17.9**	**-0.2**
KIV				pmax		pmax		
	comp=Z,3.0nm,1.0s							
CD2	**Chengdu**	**27.59**	**92**	P		**P**	**00 55 05.0**	**+4.2**
SONM	**Songino Array**	**28.12**	**55**	P		**P**	**00 55 06.8**	**+1.3**
	comp=Z,1.0nm,0.6s,baz=260,slow=9.9,SNR=6.8							
SONM	**Songino Array**	**28.12**	**55**	*eP*		**P**	**00 55 07.0**	**+1.5**
SONM				pmax		pmax		
	comp=Z,1.0nm,0.6s							
ULN	**Ulaanbaatar**	**28.56**	**56**	*i* P		**P**	**00 55 09.9**	**+0.5**
ULN				pmax		pmax		
	comp=Z,6.0nm,2.8s							
AKASG	**Malin Array Be**	**32.97**	**309**	P		**P**	**00 55 47.8**	**0.0**
	comp=Z,0.8nm,0.4s,baz=80,slow=7.4,SNR=5.1							
AKASG	**Malin Array Be**	**32.97**	**309**	*eP*		**P**	**00 55 47.9**	**+0.1**
AKASG				pmax		pmax		
	comp=Z,1.0nm,0.4s							
KIEV	**Kiev**	**32.98**	**309**	*i* P		**P**	**00 55 46.6**	**-1.3**
KIEV				pmax		pmax		
	comp=Z,2.0nm,0.8s							
FINES	**FINESS Array B**	**37.44**	**326**	P		**P**	**00 56 26.0**	**+0.2**
	comp=Z,1.0nm,0.5s,baz=123,slow=8.3,SNR=9.3							
ARCES	**ARCESS Array B**	**41.06**	**337**	P		**P**	**00 56 55.9**	**+0.3**
	comp=Z,1.0nm,0.5s,baz=116,slow=8.2,SNR=4.5							
ARCES	**ARCESS Array B**	**41.06**	**337**	*eP*		**P**	**00 56 56.8**	**+1.2**
ARCES				pmax		pmax		
	comp=Z,1.0nm,0.5s							
NB2	**NORSAR Subarra**	**44.35**	**323**	P		**P**	**00 57 21.5**	**-0.7**
NB2				pmax		pmax		
	comp=Z,2.0nm,0.5s							
NB2	**NORSAR Subarra**	**44.35**	**323**	P		**P**	**00 57 21.5**	**-0.7**
	comp=Z,1.7nm,0.5s,baz=97,slow=7.9							
NOA	**NORSAR Array B**	**44.35**	**323**	P		**P**	**00 57 21.9**	**-0.3**
	comp=Z,0.4nm,0.3s,baz=103,slow=7.1,SNR=10							
NOA	**NORSAR Array B**	**44.35**	**323**	P		**P**	**00 57 21.9**	**-0.3**
NOA				pmax		pmax		
	comp=Z,3.0nm,0.6s							
KLR	**Kul'dur**	**44.93**	**54**	*i* P		**P**	**00 57 26.8**	**-0.1**
ESDC	**Sonseca Array**	**57.52**	**298**	P		**P**	**00 59 00.1**	**-0.6**
	comp=Z,0.2nm,0.5s,baz=55,slow=6.4,SNR=4.3							
TORD	**Torodi Ar. Bea**	**65.88**	**269**	P		**P**	**00 59 54.3**	**-2.4**
	comp=Z,1.9nm,0.5s,baz=48,slow=5.7,SNR=40							
YKA	**Yellowknife Ar**	**81.08**	**3**	P		**P**	**01 01 24.4**	**-0.1**
	comp=Z,0.4nm,0.4s,baz=348,slow=5.3,SNR=2.5							
WRA	**Warramunga Arr**	**81.94**	**122**	P		**P**	**01 01 28.3**	**-1.3**
	comp=Z,0.2nm,0.5s,baz=324,slow=5.0,SNR=5.1							
WRA	**Warramunga Arr**	**81.94**	**122**	*eP*		**P**	**01 01 29.2**	**-0.5**

*ISCJB **19** 00:52:02.3±1.1,18.05N±0.03×76.68E±0.02,h13km±7km, mb3.8/8, Error ellipse: s-maj=4.8km s-min=3.7km az=20.9*
*HYB **19** 00:52:02.0±0.6,17.99N×76.50E, h4km±2km, ML3.6*
*IDC **19** 00:52:02.8±0.9,17.90N×76.50E, h0km, mb3.9/6, mb1 4.1/7, mb1mx3.6/48, mbtmp3.9/7, ML3.7/1, Error ellipse: s-maj=38.1km s-min=21.7km az=43.0*
*NEIC **19** 00:52:04.0±0.5,17.92N×76.56E, h10km, mb4.0/2, Error ellipse: s-maj=15.3km s-min=10.2km az=51.0*
NEIC Felt in the Latur area.
*NDI **19** 00:52:04.7±2.6,18.02N×76.60E, h10km, ML3.9, mb4.0(NEIC)*

ISC 19 00:52:02.9±0.9, 17°97N±0°04×76°60E±0°03, h11km±6km, n52, σ2.9848/73, mb3.9/8, 1C, Southern India

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
KLRI	**Killari**	**0.10**	**357**	*eP*		**Pg**	**00 52 05.3**	**-0.4**
KLRI				*e*			00 52 05.5	
	baz=229,slow=16							
KLRI				*eS*		**Sg**	**00 52 06.6**	**-1.2**
KLRI				IAML			00 52 06.8	
	comp=Z,51μm,0.3s							
LATR	**Latur**	**0.44**	**355**	*eP*		**Pb**	**00 52 12.0**	**-0.7**
LATR				*eS*		**Sg**	**00 52 17.0**	**-0.6**
BNR	**BHIKNUR**	**1.72**	**81**	*eP*		**Pb**	**00 52 34.1**	**-0.5**
BNR				IAML			00 52 59.9	
	comp=Z,2μm,0.3s							
SRSP	**Sriramsagar**	**1.91**	**60**	*eP*		**Pb**	**00 52 36.6**	**-1.1**
SRSP				IAML			00 53 05.7	
	comp=Z,794nm,0.2s							
HYBB	**Hyderabad (bro**	**1.94**	**106**	*eP*		**Pn**	**00 52 37.0**	**+1.2**
HYBB				S		**Sb**	**00 53 02.2**	**-0.3**
HYBB				IAML			00 53 06.6	
	comp=Z,665nm,0.2s							
HYB	**Hyderabad**	**1.94**	**106**	*i* P		**Pn**	**00 52 37.0**	**+1.2**
HYB				*eS*		**Sb**	**00 53 03.0**	**+0.5**
HYB	**Hyderabad**	**1.94**	**106**	*eP*		**Pn**	**00 52 37.0**	**+1.2**
HYB				*eS*		**Sb**	**00 53 02.1**	**-0.3**
HYB				AML		AML	00 53 05.9	
	comp=N,2μm,0.4s							
HYB				AML		AML	00 53 05.9	
	comp=E,667nm,0.2s							
HYB	**Hyderabad**	**1.94**	**106**	*eP*		**Pn**	**00 52 37.0**	**+1.2**
HYB				*eS*		**Sb**	**00 53 03.0**	**+0.5**
POO	**Poona**	**2.68**	**282**	*eP*		**Pb**	**00 52 49.1**	**-1.8**
POO				*eS*		**Sb**	**00 53 21.2**	**-2.5**
POO				IAML			00 53 27.7	
	comp=N,540nm,0.6s							
POO				IAML			00 53 28.6	
	comp=E,457nm,0.4s							
POO				*i* SG		**Sg**	**00 53 32.0**	**+3.0**
RPR	**Rampur**	**2.70**	**71**	*eP*		**Pn**	**00 52 47.4**	**+1.2**
RPR				IAML			00 53 30.4	
	comp=Z,646nm,0.6s							
SRLM	**Srisailam**	**2.87**	**130**	*eP*		**Pn**	**00 52 49.5**	**+0.8**
SRLM				IAML			00 53 35.6	
	comp=Z,765nm,0.5s							
NJS	**Nagarjunasagar**	**2.94**	**118**	*eP*		**Pn**	**00 52 50.4**	**+0.8**
NJS				IAML			00 53 42.2	
	comp=Z,244nm,0.3s							
URV	**Uravakonda**	**3.07**	**168**	*eP*		**Pn**	**00 52 51.8**	**+0.3**
URV				IAML			00 53 44.6	
	comp=Z,276nm,0.3s							
RCLA	**Racherla**	**3.37**	**138**	*eP*		**Pn**	**00 52 56.3**	**+0.9**
RCLA				IAML			00 53 51.7	
	comp=Z,650nm,0.4s							
GOA	**Goa**	**

PKI	**Pulchoki**	**12.53**	**39**	*eP*	**Pn**	**00 54 59.8**	**-1.7**
	comp=E,7.5nm,0.3s							
KKN	**Kakani**	**12.62**	**38**	*eP*	**Pn**	**00 55 01.0**	**-1.6**
RAMN	**Ramite**	**12.85**	**44**	*eP*	**Pn**	**00 55 04.4**	**-1.3**
	comp=E,25nm,0.5s							
JIRN	**Jiri**	**13.07**	**41**	*eP*	**Pn**	**00 55 07.1**	**-1.8**
	comp=E,42nm,0.6s							
ODAN	**Odare**	**13.32**	**47**	*eP*	**Pn**	**00 55 11.3**	**-0.9**
	comp=E,10nm,0.4s							
TAPN	**Taplejung**	**13.86**	**46**	*eP*	**Pn**	**00 55 18.7**	**-0.9**
	comp=E,27nm,0.6s							
BRVK	**Borovoye**	**35.36**	**353**	P	**P**	**00 58 59.4**	**+1.1**
SONM	**Songino Array**	**38.45**	**33**	P	**P**	**00 59 27.2**	**+2.3**
	comp=E,0.3nm,0.6s,baz=224,slow=5.4,SNR=2.5							
ULN	**Ulaanbaatar**	**38.81**	**33**	P	**P**	**00 59 28.1**	**+0.2**
	comp=E,0.8nm,0.5s							
BRTR	**Keskin Array B**	**42.91**	**309**	P	**P**	**01 00 03.3**	**+1.5**
	comp=E,0.7nm,0.8s,baz=128,slow=9.3,SNR=3.1							
MAJO	**Matsushiro**	**56.88**	**58**	*eP*	**P**	**01 01 50.6**	**+2.6**
	comp=E,2.0nm,0.6s							
ARCES	**ARCESS Array B**	**60.18**	**342**	P	**P**	**01 02 12.4**	**+2.1**
	comp=E,1.0nm,0.7s,baz=112,slow=8.9,SNR=1.4							
WRA	**Warramunga Array**	**68.04**	**121**	P	**P**	**01 03 04.5**	**+1.8**
	comp=E,0.8nm,0.5s,baz=316,slow=5.3,SNR=14							
ASAR	**Alice Springs**	**69.57**	**125**	P	**P**	**01 03 14.9**	**+2.6**
	comp=E,4.3nm,0.4s,baz=299,slow=5.8,SNR=7.4							
TORD	**Torodi Ar. Bea**	**71.90**	**278**	P	**P**	**01 03 27.7**	**+1.0**
	comp=E,0.3nm,0.8s,baz=94,slow=5.2,SNR=1.5							
LPAZ	**La Paz**	**146.29**	**267**	PKPbc	**PKPab**	**01 11 46.2**	**+0.2**
	comp=E,1.1nm,0.6s,baz=180,slow=3.2,SNR=6.8							

NIED ***19*** *01:05:00,37˚40N×142˚60E,h8km,Mw3.6 Best double couple: M₀2.74000×10¹⁴ NP1:φs190.00000°, δ37.00000°, λ-109.00000°. NP2:φs33.00000°, δ55.00000°, λ-76.00000°.*

IDC ***19*** *01:05:04.6±1.9,37˚34N×143˚01E,h0km,mb3.9/3, mb1 3.9/4,mb1mx3.4/40,mbtmp3.7/4,ML3.2/1,Error ellipse: s-maj=41.3km s-min=33.5km az=67.0*

JMA ***19*** *01:05:06.6±0.2,37˚36N×142˚64E,h12km,M3.6*

ISCJB ***19*** *01:05:07.6±1.0,37˚39N±0˚06×142˚70E±0˚07,h24km,* **n22, σ1§63/24, mb3.7/3, Off east coast of Honshu**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
JFK	**Kawauchi**	**1.36**	**267**	P		**Pn**	**01 05 31.9**	**-1.3**
JFK				*e*S		**Sn**	**01 05 49.6**	**-0.8**
JIO	**Ouri**	**1.40**	**317**	P		**Pn**	**01 05 33.3**	**-0.5**
JIO				S		**Sn**	**01 05 51.7**	**+0.2**
ONAJ	**Iwakimizuishiy**	**1.46**	**257**	*e*S		**Sn**	**01 05 53.5**	**+0.6**
JMM	**Marumori**	**1.48**	**287**	P		**Pn**	**01 05 33.8**	**-1.0**
JMM				*e*S		**Sn**	**01 05 53.9**	**+0.6**
JOU	**Okura**	**1.77**	**302**	P		**Pn**	**01 05 39.0**	**+0.1**
JOU				*e*S		**Sn**	**01 06 02.3**	**+1.6**
JFT	**Otama**	**1.78**	**273**	P		**Pn**	**01 05 39.1**	**+0.1**
JFT				*e*S		**Sn**	**01 06 02.2**	**+1.3**
JMK	**Ichinoseki**	**1.85**	**325**	P		**Pn**	**01 05 40.2**	**+0.3**
JOM	**Ohasama**	**2.27**	**334**	P		**Pn**	**01 05 45.8**	**+0.1**
JYK	**Kaneyama**	**2.29**	**311**	P		**Pn**	**01 05 46.7**	**+0.8**
JAG	**Ashikaga**	**2.70**	**249**	*e*S		**Sn**	**01 06 24.9**	**+1.4**
JRY	**Ryogami san**	**3.27**	**245**	P		**Pn**	**01 05 59.9**	**+0.3**
JRY				S		**Sn**	**01 06 37.8**	**0.0**
MJAR	**Matsushiro Arr**	**3.61**	**257**	Pn		**Pn**	**01 06 06.6**	**+2.4**
	1.5nm,0.3s,baz=90,slow=15,SNR=11							
MJAR				Sn		**Sb**	**01 06 52.6**	**-3.5**
	1.1nm,0.3s,baz=82,slow=15,SNR=4.9							
MAT	**Matsushiro**	**3.61**	**257**	P		**Pn**	**01 06 07.1**	**+2.9**
MAT				*e*S		**Sn**	**01 06 49.6**	**+3.6**
H11N2	**WAKE ISLAND Hy**	**27.58**	**123**	T		T	01 39 37.9	
	baz=315,slow=75,SNR=30							
H11N1	**WAKE ISLAND Hy**	**27.58**	**123**	T		T	01 39 43.6	
	baz=315,slow=75,SNR=20							
H11N3	**WAKE ISLAND Hy**	**27.59**	**123**	T		T	01 39 45.1	
	baz=315,slow=75,SNR=26							
H11S1	**WAKE ISLAND Hy**	**28.32**	**125**	T		T	01 40 45.2	
	baz=317,slow=76,SNR=19							
H11S3	**WAKE ISLAND Hy**	**28.32**	**125**	T		T	01 40 35.9	
	baz=317,slow=76,SNR=25							
SONM	**Songino Array**	**28.33**	**303**	P		**P**	**01 11 02.6**	**+0.9**
	0.9nm,0.7s,baz=102,slow=7.5,SNR=6.0							
H11S2	**WAKE ISLAND Hy**	**28.34**	**125**	T		T	01 40 39.1	
	baz=317,slow=76,SNR=22							
WRA	**Warramunga Arr**	**57.60**	**189**	P		**P**	**01 14 55.8**	**-1.9**
	0.6nm,0.8s,baz=8.7,slow=7.0,SNR=5.0							
FINES	**FINESS Array B**	**68.88**	**333**	P		**P**	**01 16 12.7**	**+0.7**
	2.1nm,1.0s,baz=47,slow=8.2,SNR=1.5							

NEIC ***19*** *01:06:35.7±0.0,18˚71N×102˚75W,h5km,MD4.0(MEX), After MEX.*

MEX 19 01:06:35.7±0.6, 18˚71N×102˚75W, h5km, MD4.0, Michoacan

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
MMIG	**Aquila**	**0.71**	**234**	*e*P		Pg	01 06 48.1	-1.2
MMIG				*e*S		Sg	01 06 58.4	-0.1
MMIG	**Aquila**	**0.71**	**234**	*e*P		Pg	01 06 48.1	-1.2
MMIG				*e*S		Sg	01 06 58.4	-0.1
EZ5V		**1.11**	**313**	*e*P		Pg	01 06 54.0	-3.1
EZ5V				*e*S		Sg	01 07 09.3	-2.2
R15V		**1.25**	**291**	*e*P		Pg	01 06 56.2	-3.6
R15V				*e*S		Sg	01 07 11.8	-4.3
ZIIG	**Zihuatanejo**	**1.64**	**132**	*e*P		Pn	01 07 02.1	-3.1
ZIIG				*e*S		Sn	01 07 21.9	-4.8
ZIIG	**Zihuatanejo**	**1.64**	**132**	*e*P		Pn	01 07 02.1	-3.1
ZIIG				*e*S		Sn	01 07 21.9	-4.8
MOIG	**Morelia**	**1.76**	**57**	Pn		Pn	01 07 04.1	-3.0
MOIG				Sn		Sn	01 07 25.6	-4.3
SFJM	**Santa Fe**	**1.79**	**351**	*e*P		Pn	01 07 05.4	-2.0
SFJM				*e*S		Sn	01 07 28.3	-2.3
SFJM	**Santa Fe**	**1.79**	**351**	*e*P		Pn	01 07 05.4	-2.0
SFJM				*e*S		Sn	01 07 28.3	-2.3
ANIG	**Ahuacatlan**	**2.87**	**325**	*e*P		Pn	01 07 19.6	-2.6
ANIG				*e*S		Sn	01 07 53.1	-4.1
ANIG	**Ahuacatlan**	**2.87**	**325**	*e*P		Pn	01 07 19.6	-2.6
ANIG				*e*S		Sn	01 07 53.1	-4.1
ZAIG	**Zacatecas**	**4.04**	**2**	Pn		Pn	01 07 35.3	-3.2

CSEM ***19*** *01:07:10.1±0.1,38˚22N×21˚86E,h10km,ML1.6,Error ellipse: s-maj=2.9km s-min=2.1km az=170.0*

THE ***19*** *01:07:10.6,38˚22N×21˚85E,h10km±1km,ML1.6/9,Error ellipse: s-maj=1.2km s-min=0.3km az=44.0*

ATH 19 01:07:10.5,38˚21N×21˚84E,h10km±2km,ML1.6/5,Error ellipse: s-maj=2.7km s-min=0.7km az=29.0,Greece

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
UPR	**University Cam**	**0.08**	**328**	P		Pg	01 07 12.7	-0.2
UPR				S		Sg	01 07 14.5	-0.1
UPR	**University Cam**	**0.08**	**328**	P		Pg	01 07 12.7	-0.2
UPR				S		Sg	01 07 14.5	-0.1
UPR	**University Cam**	**0.08**	**328**	P		Pg	01 07 12.4	-0.5
UPR				S		Sg	01 07 14.2	-0.4
LAKA	**Lakka**	**0.11**	**76**	P		Pg	01 07 13.4	+0.1
LAKA				S		Sg	01 07 15.2	-0.1
LAKA	**Lakka**	**0.11**	**76**	P		Pg	01 07 13.4	+0.1
LAKA				S		Sg	01 07 15.2	-0.1
LAKA	**Lakka**	**0.11**	**76**	P		Pg	01 07 13.4	+0.1
LAKA				S		Sg	01 07 15.0	-0.3
TRIZ	**Trizonia**	**0.24**	**50**	P		Pg	01 07 15.8	+0.4
TRIZ				S		Sg	01 07 19.4	+0.7
TRIZ	**Trizonia**	**0.24**	**50**	P		Pg	01 07 15.8	+0.4
TRIZ				S		Sg	01 07 19.4	+0.7
SERG	**Sergoula**	**0.26**	**40**	P		Pg	01 07 15.9	0.0
SERG				S		Sg	01 07 19.5	0.0
SERG	**Sergoula**	**0.26**	**40**	P		Pg	01 07 16.0	+0.1
SERG				S		Sg	01 07 19.9	+0.4
SERG	**Sergoula**	**0.26**	**40**	P		Pg	01 07 16.0	+0.1
SERG				S		Sg	01 07 19.9	+0.5
SERG				AML		AML	01 07 20.5	
	comp=E,324μm,0.1s							
SERG				AML		AML	01 07 20.7	
	comp=N,543μm,0.3s							
DRO	**Drossia**	**0.28**	**202**	P		Pg	01 07 16.2	0.0
DRO				S		Sg	01 07 20.8	+0.8
DRO	**Drossia**	**0.28**	**202**	P		Pg	01 07 16.2	0.0
DRO				S		Sg	01 07 20.8	+0.8
DRO	**Drossia**	**0.28**	**202**	P		Pg	01 07 16.1	0.0
DRO				AML		AML	01 07 21.4	
	comp=E,1672μm,0.3s							
DRO				AML		AML	01 07 21.5	
	comp=N,1307μm,0.1s							
DRO				S		Sb	01 07 21.8	-0.7
KALE	**Kalithea**	**0.29**	**53**	P		Pg	01 07 16.6	+0.1
KALE				S		Sg	01 07 20.7	+0.2
KALE	**Kalithea**	**0.29**	**53**	P		Pg	01 07 16.6	+0.1
KALE				S		Sg	01 07 20.7	+0.2
KALE	**Kalithea**	**0.29**	**53**	P		Pg	01 07 16.8	+0.3
KALE				S		Sg	01 07 20.8	+0.4
KALE				AML		AML	01 07 21.2	
	comp=E,181μm,0.3s							
KALE				AML		AML	01 07 21.4	
	comp=N,268μm,0.3s							
TRAZ	**Trapeza**	**0.29**	**98**	P		Pg	01 07 15.2	-1.3
TRAZ				S		Sg	01 07 21.0	+0.5
TRAZ	**Trapeza**	**0.29**	**98**	P		Pg	01 07 15.2	-1.2
TRAZ				S		Sg	01 07 21.0	+0.6
KLV	**Kalavryta, Ach**	**0.30**	**125**	P		Pg	01 07 16.6	+0.1
KLV				S		Sg	01 07 21.0	+0.5
KLV	**Kalavryta, Ach**	**0.30**	**125**	P		Pg	01 07 16.6	+0.1
KLV				S		Sg	01 07 21.0	+0.5
KLV	**Kalavryta, Ach**	**0.30**	**125**	P		Pg	01 07 16.6	+0.1
KLV				S		Sg	01 07 21.1	+0.6
RLS	**Riolos of Patr**	**0.33**	**243**	P		Pg	01 07 17.0	-0.2
RLS				S		Sg	01 07 22.4	+0.8
RLS	**Riolos of Patr**	**0.33**	**243**	P		Pg	01 07 17.0	-0.2
RLS				S		Sg	01 07 22.4	+0.8
RLS	**Riolos of Patr**	**0.33**	**243**	P		Pg	01 07 16.8	-0.4
RLS				S		Sg	01 07 22.4	+0.7
RLS				AML		AML	01 07 24.3	
	comp=N,235μm,0.1s							
RLS				AML		AML	01 07 24.3	
	comp=E,155μm,0.1s							
AXS	**Araxos**	**0.37**	**268**	P		Pg	01 07 17.4	-0.4
AXS				S		Sg	01 07 23.1	+0.4
AXS	**Araxos**	**0.37**	**268**	P		Pg	01 07 17.4	-0.4
AXS				S		Sg	01 07 22.9	+0.2
AXS	**Araxos**	**0.37**	**268**	P		Pg	01 07 17.0	-0.8
AXS				S		Sg	01 07 22.9	+0.2
PVO	**Paravola**	**0.47**	**328**	P		Pg	01 07 19.5	-0.3
PVO				S		Sg	01 07 26.8	+0.7
PVO	**Paravola**	**0.47**	**328**	P		Pg	01 07 19.5	-0.3
PVO				S		Sg	01 07 26.8	+0.7
PVO	**Paravola**	**0.47**	**328**	P		Pg	01 07 19.3	-0.5
PVO				S		Sb	01 07 27.9	-0.2
PVO				AML		AML	01 07 27.9	
	comp=E,144μm,0.2s							
PVO				AML		AML	01 07 28.1	
	comp=N,125μm,0.2s							
DSF	**Desfina**	**0.57**	**70**	P		Pg	01 07 21.3	-0.4
DSF				S		Sg	01 07 29.2	-0.1
DSF	**Desfina**	**0.57**	**70**	P		Pg	01 07 21.3	-0.4
DSF				S		Sg	01 07 29.2	-0.1
DSF	**Desfina**	**0.57**	**70**	P		Pg	01 07 21.0	-0.7
PDO	**Prodromos**	**0.65**	**307**	P		Pg	01 07 23.1	+0.1
PDO				S		Sb	01 07 32.3	-0.7
PDO	**Prodromos**	**0.65**	**307**	P		Pg	01 07 23.1	+0.1
PDO				S		Sb	01 07 32.3	-0.7
PDO	**Prodromos**	**0.65**	**307**	P		Pg	01 07 23.2	+0.2
PDO				S		Sn	01 07 34.8	-1.2
THAL	**Thalero**	**0.67**	**105**	P		Pg	01 07 23.1	-0.4
THAL	**Thalero**	**0.67**	**105**	P		Pg	01 07 23.1	-0.4
AMT	**Artemida-Makis**	**0.69**	**189**	P		Pg	01 07 23.8	0.0
AMT				S		Sb	01 07 33.9	-0.3
AMT	**Artemida-Makis**	**0.69**	**189**	P		Pg	01 07 23.8	0.0
AMT				S		Sb	01 07 33.9	-0.3
AMT	**Artemida-Makis**	**0.69**	**189**	P		Pb	01 07 25.0	+0.4
KFL	**Anninata**	**0.84**	**263**	P		Pg	01 07 26.6	-0.1
KFL	**Anninata**	**0.84**	**263**	P		Pg	01 07 26.6	-0.1
KFL	**Anninata**	**0.84**	**263**	P		Pg	01 07 26.6	-0.1
AGG	**Agios Georgios**	**0.89**	**25**	P		Pg	01 07 25.7	-2.1
AGG	**Agios Georgios**	**0.89**	**25**	P		Pg	01 07 25.7	-2.1
VLS	**Valsamata**	**0.99**	**268**	P		Pg	01 07 28.5	-1.0
VLS				S		Sn	01 07 43.7	-0.8
VLS	**Valsamata**	**0.99**	**268**	P		Pg	01 07 28.5	-1.0
VLS				S		Sn	01 07 43.7	-0.8
VLS	**Valsamata**	**0.99**	**268**	P		Pg	01 07 27.6	-1.9
VLS				S		Sg	01 07 31.5	-11

NIED ***19*** *01:38:00,38˚30N×141˚80E,h74km,Mw3.5 Best double couple: M₀2.25000×10¹⁴ NP1:φs329.00000°, δ77.00000°, λ3.00000°. NP2:φs238.00000°, δ87.00000°, λ167.00000°.*

JMA 19 01:38:22.1±0.1, 38˚31N×141˚76E, h57km±1km, M3.5, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
JIO	**Ouri**	**0.35**	**294**	P		Pn	01 38 32.5	+0.2
JIO				S		Sn	01 38 39.6	-0.1
JMK	**Ichinoseki**	**0.77**	**327**	P		Pn	01 38 37.4	+0.4
JMK				S		Sn	01 38 48.2	+0.3
OFUJ	**Ofunato**	**0.77**	**355**	P		Pn	01 38 37.1	0.0
OFUJ				S		Sn	01 38 47.9	-0.2
JOU	**Okura**	**0.86**	**274**	P		Pn	01 38 38.4	+0.1
JOU				S		Sn	01 38 50.6	+0.4
JMM	**Marumori**	**0.88**	**240**	P		Pn	01 38 38.2	-0.3
JMM				S		Sn	01 38 50.0	-0.5
JFK	**Kawauchi**	**1.17**	**217**	P		Pn	01 38 42.2	-0.2
JFK				S		Sn	01 38 57.2	-0.3
JOM	**Ohasama**	**1.22**	**343**	P		Pn	01 38 43.3	+0.4
JOM				S		Sn	01 38 59.1	+0.7
JYK	**Kaneyama**	**1.25**	**299**	P		Pn	01 38 43.8	+0.4
JYK				*e*S		Sn	01 38 59.9	+0.6
JYS	**Shirataka**	**1.34**	**267**	P		Pn	01 38 45.0	+0.5
JYS				S		Sn	01 39 02.2	+0.9
JFT	**Otama**	**1.38**	**235**	P		Pn	01 38 45.5	+0.4
JFT				S		Sn	01 39 02.4	+0.2
JRG	**Rokugo**	**1.40**	**321**	P		Pn	01 38 46.3	+1.0
JRG				S		Sn	01 39 04.5	+1.8
JYA	**Atsumi**	**1.63**	**281**	P		Pn	01 38 49.0	+0.5
JYA				*e*S		Sn	01 39 09.6	+1.2
MAT	**Matsushiro**	**3.33**	**239**	P		Pn	01 39 14.0	+2.2
MAT				*e*S		Sn	01 39 53.7	+3.6

IDC 19 01:43:24.7±4.4, 8˚66S×152˚81E, h0km, mb3.3/3, mb1 3.6/3, mb1mx3.4/38, mbtmp3.4/3, MS3.1/3, Ms1 3.1/3, ms1mx2.7/17, Error ellipse: s-maj=144.6km s-min=35.9km az=117.0, D'Entrecasteaux Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
PMG	**Port Moresby**	**5.63**	**262**	LR		LR	01 47 08.3	
	comp=Z,145nm,20.4s,baz=264,slow=40							
HNR	**Honiara**	**7.09**	**97**	LR		LR	01 47 17.4	
	comp=Z,137nm,18.6s,baz=12,slow=33							
WRA	**Warramunga Arr**	**21.09**	**236**	P		P	01 48 10.9	0.0
	0.8nm,0.8s,baz=63,slow=10,SNR=7.2							
ASAR	**Alice Springs**	**23.45**	**228**	P		P	01 48 35.8	-0.3
	0.5nm,0.7s,baz=60,slow=9.3,SNR=5.0							
ASAR				LR		LR	01 57 41.9	
	comp=Z,64nm,19.8s,baz=71,slow=37							
SONM	**Songino Array**	**69.59**	**329**	P		P	01 54 35.9	+0.1
	0.9nm,0.9s,baz=142,slow=7.3,SNR=3.2							
TORD	**Torodi Ar. Bea**	**151.30**	**282**	PKPbc		PKPbc	02 03 21.3	-0.1
	0.5nm,0.8s,baz=104,slow=2.0,SNR=2.4							

GUC 19 01:49:05.5±0.6, 20˚80S×69˚20W, h108km±3km, ML3.6, 9C-1D, Northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
PB01	**IPOC Station P**	**0.36**	**228**	↑*i*P		Pn	01 49 21.9	+0.4
PB01				*i* S		Sn	01 49 34.2	+0.7
PB01				IAML			01 49 34.7	
	comp=E,18μm,0.2s							
PB08	**IPOC Station P**	**0.66**	**4**	↓*i*P		Pn	01 49 24.5	+0.6
PB08				*i* S		Sn	01 49 38.6	+1.0
HMBC	**Humberstone**	**0.83**	**309**	↑*i*P		Pn	01 49 25.7	+0.6
HMBC				*i* S		Sn	01 49 40.7	+1.0
HMBC				IAML			01 49 42.0	
	comp=E,2μm,0.3s							
PB09	**IPOC Station P**	**0.99**	**182**	↑*i*P		Pn	01 49 27.3	+0.6
PB09				*i* S		Sn	01 49 43.5	+0.9
PB09				IAML			01 49 45.6	
	comp=E,2μm,0.7s							
PB07	**IPOC Station P**	**1.12**	**215**	↑*i*P		Pn	01 49 28.7	+0.6
PB07				*i* S		Sn	01 49 45.1	0.0
PB11	**IPOC Station P**	**1.12**	**337**	↑*i*P		Pn	01 49 28.7	+0.6
PB11				*i* S		Sn	01 49 46.2	+1.1
PSGC	**Pisagua**	**1.48**	**324**	↑*i*P		Pn	01 49 32.5	+0.4
PSGC				*i* S		Sn	01 49 53.1	+0.8
MNMC	**Minye Minye**	**1.71**	**347**	↑*i*P		Pn	01 49 35.9	+0.9
MNMC				*i* S		Sn	01 49 58.6	+1.2
MNMC				IAML			01 50 01.4	
	comp=N,794nm,0.1s							
PB04	**IPOC Station P**	**1.76**	**210**	↑*i*P		Pn	01 49 36.1	+0.5
PB04				*i* S		Sn	01 49 58.5	-0.1
PB04				IAML			01 50 01.2	
	comp=E,374nm,0.2s							
PB06	**IPOC Station P**	**1.93**	**190**	↑*i*P		Pn	01 49 37.9	+0.2
PB06				*i* S		Sn	01 50 02.7	+0.5
PB06				IAML			01 50 03.5	
	comp=E,194nm,0.3s							

IDC ***19*** *01:51:20.3±6.6,17˚19S×178˚77W,h498km±71km,mb3.2/8, mb1 3.5/8,mb1mx3.1/32,mbtmp4.1/8,Error ellipse: s-maj=61.3km s-min=26.1km az=145.0*

ISCJB ***19*** *01:51:22.5±1.3,17˚2S±0˚4×178˚9W±0˚3,h533km,mb3.6/8, Error ellipse: s-maj=61.8km s-min=16.8km az=147.6*

ISC 19 01:51:23.2±1.3, 17˚2S±0˚4×178˚8W±0˚3, h533km, n10, σ0§48/12, mb3.5/8, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
STKA	**Stephens Creek**	**38.62**	**240**	P		**P**	**01 58 01.0**	**+0.1**
	2.0nm,0.4s,baz=85,slow=9.7,SNR=7.1							
WRA	**Warramunga Arr**	**44.37**	**259**	P		**P**	**01 58 45.8**	**-0.8**
	0.5nm,0.3s,baz=95,slow=7.8,SNR=17							
WRA				PcP		**PcP**	**02 00 19.3**	**+0.2**
	0.6nm,0.7s,baz=94,slow=3.3,SNR=3.9							
ASAR	**Alice Springs**	**44.60**	**254**	P		**P**	**01 58 48.1**	**-0.2**
	9.7nm,0.8s,baz=88,slow=8.1,SNR=62							
ASAR				PcP		**PcP**	**02 00 19.9**	**+0.1**
	0.7nm,0.5s,baz=100,slow=4.0,SNR=4.5							
FITZ	**Fitzroy Crossi**	**52.76**	**260**	P		**P**	**01 59 49.5**	**+0.7**
	0.7nm,0.3s,baz=90,slow=4.4,SNR=8.6							
SEY	**Seymchan**	**83.04**	**347**	P		**P**	**02 02 52.6**	**+0.4**
	2.3nm,0.6s,baz=117,slow=8.3,SNR=5.9							
ILAR	**Eielson Array**	**85.33**	**13**	P		**P**	**02 03 03.1**	**-0.4**
	0.5nm,0.4s,baz=226,slow=4.8,SNR=8.8							
TXAR	**Lajitas Array**	**85.97**	**58**	P		**P**	**02 03 07.9**	**+0.4**
	0.3nm,0.7s,baz=210,slow=4.9,SNR=4.5							
PDAR	**Pinedale Array**	**87.14**	**44**	P		**P**	**02 03 12.3**	**-0.5**
	0.5nm,0.6s,baz=260,slow=0.9,SNR=5.1							
BRTR	**Keskin Array B**	**144.04**	**315**	PKP		**PKPab**	**02 09 58.1**	**0.0**
	0.8nm,0.6s,baz=74,slow=2.7,SNR=7.4							
GERES	**GERESS Array B**	**146.87**	**345**	PKPbc		**PKPbc**	**02 10 06.1**	**+0.2**
	0.7nm,0.5s,baz=20,slow=4.3,SNR=8.2							

NEIC ***19*** *01:51:33.0±0.0,43˚62S×172˚80E,h12km,mb4.2/1, ML4.0(WEL),After WEL.*

NEIC Felt [III] at Christchurch. Felt widely in Canterbury.

WEL 19 01:51:33.2±0.1, 43˚62S×172˚79E, h10km, ML4.0/33, Mw3.7,7C-3D, Error ellipse: s-maj=1.0km s-min=0.5km az=90.0, South Island

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
CRLZ	**Canterbury Las**	**0.13**	**291**	*e*Pg		Pg	01 51 36.3	0.0
CRLZ				Sn		Sg	01 51 38.1	-0.4
CRLZ	**Canterbury Las**	**0.13**	**291**	↓PG		Pg	01 51 36.2	-0.1
CRLZ				SG		Sg	01 51 38.1	-0.4
CRLZ				AML		AML	01 51 38.3	
CRLZ				AML		AML	01 51 38.7	
CRLZ				AML		AML	01 51 38.7	
MQZ	**McQueen's Vall**	**0.13**	**229**	*e*Pg		Pg	01 51 36.7	+0.4
MQZ				Sn		Sg	01 51 38.9	+0.4
MQZ	**McQueen's Vall**	**0.13**	**229**	↑PG		Pg	01 51 36.7	+0.3
MQZ				SG		Sg	01 51 38.9	+0.4
MQZ				AML		AML	01 51 39.0	
OXZ	**Oxford**	**0.62**	**298**	*e*Pg		Pg	01 51 45.2	-0.1
OXZ	**Oxford**	**0.62**	**298**	↓P*		Pg	01 51 45.1	-0.2
OXZ				S*		Sg	01 51 53.6	+0.1
OXZ				AML		AML	01 51 55.8	
OXZ				AML		AML	01 51 55.8	
OXZ				AML		AML	01 51 56.4	
LTZ	**Lake Taylor**	**0.92**	**335**	*e*Pn		Pg	01 51 50.9	-0.1
LTZ	**Lake Taylor**	**0.92**	**335**	P*		Pg	01 51 50.4	-0.6
LTZ				S*		Sb	01 52 03.5	0.0
RPZ	**Rata Peaks**	**1.26**	**265**	*e*Pn		Pn	01 51 56.0	-0.9
RPZ	**Rata Peaks**	**1.26**	**265**	↑P*		Pn	01 51 55.7	-1.2
RPZ				S*		Sb	01 52 12.0	-1.4
RPZ				AML		AML	01 52 20.7	
KHZ	**Kahutara**	**1.32**	**25**	*e*Pn		Pn	01 51 56.6	-1.1
KHZ	**Kahutara**	**1.32**	**25**	PN		Pn	01 51 56.7	-1.6
KHZ				AML		AML	01 52 02.7	
KHZ				AML		AML	01 52 17.3	
INZ	**Inchbonnie**	**1.33

DUWZ	**D'Urville Isla**	**2.94**	**17**	PN	Pn	01 52 19.2	-0.8	
DUWZ				AML	AML	01 53 16.7		
DUWZ				AML	AML	01 53 21.7		
WKZ	**Wanaka**	**2.97**	**245**	Pn	Pn	01 52 19.5	-0.9	
WKZ	**Wanaka**	**2.97**	**245**	PN	Pn	01 52 19.5	-0.9	
WKZ				AML	AML	01 53 12.7		
WKZ				AML	AML	01 53 15.0		
WKZ				AML	AML	01 53 15.0		
WKZ				AML	AML	01 53 19.0		
EAZ	**Earnscleugh**	**2.97**	**236**	Pn	Pn	01 52 19.3	-1.0	
EAZ	**Earnscleugh**	**2.97**	**236**	PN	Pn	01 52 19.3	-1.0	
EAZ				AML	AML	01 53 11.9		
EAZ				AML	AML	01 53 11.9		
EAZ				AML	AML	01 53 16.3		
EAZ				AML	AML	01 53 16.3		
CAW	**Cannon Point**	**3.02**	**35**	Pn	Pn	01 52 16.2	-4.9	
CAW	**Cannon Point**	**3.02**	**35**	AML	AML	01 52 54.9		
CAW				AML	AML	01 53 06.9		
KIW	**Kapiti Island**	**3.17**	**30**	Pn	Pn	01 52 21.6	-1.5	
KIW	**Kapiti Island**	**3.17**	**30**	PN	Pn	01 52 21.6	-1.5	
MTW	**Mount Morrison**	**3.18**	**40**	Pn	Pn	01 52 20.2	-3.0	
MTW	**Mount Morrison**	**3.18**	**40**	PN	Pn	01 52 20.2	-3.0	
MTW				AML	AML	01 53 00.1		
MTW				AML	AML	01 53 00.5		
TUZ	**Tuapeka**	**3.24**	**223**	Pn	Pn	01 52 23.0	-1.1	
TUZ	**Tuapeka**	**3.24**	**223**	PN	Pn	01 52 23.0	-1.1	
TUZ				AML	AML	01 53 22.5		
TUZ				AML	AML	01 53 22.5		
TUZ				AML	AML	01 53 24.4		
TUZ				AML	AML	01 53 24.4		
OGWZ	**Otaki Gorge**	**3.31**	**33**	Pn	Pn	01 52 23.5	-1.6	
OGWZ	**Otaki Gorge**	**3.31**	**33**	PN	Pn	01 52 23.5	-1.6	
OGWZ				AML	AML	01 53 02.7		
OGWZ				AML	AML	01 53 07.3		
HOWZ	**Holdsworth Sta**	**3.39**	**38**	Pn	Pn	01 52 24.1	-2.1	
HOWZ	**Holdsworth Sta**	**3.39**	**38**	PN	Pn	01 52 24.1	-2.1	
TMWZ	**Te Maipa**	**3.40**	**43**	Pn	Pn	01 52 25.6	-0.8	
MRZ	**Mangatainoka R**	**3.61**	**36**	Pn	Pn	01 52 26.9	-2.3	
MRZ	**Mangatainoka R**	**3.61**	**36**	PN	Pn	01 52 26.9	-2.3	
MRZ				AML	AML	01 53 10.7		
MRZ				AML	AML	01 53 11.3		
MLZ	**Mavora Lakes**	**3.77**	**241**	Pn	Pn	01 52 30.0	-1.4	
MLZ	**Mavora Lakes**	**3.77**	**241**	PN	Pn	01 52 30.0	-1.4	
MLZ				AML	AML	01 53 45.3		
MLZ				AML	AML	01 53 46.7		
SYZ	**Scrubby Hill**	**3.90**	**220**	Pn	Pn	01 52 32.3	-0.8	
SYZ	**Scrubby Hill**	**3.90**	**220**	PN	Pn	01 52 32.3	-0.8	
SYZ				AML	AML	01 53 57.6		
SYZ				AML	AML	01 53 58.9		
BFZ	**Birch Farm**	**3.90**	**42**	Pn	Pn	01 52 30.5	-2.7	
BFZ	**Birch Farm**	**3.90**	**42**	PN	Pn	01 52 30.8	-2.3	
WHZ	**Wether Hill Ro**	**4.13**	**235**	*e*Pn	Pn	01 52 36.7	+0.4	
DVHZ	**Dannevirke**	**4.17**	**38**	Pn	Pn	01 52 33.9	-3.0	
DVHZ	**Dannevirke**	**4.17**	**38**	PN	Pn	01 52 33.8	-3.0	
DVHZ				AML	AML	01 53 26.9		
TSZ	**Takapari Road**	**4.28**	**35**	Pn	Pn	01 52 37.7	-0.7	
PRHZ	**Porangahau**	**4.41**	**42**	Pn	Pn	01 52 38.8	-1.4	
KHEZ	**Kahui Hut**	**4.42**	**12**	Pn	Pn	01 52 40.6	+0.2	
KHEZ	**Kahui Hut**	**4.42**	**12**	PN	Pn	01 52 40.6	+0.2	
DCZ	**Deep Cove**	**4.43**	**243**	*e*Pn	Pn	01 52 39.8	-0.7	
NEZ	**North Egmont**	**4.46**	**13**	Pn	Pn	01 52 41.1	+0.2	
NEZ	**North Egmont**	**4.46**	**13**	PN	Pn	01 52 41.1	+0.2	
PNHZ	**Pukenui**	**4.50**	**36**	Pn	Pn	01 52 39.0	-2.4	
PNHZ	**Pukenui**	**4.50**	**36**	PN	Pn	01 52 39.0	-2.4	
PNHZ				AML	AML	01 53 32.0		
PKE	**Pukeiti**	**4.51**	**12**	Pn	Pn	01 52 42.0	+0.4	
PKE	**Pukeiti**	**4.51**	**12**	PN	Pn	01 52 42.0	+0.4	
APZ	**The Paps**	**4.67**	**225**	Pn	Pn	01 52 43.2	-0.6	
APZ	**The Paps**	**4.67**	**225**	PN	Pn	01 52 43.2	-0.6	
VRZ	**Vera Road**	**4.73**	**19**	Pn	Pn	01 52 45.1	+0.6	
VRZ	**Vera Road**	**4.73**	**19**	PN	Pn	01 52 45.2	+0.6	
MOVZ	**Moawhango**	**4.76**	**29**	Pn	Pn	01 52 43.3	-1.8	
MOVZ	**Moawhango**	**4.76**	**29**	PN	Pn	01 52 43.3	-1.8	
WNVZ	**Wahianoa**	**4.78**	**27**	Pn	Pn	01 52 44.6	-0.8	
WNVZ	**Wahianoa**	**4.78**	**27**	PN	Pn	01 52 44.6	-0.8	
KRHZ	**Kereru**	**4.79**	**35**	PN	Pn	01 52 43.2	-2.2	
KRHZ				AML	AML	01 53 39.5		
BHHZ	**Black Hill Sta**	**4.80**	**32**	Pn	Pn	01 52 48.6	+3.0	
WHVZ	**Whangaehu Hut**	**4.82**	**27**	Pn	Pn	01 52 45.5	-0.4	
WHVZ	**Whangaehu Hut**	**4.82**	**27**	PN	Pn	01 52 45.5	-0.4	
FWVZ	**Far West T-bar**	**4.83**	**26**	Pn	Pn	01 52 45.8	-0.4	
FWVZ	**Far West T-bar**	**4.83**	**26**	PN	Pn	01 52 45.7	-0.4	
KAHZ	**Kahuranaki**	**4.89**	**40**	Pn	Pn	01 52 45.0	-1.8	
KAHZ	**Kahuranaki**	**4.89**	**40**	PN	Pn	01 52 45.0	-1.8	
TWVZ	**Taurewa**	**4.96**	**25**	Pn	Pn	01 52 47.1	-0.8	
WTVZ	**West Tongariro**	**4.97**	**26**	Pn	Pn	01 52 46.0	-1.0	
WTVZ	**West Tongariro**	**4.97**	**26**	PN	Pn	01 52 46.9	-1.0	
KRVZ	**Karewarewa**	**5.00**	**26**	Pn	Pn	01 52 47.2	-1.2	
KRVZ	**Karewarewa**	**5.00**	**26**	PN	Pn	01 52 47.3	-1.1	
PYZ	**Puysegur Point**	**5.03**	**237**	*e*Pn	Pn	01 52 49.9	+1.2	
BKZ	**Black Stump Fm**	**5.25**	**33**	Pn	Pn	01 52 49.5	-2.3	
BKZ	**Black Stump Fm**	**5.25**	**33**	PN	Pn	01 52 49.5	-2.3	
HIZ	**Hauiti**	**5.34**	**18**	Pn	Pn	01 52 52.4	-0.5	
HIZ	**Hauiti**	**5.34**	**18**	PN	Pn	01 52 52.3	-0.5	
ARHZ	**Aropaoanui**	**5.38**	**37**	Pn	Pn	01 52 52.4	-1.1	
ARHZ	**Aropaoanui**	**5.38**	**37**	PN	Pn	01 52 52.4	-1.1	
TLZ	**Tolley Road**	**5.68**	**22**	Pn	Pn	01 52 58.4	+0.7	
URZ	**Urewera**	**6.28**	**33**	*e*Pn	Pn	01 53 02.5	-3.2	
AS01	**Alice Springs**	**37.53**	**289**	*e*P	P	01 58 46.6	-0.9	
AS31	**Alice Springs** 2.3nm,0.6s	**37.56**	**289**	*e*P	P	01 58 44.8	-2.9	
PTCN	**Pitcairn Islan** 47nm,0.3s	**49.66**	**88**	*e*P	P	02 00 27.6	+2.5	

FUNV ***19*** *02:07:06.5, 10˚.86N×73˚.20W, h4km, MW2.6*
ISCJB ***19*** *02:07:08.1±0.9, 10˚.34N±0˚.08×73˚.17W±0˚.04, h32km±7km, Error ellipse: s-maj=13.4km s-min=5.2km az=158.8*
RSNC ***19*** *02:07:08.1±0.6, 10˚.35N×73˚.13W, h18km±4km, ML2.4*

ISC 19 02:07:05.9±2.9**, 10˚.52N**±0˚.05×**73˚.25W**±0˚.04**, h19**km±7km**, n17**, σ1°**28/25, 2C, Northern Colombia**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CODC	**Agust˜n Codaz**	**0.61**	**198**	*i*P	**Pb**	**02 07 17.8**	**-0.1**
CODC				*e*S	**Sb**	**02 07 25.1**	**-0.9**
CODC				*i*		02 07 26.0	
	comp=Z,305nm,0.2s						
VIRV	**Villa del Rosa**	**0.83**	**91**	*i*P	**Pn**	**02 07 23.1**	**+0.6**
VIRV				*e*S	**Sn**	**02 07 34.3**	**0.0**
URIC	**Uribia, Colomb**	**1.71**	**46**	*e*P	**Pb**	**02 07 36.2**	**-0.4**
URIC				*i*		02 08 06.5	
	comp=Z,21nm,0.2s						
SJCC	**San Jacinto, C**	**2.00**	**252**	*e*P	**Pb**	**02 07 41.4**	**-0.2**
SJCC				*e*S	**Sb**	**02 08 06.3**	**+0.2**
SJCC				*i*		02 08 20.3	
	comp=Z,20nm,0.7s						
OCAC	**Ocana**	**2.27**	**182**	*e*P	**Pn**	**02 07 41.6**	**-0.8**
OCAC				*i*		02 08 16.2	
	comp=Z,43nm,0.2s						
VIGV	**El Vigia**	**2.50**	**132**	*e*P	**Pb**	**02 07 50.0**	**-0.2**
VIGV				*e*S	**Sb**	**02 08 21.6**	**+1.0**
CAPV	**Capacho**	**2.80**	**161**	*e*P	**Pb**	**02 07 55.3**	**0.0**
CAPV				*e*S	**Sb**	**02 08 31.7**	**+2.4**
SOCV	**Socops**	**3.24**	**133**	*e*P	**Pb**	**02 08 00.1**	**-2.8**
SOCV				*e*S	**Sb**	**02 08 40.1**	**-1.9**
CURV	**Curarigua**	**3.28**	**99**	*e*P	**Pn**	**02 07 57.8**	**+1.5**
CURV				*e*S	**Sn**	**02 08 36.3**	**+1.5**
ZARC	**Zaragoza, Cauc**	**3.40**	**208**	*e*P	**Pn**	**02 07 58.7**	**+0.8**
GIRC	**Giron, Santand**	**3.42**	**179**	*e*P	**Pn**	**02 07 58.5**	**+0.2**
BRRC	**Barranca, Sant**	**3.42**	**188**	*e*P	**Pn**	**02 07 57.4**	**-0.8**
MONV	**Montecano**	**3.52**	**66**	*e*P	**Pn**	**02 07 58.5**	**-1.1**
SANV	**Sanarito**	**3.80**	**105**	*e*P	**Pn**	**02 08 05.0**	**+1.5**
JACV	**Jacura**	**4.38**	**82**	*e*P	**Pn**	**02 08 11.3**	**-0.2**
MAPV	**Macapo**	**4.77**	**98**	*e*P	**Pn**	**02 08 18.4**	**+1.6**
MAPV				*e*S	**Sn**	**02 09 10.4**	**-1.2**
BAUV	**El Baul**	**5.37**	**107**	*e*P	**Pn**	**02 08 25.8**	**+0.8**

ISCJB ***19*** *02:44:58.5±0.4, 37˚.18N±0˚.02×22˚.02E±0˚.03, h11km±3km, Error ellipse: s-maj=4.5km s-min=4.0km az=162.5*
ATH ***19*** *02:44:58.4, 37˚.22N×22˚.01E, h0km±5km, ML2.0/16, Error ellipse: s-maj=5.9km s-min=1.2km az=210.0*
CSEM ***19*** *02:44:58.5±0.2, 37˚.21N×22˚.02E, h5km, ML2.5, Error ellipse: s-maj=3.8km s-min=3.2km az=76.0*
THE ***19*** *02:44:59.3, 37˚.21N×22˚.01E, h2km±29km, ML2.5/5, Error ellipse: s-maj=29.7km s-min=0.6km az=151.0*

ISC 19 02:44:58.5±0.8**, 37˚.22N**±0˚.02×**22˚.02E**±0˚.02**, h11**km±6km**, n50, σ1°47/92, Southern Greece**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ITM	**Ithomi**	**0.08**	**243**	P	**Pg**	**02 45 00.7**	**-0.3**
ITM				S	**Sg**	**02 45 01.7**	**-1.1**
ITM	**Ithomi**	**0.08**	**243**	P	**Pg**	**02 45 00.7**	**-0.3**
ITM				S	**Sg**	**02 45 01.7**	**-1.1**
VLX	**Vlachokerasia**	**0.33**	**62**	P	**Pg**	**02 45 05.8**	**+0.6**
VLX				S	**Sg**	**02 45 10.5**	**+0.9**
VLX	**Vlachokerasia**	**0.33**	**62**	P	**Pg**	**02 45 05.8**	**+0.6**
VLX				S	**Sg**	**02 45 10.5**	**+0.9**
VLX	**Vlachokerasia**	**0.33**	**62**	P	**Pb**	**02 45 06.2**	**-0.3**
VLX				AML	AML	02 45 11.4	
	comp=E,2215µm,0.3s						
VLX				S	**Sb**	**02 45 11.7**	**-0.2**
VLX				AML	AML	02 45 11.9	
	comp=N,1882µm,0.3s						
TRIP	**Tripoli**	**0.37**	**33**	P	**Pg**	**02 45 06.2**	**+0.2**
TRIP				S	**Sg**	**02 45 12.3**	**+1.4**
TRIP	**Tripoli**	**0.37**	**33**	P	**Pb**	**02 45 07.1**	**-0.1**
TRIP				S	**Sb**	**02 45 13.7**	**+0.6**
TRIP				AML	AML	02 45 15.0	
	comp=E,581µm,0.4s						
TRIP				AML	AML	02 45 15.6	
	comp=N,304µm,0.5s						
PYL	**PYLOS**	**0.39**	**215**	P	**Pg**	**02 45 06.2**	**-0.1**
PYL				S	**Sg**	**02 45 12.5**	**+1.1**
PYL	**PYLOS**	**0.39**	**215**	P	**Pb**	**02 45 06.2**	**-0.1**
PYL				S	**Sg**	**02 45 12.1**	**+0.7**
PYL	**PYLOS**	**0.39**	**215**	P	**Pg**	**02 45 06.1**	**-0.1**
PYL				S	**Sb**	**02 45 12.9**	**-0.5**
PYL				AML	AML	02 45 14.2	
	comp=E,1097µm,0.2s						
PYL				AML	AML	02 45 15.3	
	comp=N,774µm,0.2s						
AMT	**Artemida-Makis**	**0.40**	**322**	P	**Pg**	**02 45 06.7**	**+0.2**
AMT				S	**Sb**	**02 45 13.3**	**-0.6**
AMT	**Artemida-Makis**	**0.40**	**322**	P	**Pg**	**02 45 06.7**	**+0.2**
AMT				S	**Sg**	**02 45 11.9**	**+0.1**
AMT	**Artemida-Makis**	**0.40**	**322**	P	**Pg**	**02 45 07.2**	**+0.7**
AMT				S	**Sg**	**02 45 13.0**	**+1.2**
DRO	**Drossia**	**0.77**	**342**	P	**Pb**	**02 45 14.7**	**+0.6**
DRO				S	**Sb**	**02 45 25.3**	**+0.7**
DRO	**Drossia**	**0.77**	**342**	P	**Pb**	**02 45 14.6**	**+0.5**
DRO				S	**Sb**	**02 45 25.3**	**+0.7**
DRO	**Drossia**	**0.77**	**342**	P	**Pb**	**02 45 15.5**	**+1.4**
DRO				S	**Sb**	**02 45 26.8**	**+2.2**
DRO				AML	AML	02 45 29.7	
	comp=N,425µm,0.3s						
DRO				AML	AML	02 45 31.9	
	comp=E,571µm,0.3s						
KLV	**Kalavryta, Ach**	**0.83**	**7**	P	**Pg**	**02 45 14.6**	**-0.1**
KLV				S	**Sb**	**02 45 27.3**	**+0.9**
KLV	**Kalavryta, Ach**	**0.83**	**7**	P	**Pg**	**02 45 14.6**	**-0.1**
KLV				S	**Sb**	**02 45 27.2**	**+0.9**
KLV	**Kalavryta, Ach**	**0.83**	**7**	P	**Pb**	**02 45 15.5**	**+0.4**
KLV				S	**Sb**	**02 45 28.7**	**+2.4**
KLV				AML	AML	02 45 29.4	
	comp=E,141µm,0.4s						
KLV				AML	AML	02 45 31.9	
	comp=N,104µm,0.4s						
VLI	**Veliai**	**0.89**	**124**	P	**Pb**	**02 45 16.2**	**+0.2**
VLI	**Veliai**	**0.89**	**124**	P	**Pg**	**02 45 15.8**	**+0.1**
VLI				S	**Sn**	**02 45 30.8**	**+0.9**
VLI	**Veliai**	**0.89**	**124**	P	**Pb**	**02 45 16.6**	**+0.6**
VLI				S	**Sn**	**02 45 32.1**	**+2.2**
VLI				AML	AML	02 45 33.6	
	comp=E,233µm,0.7s						
VLI				AML	AML	02 45 37.8	
	comp=N,125µm,0.5s						
RLS	**Riolos of Patr**	**0.95**	**333**	P	**Pg**	**02 45 17.2**	**+0.4**
RLS	**Riolos of Patr**	**0.95**	**333**	P	**Pg**	**02 45 16.9**	**+0.1**
RLS				S	**Sb**	**02 45 31.0**	**+1.4**
RLS	**Riolos of Patr**	**0.95**	**333**	P	**Pb**	**02 45 17.4**	**+0.4**
RLS				S	**Sb**	**02 45 31.9**	**+2.4**
RLS				AML	AML	02 45 35.2	
	comp=N,164µm,0.3s						
RLS				AML	AML	02 45 36.2	
	comp=E,141µm,0.3s						
TRAZ	**Trapeza**	**0.96**	**9**	P	**Pg**	**02 45 15.3**	**-1.8**
TRAZ				S	**Sg**	**02 45 30.4**	**+0.7**
TRAZ	**Trapeza**	**0.96**	**9**	P	**Pg**	**02 45 15.8**	**-1.3**
TRAZ				S	**Sb**	**02 45 31.3**	**+1.2**
TRAZ				AML	AML	02 45 34.9	
	comp=E,228µm,0.2s						
TRAZ				AML	AML	02 45 35.0	
	comp=N,345µm,0.6s						
THAL	**Thalero**	**0.97**	**32**	P	**Pn**	**02 45 18.8**	**+0.7**
THAL				S	**Sg**	**02 45 30.3**	**+0.5**
THAL	**Thalero**	**0.97**	**32**	P	**Pn**	**02 45 19.3**	**+1.2**
THAL				S	**Sb**	**02 45 31.2**	**+1.0**
THAL				AML	AML	02 45 40.5	
	comp=E,379µm,0.3s						
THAL				AML	AML	02 45 42.4	
	comp=N,278µm,0.4s						
DID	**Didima**	**1.01**	**73**	P	**Pg**	**02 45 18.5**	**+0.4**
DID	**Didima**	**1.01**	**73**	P	**Pg**	**02 45 18.4**	**+0.4**
DID				S	**Sg**	**02 45 31.6**	**+0.3**
DID	**Didima**	**1.01**	**73**	P	**Pb**	**02 45 18.7**	**+0.5**
DID				S	**Sb**	**02 45 32.1**	**+0.6**
DID				AML	AML	02 45 38.1	
	comp=N,204µm,0.4s						
DID				AML	AML	02 45 40.7	
	comp=E,121µm,0.3s						
LTK	**Loutraki**	**1.10**	**43**	P	**Pb**	**02 45 20.2**	**+0.5**
LTK				S	**Sg**	**02 45 33.1**	**-1.1**
LTK	**Loutraki**	**1.10**	**43**	P	**Pg**	**02 45 20.1**	**+0.3**
LTK				S	**Sg**	**02 45 33.0**	**-1.2**
LTK				AML	AML	02 45 41.8	
	comp=E,103µm,0.4s						
LTK				AML	AML	02 45 42.1	
	comp=N,98µm,0.4s						
TRIZ	**Trizonia**	**1.15**	**2**	P	**Pg**	**02 45 20.8**	**+0.2**
TRIZ				S	**Sb**	**02 45 36.2**	**+0.8**
TRIZ	**Trizonia**	**1.15**	**2**	P	**Pg**	**02 45 20.4**	**-0.2**
TRIZ				S	**Sg**	**02 45 35.6**	**+0.1**
KALE	**Kalithea**	**1.18**	**5**	P	**Pg**	**02 45 20.8**	**-0.4**
KALE	**Kalithea**	**1.18**	**5**	P	**Pg**	**02 45 21.0**	**-0.2**
KALE				S	**Sg**	**02 45 36.0**	**-0.5**
KALE	**Kalithea**	**1.18**	**5**	P	**Pg**	**02 45 20.4**	**-0.7**
KALE				S	**Sg**	**02 45 35.2**	**-1.3**
KALE				AML	AML	02 45 42.6	
	comp=N,101µm,0.3s						
KALE				AML	AML	02 45 45.0	
	comp=E,78µm,0.5s						
PROD	**Prodromos**	**1.25**	**34**	P	**Pg**	**02 45 22.0**	**-0.7**
PROD				S	**Sg**	**02 45 36.8**	**-2.2**
PROD	**Prodromos**	**1.25**	**34**	P	**Pg**	**02 45 21.1**	**-1.5**
PROD				S	**Sg**	**02 45 35.5**	**-3.5**
PROD				AML	AML	02 45 43.6	
	comp=E,108µm,0.3s						
PROD				AML	AML	02 45 44.3	
	comp=N,137µm,0.2s						
KYTH	**Kithira**	**1.26**	**139**	P	**Pg**	**02 45 21.3**	**-1.4**
KYTH				S	**Sg**	**02 45 35.5**	**-3.6**
KYTH				AML	AML	02 45 53.4	
	comp=N,109µm,0.5s						
KYTH				AML	AML	02 45 54.2	
	comp=E,97µm,0.5s						
DSF	**Desfina**	**1.26**	**19**	P	**Pg**	**02 45 22.3**	**-0.5**
DSF	**Desfina**	**1.26**	**19**	P	**Pg**	**02 45 21.4**	**-1.3**
KFL	**Anninata**	**1.32**	**313**	P	**Pg**	**02 45 23.4**	**-0.5**
KFL	**Anninata**	**1.32**	**313**	P	**Pg**	**02 45 22.1**	**-1.8**
VILL	**Villia**	**1.40**	**47**	P	**Pn**	**02 45 24.5**	**+0.4**
VILL				S	**Sg**	**02 45 40.5**	**-3.0**
VIL2	**Platees**	**1.41**	**45**	P	**Pn**	**02 45 23.0**	**-1.2**
VIL2				S	**Sg**	**02 45 38.0**	**-5.8**
VIL2				AML	AML	02 45 54.0	
	comp=N,161µm,0.8s						
VIL2				AML	AML	02 45 57.3	
	comp=E,67µm,0.6s						
PVO	**Paravola**	**1.45**	**345**	P	**Pn**	**02 45 23.9**	**-0.9**
PVO				S	**Sg**	**02 45 42.6**	**-2.7**
PVO	**Paravola**	**1.45**	**345**	P	**Pn**	**02 45 22.0**	**-2.7**
PVO				S	**Sg**	**02 45 39.5**	**-5.7**
PVO				AML	AML	02 45 58.0	
	comp=E,70µm,0.3s						
PVO				AML	AML	02 45 58.3	
	comp=N,64µm,0.6s						

ISCJB ***19*** *02:47:24.1±0.7, 36˚.46N±0˚.07×82˚.56E±0˚.08, h10km, mb3.7/12, MS3.3/4, Error ellipse: s-maj=10.2km s-min=8.8km az=147.9*
BJI ***19*** *02:47:24.9, 36˚.29N×82˚.51E, h12km, mb4.3/4, ML4.3/8, Ms7 3.8/1*
NNC ***19*** *02:47:29.9±1.9, 36˚.90N×82˚.62E, h0km, mb4.3, mpv4.1, Error ellipse: s-maj=15.7km s-min=13.1km az=146.0*
IDC ***19*** *02:47:29.4±0.9, 36˚.36N×82˚.54E, h38km±5km, mb3.6/12, mb1 3.8/15, mb1mx3.6/39, mbtmp3.8/15, ML3.6/3, MS3.2/7, Ms1 3.2/7, ms1mx2.9/28, Error ellipse: s-maj=25.4km s-min=15.7km az=37.0*

ISC 19 02:47:26.2±0.7**, 36˚.31N**±0˚.07×**82˚.64E**±0˚.07**, h10**km**, n33, σ2°46/25, mb3.8/12, MS3.4/4, 6C-9D, Southern Xinjiang**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSH	**Kashi**	**6.17**	**303**	Pg	**Pb**	**02 49 13.8**	**+0.1**
KSH				*s*max	*s*max		
	comp=N,190nm,0.8s						
KSH				*s*max	*s*max		
	comp=E,180nm,0.8s						
WMQ	**Urumqi**	**8.44**	**26**	P	**Pn**	**02 49 27.3**	**-1.2**
WMQ				S	**Sn**	**02 51 04.3**	**+0.5**
WMQ				*s*max	*s*max		
	comp=N,32nm,1.1s						
WMQ				*s*max	*s*max		
	comp=E,51nm,0.9s						
TKM2	**Tokmak 2** 3.6nm,0.7s	**8.55**	**323**	⇓Pn	**Pn**	**02 49 29.6**	**-0.5**
TKM2				⇓Lg	Lg	02 51 44.4	
	32nm,0.8s						
AAK	**Ala-Archa**	**8.92**	**318**	Pn	**Pn**	**02 49 36.0**	**+0.8**
	0.3nm,0.3s,baz=170,slow=2.2,SNR=5.7						
AAK				Pg	Pg	02 50 02.9	-14
	2.6nm,0.3s,baz=335,slow=12,SNR=13						
AAK				Lg	Lg	02 51 59.6	
	1.0nm,0.3s,baz=328,slow=19,SNR=3.9						
AAK				LR	LR	02 53 23.5	
	comp=Z,118nm,19.3s,baz=118,slow=40						
AAK	**Ala-Archa** 7.3nm,0.5s	**8.92**	**318**	Pg	Pg	02 50 03.0	-14
AAK				⇑Lg	Lg	02 52 01.1	
	34nm,0.9s						
MNAS	**Manas** 5.1nm,0.6s	**9.97**	**311**	⇓Pg	Pn	02 50 24.0	+34
MNAS				⇑Lg	Lg	02 52 37.4	
	14nm,0.8s						
GTK	**Tadong**	**10.30**	**149**	*e*S	**Pn**	**02 49 54.8**	**+0.7**
GTK				*e*S	**Pn**	**02 49 55.0**	**+0.9**
GTK				AML	AML	02 49 55.3	
	comp=E,230nm,0.1s						
GTK				AML	AML	02 49 55.4	
	comp=N,408nm,0.1s						
MK31	**Makanchi Array**	**10.47**	**359**	⇓Pn	Pn	02 49 53.8	-2.5
	comp=N,0.9nm,0.2s,baz=184,slow=12,SNR=67						
MK31				⇑Sn	**Sn**	**02 51 47.3**	**-6.4**
	comp=N,9.3nm,0.7s,baz=181,slow=24,SNR=5.6						
MK31				⇑Lg	Lg	02 52 44.5	
	comp=N,9.1nm,0.7s						
MAKZ	**Makanchi**	**10.50**	**357**	⇓Pn	Pn	02 49 53.7	-2.9
	comp=N,9.7nm,0.8s						
MAKZ				⇓Sn	Sn	02 51 46.4	-7.9
	comp=N,11nm,0.6s						
KK31	**Karatay Array**	**11.54**	**310**	⇓Lg	Lg	02 53 26.3	
	comp=N,8.9nm,1.1s						
GTA	**Gaotai**	**13.91**	**72**	*e*P	**Pn**	**02 50 45.8**	**+2.3**
GTA				pP	P	02 50 50.9	-0.9
GTA				sP		02 50 54.3	
GTA				pmax	pmax		
	comp=N,6.0nm,0.8s						
KURBB	**Kurchatov Arra**	**14.61**	**350**	Pn	Pn	02 50 49.1	-3.7
	comp=N,0.1nm,0.3s,baz=172,slow=12,SNR=10						
KURBB				Lg	Lg	02 55 19.5	
	comp=N,0.1nm,0.3s,baz=254,slow=40,SNR=1.5						
KURBB	**Kurchatov Arra**	**14.61**	**350**	⇑Pn	Pn	02 50 48.6	-4.2
	comp=N,3.9nm,0.9s						
KURBB				⇓Lg	Lg	02 54 57.7	
	comp=N,20nm,0.8s						
KURK	**Kurchatov**	**14.69**	**350**	⇑Pn	Pn	02 50 50.3	-3.6
	comp=N,4.4nm,0.9s						
KURK				⇓Lg	Lg	02 54 55.1	
	comp=N,20nm,1.4s						
ZALV	**Zalesovo Beam**	**17.70**	**4**	P	Pn	02 51 27.8	-4.8
	comp=N,0.9nm,0.3s,baz=192,slow=11,SNR=14						
ZALV				LR	LR	02 59 03.3	
	comp=N,30nm,18.7s,baz=70,slow=39						
BVAR	**Borovoye Array**	**18.80**	**337**	P	**P**	**02 51 45.1**	**-0.5**
	comp=N,1.2nm,0.3s,baz=140,slow=9.4,SNR=35						
GEYT	**Alibeck** baz=74,slow=11,SNR=1.6	**19.61**	**282**	P	**P**	**02 51 52.6**	**-2.1**
GEYT				LR	LR	03 00 58.0	
	comp=N,58nm,21.8s,baz=40,slow=41						
SONM	**Songino Array**	**20.97**	**49**	P	**P**	**02 52 10.4**	**+0.9**
	comp=N,12nm,0.8s,baz=241,slow=11,SNR=61						
SONM				Lg	Lg	02 58 29.7	
	comp=N,0.3nm,0.4s,baz=252,slow=29,SNR=2.1						
AKTO	**Aktyubinsk**	**22.66**	**316**	P	**P**	**02 52 25.6

ACX	**Acapulco**	**0.81**	**225**	*e*P	**Pn**	**02 58 58.7**	**+1.2**
ACX				*e*S	**Sn**	**02 59 09.2**	**+0.6**
ACX	**Acapulco**	**0.81**	**225**	*e*P	**Pn**	**02 58 58.7**	**+1.2**
ACX				*e*S	**Sn**	**02 59 09.2**	**+0.6**
ACP2	**Acapulco**	**0.82**	**227**	*e*P	**Pn**	**02 58 56.2**	**-1.4**
ACP2				*e*S	**Sn**	**02 59 07.9**	**-1.1**
PLIG	**Platanillo**	**0.97**	**346**	*e*P	**Pn**	**02 58 59.4**	**-0.3**
PLIG				*e*S	**Sn**	**02 59 12.7**	**0.0**
PLIG	**Platanillo**	**0.97**	**346**	*e*P	**Pn**	**02 58 59.4**	**-0.3**
PLIG				*e*S	**Sn**	**02 59 12.7**	**0.0**
CAIG	**El Cayaco**	**1.04**	**248**	*e*P	**Pn**	**02 58 59.1**	**-1.3**
CAIG				*e*S	**Sn**	**02 59 12.7**	**-1.4**
CAIG	**El Cayaco**	**1.04**	**248**	*e*P	**Pn**	**02 58 59.1**	**-1.3**
CAIG				*e*S	**Sn**	**02 59 12.7**	**-1.4**
ARIG	**Puente Sto Nin**	**1.33**	**309**	*e*P	**Pn**	**02 59 04.2**	**-0.2**
ARIG				*e*S	**Sn**	**02 59 20.6**	**-0.5**
YAIG	**Yautepec**	**1.43**	**7**	*e*P	**Pn**	**02 59 05.2**	**-0.6**
YAIG				*e*S	**Sn**	**02 59 22.7**	**-0.8**
YAIG	**Yautepec**	**1.43**	**7**	*e*P	**Pn**	**02 59 05.2**	**-0.6**
YAIG				*e*S	**Sn**	**02 59 22.7**	**-0.8**
MAVM	**Malinalco, Edo**	**1.52**	**352**	*e*P	**Pn**	**02 59 06.6**	**-0.6**
PPM	**Popocatepetl**	**1.73**	**20**	*e*P	**Pn**	**02 59 09.4**	**-0.7**
PPM				*i* S	**Sn**	**02 59 30.3**	**-1.1**
PPM	**Popocatepetl**	**1.73**	**20**	*e*P	**Pn**	**02 59 09.4**	**-0.7**
PPM				*i* S	**Sn**	**02 59 30.3**	**-1.1**
TOVM	**TOLUCA**	**1.88**	**348**	*i* P	**Pn**	**02 59 12.0**	**0.0**
PHPU	**Puebla**	**1.90**	**33**	*e*P	**Pn**	**02 59 11.7**	**-0.6**
PHPU				*e*S	**Sn**	**02 59 35.2**	**-0.1**
PBVM	**Pinon**	**2.00**	**5**	*e*P	**Pn**	**02 59 13.8**	**+0.4**
PBVM	**Pinon**	**2.00**	**5**	*e*P	**Pn**	**02 59 13.8**	**+0.4**
TPIG	**Tehuac#an**	**2.05**	**61**	*e*P	**Pn**	**02 59 14.0**	**-0.3**
TPIG				*e*S	**Sn**	**02 59 38.0**	**-0.8**
TPIG	**Tehuac#an**	**2.05**	**61**	*e*P	**Pn**	**02 59 14.0**	**-0.3**
TPIG				*e*S	**Sn**	**02 59 38.0**	**-0.8**
ZIIG	**Zihuatanejo**	**2.11**	**275**	*e*P	**Pn**	**02 59 14.2**	**-0.8**
ZIIG				*e*S	**Sn**	**02 59 38.6**	**-1.4**
ZIIG	**Zihuatanejo**	**2.11**	**275**	*e*P	**Pn**	**02 59 14.2**	**-0.8**
ZIIG				*e*S	**Sn**	**02 59 38.6**	**-1.4**
PTVM	**Pico Tres Padr**	**2.15**	**4**	*e*P	**Pn**	**02 59 15.4**	**-0.3**
PTVM	**Pico Tres Padr**	**2.15**	**4**	*e*P	**Pn**	**02 59 15.4**	**-0.3**
VHO	**Vista Hermosa**	**2.44**	**98**	*e*P	**Pn**	**02 59 20.0**	**+0.3**
VHO				*e*S	**Sn**	**02 59 47.4**	**-1.1**
VHO	**Vista Hermosa**	**2.44**	**98**	*e*P	**Pn**	**02 59 20.0**	**+0.3**
VHO				*e*S	**Sn**	**02 59 47.4**	**-1.1**
MOIG	**Morelia**	**2.88**	**321**	*e*P	**Pn**	**02 59 26.2**	**+0.4**
MOIG				*i* S	**Sn**	**02 59 58.1**	**-1.2**
MOIG	**Morelia**	**2.88**	**321**	*e*P	**Pn**	**02 59 26.2**	**+0.4**
MOIG				*i* S	**Sn**	**02 59 58.1**	**-1.2**
MMIG	**Aquila**	**3.98**	**283**	*e*P	**Pn**	**02 59 39.6**	**-0.9**
MMIG				*i* S	**Sn**	**03 00 25.5**	**-0.5**
MMIG	**Aquila**	**3.98**	**283**	*e*P	**Pn**	**02 59 39.6**	**-0.9**
MMIG				*i* S	**Sn**	**03 00 25.5**	**-0.5**
CMIG	**Matias Romero**	**4.20**	**94**	Pn	**Pn**	**02 59 43.7**	**+0.2**
	7.3nm,0.3s,baz=249,slow=12,SNR=159						
CMIG				Sn	**Sn**	**03 00 28.2**	**-3.0**
	8.0nm,0.3s,baz=147,slow=19,SNR=7.0						
CMIG				Lg	Lg	03 00 48.0	
	5.5nm,0.3s,baz=96,slow=7.0,SNR=5.4						
TXAR	**Lajitas Array**	**12.51**	**342**	Pn	**Pn**	**03 01 39.1**	**+1.7**
	0.0nm,0.3s,baz=164,slow=14,SNR=5.6						
MNTX	**Cornudas Mount**	**15.24**	**340**	*e*Pn	**Pn**	**03 02 14.5**	**+0.7**
AMTX	**Amarillo**	**17.51**	**353**	*e*Pn	**P**	**03 02 42.4**	**-0.4**
	4.2nm,0.5s						
ANMO	**Albuquerque**	**18.58**	**341**	P	**Pn**	**03 02 55.4**	**-0.1**
	0.2nm,0.3s,baz=138,slow=9.5,SNR=5.4						
ANMO				LR	LR	03 11 17.5	
	comp=Z,42nm,18.1s,baz=152,slow=41						
ANMO	**Albuquerque**	**18.58**	**341**	*e*Pn	**Pn**	**03 02 55.8**	**+0.3**
PDAR	**Pinedale Array**	**26.73**	**343**	P	**P**	**03 04 16.4**	**0.0**
	0.4nm,0.5s,baz=133,slow=9.2,SNR=4.2						
ILAR	**Eielson Array**	**56.98**	**338**	P	**P**	**03 08 22.8**	**+1.1**
	0.4nm,0.9s,baz=121,slow=6.1,SNR=5.6						

*KRNET **19** 03:15:15.8±0.1,43.°60N×79.°70E,mb2.6*
*SOME **19** 03:15:16.6,43.°37N×79.°80E,h25km*
*NNC **19** 03:15:16.7±0.5,43.°62N×79.°58E,h0km,mb3.2,mpv3.0,*
Error ellipse: s-maj=6.1km s-min=2.5km az=98.0
ISC 19 03:15:13.2±1.8,43.°25N±0.°05×79.°86E±0.°06,h8km±10km, n26,σ1§45/48,17C-4D,Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PDGK	**Podgornoye**	**0.28**	**287**	⇑	*i*P		**Pn**	**03 15 22.7**	**-1.1**
PDGK	baz=210			⇑	*i*S		**Sb**	**03 15 26.8**	**+1.3**
PDGK	**Podgornoye**	**0.28**	**287**	⇓	P		**Pn**	**03 15 22.7**	**-1.1**
PDGK	54nm,0.3s			⇑	S		**Sb**	**03 15 26.9**	**+1.3**
SHLS	**Shalkode**	**0.30**	**253**		*e*P		**Pn**	**03 15 22.9**	**-1.2**
SHLS	99nm,0.3s				*e*S		**Sb**	**03 15 27.4**	**+1.2**
UZB	**Uzynbulak**	**0.62**	**261**		*e*P		**Pn**	**03 15 28.4**	**-0.1**
UZB	90nm,0.2s				*e*S		**Sb**	**03 15 36.6**	**+1.4**
KPKS	**Kokpek**	**0.88**	**285**		*e*P		**Pn**	**03 15 31.8**	**-0.2**
KPKS	113nm,0.1s				*e*S		**Sg**	**03 15 43.1**	**+1.4**
SATY	**Saty**	**1.08**	**260**		*e*P		**Pn**	**03 15 35.8**	**+1.1**
SATY	204nm,0.3s				*e*S		**Sn**	**03 15 49.9**	**0.0**
DJR	**Jarkent**	**1.08**	**357**		*e*P		**Pn**	**03 15 34.4**	**-0.3**
DJR	138nm,0.1s				*e*S		**Sg**	**03 15 47.5**	**-0.6**
KURS	**Kuram**	**1.25**	**282**		*e*P		**Pg**	**03 15 38.3**	**+1.0**
KURS	170nm,0.1s				*e*S		**Sb**	**03 15 54.2**	**+0.8**
MNBS	**Baschi**	**1.34**	**309**		*e*P		**Pn**	**03 15 37.3**	**-1.1**
MNBS	25nm,0.4s				*e*S		**Sn**	**03 15 52.8**	**-3.7**
ANVS	**Anan'yevo**	**1.67**	**255**	⇑	*i*P		**Pg**	**03 15 46.5**	**+1.2**
ANVS	92nm,0.2s			⇑	*i*S		**Sg**	**03 16 10.0**	**+3.0**
ARXS	**Arharly**	**1.76**	**304**		*e*P		**Pb**	**03 15 45.5**	**-0.2**
ARXS	baz=242				*e*S		**Sn**	**03 16 06.8**	**+0.1**
MDOK	**Medeo**	**2.06**	**269**		Pg		**Pg**	**03 15 51.1**	**-1.5**
MDOK	3.7nm,0.1s			⇑	Lg		Lg	03 16 18.9	
MDOK	**Medeo**	**2.06**	**269**		*e*P		**Pg**	**03 15 51.8**	**-0.8**
MDOK	4.2nm,0.1s				*e*S		**Sb**	**03 16 17.7**	**+1.0**
KAPS	**Kapalarasan**	**2.07**	**350**		*e*P		**Pb**	**03 15 51.4**	**+0.4**
KAPS	6.3nm,0.3s				*e*S		**Sn**	**03 16 16.6**	**+2.4**
TNSS	**Tian-Shan**	**2.14**	**265**		*e*P		**Pg**	**03 15 54.2**	**0.0**
TNSS	22nm,0.2s				*e*S		**Sg**	**03 16 21.6**	**-0.4**
CHKK	**Chushkaly**	**2.17**	**287**		*e*P		**Pb**	**03 15 53.4**	**+0.6**
CHKK	20nm,0.2s				*e*S		**Sb**	**03 16 20.4**	**+0.6**
KDJ	**Kajisay**	**2.27**	**241**	⇓	*e*P		**Pg**	**03 15 56.5**	**-0.2**
KDJ	66nm,0.2s			⇓	*i*S		**Sg**	**03 16 27.1**	**+1.0**
MTBS	**Maitube**	**2.51**	**268**		*e*P		**Pg**	**03 16 00.3**	**-0.9**
MTBS	baz=232				*e*S		**Sb**	**03 16 32.1**	**+2.4**
ULHL	**Ulahol**	**2.85**	**251**	⇑	*i*P		**Pg**	**03 16 05.4**	**-2.3**
ULHL	4.0nm,0.1s			⇑	*i*S		**Sb**	**03 16 40.9**	**+1.5**
KST	**Kastek**	**2.86**	**267**		*e*P		**Pg**	**03 16 07.6**	**-0.3**
KST	19nm,0.2s				*e*S		**Sg**	**03 16 44.5**	**-0.5**
BOOM	**Boomskoye usch**	**2.98**	**257**	⇑	*e*P		**Pb**	**03 16 05.0**	**-1.6**
BOOM	2.9nm,0.4s			⇑	*e*S		**Sb**	**03 16 41.5**	**-1.7**
	8.8nm,0.4s								
	baz=249								
	baz=249								

DGS	**Degeres**	**2.99**	**271**	*e*P	**Pg**	**03 16 08.2**	**-2.2**
	1.4nm,0.3s						
DGS				*e*S	**Sb**	**03 16 45.5**	**+2.2**
	6.6nm,0.3s						
TKM2	**Tokmak 2**	**3.14**	**265**	⇑ *i*P	**Pb**	**03 16 09.3**	**0.0**
	baz=259						
TKM2				⇑ *i*S	**Sb**	**03 16 47.3**	**-0.5**
	baz=259						
TKM2	**Tokmak 2**	**3.14**	**265**	⇑Pg	**Pb**	**03 16 10.2**	**+0.8**
	2.4nm,0.6s						
TKM2				⇓Lg	Lg	03 16 51.7	
	3.1nm,0.4s						
MK31	**Makanchi Array**	**3.94**	**25**	⇑Sn	**Sn**	**03 17 00.9**	**+0.5**
	0.4nm,0.3s,baz=210,slow=28,SNR=4.3						
MK31				⇑Lg	Lg	03 17 14.7	
	1.4nm,0.5s,baz=214,slow=29,SNR=5.3						
AAK	**Ala-Archa**	**3.98**	**263**	⇑Pg	**Pg**	**03 16 26.6**	**-2.9**
	1.7nm,0.7s						
AAK				⇑Lg	Lg	03 17 20.5	
	5.3nm,1.1s						

TAP 19 03:21:16.3,24.°44N×121.°71E,h10km,ML2.4,1D,B, Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
ENA	**Nanau**	**0.03**	**116**	⇓	*i*P		Pg	03 21 18.4	+0.2
	baz=114								
ENA					*i* S		Sg	03 21 19.9	+0.4
	baz=114								
TWC	**Suao**	**0.21**	**37**		*i* P		Pg	03 21 21.1	+0.4
	baz=33								
TWC					*e*S		Sg	03 21 23.9	+0.2
	baz=33								
ENTT	**Nioudou**	**0.24**	**326**		*i* P		Pg	03 21 21.8	+0.5
	baz=327								
ENTT					S		Sg	03 21 24.9	+0.4
	baz=327								
TWE	**Neicheng**	**0.28**	**352**		*e*P		Pg	03 21 22.6	+0.6
	baz=360								
TWE					S		Sg	03 21 26.6	+0.7
	baz=360								
NNS	**Nan Shan**	**0.31**	**270**		P		Pg	03 21 23.1	+0.5
	baz=269								
NNS					*e*S		Sg	03 21 27.3	+0.6
	baz=269								
TWD	**Chiawan**	**0.38**	**196**		*e*S		Sg	03 21 29.5	+0.7
	baz=195								
NSK	**Sanguang**	**0.40**	**306**		*e*P		Pg	03 21 24.5	+0.3
	baz=307								
NSK					*e*S		Sb	03 21 30.9	-0.8
	baz=307								
HWA	**Hwalien**	**0.47**	**192**		*e*P		Pg	03 21 24.8	-0.8
	baz=197								
WHF	**Hehuan Shan**	**0.50**	**234**		*e*P		Pg	03 21 26.8	+0.5
	baz=234								
WHF					*e*S		Sb	03 21 35.0	-0.1
	baz=234								
TWT	**Tachien**	**0.52**	**249**		*e*P		Pb	03 21 27.8	0.0
	baz=242								
TWT					*e*S		Sg	03 21 34.4	+0.9
	baz=242								
WDT	**Danda**	**0.86**	**218**		*e*S		Sb	03 21 45.5	+0.1
	baz=217								
WDT	**Danda**	**0.86**	**218**		*e*S		Sb	03 21 45.5	+0.1
	baz=63								

TAP 19 03:21:19.7,23.°44N×120.°48E,h12km±1km,ML1.3,1C,C, Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CHY	**Chiayi**	**0.07**	**320**		*e*S		Sg	03 21 24.9	+0.8
	baz=324								
CHN4	**Tsaushan**	**0.14**	**130**	⇑	*i*P		Pg	03 21 23.6	+0.5
	baz=129								
CHN4					S		Sg	03 21 26.8	+1.3
	baz=129								
WTP	**Ta-pu**	**0.23**	**147**		P		Pb	03 21 25.6	-0.3
	baz=145								
WTP					*e*S		Sg	03 21 29.8	+1.8
	baz=145								
CHN5	**Tsauling**	**0.24**	**50**		P		Pg	03 21 25.3	+0.4
	baz=50								
CHN5					S		Sg	03 21 30.2	+1.9
	baz=50								
CHN1	**Nanshi**	**0.26**	**169**		*e*P		Pb	03 21 25.9	-0.4
	baz=169								
CHN1					*e*S		Sb	03 21 30.9	0.0
	baz=169								
STYT	**Tauyuan**	**0.38**	**137**		*e*S		Sb	03 21 35.0	+0.7
	baz=136								

MEX 19 03:28:10.6±0.6,18.°69N×102.°81W,h66km±19km,MD3.7, Michoacan

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
MMIG	**Aquila**	**0.65**	**232**		*e*P		Pn	03 28 23.0	-1.6
MMIG					*e*S		Sn	03 28 33.6	-1.4
EZ5V		**1.09**	**316**		*e*P		Pn	03 28 28.9	-1.4
EZ5V					*e*S		Sn	03 28 44.0	-1.0
R15V		**1.21**	**293**		*e*P		Pn	03 28 30.9	-0.8
R15V					*e*S		Sn	03 28 45.0	-2.5
ZIIG	**Zihuatanejo**	**1.67**	**130**		*i* P		Pn	03 28 36.8	-0.9
ZIIG					*i* S		Sn	03 28 56.4	-1.8
MOIG	**Morelia**	**1.82**	**57**		*i* P		Pn	03 28 39.0	-1.0
MOIG					*i* S		Sn	03 28 59.9	-2.3
ARIG	**Puente Sto Nin**	**2.37**	**99**		*e*P		Pn	03 28 46.0	-1.2
ARIG					*e*S		Sn	03 29 13.7	-1.5

IDC 19 03:30:25.2±4.5,41.°63N×127.°27E,h0km,mb1 2.7/1, mb1mx2.7/27,mbtmp2.7/1,ML1.5/1,Error ellipse: s-maj=52.8km s-min=17.7km az=110.0,North Korea

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
KSRS	**Korea Array**	**4.20**	**173**			Pg	Pb	03 31 41.6	+1.7
	0.5nm,0.3s,baz=350,slow=18,SNR=4.5								
KSRS						Lg	Lg	03 32 39.0	
	1.7nm,0.3s,baz=353,slow=29,SNR=8.9								
I45RU	**USSURIYSK INFR**	**4.31**	**52**		*i*			03 54 50.0	
	baz=234,slow=323,SNR=5.1								
USRK	**Ussuriysk Ar.**	**4.32**	**52**			Pn	Pn	03 31 33.0	+1.0
	0.2nm,0.3s,baz=244,slow=16,SNR=2.3								
USRK						Pg	Pb	03 31 43.1	+1.2
	0.3nm,0.3s,baz=233,slow=14,SNR=2.6								
USRK						Lg	Lg	03 32 41.9	
	0.7nm,0.3s,baz=238,slow=29,SNR=5.4								

*ISCJB **19** 03:30:53.7±0.6,7.°34N±0.°02×73.°13W±0.°03,h13km±4km, Error ellipse: s-maj=5.1km s-min=3.2km az=42.2*
*RSNC **19** 03:30:54.4±1.3,7.°32N×73.°13W,h4km±7km,ML3.5,Mw4.1*
*FUNV **19** 03:30:55.6,7.°36N×73.°14W,h5km,MW3.4*
ISC 19 03:30:53.7±1.0,7.°33N±0.°03×73.°17W±0.°03,h12km±8km, n33,σ1§27/47,2C-1D,Northern Colombia

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
GIRC	**Giron, Santand**	**0.25**	**186**		*i* P		**Pg**	**03 30 59.3**	**+0.3**
GIRC					*e*S		**Sg**	**03 31 03.2**	**+0.6**
BTLC	**Betulia, Santa**	**0.42**	**194**		*i* P		**Pg**	**03 31 02.2**	**+0.1**
PAMC	**Pamplona, Colo**	**0.46**	**89**		*i* P		**Pg**	**03 31 03.3**	**+0.3**
PAMC					*e*S		**Sg**	**03 31 08.4**	**-0.8**
GUEC	**Guerrero, Nort**	**0.55**	**26**		*e*P		**Pg**	**03 31 04.5**	**-0.1**
BRRC	**Barranca, Sant**	**0.58**	**248**	⇑	*i*P		**Pb**	**03 31 05.3**	**-0.5**
BRRC					*e*S		**Sb**	**03 31 13.6**	**-0.6**
BRRC					*i*			03 31 15.0	
	comp=Z,2μm,0.1s								
BARC	**Barichara**	**0.73**	**181**		*i* P		**Pg**	**03 31 07.2**	**-0.7**
BARC					*e*S		**Sg**	**03 31 17.1**	**-0.5**
OCAC	**Ocana**	**0.92**	**351**		*i* P		**Pg**	**03 31 11.0**	**-0.4**
OCAC					*e*S		**Sg**	**03 31 23.5**	**0.0**
OCAC					*i*			03 31 25.3	
	comp=Z,1μm,0.4s								
CAPV	**Capacho**	**1.00**	**58**	⇑	*i*P		**Pg**	**03 31 13.2**	**+0.1**
CAPV					*e*S		**Sb**	**03 31 26.8**	**+0.5**
RUSC	**La Rusia**	**1.43**	**177**	⇓	*i*P		**Pn**	**03 31 19.3**	**-0.6**
RUSC					*e*S		**Sg**	**03 31 38.0**	**-1.8**
RUSC					*i*			03 31 40.2	
	comp=Z,577nm,0.2s								
ZARC	**Zaragoza, Cauc**	**1.69**	**276**		*e*P		**Pn**	**03 31 23.0**	**+0.1**
ZARC					*i*			03 31 46.5	
	comp=Z,1μm,0.3s								
VIGV	**El Vigia**	**2.33**	**50**		*e*P		**Pn**	**03 31 33.8**	**+1.8**
VIGV					*e*S		**Sn**	**03 32 01.3**	**+0.8**
NORC	**Norcasia**	**2.44**	**224**		*e*P		**Pn**	**03 31 34.3**	**+0.9**
SOCV	**Socops**	**2.48**	**67**		*e*P		**Pn**	**03 31 35.2**	**+1.3**
SOCV					*e*S		**Sn**	**03 32 05.0**	**+0.9**
CODC	**Agust^›n Codaz**	**2.60**	**354**		*e*P		**Pn**	**03 31 36.3**	**+0.6**
CODC					*i*			03 32 17.1	
	comp=Z,138nm,0.4s								
HELC	**Santa Helena**	**2.60**	**244**		*e*P		**Pn**	**03 31 36.5**	**+0.5**
HELC					*i*			03 32 16.7	
	comp=Z,119nm,0.3s								
ROSC	**El Rosal**	**2.73**	**205**		*e*S		**Sn**	**03 32 13.2**	**+2.5**
ROSC					*i*			03 32 28.1	
	comp=Z,144nm,0.3s								
CHIC	**Chingaza**	**2.74**	**192**		*e*P		**Pn**	**03 31 40.5**	**+2.6**
MOTC	**Monteria, Cord**	**2.86**	**300**		*i* P		**Pn**	**03 31 40.6**	**+1.4**
GUYC	**Guyana, Colomb**	**3.04**	**227**		*e*P		**Pn**	**03 31 43.3**	**+1.2**
GUYC					*i*			03 32 34.6	
	comp=Z,127nm,0.4s								
VIRV	**Villa del Rosa**	**3.24**	**13**		*e*P		**Pn**	**03 31 45.1**	**+0.7**
VIRV					*e*S		**Sn**	**03 32 23.2**	**+0.3**
ELOV	**Elorza**	**3.67**	**95**		*e*P		**Pn**	**03 31 51.2**	**+0.9**
ELOV					*e*S		**Sn**	**03 32 33.8**	**+0.3**
QARV	**Quebrada Arrib**	**3.87**	**42**		*e*P		**Pn**	**03 31 54.5**	**+1.4**
PRAC	**Prado**	**3.98**	**206**		*e*P		**Pn**	**03 31 58.1**	**+3.5**
SANV	**Sanarito**	**4.19**	**59**		*e*P		**Pn**	**03 31 58.7**	**+1.1**
SANV					*e*S		**Sn**	**03 32 45.4**	**-1.1**
DABV	**Dabajuro**	**4.36**	**35**		*e*P		**Pn**	**03 32 01.0**	**+1.2**
SIQV	**Siquisique**	**4.68**	**45**		*e*P		**Pn**	**03 32 04.6**	**+0.4**
TEPV	**Terepaima**	**4.72**	**56**		*e*P		**Pn**	**03 32 06.0**	**+1.2**
TEPV					*e*S		**Sn**	**03 32 57.3**	**-2.3**
MAPV	**Macapo**	**5.28**	**62**		*e*P		**Pn**	**03 32 13.5**	**+1.0**
BAUV	**El Baul**	**5.32**	**72**		*e*P		**Pn**	**03 32 12.7**	**-0.3**
BAUV					*e*S		**Sn**	**03 33 11.2**	**-3.0**
TURV	**Turiamo**	**6.11**	**59**		*e*P		**Pn**	**03 32 24.5**	**+0.7**
MERV	**Las Mercedes**	**7.06**	**74**		*e*P		**Pn**	**03 32 36.9**	**-0.1**
BIRV	**Birongo**	**7.50**	**65**		*e*P		**Pn**	**03 32 42.8**	**-0.1**
CUPV	**Cœpira**	**7.78**	**69**		*e*P		**Pn**	**03 32 46.6**	**-0.3**

*JMA **19** 03:56:55.9,24.°50N×122.°47E,h13km±2km,M2.4*
*TAP **19** 03:56:55.1,24.°61N×122.°53E,h13km,ML3.0,C*
ISC 19 03:56:55.4±1.1,24.°55N±0.°04×122.°50E±0.°02,h10km±10km, n27,σ0§63/49,1C-1D,Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
JYNG	**Yonagunijimaku**	**0.42**	**104**		P		**Pb**	**03 57 04.5**	**-0.3**
YOJ	**Yonaguni jima**	**0.47**	**101**		P		**Pb**	**03 57 05.5**	**-0.3**
TWC	**Suao**	**0.60**	**276**		P		**Pg**	**03 57 06.6**	**-0.4**
TWC	baz=270				*i* S		**Sb**	**03 57 15.9**	**-0.5**
	baz=270								
TWB1	**Santiao Chiao**	**0.65**	**314**		*e*P		**Pg**	**03 57 08.2**	**+0.1**
	baz=309								
TWB1					S		**Sg**	**03 57 16.4**	**-0.2**
	baz=309								
ENA	**Nanau**	**0.70**	**260**		*e*P		**Pb**	**03 57 09.5**	**-0.2**
	baz=266								
ENA					*e*S		**Sg**	**03 57 18.3**	**+0.1**
	baz=266								
TWE	**Neicheng**	**0.78**	**283**		P		**Pg**	**03 57 10.0**	**-0.4**
	baz=270								
TWE					S		**Sb**	**03 57 21.3**	**-0.3**
	baz=270								
NWF	**Wu-fen Shan**	**0.83**	**308**		P		**Pb**	**03 57 12.3**	**+0.2**
	baz=304								
NWF					S		**Sb**	**03 57 23.5**	**+0.2**
	baz=304								
ENTT	**Nioudou**	**0.86**	**276**		*e*P		**Pg**	**03 57 12.1**	**+0.2**
	baz=272								
ENTT					*e*S		**Sb**	**03 57 24.1**	**+0.2**
	baz=272								
TWA	**Mucha**	**0.94**	**297**	⇓	P		**Pn**	**03 57 14.1**	**-0.6**
	baz=293								
TWA					S		**Sb**	**03 57 26.2**	**0.0**
	baz=293								
TWD	**Chiawan**	**0.95**	**241**		*e*P		**Pn**	**03 57 14.9**	**+0.2**
	baz=249								
TWD					*e*S		**Sn**	**03 57 30.3**	**+1.9**
	baz=249								
NNS	**Nan Shan**	**1.03**	**264**	⇑	*i*P		**Pg**	**03 57 15.4**	**+0.1**
	baz=261								
NSK	**Sanguang**	**1.05**	**277**		P		**Pb**	**03 57 15.5**	**-0.2**
	baz=268								
NSK					*e*S		**Sb**	**03 57 28.7**	**-0.8**
	baz=268								
IRIF	**Iriomote-Funau**	**1.14**	**101**		P		**Pg**	**03 57 17.7**	**+0.4**
IRIF					*e*S		**Sn**	**03 57 32.9**	**-0.1**
WHF	**Hehuan Shan**	**1.20**	**251**		*e*P		**Pg**	**03 57 18.8**	**+0.3**
	baz=257								
WHF					*e*S		**Sn**	**03 57 34.9**	**-0.2**
	baz=257								
TWT	**Tachien**	**1.25**	**256**		*e*P		**Pg**	**03 57 20.4**	**+1.0**
	baz=254								
TWT					*e*S		**Sg**	**03 57 36.9**	**+1.4**
	baz=254								
HATJ	**Hateruma jima**	**1.29**	**112**		P		**Pb**	**03 57 19.6**	**-0.1**
HATJ					*e*S		**Sg**	**03 57 37.3**	**+0.4**
NSTT	**Nanjuang**	**1.37**	**274**		*e*P		**Pg**	**03 57 21.5**	**-0.2**
	baz=270								
NSTT					*e*S		**Sg**	**03 57 40.5**	**+1.1**
	baz=270								
JKRS	**Kuro-shima**	**1.41**	**102**		P		**Pn**	**03 57 21.1**	**0.0**
JKRS					*e*S		**Sn**	**03 57 39.3**	**-0.4**
WDT	**Danda**	**1.48**	**238**		*e*P		**Pb**	**03 57 23.2**	**+0.1**
	baz=236								
WDT					*e*S		**Sg**	**03 57 42.8**	**-0.3**
	baz=236								
JIJ	**Ishigaki jima**	**1.51**	**97**		P		**Pb**	**03 57 23.3**	**-0.1**
JIJ					*e*S		**Sg**	**03 57 44.2**	**+0.3**
TWQ1	**Liyutan**	**1.59**	**263**		*e*P		**Pb**	**03 57 24.6

MIYJ	**Miyakonagasawa**	**2.27 322**	P	**Pn**	**03 59 48.6**	**-2.1**
MIYJ			S	**Sn**	**04 00 14.4**	**-3.1**
JOU	**Okura**	**2.42 284**	P	**Pn**	**03 59 51.5**	**-1.2**
JOU			*e*S	**Sn**	**04 00 19.2**	**-1.8**
JOM	**Ohasama**	**2.48 313**	P	**Pn**	**03 59 52.4**	**-1.2**
JOM			*e*S	**Sn**	**04 00 20.5**	**-2.2**
JTH	**Tanohata**	**2.54 328**	P	**Pn**	**03 59 53.1**	**-1.3**
JFT	**Otama**	**2.64 265**	P	**Pn**	**03 59 55.0**	**-0.7**
JFT			S	**Sn**	**04 00 24.8**	**-1.7**
JYK	**Kaneyama**	**2.81 294**	P	**Pn**	**03 59 56.8**	**-1.3**
JYK			*e*S	**Sn**	**04 00 28.9**	**-1.8**
JKZ	**Kuzumaki**	**2.83 321**	P	**Pn**	**03 59 57.1**	**-1.3**
JKZ			*e*S	**Sn**	**04 00 28.9**	**-2.4**
JRG	**Rokugo**	**2.84 305**	P	**Pn**	**03 59 57.2**	**-1.3**
JRG			*e*S	**Sn**	**04 00 29.0**	**-2.5**
JYS	**Shirataka**	**2.85 280**	*e*S	**Sn**	**04 00 30.1**	**-1.7**
JANG	**Nango**	**3.06 328**	P	**Pn**	**04 00 00.7**	**-0.7**
JANG			*e*S	**Sn**	**04 00 34.5**	**-2.3**
JSB	**Shiboa**	**3.08 255**	P	**Pn**	**04 00 01.4**	**-0.4**
JFY	**Yanaizu**	**3.15 264**	P	**Pn**	**04 00 02.1**	**-0.7**
JFY			*e*S	**Sn**	**04 00 38.1**	**-1.0**
JYA	**Atsumi**	**3.19 286**	P	**Pn**	**04 00 02.7**	**-0.6**
JYA			*e*S	**Sn**	**04 00 39.0**	**-1.2**
JYW	**Yuwa**	**3.20 304**	P	**Pn**	**04 00 02.3**	**-1.1**
JYW			*e*S	**Sn**	**04 00 37.7**	**-2.6**
JNS	**Sasagawa**	**3.42 272**	P	**Pn**	**04 00 06.2**	**-0.3**
JAW	**Awa shima**	**3.52 282**	P	**Pn**	**04 00 07.2**	**-0.7**
JAG	**Ashikaga**	**3.62 249**	*e*S	**Sn**	**04 00 50.2**	**-0.4**
MJAR	**Matsushiro Arr**	**4.52 255**	Pn	**Pn**	**04 00 21.7**	**+0.2**
	5.0nm,0.3s,baz=89,slow=15,SNR=37					
MJAR			Sn	**Sn**	**04 01 14.5**	**+1.6**
	2.0nm,0.3s,baz=86,slow=27,SNR=4.5					
MJAR			LR	LR	04 02 35.0	
	comp=Z,95nm,18.4s,baz=55,slow=43					
MAT	**Matsushiro**	**4.52 256**	P	**Pn**	**04 00 22.3**	**+0.7**
MAT			S	**Sn**	**04 01 11.8**	**-1.1**
JHJ	**Hachijo jima 2**	**5.63 215**	Pn	**Pn**	**04 00 34.8**	**-2.1**
	8.3nm,0.3s,baz=100,slow=23,SNR=6.8					
JHJ			Sn	**Sn**	**04 01 32.2**	**-8.1**
	19nm,0.3s,baz=130,slow=22,SNR=7.1					
H11N2	**WAKE ISLAND Hy 27.08 125**		T	T	04 33 13.8	
	baz=317,slow=74,SNR=12					
H11N1	**WAKE ISLAND Hy 27.09 125**		T	T	04 33 09.2	
	baz=317,slow=74,SNR=7.2					
H11N3	**WAKE ISLAND Hy 27.09 125**		T	T	04 33 18.7	
	baz=317,slow=74,SNR=8.3					
H11S1	**WAKE ISLAND Hy 27.85 127**		T	T	04 34 14.6	
	baz=319,slow=76,SNR=4.9					
H11S3	**WAKE ISLAND Hy 27.85 127**		T	T	04 34 13.6	
	baz=319,slow=76,SNR=4.4					
H11S2	**WAKE ISLAND Hy 27.86 127**		T	T	04 34 15.8	
	baz=319,slow=76,SNR=5.3					
SONM	**Songino Array**	**28.85 302**	P	P	04 05 14.9	+4.1
	0.4nm,0.4s,baz=95,slow=8.9,SNR=3.3					
ZALV	**Zalesovo Beam**	**42.72 312**	P	**P**	**04 07 12.9**	**+3.9**
	2.1nm,0.4s,baz=90,slow=6.8,SNR=6.3					
ILAR	**Eielson Array**	**47.90 33**	P	**P**	**04 07 50.2**	**+0.3**
	1.2nm,0.7s,baz=262,slow=6.3,SNR=14					
AAK	**Ala-Archa**	**51.69 298**	LR	LR	04 31 22.8	
	comp=Z,18nm,18.2s,baz=188,slow=37					
WRA	**Warramunga Arr**	**58.10 190**	P	**P**	**04 09 06.5**	**+1.0**
	0.6nm,0.3s,baz=11,slow=7.3,SNR=29					
FINES	**FINESS Array B**	**68.95 333**	P	**P**	**04 10 17.2**	**+0.4**
	0.9nm,0.7s,baz=56,slow=2.5,SNR=2.5					
PDAR	**Pinedale Array**	**75.86 47**	P	**P**	**04 10 58.8**	**+0.1**
	0.3nm,0.6s,baz=358,slow=0.9,SNR=4.5					

IDC 19 04:20:54.5±384.0, 51°.65N×112°.93E, h0km, Error ellipse: s-maj=146.7km s-min=123.7km az=41.0, Lake Baykal region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
I34MN	**SONGINO INFRAS**	**5.72**	**230**	*i*		04 57 40.0	
	baz=44,slow=328,SNR=0.4						
I45RU	**USSURIYSK INFR**	**14.75**	**113**	*i*		05 49 10.0	
	baz=306,slow=328,SNR=1.4						
I44RU	**PETROPAVLOVSK**	**27.05**	**69**	*i*		07 07 00.0	
	baz=284,slow=318,SNR=0.6						

IDC 19 04:26:11.4±2.2, 18°.79S×167°.79E, h0km, mb3.8/4, mb1 4.0/5, mb1mx3.7/33, mbtmp3.7/5, ML3.3/1, Error ellipse: s-maj=62.7km s-min=32.0km az=126.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**3.50**	**201**	Pn	Pn	04 27 07.3	0.0
	3.0nm,0.3s,baz=82,slow=11,SNR=6.1						
DZM				Sn	Sn	04 27 46.0	-3.5
	20nm,0.3s,baz=156,slow=22,SNR=9.2						
WRA	**Warramunga Arr**	**31.55**	**262**	P	P	04 32 34.7	-1.0
	0.2nm,0.4s,baz=88,slow=7.5,SNR=1.9						
ASAR	**Alice Springs**	**31.91**	**255**	P	P	04 32 39.2	+0.3
	2.6nm,0.7s,baz=82,slow=8.5,SNR=16						
SONM	**Songino Array**	**86.04**	**324**	P	P	04 38 54.8	+0.8
	0.3nm,0.4s,baz=134,slow=4.2,SNR=3.0						
ILAR	**Eielson Array**	**90.22**	**18**	P	P	04 39 12.9	-0.5
	0.6nm,0.8s,baz=232,slow=4.9,SNR=4.0						

*NIED **19** 04:31:00,37°.50N×141°.90E,h17km,Mw3.5 Best double couple: M0 2.23000×10^14 NP1:φs 107.00000°,δ71.00000°, λ-20.00000°. NP2:φs 203.00000°,δ72.00000°, λ-160.00000°.*

*ISCJB **19** 04:31:32.7±1.8,37°.55N±0°.04×141°.89E±0°.08,h1km±15km, mb3.4/3,Error ellipse: s-maj=11.2km s-min=7.0km az=11.3.*

*JMA **19** 04:31:33.9±0.2,37°.52N×141°.91E,h24km±3km,M3.8*

*IDC **19** 04:31:33.2±1.7,37°.29N×142°.25E,h0km,mb3.5/3, mb1 3.6/5,mb1mx3.4/45,mbtmp3.6/5,ML3.2/2,Error ellipse: s-maj=39.6km s-min=31.2km az=72.0*

ISC 19 04:31:31.5±2.0, 37°.53N±0°.04×141°.98E±0°.07, h6km±12km, n16, σ2s15/24, mb3.5/3, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JFK	**Kawauchi**	**0.89**	**260**	P	**Pb**	**04 31 49.5**	**0.0**
JFK				S	**Sg**	**04 32 00.2**	**-0.1**
JMM	**Marumori**	**1.00**	**290**	P	**Pb**	**04 31 51.2**	**0.0**
JMM				S	**Sg**	**04 32 03.4**	**-0.3**
ONAJ	**Iwakimizuishiy**	**1.03**	**246**	P	**Pb**	**04 31 51.6**	**-0.2**
ONAJ				S	**Sg**	**04 32 04.3**	**-0.4**
JIO	**Ouri**	**1.05**	**332**	P	**Pn**	**04 31 52.5**	**-0.3**
JIO				S	**Sg**	**04 32 05.1**	**-0.2**
JFT	**Otama**	**1.31**	**270**	P	**Pg**	**04 31 56.5**	**-0.1**
JFT				S	**Sb**	**04 32 12.5**	**-1.0**
JOU	**Okura**	**1.33**	**309**	P	**Pg**	**04 31 57.1**	**0.0**
JOU				S	**Sb**	**04 32 13.5**	**-0.8**
JMK	**Ichinoseki**	**1.54**	**337**	P	**Pb**	**04 32 00.1**	**-0.4**
JYS	**Shirataka**	**1.67**	**295**	P	**Pb**	**04 32 02.4**	**-0.2**
JFY	**Yanaizu**	**1.81**	**267**	P	**Pb**	**04 32 04.4**	**-0.7**
JFY				S	**Sn**	**04 32 25.7**	**-0.9**
MJAR	**Matsushiro Arr**	**3.17**	**253**	Pn	**Pn**	**04 32 24.5**	**+2.5**
	1.5nm,0.3s,baz=85,slow=16,SNR=7.3						
MJAR				Sn	**Sb**	**04 33 04.1**	**-3.2**
	2.0nm,0.3s,baz=80,slow=17,SNR=2.1						
MAT	**Matsushiro**	**3.17**	**253**	P	**Pn**	**04 32 24.8**	**+2.8**
MAT				S	**Sn**	**04 33 03.3**	**+3.1**
JHJ	**Hachijo jima 2**	**4.75**	**203**	Pn	**Pn**	**04 32 46.4**	**+2.7**
	6.4nm,0.3s,baz=232,slow=19,SNR=1.4						
JHJ				Sn	**Sn**	**04 33 32.2**	**-6.8**
	6.1nm,0.3s,baz=224,slow=23,SNR=1.3						
SONM	**Songino Array**	**27.89**	**303**	P	P	04 37 29.4	+7.2
	0.3nm,0.5s,baz=91,slow=7.4,SNR=2.1						
KURBB	**Kurchatov Arra**	**46.06**	**308**	P	P	04 40 00.1	+4.2
	0.4nm,0.4s,baz=83,slow=7.6,SNR=3.4						
WRA	**Warramunga Arr**	**57.61**	**189**	P	**P**	**04 41 23.1**	**+0.7**
	0.2nm,0.4s,baz=5.6,slow=7.1,SNR=2.3						
LPAZ	**La Paz**	**146.05**	**60**	PKPbc	**PKPab**	**04 51 15.1**	**+0.9**
	0.3nm,0.5s,baz=349,slow=5.2,SNR=1.6						

*IDC **19** 04:35:06.9±2.5,27°.54N×88°.09E,h0km,mb3.5/4, mb1 3.6/4,mb1mx3.3/41,mbtmp3.5/4,MS2.6/1,Ms1 2.6/1, ms1mx2.1/34,Error ellipse: s-maj=89.8km s-min=29.3km az=73.0*

*NDI **19** 04:35:13.8±1.6,27°.88N×88°.62E,h24km±31km,ML3.6*

*ISCJB **19** 04:35:14.3±1.0,27°.90N±0°.06×88°.44E±0°.08,h35km, mb3.4/4,MS2.4/1,Error ellipse: s-maj=10.8km s-min=8.2km az=141.9*

ISC 19 04:35:13.5±1.4, 27°.83N±0°.08×88°.3E±0°.1, h35km, n10, σ1s32/15, mb3.5/4, 1C, Sikkim

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GTK	**Tadong**	**0.60**	**149**	*e*P	**Pn**	**04 35 26.1**	**+0.4**
GTK				*e*S	**Sn**	**04 35 34.5**	**+0.3**
GTK				*e*S	**Sn**	**04 35 34.5**	**+0.3**
GTK				AML	AML	04 35 35.3	
	comp=E,5μm,0.2s						
GTK				AML	AML	04 35 35.5	
	comp=N,2μm,0.1s						
GTK	**Tadong**	**0.60**	**149**	↑*i*P	**Pn**	**04 35 26.3**	**+0.6**
GTK				*e*S	**Sn**	**04 35 34.0**	**-0.2**
GTK				AML	AML	04 35 35.1	
	comp=N,2μm,0.3s						
GTK				AML	AML	04 35 35.2	
	comp=E,6μm,0.2s						
GUWA	**GUWAHATI**	**3.47**	**117**	*e*P	Pn	04 36 07.7	+2.6
GUWA				*e*S	**Sn**	**04 36 46.6**	**+1.6**
GUWA				AML	AML	04 37 01.8	
	comp=E,146nm,0.4s						
SHL	**Shillong**	**3.95**	**124**	*e*P	**Pn**	**04 36 13.1**	**+1.2**
SHL				*e*S	**Sn**	**04 36 57.1**	**0.0**
SHL				AML	AML	04 37 15.7	
	comp=E,122nm,0.5s						
SHL				AML	AML	04 37 16.2	
	comp=N,100nm,0.3s						
TEZP	**TEZPUR**	**4.22**	**106**	*e*P	**Pn**	**04 36 16.2**	**+0.9**
TEZP				*e*S	**Sn**	**04 37 02.8**	**-0.7**
TEZP				AML	AML	04 37 25.2	
	comp=E,124nm,0.3s						
TEZP				AML	AML	04 37 25.8	
	comp=N,137nm,0.2s						
ZIRO	**ZIRO**	**4.97**	**92**	*e*S	**Sn**	**04 37 20.4**	**-1.8**
ZIRO				AML	AML	04 37 53.1	
	comp=N,902nm,0.5s						
ZIRO				AML	AML	04 37 53.2	
	comp=E,420nm,0.6s						
KURBB	**Kurchatov Arra**	**23.93**	**345**	P	**P**	**04 40 24.6**	**+0.4**
	comp=E,0.3nm,0.4s,baz=157,slow=11,SNR=2.6						
SONM	**Songino Array**	**24.46**	**30**	P	**P**	**04 40 30.9**	**+1.7**
	comp=E,0.8nm,0.5s,baz=211,slow=10,SNR=5.7						
SONM				LR	LR	04 49 54.3	
	comp=E,14nm,21.7s,baz=80,slow=36						
WRA	**Warramunga Arr**	**65.14**	**132**	P	**P**	**04 45 50.1**	**-1.1**
	comp=E,0.3nm,0.8s,baz=325,slow=6.8,SNR=1.6						
ASAR	**Alice Springs**	**67.53**	**135**	P	**P**	**04 46 03.7**	**-2.8**
	comp=E,0.3nm,0.6s,baz=328,slow=6.8,SNR=2.2						

IDC 19 04:45:30.1±2.3, 29°.48S×176°.47W, h0km, mb3.8/2, mb1 4.0/2, mb1mx3.7/29, mbtmp3.8/2, Error ellipse: s-maj=123.6km s-min=38.2km az=177.0, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**1.28**	**280**	Pn	Pn	04 45 55.3	+0.1
	107nm,0.3s,baz=112,slow=7.1,SNR=13						
RAO				Sn	Sg	04 46 09.2	-2.1
	555nm,0.3s,baz=114,slow=22,SNR=14						
RAO				LR	LR	04 46 31.0	
	comp=Z,263nm,19.6s,baz=321,slow=48						
ASAR	**Alice Springs**	**44.49**	**265**	P	P	04 53 43.4	-0.1
	0.6nm,0.5s,baz=102,slow=6.5,SNR=15						
WRA	**Warramunga Arr**	**45.40**	**277**	P	P	04 53 50.2	-0.6
	0.5nm,0.4s,baz=111,slow=6.4,SNR=12						
FINES	**FINESS Array B**	**144.72**	**341**	PKP	PKPdf	05 05 07.9	-0.3
	0.6nm,0.5s,baz=47,slow=3.4,SNR=5.2						
AKASG	**Malin Array Be**	**151.34**	**325**	PKPbc	PKPbc	05 05 25.5	+0.1
	0.7nm,0.5s,baz=44,slow=3.0,SNR=4.2						

GUC 19 05:11:16.0±0.6, 23°.87S×67°.36W, h246km±23km, ML3.9, 6C-1D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PB06	**IPOC Station P**	**2.34**	**299**	↑*i*P	Pn	05 12 03.7	+2.1
PB06				*i*S	S	05 12 39.1	+1.7
PB06				IAML		05 12 42.8	
	comp=E,193nm,0.1s						
PB09	**IPOC Station P**	**2.69**	**320**	↑*i*P	Pn	05 12 08.1	+2.8
PB09				*e*S	S	05 12 47.6	+3.6
PB14	**IPOC Station P**	**2.88**	**254**	↑*i*P	Pn	05 12 08.4	+1.2
PB04	**IPOC Station P**	**2.99**	**300**	↑*i*P	Pn	05 12 11.0	+2.7
PB04				*i*S	S	05 12 52.1	+2.5
PB04				IAML		05 12 56.9	
	comp=N,133nm,0.3s						
PB07	**IPOC Station P**	**3.16**	**312**	↑*i*P	Pn	05 12 12.8	+2.6
PB07				*e*S	S	05 12 55.3	+2.3
PB07				IAML		05 12 56.2	
	comp=E,107nm,0.2s						
PB01	**IPOC Station P**	**3.43**	**325**	↓*i*P	Pn	05 12 15.6	+2.4
PB01				*e*S	S	05 13 01.1	+2.6
PB01				IAML		05 13 05.8	
	comp=E,60nm,0.3s						
PB08	**IPOC Station P**	**4.07**	**335**	*e*P	Pn	05 12 24.0	+3.1
PB08				*i*S	S	05 13 15.7	+3.5
PB08				IAML		05 13 18.6	
	comp=E,48nm,0.2s						
HMBC	**Humberstone**	**4.27**	**326**	↑*i*P	Pn	05 12 24.7	+1.6
HMBC				*e*S	S	05 13 18.6	+2.3

*ISCJB **19** 05:15:06.1±1.1,9°.5S±0°.2×151°.07E±0°.10,h13km,mb3.5/5, Error ellipse: s-maj=24.7km s-min=13.0km az=165.3*

*IDC **19** 05:15:06.2±1.7,9°.30S×151°.00E,h0km,mb3.6/5, mb1 3.7/7,mb1mx3.5/27,mbtmp3.5/7,ML2.4/2,MS3.3/1, Ms1 3.3/1,ms1mx2.5/17,Error ellipse: s-maj=50.9km s-min=25.5km az=137.0*

ISC 19 05:15:07.7±1.3, 9°.4S±0°.2×151°.1E±0°.1, h13km, n9, σ1s01/9, mb3.7/5, D'Entrecasteaux Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**3.86**	**270**	Pn	**Pn**	**05 16 05.8**	**-1.0**
	3.2nm,0.3s,baz=131,slow=16,SNR=2.1						
PMG				Sn	**Sn**	**05 16 52.2**	**+0.3**
	2.4nm,0.3s,baz=111,slow=19,SNR=1.6						
WRA	**Warramunga Arr**	**19.25**	**235**	P	**P**	**05 19 31.6**	**-0.5**
	0.0nm,0.3s,baz=58,slow=11,SNR=3.4						
DZM	**Mont Dzumac**	**19.40**	**132**	LR	LR	05 25 43.9	
	comp=Z,82nm,19.6s,baz=11,slow=33						
ASAR	**Alice Springs**	**21.68**	**227**	P	**P**	**05 19 58.9**	**+0.5**
	0.7nm,0.7s,baz=59,slow=9.5,SNR=5.0						
FITZ	**Fitzroy Crossi**	**26.14**	**248**	P	**P**	**05 20 42.8**	**+0.9**
	1.5nm,0.8s,baz=84,slow=11,SNR=1.9						
SONM	**Songino Array**	**69.35**	**330**	P	**P**	**05 26 16.9**	**+1.7**
	0.6nm,0.7s,baz=107,slow=5.0,SNR=2.4						
KURBB	**Kurchatov Arra**	**86.37**	**322**	P	**P**	**05 27 49.1**	**-0.6**
	0.1nm,0.3s,baz=111,slow=5.1,SNR=1.9						
ILAR	**Eielson Array**	**87.06**	**22**	P	**P**	**05 27 51.9**	**-0.8**
	0.5nm,0.9s,baz=207,slow=5.7,SNR=2.0						
TORD	**Torodi Ar. Bea**	**149.75**	**280**	PKPbc	**PKPbc**	**05 34 58.3**	**-0.2**
	0.7nm,0.6s,baz=62,slow=2.6,SNR=5.0						

DJA 19 05:32:30.3±1.3, 10°.S±5°×11°.4E±°, h24km±11km, M3.6/9, MLv3.6/9, South of Jawa

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JAGI	**Jajag, Banyuwa**	**1.04**	**9**	P	Pn	05 32 48.6	-0.8
JAGI				S	Sn	05 33 03.9	+0.8
GMJI	**Gumukmas**	**1.33**	**336**	P	Pn	05 32 53.3	-0.1
GMJI				S	Sn	05 33 09.9	-0.4
IGBI	**Denpasar**	**1.34**	**60**	P	Pn	05 32 52.1	-1.4
IGBI				S	Sn	05 33 08.9	-1.6
DNP	**Denpasar**	**1.46**	**56**	P	Pn	05 32 44.2	-11
ABJI	**Asem Bagus**	**1.71**	**8**	P	Pb	05 33 00.3	-0.8
SRBI	**Singaraja**	**1.86**	**41**	P	Pn	05 32 54.8	-5.9
KMMI	**Kalianget**	**2.43**	**360**	P	Pn	05 33 10.0	+1.4
PWJI	**Pagerwojo**	**2.60**	**304**	P	Pb	05 33 14.0	-2.3
PWJI				S	Sn	05 33 40.9	-0.9
TWSI	**Taliwang, Sumb**	**2.96**	**75**	P	Pn	05 33 17.8	+1.9
PCJI	**Pacitan**	**3.06**	**295**	P	Pn	05 33 14.5	-2.7
PCJI				S	Sn	05 33 52.1	-0.9
PLAI	**Plampang**	**3.81**	**80**	P	Pn	05 33 27.4	-0.1

*IDC **19** 05:34:31.3±1.8,44°.62N×10°.30E,h0km,mb3.4/1, mb1 3.7/3,mb1mx3.4/33,mbtmp3.6/3,ML3.6/2,MS2.4/5, Ms1 2.4/5,ms1mx2.2/32,Error ellipse: s-maj=38.0km s-min=16.2km az=110.0*

*BGR **19** 05:34:32.9±0.9,44°.43N×10°.35E,h10km,ML3.7/6,Error ellipse: s-maj=16.7km s-min=14.5km az=58.0*

*CSEM **19** 05:34:33.6±0.1,44°.67N×10°.30E,h12km,ML3.5/31,Error ellipse: s-maj=2.2km s-min=2.2km az=113.0*

*GEN **19** 05:34:34.2,44°.64N×10°.25E,h23km,ML3.2*

*ROM **19** 05:34:34.3±0.1,44°.64N×10°.22E,h23km±2km,MI3.4/22, Error ellipse: s-maj=2.2km s-min=1.6km az=108.0*

*PRU **19** 05:34:34.8,44°.64N×10°.50E,h11km*

*LDG **19** 05:34:35.1±0.2,44°.62N×10°.34E,h10km,MI3.5/19,Error ellipse: s-maj=5.0km s-min=4.1km az=97.0*

*STR **19** 05:34:37.1±0.3,44°.79N×10°.17E,h10km,MI3.6,Error ellipse: s-maj=0.0km s-min=0.0km az=0.0*

ISC 19 05:34:33.7±0.9, 44°.63N±0°.01×10°.29E±0°.01, h17km±6km, n227, σ1s59/351, 5C-3D, Northern Italy

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PRMA	**PARMA**	**0.13**	**7**	↓*i*Pg	**Pg**	**05 34 38.3**	**+0.7**
PRMA				Sg	**Sb**	**05 34 42.8**	**+2.3**
	20μm,0.7s						
PRMA	**PARMA**	**0.13**	**7**	↓*i*Pg	**Pg**	**05 34 38.3**	**+0.7**
GRAM	**Graiana**	**0.21**	**229**	P	**Pg**	**05 34 39.1**	**+0.3**
GRAM				S	**Sb**	**05 34 43.2**	**+0.3**
NOVE	**Novellara**	**0.35**	**61**	Pg	**Pg**	**05 34 42.0**	**+1.0**
NOVE				Sg	**Sb**	**05 34 49.8**	**+3.1**
	7μm,0.3s						
NOVE	**Novellara**	**0.35**	**61**	Pg	**Pg**	**05 34 42.0**	**+1.0**
CODM	**Codolo**	**0.40**	**233**	P	**Pg**	**05 34 41.8**	**-0.1**
CODM				S	**Sb**	**05 34 47.9**	**-0.3**
SARO	**Sassorosso**	**0.46**	**170**	P	**Pg**	**05 34 43.3**	**+0.3**
SARO				S	**Sb**	**05 34 50.3**	**+0.4**
VLC	**Villacollemand**	**0.48**	**172**	Pg	**Pg**	**05 34 43.8**	**+0.4**
VLC				Sg	**Sb**	**05 34 51.5**	**+1.0**
	3μm,0.5s						
VLC	**Villacollemand**	**0.48**	**172**	Pg	**Pg**	**05 34 43.8**	**+0.4**
VLC				Sg	**Sb**	**05 34 51.5**	**+1.0**
	3μm,0.5s						
ZCCA	**Zocca**	**0.57**	**120**	Pg	**Pb**	**05 34 46.9**	**+1.6**
	1μm,0.8s						
ZCCA	**Zocca**	**0.57**	**120**	Pg	**Pb**	**05 34 46.9**	**+1.6**
	1μm,0.8s						
SC2M	**Scurtabo**	**0.59**	**247**	Pg	**Pg**	**05 34 45.0**	**-0.4**
SC2M				Sg	**Sb**	**05 34 54.4**	**+0.7**
	2μm,0.4s						
SC2M	**Scurtabo**	**0.59**	**247**	P	**Pg**	**05 34 45.0**	**-0.4**
SC2M				S	**Sb**	**05 34 54.3**	**+0.6**
RAVA	**Ravarino**	**0.60**	**78**	Pg	**Pn**	**05 34 49.0**	**+1.4**
RAVA				Sg	**Sn**	**05 34 57.1**	**+0.1**
BDI	**Bagni Di Lucca**	**0.61**	**159**	Pg	**Pg**	**05 34 46.4**	**+0.5**
BDI				Sg	**Sb**	**05 34 55.6**	**+1.2**
	2μm,0.8s						
BDI	**Bagni Di Lucca**	**0.61**	**159**	Pg	**Pg**	**05 34 46.3**	**+0.5**
BDI				Sg	**Sb**	**05 34 55.6**	**+1.2**
	2μm,0.8s						
BOB	**Bobbio (Coli)**	**0.61**	**283**	Pg	**Pb**	**05 34 46.2**	**+0.1**
	1μm,0.5s						
BOB	**Bobbio (Coli)**	**0.61**	**283**	Pg	**Pb**	**05 34 46.2**	**+0.1**
	1μm,0.5s						
MSSA	**Maissana**	**0.64**	**240**	Pg	**Pg**	**05 34 45.9**	**-0.4**
MSSA				Sg	**Sb**	**05 34 55.0**	**-0.1**
	637nm,0.7s						
MSSA	**Maissana**	**0.64**	**240**	Pg	**Pg**	**05 34 45.9**	**-0.4**
MSSA				Sg	**Sb**	**05 34 55.0**	**-0.1**
	637nm,0.7s						
POPM	**Popiglio**	**0.68**	**150**	P	**Pg**	**05 34 47.4**	**+0.4**
POPM				S	**Sn**	**05 34 58.2**	**-0.6**
MAIM	**Mastiano**	**0.73**	**168**	Pg	**Pb**	**05 34 47.9**	**-0.2**
MAIM	**Mastiano**	**0.73**	**168**	Pg	**Pb**	**05 34 47.9**	**-0.2**
MAIM				S	**Sb**	**05 34 57.8**	**0.0**
FNVD	**Fontana Vidola**	**0.76**	**128**	Pg	**Pg**	**05 34 49.4**	**+0.9**
	670nm,0.5s						
FNVD	**Fontana Vidola**	**0.76**	**128**	Pg	**Pg**	**05 34 49.4**	**+0.9**
	670nm,0.5s						
PTF	**Prato**	**0.88**	**140**	Pg	**Pb**	**05 34 51.1**	**+0.6**
PTF				Sg	**Sn**	**05 35 05.3**	**+1.6**
PTF	**Prato**	**0.88**	**140**	Pg	**Pb**	**05 34 51.1**	**+0.6**
PTF				Sg	**Sn**	**05 35 05.3**	**+1.6**
SEI	**Scarperia**	**0.96**	**127**	Pg	**Pn**	**05 34 53.3**	**+0.8**
SEI	**Scarperia**	**0.96**	**127**	Pg	**Pn**	**05 34 53.3**	**+0.8**
CRMI	**Carmignano**	**0.97**	**150**	Pg	**Pb**	**05 34 52.8**	**+0.6**
CRMI				Sg	**Sn**	**05 35 07.5**	**+1.3**
	507nm,0.7s						
CRMI	**Carmignano**	**0.97**	**150**	Pg	**Pb**	**05 34 52.8**	**+0.6**
CRMI				Sg	**Sn**	**05 35 07.5**	**+1.3**
	507nm,0.7s						
SALO	**Salr**	**1.00**	**10**	Pg	**Pb**	**05 34 53.5**	**+0.8**
	3μm,0.5s						
SALO	**Salr**	**1.00**	**10**	Pg	**Pb**	**05 34 53.5**	**+0.8**
	3μm,0.5s						
BALD	**Monte Baldo**	**1.11**	**19**	↑*e*Pg	**Pb**	**05 34 54.9**	**+0.2**
BALD				*e*Sg	**Sb**	**05 35 10.3**	**+1.2**
BALD	**Monte Baldo**	**1.11**	**19**	*e*Pg	**Pb**	**05 34 54.9**	**+0.2**
BALD				*e*Sg	**Sb**	**05 35 10.3**	**+1.2**
ROVR	**Rover¯¤ Verone**	**1.16**	**28**	Pg	**Pn**	**05 34 55.0**	**-0.3**
ROVR				Sg	**Sn**	**05 35 11.9**	**+1.1**
	4μm,0.4s						
ROVR	**Rover¯¤ Verone**	**1.16**	**28**	Pg	**Pn**	**05 34 55.0**	**-0.3**
ROVR				Sg	**Sn**	**05 35 11.9**	**+1.1**
	4μm,0.4s						
MAGA	**Magasa**	**1.17**	**12**	Pg	**Pn**	**05

FAU	Forcella Aurin	1.99	36	*e*Pn	Pn	05 35 07.5	+0.7
DAVOX	Davos/Dischmat	2.17	353	Pg	Pn	05 35 11.0	+1.7
	16nm,0.3s,baz=168,slow=16,SNR=66						
DAVOX				Sn	Sn	05 35 37.1	+1.2
	18nm,0.3s,baz=323,slow=19,SNR=6.1						
DAVOX				Lg	Lg	05 35 47.0	
	34nm,0.3s,baz=347,slow=22,SNR=5.6						
DAVOX				LR	LR	05 36 08.5	
	comp=Z,33nm,21.8s,baz=104,slow=45						
SBF	Sospel	2.19	250	*e*Pn	Pn	05 35 10.1	+0.6
	SNR=1.0						
SBF				*e*Sg	Sn	05 35 36.2	0.0
	354nm,0.7s,SNR=1.0						
SBF	Sospel	2.19	250	*e*Pn	Pn	05 35 10.1	+0.6
	SNR=1.0						
CIMO	Cimolais	2.26	41	*e*Pn	Pn	05 35 10.9	+0.5
CIMO	Cimolais	2.26	41	*e*Pn	Pn	05 35 10.9	+0.5
PGF	Pioggiola	2.29	205	*e*Pn	Pn	05 35 11.9	+1.1
	SNR=1.0						
PGF				*e*Sn	Sn	05 35 37.0	-1.6
	60nm,0.5s,SNR=1.0						
PGF	Pioggiola	2.29	205	*e*Pn	Pn	05 35 11.9	+1.1
	SNR=1.0						
PGF				*e*Sn	Sn	05 35 37.0	-1.6
	30nm,0.5s,SNR=1.0						
FETA	Feichten	2.41	7	*e*Pn	Pn	05 35 14.1	+1.5
	5.0nm,0.2s						
FETA				Sn	Sn	05 35 43.9	+2.1
	22nm,0.3s						
FETA	Feichten	2.41	7	Pn	Pn	05 35 14.1	+1.5
	5.0nm,0.2s						
FETA				Sn	Sn	05 35 43.9	+2.1
	22nm,0.3s						
MBDF	Montbardon	2.51	273	*e*Pn	Pn	05 35 14.9	+0.9
	SNR=1.0						
MBDF	Montbardon	2.51	273	*e*Pg	Pg	05 35 22.8	+0.9
	SNR=1.0						
MBDF				*e*Sg	Sg	05 35 54.0	-0.5
	63nm,0.5s,SNR=1.0						
MBDF	Montbardon	2.51	273	*e*Pn	Pn	05 35 14.9	+0.9
	SNR=1.0						
MBDF	Montbardon	2.51	273	*e*Pg	Pg	05 35 22.8	+0.9
	SNR=1.0						
MBDF				*e*Sg	Sg	05 35 54.0	-0.5
	31nm,0.5s,SNR=1.0						
FUSE	Fusea	2.61	46	*e*Pn	Pn	05 35 16.1	+0.9
FUSE	Fusea	2.61	46	*e*Pn	Pn	05 35 16.1	+0.9
ABTA	Abfaltersbach	2.63	36	Pn	Pn	05 35 16.8	+1.3
	12nm,0.3s,SNR=7.7						
ABTA				Sn	Sn	05 35 49.6	+2.6
	78nm,0.5s						
ABTA	Abfaltersbach	2.63	36	Pn	Pn	05 35 16.8	+1.3
	12nm,0.3s,SNR=7.7						
ABTA				Sn	Sn	05 35 49.6	+2.6
	78nm,0.5s						
LPG	La Plagne	2.65	290	*e*Pn	Pn	05 35 17.4	+1.4
	SNR=1.0						
LPG				*e*Sn	Sn	05 35 46.5	-1.4
	SNR=1.0						
LPG				*e*Sg	Sg	05 36 00.6	+1.6
	56nm,0.5s,SNR=1.0						
LPG	La Plagne	2.65	290	*e*Pn	Pn	05 35 17.4	+1.4
	SNR=1.0						
LPG				*e*Sn	Sn	05 35 46.5	-1.4
	SNR=1.0						
LPG				*e*Sg	Sg	05 36 00.6	+1.6
	28nm,0.5s,SNR=1.0						
DAVA	Damuels	2.67	354	*e*Pn	Pn	05 35 17.9	+1.8
	79nm,0.5s,SNR=19						
DAVA				Sn	Sn	05 35 51.3	+3.1
	149nm,0.7s						
DAVA	Damuels	2.67	354	*e*Pn	Pn	05 35 18.1	+1.9
DAVA				*e*Sn	Sn	05 35 51.6	+3.4
DAVA	Damuels	2.67	354	Pn	Pn	05 35 18.1	+1.9
DAVA				Sn	Sn	05 35 51.3	+3.1
	149nm,0.7s						
LPL	La Plagne	2.67	291	*e*Pn	Pn	05 35 16.4	+0.2
	SNR=1.0						
LPL				*e*Sn	Sn	05 35 46.8	-1.5
	40nm,0.5s						
LPL				*e*Sg	Sg	05 36 00.1	+0.5
	140nm,0.8s,SNR=1.0						
LPL	La Plagne	2.67	291	*e*Pn	Pn	05 35 16.4	+0.2
	SNR=1.0						
LPL				*e*Sn	Sn	05 35 46.8	-1.5
	20nm,0.5s						
LPL				*e*Sg	Sg	05 36 00.1	+0.5
	70nm,0.8s,SNR=1.0						
SABO	M.te Sabotino	2.70	59	*e*Pn	Pn	05 35 17.2	+0.8
SABO	M.te Sabotino	2.70	59	*e*Pn	Pn	05 35 17.2	+0.8
MOTA	Moosalm	2.77	12	*e*Pn	Pn	05 35 19.8	+2.3
	32nm,0.3s,SNR=30						
MOTA	Moosalm	2.77	12	Pn	Pn	05 35 19.8	+2.3
	32nm,0.3s,SNR=30						
OBER	Oberstdorf	2.77	0	*e*Pn	Pn	05 35 19.5	+2.0
OBER				*e*Sn	Sn	05 35 53.4	+2.7
OBER	Oberstdorf	2.77	0	Pn	Pn	05 35 19.5	+2.0
OBER				Sn	Sn	05 35 53.4	+2.7
SKDS	Skadanscina	2.79	70	*i* Pn	Pn	05 35 16.9	-0.7
SKDS	Skadanscina	2.79	70	*i* Pn	Pn	05 35 17.0	-0.7
WTTA	Wattenberg	2.79	19	*e*Pn	Pn	05 35 19.6	+1.8
	15nm,0.2s,SNR=15						
WTTA				Sn	Sn	05 35 55.2	+3.9
	97nm,0.6s						
WTTA	Wattenberg	2.79	19	*e*PN	Pn	05 35 19.6	+1.8
WTTA	Wattenberg	2.79	19	*e*Pn	Pn	05 35 19.7	+1.8
WTTA	Wattenberg	2.79	19	Pn	Pn	05 35 19.7	+1.8
WTTA				Sn	Sn	05 35 55.2	+3.9
	97nm,0.6s						
FRF	La Foret Royal	2.83	249	*e*Pn	Pn	05 35 18.9	+0.6
	SNR=1.0						
FRF	La Foret Royal	2.83	249	*e*Pn	Pn	05 35 18.9	+0.6
	SNR=1.0						
WATA	Walderalm	2.85	18	Pn	Pn	05 35 20.5	+1.9
	14nm,0.2s,SNR=19						
WATA	Walderalm	2.85	18	Pn	Pn	05 35 20.5	+1.9
	14nm,0.2s,SNR=19						
RETA	Reutte	2.87	6	*e*Pn	Pn	05 35 20.7	+1.8
	9.0nm,0.3s,SNR=7.9						
RETA				*e*Sn	Sn	05 35 55.6	+2.5
	18nm,0.4s						
RETA	Reutte	2.87	6	Pn	Pn	05 35 20.7	+1.8
	9.0nm,0.3s,SNR=7.9						
RETA				Sn	Sn	05 35 55.6	+2.5
	18nm,0.4s						
VOJS	Vojsko	2.90	60	*i* Pn	Pn	05 35 18.7	-0.5
VOJS	Vojsko	2.90	60	*i* Pn	Pn	05 35 18.7	-0.5
JAVS	Javornik	2.95	63	*i* Pn	Pn	05 35 19.4	-0.5
JAVS	Javornik	2.95	63	*i* Pn	Pn	05 35 19.4	-0.5
ACOM	Acomizza, Ital	2.96	49	*e*Pn	Pn	05 35 20.6	+0.4
ACOM	Acomizza, Ital	2.96	49	*e*Pn	Pn	05 35 20.6	+0.4
LMR	La Mourre	3.02	246	*e*Pn	Pn	05 35 21.4	+0.6
	SNR=1.0						
LMR				*e*Sn	Sn	05 35 53.6	-3.0
	37nm,0.3s,SNR=1.0						
LMR	La Mourre	3.02	246	*e*Pn	Pn	05 35 21.4	+0.6
	SNR=1.0						
LMR				*e*Sn	Sn	05 35 53.6	-3.0
	18nm,0.3s,SNR=1.0						
MYKA	Terra Mystica	3.08	48	*e*Pn	Pn	05 35 22.2	+0.4
	1.1nm,0.1s						
MYKA				*e*Sn	Sn	05 35 59.4	+1.1
	17nm,0.3s						
MYKA	Terra Mystica	3.08	48	Pn	Pn	05 35 22.2	+0.4
	1.1nm,0.1s						
MYKA				Sn	Sn	05 35 59.4	+1.1
	17nm,0.3s						
ORIF	Oris-en-Rattie	3.15	277	*e*Pn	Pn	05 35 24.0	+1.3
	SNR=1.0						
ORIF				*e*Sn	Sn	05 35 59.5	-0.5
	106nm,0.8s						
ORIF	Oris-en-Rattie	3.15	277	*e*Pn	Pn	05 35 24.0	+1.3
	SNR=1.0						
ORIF				*e*Sn	Sn	05 35 59.5	-0.5
	53nm,0.8s						
NVLJ	Novalja	3.27	90	*e*Pn	Pn	05 35 24.2	-0.1
NVLJ				Sn	Sn	05 36 01.2	-1.7
NVLJ	Novalja	3.27	90	*e*Pn	Pn	05 35 24.1	-0.1
NVLJ				Sn	Sn	05 36 01.1	-1.7
SMRF	Simiane la Rot	3.45	261	*e*Pn	Pn	05 35 28.5	+1.8
	SNR=1.0						
SMRF				*e*Sg	Sg	05 36 23.8	-0.6
	34nm,0.6s						
SMRF	Simiane la Rot	3.45	261	*e*Pn	Pn	05 35 28.5	+1.8
	SNR=1.0						
SMRF				*e*Sg	Sg	05 36 23.8	-0.6
	17nm,0.6s						
OBKA	Obir	3.53	56	*e*Pn	Pn	05 35 28.6	+0.7
	2.1nm,0.2s						
OBKA				*e*Sn	Sn	05 36 10.6	+1.3
	74nm,0.5s						
OBKA	Obir	3.53	56	*e*Pn	Pn	05 35 28.7	+0.7
OBKA	Obir	3.53	56	Pn	Pn	05 35 28.7	+0.7
OBKA				Sn	Sn	05 36 10.6	+1.3
	74nm,0.5s						
CABF	La Chapelle	3.55	305	*e*Pn	Pn	05 35 30.0	+1.8
	SNR=1.0						
CABF				*e*Sn	Sn	05 36 08.9	-0.9
	45nm,0.7s,SNR=1.0						
CABF	La Chapelle	3.55	305	*e*Pn	Pn	05 35 30.0	+1.8
	SNR=1.0						
CABF				*e*Sn	Sn	05 36 08.9	-0.9
	22nm,0.7s,SNR=1.0						
RJOB	Jochberg	3.56	28	*e*Pn	Pn	05 35 30.2	+1.9
RJOB	Jochberg	3.56	28	Pn	Pn	05 35 30.2	+1.9
FELD	Feldberg im Sc	3.61	335	Pn	Pn	05 35 28.9	-0.2
FELD				Sg	Sg	05 36 29.7	0.0
LOMF	Lomont	3.63	320	Pn	Pn	05 35 29.4	+0.1
LOMF	Lomont	3.63	320	Pn	Pn	05 35 29.4	+0.1
OZLJ	Ozalj	3.79	73	*e*Pn	Pn	05 35 31.7	+0.2
OZLJ				Sn	Sn	05 36 13.5	-2.2
OZLJ	Ozalj	3.79	73	*e*Pn	Pn	05 35 31.6	+0.2
OZLJ				Sn	Sn	05 36 13.4	-2.2
MOF	Molkenrain	3.89	327	Pn	Pn	05 35 32.8	-0.1
MOF				Sg	Sg	05 36 38.8	+0.1
MOF	Molkenrain	3.89	327	Pn	Pn	05 35 32.8	-0.1
MOF				Sg	Sg	05 36 38.8	+0.1
SOKA	Soboth	3.90	57	*e*Pn	Pn	05 35 33.3	+0.2
	1.4nm,0.2s						
SOKA				*e*Sn	Sn	05 36 18.8	+0.3
	7.5nm,0.3s						
SOKA	Soboth	3.90	57	Pn	Pn	05 35 33.3	+0.2
	1.4nm,0.2s						
SOKA				Sn	Sn	05 36 18.8	+0.3
	7.5nm,0.3s						
UDBI	Udbina	3.91	90	Sn	Sn	05 36 17.0	-1.8
UDBI	Udbina	3.91	90	Sn	Sn	05 36 16.9	-1.8
BFO	Black Forest	3.94	341	*e*Pn	Pn	05 35 33.2	-0.3
BFO	Black Forest	3.94	341	Pn	Pn	05 35 33.2	-0.3
HINF	Hinteralfeld	3.98	324	*e*Pn	Pn	05 35 34.5	+0.5
	SNR=1.0						
HINF				*e*Sn	Sn	05 36 18.1	-2.2
	19nm,0.3s,SNR=1.0						
HINF	Hinteralfeld	3.98	324	*e*Pn	Pn	05 35 34.5	+0.5
	SNR=1.0						
HINF				*e*Sn	Sn	05 36 18.1	-2.2
	9.7nm,0.3s,SNR=1.0						
VIVF	Saint-Julien-l	4.01	275	*e*Pn	Pn	05 35 35.5	+1.1
	SNR=1.0						
VIVF				*e*Sn	Sn	05 36 20.1	-0.9
	9.8nm,0.4s,SNR=1.0						
VIVF	Saint-Julien-l	4.01	275	*e*Pn	Pn	05 35 35.5	+1.1
	SNR=1.0						
VIVF				*e*Sn	Sn	05 36 20.1	-0.9
	4.9nm,0.4s,SNR=1.0						
ECH	Echery	4.19	330	Pn	Pn	05 35 36.1	-0.8
ECH				Sg	Sg	05 36 47.9	-0.2
ECH	Echery	4.19	330	Pn	Pn	05 35 36.1	-0.8
ECH				Sg	Sg	05 36 47.9	-0.2
MOA	Molln	4.24	39	*e*Pn	Pn	05 35 37.8	+0.2
	6.8nm,0.3s						
MOA				*e*Sn	Sn	05 36 27.0	+0.4
	19nm,0.4s						
MOA	Molln	4.24	39	*e*Pn	Pn	05 35 38.4	+0.8
MOA	Molln	4.24	39	Pn	Pn	05 35 38.4	+0.8
MOA				Sn	Sn	05 36 27.0	+0.4
	19nm,0.4s						
CDF	Champ du Feu	4.31	332	*e*Pn	Pn	05 35 39.0	+0.3
	SNR=1.0						
CDF				*e*Sn	Sn	05 36 25.7	-2.9
	27nm,0.5s,SNR=1.0						
CDF	Champ du Feu	4.31	332	*e*Pn	Pn	05 35 39.0	+0.3
	SNR=1.0						
CDF				*e*Sn	Sn	05 36 25.7	-2.9
	14nm,0.5s,SNR=1.0						
HAU	Haudompre	4.34	322	*e*Pn	Pn	05 35 37.0	-2.0
	SNR=1.0						
HAU				*e*Sn	Sn	05 36 27.7	-1.5
	28nm,0.3s,SNR=1.0						
HAU	Haudompre	4.34	322	*e*Pn	Pn	05 35 37.0	-2.0
	SNR=1.0						
HAU				*e*Sn	Sn	05 36 27.7	-1.5
	14nm,0.3s,SNR=1.0						
ARSA	Arzberg	4.49	53	*e*Pn	Pn	05 35 41.0	0.0
	2.9nm,0.2s						
ARSA	Arzberg	4.49	53	Pn	Pn	05 35 41.0	0.0
	2.9nm,0.2s						
LASF	Ste Croix	4.65	265	*e*Pn	Pn	05 35 44.2	+1.0
LASF				*e*Sn	Sn	05 36 35.3	-1.4
	9.0nm,0.7s						
LASF	Ste Croix	4.65	265	*e*Pn	Pn	05 35 44.2	+1.0
LASF				*e*Sn	Sn	05 36 35.3	-1.4
	4.5nm,0.7s						
THEF	They Montfort	4.67	322	Pn	Pn	05 35 43.9	+0.5
THEF	They Montfort	4.67	322	Pn	Pn	05 35 43.9	+0.5
GEC2	GERESS Array S	4.82	28	*e*Pn	Pn	05 35 45.4	-0.3
GEC2				*e*Sn	Sn	05 36 38.7	-2.5
GEC2	GERESS Array S	4.82	28	Pn	Pn	05 35 45.4	-0.3
GEC2				Sn	Sn	05 36 38.7	-2.5
GERES	GERESS Array B	4.82	28	Pn	Pn	05 35 45.4	-0.3
	5.0nm,0.3s,baz=203,slow=13,SNR=6.3						
GERES				Sn	Sn	05 36 39.8	-1.4
	10nm,0.3s,baz=212,slow=12,SNR=6.3						
GERES				Lg	Lg	05 37 08.1	
	2.0nm,0.3s,baz=211,slow=31,SNR=2.3						
GERES				LR	LR	05 37 23.2	
	comp=Z,22nm,19.1s,baz=212,slow=36						
WET	Wettzell	4.85	21	*e*Pn	Pn	05 35 45.3	-0.7
WET				*e*Sn	Sn	05 36 39.0	-2.7
WET	Wettzell	4.85	21	Pn	Pn	05 35 45.3	-0.7
WET				Sn	Sn	05 36 39.0	-2.7
SMF	Signal de Mont	4.95	296	*e*Pn	Pn	05 35 48.5	+1.2
	SNR=1.0						
SMF				*e*Sn	Sn	05 36 43.1	-1.1
	31nm,0.6s,SNR=1.0						
SMF	Signal de Mont	4.95	296	*e*Pn	Pn	05 35 48.5	+1.2
	SNR=1.0						
SMF				*e*Sn	Sn	05 36 43.1	-1.1
	15nm,0.6s,SNR=1.0						
KHC	Kasperske Hory	5.03	25	*e*PN	Pn	05 35 48.4	-0.1
KHC				*e*SN	Sn	05 36 43.7	-2.6
KHC				*e*SG	Sg	05 37 12.9	-2.3
	comp=Z,24nm,0.5s						
KHC	Kasperske Hory	5.03	25	Pn	Pn	05 35 48.4	-0.1
KHC				Sn	Sn	05 36 43.7	-2.6
KHC				Sg	Sg	05 37 12.9	-2.3
	24nm,0.5s						
CONA	Conrad Observa	5.08	48	*e*Pn	Pn	05 35 49.0	-0.1
	1.7nm,0.3s						
CONA	Conrad Observa	5.08	48	Pn	Pn	05 35 49.0	-0.1
	1.7nm,0.3s						
LOR	Lormes	5.20	303	*e*Pn	Pn	05 35 50.5	-0.3
	SNR=1.0						
LOR				*e*Sn	Sn	05 36 49.2	-1.2
	16nm,0.3s,SNR=1.0						
LOR	Lormes	5.20	303	*e*Pn	Pn	05 35 50.5	-0.3
	SNR=1.0						
LOR				*e*Sn	Sn	05 36 49.2	-1.2
	7.9nm,0.3s,SNR=1.0						
ROTZ	Rotzenmuhle	5.30	14	*e*Pn	Pn	05 35 50.7	-1.4
ROTZ				*e*Sn	Sn	05 36 49.0	-3.8
ROTZ	Rotzenmuhle	5.30	14	Pn	Pn	05 35 50.7	-1.4
ROTZ				Sn	Sn	05 36 49.0	-3.8
AVF	Avril sur Loir	5.32	296	*e*Pn	Pn	05 35 53.6	+1.3
	SNR=1.0						
AVF	Avril sur Loir	5.32	296	*e*Pn	Pn	05 35 53.6	+1.3
	SNR=1.0						
SSF	Saint Saulge	5.33	300	*e*Sn	Sn	05 36 51.3	-2.1
	14nm,0.6s,SNR=1.0						
SSF	Saint Saulge	5.33	300	*e*Sn	Sn	05 36 51.3	-2.1
	6.9nm,0.6s,SNR=1.0						
RUP	Ruppelstein	5.53	338	Pn	Pn	05 35 55.1	-0.2
BGF	Bois d'Agland	5.57	293	*e*Pn	Pn	05 35 50.5	-5.3
BGF				*e*Sn	Sn	05 36 57.3	-2.1
	16nm,0.3s,SNR=1.0						
STON	Ston	5.65	106	*e*Pn	Pn	05 35 57.6	+0.7
STON				Sn	Sn	05 36 58.6	-2.7
STON	Ston	5.65	106	*e*Pn	Pn	05 35 57.6	+0.7
TNS	Taunus Mts	5.73	348	*e*Pn	Pn	05 35 58.0	-0.1
TNS	Taunus Mts	5.73	348	Pn	Pn	05 35 58.0	-0.1
NKC	Novy Kostel	5.79	14	*e*PN	Pn	05 35 58.0	-0.9
NKC				*e*SN	Sn	05 37 02.0	-2.9
NKC				*e*SG	Sg	05 37 37.7	-1.8
	comp=Z,9.2nm,0.5s						
NKC	Novy Kostel	5.79	14	Pn	Pn	05 35 58.0	-0.9
NKC				Sg	Sg	05 37 37.7	-1.8
	9.2nm,0.5s						
CAF	Calviac	5.86	276	*e*Pn	Pn	05 36 02.6	+2.7
	SNR=1.0						
CAF	Calviac	5.86	276	*e*Pn	Pn	05 36 02.6	+2.7
	SNR=1.0						
TREC	Trest	5.86	35	*e*PN	Pn	05 35 59.5	-0.4
TREC	Trest	5.86	35	Pn	Pn	05 35 59.5	-0.4
PRU	Pruhonice	6.09	27	*e*PN	Pn	05 36 02.5	-0.4
PRU				*e*SN	Sn	05 37 09.7	-2.5
PRU				*ex*	x	05 37 22.8	
PRU				*e*SG	Sg	05 37 45.3	-3.7
	12nm,0.7s						
PRU	Pruhonice	6.09	27	Pn	Pn	05 36 02.5	-0.4
PRU				Sn	Sn	05 37 09.7	-2.5
PRU				Sg	Sg	05 37 45.3	-3.7
	12nm,0.7s						
GOPC	GO Pecny, Ondr	6.11	28	*e*PN	Pn	05 36 03.4	+0.2
GOPC				*e*SN	Sn	05 37 09.8	-2.8
GOPC				*ex*	x	05 37 22.9	
GOPC				*e*SG	Sg	05 37 45.9	-3.6
	comp=Z,10nm,0.6s						
GOPC	GO Pecny, Ondr	6.11	28	Pn	Pn	05 36 03.4	+0.2
GOPC				Sg	Sg	05 37 45.9	-3.6
	10nm,0.6s						
PRA	Prague	6.12	26	Sg	Sg	05 37 47.0	-3.1
VRAC	Vranov	6.36	40	Lg	Lg	05 37 58.3	
	1.1nm,0.3s,baz=290,slow=19,SNR=2.8						
VRAC				LR	LR	05 39 16.8	
	comp=Z,37nm,19.9s,baz=251,slow=45						
PVCC	Panska Ves	6.57	25	*e*SN	Sn	05 37 22.0	-2.0
PVCC	Panska Ves	6.57	25	Sn	Sn	05 37 22.0	-2.0
BBLS	Lazići	6.59	93	*e*Pn	Pn	05 36 08.3	-1.7
TEKS	Tekeris	6.60	87	*e*Pn	Pn	05 36 08.9	-1.1
BRG	Berggiesshubel	6.71	20	PN	Pn	05 36 10.6	-0.8
BRG				*i*		05 36 57.1	
BRG				*e*		05 37 23.3	
BRG	Berggiesshubel	6.71	20	SG	Sg	05 38 03.5	-5.5
	7.3nm,0.8s						
CLL	Collm	6.92	14	*e*Pn	Pn	05 36 13.0	-1.4
CLL				*e*Sn	Sn	05 37 26.0	-6.7
CLL				*e*Sg	Sg	05 38 16.0	+0.3
DIVS	Divibare	6.97	91	*e*Pn	Pn	05 36 15.0	-0.2
DPC	Dobruska-Polom	7.03	33	*e*PN	Pn	05 36 15.3	-0.6
DPC				*e*SN	Sn	05 37 30.4	-5.0
DPC				*e*SG	Sg	05 38 14.3	-4.8
	7.0nm,0.7s						
DPC	Dobruska-Polom	7.03	33	Pn	Pn	05 36 15.3	-0.6
UPC	Upice	7.04	31	*e*PN	Pn	05 36 15.5	-0.4
UPC				*e*SG	Sg	05 38 16.1	-3.2
	14nm,0.6s						
UPC	Upice	7.04	31	Pn	Pn	05 36 15.5	-0.4
UPC				Sg	Sg	05 38 16.1	-3.2
	14nm,0.6s						
VYHS	Vyhne	7.04	54	*e*PN	Pn	05 36 15.4	-0.7
VYHS				*e*SN	Sn	05 37 30.2	-5.5
GRUS	Gruza	7.52	92	*e*Pn	Pn	05 36 20.8	-1.8
SELS	Selova	7.95	96	*e*Pn	Pn	05 36 26.9	-1.6
BARS	Barje	8.54	98	*e*Pn	Pn	05 36 35.2	-1.5
ZAGS	Zajecar	8.62	91	*e*Pn	Pn	05 36 37.4	-0.3
KEST	Kesra	8.92	185	LR	LR	05 40 12.5	
	comp=Z,50nm,18.2s,baz=10,slow=38						
QUIF	Quistinic	9.88	294	*e*Pn	Pn	05 36 59.3	+4.4
	SNR=1.0						
FINES	FINESS Array B	19.24	23	P	P	05 38 57.0	+0.1
	0.2nm,0.3s,baz=214,slow=9.2,SNR=2.1						
TORD	Torodi Ar. Bea	32.23	196	P	P	05 41 01.1	0.0
	0.4nm,0.8s,baz=11,slow=9.5,SNR=1.5						
TIXI	Tiksi	56.23	20	LR	LR	06 10 59.7	
	comp=Z,9.8nm,18.3s,baz=92,slow=39						

NEIC ***19*** *05:41:00.2±0.0, 43.°59S×172.°53E, h12km, ML4.2(WEL), After WEL.*

NEIC Felt in Canterbury.

WEL 19 05:41:00.1±0.1, 43.°59S×172.°53E, h12km, ML4.2/39,
Mw3.8, 6C-3D, Error ellipse: s-maj=0.6km s-min=0.6km az=90.0, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CRLZ	Canterbury Las	0.07	76	Pg	Pg	05 41 02.5	-0.2
CRLZ				Sg	Sg	05 41 04.0	-0.5
CRLZ	Canterbury Las	0.07	76	PG	Pg	05 41 02.4	-0.2
CRLZ				SG	Sg	05 41 04.0	-0.5
CRLZ				AML	AML	05 41 04.3	
CRLZ				AML	AML	05 41 04.5	
CRLZ				AML	AML	05 41 04.5	
MQZ	McQueen's Vall	0.15	140	Pg	Pg	05 41 03.9	+0.3
MQZ				Sg	Sg	05 41 06.4	+0.3
MQZ	McQueen's Vall	0.15	140	⇓PG	Pg	05 41 03.9	+0.3
MQZ				SG	Sg	05 41 06.4	+0.3
MQZ				AML	AML	05 41 06.9	
OXZ	Oxford	0.44	307	P*	Pg	05 41 08.5	-0.4
OXZ	Oxford	0.44	307	P*	Pg	05 41 08.5	-0.4
OXZ				AML	AML	05 41 18.5	
OXZ				AML	AML	05 41 18.5	
OXZ				AML	AML	05 41 18.7	
OXZ				AML	AML	05 41 18.7	
LTZ	Lake Taylor	0.83	347	P*	Pb	05 41 16.5	-0.1
LTZ	Lake Taylor	0.83	347	⇑P*	Pb	05 41 16.5	-0.1
LTZ				AML	AML	05 41 28.2	
RPZ	Rata Peaks	1.07	263	P*	Pb	05 41 20.3	-0.4
RPZ	Rata Peaks	1.07	263	P*	Pb	05 41 20.3	-0.4
RPZ				AML	AML	05 41 36.0	
RPZ				AML	AML	05 41 41.1	
INZ	Inchbonnie	1.17	317	P*	Pb	05 41 21.3	-1.0
KHZ	Kahutara	1.39	33	Pn	Pn	05 41 24.5	-0.8
KHZ	Kahutara

QRZ				AML	AML	05 42 32.9	
BHW	**Baring Head**	**2.79**	**39**	PN	Pn	05 41 43.4	-1.1
WKZ	**Wanaka**	**2.81**	**243**	Pn	Pn	05 41 44.0	-0.9
WKZ	**Wanaka**	**2.81**	**243**	PN	Pn	05 41 44.0	-0.9
WKZ				AML	AML	05 42 35.6	
WKZ				AML	AML	05 42 37.7	
EAZ	**Earnscleugh**	**2.83**	**233**	Pn	Pn	05 41 44.4	-0.7
EAZ	**Earnscleugh**	**2.83**	**233**	⇑PN	Pn	05 41 44.4	-0.7
EAZ				AML	AML	05 42 31.5	
EAZ				AML	AML	05 42 33.1	
PLWZ	**Palliser**	**2.86**	**46**	Pn	Pn	05 41 44.3	-1.3
PLWZ	**Palliser**	**2.86**	**46**	PN	Pn	05 41 44.3	-1.3
PLWZ				AML	AML	05 42 35.1	
PLWZ				AML	AML	05 43 11.3	
MSWZ	**Moikau Station**	**2.96**	**44**	Pn	Pn	05 41 45.9	-1.1
MSWZ	**Moikau Station**	**2.96**	**44**	PN	Pn	05 41 45.9	-1.1
MSWZ				AML	AML	05 42 20.7	
MSWZ				AML	AML	05 42 20.9	
CAW	**Cannon Point**	**3.12**	**38**	Pn	Pn	05 41 47.8	-1.3
CAW	**Cannon Point**	**3.12**	**38**	PN	Pn	05 41 47.8	-1.3
CAW				AML	AML	05 42 24.6	
CAW				AML	AML	05 42 26.7	
TUZ	**Tuapeka**	**3.13**	**220**	Pn	Pn	05 41 48.5	-0.7
TUZ	**Tuapeka**	**3.13**	**220**	⇑PN	Pn	05 41 48.5	-0.7
TUZ				AML	AML	05 42 47.0	
TUZ				AML	AML	05 42 50.4	
KIW	**Kapiti Island**	**3.25**	**34**	Pn	Pn	05 41 50.3	-0.7
KIW	**Kapiti Island**	**3.25**	**34**	PN	Pn	05 41 50.3	-0.7
KIW				AML	AML	05 42 30.5	
OGWZ	**Otaki Gorge**	**3.40**	**36**	Pn	Pn	05 41 52.1	-0.8
OGWZ	**Otaki Gorge**	**3.40**	**36**	PN	Pn	05 41 52.1	-0.8
OGWZ				AML	AML	05 42 33.3	
OGWZ				AML	AML	05 42 34.9	
MSZ	**Milford Sound**	**3.48**	**250**	Pn	Pn	05 41 53.5	-0.6
MSZ	**Milford Sound**	**3.48**	**250**	PN	Pn	05 41 53.5	-0.6
MSZ				AML	AML	05 42 53.9	
MSZ				AML	AML	05 42 57.0	
HOWZ	**Holdsworth Sta**	**3.49**	**41**	AML	AML	05 42 35.5	
HOWZ				AML	AML	05 42 35.7	
TMWZ	**Te Maipa**	**3.52**	**46**	AML	AML	05 42 34.6	
TMWZ				AML	AML	05 42 40.9	
MLZ	**Mavora Lakes**	**3.62**	**239**	Pn	Pn	05 41 54.8	-1.2
MLZ	**Mavora Lakes**	**3.62**	**239**	PN	Pn	05 41 54.8	-1.2
MLZ				AML	AML	05 43 04.1	
MLZ				AML	AML	05 43 06.4	
MRZ	**Mangatainoka R**	**3.71**	**39**	Pn	Pn	05 41 56.0	-1.2
MRZ	**Mangatainoka R**	**3.71**	**39**	PN	Pn	05 41 56.0	-1.2
MRZ				AML	AML	05 42 39.8	
MRZ				AML	AML	05 42 40.3	
TIWZ	**Tintock**	**3.76**	**43**	Pn	Pn	05 41 58.1	+0.1
TIWZ	**Tintock**	**3.76**	**43**	PN	Pn	05 41 57.6	-0.4
TIWZ				AML	AML	05 42 42.0	
TIWZ				AML	AML	05 42 42.2	
SYZ	**Scrubby Hill**	**3.80**	**218**	Pn	Pn	05 41 57.9	-0.5
SYZ	**Scrubby Hill**	**3.80**	**218**	⇓PN	Pn	05 41 57.9	-0.5
SYZ				AML	AML	05 43 13.1	
SYZ				AML	AML	05 43 13.9	
POWZ	**Post Office Ro**	**4.01**	**38**	Pn	Pn	05 42 01.7	+0.3
POWZ	**Post Office Ro**	**4.01**	**38**	PN	Pn	05 42 01.7	+0.3
POWZ				AML	AML	05 43 01.1	
POWZ				AML	AML	05 43 01.9	
BFZ	**Birch Farm**	**4.01**	**45**	Pn	Pn	05 41 59.5	-1.9
BFZ	**Birch Farm**	**4.01**	**45**	PN	Pn	05 41 59.5	-1.9
DVHZ	**Dannevirke**	**4.27**	**41**	AML	AML	05 42 52.0	
DCZ	**Deep Cove**	**4.27**	**242**	PN	Pn	05 42 04.0	-0.9
KHEZ	**Kahui Hut**	**4.44**	**15**	Pn	Pn	05 42 09.8	+2.5
KHEZ	**Kahui Hut**	**4.44**	**15**	PN	Pn	05 42 09.8	+2.4
NEZ	**North Egmont**	**4.48**	**16**	Pn	Pn	05 42 10.2	+2.3
NEZ	**North Egmont**	**4.48**	**16**	PN	Pn	05 42 10.2	+2.3
APZ	**The Paps**	**4.56**	**223**	Pn	Pn	05 42 08.3	-0.6
APZ	**The Paps**	**4.56**	**223**	PN	Pn	05 42 08.3	-0.6
WPHZ	**Waipukurau**	**4.58**	**41**	AML	AML	05 43 10.4	
VRZ	**Vera Road**	**4.77**	**21**	Pn	Pn	05 42 14.2	+2.4
VRZ	**Vera Road**	**4.77**	**21**	PN	Pn	05 42 14.2	+2.4
VRZ				AML	AML	05 43 10.9	
WNVZ	**Wahianoa**	**4.85**	**29**	Pn	Pn	05 42 14.6	+1.5
WNVZ	**Wahianoa**	**4.85**	**29**	PN	Pn	05 42 14.6	+1.5
BHHZ	**Black Hill Sta**	**4.88**	**34**	Pn	Pn	05 42 14.1	+0.7
BHHZ	**Black Hill Sta**	**4.88**	**34**	PN	Pn	05 42 14.1	+0.7
WTVZ	**West Tongariro**	**5.03**	**28**	Pn	Pn	05 42 16.5	+0.9
WTVZ	**West Tongariro**	**5.03**	**28**	PN	Pn	05 42 16.5	+0.9
WTVZ				AML	AML	05 43 16.5	
WTVZ				AML	AML	05 43 18.0	
HIZ	**Hauiti**	**5.37**	**20**	PN	Pn	05 42 21.5	+1.4

*WAR **19** 05:52:53.9, 51°.44N×16°.19E, h1km, Mw2.2*
*CSEM **19** 05:52:53.3±0.6, 51°.43N×16°.20E, h1km, ML2.9/6, Error ellipse: s-maj=8.5km s-min=5.0km az=3.0*
*PRU **19** 05:52:56.1, 51°.34N×16°.19E, h0km*

ISC 19 05:52:53.5±1.8, 51°.43N±0°.08×16°.19E±0°.05, h0km, n20, σ0§58/32, Poland

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KSP	**Ksiaz**	**0.59**	**173**	*e*Pg	**Pg**	**05 53 05.1**	**+0.3**
KSP				*e*Sg	**Sg**	**05 53 12.9**	**+0.5**
KSP	**Ksiaz**	**0.59**	**173**	*e*Pg	**Pg**	**05 53 05.1**	**+0.3**
KSP				*e*Sg	**Sg**	**05 53 12.9**	**+0.5**
KSP	**Ksiaz**	**0.59**	**173**	*e*Pg	**Pg**	**05 53 05.1**	**+0.3**
KSP				*e*Sg	**Sg**	**05 53 12.9**	**+0.5**
UPC	**Upice**	**0.93**	**187**	*e*PG	**Pg**	**05 53 11.4**	**+0.1**
UPC				*e*SG	**Sg**	**05 53 23.7**	**+0.4**
	comp=Z,26nm,0.3s						
UPC	**Upice**	**0.93**	**187**	Pg	**Pg**	**05 53 11.4**	**+0.1**
UPC				Sg	**Sg**	**05 53 23.7**	**+0.4**
	26nm,0.3s						
DPC	**Dobruska-Polom**	**1.08**	**175**	*e*PG	**Pg**	**05 53 14.2**	**0.0**
DPC				*e*SG	**Sg**	**05 53 28.7**	**+0.4**
	comp=Z,7.8nm,0.4s						
DPC	**Dobruska-Polom**	**1.08**	**175**	Pg	**Pg**	**05 53 14.2**	**0.0**
DPC				Sg	**Sg**	**05 53 28.7**	**+0.4**
	7.8nm,0.4s						
PVCC	**Panska Ves**	**1.36**	**229**	*e*PG	**Pg**	**05 53 20.1**	**+0.5**
PVCC				*e*SG	**Sb**	**05 53 38.2**	**+0.3**
	comp=Z,42nm,0.3s						
PVCC	**Panska Ves**	**1.36**	**229**	Pg	**Pg**	**05 53 20.1**	**+0.5**
PVCC				Sg	**Sb**	**05 53 38.2**	**+0.3**
	42nm,0.3s						
BRG	**Berggiesshubel**	**1.52**	**249**	PG	**Pb**	**05 53 22.7**	**+0.2**
BRG				SG	**Sg**	**05 53 42.7**	**+0.5**
	10nm,0.4s						
GOPC	**GO Pecny, Ondr**	**1.76**	**211**	*e*SG	**Sb**	**05 53 49.7**	**+0.4**
	comp=Z,6.0nm,0.4s						
GOPC	**GO Pecny, Ondr**	**1.76**	**211**	Sg	**Sb**	**05 53 49.7**	**+0.4**
	6.0nm,0.4s						
PRU	**Pruhonice**	**1.78**	**217**	*e*SG	**Sb**	**05 53 50.1**	**+0.2**
	comp=Z,8.3nm,0.5s						
PRU	**Pruhonice**	**1.78**	**217**	Sg	**Sb**	**05 53 50.1**	**+0.2**
	8.3nm,0.5s						
MORC	**Moravsky Berou**	**1.86**	**152**	*e*Pn	**Pn**	**05 53 25.8**	**-0.9**
MORC				*e*Sg	**Sb**	**05 53 52.4**	**0.0**
CLL	**Collm**	**2.00**	**268**	*e*Pg	**Pb**	**05 53 31.0**	**+0.3**
CLL				*e*Sg	**Sg**	**05 53 58.0**	**+0.3**
NKC	**Novy Kostel**	**2.66**	**245**	*e*SG	**Sg**	**05 54 18.5**	**-0.3**
	comp=Z,10nm,0.3s						
NKC	**Novy Kostel**	**2.66**	**245**	Sg	**Sg**	**05 54 18.5**	**-0.3**
	10nm,0.3s						
KHC	**Kasperske Hory**	**2.84**	**217**	*e*SG	**Sg**	**05 54 23.2**	**-1.6**
KHC	**Kasperske Hory**	**2.84**	**217**	Sg	**Sg**	**05 54 23.2**	**-1.6**

*KRSC **19** 06:01:28.0±1.8, 52°.40N×159°.55E, h59km, 21km, ML4.0*
*MOS **19** 06:01:27.6±0.8, 52°.26N×159°.58E, h58km, mb4.3/1, Error ellipse: s-maj=16.2km s-min=6.3km az=103.6*
*ISCJB **19** 06:01:28.1±1.0, 52°.34N±0°.04×159°.63E±0°.06, h27km, 5km, mb3.8/5, MS2.6/2, Error ellipse: s-maj=7.6km s-min=4.9km az=138.2*
*IDC **19** 06:01:28.9±1.0, 53°.59N×159°.61E, h0km, mb3.5/4, mb1 3.8/4, mb1mx3.5/29, mbtmp3.5/4, MS2.7/3, Ms1 2.7/3, ms1mx2.5/40, Error ellipse: s-maj=40.8km s-min=12.3km az=155.0*

ISC 19 06:01:27.1±1.5, 52°.36N±0°.04×159°.63E±0°.04, h15km, 9km, n54, σ1§18/79, mb3.6/5, 1D, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RUS	**Russkaya**	**0.69**	**277**	PN	**Pb**	**06 01 41.9**	**+1.1**
RUS				S	**Sb**	**06 01 51.3**	**+1.2**
RUS	**Russkaya**	**0.69**	**277**	*e*P	**Pb**	**06 01 41.9**	**+1.1**
RUS				*e*S	**Sb**	**06 01 51.3**	**+1.2**
SPN	**Mys Shipunski**	**0.78**	**18**	PN	**Pn**	**06 01 45.1**	**+1.6**
SPN				S	**Sn**	**06 01 56.3**	**+1.4**
SPN	**Mys Shipunski**	**0.78**	**18**	*e*P	**Pn**	**06 01 45.1**	**+1.6**
SPN				*e*S	**Sn**	**06 01 56.3**	**+1.4**
DALK	**Dalny**	**0.86**	**322**	PN	**Pb**	**06 01 44.1**	**+0.4**
DALK				S	**Sb**	**06 01 54.8**	**-0.2**
DALK	**Dalny**	**0.86**	**322**	*e*P	**Pb**	**06 01 44.1**	**+0.4**
DALK				*e*S	**Sb**	**06 01 54.8**	**-0.2**
PET	**Petropavlovsk**	**0.89**	**319**	⇓*i*PN	**Pg**	**06 01 44.5**	**+0.1**
PET				*i* S		**06 01 55.1**	**-1.0**
PET				pmax	pmax		
	comp=Z,391nm,0.5s						
PET	**Petropavlovsk**	**0.89**	**319**	*e*P	**Pg**	**06 01 44.5**	**+0.1**
PET				*e*S	**Sg**	**06 01 55.4**	**-0.7**
MTVR	**Mutnovka**	**0.90**	**278**	PN	**Pb**	**06 01 45.2**	**+0.8**
MTVR				S	**Sb**	**06 01 56.9**	**+0.7**
MTVR	**Mutnovka**	**0.90**	**278**	*e*P	**Pb**	**06 01 45.2**	**+0.8**
MTVR				*e*S	**Sb**	**06 01 56.9**	**+0.7**
GRL	**Gorelyy**	**0.97**	**282**	PN	**Pn**	**06 01 47.1**	**+0.8**
GRL	**Gorelyy**	**0.97**	**282**	*e*P	**Pn**	**06 01 47.1**	**+0.8**
UGLR	**Uglovaya**	**0.98**	**330**	PN	**Pg**	**06 01 46.2**	**+0.1**
UGLR				S	**Sb**	**06 01 59.2**	**+0.6**
UGLR	**Uglovaya**	**0.98**	**330**	*e*P	**Pg**	**06 01 46.2**	**+0.1**
UGLR				*e*S	**Sb**	**06 01 59.2**	**+0.6**
SDLR	**Sedlovina**	**1.02**	**334**	PN	**Pb**	**06 01 46.6**	**0.0**
SDLR				S	**Sg**	**06 01 59.5**	**-0.9**
SDLR	**Sedlovina**	**1.02**	**334**	*e*P	**Pb**	**06 01 46.6**	**0.0**
SDLR				*e*S	**Sg**	**06 01 59.5**	**-0.9**
KRMR	**Karymshinskiy**	**1.03**	**298**	PN	**Pb**	**06 01 46.5**	**-0.1**
KRMR				S	**Sb**	**06 01 59.7**	**-0.2**
KRMR	**Karymshinskiy**	**1.03**	**298**	*e*P	**Pb**	**06 01 46.5**	**-0.1**
KRMR				*e*S	**Sb**	**06 01 59.7**	**-0.2**
AVH	**Avacha**	**1.06**	**329**	PN	**Pb**	**06 01 47.4**	**+0.3**
AVH	**Avacha**	**1.06**	**329**	*e*P	**Pb**	**06 01 47.4**	**+0.3**
ASAK	**Asacha**	**1.06**	**272**	PN	**Pb**	**06 01 47.8**	**+0.6**
ASAK				S	**Sb**	**06 02 01.5**	**+0.6**
ASAK	**Asacha**	**1.06**	**272**	*e*P	**Pb**	**06 01 47.8**	**+0.6**
ASAK				*e*S	**Sb**	**06 02 01.5**	**+0.6**
KRER	**Koryakskii**	**1.09**	**331**	PN	**Pg**	**06 01 48.4**	**+0.3**
KRER				S	**Sn**	**06 02 03.6**	**+0.8**
KRER	**Koryakskii**	**1.09**	**331**	*e*P	**Pg**	**06 01 48.4**	**+0.3**
KRER				*e*S	**Sn**	**06 02 03.6**	**+0.8**
KDTR	**Khodutka, Kamc**	**1.11**	**241**	*e*P	**Pb**	**06 01 48.3**	**+0.4**
KDTR				*e*S	**Sb**	**06 02 02.0**	**-0.1**
KOK	**Koryaka**	**1.11**	**327**	PN	**Pb**	**06 01 48.5**	**+0.4**
KOK				S	**Sn**	**06 02 03.2**	**-0.1**
KOK	**Koryaka**	**1.11**	**327**	*e*P	**Pb**	**06 01 48.5**	**+0.4**
KOK				*e*S	**Sn**	**06 02 03.2**	**-0.1**
KRX	**Arik**	**1.16**	**330**	PN	**Pb**	**06 01 48.8**	**-0.2**
KRX				S	**Sb**	**06 02 03.9**	**0.0**
KRX	**Arik**	**1.16**	**330**	*e*P	**Pb**	**06 01 48.8**	**-0.2**
KRX				*e*S	**Sb**	**06 02 03.9**	**0.0**
PETK	**Petropavlovsk-**	**1.39**	**303**	Pg	**Pn**	**06 01 52.1**	**+0.1**
	comp=Z,16nm,0.3s,baz=108,slow=19,SNR=99						
PETK				Lg	Lg	06 02 09.2	
	comp=Z,41nm,0.3s,baz=89,slow=36,SNR=22						
PETK				LR	LR	06 02 27.5	
	comp=Z,71nm,19.1s,baz=57,slow=47						
APC	**Apacha**	**1.61**	**292**	PN	**Pn**	**06 01 55.9**	**+1.0**
APC				S	**Sn**	**06 02 16.1**	**+0.7**
APC	**Apacha**	**1.61**	**292**	*e*P	**Pn**	**06 01 55.9**	**+1.0**
APC				*e*S	**Sn**	**06 02 16.1**	**+0.7**
GNL	**Ganaly**	**1.68**	**323**	PN	**Pn**	**06 01 56.5**	**+0.4**
GNL				S	**Sn**	**06 02 17.6**	**+0.2**
GNL	**Ganaly**	**1.68**	**323**	*e*P	**Pn**	**06 01 56.5**	**+0.4**
GNL				*e*S	**Sn**	**06 02 17.6**	**+0.2**
MKZ	**Mys Kozlova**	**2.53**	**29**	PN	**Pn**	**06 02 08.3**	**+0.7**
MKZ				S	**Sn**	**06 02 37.8**	**-0.3**
MKZ	**Mys Kozlova**	**2.53**	**29**	*e*P	**Pn**	**06 02 08.3**	**+0.7**
MKZ				*e*S	**Sn**	**06 02 37.8**	**-0.3**
TUMR	**Tumrok**	**2.94**	**6**	PN	Pn	06 02 08.2	-5.2
TUMR	**Tumrok**	**2.94**	**6**	*e*P	Pn	06 02 08.2	-5.2
KMNR	**Kamenistaya**	**3.42**	**6**	PN	**Pn**	**06 02 23.6**	**+3.7**
KMNR	**Kamenistaya**	**3.42**	**6**	*e*P	**Pn**	**06 02 23.6**	**+3.7**
ESO	**Esso**	**3.61**	**352**	PN	**Pn**	**06 02 25.0**	**+2.5**
ESO	**Esso**	**3.61**	**352**	*e*P	**Pn**	**06 02 25.0**	**+2.5**
BZMR	**Bezymyannaya**	**3.62**	**8**	PN	**Pn**	**06 02 25.7**	**+3.0**
BZMR	**Bezymyannaya**	**3.62**	**8**	*e*P	**Pn**	**06 02 25.7**	**+3.0**
KPT	**Kopyto**	**3.63**	**5**	PN	**Pn**	**06 02 24.6**	**+1.8**
KPT	**Kopyto**	**3.63**	**5**	*e*P	**Pn**	**06 02 24.6**	**+1.8**
MA2	**Magadan**	**8.77**	**329**	LR	LR	06 06 46.9	
	comp=Z,30nm,19.2s,baz=176,slow=41						
USRK	**Ussuriysk Ar.**	**20.03**	**257**	LR	LR	06 15 25.9	
	comp=Z,32nm,18.4s,baz=284,slow=41						
MJAR	**Matsushiro Arr**	**21.87**	**232**	LR	LR	06 14 36.3	
	comp=Z,17nm,20.9s,baz=165,slow=35						
ILAR	**Eielson Array**	**29.53**	**44**	P	**P**	**06 07 27.9**	**-2.7**
	comp=Z,0.4nm,0.7s,baz=267,slow=8.1,SNR=3.8						
ZALV	**Zalesovo Beam**	**42.94**	**303**	P	**P**	**06 09 23.8**	**-1.1**
	comp=Z,0.8nm,0.4s,baz=48,slow=5.4,SNR=2.3						
PDAR	**Pinedale Array**	**58.13**	**60**	P	**P**	**06 11 20.2**	**+0.1**
	comp=Z,10nm,0.4s,baz=296,slow=4.6,SNR=3.9						
TXAR	**Lajitas Array**	**71.19**	**66**	P	**P**	**06 12 45.0**	**-0.3**
	comp=Z,0.3nm,0.6s,baz=281,slow=3.5,SNR=4.2						
WRA	**Warramunga Arr**	**75.30**	**205**	P	P	06 13 20.9	+12
	comp=Z,0.2nm,0.7s,baz=27,slow=6.6,SNR=2.6						

*ISCJB **19** 06:17:58.2±0.8, 10°.57S±0°.09×161°.4E±0°.1, h61km, mb4.3/10, Error ellipse: s-maj=19.2km s-min=7.5km az=145.5*
*NEIC **19** 06:18:02.2±1.4, 10°.40S×161°.36E, h85km±12km, mb4.5/3, Error ellipse: s-maj=18.5km s-min=13.6km az=57.0*
*IDC **19** 06:18:02.9±2.3, 10°.46S×161°.21E, h86km±18km, mb4.0/7, mb1 4.2/8, mb1mx3.8/30, mbtmp4.4/8, MS3.2/6, Ms1 3.2/6, ms1mx2.9/30, Error ellipse: s-maj=27.8km s-min=16.2km az=78.0*

ISC 19 06:18:00.1±0.9, 10°.5S±0°.1×161°.4E±0°.1, h61km, n20, σ1§59/21, mb4.3/10, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**1.76**	**305**	P	**Pn**	**06 18 30.0**	**+1.6**
	152nm,0.3s,baz=195,slow=16,SNR=35						
HNR				S	**Sn**	**06 18 50.2**	**+0.4**
	1µm,0.3s,baz=161,slow=2.3,SNR=25						
HNR	**Honiara**	**1.76**	**305**	*i* P	**Pn**	**06 18 29.0**	**+0.6**
HNR				*i* S	**Sn**	**06 18 49.0**	**-0.8**
HNR	**Honiara**	**1.76**	**305**	*e*Pn	**Pn**	**06 18 29.8**	**+1.4**
HNR				*e*Sn	**Sn**	**06 18 49.8**	**0.0**
DZM	**Mont Dzumac**	**12.52**	**158**	P	**Pn**	**06 20 59.3**	**+3.7**
	4.9nm,0.3s,baz=331,slow=19,SNR=22						
DZM				S	**Sn**	**06 23 11.7**	**-1.9**
	1.9nm,0.3s,baz=323,slow=20,SNR=7.3						
DZM				LR	LR	06 24 50.2	
	comp=Z,156nm,20.3s,baz=24,slow=32						
DZM	**Mont Dzumac**	**12.52**	**158**	*e*Pn	**Pn**	**06 20 57.8**	**+2.2**
	13nm,0.5s						
DZM				S	**Sn**	**06 23 11.7**	**-1.9**
PMG	**Port Moresby**	**14.08**	**273**	LR	LR	06 25 47.0	
	comp=Z,76nm,21.8s,baz=112,slow=33						
CTA	**Charters Tower**	**17.47**	**235**	P	**P**	**06 22 02.6**	**+2.5**
	0.1nm,0.3s,baz=45,slow=10.0,SNR=3.4						
WRAB	**Tennant Creek**	**27.73**	**247**	*e*P	**P**	**06 23 42.2**	**-0.9**
	3.7nm,0.8s						
WRA	**Warramunga Arr**	**27.74**	**247**	P	**P**	**06 23 42.1**	**-1.1**
	3.2nm,0.7s,baz=77,slow=9.2,SNR=30						
STKA	**Stephens Creek**	**28.11**	**218**	LR	LR	06 35 41.1	
	comp=Z,63nm,18.1s,baz=31,slow=38						
GUMO	**Guam**	**28.98**	**325**	LR	LR	06 34 22.7	
	comp=Z,43nm,20.8s,baz=112,slow=34						
ASAR	**Alice Springs**	**29.32**	**240**	P	**P**	**06 23 55.5**	**-1.9**
	1.0nm,0.8s,baz=70,slow=9.1,SNR=7.3						
ASAR				LR	LR	06 35 21.6	
	comp=Z,45nm,18.6s,baz=255,slow=36						
FITZ	**Fitzroy Crossi**	**35.44**	**253**	*e*P	**P**	**06 24 49.5**	**-1.4**
	3.2nm,0.6s						
KSRS	**Korea Array**	**57.06**	**328**	LR	LR	06 51 19.1	
	comp=Z,11nm,19.1s,baz=145,slow=35						
USRK	**Ussuriysk Ar.**	**60.59**	**336**	P	**P**	**06 28 04.4**	**0.0**
	1.8nm,0.7s,baz=111,slow=10.0,SNR=2.6						
VNDA	**Vanda**	**67.05**	**180**	P	**P**	**06 28 46.5**	**0.0**
	2.8nm,0.7s,baz=350,slow=7.6,SNR=16						
SONM	**Songino Array**	**75.71**	**325**	P	**P**	**06 29 39.0**	**-0.3**
	4.8nm,0.3s,baz=134,slow=4.2,SNR=3.2						
QSPA	**South Pole Qui**	**79.55**	**180**	*e*P	**P**	**06 30 00.1**	**-0.3**
	35nm,1.1s						
MAW	**Mawson**	**83.66**	**202**	P	**P**	**06 30 21.2**	**-0.6**
	4.5nm,0.8s,baz=81,slow=6.7,SNR=10						
ILAR	**Eielson Array**	**84.35**	**20**	P	**P**	**06 30 24.6**	**-0.7**
	0.5nm,0.9s,baz=219,slow=7.0,SNR=3.4						

*NEIC **19** 06:20:36.8±0.0, 13°.91N×92°.55W, h7km, mb4.2/14, MD4.0(MEX), After MEX.*
*MEX **19** 06:20:36.8±0.4, 13°.91N×92°.55W, h7km±32km, MD4.0*
*ISCJB **19** 06:20:39.6±0.8, 14°.08N±0°.06×92°.59W±0°.06, h46km, mb4.2/14, MS3.5/7, Error ellipse: s-maj=8.6km s-min=8.3km az=5.4*
*IDC **19** 06:20:39.7±3.0, 14°.93N×92°.03W, h0km, mb4.7/2, mb1 4.8/5, mb1mx4.0/36, mbtmp4.5/5, ML3.7/2, MS3.3/7, Ms1 3.3/7, ms1mx2.9/41, Error ellipse: s-maj=69.2km s-min=41.9km az=33.0*

ISC 19 06:20:41.8±1.0, 14°.12N±0°.09×92°.58W±0°.06, h46km, n43, σ1§72/47, mb4.2/14, MS3.1/7, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CCIG	**Comitan**	**2.19**	**11**	*e*Pn	**Pn**	**06 21 15.9**	**-0.1**
CCIG				*e*Sn	**Sn**	**06 21 42.5**	**+0.4**
CCIG	**Comitan**	**2.19**	**11**	*e*P	**Pn**	**06 21 13.6**	**-2.4**
CCIG				*i* S	**Sn**	**06 21 42.5**	**+0.4**
TGIG		**2.70**	**349**	*e*Pn	**Pn**	**06 21 21.0**	**-1.8**
TGIG				*e*Sn	**Sn**	**06 21 55.1**	**+0.8**
TGIG		**2.70**	**349**	*e*P	**Pn**	**06 21 21.0**	**-1.8**
TGIG				*e*S	**Sn**	**06 21 55.1**	**+0.8**
CMIG	**Matias Romero**	**3.70**	**323**	Pn	**Pn**	**06 21 33.5**	**-3.0**
	5.4nm,0.3s,baz=131,slow=13,SNR=82						
CMIG				Sn	**Sn**	**06 22 19.3**	**+0.4**
	20nm,0.3s,baz=107,slow=9.3,SNR=7.3						
CMIG				LR	LR	06 23 09.6	
	comp=Z,155nm,22.0s,baz=121,slow=43						
VHO	**Vista Hermosa**	**4.96**	**307**	*e*Pn	**Pn**	**06 21 52.4**	**-1.7**
VHO				*e*Sn	**Sn**	**06 22 49.9**	**-0.5**
VHO	**Vista Hermosa**	**4.96**	**307**	*i* P	**Pn**	**06 21 52.4**	**-1.7**
VHO				*e*S	**Sn**	**06 22 49.9**	**-0.5**
SCIG	**Sabancuy**	**5.00**	**15**	*e*Pn	**Pn**	**06 21 53.3**	**-1.1**
SCIG				*e*Sn	**Sn**	**06 22 51.3**	**+0.2**
TLIG	**Tlapa**	**6.70**	**302**	*e*Pn	**Pn**	**06 22 17.1**	**-0.8**
LTX	**Lajitas**	**18.29**	**328**	*e*P	**P**	**06 24 52.1**	**0.0**
TXAR	**Lajitas Array**	**18.29**	**328**	P	**P**	**06 24 52.1**	**0.0**
	0.1nm,0.3s,baz=152,slow=15,SNR=13						
TX31	**Lajitas Ar. Si**	**18.30**	**328**	*e*P	**Pn**	**06 24 53.7**	**+1.3**
WHTX	**Lake Whitney,**	**18.34**	**347**	*e*P	**Pn**	**06 24 55.4**	**+2.6**
	38nm,2.0s						
LPIG	**La Paz**	**19.45**	**303**	P	**Pn**	**06 25 08.9**	**+2.7**
	7.5nm,0.3s,baz=137,slow=6.5,SNR=4.3						
MIAR	**Mount Ida**	**20.36**	**358**	*e*P	**P**	**06 25 13.5**	**-1.1**
	9.1nm,1.0s						
MNTX	**Cornudas Mount**	**21.07**	**328**	*e*P	**P**	**06 25 21.3**	**-1.0**
	2.2nm,0.8s						
AMTX	**Amarillo**	**22.25**	**340**	*e*P	**P**	**06 25 34.2**	**-0.8**
	6.9nm,0.9s						
TKL	**Tuckaleechee C**	**22.86**	**19**	LR	LR	06 34 37.1	
	comp=Z,45nm,18.4s,baz=76,slow=38						
ANMO	**Albuquerque**	**24.23**	**331**	P	**P**	**06 25 54.3**	**-0.3**
	0.9nm,0.7s,baz=152,slow=12,SNR=6.0						
ANMO	**Albuquerque**	**24.23**	**331**	*e*P	**P**	**06 25 54.7**	**0.0**
	9.8nm,1.8s						
T25A	**Trinidad**	**25.24**	**337**	*e*P	**P**	**06 26 04.8**	**+1.0**
	5.4nm,0.9s						
ATAH	**Atahualpa**	**25.38**	**145**	LR	LR	06 35 29.2	
	comp=Z,56nm,19.6s,baz=278,slow=34						
SJG	**San Juan**	**25.69**	**78**	LR	LR	06 35 41.7	
	comp=Z,49nm,20.9s,baz=272,slow=36						
S22A	**4UR Ranch, Cre**	**26.73**	**334**	*e*P	**P**	**06 26 18.5**	**+1.1**
	13nm,1.9s						
MVCO	**Mesa Verde**	**27.03**	**331**	*e*P	**P**	**06 26 20.8**	**+0.7**
	4.3nm,0.8s						
**

VIL2				AML	AML	06 42 10.4	
	comp=N,1572µm,0.3s						
VIL2				AML	AML	06 42 10.8	
	comp=E,1044µm,0.5s						
VIL2	**Platees**	**0.12**	**36**	P	Pg	06 42 06.3	-0.7
VIL2				S	Sg	06 42 09.6	+0.9
VIL2				AML	AML	06 42 10.4	
	comp=N,1572µm,0.3s						
VIL2				AML	AML	06 42 10.8	
	comp=E,882µm,0.4s						
LTK	**Loutraki**	**0.19**	**241**	P	Pg	06 42 08.1	-0.1
LTK				S	Sg	06 42 11.1	+0.4
LTK	**Loutraki**	**0.19**	**241**	P	Pg	06 42 08.1	-0.1
LTK				S	Sg	06 42 11.1	+0.4
LTK	**Loutraki**	**0.19**	**241**	P	Pg	06 42 08.0	-0.2
LTK				S	Sg	06 42 12.0	+1.3
LTK	**Loutraki**	**0.19**	**241**	P	Pg	06 42 07.7	-0.5
LTK				S	Sg	06 42 11.6	+0.9
LTK				AML	AML	06 42 14.3	
	comp=E,304µm,0.3s						
LTK				AML	AML	06 42 16.1	
	comp=N,431µm,0.4s						
LOUT	**Loutraki**	**0.20**	**232**	P	Pg	06 42 08.2	-0.2
LOUT				S	Sg	06 42 11.2	+0.1
PROD	**Prodromos**	**0.26**	**304**	P	Pg	06 42 09.4	-0.2
PROD				S	Sg	06 42 13.2	+0.2
PROD	**Prodromos**	**0.26**	**304**	P	Pg	06 42 09.4	-0.2
PROD				S	Sg	06 42 13.2	+0.2
PROD				AML	AML	06 42 16.3	
	comp=N,1141µm,0.3s						
PROD				AML	AML	06 42 16.3	
	comp=E,1680µm,0.3s						
PROD	**Prodromos**	**0.26**	**304**	P	Pg	06 42 09.7	+0.1
PROD				S	Sg	06 42 13.6	+0.6
PROD				AML	AML	06 42 16.3	
	comp=N,1141µm,0.3s						
PROD				AML	AML	06 42 16.3	
	comp=E,1680µm,0.3s						
THAL	**Thalero**	**0.41**	**260**	P	Pg	06 42 13.1	+0.7
THAL	**Thalero**	**0.41**	**260**	P	Pg	06 42 11.8	-0.6
THAL	**Thalero**	**0.41**	**260**	P	Pg	06 42 11.8	-0.6
ATH	**Athens Observa**	**0.45**	**108**	P	Pg	06 42 12.0	-1.1
ATH				S	Sg	06 42 19.4	+0.4
ATH	**Athens Observa**	**0.45**	**108**	P	Pg	06 42 12.0	-1.2
ATH				S	Sg	06 42 19.4	+0.4
ATH				AML	AML	06 42 21.6	
	comp=N,557µm,0.3s						
ATH				AML	AML	06 42 21.7	
	comp=E,534µm,0.3s						
ATH	**Athens Observa**	**0.45**	**108**	P	Pg	06 42 11.7	-1.5
ATH				S	Sg	06 42 19.4	+0.4
ATH				AML	AML	06 42 21.6	
	comp=N,557µm,0.3s						
ATH				AML	AML	06 42 21.7	
	comp=E,534µm,0.3s						
ATHU	**Athens Univers**	**0.50**	**107**	P	Pg	06 42 13.2	-1.0
ATHU				S	Sg	06 42 20.8	+0.1
ATHU	**Athens Univers**	**0.50**	**107**	P	Pg	06 42 13.2	-1.0
ATHU				S	Sg	06 42 20.8	+0.2
ATHU				AML	AML	06 42 22.2	
	comp=N,153µm,0.6s						
ATHU				AML	AML	06 42 25.4	
	comp=E,55µm,0.1s						
PTL	**Penteli**	**0.55**	**97**	P	Pg	06 42 14.3	-0.7
PTL				S	Sg	06 42 22.4	+0.3
PTL	**Penteli**	**0.55**	**97**	P	Pg	06 42 14.3	-0.7
PTL				S	Sg	06 42 22.4	+0.2
VLY	**Voula,Athens**	**0.55**	**118**	P	Pg	06 42 15.1	0.0
VLY				S	Sg	06 42 22.8	+0.5
VLY	**Voula,Athens**	**0.55**	**118**	P	Pg	06 42 14.8	-0.3
VLY				S	Sg	06 42 21.3	-1.0
VLY	**Voula,Athens**	**0.55**	**118**	P	Pg	06 42 14.8	-0.3
VLY				S	Sg	06 42 21.3	-1.0
VLY				AML	AML	06 42 24.0	
	comp=E,202µm,0.2s						
VLY				AML	AML	06 42 24.8	
	comp=N,167µm,0.3s						
VLY	**Voula,Athens**	**0.55**	**118**	P	Pg	06 42 15.4	+0.3
VLY				S	Sg	06 42 21.6	-0.8
VLY				AML	AML	06 42 24.0	
	comp=E,202µm,0.2s						
VLY				AML	AML	06 42 24.8	
	comp=N,167µm,0.3s						
DSF	**Desfina**	**0.59**	**300**	P	Pg	06 42 15.4	-0.5
DSF				S	Sg	06 42 24.2	+0.6
DSF	**Desfina**	**0.59**	**300**	P	Pg	06 42 15.4	-0.5
DSF				S	Sg	06 42 23.7	+0.1
DSF	**Desfina**	**0.59**	**300**	P	Pg	06 42 15.4	-0.5
DSF				S	Sg	06 42 23.7	+0.1
DSF				AML	AML	06 42 30.0	
	comp=E,217µm,0.3s						
DSF				AML	AML	06 42 30.5	
	comp=N,148µm,0.2s						
DSF	**Desfina**	**0.59**	**300**	P	Pg	06 42 15.3	-0.6
DSF				S	Sg	06 42 24.4	+0.9
DSF				AML	AML	06 42 30.0	
	comp=E,217µm,0.3s						
DSF				AML	AML	06 42 30.5	
	comp=N,148µm,0.2s						
DID	**Didima**	**0.61**	**175**	P	Pg	06 42 16.8	+0.6
DID	**Didima**	**0.61**	**175**	P	Pg	06 42 16.8	+0.6
DID	**Didima**	**0.61**	**175**	P	Pb	06 42 17.0	-0.6
DID				S	Sg	06 42 24.5	+0.4
DID				AML	AML	06 42 29.7	
	comp=E,136µm,0.3s						
DID				AML	AML	06 42 29.8	
	comp=N,149µm,0.3s						
EREA	**Eretria**	**0.67**	**63**	P	Pg	06 42 17.5	+0.1
EREA	**Eretria**	**0.67**	**63**	P	Pg	06 42 17.5	+0.1
EREA				S	Sg	06 42 25.3	-0.7
EREA	**Eretria**	**0.67**	**63**	P	Pg	06 42 17.8	+0.5
EREA				S	Sg	06 42 25.3	-0.8
KLV	**Kalavryta, Ach**	**0.81**	**265**	P	Pg	06 42 19.8	-0.3

IDC 19 06:44:00.8±5.0, 14°36S×167°32E, h185km±46km, mb3.5/5, mb1 3.6/6, mb1mx3.2/33, mbtmp3.9/6, Error ellipse: s-maj=36.2km s-min=29.4km az=177.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**7.72**	**186**	P	Pn	06 45 51.1	+0.7
	1.1nm,0.3s,baz=325,slow=13,SNR=12						
DZM				S	Sn	06 47 16.7	-0.7
	0.6nm,0.3s,baz=120,slow=20,SNR=3.3						
WRA	**Warramunga Arr**	**31.97**	**255**	P	P	06 50 09.4	-0.2
	0.7nm,0.5s,baz=86,slow=9.3,SNR=19						
ASAR	**Alice Springs**	**32.85**	**249**	P	P	06 50 17.4	+0.1
	0.7nm,0.4s,baz=79,slow=9.4,SNR=17						
VNDA	**Vanda**	**63.23**	**181**	P	P	06 54 09.1	+0.1
	0.6nm,0.7s,baz=358,slow=7.2,SNR=3.5						
ILAR	**Eielson Array**	**86.16**	**18**	P	P	06 56 20.3	-0.3
	0.4nm,0.8s,baz=236,slow=5.6,SNR=4.1						
ZALV	**Zalesovo Beam**	**97.12**	**324**	P	P	06 57 11.7	0.0
	0.5nm,0.3s,baz=107,slow=4.8,SNR=2.7						

*ISCJB **19** 06:53:31.2±0.7, 32°.64S±0°.05×69°.13W±0°.05, h125km±5km, Error ellipse: s-maj=9.6km s-min=3.9km az=142.5*
*GUC **19** 06:53:31.4±0.6, 32°.55S×69°.48W, h150km±9km, ML3.5*
*SJA **19** 06:53:31.0±1.3, 32°.63S×69°.15W, h122km±4km, ML3.5, MW3.7*

ISC 19 06:53:31.7±1.5, 32°.63S±0°.05×69°.14W±0°.05, h124km±9km, n21, σ0°.58/38, 4C-6D, Mendoza Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAL	**Salagasta**	**0.26**	**81**	*e*P	**Pn**	**06 53 49.4**	**+0.2**
ASAL				⇓*e*S	**Sn**	**06 54 01.7**	**-0.6**
ARCO	**CERRO ARCO**	**0.27**	**140**	⇓*e*P	**Pn**	**06 53 49.4**	**+0.1**
ARCO				*e*S	**Sn**	**06 54 01.9**	**-0.7**
ARCO				IAML		06 54 02.6	
	comp=Z,2µm,0.3s						
AUSP	**Uspallata**	**0.46**	**333**	*e*P	**Pn**	**06 53 50.4**	**+0.2**
AUSP				⇓*e*S	**Sn**	**06 54 04.3**	**+0.1**
AAGR	**Agrelo**	**0.52**	**150**	⇓*e*P	**Pn**	**06 53 50.8**	**+0.4**
AAGR				*e*S	**Sn**	**06 54 03.8**	**-0.7**
RTCV	**Cerro Valdivia**	**0.92**	**34**	*e*P	**Pn**	**06 53 53.4**	**0.0**
RTCV				⇓*e*S	**Sn**	**06 54 09.3**	**-0.6**
FCH	**Farellones**	**1.19**	**234**	⇑*i*P	**Pn**	**06 53 56.9**	**+0.6**
FCH				*i* S	**Sn**	**06 54 16.8**	**+1.8**
SJA	**San Juan**	**1.21**	**24**	*e*P	**Pn**	**06 53 56.6**	**+0.4**
SJA				*e*S	**Sn**	**06 54 14.9**	**+0.1**
PEL	**Peldehue**	**1.40**	**248**	⇑*i*P	**Pn**	**06 53 58.2**	**-0.1**
PEL				*i* S	**Sn**	**06 54 18.5**	**0.0**
PEL				IAML		06 54 19.6	
	comp=N,755nm,0.2s						
CLCH	**Cerro Calan**	**1.40**	**237**	⇑*i*P	**Pn**	**06 53 58.9**	**+0.6**
CLCH				*i* S	**Sn**	**06 54 19.2**	**+0.6**
CLCH				IAML		06 54 20.7	
	comp=N,760nm,0.8s						
ANTU	**Antumapu**	**1.56**	**233**	*e*P	**Pn**	**06 53 59.9**	**-0.3**
ANTU				*e*S	**Sn**	**06 54 22.4**	**+0.6**
ANTU				IAML		06 54 24.8	
	comp=E,524nm,0.2s						
ROCH	**El Roble**	**1.61**	**257**	⇑*i*P	**Pn**	**06 54 00.5**	**-0.4**
ROCH				*i* S	**Sn**	**06 54 22.6**	**-0.6**
ROCH				IAML		06 54 24.1	
	comp=N,818nm,0.2s						
ROC1	**El Roble**	**1.62**	**257**	*e*P	**Pn**	**06 54 00.5**	**-0.5**
ROC1				*e*S	**Sn**	**06 54 22.2**	**-1.0**
RCDM	**Rinconada Maip**	**1.64**	**238**	*e*P	**Pn**	**06 54 01.2**	**+0.2**
RCDM				*e*S	**Sn**	**06 54 23.6**	**+0.1**
ACAN	**Cantantal**	**1.69**	**78**	*e*P	**Pn**	**06 54 02.3**	**+0.7**
ACAN				*e*S	**Sn**	**06 54 24.1**	**-0.4**
AMOG	**MOGNA**	**1.78**	**18**	*e*P	**Pn**	**06 54 03.3**	**+0.5**
AVFE	**Valle Fertil**	**2.44**	**37**	*e*P	**Pn**	**06 54 10.9**	**0.0**
AVFE				*e*S	**Sn**	**06 54 40.5**	**-0.6**
AVFE				IAML		06 54 44.9	
	comp=Z,108nm,0.3s						
ACHE	**Chepes**	**2.57**	**56**	*e*P	**Pn**	**06 54 13.0**	**+0.3**
ACHE				⇓*e*S	**Sn**	**06 54 43.6**	**-0.5**
MRA	**San Martin**	**2.90**	**87**	*e*P	**Pn**	**06 54 17.2**	**+0.3**
NICH	**Los Niches**	**2.94**	**216**	*e*P	**Pn**	**06 54 17.0**	**-0.2**
NICH				*i* S	**Sn**	**06 54 51.7**	**-0.7**
AGUA	**GUANDACOL**	**3.18**	**10**	*e*P	**Pn**	**06 54 21.2**	**+0.6**
VCA	**Vinchina**	**3.96**	**12**	*e*P	**Pn**	**06 54 31.4**	**+0.3**
VCA				IAML		06 55 19.4	
	comp=Z,51nm,0.2s						

*MOS **19** 07:03:07.8±1.1, 53°.51N×170°.05W, h153km, mb4.9/90, Error ellipse: s-maj=6.4km s-min=5.0km az=79.2*
*BJI **19** 07:03:07.6, 53°.70N×170°.29W, h155km, mb4.8/43, mB5.0/34*
*ISCJB **19** 07:03:08.2±0.2, 53°.52N±0°.02×169°.97W±0°.02, h161km±1km, mb5.0/357, Error ellipse: s-maj=4.0km s-min=2.0km az=2.9*
*GCMT **19** 07:03:08.9±0.1, 53°.23N×170°.05W, h151km±1km, MW5.4/125, Moment Tensor Solution. s88,c143; s125,c236; Duration: 1ŝ3 Moment tensor: Scale 10^17 Nm; Mrr=0.24±.02; Mθθ 0.84±.03; Mφφ -0.59±.03; Mrθ -0.15±.02; Mrφ -1.41±.02; Mθφ -0.73±.02; Best double couple: Ms1.76100×10^17 NP1:φ=344.00000°, δ78.00000°, λ-24.00000°. NP2:φ=79.00000°, δ67.00000°, λ-167.00000°. Principal axes: T 1.7380, Plg8.0000°, Azm33.0000°; N 0.0470, Plg64.0000°, Azm140.0000°; P -1.7840, Plg25.0000°, Azm300.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*IDC **19** 07:03:08.7±0.4, 53°.38N×170°.07W, h152km±3km, mb4.4/36, mb1 4.5/37, mb1mx4.3/63, mbtmp4.8/37, MS3.9/16, Ms1 3.9/16, ms1mx3.6/38 Error ellipse: s-maj=10.1km s-min=6.4km az=8.0*
*NEIC **19** 07:03:08.9±0.2, 53°.54N×170°.07W, h150km±1km, mb5.3/284, Error ellipse: s-maj=3.3km s-min=2.0km az=174.0*
NEIC Felt at Naknek.

ISC 19 07:03:09.0±0.3, 53°.35N±0°.04×169°.99W±0°.03, h158km±2km, h157km; pP-P, n1230, σ1ŝ36/1380, mb5.1/360, 19C-14D, Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIKH	**Nikolski High**	**0.78**	**119**	*e*Pn	**Pn**	**07 03 30.6**	**-2.2**
NIKH				*e*Sn	**Sn**	**07 03 48.3**	**-2.7**
OKAK	**Okmok**	**1.00**	**76**	*e*Pn	**Pn**	**07 03 33.1**	**-1.3**
OKCE	**Okmok Cone E**	**1.10**	**85**	*e*Pn	**Pn**	**07 03 33.9**	**-1.4**
OKCE				*e*Sn	**Sn**	**07 03 53.8**	**-1.7**
OKSO	**Okmok South**	**1.10**	**89**	*e*Pn	**Pn**	**07 03 33.6**	**-1.7**
OKSO				*e*Sn	**Sn**	**07 03 53.3**	**-2.1**
OKTU	**Okmok Mt. Tuli**	**1.17**	**88**	*e*Pn	**Pn**	**07 03 35.1**	**-0.8**
OKFG	**Magazine Ridge**	**1.25**	**86**	*e*Pn	**Pn**	**07 03 35.1**	**-1.5**
OKFG				*e*Sn	**Sn**	**07 03 55.2**	**-2.6**
MGOD	**Makushin Gods**	**1.91**	**75**	*e*Pn	**Pn**	**07 03 42.3**	**-1.2**
MCIR	**Makushin Cirqu**	**1.94**	**71**	*e*Pn	**Pn**	**07 03 43.1**	**-0.7**
MSW	**Makushin Switc**	**1.99**	**72**	*e*Pn	**Pn**	**07 03 43.3**	**-1.1**
MSW				*e*Sn	**Sn**	**07 04 09.8**	**-2.0**
MTBL	**Makushin Table**	**2.07**	**71**	*e*Pn	**Pn**	**07 03 44.5**	**-0.8**
UNV	**Unalaska Valle**	**2.14**	**75**	*e*Pn	**Pn**	**07 03 45.0**	**-1.0**
UNV				*e*Sn	**Sn**	**07 04 12.2**	**-2.5**
AKRB	**Akutan Reef Bi**	**2.46**	**70**	*e*Pn	**Pn**	**07 03 49.2**	**-0.6**
AKMO	**Akutan Morgan**	**2.48**	**71**	*e*Pn	**Pn**	**07 03 49.6**	**-0.5**
AKMO				*e*Sn	**Sn**	**07 04 20.4**	**-1.5**
AKGG	**Akutan Green G**	**2.52**	**69**	P	**Pn**	**07 03 50.0**	**-0.6**
AKLV	**Akutan Long Va**	**2.53**	**70**	*e*Pn	**Pn**	**07 03 50.0**	**-0.8**
AKLV				*e*Sn	**Sn**	**07 04 20.7**	**-2.4**
AKUT	**Akutan**	**2.62**	**71**	*e*Pn	**Pn**	**07 03 51.2**	**-0.6**
AKUT				*e*Sn	**Sn**	**07 04 21.3**	**-3.8**
KOSE	**Korovin Southe**	**2.66**	**249**	*e*Pn	**Pn**	**07 03 53.1**	**+0.7**
AKSA	**Akutan Strait**	**2.67**	**71**	*e*Pn	**Pn**	**07 03 52.1**	**-0.3**
AKSA				*e*Sn	**Sn**	**07 04 23.8**	**-2.3**
KONE	**Korovin Northe**	**2.68**	**251**	*e*Pn	**Pn**	**07 03 53.2**	**+0.7**
KOFP	**Korovin Flat P**	**2.72**	**248**	*e*Pn	**Pn**	**07 03 54.0**	**+1.0**
KOKL	**Mount Kliuchef**	**2.75**	**250**	*e*Pn	**Pn**	**07 03 54.7**	**+1.1**
ATKA	**Atka Island**	**2.80**	**247**	*e*Pn	**Pn**	**07 03 53.7**	**-0.4**
ATKA				*e*Sn	**Sn**	**07 04 27.5**	**-1.5**
WESP	**Westdahl Peak**	**3.32**	**68**	*e*Pn	**Pn**	**07 04 00.8**	**+0.2**
WESE	**West Dahl East**	**3.39**	**68**	*e*Pn	**Pn**	**07 04 01.4**	**-0.1**
WESN	**West Dahl Nort**	**3.42**	**67**	*e*Pn	**Pn**	**07 04 01.7**	**-0.2**
SSLW	**Shishaldin Wes**	**3.74**	**65**	P	**Pn**	**07 04 05.2**	**-0.8**
SSLS	**Shishaldin Sou**	**3.79**	**67**	P	**Pn**	**07 04 06.7**	**0.0**
SSLN	**Shishaldin Nor**	**3.82**	**65**	*e*Pn	**Pn**	**07 04 07.1**	**+0.1**
SPIA	**Saint Paul Isl**	**3.84**	**358**	*e*Pn	**Pn**	**07 04 08.2**	**+1.0**
SPIA				*e*Sn	**Sn**	**07 04 51.5**	**-1.0**
ISLZ	**Isanotski Laza**	**3.95**	**67**	P	**Pn**	**07 04 08.4**	**-0.3**
DRIA	**Deer Island**	**4.82**	**67**	P	**Pn**	**07 04 18.9**	**-1.2**
DT1	**Dutton Round H**	**4.85**	**66**	*e*Pn	**Pn**	**07 04 19.6**	**-0.8**
DTNA	**Dutton South F**	**4.88**	**65**	*e*Pn	**Pn**	**07 04 20.5**	**-0.4**
DOL	**Dolgoi Island**	**5.09**	**66**	P	**Pn**	**07 04 22.8**	**-0.8**
PS4A	**Pavlof South-4**	**5.16**	**64**	P	**Pn**	**07 04 24.3**	**-0.2**
PVV	**Pavlof Volcano**	**5.21**	**64**	P	**Pn**	**07 04 24.7**	**-0.3**
SDPT	**Sand Point**	**5.91**	**66**	*e*Pn	**Pn**	**07 04 32.8**	**-1.6**
SDPT				*e*Sn	**Sn**	**07 05 37.1**	**-4.3**
VNWF	**Veniaminof 8**	**6.66**	**61**	P	**Pn**	**07 04 44.6**	**+0.2**
VNNF	**Veniaminof 3**	**6.83**	**60**	P	**Pn**	**07 04 46.4**	**-0.3**
VNHG	**Veniaminof 1**	**6.89**	**61**	P	**Pn**	**07 04 47.3**	**-0.1**
CHGN	**Chignik**	**7.31**	**62**	*e*Pn	**Pn**	**07 04 51.0**	**-1.9**
ANPB	**Aniakchak Plen**	**7.56**	**58**	*e*Pn	**Pn**	**07 04 55.1**	**-1.2**
ANPK	**Aniakchak Peak**	**7.65**	**58**	P	**Pn**	**07 04 56.9**	**-0.7**
ANNE	**Aniakchak Nort**	**7.71**	**58**	P	**Pn**	**07 04 58.1**	**-0.3**
PLK1	**Peulik 1**	**8.79**	**54**	P	**Pn**	**07 05 13.0**	**+0.4**
PLK4	**Peulik 4**	**8.84**	**56**	P	**Pn**	**07 05 13.1**	**-0.4**
PLK3	**Peulik 3**	**8.91**	**55**	P	**Pn**	**07 05 15.0**	**+0.7**
KELA	**Mount Kelaz**	**9.48**	**52**	P	**Pn**	**07 05 21.2**	**-0.6**
SMY	**Shemya**	**9.61**	**273**	*e*P	**Pn**	**07 05 23.9**	**+0.4**
SMY				*e*		07 09 09.8	
SMY	**Shemya**	**9.61**	**273**	*e*Pn	**Pn**	**07 05 23.9**	**+0.4**
SMY				*e*Sn	**Sn**	**07 07 09.8**	**-0.1**
KVTA	**Katmai Vly 10**	**9.67**	**53**	P	**Pn**	**07 05 23.7**	**-0.5**
KABR	**Katmai Barrier**	**9.72**	**55**	P	**Pn**	**07 05 24.1**	**-0.9**
KAKN	**Katmai Knife C**	**9.74**	**53**	P	**Pn**	**07 05 25.6**	**+0.2**
KAWH	**Katmai**	**9.91**	**53**	P	**Pn**	**07 05 26.6**	**-0.9**
KAHC	**Katmai Hardscr**	**9.92**	**52**	P	**Pn**	**07 05 28.7**	**+1.0**
OHAK	**Old Harbor**	**10.28**	**61**	*e*Pn	**Pn**	**07 05 27.8**	**-4.5**
KDAK	**Kodiak Island**	**10.80**	**59**	P	**Pn**	**07 05 35.0**	**-4.1**
	77nm,0.3s,baz=242,slow=5.4,SNR=288						
KDAK				S	Sn	07 07 27.1	-11
	7.8nm,0.3s,baz=217,slow=20,SNR=3.1						
KDAK	**Kodiak Island**	**10.80**	**59**	*c*P	**Pn**	**07 05 34.7**	**-4.4**
KDAK	**Kodiak Island**	**10.80**	**59**	*e*Pn	**Pn**	**07 05 35.1**	**-4.1**
KDAK				*e*Sn	**Sn**	**07 07 38.8**	**+0.3**
SVW2	**Sparrevohn**	**10.99**	**39**	*e*Pn	**Pn**	**07 05 41.9**	**+0.3**
RSO	**Redoubt South**	**11.78**	**46**	*e*Pn	**Pn**	**07 05 51.7**	**-0.5**
HOM	**Homer**	**11.92**	**51**	*e*Pn	**Pn**	**07 05 52.0**	**-1.6**
CNPM	**China Poot**	**12.05**	**52**	*e*Pn	**Pn**	**07 05 52.5**	**-3.0**
CNPM				*e*Sn	**S**	**07 08 16.9**	**-6.3**
TT01	**Tatalina**	**12.06**	**32**	*e*Pn	**Pn**	**07 05 55.9**	**+0.4**
TTA	**Tatalina**	**12.08**	**32**	*e*P	**Pn**	**07 05 56.4**	**+0.6**
TTA	**Tatalina**	**12.08**	**32**	*e*Pn	**Pn**	**07 05 56.4**	**+0.6**
BRLK	**Bradley Lake**	**12.31**	**51**	*e*Pn	**Pn**	**07 05 55.8**	**-3.0**
BRLK				*e*Sn	**S**	**07 08 21.9**	**-6.7**
SPU	**Mount Spurr**	**12.44**	**44**	*e*Pn	**Pn**	**07 06 01.4**	**+0.9**
SEW	**Seward**	**13.11**	**51**	*e*Pn	**Pn**	**07 06 05.2**	**-3.8**
SEW				*e*Sn	**Sn**	**07 08 37.5**	**+3.5**
SUA	**Susitna One**	**13.13**	**44**	*e*Pn	**Pn**	**07 06 08.9**	**-0.5**
SUA				*e*Sn	**Sn**	**07 08 38.7**	**+4.0**
PPLA	**Purkeypile**	**13.36**	**37**	*e*Pn	**Pn**	**07 06 13.6**	**+1.2**
RC01	**Rabbit Creek A**	**13.39**	**47**	*e*Pn	**Pn**	**07 06 11.4**	**-1.1**
CAST	**Castle Rocks**	**13.73**	**36**	*e*Pn	**Pn**	**07 06 17.8**	**+1.0**
PMR	**Palmer**	**13.87**	**45**	*e*P	**Pn**	**07 06 17.0**	**-1.6**
PMR	**Palmer**	**13.87**	**45**	*e*Pn	**Pn**	**07 06 17.0**	**-1.6**
KTH	**Kantishna Hill**	**14.22**	**37**	*e*Pn	**Pn**	**07 06 23.9**	**+0.9**
SML	**Sawmill**	**14.31**	**45**	*e*P	**Pn**	**07 06 21.1**	**-3.1**
SML	**Sawmill**	**14.31**	**45**	*e*Pn	**Pn**	**07 06 21.1**	**-3.1**
TRF	**Thorofare Moun**	**14.39**	**38**	*e*Pn	**Pn**	**07 06 24.7**	**-0.6**
MID	**Middleton Isla**	**14.39**	**56**	*e*P	**Pn**	**07 06 23.0**	**-2.1**
MID	**Middleton Isla**	**14.39**	**56**	*e*Pn	**Pn**	**07 06 23.0**	**-2.1**
GLI	**Glacier Island**	**14.48**	**50**	*e*Pn	**Pn**	**07 06 22.9**	**-3.4**
RND	**Reindeer**	**14.89**	**39**	*e*P	**Pn**	**07 06 30.3**	**-1.2**
RND	**Reindeer**	**14.89**	**39**	*e*Pn	**Pn**	**07 06 30.3**	**-1.2**
EYAK	**Cordova Ski Ar**	**14.99**	**52**	*e*Pn	**Pn**	**07 06 29.1**	**-3.6**
MCK	**McKinley**	**15.04**	**38**	*e*P	**Pn**	**07 06 32.7**	**-0.6**
MCK				pmax	pmax		
	comp=Z,140nm,0.8s						
MCK	**McKinley**	**15.04**	**38**	*e*Pn	**Pn**	**07 06 31.7**	**-1.6**
	comp=Z,141nm,0.8s						
DIV	**Divide**	**15.17**	**50**	*e*Pn	**Pn**	**07 06 31.4**	**-3.6**
	comp=Z,170nm,0.5s						
KLU	**Klutina**	**15.23**	**48**	*e*Pn	**Pn**	**07 06 31.1**	**-4.5**
	comp=Z,243nm,0.7s						
DHY	**Denali Highway**	**15.30**	**42**	*e*Pn	**Pn**	**07 06 35.1**	**-1.5**
	comp=Z,86nm,0.7s						
RAGM	**Ragged Mountai**	**15.46**	**53**	*e*Pn	**Pn**	**07 06 37.2**	**-1.2**
	comp=Z,150nm,0.6s						
BMRM	**Bremner River**	**15.66**	**51**	*e*Pn	**Pn**	**07 06 37.7**	**-3.2**
	comp=Z,166nm,0.6s						
WRH	**Wood River Hil**	**15.77**	**36**	*e*Pn	**Pn**	**07 06 40.2**	**-2.0**
	comp=Z,372nm,1.4s						
HARP	**HAARP**	**15.92**	**45**	*e*Pn	**Pn**	**07 06 42.7**	**-1.3**
	comp=Z,362nm,0.5s						
CCB	**Clear Creek Bu**	**15.97**	**36**	*e*Pn	**Pn**	**07 06 42.4**	**-2.2**
	comp=Z,106nm,0.6s						
MDM	**Murphy Dome**	**16.00**	**35**	*e*Pn	**Pn**	**07 06 43.6**	**-1.4**
	comp=Z,74nm,0.6s						
PAX	**Paxson**	**16.02**	**43**	*e*P	**Pn**	**07 06 43.7**	**-1.6**
PAX				pmax	pmax		
	comp=Z,120nm,0.6s						
PAX	**Paxson**	**16.02**	**43**	*e*Pn	**Pn**	**07 06 43.2**	**-2.1**
	comp=Z,119nm,0.6s						
COLA	**College**	**16.09**	**36**	*e*P	**Pn**	**07 06 44.7**	**-1.3**
COLA				pmax	pmax		
	comp=Z,150nm,0.7s						
COLA	**College**	**16.09**	**36**	*e*Pn	**Pn**	**07 06 44.2**	**-1.7**
	comp=Z,154nm,0.7s						
HDA	**Harding Lake**	**16.15**	**38**	*e*Pn	**Pn**	**07 06 44.3**	**-2.4**
	comp=Z,109nm,0.6s						
IL1	**Eielson Array**	**16.37**	**37**	*e*P	**P**	**07 06 46.7**	**-2.7**
ILAR	**Eielson Array**	**16.37**	**37**	P	**P**	**07 06 46.7**	**-2.8**
	comp=Z,9.6nm,0.3s,baz=240,slow=9.7,SNR=205						
ILAR				S	**S**	**07 09 49.0**	**-1.6**
	comp=Z,0.3nm,0.3s,baz=230,slow=14,SNR=3.6						
ILAR				ScP	**ScP**	**07 14 51.6**	**+0.4**
	comp=Z,0.7nm,0.3s,baz=296,slow=3.0,SNR=27						
ILB	**Eielson Array**	**16.37**	**37**	*e*P	**P**	**07 06 46.6**	**-2.8**
ILB				*e*S	**S**	**07 09 49.0**	**-1.6**
MENT	**Mentasta**	**16.74**	**45**	*e*P	**P**	**07 06 50.9**	**-2.6**
	comp=Z,162nm,0.7s						
DOT	**Dot Lake**	**16.89**	**42**	*e*P	**P**	**07 06 52.6**	**-2.6**
	comp=Z,155nm,0.8s						
COLD	**Coldfoot**	**16.89**	**27**	*e*Pn	**Pn**	**07 06 56.1**	**+0.4**
	comp=Z,800nm,2.0s						
PCA	**Pinnacle**	**17.54**	**56**	*e*P	**P**	**07 07 02.8**	**+0.4**
	comp=Z,376nm,0.6s						
FYU	**Fort Yukon**	**17.95**	**33**	*e*P	**P**	**07 07 06.7**	**0.0**
	comp=Z,746nm,1.6s						
TOLK	**Toolik Lake Re**	**18.09**	**24**	P	**Pn**	**07

comp=Z,53nm,1.0s
B05A Bryant 30.22 80 P P 07 09 06.4 +2.0
baz=298,SNR=25
JCW Jim Creek 30.36 80 *e*P P 07 09 07.5 +1.9
B06A Marblemount 30.47 79 *e*P P 07 09 07.7 +1.2
comp=Z,42nm,0.8s
YSS Yuzh-Sakhalins 30.48 277⇑ *i*P P 07 09 07.7 +1.1
YSS pmax pmax
comp=Z,27nm,1.2s
HTW Haystack Looko 30.64 81 *e*P P 07 09 09.9 +1.8
F04D Rainier, OR 30.75 84 P P 07 09 10.6 +1.5
baz=302
D05A Enumclaw 30.80 82 *e*P P 07 09 12.1 +2.6
comp=Z,122nm,0.8s
G03D McMinnville, O 31.06 86 P P 07 09 14.1 +2.3
baz=303
C06D Leavenworth 31.09 80 P P 07 09 13.7 +1.6
baz=299
LON Longmire 31.13 82 *e*P P 07 09 14.6 +2.1
LON pmax pmax
comp=Z,44nm,0.7s
LON Longmire 31.13 82 *e*P P 07 09 14.5 +2.1
comp=Z,44nm,0.7s
F04A Amboy 31.18 84 *e*P P 07 09 14.6 +1.7
comp=Z,47nm,0.8s
PNT Penticton 31.19 77 *e*P P 07 09 14.5 +1.5
PNT Penticton 31.19 77 *e*P P 07 09 14.5 +1.5
COR Corvallis 31.37 87 *e*P P 07 09 17.3 +2.8
COR pmax pmax
comp=Z,53nm,1.0s
COR Corvallis 31.37 87 *e*P P 07 09 16.9 +2.3
comp=Z,53nm,0.9s
TWW Teanaway 31.49 81 P P 07 09 17.8 +2.1
LTY Liberty 31.55 81 *e*P P 07 09 17.5 +1.3
comp=Z,59nm,1.3s
ETW Entiat 31.58 80 *e*P P 07 09 18.1 +1.5
TIXI Tiksi 31.70 328 P P 07 09 17.8 +0.7
comp=Z,9.3nm,0.7s,baz=107,slow=11,SNR=12
TIXI ScP ScP 07 15 32.8 +0.1
comp=Z,16nm,0.9s,baz=104,slow=3.4,SNR=13
TIXI LR LR 07 23 20.7
comp=Z,205nm,19.3s,baz=82,slow=38
TIXI Tiksi 31.70 328*d* *i*P P 07 09 17.3 +0.2
TIXI pmax pmax
comp=Z,23nm,1.2s
NAC Naches 31.72 82 P P 07 09 19.5 +1.9
WTV Waterville 31.76 80 *e*P P 07 09 19.1 +1.1
B08A Colville Reser 31.81 78 *e*P P 07 09 19.9 +1.5
comp=Z,95nm,0.8s
I03D Drain, OR 31.84 88 P P 07 09 20.7 +2.0
baz=305,SNR=5.5
SAW Saint Andrews 32.08 79 P P 07 09 21.9 +1.1
G05D Wamic, OR 32.21 85 P P 07 09 23.7 +1.8
baz=303,SNR=13
YAK Yakutsk 32.25 310⇑ *i*P P 07 09 23.1 +1.2
YAK pmax pmax
comp=Z,173nm,0.5s
I04A Tendick Farm, 32.35 88 P P 07 09 24.7 +1.5
baz=305,SNR=14
E07A Sunnyside 32.39 81 *e*P P 07 09 25.0 +1.5
comp=Z,42nm,0.8s
MDW Midway 32.41 81 *e*P P 07 09 25.3 +1.6
MDW Midway 32.41 81 *e*P P 07 09 25.3 +1.6
L02D Cave Junction, 32.58 91 P P 07 09 27.5 +2.4
baz=307,SNR=6.4
G06A Carlson Farm, 32.62 84 *e*P P 07 09 26.9 +1.4
comp=Z,23nm,1.0s
HAWA Hanford 32.66 81 *e*P P 07 09 27.5 +1.7
comp=Z,114nm,0.7s
I05D Terrebonne, OR 32.69 86 P P 07 09 27.7 +1.6
baz=304,SNR=22
D08A Wollman Farm, 32.69 80 *e*P P 07 09 27.1 +1.1
comp=Z,59nm,1.0s
HUMO Hull Mountain 32.70 90 *e*P P 07 09 27.7 +1.5
comp=Z,23nm,1.4s
KRMB Red Mountain 32.77 92 *e*P P 07 09 28.5 +1.5
comp=Z,18nm,0.8s
J04D Umpqua Nationa 32.84 88 P P 07 09 29.4 +1.7
baz=305,SNR=18
ERM Erimo 32.94 269 *e*P P 07 09 30.6 +2.4
ERM pmax pmax
comp=Z,14nm,0.9s
EDM Edmonton 33.10 67 *e*P P 07 09 30.6 +1.1
EDM pmax pmax
comp=Z,200nm,0.7s
EDM Edmonton 33.10 67 *e*P P 07 09 30.6 +1.1
comp=Z,196nm,0.6s
NEW Newport 33.15 77 P P 07 09 31.1 +1.1
comp=Z,83nm,0.5s,baz=299,slow=8.4,SNR=317
NEW ScP ScP 07 15 39.8 +1.6
comp=Z,4.8nm,0.8s,baz=247,slow=4.2,SNR=7.4
NEW Newport 33.15 77 P P 07 09 31.1 +1.1
baz=300,SNR=101
NEW Newport 33.15 77 *e*P P 07 09 31.2 +1.1
NEW pmax pmax
comp=Z,89nm,0.7s
NEW Newport 33.15 77 *e*P P 07 09 31.2 +1.1
comp=Z,89nm,0.7s
KHMM Horse Mountain 33.27 93 *e*P P 07 09 33.9 +2.6
comp=Z,40nm,0.7s
J05D Fort Rock, OR 33.34 87 P P 07 09 34.0 +2.1
baz=305,SNR=33
YBH Yreka Blue Hor 33.36 91 *e*P P 07 09 34.5 +2.5
YBH pmax pmax
comp=Z,39nm,1.6s
YBH Yreka Blue Hor 33.36 91 *e*P P 07 09 34.5 +2.5
comp=Z,39nm,1.6s
K04D Chiloquin, OR 33.41 89 P P 07 09 34.0 +1.5
baz=306
E09A Wood Farm, Sta 33.42 80 *e*P P 07 09 33.6 +1.2
M02C Callahan 33.48 92 P P 07 09 35.7 +2.7
baz=308,SNR=7.7
KMRM Mail Ridge 33.69 94 *e*P P 07 09 37.5 +2.7
comp=Z,34nm,0.7s
N02D Trinity Center 33.83 92 P P 07 09 38.2 +2.2
baz=308,SNR=11
M04C Macdoel 33.86 90 P P 07 09 38.0 +1.7
baz=307,SNR=12
K05A Summer Lake 33.87 88 *e*P P 07 09 38.6 +2.1
comp=Z,98nm,1.4s
KCPM Cahto Peak 34.10 95 *e*P P 07 09 40.8 +2.4
comp=Z,23nm,0.7s
WDC Whiskeytown Da 34.17 92 *e*P P 07 09 41.3 +2.4
WDC pmax pmax
comp=Z,14nm,0.8s
WDC Whiskeytown Da 34.17 92 *e*P P 07 09 41.3 +2.4
comp=Z,14nm,0.8s
F10A Beach Ranch, E 34.25 81 *e*P P 07 09 40.6 +1.0
comp=Z,35nm,0.8s
HABR Khabarovsk 34.26 285 *e*P P 07 09 38.3 -1.3
HABR *e**PP pP 07 10 10.5 -2.5
HABR *e**SP sP 07 10 28.0 -3.0
HABR *e* 07 10 58.2
HABR *e*S S 07 14 54.6 +0.1
HABR *e**SS sS 07 15 51.8 -1.5
HABR *e* 07 19 44.7
HABR pmax pmax
comp=N,16nm,1.2s
HABR pmax pmax
comp=E,10.0nm,0.6s
HABR pmax pmax
comp=Z,59nm,1.2s
HABR MLR MLR
comp=Z,173nm,18.0s
WALA Waterton Lakes 34.62 74 *e*P P 07 09 44.0 +1.1
comp=Z,57nm,0.9s
MOD Modoc Plateau 34.71 89 *e*P P 07 09 45.6 +1.9
comp=Z,22nm,0.6s
BSMT Bassoo Peak 34.71 76 *e*P P 07 09 44.9 +1.2
BMO Blue Mountains 34.81 82 *e*P P 07 09 45.6 +1.2
BMO pmax pmax
comp=Z,36nm,1.1s
BMO Blue Mountains 34.81 82 *e*P P 07 09 45.6 +1.2
comp=Z,36nm,1.1s
BLMT Blacktail Moun 34.88 76 *e*P P 07 09 46.3 +1.2
JTMT Jette 35.06 76 *e*P P 07 09 47.7 +1.1
GDXM Geysers 35.13 95 *e*P P 07 09 47.6 +0.3
comp=Z,35nm,1.1s
YBMT Yellow Bay 35.16 76 *e*P P 07 09 48.4 +1.0
SWMT Swartz Lake 35.34 76 *e*P P 07 09 49.7 +0.7
WVOR Wild Horse Val 35.39 87 *e*P P 07 09 51.1 +1.6
WVOR pmax pmax
comp=Z,34nm,0.8s
WVOR Wild Horse Val 35.39 87 *e*P P 07 09 50.6 +1.1
comp=Z,34nm,0.8s
ORV Oroville 35.43 93 *e*P P 07 09 50.9 +1.2
ORV pmax pmax
comp=Z,8.0nm,0.6s
ORV Oroville 35.43 93 *e*P P 07 09 50.9 +1.2
comp=Z,8.0nm,0.6s
MSO Missoula 35.73 77 P P 07 09 52.7 +0.4
baz=302,SNR=42
MSO Missoula 35.73 77 *e*P P 07 09 53.1 +0.8
comp=Z,32nm,0.8s
SLMT Seeley Lake 35.78 76 *e*P P 07 09 53.3 +0.6
KLR Kul'dur 35.79 288⇑ *i*P P 07 09 53.0 +0.3
CHMT Chamberlain Mo 36.09 77 *e*P P 07 09 55.9 +0.4
AFDM Forest Hills D 36.13 93 *e*P P 07 09 57.0 +1.3
comp=Z,25nm,1.4s
MFID Camas Ranch 36.50 83 *e*P P 07 09 59.8 +0.9
comp=Z,22nm,0.8s
PAHR Pah Rah Range 36.60 91 *e*P P 07 10 01.5 +1.6
comp=Z,31nm,0.7s
PNTR Pine Nut 36.86 92 *e*P P 07 10 04.2 +2.0
comp=Z,105nm,0.6s
HRY Holter Researc 37.02 76 *e*P P 07 10 04.1 +0.8
CMB Columbia Colle 37.07 94 *e*P P 07 10 05.4 +1.7
CMB pmax pmax
comp=Z,25nm,1.3s
CMB Columbia Colle 37.07 94 *e*P P 07 10 05.4 +1.7
comp=Z,25nm,1.3s
LRM Limekiln Ridge 37.14 78 *e*P P 07 10 05.0 +0.5
YERR Yerington 37.15 92 *e*P P 07 10 06.3 +1.8
comp=Z,33nm,0.7s
HLID Hailey 37.25 82 P P 07 10 06.5 +1.2
baz=306,SNR=59
HLID Hailey 37.25 82 *e*P P 07 10 06.3 +1.0
comp=Z,29nm,0.7s
SAO San Andreas Ge 37.28 96 *e*P P 07 10 07.5 +2.1
SAO pmax pmax
comp=Z,31nm,1.1s
SAO San Andreas Ge 37.28 96 *e*P P 07 10 07.3 +1.9
comp=Z,31nm,1.1s
DLMT Dillon 37.31 78 *e*P P 07 10 06.2 +0.5
comp=Z,57nm,1.6s
WAKR Walker 37.34 93 *e*P P 07 10 08.2 +2.1
comp=Z,41nm,0.6s
BMN Battle Mountai 37.45 88 *e*P P 07 10 09.3 +2.3
BMN pmax pmax
comp=Z,65nm,1.6s
BMN Battle Mountai 37.45 88 *e*P P 07 10 09.3 +2.3
comp=Z,65nm,1.6s
MCMT McKenzie Canyo 37.46 79 *e*P P 07 10 08.0 +0.9
EGMT Eagleton 37.53 73 P P 07 10 07.9 +0.3
baz=302,SNR=59
EGMT Eagleton 37.53 73 *e*P P 07 10 08.2 +0.6
comp=Z,95nm,0.9s
BGMT Barton Gulch 37.71 78 *e*P P 07 10 09.9 +0.7
BOZ Bozeman (W) 37.75 78 P P 07 10 10.0 +0.6
baz=304,SNR=122
BOZ Bozeman (W) 37.75 78 *e*P P 07 10 10.2 +0.7
BOZ pmax pmax
comp=Z,64nm,0.6s
BOZ Bozeman (W) 37.75 78 *e*P P 07 10 10.2 +0.7
comp=Z,64nm,0.6s
TVH1 TV Hill, Hawth 37.77 92 *e*P P 07 10 11.7 +1.7
comp=Z,34nm,0.6s
TVH3 East Aurora ar 37.80 92 *e*P P 07 10 11.9 +1.9
comp=Z,16nm,0.7s
TVH2 Borealis Mine 37.83 92 *e*P P 07 10 12.3 +2.1
comp=Z,32nm,1.4s
H11N2 WAKE ISLAND Hy 38.00 217 T T 07 50 27.0
baz=25,slow=76,SNR=85
H11N3 WAKE ISLAND Hy 38.01 217 T T 07 50 21.3
baz=25,slow=76,SNR=88
H11N1 WAKE ISLAND Hy 38.02 217 T T 07 50 29.2
baz=25,slow=76,SNR=100
PMPB Monarch Peak 38.03 97 *e*P P 07 10 13.7 +1.9
comp=Z,54nm,1.1s
MLAC Mammoth, Mammo 38.26 93 P P 07 10 16.5 +2.5
baz=312,SNR=14
QLMT Earthquake Lak 38.29 78 *e*P P 07 10 14.9 +0.8
USRK Ussuriysk Ar. 38.33 280 PcP PcP 07 12 25.4 +0.9
comp=Z,4.7nm,0.5s,baz=63,slow=1.3,SNR=9.8
USRK ScP ScP 07 15 58.2 +1.0
comp=Z,5.1nm,0.7s,baz=52,slow=5.6,SNR=6.8
YHB Horse Butte 38.47 78 *e*P P 07 10 16.5 +0.9
comp=Z,68nm,0.7s
FFC Flin Flon 38.54 60 *e*P P 07 10 15.6 -0.1
FFC *e*S S 07 15 59.8 +0.3
FFC pmax pmax
comp=Z,54nm,0.7s
FFC Flin Flon 38.54 60 *e*P P 07 10 15.6 -0.1
comp=Z,54nm,0.6s
YHH Hones Hill 38.66 78 *e*P P 07 10 18.0 +0.8
comp=Z,79nm,0.5s
YMR Madison River 38.66 78 *e*P P 07 10 18.1 +0.9
comp=Z,64nm,0.7s
PAGB Antelope Grade 38.69 97 *e*P P 07 10 19.2 +1.9
comp=Z,40nm,0.7s
YPM Purple Mountai 38.72 78 *e*P P 07 10 19.1 +1.4
GCMT Greycliff 38.78 76 *e*P P 07 10 19.2 +1.1
YNR Norris Junctio 38.80 78 *e*P P 07 10 20.1 +1.7
comp=Z,53nm,0.8s
MCID Moose Creek 38.80 79 *e*P P 07 10 19.7 +1.4
YFT Old Faithful 38.86 79 *e*P P 07 10 20.6 +1.8
comp=Z,33nm,0.7s
RCTC Rector, Farmer 38.90 95 P P 07 10 20.2 +1.3
baz=313,SNR=5.9
YPP Pitchstone Pla 38.98 79 *e*P P 07 10 21.6 +1.6
comp=Z,22nm,1.2s
TIN Tinemaha, Big 39.01 93 P P 07 10 22.1 +2.1
baz=312,SNR=7.1
YLT Little Thumb C 39.01 78 *e*P P 07 10 22.8 +2.6
VLA Vladivostok 39.02 279⇑ *i*P P 07 10 19.6 -0.3
VLA pmax pmax
comp=Z,20nm,0.7s
H17A Grant Village 39.04 78 P P 07 10 22.5 +2.2
baz=305,SNR=52
H17A Grant Village 39.04 78 *e*P P 07 10 22.6 +2.3
comp=Z,44nm,0.7s
LKWY Lake 39.05 78 *e*P P 07 10 22.6 +2.2
LKWY pmax pmax
comp=Z,67nm,0.7s
LKWY Lake 39.05 78 *e*P P 07 10 22.0 +1.5
comp=Z,66nm,0.7s
IMW Indian Meadow 39.11 79 *e*P P 07 10 22.2 +1.2
comp=Z,38nm,1.0s
IMW *e*S S 07 16 04.0 -4.8
SMMC Simmler 39.12 97 P P 07 10 22.6 +1.7
baz=314
H11S1 WAKE ISLAND Hy 39.20 216 T T 07 52 12.7
baz=23,slow=76,SNR=576
H11S2 WAKE ISLAND Hy 39.21 216 T T 07 52 01.2
baz=23,slow=76,SNR=648
YTP The Promontory 39.21 78 *e*P P 07 10 23.2 +1.4
H11S3 WAKE ISLAND Hy 39.21 216 T T 07 52 13.9
baz=23,slow=76,SNR=526
HVU Hansel Valley 39.28 83 *e*P P 07 10 23.5 +1.2
HVU pmax pmax
comp=Z,32nm,0.8s
HVU Hansel Valley 39.28 83 *e*P P 07 10 23.5 +1.2
comp=Z,32nm,0.8s
VES Vestal, Richgr 39.31 95 P P 07 10 23.4 +1.0
baz=313,SNR=36
MOOW Moose Ponds 39.31 79 *e*P P 07 10 23.6 +1.0
comp=Z,13nm,0.9s
TPAW Teton Pass 39.34 80 *e*P P 07 10 24.2 +1.3
comp=Z,21nm,0.7s
MJAR Matsushiro Arr 39.37 266 P P 07 10 21.8 -1.1
comp=Z,1.5nm,0.5s,baz=39,slow=7.9,SNR=5.6
MJAR pP pP 07 10 56.2 -0.9
comp=Z,5.4nm,0.9s,baz=47,slow=7.7,SNR=4.4
MJAR PcP PcP 07 12 28.2 +0.3
comp=Z,8.5nm,1.1s,baz=0.8,slow=2.6,SNR=6.8
MJAR ScP ScP 07 16 01.9 +0.5
comp=Z,12nm,0.9s,baz=54,slow=3.5,SNR=16
MJAR Matsushiro Arr 39.37 266 P P 07 10 21.8 -1.1
MJAR *PP pP 07 10 56.2 -0.9
MJAR 07 12 28.2
MJAR pmax pmax
comp=Z,1.0nm,0.3s
MAJO Matsushiro 39.37 266 *i* P P 07 10 21.7 -1.2
MAJO pmax pmax
comp=Z,208nm,1.7s
MAT Matsushiro 39.37 266 P P 07 10 22.3 -0.6
RLMT Red Lodge 39.39 77 P P 07 10 23.9 +0.7
baz=305,SNR=44
RLMT Red Lodge 39.39 77 *e*P P 07 10 24.4 +1.1
comp=Z,46nm,0.8s
SNOW Snow King Moun 39.48 80 *e*P P 07 10 25.4 +1.4
comp=Z,17nm,0.6s
LOHW Long Hollow 39.48 79 *e*P P 07 10 24.9 +0.9
comp=Z,20nm,0.8s
REDW Red Top Meadow 39.48 80 *e*P P 07 10 25.3 +1.3
comp=Z,115nm,1.8s
CWC Cottonwood Cre 39.51 94 P P 07 10 25.8 +1.6
baz=312
MTUT Morton Thiokol 39.51 83 *e*P P 07 10 25.6 +1.4
PKM Mcpherson Peak 39.52 97 P P 07 10 25.8 +1.4
baz=314,SNR=10
GRAC Grapevine Rang 39.56 93 P P 07 10 26.3 +1.8
baz=312,SNR=16
BGU Big Grassy Mou 39.65 85 *e*P P 07 10 26.2 +0.9
comp=Z,24nm,0.9s
BEI Bear River Ran 39.67 82 *e*P P 07 10 27.0 +1.5
R11A Troy Canyon, C 39.74 90 P P 07 10 27.2 +1.0
baz=311,SNR=35
R11A Troy Canyon, C 39.74 90 *e*P P 07 10 27.1 +1.0
comp=Z,43nm,1.3s
SPUT South Promonto 39.76 84 *e*P P 07 10 27.1 +0.8
comp=Z,32nm,1.2s
MSHR Mys Shultsa 39.77 279 *c* *i*P P 07 10 26.2 +0.1
ISA Isabella, Lake 39.79 95 P P 07 10 27.4 +0.9
baz=313,SNR=6.0
ISA Isabella, Lake 39.79 95 *e*P P 07 10 27.5 +1.0
ISA pmax pmax
comp=Z,25nm,1.1s
ISA Isabella, Lake 39.79 95 *e*P P 07 10 27.5 +1.0
comp=Z,25nm,1.1s
HDU Hyde Park 39.87 83 *e*P P 07 10 28.0 +0.8
SBC Santa Barbara 39.89 98 P P 07 10 27.8 +0.6
baz=314
DAC Darwin (Calif) 39.91 94 *e*P P 07 10 29.1 +1.6
DAC pmax pmax
comp=Z,24nm,0.6s
DAC Darwin (Calif) 39.91 94 *e*P P 07 10 29.1 +1.6
comp=Z,24nm,0.6s
ARVC Arvin 39.95 96 P P 07 10 28.6 +1.0
baz=314
BMUT Black Mountain 40.09 82 *e*P P 07 10 29.8 +0.7
HWUT Hardware Ranch 40.10 83 *e*P P 07 10 30.2 +1.1
comp=Z,22nm,0.9s
MPMC Manual Prospec 40.12 94 P P 07 10 30.5 +1.2
baz=313,SNR=19
FURC Furnace Creek, 40.22 93 P P 07 10 31.4 +1.6
baz=312,SNR=33
MCU Monte Cristo P 40.23 83 *e*P P 07 10 31.5 +1.2
DUG Dugway, Tooele 40.23 85 P P 07 10 31.0 +0.9
baz=309,SNR=51
DUG Dugway, Tooele 40.23 85 *e*P P 07 10 31.4 +1.3
DUG pmax pmax
comp=Z,56nm,1.2s
DUG Dugway, Tooele 40.23 85 *e*P P 07 10 31.4 +1.3
comp=Z,56nm,1.2s
BSC Santa Cruz Isl 40.25 98 P P 07 10 31.6 +1.4
baz=315
TPNV Topopah Spring 40.26 92 P P 07 10 31.7 +1.2
baz=312,SNR=68
TPNV Topopah Spring 40.26 92 *e*P P 07 10 31.9 +1.4
TPNV pmax pmax
comp=Z,43nm,0.7s
TPNV Topopah Spring 40.26 92 *e*P P 07 10 31.8 +1.4
comp=Z,43nm,0.7s
LAO LASA Array 40.27 73 P P 07 10 31.4 +1.1
baz=304,SNR=46
LAO LASA Array 40.27 73 *e*P P 07 10 31.4 +1.1
comp=Z,71nm,0.6s
OSI Osito Audit: C 40.36 97 P P 07 10 32.0 +0.9
baz=314
LRMC Laurel Mtn Rad 40.39 95 P P 07 10 32.1 +0.6
baz=313,SNR=13
DGMT Dagmar 40.45 69 P P 07 10 32.2 +0.6
baz=303,SNR=27
DGMT Dagmar 40.45 69 *e*P P 07 10 32.2 +0.6
comp=Z,61nm,0.7s
BLG Laguna Peak, P 40.51 97 P P 07 10 33.6 +1.3
baz=315
BW06 Boulder Array 40.59 80 P P 07 10 33.7 +0.6
baz=307,SNR=84
BW06 Boulder Array 40.59 80 *e*P P 07 10 33.9 +0.7
PD31 Pinedale Array 40.59 80 *e*P P 07 10 33.8 +0.6
PDAR Pinedale Array 40.59 80 P P 07 10 33.9 +0.6
comp=Z,54nm,0.7s,baz=296,slow=3.9,SNR=357
FCC Fort Churchill 40.61 51 *e*P P 07 10 33.0 +0.3
FCC pmax pmax
comp=Z,32nm,0.8s
FCC Fort Churchill 40.61 51 *e*P P 07 10 32.8 0.0
comp=Z,32nm,0.8s
EDW2 Edwards Air Fo 40.61 96 P P 07 10 34.3 +1.1
baz=314,SNR=9.3
JLU Jordanelle 40.79 84 *e*P P 07 10 35.0 +0.2
comp=Z,30nm,0.9s
NLU North Lily Min 40.82 85 *e*P P 07 10 36.1 +1.0
comp=Z,23nm,0.8s
SNCC San Nicolas Is 40.84 99 P P 07 10 36.2 +1.2
baz=315
DECC Green Verdugo 40.84 97 P P 07 10 35.6 +0.5
baz=314
SHOC Shoshone, Teco 40.95 93 P P 07 10 37.1 +1.2
baz=313,SNR=34
SBI Santa Barbara 40.97 98 *e*P P 07 10 36.3 +0.3
PASC Pasadena Art C 40.99 97 *e*P P 07 10 37.3 +1.1
comp=Z,16nm,0.8s
MWC Mount Wilson 41.03 96 *e*P P 07 10 38.3 +1.5
MWC pmax pmax
comp=Z,61nm,1.4s
MWC Mount Wilson 41.03 96 *e*P P 07 10 38.3 +1.5
comp=Z,61nm,1.4s
GSC Goldstone, Bar 41.04 94 P P 07 10 37.7 +1.0
baz=313,SNR=50
GSC Goldstone, Bar 41.04 94 *e*P P 07 10 38.2 +1.5
GSC pmax pmax
comp=Z,49nm,1.0s
GSC Goldstone, Bar 41.04 94 *e*P P 07 10 38.2 +1.5
comp=Z,48nm,1.0s
BOD Bodaibo 41.09 308 *e*P P 07 10 35.3 -1.4
BOD pmax pmax
comp=Z,30nm,1.6s
SHPR Sheep Range 41.21 91 *e*P P 07 10 39.4 +1.2
comp=Z,15nm,1.1s
RRX Edison Barstow 41.21 95 P P 07 10 39.4 +1.3
baz=314
FMP Fort Macarthur 41.24 97 P P 07 10 39.1 +0.9
baz=315
BFSC Mount Baldy Ra 41.26 96 P P 07 10 39.8 +1.2
baz=314,SNR=34
LEVU Levan 41.26 85 *e*P P 07 10 40.0 +1.4
CIS Catalina Islan 41.39 98 P P 07 10 40.2 +0.7
baz=315
TUQ Turquoise Moun 41.47 93 P P 07 10 41.5 +1.2
baz=313,SNR=13
CCUT Cedar City 41.60 89 *e*P P 07 10 41.8 +0.3
comp=Z,48nm,1.4s
SCI San Clemente I 41.61 98 P P 07 10 43.3 +2.1
baz=316
HEC Hector,Ludlow 41.64 94 P P 07 10 42.8 +1.1
baz=314,SNR=29
BBRC Big Bear Solar 41.68 95 P P 07 10 43.2 +1.1
baz=314,SNR=22
MSU Marysvale 41.68 87 *e*P P 07 10 43.6 +1.5
MSU Marysvale 41.68 87 *e*P P 07 10 43.6 +1.5
SZCU Shurtz Canyon 41.73 89 *e*P P 07 10 43.7 +1.2
comp=Z,22nm,1.2s
TMUT Trail Mountain 41.76 85 *e*P P 07 10 44.2 +1.4
comp=Z,51nm,0.8s
ARGU Argyle Ridge 41.82 84 *e*P P 07 10 44.9 +1.5
MURC Murrieta 41.98 96 P P 07 10 44.9 +0.6
baz=315
MTPU Mount Pierson 41.98 87 *e*P P 07 10 46.2 +1.5
comp=Z,47nm,1.2s
LCMT Little Creek M 42.02 89 *e*P P 07 10 46.0 +1.2
comp=Z,54nm,1.3s
GMRC Granite Mounta 42.08 94 P P 07 10 46.0 +0.8
baz=314,SNR=29
P18A Preston Nutter 42.12 84 *e*P P 07 10 46.9 +1.2
comp=Z,41nm,1.0s
LDFC Landfair 42.20 93 *e*P P 07 10 47.4 +1.2
comp=Z,92nm,1.0s
KNB Kanab 42.27 89 *e*P P 07 10 48.8 +2.0
KNB pmax pmax
comp=Z,49nm,1.3s
KNB Kanab 42.27 89 *e*P P 07 10 48.4 +1.5
comp=Z,49nm,1.3s
SRU San Rafael Swe 42.28 85 *e*P P 07 10 48.2 +1.3
SRU pmax pmax
comp=Z,53nm,1.0s
SRU San Rafael Swe 42.28 85 *e*P P 07 10 48.0 +1.0
comp=Z,53nm,1.0s
PKCU Pink Cliffs 42.30 88 *e*P P 07 10 48.9 +1.6

comp=Z,34nm,1.3s
CN2 Changchun 42.40 284 *e*P P 07 10 46.3 -1.2
CN2 *es*P sP 07 11 40.0 +0.2
CN2 *e*S **S** **07 16 53.8 -3.0**
CN2 SS **SS** **07 20 01.3 -10**
CN2 pmax pmax
comp=Z,10.0nm,0.5s
PFO Pinyon Flats O 42.41 96 P P 07 10 48.9 +1.0
comp=Z,12nm,0.6s,baz=320,slow=7.1,SNR=26
PFO pP **pP** **07 11 21.4 -1.0**
PFO comp=Z,14nm,1.1s,baz=326,slow=8.0,SNR=4.1 ScP **ScP** **07 16 14.7 +1.1**
comp=Z,1.8nm,0.8s,baz=298,slow=4.2,SNR=4.7
PFO Pinyon Flats O 42.41 96 P P 07 10 48.9 +1.0
baz=315,SNR=7.2
BELC Belle Mtn. Jos 42.41 95 P P 07 10 48.7 +0.7
baz=314,SNR=14
MMU Miners Mountai 42.41 86 *e*P P 07 10 49.6 +1.5
TPFO Pinon Flats 42.41 96 P P 07 10 48.7 +0.7
baz=315,SNR=6.4
EKU East Kanab 42.43 89 *e*P P 07 10 49.9 +1.8
K22A Casper 42.45 78 P P 07 10 48.3 +0.1
baz=308,SNR=37
K22A Casper 42.45 78 *e*P P 07 10 48.3 +0.1
comp=Z,55nm,0.6s
109C Camp Elliot, M 42.53 97 P P 07 10 49.8 +1.1
baz=315,SNR=5.2
CPE Camp Elliot 42.53 97 *e*P P 07 10 45.9 -2.8
RWWY Rawlins 42.63 80 *e*P P 07 10 50.0 +0.2
comp=Z,58nm,0.8s
IRM Iron Mountain 42.81 94 P P 07 10 52.0 +0.9
baz=314,SNR=22
W13A Hualapai Mount 42.92 92 *e*P P 07 10 53.3 +1.2
comp=Z,45nm,1.1s
MONP Monument Peak, 42.93 96 P P 07 10 53.5 +1.3
baz=315
BC3 Big Chuckawall 42.98 95 P P 07 10 53.0 +0.5
baz=315,SNR=9.5
U15A North Rim 42.98 89 *e*P P 07 10 54.2 +1.5
comp=Z,50nm,0.9s
O20A White River Ci 42.99 82 P P 07 10 52.9 +0.3
baz=310,SNR=92
O20A White River Ci 42.99 82 *e*P P 07 10 53.3 +0.7
comp=Z,122nm,0.7s
RSSD Black Hills 43.01 75 P P 07 10 52.8 0.0
baz=307
RSSD Black Hills 43.01 75 *e*P P 07 10 52.9 +0.1
RSSD pmax pmax
comp=Z,32nm,0.7s
RSSD Black Hills 43.01 75 *e*P P 07 10 52.9 +0.1
comp=Z,32nm,0.6s
SWSC Sam W. Stewart 43.27 96 P P 07 10 55.9 +1.3
baz=315
IKP In-Ko-Pah, Jac 43.29 96 P P 07 10 56.3 +1.3
baz=316,SNR=6.4
PDMCI Parker Dam,Lak 43.31 93 P P 07 10 55.9 +0.9
baz=314,SNR=20
MDND Maddock 43.35 68 P P 07 10 55.5 +0.3
baz=305,SNR=14
MDND Maddock 43.35 68 *e*P P 07 10 55.9 +0.7
comp=Z,133nm,0.9s
Y12C Blythe 43.47 94 P P 07 10 57.4 +1.1
baz=314,SNR=27
Y12C Blythe 43.47 94 *e*P P 07 10 57.5 +1.2
comp=Z,76nm,1.2s
PV09 Paradox Valley 43.51 85 *e*P P 07 10 57.6 +0.7
PV10 Paradox Valley 43.65 85 *e*P P 07 10 59.2 +1.3
PV04 Paradox Valley 43.71 84 *e*P P 07 10 58.9 +0.5
GLA Glamis 43.77 95 P P 07 10 59.9 +1.1
baz=315,SNR=14
GLA Glamis 43.77 95 *e*P P 07 11 00.1 +1.3
GLA pmax pmax
comp=Z,65nm,1.2s
GLA Glamis 43.77 95 *e*P P 07 11 00.1 +1.3
comp=Z,64nm,1.3s
PV05 Paradox Valley 43.80 85 *e*P P 07 10 59.9 +0.7
N23A Red Feather La 43.87 80 P P 07 11 00.4 +0.7
baz=309,SNR=30
N23A Red Feather La 43.87 80 *e*P P 07 11 00.5 +0.7
comp=Z,59nm,1.0s
PHWY Pilot Hill 43.91 79 *e*P P 07 11 00.1 0.0
comp=Z,24nm,0.8s
ULM Lac du Bonnet 44.03 63 P P 07 11 00.4 -0.1
comp=Z,35nm,0.6s,baz=304,slow=8.1,SNR=53
ULM ScP **ScP** **07 16 20.5 +0.8**
comp=Z,7.3nm,0.6s,baz=294,slow=4.6,SNR=10
ULM Lac du Bonnet 44.03 63 *e*P P 07 11 00.4 -0.1
ULM pmax pmax
comp=Z,290nm,1.8s
ULM Lac du Bonnet 44.03 63 *e*P P 07 11 00.4 -0.1
comp=Z,287nm,1.8s
PV01 Paradox Valley 44.08 84 *e*P P 07 11 01.9 +0.5
B31A Greenbush Farm 44.10 66 P P 07 11 00.9 -0.2
baz=305,SNR=32
WUAZ Wupatki 44.14 89 P P 07 11 02.7 +0.8
baz=313,SNR=40
WUAZ Wupatki 44.14 89 *e*P P 07 11 03.3 +1.4
comp=Z,33nm,1.1s
Y14A Wickenburg 44.25 92 *e*P P 07 11 03.3 +0.8
comp=Z,203nm,1.0s
SMCO Snowmass 44.36 82 *e*P P 07 11 04.1 +0.4
comp=Z,18nm,0.8s
C31A Landman Farms, 44.42 67 P P 07 11 03.3 -0.3
baz=306,SNR=21
A32A Rocking H Ranc 44.45 65 P P 07 11 03.5 -0.3
baz=305,SNR=15
113A Mohawk Valley, 44.61 94 *e*P P 07 11 06.2 +0.9
comp=Z,46nm,1.3s
B32A Ashes, Strandq 44.73 65 P P 07 11 05.7 -0.3
baz=306,SNR=28
MVCO Mesa Verde 44.73 85 P P 07 11 07.1 +0.6
baz=312,SNR=22
MVCO Mesa Verde 44.73 85 *e*P P 07 11 07.2 +0.6
comp=Z,18nm,0.7s
ISCO Idaho Springs 44.76 81 P P 07 11 07.5 +0.6
baz=310,SNR=25
ISCO Idaho Springs 44.76 81 *e*P P 07 11 07.6 +0.7
ISCO pmax pmax
comp=Z,14nm,0.9s
ISCO Idaho Springs 44.76 81 *e*P P 07 11 07.6 +0.7
comp=Z,14nm,0.8s
X16A Lo Mia Camp, P 44.85 91 *e*P P 07 11 09.2 +1.6
comp=Z,36nm,0.9s
D31A Mcclaflin, Tow 44.86 67 P P 07 11 06.6 -0.6
baz=306,SNR=25
KSRS Korea Array 44.93 275 P P 07 11 07.8 0.0
comp=Z,4.1nm,0.6s,baz=52,slow=7.4,SNR=8.5
KSRS PcP **PcP** **07 12 46.9 +0.5**
comp=Z,3.5nm,0.4s,baz=66,slow=3.7,SNR=8.5
KSRS ScP **ScP** **07 16 24.6 +1.0**
comp=Z,4.6nm,0.7s,baz=47,slow=4.7,SNR=9.6
KS01 Wonju Array Si 44.93 275 *e*P P 07 11 07.4 -0.4
KS15 Wonju Array Si 44.96 275 *e*P P 07 11 07.5 -0.5
A33A Warroad 45.03 64 P P 07 11 08.1 -0.4
baz=306,SNR=26
E31A Nome 45.06 68 P P 07 11 08.0 -0.7
baz=307,SNR=26
AGMN Agassiz Nation 45.15 65 P P 07 11 08.9 -0.5
baz=306,SNR=29
AGMN Agassiz Nation 45.15 65 *e*P P 07 11 09.1 -0.3
comp=Z,339nm,1.9s
D32A Dogwood Acres, 45.20 67 P P 07 11 09.1 -0.7
baz=306,SNR=11
F31A Hecla 45.27 69 P P 07 11 09.6 -0.8
baz=307,SNR=10
B33A Robert and Kas 45.31 65 P P 07 11 10.4 -0.4
baz=306,SNR=16
S22A 4UR Ranch, Cre 45.38 84 P P 07 11 13.0 +1.3
baz=312,SNR=27
S22A 4UR Ranch, Cre 45.38 84 *e*P P 07 11 12.9 +1.2
comp=Z,94nm,1.8s
NRIK Noril'sk 45.38 331 P P 07 11 10.7 -0.2
comp=Z,4.4nm,0.3s,baz=58,slow=6.4,SNR=10
NRIK LR LR 07 33 20.1
comp=Z,204nm,19.0s,baz=83,slow=40
W18A Petrified Fore 45.40 89 P P 07 11 12.7 +0.9
baz=313
W18A Petrified Fore 45.40 89 *e*P P 07 11 13.5 +1.7
comp=Z,51nm,1.2s
E32A Braaten, Kindr 45.49 68 P P 07 11 11.3 -0.8
baz=307,SNR=14
C33A Trail 45.51 66 P P 07 11 12.1 -0.2
baz=306,SNR=16
Q24A Divide 45.58 81 P P 07 11 13.9 +0.6
baz=311,SNR=18
Q24A Divide 45.58 81 *e*P P 07 11 14.5 +1.2
comp=Z,21nm,0.8s

X18A Snowflake 45.67 89 *e*P P 07 11 15.6 +1.6
comp=Z,75nm,1.4s
G31A Conde 45.67 70 P P 07 11 12.9 -0.7
baz=308,SNR=10
B34A Aery, Baudette 45.69 64 P P 07 11 13.1 -0.6
baz=306,SNR=36
SUSD Miller 45.73 71 P P 07 11 13.6 -0.4
baz=308,SNR=16
214A Organ Pipe Nat 45.75 94 P P 07 11 15.4 +1.0
baz=316,SNR=28
214A Organ Pipe Nat 45.75 94 *e*P P 07 11 15.6 +1.2
comp=Z,237nm,1.0s
D33A AnnSam, Waubun 45.84 66 P P 07 11 14.4 -0.5
baz=307,SNR=11
F32A Veblen 45.89 68 P P 07 11 14.1 -1.2
baz=307,SNR=23
H31A Wolsey 45.98 71 P P 07 11 15.7 -0.3
baz=308,SNR=32
C34A RKJ Ranch, Bem 46.05 65 P P 07 11 15.4 -1.1
baz=307
G32A Webster 46.05 69 P P 07 11 16.0 -0.6
baz=308,SNR=20
E33A Westby DABS, E 46.13 67 P P 07 11 16.6 -0.6
baz=307,SNR=16
OGNE Ogallala 46.14 77 P P 07 11 17.9 +0.5
baz=310,SNR=16
OGNE Ogallala 46.14 77 *e*P P 07 11 18.5 +1.1
comp=Z,109nm,0.6s
SDCO Great Sand Dun 46.17 83 P P 07 11 18.9 +1.0
baz=312,SNR=56
SDCO Great Sand Dun 46.17 83 *e*P P 07 11 18.9 +1.0
comp=Z,32nm,0.8s
I31A Royce, Wessing 46.22 71 P P 07 11 17.9 0.0
baz=308,SNR=15
D34A Park Rapids 46.23 66 P P 07 11 17.6 -0.4
baz=307,SNR=116
B35A Bob, Littlefor 46.27 64 P P 07 11 17.8 -0.4
baz=307,SNR=26
F33A 5 Mile Ranch, 46.37 68 P P 07 11 18.3 -0.8
baz=308,SNR=16
C35A Jirik Farms, M 46.52 65 P P 07 11 19.6 -0.6
baz=307,SNR=30
H32A Carlson Farm, 46.55 70 P P 07 11 20.0 -0.5
baz=308,SNR=38
J31A Geddes 46.56 72 P P 07 11 20.5 0.0
baz=309,SNR=99
E34A Wadena 46.59 67 P P 07 11 20.1 -0.6
baz=308
G33A Ortonville 46.69 69 P P 07 11 20.8 -0.7
baz=308,SNR=32
TUC Tucson 46.71 92 P P 07 11 23.1 +1.1
baz=315
TUC Tucson 46.71 92 *e*P P 07 11 23.4 +1.4
TUC pmax pmax
comp=Z,52nm,0.9s
TUC Tucson 46.71 92 *e*P P 07 11 23.4 +1.4
comp=Z,52nm,0.9s
I32A Karley and Nic 46.83 71 P P 07 11 22.0 -0.6
baz=309,SNR=24
H33A Prehn Over Nor 46.83 69 P P 07 11 22.2 -0.5
baz=308,SNR=30
D35A Remer 46.85 65 P P 07 11 22.5 -0.3
baz=308,SNR=51
K31A O'Neill 46.97 73 P P 07 11 23.8 0.0
baz=309,SNR=11
F34A Alexandria 46.97 67 P P 07 11 23.1 -0.6
baz=308,SNR=24
E35A Pequot Lakes 46.98 66 P P 07 11 23.5 -0.2
baz=308,SNR=37
J32A Parkston 47.02 72 P P 07 11 23.7 -0.5
baz=309,SNR=38
KSCO Kaye Shedlock' 47.04 79 P P 07 11 25.5 +1.1
baz=311,SNR=26
KSCO Kaye Shedlock' 47.04 79 *e*P P 07 11 25.6 +1.1
comp=Z,78nm,0.9s
MHTCO State Highway 47.06 83 *e*P P 07 11 26.3 +1.6
comp=Z,75nm,0.9s
G34A Benson 47.10 68 P P 07 11 24.0 -0.7
baz=308,SNR=17
C36A Pine Crest Far 47.10 64 P P 07 11 24.4 -0.3
baz=307,SNR=28
I33A Coleman 47.19 70 P P 07 11 24.7 -0.8
baz=309,SNR=5.8
T25A Trinidad 47.22 82 P P 07 11 27.1 +1.1
baz=312,SNR=84
T25A Trinidad 47.22 82 *e*P P 07 11 27.0 +1.1
comp=Z,95nm,0.9s
D36A Goodland 47.28 65 P P 07 11 25.6 -0.4
baz=308,SNR=14
F35A Swanville 47.31 67 P P 07 11 26.1 -0.3
baz=308,SNR=28
H34A Spellman Lake, 47.38 69 P P 07 11 26.2 -0.7
baz=309,SNR=21
K32A Verdigre 47.40 72 P P 07 11 26.7 -0.3
baz=310,SNR=29
C37A Embarrass 47.47 64 P P 07 11 27.2 -0.4
baz=308,SNR=32
ANMO Albuquerque 47.48 86 P P 07 11 28.6 +0.5
comp=Z,3.2nm,0.6s,baz=319,slow=9.8,SNR=19
ANMO pP **pP** **07 12 01.9 -1.3**
comp=Z,14nm,1.2s,baz=323,slow=9.7,SNR=6.0
ANMO PcP **PcP** **07 12 57.6 +1.9**
comp=Z,3.5nm,0.7s,baz=352,slow=4.9,SNR=3.6
ANMO Albuquerque 47.48 86 P P 07 11 28.5 +0.5
baz=314
ANMO Albuquerque 47.48 86*c i*P P 07 11 28.7 +0.7
ANMO pmax pmax
comp=Z,25nm,1.7s
ANMO Albuquerque 47.48 86 *e*P P 07 11 28.9 +0.9
comp=Z,31nm,1.4s
ECSD EROS Data Cent 47.49 70 P P 07 11 27.0 -0.7
baz=309,SNR=39
ECSD EROS Data Cent 47.49 70 *e*P P 07 11 27.1 -0.7
comp=Z,35nm,0.6s
J33A Davis 47.55 71 P P 07 11 27.5 -0.7
baz=309,SNR=24
E36A McGregor 47.63 65 P P 07 11 28.6 -0.2
baz=308,SNR=32
D37A Cotton 47.69 64 P P 07 11 28.7 -0.6
baz=308,SNR=15
EYMN Ely 47.71 63 P P 07 11 29.0 -0.3
baz=308,SNR=24
EYMN Ely 47.71 63 *e*P P 07 11 29.1 -0.3
comp=Z,157nm,1.4s
I34A Hadley 47.73 70 P P 07 11 28.2 -1.3
baz=309
G35A Watkins 47.76 68 P P 07 11 29.4 -0.4
baz=309,SNR=16
L32A Elgin 47.79 73 P P 07 11 30.1 0.0
baz=310,SNR=33
Y22D IRIS PASSCAL I 47.80 87 P P 07 11 31.3 +0.9
baz=314
LPM Los Pinos Moun 47.81 87 *e*P P 07 11 33.1 +2.6
F36A Milaca 47.89 66 P P 07 11 30.2 -0.6
baz=309,SNR=21
H35A Sunnyside Ranc 47.89 68 P P 07 11 30.3 -0.5
baz=309,SNR=29
BNM Barren Site 47.92 87 *e*P P 07 11 34.0 +2.5
C38A Sawbill Land. 47.97 63 P P 07 11 30.7 -0.7
baz=308,SNR=17
K33A Hardington 47.98 72 P P 07 11 31.3 -0.2
baz=310,SNR=30
E37A Wrenshall 48.07 65 P P 07 11 31.5 -0.6
baz=308
BGNE Belgrade 48.09 74 P P 07 11 32.5 +0.1
baz=310,SNR=32
BGNE Belgrade 48.09 74 *e*P P 07 11 32.5 +0.1
comp=Z,190nm,0.7s
L33A Hoskins 48.11 72 P P 07 11 32.0 -0.6
baz=310
J34A George 48.15 70 P P 07 11 32.0 -0.8
baz=310,SNR=13
G36A St. Michael 48.15 67 P P 07 11 32.6 -0.2
baz=309,SNR=10
319A Douglas 48.28 92 *e*P P 07 11 35.2 +1.2
comp=Z,37nm,0.9s
I35A Creekview Farm 48.33 69 P P 07 11 33.3 -0.9
baz=310,SNR=15
121A Cookes Peak, D 48.35 90 P P 07 11 36.0 +1.3
baz=315,SNR=23
121A Cookes Peak, D 48.35 90 *e*P P 07 11 35.7 +1.0
comp=Z,38nm,0.9s
K34A Le Mars 48.45 71 P P 07 11 35.0 -0.1
baz=310,SNR=96
F37A Hinrichs Farm, 48.47 66 P P 07 11 34.8 -0.3
baz=309,SNR=46
H36A Jessenland, He 48.47 68 P P 07 11 35.4 +0.1
baz=309,SNR=39

E38A The Farm, Brul 48.50 64 P P 07 11 34.8 -0.6
baz=309,SNR=43
C39A Grand Marais 48.52 62 P P 07 11 34.7 -0.9
baz=308,SNR=8.5
J35A Milford 48.52 70 P P 07 11 35.0 -0.7
baz=310,SNR=5.1
M33A Taylor Creek F 48.53 73 P P 07 11 35.5 -0.3
baz=310,SNR=19
SPA0 Spitsbergen Ar 48.67 358 *e*P P 07 11 37.0 +0.6
SPITS Spitsbergen Ar 48.67 358 P P 07 11 36.9 +0.6
comp=Z,6.3nm,0.7s,baz=46,slow=6.0,SNR=8.9
SPITS PcP **PcP** **07 12 58.8 -0.2**
comp=Z,5.6nm,0.5s,baz=44,slow=6.1,SNR=6.3
SPMN Marine on St. 48.68 67 P P 07 11 36.5 -0.3
baz=309,SNR=21
SPMN Marine on St. 48.68 67 *e*P P 07 11 36.8 -0.1
comp=Z,98nm,1.3s
F38A Pierce - Schro 48.73 65 P P 07 11 37.2 0.0
baz=309,SNR=72
L34A Svendsen Farm, 48.75 72 P P 07 11 37.0 -0.4
baz=310,SNR=58
I36A Fitzsimmons Fa 48.77 69 P P 07 11 36.8 -0.8
baz=310,SNR=15
CBKS Cedar Bluff 48.86 78 P P 07 11 38.9 +0.6
baz=312,SNR=52
CBKS Cedar Bluff 48.86 78 *e*P P 07 11 39.0 +0.6
CBKS pmax pmax
comp=Z,120nm,0.7s
CBKS Cedar Bluff 48.86 78 *e*P P 07 11 39.0 +0.6
comp=Z,118nm,0.7s
DAG Danmarks Havn 48.87 8 *i*P pP 07 12 15.4 +2.1
K35A Storm Lake 48.91 71 P P 07 11 38.1 -0.6
baz=310,SNR=20
N33A J Bar K, Exete 48.93 74 P P 07 11 38.4 -0.4
baz=311
M34A Aspy Farms, Fr 48.93 73 P P 07 11 38.4 -0.4
baz=311,SNR=10
HSIG 48.98 95 *e*P P 07 11 40.2 +0.9
comp=Z,31nm,1.0s
H37A Dierke Farm, C 49.02 67 P P 07 11 39.3 -0.2
baz=310,SNR=12
J36A Seneca 1, Swea 49.03 69 P P 07 11 38.8 -0.7
baz=310,SNR=18
I37A Lemond, Waseca 49.12 68 P P 07 11 40.0 -0.2
baz=310,SNR=22
L35A Bielow Farm, R 49.13 71 P P 07 11 39.5 -0.8
baz=311,SNR=14
E39A Mellen 49.18 64 P P 07 11 39.9 -0.8
baz=309,SNR=15
G38A Ridgeland 49.24 66 P P 07 11 40.4 -0.7
baz=310,SNR=14
F39A Loretta 49.28 65 P P 07 11 41.0 -0.4
baz=309,SNR=14
O33A Hebron 49.28 75 P P 07 11 41.1 -0.4
baz=311,SNR=38
H38A Maiden Rock 49.32 67 P P 07 11 41.5 -0.1
baz=310,SNR=6.2
K36A Gilmore City 49.41 70 P P 07 11 41.9 -0.6
baz=310
N34A Lincoln 49.41 73 P P 07 11 41.7 -0.7
baz=311,SNR=24
TLY Talaya 49.46 305 *e*P P 07 11 42.3 -0.4
TLY *e*S **S** **07 18 34.9 -2.7**
TLY pmax pmax
comp=Z,11nm,0.6s
M35A Neola 49.46 72 P P 07 11 42.7 -0.1
baz=311,SNR=38
J37A Redenius Farm, 49.48 69 P P 07 11 42.5 -0.4
baz=310,SNR=54
E40A Wakefield 49.49 64 P P 07 11 42.8 -0.3
baz=309,SNR=22
G39A Holcombe 49.54 66 P P 07 11 42.7 -0.7
baz=310,SNR=18
L36A Harm Buss Farm 49.63 71 P P 07 11 43.4 -0.7
baz=311
I38A Scanlan Farm, 49.69 67 P P 07 11 44.1 -0.5
baz=310,SNR=11
F40A Park Falls 49.71 64 P P 07 11 44.1 -0.6
baz=310,SNR=33
O34A Beatrice 49.73 74 P P 07 11 44.2 -0.7
baz=312,SNR=47
K37A Belmond 49.78 70 P P 07 11 44.5 -0.7
baz=311,SNR=49
D41A Chassel 49.82 62 P P 07 11 45.4 0.0
baz=309
H39A Augusta 49.86 66 P P 07 11 45.1 -0.7
baz=310,SNR=10
N35A Tabor 49.89 73 P P 07 11 46.1 0.0
baz=311,SNR=22
SUMG Summit 49.95 17⇑ *i*P P 07 11 47.6 +1.0
comp=Z,26nm,0.9s
SUMG Summit 49.95 17⇑ *i*P P 07 11 47.6 +1.0
SUMG pmax pmax
comp=Z,26nm,0.9s
SUMG Summit 49.95 17 *e*P P 07 11 46.9 +0.3
comp=Z,28nm,0.9s
SUMG *ep*P **pP** **07 12 25.8 +3.7**
M36A Felix, Anita 49.98 72 P P 07 11 46.3 -0.5
baz=311,SNR=20
P34A Walnut Farm, R 50.07 75 P P 07 11 46.9 -0.6
baz=312,SNR=8.2
G40A Rib Lake 50.08 65 P P 07 11 46.9 -0.6
baz=310,SNR=12
J38A Wedel Dairy, R 50.08 68 P P 07 11 47.0 -0.4
baz=311,SNR=19
ULN Ulaanbaatar 50.12 299*ce*P P 07 11 47.3 -0.6
ULN *i* *PP **pP** **07 12 26.4 +2.9**
ULN pmax pmax
comp=Z,8.0nm,0.9s
ULN Ulaanbaatar 50.12 299 *e*P P 07 11 47.5 -0.4
ULN *ep*P **pP** **07 12 26.9 +3.4**
O35A Humboldt 50.12 73 P P 07 11 47.0 -0.8
baz=312,SNR=5.8
BJI Beijing 50.13 286 P P 07 11 47.3 -0.6
BJI PP **PP** **07 13 43.9 -0.4**
BJI S **S** **07 18 45.9 -1.2**
BJI pmax pmax
comp=Z,12nm,1.0s
BJI pmax pmax
comp=Z,260nm,5.4s
BJI LR LR
comp=Z,560nm,17.1s
BJI LR LR
comp=Z,380nm,16.4s
BJI LR LR
comp=Z,320nm,42.2s
L37A Phoenix Point, 50.13 70 P P 07 11 47.4 -0.5
baz=311,SNR=26
I39A Houston 50.26 67 P P 07 11 48.1 -0.7
baz=310,SNR=21
N36A Muff Farm, Cla 50.31 72 P P 07 11 48.9 -0.3
baz=312,SNR=22
K38A Parkersburg 50.35 69 P P 07 11 48.8 -0.7
baz=311,SNR=6.1
MSTX Muleshoe 50.35 84 P P 07 11 50.1 +0.3
baz=314,SNR=18
MSTX Muleshoe 50.35 84 *e*P P 07 11 50.2 +0.3
comp=Z,28nm,0.9s
CPRX Cap Rock 50.35 86 *e*P P 07 11 52.0 +2.2
AMTX Amarillo 50.37 83 P P 07 11 50.2 +0.3
baz=314
AMTX Amarillo 50.37 83 *e*P P 07 11 50.5 +0.6
comp=Z,30nm,0.8s
F41A Three Lakes 50.37 64 P P 07 11 49.1 -0.5
baz=310,SNR=24
MNTX Cornudas Mount 50.38 88 P P 07 11 51.1 +1.2
baz=316,SNR=56
MNTX Cornudas Mount 50.38 88 *e*P P 07 11 51.2 +1.3
comp=Z,28nm,0.8s
H40A Chili 50.39 66 P P 07 11 49.2 -0.6
baz=310,SNR=8.7
Q34A Chapman 50.42 75 P P 07 11 49.9 -0.2
baz=312,SNR=12
M37A Trindle Farm, 50.44 71 P P 07 11 50.2 0.0
baz=311,SNR=44
ZAK Zakamensk 50.45 304 *e*P P 07 11 49.7 -0.6
ZAK pmax pmax
comp=Z,7.0nm,1.7s
SONA1 Songino Array 50.47 300 *e*P P 07 11 50.2 -0.3
SONA1 *ep*P **pP** **07 12 29.3 +3.2**
SONA0 Songino Array 50.48 300 *e*P P 07 11 50.6 0.0
comp=Z,31nm,1.3s
SONA0 *e*PcP **PcP** **07 13 06.0 -0.2**
SONM Songino Array 50.48 300 P P 07 11 50.6 0.0
comp=Z,2.7nm,0.8s,baz=45,slow=8.6,SNR=13
SONM PcP **PcP** **07 13 06.0 -0.2**
comp=Z,7.0nm,0.8s,baz=61,slow=3.2,SNR=5.9

SONM ScP **ScP** **07 16 47.3 +0.2**
comp=Z,4.1nm,0.8s,baz=41,slow=4.5,SNR=6.8
KSU1 Kansas State U **50.49 75** P **P** **07 11 49.9 -0.8**
baz=312
KSU1 Kansas State U **50.49 75** *eP* **P** **07 11 50.2 -0.4**
comp=Z,47nm,1.0s
J39A Decorah **50.49 68** P **P** **07 11 49.6 -1.0**
baz=311,SNR=37
P35A Duane Minner, **50.55 74** P **P** **07 11 50.4 -0.7**
baz=312,SNR=21
E42A Champion **50.56 62** P **P** **07 11 50.6 -0.5**
baz=310
L38A Oak Wood Farm, **50.57 70** P **P** **07 11 50.5 -0.7**
baz=311,SNR=23
SCIA State Center **50.58 70** *eP* **P** **07 11 51.4 +0.1**
comp=Z,87nm,0.6s
R34A Isabella, Hill **50.66 76** P **P** **07 11 51.5 -0.4**
baz=313,SNR=19
G41A Antigo **50.67 64** P **P** **07 11 51.3 -0.6**
baz=310,SNR=6.2
I40A Norwalk **50.74 67** P **P** **07 11 51.8 -0.6**
baz=311,SNR=13
O36A Bolckow **50.76 73** P **P** **07 11 52.1 -0.5**
baz=312,SNR=16
N37A Lee Faris, Mou **50.77 72** P **P** **07 11 52.7 0.0**
baz=312,SNR=50
H41A Junction City **50.79 65** P **P** **07 11 52.2 -0.6**
baz=311,SNR=8.5
K39A Oelwein **50.80 69** P **P** **07 11 51.6 -1.3**
baz=311,SNR=27
F42A Maple Grove Fa **50.88 63** P **P** **07 11 53.3 -0.1**
baz=310,SNR=7.2
M38A Pleasantville **50.91 71** P **P** **07 11 53.2 -0.5**
baz=312,SNR=19
U32A Winter Ranch, **50.93 79** P **P** **07 11 54.0 0.0**
baz=314,SNR=11
P36A Good Intent, A **50.96 74** P **P** **07 11 53.5 -0.6**
baz=312,SNR=33
Q35A Mercer Eighty, **50.99 75** P **P** **07 11 53.5 -0.9**
baz=312,SNR=14
J40A Soldiers Grove **50.99 67** P **P** **07 11 53.3 -1.0**
baz=311,SNR=9.1
I41A Arkdale **51.04 66** P **P** **07 11 54.2 -0.4**
baz=311,SNR=18
L39A Vinton **51.12 69** P **P** **07 11 54.5 -0.8**
baz=312,SNR=15
S34A Willow Spring **51.14 77** P **P** **07 11 54.9 -0.6**
baz=313,SNR=14
O37A Wolven Farm, M **51.20 72** P **P** **07 11 55.4 -0.5**
baz=312,SNR=20
K40A Colesburg **51.23 68** P **P** **07 11 55.1 -1.0**
baz=311,SNR=15
Q36A Arnold C. Orve **51.25 74** P **P** **07 11 55.5 -0.8**
baz=313,SNR=8.2
R35A Emporia Munici **51.25 76** P **P** **07 11 55.7 -0.6**
baz=313,SNR=9.2
N38A Joes South For **51.30 71** P **P** **07 11 56.2 -0.5**
baz=312,SNR=19
J41A Loganville **51.41 67** P **P** **07 11 56.5 -1.0**
baz=311,SNR=19
M39A Webster **51.45 70** P **P** **07 11 57.2 -0.5**
baz=312,SNR=88
P37A Lathrop **51.47 73** P **P** **07 11 57.1 -0.8**
baz=312,SNR=38
T34A McClaskey Farm **51.56 77** P **P** **07 11 58.1 -0.5**
baz=313,SNR=9.7
JFWS Jewell Farm **51.58 67** *eP* **P** **07 11 57.8 -0.8**
JFWS pmax pmax
comp=Z,50nm,0.7s
JFWS Jewell Farm **51.58 67** *eP* **P** **07 11 57.8 -0.8**
comp=Z,50nm,0.7s
L40A Anamosa **51.60 69** P **P** **07 11 57.8 -1.0**
baz=312,SNR=11
O38A Galt **51.62 72** P **P** **07 11 58.3 -0.7**
baz=312,SNR=45
S35A Otter Creek Ra **51.62 76** P **P** **07 11 58.6 -0.5**
baz=313,SNR=42
SFJD Kangerlussuaq **51.65 26** *eP* **P** **07 11 59.0 +0.2**
SFJD pmax pmax
comp=Z,29nm,0.9s
SFJD Kangerlussuaq **51.65 26** *eP* **P** **07 11 59.0 +0.2**
comp=Z,29nm,0.9s
R36A Gordon, Harris **51.66 75** P **P** **07 11 58.7 -0.6**
baz=313,SNR=25
N39A Derby Farms, D **51.66 71** P **P** **07 11 58.7 -0.6**
baz=312,SNR=59
K41A Shullsburg **51.75 68** P **P** **07 11 59.1 -0.9**
baz=312,SNR=32
M40A Post Highland **51.87 70** P **P** **07 11 59.8 -1.0**
baz=312,SNR=19
Q37A Longview Farm, **51.89 74** P **P** **07 11 59.9 -1.1**
baz=313,SNR=15
P38A Dawn **51.91 73** P **P** **07 12 00.5 -0.7**
baz=313,SNR=68
L41A Preston **51.99 68** P **P** **07 12 00.5 -1.2**
baz=312,SNR=9.4
S36A Lake Cedric, C **52.01 76** P **P** **07 12 01.2 -0.8**
baz=313,SNR=11
T35A Sooner Cattle **52.02 77** P **P** **07 12 01.4 -0.7**
baz=314,SNR=11
R37A Teagarden Farm **52.05 75** P **P** **07 12 01.0 -1.3**
baz=313,SNR=18
O39A Kirksville **52.06 71** P **P** **07 12 01.6 -0.6**
baz=312,SNR=14
N40A Mertquake, Sal **52.18 70** P **P** **07 12 02.2 -0.9**
baz=312,SNR=13
WMOK Wichita Mounta **52.19 81** P **P** **07 12 03.5 +0.1**
baz=314,SNR=29
WMOK Wichita Mounta **52.19 81** *eP* **P** **07 12 03.6 +0.3**
WMOK pmax pmax
comp=Z,34nm,0.8s
WMOK Wichita Mounta **52.19 81** *eP* **P** **07 12 02.6 -0.7**
comp=Z,34nm,0.8s
HHC Hu-ho-hao-te **52.22 290** *eP* **P** **07 12 01.9 -1.7**
HHC S **S** **07 19 11.6 -4.5**
HHC pmax pmax
comp=Z,15nm,1.0s
HHC pmax pmax
comp=Z,140nm,6.0s
U35A Pawnee **52.27 78** P **P** **07 12 03.3 -0.5**
baz=314,SNR=6.8
T36A Boggs Farm, Ca **52.30 77** P **P** **07 12 03.3 -0.8**
baz=314,SNR=18
Q38A Cooks Store, C **52.31 73** P **P** **07 12 02.9 -1.2**
baz=313,SNR=47
S37A Fort Scott **52.43 75** P **P** **07 12 04.3 -0.8**
baz=313,SNR=90
M41A Milan **52.44 69** P **P** **07 12 04.1 -0.9**
baz=312,SNR=12
P39B Salisbury **52.45 72** P **P** **07 12 04.4 -0.8**
baz=313,SNR=117
O40A La Belle **52.52 71** P **P** **07 12 05.1 -0.6**
baz=313,SNR=113
Q39A Willow Grove F **52.62 73** P **P** **07 12 05.3 -1.1**
baz=313
V35A Meyer Ranch, C **52.63 78** P **P** **07 12 06.2 -0.3**
baz=314,SNR=15
R38A Fenwick Farm, **52.67 74** P **P** **07 12 05.1 -1.7**
baz=313,SNR=26
N41A Harden Midland **52.71 70** P **P** **07 12 06.0 -1.0**
baz=313
T37A Cheneyville 18 **52.81 76** P **P** **07 12 06.9 -0.9**
baz=314,SNR=33
M42A Sheffield **52.82 68** P **P** **07 12 06.4 -1.4**
baz=312
P40A Paris **52.83 72** P **P** **07 12 07.2 -0.7**
baz=313,SNR=124
U36A Ologah **52.84 77** P **P** **07 12 07.4 -0.7**
baz=314,SNR=5.1
W35A Tecumseh **53.03 79** P **P** **07 12 09.4 -0.1**
baz=314,SNR=15
S38A Stockton **53.05 75** P **P** **07 12 08.1 -1.5**
baz=314,SNR=67
R39A Chumby, Stover **53.09 73** P **P** **07 12 08.1 -1.7**
baz=313,SNR=19
N42A Yates City **53.09 69** P **P** **07 12 08.8 -1.0**
baz=313,SNR=11
O41A Passleys Farm, **53.09 70** P **P** **07 12 08.9 -0.9**
baz=313,SNR=23
LTX Lajitas **53.11 89** *eP* **P** **07 12 11.0 +0.8**
LTX *e**PP **pP** **07 12 45.1 -1.1**
LTX Lajitas **53.11 89** *eP* **P** **07 12 11.0 +0.8**
LTX *ep*P **pP** **07 12 45.1 -1.1**
TX31 Lajitas Ar. Si **53.11 89** *eP* **P** **07 12 10.9 +0.7**
TXAR Lajitas Array **53.11 89** P **P** **07 12 11.0 +0.8**
comp=Z,24nm,0.6s,baz=302,slow=5.2,SNR=282
TXAR pP **pP** **07 12 45.1 -1.1**
comp=Z,16nm,0.9s,baz=299,slow=5.2,SNR=4.9
TXAR ScP **ScP** **07 17 01.0 +2.3**
comp=Z,1.1nm,0.8s,baz=297,slow=4.0,SNR=4.0
TXAR LR LR 07 32 54.7
comp=Z,161nm,18.9s,baz=0.0,slow=34
TXAR Lajitas Array **53.11 89** P **P** **07 12 11.0 +0.8**
TXAR *PP **pP** **07 12 45.1 -1.1**
TXAR pmax pmax
comp=Z,23nm,0.6s
V36A Jenks **53.13 78** P **P** **07 12 09.9 -0.3**
baz=314,SNR=11
TUL1 Leonard **53.14 78** P **P** **07 12 10.0 -0.2**
baz=314,SNR=9.1
TUL1 Leonard **53.14 78** *eP* **P** **07 12 10.0 -0.2**
comp=Z,26nm,0.7s
ABTX Abilene, Hawle **53.16 83** P **P** **07 12 10.8 +0.3**
baz=316,SNR=19
ABTX Abilene, Hawle **53.16 83** *eP* **P** **07 12 10.8 +0.3**
comp=Z,53nm,0.8s
ABTX *epP* **pP** **07 12 45.4 -1.1**
Q40A Laux Farm, Aux **53.17 72** P **P** **07 12 09.4 -1.1**
baz=313,SNR=39
U37A Salina **53.19 77** P **P** **07 12 10.1 -0.6**
baz=314,SNR=52
T38A Diamond **53.24 75** P **P** **07 12 10.0 -1.0**
baz=314,SNR=38
GUMO Guam **53.27 239** P **P** **07 12 09.7 -1.7**
comp=Z,47nm,0.4s,baz=168,slow=23,SNR=7.0
P41A Barry, Barry **53.29 71** P **P** **07 12 10.4 -0.9**
baz=313,SNR=29
S39A Bolivar **53.35 74** P **P** **07 12 09.8 -2.0**
baz=314,SNR=33
GLMI Grayling **53.36 62** *eP* **P** **07 12 12.0 +0.2**
comp=Z,129nm,1.2s
W36A Wetumka **53.42 79** P **P** **07 12 12.2 -0.1**
baz=315,SNR=12
O42A Bath **53.49 70** P **P** **07 12 11.8 -0.9**
baz=313,SNR=13
X35A Drake **53.49 80** P **P** **07 12 12.9 0.0**
baz=315,SNR=23
V37A Hulbert **53.54 77** P **P** **07 12 12.5 -0.7**
baz=314,SNR=26
R40A Maddies Statio **53.54 73** P **P** **07 12 11.6 -1.6**
baz=314,SNR=69
SLBS Sierra La Lagu **53.55 99** *eP* **P** **07 12 14.5 +1.0**
SLBS *epP* **pP** **07 12 48.3 -1.2**
U38A Gravette **53.59 76** P **P** **07 12 12.5 -1.0**
baz=314,SNR=38
HPIG **53.66 93** *eP* **P** **07 12 14.9 +0.5**
comp=Z,42nm,1.3s
Q41A Truxton **53.68 72** P **P** **07 12 13.2 -0.9**
baz=314,SNR=32
HDIL Hopedale **53.69 69** P **P** **07 12 13.4 -0.8**
baz=313,SNR=29
HDIL Hopedale **53.69 69** *eP* **P** **07 12 13.5 -0.6**
comp=Z,109nm,0.8s
X36A Centrahoma **53.74 79** P **P** **07 12 14.8 +0.2**
baz=315,SNR=15
P42A Winchester **53.75 70** P **P** **07 12 13.8 -0.9**
baz=313,SNR=18
T39A Clever **53.77 75** P **P** **07 12 13.4 -1.5**
baz=314,SNR=100
Y35A Marietta **53.80 80** P **P** **07 12 15.7 +0.6**
baz=315,SNR=28
O43A Sugar Creek Fa **53.86 69** P **P** **07 12 14.3 -1.1**
baz=313,SNR=7.7
S40A Lebanon **53.88 74** P **P** **07 12 13.9 -1.8**
baz=314,SNR=13
W37B Quinton **53.88 78** P **P** **07 12 15.1 -0.6**
baz=315,SNR=16
HHAR Hobbs **53.96 76** *eP* **P** **07 12 15.1 -1.2**
comp=Z,42nm,0.7s
V38A Canehill **53.98 77** P **P** **07 12 15.6 -0.7**
baz=314,SNR=37
233A Rising Star **54.03 83** P **P** **07 12 17.2 +0.3**
baz=316,SNR=42
R41A Rosebud **54.05 72** P **P** **07 12 15.5 -1.3**
baz=314,SNR=45
NJ2 Nanjing **54.05 277** *eP* **P** **07 12 16.8 -0.1**
Q42A Golden Eagle **54.11 71** P **P** **07 12 16.7 -0.6**
baz=314,SNR=21
U39A Green Forest **54.16 75** P **P** **07 12 16.4 -1.2**
baz=314,SNR=43
P43A Skaggs, Pawnee **54.18 70** P **P** **07 12 17.0 -0.8**
baz=314,SNR=25
T40A Mansfield **54.18 74** P **P** **07 12 16.2 -1.7**
baz=314,SNR=43
Y36A Durant **54.25 80** P **P** **07 12 18.8 +0.4**
baz=315,SNR=21
X37A Clayton **54.30 78** P **P** **07 12 19.0 +0.3**
baz=315,SNR=31
S41A Jillco Farms, **54.33 73** P **P** **07 12 17.3 -1.5**
baz=314,SNR=115
R42A Luebbering **54.39 72** P **P** **07 12 18.2 -1.1**
baz=314,SNR=24
V39A Pettigrew **54.44 76** P **P** **07 12 18.5 -1.2**
baz=315,SNR=47
SLM Saint Louis **54.47 71** *eP* **P** **07 12 19.4 -0.4**
SLM pmax pmax
comp=Z,46nm,0.7s
SLM Saint Louis **54.47 71** *eP* **P** **07 12 19.4 -0.4**
comp=Z,46nm,0.6s
W38A Poteau **54.47 77** P **P** **07 12 19.7 -0.2**
baz=315,SNR=10
333A Richland Sprin **54.48 84** P **P** **07 12 20.2 +0.1**
baz=316,SNR=45
234A Clairette **54.49 83** P **P** **07 12 20.5 +0.3**
baz=316,SNR=34
U40A Yellville **54.54 75** P **P** **07 12 19.1 -1.3**
baz=314,SNR=46
Q43A New Douglas **54.56 71** P **P** **07 12 20.0 -0.6**
baz=314,SNR=26
X38A Whitesboro **54.57 78** P **P** **07 12 20.7 0.0**
baz=315,SNR=12
JCT Junction City **54.59 85** P **P** **07 12 20.8 -0.1**
baz=317,SNR=37
JCT Junction City **54.59 85** *eP* **P** **07 12 21.0 +0.1**
JCT pmax pmax
comp=Z,47nm,0.8s
JCT Junction City **54.59 85** *eP* **P** **07 12 21.0 +0.1**
comp=Z,47nm,0.8s
Z36A Blue Ridge **54.61 80** P **P** **07 12 21.0 +0.1**
baz=316,SNR=21
T41A Mountain View **54.69 74** P **P** **07 12 19.6 -1.9**
baz=314,SNR=27
S42A Caledonia **54.74 72** P **P** **07 12 20.5 -1.4**
baz=314,SNR=26
P44A Sand Creek, Wi **54.80 69** P **P** **07 12 21.7 -0.5**
baz=314,SNR=23
W39A Magazine **54.81 77** P **P** **07 12 21.8 -0.5**
baz=315,SNR=20
VLDQ Val d'Or **54.81 55** *eP* **P** **07 12 20.0 -2.1**
comp=Z,59nm,0.8s
433A Art **54.82 84** P **P** **07 12 22.5 -0.1**
baz=316,SNR=27
R43A Red Bud **54.89 71** P **P** **07 12 21.9 -1.0**
baz=314,SNR=40
WHTX Lake Whitney, **54.91 82** P **P** **07 12 23.6 +0.5**
baz=316,SNR=25
WHTX Lake Whitney, **54.91 82** *eP* **P** **07 12 23.6 +0.5**
comp=Z,77nm,0.9s
334A Lometa **54.91 83** P **P** **07 12 23.7 +0.5**
baz=316,SNR=55
V40A Witts Springs **54.94 76** P **P** **07 12 22.1 -1.2**
baz=315,SNR=70
Q44A Meyer Farm, Va **54.97 70** P **P** **07 12 22.6 -0.9**
baz=314,SNR=14
SCHQ Schefferville **54.98 43** P **P** **07 12 22.8 -0.6**
comp=Z,17nm,0.7s,baz=326,slow=7.1,SNR=15
SCHQ LR LR 07 36 29.7
comp=Z,221nm,18.7s,baz=16,slow=36
SCHQ Schefferville **54.98 43** *eP* **P** **07 12 23.0 -0.3**
comp=Z,20nm,1.0s
SFIN Lafayette **55.03 68** P **P** **07 12 23.4 -0.4**
baz=314,SNR=21
SFIN Lafayette **55.03 68** *eP* **P** **07 12 23.5 -0.4**
comp=Z,74nm,0.6s
T42A Van Buren **55.09 73** P **P** **07 12 22.5 -1.8**
baz=314
U41A Viola **55.09 74** P **P** **07 12 22.8 -1.6**
baz=315,SNR=28
X39A Fountain Ranch **55.10 78** P **P** **07 12 24.3 -0.1**
baz=315,SNR=27
136A Ennis **55.11 81** P **P** **07 12 24.7 +0.1**
baz=316,SNR=6.0
Z37A Pogue Cattle C **55.14 80** P **P** **07 12 24.9 +0.1**
baz=316
Y38A Idabel **55.15 78** P **P** **07 12 24.6 -0.2**
baz=315,SNR=6.7
W40A Ferguson Farm, **55.23 76** P **P** **07 12 24.8 -0.5**
baz=315,SNR=20
434A Burnet **55.27 84** P **P** **07 12 26.1 +0.3**
baz=316,SNR=36
S43A Fulton Ridge, **55.29 72** P **P** **07 12 25.0 -0.8**
baz=314,SNR=71
V41A Mountainview **55.34 75** P **P** **07 12 24.7 -1.5**
baz=315,SNR=52
533A Kerrville **55.35 85** P **P** **07 12 26.2 -0.2**
baz=317,SNR=8.7
MIAR Mount Ida **55.39 77** P **P** **07 12 26.1 -0.4**
baz=315,SNR=22
MIAR Mount Ida **55.39 77** *eP* **P** **07 12 26.4 -0.1**
MIAR pmax pmax
comp=Z,42nm,0.9s
MIAR Mount Ida **55.39 77** *eP* **P** **07 12 26.4 -0.1**
comp=Z,42nm,0.9s
R44A Waltonville **55.39 71** P **P** **07 12 25.4 -1.0**
baz=314,SNR=6.9
335A Moody **55.43 83** P **P** **07 12 27.0 +0.1**
baz=316,SNR=7.3
236A Katherine and **55.45 81** P **P** **07 12 27.5 +0.5**
baz=316,SNR=11
Z38A Mt. Pleasant **55.48 79** P **P** **07 12 27.2 +0.1**
baz=316
U42A Revenden **55.48 74** P **P** **07 12 25.3 -1.8**
baz=315,SNR=15
137A Heron Place, G **55.48 80** P **P** **07 12 27.1 -0.1**
baz=316
T43A Greenville **55.51 73** P **P** **07 12 26.3 -1.0**
baz=315,SNR=140
Y39A Lockesburg **55.51 78** P **P** **07 12 27.1 -0.3**
baz=316
X301 Greenbrier Sit **55.58 76** *eP* **P** **07 12 26.5 -1.4**
comp=Z,40nm,1.3s
OLIL Olney **55.60 70** *eP* **P** **07 12 27.7 -0.3**
comp=Z,58nm,0.8s
PBMO Poplar Bluff **55.64 73** *eP* **P** **07 12 27.3 -1.0**
comp=Z,33nm,0.8s
S44A Carbondale **55.67 71** P **P** **07 12 27.2 -1.3**
baz=315,SNR=19
435B Jarrell **55.70 83** P **P** **07 12 29.3 +0.5**
baz=317,SNR=7.7
336A Riesel **55.70 82** P **P** **07 12 29.3 +0.5**
baz=316,SNR=9.3
633A Saathoff Ranch **55.70 86** P **P** **07 12 28.7 -0.2**
baz=317,SNR=10
534A Blanco **55.71 85** P **P** **07 12 28.6 -0.4**
baz=317,SNR=13
W41B Gary Mavity, V **55.72 76** P **P** **07 12 27.9 -1.0**
baz=315,SNR=12
V42A Cord **55.77 75** P **P** **07 12 27.4 -1.8**
baz=315,SNR=14
138A Matatall Enter **55.83 80** P **P** **07 12 29.8 +0.1**
baz=316,SNR=7.3
X40A Basin Creek Fa **55.86 77** P **P** **07 12 29.4 -0.5**
baz=315,SNR=8.2
237A Washetta, Mont **55.88 81** P **P** **07 12 30.1 +0.1**
baz=316,SNR=6.2
T44A Benton **55.91 72** P **P** **07 12 28.9 -1.2**
baz=315,SNR=11
Y40A Okolona **55.94 77** P **P** **07 12 29.8 -0.6**
baz=316,SNR=8.1
U43A Rector **55.94 73** P **P** **07 12 29.0 -1.4**
baz=315,SNR=10.0
Z39A Irene McRaven, **55.95 79** P **P** **07 12 30.4 -0.2**
baz=316
X41A Kaden, Bauxite **56.04 76** P **P** **07 12 30.8 -0.4**
baz=316
S45A Carrier Mills **56.07 71** P **P** **07 12 30.3 -1.0**
baz=315,SNR=19
W42A Bald Knob **56.07 75** P **P** **07 12 30.2 -1.1**
baz=315,SNR=8.4
832A Faith Ranch, C **56.08 87** P **P** **07 12 31.9 +0.4**
baz=318,SNR=21
PARMO Parma **56.11 73** *eP* **P** **07 12 30.9 -0.7**
comp=Z,276nm,0.8s
733A Divot King Ran **56.17 86** P **P** **07 12 32.8 +0.6**
baz=317
436A Wall Ranch, Ga **56.18 83** P **P** **07 12 33.1 +1.0**
baz=317
BLO Bloomington **56.18 68** *eP* **P** **07 12 31.7 -0.4**
BLO pmax pmax
comp=Z,49nm,0.6s
BLO Bloomington **56.18 68** *eP* **P** **07 12 31.6 -0.4**
comp=Z,49nm,0.6s
139A Bunkhouse Ranc **56.23 79** P **P** **07 12 32.5 0.0**
baz=316
535A Dale **56.25 84** P **P** **07 12 33.3 +0.6**
baz=317,SNR=14
634A China Grove, S **56.25 85** P **P** **07 12 33.2 +0.4**
baz=317
SADO Sadowa **56.26 59** *eP* **P** **07 12 32.3 -0.3**
comp=Z,67nm,0.9s
U44A Portageville **56.26 73** P **P** **07 12 32.1 -0.6**
baz=315
WLAR White Oak Lake **56.27 78** *eP* **P** **07 12 33.2 +0.4**
comp=Z,187nm,0.7s
V43A Jonesboro **56.27 74** P **P** **07 12 31.9 -0.9**
baz=315
238A Jacksonville **56.28 80** P **P** **07 12 33.4 +0.5**
baz=316,SNR=5.2
337A Centerville **56.32 82** P **P** **07 12 33.1 -0.1**
baz=316
USIN University of **56.38 70** *eP* **P** **07 12 32.9 -0.6**
comp=Z,147nm,0.6s
Z40A Long Farm, Mag **56.40 78** P **P** **07 12 34.1 +0.3**
baz=316,SNR=11
833A Chaparral WMA, **56.40 87** P **P** **07 12 34.4 +0.6**
baz=318,SNR=18
Y41A Eaglette Beard **56.42 77** P **P** **07 12 33.9 0.0**
baz=316,SNR=10
ZAA1 Zalesovo Array **56.44 317** *eP* **P** **07 12 33.3 -0.4**
ZAA0 Zalesovo Array **56.45 317** *eP* **P** **07 12 33.8 0.0**
ZALV Zalesovo Beam **56.45 317** P **P** **07 12 33.3 -0.4**
comp=Z,2.1nm,0.4s,baz=38,slow=7.3,SNR=5.5
ZALV PcP **PcP** **07 13 28.7 0.0**
comp=Z,3.0nm,0.4s,baz=50,slow=4.3,SNR=5.5
ZALV ScP **ScP** **07 17 12.1 -0.7**
comp=Z,0.7nm,0.6s,baz=53,slow=5.6,SNR=2.2
ZALV LR LR 07 39 03.7
comp=Z,123nm,19.3s,baz=70,slow=38
X42A Stuttgart **56.52 76** P **P** **07 12 34.1 -0.4**
baz=316,SNR=7.2
536A Bastrop **56.52 83** P **P** **07 12 35.1 +0.6**
baz=317
734A La Parita Cree **56.52 86** P **P** **07 12 35.3 +0.7**
baz=317,SNR=10
437A Phantom Ranch, **56.52 82** P **P** **07 12 35.6 +1.0**
baz=317
U44B Burton Farm, H **56.57 73** P **P** **07 12 34.6 -0.3**
baz=315
635A Leesville **56.59 85** P **P** **07 12 35.9 +0.7**
baz=317,SNR=20
V44A Blytheville **56.62 73** P **P** **07 12 34.3 -0.9**
baz=315
338A Crockett **56.64 81** P **P** **07 12 35.4 0.0**
baz=317
239A Gary **56.66 80** P **P** **07 12 36.2 +0.6**
baz=316
W43A Forest City **56.67 75** P **P** **07 12 34.8 -0.8**
baz=316
NATX Nacogdoches **56.73 80** P **P** **07 12 36.1 0.0**
baz=316
NATX Nacogdoches **56.73 80** *eP* **P** **07 12 37.3 +1.3**
comp=Z,26nm,0.8s
140A Cam and Jess, **56.74 79** P **P** **07 12 36.7 +0.6**
baz=316
Z41A Richland Creek **56.75 78** P **P** **07 12 36.3 +0.1**
baz=316
UTMT University of **56.84 72** *eP* **P** **07 12 36.8 0.0**
comp=Z,204nm,0.3s
HALT Halls **56.88 73** *eP* **P** **07 12 37.3 +0.3**
comp=Z,102nm,0.6s
SFTN Shelby Forest **56.88 74** *eP* **P** **07 12 39.2 +2.2**
SFTN Shelby Forest **56.88 74** *eP* **P** **07 12 39.2 +2.2**
U45A Rockin P Farm, **56.90 72** P **P** **07 12 36.9 -0.3**
baz=315
ARA0 ARCESS Array S **56.90 354** *eP* **P** **07 12 36.9 +0.2**
ARA0 *ep*P **pP** **07 13 17.4 +4.2**
ARCES ARCESS Array B **56.90 354** P **P** **07 12 36.9 +0.2**
comp=Z,2.2nm,0.5s,baz=18,slow=7.5,SNR=9.7
ARCES ScP **ScP** **07 17 15.0 +0.4**
comp=Z,2.5nm,0.7s,baz=19,slow=5.8,SNR=3.9
ARCES LR LR 07 36 44.9
comp=Z,110nm,21.8s,baz=2.5,slow=36
Y42A Garnett, Star **56.93 76** P **P** **07 12 37.6 +0.1**
baz=316,SNR=13

636A	**Smothers Creek**	56.95	84	P		P	07 12 38.5	+0.9	
	baz=317,SNR=5.9								
537A	**Green Hill Far**	56.96	83	P		P	07 12 39.0	+1.3	
	baz=317								
735A	**Kenedy**	56.96	85	P		P	07 12 39.2	+1.5	
	baz=318								
WCI	**Wyandotte Cave**	56.97	69	*e*P		P	07 12 37.0	-0.7	
WCI				pmax		pmax			
	comp=Z,40nm,1.0s								
WCI	**Wyandotte Cave**	56.97	69	*e*P		P	07 12 37.0	-0.7	
	comp=Z,40nm,1.0s								
X43A	**Marvell**	56.98	75	P		P	07 12 37.3	-0.4	
	baz=316,SNR=21								
438A	**Sam Houston St**	56.98	82	P		P	07 12 39.1	+1.3	
	baz=317								
933A	**Laredo**	56.99	87	P		P	07 12 39.1	+1.1	
	baz=318,SNR=5.3								
834A	**Tilden**	57.05	86	P		P	07 12 39.5	+1.1	
	baz=318,SNR=8.1								
240A	**Hunter Patters**	57.06	79	P		P	07 12 39.0	+0.6	
	baz=316								
MET	**Memphis--Engin**	57.09	74	*e*P		P	07 12 37.4	-1.2	
	comp=Z,183nm,0.6s								
339A	**Huntington**	57.10	81	P		P	07 12 39.0	+0.3	
	baz=317								
PLVO	**Plevna**	57.12	57	*e*P		P	07 12 38.3	-0.3	
	comp=Z,32nm,0.8s								
PLVO				*ep*P		pP	07 13 15.2	+0.1	
W44A	**Shelby Farms P**	57.15	74	P		P	07 12 38.9	-0.1	
	baz=316								
141A	**Papa Simpson,**	57.16	78	P		P	07 12 38.9	-0.2	
	baz=316								
V45A	**Humboldt**	57.22	73	P		P	07 12 39.1	-0.3	
	baz=316								
Z42A	**Norrel Spur, H**	57.24	77	P		P	07 12 39.9	+0.3	
	baz=316								
736A	**Circle Diamond**	57.33	84	P		P	07 12 41.9	+1.6	
	baz=318,SNR=6.5								
538A	**Harpers Horsep**	57.35	82	P		P	07 12 41.7	+1.3	
	baz=317								
439A	**Center Grove,**	57.36	81	P		P	07 12 41.5	+1.0	
	baz=317								
835A	**Beeville**	57.37	85	P		P	07 12 42.4	+1.8	
	baz=318,SNR=8.4								
Y43A	**Makayla and Ka**	57.38	76	P		P	07 12 40.8	+0.3	
	baz=316								
ACSO	**Alum Creek Sta**	57.39	65	*e*P		P	07 12 40.1	-0.5	
	comp=Z,37nm,0.7s								
X44A	**Crenshaw**	57.41	75	P		P	07 12 40.4	-0.4	
	baz=316,SNR=38								
637A	**Eagle Lake**	57.42	83	P		P	07 12 42.4	+1.5	
	baz=317								
340A	**Bronson**	57.43	80	P		P	07 12 41.3	+0.3	
	baz=317								
934A	**Benavides**	57.46	87	P		P	07 12 43.0	+1.8	
	baz=318								
W45A	**Hickory Valley**	57.50	74	P		P	07 12 41.1	-0.3	
	baz=316,SNR=20								
TRQ	**Mont Tremblant**	57.55	55	*e*P		P	07 12 40.5	-1.2	
241A	**Mo Tay, Goldon**	57.57	79	P		P	07 12 42.4	+0.4	
	baz=317,SNR=14								
WVT	**Waverly**	57.59	72	*e*P		P	07 12 42.0	0.0	
WVT				pmax		pmax			
	comp=Z,16nm,0.6s								
WVT	**Waverly**	57.59	72	*e*P		P	07 12 42.0	0.0	
	comp=Z,16nm,0.6s								
ERPA	**Erie**	57.67	62	*e*P		P	07 12 42.9	+0.4	
	comp=Z,70nm,0.8s								
BUF	**Buffalo**	57.70	60	*e*P		P	07 12 43.0	+0.3	
Z43A	**Armstrong Fami**	57.70	77	P		P	07 12 43.1	+0.3	
	baz=316								
034A	**Hebbronville**	57.75	87	P		P	07 12 44.7	+1.4	
	baz=318,SNR=6.2								
Y44A	**Strider, Charl**	57.76	75	P		P	07 12 43.0	-0.2	
	baz=316,SNR=7.5								
142A	**Monroe**	57.76	78	P		P	07 12 43.9	+0.6	
	baz=316								
OXF	**Oxford**	57.83	74	*e*P		P	07 12 43.3	-0.4	
OXF				pmax		pmax			
	comp=Z,190nm,0.9s								
OXF	**Oxford**	57.83	74	*e*P		P	07 12 43.3	-0.4	
	comp=Z,192nm,0.9s								
737A	**Port Lavaca**	57.84	84	P		P	07 12 45.7	+1.8	
	baz=318								
440A	**Kirbyville**	57.88	81	P		P	07 12 44.8	+0.7	
	baz=317,SNR=7.3								
X45A	**UM Field Stati**	57.90	74	P		P	07 12 43.7	-0.5	
	baz=316,SNR=13								
ALLY	**Alegheny Colle**	57.92	62	*e*P		P	07 12 44.6	+0.4	
	comp=Z,131nm,0.8s								
341A	**Kurthwood**	57.92	80	P		P	07 12 45.0	+0.7	
	baz=317,SNR=6.5								
638A	**Rosharon**	57.96	83	P		P	07 12 45.1	+0.4	
	baz=317								
143A	**Socs Landing,**	57.97	77	P		P	07 12 44.8	+0.1	
	baz=316								
242A	**Grayson**	57.99	78	P		P	07 12 45.2	+0.3	
	baz=317								
Z44A	**Pea Ridge, Bel**	58.12	76	P		P	07 12 45.6	-0.2	
	baz=316								
APA	**Apatity**	58.13	350	⇓*i*P		P	07 12 33.5	-12	
APA				pmax		pmax			
	comp=Z,8.0nm,1.0s								
APA				MLR		MLR			
	comp=Z,300nm,16.0s								
035A	**Encino**	58.20	87	P		P	07 12 47.8	+1.4	
	baz=318,SNR=5.4								
Y45A	**Yeager Farm, C**	58.22	75	P		P	07 12 46.0	-0.4	
	baz=316,SNR=6.4								
540A	**Vidor**	58.25	81	P		P	07 12 47.9	+1.1	
	baz=317								
M54A	**Oil Creek Stat**	58.27	62	P		P	07 12 46.4	-0.4	
	baz=316,SNR=14								
MMNY	**Mt. Morris Dam**	58.33	60	*e*P		P	07 12 47.2	+0.1	
342A	**Flagon Creek P**	58.38	79	P		P	07 12 48.1	+0.5	
	baz=317,SNR=8.1								
Z45A	**Winona**	58.48	75	P		P	07 12 47.9	-0.4	
	baz=316,SNR=5.3								
N54A	**Moraine State**	58.49	63	P		P	07 12 47.7	-0.5	
	baz=316,SNR=9.4								
243A	**Waterproof**	58.51	78	P		P	07 12 49.0	+0.5	
	baz=317								
035Z	**Hargill**	58.57	87	P		P	07 12 49.9	+1.0	
	baz=318,SNR=6.1								
144A	**Alexander Plac**	58.59	76	P		P	07 12 49.3	+0.3	
	baz=317								
Y46A	**Houston**	58.60	74	P		P	07 12 48.7	-0.4	
	baz=316,SNR=34								
LMQ	**La Malbaie**	58.63	51	*e*P		P	07 12 48.5	-0.6	
ZAIG	**Zacatecas**	58.64	94	*e*P		P	07 12 50.8	+0.9	
ZAIG				*ep*P		pP	07 13 24.1	-2.4	
LONY	**Lake Ozonia**	58.67	56	*e*P		P	07 12 48.5	-1.0	
	comp=Z,32nm,0.9s								
442A	**Mamou**	58.80	79	P		P	07 12 51.5	+1.0	
	baz=317								
541A	**Lake Charles**	58.83	81	P		P	07 12 52.0	+1.3	
	baz=317								
VBMS	**Vicksburg**	58.83	77	P		P	07 12 51.0	+0.3	
	baz=317								
244A	**Avery, Jackson**	58.86	77	P		P	07 12 51.3	+0.4	
	baz=317,SNR=11								
343A	**Vidalia**	58.87	78	P		P	07 12 51.6	+0.6	
	baz=317								
LNIG	**Linares**	58.89	89	*e*P		P	07 12 50.9	-0.4	
	comp=Z,23nm,1.2s								
145A	**Houston Renfro**	58.90	76	P		P	07 12 51.0	-0.1	
	baz=317,SNR=8.4								
FRNY	**Flat Rock**	59.01	56	*e*P		P	07 12 50.7	-1.1	
	comp=Z,21nm,0.9s								
Z46A	**Louisville**	59.05	75	P		P	07 12 52.0	-0.2	
	baz=317,SNR=6.6								
443A	**Delano Plantat**	59.15	79	P		P	07 12 53.8	+1.0	
	baz=317								
542A	**Morse**	59.16	80	P		P	07 12 53.2	+0.2	
	baz=317								
Y47A	**UCPARC, Winfie**	59.17	74	P		P	07 12 52.3	-0.7	
	baz=317,SNR=25								
344A	**Westbrook Farm**	59.26	78	P		P	07 12 54.2	+0.5	
	baz=317,SNR=13								
SWET	**Sewanee**	59.32	71	*e*P		P	07 12 53.3	-0.8	
	comp=Z,68nm,1.6s								
NCB	**Newcomb**	59.32	57	*e*P		P	07 12 53.6	-0.4	
	comp=Z,0.3nm,0.8s								
245A	**Little AP, Sta**	59.33	77	P		P	07 12 53.9	-0.3	
	baz=317,SNR=9.3								
146A	**Union**	59.38	76	P		P	07 12 54.4	-0.1	
	baz=317,SNR=27								
MCWV	**Mont Chateau**	59.49	64	*e*P		P	07 12 55.1	-0.1	
	comp=Z,34nm,0.8s								
Z47A	**Carrollton**	59.55	74	P		P	07 12 55.0	-0.6	
	baz=317,SNR=39								
543A	**St. Martinvill**	59.60	80	P		P	07 12 55.9	-0.1	
	baz=318								
BINY	**Binghamton**	59.70	59	*e*P		P	07 12 56.7	+0.1	
	comp=Z,143nm,1.3s								
GTA	**Gaotai**	59.70	296	*e*P		P	07 12 55.8	-1.0	
GTA				pP		pP	07 13 35.4	+1.9	
GTA				sP		sP	07 13 52.6	+1.9	
GTA				S		S	07 20 52.1	-2.8	
GTA				sS		sS	07 21 58.4	-0.2	
GTA				SS		SS	07 24 51.8	-0.8	
GTA				pmax		pmax			
	comp=Z,7.0nm,1.2s								
GTA				pmax		pmax			
	comp=Z,150nm,5.4s								
GTA				LR		LR			
	comp=Z,340nm,18.1s								
GTA				LR		LR			
	comp=Z,280nm,17.6s								
GTA				LR		LR			
	comp=Z,200nm,17.1s								
TZTN	**Tazewell**	59.70	69	*e*P		P	07 12 56.5	-0.2	
	comp=Z,36nm,0.8s								
Z48A	**Northport**	59.72	74	P		P	07 12 55.9	-0.9	
	baz=317,SNR=37								
O56A	**Blue Knob Stat**	59.74	62	P		P	07 12 56.3	-0.6	
	baz=316,SNR=13								
345A	**Thompson Farm,**	59.78	77	P		P	07 12 57.5	+0.3	
	baz=317								
246A	**Jackson Lee, B**	59.79	76	P		P	07 12 57.3	0.0	
	baz=317								
147A	**Livingston**	59.81	75	P		P	07 12 57.2	-0.2	
	baz=317								
SSPA	**Standing Stone**	59.84	62	*e*P		P	07 12 57.4	-0.1	
	comp=Z,56nm,0.7s								
LZH	**Lanzhou**	59.88	291	*e*P		P	07 12 58.1	0.0	
LZH				pP		pP	07 13 34.0	-0.9	
LZH				sP		sP	07 13 53.0	+1.0	
LZH				PP		PP	07 15 13.1	+1.5	
LZH				*e*S		S	07 20 55.0	-2.4	
LZH				sS		sS	07 22 01.0	-0.1	
LZH				SS		SS	07 24 53.3	-2.3	
LZH				pmax		pmax			
	comp=Z,69nm,1.5s								
LZH				pmax		pmax			
	comp=Z,160nm,4.2s								
CPCT	**Cooper Cave**	59.95	70	*e*P		P	07 12 58.4	+0.1	
	comp=Z,18nm,1.2s								
445A	**Amite**	60.02	78	P		P	07 12 59.7	+0.8	
	baz=318								
ACCN	**Adirondack Com**	60.02	57	*e*P		P	07 12 58.4	-0.3	
	comp=Z,26nm,0.9s								
ACCN				*ep*P		pP	07 13 36.2	+0.7	
346A	**Big Creek Wild**	60.05	77	P		P	07 12 59.2	+0.2	
	baz=317								
247A	**Quitman**	60.06	76	P		P	07 12 59.4	+0.2	
	baz=317,SNR=16								
TKL	**Tuckaleechee C**	60.22	69	*e*P		P	07 13 00.0	-0.2	
TKL				pmax		pmax			
	comp=Z,24nm,0.8s								
TKL	**Tuckaleechee C**	60.22	69	*e*P		P	07 12 60.0	-0.2	
	comp=Z,24nm,0.8s								
LBNH	**Lisbon**	60.26	55	*e*P		P	07 13 00.1	-0.2	
LBNH				pmax		pmax			
	comp=Z,140nm,2.0s								
LBNH	**Lisbon**	60.26	55	*e*P		P	07 13 00.1	-0.2	
	comp=Z,138nm,2.0s								
LRAL	**Lakeview Retre**	60.28	74	*e*P		P	07 12 59.5	-1.1	
	comp=Z,27nm,0.7s								
PQI	**Presque Isle**	60.35	51	*e*P		P	07 13 00.1	-0.8	
	comp=Z,38nm,0.8s								
TRY	**Troy**	60.50	57	*e*P		P	07 13 01.4	-0.5	
	comp=Z,40nm,1.0s								
248A	**Dixon Mills**	60.54	75	P		P	07 13 02.5	+0.1	
	baz=317,SNR=36								
446A	**Poplarville**	60.55	77	P		P	07 13 03.2	+0.8	
	baz=318								
347A	**Saraland**	60.58	76	P		P	07 13 02.9	+0.2	
	baz=318,SNR=18								
N59A	**State Game Lan**	60.74	60	P		P	07 13 03.5	-0.2	
	baz=317,SNR=9.4								
PKME	**Peaks-Kenny Pk**	60.79	53	*e*P		P	07 13 03.5	-0.3	
	comp=Z,29nm,0.9s								
645A	**Chauvin**	60.80	79	P		P	07 13 05.6	+1.4	
	baz=318								
348A	**Jackson**	60.94	76	P		P	07 13 05.4	+0.3	
	baz=318,SNR=14								
BLA	**Blacksburg**	60.95	66	*e*P		P	07 13 05.4	+0.2	
BLA				pmax		pmax			
	comp=Z,63nm,0.9s								
BLA	**Blacksburg**	60.95	66	*e*P		P	07 13 05.4	+0.2	
	comp=Z,63nm,0.8s								
447A	**Lucedale**	60.96	77	P		P	07 13 05.5	+0.3	
	baz=318								
MVL	**Millersville**	61.10	61	*e*P		P	07 13 06.0	-0.1	
	comp=Z,17nm,0.9s								
WVL	**Warville**	61.13	53	*e*P		P	07 13 05.3	-0.8	
	comp=Z,28nm,0.8s								
646A	**Port Sulphur**	61.16	78	P		P	07 13 07.0	+0.4	
	baz=318								
VWCC	**Virginia Weste**	61.17	66	*e*P		P	07 13 06.7	+0.1	
BG3	**Lake Jocassee**	61.17	69	*e*P		P	07 13 06.5	-0.2	
	comp=Z,31nm,0.9s								
LUPA	**Lehigh Univers**	61.18	60	*e*P		P	07 13 06.8	+0.2	
	comp=Z,318nm,1.8s								
ODNJ	**Ogdensburg**	61.22	59	*e*P		P	07 13 07.2	+0.4	
	comp=Z,38nm,1.1s								
OUL	**Oulu**	61.26	352	P		P	07 13 07.0	+0.3	
OUL				pmax		pmax			
	comp=Z,26nm,1.7s								
SDMD	**Soldier's Deli**	61.28	62	*e*P		P	07 13 07.2	-0.1	
	comp=Z,18nm,0.8s								
448A	**Bay Minette**	61.32	76	P		P	07 13 08.1	+0.5	
	baz=318								
KURK	**Kurchatov**	61.39	318	*ce*P		P	07 13 07.2	-0.6	
KURK				*i* *PP		PcP	07 13 47.7	-0.7	
KURK				pmax		pmax			
	comp=Z,24nm,0.6s								
KURK	**Kurchatov**	61.39	318	*e*P		P	07 13 07.5	-0.3	
	comp=Z,7.9nm,0.7s								
KURK				*ep*P		pP	07 13 44.1	-0.6	
KURBB	**Kurchatov Arra**	61.50	318	P		P	07 13 08.3	-0.2	
	comp=Z,5.1nm,0.8s,baz=46,slow=7.3,SNR=43								
KURBB				pP		pP	07 13 44.1	-1.4	
	comp=Z,4.2nm,0.8s,baz=44,slow=7.2,SNR=3.1								
BRNJ	**Basking Ridge**	61.53	59	*e*P		P	07 13 09.4	+0.5	
	comp=Z,75nm,1.2s								
IP04	**Greensprings**	61.57	64	*e*P		P	07 13 10.1	+0.9	
	comp=Z,43nm,1.0s								
PAL	**Palisades**	61.64	59	*e*P		P	07 13 10.1	+0.5	
PAL				pmax		pmax			
	comp=Z,52nm,1.0s								
PAL	**Palisades**	61.64	59	*e*P		P	07 13 09.7	+0.1	
	comp=Z,52nm,1.0s								
IP03	**Louisa**	61.67	64	*e*P		P	07 13 09.9	0.0	
	comp=Z,105nm,1.4s								
IP07	**Quail**	61.73	64	*e*P		P	07 13 10.8	+0.5	
	comp=Z,78nm,0.9s								
CVRD	**Centerville Ro**	61.74	64	*e*P		P	07 13 10.9	+0.6	
	comp=Z,48nm,1.1s								
IP06	**Yanceyville**	61.75	64	*e*P		P	07 13 10.8	+0.4	
	comp=Z,58nm,0.9s								
IP01	**Cuckoo**	61.77	64	*e*P		P	07 13 11.0	+0.5	
	comp=Z,46nm,1.1s								
SPFD	**Spotsylvania F**	61.85	63	*e*P		P	07 13 12.1	+1.0	
	comp=Z,59nm,1.3s								
WES	**Weston**	61.92	56	*e*P		P	07 13 11.6	+0.1	
WES				pmax		pmax			
	comp=Z,61nm,0.9s								
WES	**Weston**	61.92	56	*e*P		P	07 13 11.1	-0.4	
	comp=Z,61nm,0.8s								
IP05	**Hopewell Churc**	61.94	64	*e*P		P	07 13 11.9	+0.1	
	comp=Z,52nm,0.9s								
KMSC	**Kings Mountain**	61.96	68	P		P	07 13 11.5	-0.3	
	baz=318,SNR=22								
KMSC	**Kings Mountain**	61.96	68	*e*P		P	07 13 11.8	-0.1	
	comp=Z,59nm,0.7s								
JSRW	**J. Sargeant Re**	61.98	64	*e*P		P	07 13 12.2	+0.2	
GOGA	**Godfrey**	62.03	71	*e*P		P	07 13 11.4	-1.0	
GOGA				pmax		pmax			
	comp=Z,30nm,0.7s								
GOGA	**Godfrey**	62.03	71	*e*P		P	07 13 11.4	-1.0	
	comp=Z,30nm,0.6s								
GGN	**Saint George**	62.05	51	*e*P		P	07 13 11.6	-0.7	
	comp=Z,31nm,0.8s								
EMMW	**East Machias**	62.07	52	*e*P		P	07 13 11.8	-0.6	
	comp=Z,55nm,0.7s								
HODGE	**Hodges**	62.11	70	*e*P		P	07 13 12.6	-0.3	
	comp=Z,47nm,0.7s								
BRYW	**Bryant College**	62.16	57	*e*P		P	07 13 13.5	+0.3	
	comp=Z,71nm,1.1s								
URVA	**University of**	62.25	64	*e*P		P	07 13 13.8	0.0	
LMN	**Caledonia Moun**	62.44	50	*e*P		P	07 13 14.6	-0.4	
	comp=Z,59nm,0.8s								
JSC	**Jenkinsville**	62.63	69	*e*P		P	07 13 16.6	+0.3	
JSC				pmax		pmax			
	comp=Z,44nm,0.7s								
JSC	**Jenkinsville**	62.63	69	*e*P		P	07 13 16.3	-0.1	
	comp=Z,44nm,0.7s								
WMQ	**Urumqi**	62.63	307	P		P	07 13 17.3	+1.0	
WMQ				pP		PcP	07 13 53.6	-0.1	
WMQ				sP		sP	07 14 11.6	+1.1	
WMQ				S		S	07 21 32.8	+1.1	
WMQ				pmax		pmax			
	comp=Z,16nm,1.3s								
WMQ				pmax		pmax			
	comp=Z,190nm,6.5s								
WMQ				LR		LR			
	comp=N,460nm,16.3s								
WMQ				LR		LR			
	comp=Z,190nm,20.9s								
WMQ	**Urumqi**	62.63	307	*e*P		P	07 13 19.3	+3.0	
WMQ				sP		sP	07 14 12.0	+1.5	
WMQ				S		S	07 21 27.9	-3.8	
WMQ				pmax		pmax			
	comp=Z,14nm,0.8s								
WMQ				pmax		pmax			
	comp=Z,150nm,5.5s								
WMQ				LR		LR			
	comp=Z,460nm,14.1s								
WMQ				LR		LR			
	comp=Z,340nm,14.1s								
WMQ				LR		LR			
	comp=Z,580nm,26.7s								
BVAR	**Borovoye Array**	62.69	324	P		P	07 13 16.5	0.0	
	comp=Z,4.2nm,0.4s,baz=44,slow=5.5,SNR=25								
BVAR				pP		pP	07 13 52.8	-0.7	
	comp=Z,3.3nm,0.5s,baz=44,slow=6.4,SNR=2.9								
BRVK	**Borovoye**	62.70	324	*d i*P		P	07 13 16.4	-0.1	
BRVK				pmax		pmax			
	comp=Z,49nm,1.7s								
BRVK	**Borovoye**	62.70	324	*e*P		P	07 13 16.6	+0.1	
	comp=Z,8.8nm,0.8s								
MK31	**Makanchi Array**	62.86	313	*i* P		P	07 13 16.0	-1.7	
MK31				pmax		pmax			
	comp=Z,5.0nm,0.7s								
MK31	**Makanchi Array**	62.86	313	*e*P		P	07 13 16.9	-0.9	
MKAR	**Makanchi Array**	62.86	313	*e*P		P	07 13 16.9	-0.8	
MKAR				pmax		pmax			
	comp=Z,34nm,0.7s								
MKAR	**Makanchi Array**	62.86	313	*e*P		P	07 13 16.9	-0.8	
	comp=Z,34nm,0.7s								
MK01	**Makanchi Array**	62.87	313	*e*P		P	07 13 16.6	-1.2	
DRLN	**Deer Lake**	62.97	43	*e*P		P	07 13 17.4	-0.9	
	comp=Z,31nm,0.9s								
MAKZ	**Makanchi**	62.98	313	*e*P		P	07 13 17.8	-0.7	
MAKZ				pmax		pmax			
	comp=Z,10.0nm,1.1s								
MAKZ	**Makanchi**	62.98	313	*e*P		P	07 13 17.8	-0.7	
	comp=Z,9.5nm,1.1s								
TIGA	**Tifton**	63.41	73	P		P	07 13 21.5	0.0	
	baz=318								
ARU	**Arti**	63.57	332	P		P	07 13 22.3	+0.1	
	comp=Z,4.4nm,0.5s,baz=40,slow=3.8,SNR=9.7								
ARU	**Arti**	63.57	332	*d i*P		P	07 13 21.9	-0.3	
ARU				*PP		pP	07 14 00.7	+1.3	
ARU				S		S	07 21 44.3	+1.5	
ARU				SS		SS	07 25 50.5	-1.4	
ARU				pmax		pmax			
	comp=Z,30nm,1.7s								
ARU	**Arti**	63.57	332	*e*P		P	07 13 22.5	+0.3	
	comp=Z,19nm,1.1s								
CD2	**Chengdu**	63.72	287	*e*P		P	07 13 23.5	-0.1	
CD2				pP		pP	07 14 03.8	+2.9	
CD2				sP		sP	07 14 19.4	+1.5	
CD2				S		S	07 21 50.0	+4.5	
CD2				ScS		SKSac	07 22 54.6	-7.2	
CD2				pmax		pmax			
	comp=Z,30nm,1.3s								
CD2				pmax		pmax			
	comp=Z,370nm,5.7s								
KLMR	**Klimovskoe**	63.73	344	*e*P		P	07 13 21.4	-1.8	
KLMR				*e*PP		pP	07 14 00.3	-0.1	
KLMR				pmax		pmax			
	comp=Z,18nm,1.4s								
CNNC	**Cliffs of the**	63.78	66	*e*P		P	07 13 24.2	+0.3	
	comp=Z,54nm,1.1s								
NHSC	**New Hope**	64.10	69	*e*P		P	07 13 26.5	+0.5	
	comp=Z,186nm,1.1s								
RGRS	**Roger Stewart**	64.24	69	*e*P		P	07 13 27.7	+0.7	
	comp=Z,1μm,0.6s								
FIA0	**FINESS Array S**	64.84	352	*e*P		P	07 13 30.2	-0.2	
FIA0				*e*PP		pP	07 14 06.5	-1.2	
FIA0	**FINESS Array S**	64.84	352	*e*P		P	07 13 30.2	-0.2	
FIA0				*ep*P		pP	07 14 06.5	-1.2	
FINES	**FINESS Array B**	64.84	352	P		P	07 13 30.2	-0.2	
	comp=Z,4.7nm,0.5s,baz=18,slow=6.5,SNR=30								
FINES				pP		pP	07 14 06.5	-1.2	
	comp=Z,7.9nm,0.8s,baz=31,slow=11,SNR=3.7								
TLIG	**Tlapa**	65.02	94	*e*P		P	07 13 33.0	+0.6	
	comp=Z,49nm,1.1s								
GYA	**Guiyang**	65.36	282	*e*P		P	07 13 35.0	+0.6	
GYA				pP		pP	07 14 12.6	+0.8	
GYA				sP		sP	07 14 30.3	+1.5	
GYA				PP		PP	07 16 02.4	+2.5	
GYA				ScP			07 17 53.0		
GYA				S		S	07 22 04.8	-1.0	
GYA				sS		sS	07 23 09.8	-0.8	
GYA				SKS		SKSac	07 23 11.1	-3.4	
GYA				pmax		pmax			
	comp=Z,20nm,1.0s								
GYA				pmax		pmax			
	comp=Z,120nm,5.4s								
NC204	**NORSAR Array S**	65.72	360	*e*P		P	07 13 36.5	+0.4	
NC303	**NORSAR Array S**	65.77	359	*e*P		P	07 13 36.3	-0

AAK	**Ala-Archa**	**69.54**	**315**	P		**P**	**07 14 00.3**	**-0.1**
	comp=Z,12nm,0.8s,baz=110,slow=3.1,SNR=23							
AAK	**Ala-Archa**	**69.54**	**315**	*d* /P		**P**	**07 14 00.4**	**-0.1**
AAK				*i* *PP		**pP**	**07 14 40.8**	**+2.5**
AAK				pmax	pmax			
	comp=Z,31nm,0.8s							
AAK	**Ala-Archa**	**69.54**	**315**	*e*P		**P**	**07 14 00.6**	**+0.1**
OBN	**Obninsk**	**69.69**	**344**	⇓*e*P		**P**	**07 14 00.9**	**-0.1**
OBN				*e**PP		**pP**	**07 14 40.1**	**+1.3**
OBN				*e*			07 16 36.7	
OBN				*e*PPP	PPP		07 18 16.1	
OBN				pmax	pmax			
	comp=Z,8.0nm,0.5s							
MNAS	**Manas**	**70.50**	**316**	P		**P**	**07 14 04.3**	**-2.0**
MNAS				pmax	pmax			
	comp=Z,10.0nm,0.9s							
KK31	**Karatay Array**	**70.81**	**318**	*i* P		**P**	**07 14 04.3**	**-3.7**
KK31				pmax	pmax			
	comp=Z,4.0nm,0.6s							
KKAR	**Karatay Array**	**70.81**	**318**	*e*P		**P**	**07 14 05.0**	**-3.0**
KKAR	**Karatay Array**	**70.81**	**318**	*e*P		**P**	**07 14 05.0**	**-3.0**
	comp=Z,52nm,0.6s							
SLVN	**Son La**	**70.89**	**280**	*e*P		**P**	**07 14 09.3**	**+0.4**
	comp=Z,12nm,1.1s							
KSH	**Kashi**	**71.44**	**312**	P		**P**	**07 14 15.1**	**+3.1**
KSH				pP	pP		07 14 53.1	+3.1
KSH				PP	PP		**07 16 58.1**	**+6.1**
KSH				S	S		**07 23 16.6**	**-0.8**
KSH				sS	sS		07 24 24.8	+1.6
KSH				SS	SS		**07 27 57.8**	**+3.6**
KSH				pmax	pmax			
	comp=Z,17nm,0.6s							
KSH				pmax	pmax			
	comp=Z,61nm,5.3s							
KSH				LR	LR			
	comp=Z,120nm,10.2s							
KSH				LR	LR			
	comp=Z,140nm,10.3s							
KSH				LR	LR			
	comp=Z,140nm,16.1s							
PPT	**Papeete**	**72.79**	**160**	LR	LR		07 40 14.9	
	comp=Z,76nm,20.1s,baz=352,slow=31							
BBSR	**BB Station**	**72.98**	**59**	*e*P		**P**	**07 14 21.4**	**+0.4**
	comp=Z,22nm,0.6s							
FAKI	**Fak Fak**	**73.81**	**242**	*e*P		**P**	**07 14 26.6**	**+0.5**
	comp=Z,210nm,1.8s							
TGUH	**Tegucigalpa,Un**	**74.52**	**87**	*e*P		**P**	**07 14 32.5**	**+2.3**
TGUH				*e*pP		**pP**	**07 15 08.8**	**+0.3**
UBPT	**Khong Chiam**	**74.65**	**275**	P		**P**	**07 14 31.4**	**+0.4**
	comp=Z,36nm,1.5s,comp=Z,658nm							
MYLDM	**Lahad Datu**	**74.86**	**258**	*e*P		**P**	**07 14 33.8**	**+1.6**
	comp=Z,123nm,1.5s							
AKASG	**Malin Array Be**	**75.06**	**347**	P		**P**	**07 14 32.0**	**-0.9**
	comp=Z,4.2nm,0.4s,baz=15,slow=5.8,SNR=18							
AKASG				pP		**pP**	**07 15 10.7**	**-0.6**
	comp=Z,2.0nm,0.6s,baz=14,slow=6.0,SNR=2.5							
AKASG				LR	LR		07 52 49.5	
	comp=Z,90nm,18.6s,baz=10.0,slow=40							
AKASG	**Malin Array Be**	**75.06**	**347**	*i* P		**P**	**07 14 32.2**	**-0.7**
AKASG				pmax	pmax			
	comp=Z,4.0nm,0.4s							
AKBB	**Malin Array Si**	**75.06**	**347**	*e*P		**P**	**07 14 32.5**	**-0.4**
AKBB				*e**PP		**pP**	**07 15 10.7**	**-0.5**
AKBB				pmax	pmax			
	comp=Z,11nm,1.0s							
AKBB	**Malin Array Si**	**75.06**	**347**	*e*P		**P**	**07 14 32.5**	**-0.4**
	comp=Z,11nm,1.0s							
AKBB				*e*pP		**pP**	**07 15 10.7**	**-0.5**
KIEV	**Kiev**	**75.07**	**348**	*e*P		**P**	**07 14 32.5**	**-0.4**
KIEV				pmax	pmax			
	comp=Z,11nm,1.0s							
KIEV	**Kiev**	**75.07**	**348**	*e*P		**P**	**07 14 32.5**	**-0.4**
	comp=Z,11nm,1.0s							
AK11	**Malin Array Si**	**75.09**	**348**	*e*P		**P**	**07 14 31.6**	**-1.4**
TAPN	**Taplejung**	**75.39**	**296**	*e*P		**P**	**07 14 34.9**	**-0.6**
UTTA	**Uttaradit**	**75.65**	**280**	P		**P**	**07 14 36.6**	**-0.1**
	comp=Z,7.0nm,1.4s							
CLL	**Collm**	**75.68**	**358**	*e*P		**P**	**07 14 37.4**	**+1.0**
CLL				pmax	pmax			
	comp=Z,10.0nm,1.1s							
CLL	**Collm**	**75.68**	**358**	⇓*i*P		**P**	**07 14 36.6**	**+0.2**
	comp=Z,8.0nm,0.5s							
CLL				*e*S		**S**	**07 24 06.0**	**+1.6**
CLL				LmV			07 40 00.0	
	comp=Z,100nm,22.0s							
CLL	**Collm**	**75.68**	**358**	*e*P		**P**	**07 14 37.4**	**+1.0**
	comp=Z,10nm,1.1s							
CMMT	**Chiang Mai**	**75.76**	**282**	P		**P**	**07 14 37.5**	**+0.1**
	comp=Z,15nm,1.6s							
CHTO	**Chiang Mai**	**75.76**	**282**	P		**P**	**07 14 37.5**	**+0.2**
	comp=Z,88nm,1.9s							
CHTO	**Chiang Mai**	**75.76**	**282**	*e*P		**P**	**07 14 37.6**	**+0.2**
CHTO				pmax	pmax			
	comp=Z,29nm,1.4s							
CHTO	**Chiang Mai**	**75.76**	**282**	*e*P		**P**	**07 14 37.6**	**+0.3**
	comp=Z,29nm,1.4s							
GUN	**Gumba**	**75.93**	**298**	*e*P		**P**	**07 14 38.1**	**-0.5**
	comp=Z,25nm,0.4s							
JIRN	**Jiri**	**75.96**	**297**	*e*P		**P**	**07 14 38.4**	**-0.4**
	comp=Z,30nm,0.4s							
BRG	**Berggiesshubel**	**76.10**	**357**	*e*P		**P**	**07 14 39.5**	**+0.8**
	comp=Z,6.8nm,0.7s							
BRG				*i*			07 14 43.4	
	comp=Z,4.4nm,0.4s							
BRG				*e*			07 15 19.5	
	comp=Z,27nm,1.6s							
BRG				S		**S**	**07 24 08.0**	**-0.9**
BRG	**Berggiesshubel**	**76.10**	**357**	*e*P		**P**	**07 14 39.5**	**+0.8**
BRG				*e*			07 15 19.5	
BRG				S		**S**	**07 24 08.0**	**-0.9**
BRG				pmax	pmax			
	comp=Z,7.0nm,0.7s							
CHAI	**Chaiyaphum**	**76.24**	**278**	P		**P**	**07 14 41.3**	**+1.2**
	comp=Z,4.2nm,1.1s							
RAMN	**Ramite**	**76.31**	**297**	*e*P		**P**	**07 14 39.7**	**-1.0**
	comp=Z,22nm,0.4s							
PBKT	**Sadao Pong**	**76.32**	**279**	P		**P**	**07 14 41.0**	**+0.5**
	comp=Z,22nm,1.2s							
KKN	**Kakani**	**76.34**	**298**	*e*P		**P**	**07 14 40.0**	**-0.8**
MEM	**Membach**	**76.36**	**3**	P		**P**	**07 14 40.6**	**+0.4**
	comp=Z,15nm,1.6s							
MEM				AP		**pP**	**07 15 21.1**	**+2.4**
MOX	**Moxa**	**76.37**	**359**	P		**P**	**07 14 41.6**	**+1.3**
MOX				pmax	pmax			
	comp=Z,11nm,0.9s							
UPC	**Upice**	**76.39**	**356**	*e*P		**P**	**07 14 41.2**	**+0.8**
UPC				*e*pP		**pP**	**07 15 21.7**	**+2.8**
UPC	**Upice**	**76.39**	**356**	*e*P		**P**	**07 14 41.2**	**+0.8**
UPC				*e**PP		**pP**	**07 15 21.7**	**+2.8**
SUKH	**Sukhothai**	**76.40**	**281**	P		**P**	**07 14 42.5**	**+1.6**
	comp=Z,3.9nm,1.2s							
PKI	**Pulchoki**	**76.45**	**298**	*e*P		**P**	**07 14 40.5**	**-1.0**
	comp=Z,10nm,0.4s							
PKIN	**Phulchoki**	**76.45**	**298**	*e*P		**P**	**07 14 41.0**	**-0.5**
GKN	**Gorkha**	**76.51**	**299**	*e*P		**P**	**07 14 40.7**	**-1.0**
	comp=Z,19nm,0.4s							
BCLA	**Clavier**	**76.53**	**3**	P		**P**	**07 14 41.7**	**+0.6**
DPC	**Dobruska-Polom**	**76.53**	**356**	*e*P		**P**	**07 14 42.0**	**+0.7**
DPC				*e*pP		**pP**	**07 15 23.0**	**+3.2**
DPC				*e*sP		**sP**	**07 15 36.6**	**0.0**
DPC	**Dobruska-Polom**	**76.53**	**356**	*e*P		**P**	**07 14 42.0**	**+0.7**
DPC				*e**PP		**pP**	**07 15 23.0**	**+3.2**
DPC				*e*			07 15 36.6	
DMN	**Daman**	**76.58**	**298**	*e*P		**P**	**07 14 41.5**	**-0.7**
	comp=Z,13nm,0.4s							
NKC	**Novy Kostel**	**76.77**	**358**	*e*P		**P**	**07 14 43.4**	**+0.8**
NKC				*e*pP		**pP**	**07 15 23.9**	**+2.8**
NKC	**Novy Kostel**	**76.77**	**358**	*e*P		**P**	**07 14 43.4**	**+0.8**
NKC				*e**PP		**pP**	**07 15 23.9**	**+2.8**
DOU	**Dourbes**	**76.83**	**4**	P		**P**	**07 14 43.2**	**+0.4**
GIVF	**Givet**	**76.83**	**3**	*e*P		**P**	**07 14 42.5**	**-0.4**
GIVF				pmax	pmax			
	comp=Z,28nm,1.2s							
BAIF	**Baives**	**76.85**	**4**	*e*P		**P**	**07 14 42.8**	**-0.2**
BAIF				pmax	pmax			
	comp=Z,6.0nm,0.5s							
PRU	**Pruhonice**	**76.96**	**357**	*e*P		**P**	**07 14 44.5**	**+0.9**
PRU				*e*pP		**pP**	**07 15 25.0**	**+2.8**
PRU	**Pruhonice**	**76.96**	**357**	*e*P		**P**	**07 14 44.5**	**+0.9**
PRU				*e**PP		**pP**	**07 15 25.0**	**+2.8**
GOPC	**GO Pecny, Ondr**	**77.03**	**357**	*e*P		**P**	**07 14 44.8**	**+0.8**
GOPC				*e*pP		**pP**	**07 15 25.5**	**+2.9**
GOPC	**GO Pecny, Ondr**	**77.03**	**357**	*e*P		**P**	**07 14 44.8**	**+0.8**
GOPC				*e**PP		**pP**	**07 15 25.5**	**+2.9**
MORC	**Moravsky Berou**	**77.05**	**355**	⇑*i*P		**P**	**07 14 43.7**	**-0.5**
MORC	**Moravsky Berou**	**77.05**	**355**	*e*P		**P**	**07 14 45.2**	**+1.0**
MORC	**Moravsky Berou**	**77.05**	**355**	*e*P		**P**	**07 14 45.2**	**+1.0**
MORC				*e*pP		**pP**	**07 15 25.5**	**+2.8**
STHS	**Stebnicka Huta**	**77.17**	**353**	*e*P		**P**	**07 14 46.7**	**+1.9**
STHS				pmax	pmax			
	comp=Z,6.0nm,0.8s							
STHS	**Stebnicka Huta**	**77.17**	**353**	*e*P		**P**	**07 14 46.7**	**+1.9**
KOLN	**Koldanda**	**77.24**	**299**	*e*P		**P**	**07 14 45.0**	**-0.8**
	comp=Z,11nm,0.6s							
PYUN	**Piuthan**	**77.29**	**300**	*e*P		**P**	**07 14 45.4**	**-0.7**
LUWI	**Luwuk**	**77.44**	**251**	*e*P		**P**	**07 14 46.9**	**+0.1**
	comp=Z,722nm,1.6s							
LANS	**Liptovska Anna**	**77.56**	**354**	*e*P		**P**	**07 14 49.0**	**+2.0**
LANS				*e*			07 15 29.4	
LANS	**Liptovska Anna**	**77.56**	**354**	*e*P		**P**	**07 14 49.0**	**+2.0**
LANS				*e*			07 15 29.4	
VRAC	**Vranov**	**77.56**	**356**	P		**P**	**07 14 47.7**	**+0.7**
	comp=Z,6.5nm,0.5s,baz=7.2,slow=6.2,SNR=6.4							
VRAC	**Vranov**	**77.56**	**356**	⇑*i*P		**P**	**07 14 46.7**	**-0.3**
KHC	**Kasperske Hory**	**77.85**	**358**	*e*P		**P**	**07 14 49.4**	**+0.8**
KHC				*e*pP		**pP**	**07 15 30.3**	**+3.1**
KHC				*e*sP		**sP**	**07 15 43.9**	**-0.1**
KHC	**Kasperske Hory**	**77.85**	**358**	*e*P		**P**	**07 14 49.4**	**+0.8**
KHC				*e**PP		**pP**	**07 15 30.3**	**+3.1**
KHC				*e*			07 15 43.9	
KHC	**Kasperske Hory**	**77.85**	**358**	*e*P		**P**	**07 14 49.5**	**+0.9**
KHC				*e*pP		**pP**	**07 15 30.4**	**+3.2**
UMPA	**Umpang Tak**	**77.85**	**281**	P		**P**	**07 14 51.6**	**+2.5**
	comp=Z,7.8nm,1.0s,comp=Z,782nm							
UTHA	**Uthaitani**	**78.02**	**280**	P		**P**	**07 14 51.7**	**+1.7**
	comp=Z,5.8nm,1.4s,comp=Z,71nm							
LDF	**La Druitiere**	**78.07**	**7**	*e*P		**P**	**07 14 48.9**	**-0.9**
LDF				pmax	pmax			
	comp=Z,12nm,0.7s							
GEC2	**GERESS Array S**	**78.13**	**358**	*e*P		**P**	**07 14 50.7**	**+0.4**
GEC2				*e**PP		**pP**	**07 15 31.4**	**+2.5**
GEC2	**GERESS Array S**	**78.13**	**358**	*e*P		**P**	**07 14 50.7**	**+0.4**
GEC2				*e*pP		**pP**	**07 15 31.4**	**+2.5**
GERES	**GERESS Array B**	**78.13**	**358**	P		**P**	**07 14 50.6**	**+0.4**
	comp=Z,2.5nm,0.5s,baz=7.6,slow=4.0,SNR=20							
GERES				LR	LR		07 51 22.9	
	comp=Z,49nm,19.2s,baz=9.0,slow=37							
GEA0	**GERESS Array S**	**78.14**	**358**	*e*P		**P**	**07 14 50.2**	**-0.1**
GEA0				*e*pP		**pP**	**07 15 31.4**	**+2.5**
KECS	**Kecovo**	**78.15**	**353**	*e*P		**P**	**07 14 50.6**	**+0.3**
KECS				pmax	pmax			
	comp=Z,3.0nm,0.8s							
KECS	**Kecovo**	**78.15**	**353**	*e*P		**P**	**07 14 50.6**	**+0.3**
GRR	**Gorron**	**78.22**	**7**	*e*P		**P**	**07 14 50.0**	**-0.6**
GRR				pmax	pmax			
	comp=Z,22nm,1.2s							
VYHS	**Vyhne**	**78.25**	**354**	*e*P		**P**	**07 14 51.8**	**+1.0**
VYHS				*e*			07 15 32.1	
VYHS				pmax	pmax			
	comp=Z,4.0nm,0.9s							
VYHS	**Vyhne**	**78.25**	**354**	*e*P		**P**	**07 14 51.8**	**+1.0**
VYHS				*e*			07 15 32.1	
BUR08	**Bucovina Ar. S**	**78.55**	**350**	*e*P		**P**	**07 14 52.8**	**+0.1**
BURAR	**Bucovina Array**	**78.58**	**350**	⇑/*i*P		**P**	**07 14 51.9**	**-0.9**
BURAR	**Bucovina Array**	**78.58**	**350**	⇑P		**P**	**07 14 51.9**	**-0.9**
CDF	**Champ du Feu**	**78.59**	**2**	*e*P		**P**	**07 14 52.4**	**-0.4**
CDF				pmax	pmax			
	comp=Z,5.0nm,0.5s							
KBL	**Kabul**	**78.63**	**314**	*e*P		**P**	**07 14 52.4**	**-1.0**
KBL				pmax	pmax			
	comp=Z,10.0nm,0.8s							
KBL	**Kabul**	**78.63**	**314**	*e*P		**P**	**07 14 52.4**	**-1.0**
	comp=Z,10nm,0.8s							
CONA	**Conrad Observa**	**78.97**	**356**	*i* P		**P**	**07 14 56.0**	**+1.2**
	comp=Z,13nm,1.0s							
CONA				*e*pP		**pP**	**07 15 36.3**	**+2.7**
	comp=Z,14nm,1.2s							
KIV	**Kislovodsk**	**79.09**	**337**	*e*P		**P**	**07 14 56.2**	**+0.6**
KIV				*e*S		**S**	**07 24 43.4**	**+1.8**
KIV				pmax	pmax			
	comp=Z,9.0nm,1.1s							
KIV				MLR	MLR			
	comp=Z,65nm,18.0s							
MOA	**Molln**	**79.11**	**357**	*i* P		**P**	**07 14 56.6**	**+1.1**
HINF	**Hinteralfeld**	**79.17**	**2**	*e*P		**P**	**07 14 55.5**	**-0.4**
HINF				pmax	pmax			
	comp=Z,6.0nm,0.5s							
KBZ	**Khabaz**	**79.26**	**336**	P		**P**	**07 14 57.2**	**+0.9**
	comp=Z,4.7nm,0.8s,baz=53,slow=4.2,SNR=8.0							
KBZ				LR	LR		07 53 22.2	
	comp=Z,55nm,18.4s,baz=5.5,slow=38							
ANN	**Anapa**	**79.44**	**341**	*e*P		P	07 14 51.0	-6.3
ANN				pmax	pmax			
	comp=Z,87nm,1.4s							
RETA	**Reutte**	**79.54**	**359**	*i* P		**P**	**07 14 59.3**	**+1.4**
	comp=Z,5.7nm,0.5s							
RETA				*i* pP		**pP**	**07 15 39.5**	**+2.8**
	comp=Z,9.2nm,1.5s							
DRGR		**79.65**	**351**	⇑/*i*P		**P**	**07 14 58.2**	**-0.3**
DRGR		**79.65**	**351**	⇑P		**P**	**07 14 58.2**	**-0.3**
ARSA	**Arzberg**	**79.67**	**356**	*e*P		**P**	**07 15 00.1**	**+1.5**
	comp=Z,6.2nm,0.6s							
ARSA				*e*pP		**pP**	**07 15 40.4**	**+3.0**
	comp=Z,9.5nm,1.1s							
MOTA	**Moosalm**	**79.68**	**359**	*e*P		**P**	**07 14 59.6**	**+0.9**
	comp=Z,5.5nm,0.5s							
MOTA				*i* pP		**pP**	**07 15 40.6**	**+3.1**
	comp=Z,13nm,1.2s							
WATA	**Walderalm**	**79.68**	**359**	*e*P		**P**	**07 14 59.6**	**+0.8**
	comp=Z,4.1nm,0.4s							
WATA				*e*pP		**pP**	**07 15 40.6**	**+3.0**
	comp=Z,4.1nm,0.5s							
WTTA	**Wattenberg**	**79.75**	**359**	*i* P		**P**	**07 15 00.4**	**+1.1**
	comp=Z,16nm,1.0s							
ZEI	**Tsey**	**79.90**	**335**	*e*P		**P**	**07 14 58.5**	**-1.6**
ZEI				*e*			07 15 41.9	
ZEI				pmax	pmax			
	comp=Z,15nm,0.7s							
KBA	**Koelnbreinsper**	**79.91**	**358**	*e*P		**P**	**07 15 01.4**	**+1.4**
	comp=Z,20nm,0.5s							
KBA				*e*pP		**pP**	**07 15 42.0**	**+3.1**
	comp=Z,15nm,0.7s							
FETA	**Feichten**	**80.00**	**360**	*e*PcP		**P**	**07 15 02.2**	**+1.6**
	comp=Z,13nm,0.9s							
FETA				*e*pP		**pP**	**07 15 42.1**	**+2.8**
	comp=Z,15nm,1.0s							
GEYT	**Alibeck**	**80.02**	**323**	P		**P**	**07 15 00.7**	**+0.1**
	comp=Z,6.1nm,0.8s,baz=331,slow=5.4,SNR=8.3							
GEYT				LR	LR		07 53 60.0	
	comp=Z,131nm,18.8s,baz=355,slow=38							
SDDR	**Presa de Saban**	**80.04**	**72**	*e*P		**P**	**07 15 01.9**	**+0.9**
	comp=Z,24nm,0.8s							
DAVOX	**Davos/Dischmat**	**80.25**	**0**	P		**P**	**07 15 02.6**	**+0.7**
	comp=Z,8.2nm,0.5s,baz=164,slow=6.4,SNR=16							
ABTA	**Abfaltersbach**	**80.25**	**358**	*e*PcP		**P**	**07 15 03.8**	**+1.9**
	comp=Z,6.9nm,0.6s							
ABTA				*e*pP		**pP**	**07 15 42.5**	**+1.9**
	comp=Z,19nm,1.3s							
SOKA	**Soboth**	**80.25**	**356**	*e*P		**P**	**07 15 03.3**	**+1.5**
	comp=Z,9.9nm,0.8s							
SOKA				*e*pP		**pP**	**07 15 41.6**	**+1.0**
	comp=Z,15nm,1.3s							
CABF	**La Chapelle**	**80.36**	**3**	*e*P		**P**	**07 15 02.6**	**+0.2**
CABF				pmax	pmax			
	comp=Z,16nm,0.8s							
OBKA	**Obir**	**80.44**	**357**	*e*PcP		**P**	**07 15 04.5**	**+1.7**
	comp=Z,3.8nm,0.5s							
OBKA				*e*pP		**pP**	**07 15 44.7**	**+3.0**
	comp=Z,21nm,1.2s							
SBUM	**Sibu**	**80.75**	**262**	*e*P		**P**	**07 15 05.5**	**+0.7**
	comp=Z,100nm,1.7s							
GZR	**Gura Zlata**	**81.03**	**351**	⇓/*i*P		**P**	**07 15 06.7**	**+0.8**
GZR	**Gura Zlata**	**81.03**	**351**	⇓P		**P**	**07 15 06.7**	**+0.8**
CAF	**Calviac**	**81.86**	**6**	*e*P		**P**	**07 15 10.2**	**-0.1**
CAF				pmax	pmax			
	comp=Z,8.0nm,0.8s							
ORIF	**Oris-en-Rattie**	**82.04**	**3**	*e*P		**P**	**07 15 11.7**	**+0.4**
ORIF				pmax	pmax			
	comp=Z,7.0nm,0.6s							
VIVF	**Saint-Julien-l**	**82.06**	**4**	*e*P		**P**	**07 15 11.4**	**+0.1**
VIVF				pmax	pmax			
	comp=Z,6.0nm,0.5s							
GNI	**Garni**	**82.16**	**334**	⇑/*i*P		**P**	**07 15 12.6**	**+0.5**
GNI				pmax	pmax			
	comp=Z,71nm,2.0s							
CTA	**Charters Tower**	**82.32**	**221**	P		**P**	**07 15 13.4**	**+0.7**
	comp=Z,9.3nm,0.4s,baz=25,slow=6.3,SNR=14							
CTAO	**Charters Tower**	**82.32**	**221**	*e*P		**P**	**07 15 13.5**	**+0.7**
CTAO				pmax	pmax			
	comp=Z,14nm,0.9s							
CTAO	**Charters Tower**	**82.32**	**221**	*e*P		**P**	**07 15 13.5**	**+0.7**
	comp=Z,14nm,0.9s							
KSM	**Kuching**	**82.67**	**263**	*e*P		**P**	**07 15 15.5**	**+0.6**
	comp=Z,144nm,1.7s							
MTN	**Manton Dam**	**82.80**	**237**	*e*P		**P**	**07 15 15.7**	**+0.4**
	comp=Z,36nm,0.6s							
SOEI	**Soe**	**83.80**	**245**	*e*P		**P**	**07 15 21.6**	**+0.9**
	comp=Z,115nm,1.5s							
PGF	**Pioggiola**	**84.47**	**1**	*e*P		**P**	**07 15 24.6**	**+0.8**
PGF				pmax	pmax			
	comp=Z,95nm,1.4s							
SJCC	**San Jacinto, C**	**85.00**	**80**	*e*P		**P**	**07 15 27.0**	**+0.3**
BR101	**Keskin Array S**	**85.07**	**342**	*e*P		**P**	**07 15 27.5**	**+0.6**
BR101				*e*pP		**pP**	**07 16 05.2**	**-0.9**
BRTR	**Keskin Array B**	**85.07**	**342**	P		**P**	**07 15 27.5**	**+0.6**
	comp=Z,1.0nm,0.5s,baz=29,slow=2.8,SNR=4.0							
BRTR				pP		**pP**	**07 16 05.2**	**-0.9**
	comp=Z,4.3nm,0.8s,baz=29,slow=2.8,SNR=2.6							
BRTR				LR	LR		07 59 23.3	
	comp=Z,36nm,18.2s,baz=2.0,slow=40							
BRTR	**Keskin Array B**	**85.07**	**342**	*i* P		**P**	**07 15 27.7**	**+0.8**
BRTR				pmax	pmax			
	comp=Z,1.0nm,0.5s							
BR231	**Keskin MP Arra**	**85.12**	**343**	*e*P		**P**	**07 15 28.2**	**+1.2**
KULM	**Kulim**	**85.41**	**273**	*e*P		**P**	**07 15 29.1**	**+0.4**
	comp=Z,24nm,1.1s							
MOTC	**Monteria, Cord**	**85.60**	**81**	*e*P		**P**	**07 15 27.6**	**-2.1**
ES19	**SONSECA Array**	**86.54**	**11**	*e*P		**P**	**07 15 34.2**	**+0.1**
ESDC	**Sonseca Array**	**86.56**	**11**	P		**P**	**07 15 34.0**	**-0.1**
	comp=Z,3.3nm,0.6s,baz=346,slow=5.0,SNR=16							
ESDC				LR	LR		07 54 42.2	
	comp=Z,37nm,21.0s,baz=330,slow=36							
DBBC	**Dabeiba**	**86.68**	**83**	*e*P		**P**	**07 15 38.4**	**+3.3**
WRAB	**Tennant Creek**	**87.31**	**231**	⇓*i*P		**P**	**07 15 37.6**	**-0.1**
WRAB				pmax	pmax			
	comp=Z,70nm,1.2s							
WRAB	**Tennant Creek**	**87.31**	**231**	*e*P		**P**	**07 15 37.7**	**0.0**
	comp=Z,29nm,1.2s							
WB2	**Warramunga Arr**	**87.32**	**231**	*e*P		**P**	**07 15 37.7**	**-0.1**
WR1	**Warramunga Arr**	**87.33**	**231**	*e*P		**P**	**07 15 37.8**	**0.0**
	comp=Z,26nm,1.1s							
WR1				*e*pP		**pP**	**07 16 15.3**	**-1.9**
WRA	**Warramunga Arr**	**87.33**	**231**	P		**P**	**07 15 37.8**	**0.0**
	comp=Z,13nm,1.0s,baz=36,slow=6.1,SNR=90							
WRA				pP		**pP**	**07 16 15.3**	**-1.9**
	comp=Z,12nm,1.1s,baz=34,slow=4.9,SNR=5.3							
WRA				PKiKP		**PKiKP**	**07 20 40.5**	**-0.7**
	comp=Z,0.3nm,0.5s,baz=1.7,slow=1.6,SNR=3.5							
WRA	**Warramunga Arr**	**87.33**	**231**	*i* P		**P**	**07 15 37.7**	**-0.1**
WRA				pmax	pmax			
	comp=Z,5.0nm,0.4s							
BRRC	**Barranca, Sant**	**88.09**	**81**	*e*P		**P**	**07 15 40.6**	**-1.1**
HYB	**Hyderabad**	**88.35**	**297**	*i* P		**P**	**07 15 42.0**	**-0.9**
GIRC	**Giron, Santand**	**88.42**	**80**	*e*P		**P**	**07 15 43.5**	**0.0**
PSI	**Prapat**	**88.42**	**273**	*e*P		**P**	**07 15 43.4**	**0.0**
PSI	**Prapat**	**88.42**	**273**	*e*P		**P**	**07 15 43.4**	**0.0**
	comp=Z,48nm,0.8s							
PAMC	**Pamplona, Colo**	**88.50**	**80**	*e*P		**P**	**07 15 42.9**	**-1.3**
GUYC	**Guyana, Colomb**	**88.60**	**83**	*e*P		**P**	**07 15 45.7**	**+1.1**
RUSC	**La Rusia**	**89.43**	**81**	*e*P		**P**	**07 15 48.6**	**0.0**
RUSC	**La Rusia**	**89.43**	**81**	*e*P		**P**	**07 15 49.2**	**+0.6**
	comp=Z,27nm,1.3s							
FITZ	**Fitzroy Crossi**	**90.03**	**239**	*e*P		**P**	**07 15 51.2**	**+0.7**
	comp=Z,16nm,0.9s							
PRAC	**Prado**	**90.10**	**84**	*e*P		**P**	**07 15 49.7**	**-1.5**
PRAC	**Prado**	**90.10**	**84**	*e*P		**P**	**07 15 51.8**	**+0.7**
PRAC				*e*pP		**pP**	**07 16 28.7**	**-2.1**
AS01	**Alice Springs**	**90.72**	**230**	*e*P		**P**	**07 15 54.1**	**+0.4**
AS31	**Alice Springs**	**90.74**	**230**	*e*P		**P**	**07 15 54.6**	**+0.8**
	comp=Z,3.9nm,0.8s							
ASAR	**Alice Springs**	**90.74**	**230**	P		**P**	**07 15 54.3**	**+0.5**
	comp=Z,12nm,0.8s,baz=27,slow=4.6,SNR=100							
ASAR				pP		**pP**	**07 16 32.3**	**-1.1**
	comp=Z,9.2nm,0.8s,baz=38,slow=4.6,SNR=6.3							
ASAR				PKiKP		**PKiKP**	**07 20 46.9**	**+0.1**
	comp=Z,0.3nm,0.4s,baz=63,slow=1.1,SNR=4.3							
STKA	**Stephens Creek**	**94.71**	**220**	LR	LR		07 55 19.2	
	comp=Z,81nm,20.1s,baz=26,slow=33							
TORD	**Torodi Ar. Bea**	**113.39**	**9**	PKiKP		**PKiKP**	**07 21 27.4**	**-0.7**
	comp=Z,0.9nm,0.4s,baz=344,slow=2.4,SNR=23							
TORD				PKKPbc		**PKKPbc**	**07 32 11.4**	**+0.7**
	comp=

KULA				*e*SG	Sb	07 33 11.0	-0.9	
KULA	**Kula-Manisa**	**0.66**	**213**	*e*Pg	Pg	07 33 01.6	+0.5	
KULA				*e*Sg	Sb	07 33 11.0	-0.9	
MANT	**Manisa**	**0.72**	**217**	*i* P	Pg	07 32 56.3	-6.1	
MANT				*i* S	Sg	07 33 05.7	-6.1	
MANT	**Manisa**	**0.72**	**217**	P	Pg	07 32 56.3	-6.1	
MANT				S	Sg	07 33 05.7	-6.1	
AKHS	**Akhisar**	**1.03**	**260**	*i* P	Pb	07 33 08.7	-0.1	
AKHS				*i* S	Sg	07 33 18.5	-3.3	
AKHS	**Akhisar**	**1.03**	**260**	P	Pb	07 33 08.7	-0.1	
AKHS				S	Sg	07 33 18.5	-3.2	
IGD	**Bursa**	**1.20**	**3**	*i* P	Pn	07 33 12.6	+0.8	
IGD				*i* S	Sg	07 33 25.8	-1.2	
BORA	**Eskisehir**	**1.31**	**51**	*i* P	Pg	07 33 14.3	+0.6	
BORA				*i* S	Sn	07 33 32.8	+1.4	
ESKT	**Eskisehir**	**1.42**	**71**	*i* P	Pg	07 33 17.7	+2.0	
ESKT				*i* S	Sg	07 33 34.8	+0.7	
ARMT	**Armutlu**	**1.51**	**353**	*e*PN	Pb	07 33 16.7	-0.3	
ARMT				*e*SN	Sg	07 33 37.6	+0.6	
ARMT	**Armutlu**	**1.51**	**353**	*e*Pn	Pb	07 33 16.7	-0.2	
ARMT				*e*Sn	Sg	07 33 37.6	+0.6	
SBT5	**Esenkoy-Cinarc**	**1.57**	**353**	*e*PN	Pb	07 33 17.8	-0.1	
SBT5	**Esenkoy-Cinarc**	**1.57**	**353**	*e*Pn	Pb	07 33 17.8	-0.2	
GULT	**Gulveren**	**1.74**	**38**	*e*PN	Pn	07 33 19.6	+0.3	
GULT	**Gulveren**	**1.74**	**38**	*e*Pn	Pn	07 33 19.6	+0.3	

SOME ***19*** *07:57:45.0, 40°.75N × 78°.17E, h15km*
KRNET ***19*** *07:57:46.3 ± 0.1, 40°.91N × 78°.25E, h6km, mb2.5*
NNC ***19*** *07:57:48.8 ± 3.8, 40°.99N × 78°.07E, h0km, mb3.2, mpv2.9, Error ellipse: s-maj=35.7km s-min=15.0km az=172.0*

ISC 19 07:57:49.5 ± 2.4, 41°.03N ± 0°.09 × 78°.13E ± 0°.04, h5km ± 14km, n25, σ1§32/46, 17C-6D, Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
KDJ	**Kajisay**	**1.31**	**327**	⇓	*e*P	**Pn**	**07 58 13.4**	**-1.3**
KDJ	baz=327			⇓	*e*S	**Sg**	**07 58 34.3**	**+2.5**
NRN	**Naryn**	**1.66**	**285**	⇑	*e*P	**Pb**	**07 58 20.1**	**-0.6**
NRN	baz=287			⇑	*i* S	**Sg**	**07 58 44.7**	**+1.9**
ANVS	**Anan'yevo**	**1.79**	**349**	⇑	*e*P	**Pb**	**07 58 22.1**	**-0.8**
ANVS	baz=347			⇑	*i* S	**Sg**	**07 58 48.2**	**+1.1**
ULHL	**Ulahol**	**1.87**	**311**	⇑	*i* P	**Pb**	**07 58 22.7**	**-1.5**
ULHL	baz=312			⇑	*i* S	**Sg**	**07 58 49.3**	**-0.3**
SATY	**Saty**	**2.04**	**6**		*e*P	**Pb**	**07 58 27.1**	**0.0**
SATY	16nm,0.4s				*e*S	**Sg**	**07 58 57.4**	**+2.2**
TNSS	**Tian-Shan**	**2.20**	**337**		*e*P	**Pb**	**07 58 30.5**	**+0.6**
TNSS	7.5nm,0.0s				*e*S	**Sg**	**07 59 03.2**	**+3.2**
BOOM	**Boomskoye usch**	**2.20**	**312**	⇑	*e*P	**Pb**	**07 58 28.7**	**-1.1**
BOOM	baz=313			⇑	*e*S	**Sg**	**07 58 59.1**	**-1.0**
UZB	**Uzynbulak**	**2.22**	**17**		*e*P	**Pb**	**07 58 29.4**	**-0.8**
UZB	2.2nm,0.2s				*e*S	**Sg**	**07 59 01.2**	**+0.3**
MDOK	**Medeo**	**2.28**	**340**		*e*P	**Pb**	**07 58 31.0**	**-0.3**
MDOK	6.2nm,0.4s				*e*S	**Sg**	**07 59 04.2**	**+1.3**
IZV	**Izvestkoviy**	**2.31**	**331**		*e*P	**Pb**	**07 58 31.9**	**+0.2**
IZV	9.1nm,0.2s				*e*S	**Sg**	**07 59 05.8**	**+2.3**
SHLS	**Shalkode**	**2.35**	**24**		*e*P	**Pg**	**07 58 33.5**	**-1.0**
SHLS	2.3nm,0.2s				*e*S	**Sg**	**07 59 08.3**	**+3.3**
KZA	**Kyzart**	**2.41**	**297**	⇑	*i* P	**Pn**	**07 58 30.6**	**+0.7**
KZA	baz=298			⇑	*i* S	**Sb**	**07 59 02.7**	**-0.9**
MTBS	**Maitube**	**2.46**	**329**		*e*P	**Pb**	**07 58 33.3**	**-0.9**
MTBS	3.9nm,0.3s				*e*S	**Sg**	**07 59 07.8**	**-0.5**
KURS	**Kuram**	**2.46**	**1**		*e*P	**Pb**	**07 58 34.3**	**0.0**
KURS	1.9nm,0.3s				*e*S	**Sg**	**07 59 09.5**	**+0.9**
KPKS	**Kokpek**	**2.47**	**9**		*e*P	**Pb**	**07 58 33.9**	**-0.5**
KPKS	27nm,0.3s				*e*S	**Sg**	**07 59 09.4**	**+0.4**
PDGK	**Podgornoye**	**2.51**	**23**	⇑	*e*P	**Pn**	**07 58 31.2**	**+0.1**
PDGK	baz=20			⇑	*e*S	**Sb**	**07 59 04.1**	**-2.4**
PDGK	**Podgornoye**	**2.51**	**23**	⇓	Pn	**Pn**	**07 58 32.3**	**+1.2**
PDGK	4.5nm,0.4s			⇓	Lg	Lg	07 59 07.9	
KST	**Kastek**	**2.58**	**322**		*e*P	**Pb**	**07 58 36.0**	**-0.3**
KST	5.5nm,0.5s				*e*S	**Sg**	**07 59 12.5**	**0.0**
TKM2	**Tokmak 2**	**2.68**	**316**	⇓	Pg	**Pb**	**07 58 37.5**	**-0.5**
TKM2	2.6nm,0.7s			⇑	Lg	Lg	07 59 16.4	
DGS	**Degeres**	**2.83**	**322**		*e*P	**Pb**	**07 58 40.3**	**-0.2**
DGS	5.0nm,0.5s				*e*S	**Sg**	**07 59 20.2**	**-0.1**
UCH	**Uchtor**	**2.97**	**295**	⇑	*i* P	**Pn**	**07 58 38.0**	**+0.4**
UCH	baz=296			⇑	*i* S	**Sn**	**07 59 15.8**	**+2.0**
AAK	**Ala-Archa**	**3.16**	**302**	⇑	Pg	**Pb**	**07 58 45.0**	**-1.2**
AAK	1.5nm,0.5s			⇑	Lg	Lg	07 59 28.6	
ARXS	**Arharly**	**3.19**	**356**		*e*P	**Pb**	**07 58 47.2**	**+0.5**
ARXS	1.8nm,0.1s				*e*S	**Sg**	**07 59 32.0**	**0.0**
DJR	**Jarkent**	**3.52**	**20**		*e*P	**Pb**	**07 58 52.8**	**+0.4**
DJR	2.3nm,0.2s				*e*S	**Sg**	**07 59 41.2**	**-1.5**
MNAS	**Manas**	**4.46**	**291**	⇓	Pg	**Pb**	**07 59 09.2**	**+0.9**
MNAS	3.4nm,1.3s				Lg	Lg	08 00 07.7	
	2.4nm,0.7s							

ISCJB ***19*** *08:04:11.0 ± 0.5, 24°.98N ± 0°.07 × 94°.92E ± 0°.03, h104km, mb4.1/18, Error ellipse: s-maj=10.5km s-min=4.3km az=8.4*
IDC ***19*** *08:04:11.8 ± 3.4, 24°.93N × 95°.11E, h99km ± 29km, mb3.8/17, mb1 3.9/17, mb1mx3.6/59, mbtmp4.1/17, Error ellipse: s-maj=28.7km s-min=12.9km az=54.0*
NEIC ***19*** *08:04:13.7 ± 0.9, 25°.00N × 95°.18E, h117km ± 8km, mb4.5/4, Error ellipse: s-maj=13.1km s-min=7.0km az=55.0*

ISC 19 08:04:11.6 ± 0.5, 24°.84N ± 0°.07 × 95°.00E ± 0°.05, h104km, n49, σ2§43/69, mb4.1/18, 1C-1D, Myanmar-India border region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
IMP	**Imphal**	**0.95**	**270**	⇑	*i* P	**Pn**	**08 04 33.0**	**+1.1**
IMP					*i* S	**Sn**	**08 04 53.0**	**+5.8**
SHL	**Shillong**	**2.91**	**285**		*e*PN	**Pn**	**08 04 56.5**	**0.0**
SHL					*e*SN	**Sn**	**08 05 39.0**	**+8.0**
LSA	**Lhasa**	**5.93**	**326**		*e*Pn	**Pn**	**08 05 38.0**	**+0.6**
LSA	26nm,0.3s				*e*Sn	**Sn**	**08 06 46.2**	**+2.0**
TAPN	**Taplejung**	**7.01**	**292**		*e*Pn	**Pn**	**08 05 52.2**	**+0.2**
TAPN					*e*Sn	**Sn**	**08 07 10.3**	**0.0**
	91nm,0.4s							
CHTO	**Chiang Mai**	**7.03**	**148**		*e*Pn	**Pn**	**08 05 55.7**	**+3.8**
CHTO	4.2nm,0.6s				*e*Sn	**Sn**	**08 07 05.7**	**-4.7**

ODAN	**Odare**	**7.14**	**288**		*e*Pn	**Pn**	**08 05 53.1**	**-0.6**
ODAN					*e*Sn	**Sn**	**08 07 10.8**	**-2.6**
	398nm,0.5s							
RAMN	**Ramite**	**7.85**	**287**		*e*Pn	**Pn**	**08 06 03.6**	**+0.3**
RAMN					*e*Sn	**Sn**	**08 07 26.0**	**-4.6**
	66nm,0.3s							
JIRN	**Jiri**	**8.39**	**291**		*e*Pn	**Pn**	**08 06 10.8**	**0.0**
JIRN					*e*Sn	**Sn**	**08 07 40.7**	**-3.3**
	199nm,0.3s							
GUN	**Gumba**	**8.73**	**292**		*e*Pn	**Pn**	**08 06 15.0**	**-0.3**
GUN					*e*Sn	**Sn**	**08 07 50.3**	**-1.9**
	138nm,0.6s							
PKI	**Pulchoki**	**9.03**	**290**		*e*Pn	**Pn**	**08 06 18.6**	**-0.8**
PKI					*e*Sn	**Sn**	**08 07 56.2**	**-3.3**
	47nm,0.5s							
PKIN	**Phulchoki**	**9.04**	**290**		*e*Pn	**Pn**	**08 06 18.6**	**-0.9**
PKIN					*e*Sn	**Sn**	**08 07 56.1**	**-3.6**
	43nm,0.4s							
KKN	**Kakani**	**9.20**	**291**		*e*Pn	**Pn**	**08 06 20.9**	**-0.7**
KKN					*e*Sn	**Sn**	**08 07 59.4**	**-4.1**
	50nm,0.4s							
DMN	**Daman**	**9.30**	**289**		*e*Pn	**Pn**	**08 06 22.0**	**-1.0**
DMN					*e*Sn	**Sn**	**08 08 02.2**	**-3.7**
	67nm,0.6s							
GKN	**Gorkha**	**9.81**	**291**		*e*Pn	**Pn**	**08 06 29.3**	**-0.5**
GKN					*e*Sn	**Sn**	**08 08 13.4**	**-4.7**
	74nm,0.3s							
KOLN	**Koldanda**	**10.63**	**288**		*e*Pn	**Pn**	**08 06 39.3**	**-1.8**
KOLN					*e*Sn	**Sn**	**08 08 31.6**	**-6.7**
	60nm,0.5s							
PYUN	**Piuthan**	**11.24**	**289**		*e*Pn	**Pn**	**08 06 47.0**	**-2.2**
PYUN					*e*Sn	**Sn**	**08 08 46.7**	**-6.2**
	83nm,0.7s							
ENH	**Enshi**	**13.94**	**64**		*e*Pn	**Pn**	**08 07 22.8**	**-1.9**
ENH	7.2nm,0.5s				*e*Sn	**Sn**	**08 09 56.0**	**-2.3**
AAK	**Ala-Archa**	**24.51**	**321**		P	**P**	**08 09 23.2**	**+1.8**
	1.2nm,0.4s,baz=146,slow=8.4,SNR=4.6							
AAK	**Ala-Archa**	**24.51**	**321**		*e*P	**P**	**08 09 24.0**	**+2.6**
SONM	**Songino Array**	**24.66**	**19**		P	**P**	**08 09 21.9**	**-0.8**
	0.7nm,0.4s,baz=206,slow=9.7,SNR=3.8							
KURBB	**Kuratov Arra**	**28.71**	**338**		P	**P**	**08 09 59.4**	**+0.6**
	3.0nm,0.6s,baz=147,slow=9.3,SNR=15							
KURBB					PcP	**PcP**	**08 13 07.0**	**+0.3**
	0.2nm,0.3s,baz=160,slow=2.3,SNR=9.8							
KURBB					ScP	**ScP**	**08 16 39.0**	**+0.4**
	0.4nm,0.6s,baz=163,slow=2.5,SNR=4.4							
KURK	**Kurchatov**	**28.76**	**338**		P	**P**	**08 09 59.4**	**+0.2**
KURK					PcP	**PcP**	**08 13 07.0**	**+0.2**
ZALV	**Zalesovo Beam**	**30.05**	**348**		P	**P**	**08 10 10.7**	**0.0**
	1.4nm,0.4s,baz=171,slow=10,SNR=5.4							
BVAR	**Borovoye Array**	**33.71**	**333**		P	**P**	**08 10 43.2**	**+0.5**
	2.1nm,0.6s,baz=134,slow=10,SNR=12							
BVAR					PcP	**PcP**	**08 13 20.7**	**+0.6**
	1.9nm,0.5s,baz=137,slow=3.0,SNR=11							
BRVK	**Borovoye**	**33.77**	**333**		*e*P	**P**	**08 10 44.1**	**+0.9**
	6.8nm,0.5s							
AKTO	**Aktyubinsk**	**38.25**	**322**		P	**P**	**08 11 22.4**	**+0.9**
	1.3nm,0.4s,baz=106,slow=9.4,SNR=3.8							
ARU	**Arti**	**41.11**	**330**		P	**P**	**08 11 45.8**	**+0.7**
	3.1nm,0.4s,baz=126,slow=6.5,SNR=6.3							
NRIK	**Noril'sk**	**44.74**	**356**		P	**P**	**08 12 14.3**	**+0.1**
	2.3nm,0.4s,baz=164,slow=7.4,SNR=4.5							
BRTR	**Keskin Array B**	**53.00**	**302**		P	**P**	**08 13 18.9**	**+0.9**
	1.0nm,0.6s,baz=117,slow=6.9,SNR=6.6							
AKASG	**Malin Array Be**	**55.98**	**316**		P	**P**	**08 13 39.2**	**+0.1**
	0.8nm,0.4s,baz=79,slow=6.6,SNR=5.0							
FINES	**FINESS Array B**	**58.44**	**328**		P	**P**	**08 13 56.2**	**0.0**
	0.7nm,0.4s,baz=114,slow=6.2,SNR=4.7							
WRA	**Warramunga Arr**	**59.71**	**136**		P	**P**	**08 13 59.3**	**+0.6**
	2.2nm,0.5s,baz=324,slow=7.4,SNR=41							
ASAR	**Alice Springs**	**61.22**	**139**		P	**P**	**08 14 16.5**	**+0.7**
	1.4nm,0.6s,baz=318,slow=6.9,SNR=17							
NB2	**NORSAR Subarra**	**65.62**	**328**		P	**P**	**08 14 44.2**	**-0.1**
	comp=Z,1.3nm,0.5s,baz=83,slow=6.5							
NOA	**NORSAR Array B**	**65.62**	**328**		P	**P**	**08 14 43.8**	**-0.5**
	comp=Z,1.4nm,0.5s,baz=84,slow=6.5,SNR=6.7							
GERES	**GERESS Array B**	**66.14**	**314**		P	**P**	**08 14 48.5**	**+0.5**
	comp=Z,1.5nm,0.6s,baz=65,slow=5.6,SNR=7.1							
ESDC	**Sonsaca**	**81.00**	**309**		P	**P**	**08 16 16.0**	**+0.9**
	comp=Z,0.3nm,0.4s,baz=79,slow=6.9,SNR=3.3							
TORD	**Torodi Ar. Bea**	**87.51**	**283**		P	**P**	**08 16 49.8**	**+1.5**
	comp=Z,0.9nm,0.5s,baz=55,slow=4.2,SNR=21							
SJCC	**San Jacinto, C**	**144.17**	**343**		*e*P	**PKPab**	**08 23 32.2**	**-1.7**
OCAC	**Ocana**	**145.21**	**339**	⇓	*e*P	**PKPbc**	**08 23 36.4**	**-1.4**
PTGA	**Pitinga**	**145.94**	**311**		PKPbc	**PKPab**	**08 23 40.5**	**-0.1**
	comp=Z,1.9nm,0.4s,baz=17,slow=5.3,SNR=7.9							
BRRC	**Barranca, Sant**	**146.40**	**339**		*e*P	**PKPdf**	**08 23 39.7**	**-0.2**
BARC	**Barichara**	**146.71**	**338**		*e*P	**PKPdf**	**08 23 39.7**	**-1.0**
RUSC	**La Rusia**	**147.32**	**338**		*e*P	**PKPbc**	**08 23 43.9**	**-0.6**
HELC	**Santa Helena**	**147.81**	**342**		*e*P	**PKPbc**	**08 23 45.8**	**+0.1**
ROSC	**El Rosal**	**148.72**	**339**		PKPbc	**PKPbc**	**08 23 49.4**	**+1.2**
	comp=Z,6.3nm,0.4s,baz=75,slow=17,SNR=11							
PRAC	**Prado**	**149.96**	**340**		*e*P	**PKPbc**	**08 23 50.0**	**-0.8**
CPUP	**Villa Florida**	**155.01**	**261**		PKPbc	PKPbc	08 24 01.6	
	comp=Z,1.0nm,0.6s,baz=64,slow=3.1,SNR=3.5							
PLCA	**Paso Flores**	**160.07**	**214**		PKPab	**PKPab**	**08 24 39.5**	**+0.4**
	comp=Z,1.9nm,0.8s,baz=166,slow=4.5,SNR=4.4							

NIED ***19*** *08:05:00, 37°.30N × 142°.50E, h8km, Mw3.5 Best double couple: M0 1.70000 × 10^14 NP1:φ=74.00000°, δ=45.00000°, λ=79.00000°. NP2:φ=270.00000°, δ=46.00000°, λ=101.00000°.*
IDC ***19*** *08:05:40.9 ± 0.9, 37°.22N × 142°.89E, h0km, mb3.9/7, mb1 3.9/10, mb1mx3.6/57, mbtmp3.8/10, ML3.0/3, Error ellipse: s-maj=23.9km s-min=21.2km az=29.0*
ISCJB ***19*** *08:05:43.2 ± 0.6, 37°.24N ± 0°.05 × 142°.66E ± 0°.07, h25km, mb3.9/10, Error ellipse: s-maj=8.0km s-min=6.4km az=18.0*
JMA ***19*** *08:05:43.1 ± 0.3, 37°.30N × 142°.50E, h8km ± 4km, M3.9*
NEIC ***19*** *08:05:46.1 ± 0.7, 37°.25N × 142°.79E, h35km, mb4.5/2, Error ellipse: s-maj=14.4km s-min=10.5km az=126.0*

ISC 19 08:05:44.9 ± 0.8, 37°.27N ± 0°.06 × 142°.72E ± 0°.08, h25km, n34, σ1§91/34, mb3.8/10, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
JFK	**Kawauchi**	**1.47**	**275**		P	**Pn**	**08 06 07.0**	**-2.8**
JFK					*e*S	**Sn**	**08 06 24.0**	**-4.3**
ONAJ	**Iwakimizuishiy**	**1.54**	**265**		P	**Pn**	**08 06 08.5**	**-2.3**
JIO	**Ouri**	**1.61**	**318**		P	**Pn**	**08 06 09.8**	**-1.8**
JMM	**Marumori**	**1.64**	**292**		P	**Pn**	**08 06 09.6**	**-2.5**
JFT	**Otama**	**1.91**	**278**		P	**Pn**	**08 06 14.4**	**-1.5**
JFT					*e*S	**Sn**	**08 06 36.5**	**-2.7**
JOU	**Okura**	**1.96**	**305**		P	**Pn**	**08 06 15.4**	**-1.2**
JMK	**Ichinoseki**	**2.06**	**325**		P	**Pn**	**08 06 16.9**	**-0.9**
JYS	**Shirataka**	**2.31**	**295**		P	**Pn**	**08 06 20.2**	**-1.1**
JOM	**Ohasama**	**2.47**	**333**		P	**Pn**	**08 06 22.9**	**-0.7**
JYK	**Kaneyama**	**2.49**	**312**		P	**Pn**	**08 06 22.8**	**-1.0**
MJAR	**Matsushiro Arr**	**3.69**	**260**		Pn	**Pn**	**08 06 41.0**	**+0.8**
	1.6nm,0.3s,baz=88,slow=15,SNR=10							
MAJO	**Matsushiro**	**3.69**	**260**		*e*Pn	**Pn**	**08 06 40.9**	**+0.6**
MAJO					*e*Sn	**Sn**	**08 07 25.7**	**+2.8**
MAT	**Matsushiro**	**3.69**	**260**		P	**Pn**	**08 06 40.9**	**+0.6**
MAT					S	**Sn**	**08 07 26.2**	**+3.3**
JHJ2	**Mitsune**	**4.78**	**211**		*e*Pn	**Pn**	**08 06 55.1**	**-0.1**
JHJ2					*e*Sn	**Sn**	**08 07 49.0**	**-0.8**
JHJ	**Hachijo jima 2**	**4.78**	**211**		Pn	**Pn**	**08 06 54.0**	**-1.3**
	6.4nm,0.3s,baz=54,slow=19,SNR=4.1							
JHJ					Sn	**Sn**	**08 07 45.2**	**-4.7**
	9.4nm,0.3s,baz=143,slow=20,SNR=2.6							
ASAJ	**Asahikawa**	**6.85**	**359**		*e*Pn	**Pn**	**08 07 22.5**	**-1.1**
USRK	**Ussuriysk Ar.**	**10.68**	**314**		Pn	**Pn**	**08 08 17.2**	**+1.0**
	0.2nm,0.3s,baz=126,slow=11,SNR=2.4							
H11N2	**WAKE ISLAND Hy**	**27.38**	**123**		T	T	08 40 14.1	
	baz=315,slow=75,SNR=45							
H11N1	**WAKE ISLAND Hy**	**27.39**	**123**		T	T	08 40 14.4	
	baz=315,slow=75,SNR=36							
H11N3	**WAKE ISLAND Hy**	**27.40**	**123**		T	T	08 40 16.1	
	baz=315,slow=75,SNR=36							
H11S1	**WAKE ISLAND Hy**	**28.12**	**125**		T	T	08 41 12.4	
	baz=317,slow=76,SNR=38							
H11S3	**WAKE ISLAND Hy**	**28.12**	**125**		T	T	08 41 15.9	
	baz=317,slow=76,SNR=37							
H11S2	**WAKE ISLAND Hy**	**28.14**	**125**		T	T	08 41 17.1	
	baz=317,slow=76,SNR=32							
SONM	**Songino Array**	**28.52**	**303**		P	**P**	**08 11 40.0**	**+1.6**
	1.7nm,0.9s,baz=94,slow=8.9,SNR=5.6							
ZALV	**Zalesovo Beam**	**42.53**	**312**		P	**P**	**08 13 38.8**	**+0.7**
	0.5nm,0.3s,baz=94,slow=6.2,SNR=2.3							
KURK	**Kurchatov**	**46.61**	**308**		*e*P	**P**	**08 14 11.3**	**+0.7**
	8.3nm,0.7s							
KURBB	**Kurchatov Arra**	**46.68**	**308**		P	**P**	**08 14 11.8**	**+0.6**
	2.6nm,0.5s,baz=82,slow=7.7,SNR=18							

BVAR	**Borovoye Array**	**51.19**	**312**		P	**P**	**08 14 46.3**	**+0.5**
	0.7nm,0.5s,baz=54,slow=7.3,SNR=3.7							
WRA	**Warramunga Arr**	**57.45**	**189**		P	**P**	**08 15 31.2**	**-0.3**
	0.5nm,0.8s,baz=7.3,slow=6.8,SNR=3.5							
ABKAR	**Akbulak array**	**58.59**	**310**		*e*P	**P**	**08 15 39.9**	**+0.6**
	1.5nm,0.6s							
AKASG	**Malin Array Be**	**74.75**	**323**		P	**P**	**08 17 22.9**	**+0.5**
	0.6nm,0.3s,baz=46,slow=6.1,SNR=5.0							
PDAR	**Pinedale Array**	**76.76**	**46**		P	**P**	**08 17 32.7**	**-1.7**
	0.1nm,0.3s,baz=309,slow=2.9,SNR=2.6							
TXAR	**Lajitas Array**	**89.15**	**53**		P	**P**	**08 18 40.1**	**+1.5**
	0.2nm,0.7s,baz=324,slow=6.0,SNR=2.4							
LPAZ	**La Paz**	**145.67**	**61**		PKPbc	**PKPbc**	**08 25 22.1**	**-0.4**
	0.9nm,1.0s,baz=18,slow=3.2,SNR=3.2							

BJI ***19*** *08:14:12.6, 52°.38N × 172°.04W, h24km, mb5.5/78, mB5.6/59, Ms5.4/38, Ms7 5.2/71*
NEIC ***19*** *08:14:14.8 ± 0.1, 52°.04N × 171°.98W, h31km, mb5.5/299, ME5.2, MS5.1/300, MW5.6, MW5.6, ML5.3(AEIC), Error ellipse: s-maj=3.0km s-min=1.9km az=172.0, Moment Tensor Solution. s90 Moment tensor: Scale 10^17Nm; Mrr1.54; Mθθ-1.57; Mφφ0.03; Mrθ2.02; Mθφ-1.11; Mrφ0.31; Best double couple: M0 2.80000 × 10^17 NP1:φ=221.00000°, δ25.00000°, λ55.00000°. NP2:φ=79.00000°, δ70.00000°, λ105.00000°. Principal axes: T 2.5500, Plg62.0000°, Azm11.0000°; N 0.4400, Plg14.0000°, Azm254.0000°; P -2.9900, Plg24.0000°, Azm157.0000°; Depth from synthetics of broadband displacement seismograms. Energy computed from CMT mechanism.*
GCMT ***19*** *08:14:14.8 ± 0.1, 51°.80N × 171°.99W, h42km, MW5.7/135, Moment Tensor Solution. s125, c251; s135, c288; Duration: 1§7 Moment tensor: Scale 10^17Nm; Mrr2.64±.04; Mθθ-2.71±.04; Mφφ0.07±.03; Mrθ3.04±.06; Mθφ-0.14±.02; Mrφ0.21±.04; Best double couple: M0 4.05700 × 10^17 NP1:φ=86.00000°, δ69.00000°, λ89.00000°. NP2:φ=268.00000°, δ21.00000°, λ92.00000°. Principal axes: T 4.0190, Plg66.0000°, Azm355.0000°; N 0.0770, Plg1.0000°, Azm86.0000°; P -4.0960, Plg24.0000°, Azm177.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*
NEIC ***19*** *08:14:15.0 ± 0.0, 51°.84N × 171°.86W, h35km, Moment Tensor Solution. s32 Moment tensor: Scale 10^17Nm; Mrr1.90; Mθθ-1.87; Mφφ-0.02; Mrθ2.93; Mθφ-0.68; Mrφ-0.57; Best double couple: M0 3.60000 × 10^17 NP1:φ=95.00000°, δ74.00000°, λ104.00000°. NP2:φ=232.00000°, δ21.00000°, λ49.00000°. Principal axes: T 3.6800, Plg58.0000°, Azm24.0000°; N -0.1700, Plg13.0000°, Azm271.0000°; P -3.5000, Plg27.0000°, Azm173.0000°;*
IDC ***19*** *08:14:15.9 ± 1.0, 52°.07N × 171°.86W, h40km ± 7km, mb5.0/44, mb1 5.1/46, mb1mx5.0/56, mbtmp5.2/46, ML4.6/2, MS5.2/27, Ms1 5.2/27, ms1mx5.2/31 Error ellipse: s-maj=10.7km s-min=6.7km az=174.0*
ISCJB ***19*** *08:14:16.1 ± 0.3, 52°.08N ± 0°.02 × 171°.82W ± 0°.02, h58km ± 2km, mb5.5/506, MS5.2/523, Error ellipse: s-maj=3.4km s-min=1.7km az=6.2*
MOS ***19*** *08:14:18.1 ± 0.9, 52°.15N × 171°.94W, h77km, mb5.7/146, MS5.3/67, Error ellipse: s-maj=6.0km s-min=4.8km az=81.4*

ISC 19 08:14:16.1 ± 0.4, 52°.03N ± 0°.04 × 171°.89W ± 0°.02, h43km ± 3km, h43km:pP-P, n1757, σ1§26/1788, mb5.5/544, MS5.3/530, 52C-17D, Fox Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
KOSE	**Korovin Southe**	**1.36**	**284**		*e*Pn	**Pn**	**08 14 40.2**	**+1.5**
KOFP	**Korovin Flat P**	**1.38**	**281**		*e*Pn	**Pn**	**08 14 40.3**	**+1.3**
KONE	**Korovin Northe**	**1.42**	**286**		*e*Pn	**Pn**	**08 14 41.2**	**+1.9**
ATKA	**Atka Island**	**1.43**	**278**		*e*Pn	**Pn**	**08 14 39.7**	**+0.2**
ATKA					*e*Sn	**Sn**	**08 14 58.2**	**+1.1**
KOKL	**Mount Kliuchef**	**1.45**	**283**		*e*Pn	**Pn**	**08 14 41.5**	**+1.6**
NIKH	**Nikolski High**	**2.08**	**62**		*e*Pn	**Pn**	**08 14 47.8**	**-0.8**
NIKH					*e*Sn	**Sn**	**08 15 13.2**	**-0.1**
OKSO	**Okmok South**	**2.63**	**58**		*e*Pn	**Pn**	**08 14 57.3**	**+1.2**
OKSO					*e*Sn	**Sn**	**08 15 28.2**	**+1.5**
OKCE	**Okmok Cone E**	**2.66**	**57**		*e*Pn	**Pn**	**08 14 57.7**	**+1.2**
OKCE					*e*Sn	**Sn**	**08 15 28.8**	**+1.2**
OKTU	**Okmok Mt. Tuli**	**2.71**	**58**		*e*Pn	**Pn**	**08 14 58.7**	**+1.6**
OKFG	**Magazine Ridge**	**2.79**	**59**		*e*Pn	**Pn**	**08 14 59.1**	**+0.9**
MGOD	**Makushin Gods**	**3.52**	**58**		*e*Pn	**Pn**	**08 15 09.2**	**+1.0**
MCIR	**Makushin Cirqu**	**3.58**	**56**		*e*Pn	**Pn**	**08 15 11.1**	**+1.9**
MSW	**Makushin Switc**	**3.62**	**57**		*e*Pn	**Pn**	**08 15 10.7**	**+1.1**
MTBL	**Makushin Table**	**3.70**	**56**		*e*Pn	**Pn**	**08 15 12.0**	**+1.2**
UNV	**Unalaska Valle**	**3.73**	**59**		*e*Pn	**Pn**	**08 15 12.3**	**+1.1**
UNV					*e*Sn	**Sn**	**08 15 54.8**	**+0.9**
AKRB	**Akutan Reef Bi**	**4.09**	**57**		*e*Pn	**Pn**	**

EYAK **Cordova Ski Ar** 16.73 49 *e*Pn **Pn** 08 18 06.2 -0.8
comp=Z,61nm,0.6s
MCK **McKinley** 16.80 37 *e*P **Pn** 08 18 07.9 -0.1
MCK pmax pmax
comp=Z,143nm,1.0s
MCK **McKinley** 16.80 37 *e*Pn **Pn** 08 18 07.9 -0.1
comp=Z,143nm,1.0s
DIV **Divide** 16.92 47 *e*Pn **Pn** 08 18 08.8 -0.7
comp=Z,79nm,0.7s
KLU **Klutina** 16.98 46 *e*Pn **Pn** 08 18 08.7 -1.7
comp=Z,88nm,0.8s
DHY **Denali Highway** 17.06 40 *e*Pn **Pn** 08 18 10.8 -0.6
comp=Z,70nm,0.9s
RAGM **Ragged Mountai** 17.18 50 *e*Pn **P** 08 18 13.6 -0.4
comp=Z,170nm,0.7s
BMRM **Bremner River** 17.40 48 *e*Pn **Pn** 08 18 13.9 -1.6
comp=Z,169nm,0.8s
WRH **Wood River Hil** 17.52 36 *e*Pn **Pn** 08 18 16.0 -0.8
comp=Z,125nm,1.0s
HARP **HAARP** 17.68 44 *e*Pn **Pn** 08 18 17.6 -1.2
comp=Z,162nm,1.0s
CCB **Clear Creek Bu** 17.72 35 *e*Pn **Pn** 08 18 17.7 -1.6
comp=Z,70nm,1.0s
MDM **Murphy Dome** 17.75 34 *e*Pn **Pn** 08 18 19.0 -0.7
comp=Z,97nm,1.0s
PAX **Paxson** 17.78 42 *e*P **P** 08 18 21.3 +0.7
PAX pmax pmax
comp=Z,150nm,1.2s
PAX **Paxson** 17.78 42 *e*Pn **P** 08 18 21.3 +0.7
comp=Z,153nm,1.2s
COLA **College** 17.83 35 *e*P **Pn** 08 18 20.2 -0.5
COLA pmax pmax
comp=Z,130nm,1.2s
COLA **College** 17.83 35 *e*Pn **Pn** 08 18 20.2 -0.5
comp=Z,135nm,1.2s
PET **Petropavlovsk** 17.89 285 *c i*P **Pn** 08 18 21.2 -0.3
PET *i* S **Sn** 08 21 35.5 -4.4
PET pmax pmax
comp=Z,42nm,1.3s
PET pmax pmax
comp=Z,2μm,15.0s
PET MLR MLR
comp=Z,4μm,19.0s
PET MLR MLR
comp=Z,4μm,18.0s
PET **Petropavlovsk** 17.89 285 *e*Pn **P** 08 18 21.7 0.0
comp=Z,45nm,0.8s
HDA **Harding Lake** 17.90 37 *e*Pn **Pn** 08 18 18.3 -3.3
comp=Z,137nm,1.0s
CRQM **Cirque** 18.02 50 *e*P **Pn** 08 18 21.9 -1.3
comp=Z,301nm,0.8s
ILAR **Eielson Array** 18.12 36 P **P** 08 18 21.9 -2.2
comp=Z,1.8nm,0.3s,baz=244,slow=9.9,SNR=51
ILAR S **S** 08 21 52.0 +2.8
comp=Z,0.1nm,0.3s,baz=251,slow=11,SNR=2.7
ILAR PcP **PcP** 08 22 53.6 -2.2
comp=Z,0.4nm,0.3s,baz=260,slow=3.2,SNR=5.3
ILAR LR LR 08 26 04.3
comp=Z,11μm,18.9s,baz=243,slow=39
ILAR ScP **ScP** 08 26 27.7 +0.3
comp=Z,0.1nm,0.3s,baz=241,slow=2.2,SNR=6.7
ILAR **Eielson Array** 18.12 36 P **P** 08 18 22.0 -2.2
ILAR pmax pmax
comp=Z,2.0nm,0.3s
ILAR MLR MLR
comp=Z,11μm,18.9s
ILB **Eielson Array** 18.12 36 *e*P **P** 08 18 22.1 -2.0
IL1 **Eielson Array** 18.12 36 *e*P **P** 08 18 21.8 -2.3
PEA0 **Petropavlovsk-** 18.45 285 *e*P **Pn** 08 18 29.8 +1.5
PEA0B **Petropavlovsk-** 18.45 285 *e*P **Pn** 08 18 29.9 +1.6
comp=Z,132nm,1.1s
PEA1 **Petropavlovsk-** 18.45 285 *e*P **Pn** 08 18 29.4 +1.1
PEA1 *e*S **S** 08 21 55.3 -0.8
PEA1 *e*PcP **PcP** 08 22 56.6 +0.1
PETK **Petropavlovsk-** 18.45 285 P **Pn** 08 18 29.4 +1.1
comp=Z,4.2nm,0.3s,baz=90,slow=14,SNR=77
PETK S **S** 08 21 55.3 -0.8
baz=104,slow=12,SNR=2.1
PETK PcP **PcP** 08 22 56.6 0.0
comp=Z,0.5nm,0.3s,baz=63,slow=5.4,SNR=4.4
PETK ScP **ScP** 08 26 28.6 +0.3
comp=Z,0.6nm,0.3s,baz=93,slow=4.9,SNR=8.4
MENT **Mentasta** 18.50 43 *e*P **P** 08 18 27.4 -1.0
comp=Z,54nm,0.7s
COLD **Coldfoot** 18.60 27 *e*P **Pn** 08 18 32.1 +2.1
comp=Z,101nm,1.0s
DOT **Dot Lake** 18.65 41 *e*P **P** 08 18 29.1 -1.0
comp=Z,162nm,0.6s
BILL **Bilibino** 19.21 335 *c i*P **Pn** 08 18 37.1 -0.3
BILL pmax pmax
comp=Z,129nm,0.8s
BILL MLR MLR
comp=Z,6μm,16.0s
PCA **Pinnacle** 19.26 53 *e*P **Pn** 08 18 37.5 -0.6
comp=Z,523nm,0.6s
FYU **Fort Yukon** 19.69 32 *e*P **Pn** 08 18 42.6 -0.4
comp=Z,450nm,1.5s
TOLK **Toolik Lake Re** 19.77 24 P **Pn** 08 18 43.6 -0.5
baz=224,SNR=94
SKR **Severo-Kuril's** 19.94 279 *e*P **P** 08 18 42.4 -1.8
SKR *e*S **S** 08 22 24.5 -1.5
SKR pmax pmax
comp=Z,2μm,15.9s
SKR MLR MLR
comp=Z,2μm,15.0s
SKR MLR MLR
comp=Z,2μm,18.0s
DHAK **Deception Hill** 20.14 56 *e*P Pn 08 18 48.4 -0.1
comp=Z,532nm,0.8s
DHAK LR LR
comp=Z,6μm,19.0s
EGAK **Eagle** 20.28 39 *e*P **P** 08 18 47.5 -0.3
comp=Z,142nm,0.6s
EGAK LR LR
comp=Z,21μm,18.0s
DAWY **Dawson** 20.72 42 *e*P **P** 08 18 52.1 -0.5
comp=Z,88nm,0.8s
DAWY LR LR
comp=Z,10μm,20.0s
SKAG **Skagway** 21.65 56 *e*P **P** 08 19 03.5 +1.0
comp=Z,448nm,0.7s
SKAG LR LR
comp=Z,4μm,20.0s
SEY **Seymchan** 21.77 314 P **P** 08 19 05.0 +1.2
comp=Z,36nm,0.8s,baz=97,slow=10.0,SNR=55
SEY PcP **PcP** 08 23 02.6 +0.1
comp=Z,9.2nm,0.7s,baz=139,slow=1.8,SNR=5.3
SEY ScP **ScP** 08 26 35.8 -0.1
comp=Z,12nm,0.8s,baz=76,slow=3.6,SNR=10
SEY LR LR 08 28 26.5
comp=Z,7μm,18.5s,baz=103,slow=39
SEY **Seymchan** 21.77 314 *ce*P **P** 08 19 04.7 +0.9
BESE **Bessie Mountai** 21.85 58 *e*P **P** 08 19 04.7 -0.1
comp=Z,92nm,0.9s
BESE LR LR
comp=Z,4μm,21.0s
WHY **Whitehorse** 21.98 52 *e*P **P** 08 19 06.5 +0.3
comp=Z,148nm,0.9s
WHY LR LR
comp=Z,8μm,18.0s
MA2 **Magadan** 22.05 305 P **P** 08 19 08.0 +1.2
comp=Z,22nm,0.8s,baz=79,slow=9.9,SNR=14
MA2 PcP **PcP** 08 23 02.7 -0.4
comp=Z,6.2nm,0.8s,baz=146,slow=7.3,SNR=3.4
MA2 ScP **ScP** 08 26 36.5 -0.1
comp=Z,7.5nm,0.8s,baz=57,slow=3.4,SNR=5.0
MA2 LR LR 08 27 30.8
comp=Z,6μm,19.4s,baz=102,slow=36
MA2 **Magadan** 22.05 305 *e*P **P** 08 19 07.4 +0.6
CRAG **Craig** 22.98 66 *e*P **P** 08 19 16.9 +0.3
comp=Z,510nm,1.8s
CRAG LR LR
comp=Z,5μm,22.0s
WRAK **Wrangell Islan** 23.30 63 *e*P **P** 08 19 20.9 +1.1
comp=Z,107nm,0.9s
WRAK LR LR
comp=Z,4μm,20.0s
DIB **Dawson Inlet,** 23.76 71 *e*P **P** 08 19 26.2 +2.0
comp=Z,127nm,1.0s
DIB LR LR
comp=Z,4μm,21.0s
MIDW **Midway** 24.14 192 PFAKE 08 19 40.0 +12
MIDW LR LR
comp=Z,9μm,22.0s
DLBC **Dease Lake** 24.39 58 P **P** 08 19 31.0 +0.9
comp=Z,134nm,0.7s,baz=271,slow=8.2,SNR=249
DLBC **Dease Lake** 24.39 58 *e*P **P** 08 19 32.2 +2.1
comp=Z,1μm,1.6s
DLBC LR LR
comp=Z,5μm,20.0s
INK **Inuvik** 24.49 34 P **P** 08 19 30.4 -0.4
comp=Z,91nm,0.7s,baz=240,slow=9.0,SNR=231
INK PcP **PcP** 08 23 07.9 -0.1
comp=Z,10nm,0.6s,baz=203,slow=2.0,SNR=4.1
INK ScP **ScP** 08 26 43.5 +0.5
comp=Z,9.5nm,1.0s,baz=298,slow=4.1,SNR=6.3
INK LR LR 08 30 22.1
comp=Z,11μm,18.1s,baz=240,slow=40
INK **Inuvik** 24.49 34 *e*P **P** 08 19 30.5 -0.4
comp=Z,137nm,0.8s
INK LR LR
comp=Z,13μm,19.0s
BBB **Bella Bella** 26.59 72 P **P** 08 19 51.4 +1.5
comp=Z,35nm,0.8s,baz=304,slow=8.9,SNR=12
BBB **Bella Bella** 26.59 72 *e*P **P** 08 19 51.4 +1.5
comp=Z,275nm,1.7s
BBB LR LR
comp=Z,3μm,21.0s
KUR **Kuril'sk** 27.17 272 *e*P **P** 08 19 55.6 +0.4
KUR *i* S **S** 08 24 34.5 +3.8
KUR *e*SS **SnSn** 08 25 43.6 +3.0
KUR MLR MLR
comp=E,2μm,15.0s
KUR MLR MLR
comp=Z,1μm,15.0s
YUK **Yuzh-Kuril'sk** 29.01 271 *c i*P **P** 08 20 11.1 -0.5
YUK *e*S **S** 08 25 00.7 +1.0
YUK pmax pmax
comp=Z,1μm,2.0s
YUK pmax pmax
comp=Z,490nm,1.2s
YUK pmax pmax
comp=N,408nm,1.3s
YUK pmax pmax
comp=E,12nm,0.8s
YUK MLR MLR
comp=N,2μm,16.0s
YUK MLR MLR
comp=Z,2μm,20.0s
YSS **Yuzh-Sakhalins** 29.51 278 *e*P **P** 08 20 16.5 +0.5
YSS *e*S **S** 08 25 06.0 -1.5
YSS *e* 08 26 46.6
YSS pmax pmax
comp=Z,700nm,3.6s
YSS pmax pmax
comp=N,200nm,3.8s
YSS pmax pmax
comp=E,500nm,3.8s
YSS pmax pmax
comp=Z,30nm,1.0s
YSS MLR MLR
comp=Z,700nm,17.0s
YSS MLR MLR
comp=N,1μm,18.0s
YSS MLR MLR
comp=E,900nm,18.0s
YSS **Yuzh-Sakhalins** 29.51 278 PFAKE 08 20 30.0 +14
YSS LR LR
comp=Z,2μm,22.0s
PGC **Sidney** 30.65 77 *e*P **P** 08 20 27.6 +1.5
comp=Z,26nm,1.0s
PGC LR LR
comp=Z,2μm,18.0s
LLLB **Lilloet** 30.79 72 *e*P **P** 08 20 29.2 +1.7
comp=Z,53nm,1.0s
LLLB LR LR
comp=Z,3μm,22.0s
NLWA **Neilton Lookou** 30.94 79 *e*P **P** 08 20 30.2 +1.4
comp=Z,68nm,1.1s
NLWA LR LR
comp=Z,2μm,21.0s
ASAJ **Asahikawa** 30.98 274 *e*P **P** 08 20 29.6 +0.4
comp=Z,130nm,1.2s
A04D **Lummi Island** 31.06 76 P **P** 08 20 30.1 +0.3
baz=295
KEKH **Kekaha** 31.44 158 PFAKE 08 20 50.0 +17
KEKH LR LR
comp=Z,6μm,19.0s
E03A **Lebam** 31.52 81 *e*P **P** 08 20 34.1 +0.4
comp=Z,78nm,1.0s
E03A LR LR
comp=Z,2μm,21.0s
MBW **Mount Baker** 31.52 76 P **P** 08 20 35.2 +1.2
YKW3 **Yellowknife Ar** 31.62 48 *e*P **P** 08 20 34.5 0.0
comp=Z,39nm,1.1s
YKW3 LR LR
comp=Z,10μm,18.0s
B05A **Bryant** 31.63 77 P **P** 08 20 36.3 +1.6
baz=296,SNR=19
YKA **Yellowknife Ar** 31.63 48 P **P** 08 20 34.8 +0.2
comp=Z,17nm,0.6s,baz=275,slow=9.2,SNR=60
YKA PcP **PcP** 08 23 26.1 +0.5
comp=Z,11nm,0.7s,baz=286,slow=2.4,SNR=10
YKA ScP **ScP** 08 27 05.6 +0.5
comp=Z,2.2nm,0.8s,baz=285,slow=3.1,SNR=3.2
YKA LR LR 08 35 18.8
comp=Z,1μm,18.4s,baz=0.0,slow=40
YKA **Yellowknife Ar** 31.63 48 P **P** 08 20 34.8 +0.2
YKA 08 23 26.1
YKA pmax pmax
comp=Z,18nm,0.6s
YKA MLR MLR
comp=Z,1μm,18.4s
YKB5 **Yellowknife Ar** 31.63 48 *e*P **P** 08 20 33.9 -0.7
JCW **Jim Creek** 31.76 77 *e*P **P** 08 20 37.3 +1.4
ERM **Erimo** 31.77 270 *c i*P **P** 08 20 38.5 +2.5
ERM pmax pmax
comp=Z,141nm,1.5s
ERM MLR MLR
comp=Z,3μm,20.0s
ERM **Erimo** 31.77 270 *e*P **P** 08 20 37.5 +1.5
comp=Z,189nm,1.4s
ERM LR LR
comp=Z,3μm,20.0s
B06A **Marblemount** 31.88 76 *e*P **P** 08 20 38.0 +1.1
comp=Z,51nm,1.1s
B06A LR LR
comp=Z,2μm,22.0s
HTW **Haystack Looko** 32.03 77 *e*P **P** 08 20 39.5 +1.1
F04D **Rainier, OR** 32.07 81 P **P** 08 20 40.4 +1.7
baz=299
OPA **Opana** 32.15 155 PFAKE 08 20 50.0 +11
OPA LR LR
comp=Z,7μm,21.0s
D05A **Enumclaw** 32.17 78 *e*P **P** 08 20 41.3 +1.8
comp=Z,120nm,0.9s
TIXI **Tiksi** 32.23 329 P **P** 08 20 40.6 +0.9
comp=Z,6.7nm,0.4s,baz=121,slow=9.3,SNR=4.2
TIXI PcP **PcP** 08 23 27.1 0.0
comp=Z,40nm,0.6s,baz=88,slow=2.7,SNR=14
TIXI ScP **ScP** 08 27 07.2 +0.2
comp=Z,30nm,0.9s,baz=112,slow=3.0,SNR=15
TIXI **Tiksi** 32.23 329 *c i*P **P** 08 20 39.5 -0.2
TIXI pmax pmax
comp=Z,21nm,1.3s
TIXI MLR MLR
comp=Z,5μm,16.0s
TIXI **Tiksi** 32.23 329 *e*P **P** 08 20 40.6 +0.9
TIXI *e*PcP **PcP** 08 23 27.1 0.0
TIXI LR LR
comp=Z,4μm,19.0s
G03D **McMinnville, O** 32.35 83 P **P** 08 20 42.1 +1.0
baz=300
KIP **Kipapa** 32.40 155 *c i*P **P** 08 20 43.0 +1.3
KIP **Kipapa** 32.40 155 PFAKE 08 20 50.0 +8.3
KIP LR LR
comp=Z,7μm,20.0s
LON **Longmire** 32.49 79 *e*P **P** 08 20 44.7 +2.3
LON pmax pmax
comp=Z,33nm,0.8s
LON **Longmire** 32.49 79 *e*P **P** 08 20 44.5 +2.2
comp=Z,33nm,0.8s
HON **Honolulu** 32.49 155 PFAKE 08 20 50.0 +7.5
HON LR LR
comp=Z,7μm,21.0s
C06D **Leavenworth** 32.50 77 P **P** 08 20 43.8 +1.3
baz=297
F04A **Amboy** 32.51 81 *e*P **P** 08 20 43.8 +1.3
comp=Z,43nm,0.8s
F04A *e*PcP **PcP** 08 23 29.0 +0.6
F04A LR LR
comp=Z,1μm,18.0s
COR **Corvallis** 32.64 84 *e*P **P** 08 20 45.8 +2.2
COR pmax pmax
comp=Z,88nm,1.0s
COR **Corvallis** 32.64 84 *e*P **P** 08 20 45.4 +1.8
comp=Z,88nm,1.0s
COR LR LR
comp=Z,2μm,20.0s
NLW **Nelson Butte** 32.76 76 *e*P **P** 08 20 46.0 +1.1
KEBM **Edson Butte** 32.91 87 *e*P **P** 08 20 48.3 +2.2
comp=Z,116nm,1.4s
KEBM LR LR
comp=Z,2μm,19.0s
LTY **Liberty** 32.94 78 *e*P **P** 08 20 47.2 +0.8
comp=Z,29nm,1.0s
LTY LR LR
comp=Z,2μm,22.0s
ETW **Entiat** 32.98 77 *e*P **P** 08 20 47.8 +1.0
I03D **Drain, OR** 33.07 85 P **P** 08 20 48.3 +0.9
baz=302
B08A **Colville Reser** 33.24 75 *e*P **P** 08 20 49.5 +0.6
comp=Z,87nm,0.9s
B08A LR LR
comp=Z,2μm,22.0s
HABR **Khabarovsk** 33.48 285 *e*P **P** 08 20 49.4 -1.5
HABR *e**SP **sP** 08 21 08.6 +0.9
HABR *e* 08 22 01.8
HABR *e* 08 23 29.3
HABR *e*S **S** 08 26 08.2 -1.2
HABR *e*SS **SnSn** 08 28 15.2 +1.2
HABR *e* 08 31 10.6
HABR pmax pmax
comp=Z,73nm,1.7s
HABR MLR MLR
comp=Z,3μm,19.0s
HLK **Haleakala** 33.51 153 PFAKE 08 21 00.0 +8.3
HLK LR LR
comp=Z,6μm,20.0s
G05D **Wamic, OR** 33.52 81 P **P** 08 20 52.8 +1.4
baz=300,SNR=12
I04A **Tendick Farm,** 33.60 84 P **P** 08 20 53.0 +0.9
baz=302,SNR=30
L02D **Cave Junction,** 33.75 88 P **P** 08 20 55.0 +1.6
baz=304,SNR=13
E07A **Sunnyside** 33.76 78 *e*P **P** 08 20 54.5 +1.0
comp=Z,194nm,1.9s
E07A LR LR
comp=Z,2μm,19.0s
MDW **Midway** 33.79 78 *e*P **P** 08 20 55.0 +1.3
MDW **Midway** 33.79 78 *e*P **P** 08 20 55.0 +1.3
HUMO **Hull Mountain** 33.90 86 *e*P **P** 08 20 56.3 +1.5
comp=Z,98nm,2.0s
HUMO *e*PcP **PcP** 08 23 33.8 +1.4
HUMO LR LR
comp=Z,2μm,18.0s
KRMB **Red Mountain** 33.92 89 *e*P **P** 08 20 56.6 +1.6
comp=Z,82nm,1.7s
KRMB LR LR
comp=Z,2μm,18.0s
G06A **Carlson Farm,** 33.94 81 *e*P **P** 08 20 55.7 +0.7
comp=Z,151nm,1.9s
G06A LR LR
comp=Z,2μm,22.0s
I05D **Terrebonne, OR** 33.97 83 P **P** 08 20 55.4 0.0
baz=302
VTHM **Trough** 34.01 81 P **P** 08 20 56.8 +1.1
HAWA **Hanford** 34.04 78 *e*P **P** 08 20 57.0 +1.1
comp=Z,58nm,0.8s
HAWA LR LR
comp=Z,2μm,22.0s
J04D **Umpqua Nationa** 34.08 85 P **P** 08 20 57.5 +1.1
baz=303,SNR=12
D08A **Wollman Farm,** 34.09 77 *e*P **P** 08 20 56.7 +0.4
comp=Z,43nm,0.8s
D08A LR LR
comp=Z,2μm,22.0s
JCC **Jacoby Creek,** 34.25 90 PFAKE 08 21 10.0 +12
JCC LR LR
comp=Z,2μm,18.0s
HPAH **Hawaii Prepara** 34.35 152 *e*P **P** 08 20 58.7 -0.1
comp=Z,116nm,0.7s
HPAH LR LR
comp=Z,5μm,21.0s
KHMM **Horse Mountain** 34.40 89 *e*P **P** 08 21 00.8 +1.6
comp=Z,40nm,0.9s
KHMM LR LR
comp=Z,2μm,19.0s
YBH **Yreka Blue Hor** 34.54 87 *e*P **P** 08 21 02.1 +1.8
YBH pmax pmax
comp=Z,19nm,0.8s
YBH **Yreka Blue Hor** 34.54 87 *e*P **P** 08 21 02.1 +1.8
comp=Z,19nm,0.8s
YBH LR LR
comp=Z,1μm,20.0s
J05D **Fort Rock, OR** 34.59 84 P **P** 08 21 02.2 +1.4
baz=303,SNR=37
NEW **Newport** 34.60 74 P **P** 08 21 01.3 +0.6
comp=Z,92nm,0.8s,baz=296,slow=7.3,SNR=130
NEW ScP **ScP** 08 27 15.0 -0.8
comp=Z,3.0nm,0.8s,baz=284,slow=3.1,SNR=5.1
NEW **Newport** 34.60 74 P **P** 08 21 01.5 +0.8
baz=297,SNR=120
NEW **Newport** 34.60 74 *e*P **P** 08 21 01.5 +0.8
NEW pmax pmax
comp=Z,82nm,0.8s
NEW **Newport** 34.60 74 *e*P **P** 08 21 01.5 +0.8
comp=Z,82nm,0.8s
NEW LR LR
comp=Z,2μm,22.0s
K04D **Chiloquin, OR** 34.63 85 P **P** 08 21 02.0 +0.8
baz=304
M02C **Callahan** 34.65 88 P **P** 08 21 02.5 +1.2
baz=305,SNR=16
POHA **Pohakuloa** 34.66 152 *e*P **P** 08 21 01.4 -0.2
comp=Z,87nm,0.8s
POHA LR LR
comp=Z,6μm,22.0s
EDM **Edmonton** 34.70 64 *e*P **P** 08 21 02.4 +0.9
EDM pmax pmax
comp=Z,260nm,0.8s
EDM **Edmonton** 34.70 64 *e*P **P** 08 21 02.4 +0.9
comp=Z,262nm,0.8s
EDM LR LR
comp=Z,2μm,19.0s
KMRM **Mail Ridge** 34.80 90 *e*P **P** 08 21 04.3 +1.8
comp=Z,40nm,0.8s
KMRM LR LR
comp=Z,2μm,18.0s
E09A **Wood Farm, Sta** 34.82 77 *e*P **P** 08 21 03.1 +0.6
comp=Z,50nm,0.8s
E09A LR LR
comp=Z,2μm,22.0s
MLOA **Mauna Loa Obse** 34.86 152 PFAKE 08 21 20.0 +16
MLOA LR LR
comp=Z,6μm,22.0s
MWH **Moku'aweowe** 34.90 152 PFAKE 08 21 20.0 +16
MWH LR LR
comp=Z,5μm,21.0s
MLH **Mauna Loa** 34.95 152 *e*P **P** 08 21 04.2 0.0
MLH pmax pmax
comp=Z,87nm,0.8s
MLH MLR MLR
comp=Z,6μm,20.0s
MLH **Mauna Loa** 34.95 152 *e*P **P** 08 21 04.2 0.0
comp=Z,87nm,0.8s
MLH LR LR
comp=Z,6μm,20.0s
N02D **Trinity Center** 34.98 89 P **P** 08 21 05.5 +1.4
baz=306,SNR=21
AIN **Ainahou** 35.05 152 PFAKE 08 21 20.0 +15
AIN LR LR
comp=Z,7μm,21.0s
UWE **Uwekahuna** 35.05 152 PFAKE 08 21 20.0 +15
UWE LR LR
comp=Z,6μm,22.0s
SBLHI **Steaming Bluff** 35.05 152 PFAKE 08 21 20.0 +15
SBLHI LR LR
comp=Z,6μm,22.0s
M04C **Macdoel** 35.05 87 P **P** 08 21 06.3 +1.5
baz=305,SNR=33
OBL **Observatory Le** 35.05 152 PFAKE 08 21 20.0 +15
OBL LR LR
comp=Z,6μm,22.0s
HATHI **Halema'uma'u T** 35.05 152 PFAKE 08 21 20.0 +15
HATHI LR LR
comp=Z,6μm,22.0s
WRMHI **West Rim** 35.06 152 PFAKE 08 21 20.0 +15
WRMHI LR LR
comp=Z,6μm,22.0s
NPH **North Pit** 35.06 152 *e*P **P** 08 21 06.4 +1.4

NPH pmax pmax
comp=Z,240nm,1.7s
NPH North Pit 35.06 152 *e*P **P 08 21 06.3 +1.4**
comp=Z,239nm,1.7s
BYL Byron's Ledge 35.07 152 *e*P **P 08 21 05.5 +0.5**
comp=Z,80nm,0.9s
BYL LR LR
comp=Z,4µm,22.0s
SDHHI Sand Hill 35.08 152 PFAKE 08 21 20.0 +15
SDHHI LR LR
comp=Z,5µm,21.0s
KKO Keanakako'i 35.08 152 *e*P **P 08 21 06.0 +0.9**
comp=Z,92nm,0.9s
KKO LR LR
comp=Z,5µm,21.0s
RIM Rim 35.08 152 *e*P **P 08 21 06.5 +1.3**
comp=Z,84nm,0.8s
RIM LR LR
comp=Z,6µm,22.0s
KLR Kul'dur 35.10 288*c i*P **P 08 21 03.4 -1.5**
K05A Summer Lake 35.11 85 *e*P **P 08 21 07.0 +1.7**
comp=Z,64nm,0.8s
K05A LR LR
comp=Z,2µm,18.0s
PUH Pauahi 35.12 152 *e*P **P 08 21 06.4 +1.0**
comp=Z,324nm,1.6s
PUH LR LR
comp=Z,6µm,22.0s
NPOC North of Pu'u 35.13 152 PFAKE 08 21 20.0 +14
NPOC LR LR
comp=Z,5µm,22.0s
STCH Steam Cracks 35.13 152 PFAKE 08 21 20.0 +14
STCH LR LR
comp=Z,6µm,22.0s
JCUZ Jacuzzi 35.14 152 PFAKE 08 21 20.0 +14
JCUZ LR LR
comp=Z,6µm,22.0s
LGMM Garner Mountai 35.16 87 *e*P **P 08 21 07.5 +1.7**
KCPM Cahto Peak 35.19 91 *e*P **P 08 21 07.7 +1.7**
comp=Z,46nm,1.0s
KCPM LR LR
comp=Z,2µm,19.0s
JOHN Johnston Islan 35.27 176 PFAKE 08 21 20.0 +13
JOHN LR LR
comp=Z,6µm,21.0s
WDC Whiskeytown Da 35.31 89 *e*P **P 08 21 08.2 +1.4**
WDC pmax pmax
comp=Z,30nm,0.9s
WDC Whiskeytown Da 35.31 89 *e*P **P 08 21 08.2 +1.4**
comp=Z,30nm,0.8s
WDC LR LR
comp=Z,1µm,20.0s
F10A Beach Ranch, E 35.64 78 *e*P **P 08 21 10.6 +0.8**
comp=Z,49nm,0.9s
F10A LR LR
comp=Z,2µm,22.0s
HOPS Hopland Field 35.93 92 *e*P **P 08 21 13.4 +1.2**
comp=Z,55nm,1.1s
HOPS LR LR
comp=Z,2µm,18.0s
MOD Modoc Plateau 35.93 85 *e*P **P 08 21 13.5 +1.1**
comp=Z,39nm,0.8s
MOD LR LR
comp=Z,2µm,18.0s
WALA Waterton Lakes 36.13 71 *e*P **P 08 21 14.7 +0.8**
comp=Z,58nm,0.8s
WALA LR LR
comp=Z,2µm,20.0s
BMO Blue Mountains 36.16 79 *e*P **P 08 21 14.9 +0.7**
BMO pmax pmax
comp=Z,29nm,1.1s
BMO Blue Mountains 36.16 79 *e*P **P 08 21 14.9 +0.7**
comp=Z,29nm,1.1s
BMO LR LR
comp=Z,1µm,21.0s
BSMT Bassoo Peak 36.18 73 *e*P **P 08 21 15.2 +0.7**
GDXM Geysers 36.21 92 *e*P **P 08 21 16.7 +2.0**
comp=Z,42nm,1.1s
GDXM LR LR
comp=Z,3µm,18.0s
H11N2 WAKE ISLAND Hy 36.25 215 T T 08 59 41.2
baz=21,slow=75,SNR=4434
H11N3 WAKE ISLAND Hy 36.26 215 T T 08 59 33.0
baz=21,slow=75,SNR=4706
H11N1 WAKE ISLAND Hy 36.27 215 T T 08 59 37.4
baz=21,slow=75,SNR=3785
BLMT Blacktail Moun 36.35 73 *e*P **P 08 21 16.7 +0.8**
JTMT Jette 36.52 73 *e*P **P 08 21 17.9 +0.6**
ORV Oroville 36.56 90 *e*P **P 08 21 18.0 +0.4**
ORV pmax pmax
comp=Z,20nm,1.0s
ORV Oroville 36.56 90 *e*P **P 08 21 18.0 +0.4**
comp=Z,20nm,1.0s
MCCM Marconi Confer 36.57 93 PFAKE 08 21 30.0 +12
MCCM LR LR
comp=Z,2µm,21.0s
YBMT Yellow Bay 36.63 73 *e*P **P 08 21 18.6 +0.4**
WVOR Wild Horse Val 36.66 84 *e*P **P 08 21 19.4 +0.9**
WVOR pmax pmax
comp=Z,42nm,0.8s
WVOR Wild Horse Val 36.66 84 *e*P **P 08 21 19.4 +0.9**
comp=Z,42nm,0.8s
WVOR LR LR
comp=Z,2µm,18.0s
WAKE Wake Island 36.75 215 PFAKE 08 21 30.0 +11
WAKE LR LR
comp=Z,6µm,21.0s
SWMT Swartz Lake 36.81 73 *e*P **P 08 21 19.9 +0.2**
MSO Missoula 37.18 74 P **P 08 21 23.1 +0.2**
baz=300,SNR=42
MSO Missoula 37.18 74 *e*P **P 08 21 23.1 +0.2**
comp=Z,74nm,1.2s
MSO LR LR
comp=Z,1µm,20.0s
SLMT Seeley Lake 37.24 74 *e*P **P 08 21 23.6 +0.1**
AFDM Forest Hills D 37.25 90 *e*P **P 08 21 24.2 +0.7**
comp=Z,37nm,1.2s
AFDM *e*PcP **PcP 08 23 42.3 0.0**
AFDM LR LR
comp=Z,1µm,22.0s
RES Resolute Bay 37.34 25 P **P 08 21 23.5 -0.3**
comp=Z,40nm,0.9s,baz=267,slow=11,SNR=20
RES Resolute Bay 37.34 25 *e*P **P 08 21 24.0 +0.2**
RES pmax pmax
comp=Z,98nm,1.3s
RES MLR MLR
comp=Z,4µm,19.0s
RES Resolute Bay 37.34 25 *e*P **P 08 21 24.0 +0.2**
comp=Z,98nm,1.3s
RES LR LR
comp=Z,4µm,19.0s
USRK Ussuriysk Ar. 37.44 281 P **P 08 21 24.4 -0.5**
comp=Z,5.9nm,0.6s,baz=62,slow=9.2,SNR=14
PcP **PcP 08 23 43.1 +0.4**
comp=Z,19nm,0.8s,baz=81,slow=2.2,SNR=11
USRK ScP **ScP 08 27 26.0 -0.2**
comp=Z,1.6nm,0.6s,baz=35,slow=4.7,SNR=4.6
USRK LR LR 08 35 57.9
comp=Z,4µm,21.7s,baz=52,slow=35
H11S1 WAKE ISLAND Hy 37.45 215 T T 09 01 11.7
baz=21,slow=76,SNR=4063
H11S2 WAKE ISLAND Hy 37.46 215 T T 09 01 09.3
baz=21,slow=76,SNR=2511
H11S3 WAKE ISLAND Hy 37.46 215 T T 09 01 17.2
baz=21,slow=76,SNR=2349
CHMT Chamberlain Mo 37.55 74 *e*P **P 08 21 26.1 0.0**
PAHR Pah Rah Range 37.77 88 *e*P **P 08 21 29.0 +0.9**
comp=Z,74nm,0.9s
PAHR LR LR
comp=Z,1µm,19.0s
MFID Camas Ranch 37.83 80 *e*P **P 08 21 28.7 +0.3**
comp=Z,24nm,0.8s
MFID LR LR
comp=Z,1µm,21.0s
PNTR Pine Nut 38.02 89 *e*P **P 08 21 31.6 +1.4**
comp=Z,109nm,0.7s
VLA Vladivostok 38.09 279 *e*P **P 08 21 30.3 -0.1**
VLA pmax pmax
comp=Z,96nm,2.1s
VLA MLR MLR
comp=Z,3µm,21.0s
MJAR Matsushiro Arr 38.13 266 P **P 08 21 31.3 +0.5**
comp=Z,28nm,0.7s,baz=48,slow=7.2,SNR=56
MJAR PcP **PcP 08 23 45.0 0.0**
comp=Z,7.1nm,0.8s,baz=80,slow=1.9,SNR=5.5
MJAR ScP **ScP 08 27 29.0 +0.1**
comp=Z,1.6nm,0.7s,baz=56,slow=4.6,SNR=3.9

MJAR LR LR 08 35 27.5
comp=Z,2µm,21.8s,baz=65,slow=33
MJB9 Matsu-Tunnel 38.13 266 *e*P **P 08 21 31.8 +0.9**
comp=Z,37nm,0.9s
MJB9 LR LR
comp=Z,700nm,22.0s
MAJO Matsushiro 38.13 266*c i*P **P 08 21 32.2 +1.3**
MAJO MLR MLR
comp=Z,13µm,20.0s
MAJO Matsushiro 38.13 266 *e*P **P 08 21 31.8 +0.9**
comp=Z,146nm,0.9s
MAJO LR LR
comp=Z,3µm,21.0s
MAT Matsushiro 38.13 266 P **P 08 21 31.1 +0.2**
MAT S **S 08 27 23.2 +2.4**
CMB Columbia Colle 38.18 91 *e*P **P 08 21 32.4 +1.1**
CMB pmax pmax
comp=Z,77nm,1.5s
CMB Columbia Colle 38.18 91 *e*P **P 08 21 32.4 +1.1**
comp=Z,77nm,1.5s
CMB LR LR
comp=Z,2µm,22.0s
YERR Yerington 38.30 89 *e*P **P 08 21 33.7 +1.2**
comp=Z,68nm,0.9s
SAO San Andreas Ge 38.32 93 *e*P **P 08 21 32.5 0.0**
SAO pmax pmax
comp=Z,26nm,0.9s
SAO MLR MLR
comp=Z,2µm,18.0s
SAO San Andreas Ge 38.32 93 *e*P **P 08 21 32.5 0.0**
comp=Z,26nm,0.9s
SAO LR LR
comp=Z,2µm,18.0s
WAKR Walker 38.47 89 *e*P **P 08 21 35.1 +1.1**
comp=Z,53nm,0.8s
WAKR LR LR
comp=Z,2µm,22.0s
HRY Holter Researc 38.49 73 *e*P **P 08 21 34.2 +0.3**
LRM Limekiln Ridge 38.58 75 *e*P **P 08 21 34.9 0.0**
HLID Hailey 38.61 79 P **P 08 21 35.4 +0.3**
baz=304,SNR=42
HLID Hailey 38.61 79 *e*P **P 08 21 35.7 +0.6**
comp=Z,26nm,0.9s
HLID LR LR
comp=Z,1µm,20.0s
MDJ Mudanjiang 38.66 283 P **P 08 21 36.8 +1.5**
MDJ pP pP 08 21 45.5 -1.5
MDJ sP sP 08 21 49.8 -2.3
MDJ PP **PnPn 08 23 10.4 +3.9**
MDJ S **S 08 27 29.8 +1.1**
MDJ ScS **ScS 08 31 36.3 -5.1**
MDJ pmax pmax
comp=Z,7.0nm,0.7s
MDJ pmax pmax
comp=Z,240nm,5.9s
MDJ LR LR
comp=Z,890nm,25.6s
MDJ LR LR
comp=Z,4µm,21.3s
MDJ LR LR
comp=Z,5µm,23.5s
MDJ Mudanjiang 38.66 283 PFAKE 08 21 50.0 +15
MDJ LR LR
comp=Z,6µm,22.0s
BMN Battle Mountai 38.68 85 *e*P **P 08 21 36.6 +0.9**
BMN pmax pmax
comp=Z,23nm,0.9s
BMN Battle Mountai 38.68 85 *e*P **P 08 21 36.5 +0.9**
comp=Z,23nm,0.8s
DLMT Dillon 38.73 76 *e*P **P 08 21 36.4 +0.4**
comp=Z,20nm,0.8s
MSHR Mys Shultsa 38.83 279*c i*P **P 08 21 36.8 +0.1**
MCMT McKenzie Canyo 38.87 77 *e*P **P 08 21 37.5 +0.2**
TVH1 TV Hill, Hawth 38.92 89 PFAKE 08 21 50.0 +12
TVH1 LR LR
comp=Z,2µm,21.0s
TVH3 East Aurora ar 38.95 89 PFAKE 08 21 50.0 +12
TVH3 LR LR
comp=Z,1µm,21.0s
EGMT Eagleton 39.05 70 P **P 08 21 39.0 +0.5**
baz=300,SNR=77
EGMT Eagleton 39.05 70 *e*P **P 08 21 38.8 +0.2**
comp=Z,146nm,0.9s
EGMT LR LR
comp=Z,2µm,20.0s
PMPB Monarch Peak 39.07 93 *e*P **P 08 21 39.5 +0.6**
comp=Z,70nm,1.2s
PMPB LR LR
comp=Z,2µm,20.0s
BOZ Bozeman (W) 39.19 75 P **P 08 21 39.7 -0.2**
baz=302,SNR=76
BOZ Bozeman (W) 39.19 75 *e*P **P 08 21 40.1 +0.2**
BOZ *e*S **S 08 27 34.2 -2.8**
BOZ pmax pmax
comp=Z,48nm,0.8s
BOZ Bozeman (W) 39.19 75 *e*P **P 08 21 40.1 +0.2**
comp=Z,48nm,0.8s
BOZ LR LR
comp=Z,1µm,22.0s
MLAC Mammoth, Mammo 39.39 90 P **P 08 21 43.1 +1.4**
baz=309,SNR=14
JHJ Hachijo jima 2 39.43 261 P **P 08 21 42.9 +1.1**
comp=Z,48nm,0.4s,baz=108,slow=20,SNR=2.7
INU Inuyama 39.63 266 *e*P **P 08 21 42.7 -0.8**
comp=Z,49nm,1.0s
QLMT Earthquake Lak 39.72 76 *e*P **P 08 21 44.5 +0.2**
PAGB Antelope Grade 39.73 93 *e*P **P 08 21 44.5 +0.2**
comp=Z,64nm,1.0s
PAGB LR LR
comp=Z,1µm,18.0s
YHB Horse Butte 39.90 76 *e*P **P 08 21 46.1 +0.2**
comp=Z,56nm,1.0s
RCTC Rector, Farmer 39.98 92 P **P 08 21 46.3 0.0**
baz=310,SNR=25
YMR Madison River 40.08 76 *e*P **P 08 21 47.7 +0.3**
comp=Z,65nm,1.0s
YMR LR LR
comp=Z,1µm,20.0s
YHH Holmes Hill 40.09 75 *e*P **P 08 21 47.9 +0.3**
comp=Z,77nm,1.0s
YHH LR LR
comp=Z,2µm,20.0s
TIN Tinemaha, Big 40.12 90 P **P 08 21 48.5 +0.8**
baz=310,SNR=16
YPM Purple Mountai 40.15 76 *e*P **P 08 21 48.8 +0.7**
SMMC Simmler 40.16 94 P **P 08 21 48.7 +0.8**
baz=311,SNR=9.7
FFC Flin Flon 40.22 58 *e*P **P 08 21 48.4 +0.3**
FFC pmax pmax
comp=Z,52nm,0.8s
FFC MLR MLR
comp=Z,4µm,20.0s
FFC Flin Flon 40.22 58 *e*P **P 08 21 48.4 +0.3**
comp=Z,52nm,0.8s
FFC LR LR
comp=Z,4µm,20.0s
YNR Norris Junctio 40.23 75 *e*P **P 08 21 49.7 +1.1**
comp=Z,86nm,1.0s
YNR LR LR
comp=Z,2µm,19.0s
GCMT Greycliff 40.25 73 *e*P **P 08 21 49.3 +0.6**
YFT Old Faithful 40.28 76 *e*P **P 08 21 50.8 +1.7**
comp=Z,29nm,0.8s
VES Vestal, Richgr 40.38 92 P **P 08 21 49.6 0.0**
baz=311,SNR=26
YPP Pitchstone Pla 40.40 76 *e*P **P 08 21 51.5 +1.4**
comp=Z,20nm,0.9s
YPP LR LR
comp=Z,1µm,19.0s
H17A Grant Village 40.47 76 P **P 08 21 52.3 +1.7**
baz=304,SNR=44
H17A Grant Village 40.47 76 *e*P **P 08 21 52.4 +1.8**
comp=Z,77nm,1.1s
H17A LR LR
comp=Z,2µm,18.0s
LKWY Lake 40.48 75 *e*P **P 08 21 52.8 +2.1**
LKWY pmax pmax
comp=Z,62nm,0.8s
LKWY Lake 40.48 75 *e*P **P 08 21 52.4 +1.7**
comp=Z,62nm,0.8s
IMW Indian Meadow 40.52 77 *e*P **P 08 21 51.9 +0.7**
comp=Z,45nm,1.0s
IMW LR LR
comp=Z,1µm,22.0s
PKM Mcpherson Peak 40.55 94 P **P 08 21 52.4 +1.1**
baz=312,SNR=10
CWC Cottonwood Cre 40.61 91 P **P 08 21 52.3 +0.5**
baz=310
HVU Hansel Valley 40.61 80 *e*P **P 08 21 52.4 +0.7**
HVU pmax pmax
comp=Z,45nm,1.0s
HVU Hansel Valley 40.61 80 *e*P **P 08 21 52.4 +0.7**
comp=Z,44nm,1.0s
HVU LR LR
comp=Z,1µm,22.0s
YTP The Promontory 40.64 76 *e*P **P 08 21 53.4 +1.3**
GRAC Grapevine Rang 40.70 90 P **P 08 21 53.1 +0.8**
baz=310,SNR=37
MOOW Moose Ponds 40.72 77 *e*P **P 08 21 53.1 +0.4**
comp=Z,15nm,1.0s
MOOW LR LR
comp=Z,1µm,22.0s
TPAW Teton Pass 40.74 77 *e*P **P 08 21 53.6 +0.7**
comp=Z,49nm,1.3s
TPAW LR LR
comp=Z,1µm,22.0s
RLMT Red Lodge 40.85 74 P **P 08 21 54.3 +0.6**
baz=303,SNR=107
RLMT Red Lodge 40.85 74 *e*P **P 08 21 54.5 +0.8**
comp=Z,106nm,0.8s
RLMT LR LR
comp=Z,2µm,20.0s
MTUT Morton Thiokol 40.85 80 *e*P **P 08 21 54.5 +0.9**
ISA Isabella, Lake 40.87 92 P **P 08 21 53.7 -0.1**
baz=311,SNR=12
ISA Isabella, Lake 40.87 92 *e*P **P 08 21 54.4 +0.6**
ISA pmax pmax
comp=Z,44nm,1.0s
ISA Isabella, Lake 40.87 92 *e*P **P 08 21 54.4 +0.6**
comp=Z,44nm,1.0s
ISA LR LR
comp=Z,2µm,18.0s
REDW Red Top Meadow 40.88 77 *e*P **P 08 21 54.6 +0.7**
comp=Z,58nm,1.2s
REDW LR LR
comp=Z,1µm,20.0s
SNOW Snow King Moun 40.88 77 *e*P **P 08 21 55.4 +1.4**
comp=Z,43nm,1.2s
SNOW LR LR
comp=Z,1µm,22.0s
LOHW Long Hollow 40.88 77 *e*P **P 08 21 54.5 +0.4**
comp=Z,15nm,0.8s
LOHW LR LR
comp=Z,1µm,22.0s
SBC Santa Barbara 40.91 94 P **P 08 21 54.7 +0.7**
baz=312
R11A Troy Canyon, C 40.95 87 P **P 08 21 54.3 -0.2**
baz=308,SNR=74
R11A Troy Canyon, C 40.95 87 *e*P **P 08 21 55.0 +0.4**
comp=Z,33nm,1.0s
R11A LR LR
comp=Z,1µm,18.0s
BGU Big Grassy Mou 40.96 82 *e*P **P 08 21 55.2 +0.6**
comp=Z,83nm,1.6s
BGU LR LR
comp=Z,2µm,22.0s
BOD Bodaibo 40.99 308 *e*P **P 08 21 52.6 -1.8**
BOD pmax pmax
comp=Z,34nm,1.7s
ARVC Arvin 41.00 93 P **P 08 21 54.8 0.0**
baz=311,SNR=9.1
DAC Darwin (Calif) 41.02 91 *e*P **P 08 21 55.9 +0.7**
DAC pmax pmax
comp=Z,31nm,1.0s
DAC Darwin (Calif) 41.02 91 *e*P **P 08 21 55.9 +0.7**
comp=Z,31nm,0.9s
DAC LR LR
comp=Z,2µm,18.0s
BEI Bear River Ran 41.02 79 *e*P **P 08 21 55.6 +0.4**
SPUT South Promonto 41.09 81 *e*P **P 08 21 55.6 -0.1**
comp=Z,20nm,0.8s
SPUT LR LR
comp=Z,1µm,19.0s
MPMC Manual Prospec 41.22 91 P **P 08 21 57.3 +0.5**
baz=310,SNR=42
BSC Santa Cruz Isl 41.26 95 P **P 08 21 56.7 -0.2**
baz=312
SNUT Stansbury Nort 41.30 81 *e*P **P 08 21 58.0 +0.6**
FURC Furnace Creek, 41.34 90 P **P 08 21 58.3 +0.7**
baz=310,SNR=52
OSI Osito Audit: C 41.40 93 P **P 08 21 58.6 +0.4**
baz=312
OSI Osito Audit: C 41.40 93 PFAKE 08 22 10.0 +12
OSI LR LR
comp=Z,1µm,18.0s
TPNV Topopah Spring 41.41 89 P **P 08 21 59.0 +0.6**
baz=310,SNR=112
TPNV Topopah Spring 41.41 89 *e*P **P 08 21 59.0 +0.6**
TPNV pmax pmax
comp=Z,59nm,0.8s
TPNV Topopah Spring 41.41 89 *e*P **P 08 21 59.0 +0.6**
comp=Z,59nm,0.8s
TPNV LR LR
comp=Z,2µm,19.0s
HWUT Hardware Ranch 41.45 80 *e*P **P 08 21 59.0 +0.4**
comp=Z,23nm,0.9s
HWUT LR LR
comp=Z,900nm,20.0s
LRMC Laurel Mtn Rad 41.48 92 P **P 08 21 59.2 +0.3**
baz=311,SNR=24
DUG Dugway, Tooele 41.53 82 P **P 08 21 59.9 +0.6**
baz=307,SNR=52
DUG Dugway, Tooele 41.53 82 *e*P **P 08 21 59.6 +0.3**
DUG pmax pmax
comp=Z,67nm,1.0s
DUG MLR MLR
comp=Z,2µm,19.0s
DUG Dugway, Tooele 41.53 82 *e*P **P 08 21 59.6 +0.3**
comp=Z,67nm,1.0s
DUG LR LR
comp=Z,2µm,19.0s
BLG Laguna Peak, P 41.53 94 P **P 08 21 59.1 -0.1**
baz=312,SNR=6.5
MCU Monte Cristo P 41.57 80 *e*P **P 08 22 00.3 +0.5**
CN2 Changchun 41.60 284 *e*P **P 08 22 00.3 +0.7**
CN2 *es*P sP 08 22 14.1 -2.4
CN2 *e*S **S 08 28 13.1 +0.5**
CN2 pmax pmax
comp=Z,20nm,0.7s
CN2 LR LR
comp=Z,1µm,20.0s
CN2 LR LR
comp=Z,3µm,20.0s
CN2 LR LR
comp=Z,3µm,21.0s
ALPC Antelope 41.62 93 *e*P **P 08 22 02.8 +2.8**
EDW2 Edwards Air Fo 41.68 93 P **P 08 22 00.5 +0.1**
baz=312,SNR=19
LAO LASA Array 41.79 70 P **P 08 22 02.0 +0.7**
baz=302,SNR=60
LAO LASA Array 41.79 70 *e*P **P 08 22 01.9 +0.7**
comp=Z,62nm,0.8s
LAO LR LR
comp=Z,2µm,21.0s
SNCC San Nicolas Is 41.83 96 P **P 08 22 02.3 +0.7**
baz=313
SNCC San Nicolas Is 41.83 96 PFAKE 08 22 10.0 +8.4
SNCC LR LR
comp=Z,2µm,18.0s
DECC Green Verdugo 41.88 93 P **P 08 22 02.5 +0.4**
baz=312
PSUT Pine Spring 41.90 85 *e*P **P 08 22 02.3 -0.1**
comp=Z,19nm,0.7s
GMU Granite Mounta 41.94 81 *e*P **P 08 22 03.1 +0.4**
HIA Hailar 41.98 294 *e*P **P 08 22 03.7 +1.0**
HIA pmax pmax
comp=Z,39nm,0.8s
HIA MLR MLR
comp=Z,3µm,21.0s
HIA Hailar 41.98 294 *e*P **P 08 22 03.7 +1.0**
comp=Z,40nm,0.8s
HIA LR LR
comp=Z,3µm,21.0s
BW06 Boulder Array 41.99 77 P **P 08 22 03.6 +0.4**
baz=305,SNR=103
BW06 Boulder Array 41.99 77 *e*P **P 08 22 03.2 +0.1**
comp=Z,50nm,0.8s
BW06 LR LR
comp=Z,1µm,21.0s
PD31 Pinedale Array 41.99 77 *e*P **P 08 22 03.3 +0.2**
PDAR Pinedale Array 41.99 77 P **P 08 22 03.5 +0.3**
comp=Z,43nm,0.8s,baz=304,slow=4.9,SNR=12
PDAR PcP **PcP 08 23 57.1 -0.5**
comp=Z,4.0nm,0.8s,baz=329,slow=1.1,SNR=1.7

PDAR ScP **ScP** 08 27 44.0 -0.2
comp=Z,6.2nm,1.0s,baz=318,slow=2.0,SNR=6.4
DGMT Dagmar 42.02 67 P **P** 08 22 03.4 +0.3
baz=302,SNR=25
DGMT Dagmar 42.02 67 *e*P **P** 08 22 03.4 +0.3
comp=Z,341nm,1.7s
DGMT LR LR
comp=Z,3μm,22.0s
PASC Pasadena Art C 42.03 93 *e*P **P** 08 22 03.8 +0.6
comp=Z,40nm,1.2s
PASC LR LR
comp=Z,2μm,18.0s
MWC Mount Wilson 42.07 93 *e*P **P** 08 22 04.7 +0.9
MWC pmax pmax
comp=Z,110nm,1.4s
MWC Mount Wilson 42.07 93 *e*P **P** 08 22 04.5 +0.7
comp=Z,115nm,1.4s
MWC LR LR
comp=Z,2μm,18.0s
SHOC Shoshone, Teco 42.07 90 P **P** 08 22 04.2 +0.6
baz=311,SNR=32
JLU Jordanelle 42.12 81 *e*P **P** 08 22 04.6 +0.4
comp=Z,24nm,0.8s
JLU LR LR
comp=Z,1μm,21.0s
NLU North Lily Min 42.12 82 *e*P **P** 08 22 04.7 +0.5
comp=Z,28nm,0.8s
NLU LR LR
comp=Z,2μm,19.0s
GSC Goldstone, Bar 42.13 91 P **P** 08 22 04.9 +0.7
baz=311,SNR=110
GSC Goldstone, Bar 42.13 91 *e*P **P** 08 22 04.9 +0.7
GSC pmax pmax
comp=Z,89nm,1.0s
GSC Goldstone, Bar 42.13 91 *e*P **P** 08 22 04.9 +0.7
comp=Z,89nm,1.0s
GSC LR LR
comp=Z,2μm,18.0s
FMP Fort Macarthur 42.27 94 P **P** 08 22 04.7 -0.4
baz=312
RRX Edison Barstow 42.30 92 P **P** 08 22 05.6 +0.1
baz=311
BFSC Mount Baldy Ra 42.31 93 P **P** 08 22 06.3 +0.6
baz=312,SNR=43
FCC Fort Churchill 42.34 49 *e*P **P** 08 22 05.1 -0.4
FCC pmax pmax
comp=Z,130nm,1.0s
FCC Fort Churchill 42.34 49 *e*P **P** 08 22 04.6 -0.8
comp=Z,128nm,0.9s
FCC LR LR
comp=Z,12μm,20.0s
SHPR Sheep Range 42.37 88 *e*P **P** 08 22 06.7 +0.5
comp=Z,38nm,1.2s
SHPR LR LR
comp=Z,2μm,18.0s
CIS Catalina Islan 42.40 95 P **P** 08 22 06.6 +0.3
baz=313,SNR=6.5
LEVU Levan 42.55 83 *e*P **P** 08 22 08.6 +0.9
TUQ Turquoise Moun 42.59 90 P **P** 08 22 08.4 +0.4
baz=311,SNR=33
SCI San Clemente I 42.61 95 P **P** 08 22 08.1 +0.1
baz=313
TCRU Three Creeks R 42.72 84 PFAKE 08 22 20.0 +11
TCRU LR LR
comp=Z,2μm,20.0s
WCU Willow Creek 42.72 83 *e*P **P** 08 22 10.0 +0.9
HEC Hector,Ludlow 42.73 91 P **P** 08 22 09.4 +0.4
baz=312,SNR=40
BBRC Big Bear Solar 42.75 92 P **P** 08 22 10.1 +0.7
baz=312,SNR=22
CCUT Cedar City 42.82 86 *e*P **P** 08 22 09.6 -0.3
comp=Z,68nm,1.4s
CCUT LR LR
comp=Z,1μm,18.0s
SNO Snow College 42.84 83 *e*P **P** 08 22 11.4 +1.3
SGU Sterling 42.86 83 *e*P **P** 08 22 11.6 +1.4
MSU Marysvale 42.94 84 *e*P **P** 08 22 11.8 +0.9
MSU Marysvale 42.94 84 *e*P **P** 08 22 11.8 +0.9
SZCU Shurtz Canyon 42.96 86 *e*P **P** 08 22 11.6 +0.6
comp=Z,25nm,1.0s
SZCU LR LR
comp=Z,1μm,19.0s
MURC Murrieta 43.02 93 P **P** 08 22 11.6 +0.2
baz=312,SNR=11
TMUT Trail Mountain 43.05 82 *e*P **P** 08 22 12.7 +0.8
comp=Z,49nm,1.0s
TMUT LR LR
comp=Z,1μm,21.0s
ARGU Argyle Ridge 43.14 81 *e*P **P** 08 22 13.5 +0.9
GMRC Granite Mounta 43.18 91 P **P** 08 22 13.2 +0.4
baz=312,SNR=40
LCMT Little Creek M 43.23 86 *e*P **P** 08 22 13.9 +0.8
comp=Z,58nm,1.2s
LCMT LR LR
comp=Z,1μm,21.0s
MTPU Mount Pierson 43.23 84 *e*P **P** 08 22 14.1 +0.7
comp=Z,91nm,1.6s
CRY Cary Ranch 43.33 93 *e*P **P** 08 22 14.7 +0.8
LDFC Landfair 43.33 90 *e*P **P** 08 22 14.1 +0.2
comp=Z,89nm,0.8s
LDFC LR LR
comp=Z,2μm,19.0s
PLM Palomar 43.39 93 *e*P **P** 08 22 11.4 -3.1
PLM Palomar 43.39 93 *e*P **P** 08 22 11.4 -3.1
SNDA J Saunders Pla 43.41 93 *e*P **P** 08 22 15.4 +0.8
P18A Preston Nutter 43.44 81 *e*P **P** 08 22 14.5 -0.5
comp=Z,48nm,0.9s
P18A LR LR
comp=Z,1μm,20.0s
PFO Pinyon Flats O 43.47 93 P **P** 08 22 15.3 +0.3
comp=Z,16nm,0.8s,baz=308,slow=8.5,SNR=21
PFO ScP **ScP** 08 27 49.4 -0.8
comp=Z,4.9nm,1.1s,baz=327,slow=4.1,SNR=4.2
PFO Pinyon Flats O 43.47 93 P **P** 08 22 15.0 0.0
baz=312,SNR=23
PFO Pinyon Flats O 43.47 93 *e*P **P** 08 22 15.5 +0.4
PFO pmax pmax
comp=Z,130nm,1.6s
PFO Pinyon Flats O 43.47 93 *e*P **P** 08 22 15.5 +0.4
comp=Z,129nm,1.6s
PFO LR LR
comp=Z,2μm,19.0s
XPFO Piæon Flat 43.47 93 *e*P **P** 08 22 15.3 +0.3
comp=Z,137nm,1.6s
XPFO LR LR
comp=Z,2μm,18.0s
TPFO Pinon Flats 43.48 93 P **P** 08 22 15.1 0.0
baz=312,SNR=22
KNB Kanab 43.49 86 *e*P **P** 08 22 16.1 +0.9
KNB pmax pmax
comp=Z,210nm,1.9s
KNB Kanab 43.49 86 *e*P **P** 08 22 16.1 +0.9
comp=Z,214nm,1.9s
KNB LR LR
comp=Z,1μm,22.0s
BELC Belle Mtn. Jos 43.49 92 P **P** 08 22 15.3 +0.1
baz=312,SNR=26
PKCU Pink Cliffs 43.53 85 *e*P **P** 08 22 16.7 +0.9
comp=Z,40nm,1.1s
109C Camp Elliot, M 43.56 94 P **P** 08 22 15.9 +0.3
baz=313,SNR=5.9
SRU San Rafael Swe 43.59 82 *e*P **P** 08 22 16.6 +0.6
SRU pmax pmax
comp=Z,240nm,1.6s
SRU San Rafael Swe 43.59 82 *e*P **P** 08 22 16.6 +0.6
comp=Z,238nm,1.7s
SRU LR LR
comp=Z,1μm,20.0s
EKU East Kanab 43.65 86 *e*P **P** 08 22 17.6 +1.1
MMU Miners Mountai 43.68 84 *e*P **P** 08 22 17.8 +0.9
SNY Shenyang 43.86 283 ⇑P **P** 08 22 18.0 +0.1
SNY S **S** 08 28 41.3 -4.5
SNY pmax pmax
comp=Z,44nm,1.4s
SNY pmax pmax
comp=Z,570nm,8.0s
SNY LR LR
comp=Z,2μm,24.0s
SNY LR LR
comp=Z,3μm,23.0s
SNY LR LR
comp=Z,5μm,22.1s
K22A Casper 43.88 75 P **P** 08 22 17.5 -0.9
baz=306,SNR=34
K22A Casper 43.88 75 *e*P **P** 08 22 18.0 -0.4
comp=Z,46nm,0.9s
KSRS Korea Array 43.89 275 P **P** 08 22 18.9 +0.7
comp=Z,34nm,0.9s,baz=57,slow=7.7,SNR=69
KSRS PcP **PcP** 08 24 04.2 +0.5
comp=Z,9.1nm,0.8s,baz=65,slow=3.2,SNR=6.5
KSRS ScP **ScP** 08 27 51.9 +0.2
comp=Z,0.9nm,0.3s,baz=64,slow=3.7,SNR=3.7
KSRS LR LR 08 40 01.1
comp=Z,2μm,20.7s,baz=52,slow=35
KS01 Wonju Array Si 43.90 275 *e*P **P** 08 22 16.4 -1.9
IRM Iron Mountain 43.91 91 P **P** 08 22 18.5 -0.1
baz=312,SNR=30
KS15 Wonju Array Si 43.92 275 *e*P **P** 08 22 19.3 +0.8
KSAR Wonju Array Be 43.92 275 P **P** 08 22 19.0 +0.5
KSAR Wonju Array Be 43.92 275 P **P** 08 22 18.9 +0.5
BAR Barrett 43.97 94 *e*P **P** 08 22 19.9 +0.9
comp=Z,198nm,1.9s
MONP Monument Peak, 43.98 93 P **P** 08 22 19.3 0.0
baz=313,SNR=24
RWWY Rawlins 44.04 77 *e*P **P** 08 22 19.3 -0.4
comp=Z,47nm,0.9s
RWWY LR LR
comp=Z,2μm,21.0s
BC3 Big Chuckawall 44.06 92 P **P** 08 22 19.5 -0.3
baz=312,SNR=16
W13A Hualapai Mount 44.07 89 *e*P **P** 08 22 20.4 +0.4
comp=Z,32nm,0.8s
U15A North Rim 44.19 86 *e*P **P** 08 22 21.9 +0.8
comp=Z,41nm,0.9s
U15A LR LR
comp=Z,2μm,21.0s
SWSC Sam W. Stewart 44.33 93 P **P** 08 22 21.9 +0.2
baz=313,SNR=8.7
IKP In-Ko-Pah, Jac 44.33 93 P **P** 08 22 22.6 +0.7
baz=313,SNR=20
O20A White River Ci 44.35 79 P **P** 08 22 21.9 -0.2
baz=308,SNR=53
O20A White River Ci 44.35 79 *e*P **P** 08 22 22.1 -0.1
comp=Z,66nm,0.8s
O20A LR LR
comp=Z,1μm,22.0s
PDMCI Parker Dam,Lak 44.44 90 P **P** 08 22 22.6 0.0
baz=312,SNR=39
RSSD Black Hills 44.50 72 P **P** 08 22 23.1 -0.3
baz=305
RSSD Black Hills 44.50 72 *e*P **P** 08 22 23.1 -0.3
RSSD pmax pmax
comp=Z,47nm,0.7s
RSSD Black Hills 44.50 72 *e*P **P** 08 22 23.0 -0.3
comp=Z,47nm,0.6s
RSSD LR LR
comp=Z,1μm,18.0s
Y12C Blythe 44.57 91 P **P** 08 22 23.9 +0.1
baz=312,SNR=40
Y12C Blythe 44.57 91 *e*P **P** 08 22 24.1 +0.4
comp=Z,48nm,0.8s
Y12C LR LR
comp=Z,1μm,18.0s
INCN Inchon 44.67 276 *e*P **P** 08 22 25.4 +0.9
comp=Z,197nm,1.5s
INCN LR LR
comp=Z,2μm,19.0s
PV09 Paradox Valley 44.82 82 *e*P **P** 08 22 25.5 -0.5
GLA Glamis 44.85 92 P **P** 08 22 26.3 +0.2
baz=313,SNR=11
GLA Glamis 44.85 92 *e*P **P** 08 22 26.5 +0.4
GLA pmax pmax
comp=Z,55nm,1.0s
GLA Glamis 44.85 92 *e*P **P** 08 22 26.4 +0.4
comp=Z,55nm,1.0s
GLA LR LR
comp=Z,2μm,18.0s
JNU Nakatsue 44.90 268 P **P** 08 22 27.0 +0.6
comp=Z,56nm,0.8s,baz=348,slow=5.1,SNR=18
JNU Nakatsue 44.90 268 *e*P **P** 08 22 27.5 +1.1
comp=Z,72nm,0.9s
MDND Maddock 44.95 65 P **P** 08 22 26.8 +0.2
baz=304,SNR=31
MDND Maddock 44.95 65 *e*P **P** 08 22 26.9 +0.3
comp=Z,221nm,0.9s
MDND LR LR
comp=Z,2μm,19.0s
PV10 Paradox Valley 44.95 82 *e*P **P** 08 22 27.4 +0.3
PV04 Paradox Valley 45.02 82 *e*P **P** 08 22 27.5 0.0
PV05 Paradox Valley 45.10 82 *e*P **P** 08 22 28.2 0.0
N23A Red Feather La 45.28 77 P **P** 08 22 29.6 0.0
baz=308,SNR=26
N23A Red Feather La 45.28 77 *e*P **P** 08 22 29.8 +0.2
comp=Z,48nm,0.9s
N23A LR LR
comp=Z,2μm,18.0s
PHWY Pilot Hill 45.32 76 *e*P **P** 08 22 29.4 -0.6
comp=Z,21nm,1.2s
WUAZ Wupatki 45.35 87 P **P** 08 22 30.8 +0.7
baz=311,SNR=49
WUAZ Wupatki 45.35 87 *e*P **P** 08 22 30.8 +0.7
comp=Z,42nm,0.8s
WUAZ LR LR
comp=Z,2μm,22.0s
Y14A Wickenburg 45.38 90 *e*P **P** 08 22 30.4 +0.1
comp=Z,123nm,0.9s
PV01 Paradox Valley 45.39 82 *e*P **P** 08 22 30.4 -0.1
ULM Lac du Bonnet 45.68 61 P **P** 08 22 32.1 -0.2
comp=Z,38nm,0.6s,baz=301,slow=8.0,SNR=55
ULM LR LR 08 43 51.1
comp=Z,3μm,18.1s,baz=312,slow=39
ULM Lac du Bonnet 45.68 61 *e*P **P** 08 22 32.1 -0.2
comp=Z,200nm,1.4s
ULM LR LR
comp=Z,3μm,18.0s
A31A Linda, St. Vin 45.69 63 P **P** 08 22 32.4 +0.1
baz=304
113A Mohawk Valley, 45.70 91 *e*P **P** 08 22 32.9 +0.2
comp=Z,139nm,2.0s
113A LR LR
comp=Z,2μm,18.0s
SMCO Snowmass 45.71 80 *e*P **P** 08 22 32.9 -0.3
comp=Z,19nm,0.8s
SMCO LR LR
comp=Z,1μm,22.0s
B31A Greenbush Farm 45.72 64 P **P** 08 22 32.3 -0.3
baz=304,SNR=37
NRIK Noril'sk 45.97 331 P **P** 08 22 34.1 -0.3
comp=Z,32nm,0.7s,baz=70,slow=7.9,SNR=44
NRIK PcP **PcP** 08 24 11.0 +0.6
comp=Z,26nm,0.6s,baz=96,slow=4.4,SNR=8.3
NRIK ScP **ScP** 08 28 02.5 +2.8
comp=Z,16nm,1.1s,baz=54,slow=4.2,SNR=17
NRIK LR LR 08 43 39.7
comp=Z,2μm,19.7s,baz=66,slow=38
C31A Landman Farms, 46.02 64 P **P** 08 22 34.3 -0.8
baz=304,SNR=34
MVCO Mesa Verde 46.02 83 P **P** 08 22 35.0 -0.5
baz=310,SNR=33
MVCO Mesa Verde 46.02 83 *e*P **P** 08 22 35.3 -0.2
comp=Z,27nm,0.8s
MVCO LR LR
comp=Z,2μm,22.0s
X16A Lo Mia Camp, P 46.03 88 *e*P **P** 08 22 36.3 +0.8
comp=Z,26nm,0.9s
X16A LR LR
comp=Z,2μm,19.0s
A32A Rocking H Ranc 46.08 62 P **P** 08 22 35.3 -0.2
baz=304,SNR=38
ISCO Idaho Springs 46.15 78 P **P** 08 22 36.4 -0.1
baz=308,SNR=21
ISCO Idaho Springs 46.15 78 *e*P **P** 08 22 37.1 +0.5
ISCO pmax pmax
comp=Z,38nm,1.3s
ISCO Idaho Springs 46.15 78 *e*P **P** 08 22 37.1 +0.5
comp=Z,38nm,1.4s
ISCO LR LR
comp=Z,2μm,21.0s
KWAJ Kwajalein Atol 46.25 209 PFAKE 08 22 50.0 +13
KWAJ LR LR
comp=Z,4μm,21.0s
B32A Ashes, Strandq 46.34 63 P **P** 08 22 36.9 -0.7
baz=304,SNR=21
D31A Mcclaflin, Tow 46.45 65 P **P** 08 22 37.8 -0.7
baz=305,SNR=21
KULLO Kullorsuaq 46.48 20⇑*i*P **P** 08 22 38.8 +0.6
comp=Z,74nm,1.1s
KULLO Kullorsuaq 46.48 20⇑*i*P **P** 08 22 38.8 +0.6
KULLO pmax pmax
comp=Z,74nm,1.1s
W18A Petrified Fore 46.62 86 P **P** 08 22 40.4 +0.3
baz=311,SNR=32
W18A Petrified Fore 46.62 86 *e*P **P** 08 22 40.7 +0.5
comp=Z,51nm,0.9s
W18A LR LR
comp=Z,2μm,21.0s
E31A Nome 46.64 66 P **P** 08 22 39.2 -0.8
baz=305,SNR=33
A33A Warroad 46.67 62 P **P** 08 22 39.3 -0.8
baz=304,SNR=51
S22A 4UR Ranch, Cre 46.70 81 P **P** 08 22 41.4 +0.5
baz=310,SNR=35
S22A 4UR Ranch, Cre 46.70 81 *e*P **P** 08 22 41.3 +0.5
comp=Z,25nm,0.9s
S22A LR LR
comp=Z,800nm,20.0s
AGMN Agassiz Nation 46.77 63 P **P** 08 22 40.4 -0.5
baz=305,SNR=50
AGMN Agassiz Nation 46.77 63 *e*P **P** 08 22 40.5 -0.5
comp=Z,145nm,1.1s
AGMN LR LR
comp=Z,3μm,18.0s
D32A Dogwood Acres, 46.80 65 P **P** 08 22 40.2 -0.9
baz=305,SNR=8.3
DL2 Dalian 46.83 281 P **P** 08 22 42.3 +0.9
DL2 *e*S **S** 08 29 32.5 +3.9
DL2 pmax pmax
comp=Z,85nm,1.0s
DL2 pmax pmax
comp=Z,420nm,4.0s
DL2 LR LR
comp=Z,2μm,22.7s
DL2 LR LR
comp=Z,1μm,19.8s
DL2 LR LR
comp=Z,2μm,20.4s
F31A Hecla 46.84 67 P **P** 08 22 40.7 -0.8
baz=306,SNR=38
214A Organ Pipe Nat 46.84 91 P **P** 08 22 42.1 +0.3
baz=314,SNR=36
214A Organ Pipe Nat 46.84 91 *e*P **P** 08 22 41.9 +0.1
comp=Z,139nm,0.9s
X18A Snowflake 46.88 87 *e*P **P** 08 22 42.8 +0.7
comp=Z,145nm,1.8s
X18A LR LR
comp=Z,2μm,22.0s
B33A Robert and Kas 46.94 63 P **P** 08 22 41.9 -0.3
baz=305,SNR=47
Q24A Divide 46.95 79 P **P** 08 22 43.0 +0.1
baz=309,SNR=10
Q24A Divide 46.95 79 *e*P **P** 08 22 43.1 +0.3
comp=Z,14nm,0.9s
Q24A LR LR
comp=Z,2μm,22.0s
E32A Braaten, Kindr 47.08 65 P **P** 08 22 42.6 -0.7
baz=306,SNR=25
C33A Trail 47.13 63 P **P** 08 22 43.1 -0.6
baz=305,SNR=36
G31A Conde 47.24 67 P **P** 08 22 43.7 -0.9
baz=306,SNR=17
SUSD Miller 47.27 69 P **P** 08 22 44.6 -0.4
baz=307,SNR=9.5
B34A Aery, Baudette 47.33 62 P **P** 08 22 44.8 -0.5
baz=305,SNR=77
D33A AnnSam, Waubun 47.45 64 P **P** 08 22 45.6 -0.6
baz=306,SNR=75
F32A Veblen 47.47 66 P **P** 08 22 45.4 -1.1
baz=306,SNR=18
SDCO Great Sand Dun 47.51 80 P **P** 08 22 47.5 +0.3
baz=310,SNR=38
SDCO Great Sand Dun 47.51 80 *e*P **P** 08 22 47.3 +0.1
comp=Z,26nm,0.8s
SDCO LR LR
comp=Z,1μm,21.0s
H31A Wolsey 47.52 68 P **P** 08 22 46.4 -0.5
baz=307,SNR=68
OGNE Ogallala 47.59 74 P **P** 08 22 47.8 +0.4
baz=308,SNR=11
OGNE Ogallala 47.59 74 *e*P **P** 08 22 47.9 +0.4
comp=Z,98nm,1.0s
G32A Webster 47.62 67 P **P** 08 22 46.8 -0.8
baz=306,SNR=44
C34A RKJ Ranch, Bem 47.67 63 P **P** 08 22 47.3 -0.7
baz=306,SNR=23
E33A Westby DABS, E 47.73 65 P **P** 08 22 47.7 -0.7
baz=306,SNR=14
I31A Royce, Wessing 47.76 69 P **P** 08 22 48.1 -0.6
baz=307,SNR=27
D34A Park Rapids 47.84 64 P **P** 08 22 48.5 -0.7
baz=306,SNR=140
TUC Tucson 47.85 89 P **P** 08 22 50.1 +0.5
baz=313
TUC Tucson 47.85 89 *e*P **P** 08 22 50.1 +0.5
TUC pmax pmax
comp=Z,46nm,1.0s
TUC Tucson 47.85 89 *e*P **P** 08 22 50.1 +0.5
comp=Z,46nm,0.9s
TUC LR LR
comp=Z,1μm,18.0s
B35A Bob, Littlefor 47.90 62 P **P** 08 22 49.0 -0.7
baz=306,SNR=43
F33A 5 Mile Ranch, 47.96 66 P **P** 08 22 49.2 -1.0
baz=306,SNR=20
J31A Geddes 48.09 70 P **P** 08 22 50.9 -0.4
baz=308,SNR=94
H32A Carlson Farm, 48.11 68 P **P** 08 22 50.5 -0.8
baz=307,SNR=31
C35A Jirik Farms, M 48.15 62 P **P** 08 22 50.9 -0.7
baz=306,SNR=46
E34A Wadena 48.19 64 P **P** 08 22 51.2 -0.8
baz=306
G33A Ortonville 48.26 67 P **P** 08 22 51.7 -0.8
baz=307,SNR=31
I32A Karley and Nic 48.38 68 P **P** 08 22 52.3 -1.1
baz=307,SNR=31
H33A Prehn Over Nor 48.40 67 P **P** 08 22 52.8 -0.8
baz=307,SNR=59
MHTCO State Highway 48.40 80 *e*P **P** 08 22 54.8 +0.9
comp=Z,64nm,0.9s
MHTCO LR LR
comp=Z,1μm,21.0s
KSCO Kaye Shedlock' 48.44 77 P **P** 08 22 54.6 +0.5
baz=310,SNR=22
KSCO Kaye Shedlock' 48.44 77 *e*P **P** 08 22 54.7 +0.5
comp=Z,172nm,1.2s
KSCO LR LR
comp=Z,1μm,20.0s
D35A Remer 48.47 63 P **P** 08 22 53.8 -0.3
baz=306,SNR=57
K31A O'Neill 48.49 71 P **P** 08 22 53.8 -0.5
baz=308,SNR=19
J32A Parkston 48.55 69 P **P** 08 22 54.2 -0.6
baz=308,SNR=51
T25A Trinidad 48.56 80 P **P** 08 22 55.6 +0.4
baz=311,SNR=52
T25A Trinidad 48.56 80 *e*P **P** 08 22 55.7 +0.4
comp=Z,91nm,1.0s
T25A LR LR
comp=Z,1μm,19.0s
F34A Alexandria 48.57 65 P **P** 08 22 54.1 -0.8
baz=307,SNR=33
E35A Pequot Lakes 48.59 64 P **P** 08 22 54.5 -0.6
baz=307,SNR=41
IRK Irkutsk 48.63 305 *e*P **P** 08 22 54.2 -1.1
IRK *e* 08 24 19.3
IRK *e* 08 32 43.3
IRK pmax pmax
comp=Z,128nm,2.3s
G34A Benson 48.69 66 P **P** 08 22 54.9 -0.9
baz=307,SNR=22
C36A Pine Crest Far 48.74 62 P **P** 08 22 55.7 -0.4
baz=306,SNR=49
I33A Coleman 48.75 68 P **P** 08 22 55.3 -1.1
baz=308,SNR=17
ANMO Albuquerque 48.75 84 P **P** 08 22 56.8 +0.1
comp=Z,17nm,1.2s,baz=312,slow=8.7,SNR=21
ANMO PcP **PcP** 08 24 21.5 +0.4
comp=Z,8.8nm,0.8s,baz=258,slow=4.3,SNR=4.4
ANMO ScP **ScP** 08 28 12.3 0.0
comp=Z,4.3nm,1.1s,baz=279,slow=3.4,SNR=5.8
ANMO Albuquerque 48.75 84 P **P** 08 22 56.3 -0.3
baz=312
ANMO Albuquerque 48.75 84 *e*P **P** 08 22 56.6 -0.1
ANMO pmax pmax
comp=Z,26nm,1.2s
ANMO Albuquerque 48.75 84 *e*P **P** 08 22 56.6 -0.1
comp=Z,26nm,1.2s
ANMO LR LR
comp=Z,1μm,20.0s
D36A Goodland 48.91 63 P **P** 08 22 56.6 -0.8
baz=307,SNR=19
F35A Swanville 48.91 65 P **P** 08 22 57.0 -0.6
baz=307,SNR=43

K32A Verdigre 48.92 70 P P 08 22 57.0 -0.7
baz=308,SNR=28
H34A Spellman Lake, 48.95 67 P P 08 22 57.0 -0.9
baz=307,SNR=40
ECSD EROS Data Cent 49.04 68 P P 08 22 57.6 -1.0
baz=308,SNR=60
ECSD EROS Data Cent 49.04 68 *e*P P 08 22 57.5 -1.0
comp=Z,89nm,1.2s
ECSD LR LR
comp=Z,2µm,22.0s
Y22D IRIS PASSCAL I 49.05 85 P P 08 22 59.9 +1.0
baz=312,SNR=8.9
Y22D IRIS PASSCAL I 49.05 85 *e*P P 08 23 00.2 +1.3
comp=Z,88nm,0.9s
Y22D LR LR
comp=Z,2µm,18.0s
J33A Davis 49.10 69 P P 08 22 58.2 -0.8
baz=308,SNR=54
C37A Embarrass 49.11 61 P P 08 22 58.7 -0.4
baz=307,SNR=61
E36A McGregor 49.25 63 P P 08 22 59.7 -0.4
baz=307,SNR=39
TLY Talaya 49.27 305 *e*P P 08 23 00.1 -0.1
TLY *e* 08 24 23.8
TLY *e* 08 24 52.9
TLY *e*S **S** 08 30 02.6 -0.5
TLY pmax pmax
comp=Z,65nm,1.8s
TLY MLR MLR
comp=Z,2µm,20.0s
TLY Talaya 49.27 305 PFAKE 08 23 10.0 +10
TLY LR LR
comp=Z,2µm,21.0s
TLY Talaya 49.27 305 P P 08 23 00.4 +0.2
SNR=6.9
TLY Talaya 49.27 305 P P 08 23 00.4 +0.2
SNR=6.9
KBS Kingsbay 49.28 359 *e*P P 08 23 00.4 +0.5
KBS IAmb IAmb 08 23 01.4
comp=Z,106nm,1.3s
KBS Kingsbay 49.28 359 *e*P P 08 23 00.8 +0.9
KBS pmax pmax
comp=Z,55nm,1.0s
KBS Kingsbay 49.28 359 *e*P P 08 23 00.7 +0.7
comp=Z,56nm,0.9s
KBS LR LR
comp=Z,2µm,18.0s
I34A Hadley 49.29 67 P P 08 22 59.4 -1.1
baz=308,SNR=5.9
L32A Elgin 49.30 71 P P 08 23 00.3 -0.3
baz=309,SNR=36
D37A Cotton 49.32 62 P P 08 22 59.9 -0.7
baz=307,SNR=17
G35A Watkins 49.35 65 P P 08 23 00.2 -0.7
baz=308,SNR=23
EYMN Ely 49.35 61 P P 08 23 00.4 -0.5
baz=307,SNR=29
EYMN Ely 49.35 61 *e*P P 08 23 00.3 -0.5
comp=Z,158nm,1.3s
EYMN LR LR
comp=Z,3µm,18.0s
BJI Beijing 49.38 286 P P 08 23 01.1 -0.1
BJI sP **pP** 08 23 13.9 +0.7
BJI S **S** 08 30 03.3 -1.5
BJI sS **sS** 08 30 20.3 -4.5
BJI ScS **ScS** 08 32 49.1 0.0
BJI pmax pmax
comp=Z,30nm,0.8s
BJI pmax pmax
comp=Z,720nm,6.8s
BJI LR LR
comp=Z,2µm,19.1s
BJI LR LR
comp=Z,3µm,20.0s
BJI LR LR
comp=Z,3µm,23.6s
BJT Baijiatuau 49.40 286 *e*P P 08 23 01.8 +0.5
BJT pmax pmax
comp=Z,28nm,1.0s
BJT MLR MLR
comp=Z,4µm,22.0s
BJT Baijiatuau 49.40 286 *e*P P 08 23 01.8 +0.5
comp=Z,28nm,1.0s
BJT LR LR
comp=Z,4µm,22.0s
319A Douglas 49.42 89 *e*P P 08 23 02.5 +0.7
comp=Z,28nm,0.8s
319A LR LR
comp=Z,2µm,19.0s
H35A Sunnyside Ranc 49.47 66 P P 08 23 01.1 -0.7
baz=308,SNR=41
F36A Milaca 49.49 64 P P 08 23 01.1 -0.8
baz=307,SNR=44
K33A Hardington 49.52 70 P P 08 23 01.6 -0.6
baz=308,SNR=27
121A Cookes Peak, D 49.55 87 P P 08 23 03.2 +0.3
baz=313,SNR=28
121A Cookes Peak, D 49.55 87 *e*P P 08 23 03.1 +0.3
comp=Z,27nm,0.7s
BGNE Belgrade 49.59 72 P P 08 23 02.6 -0.3
baz=309,SNR=27
BGNE Belgrade 49.59 72 *e*P P 08 23 02.0 -0.8
comp=Z,203nm,0.9s
BGNE LR LR
comp=Z,2µm,21.0s
C38A Sawbill Land. 49.61 61 P P 08 23 02.2 -0.7
baz=307,SNR=29
L33A Hoskins 49.63 70 P P 08 23 02.2 -0.9
baz=309,SNR=16
E37A Wrenshall 49.69 63 P P 08 23 02.8 -0.6
baz=307,SNR=5.6
J34A George 49.70 68 P P 08 23 02.7 -0.9
baz=308,SNR=15
G36A St. Michael 49.75 65 P P 08 23 03.4 -0.6
baz=308,SNR=19
ULN Ulaanbaatar 49.76 299 *c*eP P 08 23 03.8 -0.3
ULN pmax pmax
comp=Z,21nm,0.9s
ULN MLR MLR
comp=Z,5µm,19.0s
ULN Ulaanbaatar 49.76 299 *e*P P 08 23 04.1 -0.1
comp=Z,18nm,0.9s
ULN LR LR
comp=Z,5µm,20.0s
ULN Ulaanbaatar 49.76 299 P P 08 23 03.6 -0.6
SNR=12
ULN P P 08 23 03.6 -0.6
SNR=12
ULN Ulaanbaatar 49.76 299 P P 08 23 03.6 -0.6
SNR=12
I35A Creekview Farm 49.90 67 P P 08 23 03.9 -1.2
baz=308
SPA0 Spitsbergen Ar 49.96 358 *e*P P 08 23 04.6 -0.5
SPA0 IAmb IAmb 08 23 10.1
comp=Z,78nm,1.0s
SPA0 Spitsbergen Ar 49.96 358 *e*P P 08 23 04.6 -0.5
K34A Le Mars 49.99 69 P P 08 23 05.4 -0.4
baz=309,SNR=73
HSIG 50.04 93 *e*P P 08 23 05.9 -0.4
comp=Z,20nm,0.7s
HSIG LR LR
comp=Z,1µm,20.0s
M33A Taylor Creek F 50.05 71 P P 08 23 05.7 -0.6
baz=309,SNR=31
H36A Jessenland, He 50.05 66 P P 08 23 06.2 -0.1
baz=308,SNR=26
J35A Milford 50.08 68 P P 08 23 05.5 -0.9
baz=308,SNR=7.5
F37A Hinrichs Farm, 50.08 64 P P 08 23 05.8 -0.6
baz=308,SNR=43
SONA1 Songino Array 50.12 300 *e*P P 08 23 05.8 -1.0
SONA0 Songino Array 50.13 300 *e*P P 08 23 06.9 0.0
comp=Z,106nm,1.7s
SONA0 *e*PcP **PcP** 08 24 25.6 -0.3
SONM Songino Array 50.13 300 P P 08 23 06.9 0.0
comp=Z,4.8nm,0.6s,baz=49,slow=8.9,SNR=27
SONM PcP **PcP** 08 24 25.6 -0.3
comp=Z,9.7nm,0.7s,baz=55,slow=2.7,SNR=5.9
SONM ScP **ScP** 08 28 18.2 +0.4
comp=Z,8.8nm,0.9s,baz=54,slow=2.8,SNR=9.2
SONM LR LR 08 45 42.7
comp=Z,6µm,19.7s,baz=53,slow=38
E38A The Farm, Brul 50.13 62 P P 08 23 06.0 -0.8
baz=308,SNR=32
C39A Grand Marais 50.17 60 P P 08 23 06.3 -0.7
baz=307,SNR=15
ZAK Zakamensk 50.23 304 *e*P P 08 23 07.7 +0.1
ZAK pmax pmax
comp=Z,27nm,1.6s
L34A Svendsen Farm, 50.28 70 P P 08 23 07.3 -0.7
baz=309,SNR=78
SPMN Marine on St. 50.28 64 P P 08 23 07.5 -0.5
baz=308,SNR=27
SPMN Marine on St. 50.28 64 *e*P P 08 23 07.6 -0.5
comp=Z,71nm,1.1s
SPMN LR LR
comp=Z,3µm,18.0s
CBKS Cedar Bluff 50.30 75 P P 08 23 08.4 +0.1
baz=310,SNR=26
CBKS Cedar Bluff 50.30 75 *e*P P 08 23 08.4 +0.1
CBKS pmax pmax
comp=Z,120nm,0.9s
CBKS Cedar Bluff 50.30 75 *e*P P 08 23 08.4 +0.1
comp=Z,120nm,0.8s
CBKS LR LR
comp=Z,1µm,19.0s
DAG Danmarks Havn 50.34 8 *i*P P 08 23 07.0 -1.0
comp=Z,46nm,0.7s
DAG Danmarks Havn 50.34 8 *i*P P 08 23 07.0 -1.0
DAG pmax pmax
comp=Z,32nm,0.7s
F38A Pierce - Schro 50.35 63 P P 08 23 08.3 -0.1
baz=308,SNR=52
I36A Fitzsimmons Fa 50.35 66 P P 08 23 07.5 -1.0
baz=308,SNR=31
N33A J Bar K, Exete 50.42 72 P P 08 23 08.1 -1.0
baz=310
M34A Aspy Farms, Fr 50.45 70 P P 08 23 08.4 -0.9
baz=309,SNR=9.8
SRIG Santa Rosalia 50.45 95 PFAKE 08 23 20.0 +11
SRIG LR LR
comp=Z,2µm,22.0s
K35A Storm Lake 50.46 68 P P 08 23 08.5 -0.9
baz=309,SNR=14
J36A Seneca 1, Swea 50.59 67 P P 08 23 09.4 -1.0
baz=309,SNR=24
MOY Mondy 50.61 306 *e*P P 08 23 11.2 +0.7
MOY pmax pmax
comp=Z,112nm,2.5s
H37A Dierke Farm, C 50.62 65 P P 08 23 10.2 -0.3
baz=308,SNR=21
L35A Bielow Farm, R 50.67 69 P P 08 23 09.8 -1.1
baz=309,SNR=15
I37A Lemond, Waseca 50.70 66 P P 08 23 10.9 -0.2
baz=309,SNR=50
O33A Hebron 50.77 72 P P 08 23 10.9 -0.8
baz=310,SNR=24
E39A Mellen 50.81 62 P P 08 23 11.0 -1.0
baz=308,SNR=14
G38A Ridgeland 50.85 64 P P 08 23 11.4 -0.8
baz=308,SNR=27
F39A Loretta 50.90 63 P P 08 23 12.1 -0.5
baz=308,SNR=15
H38A Maiden Rock 50.92 65 P P 08 23 12.4 -0.4
baz=309,SNR=23
N34A Lincoln 50.92 71 P P 08 23 11.8 -1.0
baz=310,SNR=9.6
K36A Gilmore City 50.96 68 P P 08 23 12.4 -0.7
baz=309,SNR=31
M35A Neola 50.99 70 P P 08 23 12.9 -0.4
baz=310,SNR=34
J37A Redenius Farm, 51.05 67 P P 08 23 13.2 -0.6
baz=309,SNR=80
E40A Wakefield 51.13 62 P P 08 23 14.1 -0.3
baz=308,SNR=29
HSPB Hornsund (broa 51.15 358 *e*P P 08 23 14.5 +0.4
HSPB IAmb IAmb 08 23 59.0
comp=Z,107nm,1.3s
HSPB IAMs_20 IAMs_20 08 43 20.4
comp=Z,4µm,21.7s
HSPB Hornsund (broa 51.15 358 *e*P P 08 23 15.5 +1.4
G39A Holcombe 51.15 63 P P 08 23 13.7 -0.8
baz=309,SNR=24
L36A Harm Buss Farm 51.18 69 P P 08 23 13.1 -1.7
baz=310
O34A Beatrice 51.22 72 P P 08 23 14.1 -1.0
baz=310,SNR=57
XMAS Kiritimati 51.26 161 PFAKE 08 23 30.0 +14
XMAS LR LR
comp=Z,5µm,20.0s
HOPEN Hopen 51.27 355 IAMs_20 IAMs_20 08 44 22.5
comp=Z,3µm,20.3s
I38A Scanlan Farm, 51.28 65 P P 08 23 14.9 -0.6
baz=309,SNR=30
TIA Tai'an 51.29 282 ⇑P P 08 23 15.5 -0.2
TIA S **S** 08 30 31.8 +0.3
TIA pmax pmax
comp=Z,40nm,0.8s
TIA pmax pmax
comp=Z,790nm,5.9s
TIA LR LR
comp=Z,2µm,21.7s
TIA LR LR
comp=Z,2µm,22.2s
TIA LR LR
comp=Z,1µm,21.0s
F40A Park Falls 51.34 62 P P 08 23 15.2 -0.7
baz=309,SNR=35
K37A Belmond 51.35 67 P P 08 23 15.1 -0.9
baz=309,SNR=75
N35A Tabor 51.40 70 P P 08 23 16.0 -0.4
baz=310,SNR=39
D41A Chassel 51.47 60 P P 08 23 16.7 -0.1
baz=308,SNR=7.6
H39A Augusta 51.47 64 P P 08 23 16.2 -0.7
baz=309,SNR=17
M36A Felix, Anita 51.51 69 P P 08 23 16.6 -0.6
baz=310,SNR=19
SUMG Summit 51.55 16 *i*P P 08 23 17.5 -0.1
comp=Z,125nm,1.0s
SUMG Summit 51.55 16 *i*P P 08 23 17.5 -0.1
SUMG pmax pmax
comp=Z,120nm,1.0s
SUMG Summit 51.55 16 *e*P P 08 23 17.0 -0.6
comp=Z,129nm,1.0s
SUMG LR LR
comp=Z,3µm,20.0s
P34A Walnut Farm, R 51.55 73 P P 08 23 16.8 -0.9
baz=310,SNR=9.3
HHC Hu-ho-hao-te 51.58 290 *e*P P 08 23 18.4 +0.5
HHC S **S** 08 30 33.8 -1.7
HHC ScS **ScS** 08 33 03.3 -1.1
HHC pmax pmax
comp=Z,31nm,1.1s
HHC pmax pmax
comp=Z,530nm,6.3s
HHC LR LR
comp=Z,2µm,17.2s
HHC LR LR
comp=Z,2µm,17.0s
HHC LR LR
comp=Z,2µm,16.8s
GUMO Guam 51.59 238 P P 08 23 15.8 -2.3
comp=Z,128nm,0.8s,baz=180,slow=6.9,SNR=8.0
GUMO Guam 51.59 238 *e*P P 08 23 16.3 -1.8
GUMO pmax pmax
comp=Z,190nm,1.0s
GUMO Guam 51.59 238 *e*P P 08 23 16.2 -1.8
GUMO LR LR
comp=Z,1µm,19.0s
MNTX Cornudas Mount 51.61 86 P P 08 23 18.5 +0.3
baz=314,SNR=42
MNTX Cornudas Mount 51.61 86 *e*P P 08 23 18.4 +0.3
comp=Z,38nm,1.1s
MNTX LR LR
comp=Z,600nm,19.0s
O35A Humboldt 51.63 71 P P 08 23 17.0 -1.2
baz=310,SNR=6.7
J38A Wedel Dairy, R 51.66 66 P P 08 23 17.7 -0.6
baz=308,SNR=26
MSTX Muleshoe 51.66 82 P P 08 23 18.4 -0.2
baz=313,SNR=27
MSTX Muleshoe 51.66 82 *e*P P 08 23 18.2 -0.4
comp=Z,44nm,0.8s
MSTX LR LR
comp=Z,1µm,18.0s
L37A Phoenix Point, 51.69 68 P P 08 23 17.9 -0.7
baz=310,SNR=45
G40A Rib Lake 51.70 63 P P 08 23 17.9 -0.7
baz=309,SNR=16
AMTX Amarillo 51.71 80 P P 08 23 19.0 0.0
baz=312
AMTX Amarillo 51.71 80 *e*P P 08 23 18.9 -0.1
comp=Z,29nm,0.8s
AMTX LR LR
comp=Z,1µm,21.0s
N36A Muff Farm, Cla 51.83 70 P P 08 23 19.2 -0.5
baz=310,SNR=14
I39A Houston 51.86 65 P P 08 23 19.0 -0.8
baz=309,SNR=49
Q34A Chapman 51.89 73 P P 08 23 19.5 -0.6
baz=311,SNR=18
K38A Parkersburg 51.92 67 P P 08 23 19.5 -0.8
baz=310,SNR=16
KSU1 Kansas State U 51.97 73 P P 08 23 19.9 -0.8
baz=311,SNR=9.7
KSU1 Kansas State U 51.97 73 *e*P P 08 23 19.9 -0.8
comp=Z,67nm,0.9s
KSU1 LR LR
comp=Z,2µm,21.0s
M37A Trindle Farm, 51.98 69 P P 08 23 20.5 -0.2
baz=310,SNR=56
H40A Chili 52.00 64 P P 08 23 20.4 -0.5
baz=309,SNR=14
F41A Three Lakes 52.00 62 P P 08 23 20.3 -0.6
baz=309,SNR=25
P35A Duane Minner, 52.04 72 P P 08 23 20.3 -1.0
baz=311,SNR=33
J39A Decorah 52.08 66 P P 08 23 20.4 -1.1
baz=310,SNR=101
TARA Tarawa 52.08 199 PFAKE 08 23 30.0 +8.3
TARA LR LR
comp=Z,4µm,21.0s
R34A Isabella, Hill 52.12 74 P P 08 23 21.2 -0.7
baz=311,SNR=30
L38A Oak Wood Farm, 52.13 68 P P 08 23 21.1 -0.8
baz=310,SNR=51
SCIA State Center 52.14 68 *e*P P 08 23 21.7 -0.2
comp=Z,122nm,0.6s
SCIA LR LR
comp=Z,3µm,22.0s
E42A Champion 52.21 61 P P 08 23 21.9 -0.6
baz=309
O36A Bolckow 52.27 71 P P 08 23 22.1 -0.8
baz=311,SNR=7.6
SSE Sheshan 52.27 274 P P 08 23 23.9 +0.9
SSE pP **pP** 08 23 32.3 -2.9
SSE S **S** 08 30 44.1 -0.9
SSE sS **pS** 08 30 59.3 +0.1
SSE pmax pmax
comp=Z,64nm,1.2s
SSE pmax pmax
comp=Z,460nm,4.7s
SSE LR LR
comp=Z,750nm,23.8s
SSE LR LR
comp=Z,280nm,23.8s
SSE LR LR
comp=Z,820nm,22.5s
G41A Antigo 52.29 62 P P 08 23 22.4 -0.7
baz=309
N37A Lee Faris, Mou 52.30 70 P P 08 23 22.7 -0.5
baz=310,SNR=36
U32A Winter Ranch, 52.34 77 P P 08 23 22.6 -0.9
baz=312
I40A Norwalk 52.34 65 P P 08 23 22.6 -0.8
baz=310,SNR=12
K39A Oelwein 52.38 66 P P 08 23 22.4 -1.3
baz=310,SNR=42
H41A Junction City 52.41 63 P P 08 23 23.2 -0.7
baz=310,SNR=14
P36A Good Intent, A 52.46 71 P P 08 23 23.3 -1.0
baz=311,SNR=38
M38A Pleasantville 52.46 68 P P 08 23 23.6 -0.7
baz=310,SNR=32
Q35A Mercer Eighty, 52.47 73 P P 08 23 23.1 -1.4
baz=311,SNR=9.4
F42A Maple Grove Fa 52.52 61 P P 08 23 24.3 -0.4
baz=309,SNR=10
J40A Soldiers Grove 52.59 65 P P 08 23 24.1 -1.2
baz=310,SNR=15
S34A Willow Spring 52.59 74 P P 08 23 24.4 -1.0
baz=312,SNR=11
BTO Baotou 52.63 290 *e*P P 08 23 26.4 +0.7
I41A Arkdale 52.65 64 P P 08 23 25.1 -0.6
baz=310,SNR=27
L39A Vinton 52.69 67 P P 08 23 25.1 -0.9
baz=310,SNR=36
O37A Wolven Farm, M 52.72 70 P P 08 23 25.6 -0.7
baz=311,SNR=64
R35A Emporia Munici 52.73 73 P P 08 23 25.6 -0.7
baz=311,SNR=12
Q36A Arnold C. Orve 52.74 72 P P 08 23 25.3 -1.1
baz=311,SNR=19
K40A Colesburg 52.81 66 P P 08 23 25.7 -1.2
baz=310,SNR=13
N38A Joes South For 52.84 69 P P 08 23 26.3 -0.8
baz=311,SNR=50
P37A Lathrop 52.98 71 P P 08 23 27.0 -1.1
baz=311,SNR=49
T34A McClaskey Farm 53.00 75 P P 08 23 27.6 -0.8
baz=312,SNR=35
M39A Webster 53.01 68 P P 08 23 27.8 -0.6
baz=311,SNR=52
J41A Loganville 53.01 65 P P 08 23 27.3 -1.1
baz=310,SNR=28
NJ2 Nanjing 53.05 276 *e*P P 08 23 29.1 +0.4
NJ2 S **S** 08 30 58.8 +3.3
NJ2 pmax pmax
comp=Z,91nm,1.1s
NJ2 LR LR
comp=Z,2µm,22.8s
NJ2 LR LR
comp=Z,1µm,18.4s
NJ2 LR LR
comp=Z,3µm,26.0s
S35A Otter Creek Ra 53.08 74 P P 08 23 28.1 -0.8
baz=312,SNR=35
R36A Gordon, Harris 53.13 73 P P 08 23 28.5 -0.9
baz=312,SNR=30
O38A Galt 53.14 70 P P 08 23 28.5 -0.9
baz=311,SNR=38
JFWS Jewell Farm 53.17 65 *e*P P 08 23 28.3 -1.2
JFWS pmax pmax
comp=Z,92nm,0.8s
JFWS Jewell Farm 53.17 65 *e*P P 08 23 28.3 -1.2
comp=Z,92nm,0.8s
JFWS LR LR
comp=Z,4µm,18.0s
L40A Anamosa 53.17 67 P P 08 23 28.4 -1.1
baz=310,SNR=16
N39A Derby Farms, D 53.21 69 P P 08 23 29.1 -0.8
baz=311,SNR=97
K41A Shullsburg 53.34 66 P P 08 23 29.7 -1.0
baz=310,SNR=50
SFJD Kangerlussuaq 53.34 25 P P 08 23 29.9 -0.5
comp=Z,38nm,0.8s,baz=328,slow=8.8,SNR=12
SFJD PcP **PcP** 08 24 37.5 +0.2
comp=Z,22nm,0.8s,baz=339,slow=4.8,SNR=3.7
SFJD Kangerlussuaq 53.34 25 *i*P P 08 23 29.3 -1.1
comp=Z,49nm,0.9s
SFJD Kangerlussuaq 53.34 25 *i*P P 08 23 29.3 -1.1
SFJD pmax pmax
comp=Z,49nm,0.9s
SFJD Kangerlussuaq 53.34 25 *e*P P 08 23 30.5 +0.1
SFJD *e*PcP **PcP** 08 24 37.5 +0.2
SFJD LR LR
comp=Z,4µm,21.0s
Q37A Longview Farm, 53.39 72 P P 08 23 29.6 -1.6
baz=311,SNR=11
M40A Post Highland 53.43 67 P P 08 23 30.4 -1.1
baz=311,SNR=40
P38A Dawn 53.43 70 P P 08 23 30.3 -1.2
baz=311,SNR=31
T35A Sooner Cattle 53.47 75 P P 08 23 30.9 -1.0
baz=312,SNR=16
S36A Lake Cedric, C 53.48 73 P P 08 23 30.8 -1.1
baz=312,SNR=28
BJO Bjornoya 53.53 356 IAMs_20 IAMs_20 08 44 53.5
comp=Z,3µm,21.0s
R37A Teagarden Farm 53.54 72 P P 08 23 30.8 -1.6
baz=312,SNR=18
WMOK Wichita Mounta 53.57 78 P P 08 23 32.3 -0.3
baz=313,SNR=35
WMOK Wichita Mounta 53.57 78 *e*P P 08 23 32.3 -0.3
WMOK pmax pmax
comp=Z,33nm,0.9s
WMOK Wichita Mounta 53.57 78 *e*P P 08 23 32.3 -0.3
comp=Z,33nm,0.8s
WMOK LR LR
comp=Z,1µm,21.0s
L41A Preston 53.57 66 P P 08 23 31.2 -1.3
baz=311,SNR=30

O39A	Kirksville	53.59	69	P		P	08 23 31.8	-0.9	
	baz=311,SNR=31								
U35A	Pawnee	53.70	75	P		P	08 23 32.7	-0.8	
	baz=312,SNR=8.9								
N40A	Mertquake, Sal	53.73	68	P		P	08 23 32.6	-1.1	
	baz=311,SNR=20								
T36A	Boggs Farm, Ca	53.75	74	P		P	08 23 32.6	-1.2	
	baz=312,SNR=15								
Q38A	Cooks Store, C	53.82	71	P		P	08 23 32.8	-1.5	
	baz=312,SNR=39								
S37A	Fort Scott	53.91	73	P		P	08 23 33.8	-1.2	
	baz=312,SNR=51								
P39B	Salisbury	53.98	70	P		P	08 23 34.3	-1.1	
	baz=312,SNR=99								
LPIG	La Paz	53.99	96	P		P	08 23 35.7	0.0	
	comp=Z,23nm,0.8s,baz=302,slow=2.6,SNR=5.6								
M41A	Milan	54.01	67	P		P	08 23 34.6	-1.1	
	baz=311,SNR=39								
V35A	Meyer Ranch, C	54.05	76	P		P	08 23 35.3	-0.8	
	baz=313,SNR=10								
O40A	La Belle	54.07	69	P		P	08 23 35.1	-1.0	
	baz=311,SNR=121								
Q39A	Willow Grove F	54.14	71	P		P	08 23 35.2	-1.5	
	baz=312,SNR=115								
R38A	Fenwick Farm,	54.17	72	P		P	08 23 34.7	-2.2	
	baz=312,SNR=32								
N41A	Harden Midland	54.27	68	P		P	08 23 36.5	-1.0	
	baz=311,SNR=20								
T37A	Cheneyville 18	54.28	74	P		P	08 23 36.5	-1.2	
	baz=312,SNR=28								
U36A	Oologah	54.29	75	P		P	08 23 36.6	-1.1	
	baz=312								
TX31	Lajitas Ar. Si	54.31	87	eP		P	08 23 38.1	-0.1	
LTX	Lajitas	54.31	87	eP		P	08 23 38.1	-0.1	
LTX				e			08 24 41.9		
LTX	Lajitas	54.31	87	eP		P	08 23 38.1	-0.1	
LTX				ePcP		PcP	08 24 41.9	+0.1	
TXAR	Lajitas Array	54.31	87	P		P	08 23 38.1	-0.1	
	comp=Z,35nm,0.8s,baz=300,slow=5.2,SNR=255								
TXAR				PcP		PcP	08 24 41.9	+0.1	
	comp=Z,10nm,0.7s,baz=276,slow=1.1,SNR=5.2								
TXAR				ScP		ScP	08 28 35.9	-0.4	
	comp=Z,3.7nm,0.9s,baz=290,slow=3.7,SNR=4.8								
TXAR				PKPPKP		P'P'df	08 53 49.2	-4.8	
	comp=Z,0.3nm,0.7s,baz=178,slow=4.5,SNR=2.5								
P40A	Paris	54.36	70	P		P	08 23 37.3	-1.0	
	baz=312,SNR=199								
M42A	Sheffield	54.40	66	P		P	08 23 36.4	-2.1	
	baz=311								
W35A	Tecumseh	54.44	77	P		P	08 23 38.5	-0.4	
	baz=313,SNR=24								
ABTX	Abilene, Hawle	54.49	81	P		P	08 23 39.0	-0.3	
	baz=314,SNR=13								
ABTX	Abilene, Hawle	54.49	81	eP		P	08 23 39.0	-0.3	
	comp=Z,182nm,1.8s								
ABTX				LR		LR			
	comp=Z,1μm,21.0s								
SLBS	Sierra La Lagu	54.52	97	eP		P	08 23 39.6	-0.1	
	comp=Z,27nm,0.9s								
SLBS				LR		LR			
	comp=Z,1μm,18.0s								
S38A	Stockton	54.54	72	P		P	08 23 37.8	-1.8	
	baz=312,SNR=61								
V36A	Jenks	54.57	75	P		P	08 23 39.1	-0.8	
	baz=313,SNR=18								
TUL1	Leonard	54.58	75	P		P	08 23 39.0	-0.9	
	baz=313,SNR=14								
TUL1	Leonard	54.58	75	eP		P	08 23 39.1	-0.7	
	comp=Z,40nm,0.8s								
TUL1				LR		LR			
	comp=Z,2μm,19.0s								
R39A	Chumby, Stover	54.59	71	P		P	08 23 37.7	-2.2	
	baz=312,SNR=25								
O41A	Passleys Farm,	54.64	68	P		P	08 23 39.3	-1.0	
	baz=312,SNR=38								
U37A	Salina	54.64	74	P		P	08 23 39.5	-0.9	
	baz=313,SNR=36								
N42A	Yates City	54.65	67	P		P	08 23 39.1	-1.3	
	baz=312,SNR=9.3								
Q40A	Laux Farm, Aux	54.70	70	P		P	08 23 39.4	-1.3	
	baz=312,SNR=68								
T38A	Diamond	54.71	73	P		P	08 23 39.5	-1.4	
	baz=312,SNR=23								
HPIG		54.79	90	eP		P	08 23 41.7	-0.1	
	comp=Z,30nm,1.1s								
HPIG				LR		LR			
	comp=Z,1μm,18.0s								
P41A	Barry, Barry	54.83	69	P		P	08 23 40.6	-1.1	
	baz=312,SNR=42								
W36A	Wetumka	54.84	76	P		P	08 23 41.3	-0.5	
	baz=313,SNR=18								
S39A	Bolivar	54.84	72	P		P	08 23 39.5	-2.2	
	baz=312,SNR=26								
X35A	Drake	54.89	77	P		P	08 23 41.7	-0.5	
	baz=313,SNR=26								
V37A	Hulbert	54.98	75	P		P	08 23 41.7	-1.1	
	baz=313,SNR=30								
GLMI	Grayling	55.02	60	eP		P	08 23 42.9	-0.1	
	comp=Z,238nm,1.0s								
GLMI				LR		LR			
	comp=Z,3μm,19.0s								
O42A	Bath	55.05	68	P		P	08 23 42.2	-1.0	
	baz=312,SNR=13								
U38A	Gravette	55.05	74	P		P	08 23 42.0	-1.3	
	baz=313,SNR=30								
R40A	Maddies Statio	55.06	71	P		P	08 23 41.3	-2.0	
	baz=312,SNR=65								
X36A	Centrahoma	55.15	77	P		P	08 23 43.9	-0.1	
	baz=313,SNR=13								
Y35A	Marietta	55.19	78	P		P	08 23 44.4	0.0	
	baz=314,SNR=22								
Q41A	Truxton	55.21	70	P		P	08 23 43.2	-1.3	
	baz=312,SNR=38								
HDIL	Hopedale	55.26	67	P		P	08 23 43.9	-0.8	
	baz=312,SNR=48								
HDIL	Hopedale	55.26	67	eP		P	08 23 44.0	-0.8	
	comp=Z,163nm,0.8s								
HDIL				LR		LR			
	comp=Z,2μm,19.0s								
T39A	Clever	55.26	73	P		P	08 23 43.0	-1.8	
	baz=313,SNR=44								
P42A	Winchester	55.30	68	P		P	08 23 43.9	-1.1	
	baz=312,SNR=31								
W37B	Quinton	55.31	76	P		P	08 23 45.2	-0.1	
	baz=313,SNR=23								
233A	Rising Star	55.36	81	P		P	08 23 45.1	-0.6	
	baz=314,SNR=39								
S40A	Lebanon	55.38	72	P		P	08 23 43.4	-2.3	
	baz=313,SNR=13								
O43A	Sugar Creek Fa	55.43	67	P		P	08 23 45.0	-0.9	
	baz=312,SNR=15								
HHAR	Hobbs	55.43	74	eP		P	08 23 44.6	-1.5	
	comp=Z,32nn,0.9s								
HHAR				LR		LR			
	comp=Z,2μm,20.0s								
V38A	Canehill	55.43	74	P		P	08 23 45.0	-1.1	
	baz=313,SNR=44								
R41A	Rosebud	55.57	70	P		P	08 23 45.5	-1.5	
	baz=312,SNR=44								
U39A	Green Forest	55.63	73	P		P	08 23 46.0	-1.5	
	baz=313,SNR=27								
Q42A	Golden Eagle	55.65	69	P		P	08 23 46.7	-0.8	
	baz=312,SNR=124								
Y36A	Durant	55.65	77	P		P	08 23 47.5	-0.2	
	baz=314,SNR=20								
T40A	Mansfield	55.68	72	P		P	08 23 45.8	-2.0	
	baz=313,SNR=44								
X37A	Clayton	55.73	76	P		P	08 23 47.8	-0.3	
	baz=314,SNR=24								
P43A	Skaggs, Pawnee	55.74	68	P		P	08 23 47.3	-0.9	
	baz=312,SNR=42								
333A	Richland Sprin	55.79	82	P		P	08 23 48.1	-0.6	
	baz=315,SNR=55								
S41A	Jillco Farms,	55.83	71	P		P	08 23 47.0	-1.9	
	baz=313,SNR=88								
234A	Clairette	55.84	80	P		P	08 23 48.8	-0.2	
	baz=314,SNR=23								
SCO	Scoresbysund	55.88	12	i P		P	08 23 48.4	-0.4	
SCO	Scoresbysund	55.88	12	i P		P	08 23 48.4	-0.4	
JCT	Junction City	55.88	83	P		P	08 23 48.4	-1.0	
	baz=315,SNR=28								
JCT	Junction City	55.88	83	eP		P	08 23 48.5	-1.0	
JCT				pmax		pmax			
	comp=Z,44nm,0.6s								
JCT	Junction City	55.88	83	eP		P	08 23 48.5	-1.0	
	comp=Z,44nn,0.6s								
JCT				LR		LR			
	comp=Z,2μm,18.0s								

V39A	Pettigrew	55.90	74	P		P	08 23 48.1	-1.4	
	baz=313,SNR=20								
W38A	Poteau	55.91	75	P		P	08 23 49.1	-0.4	
	baz=313,SNR=37								
R42A	Luebbering	55.92	70	P		P	08 23 48.1	-1.4	
	baz=313,SNR=26								
Z36A	Blue Ridge	55.99	78	P		P	08 23 49.7	-0.4	
	baz=314,SNR=13								
X38A	Whitesboro	56.00	76	P		P	08 23 49.6	-0.6	
	baz=314,SNR=18								
SLM	Saint Louis	56.00	69	eP		P	08 23 49.4	-0.7	
SLM				pmax		pmax			
	comp=Z,81nm,0.9s								
SLM	Saint Louis	56.00	69	eP		P	08 23 49.1	-1.0	
	comp=Z,81nn,0.9s								
SLM				LR		LR			
	comp=Z,2μm,22.0s								
U40A	Yellville	56.02	73	P		P	08 23 48.6	-1.6	
	baz=313,SNR=39								
Q43A	New Douglas	56.11	69	P		P	08 23 50.0	-0.8	
	baz=313,SNR=39								
433A	Art	56.13	82	P		P	08 23 50.1	-1.1	
	baz=315,SNR=30								
T41A	Mountain View	56.19	72	P		P	08 23 49.3	-2.2	
	baz=313,SNR=23								
334A	Lometa	56.24	81	P		P	08 23 51.6	-0.3	
	baz=315,SNR=66								
W39A	Magazine	56.26	75	P		P	08 23 51.1	-0.9	
	baz=314,SNR=28								
WHTX	Lake Whitney,	56.26	80	P		P	08 23 51.9	-0.2	
	baz=314,SNR=23								
WHTX	Lake Whitney,	56.26	80	eP		P	08 23 52.0	-0.1	
	comp=Z,71nn,0.9s								
WHTX				LR		LR			
	comp=Z,2μm,22.0s								
S42A	Caledonia	56.27	70	P		P	08 23 50.3	-1.7	
	baz=313,SNR=33								
P44A	Sand Creek, Wi	56.37	67	P		P	08 23 52.0	-0.7	
	baz=313,SNR=77								
V40A	Witts Springs	56.41	73	P		P	08 23 51.6	-1.6	
	baz=313,SNR=32								
R43A	Red Bud	56.42	69	P		P	08 23 51.9	-1.3	
	baz=313,SNR=70								
136A	Ennis	56.49	79	P		P	08 23 53.1	-0.5	
	baz=314,SNR=5.6								
Q44A	Meyer Farm, Va	56.52	68	P		P	08 23 52.6	-1.2	
	baz=313,SNR=21								
VLDQ	Val d'Or	56.52	53	eP		P	08 23 51.9	-1.8	
	comp=Z,77nm,0.8s								
VLDQ				LR		LR			
	comp=Z,3μm,22.0s								
X39A	Fountain Ranch	56.53	75	P		P	08 23 53.6	-0.4	
	baz=314,SNR=44								
Z37A	Pogue Cattle C	56.53	78	P		P	08 23 53.4	-0.6	
	baz=314,SNR=6.7								
Y38A	Idabel	56.56	76	P		P	08 23 53.1	-1.1	
	baz=314								
U41A	Viola	56.58	72	P		P	08 23 52.4	-1.9	
	baz=313,SNR=27								
434A	Burnet	56.59	81	P		P	08 23 54.0	-0.4	
	baz=315,SNR=38								
T42A	Van Buren	56.59	71	P		P	08 23 52.1	-2.3	
	baz=313,SNR=30								
ZAA1	Zalesovo Array	56.61	316	eP		P	08 23 53.7	-0.5	
ZAA1				ePcP		PcP	08 24 49.6	-0.5	
ZAA0	Zalesovo Array	56.61	316	eP		P	08 23 53.9	-0.3	
ZALV	Zalesovo Beam	56.61	316	P		P	08 23 53.7	-0.5	
	comp=Z,8.7nm,0.7s,baz=53,slow=6.8,SNR=17								
ZALV				PcP		PcP	08 24 49.6	-0.6	
	comp=Z,29nm,0.7s,baz=38,slow=3.5,SNR=17								
ZALV				ScP		ScP	08 28 46.1	+0.3	
	comp=Z,9.0nm,0.9s,baz=44,slow=4.0,SNR=9.6								
ZALV				LR		LR	08 52 22.2		
	comp=Z,2μm,18.5s,baz=70,slow=40								
SFIN	Lafayette	56.62	66	P		P	08 23 53.8	-0.7	
	baz=313,SNR=27								
SFIN	Lafayette	56.62	66	eP		P	08 23 53.0	-1.4	
	comp=Z,102nn,0.8s								
SFIN				LR		LR			
	comp=Z,3μm,21.0s								
533A	Kerrville	56.64	83	P		P	08 23 53.7	-1.1	
	baz=315,SNR=35								
NVS	Novosibirsk	56.65	318	⇓ i P		P	08 23 54.5	0.0	
NVS				i			08 24 50.8		
NVS				pmax		pmax			
	comp=N,5.0nm,0.6s								
NVS				pmax		pmax			
	comp=Z,19nm,0.6s								
NVS				pmax		pmax			
	comp=E,11nm,0.7s								
W40A	Ferguson Farm,	56.69	74	P		P	08 23 54.3	-0.7	
	baz=314,SNR=27								
JMIC	Jan Mayen	56.71	6	IAmb		IAmb	08 23 54.3		
	comp=Z,230nm,1.2s								
JMIC				eP		P	08 23 54.4	-0.2	
JMIC				IAMs_20		IAMs_20	08 48 09.3		
	comp=Z,2μm,19.3s								
SCHQ	Schefferville	56.74	42	P		P	08 23 54.8	-0.4	
	comp=Z,72nm,0.7s,baz=328,slow=7.8,SNR=25								
SCHQ				LR		LR	08 49 26.5		
	comp=Z,5μm,19.0s,baz=315,slow=37								
SCHQ	Schefferville	56.74	42	eP		P	08 23 54.9	-0.2	
	comp=Z,69nm,0.8s								
SCHQ				LR		LR			
	comp=Z,5μm,19.0s								
YHNB	Yeheng	56.74	268			PFAKE		08 24 10.0	+14
YHNB						LR	LR		
	comp=Z,2μm,22.0s								
335A	Moody	56.77	80	P		P	08 23 55.4	-0.3	
	baz=315,SNR=14								
236A	Katherine and	56.82	79	P		P	08 23 55.9	-0.1	
	baz=315,SNR=16								
S43A	Fulton Ridge,	56.82	70	P		P	08 23 54.7	-1.3	
	baz=313,SNR=131								
V41A	Mountainview	56.82	73	P		P	08 23 54.3	-1.7	
	baz=314,SNR=35								
MIAR	Mount Ida	56.83	75	P		P	08 23 55.5	-0.5	
	baz=314,SNR=55								
MIAR	Mount Ida	56.83	75	eP		P	08 23 55.6	-0.5	
MIAR				pmax		pmax			
	comp=Z,86nm,0.9s								
MIAR	Mount Ida	56.83	75	eP		P	08 23 55.6	-0.5	
	comp=Z,86nn,0.9s								
MIAR				LR		LR			
	comp=Z,1μm,21.0s								
WHN	Wuhan	56.86	278	⇑ P		P	08 23 56.0	-0.3	
WHN				S		S	08 31 42.6	-4.0	
WHN				LR		LR			
	comp=Z,4μm,22.0s								
137A	Heron Place, G	56.87	78	P		P	08 23 56.2	-0.2	
	baz=314								
Z38A	Mt. Pleasant	56.88	77	P		P	08 23 56.2	-0.3	
	baz=314								
R44A	Waltonville	56.93	69	P		P	08 23 55.5	-1.3	
	baz=313,SNR=25								
Y39A	Lockesburg	56.94	76	P		P	08 23 56.1	-0.7	
	baz=314,SNR=10								
U42A	Revenden	56.97	72	P		P	08 23 55.0	-2.0	
	baz=314,SNR=18								
633A	Saathoff Ranch	56.99	83	P		P	08 23 56.1	-1.2	
	baz=315,SNR=13								
534A	Blanco	57.02	82	P		P	08 23 56.5	-1.0	
	baz=315,SNR=22								
435B	Jarrell	57.03	81	P		P	08 23 57.3	-0.2	
	baz=315,SNR=7.2								
T43A	Greenville	57.03	71	P		P	08 23 55.9	-1.5	
	baz=313,SNR=107								
X301	Greenbrier Sit	57.05	74	eP		P	08 23 56.2	-1.4	
	comp=Z,78nn,1.0s								
336A	Riesel	57.05	80	P		P	08 23 57.5	-0.2	
	baz=315,SNR=15								
WHAR	Wooly Hollow	57.08	73	eP		P	08 23 56.4	-1.4	
	comp=Z,45nn,1.0s								
WHAR				LR		LR			
	comp=Z,1μm,18.0s								
HAMF	Hammerfest	57.12	354	eP		P	08 23 57.6	+0.1	
HAMF				IAmb		IAmb	08 23 59.9		
	comp=Z,91nn,1.8s								
PBMO	Poplar Bluff	57.15	71	eP		P	08 23 57.0	-1.3	
	comp=Z,146nn,1.5s								
OLIL	Olney	57.16	68	eP		P	08 23 57.6	-0.8	
	comp=Z,141nn,0.8s								
OLIL				LR		LR			
	comp=Z,2μm,22.0s								
W41B	Gary Mavity, V	57.19	74	P		P	08 23 57.3	-1.3	
	baz=314,SNR=36								
S44A	Carbondale	57.21	69	P		P	08 23 57.4	-1.2	
	baz=313,SNR=30								

AAM	Ann Arbor	57.22	62	eP		P	08 23 56.8	-1.9	
AAM				pmax		pmax			
	comp=Z,50nm,0.8s								
AAM				MLR		MLR			
	comp=Z,2μm,18.0s								
AAM	Ann Arbor	57.22	62	eP		P	08 23 56.8	-1.9	
	comp=Z,50nn,0.8s								
AAM				LR		LR			
	comp=Z,2μm,18.0s								
138A	Matatall Enter	57.23	78	P		P	08 23 58.9	0.0	
	baz=314,SNR=7.0								
237A	Washetta, Mont	57.25	79	P		P	08 23 58.7	-0.4	
	baz=315,SNR=6.0								
V42A	Cord	57.26	72	P		P	08 23 57.2	-1.9	
	baz=314,SNR=9.8								
X40A	Basin Creek Fa	57.31	74	P		P	08 23 58.5	-1.0	
	baz=314,SNR=25								
832A	Faith Ranch, C	57.33	85	P		P	08 23 59.1	-0.6	
	baz=316,SNR=22								
Z39A	Irene McRaven,	57.37	76	P		P	08 23 59.4	-0.5	
	baz=314								
Y40A	Okolona	57.38	75	P		P	08 23 59.1	-0.8	
	baz=314,SNR=15								
T44A	Benton	57.43	70	P		P	08 23 59.0	-1.3	
	baz=314,SNR=23								
733A	Divot King Ran	57.44	84	P		P	08 24 00.0	-0.4	
	baz=316,SNR=5.7								
U43A	Rector	57.45	71	P		P	08 23 58.9	-1.5	
	baz=314,SNR=15								
X41A	Kaden, Bauxite	57.50	74	P		P	08 23 59.9	-0.8	
	baz=314,SNR=8.3								
436A	Wall Ranch, Ga	57.52	80	P		P	08 23 60.0	-1.0	
	baz=315								
W42A	Bald Knob	57.55	73	P		P	08 23 59.8	-1.3	
	baz=314								
634A	China Grove, S	57.55	83	P		P	08 24 00.3	-0.9	
	baz=316								
535A	Dale	57.57	82	P		P	08 24 01.1	-0.2	
	baz=315,SNR=17								
S45A	Carrier Mills	57.61	69	P		P	08 24 00.5	-1.1	
	baz=314,SNR=28								
139A	Bunkhouse Ranc	57.63	77	P		P	08 24 01.3	-0.5	
	baz=315								
SSLB	Suanglung	57.65	268	eP		P	08 24 01.6	-0.4	
	comp=Z,61nn,0.7s								
SSLB				LR		LR			
	comp=Z,1μm,20.0s								
833A	Chaparral WMA,	57.66	84	P		P	08 24 01.7	-0.3	
	baz=316,SNR=38								
238A	Jacksonville	57.67	78	P		P	08 24 02.0	0.0	
	baz=315,SNR=8.3								
337A	Centerville	57.69	79	P		P	08 24 02.8	+0.7	
	baz=315								
XAN	Xi'an	57.70	285	P		P	08 24 01.8	-0.4	
XAN				pP		pP	08 24 11.5	-3.0	
XAN				S		S	08 31 55.3	-2.4	
XAN				pmax		pmax			
	comp=Z,80nm,0.9s								
XAN				pmax		pmax			
	comp=Z,390nm,5.4s								
XAN				LR		LR			
	comp=Z,690nm,22.0s								
XAN				LR		LR			
	comp=Z,3μm,21.3s								
XAN				LR		LR			
	comp=Z,4μm,20.9s								
WLAR	White Oak Lake	57.70	75	eP		P	08 24 02.1	-0.1	
	comp=Z,160nn,0.9s								
WLAR				LR		LR			
	comp=Z,2μm,21.0s								
YULB	Yu-li	57.73	267	eP		P	08 24 00.4	-2.1	
	comp=Z,34nm,0.8s								
KEV	Kevo	57.74	352	eP		P	08 24 01.5	-0.5	
KEV				pmax		pmax			
	comp=Z,34nn,1.0s								
KEV	Kevo	57.74	352	eP		P	08 24 01.1	-0.8	
	comp=Z,33nn,1.0s								
KEV				LR		LR			
	comp=Z,3μm,19.0s								
BLO	Bloomington	57.76	66	eP		P	08 24 01.8	-0.8	
BLO				pmax		pmax			
	comp=Z,115nm,1.1s								
BLO				MLR		MLR			
	comp=Z,4μm,18.0s								
BLO	Bloomington	57.76	66	eP		P	08 24 01.8	-0.8	
	comp=Z,115nn,1.1s								
BLO				LR		LR			
	comp=Z,4μm,18.0s								
V43A	Jonesboro	57.77	72	P		P	08 24 01.4	-1.3	
	baz=314,SNR=8.1								
U44A	Portageville	57.78	71	P		P	08 24 01.7	-1.0	
	baz=314								
734A	La Parita Cree	57.80	83	P		P	08 24 03.0	0.0	
	baz=316,SNR=16								
Z40A	Long Farm, Mag	57.83	76	P		P	08 24 03.1	0.0	
	baz=314,SNR=11								
PVMO	Portageville	57.83	71	eP		P	08 24 02.5	-0.6	
	comp=Z,270nn,1.2s								
PVMO				LR		LR			
	comp=Z,1μm,19.0s								
536A	Bastrop	57.84	81	P		P	08 24 02.3	-0.9	
	baz=315								
Y41A	Eaglette Beard	57.87	75	P		P	08 24 03.0	-0.3	
	baz=314,SNR=13								
437A	Phantom Ranch,	57.88	80	P		P	08 24 03.5	0.0	
	baz=315								
635A	Leesville	57.90	82	P		P	08 24 03.5	-0.2	
	baz=316,SNR=20								
USIN	University of	57.94	68	eP		P	08 24 03.0	-0.8	
	comp=Z,240nn,0.7s								
USIN				LR		LR			
	comp=Z,2μm,19.0s								
SADO	Sadowa	57.94	57	eP		P	08 24 03.2	-0.6	
	comp=Z,60nn,0.7s								
SADO				LR		LR			
	comp=Z,6μm,18.0s								
X42A	Stuttgart	57.98	74	P		P	08 24 03.5	-0.7	
	baz=314,SNR=9.6								
338A	Crockett	58.01	79	P		P	08 24 04.2	-0.2	
	baz=315								
239A	Gary	58.05	78	P		P	08 24 03.5	-1.2	
	baz=315								
ARA0	ARCESS Array S	58.08	353	eP		P	08 24 03.1	-1.2	
ARCES	ARCESS Array B	58.08	353	P		P	08 24 03.1	-1.2	
	comp=Z,14nm,0.7s,baz=16,slow=7.6,SNR=21								
ARCES				PcP		PcP	08 24 55.1	-0.5	
	comp=Z,19nm,0.6s,baz=16,slow=4.1,SNR=9.8								
ARCES				ScP		ScP	08 28 52.3	+0.2	
	comp=Z,5.9nm,0.9s,baz=18,slow=6.0,SNR=5.3								
ARCES				LR		LR	08 52 03.0		
	comp=Z,2μm,18.3s,baz=360,slow=39								
ARE0	ARCESS Array S	58.08	353	eP		P	08 24 03.5	-0.9	
ARE0				IAmb		IAmb	08 24 06.1		
	comp=Z,24nm,1.0s								
ARE0	ARCESS Array S	58.08	353	eP		P	08 24 03.2	-1.1	
ARE0				ePcP		PcP	08 24 56.2	+0.6	
ARE0				LR		LR			
	comp=Z,2μm,22.0s								
U44B	Burton Farm, H	58.09	71	P		P	08 24 04.0	-0.9	
	baz=314,SNR=7.5								
NATX	Nacogdoches	58.12	78	P		P	08 24 04.3	-0.9	
	baz=315			

CCAR LR LR
comp=Z,1µm,19.0s
UTMT University of 58.37 70 *e*P **P** 08 24 06.3 -0.5
comp=Z,259nm,0.9s
SFTN Shelby Forest 58.37 72 *e*P **P** 08 24 05.8 -1.1
SFTN Shelby Forest 58.37 72 *e*P **P** 08 24 05.8 -1.1
HALT Halls 58.39 71 *e*P **P** 08 24 06.6 -0.4
comp=Z,304nm,1.1s
Y42A Garnett, Star 58.39 74 P **P** 08 24 06.7 -0.3
baz=314,SNR=6.7
TRO Tromso 58.39 356 *e*P **P** 08 24 08.8 +2.4
TRO IAmb IAmb 08 24 11.0
comp=Z,38nm,0.7s
TRO *e*S **S** 08 32 08.4 +2.8
TRO IAMs_20 IAMs_20 08 48 20.5
comp=Z,2µm,20.9s
U45A Rockin P Farm, 58.42 70 P **P** 08 24 06.6 -0.6
baz=314,SNR=7.6
X43A Marvell 58.45 73 P **P** 08 24 06.7 -0.7
baz=314,SNR=14
240A Hunter Patters 58.46 77 P **P** 08 24 07.1 -0.5
baz=315
339A Huntington 58.48 78 P **P** 08 24 07.4 -0.3
baz=315
WCI Wyandotte Cave 58.54 67 *e*P **P** 08 24 07.1 -1.0
WCI pmax pmax
comp=Z,78nm,0.9s
WCI Wyandotte Cave 58.54 67 *e*P **P** 08 24 07.1 -1.0
comp=Z,78nm,0.8s
WCI LR LR
comp=Z,4µm,19.0s
141A Papa Simpson, 58.58 76 P **P** 08 24 07.9 -0.5
baz=315
MET Memphis--Engin 58.59 72 PFAKE 08 24 20.0 +12
MET LR LR
comp=Z,2µm,18.0s
736A Circle Diamond 58.64 82 P **P** 08 24 09.3 +0.5
baz=316,SNR=11
W44A Shelby Farms P 58.65 72 P **P** 08 24 07.5 -1.3
baz=314
835A Beeville 58.65 83 P **P** 08 24 09.7 +0.8
baz=316,SNR=15
Z42A Norrel Spur, H 58.69 75 P **P** 08 24 08.6 -0.5
baz=315,SNR=8.2
538A Harpers Horsep 58.70 80 P **P** 08 24 08.8 -0.4
baz=316
934A Benavides 58.72 84 P **P** 08 24 10.2 +0.8
baz=316,SNR=24
V45A Humboldt 58.73 71 P **P** 08 24 08.6 -0.8
baz=314,SNR=9.5
439A Center Grove, 58.73 79 P **P** 08 24 09.6 +0.1
baz=315
637A Eagle Lake 58.74 81 P **P** 08 24 09.6 +0.1
baz=316
LVZ Lovozero 58.75 349 *e*P **P** 08 24 08.6 -0.5
LVZ pmax pmax
comp=Z,56nm,0.9s
LVZ MLR MLR
comp=Z,3µm,19.0s
LVZ Lovozero 58.75 349 *e*P **P** 08 24 08.6 -0.5
comp=Z,56nm,0.9s
LVZ LR LR
comp=Z,3µm,19.0s
KTK1 Kautokeino 58.76 354 *e*P **P** 08 24 12.8 +3.7
KTK1 IAmb IAmb 08 24 15.7
comp=Z,144nm,2.2s
PLVO Plevna 58.82 56 *e*P **P** 08 24 09.9 +0.1
comp=Z,140nm,1.3s
PLVO LR LR
comp=Z,5µm,18.0s
340A Bronson 58.83 78 P **P** 08 24 09.9 -0.2
baz=315,SNR=8.4
Y43A Makayla and Ka 58.84 74 P **P** 08 24 09.2 -0.9
baz=315
X44A Crenshaw 58.90 73 P **P** 08 24 09.3 -1.2
baz=315
241A Mo Tay, Goldon 58.98 77 P **P** 08 24 11.3 +0.1
baz=315,SNR=6.5
034A Hebbronville 59.00 85 P **P** 08 24 12.0 +0.6
baz=316,SNR=17
W45A Hickory Valley 59.00 71 P **P** 08 24 10.7 -0.6
baz=314,SNR=27
ACSO Alum Creek Sta 59.01 63 *e*P **P** 08 24 10.5 -0.8
comp=Z,40nm,0.7s
ACSO LR LR
comp=Z,2µm,21.0s
WVT Waverly 59.11 70 *e*P **P** 08 24 11.3 -0.7
WVT pmax pmax
comp=Z,60nm,1.0s
WVT Waverly 59.11 70 *e*P **P** 08 24 11.3 -0.7
comp=Z,60nm,0.9s
WVT LR LR
comp=Z,1µm,21.0s
KVTX Kingsville 59.14 84 *e*P **P** 08 24 13.4 +1.1
comp=Z,56nm,0.7s
Z43A Armstrong Fami 59.15 74 P **P** 08 24 11.4 -0.9
baz=315
737A Port Lavaca 59.16 82 P **P** 08 24 12.5 +0.1
baz=316
142A Monroe 59.20 76 P **P** 08 24 12.5 -0.1
baz=315,SNR=5.7
APA Apatity 59.22 349 ⇓ *i*P **P** 08 24 14.6 +2.3
APA *i* 08 24 59.0
APA *i* PPP PPP 08 27 57.0
APA *i* S **S** 08 32 16.0 -0.5
APA *i* PS **PnS** 08 32 23.0 -10
APA pmax pmax
comp=Z,11nm,1.0s
APA MLR MLR
comp=Z,3µm,17.0s
Y44A Strider, Charl 59.23 73 P **P** 08 24 12.3 -0.5
baz=315,SNR=11
GTA Gaotai 59.24 296 ⇑ P **P** 08 24 12.4 -0.6
GTA pP pP 08 24 22.8 -2.5
GTA sP sP 08 24 27.4 -2.9
GTA PcP **PcP** 08 25 01.3 +0.4
GTA ScP **ScP** 08 28 58.0 +0.1
GTA PcS **PcS** 08 29 04.9 +1.9
GTA S **S** 08 32 14.4 -3.4
GTA sS pS 08 32 33.0 +0.6
GTA ScS **ScS** 08 33 55.8 -3.6
GTA SS **SS** 08 36 11.0 -1.1
GTA pmax pmax
comp=Z,17nm,1.1s
GTA pmax pmax
comp=Z,410nm,5.5s
GTA LR LR
comp=Z,4µm,18.1s
539A Cross D Ranch, 59.25 79 P **P** 08 24 13.5 +0.5
baz=316
440A Kirbyville 59.26 78 P **P** 08 24 12.7 -0.4
baz=316
LZH Lanzhou 59.26 290 ⇑ P **P** 08 24 13.8 +0.6
LZH pP pP 08 24 24.9 -0.7
LZH sP sP 08 24 29.0 -1.5
LZH PP **PP** 08 26 25.1 +1.0
LZH S **S** 08 32 17.4 -0.8
LZH sS pS 08 32 34.1 +1.3
LZH SS **SS** 08 36 11.5 -1.1
LZH pmax pmax
comp=Z,73nm,1.0s
LZH pmax pmax
comp=Z,550nm,6.0s
LZH LR LR
comp=Z,3µm,19.5s
TRQ Mont Tremblant 59.26 53 *e*P **P** 08 24 12.1 -0.9
638A Rosharon 59.30 81 P **P** 08 24 13.7 +0.3
baz=316
341A Kurthwood 59.32 77 P **P** 08 24 13.4 -0.1
baz=315,SNR=8.8
OXF Oxford 59.32 72 *e*P **P** 08 24 12.7 -0.8
OXF pmax pmax
comp=Z,510nm,1.3s
OXF Oxford 59.32 72 *e*P **P** 08 24 12.7 -0.8
comp=Z,510nm,1.4s
OXF LR LR
comp=Z,1µm,19.0s
ERPA Erie 59.33 60 *e*P **P** 08 24 13.3 -0.2
comp=Z,135nm,1.0s
ERPA LR LR
comp=Z,4µm,18.0s
BUF Buffalo 59.37 58 *e*P **P** 08 24 14.0 +0.3
X45A UM Field Stati 59.39 72 P **P** 08 24 12.9 -1.0
baz=315,SNR=11
143A Socs Landing, 59.41 75 P **P** 08 24 13.9 -0.2
baz=315,SNR=7.4
242A Grayson 59.41 76 P **P** 08 24 13.8 -0.3
baz=315
035A Encino 59.45 85 P **P** 08 24 14.9 +0.5
baz=317,SNR=7.8
ALLY Alegheny Colle 59.57 60 *e*P **P** 08 24 15.2 0.0
comp=Z,243nm,0.8s
ALLY LR LR
comp=Z,4µm,18.0s
Z44A Pea Ridge, Bel 59.59 74 P **P** 08 24 14.7 -0.6
baz=315,SNR=10
540A Vidor 59.63 79 P **P** 08 24 16.3 +0.7
baz=316
Y45A Yeager Farm, C 59.70 73 P **P** 08 24 15.4 -0.7
baz=315,SNR=14
441A DeRidder 59.72 78 P **P** 08 24 16.4 +0.1
baz=316
ZAIG Zacatecas 59.74 91 *e*P **P** 08 24 16.5 -0.4
comp=Z,23nm,1.2s
ZAIG LR LR
comp=Z,2µm,21.0s
342A Flagon Creek P 59.80 77 P **P** 08 24 16.9 +0.1
baz=316
035Z Hargill 59.81 85 P **P** 08 24 17.1 +0.2
baz=317,SNR=7.2
M54A Oil Creek Stat 59.93 60 P **P** 08 24 17.4 -0.2
baz=315,SNR=17
243A Waterproof 59.95 76 P **P** 08 24 17.6 -0.2
baz=315
Z45A Winona 59.96 73 P **P** 08 24 16.8 -1.1
baz=315
MMNY Mt. Morris Dam 60.00 58 *e*P **P** 08 24 18.0 -0.1
ENH Enshi 60.01 282 *e*P **P** 08 24 17.9 -0.4
comp=Z,107nm,1.3s
ENH LR LR
comp=Z,1µm,21.0s
144A Alexander Plac 60.05 74 P **P** 08 24 18.3 -0.2
baz=315,SNR=8.2
LOF Lofoten 60.09 358 *e*P **P** 08 24 18.4 +0.2
Y46A Houston 60.09 72 P **P** 08 24 18.0 -0.7
baz=315,SNR=35
LNIG Linares 60.09 87 *e*P **P** 08 24 17.4 -1.6
comp=Z,15nm,0.7s
N54A Moraine State 60.13 61 P **P** 08 24 18.5 -0.5
baz=315,SNR=20
442A Mamou 60.20 77 P **P** 08 24 19.7 +0.1
baz=316
STEI Steigen 60.24 357 *e*P **P** 08 24 18.3 -0.9
STEI IAmb IAmb 08 24 22.5
comp=Z,26nm,0.7s
VBMS Vicksburg 60.28 75 P **P** 08 24 19.8 -0.3
baz=316,SNR=9.3
VBMS Vicksburg 60.28 75 *e*P **P** 08 24 19.9 -0.2
comp=Z,122nm,1.0s
VBMS LR LR
comp=Z,1µm,18.0s
343A Vidalia 60.29 76 P **P** 08 24 20.3 +0.1
baz=316
244A Avery, Jackson 60.31 75 P **P** 08 24 20.1 -0.2
baz=316,SNR=11
145A Houston Renfro 60.36 74 P **P** 08 24 20.0 -0.6
baz=315,SNR=8.6
LMQ La Malbaie 60.36 50 *e*P **P** 08 24 20.0 -0.5
LMQ LR LR
comp=Z,9µm,20.0s
LONY Lake Ozonia 60.38 55 *e*P **P** 08 24 20.0 -0.7
comp=Z,66nm,1.1s
LONY LR LR
comp=Z,2µm,18.0s
Z46A Louisville 60.53 73 P **P** 08 24 21.1 -0.7
baz=315,SNR=7.1
443A Delano Plantat 60.56 77 P **P** 08 24 22.6 +0.6
baz=316
Y47A UCPARC, Winfie 60.67 72 P **P** 08 24 21.7 -1.0
baz=315,SNR=52
344A Westbrook Farm 60.70 76 P **P** 08 24 22.8 -0.1
baz=316,SNR=10
FRNY Flat Rock 60.72 54 *e*P **P** 08 24 21.8 -1.1
comp=Z,79nm,1.2s
FRNY LR LR
comp=Z,3µm,18.0s
245A Little AP, Sta 60.78 75 P **P** 08 24 23.3 -0.2
baz=316
146A Union 60.85 73 P **P** 08 24 23.7 -0.3
baz=316,SNR=13
SWET Sewanee 60.85 69 *e*P **P** 08 24 22.8 -1.2
comp=Z,30nm,0.7s
SWET LR LR
comp=Z,2µm,18.0s
543A St. Martinvill 61.00 77 P **P** 08 24 26.0 +1.0
baz=316
NCB Newcomb 61.02 55 *e*P **P** 08 24 24.6 -0.4
comp=Z,1.2nm,1.4s
Z47A Carrollton 61.04 72 P **P** 08 24 24.4 -0.9
baz=316,SNR=37
SEM Semipalatinsk 61.11 316 *e*P **P** 08 24 23.6 -2.1
comp=Z,196nm,1.0s
SEM *e*S **S** 08 32 39.3 -2.5
SEM LRM MLR 08 52 51.3
comp=Z,1µm,17.6s
MCWV Mont Chateau 61.13 62 *e*P **P** 08 24 25.6 -0.2
comp=Z,60nm,0.9s
MCWV LR LR
comp=Z,2µm,20.0s
Z48A Northport 61.21 72 P **P** 08 24 25.3 -1.1
baz=316,SNR=29
444A Pine Grove 61.22 76 P **P** 08 24 26.3 -0.1
baz=316
ZSN Zaisan 61.22 311 *i* P **P** 08 24 26.2 -0.1
comp=Z,142nm,0.8s
ZSN *e*S **S** 08 32 43.6 +0.9
ZSN LRM MLR 08 53 54.2
comp=Z,245nm,17.4s
345A Thompson Farm, 61.22 75 P **P** 08 24 26.2 -0.3
baz=316,SNR=5.6
246A Jackson Lee, B 61.25 74 P **P** 08 24 26.4 -0.3
baz=316
TZTN Tazewell 61.28 67 *e*P **P** 08 24 26.4 -0.4
comp=Z,62nm,0.8s
TZTN LR LR
comp=Z,3µm,21.0s
147A Livingston 61.29 73 P **P** 08 24 26.2 -0.7
baz=315,SNR=20
BINY Binghamton 61.38 57 *e*P **P** 08 24 27.1 -0.4
comp=Z,61nm,0.6s
BINY LR LR
comp=Z,5µm,18.0s
O56A Blue Knob Stat 61.39 60 P **P** 08 24 27.1 -0.6
baz=316,SNR=18
544A White Castle 61.40 77 P **P** 08 24 28.3 +0.6
baz=316
445A Amite 61.45 76 P **P** 08 24 27.9 -0.1
baz=316
SSPA Standing Stone 61.49 60 *e*P **P** 08 24 28.0 -0.2
comp=Z,113nm,0.8s
SSPA LR LR
comp=Z,2µm,19.0s
CPCT Cooper Cave 61.50 68 *e*P **P** 08 24 27.3 -1.1
comp=Z,27nm,0.7s
CPCT LR LR
comp=Z,3µm,18.0s
346A Big Creek Wild 61.50 75 P **P** 08 24 28.1 -0.3
baz=316,SNR=9.3
MDV Middlebury 61.52 54 *e*P **P** 08 24 27.4 -0.9
247A Quitman 61.53 74 P **P** 08 24 28.3 -0.3
baz=316,SNR=13
KURK Kurchatov 61.58 317 *c e*P **P** 08 24 28.3 -0.3
KURK pmax pmax
comp=Z,708nm,2.0s
KURK MLR MLR
comp=Z,11µm,17.0s
KURK Kurchatov 61.58 317 *e*P **P** 08 24 27.9 -0.7
comp=Z,63nm,0.8s
KURK LR LR
comp=Z,4µm,18.0s
KURK Kurchatov 61.58 317 P **P** 08 24 28.4 -0.3
SNR=41
KURK P **P** 08 24 28.4 -0.3
SNR=41
KURK Kurchatov 61.58 317 P **P** 08 24 28.4 -0.3
SNR=41
ACCN Adirondack Com 61.72 55 *e*P **P** 08 24 29.6 -0.1
comp=Z,101nm,0.9s
ACCN LR LR
comp=Z,3µm,18.0s
KONS Konsvik 61.74 358 *e*P **P** 08 24 28.6 -0.8
KONS IAmb IAmb 08 24 34.4
comp=Z,21nm,0.8s
TKL Tuckaleechee C 61.78 67 P **P** 08 24 29.3 -0.9
comp=Z,26nm,0.6s,baz=310,slow=3.7,SNR=46
TKL Tuckaleechee C 61.78 67 *e*P **P** 08 24 29.4 -0.9
TKL pmax pmax
comp=Z,37nm,0.8s
TKL Tuckaleechee C 61.78 67 *e*P **P** 08 24 29.4 -0.9
comp=Z,37nm,0.8s
TKL LR LR
comp=Z,4µm,19.0s
LRAL Lakeview Retre 61.78 72 *e*P **P** 08 24 28.8 -1.5
comp=Z,35nm,0.8s
LRAL LR LR
comp=Z,1µm,20.0s
545A Edgard 61.85 76 P **P** 08 24 31.6 +0.9
baz=316
STOK Stokkvaagen 61.91 358 *e*P **P** 08 24 30.6 +0.1
STOK IAmb IAmb 08 24 32.5
comp=Z,63nm,0.8s
KSPA Keystone Colle 61.95 58 PFAKE 08 24 40.0 +8.7
KSPA LR LR
comp=Z,6µm,19.0s
LBNH Lisbon 61.98 53 *e*P **P** 08 24 31.5 +0.1
LBNH pmax pmax
comp=Z,75nm,1.1s
LBNH MLR MLR
comp=Z,3µm,22.0s
LBNH Lisbon 61.98 53 *e*P **P** 08 24 31.5 +0.1
comp=Z,75nm,1.1s
LBNH LR LR
comp=Z,3µm,22.0s
446A Poplarville 61.99 75 P **P** 08 24 31.7 0.0
baz=316
SOKR Solikamsk 61.99 334 *c i*P **P** 08 24 29.2 -2.0
SOKR S **PnS** 08 33 09.0 -2.1
SOKR pmax pmax
comp=Z,106nm,1.1s
SOKR MLR MLR
comp=Z,3µm,21.0s
248A Dixon Mills 62.02 73 P **P** 08 24 31.4 -0.4
baz=316,SNR=11
MOR8 Moi Rana 62.03 357 *e*P **P** 08 24 29.3 -2.1
MOR8 IAmb IAmb 08 24 32.0
comp=Z,50nm,0.7s
347A Saraland 62.04 74 P **P** 08 24 31.8 -0.2
baz=316,SNR=12
PQI Presque Isle 62.09 49 *e*P **P** 08 24 31.6 -0.5
comp=Z,161nm,0.7s
PQI LR LR
comp=Z,13µm,20.0s
HNH Hanover 62.19 54 *e*P **P** 08 24 32.7 -0.1
comp=Z,84nm,1.0s
HNH LR LR
comp=Z,4µm,22.0s
TRY Troy 62.19 56 *e*P **P** 08 24 33.0 +0.1
comp=Z,75nm,0.7s
TRY LR LR
comp=Z,6µm,18.0s
645A Chauvin 62.21 77 P **P** 08 24 34.6 +1.4
baz=316
447A Lucedale 62.41 75 P **P** 08 24 34.4 0.0
baz=316,SNR=6.1
348A Jackson 62.41 74 P **P** 08 24 34.3 -0.2
baz=316,SNR=11
N59A State Game Lan 62.41 58 P **P** 08 24 34.4 0.0
baz=316,SNR=16
WMQ Urumqi 62.50 307 P **P** 08 24 35.5 +0.5
WMQ pP pP 08 24 45.3 -2.1
WMQ sP sP 08 24 50.9 -1.5
WMQ PcP **PcP** 08 25 16.3 +2.4
WMQ PcS **PcS** 08 29 18.0 +0.8
WMQ S **S** 08 33 00.8 +1.7
WMQ sS sS 08 33 18.3 -1.5
WMQ ScS **SKKSac** 08 34 23.1 -0.5
WMQ pmax pmax
comp=Z,63nm,0.7s
WMQ pmax pmax
comp=Z,740nm,3.6s
WMQ LR LR
comp=Z,2µm,22.3s
PKME Peaks-Kenny Pk 62.51 51 *e*P **P** 08 24 34.8 -0.1
comp=Z,150nm,0.9s
PKME LR LR
comp=Z,9µm,19.0s
BLA Blacksburg 62.56 64 *e*P **P** 08 24 35.7 +0.2
BLA pmax pmax
comp=Z,150nm,0.8s
BLA Blacksburg 62.56 64 *e*P **P** 08 24 35.7 +0.2
comp=Z,148nm,0.8s
BLA LR LR
comp=Z,2µm,21.0s
646A Port Sulphur 62.58 76 P **P** 08 24 36.7 +1.0
baz=317
FFD Franklin Falls 62.67 54 *e*P **P** 08 24 36.5 +0.5
comp=Z,142nm,1.1s
FFD LR LR
comp=Z,5µm,21.0s
BG3 Lake Jocassee 62.74 67 *e*P **P** 08 24 36.2 -0.5
comp=Z,73nm,1.0s
BG3 LR LR
comp=Z,3µm,19.0s
MVL Millersville 62.77 59 *e*P **P** 08 24 36.7 -0.1
comp=Z,46nm,0.8s
MVL LR LR
comp=Z,3µm,19.0s
VWCC Virginia Weste 62.78 64 *e*P **P** 08 24 36.5 -0.4
448A Bay Minette 62.78 74 P **P** 08 24 37.2 +0.3
baz=316
WVL Waterville 62.85 52 *e*P **P** 08 24 36.9 -0.3
comp=Z,183nm,1.0s
WVL LR LR
comp=Z,10µm,18.0s
LUPA Lehigh Univers 62.85 58 *e*P **P** 08 24 37.6 +0.2
comp=Z,126nm,0.8s
LUPA LR LR
comp=Z,6µm,18.0s
MK31 Makanchi Array 62.89 312 *e*P **P** 08 24 36.7 -0.8
MK31 Makanchi Array 62.89 312 *e*P **P** 08 24 36.7 -0.8
MKAR Makanchi Array 62.89 312 *e*P **P** 08 24 36.7 -0.8
MKAR pmax pmax
comp=Z,160nm,1.0s
MKAR Makanchi Array 62.89 312 *e*P **P** 08 24 36.7 -0.8
comp=Z,161nm,1.0s
MKAR LR LR
comp=Z,600nm,18.0s
MOIG Morelia 62.90 92 *e*P **P** 08 24 37.9 -0.3
comp=Z,57nm,0.9s
ODNJ Ogdensburg 62.90 57 *e*P **P** 08 24 37.9 +0.2
comp=Z,62nm,1.0s
ODNJ LR LR
comp=Z,3µm,19.0s
MK01 Makanchi Array 62.91 312 *e*P **P** 08 24 36.5 -1.2
SDMD Soldier's Deli 62.93 60 *e*P **P** 08 24 37.7 -0.2
comp=Z,47nm,0.9s
SDMD LR LR
comp=Z,2µm,18.0s
CD2 Chengdu 62.98 286 ⇑ *i*P **P** 08 24 38.8 +0.4
CD2 sP pP 08 24 53.3 +2.5
CD2 PcP **PcP** 08 25 11.6 -4.5
CD2 S **S** 08 33 04.8 -0.7
CD2 sS sS 08 33 24.8 -1.4
CD2 pmax pmax
comp=Z,140nm,1.0s
CD2 pmax pmax
comp=Z,820nm,10.4s
CD2 LR LR
comp=Z,2µm,21.8s
MAKZ Makanchi 63.02 312 *e*P **P** 08 24 37.8 -0.6
MAKZ pmax pmax
comp=Z,24nm,0.9s
MAKZ MLR MLR
comp=Z,2µm,19.0s
MAKZ Makanchi 63.02 312 *e*P **P** 08 24 37.8 -0.6
comp=Z,24nm,0.9s
MAKZ LR LR
comp=Z,2µm,19.0s
BRVK Borovoye 63.07 323 *c i*P **P** 08 24 38.2 -0.4
BRVK pmax pmax
comp=Z,189nm,0.9s
BRVK MLR MLR
comp=Z,10µm,19.0s
BRVK Borovoye 63.07 323 *e*P **P** 08 24 39.1 +0.5
comp=Z,61nm,0.8s
BRVK LR LR
comp=Z,4µm,20.0s
BRVK Borovoye 63.07 323 P **P** 08 24 38.6 0.0
SNR=40
BRVK P **P** 08 24 38.6 0.0
SNR=40

BRVK	**Borovoye**	**63.07**	**323**	P		**P**	**08 24 38.6**	**0.0**
	SNR=40								
BRAL	**Brewton**	**63.09**	**73**	*e*P		**P**	**08 24 39.1**	**+0.1**
	comp=Z,286nm,1.4s								
BRAL				LR		LR			
	comp=Z,1μm,19.0s								
QUA2	**Belchertown**	**63.19**	**55**	*e*P		**P**	**08 24 39.6**	**+0.1**
	comp=Z,171nm,1.4s								
QUA2				LR		LR			
	comp=Z,4μm,18.0s								
IP04	**Greensprings**	**63.21**	**62**	*e*P		**P**	**08 24 40.2**	**+0.5**
	comp=Z,94nm,1.0s								
IP04				LR		LR			
	comp=Z,4μm,19.0s								
BRNJ	**Basking Ridge**	**63.21**	**58**	*e*P		**P**	**08 24 40.0**	**+0.3**
	comp=Z,118nm,0.8s								
BRNJ				LR		LR			
	comp=Z,5μm,19.0s								
SVE	**Sverdlovsk**	**63.24**	**331**	*d* iP		**P**	**08 24 40.2**	**+0.6**
SVE				*e*S		**S**	**08 33 11.7**	**+3.9**
SVE				pmax		pmax			
	comp=Z,91nm,0.6s								
PSUB	**Penn St. - Bra**	**63.30**	**59**	*e*P		**P**	**08 24 40.8**	**+0.5**
	comp=Z,26nm,0.7s								
PSUB				LR		LR			
	comp=Z,6μm,18.0s								
IP03	**Louisa**	**63.30**	**62**	*e*P		**P**	**08 24 40.7**	**+0.4**
	comp=Z,207nm,1.2s								
IP03				LR		LR			
	comp=Z,4μm,19.0s								
PAL	**Palisades**	**63.32**	**57**	*e*P		**P**	**08 24 40.6**	**+0.2**
PAL				pmax		pmax			
	comp=Z,120nm,1.0s								
PAL	**Palisades**	**63.32**	**57**	*e*P		**P**	**08 24 40.6**	**+0.2**
	comp=Z,118nm,1.0s								
PAL				LR		LR			
	comp=Z,4μm,18.0s								
IP07	**Quail**	**63.37**	**62**	*e*P		**P**	**08 24 41.3**	**+0.5**
	comp=Z,148nm,0.6s								
IP07				LR		LR			
	comp=Z,4μm,19.0s								
CVRD	**Centerville Ro**	**63.38**	**62**	*e*P		**P**	**08 24 41.0**	**+0.2**
	comp=Z,89nm,1.0s								
CVRD				LR		LR			
	comp=Z,5μm,19.0s								
IP06	**Yanceyville**	**63.38**	**62**	*e*P		**P**	**08 24 41.3**	**+0.4**
	comp=Z,110nm,0.8s								
IP06				LR		LR			
	comp=Z,4μm,18.0s								
IP01	**Cuckoo**	**63.40**	**62**	*e*P		**P**	**08 24 41.3**	**+0.3**
	comp=Z,79nm,0.9s								
IP01				LR		LR			
	comp=Z,5μm,19.0s								
HRV	**Adam Dziewonsk**	**63.42**	**54**	*e*P		**P**	**08 24 41.5**	**+0.4**
HRV				pmax		pmax			
	comp=Z,110nm,1.2s								
HRV	**Adam Dziewonsk**	**63.42**	**54**	*e*P		**P**	**08 24 41.2**	**+0.2**
	comp=Z,111nm,1.2s								
HRV				LR		LR			
	comp=Z,2μm,19.0s								
PTRD	**Partlow Road**	**63.44**	**62**	PFAKE			08 24 50.0	+8.7	
PTRD				LR		LR			
	comp=Z,5μm,18.0s								
CPNY	**Central Park**	**63.45**	**57**	*e*P		**P**	**08 24 41.6**	**+0.4**
	comp=Z,92nm,0.8s								
SPFD	**Spotsylvania F**	**63.49**	**61**	*e*P		**P**	**08 24 41.9**	**+0.4**
	comp=Z,113nm,1.1s								
SPFD				LR		LR			
	comp=Z,5μm,18.0s								
CBN	**Corbin Frederi**	**63.52**	**61**	*e*P		**P**	**08 24 41.6**	**-0.1**
	comp=Z,94nm,0.6s								
CBN				LR		LR			
	comp=Z,5μm,18.0s								
KMSC	**Kings Mountain**	**63.54**	**66**	P		**P**	**08 24 41.4**	**-0.5**
	baz=316,SNR=43								
KMSC	**Kings Mountain**	**63.54**	**66**	*e*P		**P**	**08 24 41.6**	**-0.4**
	comp=Z,132nm,0.8s								
KMSC				LR		LR			
	comp=Z,3μm,21.0s								
GOGA	**Godfrey**	**63.57**	**69**	*e*P		**P**	**08 24 41.0**	**-1.2**
GOGA				pmax		pmax			
	comp=Z,61nm,0.8s								
GOGA	**Godfrey**	**63.57**	**69**	*e*P		**P**	**08 24 41.0**	**-1.2**
	comp=Z,61nm,0.8s								
GOGA				LR		LR			
	comp=Z,3μm,19.0s								
IP05	**Hopewell Churc**	**63.58**	**62**	*e*P		**P**	**08 24 42.4**	**+0.2**
	comp=Z,90nm,0.7s								
IP05				LR		LR			
	comp=Z,5μm,18.0s								
YLE	**Yale**	**63.59**	**56**	PFAKE			08 24 50.0	+7.8	
YLE				LR		LR			
	comp=Z,7μm,18.0s								
JSRW	**J. Sargeant Re**	**63.61**	**62**	*e*P		**P**	**08 24 42.3**	**0.0**
WES	**Weston**	**63.63**	**54**	*e*P		**P**	**08 24 42.6**	**+0.2**
WES				pmax		pmax			
	comp=Z,170nm,0.9s								
WES	**Weston**	**63.63**	**54**	*e*P		**P**	**08 24 42.6**	**+0.2**
	comp=Z,173nm,0.8s								
HODGE	**Hodges**	**63.67**	**68**	*e*P		**P**	**08 24 42.2**	**-0.7**
	comp=Z,60nm,0.8s								
HODGE				LR		LR			
	comp=Z,2μm,18.0s								
BCX	**Boston College**	**63.74**	**54**	*e*P		**P**	**08 24 42.9**	**-0.2**
	comp=Z,291nm,1.5s								
BCX				LR		LR			
	comp=Z,7μm,18.0s								
RABL	**Rabaul**	**63.78**	**221**	PFAKE			08 25 00.0	+16	
RABL				LR		LR			
	comp=Z,2μm,22.0s								
GGN	**Saint George**	**63.79**	**50**	*e*P		**P**	**08 24 43.2**	**-0.2**
	comp=Z,159nm,0.9s								
GGN				LR		LR			
	comp=Z,8μm,19.0s								
EMMW	**East Machias**	**63.80**	**50**	*e*P		**P**	**08 24 43.3**	**-0.2**
	comp=Z,203nm,0.9s								
EMMW				LR		LR			
	comp=Z,5μm,22.0s								
BRYW	**Bryant College**	**63.87**	**55**	*e*P		**P**	**08 24 43.9**	**-0.1**
	comp=Z,169nm,1.0s								
URVA	**University of**	**63.89**	**62**	*e*P		**P**	**08 24 44.3**	**+0.1**
MANU	**Manus Island**	**63.90**	**227**	PFAKE			08 25 00.0	+16	
MANU				LR		LR			
	comp=Z,1μm,20.0s								
LMN	**Caledonia Moun**	**64.18**	**48**	*e*P		**P**	**08 24 46.1**	**0.0**
	comp=Z,223nm,0.8s								
LMN				LR		LR			
	comp=Z,6μm,20.0s								
ARU	**Arti**	**64.19**	**332**	*c* iP		**P**	**08 24 45.3**	**-0.6**
ARU							08 25 20.1		
ARU				PPP		PPP	08 28 43.7		
ARU				S		**S**	**08 33 19.9**	**+0.2**
ARU							08 34 33.2		
ARU				SS		**SS**	**08 37 28.9**	**+0.5**
ARU				pmax		pmax			
	comp=Z,84nm,0.6s								
ARU	**Arti**	**64.19**	**332**	*e*P		**P**	**08 24 45.8**	**-0.2**
	comp=Z,99nm,0.7s								
ARU				LR		LR			
	comp=Z,2μm,20.0s								
JSC	**Jenkinsville**	**64.20**	**67**	*e*P		**P**	**08 24 46.1**	**-0.2**
JSC				pmax		pmax			
	comp=Z,110nm,0.9s								
JSC	**Jenkinsville**	**64.20**	**67**	*e*P		**P**	**08 24 46.0**	**-0.3**
	comp=Z,110nm,0.9s								
JSC				LR		LR			
	comp=Z,2μm,20.0s								
UNM	**Universidad Na**	**64.40**	**91**	PFAKE			08 25 00.0	+12	
UNM				LR		LR			
	comp=Z,1μm,18.0s								
GYA	**Guiyang**	**64.48**	**281⇑**	*i* P		**P**	**08 24 48.3**	**-0.1**
GYA				pP		pP	08 25 01.3	+0.5	
GYA				PP		**PP**	**08 27 14.0**	**+3.8**
GYA				ScP			08 29 22.8		
GYA				S		**S**	**08 33 24.6**	**+0.3**
GYA				sS		sS	08 33 42.4	-2.6	
GYA				SKS		**SKSac**	**08 34 38.0**	**-1.2**
GYA				SS		**SS**	**08 37 36.1**	**+1.6**
GYA				pmax		pmax			
	comp=Z,130nm,0.9s								
GYA				pmax		pmax			
	comp=Z,460nm,5.3s								
GYA				LR		LR			
	comp=Z,740nm,20.2s								
GYA				LR		LR			
	comp=Z,810nm,20.8s								
GYA				LR		LR			
	comp=Z,700nm,21.1s								
BRZS	**Berezniki**	**64.58**	**320**	*e*P		**P**	**08 24 46.7**	**-1.8**
	comp=Z,72nm,1.4s								
BRZS				*e*S		**S**	**08 33 22.7**	**-2.0**
KLMR	**Klimovskoe**	**64.69**	**344**	*e*P		**P**	**08 24 46.4**	**-2.6**
KLMR				*e*			08 27 09.4		
KLMR				*e*S		**S**	**08 33 23.2**	**-2.4**
KLMR				pmax		pmax			
	comp=Z,19nm,0.8s								
DRLN	**Deer Lake**	**64.73**	**41**	*e*P		**P**	**08 24 49.4**	**-0.2**
	comp=Z,112nm,0.8s								
DRLN				LR		LR			
	comp=Z,10μm,18.0s								
TIGA	**Tifton**	**64.93**	**71**	PFAKE			08 25 00.0	+8.9	
TIGA				LR		LR			
	comp=Z,1μm,22.0s								
TBLU	**Trondheim**	**65.05**	**359**	*e*P		**P**	**08 24 49.9**	**-1.5**
TBLU				IAmb		IAmb	08 24 52.2		
	comp=Z,45nm,0.7s								
CNNC	**Cliffs of the**	**65.39**	**64**	*e*P		**P**	**08 24 54.2**	**+0.2**
	comp=Z,62nm,0.7s								
CNNC				LR		LR			
	comp=Z,2μm,20.0s								
AFI	**Afiamalu**	**65.67**	**180**	PFAKE			08 25 10.0	+14	
AFI				LR		LR			
	comp=Z,2μm,19.0s								
NHSC	**New Hope**	**65.67**	**67**	*e*P		**P**	**08 24 56.5**	**+0.6**
	comp=Z,327nm,1.0s								
NHSC				LR		LR			
	comp=Z,2μm,22.0s								
MOL	**Molde**	**65.74**	**0**	*e*P		**P**	**08 24 55.4**	**-0.5**
MOL				IAmb		IAmb	08 24 57.8		
	comp=Z,32nm,0.7s								
RGRS	**Roger Stewart**	**65.81**	**67**	*e*P		**P**	**08 24 57.0**	**+0.3**
	comp=Z,952nm,0.5s								
LVIG	**Laguna Verde**	**65.81**	**89**	PFAKE			08 25 10.0	+13	
LVIG				LR		LR			
	comp=Z,700nm,22.0s								
HNR	**Honiara**	**65.83**	**211**	PFAKE			08 25 10.0	+13	
HNR				LR		LR			
	comp=Z,3μm,22.0s								
FIA1	**FINESS Array S**	**65.97**	**351**	*e*P		**P**	**08 24 56.2**	**-1.1**
FIA0	**FINESS Array S**	**65.97**	**351**	*e*P		**P**	**08 24 56.3**	**-1.0**
FIA0				*e*			08 25 26.8		
FIA0	**FINESS Array S**	**65.97**	**351**	*e*P		**P**	**08 24 56.3**	**-1.0**
FIA0				*e*PcP		**PcP**	**08 25 26.8**	**-0.9**
FINES	**FINESS Array B**	**65.97**	**351**	P		**P**	**08 24 56.3**	**-1.0**
	comp=Z,30nm,0.7s,baz=354,slow=5.7,SNR=42								
FINES				PcP		**PcP**	**08 25 26.8**	**-0.9**	
	comp=Z,12nm,0.6s,baz=33,slow=5.3,SNR=7.3								
FINES				PKPPKP		P'P'df	08 53 31.2	-8.0	
	comp=Z,4.2nm,0.8s,baz=186,slow=3.8,SNR=6.8								
FINES				LR		LR	08 57 18.6		
	comp=Z,2μm,18.6s,baz=19,slow=39								
TLIG	**Tlapa**	**66.11**	**92**	*e*P		**P**	**08 24 58.8**	**-0.3**
	comp=Z,32nm,1.2s								
TLIG				LR		LR			
	comp=Z,1μm,21.0s								
AKN	**Aaknes**	**66.13**	**1**	*e*P		**P**	**08 24 58.2**	**-0.3**
AKN				IAmb		IAmb	08 25 00.5		
	comp=Z,53nm,0.9s								
DOMB	**Dombas**	**66.27**	**360**	*e*P		**P**	**08 24 58.4**	**-0.9**
DOMB				IAmb		IAmb	08 25 00.5		
	comp=Z,31nm,0.7s								
FOO	**Floro**	**66.69**	**2**	*e*P		**P**	**08 25 01.7**	**-0.2**
SHLS	**Shalkode**	**66.96**	**311**	*e*P		**P**	**08 25 00.9**	**-3.2**
	comp=Z,266nm,1.3s								
SHLS				*e*S		**S**	**08 33 49.6**	**-4.6**
SHLS				LRM		MLR	08 57 15.4		
	comp=Z,310nm,15.4s								
NC204	**NORSAR Array S**	**67.02**	**359**	*e*P		**P**	**08 25 03.3**	**-0.8**
NC303	**NORSAR Array S**	**67.06**	**358**	*e*P		**P**	**08 25 03.6**	**-0.7**
KPKS	**Kokpek**	**67.08**	**312**	*i* P		**P**	**08 25 03.0**	**-1.8**
	comp=Z,386nm,1.5s								
KPKS				*e*S		**S**	**08 33 53.7**	**-1.8**
KPKS				LR		LR	08 54 32.9		
	comp=Z,1μm,16.3s								
HYA	**Hoyanger**	**67.14**	**1**	*e*P		**P**	**08 25 05.3**	**+0.5**
HYA				IAmb		IAmb	08 25 06.7		
	comp=Z,27nm,1.0s								
NC405	**NORSAR Array S**	**67.17**	**358**	*e*P		**P**	**08 25 04.4**	**-0.6**
UZB	**Uzynbulak**	**67.17**	**311**	*i* P		**P**	**08 25 03.3**	**-2.3**
	comp=Z,127nm,0.7s								
UZB				*e*S		**S**	**08 33 54.1**	**-2.6**
UZB				LRM		MLR	08 56 44.0		
	comp=Z,657nm,17.9s								
NB201	**NORSAR Array S**	**67.24**	**358**	*e*P		**P**	**08 25 05.0**	**-0.6**
NBO02	**NORSAR Array S**	**67.25**	**359**	*e*P		**P**	**08 25 05.6**	**+0.1**
NB2	**NORSAR Subarra**	**67.25**	**358**	P		**P**	**08 25 04.9**	**-0.7**
	baz=2.8,slow=6.5								
NB2	**NORSAR Subarra**	**67.25**	**358**	P		**P**	**08 25 04.9**	**-0.7**
NB2				pmax		pmax			
	comp=Z,27nm,0.7s								
NB2	**NORSAR Subarra**	**67.25**	**358**	P		**P**	**08 25 04.9**	**-0.7**
	comp=Z,29nm,0.6s,baz=2.8,slow=6.5								
NB200	**NORSAR Array S**	**67.25**	**358**	*e*P		**P**	**08 25 05.0**	**-0.6**
NOA	**NORSAR Array B**	**67.25**	**358**	P		**P**	**08 25 05.0**	**-0.6**
	comp=Z,26nm,0.6s,baz=2.5,slow=6.3,SNR=78								
NOA				LR		LR	08 54 51.5		
	comp=Z,763nm,21.1s,baz=0.0,slow=36								
NBO00	**NORSAR Array S**	**67.27**	**359**	*e*P		**P**	**08 25 05.6**	**0.0**
JAY	**Jayapura**	**67.45**	**233**	P		**P**	**08 25 07.8**	**+0.4**
	comp=Z,1.2nm,0.8s,baz=17,slow=19,SNR=5.4								
NAO01	**NORSAR Array S**	**67.45**	**359**	*e*P		**P**	**08 25 05.0**	**-1.8**
SATY	**Saty**	**67.52**	**312**	*i* P		**P**	**08 25 06.1**	**-1.7**
	comp=Z,178nm,1.4s								
SATY				*e*S		**S**	**08 33 58.3**	**-2.6**
SATY				LR		LR	08 54 58.6		
	comp=Z,1μm,19.2s								
NC602	**NORSAR Array S**	**67.55**	**358**	*e*P		**P**	**08 25 06.8**	**-0.6**
NC602				IAmb		IAmb	08 25 08.6		
	comp=Z,21nm,0.8s								
ASK	**Askoy**	**67.81**	**2**	*e*P		**P**	**08 25 09.2**	**+0.1**
ASK				IAmb		IAmb	08 25 11.4		
	comp=Z,17nm,0.9s								
KMI	**Kunming**	**67.83**	**283**	P		**P**	**08 25 10.4**	**+0.3**
KMI				pP		pP	08 25 19.6	-3.0	
KMI				sP		sP	08 25 23.6	-3.9	
KMI				S		**S**	**08 34 04.1**	**-1.2**
KMI				sS		pS	08 34 22.9	+2.4	
KMI				pmax		pmax			
	comp=Z,94nm,1.1s								
KMI				pmax		pmax			
	comp=Z,540nm,4.8s								
KMI				LR		LR			
	comp=Z,1μm,18.8s								
KMI				LR		LR			
	comp=Z,900nm,22.1s								
KMI				LR		LR			
	comp=Z,1μm,21.2s								
BER	**Bergen**	**67.92**	**1**	*e*P		**P**	**08 25 10.3**	**+0.6**
BER				IAmb		IAmb	08 25 10.6		
	comp=Z,162nm,2.0s								
BER				*e*S		**S**	**08 34 06.3**	**+1.6**
QIZ	**Qiongzhong**	**68.05**	**273**	P		**P**	**08 25 12.1**	**+0.9**
QIZ				S		**S**	**08 34 09.8**	**+2.2**
QIZ				SS		**SS**	**08 38 33.4**	**+3.3**
QIZ				pmax		pmax			
	comp=Z,13nm,1.2s								
QIZ				pmax		pmax			
	comp=Z,360nm,7.6s								
QIZ				LR		LR			
	comp=Z,700nm,20.5s								
QIZ				LR		LR			
	comp=Z,530nm,18.0s								
QIZ				LR		LR			
	comp=Z,1μm,20.4s								
QIZ	**Qiongzhong**	**68.05**	**273**	PFAKE			08 25 20.0	+8.8	
QIZ				LR		LR			
	comp=Z,1μm,22.0s								
MDOK	**Medeo**	**68.06**	**313**	*i* P		**P**	**08 25 09.4**	**-1.7**
	comp=Z,191nm,0.9s								
AAA	**Alma-Ata**	**68.09**	**313**	*e*P		**P**	**08 25 10.9**	**-0.3**
AAA				*e*S		**S**	**08 34 02.4**	**-5.2**
AAA				pmax		pmax			
	comp=Z,600nm,2.3s								
AAA				smax		smax			
	comp=E,3μm,12.2s								
AAA				MLR		MLR			
	comp=Z,2μm,12.0s								
TUIG	**Tuzandepetl**	**68.32**	**88**	PFAKE			08 25 30.0	+17	
TUIG				LR		LR			
	comp=Z,1μm,20.0s								
OSL	**Oslo**	**68.36**	**359**	*e*P		**P**	**08 25 13.9**	**+1.4**
OSL				IAmb		IAmb	08 25 14.1		
	comp=Z,24nm,0.7s								
ODD1	**Odda**	**68.40**	**1**	*e*P		**P**	**08 25 12.5**	**-0.4**
ODD1				IAmb		IAmb	08 25 14.9		
	comp=Z,36nm,0.7s								
DWPF	**Disney Wildern**	**68.64**	**72**	PFAKE			08 25 30.0	+15	
DWPF				LR		LR			
	comp=Z,2μm,18.0s								
KONO	**Kongsberg**	**68.67**	**359**	*e*P		**P**	**08 25 14.7**	**+0.3**
KONO				IAmb		IAmb	08 25 16.5		
	comp=Z,38nm,0.8s								
KONO				*e*S		**S**	**08 34 16.0**	**+2.2**
KONO	**Kongsberg**	**68.67**	**359**	*c* iP		**P**	**08 25 14.5**	**+0.1**
KONO				pmax		pmax			
	comp=Z,185nm,1.0s								
KONO				MLR		MLR			
	comp=Z,7μm,18.0s								
KONO	**Kongsberg**	**68.67**	**359**	*e*P		**P**	**08 25 14.3**	**-0.2**
	comp=Z,39nm,0.8s								
KONO				LR		LR			
	comp=Z,1μm,18.0s								
VSU	**Vasula**	**68.82**	**350**	*c* iP		**P**	**08 25 14.5**	**-0.9**
VSU				pmax		pmax			
	comp=Z,225nm,0.7s								
VSU				MLR		MLR			
	comp=Z,11μm,22.0s								
BLS5	**Blasjo**	**68.89**	**1**	*e*P		**P**	**08 25 15.3**	**-0.6**
BLS5				IAmb		IAmb	08 25 26.7		
	comp=Z,154nm,1.9s								
KMY	**Karmoy**	**69.09**	**2**	*e*P		**P**	**08 25 17.5**	**+0.5**
KMY				IAmb		IAmb	08 25 17.9		
	comp=Z,1.1nm,0.6s								
STAV	**Stavanger**	**69.37**	**1**	IAmb		IAmb	08 25 19.9		
	comp=Z,157nm,1.6s								
FRU	**Bishkek**	**69.42**	**314⇑**	*e*P		**P**	**08 25 20.0**	**+0.5**
FRU				pmax		pmax			
	comp=Z,290nm,1.8s								
FRU				MLR		MLR			
	comp=E,2μm,18.0s								
AAK	**Ala-Archa**	**69.63**	**314**	*e*P		**P**	**08 25 21.1**	**+0.2**
AAK				pmax		pmax			
	comp=Z,66nm,0.9s								
AAK				MLR		MLR			
	comp=Z,2μm,19.0s								
AAK	**Ala-Archa**	**69.63**	**314**	*e*P		**P**	**08 25 21.1**	**+0.2**
	comp=Z,66nm,0.9s								
AAK				LR		LR			
	comp=Z,2μm,19.0s								
MOS	**Moscow**	**69.85**	**343**	*e*P		**P**	**08 25 20.4**	**-1.4**
MOS				*e*			08 25 42.6		
MOS				*e*			08 27 54.7		
MOS				pmax		pmax			
	comp=Z,54nm,0.7s								
MOS				MLR		MLR			
	comp=Z,2μm,19.0s								
AB31	**Akbulak array**	**69.88**	**327**	*i* P		**P**	**08 25 21.9**	**-0.2**
AB31				pmax		pmax			
	comp=Z,44nm,0.6s								
ABKAR	**Akbulak array**	**69.88**	**327**	*e*P		**P**	**08 25 22.2**	**+0.1**
	comp=Z,560nm,0.6s								
ABKAR				LR		LR			
	comp=Z,700nm,20.0s								
SLVN	**Son La**	**69.96**	**279**	*e*P		**P**	**08 25 22.8**	**-0.4**
	comp=Z,73nm,1.1s								
SLVN				LR		LR			
	comp=Z,899nm,21.0s								
SNART	**Snartemo**	**69.99**	**1**	*e*P		**P**	**08 25 23.1**	**+0.5**
SNART				IAmb		IAmb	08 25 25.0		
	comp=Z,19nm,0.6s								
MSVF	**Nonsavu**	**70.02**	**190**	*e*P		**P**	**08 25 24.7**	**+1.4**
MSVF				pmax		pmax			
	comp=Z,80nm,1.4s								
MSVF	**Nonsavu**	**70.02**	**190**	*e*P		**P**	**08 25 23.4**	**+0.2**
	comp=Z,80nm,1.4s								
MSVF				LR		LR			
	comp=Z,3μm,20.0s								
HOMB	**Homborsund**	**70.06**	**360**	*e*P		**P**	**08 25 23.4**	**+0.4**
HOMB				IAmb		IAmb	08 25 26.5		
	comp=Z,43nm,0.8s								
PMG	**Port Moresby**	**70.56**	**223**	P		**P**	**08 25 26.7**	**+0.1**
	comp=Z,25nm,0.8s,baz=38,slow=8.2,SNR=3.4								
PMG	**Port Moresby**	**70.56**	**223**	PFAKE			08 25 40.0	+13	
PMG				LR		LR			
	comp=Z,3μm,20.0s								
MNAS	**Manas**	**70.63**	**315**	P		**P**	**08 25 26.5**	**-0.5**
MNAS				pmax		pmax			
	comp=Z,68nm,1.3s								
OBN	**Obninsk**	**70.64**	**343**	*c* iP		**P**	**08 25 25.7**	**-0.9**
OBN				*e*			08 25 47.1		
OBN				*e*			08 28 01.9		
OBN				*e*PPP		PPP	08 29 48.7		
OBN				pmax		pmax			
	comp=Z,91nm,1.7s								
OBN				MLR		MLR			
	comp=Z,3μm,22.0s								
OBN	**Obninsk**	**70.64**	**343**	PFAKE			08 25 40.0	+13	
OBN				LR		LR			
	comp=Z,2μm,21.0s								
KK31	**Karatay Array**	**70.99**	**317**	*i* P		**P**	**08 25 28.1**	**-0.9**
KK31				pmax		pmax			
	comp=Z,23nm,0.7s								
KKAR	**Karatay Array**	**70.99**	**317**	*e*P		**P**	**08 25 28.8**	**-0.2**
KKAR				pmax		pmax			
	comp=Z,229nm,0.8s								
KKAR				MLR		MLR			
	comp=Z,800nm,19.0s								
KKAR	**Karatay Array**	**70.99**	**317**	*e*P		**P**	**08 25 28.8**	**-0.2**
	comp=Z,229nm,0.8s								
KKAR				LR		LR			
	comp=Z,800nm,19.0s								
CCIG	**Comitan**	**71.06**	**88**	PFAKE			08 25 40.0	+10	
CCIG				LR		LR			
	comp=Z,700nm,20.0s								
LSA	**Lhasa**	**71.18**	**294**	P		**P**	**08 25 32.5**	**+1.5**
LSA				pmax		pmax			
	comp=Z,92nm,0.8s								
LSA	**Lhasa**	**71.18**	**294**	PFAKE			08 25 40.0	+9.0	
LSA				LR		LR			
	comp=Z,2μm,19.0s								
BRLS	**Borolday**	**71.33**	**317**	*e*P		**P**	**08 25 30.6**	**-0.5**
	comp=Z,6.3nm,1.1s								
BRLS				*i* S		**S**	**08 34 46.3**	**+0.7**
BRLS				LRM		MLR	08 59 01.7		
	comp=Z,57nm,14.7s								
KSH	**Kashi**	**71.44**	**311⇑**	*i* P		**P**	**08 25 35.3**	**+3.3**
KSH				pP		pP	08 25 45.5	+0.9	
KSH				sP		sP	08 25 49.3	-0.1	
KSH				PP		**PP**	**08 28 16.3**	**+6.1**
KSH				S		**S**	**08 34 49.6**	**+2.5**
KSH				sS		SKiKP	08 35 06.5	-1.0	
KSH				SS		**SS**	**08 39 26.5**	**+5.1**
KSH				pmax		pmax			
	comp=Z,530nm,2.1s								
KSH				pmax		pmax			
	comp=Z,570nm,3.5s								
KSH				LR		LR			
	comp=Z,2μm,17.2s								
MUD	**Monsted U'grnd**	**71.87**	**359**	*i* P		**P**	**08 25 34.2**	**+0.1**
	comp=Z,42nm,0.6s								
MUD	**Monsted U'grnd**	**71.87**	**359**	*i* P		**P**	**08 25 34.2**	**+0.1**
MUD				pmax		pmax			
	comp=Z,42nm,0.6s								
PPT	**Papeete**	**71.98**	**158**	LR		LR	08 49 45.7		
	comp=Z,2μm,21.5s,baz=330,slow=30								
PPT2	**

ESK Eskdalemuir 72.61 7 PFAKE 08 25 50.0 +12
ESK LR LR
comp=Z,2µm,21.0s
BSD Bornholm Skovb 73.07 356 *i* P **P 08 25 38.1 -3.1**
comp=Z,28nm,0.7s
BSD Bornholm Skovb 73.07 356 *i* P **P 08 25 38.1 -3.1**
BSD pmax pmax
comp=Z,28nm,0.7s
MYLDM Lahad Datu 73.44 257 *eP* **P 08 25 43.2 -0.8**
comp=Z,47nm,1.1s
SUW Suwalki 73.58 351 *eP* **P 08 25 43.4 -0.8**
SUW Suwalki 73.58 351 *eP* **P 08 25 43.4 -0.8**
UBPT Khong Chiam 73.60 274 P **P 08 25 45.3 +0.4**
comp=Z,49nm,0.9s,comp=Z,1µm
RGN Rugen 73.70 357 *eP* **P 08 25 46.0 +1.1**
comp=Z,134nm,0.7s
RGN LR LR
comp=Z,2µm,20.0s
VSR Storozhevoye 73.83 340 *eP* **P 08 25 45.1 -0.7**
VSR pmax pmax
comp=Z,50nm,0.6s
SHL Shillong 73.92 291⇑ *i*P **P 08 25 47.0 +0.1**
KKM Kota Kinabalu 74.14 259 PFAKE 08 26 00.0 +12
KKM LR LR
comp=Z,800nm,21.0s
DLV T Lat 74.30 269 PFAKE 08 26 00.0 +11
DLV LR LR
comp=Z,800nm,22.0s
DSB Dublin 74.39 9 PFAKE 08 26 00.0 +11
DSB LR LR
comp=Z,2µm,21.0s
BBSR BB Station 74.67 57 *eP* **P 08 25 51.1 +0.2**
comp=Z,59nm,0.7s
BBSR LR LR
comp=Z,2µm,19.0s
LAMP Lampang 74.70 280 P **P 08 25 52.5 +1.2**
comp=Z,17nm,0.9s,comp=Z,193nm
UTTA Uttaradit 74.73 279 P **P 08 25 51.7 +0.2**
comp=Z,33nm,0.8s,comp=Z,234nm
GKP Gorka Klasztor 74.79 354 *eP* **P 08 25 51.8 +0.5**
GKP Gorka Klasztor 74.79 354 *eP* **P 08 25 51.8 +0.5**
CMMT Chiang Mai 74.89 281 P **P 08 25 52.5 0.0**
comp=Z,78nm,1.6s,comp=Z,1µm
CHTO Chiang Mai 74.89 281 P **P 08 25 52.6 +0.1**
comp=Z,283nm,1.8s,comp=Z,6µm
CHTO Chiang Mai 74.89 281 *eP* **P 08 25 52.7 +0.2**
CHTO pmax pmax
comp=Z,220nm,1.7s
CHTO Chiang Mai 74.89 281 *eP* **P 08 25 52.7 +0.2**
comp=Z,224nm,1.8s
CHTO LR LR
comp=Z,800nm,20.0s
CHTO Chiang Mai 74.89 281 P **P 08 25 52.6 +0.2**
SNR=23
CHTO P **P 08 25 52.6 +0.2**
SNR=23
CHTO Chiang Mai 74.89 281 P **P 08 25 52.6 +0.2**
SNR=23
TAPN Taplejung 74.92 295 *eP* **P 08 25 53.2 +0.3**
comp=Z,196nm,0.8s
DZET Dzherino 75.24 315 P **P 08 25 52.4 -2.0**
DZET pmax pmax
comp=Z,85nm,0.7s
CHAI Chaiyaphum 75.27 277 P **P 08 25 54.9 +0.3**
comp=Z,16nm,0.9s,comp=Z,279nm
CWF Charnwood Fore 75.30 6 *eP* **P 08 25 54.5 +0.2**
comp=Z,22nm,0.9s
CWF LR LR
comp=Z,2µm,22.0s
ODAN Odare 75.48 295 *eP* **P 08 25 56.2 +0.2**
comp=Z,140nm,1.0s
SUKH Sukhothai 75.49 280 P **P 08 25 56.7 +0.8**
comp=Z,11nm,1.3s,comp=Z,142nm
GUN Gumba 75.50 297 *eP* **P 08 25 56.7 +0.4**
JIRN Jiri 75.52 296 *eP* **P 08 25 56.9 +0.5**
TGUH Tegucigalpa,Un 75.76 85 *eP* **P 08 25 57.5 0.0**
comp=Z,204nm,1.6s
TGUH LR LR
comp=Z,800nm,20.0s
RAMN Ramite 75.85 296 *eP* **P 08 25 58.3 +0.1**
comp=Z,273nm,0.6s
KKN Kakani 75.92 297 *eP* **P 08 25 58.8 +0.3**
comp=Z,103nm,0.8s
BEL Belsk 75.95 352 *eP* **P 08 25 58.2 +0.2**
BEL Belsk 75.95 352 *eP* **P 08 25 58.2 +0.2**
PKI Pulchoki 76.03 297 *eP* **P 08 25 59.2 -0.1**
comp=Z,83nm,0.7s
PKIN Phulchoki 76.03 297 *eP* **P 08 25 59.1 -0.1**
comp=Z,64nm,0.7s
AKASG Malin Array Be 76.09 346 P **P 08 25 57.4 -1.4**
comp=Z,13nm,0.5s,baz=15,slow=5.7,SNR=38
AKASG LR LR 09 01 06.1
comp=Z,3µm,21.8s,baz=10.0,slow=37
AKBB Malin Array Si 76.09 346 *eP* **P 08 25 57.4 -1.4**
AKBB pmax pmax
comp=Z,23nm,0.7s
AKBB MLR MLR
comp=Z,4µm,22.0s
AKBB Malin Array Si 76.09 346 *eP* **P 08 25 57.4 -1.4**
comp=Z,23nm,0.7s
AKBB LR LR
comp=Z,4µm,22.0s
KIEV Kiev 76.10 346*c i*P **P 08 25 57.1 -1.8**
KIEV pmax pmax
comp=Z,23nm,0.7s
KIEV MLR MLR
comp=Z,4µm,21.0s
KIEV Kiev 76.10 346 *eP* **P 08 25 57.0 -1.8**
comp=Z,23nm,0.7s
KIEV LR LR
comp=Z,4µm,22.0s
GKN Gorkha 76.11 298 *eP* **P 08 25 59.5 0.0**
comp=Z,144nm,0.7s
AK11 Malin Array Si 76.12 346 *eP* **P 08 25 57.2 -1.8**
DMN Daman 76.16 297 *eP* **P 08 26 00.3 +0.4**
comp=Z,194nm,1.1s
DZM Mont Dzumac 76.18 201 P **P 08 25 59.9 +0.3**
comp=Z,34nm,1.0s,baz=53,slow=12,SNR=15
DZM Mont Dzumac 76.18 201 *eS* **S 08 35 41.2 +0.7**
comp=Z,1µm,25.6s
DZM Mont Dzumac 76.18 201 *eLR* LR 08 49 34.8
comp=Z,5µm,21.1s
DZM Mont Dzumac 76.18 201 *eP* **P 08 25 58.8 -0.8**
comp=Z,41nm,1.0s
DZM LR LR
comp=Z,4µm,20.0s
COEN Coen 76.34 225 *eP* **P 08 26 00.8 +0.3**
comp=Z,25nm,1.0s
COEN *eP*cP **PcP 08 26 07.7 -4.6**
COEN LR LR
comp=Z,2µm,20.0s
KOLN Koldanda 76.86 298 *eP* **P 08 26 03.7 -0.1**
comp=Z,133nm,0.9s
PYUN Piuthan 76.93 299 *eP* **P 08 26 04.2 0.0**
comp=Z,376nm,1.0s
UMPA Umpang Tak 76.94 280 P **P 08 26 06.5 +2.3**
comp=Z,25nm,1.4s,comp=Z,1µm
CLL Collm 76.95 357 *eP* **P 08 26 03.5 -0.2**
CLL pmax pmax
comp=Z,27nm,0.7s
CLL Collm 76.95 357 *i* P **P 08 26 03.5 -0.2**
comp=Z,31nm,0.7s
CLL *e*PP PP 08 29 06.0 +10
CLL *e*PPP PPP 08 30 49.0
CLL *e*S **S 08 35 48.0 -0.2**
CLL *e*PS **PnS 08 36 32.0 +1.3**
CLL *e*SS SS 08 41 06.0 +22
CLL *e*SSSS 08 46 24.0
CLL LmH 09 03 00.0
comp=N,1µm,20.5s
CLL LmH 09 03 00.0
comp=E,500nm,19.1s
CLL LmV 09 04 00.0
comp=Z,1µm,20.0s
CLL Collm 76.95 357 *eP* **P 08 26 03.5 -0.2**
comp=Z,27nm,0.7s
CLL LR LR
comp=Z,1µm,20.0s
UTHA Uthaitani 77.08 279 P **P 08 26 05.9 +1.0**
comp=Z,18nm,1.1s,comp=Z,207nm
KSP Ksiaz 77.27 355 *eP* **P 08 26 05.1 -0.4**
KSP Ksiaz 77.27 355 *eP* **P 08 26 05.1 -0.4**
BRG Berggiesshubel 77.35 356 *i* P **P 08 26 05.6 -0.3**
comp=Z,49nm,0.7s
BRG S **S 08 35 46.0 -6.6**
BRG SS SS 08 40 39.0 -11
comp=N,1µm,22.1s
comp=E,1µm,18.7s
comp=Z,2µm,19.7s
BRG Berggiesshubel 77.35 356 *i* P **P 08 26 05.6 -0.3**
BRG S **S 08 35 46.0 -6.6**
BRG pmax pmax
comp=Z,49nm,0.7s
BRG MLR MLR
comp=N,1µm,22.1s
BRG MLR MLR
comp=E,1µm,18.7s
BRG MLR MLR
comp=Z,2µm,19.7s
DYA Yadsworthy 77.40 8 PFAKE 08 26 20.0 +14
DYA LR LR
comp=Z,2µm,22.0s
TBI Tubuai 77.59 159 *eS* **S 08 35 56.4 +0.9**
comp=Z,781nm,32.0s
TBI *e*SS **SS 08 40 57.3 +1.0**
comp=Z,448nm,28.0s
TBI *e*LR LR 08 49 33.7
comp=Z,4µm,25.2s,baz=341
TBI Tubuai 77.59 159 *eT* T 09 51 19.0
comp=Z,28nm,0.2s
UPC Upice 77.62 355 *eP* **P 08 26 07.4 0.0**
UPC *e*S **S 08 35 59.0 +3.5**
UPC AMS AMS 09 04 10.0
comp=Z,2µm,19.6s
UPC Upice 77.62 355 *eP* **P 08 26 07.4 0.0**
UPC *e*S **S 08 35 59.0 +3.5**
UPC MLR MLR
comp=Z,2µm,19.6s
LVV L'vov 77.63 350 *eP* **P 08 26 09.7 +2.2**
LVV *e* 08 36 40.1
LVV MLR MLR
comp=Z,800nm,18.0s
OJC Ojcow 77.64 352 *eP* **P 08 26 06.7 -0.9**
OJC Ojcow 77.64 352 *eP* **P 08 26 07.6 0.0**
OJC pmax pmax
comp=Z,25nm,0.8s
OJC Ojcow 77.64 352 *eP* **P 08 26 07.6 0.0**
comp=Z,25nm,0.8s
PVCC Panska Ves 77.67 356 *eP* **P 08 26 07.8 +0.1**
PVCC *e*PP **PP 08 29 07.8 +5.4**
PVCC AMS AMS 09 04 40.0
comp=Z,2µm,19.8s
PVCC Panska Ves 77.67 356 *eP* **P 08 26 07.8 +0.1**
PVCC *e* 08 29 07.8
PVCC MLR MLR
comp=Z,2µm,19.8s
MEM Membach 77.72 1 P **P 08 26 09.2 +1.2**
comp=Z,24nm,1.3s
DPC Dobruska-Polom 77.76 355 *eP* **P 08 26 08.5 +0.2**
DPC *e*PP **PP 08 29 09.5 +6.3**
DPC *e*S **S 08 36 00.3 +3.2**
DPC AMS AMS 09 00 00.0
comp=Z,2µm,23.8s
DPC Dobruska-Polom 77.76 355 *eP* **P 08 26 08.5 +0.2**
DPC *e* 08 29 09.5
DPC *e*S **S 08 36 00.3 +3.2**
DPC MLR MLR
comp=Z,2µm,23.8s
BCLA Clavier 77.90 2 P **P 08 26 08.9 -0.1**
comp=Z,22nm,1.5s
KWP Kalwaria Pacla 77.95 350 *eP* **P 08 26 10.0 +0.6**
KWP Kalwaria Pacla 77.95 350 *eP* **P 08 26 10.0 +0.6**
KRLC Kraliky 78.00 354 *eP* **P 08 26 09.8 +0.1**
KRLC Kraliky 78.00 354 *eP* **P 08 26 09.8 +0.1**
NKC Novy Kostel 78.05 357 *eP* **P 08 26 09.7 -0.1**
NKC *e*PP **PP 08 29 09.6 +4.0**
NKC AMS AMS 09 09 30.0
comp=Z,1µm,18.0s
NKC Novy Kostel 78.05 357 *eP* **P 08 26 09.7 -0.1**
NKC *e* 08 29 09.6
NKC MLR MLR
comp=Z,1µm,18.0s
PRA Prague 78.13 356 AMS AMS 09 05 10.0
comp=Z,2µm,19.0s
OKC Ostrava-Krasne 78.15 353 *eP* **P 08 26 10.3 -0.1**
OKC *e*S **S 08 36 05.0 +3.7**
OKC AMS AMS 09 04 00.0
comp=Z,2µm,17.8s
OKC Ostrava-Krasne 78.15 353 *eP* **P 08 26 10.3 -0.1**
OKC *e*S **S 08 36 05.0 +3.7**
OKC MLR MLR
comp=Z,2µm,17.8s
DOU Dourbes 78.20 2 P **P 08 26 10.9 +0.2**
GIVF Givet 78.20 2 *eP* **P 08 26 11.0 +0.3**
GIVF pmax pmax
comp=Z,35nm,1.0s
PRU Pruhonice 78.21 356 *eP* **P 08 26 10.8 +0.1**
PRU *e*PP **PP 08 29 11.6 +4.7**
PRU *e*S **S 08 36 05.3 +3.4**
PRU AMS AMS 09 05 10.0
comp=Z,2µm,20.4s
PRU Pruhonice 78.21 356 *eP* **P 08 26 10.8 +0.1**
PRU *e* 08 29 11.6
PRU *e*S **S 08 36 05.3 +3.4**
PRU MLR MLR
comp=Z,2µm,20.4s
SRDT SRDT 78.21 278 P **P 08 26 13.0 +1.8**
comp=Z,160nm,1.6s,comp=Z,6µm
BAIF Baives 78.23 3 *eP* **P 08 26 10.4 -0.4**
BAIF pmax pmax
comp=Z,34nm,1.0s
PATY Pattaya 78.24 276 P **P 08 26 13.7 +2.3**
comp=Z,20nm,0.9s
MORC Moravsky Berou 78.25 354⇑ *i*P **P 08 26 11.1 +0.1**
MORC Moravsky Berou 78.25 354 *eP* **P 08 26 10.8 -0.2**
MORC pmax pmax
comp=Z,81nm,0.8s
MORC Moravsky Berou 78.25 354 *eP* **P 08 26 10.8 -0.2**
comp=Z,81nm,0.8s
GOPC GO Pecny, Ondr 78.27 356 *eP* **P 08 26 11.2 +0.1**
GOPC *e*PP **PP 08 29 15.2 +7.7**
GOPC *e*S **S 08 36 06.6 +4.0**
GOPC AMS AMS 09 04 00.0
comp=Z,2µm,22.9s
GOPC GO Pecny, Ondr 78.27 356 *eP* **P 08 26 11.2 +0.1**
GOPC *e* 08 29 15.2
GOPC *e*S **S 08 36 06.6 +4.0**
GOPC MLR MLR
comp=Z,2µm,22.9s
STHS Stebnicka Huta 78.31 351 *eP* **P 08 26 11.8 +0.5**
STHS pmax pmax
comp=Z,26nm,0.7s
STHS Stebnicka Huta 78.31 351 *eP* **P 08 26 11.8 +0.5**
NIE Niedzica 78.40 352 *eP* **P 08 26 11.3 -0.5**
NIE Niedzica 78.40 352 *eP* **P 08 26 11.3 -0.5**
MTDJ Mount Denham 78.47 75 *eP* **P 08 26 12.9 +0.1**
comp=Z,55nm,1.0s
MTDJ LR LR
comp=Z,700nm,19.0s
GTBY Guantanamo Bay 78.59 72 PFAKE 08 26 30.0 +17
GTBY LR LR
comp=Z,2µm,19.0s
WLF Walferdange 78.67 1 PFAKE 08 26 20.0 +6.8
WLF LR LR
comp=Z,2µm,21.0s
KBL Kabul 78.69 313 *eP* **P 08 26 13.0 -0.9**
KBL pmax pmax
comp=Z,63nm,0.9s
KBL Kabul 78.69 313 *eP* **P 08 26 13.0 -0.9**
comp=Z,63nm,0.9s
KBL LR LR
comp=Z,800nm,21.0s
GOF Gofitskoye 78.71 336⇑ *eP* **P 08 26 14.2 +0.6**
GOF *e*S **S 08 36 08.9 +1.5**
GOF pmax pmax
comp=Z,235nm,1.0s
SORM Soroca 78.72 346⇑ *i*P **P 08 26 12.6 -0.9**
LANS Liptovska Anna 78.73 352 *eP* **P 08 26 14.2 +0.5**
LANS Liptovska Anna 78.73 352 *eP* **P 08 26 14.2 +0.5**
VRAC Vranov 78.78 354⇑ *i*P **P 08 26 13.7 -0.2**
TREC Trest 78.86 355 *eP* **P 08 26 13.7 -0.6**
TREC AMS AMS 09 04 40.0
comp=Z,2µm,19.8s
TREC Trest 78.86 355 *eP* **P 08 26 13.7 -0.6**
TREC MLR MLR
comp=Z,2µm,19.8s
UZH Uzhgorod 78.99 350 *eP* **P 08 26 13.2 -1.8**
UZH *e* 08 26 24.2
KHC Kasperske Hory 79.11 356 *eP* **P 08 26 16.2 +0.5**
KHC *ex* x 08 26 36.5
KHC *e*PP **PP 08 29 17.2 +2.8**
KHC *e*S **S 08 36 15.4 +3.8**
KHC AMS AMS 09 05 20.0
comp=Z,2µm,21.2s
KHC Kasperske Hory 79.11 356 *eP* **P 08 26 16.2 +0.5**
KHC *e* 08 26 36.5
KHC *e* 08 29 17.2
KHC *e*S **S 08 36 15.4 +3.8**
KHC MLR MLR
comp=Z,2µm,21.2s
KHC Kasperske Hory 79.11 356 *eP* **P 08 26 15.8 +0.1**
comp=Z,14nm,0.7s
KHC LR LR
comp=Z,800nm,21.0s
KECS Kecovo 79.31 352 *eP* **P 08 26 16.4 -0.4**
KECS pmax pmax
comp=Z,10.0nm,0.8s
KECS Kecovo 79.31 352 *eP* **P 08 26 16.4 -0.4**
LANF Langenberg 79.36 0 *eP* **P 08 26 17.8 +0.7**
GEC2 GERESS Array S 79.39 356 *eP* **P 08 26 17.1 -0.3**
GEC2 pmax pmax
comp=Z,22nm,0.8s
GEC2 MLR MLR
comp=Z,2µm,21.0s
GEC2 GERESS Array S 79.39 356 *eP* **P 08 26 17.1 -0.3**
comp=Z,22nm,0.8s
GEC2 LR LR
comp=Z,2µm,21.0s
GERES GERESS Array B 79.39 356 P **P 08 26 17.0 -0.3**
comp=Z,16nm,0.6s,baz=18,slow=4.7,SNR=54
GERES GERESS Array B 79.39 356 P **P 08 26 17.0 -0.3**
GERES pmax pmax
comp=Z,16nm,0.6s
GEA0 GERESS Array S 79.40 356 *eP* **P 08 26 16.9 -0.5**
SBUM Sibu 79.40 260 PFAKE 08 26 30.0 +12
SBUM LR LR
comp=Z,800nm,22.0s
MAK Makhachkala 79.43 332 *eP* P 08 26 11.9 -5.6
MAK *e* 08 29 15.8
MAK *e*S **S 08 36 07.6 -7.5**
VYHS Vyhne 79.43 353 *eP* **P 08 26 17.2 -0.3**
VYHS pmax pmax
comp=Z,14nm,1.0s
VYHS Vyhne 79.43 353 *eP* **P 08 26 17.1 -0.4**
LDF La Druitiere 79.51 6 *eP* **P 08 26 16.7 -1.2**
LDF pmax pmax
comp=Z,30nm,0.8s
ROSF Rostrenen 79.54 8 *eP* **P 08 26 18.9 +0.9**
ROSF pmax pmax
comp=Z,82nm,1.6s
STU Stuttgart 79.57 359 *eP* **P 08 26 18.4 +0.2**
STU pmax pmax
comp=Z,33nm,0.7s
STU Stuttgart 79.57 359 *eP* **P 08 26 18.4 +0.2**
comp=Z,33nm,0.7s
STU LR LR
comp=Z,900nm,20.0s
BUR08 Bucovina Ar. S 79.63 348 *eP* **P 08 26 18.1 -0.6**
BURAR Bucovina Array 79.66 348‖ *i*P **P 08 26 18.4 -0.4**
BURAR Bucovina Array 79.66 348 P **P 08 26 18.4 -0.4**
GRR Gorron 79.67 6 *eP* **P 08 26 17.9 -0.8**
GRR pmax pmax
comp=Z,54nm,1.2s
GRTK Grand Turk 79.67 68 PFAKE 08 26 30.0 +11
GRTK LR LR
comp=Z,1µm,20.0s
KIS Kishinev 79.76 346‖ *eP* **P 08 26 20.0 +0.7**
KIS Kishinev 79.76 346 *eP* PP 08 29 19.0 -0.9
KIS Kishinev 79.76 346 *eP*S 08 37 16.0
KIS *e*LR LR 08 53 00.0
comp=Z,4µm,22.0s
KIS Kishinev 79.76 346‖ *eP* **P 08 26 20.0 +0.7**
KIS *e* 08 26 28.0
KIS *e* 08 29 19.0
KIS *e*PPP PPP 08 31 16.0
KIS *e*S S 08 36 28.0 +10
KIS *e*PS **PnS 08 37 16.0 +10**
KIS MLR MLR
comp=Z,4µm,22.0s
KIS MLR MLR
comp=Z,4µm,22.0s
KIV Kislovodsk 79.83 335 *i* P **P 08 26 19.7 -0.1**
SNR=6.3
KIV Kislovodsk 79.83 335 *i* P **P 08 26 19.8 -0.1**
KIV pmax pmax
comp=Z,59nm,0.9s
KIV Kislovodsk 79.83 335 *eP* **P 08 26 19.8 -0.1**
comp=Z,50nm,0.8s
KIV LR LR
comp=Z,2µm,20.0s
KIV Kislovodsk 79.83 335 P **P 08 26 19.8 -0.1**
SNR=7.5
KIV P **P 08 26 19.8 -0.1**
SNR=7.5
KIV Kislovodsk 79.83 335 P **P 08 26 19.8 -0.1**
SNR=7.5
PSZ Piszkesteto 79.92 352 *eP* **P 08 26 20.2 0.0**
PSZ pmax pmax
comp=Z,60nm,1.6s
PSZ MLR MLR
comp=Z,2µm,22.0s
PSZ Piszkesteto 79.92 352 *eP* **P 08 26 20.2 0.0**
comp=Z,60nm,1.6s
PSZ LR LR
comp=Z,2µm,22.0s
CDF Champ du Feu 79.93 1 *eP* **P 08 26 20.0 -0.3**
CDF pmax pmax
comp=Z,17nm,0.7s
KBZ Khabaz 79.99 335 P **P 08 26 20.4 -0.1**
comp=Z,30nm,0.9s,baz=51,slow=6.5,SNR=34
KBZ LR LR 09 05 28.0
comp=Z,2µm,21.7s,baz=8.5,slow=38
BFO Black Forest 80.02 360 *i* P **P 08 26 21.6 +0.9**
BFO Black Forest 80.02 360 *eP* **P 08 26 21.0 +0.4**
comp=Z,49nm,1.4s
BFO LR LR
comp=Z,900nm,19.0s
NCK Nalchik 80.02 335 *eP* **P 08 26 20.9 +0.1**
NCK pmax pmax
comp=Z,124nm,0.8s
NCK MLR MLR
comp=Z,2µm,21.0s
THEF They Montfort 80.10 1 *eP* **P 08 26 21.1 0.0**
ECH Echery 80.13 1 *eP* **P 08 26 21.5 +0.2**
CONA Conrad Observa 80.20 355 *eP* **P 08 26 21.9 +0.2**
comp=Z,36nm,0.8s
ARCR ARCALIA 80.28 349⇑ *i*P **P 08 26 22.8 +0.7**
ANN Anapa 80.28 339 *eP* **P 08 26 21.6 -0.5**
ANN *e* 08 29 23.6
ANN *e*S **S 08 36 25.1 +1.1**
ANN pmax pmax
comp=Z,68nm,1.1s
ANN MLR MLR
comp=N,3µm,20.0s
ANN MLR MLR
comp=Z,2µm,20.0s
ANN MLR MLR
comp=E,515nm,20.0s
MOA Molln 80.36 356 *eP* **P 08 26 22.7 +0.2**
comp=E,10nm,0.6s
GEYT Alibeck 80.36 322 P **P 08 26 22.4 -0.4**
comp=E,37nm,0.9s,baz=340,slow=3.9,SNR=33
GEYT LR LR 09 06 05.0
comp=E,3µm,18.6s,baz=30,slow=39
NEY Neytrino 80.48 335*d i*P **P 08 26 24.6 +1.1**
NEY pmax pmax
comp=Z,10.0nm,1.7s
NEY MLR MLR
comp=Z,1µm,21.0s
MOF Molkenrain 80.49 1 *eP* **P 08 26 23.0 -0.3**
MOF Molkenrain 80.49 1 P **P 08 26 23.5 +0.2**
HINF Hinteralfeld 80.53 1 *eP* **P 08 26 22.8 -0.6**
HINF pmax pmax
comp=Z,22nm,0.7s
TESR Tescani 80.55 347⇑ *i*P **P 08 26 22.4 -1.2**
CTA Charters Tower 80.56 219 P **P 08 26 23.6 -0.2**
comp=Z,17nm,0.8s,baz=24,slow=8.1,SNR=18
CTAO Charters Tower 80.56 219 *eP* **P 08 26 24.0 +0.2**
CTAO pmax pmax
comp=Z,26nm,0.9s
CTAO Charters Tower 80.56 219 *eP* **P 08 26 24.0 +0.2**
comp=Z,26nm,0.9s
CTAO LR LR
comp=Z,1µm,20.0s
ZEI Tsey 80.60 334 *eP* **P 08 26 22.4 -1.7**
ZEI pmax pmax

comp=Z,90nm,0.6s
DRGR 80.76 350 ⇓ *i* P P 08 26 24.4 -0.4
SIM **Simferopol'** 80.83 342 *e* P P 08 26 25.0 0.0
SIM *e* S S 08 36 32.0 +2.2
SIM pmax pmax
comp=Z,42nm,0.9s
SIM MLR MLR
comp=Z,2μm,20.3s
RETA **Reutte** 80.83 358 *e* P P 08 26 25.5 +0.4
comp=Z,23nm,0.7s
ARSA **Arzberg** 80.89 355 *e* P P 08 26 26.2 +0.8
comp=Z,23nm,0.7s
ARSA *i* PcP P 08 26 27.6 +2.2
SNR=7.0
ZKTA **Zakatala** 80.90 332 P P 08 26 23.7 -1.8
ONI **Oni** 80.90 334 P P 08 26 33.2 +7.6
ONI **Oni** 80.90 334 P P 08 26 33.1 +7.5
SOC **Sochi** 80.92 337 *c i* P P 08 26 24.4 -1.1
SOC *e* 08 29 28.1
SOC *e* PPP PPP 08 31 17.5
SOC *e* S S 08 36 29.3 -1.4
SOC pmax pmax
comp=Z,35nm,0.8s
SOC MLR MLR
comp=Z,2μm,21.0s
WATA **Walderalm** 80.97 358 *e* P P 08 26 26.5 +0.6
comp=Z,19nm,0.6s
MOTA **Moosalm** 80.97 358 *e* P P 08 26 26.5 +0.5
comp=Z,48nm,1.0s
LOMF **Lomont** 80.99 1 *e* P P 08 26 26.0 0.0
WTTA **Wattenberg** 81.04 358 *e* P P 08 26 26.8 +0.4
comp=Z,22nm,0.6s
DAVA **Damuels** 81.05 359 *e* P P 08 26 27.4 +1.0
comp=Z,21nm,0.8s
MTN **Manton Dam** 81.10 236 *e* P P 08 26 26.4 -0.4
comp=Z,55nm,0.8s
MTN LR LR
comp=Z,2μm,20.0s
SEKA **Sheki** 81.12 331 P P 08 26 25.0 -1.8
KBA **Koelnbreinsper** 81.17 356 *i* P P 08 26 28.3 +1.2
comp=Z,90nm,0.8s
KBA **Koelnbreinsper** 81.17 356 P P 08 26 28.3 +1.2
LGNH **LØogne** 81.17 71 PFAKE 08 26 40.0 +13
LGNH LR LR
comp=Z,1μm,19.0s
PLOR **Plostina** 81.20 347 ⇑ *i* P P 08 26 26.9 -0.2
SSF **Saint Saulge** 81.21 3 *e* P P 08 26 26.5 -0.5
SSF pmax pmax
comp=Z,22nm,0.7s
DOPR **Dopca** 81.25 348 ⇑ *i* P P 08 26 27.9 +0.6
FETA **Feichten** 81.30 358 *i* P P 08 26 28.6 +0.8
SNR=16
FETA *e* P P 08 26 28.7 +0.9
comp=Z,55nm,0.8s
TBLG **Delisi** 81.35 333 P P 08 26 29.0 +1.1
TBLG **Delisi** 81.35 333 P P 08 26 29.0 +1.1
AVF **Avril sur Loir** 81.47 3 *e* P P 08 26 27.7 -0.7
AVF pmax pmax
comp=Z,37nm,0.8s
SOKA **Soboth** 81.49 355 *e* P P 08 26 29.3 +0.6
comp=Z,45nm,0.9s
RKT **Rikitea** 81.51 146 *e* S S 08 36 38.7 +1.7
comp=Z,1μm,31.0s
RKT *e* SS SS 08 41 55.8 +0.8
comp=Z,472nm,27.5s
RKT *e* LR LR 08 51 54.0
comp=Z,4μm,22.8s,baz=338
RKT **Rikitea** 81.51 146 *e* T T 09 56 15.0
comp=Z,6.2nm,0.3s
ABTA **Abfaltersbach** 81.53 357 *e* P P 08 26 29.2 +0.4
comp=Z,27nm,0.9s
ABTA *i* P P 08 26 29.4 +0.5
SNR=5.7
PERS **Pernice** 81.53 355 *i* P P 08 26 28.6 -0.2
TLCR 81.53 345 ⇑ *i* P P 08 26 28.9 +0.2
MNGR **Mingechevir, A** 81.56 331 P P 08 26 27.3 -1.7
SDDR **Presa de Saban** 81.57 70 PFAKE 08 26 40.0 +11
SDDR LR LR
comp=Z,1μm,20.0s
MYKA **Terra Mystica** 81.60 356 *e* PcP P 08 26 31.4 +2.2
comp=Z,18nm,1.0s
CFR **Carcaliu** 81.64 346 ⇑ *i* P P 08 26 29.9 +0.6
MLR **Muntele Rosu** 81.65 347 PFAKE 08 26 40.0 +10
MLR LR LR
comp=Z,4μm,22.0s
OBKA **Obir** 81.68 356 *i* P P 08 26 30.3 +0.6
comp=Z,23nm,0.6s
CABF **La Chapelle** 81.72 1 *e* P P 08 26 29.8 -0.1
CABF pmax pmax
comp=Z,55nm,0.9s
VOIR 81.82 348 ⇓ *i* P P 08 26 30.9 +0.5
VOIR 81.82 348 P P 08 26 30.9 +0.5
TUE **Stuetta** 81.87 359 *e* P P 08 26 31.6 +0.8
comp=Z,41nm,0.6s
TUE LR LR
comp=Z,1μm,21.0s
GANJ **Ganja** 81.90 332 P P 08 26 29.0 -1.9
TCF **Toulx Ste Croi** 81.93 4 *e* P P 08 26 29.0 -1.9
TCF pmax pmax
comp=Z,17nm,0.8s
ARR **Arges** 81.94 348 ⇓ *i* P P 08 26 32.5 +1.5
LOT **Lotru** 81.97 349 ⇓ *i* P P 08 26 30.9 -0.3
SENIN **Lac Senin/Sane** 81.98 1 *e* P P 08 26 31.8 +0.4
comp=Z,66nm,1.9s
SENIN LR LR
comp=Z,1μm,20.0s
AKH **Akhalkalaki** 81.99 334 P P 08 26 33.2 +1.7
AKH **Akhalkalaki** 81.99 334 ⇓ *i* P P 08 26 32.6 +1.1
AKH **Akhalkalaki** 81.99 334 P P 08 26 33.2 +1.7
ROBS **Robic** 81.99 356 *e* P P 08 26 30.3 -0.9
BZS **Buzias** 82.04 350 ⇓ *i* P P 08 26 31.0 -0.4
BGD **Bogdanovka** 82.10 334 P P 08 26 33.4 +1.2
GZR **Gura Zlata** 82.13 350 ⇓ *i* P P 08 26 31.2 -0.8
HARR **Harsova** 82.15 346 ⇑ *i* P P 08 26 31.4 -0.6
SOEI **Soe** 82.18 243 *e* P P 08 26 32.4 -0.2
comp=Z,52nm,1.1s
AGO **Saint Agoulin** 82.20 3 *e* P P 08 26 32.7 +0.4
TLB **Topalu** 82.23 346 ⇓ *i* P P 08 26 32.5 +0.1
PLDF **La Plantade** 82.30 3 *e* P P 08 26 33.7 +0.8
TIRR **Tirgusor** 82.30 345 ⇑ *i* P P 08 26 32.9 +0.1
TIRR **Tirgusor** 82.30 345 *e* P P 08 26 33.1 +0.3
TIRR pmax pmax
comp=Z,37nm,0.6s
TIRR **Tirgusor** 82.30 345 *e* P P 08 26 33.0 +0.3
comp=Z,37nm,0.6s
TIRR LR LR
comp=Z,4μm,22.0s
CEY **Cerknica** 82.46 356 *e* P P 08 26 34.0 +0.3
PYM **Petit Puy Mans** 82.50 4 *e* P P 08 26 33.7 -0.3
TRI **Trieste** 82.52 356 PFAKE 08 26 50.0 +16
TRI LR LR
comp=Z,1μm,21.0s
SURT **Suratani** 82.59 275 P P 08 26 40.3 +5.6
comp=Z,41nm,0.9s
ARTV **Artvin** 82.62 335 *e* P P 08 26 35.2 +0.4
comp=Z,25nm,1.0s
ARTV LR LR
comp=Z,1μm,22.0s
H07S1 **FLORES T-PHASE** 82.74 30 *e* LR LR 08 55 04.2
GNI **Garni** 82.82 333 *i* P P 08 26 36.6 +0.7
SNR=8.3
GNI **Garni** 82.82 333 *c i* P P 08 26 36.4 +0.6
GNI pmax pmax
comp=Z,141nm,1.3s
GNI MLR MLR
comp=Z,3μm,21.0s
GNI **Garni** 82.82 333 *e* P P 08 26 36.5 +0.7
comp=Z,44nm,1.1s
GNI LR LR
comp=Z,2μm,20.0s
GNI **Garni** 82.82 333 P P 08 26 36.6 +0.7
SNR=11
LPL **La Plagne** 82.82 1 *e* P P 08 26 38.0 +2.2
LPL pmax pmax
comp=Z,18nm,0.9s
SSB **Saint Sauveur** 83.02 3 *e* P P 08 26 36.5 -0.1
SSB pmax pmax
comp=Z,26nm,1.0s
SSB **Saint Sauveur** 83.02 3 *e* P P 08 26 36.5 -0.1
comp=Z,26nm,1.0s
SSB LR LR
comp=Z,1μm,19.0s
LBL **Lubilhac** 83.03 3 *e* P P 08 26 36.9 +0.2
LFF **La Frestale** 83.20 5 *e* P P 08 26 37.5 0.0
LFF pmax pmax
comp=Z,99nm,1.2s
CAF **Calviac** 83.28 4 *e* P P 08 26 37.6 -0.4
CAF pmax pmax
comp=Z,58nm,1.2s
BNI **Bardonecchia** 83.29 1 *e* P P 08 26 38.9 +0.7
BNI pmax pmax
comp=Z,27nm,0.8s
BNI **Bardonecchia** 83.29 1 *e* P P 08 26 38.9 +0.7
comp=Z,27nm,0.8s
ORIF **Oris-en-Rattie** 83.41 2 *e* P P 08 26 39.8 +1.1
ORIF pmax pmax
comp=Z,81nm,1.7s
VIVF **Saint-Julien-l** 83.45 2 *e* P P 08 26 39.1 +0.3
VIVF pmax pmax
comp=Z,25nm,1.0s
NAX **Nakhchivan** 83.50 332 P P 08 26 37.6 -1.7
ZIMR 83.53 347 ⇓ *i* P P 08 26 35.6 -3.6
EIDS **Eidsvold** 83.62 213 *e* P P 08 26 40.1 +0.4
comp=Z,16nm,0.8s
EIDS LR LR
comp=Z,3μm,22.0s
CHLP **Challavanipeta** 83.93 292 *e* P P 08 26 40.8 -0.8
CHLP IAmb IAmb 08 26 43.3
comp=Z,100nm,1.3s
CHLP *e* PP PP 08 29 58.3 +3.2
CHLP *e* SKSac SKSac 08 36 59.9 -1.3
CHLP IVMs_BB IVMs_BB 09 06 48.7
comp=Z,347nm,23.9s
PGRA **Graciosa** 84.01 27 *e* LR LR 08 55 46.7
comp=Z,511nm,22.5s
KOPT **Kop Dagi** 84.09 336 PFAKE 08 26 50.0 +7.5
KOPT LR LR
comp=Z,2μm,22.0s
BCIP **Isla Barro Col** 84.11 83 *e* P P 08 26 42.2 -0.4
comp=Z,68nm,1.4s
VLC **Villacollemand** 84.17 358 PFAKE 08 26 50.0 +7.5
VLC LR LR
comp=Z,1μm,20.0s
ROSA **Rosais** 84.23 28 *e* LR LR 08 55 19.0
comp=Z,547nm,19.4s
IDE **Isla Desecheo** 84.24 68 *e* P P 08 26 43.0 -0.2
KULM **Kulim** 84.30 271 *e* P P 08 26 40.8 -2.7
comp=Z,29nm,0.8s
KULM LR LR
comp=Z,500nm,20.0s
AGP **Aguadilla** 84.41 67 PFAKE 08 27 00.0 +16
AGP LR LR
comp=Z,900nm,21.0s
MPR **Mayaguez** 84.56 67 PFAKE 08 27 00.0 +15
MPR LR LR
comp=Z,900nm,22.0s
ILGA **Ilgaz** 84.66 341 *e* P P 08 26 46.8 +1.5
comp=Z,61nm,1.0s
ILGA LR LR
comp=Z,2μm,21.0s
IPM **Ipoh** 84.70 270 *e* P P 08 26 46.9 +1.3
comp=Z,34nm,0.8s
IPM LR LR
comp=Z,800nm,22.0s
TOKA **Tokat** 84.76 339 *e* P P 08 26 46.9 +1.3
comp=Z,99nm,1.2s
FRF **La Foret Royal** 84.78 1 *e* P P 08 26 45.2 -0.4
FRF pmax pmax
comp=Z,69nm,1.2s
VTS **Vitosha** 84.85 349 ⇑ *i* P P 08 26 44.7 -1.4
VTS **Vitosha** 84.85 349 *e* P P 08 26 45.9 -0.3
VTS pmax pmax
comp=Z,37nm,1.5s
VTS **Vitosha** 84.85 349 *e* P P 08 26 45.9 -0.3
comp=Z,37nm,1.5s
VTS LR LR
comp=Z,2μm,22.0s
CELP **Cerrillos** 84.99 67 *e* P P 08 26 47.3 +0.3
MYKOM **Kota Tinggi** 85.06 267 PFAKE 08 27 00.0 +13
MYKOM LR LR
comp=Z,600nm,21.0s
EPF **Esparros** 85.08 6 *e* P P 08 26 46.0 -1.1
EPF pmax pmax
comp=Z,25nm,1.2s
PLD **Plovdiv** 85.14 348 P P 08 26 48.7 +1.3
VIEF **Viey** 85.20 6 *e* P P 08 26 48.2 +0.4
SJG **San Juan** 85.21 67 *e* P P 08 26 47.7 -0.4
SJG pmax pmax
comp=Z,92nm,1.5s
SJG MLR MLR
comp=Z,2μm,19.0s
SJG **San Juan** 85.21 67 *e* P P 08 26 47.7 -0.4
comp=Z,92nm,1.5s
SJG LR LR
comp=Z,2μm,19.0s
CBYP **Canovanas** 85.25 66 PFAKE 08 27 00.0 +12
CBYP LR LR
comp=Z,3μm,20.0s
LRDF **Laroque-de-Fa** 85.29 4 *e* P P 08 26 48.8 +0.7
RESF **Ens** 85.30 6 *e* P P 08 26 48.8 +0.4
PGAV **Gavieira, Arco** 85.31 12 *e* LR LR 08 55 31.8
comp=Z,1μm,18.0s
HUMP **Col San Antoni** 85.35 66 PFAKE 08 27 00.0 +11
HUMP LR LR
comp=Z,2μm,20.0s
WB0 **Warramunga Arr** 85.41 230 PFAKE 08 27 00.0 +11
WB0 LR LR
comp=Z,2μm,22.0s
PDG **Podgorica** 85.42 352 ⇑ *i* P P 08 26 48.0 -0.8
WB9 **Warramunga Arr** 85.44 230 PFAKE 08 27 00.0 +11
WB9 LR LR
comp=Z,4μm,19.0s
WB8 **Warramunga Arr** 85.46 230 PFAKE 08 27 00.0 +11
WB8 LR LR
comp=Z,2μm,18.0s
WB6 **Warramunga Arr** 85.50 230 PFAKE 08 27 00.0 +11
WB6 LR LR
comp=Z,2μm,22.0s
WR0 **Warramunga Arr** 85.51 229 PFAKE 08 27 00.0 +11
WR0 LR LR
comp=Z,3μm,20.0s
WR9 **Warramunga Arr** 85.52 229 PFAKE 08 27 00.0 +11
WR9 LR LR
comp=Z,2μm,21.0s
WB5 **Warramunga Arr** 85.52 230 PFAKE 08 27 00.0 +11
WB5 LR LR
comp=Z,2μm,20.0s
WB4 **Warramunga Arr** 85.55 230 PFAKE 08 27 00.0 +10
WB4 LR LR
comp=Z,2μm,22.0s
WC1 **Warramunga Arr** 85.57 230 PFAKE 08 27 00.0 +10
WC1 LR LR
comp=Z,2μm,20.0s
WRAB **Tennant Creek** 85.58 230 *c i* P P 08 26 48.7 -1.0
WRAB pmax pmax
comp=Z,87nm,1.3s
WRAB MLR MLR
comp=Z,2μm,19.0s
WRAB **Tennant Creek** 85.58 230 *e* P P 08 26 49.0 -0.7
comp=Z,33nm,1.2s
WRAB LR LR
comp=Z,2μm,20.0s
KKB **Krupnik** 85.58 349 *e* P P 08 26 50.0 +0.4
WB2 **Warramunga Arr** 85.58 230 *e* P P 08 26 47.8 -1.9
WB2 LR LR
comp=Z,2μm,22.0s
WR1 **Warramunga Arr** 85.59 230 *e* P P 08 26 48.8 -0.9
comp=Z,58nm,1.4s
WRA **Warramunga Arr** 85.59 230 P P 08 26 48.8 -0.9
comp=Z,10nm,0.8s,baz=35,slow=6.1,SNR=65
WRA PKKPbc PKKPbc 08 44 52.6 +1.4
comp=Z,0.9nm,1.1s,baz=230,slow=1.8,SNR=3.7
WRA LR LR 09 00 48.2
comp=Z,2μm,21.7s,baz=35,slow=33
WRA **Warramunga Arr** 85.59 230 *i* P P 08 26 48.5 -1.3
WRA pmax pmax
comp=Z,10.0nm,0.8s
PBRG **Braganca** 85.66 11 *e* P P 08 26 50.0 0.0
comp=Z,58nm,1.8s
SKO **Skopje** 85.66 350 *i* P P 08 26 50.0 0.0
STVI **Saint Thomas** 85.69 66 *e* P P 08 26 50.2 -0.3
comp=Z,38nm,0.6s
PSET **Sete Cidades** 85.77 26 *e* LR LR 08 55 28.2
comp=Z,1μm,22.5s
MMB **Musomiste** 85.77 348 *e* P P 08 26 50.0 -0.6
PGF **Pioggiola** 85.80 359 *e* P P 08 26 50.2 -0.6
PGF pmax pmax
comp=Z,101nm,0.9s
CMLA **Cha da Macela** 85.88 26 *e* LR LR 08 55 26.4
comp=Z,483nm,18.4s
CMLA **Cha da Macela** 85.88 26 PFAKE 08 27 00.0 +8.8
CMLA LR LR
comp=Z,2μm,20.0s
AQU **L'Aquila** 85.88 356 *e* P P 08 26 51.6 +0.4
AQU pmax pmax
comp=Z,42nm,0.8s
AQU MLR MLR
comp=Z,1μm,21.0s
AQU **L'Aquila** 85.88 356 *e* P P 08 26 51.6 +0.4
comp=Z,42nm,0.8s
AQU LR LR
comp=Z,1μm,21.0s
BR101 **Keskin Array S** 85.95 341 *e* P P 08 26 51.4 -0.3
BR131 **Keskin Array S** 85.95 341 *e* P P 08 26 51.9 +0.2
BRTR **Keskin Array B** 85.95 341 P P 08 26 51.4 -0.3
comp=Z,11nm,0.6s,baz=27,slow=2.9,SNR=34
BRTR PKKPbc PKKPbc 08 44 49.0 -0.4
comp=Z,1.7nm,0.7s,baz=181,slow=5.2,SNR=7.5
BRTR LR LR 09 09 16.9
comp=Z,1μm,21.6s,baz=32,slow=38
BRTR **Keskin Array B** 85.95 341 *i* P P 08 26 51.9 +0.2
BRTR pmax pmax
comp=Z,11nm,0.6s
POLO **Lamas de Olo** 85.95 12 *e* P P 08 26 51.1 -0.5
RDO **Rodhopi** 85.97 347 P P 08 26 51.7 +0.2
ANTO **Ankara** 85.98 341 *e* P P 08 26 51.5 -0.2
ANTO pmax pmax
comp=Z,66nm,1.5s
ANTO MLR MLR
comp=Z,1μm,22.0s
ANTO **Ankara** 85.98 341 *e* P P 08 26 51.5 -0.2
comp=Z,66nm,1.5s
ANTO LR LR
comp=Z,1μm,22.0s
ANTO **Ankara** 85.98 341 P P 08 26 52.1 +0.3
SNR=5.5
ANTO **Ankara** 85.98 341 P P 08 26 52.1 +0.3
SNR=5.5
NVR **Nevrokopi** 85.99 348 P P 08 26 52.4 +0.7
BR231 **Keskin MP Arra** 86.01 341 *e* P P 08 26 52.3 +0.4
PVRL **Vila Real** 86.06 12 *e* P P 08 26 51.9 -0.1
ALN **Alexandroupoli** 86.14 346 P P 08 26 53.1 +0.7
VAY **Valandovo** 86.18 349 *i* P P 08 26 52.8 +0.2
MVO **Moncorvo** 86.25 11 *e* P P 08 26 53.0 0.0
comp=Z,40nm,2.2s
MVO **Moncorvo** 86.25 11 *e* LR LR 08 55 56.7
comp=Z,1μm,22.0s
KAVA **Kavala** 86.26 348 P P 08 26 53.4 +0.5
SRS **Serrai** 86.26 348 P P 08 26 52.7 -0.3
KNT **Kendrikon** 86.30 349 P P 08 26 53.2 0.0
RPR **Rampur** 86.33 296 *e* P P 08 26 52.2 -1.5
RPR IAmb IAmb 08 26 54.8
comp=Z,104nm,1.2s
RPR *e* PP PP 08 30 13.4 -1.2
RPR *e* SKSac SKSac 08 37 14.7 -1.8
RPR IVMs_BB IVMs_BB 09 07 27.8
comp=Z,648nm,19.2s
TIR **Tirane** 86.44 351 PFAKE 08 27 10.0 +16
TIR LR LR
comp=Z,3μm,20.0s
MARD **Mardin** 86.56 334 *e* P P 08 26 55.2 +0.5
comp=Z,122nm,1.2s
MARD LR LR
comp=Z,2μm,22.0s
OHR **Ohrid** 86.58 350 *i* P P 08 26 54.3 -0.4
PVIS **Viseu** 86.59 12 *e* P P 08 26 54.4 -0.3
comp=Z,48nm,0.8s
PSMN **Pico do Norte,** 86.72 26 *e* LR LR 08 55 30.1
comp=Z,1μm,21.0s
SRSP **Sriramsagar** 86.80 297 *e* P P 08 26 54.2 -1.8
SRSP IAmb IAmb 08 26 56.6
comp=Z,60nm,1.0s
SRSP *e* PP PP 08 30 18.3 -0.1
SRSP *e* SKSac SKSac 08 37 16.6 -2.9
SRSP IVMs_BB IVMs_BB 09 09 03.4
comp=Z,911nm,21.2s
FNA **Florina** 86.84 350 P P 08 26 55.5 -0.4
FNA **Florina** 86.84 350 P P 08 26 55.3 -0.6
MTE **Manteigas** 86.94 12 *e* P P 08 26 56.5 +0.1
MTE A A 09 02 41.1
comp=Z,1μm,24.0s
MTE **Manteigas** 86.94 12 *e* P P 08 26 56.0 -0.4
comp=Z,36nm,1.1s
MTE LR LR
comp=Z,2μm,22.0s
OUR **Ouranopolis** 86.98 348 P P 08 26 56.2 -0.3
SMRT **St. Maarten** 86.99 64 PFAKE 08 27 10.0 +13
SMRT LR LR
comp=Z,1μm,20.0s
LHI **Lord Howe Isla** 87.01 205 PFAKE 08 27 10.0 +14
LHI LR LR
comp=Z,1μm,22.0s
PCAS **Casmilo, Conde** 87.16 13 *e* P P 08 26 57.0 -0.4
comp=Z,70nm,1.3s
SABA **Saba** 87.24 65 PFAKE 08 27 10.0 +12
SABA LR LR
comp=Z,2μm,20.0s
PSI **Prapat** 87.31 271 *e* P P 08 26 57.9 -0.7
PSI **Prapat** 87.31 271 *e* P P 08 26 57.9 -0.7
comp=Z,147nm,0.9s
PSI LR LR
comp=Z,800nm,22.0s
BOLV **Bolvadin** 87.45 342 PFAKE 08 27 10.0 +11
BOLV LR LR
comp=Z,2μm,22.0s
SEUS **St. Eustatius** 87.49 65 PFAKE 08 27 10.0 +11
SEUS LR LR
comp=Z,1μm,20.0s
PCBR **Castelo Branco** 87.50 12 *e* P P 08 26 59.7 +0.7
PTOM **Tomar** 87.60 13 *e* P P 08 26 59.2 -0.3
comp=Z,68nm,0.7s
KPRO **Kipourio** 87.66 350 P P 08 26 59.5 -0.4
OUZ **Omahuta** 87.81 192 PFAKE 08 27 10.0 +10
OUZ LR LR
comp=Z,2μm,20.0s
HYBB **Hyderabad (bro** 87.91 296 *e* P P 08 26 59.9 -1.4
HYBB IAmb IAmb 08 27 02.5
comp=Z,132nm,0.8s
HYBB *e* PP PP 08 30 28.2 +0.8
HYBB *e* SKSac SKSac 08 37 23.4 -3.0
HYBB IVMs_BB IVMs_BB 09 08 44.2
comp=Z,487nm,14.8s
HYB **Hyderabad** 87.91 296 ⇑ *i* P P 08 27 00.5 -0.8
comp=Z,100nm,1.0s
HYB *e* 08 27 28.0
PMRV **Marv??o** 87.92 12 *e* P P 08 27 00.8 -0.3
comp=Z,38nm,1.7s
PMRV **Marv??o** 87.92 12 *e* LR LR 08 56 53.9
comp=Z,1μm,18.0s
BKNI **Bangkinang** 87.93 268 PFAKE 08 27 10.0 +8.6
BKNI LR LR
comp=Z,400nm,21.0s
THL **Klokotos Trika** 87.98 349 P P 08 27 00.3 -1.0
ANWB **Willy Bob** 88.01 64 PFAKE 08 27 10.0 +8.2
ANWB LR LR
comp=Z,1μm,20.0s
XOR **Xorichti** 88.03 348 P P 08 27 00.8 -0.8
ES19 **SONSECA Array** 88.05 9 *e* P P 08 27 01.2 -0.6
ESDC **Sonseca Array** 88.07 9 P P 08 27 01.2 -0.6
comp=Z,14nm,0.7s,baz=349,slow=4.6,SNR=43
ESDC LR LR 09 06 32.4
comp=Z,529nm,20.9s,baz=350,slow=36
ESLA **Sonseca Array** 88.07 9 *e* P P 08 27 01.6 -0.2
comp=Z,15nm,0.8s
ESLA LR LR
comp=Z,1μm,22.0s
MANT **Manisa** 88.10 344 PFAKE 08 27 10.0 +7.8
MANT LR LR
comp=Z,2μm,21.0s
CUC **Castrocucco** 88.11 354 PFAKE 08 27 10.0 +8.0
CUC LR LR
comp=Z,500nm,20.0s
ARMA **Armidale** 88.11 211 *e* P P 08 27 02.6 +0.7
comp=Z,92nm,1.9s
ARMA LR LR
comp=Z,3μm,21.0s
PMAFR **Mafra** 88.13 13 *e* P P 08 27 01.2 -0.9
comp=Z,248nm,1.9s
PAB **San Pablo** 88.15 10 PFAKE 08 27 10.0 +7.7
PAB LR LR
comp=Z,2μm,22.0s
NJS **Nagarjunasagar** 88.18 295 *e* P P 08 27 01.6 -1.0
NJS IAmb IAmb 08 27 03.6
comp=Z,101nm,1.4s
NJS *e* PP PP 08 30 32.9 +3.4
NJS *e* SKSac SKSac 08 37 26.1 -1.8

NJS IVMs_BB IVMs_BB 09 07 16.1
comp=Z,329nm,3.9s
DRWC Darouich 88.25 337 *e*P **P** **08 27 05.2 +2.4**
FITZ Fitzroy Crossi 88.35 238 P **P** **08 27 03.0 -0.1**
comp=Z,18nm,0.8s,baz=17,slow=5.1,SNR=40
FITZ Fitzroy Crossi 88.35 238 *e*P **P** **08 27 03.0 -0.1**
comp=Z,24nm,0.9s
KSRV Kasrt alli 88.39 335 *e*P **P** **08 27 05.9 +2.5**
PESTR Estremoz 88.45 12 *e*P **P** **08 27 02.8 -0.8**
comp=Z,44nm,1.7s
KLRI Killari 88.46 298 *e*P **P** **08 27 02.8 -1.2**
KLRI IAmb IAmb 08 27 04.9
comp=Z,169nm,0.8s
KLRI *e*PP **PP** **08 30 36.1 +4.3**
KLRI *e*SKSac **SKSac** **08 37 25.3 -4.3**
KLRI IVMs_BB IVMs_BB 09 10 25.1
comp=Z,1μm,15.3s
AGG Agios Georgios 88.48 349 *e*P **P** **08 27 02.6 -1.1**
AGG pmax pmax
comp=Z,110nm,1.2s
AGG Agios Georgios 88.48 349 *e*P **P** **08 27 02.5 -1.3**
comp=Z,107nm,1.2s
AGG LR LR
comp=Z,4μm,21.0s
DSL Palaion Diasel 88.50 350 P **P** **08 27 04.0 +0.1**
EVR Evrytania 88.64 349 P **P** **08 27 04.7 +0.1**
EVO Evora 88.72 13 *e*P **P** **08 27 04.4 -0.4**
SRLM Srisailam 88.78 295 *e*P **P** **08 27 04.8 -0.7**
SRLM IAmb IAmb 08 27 06.4
comp=Z,156nm,1.5s
SRLM *e*PP **PP** **08 30 37.3 +2.9**
SRLM *e*SKSac **SKSac** **08 37 29.2 -2.3**
SRLM IVMs_BB IVMs_BB 09 08 54.4
comp=Z,302nm,4.2s
AS01 Alice Springs 88.98 228 *e*P **P** **08 27 05.7 -0.3**
AS31 Alice Springs 89.00 228 *e*P **P** **08 27 06.0 -0.2**
comp=Z,14nm,0.9s
ASAR Alice Springs 89.00 228 P **P** **08 27 06.0 -0.2**
comp=Z,37nm,0.8s,baz=32,slow=4.9,SNR=200
ASAR PKKPbc **PKKPbc** **08 44 43.9 +0.8**
comp=Z,0.5nm,0.7s,baz=185,slow=2.5,SNR=4.7
ASAR LR LR 09 02 27.2
comp=Z,1μm,21.4s,baz=43,slow=32
ASAR Alice Springs 89.00 228 P **P** **08 27 06.0 -0.2**
ASAR pmax pmax
comp=Z,37nm,0.8s
DSF Desfina 89.06 349 P **P** **08 27 05.1 -1.4**
PNCL Nicolau / Gran 89.06 13 *e*P **P** **08 27 07.2 +0.8**
HELC Santa Helena 89.08 81 *e*P **P** **08 27 06.4 -0.9**
comp=Z,58nm,1.3s
KALE Kalithea 89.12 349 P **P** **08 27 06.1 -0.7**
ARNB Al Arnab 89.14 338 *e*P **P** **08 27 07.7 +0.7**
GDHS Morne Mazeau, 89.15 64 *e*P **P** **08 27 07.9 +0.7**
comp=Z,142nm,1.1s
GDHS LR LR
comp=Z,2μm,21.0s
PBAR Barrancos 89.20 12 *e*P **P** **08 27 06.5 -0.6**
PBEJ Beja 89.24 13 *e*P **P** **08 27 07.6 +0.3**
RCLA Racherla 89.27 294 *e*P **P** **08 27 06.5 -1.3**
RCLA IAmb IAmb 08 27 08.9
comp=Z,84nm,1.1s
RCLA *e*PP **PP** **08 30 39.8 +1.6**
RCLA ⇑*e*SKS **SKSac** **08 37 31.4 -2.9**
RCLA *e* 08 37 53.7
RCLA IVMs_BB IVMs_BB 09 09 28.6
comp=Z,417nm,4.0s
MESJ Messejana 89.37 13 *e*P **P** **08 27 07.9 0.0**
MESJ AMS AMS 09 06 31.0
comp=Z,851nm,19.3s
MESJ Messejana 89.37 13 *e*P **P** **08 27 07.9 0.0**
LTK Loutraki 89.38 348 P **P** **08 27 06.5 -1.5**
KLV Kalavryta, Ach 89.46 349 P **P** **08 27 07.9 -0.5**
PTEO Sao Teotonio 89.59 13 *e*P **P** **08 27 09.8 +0.9**
comp=Z,121nm,1.5s
PCVE Castro Verde 89.60 13 *e*P **P** **08 27 08.8 -0.2**
MXZ Matakaoa Point 89.63 188 PFAKE 08 27 20.0 +11
MXZ LR LR
comp=Z,2μm,20.0s
CEL Celeste 89.83 354 PFAKE 08 27 20.0 +10
CEL LR LR
comp=Z,1μm,22.0s
MORF Marmelete 89.84 13 *e*P **P** **08 27 10.0 -0.2**
MORF AMS AMS 09 07 12.8
comp=Z,1μm,21.8s
MORF Marmelete 89.84 13 *e*P **P** **08 27 10.7 +0.5**
MORF Marmelete 89.84 13 *e*P **P** **08 27 10.0 -0.2**
PVAQ Vaqueiros 89.87 13 *e*P **P** **08 27 10.2 0.0**
PVAQ Vaqueiros 89.87 13 *e*LR LR 08 57 49.6
comp=Z,1μm,20.0s
SDV Santo Domingo 89.92 76 *e*P **P** **08 27 11.5 +0.5**
comp=Z,35nm,0.8s
PFVI Vila Bisbo 89.98 13 PFAKE 08 27 20.0 +9.2
PFVI LR LR
comp=Z,2μm,19.0s
PBDV Barranco-do-Ve 90.00 13 *e*P **P** **08 27 12.6 +1.7**
VLX Vlachokerasia 90.10 349 P **P** **08 27 10.0 -1.5**
AKAS Kas 90.11 343 PFAKE 08 27 20.0 +8.4
AKAS LR LR
comp=Z,1μm,20.0s
SKHT Srikalahasti 90.22 293 *e*P **P** **08 27 11.7 -0.5**
SKHT IAmb IAmb 08 27 13.7
comp=Z,53nm,1.2s
SKHT *e*PP **PP** **08 30 43.1 -2.8**
SKHT *e*SKSac **SKSac** **08 37 38.6 -1.4**
SKHT IVMs_BB IVMs_BB 09 11 25.7
comp=Z,466nm,21.5s
URZ Urewera 90.43 189 PFAKE 08 27 20.0 +7.6
URZ LR LR
comp=Z,2μm,21.0s
CSS Mathiatis 90.60 340 *e*P **P** **08 27 14.7 +1.0**
comp=Z,6.0nm,0.8s
CSS LR LR
comp=Z,200nm,22.0s
URV Uravakonda 90.63 295 *e*P **P** **08 27 12.5 -1.6**
URV IAmb IAmb 08 27 15.0
comp=Z,77nm,1.2s
URV *e*PP **PP** **08 30 49.1 0.0**
URV *e*SKSac **SKSac** **08 37 38.7 -3.6**
URV IVMs_BB IVMs_BB 09 09 06.2
comp=Z,556nm,27.6s
SANT Santorini 90.67 346 PFAKE 08 27 30.0 +16
SANT LR LR
comp=Z,2μm,22.0s
VLI Velíai 90.67 348 P **P** **08 27 12.4 -1.6**
FDF Fort de France 90.74 65 PFAKE 08 27 30.0 +15
FDF LR LR
comp=Z,1μm,20.0s
MARH Ras Al Marh 90.77 337 *e*P **P** **08 27 15.5 +0.6**
RUSC La Rusia 90.80 79 *e*P **P** **08 27 15.2 -0.3**
comp=Z,19nm,0.9s
RUSC LR LR
comp=Z,200nm,20.0s
ROSC El Rosal 90.87 81 P **P** **08 27 16.4 +0.7**
comp=Z,11nm,0.7s,baz=137,slow=4.0,SNR=14
ROSC LR LR 09 10 28.6
comp=Z,188nm,19.8s,baz=351,slow=37
ROSC El Rosal 90.87 81 PFAKE 08 27 30.0 +14
ROSC LR LR
comp=Z,200nm,21.0s
HIZ Hauiti 90.91 190 PFAKE 08 27 30.0 +15
HIZ LR LR
comp=Z,3μm,20.0s
KARP Karpathos 91.21 345 PFAKE 08 27 30.0 +13
KARP LR LR
comp=Z,400nm,21.0s
BKZ Black Stump Fm 91.39 189 PFAKE 08 27 30.0 +13
BKZ LR LR
comp=Z,3μm,21.0s
PRAC Prado 91.41 82 *e*P **P** **08 27 17.5 -0.3**
comp=Z,43nm,0.8s
PRAC LR LR
comp=Z,400nm,19.0s
ANKY Antikythira Is 91.47 348 P **P** **08 27 17.1 -0.6**
BRBR Barbar 91.49 337 *e*P **P** **08 27 18.6 +0.5**
BANOM Banah 91.66 318 P **P** **08 27 17.4 -1.4**
IDI Anoyia 91.81 346 PFAKE 08 27 30.0 +11
IDI LR LR
comp=Z,1μm,22.0s
SVB Belmont 91.87 66 PFAKE 08 27 30.0 +10
SVB LR LR
comp=Z,1μm,21.0s
OTAV Otavalo 91.94 87 *e*P **P** **08 27 21.1 +0.4**
comp=Z,15nm,0.8s
SALA Sala 91.96 336 *e*P **P** **08 27 20.6 +0.3**
WDD Wied Dalam 92.32 355 PFAKE 08 27 30.0 +8.4
WDD LR LR
comp=Z,700nm,20.0s
UOSS Minazif 92.56 317 *e*P **P** **08 27 21.6 -1.3**
comp=Z,27nm,0.9s
UOSS LR LR
comp=Z,1μm,20.0s
GRGR Grenville 92.57 67 PFAKE 08 27 30.0 +6.9
GRGR LR LR
comp=Z,1μm,21.0s
KEST Kesra 92.60 359 P **P** **08 27 23.0 -0.1**
comp=Z,7.2nm,0.9s,baz=99,slow=1.0,SNR=6.5
KEST Kesra 92.60 359 *e*P **P** **08 27 22.8 -0.2**
comp=Z,20nm,1.1s
KEST LR LR
comp=Z,2μm,22.0s
HATD Hatta, Dubai 92.70 317 *i*P **P** **08 27 22.2 -1.4**
SNR=8.5
NAZ Nazwa, Dubai 92.75 318 *i*P **P** **08 27 22.2 -1.6**
SNR=8.2
ASHO Ashiyiah 92.86 317 *i*P **P** **08 27 22.9 -1.5**
SNR=10
BFZ Birch Farm 92.91 189 PFAKE 08 27 40.0 +16
BFZ LR LR
comp=Z,3μm,22.0s
BBGH Gun Hill 92.93 64 PFAKE 08 27 40.0 +15
BBGH LR LR
comp=Z,1μm,18.0s
STKA Stephens Creek 92.95 218 P **P** **08 27 24.2 -0.1**
comp=Z,7.7nm,0.8s,baz=351,slow=5.3,SNR=7.6
STKA LR LR 09 04 05.6
comp=Z,3μm,21.9s,baz=22,slow=32
STKA Stephens Creek 92.95 218 *e*P **P** **08 27 24.1 -0.2**
comp=Z,12nm,1.6s
STKA LR LR
comp=Z,900nm,20.0s
FAQ Al Faqa, Dubai 93.00 318 *i*P **P** **08 27 23.7 -1.2**
SNR=9.7
CAN Canberra 93.47 211 PFAKE 08 27 40.0 +13
CAN LR LR
comp=Z,2μm,21.0s
SNZO South Karori 93.69 190 PFAKE 08 27 40.0 +13
SNZO LR LR
comp=Z,2μm,20.0s
THZ Tophouse 94.34 191 PFAKE 08 27 40.0 +9.5
THZ LR LR
comp=Z,2μm,22.0s
PALK Pallekele 94.84 288 *i*P **P** **08 27 35.3 +1.7**
PALK Pallekele 94.84 288 *e*P **P** **08 27 34.2 +0.6**
comp=Z,50nm,1.0s
PALK LR LR
comp=Z,800nm,22.0s
KHZ Kahutara 94.91 191 PFAKE 08 27 40.0 +7.0
KHZ LR LR
comp=Z,3μm,19.0s
LTZ Lake Taylor 95.43 192 PFAKE 08 27 50.0 +15
LTZ LR LR
comp=Z,3μm,22.0s
FOZ Fox Glacier 96.49 193 PFAKE 08 27 50.0 +10
FOZ LR LR
comp=Z,2μm,20.0s
RPZ Rata Peaks 96.50 192 PFAKE 08 27 50.0 +10
RPZ LR LR
comp=Z,3μm,21.0s
PTGA Pitinga 103.92 73 PFAKE 08 28 30.0 +16
PTGA LR LR
comp=Z,1μm,22.0s
TAM Tamanrasset 105.47 2 PFAKE 08 32 50.0
TAM LR LR
comp=Z,900nm,21.0s
SACV Santiago Islan 107.82 32 PFAKE 08 32 50.0
SACV LR LR
comp=Z,2μm,21.0s
SAML Samuel 108.50 81 PFAKE 08 32 50.0
SAML LR LR
comp=Z,400nm,22.0s
FURI Furi 113.88 327 PFAKE 08 33 00.0
FURI LR LR
comp=Z,1μm,20.0s
TOC1 Torodi Ar. Sit 114.83 7 PFAKE 08 33 00.0 +7.8
TOC1 LR LR
comp=Z,1μm,20.0s
TOC7 Torodi Ar. Sit 114.84 7 PFAKE 08 33 00.0 +7.8
TOC7 LR LR
comp=Z,1μm,20.0s
TOB5 Torodi Ar. Sit 114.85 7 PFAKE 08 33 00.0 +7.8
TOB5 LR LR
comp=Z,1μm,20.0s
TOC2 Torodi Ar. Sit 114.85 7 PFAKE 08 33 00.0 +7.8
TOC2 LR LR
comp=Z,1μm,20.0s
TOA1 Torodi Ar. Sit 114.85 7 *e*PKiKP **PKiKP** **08 32 51.3 -0.9**
TOA1 LR LR
comp=Z,1μm,20.0s
TOB2 Torodi Ar. Sit 114.85 7 PFAKE 08 33 00.0 +7.8
TOB2 LR LR
comp=Z,1μm,21.0s
TOA0 Torodi Ar. Sit 114.86 7 PFAKE 08 33 00.0 +7.8
TOA0 LR LR
comp=Z,1μm,20.0s
TORD Torodi Ar. Bea 114.86 7 PKP PKPdf 08 32 51.3 -0.9
comp=Z,3.4nm,0.7s,baz=342,slow=2.7,SNR=18
TORD PKKPbc **PKKPbc** **08 43 26.7 -0.2**
comp=Z,1.5nm,0.7s,baz=167,slow=2.6,SNR=8.2
TOB4 Torodi Ar. Sit 114.86 7 PFAKE 08 33 00.0 +7.8
TOB4 LR LR
comp=Z,1μm,20.0s
TOB3 Torodi Ar. Sit 114.87 7 PFAKE 08 33 00.0 +7.8
TOB3 LR LR
comp=Z,1μm,21.0s
TOC3 Torodi Ar. Sit 114.87 7 PFAKE 08 33 00.0 +7.7
TOC3 LR LR
comp=Z,1μm,20.0s
TOC5 Torodi Ar. Sit 114.87 7 PFAKE 08 33 00.0 +7.7
TOC5 LR LR
comp=Z,1μm,20.0s
TOC4 Torodi Ar. Sit 114.88 7 PFAKE 08 33 00.0 +7.7
TOC4 LR LR
comp=Z,1μm,20.0s
MSEY Mahe Island 118.73 303 PFAKE 08 33 10.0 +10
MSEY LR LR
comp=Z,800nm,21.0s
TIC Toumodi 120.48 15 *e*PKiKP **PKPdf** **08 33 02.2 -0.9**
DBIC Dimbokro 120.48 15 PKP **PKPdf** **08 33 02.3 -0.8**
comp=Z,3.4nm,0.5s,baz=322,slow=2.6,SNR=10
KIC Kosan Boka 120.81 15 *e*PKiKP **PKPdf** **08 33 02.7 -1.0**
comp=Z,194nm,2.1s
LIC Lamto 120.89 15 *e*PKiKP **PKPdf** **08 33 02.7 -1.2**
comp=Z,68nm,1.6s
RCBR Riachuelo 121.43 54 PFAKE 08 33 20.0 +15
RCBR LR LR
comp=Z,2μm,20.0s
KMBO Kilima Mbogo 123.70 324 PKP **PKPdf** **08 33 09.6 0.0**
comp=Z,6.6nm,0.9s,baz=11,slow=3.0,SNR=11
KMBO Kilima Mbogo 123.70 324 *e*PKPdf **PKPdf** **08 33 09.9 +0.3**
KMBO LR LR
comp=Z,800nm,20.0s
CPUP Villa Florida 125.27 89 PKP **PKPdf** **08 33 11.2 -0.6**
comp=Z,4.0nm,0.6s,baz=324,slow=2.0,SNR=18
PLCA Paso Flores 127.12 111 PKP **PKPdf** **08 33 14.9 -0.1**
comp=Z,10nm,0.8s,baz=300,slow=2.2,SNR=23
SPB Sao Paulo 129.32 78 PFAKE 08 33 30.0 +10
SPB LR LR
comp=Z,800nm,19.0s
VNDA Vanda 130.31 187 PKP **PKPdf** **08 33 20.1 +0.3**
comp=Z,1.3nm,0.6s,baz=11,slow=2.7,SNR=11
VNDA SKPbc **SKPab** **08 36 39.1 -0.2**
comp=Z,7.5nm,1.1s,baz=357,slow=4.2,SNR=16
VNDA Vanda 130.31 187 *e*PKPdf **PKPdf** **08 33 21.1 +1.2**
TRQA Tornquist 130.45 103 *e*PKPdf **PKPdf** **08 33 21.4 0.0**
ASCN Ascension 132.32 31 PFAKE 08 33 40.0 +14
ASCN LR LR
comp=Z,1μm,19.0s
QSPA South Pole Qui 141.79 180 *e*PKPpre PKPpre 08 33 35.5
QSPA LR LR
comp=Z,700nm,20.0s
PMSA Palmer Station 142.34 138 PFAKE 08 33 50.0 +7.6
PMSA LR LR
comp=Z,2μm,22.0s
MATP Matopo 144.68 326 *i*P **PKPab** **08 33 46.3 -0.6**
MAW Mawson 149.64 218 PKPbc **PKPbc** **08 33 59.5 +0.1**
comp=Z,48nm,0.8s,baz=107,slow=1.9,SNR=75
MAW Mawson 149.64 218 *e*PKPbc **PKPbc** **08 33 59.5 +0.1**
MAW LR LR
comp=Z,200nm,19.0s
LBTB Lobatse 149.91 327 *e*PKP2 **PKPbc** **08 34 02.2 +0.6**
LBTB Lobatse 149.91 327 *e*PKPbc **PKPbc** **08 34 02.2 +0.6**
BOSA Boshof 153.34 325 *i*P **PKPbc** **08 34 10.3 +0.9**
BOSA Boshof 153.34 325 PKP **PKPdf** **08 34 01.1 -0.7**
comp=Z,4.9nm,0.9s,baz=45,slow=1.4,SNR=4.0
BOSA PKPbc **PKiKP** **08 34 09.6 +0.1**
comp=Z,16nm,0.5s,baz=9.7,slow=2.3,SNR=22
BOSA PKPab **PKPab** **08 34 21.7 +0.3**
comp=Z,26nm,0.7s,baz=51,slow=3.6,SNR=9.3
BOSA Boshof 153.34 325 *e*PKPdf **PKPdf** **08 34 01.1 -0.7**
BOSA *e*PKPbc **PKiKP** **08 34 09.6 +0.1**
BOSA *e*PKPbc **PKPbc** **08 34 10.1 +0.8**
BOSA *e*PKPab **PKPab** **08 34 21.7 +0.3**
SYO Syowa Base 157.42 209 ‖ *e*PKPdf **PKPdf** **08 34 07.4 +1.6**
VNA3 Neumayer Olymp 159.13 164 PKP **PKPdf** **08 34 06.7 -1.2**
SNAA Sanae 159.69 170 PKP **PKPdf** **08 34 07.4 -1.3**
SNAA Sanae 159.69 170 *e*PKIKP **PKPdf** **08 34 06.9 -1.7**
SNAA MLR MLR
comp=Z,2μm,20.0s
SNAA Sanae 159.69 170 *e*PKPdf **PKPdf** **08 34 06.9 -1.7**
SNAA LR LR
comp=Z,2μm,20.0s
VNA2 Neumayer--Watz 159.78 165 PKP **PKPdf** **08 34 07.1 -1.5**
baz=310,slow=2.4
VNA1 Neumayer--Stat 159.88 164 PKP PKPpre 08 34 03.9
NVL N'lazarevskaya 161.12 184 *e*PKIKP **PKPdf** **08 34 11.3 +1.2**

IDC 19 08:19:27.9±16.0, 20.99°S×174.70°W, h0km, mb4.5/5, mb1 4.7/5, mb1mx4.0/30, mbtmp4.5/5, MS3.2/1, Ms1 3.2/1, ms1mx2.8/23, Error ellipse: s-maj=309.2km s-min=141.4km az=81.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RAR	**Rarotonga**	**13.94**	**94**	LR	LR	08 28 10.4	
	comp=Z,90nm,19.1s,baz=274,slow=38						
CTA	**Charters Tower**	**36.51**	**264**	P	P	08 26 36.5	+1.2
	10nm,0.5s,baz=94,slow=10,SNR=13						
STKA	**Stephens Creek**	**40.37**	**245**	P	P	08 27 06.9	-0.7
	3.9nm,0.6s,baz=75,slow=7.8,SNR=6.1						
ASAR	**Alice Springs**	**47.41**	**257**	P	P	08 28 03.4	-1.0
	3.1nm,0.5s,baz=89,slow=7.6,SNR=10						
WRA	**Warramunga Arr**	**47.59**	**262**	P	P	08 28 05.2	-0.6
	2.9nm,0.3s,baz=96,slow=8.5,SNR=88						
FITZ	**Fitzroy Crossi**	**56.02**	**262**	P	P	08 29 09.2	+0.4
	2.2nm,0.6s,baz=78,slow=6.6,SNR=12						

CSEM ***19*** *08:35:04.7, 40.12°N×20.24°E, h16km, ML2.1/3*
ATH 19 08:35:04.7, 40.00°N×20.23°E, h42km±2km, ML2.0/3, Error ellipse: s-maj=9.0km s-min=2.0km az=359.0, Greece-Albania border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KEK	**Kerkira**	**0.44**	**230**	P	Pn	08 35 15.0	+0.2
KEK				S	Sn	08 35 23.5	+1.6
KEK	**Kerkira**	**0.44**	**230**	P	Pn	08 35 14.9	+0.1
KEK				S	Sn	08 35 23.6	+1.7
KEK				AML	AML	08 35 30.8	
	comp=N,254μm,0.3s						
KEK				AML	AML	08 35 33.2	
	comp=E,266μm,0.3s						
JAN	**Janina**	**0.59**	**125**	P	Pn	08 35 17.4	+0.7
JAN				S	Sn	08 35 26.4	+1.1
JAN	**Janina**	**0.59**	**125**	P	Pn	08 35 17.4	+0.7
JAN				AML	AML	08 35 24.7	
	comp=E,646μm,0.2s						
JAN				AML	AML	08 35 24.7	
	comp=N,611μm,0.4s						
JAN				S	Sn	08 35 26.6	+1.4
DSL	**Palaion Diasel**	**1.09**	**142**	P	Pn	08 35 24.4	+0.8
DSL				S	Sn	08 35 38.1	+0.6
DSL	**Palaion Diasel**	**1.09**	**142**	P	Pn	08 35 24.2	+0.7
DSL				S	Sn	08 35 38.3	+0.8
DSL				AML	AML	08 35 39.1	
	comp=E,122μm,0.3s						
DSL				AML	AML	08 35 44.7	
	comp=N,140μm,0.6s						
PDO	**Prodromos**	**1.58**	**152**	P	Pn	08 35 33.0	+2.7
PDO	**Prodromos**	**1.58**	**152**	P	Pn	08 35 32.9	+2.7
PVO	**Paravola**	**1.71**	**144**	P	Pn	08 35 33.7	+1.7
PVO	**Paravola**	**1.71**	**144**	P	Pn	08 35 33.4	+1.5
VLS	**Valsamata**	**1.84**	**171**	P	Pn	08 35 35.2	+1.4
VLS	**Valsamata**	**1.84**	**171**	P	Pn	08 35 35.3	+1.4

ISCJB ***19*** *08:39:01.9±0.2, 44.61°N±0.02×10.27°E±0.03, h25km±3km, Error ellipse: s-maj=3.7km s-min=2.7km az=43.3*
GEN ***19*** *08:39:01.2, 44.64°N×10.23°E, h24km, ML2.9*
CSEM ***19*** *08:39:01.3±0.1, 44.66°N×10.27°E, h10km, ML3.0/13, Error ellipse: s-maj=3.8km s-min=2.8km az=114.0*
ROM ***19*** *08:39:01.4±0.1, 44.63°N×10.24°E, h24km±3km, Ml2.9/11, Error ellipse: s-maj=2.6km s-min=2.5km az=114.0*
LDG ***19*** *08:39:02.4±0.1, 44.61°N×10.24°E, h2km, Ml2.9/7, Error ellipse: s-maj=3.0km s-min=2.6km az=42.0*
ISC 19 08:39:01.5±0.9, 44.63°N±0.02×10.24°E±0.02, h18km±3km, n94, σ1.25/148, Northern Italy

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PRMA	**PARMA**	**0.14**	**22**	Pg	**Pg**	**08 39 05.6**	**-0.1**
PRMA				Sg	**Sg**	**08 39 10.1**	**+1.5**
PRMA	**PARMA**	**0.14**	**22**	Pg	**Pg**	**08 39 05.6**	**-0.1**
GRAM	**Graiana**	**0.18**	**221**	P	**Pb**	**08 39 06.1**	**+0.3**
GRAM				S	**Sg**	**08 39 10.3**	**+0.7**
NOVE	**Novellara**	**0.38**	**64**	Pg	**Pg**	**08 39 09.2**	**-0.3**
NOVE				Sg	**Sb**	**08 39 17.0**	**+1.6**
	1μm,0.2s						
NOVE	**Novellara**	**0.38**	**64**	Pg	**Pg**	**08 39 09.2**	**-0.3**
SARO	**Sassorosso**	**0.46**	**165**	P	**Pg**	**08 39 10.3**	**-0.6**
SARO				S	**Sg**	**08 39 17.5**	**+0.3**
VLC	**Villacollemand**	**0.48**	**167**	Pg	**Pg**	**08 39 11.0**	**-0.3**
VLC				Sg	**Sb**	**08 39 18.6**	**+0.4**
VLC	**Villacollemand**	**0.48**	**167**	Pg	**Pg**	**08 39 11.0**	**-0.3**
VLC				Sg	**Sb**	**08 39 18.6**	**+0.4**
SC2M	**Scurtabo**	**0.55**	**246**	Pg	**Pb**	**08 39 12.3**	**-0.3**
SC2M				Sg	**Sn**	**08 39 21.8**	**-1.4**
	435nm,0.3s						
SC2M	**Scurtabo**	**0.55**	**246**	Pg	**Pb**	**08 39 12.3**	**-0.3**
SC2M				Sg	**Sn**	**08 39 21.8**	**-1.4**
	435nm,0.3s						
BOB	**Bobbio (Coli)**	**0.58**	**284**	Pg	**Pg**	**08 39 13.6**	**+0.5**
	216nm,0.4s						
BOB	**Bobbio (Coli)**	**0.58**	**284**	Pg	**Pg**	**08 39 13.6**	**+0.5**
	216nm,0.4s						
ZCCA	**Zocca**	**0.60**	**117**	Pg	**Pg**	**08 39 14.5**	**+1.1**
ZCCA				Sg	**Sg**	**08 39 22.3**	**+0.8**
	132nm,0.5s						
ZCCA	**Zocca**	**0.60**	**117**	Pg	**Pg**	**08 39 14.5**	**+1.1**
ZCCA				Sg	**Sg**	**08 39 22.3**	**+0.8**
	132nm,0.5s						
MSSA	**Maissana**	**0.60**	**239**	Pg	**Pb**	**08 39 13.2**	**-0.3**
MSSA				Sg	**Sg**	**08 39 22.6**	**+1.0**
	366nm,1.4s						
MSSA	**Maissana**	**0.60**	**239**	Pg	**Pb**	**08 39 13.2**	**-0.3**
MSSA				Sg	**Sg**	**08 39 22.6**	**+1.0**
	366nm,1.4s						
BDI	**Bagni Di Lucca**	**0.62**	**155**	Pg	**Pb**	**08 39 13.3**	**-0.5**
BDI				Sg	**Sg**	**08 39 23.0**	**+0.8**
BDI	**Bagni Di Lucca**	**0.62**	**155**	Pg	**Pb**	**08 39 13.3**	**-0.5**
BDI				Sg	**Sg**	**08 39 23.0**	**+0.8**
MAIM	**Mastiano**	**0.74**	**165**	Pg	**Pb**	**08 39 15.2**	**-0.6**
MAIM	**Mastiano**	**0.74**	**165**	Pg	**Pb**	**08 39 15.2**	**-0.6**
FNVD	**Fontana Vidola**	**0.79**	**126**	Pg	**Pb**	**08 39 16.7**	**0.0**
	198nm,0.8s						
FNVD	**Fontana Vidola**	**0.79**	**126**	Pg	**Pb**	**08 39 16.7**	**0.0**
	198nm,0.8s						
PTF	**Prato**	**0.90**	**138**	Pg	**Pb**	**08 39 18.4**	**-0.2**
PTF	**Prato**	**0.90**	**138**	Pg	**Pb**	**08 39 18.4**	**-0.2**
SALO	**Salr**	**1.01**	**12**	Pg	**Pb**	**08 39 20.8**	**+0.3**
	539nm,0.5s						
SALO	**Salr**	**1.01**	**12**	Pg	**Pb**	**08 39 20.8**	**+0.3**
	539nm,0.5s						
BALD	**Monte Baldo**	**1.13**	**21**	*e*Pg	**Pn**	**08 39 22.1**	**-0.5**
BALD				*e*Sg	**Sn**	**08 39 38.2**	**+0.4**
BALD	**Monte Baldo**	**1.13**	**21**	*e*Pg	**Pn**	**08 39 22.1**	**-0.5**
BALD				*e*Sg	**Sn**	**08 39 38.2**	**+0.4**
ROVR	**Rover¯¤ Verone**	**1.18**	**30**	Pg	**Pn**	**08 39 22.7**	**-0.5**
	620nm,0.4s						
ROVR	**Rover¯¤ Verone**	**1.18**	**30**	Pg	**Pn**	**08 39 22.7**	**-0.5**
	620nm,0.4s						
MAGA	**Magasa**	**1.18**	**13**	Pg	**Pn**	**08 39 22.6**	**-0.6**
MAGA				Sg	**Sn**	**08 39 39.6**	**+0.7**

762nm,0.4s
MAGA Magasa 1.18 13 Pg **Pn 08 39 22.6 -0.6**
MAGA Sg **Sn 08 39 39.6 +0.7**
762nm,0.4s
PCP Piancastagn 1.21 266 Pg **Pg 08 39 24.8 -0.1**
PCP Piancastagn 1.21 266 Pg **Pg 08 39 24.8 -0.1**
TEOL Teolo 1.25 54 Pg **Pn 08 39 23.1 -1.0**
772nm,0.5s
TEOL Teolo 1.25 54 *e*Pg **Pn 08 39 23.4 -0.7**
TEOL *e*Sg **Sb 08 39 40.6 +0.2**
TEOL Teolo 1.25 54 Pg **Pn 08 39 23.1 -1.0**
772nm,0.5s
TEOL *e*Sg **Sb 08 39 40.6 +0.2**
RNI Roncone 1.38 11 *e*Pg **Pn 08 39 26.1 +0.1**
RNI *e*Sg **Sb 08 39 45.3 +1.1**
RNI Roncone 1.38 11 *e*Pg **Pn 08 39 26.1 +0.1**
RNI *e*Sg **Sb 08 39 45.3 +1.1**
DDS Dosso del Somm 1.42 28 *e*Pg **Pn 08 39 25.8 -0.8**
DDS *e*Sg **Sn 08 39 45.3 +0.4**
DDS Dosso del Somm 1.42 28 *e*Pg **Pn 08 39 25.8 -0.8**
DDS *e*Sg **Sn 08 39 45.3 +0.4**
MABI Malga Bissina 1.44 8 Pg **Pn 08 39 26.6 -0.2**
92nm,0.5s
MABI Malga Bissina 1.44 8 Pg **Pn 08 39 26.6 -0.2**
92nm,0.5s
PANI Panarotta 1.62 28 *e*Pg **Pn 08 39 28.7 -0.6**
CGRP Cima Grappa 1.67 41 *e*Pg **Pn 08 39 29.1 -0.9**
CGRP Cima Grappa 1.67 41 *e*Pg **Pn 08 39 29.1 -0.9**
CARE Lago del Cares 1.82 10 *e*Pn **Pn 08 39 32.4 +0.2**
CARE Lago del Cares 1.82 10 *e*Pn **Pn 08 39 32.4 +0.2**
OZOL Ozolo 1.87 18 *e*Pn **Pn 08 39 32.7 +0.1**
OZOL Ozolo 1.87 18 *e*Pn **Pn 08 39 32.7 +0.1**
SBF Sospel 2.15 250 *e*Pn **Pn 08 39 37.6 +1.1**
SBF *e*Sn **Sn 08 40 04.3 +1.5**
39nm,0.3s
SBF Sospel 2.15 250 *e*Pn **Pn 08 39 37.6 +1.1**
SBF *e*Sn **Sn 08 40 04.3 +1.5**
19nm,0.3s
PGF Pioggiola 2.27 204 *e*P **Pb 08 39 41.1 -0.8**
PGF *e*Sn **Sn 08 40 07.0 +1.4**
3.9nm,0.2s
PGF Pioggiola 2.27 204 *e*P **Pb 08 39 41.1 -0.8**
PGF *e*Sn **Sn 08 40 07.0 +1.4**
2.0nm,0.2s
FETA Feichten 2.42 8 Pn **Pn 08 39 41.9 +1.6**
FETA *e*Sn **Sb 08 40 16.4 +2.4**
5.3nm,0.4s
FETA Feichten 2.42 8 Pn **Pn 08 39 41.9 +1.6**
MBDF Montbardon 2.47 273 *e*Pn **Pn 08 39 42.9 +1.9**
MBDF *e*Sn **Sn 08 40 12.1 +1.3**
11nm,0.4s
MBDF Montbardon 2.47 273 *e*Pn **Pn 08 39 42.9 +1.9**
MBDF *e*Sn **Sn 08 40 12.1 +1.3**
5.6nm,0.4s
LPL La Plagne 2.64 291 *e*P **Pb 08 39 47.7 -0.6**
LPL La Plagne 2.64 291 *e*Pn **Sb 08 40 15.8 -4.6**
9.0nm,0.4s
LPL La Plagne 2.64 291 *e*P **Pb 08 39 47.7 -0.6**
ABTA Abfaltersbach 2.65 36 Pn **Pn 08 39 44.5 +1.1**
1.5nm,0.1s
ABTA Sg **Sg 08 40 27.7 +0.9**
6.8nm,0.2s
ABTA Abfaltersbach 2.65 36 Pn **Pn 08 39 44.5 +1.1**
1.5nm,0.1s
ABTA Sg **Sg 08 40 27.7 +0.9**
6.8nm,0.2s
DAVA Damuels 2.67 355 *e*Pn **Pn 08 39 45.5 +1.8**
20nm,0.4s
DAVA Sn **Sb 08 40 19.2 -2.1**
23nm,0.7s
DAVA Damuels 2.67 355 Pn **Pn 08 39 45.5 +1.8**
20nm,0.4s
DAVA Sn **Sb 08 40 19.2 -2.1**
23nm,0.7s
MOTA Moosalm 2.78 12 *e*Pn **Pn 08 39 47.2 +1.9**
12nm,0.4s
MOTA Moosalm 2.78 12 Pn **Pn 08 39 47.2 +1.9**
12nm,0.4s
FRF La Foret Royal 2.80 249 *e*Pn **Pn 08 39 46.1 +0.8**
FRF La Foret Royal 2.80 249 *e*Pn **Pn 08 39 46.1 +0.8**
WTTA Wattenberg 2.81 20 *e*Pn **Pn 08 39 47.2 +1.5**
6.5nm,0.3s
WTTA Sn **Sn 08 40 22.4 +3.2**
5.0nm,0.3s
WTTA Wattenberg 2.81 20 Pn **Pn 08 39 47.2 +1.5**
6.5nm,0.3s
WTTA Sn **Sn 08 40 22.4 +3.2**
5.0nm,0.3s
WATA Walderalm 2.86 19 *e*Pn **Pn 08 39 48.1 +1.7**
4.6nm,0.1s
WATA Walderalm 2.86 19 Pn **Pn 08 39 48.1 +1.7**
4.6nm,0.1s
RETA Reutte 2.88 7 Pn **Pn 08 39 48.5 +2.0**
1.5nm,0.1s
RETA Reutte 2.88 7 Pn **Pn 08 39 48.5 +2.0**
1.5nm,0.1s
LMR La Mourre 2.98 246 *e*Pn **Pn 08 39 48.3 +0.4**
LMR *e*Sn **Sn 08 40 22.0 -1.2**
9.6nm,0.3s
LMR La Mourre 2.98 246 *e*Pn **Pn 08 39 48.3 +0.4**
LMR *e*Sn **Sn 08 40 22.0 -1.2**
4.8nm,0.3s
ORIF Oris-en-Rattie 3.12 277 *e*P **Pb 08 39 53.4 -3.0**
ORIF Oris-en-Rattie 3.12 277 *e*P **Pb 08 39 53.4 -3.0**
NVLJ Novalja 3.31 90 *i*Pn **Pn 08 39 51.8 -0.6**
NVLJ Sn **Sn 08 40 29.1 -2.2**
OBKA Obir 3.56 57 *e*Pn **Pn 08 39 55.1 -0.9**
0.5nm,0.1s
OBKA *e*Sn **Sn 08 40 37.7 +0.1**
2.3nm,0.2s
OBKA Obir 3.56 57 Pn **Pn 08 39 55.1 -0.9**
0.5nm,0.1s
OBKA Sn **Sn 08 40 37.7 +0.1**
2.3nm,0.2s
OZLJ Ozalj 3.83 73 *i*Pn **Pn 08 39 59.2 -0.4**
OZLJ Sn **Sn 08 40 41.6 -2.5**
OZLJ Ozalj 3.83 73 *i*Pn **Pn 08 39 59.1 -0.4**
OZLJ Sn **Sn 08 40 41.5 -2.5**
VIVF Saint-Julien-l 3.97 275 *e*Pn **Pn 08 40 02.7 +1.2**
VIVF Saint-Julien-l 3.97 275 *e*Pn **Pn 08 40 02.7 +1.2**
MOA Molln 4.26 40 *i*Pn **Pn 08 40 06.5 +1.0**
0.9nm,0.1s
MOA *e*Sn **Sn 08 40 56.4 +1.6**
0.7nm,0.1s
MOA Molln 4.26 40 Pn **Pn 08 40 06.5 +1.0**
0.9nm,0.1s
MOA Sn **Sn 08 40 56.4 +1.6**
0.7nm,0.1s
CDF Champ du Feu 4.30 333 *e*Pn **Pn 08 40 05.8 -0.2**
CDF *e*Sn **Sn 08 40 55.1 -0.6**
4.3nm,0.3s
CDF Champ du Feu 4.30 333 *e*Pn **Pn 08 40 05.8 -0.2**
CDF *e*Sn **Sn 08 40 55.1 -0.6**
2.2nm,0.3s
HAU Haudompre 4.32 323 *e*Pn **Pn 08 40 06.6 +0.3**
HAU *e*Sn **Sn 08 40 55.6 -0.5**
9.7nm,0.4s
HAU Haudompre 4.32 323 *e*Pn **Pn 08 40 06.6 +0.3**
HAU *e*Sn **Sn 08 40 55.6 -0.5**
4.8nm,0.4s
KHC Kasperske Hory 5.05 26 *e*PN **Pn 08 40 15.7 -0.6**
KHC *e*SN **Sn 08 41 11.1 -3.1**
KHC *e*SG **Sg 08 41 43.1 -0.5**
KHC Kasperske Hory 5.05 26 Pn **Pn 08 40 15.7 -0.6**
KHC Sn **Sn 08 41 11.1 -3.1**
KHC Sg **Sg 08 41 43.1 -0.5**

NIED **19** *09:07:00,47.°10N×147.°90E,h460km,Mw5.0 Best double couple: M0 3.64000×10^16 NP1:φs322.00000°, δ34.00000°, λ24.00000°. NP2:φs211.00000°, δ77.00000°, λ122.00000°.*

ISCJB **19** *09:07:20.6±0.2,47.°78N±0.°02×147.°40E±0.°03, h410km±2km, mb4.7/272, Error ellipse: s-maj=4.2km s-min=2.2km az=154.7*

JMA **19** *09:07:20.4±0.5,47.°08N×147.°86E, h458km, M4.4*

SKHL **19** *09:07:20.2±1.1,47.°64N×147.°61E,h401km±9km, mb5.4/6, mbh5.5/1, msh5.5/10*

MOS **19** *09:07:20.1±0.9,47.°80N×147.°33E,h403km, mb4.6/75, Error ellipse: s-maj=6.9km s-min=4.9km az=75.8*

BJI **19** *09:07:22.2,47.°92N×147.°05E,h405km, mb4.9/57, mB4.8/36*

NEIC **19** *09:07:22.2±0.2,47.°86N×147.°31E,h410km±3km, mb4.8/222, Error ellipse: s-maj=3.8km s-min=2.0km az=155.0*

IDC **19** *09:07:22.5±0.5,47.°81N×147.°37E,h419km±4km, mb4.0/30, mb1 4.1/38, mb1mx3.9/69, mbtmp4.8/38, Error ellipse: s-maj=9.0km s-min=6.5km az=152.0*

GCMT **19** *09:07:22.2±0.6,47.°90N×147.°61E,h403km±4km, MW5.2/45, Moment Tensor Solution. s45,c52; Duration: 1s0 Moment tensor: Scale 10^16Nm; Mrr 4.99±.44; Mθθ -1.09±.69; Mφφ -3.90±.84; Mrθ 0.56±.73; Mθφ 1.69±.66; Mφr -5.95±.68; Best double couple: Mo 7.67800×10^16 NP1:φs170.00000°, δ71.00000°, λ.99.00000°. NP2: φs324.00000°, δ21.00000°, λ.66.00000°. Principal axes: T 7.9790, Plg63.0000°, Azm94.0000°; N -0.6020, Plg8.0000°, Azm347.0000°; P -7.3770, Plg25.0000°, Azm253.0000°; nsta1 refers to body waves, cutoff=40s.*

ISC 19 09:07:21.4±0.4,47.°66N±0.°04×147.°54E±0.°04,h413km±3km, h412km:pP-P,n950,σ1s23/1033,mb4.7/272,15C-10D, Northwest of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**2.44**	**175**	*c*	*i*	P	**P**	**09 08 21.6**	**+0.2**
KUR					*i*	S	**S**	**09 09 09.3**	**-0.7**
KUR						pmax	pmax		
	comp=Z,466nm,0.5s								
KUR						pmax	pmax		
	comp=N,154nm,0.3s								
KUR						pmax	pmax		
	comp=E,139nm,0.6s								
KUR						pmax	pmax		
	comp=Z,2μm,1.3s								
KUR						smax	smax		
	comp=N,3μm,2.1s								
KUR						smax	smax		
	comp=E,11μm,2.1s								
KUR						smax	smax		
	comp=N,338nm,1.3s								
KUR						smax	smax		
	comp=E,515nm,1.3s								
KUR	**Kuril'sk**	**2.44**	**175**	*i*		P	**P**	**09 08 21.6**	**+0.2**
KUR						AMB	AMB	09 08 22.3	
	comp=E,140nm,0.9s								
KUR						AMB	AMB	09 08 22.3	
	comp=E,1μm,0.9s								
KUR						AMB	AMB	09 08 22.4	
	comp=E,2μm,1.0s								
KUR					*i*	S	**S**	**09 09 09.3**	**-0.7**
KUR						A	A	09 09 11.8	
	comp=E,2μm,0.9s								
KUR						A	A	09 09 11.8	
	comp=E,680nm,0.9s								
KUR						A	A	09 09 12.0	
	comp=E,4μm,2.0s								
KUR						A	A	09 09 12.0	
	comp=E,12μm,2.0s								
YSS	**Yuzh-Sakhalins**	**3.33**	**259**	α	*i*	P	**P**	**09 08 29.4**	**+1.2**
YSS					*i*	S	**S**	**09 09 22.3**	**-0.2**
YSS						pmax	pmax		
	comp=Z,2.0nm,0.8s								
YSS						smax	smax		
	comp=N,730μm,1.0s								
YSS						smax	smax		
	comp=E,570nm,1.0s								
YSS						smax	smax		
	comp=Z,4μm,3.4s								
YSS	**Yuzh-Sakhalins**	**3.33**	**259**	*e*	P		**P**	**09 08 28.9**	**+0.7**
YSS						AMB	AMB	09 08 30.0	
	comp=Z,2μm,0.8s								
YSS					*e*	S	**S**	**09 09 21.7**	**-0.8**
YSS						A	A	09 09 23.2	
	comp=Z,340nm,1.0s								
YSS						A	A	09 09 23.2	
	comp=Z,520nm,1.0s								
YSS						A	A	09 09 25.2	
	comp=Z,3μm,4.0s								
YSS						A	A	09 09 25.2	
	comp=Z,4μm,4.0s								
YSS	**Yuzh-Sakhalins**	**3.33**	**259**	*e*	P		**P**	**09 08 29.6**	**+1.4**
YSS					*e*	S	**S**	**09 09 25.0**	**+2.4**
YUK	**Yuzh-Kuril'sk**	**3.81**	**199**	*i*	PN		**P**	**09 08 31.5**	**-0.9**
YUK					*i*	S	**S**	**09 09 31.7**	**+1.4**
YUK						pmax	pmax		
	comp=N,154nm,0.3s								
YUK						pmax	pmax		
	comp=Z,381nm,0.3s								
YUK						pmax	pmax		
	comp=E,13nm,0.1s								
YUK						smax	smax		
	comp=N,410nm,0.3s								
YUK						smax	smax		
	comp=E,51nm,0.4s								
YUK	**Yuzh-Kuril'sk**	**3.81**	**199**	*i*	P		**P**	**09 08 31.6**	**-0.9**
YUK						AMB	AMB	09 08 34.7	
	comp=E,150nm,0.3s								
YUK						AMB	AMB	09 08 34.7	
	comp=E,10.0nm,0.3s								
YUK						AMB	AMB	09 08 34.7	
	comp=E,380nm,0.3s								
YUK					*e*	S	**S**	**09 09 29.1**	**-1.2**
YUK						A	A	09 09 35.8	
	comp=E,5μm,2.0s								
YUK						A	A	09 09 37.5	
	comp=E,410nm,0.4s								
YUK						A	A	09 09 37.5	
	comp=E,50nm,0.4s								
SHO	**Shikotan**	**3.83**	**188**	⇓	*i*	PN	**P**	**09 08 29.5**	**-3.1**
SHO					*i*	S	**S**	**09 09 24.6**	**-6.0**
SHO						pmax	pmax		
	comp=E,509nm,0.3s								
SHO						pmax	pmax		
	comp=Z,1μm,0.3s								
SHO						pmax	pmax		
	comp=N,274nm,0.4s								
SHO						smax	smax		
	comp=E,4μm,0.6s								
SHO						smax	smax		
	comp=N,2μm,0.3s								
SHO	**Shikotan**	**3.83**	**188**	*i*	P		**P**	**09 08 30.0**	**-2.6**
SHO						AMB	AMB	09 08 30.6	
	comp=N,710nm,0.2s								
SHO					*e*	S	**S**	**09 09 24.8**	**-5.8**
SHO						A	A	09 09 28.0	
	comp=N,2μm,0.4s								
UGL	**Uglegorsk**	**3.92**	**293**	*e*	PN		**P**	**09 08 33.0**	**-0.2**
UGL					*e*	S	**S**	**09 09 31.0**	**-0.8**
UGL						pmax	pmax		
	comp=Z,420nm,0.8s								
UGL						pmax	pmax		
	comp=Z,1μm,2.0s								
UGL						smax	smax		
	comp=N,186nm,0.7s								
UGL						smax	smax		
	comp=E,372nm,0.7s								
UGL						smax	smax		
	comp=N,2μm,2.0s								
UGL						smax	smax		
	comp=E,4μm,3.0s								
UGL	**Uglegorsk**	**3.92**	**293**	*e*	P		**P**	**09 08 33.0**	**-0.2**
UGL						AMB	AMB	09 08 34.0	
	comp=E,1μm,2.0s								
UGL						AMB	AMB	09 08 34.0	
	comp=E,420nm,0.8s								
UGL					*e*	S	**S**	**09 09 31.1**	**-0.8**
UGL						A	A	09 09 33.0	
	comp=E,190nm,0.7s								
UGL						A	A	09 09 33.0	
	comp=E,370nm,0.7s								
UGL						A	A	09 09 34.0	
	comp=E,2μm,3.0s								
UGL						A	A	09 09 34.0	
	comp=E,4μm,3.0s								
JRA	**Rausu**	**4.09**	**205**			P	**P**	**09 08 34.0**	**-1.0**
JSE	**Soyaes**	**4.37**	**234**			P	**P**	**09 08 38.4**	**+0.8**
JSE						*e*S	**S**	**09 09 39.5**	**-0.3**
NEM2	**Nemuro 2**	**4.48**	**197**			P	**P**	**09 08 35.6**	**-3.1**
NEM2						*e*S	**S**	**09 09 35.6**	**-6.2**
JTKR	**Abashiri--Toko**	**4.48**	**216**			P	**P**	**09 08 38.5**	**-0.2**
JTKR						*e*S	**S**	**09 09 40.3**	**-1.5**
TYV	**Tymovskoe**	**4.53**	**317**	*e*	PN		**P**	**09 08 38.9**	**-0.1**
TYV						*e*S	**S**	**09 09 39.7**	**-2.7**
TYV						pmax	pmax		
	comp=Z,600nm,2.1s								
TYV						smax	smax		
	comp=E,2μm,1.5s								
TYV	**Tymovskoe**	**4.53**	**317**	*e*	P		**P**	**09 08 39.3**	**+0.3**
TYV						AMB	AMB	09 08 39.8	
	comp=E,600nm,2.0s								
TYV						*e*S	**S**	**09 09 39.7**	**-2.7**
TYV						A	A	09 09 41.8	
	comp=E,2μm,2.0s								
JWK2	**Keihoku**	**4.55**	**241**			P	**P**	**09 08 41.0**	**+1.6**
JWK2						*e*S	**S**	**09 09 44.2**	**+1.2**
JKA	**Kamikawa-asahi**	**4.95**	**226**	*e*	P		**P**	**09 08 43.4**	**0.0**
ASAJ	**Asahikawa**	**4.95**	**226**			P	**P**	**09 08 43.4**	**+0.1**
	baz=90,slow=8.8								
ASAJ	**Asahikawa**	**4.95**	**226**	*e*	P		**P**	**09 08 43.8**	**+0.5**
ASAJ						*e*S	**S**	**09 09 50.0**	**-0.4**
JAK	**Akkeshi**	**5.08**	**204**			P	**P**	**09 08 42.2**	**-2.5**
JAK						*e*S	**S**	**09 09 46.8**	**-5.9**
JAR	**Ashorobuto**	**5.11**	**213**			P	**P**	**09 08 44.2**	**-0.8**
JAR						*e*S	**S**	**09 09 50.4**	**-2.9**
JCH	**Churui**	**5.85**	**212**			P	**P**	**09 08 50.2**	**-2.5**
JCH						*e*S	**S**	**09 10 00.1**	**-7.4**
SKR	**Severo-Kuril's**	**6.38**	**59**	⇓	*i*	PN	**P**	**09 08 58.3**	**+0.2**
SKR					*i*	S	**S**	**09 10 14.5**	**-3.1**
SKR						pmax	pmax		
	comp=Z,2μm,0.8s								
SKR						smax	smax		
	comp=N,799nm,1.3s								
SKR						smax	smax		
	comp=E,578nm,1.0s								
SKR						MLR	MLR		
	comp=Z,400nm,14.0s								
SKR						MLR	MLR		
	comp=Z,600nm,15.0s								
SKR	**Severo-Kuril's**	**6.38**	**59**		*i*	P	**P**	**09 08 58.3**	**+0.2**
SKR						AMB	AMB	09 08 59.7	
	comp=Z,2μm,0.7s								
SKR					*i*	S	**S**	**09 10 15.3**	**-2.3**
SKR						A	A	09 10 26.5	
	comp=Z,360nm,0.8s								
SKR						A	A	09 10 26.5	
	comp=Z,460nm,0.8s								
SKR						AMS	AMS	09 12 14.6	
	comp=Z,600nm,15.0s								
ERM	**Erimo**	**6.45**	**210**	*c*	*i*	PN	**P**	**09 08 58.0**	**-1.1**
ERM						pmax	pmax		
	comp=Z,285nm,1.0s								
ERM	**Erimo**	**6.45**	**210**		*e*	P	**P**	**09 08 58.0**	**-1.1**
ERM	**Erimo**	**6.45**	**210**		*e*	P	**P**	**09 08 58.2**	**-0.8**
ERM					*e*			09 10 16.2	
OKH	**Okha**	**6.58**	**335**	*e*	PN		P	09 09 12.8	+12
OKH	**Okha**	**6.58**	**335**	*e*	P		**P**	**09 09 02.1**	**+1.2**
OKH						AMB	AMB	09 09 03.4	
	comp=Z,1μm,0.8s								
OKH						*e*S	**S**	**09 10 21.8**	**+0.2**
OKH						A	A	09 10 23.6	
	comp=Z,330nm,0.4s								
OKH						A	A	09 10 25.2	
	comp=Z,2μm,3.0s								
OKH						AMS	AMS	09 10 36.0	
	comp=Z,1μm,4.0s								
PAU	**Pauzhetka**	**7.13**	**54**	*e*	P		**P**	**09 09 04.3**	**-2.6**
PAU						AMB	AMB	09 09 05.2	
	comp=Z,1μm,0.9s								
PAU						*e*S	**S**	**09 10 31.5**	**-1.1**
PAU						A	A	09 10 33.7	
	comp=Z,580nm,0.9s								
PAU						A	A	09 10 33.7	
	comp=Z,630nm,0.9s								
JKB	**Kayabe**	**7.40**	**221**			P	**P**	**09 09 07.2**	**-3.0**
JKB						*e*S	**S**	**09 10 30.0**	**-8.5**
JOT	**Ohata**	**7.81**	**219**			P	**P**	**09 09 11.4**	**-3.2**
JOT						*e*S	S	09 10 34.2	-13
GRNR	**Gornyy**	**7.92**	**297**	*e*	P		**P**	**09 09 14.9**	**-0.8**
GRNR						AMB	AMB	09 09 15.3	
	comp=Z,140nm,0.9s								
GRNR						AMB	AMB	09 09 15.3	
	comp=Z,270nm,0.9s								
JOSM	**Okushiri--Mats**	**8.00**	**229**			P	**P**	**09 09 14.9**	**-1.8**
JOSM						*e*S	**S**	**09 10 42.0**	**-8.7**
TEY	**Ternei**	**8.01**	**255**	*e*	P		**P**	**09 09 18.0**	**+1.3**
TEY						AMB	AMB	09 09 19.8	
	comp=Z,600nm,2.0s								
TEY						AMB	AMB	09 09 19.8	
	comp=Z,1μm,2.0s								
TEY						AMB	AMB	09 09 19.8	
	comp=Z,20nm,0.9s								
TEY						AMB	AMB	09 09 19.8	
	comp=Z,150nm,0.9s								
TEY						*e*S	**S**	**09 10 50.8**	**-0.2**
TEY						A	A	09 10 54.0	
	comp=Z,2μm,4.0s								
TEY						A	A	09 10 54.0	
	comp=Z,2μm,4.0s								
HABR	**Khabarovsk**	**8.41**	**280**	*e*	PN		**P**	**09 09 18.6**	**-2.4**
HABR						*e*S	**S**	**09 10 56.1**	**-3.0**
HABR						pmax	pmax		
	comp=E,85nm,0.9s								
HABR						pmax	pmax		
	comp=Z,130nm,0.9s								
HABR						pmax	pmax		
	comp=N,5.0nm,0.8s								
HABR						MLR	MLR		
	comp=Z,75nm,9.0s								
PEA0	**Petropavlovsk-**	**8.47**	**46**	*e*	P		**P**	**09 09 21.8**	**+0.2**
PEA0B	**Petropavlovsk-**	**8.47**	**46**	*e*	P		**P**	**09 09 21.6**	**-0.1**
PEA0B						*e*S	**S**	**09 10 58.7**	**-1.6**
PETK	**Petropavlovsk-**	**8.47**	**46**		P		**P**	**09 09 21.3**	**-0.3**
	comp=Z,2.2nm,0.3s,baz=225,slow=6.1,SNR=81								
PETK						S	**S**	**09 10 57.3**	**-3.1**
	comp=Z,2.8nm,0.3s,baz=138,slow=20,SNR=4.0								
PEA1	**Petropavlovsk-**	**8.47**	**46**	*e*	P		**P**	**09 09 21.3**	**-0.3**
PEA1						*e*S	**S**	**09 10 57.3**	**-3.1**
PET	**Petropavlovsk**	**8.90**	**49**	*e*	PN		**P**	**09 09 25.9**	**-0.4**
PET						*e*S	**S**	**09 11 03.6**	**-5.6**
PET						smax	smax		
	comp=Z,163nm,1.0s								
PET						MLR	MLR		
	comp=Z,300nm,17.0s								
PET	**Petropavlovsk**	**8.90**	**49**	*e*	P		**P**	**09 09 25.9**	**-0.4**
PET						AMB	AMB	09 09 27.4	
	comp=Z,300nm,2.0s								
PET						AMB	AMB	09 09 28.8	
	comp=Z,110nm,0.8s								
PET						*e*S	**S**	**09 11 06.0**	**-3.2**
PET						A	A	09 11 06.4	
	comp=Z,600nm,2.0s								
PET						A	A	09 11 06.4	
	comp=Z,300nm,2.0s								
PET						A	A	09 11 08.2	
	comp=Z,180nm,0.9s								
PET						A	A	09 11 08.2	
	comp=Z,270nm,0.9s								
PET						AMS	AMS	09 11 58.0	
	comp=Z,300nm,17.0s								
PET	**Petropavlovsk**	**8.90**	**49**	*e*	P		**P**	**09 09 26.3**	**-0.1**
PET						*e*S	**S**	**09 11 07.5**	**-1.8**
JMK	**Ichinoseki**	**9.85**	**210**			P	**P**	**09 09 37.0**	**-0.1**
JMK						*e*S	**S**	**09 11 26.1**	**-3.0**
KLR	**Kul'dur**	**10.61**	**284**	*d*	*i*	PN	**P**	**09 09 46.6**	**+1.2**
KLR	**Kul'dur**	**10.61**	**284**	*e*	P		**P**	**09 09 46.6**	**+1.2**
EKMR	**Ekimchan**	**10.77**	**306**	*e*	P		**P**	**09 09 47.9**	**+0.8**
EKMR						AMB	AMB	09 09 52.5	
	comp=Z,40nm,0.7s								
USRK	**Ussuriysk Ar.**	**11.37**	**258**			P	**P**	**09 09 53.2**	**-0.6**
	comp=Z,3.3nm,0.3s,baz=65,slow=12,SNR=56								
VLA	**Vladivostok**	**11.91**	**253**	*d*	*i*	PN	**P**	**09 09 59.0**	**-0.7**
MA2	**Magadan**	**12.09**	**8**			P	**P**	**09 10 01.6**	**+0.2**
	comp=Z,1.2nm,0.3s,baz=208,slow=10,SNR=8.3								
MSHR	**Mys Shultsa**	**12.63**	**252**	*e*	PN		**P**	**09 10 07.0**	**-0.7**
MDJ	**Mudanjiang**	**12.82**	**263**			P	**P**	**09 10 09.8**	**+0.1**
MDJ						pmax	pmax		
	comp=Z,110nm,0.8s								
MDJ						pmax	pmax		
	comp=Z,180nm,6.0s								
MDJ	**Mudanjiang**	**12.82**	**263**	*e*	P		**P**	**09 10 09.3**	**-0.4**
MJB9	**Matsu-Tunnel**	**13.08**	**215**	*e*	P		**P**	**09 10 13.9**	**+1.2**
MAJO	**Matsushiro**	**13.08**	**215**	*d*	*i*	PN	**P**	**09 10 13.9**	**+1.2**
MAJO	**Matsushiro**	**13.08**	**215**	*e*	P		**P**	**09 10 13.9**	**+1.2**
MAJO	**Matsushiro**	**13.08**	**215**	*e*	P		**P**	**09 10 13.8**	**+1.0**
MAT	**Matsushiro**	**13.08**	**215**		P		**P**	**09 10 13.7**	**+1.0**
MAT						*e*S	**S**	**09 12 33.9**	**-0.4**
MJAR	**Matsushiro Arr**	**13.08**	**215**		P		**P**	**09 10 13.8**	**+1.0**
	comp=Z,6.4nm,0.3s,baz=20,slow=10,SNR=50								
JRY	**Ryogami san**	**13.29**	**212**		P		**P**	**09 10 16.0**	**+1.0**
BMKR	**Bomnak**	**13.66**	**308**	*i*	P		**P**	**09 10 18.9**	**+0.2**
BMKR						AMB	AMB	09 10 19.7	

comp=Z,50nm,0.6s
BMKR AMB AMB 09 10 19.7
comp=Z,70nm,0.6s
BMKR AMB AMB 09 10 19.7
comp=Z,150nm,0.6s
ZEA Zeya 14.20 303 *eP* **P 09 10 24.0 -0.6**
ZEA AMB AMB 09 10 25.0
comp=Z,200nm,3.0s
ZEA AMB AMB 09 10 25.3
comp=Z,70nm,1.0s
ZEA AMB AMB 09 10 25.3
comp=Z,60nm,1.0s
ZEA AMB AMB 09 10 25.3
comp=Z,80nm,1.0s
ZEA AMS AMS 09 20 01.0
comp=Z,400nm,14.0s
INU Inuyama 14.60 216 *eP* **P 09 10 30.2 +1.1**
SEY Seymchan 15.54 8 P **P 09 10 39.7 +0.8**
comp=Z,5.2nm,0.3s,baz=183,slow=8.1,SNR=103
JHJ2 Mitsune 15.67 205 *eP* **P 09 10 44.0 +3.3**
comp=Z,2µm,1.9s
CN2 Changchun 15.89 264⇑ *i*P **P 09 10 41.8 -1.1**
CN2 pmax pmax
comp=Z,20nm,0.8s
CLNS Chul'man 16.56 312 *eP* **P 09 10 48.8 -1.2**
CLNS *eS* **S 09 13 41.2 -1.3**
CLNS pmax pmax
comp=Z,151nm,0.8s
CLNS pmax pmax
comp=N,45nm,0.8s
CLNS pmax pmax
comp=E,80nm,0.9s
CLNS smax smax
comp=E,64nm,1.0s
CLNS smax smax
comp=N,35nm,1.4s
KSRS Korea Array 17.64 242 P **P 09 11 02.6 +1.0**
comp=N,2.0nm,0.3s,baz=45,slow=11,SNR=54
KS01 Wonju Array Si 17.65 242 *eP* **P 09 11 02.1 +0.4**
KS15 Wonju Array Si 17.68 242 *eP* **P 09 11 03.0 +1.1**
KSAR Wonju Array Be 17.68 242 P **P 09 11 02.6 +0.6**
KSAR Wonju Array Be 17.68 242 P **P 09 11 02.6 +0.6**
INCN Inchon 18.40 244 *eP* **P 09 11 10.8 +1.1**
comp=N,199nm,1.8s
JNU Nakatsue 19.23 227 P **P 09 11 18.6 +0.7**
comp=N,2.8nm,0.3s,baz=328,slow=1.2,SNR=21
JNU Nakatsue 19.23 227 *eP* **P 09 11 19.0 +1.1**
comp=N,32nm,0.9s
DL2 Dalian 20.72 255 P **P 09 11 33.3 +1.8**
DL2 pmax pmax
comp=N,220nm,1.2s
BOD Bodaibo 22.47 309 *eP* **P 09 11 44.9 -2.3**
BOD pmax pmax
comp=Z,14nm,1.1s
BILL Bilibino 22.54 18*deP* **P 09 11 46.8 -0.8**
BILL *eS* **S 09 15 26.9 +3.1**
BJI Beijing 23.75 263 P **P 09 12 00.8 +1.9**
BJI pmax pmax
comp=Z,67nm,0.8s
BJT Baijiatuau 23.76 263 *eP* **P 09 12 00.2 +1.2**
BJT pmax pmax
comp=Z,54nm,0.8s
BJT Baijiatuau 23.76 263 *eP* **P 09 12 00.2 +1.2**
comp=Z,54nm,0.8s
ATKA Atka Island 24.84 65 *eP* **P 09 12 10.5 +2.0**
comp=Z,292nm,1.7s
TIXI Tiksi 25.60 346*ceP* **P 09 12 13.8 -1.2**
TIXI pmax pmax
comp=Z,2.0nm,0.5s
TIXI Tiksi 25.60 346 *eP* **P 09 12 13.8 -1.2**
TIXI Tiksi 25.60 346 *eP* **P 09 12 13.4 -1.6**
comp=Z,4.1nm,0.5s
JOW Kunigami 25.71 223 *eP* **P 09 12 18.2 +1.7**
comp=Z,250nm,1.6s
HHC Hu-ho-hao-te 26.48 268 *eP* **P 09 12 24.0 +0.7**
HHC pmax pmax
comp=Z,130nm,0.8s
HHC pmax pmax
comp=Z,280nm,4.7s
NJ2 Nanjing 26.78 245 *eP* P 09 12 17.6 -8.3
ULN Ulaanbaatar 27.00 286*ceP* **P 09 12 27.3 -0.6**
ULN pmax pmax
comp=Z,15nm,1.0s
ULN Ulaanbaatar 27.00 286 *eP* **P 09 12 27.3 -0.6**
ULN Ulaanbaatar 27.00 286 *eP* **P 09 12 27.6 -0.3**
comp=Z,32nm,1.1s
SONA1 Songino Array 27.43 286 *eP* **P 09 12 30.9 -0.7**
SONA0 Songino Array 27.44 286 *eP* **P 09 12 31.3 -0.4**
comp=Z,30nm,1.4s
SONM Songino Array 27.44 286 P **P 09 12 31.3 -0.4**
comp=E,6.1nm,0.8s,baz=70,slow=8.7,SNR=30
SONM ScP **ScP 09 18 37.6 -0.5**
comp=Z,0.7nm,0.7s,baz=65,slow=1.9,SNR=5.0
TLY Talaya 28.36 295 *eP* **P 09 12 39.2 -0.5**
TLY pmax pmax
comp=Z,16nm,0.7s
ZAK Zakamensk 28.83 292 *eP* **P 09 12 43.3 -0.6**
ZAK *e* 09 13 59.0
ZAK pmax pmax
comp=Z,18nm,1.3s
WHN Wuhan 30.61 248 P **P 09 13 00.0 +0.5**
XAN Xi'an 31.88 259 P **P 09 13 10.4 -0.1**
XAN pP pP 09 14 23.1 -2.5
XAN pmax pmax
comp=Z,29nm,1.0s
ENH Enshi 33.89 253 *eP* **P 09 13 27.8 +0.1**
comp=Z,10nm,0.9s
LZH Lanzhou 34.10 266 ⇓P **P 09 13 30.8 +1.1**
LZH pP pP 09 14 50.3 +4.8
LZH PP **PP 09 15 02.0 +4.4**
LZH sP sP 09 15 34.0 +0.9
LZH S **S 09 18 25.4 +0.5**
LZH sS sS 09 20 45.0 +1.1
LZH SS **SS 09 21 12.0 -2.4**
LZH pmax pmax
comp=Z,160nm,1.5s
LZH pmax pmax
comp=Z,280nm,4.1s
TT01 Tatalina 34.28 43 *eP* **P 09 13 31.3 +0.7**
TTA Tatalina 34.29 43 *eP* **P 09 13 31.2 +0.5**
TTA pmax pmax
comp=Z,30nm,0.9s
TTA Tatalina 34.29 43 *eP* **P 09 13 31.2 +0.5**
comp=Z,30nm,0.9s
GTA Gaotai 35.09 274 ⇓P **P 09 13 38.4 +0.5**
GTA pP pP 09 14 56.3 +2.2
GTA ScP **ScP 09 19 04.8 +0.7**
GTA pmax pmax
comp=Z,40nm,1.1s
RSO Redoubt South 35.99 47 *eP* **P 09 13 47.0 +1.7**
PPLA Purkeypile 36.04 43 *eP* **P 09 13 47.1 +1.6**
comp=Z,236nm,1.8s
CAST Castle Rocks 36.05 42 *eP* **P 09 13 45.9 +0.4**
comp=Z,43nm,0.7s
SPU Mount Spurr 36.25 45 *eP* **P 09 13 48.5 +1.3**
KDAK Kodiak Island 36.48 51 P **P 09 13 49.1 0.0**
comp=Z,36nm,0.9s,baz=47,slow=0.7,SNR=16
KDAK Kodiak Island 36.48 51*ceP* **P 09 13 49.3 +0.2**
KDAK Kodiak Island 36.48 51 *eP* **P 09 13 49.3 +0.2**
KDAK Kodiak Island 36.48 51 *eP* **P 09 13 49.1 0.0**
comp=Z,64nm,1.1s
KTH Kantishna Hill 36.56 41 *eP* **P 09 13 50.8 +1.0**
comp=Z,55nm,0.9s
COLD Coldfoot 36.74 35 *eP* **P 09 13 50.8 -0.4**
comp=Z,33nm,1.1s
SUA Susitna One 36.85 45 *eP* **P 09 13 52.2 -0.1**
comp=Z,34nm,0.7s
TRF Thorofare Moun 36.85 41 *eP* **P 09 13 52.7 +0.3**
comp=Z,19nm,0.8s
CNPM China Poot 36.88 48 *eP* **P 09 13 52.7 +0.3**
comp=Z,62nm,0.8s
TOLK Toolik Lake Re 37.01 33 P **P 09 13 52.9 -0.5**
baz=269
BRLK Bradley Lake 37.02 48 *eP* **P 09 13 53.7 +0.2**
comp=Z,54nm,0.7s
CD2 Chengdu 37.24 259 P **P 09 13 56.1 +0.3**
CD2 S **S 09 19 12.8 +0.8**
CD2 pmax pmax
comp=Z,40nm,0.9s
RC01 Rabbit Creek A 37.38 45 *eP* **P 09 13 57.4 +0.8**
comp=Z,35nm,0.8s
MCK McKinley 37.43 41 *eP* **P 09 13 57.5 +0.5**
MCK pmax pmax
comp=Z,34nm,0.8s
MCK McKinley 37.43 41 *eP* **P 09 13 57.5 +0.5**
MCK McKinley 37.43 41 *eP* **P 09 13 57.5 +0.5**
comp=Z,34nm,0.8s
RND Reindeer 37.50 41 *eP* **P 09 13 57.6 0.0**
RND pmax pmax
comp=Z,30nm,0.8s
RND Reindeer 37.50 41 *eP* **P 09 13 57.6 0.0**
comp=Z,30nm,0.8s
PMR Palmer 37.60 44 *eP* **P 09 13 58.4 +0.1**
PMR pmax pmax
comp=Z,20nm,0.6s
PMR Palmer 37.60 44 *eP* **P 09 13 58.4 +0.1**
comp=Z,20nm,0.6s
MDM Murphy Dome 37.63 39 *eP* **P 09 13 59.1 +0.5**
comp=Z,54nm,1.2s
SEW Seward 37.67 47 *eP* **P 09 13 59.5 +0.6**
comp=Z,83nm,0.8s
WRH Wood River Hil 37.73 40 *eP* **P 09 13 59.6 +0.3**
comp=Z,40nm,0.8s
COLA College 37.80 39 *eP* **P 09 14 00.5 +0.6**
COLA pmax pmax
comp=Z,77nm,0.8s
COLA College 37.80 39 *eP* **P 09 14 00.5 +0.6**
COLA College 37.80 39 *eP* **P 09 14 00.5 +0.6**
comp=Z,77nm,0.8s
CCB Clear Creek Bu 37.84 39 *eP* **P 09 14 00.4 +0.2**
comp=Z,78nm,1.8s
SML Sawmill 37.94 44 *eP* **P 09 14 01.9 +0.7**
SML pmax pmax
comp=Z,119nm,0.8s
SML Sawmill 37.94 44 *eP* **P 09 14 01.9 +0.7**
comp=Z,119nm,0.8s
DHY Denali Highway 38.21 42 *eP* **P 09 14 03.5 0.0**
comp=Z,52nm,0.7s
ILAR Eielson Array 38.22 39 P **P 09 14 03.1 -0.3**
comp=Z,28nm,0.7s,baz=270,slow=7.3,SNR=247
ILB Eielson Array 38.22 39 *eP* **P 09 14 03.2 -0.2**
IL1 Eielson Array 38.22 39 *eP* **P 09 14 03.0 -0.4**
HDA Harding Lake 38.23 40 *eP* **P 09 14 03.1 -0.4**
comp=Z,13nm,0.6s
GYA Guiyang 38.30 251 *eP* **P 09 14 06.0 +1.3**
GYA pmax pmax
comp=Z,10.0nm,0.9s
SCM Sheep Creek Mo 38.41 44 *eP* **P 09 14 06.0 +0.9**
SCM pmax pmax
comp=Z,46nm,0.9s
SCM Sheep Creek Mo 38.41 44 *eP* **P 09 14 06.0 +0.9**
comp=Z,46nm,0.9s
GLI Glacier Island 38.68 45 *eP* **P 09 14 07.8 +0.5**
comp=Z,38nm,0.7s
FYU Fort Yukon 38.73 36 *eP* **P 09 14 08.3 +0.8**
comp=Z,105nm,1.2s
ZAA1 Zalesovo Array 38.96 303 *eP* **P 09 14 08.2 -1.4**
ZAA1 *e*PcP **PcP 09 16 10.6 +0.5**
ZAA0 Zalesovo Array 38.97 303 *eP* **P 09 14 08.2 -1.4**
ZAA0 *e*P P 09 14 08.4 -1.2
ZALV Zalesovo Beam 38.97 303 P **P 09 14 08.2 -1.4**
comp=Z,3.9nm,0.6s,baz=67,slow=7.1,SNR=10
ZALV PcP **PcP 09 16 10.6 +0.5**
comp=Z,0.7nm,0.3s,baz=72,slow=4.7,SNR=3.5
ZALV ScP **ScP 09 19 17.2 -1.1**
comp=Z,1.2nm,0.3s,baz=68,slow=3.9,SNR=8.5
FID Port Fidalgo 39.01 45 *eP* **P 09 14 10.3 +0.4**
comp=Z,67nm,1.3s
KLU Klutina 39.13 44 *eP* **P 09 14 11.9 +0.9**
comp=Z,56nm,0.9s
DIV Divide 39.27 45 *eP* **P 09 14 13.0 +0.9**
comp=Z,61nm,0.9s
HARP HAARP 39.32 43 *eP* **P 09 14 13.7 +1.3**
comp=Z,94nm,0.9s
EYAK Cordova Ski Ar 39.40 46 *eP* **P 09 14 14.3 +1.3**
comp=Z,52nm,0.9s
NVS Novosibirsk 39.59 305 *i* P **P 09 14 13.7 -1.0**
DOT Dot Lake 39.59 41 *eP* **P 09 14 14.2 -0.5**
comp=Z,45nm,0.5s
BMRM Bremner River 39.86 45 *eP* **P 09 14 17.9 +1.0**
comp=Z,52nm,1.0s
MENT Mentasta 39.87 42 *eP* **P 09 14 17.8 +0.8**
comp=Z,17nm,0.8s
RAGM Ragged Mountai 39.95 46 *eP* **P 09 14 15.7 -2.0**
comp=Z,308nm,0.5s
CRQM Cirque 40.60 45 *eP* **P 09 14 24.2 +1.2**
comp=Z,84nm,0.8s
EGAK Eagle 40.65 39 *eP* **P 09 14 22.9 -0.2**
comp=Z,46nm,0.8s
WMQ Urumqi 41.04 288 P **P 09 14 27.1 +0.4**
WMQ pmax pmax
comp=Z,27nm,0.7s
WMQ pmax pmax
comp=Z,240nm,6.7s
WMQ LR LR
comp=N,340nm,15.7s
WMQ LR LR
comp=E,240nm,14.7s
WMQ LR LR
comp=Z,210nm,20.9s
WMQ Urumqi 41.04 288 P **P 09 14 27.0 +0.4**
WMQ pP pP 09 15 41.6 -3.8
WMQ pmax pmax
comp=Z,23nm,0.8s
WMQ pmax pmax
comp=Z,170nm,4.5s
DAWY Dawson 41.54 39 *eP* **P 09 14 30.5 +0.1**
comp=Z,6.9nm,0.8s
KMI Kunming 41.76 254 P **P 09 14 33.3 +0.4**
KMI pmax pmax
comp=Z,15nm,0.5s
PCA Pinnacle 42.16 45 *eP* **P 09 14 36.6 +1.3**
comp=Z,60nm,0.8s
INK Inuvik 42.92 32 P **P 09 14 41.0 -0.2**
comp=Z,21nm,0.5s,baz=299,slow=7.7,SNR=144
INK S **S 09 20 32.5 -1.6**
comp=Z,2.9nm,0.9s,baz=317,slow=19,SNR=5.4
INK Inuvik 42.92 32 *eP* **P 09 14 41.0 -0.2**
INK Inuvik 42.92 32 *eP* **P 09 14 40.9 -0.2**
comp=Z,65nm,1.4s
INK S **S 09 20 32.5 -1.6**
MK31 Makanchi Array 43.12 294 *i* P **P 09 14 42.1 -1.1**
MK31 pmax pmax
comp=Z,33nm,0.9s
MK31 Makanchi Array 43.12 294 *eP* **P 09 14 42.6 -0.6**
MKAR Makanchi Array 43.12 294 *eP* **P 09 14 42.6 -0.6**
MKAR pmax pmax
comp=Z,120nm,0.8s
MKAR Makanchi Array 43.12 294 *eP* **P 09 14 42.6 -0.6**
MKAR Makanchi Array 43.12 294 *eP* **P 09 14 42.6 -0.6**
comp=Z,120nm,0.8s
MK01 Makanchi Array 43.13 294 *eP* **P 09 14 42.6 -0.6**
MAKZ Makanchi 43.31 294 *eP* **P 09 14 44.0 -0.6**
MAKZ pmax pmax
comp=Z,20nm,0.9s
MAKZ Makanchi 43.31 294 *eP* **P 09 14 44.0 -0.6**
comp=Z,20nm,0.9s
KURK Kurchatov 43.66 301 P **P 09 14 46.9 -0.4**
KURK S **S 09 20 43.1 -2.3**
KURK pmax pmax
comp=Z,15nm,0.8s
KURK smax smax
comp=N,2.0nm,1.0s
KURK Kurchatov 43.66 301 *eP* **P 09 14 46.9 -0.4**
KURK Kurchatov 43.66 301 *eP* **P 09 14 46.3 -1.0**
comp=N,26nm,1.0s
KURK *eP* P 09 14 46.9 -0.4
KURK *eS* **S 09 20 43.1 -2.3**
SLVN Son La 43.73 249 *eP* **P 09 14 49.2 +1.0**
comp=N,60nm,1.8s
KURBB Kurchatov Arra 43.75 301 P **P 09 14 46.9 -1.1**
comp=N,18nm,0.9s,baz=70,slow=8.6,SNR=65
KURBB S **S 09 20 43.1 -3.6**
comp=N,1.7nm,1.0s,baz=70,slow=15,SNR=5.1
WHY Whitehorse 44.52 43 *eP* **P 09 14 55.5 +1.6**
comp=N,32nm,0.8s
SKAG Skagway 44.72 45 *eP* **P 09 14 55.6 +0.2**
BESE Bessie Mountai 45.27 46 *eP* **P 09 15 01.9 +2.1**
comp=N,37nm,1.1s
LSA Lhasa 46.47 268 *eP* **P 09 15 11.5 +1.6**
LSA pmax pmax
comp=Z,15nm,0.8s
LSA Lhasa 46.47 268 *eP* **P 09 15 11.5 +1.6**
comp=Z,15nm,0.8s
PDGK Podgornoye 46.51 291 P **P 09 15 08.1 -1.5**
PDGK pmax pmax
comp=Z,17nm,1.0s
BVAR Borovoye Array 47.31 307 P **P 09 15 14.5 -0.9**
comp=Z,5.7nm,0.8s,baz=58,slow=9.1,SNR=25
BVAR pP **pP 09 16 37.0 +0.3**
comp=Z,4.7nm,1.0s,baz=156,slow=8.1,SNR=5.1
BVAR ScP **ScP 09 19 51.2 -1.0**
comp=Z,1.8nm,0.6s,baz=64,slow=6.6,SNR=4.2
BRVK Borovoye 47.35 307*ceP* **P 09 15 14.9 -0.8**
BRVK pmax pmax
comp=Z,28nm,0.9s
BRVK Borovoye 47.35 307 *eP* **P 09 15 14.9 -0.8**
BRVK Borovoye 47.35 307 *eP* **P 09 15 15.2 -0.5**
comp=Z,9.3nm,0.8s
DLBC Dease Lake 47.65 45 P **P 09 15 20.0 +2.0**
comp=Z,22nm,0.9s,baz=287,slow=7.8,SNR=36
DLBC Dease Lake 47.65 45 *eP* **P 09 15 20.3 +2.3**
comp=Z,29nm,1.0s
CHTO Chiang Mai 48.73 251 *eP* **P 09 15 26.8 +0.3**
CHTO pmax pmax
comp=Z,9.0nm,0.8s
CHTO Chiang Mai 48.73 251 *eP* **P 09 15 26.8 +0.3**
comp=Z,9.3nm,0.8s
AAK Ala-Archa 50.00 293*ceP* **P 09 15 35.9 0.0**
AAK pmax pmax
comp=Z,49nm,0.8s
AAK Ala-Archa 50.00 293 *eP* **P 09 15 35.9 0.0**
AAK Ala-Archa 50.00 293 *eP* **P 09 15 36.0 +0.1**
comp=Z,19nm,0.8s
TAPN Taplejung 50.29 268 *eP* **P 09 15 39.0 +0.6**
SVE Sverdlovsk 50.53 315 *eP* **P 09 15 39.0 -0.4**
SVE pmax pmax
comp=Z,26nm,0.8s
KSH Kashi 50.78 289⇓ *i*P **P 09 15 45.8 +4.1**
KSH pP pP 09 17 09.9 +5.5
KSH PP **sP 09 17 48.8 -1.4**
KSH S **S 09 22 27.9 +2.7**
KSH sS sS 09 24 56.1 +2.3
KSH SS **SS 09 26 09.3 +3.7**
KSH pmax pmax
comp=Z,22nm,0.6s
KSH pmax pmax
comp=Z,180nm,7.2s
ODAN Odare 50.82 268 *eP* **P 09 15 42.7 +0.4**
JIRN Jiri 51.12 270 *eP* **P 09 15 45.3 +0.7**
RES Resolute Bay 51.15 18 P **P 09 15 43.0 -0.6**
comp=Z,26nm,0.8s,baz=338,slow=4.5,SNR=10
RES Resolute Bay 51.15 18 *eP* **P 09 15 43.0 -0.6**
comp=Z,31nm,0.8s
GUN Gumba 51.16 270 *eP* **P 09 15 44.9 0.0**
RAMN Ramite 51.30 269 *eP* **P 09 15 46.2 +0.4**
MNAS Manas 51.32 294 P **P 09 15 44.6 -1.0**
MNAS pmax pmax
comp=Z,14nm,0.7s
KKN Kakani 51.65 271 *eP* **P 09 15 48.8 +0.5**
PKI Pulchoki 51.70 270 *eP* **P 09 15 49.1 +0.3**
PKIN Phulchoki 51.71 270 *eP* **P 09 15 49.1 +0.3**
ARU Arti 51.73 315 P **P 09 15 47.0 -1.1**
comp=Z,18nm,0.7s,baz=38,slow=2.5,SNR=29
ARU Arti 51.73 315*d i*P **P 09 15 46.9 -1.3**
ARU *PP **pP 09 17 10.7 -0.6**
ARU 09 17 51.0
ARU S **S 09 22 36.8 -0.5**
ARU SS **SS 09 26 15.6 -3.9**
ARU pmax pmax
comp=Z,37nm,1.2s
ARU Arti 51.73 315 *eP* **P 09 15 46.8 -1.3**
comp=Z,22nm,0.8s
DMN Daman 51.88 271 *eP* **P 09 15 50.7 +0.6**
comp=Z,88nm,1.1s
GKN Gorkha 51.95 271 *eP* **P 09 15 50.8 +0.4**
comp=Z,80nm,0.9s
KK31 Karatay Array 52.20 295 P **P 09 15 50.5 -1.4**
KK31 pmax pmax
comp=Z,16nm,0.8s
KKAR Karatay Array 52.20 295 *eP* **P 09 15 51.6 -0.3**
KKAR pmax pmax
comp=Z,118nm,0.8s
KKAR Karatay Array 52.20 295 *eP* **P 09 15 51.6 -0.3**
comp=Z,118nm,0.8s
YKW3 Yellowknife Ar 52.38 35 *eP* **P 09 15 52.6 -0.2**
comp=Z,8.7nm,0.7s
YKA Yellowknife Ar 52.42 35 P **P 09 15 52.9 -0.2**
comp=Z,10.0nm,0.6s,baz=303,slow=6.9,SNR=17
YKB5 Yellowknife Ar 52.42 35 *eP* **P 09 15 52.9 -0.2**
KOLN Koldanda 52.80 272 *eP* **P 09 15 57.2 +0.6**
PYUN Piuthan 52.99 273 *eP* **P 09 15 58.8 +0.7**
comp=Z,206nm,1.1s
ABKAR Akbulak array 54.88 307 *eP* **P 09 16 10.3 -0.6**
comp=Z,94nm,0.7s
AKTO Aktyubinsk 55.24 309 P **P 09 16 12.7 -0.8**
comp=Z,3.4nm,0.6s,baz=72,slow=9.0,SNR=10.0
AKTO Aktyubinsk 55.24 309 P **P 09 16 12.0 -1.4**
AKTO pmax pmax
comp=Z,4.0nm,0.6s
DAG Danmarks Havn 55.53 356 *i* P **P 09 16 13.4 -1.6**
comp=Z,18nm,1.4s
DAG Danmarks Havn 55.53 356 *i* P **P 09 16 13.4 -1.6**
DAG pmax pmax
comp=Z,43nm,1.4s
LLLB Lillooet 55.69 50 *eP* **P 09 16 17.9 +1.3**
comp=Z,22nm,0.9s
DZET Dzherino 55.72 292 P **P 09 16 15.9 -1.2**
DZET pmax pmax
comp=Z,25nm,0.7s
A04D Lummi Island 56.35 53 P **P 09 16 22.3 +1.1**
baz=306
B05A Bryant 56.95 53 P **P 09 16 26.2 +0.9**
baz=307,SNR=7.6
B06A Marblemount 57.12 52 *eP* **P 09 16 27.8 +1.2**
comp=Z,31nm,1.1s
KLMR Klimovskoe 57.30 326 *eP* **P 09 16 24.4 -3.2**
KLMR pmax pmax
comp=Z,6.0nm,0.8s
D05A Enumclaw 57.65 54 *eP* **P 09 16 32.2 +2.0**
comp=Z,28nm,0.8s
F04D Rainier, OR 57.74 55 P **P 09 16 31.6 +0.7**
baz=307
C06D Leavenworth 57.80 53 P **P 09 16 31.9 +0.7**
baz=307
NLW Nelson Butte 58.00 52 P **P 09 16 34.1 +1.3**
LON Longmire 58.01 54 *eP* **P 09 16 34.4 +1.6**
LON pmax pmax
comp=Z,29nm,1.5s
LON Longmire 58.01 54 *eP* **P 09 16 34.4 +1.6**
comp=Z,29nm,1.5s
G03D McMinnville, O 58.13 56 P **P 09 16 34.8 +1.2**
baz=308
F04A Amboy 58.16 55 *eP* **P 09 16 35.3 +1.6**
comp=Z,40nm,0.8s
KBL Kabul 58.18 288 *eP* **P 09 16 33.6 -0.7**
KBL pmax pmax
comp=Z,26nm,0.8s
KBL Kabul 58.18 288 *eP* **P 09 16 33.6 -0.7**
comp=Z,26nm,0.8s
ETW Entiat 58.29 53 *eP* **P 09 16 35.7 +0.9**
LTY Liberty 58.32 53 *eP* **P 09 16 36.0 +1.0**
comp=Z,31nm,1.3s
B08A Colville Reser 58.36 51 *eP* **P 09 16 36.2 +1.1**
comp=Z,42nm,1.3s
EDM Edmonton 58.37 44 *eP* **P 09 16 35.4 +0.3**
EDM pmax pmax
comp=Z,52nm,0.9s
EDM Edmonton 58.37 44 *eP* **P 09 16 35.4 +0.3**
comp=Z,52nm,0.9s
COR Corvallis 58.49 57 *eP* **P 09 16 38.2 +2.3**
COR pmax pmax
comp=Z,66nm,0.8s
COR Corvallis 58.49 57 *eP* **P 09 16 38.2 +2.3**
comp=Z,66nm,0.8s
TDH Tom, Dick, Har 58.91 56 P **P 09 16 40.8 +1.7**
I03D Drain, OR 59.01 58 P **P 09 16 41.1 +1.6**
baz=308
VFP Flag Point 59.07 55 P **P 09 16 42.0 +1.9**
VBEM Beaver Butte 59.16 56 P **P 09 16 42.6 +1.9**
E07A Sunnyside 59.19 53 *eP* **P 09 16 42.2 +1.5**
comp=Z,29nm,0.9s
G05D Wamic, OR 59.20 55 P **P 09 16 41.9 +1.0**
baz=308,SNR=14
BENWA Benson Ranch 59.29 53 P **P 09 16 42.3 +0.9**
D08A Wollman Farm, 59.38 52 *eP* **P 09 16 43.1 +1.1**
comp=Z,22nm,1.0s
HAWA Hanford 59.47 53 *eP* **P 09 16 44.1 +1.5**
comp=Z,31nm,1.1s
I04A Tendick Farm, 59.48 57 P **P 09 16 44.0 +1.2**
baz=309,SNR=14
G06A Carlson Farm, 59.58 55 *eP* **P 09 16 45.1 +1.6**
comp=Z,57nm,1.6s
NEW Newport 59.58 50 P **P 09 16 44.2 +0.8**
comp=Z,16nm,0.8s,baz=298,slow=6.5,SNR=30
NEW Newport 59.58 50 P **P 09 16 43.8 +0.4**
baz=309,SNR=20
NEW Newport 59.58 50 *eP* **P 09 16 44.4 +1.0**
NEW pmax pmax

NEW Newport 59.58 50 eP P 09 16 44.4 +1.0
NEW Newport 59.58 50 eP P 09 16 44.4 +1.0
comp=Z,26nm,0.9s
I05D Terrebonne, OR 59.75 56 P P 09 16 46.0 +1.4
baz=309,SNR=14
L02D Cave Junction, 59.81 59 P P 09 16 46.6 +1.6
baz=309
HUMO Hull Mountain 59.91 59 eP P 09 16 46.6 +0.9
comp=Z,25nm,1.5s
SUMG Summit 59.99 2 i P P 09 16 45.8 -0.3
comp=Z,38nm,1.1s
SUMG Summit 59.99 2 eP P 09 16 45.9 -0.2
SUMG pmax pmax
comp=Z,24nm,1.0s
SUMG Summit 59.99 2 eP P 09 16 45.9 -0.2
comp=Z,24nm,1.0s
J04D Umpqua Nationa 60.00 58 P P 09 16 47.7 +1.3
baz=309,SNR=13
E09A Wood Farm, Sta 60.14 53 eP P 09 16 47.9 +0.8
comp=Z,45nm,1.0s
J05D Fort Rock, OR 60.47 57 P P 09 16 51.2 +1.7
baz=309,SNR=24
KHMM Horse Mountain 60.54 61 eP P 09 16 51.3 +1.2
comp=Z,29nm,1.1s
K04D Chiloquin, OR 60.59 58 P P 09 16 51.6 +1.3
baz=310
YBH Yreka Blue Hor 60.60 59 eP P 09 16 52.3 +1.9
YBH pmax pmax
comp=Z,16nm,1.1s
YBH Yreka Blue Hor 60.60 59 eP P 09 16 52.3 +1.9
comp=Z,16nm,1.1s
WALA Waterton Lakes 60.73 48 eP P 09 16 52.0 +0.9
comp=Z,35nm,1.2s
M02C Callahan 60.73 60 P P 09 16 53.2 +2.0
baz=310,SNR=11
F10A Beach Ranch, E 60.98 53 eP P 09 16 54.2 +1.4
comp=Z,29nm,1.1s
K05A Summer Lake 61.01 57 eP P 09 16 55.5 +2.2
comp=Z,71nm,1.1s
BSMT Bassoo Peak 61.06 50 eP P 09 16 54.9 +1.5
M04C Macdoel 61.07 59 P P 09 16 55.1 +1.5
baz=310,SNR=10
N02D Trinity Center 61.08 60 P P 09 16 55.5 +1.9
baz=310,SNR=12
BLMT Blacktail Moun 61.17 49 eP P 09 16 55.8 +1.5
PSI Prapat 61.18 239 P P 09 16 55.0 +0.5
comp=Z,5.0nm,0.9s,baz=342,slow=2.6,SNR=4.0
PSI Prapat 61.18 239 P P 09 16 55.0 +0.5
PSI pmax pmax
comp=Z,3.0nm,0.6s
PSI Prapat 61.18 239 eP P 09 16 55.0 +0.5
comp=Z,44nm,1.9s
JTMT Jette 61.38 50 eP P 09 16 57.0 +1.4
WDC Whiskeytown Da 61.43 60 eP P 09 16 56.6 +0.9
WDC pmax pmax
comp=Z,15nm,1.0s
WDC Whiskeytown Da 61.43 60 eP P 09 16 56.6 +0.9
comp=Z,15nm,1.0s
YBMT Yellow Bay 61.45 49 eP P 09 16 57.7 +1.8
FIA0 FINESS Array S 61.53 332 eP P 09 16 55.0 -1.0
FIA0 e*PP pP 09 18 24.3 +1.6
FIA0 FINESS Array S 61.53 332 eP P 09 16 55.0 -1.0
FIA0 epP pP 09 18 24.3 +1.6
FINES FINESS Array B 61.53 332 P P 09 16 55.0 -1.0
comp=Z,10nm,0.7s,baz=38,slow=9.6,SNR=11
FINES pP pP 09 18 24.3 +1.6
comp=Z,3.0nm,0.7s,baz=51,slow=5.5,SNR=3.3
FINES FINESS Array B 61.53 332 eP P 09 16 55.2 -0.8
FINES pmax pmax
comp=Z,10.0nm,0.7s
FINES FINESS Array B 61.53 332 eP P 09 16 55.2 -0.8
BMO Blue Mountains 61.65 54 eP P 09 16 58.8 +1.5
BMO pmax pmax
comp=Z,32nm,1.3s
BMO Blue Mountains 61.65 54 eP P 09 16 58.8 +1.5
comp=Z,32nm,1.3s
SWMT Swartz Lake 61.68 50 eP P 09 16 58.7 +1.2
MOD Modoc Plateau 61.88 58 eP P 09 17 00.3 +1.4
comp=Z,12nm,0.8s
SLMT Seeley Lake 62.12 50 eP P 09 17 01.4 +1.0
MSO Missoula 62.16 50 P P 09 17 01.6 +1.0
baz=311,SNR=26
MSO Missoula 62.16 50 eP P 09 17 00.9 +0.3
comp=Z,37nm,1.1s
OBN Obninsk 62.34 323 eP P 09 17 01.4 -0.1
OBN e*PP pP 09 18 29.9 +1.4
OBN eS S 09 25 12.9 +19
OBN pmax pmax
comp=Z,8.0nm,1.2s
OBN Obninsk 62.34 323 eP P 09 17 01.4 -0.1
FFC Flin Flon 62.41 38 eP P 09 17 02.4 +0.4
FFC pmax pmax
comp=Z,28nm,0.9s
FFC Flin Flon 62.41 38 eP P 09 17 02.4 +0.4
FFC Flin Flon 62.41 38 eP P 09 17 02.4 +0.4
comp=Z,28nm,0.9s
GDXM Geysers 62.41 62 eP P 09 17 04.8 +2.4
comp=Z,21nm,1.3s
CHMT Chamberlain Mo 62.46 50 eP P 09 17 03.4 +0.7
WVOR Wild Horse Val 62.48 56 eP P 09 17 03.9 +1.1
WVOR pmax pmax
comp=Z,33nm,1.0s
WVOR Wild Horse Val 62.48 56 eP P 09 17 03.9 +1.1
comp=Z,33nm,1.0s
ORV Oroville 62.70 60 eP P 09 17 04.8 +0.7
ORV pmax pmax
comp=Z,9.0nm,0.7s
ORV Oroville 62.70 60 eP P 09 17 04.8 +0.7
comp=Z,9.1nm,0.7s
GEYT Alibeck 62.84 297 P P 09 17 05.3 +0.2
comp=Z,18nm,0.6s,baz=27,slow=3.6,SNR=19
HRY Holter Researc 63.32 49 eP P 09 17 09.5 +1.3
MFID Camas Ranch 63.40 54 eP P 09 17 10.0 +1.3
comp=Z,33nm,1.4s
AFDM Forest Hills D 63.40 61 eP P 09 17 10.1 +1.4
comp=Z,14nm,1.3s
EGMT Eagleton 63.48 47 P P 09 17 09.9 +0.8
baz=313,SNR=16
EGMT Eagleton 63.48 47 eP P 09 17 10.0 +0.9
comp=Z,50nm,1.1s
LRM Limekiln Ridge 63.60 50 eP P 09 17 11.3 +1.1
DLMT Dillon 63.83 51 eP P 09 17 13.2 +1.7
comp=Z,34nm,1.0s
PAHR Pah Rah Range 63.83 59 eP P 09 17 12.9 +1.2
comp=Z,25nm,1.1s
MCMT McKenzie Canyo 64.06 51 eP P 09 17 14.2 +1.1
HLID Hailey 64.07 53 P P 09 17 14.5 +1.4
baz=312,SNR=14
HLID Hailey 64.07 53 eP P 09 17 14.6 +1.4
comp=Z,21nm,1.4s
PNTR Pine Nut 64.11 60 eP P 09 17 15.1 +1.5
comp=Z,81nm,1.8s
BOZ Bozeman (W) 64.17 50 P P 09 17 14.6 +0.8
baz=313,SNR=34
BOZ Bozeman (W) 64.17 50 eP P 09 17 15.0 +1.2
BOZ pmax pmax
comp=Z,47nm,1.3s
BOZ Bozeman (W) 64.17 50 eP P 09 17 15.0 +1.2
comp=Z,47nm,1.3s
CMB Columbia Colle 64.35 61 eP P 09 17 16.1 +1.2
CMB pmax pmax
comp=Z,18nm,1.0s
CMB Columbia Colle 64.35 61 eP P 09 17 16.1 +1.2
comp=Z,18nm,1.0s
YERR Yerington 64.39 60 eP P 09 17 16.8 +1.4
comp=Z,43nm,1.3s
BMN Battle Mountai 64.60 57 eP P 09 17 18.1 +1.5
BMN pmax pmax
comp=Z,29nm,1.2s
BMN Battle Mountai 64.60 57 eP P 09 17 18.1 +1.5
comp=Z,29nm,1.2s
WAKR Walker 64.60 60 eP P 09 17 18.3 +1.7
comp=Z,41nm,1.6s
QLMT Earthquake Lak 64.80 51 eP P 09 17 19.5 +1.7
YHB Horse Butte 64.97 50 eP P 09 17 20.2 +1.3
comp=Z,27nm,1.0s
TVH1 TV Hill, Hawth 65.02 60 eP P 09 17 20.9 +1.3
comp=Z,13nm,1.1s
GCMT Greycliff 65.05 49 eP P 09 17 20.4 +1.1
TVH3 East Aurora ar 65.06 60 eP P 09 17 21.5 +1.9
comp=Z,17nm,1.2s
TVH2 Borealis Mine 65.08 60 eP P 09 17 20.9 +1.2
comp=Z,20nm,1.6s
YHH Holmes Hill 65.13 50 eP P 09 17 21.3 +1.3
comp=Z,19nm,1.0s

YMR Madison River 65.15 50 eP P 09 17 21.6 +1.6
comp=Z,28nm,1.2s
YNR Norris Junctio 65.27 50 eP P 09 17 22.7 +1.9
comp=Z,29nm,1.4s
YFT Old Faithful 65.37 51 eP P 09 17 24.2 +2.7
comp=Z,19nm,0.9s
YPP Pitchstone Pla 65.51 51 eP P 09 17 24.8 +2.4
comp=Z,39nm,1.8s
H17A Grant Village 65.54 50 P P 09 17 25.3 +2.7
baz=314,SNR=17
H17A Grant Village 65.54 50 eP P 09 17 25.5 +2.9
comp=Z,33nm,1.0s
IMW Indian Meadow 65.69 51 eP P 09 17 25.4 +1.8
comp=Z,16nm,1.1s
RLMT Red Lodge 65.72 49 P P 09 17 24.8 +1.2
baz=314,SNR=13
RLMT Red Lodge 65.72 49 eP P 09 17 25.1 +1.4
comp=Z,59nm,1.5s
DGMT Dagmar 65.85 44 P P 09 17 24.7 +0.5
baz=316,SNR=18
DGMT Dagmar 65.85 44 eP P 09 17 25.0 +0.8
comp=Z,45nm,0.8s
NC405 NORSAR Array S 65.87 338 eP P 09 17 23.4 -0.6
MOOW Moose Ponds 65.90 51 eP P 09 17 26.6 +1.8
comp=Z,30nm,1.3s
PAGB Antelope Grade 65.97 63 eP P 09 17 26.4 +1.3
comp=Z,34nm,1.2s
TPAW Teton Pass 65.97 51 eP P 09 17 26.9 +1.5
comp=Z,42nm,1.2s
NB2 NORSAR Subarra 66.06 338 P P 09 17 24.1 -1.2
comp=Z,12nm,1.0s,baz=31,slow=6.2
NB200 NORSAR Array S 66.06 338 eP P 09 17 24.3 -1.0
NB200 epP pP 09 18 53.7 +0.2
NOA NORSAR Array B 66.06 338 P P 09 17 24.3 -1.0
comp=Z,7.7nm,0.8s,baz=32,slow=6.1,SNR=18
NOA pP pP 09 18 53.7 +0.2
comp=Z,1.6nm,0.9s,baz=31,slow=6.6,SNR=4.1
LOHW Long Hollow 66.07 51 eP P 09 17 27.5 +1.6
comp=Z,27nm,1.3s
SNOW Snow King Moun 66.09 51 eP P 09 17 27.9 +1.9
comp=Z,26nm,1.3s
REDW Red Top Meadow 66.11 51 eP P 09 17 27.8 +1.7
comp=Z,43nm,1.4s
NBO02 NORSAR Array S 66.14 339 eP P 09 17 24.6 -1.1
LAO LASA Array 66.14 46 P P 09 17 27.2 +1.1
baz=315,SNR=12
LAO LASA Array 66.14 46 eP P 09 17 26.9 +0.8
comp=Z,29nm,1.0s
HVU Hansel Valley 66.16 54 eP P 09 17 27.9 +1.5
HVU pmax pmax
comp=Z,18nm,1.2s
HVU Hansel Valley 66.16 54 eP P 09 17 27.9 +1.5
comp=Z,18nm,1.2s
RCTC Rector, Farmer 66.18 62 P P 09 17 27.8 +1.4
baz=313
HFS Hagfors 66.19 337 P P 09 17 24.7 -1.4
comp=Z,5.4nm,0.8s,baz=46,slow=6.2,SNR=12
TIN Tinemaha, Big 66.28 61 P P 09 17 28.5 +1.3
baz=313
SMMC Simmler 66.40 63 P P 09 17 28.7 +0.9
baz=313
VES Vestal, Richgr 66.59 62 P P 09 17 29.4 +0.4
baz=313,SNR=7.9
BGU Big Grassy Mou 66.61 55 eP P 09 17 31.0 +1.8
comp=Z,4.9nm,0.8s
SPUT Sesh Promonto 66.66 54 eP P 09 17 30.9 +1.3
comp=Z,22nm,1.2s
CWC Cottonwood Cre 66.78 61 P P 09 17 30.9 +0.5
baz=313
PKM Mcpherson Peak 66.80 63 P P 09 17 31.6 +1.1
baz=313
GRAC Grapevine Rang 66.83 60 P P 09 17 32.0 +1.5
baz=313,SNR=16
R11A Troy Canyon, C 66.94 58 P P 09 17 32.4 +1.1
baz=314,SNR=17
R11A Troy Canyon, C 66.94 58 eP P 09 17 32.4 +1.1
comp=Z,19nm,1.4s
HWUT Hardware Ranch 66.94 53 eP P 09 17 32.7 +1.4
comp=Z,34nm,1.2s
ISA Isabella, Lake 67.08 62 P P 09 17 32.5 +0.4
baz=313
SBC Santa Barbara 67.16 64 P P 09 17 33.0 +0.5
baz=313
BW06 Boder Array 67.20 51 P P 09 17 33.6 +0.6
baz=315,SNR=26
BW06 Boulder Array 67.20 51 eP P 09 17 33.1 +0.1
BW06 eP P 09 17 33.9 +0.9
PD31 Pinedale Array 67.20 51 eP P 09 17 33.9 +0.9
PDAR Pinedale Array 67.20 51 P P 09 17 33.8 +0.8
comp=Z,14nm,0.7s,baz=291,slow=1.5,SNR=143
PDAR pP pP 09 19 03.6 +2.0
comp=Z,0.9nm,0.8s,baz=270,slow=3.3,SNR=3.0
ARVC Arvin 67.23 63 P P 09 17 33.5 +0.5
baz=313
DUG Dugway, Tooele 67.23 55 P P 09 17 34.6 +1.5
baz=314,SNR=25
DUG Dugway, Tooele 67.23 55 eP P 09 17 34.5 +1.4
DUG pmax pmax
comp=Z,27nm,1.0s
DUG Dugway, Tooele 67.23 55 eP P 09 17 34.5 +1.4
DUG Dugway, Tooele 67.23 55 eP P 09 17 34.5 +1.4
comp=Z,27nm,1.0s
KVAR Kislovodsk Arr 67.38 311 P P 09 17 34.4 +0.5
comp=Z,17nm,0.8s,baz=257,slow=5.2,SNR=5.7
KIV Kislovodsk 67.38 311 eP P 09 17 32.9 -1.0
KIV pmax pmax
comp=Z,23nm,0.9s
KIV Kislovodsk 67.38 311 eP P 09 17 32.9 -1.0
KIV Kislovodsk 67.38 311 eP P 09 17 32.6 -1.3
comp=Z,19nm,0.7s
MPMC Manual Prospec 67.39 61 P P 09 17 34.9 +0.7
baz=314,SNR=16
KBZ Khabaz 67.44 311 P P 09 17 34.8 +0.7
comp=Z,10nm,0.8s,baz=59,slow=3.4,SNR=21
FURC Furnace Creek, 67.48 60 P P 09 17 35.4 +1.0
baz=314,SNR=32
TPNV Topopah Spring 67.51 60 P P 09 17 36.2 +1.3
baz=314,SNR=23
TPNV Topopah Spring 67.51 60 eP P 09 17 36.0 +1.1
TPNV pmax pmax
comp=Z,20nm,1.0s
TPNV Topopah Spring 67.51 60 eP P 09 17 36.0 +1.1
comp=Z,20nm,1.0s
ZEI Tsey 67.58 309 eP P 09 17 33.9 -1.4
ZEI pmax pmax
comp=Z,25nm,0.9s
LRMC Laurel Mtn Rad 67.67 62 P P 09 17 36.6 +0.7
baz=314,SNR=13
JLU Jordanelle 67.70 54 eP P 09 17 37.7 +1.6
comp=Z,28nm,1.5s
BLG Laguna Peak, P 67.78 63 P P 09 17 37.2 +0.8
baz=314
NLU North Lily Min 67.81 55 eP P 09 17 38.1 +1.4
comp=Z,20nm,0.9s
NEY Neytrino 67.86 310 i P P 09 17 37.2 +0.2
NEY pmax pmax
comp=Z,1.0nm,0.8s
EDW2 Edwards Air Fo 67.90 62 P P 09 17 38.1 +0.9
baz=314,SNR=19
SHOC Shoshone, Teco 68.22 60 P P 09 17 40.0 +0.9
baz=314
ULM Lac du Bonnet 68.23 38 P P 09 17 38.5 -0.4
comp=Z,15nm,0.8s,baz=326,slow=6.8,SNR=13
ULM Lac du Bonnet 68.23 38 eP P 09 17 38.5 -0.4
comp=Z,27nm,1.1s
MWC Mount Wilson 68.31 63 eP P 09 17 40.8 +0.9
MWC pmax pmax
comp=Z,20nm,1.2s
MWC Mount Wilson 68.31 63 eP P 09 17 40.8 +0.9
comp=Z,20nm,1.2s
GSC Goldstone, Bar 68.31 61 P P 09 17 40.5 +0.7
baz=314,SNR=8.1
GSC Goldstone, Bar 68.31 61 eP P 09 17 40.8 +1.0
GSC pmax pmax
comp=Z,11nm,1.1s
GSC Goldstone, Bar 68.31 61 eP P 09 17 40.8 +1.0
comp=Z,11nm,1.1s
WRAB Tennant Creek 68.32 193 i P P 09 17 40.1 +0.4
WRAB pmax pmax
comp=Z,5.0nm,0.4s
WR1 Warramunga Arr 68.33 193 eP P 09 17 40.2 +0.5
comp=Z,37nm,1.9s
WR1 epP pP 09 19 11.0 +2.2
WRA Warramunga Arr 68.33 193 P P 09 17 40.2 +0.5
comp=Z,1.9nm,0.5s,baz=10,slow=6.6,SNR=24
WRA pP pP 09 19 11.0 +2.2
comp=Z,1.7nm,1.1s,baz=8.1,slow=6.8,SNR=3.6

MDND Maddock 68.42 42 P P 09 17 40.4 +0.3
baz=318,SNR=11
MDND Maddock 68.42 42 eP P 09 17 40.3 +0.3
comp=Z,70nm,0.9s
RPV Rancho Palos V 68.43 63 eP P 09 17 43.5 +3.2
SHPR Sheep Range 68.45 59 eP P 09 17 42.1 +1.5
comp=Z,17nm,1.1s
BFSC Mount Baldy Ra 68.54 63 P P 09 17 41.7 +0.5
baz=314,SNR=11
AKASG Malin Array Be 68.60 323 P P 09 17 39.7 -1.4
comp=Z,1.5nm,0.3s,baz=36,slow=6.6,SNR=4.3
AKASG pP pP 09 19 09.2 -0.9
comp=Z,2.7nm,0.6s,baz=38,slow=7.1,SNR=7.2
AKBB Malin Array Si 68.60 323 eP P 09 17 40.2 -0.9
AKBB pmax pmax
comp=Z,7.0nm,0.9s
AKBB Malin Array Si 68.60 323 eP P 09 17 40.1 -0.9
comp=Z,6.6nm,0.9s
KIEV Kiev 68.61 323 i P P 09 17 39.2 -2.0
KIEV pmax pmax
comp=Z,5.0nm,0.8s
KIEV Kiev 68.61 323 eP P 09 17 39.3 -1.8
comp=Z,7.4nm,1.0s
CIS Catalina Islan 68.66 64 P P 09 17 42.3 +0.4
baz=314
A31A Linda, St. Vin 68.67 40 P P 09 17 41.4 -0.2
baz=319
TUQ Turquoise Moun 68.74 61 P P 09 17 43.6 +1.2
baz=314,SNR=15
TMUT Trail Mountain 68.74 55 eP P 09 17 43.9 +1.3
comp=Z,18nm,0.9s
MSU Marysvale 68.75 56 eP P 09 17 44.3 +1.7
MSU Marysvale 68.75 56 eP P 09 17 44.3 +1.7
CCUT Cedar City 68.76 57 eP P 09 17 43.0 +0.4
comp=Z,32nm,1.7s
B31A Greenbush Farm 68.85 40 P P 09 17 42.9 +0.2
baz=319,SNR=5.8
K22A Casper 68.86 50 P P 09 17 43.4 +0.3
baz=316,SNR=7.0
K22A Casper 68.86 50 eP P 09 17 43.7 +0.6
comp=Z,48nm,1.7s
SZCU Shurtz Canyon 68.88 57 eP P 09 17 44.9 +1.5
comp=Z,8.2nm,0.9s
HEC Hector,Ludlow 68.92 61 P P 09 17 44.3 +0.9
baz=314,SNR=14
BBRC Big Bear Solar 68.96 62 P P 09 17 44.7 +0.7
baz=314,SNR=6.6
A32A Rocking H Ranc 68.98 39 P P 09 17 43.0 -0.5
baz=320,SNR=7.1
RSSD Black Hills 69.06 47 P P 09 17 44.7 +0.4
baz=317
RSSD Black Hills 69.06 47 eP P 09 17 44.7 +0.4
RSSD pmax pmax
comp=Z,69nm,1.5s
RSSD Black Hills 69.06 47 eP P 09 17 44.7 +0.4
comp=Z,69nm,1.5s
RWWY Rawlins 69.20 51 eP P 09 17 46.2 +0.9
comp=Z,29nm,1.0s
LCMT Little Creek M 69.20 58 eP P 09 17 46.7 +1.5
comp=Z,24nm,1.4s
SRU San Rafael Swe 69.25 54 eP P 09 17 47.0 +1.4
SRU pmax pmax
comp=Z,31nm,0.9s
SRU San Rafael Swe 69.25 54 eP P 09 17 47.0 +1.4
comp=Z,31nm,0.9s
MURC Murrieta 69.26 63 P P 09 17 46.2 +0.8
baz=314
C31A Landman Farms, 69.29 41 P P 09 17 45.2 -0.2
baz=319,SNR=10
GMRC Granite Mounta 69.35 61 P P 09 17 46.8 +0.7
baz=315,SNR=12
B32A Ashes, Strandq 69.36 40 P P 09 17 45.4 -0.3
baz=320,SNR=14
PKCU Pink Cliffs 69.43 57 eP P 09 17 48.6 +1.8
comp=Z,9.2nm,0.9s
A33A Warroad 69.44 39 P P 09 17 45.9 -0.4
baz=320,SNR=11
KNB Kanab 69.44 57 eP P 09 17 48.8 +2.1
KNB pmax pmax
comp=Z,21nm,1.1s
KNB Kanab 69.44 57 eP P 09 17 48.8 +2.1
comp=Z,21nm,1.1s
LDFC Landfair 69.47 60 eP P 09 17 47.8 +1.0
comp=Z,29nm,1.0s
PFO Pinyon Flats O 69.69 62 P P 09 17 48.6 +0.4
baz=315,SNR=6.4
PFO Pinyon Flats O 69.69 62 eP P 09 17 49.2 +1.0
PFO pmax pmax
comp=Z,12nm,1.1s
PFO Pinyon Flats O 69.69 62 eP P 09 17 49.2 +1.0
comp=Z,12nm,1.1s
BELC Belle Mtn. Jos 69.69 62 P P 09 17 48.6 +0.3
baz=315,SNR=7.4
TPFO Pinon Flats 69.70 62 P P 09 17 48.9 +0.6
baz=315,SNR=7.2
AGMN Agassiz Nation 69.73 40 P P 09 17 47.5 -0.5
baz=320,SNR=7.1
AGMN Agassiz Nation 69.73 40 eP P 09 17 47.5 -0.5
comp=Z,18nm,0.9s
O20A White River Ci 69.76 52 P P 09 17 49.1 +0.5
baz=316,SNR=8.0
O20A White River Ci 69.76 52 eP P 09 17 49.6 +1.0
comp=Z,17nm,1.0s
109C Camp Elliot, M 69.80 63 P P 09 17 49.3 +0.6
baz=315
D31A Mcclaflin, Tow 69.86 41 P P 09 17 48.8 0.0
baz=320
B33A Robert and Kas 69.86 39 P P 09 17 48.0 -0.9
baz=320,SNR=5.3
IRM Iron Mountain 70.09 61 P P 09 17 51.4 +0.9
baz=315,SNR=15
B34A Aery, Baudette 70.10 39 P P 09 17 49.5 -0.8
baz=321,SNR=7.8
D32A Dogwood Acres, 70.11 41 P P 09 17 50.0 -0.3
baz=320,SNR=8.7
U15A North Rim 70.15 58 eP P 09 17 53.0 +1.9
comp=Z,22nm,1.0s
E31A Nome 70.16 42 P P 09 17 50.7 +0.1
baz=320,SNR=20
W13A Hualapai Mount 70.17 60 eP P 09 17 52.2 +1.0
comp=Z,14nm,1.3s
C33A Trail 70.18 40 P P 09 17 50.2 -0.5
baz=320,SNR=7.3
BAR Barrett 70.21 63 eP P 09 17 52.1 +0.9
comp=Z,7.1nm,1.0s
MONP Monument Peak, 70.21 63 P P 09 17 52.0 +0.6
baz=315
BC3 Big Chuckawall 70.26 62 P P 09 17 52.0 +0.4
baz=315,SNR=8.9
PHWY Pilot Hill 70.39 50 eP P 09 17 53.2 +0.8
comp=Z,8.9nm,1.1s
N23A Red Feather La 70.43 50 P P 09 17 53.1 +0.4
baz=317,SNR=6.9
N23A Red Feather La 70.43 50 eP P 09 17 53.9 +1.2
comp=Z,11nm,0.9s
PV09 Paradox Valley 70.45 54 eP P 09 17 54.3 +1.4
E32A Braaten, Kindr 70.50 41 P P 09 17 52.4 -0.3
baz=320
F31A Hecla 70.52 43 P P 09 17 52.7 -0.1
baz=320,SNR=20
SWSC Sam W. Stewart 70.55 62 P P 09 17 53.6 +0.5
baz=315
IKP In-Ko-Pah, Jac 70.57 63 P P 09 17 54.0 +0.6
baz=315
PDMCI Parker Dam,Lak 70.58 60 P P 09 17 54.2 +0.9
baz=315,SNR=11
B35A Bob, Littlefor 70.58 38 P P 09 17 52.5 -0.6
baz=321,SNR=9.7
PV10 Paradox Valley 70.59 54 eP P 09 17 55.4 +1.8
D33A AnnSam, Waubun 70.62 40 P P 09 17 52.7 -0.7
baz=320,SNR=5.5
C34A RKJ Ranch, Bem 70.63 39 P P 09 17 52.9 -0.5
baz=321
PV04 Paradox Valley 70.65 54 eP P 09 17 54.9 +1.0
Y12C Blythe 70.74 61 P P 09 17 55.4 +1.1
baz=315,SNR=16
Y12C Blythe 70.74 61 eP P 09 17 55.6 +1.3
comp=Z,34nm,1.3s
PV05 Paradox Valley 70.77 54 eP P 09 17 56.0 +1.2
D34A Park Rapids 70.95 40 P P 09 17 54.7 -0.6
baz=321,SNR=12
C35A Jirik Farms, M 70.99 39 P P 09 17 54.9 -0.6
baz=321,SNR=6.3
PV01 Paradox Valley 71.02 54 eP P 09 17 57.1 +0.9
G31A Conde 71.02 43 P P 09 17 55.7 -0.1
baz=320,SNR=9.4
F32A Veblen 71.02 42 P P 09 17 55.3 -0.5
baz=320,SNR=6.1

E33A **Westby DABS, E** 71.04 41 P P 09 17 55.4 -0.4
baz=321,SNR=9.6
GLA **Glamis** 71.06 62 P P 09 17 57.1 +0.8
baz=315
SMCO **Snowmass** 71.13 52 *e*P P 09 17 58.0 +0.9
comp=Z,12nm,0.8s
SUSD **Miller** 71.27 44 P P 09 17 57.3 0.0
baz=320,SNR=5.6
G32A **Webster** 71.32 43 P P 09 17 57.6 0.0
baz=320,SNR=24
WUAZ **Wupatki** 71.32 58 P P 09 17 59.2 +1.3
baz=316,SNR=11
WUAZ **Wupatki** 71.32 58 *e*P P 09 17 59.4 +1.5
comp=Z,15nm,1.0s
KOPT **Kop Dagi** 71.35 309 *e*P P 09 17 58.0 -0.2
comp=Z,52nm,0.3s
E34A **Wadena** 71.40 40 P P 09 17 57.7 -0.3
baz=321
ISCO **Idaho Springs** 71.40 51 P P 09 17 59.3 +0.8
baz=317,SNR=13
ISCO **Idaho Springs** 71.40 51 *e*P P 09 17 59.8 +1.3
ISCO pmax pmax
comp=Z,22nm,1.4s
ISCO **Idaho Springs** 71.40 51 *e*P P 09 17 59.8 +1.3
comp=Z,22nm,1.4s
F33A **5 Mile Ranch,** 71.42 41 P P 09 17 58.0 -0.2
baz=321,SNR=6.8
C36A **Pine Crest Far** 71.43 38 P P 09 17 57.7 -0.4
baz=322,SNR=10.0
D35A **Remer** 71.44 39 P P 09 17 57.6 -0.7
baz=322
H31A **Wolsey** 71.46 44 P P 09 17 58.2 -0.2
baz=320,SNR=19
Y14A **Wickenburg** 71.50 60 *e*P P 09 18 00.1 +1.2
comp=Z,118nm,1.4s
E35A **Pequot Lakes** 71.70 40 P P 09 17 59.3 -0.5
baz=321,SNR=7.3
C37A **Embarrass** 71.72 38 P P 09 17 59.5 -0.4
baz=322,SNR=10
MVCO **Mesa Verde** 71.72 55 P P 09 18 01.3 +1.0
baz=317,SNR=19
MVCO **Mesa Verde** 71.72 55 *e*P P 09 18 01.4 +1.0
comp=Z,20nm,0.8s
D36A **Goodland** 71.75 39 P P 09 17 59.3 -0.8
baz=322,SNR=5.1
I31A **Royce, Wessing** 71.78 44 P P 09 18 00.1 -0.2
baz=320
EYMN **Ely** 71.84 37 P P 09 18 00.3 -0.2
baz=323,SNR=14
EYMN **Ely** 71.84 37 *e*P P 09 18 00.3 -0.2
comp=Z,34nm,0.8s
G33A **Ortonville** 71.85 42 P P 09 18 00.7 0.0
baz=321,SNR=14
113A **Mohawk Valley,** 71.89 61 *e*P P 09 18 02.3 +1.3
comp=Z,16nm,1.3s
F34A **Alexandria** 71.92 41 P P 09 18 00.8 -0.3
baz=321,SNR=8.1
H32A **Carlson Farm,** 71.93 43 P P 09 18 00.9 -0.2
baz=320,SNR=13
AS31 **Alice Springs** 72.05 193 *e*P P 09 18 03.5 +1.5
comp=Z,1.3nm,1.0s
ASAR **Alice Springs** 72.05 193 P P 09 18 03.5 +1.5
comp=Z,1.4nm,0.8s,baz=9.4,slow=5.6,SNR=15
ASAR pP pP 09 19 34.7 +2.5
comp=Z,1.4nm,1.1s,baz=12,slow=4.7,SNR=3.3
X16A **Lo Mia Camp, P** 72.07 59 *e*P P 09 18 04.0 +1.6
comp=Z,17nm,0.9s
D37A **Cotton** 72.07 38 P P 09 18 01.4 -0.5
baz=322,SNR=5.6
C38A **Sawbill Land.** 72.11 37 P P 09 18 01.6 -0.6
baz=323,SNR=18
H33A **Prehn Over Nor** 72.11 42 P P 09 18 02.1 -0.1
baz=321,SNR=12
F35A **Swanville** 72.17 40 P P 09 18 02.1 -0.4
baz=322,SNR=9.0
G34A **Benson** 72.18 41 P P 09 18 02.6 0.0
baz=321,SNR=9.8
E36A **McGregor** 72.22 39 P P 09 18 02.5 -0.3
baz=322,SNR=9.8
J31A **Geddes** 72.24 45 P P 09 18 03.1 +0.1
baz=320,SNR=14
S22A **4UR Ranch, Cre** 72.25 53 P P 09 18 04.9 +1.4
baz=317,SNR=20
S22A **4UR Ranch, Cre** 72.25 53 *e*P P 09 18 04.9 +1.4
comp=Z,17nm,1.0s
Q24A **Divide** 72.26 51 P P 09 18 04.2 +0.7
baz=318
Q24A **Divide** 72.26 51 *e*P P 09 18 04.4 +0.8
comp=Z,10nm,1.0s
I32A **Karley and Nic** 72.28 43 P P 09 18 03.1 -0.1
baz=320,SNR=5.9
OGNE **Ogallala** 72.40 48 P P 09 18 04.5 +0.4
baz=319
OGNE **Ogallala** 72.40 48 *e*P P 09 18 04.7 +0.6
comp=Z,47nm,1.0s
C39A **Grand Marais** 72.49 37 P P 09 18 03.5 -0.8
baz=324
W18A **Petrified Fore** 72.54 57 P P 09 18 06.2 +1.1
baz=317,SNR=5.3
W18A **Petrified Fore** 72.54 57 *e*P P 09 18 06.5 +1.4
comp=Z,10nm,1.1s
H34A **Spellman Lake,** 72.56 42 P P 09 18 04.8 0.0
baz=321
I33A **Coleman** 72.57 43 P P 09 18 05.0 +0.1
baz=321,SNR=12
J32A **Parkston** 72.60 44 P P 09 18 04.8 -0.3
baz=320,SNR=13
F36A **Milaca** 72.62 40 P P 09 18 04.6 -0.6
baz=322
BUR08 **Bucovina Ar. S** 72.64 323 *e*P P 09 18 05.2 -0.2
G35A **Watkins** 72.71 41 P P 09 18 05.6 0.0
baz=322,SNR=5.4
STHS **Stebnicka Huta** 72.74 327 *e*P P 09 18 06.8 +1.0
STHS pmax pmax
comp=Z,4.0nm,1.3s
STHS **Stebnicka Huta** 72.74 327 *e*P P 09 18 06.8 +1.0
K31A **O'Neill** 72.74 45 P P 09 18 06.1 +0.2
baz=320,SNR=8.4
X18A **Snowflake** 72.84 58 *e*P P 09 18 08.5 +1.6
comp=Z,12nm,1.0s
E38A **The Farm, Brul** 72.88 38 P P 09 18 06.2 -0.4
baz=323,SNR=11
ECSD **EROS Data Cent** 72.90 43 P P 09 18 06.8 -0.1
baz=321,SNR=19
ECSD **EROS Data Cent** 72.90 43 *e*P P 09 18 06.8 -0.1
comp=Z,26nm,0.9s
H35A **Sunnyside Ranc** 72.96 41 P P 09 18 07.5 +0.3
baz=322,SNR=20
SDCO **Great Sand Dun** 72.97 52 P P 09 18 08.5 +0.9
baz=318,SNR=18
SDCO **Great Sand Dun** 72.97 52 *e*P P 09 18 08.6 +0.9
comp=Z,13nm,1.3s
I34A **Hadley** 73.01 42 P P 09 18 07.4 0.0
baz=321
G36A **St. Michael** 73.02 40 P P 09 18 07.1 -0.3
baz=322
214A **Organ Pipe Nat** 73.03 61 P P 09 18 09.0 +1.1
baz=316,SNR=7.8
214A **Organ Pipe Nat** 73.03 61 *e*P P 09 18 08.6 +0.7
comp=Z,63nm,1.4s
J33A **Davis** 73.05 44 P P 09 18 07.7 0.0
baz=321
NIE **Niedzica** 73.08 327 *e*P P 09 18 08.6 +0.7
NIE **Niedzica** 73.08 327 *e*P P 09 18 08.6 +0.7
K32A **Verdigre** 73.09 45 P P 09 18 07.7 -0.3
baz=320,SNR=5.2
F37A **Hinrichs Farm,** 73.12 39 P P 09 18 07.6 -0.4
baz=323,SNR=6.5
F38A **Pierce - Schro** 73.25 39 P P 09 18 08.9 +0.1
baz=323,SNR=15
SPMN **Marine on St.** 73.44 40 P P 09 18 09.4 -0.5
baz=323,SNR=5.3
SPMN **Marine on St.** 73.44 40 *e*P P 09 18 09.7 -0.2
comp=Z,26nm,1.3s
H36A **Jessenland, He** 73.45 41 P P 09 18 10.0 +0.1
baz=322
E39A **Mellen** 73.47 38 P P 09 18 09.6 -0.5
baz=324,SNR=9.6
KSCO **Kaye Shedlock'** 73.54 50 P P 09 18 10.9 +0.1
baz=319
KSCO **Kaye Shedlock'** 73.54 50 *e*P P 09 18 11.4 +0.7
comp=Z,17nm,1.1s
I35A **Creekview Farm** 73.55 42 P P 09 18 10.3 -0.3
baz=322
J34A **George** 73.55 43 P P 09 18 10.3 -0.2
baz=321
L32A **Elgin** 73.57 45 P P 09 18 10.9 +0.1
baz=320,SNR=7.3
K33A **Hardington** 73.59 44 P P 09 18 10.9 +0.1
baz=321,SNR=6.6
LANS **Liptovska Anna** 73.61 327 *e*P P 09 18 11.8 +0.9
LANS **Liptovska Anna** 73.61 327 *e*P P 09 18 11.8 +0.9
E40A **Wakefield** 73.69 37 P P 09 18 11.6 +0.2
baz=324,SNR=33
F39A **Loretta** 73.69 38 P P 09 18 11.2 -0.1
baz=323,SNR=6.8
DPC **Dobruska-Polom** 73.71 330 *e*P P 09 18 11.8 +0.4
DPC **Dobruska-Polom** 73.71 330 *e*P P 09 18 11.8 +0.4
D41A **Chassel** 73.73 36 P P 09 18 11.0 -0.5
baz=325
J35A **Milford** 73.83 42 P P 09 18 12.0 -0.2
baz=322
I36A **Fitzsimmons Fa** 73.86 41 P P 09 18 12.1 -0.2
baz=322,SNR=5.6
G38A **Ridgeland** 73.89 39 P P 09 18 11.7 -0.8
baz=323,SNR=5.9
H37A **Dierke Farm, C** 73.90 40 P P 09 18 12.5 0.0
baz=323
K34A **Le Mars** 73.95 43 P P 09 18 12.5 -0.4
baz=321,SNR=6.2
BGNE **Belgrade** 73.96 46 P P 09 18 12.9 -0.1
baz=320,SNR=5.6
BGNE **Belgrade** 73.96 46 *e*P P 09 18 13.0 0.0
comp=Z,50nm,0.9s
TUC **Tucson** 73.97 60 *e*P P 09 18 14.4 +1.1
TUC pmax pmax
comp=Z,10.0nm,1.0s
TUC **Tucson** 73.97 60 *e*P P 09 18 14.4 +1.1
comp=Z,9.7nm,1.0s
CLL **Collm** 73.97 332 *i* P P 09 18 11.9 -0.9
CLL pmax pmax
comp=Z,12nm,0.8s
CLL **Collm** 73.97 332 *e*P P 09 18 11.9 -0.9
CLL **Collm** 73.97 332 *i* P P 09 18 11.9 -0.9
comp=Z,12nm,0.8s
CLL *e*pP pP 09 19 45.0 +1.6
T25A **Trinidad** 74.00 52 P P 09 18 14.1 +0.6
baz=318,SNR=13
T25A **Trinidad** 74.00 52 *e*P P 09 18 14.3 +0.7
comp=Z,20nm,1.0s
F40A **Park Falls** 74.02 38 P P 09 18 12.9 -0.4
baz=324,SNR=7.7
G39A **Holcombe** 74.09 39 P P 09 18 12.8 -0.8
baz=323
H38A **Maiden Rock** 74.10 40 P P 09 18 13.3 -0.4
baz=323
I37A **Lemond, Waseca** 74.13 41 P P 09 18 14.1 +0.2
baz=322,SNR=9.3
J36A **Seneca 1, Swea** 74.25 42 P P 09 18 14.3 -0.3
baz=322,SNR=6.3
M33A **Taylor Creek F** 74.29 45 P P 09 18 14.8 -0.1
baz=321,SNR=5.9
K35A **Storm Lake** 74.32 43 P P 09 18 14.4 -0.6
baz=322
L34A **Svendsen Farm,** 74.38 44 P P 09 18 15.0 -0.3
baz=321
EKA **Eskdalemuir Ar** 74.46 343 P P 09 18 14.1 -1.4
comp=Z,3.2nm,0.7s,baz=18,slow=5.6,SNR=6.2
ANMO **Albuquerque** 74.50 55 P P 09 18 17.6 +1.2
baz=318
ANMO **Albuquerque** 74.50 55 *e*P P 09 18 17.7 +1.2
ANMO pmax pmax
comp=Z,17nm,1.4s
ANMO **Albuquerque** 74.50 55 *e*P P 09 18 17.7 +1.3
comp=Z,17nm,1.4s
E42A **Champion** 74.51 36 P P 09 18 15.7 -0.3
baz=325
G40A **Rib Lake** 74.51 38 P P 09 18 15.8 -0.2
baz=324
H39A **Augusta** 74.53 39 P P 09 18 15.7 -0.4
baz=324
I38A **Scanlan Farm,** 74.58 40 P P 09 18 15.9 -0.6
baz=323
F41A **Three Lakes** 74.59 37 P P 09 18 16.4 -0.1
baz=324,SNR=8.5
J37A **Redenius Farm,** 74.62 42 P P 09 18 16.6 -0.1
baz=322,SNR=7.1
M34A **Aspy Farms, Fr** 74.64 44 P P 09 18 16.8 -0.1
baz=321,SNR=7.9
L35A **Bielow Farm, R** 74.65 43 P P 09 18 16.3 -0.6
baz=322
K36A **Gilmore City** 74.74 42 P P 09 18 17.2 -0.2
baz=322,SNR=7.5
N33A **J R K, Exete** 74.81 46 P P 09 18 17.2 -0.6
baz=321
H40A **Chili** 74.95 39 P P 09 18 18.3 -0.2
baz=324
F42A **Maple Grove Fa** 74.97 37 P P 09 18 18.1 -0.4
baz=325
G41A **Antigo** 74.98 38 P P 09 18 18.4 -0.3
baz=324
K37A **Belmond** 75.01 42 P P 09 18 18.5 -0.4
baz=322,SNR=16
BR101 **Keskin Array S** 75.06 313 *e*P P 09 18 19.4 0.0
BRTR **Keskin Array B** 75.06 313 P P 09 18 19.4 0.0
comp=Z,1.6nm,0.8s,baz=74,slow=5.5,SNR=6.6
BRTR **Keskin Array B** 75.06 313 *ce*P P 09 18 19.6 +0.2
BRTR pmax pmax
comp=Z,2.0nm,0.8s
L36A **Harm Buss Farm** 75.06 43 P P 09 18 18.9 -0.3
baz=322
I39A **Houston** 75.08 40 P P 09 18 18.7 -0.6
baz=324,SNR=8.2
M35A **Nesa** 75.08 44 P P 09 18 19.4 0.0
baz=322,SNR=17
J38A **Wedel Dairy, R** 75.09 41 P P 09 18 18.7 -0.6
baz=323
CBKS **Cedar Bluff** 75.16 48 P P 09 18 19.4 -0.5
baz=320
CBKS **Cedar Bluff** 75.16 48 *e*P P 09 18 19.8 -0.1
CBKS pmax pmax
comp=Z,19nm,1.0s
CBKS **Cedar Bluff** 75.16 48 *e*P P 09 18 19.8 -0.1
comp=Z,19nm,1.0s
N34A **Lincoln** 75.19 45 P P 09 18 19.5 -0.4
baz=321
O33A **Hebron** 75.26 46 P P 09 18 19.7 -0.7
baz=321
H41A **Junction City** 75.27 38 P P 09 18 19.9 -0.4
baz=324
BR231 **Keskin MP Arra** 75.39 314 *e*P P 09 18 20.3 -0.9
J39A **Decorah** 75.42 40 P P 09 18 20.3 -0.9
baz=324,SNR=7.0
I40A **Norwalk** 75.44 39 P P 09 18 20.9 -0.4
baz=324
L37A **Phoenix Point,** 75.47 42 P P 09 18 21.1 -0.3
baz=323,SNR=12
K38A **Parkersburg** 75.50 41 P P 09 18 21.0 -0.6
baz=323
M36A **Felix, Anita** 75.51 43 P P 09 18 21.6 -0.1
baz=322,SNR=6.2
319A **Douglas** 75.52 59 *e*P P 09 18 23.6 +1.4
comp=Z,30nm,0.9s
121A **Cookes Peak, D** 75.53 58 P P 09 18 23.8 +1.6
baz=318,SNR=11
121A **Cookes Peak, D** 75.53 58 *e*P P 09 18 23.6 +1.4
comp=Z,24nm,1.2s
N35A **Tabor** 75.58 44 P P 09 18 22.3 +0.2
baz=322,SNR=9.0
O34A **Beatrice** 75.61 45 P P 09 18 21.6 -0.7
baz=321,SNR=11
I41A **Arkdale** 75.63 39 P P 09 18 21.9 -0.4
baz=324
KHC **Kasperske Hory** 75.67 331 *e*P P 09 18 22.8 +0.3
KHC **Kasperske Hory** 75.67 331 *e*P P 09 18 22.4 -0.1
KHC pmax pmax
comp=Z,4.0nm,1.1s
KHC **Kasperske Hory** 75.67 331 *e*P P 09 18 22.4 -0.1
comp=Z,3.9nm,1.1s
J40A **Soldiers Grove** 75.79 40 P P 09 18 22.4 -0.9
baz=324
K39A **Oelwein** 75.84 41 P P 09 18 22.7 -0.9
baz=324
GERES **GERESS Array B** 75.88 331 P P 09 18 23.0 -0.8
comp=Z,0.6nm,0.3s,baz=31,slow=5.4,SNR=8.1
GERES pP pP 09 19 56.4 +1.5
comp=Z,0.5nm,0.2s,baz=12,slow=2.4,SNR=2.6
SCIA **State Center** 75.88 42 *e*P P 09 18 24.0 +0.2
comp=Z,47nm,0.9s
GEA0 **GERESS Array S** 75.89 331 *e*P P 09 18 23.1 -0.7
WET **Wettzell** 75.89 331 P P 09 18 24.6 +0.8
WET pmax pmax
comp=Z,13nm,1.2s
M37A **Trindle Farm,** 75.90 43 P P 09 18 24.0 +0.1
baz=323
O35A **Humboldt** 75.92 45 P P 09 18 23.4 -0.6
baz=322
N36A **Muff Farm, Cla** 75.94 44 P P 09 18 24.2 +0.1
baz=322
P34A **Walnut Farm, R** 76.04 46 P P 09 18 24.0 -0.7
baz=322,SNR=5.2
J41A **Loganville** 76.13 39 P P 09 18 24.6 -0.6
baz=324
K40A **Colesburg** 76.18 40 P P 09 18 24.7 -0.7
baz=324
L39A **Vinton** 76.26 41 P P 09 18 25.4 -0.5
baz=324
M38A **Pleasantville** 76.28 42 P P 09 18 25.9 -0.1
baz=323,SNR=9.4
N37A **Lee Faris, Mou** 76.33 44 P P 09 18 26.6 +0.2
baz=323,SNR=7.7
P35A **Duane Minner,** 76.44 45 P P 09 18 26.6 -0.4
baz=322
O36A **Bolckow** 76.47 44 P P 09 18 27.1 0.0
baz=322,SNR=9.8
KSU1 **Kansas State U** 76.49 46 P P 09 18 26.9 -0.4
baz=322
K41A **Shullsburg** 76.61 40 P P 09 18 27.3 -0.6
baz=324
L40A **Anamosa** 76.65 41 P P 09 18 27.4 -0.7
baz=324
MEM **Membach** 76.66 336 P P 09 18 27.5 -0.4
comp=Z,11nm,1.3s
M39A **Webster** 76.69 42 P P 09 18 27.9 -0.4
baz=324,SNR=7.8
N38A **Joes South For** 76.76 43 P P 09 18 28.6 0.0
baz=323
P36A **Good Intent, A** 76.76 45 P P 09 18 28.3 -0.4
baz=322
R34A **Isabella, Hill** 76.80 47 P P 09 18 28.5 -0.5
baz=322
O37A **Wolven Farm, M** 76.83 44 P P 09 18 29.1 0.0
baz=323,SNR=7.8
VLDQ **Val d'Or** 76.90 29 *e*P P 09 18 28.0 -1.3
comp=Z,42nm,0.8s
Q35A **Mercer Eighty,** 76.96 46 P P 09 18 29.3 -0.5
baz=322
L41A **Preston** 76.96 40 P P 09 18 29.2 -0.5
baz=324
N39A **Derby Farms, D** 77.03 42 P P 09 18 30.0 -0.2
baz=323,SNR=8.8
M40A **Post Highland** 77.05 41 P P 09 18 29.7 -0.5
baz=324
AMTX **Amarillo** 77.15 52 P P 09 18 31.7 +0.6
baz=320
AMTX **Amarillo** 77.15 52 *e*P P 09 18 31.9 +0.9
comp=Z,25nm,0.9s
Q36A **Arnold C. Orve** 77.16 45 P P 09 18 30.4 -0.5
baz=322
O38A **Galt** 77.18 43 P P 09 18 30.9 -0.1
baz=323,SNR=7.6
P37A **Lathrop** 77.19 44 P P 09 18 31.0 -0.1
baz=323,SNR=8.7
MSTX **Muleshoe** 77.25 53 P P 09 18 32.0 +0.3
baz=320,SNR=5.2
MSTX **Muleshoe** 77.25 53 *e*P P 09 18 32.4 +0.7
comp=Z,11nm,0.9s
R35A **Emporia Munici** 77.30 46 P P 09 18 31.5 -0.2
baz=322
S34A **Willow Spring** 77.33 47 P P 09 18 31.5 -0.4
baz=322
U32A **Winter Ranch,** 77.40 49 P P 09 18 32.8 +0.4
baz=321
N40A **Mertquake, Sal** 77.44 42 P P 09 18 32.3 -0.1
baz=324
O39A **Kirksville** 77.50 43 P P 09 18 32.8 0.0
baz=324,SNR=9.9
DOU **Dourbes** 77.51 337 P P 09 18 29.9 -2.7
M41A **Milan** 77.51 41 P P 09 18 32.2 -0.6
baz=324
MNTX **Cornudas Mount** 77.52 57 P P 09 18 34.1 +1.1
baz=319,SNR=14
MNTX **Cornudas Mount** 77.52 57 *e*P P 09 18 34.1 +1.1
comp=Z,12nm,1.0s
P38A **Dawn** 77.55 44 P P 09 18 33.2 +0.2
baz=323,SNR=10.0
R36A **Gordon, Harris** 77.64 46 P P 09 18 33.4 -0.1
baz=322,SNR=7.3
Q37A **Longview Farm,** 77.71 45 P P 09 18 33.4 -0.5
baz=323
S35A **Otter Creek Ra** 77.74 47 P P 09 18 34.2 +0.1
baz=322,SNR=7.9
M42A **Sheffield** 77.79 40 P P 09 18 33.6 -0.7
baz=325
T34A **McClaskey Farm** 77.83 48 P P 09 18 34.7 +0.1
baz=322,SNR=9.2
N41A **Harden Midland** 77.91 41 P P 09 18 34.4 -0.6
baz=324
O40A **La Belle** 77.92 42 P P 09 18 35.0 0.0
baz=324,SNR=18
R37A **Teagarden Farm** 77.97 45 P P 09 18 34.7 -0.6
baz=323,SNR=6.2
P39B **Salisbury** 78.02 43 P P 09 18 35.4 -0.2
baz=324,SNR=5.5
Q38A **Cooks Store, C** 78.03 44 P P 09 18 35.5 -0.1
baz=323,SNR=9.4
S36A **Lake Cedric, C** 78.06 46 P P 09 18 35.9 0.0
baz=322,SNR=18
N42A **Yates City** 78.17 41 P P 09 18 36.0 -0.4
baz=325,SNR=5.5
T35A **Sooner Cattle** 78.25 47 P P 09 18 37.1 +0.2
baz=322,SNR=14
Q39A **Willow Grove F** 78.27 44 P P 09 18 36.9 -0.1
baz=323
P40A **Paris** 78.31 43 P P 09 18 37.0 -0.1
baz=324,SNR=16
O41A **Passleys Farm,** 78.37 42 P P 09 18 37.3 -0.2
baz=324,SNR=9.0
S37A **Fort Scott** 78.41 46 P P 09 18 37.3 -0.4
baz=323
T36A **Boggs Farm, Ca** 78.45 47 P P 09 18 38.2 +0.2
baz=322,SNR=12
R38A **Fenwick Farm,** 78.51 45 P P 09 18 37.4 -0.9
baz=323,SNR=6.2
U35A **Pawnee** 78.56 48 P P 09 18 39.1 +0.5
baz=322,SNR=9.7
P41A **Barry, Barry** 78.65 42 P P 09 18 38.9 -0.1
baz=324,SNR=16
O42A **Bath** 78.67 41 P P 09 18 38.6 -0.5
baz=325
HDIL **Hopedale** 78.72 41 P P 09 18 39.1 -0.3
baz=325,SNR=6.0
HDIL **Hopedale** 78.72 41 *e*P P 09 18 39.5 +0.2
comp=Z,70nm,1.4s
Q40A **Laux Farm, Aux** 78.73 43 P P 09 18 39.3 -0.2
baz=324,SNR=8.8
WMOK **Wichita Mounta** 78.79 50 P P 09 18 40.0 +0.2
baz=321,SNR=11
WMOK **Wichita Mounta** 78.79 50 *e*P P 09 18 40.3 +0.4
WMOK pmax pmax
comp=Z,14nm,1.0s
WMOK **Wichita Mounta** 78.79 50 *e*P P 09 18 40.3 +0.4
comp=Z,14nm,1.0s
R39A **Chumby, Stover** 78.83 44 P P 09 18 39.7 -0.3
baz=324,SNR=9.0
T37A **Cheneyville 18** 78.87 46 P P 09 18 40.2 0.0
baz=323,SNR=10.0
O43A **Sugar Creek Fa** 78.93 41 P P 09 18 40.1 -0.4
baz=325
S38A **Stockton** 78.95 45 P P 09 18 40.2 -0.5
baz=323,SNR=6.1
V35A **Meyer Ranch, C** 78.98 48 P P 09 18 41.0 +0.1
baz=322
U36A **Oologah** 79.04 47 P P 09 18 41.4 +0.2
baz=322,SNR=5.5
P42A **Winchester** 79.04 42 P P 09 18 40.8 -0.3
baz=325,SNR=6.0
Q41A **Truxton** 79.15 43 P P 09 18 41.7 0.0
baz=324,SNR=23
S39A **Bolivar** 79.19 45 P P 09 18 41.3 -0.6
baz=323,SNR=11
R40A **Maddies Statio** 79.20 44 P P 09 18 41.8 -0.2
baz=324,SNR=9.4
T38A **Diamond** 79.24 46 P P 09 18 42.1 -0.1
baz=323,SNR=17
U37A **Salina** 79.34 47 P P 09 18 43.0 +0.2
baz=323,SNR=9.0
P43A **Skaggs, Pawnee** 79.37 41 P P 09 18 42.5 -0.3
baz=325,SNR=5.4
TUL1 **Leonard** 79.39 48 P P 09 18 43.4 +0.3
baz=322,SNR=9.5
TUL1 **Leonard** 79.39 48 *e*P P 09 18 43.5 +0.5
comp=Z,24nm,0.9s

V36A	**Jenks**	**79.42**	**48**	P		**P**	09 18 43.5	+0.3
	baz=322,SNR=7.3							
W35A	**Tecumseh**	**79.44**	**49**	P		**P**	09 18 43.7	+0.4
	baz=322,SNR=5.5							
TRQ	**Mont Tremblant**	**79.50**	**28**	*e*P		**P**	09 18 43.3	-0.3
Q42A	**Golden Eagle**	**79.50**	**42**	P		**P**	09 18 43.7	+0.1
	baz=325							
R41A	**Rosebud**	**79.61**	**43**	P		**P**	09 18 44.2	0.0
	baz=324,SNR=7.3							
S40A	**Lebanon**	**79.65**	**44**	P		**P**	09 18 44.1	-0.3
	baz=324,SNR=11							
U38A	**Gravette**	**79.67**	**46**	P		**P**	09 18 44.4	-0.1
	baz=323,SNR=8.7							
T39A	**Clever**	**79.69**	**45**	P		**P**	09 18 44.1	-0.5
	baz=324							
V37A	**Hulbert**	**79.74**	**47**	P		**P**	09 18 45.1	+0.2
	baz=323,SNR=16							
W36A	**Wetumka**	**79.78**	**48**	P		**P**	09 18 45.7	+0.5
	baz=322,SNR=9.9							
SFIN	**Lafayette**	**79.82**	**39**	P		**P**	09 18 44.9	-0.3
	baz=326							
SFIN	**Lafayette**	**79.82**	**39**	*e*P		**P**	09 18 45.0	-0.3
	comp=Z,28nm,1.3s							
Q43A	**New Douglas**	**79.86**	**42**	P		**P**	09 18 45.0	-0.5
	baz=325							
R42A	**Luebbering**	**79.90**	**43**	P		**P**	09 18 45.6	-0.1
	baz=325,SNR=6.1							
P44A	**Sand Creek, Wi**	**79.91**	**41**	P		**P**	09 18 45.7	0.0
	baz=326,SNR=7.4							
ABTX	**Abilene, Hawle**	**79.97**	**52**	P		**P**	09 18 46.7	+0.5
	baz=321,SNR=5.7							
ABTX	**Abilene, Hawle**	**79.97**	**52**	*e*P		**P**	09 18 47.0	+0.9
	comp=Z,19nm,1.0s							
X35A	**Drake**	**79.98**	**49**	P		**P**	09 18 46.2	0.0
	baz=322,SNR=9.4							
T40A	**Mansfield**	**80.00**	**45**	P		**P**	09 18 45.8	-0.5
	baz=324,SNR=8.5							
HHAR	**Hobbs**	**80.01**	**46**	*e*P		**P**	09 18 46.5	+0.2
	comp=Z,15nm,0.9s							
S41A	**Jillco Farms,**	**80.02**	**44**	P		**P**	09 18 46.0	-0.3
	baz=324,SNR=8.7							
V38A	**Canehill**	**80.12**	**47**	P		**P**	09 18 47.1	+0.1
	baz=323,SNR=17							
U39A	**Green Forest**	**80.16**	**46**	P		**P**	09 18 47.0	-0.1
	baz=324,SNR=30							
X36A	**Centrahoma**	**80.17**	**49**	P		**P**	09 18 47.7	+0.6
	baz=322,SNR=6.5							
W37B	**Quinton**	**80.18**	**48**	P		**P**	09 18 47.8	+0.6
	baz=323,SNR=14							
Q44A	**Meyer Farm, Va**	**80.20**	**41**	P		**P**	09 18 47.1	-0.2
	baz=325							
TX31	**Lajitas Ar. Si**	**80.27**	**57**	*e*P		**P**	09 18 48.6	+0.7
TX31				*e*P		**P**	09 18 49.0	+1.1
LTX	**Lajitas**	**80.27**	**57**	*e*P		**P**	09 18 48.9	+1.0
LTX				*e**PP		**pP**	09 20 21.9	+1.7
LTX	**Lajitas**	**80.27**	**57**	*e*P		**P**	09 18 48.9	+1.0
LTX				*e*pP		**pP**	09 20 21.9	+1.7
TXAR	**Lajitas Array**	**80.27**	**57**	P		**P**	09 18 48.9	+1.0
	comp=Z,14nm,0.9s,baz=291,slow=4.3,SNR=94							
TXAR				pP		**pP**	09 20 21.9	+1.7
	comp=Z,1.0nm,0.8s,baz=305,slow=3.2,SNR=4.7							
R43A	**Red Bud**	**80.30**	**42**	P		**P**	09 18 47.5	-0.3
	baz=325,SNR=5.2							
S42A	**Caledonia**	**80.31**	**43**	P		**P**	09 18 47.8	-0.1
	baz=325,SNR=8.8							
Y35A	**Marietta**	**80.33**	**50**	P		**P**	09 18 48.2	+0.1
	baz=322							
T41A	**Mountain View**	**80.45**	**44**	P		**P**	09 18 48.4	-0.2
	baz=324,SNR=11							
U40A	**Yellville**	**80.48**	**45**	P		**P**	09 18 48.8	0.0
	baz=324,SNR=29							
V39A	**Pettigrew**	**80.51**	**46**	P		**P**	09 18 48.9	-0.1
	baz=324,SNR=18							
X37A	**Clayton**	**80.65**	**48**	P		**P**	09 18 50.0	+0.3
	baz=323							
W38A	**Poteau**	**80.69**	**47**	P		**P**	09 18 50.3	+0.4
	baz=323,SNR=9.7							
R44A	**Waltonville**	**80.70**	**42**	P		**P**	09 18 49.8	-0.1
	baz=326,SNR=5.5							
Y36A	**Durant**	**80.73**	**49**	P		**P**	09 18 50.3	+0.1
	baz=322,SNR=8.5							
OLIL	**Olney**	**80.74**	**41**	*e*P		**P**	09 18 50.5	+0.4
	comp=Z,20nm,1.0s							
T42A	**Van Buren**	**80.77**	**44**	P		**P**	09 18 50.3	0.0
	baz=325,SNR=9.5							
S43A	**Fulton Ridge,**	**80.80**	**43**	P		**P**	09 18 50.2	-0.3
	baz=325,SNR=6.4							
233A	**Rising Star**	**80.83**	**52**	P		**P**	09 18 51.0	+0.3
	baz=322,SNR=8.0							
X38A	**Whitesboro**	**80.86**	**48**	P		**P**	09 18 51.2	+0.5
	baz=323,SNR=11							
HPIG		**80.93**	**60**	*e*P		**P**	09 18 52.4	+0.8
	comp=Z,13nm,1.4s							
U41A	**Viola**	**80.94**	**45**	P		**P**	09 18 50.8	-0.4
	baz=324,SNR=7.1							
V40A	**Witts Springs**	**80.94**	**46**	P		**P**	09 18 50.9	-0.3
	baz=324,SNR=7.3							
W39A	**Magazine**	**80.95**	**47**	P		**P**	09 18 51.3	+0.1
	baz=324,SNR=6.5							
S44A	**Carbondale**	**81.08**	**42**	P		**P**	09 18 51.8	-0.1
	baz=325,SNR=7.4							
T43A	**Greenville**	**81.10**	**43**	P		**P**	09 18 51.9	-0.1
	baz=325,SNR=11							
Z36A	**Blue Ridge**	**81.14**	**50**	P		**P**	09 18 52.5	+0.2
	baz=322,SNR=9.2							
234A	**Clairette**	**81.25**	**52**	P		**P**	09 18 53.3	+0.4
	baz=322,SNR=15							
U42A	**Revenden**	**81.25**	**44**	P		**P**	09 18 52.7	-0.1
	baz=325							
V41A	**Mountainview**	**81.27**	**45**	P		**P**	09 18 52.6	-0.3
	baz=324,SNR=11							
PBMO	**Poplar Bluff**	**81.28**	**44**	*e*P		**P**	09 18 53.1	+0.1
	comp=Z,41nm,1.2s							
W40A	**Ferguson Farm,**	**81.31**	**46**	P		**P**	09 18 53.2	+0.1
	baz=324,SNR=8.0							
333A	**Richland Sprin**	**81.32**	**53**	P		**P**	09 18 53.6	+0.3
	baz=322,SNR=9.6							
X39A	**Fountain Ranch**	**81.34**	**47**	P		**P**	09 18 53.6	+0.3
	baz=323,SNR=12							
S45A	**Carrier Mills**	**81.40**	**42**	P		**P**	09 18 53.5	0.0
	baz=326							
T44A	**Benton**	**81.42**	**43**	P		**P**	09 18 53.6	0.0
	baz=325,SNR=8.8							
Y38A	**Idabel**	**81.49**	**48**	P		**P**	09 18 54.0	0.0
	baz=323							
JCT	**Junction City**	**81.54**	**54**	P		**P**	09 18 54.6	+0.2
	baz=321,SNR=6.4							
JCT	**Junction City**	**81.54**	**54**	*e*P		**P**	09 18 54.8	+0.4
JCT				pmax		pmax		
	comp=Z,67nm,1.9s							
JCT	**Junction City**	**81.54**	**54**	*e*P		**P**	09 18 54.8	+0.4
	comp=Z,67nm,1.9s							
ALLY	**Alegheny Colle**	**81.55**	**34**	*e*P		**P**	09 18 54.7	+0.4
	comp=Z,38nm,0.9s							
MIAR	**Mount Ida**	**81.58**	**47**	P		**P**	09 18 54.8	+0.3
	baz=324,SNR=11							
MIAR	**Mount Ida**	**81.58**	**47**	*e*P		**P**	09 18 55.1	+0.6
MIAR				pmax		pmax		
	comp=Z,19nm,0.9s							
MIAR	**Mount Ida**	**81.58**	**47**	*e*P		**P**	09 18 55.1	+0.6
	comp=Z,19nm,0.9s							
X301	**Greenbrier Sit**	**81.59**	**46**	*e*P		**P**	09 18 54.6	0.0
	comp=Z,26nm,1.2s							
WHAR	**Wooly Hollow**	**81.61**	**46**	*e*P		**P**	09 18 55.1	+0.5
	comp=Z,40nm,1.0s							
WHTX	**Lake Whitney,**	**81.62**	**51**	P		**P**	09 18 55.3	+0.6
	baz=322							
Z37A	**Pogue Cattle C**	**81.62**	**49**	P		**P**	09 18 55.2	+0.5
	baz=323							
V42A	**Cord**	**81.62**	**45**	P		**P**	09 18 54.5	-0.3
	baz=325,SNR=9.5							
U43A	**Rector**	**81.63**	**44**	P		**P**	09 18 55.0	+0.2
	baz=325							
ACSO	**Alum Creek Sta**	**81.66**	**37**	*e*P		**P**	09 18 54.9	0.0
	comp=Z,20nm,0.8s							
433A	**Art**	**81.71**	**53**	P		**P**	09 18 55.4	+0.1
	baz=322,SNR=6.3							
334A	**Lometa**	**81.72**	**52**	P		**P**	09 18 55.6	+0.2
	baz=322,SNR=12							
W41B	**Gary Mavity, V**	**81.72**	**46**	P		**P**	09 18 55.3	+0.1
	baz=324,SNR=11							
136A	**Ennis**	**81.72**	**50**	P		**P**	09 18 55.6	+0.3
	baz=322							
Y39A	**Lockesburg**	**81.80**	**48**	P		**P**	09 18 56.0	+0.3
	baz=323,SNR=9.0							
M54A	**Oil Creek Stat**	**81.86**	**34**	P		**P**	09 18 55.4	-0.5
	baz=330							
WCI	**Wyandotte Cave**	**81.95**	**40**	*e*P		**P**	09 18 56.5	+0.1
WCI				pmax		pmax		
	comp=Z,20nm,0.8s							
WCI	**Wyandotte Cave**	**81.95**	**40**	*e*P		**P**	09 18 56.5	+0.1
	comp=Z,20nm,0.8s							
X40A	**Basin Creek Fa**	**81.99**	**46**	P		**P**	09 18 56.9	+0.3
	baz=324,SNR=11							
W42A	**Bald Knob**	**81.99**	**45**	P		**P**	09 18 56.9	+0.3
	baz=324							
236A	**Katherine and**	**82.09**	**50**	P		**P**	09 18 57.5	+0.3
	baz=322							
434A	**Burnet**	**82.11**	**52**	P		**P**	09 18 57.4	+0.1
	baz=322							
U44B	**Burton Farm, H**	**82.14**	**43**	P		**P**	09 18 57.7	+0.3
	baz=326							
Y40A	**Okolona**	**82.15**	**47**	P		**P**	09 18 57.7	+0.3
	baz=324							
335A	**Moody**	**82.19**	**52**	P		**P**	09 18 58.1	+0.4
	baz=322							
N54A	**Moraine State**	**82.20**	**34**	P		**P**	09 18 57.4	-0.2
	baz=330,SNR=6.2							
533A	**Kerrville**	**82.27**	**53**	P		**P**	09 18 58.5	+0.3
	baz=322,SNR=5.6							
138A	**Matatall Enter**	**82.32**	**49**	P		**P**	09 18 59.2	+0.9
	baz=323							
U45A	**Rockin P Farm,**	**82.41**	**43**	P		**P**	09 18 59.3	+0.6
	baz=326							
336A	**Diesel**	**82.41**	**51**	P		**P**	09 18 59.4	+0.5
	baz=322							
WLAR	**White Oak Lake**	**82.49**	**47**	*e*P		**P**	09 19 00.2	+0.9
	comp=Z,59nm,1.3s							
W43A	**Forest City**	**82.53**	**45**	P		**P**	09 18 59.5	+0.2
	baz=325							
Y41A	**Eaglette Beard**	**82.58**	**47**	P		**P**	09 19 00.1	+0.5
	baz=324							
534A	**Blanco**	**82.61**	**53**	P		**P**	09 19 00.2	+0.3
	baz=322,SNR=5.5							
633A	**Saathoff Ranch**	**82.67**	**54**	P		**P**	09 19 01.2	+1.0
	baz=322,SNR=9.4							
Z40A	**Long Farm, Mag**	**82.69**	**48**	P		**P**	09 19 01.0	+0.8
	baz=324,SNR=6.2							
238A	**Jacksonville**	**82.82**	**50**	P		**P**	09 19 02.1	+1.2
	baz=323							
X43A	**Marvell**	**82.91**	**45**	P		**P**	09 19 02.0	+0.7
	baz=325							
436A	**Wall Ranch, Ga**	**82.92**	**51**	P		**P**	09 19 02.3	+0.8
	baz=322							
337A	**Centerville**	**82.97**	**50**	P		**P**	09 19 02.7	+1.0
	baz=323							
Z41A	**Richland Creek**	**82.99**	**47**	P		**P**	09 19 02.5	+0.7
	baz=324							
Y42A	**Garnett, Star**	**83.02**	**46**	P		**P**	09 19 02.7	+0.8
	baz=324							
535A	**Dale**	**83.09**	**52**	P		**P**	09 19 02.7	+0.4
	baz=322							
140A	**Cam and Jess,**	**83.10**	**48**	P		**P**	09 19 03.4	+1.1
	baz=324							
832A	**Faith Ranch, C**	**83.14**	**55**	P		**P**	09 19 03.7	+1.1
	baz=321,SNR=6.5							
239A	**Gary**	**83.14**	**49**	P		**P**	09 19 03.4	+0.8
	baz=323							
634A	**China Grove, S**	**83.18**	**53**	P		**P**	09 19 03.4	+0.6
	baz=322							
733A	**Divot King Ran**	**83.18**	**54**	P		**P**	09 19 03.6	+0.8
	baz=322,SNR=5.6							
W45A	**Hickory Valley**	**83.19**	**44**	P		**P**	09 19 02.9	+0.1
	baz=326							
338A	**Crockett**	**83.24**	**50**	P		**P**	09 19 04.0	+0.9
	baz=323							
NATX	**Nacogdoches**	**83.25**	**49**	P		**P**	09 19 04.2	+1.1
	baz=323							
NATX	**Nacogdoches**	**83.25**	**49**	*e*P		**P**	09 19 04.7	+1.6
	comp=Z,40nm,0.8s							
X44A	**Crenshaw**	**83.28**	**45**	P		**P**	09 19 03.7	+0.5
	baz=325							
SSPA	**Standing Stone**	**83.28**	**33**	*e*P		**P**	09 19 03.3	+0.3
	comp=Z,23nm,1.0s							
O56A	**Blue Knob Stat**	**83.34**	**34**	P		**P**	09 19 03.4	-0.1
	baz=331,SNR=5.3							
Y43A	**Makayla and Ka**	**83.38**	**46**	P		**P**	09 19 04.4	+0.7
	baz=325							
Z42A	**Norrel Spur, H**	**83.40**	**47**	P		**P**	09 19 04.8	+0.9
	baz=324,SNR=6.8							
833A	**Chaparral WMA,**	**83.43**	**55**	P		**P**	09 19 05.1	+1.0
	baz=322							
141A	**Papa Simpson,**	**83.47**	**48**	P		**P**	09 19 05.1	+1.0
	baz=324							
734A	**La Parita Cree**	**83.48**	**54**	P		**P**	09 19 05.6	+1.3
	baz=322,SNR=5.6							
635A	**Leesville**	**83.49**	**53**	P		**P**	09 19 05.0	+0.7
	baz=322							
240A	**Hunter Patters**	**83.49**	**49**	P		**P**	09 19 05.3	+1.0
	baz=324							
OXF	**Oxford**	**83.61**	**44**	*e*P		**P**	09 19 05.5	+0.6
OXF				pmax		pmax		
	comp=Z,68nm,1.2s							
OXF	**Oxford**	**83.61**	**44**	*e*P		**P**	09 19 05.5	+0.6
	comp=Z,68nm,1.2s							
438A	**Sam Houston St**	**83.63**	**51**	P		**P**	09 19 05.9	+0.9
	baz=323							
339A	**Huntington**	**83.65**	**50**	P		**P**	09 19 05.9	+0.8
	baz=323							
Y44A	**Strider, Charl**	**83.68**	**45**	P		**P**	09 19 05.9	+0.7
	baz=325							
X45A	**UM Field Stati**	**83.69**	**44**	P		**P**	09 19 05.4	+0.1
	baz=326							
N59A	**State Game Lan**	**83.80**	**32**	P		**P**	09 19 05.7	-0.1
	baz=332							
636A	**Smothers Creek**	**83.80**	**52**	P		**P**	09 19 07.3	+1.4
	baz=322,SNR=5.1							
735A	**Kenedy**	**83.89**	**53**	P		**P**	09 19 07.6	+1.3
	baz=322							
340A	**Bronson**	**83.92**	**49**	P		**P**	09 19 07.2	+0.7
	baz=324							
241A	**Mo Tay, Goldon**	**83.93**	**48**	P		**P**	09 19 07.5	+1.1
	baz=324							
142A	**Monroe**	**83.99**	**47**	P		**P**	09 19 07.9	+1.1
	baz=324							
834A	**Tilden**	**84.05**	**54**	P		**P**	09 19 08.4	+1.2
	baz=322							
933A	**Laredo**	**84.05**	**55**	P		**P**	09 19 08.7	+1.5
	baz=322,SNR=15							
Y45A	**Yeager Farm, C**	**84.08**	**45**	P		**P**	09 19 08.1	+0.9
	baz=326,SNR=6.1							
143A	**Socs Landing,**	**84.13**	**47**	P		**P**	09 19 08.5	+1.1
	baz=325							
Z44A	**Pea Ridge, Bel**	**84.14**	**46**	P		**P**	09 19 08.2	+0.7
	baz=325							
736A	**Circle Diamond**	**84.21**	**53**	P		**P**	09 19 09.6	+1.7
	baz=322							
242A	**Grayson**	**84.28**	**47**	P		**P**	09 19 09.1	+0.9
	baz=324							
835A	**Beeville**	**84.32**	**54**	P		**P**	09 19 10.1	+1.7
	baz=322							
Y46A	**Houston**	**84.39**	**44**	P		**P**	09 19 09.1	+0.4
	baz=326,SNR=9.4							
Z45A	**Winona**	**84.42**	**45**	P		**P**	09 19 09.8	+1.0
	baz=326							
SWET	**Sewanee**	**84.63**	**41**	*e*P		**P**	09 19 10.1	+0.1
	comp=Z,10.0nm,0.8s							
034A	**Hebbronville**	**84.81**	**55**	P		**P**	09 19 12.9	+2.0
	baz=322,SNR=6.4							
Y47A	**UCPARC, Winfie**	**84.84**	**43**	P		**P**	09 19 11.1	+0.1
	baz=326							
Z46A	**Louisville**	**84.92**	**45**	P		**P**	09 19 12.3	+1.0
	baz=326							
145A	**Houston Renfro**	**84.93**	**46**	P		**P**	09 19 12.4	+1.0
	baz=326							
VBMS	**Vicksburg**	**84.96**	**46**	P		**P**	09 19 12.7	+1.2
	baz=325							
244A	**Avery, Jackson**	**85.02**	**46**	P		**P**	09 19 13.0	+1.2
	baz=325							
CPCT	**Cooper Cave**	**85.05**	**40**	*e*P		**P**	09 19 12.4	+0.4
	comp=Z,14nm,1.0s							
TKL	**Tuckaleechee C**	**85.20**	**40**	P		**P**	09 19 12.7	0.0
	comp=Z,12nm,0.7s,baz=281,slow=10							
TKL	**Tuckaleechee C**	**85.20**	**40**	*e*P		**P**	09 19 12.9	+0.1
TKL				pmax		pmax		
	comp=Z,15nm,0.8s							
TKL	**Tuckaleechee C**	**85.20**	**40**	*e*P		**P**	09 19 12.8	+0.1
	comp=Z,15nm,0.8s							
BLA	**Blacksburg**	**85.27**	**37**	*e*P		**P**	09 19 13.7	+0.6
BLA				pmax		pmax		
	comp=Z,22nm,1.0s							
BLA	**Blacksburg**	**85.27**	**37**	*e*P		**P**	09 19 13.7	+0.6
	comp=Z,22nm,1.0s							
146A	**Union**	**85.32**	**45**	P		**P**	09 19 14.7	+1.4
	baz=326,SNR=6.6							
Z47A	**Carrollton**	**85.32**	**44**	P		**P**	09 19 13.6	+0.3
	baz=326							
245A	**Little AP, Sta**	**85.41**	**46**	P		**P**	09 19 14.6	+0.8
	baz=326							
344A	**Westbrook Farm**	**85.48**	**47**	P		**P**	09 19 15.2	+1.1
	baz=325							
147A	**Livingston**	**85.66**	**44**	P		**P**	09 19 15.5	+0.5
	baz=326,SNR=6.2							
345A	**Thompson Farm,**	**85.94**	**46**	P		**P**	09 19 17.6	+1.2
	baz=326							
247A	**Quitman**	**86.01**	**45**	P		**P**	09 19 17.9	+1.2
	baz=326							
445A	**Amite**	**86.26**	**47**	P		**P**	09 19 18.9	+1.0
	baz=325							
248A	**Dixon Mills**	**86.39**	**44**	P		**P**	09 19 19.5	+1.0
	baz=327							
347A	**Saraland**	**86.58**	**45**	P		**P**	09 19 20.8	+1.4
	baz=326							
KMSC	**Kings Mountain**	**86.68**	**38**	P		**P**	09 19 19.9	+0.1
	baz=330							
KMSC	**Kings Mountain**	**86.68**	**38**	*e*P		**P**	09 19 19.9	+0.1
	comp=Z,12nm,0.9s							
TIGA	**Tifton**	**88.86**	**42**	P		**P**	09 19 31.1	+1.0
	baz=329							
LPAZ	**La Paz**	**137.12**	**55**	PKP		**PKPdf**	09 25 57.1	-0.1
	comp=Z,1.4nm,0.8s,baz=40,slow=4.7,SNR=6.7							
SYO	**Syowa Base**	**139.69**	**212**	*e*P		**Pdif**	09 23 10.6	-5.5
LCO	**Las Campanas**	**145.14**	**72**	*e*PKPdf		**PKPab**	09 26 12.5	+0.4
CPUP	**Villa Florida**	**151.10**	**51**	PKPbc		**PKPbc**	09 26 26.2	-0.3
	comp=Z,2.8nm,0.7s,baz=339,slow=2.4,SNR=6.0							
CPUP				PKPab		**PKPab**	09 26 35.9	-0.1
	comp=Z,4.2nm,1.0s,baz=349,slow=5.9,SNR=4.9							
CPUP	**Villa Florida**	**151.10**	**51**	*e*PKIKP		**PKPdf**	09 26 21.2	+1.0
CPUP				*e*			09 26 35.9	
CPUP	**Villa Florida**	**151.10**	**51**	*e*PKPdf		**PKPdf**	09 26 21.2	+1.0
CPUP				*e*PKPbc		**PKPbc**	09 26 26.2	-0.3
CPUP				*e*PKPab		**PKPab**	09 26 35.9	-0.1
PLCA	**Paso Flores**	**152.04**	**90**	PKPbc		**PKPbc**	09 26 28.8	+0.6
	comp=Z,3.6nm,0.6s,baz=299,slow=2.8,SNR=11							
PLCA				PKPab		**PKPab**	09 26 40.5	+0.8
	comp=Z,6.3nm,1.0s,baz=329,slow=4.0,SNR=6.4							
PLCA	**Paso Flores**	**152.04**	**90**	*e*PKIKP		**PKPdf**	09 26 22.5	+1.2
PLCA				*e*			09 26 40.5	
PLCA	**Paso Flores**	**152.04**	**90**	*e*PKPdf		**PKPdf**	09 26 22.4	+1.2
PLCA				*e*PKPbc		**PKPbc**	09 26 28.8	+0.6
PLCA				*e*PKPab		**PKPab**	09 26 40.5	+0.8

BUC ***19*** *09:18:43.3±0.8, 45°.51N×26°.37E, h141*$^{km}_{\pm 7km}$*, MD3.5/4, Error ellipse: s-maj=5.3km s-min=4.5km az=327.0*
ISCJB ***19*** *09:18:44.1±0.8, 45°.52N±0°.04×26°.41E±0°.04, h130*$^{km}_{\pm 6km}$*, Error ellipse: s-maj=6.3km s-min=4.8km az=155.9*
CSEM ***19*** *09:18:44.4±0.3, 45°.50N×26°.40E, h128*$^{km}_{\pm 2km}$*, mb3.0, Error ellipse: s-maj=4.4km s-min=3.6km az=167.0*

ISC 19 09:18:43.6±1.6, **45°.52N**±0°.03×**26°.38E**±0°.03, **h137**$^{km}_{\pm 8km}$, **n68**, ∩**076**/106, **27C-20D, Romania**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
MLR	**Muntele Rosu**	**0.31**	**266**	P			**Pn**	**09 19 02.8**	**0.0**
MLR				S			**Sn**	09 19 16.4	-0.9
MLR	**Muntele Rosu**	**0.31**	**266**	P			**Pn**	**09 19 02.8**	**0.0**
MLR				S			**Sn**	09 19 16.4	-0.9
PLOR	**Plostina**	**0.39**	**29**	P			**Pn**	09 19 03.1	+0.1
PLOR				S			**Sn**	09 19 17.6	-0.2
PLOR	**Plostina**	**0.39**	**29**	↑*i*	P		**Pn**	09 19 03.1	+0.1
PLOR	**Plostina**	**0.39**	**29**	↑*i*	P		**Pn**	09 19 03.1	+0.1
PLOR				*i*	S		**Sn**	09 19 17.5	-0.2
PLOR	**Plostina**	**0.39**	**29**	P			**Pn**	09 19 03.1	+0.1
PLOR				*i*	S		**Sn**	09 19 17.5	-0.2
ISR	**Istrita**	**0.41**	**164**	↑*i*	P		**Pn**	09 19 03.6	+0.5
ISR	**Istrita**	**0.41**	**164**	↑*i*	P		**Pn**	09 19 03.6	+0.5
ISR				*i*	S		**Sn**	09 19 18.1	+0.2
ISR	**Istrita**	**0.41**	**164**	↑*i*	P		**Pn**	09 19 03.6	+0.5
ISR				*i*	S		**Sn**	09 19 18.1	+0.2
SECR		**0.53**	**205**	*i*	S		**Sn**	09 19 18.7	-0.1
SECR		**0.53**	**205**	*i*	S		**Sn**	09 19 18.7	-0.1
SECR		**0.53**	**205**	*i*	S		**Sn**	09 19 18.7	-0.1
ODBI	**Odobesti**	**0.54**	**62**	↑*i*	P		**Pn**	09 19 04.4	+0.8
ODBI	**Odobesti**	**0.54**	**62**	↑*i*	P		**Pn**	09 19 04.4	+0.8
ODBI	**Odobesti**	**0.54**	**62**	↑*i*	P		**Pn**	09 19 04.4	+0.8
PETR	**Petresti**	**0.63**	**71**	P			**Pn**	09 19 05.1	+0.8
PETR				S			**Sn**	09 19 20.4	+0.5
PETR	**Petresti**	**0.63**	**71**	↑*i*	P		**Pn**	09 19 05.0	+0.8
PETR	**Petresti**	**0.63**	**71**	↑*i*	P		**Pn**	09 19 05.0	+0.8
PETR				*i*	S		**Sn**	09 19 19.5	-0.4
PETR	**Petresti**	**0.63**	**71**	↑*i*	P		**Pn**	09 19 05.0	+0.8
PETR				S			**Sn**	09 19 20.4	+0.5
SULR		**0.84**	**186**	↑*i*	P		**Pn**	09 19 06.4	+0.6
SULR		**0.84**	**186**	↑*i*	P		**Pn**	09 19 06.4	+0.6
SULR				*i*	S		**Sn**	09 19 22.7	+0.1
SULR		**0.84**	**186**	↑*i*	P		**Pn**	09 19 06.4	+0.6
SULR				*i*	S		**Sn**	09 19 22.7	+0.1
VOIR

KIS	**Kishinev**	**2.25**	**48**	P		**Pn**	**09 19 22.0**	**+1.1**
KIS				*e*S		**Sn**	**09 19 48.0**	**-1.6**
	500nm,0.5s							
KIS	**Kishinev**	**2.25**	**48**	P		**Pn**	**09 19 22.0**	**+1.1**

JMA 19 09:26:18.0±0.2, 38.29N×144.47E, h43km, M4.2, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OFUJ	**Ofunato**	**2.33**	**291**	P	Pn	09 26 55.1	+1.3
OFUJ				*e*S	Sn	09 27 22.8	+1.6
MIYJ	**Miyakonagasawa**	**2.43**	**303**	P	Pn	09 26 56.2	+1.0
MIYJ				*e*S	Sn	09 27 24.5	+0.7
JIO	**Ouri**	**2.46**	**275**	P	Pn	09 26 56.8	+1.2
JIO				*e*S	Sn	09 27 25.4	+1.0
JMK	**Ichinoseki**	**2.63**	**286**	P	Pn	09 26 59.5	+1.6
JMK				S	Sn	09 27 30.7	+2.1
JOM	**Ohasama**	**2.75**	**296**	P	Pn	09 27 01.1	+1.6
JOM				S	Sn	09 27 33.2	+1.7
JANG	**Nango**	**3.10**	**313**	P	Pn	09 27 05.4	+1.1
JYK	**Kaneyama**	**3.28**	**282**	P	Pn	09 27 08.9	+2.0
JYK				*e*S	Sn	09 27 47.0	+2.3
JFT	**Otama**	**3.36**	**258**	P	Pn	09 27 10.0	+2.0
JFT				S	Sn	09 27 48.3	+1.7
JOT	**Ohata**	**4.06**	**321**	P	Pn	09 27 19.6	+2.1
JCH	**Churui**	**4.40**	**349**	P	Pn	09 27 21.9	-0.3
JCH				*e*S	Sn	09 28 09.7	-2.5
JRY	**Ryogami san**	**4.99**	**245**	P	Pn	09 27 31.5	+1.1
JRY				*e*S	Sn	09 28 25.4	-1.5
NEM2	**Nemuro 2**	**5.16**	**10**	P	Pn	09 27 29.8	-2.9
NEM2				*e*S	Sn	09 28 24.5	-6.4
JOD2	**Odawara 2**	**5.27**	**237**	P	Pn	09 27 35.1	+0.9
JOD2				*e*S	Sn	09 28 31.8	-1.9
MAT	**Matsushiro**	**5.28**	**253**	P	Pn	09 27 36.6	+2.2
MAT				S	Sn	09 28 38.3	+4.3
JOSM	**Okushiri--Mats**	**5.38**	**316**	P	Pn	09 27 37.3	+1.6
JTKR	**Abashiri--Toko**	**5.69**	**356**	P	Pn	09 27 39.2	-0.7
JTKR				*e*S	Sn	09 28 39.5	-4.4

NIED ***19*** *09:36:00, 36.10N×140.30E, h50km, Mw4.1 Best double couple: M0 1.71000×10^15 NP1:φs=332.00000°, δ=34.00000°, λ=-124.00000°. NP2:φs=192.00000°, δ=62.00000°, λ=-69.00000°.*

IDC ***19*** *09:36:35.0±3.1, 35.92N×140.25E, h38km±27km, mb3.8/14, mb1 4.0/15, mb1mx3.8/32, mbtmp4.0/15, ML4.2/1, MS3.6/2, Ms1 3.7/2, ms1mx3.0/37, Error ellipse: s-maj=20.4km s-min=14.1km az=77.0*

JMA ***19*** *09:36:34.4±0.1, 35.98N×140.22E, h41km±1km, M3.9*

JMA Felt II J1.

NEIC ***19*** *09:36:35.7±1.4, 35.99N×140.32E, h43km±13km, mb4.2/1, Error ellipse: s-maj=14.4km s-min=11.8km az=73.0*

NEIC Recorded [2 JMA] in Chiba, Ibaraki, Saitama and Tochigi.

ISC 19 09:36:33.0±1.0, 35.98N±0.05×140.18E±0.07, h20km±10km, n37, σ0 96/31, mb4.1/16, 3D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JYT	**Yasato**	**0.25**	**4**	⇓P	**Pn**	**09 36 42.2**	**+0.6**
JYT				S	**Sn**	**09 36 47.7**	**+0.8**
JAG	**Ashikaga**	**0.74**	**308**	⇓P	**Pn**	**09 36 48.5**	**+0.2**
JAG				S	**Sn**	**09 36 58.3**	**-0.6**
JRY	**Ryogami san**	**1.03**	**273**	⇓P	**Pn**	**09 36 52.9**	**+0.5**
JRY				S	**Sn**	**09 37 06.2**	**0.0**
MJAR	**Matsushiro Arr**	**1.69**	**290**	Pn	**Pn**	**09 37 02.5**	**+1.2**
	39nm,0.3s,baz=93,slow=8.9,SNR=248						
MJAR				Sn	**Sn**	**09 37 22.1**	**-0.2**
	42nm,0.3s,baz=135,slow=16,SNR=16						
MJAR				LR	LR	09 37 59.1	
	comp=Z,256nm,21.1s,baz=120,slow=49						
MAJO	**Matsushiro**	**1.69**	**290**	*e*Pn	**Pb**	**09 37 03.0**	**-0.3**
JHJ	**Hachijo jima 2**	**2.87**	**187**	Pn	**Pn**	**09 37 18.4**	**+0.8**
	84nm,0.3s,baz=91,slow=2.1,SNR=20						
JHJ				Sn	**Sn**	**09 37 51.0**	**-0.4**
	56nm,0.3s,baz=202,slow=19,SNR=3.6						
JHJ2	**Mitsune**	**2.87**	**186**	*e*Pn	**Pn**	**09 37 19.5**	**+1.9**
KSRS	**Korea Array**	**9.95**	**282**	Pn	Pn	09 39 00.6	+5.9
	0.2nm,0.3s,baz=94,slow=14,SNR=7.1						
KSRS				LR	LR	09 41 52.3	
	comp=Z,55nm,18.6s,baz=85,slow=32						
KSAR	**Wonju Array Be**	**9.98**	**282**	Pn	Pn	09 39 00.6	+5.4
USRK	**Ussuriysk Ar.**	**10.33**	**325**	Pn	Pn	09 39 06.7	+6.7
	0.3nm,0.3s,baz=157,slow=12,SNR=7.4						
YULB	**Yu-li**	**20.60**	**238**	*e*P	Pn	09 41 14.4	+1.2
	32nm,0.4s						
PETK	**Petropavlovsk-**	**21.10**	**30**	P	**P**	**09 41 15.9**	**-0.1**
	2.3nm,0.7s,baz=220,slow=10,SNR=2.8						
SONM	**Songino Array**	**27.57**	**306**	P	**P**	**09 42 18.8**	**+0.1**
	1.3nm,0.6s,baz=94,slow=7.9,SNR=5.9						
H11N2	**WAKE ISLAND Hy**	**28.51**	**117**	T	T	10 12 36.2	
	baz=313,slow=74						
H11N1	**WAKE ISLAND Hy**	**28.51**	**117**	T	T	10 12 33.2	
	baz=313,slow=74						
H11N3	**WAKE ISLAND Hy**	**28.52**	**117**	T	T	10 12 38.0	
	baz=313						
H11S1	**WAKE ISLAND Hy**	**29.16**	**120**	T	T	10 13 24.1	
	baz=314,slow=75,SNR=14						
H11S3	**WAKE ISLAND Hy**	**29.16**	**120**	T	T	10 13 29.0	
	baz=314,slow=75,SNR=12						
H11S2	**WAKE ISLAND Hy**	**29.18**	**120**	T	T	10 13 31.5	
	baz=314,slow=75,SNR=3.0						
ZALV	**Zalesovo Beam**	**41.90**	**313**	P	**P**	**09 44 22.0**	**+0.2**
	1.7nm,0.6s,baz=75,slow=5.2,SNR=6.6						
KURK	**Kurchatov**	**45.81**	**309**	*e*P	**P**	**09 44 51.4**	**-1.8**
	34nm,0.8s						
SML	**Sawmill**	**50.43**	**36**	*e*P	**P**	**09 45 28.1**	**-0.7**
BVAR	**Borovoye Array**	**50.55**	**313**	P	**P**	**09 45 30.5**	**+0.6**
	1.4nm,0.6s,baz=79,slow=7.9,SNR=6.4						
ILAR	**Eielson Array**	**50.92**	**32**	P	**P**	**09 45 31.9**	**-0.5**
	3.1nm,0.7s,baz=267,slow=5.6,SNR=36						
INK	**Inuvik**	**55.78**	**27**	P	**P**	**09 46 07.8**	**-0.3**
	2.8nm,0.7s,baz=316,slow=6.9,SNR=12						
WRA	**Warramunga Arr**	**55.89**	**187**	P	**P**	**09 46 07.8**	**-1.5**
	1.9nm,0.5s,baz=3.0,slow=7.6,SNR=29						
ABKAR	**Akbulak array**	**57.86**	**310**	*e*P	**P**	**09 46 23.8**	**+0.7**
	0.9nm,0.4s						
ASAR	**Alice Springs**	**59.61**	**187**	P	**P**	**09 46 35.0**	**-0.5**
	0.3nm,0.5s,baz=20,slow=10,SNR=10						
ARCES	**ARCESS Array B**	**64.63**	**339**	P	**P**	**09 47 09.7**	**+1.0**
	1.2nm,0.7s,baz=56,slow=8.0,SNR=1.9						
FINES	**FINESS Array B**	**69.28**	**332**	P	**P**	**09 47 36.9**	**-1.4**
	1.5nm,0.8s,baz=51,slow=5.9,SNR=3.1						
AKASG	**Malin Array Be**	**74.52**	**322**	P	**P**	**09 48 10.8**	**+0.9**
	0.3nm,0.3s,baz=48,slow=6.2,SNR=4.0						
NB2	**NORSAR Subarra**	**74.77**	**337**	P	**P**	**09 48 12.5**	**+1.2**
	comp=Z,1.5nm,0.7s,baz=42,slow=5.9						
NOA	**NORSAR Array B**	**74.77**	**337**	P	**P**	**09 48 12.4**	**+1.2**
	comp=Z,0.6nm,0.6s,baz=46,slow=5.1,SNR=3.3						
PDAR	**Pinedale Array**	**79.12**	**45**	P	**P**	**09 48 35.6**	**-0.8**
	comp=Z,0.6nm,0.6s,baz=270,slow=2.6,SNR=7.7						
TXAR	**Lajitas Array**	**91.56**	**52**	P	**P**	**09 49 38.1**	**-0.6**
	comp=Z,0.6nm,0.6s,baz=308,slow=3.3,SNR=6.9						
ESDC	**Sonseca Array**	**97.78**	**333**	LR	LR	10 39 37.0	
	comp=Z,138nm,19.4s,baz=220,slow=39						
LPAZ	**La Paz**	**148.09**	**59**	PKPbc	**PKPbc**	**09 56 17.1**	**-1.4**
	comp=Z,1.0nm,0.8s,baz=292,slow=5.4,SNR=4.0						

JMA 19 09:38:38.1±0.1, 35.98N×140.22E, h40km±1km, M3.5, 1C-1D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JYT	**Yasato**	**0.25**	**355**	⇓P	Pn	09 38 46.0	+0.2
JYT				S	Sn	09 38 51.3	+0.1
JAG	**Ashikaga**	**0.76**	**306**	P	Pn	09 38 52.3	-0.1
JAG				S	Sn	09 39 02.1	-0.6
JRY	**Ryogami san**	**1.07**	**272**	⇑P	Pn	09 38 56.6	0.0
JRY				S	Sn	09 39 09.9	-0.4
MAT	**Matsushiro**	**1.72**	**290**	P	Pn	09 39 06.7	+1.1
MAT				S	Sn	09 39 27.1	+0.7

NEIC ***19*** *09:48:59.9±0.0, 52.00N×171.88W, h42km, ML3.5(AEIC), After AEIC.*

IDC ***19*** *09:49:02.0±4.9, 52.03N×171.74W, h63km±44km, mb3.6/9, mb1 3.7/12, mb1mx3.5/51, mbtmp3.9/12, ML3.6/3, Error ellipse: s-maj=33.2km s-min=17.0km az=180.0*

ISC 19 09:48:57.7±2.2, 51.8N±0.2×171.89W±0.05, h26km±14km, n30, σ1 9 07/32, mb3.9/10, Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KOSE	**Korovin Southe**	**1.42**	**292**	P	**Pb**	**09 49 24.0**	**+0.4**
KOSE				S	**Sn**	**09 49 40.2**	**+0.5**
KOFP	**Korovin Korovin Flat P**	**1.43**	**288**	P	**Pb**	**09 49 23.6**	**-0.1**
ATKA	**Atka Island**	**1.47**	**285**	P	**Pb**	**09 49 23.6**	**-0.7**
ATKA				S	**Sb**	**09 49 42.2**	**-0.3**
KONE	**Korovin Northe**	**1.48**	**293**	P	**Pb**	**09 49 24.4**	**-0.1**
KONE				S	**Sb**	**09 49 42.8**	**0.0**
KOKL	**Mount Kliuchef**	**1.50**	**290**	P	**Pb**	**09 49 24.4**	**-0.6**
NIKH	**Nikolski High**	**2.18**	**58**	P	**Pn**	**09 49 31.3**	**-0.9**
NIKH				S	**Sn**	**09 49 57.7**	**-0.6**
OKSO	**Okmok South**	**2.73**	**55**	P	**Pn**	**09 49 40.2**	**+0.3**
OKSO				S	**Sn**	**09 50 13.5**	**+1.4**
OKAK	**Okmok**	**2.77**	**50**	P	**Pn**	**09 49 39.5**	**-0.8**
OKFG	**Magazine Ridge**	**2.89**	**56**	P	**Pn**	**09 49 42.9**	**+0.9**
OKFG				S	**Sn**	**09 50 16.8**	**+0.9**
MSW	**Makushin Switc**	**3.73**	**54**	P	**Pn**	**09 49 54.2**	**+0.7**
MSW				S	**Sn**	**09 50 38.4**	**+1.9**
UNV	**Unalaska Valle**	**3.83**	**56**	P	**Pn**	**09 49 55.7**	**+0.8**
UNV				S	**Sn**	**09 50 39.3**	**+0.2**
KDAK	**Kodiak Island**	**12.60**	**54**	P	**Pn**	**09 51 53.8**	**-1.2**
	0.3nm,0.3s,baz=260,slow=6.1,SNR=4.9						
ILAR	**Eielson Array**	**18.27**	**35**	P	**Pn**	**09 53 08.5**	**-0.5**
	0.2nm,0.3s,baz=218,slow=10,SNR=9.6						
PETK	**Petropavlovsk-**	**18.50**	**286**	P	**Pn**	**09 53 13.6**	**+1.6**
	0.5nm,0.3s,baz=92,slow=12,SNR=8.6						
SEY	**Seymchan**	**21.90**	**314**	P	**P**	**09 53 50.3**	**+1.9**
	1.8nm,0.6s,baz=80,slow=11,SNR=7.0						
DLBC	**Dease Lake**	**24.49**	**58**	P	**P**	**09 54 16.4**	**+1.9**
	1.3nm,0.5s,baz=253,slow=6.1,SNR=8.2						
INK	**Inuvik**	**24.64**	**34**	P	**P**	**09 54 14.0**	**-1.6**
	1.5nm,0.5s,baz=241,slow=8.5,SNR=13						
H11N2	**WAKE ISLAND Hy**	**36.10**	**215**	T	T	10 34 25.8	
	baz=21,slow=75,SNR=25						
H11N3	**WAKE ISLAND Hy**	**36.10**	**215**	T	T	10 34 31.2	
	baz=21,slow=75,SNR=33						
H11N1	**WAKE ISLAND Hy**	**36.12**	**215**	T	T	10 34 28.6	
	baz=21,slow=75,SNR=29						
H11S1	**WAKE ISLAND Hy**	**37.29**	**215**	T	T	10 36 00.8	
	baz=21,slow=76,SNR=23						
H11S2	**WAKE ISLAND Hy**	**37.31**	**215**	T	T	10 36 02.3	
	baz=21,slow=76,SNR=20						
H11S3	**WAKE ISLAND Hy**	**37.31**	**215**	T	T	10 36 03.5	
	baz=21,slow=76,SNR=20						
PDAR	**Pinedale Array**	**42.03**	**77**	P	**P**	**09 56 47.0**	**-0.1**
	0.7nm,0.9s,baz=285,slow=2.9,SNR=5.0						
KSRS	**Korea Array**	**43.91**	**275**	P	**P**	**09 57 03.0**	**+1.1**
	1.5nm,0.6s,baz=56,slow=7.6,SNR=5.5						
TXAR	**Lajitas Array**	**54.32**	**87**	P	**P**	**09 58 21.5**	**-0.4**
	0.4nm,0.6s,baz=318,slow=6.7,SNR=3.8						
MKAR	**Makanchi Array**	**63.02**	**312**	P	**P**	**09 59 20.8**	**-1.2**
	0.5nm,0.4s,baz=38,slow=6.7,SNR=6.1						
BVAR	**Borovoye Array**	**63.21**	**323**	P	**P**	**09 59 22.8**	**-0.4**
	2.6nm,0.6s,baz=53,slow=7.3,SNR=17						
NOA	**NORSAR Array B**	**67.44**	**358**	P	**P**	**09 59 48.7**	**-1.8**
	0.7nm,0.6s,baz=4.1,slow=6.3,SNR=3.4						
ASAR	**Alice Springs**	**88.87**	**228**	P	**P**	**10 01 49.6**	**+0.3**
	0.6nm,0.8s,baz=28,slow=4.6,SNR=6.0						

JMA 19 09:50:25.4±0.1, 36.08N×141.22E, h40km±2km, M3.5, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHOJ	**Chosi**	**0.48**	**218**	P	Pn	09 50 35.9	+0.1
CHOJ				S	Sn	09 50 43.2	+0.1
JHO	**Hitachi**	**0.75**	**315**	P	Pn	09 50 39.5	0.0
JHO				S	Sn	09 50 50.2	+0.6
JYT	**Yasato**	**0.84**	**280**	P	Pn	09 50 40.9	+0.1
JYT				S	Sn	09 50 53.1	+1.1
ONAJ	**Iwakimizuishiy**	**1.07**	**342**	P	Pn	09 50 44.1	+0.1
JFK	**Kawauchi**	**1.31**	**348**	P	Pn	09 50 47.3	0.0
MAT	**Matsushiro**	**2.48**	**282**	P	Pn	09 51 05.0	+1.7
MAT				S	Sn	09 51 37.2	+4.9

ISCJB ***19*** *10:14:34.7±0.6, 50.23N±0.04×19.22E±0.03, h0km, Error ellipse: s-maj=6.1km s-min=2.7km az=15.0*

CSEM ***19*** *10:14:35.9±0.3, 50.22N×19.25E, h1km, ML2.9/4, Error ellipse: s-maj=7.5km s-min=3.2km az=13.0*

PRU ***19*** *10:14:36.5, 50.24N×19.26E, h0km*

ISC 19 10:14:36.0±0.8, 50.13N±0.05×19.26E±0.02, h0km, n28, σ0 9 92/45, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OJC	**Ojcow**	**0.35**	**75**	*e*Pg	**Pg**	**10 14 42.5**	**-0.3**
OJC				*e*Sg	**Sg**	**10 14 46.6**	**-0.8**
OJC	**Ojcow**	**0.35**	**75**	*e*Pg	**Pg**	**10 14 42.5**	**-0.3**
OJC				*e*Sg	**Sg**	**10 14 46.6**	**-0.8**
OKC	**Ostrava-Krasne**	**0.78**	**248**	*e*SG	**Sb**	**10 15 04.2**	**+0.7**
	comp=Z,16nm,0.3s						
OKC	**Ostrava-Krasne**	**0.78**	**248**	Sg	**Sb**	**10 15 04.2**	**+0.7**
	16nm,0.3s						
NIE	**Niedzica**	**0.98**	**136**	*e*Pg	**Pn**	**10 14 56.7**	**-0.4**
NIE				*e*Sg	**Sn**	**10 15 11.2**	**-0.4**
NIE	**Niedzica**	**0.98**	**136**	*e*Pg	**Pn**	**10 14 56.7**	**-0.4**
NIE				*e*Sg	**Sn**	**10 15 11.2**	**-0.4**
LANS	**Liptovska Anna**	**0.99**	**172**	*e*Pg	**Pb**	**10 14 56.2**	**+0.2**
LANS				*e*Sg	**Sn**	**10 15 11.3**	**-0.6**
LANS	**Liptovska Anna**	**0.99**	**172**	*e*PG	**Pb**	**10 14 56.2**	**+0.2**
LANS				*e*SG	**Sn**	**10 15 11.3**	**-0.6**
MORC	**Moravsky Berou**	**1.17**	**253**	*e*Pg	**Pb**	**10 14 59.3**	**+0.2**
MORC				*e*Sg	**Sb**	**10 15 15.3**	**+0.5**
STHS	**Stebnicka Huta**	**1.47**	**118**	*e*Pg	**Pb**	**10 15 04.8**	**+0.6**
STHS				*e*Sn	**Sn**	**10 15 25.5**	**+1.8**
STHS	**Stebnicka Huta**	**1.47**	**118**	*e*PG	**Pb**	**10 15 04.8**	**+0.6**
STHS				*e*SN	**Sn**	**10 15 25.5**	**+1.8**
STHS				*e*LG	Lg	10 15 26.6	
KRLC	**Kraliky**	**1.60**	**269**	*e*PG	**Pn**	**10 15 05.6**	**0.0**
KRLC				*e*SG	**Sg**	**10 15 27.7**	**+0.3**
KRLC	**Kraliky**	**1.60**	**269**	Pg	**Pn**	**10 15 05.6**	**0.0**
KRLC				Sg	**Sg**	**10 15 27.7**	**+0.3**
VYHS	**Vyhne**	**1.66**	**190**	*e*Pg	**Pn**	**10 15 06.5**	**+0.1**
VYHS				*e*Sn	**Sn**	**10 15 28.2**	**-0.2**
VYHS	**Vyhne**	**1.66**	**190**	*e*PG	**Pn**	**10 15 06.5**	**+0.1**
VYHS				*e*SN	**Sn**	**10 15 28.2**	**-0.2**
VYHS				*e*LG	Lg	10 15 34.1	
DPC	**Dobruska-Polom**	**1.90**	**278**	*e*PG	**Pb**	**10 15 11.3**	**-0.3**
DPC				*e*SG	**Sb**	**10 15 35.9**	**0.0**
	comp=Z,16nm,0.4s						
DPC	**Dobruska-Polom**	**1.90**	**278**	Pg	**Pb**	**10 15 11.3**	**-0.3**
DPC				Sg	**Sb**	**10 15 35.9**	**0.0**
	16nm,0.4s						
VRAC	**Vranov**	**1.92**	**246**	*e*Sg	**Sg**	**10 15 38.9**	**+1.3**
KSP	**Ksiaz**	**2.03**	**292**	*e*Pg	**Pg**	**10 15 15.6**	**+0.8**
KSP				*e*Sg	**Sb**	**10 15 39.7**	**+0.2**
KSP	**Ksiaz**	**2.03**	**292**	*e*Pg	**Pg**	**10 15 15.6**	**+0.8**
KSP				*e*Sg	**Sb**	**10 15 39.7**	**+0.2**
UPC	**Upice**	**2.12**	**282**	*e*SG	**Sg**	**10 15 44.4**	**+0.4**
UPC	**Upice**	**2.12**	**282**	Sg	**Sg**	**10 15 44.4**	**+0.4**
GOPC	**GO Pecny, Ondr**	**2.90**	**267**	*e*SG	**Sg**	**10 16 07.0**	**-2.0**
	comp=Z,4.7nm,0.3s						
GOPC	**GO Pecny, Ondr**	**2.90**	**267**	Sg	**Sg**	**10 16 07.0**	**-2.0**
	4.7nm,0.3s						
PRU	**Pruhonice**	**3.05**	**269**	*e*SG	**Sg**	**10 16 11.8**	**-2.0**
	comp=Z,5.7nm,0.5s						
PRU	**Pruhonice**	**3.05**	**269**	Sg	**Sg**	**10 16 11.8**	**-2.0**
	5.7nm,0.5s						
KHC	**Kasperske Hory**	**3.83**	**257**	*e*SG	**Sg**	**10 16 37.5**	**-1.5**
KHC	**Kasperske Hory**	**3.83**	**257**	Sg	**Sg**	**10 16 37.5**	**-1.5**

IDC ***19*** *10:20:47.0±3.9, 7.30S×128.91E, h87km±38km, mb3.9/7, mb1 4.0/10, mb1mx3.7/33, mbtmp4.2/10, Error ellipse: s-maj=43.1km s-min=21.6km az=84.0*

ISCJB ***19*** *10:20:49.5±0.5, 7.34S±0.06×128.87E±0.05, h131km, mb4.0/7, Error ellipse: s-maj=9.0km s-min=5.4km az=142.6*

DJA ***19*** *10:20:49.9±0.4, 7.5S±3°×12°9E±°, h151km±10km, M4.6/6, mb4.6/6, mB4.9/4, MLv4.6/6, Mw(mB)4.2/4*

ISC 19 10:20:51.1±0.6, 7.32S±0.07×128.85E±0.06, h131km, n18, σ1 8 36/21, mb4.0/7, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SAUI	**Saumlaki**	**2.52**	**105**	P	**Pn**	**10 21 32.5**	**+0.9**
SAUI				S	**Sn**	**10 22 03.2**	**+0.4**
BNDI	**Bandanaira**	**2.97**	**21**	P	**Pn**	**10 21 36.8**	**-0.6**

SOEI	**Soe**	**5.14**	**242**	P		**Pn**	**10 22 06.5**	**+0.3**
	192nm,1.0s,3µm0.9nm							
SOEI				S		**Sn**	**10 23 02.4**	**-2.2**
	192nm,1.0s,3µm0.9nm							
FAKI	**Fak Fak**	**5.53**	**38**	P		**Pn**	**10 22 11.1**	**-0.3**
	74nm,0.5s,1µm0.3nm							
FAKI				S		**Sn**	**10 23 11.8**	**-2.1**
	74nm,0.5s,1µm0.3nm							
BATI	**Baumata**	**5.87**	**240**	P		**Pn**	**10 22 16.7**	**+0.7**
	60nm,0.8s,862nm0.3nm							
BATI				S		**Sn**	**10 23 23.2**	**+1.0**
	60nm,0.8s,862nm0.3nm							
EDFI	**Ende, Flores**	**7.23**	**258**	P		**Pn**	**10 22 32.9**	**-1.4**
PLAI	**Plampang**	**11.06**	**261**	P		**Pn**	**10 23 25.5**	**-0.2**
	27nm,0.9s							
FITZ	**Fitzroy Crossi**	**11.17**	**196**	P		Pn	10 23 23.3	-3.7
	1.9nm,0.3s,baz=25,slow=12,SNR=44							
FITZ				S		Sn	10 25 17.0	-13
	3.3nm,0.3s,baz=6.7,slow=17,SNR=12							
WRA	**Warramunga Arr**	**13.63**	**158**	P		**Pn**	**10 23 55.7**	**-3.6**
	2.0nm,0.3s,baz=341,slow=12,SNR=61							
WRA				S		Sn	10 26 17.8	-12
	5.1nm,0.3s,baz=338,slow=22,SNR=13							
ASAR	**Alice Springs**	**16.97**	**164**	P		**P**	**10 24 41.0**	**+0.5**
	0.7nm,0.3s,baz=335,slow=10.0,SNR=49							
ASAR				S		Sn	10 27 34.1	-16
	0.6nm,0.3s,baz=330,slow=19,SNR=6.6							
PSI	**Prapat**	**31.51**	**288**	P		**P**	**10 27 01.7**	**+0.6**
	4.5nm,0.6s,baz=121,slow=7.5,SNR=4.5							
KSRS	**Korea Array**	**44.55**	**359**	P		**P**	**10 28 49.9**	**0.0**
	0.4nm,0.3s,baz=184,slow=8.1,SNR=3.5							
SONM	**Songino Array**	**58.39**	**342**	P		**P**	**10 30 34.1**	**+1.2**
	0.5nm,0.5s,baz=160,slow=6.5,SNR=4.5							
MKAR	**Makanchi Array**	**67.87**	**327**	P		**P**	**10 31 36.4**	**+1.1**
	4.1nm,0.4s,baz=128,slow=7.7,SNR=56							
ZALV	**Zalesovo Beam**	**71.36**	**334**	P		**P**	**10 31 57.0**	**+0.4**
	1.5nm,0.5s,baz=142,slow=5.6,SNR=6.5							
MAW	**Mawson**	**74.24**	**201**	P		**P**	**10 32 14.8**	**+1.4**
	1.3nm,0.6s,baz=125,slow=3.5,SNR=6.2							
BVAR	**Borovoye Array**	**77.72**	**328**	P		**P**	**10 32 34.1**	**+0.7**
	1.1nm,0.4s,baz=95,slow=8.0,SNR=6.9							
TORD	**Torodi Ar. Bea**	**127.75**	**281**	PKP		**PKPdf**	**10 39 42.5**	**+0.4**
	0.3nm,0.5s,baz=75,slow=1.6,SNR=4.7							

ISCJB ***19*** *10:34:23.8±0.3, 51.60N±0.05×176.70W±0.06, h47km, mb4.4/56, MS3.4/2, Error ellipse: s-maj=6.8km s-min=4.8km az=154.1*

NEIC ***19*** *10:34:26.5±0.0, 51.50N×176.39W, h45km, mb4.4/76, ML4.4(AEIC), After AEIC.*

IDC ***19*** *10:34:27.8±5.3, 51.75N×176.42W, h52km±46km, mb3.8/10, mb1 4.1/12, mb1mx3.8/44, mbtmp4.1/12, ML4.0/2, MS3.3/2, Ms1 3.4/2, ms1mx2.7/50, Error ellipse: s-maj=25.9km s-min=16.4km az=178.0*

ISC 19 10:34:27.3±0.5, 51.6N±0.1×176.46W±0.05, h47km, n365, σ1 8 12/364, mb4.5/56, Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATKA	**Atka Island**	**1.53**	**65**	*e*Pn	**Pn**	**10 34 51.3**	**-0.9**
ATKA				*e*Sn	**Sn**	**10 35 10.6**	**-0.2**
KOWE	**Korovin West**	**1.57**	**59**	P	**Pn**	**10 34 53.7**	**+1.0**
KOWE				S	**Sn**	**10 35 13.2**	**+1.3**
KOKL	**Mount Kliuchef**	**1.58**	**61**	P	**Pn**	**10 34 53.7**	**+0.9**
KOFP	**Korovin Flat P**	**1.61**	**64**	P	**Pn**	**10 34 53.6**	**+0.3**
KOKV	**Korovin Volcan**	**1.61**	**60**	P	**Pn**	**10 34 54.4**	**+1.0**
KOKV				S	**Sn**	**10 35 14.2**	**+1.2**
KONE	**Korovin Northe**	**1.66**	**60**	P	**Pn**	**10 34 53.7**	**-0.1**
KOSE	**Korovin Southe**	**1.67**	**62**	P	**Pn**	**10 34 54.1**	**-0.1**
NIKH	**Nikolski High**	**4.87**	**70**	P	**Pn**	**10 35 38.1**	**+0.2**
OKFG	**Magazine Ridge**	**5.53**	**67**	P	**Pn**	**10 35 47.9**	**+0.9**
SMY	**Shemya**	**5.92**	**285**	*e*Pn	**Pn**	**10 35 52.2**	**-0.2**
MSW	**Makushin Switc**	**6.32**	**65**	P	**Pn**	**10 35 58.3**	**+0.5**
UNV	**Unalaska Valle**	**6.46**	**66**	*e*Pn	Pn	10 36 04.9	+5.3
UNV				S	**Sn**	**10 37 13.2**	**+1.3**
SPIA	**Saint Paul Isl**	**6.67**	**30**	*e*Pn	**Pn**	**10 36 04.8**	**+2.3**
AKMO	**Akutan Morgan**	**6.81**	**64**	P	**Pn**	**10 36 06.3**	**+1.8**
AKUT	**Akutan**	**6.95**

DAWY	Dawson 8.2nm,0.9s	22.95	43	*e*P		P	10 39 27.1	-0.2
A04D	Lummi Island baz=296	33.91	73	P		P	10 41 06.5	+1.0
YKA	Yellowknife Ar 1.0nm,0.7s,baz=274,slow=10,SNR=3.0	34.02	47	P		P	10 41 04.6	-1.6
YKA				PcP		PcP	10 43 43.2	+0.2
	2.2nm,0.7s,baz=290,slow=3.3,SNR=4.7							
H11N2	WAKE ISLAND Hy baz=18,slow=76,SNR=780	34.38	209	T		T	11 17 38.7	
H11N3	WAKE ISLAND Hy baz=18,slow=76,SNR=695	34.39	209	T		T	11 17 39.4	
H11N1	WAKE ISLAND Hy baz=18,slow=76,SNR=704	34.40	209	T		T	11 17 40.0	
B05A	Bryant baz=296	34.48	74	P		P	10 41 11.4	+1.0
H11S1	WAKE ISLAND Hy baz=17,slow=76,SNR=626	35.59	208	T		T	11 19 12.2	
H11S2	WAKE ISLAND Hy baz=17,slow=76,SNR=362	35.61	208	T		T	11 19 14.1	
H11S3	WAKE ISLAND Hy baz=17,slow=76,SNR=268	35.61	208	T		T	11 19 17.6	
B08A	Colville Reser 7.1nm,0.6s	36.08	72	*e*P		P	10 41 24.9	+0.7
G05D	Wamic, OR baz=300	36.39	78	P		P	10 41 28.0	+1.1
I04A	Tendick Farm, baz=302	36.46	81	P		P	10 41 28.4	+0.9
L02D	Cave Junction, baz=303	36.61	84	P		P	10 41 29.8	+1.1
I05D	Terrebonne, OR baz=301	36.84	79	P		P	10 41 32.1	+1.3
HAWA	Hanford 8.6nm,0.9s	36.90	75	*e*P		P	10 41 31.4	+0.3
J04D	Umpqua Nationa baz=302	36.94	81	P		P	10 41 32.8	+0.9
EDM	Edmonton 13nm,0.5s	37.42	62	*e*P		P	10 41 35.4	-0.2
NEW	Newport baz=298,SNR=9.0	37.43	71	P		P	10 41 35.9	+0.2
NEW	Newport 7.6nm,0.7s	37.43	71	*e*P		P	10 41 36.0	+0.2
J05D	Fort Rock, OR baz=302	37.46	80	P		P	10 41 36.9	+0.7
M04C	Macdoel baz=304	37.91	83	P		P	10 41 40.5	+0.5
F10A	Beach Ranch, E 4.4nm,0.8s	38.49	74	*e*P		P	10 41 45.2	+0.4
BSMT	Bassoo Peak	39.01	70	*e*P		P	10 41 49.5	+0.3
BLMT	Blacktail Moun	39.18	70	*e*P		P	10 41 51.0	+0.4
WVOR	Wild Horse Val 6.4nm,0.8s	39.52	80	*e*P		P	10 41 54.3	+0.9
MSO	Missoula baz=300,SNR=6.8	40.02	71	P		P	10 41 57.4	0.0
MSO	Missoula 5.2nm,0.7s	40.02	71	*e*P		P	10 41 57.7	+0.3
SLMT	Seeley Lake	40.07	71	*e*P		P	10 41 58.1	+0.1
PAHR	Pah Rah Range 4.3nm,0.9s	40.63	84	*e*P		P	10 42 03.2	+0.6
PNTR	Pine Nut 6.8nm,0.7s	40.87	85	*e*P		P	10 42 05.5	+0.8
KSRS	Korea Array 1.4nm,0.8s,baz=46,slow=8.1,SNR=3.8	41.10	272	P		P	10 42 07.5	+1.3
KSAR	Wonju Array Be	41.13	272	P		P	10 42 07.5	+1.0
YERR	Yerington 3.2nm,0.8s	41.15	85	*e*P		P	10 42 08.3	+1.3
HRY	Holter Researc	41.32	70	*e*P		P	10 42 08.4	+0.2
HLID	Hailey baz=304,SNR=7.3	41.47	76	P		P	10 42 10.0	+0.5
HLID	Hailey 11nm,1.4s	41.47	76	*e*P		P	10 42 10.1	+0.5
MCMT	McKenzie Canyo	41.72	73	*e*P		P	10 42 11.4	-0.2
EGMT	Eagleton baz=301	41.85	68	P		P	10 42 12.5	0.0
EGMT	Eagleton 6.4nm,0.6s	41.85	68	*e*P		P	10 42 12.3	-0.1
BOZ	Bozeman (W) baz=302,SNR=12	42.03	72	P		P	10 42 14.0	0.0
BOZ	Bozeman (W) 6.6nm,0.7s	42.03	72	*e*P		P	10 42 14.0	0.0
YHB	Horse Butte 6.5nm,0.8s	42.74	72	*e*P		P	10 42 20.5	+0.5
YMR	Madison River 13nm,1.2s	42.93	72	*e*P		P	10 42 22.1	+0.7
YHH	Holmes Hill 6.8nm,0.7s	42.93	72	*e*P		P	10 42 21.5	0.0
H17A	Grant Village baz=304	43.31	73	P		P	10 42 25.9	+1.3
H17A	Grant Village 2.8nm,0.6s	43.31	73	*e*P		P	10 42 24.9	+0.3
IMW	Indian Meadow 3.0nm,0.8s	43.37	73	*e*P		P	10 42 26.1	+0.9
CWC	Cottonwood Cre baz=309	43.45	87	P		P	10 42 26.2	+0.5
HVU	Hansel Valley 4.1nm,0.8s	43.48	77	*e*P		P	10 42 26.8	+1.0
GRAC	Grapevine Rang baz=309	43.54	86	P		P	10 42 26.8	+0.5
RLMT	Red Lodge baz=304,SNR=6.5	43.68	71	P		P	10 42 27.9	+0.3
RLMT	Red Lodge 6.6nm,0.6s	43.68	71	*e*P		P	10 42 27.6	+0.1
R11A	Troy Canyon, C baz=308,SNR=5.2	43.81	83	P		P	10 42 28.9	+0.3
R11A	Troy Canyon, C 4.2nm,1.2s	43.81	83	*e*P		P	10 42 28.8	+0.3
ARVC	Arvin baz=310	43.82	89	P		P	10 42 28.6	+0.1
MPMC	Manual Prospec baz=310	44.06	87	P		P	10 42 31.2	+0.6
FURC	Furnace Creek, baz=310	44.19	86	P		P	10 42 32.2	+0.8
TPNV	Topopah Spring baz=309,SNR=9.7	44.27	85	P		P	10 42 32.9	+0.7
TPNV	Topopah Spring 5.5nm,0.8s	44.27	85	*e*P		P	10 42 32.4	+0.2
LRMC	Laurel Mtn Rad baz=310	44.31	88	P		P	10 42 32.9	+0.3
HWUT	Hardware Ranch 4.9nm,1.2s	44.31	76	*e*P		P	10 42 33.4	+0.8
DUG	Dugway, Tooele baz=307,SNR=6.4	44.39	79	P		P	10 42 33.6	+0.5
DUG	Dugway, Tooele 5.0nm,0.9s	44.39	79	*e*P		P	10 42 33.9	+0.7
LAO	LASA Array baz=303,SNR=7.2	44.59	67	P		P	10 42 34.8	+0.2
LAO	LASA Array 12nm,0.6s	44.59	67	*e*P		P	10 42 35.1	+0.5
BW06	Boulder Array baz=306,SNR=12	44.85	74	P		P	10 42 36.9	0.0
BW06	Boulder Array	44.85	74	*e*P		P	10 42 36.6	-0.2
BW06				*e*P		P	10 42 37.0	+0.2
PD31	Pinedale Array	44.85	74	*e*P		P	10 42 37.0	+0.1
PDAR	Pinedale Array 6.0nm,0.7s,baz=301,slow=3.7,SNR=60	44.85	74	P		P	10 42 37.0	+0.1
SHOC	Shoshone, Teco baz=310	44.92	86	P		P	10 42 38.0	+0.8
GSC	Goldstone, Bar baz=310,SNR=6.7	44.97	87	P		P	10 42 38.3	+0.5
GSC	Goldstone, Bar 6.8nm,1.0s	44.97	87	*e*P		P	10 42 38.6	+0.8
BFSC	Mount Baldy Ra baz=311	45.13	89	P		P	10 42 39.7	+0.6
TUQ	Turquoise Moun baz=310	45.44	86	P		P	10 42 42.0	+0.5
HEC	Hector,Ludlow baz=311	45.57	87	P		P	10 42 42.6	+0.1
BBRC	Big Bear Solar baz=311	45.58	88	P		P	10 42 43.0	+0.2
MSU	Marysvale	45.81	80	*e*P		P	10 42 45.0	+0.5
TMUT	Trail Mountain	45.92	79	*e*P		P	10 42 45.6	+0.1
GMRC	Granite Mounta baz=311	46.02	87	P		P	10 42 45.9	-0.2
LCMT	Little Creek M	46.09	83	*e*P		P	10 42 47.8	+1.1
PFO	Pinyon Flats O baz=312	46.30	89	P		P	10 42 48.0	-0.3
TPFO	Pinon Flats baz=312	46.30	89	P		P	10 42 48.3	0.0
BELC	Belle Mtn. Jos baz=311	46.33	88	P		P	10 42 48.6	0.0
SRU	San Rafael Swe	46.45	79	*e*P		P	10 42 49.6	+0.1
K22A	Casper baz=306	46.72	72	P		P	10 42 51.5	-0.1
IRM	Iron Mountain baz=311	46.75	87	P		P	10 42 51.7	-0.1
BC3	Big Chuckawall baz=312	46.89	88	P		P	10 42 52.7	-0.3
W13A	Hualapai Mount	46.92	85	*e*P		P	10 42 53.8	+0.5
	3.3nm,0.8s							
U15A	North Rim 8.6nm,0.9s	47.05	83	*e*P		P	10 42 55.2	+0.9
IKP	In-Ko-Pah, Jac baz=312	47.15	89	P		P	10 42 54.9	-0.1
O20A	White River Ci baz=308,SNR=8.5	47.21	76	P		P	10 42 55.5	0.0
O20A	White River Ci 9.2nm,0.7s	47.21	76	*e*P		P	10 42 55.0	-0.5
PDMCI	Parker Dam,Lak baz=311	47.28	86	P		P	10 42 55.9	+0.1
RSSD	Black Hills baz=306	47.32	69	P		P	10 42 55.7	-0.6
RSSD	Black Hills 4.1nm,0.7s	47.32	69	*e*P		P	10 42 55.9	-0.4
Y12C	Blythe baz=312	47.41	87	P		P	10 42 56.8	0.0
Y12C	Blythe 3.7nm,0.8s	47.41	87	*e*P		P	10 42 56.5	-0.3
PV09	Paradox Valley	47.68	78	*e*P		P	10 42 59.6	+0.3
PV10	Paradox Valley	47.82	78	*e*P		P	10 43 01.2	+0.9
SONM	Songino Array 0.7nm,0.5s,baz=38,slow=2.7,SNR=3.7	47.85	298	PcP		PcP	10 44 28.5	+0.3
N23A	Red Feather La baz=308	48.13	74	P		P	10 43 02.1	-0.6
WUAZ	Wupatki baz=311,SNR=7.5	48.21	83	P		P	10 43 03.9	+0.7
WUAZ	Wupatki 6.8nm,0.8s	48.21	83	*e*P		P	10 43 03.9	+0.7
PV01	Paradox Valley	48.26	78	*e*P		P	10 43 03.6	0.0
B31A	Greenbush Farm baz=305	48.43	61	P		P	10 43 03.7	-0.8
SMCO	Snowmass 14nm,2.0s	48.57	76	*e*P		P	10 43 05.9	-0.3
X16A	Lo Mia Camp, P 2.5nm,0.8s	48.89	84	*e*P		P	10 43 09.6	+1.1
MVCO	Mesa Verde baz=310	48.89	79	P		P	10 43 08.7	+0.2
ISCO	Idaho Springs baz=309	49.00	75	P		P	10 43 09.7	+0.3
HHC	Hu-ho-hao-te	49.03	287	*e*P		P	10 43 10.8	+1.4
HHC				pmax		pmax		
	comp=Z,9.0nm,1.2s							
HHC				pmax		pmax		
	comp=Z,97nm,6.4s							
E31A	Nome baz=306	49.38	63	P		P	10 43 10.7	-1.2
W18A	Petrified Fore baz=311	49.48	82	P		P	10 43 13.8	+0.8
W18A	Petrified Fore comp=Z,5.1nm,0.8s	49.48	82	*e*P		P	10 43 13.2	+0.2
S22A	4UR Ranch, Cre baz=310	49.56	78	P		P	10 43 14.3	+0.6
214A	Organ Pipe Nat baz=313	49.68	87	P		P	10 43 14.5	+0.2
X18A	Snowflake comp=Z,3.7nm,0.8s	49.74	83	*e*P		P	10 43 15.9	+1.0
B34A	Aery, Baudette baz=306	50.01	59	P		P	10 43 15.2	-1.5
D33A	AnnSam, Waubun baz=307	50.17	61	P		P	10 43 16.5	-1.3
H31A	Wolsey baz=308	50.30	65	P		P	10 43 17.6	-1.3
SDCO	Great Sand Dun baz=310	50.37	77	P		P	10 43 19.4	-0.4
SDCO	Great Sand Dun comp=Z,2.0nm,0.8s	50.37	77	*e*P		P	10 43 20.2	+0.4
OGNE	Ogallala baz=309	50.42	71	P		P	10 43 19.5	-0.5
I31A	Royce, Wessing baz=308	50.55	66	P		P	10 43 19.7	-1.1
D34A	Park Rapids baz=307	50.55	61	P		P	10 43 19.3	-1.5
TUC	Tucson baz=313	50.70	86	P		P	10 43 21.9	-0.3
TUC	Tucson comp=Z,4.4nm,0.8s	50.70	86	*e*P		P	10 43 22.6	+0.4
C35A	Jirik Farms, M baz=307	50.84	60	P		P	10 43 21.4	-1.5
H32A	Carlson Farm, baz=308	50.88	65	P		P	10 43 21.8	-1.5
J31A	Geddes baz=308,SNR=14	50.88	67	P		P	10 43 22.5	-0.8
G33A	Ortonville baz=308	51.02	64	P		P	10 43 22.6	-1.7
I32A	Karley and Nic baz=308	51.16	65	P		P	10 43 23.5	-1.8
H33A	Prehn Over Nor baz=308	51.16	64	P		P	10 43 23.9	-1.5
D35A	Remer baz=307	51.18	60	P		P	10 43 23.7	-1.7
KSCO	Kaye Shedlock' comp=Z,12nm,1.2s	51.29	74	*e*P		P	10 43 27.3	+0.7
F34A	Alexandria baz=308	51.30	62	P		P	10 43 24.4	-1.9
E35A	Pequot Lakes baz=308	51.31	61	P		P	10 43 24.3	-2.1
J32A	Parkston baz=308,SNR=5.2	51.34	66	P		P	10 43 25.4	-1.3
C36A	Pine Crest Far baz=308	51.42	59	P		P	10 43 25.5	-1.7
T25A	Trinidad baz=311	51.43	76	P		P	10 43 27.7	0.0
ANMO	Albuquerque baz=312	51.62	80	P		P	10 43 28.9	-0.2
F35A	Swanville baz=308	51.64	62	P		P	10 43 26.9	-2.1
H34A	Spellman Lake, baz=308	51.71	64	P		P	10 43 28.0	-1.4
K32A	Verdigre baz=309	51.72	67	P		P	10 43 28.0	-1.6
C37A	Embarrass baz=308	51.79	59	P		P	10 43 28.6	-1.4
ECSD	EROS Data Cent baz=309	51.82	65	P		P	10 43 28.8	-1.4
J33A	Davis baz=309	51.88	66	P		P	10 43 29.1	-1.7
EYMN	Ely baz=308	52.02	58	P		P	10 43 30.1	-1.6
L32A	Elgin baz=309	52.11	68	P		P	10 43 32.0	-0.5
K33A	Hardington baz=309	52.31	67	P		P	10 43 33.1	-0.8
BGNE	Belgrade baz=310	52.41	68	P		P	10 43 34.0	-0.7
BGNE	Belgrade comp=Z,17nm,0.8s	52.41	68	*e*P		P	10 43 33.7	-1.0
121A	Cookes Peak, D baz=313	52.41	83	P		P	10 43 35.2	+0.2
K34A	Le Mars baz=309,SNR=5.8	52.77	66	P		P	10 43 36.3	-1.0
F37A	Hinrichs Farm, baz=309	52.79	61	P		P	10 43 36.0	-1.5
M33A	Taylor Creek F baz=310	52.85	68	P		P	10 43 37.3	-0.7
F38A	Pierce - Schro baz=309	53.05	60	P		P	10 43 38.4	-1.0
L34A	Svendsen Farm, baz=310,SNR=6.4	53.07	67	P		P	10 43 38.5	-1.1
CBKS	Cedar Bluff baz=311	53.14	72	P		P	10 43 39.6	-0.5
J36A	Seneca 1, Swea baz=310	53.36	64	P		P	10 43 39.8	-1.8
I37A	Lemond, Waseca baz=310	53.45	63	P		P	10 43 41.0	-1.3
O33A	Hebron baz=310	53.59	69	P		P	10 43 42.3	-1.2
K36A	Gilmore City baz=310	53.74	65	P		P	10 43 42.9	-1.6
M35A	Neola baz=310,SNR=5.6	53.78	67	P		P	10 43 44.0	-0.8
J37A	Redenius Farm, baz=310	53.81	64	P		P	10 43 43.5	-1.4
L36A	Harm Buss Farm baz=310	53.96	66	P		P	10 43 44.9	-1.2
O34A	Beatrice baz=311,SNR=5.8	54.04	69	P		P	10 43 45.6	-1.1
K37A	Belmond baz=310	54.11	64	P		P	10 43 45.7	-1.4
N35A	Tabor baz=311,SNR=7.9	54.21	67	P		P	10 43 47.3	-0.6
M36A	Felix, Anita baz=310	54.30	66	P		P	10 43 47.9	-0.7
O35A	Humboldt baz=311	54.44	68	P		P	10 43 48.6	-1.0
L37A	Phoenix Point, baz=310	54.46	65	P		P	10 43 48.5	-1.2
MNTX	Cornudas Mount	54.47	82	P		P	10 43 50.2	+0.3
	baz=314,SNR=11							
MNTX	Cornudas Mount comp=Z,6.0nm,0.9s	54.47	82	*e*P		P	10 43 50.3	+0.4
MSTX	Muleshoe baz=313	54.53	78	P		P	10 43 50.0	-0.4
MSTX	Muleshoe comp=Z,35nm,1.8s	54.53	78	*e*P		P	10 43 50.5	+0.1
AMTX	Amarillo baz=312	54.58	77	P		P	10 43 49.7	-1.0
N36A	Muff Farm, Cla baz=311,SNR=7.5	54.63	67	P		P	10 43 50.2	-0.8
M37A	Trindle Farm, baz=311	54.76	66	P		P	10 43 51.0	-0.9
J39A	Decorah baz=310	54.82	63	P		P	10 43 50.6	-1.7
P35A	Duane Minner, baz=311	54.86	69	P		P	10 43 51.5	-1.2
L38A	Oak Wood Farm, baz=311	54.90	65	P		P	10 43 51.7	-1.2
R34A	Isabella, Hill baz=312	54.95	71	P		P	10 43 52.3	-1.0
O36A	Bolckow baz=311	55.07	68	P		P	10 43 53.4	-0.8
N37A	Lee Faris, Mou baz=311,SNR=9.7	55.10	67	P		P	10 43 53.5	-0.8
M38A	Pleasantville baz=311	55.24	65	P		P	10 43 54.2	-1.2
P36A	Good Intent, A baz=311	55.27	68	P		P	10 43 54.5	-1.1
O37A	Wolven Farm, M baz=311,SNR=8.0	55.52	67	P		P	10 43 56.4	-1.0
R35A	Emporia Munici baz=312	55.55	70	P		P	10 43 56.5	-1.1
Q36A	Arnold C. Orve baz=312	55.56	69	P		P	10 43 56.6	-1.1
J41A	Loganville baz=311	55.74	62	P		P	10 43 57.5	-1.5
M39A	Webster baz=311	55.78	65	P		P	10 43 57.9	-1.3
P37A	Lathrop baz=312	55.79	68	P		P	10 43 58.2	-1.1
T34A	McClaskey Farm baz=312	55.84	72	P		P	10 43 59.0	-0.7
S35A	Otter Creek Ra baz=312	55.91	71	P		P	10 43 59.2	-1.0
L40A	Anamosa baz=311	55.93	64	P		P	10 43 59.3	-0.9
O38A	Galt baz=312	55.94	67	P		P	10 43 59.3	-1.0
R36A	Gordon, Harris baz=312,SNR=6.1	55.96	70	P		P	10 43 59.4	-1.1
N39A	Derby Farms, D baz=312	55.99	65	P		P	10 43 59.5	-1.3
K41A	Shulsburg baz=311	56.08	63	P		P	10 43 59.9	-1.4
M40A	Post Highland baz=312	56.20	64	P		P	10 44 00.7	-1.5
P38A	Dawn baz=312,SNR=5.6	56.23	67	P		P	10 44 01.1	-1.4
S36A	Lake Cedric, C baz=312	56.31	70	P		P	10 44 01.6	-1.5
L41A	Preston baz=312	56.32	63	P		P	10 44 01.3	-1.8
R37A	Teagarden Farm baz=312	56.36	69	P		P	10 44 01.7	-1.7
O39A	Kirksville baz=312	56.38	66	P		P	10 44 01.5	-2.0
WMOK	Wichita Mounta baz=313	56.43	75	P		P	10 44 03.4	-0.6
N40A	Mertquake, Sal baz=312	56.51	65	P		P	10 44 02.8	-1.6
Q38A	Cooks Store, C baz=312	56.63	68	P		P	10 44 03.7	-1.6
S37A	Fort Scott baz=312,SNR=5.5	56.73	70	P		P	10 44 04.6	-1.4
M41A	Milan baz=312	56.77	64	P		P	10 44 04.3	-1.9
P39B	Salisbury baz=312,SNR=11	56.77	67	P		P	10 44 04.9	-1.4
O40A	La Belle baz=312,SNR=6.1	56.85	66	P		P	10 44 05.5	-1.4
Q39A	Willow Grove F baz=312,SNR=10	56.94	67	P		P	10 44 06.0	-1.6
R38A	Fenwick Farm, baz=312	56.98	69	P		P	10 44 05.4	-2.5
T37A	Cheneyville 18 baz=313	57.11	70	P		P	10 44 06.8	-1.9
P40A	Paris baz=312,SNR=13	57.15	66	P		P	10 44 07.6	-1.4
TX31	Lajitas Ar. Si	57.17	83	*e*P		P	10 44 09.1	-0.3
TX31				*e*P		P	10 44 09.4	0.0
TXAR	Lajitas Array comp=Z,3.4nm,0.7s,baz=296,slow=4.7,SNR=38	57.17	83	P		P	10 44 09.2	-0.2
W35A	Tecumseh baz=313	57.29	73	P		P	10 44 08.9	-1.2
S38A	Stockton baz=313,SNR=6.8	57.36	69	P		P	10 44 08.6	-1.9
R39A	Chumby, Stover baz=313	57.40	68	P		P	10 44 08.4	-2.4
V36A	Jenks baz=313	57.41	72	P		P	10 44 09.6	-1.3
N42A	Yates City baz=312	57.41	64	P		P	10 44 09.3	-1.5
TUL1	Leonard baz=313	57.42	72	P		P	10 44 09.7	-1.2
O41A	Passleys Farm, baz=312	57.42	65	P		P	10 44 09.5	-1.4
U37A	Salina baz=313	57.48	71	P		P	10 44 10.3	-1.1
Q40A	Laux Farm, Aux baz=313,SNR=6.6	57.49	67	P		P	10 44 10.0	-1.5
T38A	Diamond baz=313	57.53	70	P		P	10 44 10.2	-1.6
P41A	Barry, Barry baz=313	57.61	66	P		P	10 44 10.6	-1.6
S39A	Bolivar baz=313	57.66	69	P		P	10 44 10.5	-2.1
V37A	Hulbert baz=313	57.82	72	P		P	10 44 12.5	-1.3
R40A	Maddies Statio baz=313,SNR=9.4	57.86	68	P		P	10 44 12.0	-2.0
U38A	Gravette baz=313	57.89	71	P		P	10 44 12.4	-1.8
X36A	Centrahoma baz=314	58.00	73	P		P	10 44 14.5	-0.5
Q41A	Truxton baz=313	58.01	66	P		P	10 44 13.4	-1.6
Y35A	Marietta baz=314	58.05	74	P		P	10 44 14.4	-1.0
T39A	Clever baz=313,SNR=6.5	58.08	69	P		P	10 44 13.7	-1.9
P42A	Winchester baz=313	58.08	65	P		P	10 44 14.0	-1.5
233A	Rising Star baz=314	58.23	77	P		P	10 44 15.7	-1.0
R41A	Rosebud baz=313,SNR=5.2	58.37	67	P		P	10 44 15.8	-1.7
Q42A	Golden Eagle baz=313,SNR=5.6	58.43	66	P		P	10 44 17.0	-1.0
U39A	Green Forest baz=313	58.46	70	P		P	10 44 16.4	-1.8
T40A	Mansfield baz=313	58.49	69	P		P	10 44 16.6	-1.9
P43A	Skaggs, Pawnee baz=313	58.51	65	P		P	10 44 17.5	-1.0
S41A	Jilco Farms, baz=313,SNR=8.9	58.64	68	P		P	10 44 17.5	-2.0
333A	Richland Sprin baz=314	58.66	78	P		P	10 44 19.4	-0.4
234A	Clairette baz=314	58.70	77	P		P	10 44 19.9	-0.1
R42A	Luebbering baz=313	58.72	67	P		P	10 44 18.4	-1.6
JCT	Junction City baz=315	58.75	79	P		P	10 44 19.5	-0.8
U40A	Yellville baz=314	58.84	70	P		P	10 44 19.4	-1.5
Q43A	New Douglas baz=313	58.89	65	P		P	10 44 19.9	-1.3
433A	Art baz=315	58.99	79	P		P	10 44 20.8	-1.2
T41A	Mountain View baz=314	59.01	68	P		P	10 44 20.8	-1.2
S42A	Caledonia baz=314,SNR=7.1	59.06	67	P		P	10 44 20.8	-1.7
W39A	Magazine baz=314	59.10	71	P		P	10 44 21.5	-1.2
334A	Lometa	59.11	77	P		P	10 44 22.6	-0.2

baz=315,SNR=6.0
WHTX Lake Whitney, 59.12 76 P **P** **10 44 22.0 -0.8**
baz=314
P44A Sand Creek, Wi 59.13 64 P **P** **10 44 21.7 -1.1**
baz=313
R43A Red Bud 59.21 66 P **P** **10 44 22.0 -1.4**
baz=314
V40A Witts Springs 59.24 70 P **P** **10 44 22.3 -1.4**
baz=314
Q44A Meyer Farm, Va 59.30 65 P **P** **10 44 22.6 -1.4**
baz=314
X39A Fountain Ranch 59.38 72 P **P** **10 44 24.3 -0.3**
baz=314
U41A Viola 59.40 69 P **P** **10 44 23.0 -1.7**
baz=314
T42A Van Buren 59.40 68 P **P** **10 44 22.7 -2.1**
baz=314
434A Burnet 59.45 78 P **P** **10 44 24.0 -1.2**
baz=315
533A Kerrville 59.51 79 P **P** **10 44 24.1 -1.6**
baz=315
S43A Fulton Ridge, 59.61 67 P **P** **10 44 24.6 -1.6**
baz=314
V41A Mountainview 59.65 70 P **P** **10 44 25.1 -1.3**
baz=314
MIAR Mount Ida 59.67 72 P **P** **10 44 25.0 -1.6**
baz=314
U42A Revenden 59.79 69 P **P** **10 44 25.5 -1.9**
baz=314
T43A Greenville 59.83 67 P **P** **10 44 26.3 -1.3**
baz=314,SNR=14
W41B Gary Mavity, V 60.02 70 P **P** **10 44 27.7 -1.3**
baz=314
832A Faith Ranch, C 60.20 81 P **P** **10 44 30.0 -0.4**
baz=316
T44A Benton 60.23 67 P **P** **10 44 29.1 -1.3**
baz=314
U43A Rector 60.26 68 P **P** **10 44 29.8 -0.8**
baz=314
436A Wall Ranch, Ga 60.38 77 P **P** **10 44 31.5 -0.1**
baz=315
S45A Carrier Mills 60.40 66 P **P** **10 44 30.5 -1.0**
baz=314
WMQ Urumqi 60.45 304 P **P** **10 44 32.9 +1.0**
WMQ pmax pmax
comp=Z,7.0nm,0.6s
WMQ pmax pmax
comp=Z,140nm,3.8s
WMQ LR LR
comp=E,81nm,24.3s
WMQ LR LR
comp=Z,69nm,19.9s
WMQ Urumqi 60.45 304 P **P** **10 44 33.3 +1.4**
WMQ pP sP 10 44 48.0 -2.5
WMQ pmax pmax
comp=Z,8.0nm,0.7s
WMQ pmax pmax
comp=Z,94nm,3.6s
635A Leesville 60.76 79 P **P** **10 44 34.0 -0.1**
baz=316
MKAR Makanchi Array 61.04 310 P **P** **10 44 34.5 -1.3**
comp=Z,0.2nm,0.4s,baz=50,slow=6.9,SNR=3.1
933A Laredo 61.11 81 P **P** **10 44 36.9 +0.4**
baz=316
X43A Marvell 61.28 70 P **P** **10 44 36.9 -0.7**
baz=315
934A Benavides 61.58 81 P **P** **10 44 39.9 +0.2**
baz=316
BVAR Borovoye Array 61.66 321 P **P** **10 44 39.6 -0.3**
comp=Z,1.0nm,0.5s,baz=54,slow=7.3,SNR=6.8
X45A UM Field Stati 62.21 69 P **P** **10 44 43.1 -0.8**
baz=315
Y45A Yeager Farm, C 62.52 69 P **P** **10 44 45.4 -0.5**
baz=315
M54A Oil Creek Stat 62.58 57 P **P** **10 44 45.2 -1.0**
baz=316
035Z Hargill 62.68 81 P **P** **10 44 47.0 0.0**
baz=317
N54A Moraine State 62.80 58 P **P** **10 44 46.9 -0.9**
baz=316
Y46A Houston 62.91 69 P **P** **10 44 47.7 -0.8**
baz=316
Y47A UCPARC, Winfie 63.48 68 P **P** **10 44 51.8 -0.5**
baz=316
Z47A Carrollton 63.85 69 P **P** **10 44 53.9 -0.9**
baz=316
Z48A Northport 64.03 69 P **P** **10 44 54.8 -1.1**
baz=316
N59A State Game Lan 65.02 55 P **P** **10 45 01.5 -0.9**
baz=317
KMI Kunming 65.14 280 P **P** **10 45 06.8 +3.2**
KMI pmax pmax
comp=Z,11nm,0.5s
KMSC Kings Mountain 66.29 63 P **P** **10 45 10.2 -0.4**
baz=317
WRA Warramunga Arr 83.20 226 P **P** **10 46 48.2 -0.1**
comp=Z,1.0nm,0.5s,baz=32,slow=5.9,SNR=23
BRTR Keskin Array B 85.34 337 P **P** **10 46 57.6 -1.7**
comp=Z,0.6nm,0.5s,baz=29,slow=4.3,SNR=2.6
ASAR Alice Springs 86.65 224 P **P** **10 47 06.2 +0.6**
comp=Z,1.9nm,0.7s,baz=23,slow=4.7,SNR=25
TORD Torodi Ar. Bea 115.52 2 PKP **PKPdf** **10 53 03.1 -1.0**
comp=Z,0.4nm,0.4s,baz=352,slow=2.2,SNR=9.6
DBIC Dimbokro 121.53 10 PKP **PKPdf** **10 53 14.9 -0.8**
comp=Z,1.3nm,0.4s,baz=316,slow=4.7,SNR=7.0
MAW Mawson 147.55 218 PKPbc **PKPbc** **10 54 05.1 +0.3**
comp=Z,1.6nm,0.7s,baz=40,slow=0.7,SNR=12
BOSA Boshof 151.88 316 PKPbc **PKPbc** **10 54 16.6 -0.2**
comp=Z,5.5nm,0.6s,baz=46,slow=2.4,SNR=13
SNAA Sanae 159.64 174 PKPab **PKPab** **10 54 57.7 -0.4**
comp=Z,0.4nm,0.8s,baz=215,slow=7.7,SNR=8.2

IDC 19 10:49:46.8±3.0, 4°46'S×133°39'E, h0km, mb3.4/1, mb1 3.5/4, mb1mx3.3/41, mbtmp3.4/4, ML3.1/2, MS3.1/1, Ms1 3.1/1, ms1mx2.4/17, Error ellipse: s-maj=131.9km s-min=28.7km az=81.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**15.42**	**177**	Pn	Pn	10 53 23.9	-1.9
	0.0nm,0.3s,baz=352,slow=13,SNR=4.7						
WRA				Sn	Sn	10 56 09.8	-7.7
	0.0nm,0.3s,baz=358,slow=24,SNR=3.2						
FITZ	**Fitzroy Crossi**	**15.53**	**209**	Pn	Pn	10 53 27.8	+0.5
	0.1nm,0.3s,baz=32,slow=12,SNR=6.4						
FITZ				Sn	Sn	10 56 13.4	-6.8
	0.1nm,0.3s,baz=234,slow=22,SNR=3.4						
ASAR	**Alice Springs**	**19.10**	**179**	P	Pn	10 54 12.0	-0.1
	baz=2.8,slow=13,SNR=3.0						
GUMO	**Guam**	**21.25**	**32**	LR	LR	11 02 52.5	
	comp=Z,54nm,20.9s,baz=166,slow=37						
MKAR	**Makanchi Array**	**68.03**	**325**	P	P	11 00 48.1	0.0
	0.2nm,0.5s,baz=116,slow=6.6,SNR=2.2						

---

*KRSC **19** 11:02:40.6±2.0, 49.81N×157.18E, h40km±26km, ML4.5*
*ISCJB **19** 11:02:41.9±0.6, 50.00N±0.05×156.11E±0.07, h102km±4km, mb4.0/20, Error ellipse: s-maj=11.2km s-min=4.3km az=139.3*
*MOS **19** 11:02:41.9±0.9, 50.01N×156.07E, h104km, mb4.3/9, Error ellipse: s-maj=10.5km s-min=4.8km az=68.8*
*IDC **19** 11:02:44.2±2.4, 50.01N×156.13E, h107km±22km, mb3.7/16, mb1 3.8/20, mb1mx3.7/58, mbtmp4.0/20, MS3.1/1, Ms1 3.1/1, ms1mx2.4/40, Error ellipse: s-maj=18.8km s-min=11.8km az=146.0*
ISC 19 11:02:41.8±0.8, 49°93N±0.07×156°27E±0.06, h92km±6km, n80, σ1s58/104, mb4.1/20, 5C-4D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SKR	**Severo-Kuril's**	**0.76**	**353**	↓*i*Pn	**Pn**	**11 02 59.9**	**+0.9**
SKR				*i* S	**Sn**	**11 03 13.5**	**+1.5**
SKR				pmax	pmax		
	comp=Z,441nm,0.7s						
SKR				smax	smax		
	comp=E,3μm,0.2s						
SKR				smax	smax		
	comp=N,4μm,0.3s						
SKR	**Severo-Kuril's**	**0.76**	**353**	*e*P	**Pn**	**11 02 59.8**	**+0.8**
SKR				*e*S	**Sn**	**11 03 13.4**	**+1.5**
PAU	**Pauzhetka**	**1.58**	**12**	PN	**Pn**	**11 03 07.7**	**-0.9**
PAU				S	**Sn**	**11 03 27.5**	**-1.4**
PAU	**Pauzhetka**	**1.58**	**12**	*e*P	**Pn**	**11 03 07.7**	**-0.9**
PAU				*e*S	**Sn**	**11 03 27.5**	**-1.4**
ASAK	**Asacha**	**2.67**	**22**	PN	**Pn**	**11 03 24.1**	**+1.2**
ASAK				S	**Sn**	**11 03 55.4**	**+0.9**
ASAK	**Asacha**	**2.67**	**22**	*e*P	**Pn**	**11 03 24.1**	**+1.2**
ASAK				*e*S	**Sn**	**11 03 55.4**	**+0.9**
MTVR	**Mutnovka**	**2.83**	**24**	PN	**Pn**	**11 03 26.2**	**+1.1**
MTVR				S	**Sn**	**11 03 58.9**	**+0.4**
MTVR	**Mutnovka**	**2.83**	**24**	*e*P	**Pn**	**11 03 26.2**	**+1.1**
MTVR				*e*S	**Sn**	**11 03 58.9**	**+0.4**
RUS	**Russkaya**	**2.88**	**29**	PN	**Pn**	**11 03 25.6**	**-0.1**
RUS				S	**Sn**	**11 03 58.1**	**-1.3**
RUS	**Russkaya**	**2.88**	**29**	*e*P	**Pn**	**11 03 25.6**	**-0.1**
RUS				*e*S	**Sn**	**11 03 58.1**	**-1.3**
APC	**Apacha**	**3.05**	**10**	PN	**Pn**	**11 03 30.4**	**+2.4**
APC	**Apacha**	**3.05**	**10**	*e*P	**Pn**	**11 03 30.4**	**+2.4**
KRMR	**Karymshinskiy**	**3.13**	**21**	PN	**Pn**	**11 03 31.1**	**+2.0**
KRMR				S	**Sn**	**11 04 07.5**	**+2.0**
KRMR	**Karymshinskiy**	**3.13**	**21**	*e*P	**Pn**	**11 03 31.1**	**+2.0**
KRMR				*e*S	**Sn**	**11 04 07.5**	**+2.0**
PETK	**Petropavlovsk-**	**3.31**	**15**	P	**Pn**	**11 03 33.8**	**+2.3**
	comp=N,2.8nm,0.3s,baz=177,slow=12,SNR=18						
PETK				S	Sn	11 04 20.5	+11
	comp=N,2.6nm,0.3s,baz=117,slow=25,SNR=3.5						
PET	**Petropavlovsk**	**3.44**	**25**	↑*i*PN	**Pn**	**11 03 34.4**	**+1.2**
PET				*e*S	**Sn**	**11 04 13.3**	**+0.4**
PET				pmax	pmax		
	comp=Z,11nm,0.4s						
PET				smax	smax		
	comp=N,125nm,0.4s						
PET				smax	smax		
	comp=E,137nm,0.5s						
PET	**Petropavlovsk**	**3.44**	**25**	*e*P	**Pn**	**11 03 34.2**	**+1.0**
PET				*e*S	**Sn**	**11 04 13.3**	**+0.4**
DALK	**Dalny**	**3.48**	**26**	PN	**Pn**	**11 03 34.6**	**+0.9**
DALK				S	**Sn**	**11 04 14.1**	**+0.3**
DALK	**Dalny**	**3.48**	**26**	*e*P	**Pn**	**11 03 34.6**	**+0.9**
DALK				*e*S	**Sn**	**11 04 14.1**	**+0.3**
UGLR	**Uglovaya**	**3.65**	**25**	PN	**Pn**	**11 03 37.6**	**+1.4**
UGLR	**Uglovaya**	**3.65**	**25**	*e*P	**Pn**	**11 03 37.6**	**+1.4**
KOK	**Koryaka**	**3.68**	**23**	PN	**Pn**	**11 03 39.1**	**+2.6**
KOK	**Koryaka**	**3.68**	**23**	*e*P	**Pn**	**11 03 39.1**	**+2.6**
AVH	**Avacha**	**3.68**	**24**	PN	**Pn**	**11 03 38.7**	**+2.2**
AVH				S	**Sn**	**11 04 21.2**	**+2.3**
AVH	**Avacha**	**3.68**	**24**	*e*P	**Pn**	**11 03 38.7**	**+2.2**
AVH				*e*S	**Sn**	**11 04 21.2**	**+2.3**
KRER	**Koryakskii**	**3.72**	**24**	PN	**Pn**	**11 03 39.1**	**+1.9**
KRER				S	**Sn**	**11 04 21.9**	**+1.9**
KRER	**Koryakskii**	**3.72**	**24**	*e*P	**Pn**	**11 03 39.1**	**+1.9**
KRER				*e*S	**Sn**	**11 04 21.9**	**+1.9**
SDLR	**Sedlovina**	**3.73**	**25**	PN	**Pn**	**11 03 38.1**	**+0.8**
SDLR				S	**Sn**	**11 04 20.8**	**+0.6**
SDLR	**Sedlovina**	**3.73**	**25**	*e*P	**Pn**	**11 03 38.1**	**+0.8**
SDLR				*e*S	**Sn**	**11 04 20.8**	**+0.6**
KRX	**Arik**	**3.74**	**22**	PN	**Pn**	**11 03 39.3**	**+1.8**
KRX	**Arik**	**3.74**	**22**	*e*P	**Pn**	**11 03 39.3**	**+1.8**
GNL	**Ganaly**	**3.91**	**15**	PN	**Pn**	**11 03 42.5**	**+2.8**
GNL	**Ganaly**	**3.91**	**15**	*e*P	**Pn**	**11 03 42.5**	**+2.8**
SPN	**Mys Shipunski**	**3.95**	**35**	PN	**Pn**	**11 03 39.9**	**-0.2**
SPN				S	**Sn**	**11 04 22.1**	**-3.1**
SPN	**Mys Shipunski**	**3.95**	**35**	*e*P	**Pn**	**11 03 39.9**	**-0.2**
SPN				*e*S	**Sn**	**11 04 22.1**	**-3.1**
MKZ	**Mys Kozlova**	**5.72**	**34**	PN	**Pn**	**11 04 03.1**	**-1.0**
MKZ	**Mys Kozlova**	**5.72**	**34**	*e*P	**Pn**	**11 04 03.1**	**-1.0**
KUR	**Kuril'sk**	**7.37**	**234**	*e*PN	**Pn**	**11 04 29.7**	**+3.1**
SHO	**Shikotan**	**8.85**	**230**	*e*PN	**Pn**	**11 04 43.7**	**-3.1**
SHO				pmax	pmax		
	comp=Z,20nm,0.6s						
YUK	**Yuzh-Kuril'sk**	**9.23**	**234**	*e*PN	**Pn**	**11 04 54.5**	**+2.5**
UGL	**Uglegorsk**	**9.28**	**270**	*e*PN	**Pn**	**11 04 51.4**	**-1.2**
UGL				*e*S	**Sn**	**11 06 33.4**	**-1.8**
YSS	**Yuzh-Sakhalins**	**9.46**	**257**	*i* PN	**Pn**	**11 04 54.3**	**-0.8**
ASAJ	**Asahikawa**	**10.99**	**243**	P	**Pn**	**11 05 17.4**	**+1.5**
	baz=270,slow=34,SNR=1.3						
ERM	**Erimo**	**12.06**	**234**	*i* PN	**Pn**	**11 05 29.1**	**-1.2**
HABR	**Khabarovsk**	**13.95**	**272**	*e*P	**Pn**	**11 05 53.6**	**-1.5**
HABR				*e*S	**Sn**	**11 08 26.6**	**-1.8**
HABR				pmax	pmax		
	comp=Z,22nm,1.6s						
KLR	**Kul'dur**	**15.90**	**277**	↓*i*P	**P**	**11 06 22.4**	**+0.5**
USRK	**Ussuriysk Ar.**	**17.47**	**260**	P	**Pn**	**11 06 39.6**	**+0.3**
	comp=Z,0.3nm,0.3s,baz=80,slow=12,SNR=3.8						
VLA	**Vladivostok**	**18.06**	**257**	*i* P	**P**	**11 06 44.9**	**-0.8**
VLA				pmax	pmax		
	comp=Z,7.0nm,0.8s						
MAJO	**Matsushiro**	**18.70**	**231**	*i* P	**P**	**11 06 52.7**	**-0.1**
MJAR	**Matsushiro Arr**	**18.70**	**231**	P	**P**	**11 06 53.6**	**+0.8**
	comp=Z,1.0nm,0.3s,baz=28,slow=8.6,SNR=14						
KSRS	**Korea Array**	**23.83**	**249**	P	**P**	**11 07 47.1**	**+0.9**
	comp=Z,2.0nm,0.7s,baz=38,slow=10,SNR=5.7						
KSRS				LR	LR	11 17 07.1	
	comp=Z,46nm,20.9s,baz=93,slow=36						
TIXI	**Tiksi**	**25.10**	**340**	P	**P**	**11 07 56.9**	**-0.6**
	comp=Z,2.9nm,0.5s,baz=211,slow=3.6,SNR=5.8						
JNU	**Nakatsue**	**25.18**	**238**	P	**P**	**11 07 59.1**	**+0.5**
	comp=Z,1.1nm,0.8s,baz=57,slow=8.1,SNR=5.5						
H11N2	**WAKE ISLAND Hy**	**31.30**	**160**	T	T	11 42 47.8	
	baz=348,slow=76,SNR=11						
H11N1	**WAKE ISLAND Hy**	**31.32**	**160**	T	T	11 42 48.4	
	baz=348,slow=76,SNR=42						
H11N3	**WAKE ISLAND Hy**	**31.32**	**160**	T	T	11 42 48.3	
	baz=348,slow=76,SNR=19						
ULN	**Ulaanbaatar**	**31.96**	**286**	↓*i*P	**P**	**11 08 58.2**	**-0.7**
ULN				pmax	pmax		
	comp=Z,4.0nm,1.1s						
COLA	**College**	**32.35**	**41**	↓*i*P	**P**	**11 09 03.1**	**+1.2**
COLA				pmax	pmax		
	comp=Z,6.0nm,0.8s						
SONM	**Songino Array**	**32.38**	**286**	P	**P**	**11 09 03.1**	**+0.6**
	comp=Z,0.5nm,0.4s,baz=54,slow=7.3,SNR=3.0						
H11S1	**WAKE ISLAND Hy**	**32.44**	**161**	T	T	11 43 32.4	
	baz=348,slow=76,SNR=54						
H11S3	**WAKE ISLAND Hy**	**32.45**	**161**	T	T	11 43 33.1	
	baz=348,slow=76,SNR=236						
H11S2	**WAKE ISLAND Hy**	**32.46**	**161**	T	T	11 43 32.3	
	baz=348,slow=76,SNR=38						
ILAR	**Eielson Array**	**32.76**	**42**	P	**P**	**11 09 06.1**	**+0.6**
	comp=Z,1.1nm,0.8s,baz=254,slow=7.7,SNR=11						
ZALV	**Zalesovo Beam**	**42.52**	**304**	P	**P**	**11 10 26.4**	**-1.4**
	comp=Z,1.4nm,0.4s,baz=64,slow=6.7,SNR=3.9						
MKAR	**Makanchi Array**	**47.39**	**296**	P	**P**	**11 11 06.0**	**-0.5**
	comp=Z,2.9nm,0.7s,baz=58,slow=7.0,SNR=26						
KURK	**Kurchatov**	**47.40**	**302**	*c* iP	**P**	**11 11 06.0**	**-0.4**
KURK				*i* *PP	**pP**	**11 11 25.9**	**-2.5**
BVAR	**Borovoye Array**	**50.49**	**309**	P	**P**	**11 11 29.6**	**-0.5**
	comp=Z,3.4nm,0.7s,baz=58,slow=8.7,SNR=18						
BRVK	**Borovoye**	**50.53**	**309**	*c* iP	**P**	**11 11 29.7**	**-0.6**
BRVK				pmax	pmax		
	comp=Z,8.0nm,0.8s						
ARU	**Arti**	**54.10**	**317**	P	**P**	**11 11 55.9**	**-0.8**
	comp=Z,1.8nm,0.3s,baz=94,slow=7.4,SNR=3.7						
ARU	**Arti**	**54.10**	**317**	*c* iP	**P**	**11 11 55.1**	**-1.6**
ARU				*PP	**pP**	**11 12 17.0**	**-2.1**
ARU						11 13 56.6	
ARU				S	**S**	**11 19 23.4**	**-2.5**
ARU				SS	**SS**	**11 23 04.5**	**-3.3**
ARU				pmax	pmax		
	comp=Z,5.0nm,1.2s						
AAK	**Ala-Archa**	**54.32**	**296**	↑*i*P	**P**	**11 11 58.6**	**-0.1**
AAK				pmax	pmax		
	comp=Z,2.0nm,0.8s						
CMAR	**Chiang Mai Arr**	**55.16**	**257**	P	**P**	**11 12 06.1**	**+1.3**
	comp=Z,2.7nm,0.8s,baz=29,slow=7.1,SNR=11						
CMAR	**Chiang Mai Arr**	**55.16**	**257**	*e*P	**P**	**11 12 06.6**	**+1.8**
CMAR				pmax	pmax		
	comp=Z,3.0nm,0.8s						
PDAR	**Pinedale Array**	**61.21**	**57**	P	**P**	**11 12 48.4**	**+1.4**
	comp=Z,1.5nm,0.8s,baz=327,slow=2.5,SNR=14						
AKASG	**Malin Array Be**	**70.04**	**327**	P	**P**	**11 13 43.6**	**+0.2**
	comp=Z,0.5nm,0.4s,baz=25,slow=7.3,SNR=3.3						
WRA	**Warramunga Arr**	**72.22**	**202**	P	**P**	**11 13 56.4**	**-0.4**
	comp=Z,0.4nm,0.7s,baz=23,slow=6.6,SNR=2.6						
TXAR	**Lajitas Array**	**74.14**	**63**	P	**P**	**11 14 09.1**	**+0.7**
	comp=Z,2.2nm,0.8s,baz=299,slow=4.6,SNR=27						
ASAR	**Alice Springs**	**75.91**	**201**	P	**P**	**11 14 19.3**	**+1.1**
	comp=Z,0.4nm,0.8s,baz=21,slow=5.8,SNR=2.7						
BRTR	**Keskin Array B**	**77.47**	**318**	P	**P**	**11 14 27.8**	**+0.6**
	comp=Z,0.9nm,0.8s,baz=48,slow=2.1,SNR=3.9						
BRTR	**Keskin Array B**	**77.47**	**318**	*e*P	**P**	**11 14 29.2**	**+2.0**
BRTR				pmax	pmax		
	comp=Z,1.0nm,0.7s						

---

*ISCJB **19** 11:14:21.6±0.4, 36.79N±0.02×3.33W±0.02, h4km±2km, Error ellipse: s-maj=3.8km s-min=2.5km az=9.3*
*CSEM **19** 11:14:22.3±0.1, 36.73N×3.21W, h5km, ML3.8/33, Error ellipse: s-maj=3.2km s-min=2.5km az=4.0*
*INMG **19** 11:14:22.9±1.6, 36.72N×3.20W, h1km±2km, ML3.2, Error ellipse: s-maj=1.9km s-min=1.8km az=115.0*
*LDG **19** 11:14:22.3±0.2, 36.71N×3.25W, h10km, Ml3.7/4, Error ellipse: s-maj=3.7km s-min=2.7km az=156.0*
*IGIL **19** 11:14:22.7, 36.74N×3.19W, h2km, ML2.8*
*MDD **19** 11:14:23.0±0.3, 36.73N×3.19W, h0km, mbLg3.3/32, Error ellipse: s-maj=3.3km s-min=2.2km az=5.0, PRXIMO*
MDD EMS: III ZONA EPICENTRAL.
*CNRM **19** 11:14:25.0, 36.74N×3.04W, h30km, MD3.6*
ISC 19 11:14:22.3±1.0, 36.74N±0.03×3.16W±0.02, h15km±8km, n166, σ1s91/297, 4C-1D, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
EBER	**Berja**	**0.27**	**53**	↑Pg	**Pg**	**11 14 28.3**	**0.0**
	1μm,0.4s,SNR=18						
EBER				Lg	Lg	11 14 32.4	
	14μm,0.4s,SNR=5.0						
EBER	**Berja**	**0.27**	**53**	Pg	**Pg**	**11 14 28.3**	**0.0**
	1μm,0.4s,SNR=18						
EBER				Lg	Lg	11 14 32.4	
	14μm,0.4s,SNR=5.0						
EQUE	**Quentar**	**0.52**	**334**	↓Pg	**Pg**	**11 14 32.0**	**-0.7**
	162nm,0.2s,SNR=18						
EQUE				Lg	Lg	11 14 38.0	
	2μm,0.3s,SNR=18						
EQUE	**Quentar**	**0.52**	**334**	Pg	**Pg**	**11 14 32.0**	**-0.7**
	162nm,0.2s,SNR=18						
EQUE				Lg	Lg	11 14 38.0	
	2μm,0.3s,SNR=18						
SELV	**Sierra Elvira**	**0.68**	**318**	Pg	**Pg**	**11 14 34.7**	**-0.9**
	198nm,0.5s,SNR=7.9						
SELV				Lg	Lg	11 14 43.7	
	119nm,0.2s,SNR=7.9						
SELV	**Sierra Elvira**	**0.68**	**318**	Pg	**Pg**	**11 14 34.7**	**-0.9**
	198nm,0.5s,SNR=7.9						
SELV				Lg	Lg	11 14 43.7	
	119nm,0.2s,SNR=7.9						
GORA	**Gorafe**	**0.75**	**7**	↑Pg	**Pg**	**11 14 36.6**	**-0.3**
	176nm,0.2s,SNR=18						
GORA				Lg	Lg	11 14 45.8	
	784nm,0.2s,SNR=7.9						
GORA	**Gorafe**	**0.75**	**7**	Pg	**Pg**	**11 14 36.6**	**-0.3**
	176nm,0.2s,SNR=18						
GORA				Lg	Lg	11 14 45.8	
	784nm,0.2s,SNR=7.9						
ENIJ	**Nijar**	**0.80**	**73**	↑Pg	**Pg**	**11 14 37.5**	**-0.3**
	298nm,0.3s,SNR=18						
ENIJ				Lg	Lg	11 14 49.3	
	2μm,0.3s,SNR=7.9						
ENIJ	**Nijar**	**0.80**	**73**	Pg	**Pg**	**11 14 37.5**	**-0.3**
	298nm,0.3s,SNR=18						
ENIJ				Lg	Lg	11 14 49.3	
	2μm,0.3s,SNR=7.9						
EALB	**Alboran**	**0.80**	**173**	Pg	**Pg**	**11 14 37.9**	**0.0**
	48nm,0.1s,SNR=15						
EALB				Lg	Lg	11 14 48.1	
	1μm,0.2s,SNR=13						
EALB	**Alboran**	**0.80**	**173**	Pg	**Pg**	**11 14 37.9**	**0.0**
	48nm,0.1s,SNR=15						
EALB				Lg	Lg	11 14 48.1	
	1μm,0.2s,SNR=13						
EGOR	**Sierra Gorda,**	**0.85**	**296**	Pg	**Pg**	**11 14 37.3**	**-1.5**
	65nm,0.2s,SNR=7.9						
EGOR				Lg	Lg	11 14 49.3	
	739nm,0.4s,SNR=7.9						
EGOR	**Sierra Gorda,**	**0.85**	**296**	Pg	**Pg**	**11 14 37.3**	**-1.5**
	65nm,0.2s,SNR=7.9						
EGOR				Lg	Lg	11 14 49.3	
	739nm,0.4s,SNR=7.9						
EQES	**Quesada**	**1.07**	**4**	Pg	**Pg**	**11 14 43.1**	**+0.1**
	26nm,0.2s,SNR=124						
EQES				Lg	Lg	11 14 57.6	
	147nm,0.3s,SNR=22						
EQES	**Quesada**	**1.07**	**4**	Pg	**Pg**	**11 14 43.1**	**+0.1**
	26nm,0.2s,SNR=124						
EQES				Lg	Lg	11 14 57.6	
	147nm,0.3s,SNR=22						
EMIJ	**Mijas**	**1.31**	**263**	Pg	**Pn**	**11 14 42.4**	**-3.7**
	7.3nm,0.2s,SNR=28						
EMIJ				Lg	Lg	11 15 00.6	
	113nm,0.2s,SNR=6.4						
EMIJ	**Mijas**	**1.31**	**263**	Lg	Lg	11 15 00.6	
	113nm,0.2s,SNR=6.4						
SESP	**Santiago Espad**	**1.47**	**19**	↑Pg	**Pb**	**11 14 50.2**	**+0.9**
	414nm,0.4s,SNR=18						
SESP				Lg	Lg	11 15 11.4	
	1μm,0.3s,SNR=7.9						
SESP	**Santiago Espad**	**1.47**	**19**	Pg	**Pb**	**11 14 50.2**	**+0.9**
	414nm,0.4s,SNR=18						
SESP				Lg	Lg	11 15 11.4	
	1μm,0.3s,SNR=7.9						
EADA	**Adamuz**	**1.82**	**322**	Pn	**Pn**	**11 14 54.3**	**+1.2**
	97nm,0.3s,SNR=108						
EADA				Pg	**Pb**	**11 14 56.1**	**+0.8**
	127nm,0.6s,SNR=7.9						
EADA				Sn	**Sn**	**11 15 16.1**	**+0.2**
	17nm,0.1s,SNR=7.9						
EADA				Lg	Lg	11 15 20.3	
	58nm,0.2s,SNR=9.0						
EADA	**Adamuz**	**1.82**	**322**	Pn	**Pn**	**11 14 54.3**	**+1.2**
	97nm,0.3s,SNR=108						
EMUR	**La Murta**	**1.89**	**54**	Pn	**Pn**	**11 14 55.1**	**+1.1**
	25nm,0.4s,SNR=19						
EMUR				Sn	**Sn**	**11 15 19.2**	**+1.7**
	131nm,0.4s,SNR=4.5						
EMUR	**La Murta**	**1.89**	**54**	Pn	**Pn**	**11 14 55.1**	**+1.1**
	25nm,0.4s,SNR=19						
EMUR				Sn	**Sn**	**11 15 19.2**	**+1.7**
	131nm,0.4s,SNR=4.5						
ECEU	**Ceuta**	**1.98**	**246**	Pn	**Pn**	**11 14 53.9**	**-1.3**
	6.0nm,0.1s,SNR=7.9						
ECEU				Sn	**Sn**	**11 15 15.6**	**-4.1**
	24nm,0.1s,SNR=7.9						
ECEU	**Ceuta**	**1.98**	**246**	Pn	**Pn**	**11 14 53.9**	**-1.3**
	6.0nm,0.1s,SNR=7.9						
ESPR	**Espera**	**2.17**	**274**	Pn	**Pn**	**11 14 59.1**	**+1.3**
	0.5nm,0.3s,SNR=8.0						
ESPR				Sn	**Sn**	**11 15 27.0**	**+2.6**
	57nm,0.4s,SNR=7.8						
ESPR	**Espera**	**2.17**	**274**	Pn	**Pn**	**11 14 59.1**	**+1.3**
	0.5nm,0.3s,SNR=8.0						
ESPR				Sn	**Sn**	**11 15 27.0**	**+2.6**
	57nm,0.4s,SNR=7.8						
ECAB	**El Cabril**	**2.24**	**307**	Pn	**Pn**	**11 14 59.8**	**+0.9**
	6.2nm,0.8s,SNR=117						
ECAB				Pg	**Pb**	**11 15 03.1**	**+0.6**
	55nm,0.3s,SNR=18						
ECAB				Lg	Lg	11 15 33.5	
	43nm,0.3s,SNR=14						
ECAB	**El Cabril**	**2.24**	**307**	Pn	**Pn**	**11 14 59.8**	**+0.9**
	6.2nm,0.8s,SNR=117						
ETOB	**Tobarra**	**2.29**	**33**	Pn	**

ESDC				Lg	Lg	11 15 59.0			
	20nm,0.2s,SNR=28								
OKGL	**Djebel Kef Gue**	**3.15**	**102**	Pn	**Pn**	**11 15 12.2 +0.9**			
	14nm,0.2s,SNR=7.9								
OKGL				Sn	**Sn**	**11 15 49.0 +0.5**			
	36nm,0.2s,SNR=7.9								
OKGL	**Djebel Kef Gue**	**3.15**	**102**	Pn	**Pn**	**11 15 12.2 +0.9**			
	14nm,0.2s,SNR=7.9								
OKGL				Sn	**Sn**	**11 15 49.0 +0.5**			
	36nm,0.2s,SNR=7.9								
PBAR	**Barrancos**	**3.41**	**296**	*e*Pn	**Pn**	**11 15 15.4 +0.6**			
PBAR				*e*Sn	**Sn**	**11 15 55.1 +0.2**			
PBAR				*e*Sg	**Sg**	**11 16 10.8 -0.9**			
PBAR				A	A	11 16 18.7			
	91nm,0.6s								
PBAR	**Barrancos**	**3.41**	**296**	Pn	**Pn**	**11 15 15.4 +0.6**			
PBAR				Sn	**Sn**	**11 15 55.1 +0.2**			
PBAR				Lg	Lg	11 16 10.8			
	91nm,0.6s								
PBAR	**Barrancos**	**3.41**	**296**	Pn	**Pn**	**11 15 15.4 +0.6**			
PBAR				Sn	**Sn**	**11 15 55.1 +0.2**			
PBAR				*e*Sg	**Sg**	**11 16 10.8 -0.9**			
	91nm,0.6s								
EGRO	**El Granado**	**3.55**	**284**	Pn	**Pn**	**11 15 17.5 +0.7**			
	3.5nm,0.2s,SNR=9.9								
EGRO				Sn	**Sn**	**11 15 57.3 -1.1**			
	4.0nm,0.2s,SNR=5.0								
EGRO				Lg	Lg	11 16 16.2			
	18nm,0.3s,SNR=5.0								
EGRO	**El Granado**	**3.55**	**284**	Pn	**Pn**	**11 15 17.5 +0.7**			
	3.5nm,0.2s,SNR=9.9								
EGRO				Sn	**Sn**	**11 15 57.3 -1.1**			
	4.0nm,0.2s,SNR=5.0								
EGRO				Lg	Lg	11 16 16.2			
	18nm,0.3s,SNR=5.0								
EBAD	**Badajoz**	**3.66**	**305**	Pn	**Pn**	**11 15 19.2 +0.8**			
	2.9nm,0.1s,SNR=7.9								
EBAD				Pg	**Pb**	**11 15 30.1 +3.4**			
	4.8nm,0.1s,SNR=10								
EBAD				Sn	**Sn**	**11 15 59.3 -2.0**			
	15nm,0.2s,SNR=5.8								
EBAD				Lg	Lg	11 16 17.9			
	44nm,0.2s,SNR=7.1								
EBAD	**Badajoz**	**3.66**	**305**	Pn	**Pn**	**11 15 19.2 +0.8**			
	2.9nm,0.1s,SNR=7.9								
PVAQ	**Vaqueiros**	**3.71**	**282**	*e*Pn	**Pn**	**11 15 19.0 0.0**			
PVAQ				*e*Sn	**Sn**	**11 16 01.6 -0.8**			
PVAQ				A	A	11 16 05.9			
	17nm,0.4s								
PVAQ	**Vaqueiros**	**3.71**	**282**	Pn	**Pn**	**11 15 19.0 0.0**			
PVAQ				Sn	**Sn**	**11 16 01.6 -0.8**			
	17nm,0.4s								
PVAQ	**Vaqueiros**	**3.71**	**282**	Pn	**Pn**	**11 15 19.0 0.0**			
PVAQ				*e*Sn	**Sn**	**11 16 01.6 -0.8**			
	17nm,0.4s								
PBDV	**Barranco-do-Ve**	**3.85**	**279**	*e*Pn	**Pn**	**11 15 21.9 +0.9**			
PBDV				*e*Sn	**Sn**	**11 16 06.0 -0.1**			
PBDV				A	A	11 16 42.6			
	25nm,0.5s								
PBDV	**Barranco-do-Ve**	**3.85**	**279**	Pn	**Pn**	**11 15 21.9 +0.9**			
PBDV				Sn	**Sn**	**11 16 06.0 -0.1**			
	25nm,0.5s								
PBDV	**Barranco-do-Ve**	**3.85**	**279**	Pn	**Pn**	**11 15 21.9 +0.9**			
PBDV				*e*Sn	**Sn**	**11 16 06.0 -0.1**			
	25nm,0.5s								
PBEJ	**Beja**	**3.96**	**290**	*e*Pn	**Pn**	**11 15 23.6 +1.1**			
PBEJ				A	A	11 16 34.0			
	25nm,0.6s								
PBEJ	**Beja**	**3.96**	**290**	Pn	**Pn**	**11 15 23.6 +1.1**			
PBEJ	**Beja**	**3.96**	**290**	*e*Pn	**Pn**	**11 15 23.6 +1.1**			
	25nm,0.6s								
GUD	**Guadarrama**	**3.98**	**349**	Pn	**Pn**	**11 15 24.2 +1.3**			
	1.4nm,0.4s,SNR=6.2								
GUD				Pg	**Pg**	**11 15 37.4 -1.1**			
	7.4nm,0.3s,SNR=8.7								
GUD				Sn	**Sn**	**11 16 10.8 +1.5**			
	4.9nm,0.2s,SNR=5.9								
GUD				Lg	Lg	11 16 29.1			
	58nm,0.5s,SNR=5.0								
GUD	**Guadarrama**	**3.98**	**349**	Pn	**Pn**	**11 15 24.2 +1.3**			
	1.4nm,0.4s,SNR=6.2								
CZD	**Col de Zad**	**4.01**	**203**	*e*P	**Pn**	**11 15 26.0 +2.6**			
CZD				*i* S	**Sn**	**11 16 08.0 -2.2**			
EPLA	**Plasencia**	**4.04**	**326**	Pn	**Pn**	**11 15 25.6 +2.0**			
	12nm,0.4s,SNR=30								
EPLA				Sn	**Sn**	**11 16 11.5 +0.9**			
	12nm,0.3s,SNR=5.9								
EPLA				Lg	Lg	11 16 30.7			
	41nm,0.4s,SNR=5.0								
EPLA	**Plasencia**	**4.04**	**326**	Pn	**Pn**	**11 15 25.6 +2.0**			
	12nm,0.4s,SNR=30								
EPLA				Sn	**Sn**	**11 16 11.5 +0.9**			
	12nm,0.3s,SNR=5.9								
EPLA				Lg	Lg	11 16 30.7			
	41nm,0.4s,SNR=5.0								
PESTR	**Estremoz**	**4.10**	**303**	*e*Pn	**Pn**	**11 15 25.6 +1.1**			
PESTR				*e*Sn	**Sn**	**11 16 13.3 +1.1**			
PESTR				*e*Sg	**Sg**	**11 16 33.4 -0.7**			
PESTR				A	A	11 16 37.8			
	54nm,0.6s								
PESTR	**Estremoz**	**4.10**	**303**	*e*Pn	**Pn**	**11 15 25.6 +1.1**			
PESTR				*e*Sn	**Sn**	**11 16 13.3 +1.1**			
PESTR				*e*Sg	**Sg**	**11 16 33.4 -0.7**			
	54nm,0.6s								
MESJ	**Messejana**	**4.18**	**287**	*e*P	**Pn**	**11 15 25.4 -0.1**			
MESJ				*e*S	**Sn**	**11 16 11.4 -2.8**			
MESJ				AML	AML	11 16 14.7			
	comp=E,13nm,0.5s								
MESJ	**Messejana**	**4.18**	**287**	*e*Pn	**Pn**	**11 15 26.0 +0.5**			
MESJ				*e*Sn	**Sn**	**11 16 13.9 -0.2**			
MESJ				*e*Sg	**Sg**	**11 16 36.9 +0.2**			
MESJ				A	A	11 16 45.5			
	comp=E,22nm,0.5s								
MESJ	**Messejana**	**4.18**	**287**	Pn	**Pn**	**11 15 26.0 +0.5**			
MESJ				Sn	**Sn**	**11 16 13.9 -0.2**			
MESJ				Lg	Lg	11 16 36.9			
	comp=E,22nm,0.5s								
MESJ	**Messejana**	**4.18**	**287**	Pn	**Pn**	**11 15 26.0 +0.5**			
MESJ				Sn	**Sn**	**11 16 13.9 -0.2**			
MESJ				*e*Sg	**Sg**	**11 16 36.9 +0.2**			
	comp=E,22nm,0.5s								
EMOS	**Mosqueruela**	**4.19**	**29**	Pn	**Pn**	**11 15 29.6 +3.8**			
	comp=E,0.4nm,0.6s,SNR=8.2								
EMOS				Pg	**Pb**	**11 15 39.7 +4.0**			
	comp=E,1.5nm,0.3s,SNR=24								
EMOS				Lg	Lg	11 16 34.7			
	comp=E,3.7nm,0.3s,SNR=5.0								
EIBI	**Ibiza**	**4.23**	**56**	Pn	**Pn**	**11 15 27.8 +1.6**			
	comp=E,17nm,0.7s,SNR=7.9								
EIBI				Sn	**Sn**	**11 16 14.4 -0.9**			
	comp=E,7.7nm,0.2s,SNR=7.9								
EIBI	**Ibiza**	**4.23**	**56**	Pn	**Pn**	**11 15 27.8 +1.6**			
	comp=E,17nm,0.7s,SNR=7.9								
EVO	**Evora**	**4.25**	**296**	*e*Pn	**Pn**	**11 15 27.4 +1.0**			
EVO				*e*Sn	**Sn**	**11 16 15.3 -0.5**			
EVO				*e*Sg	**Sg**	**11 16 36.5 -2.3**			
EVO				A	A	11 16 44.5			
	comp=E,36nm,0.6s								
EVO	**Evora**	**4.25**	**296**	Pn	**Pn**	**11 15 27.4 +1.0**			
EVO				Sn	**Sn**	**11 16 15.3 -0.5**			
EVO				Lg	Lg	11 16 36.5			
	comp=E,36nm,0.6s								
EVO	**Evora**	**4.25**	**296**	Pn	**Pn**	**11 15 27.4 +1.0**			
EVO				Sn	**Sn**	**11 16 15.3 -0.5**			
EVO				*e*Sg	**Sg**	**11 16 36.5 -2.3**			
	comp=E,36nm,0.6s								
PMRV	**Marv??o**	**4.29**	**310**	*e*Pn	**Pn**	**11 15 28.6 +1.6**			
PMRV				*e*Sn	**Sn**	**11 16 17.7 +1.0**			
PMRV				*e*Sg	**Sg**	**11 16 39.5 -0.4**			
PMRV				A	A	11 16 43.0			
	comp=E,46nm,0.4s								
PMRV	**Marv??o**	**4.29**	**310**	Pn	**Pn**	**11 15 28.6 +1.6**			
PMRV				Sn	**Sn**	**11 16 17.7 +1.0**			
PMRV				Lg	Lg	11 16 39.5			
	comp=E,46nm,0.4s								
PMRV	**Marv??o**	**4.29**	**310**	Pn	**Pn**	**11 15 28.6 +1.6**			
PMRV				Sn	**Sn**	**11 16 17.7 +1.0**			
PMRV				*e*Sg	**Sg**	**11 16 39.5 -0.4**			
	comp=E,46nm,0.4s								
MORF	**Marmelete**	**4.43**	**279**	*e*P	**Pn**	**11 15 28.6 -0.4**			
MORF				*e*S	**Sn**	**11 16 16.5 -3.8**			
MORF				AML	AML	11 16 20.9			
	comp=N,24nm,0.4s								
MORF	**Marmelete**	**4.43**	**279**	*e*Pn	**Pn**	**11 15 29.3 +0.3**			
MORF				*e*Sn	**Sn**	**11 16 20.3 0.0**			
MORF				A	A	11 16 24.0			
	comp=N,14nm,0.5s								
MORF	**Marmelete**	**4.43**	**279**	Pn	**Pn**	**11 15 29.3 +0.3**			
MORF				Sn	**Sn**	**11 16 20.3 0.0**			
	comp=N,14nm,0.5s								
MORF	**Marmelete**	**4.43**	**279**	Pn	**Pn**	**11 15 29.3 +0.3**			
MORF				*e*Sn	**Sn**	**11 16 20.3 0.0**			
	comp=N,14nm,0.5s								
PNCL	**Nicolau / Gran**	**4.49**	**289**	*e*Pn	**Pn**	**11 15 30.0 +0.3**			
PNCL				*e*Sg	**Sg**	**11 16 44.6 -1.9**			
PNCL				A	A	11 16 51.7			
	comp=N,22nm,0.5s								
PNCL	**Nicolau / Gran**	**4.49**	**289**	*e*Pn	**Pn**	**11 15 30.0 +0.3**			
PNCL				*e*Sg	**Sg**	**11 16 44.6 -1.9**			
	comp=N,22nm,0.5s								
PTEO	**Sao Teotonio**	**4.52**	**282**	*e*Pn	**Pn**	**11 15 30.9 +0.8**			
PTEO				*e*Sn	**Sn**	**11 16 22.1 -0.3**			
PTEO				A	A	11 17 03.9			
	comp=N,41nm,0.6s								
PTEO	**Sao Teotonio**	**4.52**	**282**	Pn	**Pn**	**11 15 30.9 +0.8**			
PTEO				Sn	**Sn**	**11 16 22.1 -0.3**			
	comp=N,21nm,0.6s								
PTEO	**Sao Teotonio**	**4.52**	**282**	Pn	**Pn**	**11 15 30.9 +0.8**			
PTEO				*e*Sn	**Sn**	**11 16 22.1 -0.3**			
	comp=N,41nm,0.6s								
PFVI	**Vila Bisbo**	**4.56**	**277**	*e*Pn	**Pn**	**11 15 31.3 +0.6**			
PFVI				*e*Sn	**Sn**	**11 16 22.4 -0.9**			
PFVI				A	A	11 16 32.7			
	comp=N,19nm,0.7s								
PFVI	**Vila Bisbo**	**4.56**	**277**	Pn	**Pn**	**11 15 30.6 -0.1**			
	comp=N,11nm,0.6s,SNR=7.0								
PFVI				Sn	**Sn**	**11 16 22.5 -0.9**			
	comp=N,33nm,1.0s,SNR=6.4								
PFVI	**Vila Bisbo**	**4.56**	**277**	*e*Pn	**Pn**	**11 15 31.3 +0.6**			
PFVI				Sn	**Sn**	**11 16 22.5 -0.9**			
	comp=N,33nm,1.0s,SNR=6.4								
PCBR	**Castelo Branco**	**4.60**	**314**	*e*Pn	**Pn**	**11 15 33.2 +2.0**			
PCBR				*e*Sn	**Sn**	**11 16 24.7 +0.4**			
PCBR				*e*Sg	**Sg**	**11 16 51.6 +1.7**			
PCBR				A	A	11 16 58.2			
	comp=N,35nm,0.3s								
PCBR	**Castelo Branco**	**4.60**	**314**	Pn	**Pn**	**11 15 33.2 +2.0**			
PCBR				Sn	**Sn**	**11 16 24.7 +0.4**			
PCBR				Lg	Lg	11 16 51.6			
	comp=N,18nm,0.3s								
PCBR	**Castelo Branco**	**4.60**	**314**	Pn	**Pn**	**11 15 33.2 +2.0**			
PCBR				Sn	**Sn**	**11 16 24.7 +0.4**			
PCBR				*e*Sg	**Sg**	**11 16 51.6 +1.7**			
	comp=N,35nm,0.3s								
KIB	**El Ksiba**	**4.78**	**211**	*e*P	**Pn**	**11 15 34.0 +0.1**			
KIB				*i* S	**Sn**	**11 16 26.0 -3.0**			
ZFT	**Errachidia**	**4.79**	**192**	*e*P	**Pn**	**11 15 34.0 -0.1**			
ZFT				*i* S	**Sn**	**11 16 26.0 -3.5**			
ERTA	**Horta de San J**	**5.02**	**32**	Pn	**Pn**	**11 15 40.9 +3.8**			
	comp=N,36nm,1.1s,SNR=7.5								
MTE	**Manteigas**	**5.02**	**318**	*e*Pn	**Pn**	**11 15 39.0 +1.9**			
MTE				*e*Sn	**Sn**	**11 16 36.1 +1.3**			
MTE				*e*Sg	**Sg**	**11 17 01.8 -1.6**			
MTE				A	A	11 17 12.1			
	comp=N,64nm,0.6s								
MTE	**Manteigas**	**5.02**	**318**	Pn	**Pn**	**11 15 39.0 +1.9**			
MTE				Sn	**Sn**	**11 16 36.1 +1.3**			
MTE				Lg	Lg	11 17 01.8			
	comp=N,32nm,0.6s								
MTE	**Manteigas**	**5.02**	**318**	Pn	**Pn**	**11 15 39.0 +1.9**			
MTE				Sn	**Sn**	**11 16 36.1 +1.3**			
MTE				*e*Sg	**Sg**	**11 17 01.8 -1.6**			
	comp=N,64nm,0.6s								
PTOM	**Tomar**	**5.04**	**306**	*e*Pn	**Pn**	**11 15 38.6 +1.3**			
PTOM				*e*Sn	**Sn**	**11 16 34.3 -0.9**			
PTOM				A	A	11 17 06.9			
	comp=N,37nm,0.4s								
PTOM	**Tomar**	**5.04**	**306**	Pn	**Pn**	**11 15 38.6 +1.3**			
PTOM				Sn	**Sn**	**11 16 34.3 -0.9**			
	comp=N,19nm,0.4s								
PTOM	**Tomar**	**5.04**	**306**	Pn	**Pn**	**11 15 38.6 +1.3**			
PTOM				*e*Sn	**Sn**	**11 16 34.3 -0.9**			
	comp=N,37nm,0.4s								
PMAFR	**Mafra**	**5.33**	**296**	*e*Pn	**Pn**	**11 15 43.4 +2.1**			
PMAFR				*e*Sg	**Sg**	**11 17 13.6 +0.2**			
PMAFR	**Mafra**	**5.33**	**296**	Pn	**Pn**	**11 15 43.1 +1.8**			
	comp=N,73nm,1.0s,SNR=7.9								
PMAFR	**Mafra**	**5.33**	**296**	Pn	**Pn**	**11 15 43.1 +1.8**			
	comp=N,73nm,1.0s,SNR=7.9								
PMAFR				*e*Sg	**Sg**	**11 17 13.6 +0.2**			
TZC	**Tazercounte**	**5.34**	**212**	*e*P	**Pn**	**11 15 42.0 +0.4**			
TZC				*i* S	**Sn**	**11 16 41.0 -2.0**			
PCAS	**Casmilo, Conde**	**5.34**	**310**	*e*Pn	**Pn**	**11 15 42.9 +1.4**			
PCAS				*e*Sn	**Sn**	**11 16 42.7 0.0**			
PCAS				*e*Sg	**Sg**	**11 17 13.8 0.0**			
PCAS				A	A	11 17 18.8			
	comp=N,40nm,0.6s								
PCAS	**Casmilo, Conde**	**5.34**	**310**	*e*Pn	**Pn**	**11 15 42.9 +1.4**			
PCAS				*e*Sn	**Sn**	**11 16 42.7 0.0**			
PCAS				*e*Sg	**Sg**	**11 17 13.8 0.0**			
	comp=N,40nm,0.6s								
MVO	**Moncorvo**	**5.35**	**327**	*e*Pn	**Pn**	**11 15 43.6 +2.0**			
MVO				*e*Sn	**Sn**	**11 16 42.5 -0.5**			
MVO				A	A	11 17 27.8			
	comp=N,36nm,0.4s								
MVO	**Moncorvo**	**5.35**	**327**	Pn	**Pn**	**11 15 43.7 +2.0**			
	comp=N,14nm,0.2s,SNR=18								
MVO				Sn	**Sn**	**11 16 42.5 -0.5**			
	comp=N,33nm,0.4s,SNR=5.0								
MVO				Lg	Lg	11 17 13.6			
	comp=N,64nm,1.0s,SNR=6.9								
MVO	**Moncorvo**	**5.35**	**327**	*e*Pn	**Pn**	**11 15 43.6 +2.0**			
MVO				*e*Sn	**Sn**	**11 16 42.5 -0.5**			
	comp=N,36nm,0.4s								
MVO				Lg	Lg	11 17 13.6			
	comp=N,64nm,1.0s,SNR=6.9								
COI	**Coimbra**	**5.39**	**312**	Pn	**Pn**	**11 15 44.3 +2.3**			
COI				Sn	**Sn**	**11 16 43.3 -0.4**			
	comp=N,25nm,0.3s								
COI	**Coimbra**	**5.39**	**312**	Pn	**Pn**	**11 15 44.3 +2.3**			
COI				*e*Sn	**Sn**	**11 16 43.3 -0.4**			
	comp=N,50nm,0.3s								
ESAC	**San Caprasio**	**5.40**	**22**	Pn	**Pn**	**11 15 45.8 +3.5**			
	comp=N,10nm,0.1s,SNR=5.4								
ESAC	**San Caprasio**	**5.40**	**22**	Pn	**Pn**	**11 15 45.8 +3.5**			
	comp=N,10nm,0.1s,SNR=5.4								
PVIS	**Viseu**	**5.43**	**318**	*e*Pn	**Pn**	**11 15 44.7 +2.0**			
PVIS				*e*Sn	**Sn**	**11 16 44.5 -0.4**			
PVIS				*e*Sg	**Sg**	**11 17 17.0 +0.4**			
PVIS				A	A	11 17 23.4			
	comp=N,26nm,0.5s								
PVIS	**Viseu**	**5.43**	**318**	Pn	**Pn**	**11 15 44.7 +2.0**			
PVIS				Sn	**Sn**	**11 16 44.5 -0.4**			
PVIS				Lg	Lg	11 17 17.0			
	comp=N,13nm,0.5s								
PVIS	**Viseu**	**5.43**	**318**	Pn	**Pn**	**11 15 44.7 +2.0**			
PVIS				Sn	**Sn**	**11 16 44.5 -0.4**			
PVIS				*e*Sg	**Sg**	**11 17 17.0 +0.4**			
	comp=N,26nm,0.5s								
ETOS	**Mallorca**	**5.59**	**55**	Pn	**Pn**	**11 15 46.3 +1.4**			
	comp=N,3.3nm,0.3s,SNR=7.9								
ETOS				Sn	**Sn**	**11 16 49.6 +0.8**			
	comp=N,0.7nm,0.1s,SNR=7.9								
ETOS	**Mallorca**	**5.59**	**55**	Pn	**Pn**	**11 15 46.3 +1.4**			
	comp=N,3.3nm,0.3s,SNR=7.9								
ETOS				Sn	**Sn**	**11 16 49.6 +0.8**			
	comp=N,0.7nm,0.1s,SNR=7.9								
PVRL	**Vila Real**	**5.76**	**323**	*e*Pn	**Pn**	**11 15 49.3 +2.1**			
PVRL				*e*Sn	**Sn**	**11 16 52.1 -0.9**			
PVRL				*e*Sg	**Sg**	**11 17 27.6 +0.6**			
PVRL				A	A	11 17 40.6			
	comp=N,24nm,0.5s								
PVRL	**Vila Real**	**5.76**	**323**	Pn	**Pn**	**11 15 49.3 +2.1**			
PVRL				Sn	**Sn**	**11 16 52.1 -0.9**			
PVRL				Lg	Lg	11 17 27.6			
	comp=N,12nm,0.5s								
PVRL	**Vila Real**	**5.76**	**323**	Pn	**Pn**	**11 15 49.3 +2.1**			
PVRL				Sn	**Sn**	**11 16 52.1 -0.9**			
PVRL				*e*Sg	**Sg**	**11 17 27.6 +0.6**			
	comp=N,24nm,0.5s								
PBRG	**Braganca**	**5.77**	**332**	*e*Pn	**Pn**	**11 15 49.7 +2.3**			
PBRG				*e*Sn	**Sn**	**11 16 52.6 -0.8**			
PBRG				*e*Sg	**Sg**	**11 17 25.7 -1.9**			
PBRG	**Braganca**	**5.77**	**332**	Pn	**Pn**	**11 15 49.7 +2.3**			
PBRG				Sn	**Sn**	**11 16 52.6 -0.8**			
PBRG				Lg	Lg	11 17 25.7			
PBRG	**Braganca**	**5.77**	**332**	Pn	**Pn**	**11 15 49.7 +2.3**			
PBRG				Sn	**Sn**	**11 16 52.6 -0.8**			
PBRG				*e*Sg	**Sg**	**11 17 25.7 -1.9**			
POLO	**Lamas de Olo**	**5.87**	**323**	*e*Pn	**Pn**	**11 15 50.9 +2.1**			
POLO				*e*Sn	**Sn**	**11 16 54.0 -1.8**			
POLO				*e*Sg	**Sg**	**11 17 30.2 -0.5**			
POLO				A	A	11 17 38.1			
	comp=N,12nm,0.6s								
POLO	**Lamas de Olo**	**5.87**	**323**	*e*Pn	**Pn**	**11 15 50.9 +2.1**			
POLO				*e*Sg	**Sg**	**11 17 30.2 -0.5**			
	comp=N,12nm,0.6s								
ECAL	**Calabor**	**5.89**	**333**	Pn	**Pn**	**11 15 50.8 +1.7**			
	comp=N,10nm,0.6s,SNR=12								
ECAL				Sn	**Sn**	**11 16 56.8 +0.5**			
	comp=N,16nm,0.6s,SNR=5.0								
ECAL				Lg	Lg	11 17 30.3			
	comp=N,22nm,0.4s,SNR=6.3								
ECAL	**Calabor**	**5.89**	**333**	Pn	**Pn**	**11 15 50.8 +1.7**			
	comp=N,10nm,0.6s,SNR=12								
ECAL				Sn	**Sn**	**11 16 56.8 +0.5**			
	comp=N,16nm,0.6s,SNR=5.0								
ECAL				Lg	Lg	11 17 30.3			
	comp=N,22nm,0.4s,SNR=6.3								
PCAB	**Cabril**	**6.24**	**324**	*e*Pn	**Pn**	**11 15 57.2 +3.4**			
PCAB				*e*Sn	**Sn**	**11 17 05.5 +0.6**			
PCAB				A	A	11 17 48.1			
	comp=N,28nm,0.6s								
PCAB	**Cabril**	**6.24**	**324**	Pn	**Pn**	**11 15 57.2 +3.4**			
PCAB				Sn	**Sn**	**11 17 05.5 +0.6**			
	comp=N,14nm,0.6s								
PCAB	**Cabril**	**6.24**	**324**	*e*Sn	**Sn**	**11 17 05.5 +0.6**			
	comp=N,28nm,0.6s								
IELO	**Elcoad**	**6.28**	**13**	Pn	**Pn**	**11 15 58.0 +3.7**			
	comp=N,9.4nm,0.6s,SNR=7.9								
IELO				Lg	Lg	11 17 44.6			
	comp=N,12nm,0.5s,SNR=7.9								
EORO	**Oroz-Betelu**	**6.31**	**12**	Pn	**Pn**	**11 15 57.5 +2.7**			
	comp=N,6.2nm,0.5s,SNR=7.9								
EORO				Lg	Lg	11 17 43.3			
	comp=N,33nm,0.6s,SNR=7.9								
EORO	**Oroz-Betelu**	**6.31**	**12**	Pn	**Pn**	**11 15 57.5 +2.7**			
	comp=N,6.2nm,0.5s,SNR=7.9								
EORO				Lg	Lg	11 17 43.3			
	comp=N,33nm,0.6s,SNR=7.9								
EMIR	**Miracle**	**6.32**	**34**	Pn	**Pn**	**11 15 58.7 +3.8**			
	comp=N,6.6nm,0.3s,SNR=7.9								
ELOB	**Lobios**	**6.38**	**325**	Pn	**Pn**	**11 15 57.2 +1.4**			
	comp=N,3.8nm,0.2s,SNR=17								
ELOB				Sn	**Sn**	**11 17 05.0 -3.3**			
	comp=N,4.7nm,0.3s,SNR=5.0								
ELOB				Lg	Lg	11 17 43.8			
	comp=N,20nm,0.6s,SNR=85								
ELOB	**Lobios**	**6.38**	**325**	Pn	**Pn**	**11 15 57.2 +1.4**			
	comp=N,3.8nm,0.2s,SNR=17								
ELOB				Lg	Lg	11 17 43.8			
	comp=N,20nm,0.6s,SNR=85								
ETSF	**Etsaut**	**6.47**	**17**	*e*P	**Pn**	**11 16 01.2 +4.2**			
ETSF				*e*Sn	**Sn**	**11 17 04.3 -6.3**			
ETSF				*e*Sg	**Sg**	**11 17 45.2 -4.7**			
	comp=N,20nm,0.8s								
ETSF	**Etsaut**	**6.47**	**17**	Pn	**Pn**	**11 16 01.2 +4.2**			
ETSF				Sn	**Sn**	**11 17 04.3 -6.3**			
ETSF				Lg	Lg	11 17 45.2			
	comp=N,9.8nm,0.8s								
ELAN	**Lanestosa**	**6.49**	**358**	Pn	**Pn**	**11 16 00.5 +3.3**			
	comp=N,2.5nm,0.4s,SNR=7.9								
ELAN				Lg	Lg	11 17 50.4			
	comp=N,4.7nm,0.3s,SNR=7.9								
ELAN	**Lanestosa**	**6.49**	**358**	Pn	**Pn**	**11 16 00.5 +3.3**			
	comp=N,2.5nm,0.4s,SNR=7.9								
ELAN				Lg	Lg	11 17 50.4			
	comp=N,4.7nm,0.3s,SNR=7.9								
CSOR	**Sort**	**6.53**	**29**	Pn	**Pn**	**11 16 01.4 +3.5**			
	comp=N,0.1nm,0.3s,SNR=9.0								
CSOR	**Sort**	**6.53**	**29**	Pn	**Pn**	**11 16 01.4 +3.5**			
	comp=N,0.1nm,0.3s,SNR=9.0								
SJPF	**Ste Jean**	**6.54**	**13**	*e*P	**Pn**	**11 16 01.2 +3.3**			
SJPF				*e*Sg	**Sg**	**11 17 47.8 -4.3**			
	comp=N,96nm,1.2s								
SJPF	**Ste Jean**	**6.54**	**13**	Pn	**Pn**	**11 16 01.2 +3.3**			
SJPF				Lg	Lg	11 17 47.8			
	comp=N,48nm,1.2s						

AMT	**Artemida-Makis**	**1.00**	**6**	P	**Pn**	**11 15 21.8**	**+1.5**
AMT				S	**Sn**	**11 15 38.5**	**+5.3**
AMT				AML	AML	11 15 44.9	
	comp=N,8708μm,0.6s						
AMT				AML	AML	11 15 50.0	
	comp=E,6127μm,0.5s						
VLX	**Vlachokerasia**	**1.05**	**37**	P	**Pn**	**11 15 21.9**	**+0.8**
VLX				S	**Sn**	**11 15 34.4**	**-0.1**
VLX	**Vlachokerasia**	**1.05**	**37**	P	**Pn**	**11 15 21.9**	**+0.8**
VLX				S	**Sn**	**11 15 34.4**	**-0.1**
VLX	**Vlachokerasia**	**1.05**	**37**	P	**Pn**	**11 15 21.9**	**+0.8**
VLX				S	**Sn**	**11 15 38.7**	**+4.1**
VLX				AML	AML	11 15 44.7	
	comp=E,7243μm,0.5s						
VLX				AML	AML	11 15 45.0	
	comp=N,7353μm,0.6s						
VLI	**Veliai**	**1.10**	**80**	P	**Pn**	**11 15 23.2**	**+1.4**
VLI	**Veliai**	**1.10**	**80**	P	**Pn**	**11 15 23.1**	**+1.4**
VLI	**Veliai**	**1.10**	**80**	P	**Pn**	**11 15 23.1**	**+1.4**
VLI				S	**Sn**	**11 15 41.3**	**+5.5**
VLI				AML	AML	11 15 50.2	
	comp=E,3112μm,0.8s						
VLI				AML	AML	11 15 51.5	
	comp=N,4152μm,0.6s						
TRIP	**Tripoli**	**1.13**	**29**	P	**Pn**	**11 15 22.6**	**+0.4**
TRIP	**Tripoli**	**1.13**	**29**	P	**Pn**	**11 15 22.6**	**+0.4**
KYTH	**Kithira**	**1.21**	**102**	P	**Pn**	**11 15 24.8**	**+1.5**
KYTH				S	**Sn**	**11 15 37.8**	**-0.7**
KYTH	**Kithira**	**1.21**	**102**	P	**Pn**	**11 15 25.3**	**+2.0**
DRO	**Drossia**	**1.42**	**4**	P	**Pn**	**11 15 28.5**	**+2.4**
DRO				S	**Sn**	**11 15 47.6**	**+4.1**
DRO	**Drossia**	**1.42**	**4**	P	**Pn**	**11 15 28.5**	**+2.4**
DRO				S	**Sn**	**11 15 47.6**	**+4.1**
DRO	**Drossia**	**1.42**	**4**	P	**Pn**	**11 15 28.1**	**+2.0**
RLS	**Riolos of Patr**	**1.52**	**357**	P	**Pn**	**11 15 30.4**	**+2.9**
RLS	**Riolos of Patr**	**1.52**	**357**	P	**Pn**	**11 15 30.4**	**+2.9**
RLS	**Riolos of Patr**	**1.52**	**357**	P	**Pn**	**11 15 30.2**	**+2.7**
ANKY	**Antikythira Is**	**1.54**	**115**	P	**Pn**	**11 15 29.4**	**+1.6**
ANKY				S	**Sn**	**11 15 47.8**	**+1.3**
ANKY	**Antikythira Is**	**1.54**	**115**	P	**Pn**	**11 15 29.4**	**+1.6**
ANKY				S	**Sn**	**11 15 47.8**	**+1.3**
ANKY	**Antikythira Is**	**1.54**	**115**	P	**Pn**	**11 15 29.5**	**+1.8**
KLV	**Kalavryta, Ach**	**1.57**	**17**	P	**Pn**	**11 15 30.6**	**+2.4**
KLV	**Kalavryta, Ach**	**1.57**	**17**	P	**Pn**	**11 15 30.6**	**+2.4**
KLV	**Kalavryta, Ach**	**1.57**	**17**	P	**Pn**	**11 15 30.0**	**+1.8**
DID	**Didima**	**1.64**	**53**	P	**Pn**	**11 15 30.0**	**+0.8**
DID				S	**Sn**	**11 15 49.0**	**0.0**
DID	**Didima**	**1.64**	**53**	P	**Pn**	**11 15 30.0**	**+0.8**
DID				S	**Sn**	**11 15 49.0**	**0.0**
AXS	**Araxos**	**1.67**	**354**	P	**Pn**	**11 15 32.9**	**+3.5**
AXS	**Araxos**	**1.67**	**354**	P	**Pn**	**11 15 32.9**	**+3.5**
TRAZ	**Trapeza**	**1.71**	**17**	P	**Pn**	**11 15 32.2**	**+2.1**
TRAZ	**Trapeza**	**1.71**	**17**	P	**Pn**	**11 15 32.2**	**+2.1**
THAL	**Thalero**	**1.73**	**30**	P	**Pn**	**11 15 32.1**	**+1.8**
THAL	**Thalero**	**1.73**	**30**	P	**Pn**	**11 15 32.1**	**+1.8**
THAL	**Thalero**	**1.73**	**30**	P	**Pn**	**11 15 31.0**	**+0.7**
LAKA	**Lakka**	**1.73**	**10**	P	**Pn**	**11 15 33.4**	**+3.0**
LAKA	**Lakka**	**1.73**	**10**	P	**Pn**	**11 15 33.4**	**+3.0**
VLS	**Valsamata**	**1.82**	**335**	P	**Pn**	**11 15 31.8**	**+0.2**
VLS	**Valsamata**	**1.82**	**335**	P	**Pn**	**11 15 31.8**	**+0.2**
LTK	**Loutraki**	**1.85**	**36**	P	**Pn**	**11 15 33.1**	**+1.1**
LTK	**Loutraki**	**1.85**	**36**	P	**Pn**	**11 15 33.1**	**+1.1**
TRIZ	**Trizonia**	**1.87**	**12**	P	**Pn**	**11 15 36.2**	**+4.0**
TRIZ	**Trizonia**	**1.87**	**12**	P	**Pn**	**11 15 36.2**	**+4.0**
KALE	**Kalithea**	**1.90**	**13**	P	**Pn**	**11 15 35.5**	**+2.7**
KALE	**Kalithea**	**1.90**	**13**	P	**Pn**	**11 15 35.5**	**+2.7**
KALE	**Kalithea**	**1.90**	**13**	P	**Pn**	**11 15 36.0**	**+3.2**
SERG	**Sergoula**	**1.91**	**11**	P	**Pn**	**11 15 36.8**	**+3.9**
SERG	**Sergoula**	**1.91**	**11**	P	**Pn**	**11 15 36.9**	**+3.9**
DSF	**Desfina**	**2.02**	**22**	P	**Pn**	**11 15 35.7**	**+1.3**
DSF	**Desfina**	**2.02**	**22**	P	**Pn**	**11 15 35.7**	**+1.3**
DSF	**Desfina**	**2.02**	**22**	P	**Pn**	**11 15 34.1**	**-0.2**
PVO	**Paravola**	**2.08**	**359**	P	Pn	11 15 40.6	+5.5
PVO	**Paravola**	**2.08**	**359**	P	Pn	11 15 40.6	+5.5
PDO	**Prodromos**	**2.08**	**351**	P	**Pn**	**11 15 39.3**	**+4.1**
PDO	**Prodromos**	**2.08**	**351**	P	**Pn**	**11 15 39.3**	**+4.1**
PDO	**Prodromos**	**2.08**	**351**	P	Pn	11 15 40.3	+5.1
VILL	**Villia**	**2.13**	**40**	P	**Pn**	**11 15 36.4**	**+0.5**
VILL	**Villia**	**2.13**	**40**	P	**Pn**	**11 15 36.4**	**+0.5**
VLY	**Voula,Athens**	**2.20**	**53**	P	**Pn**	**11 15 37.1**	**+0.3**
VLY	**Voula,Athens**	**2.20**	**53**	P	**Pn**	**11 15 37.1**	**+0.3**
IMMV	**Iera Moni Meta**	**2.22**	**118**	P	**Pn**	**11 15 37.9**	**+0.8**
IMMV	**Iera Moni Meta**	**2.22**	**118**	P	**Pn**	**11 15 37.9**	**+0.8**
LKD2	**Lefkada island**	**2.37**	**342**	P	**Pn**	**11 15 43.1**	**+4.0**
LKD2	**Lefkada island**	**2.37**	**342**	P	**Pn**	**11 15 43.1**	**+4.0**
LKD2	**Lefkada island**	**2.37**	**342**	P	**Pn**	**11 15 41.8**	**+2.7**
PTL	**Penteli**	**2.37**	**50**	P	**Pn**	**11 15 39.7**	**+0.6**
PTL	**Penteli**	**2.37**	**50**	P	**Pn**	**11 15 39.7**	**+0.6**
EVR	**Evrytania**	**2.38**	**4**	P	**Pn**	**11 15 42.6**	**+3.2**
EVR	**Evrytania**	**2.38**	**4**	P	**Pn**	**11 15 42.6**	**+3.2**
EVR	**Evrytania**	**2.38**	**4**	P	Pn	11 15 45.4	+6.0
VAM	**Vamos**	**2.40**	**117**	P	**Pn**	**11 15 40.2**	**+0.6**
VAM	**Vamos**	**2.40**	**117**	P	**Pn**	**11 15 40.2**	**+0.6**
AGG	**Agios Georgios**	**2.55**	**13**	P	**Pn**	**11 15 44.0**	**+2.3**
AGG	**Agios Georgios**	**2.55**	**13**	P	**Pn**	**11 15 44.0**	**+2.3**
AGG	**Agios Georgios**	**2.55**	**13**	P	**Pn**	**11 15 43.2**	**+1.5**
DSL	**Palaion Diasel**	**2.62**	**352**	P	**Pn**	**11 15 45.4**	**+2.8**
DSL	**Palaion Diasel**	**2.62**	**352**	P	**Pn**	**11 15 45.4**	**+2.8**
EREA	**Eretria**	**2.65**	**44**	P	**Pn**	**11 15 43.4**	**+0.4**
EREA	**Eretria**	**2.65**	**44**	P	**Pn**	**11 15 43.4**	**+0.4**
IDI	**Anoyia**	**2.96**	**114**	Pn	**Pn**	**11 15 46.5**	**-0.8**
	comp=N,2.2nm,0.3s,baz=308,slow=20,SNR=14						
IDI				Sn	**Sn**	**11 16 17.9**	**-3.7**
	comp=N,6.1nm,0.3s,baz=273,slow=23,SNR=6.5						
THR5	**Thira Island,**	**3.04**	**91**	P	**Pn**	**11 15 48.8**	**+0.5**
THR5	**Thira Island,**	**3.04**	**91**	P	**Pn**	**11 15 48.8**	**+0.5**
THL	**Klokotos Trika**	**3.04**	**6**	P	**Pn**	**11 15 50.8**	**+2.4**
THL	**Klokotos Trika**	**3.04**	**6**	P	**Pn**	**11 15 50.8**	**+2.4**
PENT	**Pentalofos**	**3.67**	**355**	P	**Pn**	**11 16 00.3**	**+3.2**
PENT	**Pentalofos**	**3.67**	**355**	P	**Pn**	**11 16 00.3**	**+3.2**
STON	**Ston**	**7.00**	**336**	*e*Pn	**Pn**	**11 16 39.5**	**-3.2**
STON				Sn	**Sn**	**11 17 55.4**	**-5.6**
NVLJ	**Novalja**	**9.50**	**330**	*e*Pn	**Pn**	**11 17 16.9**	**-0.1**
NVLJ				Sn	**Sn**	**11 18 55.4**	**-7.0**
GERES	**GERESS Array B**	**13.59**	**337**	LR	LR	11 24 38.9	
	comp=N,39nm,20.3s,baz=49,slow=43						
AKASG	**Malin Array Be**	**15.19**	**19**	Pn	**Pn**	**11 18 32.0**	**-2.4**
	comp=N,0.6nm,0.3s,baz=208,slow=12,SNR=3.6						
HFS	**Hagfors**	**24.15**	**350**	P	**P**	**11 20 14.3**	**-0.8**
	comp=N,1.5nm,0.4s,baz=157,slow=7.8,SNR=11						
FINES	**FINESS Array B**	**25.09**	**5**	P	**P**	**11 20 23.1**	**-0.5**
	comp=N,2.3nm,0.7s,baz=163,slow=9.5,SNR=11						
EKA	**Eskdalemuir Ar**	**25.26**	**326**	P	**P**	**11 20 26.4**	**+1.2**
	comp=N,0.8nm,0.7s,baz=136,slow=8.4,SNR=2.8						
NOA	**NORSAR Array B**	**25.39**	**348**	P	**P**	**11 20 25.4**	**-1.0**
	comp=N,0.6nm,0.6s,baz=150,slow=9.6,SNR=3.1						
GEYT	**Alibeck**	**29.01**	**76**	P	**P**	**11 20 58.8**	**-0.3**
	comp=N,2.5nm,0.5s,baz=284,slow=12,SNR=3.5						
TORD	**Torodi Ar. Bea**	**29.34**	**223**	P	**P**	**11 21 03.6**	**+1.5**
	comp=N,0.5nm,0.7s,baz=38,slow=7.2,SNR=3.4						
ARU	**Arti**	**31.76**	**39**	P	**P**	**11 21 21.9**	**-1.2**
	comp=N,1.8nm,0.3s,baz=284,slow=8.3,SNR=3.8						
BVAR	**Borovoye Array**	**37.55**	**48**	P	**P**	**11 22 12.7**	**-0.5**
	comp=N,0.8nm,0.6s,baz=291,slow=6.2,SNR=5.0						
MKAR	**Makanchi Array**	**45.46**	**57**	P	**P**	**11 23 16.8**	**-1.3**
	comp=N,1.0nm,0.4s,baz=267,slow=7.6,SNR=20						
KSRS	**Korea Array**	**79.71**	**51**	P	**P**	**11 27 06.5**	**-0.2**
	comp=N,1.3nm,0.6s,baz=318,slow=5.0,SNR=4.2						
ASAR	**Alice Springs**	**121.14**	**98**	PKP	**PKPdf**	**11 33 51.2**	**-0.6**
	comp=N,0.1nm,0.4s,baz=291,slow=1.8,SNR=4.0						

*NEIC **19** 11:20:06.6±0.0, 18°.23N×65°.18W, h96km, MD3.2(RSPR), After RSPR.*
*RSPR **19** 11:20:06.6, 18°.23N×65°.18W, h96km±2km, MD3.1/7*
ISC 19 11:20:05.8±3.3, 18°.6N±0°.5×65°.3W±0°.1, h93km±23km, n24, σ0s39/36, 18C-2D, Puerto Rico region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
CULB	**Culebra**	**0.30**	**189**	⇓	*e*P		**Pn**	**11 20 19.5**	**-0.1**
CULB					*e*S		**Sn**	**11 20 30.4**	**+0.5**
CULB	**Culebra**	**0.30**	**189**	⇓	*e*P		**Pn**	**11 20 19.5**	**-0.1**
CULB					*e*S		**Sn**	**11 20 30.4**	**+0.5**
STVI	**Saint Thomas**	**0.39**	**134**	⇑	*e*P		**Pn**	**11 20 19.8**	**-0.3**
STVI	**Saint Thomas**	**0.39**	**134**		*e*S		**Sn**	**11 20 31.0**	**+0.3**
STVI	**Saint Thomas**	**0.39**	**134**	⇑	*e*P		**Pn**	**11 20 19.8**	**-0.3**
STVI					*e*S		**Sn**	**11 20 31.0**	**+0.3**
STVI	**Saint Thomas**	**0.39**	**134**	⇑	*e*P		**Pn**	**11 20 19.8**	**-0.3**
STVI					*e*S		**Sn**	**11 20 31.0**	**+0.3**
CBYP	**Canovanas**	**0.67**	**239**	⇑	*e*P		**Pn**	**11 20 22.1**	**-0.3**
CBYP	**Canovanas**	**0.67**	**239**		*e*S		**Sn**	**11 20 34.7**	**0.0**
CBYP	**Canovanas**	**0.67**	**239**	⇑	*e*P		**Pn**	**11 20 22.1**	**-0.3**
CBYP					*e*S		**Sn**	**11 20 34.7**	**0.0**
HUMP	**Col San Antoni**	**0.74**	**230**	⇑	*e*P		**Pn**	**11 20 23.1**	**+0.1**
HUMP	**Col San Antoni**	**0.74**	**230**		*e*S		**Sn**	**11 20 35.3**	**-0.5**
HUMP	**Col San Antoni**	**0.74**	**230**	⇑	*e*P		**Pn**	**11 20 23.1**	**+0.1**
HUMP					*e*S		**Sn**	**11 20 35.3**	**-0.5**
HUMP	**Col San Antoni**	**0.74**	**230**	⇑	*e*P		**Pn**	**11 20 23.1**	**+0.1**
HUMP					*e*S		**Sn**	**11 20 35.3**	**-0.5**
SJG	**San Juan**	**0.99**	**239**	⇑	*e*P		**Pn**	**11 20 25.9**	**+0.2**
SJG	**San Juan**	**0.99**	**239**		*e*S		**Sn**	**11 20 40.6**	**+0.1**
SJG	**San Juan**	**0.99**	**239**	⇑	*e*P		**Pn**	**11 20 25.9**	**+0.2**
SJG					*e*S		**Sn**	**11 20 40.6**	**+0.1**
SJG	**San Juan**	**0.99**	**239**	⇑	*e*P		**Pn**	**11 20 25.9**	**+0.2**
SJG					*e*S		**Sn**	**11 20 40.6**	**+0.1**
CELP	**Cerrillos**	**1.37**	**247**	⇑	*e*P		**Pn**	**11 20 30.4**	**+0.2**
CELP					*e*S		**Sn**	**11 20 49.1**	**+0.6**
CELP	**Cerrillos**	**1.37**	**247**	⇑	*e*P		**Pn**	**11 20 30.4**	**+0.2**
CELP					*e*S		**Sn**	**11 20 49.1**	**+0.6**
CELP	**Cerrillos**	**1.37**	**247**	⇑	*e*P		**Pn**	**11 20 30.4**	**+0.2**
OBIP	**Obispado Ponce**	**1.41**	**246**	⇑	*e*P		**Pn**	**11 20 29.9**	**-0.7**
OBIP	**Obispado Ponce**	**1.41**	**246**	⇑	*e*P		**Pn**	**11 20 29.9**	**-0.7**
OBIP	**Obispado Ponce**	**1.41**	**246**	⇑	*e*P		**Pn**	**11 20 29.9**	**-0.7**

MAN 19 11:50:25, 8°.63N×125°.70E, h16km, mb4.3, ML3.2, MS3.0, 2C, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
CGP	**Cagayan de Oro**	**1.01**	**260**	⇑	*i*P		Pb	11 50 42.9	-1.2
CGP					*i*S		Sb	11 50 56.0	-1.2
SCPH	**Surigao**	**1.17**	**350**	⇑	*e*P		Pn	11 50 45.2	-1.5
MATI	**Mati**	**1.76**	**162**		*e*P		Pn	11 50 55.6	+0.8
MATI					*e*S		Sn	11 51 17.7	+0.8
CTBH	**Cotabato--PC H**	**2.01**	**226**		*e*P		Pn	11 50 58.5	+0.3
CTBH					*i*S		Sn	11 51 18.7	-4.4
TBP	**Tagbilaran**	**2.10**	**300**	⇑	*i*P		Pb	11 51 02.8	0.0
TBP					*i*S		Sn	11 51 27.0	+1.6

*SJA **19** 11:54:08.0±0.6, 29°.66S×71°.12W, h15km±3km, ML3.2, MW3.6*
*GUC **19** 11:54:08.6±0.6, 29°.62S×71°.25W, h18km±5km, ML3.0*
*ISCJB **19** 11:54:09.1±1.4, 29°.64S±0°.04×71°.3W±0°.1, h20km±9km, Error ellipse: s-maj=16.4km s-min=6.0km az=174.5*
ISC 19 11:54:08.8±2.0, 29°.62S±0°.04×71°.15W±0°.09, h6km±12km, n10, σ0s87/18, 2C, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
TLL	**Tololo Astrono**	**0.62**	**151**	⇑	*i*P		**Pb**	**11 54 21.8**	**-0.5**
TLL					*i*S		**Sb**	**11 54 31.5**	**+0.2**
TLL					IAML			11 54 32.3	
	comp=E,1μm,0.3s								
LCO	**Las Campanas**	**0.72**	**33**	⇑	*i*P		**Pg**	**11 54 23.2**	**+0.4**
LCO					*i*S		**Sb**	**11 54 34.3**	**0.0**
LCO					IAML			11 54 35.0	
	comp=E,1μm,0.2s								
LCO	**Las Campanas**	**0.72**	**33**		*i*P		**Pg**	**11 54 22.8**	**0.0**
LCO					*i*S		**Sb**	**11 54 33.9**	**-0.5**
VACH	**Vallenar**	**1.10**	**18**		*e*P		**Pn**	**11 54 30.8**	**0.0**
VACH					*i*S		**Sn**	**11 54 46.1**	**-0.2**
AROD	**Rodeo**	**1.55**	**111**		*i*P		**Pn**	**11 54 37.0**	**-0.4**
AROD					*i*S		**Sg**	**11 54 58.9**	**0.0**
CPCH	**Copiapo**	**2.36**	**17**		*e*P		**Pn**	**11 54 48.4**	**+0.3**
CPCH					*i*S		**Sn**	**11 55 17.5**	**0.0**
AMOG	**MOGNA**	**2.65**	**120**		*i*P		**Pn**	**11 54 52.2**	**0.0**
VCA	**Vinchina**	**2.72**	**72**		*e*P		**Pn**	**11 54 55.1**	**+1.9**
VCA					*e*S		**Sb**	**11 55 29.8**	**-2.0**
VCA	**Vinchina**	**2.72**	**72**		*i*P		**Pn**	**11 54 54.3**	**+1.0**
VCA					IAML			11 54 58.8	
	comp=Z,99nm,0.3s								
VCA					*i*S		**Sn**	**11 55 27.5**	**+0.9**
AUSP	**Uspallata**	**3.00**	**150**		*i*P		**Pn**	**11 54 57.9**	**+0.6**

*CSEM **19** 12:28:59.1±0.2, 34°.36N×25°.63E, h20km, ML3.2, Error ellipse: s-maj=5.8km s-min=3.6km az=59.0*
*ATH **19** 12:29:00.1, 34°.47N×25°.56E, h31km±2km, ML3.0/3, Error ellipse: s-maj=4.4km s-min=1.4km az=341.0*
*THE **19** 12:29:02.8, 34°.55N×25°.55E, h23km±2km, ML3.2/4, Error ellipse: s-maj=2.8km s-min=1.0km az=119.0*
*HLW **19** 12:29:02.6, 34°.37N×25°.85E, h33km±13km, Md3.3, Ml3.2*
*GII **19** 12:29:18.0±0.0, 33°.91N×27°.16E, h1km, MD2.4/2*
ISC 19 12:28:58.6±1.2, 34°.39N±0°.05×25°.67E±0°.03, h32km±13km, n69, σ1s84/93, Crete

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
LAST	**Lasithi**	**0.79**	**349**	P		**Pb**		**12 29 14.0**	**+0.1**
LAST				S		**Sb**		**12 29 23.1**	**-1.3**
LAST	**Lasithi**	**0.79**	**349**	P		**Pb**		**12 29 14.0**	**+0.1**
LAST				S		**Sb**		**12 29 24.3**	**-0.1**
LAST	**Lasithi**	**0.79**	**349**	P		**Pb**		**12 29 14.1**	**+0.1**
LAST				S		**Sb**		**12 29 24.3**	**-0.1**
LAST				AML	AML			12 29 29.9	
	comp=N,2767μm,0.9s								
LAST				AML	AML			12 29 30.4	
	comp=E,2789μm,1.0s								
ZKR	**Zakros**	**0.86**	**32**	P		**Pn**		**12 29 16.5**	**+2.0**
ZKR				S		**Sn**		**12 29 29.1**	**+3.1**
ZKR	**Zakros**	**0.86**	**32**	P		**Pn**		**12 29 16.5**	**+2.0**
ZKR				S		**Sn**		**12 29 29.1**	**+3.1**
ZKR				AML	AML			12 29 34.4	
	comp=N,1917μm,0.5s								
ZKR				AML	AML			12 29 35.1	
	comp=E,3424μm,0.4s								
NPS	**Neapolis**	**0.88**	**357**	P		**Pn**		**12 29 15.6**	**+0.8**
NPS				S		**Sb**		**12 29 27.1**	**+0.3**
NPS	**Neapolis**	**0.88**	**357**	P		**Pn**		**12 29 15.6**	**+0.8**
NPS				S		**Sb**		**12 29 27.2**	**+0.4**
NPS	**Neapolis**	**0.88**	**357**	P		**Pn**		**12 29 15.9**	**+1.1**
NPS				S		**Sb**		**12 29 27.2**	**+0.4**
NPS				AML	AML			12 29 31.5	
	comp=N,1974μm,0.3s								
NPS				AML	AML			12 29 31.5	
	comp=E,3034μm,0.7s								
SIVA	**Sivas**	**0.95**	**312**	P		**Pn**		**12 29 16.7**	**+1.0**
SIVA				S		**Sb**		**12 29 27.6**	**-1.1**
SIVA	**Sivas**	**0.95**	**312**	P		**Pn**		**12 29 16.7**	**+1.0**
SIVA				S		**Sb**		**12 29 27.6**	**-1.1**
SIVA	**Sivas**	**0.95**	**312**	P		**Pn**		**12 29 17.0**	**+1.4**
TMBK	**Timbaki Herakl**	**1.01**	**313**	P		**Pn**		**12 29 18.0**	**+1.5**
TMBK				S		**Sb**		**12 29 29.9**	**-0.6**
TMBK	**Timbaki Herakl**	**1.01**	**313**	P		**Pn**		**12 29 18.0**	**+1.5**
TMBK				S		**Sb**		**12 29 29.9**	**-0.6**
IDI	**Anoyia**	**1.10**	**325**	P		**Pb**		**12 29 18.9**	**-0.3**
IDI				S		**Sb**		**12 29 31.7**	**-1.6**
IDI	**Anoyia**	**1.10**	**325**	P		**Pb**		**12 29 19.2**	**0.0**
IDI				S		**Sb**		**12 29 31.7**	**-1.6**
IDI	**Anoyia**	**1.10**	**325**	P		**Pb**		**12 29 19.2**	**0.0**
GVD	**Gavdhos**	**1.38**	**290**	P		**Pb**		**12 29 23.2**	**-0.6**
GVD				S		**Sn**		**12 29 39.7**	**+0.9**
GVD	**Gavdhos**	**1.38**	**290**	P		**Pb**		**12 29 23.2**	**-0.6**
GVD				S		**Sn**		**12 29 39.7**	**+0.9**
GVD	**Gavdhos**	**1.38**	**290**	P		**Pb**		**12 29 23.2**	**-0.6**
VAM	**Vamos**	**1.58**	**311**	P		**Pb**		**12 29 25.9**	**-1.3**
VAM				S		**Sn**		**12 29 43.3**	**-0.4**
VAM	**Vamos**	**1.58**	**311**	P		**Pb**		**12 29 25.9**	**-1.3**
VAM				S		**Sn**		**12 29 43.3**	**-0.4**
VAM	**Vamos**	**1.58**	**311**	P		**Pb**		**12 29 26.1**	**-1.1**
KARP	**Karpathos**	**1.69**	**46**	P		**Pb**		**12 29 30.0**	**+0.9**
KARP				S		**Sb**		**12 29 49.5**	**-0.5**
KARP	**Karpathos**	**1.69**	**46**	P		**Pb**		**12 29 30.0**	**+0.9**
KARP				S		**Sb**		**12 29 49.5**	**-0.5**
KARP	**Karpathos**	**1.69**	**46**	P		**Pb**		**12 29 30.4**	**+1.4**
IMMV	**Iera Moni Meta**	**1.75**	**308**	P		**Pn**		**12 29 28.3**	**+1.5**
IMMV	**Iera Moni Meta**	**1.75**	**308**	P		**Pn**		**12 29 28.3**	**+1.5**
IMMV	**Iera Moni Meta**	**1.75**	**308**	P		**Pn**		**12 29 28.5**	**+1.7**
ANKY	**Antikythira Is**	**2.44**	**308**	P		**Pn**		**12 29 37.9**	**+1.7**
ANKY	**Antikythira Is**	**2.44**	**308**	P		**Pn**		**12 29 37.9**	**+1.7**
ANKY	**Antikythira Is**	**2.44**	**308**	P		**Pn**		**12 29 36.6**	**+0.4**
SLUM	**Salum**	**2.91**	**188**	P		**Pn**		**12 29 45.2**	**+2.5**
	baz=191								
SLUM				S		**Sn**		**12 30 17.6**	**+1.0**
	baz=191								
SLUM	**Salum**	**2.91**	**188**	P		**Pn**		**12 29 45.2**	**+2.5**
SLUM				S		**Sn**		**12 30 17.6**	**+1.0**
SWA2		**5.13**	**182**	P		**Pn**		**12 30 15.5**	**+2.3**
	baz=184								
SWA2				AMP				12 31 00.0	
	comp=E,40μm,0.4s,logA/T=5.0,baz=184								
SWA2				S		**Sn**		**12 31 10.9**	**-0.4**
	baz=184								
SWA2		**5.13**	**182**	P		**Pn**		**12 30 15.5**	**+2.3**
SWA2				S		**Sn**		**12 31 10.9**	**-0.4**
CSS	**Mathiatis**	**6.34**	**83**	Sn		**Sn**		**12 31 39.7**	**-1.5**
CSS	**Mathiatis**	**6.34**	**83**	Sn		**Sn**		**12 31 39.7**	**-1.5**
HSAF	**As Saff**	**6.90**	**132**	P		**Pn**		**12 30 38.4**	**+0.8**
	baz=132								
HSAF	**As Saff**	**6.90**	**132**	P		**Pn**		**12 30 38.3**	**+0.8**
GLL	**Jalalah**	**7.02**	**131**	P		**Pn**		**12 30 40.0**	**+0.7**
	baz=132								
GLL	**Jalalah**	**7.02**	**131**	P		**Pn**		**12 30 40.0**	**+0.7**
SUZ	**Suez**	**7.58**	**125**	P		**Pn**		**12 30 47.6**	**+0.7**
	baz=125								
SUZ	**Suez**	**7.58**	**125**	P		**Pn**		**12 30 47.6**	**+0.7**
RSH		**7.60**	**114**	P		**Pn**		**12 30 47.8**	**+0.6**
	baz=114								
RSH		**7.60**	**114**	P		**Pn**		**12 30 47.8**	**+0.6**
SLTI	**Sal'it**	**8.13**	**103**	Sn		**Sn**		**12 32 22.2**	**-3.1**
SLTI	**Sal'it**	**8.13**	**103**	Sn		**Sn**		**12 32 22.2**	**-3.1**
KZIT	**Kziot**	**8.14**	**113**	Sn		**Sn**		**12 32 22.8**	**-2.7**
KZIT	**Kziot**	**8.14**	**113**	Sn		**Sn**		**12 32 22.8**	**-2.7**
AMAZ	**Amatzia**	**8.28**	**108**	Sn		**Sn**		**12 32 25.2**	**-3.7**
AMAZ	**Amatzia**	**8.28**	**108**	Sn		**Sn**		**12 32 25.2**	**-3.7**
MMLI	**Mount Malkishu**	**8.38**	**101**	Sn		**Sn**		**12 32 28.4**	**-3.1**
MMLI	**Mount Malkishu**	**8.38**	**101**	Sn		**Sn**		**12 32 28.4**	**-3.1**
YTIR	**Yattir**	**8.50**	**108**	Sn		**Sn**		**12 32 32.2**	**-2.3**
YTIR	**Yattir**	**8.50**	**108**	Sn		**Sn**		**12 32 32.2**	**-2.3**
HMDT	**Nahal Hemdat**	**8.52**	**102**	Sn		**Sn**		**12 32 32.6**	**-2.2**
HMDT	**Nahal Hemdat**	**8.52**	**102**	Sn		**Sn**		**12 32 32.6**	**-2.2**
DSI	**Dead Sea**	**8.63**	**106**	Sn		**Sn**		**12 32 34.5**	**-3.0**
DSI	**Dead Sea**	**8.63**	**106**	Sn		**Sn**		**12 32 34.5**	**-3.0**
PRNI	**Paran**	**8.86**	**114**	Sn		**Sn**		**12 32 39.5**	**-3.8**
PRNI	**Paran**	**8.86**	**114**	Sn		**Sn**		**12 32 39.5**	**-3.8**
HRFI	**Mount Harif**	**9.04**	**116**	Sn		**Sn**		**12 32 44.8**	**-3.0**
HRFI	**Mount Harif**	**9.04**	**116**	Sn		**Sn**		**12 32 44.8**	**-3.0**
MBRI	**Mt Berech**	**9.08**	**118**	Sn		**Sn**		**12 32 46.1**	**-2.6**
MBRI	**Mt Berech**	**9.08**	**118**	Sn		**Sn**		**12 32 46.1**	**-

ISC 19 12:58:42.7±2.9, 43.5N±0.1×86.2E±0.1, h10km, n8, σ2§44/16, 5C-2D, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ZSN	**Zaisan**	**4.05**	**347**	*eP*	**Pg**	**12 59 57.7**	**-2.5**
	6.2nm,0.2s						
ZSN				*eS*	**Sg**	**13 00 54.9**	**+2.2**
	8.1nm,0.5s						
MK31	**Makanchi Array**	**4.29**	**321**	⇓Pn	**Pn**	**12 59 49.2**	**+1.2**
	2.8nm,0.5s,baz=133,slow=14,SNR=37						
MK31				⇑Pg	**Pb**	**12 59 58.3**	**+0.2**
	3.1nm,0.3s,baz=129,slow=18,SNR=8.7						
MK31				⇑Lg	Lg	13 00 55.1	
	6.7nm,0.4s,baz=131,slow=29,SNR=6.3						
MAKZ	**Makanchi**	**4.44**	**319**	⇑Pn	**Pn**	**12 59 51.3**	**+1.2**
	5.1nm,0.3s						
MAKZ				⇑Pg	**Pb**	**12 59 59.5**	**-1.3**
	4.5nm,0.5s						
MAKZ				⇑Lg	Lg	13 01 00.5	
	15nm,0.6s						
DJR	**Jarkent**	**4.69**	**282**	*eP*	**Pb**	**13 00 07.8**	**+2.7**
	24nm,0.6s						
DJR				⇓*i*S	**Sg**	**13 01 12.1**	**-1.3**
	28nm,0.6s						
SHLS	**Shalkode**	**4.92**	**268**	*eP*	**Pb**	**13 00 07.5**	**-1.5**
	18nm,0.5s						
SHLS				*eS*	**Sb**	**13 01 10.9**	**+2.7**
	59nm,0.6s						
KAPS	**Kapalarasan**	**5.21**	**292**	*eP*	**Pg**	**13 00 18.9**	**-3.4**
	7.2nm,0.6s						
KAPS				*eS*	**Sg**	**13 01 31.2**	**+1.4**
	18nm,0.4s						
UZB	**Uzynbulak**	**5.24**	**269**	*eP*	**Pb**	**13 00 18.3**	**+3.9**
	3.7nm,0.4s						
UZB				*eS*	**Sg**	**13 01 30.0**	**-0.8**
	16nm,0.6s						
KPKS	**Kokpek**	**5.46**	**272**	*eP*	**Pg**	**13 00 23.5**	**-3.7**
	3.2nm,0.2s						
KPKS				*eS*	**Sg**	**13 01 38.4**	**+0.5**
	27nm,0.4s						

*ISCJB **19** 12:59:54.9±1.1, 13.60N±0.05×119.89E±0.06, h21km±8km, mb3.9/2, MS2.6/3, Error ellipse: s-maj=10.2km s-min=6.4km az=31.7*
*MAN **19** 12:59:55, 13.54N×119.94E, h16km, mb4.6, ML3.4, MS3.4*
*IDC **19** 12:59:59.6±3.1, 14.49N×120.86E, h104km±6km, mb3.3/3, mb1 3.6/3, mb1mx3.0/48, mbtmp3.7/3, MS2.7/3, Ms1 2.8/3, ms1mx2.4/27, Error ellipse: s-maj=96.3km s-min=24.1km az=42.0*

ISC 19 12:59:54.8±1.8, 13.61N±0.06×119.92E±0.08, h18km±8km, n14, σ0§96/20, MS2.5/3, 3D, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LUBP	**Lubang**	**0.34**	**69**	*eP*	**Pb**	**13 00 02.6**	**+0.1**
LUBP				*eS*	**Sg**	**13 00 06.4**	**-0.6**
PGP	**Puerto Galera**	**1.01**	**96**	⇓*eP*	**Pb**	**13 00 14.2**	**+0.3**
PGP				*eS*	**Sb**	**13 00 28.0**	**+1.0**
TGY	**Tagaytay City**	**1.10**	**64**	P	**Pg**	**13 00 16.1**	**-0.1**
	226nm,0.3s,baz=231,slow=3.7,SNR=28						
TGY				S	**Sb**	**13 00 28.8**	**-0.8**
	336nm,0.3s,baz=62,slow=15,SNR=12						
TGY	**Tagaytay City**	**1.10**	**64**	*eP*	**Pn**	**13 00 14.8**	**-0.7**
TGY				*eS*	**Sg**	**13 00 32.3**	**+1.6**
BUSP	**Coron**	**1.62**	**170**	*eP*	**Pn**	**13 00 23.2**	**+0.6**
BUSP				*eS*	**Sn**	**13 00 42.5**	**-0.6**
BOAC	**Boac**	**1.88**	**94**	*eP*	**Pn**	**13 00 26.8**	**+0.7**
BOAC				*eS*	**Sb**	**13 00 51.9**	**0.0**
PCPH	**Palayan**	**2.25**	**30**	⇓*eP*	**Pn**	**13 00 32.4**	**+1.2**
PCPH				*eS*	**Sn**	**13 00 58.4**	**-0.1**
ENPP	**El Nido**	**2.44**	**191**	*eP*	**Pn**	**13 00 35.0**	**+1.2**
ENPP				*eS*	**Sn**	**13 01 02.7**	**-0.5**
GQP	**Guinayangan**	**2.47**	**83**	⇓*eP*	**Pb**	**13 00 37.0**	**-1.9**
GQP				*eS*	**Sn**	**13 01 05.1**	**+1.0**
CMAR	**Chiang Mai Arr**	**20.72**	**286**	P	Pn	13 04 38.9	+2.0
	1.2nm,0.8s,baz=89,slow=10,SNR=6.8						
CMAR				LR	LR	13 13 19.0	
	comp=Z,11nm,18.3s,baz=245,slow=37						
KSRS	**Korea Array**	**24.80**	**15**	LR	LR	13 16 03.4	
	comp=Z,14nm,18.5s,baz=145,slow=41						
WRA	**Warramunga Arr**	**36.24**	**157**	P	**P**	**13 06 56.4**	**-0.8**
	1.6nm,0.6s,baz=336,slow=9.5,SNR=18						
ASAR	**Alice Springs**	**39.49**	**160**	P	**P**	**13 07 24.4**	**-0.2**
	0.7nm,0.5s,baz=338,slow=6.5,SNR=18						
AAK	**Ala-Archa**	**48.59**	**316**	LR	LR	13 31 33.0	
	comp=Z,18nm,18.9s,baz=71,slow=39						

IDC 19 13:08:14.3±6.1, 17.90S×174.04E, h121km±47km, mb3.6/5, mb1 3.8/6, mb1mx3.3/36, mbtmp3.9/6, MS3.4/12, Ms1 3.4/12, ms1mx3.3/23, Error ellipse: s-maj=98.1km s-min=32.2km az=138.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**8.25**	**239**	P	Pn	13 10 12.1	+0.8
	0.3nm,0.3s,baz=55,slow=17,SNR=4.1						
DZM				LR	LR	13 12 25.4	
	comp=Z,50nm,20.5s,baz=38,slow=30						
RAO	**Raoul Island**	**13.48**	**148**	LR	LR	13 14 50.4	
	comp=Z,121nm,20.5s,baz=322,slow=29						
RAR	**Rarotonga**	**24.89**	**102**	LR	LR	13 22 09.9	
	comp=Z,91nm,18.5s,baz=291,slow=34						
PMG	**Port Moresby**	**27.42**	**284**	LR	LR	13 23 50.2	
	comp=Z,157nm,18.1s,baz=83,slow=34						
STKA	**Stephens Creek**	**32.41**	**238**	LR	LR	13 26 39.7	
	comp=Z,137nm,20.8s,baz=32,slow=34						
PPT	**Papeete**	**34.63**	**95**	LR	LR	13 27 52.7	
	comp=Z,53nm,18.5s,baz=99,slow=34						
WRA	**Warramunga Arr**	**37.55**	**260**	P	P	13 15 15.4	-1.7
	0.9nm,0.8s,baz=91,slow=8.8,SNR=6.7						
ASAR	**Alice Springs**	**37.87**	**254**	P	P	13 15 19.8	0.0
	1.0nm,0.8s,baz=84,slow=8.4,SNR=9.8						
ASAR				PcP	PcP	13 17 34.9	+1.2
	0.4nm,0.8s,baz=108,slow=3.4,SNR=4.3						
ASAR				LR	LR	13 29 15.9	
	comp=Z,43nm,18.9s,baz=52,slow=33						
NWAO	**Narrogin (SRO)**	**52.86**	**242**	LR	LR	13 39 10.0	
	comp=Z,191nm,21.1s,slow=35						
VNDA	**Vanda**	**59.95**	**183**	LR	LR	13 41 36.2	
	comp=Z,29nm,18.3s,baz=9.5,slow=33						
KSRS	**Korea Array**	**70.11**	**322**	LR	LR	13 48 54.0	
	comp=Z,8.7nm,18.7s,baz=160,slow=35						
PETK	**Petropavlovsk-**	**72.12**	**350**	P	P	13 19 26.2	+1.0
	4.6nm,1.0s,baz=142,slow=5.1,SNR=4.7						
CMAR	**Chiang Mai Arr**	**82.16**	**292**	P	P	13 20 23.4	+1.2
	0.5nm,0.4s,baz=104,slow=3.8,SNR=3.3						
CMAR				LR	LR	13 57 47.6	
	comp=Z,7.9nm,18.4s,baz=100,slow=36						
ILAR	**Eielson Array**	**87.67**	**16**	P	P	13 20 47.1	-1.5
	0.8nm,1.0s,baz=234,slow=5.1,SNR=4.2						
ILAR				LR	LR	13 54 01.6	
	comp=Z,26nm,19.4s,baz=210,slow=31						
GERES	**GERESS Array B**	**145.26**	**337**	PKPbc	PKPbc	13 27 36.1	-1.6
	0.5nm,0.4s,baz=46,slow=4.2,SNR=4.6						

*NNC **19** 13:22:01.1±1.5, 50.01N×78.81E, h0km, mb3.2, mpv2.8, Error ellipse: s-maj=11.4km s-min=6.8km az=66.0, Suspected Mining explosion.*
*IDC **19** 13:22:02.2±1.0, 50.07N×78.74E, h0km, mb1 2.9/2, mb1mx2.8/46, mbtmp2.9/2, ML2.5/2, Error ellipse: s-maj=13.6km s-min=6.1km az=66.0*

ISC 19 13:21:56.3±0.9, 50.16N±0.06×79.25E±0.10, h0km, n9, σ0§90/13, 6C-3D, Eastern Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KURBB	**Kurchatov Arra**	**0.65**	**316**	Pg	**Pn**	**13 22 13.2**	**+0.4**
	2.0nm,0.3s,baz=165,slow=20,SNR=64						
KURBB				Lg	Lg	13 22 21.5	
	2.5nm,0.3s,baz=163,slow=32,SNR=27						
KURBB	**Kurchatov Arra**	**0.65**	**316**	⇑P	**Pn**	**13 22 13.2**	**+0.4**
	19nm,0.3s,baz=169,slow=17						
KURBB				⇓S	**Sn**	**13 22 22.4**	**-1.4**
	94nm,0.7s,baz=162,slow=30						
KURK	**Kurchatov**	**0.69**	**325**	⇑P	**Pn**	**13 22 14.5**	**+1.3**
	5.9nm,0.3s						
KURK				⇑S	**Sn**	**13 22 25.3**	**+0.7**
	24nm,0.6s						
MAKZ	**Makanchi**	**3.81**	**151**	⇑Pg	**Pg**	**13 23 09.7**	**+0.4**
	2.8nm,0.7s						
MAKZ				⇑Lg	Lg	13 24 00.5	
	7.9nm,0.7s						
MK31	**Makanchi Array**	**3.93**	**148**	⇓Pn	**Pb**	**13 23 05.6**	**-0.8**
	0.2nm,0.1s,baz=14,slow=3.7,SNR=72						
MK31				⇑Pg	**Pg**	**13 23 12.1**	**+0.6**
	0.3nm,0.2s,baz=326,slow=13,SNR=18						
MK31				⇓Lg	Lg	13 24 05.6	
	12nm,0.8s,baz=329,slow=28,SNR=16						
MKAR	**Makanchi Array**	**3.93**	**148**	Pn	**Pb**	**13 23 05.5**	**-0.9**
	0.3nm,0.3s,baz=322,slow=10,SNR=105						
MKAR				Pg	**Pg**	**13 23 12.4**	**+0.9**
	0.6nm,0.3s,baz=323,slow=14,SNR=14						
MKAR				Sn	**Sb**	**13 23 54.4**	**-0.1**
	0.5nm,0.3s,baz=337,slow=19,SNR=7.5						
MKAR				Lg	Lg	13 24 08.5	
	1.5nm,0.3s,baz=334,slow=29,SNR=16						
I46RU	**ZALESOVO INFRA**	**5.12**	**40**	*i*		13 53 20.0	
	baz=225,slow=325,SNR=4.2						
ZALV	**Zalesovo Beam**	**5.12**	**40**	Pn	**Pb**	**13 23 25.8**	**-0.8**
	0.6nm,0.3s,baz=229,slow=15,SNR=12						
ZALV				Lg	Lg	13 24 55.5	
	0.3nm,0.3s,baz=229,slow=26,SNR=6.0						
BVAR	**Borovoye Array**	**6.22**	**301**	Sn	**Sn**	**13 24 40.4**	**-0.6**
	0.4nm,0.3s,baz=110,slow=25,SNR=5.5						
BVAR				Lg	Lg	13 25 11.4	
	0.2nm,0.3s,baz=117,slow=24,SNR=2.3						

*ISCJB **19** 13:22:00.7±0.6, 46.90N±0.09×151.9E±0.1, h106km, mb3.4/4, Error ellipse: s-maj=17.3km s-min=4.5km az=135.5*
*SKHL **19** 13:22:03.0±1.1, 47.01N×151.68E, h150km±9km, mb4.5/4, msh5.3/3*
*JMA **19** 13:22:06.0±0.4, 45.75N×152.04E, h167km, M3.4*
*IDC **19** 13:22:09.5±3.5, 47.36N×151.76E, h199km±42km, mb3.0/5, mb1 3.2/6, mb1mx2.9/58, mbtmp3.6/6, Error ellipse: s-maj=35.4km s-min=23.9km az=55.0*

ISC 19 13:22:01.2±0.9, 46.9N±0.1×151.8E±0.1, h106km, n30, σ2§59/31, mb3.4/4, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KUR	**Kuril'sk**	**3.19**	**240**	*eP*	**Pn**	**13 22 53.5**	**+3.9**
KUR				AMB	AMB	13 22 56.4	
	50nm,0.5s						
KUR				*eS*	**Sn**	**13 23 30.9**	**+3.9**
KUR				A	A	13 23 32.5	
	140nm,0.5s						
KUR				A	A	13 23 32.5	
	90nm,0.5s						
SHO	**Shikotan**	**4.62**	**231**	*eP*	**Pn**	**13 23 09.8**	**+1.0**
SHO				AMB	AMB	13 23 13.7	
	20nm,0.3s						
SKR	**Severo-Kuril's**	**4.75**	**35**	*eP*	**Pn**	**13 23 13.0**	**+2.5**
SKR				AMB	AMB	13 23 14.1	
	20nm,0.4s						
SKR				*eS*	**Sn**	**13 24 04.7**	**+0.3**
SKR				A	A	13 24 11.1	
	30nm,0.2s						
YUK	**Yuzh-Kuril'sk**	**5.05**	**238**	*eP*	**Pn**	**13 23 17.2**	**+2.6**
YUK				AMB	AMB	13 23 17.8	
	10.0nm,0.3s						
YUK				*eS*	**Sn**	**13 24 13.2**	**+1.4**
YUK				A	A	13 24 16.6	
	80nm,0.5s						
YUK				A	A	13 24 16.6	
	140nm,0.5s						
NEM2	**Nemuro 2**	**5.54**	**233**	P	**Pn**	**13 23 21.5**	**+0.2**
NEM2				*eS*	**Sn**	**13 24 20.2**	**-3.4**
PAU	**Pauzhetka**	**5.64**	**34**	*eP*	**Pn**	**13 23 23.2**	**+0.7**
PAU				*eS*	**Sn**	**13 24 24.3**	**-1.6**
JNK	**Nakash**	**5.99**	**239**	P	**Pn**	**13 23 29.3**	**+2.0**
YSS	**Yuzh-Sakhalins**	**6.19**	**274**	*eP*	**Pn**	**13 23 31.7**	**+1.7**
JTKR	**Abashiri--Toko**	**6.26**	**245**	P	**Pn**	**13 23 34.1**	**+3.0**
JAK	**Akkeshi**	**6.36**	**235**	P	**Pn**	**13 23 32.5**	**+0.1**
JAK				*eS*	**Sn**	**13 24 39.8**	**-3.7**
JAR	**Ashorobuto**	**6.72**	**241**	P	**Pn**	**13 23 39.3**	**+2.1**
JOB	**Onbets**	**6.91**	**238**	P	**Pn**	**13 23 40.6**	**+0.8**
ASAJ	**Asahikawa**	**7.03**	**250**	P	**Pn**	**13 23 45.8**	**+4.4**
JKK2	**Kamakawa 2**	**7.04**	**248**	P	**Pn**	**13 23 45.1**	**+3.5**
TYV	**Tymovskoe**	**7.21**	**307**	*eP*	**Pn**	**13 23 43.3**	**-0.5**
PETK	**Petropavlovsk-**	**7.29**	**29**	P	**Pn**	**13 23 48.2**	**+3.3**
	0.5nm,0.3s,baz=206,slow=12,SNR=7.8						
JCH	**Churui**	**7.36**	**238**	P	**Pn**	**13 23 46.1**	**+0.1**
JCH				*eS*	**Sn**	**13 25 03.4**	**-4.5**
JNB	**Noboribetsu**	**8.84**	**244**	*eS*	**Sn**	**13 25 41.0**	**-2.8**
JKB	**Kayabe**	**9.18**	**241**	P	**Pn**	**13 24 10.1**	**-0.5**
KSRS	**Korea Array**	**19.98**	**250**	P	**Pn**	**13 26 28.7**	**+1.0**
	1.1nm,0.5s,baz=47,slow=8.5,SNR=4.6						
H11N2	**WAKE ISLAND Hy**	**29.78**	**150**	T	T	13 59 27.8	
	baz=340,slow=76,SNR=27						
H11N1	**WAKE ISLAND Hy**	**29.80**	**150**	T	T	13 59 36.6	
	baz=340,slow=76,SNR=16						
H11N3	**WAKE ISLAND Hy**	**29.80**	**150**	T	T	13 59 38.4	
	baz=340,slow=76,SNR=20						
H11S1	**WAKE ISLAND Hy**	**30.85**	**152**	T	T	14 00 59.0	
	baz=340,slow=76,SNR=15						
H11S3	**WAKE ISLAND Hy**	**30.86**	**152**	T	T	14 00 52.8	
	baz=340,slow=76,SNR=15						
H11S2	**WAKE ISLAND Hy**	**30.87**	**152**	T	T	14 00 58.7	
	baz=340,slow=76,SNR=13						
MKAR	**Makanchi Array**	**46.06**	**297**	P	**P**	**13 30 11.5**	**-2.7**
	0.3nm,0.6s,baz=66,slow=6.0,SNR=3.8						
KURBB	**Kurchatov Arra**	**46.61**	**303**	P	**P**	**13 30 15.1**	**-3.3**
	0.2nm,0.4s,baz=71,slow=8.8,SNR=2.8						
WRA	**Warramunga Arr**	**68.36**	**198**	P	**P**	**13 32 51.1**	**0.0**
	0.4nm,0.5s,baz=13,slow=6.7,SNR=7.0						
ASAR	**Alice Springs**	**72.07**	**197**	P	**P**	**13 33 15.2**	**+1.5**
	0.8nm,0.7s,baz=11,slow=5.2,SNR=12						

IDC 19 13:32:45.6±2.4, 10.22S×119.50E, h0km, mb3.4/1, mb1 3.3/4, mb1mx3.1/34, mbtmp3.2/4, ML2.9/3, Error ellipse: s-maj=210.7km s-min=25.6km az=52.0, Sumba region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**9.84**	**143**	Pn	Pn	13 35 07.1	-1.4
	0.1nm,0.3s,baz=320,slow=12,SNR=4.7						
FITZ				Sn	Sn	13 36 50.2	-10
	0.1nm,0.3s,baz=211,slow=19,SNR=3.7						
WRA	**Warramunga Arr**	**17.27**	**126**	P	Pn	13 36 47.2	-1.2
	0.1nm,0.3s,baz=296,slow=13,SNR=2.8						
WRA				S	Sn	13 39 47.8	-14
	0.0nm,0.3s,baz=302,slow=24,SNR=3.2						
ASAR	**Alice Springs**	**19.18**	**136**	P	Pn	13 37 13.0	+1.1
	0.0nm,0.3s,baz=321,slow=13,SNR=3.7						
ASAR				S	Sn	13 40 34.9	-13
	0.0nm,0.3s,baz=319,slow=25,SNR=3.4						
MKAR	**Makanchi Array**	**65.76**	**333**	P	P	13 43 32.3	-0.1
	0.2nm,0.6s,baz=152,slow=5.3,SNR=3.0						

IDC 19 13:38:57.1±7.5, 6.75S×150.11E, h60km±60km, mb3.2/3, mb1 3.5/4, mb1mx3.2/24, mbtmp3.5/4, ML1.6/1, Error ellipse: s-maj=95.6km s-min=49.0km az=136.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**3.94**	**228**	P	Pn	13 39 56.6	+1.4
	2.9nm,0.3s,baz=0.3,slow=4.6,SNR=7.8						
PMG				S	Sn	13 40 39.9	-0.3
	1.3nm,0.3s,baz=279,slow=19,SNR=3.9						
WRA	**Warramunga Arr**	**20.16**	**228**	P	P	13 43 27.2	+0.4
	1.0nm,0.7s,baz=50,slow=10,SNR=9.8						
ASAR	**Alice Springs**	**22.93**	**221**	P	P	13 43 58.3	+1.9
	0.4nm,0.8s,baz=58,slow=9.1,SNR=16						
STKA	**Stephens Creek**	**26.24**	**197**	P	P	13 44 24.8	-1.9
	2.2nm,0.7s,baz=11,slow=10,SNR=4.3						

*ISCJB **19** 14:34:15.8±0.6, 37.32N±0.03×28.24E±0.04, h0km, Error ellipse: s-maj=5.2km s-min=4.6km az=41.8*
*CSEM **19** 14:34:16.3±0.2, 37.31N×28.22E, h2km, MD2.7, Error ellipse: s-maj=4.8km s-min=4.2km az=23.0, Suspected Mining explosion.*
*ISK **19** 14:34:16.0, 37.29N×28.21E, h9km, MD2.7*
*DDA **19** 14:34:17.3, 37.22N×28.17E, h7km, Md2.7, Suspected Mining explosion.*

ISC 19 14:34:17.0±0.9, 37.31N±0.03×28.20E±0.02, h0km, n24, σ1§41/39, Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TURN	**Turunc**	**0.54**	**143**	*i* P	**Pg**	**14 34 25.6**	**-1.7**
TURN				*i* S	**Sg**	**14 34 33.1**	**-1.1**
TURN	**Turunc**	**0.54**	**143**	P	**Pg**	**14 34 25.6**	**-1.7**
TURN				S	**Sg**	**14 34 33.2**	**-1.1**
DALY	**Dalyan (Mu¨la**	**0.61**	**143**	*e*PG	**Pg**	**14 34 27.8**	**-0.8**
DALY				*e*SG	**Sg**	**14 34 36.7**	**+0.2**
DALY	**Dalyan (Mu¨la**	**0.61**	**143**	*i* P	**Pg**	**14 34 27.9**	**-0.8**
DALY				*i* S	**Sg**	**14 34 37.0**	**+0.5**
DALY	**Dalyan (Mu¨la**	**0.61**	**143**	*e*Pg	**Pg**	**14 34 27.8**	**-0.8**
DALY				*e*Sg	**Sg**	**14 34 36.7**	**+0.2**
DALY				S	**Sg**	**14 34 37.0**	**+0.5**
BDRM	**Kayabasi**	**0.65**	**249**	*i* P	**Pg**	**14 34 29.3**	**-0.1**
BDRM				*i* S	**Sg**	**14 34 38.1**	**+0.2**
BDRM	**Kayabasi**	**0.65**	**249**	P	**Pg**	**14 34 29.3**	**-0.1**
BDRM				S	**Sg**	**14 34 38.1**	**+0.2**
AYDB	**Zeytinkoy-Aydi**	**0.69**	**339**	*e*PG	**Pg**	**14 34 30.0**	**-0.1**
AYDB	**Zeytinkoy-Aydi**	**0.69**	**339**	*e*Pg	**Pg**	**14 34 30.0**	**-0.1**
DAT	**Datca**	**0.76**	**221**	*e*PG	**Pg**	**14 34 31.1**	**-0.5**
DAT				*e*SG	**Sg**	**14 34 42.0**	**+0.5**
DAT	**Datca**	**0.76**	**221**	*i* P	**Pg**	**14 34 30.6**	**-1.0**
DAT				*i* S	**Sb**	**14 34 43.3**	**-0.9**
DAT	**Datca**	**0.76**	**221**	P	**Pg**	**14 34 30.6**	**-1.0**
DAT	**Datca**	**0.76**	**221**	*e*Pg	**Pg**	**14 34 31.1**	**-0.5**
DAT				*e*Sg	**Sg**	**14 34 42.0**	**+0.5**
DAT				S	**Sb**	**14 34 43.3**	**-0.9**
GCAM	**G?zelcaml?**	**0.86**	**297**	*i* P	**Pn**	**14 34 36.5**	**+0.1**
GCAM				*i* S	**Sn**	**14 34 49.5**	**-0.2**
NIS1	**Nisyros Isl.**	**1.08**	**230**	*e*PG	**Pg**	**14 34 37.1**	**-0.6**
NIS1	**Nisyros Isl.**	**1.08**	**230**	*e*Pg	**Pg**	**14 34 37.1**	**-0.6**
GOLH	**Golhisar**	**1.09**	**93**	*i* P	**Pn**	**14 34 41.3**	**+1.8**
GOLH				*i* S	**Sn**	**14 34 57.8**	**+2.4**
MANT	**Manisa**	**1.22**	**13**	*i* P	**Pg**	**14 34 34.1**	**-6.2**
MANT				*i* S	**Sg**	**14 34 52.6**	**-5.5**
KULA	**Kula-Manisa**	**1.26**	**17**	*e*PN	**Pg**	**14 34 41.1**	**-0.1**
KULA	**Kula-Manisa**	**1.26**	**17**	*e*Pn	**Pg**	**14 34 41.1**	**-0.1**
AKAS	**Kas**	**1.56**	**133**	*e*PN	**Pn**	**14 34 44.3**	**-1.7**
AKAS	**Kas**	**1.56**	**133**	*i* P	**Pg**	**14 34 46.1**	**-0.7**
AKAS				*i* S	**Sn**	**14 35 12.2**	**+5.2**
AKAS	**Kas**	**1.56**	**133**	*e*Pn	**Pn**	**14 34 44.3**	**-1.7**
AKAS	**Kas**	**1.56**	**133**	P	**Pg**	**14 34 46.1**	**-0.7**

MEX 19 14:37:41.7±0.5, 19.17N×98.60W, h1km±2km, MD3.7, Central Mexico

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PPM	**Popocatepetl**	**0.10**	**192**	*i* P	Pg	14 37 43.5	-0.3
PPM				*i* S	Sg	14 37 45.3	+0.1
PBVM	**Pinon**	**0.53**	**301**	*e*P	Pg	14 37 51.3	-0.5
PBVM				*e*S	Sg	14 37 59.5	+0.8
YAIG	**Yautepec**	**0.53**	**235**	*e*P	Pg	14 37 49.5	-2.4
YAIG				*i* S	Sg	14 37 56.6	-2.3
PTVM	**Pico Tres Padr**	**0.64**	**311**	*e*P	Pg	14 37 53.8	-0.2
PTVM				*i* S	Sg	14 38 02.5	+0.2
MAVM	**Malinalco, Edo**	**0.87**	**256**	*e*P	Pg	14 37 57.0	-1.4
MAVM				*e*S	Sg	14 38 09.1	-0.5
PLIG	**Platanillo**	**1.15**	**228**	*e*P	Pg	14 38 00.9	-2.8
PLIG				*e*S	Sg	14 38 15.6	-3.1
TPIG	**Tehuac#an**	**1.39**	**122**	*e*P	Pb	14 38 09.3	+0.7
TPIG				*e*S	Sb	14 38 27.2	+0.3
MEIG	**Mezcala**	**1.57**	**218**	*e*P	Pn	14 38 07.8	-3.0
MEIG				*e*S	Sn	14 38 27.3	-4.4
TLIG	**Tlapa**	**1.60**	**179**	*e*P	Pn	14 38 08.1	-3.1
TLIG				*i* S	Sn	14 38 27.4	-5.1
ARIG	**Puente Sto Nin**	**1.87**	**242**	*e*P	Pn	14 38 12.1	-2.8
ARIG				*i* S	Sn	14 38 34.8	-4.4
CAIG	**El Cayaco**	**2.64**	**217**	*e*P	Pn	14 38 22.1	-3.3
CAIG				*e*S	Sn	14 38 54.1	-3.9
PNIG	**Pinotepa**	**2.80**	**171**	*i* P	Pn	14 38 23.9	-3.7
PNIG				*i* S	Sn	14 38 58.2	-3.9

*JMA **19** 14:48:07.1±0.4, 21.92N×121.92E, h0km, M3.9*
*TAP **19** 14:48:08.8, 21.72N×121.60E, h28km, ML3.1, D*

ISC 19 14:48:05.6±1.8, 21.68N±0.08×121.74E±0.04, h13km±10km, n25, σ1§23/49, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LAY	**Lan-yu**	**0.40**	**334**	*i* P	**Pb**	**14 48 16.7**	**+2.2**
	baz=352						
LAY				*i* S	**Sb**	**14 48 22.7**	**+2.1**
	baz=352						
TSEB	**Hengchuen, Pin**	**0.81**	**286**	*e*P	**Pb**	**14 48 23.0**	**+1.4**
	baz=284						
TSEB				*e*S	**Sb**	**14 48 33.4**	**+1.0**
	baz=284						
TWK1	**Hengchun**	**0.91**	**287**	P	**Pg**	**14 48 24.0**	**+0.8**
	baz=286						
TWK1				S	**Sb**	**14 48 34.5**	**-0.7**
	baz=286						
HEN	**Hengchun**	**0.99**	**289**	*e*P	**Pg**	**14 48 24.5**	**-0.2**
	baz=289						
HEN				*e*S	**Sg**	**14 48 36.0**	**-1.6**
	baz=289						
TAW	**Tawu**	**1.03**	**311**	*e*P	**Pg**	**14 48 25.9**	**+0.4**
	baz=314						
TAW				*e*S	**Sg**	**14 48 38.0**	**-1.1**
	baz=314						
EAST	**Anshuo**	**1.08**	**310**	P	**Pg**	**14 48 26.5**	**0.0**
	baz=313						
EAST				S	**Sg**	**14 48 39.9**	**-0.8**
	baz=313						
ECL	**Taimali**	**1.17**	**321**	*e*P	**Pg**	**14 48 28.3**	**+0.2**
	baz=325					

JKRS				*e*S	**Sn**	**14 49 34.7**	**-1.2**
JIJ	**Ishigaki jima**	**3.47**	**39**	P	**Pn**	**14 48 59.6**	**+0.3**
JIJ				S	**Sn**	**14 49 38.0**	**-2.2**
JISG	**Ishigakijimahi**	**3.74**	**39**	P	**Pn**	**14 49 03.3**	**+0.3**
JTJ	**Tarama**	**4.01**	**42**	P	**Pn**	**14 49 07.4**	**+0.6**
JTJ				*e*S	**Sn**	**14 49 51.9**	**-1.7**

NIED ***19*** *14:49:00,39˚.40N×144˚.00E,h11km,Mw3.5 Best double couple: M₀2.23000×10¹⁴ NP1:φ₈178.00000°,δ38.00000°, λ74.00000°. NP2:φ₈17.00000°,δ54.00000°,λ102.00000°.*
ISCJB ***19*** *14:49:35.4±1.1,39˚.46N±0˚.04×144˚.03E±0˚.08,h11km, mb3.4/3,Error ellipse: s-maj=10.5km s-min=4.6km az=29.0*
JMA ***19*** *14:49:35.7±0.2,39˚.40N×144˚.05E,h18km±4km,M3.8*
IDC ***19*** *14:49:52.2±10.0,40˚.07N×141˚.41E,h0km,mb3.5/3, mb1 3.5/4,mb1mx3.2/45,mbtmp3.4/4,ML3.0/1,Error ellipse: s-maj=210.9km s-min=41.5km az=94.0*

ISC 19 14:49:36.6±1.6,39.42N±0.07×144.03E±0.09,h11km,n22, σ1§12/27,mb3.6/3,Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MIYJ	**Miyakonagasawa**	**1.71**	**276**	P	**Pn**	**14 50 05.6**	**-0.8**
MIYJ				S	**Sn**	**14 50 28.0**	**-0.3**
JTH	**Tanohata**	**1.75**	**288**	P	**Pn**	**14 50 05.9**	**-0.9**
OFUJ	**Ofunato**	**1.86**	**260**	P	**Pn**	**14 50 07.7**	**-0.7**
JOM	**Ohasama**	**2.12**	**272**	P	**Pn**	**14 50 11.6**	**-0.3**
JOM				*e*S	**Sn**	**14 50 37.6**	**-0.6**
JANG	**Nango**	**2.15**	**297**	P	**Pn**	**14 50 12.0**	**-0.4**
JMK	**Ichinoseki**	**2.23**	**259**	P	**Pn**	**14 50 13.2**	**-0.3**
JRG	**Rokugo**	**2.63**	**270**	P	**Pn**	**14 50 19.0**	**0.0**
JRG				*e*S	**Sn**	**14 50 49.0**	**-1.8**
JTM	**Tenmabayashi**	**2.65**	**302**	P	**Pn**	**14 50 19.6**	**+0.4**
JTM				*e*S	**Sn**	**14 50 50.4**	**-0.9**
JAH	**Hinai**	**2.72**	**287**	P	**Pn**	**14 50 20.4**	**+0.2**
JOU	**Okura**	**2.83**	**249**	P	**Pn**	**14 50 21.5**	**-0.2**
JYK	**Kaneyama**	**2.90**	**261**	P	**Pn**	**14 50 22.6**	**0.0**
JNBK	**Urakawa-nobuka**	**3.01**	**342**	*e*S	**Sn**	**14 51 00.8**	**+0.5**
JCH	**Churui**	**3.23**	**351**	S	**Sn**	**14 51 05.7**	**+0.1**
JFT	**Otama**	**3.46**	**238**	P	**Pn**	**14 50 30.3**	**-0.2**
JFT				*e*S	**Sn**	**14 51 09.4**	**-2.1**
JAK	**Akkeshi**	**3.61**	**8**	*e*S	**Sn**	**14 51 13.4**	**-1.5**
JAR	**Ashorobuto**	**3.88**	**357**	*e*S	**Sn**	**14 51 20.2**	**-1.4**
JFR	**Furan**	**3.89**	**344**	*e*S	**Sn**	**14 51 22.7**	**+0.7**
NEM2	**Nemuro 2**	**4.14**	**18**	*e*S	**Sn**	**14 51 25.5**	**-2.7**
MJAR	**Matsushiro Arr**	**5.42**	**240**	Pn	**Pn**	**14 50 59.2**	**+1.8**
	0.8nm,0.3s,baz=34,slow=14,SNR=7.8						
ZALV	**Zalesovo Beam**	**41.88**	**310**	P	**P**	**14 57 27.4**	**+0.8**
	0.4nm,0.3s,baz=80,slow=6.0,SNR=2.2						
MKAR	**Makanchi Array**	**44.64**	**301**	P	**P**	**14 57 49.7**	**+0.7**
	0.3nm,0.7s,baz=78,slow=9.7,SNR=2.2						
KURBB	**Kurchatov Arra**	**46.20**	**307**	P	**P**	**14 58 02.6**	**+1.3**
	0.4nm,0.6s,baz=83,slow=8.5,SNR=3.2						

IDC 19 15:03:43.3±4.9,2.77S×139.40E,h0km,mb3.7/2, mb1 3.8/3,mb1mx3.3/29,mbtmp3.6/3,ML3.3/1,Error ellipse: s-maj=91.7km s-min=15.0km az=149.0,Near north coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAY	**Jayapura**	**1.33**	**79**	Pg	Pg	15 04 08.3	-0.5
	0.2nm,0.3s,baz=202,slow=23,SNR=16						
JAY				Lg	Lg	15 04 26.1	
	0.8nm,0.3s,baz=109,slow=23,SNR=14						
WRA	**Warramunga Arr**	**17.77**	**196**	P	Pn	15 07 51.9	-0.3
	0.1nm,0.3s,baz=18,slow=13,SNR=5.3						
ASAR	**Alice Springs**	**21.44**	**194**	P	P	15 08 33.5	+0.2
	0.3nm,0.4s,baz=20,slow=9.7,SNR=9.7						
STKA	**Stephens Creek**	**29.03**	**176**	P	P	15 09 45.1	-0.1
	5.7nm,1.2s,baz=18,slow=13,SNR=2.4						

NIED ***19*** *15:04:00,38˚.60N×144˚.50E,h5km,Mw3.4 Best double couple: M₀1.54000×10¹⁴ NP1:φ₈13.00000°,δ42.00000°, λ-96.00000°. NP2:φ₈201.00000°,δ48.00000°, λ-84.00000°.*

JMA 19 15:04:03.7±0.1,38.59N×144.54E,h23km,M3.7,Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OFUJ	**Ofunato**	**2.29**	**283**	P	Pn	15 04 41.2	+1.1
OFUJ				S	Sn	15 05 09.5	+1.8
MIYJ	**Miyakonagasawa**	**2.33**	**296**	P	Pn	15 04 41.6	+0.9
MIYJ				S	Sn	15 05 09.6	+0.9
JMK	**Ichinoseki**	**2.62**	**279**	P	Pn	15 04 46.1	+1.5
JMK				S	Sn	15 05 17.8	+2.1
JOM	**Ohasama**	**2.68**	**290**	P	Pn	15 04 46.9	+1.5
JOM				S	Sn	15 05 19.1	+2.0
JOU	**Okura**	**3.05**	**267**	P	Pn	15 04 52.0	+1.5
JOU				S	Sn	15 05 27.6	+1.3
JRG	**Rokugo**	**3.15**	**286**	P	Pn	15 04 54.0	+2.1
JRG				*e*S	Sn	15 05 31.5	+2.8
JYK	**Kaneyama**	**3.29**	**277**	P	Pn	15 04 55.8	+2.1
JYK				*e*S	Sn	15 05 34.9	+2.8
JAH	**Hinai**	**3.42**	**299**	*e*S	Sn	15 05 37.7	+2.3
JTM	**Tenmabayashi**	**3.46**	**310**	S	Sn	15 05 37.3	+0.9
JFT	**Otama**	**3.49**	**253**	P	Pn	15 04 58.1	+1.6
JFT				*e*S	Sn	15 05 38.0	+0.9
JCH	**Churui**	**4.12**	**348**	P	Pn	15 05 04.7	-0.5
NEM2	**Nemuro 2**	**4.86**	**10**	P	Pn	15 05 12.3	-3.0
NEM2				S	Sn	15 06 04.1	-6.7
JRY	**Ryogami san**	**5.18**	**242**	P	Pn	15 05 20.1	+0.3
JRY				S	Sn	15 06 17.2	-1.6
JOSM	**Okushiri--Mats**	**5.21**	**314**	P	Pn	15 05 22.4	+2.2
MAT	**Matsushiro**	**5.43**	**250**	P	Pn	15 05 25.3	+2.1
MAT				*e*S	Sn	15 06 28.6	+3.6

DDA ***19*** *15:08:00.5,37˚.68N×37˚.54E,h7km,Md2.7*
CSEM ***19*** *15:08:09.4,37˚.54N×36˚.94E,h18km,MD2.3*
ISK ***19*** *15:08:09.4,37˚.54N×36˚.94E,h18km,MD2.3*

ISC 19 15:08:09.4±1.6,37.51N±0˚.06×37.01E±0.10,h18km±5km, n10,σ1§22/12,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMRS	**Kahramanmaras**	**0.09**	**268**	*e*Pg	**Pg**	**15 08 13.4**	**+0.3**
KMRS	**Kahramanmaras**	**0.09**	**268**	*e*Pg	**Pg**	**15 08 13.4**	**+0.3**
HCB	**Kahramanmara¯**	**0.18**	**207**	*i* P	Pb	15 08 06.5	-7.2
KAMA	**Osmaniye**	**0.42**	**221**	*i* P	**Pg**	**15 08 16.8**	**-1.4**
KAMA				*i* S	**Sn**	**15 08 29.5**	**+1.5**
ANDN	**Andirin**	**0.54**	**278**	*i* P	**Pg**	**15 08 19.3**	**-0.9**
ANDN				*i* S	**Sn**	**15 08 33.1**	**+2.3**
KOZT	**Kozan**	**0.94**	**269**	*e*PG	**Pb**	**15 08 26.7**	**-0.5**
KOZT	**Kozan**	**0.94**	**269**	*e*Pg	**Pb**	**15 08 26.7**	**-0.5**
SARI	**SarD1z-Kayseri**	**1.01**	**333**	*e*PG	**Pb**	**15 08 27.6**	**-0.9**
SARI				*e*SG	**Sn**	**15 08 42.7**	**0.0**
DARE	**Darende-Malaty**	**1.12**	**19**	*e*PN	**Pn**	**15 08 30.7**	**+0.3**
DARE	**Darende-Malaty**	**1.12**	**19**	*e*Pn	**Pn**	**15 08 30.7**	**+0.3**

NIED ***19*** *15:12:00,38˚.50N×144˚.60E,h5km,Mw3.6 Best double couple: M₀2.77000×10¹⁴ NP1:φ₈34.00000°,δ33.00000°, λ-78.00000°. NP2:φ₈200.00000°,δ58.00000°, λ-97.00000°.*
IDC ***19*** *15:12:38.0±1.3,38˚.38N×144˚.85E,h0km,mb3.4/4, mb1 3.7/8,mb1mx3.4/38,mbtmp3.6/8,ML3.3/4,Error ellipse: s-maj=29.5km s-min=22.4km az=101.0*
ISCJB ***19*** *15:12:40.2±0.7,38˚.57N±0˚.04×144˚.72E±0˚.05,h29km, mb3.4/4,Error ellipse: s-maj=6.5km s-min=4.9km az=44.3*
JMA ***19*** *15:12:42.7±0.2,38˚.52N×144˚.55E,h39km,M3.9*

ISC 19 15:12:42.1±1.1,38.59N±0˚.06×144.74E±0˚.08,h29km,n27, σ1§78/39,mb3.4/4,Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OFUJ	**Ofunato**	**2.45**	**282**	P	**Pn**	**15 13 19.7**	**-0.4**
OFUJ				S	**Sn**	**15 13 47.4**	**-1.6**
MIYJ	**Miyakonagasawa**	**2.48**	**294**	P	**Pn**	**15 13 20.0**	**-0.5**
MIYJ				*e*S	**Sn**	**15 13 47.9**	**-1.8**
JMK	**Ichinoseki**	**2.77**	**279**	P	**Pn**	**15 13 24.5**	**-0.1**
JMK				S	**Sn**	**15 13 56.3**	**-0.8**
JOM	**Ohasama**	**2.83**	**289**	P	**Pn**	**15 13 25.4**	**+0.1**
JOM				S	**Sn**	**15 13 57.5**	**-0.9**
JOU	**Okura**	**3.21**	**267**	P	**Pn**	**15 13 30.5**	**0.0**
JOU				S	**Sn**	**15 14 06.1**	**-1.7**
JRG	**Rokugo**	**3.30**	**285**	P	**Pn**	**15 13 32.5**	**+0.7**
JRG				*e*S	**Sn**	**15 14 09.8**	**-0.2**
JYK	**Kaneyama**	**3.44**	**277**	P	**Pn**	**15 13 34.3**	**+0.6**
JYK				S	**Sn**	**15 14 13.3**	**-0.2**
JTM	**Tenmabayashi**	**3.58**	**309**	S	**Sn**	**15 14 15.7**	**-1.3**
JFT	**Otama**	**3.64**	**254**	P	**Pn**	**15 13 36.5**	**0.0**
JFT				*e*S	**Sn**	**15 14 16.8**	**-1.6**
JCH	**Churui**	**4.15**	**346**	P	**Pn**	**15 13 43.0**	**-0.5**
JCH				S	**Sn**	**15 14 29.2**	**-1.9**
JKB	**Kayabe**	**4.35**	**320**	P	**Pn**	**15 13 47.7**	**+1.5**
NEM2	**Nemuro 2**	**4.83**	**9**	P	**Pn**	**15 13 50.5**	**-2.3**
NEM2				S	**Sn**	**15 14 42.1**	**-5.6**
JRY	**Ryogami san**	**5.32**	**243**	P	**Pn**	**15 13 58.6**	**-0.9**
JRY				S	**Sn**	**15 14 56.1**	**-3.7**
JOSM	**Okushiri--Mats**	**5.32**	**313**	P	**Pn**	**15 14 01.1**	**+1.5**
JTKR	**Abashiri--Toko**	**5.41**	**354**	P	**Pn**	**15 14 00.3**	**-0.5**
JTKR				S	**Sn**	**15 14 58.9**	**-3.2**
MJAR	**Matsushiro Arr**	**5.58**	**250**	Pn	**Pn**	**15 14 03.1**	**-0.1**
	1.5nm,0.3s,baz=55,slow=10,SNR=20						
MJAR				Sn	**Sn**	**15 15 07.0**	**+0.8**
	0.8nm,0.3s,baz=242,slow=26,SNR=4.2						
MAT	**Matsushiro**	**5.58**	**251**	P	**Pn**	**15 14 03.4**	**+0.3**
MAT				*e*S	**Sn**	**15 15 07.0**	**+0.7**
ASAJ	**Asahikawa**	**5.75**	**344**	Pn	**Pn**	**15 14 06.7**	**+1.2**
	0.9nm,0.3s,baz=90,slow=7.7,SNR=2.7						
ASAJ				Sn	**Sn**	**15 15 12.6**	**+2.1**
	3.5nm,0.3s,baz=270,slow=20,SNR=2.2						
JHJ	**Hachijo jima 2**	**6.78**	**218**	Pn	**Pn**	**15 14 17.4**	**-2.2**
	4.9nm,0.3s,baz=131,slow=19,SNR=2.9						
USRK	**Ussuriysk Ar.**	**11.09**	**304**	Pn	**Pn**	**15 15 21.6**	**+2.9**
	0.3nm,0.3s,baz=103,slow=16,SNR=4.1						
H11N2	**WAKE ISLAND Hy**	**26.85**	**128**	T	T	15 46 18.7	
	baz=320,slow=76,SNR=5.7						
H11N1	**WAKE ISLAND Hy**	**26.86**	**128**	T	T	15 46 18.3	
	baz=320,slow=76,SNR=6.4						
H11N3	**WAKE ISLAND Hy**	**26.87**	**128**	T	T	15 46 17.1	
	baz=320,slow=76,SNR=5.8						
MKAR	**Makanchi Array**	**45.54**	**301**	P	**P**	**15 21 00.4**	**+1.3**
	0.4nm,0.8s,baz=82,slow=8.3,SNR=4.4						
ILAR	**Eielson Array**	**46.76**	**33**	P	**P**	**15 21 10.1**	**+1.7**
	0.2nm,0.8s,baz=272,slow=6.9,SNR=2.8						
WRA	**Warramunga Arr**	**59.03**	**191**	P	**P**	**15 22 37.7**	**-1.7**
	0.6nm,0.6s,baz=8.8,slow=7.1,SNR=4.4						
ASAR	**Alice Springs**	**62.76**	**191**	P	**P**	**15 23 04.1**	**-0.5**
	0.4nm,1.0s,baz=12,slow=7.0,SNR=4.0						

IDC 19 15:12:45.5±2.4,6.45S×130.30E,h0km,mb3.5/1, mb1 3.4/4,mb1mx3.2/31,mbtmp3.3/4,ML3.2/3,Error ellipse: s-maj=92.1km s-min=29.8km az=78.0,Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**12.44**	**201**	Pn	Pn	15 15 43.0	-1.0
	0.1nm,0.3s,baz=22,slow=12,SNR=13						
FITZ				Sn	Sn	15 17 46.8	-17
	0.3nm,0.3s,baz=298,slow=21,SNR=7.8						
WRA	**Warramunga Arr**	**13.97**	**164**	Pn	Pn	15 16 05.2	+0.3
	0.1nm,0.3s,baz=349,slow=13,SNR=5.6						
WRA				Sn	Sn	15 18 26.7	-14
	0.3nm,0.3s,baz=338,slow=22,SNR=6.8						
ASAR	**Alice Springs**	**17.46**	**169**	P	Pn	15 16 51.3	+0.6
	0.0nm,0.3s,baz=343,slow=8.2,SNR=5.6						
MKAR	**Makanchi Array**	**67.93**	**327**	P	P	15 23 46.3	0.0
	0.2nm,0.4s,baz=117,slow=8.1,SNR=4.0						

MAN 19 15:21:59,15.08N×119.08E,h33km,mb4.4,ML3.2,MS3.0, 1D,Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SCZP	**Santa Cruz**	**1.06**	**49**	*e*P	Pn	15 22 17.4	-0.2
SCZP				*e*S	Sn	15 22 30.4	-0.8
BOLP	**Bolinao**	**1.52**	**32**	*e*P	Pn	15 22 24.6	+0.6
BOLP				*e*S	Sn	15 22 43.2	+0.5
LUBP	**Lubang**	**1.75**	**140**	*e*P	Pn	15 22 27.9	+0.8
LUBP				*e*S	Sn	15 22 47.1	-1.2
PCPH	**Palayan**	**2.01**	**76**	*e*P	Pn	15 22 32.3	+1.7
PCPH				*e*S	Sn	15 22 55.0	+0.4
CAUP	**Cauayan**	**3.23**	**55**	*e*P	Pn	15 22 51.2	+3.8
CAUP				*e*S	Sn	15 23 28.6	+4.0
BUSP	**Coron**	**3.25**	**160**	*e*P	Pn	15 22 50.0	+2.3
ENPP	**El Nido**	**3.87**	**175**	*e*P	Pn	15 22 56.7	+0.5
ENPP				*e*S	Sn	15 23 34.4	-6.1

ISCJB ***19*** *15:47:11.2±0.6,50˚.35N±0˚.04×18˚.83E±0˚.03,h0km,Error ellipse: s-maj=5.9km s-min=2.7km az=15.5*
CSEM ***19*** *15:47:11.5±0.4,50˚.39N×18˚.86E,h2km,ML2.8/5,Error ellipse: s-maj=8.3km s-min=3.4km az=13.0*
WAR ***19*** *15:47:12.9,50˚.36N×18˚.93E,h1km,Mw2.6*
PRU ***19*** *15:47:13.0,50˚.38N×18˚.84E,h0km*
IDC ***19*** *15:47:13.2±2.7,50˚.30N×18˚.88E,h0km,mb1 3.5/4, mb1mx3.2/43,mbtmp3.3/4,ML2.9/4,Error ellipse: s-maj=49.4km s-min=12.8km az=136.0*

ISC 19 15:47:11.8±0.7,50.33N±0.04×18.85E±0.02,h0km,n37, σ1§16/63,Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OJC	**Ojcow**	**0.61**	**100**	*e*Pg	**Pg**	**15 47 23.8**	**+0.2**
OJC				*e*Sg	**Sg**	**15 47 32.4**	**+0.8**
OJC	**Ojcow**	**0.61**	**100**	*e*Pg	**Pg**	**15 47 23.8**	**+0.2**
OJC				*e*Sg	**Sg**	**15 47 32.4**	**+0.8**
OJC	**Ojcow**	**0.61**	**100**	*e*Pg	**Pg**	**15 47 23.8**	**+0.2**
OJC				*e*Sg	**Sg**	**15 47 32.4**	**+0.8**
OKC	**Ostrava-Krasne**	**0.67**	**223**	*e*PG	**Pb**	**15 47 26.7**	**+0.4**
OKC				*e*SG	**Sb**	**15 47 36.8**	**+0.7**
	comp=Z,20nm,0.3s						
OKC	**Ostrava-Krasne**	**0.67**	**223**	Pg	**Pb**	**15 47 26.7**	**+0.4**
OKC				Sg	**Sb**	**15 47 36.8**	**+0.7**
	20nm,0.3s						
MORC	**Moravsky Berou**	**1.01**	**237**	*e*Pg	**Pb**	**15 47 32.2**	**0.0**
MORC				*e*Sg	**Sb**	**15 47 46.5**	**+0.5**
LANS	**Liptovska Anna**	**1.24**	**161**	*e*Pg	**Pb**	**15 47 36.6**	**+0.4**
LANS				*e*Sg	**Sb**	**15 47 53.3**	**+0.6**
LANS	**Liptovska Anna**	**1.24**	**161**	*e*PG	**Pb**	**15 47 36.6**	**+0.4**
LANS				*e*SG	**Sb**	**15 47 53.3**	**+0.6**
NIE	**Niedzica**	**1.30**	**134**	*e*Pg	**Pb**	**15 47 37.5**	**+0.3**
NIE				*e*Sg	**Sn**	**15 47 56.1**	**+0.6**
NIE	**Niedzica**	**1.30**	**134**	*e*Pg	**Pb**	**15 47 37.5**	**+0.3**
NIE				*e*Sg	**Sn**	**15 47 56.1**	**+0.6**
KRLC	**Kraliky**	**1.35**	**260**	*e*PG	**Pg**	**15 47 37.6**	**-0.2**
KRLC				*e*SG	**Sg**	**15 47 55.9**	**+0.6**
KRLC	**Kraliky**	**1.35**	**260**	Pg	**Pg**	**15 47 37.6**	**-0.2**
KRLC				Sg	**Sg**	**15 47 55.9**	**+0.6**
DPC	**Dobruska-Polom**	**1.62**	**272**	*i* PG	**Pn**	**15 47 42.3**	**+0.6**
DPC				*e*SG	**Sg**	**15 48 04.9**	**+1.0**
	comp=Z,11nm,0.4s						
DPC	**Dobruska-Polom**	**1.62**	**272**	Pg	**Pn**	**15 47 42.3**	**+0.6**
DPC				Sg	**Sg**	**15 48 04.9**	**+1.0**
	11nm,0.4s						
KSP	**Ksiaz**	**1.71**	**289**	*e*Pg	**Pb**	**15 47 44.5**	**+0.3**
KSP				*e*Sg	**Sg**	**15 48 08.5**	**+1.7**
KSP	**Ksiaz**	**1.71**	**289**	*e*Pg	**Pb**	**15 47 44.5**	**+0.3**
KSP				*e*Sg	**Sg**	**15 48 08.5**	**+1.7**
KSP	**Ksiaz**	**1.71**	**289**	*e*Pg	**Pb**	**15 47 44.5**	**+0.3**
KSP				*e*Sg	**Sg**	**15 48 08.5**	**+1.7**
VRAC	**Vranov**	**1.78**	**236**	*e*Pn	**Pn**	**15 47 44.6**	**+0.7**
VRAC				*e*Sg	**Sg**	**15 48 10.2**	**+1.1**
STHS	**Stebnicka Huta**	**1.79**	**120**	*e*Pg	**Pb**	**15 47 46.0**	**+0.4**
STHS	**Stebnicka Huta**	**1.79**	**120**	*e*PG	**Pb**	**15 47 46.0**	**+0.4**
STHS				eLG	Lg	15 48 24.9	
UPC	**Upice**	**1.83**	**277**	*e*SG	**Sg**	**15 48 12.5**	**+2.0**
	comp=Z,6.9nm,0.5s						
UPC	**Upice**	**1.83**	**277**	Sg	**Sg**	**15 48 12.5**	**+2.0**
	6.9nm,0.5s						
VYHS	**Vyhne**	**1.83**	**180**	*e*Pn	Pn	**15 47 44.7**	**+0.1**
VYHS				*e*Sn	**Sn**	**15 48 07.9**	**-0.6**
VYHS	**Vyhne**	**1.83**	**180**	*e*PN	**Pn**	**15 47 44.7**	**+0.1**
VYHS				*e*SN	**Sn**	**15 48 07.9**	**-0.6**
VYHS				eLG	Lg	15 48 13.6	
TREC	**Trest**	**2.41**	**246**	*e*SG	**Sg**	**15 48 28.8**	**-0.5**
	comp=Z,7.0nm,0.3s						
TREC	**Trest**	**2.41**	**246**	Sg	**Sg**	**15 48 28.8**	**-0.5**
	7.0nm,0.3s						
GOPC	**GO Pecny, Ondr**	**2.65**	**263**	*e*PN	**Pn**	**15 47 55.7**	**-0.1**
GOPC				*e*PG	**Pb**	**15 48 00.5**	**+0.4**
GOPC				*e*SG	**Sg**	**15 48 35.7**	**-1.2**
GOPC	**GO Pecny, Ondr**	**2.65**	**263**	Pn	**Pn**	**15 47 55.7**	**-0.1**
PRU	**Pruhonice**	**2.79**	**265**	*e*SG	**Sg**	**15 48 41.0**	**-0.5**
PRU	**Pruhonice**	**2.79**	**265**	Sg	**Sg**	**15 48 41.0**	**-0.5**
KHC	**Kasperske Hory**	**3.63**	**253**	*e*PN	**Pn**	**15 48 10.2**	**+1.0**
KHC				*e*PG	**Pg**	**15 48 20.2**	**-1.1**
KHC				*e*SG	**Sg**	**15 49 06.6**	**-1.6**
	comp=Z,4.9nm,0.4s						
KHC	**Kasperske Hory**	**3.63**	**253**	Pn	**Pn**	**15 48 10.2**	**+1.0**
KHC	**Kasperske Hory**	**3.63**	**253**	Pg	**Pg**	**15 48 20.2**	**-1.1**
KHC				Sg	**Sg**	**15 49 06.6**	**-1.6**
	4.9nm,0.4s						
GERES	**GERESS Array B**	**3.67**	**248**	Pn	**Pn**	**15 48 10.4**	**+0.6**
	0.3nm,0.3s,baz=65,slow=14,SNR=4.8						
GERES				Pg	**Pb**	**15 48 20.0**	**+2.5**
	0.8nm,0.3s,baz=64,slow=16,SNR=13						
GERES				Lg	Lg	15 49 08.9	
	1.3nm,0.3s,baz=64,slow=29,SNR=8.3						
FINES	**FINESS Array B**	**11.85**	**17**	Pn	**Pn**	**15 49 58.3**	**-3.6**
	0.1nm,0.3s,baz=202,slow=13,SNR=4.2						
EKA	**Eskdalemuir Ar**	**14.19**	**299**	Pn	**Pn**	**15 50 37.0**	**+3.1**
	baz=105,slow=16,SNR=2.2						
ARCES	**ARCESS Array B**	**19.53**	**7**	Pn	**P**	**15 51 37.3**	**-3.2**
	0.0nm,0.3s,baz=200,slow=10,SNR=2.7						

RSNC 19 15:47:46.6±1.5,4.29N×76.31W,h120km±12km,ML3.5,2C, Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TOLC	**Tolima**	**1.03**	**73**	*e*P	Pn	15 48 08.6	-0.7
MALC	**Bahia Malaga**	**1.06**	**255**	*e*P	Pn	15 48 10.1	+0.9
MALC				*e*S	Sn	15 48 25.9	-0.5
MALC				*i*		15 48 33.4	
	comp=Z,353nm,0.4s						
GUYC	**Guyana, Colomb**	**1.30**	**45**	*e*P	Pn	15 48 12.1	-0.2
GUYC				*i*		15 48 14.4	
	comp=Z,442nm,0.6s						
GUYC				*e*S	Sn	15 48 32.0	+0.2
PRAC	**Prado**	**1.53**	**112**	*i* P	Pn	15 48 14.2	-0.2
BETC	**Betania**	**1.82**	**152**	*i* P	Pn	15 48 17.3	-0.6
BETC				*e*S	Sn	15 48 40.1	-1.3
NORC	**Norcasia**	**1.91**	**49**	*e*P	Pn	15 48 18.2	-0.9
HELC	**Santa Helena**	**2.04**	**22**	*e*P	Pn	15 48 20.2	-0.8
HELC				*e*S	Sn	15 48 46.0	-1.2
HELC				*i*		15 48 49.8	
	comp=Z,164nm,0.4s						
SOLC	**Bahia Solano**	**2.21**	**330**	*e*P	Pn	15 48 22.2	-0.6
GRGC	**Isla de Gorgon**	**2.25**	**235**	*e*P	Pn	15 48 20.9	-2.4
CHIC	**Chingaza**	**2.59**	**82**	*e*P	Pn	15 48 28.5	+0.5
CHIC				*i*		15 49 06.6	
	comp=Z,127nm,0.7s						
VILC	**Villavicencio,**	**2.61**	**94**	*e*P	Pn	15 48 28.4	+0.4
VILC				*i*		15 49 05.0	
	comp=Z,311nm,0.5s						
ZARC	**Zaragoza, Cauc**	**3.49**	**24**	*e*P	Pn	15 48 38.1	-1.3
ZARC				*i*		15 48 40.5	
	comp=Z,132nm,0.2s						
BARC	**Barichara**	**3.86**	**54**	*e*P	Pn	15 48 43.4	-1.1

ISCJB ***19*** *15:57:24.0±0.6,38˚.91N±0˚.03×40˚.68E±0˚.04,h0km±7km, Error ellipse: s-maj=5.5km s-min=4.9km az=36.2*
ISK ***19*** *15:57:23.9,38˚.91N×40˚.70E,h5km,MD2.7*
CSEM ***19*** *15:57:23.9±0.2,38˚.94N×40˚.67E,h2km,MD2.7,Error ellipse: s-maj=5.1km s-min=3.7km az=1.0*
DDA ***19*** *15:57:24.1,38˚.90N×40˚.69E,h7km,Md2.8*

ISC 19 15:57:23.8±0.9,38.91N±0˚.03×40.68E±0.03,h5km±8km, n21,σ0§66/32,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BNGB	**Bing¯¶**	**0.09**	**0**	*e*PG	**Pg**	**15 57 26.0**	**+0.2**
BNGB				*e*SG	**Sg**	**15 57 28.3**	**+1.1**
BINT	**Bingol**	**0.15**	**259**	*e*Pg	**Pg**	**15 57 26.0**	**-0.9**
BINT				*e*Sg	**Sg**	**15 57 28.3**	**-0.7**
BNGL	**BINGOL**	**0.37**	**83**	*i* P	**Pg**	**15 57 31.1**	**+0.1**
SVAN	**Silvan-Diyarba**	**0.86**	**151**	*e*PG	**Pb**	**15 57 40.8**	**-0.3**
SVAN				*e*SG	**Sb**	**15 57 52.9**	**0.0**
SVAN	**Silvan-Diyarba**	**0.86**	**151**	*e*Pg	**Pb**	**15 57 40.8**	**-0.3**
SVAN				*e*Sg	**Sb**	**15 57 52.9**	**0.0**
TNCL	**Tunceli-Merkez**	**0.91**	**284**	*i* P	**Pg**	**15 57 41.8**	**+0.5**
TNCL	**Tunceli-Merkez**	**0.91**	**284**	P	**Pg**	**15 57 41.8**	**+0.5**
PTK	**Pertek**	**1.00**	**270**	*e*PG	**Pb**	**15 57 43.5**	**-0.2**
PTK				*e*SG	**Sn

KRER	Koryakskii	4.39	250	*e*P		Pn	16 05 14.3	+0.3
UGLR	Uglovaya	4.40	249	P	N	Pn	16 05 14.0	+0.1
UGLR	Uglovaya	4.40	249	*e*P		Pn	16 05 14.0	+0.1
AVH	Avacha	4.42	250	P	N	Pn	16 05 14.6	+0.4
AVH	Avacha	4.42	250	*e*P		Pn	16 05 14.6	+0.4
KRX	Arik	4.43	251	P	N	Pn	16 05 14.6	+0.2
KRX	Arik	4.43	251	*e*P		Pn	16 05 14.6	+0.2
KOK	Koryaka	4.46	250	P	N	Pn	16 05 15.6	+0.8
KOK	Koryaka	4.46	250	*e*P		Pn	16 05 15.6	+0.8
DALK	Dalny	4.52	247	P	N	Pn	16 05 15.1	-0.4
DALK	Dalny	4.52	247	*e*P		Pn	16 05 15.1	-0.4
DALK				*e*S		Sn	16 06 03.9	-3.4
PET	Petropavlovsk	4.57	247	*e*PN		Pn	16 05 16.2	0.0
PET					pmax	pmax		
	comp=Z,34nm,0.5s							
PET	Petropavlovsk	4.57	247	*e*P		Pn	16 05 16.7	+0.5
PET				*e*S		Sn	16 06 05.4	-3.3
GNL	Ganaly	4.69	257	P	N	Pn	16 05 19.0	+1.0
GNL	Ganaly	4.69	257	*e*P		Pn	16 05 19.0	+1.0
KRMR	Karymshinskiy	4.95	247	P	N	Pn	16 05 21.3	0.0
KRMR	Karymshinskiy	4.95	247	*e*P		Pn	16 05 21.3	0.0
KRMR				*e*S		Sn	16 06 15.3	-2.6
RUS	Russkaya	4.95	242	P	N	Pn	16 05 20.9	-0.6
RUS	Russkaya	4.95	242	*e*P		Pn	16 05 20.9	-0.6
PETK	Petropavlovsk-	5.05	251	Pn		Pn	16 05 23.6	+0.8
	comp=Z,11nm,0.3s,baz=69,slow=16,SNR=166							
PETK				Sn		Sn	16 06 22.1	+1.6
	comp=Z,0.4nm,0.3s,baz=89,slow=33,SNR=2.3							
ASAK	Asacha	5.29	244	PN		Pn	16 05 26.8	+0.6
ASAK	Asacha	5.29	244	*e*P		Pn	16 05 26.8	+0.6
APC	Apacha	5.42	251	PN		Pn	16 05 29.2	+1.3
APC	Apacha	5.42	251	*e*P		Pn	16 05 29.2	+1.3
SKR	Severo-Kuril's	7.21	237	*e*PN		Pn	16 05 51.5	-0.9
MA2	Magadan	9.27	306	*e*PN		Pn	16 06 26.1	+5.5
YUK	Yuzh-Kuril'sk	16.83	238	⇑*i*P		Pn	16 08 01.3	-1.2
KLR	Kul'dur	21.45	269	⇑*i*P		P	16 08 55.6	+0.6
TIXI	Tiksi	22.87	331	*i* P		P	16 09 13.7	+3.7
TIXI					pmax	pmax		
	comp=Z,1.0nm,1.0s							
COLA	College	24.71	48	*i* P		P	16 09 29.6	+1.9
ILAR	Eielson Array	25.13	48	P		P	16 09 31.4	-0.1
	comp=Z,0.9nm,0.7s,baz=256,slow=8.9,SNR=9.7							
H11N2	WAKE ISLAND Hy	35.22	178	T		T	16 48 36.3	
	baz=359,slow=76,SNR=495							
H11N3	WAKE ISLAND Hy	35.23	178	T		T	16 48 39.6	
	baz=359,slow=76,SNR=472							
H11N1	WAKE ISLAND Hy	35.23	178	T		T	16 48 33.8	
	baz=359,slow=76,SNR=481							
SONM	Songino Array	36.64	284	P		P	16 11 14.8	+1.6
	comp=Z,0.6nm,0.6s,baz=46,slow=8.5,SNR=4.2							
SONM	Songino Array	36.64	284	*e*P		P	16 11 15.7	+2.5
SONM					pmax	pmax		
	comp=Z,1.0nm,0.8s							
MKAR	Makanchi Array	50.24	297	P		P	16 13 01.2	-1.4
	comp=Z,0.1nm,0.4s,baz=59,slow=8.6,SNR=2.3							
TXAR	Lajitas Array	66.90	72	P		P	16 14 59.8	+0.7
	comp=Z,0.5nm,0.6s,baz=292,slow=3.6,SNR=4.7							
TXAR	Lajitas Array	66.90	72	*e*P		P	16 14 58.5	-0.6
TXAR					pmax	pmax		
	comp=Z,1.0nm,0.6s							

IDC ***19*** *16:14:42.3±0.8, 42.°92N×47.°58E, h0km, mb3.4/5, mb1 3.6/13, mb1mx3.5/40, mbtmp3.6/13, ML3.3/7, MS2.6/4, Ms1 2.6/4, ms1mx2.3/37, Error ellipse: s-maj=11.9km s-min=8.5km az=155.0*

CSEM ***19*** *16:14:43.4±0.2, 43.°08N×47.°78E, h2km, mb4.0, Error ellipse: s-maj=4.0km s-min=3.5km az=52.0*

MOS ***19*** *16:14:43.0±1.5, 43.°05N×47.°94E, h11km, mb4.0/3, Error ellipse: s-maj=6.4km s-min=4.8km az=148.4*

MOS Felt (III) at Kaspiysk; (II-III) at Makhachkala.

AZER ***19*** *16:14:45.1±25.0, 42.°77N×47.°68E, h10km, Error ellipse: s-maj=11.5km s-min=6.4km az=29.0*

ISC 19 16:14:43.8±1.0**, 43.°05N**±0.°02×**47.°76E**±0.°02**, h12**km±7km**, n134,** σ1**$ 49**/202**, mb3.5**/6**, 20C-28D, Eastern Caucasus**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
MAK	**Makhachkala**	**0.20**	**245**	*e*PG		**Pg**	**16 14 48.1**	**-0.1**
MAK					pmax	pmax		
	comp=Z,430nm,0.1s							
MAK	**Makhachkala**	**0.20**	**245**	*e*Pg		**Pg**	**16 14 48.1**	**-0.1**
	comp=Z,430nm,0.1s							
SGKR	**Sergokala**	**0.59**	**187**	*e*PG		**Pg**	**16 14 54.5**	**-0.8**
SGKR				*e*S		**Sg**	**16 15 02.0**	**-1.2**
SGKR	**Sergokala**	**0.59**	**187**	*e*Pg		**Pg**	**16 14 54.5**	**-0.8**
SGKR				*e*Sg		**Sg**	**16 15 02.0**	**-1.2**
KRNR	**Karanay**	**0.66**	**251**	⇓*i*PG		**Pg**	**16 14 57.0**	**+0.3**
KRNR				*e*S		**Sb**	**16 15 08.0**	**+1.4**
KRNR	**Karanay**	**0.66**	**251**	*i* Pg		**Pg**	**16 14 57.0**	**+0.3**
KRNR				*e*Sg		**Sb**	**16 15 08.0**	**+1.4**
DBC	**Dubki**	**0.68**	**268**	⇑*i*PG		**Pb**	**16 14 58.2**	**+0.5**
DBC				*i* S		**Sb**	**16 15 09.0**	**+1.9**
DBC	**Dubki**	**0.68**	**268**	*i* Pg		**Pb**	**16 14 58.2**	**+0.5**
ARKR	**Arakani**	**0.72**	**232**	⇑*i*PG		**Pg**	**16 14 56.5**	**-1.2**
ARKR				*e*S		**Sg**	**16 15 08.0**	**+0.9**
ARKR	**Arakani**	**0.72**	**232**	*i* Pg		**Pg**	**16 14 56.5**	**-1.2**
ARKR				*e*Sg		**Sg**	**16 15 08.0**	**+0.9**
UNCR	**Uncukul**	**0.78**	**245**	⇑*i*PG		**Pg**	**16 14 58.5**	**-0.4**
UNCR				*e*S		**Sb**	**16 15 10.0**	**0.0**
UNCR	**Uncukul**	**0.78**	**245**	*i* Pg		**Pg**	**16 14 58.5**	**-0.4**
UNCR				*e*Sg		**Sb**	**16 15 10.0**	**0.0**
GNBR	**Gunib**	**0.88**	**222**	*e*PG		**Pg**	**16 15 00.3**	**-0.5**
GNBR				*e*			16 15 13.5	
GNBR					pmax	pmax		
	comp=Z,369nm,0.8s							
GNBR					smax	smax		
	comp=E,1μm,0.9s							
GNBR					smax	smax		
	comp=N,868nm,0.9s							
GNBR	**Gunib**	**0.88**	**222**	*e*Pg		**Pg**	**16 15 00.3**	**-0.5**
	comp=N,369nm,0.8s							
GNBR				*e*Sg		**Sb**	**16 15 13.5**	**+0.7**
	comp=N,868nm,0.9s							
URKR	**Urkarakh**	**0.89**	**186**	*e*PG		**Pg**	**16 15 00.5**	**-0.4**
URKR				*e*S		**Sg**	**16 15 13.0**	**+0.5**
URKR	**Urkarakh**	**0.89**	**186**	*e*Pg		**Pg**	**16 15 00.5**	**-0.4**
URKR				*e*Sg		**Sg**	**16 15 13.0**	**+0.5**
XNZR	**Khunzakh**	**0.93**	**237**	*e*PG		**Pg**	**16 15 01.5**	**-0.2**
XNZR				*e*			16 15 17.7	
XNZR	**Khunzakh**	**0.93**	**237**	*e*Pg		**Pg**	**16 15 01.5**	**-0.2**
KMKR	**Kumukh**	**1.04**	**208**	⇓*i*PG		**Pg**	**16 15 03.3**	**-0.5**
KMKR				*i* S		**Sg**	**16 15 17.8**	**+0.5**
KMKR	**Kumukh**	**1.04**	**208**	*i* Pg		**Pg**	**16 15 03.3**	**-0.5**
KMKR				*i* Sg		**Sg**	**16 15 17.8**	**+0.5**
DRN	**Derbent**	**1.10**	**157**	*e*PG		**Pg**	**16 15 04.7**	**-0.3**
DRN				*e*			16 15 20.3	
DRN					pmax	pmax		
	comp=Z,284nm,0.3s							
DRN					smax	smax		
	comp=N,690nm,0.6s							
DRN					smax	smax		
	comp=E,676nm,0.7s							
DRN					smax	smax		
	comp=N,638nm,1.1s							
DRN	**Derbent**	**1.10**	**157**	*e*Pg		**Pg**	**16 15 04.7**	**-0.3**
	comp=N,284nm,0.3s							
DRN				*e*Sg		**Sb**	**16 15 20.3**	**+1.2**
	comp=N,638nm,1.1s							
GROC	**Groznyy**	**1.44**	**277**	*e*PG		**Pg**	**16 15 12.1**	**+0.6**
GROC				*e*			16 15 33.8	
GROC					pmax	pmax		
	comp=Z,62nm,0.5s							
GROC					smax	smax		
	comp=E,203nm,0.5s							
GROC					smax	smax		
	comp=E,181nm,0.5s							
GROC					smax	smax		
	comp=N,140nm,0.5s							
GROC	**Groznyy**	**1.44**	**277**	*e*Pg		**Pg**	**16 15 12.1**	**+0.6**
	comp=N,62nm,0.5s							
KSMR	**Kasumkent**	**1.47**	**169**	⇓*i*PG		**Pn**	**16 15 10.5**	**+0.3**
KSMR				*e*S		**Sg**	**16 15 32.0**	**+0.9**
KSMR	**Kasumkent**	**1.47**	**169**	*i* Pg		**Pn**	**16 15 10.5**	**+0.3**
KSMR				*e*Sg		**Sg**	**16 15 32.0**	**+0.9**
AKT	**Akhty**	**1.57**	**181**	⇓*i*PG		**Pn**	**16 15 11.4**	**-0.2**
AKT				*e*			16 15 31.5	
AKT					pmax	pmax		
	comp=Z,168nm,0.4s							
AKT					smax	smax		
	comp=N,1μm,0.5s							
AKT					smax	smax		
	comp=E,2μm,0.6s							
AKT					smax	smax		
	comp=E,2μm,0.6s							
AKT	**Akhty**	**1.57**	**181**	*i* Pg		**Pn**	**16 15 11.4**	**-0.2**
	comp=E,168nm,0.4s							
QSAR	**Qusar**	**1.58**	**166**	⇓P		**Pn**	**16 15 12.1**	**+0.4**
QSAR				⇑S		**Sn**	**16 15 32.6**	**+0.6**
QSAR	**Qusar**	**1.58**	**166**	P		**Pn**	**16 15 12.1**	**+0.4**
QSAR				S		**Sn**	**16 15 32.6**	**+0.6**
ZKTA	**Zakatala**	**1.64**	**211**	⇓P		**Pn**	**16 15 13.0**	**+0.5**
	SNR=21							
QUBA	**Quba, Azerbaij**	**1.78**	**162**	⇑P		**Pn**	**16 15 15.6**	**+1.2**
	SNR=17							
QUBA				⇓S		**Sb**	**16 15 39.1**	**+0.5**
QUBA	**Quba, Azerbaij**	**1.78**	**162**	P		**Pn**	**16 15 15.6**	**+1.2**
	SNR=17							
QUBA				S		**Sb**	**16 15 39.1**	**+0.5**
SEKA	**Sheki**	**1.88**	**193**	⇑P		**Pn**	**16 15 16.8**	**+0.9**
	SNR=18							
SEKA				⇑S		**Sn**	**16 15 40.5**	**+0.9**
SEKA	**Sheki**	**1.88**	**193**	P		**Pn**	**16 15 16.8**	**+0.9**
	SNR=18							
SEKA				S		**Sn**	**16 15 40.5**	**+0.9**
XNQ	**Khinaliq**	**1.90**	**171**	⇓P		**Pn**	**16 15 17.4**	**+1.2**
	SNR=22							
XNQ				⇓S		**Sn**	**16 15 41.2**	**+1.1**
XNQ	**Khinaliq**	**1.90**	**171**	P		**Pn**	**16 15 17.4**	**+1.2**
	SNR=22							
XNQ				S		**Sn**	**16 15 41.2**	**+1.1**
QBL	**Gabala**	**2.10**	**178**	⇑Pn		**Pb**	**16 15 21.5**	**-0.4**
	SNR=11							
QBL				⇓Sn		**Sb**	**16 15 49.4**	**+1.5**
QBL	**Gabala**	**2.10**	**178**	Pn		**Pb**	**16 15 21.5**	**-0.4**
	SNR=11							
QBL				Sn		**Sb**	**16 15 49.4**	**+1.5**
KMGR	**Komgaron**	**2.12**	**271**	*e*PN		**Pg**	**16 15 24.2**	**-0.2**
KMGR				*e*S		**Sg**	**16 15 52.8**	**+0.9**
SIZA	**Siyzn**	**2.15**	**156**	⇓Pn		**Pn**	**16 15 21.9**	**+2.4**
	SNR=16							
SIZA				⇑Sn		**Sb**	**16 15 50.6**	**+1.4**
SIZA	**Siyzn**	**2.15**	**156**	Pn		**Pn**	**16 15 21.9**	**+2.4**
	SNR=16							
SIZA				Sn		**Sb**	**16 15 50.6**	**+1.4**
IML	**Ismayilli**	**2.27**	**172**	⇓Pn		**Pb**	**16 15 23.9**	**-0.9**
	SNR=10.0							
IML				⇑Sn		**Sb**	**16 15 53.2**	**+0.3**
IML	**Ismayilli**	**2.27**	**172**	Pn		**Pb**	**16 15 24.0**	**-0.9**
	SNR=10.0							
IML				Sn		**Sb**	**16 15 53.2**	**+0.3**
TRKR	**Terskaya**	**2.31**	**288**	*e*PN		**Pg**	**16 15 27.2**	**-0.8**
TRKR				*e*S		**Sg**	**16 15 58.4**	**+0.5**
MNGR	**Mingechevir, A**	**2.33**	**193**	⇓Pn		**Pn**	**16 15 24.2**	**+2.3**
MNGR	**Mingechevir, A**	**2.33**	**193**	Pn		**Pn**	**16 15 24.2**	**+2.3**
PQL	**Pirkuli**	**2.34**	**164**	⇑Pn		**Pn**	**16 15 24.7**	**+2.5**
	SNR=54							
PQL				⇑Sn		**Sb**	**16 15 55.7**	**+0.8**
PQL	**Pirkuli**	**2.34**	**164**	Pn		**Pn**	**16 15 24.7**	**+2.5**
	SNR=54							
PQL				Sn		**Sb**	**16 15 55.7**	**+0.8**
ATGJ	**Altiaghaj**	**2.36**	**158**	⇓Pn		**Pn**	**16 15 24.8**	**+2.4**
	SNR=69							
ATGJ				⇑Sn		**Sn**	**16 15 54.1**	**+2.8**
ATGJ	**Altiaghaj**	**2.36**	**158**	Pn		**Pn**	**16 15 24.8**	**+2.4**
	SNR=69							
ATGJ				Sn		**Sn**	**16 15 54.1**	**+2.8**
BTKR	**Batakoyurt**	**2.37**	**279**	*e*PN		**Pb**	**16 15 27.1**	**+0.6**
BTKR				*e*S		**Sg**	**16 15 59.1**	**-0.9**
DGRG	**David-gareji**	**2.38**	**229**	P		**Pb**	**16 15 26.7**	**0.0**
DGRG				S		**Sb**	**16 15 57.0**	**+0.9**
DGRG	**David-gareji**	**2.38**	**229**	PN		**Pb**	**16 15 26.7**	**0.0**
DUS	**Dusheti**	**2.45**	**248**	P		**Pb**	**16 15 26.7**	**-1.2**
DUS	**Dusheti**	**2.45**	**248**	PN		**Pb**	**16 15 26.6**	**-1.2**
DUS	**Dusheti**	**2.45**	**248**	Pn		**Pb**	**16 15 26.6**	**-1.2**
GUDG	**Gudauri**	**2.48**	**258**	P		**Pb**	**16 15 28.4**	**-0.1**
GUDG				S		**Sg**	**16 16 02.5**	**-1.1**
ARNR	**Ardon**	**2.55**	**274**	*e*PN		**Pb**	**16 15 29.1**	**-0.3**
ARNR				*e*S		**Sb**	**16 16 02.3**	**+1.6**
LACR	**Lac**	**2.55**	**266**	*e*PN		**Pb**	**16 15 29.4**	**-0.2**
LACR				*e*S		**Sb**	**16 16 02.1**	**+1.2**
TBLG	**Delisi**	**2.59**	**241**	P		**Pb**	**16 15 30.6**	**+0.3**
TBLG	**Delisi**	**2.59**	**241**	PN		**Pb**	**16 15 30.5**	**+0.3**
TBLG	**Delisi**	**2.59**	**241**	P		**Pb**	**16 15 30.6**	**+0.3**
GANJ	**Ganja**	**2.63**	**205**	⇓Pn		**Pn**	**16 15 27.0**	**+0.9**
	SNR=34							
GANJ				⇓Sn		**Sn**	**16 15 58.2**	**+0.3**
GANJ	**Ganja**	**2.63**	**205**	Pn		**Pn**	**16 15 27.0**	**+0.9**
	SNR=34							
GANJ				Sn		**Sn**	**16 15 58.2**	**+0.3**
PRTR	**Priterechnaya**	**2.63**	**287**	*e*PN		**Pb**	**16 15 31.3**	**+0.5**
PRTR				*e*S		**Sb**	**16 16 05.6**	**+2.6**
GBS	**Qobustan**	**2.66**	**160**	⇓Pn		**Pn**	**16 15 28.7**	**+2.1**
GBS	**Qobustan**	**2.66**	**160**	Pn		**Pn**	**16 15 28.7**	**+2.1**
QZX	**Qazax, Azerbai**	**2.67**	**223**	⇓Pn		**Pn**	**16 15 27.9**	**+1.3**
	SNR=12							
QZX				⇓Sg		**Sb**	**16 16 03.1**	**-1.0**
QZX	**Qazax, Azerbai**	**2.67**	**223**	Pn		**Pn**	**16 15 27.9**	**+1.3**
	SNR=12							
KORR	**Kora**	**2.70**	**272**	*e*PN		**Pb**	**16 15 32.6**	**+0.5**
KORR				*e*S		**Sb**	**16 16 06.1**	**+0.8**
STDR	**Stavd-Durt**	**2.72**	**278**	*e*PN		**Pb**	**16 15 32.4**	**0.0**
STDR				*e*S		**Sb**	**16 16 07.0**	**+1.3**
GDB	**GEDABAY**	**2.77**	**213**	⇓Pn		**Pn**	**16 15 29.2**	**+1.1**
	SNR=20							
GDB				⇓Pg		**Pb**	**16 15 31.9**	**-1.4**
GDB	**GEDABAY**	**2.77**	**213**	Pn		**Pn**	**16 15 29.2**	**+1.1**
	SNR=20							
ZRD	**Zardab**	**2.77**	**181**	⇑Pn		**Pn**	**16 15 30.2**	**+2.3**
	SNR=3.4							
ZRD				⇓Sg		**Sb**	**16 16 07.5**	**+0.5**
ZRD	**Zardab**	**2.77**	**181**	Pn		**Pn**	**16 15 30.2**	**+2.3**
	SNR=3.4							
BRDA	**Brd**	**2.82**	**189**	⇑Sg		**Sb**	**16 16 09.4**	**+1.0**
BRDA	**Brd**	**2.82**	**189**	Sg		**Sb**	**16 16 09.4**	**+1.0**
ZEI	**Tsey**	**2.84**	**266**	*e*PN		**Pb**	**16 15 33.0**	**-1.6**
ZEI				*e*S		**Sb**	**16 16 09.1**	**-0.4**
DIGR	**Digorskoe uzhe**	**3.07**	**269**	*e*PN		**Pb**	**16 15 36.8**	**-1.6**
DIGR				*e*S		**Sb**	**16 15 55.1**	**-0.4**
NCK	**Nalchik**	**3.07**	**280**	*i* PN		**Pn**	**16 15 28.8**	**-3.4**
ONI	**Oni**	**3.20**	**263**	P		**Pb**	**16 15 38.4**	**-2.2**
ONI				S		**Sg**	**16 16 24.1**	**-2.4**
ONI	**Oni**	**3.20**	**263**	PN		**Pb**	**16 15 38.4**	**-2.2**
KBTC	**Kuba-Taba**	**3.26**	**285**	*e*PN		**Pn**	**16 15 37.3**	**+2.5**
KBTC				*e*S		**Sn**	**16 16 17.3**	**+3.8**
KBTC	**Kuba-Taba**	**3.26**	**285**	*e*Pn		**Pn**	**16 15 37.3**	**+2.5**
KBTC				*e*Sn		**Sn**	**16 16 17.3**	**+3.8**
PYA1	**Pyatigorsk**	**3.54**	**288**	*e*PN		**Pn**	**16 15 39.6**	**+1.0**
PYA1				*e*S		**Sn**	**16 16 21.4**	**+1.1**
PYA1	**Pyatigorsk**	**3.54**	**288**	*e*Pn		**Pn**	**16 15 39.6**	**+1.0**
PYA1				*e*Sn		**Sn**	**16 16 21.4**	**+1.1**
KBZ	**Khabaz**	**3.61**	**283**	Pn		**Pn**	**16 15 40.1**	**+0.6**
	comp=E,1.3nm,0.3s,baz=122,slow=12,SNR=14							
KBZ				Sn		**Sn**	**16 16 22.6**	**+0.7**
	comp=E,4.1nm,0.3s,baz=299,slow=21,SNR=6.2							
KBZ				Lg		Lg	16 16 42.0	
	comp=E,4.3nm,0.3s,baz=70,slow=16,SNR=3.7							
GNI	**Garni**	**3.67**	**219**	Pn		**Pn**	**16 15 41.5**	**+0.9**
	comp=E,3.4nm,0.3s,baz=31,slow=5.9,SNR=7.8							
GNI				Sn		**Sn**	**16 16 24.4**	**+0.5**
	comp=E,1.7nm,0.3s,baz=14,slow=18,SNR=2.6							
GNI				Lg		Lg	16 16 33.3	
	comp=E,2.0nm,0.3s,baz=107,slow=11,SNR=4.2							
GNI				LR		LR	16 17 19.4	
	comp=E,68nm,20.4s,baz=30,slow=45							
NEY	**Neytrino**	**3.69**	**275**	*e*PN		**Pn**	**16 15 41.7**	**+0.9**
NEY				*e*S		**Sn**	**16 16 27.6**	**+3.3**
NEY	**Neytrino**	**3.69**	**275**	*e*Pn		**Pn**	**16 15 41.7**	**+0.9**
NEY				*e*Sn		**Sn**	**16 16 27.6**	**+3.3**
BEYR	**Belyy Ugol+**	**3.72**	**287**	*e*PN		**Pn**	**16 15 40.3**	**-0.8**
BEYR				*e*S		**Sn**	**16 16 25.3**	**+0.5**
BEYR	**Belyy Ugol+**	**3.72**	**287**	*e*Pn		**Pn**	**16 15 40.3**	**-0.8**
BEYR				*e*Sn		**Sn**	**16 16 25.3**	**+0.5**
SHA1	**Shidzhatmaz**	**3.78**	**282**	⇓*i*PN		**Pn**	**16 15 42.6**	**+0.5**
SHA1	**Shidzhatmaz**	**3.78**	**282**	*i* Pn		**Pn**	**16 15 42.6**	**+0.5**
KVAR	**Kislovodsk Arr**	**3.79**	**286**	Pn		**Pn**	**16 15 42.7**	**+0.5**
	baz=117,slow=6.1,SNR=12							
KVAR				Sn		**Sn**	**16 16 28.0**	**+1.2**
	baz=35,slow=23,SNR=11							
KVAR				Lg		Lg	16 16 44.3	
	baz=132,slow=14,SNR=3.6							
KIV	**Kislovodsk**	**3.80**	**286**	*i* PN		**Pn**	**16 15 38.5**	**-3.7**
GLBA	**Clilabad**	**3.83**	**173**	⇑Sn		**Sn**	**16 16 30.0**	**+2.5**
GLBA	**Clilabad**	**3.83**	**173**	Sn		**Sn**	**16 16 30.0**	**+2.5**
GOF	**Gofitskoye**	**3.95**	**302**	⇑*e*PG		Pg	16 16 12.0	+13
GOF				*e*S		**Sg**	**16 16 51.5**	**+1.0**
GOF					pmax	pmax		
	comp=Z,39nm,0.9s							
GOF					smax	smax		
	comp=N,50nm,0.6s							
GOF					smax	smax		
	comp=E,51nm,0.5s							
GOF	**Gofitskoye**	**3.95**	**302**	*e*Sb		**Sg**	**16 16 51.5**	**+1.0**
	comp=E,50nm,0.6s							
LRK	**Lerik**	**4.42**	**174**	⇑Pn		**Pn**	**16 15 51.5**	**+0.6**
LRK				⇓Sn		**Sn**	**16 16 43.9**	**+1.5**
LRK	**Lerik**	**4.42**	**174**	Pn		**Pn**	**16 15 51.5**	**+0.6**
LRK				Sn		**Sn**	**16 16 43.9**	**+1.5**
ASTR	**Astara**	**4.55**	**170**	⇓Sn		**Sn**	**16 16 46.3**	**+1.0**
ASTR	**Astara**	**4.55**	**170**	Sn		**Sn**	**16 16 46.3**	**+1.0**
GEYT	**Alibeck**	**9.40**	**119**	Pn		**Pn**	**16 16 58.5**	**-0.5**
	comp=E,0.5nm,0.3s,baz=309,slow=17,SNR=4.6							
GEYT				Sn		**Sn**	**16 18 46.5**	**+1.8**
	comp=E,0.6nm,0.3s,baz=304,slow=26,SNR=3.7							
AKTK	**Aktyubinsk**	**10.20**	**40**	P		**Pn**	**16 17 11.6**	**+1.7**
	comp=E,1.0nm,0.3s							
AKTO	**Aktyubinsk**	**10.20**	**40**	Pn		**Pn**	**16 17 11.6**	**+1.7**
	comp=E,0.6nm,0.3s,baz=228,slow=11,SNR=8.6							
AKTO				Sn		**Sn**	**16 18 59.8**	**-4.4**
	comp=E,1.1nm,0.3s,baz=34,slow=22,SNR=7.3							
AKTO				LR		LR	16 21 46.7	
	comp=E,24nm,19.2s,baz=263,slow=41							
AKTO	**Aktyubinsk**	**10.20**	**40**	⇓Pg		**Pn**	**16 17 10.8**	**+0.9**
	comp=E,3.4nm,0.8s							
AKTO				⇓Sn		**Sn**	**16 18 56.7**	**-7.5**
	comp=E,6.2nm,0.8s							
AB31	**Akbulak array**	**10.48**	**49**	Pg		**Pn**	**16 17 15.2**	**+1.4**
	comp=E,0.8nm,0.3s,baz=249,slow=16,SNR=30							
AB31				⇓Sn		**Sn**	**16 19 07.8**	**-3.3**
	comp=E,2.3nm,0.5s,baz=250,slow=26,SNR=6.6							
BRTR	**Keskin Array B**	**11.11**	**257**	Pn		Pn	16 17 17.7	-4.9
	comp=E,0.5nm,0.3s,baz=54,slow=13,SNR=20							
OBN	**Obninsk**	**14.10**	**333**	⇑*e*P		**Pn**	**16 18 02.1**	**-1.1**
OBN					pmax	pmax		
	comp=Z,8.0nm,1.0s							
OBN					MLR	MLR		
	comp=Z,23nm,12.0s							
AKASG	**Malin Array Be**	**14.78**	**308**	Pn		Pn	16 18 07.9	-4.6
	comp=Z,0.4nm,0.3s,baz=109,slow=9.1,SNR=2.9							
KIEV	**Kiev**	**14.79**	**308**	*e*P		**Pn**	**16 18 10.5**	**-2.1**
KIEV					pmax	pmax		
	comp=Z,1.0nm,0.8s							
ARU	**Arti**	**15.08**	**24**	Pn		**Pn**	**16 18 14.5**	**-2.0**
	comp=Z,0.0nm,0.3s,baz=212,slow=15,SNR=2.2							
ARU				LR		LR	16 25 09.2	
	comp=Z,29nm,19.3s,baz=302,slow=41							
ARU	**Arti**	**15.08**	**24***c*	*i*P		**Pn**	**16 18 16.0**	**-0.5**
ARU				S		**Sn**	**16 21 05.0**	**+1.8**
ARU					pmax	pmax		
	comp=Z,4.0nm,2.5s							
BRVK	**Borovoye**	**18.01**	**48**	*i* P		**Pn**	**16 18 52.8**	**-1.0**
BRVK					pmax	pmax		
	comp=Z,4.0nm,1.1s							
BRVK	**Borovoye**	**18.01**	**48**	*i* P		**Pn**	**16 18 52.8**	**-1.0**
	comp=Z,4.0nm,1.1s							
BVAR	**Borovoye Array**	**18.05**	**49**	P		**Pn**	**16 18 54.0**	**-0.3**
	comp=Z,0.3nm,0.3s,baz=232,slow=13,SNR=4.0							
IDI	**Anoyia**	**19.31**	**254**	P		**P**	**16 19 06.2**	**-2.6**
	comp=Z,0.3nm,0.3s,baz=56,slow=7.3,SNR=2.8							
AAK	**Ala-Archa**	**19.59**	**82**	*i* P		**P**	**16 19 12.4**	**+0.6**
AAK					pmax	pmax		
	comp=Z,11nm,2.0s							
AAK	**Ala-Archa

JOM	**Ohasama**	**0.74**	**303**	P	**Pn**	**16 27 39.7**	**-0.4**
JOM				S	**Sn**	**16 27 49.6**	**-1.0**
JIO	**Ouri**	**0.85**	**224**	P	**Pn**	**16 27 41.5**	**0.0**
JIO				S	**Sn**	**16 27 52.5**	**-0.5**
JTH	**Tanohata**	**0.89**	**348**	P	**Pn**	**16 27 42.0**	**0.0**
JRG	**Rokugo**	**1.18**	**286**	P	**Pn**	**16 27 45.3**	**-0.7**
JRG				*eS*	**Sn**	**16 28 00.3**	**-0.7**
JOU	**Okura**	**1.32**	**238**	P	**Pn**	**16 27 47.6**	**-0.3**
JOU				*eS*	**Sn**	**16 28 03.7**	**-0.7**
JYK	**Kaneyama**	**1.36**	**264**	P	**Pn**	**16 27 48.2**	**-0.2**
JYK				*eS*	**Sn**	**16 28 04.6**	**-0.8**
JANG	**Nango**	**1.38**	**341**	P	**Pn**	**16 27 48.3**	**-0.3**
JANG				S	**Sn**	**16 28 05.8**	**+0.1**
JAH	**Hinai**	**1.59**	**315**	P	**Pn**	**16 27 51.4**	**-0.1**
MAT	**Matsushiro**	**3.98**	**232**	P	**Pn**	**16 28 26.4**	**+2.1**
MAT				*eS*	**Sn**	**16 29 13.0**	**+3.3**
MJAR	**Matsushiro Arr**	**3.98**	**232**	P	**Pn**	**16 28 26.0**	**+1.7**
	3.5nm,0.3s,baz=36,slow=11,SNR=36						
MJAR				S	**Sn**	**16 29 11.7**	**+2.0**
	1.7nm,0.3s,baz=60,slow=8.7,SNR=2.9						
MJAR				LR	LR	16 30 17.8	
	comp=Z,52nm,20.3s,baz=85,slow=43						
ASAJ	**Asahikawa**	**5.06**	**4**	P	**Pn**	**16 28 40.0**	**+1.0**
	45nm,0.3s,baz=270,slow=34,SNR=2.1						
ASAJ				S	**Sn**	**16 29 37.5**	**+1.4**
	50nm,0.3s,baz=96,slow=5.1,SNR=2.0						
JHJ	**Hachijo jima 2**	**6.23**	**198**	P	**Pn**	**16 28 56.2**	**+1.1**
	6.5nm,0.3s,baz=48,slow=16,SNR=4.7						
JHJ				S	**Sn**	**16 30 01.7**	**-3.2**
	12nm,0.3s,baz=58,slow=19,SNR=3.3						
USRK	**Ussuriysk Ar.**	**9.13**	**307**	P	**Pn**	**16 29 37.0**	**+2.2**
	0.7nm,0.3s,baz=122,slow=13,SNR=8.6						
KSRS	**Korea Array**	**11.26**	**266**	P	**Pn**	**16 30 06.7**	**+2.7**
	0.2nm,0.3s,baz=79,slow=13,SNR=2.7						
KSRS				LR	LR	16 33 50.6	
	comp=Z,26nm,20.3s,baz=65,slow=34						
SONM	**Songino Array**	**27.15**	**301**	P	**P**	**16 33 03.6**	**-0.6**
	0.2nm,0.4s,baz=98,slow=11,SNR=2.1						
H11N2	**WAKE ISLAND Hy**	**28.80**	**125**	T	T	17 03 46.7	
	baz=317,slow=75,SNR=117						
H11N1	**WAKE ISLAND Hy**	**28.81**	**125**	T	T	17 03 46.9	
	baz=317,slow=75,SNR=208						
H11N3	**WAKE ISLAND Hy**	**28.82**	**125**	T	T	17 03 46.2	
	baz=317,slow=75,SNR=118						
H11S1	**WAKE ISLAND Hy**	**29.58**	**127**	T	T	17 04 45.7	
	baz=319,slow=76,SNR=54						
H11S3	**WAKE ISLAND Hy**	**29.58**	**127**	T	T	17 04 43.5	
	baz=319,slow=76,SNR=70						
H11S2	**WAKE ISLAND Hy**	**29.60**	**127**	T	T	17 04 44.6	
	baz=319,slow=76,SNR=50						
ZALV	**Zalesovo Beam**	**40.97**	**311**	P	**P**	**16 35 03.1**	**-0.1**
	1.2nm,0.4s,baz=108,slow=8.2,SNR=5.7						
MKAR	**Makanchi Array**	**43.52**	**300**	P	**P**	**16 35 23.5**	**-0.6**
	1.3nm,0.7s,baz=84,slow=12,SNR=15						
ILAR	**Eielson Array**	**47.49**	**33**	P	**P**	**16 35 55.3**	**0.0**
	0.4nm,0.6s,baz=270,slow=6.1,SNR=6.5						
BVAR	**Borovoye Array**	**49.62**	**311**	P	**P**	**16 36 10.7**	**-1.1**
	1.3nm,0.4s,baz=69,slow=7.6,SNR=9.7						
WRA	**Warramunga Arr**	**59.15**	**189**	P	**P**	**16 37 19.8**	**-1.4**
	0.2nm,0.4s,baz=6.5,slow=7.1,SNR=5.8						
ARCES	**ARCESS Array B**	**62.28**	**339**	P	**P**	**16 37 43.0**	**+0.9**
	2.0nm,0.9s,baz=57,slow=9.8,SNR=1.9						
ASAR	**Alice Springs**	**62.88**	**188**	P	**P**	**16 37 46.3**	**-0.2**
	0.3nm,0.8s,baz=2.6,slow=7.0,SNR=3.4						
FINES	**FINESS Array B**	**67.27**	**332**	P	**P**	**16 38 13.6**	**-0.9**
	1.7nm,0.8s,baz=38,slow=9.7,SNR=4.6						
NOA	**NORSAR Array B**	**72.52**	**337**	P	**P**	**16 38 47.9**	**+1.0**
	0.5nm,0.7s,baz=40,slow=4.2,SNR=2.4						

MEX 19 16:37:52.2±0.8, 14°27N×92°69W, h65km±47km, MD3.8, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CCIG	**Comitan**	**2.07**	**15**	*e*P	Pn	16 38 24.2	-0.6
CCIG				*e*S	Sn	16 38 48.2	-1.5
TGIG		**2.53**	**351**	*e*P	Pn	16 38 29.8	-1.2
TGIG				*e*S	Sn	16 38 59.1	-1.6
CMIG	**Matias Romero**	**3.51**	**323**	*i* P	Pn	16 38 42.1	-2.2
CMIG				*i* S	Sn	16 39 22.9	-1.8
HUIG	**Huatulco**	**3.62**	**295**	*e*P	Pn	16 38 45.9	0.0
HUIG				*i* S	Sn	16 39 27.1	-0.4

IDC 19 16:53:36.7±2.2, 4°19N×126°39E, h0km, mb3.3/3, mb1 3.5/3, mb1mx3.3/39, mbtmp3.3/3, Error ellipse: s-maj=182.3km s-min=26.1km az=65.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**25.22**	**162**	P	P	16 59 04.7	+0.3
	0.6nm,0.7s,baz=343,slow=10,SNR=5.3						
ASAR	**Alice Springs**	**28.64**	**166**	P	P	16 59 34.9	-0.4
	0.3nm,0.7s,baz=340,slow=7.7,SNR=5.1						
MKAR	**Makanchi Array**	**56.99**	**325**	P	P	17 03 24.2	0.0
	0.2nm,0.5s,baz=125,slow=7.6,SNR=2.8						

*ISCJB **19** 16:58:44.1±0.7, 32°22N±0°04×115°26W±0°05, h16km±20km, Error ellipse: s-maj=7.8km s-min=5.3km az=143.2*
*ECX **19** 16:58:44.9±0.4, 32°21N×115°25W, h5km, MD2.4, ML2.6*
*MEX **19** 16:58:44.3±0.5, 32°34N×115°04W, h38km±5km, MD3.5*
ISC 19 16:58:43.4±1.1, 32°25N±0°04×115°21W±0°05, h24km±9km, n14, σ0°42/20, 4C, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CPBX	**Cerro Prieto**	**0.18**	**335**	*e*P	**Pb**	**16 58 49.2**	**+0.3**
CPBX				*e*S	**Sb**	**16 58 52.1**	**-0.4**
CPBX				IAML		16 58 54.5	
	comp=E,4μm,0.2s						
CPBX				⇑*e*		16 58 54.9	
CPBX				IAML		16 58 54.9	
	comp=N,3μm,0.1s						
EMSC	**East Mesa**	**0.52**	**21**	*e*P	**Pn**	**16 58 55.7**	**+0.3**
SGL	**Mount Signal**	**0.59**	**313**	⇑*i*P	**Pn**	**16 58 55.6**	**-0.6**
YMD	**Yuma Desert**	**0.64**	**62**	*e*P	**Pn**	**16 58 57.0**	**0.0**
YUH	**Yuha Desert**	**0.72**	**303**	⇑*i*P	**Pb**	**16 58 57.5**	**+0.2**
ECBX	**El Chinero**	**0.79**	**170**	*e*P	**Pb**	**16 58 58.3**	**-0.2**
ECBX				*e*S	**Sb**	**16 59 08.7**	**-0.1**
RMX	**La Rumorosa**	**0.81**	**296**	*e*P	**Pn**	**16 58 58.7**	**-0.9**
RMX				*e*S	**Sb**	**16 59 09.2**	**-0.4**
IKP	**In-Ko-Pah, Jac**	**0.86**	**298**	⇑*e*P	**Pn**	**16 58 59.9**	**-0.2**
SPIG	**San Pedro Mart**	**1.22**	**190**	*e*P	**Pn**	**16 59 05.1**	**-0.1**
SPIG	**San Pedro Mart**	**1.22**	**190**	*i* P	**Pn**	**16 59 05.2**	**-0.1**
SPIG				*i* S	**Sn**	**16 59 21.2**	**-0.1**
CBX	**Cerro Bola**	**1.23**	**273**	*e*P	**Pn**	**16 59 05.6**	**+0.4**
CBX	**Cerro Bola**	**1.23**	**273**	*e*P	**Pn**	**16 59 05.5**	**+0.2**
CBX				*i* S	**Sn**	**16 59 21.5**	**+0.3**
TJIG	**Tijuana**	**1.25**	**279**	*e*P	**Pn**	**16 59 05.6**	**+0.2**
TJIG				*i* S	**Sn**	**16 59 21.6**	**+0.1**
ECNX	**Esteban Cantu**	**1.32**	**244**	*e*P	**Pn**	**16 59 07.2**	**+0.8**

IDC 19 17:04:21.8±13.0, 34°77S×179°89E, h0km, mb3.7/3, mb1 3.9/4, mb1mx3.7/23, mbtmp3.8/4, ML3.8/1, MS3.3/1, Ms1 3.3/1, ms1mx2.6/22, Error ellipse: s-maj=234.2km s-min=40.1km az=94.0, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
URZ	**Urewera**	**4.14**	**212**	Pn	Pn	17 05 25.5	-0.8
	6.4nm,0.3s,baz=278,slow=2.2,SNR=29						
URZ				Sn	Sn	17 06 17.4	+2.0
	1.7nm,0.3s,baz=328,slow=22,SNR=4.1						
DZM	**Mont Dzumac**	**17.29**	**313**	LR	LR	17 13 51.4	
	comp=Z,84nm,18.1s,baz=30,slow=33						
STKA	**Stephens Creek**	**32.00**	**264**	P	P	17 10 48.6	-1.2
	1.4nm,0.6s,baz=111,slow=12,SNR=2.5						
ASAR	**Alice Springs**	**41.32**	**273**	P	P	17 12 10.0	+0.6
	0.7nm,0.7s,baz=114,slow=7.8,SNR=11						
WRA	**Warramunga Arr**	**42.71**	**278**	P	P	17 12 21.0	+0.3
	0.5nm,0.7s,baz=116,slow=7.9,SNR=5.9						

*CSEM **19** 17:11:47.1±0.6, 39°76N×32°55E, h8km, MD2.6, Error ellipse: s-maj=13.4km s-min=8.9km az=95.0*
*DDA **19** 17:11:47.3, 39°70N×32°63E, h7km, Md2.6*
ISC 19 17:11:46.9±1.3, 39°71N±0°03×32°60E±0°05, h1km±11km, n14, σ0°49/23, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LOD	**Lodumlu**	**0.22**	**35**	*e*PG	**Pg**	**17 11 51.2**	**0.0**
LOD				*e*SG	**Sg**	**17 11 54.7**	**+0.6**
LOD	**Lodumlu**	**0.22**	**35**	*e*Pg	**Pg**	**17 11 51.2**	**0.0**
LOD				*e*Sg	**Sg**	**17 11 54.7**	**+0.6**
AFSR	**Af˙ar-Bala (A**	**0.45**	**125**	*e*PG	**Pb**	**17 11 57.8**	**+0.2**
AFSR	**Af˙ar-Bala (A**	**0.45**	**125**	*e*Pg	**Pb**	**17 11 57.8**	**+0.2**
KKUL	**Konya-Kulu**	**0.59**	**155**	*i* P	**Pg**	**17 11 58.0**	**-0.2**
KKUL				*i* S	**Sb**	**17 12 08.5**	**-0.4**
KKUL	**Konya-Kulu**	**0.59**	**155**	P	**Pg**	**17 11 58.0**	**-0.2**
KKUL				S	**Sb**	**17 12 08.5**	**-0.4**
KULU	**Kulu**	**0.73**	**155**	*e*PG	**Pn**	**17 12 04.6**	**+0.1**
KULU	**Kulu**	**0.73**	**155**	*e*Pg	**Pn**	**17 12 04.6**	**+0.1**
BCAM	**Yenicaga**	**1.18**	**340**	*i* P	**Pg**	**17 12 09.2**	**-0.4**
BCAM				*i* S	**Sn**	**17 12 28.1**	**+0.6**
BCAM	**Yenicaga**	**1.18**	**340**	P	**Pg**	**17 12 09.2**	**-0.4**
KDHN	**Kadinhani**	**1.24**	**198**	*i* P	**Pg**	**17 12 10.6**	**-0.1**
KDHN				*i* S	**Sn**	**17 12 29.3**	**+0.4**
KDHN	**Kadinhani**	**1.24**	**198**	P	**Pg**	**17 12 10.6**	**-0.1**
KDHN				S	**Sn**	**17 12 29.3**	**+0.4**
CDAG	**Cicekdag**	**1.37**	**93**	*i* P	**Pn**	**17 12 12.3**	**-1.0**
CDAG				*i* S	**Sn**	**17 12 32.7**	**+0.6**
CDAG	**Cicekdag**	**1.37**	**93**	P	**Pn**	**17 12 12.3**	**-1.0**
CDAG				S	**Sn**	**17 12 32.7**	**+0.6**

IDC 19 17:28:49.1±11.0, 30°60S×176°81E, h0km, mb4.0/3, mb1 4.2/4, mb1mx3.8/21, mbtmp4.0/4, ML4.0/1, Error ellipse: s-maj=220.6km s-min=40.4km az=59.0, North of New Zealand

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
URZ	**Urewera**	**7.64**	**178**	Pn	Pn	17 30 41.9	+0.2
	2.1nm,0.3s,baz=270,slow=5.8,SNR=39						
URZ				Sn	Sn	17 32 01.0	-8.0
	2.3nm,0.3s,baz=86,slow=24,SNR=16						
STKA	**Stephens Creek**	**30.06**	**258**	P	P	17 35 00.3	+0.2
	2.6nm,1.0s,baz=100,slow=6.1,SNR=3.4						
ASAR	**Alice Springs**	**38.62**	**270**	P	P	17 36 14.0	-0.4
	1.1nm,0.8s,baz=108,slow=7.5,SNR=31						
WRA	**Warramunga Arr**	**39.64**	**275**	P	P	17 36 22.9	0.0
	0.8nm,0.3s,baz=114,slow=7.8,SNR=34						

*CSEM **19** 17:33:35.8, 39°36N×43°70E, h7km, ML2.9*
DDA 19 17:33:35.8, 39°36N×43°70E, h7km, Ml2.9, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DYDN	**Diyadin**	**0.18**	**358**	*i* P	Pg	17 33 38.7	-1.0
CLDR	**Caldiran**	**0.28**	**142**	*e*PG	Pg	17 33 38.3	-3.0
CLDR				*e*SG	Sg	17 33 46.3	+1.2
CLDR	**Caldiran**	**0.28**	**142**	*i* P	Pg	17 33 37.8	-3.5
CLDR				*i* S	Sg	17 33 46.1	+1.1
CLDR	**Caldiran**	**0.28**	**142**	P	Pg	17 33 37.8	-3.5
VMUR	**Van-Muradiye**	**0.38**	**195**	*i* P	Pg	17 33 43.0	-0.4
VMUR				*i* S	Sb	17 33 50.4	-0.9
VMUR	**Van-Muradiye**	**0.38**	**195**	P	Pg	17 33 43.0	-0.3
VMUR				S	Sb	17 33 50.4	-0.9
AGRB	**Hanur-Agry**	**0.59**	**292**	*e*PG	Pg	17 33 47.5	+0.3
TUTA	**Tutak**	**0.69**	**274**	*i* P	Pg	17 33 49.1	+0.1
TUTA				*i* S	Sb	17 34 00.6	+0.5
TUTA	**Tutak**	**0.69**	**274**	P	Pg	17 33 49.1	0.0
TUTA				S	Sb	17 34 00.6	+0.5
DIGO	**Kars**	**1.08**	**347**	*i* P	Pg	17 33 56.7	+0.1
DIGO				*i* S	Sn	17 34 20.2	+7.1
DIGO	**Kars**	**1.08**	**347**	P	Pg	17 33 56.7	+0.1
DIGO				S	Sn	17 34 20.2	+7.0
GEVA	**Gevas**	**1.16**	**206**	*i* P	Pg	17 33 57.4	-0.7
GEVA	**Gevas**	**1.16**	**206**	P	Pg	17 33 57.4	-0.7
EAK	**Akyaka**	**1.33**	**357**	*i* P	Pg	17 34 02.6	+1.3
EAK				*i* S	Sn	17 34 30.2	+11
EAK	**Akyaka**	**1.33**	**357**	P	Pg	17 34 02.6	+1.3
EAK				S	Sn	17 34 30.2	+11
SENK	**Senkaya-Erzuru**	**1.58**	**320**	*e*PN	Pn	17 34 02.6	-2.0

*NSSP **19** 17:34:45.8, 41°20N×47°00E, h10km, Ms3.1*
ISC 19 17:34:42.0±2.6, 41°24N±0°07×47°5E±0°1, h10km, n7, σ2°15/11, 4C-2D, Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DGRG	**David-gareji**	**1.59**	**278**	P	**Pg**	**17 35 13.4**	**+0.8**
DGRG				S	Sn	17 35 38.7	+7.7
GRS	**Goris**	**1.94**	**207**	⇓*i*P	**Pn**	**17 35 17.0**	**+1.9**
GRS				⇓*i*S	Sg	**17 35 42.0**	**-2.3**
TBLG	**Delisi**	**2.11**	**284**	P	**Pg**	**17 35 23.5**	**+1.1**
TBLG				S	**Sg**	**17 35 51.5**	**+1.6**
DUS	**Dusheti**	**2.25**	**293**	P	Sn	17 35 56.6	+10
STEZ	**Stepenevan**	**2.33**	**265**	⇑*i*P	**Pg**	**17 35 23.0**	**-3.7**
STEZ				⇑*i*S	**Sg**	**17 35 56.5**	**-0.5**
GNI	**Garni**	**2.34**	**243**	⇑*i*P	**Pg**	**17 35 28.7**	**+1.8**
GNI				⇑*i*S	**Sg**	**17 35 58.8**	**+1.5**
ONI	**Oni**	**3.29**	**296**	P	**Pb**	**17 35 38.5**	**-2.0**
ONI				S	**Sg**	**17 36 27.7**	**+0.1**

*IDC **19** 17:48:26.2±2.0, 13°18S×171°95E, h0km, mb4.0/6, mb1 4.1/7, mb1mx3.7/40, mbtmp4.0/7, ML4.1/1, MS3.5/1, Ms1 3.5/1, ms1mx2.6/30, Error ellipse: s-maj=64.3km s-min=23.9km az=0.0*
*ISCJB **19** 17:48:29.7±1.5, 13°4S±0°2×172°0E±0°1, h33km, mb3.9/6, MS3.5/1, Error ellipse: s-maj=34.8km s-min=19.8km az=175.7*
ISC 19 17:48:31.5±1.7, 13°3S±0°3×172°0E±0°2, h35km, n7, σ0°50/7, mb3.9/6, Vanuatu Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**10.21**	**210**	Pn	**Pn**	**17 50 55.9**	**+0.2**
	1.6nm,0.3s,baz=41,slow=20,SNR=20						
CTA	**Charters Tower**	**25.51**	**251**	P	**P**	**17 53 57.0**	**0.0**
	0.6nm,0.3s,baz=48,slow=16,SNR=2.7						
RAR	**Rarotonga**	**28.11**	**110**	P	**P**	**17 54 20.3**	**0.0**
	7.6nm,0.6s,baz=264,slow=18,SNR=2.7						
STKA	**Stephens Creek**	**33.42**	**231**	P	**P**	**17 55 06.8**	**-0.4**
	1.7nm,0.6s,baz=39,slow=6.5,SNR=3.0						
WRA	**Warramunga Arr**	**36.59**	**254**	P	**P**	**17 55 34.6**	**0.0**
	0.3nm,0.6s,baz=85,slow=8.8,SNR=4.5						
ASAR	**Alice Springs**	**37.44**	**248**	P	**P**	**17 55 41.1**	**-0.6**
	1.1nm,0.6s,baz=80,slow=8.9,SNR=46						
FITZ	**Fitzroy Crossi**	**44.76**	**258**	P	**P**	**17 56 42.7**	**+0.7**
	1.4nm,0.6s,baz=96,slow=9.2,SNR=4.1						
FITZ				LR	LR	18 15 05.7	
	comp=Z,51nm,18.1s,baz=131,slow=36						

MAN 19 17:55:36, 8°77N×123°02E, h46km, mb4.3, ML3.2, MS3.0, 1C, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SNPH	**Sibulan**	**0.60**	**21**	⇑*i*P	Pn	17 55 50.5	+2.1
SNPH				*i* S	Sn	17 56 04.2	+6.9
PAGZ	**Pagadian**	**0.99**	**159**	*e*P	Pn	17 55 55.2	+1.8
PAGZ				*e*S	Sn	17 56 04.0	-2.3
GUIM	**Jordan**	**1.89**	**347**	*e*P	Pn	17 56 07.1	+1.3
GUIM				*e*S	Sn	17 56 30.8	+2.4

*ISCJB **19** 17:59:52.0±0.2, 14°29N±0°02×90°24W±0°03, h10km, mb4.7/86, MS4.6/17, Error ellipse: s-maj=4.7km s-min=1.7km az=140.9*
*CASC **19** 17:59:53.5±2.6, 14°26N×90°27W, h10km, ML4.4, mb4.9(NEIC)*
*NEIC **19** 17:59:54.0±0.3, 14°24N×90°21W, h10km, mb4.9/85, MD4.5(SNET), Error ellipse: s-maj=9.4km s-min=4.8km az=50.0*
NEIC Felt [IV] at Guatemala and Mixco and [III] at Antigua Guatemala. Also felt at Chichicastenango, Escuintla, Fraijanes, San Jose Pinula, Sanarate, Santa Catarina Pinula, Villa Canales and Villa Nueva. Felt [III] at Ahuachapan, El Salvador.
*GCMT **19** 17:59:54.0±0.2, 14°32N×90°40W, h12km, MW5.2/97, Moment Tensor Solution. s72,c107; s97,c159; Duration: 1s0 Moment tensor: Scale 10^17 Nm; Mrr-0.63±.02; Mθθ-0.36±.02; Mϕϕ0.98±.01; Mrθ-0.05±.05; Mθϕ-0.25±.01; Mϕr-0.05±.04; Best double couple: Ms0.83800×10^17 NP1:ϕ±2.00000°, δ48.00000°, λ-72.00000°. NP2:ϕ±s157.00000°, δ45.00000°, λ-109.00000°. Principal axes: T 1.0340, Plg1.0000°, Azm80.0000°; N -0.3910, Plg13.0000°, Azm170.0000°; P -0.6430, Plg77.0000°, Azm344.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*IDC **19** 17:59:59.2±2.3, 14°19N×90°31W, h68km±21km, mb4.1/21, mb1 4.3/24, mb1mx4.2/36, mbtmp4.4/24, MS4.6/17, Ms1 4.6/17, ms1mx4.4/38 Error ellipse: s-maj=16.8km s-min=10.4km az=52.0*
*BJI **19** 18:00:01.5, 14°40N×90°20W, h61km, mB5.2/3, Ms5.2/3, Ms7 4.8/3*
ISC 19 17:59:53.5±0.3, 14°27N±0°04×90°22W±0°03, h10km, n541, σ1°67/537, mb4.8/87, MS4.6/17, Guatemala

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IXG	**Ixpaco**	**0.25**	**248**	*e*P	**Pg**	**17 59 55.8**	**-2.8**
RBDL	**Robledal**	**0.54**	**106**	*e*P	**Pg**	**18 00 03.5**	**-0.5**
MONT	**Ecomontaæa**	**0.69**	**126**	*e*P	**Pg**	**18 00 06.0**	**-0.9**
SNJE	**San Jose**	**0.71**	**124**	*i* P	**Pg**	**18 00 06.5**	**-0.8**
SONS	**Sonsonate**	**0.72**	**137**	*e*P	**Pg**	**18 00 06.0**	**-1.4**
SONS				*e*S	**Sg**	**18 00 16.7**	**0.0**
SONS				AML	AML	18 00 19.3	
	comp=Z,18μm,0.3s						
SBLS	**San Blas**	**0.72**	**126**	*e*P	**Pg**	**18 00 06.8**	**-0.6**
MTO3	**Montecristo**	**0.84**	**81**	*i* P	**Pg**	**18 00 09.0**	**-0.8**
MRL	**Marmol**	**0.94**	**33**	*e*P	**Pg**	**18 00 11.7**	**-0.1**
BOQS	**Boqueron**	**1.05**	**120**	*i* P	**Pg**	**18 00 12.8**	**-1.0**
SNET	**Serv Nac Est T**	**1.12**	**121**	*e*P	**Pb**	**18 00 13.7**	**-1.3**
SNET				*e*S	**Sn**	**18 00 31.4**	**+0.6**
SNET				AML	AML	18 00 41.1	
	comp=Z,10μm,0.3s						
OPAM	**San Salvador**	**1.13**	**119**	*e*P	**Pb**	**18 00 14.0**	**-1.1**
UDBS	**Soyapango**	**1.16**	**117**	*e*P	**Pb**	**18 00 14.5**	**-1.3**
LBRS	**Las Brisas**	**1.26**	**115**	*i* P	**Pn**	**18 00 15.8**	**-1.5**
LFRS	**El Faro**	**1.29**	**119**	*i* P	**Pn**	**18 00 16.4**	**-1.3**
CNCH	**Conchagua**	**2.52**	**113**	AML	AML	18 01 25.8	
	comp=Z,3μm,0.7s						
CCIG	**Comitan**	**2.73**	**318**	*e*Pn	**Pn**	**18 00 37.9**	**+0.3**
CNGN	**Cerro Negro**	**3.85**	**117**	*e*P	**Pn**	**18 00 54.0**	**+1.1**
ESTN	**Estel**	**3.92**	**107**	*e*P	**Pn**	**18 00 54.1**	**+0.3**
MOMN	**Momotombo**	**4.03**	**117**	*e*P	**Pn**	**18 00 56.4**	**+1.0**
COPN	**Copaltepe**	**4.10**	**120**	*e*P	**Pn**	**18 00 56.3**	**0.0**
XAVN	**Gruta Xavier**	**4.34**	**119**	*e*P	**Pn**	**18 01 00.5**	**+0.9**
XAVN				AML	AML	18 01 59.4	
	comp=Z,714nm,0.7s						
TISN	**Laguna Tiscapa**	**4.39**	**118**	*e*P	**Pn**	**18 01 00.6**	**+0.3**
TISN				AML	AML	18 01 07.2	
	comp=Z,790nm,0.6s						
MGAN	**Managua**	**4.40**	**118**	*e*P	**Pn**	**18 01 02.4**	**+1.9**
SCIG	**Sabancuy**	**4.77**	**349**	*e*Pn	**Pn**	**18 01 05.0**	**-0.4**
BOAB	**BOACO BROADBAN**	**4.79**	**112**	*e*P	**Pn**	**18 01 06.6**	**+0.9**
CONN	**Concepcion**	**5.22**	**120**	*e*P	**Pn**	**18 01 13.1**	**+1.3**
CMIG	**Matias Romero**	**5.30**	**303**	P	**Pn**	**18 01 14.0**	**+1.2**
	comp=Z,9.4nm,0.3s,baz=97,slow=8.8,SNR=23						
CMIG				S	**Sn**	**18 02 15.5**	**+1.5**
	comp=Z,11nm,0.3s,baz=24,slow=19,SNR=2.1						
CMIG				LR	LR	18 03 22.6	
	comp=Z,17μm,20.1s,baz=136,slow=39						
ACON	**Acoyapa**	**5.42**	**114**	*e*P	**Pn**	**18 01 16.0**	**+1.6**
GB1A	**Borinquen Arri**	**5.82**	**126**	*e*P	**Pn**	**18 01 21.6**	**+1.6**
BUEV	**Buena Vista**	**5.83**	**126**	*e*P	**Pn**	**18 01 22.1**	**+1.9**
GPS3	**Bodega del ICE**	**5.89**	**126**	*e*P	**Pn**	**18 01 24.2**	**+3.3**
VCR	**Vista de Mar**	**6.09**	**132**	*e*P	**Pn**	**18 01 26.2**	**+2.5**
CUI	**Cuipilapa**	**6.10**	**125**	*e*P	**Pn**	**18 01 25.7**	**+1.8**
LCR2	**La Lucha 2**	**7.56**	**126**	*e*P	**Pn**	**18 01 47.3**	**+3.2**
CVTR	**Volcan Turrial**	**7.60**	**123**	*e*P	**Pn**	**18 01 47.0**	**+2.2**
URSC	**Urasca**	**7.69**	**124**	*e*P	**Pn**	**18 01 48.4**	**+2.6**
LVIG	**Laguna Verde**	**8.04**	**313**	*e*Pn	**Pn**	**18 01 53.8**	**+3.4**
TLIG	**Tlapa**	**8.67**	**293**	*e*Pn	**Pn**	**18 02 01.4**	**+2.1**
ICCO	**Coco Island**	**9.21**	**160**	*e*P	**Pn**	**18 02 09.7**	**+3.2**
BCIP	**Isla Barro Col**	**11.36**	**115**	*e*Pn	**Pn**	**18 02 39.9**	**+3.9**
LNIG	**Linares**	**13.70**	**322**	*e*Pn	**Pn**	**18 03 11.2**	**+3.3**
035Z	**Hargill**	**14.19**	**330**	P	**P**	**18 03 19.8**	**-2.3**
	baz=148						
ZAIG	**Zacatecas**	**14.44**	**308**	*e*Pn	**P**	**18 03 25.4**	**+0.2**
035A	**Encino**	**14.60**	**331**	P	**P**	**18 03 25.5**	**-1.2**
	baz=148						
034A	**Hebbronville**	**14.99**	**329**	P	**P**	**18 03 30.2**	**-0.8**
	baz=147						
SJCC	**San Jacinto, C**	**15.33**	**105**	*e*P	**Pn**	**18 03 29.7**	**-0.6**
934A	**Benavides**	**15.36**	**331**	P	**P**	**18 03 35.4**	**+0.2**
	baz=148						
737A	**Port Lavaca**	**15.54**	**339**	P	**P**	**18 03 37.8**	**+0.7**
	baz=157						
835A	**Beeville**	**15.64**	**334**	P	**P**	**18 03 38.5**	**+0.2**

baz=155
438A **Sam Houston St** 17.10 344 P P 18 03 54.0 -0.5
baz=163
344A **Westbrook Farm** 17.11 359 P P 18 03 55.2 +0.6
baz=178,SNR=6.0
347A **Saraland** 17.13 5 P P 18 03 55.1 +0.4
baz=186
342A **Flagon Creek P** 17.14 354 P P 18 03 54.8 -0.1
baz=173
GUYC **Guyana, Colomb** 17.14 120 eP Pn 18 03 53.4 -0.5
348A **Jackson** 17.20 7 P P 18 03 56.3 +0.7
baz=188
341A **Kurthwood** 17.20 351 P P 18 03 55.9 +0.4
baz=171,SNR=5.3
633A **Saathoff Ranch** 17.24 333 P P 18 03 56.2 +0.2
baz=150,SNR=9.3
437A **Phantom Ranch,** 17.36 343 P P 18 03 57.5 +0.2
baz=161
340A **Bronson** 17.40 349 P P 18 03 57.9 +0.1
baz=168
NORC **Norcasia** 17.41 118 eP Pn 18 03 57.1 +0.3
534A **Blanco** 17.44 335 P P 18 03 58.2 -0.1
baz=153,SNR=12
339A **Huntington** 17.45 348 P P 18 03 58.5 +0.2
baz=166
436A **Wall Ranch, Ga** 17.51 341 P P 18 03 58.9 0.0
baz=159
243A **Waterproof** 17.57 356 P P 18 04 00.5 +0.8
baz=176
338A **Crockett** 17.64 345 P P 18 04 01.0 +0.5
baz=164
245A **Little AP, Sta** 17.69 1 P P 18 04 01.8 +0.8
baz=181
244A **Avery, Jackson** 17.70 359 P P 18 04 02.1 +1.0
baz=179
533A **Kerrville** 17.71 334 P P 18 04 01.7 +0.5
baz=151,SNR=13
247A **Quitman** 17.77 4 P P 18 04 01.9 +0.1
baz=185
435B **Jarrell** 17.78 339 P P 18 04 02.4 +0.4
baz=156
242A **Grayson** 17.80 355 P P 18 04 02.9 +0.7
baz=174
241A **Mo Tay, Goldon** 17.85 352 P P 18 04 03.5 +0.8
baz=175
VBMS **Vicksburg** 17.87 359 P P 18 04 03.4 +0.5
baz=179
NATX **Nacogdoches** 17.88 348 P P 18 04 03.3 +0.2
baz=166
248A **Dixon Mills** 17.89 7 P P 18 04 03.0 -0.2
baz=188
240A **Hunter Patters** 17.99 350 P P 18 04 04.8 +0.6
baz=169
CMBC **Cumbal** 18.04 136 eP P 18 04 07.7 +2.3
434A **Burnet** 18.06 337 P P 18 04 05.6 +0.5
baz=154,SNR=10
336A **Riesel** 18.09 341 P P 18 04 06.0 +0.5
baz=159
239A **Gary** 18.09 348 P P 18 04 05.9 +0.4
baz=167
TIGA **Tifton** 18.14 18 P P 18 04 06.4 +0.4
baz=201
TIGA **Tifton** 18.14 18 eP P 18 04 10.4 +4.4
comp=Z,52nm,0.9s
OTAV **Otavalo** 18.16 139 eP P 18 04 10.2 +3.4
comp=Z,46nm,1.4s
335A **Moody** 18.18 340 P Pn 18 04 06.0 -0.2
baz=157,SNR=6.6
238A **Jacksonville** 18.22 347 P Pn 18 04 06.2 -0.3
baz=165
ROSC **El Rosal** 18.25 119 P P 18 04 09.0 +1.4
comp=Z,1.7nm,0.3s,baz=307,slow=15,SNR=2.8
ROSC LR LR 18 13 13.2
comp=Z,1µm,18.1s,baz=0.5,slow=43
145A **Houston Renfro** 18.26 1 P P 18 04 07.2 0.0
baz=181
142A **Monroe** 18.27 355 P P 18 04 07.3 0.0
baz=175
144A **Alexander Plac** 18.28 359 P P 18 04 08.3 +0.8
baz=180
146A **Union** 18.32 3 P Pn 18 04 07.4 -0.5
baz=184
237A **Washetta, Mont** 18.38 345 P P 18 04 09.3 +0.7
baz=163
143A **Socs Landing,** 18.39 357 P Pn 18 04 09.2 +0.6
baz=177
JCT **Junction City** 18.39 333 P P 18 04 08.6 -0.2
baz=150,SNR=7.3
JCT **Junction City** 18.39 333 eP Pn 18 04 10.3 +1.5
comp=Z,59nm,1.3s
PRAC **Prado** 18.40 123 eP Pn 18 04 13.2 +4.2
comp=Z,24nm,1.0s
147A **Livingston** 18.41 5 P Pn 18 04 09.1 +0.2
baz=186
141A **Papa Simpson,** 18.42 353 P Pn 18 04 09.2 +0.2
baz=172
334A **Lometa** 18.51 338 P P 18 04 10.1 0.0
baz=155,SNR=16
PAMC **Pamplona, Colo** 18.52 110 eP P 18 04 09.3 -1.5
140A **Cam and Jess,** 18.55 351 P Pn 18 04 11.0 +0.4
baz=170
236A **Katherine and** 18.57 343 P Pn 18 04 11.0 +0.1
baz=161
139A **Bunkhouse Ranc** 18.72 349 P Pn 18 04 12.7 -0.1
baz=168
SDDR **Presa de Saban** 18.73 73 eP Pn 18 04 17.0 +3.9
comp=Z,20nm,1.0s
333A **Richland Sprin** 18.79 336 P P 18 04 12.8 -0.3
baz=153
RUSC **La Rusia** 18.80 115 eP P 18 04 10.9 -2.9
RUSC **La Rusia** 18.80 115 eP Pn 18 04 14.8 +0.5
comp=Z,14nm,1.3s
138A **Matatall Enter** 18.84 347 P Pn 18 04 14.0 -0.2
baz=166
WHTX **Lake Whitney,** 18.85 341 P Pn 18 04 14.0 -0.2
baz=158
WHTX **Lake Whitney,** 18.85 341 eP Pn 18 04 14.2 0.0
comp=Z,71nm,1.1s
CHIC **Chingaza** 18.86 119 eP P 18 04 14.1 -0.3
Z46A **Louisville** 18.88 3 P Pn 18 04 14.6 0.0
baz=184
Z43A **Armstrong Fami** 18.88 357 P Pn 18 04 14.8 +0.1
baz=177
LRAL **Lakeview Retre** 18.91 8 P Pn 18 04 16.1 +1.0
comp=Z,94nm,1.5s
Z44A **Pea Ridge, Bel** 18.93 359 P P 18 04 14.6 0.0
baz=180
137A **Heron Place, G** 18.93 345 P Pn 18 04 15.1 -0.2
baz=164
Z47A **Carrollton** 18.95 6 P P 18 04 14.9 +0.1
baz=187
Z42A **Norrel Spur, H** 18.99 356 P P 18 04 15.1 -0.2
baz=175
136A **Ennis** 19.02 343 P P 18 04 15.3 -0.3
baz=161
Z45A **Winona** 19.03 1 P P 18 04 15.6 0.0
baz=182
Z41A **Richland Creek** 19.05 353 P P 18 04 16.2 +0.2
baz=172
234A **Clairette** 19.09 339 P P 18 04 16.4 0.0
baz=156
Z40A **Long Farm, Mag** 19.13 352 P P 18 04 16.4 -0.4
baz=171
Z48A **Northport** 19.18 7 P Pn 18 04 18.0 -0.2
baz=188
Z39A **Irene McRaven,** 19.23 350 P P 18 04 18.4 +0.4
baz=168
233A **Rising Star** 19.37 337 P P 18 04 19.3 -0.3
baz=154,SNR=19
Z38A **Mt. Pleasant** 19.39 348 P Pn 18 04 20.3 -0.5
baz=166
Z37A **Pogue Cattle C** 19.48 346 P Pn 18 04 21.3 -0.5
baz=164
TXAR **Lajitas Array** 19.48 322 P Pn 18 04 22.4 +0.3
comp=Z,0.4nm,0.3s,baz=147,slow=9.6,SNR=52
TXAR LR LR 18 13 39.8
comp=Z,852nm,21.6s,baz=0.0,slow=42
TX31 **Lajitas Ar. Si** 19.48 322 eP Pn 18 04 22.8 +0.7
WLAR **White Oak Lake** 19.51 353 eP Pn 18 04 24.1 +1.8
comp=Z,99nm,1.1s
Y45A **Yeager Farm, C** 19.52 2 P Pn 18 04 22.1 -0.3
baz=182
Y42A **Garnett, Star** 19.54 356 P Pn 18 04 22.0 -0.6
baz=176
Y46A **Houston** 19.57 3 P P 18 04 22.2 +0.6
baz=184
Y43A **Makayla and Ka** 19.57 358 P P 18 04 22.1 +0.5
baz=178
Y44A **Strider, Charl** 19.61 0 P Pn 18 04 23.0 -0.4
baz=180
CCAR **Cane Creek** 19.62 356 eP Pn 18 04 24.3 +0.8
comp=Z,135nm,1.3s
Y41A **Eaglette Beard** 19.65 354 P Pn 18 04 23.4 -0.4
baz=173
Y47A **UCPARC, Winfie** 19.67 6 P Pn 18 04 24.0 -0.1
baz=187,SNR=12
Z36A **Blue Ridge** 19.75 344 P P 18 04 23.9 +0.3
baz=162,SNR=5.3
Y40A **Okolona** 19.86 352 P Pn 18 04 25.6 -0.8
baz=172
Y39A **Lockesburg** 19.90 350 P P 18 04 25.7 +0.4
baz=169
SDV **Santo Domingo** 19.91 103 eP Pn 18 04 28.0 +0.6
comp=Z,100nm,0.9s
Y38A **Idabel** 20.00 349 P P 18 04 26.9 +0.6
baz=167
GOGA **Godfrey** 20.02 17 eP Pn 18 04 27.9 -0.5
comp=Z,20nm,0.9s
X44A **Crenshaw** 20.15 0 P P 18 04 28.5 +0.6
baz=180
OXF **Oxford** 20.17 2 eP P 18 04 28.9 +0.7
comp=Z,139nm,1.2s
X43A **Marvell** 20.17 358 P Pn 18 04 29.4 -0.7
baz=178
ABTX **Abilene, Hawle** 20.20 336 P P 18 04 28.6 +0.1
baz=153,SNR=12
ABTX **Abilene, Hawle** 20.20 336 eP P 18 04 29.4 +0.8
comp=Z,345nm,2.0s
X42A **Stuttgart** 20.24 357 P P 18 04 29.9 +1.0
baz=176
X41A **Kaden, Bauxite** 20.25 355 P Pn 18 04 30.1 -0.9
baz=174
X40A **Basin Creek Fa** 20.27 354 P P 18 04 30.2 +0.9
baz=173,SNR=10
Y36A **Durant** 20.31 345 P P 18 04 29.6 -0.1
baz=163,SNR=16
MIAR **Mount Ida** 20.42 352 P Pn 18 04 31.9 -1.0
baz=171,SNR=27
MIAR **Mount Ida** 20.42 352 eP Pn 18 04 32.5 -0.5
comp=Z,64nm,1.1s
X39A **Fountain Ranch** 20.46 351 P P 18 04 32.3 +0.9
baz=169,SNR=6.3
Y35A **Marieta** 20.51 344 P P 18 04 32.4 +0.5
baz=161,SNR=48
UALR **University of** 20.51 355 eP Pn 18 04 33.9 -0.2
comp=Z,88nm,1.2s
W43A **Forest City** 20.74 359 P P 18 04 34.8 +0.5
baz=179
X38A **Whitesboro** 20.74 349 P P 18 04 35.4 +1.0
baz=168,SNR=20
X37A **Clayton** 20.76 348 P P 18 04 35.7 +1.0
baz=166,SNR=13
W44A **Shelby Farms P** 20.79 1 P P 18 04 35.8 +0.9
baz=181
W45A **Hickory Valley** 20.82 2 P P 18 04 35.7 +0.4
baz=183
W41B **Gary Mavity, V** 20.90 355 P P 18 04 36.5 +0.4
baz=175
W42A **Bald Knob** 20.95 357 P P 18 04 36.9 +0.3
baz=177
X35A **Drake** 20.96 344 P P 18 04 36.4 -0.4
baz=162,SNR=6.8
X36A **Centrahoma** 20.96 346 P P 18 04 36.7 -0.1
baz=163,SNR=11
W40A **Ferguson Farm,** 21.00 353 P P 18 04 37.9 +0.8
baz=172
WHAR **Wooly Hollow** 21.02 355 eP P 18 04 39.5 +2.1
comp=Z,144nm,1.7s
W38A **Poteau** 21.07 350 P P 18 04 38.4 +0.4
baz=169,SNR=10.0
W39A **Magazine** 21.09 352 P P 18 04 37.9 -0.2
baz=171
SWET **Sewanee** 21.22 10 eP P 18 04 40.5 +1.0
comp=Z,12nm,0.7s
W37B **Quinton** 21.31 348 P P 18 04 40.5 0.0
baz=166,SNR=35
LPIG **La Paz** 21.32 300 P P 18 04 39.4 -1.4
comp=Z,31nm,0.3s,baz=141,slow=3.6,SNR=2.0
LPIG LR LR 18 12 53.3
comp=Z,5µm,19.1s,baz=119,slow=36
V45A **Humboldt** 21.41 3 P P 18 04 41.1 -0.5
baz=184
V43A **Jonesboro** 21.43 359 P P 18 04 41.2 -0.5
baz=179
V44A **Blytheville** 21.47 1 P P 18 04 41.6 -0.7
baz=181
V42A **Cord** 21.48 357 P P 18 04 41.6 -0.7
baz=177,SNR=11
W36A **Wewumka** 21.48 346 P P 18 04 42.0 -0.3
baz=164,SNR=8.7
V41A **Mountainview** 21.50 356 P P 18 04 42.1 -0.5
baz=175,SNR=14
V40A **Witts Springs** 21.57 354 P P 18 04 43.9 +0.5
baz=173,SNR=12
W35A **Tecumseh** 21.64 345 P P 18 04 43.6 -0.5
baz=162,SNR=21
V39A **Pettigrew** 21.70 352 P P 18 04 44.8 0.0
baz=171,SNR=21
CPCT **Cooper Cave** 21.71 13 eP P 18 04 46.2 +1.5
comp=Z,59nm,1.7s
WMOK **Wichita Mounta** 21.80 341 P P 18 04 44.5 -1.3
baz=157,SNR=23
WMOK **Wichita Mounta** 21.80 341 eP P 18 04 45.0 -0.8
comp=Z,31nm,0.9s
V38A **Canehill** 21.83 351 P P 18 04 46.7 +0.5
baz=169,SNR=16
WVT **Waverly** 21.88 5 eP P 18 04 47.6 +1.0
comp=Z,28nm,1.0s
V37A **Hulbert** 21.98 349 P P 18 04 47.2 -0.5
baz=167,SNR=34
U44B **Burton Farm, H** 22.00 2 P P 18 04 47.4 -0.4
baz=182
U43A **Rector** 22.01 360 P P 18 04 47.7 -0.3
baz=180
U42A **Revenden** 22.01 358 P P 18 04 48.2 +0.2
baz=178,SNR=11
U45A **Rockin P Farm,** 22.03 3 P P 18 04 46.8 -1.4
baz=184
V36A **Jenks** 22.04 348 P P 18 04 47.2 -1.1
baz=165
U41A **Viola** 22.04 356 P P 18 04 48.1 -0.2
baz=176,SNR=8.4
TKL **Tuckaleechee C** 22.07 14 P P 18 04 50.8 +2.0
comp=Z,29nm,0.9s,baz=192,slow=12,SNR=8.9
TKL LR LR 18 14 09.7
comp=Z,2µm,18.1s,baz=190,slow=38
TKL **Tuckaleechee C** 22.07 14 eP P 18 04 50.6 +1.9
comp=Z,37nm,0.9s
U40A **Yellville** 22.12 354 P P 18 04 49.7 +0.4
baz=173,SNR=14
TUL1 **Leonard** 22.13 348 P P 18 04 48.3 -1.0
baz=166
TUL1 **Leonard** 22.13 348 eP P 18 04 51.8 +2.6
comp=Z,42nm,0.8s
U44A **Poteaville** 22.15 1 P P 18 04 48.8 -0.7
baz=182
HHAR **Hobbs** 22.18 352 eP P 18 04 50.1 +0.3
comp=Z,50nm,0.9s
U39A **Green Forest** 22.22 353 P P 18 04 50.3 0.0
baz=172,SNR=14
V35A **Meyer Ranch, C** 22.22 346 P P 18 04 48.7 -1.5
baz=163,SNR=6.6
MNTX **Cornudas Mount** 22.22 324 P P 18 04 49.2 -1.2
baz=138,SNR=19
MNTX **Cornudas Mount** 22.22 324 eP P 18 04 50.5 +0.1
KMSC **Kings Mountain** 22.28 20 eP P 18 04 57.6 +6.7
comp=Z,22nm,1.1s
PARMO **Parma** 22.31 1 eP P 18 04 53.7 +2.5
PARMO eSn Sn 18 09 23.2 +15
U38A **Gravette** 22.39 351 P P 18 04 51.9 -0.3
baz=170,SNR=10.0
PBMO **Poplar Bluff** 22.42 360 eP P 18 04 53.0 +0.6
comp=Z,32nm,0.8s
U37A **Salina** 22.48 350 P P 18 04 52.5 -0.5
baz=168,SNR=16
U36A **Oologah** 22.58 348 P P 18 04 53.5 -0.7
baz=166
MSTX **Muleshoe** 22.68 332 P P 18 04 53.7 -1.6
baz=147
MSTX **Muleshoe** 22.68 332 eP P 18 04 54.4 -1.0
comp=Z,39nm,1.1s
T42A **Van Buren** 22.68 358 P P 18 04 55.1 -0.1
baz=178,SNR=14
T43A **Greenville** 22.72 360 P P 18 04 55.1 -0.5
baz=180
T41A **Mountain View** 22.73 357 P P 18 04 55.8 +0.1
baz=176,SNR=14
T44A **Benton** 22.73 1 P P 18 04 55.7 0.0
baz=182,SNR=7.7
U35A **Pawnee** 22.77 346 P P 18 04 55.6 -0.6
baz=164,SNR=7.7
T39A **Clever** 22.84 353 P P 18 04 56.5 -0.4
baz=172,SNR=9.9
T40A **Mansfield** 22.88 355 P P 18 04 57.1 -0.3
baz=174,SNR=9.5
T38A **Diamond** 22.97 352 P P 18 04 57.4 -0.8
baz=170
TZTN **Tazewell** 22.97 14 eP P 18 04 59.2 +0.9
comp=Z,61nm,1.4s
AMTX **Amarillo** 22.99 335 P P 18 04 57.1 -1.5
baz=151
AMTX **Amarillo** 22.99 335 eP P 18 04 57.3 -1.2
comp=Z,37nm,0.9s
T37A **Cheneyville 18** 23.15 350 P P 18 04 59.1 -1.0
baz=169,SNR=22
S43A **Fulton Ridge,** 23.21 0 P P 18 04 59.6 -1.1
baz=180,SNR=6.2
T35A **Sooner Cattle** 23.25 347 P P 18 04 58.9 -2.2
baz=165
T36A **Boggs Farm, Ca** 23.26 348 P P 18 04 59.9 -1.3
baz=166,SNR=9.3
S41A **Jillco Farms,** 23.27 357 P P 18 05 00.4 -0.9
baz=176,SNR=9.9
S40A **Lebanon** 23.33 355 P P 18 05 01.3 -0.6
baz=175,SNR=7.8
S44A **Carbondale** 23.35 2 P P 18 05 02.0 -0.1
baz=182,SNR=21
S45A **Carrier Mills** 23.36 3 P P 18 05 01.3 -1.0
baz=184
U32A **Winter Ranch,** 23.38 342 P P 18 05 00.5 -2.0
baz=158,SNR=5.5
S42A **Caledonia** 23.41 359 P P 18 05 00.7 -2.0
baz=179
SJG **San Juan** 23.42 77 P P 18 05 04.9 +1.9
comp=Z,4.3nm,0.3s,baz=360,slow=11,SNR=3.1
SJG LR LR 18 13 55.3
comp=Z,2µm,21.4s,baz=256,slow=36
S39A **Bolivar** 23.49 354 P P 18 05 02.8 -0.7
baz=173,SNR=15
S38A **Stockton** 23.50 353 P P 18 05 02.3 -1.3
baz=171,SNR=21
T34A **McClaskey Farm** 23.50 346 P P 18 05 01.4 -2.3
baz=163,SNR=18
USIN **University of** 23.71 5 eP P 18 05 06.6 +0.9
comp=Z,128nm,1.0s
S37A **Fort Scott** 23.75 351 P P 18 05 05.1 -1.0
baz=169,SNR=19
S36A **Lake Cedric, C** 23.85 349 P P 18 05 05.7 -1.3
baz=167,SNR=28
R44A **Waltonville** 23.91 2 P P 18 05 07.2 -0.3
baz=183,SNR=5.8
R43A **Red Bud** 23.92 1 P P 18 05 07.3 -0.3
baz=181,SNR=8.8
R42A **Luebbering** 23.93 359 P P 18 05 06.8 -0.9
baz=179,SNR=5.0
S35A **Otter Creek Ra** 23.94 348 P P 18 05 05.9 -2.0
baz=166
R41A **Rosebud** 23.96 358 P P 18 05 07.1 -1.0
baz=177,SNR=23
R40A **Maddies Statio** 24.00 356 P P 18 05 07.3 -1.1
baz=175,SNR=8.4
R38A **Fenwick Farm,** 24.05 353 P P 18 05 07.8 -1.1
baz=171,SNR=18
R39A **Chumby, Stover** 24.08 355 P P 18 05 08.8 -0.4
baz=174,SNR=11
WCI **Wyandotte Cave** 24.12 8 eP P 18 05 10.8 +1.2
comp=Z,63nm,0.8s
S34A **Willow Spring** 24.13 347 P P 18 05 07.9 -1.8
baz=164
121A **Cookes Peak, D** 24.23 322 P P 18 05 11.1 +0.2
baz=135,SNR=14
121A **Cookes Peak, D** 24.23 322 eP P 18 05 11.9 +1.0
comp=Z,217nm,1.9s
ATAH **Atahualpa** 24.28 150 P P 18 05 11.8 +0.1
comp=Z,14nm,0.8s,baz=342,slow=7.6,SNR=10
ATAH LR LR 18 13 52.3
comp=Z,1µm,19.1s,baz=333,slow=34
R37A **Teagarden Farm** 24.30 351 P P 18 05 09.6 -1.6
baz=169,SNR=5.7
319A **Douglas** 24.40 317 eP P 18 05 13.7 +1.3
comp=Z,30nm,1.2s
R36A **Gordon, Harris** 24.42 350 P P 18 05 10.0 -2.3
baz=168
OLIL **Olney** 24.44 4 eP P 18 05 13.1 +0.6
comp=Z,48nm,0.9s
R35A **Emporia Munici** 24.54 349 P P 18 05 12.3 -1.2
baz=168,SNR=5.3
Q42A **Golden Eagle** 24.55 359 P P 18 05 13.0 -0.5
baz=179
Q44A **Meyer Farm, Va** 24.56 2 P P 18 05 13.1 -0.5
baz=183,SNR=11
STVI **Saint Thomas** 24.58 77 eP P 18 05 16.3 +2.4
comp=Z,229nm,1.6s
Q43A **New Douglas** 24.58 1 P P 18 05 13.0 -0.7
baz=181,SNR=8.4
Q41A **Truxton** 24.61 358 P P 18 05 13.5 -0.5
baz=178,SNR=12
Q40A **Laux Farm, Aux** 24.69 357 P P 18 05 12.7 -2.0
baz=176
R34A **Isabella, Hill** 24.74 347 P P 18 05 14.0 -1.2
baz=164,SNR=13
Q38A **Cooks Store, C** 24.78 354 P P 18 05 14.5 -1.1
baz=172
Q37A **Longview Farm,** 24.80 352 P P 18 05 14.0 -1.7
baz=170
Q39A **Willow Grove F** 24.80 355 P P 18 05 12.6 -3.1
baz=174,SNR=8.3
Y22D **IRIS PASSCAL I** 24.85 325 P P 18 05 14.9 -1.6
baz=139
Q35A **Mercer Eighty,** 25.03 349 P P 18 05 16.7 -1.1
baz=167
Q36A **Arnold C. Orve** 25.03 350 P P 18 05 16.5 -1.4
baz=168
P44A **Sand Creek, Wi** 25.14 3 P P 18 05 17.5 -1.3
baz=184
P40A **Paris** 25.22 357 P P 18 05 17.6 -1.9
baz=176,SNR=6.4
P42A **Winchester** 25.22 360 P P 18 05 18.6 -0.9
baz=180
P39B **Salisbury** 25.22 355 P P 18 05 18.5 -1.1
baz=174
ANMO **Albuquerque** 25.27 327 P P 18 05 20.6 +0.4
comp=Z,1.6nm,0.8s,baz=158,slow=13,SNR=3.6
ANMO LR LR 18 17 59.3
comp=Z,480nm,20.9s,baz=140,slow=43
ANMO **Albuquerque** 25.27 327 P P 18 05 18.9 -1.4
baz=141
ANMO **Albuquerque** 25.27 327 eP P 18 05 23.4 +3.2
comp=Z,12nm,1.4s
Q34A **Chapman** 25.27 348 P P 18 05 18.9 -1.1
baz=165
P43A **Skaggs, Pawnee** 25.29 1 P P 18 05 18.5 -1.6
baz=182,SNR=6.2
P41A **Barry, Barry** 25.32 358 P P 18 05 19.8 -0.7
baz=178
PCRV **Puerto La Cruz** 25.32 96 P P 18 05 22.0 +1.2
comp=Z,4.8nm,0.5s,baz=42,slow=5.5,SNR=3.7
PCRV LR LR 18 16 15.7
comp=Z,2µm,20.8s,baz=280,slow=38
KSU1 **Kansas State U** 25.37 348 P P 18 05 19.6 -1.3
baz=166
KSU1 **Kansas State U** 25.37 348 P P 18 05 19.0 -1.9
P38A **Dawn** 25.43 354 P P 18 05 19.3 -2.1
baz=173
P37A **Lathrop** 25.48 353 P P 18 05 18.9 -3.1
baz=171
P36A **Good Intent, A** 25.64 351 P P 18 05 20.2 -3.1
baz=169
O41A **Passleys Farm,** 25.76 359 P P 18 05 22.7 -1.7
baz=179
O40A **La Belle** 25.80 357 P P 18 05 21.7 -3.1
baz=176,SNR=7.6
CBKS **Cedar Bluff** 25.86 343 P P 18 05 24.5 -0.9
baz=159
CBKS **Cedar Bluff** 25.86 343 eP P 18 05 24.7 -0.7
comp=Z,58nm,1.1s
O38A **Galt** 25.91 354 P P 18 05 23.2 -2.6
baz=173
O43A **Sugar Creek Fa** 25.93 2 P P 18 05 22.0 -3.9
baz=182
O39A **Kirksville** 25.97 356 P P 18 05 24.2 -2.2
baz=175
TUC **Tucson** 25.98 317 P P 18 05 25.9 -0.7
baz=129

O37A	Wolven Farm, M	26.03	353	P		P	18 05 25.6	-1.3	
	baz=172								
T25A	Trinidad	26.06	334	P		P	18 05 26.2	-1.2	
	baz=148								
T25A	Trinidad	26.06	334	*e*P		P	18 05 28.9	+1.5	
	comp=Z,90nm,1.8s								
O36A	Bolckow	26.10	352	P		P	18 05 24.9	-2.6	
	baz=170								
SFIN	Lafayette	26.16	5	P		P	18 05 26.8	-1.3	
	baz=187								
SFIN	Lafayette	26.16	5	*e*P		P	18 05 28.2	+0.2	
	comp=Z,34nm,1.0s								
HDIL	Hopedale	26.20	2	P		P	18 05 26.7	-1.7	
	baz=182								
HDIL	Hopedale	26.20	2	*e*P		P	18 05 29.2	+0.8	
	comp=Z,27nm,0.8s								
N41A	Harden Midland	26.35	359	P		P	18 05 26.7	-3.0	
	baz=179								
O35A	Humboldt	26.38	350	P		P	18 05 27.0	-3.1	
	baz=168								
O34A	Beatrice	26.44	349	P		P	18 05 28.4	-2.2	
	baz=166								
N42A	Yates City	26.46	0	P		P	18 05 25.5	-5.3	
	baz=180								
O33A	Hebron	26.51	347	P		P	18 05 26.3	-4.9	
	baz=164								
N40A	Mertquake, Sal	26.55	358	P		P	18 05 25.8	-5.7	
	baz=177								
N38A	Joes South For	26.56	355	P		P	18 05 26.8	-4.9	
	baz=174								
N37A	Lee Faris, Mou	26.62	353	P		P	18 05 27.4	-4.9	
	baz=172								
N36A	Muff Farm, Cla	26.77	352	P		P	18 05 28.7	-4.9	
	baz=170								
KSCO	Kaye Shedlock'	26.97	338	P		P	18 05 27.8	-7.8	
	baz=153								
KSCO	Kaye Shedlock'	26.97	338	*e*P		P	18 05 36.1	+0.5	
	comp=Z,45nm,1.3s								
M41A	Milan	27.01	359	P		P	18 05 31.3	-4.4	
	baz=179								
N34A	Lincoln	27.04	349	P		P	18 05 32.9	-3.1	
	baz=167								
SDCO	Great Sand Dun	27.04	333	P		P	18 05 31.9	-4.5	
	baz=146								
SDCO	Great Sand Dun	27.04	333	*e*P		P	18 05 40.0	+3.6	
	comp=Z,33nm,1.9s								
M40A	Post Highland	27.06	358	P		P	18 05 33.1	-3.0	
	baz=177								
M42A	Sheffield	27.09	1	P		P	18 05 32.0	-4.4	
	baz=181								
N33A	J Bar K, Exete	27.12	348	P		P	18 05 34.1	-2.7	
	baz=165								
M39A	Webster	27.17	357	P		P	18 05 35.0	-2.2	
	baz=176								
M38A	Pleasantville	27.18	355	P		P	18 05 34.6	-2.6	
	baz=174								
W18A	Petrified Fore	27.20	323	P		P	18 05 36.0	-1.7	
	baz=135								
M37A	Trindle Farm,	27.24	354	P		P	18 05 36.5	-1.3	
	baz=172								
M36A	Felix, Anita	27.38	352	P		P	18 05 37.8	-1.3	
	baz=170								
S22A	4UR Ranch, Cre	27.65	331	P		P	18 05 37.8	-4.0	
	baz=144								
S22A	4UR Ranch, Cre	27.65	331	*e*P		P	18 05 41.0	-0.9	
	comp=Z,9.9nm,1.3s								
M34A	Aspy Farms, Fr	27.70	350	P		P	18 05 38.8	-3.1	
	baz=167								
L40A	Anamosa	27.71	358	P		P	18 05 41.2	-0.8	
	baz=178,SNR=6.9								
L41A	Preston	27.71	360	P		P	18 05 41.0	-1.0	
	baz=180,SNR=9.2								
X16A	Lo Mia Camp, P	27.75	320	*e*P		P	18 05 44.5	+1.8	
	comp=Z,7.2nm,1.1s								
L39A	Vinton	27.80	357	P		P	18 05 40.2	-2.6	
	baz=176								
M33A	Taylor Creek F	27.88	349	P		P	18 05 40.8	-2.7	
	baz=166								
L38A	Oak Wood Farm,	27.88	356	P		P	18 05 41.8	-1.7	
	baz=174								
L36A	Harm Buss Farm	28.00	353	P		P	18 05 42.9	-1.7	
	baz=171								
L34A	Svendsen Farm,	28.11	350	P		P	18 05 43.4	-2.2	
	baz=167								
L35A	Bielow Farm, R	28.13	352	P		P	18 05 44.0	-1.8	
	baz=169								
K41A	Shullsburg	28.24	360	P		P	18 05 45.0	-1.7	
	baz=180								
K39A	Oelwein	28.38	357	P		P	18 05 44.9	-3.1	
	baz=177								
WUAZ	Wupatki	28.45	322	*e*P		P	18 05 50.5	+1.7	
	comp=Z,8.2nm,1.0s								
Y14A	Wickenburg	28.45	317	*e*P		P	18 05 50.3	+1.5	
	comp=Z,52nm,1.6s								
L33A	Hoskins	28.46	349	P		P	18 05 44.7	-4.0	
	baz=166								
K36A	Gilmore City	28.51	353	P		P	18 05 44.2	-4.9	
	baz=172								
OGNE	Ogallala	28.51	341	P		P	18 05 45.1	-4.2	
	baz=156								
OGNE	Ogallala	28.51	341	*e*P		P	18 05 50.1	+0.8	
	comp=Z,35nm,1.1s								
JFWS	Jewell Farm	28.55	360	*e*P		P	18 05 49.6	+0.1	
	comp=Z,57nm,1.5s								
K37A	Belmond	28.55	355	P		P	18 05 46.9	-2.6	
	baz=173								
K35A	Storm Lake	28.68	352	P		P	18 05 47.6	-3.1	
	baz=170								
K34A	Le Mars	28.77	351	P		P	18 05 49.3	-2.2	
	baz=168								
ISCO	Idaho Springs	28.80	335	*e*P		P	18 05 52.3	+0.2	
	comp=Z,22nm,1.9s								
J39A	Decorah	29.00	358	P		P	18 05 50.4	-3.1	
	baz=177								
J41A	Loganville	29.00	0	P		P	18 05 51.3	-2.2	
	baz=180								
J38A	Wedel Dairy, R	29.02	357	P		P	18 05 52.8	-0.8	
	baz=176								
J40A	Soldiers Grove	29.03	359	P		P	18 05 51.6	-2.2	
	baz=179								
K32A	Verdigre	29.07	348	P		P	18 05 52.4	-1.8	
	baz=165								
J37A	Redenius Farm,	29.09	355	P		P	18 05 52.1	-2.2	
	baz=174								
K31A	O'Neill	29.20	347	P		P	18 05 54.4	-0.9	
	baz=163								
J34A	George	29.34	351	P		P	18 05 55.6	-0.9	
	baz=169								
PV09	Paradox Valley	29.37	329	*e*P		P	18 05 59.5	+2.3	
I39A	Houston	29.51	358	P		P	18 05 57.2	-0.8	
	baz=178								
U15A	North Rim	29.61	322	*e*P		P	18 06 01.2	+1.9	
	comp=Z,12nm,1.5s								
I41A	Arkdale	29.69	1	P		P	18 05 58.8	-0.8	
	baz=181								
I38A	Scanlan Farm,	29.73	357	P		P	18 05 58.7	-1.3	
	baz=176								
W13A	Hualapai Mount	29.74	318	*e*P		P	18 06 01.7	+1.3	
	comp=Z,9.0nm,1.4s								
IKP	In-Ko-Pah, Jac	29.85	312	P		P	18 05 59.5	-1.8	
	baz=122								
ECSD	EROS Data Cent	29.87	351	P		P	18 05 59.0	-2.2	
	baz=168								
I33A	Coleman	30.21	351	P		P	18 06 01.1	-3.1	
	baz=167								
H41A	Junction City	30.25	1	P		P	18 06 03.8	-0.8	
	baz=181								
H40A	Chili	30.26	360	P		P	18 06 02.9	-1.7	
	baz=180								
I32A	Karley and Nic	30.30	350	P		P	18 06 04.2	-0.9	
	baz=166								
KNB	Kanab	30.32	322	*e*P		P	18 06 07.5	+2.0	
	comp=Z,9.5nm,1.1s								
H38A	Maiden Rock	30.36	357	P		P	18 06 04.7	-0.8	
	baz=176								
LDFC	Landfair	30.52	317	*e*P		P	18 06 09.3	+2.0	
	comp=Z,12nm,1.0s								
H35A	Sunnyside Ranc	30.59	354	P		P	18 06 04.9	-2.6	
	baz=171								
H32A	Carlson Farm,	30.76	350	P		P	18 06 09.1	0.0	
	baz=166								
H33A	Prehn Over Nor	30.82	351	P		P	18 06 09.6	0.0	
	baz=168								
G40A	Rib Lake	30.90	0	P		P	18 06 08.6	-1.7	
	baz=180								
H31A	Wolsey	30.93	348	P		P	18 06 08.3	-2.2	
	baz=164								
G39A	Holcombe	30.93	359	P		P	18 06 09.3	-1.3	
	baz=178								
SPMN	Marine on St.	30.94	356	P		P	18 06 09.3	-1.3	
	baz=175								
SPMN	Marine on St.	30.94	356	*e*P		P	18 06 10.0	-0.6	
	comp=Z,16nm,0.8s								
SUSD	Miller	30.98	348	P		P	18 06 09.7	-1.3	
	baz=164								
MSU	Marysvale	30.99	325	*e*P		P	18 06 12.5	+1.1	
F41A	Three Lakes	31.39	1	P		P	18 06 12.7	-1.9	
	baz=182								
SHPR	Sheep Range	31.42	319	*e*P		P	18 06 17.2	+2.0	
	comp=Z,8.0nm,1.4s								
F40A	Park Falls	31.55	0	P		P	18 06 14.3	-1.8	
	baz=180								
F38A	Pierce - Schro	31.62	358	P		P	18 06 14.9	-1.7	
	baz=177								
F35A	Swanville	31.70	354	P		P	18 06 16.1	-1.3	
	baz=172								
F44A	Big Bay de Noc	31.77	5	P		P	18 06 17.1	-0.8	
	baz=187								
RSSD	Black Hills	32.01	341	*e*P		P	18 06 21.4	+1.0	
	comp=Z,7.9nm,0.7s								
E39A	Mellen	32.01	360	P		P	18 06 18.3	-1.8	
	baz=180								
E40A	Wakefield	32.08	0	P		P	18 06 20.7	0.0	
	baz=181								
E42A	Champion	32.12	3	P		P	18 06 19.7	-1.3	
	baz=184								
E43A	Lone Tree Farm	32.12	4	P		P	18 06 20.6	-0.4	
	baz=186								
E36A	McGregor	32.25	356	P		P	18 06 21.3	-0.9	
	baz=175								
E38A	The Farm, Brul	32.26	358	P		P	18 06 22.3	0.0	
	baz=178								
TPNV	Topopah Spring	32.38	319	*e*P		P	18 06 25.9	+2.3	
	comp=Z,41nm,1.9s								
D37A	Cotton	32.84	357	P		P	18 06 26.9	-0.4	
	baz=176								
R11A	Troy Canyon, C	32.85	322	P		P	18 06 28.5	+0.8	
	baz=130,SNR=5.1								
R11A	Troy Canyon, C	32.85	322	*e*P		P	18 06 29.2	+1.5	
	comp=Z,14nm,1.8s								
PDAR	Pinedale Array	32.93	333	P		P	18 06 28.0	-0.5	
	comp=Z,0.3nm,0.3s,baz=137,slow=9.3,SNR=3.5								
PDAR						LR	LR	18 23 27.5	
	comp=Z,691nm,19.2s,baz=156,slow=43								
D34A	Park Rapids	32.98	354	P		P	18 06 28.6	0.0	
	baz=171								
D33A	AnnSam, Waubun	33.11	353	P		P	18 06 28.3	-1.4	
	baz=170								
C38A	Sawbill Land.	33.36	359	P		P	18 06 30.1	-1.8	
	baz=178								
PTGA	Pitinga	33.45	114	*e*P		P	18 06 32.7	-0.3	
	comp=Z,20nm,1.9s								
C36A	Pine Crest Far	33.46	357	P		P	18 06 32.3	-0.5	
	baz=176								
C35A	Jirik Farms, M	33.48	355	P		P	18 06 32.9	0.0	
	baz=174								
C34A	RKJ Ranch, Bem	33.51	354	P		P	18 06 32.7	-0.5	
	baz=172								
EYMN	Ely	33.60	358	P		P	18 06 33.5	-0.5	
	baz=178								
C33A	Trail	33.71	353	P		P	18 06 35.3	+0.4	
	baz=170								
REDW	Red Top Meadow	33.97	333	*e*P		P	18 06 38.0	+0.5	
	comp=Z,18nm,1.1s								
SNOW	Snow King Moun	34.01	333	*e*P		P	18 06 38.8	+0.9	
	comp=Z,15nm,0.8s								
LOHW	Long Hollow	34.06	333	*e*P		P	18 06 38.9	+0.6	
	comp=Z,30nm,1.9s								
B35A	Bob, Littlefor	34.12	356	P		P	18 06 37.5	-0.9	
	baz=174								
TPAW	Teton Pass	34.12	333	*e*P		P	18 06 39.4	+0.5	
	comp=Z,12nm,1.0s								
MOOW	Moose Ponds	34.23	333	*e*P		P	18 06 40.0	+0.3	
	comp=Z,4.1nm,1.0s								
AGMN	Agassiz Nation	34.25	353	P		P	18 06 39.1	-0.5	
	baz=170								
AGMN	Agassiz Nation	34.25	353	*e*P		P	18 06 40.7	+1.1	
	comp=Z,11nm,0.9s								
B34A	Aery, Baudette	34.32	355	P		P	18 06 40.1	0.0	
	baz=172								
MDND	Maddock	34.38	349	P		P	18 06 39.8	-1.0	
	baz=164								
RLMT	Red Lodge	34.74	336	P		P	18 06 42.8	-1.3	
	baz=146								
RLMT	Red Lodge	34.74	336	*e*P		P	18 06 45.8	+1.6	
	comp=Z,8.1nm,1.0s								
A33A	Warroad	34.83	354	P		P	18 06 44.1	-0.5	
	baz=171								
LAO	LASA Array	35.00	341	P		P	18 06 45.9	-0.2	
	baz=152								
SAML	Samuel	35.37	129	*e*P		P	18 06 45.8	-3.9	
	comp=Z,17nm,0.9s								
HLID	Hailey	35.80	329	P		P	18 06 52.3	-1.0	
	baz=137								
DGMT	Dagmar	36.01	344	P		P	18 06 55.1	+0.3	
	baz=157								
DGMT	Dagmar	36.01	344	*e*P		P	18 06 55.7	+0.9	
	comp=Z,39nm,1.0s								
MCMT	McKenzie Canyo	36.02	332	*e*P		P	18 06 56.4	+1.2	
BOZ	Bozeman (W)	36.09	334	P		P	18 06 54.2	-1.4	
	baz=143								
BOZ	Bozeman (W)	36.09	334	*e*P		P	18 06 56.7	+1.0	
	comp=Z,12nm,1.5s								
ULM	Lac du Bonnet	36.18	354	P		P	18 06 54.9	-1.3	
	comp=Z,9.3nm,0.9s,baz=166,slow=9.3,SNR=7.0								
ULM						LR	LR	18 24 02.7	
	comp=Z,623nm,18.9s,baz=166,slow=40								
ULM	Lac du Bonnet	36.18	354	*e*P		P	18 06 55.5	-0.7	
	comp=Z,18nm,1.1s								
EGMT	Eagleton	37.35	338	P		P	18 07 05.6	-0.8	
	baz=148								
EGMT	Eagleton	37.35	338	*e*P		P	18 07 07.2	+0.8	
	comp=Z,91nm,1.8s								
LPAZ	La Paz	37.39	144	P		P	18 07 05.6	-2.0	
	comp=Z,7.4nm,0.7s,baz=321,slow=11,SNR=13								
LPAZ						LR	LR	18 23 06.6	
	comp=Z,1µm,19.1s,baz=322,slow=37								
MSO	Missoula	38.05	333	P		P	18 07 10.9	-1.4	
	baz=141								
F10A	Beach Ranch, E	38.93	330	*e*P		P	18 07 19.3	-0.4	
	comp=Z,9.5nm,0.8s								
PB11	IPOC Station P	39.41	149	*e*P		P	18 07 24.0	+0.1	
	comp=Z,33nm,0.9s								
PB01	IPOC Station P	40.57	149	*e*P		P	18 07 36.6	+3.1	
	comp=Z,13nm,0.9s								
LVC	Linn Verde	42.18	150	*e*P		P	18 07 48.3	+1.2	
	comp=Z,16nm,1.1s								
EDM	Edmonton	42.96	340	*e*P		P	18 07 52.6	-0.1	
	comp=Z,80nm,1.3s								
SCHQ	Schefferville	44.39	19	P		P	18 08 03.1	-1.0	
	comp=Z,19nm,0.8s,baz=212,slow=7.9,SNR=7.2								
SCHQ						LR	LR	18 26 09.9	
	comp=Z,1µm,21.9s,baz=215,slow=35								
SCHQ	Schefferville	44.39	19	*e*P		P	18 08 06.0	+1.9	
	comp=Z,32nm,0.9s								
LLLB	Lillooet	44.40	331	*e*P		P	18 08 05.1	+0.8	
	comp=Z,23nm,1.3s								
LCO	Las Campanas	46.98	156	*e*P		P	18 08 28.1	+2.9	
	comp=Z,22nm,1.0s								
YKA	Yellowknife Ar	51.18	346	P		P	18 08 54.8	-1.8	
	comp=Z,5.2nm,0.8s,baz=150,slow=7.7,SNR=10								
CPUP	Villa Florida	51.49	141	P		P	18 08 57.9	-1.6	
	comp=Z,7.4nm,0.9s,baz=333,slow=8.7,SNR=10								
CPUP						PcP	PcP	18 10 11.8	-2.0
	comp=Z,1.7nm,0.6s,baz=298,slow=6.2,SNR=3.3								
CPUP						LR	LR	18 32 20.3	
	comp=Z,481nm,18.4s,baz=334,slow=38								
RKT	Rikitea	57.43	230	*e*S		S	18 17 44.8	+4.7	
	comp=Z,587nm,26.2s								
RKT						*e*LQ	LQ	18 24 18.5	
	comp=Z,601nm,31.2s								
RKT						*e*LR	LR	18 26 42.4	
	comp=Z,1µm,29.0s,baz=45								
RKT	Rikitea	57.43	230	*e*T		T	19 10 27.8		
	comp=Z,2.4nm,0.3s								
PLCA	Paso Flores	57.68	162	P		P	18 09 41.0	-3.3	
	comp=Z,8.7nm,1.1s,baz=3.6,slow=8.1,SNR=8.6								
PLCA						LR	LR	18 29 13.7	
	comp=Z,331nm,20.9s,baz=352,slow=30								
PLCA	Paso Flores	57.68	162	*e*P		P	18 09 44.5	+0.2	
	comp=Z,29nm,1.3s								
TRQA	Tornquist	58.40	154	*e*P		P	18 09 49.6	+0.3	
	comp=Z,25nm,1.4s								
SFJD	Kangerlussuaq	58.75	17	*i* P		P	18 09 49.8	-1.5	
	comp=Z,9.2nm,0.6s								
INK	Inuvik	60.68	343	*e*P		P	18 10 04.7	+0.1	
	comp=Z,9.2nm,0.9s								
CHRN	Cochrane	63.24	167	*e*P		P	18 10 23.4	+1.4	
	comp=Z,9.2nm,0.9s								
IL1	Eielson Array	63.28	336	*e*P		P	18 10 20.9	-1.3	
ILAR	Eielson Array	63.28	336	P		P	18 10 20.9	-1.3	
	comp=Z,2.2nm,0.8s,baz=161,slow=4.5,SNR=15								
ILAR						LR	LR	18 43 00.4	
	comp=Z,596nm,18.1s,baz=118,slow=41								
ILB	Eielson Array	63.28	336	*e*P		P	18 10 21.5	-0.8	
SUMG	Summit	65.53	15	*i* P		P	18 10 36.4	-0.9	
	comp=Z,15nm,0.7s								
SUMG	Summit	65.53	15	*e*P		P	18 10 36.5	-0.7	
	comp=Z,66nm,1.6s								
PPT2	Papeete2	66.56	243	*e*S		S	18 19 42.7	+6.8	
	comp=Z,290nm,26.8s								
PPT2	Papeete2	66.56	243	*e*LR		LR	18 30 36.4		
	comp=Z,2µm,28.5s,baz=59								
TBI	Tubuai	68.95	238	*e*S		S	18 20 08.8	+4.6	
	comp=Z,194nm,25.0s								
TBI	Tubuai	68.95	238	*e*LR		LR	18 31 58.3		
	comp=Z,1µm,29.8s,baz=64								
DAG	Danmarks Havn	72.01	13	*i* P		P	18 11 14.8	-2.3	
ESDC	Sonseca Array	78.20	52	P		P	18 11 51.5	-2.1	
	comp=Z,1.6nm,0.7s,baz=288,slow=5.7,SNR=9.9								
ES19	SONSECA Array	78.24	52	*e*P		P	18 11 53.6	-0.2	
PMSA	Palmer Station	81.28	169	LR		LR	18 41 45.5		
	comp=Z,177nm,18.3s,baz=308,slow=31								
NB2	NORSAR Subarra	83.09	29	P		P	18 12 18.8	-0.6	
	comp=Z,1.9nm,0.7s,baz=288,slow=5.3								
NOA	NORSAR Array B	83.09	29	P		P	18 12 18.2	-1.2	
	comp=Z,2.7nm,0.9s,baz=289,slow=5.1,SNR=5.9								
DBIC	Dimbokro	83.91	85	P		P	18 12 22.7	-1.7	
	comp=Z,2.4nm,0.7s,baz=304,slow=11,SNR=3.2								
ARCES	ARCESS Array B	85.34	19	P		P	18 12 29.9	-0.7	
	comp=Z,2.6nm,1.0s,baz=336,slow=5.6,SNR=4.0								
FUORN	Ofenpass-Fuorn	86.80	43	*e*P		P	18 12 39.9	+1.3	
CLL	Collm	87.05	38	*e*P		P	18 12 39.0	-0.4	
	comp=Z,7.0nm,0.9s								
CLL					*e*S	P	**sP**	18 12 44.0	+0.1
CLL					*e*SKSac	**SKSac**	18 23 08.0	+1.2	
CLL					*e*PS	**PnS**	18 24 18.0	+0.2	
CLL	Collm	87.05	38	*e*P		P	18 12 39.4	0.0	
NKC	Novy Kostel	87.07	39	*e*P		P	18 12 39.6	+0.1	
BRG	Berggiesshubel	87.76	38	*e*P		P	18 12 42.8	0.0	
	comp=Z,6.6nm,1.1s								
KHC	Kasperske Hory	88.12	40	*e*P		P	18 12 45.0	+0.3	
GERES	GERESS Array B	88.30	40	P		P	18 12 44.1	-1.5	
	comp=Z,1.0nm,0.9s,baz=276,slow=2.5,SNR=5.6								
GEA0	GERESS Array S	88.30	40	*e*P		P	18 12 44.5	-1.1	
TORD	Torodi Ar. Bea	88.64	77	P		P	18 12 44.7	-2.9	
	comp=Z,0.4nm,0.7s,baz=291,slow=3.8,SNR=3.7								
FINES	FINESS Array B	89.52	26	P		P	18 12 49.2	-1.7	
	comp=Z,4.1nm,1.0s,baz=251,slow=5.8,SNR=4.7								
DZM	Mont Dzumac	107.39	251	*e*LR		LR	18 49 55.8		
	comp=Z,453nm,28.9s								
HHC	Hu-ho-hao-te	121.56	341	*e*PKP		**PKPdf**	18 18 50.0	+2.0	
WMQ	Urumqi	122.17	2	PKP		**PKPdf**	18 18 48.6	-0.4	
WMQ				SKKS			18 27 12.8		
WMQ				AMB		AMB			
	comp=Z,96nm,6.1s								
WMQ				LR		LR			
	comp=Z,350nm,17.7s								
WMQ				LR		LR			
	comp=Z,330nm,20.7s								
WMQ				LR		LR			
	comp=Z,310nm,27.3s								
MAW	Mawson	123.88	168	PKP		**PKPdf**	18 18 49.1	-2.2	
	comp=Z,1.2nm,0.7s,baz=237,slow=2.8,SNR=6.5								
KSH	Kashi	124.97	13	*e*PKP		**PKPdf**	18 18 59.1	+4.5	
KSH				PP		PP	18 20 51.1	+10	
KSH				PKS		**PKSdf**	18 22 34.1	+2.8	
KSH				SS		SS	18 37 40.1	+3.5	
KSH				AMB		AMB			
	comp=Z,150nm,5.6s								
KSH				LR		LR			
	comp=Z,69nm,8.8s								
KSH				LR		LR			
	comp=Z,75nm,5.7s								
KSH				LR		LR			
	comp=Z,190nm,11.8s								
CTA	Charters Tower	125.94	255	PKP		**PKPdf**	18 18 55.3	-1.4	
	comp=Z,3.6nm,0.8s,baz=115,slow=6.8,SNR=3.6								
NJ2	Nanjing	126.17	329	*e*PKP		**PKPdf**	18 18 56.5	-0.4	
LZH	Lanzhou	128.19	345	*e*PKP		**PKPdf**	18 19 01.1	+0.2	
LZH				sPKP			18 19 26.0		
LZH				LR		LR			
	comp=Z,140nm,17.9s								
LZH				LR		LR			
	comp=Z,150nm,18.0s								
LZH				LR		LR			
	comp=Z,190nm,20.1s								
GYA	Guiyang	136.32	338	*e*Pdif		**Pdif**	18 16 20.0	-1.3	
GYA				PKP		**PKPdf**	18 19 16.3	-0.1	
GYA				PP		**PP**	18 21 59.4	+4.0	
GYA				AMB		AMB			
	comp=Z,110nm,7.9s								
WRA	Warramunga Arr	137.13	256	PKP		**PKPdf**	18 19 16.0	-1.9	
	comp=Z,5.2nm,0.8s,baz=89,slow=1.8,SNR=25								
ASAR	Alice Springs	137.38	251	PKP		**PKPdf**	18 19 13.9	-4.4	
	comp=Z,2.5nm,0.9s,baz=111,slow=3.9,SNR=8.8								
KMI	Kunming	138.86	342	PKP		**PKPdf**	18 19 21.5	+0.2	
QIZ	Qiongzhong	141.46	329	PKPbc		PKPbc	18 19 10.1		
QIZ				PP		**PP**	18 22 23.4	-4.0	
FITZ	Fitzroy Crossi	145.39	259	PKPbc		**PKPbc**	18 19 29.7	-2.9	
	comp=Z,8.2nm,0.7s,baz=90,slow=2.2,SNR=26								
SOEI	Soe	146.00	274	*e*PKPdf		**PKPdf**	18 19 33.9	-0.1	
CMAR	Chiang Mai Arr	146.25	344	PKPbc		**PKPdf**	18 19 31.9	-2.3	
	comp=Z,0.9nm,0.6s,baz=341,slow=3.0,SNR=11								
NWAO	Narrogin (SRO)	148.88	229	PKPbc		**PKPdf**	18 19 39.3	+1.2	
	comp=Z,16nm,1.1s,baz=48,slow=3.5,SNR=5.0								

*ISCJB **19** 18:16:37.4±0.7, 33°.02S±0°.05×138°.81E±0°.06, h10km, Error ellipse: s-maj=7.

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OKC	**Ostrava-Krasne**	**0.59**	**233**	*e*PG	**Pb**	**18 18 36.2**	**-0.3**
OKC				*e*SG	**Sb**	**18 18 45.0**	**-0.4**
	comp=Z,16nm,0.2s						
OKC	**Ostrava-Krasne**	**0.59**	**233**	Pg	**Pb**	**18 18 36.2**	**-0.3**
OKC				Sg	**Sb**	**18 18 45.0**	**-0.4**
	16nm,0.2s						
OJC	**Ojcow**	**0.59**	**87**	*e*Pg	**Pg**	**18 18 34.3**	**-0.3**
OJC				*e*Sg	**Sg**	**18 18 42.1**	**-0.2**
OJC	**Ojcow**	**0.59**	**87**	*e*Pg	**Pg**	**18 18 34.3**	**-0.3**
OJC				*e*Sg	**Sg**	**18 18 42.1**	**-0.2**
MORC	**Moravsky Berou**	**0.96**	**245**	*e*Pg	**Pg**	**18 18 42.3**	**+0.7**
MORC				*e*Sg	**Sg**	**18 18 55.3**	**+1.3**
LANS	**Liptovska Anna**	**1.11**	**160**	*e*Pg	**Pb**	**18 18 45.5**	**+0.1**
LANS				*e*Sg	**Sb**	**18 19 01.1**	**+0.7**
LANS	**Liptovska Anna**	**1.11**	**160**	*e*PG	**Pb**	**18 18 45.5**	**+0.1**
LANS				*e*SG	**Sb**	**18 19 01.1**	**+0.7**
NIE	**Niedzica**	**1.20**	**129**	*e*Pg	**Pn**	**18 18 47.2**	**-0.2**
NIE				*e*Sg	**Sn**	**18 19 04.5**	**+0.1**
NIE	**Niedzica**	**1.20**	**129**	*e*Pg	**Pn**	**18 18 47.2**	**-0.2**
NIE				*e*Sg	**Sn**	**18 19 04.5**	**+0.1**
KRLC	**Kraliky**	**1.35**	**266**	*e*PG	**Pg**	**18 18 48.3**	**-1.0**
KRLC				*e*SG	**Sg**	**18 19 06.1**	**-0.7**
KRLC	**Kraliky**	**1.35**	**266**	Pg	**Pg**	**18 18 48.3**	**-1.0**
KRLC				Sg	**Sg**	**18 19 06.1**	**-0.7**
DPC	**Dobruska-Polom**	**1.65**	**277**	*e*PG	**Pn**	**18 18 53.2**	**-0.4**
DPC				*e*SG	**Sb**	**18 19 15.7**	**-0.2**
	comp=Z,15nm,0.4s						
DPC	**Dobruska-Polom**	**1.65**	**277**	Pg	**Pn**	**18 18 53.2**	**-0.4**
DPC				Sg	**Sb**	**18 19 15.7**	**-0.2**
	15nm,0.4s						
VYHS	**Vyhne**	**1.70**	**181**	*e*Pg	**Pn**	**18 18 54.1**	**-0.1**
VYHS	**Vyhne**	**1.70**	**181**	*e*PG	**Pn**	**18 18 54.1**	**-0.1**
VYHS				*e*SN	**Sn**	**18 19 17.3**	**+0.7**
VYHS				*e*LG	Lg	18 19 18.6	
STHS	**Stebnicka Huta**	**1.72**	**116**	*e*Pg	**Pg**	**18 18 56.0**	**-0.2**
STHS	**Stebnicka Huta**	**1.72**	**116**	*e*PG	**Pg**	**18 18 56.0**	**-0.2**
STHS				*e*LG	Lg	18 19 24.6	
VRAC	**Vranov**	**1.73**	**240**	Pn	**Pb**	**18 18 55.4**	**-0.5**
VRAC				*e*Sg	**Sb**	**18 19 18.4**	**+0.3**
KSP	**Ksiaz**	**1.77**	**293**	*e*Pg	**Pb**	**18 18 56.7**	**0.0**
KSP				*e*Sg	**Sg**	**18 19 20.2**	**-0.1**
KSP	**Ksiaz**	**1.77**	**293**	*e*Pg	**Pb**	**18 18 56.7**	**0.0**
KSP				*e*Sg	**Sg**	**18 19 20.2**	**-0.1**
UPC	**Upice**	**1.86**	**281**	*e*SG	**Sg**	**18 19 23.0**	**-0.2**
	comp=Z,8.2nm,0.5s						
UPC	**Upice**	**1.86**	**281**	Sg	**Sg**	**18 19 23.0**	**-0.2**
	8.2nm,0.5s						
KECS	**Kecovo**	**2.01**	**148**	*e*Pn	**Pn**	**18 18 58.0**	**-0.4**
KECS	**Kecovo**	**2.01**	**148**	*e*PN	**Pn**	**18 18 58.0**	**-0.4**
GOPC	**GO Pecny, Ondr**	**2.65**	**266**	*e*PG	**Pb**	**18 19 12.4**	**+0.7**
GOPC				*e*SG	**Sb**	**18 19 45.5**	**+0.7**
	comp=Z,4.9nm,0.3s						
GOPC	**GO Pecny, Ondr**	**2.65**	**266**	Pg	**Pb**	**18 19 12.4**	**+0.7**
GOPC				Sg	**Sb**	**18 19 45.5**	**+0.7**
	4.9nm,0.3s						
PVCC	**Panska Ves**	**2.78**	**279**	*e*SG	**Sg**	**18 19 52.7**	**+0.1**
	comp=Z,7.6nm,0.2s						
PVCC	**Panska Ves**	**2.78**	**279**	Sg	**Sg**	**18 19 52.7**	**+0.1**
	7.6nm,0.2s						
PRU	**Pruhonice**	**2.80**	**268**	*e*SG	**Sb**	**18 19 50.2**	**+1.2**
	comp=Z,3.1nm,0.3s						
PRU	**Pruhonice**	**2.80**	**268**	Sg	**Sb**	**18 19 50.2**	**+1.2**
	3.1nm,0.3s						
BRG	**Berggiesshubel**	**3.22**	**284**	SG	**Sg**	**18 20 10.1**	**+3.3**
	3.4nm,0.3s						
KHC	**Kasperske Hory**	**3.60**	**255**	*e*PG	**Pb**	**18 19 28.1**	**+0.2**
KHC				*e*SG	**Sg**	**18 20 16.1**	**-2.9**
	comp=Z,4.4nm,0.4s						

IDC ***19*** *18:24:41.3±11.0, 57.29N×117.30E, h0km, mb3.7/2, mb1 3.7/4, mb1mx3.2/47, mbtmp3.7/4, ML3.0/2, MS3.7/2, Ms1 3.7/2, ms1mx2.7/47, Error ellipse: s-maj=167.9km s-min=53.5km az=92.0*

MOS ***19*** *18:25:25.0±0.9, 55.51N×110.48E, h11km, mb4.3/1, Error ellipse: s-maj=14.5km s-min=8.9km az=72.2*

BYKL ***19*** *18:25:25.6±0.3, 55.50N×110.44E*

ISC 19 18:25:25.2±1.1, 55.50N±0.02×110.56E±0.02, h2km±9km, n57, σ2.9s65/105, 8C-4D, Lake Baykal region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMO	**Kumora**	**0.53**	**43**	⇓*i*Pg	**Pg**	**18 25 36.0**	**+0.8**
KMO				*e*Sg	**Sb**	**18 25 43.4**	**-1.8**
KMO				Smax			
	1μm,0.9s						
KMO	**Kumora**	**0.53**	**43**	*e*PG	**Pg**	**18 25 36.1**	**+0.8**
KMO				*e*		18 25 43.6	
KMO				pmax	pmax		
	comp=Z,122nm,0.4s						
KMO				smax	smax		
	comp=N,1μm,0.9s						
NIZ	**Nizh Angarsk**	**0.64**	**296**	⇑*i*Pg	**Pg**	**18 25 37.0**	**-0.4**
NIZ				*e*Sg	**Sg**	**18 25 44.9**	**-0.8**
NIZ				Pmax			
	comp=N,39nm,0.4s						
NIZ				Smax			
	comp=N,637nm,0.4s						
NIZ	**Nizh Angarsk**	**0.64**	**296**	⇑*i*PG	**Pg**	**18 25 37.0**	**-0.4**
NIZ				*e*		18 25 45.0	
NIZ				pmax	pmax		
	comp=Z,23nm,0.2s						
NIZ				smax	smax		
	comp=N,640nm,0.4s						
YLYR	**Ulyunkhan**	**0.72**	**151**	⇓*i*Pg	**Pg**	**18 25 39.5**	**+0.6**
	comp=N,154nm,0.6s						
YLYR				⇑*i*Pg	**Pg**	**18 25 39.5**	**+0.6**
	comp=N,82nm,0.6s						
YLYR				⇑*i*Pg	**Pg**	**18 25 39.5**	**+0.6**
	comp=N,159nm,0.6s						
YLYR				*e*Sg	**Sg**	**18 25 49.4**	**+1.2**
YLYR				*e*Sb	**Sn**	**18 25 53.3**	**-0.7**
YLYR				Pmax			
	comp=N,131nm,0.4s						
YLYR				max			
	comp=N,551nm,0.5s						
YLYR	**Ulyunkhan**	**0.72**	**151**	*e*PG	**Pg**	**18 25 39.5**	**+0.6**
YLYR				*e*		18 25 49.5	
YLYR				pmax	pmax		
	comp=Z,134nm,0.2s						
YLYR				smax	smax		
	comp=E,551nm,0.4s						
YOA	**Uoyan**	**0.91**	**46**	*e*Pg	**Pb**	**18 25 43.3**	**-0.4**
YOA				*e*Sg	**Sb**	**18 25 56.3**	**+0.1**
YOA				*e*Sb	**Sn**	**18 26 00.4**	**+1.7**
YOA				max			
	comp=E,2μm,1.5s						
YOA	**Uoyan**	**0.91**	**46**	*e*PG	**Pb**	**18 25 43.3**	**-0.4**
YOA				*i*		18 25 56.9	
YOA				pmax	pmax		
	comp=Z,136nm,0.3s						
YOA				smax	smax		
	comp=N,2μm,0.5s						
UKT	**Uakit**	**1.74**	**89**	⇓*i*Pg	**Pb**	**18 25 58.1**	**+0.2**
	comp=N,16nm,0.9s						
UKT				⇑*i*Pg	**Pb**	**18 25 58.1**	**+0.2**
	comp=N,112nm,0.9s						
UKT				⇑*i*Pg	**Pb**	**18 25 58.1**	**+0.2**
	comp=N,99nm,0.9s						
UKT				*e*Sg	**Sg**	**18 26 22.5**	**+1.4**
UKT				Pmax			
	comp=N,50nm,1.1s						
UKT				Smax			
	comp=N,361nm,0.5s						
UKT	**Uakit**	**1.74**	**89**	⇑*i*PN	**Pb**	**18 25 58.2**	**+0.3**
UKT				*i*		18 26 22.5	
UKT				pmax	pmax		
	comp=Z,207nm,1.0s						
UKT				smax	smax		
	comp=N,436nm,0.8s						
SVKR	**Severomuysk**	**1.80**	**69**	*e*Pn	**Pn**	**18 25 57.0**	**-0.3**
SVKR				*e*		18 25 58.8	
SVKR				*e*Sg	**Sg**	**18 26 24.9**	**+2.0**
SVKR				max			
	comp=N,142nm,0.4s						
SVKR				Smax			
	comp=N,2μm,0.8s						
SYVR	**Suvo**	**1.88**	**190**	*e*Pg	**Pn**	**18 25 59.1**	**+0.8**
SYVR				*e*		18 26 02.5	
SYVR				*e*Sn	**Sb**	**18 26 24.1**	**0.0**
SYVR				*e*Sg	**Sg**	**18 26 25.0**	**-0.5**
SYVR				max			
	comp=N,74nm,0.9s						
SYVR				Smax			
	comp=N,574nm,0.9s						
SYVR	**Suvo**	**1.88**	**190**	*e*PN	**Pb**	**18 25 59.6**	**-0.6**
SYVR				*e*		18 26 24.7	
SYVR				pmax	pmax		
	comp=Z,75nm,0.6s						
SYVR				smax	smax		
	comp=E,657nm,0.6s						
MXMB	**Maximikha**	**2.48**	**206**	*e*Sg	**Sb**	**18 26 43.3**	**+1.8**
OGRR	**Ongureny**	**2.54**	**224**	⇓*i*Pn	**Pn**	**18 26 07.3**	**-0.1**
OGRR				*e*		18 26 08.4	
OGRR				*e*Pg	**Pb**	**18 26 10.0**	**-1.5**
OGRR				*e*Sg	**Sb**	**18 26 42.8**	**-0.4**
OGRR				Pmax			
	comp=E,31nm,0.5s						
OGRR				Smax			
	comp=E,282nm,0.3s						
OGRR	**Ongureny**	**2.54**	**224**	*e*PN	**Pn**	**18 26 07.3**	**-0.1**
OGRR				*e*		18 26 10.8	
OGRR				*e*		18 26 42.4	
OGRR				pmax	pmax		
	comp=Z,3.0nm,0.5s						
OGRR				smax	smax		
	comp=N,283nm,0.4s						
BOD	**Bodaibo**	**3.00**	**38**	*e*Pn	**Pn**	**18 26 14.5**	**+0.8**
BOD				*e*Pg	**Pb**	**18 26 19.6**	**+0.4**
BOD				*e*Sn	**Sn**	**18 26 48.7**	**-1.5**
BOD				*e*Sg	**Sg**	**18 26 59.3**	**-2.1**
BOD				Pmax			
	comp=N,7.0nm,0.3s						
BOD				Smax			
	comp=N,108nm,1.1s						
NLYR	**Nelyaty**	**3.05**	**69**	*e*Pn	**Pn**	**18 26 15.9**	**+1.5**
NLYR				*e*Pg	**Pb**	**18 26 21.1**	**+0.9**
NLYR				*e*PgPg	**Pg**	**18 26 24.9**	**+1.3**
NLYR				*e*		18 26 48.6	
NLYR				*e*Sg	**Sg**	**18 27 02.0**	**-1.1**
NLYR				max			
	comp=N,37nm,0.7s						
NLYR				Smax			
	comp=N,235nm,1.1s						
NLYR	**Nelyaty**	**3.05**	**69**	*e*PN	**Pn**	**18 26 16.0**	**+1.5**
NLYR				*e*		18 26 21.0	
NLYR				pmax	pmax		
	comp=Z,55nm,0.8s						
KELR	**Kotokel**	**3.11**	**209**	*e*	Sn	18 26 43.6	-9.4
KELR				*e*Sg	**Sb**	**18 27 01.8**	**+2.2**
TRG	**Tyrgan**	**3.70**	**224**	*e*Pn	**Pn**	**18 26 23.6**	**+0.2**
TRG				*e*Pg	**Pb**	**18 26 29.8**	**-1.5**
TRG				*e*		18 26 59.8	
TRG				*e*Sg	**Sb**	**18 27 18.3**	**+1.7**
TRG				Pmax			
	comp=Z,11nm,0.3s						
TRG				Smax			
	comp=Z,106nm,0.7s						
CIT	**Chita**	**3.92**	**152**	*e*Pn	**Pn**	**18 26 26.5**	**+0.2**
CIT				Pg	**Pb**	**18 26 35.9**	**+1.0**
CIT				*e*Sg	**Sg**	**18 27 27.4**	**-3.4**
CIT				Smax			
	comp=Z,127nm,0.7s						
CIT	**Chita**	**3.92**	**152**	*e*PN	**Pn**	**18 26 23.9**	**-2.4**
CIT				*e*		18 26 34.2	
CIT				*e*S	**Sn**	**18 27 10.2**	**-2.7**
CIT				*e*		18 27 25.9	
CIT				pmax	pmax		
	comp=Z,41nm,0.6s						
CIT				smax	smax		
	comp=E,169nm,0.8s						
UUDB	**Ulan-Yde**	**4.03**	**206**	*e*Pg	**Pb**	**18 26 37.3**	**+0.4**
UUDB				*e*Sg	**Sb**	**18 27 30.3**	**+4.3**
UUDB				Pmax			
	comp=E,12nm,0.8s						
UUDB				Smax			
	comp=E,178nm,1.5s						
STDB	**Stepnoy Dvoret**	**4.16**	**218**	*e*	Sn	18 27 06.6	-12
STDB				*e*Sg	**Sg**	**18 27 34.8**	**-4.0**
KAB	**Kabansk**	**4.17**	**215**	*e*Sg	**Sg**	**18 27 35.5**	**-3.3**
KAB				Smax			
	comp=E,283nm,1.6s						
HRMR	**Khuramsha**	**4.44**	**210**	*e*	Pg	18 27 09.4	+19
HRMR				*e*Sg	**Sb**	**18 27 41.8**	**+4.0**
HRMR				Smax			
	comp=E,304nm,0.7s						
CRS	**Chara**	**4.53**	**69**	*e*Pg	**Pb**	**18 26 47.7**	**+2.4**
CRS				*e*Sg	**Sg**	**18 27 47.7**	**-2.7**
CRS				Pmax			
	comp=E,35nm,0.9s						
CRS				Smax			
	comp=E,184nm,1.1s						
CRS	**Chara**	**4.53**	**69**	*e*PN	**Pg**	**18 26 49.9**	**-1.9**
CRS				*e*		18 27 47.2	
CRS				pmax	pmax		
	comp=Z,73nm,0.8s						
CRS				smax	smax		
	comp=E,185nm,1.1s						
BGT	**Bolshoye Golou**	**4.62**	**224**	*e*	Pn	18 26 41.2	+5.2
BGT				*e*Pg	**Pb**	**18 26 46.5**	**-0.4**
BGT				*e*		18 27 30.5	
BGT				*e*Sg	**Sb**	**18 27 46.4**	**+3.4**
BGT				Pmax			
	comp=E,13nm,0.5s						
BGT				Smax			
	comp=E,102nm,0.7s						
IRK	**Irkutsk**	**4.95**	**231**	*e*	**Sn**	**18 27 38.9**	**+0.5**
IRK				*e*		18 27 53.8	
IRK				*e*Sg	**Sb**	**18 27 58.0**	**+5.5**
IRK				*e*		18 28 03.6	
IRK				max			
	comp=E,244nm,0.9s						
IRK	**Irkutsk**	**4.95**	**231**	*e*PN	**Pb**	**18 26 54.2**	**+1.7**
IRK				*e*S	**Sn**	**18 27 35.8**	**-2.6**
IRK				*e*		18 27 58.1	
IRK				pmax	pmax		
	comp=Z,23nm,0.7s						
IRK				smax	smax		
	comp=N,260nm,0.8s						
LSTR	**Listvyanka**	**4.99**	**225**	*e*	**Pn**	**18 26 41.9**	**+0.9**
LSTR				*e*Sn	**Sn**	**18 27 33.6**	**-5.6**
LSTR				*e*Sg	**Sb**	**18 27 57.3**	**+3.8**
LSTR				Smax			
	comp=N,78nm,1.3s						
IVK	**Ivanovka**	**5.21**	**227**	*e*	**Pb**	**18 26 58.0**	**+1.1**
IVK				*e*Sg	**Sb**	**18 28 05.4**	**+5.5**
IVK				max			
	comp=N,7.0nm,0.6s						
IVK				Smax			
	comp=N,70nm,1.2s						
TUP	**Tupik**	**5.52**	**97**	*e*Pn	**Pn**	**18 26 49.5**	**+1.2**
TUP				*e*		18 26 57.8	
TUP				*e*Pg	**Pb**	**18 27 05.9**	**+3.7**
TUP				*e*Sn	**Sn**	**18 27 52.9**	**+0.6**
TUP				*e*Sg	**Sg**	**18 28 18.5**	**-3.8**
TUP				max			
	comp=N,7.0nm,0.6s						
TUP				Smax			
	comp=N,109nm,1.2s						
TUP	**Tupik**	**5.52**	**97**	*e*PN	**Pn**	**18 26 49.2**	**+0.9**
TUP				*e*		18 27 06.1	
TUP				*e*S	**Sn**	**18 27 52.8**	**+0.5**
TUP				*e*		18 28 19.2	
TUP				pmax	pmax		
	comp=Z,15nm,0.7s						
TUP				smax	smax		
	comp=N,107nm,1.0s						
TLY	**Talaya**	**5.62**	**230**	*e*Pn	**Pn**	**18 26 48.4**	**-1.4**
TLY				*e*		18 26 56.2	
TLY				*e*Pg	**Pb**	**18 27 05.3**	**+1.3**
TLY				*e*		18 27 54.2	
TLY				*e*Sg	**Sb**	**18 28 17.1**	**+5.3**
TLY				Pmax			
	comp=N,14nm,0.9s						
TLY				Smax			
	comp=N,75nm,1.2s						
TLY	**Talaya**	**5.62**	**230**	*e*PN	**Pb**	**18 27 06.0**	**+2.0**
TLY				*e*		18 28 16.0	
TLY				pmax	pmax		
	comp=Z,2.0nm,0.1s						
TLY				smax	smax		
	comp=N,33nm,0.4s						
KPC	**Khapcheranga**	**5.92**	**168**	*e*	**Sn**	**18 27 58.7**	**-3.4**
KPC				*e*		18 28 15.0	
KPC				*e*Sg	**Sg**	**18 28 29.3**	**-5.7**
KPC				Smax			
	comp=N,103nm,1.1s						
KPC	**Khapcheranga**	**5.92**	**168**	*e*PN	**Pn**	**18 26 53.9**	**+0.1**
KPC				*e*		18 27 13.2	
KPC				*e*S	**Sn**	**18 27 58.8**	**-3.4**
KPC				*e*		18 28 29.9	
KPC				pmax	pmax		
	comp=Z,7.0nm,0.8s						
KPC				smax	smax		
	comp=E,103nm,1.2s						
ARS	**Arshan**	**6.02**	**237**	*e*Pn	**Pn**	**18 26 54.6**	**-0.6**
ARS				*e*Sn	**Sn**	**18 28 00.4**	**-4.3**
ARS				*e*Sg	**Sb**	**18 28 29.4**	**+6.2**
ARS				max			
	comp=E,11nm,0.4s						
ARS				Smax			
	comp=E,257nm,0.7s						
ARS	**Arshan**	**6.02**	**237**	*e*PN	**Pn**	**18 26 54.8**	**-0.4**
ARS				*e*S	**Sb**	**18 28 28.1**	**+4.9**
ARS				smax	smax		
	comp=E,259nm,0.7s						
ZAK	**Zakamensk**	**6.76**	**224**	*e*	Sn	18 28 09.1	-14
ZAK				*e*Sg	**Sb**	**18 28 53.4**	**+8.9**
ZAK				Smax			
	comp=E,41nm,1.2s						
MOY	**Mondy**	**6.87**	**240**	*e*Pn	**Pn**	**18 27 08.0**	**+1.0**
MOY				*e*		18 27 16.1	
MOY				*e*		18 27 24.7	
MOY				*e*Sn	**Sn**	**18 28 21.3**	**-4.5**
MOY				*e*Sg	**Sb**	**18 28 56.0**	**+8.3**
MOY				max			
	comp=E,14nm,1.0s						
MOY				Smax			
	comp=E,58nm,1.2s						
MOY	**Mondy**	**6.87**	**240**	*e*PN	**Pn**	**18 27 08.3**	**+1.3**
MOY				*e*		18 27 29.4	
MOY				*e*		18 28 54.9	
MOY				pmax	pmax		
	comp=Z,5.0nm,0.4s						
MOY				smax	smax		
	comp=N,58nm,1.1s						
ORL	**Orlik**	**7.00**	**249**	⇑*i*Pn	**Pn**	**18 27 09.4**	**+0.8**
ORL				*e*		18 27 18.5	
ORL				*e*		18 28 28.7	
ORL				*e*Sg	Sg	18 29 00.9	-8.8
ORL				max			
	comp=N,18nm,0.8s						
ORL				Smax			
	comp=N,80nm,1.2s						
ORL	**Orlik**	**7.00**	**249**	*e*PN	**Pn**	**18 27 09.5**	**+0.8**
ORL				*e*		18 27 30.9	
ORL				*e*S	**Sn**	**18 28 25.1**	**-3.7**
ORL				*e*		18 28 58.3	
ORL				pmax	pmax		
	comp=Z,22nm,0.8s						
ORL				smax	smax		
	comp=N,81nm,1.8s						
SONM	**Songino Array**	**8.10**	**200**	Pn	**Pn**	**18 27 25.5**	**+1.6**
	comp=N,0.1nm,0.3s,baz=14,slow=14,SNR=3.0						
SONM				Sn	**Sg**	**18 29 41.2**	**-4.0**
	comp=N,0.8nm,0.3s,baz=24,slow=26,SNR=13						
SONM	**Songino Array**	**8.10**	**200**	PN	**Pn**	**18 27 25.5**	**+1.6**
ZALV	**Zalesovo Beam**	**14.93**	**275**	P	**Pn**	**18 28 57.8**	**+0.8**
	comp=N,0.2nm,0.3s,baz=82,slow=12,SNR=13						
ZALV	**Zalesovo Beam**	**14.93**	**275**	P	**Pn**	**18 28 57.8**	**+0.8**
MKAR	**Makanchi Array**	**19.64**	**255**	P	**P**	**18 29 55.0**	**+0.1**
	comp=N,0.2nm,0.4s,baz=45,slow=9.3,SNR=7.4						
MKAR	**Makanchi Array**	**19.64**	**255**	P	**P**	**18 29 55.0**	**0.0**
KURK	**Kurchatov**	**19.66**	**269**	P	**P**	**18 29 53.1**	**-1.9**
KURK				pmax	pmax		
	comp=Z,1.0nm,0.2s						
KURBB	**Kurchatov Arra**	**19.75**	**269**	P	**P**	**18 29 53.0**	**-3.0**
	comp=Z,2.3nm,0.2s,baz=66,slow=11,SNR=4.4						
AAK	**Ala-Archa**	**26.57**	**256**	LR	LR	18 42 20.6	
	comp=Z,34nm,19.5s,baz=122,slow=35						
WRA	**Warramunga Arr**	**77.82**	**157**	LR	LR	19 10 39.9	
	comp=Z,161nm,22.0s,baz=70,slow=35						

CSEM ***19*** *18:31:04.2, 35.54N×26.51E, h24km, ML1.6/3*

ATH 19 18:31:04.2, 35.54N×26.50E, h23km±4km, ML1.6/3, Error ellipse: s-maj=6.0km s-min=1.2km az=163.0, Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZKR	**Zakros**	**0.48**	**209**	P	Pb	18 31 14.9	+0.8
ZKR				S	Sb	18 31 21.1	+0.3
ZKR	**Zakros**	**0.48**	**209**	P	Pn	18 31 15.0	-0.8
ZKR				S	Sb	18 31 21.2	+0.4
ZKR				AML	AML	18 31 21.8	
	comp=N,70μm,0.2s						
ZKR				AML	AML	18 31 22.3	
	comp=E,124μm,0.3s						
KARP	**Karpathos**	**0.54**	**89**	P	Pb	18 31 14.9	-0.1
KARP				S	Sb	18 31 21.8	-0.6
KARP	**Karpathos**	**0.54**	**89**	P	Pb	18 31 14.9	-0.1
KARP				S	Sb	18 31 21.8	-0.6
KARP				AML	AML	18 31 23.4	
	comp=N,185μm,0.2s						
KARP				AML	AML	18 31 23.4	
	comp=E,170μm,0.1s						
NPS	**Neapolis**	**0.78**	**249**	P	Pn	18 31 20.5	+0.7
NPS				S	Sb	18 31 29.6	+0.4
NPS	**Neapolis**	**0.78**	**249**	P	Pn	18 31 20.6	+0.8
NPS				S	Sb	18 31 29.8	+0.6
NPS				AML	AML	18 31 30.6	
	comp=N,77μm,0.6s						
NPS				AML	AML	18 31 30.6	
	comp=E,115μm,0.5s						
LAST	**Lasithi**	**0.92**	**246**	P	Pn	18 31 22.2	+0.4
LAST				S	Sn	18 31 34.1	-0.2
LAST	**Lasithi**	**0.92**	**246**	P	Pn	18 31 22.3	+0.6
LAST				S	Sn	18 31 34.3	0.0
IDI	**Anoyia**	**1.34**	**260**	P	Pb	18 31 28.4	-0.3
IDI				S	Sb	18 31 47.7	+2.2
IDI	**Anoyia**	**1.34**	**260**	P	Pb	18 31 28.4	-0.3
IDI				S	Sb	18 31 47.7	+2.2

ISCJB ***19*** *18:33:55.8±0.4, 14.3N±0.02×90.25W±0.02, h22km±3km, mb5.1/260, MS5.3/194, Error ellipse: s-maj=4.0km s-min=1.7km az=142.9*

NEIC ***19*** *18:33:55.9±0.2, 14.19N×90.24W, h9km, mb5.1/196, MS5.3/136, MW5.6, MD5.0(SNET), Error ellipse: s-maj=6.2km s-min=3.6km az=224.0, Moment Tensor Solution. s7 Moment tensor: Scale 10¹⁷Nm; Mrr-2.29; Mθθ-0.70; Mφφ2.99; Mrθ 1.48; Mθφ 0.16; Mφr-1.52; Best double couple: M₀3.50000×10¹⁷ NP1:φs336.00000°, δ66.00000°, λ-119.00000°. NP2:φs209.00000°, δ37.00000°, λ-43.00000°. Principal axes: T 3.4100, Plg16.0000°, Azm86.0000°; N 0.0700, Plg26.0000°, Azm349.0000°; P -3.4800, Plg59.0000°, Azm205.0000°; Depth from synthetics of broadband displacement seismograms.*

NEIC At least one person killed at Guatemala. Felt [VII] at Cuilapa; [V] at Petapa; [IV] at Amatitlan, Cahabon, Fraijanes, Guatemala, Mixco and Santa Catarina Pinula; [III] at Antigua Guatemala. Felt widely in central and southern Guatemala. Felt [III] at San Salvador, El Salvador. Also felt at Ahuachapan, Antiguo Cuscatlan and Santa Ana. Felt [II] at Copan and San Pedro Sula, Honduras. Also felt at Comayagua. Felt at Belmopan, Dangriga and San Ignacio, Belize.

CASC ***19*** *18:33:55.5±2.7, 14.23N×90.31W, h9km, MD4.6, ML4.6, MW5.1(GCMT)*

GCMT ***19*** *18:33:55.9±0.1, 14.26N×90.40W, h12km, MW5.6/129, Moment Tensor Solution. s114,c195; s129,c342; Duration: 1s6 Moment tensor: Scale 10¹⁷Nm; Mrr-3.17±.03; Mθθ-0.48±.03; Mφφ3.65±.03; Mrθ-0.01±.09; Mθφ-0.57±.03; Mrφ0.43±.08; Best double couple: M₀3.47500×10¹⁷ NP1:φs173.00000°, δ49.00000°, λ-89.00000°. NP2:φs351.00000°, δ42.00000°, λ-92.00000°. Principal axes: T 3.7530, Plg4.0000°, Azm262.0000°; N -0.5530, Plg1.0000°, Azm352.0000°; P -3.1970, Plg86.0000°, Azm99.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*

BJI ***19*** *18:33:57.9, 14.67N×90.22W, h29km, mB5.6/19, Ms5.8/23,*

Ms7 5.5/24
MOS ***19*** *18:33:58.3±1.1,14°.27N×90°.10W,h37^{km},mb5.3/64, MS5.3/13,Error ellipse: s-maj=7.9km s-min=4.5km az=97.7*
IDC ***19*** *18:34:00.2±2.3,14°.28N×90°.21W,h48^{km}±22^{km},mb4.7/28, mb1 4.9/31,mb1mx4.8/40,mbtmp5.0/31,ML3.6/2,MS5.2/33, Ms1 5.2/33,ms1mx5.0/43,Error ellipse: s-maj=16.8km s-min=9.3km az=66.0*
ISC 19 18:33:56.9±0.7,14°.23N±0°.03×90°.24W±0°.04,h17^{km}±3^{km}, n1234,σ1^{s}70/1121,mb5.2/285,MS5.3/202,16C-19D, Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IXG	**Ixpaco**	**0.22**	**256**	*e*P	Pg	18 33 57.5	-4.7
CUS1	**Cusmapa**	**0.42**	**138**	*e*P	**Pg**	**18 34 03.2**	**-2.3**
RBDL	**Robledal**	**0.55**	**102**	*i*P	**Pg**	**18 34 05.8**	**-2.1**
MONT	**Ecomontaæa**	**0.68**	**123**	*e*P	**Pg**	**18 34 08.5**	**-1.9**
SONS	**Sonsonate**	**0.70**	**134**	*e*P	**Pg**	**18 34 09.2**	**-1.5**
SONS				*e*S	**Sg**	**18 34 19.9**	**-0.1**
SNJE	**San Jose**	**0.71**	**120**	*e*P	**Pg**	**18 34 08.9**	**-2.0**
SBLS	**San Blas**	**0.71**	**123**	*e*P	**Pg**	**18 34 09.2**	**-1.8**
MTO3	**Montecristo**	**0.86**	**79**	*e*P	**Pg**	**18 34 11.5**	**-2.3**
MRL	**Marmol**	**0.98**	**32**	*i*P	**Pg**	**18 34 14.0**	**-2.1**
BOQS	**Boqueron**	**1.05**	**118**	*i*P	**Pg**	**18 34 15.4**	**-1.9**
SNET	**Serv Nac Est T**	**1.11**	**119**	*e*P	**Pg**	**18 34 16.3**	**-2.2**
SNET				*e*S	**Sg**	**18 34 33.1**	**0.0**
OPAM	**San Salvador**	**1.13**	**117**	*e*P	**Pg**	**18 34 17.0**	**-1.7**
UDBS	**Soyapango**	**1.16**	**115**	*e*P	**Pb**	**18 34 16.9**	**-1.7**
UDBS				*e*S	**Sg**	**18 34 35.0**	**+0.4**
LFU	**La Fuente**	**1.19**	**114**	*e*P	**Pb**	**18 34 17.1**	**-2.0**
LBRS	**Las Brisas**	**1.26**	**113**	*e*P	**Pn**	**18 34 18.6**	**-1.2**
LFRS	**El Faro**	**1.29**	**118**	*e*P	**Pn**	**18 34 18.9**	**-1.4**
CAHU	**Cacacuatique**	**2.02**	**103**	*e*P	**Pn**	**18 34 30.1**	**-0.3**
CNCH	**Conchagua**	**2.52**	**112**	*e*P	**Pn**	**18 34 38.3**	**+1.1**
CCIG	**Comitan**	**2.74**	**318**	*e*Pn	**Pn**	**18 34 42.4**	**+2.0**
TGUH	**Tegucigalpa,Un**	**2.88**	**93**	*e*Pn	**Pn**	**18 34 43.5**	**+1.4**
TGUH	**Tegucigalpa,Un**	**2.88**	**93**	*e*P	**Pn**	**18 34 46.7**	**+4.6**
TGUH				*e*S	**Sb**	**18 35 27.1**	**+4.2**
CNGN	**Cerro Negro**	**3.85**	**116**	*e*P	**Pn**	**18 34 57.3**	**+1.8**
CNGN				*e*S	**Sb**	**18 35 49.5**	**-1.4**
CNGN	comp=N,2μm,0.5s			AML	AML	18 36 05.1	
MOMN	**Momotombo**	**4.03**	**116**	*e*P	**Pn**	**18 34 59.1**	**+1.1**
COPN	**Copaltepe**	**4.09**	**119**	*e*P	**Pn**	**18 34 59.1**	**+0.3**
XAVN	**Gruta Xavier**	**4.33**	**118**	*e*P	**Pn**	**18 35 04.1**	**+2.0**
XAVN	comp=Z,1μm,0.6s			AML	AML	18 36 00.0	
TISN	**Laguna Tiscapa**	**4.38**	**118**	*e*P	**Pn**	**18 35 04.2**	**+1.3**
MGAN	**Managua**	**4.40**	**118**	*e*P	**Pn**	**18 35 04.2**	**+1.1**
MASN	**Masaya**	**4.56**	**119**	*e*P	**Pn**	**18 35 07.1**	**+1.8**
BOAB	**BOACO BROADBAN**	**4.79**	**111**	*e*P	**Pn**	**18 35 09.1**	**+0.7**
SCIG	**Sabancuy**	**4.80**	**349**	*e*Pn	**Pn**	**18 35 08.0**	**-0.5**
CONN	**Concepcion**	**5.22**	**120**	*e*P	**Pn**	**18 35 15.2**	**+0.9**
CMIG	**Matias Romero** comp=Z,9.0nm,0.3s,baz=87,slow=11,SNR=57	**5.30**	**303**	P	**Pn**	**18 35 15.4**	**0.0**
CMIG	comp=Z,24nm,0.3s,baz=350,slow=18,SNR=2.5			S	**Sn**	**18 36 20.1**	**+3.8**
CMIG	comp=Z,83μm,19.1s,baz=138,slow=39			LR	LR	18 37 26.7	
ACON	**Acoyapa**	**5.42**	**114**	*e*P	**Pn**	**18 35 18.5**	**+1.5**
CRZ1	**La Cruz**	**5.48**	**124**	*e*P	**Pn**	**18 35 19.5**	**+1.6**
GB1A	**Boringuen Arri**	**5.81**	**125**	*e*P	**Pn**	**18 35 23.1**	**+0.5**
BUEV	**Buena Vista**	**5.82**	**125**	*e*P	**Pn**	**18 35 25.4**	**+2.8**
GPS3	**Bodega del ICE**	**5.88**	**125**	*e*P	**Pn**	**18 35 25.9**	**+2.5**
VCR	**Vista de Mar**	**6.07**	**132**	*e*P	**Pn**	**18 35 27.4**	**+1.3**
CUI	**Cuipilapa**	**6.09**	**125**	*e*P	**Pn**	**18 35 28.4**	**+2.0**
CGA2	**Cerro Gallo 2**	**7.03**	**126**	*e*P	**Pn**	**18 35 42.2**	**+2.9**
SJS	**Escuela Geolog**	**7.40**	**125**	*e*P	**Pn**	**18 35 46.3**	**+1.9**
LCR2	**La Lucha 2**	**7.55**	**125**	*e*P	**Pn**	**18 35 49.7**	**+3.1**
CVTR	**Volcan Turrial**	**7.59**	**123**	*e*P	**Pn**	**18 35 50.1**	**+2.9**
QCR1	**Quepos**	**7.62**	**128**	*e*P	**Pn**	**18 35 49.3**	**+2.0**
URSC	**Urasca**	**7.68**	**124**	*e*P	**Pn**	**18 35 50.4**	**+2.1**
BUS	**Buena Vista**	**7.86**	**126**	*e*P	**Pn**	**18 35 54.0**	**+3.0**
LVIG	**Laguna Verde**	**8.05**	**314**	*e*Pn	**Pn**	**18 35 54.8**	**+1.6**
DRK0	**Durika**	**8.44**	**125**	*e*P	**Pn**	**18 36 01.7**	**+3.0**
TLIG	**Tlapa**	**8.67**	**294**	*e*Pn	**Pn**	**18 36 04.4**	**+2.5**
BRU2	**Volcan**	**9.15**	**125**	*e*P	**Pn**	**18 36 11.6**	**+3.1**
ICCO	**Coco Island**	**9.18**	**160**	*e*P	**Pn**	**18 36 12.2**	**+3.4**
TBS2		**9.18**	**125**	*e*P	**Pn**	**18 36 11.0**	**+2.1**
BCIP	**Isla Barro Col**	**11.36**	**115**	*e*Pn	**Pn**	**18 36 40.5**	**+1.9**
MTDJ	**Mount Denham**	**12.83**	**70**	*e*Pn	**Pn**	**18 36 59.9**	**+1.1**
LNIG	**Linares**	**13.71**	**322**	*e*Pn	**Pn**	**18 37 10.6**	**-0.2**
035Z	**Hargill** baz=148	**14.21**	**330**	P	Pn	18 37 13.9	-3.6
ZAIG	**Zacatecas**	**14.45**	**308**	*e*Pn	**Pn**	**18 37 24.4**	**+3.3**
035A	**Encino** baz=148	**14.62**	**331**	P	Pn	18 37 19.2	-4.0
PAYG	**Puerto Ayora** comp=Z,278nm,1.3s	**14.81**	**180**	*e*P	Pn	18 37 30.8	+5.1
034A	**Hebbronville** baz=147,SNR=10	**15.01**	**330**	P	**Pn**	**18 37 24.6**	**-3.8**
645A	**Chauvin** baz=179	**15.16**	**359**	P	**Pn**	**18 37 27.7**	**-2.7**
646A	**Port Sulphur** baz=182	**15.29**	**1**	P	**Pn**	**18 37 29.0**	**-3.1**
SJCC	**San Jacinto, C**	**15.34**	**105**	*e*P	**Pn**	**18 37 32.0**	**-0.9**
934A	**Benavides** baz=148	**15.38**	**331**	P	**Pn**	**18 37 30.1**	**-3.2**
835A	**Beeville** baz=152,SNR=13	**15.67**	**334**	P	**Pn**	**18 37 34.3**	**-2.8**
545A	**Edgard** baz=179	**15.74**	**359**	P	**Pn**	**18 37 34.0**	**-4.0**
933A	**Laredo** baz=146,SNR=22	**15.76**	**329**	P	**Pn**	**18 37 36.4**	**-1.8**
544A	**White Castle** baz=177	**15.83**	**357**	P	**Pn**	**18 37 37.1**	**-2.0**
834A	**Tilden** baz=149,SNR=12	**15.84**	**332**	P	**Pn**	**18 37 37.0**	**-2.3**
543A	**St. Martinvill** baz=174	**15.85**	**355**	P	**Pn**	**18 37 36.5**	**-2.9**
546A	**Slidell** baz=182	**15.94**	**2**	P	**Pn**	**18 37 38.6**	**-1.8**
542A	**Morse** baz=172	**15.96**	**353**	P	**Pn**	**18 37 39.7**	**-1.1**
736A	**Circle Diamond** baz=155	**15.96**	**338**	P	**Pn**	**18 37 38.8**	**-2.1**
541A	**Lake Charles** baz=170	**15.99**	**351**	P	**Pn**	**18 37 38.0**	**-3.2**
DWPF	**Disney Wildern** comp=Z,755nm,1.4s	**16.06**	**29**	*e*P	**Pn**	**18 37 44.0**	**+2.0**
637A	**Eagle Lake** baz=158	**16.15**	**341**	P	**Pn**	**18 37 41.0**	**-2.2**
735A	**Kenedy** baz=153	**16.16**	**335**	P	**Pn**	**18 37 41.7**	**-1.7**
540A	**Vidor** baz=167	**16.27**	**348**	P	**Pn**	**18 37 42.6**	**-2.2**
GRGC	**Isla de Gorgon**	**16.32**	**132**	*e*P	**P**	**18 37 50.1**	**+1.7**
539A	**Cross D Ranch,** baz=164	**16.34**	**346**	P	**Pn**	**18 37 43.5**	**-2.1**
833A	**Chaparral WMA,** baz=147,SNR=9.2	**16.41**	**330**	P	**Pn**	**18 37 46.4**	**-0.1**
444A	**Pine Grove** baz=178	**16.42**	**358**	P	**Pn**	**18 37 44.1**	**-2.5**
445A	**Amite** baz=180	**16.42**	**360**	P	**Pn**	**18 37 44.0**	**-2.7**
636A	**Smothers Creek** baz=156,SNR=16	**16.44**	**339**	P	**Pn**	**18 37 46.1**	**-0.8**
734A	**La Parita Cree** baz=150	**16.47**	**333**	P	**Pn**	**18 37 46.2**	**-1.1**
446A	**Poplarville** baz=183,SNR=7.9	**16.50**	**3**	P	**Pn**	**18 37 46.9**	**-0.8**
ZARC	**Zaragoza, Cauc**	**16.51**	**112**	*e*P	**Pn**	**18 37 46.1**	**-1.8**
443A	**Delano Plantat** baz=175	**16.52**	**355**	P	**Pn**	**18 37 46.5**	**-1.4**
HELC	**Santa Helena**	**16.52**	**117**	*e*P	**Pn**	**18 37 49.0**	**+0.5**
HELC	**Santa Helena** comp=Z,126nm,1.0s	**16.52**	**117**	*e*Pn	**Pn**	**18 37 49.1**	**+0.7**
442A	**Mamou** baz=173	**16.53**	**353**	P	**Pn**	**18 37 46.4**	**-1.7**
447A	**Lucedale** baz=185,SNR=5.3	**16.55**	**5**	P	**Pn**	**18 37 45.7**	**-2.7**
635A	**Leesville** baz=154	**16.62**	**336**	P	**Pn**	**18 37 47.1**	**-2.1**
538A	**Harpers Horsep** baz=162	**16.64**	**344**	P	**Pn**	**18 37 47.6**	**-1.9**
832A	**Faith Ranch, C** baz=145	**16.66**	**329**	P	**Pn**	**18 37 48.9**	**-0.9**
441A	**DeRidder** baz=170,SNR=7.1	**16.67**	**351**	P	**Pn**	**18 37 48.4**	**-1.4**
733A	**Divot King Ran** baz=148,SNR=5.1	**16.69**	**331**	P	**Pn**	**18 37 49.9**	**-0.2**
537A	**Green Hill Far** baz=159,SNR=15	**16.74**	**341**	P	**Pn**	**18 37 49.3**	**-1.5**
448A	**Bay Minette** baz=188	**16.77**	**7**	P	**Pn**	**18 37 49.3**	**-1.7**
440A	**Kirbyville** baz=168	**16.79**	**349**	P	**Pn**	**18 37 50.5**	**-0.9**
634A	**China Grove, S** baz=152	**16.84**	**335**	P	**Pn**	**18 37 51.2**	**-0.9**
CODC	**Agust`n Codaz**	**16.96**	**103**	*e*P	**Pn**	**18 37 50.9**	**-2.8**
536A	**Bastrop** baz=157	**16.98**	**339**	P	**Pn**	**18 37 52.3**	**-1.5**
345A	**Thompson Farm,** baz=181	**17.00**	**1**	P	**Pn**	**18 37 52.8**	**-1.2**
439A	**Center Grove,** baz=165	**17.00**	**347**	P	**Pn**	**18 37 53.1**	**-1.0**
343A	**Vidalia** baz=176	**17.02**	**356**	P	**Pn**	**18 37 53.2**	**-1.0**
346A	**Big Creek Wild** baz=182,SNR=5.4	**17.09**	**2**	P	**Pn**	**18 37 54.1**	**-1.1**
BRAL	**Brewton** comp=Z,179nm,1.1s	**17.11**	**9**	*e*P	**Pn**	**18 37 52.2**	**-3.2**
535A	**Dale** baz=155,SNR=32	**17.12**	**338**	P	**Pn**	**18 37 54.9**	**-0.7**
438A	**Sam Houston St** baz=163,SNR=5.2	**17.14**	**345**	P	**Pn**	**18 37 55.0**	**-0.7**
GUYC	**Guyana, Colomb**	**17.14**	**120**	*e*P	**Pn**	**18 37 57.5**	**+1.1**
344A	**Westbrook Farm** baz=178,SNR=9.9	**17.15**	**359**	P	**Pn**	**18 37 54.9**	**-1.0**
347A	**Saraland** baz=186	**17.16**	**5**	P	**Pn**	**18 37 55.0**	**-1.1**
342A	**Flagon Creek P** baz=173,SNR=8.9	**17.17**	**354**	P	**Pn**	**18 37 56.2**	**0.0**
341A	**Kurthwood** baz=170	**17.24**	**352**	P	**Pn**	**18 37 55.8**	**-1.1**
348A	**Jackson** baz=188	**17.24**	**7**	P	**Pn**	**18 37 56.7**	**-0.3**
633A	**Saathoff Ranch** baz=150,SNR=31	**17.27**	**333**	P	**Pn**	**18 37 56.9**	**-0.4**
437A	**Phantom Ranch,** baz=161,SNR=5.6	**17.39**	**343**	P	**Pn**	**18 37 57.9**	**-1.0**
NORC	**Norcasia**	**17.40**	**118**	*e*P	**Pn**	**18 38 00.3**	**+1.1**
340A	**Bronson** baz=168,SNR=11	**17.43**	**350**	P	**Pn**	**18 37 59.0**	**-0.4**
534A	**Blanco** baz=153,SNR=26	**17.47**	**336**	P	**Pn**	**18 37 59.9**	**0.0**
339A	**Huntington** baz=166,SNR=8.9	**17.48**	**348**	P	**Pn**	**18 37 59.4**	**-0.6**
436A	**Wall Ranch, Ga** baz=159	**17.54**	**341**	P	**Pn**	**18 38 00.3**	**-0.4**
243A	**Waterproof** baz=176	**17.61**	**356**	P	**Pn**	**18 38 00.7**	**-0.9**
OCAC	**Ocana**	**17.62**	**108**	*e*P	**Pn**	**18 38 01.5**	**-0.6**
338A	**Crockett** baz=164,SNR=7.6	**17.67**	**346**	P	**Pn**	**18 38 01.6**	**-0.7**
BRRC	**Barranca, Sant**	**17.70**	**112**	*e*P	**Pn**	**18 37 59.8**	**-3.2**
245A	**Little AP, Sta** baz=181,SNR=10	**17.72**	**1**	P	**Pn**	**18 38 02.9**	**-0.2**
533A	**Kerrville** baz=151,SNR=33	**17.73**	**334**	P	**Pn**	**18 38 04.3**	**+1.1**
244A	**Avery, Jackson** baz=179	**17.74**	**359**	P	**Pn**	**18 38 01.7**	**-1.4**
337A	**Centerville** baz=162	**17.78**	**344**	P	**Pn**	**18 38 03.2**	**-0.6**
247A	**Quitman** baz=185,SNR=9.9	**17.80**	**5**	P	**Pn**	**18 38 02.9**	**-1.1**
435B	**Jarrell** baz=156,SNR=8.2	**17.81**	**339**	P	**Pn**	**18 38 02.9**	**-1.2**
242A	**Gary** baz=174,SNR=10	**17.84**	**355**	P	**Pn**	**18 38 03.5**	**-0.9**
241A	**Mo Tay, Goldon** baz=172	**17.88**	**353**	P	**Pn**	**18 38 04.0**	**-1.0**
VBMS	**Vicksburg** baz=179,SNR=12	**17.91**	**359**	P	**Pn**	**18 38 04.8**	**-0.5**
NATX	**Nacogdoches** baz=166,SNR=5.1	**17.91**	**348**	P	**Pn**	**18 38 04.4**	**-0.9**
NATX	**Nacogdoches** comp=Z,179nm,0.6s	**17.91**	**348**	*e*P	**Pn**	**18 38 07.5**	**+2.1**
248A	**Dixon Mills** baz=188	**17.93**	**7**	P	**Pn**	**18 38 04.5**	**-1.1**
URIC	**Uribia, Colomb**	**17.96**	**96**	*e*P	**Pn**	**18 38 04.9**	**-1.1**
240A	**Hunter Patters** baz=169	**18.02**	**350**	P	**Pn**	**18 38 05.3**	**-1.4**
CMBC	**Cumbal**	**18.03**	**136**	*e*P	**P**	**18 38 10.5**	**+2.8**
434A	**Burnet** baz=154,SNR=32	**18.09**	**337**	P	**Pn**	**18 38 06.4**	**-1.2**
336A	**Riesel** baz=159	**18.12**	**342**	P	**Pn**	**18 38 07.6**	**-0.4**
239A	**Gary** baz=167	**18.13**	**348**	P	**Pn**	**18 38 06.6**	**-1.3**
OTAV	**Otavalo** comp=Z,112nm,1.3s	**18.15**	**139**	*e*P	**Pn**	**18 38 11.1**	**+2.3**
TIGA	**Tifton** baz=201	**18.18**	**18**	P	**Pn**	**18 38 07.6**	**-1.0**
TIGA	**Tifton** comp=Z,84nm,0.8s	**18.18**	**18**	*e*P	**Pn**	**18 38 09.1**	**+0.5**
GIRC	**Giron, Santand**	**18.18**	**111**	*e*P	**Pn**	**18 38 06.6**	**-2.4**
CRUC	**La Cruz**	**18.19**	**133**	*e*P	**P**	**18 38 12.8**	**+3.4**
335A	**Moody** baz=157,SNR=34	**18.21**	**340**	P	**Pn**	**18 38 08.7**	**-0.4**
ROSC	**El Rosal** comp=Z,1.3nm,0.3s,baz=313,slow=6.5,SNR=14	**18.25**	**119**	P	**Pn**	**18 38 10.3**	**+0.3**
ROSC	comp=Z,4μm,18.1s,baz=326,slow=40			LR	LR	18 46 03.4	
ROSC	**El Rosal** comp=Z,44nm,1.1s	**18.25**	**119**	*e*P	**Pn**	**18 38 11.8**	**+1.9**
238A	**Jacksonville** baz=165,SNR=6.8	**18.25**	**347**	P	**Pn**	**18 38 09.5**	**+0.1**
145A	**Houston Renfro** baz=181	**18.29**	**1**	P	**Pn**	**18 38 09.8**	**-0.2**
142A	**Monroe** baz=175	**18.30**	**355**	P	**Pn**	**18 38 09.4**	**-0.7**
144A	**Alexander Plac** baz=179	**18.32**	**359**	P	**Pn**	**18 38 09.8**	**-0.5**
146A	**Union** baz=184,SNR=7.5	**18.36**	**3**	P	**Pn**	**18 38 09.9**	**-0.9**
PRAC	**Prado**	**18.40**	**123**	*e*P	**Pn**	**18 38 12.8**	**+1.3**
PRAC	**Prado** comp=Z,93nm,1.2s	**18.40**	**123**	*e*P	**Pn**	**18 38 12.7**	**+1.2**
BARC	**Barichara**	**18.40**	**113**	*e*P	**Pn**	**18 38 10.9**	**-0.8**
237A	**Washetta, Mont** baz=163	**18.41**	**345**	P	**P**	**18 38 11.0**	**-0.4**
JCT	**Junction City** baz=150,SNR=20	**18.42**	**333**	P	**P**	**18 38 11.4**	**-0.2**
JCT	**Junction City** comp=Z,180nm,1.1s	**18.42**	**333**	*e*P	**P**	**18 38 13.0**	**+1.4**
JCT				pmax	pmax		
JCT	**Junction City** comp=Z,178nm,1.1s	**18.42**	**333**	*e*P	**P**	**18 38 13.0**	**+1.4**
143A	**Socs Landing,** baz=176,SNR=5.7	**18.42**	**357**	P	**P**	**18 38 11.5**	**0.0**
147A	**Livingston** baz=186,SNR=9.5	**18.45**	**5**	P	**P**	**18 38 11.8**	**0.0**
141A	**Papa Simpson,** baz=172	**18.45**	**353**	P	**P**	**18 38 11.9**	**0.0**
PAMC	**Pamplona, Colo**	**18.53**	**110**	*e*P	**P**	**18 38 12.8**	**-0.5**
334A	**Lomba** baz=155,SNR=27	**18.54**	**338**	P	**P**	**18 38 12.5**	**-0.3**
BETC	**Betania**	**18.58**	**127**	*e*P	**Pn**	**18 38 16.2**	**+2.5**
140A	**Cam and Jess,** baz=170	**18.58**	**351**	P	**P**	**18 38 12.3**	**-0.9**
236A	**Katherine and** baz=161	**18.60**	**343**	P	**P**	**18 38 12.9**	**-0.6**
139A	**Bunkhouse Ranc** baz=168,SNR=17	**18.75**	**349**	P	**P**	**18 38 15.4**	**+0.2**
SDDR	**Presa de Saban** comp=Z,106nm,1.2s	**18.76**	**73**	*e*P	**P**	**18 38 17.9**	**+2.5**
RUSC	**La Rusia**	**18.80**	**114**	*e*P	**P**	**18 38 15.1**	**-1.2**
RUSC	**La Rusia** comp=Z,44nm,1.2s	**18.80**	**114**	*e*P	**P**	**18 38 15.7**	**-0.6**
333A	**Richland Sprin** baz=153,SNR=57	**18.82**	**336**	P	**P**	**18 38 15.2**	**-0.7**
CHIC	**Chingaza**	**18.85**	**119**	*e*P	**P**	**18 38 16.2**	**-0.6**
138A	**Matatall Enter** baz=165,SNR=27	**18.87**	**347**	P	**P**	**18 38 16.9**	**+0.4**
WHTX	**Lake Whitney,** baz=158,SNR=14	**18.88**	**341**	P	**P**	**18 38 16.1**	**-0.4**
WHTX	**Lake Whitney,** comp=Z,134nm,0.9s	**18.88**	**341**	*e*P	**P**	**18 38 17.7**	**+1.2**
Z46A	**Louisville** baz=184,SNR=18	**18.92**	**3**	P	**P**	**18 38 16.1**	**-0.8**
Z43A	**Armstrong Fami** baz=177	**18.92**	**357**	P	**P**	**18 38 17.7**	**+0.8**
LRAL	**Lakeview Retre** comp=Z,53nm,0.9s	**18.95**	**8**	*e*P	**P**	**18 38 19.0**	**+1.6**
LRAL				*e*Sn	**Sn**	**18 41 43.6**	**-6.3**
Z44A	**Pea Ridge, Bel** baz=179	**18.96**	**359**	P	**P**	**18 38 18.5**	**+1.1**
137A	**Heron Place, G** baz=163	**18.97**	**346**	P	**P**	**18 38 17.2**	**-0.3**
Z47A	**Carrollton** baz=186,SNR=7.4	**18.99**	**6**	P	**P**	**18 38 18.3**	**+0.6**
Z42A	**Norrel Spur, H** baz=175	**19.02**	**356**	P	**P**	**18 38 18.3**	**+0.2**
136A	**Ennis** baz=161,SNR=9.6	**19.05**	**344**	P	**P**	**18 38 18.0**	**-0.4**
Z45A	**Winona** baz=182,SNR=16	**19.06**	**1**	P	**P**	**18 38 18.5**	**-0.1**
Z41A	**Richland Creek** baz=172	**19.09**	**353**	P	**P**	**18 38 18.4**	**-0.4**
234A	**Clairette** baz=156	**19.11**	**339**	P	**P**	**18 38 18.9**	**-0.3**
VILC	**Villavicencio,**	**19.16**	**120**	*e*P	**P**	**18 38 18.5**	**-1.4**
Z40A	**Long Farm, Mag** baz=171,SNR=5.9	**19.16**	**352**	P	**P**	**18 38 20.3**	**+0.7**
HPIG	comp=Z,100nm,1.3s	**19.17**	**314**	*e*P	**P**	**18 38 20.7**	**+0.7**
Z48A	**Northport** baz=188,SNR=19	**19.22**	**7**	P	**P**	**18 38 21.1**	**+0.8**
Z39A	**Irene McRaven,** baz=168	**19.27**	**350**	P	**P**	**18 38 21.0**	**+0.3**
233A	**Rising Star** baz=154,SNR=87	**19.40**	**337**	P	**P**	**18 38 22.1**	**-0.2**
Z38A	**Mt. Pleasant** baz=166,SNR=8.0	**19.42**	**348**	P	**P**	**18 38 23.1**	**+0.6**
TXAR	**Lajitas Array** comp=Z,1.9nm,0.3s,baz=149,slow=11,SNR=169	**19.50**	**323**	P	**P**	**18 38 24.9**	**+1.4**
TXAR	comp=Z,3μm,19.8s,baz=0.0,slow=39			LR	LR	18 46 43.6	
TX31	**Lajitas Ar. Si**	**19.50**	**323**	*e*P	**P**	**18 38 24.7**	**+1.2**
Z37A	**Pogue Cattle C** baz=164	**19.51**	**346**	P	**P**	**18 38 23.8**	**+0.3**
WLAR	**White Oak Lake** comp=Z,347nm,1.1s	**19.55**	**353**	*e*P	**P**	**18 38 25.4**	**+1.6**
GRTK	**Grand Turk** comp=Z,295nm,1.0s	**19.56**	**66**	*e*P	**Pn**	**18 38 28.8**	**+3.4**
Y45A	**Yeager Farm, C** baz=182,SNR=16	**19.56**	**2**	P	**P**	**18 38 25.2**	**+1.2**
Y42A	**Garnett, Star** baz=176	**19.57**	**356**	P	**P**	**18 38 25.2**	**+1.1**
Y43A	**Makayla and Ka** baz=178	**19.61**	**358**	P	**P**	**18 38 25.3**	**+0.8**
Y46A	**Houston** baz=184,SNR=29	**19.61**	**3**	P	**P**	**18 38 25.4**	**+0.9**
Y44A	**Strider, Charl** baz=180,SNR=21	**19.65**	**0**	P	**P**	**18 38 26.4**	**+1.5**
Y41A	**Eaglette Beard** baz=173	**19.68**	**354**	P	**P**	**18 38 26.5**	**+1.2**
Y47A	**UCPARC, Winfie** baz=187,SNR=42	**19.71**	**6**	P	**P**	**18 38 26.5**	**+1.0**
Z36A	**Blue Ridge** baz=162,SNR=25	**19.78**	**344**	P	**P**	**18 38 26.4**	**0.0**
Y40A	**Okolona** baz=171,SNR=20	**19.89**	**353**	P	**P**	**18 38 28.4**	**+0.8**
SDV	**Santo Domingo** comp=Z,337nm,0.9s	**19.92**	**103**	*e*P	**P**	**18 38 27.8**	**-0.5**
Y39A	**Lockesburg** baz=169,SNR=11	**19.93**	**351**	P	**P**	**18 38 28.3**	**+0.2**
Y38A	**Idabel** baz=167,SNR=10	**20.03**	**349**	P	**P**	**18 38 28.9**	**-0.2**
GOGA	**Godfrey**	**20.06**	**17**	*e*P	**P**	**18 38 31.1**	**+1.6**
GOGA	comp=Z,48nm,0.8s			pmax	pmax		
GOGA	**Godfrey** comp=Z,48nm,0.8s	**20.06**	**17**	*e*P	**P**	**18 38 31.1**	**+1.6**
GOGA	comp=Z,3μm,21.0s			LR	LR		
X45A	**UM Field Stati** baz=182	**20.12**	**2**	P	**P**	**18 38 30.5**	**+0.4**
X44A	**Crenshaw** baz=180,SNR=9.0	**20.18**	**0**	P	**P**	**18 38 30.4**	**-0.4**
OXF	**Oxford**	**20.21**	**2**	*e*P	**P**	**18 38 31.6**	**+0.6**
OXF	comp=Z,152nm,0.8s			pmax	pmax		
OXF	**Oxford** comp=Z,152nm,0.8s	**20.21**	**2**	*e*P	**P**	**18 38 31.6**	**+0.6**
X43A	**Marvell** baz=178	**20.21**	**358**	P	**P**	**18 38 31.2**	**+0.2**
ABTX	**Abilene, Hawle** baz=153,SNR=30	**20.22**	**336**	P	**P**	**18 38 31.2**	**0.0**
ABTX	**Abilene, Hawle** comp=Z,189nm,1.0s	**20.22**	**336**	*e*P	**P**	**18 38 31.3**	**0.0**
Y37A	**Hugo** baz=165	**20.26**	**347**	P	**P**	**18 38 31.4**	**-0.2**
X42A	**Stuttgart** baz=176	**20.27**	**357**	P	**P**	**18 38 32.6**	**+0.8**
X41A	**Kaden, Bauxite** baz=174,SNR=10.0	**20.28**	**355**	P	**P**	**18 38 32.5**	**+0.7**
X40A	**Basin Creek Fa** baz=173,SNR=31	**20.31**	**354**	P	**P**	**18 38 32.2**	**+0.1**
Y36A	**Durant** baz=163,SNR=57	**20.34**	**345**	P	**P**	**18 38 32.4**	**0.0**
MIAR	**Mount Ida** baz=171,SNR=70	**20.45**	**352**	P	**P**	**18 38 33.8**	**+0.1**
MIAR	**Mount Ida** comp=Z,200nm,1.0s	**20.45**	**352**	*e*P	**P**	**18 38 34.5**	**+0.8**
MIAR	comp=Z,200nm,1.0s			pmax	pmax		
MIAR	**Mount Ida** comp=Z,200nm,1.0s	**20.45**	**352**	*e*P	**P**	**18 38 34.5**	**+0.8**
MIAR	comp=Z,3μm,19.0s			LR	LR		
X39A	**Fountain Ranch** baz=169,SNR=53	**20.50**	**351**	P	**P**	**18 38 34.9**	**+0.7**
Y35A	**Marietta** baz=161,SNR=239	**20.54**	**344**	P	**P**	**18 38 35.6**	**+0.9**
UALR	**University of** comp=Z,234nm,1.1s	**20.55**	**355**	*e*P	**P**	**18 38 36.0**	**+1.3**
X38A	**Whitesboro** baz=167,SNR=85	**20.77**	**349**	P	**P**	**18 38 37.8**	**+0.6**
W43A	**Forest City** baz=179	**20.77**	**359**	P	**P**	**18 38 37.3**	**+0.2**
X37A	**Clayton** baz=166,SNR=57	**20.80**	**348**	P	**P**	**18 38 37.6**	**+0.1**
W44A	**Shelby Farms P** baz=181	**20.82**	**1**	P	**P**	**18 38 37.0**	**-0.7**
W45A	**Hickory Valley** baz=183,SNR=19	**20.86**	**2**	P	**P**	**18 38 38.3**	**+0.2**
NHSC	**New Hope** comp=Z,363nm,1.4s	**20.90**	**24**	*e*P	**P**	**18 38 40.1**	**+1.6**
NHSC	comp=Z,9μm,19.0s			LR	LR		
W41B	**Gary Mavity, V** baz=175,SNR=31	**20.93**	**355**	P	**P**	**18 38 39.1**	**+0.2**
W42A	**Bald Knob** baz=176	**20.99**	**357**	P	**P**	**18 38 39.4**	**-0.1**
X35A	**Drake** baz=162,SNR=91	**20.99**	**344**	P	**P**	**18 38 39.3**	**-0.2**
X36A	**Centrahoma** baz=163,SNR=44	**20.99**	**346**	P	**P**	**18 38 39.5**	**-0.1**
W40A	**Ferguson Farm,** baz=172,SNR=23	**21.03**	**354**	P	**P**	**18 38 40.9**	**+1.0**
WHAR	**Wooly Hollow** comp=Z,104nm,1.1s	**21.05**	**355**	*e*P	**P**	**18 38 41.0**	**+0.8**

WMOK pmax pmax
comp=Z,310nm,1.7s
WMOK Wichita Mounta 21.83 341 *eP* **P 18 38 48.3 -0.3**
comp=Z,314nm,1.7s
WMOK LR LR
comp=Z,2µm,22.0s
V38A Canehill 21.87 351 P **P 18 38 48.6 -0.4**
baz=169,SNR=54
WVT Waverly 21.91 5 *eP* **P 18 38 49.7 +0.3**
WVT pmax pmax
comp=Z,110nm,1.2s
WVT Waverly 21.91 5 *eP* **P 18 38 49.7 +0.3**
comp=Z,111nm,1.2s
GLAT Glass 21.96 2 *eP* **P 18 38 51.0 +1.0**
V37A Hulbert 22.01 349 P **P 18 38 49.8 -0.6**
baz=167,SNR=101
U44B Burton Farm, H 22.03 2 P **P 18 38 49.9 -0.8**
baz=182,SNR=8.8
U42A Revenden 22.05 358 P **P 18 38 50.0 -0.8**
baz=177,SNR=54
U43A Rector 22.05 360 P **P 18 38 50.2 -0.7**
baz=180,SNR=14
U45A Rockin P Farm, 22.07 3 P **P 18 38 50.4 -0.7**
baz=184,SNR=9.0
V36A Jenks 22.07 348 P **P 18 38 49.9 -1.2**
baz=165,SNR=18
U41A Viola 22.07 356 P **P 18 38 50.0 -1.1**
baz=176,SNR=31
TKL Tuckaleechee C 22.11 14 P **P 18 38 51.4 -0.3**
comp=Z,52nm,0.9s,baz=189,slow=10,SNR=29
TKL LR LR 18 47 41.1
comp=Z,4µm,20.6s,baz=191,slow=37
TKL Tuckaleechee C 22.11 14 *eP* **P 18 38 52.2 +0.6**
TKL pmax pmax
comp=Z,97nm,1.0s
TKL Tuckaleechee C 22.11 14 *eP* **P 18 38 52.2 +0.6**
comp=Z,97nm,0.9s
TUL1 Leonard 22.16 348 P **P 18 38 50.7 -1.4**
baz=166,SNR=23
TUL1 Leonard 22.16 348 *eP* **P 18 38 51.1 -0.9**
comp=Z,122nm,0.8s
U40A Yellville 22.16 354 P **P 18 38 52.0 -0.1**
baz=173,SNR=55
U44A Portageville 22.19 1 P **P 18 38 51.9 -0.5**
baz=181
MNTX Cornudas Mount 22.24 324 P **P 18 38 52.2 -0.9**
baz=138,SNR=63
MNTX Cornudas Mount 22.24 324 *eP* **P 18 38 52.2 -0.9**
comp=Z,77nm,1.3s
MNTX LR LR
comp=Z,3µm,20.0s
V35A Meyer Ranch, C 22.25 346 P **P 18 38 51.6 -1.5**
baz=163,SNR=32
U39A Green Forest 22.25 353 P **P 18 38 52.9 -0.2**
baz=172,SNR=45
KMSC Kings Mountain 22.32 20 P **P 18 38 52.2 -1.5**
baz=203
KMSC Kings Mountain 22.32 20 *eP* **P 18 38 54.9 +1.1**
comp=Z,66nm,1.0s
PARMO Parma 22.35 1 *eP* **P 18 38 55.2 +1.1**
U38A Gravette 22.43 351 P **P 18 38 53.8 -1.2**
baz=170,SNR=45
PBMO Poplar Bluff 22.46 360 *eP* **P 18 38 55.0 -0.2**
comp=Z,138nm,0.9s
U37A Salina 22.51 350 P **P 18 38 54.1 -1.8**
baz=168,SNR=76
U36A Oologah 22.61 348 P **P 18 38 55.6 -1.4**
baz=166,SNR=12
MSTX Muleshoe 22.70 332 P **P 18 38 56.4 -1.6**
baz=147
MSTX Muleshoe 22.70 332 *eP* **P 18 38 57.7 -0.3**
comp=Z,42nm,0.4s
T42A Van Buren 22.72 358 P **P 18 38 57.0 -1.0**
baz=178,SNR=54
T43A Greenville 22.76 360 P **P 18 38 57.9 -0.5**
baz=180,SNR=53
T41A Mountain View 22.76 357 P **P 18 38 58.1 -0.4**
baz=176,SNR=77
T44A Benton 22.77 1 P **P 18 38 57.9 -0.7**
baz=182,SNR=34
U35A Pawnee 22.80 346 P **P 18 38 57.2 -1.7**
baz=164,SNR=36
T39A Clever 22.87 354 P **P 18 38 59.0 -0.7**
baz=172,SNR=39
T40A Mansfield 22.92 355 P **P 18 38 59.7 -0.5**
baz=174,SNR=36
T38A Diamond 23.00 352 P **P 18 38 60.0 -1.0**
baz=170,SNR=31
AMTX Amarillo 23.01 335 P **P 18 38 59.4 -1.9**
baz=151
AMTX Amarillo 23.01 335 *eP* **P 18 38 59.6 -1.6**
comp=Z,90nm,0.8s
TZTN Tazewell 23.01 14 *eP* **P 18 39 01.0 -0.1**
comp=Z,178nm,1.4s
T37A Cheneyville 18 23.18 350 P **P 18 39 01.3 -1.6**
baz=168,SNR=105
S43A Fulton Ridge, 23.25 0 P **P 18 39 02.5 -1.1**
baz=180,SNR=41
T35A Sooner Cattle 23.28 347 P **P 18 39 02.0 -1.9**
baz=164,SNR=18
T36A Boggs Farm, Ca 23.29 349 P **P 18 39 02.3 -1.6**
baz=166,SNR=13
S41A Jillco Farms, 23.30 357 P **P 18 39 03.1 -1.0**
baz=176,SNR=50
S40A Lebanon 23.36 355 P **P 18 39 03.6 -1.1**
baz=174,SNR=44
S44A Carbondale 23.39 2 P **P 18 39 04.5 -0.4**
baz=182,SNR=90
S45A Carrier Mills 23.40 3 P **P 18 39 04.0 -1.1**
baz=184,SNR=14
U32A Winter Ranch, 23.41 342 P **P 18 39 03.7 -1.5**
baz=158,SNR=6.7
SJG San Juan 23.45 77 P **P 18 39 05.5 -0.2**
comp=Z,42nm,0.7s,baz=294,slow=4.9,SNR=12
SJG LR LR 18 49 03.4
comp=Z,11µm,18.1s,baz=256,slow=39
SJG San Juan 23.45 77 *eP* **P 18 39 07.5 +1.8**
SJG pmax pmax
comp=Z,58nm,0.8s
S42A Caledonia 23.45 359 P **P 18 39 03.9 -1.7**
baz=179,SNR=16
S39A Bolivar 23.53 354 P **P 18 39 05.3 -1.0**
baz=172,SNR=93
T34A McClaskey Farm 23.53 346 P **P 18 39 04.1 -2.2**
baz=163,SNR=63
S38A Stockton 23.54 353 P **P 18 39 05.1 -1.3**
baz=171,SNR=97
CNNC Cliffs of the 23.69 26 PFAKE 18 39 20.0 +12
CNNC LR LR
comp=Z,4µm,21.0s
HUMP Col San Antoni 23.73 77 *eP* **P 18 39 09.3 +0.8**
comp=Z,104nm,1.3s
CBYP Canovanas 23.74 77 *eP* **P 18 39 09.8 +1.2**
comp=Z,116nm,1.1s
USIN University of 23.75 5 *eP* **P 18 39 08.9 +0.4**
comp=Z,272nm,0.8s
S37A Fort Scott 23.79 351 P **P 18 39 07.6 -1.3**
baz=169,SNR=57
S36A Lake Cedric, C 23.88 349 P **P 18 39 07.8 -1.9**
baz=167,SNR=80
R44A Waltonville 23.95 2 P **P 18 39 10.3 0.0**
baz=183,SNR=15
R43A Red Bud 23.95 1 P **P 18 39 09.5 -0.9**
baz=181,SNR=48
R42A Luebbering 23.96 359 P **P 18 39 09.4 -1.0**
baz=179,SNR=19
S35A Otter Creek Ra 23.98 348 P **P 18 39 08.7 -1.9**
baz=165,SNR=22
R41A Rosebud 23.99 358 P **P 18 39 09.6 -1.2**
baz=177,SNR=75
R40A Maddies Statio 24.03 356 P **P 18 39 09.9 -1.3**
baz=175,SNR=27
R38A Fenwick Farm, 24.08 353 P **P 18 39 10.7 -0.9**
baz=171,SNR=82
R39A Chumby, Stover 24.12 355 P **P 18 39 10.5 -1.4**
baz=173,SNR=49
WCI Wyandotte Cave 24.16 8 *eP* **P 18 39 12.4 +0.1**
WCI pmax pmax
comp=Z,280nm,0.8s
WCI Wyandotte Cave 24.16 8 *eP* **P 18 39 12.4 +0.1**
comp=Z,276nm,0.8s
S34A Willow Spring 24.16 347 P **P 18 39 10.3 -2.1**
baz=164,SNR=12
HSIG 24.18 311 *eP* **P 18 39 13.1 +0.5**
comp=Z,183nm,1.9s
121A Cookes Peak, D 24.25 322 P **P 18 39 13.7 +0.3**
baz=135,SNR=33
121A Cookes Peak, D 24.25 322 *eP* **P 18 39 13.6 +0.1**
comp=Z,67nm,1.0s
ATAH Atahualpa 24.26 150 P **P 18 39 16.3 +2.4**
comp=Z,64nm,1.2s,baz=331,slow=10,SNR=15
SLM Saint Louis 24.31 360 *eP* **P 18 39 13.5 -0.2**
SLM pmax pmax
comp=Z,100nm,1.0s
SLM Saint Louis 24.31 360 *eP* **P 18 39 13.5 -0.2**
comp=Z,102nm,0.9s
R37A Teagarden Farm 24.33 351 P **P 18 39 12.5 -1.4**
baz=169,SNR=33
319A Douglas 24.42 318 *eP* **P 18 39 16.6 +1.6**
comp=Z,92nm,1.1s
R36A Gordon, Harris 24.45 350 P **P 18 39 13.7 -1.2**
baz=168,SNR=22
OLIL Olney 24.48 4 *eP* **P 18 39 15.5 +0.3**
comp=Z,184nm,0.8s
BLA Blacksburg 24.50 19 PFAKE 18 39 30.0 +14
BLA LR LR
comp=Z,8µm,19.0s
R35A Emporia Munici 24.57 349 P **P 18 39 15.2 -0.9**
baz=166,SNR=26
Q42A Golden Eagle 24.59 359 P **P 18 39 14.5 -1.7**
baz=179,SNR=25
Q44A Meyer Farm, Va 24.60 2 P **P 18 39 15.8 -0.5**
baz=183,SNR=67
STVI Saint Thomas 24.60 77 *eP* **P 18 39 18.0 +1.5**
comp=Z,327nm,1.2s
Q43A New Douglas 24.62 1 P **P 18 39 15.9 -0.6**
baz=181,SNR=56
Q41A Truxton 24.64 358 P **P 18 39 15.9 -0.8**
baz=178,SNR=67
VWCC Virginia Weste 24.68 20 *eP* **P 18 39 17.9 +0.8**
Q40A Laux Farm, Aux 24.72 357 P **P 18 39 15.9 -1.5**
baz=176,SNR=19
R34A Isabella, Hill 24.77 347 P **P 18 39 16.5 -1.3**
baz=164,SNR=38
Q38A Cooks Store, C 24.82 354 P **P 18 39 16.5 -1.7**
baz=172,SNR=47
Q37A Longview Farm, 24.83 352 P **P 18 39 16.3 -2.1**
baz=170
Q39A Willow Grove F 24.84 355 P **P 18 39 16.3 -2.1**
baz=174,SNR=30
Y22D IRIS PASSCAL I 24.87 325 P **P 18 39 17.4 -1.7**
baz=139
BLO Bloomington 25.06 7 *eP* **P 18 39 21.4 +0.9**
BLO pmax pmax
comp=Z,60nm,0.8s
BLO Bloomington 25.06 7 *eP* **P 18 39 21.4 +0.9**
comp=Z,60nm,0.8s
Q35A Mercer Eighty, 25.06 349 P **P 18 39 18.6 -1.9**
baz=167,SNR=13
Q36A Arnold C. Orve 25.06 350 P **P 18 39 18.9 -1.6**
baz=168,SNR=9.2
P44A Sand Creek, Wi 25.18 3 P **P 18 39 20.0 -1.6**
baz=184,SNR=28
P40A Paris 25.25 357 P **P 18 39 20.2 -2.0**
baz=176,SNR=45
P39B Salisbury 25.26 355 P **P 18 39 20.2 -2.1**
baz=174,SNR=17
P42A Winchester 25.26 360 P **P 18 39 20.4 -1.9**
baz=180,SNR=23
ANMO Albuquerque 25.29 328 P **P 18 39 22.6 -0.2**
comp=Z,4.2nm,0.7s,baz=150,slow=9.9,SNR=10
ANMO Albuquerque 25.29 328 P **P 18 39 22.5 -0.4**
baz=141
ANMO Albuquerque 25.29 328 ⇓*iP* **P 18 39 22.7 -0.2**
ANMO pmax pmax
comp=Z,6.0nm,0.9s
ANMO Albuquerque 25.29 328 *eP* **P 18 39 22.8 0.0**
comp=Z,27nm,1.4s
ANMO LR LR
comp=Z,4µm,19.0s
Q34A Chapman 25.30 348 P **P 18 39 20.6 -2.0**
baz=165,SNR=5.8
P43A Skaggs, Pawnee 25.32 1 P **P 18 39 22.2 -0.7**
baz=182,SNR=37
PCRV Puerto La Cruz 25.34 96 P **P 18 39 24.8 +1.5**
comp=Z,54nm,0.8s,baz=177,slow=15,SNR=8.6
PCRV LR LR 18 50 09.3
comp=Z,6µm,19.7s,baz=282,slow=38
P41A Barry, Barry 25.36 359 P **P 18 39 21.4 -1.8**
baz=178,SNR=11
KSU1 Kansas State U 25.41 348 P **P 18 39 22.8 -0.8**
baz=166
KSU1 Kansas State U 25.41 348 *eP* **P 18 39 22.9 -0.7**
comp=Z,111nm,0.9s
KSU1 LR LR
comp=Z,3µm,22.0s
P38A Dawn 25.46 354 P **P 18 39 22.8 -1.3**
baz=173,SNR=16
P37A Lathrop 25.52 353 P **P 18 39 22.8 -1.8**
baz=171
P36A Good Intent, A 25.67 351 P **P 18 39 23.9 -2.1**
baz=169,SNR=23
P35A Duane Minner, 25.71 350 P **P 18 39 24.7 -1.7**
baz=167,SNR=23
O41A Passleys Farm, 25.80 359 P **P 18 39 25.5 -1.6**
baz=179,SNR=10
JSRW J. Sargeant Re 25.82 23 *eP* **P 18 39 28.9 +1.5**
O40A La Belle 25.83 357 P **P 18 39 26.4 -1.1**
baz=176,SNR=44
URVA University of 25.85 24 *eP* **P 18 39 29.0 +1.4**
O42A Bath 25.87 0 P **P 18 39 25.9 -1.9**
baz=180
P34A Walnut Farm, R 25.88 348 P **P 18 39 26.6 -1.3**
baz=165,SNR=31
CBKS Cedar Bluff 25.89 343 P **P 18 39 26.7 -1.3**
baz=159,SNR=10
CBKS Cedar Bluff 25.89 343 *eP* **P 18 39 27.4 -0.6**
CBKS pmax pmax
comp=Z,190nm,1.3s
CBKS Cedar Bluff 25.89 343 *eP* **P 18 39 27.4 -0.6**
comp=Z,189nm,1.4s
CBKS LR LR
comp=Z,2µm,21.0s
O38A Galt 25.95 354 P **P 18 39 26.7 -1.8**
baz=173,SNR=8.3
O43A Sugar Creek Fa 25.97 2 P **P 18 39 26.8 -1.9**
baz=182
TUC Tucson 26.00 317 P **P 18 39 29.2 +0.1**
baz=129
TUC Tucson 26.00 317 *eP* **P 18 39 30.2 +1.0**
TUC pmax pmax
comp=Z,36nm,1.1s
TUC Tucson 26.00 317 *eP* **P 18 39 30.2 +1.0**
comp=Z,36nm,1.1s
TUC LR LR
comp=Z,23µm,19.0s
O39A Kirksville 26.01 356 P **P 18 39 27.5 -1.5**
baz=175
O37A Wolven Farm, M 26.07 353 P **P 18 39 27.6 -2.0**
baz=171,SNR=9.4
T25A Trinidad 26.08 334 P **P 18 39 29.3 -0.7**
baz=148,SNR=17
O36A Bolckow 26.14 352 P **P 18 39 29.2 -1.1**
baz=170,SNR=9.0
SFIN Lafayette 26.20 5 P **P 18 39 29.3 -1.5**
baz=187,SNR=16
SFIN Lafayette 26.20 5 *eP* **P 18 39 29.9 -0.8**
comp=Z,69nm,0.8s
HDIL Hopedale 26.24 2 P **P 18 39 29.9 -1.3**
baz=182,SNR=16
HDIL Hopedale 26.24 2 PFAKE 18 39 40.0 +8.8
HDIL LR LR
comp=Z,3µm,19.0s
N41A Harden Midland 26.39 359 P **P 18 39 30.2 -2.3**
baz=179,SNR=14
O35A Humboldt 26.41 350 P **P 18 39 30.3 -2.4**
baz=168
CBN Corbin Frederi 26.46 23 PFAKE 18 39 50.0 +17
CBN LR LR
comp=Z,6µm,20.0s
O34A Beatrice 26.47 349 P **P 18 39 31.4 -1.8**
baz=166,SNR=20
N42A Yates City 26.50 0 P **P 18 39 32.0 -1.5**
baz=180,SNR=17
O33A Hebron 26.54 347 P **P 18 39 32.6 -1.3**
baz=164,SNR=8.1
N40A Mertquake, Sal 26.58 358 P **P 18 39 32.5 -1.7**
baz=177,SNR=15
N38A Joes South For 26.59 355 P **P 18 39 32.2 -2.1**
baz=174
N39A Derby Farms, D 26.62 356 P **P 18 39 33.4 -1.2**
baz=175,SNR=14
N37A Lee Faris, Mou 26.66 353 P **P 18 39 33.2 -1.7**
baz=171
ACSO Alum Creek Sta 26.67 12 *eP* **P 18 39 38.4 +3.3**
comp=Z,106nm,1.3s
ACSO LR LR
comp=Z,4µm,19.0s
N36A Muff Farm, Cla 26.81 352 P **P 18 39 34.8 -1.5**
baz=170
X18A Snowflake 26.94 322 *eP* **P 18 39 41.1 +3.3**
comp=Z,25nm,1.1s
N35A Tabor 26.95 351 P **P 18 39 36.7 -0.8**
baz=168
KSCO Kaye Shedlock' 27.00 338 P **P 18 39 36.8 -1.4**
baz=153,SNR=8.4
KSCO Kaye Shedlock' 27.00 338 *eP* **P 18 39 37.4 -0.9**
comp=Z,48nm,0.8s
M41A Milan 27.05 359 P **P 18 39 37.3 -1.1**
baz=179,SNR=14
SDCO Great Sand Dun 27.07 333 P **P 18 39 38.4 -0.6**
baz=146,SNR=11
SDCO Great Sand Dun 27.07 333 *eP* **P 18 39 41.0 +1.9**
comp=Z,43nm,1.5s
SDCO LR LR
comp=Z,4µm,22.0s
N34A Lincoln 27.07 350 P **P 18 39 37.2 -1.5**
baz=167
M40A Post Highland 27.10 358 P **P 18 39 37.7 -1.2**
baz=177,SNR=16
M42A Sheffield 27.13 1 P **P 18 39 37.9 -1.3**
baz=181
N33A J Bar K, Exete 27.15 348 P **P 18 39 38.6 -0.8**
baz=165
214A Organ Pipe Nat 27.15 314 P **P 18 39 38.9 -0.7**
baz=126,SNR=7.8
214A Organ Pipe Nat 27.15 314 *eP* **P 18 39 40.2 +0.6**
comp=Z,56nm,0.8s
M39A Webster 27.20 357 P **P 18 39 38.1 -1.7**
baz=176,SNR=17
M38A Pleasantville 27.21 355 P **P 18 39 38.3 -1.6**
baz=174,SNR=9.6
W18A Petrified Fore 27.22 323 P **P 18 39 39.5 -0.8**
baz=135,SNR=6.7
W18A Petrified Fore 27.22 323 *eP* **P 18 39 42.3 +2.0**
comp=Z,58nm,1.4s
M37A Trindle Farm, 27.28 354 P **P 18 39 39.6 -1.0**
baz=172,SNR=5.3
M36A Felix, Anita 27.41 353 P **P 18 39 40.4 -1.3**
baz=170,SNR=6.3
M35A Neola 27.55 351 P **P 18 39 41.4 -1.6**
baz=169,SNR=10
ANWB Willy Bob 27.56 79 PFAKE 18 40 00.0 +17
ANWB LR LR
comp=Z,12µm,21.0s
S22A 4UR Ranch, Cre 27.68 331 P **P 18 39 43.5 -1.0**
baz=144,SNR=14
SCIA State Center 27.70 355 PFAKE 18 40 00.0 +16
SCIA LR LR
comp=Z,3µm,22.0s
SDMD Soldier's Deli 27.72 23 *eP* **P 18 39 47.6 +3.1**
comp=Z,13nm,0.7s
M34A Aspy Farms, Fr 27.73 350 P **P 18 39 43.8 -0.8**
baz=167,SNR=8.9
L40A Anamosa 27.75 358 P **P 18 39 43.3 -1.4**
baz=178,SNR=40
L41A Preston 27.75 360 P **P 18 39 42.7 -2.0**
baz=180,SNR=31
X16A Lo Mia Camp, P 27.77 320 *eP* **P 18 39 45.8 +0.6**
comp=Z,17nm,0.8s
L39A Vinton 27.84 357 P **P 18 39 44.3 -1.2**
baz=176,SNR=11
O56A Blue Knob Stat 27.88 19 P **P 18 39 45.6 -0.4**
baz=205
L43A Garden Prairie 27.88 2 P **P 18 39 45.1 -0.8**
baz=183,SNR=9.9
GRGR Grenville 27.90 91 *eP* **P 18 39 47.3 +0.9**
GRGR LR LR
comp=Z,82nm,0.7s
M33A Taylor Creek F 27.91 349 P **P 18 39 45.3 -0.9**
baz=166
L38A Oak Wood Farm, 27.91 356 P **P 18 39 45.5 -0.7**
baz=174,SNR=6.6
Q24A Divide 27.93 335 P **P 18 39 46.2 -0.6**
baz=148
BGNE Belgrade 27.94 347 P **P 18 39 45.8 -0.7**
baz=164
BGNE Belgrade 27.94 347 *eP* **P 18 39 47.1 +0.6**
comp=Z,56nm,0.7s
L37A Phoenix Point, 27.96 354 P **P 18 39 43.9 -2.8**
baz=173
L36A Harm Buss Farm 28.04 353 P **P 18 39 45.8 -1.5**
baz=171
MVCO Mesa Verde 28.08 328 P **P 18 39 46.7 -1.4**
baz=140,SNR=6.1
MVCO Mesa Verde 28.08 328 *eP* **P 18 39 50.3 +2.2**
comp=Z,72nm,1.6s
MVCO LR LR
comp=Z,5µm,19.0s
N54A Moraine State 28.09 17 P **P 18 39 46.6 -1.2**
baz=201
L34A Svendsen Farm, 28.15 350 P **P 18 39 47.1 -1.2**
baz=167
FDF Fort de France 28.16 85 *eP* **P 18 39 48.0 -0.7**
FDF pmax pmax
comp=Z,80nm,0.9s
FDF Fort de France 28.16 85 *eP* **P 18 39 48.0 -0.7**
comp=Z,80nm,0.9s
FDF LR LR
comp=Z,7µm,19.0s
L35A Bielow Farm, R 28.16 352 P **P 18 39 47.3 -1.2**
baz=169
SVB Belmont 28.16 88 *eP* **P 18 39 48.9 +0.1**
comp=Z,78nm,0.7s
K41A Shullsburg 28.28 360 P **P 18 39 48.2 -1.3**
baz=180,SNR=19
113A Mohawk Valley, 28.28 315 *eP* **P 18 39 51.1 +1.6**
comp=Z,14nm,1.0s
K40A Colesburg 28.38 359 P **P** 18 39 48.5 -1.9
baz=178,SNR=7.0
K38A Parkersburg 28.40 356 P **P 18 39 48.7 -1.8**
baz=175
K39A Oelwein 28.41 357 P **P 18 39 48.9 -1.7**
baz=177,SNR=16
SSPA Standing Stone 28.44 20 *eP* **P 18 39 54.6 +3.7**
comp=Z,20nm,1.0s
WUAZ Wupatki 28.46 322 P **P 18 39 50.1 -1.3**
baz=133,SNR=12
WUAZ Wupatki 28.46 322 *eP* **P 18 39 52.5 +1.1**
comp=Z,24nm,0.9s
WUAZ LR LR
comp=Z,7µm,20.0s
Y14A Wickenburg 28.47 318 *eP* **P 18 39 54.2 +2.9**
comp=Z,113nm,1.4s
L32A Elgin 28.48 348 P **P 18 39 50.2 -1.2**
baz=164
L33A Hoskins 28.50 349 P **P 18 39 50.3 -1.2**
baz=166
OGNE Ogallala 28.54 341 P **P 18 39 51.3 -0.6**
baz=156,SNR=5.6
OGNE Ogallala 28.54 341 *eP* **P 18 39 52.0 +0.1**
comp=Z,78nm,1.4s
OGNE LR LR
comp=Z,2µm,21.0s
K36A Gilmore City 28.54 353 P **P 18 39 50.0 -1.8**
baz=172
AAM Ann Arbor 28.55 10 PFAKE 18 40 00.0 +8.2
AAM LR LR
comp=Z,4µm,21.0s
JFWS Jewell Farm 28.59 360 *eP* **P 18 39 52.2 0.0**
JFWS pmax pmax
comp=Z,55nm,0.7s
JFWS Jewell Farm 28.59 360 *eP* **P 18 39 52.2 0.0**
comp=Z,55nm,0.7s
JFWS LR LR
comp=Z,3µm,21.0s
K37A Belmond 28.59 355 P **P 18 39 50.7 -1.5**
baz=173
M54A Oil Creek Stat 28.69 17 P **P 18 39 51.3 -1.9**
baz=202
K35A Storm Lake 28.72 352 P **P** 18 39 51.3 -2.1
baz=170
K34A Le Mars 28.80 351 P **P 18 39 52.7 -1.5**
baz=168
PV01 Paradox Valley 28.83 329 *eP* **P 18 39 55.8 +1.1**
ISCO Idaho Springs 28.83 335 P **P 18 39 53.8 -1.0**
baz=148,SNR=7.3
ISCO Idaho Springs 28.83 335 *eP* **P 18 39 55.4 +0.6**
ISCO pmax pmax
comp=Z,10.0nm,1.0s
ISCO Idaho Springs 28.83 335 *eP* **P 18 39 55.4 +0.6**
comp=Z,10nm,1.0s
ISCO LR LR

comp=Z,2µm,22.0s
K33A Hardington 28.87 350 P P 18 39 53.6 -1.2
baz=166
SMCO Snowmass 28.90 332 eP P 18 39 58.6 +3.1
comp=Z,21nm,1.3s
J39A Decorah 29.03 358 P P 18 39 54.5 -1.6
baz=177,SNR=8.1
J41A Loganville 29.04 0 P P 18 39 54.5 -1.7
baz=180,SNR=18
PV05 Paradox Valley 29.05 328 eP P 18 39 57.7 +1.0
J38A Wedel Dairy, R 29.05 357 P P 18 39 54.2 -2.1
baz=176,SNR=5.5
J40A Soldiers Grove 29.07 359 P P 18 39 55.0 -1.5
baz=179
K32A Verdigre 29.11 348 P P 18 39 54.8 -2.1
baz=164
J37A Redenius Farm, 29.12 355 P P 18 39 54.8 -2.1
baz=173
GLA Glamis 29.18 314 P P 18 39 57.0 -0.6
baz=124,SNR=9.4
GLA Glamis 29.18 314 eP P 18 39 59.4 +1.8
GLA pmax pmax
comp=Z,19nm,0.9s
GLA Glamis 29.18 314 eP P 18 39 59.4 +1.8
comp=Z,19nm,0.9s
PV04 Paradox Valley 29.20 329 eP P 18 39 57.4 -0.5
J36A Seneca 1, Swea 29.21 354 P P 18 39 56.4 -1.3
baz=172,SNR=7.2
K31A O'Neill 29.23 347 P P 18 39 57.1 -0.9
baz=163
NNA Nana 29.23 152 PcP PcP 18 43 04.1 -1.3
comp=Z,7.6nm,0.5s,baz=243,slow=4.5,SNR=3.8
NNA Nana 29.23 152 PcP PcP 18 43 04.1 -1.3
NNA LR LR
comp=Z,978nm,19.0s
PV10 Paradox Valley 29.25 329 eP P 18 39 59.7 +1.2
LUPA Lehigh Univers 29.31 24 eP P 18 40 00.9 +2.3
comp=Z,39nm,1.1s
J35A Milford 29.35 353 P P 18 39 56.8 -2.2
baz=170
Y12C Blythe 29.37 316 P P 18 39 58.4 -0.9
baz=126
J34A George 29.37 351 P P 18 39 57.1 -2.1
baz=169
PV09 Paradox Valley 29.39 329 eP P 18 40 01.3 +1.6
N59A State Game Lan 29.43 23 P P 18 39 57.1 -2.6
baz=209
PDMCI Parker Dam,Lak 29.44 317 P P 18 39 58.8 -1.0
baz=127,SNR=11
BBSR BB Station 29.48 48 eP P 18 40 02.3 +2.1
BBSR LR LR
comp=Z,117nm,0.8s
comp=Z,393µm,21.0s
I39A Houston 29.55 358 P P 18 39 59.9 -0.8
baz=178,SNR=7.8
J33A Davis 29.56 350 P P 18 39 59.2 -1.7
baz=167
I40A Norwalk 29.56 359 P P 18 39 59.7 -1.2
baz=179
U15A North Rim 29.63 322 eP P 18 40 04.3 +2.4
comp=Z,19nm,1.2s
I41A Arkdale 29.73 1 P P 18 40 00.8 -1.5
baz=181,SNR=6.2
W13A Hualapai Mount 29.75 318 eP P 18 40 04.3 +1.3
comp=Z,13nm,0.9s
I38A Scanlan Farm, 29.76 357 P P 18 40 00.9 -1.7
baz=176,SNR=12
J32A Parkston 29.77 349 P P 18 40 00.6 -2.1
baz=165
SWSC Sam W. Stewart 29.80 313 P P 18 40 02.7 -0.4
baz=123,SNR=5.9
I35A Creekview Farm 29.80 353 P P 18 40 01.5 -1.5
baz=171
I37A Lemond, Waseca 29.81 355 P P 18 40 01.6 -1.4
baz=174
BBGH Gun Hill 29.82 88 PFAKE 18 40 20.0 +17
BBGH LR LR
comp=Z,7µm,20.0s
IKP In-Ko-Pah, Jac 29.86 312 P P 18 40 02.5 -1.3
baz=122,SNR=12
I36A Fitzsimmons Fa 29.86 355 P P 18 40 01.4 -2.1
baz=173
J31A Geddes 29.87 347 P P 18 40 01.6 -2.0
baz=163
N23A Red Feather La 29.89 336 P P 18 40 03.6 -0.6
baz=148
ECSD EROS Data Cent 29.91 351 P P 18 40 03.0 -0.9
baz=168,SNR=14
ECSD EROS Data Cent 29.91 351 eP P 18 40 03.4 -0.5
ECSD LR LR
comp=Z,19nm,0.9s
comp=Z,3µm,21.0s
BC3 Big Chuckawall 29.95 315 P P 18 40 04.1 -0.4
baz=124,SNR=18
IRM Iron Mountain 30.02 316 P P 18 40 04.5 -0.6
baz=126,SNR=9.9
NEE2 Needles Airpor 30.03 317 P P 18 40 03.7 -1.4
baz=127
PHWY Pilot Hill 30.05 337 eP P 18 40 04.6 -1.0
comp=Z,20nm,0.8s
I34A Hadley 30.10 352 P P 18 40 03.8 -1.8
baz=169
MONP Monument Peak, 30.21 312 P P 18 40 05.7 -1.3
baz=122,SNR=6.3
I33A Coleman 30.24 351 P P 18 40 05.1 -1.8
baz=167
O20A White River Ci 30.25 332 P P 18 40 05.9 -1.3
baz=144
O20A White River Ci 30.25 332 eP P 18 40 07.8 +0.5
comp=Z,17nm,0.8s
H41A Junction City 30.29 1 P P 18 40 06.2 -1.0
baz=181,SNR=11
H40A Chili 30.29 360 P P 18 40 05.9 -1.4
baz=180,SNR=11
MMNY Mt. Morris Dam 30.33 18 eP P 18 40 10.8 +3.1
I32A Karley and Nic 30.33 350 P P 18 40 05.6 -2.1
baz=166
H37A Dierke Farm, C 30.34 356 P P 18 40 05.9 -1.8
baz=175
KNB Kanab 30.34 323 eP P 18 40 10.0 +1.9
KNB pmax pmax
comp=Z,16nm,1.0s
KNB Kanab 30.34 323 eP P 18 40 10.0 +1.9
comp=Z,16nm,1.1s
H39A Augusta 30.36 359 P P 18 40 07.0 -0.9
baz=178
H38A Maiden Rock 30.39 357 P P 18 40 06.7 -1.5
baz=176,SNR=7.8
H36A Jessenland, He 30.41 355 P P 18 40 07.6 -0.7
baz=173
BINY Binghamton 30.48 21 eP P 18 40 11.5 +2.5
BINY LR LR
comp=Z,28nm,1.0s
comp=Z,5µm,21.0s
BELC Belle Mtn. Jos 30.52 315 P P 18 40 08.8 -0.8
baz=124,SNR=7.6
I31A Royce, Wessing 30.54 348 P P 18 40 08.1 -1.4
baz=164
LDFC Landfair 30.54 317 eP P 18 40 12.9 +3.1
comp=Z,40nm,1.0s
SRU San Rafael Swe 30.56 328 eP P 18 40 11.8 +1.8
SRU pmax pmax
comp=Z,9.0nm,1.0s
SRU San Rafael Swe 30.56 328 eP P 18 40 11.8 +1.8
comp=Z,8.9nm,1.0s
LCMT Little Creek M 30.59 322 eP P 18 40 11.9 +1.7
comp=Z,11nm,1.1s
TPFO Pinon Flats 30.62 314 P P 18 40 10.0 -0.5
baz=123,SNR=8.1
H35A Sunnyside Ranc 30.62 354 P P 18 40 08.5 -1.7
baz=171,SNR=9.2
PFO Pinyon Flats O 30.62 314 P P 18 40 10.0 -0.6
baz=123,SNR=9.4
PFO Pinyon Flats O 30.62 314 eP P 18 40 13.0 +2.5
PFO pmax pmax
comp=Z,16nm,1.1s
PFO Pinyon Flats O 30.62 314 eP P 18 40 13.0 +2.5
PFO LR LR
comp=Z,16nm,1.1s
comp=Z,6µm,19.0s
H34A Spellman Lake, 30.70 352 P P 18 40 09.7 -1.2
baz=170
109C Camp Elliot, M 30.70 312 P P 18 40 09.4 -1.7
baz=121
GMRC Granite Mounta 30.73 316 P P 18 40 11.6 +0.2
baz=126,SNR=8.4
H32A Carlson Farm, 30.79 350 P P 18 40 09.3 -2.4
baz=166,SNR=11

H33A Prehn Over Nor 30.85 351 P P 18 40 10.5 -1.8
baz=168,SNR=9.0
G38A Ridgeland 30.87 358 P P 18 40 10.7 -1.7
baz=177,SNR=8.9
SZCU Shurtz Canyon 30.89 323 eP P 18 40 14.5 +1.5
comp=Z,13nm,1.0s
G41A Antigo 30.89 1 P P 18 40 09.8 -2.9
baz=182
G40A Rib Lake 30.94 0 P P 18 40 10.8 -2.2
baz=180
H31A Wolsey 30.96 348 P P 18 40 11.4 -1.8
baz=164,SNR=6.2
G39A Holcombe 30.97 359 P P 18 40 11.9 -1.4
baz=178,SNR=26
SPMN Marine on St. 30.97 356 P P 18 40 12.0 -1.3
baz=175,SNR=23
SPMN Marine on St. 30.97 356 eP P 18 40 12.3 -0.9
comp=Z,85nm,0.6s
G43A Wallace 31.00 3 P P 18 40 12.1 -1.4
baz=185
CCUT Cedar City 31.02 323 eP P 18 40 16.6 +2.5
comp=Z,14nm,1.2s
SUSD Miller 31.02 348 P P 18 40 11.7 -2.0
baz=164,SNR=6.9
G36A St. Michael 31.05 355 P P 18 40 12.2 -1.7
baz=173
TMUT Trail Mountain 31.05 327 eP P 18 40 18.0 +3.5
comp=Z,10nm,1.0s
RWWY Rawlins 31.07 335 eP P 18 40 14.9 +0.3
comp=Z,44nm,1.0s
G35A Watkins 31.10 354 P P 18 40 12.5 -1.9
baz=172
MURC Murrieta 31.14 313 P P 18 40 14.3 -0.6
baz=122
HEC Hector,Ludlow 31.21 316 P P 18 40 14.7 -0.9
baz=125
G34A Benson 31.25 353 P P 18 40 13.6 -2.1
baz=170
TUQ Turquoise Moun 31.29 317 P P 18 40 15.4 -1.0
baz=126
BBRC Big Bear Solar 31.30 314 P P 18 40 15.2 -1.4
baz=123
G33A Ortonville 31.31 352 P P 18 40 14.3 -1.9
baz=168,SNR=13
F41A Three Lakes 31.42 2 P P 18 40 15.6 -1.7
baz=182
SHPR Sheep Range 31.44 319 eP P 18 40 20.7 +3.0
comp=Z,14nm,1.1s
F37A Hinrichs Farm, 31.46 357 P P 18 40 15.7 -1.8
baz=176
F42A Maple Grove Fa 31.48 3 P P 18 40 16.2 -1.6
baz=184
G32A Webster 31.53 350 P P 18 40 16.1 -2.2
baz=166,SNR=6.4
F40A Park Falls 31.59 0 P P 18 40 16.9 -1.8
baz=180,SNR=9.6
F39A Loretta 31.59 359 P P 18 40 17.3 -1.5
baz=179
F43A Flat Rock, Esc 31.61 4 P P 18 40 17.0 -1.9
baz=186
K22A Casper 31.61 337 P P 18 40 17.0 -2.2
baz=149
K22A Casper 31.61 337 eP P 18 40 18.7 -0.5
comp=Z,20nm,0.9s
G31A Conde 31.63 349 P P 18 40 14.9 -4.2
baz=165
F36A Milaca 31.65 356 P P 18 40 17.8 -1.5
baz=174
F38A Pierce - Schro 31.66 358 P P 18 40 17.4 -1.9
baz=177,SNR=14
RRX Edison Barstow 31.69 315 P P 18 40 19.2 -0.6
baz=124
F35A Swnville 31.74 354 P P 18 40 18.2 -1.8
baz=172
F34A Alexandria 31.75 353 P P 18 40 18.3 -1.8
baz=171
SHOC Shoshone, Teco 31.79 317 P P 18 40 19.8 -0.9
baz=126
TRY Troy 31.79 24 eP P 18 40 24.3 +3.8
comp=Z,43nm,0.8s
GSC Goldstone, Bar 31.80 316 P P 18 40 19.9 -1.0
baz=125
GSC Goldstone, Bar 31.80 316 eP P 18 40 24.0 +3.2
GSC pmax pmax
comp=Z,19nm,1.5s
GSC Goldstone, Bar 31.80 316 eP P 18 40 24.0 +3.2
comp=Z,18nm,1.5s
SCI San Clemente I 31.80 311 P P 18 40 18.3 -2.5
baz=119
BFSC Mount Baldy Ra 31.80 314 P P 18 40 19.3 -1.6
baz=122
F44A Big Bay de Noc 31.81 5 P P 18 40 19.0 -1.6
baz=187
SADO Sadowa 31.87 15 eP P 18 40 24.2 +3.0
comp=Z,29nm,0.9s
CIS Catalina Islan 31.91 312 P P 18 40 20.2 -1.5
baz=120
F33A 5 Mile Ranch, 31.92 352 P P 18 40 19.2 -2.4
baz=169,SNR=5.1
QUA2 Belchertown 31.94 26 eP P 18 40 24.2 +2.3
comp=Z,20nm,0.8s
FMP Fort Macarthur 31.98 312 P P 18 40 21.1 -1.2
baz=121
NLU North Lily Min 31.99 327 eP P 18 40 25.4 +2.8
comp=Z,20nm,1.6s
RSSD Black Hills 32.04 341 P P 18 40 20.7 -2.3
baz=154
RSSD Black Hills 32.04 341 eP P 18 40 22.8 -0.2
RSSD pmax pmax
comp=Z,28nm,0.7s
RSSD Black Hills 32.04 341 eP P 18 40 22.8 -0.2
comp=Z,28nm,0.7s
E39A Mellen 32.05 360 P P 18 40 20.9 -1.9
baz=179
F32A Veblen 32.07 351 P P 18 40 20.6 -2.4
baz=167
MWC Mount Wilson 32.07 313 eP P 18 40 26.8 +3.4
MWC pmax pmax
comp=Z,29nm,1.2s
MWC Mount Wilson 32.07 313 eP P 18 40 26.8 +3.4
comp=Z,29nm,1.3s
E40A Wakefield 32.12 0 P P 18 40 20.9 -2.4
baz=181,SNR=19
JLU Jordanelle 32.15 329 eP P 18 40 25.9 +1.9
E41A Kenton 32.15 2 P P 18 40 20.9 -2.8
baz=182
E42A Champion 32.16 3 P P 18 40 21.4 -2.3
baz=184,SNR=11
E43A Lone Tree Farm 32.16 4 P P 18 40 21.8 -1.9
baz=186
F31A Hecla 32.25 349 P P 18 40 22.1 -2.4
baz=165
DECC Green Verdugo 32.28 313 P P 18 40 24.1 -0.9
baz=121
E37A Wrenshall 32.29 357 P P 18 40 23.0 -1.8
baz=176
E36A McGregor 32.29 356 P P 18 40 23.6 -1.2
baz=174
E38A The Farm, Brul 32.30 358 P P 18 40 23.9 -1.0
baz=178,SNR=22
ACCN Adirondack Com 32.35 23 eP P 18 40 27.8 +2.4
comp=Z,20nm,0.9s
EDW2 Edwards Air Fo 32.38 314 P P 18 40 25.2 -0.7
baz=123,SNR=8.7
TPNV Topopah Spring 32.40 319 P P 18 40 26.5 +0.3
baz=128,SNR=16
TPNV Topopah Spring 32.40 319 eP P 18 40 28.5 +2.3
TPNV pmax pmax
comp=Z,23nm,1.1s
TPNV Topopah Spring 32.40 319 eP P 18 40 28.5 +2.3
comp=Z,23nm,1.1s
E35A Pequot Lakes 32.42 355 P P 18 40 24.2 -1.8
baz=172
E34A Wadena 32.45 354 P P 18 40 24.8 -1.5
baz=171
LRMC Laurel Mtn Rad 32.49 316 P P 18 40 25.5 -1.4
baz=124,SNR=6.0
FURC Furnace Creek, 32.51 318 P P 18 40 25.8 -1.1
baz=126
E33A Westby DABS, E 32.54 353 P P 18 40 24.8 -2.2
baz=170,SNR=6.0
DUG Dugway, Tooele 32.55 327 P P 18 40 27.1 -0.4
baz=136
DUG Dugway, Tooele 32.55 327 eP P 18 40 30.0 +2.5
DUG pmax pmax
comp=Z,17nm,1.5s
DUG Dugway, Tooele 32.55 327 PFAKE 18 40 40.0 +13
DUG LR LR

comp=Z,6µm,19.0s
SNCC San Nicolas Is 32.65 311 P P 18 40 27.6 -0.6
baz=119
NCB Newcomb 32.65 22 eP P 18 40 30.0 +1.9
comp=Z,0.2nm,0.8s
PLVO Plevna 32.68 17 eP P 18 40 29.2 +0.9
comp=Z,26nm,1.0s
MPMC Manual Prospec 32.68 317 P P 18 40 28.3 -0.5
baz=125,SNR=10
BLG Laguna Peak, P 32.73 312 P P 18 40 28.0 -0.9
baz=120
OSI Osito Audit: C 32.75 313 P P 18 40 28.4 -0.7
baz=121
D41A Chassel 32.76 2 P P 18 40 29.4 +0.4
baz=183
E31A Nome 32.86 350 P P 18 40 28.1 -1.8
baz=166
R11A Troy Canyon, C 32.86 322 P P 18 40 30.6 +0.3
baz=130,SNR=17
R11A Troy Canyon, C 32.86 322 eP P 18 40 30.8 +0.6
comp=Z,14nm,1.1s
DAC Darwin (Calif) 32.88 317 eP P 18 40 32.5 +2.1
DAC pmax pmax
comp=Z,12nm,1.3s
DAC Darwin (Calif) 32.88 317 eP P 18 40 32.5 +2.1
comp=Z,12nm,1.3s
D37A Cotton 32.88 357 P P 18 40 28.9 -1.1
baz=176,SNR=19
D35A Remer 32.91 355 P P 18 40 29.7 -0.6
baz=173
D36A Goodland 32.94 356 P P 18 40 28.4 -2.2
baz=175
BW06 Boulder Array 32.95 333 P P 18 40 28.7 -2.4
baz=144
BW06 Boulder Array 32.95 333 eP P 18 40 30.9 -0.1
BW06 LR LR
comp=Z,6.4nm,0.9s
comp=Z,3µm,21.0s
PD31 Pinedale Array 32.95 333 eP P 18 40 30.8 -0.2
PDAR Pinedale Array 32.95 333 P P 18 40 29.8 -1.3
PDAR LR LR 18 57 41.7
comp=Z,2.4nm,0.7s,baz=111,slow=3.3,SNR=8.2
comp=Z,3µm,19.6s,baz=154,slow=43
HWUT Hardware Ranch 32.97 330 PFAKE 18 40 40.0 +8.9
HWUT LR LR
comp=Z,2µm,21.0s
D34A Park Rapids 33.02 354 P P 18 40 28.7 -2.6
baz=171
BSC Santa Cruz Isl 33.09 312 P P 18 40 29.9 -2.1
baz=120
ARVC Arvin 33.09 314 P P 18 40 31.1 -1.0
baz=122
LONY Lake Ozonia 33.09 21 eP P 18 40 33.6 +1.7
comp=Z,25nm,0.9s
LONY LR LR
comp=Z,5µm,21.0s
ISA Isabella, Lake 33.13 315 P P 18 40 32.1 -0.4
baz=123
D33A AnnSam, Waubun 33.14 353 P P 18 40 31.1 -1.3
baz=170
GRAC Grapevine Rang 33.14 318 P P 18 40 32.6 0.0
baz=126
D32A Dogwood Acres, 33.29 352 P P 18 40 32.5 -1.1
baz=168
CWC Cottonwood Cre 33.29 317 P P 18 40 33.2 -0.8
baz=125
D31A Mcclaflin, Tow 33.31 351 P P 18 40 32.3 -1.5
baz=167
SBC Santa Barbara 33.36 312 P P 18 40 33.6 -0.8
baz=120
C38A Sawbill Land. 33.40 359 P P 18 40 32.4 -2.2
baz=178
C37A Embarrass 33.44 358 P P 18 40 33.7 -1.3
baz=177
PTGA Pitinga 33.45 114 LR LR 18 55 33.5
comp=Z,3µm,20.7s,baz=296,slow=39
PTGA Pitinga 33.45 114 eP P 18 40 32.3 -3.2
comp=Z,9.3nm,0.8s
C39A Grand Marais 33.49 0 P P 18 40 32.8 -2.5
baz=180
C36A Pine Crest Far 33.50 357 P P 18 40 34.3 -1.2
baz=175,SNR=7.0
C35A Jirik Farms, M 33.52 355 P P 18 40 33.7 -1.9
baz=173,SNR=20
C34A RKJ Ranch, Bem 33.55 354 P P 18 40 34.0 -1.9
baz=172,SNR=5.3
EYMN Ely 33.63 358 P P 18 40 35.0 -1.6
baz=178
EYMN Ely 33.63 358 eP P 18 40 36.3 -0.3
EYMN LR LR
comp=Z,21nm,0.8s
comp=Z,2µm,19.0s
VES Vestal, Richgr 33.64 315 P P 18 40 37.1 +0.2
baz=122,SNR=5.9
PKM Mcpherson Peak 33.66 313 P P 18 40 37.2 0.0
baz=120,SNR=5.8
TIN Tinemaha, Big 33.74 317 P P 18 40 38.4 +0.5
baz=125
C33A Trail 33.74 353 P P 18 40 36.7 -0.9
baz=170
C32A Crookston 33.90 352 P P 18 40 37.5 -1.5
baz=169
REDW Red Top Meadow 34.00 333 eP P 18 40 39.7 -0.4
comp=Z,30nm,0.8s
RCTC Rector, Farmer 34.00 316 P P 18 40 40.6 +0.7
baz=123
SMMC Simmler 34.00 313 P P 18 40 39.4 -0.7
baz=121
SNOW Snow King Moun 34.03 333 eP P 18 40 40.2 -0.2
comp=Z,40nm,0.7s
C31A Landman Farms, 34.04 351 P P 18 40 37.7 -2.5
baz=167
LOHW Long Hollow 34.09 333 eP P 18 40 40.4 -0.5
comp=Z,14nm,0.8s
TPAW Teton Pass 34.14 333 eP P 18 40 41.1 -0.3
comp=Z,22nm,1.0s
B35A Bob, Littlefor 34.15 356 P P 18 40 39.2 -1.9
baz=174
B33A Robert and Kas 34.23 354 P P 18 40 39.9 -1.9
baz=171
MOOW Moose Ponds 34.26 333 eP P 18 40 41.7 -0.7
comp=Z,48nm,1.9s
AGMN Agassiz Nation 34.29 353 P P 18 40 40.4 -1.9
baz=170
AGMN Agassiz Nation 34.29 353 eP P 18 40 42.5 +0.2
comp=Z,46nm,0.9s
AGMN LR LR
comp=Z,3µm,19.0s
B34A Aery, Baudette 34.35 355 P P 18 40 41.2 -1.6
baz=172,SNR=12
PAGB Antelope Grade 34.39 314 eP P 18 40 46.7 +3.3
comp=Z,37nm,1.2s
MDND Maddock 34.41 349 P P 18 40 41.9 -1.5
baz=164,SNR=13
MDND Maddock 34.41 349 eP P 18 40 42.5 -0.8
comp=Z,124nm,0.7s
IMW Indian Meadow 34.46 333 eP P 18 40 43.6 -0.6
comp=Z,9.2nm,0.7s
B32A Ashes, Strandq 34.46 353 P P 18 40 42.3 -1.5
baz=169
MLAC Mammoth, Mammo 34.47 318 P P 18 40 42.8 -1.5
baz=125
TRQ Mont Tremblant 34.51 19 eP P 18 40 46.1 +1.8
B31A Greenbush Farm 34.64 351 P P 18 40 45.4 0.0
baz=167
RLMT Red Lodge 34.76 336 P P 18 40 44.7 -2.0
baz=146
RLMT Red Lodge 34.76 336 eP P 18 40 46.4 -0.3
RLMT LR LR
comp=Z,18nm,0.8s
comp=Z,3µm,20.0s
LKWY Lake 34.77 334 PFAKE 18 41 00.0 +13
LKWY LR LR
comp=Z,4µm,20.0s
A33A Warroad 34.87 354 P P 18 40 45.4 -1.9
baz=171,SNR=31
TVH1 TV Hill, Hawth 34.90 319 eP P 18 40 52.1 +4.0
comp=Z,20nm,1.3s
A32A Rocking H Ranc 34.97 353 P P 18 40 47.0 -1.2
baz=169
LAO LASA Array 35.03 341 P P 18 40 47.5 -1.3
baz=152,SNR=9.8
LAO LASA Array 35.03 341 eP P 18 40 48.8 0.0
LAO LR LR
comp=Z,36nm,0.9s
comp=Z,3µm,20.0s
BMN Battle Mountai 35.17 323 eP P 18 40 52.5 +2.2
BMN pmax pmax

comp=Z,25nm,1.3s
BMN Battle Mountai 35.17 323 *e*P **P 18 40 52.5 +2.2**
comp=Z,25nm,1.3s
WAKR Walker 35.36 319 *e*P **P 18 40 56.0 +4.1**
comp=Z,24nm,1.4s
SAML Samuel 35.36 129 *e*P P 18 40 49.2 -2.8
comp=Z,62nm,1.0s
SAML LR LR
comp=Z,2µm,20.0s
VLDQ Val d'Or 35.41 15 *e*P **P 18 40 54.5 +2.6**
comp=Z,29nm,0.9s
GCMT Greycliff 35.48 336 *e*P **P 18 40 52.3 -0.5**
GCMT *e*S **S 18 46 24.5 -3.0**
YERR Yerington 35.51 319 *e*P **P 18 40 57.1 +3.8**
comp=Z,59nm,1.9s
PKME Peaks-Kenny Pk 35.66 26 *e*P **P 18 40 53.6 -0.5**
comp=Z,31nm,1.1s
PKME LR LR
comp=Z,4µm,19.0s
CMB Columbia Colle 35.71 317 *e*P **P 18 40 57.7 +2.9**
CMB pmax pmax
comp=Z,8.0nm,1.0s
CMB Columbia Colle 35.71 317 *e*P **P 18 40 57.7 +2.9**
comp=Z,7.9nm,1.0s
PNTR Pine Nut 35.80 319 *e*P **P 18 40 59.9 +4.1**
comp=Z,13nm,0.9s
HLID Hailey 35.83 329 P **P 18 40 54.6 -1.2**
baz=137,SNR=6.2
HLID Hailey 35.83 329 *e*P **P 18 40 55.8 -0.1**
comp=Z,14nm,1.3s
HLID LR LR
comp=Z,6µm,19.0s
PAHR Pah Rah Range 36.03 320 *e*P **P 18 41 01.2 +3.6**
comp=Z,30nm,1.5s
MCMT McKenzie Canyo 36.04 332 *e*P **P 18 40 58.3 +0.5**
DGMT Dagmar 36.04 344 P **P 18 40 56.3 -1.2**
baz=157,SNR=9.5
DGMT Dagmar 36.04 344 *e*P **P 18 40 57.7 +0.2**
comp=Z,107nm,0.8s
DGMT LR LR
comp=Z,3µm,21.0s
BOZ Bozeman (W) 36.11 334 P **P 18 40 57.8 -0.5**
baz=143,SNR=18
BOZ Bozeman (W) 36.11 334 *e*P **P 18 40 58.3 0.0**
BOZ pmax pmax
comp=Z,10.0nm,0.7s
BOZ Bozeman (W) 36.11 334 *e*P **P 18 40 58.3 0.0**
comp=Z,10nm,0.7s
BOZ LR LR
comp=Z,2µm,20.0s
ULM Lac du Bonnet 36.22 354 P **P 18 40 57.5 -1.3**
comp=Z,58nm,1.0s,baz=170,slow=9.1,SNR=27
ULM LR LR 18 58 14.4
comp=Z,2µm,18.7s,baz=166,slow=40
ULM Lac du Bonnet 36.22 354 *e*P **P 18 40 57.4 -1.5**
ULM pmax pmax
comp=Z,100nm,1.1s
ULM Lac du Bonnet 36.22 354 *e*P **P 18 40 57.4 -1.5**
comp=Z,102nm,1.1s
MFID Camas Ranch 36.43 328 *e*P **P 18 41 02.4 +1.4**
comp=Z,30nm,1.4s
GGN Saint George 36.62 28 *e*P **P 18 41 04.4 +2.1**
comp=Z,32nm,1.1s
LRM Limekiln Ridge 36.64 334 *e*P **P 18 41 03.4 +0.6**
HRY Holter Researc 37.09 335 *e*P **P 18 41 06.2 -0.4**
LMQ La Malbaie 37.12 22 *e*P **P 18 41 06.0 -0.7**
ORV Oroville 37.27 319 *e*P **P 18 41 11.8 +3.8**
ORV pmax pmax
comp=Z,14nm,1.2s
ORV Oroville 37.27 319 *e*P **P 18 41 11.8 +3.8**
comp=Z,14nm,1.3s
WVOR Wild Horse Val 37.28 324 *e*P **P 18 41 08.7 +0.5**
WVOR pmax pmax
comp=Z,20nm,1.0s
WVOR Wild Horse Val 37.28 324 *e*P **P 18 41 08.7 +0.5**
comp=Z,20nm,1.0s
WVOR LR LR
comp=Z,5µm,19.0s
LPAZ La Paz 37.37 143 P **P 18 41 09.7 -0.1**
comp=Z,23nm,0.9s,baz=336,slow=9.7,SNR=45
LPAZ PcP **PcP 18 43 27.2 -1.6**
comp=Z,3.3nm,0.7s,baz=27,slow=4.5,SNR=4.8
LPAZ LR LR 18 57 18.2
comp=Z,3µm,18.1s,baz=323,slow=37
LPAZ La Paz 37.37 143 *e*P **P 18 41 09.5 -0.2**
LPAZ pmax pmax
comp=Z,35nm,1.0s
LPAZ La Paz 37.37 143 *e*P **P 18 41 09.5 -0.2**
comp=Z,34nm,1.0s
LPAZ PcP **PcP 18 43 27.2 -1.6**
EGMT Eagleton 37.38 338 P **P 18 41 08.2 -0.8**
baz=148,SNR=15
EGMT Eagleton 37.38 338 *e*P **P 18 41 08.6 -0.3**
comp=Z,74nm,1.3s
EGMT LR LR
comp=Z,2µm,19.0s
CHMT Chamberlain Mo 37.84 334 *e*P **P 18 41 12.6 -0.4**
MSO Missoula 38.07 333 P **P 18 41 13.3 -1.5**
baz=141
MSO Missoula 38.07 333 *e*P **P 18 41 15.0 +0.2**
comp=Z,43nm,1.5s
LMN Caledonia Moun 38.12 29 *e*P **P 18 41 16.2 +1.2**
comp=Z,56nm,1.2s
BMO Blue Mountains 38.20 328 *e*P **P 18 41 14.4 -1.5**
BMO pmax pmax
comp=Z,12nm,1.0s
BMO Blue Mountains 38.20 328 *e*P **P 18 41 14.4 -1.5**
comp=Z,12nm,0.9s
BMO LR LR
comp=Z,5µm,20.0s
SLMT Seeley Lake 38.20 334 *e*P **P 18 41 15.6 -0.4**
SWMT Swartz Lake 38.63 334 *e*P **P 18 41 20.1 +0.6**
M04C Macdoel 38.76 321 P **P 18 41 19.4 -1.3**
baz=126,SNR=7.6
K05A Summer Lake 38.76 323 *e*P **P 18 41 22.9 +2.1**
comp=Z,42nm,1.5s
N02D Trinity Center 38.83 320 P **P 18 41 19.6 -1.6**
baz=124
F10A Beach Ranch, E 38.95 330 *e*P **P 18 41 21.2 -1.0**
comp=Z,27nm,1.0s
M02C Callahan 39.16 320 P **P 18 41 22.7 -1.2**
baz=124
BSMT Bassoo Peak 39.23 334 *e*P **P 18 41 24.6 -0.1**
PB11 IPOC Station P 39.38 149 *e*P **P 18 41 26.4 +0.3**
comp=Z,136nm,1.0s
J04D Umpqua Nationa 39.78 323 P **P 18 41 28.0 -1.3**
baz=127
E09A Wood Farm, Sta 39.78 330 *e*P **P 18 41 29.1 +0.1**
comp=Z,68nm,1.8s
WALA Waterton Lakes 39.81 336 *e*P **P 18 41 31.9 +2.5**
comp=Z,36nm,1.5s
L02D Cave Junction, 40.05 321 P **P 18 41 30.9 -0.4**
baz=124
I04A Tendick Farm, 40.29 323 P **P 18 41 31.8 -1.5**
baz=127
HAWA Hanford 40.39 328 *e*P **P 18 41 33.8 -0.3**
comp=Z,41nm,1.9s
HAWA LR LR
comp=Z,2µm,19.0s
D08A Wollman Farm, 40.55 330 *e*P **P 18 41 36.5 +1.2**
comp=Z,38nm,1.5s
PB01 IPOC Station P 40.55 149 *e*P **P 18 41 36.6 +0.8**
comp=Z,38nm,1.0s
NEW Newport 40.57 332 LR LR 19 02 19.2
comp=Z,6µm,18.1s,baz=142,slow=42
NEW Newport 40.57 332 P **P 18 41 34.3 -1.3**
baz=138
NEW Newport 40.57 332 *e*P **P 18 41 38.8 +3.2**
NEW pmax pmax
comp=Z,27nm,1.5s
NEW Newport 40.57 332 *e*P **P 18 41 38.8 +3.2**
comp=Z,27nm,1.5s
G05D Wamic, OR 40.57 326 P P 18 41 33.9 -1.7
baz=130
VFP Flag Point 40.70 326 P **P 18 41 37.6 +0.8**
I03D Drain, OR 40.78 323 P **P 18 41 37.0 -0.3**
baz=126
TDH Tom, Dick, Har 40.86 326 P **P 18 41 38.8 +0.7**
SAW Saint Andrews 41.23 330 P **P 18 41 40.5 -0.5**
NAC Naches 41.28 328 P **P 18 41 42.2 +0.7**
ASR Mount Adams--S 41.30 327 P **P 18 41 42.6 +0.8**
FFC Flin Flon 41.44 350 *e*P **P 18 41 43.0 +0.5**
FFC pmax pmax
comp=Z,50nm,0.9s
FFC Flin Flon 41.44 350 *e*P **P 18 41 43.0 +0.5**
comp=Z,50nm,0.8s
FFC LR LR
comp=Z,2µm,19.0s
LTY Liberty 41.55 329 *e*P **P 18 41 44.2 +0.4**
comp=Z,8.8nm,0.8s
SIV San Ignacio 41.62 135 P **P 18 41 43.4 -1.1**
comp=Z,23nm,0.9s,baz=323,slow=9.4,SNR=31
SIV PcP **PcP 18 43 40.0 -1.5**
comp=Z,13nm,0.8s,baz=313,slow=5.1,SNR=7.1
G03D McMinnville, O 41.63 325 P **P 18 41 43.5 -0.7**
baz=127
B08A Colville Reser 41.66 331 *e*P **P 18 41 43.5 -1.0**
comp=Z,11nm,0.9s
LON Longmire 41.80 327 *e*P **P 18 41 45.5 -0.3**
LON pmax pmax
comp=Z,14nm,0.9s
LON Longmire 41.80 327 *e*P **P 18 41 45.5 -0.3**
comp=Z,14nm,0.9s
C06D Leavenworth 42.11 329 P **P 18 41 47.8 -0.5**
baz=133
LVC Limon Verde 42.15 150 P **P 18 41 48.4 -0.8**
comp=Z,58nm,0.9s,baz=329,slow=8.4,SNR=7.8
LVC LR LR 18 56 47.4
comp=Z,4µm,20.9s,baz=320,slow=32
LVC Limon Verde 42.15 150 *e*P **P 18 41 51.2 +2.0**
comp=Z,131nm,1.6s
D05A Enumclaw 42.18 328 *e*P **P 18 41 51.7 +2.9**
comp=Z,24nm,1.0s
E03A Lebam 42.61 326 *e*P **P 18 41 54.7 +2.5**
comp=Z,48nm,1.2s
RPW Rockport 42.77 329 P **P 18 41 52.4 -1.3**
JCW Jim Creek 42.81 329 P **P 18 41 53.0 -0.9**
B05A Bryant 42.94 329 P **P 18 41 54.0 -0.9**
baz=131
EDM Edmonton 42.99 340 *e*P **P 18 41 54.6 -0.8**
EDM pmax pmax
comp=Z,110nm,1.0s
EDM Edmonton 42.99 340 *e*P **P 18 41 54.6 -0.8**
comp=Z,107nm,0.9s
HDW Hoodsport 43.03 328 P **P 18 41 57.6 +1.8**
NLWA Neilton Lookou 43.30 327 PFAKE 18 42 10.0 +12
NLWA LR LR
comp=Z,6µm,20.0s
A04D Lummi Island 43.55 329 P **P 18 41 59.7 -0.1**
baz=131
YJA Yavi 43.55 146 *e*P **P 18 42 01.6 +1.0**
PGC Sidney 43.88 328 *e*P **P 18 42 04.8 +2.3**
comp=Z,42nm,1.1s
DRLN Deer Lake 44.03 31 *e*P **P 18 42 03.6 -0.1**
comp=Z,43nm,1.0s
LLLB Lillooet 44.42 331 *e*P **P 18 42 06.5 -0.4**
comp=Z,91nm,1.4s
SCHQ Schefferville 44.43 19 P **P 18 42 05.1 -1.7**
comp=Z,93nm,0.9s,baz=201,slow=6.1,SNR=13
SCHQ LR LR 19 01 32.1
comp=Z,5µm,18.8s,baz=216,slow=37
SCHQ Schefferville 44.43 19 *e*P **P 18 42 06.0 -0.9**
comp=Z,124nm,1.0s
HJA Humahuaca 44.44 147 *e*P **P 18 42 08.7 +1.0**
RPN Rapa Nui 45.10 204 LR LR 18 56 16.0
comp=Z,1µm,20.4s,baz=3.5,slow=30
AZAP Zapla 45.45 147‖ *e*P **P 18 42 15.7 +0.1**
ASTB Santa Barbara 45.55 146 *e*P **P 18 42 16.8 +0.5**
SLA San Lorenzo 45.62 148 *e*P **P 18 42 18.3 +1.4**
FSA Cafayete 46.53 149 *e*P **P 18 42 24.1 +0.1**
LCO Las Campanas 46.95 156 *e*P **P 18 42 28.7 +1.3**
LCO Las Campanas 46.95 156 *e*P **P 18 42 27.9 +0.6**
comp=Z,55nm,1.0s
LCO *e*PcP **PcP 18 43 59.6 -0.2**
LCO LR LR
comp=Z,1µm,20.0s
AROD Rodeo 48.46 156 *e*P **P 18 42 40.6 +1.4**
CYA Choya 48.57 151 *e*P **P 18 42 39.2 -0.5**
ACCO Cerro Coronel 49.00 156 *e*P **P 18 42 43.5 +0.3**
AUSP Uspallata 50.32 157 *e*P **P 18 42 54.6 +1.3**
RTCV Cerro Valdivia 50.33 156 *e*P **P 18 42 53.4 +0.3**
ROC1 El Roble 50.41 159 *e*P **P 18 42 54.0 +0.1**
ROC1 El Roble 50.41 159 *e*P **P 18 42 54.3 +0.4**
comp=Z,29nm,0.9s
ACHE Chepes 50.49 154 *e*P **P 18 42 54.4 0.0**
ASAL Salagasta 50.86 157 *e*P **P 18 42 58.3 +1.2**
YKA Yellowknife Ar 51.21 346 P **P 18 42 58.1 -1.2**
comp=Z,25nm,0.9s,baz=149,slow=7.5,SNR=28
CPUP Villa Florida 51.47 141 P **P 18 43 00.1 -1.6**
comp=Z,26nm,1.0s,baz=332,slow=9.0,SNR=22
CPUP PcP **PcP 18 44 14.6 -1.4**
comp=Z,8.7nm,0.9s,baz=324,slow=6.9,SNR=5.2
CPUP LR LR 19 06 23.1
comp=Z,1µm,18.9s,baz=334,slow=38
GO05 HualaæØ 51.96 161 *e*P **P 18 43 05.5 +0.2**
comp=Z,89nm,1.4s
MRA San Martin 51.98 154‖ *e*P **P 18 43 05.3 -0.3**
WRAK Wrangell Islan 52.93 332 PFAKE 18 43 20.0 +7.9
WRAK LR LR
comp=Z,3µm,21.0s
DLBC Dease Lake 53.16 335 *e*P **P 18 43 14.6 +0.7**
comp=Z,46nm,0.9s
PTCN Pitcairn Islan 55.10 225 PFAKE 18 43 40.0 +12
PTCN LR LR
comp=Z,3µm,22.0s
SPB Sao Paulo 56.26 131 *e*P **P 18 43 38.1 +1.4**
comp=Z,44nm,1.2s
SPB LR LR
comp=Z,2µm,20.0s
WHY Whitehorse 56.47 335 *e*P **P 18 43 37.5 -0.5**
comp=Z,29nm,1.4s
NRS Narsarsuaq 56.83 24 *i* P **P 18 43 39.7 -0.6**
comp=Z,137nm,0.8s
NRS Narsarsuaq 56.83 24 *i* P **P 18 43 39.7 -0.6**
NRS pmax pmax
comp=Z,140nm,0.8s
RKT Rikitea 57.40 230 *e*S **S 18 51 43.0 +1.7**
comp=Z,2µm,25.8s
RKT *e*LQ LQ 18 58 13.5
comp=Z,3µm,33.2s
RKT *e*LR LR 19 00 34.1
comp=Z,5µm,28.5s,baz=46
RKT Rikitea 57.40 230 *e*T T 19 44 32.3
comp=Z,6.9nm,0.3s
RCBR Riachuelo 57.46 107 PFAKE 18 44 00.0 +14
RCBR LR LR
comp=Z,2µm,19.0s
PLCA Paso Flores 57.65 162 P **P 18 43 46.2 -0.2**
comp=Z,18nm,0.9s,baz=1.7,slow=8.3,SNR=30
PLCA PcP **PcP 18 44 39.4 0.0**
comp=Z,5.1nm,0.8s,baz=2.5,slow=4.6,SNR=3.4
PLCA LR LR 19 03 27.0
comp=Z,1µm,20.1s,baz=18,slow=31
PLCA Paso Flores 57.65 162 *e*P **P 18 43 45.9 -0.5**
PLCA pmax pmax
comp=Z,180nm,1.7s
PLCA Paso Flores 57.65 162 *e*P **P 18 43 45.9 -0.5**
comp=Z,181nm,1.7s
PLCA PcP **PcP 18 44 39.4 0.0**
TRQA Tornquist 58.38 154 *e*P **P 18 43 50.8 -0.8**
comp=Z,129nm,1.6s
TRQA LR LR
comp=Z,1µm,20.0s
SFJD Kangerlussuaq 58.79 17 LR LR 19 10 20.6
comp=Z,4µm,18.0s,baz=220,slow=37
SFJD Kangerlussuaq 58.79 17 *i* P **P 18 43 52.7 -1.2**
comp=Z,61nm,1.1s
SFJD Kangerlussuaq 58.79 17 *e*P **P 18 43 52.7 -1.2**
SFJD pmax pmax
comp=Z,59nm,1.0s
SFJD Kangerlussuaq 58.79 17 *e*P **P 18 43 52.7 -1.2**
comp=Z,59nm,1.0s
DAWY Dawson 60.12 337 *e*P **P 18 44 02.4 -0.9**
comp=Z,6.1nm,0.8s
ILULI Ilulissat 60.22 15 *i* P **P 18 44 03.5 -0.3**
comp=Z,20nm,0.8s
ILULI Ilulissat 60.22 15 *i* P **P 18 44 03.5 -0.3**
ILULI pmax pmax
comp=Z,20nm,0.8s
INK Inuvik 60.71 343 *e*P **P 18 44 06.2 -1.0**
INK pmax pmax
comp=Z,30nm,0.9s
INK Inuvik 60.71 343 *e*P **P 18 44 06.2 -1.0**
comp=Z,30nm,0.8s
EGAK Eagle 61.14 338 *e*P **P 18 44 09.0 -1.2**
comp=Z,11nm,0.9s
EGAK LR LR
comp=Z,2µm,19.0s
MENT Mentasta 61.24 335 *e*P **P 18 44 10.1 -0.9**
comp=Z,8.3nm,0.7s
CMLA Cha da Macela 61.49 55 PFAKE 18 44 30.0 +17
CMLA LR LR
comp=Z,2µm,21.0s
KLU Klutina 61.54 333 *e*P **P 18 44 12.5 -0.5**
comp=Z,73nm,1.6s
DOT Dot Lake 61.70 336 *e*P **P 18 44 13.4 -0.7**
comp=Z,80nm,1.2s
PAX Paxson 61.97 335 *e*P **P 18 44 14.8 -1.2**
PAX pmax pmax
comp=Z,13nm,0.9s
PAX Paxson 61.97 335 *e*P **P 18 44 14.8 -1.2**
comp=Z,13nm,0.9s
POHA Pohakuloa 62.37 285 PFAKE 18 44 30.0 +10
POHA LR LR
comp=Z,2µm,19.0s
RC01 Rabbit Creek A 63.09 332 *e*P **P 18 44 23.0 -0.3**
comp=Z,25nm,0.8s
HDA Harding Lake 63.18 336 *e*P **P 18 44 22.9 -1.0**
comp=Z,22nm,1.0s
CHRN Cochrane 63.21 167 *e*P **P 18 44 25.2 +1.0**
comp=Z,28nm,0.9s
IL1 Eielson Array 63.31 336 *e*P P 18 44 22.9 -1.8
ILAR Eielson Array 63.31 336 P **P 18 44 23.1 -1.7**
comp=Z,5.6nm,0.8s,baz=172,slow=5.3,SNR=37
ILAR LR LR 19 15 21.4
comp=Z,2µm,18.2s,baz=120,slow=39
ILB Eielson Array 63.31 336 *e*P **P 18 44 23.3 -1.5**
KDAK Kodiak Island 63.43 328 LR LR 19 12 29.5
comp=Z,2µm,19.2s,baz=100,slow=36
RND Reindeer 63.55 335 *e*P **P 18 44 26.0 -0.4**
RND pmax pmax
comp=Z,40nm,1.0s
RND Reindeer 63.55 335 *e*P **P 18 44 26.0 -0.4**
comp=Z,40nm,1.0s
CCB Clear Creek Bu 63.62 336 *e*P P 18 44 24.8 -1.9
comp=Z,26nm,1.6s
WRH Wood River Hil 63.66 336 *e*P **P 18 44 25.6 -1.5**
comp=Z,9.0nm,0.8s
MCK McKinley 63.71 335 *e*P **P 18 44 27.7 +0.3**
MCK pmax pmax
comp=Z,43nm,1.2s
MCK McKinley 63.71 335 *e*P **P 18 44 27.7 +0.3**
comp=Z,44nm,1.2s
COLA College 63.73 336 PFAKE 18 44 40.0 +13
COLA LR LR
comp=Z,2µm,22.0s
MDM Murphy Dome 63.91 336 *e*P **P 18 44 27.5 -1.3**
comp=Z,22nm,1.3s
SPU Mount Spurr 64.18 332 *e*P **P 18 44 30.1 -0.5**
SACV Santiago Islan 64.25 80 PFAKE 18 44 40.0 +8.2
SACV LR LR
comp=Z,2µm,21.0s
RSO Redoubt South 64.28 331 *e*P P 18 44 36.4 +4.9
KTH Kantishna Hill 64.47 334 *e*P **P 18 44 30.9 -1.5**
comp=Z,31nm,1.3s
CAST Castle Rocks 64.91 334 *e*P P 18 44 33.4 -1.9
COLD Coldfoot 65.55 338 *e*P **P 18 44 39.2 -0.1**
comp=Z,19nm,1.0s
SUMG Summit 65.57 15 *i* P **P 18 44 39.4 -0.5**
comp=Z,95nm,1.0s
SUMG Summit 65.57 15 *i* P **P 18 44 39.4 -0.5**
SUMG pmax pmax
comp=Z,95nm,1.0s
SUMG Summit 65.57 15 *e*P **P 18 44 38.9 -1.0**
comp=Z,87nm,0.9s
TOLK Toolik Lake Re 65.89 340 P **P 18 44 40.4 -1.2**
baz=114,SNR=6.1
TT01 Tatalina 66.47 333 *e*P **P 18 44 44.1 -1.2**
TTA Tatalina 66.47 333 *e*P **P 18 44 45.5 -0.9**
TTA pmax pmax
comp=Z,25nm,1.3s
TTA Tatalina 66.47 333 *e*P **P 18 44 44.5 -0.9**
comp=Z,25nm,1.4s
PPT Papeete 66.52 243 LR LR 19 07 13.9
comp=Z,568nm,18.9s,baz=31,slow=30
PPT2 Papeete2 66.53 243 *e*S **S 18 53 39.9 +2.8**
comp=Z,4µm,31.0s
PPT2 *e*LQ LQ 19 02 03.7
comp=Z,1µm,28.0s
PPT2 *e*LR LR 19 04 41.7
comp=Z,7µm,27.8s,baz=60
GO09 Cerro Castillo 67.07 168 *e*P **P 18 44 52.7 +3.5**
comp=Z,99nm,1.4s
BORG Borgarnes 68.26 26 P **P 18 44 56.9 +0.3**
comp=Z,57nm,0.9s,baz=244,slow=4.4
BORG Borgarnes 68.26 26 *e*P **P 18 44 58.0 +1.4**
BORG pmax pmax
comp=Z,100nm,1.1s
BORG Borgarnes 68.26 26 *e*P **P 18 44 58.0 +1.4**
comp=Z,104nm,1.1s
PMOZ Porto Moniz, M 68.29 60 *e*LR LR 19 05 45.4
comp=Z,1µm,22.0s
TBI Tubuai 68.91 238 *e*S **S 18 54 09.4 +4.0**
comp=Z,1µm,27.5s
TBI Tubuai 68.91 238 *e*LR LR 19 06 02.6
comp=Z,5µm,29.5s,baz=60
USHA Ushuaia 71.23 167 P **P 18 45 13.5 -1.4**
comp=Z,79nm,0.9s,baz=20,slow=2.9,SNR=3.3
DAG Danmarks Havn 72.05 13‖ *i* P **P 18 45 17.9 -1.7**
comp=Z,14nm,0.7s
DAG Danmarks Havn 72.05 13‖ *i* P **P 18 45 17.9 -1.7**
DAG pmax pmax
comp=Z,10.0nm,0.7s
PMAFR Mafra 74.23 53 *e*S **S 18 55 10.2 +3.7**
PGAV Gavieira, Arco 74.70 50 *e*P **P 18 45 35.0 -1.1**
comp=Z,46nm,1.8s
PGAV *e*S **S 18 55 15.4 +3.5**
PGAV *e*SS **SS 18 59 59.9 +0.7**
PGAV *e*LQ LQ 19 04 51.7
PGAV *e*LR LR 19 08 51.5
comp=Z,2µm,20.0s
PCAS Casmilo, Conde 74.72 52 *e*P **P 18 45 36.2 +0.1**
comp=Z,103nm,1.3s
PTOM Tomar 74.83 52 *e*P **P 18 45 36.4 -0.4**
comp=Z,52nm,1.4s
MORF Marmelete 74.90 55 *e*P **P 18 45 36.9 -0.3**
MORF *e*S **S 18 55 14.9 +0.8**
MORF AMS AMS 19 15 23.1
comp=Z,3µm,21.9s
MORF Marmelete 74.90 55 *e*S **S 18 55 18.0 +3.9**
MORF Marmelete 74.90 55 *e*P **P 18 45 36.9 -0.3**
MORF *e*S **S 18 55 14.9 +0.8**
PNCL Nicolau / Gran 74.90 54 *e*S **S 18 55 16.0 +2.0**
PCAB Cabril 74.91 50 *e*P **P 18 45 38.4 +1.2**
comp=Z,38nm,1.9s
PVIS Viseu 75.11 51 *e*P **P 18 45 37.8 -0.6**
comp=Z,40nm,1.8s
POLO Lamas de Olo 75.12 51 *e*P **P 18 45 37.4 -1.1**
MESJ Messejana 75.18 54 *e*P **P 18 45 38.4 -0.4**
MESJ *e*S **S 18 55 17.6 +0.6**
MESJ AMS AMS 19 15 19.3
comp=Z,3µm,21.0s
MESJ Messejana 75.18 54 *e*P **P 18 45 37.6 -1.2**
MESJ Messejana 75.18 54 *e*P **P 18 45 38.4 -0.4**
MESJ *e*S **S 18 55 17.6 +0.6**
PVRL Vila Real 75.19 51 *e*P **P 18 45 38.5 -0.3**
comp=Z,35nm,1.7s
EVO Evora 75.26 53 *e*P **P 18 45 40.6 +1.3**
comp=Z,31nm,1.5s
PCVE Castro Verde 75.34 54 *e*S **S 18 55 23.1 +4.2**
MTE Manteigas 75.41 52 *e*P **P 18 45 39.5 -0.7**
comp=Z,53nm,1.9s
MTE *e*S **S 18 55 22.9 +3.1**
MTE *e*SS **SS 19 00 14.9 +5.0**
MTE *e*LQ LQ 19 05 14.7
MTE *e*LR LR 19 09 16.6
comp=Z,3µm,18.0s
MTE Manteigas 75.41 52 *e*P **P 18 45 39.5 -0.7**
MTE LR LR
comp=Z,2µm,20.0s
PBDV Barranco-do-Ve 75.47 55 *e*P **P 18 45 40.0 -0.6**
PBDV *e*S **S 18 55 24.2 +3.7**
PCBR Castelo Branco 75.52 52 *e*P **P 18 45 40.4 -0.3**
comp=Z,44nm,1.9s
PESTR Estremoz 75.55 53 *e*P **P 18 45 40.9 0.0**
comp=Z,39nm,2.0s
PESTR *e*S **S 18 55 24.8 +3.6**
PVAQ Vaqueiros 75.62 55 *e*P **P 18 45 41.6 +0.2**
comp=Z,50nm,1.7s
PVAQ *e*S **S 18 55 22.4 +0.3**
PVAQ *e*SS **SS 19 00 18.3 +5.1**
PVAQ *e*LQ LQ 19 05 12.8
PVAQ *e*LR LR 19 09 28.8
comp=Z,3µm,20.0s
PMRV Marv??o 75.64 52 *e*P **P 18 45 40.0 -1.4**
comp=Z,52nm,1.8s
PMRV *e*S **S 18 55 18.7 -3.5**
PMRV *e*SS **SS 19 00 16.8 +3.5**
PMRV *e*LQ LQ 19 05 19.7
PMRV *e*LR LR 19 09 24.1

comp=Z,2µm,20.0s
MVO Moncorvo 75.71 51 *e*P **P 18 45 40.9 -1.0**
comp=Z,29nm,1.8s
MVO *e*S **S 18 55 27.3 +4.2**
MVO *e*SS **SS 19 00 15.9 +1.4**
MVO *e*LQ LQ 19 05 05.7
MVO *e*LR LR 19 09 09.8
comp=Z,1µm,20.0s
PBRG Braganca 75.86 50 *e*P **P 18 45 41.9 -0.8**
comp=Z,47nm,1.7s
JOHN Johnston Islan 75.97 284 PFAKE 18 46 00.0 +16
JOHN LR LR
comp=Z,221nm,21.0s
PBAR Barrancos 76.06 54 *e*P **P 18 45 43.0 -0.9**
comp=Z,43nm,1.9s
PBAR *e*S **S 18 55 30.2 +3.3**
PBAR *e*SS **SS 19 00 24.3 +4.5**
ESK Eskdalemuir 76.75 36 *e*P **P 18 45 46.6 -0.8**
ESK Eskdalemuir 76.75 36 *e*P **P 18 45 46.6 -0.8**
ESK LR LR
comp=Z,1µm,21.0s
ROSF Rostrenen 77.51 43 *e*P **P 18 45 53.3 +1.5**
ROSF pmax pmax
comp=Z,53nm,1.6s
QUIF Quistinic 77.64 43 *e*P **P 18 45 50.8 -1.7**
QUIF pmax pmax
comp=Z,20nm,0.9s
PAB San Pablo 77.96 52 *e*P **P 18 45 54.6 0.0**
PAB San Pablo 77.96 52 *e*P **P 18 45 54.6 0.0**
PAB LR LR
comp=Z,3µm,20.0s
ESDC Sonseca Array 78.23 52 P **P 18 45 54.2 -1.9**
comp=Z,8.5nm,0.7s,baz=295,slow=4.9,SNR=48
ESDC LR LR 19 17 52.1
comp=Z,2µm,19.0s,baz=290,slow=34
ESLA Sonseca Array 78.23 52 *e*P **P 18 45 55.8 -0.4**
ES19 SONSECA Array 78.28 52 *e*P P 18 45 53.9 -2.5
ASCN Ascension 78.41 101 PFAKE 18 46 10.0 +13
ASCN LR LR
comp=Z,2µm,20.0s
KBS Kingsbay 78.46 11 *e*P **P 18 45 56.5 0.0**
KBS IAmb IAmb 18 45 59.5
comp=Z,25nm,0.7s
KBS IAMs_20 IAMs_20 19 23 43.9
comp=Z,4µm,19.2s
KBS Kingsbay 78.46 11 *e*P **P 18 45 57.8 +1.3**
KBS Kingsbay 78.46 11 *e*P **P 18 45 57.8 +1.3**
KBS LR LR
comp=Z,3µm,22.0s
MDT Midelt 78.81 59 P **P 18 45 58.2 -1.3**
comp=Z,3.1nm,0.7s,baz=280,slow=7.7,SNR=7.8
MDT LR LR 19 17 16.3
comp=Z,2µm,19.6s,slow=33
FLN La Foliniere 79.29 42 *e*P **P 18 46 00.0 -1.6**
FLN pmax pmax
comp=Z,24nm,0.8s
SPA0 Spitsbergen Ar 79.52 12 *e*P **P 18 46 01.6 -0.8**
SPA0 IAmb IAmb 18 46 09.6
comp=Z,140nm,1.6s
SPA0 IAMs_20 IAMs_20 19 24 19.4
comp=Z,2µm,18.3s
SPA0 Spitsbergen Ar 79.52 12 *e*P **P 18 46 02.8 +0.4**
LDF La Druitiere 79.55 42 *e*P **P 18 46 01.4 -1.7**
LDF pmax pmax
comp=Z,25nm,0.9s
HSPB Hornsund (broa 79.73 13 *e*P **P 18 46 02.9 -0.6**
HSPB IAmb IAmb 18 46 06.1
comp=Z,43nm,0.8s
HSPB IAMs_20 IAMs_20 19 23 52.2
comp=Z,4µm,18.3s
MFF Saint Martin d 79.87 44 *e*P **P 18 46 03.0 -1.9**
MFF pmax pmax
comp=Z,11nm,0.9s
SUE Sulen 80.08 29 *e*P **P 18 46 04.9 -0.7**
SUE IAmb IAmb 18 46 07.2
comp=Z,55nm,0.8s
FOO Floro 80.10 29 *e*P **P 18 46 05.7 0.0**
FOO *e*S **S 18 56 06.6 -2.9**
ASK Askoy 80.40 30 IAmb IAmb 18 46 20.8
comp=Z,128nm,1.9s
BER Bergen 80.49 30 *e*P **P 18 46 07.7 -0.2**
KMY Karmoy 80.69 31 *e*P **P 18 46 08.3 -0.7**
KMY IAmb IAmb 18 46 09.2
comp=Z,1.6nm,0.7s
HYA Hoyanger 80.73 29 *e*P **P 18 46 09.2 0.0**
HYA IAmb IAmb 18 46 10.7
comp=Z,33nm,0.9s
AKN Aaknes 80.89 28 *e*P **P 18 46 09.3 -0.7**
AKN IAmb IAmb 18 46 15.7
comp=Z,69nm,1.3s
STAV Stavanger 80.98 31 *e*P **P 18 46 10.8 +0.3**
STAV IAmb IAmb 18 46 15.8
comp=Z,217nm,1.7s
STAV IAMs_20 IAMs_20 19 17 33.5
comp=Z,1µm,19.0s
ODD1 Odda 81.22 30 *e*P **P 18 46 11.2 -0.7**
ODD1 IAmb IAmb 18 46 13.7
comp=Z,37nm,0.9s
PMSA Palmer Station 81.25 169 P **P 18 46 12.2 +0.6**
comp=Z,22nm,1.0s,baz=327,slow=4.8,SNR=4.8
PMSA Palmer Station 81.25 169 *e*P **P 18 46 12.7 +1.1**
PMSA LR LR
comp=Z,666nm,19.0s
BLS5 Blasjo 81.25 31 *e*P **P 18 46 11.4 -0.7**
BLS5 IAmb IAmb 18 46 13.4
comp=Z,51nm,0.8s
BLS5 *e*S **S 18 56 19.0 -2.7**
TCF Toulx Ste Croi 81.53 44 *e*P P 18 46 11.6 -2.2
TCF pmax pmax
comp=Z,15nm,1.0s
DOMB Dombas 81.86 28 *e*P **P 18 46 14.7 -0.5**
DOMB IAmb IAmb 18 46 16.2
comp=Z,14nm,0.8s
SNART Snartemo 81.88 32 *e*P **P 18 46 15.0 -0.3**
SNART IAmb IAmb 18 46 18.4
comp=Z,20nm,0.9s
BILL Bilibino 81.88 338⇓ *e*P **P 18 46 14.7 -0.5**
BILL *e* 18 46 21.1
BILL *e* 18 49 20.4
BILL *e*S **S 18 56 30.4 +2.5**
BILL *e*SSS SSS 19 05 03.1
BILL pmax pmax
comp=Z,8.0nm,0.8s
BILL MLR MLR
comp=Z,2µm,20.0s
HOPEN Hopen 81.93 12 IAMs_20 IAMs_20 19 25 16.7
comp=Z,3µm,18.3s
LOF Lofoten 81.96 22 *e*P **P 18 46 15.7 +0.1**
LOF IAmb IAmb 18 46 26.3
comp=Z,103nm,1.4s
LOF *e*S **S 18 56 26.0 -2.5**
LOF IAMs_20 IAMs_20 19 24 02.1
comp=Z,1µm,20.9s
SNF Seneffe 82.00 40 P **P 18 46 15.2 -0.9**
BAIF Baives 82.05 40 *e*P **P 18 46 14.8 -1.6**
BAIF pmax pmax
comp=Z,14nm,1.0s
PYM Petit Puy Mans 82.19 45 *e*P **P 18 46 15.6 -1.7**
AVF Avril sur Loir 82.20 44 *e*P P 18 46 13.6 -3.6
AVF pmax pmax
comp=Z,8.0nm,0.9s
SSF Saint Saulge 82.24 44 *e*P P 18 46 15.3 -2.2
SSF pmax pmax
comp=Z,7.0nm,0.8s
DOU Dourbes 82.28 40 P **P 18 46 16.8 -0.8**
KONS Konsvik 82.30 23 IAmb IAmb 18 46 22.6
comp=Z,31nm,1.0s
STOK Stokkvaagen 82.31 23 IAmb IAmb 18 46 23.5
comp=Z,65nm,1.0s
GIVF Givet 82.43 40 *e*P **P 18 46 16.7 -1.7**
GIVF pmax pmax
comp=Z,43nm,1.6s
LBL Lubilhac 82.46 45 *e*P P 18 46 14.6 -4.2
PLDF La Plantade 82.56 45 *e*P **P 18 46 19.7 +0.4**
HOMB Homborsund 82.56 32 IAmb IAmb 18 46 21.2
comp=Z,36nm,0.9s
STEI Steigen 82.63 22 *e*P **P 18 46 19.5 +0.5**
STEI IAmb IAmb 18 46 32.3
comp=Z,27nm,1.1s
BCLA Clavier 82.65 40 P **P 18 46 18.3 -1.3**
comp=Z,27nm,2.4s
KONO Kongsberg 82.74 30 *e*P **P 18 46 19.4 -0.4**
KONO IAmb IAmb 18 46 26.7
comp=Z,41nm,1.2s
KONO IAMs_20 IAMs_20 19 19 34.5
comp=Z,1µm,19.9s
KONO Kongsberg 82.74 30 *e*P **P 18 46 19.8 0.0**
KONO pmax pmax
comp=Z,112nm,1.0s
KONO Kongsberg 82.74 30 *e*P **P 18 46 22.6 +2.8**
KONO LR LR
comp=Z,1µm,20.0s
MOR8 Moi Rana 82.91 23 *e*P **P 18 46 21.2 +0.6**
MOR8 IAMs_20 IAMs_20 19 23 39.3
comp=Z,2µm,18.6s
HGN Heimansgroeve 82.96 40 *e*P **P 18 46 20.0 -1.2**
comp=Z,26nm,0.9s
MEM Membach 83.05 40 P **P 18 46 20.9 -0.7**
NB2 NORSAR Subarra 83.13 29 P **P 18 46 20.7 -1.2**
baz=288,slow=5.1
NB2 NORSAR Subarra 83.13 29 P P **18 46 20.7 -1.2**
comp=Z,14nm,0.8s,baz=288,slow=5.1
NOA NORSAR Array B 83.13 29 P **P 18 46 21.1 -0.8**
comp=Z,15nm,0.8s,baz=289,slow=5.1,SNR=42
NOA LR LR 19 20 51.4
comp=Z,990nm,21.8s,baz=285,slow=34
WTSB Winterswijk 83.20 38 *e*P **P 18 46 22.0 -0.3**
comp=Z,23nm,0.8s
OSL Oslo 83.21 30 *e*P **P 18 46 22.1 -0.1**
OSL IAmb IAmb 18 46 24.6
comp=Z,49nm,1.1s
TRO Tromso 83.26 19 *e*P **P 18 46 25.4 +3.1**
TRO IAmb IAmb 18 46 32.3
comp=Z,181nm,1.8s
TRO *e*SKSac **S 18 56 44.5 +2.7**
SSB Saint Sauveur 83.34 45 PFAKE 18 46 30.0 +6.7
SSB LR LR
comp=Z,2µm,20.0s
WLF Walferdange 83.36 41 P P 18 46 21.1 -2.1
comp=Z,21nm,1.9s
WLF Walferdange 83.36 41 *e*P **P 18 46 22.5 -0.7**
WLF Walferdange 83.36 41 *e*P **P 18 46 22.5 -0.7**
WLF LR LR
comp=Z,2µm,20.0s
NC602 NORSAR Array S 83.37 29 *e*P **P 18 46 22.6 -0.4**
NC602 IAmb IAmb 18 46 25.6
comp=Z,36nm,1.2s
NC602 *e*ScS S 18 56 53.2 +10
NC602 IAMs_20 IAMs_20 19 20 07.3
comp=Z,2µm,21.0s
VIVF Saint-Julien-l 83.53 45 *e*P **P 18 46 24.1 -0.2**
VIVF pmax pmax
comp=Z,19nm,1.0s
THEF They Montfort 83.61 42 *e*P **P 18 46 23.0 -1.6**
TIC Toumodi 83.78 85 *e*P **P 18 46 25.2 -0.9**
LIC Lamto 83.87 85 *e*P **P 18 46 25.9 -0.6**
comp=Z,41nm,0.9s
DBIC Dimbokro 83.93 85 P **P 18 46 25.9 -0.9**
comp=Z,9.3nm,0.8s,baz=274,slow=5.1,SNR=11
DBIC LR LR 19 21 45.8
comp=Z,1µm,19.9s,baz=268,slow=34
DBIC Dimbokro 83.93 85 *e*P **P 18 46 26.6 -0.2**
DBIC Dimbokro 83.93 85 *e*P **P 18 46 26.6 -0.2**
CABF La Chapelle 84.07 44 *e*P **P 18 46 26.5 -0.6**
CABF pmax pmax
comp=Z,64nm,1.9s
KIC Kosan Boka 84.11 85 *e*P **P 18 46 27.1 -0.7**
comp=Z,24nm,0.8s
HINF Hinteralfeld 84.27 42 *e*P P 18 46 26.0 -2.0
HINF pmax pmax
comp=Z,7.0nm,0.8s
HAMF Hammerfest 84.31 18 *e*P **P 18 46 27.2 -0.4**
HAMF IAmb IAmb 18 46 33.9
comp=Z,86nm,1.3s
ECH Echery 84.37 42 *e*P P 18 46 26.0 -2.5
LOMF Lomont 84.38 43 *e*P P 18 46 25.4 -3.2
MOF Molkenrain 84.45 42 *e*P **P 18 46 27.8 -1.2**
LANF Langenberg 84.58 41 *e*P **P 18 46 28.8 -0.7**
LPL La Plagne 84.78 44 *e*P **P 18 46 29.8 -1.1**
LPL pmax pmax
comp=Z,12nm,1.0s
LPG La Plagne 84.80 45 *e*P **P 18 46 30.1 -0.9**
LPG pmax pmax
comp=Z,19nm,1.3s
BNI Bardonecchia 84.86 45 *e*P **P 18 46 31.0 -0.2**
BNI Bardonecchia 84.86 45 *e*P **P 18 46 31.0 -0.2**
BNI LR LR
comp=Z,2µm,21.0s
KTK1 Kautokeino 84.91 19 *e*P **P 18 46 29.9 -0.8**
KTK1 IAmb IAmb 18 46 37.2
comp=Z,93nm,1.6s
SENIN Lac Senin/Sane 84.94 44 *e*P **P 18 46 31.2 -0.4**
BFO Black Forest 85.09 41 *ce*P **P 18 46 31.9 -0.2**
BFO Black Forest 85.09 41 *e*P **P 18 46 30.7 -1.4**
comp=Z,12nm,1.3s
BFO LR LR
comp=Z,2µm,20.0s
ARA0 ARCESS Array S 85.38 19 *e*P **P 18 46 31.9 -1.2**
ARCES ARCESS Array B 85.38 19 P **P 18 46 31.4 -1.7**
comp=Z,12nm,0.8s,baz=286,slow=4.5,SNR=25
ARCES LR LR 19 24 31.4
comp=Z,984nm,19.9s,baz=298,slow=36
ARE0 ARCESS Array S 85.38 19 *e*P **P 18 46 32.1 -1.0**
ARE0 IAmb IAmb 18 46 38.5
comp=Z,82nm,1.5s
ARE0 ARCESS Array S 85.38 19 *e*P **P 18 46 32.7 -0.4**
AFI Afiamalu 85.40 254 PFAKE 18 46 50.0 +16
AFI LR LR
comp=Z,996nm,20.0s
KEV Kevo 85.73 18 *e*P **P 18 46 34.3 -0.5**
KEV Kevo 85.73 18 *e*P **P 18 46 34.3 -0.5**
KEV LR LR
comp=Z,988nm,22.0s
TUE Stuetta 86.28 43 PFAKE 18 46 50.0 +12
TUE LR LR
comp=Z,2µm,19.0s
DAVA Damuels 86.39 42 *i* P **P 18 46 37.5 -1.2**
comp=Z,18nm,1.1s
FUORN Ofenpass-Fuorn 86.84 43 *e*P **P 18 46 39.5 -1.6**
RETA Reutte 86.90 42 *i* P P 18 46 39.2 -2.0
comp=Z,18nm,1.0s
FETA Feichten 87.02 42 *i* P P 18 46 39.2 -2.7
comp=Z,14nm,0.8s
CLL Collm 87.09 38 *i* P **P 18 46 41.5 -0.4**
CLL *e*S S 18 57 15.0 -5.4
CLL pmax pmax
comp=Z,31nm,0.7s
CLL MLR MLR
comp=Z,1µm,20.8s
CLL Collm 87.09 38 *i* P **P 18 46 41.5 -0.4**
comp=Z,31nm,0.7s
CLL *e*sP **PcP 18 46 46.0 +2.0**
CLL *e*SKSac **SKSac 18 57 13.0 +4.4**
CLL *e* 18 59 48.0
CLL *e*SS **SS 19 03 12.0 +8.9**
CLL *e*SSS SSS 19 06 36.0
CLL LmV 19 22 00.0
comp=Z,1µm,20.8s
CLL LmH 19 25 00.0
comp=N,500nm,21.5s
CLL LmH 19 25 00.0
comp=E,1µm,20.6s
CLL Collm 87.09 38 *e*P **P 18 46 41.5 -0.4**
NKC Novy Kostel 87.11 39 *e*P P 18 46 40.1 -1.9
NKC AMS AMS 19 29 00.0
comp=E,1µm,17.4s
NKC Novy Kostel 87.11 39 *e*P P 18 46 40.1 -1.9
NKC MLR MLR
comp=Z,1µm,17.4s
MOTA Moosalm 87.17 42 *e*P **P 18 46 40.9 -1.7**
comp=Z,17nm,0.8s
VLC Villacollemand 87.66 45 PFAKE 18 47 00.0 +15
VLC LR LR
comp=Z,2µm,22.0s
BRG Berggiesshubel 87.80 38 *e*P **P 18 46 45.3 0.0**
comp=Z,13nm,0.9s
BRG *i* 18 46 50.0
comp=Z,35nm,1.6s
BRG Berggiesshubel 87.80 38 *e*P **P 18 46 45.3 0.0**
BRG pmax pmax
comp=Z,13nm,0.9s
BRG MLR MLR
comp=N,458nm,17.5s
BRG MLR MLR
comp=E,864nm,22.3s
BRG MLR MLR
comp=Z,1µm,26.6s
KHC Kasperske Hory 88.16 40 *e*P **P 18 46 45.7 -1.4**
KHC *e*pP **PcP 18 46 52.6 +3.7**
KHC AMS AMS 19 21 30.0
comp=Z,2µm,22.1s
KHC Kasperske Hory 88.16 40 *e*P **P 18 46 45.7 -1.4**
KHC Kasperske Hory 88.16 40 *e*P **P 18 46 45.7 -1.4**
ABTA Abfaltersbach 88.27 42 *i* P **P 18 46 47.6 -0.2**
comp=Z,16nm,0.8s
PVCC Panska Ves 88.29 38 *e*P **P 18 46 47.7 +0.1**
PVCC *e*pP **pP 18 46 53.1 -0.1**
PVCC AMS AMS 19 26 10.0
comp=Z,2µm,18.7s
PVCC Panska Ves 88.29 38 *e*P **P 18 46 47.7 +0.1**
PVCC MLR MLR
comp=Z,2µm,18.7s
VSL Villasalto 88.31 50 PFAKE 18 47 00.0 +12
VSL LR LR
comp=Z,3µm,20.0s
GERES GERESS Array B 88.33 40 P P 18 46 45.8 -2.2
comp=Z,6.5nm,0.8s,baz=298,slow=2.9,SNR=34
GERES LR LR 19 21 56.0
comp=Z,2µm,21.1s,baz=280,slow=33
PRA Prague 88.36 39 AMS AMS 19 25 20.0
comp=Z,2µm,19.7s
PRU Pruhonice 88.46 39 *e*P **P 18 46 48.5 0.0**
PRU *e*pP **pP 18 46 54.2 +0.1**
PRU AMS AMS 19 25 00.0
comp=Z,2µm,20.2s
PRU Pruhonice 88.46 39 *e*P **P 18 46 48.5 0.0**
PRU MLR MLR
comp=Z,2µm,20.2s
GOPC GO Pecny, Ondr 88.63 39 AMS AMS 19 25 10.0
comp=Z,2µm,18.5s
TORD Torodi Ar. Bea 88.66 77 P P 18 46 48.0 -2.1
comp=Z,2.3nm,0.9s,baz=288,slow=4.9,SNR=10
TORD LR LR 19 23 25.0
comp=Z,2µm,21.0s,baz=280,slow=34
SHEL Horse Pasture 88.69 107 PFAKE 18 47 00.0 +10
SHEL LR LR
comp=Z,882nm,19.0s
KBA Koelnbreinsper 88.70 42 *i* P **P 18 46 49.9 0.0**
comp=Z,12nm,0.8s
GKP Gorka Klasztor 88.83 35 *e*P **P 18 46 50.4 +0.3**
GKP Gorka Klasztor 88.83 35 *e*P **P 18 46 50.4 +0.3**
APA Apatity 88.89 19⇑ *i*P **P 18 46 49.6 -0.5**
APA *i* 18 50 17.0
APA *i*S S 18 57 29.0 -8.0
APA pmax pmax
comp=Z,13nm,0.9s
MOA Molln 89.03 41 P **P 18 46 50.0 -1.3**
comp=Z,8.2nm,0.9s
MYKA Terra Mystica 89.04 42 *i* P **P 18 46 51.1 -0.3**
comp=Z,11nm,0.8s
LVZ Lovozero 89.07 18 *ce*P **P 18 46 51.0 0.0**
LVZ pmax pmax
comp=Z,50nm,1.2s
LVZ Lovozero 89.07 18 *e*P **P 18 46 50.6 -0.5**
LVZ LR LR
comp=Z,1µm,22.0s
UPC Upice 89.16 38 AMS AMS 19 26 20.0
comp=Z,2µm,19.1s
SEY Seymchan 89.25 336 P **P 18 46 51.9 0.0**
comp=Z,3.2nm,0.9s,baz=139,slow=6.9,SNR=5.0
SEY Seymchan 89.25 336⇓ *i*P **P 18 46 52.3 +0.4**
TREC Trest 89.28 39 AMS AMS 19 22 20.0
comp=Z,2µm,19.8s
KEST Kesra 89.39 53 LR LR 19 22 03.3
comp=Z,961nm,21.6s,baz=213,slow=32
DPC Dobruska-Polom 89.40 38 *e*P **P 18 46 51.7 -1.2**
DPC *e*pP **PcP 18 46 57.4 +3.1**
DPC AMS AMS 19 26 20.0
comp=Z,2µm,17.8s
DPC Dobruska-Polom 89.40 38 *e*P **P 18 46 51.7 -1.2**
DPC MLR MLR
comp=Z,2µm,17.8s
FINES FINESS Array B 89.56 26 P **P 18 46 51.5 -1.8**
comp=Z,8.8nm,0.9s,baz=313,slow=1.4,SNR=14
FINES LR LR 19 27 52.8
comp=Z,1µm,18.4s,baz=302,slow=36
TAM Tamanrasset 89.75 67 PFAKE 18 47 10.0 +15
TAM LR LR
comp=Z,1µm,21.0s
CONA Conrad Observa 90.00 40 *i* P **P 18 46 54.3 -1.6**
comp=Z,4.2nm,0.7s
AQU L'Aquila 90.32 46 PFAKE 18 47 10.0 +13
AQU LR LR
comp=Z,1µm,21.0s
MORC Moravsky Berou 90.34 38⇓ *i*P **P 18 46 57.4 +0.1**
MORC Moravsky Berou 90.34 38⇓ P **P 18 46 57.4 +0.1**
MORC Moravsky Berou 90.34 38 *e*P **P 18 46 57.5 +0.1**
TIXI Tiksi 90.38 348⇑ *i*P **P 18 46 55.8 -1.2**
TIXI *e* 18 50 34.7
TIXI pmax pmax
comp=Z,9.0nm,0.7s
TIXI Tiksi 90.38 348 *e*P P 18 46 55.0 -2.0
TIXI LR LR
comp=Z,909nm,19.0s
OKC Ostrava-Krasne 90.68 38 *e*P **P 18 46 58.8 -0.1**
OKC AMS AMS 19 27 00.0
comp=Z,2µm,19.3s
OKC Ostrava-Krasne 90.68 38 *e*P **P 18 46 58.8 -0.1**
OKC MLR MLR
comp=Z,2µm,19.3s
PET Petropavlovsk 90.94 326 *i* P **P 18 46 59.2 -0.7**
PET pmax pmax
comp=Z,9.0nm,1.1s
PET Petropavlovsk 90.94 326 PFAKE 18 47 10.0 +10
PET LR LR
comp=Z,2µm,22.0s
PETK Petropavlovsk- 91.42 326 LR LR 19 29 36.1
comp=Z,334nm,19.0s,baz=59,slow=36
OJC Ojcow 91.50 37 *e*P **P 18 47 03.1 +0.4**
OJC Ojcow 91.50 37 *e*P **P 18 47 03.1 +0.4**
OJC Ojcow 91.50 37 *e*P **P 18 47 03.1 +0.4**
VYHS Vyhne 91.63 39 *e*P **P 18 47 03.3 0.0**
VYHS pmax pmax
comp=Z,9.0nm,1.5s
VYHS Vyhne 91.63 39 *e*P **P 18 47 03.3 0.0**
MA2 Magadan 91.66 334 P **P 18 47 04.5 +1.3**
comp=Z,6.4nm,0.7s,baz=198,slow=13,SNR=4.4
MA2 Magadan 91.66 334⇓ P **P 18 47 04.2 +1.0**
LANS Liptovska Anna 91.74 38 *e*P **P 18 47 04.8 +0.9**
LANS Liptovska Anna 91.74 38 *e*P **P 18 47 04.8 +0.9**
CLTB Caltabellotta 91.77 51 PFAKE 18 47 20.0 +16
CLTB LR LR
comp=Z,2µm,20.0s
NIE Niedzica 92.13 38 *e*P **P 18 47 04.7 -1.0**
NIE Niedzica 92.13 38 *e*P **P 18 47 04.7 -1.0**
PSZ Piszkesteto 92.51 39 PFAKE 18 47 20.0 +13
PSZ LR LR
comp=Z,1µm,21.0s
FUNA Funafuti 92.61 262 PFAKE 18 47 20.0 +12
FUNA LR LR
comp=Z,9µm,19.0s
KECS Kecovo 92.63 39 *e*P **P 18 47 07.7 -0.3**
KECS pmax pmax
comp=Z,3.0nm,0.8s
KECS Kecovo 92.63 39 *e*P **P 18 47 07.7 -0.3**
STHS Stebnicka Huta 92.69 37 *e*P **P 18 47 08.9 +0.7**
STHS pmax pmax
comp=Z,3.0nm,1.0s
STHS Stebnicka Huta 92.69 37 *e*P **P 18 47 08.9 +0.7**
CUC Castrocucco 92.84 48 PFAKE 18 47 20.0 +11
CUC LR LR
comp=Z,789nm,20.0s
WDD Wied Dalam 93.35 52 PFAKE 18 47 20.0 +8.5
WDD LR LR
comp=Z,2µm,19.0s
CEL Celeste 93.52 49 PFAKE 18 47 20.0 +7.6
CEL LR LR
comp=Z,2µm,21.0s
LVV L'vov 94.13 36 *e*P **P 18 47 16.0 +1.2**
BZS Buzias 94.55 41⇑ *i*P **P 18 47 15.5 -1.3**
BZS Buzias 94.55 41 ⇑P **P 18 47 15.5 -1.3**
TIR Tirane 95.17 45 PFAKE 18 47 30.0 +10
TIR LR LR
comp=Z,1µm,19.0s
KLMR Klimovskoe 95.20 22 *e*P **P 18 47 17.7 -1.7**
KLMR *e* 18 51 06.3
KLMR pmax pmax
comp=Z,19nm,1.4s
GZR Gura Zlata 95.38 41⇑ *i*P P 18 47 18.6 -2.1
GZR Gura Zlata 95.38 41 ⇑P P 18 47 18.6 -2.1
MSVF Nonsavu 95.83 253 PFAKE 18 47 30.0 +6.7
MSVF LR LR
comp=Z,1µm,20.0s
BURAR Bucovina Array 95.86 38⇓ *i*P **P 18 47 22.9 0.0**
TARA Tarawa 96.30 273 PFAKE 18 47 40.0 +15

TARA LR LR
comp=Z,159nm,21.0s
ARR Arges 96.56 40⇑ *i*P P 18 47 24.8 -1.3
KIEV Kiev 96.59 34⇑ *i*P P 18 47 24.0 -2.0
KIEV pmax pmax
comp=Z,6.0nm,1.5s
KIEV Kiev 96.59 34 PFAKE 18 47 40.0 +14
KIEV LR LR
comp=Z,2μm,20.0s
AKASG Malin Array Be 96.59 34 P P 18 47 24.9 -1.0
comp=Z,0.3nm,0.2s,baz=283,slow=3.3,SNR=4.7
AKASG LR LR 19 32 14.7
comp=Z,1μm,19.9s,baz=290,slow=36
AKASG Malin Array Be 96.59 34 P P 18 47 25.0 -1.0
NRIK Noril'sk 96.64 1 P P 18 47 24.9 -0.9
comp=Z,1.6nm,0.4s,baz=46,slow=4.1,SNR=4.0
NRIK LR LR 19 34 16.8
comp=Z,1μm,19.1s,baz=6.0,slow=37
VOIR 96.79 40⇑ *i*P P 18 47 28.4 +1.3
VOIR 96.79 40 ⇑P P 18 47 28.4 +1.3
SORM Soroca 97.44 36⇓ *i*P P 18 47 28.8 -1.1
SORM Soroca 97.44 36 ⇓P P 18 47 28.8 -1.1
OBN Obninsk 97.69 28⇑ *e*P P 18 47 30.3 -0.5
OBN *e* 18 51 26.4
OBN pmax pmax
comp=Z,19nm,1.3s
OBN MLR MLR
comp=Z,980nm,19.0s
OBN Obninsk 97.69 28 PFAKE 18 47 40.0 +9.1
OBN LR LR
comp=Z,1μm,20.0s
MOS Moscow 97.77 27 *e*P P 18 47 31.3 +0.1
MOS pmax pmax
comp=Z,47nm,1.2s
MOS MLR MLR
comp=N,800nm,18.0s
MOS MLR MLR
comp=Z,1μm,18.0s
KIS Kishinev 98.30 37 *e*P P 18 47 18.0 -16
KIS Kishinev 98.30 37 *e*P P 18 47 18.0 -16
KIS *e* 18 47 27.0
KIS *e*PS **PS 19 00 34.0 +7.0**
KIS MLR MLR
comp=Z,1μm,22.0s
KIS MLR MLR
comp=Z,1μm,20.0s
KIS MLR MLR
comp=N,700nm,21.0s
KIS MLR MLR
comp=E,900nm,20.0s
TLB Topalu 99.06 40⇓ *i*P Pdif 18 47 31.4 -5.8
TLB Topalu 99.06 40 ⇓P Pdif 18 47 31.4 -5.8
TIRR Tirgusor 99.35 40⇓ *i*P Pdif 18 47 30.3 -8.2
TIRR Tirgusor 99.35 40 ⇓P Pdif 18 47 30.3 -8.2
SANT Santorini 101.25 48 PFAKE 18 48 00.0 +13
SANT LR LR
comp=Z,638nm,21.0s
YSS Yuzh-Sakhalins 102.82 326 PFAKE 18 48 10.0 +16
YSS LR LR
comp=Z,389nm,21.0s
SNZO South Karori 103.01 230 PFAKE 18 48 10.0 +15
SNZO LR LR
comp=Z,1μm,21.0s
QSPA South Pole Qui 104.18 180 PFAKE 18 48 10.0 +10
QSPA LR LR
comp=Z,509nm,20.0s
ANTO Ankara 104.53 42 PFAKE 18 48 10.0 +8.2
ANTO LR LR
comp=Z,838nm,20.0s
ARU Arti 104.93 17 P Pdif 18 48 04.2 +1.1
ARU 18 52 18.8
ARU S **SKSac 18 58 38.5 -4.1**
ARU SP **SP 19 01 29.2 -5.0**
ARU PS **PS 19 01 37.2 +0.2**
ARU Arti 104.93 17 PFAKE 18 48 10.0 +6.9
ARU LR LR
comp=Z,914nm,21.0s
SBA Scott Base 106.56 192 PFAKE 18 52 30.0
SBA LR LR
comp=Z,509nm,21.0s
DZM Mont Dzumac 107.37 251 *e*SP SP 19 02 01.2 -0.9
comp=Z,316nm,28.2s
DZM Mont Dzumac 107.37 251 *e*LR LR 19 23 47.3
comp=Z,2μm,28.8s
CSS Mathiatis 107.52 46 PFAKE 18 52 40.0
CSS LR LR
comp=Z,145nm,22.0s
KIV Kislovodsk 107.94 34 PFAKE 18 52 40.0
KIV LR LR
comp=Z,615nm,22.0s
BRVK Borovoye 110.92 12 PFAKE 18 52 40.0
BRVK LR LR
comp=Z,662nm,19.0s
BVAR Borovoye Array 110.97 12 PP PP 18 52 59.2 -7.4
comp=Z,1.2nm,0.7s,baz=323,slow=3.6,SNR=6.1
MDJ Mudanjiang 111.16 331 PFAKE 18 52 40.0
MDJ LR LR
comp=Z,674nm,19.0s
MAK Makhachkala 111.16 32 *e*P *P*dif 18 48 34.9 +3.8
MAK *i* 18 52 27.7
MAK *e*PPP PPP 18 55 27.7
MAK *e*SS SS 19 08 46.8 +7.1
MAK pmax pmax
comp=Z,811nm,1.6s
HNR Honiara 111.35 265 PFAKE 18 52 40.0
HNR LR LR
comp=Z,930nm,19.0s
HIA Hailar 111.45 339 PFAKE 18 52 40.0
HIA LR LR
comp=Z,1μm,22.0s
GNI Garni 111.62 36 PFAKE 18 52 40.0
GNI LR LR
comp=Z,685nm,20.0s
MAJO Matsushiro 111.92 319 PFAKE 18 52 40.0
MAJO LR LR
comp=Z,1μm,22.0s
ZALV Zalesovo Beam 111.97 3 PP PP 18 53 11.9 -1.7
comp=Z,4.2nm,0.8s,baz=347,slow=4.6,SNR=7.7
ZALV PKKPab **PKKPbc 19 03 30.3 +5.2**
comp=Z,0.5nm,0.4s,baz=207,slow=2.6,SNR=4.7
TLY Talaya 113.27 351 PFAKE 18 52 50.0
TLY LR LR
comp=Z,981nm,19.0s
CN2 Changchun 113.69 333 *e*PKP *PKiKP 18 52 32.8 -2.0
CN2 PP **PP 18 53 28.8 +2.5**
CN2 LR LR
comp=Z,400nm,19.0s
CN2 LR LR
comp=Z,900nm,19.0s
CN2 LR LR
comp=Z,800nm,20.0s
KURK Kurchatov 114.60 8 PFAKE 18 52 50.0 +14
KURK LR LR
comp=Z,3μm,20.0s
SUR Sutherland 115.14 119 PFAKE 18 52 50.0 +12
SUR LR LR
comp=Z,2μm,19.0s
ULN Ulaanbaatar 116.29 347 PFAKE 18 52 50.0 +10
ULN LR LR
comp=Z,1μm,19.0s
SONM Songino Array 116.46 348 PP PP 18 53 38.8 -6.9
comp=Z,0.8nm,0.8s,baz=24,slow=3.1,SNR=4.1
SONM PKKPbc **PKKPbc 19 03 06.8 -3.1**
comp=Z,1.8nm,0.8s,baz=190,slow=3.2,SNR=11
SYO Syowa Base 116.85 162⇓ *e*X *P*dif 18 48 51.2 -4.5
GUMO Guam 118.84 294 PFAKE 18 53 00.0 +15
GUMO LR LR
comp=Z,945nm,22.0s
MKAR Makanchi Array 118.89 6 PKP **PKPdf 18 52 41.2 -3.6**
comp=Z,0.3nm,0.5s,baz=359,slow=1.8,SNR=3.4
MKAR PP **PP 18 53 59.1 -3.3**
comp=Z,1.3nm,0.8s,baz=17,slow=4.1,SNR=5.9
MKAR PKKPbc **PKKPbc 19 02 57.9 -3.2**
comp=Z,0.9nm,0.8s,baz=136,slow=4.8,SNR=7.3
BOSA Boshof 118.90 115 PKP **PKPdf 18 52 43.3 -2.1**
comp=Z,5.7nm,0.7s,baz=296,slow=1.2,SNR=8.8
GEYT Alibeck 120.22 29 PKKPbc PKKPbc 19 02 54.8 -1.2
comp=Z,1.0nm,0.7s,baz=147,slow=3.0,SNR=3.9
LSZ Lusaka 120.63 99 PFAKE 18 53 00.0 +11
LSZ LR LR
comp=Z,928nm,20.0s
BJI Beijing 120.68 337 PKP **PKPdf 18 52 48.6 +0.2**
BJI SS SS 19 10 44.6 +0.8
BJI AMB AMB
comp=Z,310nm,7.0s
BJI LR LR
comp=Z,880nm,25.2s
BJI LR LR
comp=Z,830nm,20.6s
BJI LR LR
comp=Z,2μm,25.9s
BJT Baijiatuau 120.70 337 PFAKE 18 53 00.0 +12
BJT LR LR
comp=Z,1μm,22.0s
HHC Hu-ho-hao-te 121.59 341 *e*PKP PKPdf 18 52 50.3 0.0
HHC AMB AMB
comp=Z,98nm,9.5s
HHC LR LR
comp=Z,600nm,18.8s
HHC LR LR
comp=Z,940nm,21.7s
HHC LR LR
comp=Z,850nm,20.4s
AAK Ala-Archa 121.70 13 PFAKE 18 53 00.0 +9.5
AAK LR LR
comp=Z,1μm,20.0s
WMQ Urumqi 122.20 2 PKP **PKPdf 18 52 50.3 -1.0**
WMQ sPKP 18 53 04.8
WMQ PP **PP 18 54 26.9 +1.8**
WMQ Urumqi 122.20 2 PKP **PKPdf 18 52 50.6 -0.7**
WMQ PP **PP 18 54 27.4 +2.3**
WMQ SKS **SKSdf 18 59 56.9 -6.0**
WMQ SS **SS 19 11 03.0 +0.2**
WMQ AMB AMB
comp=Z,440nm,7.3s
WMQ LR LR
comp=Z,1μm,20.1s
WMQ LR LR
comp=Z,730nm,20.1s
WMQ LR LR
comp=Z,1μm,26.7s
CAN Canberra 123.11 237 PFAKE 18 53 00.0 +6.8
CAN LR LR
comp=Z,1μm,19.0s
PMG Port Moresby 123.73 268 PFAKE 18 53 10.0 +15
PMG LR LR
comp=Z,979nm,20.0s
MAW Mawson 123.85 168 PKP **PKPdf 18 52 51.7 -1.8**
comp=Z,6.0nm,0.7s,baz=245,slow=5.6,SNR=20
KSH Kashi 125.01 13 *e*PKP PKPdf 18 52 56.8 -0.1
KSH sPKP 18 53 10.8
KSH PP **PP 18 54 48.8 +4.7**
KSH PKS **PKSdf 18 56 32.1 -1.6**
KSH SKS **SKSdf 19 00 03.1 -5.4**
KSH AMB AMB
comp=Z,380nm,6.7s
KSH LR LR
comp=Z,500nm,18.3s
KSH LR LR
comp=Z,810nm,20.7s
KSH LR LR
comp=Z,840nm,23.6s
GTA Gaotai 125.82 350 *e*PKP PKPdf 18 52 58.6 +0.1
GTA sPKP 18 53 13.4
GTA PP **PP 18 54 53.5 +4.0**
GTA SKS **SKSdf 19 00 05.0 -5.0**
GTA SKKS **SKKSac 19 01 42.5 -6.2**
GTA SS **SS 19 11 47.0 -1.8**
GTA AMB AMB
comp=Z,170nm,6.0s
GTA LR LR
comp=Z,710nm,20.8s
GTA LR LR
comp=Z,930nm,20.4s
GTA LR LR
comp=Z,1μm,21.4s
CTAO Charters Tower 125.92 255 *e*PKIKP PKPdf 18 52 57.6 -1.3
CTAO MLR MLR
comp=Z,2μm,22.0s
CTAO Charters Tower 125.92 255 *e*PKPdf PKPdf 18 52 57.6 -1.3
CTAO LR LR
comp=Z,2μm,22.0s
NJ2 Nanjing 126.20 329 *e*PKP PKPdf 18 53 00.4 +1.2
KMBO Kilima Mbogo 126.50 81 PFAKE 18 53 10.0 +9.4
KMBO LR LR
comp=Z,1μm,22.0s
LZH Lanzhou 128.22 345 *e*PKP PKPdf 18 53 01.5 -1.7
LZH sPKP 18 53 18.6
LZH PP **PP 18 55 08.3 +2.8**
LZH PKS **PKSdf 18 56 36.0 -4.0**
LZH SKKS 19 01 56.5
LZH SS **SS 19 12 17.5 -1.4**
LZH AMB AMB
comp=Z,200nm,6.5s
LZH LR LR
comp=Z,710nm,16.0s
LZH LR LR
comp=Z,770nm,17.6s
LZH LR LR
comp=Z,2μm,20.1s
COEN Coen 128.29 263 *e*PKPdf PKPdf 18 53 02.2 -1.4
WHN Wuhan 129.59 332 PKP PKPdf 18 52 59.8 -5.9
WHN PP **PP 18 55 18.4 +3.8**
WHN SS SS 19 12 37.8 +1.7
WHN LR LR
comp=Z,3μm,32.0s
STKA Stephens Creek 129.66 240 PKP **PKPdf 18 53 05.5 -0.3**
comp=Z,12nm,0.8s,baz=60,slow=2.9,SNR=10
YHNB Yeheng 130.54 321 PFAKE 18 53 20.0 +12
YHNB LR LR
comp=Z,1μm,20.0s
ENH Enshi 131.85 337 PFAKE 18 53 20.0 +10
ENH LR LR
comp=Z,1μm,20.0s
CD2 Chengdu 133.15 343 *e*PKP PKPdf 18 53 13.0 +0.5
CD2 AMB AMB
comp=Z,180nm,9.5s
CD2 LR LR
comp=Z,980nm,22.8s
CD2 LR LR
comp=Z,1μm,26.6s
LSA Lhasa 136.31 358 PFAKE 18 53 30.0 +11
LSA LR LR
comp=Z,846nm,20.0s
GYA Guiyang 136.34 338 Pdif **Pdif 18 50 22.0 -1.7**
GYA PKP **PKPdf 18 53 17.8 -0.9**
GYA PP **PP 18 56 01.3 +3.4**
GYA PKS **PKSdf 18 56 52.4 -2.9**
GYA SKKS 19 02 47.5
GYA SS **SS 19 13 55.0 -3.1**
GYA AMB AMB
comp=Z,140nm,7.9s
GYA LR LR
comp=Z,140nm,22.2s
GYA LR LR
comp=Z,110nm,23.8s
GYA LR LR
comp=Z,150nm,23.1s
WRAB Tennant Creek 137.10 256 *c i*PKIKP PKPdf 18 53 19.7 -0.4
WRAB pmax pmax
comp=Z,81nm,1.0s
WRAB Tennant Creek 137.10 256 *e*PKPdf PKPdf 18 53 18.8 -1.3
WRAB LR LR
comp=Z,1μm,20.0s
WRA Warramunga Arr 137.11 256 PKhKP PKPpre 18 53 08.3
comp=Z,2.1nm,0.9s,baz=86,slow=3.2,SNR=11
WRA PKP **PKPdf 18 53 19.1 -0.9**
comp=Z,22nm,0.8s,baz=86,slow=1.5,SNR=26
ASAR Alice Springs 137.35 250 PKhKP PKPpre 18 53 09.7
comp=Z,1.8nm,0.7s,baz=108,slow=3.6,SNR=7.9
ASAR PKP **PKPdf 18 53 19.9 -0.6**
comp=Z,10nm,0.8s,baz=103,slow=2.1,SNR=34
ASAR SKPab **SKPbc 18 56 54.0 +0.7**
comp=Z,2.2nm,1.2s,baz=108,slow=2.8,SNR=4.2
DAV Davao City (W) 138.64 298 PFAKE 18 53 40.0 +17
DAV LR LR
comp=Z,345nm,20.0s
KMI Kunming 138.89 342 PKP **PKPdf 18 53 22.6 -1.0**
KMI PP **PP 18 56 17.4 +3.6**
KMI LR LR
comp=Z,600nm,19.7s
KMI LR LR
comp=Z,710nm,19.1s
KMI LR LR
comp=Z,830nm,32.0s
ABPO Ambohimpanom 139.04 103 PFAKE 18 53 40.0 +16
ABPO LR LR
comp=Z,424nm,21.0s
QIZ Qiongzhong 141.49 329 PKPbc PKPbc 18 53 10.0
QIZ PP **PP 18 56 26.3 -3.5**
QIZ Qiongzhong 141.49 329 PFAKE 18 53 40.0 +12
QIZ LR LR
comp=Z,748nm,21.0s
MSEY Mahe Island 144.92 78 PFAKE 18 53 50.0 +16
MSEY LR LR
comp=Z,856nm,22.0s
FITZ Fitzroy Crossi 145.36 259 *e*PKPdf PKPbc 18 53 33.2 -1.6
CHTO Chiang Mai 145.94 344 *e*PKIKP PKPdf 18 53 33.3 -2.7
CHTO MLR MLR
comp=Z,478nm,21.0s
CHTO Chiang Mai 145.94 344 *e*PKPdf PKPdf 18 53 33.3 -2.7
CHTO LR LR
comp=Z,478nm,21.0s
SOEI Soe 145.98 274 *e*PKPdf PKPdf 18 53 37.2 +1.0
CMAR Chiang Mai Arr 146.28 344 PKPbc **PKPdf 18 53 34.4 -2.1**
comp=Z,5.3nm,0.7s,baz=343,slow=3.0,SNR=21
HYB Hyderabad 146.66 20 *i* PKP PKPdf 18 53 38.0 +0.8
HYB *e*PP **PP 18 57 06.0 +5.4**
KKM Kota Kinabalu 146.92 306 PFAKE 18 53 50.0 +8.9
KKM LR LR
comp=Z,501nm,22.0s
MMRI Maumere 147.71 276 *e*PKPdf PKPdf 18 53 39.5 +0.5
NWAO Narrogin (SRO) 148.84 229 PKPbc **PKPdf 18 53 43.0 +2.6**
comp=Z,24nm,0.7s,baz=358,slow=4.4,SNR=13
NWAO Narrogin (SRO) 148.84 229 PKP2 **PKPdf 18 53 43.0 +2.6**
KAPI Kappang 149.09 284 *e*PKPdf PKPdf 18 53 43.7 +2.5
KAPI LR LR
comp=Z,336nm,22.0s
MBWA Marble Bar 150.66 252 *e*PKPdf PKPdf 18 53 42.6 -1.0
MBWA LR LR
comp=Z,768nm,20.0s
KSM Kuching 154.36 306 PFAKE 18 54 00.0 +2.5
KSM LR LR
comp=Z,573nm,22.0s
KULM Kulim 157.80 330 PFAKE 18 54 10.0 -16
KULM LR LR
comp=Z,728nm,21.0s

*ISCJB **19** 18:34:24.2±0.5, 5.˚48S±0.˚05×148.˚05E±0.˚09, h167km, mb4.0/15, Error ellipse: s-maj=13.2km s-min=6.6km az=6.8*
*IDC **19** 18:34:25.9±1.3, 5.˚56S×148.˚00E, h170km±12km, mb3.8/14, mb1 3.9/17, mb1mx3.8/36, mbtmp4.3/17, MS3.6/1, Ms1 3.6/1, ms1mx2.7/36, Error ellipse: s-maj=15.3km s-min=8.8km az=92.0*
*NEIC **19** 18:34:29.0±1.2, 5.˚55S×147.˚82E, h200km±12km, mb4.5/4, Error ellipse: s-maj=13.8km s-min=10.6km az=68.0*
ISC 19 18:34:25.8±0.5, 5.˚56S±0.˚06×147.˚94E±0.˚09, h167km, n29, σ1s47/33, mb4.1/15, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.90**	**191**	P		P	**Pn**	**18 35 26.9**	**+1.6**
	42nm,0.3s,baz=344,slow=8.2,SNR=207								
PMG				S		S	**Sn**	**18 36 11.1**	**-0.7**
	26nm,0.3s,baz=22,slow=19,SNR=13								
JAY	**Jayapura**	**7.82**	**292**	P		P	**Pn**	**18 36 17.6**	**+0.6**
	0.1nm,0.3s,baz=343,slow=23,SNR=5.7								
COEN	**Coen**	**9.58**	**209**	*e*Pn		P	**Pn**	**18 36 42.9**	**+2.8**
	19nm,0.9s								
HNR	**Honiara**	**12.51**	**109**	P		P	**P**	**18 37 24.6**	**+1.3**
	25nm,0.3s,baz=224,slow=4.5,SNR=13								
CTA	**Charters Tower**	**14.54**	**186**	P		P	**P**	**18 37 45.2**	**-0.6**
	0.3nm,0.3s,baz=14,slow=15,SNR=7.1								
CTAO	**Charters Tower**	**14.54**	**186**	*e*P		P	**P**	**18 37 46.3**	**+0.5**
WRAB	**Tennant Creek**	**19.47**	**222**	*e*P		P	**Pn**	**18 38 40.9**	**-2.2**
	21nm,0.6s								
WRA	**Warramunga Arr**	**19.48**	**222**	P		P	**Pn**	**18 38 41.0**	**-2.1**
	4.0nm,0.3s,baz=49,slow=11,SNR=105								
WRA				S		S	**S**	**18 42 09.3**	**-2.0**
	baz=42,slow=21,SNR=4.8								
ASAR	**Alice Springs**	**22.52**	**216**	P		P	**P**	**18 39 12.8**	**+1.0**
	2.0nm,0.3s,baz=36,slow=11,SNR=73								
ASAR				S		S	**S**	**18 43 07.7**	**+1.4**
	5.2nm,0.9s,baz=29,slow=23,SNR=12								
DZM	**Mont Dzumac**	**24.29**	**134**	P		P	**P**	**18 39 26.8**	**-1.2**
	5.8nm,0.5s,baz=332,slow=20,SNR=12								
FITZ	**Fitzroy Crossi**	**25.10**	**238**	P		P	**P**	**18 39 35.4**	**+0.1**
	2.8nm,0.4s,baz=63,slow=14,SNR=22								
FITZ	**Fitzroy Crossi**	**25.10**	**238**	*e*P		P	**P**	**18 39 35.5**	**+0.2**
	22nm,1.5s								
JNU	**Nakatsue**	**41.73**	**338**	P		P	**P**	**18 41 59.0**	**+0.4**
	5.3nm,0.7s,baz=158,slow=0.6,SNR=6.5								
RPZ	**Rata Peaks**	**43.11**	**155**	P		P	**P**	**18 42 10.6**	**+1.0**
	8.7nm,0.8s,baz=0.0,slow=11,SNR=4.7								
RPZ				LR		LR		18 59 51.0	
	comp=Z,81nm,19.8s,baz=54,slow=35								
KSRS	**Korea Array**	**46.68**	**338**	P		P	**P**	**18 42 38.0**	**+0.3**
	2.3nm,0.7s,baz=158,slow=8.0,SNR=5.8								
KSAR	**Wonju Array Be**	**46.69**	**338**	P		P	**P**	**18 42 38.0**	**+0.2**
USRK	**Ussuriysk Ar.**	**51.57**	**345**	P		P	**P**	**18 43 15.4**	**+0.6**
	2.6nm,0.6s,baz=192,slow=5.8,SNR=6.3								
PETK	**Petropavlovsk-**	**59.02**	**7**	P		P	**P**	**18 44 08.8**	**+0.9**
	4.4nm,0.8s,baz=146,slow=5.2,SNR=9.6								
SONM	**Songino Array**	**64.48**	**330**	P		P	**P**	**18 44 45.3**	**+0.7**
	1.2nm,0.7s,baz=144,slow=4.9,SNR=9.3								
VNDA	**Vanda**	**72.30**	**177**	P		P	**P**	**18 45 33.1**	**+0.5**
	1.3nm,0.6s,baz=332,slow=7.6,SNR=10								
MKAR	**Makanchi Array**	**77.75**	**320**	P		P	**P**	**18 46 04.0**	**-0.4**
	0.9nm,0.3s,baz=97,slow=8.2,SNR=40								
ZALV	**Zalesovo Beam**	**79.14**	**328**	P		P	**P**	**18 46 10.4**	**-1.4**
	1.7nm,0.4s,baz=121,slow=6.1,SNR=6.9								
ZALV				pP		pP	**pP**	**18 46 56.8**	**+4.0**
	0.6nm,0.6s,baz=127,slow=3.8,SNR=3.7								
MAW	**Mawson**	**83.02**	**203**	P		P	**P**	**18 46 30.7**	**-1.3**
	1.0nm,0.5s,baz=55,slow=11,SNR=10								
ILAR	**Eielson Array**	**84.71**	**23**	P		P	**P**	**18 46 39.5**	**-1.2**
	1.1nm,0.7s,baz=247,slow=5.4,SNR=6.3								
ABKAR	**Akbulak array**	**92.86**	**319**	*e*P		P	**P**	**18 47 17.8**	**-1.8**
	0.2nm,0.3s								
SIV	**San Ignacio**	**144.18**	**127**	PKP		**PKPab**		**18 53 40.1**	**-0.9**
	1.7nm,0.5s,baz=257,slow=4.4,SNR=6.6								
SAML	**Samuel**	**145.79**	**115**	*e*PKPdf		**PKPdf**		**18 53 44.6**	**-1.0**
TORD	**Torodi Ar. Bea**	**145.88**	**285**	PKPbc		**PKPdf**		**18 53 44.5**	**-1.3**
	1.6nm,0.5s,baz=76,slow=4.1,SNR=15								
PTGA	**Pitinga**	**151.44**	**102**	PKPbc		**PKPbc**		**18 53 59.7**	**-1.3**
	4.4nm,0.5s,baz=226,slow=3.7,SNR=11								

IDC 19 18:37:42.9±1.3, 13.˚66N×89.˚34W, h0km, mb4.2/7, mb1 4.4/7, mb1mx4.0/40, mbtmp4.2/7, Error ellipse: s-maj=83.7km s-min=19.2km az=60.0, El Salvador

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
TXAR	**Lajitas Array**	**20.49**	**322**	P		P	P	18 42 23.3	+0.6
	2.5nm,0.7s,baz=144,slow=7.8,SNR=5.2								
ATAH	**Atahualpa**	**23.34**	**152**	P		P		18 42 54.7	+1.2
	10nm,0.7s,baz=31,slow=5.9,SNR=4.6								
ULM	**Lac du Bonnet**	**36.88**	**353**	P		P		18 44 53.2	+0.1
	8.6nm,0.9s,baz=159,slow=10,SNR=3.4								
SIV	**San Ignacio**	**40.60**	**136**	P		P		18 45 23.8	-1.0
	2.3nm,0.8s,baz=302,slow=9.5,SNR=2.3								
YKA	**Yellowknife Ar**	**51.98**	**345**	P		P		18 46 53.9	+0.2
	1.4nm,0.5s,baz=152,slow=7.7,SNR=4.3								
ILAR	**Eielson Array**	**64.18**	**336**	P		P		18 48 18.3	-0.9
	1.5nm,1.0s,baz=122,slow=4.4,SNR=4.0								
AKASG	**Malin Array Be**	**96.58**	**34**	P		P		18 51 15.2	+0.5
	1.3nm,0.8s,baz=297,slow=7.2,SNR=6.4								
CMAR	**Chiang Mai Arr**	**147.06**	**345**	PKPbc		PKPbc		18 57 27.9	-0.8
	2.6nm,0.9s,baz=341,slow=3.8,SNR=6.2								

*NIED **19** 18:39:00, 36.˚50N×141.˚10E, h47km, Mw3.7 Best double couple: M04.51000×10^14 NP1:φ=67.00000°, δ=89.00000°, λ=180.00000°. NP2:φ=157.00000°, δ=90.00000°, λ=1.00000°.*
*IDC **19** 18:39:39.6±2.5, 36.˚62N×141.˚48E, h0km, mb3.5/3, mb1 3.7/4, mb1mx3.4/50, mbtmp3.6/4, ML4.0/1, Error ellipse: s-maj=58.0km s-min=26.6km az=41.0*
*JMA **19** 18:39:47.6±0.1, 36.˚50N×141.˚08E, h53km±1km, M3.9*
JMA Felt I J1
ISC 19 18:39:44.3±1.5, 36.˚45N±0.˚07×141.˚2E±0.˚1, h20km±6km, n12, σ1s08/21, mb3.5/3, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
JHO	**Hitachi**	**0.56**	**287**	P		P	**Pn**	**18 39 58.2**	**+1.1**
JHO				S		S	**Sn**	**18 40 05.6**	**-0.2**
ONAJ	**Iwakimizuishiy**	**0.74**	**332**	P		P	**Pn**	**18 40 00.4**	**+0.8**
ONAJ				S		S	**Sn**	**18 40 09.5**	**-0.8**
JYT	**Yasato**	**0.87**	**256**	P		P	**Pn**	**18 40 02.2**	**+0.9**
JYT				S		S	**Sb**	**18 40 12.6**	**+0.8**

JFK	**Kawauchi**	**0.96**	**343**	P	**Pn**	**18 40 03.4**	**+0.7**
JFK				S	**Sb**	**18 40 14.7**	**+0.1**
JFT	**Otama**	**1.29**	**326**	P	**Pb**	**18 40 08.7**	**+0.9**
JFT				S	**Sb**	**18 40 24.0**	**+0.1**
JAG	**Ashikaga**	**1.44**	**270**	P	**Pb**	**18 40 10.0**	**-0.3**
JAG				S	**Sn**	**18 40 25.8**	**-1.6**
JMM	**Marumori**	**1.46**	**346**	P	**Pb**	**18 40 10.5**	**-0.2**
JMM				S	**Sn**	**18 40 27.7**	**-0.3**
MJAR	**Matsushiro Arr**	**2.44**	**273**	Pn	**Pn**	**18 40 24.2**	**+1.3**
	27nm,0.3s,baz=90,slow=10.0,SNR=293						
MJAR				Sn	**Sb**	**18 40 55.0**	**-2.0**
	21nm,0.3s,baz=82,slow=33,SNR=9.3						
MAT	**Matsushiro**	**2.44**	**273**	P	**Pn**	**18 40 24.4**	**+1.4**
MAT				S	**Sn**	**18 40 53.7**	**+1.5**
SONM	**Songino Array**	**28.00**	**305**	P	**P**	**18 45 32.5**	**-1.3**
	0.5nm,0.6s,baz=110,slow=9.7,SNR=3.8						
WRA	**Warramunga Arr**	**56.46**	**188**	P	**P**	**18 49 24.5**	**-0.3**
	0.3nm,0.5s,baz=1.0,slow=7.4,SNR=3.2						
ASAR	**Alice Springs**	**60.19**	**188**	P	**P**	**18 49 50.7**	**0.0**
	0.4nm,0.9s,baz=12,slow=9.5,SNR=3.2						

ISCJB ***19*** *18:40:55.0±0.8, 14°.08N±0°.08×92°.42E±0°.08, h33km, mb3.7/9, Error ellipse: s-maj=13.3km s-min=8.5km az=41.2*

IDC ***19*** *18:40:58.0±1.3, 14°.03N×92°.75E, h28km±6km, mb3.6/9, mb1 3.8/10, mb1mx3.5/49, mbtmp3.7/10, ML4.1/1, MS2.9/1, Ms1 3.1/1, ms1mx2.6/34, Error ellipse: s-maj=34.9km s-min=16.1km az=54.0*

ISC 19 18:40:58.3±0.8, 14°.06N±0°.10×92°.50E±0°.09, h35km, n26, σ2s30/27, mb3.8/9, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CMAR	**Chiang Mai Arr**	**7.58**	**54**	Pn	**Pn**	**18 42 45.8**	**-0.6**
	0.7nm,0.3s,baz=243,slow=15,SNR=18						
CMAR				Sn	**Sn**	**18 44 14.2**	**+3.1**
	0.6nm,0.3s,baz=242,slow=26,SNR=5.3						
CMAR				LR	LR	18 46 04.3	
	comp=Z,81nm,19.9s,baz=272,slow=41						
SHL	**Shillong**	**11.47**	**357**	*e*P	**Pn**	**18 43 37.0**	**-2.7**
PALK	**Pallekele**	**13.40**	**241**	Pn	**P**	**18 44 14.3**	**-0.8**
	1.3nm,0.3s,baz=116,slow=7.0,SNR=10						
ODAN	**Odare**	**13.61**	**340**	*e*P	**Pn**	**18 44 06.1**	**-2.9**
TAPN	**Taplejung**	**13.96**	**342**	*e*P	**Pn**	**18 44 11.3**	**-2.7**
RAMN	**Ramite**	**13.96**	**338**	*e*P	**Pn**	**18 44 11.0**	**-2.9**
JIRN	**Jiri**	**14.76**	**338**	*e*P	**Pn**	**18 44 22.0**	**-2.9**
PKI	**Pulchoki**	**14.98**	**335**	*e*P	**Pn**	**18 44 24.0**	**-3.8**
PKIN	**Phulchoki**	**14.99**	**335**	*e*P	**Pn**	**18 44 24.0**	**-3.9**
DMN	**Daman**	**15.14**	**334**	*e*P	**Pn**	**18 44 27.6**	**-2.3**
	24nm,0.6s						
KKN	**Kakani**	**15.23**	**335**	*e*P	**Pn**	**18 44 28.1**	**-2.9**
	10nm,0.4s						
GKN	**Gorkha**	**15.69**	**333**	*e*P	**Pn**	**18 44 34.2**	**-2.7**
	24nm,0.3s						
KOLN	**Koldanda**	**15.97**	**330**	*e*P	**Pn**	**18 44 40.3**	**-0.2**
PYUN	**Piuthan**	**16.54**	**329**	*e*P	**Pn**	**18 44 48.8**	**+1.0**
H08S3	**Diego Garcia H**	**29.30**	**224**	T	T	19 18 19.8	
	baz=56,slow=74,SNR=2.3						
H08S2	**Diego Garcia H**	**29.31**	**224**	T	T	19 18 19.3	
	baz=56,slow=74,SNR=3.5						
H08S1	**Diego Carcia H**	**29.32**	**224**	T	T	19 18 10.9	
	baz=56						
MKAR	**Makanchi Array**	**33.74**	**347**	P	**P**	**18 47 37.3**	**+0.9**
	0.4nm,0.4s,baz=169,slow=8.4,SNR=6.2						
MKAR				pP	**pP**	**18 47 46.5**	**0.0**
	1.3nm,0.7s,baz=166,slow=8.6,SNR=8.4						
SONM	**Songino Array**	**35.61**	**16**	P	**P**	**18 47 53.0**	**+0.3**
	0.2nm,0.6s,baz=198,slow=4.2,SNR=2.3						
SONM				pP	**pP**	**18 48 01.4**	**-1.4**
	2.4nm,1.1s,baz=201,slow=9.8,SNR=8.7						
ZALV	**Zalesovo Beam**	**40.26**	**353**	P	**P**	**18 48 31.9**	**+0.3**
	0.4nm,0.4s,baz=165,slow=6.0,SNR=2.2						
ZALV				pP	**pP**	**18 48 40.6**	**-1.2**
	0.7nm,0.5s,baz=184,slow=4.5,SNR=3.3						
FITZ	**Fitzroy Crossi**	**45.71**	**133**	P	**P**	**18 49 14.7**	**-1.5**
	2.5nm,0.9s,baz=336,slow=10,SNR=6.3						
WRA	**Warramunga Arr**	**53.25**	**128**	P	**P**	**18 50 12.5**	**-1.3**
	0.2nm,0.4s,baz=311,slow=7.7,SNR=4.6						
ASAR	**Alice Springs**	**55.18**	**132**	P	**P**	**18 50 27.2**	**-0.6**
	0.5nm,0.5s,baz=309,slow=6.8,SNR=19						
BRTR	**Keskin Array B**	**57.27**	**308**	P	**P**	**18 50 45.3**	**+2.6**
	0.6nm,0.7s,baz=130,slow=1.9,SNR=3.7						
FINES	**FINESS Array B**	**66.53**	**331**	P	**P**	**18 51 45.5**	**+1.1**
	2.8nm,0.9s,baz=156,slow=11,SNR=3.1						
GERES	**GERESS Array B**	**72.20**	**317**	P	**P**	**18 52 22.6**	**+2.8**
	1.1nm,1.1s,baz=98,slow=4.0,SNR=4.5						

IDC 19 18:46:02.8±2.0, 13°.56N×90°.27W, h0km, mb3.9/3, mb1 4.3/4, mb1mx3.7/42, mbtmp3.9/4, ML3.6/1, Error ellipse: s-maj=81.0km s-min=37.3km az=46.0, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CMIG	**Matias Romero**	**5.67**	**309**	Pn	Pn	18 47 28.0	-0.4
	1.8nm,0.3s,baz=155,slow=11,SNR=9.2						
CMIG				Sn	Sn	18 48 34.8	+0.5
	3.0nm,0.3s,baz=274,slow=19,SNR=3.1						
TXAR	**Lajitas Array**	**20.02**	**324**	P	Pn	18 50 38.7	-0.4
	4.0nm,0.8s,baz=145,slow=11,SNR=24						
YKA	**Yellowknife Ar**	**51.85**	**346**	P	P	18 55 12.3	-0.3
	1.1nm,0.7s,baz=145,slow=6.5,SNR=3.3						
ILAR	**Eielson Array**	**63.91**	**337**	P	P	18 56 36.6	-0.7
	0.9nm,0.7s,baz=166,slow=5.4,SNR=8.0						
WRA	**Warramunga Arr**	**136.91**	**255**	PKP	PKPdf	19 05 29.0	+0.5
	1.1nm,0.9s,baz=81,slow=2.3,SNR=2.9						
ASAR	**Alice Springs**	**137.10**	**250**	PKP	PKPdf	19 05 26.7	-2.1
	0.3nm,0.7s,baz=90,slow=2.8,SNR=3.7						
CMAR	**Chiang Mai Arr**	**146.92**	**344**	PKPbc	PKPbc	19 05 48.1	-0.1
	0.8nm,0.7s,baz=337,slow=2.3,SNR=7.0						

ISCJB ***19*** *18:52:12.7±0.8, 38°.25N×0°.05×144°.67E±0°.06, h33km, mb3.6/4, Error ellipse: s-maj=7.6km s-min=6.5km az=39.3*

JMA ***19*** *18:52:15.2±0.2, 38°.21N×144°.48E, h44km, M3.8*

IDC ***19*** *18:52:15.7±1.8, 37°.31N×144°.64E, h0km, mb3.6/4, mb1 3.7/6, mb1mx3.4/48, mbtmp3.7/6, ML3.6/2, Error ellipse: s-maj=36.4km s-min=25.9km az=70.0*

ISC 19 18:52:14.9±1.5, 38°.22N±0°.06×144°.5E±0°.1, h35km, n18, σ2s43/28, mb3.6/4, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
OFUJ	**Ofunato**	**2.40**	**292**	P	**Pn**	**18 52 53.0**	**+1.2**
MIYJ	**Miyakonagasawa**	**2.52**	**303**	P	**Pn**	**18 52 54.2**	**+0.9**
MIYJ				*e*S	**Sn**	**18 53 23.2**	**+0.5**
JIO	**Ouri**	**2.52**	**276**	P	**Pn**	**18 52 54.3**	**+1.0**
JIO				*e*S	**Sn**	**18 53 22.7**	**-0.1**
JMK	**Ichinoseki**	**2.70**	**287**	P	**Pn**	**18 52 57.2**	**+1.4**
JMK				*e*S	**Sn**	**18 53 29.8**	**+2.5**
JOM	**Ohasama**	**2.83**	**297**	P	**Pn**	**18 52 59.0**	**+1.4**
JOM				*e*S	**Sn**	**18 53 31.8**	**+1.4**
JANG	**Nango**	**3.18**	**313**	P	**Pn**	**18 53 03.6**	**+1.2**
JANG				*e*S	**Sn**	**18 53 39.2**	**+0.1**
JYK	**Kaneyama**	**3.35**	**283**	P	**Pn**	**18 53 06.8**	**+2.0**
JFT	**Otama**	**3.40**	**259**	P	**Pn**	**18 53 07.1**	**+1.6**
JFT				*e*S	**Sn**	**18 53 45.5**	**+1.0**
JCH	**Churui**	**4.48**	**349**	P	**Pn**	**18 53 20.8**	**+0.5**
JCH				*e*S	**Sn**	**18 54 09.4**	**-1.7**
JRY	**Ryogami san**	**5.01**	**246**	P	**Pn**	**18 53 28.4**	**+0.7**
JRY				*e*S	**Sn**	**18 54 21.8**	**-2.6**
NEM2	**Nemuro 2**	**5.22**	**10**	P	**Pn**	**18 53 28.6**	**-1.8**
NEM2				*e*S	**Sn**	**18 54 24.4**	**-4.9**
MJAR	**Matsushiro Arr**	**5.31**	**254**	Pn	**Pn**	**18 53 33.8**	**+2.0**
	1.1nm,0.3s,baz=82,slow=15,SNR=11						
MJAR				Sn	**Sn**	**18 54 34.9**	**+3.2**
	0.7nm,0.3s,baz=214,slow=46,SNR=3.9						
JTKR	**Abashiri--Toko**	**5.76**	**355**	P	**Pn**	**18 53 38.2**	**+0.3**
JTKR				*e*S	**Sn**	**18 54 39.7**	**-3.0**
JHJ	**Hachijo jima 2**	**6.39**	**219**	Pn	**Pn**	**18 53 44.4**	**-2.2**
	8.6nm,0.3s,baz=77,slow=22,SNR=7.2						
JHJ				Sn	**Sn**	**18 54 50.9**	**-7.5**
	4.2nm,0.3s,baz=54,slow=18,SNR=3.3						
ZALV	**Zalesovo Beam**	**42.97**	**312**	P	P	19 00 23.3	+13
	0.7nm,0.5s,baz=76,slow=12,SNR=3.7						
MKAR	**Makanchi Array**	**45.60**	**302**	P	P	19 00 40.7	+9.1
	0.3nm,0.8s,baz=91,slow=10,SNR=3.6						
WRA	**Warramunga Arr**	**58.64**	**191**	P	**P**	**19 02 08.1**	**-0.6**
	0.7nm,0.7s,baz=12,slow=7.4,SNR=5.3						
ASAR	**Alice Springs**	**62.37**	**191**	P	**P**	**19 02 34.2**	**+0.2**
	0.4nm,0.8s,baz=2.2,slow=6.5,SNR=4.7						

CSEM ***19*** *19:04:50.6, 42°.56N×42°.83E, h6km, MD3.0*

DDA ***19*** *19:04:50.6, 42°.56N×42°.83E, h6km, Md3.0*

TIF ***19*** *19:04:50.3, 42°.56N×43°.01E, h14km*

ISC 19 19:04:46.4±3.1, 42°.7N±0°.2×42°.9E±0°.1, h10km±14km, n10, σ0s58/20, Western Caucasus

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ONI	**Oni**	**0.42**	**111**	P	**Pn**	**19 04 57.9**	**-0.7**
ONI				S	**Sb**	**19 05 03.6**	**+1.2**
EPOS	**Posof**	**1.24**	**187**	*i* P	**Pb**	**19 05 10.0**	**-0.1**
EPOS				*i* S	**Sn**	**19 05 26.7**	**-0.2**
EPOS	**Posof**	**1.24**	**187**	P	**Pb**	**19 05 10.0**	**-0.1**
EPOS				S	**Sn**	**19 05 26.7**	**-0.2**
DBOC	**Borcka**	**1.68**	**214**	*i* P	**Pg**	**19 05 19.2**	**+0.6**
DBOC				*i* S	**Sg**	**19 05 40.3**	**-0.1**
DBOC	**Borcka**	**1.68**	**214**	P	**Pg**	**19 05 19.2**	**+0.6**
DBOC				S	**Sg**	**19 05 40.3**	**-0.1**
ARTV	**Artvin**	**1.72**	**206**	*i* P	**Pg**	**19 05 19.3**	**-0.1**
ARTV				*i* S	**Sb**	**19 05 40.2**	**+0.2**
ARTV	**Artvin**	**1.72**	**206**	P	**Pg**	**19 05 19.3**	**-0.1**
ARTV				S	**Sb**	**19 05 40.2**	**+0.2**
DAGI	**Agillar**	**1.82**	**205**	*i* P	**Pg**	**19 05 21.7**	**+0.3**
DAGI				*i* S	**Sg**	**19 05 44.5**	**-0.6**
DDEM	**Demirkent**	**2.04**	**206**	*i* P	**Pg**	**19 05 25.4**	**-0.2**
DDEM				*i* S	**Sb**	**19 05 50.2**	**+1.0**
DDEM	**Demirkent**	**2.04**	**206**	P	**Pg**	**19 05 25.4**	**-0.2**
DDEM				S	**Sb**	**19 05 50.2**	**+1.0**

PGC 19 19:08:13.1±1.4, 50°.56N×130°.35W, h10km, MLSn3.3/34, Mw3.9/34, 207km west of Pt. Hardy, Bc Vancouver Island, Canada Region, Vancouver Island region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
HOLB	**Holberg**	**1.42**	**86**	Pn	Pn	19 08 36.7	-2.2
HOLB				S	Sn	19 08 53.2	-4.3
BPBC	**Brooks Peninsu**	**1.70**	**103**	Pn	Pn	19 08 40.0	-2.8
PHC	**Port Hardy**	**1.86**	**84**	Pn	Pn	19 08 43.2	-1.8
PHC				S	Sn	19 09 04.3	-4.3
MAYB	**Maynard**	**2.04**	**93**	Pn	Pn	19 08 45.4	-2.1
BBB	**Bella Bella**	**2.14**	**40**	Pn	Pn	19 08 47.3	-1.5
BBB				S	Sn	19 09 11.7	-3.7
EDB	**Eliza Dome**	**2.19**	**107**	Pn	Pn	19 08 46.9	-2.5
BNB	**Barry Inlet**	**2.20**	**337**	Pn	Pn	19 08 47.7	-1.9
BNB				S	Sn	19 09 13.8	-3.1
TLCB	**Telegraph Cove**	**2.24**	**89**	Pn	Pn	19 08 48.9	-1.3
TLCB				S	Sn	19 09 14.3	-3.6
WOSB	**Woss**	**2.45**	**98**	Pn	Pn	19 08 51.8	-1.4
ETB	**Estevan Point**	**2.73**	**114**	Pn	Pn	19 08 55.4	-1.5
NCRB	**Newcastle Ridg**	**2.75**	**92**	Pn	Pn	19 08 55.5	-1.8
MORC	**Moresby Island**	**2.77**	**339**	Pn	Pn	19 08 55.5	-2.0
GDR	**Gold River**	**2.88**	**104**	Pn	Pn	19 08 57.2	-1.8
DIB	**Dawson Inlet,**	**2.95**	**334**	Pn	Pn	19 08 58.1	-1.8
VIB	**Van Inlet**	**3.02**	**334**	Pn	Pn	19 08 59.4	-1.6
VIB				S	Sn	19 09 34.1	-3.0
SPLB	**Strathcona Par**	**3.09**	**101**	Pn	Pn	19 09 00.6	-1.3
TOFB	**Tofino**	**3.20**	**114**	Pn	Pn	19 09 01.8	-1.5
CBB	**Campbell River**	**3.24**	**98**	Pn	Pn	19 09 02.8	-1.2
BTB	**Buttle Lake**	**3.30**	**108**	Pn	Pn	19 09 03.3	-1.6
MWAB	**Mount Washingt**	**3.35**	**102**	Pn	Pn	19 09 04.4	-1.1
B012	**Ucluelet**	**3.52**	**116**	Pn	Pn	19 09 07.8	+0.1
OZB	**Mount Ozzard**	**3.53**	**115**	Pn	Pn	19 09 06.0	-2.0
NDB	**Naden**	**3.75**	**336**	Pn	Pn	19 09 09.5	-1.4
BMSB	**Bamfield Mari**	**3.80**	**115**	Pn	Pn	19 09 11.4	-0.2
B928	**Bamfield**	**3.80**	**115**	Pn	Pn	19 09 10.6	-1.0
TXB	**Texada**	**3.90**	**101**	Pn	Pn	19 09 12.0	-1.1
MGB	**Mount Grey**	**3.99**	**111**	Pn	Pn	19 09 12.9	-1.4
SHB	**Sechelt**	**4.28**	**101**	Pn	Pn	19 09 17.4	-0.9
YOUUB	**Youbou, Lake C**	**4.29**	**111**	Pn	Pn	19 09 17.7	-0.6
NLLB	**Nanaimo Lost L**	**4.32**	**106**	Pn	Pn	19 09 17.9	-0.9
PFB	**Port Renfrew**	**4.33**	**115**	Pn	Pn	19 09 17.8	-1.2
OCP	**Olym-Cheeka Pk**	**4.37**	**119**	Pn	Pn	19 09 18.9	-0.6
UBRB	**Upper Baezaeko**	**4.54**	**57**	Pn	Pn	19 09 22.5	+0.6
LZB	**Mount Lazard**	**4.67**	**112**	Pn	Pn	19 09 23.9	+0.2
BIB	**Bowen Island**	**4.69**	**102**	Pn	Pn	19 09 23.0	-0.8
OFR	**Olym-F Res Ctr**	**4.71**	**122**	Pn	Pn	19 09 25.0	+1.0
GOBB	**Galiano Island**	**4.72**	**107**	Pn	Pn	19 09 25.1	+0.8
WSLR	**Whistler**	**4.78**	**92**	Pn	Pn	19 09 24.8	-0.3
OBC	**Olympics--Boni**	**4.82**	**119**	Pn	Pn	19 09 26.3	+0.6
B010	**North Saanich**	**4.88**	**110**	Pn	Pn	19 09 26.7	+0.4
PGC	**Sidney**	**4.88**	**110**	Pn	Pn	19 09 26.6	+0.2
B009	**North Saanich**	**4.88**	**110**	Pn	Pn	19 09 26.7	+0.4
B011	**North Saanich**	**4.88**	**110**	Pn	Pn	19 09 26.7	+0.3
SNB	**Saturna Island**	**4.99**	**108**	Pn	Pn	19 09 28.9	+0.9
OSD	**Olympics--Snow**	**5.15**	**120**	Pn	Pn	19 09 30.9	+0.6
MCW	**Mount Constitu**	**5.24**	**108**	Pn	Pn	19 09 32.3	+0.9
LLLB	**Lillooet**	**5.39**	**86**	Pn	Pn	19 09 33.1	-0.4
HDW	**Hoodsport**	**5.61**	**119**	Pn	Pn	19 09 37.2	+0.6
MBW	**Mount Baker**	**5.77**	**105**	Pn	Pn	19 09 39.9	+1.1
JCW	**Jim Creek**	**5.99**	**110**	Pn	Pn	19 09 42.5	+0.8
B06A	**Marblemount**	**6.12**	**106**	Pn	Pn	19 09 44.5	+1.0
RPW	**Rockport**	**6.13**	**107**	Pn	Pn	19 09 44.4	+0.7
GPW	**Glacier Peak**	**6.50**	**109**	Pn	Pn	19 09 50.0	+1.1

IDC ***19*** *19:13:02.6±3.8, 1°.72N×124°.31E, h188km±38km, mb3.8/13, mb1 3.8/16, mb1mx3.6/35, mbtmp4.3/16, MS4.1/2, Ms1 4.1/2, ms1mx3.4/36, Error ellipse: s-maj=29.7km s-min=9.9km az=82.0*

ISCJB ***19*** *19:13:05.9±0.3, 1°.74N±0°.03×124°.76E±0°.04, h235km, mb4.2/20, Error ellipse: s-maj=5.8km s-min=4.5km az=164.8*

DJA ***19*** *19:13:08.7±0.2, 2°.N±3°×12°.5E±°, h221km±3km, M4.3/15, mb4.3/15, mB4.6/6, MLv4.6/12, Mw(mB)3.9/6*

NEIC ***19*** *19:13:09.9±1.3, 1°.68N×124°.52E, h269km±15km, mb4.5/8, Error ellipse: s-maj=13.5km s-min=7.3km az=74.0*

ISC 19 19:13:07.2±0.5, 1°.62N±0°.05×124°.69E±0°.06, h235km, n44, σ1s53/53, mb4.2/20, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KMSI	**Cibinong**	**1.25**	**214**	P	**Pn**	**19 13 43.1**	**+0.8**
KMSI				S	**S**	**19 14 10.4**	**+0.6**
GTOI	**Gorontalo**	**1.94**	**240**	P	**Pn**	**19 13 49.3**	**+1.4**
GTOI				S	**S**	**19 14 20.6**	**+0.8**
SGSI	**Sangihe**	**2.22**	**22**	P	**S**	**19 13 47.7**	**+2.9**
MRSI	**Marisa**	**2.97**	**248**	P	**Pn**	**19 13 59.7**	**+1.2**
MRSI				S	**S**	**19 14 40.3**	**+1.5**
SANI	**Sanana**	**3.87**	**160**	P	**Pn**	**19 14 07.6**	**-1.2**
SANI				S	**S**	**19 14 55.5**	**-2.0**
NLAI	**Namlea**	**5.39**	**153**	P	**Pn**	**19 14 27.3**	**-0.1**
NLAI				S	**S**	**19 15 29.5**	**-1.8**
PCI	**Palu**	**5.46**	**243**	P	**Pn**	**19 14 29.6**	**+1.3**
KDI	**Kendari**	**5.91**	**200**	P	**Pn**	**19 14 34.4**	**+0.4**
AAI	**Ambon**	**6.33**	**146**	P	**Pn**	**19 14 39.7**	**+0.5**
MSAI	**Masohi**	**6.50**	**139**	P	**Pn**	**19 14 42.2**	**+0.8**
MSAI				S	**S**	**19 15 56.0**	**-0.7**
TTSI	**Tana Toraja**	**6.72**	**226**	P	**Pn**	**19 14 46.5**	**+2.3**
SIJI	**Sorong**	**7.02**	**111**	P	**Pn**	**19 14 49.2**	**+1.1**
	6.2nm,0.3s,baz=357,slow=8.0,SNR=2.1						
BBSI	**Bau Bau**	**7.37**	**197**	P	**Pn**	**19 14 52.9**	**+0.4**
SPSI	**Sidrap Palu**	**7.41**	**222**	P	**Pn**	**19 14 54.0**	**+1.0**
	40nm,0.5s,819nm						
KAPI	**Kappang**	**8.23**	**217**	*e*Pn	**Pn**	**19 15 05.4**	**+2.0**
	56nm,1.3s						
SOEI	**Soe**	**11.30**	**182**	*e*Pn	**P**	**19 15 45.9**	**-1.3**
SMPI	**Sarmi**	**14.47**	**104**	P	**P**	**19 16 25.6**	**+3.4**
	35nm,0.9s						
GENI	**Genyem**	**16.03**	**105**	P	**Pn**	**19 16 40.7**	**+0.2**
	59nm,0.7s						
JAY	**Jayapura**	**16.53**	**104**	P	**Pn**	**19 16 47.0**	**+0.5**
	0.1nm,0.3s,baz=220,slow=23,SNR=15						
JAY	**Jayapura**	**16.53**	**104**	P	**Pn**	**19 16 48.6**	**+2.2**
	21nm,0.9s,215nm						
FITZ	**Fitzroy Crossi**	**19.62**	**177**	P	**P**	**19 17 18.3**	**+0.1**
	0.5nm,0.3s,baz=9.9,slow=11,SNR=5.7						
TPUB	**Ta-pu**	**21.91**	**350**	*e*P	**P**	**19 17 39.8**	**-2.0**
	34nm,0.7s						
SSLB	**Suanglung**	**22.34**	**351**	*e*P	**P**	**19 17 46.0**	**+0.3**
	9.9nm,0.6s						
MBWA	**Marble Bar**	**23.15**	**192**	*e*P	**P**	**19 17 54.1**	**+1.1**
WRAB	**Tennant Creek**	**23.42**	**157**	*e*P	**P**	**19 17 56.3**	**+0.8**
	12nm,0.3s						
WRA	**Warramunga Arr**	**23.42**	**157**	P	**P**	**19 17 56.4**	**+0.9**
	10.0nm,0.4s,baz=336,slow=10.0,SNR=69						
WRA				S	**S**	**19 21 48.7**	**-2.5**
	2.0nm,0.8s,baz=339,slow=16,SNR=6.2						
ASAR	**Alice Springs**	**26.68**	**161**	P	**P**	**19 18 25.9**	**+1.0**
	0.9nm,0.4s,baz=338,slow=7.3,SNR=27						
ASAR				S	**S**	**19 22 42.6**	**-0.1**
	1.1nm,0.8s,baz=350,slow=22,SNR=4.9						
KSAR	**Wonju Array Be**	**35.77**	**4**	P	**P**	**19 19 44.5**	**+0.5**
KSRS	**Korea Array**	**35.79**	**4**	P	**P**	**19 19 44.5**	**+0.4**
	1.7nm,0.6s,baz=178,slow=9.7,SNR=5.6						
KSRS				LR	LR	19 38 50.7	
	comp=Z,60nm,18.3s,baz=25,slow=43						
MJAR	**Matsushiro Arr**	**36.93**	**18**	P	**P**	**19 19 52.5**	**-1.3**
	5.4nm,0.7s,baz=195,slow=9.0,SNR=19						
STKA	**Stephens Creek**	**36.97**	**156**	P	**P**	**19 19 55.6**	**+1.4**
	1.9nm,0.4s,baz=324,slow=8.1,SNR=7.2						
USRK	**Ussuriysk Ar.**	**42.89**	**8**	P	**P**	**19 20 42.7**	**+0.1**
	3.7nm,0.4s,baz=191,slow=7.0,SNR=18						
MDJ	**Mudanjiang**	**43.04**	**5**	*e*P	**P**	**19 20 43.4**	**-0.4**
ULN	**Ulaanbaatar**	**48.53**	**344**	*e*P	**P**	**19 21 26.0**	**-0.9**
	3.1nm,1.0s						
SONM	**Songino Array**	**48.69**	**344**	P	**P**	**19 21 26.3**	**-1.7**
	2.6nm,0.7s,baz=158,slow=6.8,SNR=19						
SONM				LR	LR	19 44 47.8	
	comp=Z,921nm,21.4s,baz=18,slow=39						
PETK	**Petropavlovsk-**	**58.15**	**23**	P	**P**	**19 22 37.0**	**+0.6**
	1.3nm,0.6s,baz=217,slow=3.6,SNR=3.1						
MKAR	**Makanchi Array**	**58.16**	**327**	P	**P**	**19 22 35.1**	**-1.5**
	2.2nm,0.3s,baz=124,slow=7.7,SNR=35						
MKAR				PcP	**PcP**	**19 23 24.5**	**-0.9**
	1.0nm,0.7s,baz=118,slow=4.7,SNR=4.8						
ZALV	**Zalesovo Beam**	**61.57**	**334**	P	**P**	**19 22 57.0**	**-2.6**
	0.9nm,0.4s,baz=135,slow=6.2,SNR=5.2						
KURK	**Kurchatov**	**62.45**	**329**	*e*P	**P**	**19 23 03.5**	**-1.9**
	46nm,0.6s						
BRVK	**Borovoye**	**68.07**	**328**	*e*P	**P**	**19 23 40.2**	**-1.3**
	7.4nm,0.8s						
NRIK	**Noril'sk**	**72.00**	**347**	P	**P**	**19 24 03.9**	**-1.1**
	4.8nm,0.5s,baz=123,slow=6.2,SNR=6.4						
ABKAR	**Akbulak array**	**72.51**	**322**	*e*P	**P**	**19 24 06.3**	**-2.1**
	1.4nm,0.6s						
VNDA	**Vanda**	**81.61**	**172**	P	**P**	**19 25 01.7**	**+3.3**
	0.4nm,0.5s,baz=327,slow=3.7,SNR=3.1						
FINES	**FINESS Array B**	**92.71**	**332**	P	**P**	**19 25 49.9**	**-2.5**
	1.9nm,0.6s,baz=151,slow=4.4,SNR=5.0						

IDC ***19*** *19:17:49.0±0.5, 14°.29N×90°.28W, h0km, mb4.5/22, mb1 4.7/25, mb1mx4.6/39, mbtmp4.5/25, ML4.7/2, MS4.2/18, Ms1 4.2/18, ms1mx4.0/35, Error ellipse: s-maj=20.2km s-min=9.9km az=53.0*

ISCJB ***19*** *19:17:49.3±0.2, 14°.29N±0°.03×90°.30W±0°.03, h10km, mb4.8/104, MS4.3/19, Error ellipse: s-maj=5.5km s-min=1.8km az=135.4*

GCMT ***19*** *19:17:50.9±0.4, 14°.42N×90°.38W, h14km±1km, MW4.9/67, Moment Tensor Solution. s27,c32; s67,c90; Duration: 0 Moment tensor: Scale 10^16 Nm; Mrr=2.54±.18; Mθθ=-0.07±.10; Mφφ=2.62±.13; Mrθ=-0.35±.27; Mrφ=-1.45±.08; Mθφ=0.00±.23; Best double couple: M=2.92700×10^16 NP1:φs=147.00000°, δ47.00000°, λ=-103.00000°. NP2: φs=346.00000°, δ44.00000°, λ=-76.00000°. Principal axes: T 3.2560, Plg1.0000°, Azm246.0000°; N -0.6500, Plg10.0000°, Azm156.0000°; P -2.5980, Plg80.0000°, Azm344.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

CASC ***19*** *19:17:50.6±1.6, 14°.25N×90°.30W, h10km, ML4.7, mb4.8(NEIC)*

NEIC ***19*** *19:17:50.9±0.3, 14°.23N×90°.28W, h10km, mb4.8/87, MD4.8(SN

GUYC Guyana, Colomb 17.16 120 eP P 19 21 53.6 +0.6
341A Kurthwood 17.19 351 P P 19 21 52.1 -0.6
baz=170
633A Saathoff Ranch 17.23 333 P Pn 19 21 52.1 +0.5
baz=150,SNR=12
340A Bronson 17.39 349 P P 19 21 55.2 +0.3
baz=168
534A Blanco 17.43 335 P Pn 19 21 54.7 +0.6
baz=153,SNR=12
339A Huntington 17.44 348 P P 19 21 55.3 -0.1
baz=166
338A Crockett 17.63 346 P P 19 21 57.9 +0.3
baz=164
245A Little AP, Sta 17.68 1 P P 19 21 58.0 -0.1
baz=181
533A Kerrville 17.69 334 P P 19 21 58.1 -0.2
baz=151,SNR=13
337A Centerville 17.74 344 P P 19 21 59.0 +0.2
baz=162
247A Quitman 17.76 5 P P 19 21 58.8 -0.2
baz=185
435B Jarrell 17.77 339 P P 19 21 59.3 +0.2
baz=156
242A Grayson 17.79 355 P Pn 19 21 58.7 +0.1
baz=174,SNR=5.4
VBMS Vicksburg 17.86 359 P P 19 22 01.2 +1.0
baz=179
NATX Nacogdoches 17.87 348 eP P 19 22 01.7 +1.5
comp=Z,78nm,0.6s
248A Dixon Mills 17.88 7 P P 19 22 01.5 +1.1
baz=188
URIC Uribia, Colomb 17.96 96 eP P 19 22 01.1 -0.2
434A Burnet 18.04 337 P P 19 22 03.1 +0.9
baz=154,SNR=17
CMBC Cumbal 18.06 136 eP P 19 22 04.8 +1.9
335A Moody 18.17 340 P P 19 22 03.6 0.0
baz=157,SNR=9.3
OTAV Otavalo 18.18 139 eP P 19 22 06.8 +2.6
comp=Z,6.0nm,0.8s
ROSC El Rosal 18.27 119 P P 19 22 06.8 +1.6
comp=Z,1.2nm,0.3s,baz=252,slow=19,SNR=3.6
ROSC LR LR 19 30 07.3
comp=Z,388nm,18.1s,baz=7.5,slow=40
433A Art 18.31 335 P P 19 22 06.0 +0.8
baz=152
JCT Junction City 18.38 333 P Pn 19 22 05.7 -0.2
baz=150,SNR=7.2
JCT Junction City 18.38 333 eP P 19 22 08.0 +2.1
JCT pmax pmax
comp=Z,59nm,1.3s
JCT Junction City 18.38 333 eP P 19 22 08.0 +2.1
comp=Z,59nm,1.3s
BARC Barichara 18.41 113 eP Pn 19 22 06.7 +0.1
334A Lometa 18.50 338 P Pn 19 22 08.3 +1.0
baz=155
140A Cam and Jess, 18.54 351 P Pn 19 22 09.6 +1.9
baz=170
PAMC Pamplona, Colo 18.54 110 eP Pn 19 22 09.6 +1.1
SDDR Presa de Saban 18.74 73 eP Pn 19 22 12.6 +2.2
comp=Z,14nm,0.8s
333A Richland Sprin 18.77 336 P Pn 19 22 10.7 0.0
baz=153,SNR=14
RUSC La Rusia 18.82 115 eP Pn 19 22 13.8 +2.0
RUSC La Rusia 18.82 115 eP Pn 19 22 13.2 +1.5
comp=Z,5.4nm,0.7s
138A Matatall Enter 18.83 347 P Pn 19 22 12.0 +0.7
baz=166
WHTX Lake Whitney, 18.83 341 P Pn 19 22 11.5 +0.2
baz=158,SNR=6.3
WHTX Lake Whitney, 18.83 341 eP Pn 19 22 12.2 +0.9
comp=Z,33nm,0.6s
Z43A Armstrong Fami 18.87 357 P Pn 19 22 12.3 +0.5
baz=177
CHIC Chingaza 18.87 119 eP Pn 19 22 13.3 +0.9
LRAL Lakeview Retre 18.91 8 eP Pn 19 22 12.9 +0.6
comp=Z,20nm,1.1s
Z44A Pea Ridge, Bel 18.92 359 P Pn 19 22 13.2 +0.8
baz=180
137A Heron Place, G 18.92 345 P Pn 19 22 12.9 +0.5
baz=164
Z47A Carrollton 18.94 6 P Pn 19 22 13.0 +0.4
baz=187
136A Ennis 19.01 343 P Pn 19 22 13.7 +0.2
baz=161
Z41A Richland Creek 19.04 353 P Pn 19 22 14.3 +0.5
baz=172
234A Clairette 19.07 339 P Pn 19 22 14.0 -0.3
baz=156,SNR=5.8
Z40A Long Farm, Mag 19.12 352 P Pn 19 22 15.3 +0.5
baz=171,SNR=6.8
Z48A Northport 19.17 7 P Pn 19 22 15.2 -0.2
baz=188
233A Rising Star 19.36 337 P P 19 22 17.1 +0.5
baz=154,SNR=20
Z38A Mt. Pleasant 19.38 348 P Pn 19 22 17.5 -0.4
baz=166
Z37A Pogue Cattle C 19.47 346 P Pn 19 22 18.5 -0.5
baz=164,SNR=5.6
TXAR Lajitas Array 19.47 323 P Pn 19 22 19.2 +0.1
comp=Z,1.0nm,0.3s,baz=150,slow=9.9,SNR=117
TXAR LR LR 19 30 00.7
comp=Z,360nm,21.6s,baz=0.0,slow=38
TX31 Lajitas Ar. Si 19.47 323 eP Pn 19 22 19.9 +0.7
Y46A Houston 19.56 3 P P 19 22 18.6 -0.2
baz=184,SNR=9.6
CCAR Cane Creek 19.61 356 eP Pn 19 22 21.8 +1.2
comp=Z,60nm,0.8s
Y47A UCPARC, Winfie 19.66 6 P Pn 19 22 21.2 -0.1
baz=187
Z36A Blue Ridge 19.73 344 P Pn 19 22 22.1 0.0
baz=162
Y40A Okolona 19.84 353 P Pn 19 22 23.5 0.0
baz=171
Y39A Lockesburg 19.89 351 P Pn 19 22 23.3 -0.6
baz=169
SDV Santo Domingo 19.93 103 eP Pn 19 22 25.0 +0.2
comp=Z,154nm,0.8s
Y38A Idabel 19.99 349 P Pn 19 22 24.7 -0.5
baz=167,SNR=6.4
GOGA Godfrey 20.02 17 eP Pn 19 22 28.0 +2.5
GOGA pmax pmax
comp=Z,13nm,0.8s
GOGA Godfrey 20.02 17 eP Pn 19 22 28.0 +2.4
comp=Z,13nm,0.8s
OXF Oxford 20.16 2 eP P 19 22 23.6 -1.7
OXF pmax pmax
comp=Z,69nm,1.1s
OXF Oxford 20.16 2 eP P 19 22 23.6 -1.7
comp=Z,69nm,1.1s
ABTX Abilene, Hawle 20.18 336 P Pn 19 22 27.0 -0.6
baz=153
ABTX Abilene, Hawle 20.18 336 eP P 19 22 25.9 +0.3
comp=Z,20nm,0.6s
X40A Basin Creek Fa 20.26 354 P Pn 19 22 28.0 -0.4
baz=173,SNR=7.6
Y36A Durant 20.29 345 P Pn 19 22 28.9 +0.1
baz=163,SNR=27
MIAR Mount Ida 20.41 352 P Pn 19 22 29.2 -0.9
baz=171,SNR=37
MIAR Mount Ida 20.41 352 eP Pn 19 22 29.4 -0.7
MIAR pmax pmax
comp=Z,67nm,1.0s
MIAR Mount Ida 20.41 352 eP Pn 19 22 29.4 -0.7
comp=Z,67nm,1.0s
X39A Fountain Ranch 20.45 351 P P 19 22 29.1 +0.6
baz=169,SNR=9.7
Y35A Marietta 20.50 344 P Pn 19 22 30.4 -0.7
baz=161,SNR=21
UALR University of 20.50 355 eP Pn 19 22 30.9 -0.3
comp=Z,38nm,0.8s
X38A Whitesboro 20.73 349 P P 19 22 32.6 +1.1
baz=168,SNR=22
X37A Clayton 20.75 348 P Pn 19 22 33.2 -0.9
baz=166,SNR=12
W41B Gary Mavity, V 20.89 355 P Pn 19 22 34.4 -1.3
baz=175,SNR=8.1
W42A Bald Knob 20.94 357 P P 19 22 34.6 +0.9
baz=177
X35A Drake 20.94 344 P Pn 19 22 35.2 -1.2
baz=162,SNR=38
X36A Centrahoma 20.95 346 P Pn 19 22 35.4 -1.1
baz=163,SNR=16
W40A Ferguson Farm, 20.98 354 P P 19 22 35.1 +0.9
baz=172
WHAR Wooly Hollow 21.01 355 eP P 19 22 36.3 +1.8
comp=Z,118nm,1.8s
W38A Poteau 21.06 350 P P 19 22 36.7 +1.6
baz=168,SNR=18
W39A Magazine 21.07 352 P P 19 22 36.5 +1.2
baz=170,SNR=12
SWET Sewanee 21.21 10 eP P 19 22 37.7 +0.9
comp=Z,13nm,0.8s
W37B Quinton 21.30 348 P P 19 22 38.5 +0.8
baz=166,SNR=50
LPIG La Paz 21.30 300 P P 19 22 36.7 -1.1
comp=Z,13nm,0.3s,baz=172,slow=15,SNR=2.0
LPIG LR LR 19 30 49.5
comp=Z,1µm,18.4s,baz=114,slow=37
V42A Cord 21.46 357 P P 19 22 39.5 +0.1
baz=177,SNR=13
W36A Wetumka 21.46 346 P P 19 22 39.8 +0.3
baz=164,SNR=16
V41A Mountainview 21.49 356 P P 19 22 40.0 +0.3
baz=175,SNR=14
V40A Witts Springs 21.56 354 P P 19 22 40.2 -0.3
baz=173,SNR=14
W35A Tecumseh 21.63 345 P P 19 22 40.3 -0.9
baz=162,SNR=28
V39A Pettigrew 21.69 352 P P 19 22 41.2 -0.7
baz=171,SNR=15
CPCT Cooper Cave 21.70 13 eP P 19 22 42.7 +0.8
comp=Z,22nm,1.3s
WMOK Wichita Mounta 21.79 341 P P 19 22 42.3 -0.6
baz=157,SNR=22
WMOK Wichita Mounta 21.79 341 eP P 19 22 42.5 -0.5
WMOK pmax pmax
comp=Z,83nm,1.6s
WMOK Wichita Mounta 21.79 341 eP P 19 22 42.5 -0.5
comp=Z,83nm,1.6s
V38A Canehill 21.82 351 P P 19 22 43.5 +0.2
baz=169,SNR=20
WVT Waverly 21.87 5 eP P 19 22 45.5 +1.8
WVT pmax pmax
comp=Z,18nm,0.8s
WVT Waverly 21.87 5 eP P 19 22 45.5 +1.8
comp=Z,18nm,0.8s
V37A Hulbert 21.96 349 P P 19 22 44.9 +0.1
baz=167,SNR=32
U44B Burton Farm, H 21.99 2 P P 19 22 45.5 +0.5
baz=182
U42A Revenden 22.00 358 P P 19 22 45.2 0.0
baz=178,SNR=20
U43A Rector 22.00 360 P P 19 22 46.0 +0.8
baz=180
V36A Jenks 22.02 348 P P 19 22 46.0 +0.6
baz=165,SNR=8.8
U41A Viola 22.03 356 P P 19 22 45.6 +0.1
baz=176,SNR=9.6
TKL Tuckaleechee C 22.07 14 P P 19 22 46.5 +0.6
comp=Z,17nm,0.9s,baz=190,slow=14,SNR=9.2
TKL S S 19 26 45.0 -4.4
comp=Z,3.0nm,0.8s,baz=266,slow=14,SNR=2.1
TKL LR LR 19 32 19.3
comp=Z,511nm,19.8s,baz=194,slow=39
TKL Tuckaleechee C 22.07 14 eP P 19 22 49.5 +3.6
comp=Z,26nm,0.9s
TKL S S 19 26 45.0 -4.4
TUL1 Leonard 22.11 348 P P 19 22 46.4 0.0
baz=166,SNR=5.7
TUL1 Leonard 22.11 348 eP P 19 22 46.8 +0.4
comp=Z,32nm,0.8s
U40A Yellville 22.11 354 P P 19 22 46.1 -0.3
baz=173,SNR=18
U44A Portageville 22.14 1 P P 19 22 46.4 -0.3
baz=182
HHAR Hobbs 22.16 352 eP P 19 22 47.9 +0.9
comp=Z,38nm,0.9s
V35A Meyer Ranch, C 22.20 346 P P 19 22 46.9 -0.4
baz=163,SNR=7.0
U39A Green Forest 22.21 353 P P 19 22 47.5 +0.1
baz=172,SNR=14
MNTX Cornudas Mount 22.21 324 P P 19 22 47.4 -0.1
baz=138,SNR=24
MNTX Cornudas Mount 22.21 324 eP P 19 22 47.7 +0.2
comp=Z,12nm,0.6s
KMSC Kings Mountain 22.27 20 P P 19 22 48.4 +0.3
baz=203
PARMO Parma 22.30 1 eP P 19 22 50.4 +2.0
U38A Gravette 22.38 351 P P 19 22 49.5 +0.2
baz=170,SNR=14
PBMO Poplar Bluff 22.41 360 eP P 19 22 50.4 +0.9
comp=Z,31nm,0.8s
U37A Salina 22.47 350 P P 19 22 49.4 -0.8
baz=168,SNR=34
U36A Oologah 22.57 348 P P 19 22 50.1 -1.2
baz=166,SNR=7.3
MSTX Muleshoe 22.66 332 P P 19 22 51.1 -1.4
baz=147,SNR=7.7
MSTX Muleshoe 22.66 332 eP P 19 22 50.4 -2.1
comp=Z,13nm,0.6s
T42A Varen 22.68 358 P P 19 22 51.7 -0.7
baz=178,SNR=14
T43A Greenville 22.71 360 P P 19 22 52.2 -0.6
baz=180,SNR=12
T41A Mountain View 22.72 357 P P 19 22 52.5 -0.3
baz=176,SNR=19
T44A Benton 22.73 1 P P 19 22 52.7 -0.2
baz=182
U35A Pawnee 22.76 346 P P 19 22 52.6 -0.7
baz=174,SNR=10
T39A Clever 22.83 354 P P 19 22 53.7 -0.3
baz=172,SNR=32
T40A Mansfield 22.87 355 P P 19 22 54.2 -0.3
baz=174,SNR=15
T38A Diamond 22.95 352 P P 19 22 54.8 -0.6
baz=170,SNR=15
TZTN Tazewell 22.97 14 eP P 19 22 56.8 +1.2
comp=Z,18nm,1.0s
AMTX Amarillo 22.97 335 P P 19 22 54.9 -0.7
baz=151
AMTX Amarillo 22.97 335 eP P 19 22 55.0 -0.7
comp=Z,42nm,0.8s
T37A Cheneyville 18 23.14 350 P P 19 22 56.6 -0.6
baz=168,SNR=48
S43A Fulton Ridge, 23.20 0 P P 19 22 57.5 -0.4
baz=180,SNR=7.1
T35A Sooner Cattle 23.23 347 P P 19 22 57.7 -0.5
baz=165
T36A Boggs Farm, Ca 23.24 348 P P 19 22 56.8 -1.5
baz=166,SNR=5.6
S41A Jillco Farms, 23.26 357 P P 19 22 57.5 -1.0
baz=176,SNR=18
S40A Lebanon 23.32 355 P P 19 22 58.6 -0.5
baz=175,SNR=25
S44A Carbondale 23.34 2 P P 19 22 58.6 -0.6
baz=182,SNR=20
S45A Carrier Mills 23.35 3 P P 19 22 58.5 -0.9
baz=184
U32A Winter Ranch, 23.37 342 P P 19 22 58.8 -0.9
baz=158
S42A Caledonia 23.41 359 P P 19 22 59.0 -0.9
baz=179
SJG San Juan 23.43 77 LR LR 19 31 19.8
comp=Z,479nm,19.1s,baz=253,slow=34
S39A Bolivar 23.48 354 P P 19 22 59.3 -1.4
baz=173,SNR=59
T34A McCluskey Farm 23.49 346 P P 19 22 58.9 -1.9
baz=163,SNR=24
S38A Stockton 23.49 353 P P 19 22 59.6 -1.1
baz=171,SNR=34
USIN University of 23.70 5 eP P 19 23 03.7 +0.8
comp=Z,158nm,1.3s
S37A Fort Scott 23.74 351 P P 19 23 02.2 -1.0
baz=169,SNR=46
S36A Lake Cedric, C 23.84 349 P P 19 23 02.9 -1.2
baz=167,SNR=37
R44A Waltonville 23.90 2 P P 19 23 04.6 -0.1
baz=183
R43A Red Bud 23.91 1 P P 19 23 03.7 -1.1
baz=181,SNR=16
R42A Luebbering 23.91 359 P P 19 23 04.3 -0.6
baz=179
S35A Otter Creek Ra 23.93 348 P P 19 23 03.4 -1.6
baz=166,SNR=9.5
R41A Rosebud 23.95 358 P P 19 23 04.1 -1.1
baz=177,SNR=27
R40A Maddies Statio 23.99 356 P P 19 23 04.8 -0.7
baz=175,SNR=14
R38A Fenwick Farm, 24.04 353 P P 19 23 05.4 -0.6
baz=171,SNR=50
R39A Chumby, Stover 24.07 355 P P 19 23 05.5 -0.9
baz=173,SNR=35
WCI Wyandotte Cave 24.11 8 eP P 19 23 07.7 +0.9
WCI pmax pmax
comp=Z,54nm,0.7s
WCI Wyandotte Cave 24.11 8 eP P 19 23 07.7 +0.9
comp=Z,54nm,0.7s
S34A Willow Spring 24.12 347 P P 19 23 06.3 -0.6
baz=164,SNR=6.0
121A Cookes Peak, D 24.22 322 P P 19 23 06.7 -1.3
baz=135
121A Cookes Peak, D 24.22 322 eP P 19 23 08.9 +0.9
comp=Z,162nm,1.8s
R37A Teagarden Farm 24.29 351 P P 19 23 07.8 -0.5
baz=169,SNR=12
ATAH Atahualpa 24.30 150 P P 19 23 10.7 +1.6
comp=Z,4.6nm,0.6s,baz=18,slow=12,SNR=3.4
ATAH LR LR 19 31 58.9
comp=Z,414nm,18.0s,baz=8.1,slow=35
319A Douglas 24.39 317 eP P 19 23 11.6 +2.1
comp=Z,20nm,0.8s
R36A Gordon, Harris 24.40 350 P P 19 23 08.5 -0.9
baz=168,SNR=11
R35A Emporia Munici 24.53 349 P P 19 23 10.4 -0.2
baz=166
Q42A Golden Eagle 24.54 359 P P 19 23 10.4 -0.3
baz=179
Q44A Meyer Farm, Va 24.55 2 P P 19 23 10.1 -0.7
baz=183,SNR=9.8
Q43A New Douglas 24.57 1 P P 19 23 10.5 -0.4
baz=181,SNR=9.5
STVI Saint Thomas 24.59 77 eP P 19 23 14.9 +3.6
comp=Z,73nm,1.1s
Q41A Truxton 24.60 358 P P 19 23 10.9 -0.3
baz=178,SNR=17
Q40A Laux Farm, Aux 24.68 357 P P 19 23 11.5 -0.4
baz=176
R34A Isabella, Hill 24.72 347 P P 19 23 11.5 -0.8
baz=164,SNR=15
BNM Barren Site 24.73 326 eP P 19 23 13.2 +0.5
Q38A Cooks Store, C 24.77 354 P P 19 23 11.7 -1.0
baz=172,SNR=28
Q37A Longview Farm, 24.79 352 P P 19 23 12.2 -0.6
baz=170
Q39A Willow Grove F 24.79 355 P P 19 23 12.2 -0.8
baz=174
Q35A Mercer Eighty, 25.02 349 P P 19 23 14.6 -0.4
baz=167
Q36A Arnold C. Orve 25.02 350 P P 19 23 13.7 -1.2
baz=168,SNR=7.1
P44A Sand Creek, Wi 25.14 3 P P 19 23 15.9 -0.1
baz=184
P40A Paris 25.21 357 P P 19 23 15.8 -0.8
baz=176,SNR=9.4
P39B Salisbury 25.21 355 P P 19 23 16.1 -0.6
baz=174
P42A Winchester 25.21 360 P P 19 23 16.2 -0.5
baz=180,SNR=7.2
ANMO Albuquerque 25.25 327 P P 19 23 18.0 +0.6
comp=Z,1.7nm,0.5s,baz=149,slow=13,SNR=4.8
ANMO Albuquerque 25.25 327 i P P 19 23 17.5 +0.1
Q34A Chapman 25.25 348 P P 19 23 17.1 0.0
baz=165
P41A Barry, Barry 25.31 359 P P 19 23 17.6 0.0
baz=178
PCRV Puerto La Cruz 25.34 96 P P 19 23 20.0 +1.9
comp=Z,13nm,0.7s,baz=350,slow=11,SNR=3.4
P37A Lathrop 25.47 353 P P 19 23 18.9 -0.2
baz=171,SNR=7.7
P35A Duane Allinner, 25.67 350 P P 19 23 19.9 -1.0
baz=167
O41A Passleys Farm, 25.75 359 P P 19 23 20.9 -0.7
baz=179
O40A La Belle 25.79 357 P P 19 23 21.0 -1.0
baz=176,SNR=9.0
O42A Bath 25.82 0 P P 19 23 21.9 -0.3
baz=180
P34A Walnut Farm, R 25.83 348 P P 19 23 21.5 -0.9
baz=165,SNR=9.8
CBKS Cedar Bluff 25.84 343 P P 19 23 21.9 -0.6
baz=159
CBKS Cedar Bluff 25.84 343 eP P 19 23 22.3 -0.2
CBKS pmax pmax
comp=Z,102nm,1.3s
CBKS Cedar Bluff 25.84 343 eP P 19 23 22.3 -0.2
comp=Z,102nm,1.3s
O38A Galt 25.91 354 P P 19 23 22.6 -0.4
baz=173
O43A Sugar Creek Fa 25.93 2 P P 19 23 22.4 -0.7
baz=182
TUC Tucson 25.96 317 P P 19 23 24.4 +0.6
baz=129
TUC Tucson 25.96 317 eP P 19 23 25.6 +1.8
TUC pmax pmax
comp=Z,12nm,0.9s
TUC Tucson 25.96 317 eP P 19 23 25.6 +1.8
comp=Z,12nm,0.9s
T25A Trinidad 26.04 334 P P 19 23 23.5 -1.0
baz=148,SNR=6.2
O36A Bolckow 26.09 352 P P 19 23 24.8 +0.1
baz=170
SFIN Lafayette 26.15 5 P P 19 23 25.2 0.0
baz=187
SFIN Lafayette 26.15 5 eP P 19 23 24.9 -0.3
comp=Z,17nm,0.7s
HDIL Hopedale 26.20 2 P P 19 23 25.6 0.0
baz=182
HDIL Hopedale 26.20 2 eP P 19 23 26.2 +0.6
comp=Z,27nm,0.8s
N41A Harden Midland 26.34 359 P P 19 23 26.6 -0.4
baz=179
O35A Humboldt 26.37 350 P P 19 23 26.6 -0.6
baz=168
O34A Beatrice 26.42 349 P P 19 23 26.5 -1.3
baz=166,SNR=6.7
N42A Yates City 26.46 0 P P 19 23 28.4 +0.4
baz=180
N40A Mertquake, Sal 26.54 358 P P 19 23 29.1 +0.4
baz=177
N39A Derby Farms, D 26.58 356 P P 19 23 29.6 +0.5
baz=175
N37A Lee Faris, Mou 26.61 353 P P 19 23 29.5 +0.1
baz=172
ACSO Alum Creek Sta 26.63 12 eP P 19 23 33.6 +4.1
comp=Z,18nm,0.6s
X18A Snowflake 26.90 322 eP P 19 23 34.7 +2.4
comp=Z,6.9nm,1.0s
KSCO Kaye Shedlock' 26.96 338 P P 19 23 32.1 -0.6
baz=153
KSCO Kaye Shedlock' 26.96 338 eP P 19 23 32.1 -0.6
comp=Z,26nm,0.9s
M41A Milan 27.00 359 P P 19 23 32.9 0.0
baz=179
N34A Lincoln 27.02 349 P P 19 23 33.0 -0.1
baz=167
SDCO Great Sand Dun 27.03 333 P P 19 23 34.5 +1.0
baz=146
SDCO Great Sand Dun 27.03 333 eP P 19 23 34.9 +1.3
comp=Z,27nm,1.9s
M40A Post Highland 27.05 358 P P 19 23 33.0 -0.3
baz=177
N33A J Bar K, Exete 27.11 348 P P 19 23 33.9 0.0
baz=165
214A Organ Pipe Nat 27.12 314 P P 19 23 34.0 -0.1
baz=126
M39A Webster 27.16 357 P P 19 23 34.7 +0.4
baz=176
M38A Pleasantville 27.17 355 P P 19 23 35.3 +0.9
baz=174
W18A Petrified Fore 27.19 323 eP P 19 23 36.2 +1.3
comp=Z,4.0nm,0.8s
M36A Felix, Anita 27.37 353 P P 19 23 35.5 -0.8
baz=170,SNR=5.4
S22A 4UR Ranch, Cre 27.64 331 P P 19 23 38.7 -0.3
baz=144
L40A Anamosa 27.70 358 P P 19 23 38.3 -0.9
baz=178
L41A Preston 27.70 360 P P 19 23 38.2 -1.0
baz=180
X16A Lo Mia Camp, P 27.74 320 eP P 19 23 41.0 +1.2
comp=Z,6.6nm,0.8s
L39A Vinton 27.79 357 P P 19 23 39.7 -0.2
baz=176
L43A Garden Prairie 27.84 2 P P 19 23 40.6 +0.2
baz=183
L38A Oak Wood Farm, 27.87 356 P P 19 23 40.7 0.0
baz=174
K41A Shullsburg 28.23 360 P P 19 23 43.8 -0.1
baz=180
K40A Colesburg 28.34 359 P P 19 23 45.0 +0.1
baz=178
K39A Oelwein 28.36 357 P P 19 23 45.4 +0.3
baz=177
WUAZ Wupatki 28.43 322 eP P 19 23 48.2 +2.2

comp=Z,6.6nm,0.9s
ISCO **Idaho Springs** **28.79 335** *e*P **P** **19 23 51.2 +1.9**
ISCO pmax pmax
comp=Z,4.0nm,0.8s
ISCO **Idaho Springs** **28.79 335** *e*P **P** **19 23 51.2 +1.9**
comp=Z,3.6nm,0.8s
J39A **Decorah** **28.99 358** P **P** **19 23 50.3 -0.4**
baz=177
J41A **Loganville** **28.99 0** P **P** **19 23 50.5 -0.1**
baz=180
PV05 **Paradox Valley** **29.01 328** *e*P **P** **19 23 52.6 +1.4**
I39A **Houston** **29.50 358** P **P** **19 23 55.2 0.0**
baz=178
I38A **Scanlan Farm,** **29.72 357** P **P** **19 23 57.0 -0.1**
baz=176
W13A **Hualapai Mount** **29.72 318** *e*P **P** **19 23 58.8 +1.2**
comp=Z,6.8nm,1.1s
N23A **Red Feather La** **29.85 336** P **P** **19 23 57.5 -1.2**
baz=148
ECSD **EROS Data Cent** **29.86 351** P **P** **19 23 57.5 -0.9**
baz=168,SNR=6.5
ECSD **EROS Data Cent** **29.86 351** *e*P **P** **19 23 59.5 +1.1**
comp=Z,7.4nm,0.6s
BC3 **Big Chuckawall** **29.92 315** P **P** **19 23 58.4 -0.8**
baz=124,SNR=6.3
IRM **Iron Mountain** **29.99 316** P **P** **19 23 58.9 -0.8**
baz=125
MONP **Monument Peak,** **30.19 312** P **P** **19 24 01.3 -0.3**
baz=122
I33A **Coleman** **30.20 351** P **P** **19 24 01.2 -0.1**
baz=167
O20A **White River Ci** **30.21 332** P **P** **19 24 00.8 -0.9**
baz=144
H41A **Junction City** **30.24 1** P **P** **19 24 01.6 -0.1**
baz=181
H40A **Chili** **30.25 360** P **P** **19 24 01.3 -0.5**
baz=180
KNB **Kanab** **30.30 322** *e*P **P** **19 24 04.7 +2.1**
KNB pmax pmax
comp=Z,47nm,1.9s
KNB **Kanab** **30.30 322** *e*P **P** **19 24 04.7 +2.1**
comp=Z,47nm,1.9s
LDFC **Landfair** **30.50 317** *e*P **P** **19 24 04.3 0.0**
comp=Z,16nm,1.1s
PFO **Pinyon Flats O** **30.59 314** P **P** **19 24 06.3 +1.1**
comp=Z,2.4nm,0.7s,baz=166,slow=5.5,SNR=4.3
GMRC **Granite Mounta** **30.70 316** P **P** **19 24 04.8 -1.3**
baz=126
H32A **Carlson Farm,** **30.75 350** P **P** **19 24 05.8 -0.4**
baz=166
H33A **Prehn Over Nor** **30.81 351** P **P** **19 24 06.7 0.0**
baz=168
G38A **Ridgeland** **30.82 358** P **P** **19 24 06.4 -0.5**
baz=177
SZCU **Shurtz Canyon** **30.85 323** *e*P **P** **19 24 08.6 +1.1**
comp=Z,26nm,1.9s
H31A **Wolsey** **30.91 348** P **P** **19 24 07.3 -0.4**
baz=164
G39A **Holcombe** **30.92 359** P **P** **19 24 07.1 -0.6**
baz=178
SPMN **Marine on St.** **30.93 356** P **P** **19 24 07.0 -0.7**
baz=175
SPMN **Marine on St.** **30.93 356** *e*P **P** **19 24 07.3 -0.5**
comp=Z,23nm,0.5s
G43A **Wallace** **30.96 3** P **P** **19 24 07.6 -0.4**
baz=185
SUSD **Miller** **30.97 348** P **P** **19 24 07.8 -0.4**
baz=164
CCUT **Cedar City** **30.98 323** *e*P **P** **19 24 09.9 +1.2**
comp=Z,18nm,1.8s
SHPR **Sheep Range** **31.40 319** *e*P **P** **19 24 13.8 +1.5**
comp=Z,8.0nm,1.2s
G32A **Webster** **31.49 350** P **P** **19 24 12.8 +0.1**
baz=166
F40A **Park Falls** **31.54 0** P **P** **19 24 12.4 -0.8**
baz=180
F36A **Milaca** **31.61 356** P **P** **19 24 13.4 -0.4**
baz=174
F38A **Pierce - Schro** **31.61 358** P **P** **19 24 13.3 -0.5**
baz=177
E39A **Mellen** **32.00 360** P **P** **19 24 17.2 0.0**
baz=180
E40A **Wakefield** **32.07 0** P **P** **19 24 17.7 -0.2**
baz=181
E42A **Champion** **32.11 3** P **P** **19 24 18.0 -0.2**
baz=184
E43A **Lone Tree Farm** **32.12 4** P **P** **19 24 18.3 +0.1**
baz=186
E38A **The Farm, Brul** **32.25 358** P **P** **19 24 18.5 -0.9**
baz=178
TPNV **Topopah Spring** **32.37 319** *e*P **P** **19 24 22.3 +1.6**
TPNV pmax pmax
comp=Z,44nm,2.0s
TPNV **Topopah Spring** **32.37 319** *e*P **P** **19 24 22.3 +1.6**
comp=Z,44nm,2.0s
MPMC **Manual Prospec** **32.65 317** P **P** **19 24 22.9 -0.4**
baz=125
E31A **Nome** **32.82 350** P **P** **19 24 23.7 -0.7**
baz=166
R11A **Troy Canyon, C** **32.83 322** P **P** **19 24 24.2 -0.7**
baz=130,SNR=6.3
R11A **Troy Canyon, C** **32.83 322** *e*P **P** **19 24 26.3 +1.4**
comp=Z,20nm,1.9s
D37A **Cotton** **32.83 357** P **P** **19 24 24.0 -0.5**
baz=176
D36A **Goodland** **32.89 356** P **P** **19 24 24.3 -0.8**
baz=175
PDAR **Pinedale Array** **32.91 333** P **P** **19 24 25.2 -0.3**
comp=Z,1.2nm,0.6s,baz=111,slow=13,SNR=5.8
PDAR LR LR 19 39 16.0
comp=Z,362nm,18.2s,baz=347,slow=39
HWUT **Hardware Ranch** **32.93 330** *e*P **P** **19 24 26.4 +0.8**
comp=Z,13nm,1.6s
C36A **Pine Crest Far** **33.45 357** P **P** **19 24 29.7 -0.2**
baz=176
PTGA **Pitinga** **33.47 114** P **P** **19 24 30.2 -0.3**
comp=Z,1.6nm,0.6s,baz=302,slow=9.8,SNR=6.5
PTGA **Pitinga** **33.47 114** *e*P **P** **19 24 30.9 +0.4**
comp=Z,3.5nm,0.8s
C35A **Jirik Farms, M** **33.47 355** P **P** **19 24 29.2 -0.9**
baz=174,SNR=7.5
EYMN **Ely** **33.59 358** P **P** **19 24 30.8 -0.3**
baz=178
EYMN **Ely** **33.59 358** *e*P **P** **19 24 31.5 +0.4**
comp=Z,56nm,1.7s
REDW **Red Top Meadow** **33.96 333** *e*P **P** **19 24 34.5 -0.2**
comp=Z,22nm,0.6s
SNOW **Snow King Moun** **33.99 333** *e*P **P** **19 24 35.3 +0.3**
comp=Z,35nm,0.6s
LOHW **Long Hollow** **34.05 333** *e*P **P** **19 24 35.4 0.0**
comp=Z,9.9nm,0.7s
TPAW **Teton Pass** **34.10 333** *e*P **P** **19 24 35.9 -0.1**
comp=Z,21nm,1.4s
B35A **Bob, Littlefor** **34.11 356** P **P** **19 24 35.8 +0.2**
baz=174
AGMN **Agassiz Nation** **34.24 353** P **P** **19 24 36.7 -0.1**
baz=170,SNR=6.0
AGMN **Agassiz Nation** **34.24 353** *e*P **P** **19 24 36.8 0.0**
comp=Z,14nm,0.6s
B34A **Aery, Baudette** **34.31 355** P **P** **19 24 37.0 -0.3**
baz=172
MDND **Maddock** **34.37 349** P **P** **19 24 37.4 -0.5**
baz=164,SNR=6.0
MDND **Maddock** **34.37 349** *e*P **P** **19 24 34.4 -3.5**
comp=Z,47nm,0.6s
RLMT **Red Lodge** **34.72 336** *e*P **P** **19 24 40.1 -1.2**
comp=Z,7.2nm,0.8s
A33A **Warroad** **34.82 354** P **P** **19 24 40.7 -1.1**
baz=171,SNR=18
BMN **Battle Mountai** **35.14 323** *e*P **P** **19 24 44.7 -0.1**
BMN pmax pmax
comp=Z,46nm,1.9s
BMN **Battle Mountai** **35.14 323** *e*P **P** **19 24 44.7 -0.1**
comp=Z,46nm,1.9s
HLID **Hailey** **35.79 329** P **P** **19 24 49.9 -0.5**
baz=137
DGMT **Dagmar** **36.00 344** P **P** **19 24 51.9 -0.1**
baz=157
DGMT **Dagmar** **36.00 344** *e*P **P** **19 24 52.2 +0.3**
comp=Z,39nm,0.8s
MCMT **McKenzie Canyo** **36.00 332** *e*P **P** **19 24 52.5 +0.2**
BOZ **Bozeman (W)** **36.07 334** P **P** **19 24 52.2 -0.6**
baz=143,SNR=7.6
BOZ **Bozeman (W)** **36.07 334** *e*P **P** **19 24 52.6 -0.2**
BOZ pmax pmax
comp=Z,4.0nm,0.6s
BOZ **Bozeman (W)** **36.07 334** *e*P **P** **19 24 52.6 -0.2**
comp=Z,4.4nm,0.6s

ULM **Lac du Bonnet** **36.17 354** P **P** **19 24 52.6 -0.8**
comp=Z,12nm,0.6s,baz=170,slow=9.9,SNR=23
ULM LR LR 19 40 16.5
comp=Z,333nm,18.1s,baz=152,slow=37
ULM **Lac du Bonnet** **36.17 354** *e*P **P** **19 24 51.4 -1.9**
comp=Z,16nm,0.9s
LRM **Limekiln Ridge** **36.60 334** *e*P **P** **19 24 54.9 -2.6**
WVOR **Wild Horse Val** **37.24 324** *e*P **P** **19 25 02.9 +0.1**
WVOR pmax pmax
comp=Z,6.0nm,0.9s
WVOR **Wild Horse Val** **37.24 324** *e*P **P** **19 25 02.9 +0.1**
comp=Z,6.1nm,0.9s
EGMT **Eagleton** **37.34 338** P **P** **19 25 02.7 -0.7**
baz=148
EGMT **Eagleton** **37.34 338** *e*P **P** **19 25 03.0 -0.5**
comp=Z,67nm,1.5s
LPAZ **La Paz** **37.41 143** P **P** **19 25 05.1 +0.2**
comp=Z,5.3nm,0.7s,baz=326,slow=7.7,SNR=15
LPAZ LR LR 19 41 04.1
comp=Z,418nm,18.9s,baz=346,slow=37
LPAZ **La Paz** **37.41 143** *e*P **P** **19 25 04.6 -0.3**
comp=Z,5.8nm,0.7s
MSO **Missoula** **38.03 333** P **P** **19 25 08.8 -0.6**
baz=141
M04C **Macdoel** **38.72 321** P **P** **19 25 14.4 -0.9**
baz=126
F10A **Beach Ranch, E** **38.91 330** *e*P **P** **19 25 16.5 -0.3**
comp=Z,14nm,1.1s
M02C **Callahan** **39.12 320** P **P** **19 25 17.8 -0.8**
baz=124
I04A **Tendick Farm,** **40.25 323** P **P** **19 25 27.5 -0.4**
baz=127
NEW **Newport** **40.53 332** P **P** **19 25 32.5 +2.3**
comp=Z,2.4nm,0.8s,baz=68,slow=2.4,SNR=3.0
G05D **Wamic, OR** **40.53 326** P **P** **19 25 29.7 -0.5**
baz=130
FFC **Flin Flon** **41.39 350** *e*P **P** **19 25 36.6 -0.5**
FFC pmax pmax
comp=Z,33nm,0.6s
FFC **Flin Flon** **41.39 350** *e*P **P** **19 25 36.5 -0.5**
comp=Z,33nm,0.6s
SIV **San Ignacio** **41.65 135** P **P** **19 25 41.2 +1.5**
comp=Z,6.3nm,0.8s,baz=317,slow=9.2,SNR=11
EDM **Edmonton** **42.95 340** *e*P **P** **19 25 49.5 -0.4**
EDM pmax pmax
comp=Z,225nm,1.6s
EDM **Edmonton** **42.95 340** *e*P **P** **19 25 49.5 -0.4**
comp=Z,225nm,1.6s
A04D **Lummi Island** **43.51 329** P **P** **19 25 53.6 -0.8**
baz=131
LLLB **Lillooet** **44.38 331** *e*P **P** **19 26 00.9 -0.5**
comp=Z,20nm,1.0s
SCHQ **Schefferville** **44.39 19** P **P** **19 26 02.5 +1.1**
comp=Z,21nm,0.5s,baz=206,slow=7.2,SNR=8.3
SCHQ LR LR 19 45 16.5
comp=Z,456nm,18.8s,baz=243,slow=37
SCHQ **Schefferville** **44.39 19** *e*P **P** **19 26 01.0 -0.4**
comp=Z,26nm,0.6s
YKA **Yellowknife Ar** **51.17 346** P **P** **19 26 53.7 -0.1**
comp=Z,8.6nm,0.6s,baz=147,slow=7.7,SNR=20
CPUP **Villa Florida** **51.51 141** P **P** **19 26 55.6 -1.3**
comp=Z,3.7nm,0.9s,baz=359,slow=11,SNR=3.8
CPUP PcP **PcP** **19 28 09.0 -2.1**
comp=Z,2.0nm,0.6s,baz=329,slow=5.9,SNR=4.9
CPUP LR LR 19 50 20.1
comp=Z,169nm,19.2s,baz=356,slow=38
DLBC **Dease Lake** **53.11 335** *e*P **P** **19 27 08.4 -0.1**
comp=Z,15nm,0.7s
NRS **Narsarsuaq** **56.79 24** *i* P **P** **19 27 35.1 +0.2**
comp=Z,19nm,0.7s
NRS **Narsarsuaq** **56.79 24** *i* P **P** **19 27 35.1 +0.2**
NRS pmax pmax
comp=Z,19nm,0.7s
RKT **Rikitea** **57.43 230** *e*LR LR 19 44 38.6
comp=Z,365nm,25.8s
RKT **Rikitea** **57.43 230** *e*T T 20 28 34.2
comp=Z,1.8nm,0.3s
PLCA **Paso Flores** **57.69 162** P **P** **19 27 42.1 +0.4**
comp=Z,2.5nm,0.6s,baz=14,slow=9.7,SNR=9.2
PLCA PcP **PcP** **19 28 34.5 -0.2**
comp=Z,2.4nm,0.9s,baz=20,slow=4.2,SNR=3.5
DAWY **Dawson** **60.07 337** *e*P **P** **19 27 56.8 -1.1**
comp=Z,23nm,1.7s
INK **Inuvik** **60.67 343** *e*P **P** **19 28 01.4 -0.4**
INK pmax pmax
comp=Z,9.0nm,0.8s
INK **Inuvik** **60.67 343** *e*P **P** **19 28 01.4 -0.4**
comp=Z,8.8nm,0.8s
KLU **Klutina** **61.50 333** *e*P **P** **19 28 07.7 0.0**
comp=Z,52nm,1.7s
DOT **Dot Lake** **61.66 336** *e*P **P** **19 28 08.5 -0.3**
comp=Z,26nm,0.8s
PAX **Paxson** **61.93 335** *e*P **P** **19 28 09.9 -0.7**
PAX pmax pmax
comp=Z,6.0nm,0.6s
PAX **Paxson** **61.93 335** *e*P **P** **19 28 09.9 -0.7**
comp=Z,6.0nm,0.6s
IL1 **Eielson Array** **63.27 336** *e*P **P** **19 28 17.9 -1.5**
ILAR **Eielson Array** **63.27 336** P **P** **19 28 18.2 -1.2**
comp=Z,5.8nm,1.0s,baz=166,slow=4.6,SNR=38
ILAR PP **PP** **19 30 36.1 -2.2**
comp=Z,1.0nm,0.8s,baz=109,slow=6.7,SNR=4.8
ILAR LR LR 20 00 01.9
comp=Z,319nm,18.1s,baz=132,slow=40
ILB **Eielson Array** **63.27 336** *e*P **P** **19 28 18.4 -1.0**
RND **Reindeer** **63.51 335** *e*P **P** **19 28 21.1 0.0**
RND pmax pmax
comp=Z,43nm,1.5s
RND **Reindeer** **63.51 335** *e*P **P** **19 28 21.1 0.0**
comp=Z,43nm,1.5s
COLA **College** **63.69 336** *e*P **P** **19 28 20.1 -2.0**
COLA pmax pmax
comp=Z,6.0nm,0.8s
MDM **Murphy Dome** **63.87 336** *e*P **P** **19 28 21.7 -1.7**
comp=Z,33nm,2.0s
CAST **Castle Rocks** **64.87 334** *e*P **P** **19 28 28.5 -1.5**
comp=Z,29nm,1.8s
COLD **Coldfoot** **65.51 338** *e*P **P** **19 28 34.3 +0.3**
comp=Z,8.4nm,1.1s
SUMG **Summit** **65.52 15** *i* P **P** **19 28 33.9 -0.6**
comp=Z,16nm,0.8s
SUMG **Summit** **65.52 15** *e*P **P** **19 28 33.5 -1.0**
SUMG pmax pmax
comp=Z,113nm,1.7s
SUMG **Summit** **65.52 15** *e*P **P** **19 28 33.5 -1.0**
comp=Z,113nm,1.7s
TOLK **Toolik Lake Re** **65.85 340** P **P** **19 28 34.6 -1.7**
baz=114
PPT **Papeete** **66.54 243** LR LR 19 48 51.7
comp=Z,247nm,19.4s,baz=1.0,slow=28
PPT2 **Papeete2** **66.55 243** *e*LR LR 19 48 22.8
comp=Z,484nm,27.0s
TBI **Tubuai** **68.94 238** *e*LR LR 19 49 57.0
comp=Z,340nm,27.5s
DAG **Danmarks Havn** **72.00 13** *i* P **P** **19 29 12.8 -1.5**
comp=Z,12nm,0.6s
DAG **Danmarks Havn** **72.00 13** *i* P **P** **19 29 12.8 -1.5**
DAG pmax pmax
comp=Z,8.0nm,0.6s
RAR **Rarotonga** **76.82 244** LR LR 19 55 05.3
comp=Z,211nm,18.3s,baz=110,slow=29
GUD **Guadarrama** **77.91 51** *e*P **P** **19 29 49.5 +0.1**
GUD pmax pmax
comp=Z,13nm,1.2s
ESDC **Sonseca Array** **78.20 52** P **P** **19 29 50.2 -0.6**
comp=Z,2.8nm,0.7s,baz=293,slow=5.8,SNR=15
ES19 **SONSECA Array** **78.25 52** *e*P **P** **19 29 50.4 -0.8**
KBS **Kingsbay** **78.41 11** *i* P **P** **19 29 50.9 -0.3**
KBS pmax pmax
comp=Z,171nm,1.4s
KONO **Kongsberg** **82.70 30** *i* P **P** **19 30 14.6 0.0**
NB2 **NORSAR Subarra** **83.08 29** P **P** **19 30 16.6 0.0**
comp=Z,4.5nm,0.8s,baz=288,slow=5.1
NOA **NORSAR Array B** **83.08 29** P **P** **19 30 16.8 +0.2**
comp=Z,3.9nm,0.7s,baz=289,slow=5.0,SNR=11
NOA LR LR 20 05 19.1
comp=Z,38nm,22.0s,baz=55,slow=34
DBIC **Dimbokro** **83.92 85** P **P** **19 30 21.4 -0.4**
comp=Z,3.6nm,0.8s,baz=165,slow=2.7,SNR=3.8
DBIC LR LR 20 05 49.8
comp=Z,105nm,19.4s,baz=299,slow=34
SENIN **Lac Senin/Sane** **84.91 44** *e*P **P** **19 30 28.4 +1.9**
ARCES **ARCESS Array B** **85.34 19** P **P** **19 30 27.9 0.0**
comp=Z,3.5nm,0.7s,baz=282,slow=4.5,SNR=11
DAVA **Damuels** **86.36 42** *i* pP **P** **19 30 36.2 +2.7**
comp=Z,6.4nm,1.0s
RETA **Reutte** **86.87 42** *i* P **P** **19 30 33.2 -2.8**

comp=Z,5.4nm,0.8s
FETA **Feichten** **86.99 42** *i* P **P** **19 30 35.2 -1.5**
comp=Z,5.1nm,0.8s
CLL **Collm** **87.05 38** *i* P **P** **19 30 36.5 -0.2**
CLL pmax pmax
comp=Z,7.0nm,0.9s
CLL **Collm** **87.05 38** *i* P **P** **19 30 36.5 -0.2**
comp=Z,7.0nm,0.9s
CLL *i* (sP) **PcP** **19 30 39.3 +0.5**
CLL *i* 19 30 43.5
CLL **Collm** **87.05 38** *e*P **P** **19 30 35.5 -1.1**
MOTA **Moosalm** **87.13 42** *i* P **P** **19 30 36.4 -1.0**
comp=Z,3.3nm,0.7s
BRG **Berggiesshubel** **87.76 38** *e*P **P** **19 30 42.6 +2.5**
comp=Z,2.8nm,0.8s
BRG **Berggiesshubel** **87.76 38** *e*P **P** **19 30 42.6 +2.5**
BRG pmax pmax
comp=Z,3.0nm,0.8s
ABTA **Abfaltersbach** **88.23 42** *i* PcP **P** **19 30 43.6 +1.1**
comp=Z,4.3nm,0.6s
GERES **GERESS Array B** **88.30 40** P **P** **19 30 40.9 -2.0**
comp=Z,0.7nm,0.6s,baz=289,slow=6.1,SNR=6.5
GERES LR LR 20 07 10.5
comp=Z,137nm,19.2s,baz=8.0,slow=34
TORD **Torodi Ar. Bea** **88.65 77** LR LR 20 07 10.1
comp=Z,188nm,21.3s,baz=205,slow=33
LVZ **Lovozero** **89.03 18** *i* P **P** **19 30 44.1 -1.7**
LVZ pmax pmax
comp=Z,7.0nm,0.9s
FINES **FINESS Array B** **89.52 26** P **P** **19 30 48.3 +0.2**
comp=Z,4.6nm,0.9s,baz=246,slow=8.1,SNR=4.9
CONA **Conrad Observa** **89.97 40** *e*P **P** **19 30 50.3 -0.4**
comp=Z,5.9nm,1.5s
LANS **Liptovska Anna** **91.71 38** *e*P **P** **19 31 00.4 +1.7**
LANS **Liptovska Anna** **91.71 38** *e*P **P** **19 31 00.4 +1.7**
KIEV **Kiev** **96.55 34** *i* P **P** **19 31 19.7 -1.1**
KIEV pmax pmax
comp=Z,2.0nm,1.1s
OBN **Obninsk** **97.65 28** *ce*P **P** **19 31 22.2 -3.4**
OBN *e* 19 35 21.7
OBN pmax pmax
comp=Z,3.0nm,0.7s
OBN MLR MLR
comp=Z,164nm,19.0s
ZALV **Zalesovo Beam** **111.92 3** PP PP 19 37 06.5 -1.6
comp=Z,1.1nm,0.8s,baz=326,slow=3.8,SNR=4.4
HHC **Hu-ho-hao-te** **121.55 341** *e*PKP **PKPdf** **19 36 43.6 -1.6**
WMQ **Urumqi** **122.16 2** *e*PKP **PKPdf** **19 36 44.3 -1.9**
WMQ PP **PP** **19 38 27.0 +7.3**
WMQ LR LR
comp=Z,180nm,24.7s
WMQ LR LR
comp=Z,100nm,21.5s
WMQ LR LR
comp=Z,170nm,18.5s
MAW **Mawson** **123.89 168** PKP **PKPdf** **19 36 47.7 -0.9**
comp=Z,1.5nm,0.6s,baz=143,slow=3.9,SNR=6.3
KSH **Kashi** **124.96 13** *e*PKP **PKPdf** **19 36 52.1 +0.3**
KSH sPKP 19 37 06.0
KSH PP **PP** **19 38 43.5 +4.7**
KSH PKS **PKSdf** **19 40 26.0 -2.6**
KSH SKS **SKSdf** **19 43 57.3 -6.9**
KSH SS **SS** **19 55 32.0 -1.7**
KSH AMB AMB
comp=Z,99nm,4.6s
KSH LR LR
comp=Z,74nm,7.7s
KSH LR LR
comp=Z,110nm,4.9s
KSH LR LR
comp=Z,120nm,9.5s
NJ2 **Nanjing** **126.16 329** *e*PKP **PKPdf** **19 36 54.3 +0.2**
LZH **Lanzhou** **128.17 345** *e*PKP **PKPdf** **19 36 55.3 -2.8**
LZH sPKP 19 37 11.3
LZH LR LR
comp=Z,140nm,18.1s
LZH LR LR
comp=Z,140nm,18.0s
LZH LR LR
comp=Z,190nm,20.1s
STKA **Stephens Creek** **129.68 240** PKP **PKPdf** **19 37 00.4 -0.4**
comp=Z,2.2nm,0.7s,baz=96,slow=9.2,SNR=2.7
GYA **Guiyang** **136.30 338** *e*Pdif **Pdif** **19 34 16.3 -2.2**
GYA PKP **PKPdf** **19 37 12.6 -1.0**
GYA PP **PP** **19 39 55.4 +2.8**
GYA AMB AMB
comp=Z,110nm,8.0s
WRAB **Tennant Creek** **137.11 256** *e*PKIKP **PKPdf** **19 37 13.3 -1.8**
WRAB **Tennant Creek** **137.11 256** *e*PKPdf **PKPdf** **19 37 13.3 -1.8**
WRA **Warramunga Arr** **137.12 256** PKhKP PKPpre 19 37 05.7
comp=Z,0.5nm,0.6s,baz=87,slow=3.1,SNR=5.7
WRA PKP **PKPdf** **19 37 14.3 -0.8**
comp=Z,4.2nm,0.7s,baz=85,slow=2.2,SNR=18
ASAR **Alice Springs** **137.37 251** PKhKP PKPpre 19 37 05.8
comp=Z,0.4nm,0.6s,baz=117,slow=6.6,SNR=4.2
ASAR PKP **PKPdf** **19 37 15.1 -0.5**
comp=Z,1.6nm,0.7s,baz=103,slow=3.4,SNR=14
KMI **Kunming** **138.85 342** PKP **PKPdf** **19 37 16.8 -1.7**
CMAR **Chiang Mai Arr** **146.24 344** PKPbc **PKPdf** **19 37 29.7 -1.8**
comp=Z,2.7nm,0.5s,baz=341,slow=3.1,SNR=25

CSEM ***19*** *19:35:08.4,40.46N×35.59E,h7km,MD2.8*
DDA ***19*** *19:35:08.4,40.46N×35.59E,h7km,Md2.8*
ISC 19 19:35:07.5±1.5, 40.45N±0.04×35.62E±0.04, h2km±14km, n11,σ0.81s/20, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
COAL	**Corum-Alaca**	**0.52**	**249**	*i* P	**P**	**g**	**19 35 17.6**	**+0.1**
COAL				*i* S	**S**	**b**	**19 35 26.2**	**-1.4**
COAL	**Corum-Alaca**	**0.52**	**249**	P	**P**	**g**	**19 35 17.6**	**+0.1**
COAL				S	**S**	**b**	**19 35 26.2**	**-1.4**
HAVZ	**Havza**	**0.63**	**7**	*i* P	**P**	**g**	**19 35 20.2**	**+0.5**
HAVZ				*i* S	**S**	**b**	**19 35 29.9**	**-0.8**
HAVZ	**Havza**	**0.63**	**7**	P	**P**	**g**	**19 35 20.2**	**+0.5**
HAVZ				S	**S**	**b**	**19 35 29.9**	**-0.8**
CTAK	**Corum_Osmancik**	**0.67**	**288**	*i* P	**P**	**g**	**19 35 20.5**	**+0.2**
CTAK				*i* S	**S**	**b**	**19 35 31.0**	**-0.8**
CTAK	**Corum_Osmancik**	**0.67**	**288**	P	**P**	**g**	**19 35 20.5**	**+0.2**
CTAK				S	**S**	**b**	**19 35 31.0**	**-0.8**
CORM	**Corum**	**0.81**	**251**	*e*PG	**Pg**	**g**	**19 35 23.4**	**+0.4**
CORM				*e*SG	**Sb**	**b**	**19 35 35.8**	**0.0**
YOZ	**Yozgat**	**0.84**	**196**	*e*PG	**Pg**	**g**	**19 35 24.2**	**+0.6**
CUSAR	**Sarkisla-SIVAS**	**1.13**	**155**	*i* P	**Pb**	**g**	**19 35 30.0**	**0.0**
CUSAR				*i* S	**Sn**	**b**	**19 35 47.8**	**+1.0**
CUSAR	**Sarkisla-SIVAS**	**1.13**	**155**	P	**Pb**	**g**	**19 35 30.0**	**0.0**
CUSAR				S	**Sn**	**b**	**19 35 47.8**	**+1.0**
SVSK	**Karacayir**	**1.18**	**116**	*e*PN	**Pg**		**19 35 29.4**	**-0.7**

IDC 19 19:35:53.6±7.4, 18.92S×177.60W, h0km, mb3.6/3, mb1 3.9/3, mb1mx3.5/27, mbtmp3.6/3, Error ellipse: s-maj=325.8km s-min=36.2km az=143.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**45.22**	**260**	P	**P**	**P**	**19 44 12.7**	**-0.2**
	0.5nm,0.8s,baz=97,slow=7.6,SNR=7.9							
ASAR	**Alice Springs**	**45.27**	**255**	P	**P**	**P**	**19 44 13.2**	**-0.1**
	0.6nm,0.5s,baz=91,slow=7.3,SNR=18							
ILAR	**Eielson Array**	**86.69**	**13**	P	**P**	**P**	**19 48 38.8**	**0.0**
	0.5nm,0.9s,baz=223,slow=6.1,SNR=3.2							

ISCJB ***19*** *19:44:28.4±1.2,37.01N±0.04×141.54E±0.06,h8km±6km, mb3.6/6, Error ellipse: s-maj=7.9km s-min=6.8km az=156.1*
IDC ***19*** *19:44:28.8±1.1,37.03N×141.47E,h0km,mb3.6/6, mb1 3.7/8,mb1mx3.5/43,mbtmp3.6/8,ML3.0/2, Error ellipse: s-maj=24.9km s-min=19.1km az=87.0*
JMA ***19*** *19:44:30.9±0.1,36.98N×141.39E,h23km±1km,M3.7*
ISC 19 19:44:30.8±1.8, 37.03N±0.04×141.36E±0.07, h10km±10km, n15,σ0.53s/24, mb3.7/6, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
ONAJ	**Iwakimizuishiy**	**0.46**	**280**	P	**Pb**	**b**	**19 44 40.8**	**-0.1**
ONAJ				S	**Sb**	**b**	**19 44 47.7**	**-0.1**
JFK	**Kawauchi**	**0.52**	**311**	P	**Pb**	**b**	**19 44 42.0**	**+0.1**
JFK				S	**Sb**	**b**	**19 44 49.7**	**+0.2**
JHO	**Hitachi**	**0.76**	**237**	P	**Pg**	**g**	**19 44 45.1**	**-0.3**

JHO			S	**Sg**	19 44 55.5	+0.2
JMM	**Marumori**	**0.95 332**	P	**Pg**	19 44 49.0	-0.1
JMM			S	**Sb**	19 45 02.0	0.0
JFT	**Otama**	**0.95 301**	P	**Pb**	19 44 49.7	+0.3
JFT			S	**Sb**	19 45 02.7	+0.6
JFY	**Yanaizu**	**1.38 286**	P	**Pn**	19 44 56.2	+0.2
JFY			S	**Sn**	19 45 14.4	+0.1
MJAR	**Matsushiro Arr**	**2.58 260**	Pn	**Pn**	19 45 13.3	+0.7
	2.1nm,0.3s,baz=88,slow=16,SNR=28					
MJAR			Sn	**Sb**	19 45 47.9	-0.9
	4.0nm,0.3s,baz=142,slow=48,SNR=7.0					
MAT	**Matsushiro**	**2.58 260**	P	**Pn**	19 45 13.5	+0.9
MAT			S	**Sb**	19 45 48.4	-0.4
JHJ	**Hachijo jima 2**	**4.11 199**	Pn	**Pn**	19 45 34.3	+0.7
	3.7nm,0.3s,baz=53,slow=20,SNR=3.2					
JHJ			Sn	**Sn**	19 46 22.7	+1.0
	3.5nm,0.3s,baz=229,slow=19,SNR=2.3					
SONM	**Songino Array**	**27.75 304**	P	**P**	19 50 19.9	+0.3
	0.5nm,0.8s,baz=93,slow=7.2,SNR=2.8					
ZALV	**Zalesovo Beam**	**41.89 312**	P	**P**	19 52 20.6	-0.4
	1.2nm,0.6s,baz=82,slow=7.3,SNR=6.8					
MKAR	**Makanchi Array**	**44.09 302**	P	**P**	19 52 38.6	-0.4
	0.6nm,0.6s,baz=88,slow=11,SNR=7.1					
ILAR	**Eielson Array**	**49.52 32**	P	**P**	19 53 21.0	-0.2
	0.3nm,0.7s,baz=267,slow=6.1,SNR=4.0					
WRA	**Warramunga Arr**	**57.05 188**	P	**P**	19 54 16.2	-0.8
	0.7nm,0.7s,baz=5.3,slow=7.4,SNR=13					
ASAR	**Alice Springs**	**60.78 188**	P	**P**	19 54 42.8	-0.1
	0.5nm,0.7s,baz=16,slow=7.4,SNR=4.9					

IDC ***19*** *19:53:09.0±6.3,23°.76S×179°.42E,h515km±59km,mb3.6/8, mb1 3.7/9,mb1mx3.3/32,mbtmp4.6/9, Error ellipse: s-maj=51.4km s-min=24.6km az=58.0*

ISCJB ***19*** *19:53:10.9±2.5,23°.9S±0°.2×179°.2E±0°.4,h537km,mb4.0/9, Error ellipse: s-maj=52.8km s-min=19.7km az=149.4*

ISC 19 19:53:10.6±1.7,23°.9S±0°.2×179°.4E±0°.3,h537km,n12, σ0s79/12,mb4.1/9,South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
URZ	**Urewera**	**14.50**	**187**	P	**P**	**19 56 14.1**	**-0.7**
	0.9nm,0.3s,baz=23,slow=4.4,SNR=5.4						
CTA	**Charters Tower**	**30.93**	**270**	P	**P**	**19 58 44.4**	**+0.4**
	16nm,0.4s,baz=93,slow=11,SNR=59						
PMG	**Port Moresby**	**33.97**	**290**	P	**P**	**19 59 09.3**	**-0.4**
	18nm,0.8s,baz=118,slow=4.5,SNR=4.1						
STKA	**Stephens Creek**	**34.24**	**248**	P	**P**	**19 59 12.2**	**+0.4**
	5.2nm,0.6s,baz=98,slow=12,SNR=11						
ASAR	**Alice Springs**	**41.51**	**261**	P	**P**	**20 00 10.8**	**-0.4**
	4.6nm,0.7s,baz=89,slow=8.4,SNR=35						
WRA	**Warramunga Arr**	**41.87**	**266**	P	**P**	**20 00 13.2**	**-0.9**
	6.4nm,0.7s,baz=90,slow=6.0,SNR=124						
JAY	**Jayapura**	**43.00**	**294**	P	**P**	**20 00 22.9**	**-0.1**
	0.9nm,0.7s,baz=0.0,slow=20,SNR=4.4						
FITZ	**Fitzroy Crossi**	**50.29**	**266**	P	**P**	**20 01 18.3**	**+0.2**
	2.7nm,0.6s,baz=137,slow=10,SNR=11						
MAW	**Mawson**	**77.61**	**201**	P	**P**	**20 04 12.1**	**+1.2**
	0.9nm,0.5s,baz=96,slow=9.2,SNR=5.0						
CMAR	**Chiang Mai Arr**	**89.00**	**291**	P	**P**	**20 05 09.3**	**+0.6**
	0.6nm,0.9s,baz=123,slow=5.3,SNR=4.4						
AKASG	**Malin Array Be**	**144.64**	**327**	PKP	**PKPdf**	**20 11 44.6**	**-1.2**
	0.7nm,0.5s,baz=45,slow=4.0,SNR=7.9						
BRTR	**Keskin Array B**	**147.12**	**307**	PKPbc	**PKPbc**	**20 11 54.1**	**+0.4**
	1.1nm,0.7s,baz=122,slow=4.1,SNR=3.9						

IDC ***19*** *20:10:18.2±5.2,24°.01S×179°.70W,h483km±40km,mb3.3/9, mb1 3.4/9,mb1mx3.1/41,mbtmp4.1/9, Error ellipse: s-maj=66.3km s-min=26.9km az=136.0*

ISC 19 20:10:22.4±1.9,23°.9S±0°.4×179°.9W±0°.3,h518km,n17, σ0s97/18,mb3.7/9,South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CTA	**Charters Tower**	**31.55**	**270**	P	**P**	**20 16 02.6**	**+0.4**
	3.4nm,0.5s,baz=87,slow=11,SNR=6.8						
ASAR	**Alice Springs**	**42.11**	**261**	P	**P**	**20 17 28.6**	**-0.5**
	0.8nm,0.7s,baz=100,slow=6.8,SNR=9.0						
WRA	**Warramunga Arr**	**42.48**	**266**	P	**P**	**20 17 31.0**	**-1.1**
	2.2nm,0.5s,baz=102,slow=8.5,SNR=36						
WRA				ScP	**ScP**	**20 22 16.8**	**+2.3**
	0.2nm,0.5s,baz=100,slow=3.7,SNR=5.1						
JAY	**Jayapura**	**43.58**	**293**	P	**P**	**20 17 40.2**	**-0.5**
	0.3nm,0.5s,baz=334,slow=23,SNR=7.8						
FITZ	**Fitzroy Crossi**	**50.90**	**266**	P	**P**	**20 18 35.5**	**-0.3**
	2.0nm,0.9s,baz=120,slow=5.9,SNR=5.7						
KSRS	**Korea Array**	**78.29**	**320**	P	**P**	**20 21 28.1**	**-0.5**
	1.0nm,0.7s,baz=132,slow=4.9,SNR=2.9						
PETK	**Petropavlovsk-**	**79.11**	**346**	P	**P**	**20 21 32.5**	**-0.2**
	2.8nm,0.4s,baz=113,slow=11,SNR=3.8						
USRK	**Ussuriysk Ar.**	**80.80**	**327**	P	**P**	**20 21 42.6**	**+0.9**
	1.3nm,0.5s,baz=119,slow=7.2,SNR=4.7						
CMAR	**Chiang Mai Arr**	**89.59**	**290**	P	**P**	**20 22 26.9**	**+1.8**
	0.9nm,0.8s,baz=147,slow=3.0,SNR=5.4						
FINES	**FINESS Array B**	**138.46**	**341**	PKP	**PKPdf**	**20 28 48.2**	**-0.1**
	2.4nm,0.8s,baz=110,slow=2.1,SNR=4.2						
AKASG	**Malin Array Be**	**145.01**	**327**	PKPbc	**PKPdf**	**20 28 59.8**	**-0.5**
	1.1nm,0.3s,baz=40,slow=4.8,SNR=10						
BRTR	**Keskin Array B**	**147.63**	**307**	PKPbc	**PKPbc**	**20 29 07.7**	**-1.1**
	1.2nm,0.7s,baz=145,slow=4.6,SNR=6.4						
DPC	**Dobruska-Polom**	**150.72**	**339**	*eP*	**PKPbc**	**20 29 15.8**	**+0.1**
KRLC	**Kraliky**	**150.80**	**338**	*eP*	**PKPbc**	**20 29 15.8**	**-0.1**
CLL	**Collm**	**150.87**	**343**	*i* PKP	**PKPbc**	**20 29 15.3**	**-0.7**
	comp=Z,6.0nm,0.8s						
BRG	**Berggiesshubel**	**151.00**	**342**	*i* P	**PKPbc**	**20 29 15.9**	**-0.3**
	comp=Z,9.1nm,1.3s						
GERES	**GERESS Array B**	**152.88**	**340**	PKPbc	**PKPbc**	**20 29 19.8**	**-0.9**
	comp=Z,0.2nm,0.4s,baz=64,slow=3.1,SNR=3.6						

ISCJB ***19*** *20:14:04.7±0.8,21°.21S±0°.05×68°.1W±0°.1,h185km±14km, mb3.4/1,Error ellipse: s-maj=21.0km s-min=7.4km az=177.9*

GUC ***19*** *20:14:05.9±0.7,21°.16S×68°.14W,h171km±8km,ML3.9*

IDC ***19*** *20:14:11.0±1.9,20°.79S×67°.14W,h184km±25km,mb3.1/2, mb1 3.3/4,mb1mx3.1/30,mbtmp3.7/4, Error ellipse: s-maj=42.6km s-min=19.9km az=81.0*

ISC 19 20:14:05.0±1.0,21°.21S±0°.05×68°.1W±0°.1,h181km±16km, n13,σ0s57/22,5C,Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PB09	**IPOC Station P**	**1.24**	**241**	*i*P	**Pn**	**20 14 35.5**	**+0.7**
PB09				*i* S	**Sn**	**20 14 58.1**	**+0.1**
PB09				IAML		20 15 01.1	
	comp=E,2μm,0.4s						
PB01	**IPOC Station P**	**1.33**	**277**	*e*P	**Pn**	**20 14 35.7**	**+0.2**
PB01				*i* S	**Sn**	**20 14 59.2**	**0.0**
PB01				IAML		20 15 00.4	
	comp=N,889nm,0.3s						
PB08	**IPOC Station P**	**1.46**	**316**	*i*P	**Pn**	**20 14 37.9**	**+0.7**
PB08				*i* S	**Sn**	**20 15 01.2**	**-0.7**
PB07	**IPOC Station P**	**1.77**	**253**	*e*P	**Pn**	**20 14 40.6**	**+0.7**
PB07				*i* S	**Sn**	**20 15 06.7**	**-0.2**
PB07				IAML		20 15 07.2	
	comp=N,1μm,0.3s						
HMBC	**Humberstone**	**1.93**	**298**	*i*P	**Pn**	**20 14 41.8**	**+0.2**
HMBC				*i* S	**Sn**	**20 15 09.6**	**-0.3**
PB06	**IPOC Station P**	**2.04**	**223**	*e*P	**Pn**	**20 14 43.2**	**+0.5**
PB06				*i* S	**Sn**	**20 15 12.1**	**+0.1**
PB06				IAML		20 15 13.4	
	comp=E,493nm,0.1s						
PB11	**IPOC Station P**	**2.06**	**314**	*i*P	**Pn**	**20 14 43.4**	**+0.4**
PB11				*i* S	**Sn**	**20 15 12.1**	**-0.4**
PSGC	**Pisagua**	**2.50**	**309**	*e*P	**Pn**	**20 14 47.6**	**-0.3**
PSGC				*e*S	**Sn**	**20 15 20.5**	**-0.7**
MNMC	**Minye Minye**	**2.51**	**325**	*i*P	**Pn**	**20 14 49.1**	**+0.9**
MNMC				*i* S	**Sn**	**20 15 21.9**	**+0.2**
LPAZ	**La Paz**	**4.89**	**359**	P	**Pn**	**20 15 19.2**	**+1.0**
	comp=E,2.6nm,0.3s,baz=189,slow=6.8,SNR=40						
LPAZ				S	**Sn**	**20 16 15.3**	**-0.3**
	comp=E,0.2nm,0.3s,baz=302,slow=19,SNR=3.3						
CPUP	**Villa Florida**	**11.08**	**119**	P	**Pn**	**20 16 37.8**	**-0.9**
	comp=E,0.1nm,0.3s,baz=318,slow=14,SNR=3.6						
PLCA	**Paso Flores**	**19.58**	**186**	P	Pn	20 18 30.7	+8.0
	comp=E,0.9nm,0.5s,baz=342,slow=17,SNR=3.6						
TORD	**Torodi Ar. Bea**	**76.52**	**70**	P	**P**	**20 25 35.9**	**+0.2**
	comp=E,0.6nm,0.6s,baz=252,slow=4.9,SNR=5.9						

IDC ***19*** *20:13:52.7±5.2,45°.27N×152°.95E,h0km,mb3.7/3, mb1 3.8/4,mb1mx3.3/53,mbtmp3.6/4,ML2.4/1,Error ellipse: s-maj=121.3km s-min=35.8km az=160.0*

ISC 19 20:14:07.2±2.3,45°.8N±0°.3×153°.1E±0°.2,h100km,n12, σ1s79/16,mb3.6/3,East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
NEM2	**Nemuro 2**	**5.78**	**248**	P	**Pn**	**20 15 31.3**	**+0.9**
NEM2				*e*S	**Sn**	**20 16 34.7**	**-0.7**
JRA	**Rausu**	**5.96**	**254**	P	**Pn**	**20 15 35.6**	**+2.8**
JNK	**Nakash**	**6.36**	**252**	P	**Pn**	**20 15 40.3**	**+2.0**
JAK	**Akkeshi**	**6.63**	**248**	P	**Pn**	**20 15 42.8**	**+0.8**
JAK				*e*S	**Sn**	**20 16 54.9**	**-1.1**
JCH	**Churui**	**7.68**	**249**	P	**Pn**	**20 15 57.4**	**+1.2**
JCH				*e*S	**Sn**	**20 17 20.7**	**-0.8**
PETK	**Petropavlovsk-**	**7.89**	**21**	Pn	**Pn**	**20 15 57.3**	**-1.7**
	0.2nm,0.3s,baz=198,slow=12,SNR=3.5						
JBT2	**Biratori 2**	**8.26**	**252**	P	**Pn**	**20 16 05.8**	**+1.6**
JNB	**Noboribetsu**	**9.28**	**253**	P	**Pn**	**20 16 19.6**	**+1.6**
JNB				*e*S	**Sn**	**20 18 00.3**	**-0.2**
JANG	**Nango**	**10.05**	**241**	*e*S	**Sn**	**20 18 15.5**	**-3.8**
ILAR	**Eielson Array**	**37.30**	**38**	P	**P**	**20 21 10.3**	**+1.2**
	0.6nm,0.8s,baz=275,slow=9.6,SNR=3.3						
MKAR	**Makanchi Array**	**47.35**	**298**	P	**P**	**20 22 30.6**	**-0.2**
	0.3nm,0.6s,baz=72,slow=8.7,SNR=5.2						
FINES	**FINESS Array B**	**64.87**	**335**	P	**P**	**20 24 34.9**	**-0.2**
	1.7nm,0.7s,baz=46,slow=8.0,SNR=6.4						

IDC 19 20:16:24.3±1.4,13°.10N×143°.87E,h138km±17km,mb3.1/5, mb1 3.4/5,mb1mx3.0/51,mbtmp3.5/5,Error ellipse: s-maj=45.5km s-min=17.2km az=99.0,South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GUMO	**Guam**	**1.09**	**63**	P	Pn	20 16 49.4	+0.6
	13nm,0.3s,baz=196,slow=23,SNR=19						
GUMO				S	Sn	20 17 07.6	+0.1
	59nm,0.3s,baz=360,slow=23,SNR=23						
MJAR	**Matsushiro Arr**	**23.89**	**349**	P	P	20 21 26.2	+0.9
	1.2nm,0.6s,baz=168,slow=6.1,SNR=5.2						
WRA	**Warramunga Arr**	**34.15**	**196**	P	P	20 22 56.3	-0.1
	1.0nm,0.7s,baz=17,slow=9.8,SNR=8.2						
ASAR	**Alice Springs**	**37.82**	**195**	P	P	20 23 27.5	-0.1
	0.2nm,0.3s,baz=20,slow=13,SNR=7.2						
MKAR	**Makanchi Array**	**61.17**	**316**	P	P	20 26 23.6	-0.8
	0.2nm,0.4s,baz=90,slow=9.1,SNR=5.3						
ILAR	**Eielson Array**	**69.42**	**25**	P	P	20 27 16.9	-0.2
	0.2nm,0.6s,baz=278,slow=6.3,SNR=2.7						

IDC ***19*** *20:18:51.4±2.6,29°.74S×175°.92W,h0km,mb3.8/4, mb1 4.0/5,mb1mx3.7/39,mbtmp3.9/5,ML3.6/1,Error ellipse: s-maj=49.8km s-min=46.3km az=142.0*

ISCJB ***19*** *20:18:55.8±1.9,29°.84S±0°.09×176°.4W±0°.2,h21km, mb3.8/4,Error ellipse: s-maj=22.7km s-min=11.3km az=164.0*

ISC 19 20:18:56.7±1.8,29°.7S±0°.1×176°.3W±0°.2,h21km,n7, σ1s51/9,mb3.9/4,Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**1.48**	**287**	Pn	**Pb**	**20 19 24.1**	**+0.6**
	182nm,0.3s,baz=90,slow=9.8,SNR=14						
RAO				Sn	**Sn**	**20 19 39.1**	**-1.8**
	361nm,0.3s,baz=200,slow=19,SNR=15						
URZ	**Urewera**	**10.13**	**211**	Pn	**Pn**	**20 21 20.3**	**-0.7**
	0.5nm,0.3s,baz=95,slow=18,SNR=1.8						
URZ				Sn	**Sn**	**20 23 14.2**	**+0.2**
	1.0nm,0.3s,baz=323,slow=20,SNR=3.1						
CTA	**Charters Tower**	**35.16**	**277**	P	**P**	**20 25 51.6**	**+2.3**
	1.0nm,0.3s,baz=102,slow=9.3,SNR=3.0						
ASAR	**Alice Springs**	**44.63**	**265**	P	**P**	**20 27 08.6**	**+0.6**
	0.5nm,0.6s,baz=101,slow=6.9,SNR=11						
WRA	**Warramunga Arr**	**45.56**	**271**	P	**P**	**20 27 14.9**	**-0.4**
	0.7nm,0.6s,baz=110,slow=7.8,SNR=7.0						
FITZ	**Fitzroy Crossi**	**53.84**	**269**	P	**P**	**20 28 17.7**	**-0.8**
	1.3nm,0.8s,baz=124,slow=7.3,SNR=2.6						
FINES	**FINESS Array B**	**144.98**	**341**	PKPbc	**PKPab**	**20 38 29.2**	**-1.7**
	3.8nm,0.9s,baz=60,slow=5.5,SNR=4.9						

IDC ***19*** *20:29:59.0±0.9,14°.29N×90°.30W,h0km,mb4.0/11, mb1 4.3/12,mb1mx4.1/36,mbtmp4.1/12,ML3.5/1,MS3.8/9, Ms1 3.8/9,ms1mx3.4/30,Error ellipse: s-maj=29.2km s-min=15.7km az=46.0*

ISCJB ***19*** *20:29:59.1±0.4,14°.20N±0°.04×90°.32W±0°.04,h10km, mb4.4/33,MS3.9/8,Error ellipse: s-maj=8.0km s-min=3.5km az=44.4*

CASC ***19*** *20:29:59.5±1.3,14°.27N×90°.31W,h2km±14km,ML3.7, mb4.6(NEIC)*

NEIC ***19*** *20:30:00.8±0.5,14°.15N×90°.22W,h10km,mb4.6/30, MD3.8(SNET),Error ellipse: s-maj=12.6km s-min=7.4km az=224.0*

NEIC Felt [III] at Guatemala. Felt [I] at Ahuachapan, El Salvador. Also felt at San Salvador.

ISC 19 20:30:00.8±0.5,14°.25N±0°.06×90°.20W±0°.05,h10km,n252, σ1s17/248,mb4.4/32,MS3.9/8,Guatemala

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CUS1	**Cusmapa**	**0.42**	**144**	*e*P	**Pb**	**20 30 09.5**	**-0.8**
MRL	**Marmol**	**0.95**	**31**	*e*P	**Pg**	**20 30 18.2**	**-0.9**
BOQS	**Boqueron**	**1.03**	**120**	*e*P	**Pn**	**20 30 21.3**	**-0.2**
SNET	**Serv Nac Est T**	**1.09**	**121**	*e*P	**Pg**	**20 30 21.9**	**+0.1**
SNET				AML	AML	20 31 00.7	
	comp=Z,2μm,0.7s						
LFU	**La Fuente**	**1.17**	**115**	*e*P	**Pg**	**20 30 23.8**	**+0.6**
LFU				*e*S	**Sn**	**20 30 41.1**	**+1.8**
LBRS	**Las Brisas**	**1.23**	**114**	*e*P	**Pg**	**20 30 24.8**	**+0.3**
LFRS	**El Faro**	**1.27**	**119**	*e*P	**Pb**	**20 30 24.9**	**+0.1**
CCIG	**Comitan**	**2.75**	**317**	*e*Pn	**Pn**	**20 30 47.2**	**+2.0**
TGUH	**Tegucigalpa,Un**	**2.84**	**94**	*e*Pn	**Pn**	**20 30 45.9**	**-0.4**
SCIG	**Sabancuy**	**4.79**	**349**	*e*Pn	**Pn**	**20 31 12.4**	**-0.6**
CMIG	**Matias Romero**	**5.32**	**303**	Pn	**Pn**	**20 31 19.5**	**-0.9**
	comp=Z,1.6nm,0.3s,baz=96,slow=13,SNR=9.2						
CMIG				Pg	**Pb**	**20 31 32.9**	**-1.1**
	comp=Z,11nm,0.3s,baz=114,slow=15,SNR=22						
CMIG				Sn	**Sn**	**20 32 26.4**	**+4.6**
	comp=Z,5.0nm,0.3s,baz=66,slow=20,SNR=2.4						
CMIG				Lg	Lg	20 32 45.4	
	comp=Z,19nm,0.3s,baz=5.0,slow=13,SNR=8.2						
CMIG				LR	LR	20 33 29.0	
	comp=Z,2μm,19.4s,baz=168,slow=40						
TUIG	**Tuzandepetl**	**5.53**	**313**	*e*Pn	**Pn**	**20 31 23.9**	**+0.6**
TLIG	**Tlapa**	**8.70**	**293**	*e*Pn	Pn	20 32 11.0	+4.1
LNIG	**Linares**	**13.72**	**322**	*e*P	**P**	**20 33 25.1**	**+0.9**
ZAIG	**Zacatecas**	**14.46**	**308**	*e*Pn	**P**	**20 33 30.8**	**-2.0**
034A	**Hebbronville**	**15.01**	**329**	P	**P**	**20 33 38.3**	**-0.2**
	baz=147						
835A	**Beeville**	**15.66**	**334**	P	**P**	**20 33 46.4**	**+0.6**
	baz=152						
933A	**Laredo**	**15.76**	**329**	P	**P**	**20 33 47.1**	**+0.2**
	baz=146						
834A	**Tilden**	**15.84**	**332**	P	**P**	**20 33 48.6**	**+0.8**
	baz=149						
833A	**Chaparral WMA,**	**16.41**	**330**	P	**P**	**20 33 54.6**	**+0.6**
	baz=147						
636A	**Smothers Creek**	**16.43**	**338**	P	**P**	**20 33 55.0**	**+0.7**
	baz=156						
734A	**La Parita Cree**	**16.46**	**333**	P	**P**	**20 33 56.3**	**+1.6**
	baz=150						
446A	**Poplarville**	**16.48**	**3**	P	**P**	**20 33 56.8**	**+2.0**
	baz=183						
442A	**Mamou**	**16.51**	**353**	P	**P**	**20 33 56.9**	**+1.7**
	baz=172						
441A	**DeRidder**	**16.65**	**351**	P	**P**	**20 33 58.0**	**+1.2**
	baz=170						
832A	**Faith Ranch, C**	**16.66**	**329**	P	**P**	**20 33 57.0**	**+0.1**
	baz=145						
733A	**Divot King Ran**	**16.69**	**331**	P	**P**	**20 33 58.0**	**+0.8**
	baz=148						
537A	**Green Hill Far**	**16.73**	**341**	P	**P**	**20 33 59.8**	**+2.1**
	baz=159						
439A	**Center Grove,**	**16.99**	**346**	P	**Pn**	**20 33 59.0**	**+0.3**
	baz=165						
343A	**Vidalia**	**17.00**	**356**	P	**P**	**20 34 01.5**	**+0.9**
	baz=175						
535A	**Dale**	**17.11**	**338**	P	**P**	**20 34 01.9**	**0.0**
	baz=155						
438A	**Sam Houston St**	**17.12**	**344**	P	**Pn**	**20 34 01.3**	**+1.0**
	baz=163						
344A	**Westbrook Farm**	**17.13**	**358**	P	**Pn**	**20 34 01.5**	**+1.1**
	baz=178						
633A	**Saathoff Ranch**	**17.26**	**333**	P	**Pn**	**20 34 02.5**	**+0.4**
	baz=150						
534A	**Blanco**	**17.46**	**335**	P	**P**	**20 34 06.3**	**+0.6**
	baz=153						
339A	**Huntington**	**17.47**	**347**	P	**P**	**20 34 07.0**	**+1.2**
	baz=166						
436A	**Wall Ranch, Ga**	**17.53**	**341**	P	**P**	**20 34 07.0**	**+0.6**
	baz=158						
243A	**Waterproof**	**17.59**	**356**	P	**P**	**20 34 08.5**	**+1.4**
	baz=176						
338A	**Crockett**	**17.66**	**345**	P	**P**	**20 34 08.5**	**+0.5**
	baz=164						
245A	**Little AP, Sta**	**17.70**	**1**	P	**P**	**20 34 09.0**	**+0.6**
	baz=181						
244A	**Avery, Jackson**	**17.72**	**359**	P	**P**	**20 34 10.6**	**+2.1**
	baz=178						
533A	**Kerrville**	**17.73**	**334**	P	**Pn**	**20 34 08.5**	**+0.5**
	baz=151,SNR=12						
247A	**Quitman**	**17.78**	**4**	P	**P**	**20 34 11.7**	**+2.5**
	baz=185						
435B	**Jarrell**	**17.80**	**339**	P	**P**	**20 34 11.4**	**+1.9**
	baz=156						
242A	**Grayson**	**17.82**	**355**	P	**P**	**20 34 12.5**	**+2.9**
	baz=174						
241A	**Mo Tay, Goldon**	**17.87**	**352**	P	**P**	**20 34 13.3**	**+3.1**
	baz=172						
NATX	**Nacogdoches**	**17.90**	**348**	P	**P**	**20 34 13.4**	**+2.8**
	baz=166						
240A	**Hunter Patters**	**18.00**	**350**	P	**P**	**20 34 14.1**	**+2.4**
	baz=169						
434A	**Burnet**	**18.08**	**337**	P	**P**	**20 34 14.0**	**+1.4**
	baz=154,SNR=5.8						
336A	**Riesel**	**18.11**	**341**	P	**P**	**20 34 14.3**	**+1.4**
	baz=159						
TIGA	**Tifton**	**18.15**	**18**	P	**P**	**20 34 16.1**	**+2.8**
	baz=201						
335A	**Moody**	**18.20**	**340**	P	**Pn**	**20 34 14.0**	**+0.3**
	baz=157						
ROSC	**El Rosal**	**18.22**	**119**	LR	LR	20 41 04.0	
	comp=Z,92nm,22.0s,baz=65,slow=36						
433A	**Art**	**18.35**	**335**	P	**Pn**	**20 34 16.1**	**+0.5**
	baz=152,SNR=13						
PRAC	**Prado**	**18.38**	**123**	*e*P	**P**	**20 34 18.3**	**+2.3**
	comp=Z,49nm,1.9s						
JCT	**Junction City**	**18.41**	**333**	P	**Pn**	**20 34 17.4**	**+1.1**
	baz=150						
147A	**Livingston**	**18.43**	**5**	P	**Pn**	**20 34 17.9**	**+1.5**
	baz=186						
334A	**Lometa**	**18.53**	**338**	P	**Pn**	**20 34 18.2**	**+0.4**
	baz=155,SNR=6.2						
333A	**Richland Sprin**	**18.81**	**336**	P	**Pn**	**20 34 22.0**	**+0.9**
	baz=153,SNR=7.9						
WHTX	**Lake Whitney,**	**18.87**	**341**	*e*P	**Pn**	**20 34 23.2**	**+1.5**
	comp=Z,19nm,1.0s						
Z46A	**Louisville**	**18.89**	**3**	P	**Pn**	**20 34 23.5**	**+1.5**
	baz=184						
137A	**Heron Place, G**	**18.95**	**345**	P	**Pn**	**20 34 24.1**	**+1.2**
	baz=163						
Z47A	**Carrollton**	**18.96**	**6**	P	**Pn**	**20 34 24.1**	**+1.2**
	baz=186						
Z45A	**Winona**	**19.04**	**1**	P	**Pn**	**20 34 24.8**	**+0.9**
	baz=182						
Z40A	**Long Farm, Mag**	**19.15**	**352**	P	**Pn**	**20 34 26.0**	**+0.9**
	baz=171,SNR=6.8						
HPIG		**19.18**	**314**	*e*P	**Pn**	**20 34 26.1**	**+0.3**
	comp=Z,15nm,1.3s						
Z48A	**Northport**	**19.19**	**7**	P	**Pn**	**20 34 26.7**	**+1.0**
	baz=188						
233A	**Rising Star**	**19.39**	**337**	P	**P**	**20 34 27.8**	**+0.8**
	baz=154,SNR=10.0						
TX31	**Lajitas Ar. Si**	**19.51**	**322**	*e*P	**Pn**	**20 34 30.4**	**+0.8**
TXAR	**Lajitas Array**	**19.51**	**322**	P	**Pn**	**20 34 30.9**	**+1.2**
	comp=Z,0.3nm,0.3s,baz=148,slow=9.9,SNR=34						
WLAR	**White Oak Lake**	**19.53**	**353**	*e*P	**P**	**20 34 28.8**	**+0.4**
	comp=Z,44nm,1.1s						
Y45A	**Yeager Farm, C**	**19.54**	**2**	P	**Pn**	**20 34 30.8**	**+1.0**
	baz=182						
Y46A	**Houston**	**19.58**	**3**	P	**Pn**	**20 34 31.3**	**+1.0**
	baz=184,SNR=6.8						
Y44A	**Strider, Charl**	**19.62**	**360**	P	**Pn**	**20 34 31.9**	**+1.0**
	baz=180,SNR=5.2						
CCAR	**Cane Creek**	**19.63**	**356**	*e*P	**Pn**	**20 34 32.4**	**+1.5**
	comp=Z,235nm,1.6s						
Y41A	**Eaglette Beard**	**19.67**	**354**	P	**P**	**20 34 31.0**	**+1.0**
	baz=173						
Y47A	**UCPARC, Winfie**	**19.68**	**6**	P	**P**	**20 34 31.2**	**+1.0**
	baz=187						
Z36A	**Blue Ridge**	**19.77**	**344**	P	**Pn**	**20 34 33.2**	**+0.6**
	baz=162,SNR=6.2						
Y38A	**Idabel**	**20.02**	**349**	P	**P**	**20 34 35.3**	**+1.5**
	baz=167						
GOGA	**Godfrey**	**20.03**	**17**	*e*P	**P**	**20 34 35.8**	**+1.8**
	comp=Z,88nm,1.9s						
X45A	**UM Field Stati**	**

HHAR	Hobbs comp=Z,27nm,1.0s	22.20	352	*e*P	P	20 34 59.3	+2.0
U39A	Green Forest baz=172	22.23	353	P	P	20 34 56.6	-1.1
V35A	Meyer Ranch, C baz=163,SNR=6.7	22.24	346	P	P	20 34 56.2	-1.6
MNTX	Cornudas Mount baz=138,SNR=9.3	22.25	324	P	P	20 34 57.9	-0.1
MNTX	Cornudas Mount comp=Z,8.5nm,1.2s	22.25	324	*e*P	P	20 34 58.3	+0.4
PBMO	Poplar Bluff comp=Z,22nm,0.8s	22.44	360	*e*P	P	20 35 01.0	+1.1
U37A	Salina baz=168,SNR=9.4	22.50	350	P	P	20 34 59.7	-0.8
T42A	Van Buren baz=178,SNR=8.0	22.70	358	P	P	20 35 02.3	-0.4
T43A	Greenville baz=180	22.74	360	P	P	20 35 03.3	+0.3
T41A	Mountain View baz=176,SNR=9.0	22.74	357	P	P	20 35 03.2	0.0
T44A	Benton baz=182	22.75	1	P	P	20 35 02.8	-0.3
U35A	Pawnee baz=164	22.79	346	P	P	20 35 03.1	-0.6
T39A	Clever baz=172,SNR=8.4	22.86	353	P	P	20 35 04.3	0.0
T40A	Mansfield baz=174,SNR=7.7	22.90	355	P	P	20 35 04.7	-0.1
AMTX	Amarillo baz=151	23.01	335	P	P	20 35 04.3	-1.7
AMTX	Amarillo comp=Z,14nm,0.8s	23.01	335	*e*P	P	20 35 05.0	-1.0
T37A	Cheneyville 18 baz=168,SNR=11	23.16	350	P	P	20 35 06.9	-0.6
S43A	Fulton Ridge, baz=180	23.23	0	P	P	20 35 07.5	-0.7
T35A	Sooner Cattle baz=164	23.27	347	P	P	20 35 07.0	-1.6
T36A	Boggs Farm, Ca baz=166	23.28	348	P	P	20 35 07.1	-1.5
S41A	Jillco Farms, baz=176,SNR=6.9	23.28	357	P	P	20 35 07.7	-1.0
S40A	Lebanon baz=174,SNR=5.9	23.34	355	P	P	20 35 08.5	-0.8
S44A	Carbondale baz=182,SNR=20	23.36	2	P	P	20 35 09.3	-0.3
S45A	Carrier Mills baz=184	23.38	3	P	P	20 35 08.5	-1.1
U32A	Winter Ranch, baz=158	23.41	342	P	P	20 35 09.1	-0.9
S42A	Caledonia baz=179	23.43	359	P	P	20 35 08.5	-1.7
S39A	Bolivar baz=172,SNR=9.7	23.51	354	P	P	20 35 09.9	-1.1
S38A	Stockton baz=171,SNR=5.2	23.52	353	P	P	20 35 09.9	-1.2
T34A	McClaskey Farm baz=163,SNR=9.4	23.52	346	P	P	20 35 09.4	-1.7
USIN	University of comp=Z,122nm,1.4s	23.73	5	*e*P	P	20 35 15.0	+1.9
S37A	Fort Scott baz=169	23.77	351	P	P	20 35 12.7	-0.9
S36A	Lake Cedric, C baz=167,SNR=8.1	23.87	349	P	P	20 35 12.9	-1.6
R44A	Waltonville baz=183	23.92	2	P	P	20 35 14.4	-0.6
R43A	Red Bud baz=181,SNR=8.4	23.93	1	P	P	20 35 14.1	-1.0
R42A	Luebbering baz=179,SNR=5.6	23.94	359	P	P	20 35 14.6	-0.5
S35A	Otter Creek Ra baz=165	23.96	348	P	P	20 35 14.1	-1.3
R41A	Rosebud baz=177,SNR=20	23.98	358	P	P	20 35 14.7	-0.8
R40A	Maddies Stadio baz=175,SNR=7.4	24.02	356	P	P	20 35 15.0	-0.8
R38A	Fenwick Farm, baz=171,SNR=8.1	24.07	353	P	P	20 35 15.7	-0.7
R39A	Chumby, Stover baz=173	24.10	355	P	P	20 35 15.8	-0.9
WCI	Wyandotte Cave comp=Z,34nm,0.9s	24.13	8	*e*P	P	20 35 18.4	+1.4
S34A	Willow Spring baz=164	24.15	347	P	P	20 35 16.4	-0.7
121A	Cookes Peak, D comp=Z,54nm,1.9s	24.26	322	*e*P	P	20 35 20.7	+2.3
R37A	Teagarden Farm baz=169	24.32	351	P	P	20 35 17.7	-1.0
319A	Douglas comp=Z,9.4nm,1.0s	24.43	317	*e*P	P	20 35 19.2	-0.7
R36A	Gordon, Harris baz=168	24.43	350	P	P	20 35 18.5	-1.3
OLIL	Olney comp=Z,40nm,1.0s	24.46	4	*e*P	P	20 35 21.2	+1.3
R35A	Emporia Munici baz=166	24.56	349	P	P	20 35 19.6	-1.3
Q42A	Golden Eagle baz=179	24.57	359	P	P	20 35 20.0	-0.9
Q44A	Meyer Farm, Va baz=183,SNR=8.5	24.58	2	P	P	20 35 20.2	-0.8
Q43A	New Douglas baz=181,SNR=5.6	24.60	1	P	P	20 35 20.8	-0.4
Q41A	Truxton baz=178	24.62	358	P	P	20 35 20.8	-0.6
Q40A	Laux Farm, Aux baz=176	24.70	357	P	P	20 35 21.0	-1.1
R34A	Isabella, Hill baz=164,SNR=11	24.76	347	P	P	20 35 21.9	-0.7
Q38A	Cooks Store, C baz=172	24.80	354	P	P	20 35 22.5	-0.5
Q39A	Willow Grove F baz=174	24.82	355	P	P	20 35 22.6	-0.6
Q35A	Mercer Eighty, baz=167	25.05	349	P	P	20 35 24.2	-1.1
P44A	Sand Creek, Wi baz=184	25.16	3	P	P	20 35 25.4	-0.9
P40A	Paris baz=176,SNR=6.5	25.23	357	P	P	20 35 26.4	-0.6
P42A	Winchester baz=180	25.24	360	P	P	20 35 26.3	-0.6
P39B	Salisbury baz=174	25.24	355	P	P	20 35 26.2	-0.8
ANMO	Albuquerque comp=Z,1.6nm,0.9s,baz=143,slow=5.1,SNR=3.2	25.29	327	P	P	20 35 26.7	-1.0
P43A	Skaggs, Pawnee baz=182	25.30	1	P	P	20 35 28.1	+0.6
P41A	Barry, Barry baz=178	25.34	358	P	P	20 35 28.1	+0.2
P38A	Dawn baz=173	25.45	354	P	P	20 35 28.9	0.0
P36A	Good Intent, A baz=169	25.65	351	P	P	20 35 30.8	+0.1
O40A	La Belle baz=176,SNR=7.8	25.82	357	P	P	20 35 31.8	-0.4
P34A	Walnut Farm, R baz=165	25.87	348	P	P	20 35 32.3	-0.4
CBKS	Cedar Bluff baz=159	25.88	343	P	P	20 35 32.1	-0.7
O39A	Kirksville baz=175	25.99	356	P	P	20 35 34.0	+0.3
TUC	Tucson comp=Z,6.0nm,1.0s	26.01	317	*e*P	P	20 35 33.5	-0.6
T25A	Trinidad comp=Z,34nm,1.8s	26.08	333	*e*P	P	20 35 34.1	-0.8
HDIL	Hopedale baz=182	26.22	2	P	P	20 35 35.8	0.0
O34A	Beatrice baz=166	26.45	349	P	P	20 35 37.5	-0.5
N42A	Yates City baz=180	26.48	0	P	P	20 35 38.3	+0.1
N40A	Mertquake, Sal baz=177	26.56	358	P	P	20 35 38.9	-0.1
N39A	Derby Farms, D baz=175	26.61	356	P	P	20 35 39.0	-0.3
KSCO	Kaye Shedlock' baz=153	26.99	338	P	P	20 35 41.9	-1.1
M41A	Milan baz=179,SNR=6.7	27.03	359	P	P	20 35 42.5	-0.7
M40A	Post Highland baz=177	27.08	358	P	P	20 35 44.2	+0.6
L40A	Anamosa baz=178,SNR=6.2	27.73	358	P	P	20 35 48.5	-0.9
L39A	Vinton baz=176	27.82	357	P	P	20 35 49.5	-0.7
L38A	Oak Wood Farm, baz=174	27.89	356	P	P	20 35 48.5	-2.4
BGNE	Belgrade baz=164	27.93	347	P	P	20 35 49.6	-1.7
H38A	Maiden Rock baz=176	30.38	357	P	P	20 36 13.9	+1.0
PFO	Pinyon Flats O baz=123	30.64	314	P	P	20 36 14.9	-0.6
G40A	Rib Lake baz=180	30.92	360	P	P	20 36 17.9	+0.1
G39A	Holcombe baz=178	30.95	359	P	P	20 36 18.6	+0.6
F40A	Park Falls baz=180	31.57	0	P	P	20 36 23.6	+0.1
F38A	Pierce - Schro baz=177	31.64	358	P	P	20 36 24.2	+0.1
E39A	Mellen baz=179	32.03	360	P	P	20 36 27.6	+0.1
E40A	Wakefield baz=181	32.09	0	P	P	20 36 28.2	+0.1
E42A	Champion baz=184	32.14	3	P	P	20 36 28.5	0.0
E43A	Lone Tree Farm baz=186	32.14	4	P	P	20 36 28.5	0.0
E38A	The Farm, Brul baz=178	32.27	358	P	P	20 36 30.2	+0.6
D37A	Cotton baz=176	32.86	357	P	P	20 36 35.3	+0.5
R11A	Troy Canyon, C baz=130	32.87	322	P	P	20 36 34.6	-0.6
R11A	Troy Canyon, C comp=Z,9.8nm,1.8s	32.87	322	*e*P	P	20 36 33.9	-1.3
PDAR	Pinedale Array comp=Z,108nm,18.2s,baz=94,slow=40	32.95	333	LR	LR	20 51 38.9	
C37A	Embarrass baz=177	33.42	358	P	P	20 36 40.3	+0.7
C39A	Grand Marais baz=180	33.47	0	P	P	20 36 41.7	+1.7
C36A	Pine Crest Far baz=175	33.48	357	P	P	20 36 41.3	+1.1
B35A	Bob, Littlefor baz=174	34.14	356	P	P	20 36 47.0	+1.1
RLMT	Red Lodge baz=146	34.76	336	P	P	20 36 51.4	-0.2
A33A	Warroad baz=171	34.85	354	P	P	20 36 52.7	+0.7
SAML	Samuel comp=Z,3.0nm,0.9s	35.35	129	*e*P	P	20 36 55.0	-1.8
DGMT	Dagmar baz=157	36.03	344	P	P	20 37 02.6	+0.3
MCMT	McKenzie Canyo	36.04	332	*e*P	P	20 37 04.1	+1.4
BOZ	Bozeman (W) baz=143	36.11	334	P	P	20 37 03.4	+0.3
ULM	Lac du Bonnet comp=Z,4.1nm,0.6s,baz=151,slow=9.6,SNR=4.4	36.20	354	P	P	20 37 03.0	-0.6
ULM	Lac du Bonnet comp=Z,45nm,1.8s	36.20	354	*e*P	P	20 37 04.6	+1.0
LPAZ	La Paz comp=Z,1.4nm,0.9s,baz=1,3,slow=18,SNR=3.6	37.36	144	P	P	20 37 15.6	+1.0
MSO	Missoula baz=141	38.07	333	P	P	20 37 18.8	-0.9
EDM	Edmonton comp=Z,45nm,1.2s	42.98	340	*e*P	P	20 38 00.4	+0.2
SCHQ	Schefferville comp=Z,146nm,21.3s,baz=270,slow=36	44.40	19	LR	LR	20 56 38.8	
LLLB	Lillooet comp=Z,3nm,1.4s	44.42	331	*e*P	P	20 38 12.6	+0.8
YKA	Yellowknife Ar comp=Z,3.9nm,0.8s,baz=148,slow=7.6,SNR=9.3	51.20	346	P	P	20 39 03.6	-0.5
PLCA	Paso Flores comp=Z,1.0nm,0.6s,baz=308,slow=10,SNR=2.8	57.66	162	P	P	20 39 52.2	+0.8
INK	Inuvik comp=Z,8.7nm,1.1s	60.70	343	*e*P	P	20 40 12.2	+0.2
IL1	Eielson Array	63.31	336	*e*P	P	20 40 28.4	-1.3
ILAR	Eielson Array comp=Z,2.7nm,1.0s,baz=116,slow=5.6,SNR=12	63.31	336	P	P	20 40 28.8	-0.9
ILAR	comp=Z,1.5nm,1.1s,baz=127,slow=7.6,SNR=5.4			PP	PP	20 42 47.4	-1.4
ILAR	comp=Z,68nm,18.2s,baz=268,slow=39			LR	LR	21 11 16.3	
SUMG	Summit comp=Z,20nm,1.1s	65.54	15	*i* P	P	20 40 44.6	0.0
ESDC	Sonseca Array comp=Z,1.3nm,0.8s,baz=281,slow=5.9,SNR=8.3	78.19	52	P	P	20 42 00.6	-0.2
ES19	SONSECA Array	78.23	52	*e*P	P	20 42 00.6	-0.5
NOA	NORSAR Array B comp=Z,2.3nm,0.9s,baz=289,slow=5.1,SNR=3.9	83.09	29	P	P	20 42 25.8	-0.9
CLL	Collm comp=Z,4.0nm,0.8s	87.05	38	*e*P	P	20 42 46.0	-0.7
GERES	GERESS Array B comp=Z,0.7nm,0.9s,baz=298,slow=5.6,SNR=5.0	88.30	40	P	P	20 42 52.3	-0.5
GERES	comp=Z,56nm,18.1s,baz=303,slow=35			LR	LR	21 21 24.8	
TORD	Torodi Ar. Bea comp=Z,0.4nm,0.9s,baz=270,slow=3.9,SNR=2.7	88.62	77	P	P	20 42 55.5	+0.6
TORD	comp=Z,42nm,22.0s,baz=35,slow=32			LR	LR	21 17 00.8	
NRIK	Noril'sk comp=Z,34nm,19.1s,baz=110,slow=38	96.61	1	LR	LR	21 30 32.4	
KSH	Kashi	124.98	13	*e*PKP	PKPdf	20 49 01.3	-0.6
LZH	Lanzhou	128.21	346	*e*PKP	PKPdf	20 49 05.3	-2.9
LZH				pPKP	sPKPdf	20 49 18.0	+5.2
LZH				sPKP		20 49 22.5	
LZH	comp=N,120nm,18.1s			LR	LR		
LZH	comp=E,110nm,18.0s			LR	LR		
LZH	comp=Z,140nm,20.2s			LR	LR		
WRA	Warramunga Arr comp=Z,1.2nm,0.8s,baz=88,slow=2.0,SNR=9.3	137.15	256	PKP	PKPdf	20 49 24.7	-0.5
ASAR	Alice Springs comp=Z,0.3nm,0.6s,baz=104,slow=4.0,SNR=4.7	137.40	250	PKP	PKPdf	20 49 24.9	-0.7
CMAR	Chiang Mai Arr comp=Z,1.1nm,0.8s,baz=347,slow=3.0,SNR=5.2	146.27	344	PKPbc	PKPdf	20 49 40.1	-1.4

*ISK **19** 20:35:06.4, 39˚09N×29˚22E, h6km, MD2.5*
*CSEM **19** 20:35:07.2±0.2, 39˚07N×29˚21E, h2km, MD2.5, Error ellipse: s-maj=6.1km s-min=2.4km az=145.0*
*DDA **19** 20:35:07.4, 39˚17N×29˚13E, h7km, Md2.6*
ISC 19 20:35:06.0±1.1**, 39°03N**±0˚05×**29°16E**±0˚04**, h15**km±9km**, n13**,σ1°**30/21, Turkey**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SIMA	Simav-Kutahya	0.15	290	*e*PG	Pb	20 35 11.3	+0.7
SIMA				*e*SG	Sg	20 35 13.2	+0.5
SIMA	Simav-Kutahya	0.15	290	*e*Pg	Pb	20 35 11.3	+0.7
SIMA				*e*Sg	Sg	20 35 13.2	+0.5
DEMI	Demirci	0.34	272	*i* P	Pb	20 35 14.7	+0.7
DEMI				*i* S	Sb	20 35 19.5	+0.3
DEMI	Demirci	0.34	272	P	Pb	20 35 14.7	+0.7
DEMI				S	Sb	20 35 19.5	+0.3
TVSB	Tavsanli	0.48	29	*e*PG	Pg	20 35 15.2	-0.4
TVSB				*e*SG	Sg	20 35 20.3	-1.8
TVSB	Tavsanli	0.48	29	*e*Pg	Pg	20 35 15.2	-0.4
TVSB				*e*Sg	Sg	20 35 20.3	-1.8
KULA	Kula-Manisa	0.65	217	*e*PG	Pb	20 35 20.4	+1.4
KULA	Kula-Manisa	0.65	217	*e*Pg	Pb	20 35 20.5	+1.4
MANT	Manisa	0.72	221	*i* P	Pg	20 35 15.8	-4.3
MANT				*i* S	Sg	20 35 25.8	-3.8
BORA	Eskisehir	1.31	49	*i* P	Pg	20 35 31.6	+0.3
BORA				*i* S	Sg	20 35 48.2	-0.2
BORA	Eskisehir	1.31	49	P	Pg	20 35 31.6	+0.3
BORA				S	Sg	20 35 48.2	-0.2
ARMT	Armutlu	1.55	352	*e*PN	Pg	20 35 35.4	-0.4
ARMT	Armutlu	1.55	352	*e*Pn	Pg	20 35 35.4	-0.4

*IDC **19** 20:37:32.8±1.5, 37˚80N×142˚22E, h0km, mb3.7/5, mb1 3.9/7, mb1mx3.5/33, mbtmp3.8/7, ML3.6/2, Error ellipse: s-maj=37.4km s-min=21.5km az=72.0*
*JMA **19** 20:37:41.0, 37˚65N×141˚75E, h47km±2km, M4.0*
JMA Felt I J1.
ISC 19 20:37:37.9±1.7**, 37°66N**±0˚05×**142°03E**±0˚09**, h31**km±12km**, n27**,σ1°**48**/35**, mb3.9**/5**, Off east coast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JIO	Ouri	0.96	326	P	Pb	20 37 57.0	+1.0
JIO				S	Sb	20 38 08.2	-0.1
JFK	Kawauchi	0.97	253	P	Pn	20 37 55.4	0.0
JFK				S	Sn	20 38 05.7	-2.4
JMM	Marumori	1.00	282	P	Pn	20 37 56.0	+0.2
JMM				*e*S	Sn	20 38 06.8	-2.1
ONAJ	Iwakimizuishiy	1.13	241	P	Pn	20 37 57.8	+0.1
ONAJ				S	Sn	20 38 10.0	-2.2
JOU	Okura	1.29	303	P	Pn	20 38 00.5	+0.7
JOU				S	Sn	20 38 15.4	-0.6
JFT	Otama	1.35	264	P	Pn	20 38 01.3	+0.6
JFT				S	Sn	20 38 16.1	-1.5
JMK	Ichinoseki	1.44	334	P	Pb	20 38 04.2	+0.1
JMK				S	Sb	20 38 21.0	-1.0
JYS	Shirataka	1.65	290	P	Pn	20 38 05.3	+0.5
JYS				*e*S	Sn	20 38 24.4	-0.6
JYK	Kaneyama	1.82	314	P	Pn	20 38 08.5	+1.4
JFY	Yanaizu	1.87	263	P	Pn	20 38 08.1	+0.3
JFY				*e*S	Sn	20 38 28.6	-1.7
JOM	Ohasama	1.90	342	P	Pb	20 38 11.3	-0.6
JOM				*e*S	Sb	20 38 33.6	-1.6
JYA	Atsumi	2.05	298	P	Pn	20 38 11.3	+1.0
JYA				*e*S	Sn	20 38 34.5	-0.3
MJAR	Matsushiro Arr 4.1nm,0.3s,baz=31,slow=13,SNR=20	3.25	251	Pn	Pn	20 38 27.9	+1.0
MJAR				Sn	Sn	20 39 08.5	+3.9
MAT	Matsushiro 4.1nm,0.3s,baz=44,slow=24,SNR=5.8	3.26	251	P	Pn	20 38 28.3	+1.4
MAT				S	Sn	20 39 06.7	+2.1
JHJ	Hachijo jima 2 11nm,0.3s,baz=246,slow=20,SNR=4.0	4.89	203	Pn	Pn	20 38 50.6	+1.3
JHJ				Sn	Sn	20 39 41.9	-3.0
USRK	Ussuriysk Ar. 22nm,0.3s,baz=256,slow=23,SNR=7.3	10.02	314	Pn	Pn	20 40 01.1	+1.6
SONM	Songino Array 0.2nm,0.3s,baz=131,slow=14,SNR=4.8	27.85	303	P	P	20 43 24.6	-0.1
H11N2	WAKE ISLAND Hy 28.06 0.3nm,0.6s,baz=113,slow=8.5,SNR=2.7	123		T	T	21 13 52.0	
H11N1	WAKE ISLAND Hy 28.07 baz=315,slow=75,SNR=79	123		T	T	21 13 51.7	
H11N3	WAKE ISLAND Hy 28.08 baz=315,slow=75,SNR=96	123		T	T	21 13 55.0	
H11S1	WAKE ISLAND Hy 28.80 baz=315,slow=75,SNR=70	125		T	T	21 14 52.5	
H11S3	WAKE ISLAND Hy 28.80 baz=317,slow=76,SNR=46	125		T	T	21 14 52.6	
H11S2	WAKE ISLAND Hy 28.82 baz=317,slow=76,SNR=48	125		T	T	21 14 51.3	
MKAR	Makanchi Array baz=317,slow=76,SNR=33	44.21	302	P	P	20 45 43.5	-0.6
WRA	Warramunga Arr 0.2nm,0.5s,baz=87,slow=9.2,SNR=4.1	57.75	189	P	P	20 47 26.3	+0.3
ASAR	Alice Springs 1.6nm,0.5s,baz=6.0,slow=7.3,SNR=18	61.48	188	P	P	20 47 52.4	+0.8
AKASG	Malin Array Be 0.7nm,0.7s,baz=13,slow=5.5,SNR=9.8	74.10	322	P	P	20 49 10.8	-0.1
	0.4nm,0.3s,baz=48,slow=6.4,SNR=4.0						

*TAP **19** 20:41:58.6, 24˚49N×122˚36E, h5km±1km, ML2.8, D*
*ISCJB **19** 20:41:59.8±0.4, 24˚53N±0˚04×122˚42E±0˚02, h22km±5km, Error ellipse: s-maj=7.3km s-min=2.7km az=175.2*
*JMA **19** 20:41:59.9, 24˚46N×122˚37E, h36km±3km, M2.4*
ISC 19 20:41:58.0±1.0**, 24°46N**±0˚03×**122°43E**±0˚02**, h15**km±9km**, n25**,σ0°**61/50, Taiwan region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
YOJ	Yonaguni jima	0.53	89	P	Pn	20 42 11.5	+0.5
YOJ				*e*S	Sn	20 42 19.4	-0.3
TWC	Suao baz=284	0.55	286	P	Pg	20 42 08.6	-0.3
TWC	baz=284			S	Sb	20 42 16.9	-0.3
ENA	Nanau baz=263	0.63	268	P	Pb	20 42 11.1	+0.3
ENA	baz=263			S	Sb	20 42 19.4	0.0
TWB1	Santiao Chiao baz=327	0.68	324	P	Pg	20 42 11.5	+0.1
TWB1	baz=327			S	Sb	20 42 21.2	+0.3
TWE	Neicheng baz=290	0.74	291	P	Pg	20 42 12.3	-0.2
TWE	baz=290			S	Sb	20 42 22.7	0.0
ENTT	Nioudou baz=281	0.81	283	*e*P	Pg	20 42 13.3	-0.5
ENTT	baz=281			*e*S	Sb	20 42 24.8	+0.2
NWF	Wu-fen Shan baz=317	0.85	316	*e*P	Pn	20 42 15.1	-0.5
NWF	baz=317			*e*S	Sb	20 42 27.0	+1.2
NNS	Nan Shan baz=266	0.96	269	*e*P	Pn	20 42 16.9	-0.2
NNS	baz=266			*e*S	Sn	20 42 29.8	-0.9
NSK	Sanguang baz=281	1.00	283	P	Pn	20 42 17.6	0.0
NSK	baz=281			S	Sg	20 42 30.6	0.0
WHF	Hehuan Shan baz=250	1.11	254	*e*P	Pn	20 42 19.7	+0.3
WHF	baz=250			*e*S	Sn	20 42 34.7	+0.1
TWT	Tachien baz=257	1.16	260	*e*P	Pg	20 42 21.2	+0.7
TWT	baz=257			*e*S	Sn	20 42 37.4	+1.8
IRIF	Iriomote-Funau	1.19	96	P	Pg	20 42 20.9	-0.1
IRIF				S	Sg	20 42 37.7	+1.1
NSTT	Nanjuang baz=276	1.31	278	*e*P	Pb	20 42 22.1	-0.3
NSTT	baz=276			*e*S	Sg	20 42 41.1	+0.6
HATJ	Hateruma jima	1.32	107	P	Pg	20 42 23.7	+0.3
HATJ				*e*S	Sg	20 42 41.1	+0.5
EHY	Hungye baz=223	1.39	227	*e*P	Pg	20 42 25.2	+0.5
EHY	baz=223			*e*S	Sg	20 42 44.0	+1.2
JKRS	Kuro-shima	1.46	98	P	Pg	20 42 25.3	-0.8
JKRS				S	Sg	20 42 44.4	-0.6
SMLT	Sun Moon Lake baz=245	1.51	248	*e*P	Pg	20 42 26.4	-0.7
SMLT	baz=245			*e*S	Sg	20 42 46.7	-0.1
TWF1	Yuli baz=220	1.51	224	*e*P	Pb	20 42 25.2	-0.6
TWF1	baz=220			*e*S	Sg	20 42 46.1	-0.7
TWQ1	Liyutan baz=264	1.52	266	*e*P	Pb	20 42 25.1	-0.8
TWQ1	baz=264			*e*S	Sb	20 42 45.2	+0.3
JIJ	Ishigaki jima	1.56	93	P	Pb	20 42 26.2	-0.5
JIJ				S	Sb	20 42 46.0	-0.3
JISG	Ishigakijimahi	1.72	85	P	Pb	20 42 29.2	-0.1
JISG				*e*S	Sb	20 42 50.9	+0.2
ALS	Alishan baz=235	1.76	238	*e*P	Pb	20 42 29.9	-0.3
ALS	baz=235			*e*S	Sb	20 42 51.9	-0.3
ELDTW	Lidau baz=223	1.81	226	*e*P	Pb	20 42 30.9	-0.1
ELDTW	baz=223			*e*S	Sb	20 42 53.7	+0.3
CHN5	Tsauling baz=239	1.82	242	*e*P	Pb	20 42 29.9	-1.2
CHN5	baz=239			*e*S	Sb	20 42 53.1	-0.6
CHN4	Tsaushan baz=234	2.01	237	*e*P	Pb	20 42 33.8	-0.5
CHN4	baz=234			*e*S	Sb	20 42 59.9	+0.7

*IDC **19** 21:04:35.0±1.0, 14˚39N×147˚02E, h0km, mb3.7/5, mb1 3.8/5, mb1mx3.6/36, mbtmp3.7/5, Error ellipse: s-maj=40.9km s-min=22.1km az=93.0*
*ISCJB **19** 21:04:37.5±1.3, 14˚4N±0˚1×147˚1E±0˚4, h33km, mb3.7/5, Error ellipse: s-maj=50.2km s-min=20.4km az=3.0*
ISC 19 21:04:39.5±1.1**, 14°4N**±0˚2×**147°1E**±0˚3**, h33**km**, n7, σ0°36/7, mb3.7/5, Mariana Islands region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	Warramunga Arr 1.0nm,0.9s,baz=20,slow=9.6,SNR=3.3	36.32	200	P	P	21 11 40.0	-0.4
ASAR	Alice Springs 0.2nm,0.6s,baz=23,slow=12,SNR=3.4	39.93	199	P	P	21 12 11.1	+0.3
SONM	Songino Array 0.5nm,0.6s,baz=125,slow=5.6,SNR=4.9	47.35	323	P	P	21 13 10.3	-0.2
MKAR	Makanchi Array	62.42	315	P	P	21 14 59.8	+0.3

	1.3nm,0.5s,baz=90,slow=8.7,SNR=18							
ILAR	**Eielson Array**	**66.96**	**25**	P	**P**	**21 15 28.5**	**-0.2**	
	0.3nm,0.5s,baz=260,slow=6.2,SNR=6.0							
DBIC	**Dimbokro**	**145.17**	**305**	PKPbc	**PKPdf**	**21 24 14.7**	**-0.1**	
	3.4nm,0.7s,baz=44,slow=3.2,SNR=5.1							
LPAZ	**La Paz**	**146.04**	**98**	PKPbc	**PKPab**	**21 24 18.7**	**+0.3**	
	0.5nm,0.4s,baz=254,slow=0.9,SNR=3.1							

IDC 19 21:24:36.5±19.0,**16°61S**×**177°84W,h342**km±194km,
mb3.3/5,**mb1 3.6**/5,**mb1mx3.1**/30,**mbtmp4.0**/5,**Error ellipse: s-maj=92.9km s-min=45.9km az=156.0,Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**39.74**	**240**	P	P	21 31 36.3	-0.9
	2.7nm,0.9s,baz=80,slow=12,SNR=4.1						
WRA	**Warramunga Arr**	**45.41**	**258**	P	P	21 32 22.6	0.0
	0.6nm,0.5s,baz=97,slow=8.0,SNR=3.0						
ASAR	**Alice Springs**	**45.68**	**253**	P	P	21 32 24.7	+0.1
	3.1nm,0.7s,baz=88,slow=8.2,SNR=30						
ILAR	**Eielson Array**	**84.51**	**13**	P	P	21 36 30.6	-0.5
	1.2nm,0.6s,baz=227,slow=6.0,SNR=7.4						
TXAR	**Lajitas Array**	**84.84**	**58**	P	P	21 36 34.0	+0.3
	1.0nm,0.8s,baz=228,slow=6.7,SNR=9.4						
BRTR	**Keskin Array B**	**144.24**	**316**	PKP	PKPbc	21 43 31.7	+0.1
	0.7nm,0.8s,baz=122,slow=2.3,SNR=3.6						

*ISCJB **19** 21:31:45.7±0.6,5°.58S±0°.03×149°.38E±0°.05,h170km±6km, mb4.6/58,Error ellipse: s-maj=8.4km s-min=5.3km az=16.9*
*BJI **19** 21:31:45.4,5°.58S×149°.45E,h171km,mb4.8/51,mB5.0/31*
*IDC **19** 21:31:46.7±0.8,5°.60S×149°.25E,h161km±6km,mb4.1/17, mb1 4.2/20,mb1mx4.2/28,mbtmp4.6/20,Error ellipse: s-maj=14.1km s-min=7.1km az=102.0*
*DJA **19** 21:31:47.4±1.3,6°.S±6°×14°.9E±1°.0,h162km±10km,M5.0/6, mb4.6/6,MLv5.3/1*
*NEIC **19** 21:31:47.1±0.7,5°.60S×149°.35E,h170km±7km,mb4.8/39, Error ellipse: s-maj=8.2km s-min=5.2km az=98.0*
ISC 19 21:31:45.9±0.6,**5°.56S**±0°.05×**149°.35E**±0°.06,**h159**km±5km, **n109,**σ1§**58**/139,**mb4.6**/58,**1C,New Britain region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RABL	**Rabaul**	**3.12**	**64**	*e*Pn	**Pn**	**21 32 35.8**	**+0.6**
RABL				*e*Sn	**Sn**	**21 33 09.1**	**-4.3**
MANU	**Manus Island**	**4.02**	**330**	*e*Pn	**Pn**	**21 32 48.7**	**+2.0**
PMG	**Port Moresby**	**4.39**	**210**	P	**Pn**	**21 32 51.9**	**+0.3**
	54nm,0.3s,baz=35,slow=6.5,SNR=35						
PMG				S	**Sn**	**21 33 44.0**	**+1.2**
	32nm,0.3s,baz=56,slow=16,SNR=16						
PMG	**Port Moresby**	**4.39**	**210**	*e*Pn	**Pn**	**21 32 51.8**	**+0.2**
PMG				*e*Sn	**Sn**	**21 33 43.6**	**+0.8**
JAY	**Jayapura**	**9.14**	**289**	P	**Pn**	**21 33 54.8**	**+0.3**
	0.1nm,0.3s,baz=131,slow=23,SNR=8.6						
JAY	**Jayapura**	**9.14**	**289**	P	**Pn**	**21 33 55.1**	**+0.5**
COEN	**Coen**	**10.32**	**216**	*e*Pn	**Pn**	**21 34 10.8**	**+0.6**
COEN				*e*Sn	Sn	21 35 49.8	-15
SMPI	**Sarmi**	**11.19**	**288**	P	**P**	**21 34 26.0**	**-3.3**
CTA	**Charters Tower**	**14.75**	**192**	P	**P**	**21 35 08.8**	**0.0**
	0.6nm,0.3s,baz=15,slow=14,SNR=19						
CTAO	**Charters Tower**	**14.75**	**192**	*e*Pn	**P**	**21 35 08.2**	**-0.6**
FAKI	**Fak Fak**	**17.25**	**278**	*e*P	**P**	**21 35 33.8**	**-2.7**
	18nm,1.1s						
SAUI	**Saumlaki**	**18.09**	**261**	*e*P	**P**	**21 35 42.5**	**-3.2**
	326nm,0.9s						
MTN	**Manton Dam**	**19.37**	**247**	*e*P	**P**	**21 35 58.8**	**-0.8**
	21nm,0.6s						
MTN				*e*S	**S**	**21 39 27.2**	**-3.1**
GUMO	**Guam**	**19.54**	**347**	P	**Pn**	**21 36 03.5**	**-0.9**
	4.6nm,0.3s,baz=176,slow=16,SNR=4.1						
EIDS	**Eidsvold**	**19.77**	**175**	*e*P	**P**	**21 36 03.7**	**0.0**
	31nm,0.8s						
WRAB	**Tennant Creek**	**20.42**	**224**	*e*P	**P**	**21 36 10.7**	**-0.1**
	18nm,0.6s						
WRAB				*e*S	**S**	**21 39 47.7**	**-3.3**
WC3	**Warramunga Arr**	**20.42**	**224**	*e*P	**P**	**21 36 10.8**	**-0.1**
	28nm,1.2s						
WC3				*e*S	**S**	**21 39 47.1**	**-3.8**
WB2	**Warramunga Arr**	**20.43**	**224**	*e*P	**P**	**21 36 09.8**	**-1.1**
WB2				*e*S	**S**	**21 39 49.9**	**-1.1**
WRA	**Warramunga Arr**	**20.43**	**224**	P	**P**	**21 36 11.1**	**+0.1**
	12nm,0.5s,baz=48,slow=11,SNR=47						
WRA				S	**S**	**21 39 49.1**	**-2.1**
	17nm,0.8s,baz=42,slow=20,SNR=12						
WRA				ScP	**ScP**	**21 43 37.2**	**-1.3**
	1.5nm,0.8s,baz=44,slow=2.5,SNR=5.9						
DZM	**Mont Dzumac**	**23.30**	**136**	P	**P**	**21 36 40.5**	**+0.8**
	7.8nm,0.5s,baz=248,slow=9.9,SNR=15						
DZM	**Mont Dzumac**	**23.30**	**136**	*e*P	**P**	**21 36 39.5**	**-0.3**
	11nm,0.6s						
AS01	**Alice Springs**	**23.32**	**218**	*e*P	**P**	**21 36 41.2**	**+1.3**
AS01				*e*PcP	**PcP**	**21 40 21.7**	**-0.8**
AS01				*e*S	**S**	**21 40 45.2**	**+4.5**
AS31	**Alice Springs**	**23.35**	**218**	*e*P	**P**	**21 36 39.9**	**-0.3**
	3.9nm,0.4s						
ASAR	**Alice Springs**	**23.35**	**218**	P	**P**	**21 36 41.0**	**+0.8**
	3.5nm,0.4s,baz=56,slow=9.2,SNR=77						
ASAR				S	**S**	**21 40 41.0**	**-0.2**
	2.3nm,0.9s,baz=31,slow=17,SNR=4.9						
ASAR				ScP	**ScP**	**21 43 45.5**	**-0.4**
	2.0nm,0.8s,baz=39,slow=3.0,SNR=10						
ARMA	**Armidale**	**24.82**	**175**	*e*P	**P**	**21 36 55.0**	**+1.5**
	15nm,0.8s						
FITZ	**Fitzroy Crossi**	**26.30**	**240**	P	**P**	**21 37 06.3**	**-0.6**
	8.7nm,0.3s,baz=58,slow=8.7,SNR=78						
FITZ	**Fitzroy Crossi**	**26.30**	**240**	*e*P	**P**	**21 37 06.8**	**-0.1**
STKA	**Stephens Creek**	**27.17**	**195**	P	**P**	**21 37 14.3**	**-0.2**
	2.9nm,0.5s,baz=34,slow=12,SNR=7.4						
STKA				pP	**pP**	**21 37 48.4**	**+0.7**
	7.4nm,1.1s,baz=319,slow=11,SNR=2.6						
MBWA	**Marble Bar**	**32.63**	**239**	*e*P	**P**	**21 38 02.0**	**-0.8**
	100nm,1.9s						
YULB	**Yu-li**	**39.73**	**317**	*e*P	**P**	**21 39 03.8**	**+0.7**
	19nm,0.7s						
NACB	**Ninganchiao**	**40.07**	**319**	*e*P	**P**	**21 39 07.0**	**+1.2**
	33nm,0.8s						
TPUB	**Ta-pu**	**40.12**	**317**	*e*P	**P**	**21 39 06.2**	**-0.2**
	314nm,2.0s						
SSLB	**Suanglung**	**40.23**	**318**	*e*P	**P**	**21 39 07.7**	**+0.5**
	18nm,0.7s						
YHNB	**Yeheng**	**40.55**	**319**	*e*P	**P**	**21 39 09.8**	**-0.2**
	56nm,0.9s						
CISI	**Cisompet, Garu**	**41.30**	**265**	*e*P	**P**	**21 39 15.9**	**-0.4**
	82nm,1.4s						
RPZ	**Rata Peaks**	**42.53**	**157**	P	**P**	**21 39 27.0**	**+1.3**
	18nm,1.0s,baz=351,slow=3.7,SNR=6.6						
RPZ	**Rata Peaks**	**42.53**	**157**	*e*P	**P**	**21 39 27.0**	**+1.3**
	47nm,1.3s						
MLZ	**Mavora Lakes**	**42.89**	**161**	*e*P	**P**	**21 39 29.7**	**+1.1**
	140nm,1.9s						
MJAR	**Matsushiro Arr**	**43.16**	**347**	P	**P**	**21 39 31.2**	**+0.4**
	2.3nm,0.5s,baz=77,slow=1.5,SNR=8.3						
MJAR				PcP	**PcP**	**21 41 17.4**	**-0.1**
	1.5nm,0.8s,baz=145,slow=2.8,SNR=4.6						
MAJO	**Matsushiro**	**43.16**	**347**	*e*P	**P**	**21 39 33.7**	**+2.8**
	15nm,1.1s						
MAT	**Matsushiro**	**43.16**	**347**	P	**P**	**21 39 30.5**	**-0.4**
MJB9	**Matsu-Tunnel**	**43.17**	**347**	*e*P	**P**	**21 39 33.7**	**+2.8**
	3.9nm,1.1s						
KSRS	**Korea Array**	**47.23**	**337**	P	**P**	**21 40 04.2**	**+1.4**
	2.8nm,0.6s,baz=157,slow=8.7,SNR=11						
KSAR	**Wonju Array Be**	**47.23**	**337**	P	**P**	**21 40 04.2**	**+1.3**
KS01	**Wonju Array Si**	**47.26**	**337**	*e*P	**P**	**21 40 05.3**	**+2.2**
NJ2	**Nanjing**	**47.36**	**324**	*e*P	**P**	**21 40 04.3**	**+0.4**
KULM	**Kulim**	**49.81**	**282**	*e*P	**P**	**21 40 21.5**	**-1.5**
	32nm,1.4s						
KULM				*e*PcP	**PcP**	**21 41 36.6**	**-4.9**
ASAJ	**Asahikawa**	**49.82**	**354**	*e*P	**P**	**21 40 23.7**	**+1.2**
	74nm,1.7s						
ASAJ				*e*PcP	**PcP**	**21 41 42.0**	**+1.2**
TIA	**Tai'an**	**51.37**	**326**	⇑P	**P**	**21 40 35.1**	**+0.8**
TIA				pmax	pmax		
	comp=Z,40nm,0.8s						
USRK	**Ussuriysk Ar.**	**51.95**	**344**	P	**P**	**21 40 40.1**	**+1.7**
	8.4nm,0.6s,baz=176,slow=6.5,SNR=29						
MDJ	**Mudanjiang**	**53.01**	**342**	P	**P**	**21 40 47.8**	**+1.5**
MDJ				pmax	pmax		
	comp=Z,13nm,0.9s						
MDJ				pmax	pmax		
	comp=Z,110nm,5.8s						
MDJ	**Mudanjiang**	**53.01**	**342**	*e*P	**P**	**21 40 48.6**	**+2.3**
	14nm,1.0s						
CN2	**Changchun**	**53.67**	**339**	*e*P	**P**	**21 40 55.0**	**+3.9**
CN2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
KMI	**Kunming**	**54.61**	**306**	P	**P**	**21 41 00.9**	**+2.4**
KMI				pmax	pmax		
	comp=Z,10.0nm,0.9s						
BJI	**Beijing**	**54.70**	**329**	P	**P**	**21 40 59.4**	**+0.8**
BJI				pmax	pmax		
	comp=Z,10.0nm,1.1s						
BJI				pmax	pmax		
	comp=Z,180nm,4.5s						
BJI				LR	LR		
	comp=Z,33nm,19.1s						
XAN	**Xi'an**	**54.87**	**319**	P	**P**	**21 41 00.1**	**+0.1**
XAN				pP	pP	21 41 43.0	+6.2
XAN				pmax	pmax		
	comp=Z,10.0nm,1.0s						
CM01	**Chiang Mai Arr**	**55.10**	**297**	*e*P	**P**	**21 41 02.7**	**+0.8**
CM01				*e*PcP	**PcP**	**21 42 01.8**	**+0.4**
CMAR	**Chiang Mai Arr**	**55.12**	**297**	P	**P**	**21 41 03.0**	**+1.0**
	2.1nm,0.8s,baz=123,slow=5.9,SNR=15						
CMAR				PcP	**PcP**	**21 42 01.3**	**-0.2**
	1.7nm,0.8s,baz=101,slow=2.3,SNR=7.7						
CD2	**Chengdu**	**56.67**	**313**	P	**P**	**21 41 14.1**	**+1.1**
CD2				pP	pP	21 41 53.1	+3.2
CD2				S	**S**	**21 48 53.3**	**+0.2**
CD2				pmax	pmax		
	comp=Z,20nm,0.7s						
HHC	**Hu-ho-hao-te**	**57.72**	**327**	*e*P	**P**	**21 41 22.0**	**+1.8**
HHC				S	**S**	**21 49 06.3**	**-0.3**
HHC				pmax	pmax		
	comp=Z,17nm,1.2s						
PEA0	**Petropavlovsk-**	**58.88**	**6**	*e*P	**P**	**21 41 28.9**	**+1.1**
PEA0B	**Petropavlovsk-**	**58.88**	**6**	*e*P	**P**	**21 41 29.2**	**+1.4**
	34nm,1.2s						
PETK	**Petropavlovsk-**	**58.88**	**6**	P	**P**	**21 41 29.3**	**+1.5**
	17nm,0.8s,baz=170,slow=7.2,SNR=14						
LZH	**Lanzhou**	**59.43**	**318**	*e*P	**P**	**21 41 33.5**	**+1.3**
LZH				PP	**PP**	**21 43 49.0**	**+3.6**
LZH				pmax	pmax		
	comp=Z,25nm,1.3s						
LZH				pmax	pmax		
	comp=Z,76nm,8.0s						
LZH				LR	LR		
	comp=N,170nm,15.4s						
LZH				LR	LR		
	comp=E,180nm,15.6s						
LZH				LR	LR		
	comp=Z,200nm,18.7s						
HIA	**Hailar**	**60.39**	**338**	*e*P	**P**	**21 41 39.9**	**+1.7**
	25nm,0.9s						
GTA	**Gaotai**	**63.93**	**319**	*e*P	**P**	**21 42 03.3**	**+1.1**
GTA				pP	pP	21 42 48.8	+8.8
GTA				pmax	pmax		
	comp=Z,8.0nm,1.1s						
ULN	**Ulaanbaatar**	**64.88**	**330**	*e*P	**P**	**21 42 08.6**	**+0.4**
	2.9nm,0.8s						
ULN				*e*PcP	**PcP**	**21 42 39.4**	**-0.8**
SONM	**Songino Array**	**65.19**	**330**	P	**P**	**21 42 11.5**	**+1.3**
	1.8nm,0.6s,baz=148,slow=5.3,SNR=16						
SONM				PcP	**PcP**	**21 42 41.3**	**-0.1**
	1.3nm,0.5s,baz=148,slow=4.0,SNR=5.4						
SONA1	**Songino Array**	**65.19**	**330**	*e*P	**P**	**21 42 11.3**	**+1.1**
SONA1				*e*PcP	**PcP**	**21 42 39.9**	**-1.5**
LSA	**Lhasa**	**65.87**	**306**	P	**P**	**21 42 16.3**	**+1.0**
LSA				pmax	pmax		
	comp=Z,13nm,1.1s						
LSA	**Lhasa**	**65.87**	**306**	*e*P	**P**	**21 42 16.3**	**+1.0**
	7.8nm,0.7s						
TAPN	**Taplejung**	**67.88**	**302**	*e*P	**P**	**21 42 27.8**	**-0.1**
ODAN	**Odare**	**67.99**	**302**	*e*P	**P**	**21 42 28.5**	**-0.1**
	22nm,0.6s						
RAMN	**Ramite**	**68.69**	**302**	*e*P	**P**	**21 42 32.9**	**0.0**
	13nm,0.5s						
JIRN	**Jiri**	**69.26**	**302**	*e*P	**P**	**21 42 36.4**	**-0.2**
	20nm,0.6s						
GUN	**Gumba**	**69.60**	**302**	*e*P	**P**	**21 42 38.3**	**-0.3**
	39nm,0.6s						
PKI	**Pulchoki**	**69.89**	**302**	*e*P	**P**	**21 42 40.1**	**-0.3**
	5.8nm,0.5s						
PKIN	**Phulchoki**	**69.90**	**302**	*e*P	**P**	**21 42 39.7**	**-0.7**
	6.1nm,0.5s						
KKN	**Kakani**	**70.07**	**302**	*e*P	**P**	**21 42 41.0**	**-0.3**
	16nm,0.6s						
DMN	**Daman**	**70.16**	**302**	*e*P	**P**	**21 42 41.7**	**-0.2**
	21nm,0.5s						
GKN	**Gorkha**	**70.67**	**302**	*e*P	**P**	**21 42 44.4**	**-0.5**
	18nm,0.5s						
KOLN	**Koldanda**	**71.48**	**302**	*e*P	**P**	**21 42 49.3**	**-0.6**
	21nm,0.6s						
PYUN	**Piuthan**	**72.09**	**302**	*e*P	**P**	**21 42 52.4**	**-1.1**
	30nm,0.8s						
VNDA	**Vanda**	**72.22**	**177**	P	**P**	**21 42 53.6**	**+0.6**
	1.4nm,0.7s,baz=157,slow=2.6,SNR=8.0						
VNDA				pP	**pP**	**21 43 31.0**	**-0.7**
	1.2nm,0.8s,baz=309,slow=6.6,SNR=2.9						
WMQ	**Urumqi**	**74.00**	**318**	P	**P**	**21 43 04.8**	**+0.6**
WMQ				pmax	pmax		
	comp=Z,11nm,0.8s						
WMQ				pmax	pmax		
	comp=Z,160nm,4.7s						
WMQ				LR	LR		
	comp=N,30nm,16.3s						
WMQ				LR	LR		
	comp=E,15nm,15.1s						
WMQ				LR	LR		
	comp=Z,25nm,16.3s						
MK01	**Makanchi Array**	**78.65**	**320**	*e*P	**P**	**21 43 29.6**	**-0.7**
MK31	**Makanchi Array**	**78.66**	**320**	*e*P	**P**	**21 43 29.6**	**-0.8**
MKAR	**Makanchi Array**	**78.66**	**320**	P	**P**	**21 43 30.0**	**-0.4**
	2.1nm,0.7s,baz=94,slow=9.4,SNR=14						
MKAR	**Makanchi Array**	**78.66**	**320**	P	**P**	**21 43 30.0**	**-0.4**
	15nm,1.0s						
ZAA0	**Zalesovo Array**	**79.90**	**327**	*e*P	**P**	**21 43 36.5**	**-0.4**
ZALV	**Zalesovo Beam**	**79.90**	**327**	P	**P**	**21 43 35.4**	**-1.5**
	3.3nm,0.5s,baz=110,slow=5.8,SNR=14						
ZALV				pP	**pP**	**21 44 15.2**	**-1.0**
	2.4nm,0.7s,baz=111,slow=5.1,SNR=4.4						
KSH	**Kashi**	**80.84**	**311**	*e*P	**P**	**21 43 44.1**	**+1.7**
KSH				pP	pP	21 44 28.1	+6.2
KSH				PP	**PP**	**21 46 54.1**	**+5.1**
KSH				S	**S**	**21 53 33.1**	**-4.6**
KSH				sS	sS	21 54 48.1	+2.0
KSH				SS	**SS**	**21 58 55.0**	**-0.2**
KSH				pmax	pmax		
	comp=Z,6.0nm,1.3s						
KSH				pmax	pmax		
	comp=Z,93nm,4.8s						
KSH				LR	LR		
	comp=N,73nm,5.4s						
KSH				LR	LR		
	comp=E,88nm,5.8s						
KSH				LR	LR		
	comp=Z,140nm,5.3s						
CAST	**Castle Rocks**	**81.52**	**23**	*e*P	**P**	**21 43 45.3**	**0.0**
	12nm,0.8s						
KURK	**Kurchatov**	**82.27**	**323**	*e*P	**P**	**21 43 49.7**	**+0.3**
	5.4nm,1.1s						
AAK	**Ala-Archa**	**82.71**	**314**	*e*P	**P**	**21 43 51.7**	**-0.5**
	2.2nm,0.6s						
RND	**Reindeer**	**82.78**	**24**	*e*P	**P**	**21 43 51.1**	**-0.8**
	20nm,0.8s						
MCK	**McKinley**	**82.90**	**23**	*e*P	**P**	**21 43 51.9**	**-0.6**
	25nm,1.0s						
MAW	**Mawson**	**83.55**	**203**	P	**P**	**21 43 55.7**	**0.0**
	0.9nm,0.5s,baz=99,slow=8.4,SNR=7.0						
WRH	**Wood River Hil**	**83.57**	**23**	*e*P	**P**	**21 43 55.5**	**-0.4**
	13nm,1.0s						
CCB	**Clear Creek Bu**	**83.76**	**23**	*e*P	**P**	**21 43 54.8**	**-2.1**
	11nm,1.0s						
COLD	**Coldfoot**	**84.12**	**20**	*e*P	**P**	**21 43 57.0**	**-1.6**
	17nm,1.6s						
ILAR	**Eielson Array**	**84.17**	**23**	P	**P**	**21 43 57.4**	**-1.5**
	8.9nm,0.8s,baz=252,slow=5.2,SNR=67						
ILB	**Eielson Array**	**84.17**	**23**	*e*P	**P**	**21 43 57.4**	**-1.5**
IL1	**Eielson Array**	**84.17**	**23**	*e*P	**P**	**21 43 57.3**	**-1.6**
NRIK	**Noril'sk**	**85.59**	**342**	P	**P**	**21 44 05.8**	**0.0**
	7.0nm,0.8s,baz=111,slow=4.6,SNR=9.1						
EGAK	**Eagle**	**86.42**	**24**	*e*P	**P**	**21 44 09.5**	**-0.6**
	11nm,1.0s						
DAWY	**Dawson**	**86.89**	**25**	*e*P	**P**	**21 44 12.6**	**+0.1**
	8.4nm,0.9s						
ABKAR	**Akbulak array**	**93.78**	**319**	*e*P	**P**	**21 44 43.0**	**-1.8**
	7.7nm,0.7s						
TORD	**Torodi Ar. Bea**	**147.24**	**286**	PKPbc	**PKPbc**	**21 51 10.7**	**-0.8**
	3.0nm,0.4s,baz=86,slow=2.6,SNR=105						

*ISCJB **19** 21:48:37.0±0.7,51°.45N±0°.03×16°.09E±0°.03,h0km, Error ellipse: s-maj=4.9km s-min=2.6km az=8.8*
*CSEM **19** 21:48:38.9±0.3,51°.44N×16°.08E,h1km,ML3.3/10,Error ellipse: s-maj=5.5km s-min=2.8km az=2.0*
*WAR **19** 21:48:39.0,51°.49N×16°.09E,h1km,Mw2.5*
*PRU **19** 21:48:40.7,51°.41N×16°.08E,h0km*
ISC 19 21:48:39.0±1.1,**51°.45N**±0°.05×**16°.07E**±0°.02,**h0**km,**n42,** σ1§**09**/78,**7C,Poland**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.63**	**167**	*e*Pg	**Pg**	**21 48 51.4**	**+0.4**
KSP				*e*Sg	**Sg**	**21 49 00.1**	**+0.9**
KSP	**Ksiaz**	**0.63**	**167**	*e*Pg	**Pg**	**21 48 51.4**	**+0.4**
KSP				*e*Sg	**Sg**	**21 49 00.1**	**+0.9**
KSP	**Ksiaz**	**0.63**	**167**	*e*Pg	**Pg**	**21 48 51.4**	**+0.4**
KSP				*e*Sg	**Sg**	**21 49 00.1**	**+0.9**
UPC	**Upice**	**0.95**	**182**	⇑*e*PG	**Pg**	**21 48 57.5**	**+0.3**
UPC				*e*SG	**Sb**	**21 49 10.5**	**-0.9**
	comp=Z,61nm,0.4s						
UPC	**Upice**	**0.95**	**182**	Pg	**Pg**	**21 48 57.5**	**+0.3**
UPC				Sg	**Sb**	**21 49 10.5**	**-0.9**
	61nm,0.4s						
DPC	**Dobruska-Polom**	**1.12**	**172**	*e*PG	**Pg**	**21 49 00.3**	**-0.1**
DPC				*e*SG	**Sg**	**21 49 14.8**	**0.0**
	comp=Z,36nm,0.4s						
DPC	**Dobruska-Polom**	**1.12**	**172**	Pg	**Pg**	**21 49 00.3**	**-0.1**
DPC				Sg	**Sg**	**21 49 14.8**	**0.0**
	36nm,0.4s						
PVCC	**Panska Ves**	**1.33**	**226**	⇑*e*PG	**Pg**	**21 49 04.5**	**+0.1**
PVCC				*e*SG	**Sb**	**21 49 22.5**	**+0.2**
	comp=Z,105nm,0.3s						
PVCC	**Panska Ves**	**1.33**	**226**	Pg	**Pg**	**21 49 04.5**	**+0.1**
PVCC				Sg	**Sb**	**21 49 22.5**	**+0.2**
	105nm,0.3s						
KRLC	**Kraliky**	**1.45**	**162**	*e*PG	**Pn**	**21 49 06.4**	**-0.2**
KRLC				*e*SG	**Sg**	**21 49 25.1**	**-0.5**
KRLC	**Kraliky**	**1.45**	**162**	Pg	**Pn**	**21 49 06.4**	**-0.2**
KRLC				Sg	**Sg**	**21 49 25.1**	**-0.5**
BRG	**Berggiesshubel**	**1.46**	**247**	PG	**Pg**	**21 49 07.0**	**0.0**
BRG				SG	**Sn**	**21 49 26.8**	**+0.4**
	53nm,0.6s						
PRA	**Prague**	**1.73**	**217**	⇑*e*SG	**Sg**	**21 49 34.9**	**+0.3**
	comp=Z,17nm,0.5s						
PRA	**Prague**	**1.73**	**217**	Sg	**Sg**	**21 49 34.9**	**+0.3**
	17nm,0.5s						
GOPC	**GO Pecny, Ondr**	**1.75**	**208**	*e*PG	**Pb**	**21 49 11.9**	**0.0**
GOPC				*e*SG	**Sb**	**21 49 34.0**	**-0.3**
	comp=Z,17nm,0.4s						
GOPC	**GO Pecny, Ondr**	**1.75**	**208**	Pg	**Pb**	**21 49 11.9**	**0.0**
GOPC				Sg	**Sb**	**21 49 34.0**	**-0.3**
	17nm,0.4s						
PRU	**Pruhonice**	**1.76**	**214**	⇑*e*PG	**Pb**	**21 49 12.1**	**0.0**
PRU				*e*SG	**Sg**	**21 49 35.3**	**-0.2**
	comp=Z,24nm,0.3s						
PRU	**Pruhonice**	**1.76**	**214**	Pg	**Pb**	**21 49 12.1**	**0.0**
PRU				Sg	**Sg**	**21 49 35.3**	**-0.2**
	24nm,0.3s						
MORC	**Moravsky Berou**	**1.92**	**150**	*e*Pn	**Pn**	**21 49 11.9**	**-1.1**
MORC				*e*Sg	**Sb**	**21 49 39.4**	**-0.1**
CLL	**Collm**	**1.93**	**267**	*e*Pg	**Pb**	**21 49 15.0**	**0.0**
CLL				*i* Sg	**Sg**	**21 49 40.8**	**-0.1**
	comp=Z,13nm,0.5s						
OKC	**Ostrava-Krasne**	**2.09**	**140**	⇑*e*PG	**Pb**	**21 49 18.0**	**+0.2**
OKC				*e*SG	**Sb**	**21 49 44.5**	**+0.2**
	comp=Z,13nm,0.4s						
OKC	**Ostrava-Krasne**	**2.09**	**140**	Pg	**Pb**	**21 49 18.0**	**+0.2**
OKC				Sg	**Sb**	**21 49 44.5**	**+0.2**
	comp=Z,13nm,0.4s						
VRAC	**Vranov**	**2.17**	**171**	*e*Sg	**Sg**	**21 49 48.4**	**-0.4**
TREC	**Trest**	**2.19**	**190**	⇑*e*SG	**Sg**	**21 49 49.0**	**-0.4**
	comp=Z,18nm,0.2s						
TREC	**Trest**	**2.19**	**190**	Sg	**Sg**	**21 49 49.0**	**-0.4**
	comp=Z,18nm,0.2s						
NKC	**Novy Kostel**	**2.60**	**243**	⇑*e*PN	**Pn**	**21 49 22.7**	**+0.4**
NKC				*e*PG	**Pg**	**21 49 29.2**	**+0.4**
NKC				*e*SG	**Sg**	**21 50 02.0**	**-0.5**
	comp=Z,33nm,0.4s						
NKC	**Novy Kostel**	**2.60**	**243**	Pn	**Pn**	**21 49 22.7**	**+0.4**
OJC	**Ojcow**	**2.67**	**116**	*e*Pg	**Pg**	**21 49 29.5**	**-0.6**
OJC				*e*Sg	**Sg**	**21 50 04.5**	**-0.2**
OJC	**Ojcow**	**2.67**	**116**	*e*Pg	**Pg**	**21 49 29.5**	**-0.6**
OJC				*e*Sg	**Sg**	**21 50 04.5**	**-0.2**
OJC	**Ojcow**	**2.67**	**116**	*e*Pg	**Pg**	**21 49 29.5**	**-0.6**
OJC				*e*Sg	**Sg**	**21 50 04.5**	**-0.2**
KHC	**Kasperske Hory**	**2.82**	**215**	*e*PN	**Pn**	**21 49 25.3**	**-0.1**
KHC				*e*PG	**Pb**	**21 49 31.4**	**+1.1**
KHC				*e*SN	**Sn**	**21 49 58.6**	**-1.5**
KHC				*e*SG	**Sg**	**21 50 08.7**	**-0.9**
	comp=Z,12nm,0.3s						
KHC	**Kasperske Hory**	**2.82**	**215**	Pn	**Pn**	**21 49 25.3**	**-0.1**
SMOL	**Smolenice**	**3.07**	**163**	*e

TOKL				⇑*e*S		**Sn**	**22 03 11.9**	**+4.6**
	baz=43							
BRLS	**Borolday**	**4.09**	**4**	*e*P		**Pg**	**22 02 33.0**	**-4.7**
	1.2nm,0.2s							
BRLS				*e*S		**Sg**	**22 03 28.8**	**-1.9**
	68nm,0.4s							
KK31	**Karatay Array**	**4.24**	**11**	Pn		Pb	22 02 27.6	-6.2
	1.8nm,0.2s,baz=201,slow=16,SNR=54							
KK31				⇑Pg		**Pg**	**22 02 41.3**	**+0.9**
	3.6nm,0.3s,baz=189,slow=19,SNR=7.9							
KK31				⇓Sn		**Sb**	**22 03 21.7**	**-3.4**
	18nm,0.5s							
KK31				⇑Lg		Lg	22 03 40.1	
	14nm,0.3s,baz=195,slow=30,SNR=5.3							
MNAS	**Manas**	**4.24**	**33**	⇑*i*P		**Pn**	**22 02 27.8**	**+3.7**
	baz=35							
MNAS				⇑*e*S		**Sn**	**22 03 17.1**	**+3.3**
	baz=35							
MNAS	**Manas**	**4.24**	**33**	⇓Pn		**Pn**	**22 02 28.3**	**+4.2**
	13nm,0.8s							
MNAS				⇑Sn		**Sb**	**22 03 21.3**	**-4.1**
	15nm,0.5s							
MNAS				⇑Lg		Lg	22 03 37.5	
	79nm,1.0s							
AML	**Almayashu**	**4.55**	**44**	⇑*i*P		**Pn**	**22 02 31.5**	**+2.9**
	baz=46							
AML				⇑*i*S		**Sn**	**22 03 24.5**	**+2.8**
	baz=46							
MRKS	**Merke**	**4.77**	**36**	*e*P		**Pn**	**22 02 35.7**	**+4.4**
	17nm,0.2s							
MRKS				*e*S		**Sb**	**22 03 33.8**	**-6.7**
	25nm,0.3s							
EKS2	**Erkin-Say**	**4.97**	**40**	⇑*i*P		**Pn**	**22 02 37.5**	**+3.4**
	baz=42							
EKS2				⇑*i*S		**Sn**	**22 03 34.8**	**+3.1**
	baz=42							
UCH	**Uchtor**	**5.08**	**48**	⇑*i*P		**Pn**	**22 02 38.3**	**+2.5**
	baz=50							
UCH				⇑*i*S		**Sn**	**22 03 36.5**	**+1.7**
	baz=50							
AAK	**Ala-Archa**	**5.33**	**45**	P		**Pn**	**22 02 39.9**	**+0.9**
	0.2nm,0.3s,baz=194,slow=8.8,SNR=4.4							
AAK				S		**Sn**	**22 03 47.3**	**+6.7**
	0.0nm,0.3s,baz=227,slow=18,SNR=2.9							
AAK				LR		LR	22 05 07.8	
	comp=Z,56nm,19.8s,baz=216,slow=42							
AAK	**Ala-Archa**	**5.33**	**45**	⇑*i*P		**Pn**	**22 02 42.0**	**+2.9**
	baz=47							
AAK				⇑*i*S		**Sn**	**22 03 42.8**	**+2.2**
	baz=47							
AAK	**Ala-Archa**	**5.33**	**45**	⇑Pn		**Pn**	**22 02 41.7**	**+2.6**
	8.5nm,0.8s							
AAK				⇑Sn		**Sb**	**22 03 49.4**	**-7.3**
	7.8nm,0.5s							
AAK				⇑Lg		Lg	22 04 15.0	
	18nm,0.8s							
KZA	**Kyzart**	**5.43**	**53**	⇑*i*P		**Pn**	**22 02 42.8**	**+2.1**
	baz=55							
KZA				⇑*i*S		**Sn**	**22 03 43.8**	**+0.3**
	baz=55							
KBK	**Karagaybulak**	**5.60**	**47**	⇑*i*P		**Pn**	**22 02 45.4**	**+2.7**
	baz=49							
KBK				⇑*i*S		**Sn**	**22 03 48.6**	**+1.4**
	baz=49							
NRN	**Naryn**	**5.62**	**62**	⇑*i*P		**Pn**	**22 02 43.9**	**+0.8**
	baz=63							
NRN				⇑*i*S		**Sn**	**22 03 46.2**	**-1.7**
	baz=63							
CHMS	**Chumysh**	**5.72**	**43**	⇓*i*P		**Pn**	**22 02 47.4**	**+3.2**
	baz=45							
CHMS				⇓*i*S		**Sn**	**22 03 52.1**	**+2.2**
	baz=45							
USP	**Ospenovka**	**5.78**	**40**	⇑*i*P		**Pn**	**22 02 48.6**	**+3.6**
	baz=42							
USP				⇑*i*S		**Sn**	**22 03 54.1**	**+2.7**
	baz=42							
DGS	**Degeres**	**6.44**	**46**	*e*P		Pn	22 03 00.1	+6.0
MKAR	**Makanchi Array**	**12.26**	**46**	P		**Pn**	**22 04 10.1**	**-3.8**
	0.0nm,0.3s,baz=224,slow=16,SNR=3.4							
KURBB	**Kurchatov Arra**	**13.34**	**26**	P		**Pn**	**22 04 27.5**	**-1.0**
	0.0nm,0.3s,baz=215,slow=11,SNR=3.3							
AKTO	**Aktyubinsk**	**14.04**	**329**	P		**P**	**22 04 48.0**	**+2.0**
	0.7nm,0.3s,baz=137,slow=11,SNR=20							
BVAR	**Borovoye Array**	**14.10**	**2**	P		**P**	**22 04 45.8**	**-0.9**
	0.8nm,0.3s,baz=168,slow=10,SNR=11							
ZALV	**Zalesovo Beam**	**18.32**	**30**	P		**Pn**	**22 05 31.7**	**-1.5**
	0.3nm,0.3s,baz=220,slow=12,SNR=7.3							
FINES	**FINESS Array B**	**34.76**	**325**	P		**P**	**22 08 09.8**	**+0.4**
	3.8nm,1.0s,baz=123,slow=7.0,SNR=4.8							
ARCES	**ARCESS Array B**	**38.41**	**337**	P		**P**	**22 08 41.1**	**+0.6**
	0.9nm,0.4s,baz=110,slow=6.8,SNR=4.3							
NOA	**NORSAR Array B**	**41.68**	**322**	P		**P**	**22 09 07.7**	**-0.1**
	1.2nm,0.6s,baz=95,slow=8.1,SNR=3.8							
ESDC	**Sonseca Array**	**55.24**	**296**	P		**P**	**22 10 52.2**	**-0.4**
	0.1nm,0.4s,baz=65,slow=8.7,SNR=3.4							
TORD	**Torodi Ar. Bea**	**64.57**	**267**	P		**P**	**22 11 54.4**	**-2.5**
	0.2nm,0.6s,baz=55,slow=5.8,SNR=2.9							

IDC 19 22:03:19.4±7.2, 0.69S×133.39E, h0km, mb3.9/2, mb1 3.9/5, mb1mx3.4/37, mbtmp3.7/5, ML3.5/3, Error ellipse: s-maj=119.5km s-min=34.5km az=29.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
SIJI	**Sorong**	**2.13**	**265**	Pn		Pn	22 03 56.2	-0.1
	19nm,0.3s,baz=270,slow=20,SNR=4.8							
SIJI				S		Sn	22 04 20.1	-3.4
	22nm,0.3s,baz=90,slow=23,SNR=6.4							
FITZ	**Fitzroy Crossi**	**18.91**	**203**	P		Pn	22 07 42.8	+0.5
	0.1nm,0.3s,baz=4.1,slow=14,SNR=2.6							
WRA	**Warramunga Arr**	**19.16**	**177**	P		P	22 07 44.3	-0.3
	0.2nm,0.3s,baz=355,slow=11,SNR=4.8							
ASAR	**Alice Springs**	**22.85**	**179**	P		P	22 08 24.9	+0.4
	1.0nm,0.3s,baz=356,slow=12,SNR=20							
STKA	**Stephens Creek**	**31.98**	**167**	P		P	22 09 46.7	-0.7
	3.5nm,0.9s,baz=354,slow=9.2,SNR=3.8							

ISC 19 22:06:51.5±0.9, 50.25N×18.77E±0.03, h0km, n13, σ0.73/22, Poland

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
OKC	**Ostrava-Krasne**	**0.57**	**225**	*e*PG		**Pb**	**22 07 04.0**	**-0.3**
OKC				*e*SG		**Sb**	**22 07 13.5**	**+0.5**
	comp=Z,15nm,0.5s							
OJC	**Ojcow**	**0.66**	**92**	*e*Pg		**Pg**	**22 07 04.0**	**-0.2**
OJC				*e*Sg		**Sg**	**22 07 12.8**	**+0.1**
LANS	**Liptovska Anna**	**1.19**	**157**	*e*PG		**Pg**	**22 07 14.8**	**+0.6**
LANS				*e*SG		**Sg**	**22 07 30.8**	**+1.2**
KRLC	**Kraliky**	**1.29**	**263**	*e*PG		**Pg**	**22 07 15.7**	**-0.4**
KRLC				*e*SG		**Sg**	**22 07 33.0**	**+0.2**
NIE	**Niedzica**	**1.29**	**129**	*e*Pg		**Pg**	**22 07 16.3**	**+0.1**
NIE				*e*Sg		**Sb**	**22 07 34.5**	**+0.7**
DPC	**Dobruska-Polom**	**1.57**	**275**	*e*PG		**Pn**	**22 07 20.6**	**0.0**
DPC				*e*SG		**Sn**	**22 07 41.6**	**-0.1**
	comp=Z,7.4nm,0.5s							
KSP	**Ksiaz**	**1.69**	**292**	*e*Pg		**Pg**	**22 07 23.7**	**0.0**
KSP				*e*Sg		**Sg**	**22 07 46.7**	**+1.1**
VYHS	**Vyhne**	**1.75**	**178**	*e*PG		**Pn**	**22 07 22.6**	**-0.5**
VYHS				*e*SN		**Sn**	**22 07 44.8**	**-1.4**
VYHS				*e*LG		Lg	22 07 49.9	
STHS	**Stebnicka Huta**	**1.81**	**116**	*e*PG		**Pb**	**22 07 25.1**	**-0.3**
STHS				*e*SN		**Sg**	**22 07 49.6**	**+0.2**
STHS				*e*LG		Lg	22 08 01.2	
GOPC	**GO Pecny, Ondr**	**2.58**	**264**	*e*SG		**Sb**	**22 08 11.9**	**+0.9**
PRU	**Pruhonice**	**2.73**	**266**	*e*SG		**Sb**	**22 08 16.7**	**+1.5**
BRG	**Berggiesshubel**	**3.14**	**283**	SG		**Sg**	**22 08 32.3**	**0.0**
	1.7nm,0.5s							
KHC	**Kasperske Hory**	**3.55**	**254**	*e*SG		**Sg**	**22 08 44.6**	**-0.8**

IDC 19 22:07:34.5±2.5, 6.47S×130.33E, h128km±28km, mb3.6/5, mb1 3.9/9, mb1mx3.5/31, mbtmp4.1/9, MS3.1/2, Ms1 3.2/2, ms1mx2.7/18, Error ellipse: s-maj=54.6km s-min=19.3km az=85.0

ISC 19 22:07:29.4±0.7, 6.66S±0.06×130.3E±0.2, h90km, n10, σ2.84/14, mb3.8/5, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
SIJI	**Sorong**	**5.84**	**10**	P		**Pn**	**22 08 56.4**	**+2.9**
	19nm,0.3s,baz=184,slow=19,SNR=5.2							
SIJI				S		**Sn**	**22 09 53.9**	**-5.2**
	22nm,0.3s,baz=90,slow=20,SNR=7.2							

FITZ	**Fitzroy Crossi**	**12.23**	**201**	P		**P**	**22 10 26.4**	**-2.8**
	1.4nm,0.3s,baz=21,slow=9.6,SNR=43							
FITZ				S		**Sn**	**22 12 34.3**	**-0.7**
	1.3nm,0.3s,baz=234,slow=23,SNR=6.9							
WRA	**Warramunga Arr**	**13.79**	**164**	P		**P**	**22 10 45.3**	**-1.1**
	0.9nm,0.3s,baz=339,slow=12,SNR=10.0							
WRA				S		**Sn**	**22 13 12.4**	**-0.3**
	3.1nm,0.3s,baz=349,slow=24,SNR=10							
ASAR	**Alice Springs**	**17.27**	**169**	P		**P**	**22 11 31.4**	**+6.4**
	1.2nm,0.3s,baz=346,slow=10,SNR=36							
ASAR				S		**Sn**	**22 14 36.8**	**-0.1**
	0.8nm,0.3s,baz=350,slow=26,SNR=8.1							
ASAR				LR		LR	22 18 56.3	
	comp=Z,85nm,20.4s,baz=166,slow=39							
CMAR	**Chiang Mai Arr**	**39.72**	**309**	P		**P**	**22 14 54.7**	**+1.3**
	1.5nm,0.3s,baz=135,slow=7.0,SNR=5.6							
CMAR				LR		LR	22 32 47.1	
	comp=Z,17nm,18.3s,baz=7.0,slow=38							
SONM	**Songino Array**	**58.20**	**341**	P		**P**	**22 17 14.6**	**+0.4**
	0.4nm,0.4s,baz=170,slow=5.8,SNR=4.7							
MKAR	**Makanchi Array**	**68.09**	**327**	P		**P**	**22 18 19.8**	**+0.2**
	1.5nm,0.3s,baz=113,slow=7.9,SNR=39							
ZALV	**Zalesovo Beam**	**71.39**	**334**	P		**P**	**22 18 38.9**	**-0.8**
	0.5nm,0.5s,baz=138,slow=6.4,SNR=2.5							
BVAR	**Borovoye Array**	**77.92**	**328**	P		**P**	**22 19 17.1**	**-0.3**
	0.2nm,0.4s,baz=109,slow=7.1,SNR=3.0							
TORD	**Torodi Ar. Bea**	**129.00**	**281**	PKP		**PKPdf**	**22 26 28.3**	**+0.5**
	0.2nm,0.5s,baz=91,slow=2.6,SNR=3.6							

NIED 19 22:08:00, 36.40N×140.00E, h71km, Mw3.8 Best double couple: M0 5.78000×10^14 NP1:φ0 45.00000°, δ45.00000°, λ74.00000°. NP2:φ0 246.00000°, δ48.00000°, λ105.00000°.
ISCJB 19 22:08:31.9±0.5, 36.32N±0.04×140.04E±0.05, h85km±3km, mb3.7/9, Error ellipse: s-maj=7.4km s-min=6.0km az=23.2
JMA 19 22:08:33.5, 36.34N×140.00E, h73km±1km, M3.5 Broadband fault plane solution: P waves. NP1: φs235.00000°, δ56.00000°, λ93.00000°. NP2:φs 50.00000°, δ34.00000°, λ86.00000°. Principal axes: T Plg79.0000°, Azm155.0000°; N Plg2.0000°, Azm53.0000°; P Plg11.0000°, Azm323.0000°;
JMA Felt I J1.
IDC 19 22:08:34.1±1.9, 36.26N×139.94E, h91km±16km, mb3.5/9, mb1 3.7/11, mb1mx3.4/41, mbtmp3.9/11 Error ellipse: s-maj=28.2km s-min=9.0km az=61.0

ISC 19 22:08:32.9±0.8, 36.33N±0.04×140.03E±0.05, h78km±6km, n25, σ0 66/32, mb3.8/9, 4C-4D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
JYT	**Yasato**	**0.17**	**127**	⇑P		**Pn**	**22 08 44.6**	**+0.2**
JYT				S		**Sn**	**22 08 52.5**	**-0.3**
JAG	**Ashikaga**	**0.48**	**282**	⇑P		**Pn**	**22 08 46.2**	**-0.1**
JAG				S		**Sn**	**22 08 55.6**	**-0.6**
JKT	**Katashina**	**0.77**	**305**	⇓P		**Pn**	**22 08 49.4**	**+0.1**
JKT				S		**Sn**	**22 09 01.3**	**-0.1**
JRY	**Ryogami san**	**0.97**	**252**	⇑P		**Pn**	**22 08 51.8**	**+0.3**
JRY				S		**Sn**	**22 09 05.2**	**-0.1**
JFY	**Yanaizu**	**1.11**	**346**	⇓P		**Pn**	**22 08 53.2**	**0.0**
JFY				*e*S		**Sn**	**22 09 07.5**	**-0.9**
JFT	**Otama**	**1.21**	**12**	⇓P		**Pn**	**22 08 55.0**	**+0.5**
JFT				S		**Sn**	**22 09 10.9**	**+0.2**
JHK	**Hiroka**	**1.23**	**319**	⇓P		**Pn**	**22 08 54.9**	**+0.2**
JHK				S		**Sn**	**22 09 10.9**	**-0.1**
JFK	**Kawauchi**	**1.24**	**33**	⇑P		**Pn**	**22 08 55.0**	**+0.2**
JFK				S		**Sn**	**22 09 11.3**	**0.0**
MJAR	**Matsushiro Arr**	**1.48**	**279**	P		**Pn**	**22 08 58.3**	**+0.3**
	20nm,0.3s,baz=107,slow=5.1,SNR=143							
MJAR				S		**Sn**	**22 09 17.0**	**+0.1**
	27nm,0.3s,baz=98,slow=16,SNR=15							
MAT	**Matsushiro**	**1.49**	**279**	P		**Pn**	**22 08 58.5**	**+0.5**
MAT				S		**Sn**	**22 09 16.8**	**-0.2**
JHJ	**Hachijo jima 2**	**3.21**	**184**	P		**Pn**	**22 09 21.6**	**+0.6**
	92nm,0.3s,baz=315,slow=22,SNR=27							
JHJ				S		**Sn**	**22 09 58.3**	**+0.1**
	58nm,0.3s,baz=108,slow=23,SNR=6.0							
KSRS	**Korea Array**	**9.77**	**280**	P		Pn	22 10 56.2	+5.7
	0.2nm,0.3s,baz=90,slow=14,SNR=4.9							
USRK	**Ussuriysk Ar.**	**9.97**	**324**	P		**Pn**	**22 10 55.9**	**+2.7**
	0.3nm,0.3s,baz=146,slow=13,SNR=10							
SONM	**Songino Array**	**27.27**	**305**	P		**P**	**22 14 10.3**	**+0.3**
	0.4nm,0.3s,baz=100,slow=8.0,SNR=7.8							
H11S3	**WAKE ISLAND Hy**	**29.44**	**120**	T		T	22 45 24.1	
	baz=314,slow=76,SNR=5.3							
H11S1	**WAKE ISLAND Hy**	**29.44**	**120**	T		T	22 45 26.0	
	baz=314,slow=76,SNR=7.8							
H11S2	**WAKE ISLAND Hy**	**29.46**	**120**	T		T	22 45 25.1	
	baz=314,slow=76,SNR=6.1							
ZALV	**Zalesovo Beam**	**41.58**	**313**	P		**P**	**22 16 12.4**	**-0.3**
	0.9nm,0.5s,baz=111,slow=8.1,SNR=4.9							
MKAR	**Makanchi Array**	**43.56**	**303**	P		**P**	**22 16 29.1**	**+0.2**
	0.6nm,0.7s,baz=82,slow=8.3,SNR=4.8							
BVAR	**Borovoye Array**	**50.23**	**313**	P		**P**	**22 17 20.0**	**-0.8**
	0.5nm,0.5s,baz=92,slow=7.9,SNR=7.1							
ILAR	**Eielson Array**	**50.68**	**32**	P		**P**	**22 17 24.6**	**+0.6**
	0.8nm,0.7s,baz=265,slow=6.4,SNR=7.1							
WRA	**Warramunga Arr**	**56.22**	**186**	P		**P**	**22 18 04.7**	**-0.3**
	0.5nm,0.3s,baz=1.6,slow=7.4,SNR=4.9							
FINES	**FINESS Array B**	**68.92**	**332**	P		**P**	**22 19 29.2**	**+0.1**
	3.5nm,0.9s,baz=54,slow=7.2,SNR=3.2							
AKASG	**Malin Array Be**	**74.17**	**322**	P		**P**	**22 20 00.1**	**-0.7**
	0.4nm,0.4s,baz=49,slow=5.5,SNR=3.9							
NOA	**NORSAR Array B**	**74.40**	**337**	P		**P**	**22 20 01.2**	**-0.8**
	0.6nm,0.6s,baz=42,slow=5.9,SNR=3.2							

IDC 19 22:26:49.3±7.9, 1.32N×122.74E, h0km, mb4.3/3, mb1 4.5/3, mb1mx3.6/46, mbtmp4.3/3, MS3.4/1, Ms1 3.4/1, ms1mx2.7/23, Error ellipse: s-maj=227.6km s-min=125.9km az=61.0, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
WRA	**Warramunga Arr**	**24.00**	**152**	P		P	22 32 05.5	-0.4
	12nm,0.5s,baz=328,slow=10,SNR=72							
ASAR	**Alice Springs**	**27.10**	**157**	P		P	22 32 33.9	-0.2
	2.5nm,0.4s,baz=344,slow=14,SNR=36							
ASAR				LR		LR	22 43 46.1	
	comp=Z,68nm,18.8s,baz=142,slow=38							
STKA	**Stephens Creek**	**37.54**	**153**	P		P	22 34 05.8	+0.5
	1.4nm,0.4s,baz=332,slow=8.1,SNR=5.6							

IDC 19 22:27:53.9±8.1, 14.53N×90.34W, h76km±59km, mb3.7/4, mb1 3.8/6, mb1mx3.5/39, mbtmp3.9/6, ML3.4/1, MS3.3/1, Ms1 3.3/1, ms1mx2.7/25, Error ellipse: s-maj=68.8km s-min=47.7km az=177.0

ISC 19 22:27:44.9±2.3, 14.4N±0.3×90.1W±0.1, h10km, n7, σ2 9 02/8, mb4.0/4, Guatemala

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
CMIG	**Matias Romero**	**5.36**	**300**	P		**Pn**	**22 29 07.7**	**+2.7**
	1.5nm,0.3s,baz=133,slow=8.8,SNR=6.2							
CMIG				S		**Sn**	**22 30 04.7**	**-2.1**
	0.8nm,0.3s,baz=90,slow=20,SNR=1.8							
CMIG				LR		LR	22 31 22.9	
	comp=Z,341nm,22.0s,baz=152,slow=41							
TXAR	**Lajitas Array**	**19.47**	**322**	P		**Pn**	**22 32 13.4**	**+0.1**
	baz=147,slow=11,SNR=6.9							
ULM	**Lac du Bonnet**	**36.06**	**354**	P		**P**	**22 34 44.8**	**-1.7**
	1.6nm,0.5s,baz=154,slow=16,SNR=3.2							
SCHQ	**Schefferville**	**44.21**	**19**	P		**P**	**22 35 55.3**	**+1.3**
	5.7nm,0.8s,baz=219,slow=6.2,SNR=4.5							
YKA	**Yellowknife Ar**	**51.08**	**346**	P		**P**	**22 36 48.2**	**+0.9**
	1.2nm,0.9s,baz=140,slow=7.8,SNR=3.8							
ILAR	**Eielson Array**	**63.22**	**336**	P		**P**	**22 38 12.0**	**-1.1**
	0.5nm,0.9s,baz=130,slow=8.4,SNR=4.2							
WRA	**Warramunga Arr**	**137.32**	**256**	PKP		**PKPdf**	**22 47 08.2**	**-1.4**
	0.4nm,0.8s,baz=80,slow=1.9,SNR=4.8							

SOME 19 22:28:31.1, 50.13N×87.72E, h5km
NNC 19 22:28:34.7±2.3, 49.96N×87.89E, h0km, mb3.9, mpv3.5, Error ellipse: s-maj=17.4km s-min=11.2km az=70.0

ISC 19 22:28:43.3±3.2, 49.96N±0.09×87.4E±0.2, h11km, n6, σ3 01/12, 9C-3D, Kazakhstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
ZSN	**Zaisan**	**3.00**	**214**	*e*P		**Pn**	**22 29 31.9**	**+1.1**
	2.9nm,0.2s							
ZSN				*e*S		**Sb**	**22 30 14.8**	**+1.3**
	19nm,0.3s							
MK31	**Makanchi Array**	**4.62**	**229**	⇑Pn		**Pn**	**22 29 49.1**	**-4.0**
	1.2nm,0.3s,baz=248,slow=3.8,SNR=71							
MK31				⇑Pg		**Pb**	**22 30 03.7**	**-0.8**
	2.9nm,0.5s,baz=60,slow=14,SNR=9.2							
MK31				⇑Sn		**Sn**	**22 30 48.8**	**+2.0**
	1.6nm,0.3s,baz=192,slow=14,SNR=4.8							
MK31				⇑Lg		Lg	22 31 09.4	
	18nm,0.7s,baz=55,slow=29,SNR=7.6							
MAKZ	**Makanchi**	**4.77**	**231**	⇓Pn		**Pn**	**22 29 51.1**	**-4.0**
	3.6nm,0.6s							
MAKZ				⇓Lg		Lg	22 31 13.9	
	12nm,0.6s							
KURK	**Kurchatov**	**5.64**	**281**	⇑Pn		**Pn**	**22 30 06.3**	**-0.7**
	3.9nm,0.8s							
KURK				⇓Sn		**Sn**	**22 31 14.5**	**+2.8**
	5.0nm,0.5s							
KURK				⇑Lg		Lg	22 31 45.9	
	16nm,0.6s							
KURBB	**Kurchatov Arra**	**5.69**	**280**	⇑Pn		**Pn**	**22 30 04.6**	**-3.1**
	5.6nm,0.8s							
KURBB				⇑Sn		**Sn**	**22 31 15.1**	**+2.1**
	12nm,0.5s							
KURBB				⇑Lg		Lg	22 31 47.9	
	36nm,0.7s							
KAPS	**Kapalarasan**	**7.14**	**232**	*e*P		**Pb**	**22 30 50.7**	**+3.4**
	1.4nm,0.7s							
KAPS				*e*S		**Sg**	**22 32 29.7**	**-2.7**
	5.6nm,0.6s							

ISN 19 22:30:41.9±0.6, 29.01N×57.34E, h0km±173km, ML4.5
THR 19 22:30:50.4±1.4, 29.57N×56.75E, h2km, ML4.4
DSN 19 22:30:53.4±0.6, 29.16N×57.83E, h15km, ML4.9/9, Error ellipse: s-maj=35.1km s-min=4.8km az=120.0
OMAN 19 22:30:53.6, 29.47N×56.85E, h2km
NEIC 19 22:30:53.0±0.0, 29.46N×56.83E, h3km, mb4.6/20, ML4.4(THR), MN4.2(TEH), After TEH.
ISCJB 19 22:30:54.3±0.2, 29.41N±0.02×56.83E±0.03, h111km±2km, mb4.3/61, Error ellipse: s-maj=3.8km s-min=3.6km az=10.0
TEH 19 22:30:54.1, 29.44N×56.79E, h95km, ML4.4
MOS 19 22:30:55.2±1.1, 29.39N×56.82E, h101km, mb4.6/25, Error ellipse: s-maj=8.6km s-min=5.5km az=111.5
CSEM 19 22:30:55.9±0.1, 29.40N×56.84E, h118km, mb4.4/32, Error ellipse: s-maj=4.5km s-min=4.1km az=98.0
IDC 19 22:30:56.3±0.6, 29.39N×56.86E, h116km±4km, mb3.9/30, mb1 3.9/37, mb1mx3.9/48, mbtmp4.3/37, MS3.2/13, Ms1 3.2/13, ms1mx3.0/44, Error ellipse: s-maj=10.3km s-min=7.8km az=140.0

ISC 19 22:30:55.9±0.4, 29.40N±0.03×56.78E±0.03, h114km±3km, h114km:pP-P, n341, σ1 9 47/384, mb4.3/61, 5C-9D, Southern Iran

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
NGRK	**Negar Kerman**	**0.24**	**350**	*e*Pg		**Pn**	**22 31 13.5**	**+1.1**
NGRK	**Negar Kerman**	**0.24**	**350**	*e*Pg		**Pn**	**22 31 13.5**	**+1.1**
KRBR	**Kerman**	**0.58**	**358**	*e*Pg		Pn	22 30 58.1	-16
KRBR				AML		AML	22 31 11.7	
	comp=E,16μm,0.3s							
KRBR				AML		AML	22 31 12.0	
	comp=N,22μm,0.3s							
TVBK	**TV Kerman**	**0.58**	**358**	*e*Pg		**Pn**	**22 31 12.3**	**-1.9**
TVBK				*e*Sg		**Sn**	**22 31 24.5**	**-3.4**
TVBK	**TV Kerman**	**0.58**	**358**	*e*Pg		**Pn**	**22 31 12.3**	**-1.9**
CHMN	**Cheshme madani**	**0.80**	**55**	*e*Pn		**Pn**	**22 31 13.5**	**-2.4**
CHMN				*e*Sg		**Sn**	**22 31 26.7**	**-4.3**
CHMN	**Cheshme madani**	**0.80**	**55**	*e*Pn		**Pn**	**22 31 13.5**	**-2.4**
KHGB	**Koh Gabri**	**1.00**	**345**	*e*Pn		**Pn**	**22 31 15.8**	**-1.9**
KHGB				*e*Sg		**Sn**	**22 31 30.8**	**-3.4**
KHGB	**Koh Gabri**	**1.00**	**345**	*e*Pn		**Pn**	**22 31 15.8**	**-1.9**
NIAN	**Nian**	**1.84**	**178**	*e*Pn		**Pn**	**22 31 26.2**	**-0.8**
NIAN	**Nian**	**1.84**	**178**	*e*Pn		**Pn**	**22 31 26.2**	**-0.8**
IBND	**Bandar-abas**	**1.96**	**186**	*e*Pn		**Pn**	**22 31 28.9**	**+0.4**
IBND				*e*AMB		AMB	22 31 56.2	
	comp=Z,52μm,0.2s							
IBND	**Bandar-abas**	**1.96**	**186**	*e*Pn		**Pn**	**22 31 28.9**	**+0.4**
IBND	**Bandar-abas**	**1.96**	**186**	Pn		**Pn**	**22 31 29.1**	**+0.6**
BNDS	**Bandar-Abbas**	**2.07**	**195**	*e*Pn		**Pn**	**22 31 29.8**	**-0.3**
BNDS				AML		AML	22 31 58.5	
	comp=N,4μm,0.2s							
BNDS				AML		AML	22 31 59.7	
	comp=E,4μm,0.3s							
BNDS	**Bandar-Abbas**	**2.07**	**195**	*e*Pn		**Pn**	**22 31 29.8**	**-0.3**
BNDS	**Bandar-Abbas**	**2.07**	**195**	Pn		**Pn**	**22 31 29.0**	**-1.1**
IBAF	**Bafgh**	**2.42**	**335**	*e*Pn		**Pn**	**22 31 33.4**	**-1.1**
IBAF				*e*AMB		AMB	22 31 47.6	
	comp=

ASHO Ashiyiah 4.74 188 *i* Pn **Pn** 22 32 05.3 -0.1
SNR=234
ASHO Ashiyiah 4.74 188 P **Pn** 22 32 05.3 -0.1
SNR=325
ASHO S **Sn** 22 32 57.1 -2.3
ASHO Ashiyiah 4.74 188 Pn **Pn** 22 32 05.3 -0.1
SNR=325
ASHO Ashiyiah 4.74 188 P **Pn** 22 32 05.3 -0.1
SNR=325
ASHO S **Sn** 22 32 57.1 -2.3
FAQ Al Faqa, Dubai 4.76 193 *i* P **Pn** 22 32 05.4 -0.2
SNR=272
FAQ Al Faqa, Dubai 4.76 193 *i* Pn **Pn** 22 32 05.4 -0.2
SNR=272
FAQ Al Faqa, Dubai 4.76 193 P **Pn** 22 32 05.4 -0.2
SNR=272
NASN Na'in 4.80 316 *e*Pn **Pn** 22 32 05.2 -1.2
NASN Na'in 4.80 316 *e*Pn **Pn** 22 32 05.7 -0.7
NASN Na'in 4.80 316 Pn **Pn** 22 32 05.0 -1.4
AHBU AHRAM 4.83 265 *e*Pn **Pn** 22 32 05.9 -0.5
ASUD Al Ashush, Dub 4.93 196 P **Pn** 22 32 08.5 +0.6
ASUD Al Ashush, Dub 4.93 196 Pn **Pn** 22 32 08.5 +0.6
ASUD Al Ashush, Dub 4.93 196 Pn **Pn** 22 32 08.5 +0.6
IGAR Gharneh 5.05 307 *e*Pn **Pn** 22 32 09.6 -0.1
IGAR *e*AMB AMB 22 33 09.8
comp=Z,1μm,0.1s
IZEF Zefreh 5.17 314 *e*Pn **Pn** 22 32 11.4 +0.2
IZEF *e*AMB AMB 22 33 58.7
comp=Z,718nm,0.3s
IZEF Zefreh 5.17 314 Pn **Pn** 22 32 11.3 +0.1
IZEF Zefreh 5.17 314 Pn **Pn** 22 32 11.3 +0.1
SHRT Shahrakht 5.18 34 *e*Pn **Pn** 22 32 10.4 -0.8
SHRT Shahrakht 5.18 34 Pn **Pn** 22 32 10.0 -1.3
SHRT Shahrakht 5.18 34 Pn **Pn** 22 32 10.0 -1.3
IKLH Kolahrood 5.92 313 *e*Pn **Pn** 22 32 22.2 +0.8
IKLH *e*AMB AMB 22 34 24.9
comp=Z,988nm,0.3s
IKLH Kolahrood 5.92 313 Pn **Pn** 22 32 22.1 +0.7
IKLH Kolahrood 5.92 313 Pn **Pn** 22 32 22.1 +0.7
IPIR Pirpir 6.02 304 *e*Pn **Pn** 22 32 22.8 0.0
IPIR *e*AMB AMB 22 33 16.4
comp=Z,1μm,0.1s
IPIR Pirpir 6.02 304 *e*Pn **Pn** 22 32 22.8 0.0
IPIR Pirpir 6.02 304 Pn **Pn** 22 32 22.8 0.0
WSAR Wadi Sarin 6.36 164 P **Pn** 22 32 25.8 -1.4
comp=Z,17nm,0.3s,baz=3.3,slow=18,SNR=196
WSAR S **Sn** 22 33 33.0 -5.5
comp=Z,90nm,0.3s,baz=240,slow=21,SNR=24
WSAR LR LR 22 35 11.0
comp=Z,142nm,18.2s,baz=64,slow=40
BOQSS 7.45 244 S **Sn** 22 34 01.8 -3.0
BOQSS P **Pn** 22 32 40.0 -1.9
BTHS 7.52 226 S **Sn** 22 34 01.7 -4.9
BTHS P **Pn** 22 32 41.0 -1.9
IAFJ Afjeh 7.72 328 *e*AMB AMB 22 32 49.7
comp=Z,638nm,0.2s
KFJS 7.85 263 P **Pn** 22 32 45.7 -1.6
GEYT Alibeck 8.58 7 P **Pn** 22 32 57.3 +0.2
comp=Z,4.3nm,0.3s,baz=194,slow=9.2,SNR=49
NSR Nassriya 9.35 283 *e*Pn **Pn** 22 33 07.0 -0.5
SNR=4.0
NSR *e*Sn **Sn** 22 34 53.0 +2.2
SNR=4.0
LKRN Lenkeran, Azer 11.40 327 P **Pn** 22 33 34.0 -1.3
LKRN Lenkeran, Azer 11.40 327 P **Pn** 22 33 34.0 -1.3
KBL Kabul 11.60 61 *e*P **Pn** 22 33 41.8 +3.6
KBL Kabul 11.60 61 *e*Pn **Pn** 22 33 41.8 +3.6
KBL Kabul 11.60 61 *e*Pn **Pn** 22 33 41.8 +3.6
GNI Garni 14.57 321 P **P** 22 34 18.7 -1.2
comp=Z,0.5nm,0.3s,baz=51,slow=5.2,SNR=5.5
GNI Garni 14.57 321 *ce*P **Pn** 22 34 17.5 +0.8
GNI pmax pmax
comp=Z,39nm,1.7s
GNI Garni 14.57 321 *e*P **Pn** 22 34 17.5 +0.8
comp=Z,39nm,1.7s
GNI Garni 14.57 321 *e*Pn **P** 22 34 19.9 -0.1
GNI Garni 14.57 321 *e*Pn **P** 22 34 19.9 -0.1
ZKTA Zakatala 14.73 329 P **Pn** 22 34 17.5 -1.0
MARD Mardin 15.51 305 *e*Pn **Pn** 22 34 27.9 -0.5
comp=Z,13nm,0.8s
MARD Mardin 15.51 305 *e*Pn **Pn** 22 34 27.9 -0.5
comp=Z,13nm,0.8s
ZEI Tsey 16.91 326 *e*P **P** 22 34 47.1 +1.3
ZEI pmax pmax
comp=Z,23nm,0.9s
ZEI Tsey 16.91 326 *e*P **P** 22 34 47.1 +1.3
comp=Z,23nm,0.9s
KOPT Kop Dagi 17.04 313 *e*Pn **Pn** 22 34 44.3 -3.1
comp=Z,28nm,1.4s
KOPT Kop Dagi 17.04 313 *e*Pn **Pn** 22 34 44.3 -3.1
comp=Z,28nm,1.4s
SLMH Al Salmeh 17.23 298 *i* P **Pn** 22 34 51.1 +1.6
ROOS tl_alroos 17.23 291 *i* P **Pn** 22 34 50.9 +1.3
ROOS tl_alroos 17.23 291 *i* P **Pn** 22 34 50.9 +1.3
SNR=43
ASF Jabal al Asfar 17.31 284 P **P** 22 34 49.5 -0.8
comp=Z,2.5nm,0.3s,baz=45,slow=4.9,SNR=27
ASF S Sn 22 37 48.3 -15
comp=Z,0.4nm,0.3s,baz=27,slow=20,SNR=4.3
SALA Sala 17.49 286 *i* P **Pn** 22 34 52.6 -0.2
SALA Sala 17.49 286 *i* P **Pn** 22 34 52.7 -0.2
SNR=42
KKAR Karatay Array 17.56 35 *e*P **P** 22 34 52.2 -0.7
KKAR pmax pmax
comp=Z,76nm,0.9s
KKAR Karatay Array 17.56 35 *e*P **P** 22 34 52.2 -0.7
comp=Z,76nm,0.9s
KKAR Karatay Array 17.56 35 *e*P **P** 22 34 52.2 -0.7
comp=Z,76nm,0.9s
NCK Nalchik 17.58 327 *ce*P **Pn** 22 34 56.1 +2.4
NEY Neytrino 17.83 325 *i* P **Pn** 22 34 56.6 -0.2
NEY Neytrino 17.83 325 *i* P **Pn** 22 34 56.6 -0.2
MARH Ras Al Marh 17.87 290 *i* P **Pn** 22 34 59.0 +1.5
MARH Ras Al Marh 17.87 290 *i* P **Pn** 22 34 59.0 +1.5
SNR=42
KBZ Khabaz 18.09 326 P **Pn** 22 35 02.4 +2.6
comp=Z,0.1nm,0.3s,baz=125,slow=8.0,SNR=6.6
BRBR Barbar 18.22 288 *i* P **Pn** 22 35 03.0 +1.4
BRBR Barbar 18.22 288 *i* P **Pn** 22 35 03.0 +1.4
SNR=41
HAJJ Hajjah 18.26 225 *e*P **P** 22 34 59.2 -1.6
BTCH Batrach 18.32 296 *i* P **Pn** 22 35 04.6 +2.0
BTCH Batrach 18.32 296 *i* P **Pn** 22 35 04.6 +2.0
SNR=41
DRWC Darouich 18.32 298 *i* P **Pn** 22 35 04.3 +1.6
DRWC Darouich 18.32 298 *i* P **Pn** 22 35 04.3 +1.6
SNR=41
KVAR Kislovodsk Arr 18.36 326 P **Pn** 22 35 05.0 +1.9
baz=135,slow=20,SNR=2.7
KIV Kislovodsk 18.36 326 *e*P **Pn** 22 35 02.6 -0.5
KIV pmax pmax
comp=Z,17nm,1.1s
KIV Kislovodsk 18.36 326 *e*P **Pn** 22 35 02.6 -0.5
comp=Z,17nm,1.1s
MMAI Mount Meron Ar 18.63 287 P **Pn** 22 35 06.6 +0.3
comp=Z,1.1nm,0.3s,baz=96,slow=15,SNR=4.8
MMAI S **S** 22 38 22.6 -8.6
comp=Z,0.9nm,0.3s,baz=104,slow=24,SNR=4.8
MMAI LR LR 22 43 43.6
comp=Z,31nm,20.4s,baz=0.0,slow=41
ARNB Al Arnab 18.66 296 *i* P **Pn** 22 35 09.4 +2.8
ARNB Al Arnab 18.66 296 *i* P **Pn** 22 35 09.4 +2.8
SNR=41
KSH Kashi 18.73 52 *e*P **P** 22 35 02.6 -3.3
KSH sP sP 22 35 35.3 -5.8
KSH S S 22 38 17.0 -16
KSH PcP **PcP** **22 39 28.5 -0.4**
EIL Elat 19.00 276 P **Pn** 22 35 10.3 -0.3
comp=Z,1.2nm,0.3s,baz=66,slow=4.6,SNR=26
EIL S **S** **22 38 29.6 -8.7**
comp=Z,0.6nm,0.3s,baz=80,slow=17,SNR=2.6
EIL LR LR 22 44 13.7
comp=Z,26nm,19.2s,baz=68,slow=42
AAK Ala-Archa 19.43 42 P **Pn** 22 35 14.8 -1.0
comp=Z,1.4nm,0.3s,baz=222,slow=12,SNR=28
AAK Ala-Archa 19.43 42 *c i*P **P** 22 35 14.2 +0.7
AAK pmax pmax
comp=Z,96nm,1.5s
AAK Ala-Archa 19.43 42 *i* P **P** 22 35 14.2 +0.7
comp=Z,96nm,1.5s
AAK Ala-Archa 19.43 42 *e*P **Pn** 22 35 15.2 -0.6
TOKA Tokat 19.86 309 *e*P **P** 22 35 18.8 +0.8
comp=Z,9.5nm,0.8s
TOKA Tokat 19.86 309 *e*P **P** 22 35 18.8 +0.8
comp=Z,9.5nm,0.8s

ABKAR Akbulak array 19.97 6 *e*P **P** 22 35 18.5 -0.5
comp=Z,50nm,0.8s
ABKAR Akbulak array 19.97 6 *e*P **P** 22 35 18.5 -0.5
comp=Z,50nm,0.8s
CSS Mathiatis 20.59 292 *e*P Pn 22 35 27.6 -1.6
comp=Z,12nm,1.6s
CSS Mathiatis 20.59 292 *e*P Pn 22 35 27.6 -1.5
comp=Z,12nm,1.6s
AKTK Aktyubinsk 21.03 2 P **P** 22 35 30.8 +0.4
comp=Z,13nm,0.9s
AKTK S **S** 22 39 19.6 +1.6
comp=Z,100nm,18.2s
AKTO Aktyubinsk 21.03 2 P **P** 22 35 30.8 +0.4
comp=Z,13nm,0.9s,baz=186,slow=11,SNR=30
AKTO S **S** 22 39 19.6 +1.6
comp=Z,1.8nm,1.0s,baz=43,slow=19,SNR=4.7
AKTO LR LR 22 45 26.7
comp=Z,100nm,18.1s,baz=173,slow=41
BR131 Keskin Array S 21.61 305 *e*P **P** 22 35 37.7 +0.9
BR131 Keskin Array S 21.61 305 *e*P **P** 22 35 37.7 +0.9
BRTR Keskin Array B 21.61 305 P **P** 22 35 37.4 +0.6
comp=Z,7.1nm,0.9s,baz=120,slow=13,SNR=35
BRTR pP **pP** 22 36 00.1 +1.9
comp=Z,9.4nm,0.9s,baz=114,slow=12,SNR=9.6
BRTR PcP **PcP** 22 39 33.8 -0.4
comp=Z,0.8nm,0.8s,baz=132,slow=6.0,SNR=3.6
BRTR ScP **ScP** 22 43 00.7 -0.2
comp=Z,0.6nm,0.6s,baz=92,slow=4.3,SNR=5.7
BRTR LR LR 22 45 24.8
comp=Z,58nm,20.6s,baz=118,slow=40
BRTR Keskin Array B 21.61 305 *e*P **P** 22 35 37.7 +0.9
BRTR pmax pmax
comp=Z,7.0nm,0.9s
ATD Arta Tunnel 22.02 219 P **P** 22 35 43.2 +1.9
comp=Z,10nm,0.9s,baz=36,slow=6.4,SNR=8.5
ANTO Ankara 22.26 304 *e*P **P** 22 35 42.9 -0.7
ANTO pmax pmax
comp=Z,23nm,1.0s
ANTO Ankara 22.26 304 *e*P **P** 22 35 42.9 -0.7
comp=Z,23nm,1.0s
ANTO Ankara 22.26 304 *e*P **P** 22 35 42.9 -0.7
comp=Z,23nm,1.0s
BR231 Keskin MP Arra 22.27 304 *e*P **P** 22 35 37.8 -5.9
BR231 Keskin MP Arra 22.27 304 *e*P **P** 22 35 37.8 -5.9
PYUN Piuthan 23.00 87 *e*P **P** 22 35 50.9 -0.4
comp=Z,29nm,0.6s
KORT Korkueli 23.33 296 *i* P **P** 22 35 55.8 +1.7
KORT Korkueli 23.33 296 P **P** 22 35 55.8 +1.7
KOLN Koldanda 23.59 87 *e*P **P** 22 35 55.9 -0.8
comp=Z,17nm,0.5s
AKAS Kas 23.79 294 *i* P **P** 22 35 58.0 -0.2
AKAS Kas 23.79 294 *e*P **P** 22 35 57.3 -0.9
comp=Z,23nm,1.1s
AKAS Kas 23.79 294 *e*P **P** 22 35 57.4 -0.9
comp=Z,23nm,1.1s
GOLH Golhisar 23.99 296 *i* P **P** 22 36 01.7 +1.6
GOLH Golhisar 23.99 296 P **P** 22 36 01.7 +1.6
GKN Gorkha 24.45 86 *e*P **P** 22 36 03.8 -0.6
comp=Z,16nm,0.7s
TURN Turunc 24.68 295 *i* P **P** 22 36 10.5 +4.3
DMN Daman 24.93 87 *e*P **P** 22 36 08.4 -0.5
comp=Z,8.6nm,0.4s
KKN Kakani 25.05 87 *e*P **P** 22 36 09.5 -0.4
comp=Z,15nm,0.4s
PKIN Phulchoki 25.19 87 *e*P **P** 22 36 10.8 -0.5
comp=Z,9.7nm,0.5s
PKI Pulchoki 25.20 87 *e*P **P** 22 36 10.5 -0.9
comp=Z,18nm,0.5s
BRVK Borovoye 25.64 19 *e*P **P** 22 36 15.8 +1.2
BRVK pmax pmax
comp=Z,14nm,1.1s
BRVK Borovoye 25.64 19 *e*P **P** 22 36 15.8 +1.2
comp=Z,14nm,1.1s
BRVK Borovoye 25.64 19 *e*P **P** 22 36 15.8 +1.2
comp=Z,14nm,1.1s
BVAR Borovoye Array 25.64 19 P **P** 22 36 15.5 +0.8
comp=Z,4.6nm,0.5s,baz=201,slow=7.9,SNR=43
BVAR pP **pP** 22 36 39.2 -0.1
comp=Z,6.3nm,0.9s,baz=199,slow=8.4,SNR=6.8
BVAR PcP **PcP** 22 39 42.3 0.0
comp=Z,0.4nm,0.4s,baz=177,slow=1.5,SNR=4.5
KARP Karpathos 25.67 292 *e*P **P** 22 36 17.2 +2.0
comp=Z,27nm,0.9s
KARP Karpathos 25.67 292 *e*P **P** 22 36 17.2 +2.0
comp=Z,27nm,0.9s
MAKZ Makanchi 26.19 41 *e*P **P** 22 36 19.7 -0.1
MAKZ pmax pmax
comp=Z,41nm,1.4s
MAKZ Makanchi 26.19 41 *e*P **P** 22 36 19.7 -0.1
comp=Z,41nm,1.4s
MAKZ Makanchi 26.19 41 *e*P **P** 22 36 19.7 -0.1
comp=Z,41nm,1.4s
MK01 Makanchi Array 26.36 42 *e*P **P** 22 36 21.9 +0.6
MK01 Makanchi Array 26.36 42 *e*P **P** 22 36 21.9 +0.6
MK31 Makanchi Array 26.36 42 *e*P **P** 22 36 20.9 -0.5
MK31 Makanchi Array 26.36 42 *e*P **P** 22 36 20.9 -0.5
MK31 Makanchi Array 26.36 42 *e*P **P** 22 36 20.9 -0.5
MKAR Makanchi Array 26.36 42 P **P** 22 36 22.1 +0.7
comp=Z,3.3nm,0.5s,baz=231,slow=10,SNR=20
MKAR pP **pP** 22 36 46.8 +0.8
comp=Z,2.6nm,0.7s,baz=228,slow=8.0,SNR=4.4
MKAR Makanchi Array 26.36 42 *e*P **P** 22 36 20.3 -1.0
MKAR *PP **pP** 22 36 46.8 +0.8
MKAR pmax pmax
comp=Z,39nm,0.4s
MKAR Makanchi Array 26.36 42 *e*P **P** 22 36 20.3 -1.0
comp=Z,38nm,0.4s
MKAR pP **pP** 22 36 46.8 +0.8
MKAR Makanchi Array 26.36 42 *e*P **P** 22 36 20.3 -1.0
comp=Z,38nm,0.4s
MKAR pP **pP** 22 36 46.8 +0.8
KURBB Kurchatov Arra 26.77 32 P **P** 22 36 25.4 +0.4
comp=Z,2.3nm,1.0s,baz=230,slow=9.4,SNR=17
KURBB pP **pP** 22 36 50.2 +0.6
comp=Z,2.9nm,1.1s,baz=228,slow=9.0,SNR=3.6
KURBB ScP **ScP** 22 43 15.0 +0.4
comp=Z,0.5nm,0.5s,baz=227,slow=3.7,SNR=6.9
KURK Kurchatov 26.88 32 *i* P **P** 22 36 26.7 +0.8
KURK pmax pmax
comp=Z,33nm,1.6s
KURK Kurchatov 26.88 32 *e*P **P** 22 36 25.6 -0.3
KURK pP **pP** 22 36 50.2 -0.4
KURK Kurchatov 26.88 32 *e*P **P** 22 36 25.6 -0.3
KURK pP **pP** 22 36 50.2 -0.4
KURK ScP **ScP** 22 43 15.0 +0.1
ARU Arti 27.04 2 P **P** 22 36 26.8 -0.4
comp=Z,0.6nm,0.3s,baz=159,slow=20,SNR=3.5
ARU LR LR 22 47 38.3
comp=Z,42nm,20.5s,baz=271,slow=37
ARU Arti 27.04 2 *d* P **P** 22 36 25.8 -1.5
ARU 22 37 13.2
ARU 22 39 40.6
ARU S **S** 22 40 57.0 +0.5
ARU SS **SnSn** 22 42 14.7 -1.4
ARU pmax pmax
comp=Z,8.0nm,1.7s
ARU Arti 27.04 2 *e*P **P** 22 36 27.3 0.0
ARU S **S** 22 40 57.0 +0.5
ARU Arti 27.04 2 *e*P **P** 22 36 27.3 0.0
SANT Santorini 27.12 293 *e*P **P** 22 36 28.6 +0.3
comp=Z,17nm,0.3s
SANT Santorini 27.12 293 *e*P **P** 22 36 28.6 +0.3
comp=Z,17nm,0.3s
APE Apeiranthos 27.15 295 *i* P **P** 22 36 28.9 +0.4
APE pmax pmax
comp=Z,6.0nm,0.4s
APE Apeiranthos 27.15 295 *i* P **P** 22 36 28.9 +0.4
comp=Z,6.0nm,0.4s
IDI Anoyia 27.50 291 P **P** 22 36 32.6 +0.9
comp=Z,5.0nm,0.4s,baz=244,slow=15,SNR=28
IDI pP **pP** 22 36 57.7 +1.2
comp=Z,4.5nm,0.6s,baz=84,slow=12,SNR=2.7
WMQ Urumqi 28.49 51 P **P** 22 36 41.9 +1.5
WMQ pP pP 22 37 06.4 +1.1
WMQ pmax pmax
comp=Z,12nm,0.9s
WMQ pmax pmax
comp=Z,140nm,4.7s
WMQ LR LR
comp=N,330nm,9.7s
WMQ LR LR
comp=E,410nm,11.7s
WMQ LR LR
comp=Z,350nm,11.7s
WMQ Urumqi 28.49 51 P P 22 36 48.0 +7.6
WMQ pP pP 22 36 51.8 -14
WMQ sP sP 22 36 55.6 -23
WMQ SS SS 22 43 02.9 -22
WMQ pmax pmax
comp=Z,13nm,0.8s
WMQ pmax pmax
comp=Z,110nm,3.9s
WMQ LR LR
comp=N,110nm,36.9s
WMQ LR LR
comp=E,52nm,21.7s
WMQ LR LR
comp=Z,59nm,39.2s
MLR Muntele Rosu 29.05 312 P **P** 22 36 48.1 +2.7
comp=Z,0.5nm,0.9s,baz=108,slow=18,SNR=3.0
OBN Obninsk 29.51 336 *i* P **P** 22 36 49.0 -0.2
OBN *e*PP **pP** 22 37 14.6 +0.5
OBN *e* 22 37 46.6
OBN pmax pmax
comp=Z,6.0nm,0.9s
DOPR Dopca 29.59 313 *i* P **P** 22 36 51.0 +0.9
DOPR Dopca 29.59 313 *i* P **P** 22 36 51.0 +0.9
AKASG Malin Array Be 29.67 324 P **P** 22 36 50.5 -0.1
comp=Z,2.5nm,0.7s,baz=125,slow=8.5,SNR=8.1
AKASG pP **pP** 22 37 17.0 +1.4
comp=Z,0.3nm,0.3s,baz=115,slow=7.2,SNR=2.1
AKASG ScP **ScP** 22 43 22.0 -1.6
comp=Z,1.1nm,0.8s,baz=96,slow=2.0,SNR=4.8
AKASG Malin Array Be 29.67 324 *e*P **P** 22 36 50.5 -0.1
AKASG pmax pmax
comp=Z,2.0nm,0.7s
AKBB Malin Array Si 29.67 324 *e*P **P** 22 36 51.4 +0.8
AKBB pmax pmax
comp=Z,5.0nm,0.8s
AKBB Malin Array Si 29.67 324 *e*P **P** 22 36 51.4 +0.8
comp=Z,4.7nm,0.8s
AKBB Malin Array Si 29.67 324 *e*P **P** 22 36 51.4 +0.8
comp=Z,4.7nm,0.8s
KIEV Kiev 29.67 324 *c i*P **P** 22 36 50.8 +0.1
KIEV pmax pmax
comp=Z,4.0nm,0.7s
KIEV Kiev 29.67 324 *e*P **P** 22 36 51.1 +0.4
comp=Z,4.1nm,0.7s
KIEV Kiev 29.67 324 *e*P **P** 22 36 51.1 +0.4
comp=Z,4.1nm,0.7s
ARR Arges 29.86 311 *i* P **P** 22 36 53.5 +1.0
ARR Arges 29.86 311 *i* P **P** 22 36 53.5 +1.0
AGG Agios Georgios 29.91 298 *e*P **P** 22 36 51.7 -1.3
AGG Agios Georgios 29.91 298 *e*P **P** 22 36 51.7 -1.3
AGG Agios Georgios 29.91 298 *e*P **P** 22 36 51.7 -1.3
BURAR Bucovina Array 30.38 316 *i* P **P** 22 36 57.6 +0.5
BURAR Bucovina Array 30.38 316 *i* P **P** 22 36 57.6 +0.5
BUR08 Bucovina Ar. S 30.40 316 *e*P **P** 22 36 57.6 +0.3
BUR08 Bucovina Ar. S 30.40 316 *e*P **P** 22 36 57.6 +0.3
NVS Novosibirsk 31.75 29 *e*P **P** 22 37 09.8 +0.9
NVS pmax pmax
comp=Z,13nm,1.5s
NVS pmax pmax
comp=N,7.0nm,1.3s
ZAA0 Zalesovo Array 31.87 32 *e*P **P** 22 37 10.1 +0.1
ZAA0 Zalesovo Array 31.87 32 *e*P **P** 22 37 10.1 +0.1
ZALV Zalesovo Beam 31.87 32 P **P** 22 37 10.0 0.0
comp=N,2.4nm,0.4s,baz=242,slow=9.7,SNR=17
ZALV pP **pP** 22 37 35.0 -0.1
comp=N,1.4nm,0.5s,baz=241,slow=9.8,SNR=2.8
ZALV Zalesovo Beam 31.87 32 P **P** 22 37 10.0 0.0
ZALV *PP **pP** 22 37 35.0 -0.1
ZALV pmax pmax
comp=Z,2.0nm,0.4s
ZALV Zalesovo Beam 31.87 32 P **P** 22 37 10.0 0.0
ZALV pP **pP** 22 37 35.0 -0.1
OJC Ojcow 34.70 317 *e*P **P** 22 37 34.6 -0.1
OJC pmax pmax
comp=Z,9.0nm,0.6s
OJC Ojcow 34.70 317 *e*P **P** 22 37 34.6 -0.1
comp=Z,8.7nm,0.6s
OJC Ojcow 34.70 317 *e*P **P** 22 37 34.6 -0.1
comp=Z,8.7nm,0.6s
KMBO Kilima Mbogo 35.64 215 P **P** 22 37 45.6 +2.4
comp=Z,2.6nm,0.6s,baz=28,slow=12,SNR=8.2
KMBO Kilima Mbogo 35.64 215 *e*P **P** 22 37 46.3 +3.0
KMBO pmax pmax
comp=Z,3.0nm,0.6s
KMBO Kilima Mbogo 35.64 215 *e*P **P** 22 37 46.1 +2.8
GTA Gaotai 36.59 63 *e*P **P** 22 37 51.9 +0.8
GTA pP pP 22 38 17.5 +1.0
GTA sP sP 22 38 30.1 +0.5
GTA S **S** **22 43 25.3 -0.2**
GTA pmax pmax
comp=Z,7.0nm,0.7s
GTA pmax pmax
comp=Z,73nm,5.2s
GTA LR LR
comp=N,190nm,20.0s
GTA LR LR
comp=E,120nm,18.5s
GTA LR LR
comp=Z,360nm,21.2s
DPC Dobruska-Polom 36.83 316 *e*P **P** 22 37 53.2 +0.3
DPC Dobruska-Polom 36.83 316 *e*P **P** 22 37 53.2 +0.3
DPC Dobruska-Polom 36.83 316 *e*P **P** 22 37 53.2 +0.3
FIA1 FINESS Array S 37.92 336 *e*P **P** 22 38 01.7 -0.1
comp=Z,48nm,1.5s
FIA1 FINESS Array S 37.92 336 *e*P **P** 22 38 01.7 -0.1
comp=Z,48nm,1.5s
FINES FINESS Array B 37.92 336 P **P** 22 38 01.9 +0.1
comp=Z,3.9nm,0.8s,baz=136,slow=10.0,SNR=13
FINES pP **pP** 22 38 29.3 +1.9
comp=Z,1.6nm,0.5s,baz=133,slow=8.4,SNR=2.2
GEA0 GERESS Array S 38.02 313 *e*P **P** 22 38 02.2 -0.8
GEA0 GERESS Array S 38.02 313 *e*P **P** 22 38 02.1 -0.8
GEC2 GERESS Array S 38.03 313 *e*P **P** 22 38 02.4 -0.6
GEC2 GERESS Array S 38.03 313 *e*P **P** 22 38 02.4 -0.6
GEC2 GERESS Array S 38.03 313 *e*P **P** 22 38 02.4 -0.6
GERES GERESS Array B 38.03 313 P **P** 22 38 03.1 0.0
comp=Z,1.5nm,0.6s,baz=104,slow=8.9,SNR=15
GERES pP **pP** 22 38 29.4 +0.7
comp=Z,0.9nm,0.6s,baz=108,slow=8.8,SNR=3.9
GERES ScP **ScP** 22 43 52.6 -0.8
comp=Z,0.7nm,0.8s,baz=120,slow=5.3,SNR=5.3
KHC Kasperske Hory 38.18 313 *e*P **P** 22 38 04.4 +0.2
KHC *ep*P **pP** 22 38 30.0 +0.1
KHC *es*P **sP** 22 38 41.2 -1.7
KHC Kasperske Hory 38.18 313 *e*P **P** 22 38 03.9 -0.4
KHC pmax pmax
comp=Z,2.0nm,0.8s
KHC Kasperske Hory 38.18 313 *e*P **P** 22 38 03.9 -0.4
comp=Z,2.2nm,0.8s
KHC pP **pP** 22 38 30.0 +0.1
KHC Kasperske Hory 38.18 313 *e*P **P** 22 38 03.9 -0.4
comp=Z,2.2nm,0.8s
WTTA Wattenberg 39.03 310 *i* P **P** 22 38 11.4 -0.1
comp=Z,11nm,1.2s
WTTA Wattenberg 39.03 310 P **P** 22 38 11.4 -0.1
comp=Z,11nm,1.2s
WATA Walderalm 39.08 310 *i* P **P** 22 38 11.4 -0.5
comp=Z,1.8nm,0.5s
WATA Walderalm 39.08 310 P **P** 22 38 11.4 -0.5
comp=Z,1.8nm,0.5s
CLL Collm 39.13 317 *e*P **P** 22 38 12.0 -0.1
CLL pmax pmax
comp=Z,3.0nm,0.9s
CLL Collm 39.13 317 *e*P **P** 22 38 12.0 -0.1
comp=Z,3.0nm,0.9s
MOTA Moosalm 39.40 310 *i* P **P** 22 38 13.5 -1.1
comp=Z,1.7nm,0.4s
MOTA Moosalm 39.40 310 P **P** 22 38 13.5 -1.1
comp=Z,1.7nm,0.4s
FETA Feichten 39.59 309 *i* P **P** 22 38 15.8 -0.4
comp=Z,4.1nm,0.6s
FETA Feichten 39.59 309 P **P** 22 38 15.8 -0.4
comp=Z,4.1nm,0.6s
RETA Reutte 39.65 310 *i* P **P** 22 38 15.4 -1.2
comp=Z,3.0nm,0.6s
RETA Reutte 39.65 310 P **P** 22 38 15.4 -1.2
comp=Z,3.0nm,0.6s
LZH Lanzhou 39.84 68 *e*P **P** 22 38 16.0 -2.4
LZH pP pP 22 38 40.0 -4.2
LZH sP sP 22 38 52.1 -5.0
LZH PP **PP** **22 39 53.3 +1.3**
CMAR Chiang Mai Arr 39.86 96 LR LR 22 57 06.5
comp=Z,18nm,18.7s,baz=262,slow=40
KEST Kesra 40.16 292 P **P** 22 38 23.6 +2.6
comp=Z,6.0nm,0.9s,baz=36,slow=2.2,SNR=6.6
DAVA Damuels 40.21 310 *i* P **P** 22 38 20.6 -0.7
comp=Z,8.5nm,0.7s

DAVA	**Damuels**		**40.21**	**310**	P		**P**	**22 38 20.6**	**-0.7**
	comp=Z,8.5nm,0.7s								
KMI	**Kunming**		**40.88**	**85**	P		**P**	**22 38 27.1**	**-0.1**
KMI					pmax		pmax		
	comp=Z,7.0nm,0.7s								
SONM	**Songino Array**		**42.11**	**50**	P		**P**	**22 38 37.5**	**+0.7**
	comp=Z,2.0nm,0.9s,baz=266,slow=8.8,SNR=13								
SONM					pP		**pP**	**22 39 03.2**	**+0.4**
	comp=Z,2.1nm,1.1s,baz=235,slow=7.0,SNR=4.2								
SONM					LR		LR	22 59 14.8	
	comp=Z,17nm,19.0s,baz=252,slow=40								
SONM	**Songino Array**		**42.11**	**50**	*e*P		**P**	**22 38 38.1**	**+1.3**
SONM					pmax		pmax		
	comp=Z,2.0nm,0.9s								
HFS	**Hagfors**		**42.11**	**329**	P		**P**	**22 38 36.9**	**+0.4**
	comp=Z,1.7nm,0.4s,baz=131,slow=9.8,SNR=11								
SONA1	**Songino Array**		**42.12**	**50**	*e*P		**P**	**22 38 37.6**	**+0.7**
SONA1	**Songino Array**		**42.12**	**50**	*e*P		**P**	**22 38 37.6**	**+0.7**
BNI	**Bardonecchia**		**42.16**	**306**	*e*P		**P**	**22 38 36.9**	**-0.4**
BNI	**Bardonecchia**		**42.16**	**306**	*e*P		**P**	**22 38 36.9**	**-0.4**
BNI	**Bardonecchia**		**42.16**	**306**	*e*P		**P**	**22 38 36.9**	**-0.4**
ULN	**Ulaanbaatar**		**42.55**	**50**	*i* P		**P**	**22 38 40.9**	**+0.5**
ULN					pmax		pmax		
	comp=Z,4.0nm,0.9s								
ULN	**Ulaanbaatar**		**42.55**	**50**	*i* P		**P**	**22 38 40.9**	**+0.5**
	comp=Z,4.0nm,0.9s								
ULN	**Ulaanbaatar**		**42.55**	**50**	*e*P		**P**	**22 38 41.1**	**+0.6**
	comp=Z,3.3nm,0.9s								
NB2	**NORSAR Subarra**		**43.61**	**330**	P		**P**	**22 38 48.4**	**-0.2**
	comp=Z,1.0nm,0.6s,SNR=6.0								
NB2	**NORSAR Subarra**		**43.61**	**330**	P		**P**	**22 38 48.4**	**-0.2**
	comp=Z,1.0nm,0.6s,baz=113,slow=7.9								
NOA	**NORSAR Array B**		**43.61**	**330**	P		**P**	**22 38 48.4**	**-0.2**
	comp=Z,1.3nm,0.6s,baz=115,slow=7.7,SNR=6.1								
ARCES	**ARCESS Array B**		**43.98**	**345**	P		**P**	**22 38 52.3**	**+0.9**
	comp=Z,1.1nm,0.6s,baz=141,slow=7.8,SNR=4.4								
ARCES	**ARCESS Array B**		**43.98**	**345**	*e*P		**P**	**22 38 53.0**	**+1.6**
ARCES					pmax		pmax		
	comp=Z,1.0nm,0.6s								
XAN	**Xi'an**		**44.20**	**70**	P		**P**	**22 38 52.9**	**-0.9**
XAN					pP		pP	22 39 15.8	-4.2
HHC	**Hu-ho-hao-te**		**45.58**	**60**	*e*P		**P**	**22 39 04.8**	**+0.2**
TAM	**Tamanrasset**		**46.20**	**274**	*e*P		**P**	**22 39 10.9**	**+1.1**
TAM					pmax		pmax		
	comp=Z,4.0nm,1.0s								
TAM	**Tamanrasset**		**46.20**	**274**	*e*P		**P**	**22 39 10.9**	**+1.1**
	comp=Z,4.2nm,1.0s								
TAM	**Tamanrasset**		**46.20**	**274**	*e*P		**P**	**22 39 10.9**	**+1.1**
	comp=Z,4.2nm,1.0s								
BOD	**Bodaibo**		**48.29**	**37**	*e*P		**P**	**22 39 25.0**	**-0.3**
BOD					pmax		pmax		
	comp=Z,16nm,1.5s								
BOD	**Bodaibo**		**48.29**	**37**	*e*P		**P**	**22 39 25.0**	**-0.3**
	comp=Z,16nm,1.5s								
BJI	**Beijing**		**49.15**	**61**	P		**P**	**22 39 31.5**	**-0.7**
ES19	**SONSECA Array**		**50.18**	**299**	*e*P		**P**	**22 39 38.3**	**-1.7**
ES19	**SONSECA Array**		**50.18**	**299**	*e*P		**P**	**22 39 38.3**	**-1.7**
ESDC	**Sonseca Array**		**50.23**	**299**	P		**P**	**22 39 40.6**	**+0.1**
	comp=Z,0.7nm,0.5s,baz=70,slow=7.6,SNR=12								
ESDC					pP		**pP**	**22 40 07.6**	**+0.4**
	comp=Z,0.6nm,0.5s,baz=71,slow=7.5,SNR=4.5								
ESLA	**Sonseca Array**		**50.23**	**299**	*e*P		**P**	**22 39 40.2**	**-0.2**
ESLA	**Sonseca Array**		**50.23**	**299**	*e*P		**P**	**22 39 40.2**	**-0.2**
TOA0	**Torodi Ar. Sit**		**53.35**	**265**	*e*P		**P**	**22 40 04.2**	**+0.3**
TOA0	**Torodi Ar. Sit**		**53.35**	**265**	*e*P		**P**	**22 40 04.2**	**+0.3**
TORD	**Torodi Ar. Bea**		**53.35**	**265**	P		**P**	**22 40 04.0**	**+0.2**
	comp=Z,7.9nm,0.4s,baz=61,slow=7.2,SNR=183								
TORD					pP		**pP**	**22 40 31.1**	**+0.2**
	comp=Z,2.2nm,0.6s,baz=59,slow=7.8,SNR=2.5								
TIXI	**Tiksi**		**56.75**	**21**	P		**P**	**22 40 27.3**	**-0.1**
	comp=Z,2.2nm,0.5s,baz=259,slow=5.2,SNR=3.1								
KSAR	**Wonju Array Be**		**58.63**	**62**	P		**P**	**22 40 40.3**	**-0.8**
KSAR	**Wonju Array Be**		**58.63**	**62**	P		**P**	**22 40 40.3**	**-0.8**
KSAR	**Wonju Array Be**		**58.63**	**62**	P		**P**	**22 40 40.3**	**-0.8**
KSRS	**Korea Array**		**58.65**	**62**	P		**P**	**22 40 40.3**	**-1.0**
	comp=Z,2.1nm,0.5s,baz=280,slow=7.1,SNR=9.4								
KSRS					LR		LR	23 09 42.8	
	comp=Z,29nm,18.8s,baz=42,slow=40								
LBTB	**Lobatse**		**61.84**	**212**	P		**P**	**22 41 05.0**	**+1.8**
LBTB	**Lobatse**		**61.84**	**212**	P		**P**	**22 41 05.0**	**+1.8**
LBTB	**Lobatse**		**61.84**	**212**	P		**P**	**22 41 05.0**	**+1.8**
DBIC	**Dimbokro**		**62.09**	**262**	P		**P**	**22 41 05.2**	**+0.3**
	comp=Z,2.9nm,0.4s,baz=26,slow=7.2,SNR=14								
DBIC					LR		LR	23 08 50.8	
	comp=Z,37nm,18.6s,baz=4.5,slow=37								
KIC	**Kosan Boka**		**62.14**	**261**	*e*P		**P**	**22 41 05.8**	**+0.4**
	comp=Z,90nm,1.7s								
TIC	**Toumodi**		**62.24**	**262**	*e*P		**P**	**22 41 06.0**	**-0.1**
LIC	**Lamto**		**62.45**	**261**	*e*P		**P**	**22 41 07.8**	**+0.3**
	comp=Z,49nm,1.7s								
BOSA	**Boshof**		**65.08**	**210**	P		**P**	**22 41 24.9**	**+0.4**
	comp=Z,9.8nm,0.7s,baz=18,slow=6.9,SNR=24								
BOSA					LR		LR	23 13 03.1	
	comp=Z,24nm,18.9s,baz=58,slow=39								
GUMO	**Guam**		**81.82**	**79**	LR		LR	23 20 58.3	
	comp=Z,25nm,21.1s,baz=12,slow=37								
SCHQ	**Schefferville**		**83.17**	**331**	P		**P**	**22 43 08.3**	**-0.8**
	comp=Z,1.6nm,0.6s,baz=56,slow=11,SNR=2.8								
ILAR	**Eielson Array**		**84.33**	**10**	P		**P**	**22 43 13.6**	**-1.2**
	comp=Z,0.3nm,0.6s,baz=345,slow=4.8,SNR=5.2								
YKA	**Yellowknife Ar**		**88.16**	**356**	P		**P**	**22 43 33.7**	**+0.1**
	comp=Z,0.8nm,0.6s,baz=0.6,slow=5.0,SNR=5.2								
WRA	**Warramunga Arr**		**89.36**	**113**	P		**P**	**22 43 38.9**	**-1.1**
	comp=Z,1.1nm,0.9s,baz=313,slow=4.2,SNR=4.3								
WRAB	**Tennant Creek**		**89.36**	**113**	*e*P		**P**	**22 43 40.2**	**+0.2**
WRAB	**Tennant Creek**		**89.36**	**113**	*e*P		**P**	**22 43 40.2**	**+0.2**
WRAB	**Tennant Creek**		**89.36**	**113**	*e*P		**P**	**22 43 40.2**	**+0.2**
ASAR	**Alice Springs**		**90.95**	**117**	P		**P**	**22 43 46.7**	**-0.7**
	comp=Z,0.7nm,0.6s,baz=307,slow=4.9,SNR=9.7								
ASAR	**Alice Springs**		**90.95**	**117**	*e*P		**P**	**22 43 45.4**	**-2.0**
ASAR					pmax		pmax		
	comp=Z,1.0nm,0.6s								
MAW	**Mawson**		**96.81**	**178**	LR		LR	23 18 53.5	
	comp=Z,23nm,20.2s,baz=240,slow=30								
SNAA	**Sanae**		**108.89**	**197**	PKiKP		**PKiKP**	**22 49 09.7**	**-1.3**
VNA2	**Neumayer--Watz**		**109.65**	**198**	PKiKP		**PKiKP**	**22 49 11.8**	**-0.5**
VNA1	**Neumayer--Stat**		**109.74**	**199**	PKiKP		**PKiKP**	**22 49 13.0**	**+0.5**
TXAR	**Lajitas Array**		**118.68**	**341**	PKP		**PKPdf**	**22 49 30.4**	**-0.7**
	comp=Z,0.2nm,0.5s,baz=165,slow=1.5,SNR=5.1								
TXAR	**Lajitas Array**		**118.68**	**341**	*e*PKiKP		**PKPdf**	**22 49 29.5**	**-1.6**

*ISCJB **19** 22:42:59.4±0.8, 6.°85N±0.°04×73.°10W±0.°05, h155km±7km, Error ellipse: s-maj=8.8km s-min=4.6km az=37.4*
*FUNV **19** 22:43:00.7, 6.°74N×73.°10W, h151km, MW2.3*
*RSNC **19** 22:43:01.1±0.4, 6.°81N×73.°12W, h149km±4km, ML2.5*
ISC 19 22:42:59.4±1.5, 6.°83N±0.°04×73.°09W±0.°05, h157km±9km, n16, σ0.°73/30, 1C, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BTLC	**Betulia, Santa**	**0.19**	**296**	*e*P	**Pn**	**22 43 21.2**	**+0.4**
BARC	**Barichara**	**0.26**	**200**	*i* P	**Pn**	**22 43 21.0**	**0.0**
BARC				*e*S	**Sn**	**22 43 36.6**	**-0.9**
BARC				*i*		22 43 39.8	
	comp=Z,52nm,0.3s						
PAMC	**Pamplona, Colo**	**0.64**	**38**	*e*P	**Pn**	**22 43 23.8**	**+0.9**
PAMC				*e*S	**Sn**	**22 43 40.9**	**+0.1**
BRRC	**Barranca, Sant**	**0.67**	**294**	⇑*i*P	**Pn**	**22 43 22.8**	**+0.3**
BRRC				*i*		22 43 23.1	
	comp=Z,116nm,0.2s						
BRRC				*e*S	**Sn**	**22 43 39.7**	**-0.4**
RUSC	**La Rusia**	**0.94**	**179**	*e*P	**Pn**	**22 43 25.1**	**+0.1**
RUSC				*e*S	**Sn**	**22 43 44.1**	**-0.4**
RUSC				*i*		22 43 45.0	
	comp=Z,34nm,0.4s						
CAPV	**Capacho**	**1.28**	**37**	*e*P	**Pn**	**22 43 29.0**	**+1.4**
CAPV				*e*S	**Sn**	**22 43 48.5**	**-0.8**
OCAC	**Ocana**	**1.41**	**351**	*e*P	**Pn**	**22 43 29.1**	**+0.3**
OCAC				*e*S	**Sn**	**22 43 51.8**	**+0.3**
OCAC				*i*		22 43 55.9	
	comp=Z,29nm,0.5s						
ZARC	**Zaragoza, Cauc**	**1.87**	**291**	*e*P	**Pn**	**22 43 34.0**	**+0.4**
ZARC				*e*S	**Sn**	**22 43 59.1**	**-0.6**
ZARC				*i*		22 44 04.8	
	comp=Z,48nm,0.4s						
NORC	**Norcasia**	**2.17**	**235**	*e*P	**Pn**	**22 43 37.2**	**+0.1**
NORC				*e*S	**Sn**	**22 44 05.2**	**-0.8**
CHIC	**Chingaza**	**2.28**	**196**	*e*P	**Pn**	**22 43 39.6**	**+0.8**
CHIC				*e*S	**Sn**	**22 44 08.7**	**-0.3**
CHIC				*i*		22 44 16.5	
	comp=Z,12nm,0.4s						
HELC	**Santa Helena**	**2.50**	**255**	*e*P	**Pn**	**22 43 41.9**	**+0.6**
HELC				*e*S	**Sn**	**22 44 14.0**	**+0.4**
HELC				*i*		22 44 20.1	
	comp=Z,18nm,0.2s						
VIGV	**El Vigia**	**2.63**	**41**	*e*P	**Pn**	**22 43 43.2**	**+0.7**
VIGV				*e*S	**Sn**	**22 44 15.3**	**-0.5**
SOCV	**Socops**	**2.64**	**57**	*e*P	**Pn**	**22 43 43.8**	**+1.1**
SOCV				*e*S	**Sn**	**22 44 14.6**	**-1.6**
PRAC	**Prado**	**3.58**	**210**	*e*P	**Pn**	**22 43 54.8**	**+0.2**
PRAC				*e*S	**Sn**	**22 44 36.9**	**-0.4**
VIRV	**Villa del Rosa**	**3.71**	**11**	*e*P	**Pn**	**22 43 56.4**	**+0.2**
VIRV				*e*S	**Sn**	**22 44 39.0**	**-1.2**
CURV	**Curarigua**	**4.42**	**44**	*e*P	**Pn**	**22 44 05.7**	**+0.1**

*ISCJB **19** 22:59:15.8±0.9, 53.°90N±0.°05×161.°4E±0.°1, h8km±8km, Error ellipse: s-maj=16.1km s-min=3.1km az=26.8*
*KRSC **19** 22:59:15.8±1.1, 53.°90N×161.°48E, h18km±16km, ML4.3*
*MOS **19** 22:59:15.8±0.9, 53.°90N×161.°48E, h18km, mb4.4/1, Error ellipse: s-maj=10.4km s-min=5.8km az=78.7*
ISC 19 22:59:14.7±1.4, 53.°84N±0.°04×161.°42E±0.°06, h5km±11km, n52, σ0.°75/87, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MKZ	**Mys Kozlova**	**0.74**	**14**	PN	**Pg**	**22 59 29.1**	**+0.2**
MKZ				S	**Sg**	**22 59 37.9**	**-0.6**
MKZ	**Mys Kozlova**	**0.74**	**14**	*e*P	**Pg**	**22 59 29.1**	**+0.2**
MKZ				*e*S	**Sg**	**22 59 37.9**	**-0.6**
SPN	**Mys Shipunski**	**1.12**	**229**	PN	**Pn**	**22 59 37.4**	**+0.4**
SPN				S	**Sn**	**22 59 51.9**	**-0.9**
SPN	**Mys Shipunski**	**1.12**	**229**	*e*P	**Pn**	**22 59 37.4**	**+0.4**
SPN				*e*S	**Sn**	**22 59 51.9**	**-0.9**
SDLR	**Sedlovina**	**1.61**	**251**	PN	**Pb**	**22 59 45.3**	**+0.2**
SDLR				S	**Sg**	**23 00 07.2**	**+0.6**
SDLR	**Sedlovina**	**1.61**	**251**	*e*P	**Pb**	**22 59 45.3**	**+0.2**
SDLR				*e*S	**Sg**	**23 00 07.2**	**+0.6**
TUMR	**Tumrok**	**1.62**	**333**	PN	**Pn**	**22 59 44.6**	**+0.5**
TUMR	**Tumrok**	**1.62**	**333**	*e*P	**Pn**	**22 59 44.6**	**+0.5**
UGLR	**Uglovaya**	**1.68**	**249**	PN	**Pb**	**22 59 46.4**	**+0.3**
UGLR	**Uglovaya**	**1.68**	**249**	*i* P	**Pb**	**22 59 46.4**	**+0.3**
KRER	**Koryakskii**	**1.68**	**252**	PN	**Pb**	**22 59 46.8**	**+0.5**
KRER				S	**Sb**	**23 00 08.2**	**+0.4**
KRER	**Koryakskii**	**1.68**	**252**	*i* P	**Pb**	**22 59 46.8**	**+0.5**
KRER				*e*S	**Sb**	**23 00 08.2**	**+0.4**
AVH	**Avacha**	**1.70**	**251**	PN	**Pb**	**22 59 46.9**	**+0.4**
AVH				S	**Sb**	**23 00 09.0**	**+0.8**
AVH	**Avacha**	**1.70**	**251**	*i* P	**Pb**	**22 59 46.9**	**+0.4**
AVH				*e*S	**Sb**	**23 00 09.0**	**+0.8**
KRX	**Arik**	**1.72**	**255**	PN	**Pb**	**22 59 46.9**	**0.0**
KRX				S	**Sn**	**23 00 08.4**	**+0.5**
KRX	**Arik**	**1.72**	**255**	*i* P	**Pb**	**22 59 46.9**	**0.0**
KRX				*e*S	**Sn**	**23 00 08.4**	**+0.5**
KOK	**Koryaka**	**1.75**	**253**	PN	**Pb**	**22 59 47.8**	**+0.4**
KOK	**Koryaka**	**1.75**	**253**	*e*P	**Pb**	**22 59 47.8**	**+0.4**
DALK	**Dalny**	**1.79**	**244**	PN	**Pb**	**22 59 47.6**	**-0.4**
DALK				S	**Sb**	**23 00 10.3**	**-0.4**
DALK	**Dalny**	**1.79**	**244**	*e*P	**Pb**	**22 59 47.6**	**-0.4**
DALK				*e*S	**Sb**	**23 00 10.3**	**-0.4**
PET	**Petropavlovsk**	**1.85**	**245**	PN	**Pb**	**22 59 48.4**	**-0.6**
PET				S	**Sn**	**23 00 11.2**	**+0.5**
KMNR	**Kamenistaya**	**2.04**	**341**	PN	**Pn**	**22 59 50.7**	**+0.9**
KMNR				S	**Sn**	**23 00 15.7**	**+0.1**
KMNR	**Kamenistaya**	**2.04**	**341**	*e*P	**Pn**	**22 59 50.7**	**+0.9**
KMNR				*e*S	**Sn**	**23 00 15.7**	**+0.1**
GNL	**Ganaly**	**2.07**	**267**	PN	**Pb**	**22 59 52.3**	**-0.5**
GNL				S	**Sb**	**23 00 18.7**	**-0.2**
GNL	**Ganaly**	**2.07**	**267**	*e*P	**Pb**	**22 59 52.3**	**-0.5**
GNL				*e*S	**Sb**	**23 00 18.7**	**-0.2**
KIRR	**Kirishev**	**2.21**	**344**	PN	**Pn**	**22 59 52.7**	**+0.6**
KIRR				S	**Sn**	**23 00 20.1**	**+0.2**
KIRR	**Kirishev**	**2.21**	**344**	*e*P	**Pn**	**22 59 52.7**	**+0.6**
KIRR				*e*S	**Sn**	**23 00 20.1**	**+0.2**
ZLN	**Zelenaya**	**2.21**	**351**	PN	**Pn**	**22 59 52.6**	**+0.5**
ZLN				S	**Sn**	**23 00 19.2**	**-0.7**
ZLN	**Zelenaya**	**2.21**	**351**	*e*P	**Pn**	**22 59 52.6**	**+0.5**
ZLN				*e*S	**Sn**	**23 00 19.2**	**-0.7**
KRMR	**Karymshinskiy**	**2.22**	**244**	PN	**Pb**	**22 59 54.1**	**-1.2**
KRMR				S	**Sb**	**23 00 21.7**	**-1.3**
KRMR	**Karymshinskiy**	**2.22**	**244**	*e*P	**Pb**	**22 59 54.1**	**-1.2**
KRMR				*e*S	**Sb**	**23 00 21.7**	**-1.3**
KPT	**Kopyto**	**2.24**	**342**	PN	**Pn**	**22 59 53.3**	**+0.8**
KPT	**Kopyto**	**2.24**	**342**	*e*P	**Pn**	**22 59 53.3**	**+0.8**
RUS	**Russkaya**	**2.25**	**232**	PN	**Pn**	**22 59 53.6**	**+1.0**
RUS	**Russkaya**	**2.25**	**232**	*e*P	**Pn**	**22 59 53.6**	**+1.0**
LGNR	**Loginova**	**2.29**	**350**	PN	**Pn**	**22 59 54.1**	**+0.7**
LGNR				S	**Sn**	**23 00 21.3**	**-0.7**
LGNR	**Loginova**	**2.29**	**350**	*e*P	**Pn**	**22 59 54.1**	**+0.7**
LGNR				*e*S	**Sn**	**23 00 21.3**	**-0.7**
KOZ	**Kozyrevsk**	**2.40**	**339**	*e*S	**Sn**	**23 00 26.1**	**+1.8**
KRSR	**Krestovskiy**	**2.43**	**349**	PN	**Pn**	**22 59 55.3**	**+0.1**
KRSR				S	**Sn**	**23 00 24.2**	**-1.1**
KRSR	**Krestovskiy**	**2.43**	**349**	*e*P	**Pn**	**22 59 55.3**	**+0.1**
KRSR				*e*S	**Sn**	**23 00 24.2**	**-1.1**
KLY	**Klyuchi**	**2.52**	**350**	PN	**Pn**	**22 59 57.5**	**+1.3**
KLY	**Klyuchi**	**2.52**	**350**	*e*P	**Pn**	**22 59 57.5**	**+1.3**
KBG	**Krutoberegovo**	**2.53**	**16**	PN	**Pn**	**22 59 57.9**	**+1.5**
KBG				S	**Sn**	**23 00 27.8**	**+0.2**
KBG	**Krutoberegovo**	**2.53**	**16**	*e*P	**Pn**	**22 59 57.9**	**+1.5**
KBG				*e*S	**Sn**	**23 00 27.8**	**+0.2**
ASAK	**Asacha**	**2.58**	**237**	PN	**Pb**	**23 00 00.7**	**-0.7**
ASAK				S	**Sb**	**23 00 33.3**	**-0.1**
ASAK	**Asacha**	**2.58**	**237**	*e*P	**Pb**	**23 00 00.7**	**-0.7**
ASAK				*e*S	**Sb**	**23 00 33.3**	**-0.1**
ESO	**Esso**	**2.61**	**324**	PN	**Pn**	**22 59 57.7**	**+0.1**
ESO	**Esso**	**2.61**	**324**	*e*P	**Pn**	**22 59 57.7**	**+0.1**
APC	**Apacha**	**2.71**	**252**	PN	**Pb**	**23 00 02.2**	**-1.5**
APC				S	**Sb**	**23 00 36.1**	**-1.1**
APC	**Apacha**	**2.71**	**252**	*e*P	**Pb**	**23 00 02.2**	**-1.5**
APC				*e*S	**Sb**	**23 00 36.1**	**-1.1**
SRKR	**Sorokina**	**2.82**	**357**	PN	**Pn**	**23 00 00.8**	**+0.3**
SRKR	**Sorokina**	**2.82**	**357**	*e*P	**Pn**	**23 00 00.8**	**+0.3**

*ISCJB **19** 23:15:58.4±0.7, 43.°70N±0.°07×145.°91E±0.°08, h95km±4km, mb3.7/3, Error ellipse: s-maj=12.6km s-min=8.5km az=160.9*
*SKHL **19** 23:15:59.9±0.2, 43.°80N×146.°02E, h97km±3km, mb4.4/2, msh5.6/2*
*MOS **19** 23:15:59.2±1.2, 43.°92N×145.°90E, h90km, mb4.1/4, Error ellipse: s-maj=17.5km s-min=10.7km az=115.7*
*JMA **19** 23:16:00.1±0.2, 43.°41N×145.°90E, h72km±1km, M3.4*
ISC 19 23:15:59.9±0.9, 43.°70N±0.°06×145.°82E±0.°06, h85km±7km, n30, σ2.°04/41, mb3.6/3, 8C-1D, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
YUK	**Yuzh-Kuril'sk**	**0.34**	**5**	*e*PN	**Pn**	**23 16 13.8**	**+0.9**
YUK				*e*S	**Sn**	**23 16 24.0**	**+1.4**
YUK				pmax	pmax		
	comp=N,95nm,0.2s						
YUK				pmax	pmax		
	comp=Z,592nm,0.2s						
YUK				pmax	pmax		
	comp=E,196nm,0.1s						
YUK				smax	smax		
	comp=N,2μm,0.2s						
YUK	**Yuzh-Kuril'sk**	**0.34**	**5**	*e*P	**Pn**	**23 16 13.8**	**+0.9**
YUK				AMB	AMB	23 16 14.0	
	comp=N,220nm,0.3s						
YUK				*e*S	**Sn**	**23 16 24.1**	**+1.4**
YUK				A	A	23 16 24.6	
	comp=N,1μm,0.3s						
YUK				A	A	23 16 24.6	
	comp=N,540nm,0.3s						
NEM2	**Nemuro 2**	**0.34**	**190**	⇑P	**Pn**	**23 16 10.6**	**-2.3**
NEM2				*e*S	**Sn**	**23 16 18.5**	**-4.1**
JRA	**Rausu**	**0.56**	**296**	⇑P	**Pn**	**23 16 16.0**	**+1.4**
JRA				*e*S	**Sn**	**23 16 28.0**	**+2.5**
SHO	**Shikotan**	**0.75**	**76**	*e*PN	**Pn**	**23 16 15.8**	**-0.6**
SHO				*e*S	**Sn**	**23 16 27.9**	**-0.9**
SHO				pmax	pmax		
	comp=Z,107nm,0.3s						
SHO				pmax	pmax		
	comp=N,36nm,0.4s						
SHO				pmax	pmax		
	comp=E,67nm,0.4s						
SHO				smax	smax		
	comp=N,1μm,0.2s						
SHO				smax	smax		
	comp=E,1μm,0.3s						
SHO	**Shikotan**	**0.75**	**76**	*e*P	**Pn**	**23 16 15.8**	**-0.6**
SHO				AMB	AMB	23 16 16.3	
	comp=E,110nm,0.3s						
SHO				*e*S	**Sn**	**23 16 27.9**	**-0.9**
SHO				A	A	23 16 28.7	
	comp=E,1μm,0.3s						
SHO				A	A	23 16 28.7	
	comp=E,520nm,0.3s						
JNK	**Nakash**	**0.81**	**262**	⇑P	**Pn**	**23 16 16.8**	**-0.2**
JNK				*e*S	**Sn**	**23 16 29.0**	**-0.9**
JAK	**Akkeshi**	**1.08**	**230**	⇑P	**Pn**	**23 16 18.3**	**-1.8**
JAK				*e*S	**Sn**	**23 16 31.9**	**-3.4**
JTKR	**Abashiri--Toko**	**1.41**	**282**	⇓P	**Pn**	**23 16 26.1**	**+1.9**
JTKR				*e*S	**Sn**	**23 16 45.9**	**+3.3**
JAR	**Ashorobuto**	**1.55**	**256**	P	**Pn**	**23 16 26.4**	**+0.5**
JOB	**Onbets**	**1.65**	**242**	P	**Pn**	**23 16 26.8**	**-0.5**
ERM	**Erimo**	**2.58**	**230**	⇑*i*PN	**Pn**	**23 16 43.3**	**+3.7**
ERM	**Erimo**	**2.58**	**230**	*e*P	**Pn**	**23 16 43.3**	**+3.7**
YSS	**Yuzh-Sakhalins**	**3.91**	**327**	*e*PN	**Pn**	**23 16 57.7**	**+0.2**
YSS	**Yuzh-Sakhalins**	**3.91**	**327**	*e*P	**Pn**	**23 16 57.7**	**+0.2**
UGL	**Uglegorsk**	**5.97**	**336**	*e*PN	**Pn**	**23 17 23.2**	**-2.4**
UGL				*e*S	**Sn**	**23 18 28.7**	**-3.8**
HABR	**Khabarovsk**	**8.88**	**306**	*e*PN	**Pn**	**23 18 03.6**	**-1.5**
HABR				*e*S	**Sn**	**23 19 41.2**	**-2.1**
HABR				pmax	pmax		
	comp=N,9.0nm,0.8s						
HABR				pmax	pmax		
	comp=E,24nm,0.8s						
HABR				pmax	pmax		
	comp=Z,35nm,0.8s						
MAJO	**Matsushiro**	**9.22**	**222**	⇑*i*PN	**Pn**	**23 18 13.4**	**+3.4**
VLA	**Vladivostok**	**10.16**	**272**	*e*PN	**Pn**	**23 18 24.8**	**+2.1**
VLA	**Vladivostok**	**10.16**	**272**	*e*P	**Pn**	**23 18 24.8**	**+2.1**
KLR	**Kul'dur**	**11.16**	**305**	*e*PN	**Pn**	**23 18 36.3**	**0.0**
KLR	**Kul'dur**	**11.16**	**305**	*e*P	**Pn**	**23 18 36.3**	**0.0**
ULN	**Ulaanbaatar**	**27.16**	**293**	⇑*i*P	**P**	**23 21 34.3**	**-0.8**
ULN				pmax	pmax		
	comp=Z,3.0nm,1.9s						
ULN	**Ulaanbaatar**	**27.16**	**293**	*e*P	**P**	**23 21 34.3**	**-0.8**
TLY	**Talaya**	**29.15**	**301**	*i* P	**P**	**23 21 52.7**	**+0.1**
TLY				pmax	pmax		
	comp=Z,3.0nm,0.6s						
TLY	**Talaya**	**29.15**	**301**	*e*P	**P**	**23 21 52.7**	**+0.1**
TIXI	**Tiksi**	**29.22**	**349**	⇑*i*P	**P**	**23 21 52.1**	**-0.9**
TIXI				pmax	pmax		
	comp=Z,1.0nm,0.7s						
TIXI	**Tiksi**	**29.22**	**349**	*e*P	**P**	**23 21 52.1**	**-0.9**
FINES	**FINESS Array B**	**64.48**	**332**	*i* P	**P**	**23 26 28.7**	**+1.8**
FINES				pmax	pmax		
	comp=Z,4.0nm,0.9s						
FINES	**FINESS Array B**	**64.48**	**332**	*e*P	**P**	**23 26 28.7**	**+1.8**

IDC 19 23:19:29.0±7.0, 11.°92N×90.°37W, h0km, mb3.7/4, mb1 4.0/5, mb1mx3.7/38, mbtmpg3.7/5, ML3.5/1, MS3.4/5, Ms1 3.3/5, ms1mx3.0/29, Error ellipse: s-maj=130.4km s-min=56.7km az=6.0, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CMIG	**Matias Romero**	**6.75**	**320**	Pn	Pn	23 21 09.6	+0.2
	1.0nm,0.3s,baz=104,slow=9.4,SNR=9.2						
CMIG				Sn	Sn	23 22 16.8	-10
	1.8nm,0.3s,baz=73,slow=19,SNR=3.2						
CMIG			

DRO	**Drossia**	**1.10**	**113**	P	**Pg**	**23 21 50.5**	**-0.8**
DRO				AML	AML	23 22 16.9	
	comp=N,553µm,0.6s						
DRO				AML	AML	23 22 21.4	
	comp=E,644µm,0.5s						
EVR	**Evrytania**	**1.21**	**64**	P	**Pg**	**23 21 51.6**	**-1.7**
EVR				S	**Sn**	**23 22 10.8**	**+1.6**
EVR	**Evrytania**	**1.21**	**64**	P	**Pg**	**23 21 51.6**	**-1.7**
EVR				S	**Sn**	**23 22 10.8**	**+1.6**
EVR	**Evrytania**	**1.21**	**64**	P	**Pg**	**23 21 51.6**	**-1.7**
EVR				AML	AML	23 22 15.5	
	comp=E,233µm,0.7s						
EVR				AML	AML	23 22 15.5	
	comp=N,198µm,0.6s						
SERG	**Sergoula**	**1.29**	**88**	P	**Pn**	**23 21 52.8**	**-1.0**
SERG				S	**Sn**	**23 22 12.6**	**+1.6**
SERG	**Sergoula**	**1.29**	**88**	P	**Pn**	**23 21 52.8**	**-1.0**
SERG				S	**Sn**	**23 22 12.6**	**+1.6**
SERG	**Sergoula**	**1.29**	**88**	P	**Pn**	**23 21 52.3**	**-1.5**
TRIZ	**Trizonia**	**1.30**	**90**	P	**Pn**	**23 21 52.5**	**-1.4**
TRIZ	**Trizonia**	**1.30**	**90**	P	**Pn**	**23 21 52.5**	**-1.4**
JAN	**Janina**	**1.31**	**15**	P	**Pg**	**23 21 56.2**	**+1.0**
JAN				S	**Sn**	**23 22 13.2**	**+1.5**
JAN	**Janina**	**1.31**	**15**	P	**Pg**	**23 21 56.2**	**+1.0**
JAN				S	**Sn**	**23 22 13.2**	**+1.5**
JAN				AML	AML	23 22 17.1	
	comp=E,307µm,0.4s						
JAN				AML	AML	23 22 17.3	
	comp=N,338µm,0.5s						
KALE	**Kalithea**	**1.35**	**89**	P	**Pn**	**23 21 53.0**	**-1.7**
KALE	**Kalithea**	**1.35**	**89**	P	**Pn**	**23 21 53.0**	**-1.7**
KLV	**Kalavryta, Ach**	**1.41**	**104**	P	**Pn**	**23 21 55.0**	**-0.5**
KLV				S	**Sg**	**23 22 15.8**	**+0.5**
KLV	**Kalavryta, Ach**	**1.41**	**104**	P	**Pn**	**23 21 55.0**	**-0.5**
KLV				S	**Sg**	**23 22 15.8**	**+0.5**
KLV	**Kalavryta, Ach**	**1.41**	**104**	P	**Pn**	**23 21 54.6**	**-0.9**
KLV				S	**Sb**	**23 22 13.7**	**-0.4**
KEK	**Kerkira**	**1.41**	**340**	P	**Pn**	**23 21 55.3**	**-0.2**
KEK	**Kerkira**	**1.41**	**340**	P	**Pn**	**23 21 55.4**	**-0.2**
TRAZ	**Trapeza**	**1.43**	**98**	P	**Pn**	**23 21 54.3**	**-1.5**
TRAZ	**Trapeza**	**1.43**	**98**	P	**Pn**	**23 21 54.3**	**-1.5**
AGG	**Agios Georgios**	**1.62**	**66**	P	**Pn**	**23 21 58.6**	**+0.1**
AGG				S	**Sg**	**23 22 21.8**	**-0.5**
AGG	**Agios Georgios**	**1.62**	**66**	P	**Pn**	**23 21 58.7**	**+0.3**
AGG				S	**Sg**	**23 22 21.8**	**-0.5**
AGG	**Agios Georgios**	**1.62**	**66**	P	**Pn**	**23 21 58.7**	**+0.3**
DSF	**Desfina**	**1.66**	**88**	P	**Pn**	**23 21 59.8**	**+0.9**
DSF	**Desfina**	**1.66**	**88**	P	**Pn**	**23 21 59.7**	**+0.9**
TRIP	**Tripoli**	**1.69**	**120**	P	**Pn**	**23 22 00.0**	**+0.5**
TRIP	**Tripoli**	**1.69**	**120**	P	**Pn**	**23 22 00.0**	**+0.5**
ITM	**Ithomi**	**1.70**	**135**	P	**Pg**	**23 22 02.2**	**-0.3**
ITM	**Ithomi**	**1.70**	**135**	P	**Pg**	**23 22 02.2**	**-0.3**
THL	**Klokotos Trika**	**1.71**	**46**	P	**Pb**	**23 22 01.7**	**+0.3**
THL	**Klokotos Trika**	**1.71**	**46**	P	**Pb**	**23 22 01.7**	**+0.3**
THL				AML	AML	23 22 29.9	
	comp=N,115µm,0.6s						
THL				AML	AML	23 22 33.7	
	comp=E,153µm,0.7s						
KPRO	**Kipourio**	**1.73**	**25**	P	**Pg**	**23 22 03.6**	**+0.3**
PYL	**PYLOS**	**1.82**	**144**	P	**Pb**	**23 22 04.2**	**+1.0**
PYL	**PYLOS**	**1.82**	**144**	P	**Pb**	**23 22 04.2**	**+1.0**
VLX	**Vlachokerasia**	**1.85**	**123**	P	**Pb**	**23 22 03.4**	**-0.4**
VLX	**Vlachokerasia**	**1.85**	**123**	P	**Pb**	**23 22 03.4**	**-0.4**
PROD	**Prodromos**	**1.96**	**93**	P	**Pb**	**23 22 05.8**	**+0.3**
PROD	**Prodromos**	**1.96**	**93**	P	**Pb**	**23 22 05.8**	**+0.3**
LTK	**Loutraki**	**2.04**	**99**	P	**Pn**	**23 22 05.3**	**+1.2**
LTK	**Loutraki**	**2.04**	**99**	P	**Pn**	**23 22 05.3**	**+1.2**
VIL2	**Platees**	**2.25**	**94**	P	**Pb**	**23 22 09.3**	**-1.3**
VILL	**Villia**	**2.29**	**95**	P	**Pn**	**23 22 09.3**	**+1.7**
DID	**Didima**	**2.39**	**111**	P	**Pb**	**23 22 11.7**	**-1.3**
DID	**Didima**	**2.39**	**111**	P	**Pb**	**23 22 11.7**	**-1.3**
STON	**Ston**	**4.94**	**336**	*e*Pn	**Pn**	**23 22 43.7**	**-0.2**
STON				Sn	**Sn**	**23 23 38.6**	**-2.2**
UDBI	**Udbina**	**7.06**	**332**	*e*Pn	**Pn**	**23 23 14.3**	**+1.1**
NVLJ	**Novalja**	**7.45**	**328**	*e*Pn	**Pn**	**23 23 18.0**	**-0.3**
NVLJ				Sn	**Sn**	**23 24 38.4**	**-4.2**

*ROM **19** 23:27:19.6±0.2,41°.69N×14°.82E,h24km±3km, Md2.1/14, Ml2.2/7, Error ellipse: s-maj=2.2km s-min=1.7km az=52.0*
*ISCJB **19** 23:27:20.5±0.5,41°.68N±0°.03×14°.79E±0°.04, h20km±5km, Error ellipse: s-maj=4.9km s-min=4.4km az=151.3*
*CSEM **19** 23:27:20.4±0.2,41°.65N×14°.75E, h20km, ML2.6/5, Error ellipse: s-maj=4.7km s-min=4.2km az=52.0*

ISC 19 23:27:20.9±0.8,**41°.67N**±0°.02×**14°.77E**±0°.02,**h16**km±5km, **n37**,σ=**99**/59,**Southern Italy**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CIGN	**Sant'Elia a Pi**	**0.10**	**100**	Pg	**Pg**	**23 27 23.7**	**-0.7**
CIGN				Sg	**Sg**	**23 27 26.6**	**-0.1**
CIGN	**Sant'Elia a Pi**	**0.10**	**100**	Pg	**Pg**	**23 27 23.7**	**-0.7**
CIGN				Sg	**Sg**	**23 27 26.6**	**-0.1**
BSSO	**Busso**	**0.18**	**226**	Pg	**Pg**	**23 27 25.4**	**-0.1**
BSSO				Sg	**Sg**	**23 27 29.8**	**+1.2**
BSSO	**Busso**	**0.18**	**226**	Pg	**Pg**	**23 27 25.4**	**-0.1**
BSSO				Sg	**Sg**	**23 27 29.8**	**+1.2**
TRIV	**Trivento**	**0.19**	**300**	Pg	**Pg**	**23 27 25.3**	**-0.3**
TRIV				Sg	**Sg**	**23 27 30.4**	**+1.7**
TRIV	**Trivento**	**0.19**	**300**	Pg	**Pg**	**23 27 25.3**	**-0.3**
TRIV				Sg	**Sg**	**23 27 30.4**	**+1.7**
SACR	**S. Croce Del S**	**0.28**	**190**	Pg	**Pb**	**23 27 26.6**	**-1.0**
SACR				Sg	**Sg**	**23 27 32.1**	**+0.9**
	96nm,0.3s						
SACR	**S. Croce Del S**	**0.28**	**190**	Pg	**Pb**	**23 27 26.6**	**-1.0**
SACR				Sg	**Sg**	**23 27 32.1**	**+0.9**
	96nm,0.3s						
FRES	**Fresagrandinar**	**0.31**	**346**	Pg	**Pg**	**23 27 27.3**	**-0.2**
FRES				Sg	**Sb**	**23 27 32.7**	**-0.2**
FRES	**Fresagrandinar**	**0.31**	**346**	Pg	**Pg**	**23 27 27.3**	**-0.2**
FRES				Sg	**Sb**	**23 27 32.7**	**-0.2**
PTRJ	**Pietraroja**	**0.36**	**210**	Pg	**Pg**	**23 27 27.5**	**-0.9**
PTRJ				Sg	**Sb**	**23 27 34.3**	**0.0**
	347nm,0.5s						
PTRJ	**Pietraroja**	**0.36**	**210**	Pg	**Pg**	**23 27 27.5**	**-0.9**
PTRJ				Sg	**Sb**	**23 27 34.3**	**0.0**
	347nm,0.5s						
MIDA	**Miranda**	**0.39**	**266**	Pg	**Pg**	**23 27 28.3**	**-0.6**
MIDA				Sg	**Sb**	**23 27 34.8**	**-0.4**
	181nm,0.2s						
MIDA	**Miranda**	**0.39**	**266**	Pg	**Pg**	**23 27 28.3**	**-0.6**
MIDA				Sg	**Sb**	**23 27 34.8**	**-0.4**
	181nm,0.2s						
MOCO	**Biccari - m.te**	**0.42**	**136**	Pg	**Pg**	**23 27 29.6**	**+0.1**
PSB1	**Pescosannita**	**0.45**	**176**	Pg	**Pg**	**23 27 29.3**	**-0.7**
PSB1				Sg	**Sb**	**23 27 36.8**	**-0.1**
PSB1	**Pescosannita**	**0.45**	**176**	Pg	**Pg**	**23 27 29.3**	**-0.7**
PSB1				Sg	**Sb**	**23 27 36.8**	**-0.1**
RNI2	**Rionero Sannit**	**0.46**	**274**	Pg	**Pg**	**23 27 29.6**	**-0.6**
RNI2				Sg	**Sb**	**23 27 37.6**	**+0.2**
	127nm,0.4s						
RNI2	**Rionero Sannit**	**0.46**	**274**	Pg	**Pg**	**23 27 29.6**	**-0.6**
RNI2				Sg	**Sb**	**23 27 37.6**	**+0.2**
	127nm,0.4s						
VAGA	**Valle Agricola**	**0.48**	**238**	Pg	**Pg**	**23 27 29.8**	**-0.7**
VAGA				Sg	**Sb**	**23 27 38.5**	**+0.8**
	218nm,0.2s						
VAGA	**Valle Agricola**	**0.48**	**238**	Pg	**Pg**	**23 27 29.8**	**-0.7**
VAGA				Sg	**Sb**	**23 27 38.5**	**+0.8**
	218nm,0.2s						
CERA	**Filignano**	**0.57**	**263**	Pg	**Pg**	**23 27 32.4**	**+0.2**
CERA	**Filignano**	**0.57**	**263**	Pg	**Pg**	**23 27 32.4**	**+0.2**
PAOL	**Paolisi**	**0.66**	**193**	Pg	**Pb**	**23 27 32.4**	**-1.6**
PAOL	**Paolisi**	**0.66**	**193**	Pg	**Pb**	**23 27 32.4**	**-1.6**
SGTA	**Sant Agata di**	**0.70**	**140**	Pg	**Pb**	**23 27 33.3**	**-1.4**
SGTA	**Sant Agata di**	**0.70**	**140**	Pg	**Pb**	**23 27 33.3**	**-1.4**
INTR	**Introdacqua**	**0.73**	**298**	Pg	**Pb**	**23 27 33.4**	**-1.9**
	319nm,1.8s						
INTR	**Introdacqua**	**0.73**	**298**	Pg	**Pb**	**23 27 33.4**	**-1.9**
	319nm,1.8s						
CAFE	**Carife**	**0.73**	**151**	Pg	**Pb**	**23 27 34.1**	**-1.2**
CAFE	**Carife**	**0.73**	**151**	Pg	**Pb**	**23 27 34.1**	**-1.2**
VVLD	**Villa Vallelon**	**0.88**	**283**	Pg	**Pb**	**23 27 35.7**	**-2.1**
	36nm,0.5s						
VVLD	**Villa Vallelon**	**0.88**	**283**	Pg	**Pb**	**23 27 35.7**	**-2.1**
	36nm,0.5s						
STON	**Ston**	**2.48**	**60**	*e*Pn	**Pn**	**23 28 02.1**	**+1.4**
STON				Sn	**Sn**	**23 28 31.0**	**+0.5**
STON	**Ston**	**2.48**	**60**	*e*Pn	**Pn**	**23 28 02.0**	**+1.4**
STON				Sn	**Sn**	**23 28 31.0**	**+0.5**
NVLJ	**Novalja**	**2.89**	**1**	Sn	**Sn**	**23 28 40.6**	**0.0**
NVLJ	**Novalja**	**2.89**	**1**	Sn	**Sn**	**23 28 40.5**	**0.0**

*NIED **19** 23:34:00,44°.10N×148°.30E,h47km,Mw3.4 Best double couple: M₀1.43000×10¹⁴ NP1:φ₀=236.00000°,δ30.00000°, λ131.00000°. NP2:φ₀=10.00000°,δ68.00000°,λ69.00000°.*
*ISCJB **19** 23:34:06.6±0.6,45°.99N±0°.04×146°.92E±0°.06, h33km, mb3.4/2, Error ellipse: s-maj=6.8km s-min=5.2km az=31.1*
*MOS **19** 23:34:07.1±1.2,46°.05N×146°.84E, h49km, mb3.9/2, Error ellipse: s-maj=15.1km s-min=10.4km az=83.1*
*JMA **19** 23:34:09.5±0.4,44°.13N×148°.27E, h0km, M4.3*
*SKHL **19** 23:34:10.3±0.3,45°.81N×147°.20E, h73km±6km, mb4.6/2*

ISC 19 23:34:08.8±0.8,**45°.92N**±0°.06×**147°.07E**±0°.06,**h35**km,**n34,** σ=**2**§**30**/42,**5C-1D,Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KUR	**Kuril'sk**	**0.89**	**140**	*d*	*i*PN **Pn**	**23 34 25.3**	**+0.6**
KUR					*i* S **Sn**	**23 34 36.6**	**+0.3**
KUR					pmax pmax		
	comp=Z,609nm,0.4s						
KUR					smax smax		
	comp=N,4µm,0.5s						
KUR					smax smax		
	comp=E,3µm,0.5s						
KUR					smax smax		
	comp=N,5µm,1.3s						
KUR					smax smax		
	comp=E,2µm,1.3s						
KUR	**Kuril'sk**	**0.89**	**140**	*e*	**P** **Pn**	**23 34 25.3**	**+0.6**
KUR					AMB AMB	23 34 26.1	
	comp=E,610nm,0.4s						
KUR					*e*S **Sn**	**23 34 36.6**	**+0.3**
KUR					A A	23 34 37.5	
	comp=E,4µm,0.5s						
KUR					A A	23 34 37.5	
	comp=E,3µm,0.5s						
KUR					A A	23 34 39.6	
	comp=E,5µm,1.0s						
KUR					A A	23 34 39.6	
	comp=E,2µm,1.0s						
SHO	**Shikotan**	**2.05**	**185**	*e*	PN **Pn**	**23 34 41.2**	**+0.4**
SHO					*e*S **Sn**	**23 35 04.5**	**-0.6**
SHO					smax smax		
	comp=Z,360nm,0.3s						
SHO	**Shikotan**	**2.05**	**185**	*e*	**P** **Pn**	**23 34 41.2**	**+0.4**
SHO					*e*S **Sn**	**23 35 04.5**	**-0.6**
SHO					A A	23 35 05.2	
	comp=Z,360nm,0.3s						
YUK	**Yuzh-Kuril'sk**	**2.07**	**205**	*e*	PN **Pn**	**23 34 41.6**	**+0.6**
YUK					*e*S **Sn**	**23 35 04.7**	**-0.7**
YUK					pmax pmax		
	comp=N,62nm,0.2s						
YUK					pmax pmax		
	comp=Z,366nm,0.2s						
YUK					pmax pmax		
	comp=E,39nm,0.1s						
YUK					smax smax		
	comp=N,249nm,0.2s						
YUK					smax smax		
	comp=E,48nm,0.1s						
YUK	**Yuzh-Kuril'sk**	**2.07**	**205**	*e*	**P** **Pn**	**23 34 41.6**	**+0.6**
YUK					AMB AMB	23 34 43.1	
	comp=E,40nm,0.2s						
YUK					*e*S **Sn**	**23 35 04.8**	**-0.7**
YUK					A A	23 35 06.4	
	comp=E,250nm,0.2s						
YUK					A A	23 35 06.4	
	comp=E,50nm,0.2s						
JRA	**Rausu**	**2.41**	**216**	P	**Pn**	**23 34 49.2**	**+3.5**
NEM2	**Nemuro 2**	**2.72**	**201**	P	Pn	23 34 44.9	-5.0
NEM2				*e*S	Sn	23 35 10.3	-11
YSS	**Yuzh-Sakhalins**	**3.16**	**291**	*e*	PN **Pn**	**23 34 59.8**	**+3.9**
YSS	**Yuzh-Sakhalins**	**3.16**	**291**	*e*	**P** **Pn**	**23 34 59.8**	**+3.9**
JAK	**Akkeshi**	**3.38**	**211**	P	**Pn**	**23 34 57.0**	**-2.0**
JAK				*e*S	**Sn**	**23 35 32.6**	**-5.2**
JAR	**Ashorobuto**	**3.52**	**223**	P	Pn	23 35 05.3	+4.3
JAR				*e*S	**Sn**	**23 35 46.7**	**+5.3**
JCH	**Churui**	**4.24**	**220**	*e*S	**Sn**	**23 35 58.7**	**-0.4**
UGL	**Uglegorsk**	**4.63**	**315**	*e*	PN Pn	23 35 28.5	+12
UGL				*e*		23 36 03.7	
JNBK	**Urakawa-nobuka**	**4.78**	**222**	P	**Pn**	**23 35 19.9**	**+1.6**
JNBK				*e*S	**Sn**	**23 36 11.3**	**-1.1**
ERM	**Erimo**	**4.81**	**217**	*c*	*i*PN **Pn**	**23 35 20.3**	**+1.6**
ERM					*i* S **Sn**	**23 36 19.1**	**+5.9**
ERM	**Erimo**	**4.81**	**217**	*e*	**P** **Pn**	**23 35 20.3**	**+1.6**
JKB	**Kayabe**	**5.93**	**229**	P	**Pn**	**23 35 37.8**	**+3.7**
JKB				*e*S	**Sn**	**23 36 43.3**	**+2.5**
JOT	**Ohata**	**6.29**	**226**	P	**Pn**	**23 35 40.4**	**+1.4**
JOT				*e*S	**Sn**	**23 36 47.5**	**-2.1**
JANG	**Nango**	**6.87**	**218**	*e*S	Sn	23 36 53.2	-11
SKR	**Severo-Kuril's**	**7.69**	**48**	*e*	PN **Pn**	**23 35 59.5**	**+1.4**
SKR	**Severo-Kuril's**	**7.69**	**48**	*e*	**P** **Pn**	**23 35 59.5**	**+1.4**
HABR	**Khabarovsk**	**8.57**	**292**	*e*	PN **Pn**	**23 36 06.8**	**-3.5**
HABR					pmax pmax		
	comp=Z,32nm,1.6s						
PET	**Petropavlovsk**	**10.36**	**42**	*e*	PN **Pn**	**23 36 35.7**	**+1.0**
PET	**Petropavlovsk**	**10.36**	**42**	*e*	**P** **Pn**	**23 36 35.7**	**+1.0**
KLR	**Kul'dur**	**10.87**	**293**	*i*	*i*PN **Pn**	**23 36 39.4**	**-2.3**
VLA	**Vladivostok**	**11.20**	**261**	*e*	PN **Pn**	**23 36 46.4**	**+0.2**
VLA	**Vladivostok**	**11.20**	**261**	*e*	**P** **Pn**	**23 36 46.4**	**+0.2**
MAJO	**Matsushiro**	**11.49**	**219**	*i*	*i*PN **Pn**	**23 36 51.0**	**+0.7**
MAJO	**Matsushiro**	**11.49**	**219**	*e*	**P** **Pn**	**23 36 51.0**	**+0.7**
ULN	**Ulaanbaatar**	**27.20**	**289**	‖	*e*P **P**	**23 39 47.4**	**-1.8**
ULN					pmax pmax		
	comp=Z,1.0nm,1.8s						
ULN	**Ulaanbaatar**	**27.20**	**289**		*e*P **P**	**23 39 47.4**	**-1.8**
TIXI	**Tiksi**	**27.23**	**348**	‖	*e*P **P**	**23 39 48.0**	**-0.9**
TIXI					pmax pmax		
	comp=Z,2.0nm,0.6s						
TIXI	**Tiksi**	**27.23**	**348**		*e*P **P**	**23 39 49.4**	**+0.5**

*NSSC **19** 23:42:44.9±1.3,33°.53N×35°.71E, h0km±4km, ML1.4*
*ISCJB **19** 23:42:47.5±0.8,33°.53N±0°.05×35°.81E±0°.05, h9km±6km, Error ellipse: s-maj=9.5km s-min=5.2km az=44.0*
*CSEM **19** 23:42:47.2±0.5,33°.56N×35°.82E, h10km, ML2.6, Error ellipse: s-maj=12.2km s-min=8.4km az=41.0*
*GRAL **19** 23:42:50.3±0.3,33°.79N×35°.80E, h14km±4km, MD2.6*

ISC 19 23:42:47.3±1.0,**33°.52N**±0°.04×**35°.84E**±0°.03,**h8**km±10km, **n17**,σ=**56**/28,**Jordan-Syria region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RCY	**Rachaya**	**0.02**	**195**	*e*	**P** Pg	23 42 56.1	+7.2
RCY				*e*S	Sg	23 43 00.6	+10
BRBR	**Barbar**	**0.14**	**140**	*e*	**P** **Pg**	**23 42 48.3**	**-2.1**
BRBR				*e*S	**Sg**	**23 42 53.6**	**+1.0**
BRBR				AML	AML	23 42 58.4	
	comp=N,46nm,0.6s						
BRBR				AML	AML	23 43 00.1	
	comp=E,44nm,0.5s						
BRBR	**Barbar** SNR=94	**0.14**	**140**	*e*	**P** **Pg**	**23 42 48.3**	**-2.1**
BRBR				*e*S	**Sg**	**23 42 53.6**	**+1.0**
	comp=E,44nm,0.5s,SNR=94						
DQRL	**Deir Qamar**	**0.29**	**309**	*e*	**P** **Pg**	**23 42 54.7**	**+1.5**
DQRL				*e*S	**Sg**	**23 42 58.0**	**+0.9**
DQRL	**Deir Qamar**	**0.29**	**309**	*e*	**P** **Pg**	**23 42 54.7**	**+1.5**
DQRL				*e*S	**Sg**	**23 42 58.0**	**+0.9**
QASN	**Qassioun**	**0.36**	**88**	*e*	**P** **Pg**	**23 42 54.9**	**+0.4**
QASN				*e*S	**Sg**	**23 43 02.0**	**+2.8**
QASN				AML	AML	23 43 16.5	
	comp=E,48nm,0.7s						
QASN				AML	AML	23 43 16.7	
	comp=N,94nm,0.4s						
QASN	**Qassioun** SNR=91	**0.36**	**88**	*e*	**P** **Pg**	**23 42 54.9**	**+0.4**
QASN				*e*S	**Sg**	**23 43 02.0**	**+2.8**
	comp=N,94nm,0.4s,SNR=59						
BHL	**Bhannes**	**0.41**	**338**	*e*	**P** **Pg**	**23 42 54.0**	**-1.4**
BHL	**Bhannes**	**0.41**	**338**	*e*	**P** **Pg**	**23 42 54.0**	**-1.4**
MARH	**Ras Al Marh**	**0.73**	**46**	*e*	**P** **Pg**	**23 43 01.6**	**+0.1**
MARH				*e*S	**Sb**	**23 43 12.8**	**-0.1**
MARH				AML	AML	23 43 16.3	
	comp=E,23nm,0.3s						
MARH				AML	AML	23 43 16.8	
	comp=N,39nm,0.4s						
MARH	**Ras Al Marh** SNR=75	**0.73**	**46**	*e*	**P** **Pg**	**23 43 01.6**	**+0.1**
MARH				*e*S	**Sb**	**23 43 12.8**	**-0.1**
	comp=N,39nm,0.4s,SNR=59						
HWQ	**Hawqa**	**0.76**	**6**	*e*	**P** **Pg**	**23 42 59.5**	**-2.5**
HWQ	**Hawqa**	**0.76**	**6**	*e*	**P** **Pg**	**23 42 59.5**	**-2.5**
SALA	**Sala**	**1.10**	**137**	*e*	**P** **Pb**	**23 43 08.4**	**-0.3**
SALA				*e*S	**Sg**	**23 43 24.7**	**+2.0**
SALA				AML	AML	23 43 30.2	
	comp=N,7.6nm,0.6s						
SALA				AML	AML	23 43 33.0	
	comp=E,1.0nm,0.3s						
SALA	**Sala** SNR=57	**1.10**	**137**	*e*	**P** **Pb**	**23 43 08.4**	**-0.3**
SALA				*e*S	**Sg**	**23 43 24.7**	**+2.0**
	comp=E,1.0nm,0.3s,SNR=49						
ROOS	**tl_alroos**	**1.37**	**61**	*e*	**P** **Pn**	**23 43 12.3**	**-0.5**
ROOS				*e*S	**Sg**	**23 43 31.9**	**+0.6**
ROOS				AML	AML	23 43 42.2	
	comp=N,7.9nm,0.7s						
ROOS				AML	AML	23 43 51.0	
	comp=E,9.2nm,0.6s						
ROOS	**tl_alroos** SNR=57	**1.37**	**61**	*e*	**P** **Pn**	**23 43 12.3**	**-0.5**
ROOS				*e*S	**Sg**	**23 43 31.9**	**+0.6**
	comp=E,9.2nm,0.6s,SNR=49						

*IDC **19** 23:44:23.4±1.0,39°.16N×16°.96E, h0km, mb3.7/6, mb1 3.6/12, mb1mx3.5/38, mbtmp3.5/12, ML3.1/6, MS3.1/2, Ms1 3.2/2, ms1mx2.6/39, Error ellipse: s-maj=22.3km s-min=15.7km az=128.0*
*TIR **19** 23:44:24.7±0.6,39°.17N×17°.01E, h35km, ML3.5*
*ROM **19** 23:44:25.2±0.2,39°.01N×17°.16E, h25km±3km, Ml3.6/30, Error ellipse: s-maj=3.9km s-min=1.9km az=114.0*
*PDG **19** 23:44:25.0±0.7,39°.03N×17°.17E, h25km±1km, ML3.5/12, Error ellipse: s-maj=1.0km s-min=1.6km az=0.0*
*CSEM **19** 23:44:26.4±0.1,39°.05N×17°.09E, h30km, ML3.6, Error ellipse: s-maj=2.9km s-min=2.2km az=132.0*
*THE **19** 23:44:30.0,38°.99N×17°.41E, h25km±27km, ML3.3/3, Error ellipse: s-maj=33.2km s-min=2.6km az=270.0*

ISC 19 23:44:23.8±1.7,**39°.02N**±0°.03×**17°.18E**±0°.03,**h9**km±12km, **n185,**σ=**1**§**36**/225,**mb3.7**/6,**15C-14D,Southern Italy**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SERS	**Sersale**	**0.38**	**273**	‖	*i*Pg **Pb**	**23 44 33.1**	**+0.3**
SERS					Sg **Sb**	**23 44 38.7**	**-0.2**
	6µm,0.4s						
SERS	**Sersale**	**0.38**	**273**	‖	*i*Pg **Pb**	**23 44 33.1**	**+0.3**
SERS					Sg **Sb**	**23 44 38.7**	**-0.2**
	6µm,0.4s						
PIPA	**Pietrapaola** 4µm,0.7s	**0.55**	**329**	Pg	**Pb**	**23 44 36.3**	**+0.7**
PIPA	**Pietrapaola** 4µm,0.7s	**0.55**	**329**	Pg	**Pb**	**23 44 36.3**	**+0.7**
GRI	**Girifalco** 6µm,0.9s	**0.62**	**252**	Pg	**Pb**	**23 44 37.0**	**+0.1**
GRI	**Girifalco** 6µm,0.9s	**0.62**	**252**	Pg	**Pb**	**23 44 37.0**	**+0.1**
CAR1	**CAROLEI**	**0.79**	**288**	Pg	**Pb**	**23 44 40.2**	**+0.5**
CAR1				Sg	**Sb**	**23 44 51.6**	**+1.1**
	5µm,0.5s						
CAR1	**CAROLEI**	**0.79**	**288**	Pg	**Pb**	**23 44 40.2**	**+0.5**
CAR1				Sg	**Sb**	**23 44 51.6**	**+1.1**
	5µm,0.5s						
PLAC	**Placanica** 2µm,0.6s	**0.81**	**226**	Pg	**Pn**	**23 44 41.0**	**-0.4**
PLAC	**Placanica** 2µm,0.6s	**0.81**	**226**	Pg	**Pn**	**23 44 41.0**	**-0.4**
SALB	**San Lorenzo Be** 527nm,0.8s	**1.07**	**323**	Pg	**Pn**	**23 44 45.1**	**-0.1**
SALB	**San Lorenzo Be** 527nm,0.8s	**1.07**	**323**	Pg	**Pn**	**23 44 45.1**	**-0.1**
JOPP	**Joppolo** 1µm,0.9s	**1.09**	**248**	Pg	**Pn**	**23 44 45.9**	**+0.6**
JOPP	**Joppolo** 1µm,0.9s	**1.09**	**248**	Pg	**Pn**	**23 44 45.9**	**+0.6**
ORI	**Oriolo Calabro** 1µm,0.5s	**1.19**	**332**	Pg	**Pn**	**23 44 47.5**	**+0.9**
ORI	**Oriolo Calabro** 1µm,0.5s	**1.19**	**332**	Pg	**Pn**	**23 44 47.5**	**+0.9**
CEL	**Celeste** 736nm,0.6s	**1.26**	**233**	Pg	**Pn**	**23 44 48.0**	**+0.4**
CEL	**Celeste** 736nm,0.6s	**1.26**	**233**	Pg	**Pn**	**23 44 48.0**	**+0.4**
SOI	**Samo** 571nm,0.8s	**1.29**	**223**	Pg	**Pb**	**23 44 48.3**	**+0.1**
SOI	**Samo** 571nm,0.8s	**1.29**	**223**	Pg	**Pb**	**23 44 48.3**	**+0.1**
MSCL	**Scilla** 3µm,0.9s	**1.34**	**235**	Pg	**Pb**	**23 44 49.1**	**0.0**
MSCL	**Scilla** 3µm,0.9s	**1.34**	**235**	Pg	**Pb**	**23 44 49.1**	**0.0**
GMB	**Gambarie** 3µm,0.7s	**1.35**	**232**	Pg	**Pn**	**23 44 49.2**	**+0.2**
GMB	**Gambarie** 3µm,0.7s	**1.35**	**232**	Pg	**Pn**	**23 44 49.2**	**+0.2**
MPAZ	**Palizzi** 633nm,0.8s	**1.40**	**221**	Pg	**Pn**	**23 44 49.9**	**+0.3**
MPAZ	**Palizzi** 633nm,0.8s	**1.40**	**221**	Pg	**Pn**	**23 44 49.9**	**+0.3**
CUC	**Castrocucco** 536nm,0.8s	**1.44**	**313**	Pg	**Pn**	**23 44 50.4**	**+0.3**
CUC	**Castrocucco** 536nm,0.8s	**1.44**	**313**	Pg	**Pn**	**23 44 50.4**	**+0.3**
SCTE	**Santa Cesarea** 310nm,

CDRU	**Civita di Ruta**	**2.06**	**316**	Pg	**Pn**	**23 44 58.5**	**-0.2**
	200nm,1.0s							
CDRU	**Civita di Ruta**	**2.06**	**316**	Pg	**Pn**	**23 44 58.5**	**-0.2**
	200nm,1.0s							
BAI	**Bari**	**2.10**	**354**	*e*Pn	**Pn**	**23 44 58.9**	**-0.2**
KEK	**Kerkira**	**2.15**	**70**	P	**Pn**	**23 45 00.7**	**+0.9**
KEK				S	**Sn**	**23 45 26.2**	**-0.4**
KEK	**Kerkira**	**2.15**	**70**	P	**Pn**	**23 45 00.7**	**+0.9**
KEK				S	**Sn**	**23 45 26.2**	**-0.4**
CDT	**Castel del Mon**	**2.18**	**342**	*e*Pn	**Pn**	**23 44 59.7**	**-0.5**
HCRL	**Carlentini**	**2.42**	**225**	Pg	**Pn**	**23 45 02.1**	**-1.4**
	2µm,1.8s							
HCRL	**Carlentini**	**2.42**	**225**	Pg	**Pn**	**23 45 02.1**	**-1.4**
	2µm,1.8s							
HLNI	**Lentini**	**2.46**	**228**	Pg	**Pn**	**23 45 02.9**	**-1.2**
	599nm,1.9s							
HLNI	**Lentini**	**2.46**	**228**	Pg	**Pn**	**23 45 02.9**	**-1.2**
	599nm,1.9s							
HAVL	**Avola**	**2.62**	**219**	Pg	**Pn**	**23 45 04.7**	**-1.6**
	196nm,0.7s							
HAVL	**Avola**	**2.62**	**219**	Pg	**Pn**	**23 45 04.7**	**-1.6**
	196nm,0.7s							
VAE	**Valguarnera**	**2.66**	**236**	Pn	**Pn**	**23 45 08.6**	**+1.6**
	3.5nm,0.3s,baz=128,slow=10.0,SNR=13							
LKD2	**Lefkada island**	**2.73**	**94**	P	**Pn**	**23 45 09.6**	**+1.8**
LKD2				S	**Sn**	**23 45 40.7**	**-0.2**
LKD2	**Lefkada island**	**2.73**	**94**	P	**Pn**	**23 45 09.6**	**+1.8**
LKD2				S	**Sn**	**23 45 40.7**	**-0.2**
VLS	**Valsamata**	**2.80**	**106**	P	**Pn**	**23 45 10.0**	**+1.2**
VLS				S	**Sn**	**23 45 41.5**	**-1.3**
VLS	**Valsamata**	**2.80**	**106**	P	**Pn**	**23 45 10.0**	**+1.2**
VLS				S	**Sn**	**23 45 41.5**	**-1.3**
KFL	**Anninata**	**2.97**	**107**	P	**Pn**	**23 45 12.7**	**+1.5**
KFL				S	**Sn**	**23 45 46.6**	**-0.3**
KFL	**Anninata**	**2.97**	**107**	P	**Pn**	**23 45 12.7**	**+1.5**
KFL				S	**Sn**	**23 45 46.6**	**-0.3**
PDO	**Prodromos**	**3.16**	**96**	P	**Pn**	**23 45 15.6**	**+1.9**
PDO	**Prodromos**	**3.16**	**96**	P	**Pn**	**23 45 15.6**	**+1.9**
ULC	**Ulcinj**	**3.34**	**28**⇑	*i*Pn	**Pn**	**23 45 16.5**	**+0.3**
ULC				*e*Sn	**Sn**	**23 45 56.1**	**+0.1**
ULC	**Ulcinj**	**3.34**	**28**⇑	*i*Pn	**Pn**	**23 45 16.5**	**+0.3**
ULC				*e*Sn	**Sn**	**23 45 56.1**	**+0.1**
DRME	**Dracevica, Mon**	**3.52**	**25**⇑	*i*Pn	**Pn**	**23 45 18.6**	**0.0**
DRME				*e*Sn	**Sn**	**23 46 01.0**	**+0.7**
DRME	**Dracevica, Mon**	**3.52**	**25**⇑	*i*Pn	**Pn**	**23 45 18.6**	**0.0**
DRME				*e*Sn	**Sn**	**23 46 01.0**	**+0.7**
BUM	**Brajici-Budva**	**3.53**	**21**⇓	*i*Pn	**Pn**	**23 45 18.6**	**-0.3**
BUM				*e*Sn	**Sn**	**23 46 00.3**	**-0.5**
BUM	**Brajici-Budva**	**3.53**	**21**⇓	*i*Pn	**Pn**	**23 45 18.6**	**-0.3**
BUM				*e*Sn	**Sn**	**23 46 00.3**	**-0.5**
PDG	**Podgorica**	**3.76**	**24**⇓	*i*Pn	**Pn**	**23 45 21.9**	**0.0**
PDG				*e*Sn	**Sn**	**23 46 06.3**	**0.0**
TTG	**Podgorica**	**3.76**	**24**⇓	*i*Pn	**Pn**	**23 45 21.9**	**0.0**
TTG				*e*Sn	**Sn**	**23 46 06.3**	**0.0**
BIA	**Bitola**	**3.76**	**57**	*e*Pn	**Pb**	**23 45 26.8**	**-3.6**
BIA				*i* Sn	**Sn**	**23 46 07.2**	**+0.7**
BIA	**Bitola**	**3.76**	**57**	*e*Pn	**Pb**	**23 45 26.7**	**-3.7**
BIA				*i* Sn	**Sn**	**23 46 07.2**	**+0.7**
CEME	**Cevo**	**3.77**	**20**⇓	*i*Pn	**Pn**	**23 45 21.8**	**-0.3**
CEME				*e*Sn	**Sn**	**23 46 06.2**	**-0.4**
CEME	**Cevo**	**3.77**	**20**⇓	*i*Pn	**Pn**	**23 45 21.8**	**-0.3**
CEME				*e*Sn	**Sn**	**23 46 06.2**	**-0.4**
TREB	**Trebinje**	**3.80**	**13**	*e*Pn	**Pn**	**23 45 21.4**	**-1.2**
LAKA	**Lakka**	**3.84**	**100**	P	**Pn**	**23 45 25.9**	**+2.8**
SERG	**Sergoula**	**3.87**	**97**	P	**Pn**	**23 45 26.3**	**+2.8**
STON	**Ston**	**3.87**	**6**	*e*Pn	**Pn**	**23 45 22.7**	**-0.8**
STON				Sn	**Sn**	**23 46 04.8**	**-4.3**
STON	**Ston**	**3.87**	**6**	*e*Pn	**Pn**	**23 45 22.7**	**-0.8**
STON				Sn	**Sn**	**23 46 04.7**	**-4.4**
KALE	**Kalithea**	**3.93**	**98**	P	**Pn**	**23 45 27.2**	**+2.8**
NKME	**Niksic**	**3.98**	**19**⇓	*i*Pn	**Pn**	**23 45 25.0**	**-0.1**
NKME				*e*Sn	**Sn**	**23 46 11.8**	**-0.1**
NKME	**Niksic**	**3.98**	**19**⇓	*i*Pn	**Pn**	**23 45 25.0**	**-0.1**
NKME				*e*Sn	**Sn**	**23 46 11.8**	**-0.1**
AGG	**Agios Georgios**	**4.01**	**88**	P	**Pn**	**23 45 28.3**	**+2.8**
BRY	**Bratogost**	**4.02**	**14**⇓	*i*Pn	**Pn**	**23 45 25.3**	**-0.3**
BRY				*e*Sn	**Sn**	**23 46 12.8**	**-0.1**
BRY	**Bratogost**	**4.02**	**14**⇓	*i*Pn	**Pn**	**23 45 25.3**	**-0.3**
BRY				*e*Sn	**Sn**	**23 46 12.8**	**-0.1**
NKY	**Niksic**	**4.04**	**19**⇑	*i*Pn	**Pn**	**23 45 26.0**	**+0.1**
NKY				*e*Sn	**Sn**	**23 46 12.4**	**-0.9**
NKY	**Niksic**	**4.04**	**19**⇑	*i*Pn	**Pn**	**23 45 26.0**	**+0.1**
NKY				*e*Sn	**Sn**	**23 46 12.4**	**-0.9**
PVY	**Plav**	**4.15**	**30**⇑	*i*Pn	**Pn**	**23 45 28.8**	**+1.3**
PVY				*e*Sn	**Sn**	**23 46 16.3**	**+0.1**
BEY	**Berane**	**4.37**	**27**⇑	*i*Pn	**Pn**	**23 45 31.6**	**+1.2**
BEY				*e*Sn	**Sn**	**23 46 21.0**	**-0.4**
IVA	**Berane**	**4.37**	**27**⇑	*i*Pn	**Pn**	**23 45 31.6**	**+1.2**
IVA				*e*Sn	**Sn**	**23 46 21.0**	**-0.4**
UPM	**Unac-Piva**	**4.38**	**17**	*e*Pn	**Pn**	**23 45 30.9**	**+0.2**
UPM				*e*Sn	**Sn**	**23 46 21.0**	**-1.0**
UPM	**Unac-Piva**	**4.38**	**17**	*e*Pn	**Pn**	**23 45 30.9**	**+0.2**
UPM				*e*Sn	**Sn**	**23 46 21.0**	**-1.0**
PLE	**Pljevlja**	**4.62**	**20**	*e*Pn	**Pn**	**23 45 34.4**	**+0.5**
PLE				*e*Sn	**Sn**	**23 46 26.9**	**-0.9**
PLE	**Pljevlja**	**4.62**	**20**	*e*Pn	**Pn**	**23 45 34.4**	**+0.5**
PLE				*e*Sn	**Sn**	**23 46 26.9**	**-0.9**
XOR	**Xorichti**	**4.69**	**84**	P	**Pn**	**23 45 36.6**	**+1.8**
XOR	**Xorichti**	**4.69**	**84**	P	**Pn**	**23 45 36.6**	**+1.8**
SJES	**Sjenica**	**4.74**	**26**	*e*Pn	**Pn**	**23 45 36.4**	**+0.9**
VILL	**Villia**	**4.88**	**98**	P	**Pn**	**23 45 40.2**	**+2.7**
VILL	**Villia**	**4.88**	**98**	P	**Pn**	**23 45 40.2**	**+2.7**
DID	**Didima**	**5.00**	**106**	P	**Pn**	**23 45 41.4**	**+2.3**
DID	**Didima**	**5.00**	**106**	P	**Pn**	**23 45 41.4**	**+2.3**
IVAS	**Ivanjica**	**5.08**	**25**	*e*Pn	**Pn**	**23 45 42.4**	**+2.3**
VLI	**Veliai**	**5.10**	**115**	P	**Pn**	**23 45 42.9**	**+2.5**
VLI	**Veliai**	**5.10**	**115**	P	**Pn**	**23 45 42.9**	**+2.5**
BBLS	**Lazići**	**5.13**	**18**	*e*Pn	**Pn**	**23 45 40.7**	**-0.1**
BARS	**Barje**	**5.17**	**41**	*e*Pn	**Pn**	**23 45 42.2**	**+0.8**
ATH	**Athens Observa**	**5.24**	**99**	P	**Pn**	**23 45 44.7**	**+2.4**
ATH	**Athens Observa**	**5.24**	**99**	P	**Pn**	**23 45 44.7**	**+2.4**
VLY	**Voula,Athens**	**5.33**	**101**	P	**Pn**	**23 45 45.6**	**+2.1**
VLY	**Voula,Athens**	**5.33**	**101**	P	**Pn**	**23 45 45.6**	**+2.1**
DIVS	**Divibare**	**5.50**	**22**	*e*Pn	**Pn**	**23 45 44.6**	**-1.4**
UDBI	**Udbina**	**5.61**	**350**	*e*Pn	**Pn**	**23 45 49.0**	**+1.6**
UDBI				Sn	**Sn**	**23 46 49.6**	**-2.4**
UDBI	**Udbina**	**5.61**	**350**	*e*Pn	**Pn**	**23 45 48.9**	**+1.5**
UDBI				Sn	**Sn**	**23 46 49.5**	**-2.5**
BLY	**Banja Luka**	**5.73**	**0**	*e*Pn	**Pn**	**23 45 49.1**	**+0.1**
BOVS	**Bovan**	**5.74**	**35**	*e*Pn	**Pn**	**23 45 49.2**	**+0.1**
TRUS	**Trudelj**	**5.74**	**24**⇓	*i*Pn	**Pn**	**23 45 48.7**	**-0.5**
TEKS	**Tekeris**	**5.80**	**17**	*i* Pn	**Pn**	**23 45 49.7**	**-0.3**
NVLJ	**Novalja**	**5.80**	**343**	*e*Pn	**Pn**	**23 45 49.1**	**-0.9**
NVLJ				Sn	**Sn**	**23 46 51.6**	**-5.1**
NVLJ	**Novalja**	**5.80**	**343**	*e*Pn	**Pn**	**23 45 49.1**	**-0.9**
ZAPS	**Zavoj**	**5.92**	**42**	*e*Pn	**Pn**	**23 45 53.2**	**+1.5**
BOLS	**Boljevac**	**6.00**	**35**	*e*Pn	**Pn**	**23 45 51.6**	**-1.1**
ZAGS	**Zajecar**	**6.12**	**37**	*e*Pn	**Pn**	**23 45 54.6**	**+0.3**
OZLJ	**Ozalj**	**6.71**	**350**	*e*Pn	**Pn**	**23 46 02.7**	**+0.2**
OZLJ				Sn	**Sn**	**23 47 14.7**	**-4.4**
OZLJ	**Ozalj**	**6.71**	**350**	*e*Pn	**Pn**	**23 46 02.6**	**+0.1**
OZLJ				Sn	**Sn**	**23 47 14.7**	**-4.4**
APE	**Apeiranthos**	**6.87**	**104**⇑	*i*P	**Pn**	**23 46 07.0**	**+2.2**
APE	**Apeiranthos**	**6.87**	**104**⇑	*i*P	**Pn**	**23 46 07.0**	**+2.2**
CRES	**Cresnjev**	**6.92**	**350**	*e*Pn	**Pn**	**23 46 05.0**	**-0.4**
CEY	**Cerknica**	**7.02**	**344**	*e*Pn	**Pn**	**23 46 04.6**	**-2.2**
KEST	**Kesra**	**7.04**	**245**	Pn	**Pn**	**23 46 08.8**	**+1.6**
	0.3nm,0.3s,baz=57,slow=12,SNR=7.3							
IDI	**Anoyia**	**7.20**	**119**	Pn	**Pn**	**23 46 11.5**	**+2.2**
	1.3nm,0.3s,baz=273,slow=13,SNR=21							
IDI				Sn	**Sn**	**23 47 27.1**	**-4.0**
	2.9nm,0.3s,baz=12,slow=23,SNR=7.6							
LJU	**Ljubljana**	**7.29**	**345**	*e*Pn	**Pn**	**23 46 09.7**	**-0.8**
BZS	**Buzias**	**7.37**	**25**⇑	*i*P	**Pn**	**23 46 11.2**	**-0.3**
BZS	**Buzias**	**7.37**	**25**⇑	*i*P	**Pn**	**23 46 11.2**	**-0.3**
GZR	**Gura Zlata**	**7.61**	**31**⇑	*i*P	**Pn**	**23 46 17.5**	**+2.6**
OBKA	**Obir**	**7.73**	**346**	*i* Pn	**Pn**	**23 46 18.4**	**+1.8**
	3.9nm,0.4s							
OBKA	**Obir**	**7.73**	**346**	Pn	**Pn**	**23 46 18.4**	**+1.8**
	3.9nm,0.4s							
SOKA	**Soboth**	**7.82**	**349**	*i* Pn	**Pn**	**23 46 18.3**	**+0.5**
	0.6nm,0.3s							
SOKA	**Soboth**	**7.82**	**349**	Pn	**Pn**	**23 46 18.3**	**+0.5**
	0.6nm,0.3s							
LOT	**Lotru**	**8.07**	**35**⇓	*i*P	Pn	23 46 26.3	+5.0	
ARSA	**Arzberg**	**8.32**	**352**	*i* Pn	**Pn**	**23 46 25.2**	**+0.6**
	2.8nm,0.5s							
ARSA	**Arzberg**	**8.32**	**352**	Pn	**Pn**	**23 46 25.2**	**+0.6**
	2.8nm,0.5s							
ARR	**Arges**	**8.42**	**39**⇑	*i*P	Pn	23 46 33.2	+7.2	
CONA	**Conrad Observa**	**8.96**	**354**	*i* Pn	**Pn**	**23 46 33.5**	**+0.1**
	0.5nm,0.3s							
CONA	**Conrad Observa**	**8.96**	**354**	Pn	**Pn**	**23 46 33.5**	**+0.1**
	0.5nm,0.3s							
MOA	**Molln**	**9.08**	**347**	*i* Pn	**Pn**	**23 46 35.4**	**+0.4**
	2.9nm,0.5s							
MOA	**Molln**	**9.08**	**347**	Pn	**Pn**	**23 46 35.4**	**+0.4**
	2.9nm,0.5s							
MLR	**Muntele Rosu**	**9.17**	**42**	Pn	**Pn**	**23 46 37.9**	**+1.6**
	0.0nm,0.3s,baz=228,slow=14,SNR=2.7							
FETA	**Feichten**	**9.29**	**332**	*i* Pn	**Pn**	**23 46 41.7**	**+3.7**
	2.1nm,1.0s							
GERES	**GERESS Array B**	**10.14**	**347**	Pn	**Pn**	**23 46 48.6**	**-1.0**
	0.1nm,0.3s,baz=156,slow=13,SNR=4.2							
VRAC	**Vranov**	**10.30**	**358**	LR	LR	23 51 45.2		
	comp=Z,35nm,20.9s,baz=252,slow=44							
BRTR	**Keskin Array B**	**12.76**	**82**	Pn	Pn	23 47 31.2	+5.6	
	0.0nm,0.3s,baz=285,slow=11,SNR=3.2							
MMAI	**Mount Meron Ar**	**15.91**	**107**	Pn	**Pn**	**23 48 06.0**	**-1.9**
	0.4nm,0.3s,baz=295,slow=12,SNR=5.4							
FINES	**FINESS Array B**	**23.12**	**11**	P	**P**	**23 49 29.3**	**-0.6**
	1.4nm,0.7s,baz=171,slow=12,SNR=3.0							
TORD	**Torodi Ar. Bea**	**29.18**	**212**	P	**P**	**23 50 25.6**	**0.0**
	0.7nm,0.7s,baz=11,slow=8.7,SNR=5.3							
ARCES	**ARCESS Array B**	**30.90**	**6**	P	**P**	**23 50 39.6**	**-0.8**
	1.1nm,0.6s,baz=191,slow=9.2,SNR=3.2							
BVAR	**Borovoye Array**	**38.60**	**51**	P	**P**	**23 51 49.1**	**+2.1**
	0.3nm,0.5s,baz=272,slow=13,SNR=3.0							
ZALV	**Zalesovo Beam**	**47.09**	**48**	P	**P**	**23 52 57.3**	**+1.6**
	0.4nm,0.4s,baz=302,slow=8.3,SNR=2.4							
MKAR	**Makanchi Array**	**47.09**	**58**	P	**P**	**23 52 57.7**	**+1.8**
	0.6nm,0.7s,baz=278,slow=7.4,SNR=5.1							
TXAR	**Lajitas Array**	**92.47**	**311**	LR	LR	00 37 45.4		
	comp=Z,29nm,19.1s,baz=0.0,slow=35							

GUC ***20*** *00:00:41.1±0.5,28°.93S×70°.65W,h69km±3km, ML3.4*
ISCJB ***20*** *00:00:43.1±1.3,28°.98S±0°.07×70°.74W±0°.09, h70km±10km, Error ellipse: s-maj=14.8km s-min=8.6km az=41.9*
SJA ***20*** *00:00:44.2±0.8,29°.05S×70°.26W, h159km±15km, ML3.3, MW3.6*

ISC 20 00:00:43.8±2.1, 28°.96S±0°.07×70°.68W±0°.09, h62km±15km, n18, σ1°47/22, 1C-1D, Central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
					Op			
LCO	**Las Campanas**	**0.05**	**202**	*i* P		**Pn**	**00 00 52.0**	**-1.4**
LCO				*i* S		**Sn**	**00 01 00.5**	**+0.2**
LCO				IAML			00 01 01.6	
	comp=E,7µm,0.2s							
VACH	**Vallenar**	**0.39**	**350**	⇓*i* P		**Pn**	**00 00 55.6**	**+0.7**
VACH				*i* S		**Sn**	**00 01 04.5**	**+1.5**
TLL	**Tololo Astrono**	**1.21**	**185**	*e*P		**Pn**	**00 01 03.4**	**-1.5**
TLL				*e*S		**Sn**	**00 01 20.7**	**+0.2**
TLL				IAML			00 01 26.8	
	comp=E,578nm,0.3s							
CPCH	**Copiapo**	**1.62**	**10**	*e*P		Pn	00 01 21.6	+11
CPCH				*e*S		Sn	00 01 41.4	+11
AGUA	**GUANDACOL**	**1.98**	**106**	*e*P		**Pn**	**00 01 15.9**	**+0.7**
AGUA				*e*S		**Sn**	**00 01 40.1**	**+1.1**
VCA	**Vinchina**	**2.18**	**85**	*e*P		**Pn**	**00 01 19.1**	**+1.1**
VCA				*e*S		**Sn**	**00 01 45.1**	**+1.2**
VCA	**Vinchina**	**2.18**	**85**	*e*P		**Pn**	**00 01 19.3**	**+1.4**
VCA				IAML			00 01 52.7	
	comp=Z,279nm,0.3s							
AMOG	**MOGNA**	**2.73**	**137**	*e*P		**Pn**	**00 01 25.9**	**+0.5**
AVFE	**Valle Fertil**	**3.27**	**122**	*e*P		**Pn**	**00 01 31.9**	**-0.9**
AVFE				IAML			00 02 17.7	
	comp=Z,110nm,0.4s							
RTCV	**Cerro Valdivia**	**3.43**	**148**	*e*P		**Pn**	**00 01 35.2**	**+0.4**
AUSP	**Uspallata**	**3.44**	**161**	*e*P		**Pn**	**00 01 36.3**	**+1.1**
ASAL	**Salagasta**	**3.95**	**157**	*e*P		**Pn**	**00 01 42.6**	**+0.6**
ROC1	**El Roble**	**4.01**	**184**	*e*P		**Pn**	**00 01 42.3**	**-0.7**
ARCO	**CERRO ARCO**	**4.15**	**159**	*e*P		Pn	00 01 47.6	+2.8
CYA	**Choya**	**4.32**	**84**	*e*P		**Pn**	**00 01 45.0**	**-2.0**
CYA				*e*S		**Sn**	**00 02 32.9**	**-3.2**
CYA	**Choya**	**4.32**	**84**	*e*P		**Pn**	**00 01 44.9**	**-2.0**
CYA				IAML			00 02 39.6	
	comp=Z,19nm,0.8s							
AAGR	**Agrelo**	**4.41**	**159**	*e*P		**Pn**	**00 01 50.1**	**+1.9**
ACAN	**Cantantal**	**4.47**	**139**	*e*P		**Pn**	**00 01 50.0**	**+0.9**

IDC ***20*** *00:14:04.3±2.8,2°.77S×102°.86E, h243km±27km, mb3.3/10, mb1 3.4/11,mb1mx3.2/37,mbtmp4.0/11, Error ellipse: s-maj=26.1km s-min=15.1km az=58.0*
DJA ***20*** *00:14:09.7±0.5,3°.5±4°×10°.3E±°, h197km±5km, M4.1/12, mB4.9/1,mb4.2/3,MLv4.1/12,Mw(mB)4.2/1*

ISC 20 00:14:04.8±0.7, 2°.66S±0°.08×102°.78E±0°.07, h250km, n27, σ2°33/29, mb3.4/10, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
					Op			
MASI	**Maura Aman, Be**	**0.73**	**229**	P		**Pn**	**00 14 40.4**	**+1.9**
KSI	**Kapahiang**	**1.00**	**191**	P		**Pn**	**00 14 41.1**	**+1.2**
JMBI	**JAMBI**	**1.33**	**40**	P		**Pn**	**00 14 42.5**	**+0.6**
SDSI	**Sungai Dareh**	**2.19**	**322**	P		**Pn**	**00 14 51.6**	**+2.6**
RGRI	**Rengat**	**2.34**	**349**	P		**Pn**	**00 14 48.9**	**-1.6**
PPSI	**Pulau Pagai**	**2.78**	**268**	P		**Pn**	**00 14 57.4**	**+2.5**
PPSI				S		**S**	**00 15 28.2**	**-6.3**
KLSI		**2.80**	**136**	P		**Pn**	**00 14 54.1**	**-1.0**
PDSI	**Padang**	**2.90**	**307**	P		**Pn**	**00 14 58.4**	**+2.1**
PDSI				S		**S**	**00 15 31.2**	**-5.8**
PPI	**Padang Panjang**	**3.24**	**312**	P		**Pn**	**00 15 02.7**	**+2.8**
BKNI	**Bangkinang**	**3.44**	**329**	P		**Pn**	**00 15 04.2**	**+2.0**
SISI	**Saibi**	**3.93**	**290**	P		**Pn**	**00 15 10.3**	**+2.5**
SISI				S		**S**	**00 15 54.8**	**-2.9**
MNSI	**Mandailing Nat**	**4.70**	**317**	P		**Pn**	**00 15 18.1**	**+1.2**
PSI	**Prapat**	**6.66**	**325**	P		**Pn**	**00 15 41.4**	**0.0**
	1.4nm,0.3s,baz=151,slow=11,SNR=13							
KPJI	**Karang Pucung**	**7.68**	**127**	P		**Pn**	**00 15 53.9**	**-0.2**
TPTI		**8.12**	**316**	P		**Pn**	**00 16 00.7**	**+1.0**
CMAR	**Chiang Mai Arr**	**21.32**	**350**	P		**P**	**00 18 33.8**	**+1.2**
	1.6nm,0.6s,baz=186,slow=8.6,SNR=8.5							
WRA	**Warramunga Arr**	**35.27**	**122**	P		**P**	**00 20 35.1**	**-1.2**
	0.3nm,0.4s,baz=298,slow=11,SNR=1.8							
ASAR	**Alice Springs**	**36.63**	**127**	P		**P**	**00 20 46.5**	**-1.3**
	0.4nm,0.6s,baz=301,slow=7.7,SNR=4.7							
KSRS	**Korea Array**	**46.23**	**28**	P		**P**	**00 22 06.6**	**+1.4**
	0.4nm,0.3s,baz=220,slow=7.1,SNR=5.8							
SONM	**Songino Array**	**50.38**	**3**	P		**P**	**00 22 38.7**	**+1.9**
	3.1nm,0.5s,baz=185,slow=9.7,SNR=22							
MJAR	**Matsushiro Arr**	**51.08**	**37**	P		**P**	**00 22 41.3**	**-0.8**
	1.4nm,0.6s,baz=215,slow=6.7,SNR=4.4							
MKAR	**Makanchi Array**	**52.45**	**342**	P		**P**	**00 22 52.5**	**+0.4**
	0.7nm,0.6s,baz=142,slow=8.2,SNR=9.1							
USRK	**Ussuriysk Ar.**	**53.48**	**26**	P		**P**	**00 23 00.2**	**+0.8**
	3.9nm,0.7s,baz=206,slow=4.0,SNR=12							
ZALV	**Zalesovo Beam**	**58.37**	**348**	P		**P**	**00 23 34.5**	**+0.7**
	2.6nm,0.6s,baz=162,slow=5.7,SNR=15							
BRTR	**Keskin Array B**	**75.83**	**312**	P		**P**	**00 25 23.7**	**-0.3**
	0.3nm,0.6s,baz=108,slow=9.4,SNR=2.1							
TXAR	**Lajitas Array**	**143.45**	**41**	PKP		PKPbc	00 33 08.4	+0.1
	0.2nm,0.4s,baz=257,slow=1.2,SNR=5.2							
CPUP	**Villa Florida**	**145.36**	**212**	PKPbc		**PKPab**	**00 33 15.2**	**+0.7**
	1.6nm,0.6s,baz=140,slow=3.8,SNR=4.3							

NDI 20 00:22:37.9±0.3, 27°.29N×88°.23E, h20km±2km, ML3.2, Sikkim

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
					Op			
GTK	**Tadong**	**0.33**	**85**	*e*P		Pb	00 22 45.4	+0.2
GTK				*e*S		Sg	00 22 51.2	+1.1
GTK				AML		AML	00 22 51.8	
	comp=N,2µm,0.1s							
GTK				AML		AML	00 22 51.9	
	comp=E,1µm,0.1s							
GTK	**Tadong**	**0.33**	**85**	*e*P		Pb	00 22 45.4	+0.2
GTK				*e*S		Sg	00 22 50.8	+0.7
GTK				AML		AML	00 22 51.7	
	comp=N,3µm,0.1s							
GTK				AML		AML	00 22 51.9	
	comp=E,2µm,0.2s							
SHL	**Shillong**	**3.70**	**117**	*e*S		Sb	00 24 26.9	-0.2
SHL				AML		AML	00 24 29.0	
	comp=N,64nm,0.3s							
SHL				AML		AML	00 24 29.4	
	comp=E,12nm,0.1s							
SHL	**Shillong**	**3.70**	**117**	*e*S		Sn	00 24 21.8	+4.6
SHL				AML		AML	00 24 28.8	
	comp=N,119nm,0.5s							
SHL				AML		AML	00 24 28.8	
	comp=E,75nm,0.7s							

TEZP	**TEZPUR**	**4.13**	**98**	*e*S		Sn	00 24 32.4	+4.9
TEZP				AML		AML	00 24 40.5	
	comp=E,64nm,0.1s							
TEZP				AML		AML	00 24 40.9	
	comp=N,55nm,0.2s							

IDC ***20*** *00:22:41.3±1.6,13°.17N×90°.38W, h0km, mb3.9/6, mb1 4.3/7, mb1mx3.9/33, mbtmp3.9/7, ML3.2/1, MS3.5/16, Ms1 3.5/16, ms1mx3.3/39, Error ellipse: s-maj=55.6km s-min=23.6km az=53.0*
CASC ***20*** *00:22:45.0±1.6, 14°.12N×90°.49W, h10km, ML3.7, mb4.6(NEIC)*
NEIC ***20*** *00:22:48.6±0.7, 14°.11N×90°.10W, h10km, mb4.3/41, MD3.6(SNET), MD4.1(GCG), Error ellipse: s-maj=13.0km s-min=7.8km az=200.0*
NEIC Felt at Guatemala. Felt [I] at Ahuachapan, El Salvador.
ISCJB ***20*** *00:22:50.4±0.4, 14°.16N±0°.04×90°.12W±0°.04, h39km±4km, mb4.3/35, MS3.5/16, Error ellipse: s-maj=8.5km s-min=4.6km az=41.7*

ISC 20 00:22:50.6±1.1, 14°.13N±0°.07×90°.07W±0°.05, h29km±9km, n277, σ1°12/266, mb4.3/35, MS3.4/16, 5C-1D, Guatemala

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
					Op			
CUS1	**Cusmapa**	**0.25**	**152**⇑	*e*P		**Pb**	**00 22 56.3**	**-1.1**
RBDL	**Robledal**	**0.37**	**93**⇑	*i*P		**Pb**	**00 22 58.8**	**-0.3**
IXG	**Ixpaco**	**0.38**	**276**⇓	*i*P		Pb	00 22 52.8	-6.5
RTR	**El Retiro**	**0.47**	**120**⇑	*e*P		**Pn**	**00 23 01.0**	**-0.6**
MONT	**Ecomontaæa**	**0.49**	**124**	*e*P		**Pn**	**00 23 01.4**	**-0.5**
SNJE	**San Jose**	**0.52**	**121**⇑	*e*P		**Pn**	**00 23 01.9**	**-0.4**
SBLS	**San Blas**	**0.52**	**124**	*e*P		**Pn**	**00 23 02.1**	**-0.2**
MTO3	**Montecristo**	**0.73**	**69**	*e*P		**Pn**	**00 23 04.9**	**-0.4**
MTO3				AML		AML	00 23 16.9	
	comp=Z,1µm,0.7s							
BOQS	**Boqueron**	**0.86**	**117**	*e*P		**Pb**	**00 23 07.9**	**+0.7**
SNET	**Serv Nac Est T**	**0.92**	**119**	*e*P		**Pb**	**00 23 07.9**	**-0.2**
SNET				AML		AML	00 23 34.4	
	comp=Z,2µm,0.6s							
MRL	**Marmol**	**0.99**	**21**	*e*P		**Pn**	**00 23 07.5**	**-1.4**
LBRS	**Las Brisas**	**1.07**	**112**	*e*P		**Pb**	**00 23 11.2**	**+0.6**
LFRS	**El Faro**	**1.10**	**117**⇑	*i*P		**Pb**	**00 23 12.0**	**+0.9**
SNVI	**San Vicente**	**1.30**	**113**	*e*P		**Pb**	**00 23 13.9

baz=154,SNR=8.9
Z37A Pogue Cattle C 19.64 346 P P 00 27 17.0 -0.1
baz=164
Y45A Yeager Farm, C 19.65 1 P P 00 27 16.7 -0.4
baz=182
WLAR White Oak Lake 19.66 352 eP Pn 00 27 19.3 +0.5
comp=N,19nm,0.9s
Y42A Garnett, Star 19.68 356 P P 00 27 17.6 +0.2
baz=175
TX31 Lajitas Ar. Si 19.68 322 eP Pn 00 27 19.3 +0.1
TX31 ePcP PcP 00 31 31.6 -4.6
TXAR Lajitas Array 19.68 322 P Pn 00 27 19.8 +0.6
comp=N,3.3nm,0.8s,baz=147,slow=10,SNR=21
Y46A Houston 19.69 3 P P 00 27 18.1 +0.5
baz=184
SDV Santo Domingo 19.74 103 eP P 00 27 18.4 -0.1
comp=N,16nm,0.7s
CCAR Cane Creek 19.76 356 eP Pn 00 27 19.9 0.0
comp=N,48nm,1.3s
Y47A UCPARC, Winfie 19.78 5 P P 00 27 19.0 +0.3
baz=186
Y41A Eaglette Beard 19.80 354 P P 00 27 18.4 -0.4
baz=173
Z36A Blue Ridge 19.91 344 P P 00 27 20.0 0.0
baz=162
Y40A Okolona 20.00 352 P P 00 27 21.1 +0.1
baz=171
Y39A Lockesburg 20.05 350 P P 00 27 20.6 -0.9
baz=169
Y38A Idabel 20.16 349 P P 00 27 22.6 -0.1
baz=167
X45A UM Field Stati 20.21 2 P P 00 27 23.7 +0.5
baz=182
OXF Oxford 20.30 2 eP P 00 27 25.5 +1.3
comp=N,24nm,1.0s
ABTX Abilene, Hawle 20.38 336 P P 00 27 25.1 0.0
baz=153
ABTX Abilene, Hawle 20.38 336 eP P 00 27 26.0 +0.8
comp=N,35nm,1.5s
Y37A Hugo 20.39 347 P P 00 27 25.9 +0.7
baz=165
X40A Basin Creek Fa 20.42 353 P P 00 27 26.3 +0.8
baz=172
Y36A Durant 20.47 345 P P 00 27 26.1 0.0
baz=163,SNR=6.2
MIAR Mount Ida 20.57 352 P P 00 27 27.5 +0.4
baz=170,SNR=8.6
MIAR Mount Ida 20.57 352 eP Pn 00 27 29.8 +0.3
comp=N,12nm,0.9s
UALR University of 20.65 355 eP P 00 27 29.2 +1.1
comp=N,16nm,1.1s
Y35A Marietta 20.68 343 P P 00 27 28.4 +0.1
baz=161,SNR=17
X38A Whitesboro 20.89 349 P P 00 27 31.1 +0.4
baz=167,SNR=8.5
X37A Clayton 20.92 348 P P 00 27 31.3 +0.3
baz=166,SNR=10
X35A Drake 21.12 344 P P 00 27 33.9 +0.8
baz=161,SNR=9.1
X36A Centrahoma 21.13 345 P P 00 27 33.2 0.0
baz=163
W40A Ferguson Farm, 21.14 353 P P 00 27 33.5 +0.2
baz=172
WHAR Wooly Hollow 21.16 355 eP P 00 27 35.0 +1.5
comp=N,43nm,1.9s
W38A Poteau 21.23 350 P P 00 27 34.9 +0.6
baz=168
W39A Magazine 21.24 352 P P 00 27 35.4 +1.1
baz=170
SWET Sewanee 21.32 9 eP P 00 27 35.4 +0.1
comp=N,4.5nm,0.8s
W37B Quinton 21.47 348 P P 00 27 37.2 +0.3
baz=166,SNR=10.0
LPIG La Paz 21.52 300 LR LR 00 35 50.0
comp=N,246nm,18.1s,baz=104,slow=36
V42A Cord 21.61 357 P P 00 27 38.6 +0.3
baz=177
W36A Wetumka 21.64 346 P P 00 27 39.7 +1.0
baz=164
V41A Mountainview 21.64 355 P P 00 27 39.3 +0.6
baz=175
HALT Halls 21.69 2 eP P 00 27 40.6 +1.3
V40A Witts Springs 21.72 354 P P 00 27 39.9 +0.3
baz=173
CPCT Cooper Cave 21.80 12 eP P 00 27 42.5 +2.0
comp=N,7.4nm,1.1s
W35A Tecumseh 21.81 345 P P 00 27 41.4 +0.9
baz=162,SNR=8.6
V39A Pettigrew 21.85 352 P P 00 27 41.2 +0.2
baz=171,SNR=6.2
WMOK Wichita Mounta 21.97 341 P P 00 27 41.8 -0.5
baz=157,SNR=12
WMOK Wichita Mounta 21.97 341 eP P 00 27 41.7 -0.6
comp=N,23nm,1.5s
V38A Canehill 21.98 351 P P 00 27 42.0 -0.4
baz=169
WVT Waverly 22.00 5 eP P 00 27 45.4 +2.9
comp=N,6.1nm,0.9s
V37A Hulbert 22.13 349 P P 00 27 43.5 -0.4
baz=167,SNR=16
U43A Rector 22.14 359 P P 00 27 43.9 -0.2
baz=179
U42A Revenden 22.15 357 P P 00 27 43.2 -1.0
baz=177
U45A Rockin P Farm, 22.15 3 P P 00 27 44.3 +0.1
baz=184
TKL Tuckaleechee C 22.17 14 P P 00 27 50.0 +5.7
comp=N,11nm,1.0s,baz=194,slow=7.7,SNR=5.5
TKL LR LR 00 37 01.5
comp=N,60nm,18.1s,baz=169,slow=37
TKL Tuckaleechee C 22.17 14 P P 00 27 50.0 +5.7
comp=N,15nm,1.0s
U41A Viola 22.18 356 P P 00 27 44.3 -0.2
baz=175
U40A Yellville 22.27 354 P P 00 27 45.0 -0.4
baz=173
TUL1 Leonard 22.29 348 P P 00 27 45.7 0.0
baz=165
TUL1 Leonard 22.29 348 eP P 00 27 46.5 +0.9
comp=N,12nm,0.8s
HHAR Hobbs 22.33 352 eP P 00 27 47.0 +1.0
comp=N,14nm,1.1s
U39A Green Forest 22.36 353 P P 00 27 46.4 -0.1
baz=171
MNTX Cornudas Mount 22.42 324 P P 00 27 47.1 0.0
baz=138
MNTX Cornudas Mount 22.42 324 eP P 00 27 46.1 -1.0
comp=N,10nm,1.5s
PARMO Parma 22.44 1 eP P 00 27 49.0 +1.7
U38A Gravette 22.55 351 P P 00 27 48.0 -0.5
baz=169
PBMO Poplar Bluff 22.55 359 eP P 00 27 49.1 +0.7
comp=N,11nm,0.8s
U37A Salina 22.64 349 P P 00 27 48.9 -0.5
baz=167,SNR=8.6
U36A Oologah 22.74 348 P P 00 27 49.8 -0.6
baz=166
T42A Van Buren 22.82 358 P P 00 27 51.1 -0.2
baz=178
T43A Greenville 22.86 360 P P 00 27 51.5 -0.1
baz=180
MSTX Muleshoe 22.86 332 P P 00 27 52.0 +0.1
baz=147
MSTX Muleshoe 22.86 332 eP P 00 27 51.1 -0.8
comp=N,8.2nm,1.0s
T44A Benton 22.86 1 P P 00 27 51.8 +0.1
baz=181
T41A Mountain View 22.87 357 P P 00 27 51.1 -0.6
baz=176
U35A Pawnee 22.93 346 P P 00 27 52.9 +0.4
baz=163,SNR=11
T39A Clever 22.99 353 P P 00 27 53.2 +0.2
baz=172
T40A Mansfield 23.03 355 P P 00 27 53.3 -0.2
baz=174,SNR=5.7
T38A Diamond 23.12 351 P P 00 27 54.2 -0.1
baz=170
AMTX Amarillo 23.17 335 P P 00 27 54.6 -0.4
baz=150
AMTX Amarillo 23.17 335 eP P 00 27 54.3 -0.7
comp=N,8.9nm,0.7s
T37A Cheneyville 18 23.30 350 P P 00 27 56.8 +0.6
baz=168,SNR=12
SJG San Juan 23.31 77 LR LR 00 36 47.5
comp=N,155nm,20.4s,baz=260,slow=36
S43A Fulton Ridge, 23.34 360 P P 00 27 55.8 -0.8
baz=180
S41A Jillco Farms, 23.41 357 P P 00 27 56.5 -0.7
baz=176
T35A Sooner Cattle 23.41 347 P P 00 27 56.8 -0.5
baz=164
T36A Boggs Farm, Ca 23.41 348 P P 00 27 56.8 -0.5
baz=166
S40A Lebanon 23.47 355 P P 00 27 57.9 +0.1
baz=174
S44A Carbondale 23.48 2 P P 00 27 57.8 -0.1
baz=182,SNR=9.8
S45A Carrier Mills 23.48 3 P P 00 27 57.7 -0.2
baz=184
S42A Caledonia 23.55 359 P P 00 27 58.3 -0.3
baz=178
U32A Winter Ranch, 23.55 342 P P 00 27 58.4 -0.3
baz=158
S39A Bolivar 23.64 354 P P 00 27 58.9 -0.6
baz=172,SNR=9.1
S38A Stockton 23.65 352 P P 00 27 59.0 -0.6
baz=171
T34A McClaskey Farm 23.66 346 P P 00 27 59.5 -0.2
baz=163,SNR=5.5
USIN University of 23.83 5 eP P 00 27 58.9 -2.4
comp=N,16nm,0.7s
S37A Fort Scott 23.91 351 P P 00 28 01.8 -0.2
baz=169
S36A Lake Cedric, C 24.00 349 P P 00 28 02.8 -0.2
baz=167,SNR=11
R44A Waltonville 24.03 2 P P 00 28 03.1 -0.1
baz=182
R43A Red Bud 24.05 0 P P 00 28 03.2 -0.1
baz=180
R42A Luebbering 24.06 359 P P 00 28 02.9 -0.5
baz=178
R41A Rosebud 24.09 357 P P 00 28 03.4 -0.3
baz=177,SNR=15
ATAH Atahualpa 24.10 151 LR LR 00 35 04.1
comp=N,39nm,20.3s,baz=344,slow=32
S35A Otter Creek Ra 24.10 348 P P 00 28 03.4 -0.5
baz=165
R40A Maddies Statio 24.14 356 P P 00 28 03.2 -0.9
baz=175
R38A Fenwick Farm, 24.20 353 P P 00 28 04.3 -0.4
baz=171
R39A Chumby, Stover 24.23 354 P P 00 28 04.5 -0.5
baz=173
WCI Wyandotte Cave 24.23 7 eP P 00 28 05.3 +0.3
comp=N,20nm,0.9s
S34A Willow Spring 24.29 346 P P 00 28 05.5 -0.2
baz=163
121A Cookes Peak, D 24.43 322 P P 00 28 06.2 -0.9
baz=135
121A Cookes Peak, D 24.43 322 eP P 00 28 07.5 +0.3
comp=N,6.6nm,1.1s
R37A Teagarden Farm 24.45 351 P P 00 28 07.6 +0.6
baz=169
R36A Gordon, Harris 24.57 350 P P 00 28 07.7 -0.5
baz=167
319A Douglas 24.60 317 eP P 00 28 09.6 +1.0
comp=N,7.1nm,1.0s
Q42A Golden Eagle 24.68 359 P P 00 28 08.4 -0.7
baz=179
Q44A Meyer Farm, Va 24.69 2 P P 00 28 09.3 +0.2
baz=183,SNR=5.3
R35A Emporia Munici 24.70 348 P P 00 28 09.5 +0.2
baz=166
Q43A New Douglas 24.71 1 P P 00 28 09.0 -0.3
baz=181
Q41A Truxton 24.74 358 P P 00 28 09.7 0.0
baz=177,SNR=6.3
Q40A Laux Farm, Aux 24.83 356 P P 00 28 10.3 -0.1
baz=176
R34A Isabella, Hill 24.90 346 P P 00 28 11.2 +0.1
baz=164
Q38A Cooks Store, C 24.93 353 P P 00 28 10.8 -0.5
baz=172
BNM Barren Site 24.94 326 eP P 00 28 13.1 +1.3
PCRV Puerto La Cruz 25.16 96 LR LR 00 40 49.3
comp=N,84nm,18.4s,baz=287,slow=43
P44A Sand Creek, Wi 25.27 3 P P 00 28 14.2 -0.2
baz=183
P42A Winchester 25.35 359 P P 00 28 15.0 -0.2
baz=180
P40A Paris 25.36 356 P P 00 28 15.0 -0.3
baz=176
P39B Salisbury 25.37 355 P P 00 28 14.8 -0.5
baz=174
ANMO Albuquerque 25.46 327 P P 00 28 15.6 -0.9
baz=141
P41A Barry, Barry 25.46 358 P P 00 28 16.2 0.0
baz=178
P37A Lamar 25.64 352 P P 00 28 17.8 +0.1
baz=170
P36A Good Intent, A 25.79 351 P P 00 28 19.0 -0.2
baz=169
P35A Duane Minner, 25.83 349 P P 00 28 19.8 +0.2
baz=167
O40A La Belle 25.94 357 P P 00 28 20.6 +0.1
baz=176
O42A Bath 25.96 360 P P 00 28 20.3 -0.4
baz=180
CBKS Cedar Bluff 26.03 343 P P 00 28 21.2 -0.2
baz=158
CBKS Cedar Bluff 26.03 343 eP P 00 28 21.6 +0.2
comp=N,26nm,1.1s
O39A Kirksville 26.11 356 P P 00 28 22.5 +0.4
baz=175
TUC Tucson 26.18 317 P P 00 28 21.9 -1.0
baz=129
TUC Tucson 26.18 317 eP P 00 28 22.3 -0.6
comp=N,3.4nm,1.0s
T25A Trinidad 26.24 333 P P 00 28 23.2 -0.4
baz=147
T25A Trinidad 26.24 333 eP P 00 28 23.8 +0.2
comp=N,5.5nm,1.0s
HDIL Hopedale 26.33 1 eP P 00 28 19.9 -4.1
comp=N,54nm,1.8s
O33A Hebron 26.67 347 P P 00 28 27.0 -0.1
baz=164
N40A Mertquake, Sal 26.68 357 P P 00 28 27.1 -0.1
baz=177
N37A Lee Faris, Mou 26.77 353 P P 00 28 27.8 -0.3
baz=171
M41A Milan 27.14 359 P P 00 28 31.8 +0.4
baz=179
KSCO Kaye Shedlock' 27.15 338 P P 00 28 31.6 0.0
baz=153
KSCO Kaye Shedlock' 27.15 338 eP P 00 28 30.7 -0.9
comp=N,11nm,0.6s
M40A Post Highland 27.20 358 P P 00 28 31.2 -0.7
baz=177
SDCO Great Sand Dun 27.23 333 P P 00 28 31.9 -0.6
baz=146
M39A Webster 27.31 357 P P 00 28 33.1 +0.3
baz=176
M38A Pleasantville 27.32 355 P P 00 28 33.5 +0.5
baz=174
214A Anamosa Pipe Nat 27.34 314 P P 00 28 32.2 -1.1
baz=126
S22A 4UR Ranch, Cre 27.84 331 P P 00 28 37.2 -0.8
baz=143
L41A Preston 27.84 359 P P 00 28 37.6 0.0
baz=179
L40A Anamosa 27.85 358 P P 00 28 37.0 -0.7
baz=178
O56A Blue Knob Stat 27.92 19 P P 00 28 38.3 0.0
baz=204
Q24A Divide 28.09 334 eP P 00 28 40.4 +0.2
comp=N,6.5nm,0.8s
MVCO Mesa Verde 28.25 328 P P 00 28 40.8 -0.8
baz=140
K41A Shullsburg 28.37 360 P P 00 28 42.4 +0.1
baz=180
K39A Oelwein 28.51 357 P P 00 28 43.6 0.0
baz=176
ALLY Allegheny Colle 28.74 16 eP P 00 28 45.9 +0.2
comp=N,116nm,1.7s
ISCO Idaho Springs 28.99 335 P P 00 28 48.4 +0.2
baz=148
NNA Nana 29.07 153 LR LR 00 39 06.9
comp=N,32nm,18.5s,baz=314,slow=35
I40A Norwalk 29.66 359 P P 00 28 53.5 -0.2
baz=179
U15A North Rim 29.80 322 eP P 00 28 52.8 -2.7
comp=N,18nm,2.0s
I41A Arkdale 29.82 0 P P 00 28 55.5 +0.3
baz=180
N23A Red Feather La 30.05 336 P P 00 28 58.0 +0.5
baz=148
IKP In-Ko-Pah, Jac 30.05 312 P P 00 28 57.3 -0.2
baz=122
BC3 Big Chuckawall 30.13 315 P P 00 28 57.9 -0.3
baz=124
H40A Chili 30.39 360 P P 00 29 01.2 +1.0
baz=180
O20A White River Ci 30.41 332 P P 00 29 00.4 -0.3
baz=144
LDFC Landfair 30.72 317 eP P 00 29 04.3 +0.9
comp=N,5.4nm,1.1s
PFO Pinyon Flats O 30.81 314 LR LR 00 43 02.0
comp=N,105nm,18.2s,baz=146,slow=39
G39A Holcombe 31.07 358 P P 00 29 06.3 +0.1
baz=178
SPMN Marine on St. 31.08 356 P P 00 29 06.0 -0.2
baz=175
F38A Pierce - Schro 31.76 358 P P 00 29 12.6 +0.3
baz=177
RSSD Black Hills 32.18 341 P P 00 29 16.2 -0.1
baz=154
E40A Wakefield 32.21 0 P P 00 29 15.6 -0.6
baz=180
R11A Troy Canyon, C 33.04 322 P P 00 29 22.6 -1.2
baz=130
R11A Troy Canyon, C 33.04 322 eP P 00 29 21.3 -2.6
comp=N,6.0nm,1.8s
PDAR Pinedale Array 33.11 333 P P 00 29 26.4 +1.9
comp=N,0.3nm,0.3s,baz=145,slow=11,SNR=3.1
PDAR LR LR 00 44 14.3
comp=N,65nm,19.2s,baz=142,slow=38
C35A Jirik Farms, M 33.62 355 P P 00 29 28.7 +0.2
baz=173
RLMT Red Lodge 34.92 336 P P 00 29 40.0 -0.1
baz=146
A33A Warroad 34.98 354 P P 00 29 39.6 -0.7
baz=171
SAML Samuel 35.18 129 eP P 00 29 43.6 +1.2
comp=N,4.1nm,1.1s
DGMT Dagmar 36.18 344 P P 00 29 50.8 +0.2
baz=156
ULM Lac du Bonnet 36.33 354 LR LR 00 46 60.0
comp=N,51nm,20.5s,baz=133,slow=39
LPAZ La Paz 37.20 144 P P 00 29 50.6 -10
comp=N,0.5nm,0.7s,baz=315,slow=19,SNR=2.5
LPAZ LR LR 00 44 29.8
comp=N,39nm,19.2s,baz=336,slow=36
MSO Missoula 38.23 333 P P 00 30 08.2 +0.1
baz=141
F10A Beach Ranch, E 39.12 330 eP P 00 30 15.6 -0.1
comp=N,3.9nm,1.0s
EDM Edmonton 43.14 340 eP P 00 30 48.8 +0.2
comp=N,25nm,1.3s
LLLB Lillooet 44.58 331 eP P 00 31 00.9 +0.8
comp=N,9.2nm,1.2s
YKA Yellowknife Ar 51.34 346 P P 00 31 52.6 +0.4
comp=N,2.4nm,0.8s,baz=151,slow=7.5,SNR=8.5
PLCA Paso Flores 57.51 162 LR LR 00 51 36.3
comp=N,20nm,21.8s,baz=318,slow=31
IL1 Eielson Array 63.46 336 eP P 00 33 17.5 -0.2
ILAR Eielson Array 63.46 336 P P 00 33 17.4 -0.2
comp=N,2.0nm,1.0s,baz=133,slow=4.5,SNR=9.2
CAST Castle Rocks 65.07 334 eP P 00 33 26.4 -1.9
comp=N,14nm,0.5s
PPT Papeete 66.62 244 LR LR 00 54 30.3
comp=N,96nm,19.4s,baz=10,slow=29
DBIC Dimbokro 83.77 85 LR LR 01 06 16.9
comp=N,32nm,21.2s,baz=312,slow=31
ARCES ARCESS Array B 85.42 19 LR LR 01 14 37.9
comp=N,34nm,18.0s,baz=252,slow=36
TORD Torodi Ar. Bea 88.52 77 LR LR 01 12 24.6
comp=N,32nm,20.5s,baz=5.0,slow=34
LZH Lanzhou 128.35 346 ePKP PKPdf 00 41 53.3 -2.0
LZH pPKP pPKPdf 00 42 05.9 +1.1
LZH sPKP 00 42 10.4
LZH LR LR
comp=N,93nm,18.1s
LZH LR LR
comp=E,100nm,18.0s
LZH LR LR
comp=Z,120nm,20.0s

DDA ***20*** *00:36:43.0, 36°.92N×35°.61E, h7km, Md2.7*
ISCJB ***20*** *00:36:44.4±0.4, 36°.98N±0°.02×35°.60E±0°.03, h12km±4km, Error ellipse: s-maj=4.3km s-min=4.2km az=29.5*
ISK ***20*** *00:36:44.0, 37°.03N×35°.55E, h11km, MD2.6*
CSEM ***20*** *00:36:44.1±0.3, 37°.00N×35°.61E, h15km, MD2.7, Error ellipse: s-maj=6.6km s-min=5.8km az=77.0*
ISC 20 00:36:44.2±0.8, **36°.99N**±0°.02×**35°.63E**±0°.03, **h17**km±5km, **n32**, σ0**§96**/48, **Turkey**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CEYT	**Ceyhan**	**0.10**	**79**	*e*PG	**Pg**	**00 36 47.5**	**-0.2**
CEYT				*e*SG	**Sg**	**00 36 50.8**	**+0.8**
CEYT	**Ceyhan**	**0.10**	**79**	*e*Pg	**Pg**	**00 36 47.5**	**-0.2**
CEYT				*e*Sg	**Sg**	**00 36 50.8**	**+0.8**
YURE	**YUREGIR**	**0.17**	**180**	*i* P	**Pg**	**00 36 48.9**	**+0.3**
YURE	**YUREGIR**	**0.17**	**180**	P	**Pg**	**00 36 48.9**	**+0.3**
KRTD	**Karatas-Adana**	**0.43**	**204**	*e*PG	**Pg**	**00 36 53.2**	**+0.1**
KRTD	**Karatas-Adana**	**0.43**	**204**	*e*Pg	**Pg**	**00 36 53.2**	**+0.1**
KRTS	**Karatas**	**0.47**	**206**	*e*PG	**Pb**	**00 36 54.2**	**+0.2**
KRTS	**Karatas**	**0.47**	**206**	*e*Pg	**Pb**	**00 36 54.2**	**+0.2**
AKO	**Adana**	**0.49**	**342**	*i* P	**Pg**	**00 36 53.7**	**-0.4**
AKO				*i* S	**Sb**	**00 37 02.0**	**+0.6**
KOZT	**Kozan**	**0.51**	**18**	*e*PG	**Pg**	**00 36 54.4**	**-0.1**
KOZT				*e*SG	**Sg**	**00 37 01.8**	**+0.4**
KOZT	**Kozan**	**0.51**	**18**	*e*Pg	**Pg**	**00 36 54.4**	**-0.1**
KOZT				*e*Sg	**Sg**	**00 37 01.8**	**+0.4**
DED	**Mersin**	**0.67**	**268**	*i* P	**Pg**	**00 36 56.6**	**-0.7**
DED				*i* S	**Sb**	**00 37 07.4**	**+1.0**
GULE	**Gulek**	**0.74**	**293**	*i* P	**Pb**	**00 36 57.6**	**-1.2**
GULE				*i* S	**Sb**	**00 37 07.7**	**-1.1**
GULE	**Gulek**	**0.74**	**293**	P	**Pb**	**00 36 57.6**	**-1.2**
GULE				S	**Sb**	**00 37 07.7**	**-1.1**
TAHT	**Tahtakopru-Hat**	**0.76**	**144**	*e*PG	**Pn**	**00 37 00.4**	**+0.2**
TAHT	**Tahtakopru-Hat**	**0.76**	**144**	*e*Pg	**Pn**	**00 37 00.4**	**+0.2**
ANDN	**Andirin**	**0.82**	**44**	*i* P	**Pb**	**00 36 59.8**	**-0.2**
ANDN				*i* S	**Sn**	**00 37 13.7**	**+0.8**
ANDN	**Andirin**	**0.82**	**44**	P	**Pb**	**00 36 59.8**	**-0.2**
KAMA	**Osmaniye**	**0.85**	**77**	*i* P	**Pg**	**00 37 01.3**	**+0.5**
KAMA				*i* S	**Sg**	**00 37 12.9**	**+0.8**
MERS	**Mersin**	**0.90**	**262**	*e*PG	**Pb**	**00 37 00.6**	**-0.8**
MERS	**Mersin**	**0.90**	**262**	*e*Pg	**Pb**	**00 37 00.6**	**-0.8**
YAYL	**Yayladag**	**1.03**	**158**	*e*PN	**Pg**	**00 37 05.9**	**+1.7**
YAYL	**Yayladag**	**1.03**	**158**	*i* P	**Pb**	**00 37 00.9**	**-2.8**
YAYL				*i* S	**Sb**	**00 37 15.6**	**-1.4**
YAYL	**Yayladag**	**1.03**	**158**	P	**Pb**	**00 37 00.9**	**-2.8**
YAYL	**Yayladag**	**1.03**	**158**	*e*Pn	**Pg**	**00 37 05.9**	**+1.7**
YAYL				S	**Sb**	**00 37 15.6**	**-1.4**
YAHY	**KAYSERI_Yahyal**	**1.12**	**349**	*i* P	**Pb**	**00 37 04.6**	**-0.6**
YAHY				*i* S	**Sn**	**00 37 20.2**	**-0.2**
YAHY	**KAYSERI_Yahyal**	**1.12**	**349**	P	**Pb**	**00 37 04.6**	**-0.6**
YAHY				S	**Sn**	**00 37 20.2**	**-0.2**
KERG	**Konya-Eregli**	**1.27**	**290**	*i* P	**Pb**	**00 37 07.9**	**0.0**
KERG				*i* S	**Sn**	**00 37 25.0**	**+0.8**
KERG	**Konya-Eregli**	**1.27**	**290**	P	**Pb**	**00 37 07.9**	**0.0**
KERG				S	**Sn**	**00 37 25.0**	**+0.8**
KIZK	**Mersin**	**1.30**	**247**	*e*PN	**Pn**	**00 37 07.6**	**0.0**
KEBE	**Keben-Mersin**	**1.64**	**251**	*e*PN	**Pn**	**00 37 12.7**	**+0.4**
KEBE	**Keben-Mersin**	**1.64**	**251**	*e*Pn	**Pn**	**00 37 12.7**	**+0.4**

IDC ***20*** *00:49:35.4±2.3, 32°.03N×49°.27E, h0km, mb3.8/4, mb1 3.8/6, mb1mx3.5/30, mbtmp3.8/6, ML3.4/2, MS2.9/4, Ms1 2.9/4, ms1mx2.6/30, Error ellipse: s-maj=65.8km s-min=22.3km az=152.0*
ISCJB ***20*** *00:49:37.7±0.5, 31°.86N±0°.05×49°.44E±0°.03, h20km, mb3.7/4, MS3.0/3, Error ellipse: s-maj=7.0km s-min=3.9km az=176.2*
CSEM ***20*** *00:49:37.4±0.2, 31°.93N×49°.48E, h2km, ML3.5, Error ellipse: s-maj=6.1km s-min=3.1km az=15.0*
TEH ***20*** *00:49:37.4, 31°.87N×49°.43E, h2km, ML3.5*
ISN ***20*** *00:49:39.0±0.8, 31°.62N×49°.23E, h14km±4km, ML3.5*
ISC 20 00:49:38.3±0.8, **31°.89N**±0°.05×**49°.45E**±0°.04, **h20**km, **n53**, σ1**§17**/57, **mb3.9**/4, **MS3.1**/3, **Western Iran**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SHGR	**Shooshtar-Gavs**	**0.59**	**292**	*e*Pg	**Pb**	**00 49 48.8**	**-1.2**
IPIR	**Pirpir**	**1.46**	**57**	*e*Sg	**Sb**	**00 50 24.0**	**+0.8**
IPIR				*e*Pg	**Pn**	**00 50 03.6**	**-0.2**
IPIR				*e*AMB	AMB	00 50 30.0	

	comp=Z,8μm,0.2s								
KHMZ	**Khomeyn**	**1.90**	**13**	*e*Pn		**Pn**	**00 50 10.9**	**+1.1**
KHMZ				*e*Sg		**Sb**	**00 50 35.9**	**+0.1**
IKFM	**Kafar-mosalman**	**2.12**	**321**	*e*Pn		**Pn**	**00 50 13.3**	**+0.7**
IKFM				*e*Sg		**Sb**	**00 50 43.7**	**+1.8**
IKFM	**Kafar-mosalman**	**2.12**	**321**	*e*Pn		**Pn**	**00 50 13.3**	**+0.7**
IKFM				*e*Sg		**Sb**	**00 50 43.7**	**+1.8**
IGAR	**Gharneh**	**2.26**	**76**	*e*Pn		**Pn**	**00 50 16.3**	**+1.6**
IGAR				*e*AMB	AMB		00 50 50.4	
	comp=Z,3μm,0.2s								
IKLH	**Kolahrood**	**2.30**	**51**	*e*Pn		**Pn**	**00 50 16.9**	**+1.6**
IKLH				*e*AMB	AMB		00 50 59.0	
	comp=Z,4μm,0.2s								
IKLH	**Kolahrood**	**2.30**	**51**	*e*Pn		**Pn**	**00 50 16.9**	**+1.6**
IRAM	**Ramesheh**	**2.50**	**91**	*e*Pn		**Pn**	**00 50 18.9**	**+0.9**
IRAM				*e*AMB	AMB		00 51 07.6	
	comp=Z,2μm,0.3s								
IRAM	**Ramesheh**	**2.50**	**91**	*e*Pn		**Pn**	**00 50 18.9**	**+0.9**
QAM	**Ghamsar**	**2.51**	**41**	*e*Pn		**Pn**	**00 50 20.0**	**+1.8**
QAM				*e*AMB	AMB		00 51 00.5	
	comp=Z,5μm,0.2s								
IZEF	**Zefreh**	**2.64**	**67**	*e*Pn		**Pn**	**00 50 21.4**	**+1.4**
IZEF				*e*AMB	AMB		00 51 01.6	
	comp=Z,1μm,0.2s								
IZEF	**Zefreh**	**2.64**	**67**	*e*Pn		**Pn**	**00 50 21.4**	**+1.4**
NSR	**Nassriya**	**2.96**	**254**	*e*Pg		**Pn**	**00 50 26.0**	**+1.8**
	SNR=9.0								
NSR				*e*Sg		**Sn**	**00 51 01.0**	**+1.9**
	SNR=9.0								
NASN	**Na'in**	**2.98**	**71**	*e*Pn		**Pn**	**00 50 26.0**	**+1.2**
GHVR	**GHOM**	**3.01**	**30**	*e*Pn		**Pn**	**00 50 25.7**	**+0.7**
IVIS	**Veis**	**3.42**	**321**	*e*Pn		**Pn**	**00 50 31.0**	**+0.4**
IVIS				*e*AMB	AMB		00 51 32.4	
	comp=Z,655nm,0.4s								
IVIS	**Veis**	**3.42**	**321**	*e*Pn		**Pn**	**00 50 31.0**	**+0.4**
IGHG	**Ghaleghazi**	**3.43**	**316**	*e*Pn		**Pn**	**00 50 32.0**	**+1.1**
IGHG				*e*AMB	AMB		00 51 55.2	
	comp=Z,2μm,0.4s								
IGHG	**Ghaleghazi**	**3.43**	**316**	*e*Pn		**Pn**	**00 50 32.0**	**+1.1**
IRAZ	**Razeghan**	**3.53**	**6**	*e*Pn		**Pn**	**00 50 33.4**	**+1.2**
IRAZ				*e*AMB	AMB		00 51 44.9	
	comp=Z,1μm,0.3s								
IRAZ	**Razeghan**	**3.53**	**6**	*e*Pn		**Pn**	**00 50 33.4**	**+1.2**
SNGE	**Sanandaj**	**3.65**	**332**	*e*Pn		**Pn**	**00 50 34.6**	**+0.7**
ILIN	**Lien**	**3.67**	**326**	*e*Pn		**Pn**	**00 50 34.7**	**+0.5**
ILIN				*e*AMB	AMB		00 51 21.4	
	comp=Z,1μm,0.2s								
ILIN	**Lien**	**3.67**	**326**	*e*Pn		**Pn**	**00 50 34.7**	**+0.5**
ISRV	**Sarvestan**	**4.03**	**127**	*e*Pn		**Pn**	**00 50 40.5**	**+1.4**
ISRV				*e*AMB	AMB		00 51 38.3	
	comp=Z,588nm,0.2s								
ISRV	**Sarvestan**	**4.03**	**127**	*e*Pn		**Pn**	**00 50 40.5**	**+1.4**
ICHK	**Chekchek**	**4.22**	**84**	*e*Pn		**Pn**	**00 50 42.2**	**+0.4**
ICHK				*e*AMB	AMB		00 52 05.7	
	comp=Z,669nm,0.4s								
ICHK	**Chekchek**	**4.22**	**84**	*e*Pn		**Pn**	**00 50 42.2**	**+0.4**
IDMV	**Damavand**	**4.26**	**30**	*e*Pn		**Pn**	**00 50 43.1**	**+0.7**
IDMV				*e*AMB	AMB		00 52 12.9	
	comp=Z,430nm,0.4s								
IDMV	**Damavand**	**4.26**	**30**	*e*Pn		**Pn**	**00 50 43.1**	**+0.7**
IAFJ	**Afjeh**	**4.38**	**25**	*e*Pn		**Pn**	**00 50 44.6**	**+0.5**
IAFJ				*e*AMB	AMB		00 52 01.9	
	comp=Z,411nm,0.2s								
IAFJ	**Afjeh**	**4.38**	**25**	*e*Pn		**Pn**	**00 50 44.6**	**+0.5**
IMEH	**Mehriz**	**4.43**	**95**	*e*Pn		**Pn**	**00 50 45.6**	**+1.0**
IMEH				*e*AMB	AMB		00 51 40.8	
	comp=Z,283nm,0.2s								
IMEH	**Mehriz**	**4.43**	**95**	*e*Pn		**Pn**	**00 50 45.6**	**+1.0**
BHD	**Baghdad**	**4.50**	**289**	*e*Pn		**Pn**	**00 50 48.0**	**+2.7**
	SNR=5.0								
BHD				*e*Sn		**Sn**	**00 51 38.0**	**+1.0**
	SNR=5.0								
IFIR	**Firoozkooh**	**4.65**	**35**	*e*Pn		**Pn**	**00 50 48.8**	**+1.2**
IFIR				*e*AMB	AMB		00 50 50.3	
	comp=Z,217nm,0.1s								
IFIR	**Firoozkooh**	**4.65**	**35**	*e*Pn		**Pn**	**00 50 48.8**	**+1.2**
ISHM	**Shahmirzad**	**5.05**	**38**	*e*Pn		**Pn**	**00 50 53.8**	**+0.6**
ISHM				*e*AMB	AMB		00 50 55.7	
	comp=Z,839nm,0.2s								
IANJ	**Anjilo**	**5.16**	**45**	*e*Pn		**Pn**	**00 50 54.9**	**+0.3**
IANJ				*e*AMB	AMB		00 51 21.6	
	comp=Z,207nm,0.3s								
IANJ	**Anjilo**	**5.16**	**45**	*e*Pn		**Pn**	**00 50 54.9**	**+0.3**
IBAF	**Bafgh**	**5.22**	**92**	*e*Pn		**Pn**	**00 50 55.5**	**+0.1**
IBAF				*e*AMB	AMB		00 50 57.1	
	comp=Z,205nm,0.2s								
IBAF	**Bafgh**	**5.22**	**92**	*e*Pn		**Pn**	**00 50 55.5**	**+0.1**
SHRO	**Shahrood**	**6.82**	**51**	*e*Pn		**Pn**	**00 51 18.6**	**+1.3**
GEYT	**Alibeck**	**9.32**	**47**	Pn		**Pn**	**00 51 53.5**	**+1.9**
	comp=Z,0.7nm,0.3s,baz=225,slow=16,SNR=9.2								
GEYT				LR		LR	00 55 25.4		
	comp=Z,18nm,18.1s,baz=225,slow=38								
ASF	**Jabal al Asfar**	**10.66**	**275**	Pn		**Pn**	**00 52 08.7**	**-1.2**
	comp=Z,0.2nm,0.3s,baz=45,slow=12,SNR=4.0								
ASF				Lg		Lg	00 55 16.7		
	comp=Z,0.1nm,0.3s,baz=258,slow=19,SNR=2.0								
BRTR	**Keskin Array B**	**15.01**	**306**	Pn		**P**	**00 53 15.2**	**+0.4**
	comp=Z,0.1nm,0.3s,baz=133,slow=13,SNR=5.2								
BVAR	**Borovoye Array**	**25.99**	**30**	P		**P**	**00 55 09.1**	**-0.5**
	comp=Z,1.4nm,0.6s,baz=218,slow=9.4,SNR=8.0								
MKAR	**Makanchi Array**	**29.19**	**50**	P		**P**	**00 55 38.3**	**0.0**
	comp=Z,0.3nm,0.6s,baz=248,slow=6.4,SNR=2.6								
MKAR				LR		LR	01 07 58.3		
	comp=Z,24nm,18.1s,baz=169,slow=38								
FINES	**FINESS Array B**	**33.26**	**340**	P		**P**	**00 56 12.1**	**-1.9**
	comp=Z,1.3nm,0.7s,baz=154,slow=14,SNR=5.1								
NOA	**NORSAR Array B**	**38.33**	**331**	LR		LR	01 14 32.8		
	comp=Z,28nm,20.4s,baz=260,slow=39								
TORD	**Torodi Ar. Bea**	**47.47**	**258**	P		**P**	**00 58 11.2**	**-0.9**
	comp=Z,1.1nm,0.7s,baz=52,slow=7.9,SNR=10								
DBIC	**Dimbokro**	**56.38**	**256**	LR		LR	01 24 59.5		
	comp=Z,19nm,19.4s,baz=60,slow=38								

*ISCJB **20** 00:51:17.5±0.6,39.00N±0.04×27.11E±0.04, h1km±15km, Error ellipse: s-maj=7.0km s-min=5.0km az=165.5*
*ISK **20** 00:51:17.6,39.09N×27.08E, h4km, MD2.5*
*DDA **20** 00:51:17.4,38.98N×27.14E, h7km, Md2.3*
*CSEM **20** 00:51:18.7±0.2,39.05N×27.06E, h5km, MD2.5, Error ellipse: s-maj=3.9km s-min=3.1km az=143.0*

ISC 20 00:51:17.8±1.0, 39.01N±0.04×27.09E±0.03, h7km±10km, n14, σ0≤93/22, Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DKL	**Dikili**	**0.15**	**292**	*e*PG	**Pg**	**00 51 20.8**	**-0.1**
DKL				*e*SG	**Sg**	**00 51 23.6**	**+0.5**
DKL	**Dikili**	**0.15**	**292**	*e*Pg	**Pg**	**00 51 20.8**	**-0.1**
DKL				*e*Sg	**Sg**	**00 51 23.6**	**+0.5**
AKHS	**Akhisar**	**0.58**	**103**	*i* P	**Pg**	**00 51 28.6**	**-0.4**
AKHS				*i* S	**Sg**	**00 51 35.4**	**-1.1**
URLA	**Izmir**	**0.76**	**211**	*e*PG	**Pb**	**00 51 34.0**	**+0.7**
URLA	**Izmir**	**0.76**	**211**	*e*Pg	**Pb**	**00 51 34.0**	**+0.7**
BALY	**Balya**	**0.83**	**29**	*i* P	**Pb**	**00 51 34.6**	**0.0**
BALY				*i* S	**Sb**	**00 51 45.4**	**-0.6**
BALY	**Balya**	**0.83**	**29**	P	**Pb**	**00 51 34.6**	**0.0**
BALY				S	**Sb**	**00 51 45.4**	**-0.6**
ZEY	**¯zmir**	**0.90**	**211**	*i* P	**Pg**	**00 51 32.7**	**-2.3**
ZEY				*i* S	**Sg**	**00 51 47.0**	**+0.3**
SIGR	**SIGRI**	**0.98**	**282**	*e*PG	**Pb**	**00 51 36.7**	**-0.3**
SIGR				*e*SG	**Sb**	**00 51 50.3**	**+0.2**
SIGR	**SIGRI**	**0.98**	**282**	*e*Pg	**Pb**	**00 51 36.7**	**-0.3**
SIGR				*e*Sg	**Sb**	**00 51 50.3**	**+0.2**
CHOS	**Chios island**	**1.02**	**233**	*e*PG	**Pn**	**00 51 38.6**	**0.0**
CHOS	**Chios island**	**1.02**	**233**	*e*Pg	**Pn**	**00 51 38.6**	**0.0**
AYDB	**Zeytinkoy-Aydi**	**1.24**	**149**	*e*PN	**Pn**	**00 51 43.3**	**+1.7**
AYDB	**Zeytinkoy-Aydi**	**1.24**	**149**	*e*Pn	**Pn**	**00 51 43.3**	**+1.7**

*DDA **20** 00:58:41.8,38.49N×31.82E, h7km, Md2.6*
*ISCJB **20** 00:58:42.1±0.8,38.44N±0.04×31.81E±0.07, h11km, Error ellipse: s-maj=8.3km s-min=4.5km az=154.2*
*CSEM **20** 00:58:42.1±0.4,38.42N×31.79E, h1km,4km, MD2.6, Error ellipse: s-maj=8.8km s-min=5.5km az=45.0*
*ISK **20** 00:58:42.6,38.45N×31.85E, h7km, MD2.6*

ISC 20 00:58:42.4±1.0, 38.46N±0.04×31.82E±0.04, h11km, n15, σ0≤53/22, Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KDHN	**Kadinhani**	**0.24**	**75**	*i* P	**Pg**	**00 58 46.7**	**-0.8**
KDHN				*i* S	**Sg**	**00 58 50.7**	**-0.3**
KDHN	**Kadinhani**	**0.24**	**75**	P	**Pg**	**00 58 46.7**	**-0.8**
KDHN				S	**Sg**	**00 58 50.7**	**-0.3**
KIZT	**Kizilcal**	**0.42**	**7**	*e*PG	**Pb**	**00 58 52.0**	**0.0**
KIZT				*e*SG	**Sg**	**00 58 57.4**	**+0.9**
KIZT	**Kizilcal**	**0.42**	**7**	*e*Pg	**Pb**	**00 58 52.0**	**0.0**
KIZT				*e*Sg	**Sg**	**00 58 57.4**	**+0.9**
KONT	**Konya--Tatoy**	**0.67**	**140**	*e*PG	**Pg**	**00 58 55.0**	**-0.3**
KONT				*e*SG	**Sg**	**00 59 04.6**	**+0.5**
KONT	**Konya--Tatoy**	**0.67**	**140**	*i* P	**Pg**	**00 58 55.2**	**-0.1**
KONT				*i* S	**Sg**	**00 59 04.1**	**0.0**
KONT	**Konya--Tatoy**	**0.67**	**140**	*e*Pg	**Pg**	**00 58 55.0**	**-0.3**
KONT				*e*Sg	**Sg**	**00 59 04.6**	**+0.5**
BOLV	**Bolvadin**	**0.73**	**291**	*i* P	**Pg**	**00 58 55.7**	**-0.7**
BOLV	**Bolvadin**	**0.73**	**291**	P	**Pg**	**00 58 55.7**	**-0.7**
CHBY	**Cihanbeyli**	**0.85**	**81**	*e*PG	**Pb**	**00 58 59.3**	**0.0**
CHBY	**Cihanbeyli**	**0.85**	**81**	*e*Pg	**Pb**	**00 58 59.3**	**0.0**
SVRH	**Sivrihisar-ESK**	**1.01**	**347**	*e*PG	**Pn**	**00 59 02.8**	**+0.2**
SVRH	**Sivrihisar-ESK**	**1.01**	**347**	*e*Pg	**Pn**	**00 59 02.8**	**+0.2**
AFSR	**Af˘ar-Bala (A**	**1.39**	**44**	*e*PN	**Pb**	**00 59 08.9**	**+0.4**
AFSR	**Af˘ar-Bala (A**	**1.39**	**44**	*e*Pn	**Pb**	**00 59 08.9**	**+0.4**

*CSEM **20** 00:58:55.9±0.1,39.13N×29.09E, h10km, MD2.2, Error ellipse: s-maj=3.8km s-min=2.0km az=159.0*
*DDA **20** 00:59:00.8,38.95N×28.71E, h7km, Md2.3*

ISK 20 00:58:55.9,39.12N×29.12E, h6km, MD2.2, Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SIMA	**Simav-Kutahya**	**0.11**	**251**	*e*PG	Pg	00 58 58.8	+0.4
SIMA				*e*SG	Sg	00 59 00.9	+0.8
SIMA	**Simav-Kutahya**	**0.11**	**251**	*e*Pg	Pg	00 58 58.8	+0.4
SIMA				*e*Sg	Sg	00 59 00.9	+0.9
GEDZ	**Gediz**	**0.24**	**109**	*e*PG	Pg	00 59 01.2	+0.5
GEDZ				*e*SG	Sg	00 59 05.0	+1.2
GEDZ	**Gediz**	**0.24**	**109**	*e*Pg	Pg	00 59 01.2	+0.6
GEDZ				*e*Sg	Sg	00 59 05.0	+1.2
DEMI	**Demirci**	**0.32**	**256**	*i* P	Pg	00 59 02.3	+0.1
DEMI				*i* S	Sg	00 59 06.3	-0.2
DEMI	**Demirci**	**0.32**	**256**	P	Pg	00 59 02.3	+0.1
DEMI				S	Sg	00 59 06.3	-0.2
TVSB	**Tavsanli**	**0.42**	**39**	*e*PG	Pg	00 59 04.6	+0.5
TVSB	**Tavsanli**	**0.42**	**39**	*e*Pg	Pg	00 59 04.6	+0.5
KULA	**Kula-Manisa**	**0.70**	**211**	*e*PG	Pg	00 59 09.8	+0.4
KULA	**Kula-Manisa**	**0.70**	**211**	*e*Pg	Pg	00 59 09.8	+0.4
MANT	**Manisa**	**0.77**	**215**	*i* P	Pg	00 59 13.0	-7.6
MANT				*i* S	Sg	00 59 13.0	-7.6
MANT	**Manisa**	**0.77**	**215**	P	Pg	00 59 03.0	-7.6
MANT				S	Sg	00 59 13.0	-7.6

*DDA **20** 01:09:03.0,39.00N×27.11E, h7km, Md2.6*
*ISCJB **20** 01:09:03.4±0.4,39.00N±0.03×27.11E±0.03, h8km±5km, Error ellipse: s-maj=5.2km s-min=3.8km az=147.8*
*CSEM **20** 01:09:03.5±0.1,39.01N×27.09E, h15km, MD2.5, Error ellipse: s-maj=2.7km s-min=2.1km az=158.0*
*ISK **20** 01:09:03.2,39.01N×27.08E, h14km, MD2.5*

ISC 20 01:09:03.2±0.9, 39.00N±0.03×27.10E±0.02, h15km±6km, n27, σ0≤70/44, Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DKL	**Dikili**	**0.16**	**295**	*e*PG	**Pg**	**01 09 07.0**	**-0.2**
DKL				*e*SG	**Sg**	**01 09 10.2**	**+0.2**
DKL	**Dikili**	**0.16**	**295**	*e*Pg	**Pg**	**01 09 07.1**	**-0.2**
DKL				*e*Sg	**Sg**	**01 09 10.2**	**+0.2**
AYVA	**Ayvalik**	**0.44**	**314**	*i* P	**Pg**	**01 09 12.1**	**+0.1**
AYVA				*i* S	**Sb**	**01 09 18.6**	**-0.4**
AYVA	**Ayvalik**	**0.44**	**314**	P	**Pg**	**01 09 12.1**	**+0.1**
AYVA				S	**Sb**	**01 09 18.6**	**-0.4**
AKHS	**Akhisar**	**0.57**	**102**	*i* P	**Pg**	**01 09 14.7**	**+0.2**
AKHS				*i* S	**Sg**	**01 09 21.9**	**-0.3**
AKHS	**Akhisar**	**0.57**	**102**	P	**Pg**	**01 09 14.7**	**+0.2**
AKHS				S	**Sg**	**01 09 21.9**	**-0.3**
AKS	**Akhisar**	**0.57**	**102**	*e*PG	**Pb**	**01 09 15.2**	**+0.2**
AKS	**Akhisar**	**0.57**	**102**	*e*Pg	**Pb**	**01 09 15.2**	**+0.2**
URLA	**Izmir**	**0.75**	**211**	*e*PG	**Pb**	**01 09 18.6**	**+0.6**
URLA				*e*SG	**Sb**	**01 09 29.1**	**+1.0**
URLA	**Izmir**	**0.75**	**211**	*i* P	**Pg**	**01 09 17.7**	**-0.2**
URLA				*i* S	**Sb**	**01 09 28.9**	**+0.8**
URLA	**Izmir**	**0.75**	**211**	P	**Pg**	**01 09 17.7**	**-0.2**
URLA	**Izmir**	**0.75**	**211**	*e*Pg	**Pg**	**01 09 18.6**	**+0.6**
URLA				S	**Sb**	**01 09 28.9**	**+0.8**
URLA				*e*Sg	**Sb**	**01 09 29.1**	**+1.0**
BALY	**Balya**	**0.84**	**29**	*i* P	**Pn**	**01 09 20.2**	**-0.4**
BALY				*i* S	**Sb**	**01 09 31.3**	**+0.6**
BALY	**Balya**	**0.84**	**29**	P	**Pn**	**01 09 20.2**	**-0.4**
BALY				S	**Sb**	**01 09 31.3**	**+0.6**
BALB	**Balikesir**	**0.88**	**44**	*e*PG	**Pb**	**01 09 20.7**	**+0.5**
BALB				*e*SG	**Sn**	**01 09 33.2**	**-0.3**
BALB	**Balikesir**	**0.88**	**44**	*e*Pg	**Pb**	**01 09 20.7**	**+0.5**
BALB				*e*Sg	**Sn**	**01 09 33.3**	**-0.3**
ZEY	**¯zmir**	**0.89**	**211**	*i* P	**Pb**	**01 09 17.1**	**-3.3**
ZEY				*i* S	**Sb**	**01 09 32.9**	**+0.8**
SIGR	**SIGRI**	**0.99**	**283**	*e*PG	**Pg**	**01 09 22.3**	**0.0**
SIGR	**SIGRI**	**0.99**	**283**	*e*Pg	**Pg**	**01 09 22.3**	**0.0**
CHOS	**Chios island**	**1.02**	**233**	*e*PG	**Pn**	**01 09 23.6**	**+0.6**
CHOS	**Chios island**	**1.02**	**233**	*e*Pg	**Pn**	**01 09 23.7**	**+0.6**
AYDB	**Zeytinkoy-Aydi**	**1.23**	**149**	*e*PN	**Pg**	**01 09 26.6**	**-0.2**
AYDB	**Zeytinkoy-Aydi**	**1.23**	**149**	*e*Pn	**Pg**	**01 09 26.7**	**-0.2**
DEMI	**Demirci**	**1.26**	**88**	*i* P	**Pn**	**01 09 25.9**	**-0.5**
DEMI				*i* S	**Sb**	**01 09 42.8**	**-0.1**
DEMI	**Demirci**	**1.26**	**88**	P	**Pn**	**01 09 25.9**	**-0.5**
DEMI				S	**Sb**	**01 09 42.8**	**-0.1**
KULA	**Kula-Manisa**	**1.32**	**111**	*e*PN	**Pb**	**01 09 28.0**	**+0.3**
KULA	**Kula-Manisa**	**1.32**	**111**	*e*Pn	**Pb**	**01 09 28.0**	**+0.3**

KRSC 20 01:15:01.1±1.2, 55.54N×166.12E, h39km±12km, ML3.8, Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BKI	**Bering**	**0.34**	**195**	*e*P	Pn	01 15 10.2	+0.5
BKI				*e*S	Sn	01 15 16.4	+0.4
KBG	**Krutoberegovo**	**2.06**	**292**	*e*S	Sn	01 15 58.7	+1.3
MKZ	**Mys Kozlova**	**2.71**	**251**	*e*P	Pn	01 15 45.4	+3.4
MKZ				*e*S	Sn	01 16 17.7	+4.1
SRKR	**Sorokina**	**2.99**	**294**	*e*P	Pn	01 15 49.2	+3.2
ZLN	**Zelenaya**	**3.04**	**281**	*e*P	Pn	01 15 50.4	+3.7
ZLN				*e*S	Sn	01 16 27.8	+5.9
KLY	**Klyuchi**	**3.17**	**286**	*e*S	Sn	01 16 27.2	+2.2
KRSR	**Krestovskiy**	**3.20**	**285**	*e*P	Pn	01 15 52.0	+3.1
KRSR				*e*S	Sn	01 16 29.7	+3.8
KIRR	**Kirishev**	**3.29**	**280**	*e*P	Pn	01 15 53.4	+3.2
KIRR				*e*S	Sn	01 16 32.6	+4.4
KMNR	**Kamenistaya**	**3.34**	**276**	*e*P	Pn	01 15 54.8	+4.0
KPT	**Kopyto**	**3.36**	**280**	*e*P	Pn	01 15 54.6	+3.5
SDLR	**Sedlovina**	**4.80**	**245**	*e*P	Pn	01 16 15.1	+4.3
SDLR				*e*S	Sn	01 17 09.8	+4.7
KRER	**Koryakskii**	**4.85**	**246**	*e*P	Pn	01 16 16.6	+4.9
KRER				*e*S	Sn	01 17 11.3	+4.7
UGLR	**Uglovaya**	**4.86**	**244**	*e*P	Pn	01 16 16.1	+4.4
UGLR				*e*S	Sn	01 17 11.5	+4.8
KRX	**Arik**	**4.88**	**247**	*e*P	Pn	01 16 17.0	+5.1
AVH	**Avacha**	**4.88**	**245**	*e*P	Pn	01 16 16.8	+4.9
AVH				*e*P	Pn	01 16 17.0	+5.1
AVH				*e*S	Sn	01 17 13.0	+5.9
GNL	**Ganaly**	**5.10**	**252**	*e*P	Pn	01 16 19.7	+4.7
KRMR	**Karymshinskiy**	**5.42**	**243**	*e*S	Sn	01 17 24.5	+4.2
RUS	**Russkaya**	**5.46**	**238**	*e*P	Pn	01 16 24.4	+4.6
RUS				*e*S	Sn	01 17 24.4	+3.1

*NIED **20** 01:16:00,38.50N×142.30E, h35km, Mw3.5 Best double couple: M0 2.21000×10^14 NP1:φs231.00000°, δ23.00000°, λ13.00000°. NP2:φs129.00000°, δ85.00000°, λ112.00000°.*

JMA 20 01:16:56.3±0.1, 38.47N×142.30E, h30km±2km, M3.7, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JIO	**Ouri**	**0.75**	**269**	P	Pn	01 17 10.4	-0.4
JIO				S	Sb	01 17 19.7	-1.0
JMK	**Ichinoseki**	**0.97**	**300**	P	Pn	01 17 14.0	+0.1
JOM	**Ohasama**	**1.27**	**322**	P	Pn	01 17 18.7	+0.7
JOM				S	Sb	01 17 34.9	-0.8
JOU	**Okura**	**1.29**	**266**	P	Pn	01 17 19.0	+0.7
JOU				S	Sn	01 17 35.1	+0.6
JMM	**Marumori**	**1.33**	**244**	P	Pn	01 17 18.6	-0.2
JMM				S	Sn	01 17 34.9	-0.6
JFK	**Kawauchi**	**1.58**	**226**	P	Pn	01 17 21.6	-0.6
JFK				S	Sn	01 17 39.7	-1.9
JYK	**Kaneyama**	**1.58**	**287**	P	Pn	01 17 23.5	+1.2
JYK				*e*S	Sb	01 17 43.4	-1.1
JRG	**Rokugo**	**1.59**	**306**	P	Pb	01 17 24.2	-0.9
JRG				*e*S	Sb	01 17 44.4	-0.5
JFT	**Otama**	**1.82**	**239**	P	Pn	01 17 26.5	+0.9
JFT				S	Sn	01 17 48.3	+0.7
MAT	**Matsushiro**	**3.78**	**241**	P	Pn	01 17 55.8	+3.3
MAT				*e*S	Sn	01 18 41.5	+5.5

IDC 20 01:40:14.8±21.0, 26.54N×92.54E, h0km, mb3.7/4, mb1 3.9/4, mb1mx3.5/29, mbtmp3.8/4, Error ellipse: s-maj=591.3km s-min=61.3km az=99.0, Northeastern India

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SHL	**Shillong**	**1.13**	**212**	*i* PG	Pn	01 40 44.0	+5.9
MKAR	**Makanchi Array**	**21.79**	**341**	P	P	01 45 08.1	-0.2
	4.3nm,1.1s,baz=152,slow=12,SNR=2.4						
FINES	**FINESS Array B**	**55.83**	**328**	P	P	01 49 53.8	+0.2
	4.3nm,1.1s,baz=93,slow=6.0,SNR=2.0						
GERES	**GERESS Array B**	**63.37**	**314**	P	P	01 50 46.0	-0.1
	0.2nm,0.4s,baz=77,slow=7.0,SNR=5.6						
TORD	**Torodi Ar. Bea**	**84.97**	**282**	P	P	01 52 52.6	0.0
	0.5nm,0.7s,baz=53,slow=5.0,SNR=7.2						

*ATH **20** 01:40:58.5,36.90N×26.62E, h33km±6km, ML1.7/2, Error ellipse: s-maj=6.4km s-min=1.5km az=356.0*
*ISCJB **20** 01:40:59.2±0.7,36.84N±0.04×26.62E±0.05, h14km±7km, Error ellipse: s-maj=6.6km s-min=6.2km az=25.2*
*CSEM **20** 01:40:59.4±0.2,36.81N×26.61E, h10km, MD2.7, Error ellipse: s-maj=6.3km s-min=4.9km az=3.0*
*ISK **20** 01:40:59.4,36.80N×26.65E, h5km, MD2.7*

ISC 20 01:40:59.0±1.1, 36.85N±0.03×26.62E±0.03, h10km±10km, n28, σ0≤72/37, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
NIS1	**Nisyros lsl.**	**0.52**	**119**	*e*PG	**Pg**	**01 41 09.1**	**0.0**
NIS1				*e*SG	**Sg**	**01 41 16.2**	**+0.3**
NIS1	**Nisyros lsl.**	**0.52**	**119**	*e*Pg	**Pg**	**01 41 09.1**	**0.0**
NIS1	**Nisyros lsl.**	**0.52**	**119**	P	**Pb**	**01 41 10.1**	**-0.1**
NIS1				*e*Sg	**Sg**	**01 41 16.2**	**+0.3**
NIS1	**Nisyros lsl.**	**0.52**	**119**	P	**Pb**	**01 41 09.7**	**-0.5**
BODT	**Bodrum**	**0.59**	**69**	*e*PG	**Pg**	**01 41 11.4**	**+0.8**
BODT				*e*SG	**Sb**	**01 41 20.2**	**+0.2**
BODT	**Bodrum**	**0.59**	**69**	*e*Pg	**Pg**	**01 41 11.4**	**+0.8**
BODT				*e*Sg	**Sb**	**01 41 20.2**	**+0.2**
DAT	**Datca**	**0.78**	**99**	*e*PG	**Pg**	**01 41 14.3**	**+0.2**
DAT	**Datca**	**0.78**	**99**	*e*Pg	**Pg**	**01 41 14.3**	**+0.2**
SMG	**Samos**	**0.87**	**12**	P	**Pg**	**01 41 15.7**	**-0.2**
SMG				S	**Sg**	**01 41 25.5**	**-1.8**
SMG	**Samos**	**0.87**	**12**	P	**Pg**	**01 41 15.7**	**-0.2**
SMG				S	**Sg**	**01 41 25.5**	**-1.8**
SMG				AML	AML	01 41 30.9	
	comp=N,140μm,0.2s						
SMG				AML	AML	01 41 31.4	
	comp=E,144μm,0.2s						
APE	**Apeiranthos**	**0.90**	**284**	*e*PG	**Pn**	**01 41 17.9**	**+0.2**
APE	**Apeiranthos**	**0.90**	**284**	P	**Pg**	**01 41 16.5**	**+0.2**
APE	**Ape

30nm,0.3s,baz=227,slow=18,SNR=95
KMBO Pg **Pg** **02 23 07.0 -2.4**
78nm,0.3s,baz=219,slow=18,SNR=56
KMBO Sn **Sn** **02 23 39.6 -2.7**
135nm,0.3s,baz=71,slow=22,SNR=7.5
KMBO Lg Lg 02 23 59.8
196nm,0.3s,baz=338,slow=23,SNR=5.8
KMBO Kilima Mbogo 4.29 43 *i* P **Pn** **02 22 51.5 -0.7**
KMBO pmax pmax
comp=Z,101nm,0.5s
KMBO Kilima Mbogo 4.29 43 *e*Pn **Pn** **02 22 51.6 -0.7**
KMBO *e*Pg **Pg** **02 23 07.0 -2.4**
KMBO *e*Sn **Sn** **02 23 37.5 -4.8**
LWI Lwiro 5.87 290⇑*i*P **Pn** **02 23 14.0 0.0**
LWI *i* S **Sn** **02 24 18.0 -3.3**
LWI Lwiro 5.87 290⇑*i*P **Pn** **02 23 14.0 0.0**
LWI *i* S **Sn** **02 24 18.0 -3.3**
LSZ Lusaka 12.48 209 Pn **Pn** **02 24 43.6 -1.0**
comp=Z,1.2nm,0.3s,baz=7.8,slow=13,SNR=20
LSZ Sn Sn 02 26 54.3 -9.3
comp=Z,7.6nm,0.3s,baz=94,slow=8.4,SNR=6.9
LSZ Lg Lg 02 28 13.6
comp=Z,9.6nm,0.3s,baz=310,slow=21,SNR=8.8
LSZ LR LR 02 29 47.1
comp=Z,2μm,18.0s,baz=34,slow=39
LSZ Lusaka 12.48 209 *e*P **Pn** **02 24 42.7 -1.8**
LSZ Lusaka 12.48 209 *e*Pn **Pn** **02 24 42.7 -1.8**
LSZ *e*Sn Sn 02 26 50.6 -13
FURI Furi 13.80 18 *e*Pn **Pn** **02 25 03.5 +0.8**
BLWY Bulawayo 16.71 199 *i* P **P** **02 25 46.7 +3.3**
MATP Matopo 17.02 199 *i* P **P** **02 25 50.6 +3.8**
MATP *i* S **S** **02 29 05.3 +1.3**
MATP Matopo 17.02 199 P **Pn** **02 25 44.3 -0.6**
comp=Z,0.4nm,0.3s,baz=27,slow=12,SNR=12
MATP S **Sn** **02 28 45.6 -8.5**
comp=Z,0.5nm,0.3s,baz=153,slow=18,SNR=3.6
MATP Lg Lg 02 30 34.6
comp=Z,1.5nm,0.3s,baz=333,slow=2.7,SNR=3.7
MATP LR LR 02 32 39.5
comp=Z,1μm,18.1s,baz=22,slow=38
ATD Arta Tunnel 17.85 28 P **P** **02 25 58.5 +2.6**
comp=Z,0.2nm,0.3s,baz=270,slow=19,SNR=2.3
ATD Lg Lg 02 31 01.7
comp=Z,0.4nm,0.3s,baz=59,slow=20,SNR=4.0
ATD LR LR 02 32 57.7
comp=Z,756nm,18.2s,baz=194,slow=38
OPO Ambohidratompo 18.97 139 P **Pn** **02 26 10.1 +1.0**
comp=Z,0.1nm,0.3s,baz=314,slow=23,SNR=6.2
OPO LR LR 02 33 34.6
comp=Z,347nm,18.4s,baz=339,slow=37
TSUM Tsumeb 22.06 226 P P **02 26 49.6 +7.7**
comp=Z,12nm,1.2s,baz=15,slow=9.5,SNR=4.6
TSUM S **S** **02 30 43.4 -1.8**
comp=Z,13nm,0.8s,baz=278,slow=15,SNR=4.3
TSUM Lg Lg 02 33 23.6
comp=Z,25nm,0.9s,baz=338,slow=21,SNR=3.9
TSUM LR LR 02 36 01.7
comp=Z,971nm,18.7s,baz=336,slow=39
LBTB Lobatse 22.25 201 *i* P P **02 26 51.4 +7.5**
LBTB Lobatse 22.25 201 P **P** **02 26 43.5 -0.4**
comp=Z,15nm,1.0s,baz=21,slow=12,SNR=9.1
LBTB S Sn 02 30 59.1 -1.2
comp=Z,7.1nm,0.9s,baz=60,slow=15,SNR=2.7
LBTB Lg Lg 02 33 15.3
comp=Z,58nm,1.1s,baz=303,slow=18,SNR=5.4
LBTB LR LR 02 35 32.0
comp=Z,874nm,18.4s,baz=28,slow=37
LBTB Lobatse 22.25 201 *e*P **P** **02 26 38.9 -5.0**
LBTB *e**SP **pP** **02 26 43.2 -4.6**
LBTB Lobatse 22.25 201 *e*P **P** **02 26 38.9 -5.0**
LBTB *e*sP **pP** **02 26 43.2 -4.6**
LBTB *e*S Sn 02 30 59.1 -1.2
KJAB KAMANJAB 24.35 230 *i* P P 02 26 55.1 -10
WIN Windhoek 24.66 221 *i* P **P** **02 27 03.1 -4.8**
BOSA Boshof 25.68 199 *i* P **P** **02 27 22.6 +5.6**
BOSA Boshof 25.68 199 P **P** **02 27 17.4 +0.5**
comp=Z,16nm,1.0s,baz=20,slow=11,SNR=9.7
BOSA Lg Lg 02 35 02.0
comp=Z,29nm,1.0s,baz=280,slow=16,SNR=1.8
BOSA LR LR 02 37 00.5
comp=Z,256nm,20.4s,baz=22,slow=36
BOSA Boshof 25.68 199 *e*P **P** **02 27 16.7 -0.3**
BOSA pmax pmax
comp=Z,33nm,1.2s
BOSA Boshof 25.68 199 *e*P **P** **02 27 16.7 -0.3**
comp=Z,33nm,1.2s
TOA0 Torodi Ar. Sit 36.74 299 *e*P **P** **02 28 53.9 -0.4**
comp=Z,10nm,1.4s
TORD Torodi Ar. Bea 36.74 299 P **P** **02 28 54.3 -0.1**
comp=Z,3.6nm,0.9s,baz=105,slow=8.0,SNR=19
TORD Lg Lg 02 41 01.4
comp=Z,2.0nm,1.1s,baz=115,slow=25,SNR=4.3
TORD LR LR 02 43 42.2
comp=Z,213nm,20.5s,baz=115,slow=36
TOA1 Torodi Ar. Sit 36.74 299 *e*P **P** **02 28 54.3 -0.1**
comp=Z,11nm,1.4s
TAM Tamanrasset 38.93 315 *e*P **P** **02 29 15.3 +2.3**
TAM pmax pmax
comp=Z,6.0nm,1.1s
TAM Tamanrasset 38.93 315 *e*P **P** **02 29 15.3 +2.3**
comp=Z,6.2nm,1.1s
IDI Anoyia 40.35 348 *e*P **P** **02 29 25.9 +1.4**
comp=Z,8.3nm,1.1s
AKAS Kas 40.55 354 *e*P **P** **02 29 24.4 -1.8**
comp=Z,39nm,1.4s
DBIC Dimbokro 40.60 285 P **P** **02 29 26.4 -0.4**
comp=Z,5.1nm,0.7s,baz=95,slow=7.6,SNR=5.8
DBIC LR LR 02 46 16.2
comp=Z,172nm,20.6s,baz=92,slow=36
DBIC Dimbokro 40.60 285 *e*P **P** **02 29 27.0 +0.2**
DBIC pmax pmax
comp=Z,55nm,1.8s
DBIC Dimbokro 40.60 285 *e*P **P** **02 29 27.0 +0.2**
comp=Z,55nm,1.8s
MARD Mardin 41.82 8 *e*P **P** **02 29 36.2 -0.5**
comp=Z,6.2nm,0.7s
APE Apeiranthos 41.95 349⇓*i*P **P** **02 29 37.3 -0.3**
APE pmax pmax
comp=Z,12nm,1.5s
MANT Manisa 42.89 353 *e*P **P** **02 29 46.0 +0.4**
comp=Z,25nm,0.3s
BR101 Keskin Array S 43.80 359 *e*P **P** **02 29 53.7 +1.0**
BR101 *e*PP **PcP** **02 31 40.0 +0.7**
BR131 Keskin Array S 43.80 359 *e*P **P** **02 29 52.0 -0.7**
BRTR Keskin Array B 43.80 359 P **P** **02 29 53.7 +1.0**
comp=Z,2.3nm,0.8s,baz=177,slow=9.5,SNR=17
BRTR PcP **PcP** **02 31 40.0 +0.7**
comp=Z,1.8nm,0.8s,baz=199,slow=3.4,SNR=4.8
AGG Agios Georgios 44.49 347 *e*P **P** **02 29 59.4 +1.2**
AGG pmax pmax
comp=Z,90nm,1.6s
AGG Agios Georgios 44.49 347 *e*P **P** **02 29 59.4 +1.2**
comp=Z,90nm,1.6s
ARTV Artvin 45.78 8 *e*P **P** **02 30 08.4 -0.2**
comp=Z,5.9nm,1.3s
KEST Kesra 46.18 332 P **P** **02 30 12.6 +0.9**
comp=Z,7.1nm,1.0s,baz=160,slow=4.0,SNR=3.5
KEST LR LR 02 51 31.8
comp=Z,217nm,18.1s,baz=256,slow=39
KEST Kesra 46.18 332 *e*P **P** **02 30 12.6 +0.9**
comp=Z,27nm,1.3s
GEYT Alibeck 47.46 26 LR LR 02 51 28.2
comp=Z,206nm,20.8s,baz=215,slow=38
ZEI Tsey 47.65 10 *e*P **P** **02 30 23.5 +0.3**
ZEI pmax pmax
comp=Z,35nm,1.3s
KBZ Khabaz 48.41 8 P **P** **02 30 29.3 +0.5**
comp=Z,2.8nm,0.9s,baz=205,slow=4.0,SNR=5.6
KBZ LR LR 02 51 25.4
comp=Z,139nm,18.4s,baz=194,slow=37
MAK Makhachkala 48.52 13 *e*P **P** **02 30 25.0 -4.6**
MAK *e* 02 32 21.3
MAK *e*PPP PPP 02 33 07.4
MAK *e*S **S** **02 37 23.4 -7.1**
MAK MLR MLR
comp=Z,2μm,16.0s
KIV Kislovodsk 48.61 8 *e*P **P** **02 30 31.0 +0.6**
KIV pmax pmax
comp=Z,17nm,1.0s
KIV MLR MLR
comp=Z,115nm,16.0s
KVAR Kislovodsk Arr 48.61 8 LR LR 02 51 39.5
comp=Z,126nm,18.3s,slow=37
CFR Carcaliu 49.55 354⇓*i*P P 02 30 44.7 +7.2
CFR Carcaliu 49.55 354⇓P P 02 30 44.7 +7.2
VOIR 50.19 352⇑⇑*i*P **P** **02 30 42.3 -0.2**
VOIR 50.19 352⇑⇑P **P** **02 30 42.3 -0.2**
PLOR Plostina 50.38 353⇑*i*P **P** **02 30 44.1 +0.2**
PLOR Plostina 50.38 353⇑P **P** **02 30 44.1 +0.2**
GZR Gura Zlata 50.52 349⇑*i*P **P** **02 30 45.5 +0.6**
GZR Gura Zlata 50.52 349⇑P **P** **02 30 45.6 +0.6**
CJR Cluj-Napoca 51.66 351⇓*i*P **P** **02 30 53.8 +0.3**
CJR Cluj-Napoca 51.66 351⇓P **P** **02 30 53.8 +0.3**
DRGR 51.88 350⇓*i*P **P** **02 30 56.2 +1.0**
DRGR 51.88 350⇓P **P** **02 30 56.2 +1.0**
BURAR Bucovina Array 52.30 352⇓*i*P **P** **02 31 00.8 +2.5**
BURAR Bucovina Array 52.30 352⇓P **P** **02 31 00.8 +2.5**
BUR08 Bucovina Ar. S 52.33 352 *e*P **P** **02 31 00.2 +1.7**
PSZ Piszkesteto 53.51 348⇑*i*P **P** **02 31 07.9 +0.7**
PSZ Piszkesteto 53.51 348 *e*P **P** **02 31 07.8 +0.6**
PSZ pmax pmax
comp=Z,11nm,0.9s
PSZ Piszkesteto 53.51 348 *e*P **P** **02 31 07.8 +0.6**
comp=Z,11nm,0.9s
SOKA Soboth 53.54 344 *e*P **P** **02 31 08.1 +0.6**
comp=Z,18nm,1.7s
KECS Kecovo 53.92 349 *e*P **P** **02 31 11.0 +0.8**
KECS *e* 02 31 17.6
KECS pmax pmax
comp=Z,2.0nm,0.9s
KECS Kecovo 53.92 349 *e*P **P** **02 31 11.0 +0.8**
KECS *e* 02 31 17.6
ARSA Arzberg 53.93 344 *e*P **P** **02 31 11.9 +1.7**
comp=Z,5.8nm,1.0s
VYHS Vyhne 54.28 347 *e*P **P** **02 31 13.3 +0.6**
VYHS *e* 02 31 19.0
VYHS pmax pmax
comp=Z,16nm,2.3s
VYHS Vyhne 54.28 347 *e*P **P** **02 31 13.3 +0.6**
VYHS *e* 02 31 19.0
ABTA Abfaltersbach 54.35 342 *e*P **P** **02 31 11.6 -1.8**
comp=Z,9.4nm,1.5s
CONA Conrad Observa 54.46 345 *e*P **P** **02 31 14.9 +0.7**
comp=Z,7.2nm,1.3s
STHS Stebnicka Huta 54.68 350 *e*P **P** **02 31 16.6 +1.0**
STHS pmax pmax
comp=Z,2.0nm,0.6s
STHS Stebnicka Huta 54.68 350 *e*P **P** **02 31 16.6 +1.0**
LANS Liptovska Anna 54.77 348 *e*P **P** **02 31 17.4 +1.1**
LANS *e* 02 31 24.2
LANS Liptovska Anna 54.77 348 *e*P **P** **02 31 17.4 +1.1**
LANS *e* 02 31 24.2
MOA Molln 54.82 344 *e*P **P** **02 31 16.6 -0.2**
comp=Z,16nm,1.9s
AK11 Malin Array Si 54.93 356 *e*P **P** **02 31 15.1 -2.3**
KIEV Kiev 54.94 356⇑*i*P **P** **02 31 17.1 -0.3**
KIEV pmax pmax
comp=Z,8.0nm,1.1s
KIEV Kiev 54.94 356 *e*P **P** **02 31 15.6 -1.8**
comp=Z,8.4nm,1.0s
AKASG Malin Array Be 54.95 356 P **P** **02 31 17.3 -0.2**
comp=Z,3.9nm,0.9s,baz=179,slow=6.4,SNR=13
AKBB Malin Array Si 54.95 356 *e*P **P** **02 31 15.3 -2.2**
AKBB pmax pmax
comp=Z,9.0nm,1.0s
AKBB Malin Array Si 54.95 356 *e*P **P** **02 31 15.3 -2.2**
comp=Z,9.0nm,1.0s
TUE Stuetta 55.17 339 *e*P **P** **02 31 17.2 -2.3**
comp=Z,13nm,1.0s
VRAC Vranov 55.56 346 LR LR 02 58 36.5
comp=Z,67nm,18.1s,baz=136,slow=40
RETA Reutte 55.57 341 *e*P **P** **02 31 22.4 +0.2**
comp=Z,5.7nm,1.1s
DAVA Damuels 55.69 340 *e*P **P** **02 31 23.1 -0.1**
comp=Z,14nm,1.3s
MORC Moravsky Berou 55.77 347 P **P** **02 31 24.4 +0.8**
MORC pmax pmax
comp=Z,34nm,1.6s
GEA0 GERESS Array S 55.88 344 *e*P **P** **02 31 24.2 -0.1**
GEC2 GERESS Array S 55.88 344 *e*P **P** **02 31 25.1 +0.6**
GEC2 pmax pmax
comp=Z,10.0nm,1.3s
GEC2 GERESS Array S 55.88 344 *e*P **P** **02 31 25.1 +0.6**
comp=Z,9.5nm,1.3s
GERES GERESS Array B 55.88 344 P **P** **02 31 24.8 +0.3**
comp=Z,1.2nm,0.7s,baz=155,slow=7.3,SNR=12
ES19 SONSECA Array 56.14 325 *e*P **P** **02 31 27.2 +0.9**
ESDC Sonseca Array 56.16 325 P **P** **02 31 27.4 +0.9**
comp=Z,1.5nm,0.9s,baz=138,slow=7.4,SNR=7.8
KHC Kasperske Hory 56.18 344 *e*P **P** **02 31 26.2 -0.3**
KHC *e*pP **sP** **02 31 33.1 +0.6**
KHC Kasperske Hory 56.18 344 *e*P **P** **02 31 25.3 -1.2**
KHC pmax pmax
comp=Z,12nm,1.9s
KHC Kasperske Hory 56.18 344 *e*P **P** **02 31 25.3 -1.2**
comp=Z,12nm,1.9s
DPC Dobruska-Polom 56.59 346 *e*P **P** **02 31 29.5 +0.1**
DPC *e*pP **sP** **02 31 36.2 +0.7**
DPC Dobruska-Polom 56.59 346 *e*P **P** **02 31 29.5 +0.1**
DPC *e* 02 31 36.2
LOMF Lomont 56.83 338 *e*P **P** **02 31 30.8 -0.4**
BFO Black Forest 57.12 340 *i* P **P** **02 31 35.0 +1.8**
MOF Molkenrain 57.14 339 *e*P **P** **02 31 32.8 -0.6**
HAU Haudompre 57.56 338 *e*P **P** **02 31 36.3 0.0**
HAU pmax pmax
comp=Z,6.0nm,0.8s
CDF Champ du Feu 57.56 339 *e*P **P** **02 31 36.1 -0.3**
CDF pmax pmax
comp=Z,16nm,1.2s
AVF Avril sur Loir 57.75 335 *e*P **P** **02 31 37.8 +0.2**
AVF pmax pmax
comp=Z,9.0nm,1.0s
ABKAR Akbulak array 57.79 20 *e*P **P** **02 31 37.6 -0.2**
comp=Z,18nm,1.0s
TCF Toulx Ste Croi 57.84 334 *e*P **P** **02 31 39.3 +1.0**
TCF pmax pmax
comp=Z,14nm,1.0s
LANF Langenberg 57.85 340 *e*P **P** **02 31 38.8 +0.5**
THEF They Montfort 57.88 338 *e*P **P** **02 31 39.2 +0.7**
KSH Kashi 58.04 37 *e*P **P** **02 31 43.8 +3.8**
KSH sP sP 02 31 50.8 +4.8
KSH PP **PP** **02 33 53.3 +4.6**
KSH S **S** **02 39 43.8 +3.2**
KSH sS sS 02 39 51.8 +4.0
KSH SS **SS** **02 43 35.1 +3.0**
KSH pmax pmax
comp=Z,4.0nm,0.8s
KSH pmax pmax
comp=Z,83nm,6.5s
KSH LR LR
comp=Z,100nm,9.2s
KSH LR LR
comp=Z,64nm,9.0s
KSH LR LR
comp=Z,94nm,5.5s
AKTO Aktyubinsk 58.20 18 LR LR 02 59 24.2
comp=Z,70nm,19.5s,slow=39
CLL Collm 58.31 344 *e*P P 02 31 48.0 +6.6
CLL pmax pmax
comp=Z,13nm,1.6s
CLL MLR MLR
comp=Z,400nm,19.3s
CLL Collm 58.31 344 *e*sP sP 02 31 48.0 +0.5
comp=Z,13nm,1.6s
WLF Walferdange 59.01 339 P **P** **02 31 45.6 -0.8**
comp=Z,15nm,2.2s
AAK Ala-Archa 59.19 34⇑*i*P **P** **02 31 48.2 +0.2**
AAK pmax pmax
comp=Z,8.0nm,1.3s
OBN Obninsk 59.22 2⇑*e*P **P** **02 31 47.0 -0.7**
OBN pmax pmax
comp=Z,6.0nm,0.7s
BCLA Clavier 59.95 339 P **P** **02 31 53.5 +0.6**
ARU Arti 63.67 15*d*/*i*P **P** **02 32 17.6 -0.2**
ARU S **S** **02 40 52.1 +0.5**
ARU pmax pmax
comp=Z,26nm,1.7s
ARU Arti 63.67 15 *e*P **P** **02 32 18.5 +0.7**
comp=Z,18nm,1.0s
BRVK Borovoye 64.66 23 *e*P **P** **02 32 25.3 +1.0**
BRVK pmax pmax
comp=Z,5.0nm,1.0s
BVAR Borovoye Array 64.67 23 LR LR 03 03 02.2
comp=Z,124nm,19.4s,baz=250,slow=38
SYO Syowa Base 64.72 178⇓*e*P **P** **02 32 22.8 -1.7**
SYO Syowa Base 64.72 178⇓*e*pP pP 02 32 29.4 +0.5
KLMR Klimovskoe 65.07 3 *e*P **P** **02 32 25.0 -1.9**
KLMR pmax pmax
comp=Z,23nm,1.3s
FIA0 FINESS Array S 65.85 356 *e*P **P** **02 32 31.9 0.0**
FIA0 FINESS Array S 65.85 356 *e*P **P** **02 32 31.9 0.0**
FINES FINESS Array B 65.85 356 P **P** **02 32 31.9 0.0**
comp=Z,2.8nm,0.8s,baz=148,slow=11,SNR=6.5
MAKZ Makanchi 65.95 34 *e*P **P** **02 32 33.4 +0.5**
MAKZ pmax pmax
comp=Z,11nm,1.2s
MAKZ Makanchi 65.95 34 *e*P **P** **02 32 33.4 +0.5**
comp=Z,11nm,1.2s
MK01 Makanchi Array 66.11 34 *e*P **P** **02 32 33.8 -0.1**
MK31 Makanchi Array 66.12 34 *e*P **P** **02 32 34.3 +0.3**
MK31 Makanchi Array 66.12 34 *e*P **P** **02 32 34.3 +0.3**
MK32 Makanchi Array 66.12 34 *e*P **P** **02 32 34.1 +0.1**
MKAR Makanchi Array 66.12 34 P **P** **02 32 34.1 +0.1**
comp=Z,4.2nm,0.8s,baz=236,slow=6.0,SNR=27
MKAR Makanchi Array 66.12 34 *e*P **P** **02 32 34.3 +0.3**
comp=Z,31nm,0.8s
SOKR Solikamsk 66.12 12⇑*i*P **P** **02 32 32.1 -1.5**
SOKR pmax pmax
comp=Z,16nm,1.1s
MAW Mawson 66.16 168 P **P** **02 32 35.4 +1.6**
comp=Z,7.5nm,0.9s,baz=313,slow=7.8,SNR=13
MAW Mawson 66.16 168 *e*P **P** **02 32 35.7 +1.9**
MAW pmax pmax
comp=Z,2.0nm,1.0s
MAW Mawson 66.16 168 *e*P **P** **02 32 35.7 +1.9**
comp=Z,2.2nm,1.0s
HFS Hagfors 66.24 349 LR LR 03 02 17.9
comp=Z,70nm,18.1s,baz=198,slow=37
KURK Kurchatov 66.64 29*d*/*i*P **P** **02 32 37.7 +0.5**
KURK *i* *PP **sP** **02 32 44.5 +1.2**
KURK pmax pmax
comp=Z,38nm,1.2s
KURK Kurchatov 66.64 29 *e*P **P** **02 32 37.8 +0.5**
comp=Z,14nm,1.0s
CM31 Chiang Mai Arr 67.52 68 *e*P **P** **02 32 44.6 +1.2**
CMAR Chiang Mai Arr 67.52 68 P **P** **02 32 44.6 +1.2**
comp=Z,1.9nm,0.4s,baz=258,slow=7.8,SNR=13
CM01 Chiang Mai Arr 67.53 68 *e*P **P** **02 32 44.6 +1.1**
NB200 NORSAR Array S 67.57 348 *e*P **P** **02 32 41.5 -1.5**
NOA NORSAR Array B 67.57 348 P **P** **02 32 41.5 -1.5**
comp=Z,2.0nm,0.9s,baz=156,slow=6.0,SNR=4.0
WMQ Urumqi 67.70 39 P **P** **02 32 45.9 +1.7**
WMQ pmax pmax
comp=Z,7.0nm,0.7s
WMQ pmax pmax
comp=Z,110nm,5.1s
WMQ LR LR
comp=Z,59nm,24.7s
WMQ LR LR
comp=Z,87nm,15.7s
WMQ LR LR
comp=Z,76nm,22.5s
TMCR Tamitsa 68.33 2 *e*P **P** **02 32 47.7 +0.2**
TMCR pmax pmax
comp=Z,16nm,1.1s
SNAA Sanae 71.22 192⇓*i*P **P** **02 33 07.6 +2.1**
NVS Novosibirsk 71.42 27 *e*P **P** **02 33 07.4 +0.6**
NVS *e* 02 33 14.4
NVS pmax pmax
comp=Z,15nm,1.0s
NVS pmax pmax
comp=N,6.0nm,0.8s
ZAA0 Zalesovo Array 71.63 29 *e*P **P** **02 33 08.1 0.0**
ZALV Zalesovo Beam 71.63 29 P **P** **02 33 07.7 -0.4**
comp=N,3.5nm,0.5s,baz=246,slow=5.6,SNR=13
ZAA1 Zalesovo Array 71.64 29 *e*P **P** **02 33 07.7 -0.4**
ARA0 ARCESS Array S 73.91 357 *e*P **P** **02 33 21.4 0.0**
ARCES ARCESS Array B 73.91 357 P **P** **02 33 21.4 0.0**
comp=N,1.2nm,0.6s,baz=141,slow=7.8,SNR=4.1
GTA Gaotai 74.12 47 *e*P P 02 33 31.3 +7.9
GTA pP PcP 02 33 35.8 -2.7
GTA sP sP 02 33 38.3 +8.7
GTA pmax pmax
comp=Z,4.0nm,1.0s
LZH Lanzhou 76.17 51 *e*P **P** **02 33 31.8 -3.5**
LZH pP pP 02 33 34.5 -5.3
LZH sP sP 02 33 35.8 -5.7
LZH PP PP 02 36 44.6 +18
LZH pmax pmax
comp=Z,25nm,1.3s
LZH pmax pmax
comp=Z,83nm,8.0s
LZH LR LR
comp=N,200nm,15.6s
LZH LR LR
comp=E,210nm,16.0s
LZH LR LR
comp=Z,310nm,19.0s
GYA Guiyang 76.22 62 *e*P **P** **02 33 37.0 +1.3**
GYA pmax pmax
comp=Z,10.0nm,1.0s
ZAK Zakamensk 80.08 37 *e*P P 02 34 03.1 +6.4
ZAK pmax pmax
comp=Z,4.0nm,1.4s
SONA0 Songino Array 81.26 40 *e*P **P** **02 34 05.0 +2.0**
comp=Z,4.9nm,1.0s
SONM Songino Array 81.26 40 P **P** **02 34 05.0 +2.0**
comp=Z,3.1nm,0.8s,baz=247,slow=4.7,SNR=16
SONA1 Songino Array 81.27 40 *e*P **P** **02 34 04.7 +1.6**
ULN Ulaanbaatar 81.69 41*ce*P **P** **02 34 06.4 +1.0**
ULN *i* *PP **sP** **02 34 13.6 +2.0**
ULN pmax pmax
comp=Z,5.0nm,0.9s
ULN Ulaanbaatar 81.69 41 *e*P **P** **02 34 06.8 +1.4**
comp=Z,3.9nm,0.8s
NRIK Noril'sk 81.81 17 P **P** **02 34 06.6 +1.3**
comp=Z,1.4nm,0.4s,baz=201,slow=8.6,SNR=3.0
HHC Hu-ho-hao-te 83.18 48 *e*P **P** **02 34 13.0 -0.3**
HHC PP **PP** **02 37 26.4 +1.7**
HHC SKS **S** **02 44 30.4 -2.9**
HHC S **SKSac** **02 44 31.8 -3.5**
HHC pmax pmax
comp=Z,42nm,1.3s
HHC pmax pmax
comp=Z,120nm,5.5s
HHC LR LR
comp=Z,200nm,14.9s
HHC LR LR
comp=Z,240nm,16.2s
HHC LR LR
comp=Z,190nm,13.7s
QSPA South Pole Qui 85.77 180 *e*P **P** **02 34 27.0 +1.1**
comp=Z,10nm,1.1s
NJ2 Nanjing 87.62 58 *e*P **P** **02 34 36.3 +0.8**
NJ2 pmax pmax
comp=Z,17nm,0.6s
FITZ Fitzroy Crossi 89.94 108 P **P** **02 34 47.7 +1.0**
comp=Z,3.1nm,0.9s,baz=238,slow=9.7,SNR=3.9
VNDA Vanda 93.42 170 P **P** **02 35 02.3 +0.7**
comp=Z,1.4nm,0.7s,baz=282,slow=6.3,SNR=10
PTGA Pitinga 94.22 269 *e*P **P** **02 35 09.3 +2.7**
comp=Z,7.5nm,1.0s
ASAR Alice Springs 97.04 114 P **P** **02 35 18.6 -0.7**
comp=Z,0.7nm,0.9s,baz=254,slow=5.7,SNR=3.8
AS31 Alice Springs 97.04 114 *e*P **P** **02 35 18.6 -0.7**
comp=Z,4.0nm,0.6s
ILAR Eielson Array 119.63 1 PKP **PKPdf** **02 40 35.2 -1.1**
comp=Z,0.3nm,0.9s,baz=342,slow=5.7,SNR=3.6
ILB Eielson Array 119.63 1 *e*PKPdf **PKPdf** **02 40 35.2 -1.1**
BOZ Bozeman (W) 129.27 329 *e*PKIKP **PKPdf** **02 40 57.2 +1.6**
BOZ Bozeman (W) 129.27 329 *e*PKPdf **PKPdf** **02 40 57.2 +1.6**
BW06 Boulder Array 130.05 325 *e*PKPdf **PKPdf** **02 40 57.9 +0.7**
PD31 Pinedale Array 130.05 325 *e*PKPdf **PKPdf** **02 40 58.5 +1.2**
PDAR Pinedale Array 130.05 325 PKP **PKPdf** **02 40 58.5 +1.2**
comp=Z,0.6nm,0.8s,baz=72,slow=4.8,SNR=5.3
LTX Lajitas 133.09 307 *e*PKIKP **PKPdf** **02 41 01.1 -2.1**
LTX Lajitas 133.09 307 *e*PKPdf **PKPdf** **02 41 01.1 -2.1**
TXAR Lajitas Array 133.09 307 PKhKP PKPpre 02 41 01.1
comp=Z,0.3nm,0.9s,baz=113,slow=7.0,SNR=2.6

JMA 20 02:24:29.0±0.2, 35.74N×140.96E, h13km±1km, M3.1,
Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CHOJ	**Chosi**	**0.09**	**246**	P	Pg	02 24 31.7	-0.2
CHOJ				S	Sg	02 24 33.8	-0.1
JCN	**Nagara**	**0.70**	**243**	P	Pb	02 24 43.4	+0.4
JCN				*e*S	Sb	02 24 53.7	+1.2
JHO	**Hitachi**	**0.93**	**340**	P	Pg	02 24 45.5	-1.4
JHO				S	Sg	02 24 58.8	-0.2
MAT	**Matsushiro**	**2.37**	**291**	P	Pn	02 25 06.9	-0.7
MAT				*e*S	Sn	02 25 38.2	+1.7

*BJI **20** 02:31:00.0, 1.°40S×131.°92E, h41km, mb4.7/18, mB5.1/12, Ms4.8/6, Ms7 4.3/6*

*IDC **20** 02:31:02.8±0.7, 0.°75S×130.°82E, h0km, mb4.2/9, mb1 4.3/11, mb1mx4.1/27, mbtmp4.2/11, ML4.2/2, MS3.1/2, Ms1 3.1/2, ms1mx2.7/40, Error ellipse: s-maj=18.0km s-min=10.9km az=35.0*

*ISCJB **20** 02:31:05.5±0.3, 0.°64S±0.°03×131.°33E±0.°04, h33km, mb4.7/28, MS4.1/2, Error ellipse: s-maj=5.7km s-min=3.8km az=164.5*

*NEIC **20** 02:31:07.2±0.3, 0.°71S×131.°37E, h35km, mb4.6/15, Error ellipse: s-maj=14.9km s-min=5.3km az=70.0*

NEIC Felt [IV] at Sorong.

*DJA **20** 02:31:07.0±1.0, 1.°5S±3.°3×13.°1E±.°, h11km±7km, M4.5/11, mB6.0/1, mb4.5/6, MLv4.5/11, Mw(mB)5.6/1*

ISC 20 02:31:07.1±0.4, 0.°68S±0.°05×131.°36E±0.°06, h35km, n70, σ1§89/77, mb4.8/28, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SIJI	**Sorong**	**0.21**	**206**	Pg	**Pn**	**02 31 11.8**	**-2.3**
	37nm,0.3s,baz=90,slow=24,SNR=208						
SIJI				Lg	Lg	02 31 15.2	
	52nm,0.3s,baz=270,slow=20,SNR=113						
FAKI	**Fak Fak**	**2.40**	**158**	P	**Pn**	**02 31 46.6**	**+2.7**
FAKI				S	**Sn**	**02 32 13.7**	**+1.6**
FAKI	**Fak Fak**	**2.40**	**158**	*e*Pn	**Pn**	**02 31 45.4**	**+1.4**
FAKI				*e*Sn	**Sn**	**02 32 13.1**	**+1.1**
MSAI	**Masohi**	**3.59**	**222**	P	**Pn**	**02 32 01.2**	**+0.9**
MSAI				S	**Sn**	**02 32 44.2**	**+2.6**
LBMI	**Labuha**	**3.85**	**271**	P	**Pn**	**02 32 02.7**	**-1.3**
LBMI				S	**Sn**	**02 32 46.0**	**-2.1**
BNDI	**Bandanaira**	**4.08**	**201**	P	**Pn**	**02 32 09.7**	**+2.6**
BNDI				S	**Sn**	**02 32 57.5**	**+3.8**
AAI	**Ambon**	**4.35**	**227**	P	**Pn**	**02 32 11.4**	**+0.7**
AAI				S	**Sn**	**02 33 01.3**	**+1.1**
NLAI	**Namlea**	**4.96**	**239**	P	**Pn**	**02 32 19.0**	**-0.1**
SAUI	**Saumlaki**	**7.25**	**180**	P	**Pn**	**02 32 54.6**	**+3.9**
	237nm,1.1s,0.8nm						
SGSI	**Sangihe**	**7.26**	**307**	P	**Pn**	**02 32 49.6**	**-1.2**
	310nm,0.8s,10μm1.7nm						
KMSI	**Cibinong**	**7.48**	**280**	P	**Pn**	**02 32 52.5**	**-1.3**
	207nm,0.8s,1.4nm						
GTOI	**Gorontalo**	**8.45**	**279**	P	**Pn**	**02 33 08.4**	**+1.3**
	11nm,0.7s						
MTN	**Manton Dam**	**12.09**	**181**	*e*Pn	**Pn**	**02 33 55.4**	**-1.6**
MTN				*e*Sn	**Sn**	**02 36 03.6**	**-7.0**
COEN	**Coen**	**17.63**	**139**	*e*Pn	**Pn**	**02 35 08.8**	**-1.4**
	27nm,1.5s						
PMG	**Port Moresby**	**17.96**	**119**	LR	LR	02 44 09.9	
	comp=Z,95nm,20.0s,baz=258,slow=43						
FITZ	**Fitzroy Crossi**	**18.20**	**198**	P	**P**	**02 35 13.4**	**-3.7**
	0.5nm,0.3s,baz=36,slow=11,SNR=15						
FITZ				S	Sn	02 38 25.3	-14
	0.1nm,0.3s,baz=72,slow=20,SNR=2.2						
FITZ				LR	LR	02 42 03.1	
	comp=Z,49nm,21.4s,baz=14,slow=37						
FITZ	**Fitzroy Crossi**	**18.20**	**198**	*e*P	**P**	**02 35 16.1**	**-1.0**
FITZ				*e*Sn	Sn	02 38 25.3	-14
JAGI	**Jajag, Banyuwa**	**18.80**	**245**	*e*P	**P**	**02 35 20.4**	**-3.4**
	52nm,1.4s						
WR1	**Warramunga Arr**	**19.37**	**172**	*e*P	**P**	**02 35 30.1**	**+0.2**
	7.1nm,0.6s						
WR1				*e*S	S	02 38 54.8	-12
WRA	**Warramunga Arr**	**19.37**	**172**	P	**P**	**02 35 30.1**	**+0.2**
	0.8nm,0.3s,baz=354,slow=13,SNR=13						
WRA				S	S	02 38 54.8	-12
	0.3nm,0.3s,baz=0.8,slow=21,SNR=6.2						
WRA	**Warramunga Arr**	**19.37**	**172**	P	**P**	**02 35 30.1**	**+0.2**
WRA	**Warramunga Arr**	**19.37**	**172**	P	**P**	**02 35 30.1**	**+0.2**
WB2	**Warramunga Arr**	**19.37**	**171**	*e*P	**P**	**02 35 29.4**	**-0.6**
	7.7nm,0.9s						
WB2				*e*S	S	02 38 54.4	-13
AS31	**Alice Springs**	**22.98**	**174**	*e*P	**P**	**02 36 09.6**	**+0.7**
	4.0nm,0.6s						
AS31				*e*S	**S**	**02 40 18.8**	**+1.8**
ASAR	**Alice Springs**	**22.98**	**174**	P	**P**	**02 36 09.7**	**+0.8**
	4.0nm,0.5s,baz=352,slow=11,SNR=28						
ASAR				S	**S**	**02 40 18.8**	**+1.8**
	1.2nm,0.9s,baz=358,slow=20,SNR=4.5						
AS01	**Alice Springs**	**22.99**	**174**	*e*P	**P**	**02 36 08.7**	**-0.2**
CTA	**Charters Tower**	**24.18**	**144**	P	**P**	**02 36 22.7**	**+2.3**
	6.2nm,0.8s,baz=308,slow=11,SNR=6.6						
CTAO	**Charters Tower**	**24.18**	**144**	*e*P	**P**	**02 36 19.1**	**-1.4**
	6.0nm,0.8s						
YOJ	**Yonaguni jima**	**26.27**	**343**	*e*P	**P**	**02 36 38.7**	**-0.6**
	432nm,1.5s						
STKA	**Stephens Creek**	**32.50**	**164**	P	**P**	**02 37 36.1**	**+1.5**
	2.0nm,0.4s,baz=340,slow=10.0,SNR=4.7						
STKA	**Stephens Creek**	**32.50**	**164**	*e*P	**P**	**02 37 33.8**	**-0.8**
	2.6nm,1.2s						
NJ2	**Nanjing**	**34.64**	**341**	*e*P	**P**	**02 37 52.3**	**-0.9**
NJ2				pmax	pmax		
	comp=Z,11nm,0.5s						
ARMA	**Armidale**	**35.29**	**149**	*e*P	**P**	**02 37 57.8**	**-1.2**
	35nm,1.6s						
GYA	**Guiyang**	**35.98**	**320**	*e*P	**P**	**02 38 07.3**	**+2.3**
GYA				pmax	pmax		
	comp=Z,10.0nm,0.8s						
CM31	**Chiang Mai Arr**	**37.10**	**302**	*e*P	**P**	**02 38 15.6**	**+1.1**
CMAR	**Chiang Mai Arr**	**37.10**	**302**	P	**P**	**02 38 15.6**	**+1.1**
	2.3nm,0.7s,baz=118,slow=6.7,SNR=9.7						
MAJO	**Matsushiro**	**37.58**	**9**	*e*P	**P**	**02 38 14.1**	**-4.3**
	31nm,1.4s						
H11N1	**WAKE ISLAND Hy**	**40.30**	**58**	T	T	03 21 38.5	
	baz=245,slow=75,SNR=24						
H11N2	**WAKE ISLAND Hy**	**40.31**	**58**	T	T	03 21 40.4	
	baz=245,slow=75,SNR=14						
H11N3	**WAKE ISLAND Hy**	**40.32**	**58**	T	T	03 21 37.0	
	baz=245,slow=75,SNR=26						
CD2	**Chengdu**	**40.92**	**323**	*e*P	**P**	**02 38 49.1**	**+2.7**
CD2				pmax	pmax		
	comp=Z,10.0nm,1.0s						
LZH	**Lanzhou**	**44.65**	**328**	*e*P	**P**	**02 39 18.6**	**+1.9**
LZH				pP	sP	02 39 30.0	-1.2
LZH				sP	pP	02 39 34.8	+7.8
LZH				PP	**PP**	**02 41 04.5**	**+3.1**
LZH				pmax	pmax		
	comp=Z,25nm,1.1s						
LZH				pmax	pmax		
	comp=Z,76nm,5.6s						
LZH				LR	LR		
	comp=N,250nm,13.3s						
LZH				LR	LR		
	comp=E,260nm,13.5s						
LZH				LR	LR		
	comp=Z,340nm,17.4s						
USRK	**Ussuriysk Ar.**	**44.69**	**1**	P	**P**	**02 39 18.1**	**+1.5**
	1.6nm,0.5s,baz=165,slow=6.0,SNR=4.9						
HHC	**Hu-ho-hao-te**	**45.09**	**339**	*e*P	**P**	**02 39 22.4**	**+2.4**
HHC				pmax	pmax		
	comp=Z,21nm,1.1s						
HHC				pmax	pmax		
	comp=Z,160nm,5.3s						
OUZ	**Omahuta**	**52.20**	**136**	*e*P	**P**	**02 40 13.6**	**-1.1**
	231nm,1.9s						
PETK	**Petropavlovsk-**	**57.94**	**18**	P	**P**	**02 40 57.7**	**+1.9**
	1.1nm,0.3s,baz=235,slow=5.1,SNR=2.9						
PEA1	**Petropavlovsk-**	**57.94**	**18**	*e*P	**P**	**02 40 57.7**	**+1.9**
WMQ	**Urumqi**	**58.97**	**324**	P	**P**	**02 41 03.3**	**0.0**
WMQ				pP	pP	02 41 15.6	+1.6
WMQ				sP	sP	02 41 23.3	+5.2
WMQ				ScS	**ScS**	**02 50 48.6**	**-2.2**
WMQ				pmax	pmax		
	comp=Z,9.0nm,0.7s						
WMQ				pmax	pmax		
	comp=Z,110nm,5.1s						
WMQ				LR	LR		
	comp=N,53nm,20.9s						
WMQ				LR	LR		
	comp=E,92nm,20.9s						
WMQ				LR	LR		
	comp=Z,77nm,20.9s						
MK01	**Makanchi Array**	**63.78**	**325**	*e*P	**P**	**02 41 35.9**	**+0.2**
MK31	**Makanchi Array**	**63.80**	**325**	*e*P	**P**	**02 41 36.6**	**+0.8**
MK32	**Makanchi Array**	**63.80**	**325**	*e*P	**P**	**02 41 36.3**	**+0.5**
MKAR	**Makanchi Array**	**63.80**	**325**	P	**P**	**02 41 36.3**	**+0.5**
	5.2nm,0.7s,baz=116,slow=8.3,SNR=37						
MKAR	**Makanchi Array**	**63.80**	**325**	*e*P	**P**	**02 41 36.6**	**+0.8**
	26nm,0.6s						
MAKZ	**Makanchi**	**63.98**	**325**	*e*P	**P**	**02 41 37.7**	**+0.7**
	6.3nm,0.6s						
KSH	**Kashi**	**64.41**	**315**	*e*P	**P**	**02 41 43.1**	**+3.0**
KSH				pmax	pmax		
	comp=Z,150nm,4.6s						
ZAA0	**Zalesovo Array**	**66.61**	**332**	*e*P	**P**	**02 41 53.5**	**-0.3**
ZALV	**Zalesovo Beam**	**66.61**	**332**	P	**P**	**02 41 53.0**	**-0.8**
	1.5nm,0.5s,baz=115,slow=7.4,SNR=7.4						
ZAA1	**Zalesovo Array**	**66.61**	**332**	*e*P	**P**	**02 41 53.0**	**-0.8**
KURK	**Kurchatov**	**67.93**	**327**	*e*P	**P**	**02 42 03.1**	**+0.8**
	9.2nm,0.8s						
KKAR	**Karatay Array**	**69.59**	**317**	*e*P	**P**	**02 42 13.4**	**+0.6**
	50nm,0.6s						
BRVK	**Borovoye**	**73.59**	**327**	*e*P	**P**	**02 42 37.3**	**+0.6**
	4.8nm,0.8s						
ABKAR	**Akbulak array**	**78.47**	**321**	*e*P	**P**	**02 43 04.8**	**+0.2**
	23nm,0.6s						
VNDA	**Vanda**	**78.53**	**174**	P	**P**	**02 43 06.0**	**+1.6**
	0.5nm,0.7s,baz=326,slow=12,SNR=3.6						
ARU	**Arti**	**81.11**	**328**	*e*P	**P**	**02 43 18.8**	**0.0**
	7.2nm,0.6s						
ILAR	**Eielson Array**	**87.09**	**25**	P	**P**	**02 43 48.0**	**-1.0**
	0.3nm,0.4s,baz=249,slow=5.1,SNR=6.7						
ILB	**Eielson Array**	**87.09**	**25**	*e*P	**P**	**02 43 48.0**	**-1.0**
BR101	**Keskin Array S**	**96.38**	**310**	*e*P	**P**	**02 44 32.0**	**-0.9**
BRTR	**Keskin Array B**	**96.38**	**310**	P	**P**	**02 44 32.0**	**-0.9**
	0.7nm,1.0s,baz=27,slow=1.6,SNR=3.6						
TORD	**Torodi Ar. Bea**	**128.63**	**286**	PKP	**PKPdf**	**02 50 12.3**	**+0.6**
	0.4nm,0.7s,baz=42,slow=2.2,SNR=3.3						
TOA1	**Torodi Ar. Sit**	**128.64**	**286**	*e*PKPdf	**PKPdf**	**02 50 12.3**	**+0.6**

*IDC **20** 02:40:19.2±0.8, 4.°56S×105.°56W, h0km, mb4.3/14, mb1 4.5/14, mb1mx4.4/27, mbtmp4.3/14, MS5.2/18, Ms1 5.2/18, ms1mx5.0/24, Error ellipse: s-maj=29.5km s-min=14.0km az=57.0*

*MOS **20** 02:40:20.9±1.8, 4.°56S×105.°36W, h10km, mb5.2/39, MS5.3/10, Error ellipse: s-maj=16.6km s-min=5.9km az=94.0*

*ISCJB **20** 02:40:21.2±0.3, 4.°43S±0.°04×105.°10W±0.°04, h13km, mb4.9/161, MS5.2/190, Error ellipse: s-maj=6.1km s-min=5.2km az=145.8*

*NEIC **20** 02:40:22.7±0.4, 4.°53S×105.°21W, h10km, mb5.0/150, MS5.3/158, Error ellipse: s-maj=11.3km s-min=6.4km az=62.0*

*BJI **20** 02:40:22.8, 4.°60S×105.°30W, h10km, mB5.5/16, Ms5.8/21, Ms7 5.6/21*

*GCMT **20** 02:40:22.7±0.1, 4.°54S×105.°27W, h16km, MW5.7/132, Moment Tensor Solution. s113,c215; s132,c392; Duration: 1§7 Moment tensor: Scale 10^17^Nm; Mrr-0.49±.03; Mθθ1.29±.03; Mφφ-0.79±.04; Mrθ-0.03±.10; Mθφ3.75±.03; Mφr0.58±.11; Best double couple: M0 3.94000×10^17^ NP1:φ188.00000°, δ87.00000°, λ-171.00000°. NP2:φ98.00000°, δ81.00000°, λ-3.00000°. Principal axes: T 4.1620, Plg4.0000°, Azm323.0000°; N -0.4480, Plg81.0000°, Azm207.0000°; P -3.7180, Plg8.0000°, Azm53.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*

ISC 20 02:40:23.0±0.4, 4.°57S±0.°07×105.°23W±0.°07, h13km, n776, σ1§89/630, mb5.0/161, MS5.3/191, 2C-1D, Central East Pacific Rise

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RPN	**Rapa Nui**	**22.77**	**189**	LR	LR	02 51 55.2	
	comp=Z,5μm,19.9s,baz=358,slow=31						
CMIG	**Matias Romero**	**23.82**	**25**	LR	LR	02 51 26.2	
	comp=Z,1μm,18.3s,baz=176,slow=28						
H06S1	**SOCORRO T**	**23.83**	**346**	T	T	03 10 16.8	
	SNR=10						
H06E1	**SOCORRO T-PHAS**	**23.87**	**347**	T	T	03 10 18.4	
	SNR=28						
H06N1	**SOCORRO T-PHAS**	**23.96**	**346**	T	T	03 10 21.2	
	SNR=17						
CCIG	**Comitan**	**24.43**	**32**	*e*P	**P**	**02 45 40.8**	**-1.1**
	89nm,1.1s						
TGUH	**Tegucigalpa,Un**	**25.68**	**44**	*e*P	**P**	**02 45 50.7**	**-2.3**
	46nm,1.1s						
ATAH	**Atahualpa**	**26.81**	**97**	P	**P**	**02 46 06.0**	**+2.2**
	comp=Z,34nm,1.6s						
OTAV	**Otavalo**	**27.17**	**81**	*e*P	**P**	**02 46 11.3**	**+4.2**
	57nm,1.9s						
OTAV				LR	LR		
	comp=Z,3μm,22.0s						
TUMC	**Tumaco**	**27.23**	**77**	*e*P	**P**	**02 46 04.9**	**-2.1**
	comp=Z,1μm,1.8s						
ZAIG	**Zacatecas**	**27.29**	**5**	*e*P	**P**	**02 46 09.0**	**+1.2**
	comp=Z,34nm,1.6s						
BCIP	**Isla Barro Col**	**28.75**	**62**	PFAKE		02 46 30.0	+9.4
BCIP				LR	LR		
	comp=Z,13μm,19.0s						
LPIG	**La Paz**	**28.92**	**350**	LR	LR	02 54 54.6	
	comp=Z,9μm,20.4s,baz=136,slow=30						
NNA	**Nana**	**29.02**	**106**	LR	LR	02 54 47.9	
	comp=Z,7μm,21.1s,baz=275,slow=30						
TEIG	**Tepich**	**29.74**	**34**	PFAKE		02 46 40.0	+11
TEIG				LR	LR		
	comp=Z,159nm,21.0s						
LNIG	**Linares**	**29.82**	**11**	*e*P	**P**	**02 46 32.6**	**+2.6**
LNIG	**Linares**	**29.82**	**11**	*e*P	**P**	**02 46 28.1**	**-1.9**
	comp=Z,25nm,1.7s						
HPIG		**31.32**	**359**	*e*P	**P**	**02 46 42.7**	**-0.7**
	comp=Z,17nm,1.3s						
GUYC	**Guyana, Colomb**	**31.35**	**72**	*e*P	**P**	**02 46 44.4**	**+0.2**
PTCN	**Pitcairn Islan**	**31.40**	**227**	PFAKE		02 47 00.0	+16
PTCN				LR	LR		
	comp=Z,10μm,22.0s						
PRAC	**Prado**	**31.41**	**75**	*e*P	**P**	**02 46 48.1**	**+3.8**
	comp=Z,14nm,1.0s						
HELC	**Santa Helena**	**31.52**	**70**	*e*P	**P**	**02 46 42.7**	**-2.9**
	comp=Z,43nm,1.3s						
ROSC	**El Rosal**	**32.26**	**74**	P	**P**	**02 46 54.7**	**+2.6**
	comp=Z,2.5nm,0.3s,baz=326,slow=18,SNR=3.0						
ROSC				LR	LR	02 57 29.3	
	comp=Z,3μm,19.5s,baz=254,slow=32						
ROSC	**El Rosal**	**32.26**	**74**	*e*P	**P**	**02 46 54.7**	**+2.6**
	comp=Z,13nm,1.3s						
MOTC	**Monteria, Cord**	**32.32**	**66**	*e*P	**P**	**02 46 51.7**	**-0.5**
933A	**Laredo**	**32.50**	**10**	P	**P**	**02 46 53.2**	**-0.4**
	baz=191						
934A	**Benavides**	**32.63**	**11**	P	**P**	**02 46 53.6**	**-1.1**
	baz=192						
KVTX	**Kingsville**	**32.70**	**12**	PFAKE		02 47 10.0	+15
KVTX				LR	LR		
	comp=Z,5μm,19.0s						
832A	**Faith Ranch, C**	**33.05**	**9**	P	**P**	**02 46 55.3**	**-3.1**
	baz=190,SNR=5.3						
834A	**Tilden**	**33.13**	**11**	P	**P**	**02 46 58.3**	**-0.7**
	baz=192						
833A	**Chaparral WMA,**	**33.18**	**9**	P	**P**	**02 46 59.1**	**-0.4**
	baz=191						
LTX	**Lajitas**	**33.74**	**2**	*e*P	**P**	**02 47 02.7**	**-1.8**
LTX				*e*		02 49 44.3	
LTX	**Lajitas**	**33.74**	**2**	*e*P	**P**	**02 47 02.6**	**-1.8**
LTX				*e*PcP	**PcP**	**02 49 44.3**	**+0.2**
RUSC	**La Rusia**	**33.74**	**72**	*e*P	**P**	**02 47 06.9**	**+1.7**
RUSC	**La Rusia**	**33.74**	**72**	*e*P	**P**	**02 47 06.8**	**+1.6**
	comp=Z,11nm,1.2s						
TX31	**Lajitas Ar. Si**	**33.74**	**2**	*e*P	**P**	**02 47 02.6**	**-1.9**
TXAR	**Lajitas Array**	**33.74**	**2**	P	**P**	**02 47 02.6**	**-1.9**
	comp=Z,2.2nm,0.7s,baz=188,slow=10.0,SNR=20						
TXAR				PcP	**PcP**	**02 49 44.3**	**+0.2**
	comp=Z,0.4nm,0.7s,baz=165,slow=3.7,SNR=3.8						
TXAR				LR	LR	02 58 25.6	
	comp=Z,4μm,20.8s,baz=0.0,slow=32						
TXAR	**Lajitas Array**	**33.74**	**2**	PcP	**PcP**	**02 49 44.3**	**+0.2**
734A	**La Parita Cree**	**33.84**	**11**	P	**P**	**02 47 04.5**	**-0.7**
	baz=192						
BARC	**Barichara**	**33.86**	**71**	*e*P	**P**	**02 47 05.6**	**-0.3**
RKT	**Rikitea**	**34.14**	**234**	*e*S	**S**	**02 52 35.8**	**+1.8**
	comp=Z,1μm,27.8s						
RKT				*e*LQ	LQ	02 54 49.7	
	comp=Z,2μm,34.2s						
RKT				*e*LR	LR	02 56 16.6	
	comp=Z,12μm,27.8s,baz=55						
RKT	**Rikitea**	**34.14**	**234**	*e*T	T	03 22 54.6	
	comp=Z,6.6nm,0.3s						
633A	**Saathoff Ranch**	**34.33**	**9**	P	**P**	**02 47 07.0**	**-2.4**
	baz=191,SNR=5.4						
635A	**Leesville**	**34.51**	**12**	P	**P**	**02 47 10.3**	**-0.7**
	baz=193						
636A	**Smothers Creek**	**34.75**	**13**	P	**P**	**02 47 12.0**	**-1.1**
	baz=194						
533A	**Kerrville**	**34.95**	**9**	P	**P**	**02 47 13.0**	**-1.9**
	baz=191						
JCT	**Junction City**	**35.23**	**8**	P	**P**	**02 47 15.5**	**-1.9**
	baz=189,SNR=5.4						
JCT	**Junction City**	**35.23**	**8**	*e*P	**P**	**02 47 17.4**	**0.0**
JCT				pmax	pmax		
	comp=Z,39nm,1.4s						
JCT				MLR	MLR		
	comp=Z,2μm,21.0s						
JCT	**Junction City**	**35.23**	**8**	*e*P	**P**	**02 47 17.4**	**0.0**
	comp=Z,39nm,1.4s						
JCT				LR	LR		
	comp=Z,2μm,21.0s						
MTDJ	**Mount Denham**	**35.48**	**50**	PFAKE		02 47 30.0	+10
MTDJ				LR	LR		
	comp=Z,3μm,22.0s						
537A	**Green Hill Far**	**35.49**	**13**	P	**P**	**02 47 17.6**	**-1.9**
	baz=195						
433A	**Art**	**35.61**	**9**	P	**P**	**02 47 19.1**	**-1.5**
	baz=190,SNR=5.0						
434A	**Burnet**	**35.80**	**10**	P	**P**	**02 47 20.7**	**-1.5**
	baz=192						
435B	**Jarrell**	**35.90**	**11**	P	**P**	**02 47 21.5**	**-1.5**
	baz=193						
319A	**Douglas**	**35.95**	**354**	*e*P	**P**	**02 47 22.5**	**-1.1**
	comp=Z,68nm,1.9s						
436A	**Wall Ranch, Ga**	**36.05**	**12**	P	**P**	**02 47 24.0**	**-0.3**
	baz=194						
MNTX	**Cornudas Mount**	**36.06**	**360**	P	**P**	**02 47 22.7**	**-1.7**
	baz=180,SNR=12						
MNTX	**Cornudas Mount**	**36.06**	**360**	*e*P	**P**	**02 47 23.2**	**-1.2**
	comp=Z,51nm,2.0s						
MNTX				LR	LR		
	comp=Z,2μm,19.0s						
333A	**Richland Sprin**	**36.18**	**9**	P	**P**	**02 47 23.6**	**-1.9**
	baz=190,SNR=8.5						
334A	**Lometa**	**36.32**	**10**	P	**P**	**02 47 25.3**	**-1.3**
	baz=192,SNR=7.9						
438A	**Sam Houston St**	**36.34**	**14**	P	**P**	**02 47 26.0**	**-0.7**
	baz=196						
335A	**Moody**	**36.42**	**11**	P	**P**	**02 47 26.7**	**-0.7**
	baz=193						
336A	**Riesel**	**36.64**	**12**	P	**P**	**02 47 28.2**	**-1.1**
	baz=194						
337A	**Centerville**	**36.78**	**13**	P	**P**	**02 47 30.6**	**0.0**
	baz=196						
233A	**Rising Star**	**36.88**	**9**	P	**P**	**02 47 30.0**	**-1.5**
	baz=190,SNR=5.1						
338A	**Crockett**	**36.95**	**14**	P	**P**	**02 47 30.5**	**-1.5**
	baz=196						
441A	**DeRidder**	**36.95**	**17**	P	**P**	**02 47 30.1**	**-1.9**
	baz=200						
121A	**Cookes Peak, D**	**36.97**	**356**	P	**P**	**02 47 31.4**	**-1.0**
	baz=176						
234A	**Clairette**	**36.99**	**10**	P	**P**	**02 47 31.2**	**-1.2**
	baz=192,SNR=6.9						
SDV	**Santo Domingo**	**36.99**	**69**	PFAKE		02 47 40.0	+7.2
SDV				LR	LR		
	comp=Z,5μm,21.0s						
214A	**Organ Pipe Nat**	**37.03**	**349**	P	**P**	**02 47 31.4**	**-1.3**
	baz=167						
TUC	**Tucson**	**37.05**	**352**	P	**P**	**02 47 32.0**	**-0.9**
	baz=171						
TUC	**Tucson**	**37.05**	**352**	*e*P	**P**	**02 47 36.0**	**+3.0**
TUC				pmax	pmax		
	comp=Z,9.0nm,1.4s						
TUC				MLR	MLR		
	comp=Z,8μm,20.0s						
TUC	**Tucson**	**37.05**	**352**	*e*P	**P**	**02 47 36.0**	**+3.0**
	comp=Z,9.2nm,1.4s						
TUC				LR	LR		
	comp=Z,8μm,20.0s						
WHTX	**Lake Whitney,**	**37.10**	**11**	P	**P**	**02 47 31.7**	**-1.5**
	baz=193,SNR=5.7						
WHTX	**Lake Whitney,**	**37.10**	**11**	*e*P	**P**	**02 47 33.3**	**+0.1**
	comp=Z,23nm,1.0s						
339A	**Huntington**	**37.12**	**15**	P	**P**	**02 47 31.9**	**-1.5**
	baz=198						
236A	**Katherine and**	**37.29**	**12**	P	**P**	**02 47 33.4**	**-1.5**
	baz=194						
ABTX	**Abilene, Hawle**	**37.36**	**8**	P	**P**	**02 47 34.0**	**-1.6**
	baz=189,SNR=13						
ABTX	**Abilene, Hawle**	**37.36**	**8**	*e*P	**P**	**02 47 35.2**	**-0.4**
	comp=Z,60nm,1.4s						
340A	**Bronson**	**37.38**	**16**	P	**P**	**02 47 35.3**	**-0.4**
	baz=199						
NATX	**Nacogdoches**	**37.50**	**15**	PFAKE		02 47 50.0	+13
NATX				LR	LR		
	comp=Z,1μm,19.0s						
341A	**Kurthwood**	**37.51**	**17**	P	**P**	**02 47 34.0**	**-2.7**
	baz=200						
136A	**Ennis**	**37.75**	**12**	P	**P**	**02 47 35.0**	**-3.8**
	baz=194						
PB11	**IPOC Station P**	**37.79**	**117**	*e*P	**P**	**02 47 39.3**	**-0.3**
	comp=Z,23nm,1.2s						
342A	**Flagon Creek P**	**37.80**	**18**	P	**P**	**02 47 36.9**	**-2.3**
	baz=201						
445A	**Amite**	**37.88**	**21**	P	**P**	**02 47 37.5**	**-2.3**
	baz=204						
113A	**Mohawk Valley,**	**38.00**	**348**	*e*P	**P**	**02 47 40.8**	**-0.1**
	comp=Z,31nm,1.6s						
137A	**Heron Place, G**	**38.04**	**13**	P	**P**	**02 47 37.8**	**-3.4**
	baz=195						
LPAZ	**La Paz**	**38.22**	**111**	P	**P**	**02 47 44.1**	**+0.3**
	comp=Z,5.0nm,1.0s,baz=276,slow=5.9,SNR=11						
LPAZ				LR	LR	03 01 12.5	
	comp=Z,2μm,19.3s,baz=274,slow=32						
LPAZ	**La Paz**	**38.22**	**111**	*e*P	**P**	**02 47 41.0**	**-2.7**
LPAZ	**La Paz**	**38.22**	**111**	*e*P	**P**	**02 47 41.0**	**-2.7**
241A	**Mo Tay, Goldon**	**38.23**	**17**	P	**P**	**02 47 41.7**	**-1.1**
	baz=200						
138A	**Matatall Enter**	**38.25**	**14**	P	**P**	**02 47 42.7**	**-0.3**
	baz=196						
GTBY	**Guantanamo Bay**	**38.33**	**50**	PFAKE		02 48 00.0	+16
GTBY				LR	LR		
	comp=Z,3μm,20.0s						
344A	**Westbrook Farm**	**38.39**	**20**	P	**P**	**02 47 43.4**	**-0.8**
	baz=204						
MSTX	**Muleshoe**	**38.40**	**3**	P	**P**	**02 47 42.8**	**-1.5**
	baz=184,SNR=7.4						
MSTX	**Muleshoe**	**38.40**	**3**	*e*P	**P**	**02 47 44.0**	**-0.4**
	comp=Z,19nm,0.9s						
IKP	**In-Ko-Pah, Jac**	**38.43**	**345**	P	**P**	**02 47 42.0**	**-2.6**
	baz=162						
Y22D	**IRIS PASSCAL I**	**

VBMS	Vicksburg	39.17	20	eP		P	02 47 48.7	-2.0	
	comp=Z,36nm,1.3s								
Y36A	Durant	39.18	12	P		P	02 47 50.0	-0.8	
	baz=194,SNR=6.0								
245A	Little AP, Sta	39.21	21	P		P	02 47 51.0	0.0	
	baz=204								
X16A	Lo Mia Camp, P	39.22	352	eP		P	02 47 50.1	-1.2	
	comp=Z,16nm,1.5s								
BC3	Big Chuckawall	39.23	346	P		P	02 47 50.6	-0.7	
	baz=164								
Z40A	Long Farm, Mag	39.25	16	P		P	02 47 51.8	+0.4	
	baz=199								
ANMO	Albuquerque	39.32	358	LR		LR	03 01 20.7		
	comp=Z,2µm,20.6s,baz=186,slow=32								
ANMO	Albuquerque	39.32	358	P		P	02 47 51.6	-0.6	
	baz=178								
ANMO	Albuquerque	39.32	358	eP		P	02 47 53.1	+0.9	
ANMO				pmax		pmax			
	comp=Z,7.0nm,1.1s								
ANMO	Albuquerque	39.32	358	eP		P	02 47 53.1	+0.9	
	comp=Z,6.6nm,1.1s								
143A	Socs Landing,	39.32	19	P		P	02 47 50.8	-1.1	
	baz=202								
AMTX	Amarillo	39.38	5	P		P	02 47 50.6	-2.0	
	baz=186								
AMTX	Amarillo	39.38	5	eP		P	02 47 51.3	-1.3	
	comp=Z,31nm,1.2s								
348A	Jackson	39.41	24	P		P	02 47 51.5	-1.2	
	baz=208								
Z41A	Richland Creek	39.42	16	P		P	02 47 51.6	-1.1	
	baz=200								
TPFO	Pinon Flats	39.42	345	P		P	02 47 50.3	-2.7	
	baz=162								
LVC	Limon Verde	39.43	120	P		P	02 47 52.8	-0.8	
	comp=Z,30nm,1.1s,baz=236,slow=9.7,SNR=5.9								
LVC	Limon Verde	39.43	120	eP		P	02 47 52.7	-0.8	
	comp=Z,38nm,1.4s								
LVC				LR		LR			
	comp=Z,5µm,20.0s								
PFO	Pinyon Flats O	39.43	345	P		P	02 47 49.0	-4.1	
	comp=Z,0.9nm,0.5s,baz=158,slow=7.4,SNR=2.9								
PFO				LR		LR	03 00 12.9		
	comp=Z,9µm,21.1s,baz=158,slow=30								
PFO	Pinyon Flats O	39.43	345	eP		P	02 47 50.3	-2.8	
PFO				pmax		pmax			
	comp=Z,14nm,1.2s								
PFO	Pinyon Flats O	39.43	345	eP		P	02 47 50.3	-2.8	
	comp=Z,14nm,1.2s								
X35A	Drake	39.53	11	P		P	02 47 52.9	-0.8	
	baz=193,SNR=7.5								
BRAL	Brewton	39.55	25	PFAKE			02 48 00.0	+6.1	
BRAL				LR		LR			
	comp=Z,1µm,21.0s								
Y38A	Idabel	39.55	14	P		P	02 47 53.2	-0.7	
	baz=196								
WMOK	Wichita Mounta	39.56	8	P		P	02 47 52.3	-1.7	
	baz=190,SNR=6.4								
WMOK	Wichita Mounta	39.56	8	eP		P	02 47 52.5	-1.5	
WMOK				pmax		pmax			
	comp=Z,24nm,1.5s								
WMOK				MLR		MLR			
	comp=Z,754nm,20.0s								
WMOK	Wichita Mounta	39.56	8	eP		P	02 47 52.5	-1.5	
	comp=Z,24nm,1.5s								
WMOK				LR		LR			
	comp=Z,754nm,20.0s								
PDMCI	Parker Dam,Lak	39.56	348	P		P	02 47 53.1	-0.9	
	baz=166								
IRM	Iron Mountain	39.64	347	P		P	02 47 54.1	-0.6	
	baz=164								
Z42A	Norrel Spur, H	39.68	18	P		P	02 47 53.8	-1.1	
	baz=201								
BELC	Belle Mtn. Jos	39.69	346	P		P	02 47 52.9	-2.3	
	baz=163								
247A	Quitman	39.70	22	P		P	02 47 54.7	-0.4	
	baz=206								
Y39A	Lockesburg	39.72	15	P		P	02 47 55.3	+0.1	
	baz=197								
145A	Houston Renfro	39.72	20	P		P	02 47 54.5	-0.8	
	baz=204								
WLAR	White Oak Lake	39.74	16	eP		P	02 47 54.2	-1.2	
	comp=Z,51nm,1.2s								
X36A	Centrahoma	39.82	11	P		P	02 47 54.6	-1.5	
	baz=194,SNR=5.8								
Y40A	Okolona	40.00	16	P		P	02 47 57.6	0.0	
	baz=199								
X37A	Clayton	40.04	13	P		P	02 47 58.0	+0.1	
	baz=195								
Y41A	Eaglette Beard	40.06	16	P		P	02 47 57.3	-0.7	
	baz=200								
146A	Union	40.06	21	P		P	02 47 58.9	+0.7	
	baz=205								
248A	Dixon Mills	40.08	23	P		P	02 47 58.2	-0.1	
	baz=208								
NEE2	Needles Airpor	40.11	348	P		P	02 47 57.7	-0.9	
	baz=165								
X38A	Whitesboro	40.24	13	P		P	02 47 59.3	-0.3	
	baz=196								
Y42A	Garnett, Star	40.25	17	P		P	02 47 59.7	0.0	
	baz=201								
X39A	Fountain Ranch	40.26	14	P		P	02 47 59.4	-0.4	
	baz=197								
W35A	Tecumseh	40.28	11	P		P	02 47 58.9	-1.1	
	baz=193								
W13A	Hualapai Mount	40.29	349	eP		P	02 47 58.4	-1.9	
	comp=Z,21nm,1.6s								
WUAZ	Wupatki	40.29	352	P		P	02 47 58.8	-1.4	
	baz=170								
WUAZ	Wupatki	40.29	352	eP		P	02 48 00.8	+0.7	
WUAZ				LR		LR			
	comp=Z,3µm,19.0s								
CCAR	Cane Creek	40.33	17	eP		P	02 47 59.3	-1.1	
	comp=Z,54nm,1.4s								
BFSC	Mount Baldy Ra	40.34	344	P		P	02 47 59.5	-1.1	
	baz=161								
GMRC	Granite Mounta	40.35	347	P		P	02 47 59.3	-1.5	
	baz=164								
147A	Livingston	40.38	22	P		P	02 47 59.6	-1.2	
	baz=206								
W36A	Wetumka	40.39	11	P		P	02 47 59.0	-1.9	
	baz=194,SNR=5.9								
MIAR	Mount Ida	40.42	15	P		P	02 47 59.8	-1.3	
	baz=198,SNR=14								
MIAR	Mount Ida	40.42	15	eP		P	02 48 00.4	-0.8	
MIAR				pmax		pmax			
	comp=Z,87nm,1.6s								
MIAR				MLR		MLR			
	comp=Z,935nm,22.0s								
MIAR	Mount Ida	40.42	15	eP		P	02 48 00.4	-0.8	
	comp=Z,87nm,1.6s								
MIAR				LR		LR			
	comp=Z,935nm,22.0s								
MWC	Mount Wilson	40.44	344	eP		P	02 48 00.2	-1.3	
MWC				pmax		pmax			
	comp=Z,46nm,1.8s								
MWC	Mount Wilson	40.44	344	eP		P	02 48 00.2	-1.3	
	comp=Z,46nm,1.8s								
Z45A	Winona	40.50	20	P		P	02 48 01.7	0.0	
	baz=204								
LDFC	Landfair	40.52	347	eP		P	02 48 03.4	+1.4	
	comp=Z,46nm,1.5s								
DECC	Green Verdugo	40.55	343	P		P	02 48 02.3	+0.1	
	baz=160								
W37B	Quinton	40.56	12	P		P	02 48 00.7	-1.5	
	baz=195,SNR=8.8								
HEC	Hector,Ludlow	40.56	346	P		P	02 48 02.1	-0.3	
	baz=163								
X40A	Basin Creek Fa	40.56	16	P		P	02 48 01.9	-0.3	
	baz=199								
Y43A	Makayla and Ka	40.59	18	P		P	02 48 02.5	0.0	
	baz=202								
Z46A	Louisville	40.60	21	P		P	02 48 01.0	-1.6	
	baz=205								
W38A	Poteau	40.69	14	P		P	02 48 02.6	-0.7	
	baz=196								
LCO	Las Campanas	40.76	130	eP		P	02 48 03.2	-1.1	
	comp=Z,80nm,1.7s								
LCO				LR		LR			
	comp=Z,10µm,21.0s								
SDDR	Presa de Saban	40.80	54	PFAKE			02 48 20.0	+15	
SDDR				LR		LR			
	comp=Z,2µm,19.0s								
V35A	Meyer Ranch, C	40.88	10	P		P	02 48 01.9	-3.0	
	baz=193								
Z47A	Carrollton	40.93	22	P		P	02 48 04.9	-0.4	
	baz=207								
X42A	Stuttgart	40.97	17	P		P	02 48 04.9	-0.7	
	baz=201								
UALR	University of	40.97	16	eP		P	02 48 06.6	+1.0	
	comp=Z,21nm,1.4s								
W39A	Magazine	40.99	14	P		P	02 48 05.1	-0.7	
	baz=198								
Y45A	Yeager Farm, C	41.00	20	P		P	02 48 04.3	-1.5	
	baz=204								
EDW2	Edwards Air Fo	41.04	344	P		P	02 48 03.7	-2.6	
	baz=160,SNR=6.2								
TUQ	Turquoise Moun	41.04	347	P		P	02 48 03.8	-2.6	
	baz=164								
V36A	Jenks	41.08	12	P		P	02 48 05.1	-1.4	
	baz=194,SNR=9.9								
GSC	Goldstone, Bar	41.12	346	P		P	02 48 05.2	-1.8	
	baz=162								
GSC	Goldstone, Bar	41.12	346	eP		P	02 48 05.6	-1.4	
GSC				pmax		pmax			
	comp=Z,20nm,1.4s								
GSC	Goldstone, Bar	41.12	346	eP		P	02 48 05.6	-1.4	
	comp=Z,20nm,1.4s								
U32A	Winter Ranch,	41.15	8	P		P	02 48 06.8	-0.3	
	baz=189								
X43A	Marvell	41.16	18	P		P	02 48 06.8	-0.4	
	baz=202								
W40A	Ferguson Farm,	41.17	15	P		P	02 48 07.3	+0.1	
	baz=198								
LRAL	Lakeview Retre	41.20	24	eP		P	02 48 11.5	+4.0	
	comp=Z,11nm,1.0s								
TUL1	Leonard	41.23	12	P		P	02 48 06.6	-1.1	
	baz=194								
TUL1	Leonard	41.23	12	eP		P	02 48 06.3	-1.4	
	comp=Z,41nm,1.1s								
Y46A	Houston	41.25	21	P		P	02 48 05.9	-2.1	
	baz=205,SNR=12								
Z48A	Northport	41.28	23	P		P	02 48 06.0	-2.3	
	baz=207,SNR=6.0								
U15A	North Rim	41.31	351	eP		P	02 48 05.0	-3.7	
	comp=Z,16nm,1.4s								
TIGA	Tifton	41.33	29	P		P	02 48 06.1	-2.5	
	baz=214								
V37A	Hulbert	41.33	12	P		P	02 48 07.0	-1.6	
	baz=195,SNR=6.4								
W41B	Gary Mavity, V	41.37	16	P		P	02 48 06.9	-2.0	
	baz=200,SNR=6.7								
X301	Greenbrier Sit	41.39	16	eP		P	02 48 09.5	+0.5	
	comp=Z,21nm,1.0s								
WHAR	Wooly Hollow	41.47	16	eP		P	02 48 10.0	+0.2	
	comp=Z,165nm,2.0s								
V38A	Canehill	41.48	13	P		P	02 48 09.5	-0.3	
	baz=196								
U35A	Pawnee	41.49	10	P		P	02 48 08.2	-1.8	
	baz=193,SNR=7.3								
T25A	Trinidad	41.50	1	P		P	02 48 09.2	-1.0	
	baz=181								
T25A	Trinidad	41.50	1	eP		P	02 48 10.0	-0.2	
ARVC	Arvin	41.50	343	P		P	02 48 09.4	-0.6	
	baz=159								
LRMC	Laurel Mtn Rad	41.52	345	P		P	02 48 08.0	-2.3	
	baz=161								
X45A	UM Field Stati	41.56	20	P		P	02 48 10.1	-0.4	
	baz=204								
SHOC	Shoshone, Teco	41.56	346	P		P	02 48 09.6	-0.9	
	baz=163								
PKM	Mcpherson Peak	41.58	342	P		P	02 48 10.0	-0.9	
	baz=158								
OXF	Oxford	41.63	20	eP		P	02 48 10.9	-0.2	
OXF				pmax		pmax			
	comp=Z,50nm,1.4s								
OXF	Oxford	41.63	20	eP		P	02 48 10.9	-0.2	
	comp=Z,50nm,1.4s								
V39A	Pettigrew	41.64	14	P		P	02 48 10.8	-0.4	
	baz=197								
Y47A	UCPARC, Winfie	41.64	22	P		P	02 48 11.1	0.0	
	baz=206								
MVCO	Mesa Verde	41.67	356	P		P	02 48 11.0	-0.6	
	baz=175								
MVCO	Mesa Verde	41.67	356	eP		P	02 48 10.8	-0.8	
	comp=Z,27nm,1.3s								
MVCO				LR		LR			
	comp=Z,3µm,21.0s								
U36A	Oologah	41.70	12	P		P	02 48 09.8	-1.8	
	baz=194								
V40A	Witts Springs	41.81	15	P		P	02 48 11.2	-1.3	
	baz=199,SNR=6.7								
U37A	Salina	41.84	12	P		P	02 48 11.3	-1.5	
	baz=195								
SHPR	Sheep Range	41.90	348	eP		P	02 48 13.4	-0.1	
	comp=Z,17nm,1.3s								
ISA	Isabella, Lake	41.90	344	P		P	02 48 11.9	-1.5	
	baz=160								
SAML	Samuel	41.96	98	eP		P	02 48 10.0	-4.1	
SAML				LR		LR			
	comp=Z,29nm,1.1s								
	comp=Z,2µm,21.0s								
KNB	Kanab	41.97	351	eP		P	02 48 14.2	+0.2	
KNB				pmax		pmax			
	comp=Z,21nm,1.2s								
KNB	Kanab	41.97	351	eP		P	02 48 14.2	+0.2	
	comp=Z,21nm,1.2s								
V41A	Mountainview	41.97	16	P		P	02 48 12.7	-1.1	
	baz=200								
HHAR	Hobbs	41.99	14	eP		P	02 48 14.5	+0.5	
	comp=Z,74nm,1.9s								
VPEM	Volcano Peak E	42.00	345	eP		P	02 48 14.6	+0.4	
MPMC	Manual Prospec	42.01	345	P		P	02 48 12.9	-1.6	
	baz=162								
LCMT	Little Creek M	42.03	350	eP		P	02 48 15.8	+1.2	
	comp=Z,31nm,2.0s								
T34A	McClaskey Farm	42.05	10	P		P	02 48 12.6	-1.8	
	baz=192								
T35A	Sooner Cattle	42.06	10	P		P	02 48 12.7	-1.9	
	baz=193								
SDCO	Great Sand Dun	42.10	360	P		P	02 48 13.4	-1.8	
	baz=180								
SDCO	Great Sand Dun	42.10	360	eP		P	02 48 15.9	+0.7	
SDCO				LR		LR			
	comp=Z,2µm,20.0s								
S22A	4UR Ranch, Cre	42.12	358	P		P	02 48 14.3	-1.1	
	baz=178								
S22A	4UR Ranch, Cre	42.12	358	eP		P	02 48 14.9	-0.5	
	comp=Z,21nm,1.4s								
HBAR	Harrisburg	42.19	18	eP		P	02 48 14.5	-1.1	
	comp=Z,24nm,0.8s								
U39A	Green Forest	42.19	14	P		P	02 48 14.2	-1.4	
	baz=198,SNR=5.3								
V42A	Cord	42.21	17	P		P	02 48 14.2	-1.5	
	baz=201,SNR=8.4								
VES	Vestal, Richgr	42.24	343	P		P	02 48 14.7	-1.4	
	baz=159								
FURC	Furnace Creek,	42.25	346	P		P	02 48 14.0	-2.0	
	baz=163								
DAC	Darwin (Calif)	42.25	345	eP		P	02 48 15.8	-0.6	
DAC				pmax		pmax			
	comp=Z,19nm,1.6s								
DAC	Darwin (Calif)	42.25	345	eP		P	02 48 15.8	-0.6	
	comp=Z,19nm,1.6s								
GRTK	Grand Turk	42.28	51	PFAKE			02 48 30.0	+13	
GRTK				LR		LR			
	comp=Z,5µm,20.0s								
W45A	Hickory Valley	42.30	20	P		P	02 48 14.2	-2.3	
	baz=204								
T36A	Boggs Farm, Ca	42.32	11	P		P	02 48 15.1	-1.6	
	baz=194,SNR=9.0								
U40A	Yellville	42.33	15	P		P	02 48 14.9	-1.9	
	baz=198								
PAGB	Antelope Grade	42.49	342	eP		P	02 48 22.5	+4.4	
	comp=Z,58nm,1.8s								
U41A	Viola	42.56	16	P		P	02 48 17.1	-1.6	
	baz=200,SNR=6.3								
TPNV	Topopah Spring	42.56	347	P		P	02 48 17.0	-1.9	
	baz=164								
TPNV	Topopah Spring	42.56	347	eP		P	02 48 19.9	+1.0	
TPNV				pmax		pmax			
	comp=Z,34nm,1.6s								
TPNV	Topopah Spring	42.56	347	eP		P	02 48 19.9	+1.0	
	comp=Z,34nm,1.6s								
T37A	Cheneyville 18	42.58	12	P		P	02 48 18.1	-0.7	
	baz=195								
CCUT	Cedar City	42.58	350	eP		P	02 48 19.9	+0.8	
	comp=Z,29nm,1.8s								
PV05	Paradox Valley	42.58	355	eP		P	02 48 18.1	-0.9	
PV01	Paradox Valley	42.60	356	eP		P	02 48 19.9	+0.6	
T38A	Diamond	42.63	13	P		P	02 48 17.7	-1.5	
	baz=196								
S34A	Willow Spring	42.72	10	P		P	02 48 18.5	-1.5	
	baz=192								
U42A	Revenden	42.76	17	P		P	02 48 19.0	-1.3	
	baz=201,SNR=6.9								
T39A	Clever	42.83	14	P		P	02 48 20.5	-0.3	
	baz=197								
S35A	Otter Creek Ra	42.84	10	P		P	02 48 19.5	-1.4	
	baz=193,SNR=5.9								
GRAC	Grapevine Rang	42.87	346	P		P	02 48 19.5	-1.7	
	baz=162								
V45A	Humboldt	42.90	20	P		P	02 48 20.3	-1.1	
	baz=204								
S36A	Lake Cedric, C	43.02	11	P		P	02 48 21.3	-1.1	
	baz=194								
U43A	Rector	43.02	18	P		P	02 48 21.2	-1.1	
	baz=202								
GOGA	Godfrey	43.03	27	eP		P	02 48 23.4	+0.9	
GOGA				pmax		pmax			
	comp=Z,57nm,1.9s								
GOGA				MLR		MLR			
	comp=Z,2µm,19.0s								
GOGA	Godfrey	43.03	27	eP		P	02 48 23.4	+0.9	
	comp=Z,57nm,1.9s								
GOGA				LR		LR			
	comp=Z,2µm,19.0s								
PMPB	Monarch Peak	43.11	341	eP		P	02 48 26.0	+2.8	
	comp=Z,123nm,1.8s								
TIN	Tinemaha, Big	43.15	345	P		P	02 48 22.8	-0.7	
	baz=161								
T40A	Mansfield	43.16	15	P		P	02 48 23.6	0.0	
	baz=199								
GO05	HualaæØ	43.19	139	eP		P	02 48 24.4	+0.5	
	comp=Z,31nm,1.0s								
S37A	Fort Scott	43.21	12	P		P	02 48 22.4	-1.5	
	baz=195								
T41A	Mountain View	43.26	16	P		P	02 48 23.3	-1.1	
	baz=200,SNR=5.3								
GLAT	Glass	43.28	19	eP		P	02 48 22.5	-2.0	
	comp=Z,48nm,1.0s								
S38A	Stockton	43.28	13	P		P	02 48 23.8	-0.7	
	baz=196								
R34A	Isabella, Hill	43.29	9	P		P	02 48 23.8	-0.7	
	baz=192								
U44B	Burton Farm, H	43.32	19	P		P	02 48 24.0	-0.7	
	baz=203								
MSU	Marysvale	43.34	352	eP		P	02 48 27.6	+2.4	
MSU	Marysvale	43.34	352	eP		P	02 48 27.6	+2.4	
PBMO	Poplar Bluff	43.39	17	eP		P	02 48 24.6	-0.7	
	comp=Z,64nm,1.3s								
KSCO	Kaye Shedlock'	43.43	3	P		P	02 48 25.3	-0.4	
	baz=184								
KSCO	Kaye Shedlock'	43.43	3	eP		P	02 48 26.5	+0.8	
	comp=Z,43nm,1.3s								
T42A	Van Buren	43.43	17	P		P	02 48 25.0	-0.7	
	baz=201								
CBKS	Cedar Bluff	43.46	6	P		P	02 48 24.5	-1.5	
	baz=188								
CBKS	Cedar Bluff	43.46	6	eP		P	02 48 26.4	+0.4	
CBKS				pmax		pmax			
	comp=Z,42nm,1.0s								
CBKS				MLR		MLR			
	comp=Z,8µm,20.0s								
CBKS	Cedar Bluff	43.46	6	eP		P	02 48 26.4	+0.4	
CBKS				LR		LR			
	comp=Z,8µm,20.0s								
S39A	Bolivar	43.48	14	P		P	02 48 24.9	-1.2	
	baz=197,SNR=5.2								
R35A	Emporia Munici	43.49	10	P		P	02 48 25.1	-1.1	
	baz=193								
U45A	Rockin P Farm,	43.52	19	P		P	02 48 25.3	-1.1	
	baz=204								
SWET	Sewanee	43.53	23	eP		P	02 48 26.8	+0.2	
	comp=Z,19nm,1.0s								
SMCO	Snowmass	43.55	358	eP		P	02 48 29.7	+2.6	
	comp=Z,7.8nm,1.0s								
S40A	Lebanon	43.59	15	P		P	02 48 26.1	-0.9	
	baz=198,SNR=5.1								
R36A	Gordon, Harris	43.62	11	P		P	02 48 25.9	-1.3	
	baz=194,SNR=8.8								
WVT	Waverly	43.64	21	eP		P	02 48 26.9	-0.5	
WVT				pmax		pmax			
	comp=Z,119nm,1.8s								
WVT	Waverly	43.64	21	eP		P	02 48 26.9	-0.5	
	comp=Z,119nm,1.8s								
T43A	Greenville	43.72	17	P		P	02 48 26.9	-1.1	
	baz=202								
SRU	San Rafael Swe	43.73	354	eP		P	02 48 29.3	+1.0	
SRU				pmax		pmax			
	comp=Z,9.0nm,1.0s								
SRU	San Rafael Swe	43.73	354	eP		P	02 48 29.3	+1.0	
	comp=Z,9.1nm,1.0s								
R37A	Teagarden Farm	43.74	12	P		P	02 48 26.7	-1.5	
	baz=195								
R11A	Troy Canyon, C	43.77	348	P		P	02 48 27.4	-1.2	
	baz=165,SNR=9.5								
R11A	Troy Canyon, C	43.77	348	eP		P	02 48 28.9	+0.3	
	comp=Z,15nm,1.4s								
S41A	Jillco Farms,	43.78	16	P		P	02 48 27.9	-0.6	
	baz=200,SNR=7.8								
R38A	Fenwick Farm,	43.82	13	P		P	02 48 26.2	-2.6	
	baz=196								
T44A	Benton	43.93	18	P		P	02 48 27.4	-2.3	
	baz=203								
Q34A	Chapman	43.94	9	P		P	02 48 26.1	-3.8	
	baz=192								
TMUT	Trail Mountain	43.99	353	eP		P	02 48 35.5	+4.9	
	comp=Z,31nm,0.4s								
Q35A	Mercer Eighty,	44.04	10	P		P	02 48 27.6	-3.0	
	baz=193								
R39A	Chumby, Stover	44.14	14	P		P	02 48 28.4	-3.0	
	baz=198								
ISCO	Idaho Springs	44.15	360	P		P	02 48 29.2	-2.6	
	baz=179								
ISCO	Idaho Springs	44.15	360	eP		P	02 48 31.3	-0.5	
ISCO				pmax		pmax			
	comp=Z,22nm,1.5s								
ISCO				MLR		MLR			
	comp=Z,2µm,20.0s								
ISCO	Idaho Springs	44.15	360	eP		P	02 48 31.3	-0.5	
	comp=Z,22nm,1.5s								
ISCO				LR		LR			
	comp=Z,2µm,20.0s								
KSU1	Kansas State U	44.17	10	P		P	02 48 29.8	-1.8	
	baz=192								
KSU1	Kansas State U	44.17	10	PFAKE			02 48 40.0	+8.4	
KSU1				LR		LR			
	comp=Z,1µm,19.0s								
S42A	Caledonia	44.21	16	P		P	02 48 29.7	-2.3	
	baz=201								
P18A	Preston Nutter	44.22	354	eP		P	02 48 32.8	+0.5	
	comp=Z,111nm,1.1s								
S43A	Fulton Ridge,	44.23	17	P		P	02 48 28.3	-3.8	
	baz=202								
Q36A	Arnold C. Orve	44.24	11	P		P	02 48 29.6	-2.6	
	baz=194								
CPCT	Cooper Cave	44.30	24	eP		P	02 48 32.7	-0.1	
	comp=Z,22nm,1.0s								
R40A	Maddies Statio	44.30	15	P		P	02 48 31.4	-1.3	
	baz=199,SNR=6.3								
NHSC	New Hope	44.36	31	PFAKE			02 48 40.0	+6.8	
NHSC				LR		LR			
	comp=Z,4µm,21.0s								
Q37A	Longview Farm,	44.36	12	P		P	02 48 30.9	-2.2	
	baz=195								
TVH3	East Aurora ar	44.53	345	eP		P	02 48 35.8	+1.1	
	comp=Z,30nm,1.5s								
TVH2	Borealis Mine	44.53	345	eP		P	02 48 35.4	+0.6	
	comp=Z,28nm,1.6s								
R41A	Rosebud	44.54	16	P		P	02 48 32.8	-1.8	
	baz=200,SNR=6.5								
O20A	White River Ci	44.57	357	P		P	02 48 34.1	-1.0	
	baz=176								

CMB	Columbia Colle	44.66	343	eP		P		02 48 36.7	+1.1	
	comp=Z,20nm,1.4s									
R42A	Luebbering	44.69	16	P		P		02 48 34.6	-1.1	
	baz=201									
P35A	Duane Minner,	44.69	10	P		P		02 48 34.7	-1.1	
	baz=193									
NLU	North Lily Min	44.75	353	eP		P		02 48 42.0	+5.5	
	comp=Z,15nm,1.3s									
JSC	Jenkinsville	44.77	29	eP		P		02 48 40.6	+4.1	
JSC				pmax		pmax				
	comp=Z,33nm,1.3s									
JSC	Jenkinsville	44.77	29	eP		P		02 48 40.5	+4.1	
	comp=Z,33nm,1.3s									
S45A	Carrier Mills	44.79	19	P		P		02 48 34.3	-2.3	
	baz=204									
TKL	Tuckaleechee C	44.79	25	eP		P		02 48 39.5	+2.8	
TKL				pmax		pmax				
	comp=Z,76nm,1.9s									
TKL	Tuckaleechee C	44.79	25	eP		P		02 48 39.5	+2.8	
	comp=Z,76nm,1.9s									
WAKR	Walker	44.83	344	eP		P		02 48 37.6	+0.4	
	comp=Z,47nm,1.7s									
Q39A	Willow Grove F	44.85	14	P		P		02 48 34.8	-2.2	
	baz=197									
R43A	Red Bud	44.93	17	P		P		02 48 36.6	-1.1	
	baz=202									
P36A	Good Intent, A	44.93	11	P		P		02 48 37.0	-0.7	
	baz=194									
O33A	Hebron	44.98	8	P		P		02 48 37.0	-1.1	
	baz=191									
Q40A	Laux Farm, Aux	45.02	15	P		P		02 48 36.2	-2.1	
	baz=199,SNR=6.9									
P37A	Lathrop	45.07	12	P		P		02 48 38.1	-0.7	
	baz=195									
DUG	Dugway, Tooele	45.08	352	P		P		02 48 38.5	-0.6	
	baz=169									
DUG	Dugway, Tooele	45.08	352	eP		P		02 48 39.6	+0.5	
DUG				pmax		pmax				
	comp=Z,22nm,1.4s									
DUG				MLR		MLR				
	comp=Z,4µm,19.0s									
DUG	Dugway, Tooele	45.08	352	eP		P		02 48 39.6	+0.5	
	comp=Z,22nm,1.4s									
DUG				LR		LR				
	comp=Z,4µm,19.0s									
R44A	Waltonville	45.16	18	P		P		02 48 37.6	-1.9	
	baz=203									
Q41A	Truxton	45.20	15	P		P		02 48 39.1	-0.7	
	baz=200									
O34A	Beatrice	45.22	9	P		P		02 48 38.5	-1.4	
	baz=192									
YERR	Yerington	45.23	345	eP		P		02 48 40.5	+0.2	
	comp=Z,40nm,1.6s									
N23A	Red Feather La	45.24	359	P		P		02 48 39.5	-1.0	
	baz=179									
N23A	Red Feather La	45.24	359	eP		P		02 48 41.9	+1.4	
	comp=Z,29nm,1.6s									
PPT	Papeete	45.27	250	LR		LR		03 02 40.7		
	comp=Z,3µm,19.2s,baz=76,slow=30									
PPT2	Papeete2	45.27	250	eS		S		02 55 22.0	+0.7	
	comp=Z,1µm,26.0s									
PPT2				eLQ		LQ		02 59 27.5		
	comp=Z,5µm,28.0s									
PPT2				eLR		LR		03 01 17.4		
	comp=Z,8µm,26.0s,baz=76									
P38A	Dawn	45.28	13	P		P		02 48 39.0	-1.4	
	baz=196									
JLU	Jordanelle	45.31	353	eP		P		02 48 46.2	+5.3	
	comp=Z,21nm,1.4s									
P39B	Salisbury	45.32	14	P		P		02 48 38.9	-1.8	
	baz=198									
Q42A	Golden Eagle	45.35	16	P		P		02 48 39.2	-1.8	
	baz=201,SNR=6.7									
USIN	University of	45.35	20	eP		P		02 48 45.0	+4.0	
	comp=Z,23nm,0.8s									
PTGA	Pitinga	45.36	87	eP		P		02 48 41.3	-0.3	
	comp=Z,29nm,1.1s									
PTGA				LR		LR				
	comp=Z,36µm,22.0s									
OGNE	Ogallala	45.38	3	P		P		02 48 40.2	-1.2	
	baz=184									
OGNE	Ogallala	45.38	3	eP		P		02 48 41.6	+0.2	
	comp=Z,158nm,2.0s									
OGNE				LR		LR				
	comp=Z,2µm,20.0s									
PNTR	Pine Nut	45.42	344	eP		P		02 48 43.1	+1.2	
	comp=Z,25nm,1.1s									
O35A	Humboldt	45.43	10	P		P		02 48 41.0	-0.7	
	baz=193									
KMSC	Kings Mountain	45.44	28	P		P		02 48 40.1	-1.7	
	baz=214									
O36A	Bolckow	45.47	11	P		P		02 48 41.3	-0.7	
	baz=194									
P40A	Paris	45.53	14	P		P		02 48 42.1	-0.3	
	baz=198									
Q43A	New Douglas	45.61	17	P		P		02 48 41.6	-1.5	
	baz=202									
TZTN	Tazewell	45.64	25	eP		P		02 48 43.2	-0.2	
	comp=Z,31nm,0.9s									
O37A	Wolven Farm, M	45.66	12	P		P		02 48 40.5	-3.0	
	baz=196									
AFDM	Forest Hills D	45.68	343	eP		P		02 48 44.2	+0.5	
	comp=Z,26nm,1.5s									
O38A	Galt	45.77	13	P		P		02 48 42.8	-1.4	
	baz=196									
Q44A	Meyer Farm, Va	45.78	18	P		P		02 48 42.5	-1.9	
	baz=203									
BGU	Big Grassy Mou	45.83	352	eP		P		02 48 50.5	+5.5	
	comp=Z,17nm,1.5s									
N34A	Lincoln	45.89	9	P		P		02 48 43.4	-1.8	
	baz=192									
OLIL	Olney	45.91	19	eP		P		02 48 49.4	+4.0	
	comp=Z,28nm,1.0s									
P41A	Barry, Barry	45.92	15	P		P		02 48 43.9	-1.6	
	baz=200,SNR=9.3									
PAHR	Pah Rah Range	45.95	345	eP		P		02 48 47.6	+1.6	
	comp=Z,19nm,1.3s									
P42A	Winchester	46.03	16	P		P		02 48 45.0	-1.4	
	baz=201,SNR=5.5									
N35A	Tabor	46.05	10	P		P		02 48 44.7	-1.8	
	baz=193									
WCI	Wyandotte Cave	46.06	21	eP		P		02 48 49.8	+3.1	
WCI				pmax		pmax				
	comp=Z,76nm,1.8s									
WCI	Wyandotte Cave	46.06	21	eP		P		02 48 49.8	+3.1	
	comp=Z,76nm,1.8s									
O39A	Kirksville	46.10	13	P		P		02 48 42.4	-4.5	
	baz=198									
BMN	Battle Mountai	46.11	347	eP		P		02 48 48.1	+0.9	
BMN				pmax		pmax				
	comp=Z,11nm,1.3s									
BMN	Battle Mountai	46.11	347	eP		P		02 48 48.1	+0.9	
	comp=Z,11nm,1.3s									
N36A	Muff Farm, Cla	46.13	11	P		P		02 48 43.8	-3.4	
	baz=194									
O40A	La Belle	46.13	14	P		P		02 48 44.6	-2.6	
	baz=198									
BGNE	Belgrade	46.21	7	P		P		02 48 44.4	-3.4	
	baz=190									
BGNE	Belgrade	46.21	7	eP		P		02 48 50.7	+2.9	
	comp=Z,34nm,0.8s									
N37A	Lee Faris, Mou	46.22	12	P		P		02 48 43.8	-4.1	
	baz=195									
P43A	Skaggs, Pawnee	46.31	17	P		P		02 48 45.2	-3.4	
	baz=202									
HWUT	Hardware Ranch	46.31	353	eP		P		02 48 49.5	+0.7	
	comp=Z,48nm,1.9s									
HWUT				LR		LR				
	comp=Z,4µm,19.0s									
BEKR	Beckworth	46.36	344	eP		P		02 48 49.9	+0.7	
	comp=Z,24nm,1.7s									
O41A	Passleys Farm,	46.38	15	P		P		02 48 46.9	-2.2	
	baz=200									
GRGR	Grenville	46.39	69	PFAKE				02 49 00.0	+10	
GRGR				LR		LR				
	comp=Z,1µm,19.0s									
ORV	Oroville	46.40	343	eP		P		02 48 49.7	+0.4	
ORV				pmax		pmax				
	comp=Z,31nm,1.4s									
ORV	Oroville	46.40	343	eP		P		02 48 49.7	+0.4	
	comp=Z,30nm,1.4s									
P44A	Sand Creek, Wi	46.42	18	P		P		02 48 47.2	-2.3	
	baz=203									
N38A	Joes South For	46.46	13	P		P		02 48 46.8	-3.0	
	baz=196									
M33A	Taylor Creek F	46.50	8	P		P		02 48 48.3	-1.8	
	baz=191									
M34A	Aspy Farms, Fr	46.52	9	P		P		02 48 47.3	-3.0	
	baz=192									
TBI	Tubuai	46.56	242	eS		S		02 55 40.5	+1.0	
	comp=Z,649nm,31.0s									
TBI				eLQ		LQ		02 59 52.5		
	comp=Z,3µm,33.2s									
TBI				eLR		LR		03 02 00.4		
	comp=Z,7µm,27.8s,baz=70									
TBI	Tubuai	46.56	242	eT		T		03 38 25.9		
	comp=Z,8.4nm,0.3s									
M35A	Neola	46.63	10	P		P		02 48 48.1	-3.0	
	baz=193									
O42A	Bath	46.67	16	P		P		02 48 48.4	-3.0	
	baz=201									
N39A	Derby Farms, D	46.70	13	P		P		02 48 50.6	-1.1	
	baz=198									
M36A	Felix, Anita	46.78	11	P		P		02 48 50.1	-2.2	
	baz=194									
BLO	Bloomington	46.83	20	eP		P		02 48 55.6	+3.0	
BLO				eS		S		02 55 44.8	+2.0	
BLO				pmax		pmax				
	comp=Z,13nm,0.7s									
BLO	Bloomington	46.83	20	eP		P		02 48 55.6	+3.0	
	comp=Z,13nm,0.7s									
BLO				eS		S		02 55 44.8	+2.0	
M37A	Trindle Farm,	46.87	12	P		P		02 48 51.9	-1.1	
	baz=195									
O43A	Sugar Creek Fa	46.97	17	P		P		02 48 51.1	-2.6	
	baz=202									
L34A	Svendsen Farm,	47.01	9	P		P		02 48 52.6	-1.4	
	baz=192									
K22A	Casper	47.01	359	P		P		02 48 52.6	-1.7	
	baz=178									
K22A	Casper	47.01	359	eP		P		02 48 57.8	+3.6	
	comp=Z,21nm,1.2s									
M38A	Pleasantville	47.07	12	P		P		02 48 53.8	-0.7	
	baz=196									
CNNC	Cliffs of the	47.20	31	PFAKE				02 49 10.0	+14	
CNNC				LR		LR				
	comp=Z,3µm,20.0s									
HDIL	Hopedale	47.22	17	eP		P		02 48 59.5	+3.7	
	comp=Z,89nm,1.6s									
HDIL				LR		LR				
	comp=Z,1µm,19.0s									
N42A	Yates City	47.27	16	P		P		02 48 53.1	-3.0	
	baz=201									
BW06	Boulder Array	47.27	356	P		P		02 48 53.1	-3.3	
	baz=174									
BW06	Boulder Array	47.27	356	eP		P		02 48 55.8	-0.6	
	comp=Z,9.6nm,1.3s									
BW06				LR		LR				
	comp=Z,4µm,20.0s									
PD31	Pinedale Array	47.27	356	eP		P		02 48 55.9	-0.5	
PDAR	Pinedale Array	47.27	356	P		P		02 48 54.0	-2.4	
	comp=Z,0.5nm,0.6s,baz=162,slow=9.2,SNR=5.8									
PDAR				LR		LR		03 06 28.6		
	comp=Z,4µm,18.6s,baz=190,slow=33									
L35A	Bielow Farm, R	47.29	10	P		P		02 48 53.2	-3.0	
	baz=193									
K31A	O'Neill	47.33	6	P		P		02 48 54.8	-1.8	
	baz=189									
K32A	Verdigre	47.46	7	P		P		02 48 56.9	-0.7	
	baz=190									
SCIA	State Center	47.53	12	PFAKE				02 49 10.0	+12	
SCIA				LR		LR				
	comp=Z,1µm,20.0s									
K33A	Hardington	47.54	8	P		P		02 48 57.1	-1.1	
	baz=191									
BLA	Blacksburg	47.56	27	PFAKE				02 49 10.0	+12	
BLA				LR		LR				
	comp=Z,1µm,20.0s									
PLCA	Paso Flores	47.59	144	P		P		02 48 58.1	-0.7	
	comp=Z,17nm,1.2s,baz=327,slow=9.5,SNR=13									
PLCA				LR		LR		03 03 56.3		
	comp=Z,7µm,19.4s,baz=343,slow=30									
PLCA	Paso Flores	47.59	144	eP		P		02 48 59.5	+0.7	
PLCA				pmax		pmax				
	comp=Z,31nm,1.3s									
PLCA	Paso Flores	47.59	144	eP		P		02 48 59.5	+0.7	
	comp=Z,31nm,1.3s									
L37A	Phoenix Point,	47.63	12	P		P		02 48 57.4	-1.4	
	baz=196									
M41A	Milan	47.65	15	P		P		02 48 57.2	-1.8	
	baz=200									
WDC	Whiskeytown Da	47.65	342	eP		P		02 48 59.1	0.0	
WDC				pmax		pmax				
	comp=Z,15nm,1.3s									
WDC	Whiskeytown Da	47.65	342	eP		P		02 48 59.1	0.0	
	comp=Z,15nm,1.3s									
FDF	Fort de France	47.71	65	PFAKE				02 49 10.0	+10	
FDF				LR		LR				
	comp=Z,1µm,22.0s									
K34A	Le Mars	47.76	9	P		P		02 48 56.9	-3.0	
	baz=192									
M42A	Sheffield	47.93	16	P		P		02 48 57.4	-3.8	
	baz=201									
K35A	Storm Lake	47.93	10	P		P		02 48 59.0	-2.2	
	baz=193									
REDW	Red Top Meadow	47.98	354	eP		P		02 49 04.4	+2.6	
K36A	Gilmore City	47.99	11	P		P		02 48 58.7	-3.0	
	baz=194									
J31A	Geddes	48.00	6	P		P		02 48 57.6	-4.1	
	baz=189									
L39A	Vinton	48.00	13	P		P		02 48 59.2	-2.6	
	baz=198									
L40A	Anamosa	48.13	14	P		P		02 49 01.3	-1.4	
	baz=199									
J32A	Parkston	48.18	7	P		P		02 49 01.3	-1.8	
	baz=190									
LOHW	Long Hollow	48.20	355	eP		P		02 49 02.9	-0.7	
	comp=Z,21nm,1.8s									
ANWB	Willy Bob	48.23	62	PFAKE				02 49 20.0	+16	
ANWB				LR		LR				
	comp=Z,2µm,21.0s									
J33A	Davis	48.24	8	P		P		02 49 01.8	-1.8	
	baz=191									
MOD	Modoc Plateau	48.24	345	eP		P		02 49 03.8	-0.1	
	comp=Z,35nm,1.4s									
K37A	Belmond	48.27	11	P		P		02 49 01.6	-2.2	
	baz=196									
WVOR	Wild Horse Val	48.34	347	eP		P		02 49 06.5	+1.9	
WVOR				pmax		pmax				
	comp=Z,26nm,1.6s									
WVOR				MLR		MLR				
	comp=Z,4µm,22.0s									
WVOR	Wild Horse Val	48.34	347	eP		P		02 49 06.5	+1.9	
	comp=Z,26nm,1.6s									
WVOR				LR		LR				
	comp=Z,4µm,22.0s									
MOOW	Moose Ponds	48.35	355	eP		P		02 49 08.4	+3.7	
	comp=Z,11nm,1.4s									
J34A	George	48.36	9	P		P		02 49 02.3	-2.2	
	baz=192									
RSSD	Black Hills	48.48	1	P		P		02 49 03.6	-2.1	
	baz=182									
RSSD	Black Hills	48.48	1	eP		P		02 49 04.6	-1.1	
RSSD				pmax		pmax				
	comp=Z,29nm,1.4s									
RSSD	Black Hills	48.48	1	eP		P		02 49 04.6	-1.1	
	comp=Z,29nm,1.4s									
M02C	Callahan	48.49	342	P		P		02 49 04.2	-1.5	
	baz=156									
IMW	Indian Meadow	48.52	354	eP		P		02 49 05.2	-0.8	
	comp=Z,40nm,1.9s									
M04C	Macdoel	48.55	343	P		P		02 49 04.6	-1.6	
	baz=158,SNR=6.8									
K39A	Oelwein	48.58	13	P		P		02 49 04.8	-1.4	
	baz=198									
HLID	Hailey	48.62	351	eP		P		02 49 08.7	+2.0	
HLID				LR		LR				
	comp=Z,8.1nm,1.1s									
	comp=Z,4µm,19.0s									
BBGH	Gun Hill	48.65	68	PFAKE				02 49 20.0	+13	
BBGH				LR		LR				
	comp=Z,3µm,22.0s									
J36A	Seneca 1, Swea	48.68	11	P		P		02 49 05.9	-1.0	
	baz=194									
ECSD	EROS Data Cent	48.70	8	P		P		02 49 06.1	-1.0	
	baz=191									
ECSD	EROS Data Cent	48.70	8	eP		P		02 49 06.9	-0.2	
	comp=Z,28nm,1.6s									
ECSD				LR		LR				
	comp=Z,3µm,22.0s									
MFID	Camas Ranch	48.71	350	eP		P		02 49 08.2	+0.8	
	comp=Z,30nm,1.4s									
K40A	Colesburg	48.75	14	P		P		02 49 06.5	-1.1	
	baz=199									
YBH	Yreka Blue Hor	48.76	343	eP		P		02 49 08.4	+0.7	
YBH				pmax		pmax				
	comp=Z,20nm,1.5s									
YBH	Yreka Blue Hor	48.76	343	eP		P		02 49 08.4	+0.7	
	comp=Z,20nm,1.5s									
J37A	Redenius Farm,	48.81	11	P		P		02 49 06.6	-1.4	
	baz=196									
K41A	Shullsburg	48.87	15	P		P		02 49 06.6	-1.8	
	baz=200									
I32A	Karley and Nic	48.87	7	P		P		02 49 07.4	-1.0	
	baz=190									
I33A	Coleman	48.98	8	P		P		02 49 07.1	-2.2	
	baz=191									
ACSO	Alum Creek Sta	49.04	23	PFAKE				02 49 20.0	+10	
ACSO				LR		LR				
	comp=Z,697nm,19.0s									
I35A	Creekview Farm	49.08	10	P		P		02 49 08.2	-1.8	
	baz=194									
SUSD	Miller	49.11	6	P		P		02 49 08.9	-1.4	
	baz=188									
LKWY	Lake	49.13	355	PFAKE				02 49 20.0	+9.3	
LKWY				LR		LR				
	comp=Z,4µm,20.0s									
K05A	Summer Lake	49.17	345	eP		P		02 49 12.3	+1.3	
	comp=Z,41nm,1.4s									
JFWS	Jewell Farm	49.17	15	eP		P		02 49 13.4	+2.6	
JFWS				pmax		pmax				
	comp=Z,12nm,0.8s									
JFWS				MLR		MLR				
	comp=Z,668nm,20.0s									
JFWS	Jewell Farm	49.17	15	eP		P		02 49 13.4	+2.6	
	comp=Z,12nm,0.8s									
JFWS				LR		LR				
	comp=Z,668nm,20.0s									
H31A	Wolsey	49.20	6	P		P		02 49 08.4	-2.6	
	baz=189									
K04D	Chiloquin, OR	49.31	344	P		P		02 49 11.6	-0.3	
	baz=158									
H32A	Carlson Farm,	49.35	7	P		P		02 49 09.5	-2.6	
	baz=190									
YHH	Holmes Hill	49.39	355	eP		P		02 49 12.8	0.0	
	comp=Z,10nm,1.3s									
I36A	Fitzsimmons Fa	49.41	11	P		P		02 49 12.3	-0.3	
	baz=195									
QLMT	Earthquake Lak	49.49	354	eP		P		02 49 18.0	+4.6	
I37A	Lemond, Waseca	49.52	11	P		P		02 49 08.9	-4.5	
	baz=196									
RLMT	Red Lodge	49.60	356	P		P		02 49 10.2	-4.0	
	baz=175									
RLMT	Red Lodge	49.60	356	eP		P		02 49 13.2	-1.1	
	comp=Z,11nm,1.1s									
RLMT				LR		LR				
	comp=Z,1µm,20.0s									
H34A	Spellman Lake,	49.74	9	P		P		02 49 09.4	-5.6	
	baz=192									
I39A	Houston	49.76	13	P		P		02 49 13.4	-1.8	
	baz=198									
I38A	Scanlan Farm,	49.76	12	P		P		02 49 13.4	-1.8	
	baz=197									
J05D	Fort Rock, OR	49.78	345	P		P		02 49 14.1	-1.5	
	baz=159									
CBN	Corbin Frederi	49.79	29	PFAKE				02 49 30.0	+14	
CBN				LR		LR				
	comp=Z,3µm,21.0s									
MCWV	Mont Chateau	49.84	26	eP		P		02 49 19.4	+3.5	
	comp=Z,12nm,0.9s									
H35A	Sunnyside Ranc	49.92	10	P		P		02 49 13.5	-3.0	
	baz=194									
H36A	Jessenland, He	49.96	11	P		P		02 49 15.7	-1.0	
	baz=195									
G31A	Conde	49.97	6	P		P		02 49 15.4	-1.4	
	baz=189									
J04D	Umpqua Nationa	49.98	344	P		P		02 49 16.7	-0.4	
	baz=158									
I40A	Norwalk	50.00	14	P		P		02 49 16.4	-0.7	
	baz=199									
G32A	Webster	50.08	7	P		P		02 49 15.8	-1.8	
	baz=190									
G33A	Ortonville	50.16	8	P		P		02 49 14.9	-3.3	
	baz=191									
BZMT	Bozeman Pass	50.24	355	eP		P		02 49 24.0	+4.9	
BOZ	Bozeman (W)	50.27	354	PFAKE				02 49 30.0	+11	
BOZ				LR		LR				
	comp=Z,2µm,22.0s									
G34A	Benson	50.32	9	P		P		02 49 17.3	-2.2	
	baz=192									
I41A	Arkdale	50.34	14	P		P		02 49 18.6	-1.1	
	baz=200									
BMO	Blue Mountains	50.37	349	PFAKE				02 49 30.0	+10	
BMO				LR		LR				
	comp=Z,6µm,20.0s									
G35A	Watkins	50.49	10	P		P		02 49 17.8	-3.0	
	baz=194									
H39A	Augusta	50.60	13	P		P		02 49 19.3	-2.2	
	baz=198									
AAM	Ann Arbor	50.60	21	PFAKE				02 49 30.0	+8.4	
AAM				LR		LR				
	comp=Z,1µm,21.0s									
CPUP	Villa Florida	50.60	120	P		P		02 49 20.6	-1.4	
	comp=Z,4.8nm,0.9s,baz=281,slow=9.3,SNR=8.6									
CPUP	Villa Florida	50.60	120	eP		P		02 49 22.4	+0.4	
CPUP	Villa Florida	50.60	120	eP		P		02 49 22.4	+0.4	
G36A	St. Michael	50.63	10	P		P		02 49 19.2	-2.6	
	baz=195									
I03D	Drain, OR	50.75	343	P		P		02 49 19.5	-3.2	
	baz=156									
SPMN	Marine on St.	50.80	11	P		P		02 49 20.9	-2.2	
	baz=196									
SPMN	Marine on St.	50.80	11	eP		P		02 49 22.1	-1.0	
	comp=Z,12nm,0.9s									
O56A	Blue Knob Stat	50.90	26	P		P		02 49 21.1	-2.9	
	baz=215									
F34A	Alexandria	50.92	9	P		P		02 49 21.8	-2.2	
	baz=193									
G38A	Ridgeland	50.94	12	P		P		02 49 21.9	-2.2	
	baz=197									
CHRN	Cochrane	50.97	152	eP		P		02 49 25.8	+1.5	
	comp=Z,7.1nm,1.0s									
LAO	LASA Array	51.04	359	P		P		02 49 20.8	-4.2	
	baz=179									
LAO	LASA Array	51.04	359	PFAKE				02 49 40.0	+15	
LAO				LR		LR				
	comp=Z,3µm,20.0s									
F35A	Swanville	51.09	10	P		P		02 49 21.6	-3.7	
	baz=194									
G39A	Holcombe	51.20	13	P		P		02 49 22.3	-3.7	
	baz=198									
F36A	Milaca	51.28	10	P		P		02 49 24.1	-2.6	
	baz=195									
F37A	Hinrichs Farm,	51.31	11	P		P		02 49 25.1	-1.8	
	baz=196									
E31A	Nome	51.32	6	P		P		02 49 24.8	-2.2	
	baz=189									
G40A	Rib Lake	51.40	14	P		P		02 49 25.0	-2.6	
	baz=199									
F10A	Beach Ranch, E	51.44	349	eP		P		02 49 32.8	+4.8	
	comp=Z,62nm,2.0s									
G06A	Carlson Farm,	51.46	346	eP		P		02 49 28.8	+0.7	
	comp=Z,60nm,1.9s									
SSPA	Standing Stone	51.49	27	eP		P		02 49 32.0	+3.6	
	comp=Z,50nm,1.6s									
TRQA	Tornquist	51.56	136	PFAKE				02 49 40.0	+11	
TRQA				LR		LR				
	comp=

baz=187
EGMT Eagleton 52.52 356 P P 02 49 33.3 -2.7
baz=174
EGMT Eagleton 52.52 356 PFAKE 02 49 50.0 +14
EGMT LR LR
comp=Z,2µm,20.0s
E40A Wakefield 52.58 13 P P 02 49 33.0 -3.4
baz=199
C33A Trail 52.76 8 P P 02 49 35.5 -2.2
baz=192
C34A RKJ Ranch, Bem 52.78 9 P P 02 49 36.4 -1.4
baz=193
DGMT Dagmar 52.82 1 P P 02 49 37.1 -1.1
baz=181
DGMT Dagmar 52.82 1 eP P 02 49 37.8 -0.4
comp=Z,67nm,1.4s
DGMT LR LR
comp=Z,3µm,20.0s
C35A Jirik Farms, M 52.98 10 P P 02 49 37.1 -2.2
baz=194
MMNY Mt. Morris Dam 53.20 25 eP P 02 49 44.5 +3.6
BBSR BB Station 53.20 43 PFAKE 02 49 50.0 +8.8
BBSR LR LR
comp=Z,2µm,22.0s
C36A Pine Crest Far 53.23 10 P P 02 49 39.7 -1.5
baz=195,SNR=6.4
AGMN Agassiz Station 53.28 8 P P 02 49 39.3 -2.2
baz=192
AGMN Agassiz Station 53.28 8 eP P 02 49 39.9 -1.6
AGMN Agassiz Station 53.28 8 eP P 02 49 39.8 -1.7
comp=Z,26nm,1.1s
AGMN LR LR
comp=Z,5µm,20.0s
B32A Ashes, Strandq 53.29 7 P P 02 49 39.8 -1.8
baz=191
B33A Robert and Kas 53.29 8 P P 02 49 39.4 -2.2
baz=192
C37A Embarrass 53.32 11 P P 02 49 39.6 -2.2
baz=196
C38A Sawbill Land. 53.49 12 P P 02 49 40.5 -2.6
baz=197
BINY Binghamton 53.60 27 PFAKE 02 50 00.0 +16
BINY LR LR
comp=Z,2µm,20.0s
NEW Newport 53.63 350 P P 02 49 42.9 -1.2
comp=Z,1.4nm,0.8s,baz=257,slow=3.0,SNR=3.2
NEW LR LR 03 09 45.9
comp=Z,6µm,18.3s,baz=176,slow=33
NEW Newport 53.63 350 P P 02 49 41.8 -2.4
baz=165
NEW Newport 53.63 350 eP P 02 49 45.2 +1.0
NEW pmax pmax
comp=Z,18nm,1.6s
NEW MLR MLR
comp=Z,6µm,19.0s
NEW Newport 53.63 350 eP P 02 49 45.2 +1.0
comp=Z,18nm,1.6s
NEW LR LR
comp=Z,6µm,19.0s
B34A Aery, Baudette 53.64 9 P P 02 49 41.6 -2.6
baz=193
EYMN Ely 53.67 11 P P 02 49 39.1 -5.3
baz=197
EYMN Ely 53.67 11 eP P 02 49 43.3 -1.1
comp=Z,25nm,1.1s
EYMN LR LR
comp=Z,2µm,19.0s
A33A Warroad 53.97 8 P P 02 49 44.7 -1.8
baz=192,SNR=5.5
C06D Leavenworth 54.05 347 P P 02 49 42.1 -5.1
baz=161
BABE Bainbridge Sch 54.14 346 eP P 02 49 52.1 +4.3
NLWA Neilton Lookou 54.28 344 PFAKE 02 50 00.0 +11
NLWA LR LR
comp=Z,3µm,20.0s
POHA Pohakuloa 55.03 298 PFAKE 02 50 10.0 +15
POHA LR LR
comp=Z,3µm,21.0s
ULM Lac du Bonnet 55.19 7 P P 02 49 53.1 -2.2
comp=Z,3.0nm,0.7s,baz=201,slow=7.5,SNR=4.5
ULM LR LR 03 12 14.7
comp=Z,5µm,18.6s,baz=188,slow=35
ULM Lac du Bonnet 55.19 7 eP P 02 49 55.2 -0.2
ULM Lac du Bonnet 55.19 7 eP P 02 49 55.2 -0.2
comp=Z,28nm,1.3s
A04D Lummi Island 55.22 346 P P 02 49 52.5 -3.1
baz=159
RAR Rarotonga 55.39 247 PFAKE 02 50 10.0 +13
RAR LR LR
comp=Z,3µm,21.0s
LONY Lake Ozonia 56.14 26 PFAKE 02 50 10.0 +7.6
LONY LR LR
comp=Z,2µm,21.0s
KIP Kipapa 57.79 299 eP P 02 50 13.5 -0.9
KIP pmax pmax
comp=Z,38nm,1.1s
EDM Edmonton 57.98 354 eP P 02 50 15.0 -0.2
EDM pmax pmax
comp=Z,78nm,1.6s
EDM Edmonton 57.98 354 eP P 02 50 15.0 -0.2
comp=Z,78nm,1.6s
SPB Sao Paulo 58.74 115 PFAKE 02 50 30.0 +8.9
SPB LR LR
comp=Z,3µm,20.0s
PKME Peaks-Kenny Pk 59.07 29 PFAKE 02 50 40.0 +17
PKME LR LR
comp=Z,3µm,21.0s
FFC Flin Flon 59.14 2 PFAKE 02 50 40.0 +17
FFC LR LR
comp=Z,4µm,22.0s
EFI East Falkland 61.06 149 PFAKE 02 50 50.0 +13
EFI LR LR
comp=Z,7µm,19.0s
WRAK Wrangell Islan 64.70 344 PFAKE 02 51 10.0 +9.4
WRAK LR LR
comp=Z,2µm,20.0s
AFI Afiamalu 66.16 257 PFAKE 02 51 20.0 +9.0
AFI LR LR
comp=Z,1µm,20.0s
PMSA Palmer Station 66.86 162 PFAKE 02 51 30.0 +16
PMSA LR LR
comp=Z,5µm,20.0s
JOHN Johnston Islan 66.95 290 PFAKE 02 51 30.0 +14
JOHN LR LR
comp=Z,269nm,19.0s
SCHQ Schefferville 67.20 23 LR LR 03 19 59.5
comp=Z,2µm,20.3s,baz=222,slow=35
YKA Yellowknife Ar 67.26 355 P P 02 51 13.9 -3.1
comp=Z,2.6nm,0.9s,baz=165,slow=6.4,SNR=9.8
YKA LR LR 03 19 23.4
comp=Z,184nm,18.4s,baz=180,slow=35
YKB5 Yellowknife Ar 67.26 355 eP P 02 51 15.3 -1.6
YKW3 Yellowknife Ar 67.32 355 eP P 02 51 19.7 +2.3
comp=Z,24nm,1.5s
RCBR Riachuelo 69.02 94 PFAKE 02 51 40.0 +11
RCBR LR LR
comp=Z,2µm,20.0s
RAO Raoul Island 72.68 241 PFAKE 02 52 00.0 +8.9
RAO LR LR
comp=Z,1µm,19.0s
KDAK Kodiak Island 72.84 336 PFAKE 02 52 00.0 +8.7
KDAK LR LR
comp=Z,3µm,19.0s
HOPE Hope Point 73.98 145 PFAKE 02 52 10.0 +12
HOPE LR LR
comp=Z,2µm,21.0s
DOT Dot Lake 73.99 343 eP P 02 51 56.4 -1.7
comp=Z,31nm,0.8s
EGAK Eagle 74.07 345 eP P 02 51 58.6 +0.1
comp=Z,49nm,1.4s
EGAK LR LR
comp=Z,2µm,21.0s
RSO Redoubt South 74.64 338 eP P 02 52 05.2 +3.1
FUNA Funafuti 75.09 262 PFAKE 02 52 20.0 +15
FUNA LR LR
comp=Z,8µm,19.0s
RND Reindeer 75.28 341 eP P 02 52 03.1 -2.5
RND pmax pmax
comp=Z,37nm,0.8s
RND Reindeer 75.28 341 eP P 02 52 03.1 -2.5
comp=Z,37nm,0.8s
INK Inuvik 75.35 350 eP P 02 52 05.6 -0.2
INK pmax pmax
comp=Z,32nm,1.4s
INK Inuvik 75.35 350 eP P 02 52 05.6 -0.2
comp=Z,32nm,1.4s
MCK McKinley 75.53 341 eP P 02 52 10.0 +3.0
MCK McKinley 75.53 341 eP P 02 52 10.0 +3.0
comp=Z,187nm,0.8s
IL1 Eielson Array 75.66 343 eP P 02 52 05.1 -2.5
ILAR Eielson Array 75.66 343 P P 02 52 04.4 -3.2
comp=Z,5.5nm,0.7s,baz=160,slow=4.2,SNR=30
ILB Eielson Array 75.66 343 eP P 02 52 07.5 -0.1
WRH Wood River Hil 75.80 342 eP P 02 52 08.3 -0.1
comp=Z,34nm,0.7s
MSVF Nonsavu 75.98 253 PFAKE 02 52 20.0 +9.4
MSVF LR LR
comp=Z,1µm,20.0s
COLA College 76.02 343 PFAKE 02 52 20.0 +10
COLA LR LR
comp=Z,2µm,20.0s
PPLA Purkeypile 76.03 340 eP P 02 52 10.2 +0.2
comp=Z,81nm,1.4s
KTH Kantishna Hill 76.05 341 eP P 02 52 12.1 +2.1
comp=Z,41nm,0.7s
MDM Murphy Dome 76.19 343 eP P 02 52 11.0 +0.3
comp=Z,37nm,0.8s
MIDW Midway 76.55 300 PFAKE 02 52 30.0 +17
MIDW LR LR
comp=Z,2µm,20.0s
COLD Coldfoot 78.36 344 eP P 02 52 22.5 -0.4
comp=Z,64nm,1.6s
SNZO South Karori 79.54 229 PFAKE 02 52 40.0 +10
SNZO LR LR
comp=Z,2µm,22.0s
SFJD Kangerlussuaq 81.13 19 PFAKE 02 52 50.0 +12
SFJD LR LR
comp=Z,1µm,21.0s
CMLA Cha da Macela 84.67 52 PFAKE 02 53 10.0 +13
CMLA LR LR
comp=Z,1µm,22.0s
SBA Scott Base 85.15 192 P P 02 53 00.9 +2.4
SBA Scott Base 85.15 192 PFAKE 02 53 10.0 +12
SBA LR LR
comp=Z,739nm,19.0s
QSPA South Pole Qui 85.49 180 eP P 02 52 59.6 -0.9
comp=Z,69nm,1.8s
QSPA LR LR
comp=Z,2µm,20.0s
VNDA Vanda 86.21 193 P P 02 53 01.4 -2.4
comp=Z,1.7nm,1.2s,baz=96,slow=4.5,SNR=6.1
VNDA LR LR 03 23 49.2
comp=Z,587nm,19.0s,baz=94,slow=30
VNDA Vanda 86.21 193 eP P 02 53 05.1 +1.3
VNDA pmax pmax
comp=Z,25nm,1.7s
VNDA Vanda 86.21 193 eP P 02 53 05.1 +1.3
comp=Z,25nm,1.7s
DZM Mont Dzumac 86.76 248 eLR LR 03 20 38.4
comp=Z,1µm,23.7s
H11N3 WAKE ISLAND Hy 89.51 290 T T 04 32 17.2
baz=96,slow=75,SNR=255
H11N2 WAKE ISLAND Hy 89.53 290 T T 04 32 18.4
baz=96,slow=75,SNR=285
H11N1 WAKE ISLAND Hy 89.53 290 T T 04 32 12.0
baz=96,slow=75,SNR=226
H11S2 WAKE ISLAND Hy 89.60 288 T T 04 32 19.1
baz=95,slow=75,SNR=244
H11S1 WAKE ISLAND Hy 89.61 288 T T 04 32 19.7
baz=95,slow=75,SNR=351
H11S3 WAKE ISLAND Hy 89.62 288 T T 04 32 20.5
baz=95,slow=75,SNR=214
WAKE Wake Island 89.72 289 PFAKE 02 53 30.0 +8.3
WAKE LR LR
comp=Z,3µm,20.0s
ASCN Ascension 90.24 98 PFAKE 02 53 40.0 +16
ASCN LR LR
comp=Z,1µm,19.0s
HNR Honiara 94.00 260 PFAKE 02 53 50.0 +8.3
HNR LR LR
comp=Z,770nm,19.0s
JMIC Jan Mayen 96.49 19 LR LR 03 33 23.1
comp=Z,52nm,21.7s,baz=254,slow=33
PET Petropavlovsk 97.31 323 i/P P 02 53 52.7 -3.2
PET pmax pmax
comp=Z,13nm,0.9s
PET Petropavlovsk 97.31 323 PFAKE 02 54 10.0 +14
PET LR LR
comp=Z,2µm,21.0s
SHEL Horse Pasture 97.84 107 PFAKE 02 54 10.0 +11
SHEL LR LR
comp=Z,703nm,20.0s
PETK Petropavlovsk- 97.88 323 LR LR 03 30 02.4
comp=Z,2µm,20.7s,baz=85,slow=30
MTE Manteigas 98.79 50 PFAKE 02 54 10.0 +7.0
MTE LR LR
comp=Z,688nm,20.0s
KBS Kingsbay 99.53 10 PFAKE 02 54 20.0 +15
KBS LR LR
comp=Z,993nm,22.0s
SEY Seymchan 99.68 333 i eP Pdif 02 54 04.3 -2.0
CAN Canberra 100.14 233 PFAKE 02 54 20.0 +11
CAN LR LR
comp=Z,1µm,20.0s
ESK Eskdalemuir 100.58 35 PFAKE 02 54 20.0 +10
ESK LR LR
comp=Z,882nm,19.0s
PAB San Pablo 101.28 51 PFAKE 02 54 30.0 +16
PAB LR LR
comp=Z,1µm,20.0s
TIXI Tiksi 105.08 345 PFAKE 02 59 00.0
TIXI LR LR
comp=Z,775nm,21.0s
CTAO Charters Tower 105.70 248 PFAKE 02 59 00.0
CTAO LR LR
comp=Z,701nm,20.0s
KONO Kongsberg 106.30 29 PFAKE 02 59 00.0
KONO LR LR
comp=Z,649nm,20.0s
PMG Port Moresby 106.55 259 PFAKE 02 59 00.0
PMG LR LR
comp=Z,777nm,20.0s
SSB Saint Sauveur 107.10 44 PFAKE 02 59 00.0
SSB LR LR
comp=Z,825nm,20.0s
WLF Walferdange 107.23 39 PFAKE 02 59 00.0
WLF LR LR
comp=Z,713nm,20.0s
KEV Kevo 107.90 16 PFAKE 02 59 00.0
KEV LR LR
comp=Z,720nm,21.0s
YSS Yuzh-Sakhalins 108.28 318 PFAKE 02 59 00.0
YSS LR LR
comp=Z,703nm,22.0s
BNI Bardonecchia 108.63 44 PFAKE 02 59 00.0
BNI LR LR
comp=Z,883nm,19.0s
BFO Black Forest 108.95 40 PFAKE 02 59 00.0
BFO LR LR
comp=Z,659nm,22.0s
ERM Erimo 109.05 313 PFAKE 02 59 00.0
ERM LR LR
comp=Z,2µm,19.0s
YAK Yakutsk 109.87 336 PFAKE 02 59 10.0
YAK LR LR
comp=Z,2µm,19.0s
TUE Stuetta 110.10 42 PFAKE 02 59 10.0
TUE LR LR
comp=Z,853nm,19.0s
GUMO Guam 110.39 283 PFAKE 02 59 10.0
GUMO LR LR
comp=Z,1µm,21.0s
TAM Tamanrasset 110.88 67 PFAKE 02 59 10.0
TAM LR LR
comp=Z,386nm,19.0s
CLL Collm 110.95 36 ePS PS 03 09 03.0 -2.3
CLL ePPS PPS 03 10 12.0
CLL eSS SS 03 15 10.0 +5.3
CLL LmV 03 56 00.0
comp=Z,400nm,19.3s
NKC Novy Kostel 110.98 38 AMS AMS 03 46 20.0
comp=Z,600nm,17.2s
LVZ Lovozero 111.20 15 PFAKE 02 59 10.0
LVZ LR LR
comp=Z,594nm,21.0s
VLC Villacollemand 111.41 44 PFAKE 02 59 10.0
VLC LR LR
comp=Z,403nm,19.0s
VSL Villasalto 111.79 49 PFAKE 02 59 10.0
VSL LR LR
comp=Z,1µm,20.0s
KHC Kasperske Hory 112.03 38 AMS AMS 03 36 20.0
comp=Z,700nm,25.5s
PRU Pruhonice 112.33 37 AMS AMS 03 47 00.0
comp=Z,500nm,21.1s
TREC Trest 113.15 38 AMS AMS 03 47 40.0
comp=Z,600nm,16.4s
DPC Dobruska-Polom 113.26 36 AMS AMS 03 43 20.0
comp=Z,500nm,21.1s
MAJO Matsushiro 113.95 308 PFAKE 02 59 10.0
MAJO LR LR
comp=Z,2µm,21.0s
AQU L'Aquila 114.03 45 PFAKE 02 59 10.0 +7.6
AQU LR LR
comp=Z,871nm,21.0s
OKC Ostrava-Krasne 114.54 36 AMS AMS 03 55 40.0
comp=Z,400nm,22.5s
CLTB Caltabellotta 115.17 51 PFAKE 02 59 20.0 +15
CLTB LR LR
comp=Z,843nm,20.0s
PSZ Piszkesteto 116.38 38 PFAKE 02 59 20.0 +13
PSZ LR LR
comp=Z,464nm,20.0s
CUC Castrocucco 116.46 47 PFAKE 02 59 20.0 +13
CUC LR LR
comp=Z,515nm,19.0s
WDD Wied Dalam 116.62 52 PFAKE 02 59 20.0 +13
WDD LR LR
comp=Z,478nm,19.0s
WRAB Tennant Creek 116.62 245 PFAKE 02 59 20.0 +12
WRAB LR LR
comp=Z,1µm,21.0s
SUR Sutherland 117.01 130 PFAKE 02 59 20.0 +11
SUR LR LR
comp=Z,3µm,20.0s
CEL Celeste 117.03 49 PFAKE 02 59 20.0 +12
CEL LR LR
comp=Z,826nm,22.0s
MDJ Mudanjiang 117.74 319 PKP **PKPdf** 02 59 04.3 -5.1
MDJ PP **PP** 03 00 25.1 +2.9
MDJ PKS **PKSdf** 03 02 49.8 +3.8
MDJ AMB AMB
comp=Z,190nm,5.0s
MDJ LR LR
comp=Z,470nm,18.9s
MDJ LR LR
comp=Z,1µm,19.8s
MDJ LR LR
comp=Z,1µm,19.8s
MDJ Mudanjiang 117.74 319 PFAKE 02 59 20.0 +11
MDJ LR LR
comp=Z,1µm,20.0s
TIR Tirane 118.92 45 PFAKE 02 59 20.0 +8.3
TIR LR LR
comp=Z,403nm,20.0s
KIEV Kiev 120.33 32 PFAKE 02 59 30.0 +16
KIEV LR LR
comp=Z,573nm,19.0s
OBN Obninsk 120.98 24 i/ePKIKP PKPdf 02 59 24.1 +8.9
OBN pmax pmax
comp=Z,14nm,1.5s
OBN Obninsk 120.98 24 PFAKE 02 59 30.0 +15
OBN LR LR
comp=Z,742nm,21.0s
HIA Hailar 121.45 327 PFAKE 02 59 30.0 +14
HIA LR LR
comp=Z,2µm,22.0s
INCN Inchon 122.52 312 PFAKE 02 59 30.0 +11
INCN LR LR
comp=Z,54nm,20.0s
SANT Santorini 124.83 48 PFAKE 02 59 30.0 +6.7
SANT LR LR
comp=Z,344nm,19.0s
NWAO Narrogin (SRO) 125.15 224 PFAKE 02 59 40.0 +16
NWAO LR LR
comp=Z,1µm,21.0s
ARU Arti 126.69 11 PKIKP **PKPdf** 02 59 28.8 +2.6
ARU Arti 126.69 11 PFAKE 02 59 40.0 +14
ARU LR LR
comp=Z,714nm,19.0s
TLY Talaya 127.26 338 ePKHKP PKPpre 02 58 54.4
TLY pmax pmax
comp=Z,8.0nm,0.7s
TLY MLR MLR
comp=Z,2µm,23.0s
TLY Talaya 127.26 338 PFAKE 02 59 40.0 +13
TLY LR LR
comp=Z,2µm,19.0s
ANTO Ankara 128.38 41 PFAKE 02 59 40.0 +10
ANTO LR LR
comp=Z,375nm,21.0s
BJI Beijing 128.66 319 PKP **PKPdf** 02 59 31.6 +1.2
BJI SS SS 03 18 56.4 +3.5
BJI LR LR
comp=Z,600nm,20.1s
BJI LR LR
comp=Z,1µm,23.2s
BJI LR LR
comp=Z,2µm,24.1s
BJT Baijiatuau 128.68 319 PFAKE 02 59 40.0 +10
BJT LR LR
comp=Z,2µm,20.0s
ULN Ulaanbaatar 128.75 333 PFAKE 02 59 40.0 +9.4
ULN LR LR
comp=Z,2µm,21.0s
BR101 Keskin Array S 129.01 41 ePKPdf **PKPdf** 02 59 30.2 -1.2
BRTR Keskin Array B 129.01 41 PKP **PKPdf** 02 59 30.2 -1.2
comp=Z,0.7nm,0.8s,baz=347,slow=4.4,SNR=3.6
MBWA Marble Bar 129.05 238 PFAKE 02 59 40.0 +8.3
MBWA LR LR
comp=Z,927nm,19.0s
SONA0 Songino Array 129.07 333 ePKPdf **PKPdf** 02 59 31.1 -0.1
SONM Songino Array 129.07 333 PKP **PKPdf** 02 59 31.1 -0.1
comp=Z,1.7nm,1.0s,baz=2.6,slow=2.1,SNR=3.5
DAV Davao City (W) 129.41 275 PFAKE 02 59 40.0 +7.4
DAV LR LR
comp=Z,481nm,22.0s
LSZ Lusaka 129.83 114 PFAKE 02 59 50.0 +17
LSZ LR LR
comp=Z,1µm,21.0s
YHNB Yeheng 130.99 299 PFAKE 02 59 50.0 +15
YHNB LR LR
comp=Z,1µm,20.0s
HHC Hu-ho-hao-te 131.08 323 ePKP **PKPdf** 02 59 35.6 +0.4
HHC PP **PP** 03 01 57.0 +5.4
HHC SKS **SKSdf** 03 06 44.3 -2.5
HHC SKKS **SKKSac** 03 08 47.3 -1.5
HHC AMB AMB
comp=Z,66nm,4.8s
HHC LR LR
comp=Z,540nm,16.2s
HHC LR LR
comp=Z,890nm,18.7s
HHC LR LR
comp=Z,1µm,21.1s
CSS Mathiatis 131.22 46 PFAKE 02 59 50.0 +15
CSS LR LR
comp=Z,87nm,20.0s
BRVK Borovoye 131.52 4 PFAKE 02 59 50.0 +15
BRVK LR LR
comp=Z,740nm,20.0s
KIV Kislovodsk 131.66 31 i PKIKP **PKPdf** 02 59 32.9 -3.3
KIV pmax pmax
comp=Z,10.0nm,1.1s
KIV MLR MLR
comp=Z,501nm,21.0s
KIV Kislovodsk 131.66 31 PFAKE 02 59 50.0 +14
KIV LR LR
comp=Z,453nm,19.0s
AKTO Aktyubinsk 132.16 14 PKP **PKPdf** 02 59 36.1 -0.6
comp=Z,0.4nm,0.3s,baz=342,slow=13,SNR=1.7
AKTO Aktyubinsk 132.16 14 ePKHKP PKPpre 02 59 24.2
AKTO e 02 59 36.2
AKTO Aktyubinsk 132.16 14 ePKPpre PKPpre 02 59 24.2
AKTO ePKPdf **PKPdf** 02 59 36.1 -0.6
GUDG Gudauri 133.64 31 P **Pdif** 02 56 37.5 -0.6
KURK Kurchatov 133.90 357 ePKIKP **PKPdf** 02 59 40.4 +0.4
KURK MLR MLR
comp=Z,2µm,20.0s
KURK Kurchatov 133.90 357 ePKPdf **PKPdf** 02 59 40.4 +0.4
KURK LR LR
comp=Z,2µm,20.0s
KURBB Kurchatov Arra 133.99 357 PKP **PKPdf** 02 59 40.4 +0.2
comp=Z,0.9nm,0.8s,baz=14,slow=2.3,SNR=5.0
KAPI Kappang 134.07 259 PFAKE 02 59 50.0 +8.6
KAPI LR LR
comp=Z,324nm,20.0s
GNI Garni 135.42 33 PFAKE 03 00 00.0 +17

GNI				LR	LR				
	comp=Z,620nm,21.0s								
MK32	**Makanchi Array**	**137.43**	**352**	*e*PKPdf	**PKPdf**	**02**	**59**	**46.1**	**-0.7**
MKAR	**Makanchi Array**	**137.43**	**352**	PKP	**PKPdf**	**02**	**59**	**46.1**	**-0.7**
	comp=Z,0.5nm,0.5s,baz=300,slow=2.8,SNR=3.5								
MK01	**Makanchi Array**	**137.46**	**352**	*e*PKPdf	**PKPdf**	**02**	**59**	**49.5**	**+2.7**
ENH	**Enshi**	**138.47**	**312**	PFAKE		03	00	00.0	+11
ENH				LR	LR				
	comp=Z,1μm,22.0s								
GTA	**Gaotai**	**138.56**	**330**	*e*PKP	**PKPdf**	**02**	**59**	**49.9**	**+0.7**
GTA				PP	**PP**	**03**	**02**	**41.0**	**+2.2**
GTA				SKS	**SKSdf**	**03**	**06**	**59.0**	**-1.0**
GTA				SKKS	**SKKSac**	**03**	**09**	**31.8**	**-2.2**
GTA				SS	**SS**	**03**	**20**	**49.1**	**-3.1**
GTA				AMB	AMB				
	comp=Z,69nm,5.3s								
GTA				LR	LR				
	comp=Z,600nm,22.8s								
GTA				LR	LR				
	comp=Z,720nm,23.0s								
GTA				LR	LR				
	comp=Z,1μm,22.8s								
KKM	**Kota Kinabalu**	**138.72**	**274**	PFAKE		03	00	00.0	+10
KKM				LR	LR				
	comp=Z,573nm,22.0s								
LZH	**Lanzhou**	**138.77**	**323**	*e*PKP	**PKPdf**	**02**	**59**	**48.3**	**-1.5**
LZH				sPKP		02	59	52.8	
LZH				*e*PP	**PP**	**03**	**02**	**43.3**	**+2.9**
LZH				SKKS		03	09	30.3	
LZH				*e*SS	**SS**	**03**	**20**	**52.0**	**-3.2**
LZH				AMB	AMB				
	comp=Z,250nm,8.5s								
LZH				LR	LR				
	comp=Z,900nm,17.8s								
LZH				LR	LR				
	comp=Z,1μm,18.0s								
LZH				LR	LR				
	comp=Z,2μm,20.0s								
WMQ	**Urumqi**	**139.28**	**346**	PKP	**PKPdf**	**02**	**59**	**49.6**	**-0.7**
WMQ				LR	LR				
	comp=Z,2μm,19.7s								
WMQ				LR	LR				
	comp=Z,710nm,17.9s								
WMQ				LR	LR				
	comp=Z,1μm,21.5s								
AAK	**Ala-Archa**	**142.09**	**0**	PFAKE		03	00	10.0	+14
AAK				LR	LR				
	comp=Z,595nm,19.0s								
KMBO	**Kilima Mbogo**	**142.09**	**98**	PFAKE		03	00	10.0	+14
KMBO				LR	LR				
	comp=Z,1μm,22.0s								
GYA	**Guiyang**	**142.54**	**309**	*e*PKP	**PKPdf**	**02**	**59**	**55.8**	**-1.0**
GYA				AMB	AMB				
	comp=Z,120nm,7.9s								
QIZ	**Qiongzhong**	**142.89**	**296**	PKP	**PKPdf**	**02**	**59**	**57.3**	**-0.1**
QIZ				PP	**PP**	**03**	**03**	**06.4**	**-0.1**
QIZ				SS	SS	03	21	47.8	+2.7
QIZ				LR	LR				
	comp=Z,550nm,23.1s								
QIZ				LR	LR				
	comp=Z,740nm,21.3s								
QIZ	**Qiongzhong**	**142.89**	**296**	PFAKE		03	00	10.0	+13
QIZ				LR	LR				
	comp=Z,784nm,21.0s								
GEYT	**Alibeck**	**143.48**	**22**	PKhKP	PKPpre	02	59	53.5	
	comp=Z,2.6nm,0.6s,baz=307,slow=11,SNR=4.0								
ABPO	**Ambohimpanom**	**144.16**	**132**	PFAKE		03	00	10.0	+10
ABPO				LR	LR				
	comp=Z,425nm,21.0s								
KSM	**Kuching**	**144.38**	**266**	PFAKE		03	00	10.0	+10
KSM				LR	LR				
	comp=Z,616nm,21.0s								
KSH	**Kashi**	**145.19**	**358**	PKPbc	**PKPdf**	**03**	**00**	**02.1**	**+1.0**
KSH				PP	**PP**	**03**	**03**	**25.0**	**+6.6**
KSH				PKS	**PKSdf**	**03**	**03**	**35.6**	**-1.1**
KSH				SKS	**SKSdf**	**03**	**07**	**09.1**	**-1.3**
KSH				SKKS	**SKKSac**	**03**	**10**	**14.3**	**+2.1**
KSH				SS	**SS**	**03**	**22**	**15.3**	**+7.2**
KSH				AMB	AMB				
	comp=Z,120nm,4.4s								
KSH				LR	LR				
	comp=Z,220nm,9.5s								
KSH				LR	LR				
	comp=Z,280nm,14.1s								
KSH				LR	LR				
	comp=Z,1μm,21.0s								
KMI	**Kunming**	**146.25**	**310**	PKPbc	**PKPdf**	**03**	**00**	**03.3**	**-0.1**
KMI				PP	**PP**	**03**	**03**	**28.6**	**+2.3**
KMI				LR	LR				
	comp=Z,710nm,22.3s								
KMI				LR	LR				
	comp=Z,880nm,23.3s								
KMI				LR	LR				
	comp=Z,1μm,23.3s								
LSA	**Lhasa**	**150.59**	**330**	PFAKE		03	00	20.0	-2.7
LSA				LR	LR				
	comp=Z,1μm,20.0s								
CHTO	**Chiang Mai**	**152.48**	**303**	*e*PKPab	**PKPab**	**03**	**00**	**29.2**	**-1.1**
CHTO				LR	LR				
	comp=Z,815nm,22.0s								
CM31	**Chiang Mai Arr**	**152.64**	**302**	*e*PKPbc	**PKPbc**	**03**	**00**	**18.9**	**-1.6**
CMAR	**Chiang Mai Arr**	**152.64**	**302**	PKPbc	**PKPbc**	**03**	**00**	**18.9**	**-1.6**
	comp=Z,1.7nm,0.5s,baz=235,slow=1.3,SNR=5.1								
CM01	**Chiang Mai Arr**	**152.64**	**302**	*e*PKPbc	**PKPbc**	**03**	**00**	**20.5**	**0.0**
KULM	**Kulim**	**154.21**	**273**	PFAKE		03	00	30.0	+6.0
KULM				LR	LR				
	comp=Z,552nm,20.0s								
MSEY	**Mahe Island**	**158.66**	**115**	PFAKE		03	00	30.0	+8.3
MSEY				LR	LR				
	comp=Z,648nm,20.0s								
DGAR	**Diego Garcia**	**167.88**	**169**	PFAKE		03	00	40.0	+10
DGAR				LR	LR				
	comp=Z,1μm,20.0s								

*ISCJB **20** 02:53:02.6±0.6,6.84N±0.04×73.10W±0.04,h153km±5km, Error ellipse: s-maj=8.1km s-min=4.3km az=40.9*
*FUNV **20** 02:53:04.5,6.79N×73.09W,h155km, MW2.5*
*RSNC **20** 02:53:05.2±0.8,6.77N×73.14W,h141km±4km, ML2.5*

ISC 20 02:53:02.5±1.4,6.82N±0.04×73.09W±0.05,h155km±8km, n26,σ0s97/40,1C-2D, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BTLC	**Betulia, Santa**	**0.20**	**299**	*e*P	**Pn**	**02 53 24.6**	**+0.8**
BARC	**Barichara**	**0.24**	**203**	*e*P	**Pn**	**02 53 23.9**	**+0.1**
BARC				*e*S	**Sn**	**02 53 38.9**	**-1.2**
BARC				*i*		02 53 41.6	
	comp=Z,48nm,0.3s						
GIRC	**Giron, Santand**	**0.28**	**338**	*e*P	**Pn**	**02 53 24.3**	**+0.5**
GIRC				*e*S	**Sn**	**02 53 39.3**	**-0.9**
PAMC	**Pamplona, Colo**	**0.65**	**37**	*e*P	**Pn**	**02 53 27.1**	**+1.2**
PAMC				*i*		02 53 27.4	
	comp=Z,26nm,0.2s						
PAMC				*e*S	**Sn**	**02 53 43.7**	**0.0**
BRRC	**Barranca, Sant**	**0.68**	**295**	⇑*i*P	**Pn**	**02 53 26.1**	**+0.6**
BRRC				*e*S	**Sn**	**02 53 42.5**	**-0.5**
BRRC				*i*		02 53 47.1	
	comp=Z,111nm,0.1s						
RUSC	**La Rusia**	**0.92**	**180**	*e*P	**Pn**	**02 53 28.1**	**+0.4**
RUSC				*e*S	**Sn**	**02 53 45.8**	**-1.2**
RUSC				*i*		02 53 48.8	
	comp=Z,43nm,0.2s						
CAPV	**Capacho**	**1.29**	**36**	⇓*e*P	**Pn**	**02 53 32.3**	**+1.6**
CAPV				*e*S	**Sn**	**02 53 52.4**	**+0.1**
OCAC	**Ocana**	**1.43**	**351**	*e*P	**Pn**	**02 53 33.1**	**+1.2**
OCAC				*i*		02 53 59.4	
	comp=Z,66nm,0.2s						
YOPC	**Yopal, Colombi**	**1.60**	**155**	*e*P	**Pn**	**02 53 34.9**	**+1.2**
YOPC				*i*		02 54 01.8	
	comp=Z,22nm,0.5s						
ZARC	**Zaragoza, Cauc**	**1.88**	**291**	*e*P	**Pn**	**02 53 37.2**	**+0.6**
ZARC				*e*S	**Sn**	**02 54 02.4**	**-0.5**
ZARC				*i*		02 54 08.8	
	comp=Z,50nm,0.3s						
NORC	**Norcasia**	**2.17**	**235**	*e*P	**Pn**	**02 53 40.3**	**+0.4**
NORC				*e*S	**Sn**	**02 54 07.4**	**-1.4**
CHIC	**Chingaza**	**2.27**	**196**	*e*P	**Pn**	**02 53 42.6**	**+1.1**
CHIC				*e*S	**Sn**	**02 54 11.1**	**-0.5**
CHIC				*i*		02 54 17.9	
	comp=Z,14nm,0.3s						
HELC	**Santa Helena**	**2.50**	**256**	*e*P	**Pn**	**02 53 46.0**	**+1.7**
HELC				*e*S	**Sn**	**02 54 15.8**	**-0.7**
HELC				*i*		02 54 22.9	

	comp=Z,28nm,0.3s								
VIGV	**El Vigia**	**2.64**	**40**	*e*P	**Pn**	**02**	**53**	**46.8**	**+1.2**
VIGV				*e*S	**Sn**	**02**	**54**	**17.4**	**-1.6**
SOCV	**Socops**	**2.65**	**56**	*e*P	**Pn**	**02**	**53**	**46.5**	**+0.7**
SOCV				*e*S	**Sn**	**02**	**54**	**18.5**	**-0.7**
PRAC	**Prado**	**3.56**	**210**	*e*P	**Pn**	**02**	**53**	**57.4**	**0.0**
PRAC				*e*S	**Sn**	**02**	**54**	**39.5**	**-0.4**
ELOV	**Elorza**	**3.58**	**87**	*e*P	**Pn**	**02**	**53**	**58.7**	**+1.2**
VIRV	**Villa del Rosa**	**3.72**	**10**	*e*P	**Pn**	**02**	**53**	**59.6**	**+0.3**
VIRV				*e*S	**Sn**	**02**	**54**	**42.1**	**-1.4**
QARV	**Quebrada Arrib**	**4.22**	**37**	*e*P	**Pn**	**02**	**54**	**07.4**	**+1.6**
SANV	**Sanarito**	**4.41**	**53**	*e*P	**Pn**	**02**	**54**	**09.2**	**+0.7**
CURV	**Curarigua**	**4.43**	**44**	⇓*e*P	**Pn**	**02**	**54**	**09.5**	**+0.8**
DABV	**Dabajuro**	**4.74**	**31**	*e*P	**Pn**	**02**	**54**	**13.3**	**+0.7**
SIQV	**Siquisique**	**5.00**	**40**	*e*P	**Pn**	**02**	**54**	**15.7**	**-0.4**
BAUV	**El Baul**	**5.43**	**67**	*e*P	**Pn**	**02**	**54**	**21.1**	**-0.6**
MAPV	**Macapo**	**5.47**	**57**	*e*P	**Pn**	**02**	**54**	**22.9**	**+0.6**
MONV	**Montecano**	**5.96**	**31**	*e*P	**Pn**	**02**	**54**	**28.9**	**+0.1**

*KRNET **20** 02:54:57.8±0.1,38.64N×69.92E,mb3.1*
*NNC **20** 02:54:59.2±0.9,38.74N×69.56E,h5km±4km,mb3.6, mpv3.1,Error ellipse: s-maj=7.3km s-min=5.9km az=157.0*

ISC 20 02:54:59.1±3.1,38.6N±0.2×69.56E±0.10,h10km,n9, σ1s05/18,12C-6D,Tajikistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BTK	**Batken**	**1.72**	**34**	⇑*e*P	**Pn**	**02 55 27.9**	**-1.2**
	baz=26						
BTK				⇑*i*S	**Sn**	**02 55 50.0**	**-1.2**
	baz=26						
ARSB	**Arslanbob**	**3.75**	**43**	⇑*e*P	**Pn**	**02 55 57.0**	**-0.2**
	baz=40						
ARSB				⇑*e*S	**Sn**	**02 56 39.4**	**-2.1**
	baz=40						
MNAS	**Manas**	**4.45**	**29**	⇑*e*P	**Pn**	**02 56 07.1**	**+0.4**
	baz=26						
MNAS				⇑*e*S	**Sn**	**02 56 57.6**	**-1.0**
	baz=26						
MNAS	**Manas**	**4.45**	**29**	⇓Pn	**Pn**	**02 56 07.1**	**+0.4**
	2.2nm,0.4s						
MNAS				⇓Pg	**Pb**	**02 56 18.6**	**+1.3**
MNAS				⇑Sn	**Sn**	**02 56 58.5**	**-0.1**
	3.5nm,0.4s						
MNAS				⇓Lg	Lg	02 57 18.1	
	23nm,1.0s						
KK31	**Karatay Array**	**4.51**	**9**	Pn	**Pn**	**02 56 06.1**	**-1.4**
	0.8nm,0.3s,baz=203,slow=16,SNR=23						
KK31				⇑Pg	**Pb**	**02 56 20.1**	**+1.7**
	2.8nm,0.8s,baz=187,slow=19,SNR=6.0						
KK31				⇑Sn	**Sn**	**02 56 59.7**	**-0.3**
	1.1nm,0.3s,baz=198,slow=22,SNR=4.9						
KK31				Lg	Lg	02 57 19.9	
	4.1nm,0.3s,baz=188,slow=26,SNR=6.8						
AAK	**Ala-Archa**	**5.48**	**42**	⇓Pn	**Pn**	**02 56 20.5**	**-0.4**
	1.2nm,0.4s						
AAK				⇑Sn	**Sn**	**02 57 24.7**	**+0.7**
	3.3nm,0.7s						
AAK				⇓Lg	Lg	02 57 50.6	
	5.1nm,0.9s						
TKM2	**Tokmak 2**	**6.27**	**45**	⇓Pn	**Pn**	**02 56 31.2**	**-0.6**
	1.3nm,0.5s						
TKM2				⇑Sn	**Sn**	**02 57 43.8**	**+0.3**
	5.0nm,0.8s						
AB31	**Akbulak array**	**12.66**	**330**	P	**Pn**	**02 57 59.0**	**0.0**
	0.2nm,0.3s,baz=157,slow=10,SNR=7.3						
AKTO	**Aktyubinsk**	**14.36**	**329**	⇑P	**Pn**	**02 58 21.9**	**-0.3**
	2.0nm,0.7s						

*IDC **20** 03:00:52.9±0.9,25.07N×126.90E,h0km,mb3.8/6, mb1 4.0/7,mb1mx3.8/32,mbtmpp3.9/7,ML4.0/1,Error ellipse: s-maj=39.5km s-min=19.3km az=76.0*
*ISCJB **20** 03:00:55.0±0.9,25.1N±0.1×127.1E±0.2,h28km,mb3.7/6, Error ellipse: s-maj=30.0km s-min=15.8km az=177.6*

ISC 20 03:00:57.0±1.1,25.1N±0.1×127.0E±0.2,h28km,n7, σ0s60/7,mb3.9/6,Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JNU	**Nakatsue**	**8.69**	**22**	Pn	**Pn**	**03 03 00.5**	**-0.4**
	1.6nm,0.3s,baz=343,slow=8.6,SNR=6.4						
SONM	**Songino Array**	**27.91**	**330**	P	**P**	**03 06 44.5**	**-0.4**
	0.5nm,0.6s,baz=131,slow=6.6,SNR=3.1						
MKAR	**Makanchi Array**	**41.45**	**313**	P	**P**	**03 08 41.1**	**-0.2**
	1.1nm,0.3s,baz=98,slow=8.9,SNR=20						
WRA	**Warramunga Arr**	**45.34**	**170**	P	**P**	**03 09 12.3**	**-0.6**
	1.4nm,0.8s,baz=352,slow=8.5,SNR=6.4						
ASAR	**Alice Springs**	**48.94**	**172**	P	**P**	**03 09 41.1**	**+0.2**
	1.0nm,0.8s,baz=358,slow=8.0,SNR=9.9						
ILAR	**Eielson Array**	**65.96**	**28**	P	**P**	**03 11 41.1**	**+0.7**
	0.2nm,0.6s,baz=248,slow=4.8,SNR=3.9						
FINES	**FINESS Array B**	**73.28**	**330**	P	**P**	**03 12 26.1**	**+0.5**
	2.4nm,0.9s,baz=61,slow=6.5,SNR=5.0						

*KRSC **20** 03:23:04.8±1.2,55.75N×163.13E,h45km±18km,ML4.2*
*ISCJB **20** 03:23:06.7±0.4,55.80N±0.03×163.08E±0.05,h45km±4km, mb4.1/22,MS4.0/1,Error ellipse: s-maj=4.8km s-min=4.2km az=41.3*
*MOS **20** 03:23:06.5±0.9,55.86N×163.08E,h38km,mb4.2/7,Error ellipse: s-maj=8.7km s-min=5.6km az=65.7*
*NEIC **20** 03:23:10.3±0.9,55.79N×162.86E,h62km±10km,mb4.5/6, Error ellipse: s-maj=11.9km s-min=6.7km az=156.0*
*IDC **20** 03:23:11.2±3.5,55.73N×162.70E,h69km±34km,mb3.4/15, mb1 3.7/16,mb1mx3.5/40,mbtmpp3.7/16,ML2.6/1,MS4.2/1, Ms1 4.2/1,ms1mx3.2/29,Error ellipse: s-maj=24.2km s-min=16.8km az=167.0*

ISC 20 03:23:07.7±0.5,55.82N±0.03×163.10E±0.03,h35km±5km, n108,σ1s59/138,mb4.0/22,Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBG	**Krutoberegovo**	**0.49**	**333**	PN	**Pb**	**03 23 15.6**	**-2.5**
KBG				S	**Sb**	**03 23 24.6**	**-0.7**
KBG	**Krutoberegovo**	**0.49**	**333**	*e*P	**Pb**	**03 23 15.6**	**-2.5**
KBG				*e*S	**Sb**	**03 23 24.6**	**-0.7**
ZLN	**Zelenaya**	**1.30**	**280**	PN	**Pn**	**03 23 28.5**	**-1.0**
ZLN				S	**Sn**	**03 23 46.2**	**+0.4**
ZLN	**Zelenaya**	**1.30**	**280**	*e*P	**Pn**	**03 23 28.5**	**-1.0**
ZLN				*e*S	**Sn**	**03 23 46.2**	**+0.4**
CIRR	**Tsirk**	**1.35**	**283**	PN	**Pn**	**03 23 29.1**	**-1.1**
CIRR	**Tsirk**	**1.35**	**283**	*e*P	**Pn**	**03 23 29.1**	**-1.1**
SRKR	**Sorokina**	**1.36**	**309**	PN	**Pn**	**03 23 30.0**	**-0.3**
SRKR	**Sorokina**	**1.36**	**309**	*e*P	**Pn**	**03 23 30.0**	**-0.3**
LGNR	**Loginova**	**1.38**	**282**	PN	**Pn**	**03 23 29.7**	**-1.0**
LGNR	**Loginova**	**1.38**	**282**	*e*P	**Pn**	**03 23 29.7**	**-1.0**
KLY	**Klyuchi**	**1.46**	**291**	PN	**Pn**	**03 23 29.1**	**-2.4**
KLY				S	**Sn**	**03 23 47.5**	**-1.8**
KLY	**Klyuchi**	**1.46**	**291**	*e*P	**Pn**	**03 23 29.1**	**-2.4**
KLY				*e*S	**Sn**	**03 23 47.3**	**-2.0**
KLY				*e*S	**Sn**	**03 23 47.5**	**-1.8**
BZMR	**Bezymyannaya**	**1.47**	**275**	PN	**Pn**	**03 23 30.6**	**-1.3**
BZMR				S	**Sn**	**03 23 49.0**	**-1.0**
BZMR	**Bezymyannaya**	**1.47**	**275**	*e*P	**Pn**	**03 23 30.6**	**-1.3**
BZMR				*e*S	**Sn**	**03 23 49.0**	**-1.0**
KRSR	**Krestovskiy**	**1.48**	**287**	PN	**Pn**	**03 23 30.6**	**-1.2**
KRSR				S	**Sn**	**03 23 50.7**	**+0.7**
KRSR	**Krestovskiy**	**1.48**	**287**	*e*P	**Pn**	**03 23 30.6**	**-1.2**
KRSR				*e*S	**Sn**	**03 23 50.7**	**+0.7**
MKZ	**Mys Kozlova**	**1.49**	**212**	PN	**Pn**	**03 23 29.9**	**-2.0**
MKZ				S	**Sn**	**03 23 49.0**	**-1.2**
MKZ	**Mys Kozlova**	**1.49**	**212**	*e*P	**Pn**	**03 23 29.9**	**-2.0**
MKZ				*e*S	**Sn**	**03 23 49.0**	**-1.2**
KIRR	**Kirishev**	**1.56**	**276**	PN	**Pn**	**03 23 32.1**	**-0.9**
KIRR				S	**Sn**	**03 23 53.5**	**+1.4**
KIRR	**Kirishev**	**1.56**	**276**	*e*P	**Pn**	**03 23 32.1**	**-0.9**
KIRR				*e*S	**Sn**	**03 23 53.5**	**+1.4**
KMNR	**Kamenistaya**	**1.62**	**269**	PN	**Pn**	**03 23 33.1**	**-0.7**
KMNR				S	**Sn**	**03 23 54.8**	**+1.4**
KMNR	**Kamenistaya**	**1.62**	**269**	*i* P	**Pn**	**03 23 33.1**	**-0.7**
KMNR				*e*S	**Sn**	**03 23 54.8**	**+1.4**
KPT	**Kopyto**	**1.62**	**276**	PN	**Pn**	**03 23 33.2**	**-0.7**
KPT	**Kopyto**	**1.62**	**276**	*e*P	**Pn**	**03 23 33.2**	**-0.7**
TUMD	**Tumrok D**	**1.66**	**249**	*e*P	**Pn**	**03 23 33.4**	**-0.8**
TUMD				*e*S	**Sn**	**03 23 54.5**	**+0.2**
BKI	**Bering**	**1.75**	**110**	PN	**Pn**	**03 23 34.6**	**-0.9**
BKI				S	**Sn**	**03 23 56.6**	**+0.1**
BKI	**Bering**	**1.75**	**110**	*e*P	**Pn**	**03 23 34.6**	**-0.9**
BKI				*e*S	**Sn**	**03 23 56.6**	**+0.1**

TUMR	**Tumrok**	**1.76**	**253**	PN	**Pn**	**03**	**23**	**35.6**	**-0.2**
TUMR	**Tumrok**	**1.76**	**253**	*i* P	**Pn**	**03**	**23**	**35.6**	**-0.2**
KOZ	**Kozyrevsk**	**1.83**	**279**	PN	**Pn**	**03**	**23**	**37.3**	**+0.7**
KOZ	**Kozyrevsk**	**1.83**	**279**	*e*P	**Pn**	**03**	**23**	**37.3**	**+0.7**
ESO	**Esso**	**2.48**	**274**	PN	**Pn**	**03**	**23**	**46.2**	**+0.6**
ESO				S	**Sn**	**03**	**24**	**16.3**	**+1.7**
ESO	**Esso**	**2.48**	**274**	*e*P	**Pn**	**03**	**23**	**46.2**	**+0.6**
ESO				S	**Sn**	**03**	**24**	**16.3**	**+1.7**
SPN	**Mys Shipunski**	**3.27**	**215**	PN	**Pn**	**03**	**23**	**54.6**	**-1.8**
SPN	**Mys Shipunski**	**3.27**	**215**	*e*P	**Pn**	**03**	**23**	**54.6**	**-1.8**
SPN				*e*S	**Sn**	**03**	**24**	**30.2**	**-3.8**
OSSR	**Ossora**	**3.44**	**360**	PN	**Pn**	**03**	**24**	**00.4**	**+1.7**
OSSR	**Ossora**	**3.44**	**360**	*e*P	**Pn**	**03**	**24**	**00.4**	**+1.7**
SDLR	**Sedlovina**	**3.54**	**226**	PN	**Pn**	**03**	**24**	**00.6**	**+0.4**
SDLR	**Sedlovina**	**3.54**	**226**	*i* P	**Pn**	**03**	**24**	**00.6**	**+0.4**
KRER	**Koryakskii**	**3.57**	**227**	PN	**Pn**	**03**	**24**	**03.3**	**+2.5**
KRER	**Koryakskii**	**3.57**	**227**	*e*P	**Pn**	**03**	**24**	**03.3**	**+2.5**
AVH	**Avacha**	**3.61**	**227**	PN	**Pn**	**03**	**24**	**01.5**	**+0.4**
AVH	**Avacha**	**3.61**	**227**	*e*P	**Pn**	**03**	**24**	**01.5**	**+0.4**
AVH				*e*P	**Pn**	**03**	**24**	**01.9**	**+0.8**
UGLR	**Uglovaya**	**3.61**	**225**	PN	**Pn**	**03**	**24**	**01.6**	**+0.4**
UGLR	**Uglovaya**	**3.61**	**225**	*i* P	**Pn**	**03**	**24**	**01.6**	**+0.4**
KOK	**Koryaka**	**3.63**	**228**	PN	**Pn**	**03**	**24**	**03.9**	**+2.5**
KOK	**Koryaka**	**3.63**	**228**	*e*P	**Pn**	**03**	**24**	**03.9**	**+2.5**
GNL	**Ganaly**	**3.67**	**237**	PN	**Pn**	**03**	**24**	**02.3**	**+0.3**
GNL	**Ganaly**	**3.67**	**237**	*e*P	**Pn**	**03**	**24**	**02.3**	**+0.3**
DALK	**Dalny**	**3.78**	**224**	PN	**Pn**	**03**	**24**	**03.2**	**-0.1**
DALK	**Dalny**	**3.78**	**224**	*e*P	**Pn**	**03**	**24**	**03.2**	**-0.1**
DALK				*e*S	**Sn**	**03**	**24**	**45.0**	**-1.5**
PET	**Petropavlovsk**	**3.82**	**225**	*e*PN	**Pn**	**03**	**24**	**06.1**	**+2.1**
PET	**Petropavlovsk**	**3.82**	**225**	*e*P	**Pn**	**03**	**24**	**05.0**	**+1.0**
PEA1	**Petropavlovsk-**	**4.16**	**231**	*e*Pn	**Pn**	**03**	**24**	**09.8**	**+1.1**
PEA1				*e*Sn	**Sb**	**03**	**25**	**03.1**	**-6.7**
PEA0	**Petropavlovsk-**	**4.16**	**231**	*e*Pn	**Pn**	**03**	**24**	**09.4**	**+0.8**
PEA0				*e*Sn	**Sn**	**03**	**24**	**56.9**	**+0.8**
PEA0B	**Petropavlovsk-**	**4.16**	**231**	*e*Pn	**Pn**	**03**	**24**	**10.0**	**+1.3**
PEA0B				*e*Sn	**Sn**	**03**	**24**	**54.6**	**-1.4**
PETK	**Petropavlovsk-**	**4.16**	**231**	P	**Pn**	**03**	**24**	**09.8**	**+1.1**
	2.2nm,0.3s,baz=65,slow=17,SNR=10								
PETK				S	**Sb**	**03**	**25**	**03.1**	**-6.8**
	2.5nm,0.3s,baz=6.6,slow=28,SNR=5.0								
KRMR	**Karymshinskiy**	**4.18**	**226**	PN	**Pn**	**03**	**24**	**10.0**	**+1.2**
KRMR				S	**Sn**	**03**	**24**	**59.2**	**+2.8**
KRMR	**Karymshinskiy**	**4.18**	**226**	*e*P	**Pn**	**03**	**24**	**10.0**	**+1.2**
KRMR				*e*S	**Sn**	**03**	**24**	**59.2**	**+2.8**
RUS	**Russkaya**	**4.34**	**220**	PN	**Pn**	**03**	**24**	**11.2**	**+0.2**
RUS	**Russkaya**	**4.34**	**220**	*e*P	**Pn**	**03**	**24**	**11.2**	**+0.2**
RUS				*e*S	**Sn**	**03**	**24**	**59.0**	**-1.3**
APC	**Apacha**	**4.53**	**233**	PN	**Pn**	**03**	**24**	**14.9**	**+1.3**
APC	**Apacha**	**4.53**	**233**	*e*P	**Pn**	**03**	**24**	**14.9**	**+1.3**
ASAK	**Asacha**	**4.61**	**224**	PN	**Pn**	**03**	**24**	**16.8**	**+1.9**
ASAK	**Asacha**	**4.61**	**224**	*e*P	**Pn**	**03**	**24**	**16.8**	**+1.9**
KDTR	**Khodutka, Kamc**	**5.00**	**219**	*e*P	**Pn**	**03**	**24**	**19.5**	**-0.7**
KDTR				*e*S	**Sn**	**03**	**25**	**14.1**	**-2.6**
ATKA	**Atka Island**	**13.81**	**96**	*e*Pn	**Pn**	**03**	**26**	**20.7**	**-0.1**
TIXI	**Tiksi**	**21.44**	**331**	P	**P**	**03**	**27**	**53.2**	**+0.9**
	6.7nm,0.6s,baz=119,slow=12,SNR=4.8								
TIXI				LR	LR	03	37	50.1	
	comp=Z,650nm,21.0s,baz=76,slow=41								
TT01	**Tatalina**	**21.68**	**54**	*e*P	**P**	**03**	**27**	**55.4**	**+0.4**
MAJO	**Matsushiro**	**25.62**	**232**	*e*P	**P**	**03**	**28**	**33.4**	**-0.2**
MAJO				pmax	pmax				
	comp=Z,75nm,1.8s								
MAJO	**Matsushiro**	**25.62**	**232**	*e*P	**P**	**03**	**28**	**33.4**	**-0.2**
	comp=Z,75nm,1.8s								
MJAR	**Matsushiro Arr**	**25.62**	**232**	P	**P**	**03**	**28**	**30.5**	**-3.1**
	comp=Z,1.6nm,0.9s,baz=24,slow=9.1,SNR=2.6								
ILAR	**Eielson Array**	**25.67**	**49**	P	**P**	**03**	**28**	**34.6**	**+0.8**
	comp=Z,0.3nm,0.7s,baz=268,slow=8.8,SNR=2.4								
ILB	**Eielson Array**	**25.67**	**49**	*e*P	**P**	**03**	**28**	**34.6**	**+0.8**
SCM	**Sheep Creek Mo**	**25.80**	**56**	*e*P	**P**	**03**	**28**	**35.1**	**0.0**
SCM				pmax	pmax				
	comp=Z,76nm,1.5s			

DPC				Sg	Sg	03 31 19.5	-0.3	
	9.7nm,0.4s							
PVCC	**Panska Ves**	**1.34**	**226**	*e*PG	**Pn**	**03 31 09.4**	**+0.1**	
PVCC				*e*SG	**Sn**	**03 31 27.7**	**-0.2**	
	comp=Z,71nm,0.2s							
PVCC	**Panska Ves**	**1.34**	**226**	Pg	**Pn**	**03 31 09.4**	**+0.1**	
PVCC				Sg	**Sn**	**03 31 27.7**	**-0.2**	
	71nm,0.2s							
BRG	**Berggiesshubel**	**1.47**	**247**	PN	**Pn**	**03 31 10.7**	**-0.3**	
BRG				PG	**Pb**	**03 31 11.8**	**+0.3**	
BRG				SG	**Sn**	**03 31 31.6**	**+0.6**	
	42nm,0.3s							
KRLC	**Kraliky**	**1.47**	**162**	*e*PG	**Pn**	**03 31 10.6**	**-0.5**	
KRLC				*e*SG	**Sg**	**03 31 29.8**	**-0.8**	
KRLC	**Kraliky**	**1.47**	**162**	Pg	**Pn**	**03 31 10.6**	**-0.5**	
KRLC				Sg	**Sg**	**03 31 29.8**	**-0.8**	
PRA	**Prague**	**1.75**	**217**	*e*SG	**Sg**	**03 31 40.0**	**+0.5**	
	comp=Z,8.6nm,0.4s							
PRA	**Prague**	**1.75**	**217**	Sg	**Sg**	**03 31 40.0**	**+0.5**	
	8.6nm,0.4s							
GOPC	**GO Pecny, Ondr**	**1.77**	**208**	*e*PG	**Pb**	**03 31 16.0**	**-0.5**	
GOPC				*e*SG	**Sg**	**03 31 40.0**	**0.0**	
	comp=Z,5.6nm,0.2s							
GOPC	**GO Pecny, Ondr**	**1.77**	**208**	Pg	**Pb**	**03 31 16.0**	**-0.5**	
GOPC				Sg	**Sg**	**03 31 40.0**	**0.0**	
	5.6nm,0.2s							
PRU	**Pruhonice**	**1.78**	**214**	*e*PG	**Pb**	**03 31 16.3**	**-0.5**	
PRU				*ex*	x	03 31 33.6		
PRU				*e*SG	**Sb**	**03 31 40.1**	**+0.5**	
	comp=Z,8.2nm,0.3s							
PRU	**Pruhonice**	**1.78**	**214**	Pg	**Pb**	**03 31 16.3**	**-0.5**	
PRU				Sg	**Sb**	**03 31 40.1**	**+0.5**	
	8.2nm,0.3s							
CLL	**Collm**	**1.93**	**266**	*e*Pn	**Pn**	**03 31 17.0**	**-0.4**	
CLL				*e*Pg	**Pb**	**03 31 19.0**	**-0.4**	
CLL				*e*Sg	**Sg**	**03 31 45.0**	**-0.3**	
	comp=Z,11nm,0.4s							
MORC	**Moravsky Berou**	**1.94**	**151**	*e*Pn	**Pn**	**03 31 16.2**	**-1.4**	
MORC				*e*Sg	**Sb**	**03 31 44.1**	**-0.2**	
OKC	**Ostrava-Krasne**	**2.10**	**140**	*e*PG	**Pg**	**03 31 23.0**	**-0.6**	
OKC				*e*SG	**Sb**	**03 31 48.2**	**-0.8**	
	comp=Z,9.8nm,0.4s							
OKC	**Ostrava-Krasne**	**2.10**	**140**	Pg	**Pg**	**03 31 23.0**	**-0.6**	
OKC				Sg	**Sb**	**03 31 48.2**	**-0.8**	
	comp=Z,9.8nm,0.4s							
VRAC	**Vranov**	**2.20**	**171**	*e*Pn	**Pn**	**03 31 21.0**	**0.0**	
VRAC				*e*Sg	**Sb**	**03 31 52.4**	**+0.8**	
TREC	**Trest**	**2.22**	**190**	*e*PN	**Pn**	**03 31 22.2**	**+0.9**	
TREC				*e*PG	**Pb**	**03 31 24.3**	**+0.1**	
TREC				*e*SG	**Sg**	**03 31 53.8**	**-0.6**	
	comp=Z,6.0nm,0.2s							
TREC	**Trest**	**2.22**	**190**	Pn	**Pn**	**03 31 22.2**	**+0.9**	
NKC	**Novy Kostel**	**2.61**	**243**	*e*PN	**Pn**	**03 31 27.0**	**+0.2**	
NKC				*e*PG	**Pb**	**03 31 32.0**	**+1.0**	
NKC				*e*SG	**Sg**	**03 32 07.7**	**+0.5**	
	comp=Z,25nm,0.3s							
NKC	**Novy Kostel**	**2.61**	**243**	Pn	**Pn**	**03 31 27.0**	**+0.2**	
OJC	**Ojcow**	**2.67**	**117**	*e*Pg	**Pg**	**03 31 33.4**	**-1.1**	
OJC				*e*Sg	**Sg**	**03 32 09.1**	**0.0**	
OJC	**Ojcow**	**2.67**	**117**	*e*Pg	**Pg**	**03 31 33.4**	**-1.1**	
OJC				*e*Sg	**Sg**	**03 32 09.1**	**0.0**	
OJC	**Ojcow**	**2.67**	**117**	*e*Pg	**Pg**	**03 31 33.4**	**-1.1**	
OJC				*e*Sg	**Sg**	**03 32 09.1**	**0.0**	
KHC	**Kasperske Hory**	**2.84**	**215**	*e*PN	**Pn**	**03 31 29.8**	**-0.1**	
KHC				*e*PG	**Pb**	**03 31 35.6**	**+0.7**	
KHC				*e*SN	**Sn**	**03 32 04.2**	**-0.7**	
KHC				*e*SG	**Sg**	**03 32 14.0**	**-0.5**	
	comp=Z,4.4nm,0.3s							
KHC	**Kasperske Hory**	**2.84**	**215**	Pn	**Pn**	**03 31 29.8**	**-0.1**	
LANS	**Liptovska Anna**	**3.19**	**136**	*e*Pg	**Pb**	**03 31 42.0**	**+1.3**	
LANS				*e*Sg	**Sg**	**03 32 24.7**	**-0.9**	
LANS	**Liptovska Anna**	**3.19**	**136**	*e*PG	**Pb**	**03 31 42.0**	**+1.3**	
LANS				*e*SG	**Sg**	**03 32 24.7**	**-0.9**	
VYHS	**Vyhne**	**3.48**	**148**	*e*Pg	**Pg**	**03 31 49.7**	**-0.2**	
VYHS	**Vyhne**	**3.48**	**148**	*e*PG	**Pg**	**03 31 49.7**	**-0.2**	
CONA	**Conrad Observa**	**3.56**	**182**	Pn	**Pn**	**03 31 41.0**	**+1.2**	
	comp=Z,0.7nm,0.3s							
CONA				Sg	**Sg**	**03 32 36.5**	**-0.9**	
	comp=Z,4.8nm,0.5s							
MOA	**Molln**	**3.82**	**199**	Pn	**Pn**	**03 31 43.4**	**+0.1**	
	comp=Z,0.7nm,0.3s							
MOA				Sg	**Sg**	**03 32 45.2**	**-0.6**	
	comp=Z,4.1nm,0.4s							
STHS	**Stebnicka Huta**	**3.89**	**120**	*e*Pg	**Pg**	**03 31 57.4**	**-0.5**	
STHS				*e*Sg	**Sg**	**03 32 51.2**	**+2.9**	
STHS	**Stebnicka Huta**	**3.89**	**120**	*e*PG	**Pg**	**03 31 57.4**	**-0.5**	
STHS				*e*SG	**Sg**	**03 32 51.2**	**+2.9**	
STHS				*e*LG	Lg	03 32 56.1		
KECS	**Kecovo**	**4.13**	**135**	*e*Sg	**Sg**	**03 32 55.9**	**-0.1**	
KECS	**Kecovo**	**4.13**	**135**	*e*SG	**Sg**	**03 32 55.9**	**-0.1**	
ARSA	**Arzberg**	**4.25**	**185**	Sg	**Sg**	**03 33 00.7**	**+1.1**	
	comp=Z,2.5nm,0.5s							

MEX 20 03:33:43.1±0.4, 14°.35N×92°.77W, h20km, MD3.8, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CCIG	**Comitan**	**2.02**	**17**	*e*P	Pn	03 34 14.1	-2.1
CCIG				*e*S	Sn	03 34 37.0	-3.9
TGIG		**2.44**	**352**	*e*P	Pn	03 34 19.8	-2.1
TGIG				*i* S	Sn	03 34 48.0	-3.2

*FUNV **20** 03:38:52.2, 11°.38N×72°.18W, h9km, MW2.4*
*ISCJB **20** 03:38:53.1±0.6, 11°.31N±0°.05×72°.12W±0°.04, h26km±7km, Error ellipse: s-maj=9.3km s-min=4.8km az=144.3*
*RSNC **20** 03:38:53.1±0.7, 11°.26N×72°.14W, h2km±6km, ML3.2*

ISC 20 03:38:53.3±1.2, 11°.29N±0°.05×72°.13W±0°.04, h16km±10km, n16, σ0°.76/23, Near north coast of Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URIC	**Uribia, Colomb**	**0.43**	**18**	*e*P	**Pg**	**03 39 02.1**	**+0.2**
URIC				*e*S	**Sg**	**03 39 08.3**	**+0.5**
URIC				*i*		03 39 09.3	
	comp=Z,2μm,0.1s						
VIRV	**Villa del Rosa**	**0.83**	**199**	*e*P	**Pg**	**03 39 09.1**	**-0.5**
VIRV				*e*S	**Sg**	**03 39 20.5**	**0.0**
DABV	**Dabajuro**	**1.51**	**104**	*e*P	**Pn**	**03 39 20.6**	**+0.8**
DABV				*e*S	**Sn**	**03 39 40.3**	**+1.2**
CODC	**Agust`>n Codaz**	**1.87**	**224**	*e*P	**Pn**	**03 39 23.9**	**-0.8**
CODC				*e*S	**Sn**	**03 39 48.3**	**+0.3**
CODC				*i*		03 39 54.5	
	comp=Z,241nm,0.3s						
MONV	**Montecano**	**2.21**	**73**	*e*P	**Pn**	**03 39 27.9**	**-1.5**
MONV				*e*S	**Sn**	**03 39 55.8**	**-0.7**
CURV	**Curarigua**	**2.48**	**121**	*e*P	**Pn**	**03 39 33.3**	**+0.1**
VIGV	**El Vigia**	**2.55**	**163**	*e*P	**Pn**	**03 39 34.2**	**+0.1**
TEPV	**Terepaima**	**3.18**	**114**	*e*P	**Pn**	**03 39 42.2**	**-0.5**
SOCV	**Socops**	**3.24**	**157**	*e*P	**Pn**	**03 39 43.4**	**-0.2**
OCAC	**Ocana**	**3.25**	**201**	*e*P	**Pn**	**03 39 43.4**	**-0.5**
OCAC				*e*S	**Sn**	**03 40 23.0**	**+0.6**
OCAC				*i*		03 40 42.1	
	comp=Z,61nm,0.5s						
SJCC	**San Jacinto, C**	**3.31**	**245**	*e*P	**Pn**	**03 39 44.8**	**+0.3**
SJCC				*e*S	**Sn**	**03 40 24.9**	**+1.3**
CAPV	**Capacho**	**3.41**	**183**	*e*P	**Pn**	**03 39 46.0**	**-0.1**
MAPV	**Macapo**	**3.89**	**112**	*e*P	**Pn**	**03 39 51.9**	**-0.6**
MOTC	**Monteria, Cord**	**4.29**	**235**	*e*P	**Pn**	**03 39 57.0**	**-1.0**
TURV	**Turiamo**	**4.30**	**101**	*e*P	**Pn**	**03 39 57.2**	**-0.9**
BAUV	**El Baul**	**4.65**	**120**	*e*P	**Pn**	**03 40 02.8**	**-0.2**

*IDC **20** 03:44:00.7±2.1, 10°.16S×161°.22E, h108km±17km, mb3.9/8, mb1 4.2/9, mb1mx3.8/42, mbtmp4.3/9, MS4.2/2, Ms1 4.2/2, ms1mx3.3/27, Error ellipse: s-maj=25.4km s-min=19.1km az=112.0*
*NEIC **20** 03:44:00.7±1.0, 10°.18S×161°.28E, h110km±9km, mb4.7/9, Error ellipse: s-maj=11.1km s-min=8.2km az=95.0*

ISC 20 03:43:55.8±0.7, 10°.20S±0°.08×161°.62E±0°.09, h67km, n35, σ2°.02/33, mb4.3/14, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**1.82**	**295**	P	**Pn**	**03 44 26.4**	**+1.5**
	88nm,0.3s,baz=204,slow=22,SNR=11						
HNR				S	**Sn**	**03 44 46.9**	**-0.1**
	223nm,0.3s,baz=165,slow=24,SNR=9.2						
HNR	**Honiara**	**1.82**	**295**	*i* P	**Pn**	**03 44 25.5**	**+0.6**
HNR				*i* S	**Sn**	**03 44 51.5**	**+4.5**
HNR	**Honiara**	**1.82**	**295**	*e*Pn	**Pn**	**03 44 27.2**	**+2.3**
HNR				*e*Sn	**Sn**	**03 44 46.6**	**-0.4**
DZM	**Mont Dzumac**	**12.68**	**159**	P	**P**	**03 47 00.4**	**-1.8**
	1.5nm,0.3s,baz=12,slow=7.3,SNR=25						
DZM				S	**Sn**	**03 49 16.1**	**+3.2**
	0.4nm,0.3s,baz=342,slow=20,SNR=3.8						
DZM	**Mont Dzumac**	**12.68**	**159**	*e*Pn	**P**	**03 46 59.6**	**-2.7**
DZM				*e*Sn	**Sn**	**03 49 16.1**	**+3.2**
PATS	**Pohnpei**	**17.24**	**349**	*e*Pn	**Pn**	**03 47 53.6**	**+1.4**
	409nm,1.8s						
CTA	**Charters Tower**	**17.78**	**235**	P	**P**	**03 47 59.8**	**+1.0**
	0.6nm,0.3s,baz=65,slow=14,SNR=4.7						
CTAO	**Charters Tower**	**17.78**	**235**	*e*P	**P**	**03 48 01.4**	**+2.6**
	19nm,1.4s						
WB2	**Warramunga Arr**	**28.02**	**247**	*e*P	**P**	**03 49 38.9**	**-1.9**
WR1	**Warramunga Arr**	**28.03**	**247**	*e*P	**P**	**03 49 39.1**	**-1.7**
	6.9nm,0.7s						
WRA	**Warramunga Arr**	**28.03**	**247**	P	**P**	**03 49 39.1**	**-1.7**
	5.8nm,0.5s,baz=75,slow=9.3,SNR=20						
H11S2	**WAKE ISLAND Hy**	**28.95**	**10**	T	T	04 18 55.6	
	baz=194,slow=76,SNR=21						
H11S3	**WAKE ISLAND Hy**	**28.95**	**10**	T	T	04 18 46.3	
	baz=194,slow=76,SNR=19						
H11S1	**WAKE ISLAND Hy**	**28.96**	**10**	T	T	04 18 47.5	
	baz=194,slow=76,SNR=15						
AS01	**Alice Springs**	**29.59**	**240**	*e*P	**P**	**03 49 51.8**	**-2.9**
AS31	**Alice Springs**	**29.63**	**240**	*e*P	**P**	**03 49 52.5**	**-2.5**
	1.0nm,0.4s						
ASAR	**Alice Springs**	**29.63**	**240**	P	**P**	**03 49 52.5**	**-2.5**
	1.1nm,0.4s,baz=62,slow=10.0,SNR=24						
ASAR				LR	LR	04 01 38.5	
	comp=Z,444nm,19.7s,baz=26,slow=36						
H11N1	**WAKE ISLAND Hy**	**30.18**	**10**	T	T	04 20 44.2	
	baz=191						
H11N3	**WAKE ISLAND Hy**	**30.18**	**10**	T	T	04 20 43.5	
	baz=191						
H11N2	**WAKE ISLAND Hy**	**30.19**	**10**	T	T	04 20 43.2	
	baz=191						
DCZ	**Deep Cove**	**35.46**	**173**	*e*P	**P**	**03 50 45.3**	**-0.3**
	78nm,1.7s						
MLZ	**Mavora Lakes**	**35.48**	**172**	*e*P	**P**	**03 50 47.8**	**+1.9**
	118nm,2.0s						
FITZ	**Fitzroy Crossi**	**35.71**	**253**	P	**P**	**03 50 45.9**	**-2.2**
	6.3nm,0.6s,baz=77,slow=8.4,SNR=25						
FITZ	**Fitzroy Crossi**	**35.71**	**253**	*e*P	**P**	**03 50 45.9**	**-2.2**
	6.6nm,0.8s						
MBWA	**Marble Bar**	**41.66**	**250**	*e*P	**P**	**03 51 35.8**	**-2.1**
	73nm,1.6s						
VNDA	**Vanda**	**67.30**	**180**	P	**P**	**03 54 43.9**	**+0.9**
	1.2nm,0.6s,baz=352,slow=4.7,SNR=6.7						
SONA0	**Songino Array**	**75.63**	**325**	*e*P	**P**	**03 55 33.8**	**+0.1**
	2.4nm,0.6s						
SONM	**Songino Array**	**75.63**	**325**	P	**P**	**03 55 33.8**	**+0.1**
	1.1nm,0.5s,baz=148,slow=6.1,SNR=4.4						
ILAR	**Eielson Array**	**84.05**	**20**	P	**P**	**03 56 19.1**	**+0.4**
	0.5nm,0.4s,baz=243,slow=4.9,SNR=17						
ILB	**Eielson Array**	**84.05**	**20**	*e*P	**P**	**03 56 19.1**	**+0.4**
MK32	**Makanchi Array**	**90.15**	**318**	*e*P	**P**	**03 56 47.3**	**-1.4**
MKAR	**Makanchi Array**	**90.15**	**318**	P	**P**	**03 56 47.3**	**-1.4**
	0.4nm,0.4s,baz=84,slow=7.6,SNR=6.1						
ZALV	**Zalesovo Beam**	**90.52**	**325**	LR	LR	04 38 33.3	
	comp=Z,130nm,20.2s,baz=250,slow=36						
YKA	**Yellowknife Ar**	**96.10**	**28**	P	**P**	**03 57 15.7**	**0.0**
	0.5nm,0.5s,baz=259,slow=4.7,SNR=4.5						
YKB5	**Yellowknife Ar**	**96.10**	**28**	*e*P	**P**	**03 57 15.7**	**0.0**

GUC 20 03:44:59.0±0.4, 23°.80S×67°.56W, h215km±5km, ML4.0, 5C-3D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**1.72**	**313**	*i* P	Pn	03 45 37.4	+1.0
LVC				*i* S	S	03 46 06.9	+1.7
SLA	**San Lorenzo**	**2.09**	**116**	*i* P	Pn	03 45 32.5	-7.2
SLA				*i* S	S	03 45 58.7	-12
PB06	**IPOC Station P**	**2.15**	**300**	*i* P	Pn	03 45 42.0	+1.7
PB06				*i* S	S	03 46 14.3	+2.1
PB06				IAML		03 46 15.8	
	comp=E,559nm,0.3s						
PB09	**IPOC Station P**	**2.53**	**322**	*i* P	Pn	03 45 46.9	+2.6
PB09				*e*S	S	03 46 22.9	+3.4
PB09				IAML		03 46 26.1	
	comp=E,314nm,0.6s						
PB14	**IPOC Station P**	**2.72**	**252**	*i* P	Pn	03 45 46.5	-0.1
PB14				*i* S	S	03 46 23.1	-0.3
PB04	**IPOC Station P**	**2.79**	**301**	*i* P	Pn	03 45 49.3	+2.0
PB04				*i* S	S	03 46 27.0	+2.3
PB04				IAML		03 46 30.7	
	comp=E,220nm,0.2s						
PB07	**IPOC Station P**	**2.98**	**313**	*i* P	Pn	03 45 51.5	+2.1
PB07				*i* S	S	03 46 31.0	+2.5
PB01	**IPOC Station P**	**3.27**	**327**	*i* P	Pn	03 45 54.9	+2.2
PB01				*i* S	S	03 46 37.2	+2.6
PB01				IAML		03 46 37.5	
	comp=E,99nm,0.2s						
PB08	**IPOC Station P**	**3.93**	**338**	*e*P	Pn	03 46 03.5	+2.6
PB08				*i* S	S	03 46 53.0	+3.7
MNMC	**Minye Minye**	**5.02**	**337**	*e*P	Pn	03 46 17.7	+3.3

*BJI **20** 03:48:38.9, 4°.46S×136°.30E, h38km, mb4.7/26, mB5.2/13, Ms4.7/9, Ms7 4.6/9*
*DJA **20** 03:48:43.2±0.3, 3°.5±4°×13°.5E±°, h285km±6km, M4.6/10, mb4.5/10, mB5.0/6, MLv4.8/8, Mw(mB)4.3/6*
*ISCJB **20** 03:48:45.6±0.2, 3°.56S±0°.03×135°.37E±0°.03, h22km, mb4.7/31, MS4.4/3, Error ellipse: s-maj=4.1km s-min=3.7km az=2.8*
*NEIC **20** 03:48:50.5±0.8, 3°.51S×135°.45E, h49km±8km, mb4.9/17, Error ellipse: s-maj=7.6km s-min=6.1km az=60.0*
NEIC Felt [II] at Nabire.
*IDC **20** 03:48:50.8±2.1, 3°.49S×135°.43E, h48km±20km, mb4.1/13, mb1 4.3/17, mb1mx4.1/38, mbtmp4.4/17, ML3.9/4, MS4.2/1, Ms1 4.2/1, ms1mx3.0/25, Error ellipse: s-maj=22.0km s-min=12.5km az=64.0*

ISC 20 03:48:47.2±0.3, 3°.63S±0°.04×135°.41E±0°.04, h22km, n110, σ2°.50/127, mb4.7/31, MS4.3/4, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FAKI	**Fak Fak**	**3.23**	**283**	P	**Pn**	**03 49 39.7**	**+3.0**
FAKI				S	**Sn**	**03 50 13.6**	**-0.9**
FAKI	**Fak Fak**	**3.23**	**283**	*e*Pn	**Pn**	**03 49 39.4**	**+2.7**
FAKI				*e*Sn	**Sn**	**03 50 10.4**	**-4.1**
SMPI	**Sarmi**	**3.68**	**64**	P	**Pn**	**03 49 46.6**	**+3.7**
SMPI				S	**Sn**	**03 50 26.6**	**+1.0**
GENI	**Genyem**	**4.87**	**78**	P	**Pn**	**03 50 00.7**	**+1.5**
GENI				S	**Sn**	**03 50 56.9**	**+2.0**
SIJI	**Sorong**	**4.96**	**303**	P	**Pn**	**03 50 02.1**	**+1.5**
	4.3nm,0.3s,baz=90,slow=20,SNR=10.0						
SIJI				S	**Sn**	**03 50 54.9**	**-2.5**
	17nm,0.3s,baz=270,slow=24,SNR=11						
JAY	**Jayapura**	**5.41**	**78**	P	**Pn**	**03 50 08.9**	**+2.3**
	1.4nm,0.3s,baz=206,slow=22,SNR=41						
JAY				S	**Sn**	**03 51 09.4**	**+1.1**
	0.6nm,0.3s,baz=229,slow=23,SNR=4.8						
JAY	**Jayapura**	**5.41**	**78**	P	**Pn**	**03 50 07.5**	**+0.9**
	74nm,0.8s,796nm0.4nm						
JAY				S	**Sn**	**03 51 09.7**	**+1.4**
	74nm,0.8s,796nm0.4nm						
BNDI	**Bandanaira**	**5.56**	**261**	P	**Pn**	**03 50 07.0**	**-1.7**
	170nm,0.7s,7μm						
BNDI				S	**Sn**	**03 51 15.1**	**+3.1**
	170nm,0.7s,7μm						
SAUI	**Saumlaki**	**5.95**	**223**	P	**Pn**	**03 50 15.9**	**+1.9**
SAUI				S	**Sn**	**03 51 27.9**	**+6.4**
MSAI	**Masohi**	**6.47**	**272**	P	Pn	03 50 16.4	-4.9
	13nm,0.8s,961nm0.1nm						
MSAI				S	**Sn**	**03 51 31.9**	**-2.6**
	13nm,0.8s,961nm0.1nm						
AAI	**Ambon**	**7.20**	**269**	P	Pn	03 50 25.3	-5.9
	70nm,0.5s,3μm0.4nm						
NLAI	**Namlea**	**8.30**	**272**	P	Pn	03 50 38.2	-8.2
	37nm,0.6s						
NLAI				S	**Sn**	**03 52 12.0**	**-7.5**
	37nm,0.6s						
LBMI	**Labuha**	**8.44**	**290**	P	Pn	03 50 38.5	-10
	41nm,1.1s,1μm						
LBMI				S	Sn	03 52 12.1	-11
	41nm,1.1s,1μm						
KDU	**Kakadu**	**9.45**	**198**	P	**Pn**	**03 51 04.8**	**+2.7**
	baz=9.5,SNR=85						
MTN	**Manton Dam**	**10.08**	**205**	P	**Pn**	**03 51 14.4**	**+3.7**
	baz=10,SNR=308						
MTN	**Manton Dam**	**10.08**	**205**	*e*Pn	**Pn**	**03 51 14.0**	**+3.2**
MTN				*e*Sn	**Sn**	**03 53 00.3**	**-3.0**
SOEI	**Soe**	**12.62**	**241**	P	Pn	03 51 34.7	-11
SOEI				S	Sn	03 53 56.6	-9.2
SOEI	**Soe**	**12.62**	**241**	*e*Pn	**Pn**	**03 51 49.5**	**+3.9**
SOEI				*e*Sn	**Sn**	**03 54 09.8**	**+4.1**
COEN	**Coen**	**12.81**	**144**	P	**Pn**	**03 51 48.3**	**+0.2**
	baz=13,SNR=183						
COEN	**Coen**	**12.81**	**144**	*e*Pn	**Pn**	**03 51 48.4**	**+0.2**
COEN				*e*Sn	Sn	03 53 59.8	-10
PMG	**Port Moresby**	**13.01**	**117**	P	**Pn**	**03 51 52.7**	**+1.8**
	6.2nm,0.3s,baz=252,slow=2.6,SNR=9.3						
PMG				S	**Sn**	**03 54 08.0**	**-6.9**
	2.1nm,0.3s,baz=218,slow=18,SNR=3.0						
PMG	**Port Moresby**	**13.01**	**117**	*e*Pn	**Pn**	**03 51 52.9**	**+2.1**
PMG				*e*Sn	**Sn**	**03 54 08.9**	**-6.0**
BATI	**Baumata**	**13.36**	**240**	P	Pn	03 51 43.9	-12
KNRA	**Kununurra**	**13.64**	**208**	P	**Pn**	**03 52 01.1**	**+1.6**
	baz=14,SNR=34						
WRAB	**Tennant Creek**	**16.23**	**184**	*e*P	**Pn**	**03 52 33.4**	**-0.7**
WRAB				*e*Sn	**Sn**	**03 55 25.2**	**-8.4**
WB2	**Warramunga Arr**	**16.24**	**184**	*e*P	**Pn**	**03 52 33.1**	**-1.1**
	45nm,0.8s						
WB2				*e*Sn	**Sn**	**03 55 25.0**	**-8.9**
WR1	**Warramunga Arr**	**16.24**	**184**	*e*Pn	**Pn**	**03 52 33.0**	**-1.2**
	45nm,0.7s						
WR1				*e*Sn	Sn	03 55 24.0	-10
WRA	**Warramunga Arr**	**16.24**	**184**	P	**Pn**	**03 52 33.0**	**-1.2**
	4.7nm,0.3s,baz=5.2,slow=13,SNR=19						
WRA				S	Sn	03 55 24.0	-10
	2.8nm,0.3s,baz=5.6,slow=22,SNR=11						
MTSU	**Mount Surprise**	**16.85**	**149**	P	**Pn**	**03 52 41.3**	**-0.6**
	baz=17,SNR=82						
FITZ	**Fitzroy Crossi**	**17.27**	**213**	P	**Pn**	**03 52 47.0**	**-0.1**
	4.2nm,0.3s,baz=29,slow=9.2,SNR=97						
FITZ				S	Sn	03 55 47.4	-11
	2.2nm,0.3s,baz=203,slow=14,SNR=5.0						
FITZ	**Fitzroy Crossi**	**17.27**	**213**	P	**Pn**	**03 52 47.2**	**+0.1**
	baz=17,SNR=62						
FITZ	**Fitzroy Crossi**	**17.27**	**213**	*e*Pn	**Pn**	**03 52 48.4**	**+1.2**
	24nm,0.6s						
FITZ				*e*Sn	Sn	03 55 47.4	-11
CTA	**Charters Tower**	**19.48**	**148**	P	**Pn**	**03 53 15.0**	**+0.9**
	2.3nm,0.3s,baz=323,slow=12,SNR=26						
CTA				S	**S**	**03 56 44.4**	**-7.5**
	0.4nm,0.3s,baz=41,slow=19,SNR=3.1						
CTAO	**Charters Tower**	**19.48**	**148**	*e*P	**Pn**	**03 53 15.7**	**+1.6**
CTAO				*e*Pn	**pP**	**03 53 16.4**	**-2.6**
AS01	**Alice Springs**	**19.96**	**184**	*e*P	**Pn**	**03 53 21.5**	**+1.6**
AS31	**Alice Springs**	**19.97**	**184**	*e*P	**Pn**	**03 53 21.7**	**+1.7**
	20nm,0.6s						
AS31				*e*S	S	03 56 51.5	-10
ASAR	**Alice Springs**	**19.97**	**184**	P	**Pn**	**03 53 21.6**	**+1.6**
	39nm,0.7s,baz=7.9,slow=11,SNR=173						
ASAR				S	S	03 56 51.5	-11
	3.5nm,0.8s,baz=2.9,slow=25,SNR=4.6						
WRKA	**Warakurna**	**22.35**	**197**	P	**P**	**03 53 45.9**	**+2.0**
	baz=22,SNR=50						
MBWA	**Marble Bar**	**23.15**	**220**	*e*P	**P**	**03 53 53.4**	**+1.1**
	107nm,1.9s						
QLP	**Quilpie**	**24.34**	**161**	P	**P**	**03 54 05.2**	**+1.6**
	baz=24,SNR=52						
HNR	**Honiara**	**25.04**	**104**	LR	LR	04 03 49.1	
	comp=Z,462nm,18.1s,baz=338,slow=36						
UGM	**Wanagama**	**25.11**	**259**	*e*P	**P**	**03 54 10.7**	**-0.1**
	319nm,1.6s						
FORT	**Forrest**	**27.88**	**194**	P	**P**	**03 54 37.6**	**+2.1**
	baz=28,SNR=13						
FORT	**Forrest**	**27.88**	**194**	*e*P	**P**	**03 54 37.3**	**+1.7**
	307nm,0.8s						
MEEK	**Meekatharra**	**27.96**	**213**	P	**P**	**03 54 38.9**	**+2.5**
	baz=28,SNR=3.1						
STKA	**Stephens Creek**	**28.69**	**169**	P	**P**	**03 54 43.5**	**+0.7**
	5.5nm,0.6s,baz=346,slow=8.2,SNR=12						
STKA	**Stephens Creek**	**28.69**	**169**	P	**P**	**03 54 43.6**	**+0.8**
	baz=29,SNR=9.4						
STKA	**Stephens Creek**	**28.69**	**169**	*e*P	**P**	**03 54 43.2**	**+0.4**
	3.0nm,1.0s						
BBOO	**Buckleboo**	**29.03**	**179**	P	**P**	**03 54 46.6**	**+0.8**
	baz=29						
BBOO	**Buckleboo**	**29.03**	**179**	*e*P	**P**	**03 54 46.7**	**+0.8**
	90nm,1.6s						
KMBL	**Kambalda**	**30.39**	**203**	P	**P**	**03 54 58.8**	**+0.9**
	baz=30						
BLDU	**Ballidu**	**32.12**	**211**	P	**P**	**03 55 14.2**	**+1

comp=N,130nm,8.7s
KSH LR LR
comp=E,100nm,5.9s
KSH LR LR
comp=Z,400nm,15.7s
ZAA0 Zalesovo Array 71.11 331 *eP* **P 04 00 02.6 -1.2**
ZALV Zalesovo Beam 71.11 331 P **P 04 00 02.6 -1.2**
1.6nm,0.6s,baz=123,slow=6.4,SNR=4.6
ZAA1 Zalesovo Array 71.11 331 *eP* **P 04 00 02.6 -1.3**
KURK Kurchatov 72.61 326 *eP* **P 04 00 12.4 -0.4**
KURBB Kurchatov Arra 72.61 326 P **P 04 00 12.4 -0.5**
1.5nm,0.5s,baz=120,slow=5.0,SNR=7.0
KKAR Karatay Array 74.50 317 *eP* **P 04 00 24.6 +0.3**
30nm,0.6s
VNDA Vanda 75.18 174 P **P 04 00 28.2 +0.7**
0.6nm,0.8s,baz=321,slow=4.8,SNR=3.2
BVAR Borovoye Array 78.20 326 P **P 04 00 43.9 -1.1**
2.6nm,0.7s,baz=112,slow=6.6,SNR=8.8
MAW Mawson 80.04 202 P **P 04 00 56.0 +1.2**
8.8nm,1.2s,baz=77,slow=7.7,SNR=8.8
MAW Mawson 80.04 202 P **P 04 00 55.6 +0.9**
baz=80
MAW Mawson 80.04 202 *eP* **P 04 00 56.0 +1.2**
3.4nm,1.8s
GEYT Alibeck 82.23 309 P **P 04 01 07.6 +0.4**
3.3nm,0.6s,baz=135,slow=55,SNR=4.4
QSPA South Pole Qui 86.32 180 *eP* **P 04 01 27.8 +0.4**
4.3nm,0.7s
QSPA *epP* **sP 04 01 40.9 +3.6**
CCB Clear Creek Bu 87.63 25 *eP* **P 04 01 32.2 -1.4**
7.5nm,0.9s
IL1 Eielson Array 88.04 25 *eP* **P 04 01 33.0 -2.6**
ILAR Eielson Array 88.04 25 P **P 04 01 33.2 -2.4**
1.9nm,0.7s,baz=265,slow=4.3,SNR=22
ILB Eielson Array 88.04 25 *eP* **P 04 01 33.2 -2.4**
ARCES ARCESS Array B 100.28 340 P **Pdif 04 02 29.8 -1.8**
4.0nm,0.7s,baz=75,slow=6.4,SNR=8.5
LTX Lajitas 118.59 59 *e*PKPdf **PKPdf 04 07 33.2 -1.1**
TXAR Lajitas Array 118.59 59 PKP **PKPdf 04 07 33.2 -1.1**
0.2nm,0.6s,baz=235,slow=3.2,SNR=2.8
TORD Torodi Ar. Bea 133.32 285 PKP **PKPdf 04 08 01.7 -1.0**
0.8nm,0.7s,baz=94,slow=2.1,SNR=6.7
TOA1 Torodi Ar. Sit 133.32 285 *e*PKPdf **PKPdf 04 08 01.7 -1.0**
CPUP Villa Florida 147.76 158 PKPbc **PKPbc 04 08 31.8 +0.6**
8.6nm,0.6s,baz=213,slow=1.7,SNR=33
SJCC San Jacinto, C 149.01 77 *eP* **PKPbc 04 08 33.2 -1.6**
LPAZ La Paz 149.45 131 PKPbc **PKPbc 04 08 37.5 +0.9**
5.0nm,0.8s,baz=299,slow=3.9,SNR=18
LPAZ La Paz 149.45 131 *e*PKPbc **PKPbc 04 08 38.0 +1.4**
PRAC Prado 149.77 89 *eP* **PKPbc 04 08 36.0 -0.7**
ROSC El Rosal 150.33 87 PKPbc **PKPbc 04 08 38.3 -0.2**
9.4nm,0.5s,baz=114,slow=17,SNR=9.3
ROSC El Rosal 150.33 87 *e*PKPbc **PKPbc 04 08 38.4 -0.1**
CHIC Chingaza 150.92 87 *eP* **PKPbc 04 08 38.8 -1.2**
RUSC La Rusia 151.52 84 *eP* **PKPbc 04 08 39.9 -1.5**

NIED ***20*** *03:50:00.40˝40N×143˝70E,h14km,Mw4.1 Best double couple: M₀1.87000×10¹⁵ NP1:φ₀185.00000°,δ39.00000°, λ73.00000°. NP2:φ₀26.00000°,δ53.00000°,λ103.00000°.*
IDC ***20*** *03:50:12.4±1.1,40˝28N×143˝91E,h0km,mb3.9/12, mb1 4.1/14,mb1mx3.9/43,mbtmp3.9/14,ML3.4/2,Error ellipse: s-maj=25.4km s-min=20.9km az=148.0*
JMA ***20*** *03:50:14.3±0.3,40˝36N×143˝72E,h12km±4km,M3.9*
NEIC ***20*** *03:50:17.7±0.6,40˝32N×143˝85E,h35km,mb4.1/1,Error ellipse: s-maj=12.8km s-min=7.5km az=116.0*

ISC 20 03:50:14.2±3.5, 40˚31N±0˚04×143˚84E±0˚07, h15km±21km, n40, σ1°74/41, mb4.0/14, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time h m s	Res ISC
				Op	ISC		
JTH	**Tanohata**	**1.56**	**257**	P	**Pn**	**03 50 41.0**	**-0.5**
MIYJ	**Miyakonagasawa**	**1.72**	**245**	P	**Pn**	**03 50 43.7**	**+0.1**
ERM	**Erimo**	**1.78**	**343**	*e*Pn	**Pb**	**03 50 45.1**	**-1.4**
JANG	**Nango**	**1.78**	**273**	P	**Pn**	**03 50 44.1**	**-0.4**
JEM	**Erimo**	**1.78**	**343**	P	**Pn**	**03 50 44.1**	**-0.4**
JEM				*e*S	**Sn**	**03 51 05.2**	**-1.6**
JNBK	**Urakawa-nobuka**	**2.13**	**338**	P	**Pn**	**03 50 49.6**	**+0.3**
JNBK				S	**Sb**	**03 51 15.9**	**-2.9**
JOM	**Ohasama**	**2.13**	**248**	P	**Pn**	**03 50 50.1**	**+0.8**
JCH	**Churui**	**2.33**	**351**	P	**Pn**	**03 50 52.1**	**+0.1**
JCH				S	**Sn**	**03 51 19.5**	**-0.9**
JOT	**Ohata**	**2.38**	**298**	P	**Pn**	**03 50 53.1**	**+0.5**
JOT				*e*S	**Sn**	**03 51 20.6**	**-0.9**
JMK	**Ichinoseki**	**2.44**	**237**	P	**Pn**	**03 50 54.0**	**+0.5**
JKB	**Kayabe**	**2.65**	**307**	P	**Pn**	**03 50 56.8**	**+0.5**
JKB				*e*S	**Sn**	**03 51 28.7**	**+0.6**
JYK	**Kaneyama**	**3.03**	**244**	P	**Pn**	**03 51 02.8**	**+1.2**
JEW	**Eniwo**	**3.10**	**325**	S	**Sn**	**03 51 39.9**	**+0.5**
ASAJ	**Asahikawa**	**3.91**	**347**	P*n*	**Pn**	**03 51 15.4**	**+1.6**
	2.4nm,0.3s,baz=270,slow=20,SNR=6.4						
ASAJ				Sn	**Sn**	**03 51 59.2**	**-0.3**
	5.3nm,0.3s,baz=90,slow=20,SNR=3.0						
MAJO	**Matsushiro**	**5.81**	**231**	*e*Pn	**Pn**	**03 51 41.0**	**+1.1**
	33nm,0.8s						
MAT	**Matsushiro**	**5.81**	**231**	P	**Pn**	**03 51 41.4**	**+1.5**
MAT				*e*S	**Sn**	**03 52 47.3**	**+1.1**
MJAR	**Matsushiro Arr**	**5.81**	**231**	Pn	**Pn**	**03 51 42.1**	**+2.2**
	0.8nm,0.3s,baz=35,slow=12,SNR=20						
JHJ	**Hachijo jima 2**	**7.88**	**209**	Sn	**Sn**	**03 53 29.9**	**-7.4**
	13nm,0.3s,baz=58,slow=19,SNR=2.7						
USRK	**Ussuriysk Ar.**	**9.61**	**298**	Pn	**Pn**	**03 52 35.5**	**+3.5**
	0.4nm,0.3s,baz=105,slow=15,SNR=8.2						
JNU	**Nakatsue**	**12.63**	**239**	Sn	**Sn**	**03 55 31.9**	**-1.9**
	0.2nm,0.3s,baz=347,slow=18,SNR=2.0						
SEY	**Seymchan**	**23.23**	**10**	P	**P**	**03 55 21.4**	**+0.9**
	1.7nm,0.5s,baz=174,slow=12,SNR=6.0						
H11N2	**WAKE ISLAND Hy 28.47**	**129**		T	T	04 25 47.9	
	baz=321,slow=74,SNR=7.8						
H11N1	**WAKE ISLAND Hy 28.48**	**129**		T	T	04 25 58.4	
	baz=321,slow=74,SNR=7.8						
H11N3	**WAKE ISLAND Hy 28.49**	**129**		T	T	04 25 51.6	
	baz=321,slow=74,SNR=6.9						
H11S1	**WAKE ISLAND Hy 29.31**	**131**		T	T	04 27 06.2	
	baz=323,slow=76,SNR=6.6						
H11S3	**WAKE ISLAND Hy 29.31**	**131**		T	T	04 27 06.4	
	baz=323,slow=76,SNR=6.2						
H11S2	**WAKE ISLAND Hy 29.33**	**131**		T	T	04 27 03.6	
	baz=323,slow=76,SNR=4.4						
ZALV	**Zalesovo Beam**	**41.20**	**310**	P	**P**	**03 57 59.5**	**+1.4**
	0.7nm,0.4s,baz=101,slow=6.0,SNR=3.2						
MKAR	**Makanchi Array**	**44.07**	**300**	P	**P**	**03 58 21.1**	**-0.4**
	1.1nm,0.8s,baz=94,slow=7.3,SNR=6.0						
KURK	**Kurchatov**	**45.48**	**306**	*e*P	**P**	**03 58 32.9**	**+0.3**
	18nm,0.6s						
KURBB	**Kurchatov Arra**	**45.56**	**306**	P	**P**	**03 58 34.3**	**+1.1**
	1.9nm,0.7s,baz=78,slow=8.7,SNR=11						
ILAR	**Eielson Array**	**45.72**	**34**	P	**P**	**03 58 34.1**	**-0.2**
	1.4nm,0.9s,baz=263,slow=6.6,SNR=9.8						
BVAR	**Borovoye Array**	**49.83**	**311**	P	**P**	**03 59 07.9**	**+1.5**
	0.3nm,0.5s,baz=69,slow=7.9,SNR=2.2						
ABKAR	**Akbulak array**	**57.31**	**309**	*e*P	**P**	**04 00 01.9**	**+0.6**
	0.9nm,0.5s						
WRA	**Warramunga Arr**	**60.59**	**190**	P	**P**	**04 00 24.2**	**-0.1**
	1.7nm,0.9s,baz=0.9,slow=5.1,SNR=2.7						
GEYT	**Alibeck**	**63.93**	**299**	P	**P**	**04 00 46.6**	**0.0**
	2.4nm,0.5s,baz=69,slow=7.9,SNR=2.7						
FINES	**FINESS Array B**	**66.80**	**332**	P	**P**	**04 01 05.9**	**+1.1**
	3.3nm,0.9s,baz=58,slow=10,SNR=3.1						
AKASG	**Malin Array Be**	**72.86**	**323**	P	**P**	**04 01 43.0**	**+0.8**
	1.1nm,0.7s,baz=42,slow=5.5,SNR=3.1						
PDAR	**Pinedale Array**	**74.03**	**47**	P	**P**	**04 01 50.4**	**+0.7**
	0.6nm,0.7s,baz=292,slow=2.6,SNR=6.0						
TXAR	**Lajitas Array**	**86.64**	**54**	P	**P**	**04 02 58.6**	**+1.1**
	0.6nm,0.8s,baz=287,slow=2.9,SNR=5.2						

ISCJB ***20*** *04:15:26.8±0.5,6˚83N±0˚03×73˚06W±0˚04,h159km±5km, Error ellipse: s-maj=7.1km s-min=3.9km az=36.2*
FUNV ***20*** *04:15:28.3,6˚81N×73˚09W,h168km, MW2.5*
RSNC ***20*** *04:15:29.1±0.7,6˚79N×73˚11W,h147km±5km, ML3.0*

ISC 20 04:15:26.9±1.4, 6˚83N±0˚04×73˚07W±0˚04, h160km±8km, n31, σ0°89/47, 2C, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase	ID	Time h m s	Res ISC
				Op	ISC		
BTLC	**Betulia, Santa**	**0.22**	**295**	*e*P	**Pn**	**04 15 49.1**	**+0.4**
BARC	**Barichara**	**0.26**	**207**	*i* P	**Pn**	**04 15 48.8**	**0.0**
BARC				*e*S	**Sn**	**04 16 03.9**	**-1.8**
BARC				*i*		04 16 06.8	
	comp=Z,311nm,0.3s						
PAMC	**Pamplona, Colo**	**0.63**	**35**	*e*P	**Pn**	**04 15 51.6**	**+1.0**
PAMC				*e*S	**Sn**	**04 16 08.8**	**0.0**
BRRC	**Barranca, Sant**	**0.70**	**294**	*e*P	**Pn**	**04 15 50.6**	**+0.2**
BRRC				*e*S	**Sn**	**04 16 07.9**	**-0.7**
BRRC				*i*		04 16 11.5	
	comp=Z,206nm,0.5s						
CBRI	**Barrientos, No**	**0.92**	**17**	*i* P	**Pn**	**04 15 53.3**	**+1.0**
RUSC	**La Rusia**	**0.93**	**181**	*e*P	**Pn**	**04 15 52.7**	**+0.1**
RUSC				*e*S	**Sn**	**04 16 11.2**	**-1.2**
RUSC				*i*		04 16 14.2	
	comp=Z,65nm,0.4s						
CAPV	**Capacho**	**1.27**	**36**	*e*P	**Pn**	**04 15 56.6**	**+1.4**
CAPV				*e*S	**Sn**	**04 16 18.1**	**+1.0**
OCAC	**Ocana**	**1.43**	**350**	*e*P	**Pn**	**04 15 57.1**	**+0.4**
OCAC				*e*S	**Sn**	**04 16 20.0**	**+0.4**
OCAC				*i*		04 16 23.1	
	comp=Z,157nm,0.3s						
YOPC	**Yopal, Colombi**	**1.60**	**156**	*e*P	**Pn**	**04 15 59.4**	**+1.0**
YOPC				*e*S	**Sn**	**04 16 22.2**	**-0.4**
YOPC				*i*		04 16 26.4	
	comp=Z,33nm,0.4s						
ZARC	**Zaragoza, Cauc**	**1.90**	**291**	*e*P	**Pn**	**04 16 02.1**	**+0.6**
ZARC				*e*S	**Sn**	**04 16 27.5**	**-0.7**
ZARC				*i*		04 16 33.4	
	comp=Z,94nm,0.4s						
NORC	**Norcasia**	**2.19**	**235**	*e*P	**Pn**	**04 16 04.7**	**-0.1**
NORC				*e*S	**Sn**	**04 16 33.4**	**-0.8**
CHIC	**Chingaza**	**2.28**	**197**	*e*P	**Pn**	**04 16 06.8**	**+0.5**
CHIC				*e*S	**Sn**	**04 16 36.5**	**-0.3**
CHIC				*i*		04 16 46.1	
	comp=Z,53nm,0.4s						
HELC	**Santa Helena**	**2.53**	**256**	*e*P	**Pn**	**04 16 10.5**	**+1.3**
HELC				*e*S	**Sn**	**04 16 42.2**	**+0.4**
HELC				*i*		04 16 47.7	
	comp=Z,51nm,0.4s						
VIGV	**El Vigia**	**2.62**	**40**	*e*P	**Pn**	**04 16 11.1**	**+1.1**
VIGV				*e*S	**Sn**	**04 16 43.0**	**-0.3**
SOCV	**Socops**	**2.63**	**56**	*e*P	**Pn**	**04 16 10.9**	**+0.9**
SOCV				*e*S	**Sn**	**04 16 42.3**	**-1.2**
VILC	**Villavicencio,**	**2.77**	**193**	*e*P	**Pn**	**04 16 11.5**	**+0.6**
VILC				*e*S	**Sn**	**04 16 46.9**	**0.0**
VILC				*i*		04 16 52.3	
	comp=Z,39nm,0.5s						
GUYC	**Guyana, Colomb**	**2.81**	**236**	*e*P	**Pn**	**04 16 14.2**	**+1.4**
GUYC				*i*		04 16 59.9	
	comp=Z,78nm,0.6s						
TOLC	**Tolima**	**3.16**	**225**	*e*P	**Pn**	**04 16 17.4**	**+0.4**
ELOV	**Elorza**	**3.56**	**87**	*e*P	**Pn**	**04 16 22.6**	**+0.9**
PRAC	**Prado**	**3.58**	**210**	*e*P	**Pn**	**04 16 22.1**	**0.0**
PRAC				*e*S	**Sn**	**04 17 04.8**	**-0.3**
VIRV	**Villa del Rosa**	**3.71**	**10**	*e*P	**Pn**	**04 16 23.6**	**-0.1**
VIRV				*e*S	**Sn**	**04 17 05.5**	**-2.4**
QARV	**Quebrada Arrib**	**4.20**	**37**	*e*P	**Pn**	**04 16 31.2**	**+1.2**
SANV	**Sanarito**	**4.39**	**52**	*e*P	**Pn**	**04 16 33.7**	**+1.1**
CURV	**Curarigua**	**4.41**	**44**	*e*P	**Pn**	**04 16 33.7**	**+0.9**
DABV	**Dabajuro**	**4.72**	**30**	*e*P	**Pn**	**04 16 37.8**	**+0.9**
TEPV	**Terepaima**	**4.94**	**51**	*e*P	**Pn**	**04 16 40.2**	**+0.5**
SIQV	**Siquisique**	**4.98**	**40**	*e*P	**Pn**	**04 16 39.6**	**-0.7**
BAUV	**El Baul**	**5.40**	**67**	*e*P	**Pn**	**04 16 45.2**	**-0.6**
MAPV	**Macapo**	**5.45**	**56**	*e*P	**Pn**	**04 16 46.6**	**+0.1**
MONV	**Montecano**	**5.94**	**31**	*e*P	**Pn**	**04 16 52.9**	**0.0**
TURV	**Turiamo**	**6.30**	**55**	*e*P	**Pn**	**04 16 57.4**	**-0.3**

ISCJB ***20*** *04:28:47.2±0.2,14˚26N±0˚02×90˚25W±0˚02,h10km, mb4.6/94,MS4.2/15,Error ellipse: s-maj=4.6km s-min=1.7km az=44.2*
CASC ***20*** *04:28:47.4±1.8,14˚23N×90˚33W,h10km,ML4.3, mb4.7(NEIC)*
IDC ***20*** *04:28:47.2±0.7,14˚28N×90˚17W,h0km,mb4.3/15, mb1 4.6/17,mb1mx4.4/36,mbtmp4.3/17,ML4.1/2,MS4.1/17, Ms1 4.1/17,ms1mx3.9/29,Error ellipse: s-maj=26.9km s-min=14.2km az=63.0*
NEIC ***20*** *04:28:48.8±0.3,14˚14N×90˚26W,h10km,mb4.7/100, MD4.5(SNET),Error ellipse: s-maj=7.7km s-min=4.5km az=223.0*
NEIC Felt [III] at Guatemala and [II] at Mixco. Also felt at Amatitlan, Antigua Guatemala, Escuintla, Fraijanes, San Jose Pinula, San Marcos La Laguna, Santa Catarina Pinula and Villa Nueva. Felt [III] at Ahuachapan, El Salvador. Also felt at San Salvador.
GCMT ***20*** *04:28:52.9±0.5,14˚29N×90˚28W,h12km,MW4.8/69, Moment Tensor Solution. s15,c15; s69,c93; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr-1.41±.09; Mθθ-0.59±.10; Mφφ2.01±.08; Mrθ-0.85±.34; Mθφ-0.94±.07; Mφr-0.43±.27; Best double couple: Mo2.22600×10¹⁶ NP1:φs131.00000°,δ58.00000°,λ-44.00000°. NP2: φs131.00000°,δ54.00000°,λ-139.00000°. Principal axes: T 2.3190, Plg2.0000°, Azm73.0000°; N -0.1810, Plg37.0000°, Azm165.0000°; P -2.1320, Plg53.0000°, Azm340.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

ISC 20 04:28:48.8±0.3, 14˚28N±0˚04×90˚22W±0˚03, h10km, n505, σ1°09/492, mb4.7/94, MS4.2/16, 2C, Guatemala

Code	Station Name	Δ°	AZ°	Phase	ID	Time h m s	Res ISC
				Op	ISC		
IXG	**Ixpaco**	**0.25**	**245**	*e*P	**Pg**	**04 28 52.8**	**-1.3**
CUS1	**Cusmapa**	**0.45**	**144**	*i* P	**Pg**	**04 28 56.3**	**-1.4**
RBDL	**Robledal**	**0.54**	**108**	*i* P	**Pg**	**04 28 59.2**	**-0.2**
RTR	**El Retiro**	**0.67**	**124**	*e*P	**Pg**	**04 29 01.2**	**-0.7**
MONT	**Ecomontaæa**	**0.70**	**127**	*e*P	**Pg**	**04 29 01.6**	**-0.8**
SNJE	**San Jose**	**0.72**	**124**	*e*P	**Pg**	**04 29 02.0**	**-0.8**
SBLS	**San Blas**	**0.72**	**127**	*e*P	**Pg**	**04 29 02.1**	**-0.8**
SONS	**Sonsonate**	**0.73**	**138**	*e*P	**Pg**	**04 29 01.3**	**-1.6**
SONS				*e*S	**Sg**	**04 29 12.6**	**+0.2**
SONS				AML	AML	04 29 14.9	
	comp=Z,16μm,0.5s						
MTO3	**Montecristo**	**0.84**	**82**	*e*P	**Pg**	**04 29 04.7**	**-0.4**
MTO3				AML	AML	04 29 18.9	
	comp=Z,8μm,0.4s						
MRL	**Marmol**	**0.93**	**33**	*e*P	**Pg**	**04 29 07.0**	**+0.2**
BOQS	**Boqueron**	**1.06**	**121**	*e*P	**Pg**	**04 29 08.2**	**-1.1**
SNET	**Serv Nac Est T**	**1.12**	**121**	*e*P	**Pb**	**04 29 09.3**	**-1.2**
SNET				*e*S	**Sn**	**04 29 26.4**	**+0.1**
SNET				AML	AML	04 29 37.4	
	comp=Z,7μm,0.5s						
OPAM	**San Salvador**	**1.14**	**119**	*e*P	**Pb**	**04 29 09.5**	**-1.1**
OPAM				AML	AML	04 29 31.3	
	comp=Z,9μm,0.3s						
UDBS	**Soyapango**	**1.17**	**118**	*e*P	**Pb**	**04 29 10.1**	**-1.1**
UDBS				AML	AML	04 29 31.1	
	comp=Z,12μm,0.3s						
LFU	**La Fuente**	**1.20**	**116**	*e*P	**Pb**	**04 29 10.3**	**-1.4**
LBRS	**Las Brisas**	**1.26**	**115**	*e*P	**Pn**	**04 29 11.4**	**-1.2**
LFRS	**El Faro**	**1.30**	**120**	*e*P	**Pn**	**04 29 12.0**	**-1.2**
SNVI	**San Vicente**	**1.50**	**116**	*e*P	**Pn**	**04 29 15.5**	**-0.4**
CAHU	**Cacacuatique**	**2.01**	**104**	*e*P	**Pn**	**04 29 22.6**	**-0.4**
CNCH	**Conchagua**	**2.52**	**113**	*e*P	**Pn**	**04 29 29.4**	**-0.6**
CCIG	**Comitan**	**2.72**	**317**	*e*Pn	**Pn**	**04 29 33.1**	**+0.4**
CCIG				*e*Sn	**Sn**	**04 30 04.0**	**-1.9**
TGUH	**Tegucigalpa,Un**	**2.87**	**94**	*e*Pn	**Pn**	**04 29 34.2**	**-0.4**
TGUH				*e*Sn	**Sn**	**04 30 10.4**	**+1.2**
TGUH	**Tegucigalpa,Un**	**2.87**	**94**	*e*P	**Pn**	**04 29 33.7**	**-0.9**
CNGN	**Cerro Negro**	**3.86**	**117**	*e*P	**Pn**	**04 29 47.5**	**-0.8**
CNGN				*e*S	**Sn**	**04 30 37.4**	**+3.7**
CNGN				AML	AML	04 30 43.8	
	comp=N,220nm,0.4s						
ESTN	**Estel**	**3.92**	**107**	*e*P	**Pn**	**04 29 48.6**	**-0.7**
MOMN	**Momotombo**	**4.04**	**117**	*e*P	**Pn**	**04 29 50.0**	**-0.8**
COPN	**Copaltepe**	**4.10**	**120**	*e*P	**Pn**	**04 29 50.7**	**-1.0**
APYN	**Apoyeque**	**4.28**	**118**	*e*P	**Pn**	**04 29 53.1**	**-1.0**
XAVN	**Gruta Xavier**	**4.34**	**119**	*e*P	**Pn**	**04 29 54.1**	**-0.9**
TISN	**Laguna Tiscapa**	**4.39**	**118**	*e*P	**Pn**	**04 29 54.8**	**-0.9**
MGAN	**Managua**	**4.41**	**118**	*e*P	**Pn**	**04 29 54.9**	**-1.0**
SCIG	**Sabancuy**	**4.75**	**349**	*e*Pn	**Pn**	**04 30 00.1**	**-0.5**
SCIG				*e*Sn	**Sn**	**04 30 52.2**	**-3.6**
CMIG	**Matias Romero**	**5.29**	**302**	Pn	**Pn**	**04 30 06.5**	**-1.5**
	comp=N,1.9nm,0.3s,baz=82,slow=11,SNR=16						
CMIG				Sn	**Sn**	**04 31 14.7**	**+5.6**
	comp=N,8.7nm,0.3s,baz=312,slow=19,SNR=8.1						
CMIG				LR	LR	04 32 08.1	
	comp=N,4μm,18.9s,baz=126,slow=38						
ACON	**Acoyapa**	**5.42**	**114**	*e*P	**Pn**	**04 30 08.9**	**-0.9**
ACON				*e*S	**Sn**	**04 31 15.4**	**+3.0**
TUIG	**Tuzandepetl**	**5.50**	**313**	*e*Pn	**Pn**	**04 30 11.7**	**+0.9**
ESPN	**Las Esperanzas**	**6.12**	**109**	*e*P	**Pn**	**04 30 18.4**	**-1.0**
TLIG	**Tlapa**	**8.67**	**293**	*e*Pn	**Pn**	**04 30 56.2**	**+1.7**
TLIG				*e*Sn	**Sn**	**04 32 34.7**	**+2.2**
BCIP	**Isla Barro Col**	**11.36**	**115**	*e*Pn	**Pn**	**04 31 33.5**	**+2.1**
MOIG	**Morelia**	**11.79**	**299**	*e*Pn	**Pn**	**04 31 41.8**	**+4.4**
MTDJ	**Mount Denham**	**12.79**	**70**	*e*Pn	**Pn**	**04 31 52.2**	**+1.2**
LNIG	**Linares**	**13.69**	**322**	*e*Pn	**P**	**04 32 07.9**	**-4.0**
ZAIG	**Zacatecas**	**14.43**	**308**	*e*Pn	**P**	**04 32 19.4**	**-1.1**
034A	**Hebbronville**	**14.97**	**329**	P	**Pn**	**04 32 21.9**	**+1.2**
	baz=147,SNR=9.7						
MOTC	**Monteria, Cord**	**15.27**	**109**	*e*P	**Pn**	**04 32 24.2**	**-0.5**
SJCC	**San Jacinto, C**	**15.34**	**105**	*e*P	**Pn**	**04 32 24.6**	**-1.0**
934A	**Benavides**	**15.35**	**331**	P	**Pn**	**04 32 27.5**	**+1.9**
	baz=148,SNR=12						
835A	**Beeville**	**15.63**	**334**	P	**P**	**04 32 31.4**	**-2.1**
	baz=152,SNR=8.1						
933A	**Laredo**	**15.72**	**329**	P	**Pn**	**04 32 32.4**	**+1.9**
	baz=146,SNR=14						
834A	**Tilden**	**15.81**	**332**	P	**P**	**04 32 33.5**	**-1.9**
	baz=149,SNR=16						
736A	**Circle Diamond**	**15.92**	**338**	P	**P**	**04 32 35.0**	**-1.7**
	baz=155,SNR=5.7						
637A	**Eagle Lake**	**16.11**	**340**	P	**Pn**	**04 32 36.5**	**+1.0**
	baz=158						
540A	**Vidor**	**16.23**	**348**	P	**Pn**	**04 32 37.8**	**+0.8**
	baz=167						
833A	**Chaparral WMA,**	**16.37**	**330**	P	**Pn**	**04 32 39.1**	**+0.3**
	baz=147						
636A	**Smothers Creek**	**16.40**	**338**	P	**Pn**	**04 32 39.7**	**+0.6**
	baz=156						
734A	**La Parita Cree**	**16.43**	**333**	P	**Pn**	**04 32 40.1**	**+0.5**
	baz=151,SNR=6.2						
446A	**Poplarville**	**16.45**	**3**	P	**P**	**04 32 41.3**	**-1.3**
	baz=183,SNR=8.4						
442A	**Mamou**	**16.48**	**353**	P	**Pn**	**04 32 40.9**	**+0.7**
	baz=173						
ZARC	**Zaragoza, Cauc**	**16.52**	**112**	*e*P	**Pn**	**04 32 38.7**	**-2.1**
HELC	**Santa Helena**	**16.53**	**118**	*e*Pn	**P**	**04 32 44.2**	**+0.2**
	comp=N,20nm,0.9s						
635A	**Leesville**	**16.58**	**336**	P	**Pn**	**04 32 41.9**	**+0.4**
	baz=154						
441A	**DeRidder**	**16.62**	**351**	P	**P**	**04 32 43.8**	**-0.6**
	baz=170						
832A	**Faith Ranch, C**	**16.62**	**329**	P	**Pn**	**04 32 43.2**	**+1.1**
	baz=145						
733A	**Divot King Ran**	**16.65**	**331**	P	**P**	**04 32 43.7**	**-1.2**
	baz=148						
537A	**Green Hill Far**	**16.70**	**341**	P	**P**	**04 32 44.4**	**-1.0**
	baz=159,SNR=8.8						
440A	**Kirbyville**	**16.75**	**349**	P	**P**	**04 32 44.9**	**-1.0**
	baz=168						
634A	**China Grove, S**	**16.81**	**335**	P	**P**	**04 32 46.3**	**-0.2**
	baz=152						
536A	**Bastrop**	**16.94**	**339**	P	**Pn**	**04 32 46.7**	**+0.7**
	baz=157						
345A	**Thompson Farm,**	**16.95**	**1**	P	**Pn**	**04 32 46.8**	**+0.6**
	baz=181						
439A	**Center Grove,**	**16.96**	**346**	P	**P**	**04 32 47.6**	**-0.6**
	baz=165						
343A	**Vidalia**	**16.97**	**356**	P	**Pn**	**04 32 47.1**	**+0.6**
	baz=176						
535A	**Dale**	**17.08**	**338**	P	**Pn**	**04 32 48.1**	**+0.2**
	baz=155,SNR=18						
438A	**Sam Houston St**	**17.09**	**344**	P	**P**	**04 32 48.9**	**-0.8**
	baz=163						
344A	**Westbrook Farm**	**17.10**	**359**	P	**Pn**	**04 32 48.6**	**+0.5**
	baz=178,SNR=17						
342A	**Flagon Creek P**	**17.12**	**354**	P	**Pn**	**04 32 49.1**	**+0.7**
	baz=173,SNR=10						
341A	**Kurthwood**	**17.19**	**351**	P	**Pn**	**04 32 49.3**	**+0.2**
	baz=170,SNR=7.0						
633A	**Saathoff Ranch**	**17.23**	**333**	P	**Pn**	**04 32 49.4**	**-0.3**
	baz=150,SNR=19						
340A	**Bronson**	**17.39**	**349**	P	**P**	**04 32 52.5**	**-0.4**
	baz=168,SNR=13						
534A	**Blanco**	**17.43**	**335**	P	**Pn**	**04 32 51.6**	**-0.6**
	baz=153,SNR=11						
339A	**Huntington**	**17.43**	**348**	P	**P**	**04 32 52.9**	**-0.5**
	baz=166						
338A	**Crockett**	**17.63**	**345**	P	**P**	**04 32 55.2**	**-0.4**
	baz=164						
245A	**Little AP, Sta**	**17.67**	**1**	P	**Pn**	**04 32 54.5**	**-0.6**
	baz=181						
244A	**Avery, Jackson**	**17.69**	**359**	P	**Pn**	**04 32 55.6**	**+0.3**
	baz=179,SNR=8.8						
533A	**Kerrville**	**17.70**	**334**	P	**P**	**04 32 56.6**	**+0.2**
	baz=151,SNR=13						
337A	**Centerville**	**17.74**	**344**	P	**Pn**	**04 32 56.0**	**0.0**
	baz=162						
247A	**Quitman**	**17.75**	**4**	P	**P**	**04 32 56.8**	**-0.1**
	baz=185						
435B	**Jarrell**	**17.77**	**339**	P	**Pn**	**04 32 56.3**	**-0.1**
	baz=156						
242A	**

	baz=161									
Z45A	**Winona**	19.01	1	P		Pn	04 33 11.3	-0.2		
	baz=182									
Z41A	**Richland Creek**	19.04	353	P		Pn	04 33 12.5	+0.6		
	baz=172,SNR=8.5									
234A	**Clairette**	19.07	339	P		Pn	04 33 12.3	0.0		
	baz=156,SNR=17									
Z40A	**Long Farm, Mag**	19.11	352	P		Pn	04 33 13.1	+0.4		
	baz=171,SNR=13									
HPIG		19.15	314	*e*P		Pn	04 33 13.6	+0.1		
	comp=N,55nm,2.0s									
Z48A	**Northport**	19.16	7	P		Pn	04 33 13.8	+0.4		
	baz=188									
Z39A	**Irene McRaven,**	19.22	350	P		Pn	04 33 13.7	-0.3		
	baz=168									
233A	**Rising Star**	19.36	337	P		Pn	04 33 15.8	0.0		
	baz=154,SNR=37									
Z37A	**Pogue Cattle C**	19.46	346	P		Pn	04 33 17.4	+0.4		
	baz=164									
LTX	**Lajitas**	19.47	322	*e*P		Pn	04 33 18.1	+0.9		
LTX				*e*			04 40 55.0			
TXAR	**Lajitas Array**	19.47	322	P		Pn	04 33 18.1	+0.9		
	comp=N,0.3nm,0.3s,baz=148,slow=10,SNR=48									
TXAR				LR		LR	04 40 55.0			
	comp=N,212nm,19.4s,baz=0.0,slow=37									
TX31	**Lajitas Ar. Si**	19.47	322	*e*P		Pn	04 33 18.4	+1.1		
WLAR	**White Oak Lake**	19.50	353	*e*P		Pn	04 33 19.6	+2.2		
	comp=N,90nm,1.1s									
Y45A	**Yeager Farm, C**	19.51	2	P		Pn	04 33 18.0	+0.4		
	baz=182,SNR=8.5									
Y42A	**Garnett, Star**	19.52	356	P		Pn	04 33 18.1	+0.4		
	baz=176,SNR=8.5									
Y46A	**Houston**	19.56	3	P		Pn	04 33 18.6	+0.5		
	baz=184,SNR=17									
Y43A	**Makayla and Ka**	19.56	358	P		Pn	04 33 18.4	+0.4		
	baz=178,SNR=7.0									
Y44A	**Strider, Charl**	19.60	0	P		Pn	04 33 19.1	+0.6		
	baz=180,SNR=6.6									
CCAR	**Cane Creek**	19.60	356	*e*P		Pn	04 33 20.8	+2.1		
	comp=N,125nm,1.1s									
Y41A	**Eaglette Beard**	19.64	354	P		Pn	04 33 19.4	+0.4		
	baz=173,SNR=11									
Y47A	**UCPARC, Winfie**	19.65	6	P		Pn	04 33 19.9	+0.7		
	baz=187,SNR=16									
Z36A	**Blue Ridge**	19.73	344	P		Pn	04 33 19.9	-0.3		
	baz=162,SNR=8.8									
Y40A	**Okolona**	19.84	352	P		Pn	04 33 21.2	-0.2		
	baz=171									
Y39A	**Lockesburg**	19.89	350	P		Pn	04 33 21.7	-0.3		
	baz=169									
Y38A	**Idabel**	19.98	349	P		Pn	04 33 22.5	-0.7		
	baz=167,SNR=6.9									
GOGA	**Godfrey**	20.01	17	*e*P		Pn	04 33 24.3	+0.8		
	comp=N,20nm,1.3s									
X45A	**UM Field Stati**	20.07	2	P		Pn	04 33 24.1	-0.1		
	baz=182,SNR=12									
X44A	**Crenshaw**	20.13	0	P		P	04 33 23.7	+0.6		
	baz=180									
OXF	**Oxford**	20.16	2	*e*P		Pn	04 33 25.6	+0.4		
	comp=N,89nm,1.1s									
X43A	**Marvell**	20.16	358	P		Pn	04 33 24.8	-0.5		
	baz=178									
ABTX	**Abilene, Hawle**	20.18	336	P		P	04 33 24.3	+0.6		
	baz=153,SNR=22									
ABTX	**Abilene, Hawle**	20.18	336	*e*P		Pn	04 33 25.0	-0.6		
	comp=N,52nm,1.0s									
Y37A	**Hugo**	20.21	347	P		Pn	04 33 25.0	-0.9		
	baz=165,SNR=13									
X42A	**Stuttgart**	20.23	357	P		Pn	04 33 25.4	-0.7		
	baz=176,SNR=5.9									
X41A	**Kaden, Bauxite**	20.23	355	P		Pn	04 33 25.7	-0.4		
	baz=174,SNR=13									
X40A	**Basin Creek Fa**	20.26	354	P		Pn	04 33 25.7	-0.7		
	baz=173,SNR=15									
Y36A	**Durant**	20.29	345	P		P	04 33 25.5	+0.7		
	baz=163,SNR=18									
MIAR	**Mount Ida**	20.41	352	P		Pn	04 33 27.2	-0.9		
	baz=171,SNR=31									
MIAR	**Mount Ida**	20.41	352	*e*P		Pn	04 33 28.1	0.0		
	comp=N,42nm,1.0s									
X39A	**Fountain Ranch**	20.45	351	P		P	04 33 27.6	+1.0		
	baz=169									
Y35A	**Marietta**	20.50	344	P		P	04 33 28.1	+1.0		
	baz=161,SNR=106									
UALR	**University of**	20.50	355	*e*P		Pn	04 33 29.6	+0.4		
	comp=N,34nm,0.9s									
X38A	**Whitesboro**	20.72	349	P		Pn	04 33 31.2	-0.7		
	baz=168,SNR=18									
X37A	**Clayton**	20.75	348	P		Pn	04 33 31.1	-1.1		
	baz=166,SNR=41									
W45A	**Hickory Valley**	20.81	2	P		Pn	04 33 31.8	-1.0		
	baz=183									
W41B	**Gary Mavity, V**	20.89	355	P		Pn	04 33 32.7	-1.0		
	baz=175									
W42A	**Bald Knob**	20.94	357	P		Pn	04 33 33.1	-1.3		
	baz=177									
X35A	**Drake**	20.94	344	P		Pn	04 33 33.3	-1.1		
	baz=162									
X36A	**Centrahoma**	20.95	346	P		P	04 33 32.7	+0.7		
	baz=163,SNR=14									
X301	**Greenbrier Sit**	20.96	355	*e*P		Pn	04 33 34.2	-0.4		
	comp=N,61nm,1.7s									
W40A	**Ferguson Farm,**	20.98	353	P		Pn	04 33 34.1	-0.7		
	baz=172,SNR=7.3									
WHAR	**Wooly Hollow**	21.00	355	*e*P		P	04 33 34.5	+2.0		
	comp=N,19nm,1.0s									
W38A	**Poteau**	21.06	350	P		P	04 33 34.7	+1.6		
	baz=168,SNR=20									
W39A	**Magazine**	21.07	352	P		P	04 33 34.1	+0.8		
	baz=170,SNR=20									
HBAR	**Harrisburg**	21.19	359	*e*P		P	04 33 37.1	+2.6		
	comp=N,87nm,1.1s									
SWET	**Sewanee**	21.20	10	*e*P		P	04 33 37.0	+2.3		
	comp=N,57nm,0.8s									
W37B	**Quinton**	21.30	348	P		P	04 33 36.7	+1.0		
	baz=166,SNR=29									
V45A	**Humboldt**	21.40	3	P		P	04 33 37.5	+0.7		
	baz=183									
V44A	**Blytheville**	21.46	1	P		P	04 33 38.0	+0.6		
	baz=181									
V42A	**Cord**	21.46	357	P		P	04 33 38.2	+0.8		
	baz=177,SNR=12									
W36A	**Wetumka**	21.46	346	P		P	04 33 38.0	+0.5		
	baz=164,SNR=11									
V41A	**Mountainview**	21.48	356	P		P	04 33 38.3	+0.6		
	baz=175,SNR=17									
V40A	**Witts Springs**	21.56	354	P		P	04 33 39.3	+0.7		
	baz=173,SNR=14									
W35A	**Tecumseh**	21.63	345	P		P	04 33 39.1	-0.2		
	baz=162,SNR=51									
V39A	**Pettigrew**	21.69	352	P		P	04 33 40.5	+0.5		
	baz=171,SNR=26									
CPCT	**Cooper Cave**	21.69	13	*e*P		P	04 33 42.1	+2.1		
	comp=N,28nm,1.0s									
WMOK	**Wichita Mounta**	21.79	341	P		P	04 33 40.4	-0.6		
	baz=157,SNR=21									
WMOK	**Wichita Mounta**	21.79	341	*e*P		P	04 33 40.9	-0.1		
	comp=N,72nm,1.7s									
V38A	**Canehill**	21.82	351	P		P	04 33 40.9	-0.4		
	baz=169,SNR=15									
WVT	**Waverly**	21.86	5	*e*P		P	04 33 43.4	+1.7		
	comp=N,20nm,1.1s									
GLAT	**Glass**	21.91	2	*e*P		P	04 33 44.7	+2.4		
	comp=N,186nm,1.3s									
V37A	**Hulbert**	21.96	349	P		P	04 33 42.7	-0.1		
	baz=167,SNR=33									
U44B	**Burton Farm, H**	21.98	2	P		P	04 33 43.6	+0.5		
	baz=182,SNR=14									
U43A	**Rector**	22.00	360	P		P	04 33 43.9	+0.7		
	baz=180,SNR=6.7									
U42A	**Revenden**	22.00	358	P		P	04 33 43.8	+0.6		
	baz=178,SNR=18									
UTMT	**University of**	22.00	3	*e*P		P	04 33 45.8	+2.5		
	comp=N,75nm,0.8s									
U45A	**Rockin P Farm,**	22.02	3	P		P	04 33 43.3	-0.1		
	baz=184,SNR=8.7									
V36A	**Jenks**	22.02	348	P		P	04 33 43.6	+0.1		
	baz=165									
U41A	**Viola**	22.02	356	P		P	04 33 43.7	+0.2		
	baz=176,SNR=13									
TKL	**Tuckaleechee C**	22.06	14	P		P	04 33 44.9	+0.9		
	comp=N,11nm,1.0s,baz=204,slow=12,SNR=9.1									
TKL	**Tuckaleechee C**	22.06	14	*e*P		P	04 33 45.9	+2.0		
	comp=N,22nm,1.0s									
U40A	**Yellville**	22.11	354	P		P	04 33 45.3	+0.8		
	baz=173,SNR=21									
TUL1	**Leonard**	22.11	348	P		P	04 33 44.6	+0.1		
	baz=166									
TUL1	**Leonard**	22.11	348	*e*P		P	04 33 45.0	+0.5		
	comp=N,31nm,0.8s									
HHAR	**Hobbs**	22.16	352	*e*P		P	04 33 46.2	+1.2		
	comp=N,39nm,0.9s									
V35A	**Meyer Ranch, C**	22.20	346	P		P	04 33 45.5	+0.1		
	baz=163,SNR=9.6									
U39A	**Green Forest**	22.20	353	P		P	04 33 46.0	+0.5		
	baz=172,SNR=24									
MNTX	**Cornudas Mount**	22.21	324	P		P	04 33 45.3	-0.3		
	baz=138,SNR=14									
MNTX	**Cornudas Mount**	22.21	324	*e*P		P	04 33 46.0	+0.4		
	comp=N,8.5nm,1.0s									
KMSC	**Kings Mountain**	22.26	20	P		P	04 33 46.1	+0.1		
	baz=203									
KMSC	**Kings Mountain**	22.26	20	*e*P		P	04 33 49.9	+3.8		
	comp=N,10nm,1.0s									
PARMO	**Parma**	22.30	1	*e*P		P	04 33 48.9	+2.5		
	comp=N,118nm,0.8s									
U38A	**Gravette**	22.38	351	P		P	04 33 47.5	+0.1		
	baz=170									
PBMO	**Poplar Bluff**	22.41	360	*e*P		P	04 33 48.7	+1.2		
	comp=N,32nm,0.8s									
U37A	**Salina**	22.47	350	P		P	04 33 48.1	-0.2		
	baz=168,SNR=32									
U36A	**Oologah**	22.57	348	P		P	04 33 48.8	-0.6		
	baz=166									
MSTX	**Muleshoe**	22.66	332	P		P	04 33 49.8	-0.7		
	baz=147,SNR=6.8									
MSTX	**Muleshoe**	22.66	332	*e*P		P	04 33 49.9	-0.7		
	comp=N,34nm,1.1s									
T42A	**Van Buren**	22.67	358	P		P	04 33 50.4	0.0		
	baz=178									
T43A	**Greenville**	22.71	360	P		P	04 33 51.1	+0.2		
	baz=180,SNR=15									
T41A	**Mountain View**	22.71	357	P		P	04 33 51.3	+0.4		
	baz=176,SNR=21									
T44A	**Benton**	22.72	1	P		P	04 33 51.2	+0.2		
	baz=182,SNR=7.1									
U35A	**Pawnee**	22.76	346	P		P	04 33 51.1	-0.2		
	baz=164,SNR=16									
T39A	**Clever**	22.83	353	P		P	04 33 51.8	-0.2		
	baz=172,SNR=15									
T40A	**Mansfield**	22.87	355	P		P	04 33 52.6	0.0		
	baz=174,SNR=18									
T38A	**Diamond**	22.95	352	P		P	04 33 53.3	-0.1		
	baz=170,SNR=11									
AMTX	**Amarillo**	22.97	335	P		P	04 33 52.7	-1.1		
	baz=151									
AMTX	**Amarillo**	22.97	335	*e*P		P	04 33 53.6	-0.1		
	comp=N,41nm,1.3s									
T37A	**Cheneyville 18**	23.13	350	P		P	04 33 55.0	-0.2		
	baz=168,SNR=32									
S43A	**Fulton Ridge,**	23.20	0	P		P	04 33 55.4	-0.5		
	baz=180,SNR=12									
T35A	**Sooner Cattle**	23.23	347	P		P	04 33 55.1	-1.1		
	baz=165,SNR=12									
T36A	**Boggs Farm, Ca**	23.24	348	P		P	04 33 55.0	-1.4		
	baz=166,SNR=9.9									
S41A	**Jillco Farms,**	23.25	357	P		P	04 33 56.1	-0.4		
	baz=176,SNR=15									
S40A	**Lebanon**	23.31	355	P		P	04 33 57.0	-0.1		
	baz=174,SNR=16									
S44A	**Carbondale**	23.34	2	P		P	04 33 57.6	+0.4		
	baz=182,SNR=50									
S45A	**Carrier Mills**	23.35	3	P		P	04 33 57.0	-0.4		
	baz=184									
U32A	**Winter Ranch,**	23.37	342	P		P	04 33 57.2	-0.5		
	baz=158,SNR=12									
S42A	**Caledonia**	23.40	359	P		P	04 33 57.1	-0.9		
	baz=179,SNR=8.3									
S39A	**Bolivar**	23.48	354	P		P	04 33 58.3	-0.5		
	baz=173,SNR=26									
S38A	**Stockton**	23.49	353	P		P	04 33 58.3	-0.5		
	baz=171,SNR=23									
T34A	**McClaskey Farm**	23.49	346	P		P	04 33 57.6	-1.2		
	baz=163,SNR=16									
USIN	**University of**	23.70	5	*e*P		P	04 34 02.5	+1.7		
	comp=N,125nm,1.1s									
S37A	**Fort Scott**	23.74	351	P		P	04 34 00.4	-0.9		
	baz=169,SNR=17									
S36A	**Lake Cedric, C**	23.83	349	P		P	04 34 01.6	-0.6		
	baz=167,SNR=15									
R44A	**Waltonville**	23.89	2	P		P	04 34 03.0	+0.3		
	baz=183,SNR=7.8									
R43A	**Red Bud**	23.90	1	P		P	04 34 03.0	+0.2		
	baz=181,SNR=20									
R42A	**Luebbering**	23.91	359	P		P	04 34 02.3	-0.6		
	baz=179,SNR=7.6									
S35A	**Otter Creek Ra**	23.93	348	P		P	04 34 02.2	-0.9		
	baz=166,SNR=14									
R41A	**Roud**	23.95	358	P		P	04 34 02.7	-0.5		
	baz=177,SNR=40									
R40A	**Maddies Statio**	23.98	356	P		P	04 34 03.0	-0.6		
	baz=175,SNR=14									
R38A	**Fenwick Farm,**	24.04	353	P		P	04 34 03.5	-0.6		
	baz=171,SNR=14									
R39A	**Chumby, Stover**	24.07	355	P		P	04 34 03.7	-0.7		
	baz=173,SNR=6.8									
WCI	**Wyandotte Cave**	24.11	8	*e*P		P	04 34 05.8	+1.1		
	comp=N,101nm,1.4s									
S34A	**Willow Spring**	24.12	347	P		P	04 34 04.0	-0.9		
	baz=164									
HSIG		24.16	311	*e*P		P	04 34 03.7	-1.7		
	comp=N,7.5nm,0.9s									
SLM	**Saint Louis**	24.26	360	*e*P		P	04 34 08.1	+2.0		
	comp=N,44nm,1.0s									
R37A	**Teagarden Farm**	24.28	351	P		P	04 34 05.9	-0.5		
	baz=169									
ATAH	**Atahualpa**	24.30	150	P		P	04 34 10.7	+3.5		
	comp=N,4.5nm,0.8s,baz=293,slow=2.0,SNR=4.0									
319A	**Douglas**	24.39	317	*e*P		P	04 34 09.8	+2.2		
	comp=N,19nm,1.2s									
R36A	**Gordon, Harris**	24.40	350	P		P	04 34 07.1	-0.4		
	baz=168									
OLIL	**Olney**	24.43	4	*e*P		P	04 34 09.2	+1.5		
	comp=N,43nm,0.8s									
R35A	**Emporia Munici**	24.53	349	P		P	04 34 07.9	-0.7		
	baz=168,SNR=7.2									
Q42A	**Golden Eagle**	24.54	359	P		P	04 34 09.1	+0.5		
	baz=179,SNR=5.7									
Q44A	**Meyer Farm, Va**	24.55	2	P		P	04 34 09.3	+0.5		
	baz=183,SNR=20									
Q43A	**New Douglas**	24.57	1	P		P	04 34 09.3	+0.3		
	baz=181,SNR=17									
Q41A	**Truxton**	24.59	358	P		P	04 34 09.1	-0.1		
	baz=178,SNR=17									
Q40A	**Laux Farm, Aux**	24.67	357	P		P	04 34 09.6	-0.3		
	baz=176									
R34A	**Isabella, Hill**	24.72	347	P		P	04 34 09.8	-0.6		
	baz=164,SNR=23									
BNM	**Barren Site**	24.74	326	*e*P		P	04 34 12.6	+1.7		
Q38A	**Cooks Store, C**	24.77	354	P		P	04 34 10.3	-0.5		
	baz=172,SNR=8.8									
Q37A	**Longview Farm,**	24.78	352	P		P	04 34 11.1	+0.1		
	baz=170									
Q39A	**Willow Grove F**	24.79	355	P		P	04 34 11.0	+0.1		
	baz=174,SNR=8.5									
BLO	**Bloomington**	25.01	7	*e*P		P	04 34 13.6	+0.7		
	comp=N,53nm,1.5s									
Q35A	**Mercer Eighty,**	25.02	349	P		P	04 34 12.1	-0.9		
	baz=167									
P44A	**Sand Creek, Wi**	25.13	3	P		P	04 34 14.2	+0.2		
	baz=184,SNR=10.0									
P40A	**Paris**	25.20	357	P		P	04 34 14.6	-0.1		
	baz=176,SNR=13									
LAZ	**Ladron**	25.21	326	*e*P		P	04 34 13.2	-1.8		
P42A	**Winchester**	25.21	360	P		P	04 34 14.2	-0.5		
	baz=180,SNR=14									
P39B	**Salisbury**	25.21	355	P		P	04 34 14.3	-0.4		
	baz=174									
ANMO	**Albuquerque**	25.25	327	P		P	04 34 16.3	+0.9		
	comp=N,2.1nm,1.0s,baz=144,slow=13,SNR=5.1									
ANMO	**Albuquerque**	25.25	327	P		P	04 34 14.5	-1.0		
	baz=141									
ANMO	**Albuquerque**	25.25	327	*e*P		P	04 34 18.8	+3.3		
	comp=N,5.6nm,1.3s									
P43A	**Skaggs, Pawnee**	25.27	1	P		P	04 34 14.6	-0.7		
	baz=182,SNR=16									
P41A	**Barry, Barry**	25.31	358	P		P	04 34 14.9	-0.8		
	baz=178,SNR=5.8									
P38A	**Dawn**	25.41	354	P		P	04 34 15.9	-0.7		
	baz=173									
P37A	**Lathrop**	25.47	353	P		P	04 34 15.4	-1.7		
	baz=171									
P36A	**Good Intent, A**	25.62	351	P		P	04 34 18.2	-0.3		
	baz=169									
P35A	**Duane Minner,**	25.66	350	P		P	04 34 18.3	-0.6		
	baz=167									
O41A	**Passleys Farm,**	25.75	359	P		P	04 34 18.1	-1.5		
	baz=179									
O40A	**La Belle**	25.79	357	P		P	04 34 19.6	-0.4		
	baz=176,SNR=18									
O42A	**Bath**	25.82	0	P		P	04 34 19.4	-0.9		
	baz=180									
P34A	**Walnut Farm, R**	25.83	348	P		P	04 34 19.4	-1.1		
	baz=165									
CBKS	**Cedar Bluff**	25.84	343	P		P	04 34 19.7	-0.9		
	baz=159,SNR=9.2									
CBKS	**Cedar Bluff**	25.84	343	*e*P		P	04 34 21.5	+0.9		
	comp=N,129nm,1.3s									
O43A	**Sugar Creek Fa**	25.92	2	P		P	04 34 20.1	-1.1		
	baz=182									
O39A	**Kirksville**	25.96	356	P		P	04 34 21.0	-0.5		
	baz=175									
TUC	**Tucson**	25.97	317	*e*P		P	04 34 23.7	+1.8		
	comp=N,11nm,1.3s									
O37A	**Wolven Farm, M**	26.02	353	P		P	04 34 21.5	-0.6		
	baz=171									
T25A	**Trinidad**	26.05	333	P		P	04 34 21.4	-1.2		
	baz=148									
T25A	**Trinidad**	26.05	333	*e*P		P	04 34 23.8	+1.2		
	comp=N,16nm,1.3s									
O36A	**Bolckow**	26.09	352	P		P	04 34 22.3	-0.5		
	baz=170									
SFIN	**Lafayette**	26.14	5	P		P	04 34 22.5	-0.7		
	baz=187									
SFIN	**Lafayette**	26.14	5	*e*P		P	04 34 25.3	+2.1		
	comp=N,39nm,1.3s									
MHTCO	**State Highway**	26.16	333	*e*P		P	04 34 24.8	+1.2		
	comp=N,29nm,1.6s									
HDIL	**Hopedale**	26.19	2	P		P	04 34 23.4	-0.2		
	baz=182,SNR=7.4									
HDIL	**Hopedale**	26.19	2	*e*P		P	04 34 24.4	+0.7		
	comp=N,51nm,1.1s									
N41A	**Harden Midland**	26.34	359	P		P	04 34 24.3	-0.6		
	baz=179									
CBN	**Corbin Frederi**	26.41	23	*e*P		P	04 34 24.5	-1.2		
	comp=N,28nm,1.3s									
O34A	**Beatrice**	26.42	349	P		P	04 34 25.2	-0.5		
	baz=166									
N42A	**Yates City**	26.45	0	P		P	04 34 25.6	-0.4		
	baz=180,SNR=5.5									
O33A	**Hebron**	26.50	347	P		P	04 34 26.5	+0.1		
	baz=164,SNR=6.0									
N40A	**Mertquake, Sal**	26.53	358	P		P	04 34 26.2	-0.5		
	baz=177									
N38A	**Joes South For**	26.55	355	P		P	04 34 26.3	-0.6		
	baz=174									
N39A	**Derby Farms, D**	26.57	356	P		P	04 34 26.6	-0.5		
	baz=175									
N37A	**Lee Faris, Mou**	26.61	353	P		P	04 34 26.9	-0.6		
	baz=172									
N36A	**Muff Farm, Cla**	26.76	352	P		P	04 34 27.9	-0.9		
	baz=170									
N35A	**Tabor**	26.90	351	P		P	04 34 29.7	-0.4		
	baz=168									
KSCO	**Kaye Shedlock'**	26.96	338	P		P	04 34 30.3	-0.5		
	baz=153,SNR=9.1									
KSCO	**Kaye Shedlock'**	26.96	338	*e*P		P	04 34 31.1	+0.4		
	comp=N,34nm,1.1s									
M41A	**Milan**	27.00	359	P		P	04 34 30.8	-0.1		
	baz=179,SNR=17									
SDCO	**Great Sand Dun**	27.03	333	*e*P		P	04 34 31.3	-0.3		
	comp=N,3.6nm,1.0s									
M40A	**Post Highland**	27.05	358	P		P	04 34 31.3	-0.1		
	baz=177,SNR=6.2									
M42A	**Sheffield**	27.08	1	P		P	04 34 31.9	+0.3		
	baz=181									
214A	**Organ Pipe Nat**	27.13	314	P		P	04 34 31.8	-0.4		
	baz=126									
M39A	**Webster**	27.15	357	P		P	04 34 31.9	-0.4		
	baz=176,SNR=6.4									
W18A	**Petrified Fore**	27.19	323	*e*P		P	04 34 35.1	+2.1		
	comp=N,12nm,1.1s									
M36A	**Felix, Anita**	27.37	352	P		P	04 34 34.4	+0.2		
	baz=170									
M35A	**Neola**	27.50	351	P		P	04 34 35.9	+0.4		
	baz=169									
S22A	**4UR Ranch, Cre**	27.64	331	P		P	04 34 36.7	-0.4		
	baz=144									
S22A	**4UR Ranch, Cre**	27.64	331	*e*P		P	04 34 37.8	+0.7		
	comp=N,8.2nm,1.4s									
M34A	**Aspy Farms, Fr**	27.68	350	P		P	04 34 37.0	-0.1		
	baz=167									
L40A	**Anamosa**	27.70	358	P		P	04 34 36.8	-0.4		
	baz=178,SNR=14									
L41A	**Preston**	27.70	360	P		P	04 34 36.9	-0.2		
	baz=180,SNR=16									
X16A	**Lo Mia Camp, P**	27.74	320	*e*P		P	04 34 39.4	+1.4		
	comp=N,13nm,1.7s									
L39A	**Vinton**	27.79	357	P		P	04 34 38.1	+0.1		
	baz=176									
L43A	**Garden Prairie**	27.83	2	P		P	04 34 38.7	+0.3		
	baz=183									
M33A	**Taylor Creek F**	27.86	349	P		P	04 34 39.1	+0.4		
	baz=166									
BGNE	**Belgrade**	27.90	347	P		P	04 34 39.2

G40A	**Rib Lake**	30.89	0	P		P	04 35 05.9	+0.4
	baz=180							
G39A	**Holcombe**	30.92	359	P		P	04 35 05.5	-0.3
	baz=178,SNR=7.2							
SPMN	**Marine on St.**	30.92	356	P		P	04 35 05.5	-0.3
	baz=175,SNR=6.1							
SPMN	**Marine on St.**	30.92	356	*eP*		P	04 35 05.8	+0.1
	comp=N,12nm,0.7s							
G43A	**Wallace**	30.95	3	P		P	04 35 06.0	0.0
	baz=185							
TUQ	**Turquoise Moun**	31.26	317	P		P	04 35 08.4	-0.7
	baz=126							
F41A	**Three Lakes**	31.37	1	P		P	04 35 09.4	-0.4
	baz=182							
F37A	**Hinrichs Farm,**	31.41	357	P		P	04 35 09.7	-0.4
	baz=176							
SHPR	**Sheep Range**	31.41	319	*eP*		P	04 35 12.6	+2.2
	comp=N,9.2nm,1.5s							
F42A	**Maple Grove Fa**	31.43	3	P		P	04 35 09.9	-0.4
	baz=184							
F40A	**Park Falls**	31.54	0	P		P	04 35 10.7	-0.5
	baz=180							
F39A	**Loretta**	31.54	359	P		P	04 35 10.8	-0.4
	baz=179							
F43A	**Flat Rock, Esc**	31.56	4	P		P	04 35 11.5	+0.2
	baz=186							
K22A	**Casper**	31.58	337	*eP*		P	04 35 12.3	+0.6
	comp=N,11nm,1.1s							
F38A	**Pierce - Schro**	31.61	358	P		P	04 35 11.3	-0.5
	baz=177,SNR=5.9							
RSSD	**Black Hills**	32.00	341	P		P	04 35 14.1	-1.4
	baz=154							
E39A	**Mellen**	32.00	360	P		P	04 35 14.4	-0.9
	baz=179							
E40A	**Wakefield**	32.07	0	P		P	04 35 15.0	-0.9
	baz=181,SNR=6.8							
E41A	**Kenton**	32.10	2	P		P	04 35 15.9	-0.3
	baz=182							
E42A	**Champion**	32.11	3	P		P	04 35 15.6	-0.7
	baz=184,SNR=5.4							
E43A	**Lone Tree Farm**	32.11	4	P		P	04 35 15.6	-0.6
	baz=186							
E38A	**The Farm, Brul**	32.24	358	P		P	04 35 17.0	-0.4
	baz=178							
E35A	**Pequot Lakes**	32.37	355	P		P	04 35 17.3	-1.2
	baz=172							
TPNV	**Topopah Spring**	32.37	319	P		P	04 35 17.2	-1.7
	baz=128							
TPNV	**Topopah Spring**	32.37	319	*eP*		P	04 35 21.5	+2.6
	comp=N,14nm,1.6s							
E34A	**Wadena**	32.40	354	P		P	04 35 18.3	-0.5
	baz=171							
D41A	**Chassel**	32.71	2	P		P	04 35 20.3	-1.2
	baz=183							
D37A	**Cotton**	32.83	357	P		P	04 35 21.9	-0.7
	baz=176							
R11A	**Troy Canyon, C**	32.84	322	P		P	04 35 21.3	-1.6
	baz=130							
PD31	**Pinedale Array**	32.91	333	*eP*		P	04 35 23.1	-0.5
PD31				*e*			04 52 31.0	
PDAR	**Pinedale Array**	32.91	333	P		P	04 35 23.1	-0.5
	comp=N,0.9nm,1.0s,baz=129,slow=11,SNR=5.2							
PDAR				LR		LR	04 52 31.0	
	comp=N,248nm,18.1s,baz=164,slow=43							
D34A	**Park Rapids**	32.97	354	P		P	04 35 23.2	-0.6
	baz=171							
GRAC	**Grapevine Rang**	33.12	318	P		P	04 35 24.1	-1.2
	baz=126							
BGU	**Big Grassy Mou**	33.16	328	*eP*		P	04 35 26.6	+0.9
	comp=N,16nm,1.9s							
D31A	**Mcclaflin, Tow**	33.27	351	P		P	04 35 26.4	0.0
	baz=167							
C38A	**Sawbill Land.**	33.35	359	P		P	04 35 26.5	-0.6
	baz=178							
C36A	**Pine Crest Far**	33.45	357	P		P	04 35 28.0	+0.1
	baz=176							
C35A	**Jirik Farms, M**	33.47	355	P		P	04 35 27.9	-0.2
	baz=174,SNR=6.2							
REDW	**Red Top Meadow**	33.96	333	*eP*		P	04 35 33.3	+0.5
	comp=N,22nm,1.4s							
SNOW	**Snow King Moun**	34.00	333	*eP*		P	04 35 30.2	-2.8
	comp=N,11nm,0.9s							
LOHW	**Long Hollow**	34.05	333	*eP*		P	04 35 34.0	+0.5
	comp=N,17nm,1.6s							
TPAW	**Teton Pass**	34.11	333	*eP*		P	04 35 38.2	+4.1
	comp=N,27nm,1.6s							
MOOW	**Moose Ponds**	34.22	333	*eP*		P	04 35 35.2	+0.2
	comp=N,4.4nm,1.1s							
AGMN	**Agassiz Nation**	34.24	353	P		P	04 35 34.3	-0.5
	comp=N,170,SNR=6.5							
AGMN	**Agassiz Nation**	34.24	353	*eP*		P	04 35 36.0	+1.2
	comp=N,36nm,1.5s							
B34A	**Aery, Baudette**	34.30	355	P		P	04 35 35.4	0.0
	baz=172							
MDND	**Maddock**	34.37	349	P		P	04 35 35.9	-0.1
	baz=164							
B32A	**Ashes, Strandq**	34.42	353	P		P	04 35 35.9	-0.4
	baz=169,SNR=9.6							
B31A	**Greenbush Farm**	34.60	351	P		P	04 35 37.4	-0.5
	baz=167							
A33A	**Warroad**	34.82	354	P		P	04 35 39.4	-0.4
	baz=171,SNR=7.5							
A32A	**Rocking H Ranc**	34.92	353	P		P	04 35 40.1	-0.6
	baz=169							
YHH	**Holmes Hill**	35.10	334	*eP*		P	04 35 44.1	+1.4
	comp=N,6.2nm,1.2s							
WAKR	**Walker**	35.33	319	*eP*		P	04 35 47.2	+2.6
	comp=N,23nm,1.8s							
VLDQ	**Val d'Or**	35.36	15	*eP*		P	04 35 47.2	+2.8
	comp=N,59nm,1.6s							
SAML	**Samuel**	35.38	129	*eP*		P	04 35 43.0	-2.0
	comp=N,12nm,0.8s							
DGMT	**Dagmar**	36.00	344	P		P	04 35 49.8	-0.2
	baz=157							
DGMT	**Dagmar**	36.00	344	*eP*		P	04 35 50.7	+0.7
	comp=N,38nm,0.9s							
MCMT	**McKenzie Canyo**	36.00	332	*eP*		P	04 35 51.8	+1.4
BOZ	**Bozeman (W)**	36.08	334	P		P	04 35 50.7	-0.2
	baz=143							
BOZ	**Bozeman (W)**	36.08	334	*eP*		P	04 35 51.6	+0.7
	comp=N,5.4nm,1.3s							
ULM	**Lac du Bonnet**	36.17	354	P		P	04 35 52.0	+0.7
	comp=N,15nm,1.1s,baz=172,slow=9.6,SNR=11							
ULM	**Lac du Bonnet**	36.17	354	*eP*		P	04 35 52.0	+0.7
	comp=N,18nm,1.0s							
DLMT	**Dillon**	36.31	333	*eP*		P	04 35 53.8	+1.0
	comp=N,13nm,1.5s							
LRM	**Limekiln Ridge**	36.60	334	*eP*		P	04 35 56.3	+0.8
EGMT	**Eagleton**	37.34	338	P		P	04 36 01.5	-0.1
	baz=148,SNR=6.4							
EGMT	**Eagleton**	37.34	338	*eP*		P	04 36 02.2	+0.6
	comp=N,38nm,1.4s							
LPAZ	**La Paz**	37.40	144	P		P	04 36 02.6	-0.3
	comp=N,3.0nm,0.8s,baz=344,slow=9.4,SNR=12							
LPAZ				LR		LR	04 52 01.2	
	comp=N,242nm,20.2s,baz=325,slow=37							
LPAZ	**La Paz**	37.40	144	*eP*		P	04 36 04.0	+1.0
	comp=N,5.2nm,1.0s							
MSO	**Missoula**	38.04	333	P		P	04 36 06.7	-0.8
	baz=141,SNR=7.1							
MSO	**Missoula**	38.04	333	*eP*		P	04 36 08.1	+0.6
	comp=N,12nm,1.4s							
BMO	**Blue Mountains**	38.16	328	*eP*		P	04 36 07.9	-0.7
	comp=N,15nm,1.7s							
M04C	**Macdoel**	38.73	321	P		P	04 36 12.2	-1.2
	baz=126							
F10A	**Beach Ranch, E**	38.92	330	*eP*		P	04 36 14.8	-0.1
	comp=N,12nm,1.1s							
J04D	**Umpqua Nationa**	39.75	323	P		P	04 36 20.6	-1.4
	baz=127							
FFC	**Flin Flon**	41.39	350	*eP*		P	04 36 36.4	+1.3
	comp=N,62nm,1.8s							
B08A	**Colville Reser**	41.62	331	*eP*		P	04 36 37.5	+0.3
	comp=N,4.1nm,1.1s							
C06D	**Leavenworth**	42.08	329	P		P	04 36 40.5	-0.4
	baz=133							
EDM	**Edmonton**	42.95	340	*eP*		P	04 36 47.8	-0.2
	comp=N,52nm,0.9s							
SCHQ	**Schefferville**	44.38	19	P		P	04 36 59.3	-0.1
	comp=N,28nm,1.1s,baz=224,slow=8.0,SNR=6.8							
SCHQ				LR		LR	04 56 23.8	
	comp=N,331nm,18.6s,baz=204,slow=37							
SCHQ	**Schefferville**	44.38	19	*eP*		P	04 36 59.0	-0.4
	comp=N,32nm,1.0s							
LLLB	**Lillooet**	44.38	331	*eP*		P	04 37 00.0	+0.5
	comp=N,21nm,1.2s							
YKA	**Yellowknife Ar**	51.17	346	P		P	04 37 51.1	-0.7
	comp=N,9.8nm,1.0s,baz=145,slow=7.9,SNR=21							
YKB5	**Yellowknife Ar**	51.17	346	*eP*		P	04 37 52.3	+0.5
YKW3	**Yellowknife Ar**	51.23	346	*eP*		P	04 37 52.3	0.0
	comp=N,10nm,0.9s							
CPUP	**Villa Florida**	51.50	141	P		P	04 37 55.1	+0.2
	comp=N,3.1nm,1.0s,baz=336,slow=9.8,SNR=4.3							
CPUP				LR		LR	05 01 06.4	
	comp=N,145nm,19.3s,baz=348,slow=38							
PLCA	**Paso Flores**	57.69	162	P		P	04 38 40.2	+0.5
	comp=N,2.4nm,0.9s,baz=15,slow=7.4,SNR=5.6							
PLCA	**Paso Flores**	57.69	162	*eP*		P	04 38 40.2	+0.5
	comp=N,30nm,1.8s							
INK	**Inuvik**	60.67	343	*eP*		P	04 38 59.8	0.0
	comp=N,8.5nm,0.8s							
IL1	**Eielson Array**	63.27	336	*eP*		P	04 39 16.8	-0.6
ILAR	**Eielson Array**	63.27	336	P		P	04 39 16.8	-0.7
	comp=N,5.2nm,1.1s,baz=133,slow=4.3,SNR=14							
ILAR				PP		PP	04 41 35.6	-0.8
	comp=N,2.4nm,1.1s,baz=121,slow=6.5,SNR=6.4							
ILAR				LR		LR	05 11 55.7	
	comp=N,213nm,18.8s,baz=356,slow=41							
ILB	**Eielson Array**	63.27	336	*eP*		P	04 39 17.9	+0.4
ILB				*e*PP		PP	04 41 35.6	-0.8
COLD	**Coldfoot**	65.51	338	*eP*		P	04 39 32.7	+0.7
	comp=N,16nm,1.4s							
SUMG	**Summit**	65.51	15	*i* P		P	04 39 33.0	+0.5
	comp=N,14nm,1.0s							
SUMG	**Summit**	65.51	15	*eP*		P	04 39 32.3	-0.2
	comp=N,16nm,1.0s							
PPT	**Papeete**	66.56	243	LR		LR	05 00 28.3	
	comp=N,155nm,18.2s,baz=76,slow=28							
DAG	**Danmarks Havn**	71.99	13	*i* P		P	04 40 11.4	-0.9
	comp=N,16nm,1.1s							
ESDC	**Sonseca Array**	78.19	52	P		P	04 40 48.0	-0.9
	comp=N,3.9nm,1.1s,baz=287,slow=5.9,SNR=6.0							
ESDC				LR		LR	05 12 33.2	
	comp=N,88nm,19.1s,baz=75,slow=34							
ES19	**SONSECA Array**	78.23	52	*eP*		P	04 40 48.5	-0.7
BCLA	**Clavier**	82.61	40	P		P	04 41 13.4	+1.1
NB2	**NORSAR Subarra**	83.07	29	P		P	04 41 15.0	+0.4
	comp=Z,1.8nm,0.8s,baz=288,slow=5.3							
NB200	**NORSAR Array S**	83.07	29	*eP*		P	04 41 15.2	+0.6
NOA	**NORSAR Array B**	83.07	29	P		P	04 41 15.2	+0.6
	comp=Z,3.0nm,0.8s,baz=290,slow=5.1,SNR=7.2							
NOA				LR		LR	05 17 37.8	
	comp=Z,60nm,18.5s,baz=280,slow=35							
ARA0	**ARCESS Array S**	85.33	19	*eP*		P	04 41 25.4	-0.5
ARCES	**ARCESS Array B**	85.33	19	P		P	04 41 25.4	-0.5
	comp=Z,3.4nm,0.8s,baz=294,slow=6.8,SNR=5.4							
ARCES				LR		LR	05 19 31.9	
	comp=Z,92nm,18.6s,baz=275,slow=36							
CLL	**Collm**	87.04	38	*i* P		P	04 41 34.5	-0.2
	comp=Z,6.0nm,0.8s							
CLL				Lm		MLR	06 56 00.0	
	comp=N,100nm,18.9s							
CLL				Lm		MLR	06 56 00.0	
	comp=E,100nm,20.1s							
NKC	**Novy Kostel**	87.06	39	*eP*		P	04 41 35.0	+0.2
BRG	**Berggiesshubel**	87.75	38	*eP*		P	04 41 38.2	+0.1
	comp=E,4.1nm,1.0s							
KHC	**Kasperske Hory**	88.11	40	*eP*		P	04 41 39.8	-0.1
KHC	**Kasperske Hory**	88.11	40	*eP*		P	04 41 40.0	0.0
	comp=E,7.6nm,1.9s							
GEC2	**GERESS Array S**	88.28	40	*eP*		P	04 41 40.5	-0.3
	comp=E,18nm,2.0s							
GERES	**GERESS Array B**	88.28	40	P		P	04 41 40.5	-0.3
	comp=E,1.0nm,0.8s,baz=298,slow=2.1,SNR=5.7							
GERES				LR		LR	05 21 11.9	
	comp=E,74nm,18.0s,baz=298,slow=36							
TOA1	**Torodi Ar. Sit**	88.63	77	*eP*		P	04 41 41.7	-1.3
	comp=E,15nm,1.8s							
TORD	**Torodi Ar. Bea**	88.63	77	P		P	04 41 41.7	-1.3
	comp=E,0.7nm,1.1s,baz=282,slow=7.2,SNR=3.0							
TORD				LR		LR	05 18 07.0	
	comp=E,88nm,20.9s,baz=250,slow=33							
FINES	**FINESS Array B**	89.51	26	LR		LR	05 22 53.1	
	comp=E,103nm,18.3s,baz=318,slow=36							
AKASG	**Malin Array Be**	96.54	34	LR		LR	05 27 17.2	
	comp=E,59nm,19.8s,baz=310,slow=36							
NRIK	**Noril'sk**	96.58	1	LR		LR	05 29 09.0	
	comp=E,107nm,18.6s,baz=357,slow=38							
KSH	**Kashi**	124.95	13	*e*PKP		PKPdf	04 47 47.6	-2.3
LZH	**Lanzhou**	128.17	346	*e*PKP		PKPdf	04 47 56.3	+0.1
LZH				pPKP		sPKPdf	04 48 04.3	+3.5
LZH				sPKP			04 48 06.8	
LZH				LR		LR		
	comp=N,130nm,18.0s							
LZH				LR		LR		
	comp=E,130nm,18.2s							
LZH				LR		LR		
	comp=Z,170nm,20.1s							
WR1	**Warramunga Arr**	137.14	256	*e*PKPdf		PKPdf	04 48 12.5	-0.7
WRA	**Warramunga Arr**	137.14	256	PKP		PKPdf	04 48 12.5	-0.7
	comp=Z,2.7nm,0.8s,baz=88,slow=1.9,SNR=18							
AS31	**Alice Springs**	137.39	251	*e*PKPdf		PKPdf	04 48 13.0	-0.6
ASAR	**Alice Springs**	137.39	251	PKP		PKPdf	04 48 13.0	-0.6
	comp=Z,1.3nm,0.8s,baz=110,slow=2.1,SNR=11							
FITZ	**Fitzroy Crossi**	145.39	259	*e*PKPdf		PKPbc	04 48 27.0	-0.9
	comp=Z,3.7nm,0.7s,baz=127,slow=2.5,SNR=20							
FITZ	**Fitzroy Crossi**	145.39	259	*e*PKPdf		PKPbc	04 48 27.5	-0.4
CM31	**Chiang Mai Arr**	146.24	344	*e*PKPdf		PKPab	04 48 31.4	+0.2
CMAR	**Chiang Mai Arr**	146.24	344	PKPbc		PKPab	04 48 31.4	+0.2
	comp=Z,2.8nm,0.8s,baz=335,slow=3.8,SNR=9.8							

*ISCJB **20** 04:30:15.4±0.4, 43.°65S±0.°04×172.°61E±0.°06, h21km±3km, mb3.6/2, Error ellipse: s-maj=8.9km s-min=4.4km az=41.7*
*IDC **20** 04:30:15.2±1.9, 43.°49S×172.°56E, h0km, mb3.7/2, mb1 3.9/3, mb1mx3.7/21, mbtmp3.7/3, ML3.2/1, MS3.0/1, Ms1 3.0/1, ms1mx2.6/28, Error ellipse: s-maj=52.6km s-min=15.1km az=160.0*
*WEL **20** 04:30:16.8±0.1, 43.°59S×172.°49E, h6km, ML4.2/35, Mw3.9, Error ellipse: s-maj=0.7km s-min=0.6km az=90.0*
WEL Felt in the Canterbury region, maximum reported intensity MM 6.
*NEIC **20** 04:30:16.9±0.0, 43.°59S×172.°50E, h7km, ML4.2(WEL), After WEL.*

ISC 20 04:30:16.0±0.8, 43.°59S±0.°03×172.°56E±0.°03, h15km±5km, n78, σ0°78/79, 4C-3D, South Island

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
CRLZ	**Canterbury Las**	0.04	77	Pg		**Pg**	04 30 18.8	+0.1
CRLZ				Sg		**Sg**	04 30 20.4	-0.1
CRLZ	**Canterbury Las**	0.04	77	PG		**Pg**	04 30 18.8	+0.1
CRLZ				SG		**Sg**	04 30 20.4	-0.1
CRLZ				AML		AML	04 30 20.8	
CRLZ				AML		AML	04 30 20.8	
MQZ	**McQueen's Vall**	0.14	152	⇓Pg		**Pb**	04 30 20.2	0.0
MQZ				Sg		**Sb**	04 30 23.0	-0.1
MQZ	**McQueen's Vall**	0.14	152	⇓PG		**Pb**	04 30 20.2	0.0
MQZ				SG		**Sb**	04 30 23.0	-0.1
MQZ				AML		AML	04 30 23.2	
OXZ	**Oxford**	0.46	304	Pg		**Pg**	04 30 24.8	-0.4
OXZ	**Oxford**	0.46	304	⇑PG		**Pg**	04 30 24.8	-0.4
OXZ				AML		AML	04 30 35.0	
OXZ				AML		AML	04 30 35.1	
OXZ				AML		AML	04 30 35.1	
OXZ				AML		AML	04 30 35.1	
LTZ	**Lake Taylor**	0.83	345	P*		**Pn**	04 30 32.8	-0.4
LTZ	**Lake Taylor**	0.83	345	⇓P*		**Pn**	04 30 32.7	-0.4
LTZ				AML		AML	04 30 46.7	
RPZ	**Rata Peaks**	1.10	263	Pg		**Pb**	04 30 36.6	-0.1
	319nm,0.3s,baz=125,slow=3.2,SNR=274							
RPZ				Lg			04 30 51.4	
	737nm,0.3s,baz=0.0,slow=20,SNR=42							
RPZ				LR		LR	04 31 14.1	
	comp=Z,288nm,20.4s,baz=103,slow=53							
RPZ	**Rata Peaks**	1.10	263	P*		**Pb**	04 30 36.3	-0.5
RPZ	**Rata Peaks**	1.10	263	P*		**Pb**	04 30 36.3	-0.5
RPZ				AML		AML	04 30 55.9	
RPZ				AML		AML	04 30 57.6	
INZ	**Inchbonnie**	1.19	316	P*		**Pb**	04 30 38.1	0.0
KHZ	**Kahutara**	1.37	32	Pn		**Pb**	04 30 40.9	-0.4
KHZ	**Kahutara**	1.37	32	⇑PN		**Pb**	04 30 40.9	-0.4
KHZ				AML		AML	04 31 01.9	
KHZ				AML		AML	04 31 02.6	
WVZ	**Waitaha Valley**	1.43	290	Pn		**Pb**	04 30 41.9	-0.3
WVZ	**Waitaha Valley**	1.43	290	PN		**Pb**	04 30 41.9	-0.3
WVZ				AML		AML	04 31 06.1	
WVZ				AML		AML	04 31 10.6	
THZ	**Tophouse**	1.84	8	Pn		**Pn**	04 30 47.3	+0.3
THZ	**Tophouse**	1.84	8	PN		**Pn**	04 30 47.3	+0.3
THZ				AML		AML	04 31 21.7	
THZ				AML		AML	04 31 26.0	
LBZ	**Lake Benmore**	1.89	244	Pn		**Pn**	04 30 47.7	-0.1
LBZ	**Lake Benmore**	1.89	244	PN		**Pn**	04 30 47.7	-0.1
LBZ				AML		AML	04 31 18.6	
LBZ				AML		AML	04 31 20.6	
DSZ	**Denniston Nort**	1.92	343	Pn		**Pn**	04 30 48.8	+0.6
DSZ	**Denniston Nort**	1.92	343	PN		**Pn**	04 30 48.8	+0.6
DSZ				AML		AML	04 31 22.4	
DSZ				AML		AML	04 31 22.9	
FOZ	**Fox Glacier**	2.00	271	Pn		**Pn**	04 30 50.3	+1.2
FOZ	**Fox Glacier**	2.00	271	PN		**Pn**	04 30 50.3	+1.2
FOZ				AML		AML	04 31 23.0	
FOZ				AML		AML	04 31 24.5	
ODZ	**Otahua Downs**	2.01	223	Pn		**Pn**	04 30 49.1	-0.1
ODZ	**Otahua Downs**	2.01	223	PN		**Pn**	04 30 49.1	-0.1
ODZ				AML		AML	04 31 26.2	
ODZ				AML		AML	04 31 26.2	
ODZ				AML		AML	04 31 26.2	
ODZ				AML		AML	04 31 26.2	
BSWZ	**Blackbirch Sta**	2.10	28	Pn		**Pn**	04 30 51.4	+0.7
BSWZ	**Blackbirch Sta**	2.10	28	PN		**Pn**	04 30 51.4	+0.7
BSWZ				AML		AML	04 31 27.7	
BSWZ				AML		AML	04 31 39.6	
TUWZ	**Tuamarina**	2.38	26	Pn		**Pn**	04 30 55.7	+1.2
TUWZ	**Tuamarina**	2.38	26	PN		**Pn**	04 30 55.7	+1.2
TUWZ				AML		AML	04 31 48.1	
TUWZ				AML		AML	04 31 49.1	
NNZ	**Nelson**	2.44	15	Pn		**Pn**	04 30 56.4	+1.1
NNZ	**Nelson**	2.44	15	PN		**Pn**	04 30 56.4	+1.1
NNZ				AML		AML	04 31 33.6	
NNZ				AML		AML	04 31 50.5	
TCW	**Tory Channel**	2.69	29	Pn		**Pn**	04 30 59.8	+1.1
TCW	**Tory Channel**	2.69	29	PN		**Pn**	04 30 59.8	+1.1
TCW				AML		AML	04 31 35.3	
TCW				AML		AML	04 31 35.9	
HHSZ	**Highcliff Hill**	2.69	211	Pn		**Pn**	04 30 58.4	-0.4
HHSZ	**Highcliff Hill**	2.69	211	⇑PN		**Pn**	04 30 58.4	-0.4
HHSZ				AML		AML	04 31 50.3	
HHSZ				AML		AML	04 31 57.2	
QRZ	**Quartz Range**	2.76	359	Pn		**Pn**	04 30 59.9	+0.3
QRZ	**Quartz Range**	2.76	359	PN		**Pn**	04 30 59.9	+0.3
QRZ				AML		AML	04 31 48.9	
QRZ				AML		AML	04 31 49.6	
JCZ	**Jackson Bay**	2.78	259	Pn		**Pn**	04 31 00.0	+0.1
JCZ	**Jackson Bay**	2.78	259	PN		**Pn**	04 31 00.0	+0.1
JCZ				AML		AML	04 31 49.0	
JCZ				AML		AML	04 31 51.2	
PLWZ	**Palliser**	2.83	46	Pn		**Pn**	04 31 00.8	+0.1
PLWZ	**Palliser**	2.83	46	PN		**Pn**	04 31 00.8	+0.1
WKZ	**Wanaka**	2.84	243	Pn		**Pn**	04 31 00.7	0.0
WKZ	**Wanaka**	2.84	243	PN		**Pn**	04 31 00.7	0.0
WKZ				AML		AML	04 31 50.7	
WKZ				AML		AML	04 31 54.2	
EAZ	**Earnscleugh**	2.85	234	Pn		**Pn**	04 31 00.7	-0.2
EAZ	**Earnscleugh**	2.85	234	⇑PN		**Pn**	04 31 00.7	-0.2
EAZ				AML		AML	04 31 47.1	
EAZ				AML		AML	04 31 49.2	
CAW	**Cannon Point**	3.09	38	Pn		**Pn**	04 31 03.8	-0.4
CAW	**Cannon Point**	3.09	38	PN		**Pn**	04 31 03.8	-0.4
CAW				AML		AML	04 31 42.2	
CAW				AML		AML	04 31 43.2	
TUZ	**Tuapeka**	3.16	220	Pn		**Pn**	04 31 04.9	-0.2
TUZ	**Tuapeka**	3.16	220	PN		**Pn**	04 31 04.9	-0.2
TUZ				AML		AML	04 32 06.0	
TUZ				AML		AML	04 32 06.9	
TRWZ	**Traveller**	3.18	48	Pn		**Pn**	04 31 05.4	-0.1
TRWZ	**Traveller**	3.18	48	PN		**Pn**	04 31 05.4	-0.1
TRWZ				AML		AML	04 31 43.5	
TRWZ				AML		AML	04 32 30.3	
KIW	**Kapiti Island**	3.23	33	Pn		**Pn**	04 31 06.6	+0.4
KIW	**Kapiti Island**	3.23	33	PN		**Pn**	04 31 06.6	+0.4
KIW				AML		AML	04 31 47.8	
MTW	**Mount Morrison**	3.26	43	Pn		**Pn**	04 31 05.5	-1.0
MTW	**Mount Morrison**	3.26	43	PN		**Pn**	04 31 05.5	-1.0
MTW				AML		AML	04 31 44.0	
MTW				AML		AML	04 31 47.4	
MLZ	**Mavora Lakes**	3.65	239	Pn		**Pn**	04 31 11.1	-0.7
MLZ	**Mavora Lakes**	3.65	239	PN		**Pn**	04 31 11.1	-0.7
MLZ				AML		AML	04 32 19.4	
MLZ				AML		AML	04 32 23.3	
MRZ	**Mangatainoka R**	3.68	39	Pn		**Pn**	04 31 12.6	+0.2
MRZ	**Mangatainoka R**	3.68	39	PN		**Pn**	04 31 12.6	+0.2
MRZ				AML		AML	04 31 56.2	
MRZ				AML		AML	04 31 56.4	
TIWZ	**Tintock**	3.74	42	AML		AML	04 31 58.6	
TIWZ				AML		AML	04 31 58.7	
SYZ	**Scrubby Hill**	3.82	218	Pn		**Pn**	04 31 14.3	+0.1
SYZ	**Scrubby Hill**	3.82	218	PN		**Pn**	04 31 14.3	+0.1
SYZ				AML		AML	04 32 25.1	
SYZ				AML		AML

GCMT 20 05:07:36.0±0.3, 38.42S×17.00W, h14km±1km, MW4.8/71, Moment Tensor Solution. s14,c14; s71,c86; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-1.90±.18; $M_{\theta\theta}$0.32±.12; $M_{\phi\phi}$1.58±.12; $M_{r\theta}$0.15±.33; $M_{\theta\phi}$-0.43±.06; $M_{r\phi}$-0.06±.25; **Best double couple:** $M_0$1.81200×10^{16} **NP1:**ϕ_s340.00000°,δ47.00000°, λ-95.00000°. **NP2:**ϕ_s166.00000°,δ44.00000°, λ-85.00000°. **Principal axes:** T 1.7130, Plg2.0000°, Azm73.0000°; N 0.1920, Plg3.0000°, Azm343.0000°; P -1.9100, Plg86.0000°, Azm188.0000°; **nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Southern Mid-Atlantic Ridge**

*JMA **20** 05:23:20.9±0.8, 46.66N×152.82E, h30km, M4.6*
*ISCJB **20** 05:23:21.5±0.8, 46.05N±0.08×152.8E±0.1, h31km, mb3.8/8, Error ellipse: s-maj=15.2km s-min=4.4km az=140.6*
*MOS **20** 05:23:21.7±1.2, 46.28N×152.87E, h41km, mb4.2/4, Error ellipse: s-maj=15.7km s-min=10.7km az=63.8*
*SKHL **20** 05:23:22.1±0.5, 45.86N×153.10E, h72km±8km, mb4.7/4*
*IDC **20** 05:23:25.4±3.7, 46.79N×152.58E, h68km±33km, mb3.4/9, mb1 3.6/11, mb1mx3.4/39, mbtmp3.7/11, ML2.8/2, Error ellipse: s-maj=30.2km s-min=19.9km az=141.0*
ISC 20 05:23:22.6±1.1, 45.94N±0.09×152.95E±0.10, h31km, n45, σ1s89/46, mb3.8/8, 1D, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**3.64**	**261**	⇓*i*PN		**Pn**	**05 24 18.1**	**+1.3**
KUR				*e*S		**Sn**	**05 24 58.2**	**-0.4**
KUR				pmax		pmax		
	comp=Z,142nm,0.3s							
KUR				smax		smax		
	comp=N,240nm,0.5s							
KUR				smax		smax		
	comp=E,111nm,0.6s							
KUR	**Kuril'sk**	**3.64**	**261**	*e*P		**Pn**	**05 24 17.4**	**+0.6**
KUR				AMB		AMB	05 24 21.3	
	comp=E,120nm,0.5s							
KUR				*e*S		**Sn**	**05 24 59.0**	**+0.4**
KUR				A		A	05 25 08.3	
	comp=E,240nm,0.6s							
KUR				A		A	05 25 08.3	
	comp=E,110nm,0.6s							
SHO	**Shikotan**	**4.82**	**247**	*e*PN		**Pn**	**05 24 33.8**	**+0.8**
SHO				*e*S		**Sn**	**05 25 27.9**	**+0.2**
SHO				pmax		pmax		
	comp=E,7.0nm,0.4s							
SHO				pmax		pmax		
	comp=Z,30nm,0.4s							
SHO				smax		smax		
	comp=N,70nm,0.4s							
SHO				smax		smax		
	comp=E,113nm,0.6s							
SHO	**Shikotan**	**4.82**	**247**	*e*P		**Pn**	**05 24 33.8**	**+0.8**
SHO				AMB		AMB	05 24 34.7	
	comp=E,30nm,0.4s							
SHO				*e*S		**Sn**	**05 25 27.9**	**+0.2**
SHO				A		A	05 25 32.5	
	comp=E,70nm,0.4s							
SHO				A		A	05 25 32.5	
	comp=E,113nm,0.4s							
SKR	**Severo-Kuril's**	**5.19**	**23**	*e*PN		**Pn**	**05 24 38.1**	**0.0**
SKR				*e*S		**Sn**	**05 25 35.2**	**-1.6**
SKR				pmax		pmax		
	comp=Z,4.0nm,0.6s							
SKR				smax		smax		
	comp=N,180nm,0.6s							
SKR	**Severo-Kuril's**	**5.19**	**23**	*e*P		**Pn**	**05 24 38.1**	**0.0**
SKR				AMB		AMB	05 24 39.7	
	comp=N,40nm,0.6s							
SKR				*e*S		**Sn**	**05 25 35.2**	**-1.6**
SKR				A		A	05 25 46.5	
	comp=N,60nm,0.4s							
YUK	**Yuzh-Kuril'sk**	**5.38**	**252**	*e*PN		**Pn**	**05 24 41.9**	**+1.2**
YUK				*e*S		**Sn**	**05 25 42.0**	**+0.5**
YUK				pmax		pmax		
	comp=Z,5.0nm,0.4s							
YUK				smax		smax		
	comp=N,180nm,0.6s							
YUK	**Yuzh-Kuril'sk**	**5.38**	**252**	*e*P		**Pn**	**05 24 41.9**	**+1.2**
YUK				AMB		AMB	05 24 42.6	
	comp=N,70nm,0.4s							
YUK				*e*S		**Sn**	**05 25 41.2**	**-0.3**
YUK				A		A	05 25 49.4	
	comp=N,90nm,0.6s							
YUK				A		A	05 25 49.4	
	comp=N,180nm,0.6s							
NEM2	**Nemuro 2**	**5.75**	**246**	P		**Pn**	**05 24 46.4**	**+0.6**
NEM2				*e*S		**Sn**	**05 25 50.3**	**-0.4**
JRA	**Rausu**	**5.91**	**253**	P		**Pn**	**05 24 50.7**	**+2.8**
PAU	**Pauzhetka**	**6.09**	**23**	*e*PN		**Pn**	**05 24 51.6**	**+1.2**
PAU	**Pauzhetka**	**6.09**	**23**	*e*P		**Pn**	**05 24 51.6**	**+1.2**
JAK	**Akkeshi**	**6.60**	**246**	P		**Pn**	**05 24 58.2**	**+0.8**
JAK				*e*S		**Sn**	**05 26 09.8**	**-1.8**
JTKR	**Abashiri--Toko**	**6.71**	**256**	P		**Pn**	**05 25 01.0**	**+2.0**
JAR	**Ashorobuto**	**7.07**	**251**	P		**Pn**	**05 25 05.9**	**+2.0**
JAR				*e*S		**Sn**	**05 26 25.0**	**+1.9**
YSS	**Yuzh-Sakhalins**	**7.12**	**282**	*e*PN		**Pn**	**05 25 04.8**	**+0.3**
YSS	**Yuzh-Sakhalins**	**7.12**	**282**	*e*P		**Pn**	**05 25 04.8**	**+0.3**
JOB	**Onbets**	**7.20**	**248**	P		**Pn**	**05 25 07.3**	**+1.6**
JOB				*e*S		**Sn**	**05 26 25.7**	**-0.6**
JKK2	**Kamakawa 2**	**7.53**	**258**	P		**Pn**	**05 25 12.8**	**+2.5**
JCH	**Churui**	**7.64**	**248**	P		**Pn**	**05 25 12.7**	**+0.9**
JCH				*e*S		**Sn**	**05 26 36.0**	**-1.3**
PETK	**Petropavlovsk-**	**7.81**	**22**	P		Pn	05 25 07.1	-6.9
	comp=N,0.7nm,0.3s,baz=193,slow=12,SNR=3.5							
JEM	**Erimo**	**8.08**	**244**	P		**Pn**	**05 25 20.2**	**+2.4**
JEM				*e*S		**Sn**	**05 26 48.1**	**+0.1**
JNBK	**Urakawa-nobuka**	**8.20**	**247**	P		**Pn**	**05 25 19.7**	**+0.3**
JNBK				*e*S		**Sn**	**05 26 46.8**	**-4.2**
JBT2	**Biratori 2**	**8.22**	**251**	P		**Pn**	**05 25 21.2**	**+1.5**
TYV	**Tymovskoe**	**8.43**	**309**	*e*PN		**Pn**	**05 25 24.8**	**+2.3**
TYV	**Tymovskoe**	**8.43**	**309**	*e*P		**Pn**	**05 25 24.8**	**+2.3**
JNB	**Noboribetsu**	**9.23**	**252**	P		**Pn**	**05 25 34.9**	**+1.3**
JKB	**Kayabe**	**9.51**	**249**	*e*S		**Sn**	**05 27 18.8**	**-4.2**
JANG	**Nango**	**10.04**	**240**	*e*S		**Sn**	**05 27 30.5**	**-5.6**
USRK	**Ussuriysk Ar.**	**14.91**	**271**	P		**Pn**	**05 26 48.7**	**-2.4**
	comp=N,0.5nm,0.3s,baz=80,slow=10,SNR=4.1							
KSRS	**Korea Array**	**20.46**	**254**	P		Pn	05 27 58.6	-1.1
	comp=N,1.0nm,0.4s,baz=54,slow=12,SNR=3.1							
H11N2	**WAKE ISLAND Hy**	**28.56**	**152**	T		T	06 00 44.7	
	baz=340,slow=76,SNR=542							
H11N1	**WAKE ISLAND Hy**	**28.57**	**152**	T		T	06 00 50.7	
	baz=340,slow=76,SNR=467							
H11N3	**WAKE ISLAND Hy**	**28.57**	**152**	T		T	06 00 50.8	
	baz=340,slow=76,SNR=408							
H11S1	**WAKE ISLAND Hy**	**29.64**	**153**	T		T	06 01 53.0	
	baz=341,slow=76,SNR=431							
H11S3	**WAKE ISLAND Hy**	**29.65**	**153**	T		T	06 02 05.7	
	baz=341,slow=76,SNR=479							
H11S2	**WAKE ISLAND Hy**	**29.66**	**153**	T		T	06 02 11.2	
	baz=341,slow=76,SNR=471							
ILAR	**Eielson Array**	**37.25**	**38**	P		P	05 30 24.9	-6.2
	comp=N,0.3nm,0.4s,baz=270,slow=6.9,SNR=5.9							
MKAR	**Makanchi Array**	**47.22**	**298**	P		P	05 31 44.9	-7.5
	comp=N,0.5nm,0.7s,baz=74,slow=7.1,SNR=4.2							
FINES	**FINESS Array B**	**64.72**	**335**	P		P	05 33 50.2	-7.0
	comp=N,1.7nm,0.6s,baz=28,slow=8.6,SNR=8.1							
NOA	**NORSAR Array B**	**68.95**	**341**	P		P	05 34 17.7	-6.7
	comp=N,0.9nm,0.6s,baz=28,slow=6.5,SNR=4.0							
ASAR	**Alice Springs**	**71.41**	**198**	P		**P**	**05 34 42.1**	**+2.5**
	comp=N,0.3nm,0.5s,baz=9.8,slow=6.0,SNR=4.6							
AKASG	**Malin Array Be**	**72.15**	**326**	P		P	05 34 37.1	-6.8
	comp=N,1.1nm,0.3s,baz=37,slow=6.1,SNR=6.3							
TXAR	**Lajitas Array**	**77.99**	**60**	P		**P**	**05 35 15.9**	**-2.2**
	comp=N,0.2nm,0.6s,baz=313,slow=4.6,SNR=3.8							
GERES	**GERESS Array B**	**79.13**	**334**	P		P	05 35 18.3	-5.8
	comp=N,0.4nm,0.3s,baz=356,slow=3.2,SNR=6.0							

*NEIC **20** 05:31:27.9±0.0, 43.61S×172.51E, h104km, MG4.3(WEL), After WEL.*
WEL 20 05:31:26.5±0.1, 43.57S×172.50E, h8km, ML4.1/24, Mw3.7, 4C-5D, Error ellipse: s-maj=0.7km s-min=0.6km az=90.0, South Island

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
CRLZ	**Canterbury Las**	**0.09**	**90**	⇓Pg		Pg	05 31 28.7	0.0
CRLZ				Sg		Sg	05 31 30.3	+0.2
CRLZ	**Canterbury Las**	**0.09**	**90**	⇓PG		Pg	05 31 28.7	0.0
CRLZ				SG		Sg	05 31 30.3	+0.2
CRLZ				AML		AML	05 31 30.5	
CRLZ				AML		AML	05 31 30.6	
MQZ	**McQueen's Vall**	**0.17**	**140**	Pg		Pg	05 31 30.2	+0.1
MQZ				Sg		Sg	05 31 32.6	+0.1
MQZ	**McQueen's Vall**	**0.17**	**140**	PG		Pg	05 31 30.2	+0.1
MQZ				SG		Sg	05 31 32.6	+0.1
MQZ				AML		AML	05 31 33.1	
OXZ	**Oxford**	**0.42**	**306**	Pg		Pg	05 31 34.6	-0.1
OXZ	**Oxford**	**0.42**	**306**	PG		Pg	05 31 34.6	-0.1
OXZ				AML		AML	05 31 41.8	
OXZ				AML		AML	05 31 43.3	
OXZ				AML		AML	05 31 43.4	
OXZ				AML		AML	05 31 44.6	
LTZ	**Lake Taylor**	**0.81**	**348**	⇑P*		Pb	05 31 42.6	-0.3
LTZ	**Lake Taylor**	**0.81**	**348**	⇑P*		Pb	05 31 42.6	-0.3
LTZ				AML		AML	05 31 56.9	
RPZ	**Rata Peaks**	**1.06**	**262**	P*		Pg	05 31 46.4	-0.5
RPZ	**Rata Peaks**	**1.06**	**262**	⇓P*		Pg	05 31 46.4	-0.5
RPZ				AML		AML	05 32 04.0	
RPZ				AML		AML	05 32 12.0	
INZ	**Inchbonnie**	**1.15**	**317**	⇓P*		Pg	05 31 47.5	-1.1
WVZ	**Waitaha Valley**	**1.38**	**291**	Pn		Pn	05 31 51.3	-0.8
WVZ	**Waitaha Valley**	**1.38**	**291**	⇑PN		Pn	05 31 51.3	-0.8
WVZ				AML		AML	05 32 15.7	
WVZ				AML		AML	05 32 16.7	
KHZ	**Kahutara**	**1.39**	**34**	Pn		Pn	05 31 50.7	-1.5
KHZ	**Kahutara**	**1.39**	**34**	⇑PN		Pn	05 31 50.7	-1.5
KHZ				AML		AML	05 32 17.0	
KHZ				AML		AML	05 32 20.0	
THZ	**Tophouse**	**1.83**	**9**	Pn		Pn	05 31 57.4	-1.0
THZ	**Tophouse**	**1.83**	**9**	⇓PN		Pn	05 31 57.4	-1.0
THZ				AML		AML	05 32 38.6	
THZ				AML		AML	05 32 39.7	
LBZ	**Lake Benmore**	**1.86**	**243**	Pn		Pn	05 31 58.1	-0.6
LBZ	**Lake Benmore**	**1.86**	**243**	PN		Pn	05 31 58.1	-0.6
LBZ				AML		AML	05 32 28.9	
LBZ				AML		AML	05 32 41.3	
DSZ	**Denniston Nort**	**1.90**	**344**	Pn		Pn	05 31 58.4	-0.9
DSZ	**Denniston Nort**	**1.90**	**344**	PN		Pn	05 31 58.4	-0.9
DSZ				AML		AML	05 32 31.4	
DSZ				AML		AML	05 32 32.6	
FOZ	**Fox Glacier**	**1.95**	**270**	Pn		Pn	05 32 00.1	+0.1
FOZ	**Fox Glacier**	**1.95**	**270**	PN		Pn	05 32 00.1	+0.1
FOZ				AML		AML	05 32 34.9	
FOZ				AML		AML	05 32 36.4	
ODZ	**Otahua Downs**	**1.98**	**222**	Pn		Pn	05 31 59.1	-1.4
ODZ	**Otahua Downs**	**1.98**	**222**	PN		Pn	05 31 59.1	-1.4
ODZ				AML		AML	05 32 35.1	
ODZ				AML		AML	05 32 36.1	
BSWZ	**Blackbirch Sta**	**2.12**	**29**	Pn		Pn	05 32 02.4	+0.1
BSWZ	**Blackbirch Sta**	**2.12**	**29**	PN		Pn	05 32 02.3	+0.1
BSWZ				AML		AML	05 32 29.9	
BSWZ				AML		AML	05 32 34.8	
NNZ	**Nelson**	**2.44**	**16**	Pn		Pn	05 32 06.5	-0.2
NNZ	**Nelson**	**2.44**	**16**	PN		Pn	05 32 06.5	-0.2
NNZ				AML		AML	05 32 44.7	
NNZ				AML		AML	05 32 52.4	
HHSZ	**Highcliff Hill**	**2.68**	**210**	Pn		Pn	05 32 08.7	-1.3
HHSZ	**Highcliff Hill**	**2.68**	**210**	PN		Pn	05 32 08.7	-1.3
HHSZ				AML		AML	05 33 02.9	
HHSZ				AML		AML	05 33 04.4	
TCW	**Tory Channel**	**2.70**	**30**	AML		AML	05 32 44.5	
TCW				AML		AML	05 32 45.3	
JCZ	**Jackson Bay**	**2.73**	**258**	Pn		Pn	05 32 10.1	-0.8
JCZ	**Jackson Bay**	**2.73**	**258**	PN		Pn	05 32 10.1	-0.8
JCZ				AML		AML	05 33 01.0	
JCZ				AML		AML	05 33 01.5	
QRZ	**Quartz Range**	**2.75**	**0**	Pn		Pn	05 32 09.9	-1.0
QRZ				Sn		Sn	05 32 43.6	-0.7
QRZ	**Quartz Range**	**2.75**	**0**	PN		Pn	05 32 09.9	-1.0
QRZ				AML		AML	05 32 20.0	
QRZ				SN		Sn	05 32 43.6	-0.7
WKZ	**Wanaka**	**2.80**	**242**	Pn		Pn	05 32 10.6	-1.1
WKZ	**Wanaka**	**2.80**	**242**	PN		Pn	05 32 10.6	-1.1
WKZ				AML		AML	05 33 01.9	
WKZ				AML		AML	05 33 01.9	
WKZ				AML		AML	05 33 12.3	
EAZ	**Earnscleugh**	**2.83**	**233**	Pn		Pn	05 32 10.7	-1.3
EAZ	**Earnscleugh**	**2.83**	**233**	PN		Pn	05 32 10.7	-1.3
EAZ				AML		AML	05 32 57.7	
EAZ				AML		AML	05 32 59.4	
TUZ	**Tuapeka**	**3.14**	**220**	Pn		Pn	05 32 15.0	-1.3
TUZ	**Tuapeka**	**3.14**	**220**	PN		Pn	05 32 15.0	-1.3
TUZ				AML		AML	05 33 14.5	
TUZ				AML		AML	05 33 17.1	
MSZ	**Milford Sound**	**3.47**	**250**	Pn		Pn	05 32 19.7	-1.2
MSZ	**Milford Sound**	**3.47**	**250**	PN		Pn	05 32 19.7	-1.2
MSZ				AML		AML	05 33 22.1	
MSZ				AML		AML	05 33 26.2	
MLZ	**Mavora Lakes**	**3.61**	**239**	Pn		Pn	05 32 21.4	-1.4
MLZ	**Mavora Lakes**	**3.61**	**239**	PN		Pn	05 32 21.4	-1.4
MLZ				AML		AML	05 33 30.3	
MLZ				AML		AML	05 33 36.2	
SYZ	**Scrubby Hill**	**3.80**	**218**	Pn		Pn	05 32 24.6	-0.8
SYZ	**Scrubby Hill**	**3.80**	**218**	PN		Pn	05 32 24.6	-0.8
SYZ				AML		AML	05 33 35.8	
SYZ				AML		AML	05 33 41.9	
APZ	**The Paps**	**4.56**	**223**	Pn		Pn	05 32 34.4	-1.4
APZ	**The Paps**	**4.56**	**223**	PN		Pn	05 32 34.4	-1.4

*NIED **20** 05:50:00, 36.40N×141.10E, h38km, Mw3.6 Best double couple: $M_0$3.10000×10^{14} NP1:ϕ_s290.00000°, δ16.00000°, λ161.00000°. NP2:ϕ_s38.00000°, δ85.00000°, λ75.00000°.*
*IDC **20** 05:50:19.8±2.4, 36.50N×141.51E, h0km, mb3.5/4, mb1 3.7/5, mb1mx3.5/36, mbtmp3.5/5, ML3.7/1, MS3.4/3, Ms1 3.4/3, ms1mx2.9/38, Error ellipse: s-maj=69.1km s-min=24.6km az=59.0*
*JMA **20** 05:50:26.1±0.1, 36.40N×141.09E, h46km±2km, M3.6*
JMA Felt I J1.
ISC 20 05:50:23.5±2.3, 36.38N±0.07×141.07E±0.08, h15km±13km, n15, σ0s80/19, mb3.7/4, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
JHO	**Hitachi**	**0.47**	**300**	P		**Pn**	**05 50 36.5**	**+0.8**
JHO				S		**Sn**	**05 50 43.6**	**-0.1**
JYT	**Yasato**	**0.72**	**258**	P		**Pn**	**05 50 40.3**	**+1.1**
JYT				S		**Sn**	**05 50 49.8**	**-0.2**
ONAJ	**Iwakimizuishiy**	**0.75**	**343**	P		**Pn**	**05 50 39.8**	**+0.1**
ONAJ				S		**Sb**	**05 50 49.3**	**+0.8**
JFK	**Kawauchi**	**1.00**	**351**	P		**Pn**	**05 50 43.0**	**0.0**
JFT	**Otama**	**1.28**	**333**	P		**Pg**	**05 50 48.5**	**+0.4**
JFT				S		**Sg**	**05 51 04.5**	**-0.3**
JAG	**Ashikaga**	**1.31**	**272**	P		**Pb**	**05 50 48.5**	**+0.8**
JAG				S		**Sn**	**05 51 04.7**	**+0.3**
MJAR	**Matsushiro Arr**	**2.31**	**275**	Pn		**Pb**	**05 51 03.4**	**-1.5**
	15nm,0.3s,baz=100,slow=9.0,SNR=72							
MJAR				Sn		**Sb**	**05 51 33.3**	**0.0**
	15nm,0.3s,baz=88,slow=26,SNR=10							
MJAR				LR		LR	05 52 09.3	
	comp=Z,60nm,20.3s,baz=195,slow=42							
MAT	**Matsushiro**	**2.31**	**275**	P		**Pb**	**05 51 03.4**	**-1.5**
MAT				*e*S		**Sb**	**05 51 32.4**	**-1.0**
KSRS	**Korea Array**	**10.58**	**280**	LR		LR	05 56 45.1	
	comp=Z,35nm,19.3s,baz=125,slow=35							
MKAR	**Makanchi Array**	**44.23**	**303**	P		**P**	**05 58 32.5**	**+0.4**
	0.1nm,0.5s,baz=73,slow=9.0,SNR=2.5							
KURBB	**Kurchatov Arra**	**46.19**	**308**	P		**P**	**05 58 47.5**	**0.0**
	1.0nm,0.4s,baz=83,slow=7.4,SNR=14							
WRA	**Warramunga Arr**	**56.38**	**188**	P		**P**	**06 00 03.7**	**-0.5**
	0.3nm,0.3s,baz=6.7,slow=7.4,SNR=4.9							
ASAR	**Alice Springs**	**60.10**	**188**	P		**P**	**06 00 30.2**	**-0.1**
	0.3nm,0.7s,baz=3.8,slow=5.6,SNR=3.0							
PFO	**Pinyon Flats O**	**79.63**	**56**	LR		LR	06 33 14.1	
	comp=Z,26nm,20.7s,baz=202,slow=32							
URZ	**Urewera**	**81.40**	**152**	LR		LR	06 33 00.6	
	comp=Z,109nm,19.8s,baz=1.0,slow=32							

MEX 20 05:53:38.0±0.6, 16.02N×97.33W, h7km±10km, MD3.6, Oaxaca

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.85**	**296**	*i* P		Pg	05 53 52.2	-2.3
PNIG				*e*S		Sg	05 54 04.0	-1.6
PANG	**Puerto Angel**	**0.89**	**113**	*i* P		Pg	05 53 53.1	-2.0
VHO	**Vista Hermosa**	**1.19**	**28**	*e*P		Pg	05 53 57.1	-3.9
VHO				*e*S		Sg	05 54 12.9	-3.6
TLIG	**Tlapa**	**1.94**	**322**	*e*P		Pn	05 54 08.5	-3.1
TLIG				*i* S		Sn	05 54 31.0	-5.4
TPIG	**Tehuac#an**	**2.39**	**359**	*i* P		Pn	05 54 15.5	-2.3
TPIG				*i* S		Sn	05 54 43.6	-3.9
YAIG	**Yautepec**	**3.28**	**330**	*i* P		Pn	05 54 27.4	-2.6
YAIG				*e*S		Sn	05 55 05.9	-3.5

*NNC **20** 05:55:54.0±1.8, 54.17N×86.55E, h0km, mb3.0, mpv2.8, Error ellipse: s-maj=10.2km s-min=6.9km az=70.0*
IDC 20 05:55:56.4±2.7, 54.18N×86.40E, h0km, mb1 2.8/2, mb1mx2.8/37, mbtmp2.8/2, ML2.4/2, 8C-1D, Error ellipse: s-maj=21.7km s-min=12.8km az=59.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**0.96**	**257**	*i*			06 02 30.0	
	baz=75,slow=315,SNR=1.7							
ZAA0	**Zalesovo Array**	**0.96**	**256**	⇑P		Pg	05 56 13.7	-1.2
	0.4nm,0.3s,baz=73,slow=17							
ZAA0				⇑S		Sb	05 56 28.5	-0.7
	1.5nm,0.8s,baz=79,slow=30							
ZALV	**Zalesovo Beam**	**0.96**	**256**	Pg		Pg	05 56 13.4	-1.4
	2.4nm,0.3s,baz=72,slow=17,SNR=14							
ZALV				Lg		Lg	05 56 28.9	
	3.8nm,0.3s,baz=78,slow=30,SNR=11							
KURK	**Kurchatov**	**5.89**	**237**	⇑Pn		Pn	05 57 24.4	-0.5
	1.9nm,1.0s							
KURK				⇑Sn		Sn	05 58 34.3	+1.3
	1.0nm,0.8s							
KURK				⇑Lg		Lg	05 59 04.0	
	3.0nm,1.4s							
KURBB	**Kurchatov Arra**	**5.99**	**237**	Pn		Pn	05 57 27.0	+0.7
	0.0nm,0.3s,baz=54,slow=14,SNR=12							
KURBB	**Kurchatov Arra**	**5.99**	**237**	⇓Pn		Pn	05 57 24.0	-2.3
	1.8nm,0.9s							
KURBB				⇑Sn		Sn	05 58 36.9	+1.3
	1.3nm,0.6s							
KURBB				⇑Lg		Lg	05 59 05.1	
	2.0nm,0.7s							
MK31	**Makanchi Array**	**7.85**	**201**	⇑Pn		Pn	05 57 51.1	-0.7
	1.9nm,1.1s,baz=25,slow=13,SNR=6.7							
MKAR	**Makanchi Array**	**7.85**	**201**	Pn		Pn	05 57 53.1	+1.3
	0.1nm,0.3s,baz=24,slow=14,SNR=4.6							

*ISCJB **20** 06:05:34.7±0.4, 38.35S±0.07×17.08W±0.08, h10km, mb4.8/30, MS4.7/25, Error ellipse: s-maj=10.1km s-min=8.6km az=178.0*
*IDC **20** 06:05:35.0±0.8, 38.33S×16.92W, h0km, mb4.3/11, mb1 4.4/11, mb1mx4.2/32, mbtmp4.3/11, MS4.6/17, Ms1 4.6/17, ms1mx4.5/20, Error ellipse: s-maj=20.5km s-min=19.3km az=100.0*
*NEIC **20** 06:05:36.1±0.4, 38.19S×17.08W, h10km, mb5.2/22, Error ellipse: s-maj=10.4km s-min=8.6km az=173.0*
*GCMT **20** 06:05:36.0±0.1, 38.41S×17.01W, h12km, MW5.2/122, Moment Tensor Solution. s66,c85; s122,c210; Duration: 1s0 Moment tensor: Scale 10^{17}Nm; M_{rr}-0.77±.01; $M_{\theta\theta}$0.01±.01; $M_{\phi\phi}$0.75±.01; $M_{r\theta}$0.14±.04; $M_{\theta\phi}$-0.06±.01; $M_{r\phi}$0.11±.04; Best double couple: $M_0$0.78500×10^{17} NP1:ϕ_s186.00000°, δ49.00000°, λ-76.00000°. NP2:ϕ_s345.00000°, δ42.00000°, λ-106.00000°. Principal axes: T 0.7670, Plg4.0000°, Azm266.0000°; N 0.0350, Plg10.0000°, Azm357.0000°; P -0.8030, Plg79.0000°, Azm157.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*BJI **20** 06:05:36.0, 38.20S×17.10W, h10km, mB5.6/13, Ms5.5/11, Ms7 4.9/15*
ISC 20 06:05:36.6±0.4, 38.35S±0.09×17.10W±0.07, h10km, n97, σ1s91/70, mb4.9/37, MS4.7/25, 2D, Southern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
H09W1	**TRISTAN DA CUN**	**3.98**	**73**	T		T	06 10 50.6	
	SNR=10							
H09N1	**TRISTAN DA CUN**	**4.00**	**73**	T		T	06 10 50.9	
	SNR=7.7							
TRIS	**Tristan da Cun**	**4.00**	**73**	*e*Pn		**Pn**	**06 06 36.0**	**-2.0**
H10S2	**ASCENSION HYDR**	**29.35**	**5**	T		T	06 42 24.5	
	baz=184,slow=75,SNR=44							
H10S3	**ASCENSION HYDR**	**29.35**	**5**	T		T	06 42 21.6	
	baz=184,slow=75,SNR=42							
H10S1	**ASCENSION HYDR**	**29.36**	**5**	T		T	06 42 34.6	
	baz=184,slow=75,SNR=47							
H10N1	**ASCENSION HYDR**	**30.46**	**5**	T		T	06 43 48.6	
	baz=180							
H10N3	**ASCENSION HYDR**	**30.46**	**5**	T		T	06 43 51.0	
	baz=180,slow=74							
H10N2	**ASCENSION HYDR**	**30.48**	**5**	T		T	06 43 48.9	
	baz=180,slow=74							
SNAA	**Sanae**	**34.18**	**172**	P		**P**	**06 12 21.4**	**-0.3**
	5.6nm,1.2s,baz=331,slow=6.6,SNR=7.1							
SNAA	**Sanae**	**34.18**	**172**	*e*P		**P**	**06 12 21.4**	**-0.3**
	44nm,1.4s							
TRQA	**Tornquist**	**35.00**	**256**	*e*P		**P**	**06 12 30.1**	**+0.9**
	54nm,1.9s							
CPUP	**Villa Florida**	**35.78**	**278**	P		**P**	**06 12 36.1**	**+0.2**
	4.3nm,1.0s,baz=122,slow=15,SNR=3.2							
CPUP				LR		LR	06 24 49.1	
	comp=Z,1μm,21.5s,baz=134,slow=32							
CPUP

	57nm,1.4s								
TOA0	**Torodi Ar. Sit**	**54.17**	**23**	*e*P		**P**	**06 15 00.7**	**-1.5**
TORD	**Torodi Ar. Bea**	**54.17**	**23**	P		**P**	**06 14 59.5**	**-2.6**
	1.6nm,0.9s,baz=200,slow=6.4,SNR=6.9							
TORD				LR	LR		06 33 09.5	
	comp=Z,736nm,21.5s,baz=195,slow=31							
TOA1	**Torodi Ar. Sit**	**54.17**	**23**	*e*P		**P**	**06 14 59.5**	**-2.6**
	12nm,1.0s							
PTGA	**Pitinga**	**54.26**	**303**	*e*P		**P**	**06 15 03.1**	**+0.1**
	36nm,1.6s							
KMBO	**Kilima Mbogo**	**61.95**	**67**	LR		LR	06 40 56.2	
	comp=Z,920nm,18.1s,baz=230,slow=34							
SBA	**Scott Base**	**64.04**	**181**	*e*P		**P**	**06 16 11.5**	**+1.6**
	41nm,1.5s							
VNDA	**Vanda**	**64.40**	**180**	P		**P**	**06 16 12.1**	**-0.2**
	5.4nm,1.4s,baz=198,slow=7.5,SNR=6.7							
VNDA				LR		LR	06 40 11.0	
	comp=Z,116nm,21.9s,baz=170,slow=32							
VNDA	**Vanda**	**64.40**	**180**	*e*P		**P**	**06 16 12.3**	**+0.1**
	43nm,1.6s							
PCRV	**Puerto La Cruz**	**65.54**	**307**	LR		LR	06 43 30.2	
	comp=Z,499nm,18.6s,slow=35							
PRAC	**Prado**	**67.76**	**294**	*e*P		**P**	**06 16 34.1**	**-0.7**
	31nm,1.3s							
RUSC	**La Rusia**	**68.00**	**297**	*e*P		**P**	**06 16 34.5**	**-2.4**
RUSC	**La Rusia**	**68.00**	**297**	*e*P		**P**	**06 16 36.4**	**-0.4**
	6.0nm,1.1s							
ROSC	**El Rosal**	**68.14**	**295**	LR		LR	06 45 24.5	
	comp=Z,2µm,19.2s,baz=160,slow=35							
ROSC	**El Rosal**	**68.14**	**295**	*e*P		**P**	**06 16 36.8**	**-0.8**
	8.8nm,1.3s							
HELC	**Santa Helena**	**69.94**	**296**	*e*P		**P**	**06 16 51.0**	**+2.3**
HELC	**Santa Helena**	**69.94**	**296**	*e*P		**P**	**06 16 46.5**	**-2.2**
	23nm,1.3s							
ZARC	**Zaragoza, Cauc**	**70.37**	**297**	*e*P		**P**	**06 16 51.1**	**+0.1**
MOTC	**Monteria, Cord**	**71.84**	**297**	*e*P		**P**	**06 17 01.6**	**+1.8**
SJCC	**San Jacinto, C**	**72.30**	**299**	*e*P		**P**	**06 17 02.7**	**+0.1**
SJG	**San Juan**	**72.59**	**311**	LR		LR	06 47 27.9	
	comp=Z,443nm,20.2s,baz=134,slow=35							
RPN	**Rapa Nui**	**75.35**	**247**	LR		LR	06 44 41.8	
	comp=Z,463nm,20.1s,baz=130,slow=31							
KEST	**Kesra**	**77.67**	**22**	LR		LR	06 48 08.9	
	comp=Z,585nm,21.1s,baz=150,slow=33							
ESDC	**Sonseca Array**	**78.58**	**10**	P		**P**	**06 17 41.7**	**+3.6**
	0.2nm,0.3s,baz=212,slow=4.6,SNR=4.8							
FETA	**Feichten**	**88.56**	**19**	*e*P		**P**	**06 18 29.9**	**+0.6**
	8.2nm,1.6s							
DAVA	**Damuels**	**88.60**	**18**	*es*P		P	06 18 34.9	+5.5
	6.4nm,1.2s							
ABTA	**Abfaltersbach**	**88.77**	**20**	*es*P		P	06 18 37.9	+7.7
	5.8nm,0.9s							
WTTA	**Wattenberg**	**89.02**	**19**	pP		**P**	**06 18 35.2**	**+3.8**
	6.7nm,1.2s							
SOKA	**Soboth**	**89.41**	**21**	*es*P		P	06 18 38.4	+5.2
	14nm,1.7s							
ARSA	**Arzberg**	**90.07**	**22**	sP		P	06 18 45.6	+9.4
	1.4nm,0.7s							
MOA	**Molln**	**90.26**	**21**	*es*P		P	06 18 43.8	+6.8
	10nm,1.4s							
BRTR	**Keskin Array B**	**90.55**	**37**	LR		LR	07 00 02.3	
	comp=Z,28nm,18.5s,baz=198,slow=36							
CONA	**Conrad Observa**	**90.78**	**21**	*es*P		P	06 18 45.6	+6.0
	8.4nm,1.6s							
GERES	**GERESS Array B**	**91.02**	**20**	LR		LR	06 55 52.8	
	comp=Z,293nm,21.7s,baz=200,slow=33							
VYHS	**Vyhne**	**92.17**	**23**	*e*P		P	06 18 52.3	+6.4
GOPC	**GO Pecny, Ondr**	**92.28**	**20**	AMS		AMS	06 55 50.0	
	comp=Z,400nm,20.4s							
PRU	**Pruhonice**	**92.28**	**20**	AMS		AMS	06 55 20.0	
	comp=Z,300nm,19.7s							
KECS	**Kecovo**	**92.68**	**24**	*e*P		P	06 18 53.7	+5.5
PVCC	**Panska Ves**	**92.78**	**20**	AMS		AMS	06 57 30.0	
UPC	**Upice**	**93.15**	**20**	AMS		AMS	06 56 20.0	
	comp=Z,400nm,21.9s							
H01W2	**Cape Leeuwin H**	**94.25**	**142**	T		T	08 04 42.2	
	baz=217,slow=75,SNR=27							
H01W3	**Cape Leeuwin H**	**94.26**	**142**	T		T	08 04 48.8	
	baz=217,slow=75,SNR=26							
H01W1	**Cape Leeuwin H**	**94.26**	**142**	T		T	08 04 43.8	
	baz=217,slow=75,SNR=26							
RKT	**Rikitea**	**95.58**	**235**	*e*LR		LR	06 49 57.0	
	262nm,37.0s							
AKASG	**Malin Array Be**	**97.56**	**28**	LR		LR	07 04 15.0	
	comp=Z,58nm,18.1s,baz=240,slow=36							
TBI	**Tubuai**	**104.09**	**224**	*e*SS		SS	06 38 54.3	+9.0
	85nm,29.5s							
TBI	**Tubuai**	**104.09**	**224**	*e*LR		LR	06 53 54.4	
	360nm,32.5s							
PPT2	**Papeete2**	**108.72**	**228**	*e*SS		SS	06 39 57.1	+8.4
	129nm,29.2s							
PPT2	**Papeete2**	**108.72**	**228**	*e*LR		LR	06 56 13.6	
	646nm,28.0s							
KSH	**Kashi**	**115.10**	**59**	*e*PKP		**PKPdf**	**06 24 19.1**	**+1.2**
KSH				PP		**PP**	**06 25 22.4**	**+4.1**
KSH				PKS		**PKSdf**	**06 27 54.0**	**-0.7**
KSH				SKS		**SKSdf**	**06 31 29.6**	**-0.5**
KSH				SS		**SS**	**06 41 13.0**	**-2.2**
KSH				AMB		AMB		
	comp=Z,120nm,5.0s							
KSH				LR		LR		
	comp=N,120nm,9.6s							
KSH				LR		LR		
	comp=E,110nm,8.9s							
KSH				LR		LR		
	comp=Z,240nm,14.5s							
WMQ	**Urumqi**	**124.87**	**59**	PKP		**PKPdf**	**06 24 35.4**	**-1.1**
WMQ				LR		LR		
	comp=N,320nm,39.1s							
WMQ				LR		LR		
	comp=E,310nm,39.3s							
WMQ				LR		LR		
	comp=Z,180nm,28.7s							
QIZ	**Qiongzhong**	**130.34**	**97**	PKP		**PKPdf**	**06 24 44.1**	**-3.5**
QIZ				PP		**PP**	**06 27 02.9**	**+1.5**
QIZ				SS		SS	06 44 27.8	-1.2
QIZ				LR		LR		
	comp=Z,120nm,19.4s							
GYA	**Guiyang**	**131.72**	**87**	*e*Pdif		**Pdif**	**06 21 41.6**	**-1.7**
GYA				PKP		**PKPdf**	**06 24 49.8**	**-0.4**
GYA				PP		**PP**	**06 27 13.0**	**+2.4**
GYA				AMB		AMB		
	comp=Z,120nm,7.9s							
LZH	**Lanzhou**	**133.62**	**74**	*e*PKP		**PKPdf**	**06 24 51.3**	**-2.2**
LZH				sPKP			06 24 55.8	
LZH				SKKS			06 34 10.0	
LZH				*e*SS		**SS**	**06 45 03.5**	**-5.7**
LZH				AMB		AMB		
	comp=Z,170nm,8.2s							
LZH				LR		LR		
	comp=Z,470nm,20.0s							
SONA1	**Songino Array**	**138.51**	**58**	*e*PKPdf		**PKPdf**	**06 25 02.4**	**+0.3**
IL1	**Eielson Array**	**140.71**	**329**	*e*PKPdf		**PKPdf**	**06 25 03.6**	**-1.9**
HHC	**Hu-ho-hao-te**	**140.82**	**70**	*e*PKP		**PKPdf**	**06 25 06.1**	**-0.5**
HHC				PP		**PP**	**06 28 10.8**	**+3.2**
HHC				SKS		**SKSdf**	**06 32 15.8**	**-1.0**
HHC				SKKS		**SKKSac**	**06 35 01.1**	**+0.3**
HHC				SS		**SS**	**06 46 37.3**	**+2.6**
HHC				AMB		AMB		
	comp=Z,96nm,7.5s							
HHC				LR		LR		
	comp=N,240nm,13.7s							
HHC				LR		LR		
	comp=E,240nm,16.2s							
HHC				LR		LR		
	comp=Z,150nm,16.2s							
CN2	**Changchun**	**151.42**	**67**	*e*PKPbc		**PKPbc**	**06 25 29.6**	**-0.7**

*SJA **20** 06:09:12.5±0.5,24.06S×67.02W,h217km±6km, ML2.3, MW2.7*

*ISCJB **20** 06:09:16.5±0.4,24.04S±0.04×66.93W±0.04,h181km, Error ellipse: s-maj=6.4km s-min=3.6km az=41.5*

*GUC **20** 06:09:16.7±0.3,23.89S×67.08W,h200km,ML4.0*

ISC 20 06:09:16.6±1.2,24.04S±0.04×66.91W±0.04,h181km,n18,
σ1s21/32,7C-1D,Salta Province

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
SLA	**San Lorenzo**	**1.45**	**118**	*i* P		**Pn**	**06 09 49.1**	**+0.7**
SLA				IAML			06 09 49.6	
	comp=Z,44nm,0.3s							
SLA				*i* S		**Sn**	**06 10 15.4**	**+2.5**
HJA	**Humahuaca**	**1.60**	**59**	*i* P		**Pn**	**06 09 50.8**	**+0.7**
AZAP	**Zapla**	**1.69**	**97**	*i* P		**Pn**	**06 09 51.0**	**+0.2**
FSA	**Cafayete**	**2.23**	**158**	*i* P		**Pn**	**06 09 55.7**	**-0.8**
FSA				IAML			06 09 58.2	
	comp=Z,4.1nm,0.4s							
FSA				*i* S		**Sn**	**06 10 27.5**	**-0.1**
ASTB	**Santa Barbara**	**2.25**	**88**	*i* P		**Pn**	**06 09 56.4**	**-0.2**
YJA	**Yavi**	**2.25**	**35**	*i* P		**Pn**	**06 09 57.3**	**+0.2**
YJA				IAML			06 10 00.5	
	comp=Z,6.8nm,0.3s							
YJA				*i* S		**Sn**	**06 10 30.4**	**+2.0**
PB06	**IPOC Station P**	**2.79**	**298**	⇑*i* P		**Pn**	**06 10 04.2**	**+1.3**
PB06				*e*S		**Sn**	**06 10 39.5**	**+0.5**
PB06				IAML			06 10 42.0	
	comp=N,156nm,0.1s							
AHML	**Horco Molle**	**3.08**	**153**	*i* P		**Pn**	**06 10 05.0**	**-1.3**
AHML				IAML			06 10 07.0	
	comp=Z,7.6nm,0.7s							
AHML				*i* S		**Sn**	**06 10 43.7**	**-1.5**
PB09	**IPOC Station P**	**3.10**	**316**	*e*P		**Pn**	**06 10 08.2**	**+1.5**
PB09				*i* S		**Sn**	**06 10 46.8**	**+1.0**
ANCH	**Antofagasta**	**3.23**	**276**	*e*P		**Pn**	**06 10 09.7**	**+1.6**
ANCH				*i* S		**Sn**	**06 10 49.1**	**+0.8**
PB14	**IPOC Station P**	**3.24**	**259**	⇑*i* P		**Pn**	**06 10 09.3**	**+0.8**
PB14				*i* S		**Sn**	**06 10 49.0**	**-0.1**
PB14				IAML			06 10 52.4	
	comp=E,147nm,0.2s							
PB14	**IPOC Station P**	**3.24**	**259**	*i* P		**Pn**	**06 10 09.4**	**+0.8**
PB04	**IPOC Station P**	**3.43**	**299**	⇑*i* P		**Pn**	**06 10 11.4**	**+0.5**
PB04				*i* S		**Sn**	**06 10 52.5**	**-0.6**
PB04				IAML			06 10 57.1	
	comp=N,135nm,0.3s							
PB07	**IPOC Station P**	**3.58**	**309**	⇑*i* P		**Pn**	**06 10 13.1**	**+0.4**
PB07				*i* S		**Sn**	**06 10 55.6**	**-0.9**
PB07				IAML			06 10 57.7	
	comp=E,144nm,0.3s							
PB01	**IPOC Station P**	**3.82**	**321**	⇑*i* P		**Pn**	**06 10 15.8**	**+0.2**
PB01				*i* S		**Sn**	**06 11 00.7**	**-0.9**
PB01				IAML			06 11 03.9	
	comp=E,59nm,0.3s							
PB08	**IPOC Station P**	**4.40**	**331**	⇓*i* P		**Pn**	**06 10 23.9**	**+0.6**
PB08				*i* S		**Sn**	**06 11 15.2**	**-0.3**
PB08				IAML			06 11 19.8	
	comp=N,44nm,0.3s							
HMBC	**Humberstone**	**4.65**	**323**	⇑*i* P		**Pn**	**06 10 24.7**	**-1.6**
HMBC				*i* S		**Sn**	**06 11 18.8**	**-2.0**
MNMC	**Minye Minye**	**5.49**	**332**	⇑*i* P		**Pn**	**06 10 36.1**	**-1.2**
MNMC				*i* S		**Sn**	**06 11 38.3**	**-2.3**
MNMC				IAML			06 11 46.1	
	comp=E,82nm,0.3s							

*NIED **20** 06:13:00,35.80N×141.00E,h8km,Mw3.6 Best double couple: M₀2.39000×10¹⁴ NP1:φs195.00000°,δ44.00000°, λ-74.00000°. NP2:φs353.00000°,δ49.00000°, λ-105.00000°.*

JMA 20 06:13:15.5±0.1,35.80N×140.92E,h12km±1km,M3.7,2C,
Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
CHOJ	**Chosi**	**0.11**	**207**	⇑P		Pg	06 13 18.5	+0.1
CHOJ				S		Sg	06 13 20.6	0.0
JCN	**Nagara**	**0.70**	**237**	P		Pb	06 13 30.0	+0.4
JYT	**Yasato**	**0.73**	**306**	⇑P		Pg	06 13 29.0	-0.6
JYT				S		Sg	06 13 38.7	-0.4
JHO	**Hitachi**	**0.86**	**341**	P		Pg	06 13 31.8	-0.3
JHO				S		Sg	06 13 43.1	-0.2
BSO4	**Boso 4**	**0.94**	**211**	P		Pn	06 13 34.1	-0.3
BSO4				S		Sn	06 13 48.5	+0.8
BSO3	**Boso 3**	**1.05**	**199**	P		Pb	06 13 34.9	-0.6
MAT	**Matsushiro**	**2.32**	**289**	P		Pn	06 13 52.2	-1.3
MAT				*e*S		Sn	06 14 17.9	-4.0

*ISCJB **20** 06:30:17.7±0.8,15.84N±0.08×146.8E±0.1,h30km, mb4.5/22,MS4.4/1,Error ellipse: s-maj=20.9km s-min=8.0km az=26.6*

*NEIC **20** 06:30:20.7±2.0,15.81N×146.86E,h44km±18km,mb4.5/3, Error ellipse: s-maj=18.4km s-min=12.8km az=92.0*

*IDC **20** 06:30:21.3±3.3,15.85N×146.90E,h46km±31km,mb4.1/17, mb1 4.3/18,mb1mx4.0/51,mbtmp4.4/18,ML4.1/1,MS3.7/2, Ms1 3.7/2,ms1mx2.9/34,Error ellipse: s-maj=24.4km s-min=18.0km az=98.0*

ISC 20 06:30:19.4±0.8,15.8N±0.1×146.8E±0.2,h30km,n31,
σ0s99/32,mb4.6/22,Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
GUMO	**Guam**	**2.91**	**221**	P		**Pn**	**06 31 04.8**	**+1.2**
	24nm,0.3s,baz=349,slow=2.1,SNR=8.3							
GUMO				S		**Sn**	**06 31 35.5**	**-2.0**
	41nm,0.3s,baz=185,slow=21,SNR=5.1							
GUMO				LR		LR	06 32 19.3	
	comp=Z,338nm,19.6s,baz=64,slow=40							
GUMO	**Guam**	**2.91**	**221**	*e*Pn		**Pn**	**06 31 04.2**	**+0.6**
GUMO				P		Pb	06 31 04.8	-5.8
GUMO				S		**Sn**	**06 31 35.5**	**-2.0**
MJAR	**Matsushiro Arr**	**22.03**	**341**	P		**P**	**06 35 11.1**	**-0.4**
	3.0nm,0.6s,baz=169,slow=9.8,SNR=6.4							
KSRS	**Korea Array**	**27.29**	**326**	P		**P**	**06 36 01.1**	**-0.2**
	2.1nm,0.6s,baz=151,slow=9.0,SNR=3.0							
KSAR	**Wonju Array Be**	**27.30**	**326**	P		**P**	**06 36 01.1**	**-0.3**
WRA	**Warramunga Arr**	**37.59**	**199**	P		**P**	**06 37 32.9**	**+1.5**
	0.5nm,0.5s,baz=20,slow=9.0,SNR=2.9							
MA2	**Magadan**	**43.80**	**3**	P		**P**	**06 38 23.5**	**+1.3**
	15nm,0.7s,baz=167,slow=9.0,SNR=11							
CMAR	**Chiang Mai Arr**	**45.73**	**281**	P		**P**	**06 38 39.8**	**+1.5**
	1.3nm,0.4s,baz=70,slow=6.0,SNR=6.9							
SONM	**Songino Array**	**46.07**	**323**	P		**P**	**06 38 41.4**	**+0.7**
	0.8nm,0.6s,baz=134,slow=8.5,SNR=6.4							
SEY	**Seymchan**	**47.23**		P		**P**	**06 38 50.6**	**+1.2**
	4.3nm,0.8s,baz=184,slow=9.5,SNR=8.1							
TIXI	**Tiksi**	**56.85**	**353**	P		**P**	**06 40 00.9**	**+0.1**
	5.1nm,0.5s,baz=134,slow=4.0,SNR=5.5							
ZALV	**Zalesovo Beam**	**60.96**	**323**	P		**P**	**06 40 28.9**	**-0.7**
	2.0nm,0.4s,baz=104,slow=7.8,SNR=8.1							
ZALV				PcP		**PcP**	**06 41 11.9**	**-0.9**
	2.1nm,0.7s,baz=104,slow=4.0,SNR=4.7							
MKAR	**Makanchi Array**	**61.24**	**315**	P		**P**	**06 40 32.2**	**+0.5**
	5.6nm,0.5s,baz=93,slow=7.8,SNR=66							
KURK	**Kurchatov**	**64.14**	**319**	*e*P		**P**	**06 40 50.7**	**-0.2**
	180nm,1.0s							
NRIK	**Noril'sk**	**64.68**	**340**	P		**P**	**06 40 53.9**	**-0.2**
	3.0nm,0.5s,baz=145,slow=4.8,SNR=4.1							
ILAR	**Eielson Array**	**65.76**	**25**	P		**P**	**06 41 00.1**	**-1.2**
	2.0nm,0.6s,baz=250,slow=6.0,SNR=28							
KKAR	**Karatay Array**	**69.44**	**311**	*e*P		**P**	**06 41 25.0**	**+0.1**
	2.2nm,0.6s							
BRVK	**Borovoye**	**69.45**	**321**	*e*P		**P**	**06 41 23.6**	**-1.2**
	17nm,1.0s							
ARU	**Arti**	**76.04**	**325**	*e*P		**P**	**06 42 03.0**	**-0.8**
	4.6nm,0.6s							
ABKAR	**Akbulak array**	**76.19**	**318**	*e*P		**P**	**06 42 04.1**	**-0.6**
	3.8nm,0.6s							
AKTO	**Aktyubinsk**	**77.24**	**319**	LR		LR	07 18 17.5	
	comp=Z,170nm,20.1s,slow=37							
GEYT	**Alibeck**	**79.46**	**306**	P		**P**	**06 42 24.1**	**+0.8**
	2.1nm,0.4s,baz=46,slow=4.2,SNR=3.2							
YKA	**Yellowknife Ar**	**80.03**	**28**	P		**P**	**06 42 25.3**	**-0.4**
	1.5nm,0.6s,baz=284,slow=4.9,SNR=4.9							
NEW	**Newport**	**82.32**	**42**	P		**P**	**06 42 38.0**	**-0.3**
	1.5nm,0.7s,baz=237,slow=5.3,SNR=3.8							
ARCES	**ARCESS Array B**	**85.56**	**342**	P		**P**	**06 42 53.9**	**-0.6**
	2.1nm,0.5s,baz=72,slow=7.8,SNR=8.6							
FINES	**FINESS Array B**	**89.95**	**336**	P		**P**	**06 43 13.7**	**-1.8**
	2.0nm,0.5s,baz=62,slow=4.6,SNR=18							
DBIC	**Dimbokro**	**144.15**	**306**	PKP		PKPbc	06 49 51.3	0.0
	5.7nm,0.5s,baz=43,slow=4.9,SNR=20							
KIC	**Kosan Boka**	**144.25**	**306**	*e*PKP1		**PKPab**	**06 49 51.2**	**-0.1**
	27nm,0.9s							
TIC	**Toumodi**	**144.29**	**307**	*e*PKP1		**PKPab**	**06 49 51.0**	**-0.5**
LIC	**Lamto**	**144.56**	**306**	*e*PKP1		**PKPab**	**06 49 52.2**	**-0.2**
	61nm,0.9s							
LPAZ	**La Paz**	**146.43**	**96**	PKPbc		**PKPdf**	**06 49 58.5**	**+0.6**
	1.1nm,0.7s,baz=256,slow=3.2,SNR=8.2							

*ISCJB **20** 06:30:37.7±1.0,6.3S±0.1×149.3E±0.1,h49km,mb4.0/6, MS3.6/8,Error ellipse: s-maj=22.3km s-min=12.6km az=39.4*

*IDC **20** 06:30:40.2±4.8,6.36S×149.30E,h58km±39km,mb3.8/6, mb1 4.1/8,mb1mx3.8/39,mbtmp4.2/8,ML4.8/1,MS3.7/10, Ms1 3.6/10,ms1mx3.4/32,Error ellipse: s-maj=31.0km s-min=24.4km az=10.0*

ISC 20 06:30:39.5±1.0,6.3S±0.1×149.3E±0.2,h49km,n16,
σ0s72/13,mb3.9/6,MS3.6/8,New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.74**	**215**	P		**Pn**	**06 31 35.1**	**+0.4**
	37nm,0.3s,baz=53,slow=6.0,SNR=46							
PMG				S		**Sn**	**06 32 17.9**	**+0.4**
	82nm,0.3s,baz=46,slow=16,SNR=9.6							
JAY	**Jayapura**	**9.40**	**293**	LR		LR	06 36 46.2	
	comp=Z,5.6nm,20.6s,baz=273,slow=39							
HNR	**Honiara**	**10.95**	**107**	LR		LR	06 36 56.5	
	comp=Z,158nm,20.0s,baz=320,slow=34							
WRA	**Warramunga Arr**	**19.88**	**226**	P		**P**	**06 35 05.9**	**-0.9**
	2.8nm,0.3s,baz=53,slow=11,SNR=71							
WRA				PcP		**PcP**	**06 39 22.7**	**-0.2**
	0.0nm,0.3s,baz=41,slow=2.1,SNR=5.3							
WRA				LR		LR	06 43 50.1	
	comp=Z,149nm,19.4s,baz=60,slow=40							
GUMO	**Guam**	**20.28**	**347**	LR		LR	06 41 23.3	
	comp=Z,156nm,21.8s,baz=146,slow=32							
ASAR	**Alice Springs**	**22.75**	**219**	P		**P**	**06 35 37.1**	**-0.5**
	2.1nm,0.5s,baz=57,slow=9.3,SNR=33							
ASAR				PcP		**PcP**	**06 39 27.4**	**-1.0**
	0.5nm,0.5s,baz=31,slow=2.2,SNR=3.6							
ASAR				LR		LR	06 44 56.8	
	comp=Z,190nm,18.6s,baz=40,slow=38							
DZM	**Mont Dzumac**	**22.76**	**135**	P		**P**	**06 35 37.9**	**0.0**
	4.1nm,0.5s,baz=254,slow=7.4,SNR=7.6							
DZM				LR		LR	06 42 42.9	
	comp=Z,292nm,19.7s,baz=231,slow=32							
FITZ	**Fitzroy Crossi**	**25.91**	**241**	P		**P**	**06 36 06.2**	**-0.9**
	4.5nm,0.3s,baz=56,slow=7.2,SNR=39							
FITZ				LR		LR	06 48 04.9	
	comp=Z,89nm,18.6s,baz=72,slow=40							
STKA	**Stephens Creek**	**26.43**	**195**	P		**P**	**06 36 11.9**	**+0.2**
	2.1nm,0.5s,baz=21,slow=14,SNR=6.1							
STKA				LR		LR	06 46 26.0	
	comp=Z,181nm,18.9s,baz=20,slow=36							
MJAR	**Matsushiro Arr**	**42.91**	**347**	LR		LR	06 54 55.4	
	comp=Z,54nm,20.8s,baz=255,slow=33							
VNDA	**Vanda**	**71.46**	**177**	P		**P**	**06 41 54.4**	**+0.1**
	0.7nm,0.6s,baz=342,slow=7.1,SNR=5.4							
MKAR	**Makanchi Array**	**79.24**	**320**	LR		LR	07 18 59.7	
	comp=Z,145nm,19.7s,baz=238,slow=37							
ZALV	**Zalesovo Beam**	**80.54**	**327**	P		**P**	**06 42 46.9**	**+0.5**
	0.6nm,0.4s,baz=110,slow=5.7,SNR=3.7							
MAW	**Mawson**	**82.84**	**203**	LR		LR	07 17 34.3	
	comp=Z,35nm,20.5s,baz=64,slow=34							
PCRV	**Puerto La Cruz**	**146.17**	**81**	PKPbc		**PKPdf**	**06 50 14.0**	**-0.5**
	5.3nm,0.5s,baz=298,slow=2.1,SNR=6.7							
TORD	**Torodi Ar. Bea**	**147.42**	**284**	PKPbc		**PKPdf**	**06 50 17.6**	**+1.1**
	1.3nm,0.4s,baz=72,slow=3.0,SNR=27							

*ISCJB **20** 06:32:35.5±0.4,13.09N±0.05×90.16W±0.04,h29km, mb4.3/40,MS4.1/2,Error ellipse: s-maj=8.2km s-min=3.4km az=31.8*

*CASC **20** 06:32:37.2±2.0,12.90N×90.14W,h21km±12km,ML3.6, mb4.7(NEIC)*

*IDC **20** 06:32:41.5±3.7,13.28N×89.87W,h59km±35km,mb3.8/10, mb1 4.0/11,mb1mx3.7/41,mbtmp4.1/11,ML3.7/1,MS3.6/1, Ms1 3.6/1,ms1mx2.7/33,Error ellipse: s-maj=39.2km s-min=16.3km az=51.0*

*NEIC **20** 06:32:41.9±0.9,13.20N×89.93W,h64km±8km,mb4.2/37, MD4.1(SNET),Error ellipse: s-maj=11.6km s-min=5.5km az=217.0*

NEIC Felt [I] at Sonsonate.

ISC 20 06:32:37.1±0.6,12.95N±0.06×90.21W±0.05,h29km,n264,
σ1s59/264,mb4.2/40,2C,Off coast of central America

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
CUS1	**Cusmapa**	**0.99**	**15**	*i* P		**Pn**	**06 32 55.2**	**0.0**
SBLS	**San Blas**	**1.05**	**33**	*i* P		**Pb**	**06 32 56.7**	**-0.2**
MONT	**Ecomontaæa**	**1.05**	**31**	*i* P		**Pb**	**06 32 56.9**	**-0.1**
SNJE	**San Jose**	**1.08**	**33**	⇑*e*P		**Pb**	**06 32 57.4**	**0.0**
RTR	**El Retiro**	**1.09**	**30**	*i* P		**Pb**	**06 32 57.6**	**+0.1**
BQQS	**Boqueron**	**1.20**	**49**	*e*P		**Pb**	**06 32 58.8**	**-0.5**
SNET	**Serv Nac Est T**	**1.20**	**53**	*e*P		**Pn**	**06 32 58.5**	**+0.5**
SNET				*e*P		**Pn**	**06 32 58.6**	**+0.5**
SNET				AML		AML	06 33 00.1	
	comp=Z,4µm,0.2s							
SNET				*e*S		**Sn**	**06 33 13.1**	**-0.4**
SNET				*e*S		**Sb**	**06 33 16.1**	**+1.5**
OPAM	**San Salvador**	**1.24**	**52**	*e*P		**Pn**	**06 32 59.3**	**+0.6**
RBDL	**Robledal**	**1.26**	**24**	*i* P		**Pb**	**06 33 00.1**	**-0.3**
UDBS	**Soyapango**	**1.28**	**53**	*e*P		**Pn**	**06 32 59.8**	**+0.6**
UDBS				AML		AML	06 33 20.1	
	comp=Z,3µm,0.4s							
LFRS	**El Faro**	**1.30**	**59**	⇑*i* P		**Pn**	**06 32 60.0**	**+0.4**
LFU	**La Fuente**	**1.33**	**53**	*e*P		**Pn**	**06 33 00.7**	**+0.8**
LBRS	**Las Brisas**	**1.38**	**55**	*e*P		**Pn**	**06 33 01.5**	**+0.9**
SNVI	**San Vicente**	**1.49**	**64**	*e*P		**Pn**	**06 33 02.7**	**+0.

Z47A	Carrollton	20.25	5	P	Pn	06 37 11.5	-0.7
	baz=185,SNR=7.4						
136A	Ennis	20.27	344	P	P	06 37 10.8	+0.4
	baz=161						
Z48A	Northport	20.47	6	P	P	06 37 13.1	+0.5
	baz=187,SNR=6.4						
LTX	Lajitas	20.54	325	eP	Pn	06 37 15.7	-0.1
TXAR	Lajitas Array	20.54	325	P	Pn	06 37 15.7	-0.1
	comp=E,1.3nm,0.4s,baz=143,slow=11,SNR=35						
TX31	Lajitas Ar. Si	20.54	325	eP	Pn	06 37 15.3	-0.4
TX31				eP	P	06 37 15.8	+2.3
233A	Rising Star	20.58	339	P	P	06 37 15.0	+1.1
	baz=154						
Z37A	Pogue Cattle C	20.75	347	P	P	06 37 16.0	+0.4
	baz=164						
Y45A	Yeager Farm, C	20.83	2	P	P	06 37 16.8	+0.4
	baz=181						
Y46A	Houston	20.87	3	P	P	06 37 17.8	+0.9
	baz=183,SNR=6.7						
Y47A	UCPARC, Winfie	20.96	6	P	P	06 37 18.8	+0.9
	baz=186,SNR=6.6						
X45A	UM Field Stati	21.39	2	P	P	06 37 23.0	+0.5
	baz=181						
ABTX	Abilene, Hawle	21.40	338	eP	P	06 37 23.4	+0.7
	comp=E,23nm,1.4s						
OXF	Oxford	21.48	2	eP	P	06 37 21.6	-1.8
	comp=E,37nm,1.1s						
Y37A	Hugo	21.50	348	P	P	06 37 23.3	-0.4
	baz=165						
X41A	Kaden, Bauxite	21.55	355	P	P	06 37 23.5	-0.6
	baz=173						
MIAR	Mount Ida	21.71	352	eP	P	06 37 27.1	+1.2
	comp=E,9.5nm,1.1s						
X37A	Clayton	22.04	349	P	P	06 37 28.6	-0.9
	baz=166						
X35A	Drake	22.22	345	P	P	06 37 30.5	-0.9
	baz=162						
X36A	Centrahoma	22.23	347	P	P	06 37 30.7	-0.8
	baz=163,SNR=6.1						
W38A	Poteau	22.36	351	P	P	06 37 31.7	-1.3
	baz=168						
SWET	Sewanee	22.50	9	eP	P	06 37 34.0	-0.4
	comp=E,2.5nm,0.6s						
W37B	Quinton	22.59	349	P	P	06 37 34.5	-0.8
	baz=166						
W36A	Watumka	22.75	347	P	P	06 37 35.6	-1.5
	baz=164						
V40A	Witts Springs	22.87	355	P	P	06 37 36.6	-1.8
	baz=173						
W35A	Tecumseh	22.91	346	P	P	06 37 36.9	-1.8
	baz=162,SNR=6.9						
V39A	Pettigrew	23.00	353	P	P	06 37 38.2	-1.4
	baz=171						
WMOK	Wichita Mounta	23.04	342	P	P	06 37 38.2	-1.9
	baz=157						
V38A	Canehill	23.12	351	P	P	06 37 39.2	-1.7
	baz=169						
WVT	Waverly	23.18	5	eP	P	06 37 40.6	-0.8
	comp=E,7.1nm,0.9s						
V37A	Hulbert	23.26	350	P	P	06 37 40.9	-1.4
	baz=167						
MNTX	Cornudas Mount	23.29	326	P	P	06 37 43.3	+0.6
	baz=139,SNR=16						
MNTX	Cornudas Mount	23.29	326	eP	P	06 37 43.3	+0.6
	comp=E,7.6nm,1.0s						
U44B	Burton Farm, H	23.30	2	P	P	06 37 41.0	-1.7
	baz=181						
U42A	Revenden	23.32	358	P	P	06 37 41.8	-1.0
	baz=177						
TKL	Tuckaleechee C	23.34	13	P	P	06 37 42.0	-1.1
	comp=E,5.9nm,1.0s,baz=173,slow=10,SNR=5.7						
TKL				LR	LR	06 47 29.1	
	comp=E,152nm,18.2s,baz=192,slow=39						
TKL	Tuckaleechee C	23.34	13	eP	P	06 37 42.0	-1.1
	comp=E,12nm,1.2s						
U41A	Viola	23.34	357	P	P	06 37 42.3	-0.7
	baz=175						
TUL1	Leonard	23.41	349	P	P	06 37 42.6	-1.1
	baz=166						
TUL1	Leonard	23.41	349	eP	P	06 37 43.3	-0.4
	comp=E,8.2nm,1.0s						
U40A	Yellville	23.42	355	P	P	06 37 42.4	-1.5
	baz=173						
U38A	Gravette	23.68	352	P	P	06 37 44.7	-1.7
	baz=169						
MSTX	Muleshoe	23.84	333	P	P	06 37 47.1	-0.9
	baz=148						
U35A	Pawnee	24.04	347	P	P	06 37 48.2	-1.6
	baz=164						
T39A	Clever	24.14	354	P	P	06 37 48.9	-1.8
	baz=172						
T40A	Mansfield	24.18	355	P	P	06 37 49.0	-2.1
	baz=174						
T38A	Diamond	24.26	352	P	P	06 37 50.7	-1.1
	baz=170						
T37A	Cheneyville 18	24.43	351	P	P	06 37 52.3	-1.0
	baz=168						
T35A	Sooner Cattle	24.52	348	P	P	06 37 52.8	-1.4
	baz=164						
T36A	Boggs Farm, Ca	24.54	349	P	P	06 37 53.1	-1.2
	baz=166						
S41A	Jillco Farms,	24.57	357	P	P	06 37 52.7	-1.9
	baz=176						
S40A	Lebanon	24.63	356	P	P	06 37 53.5	-1.6
	baz=174						
S44A	Carbondale	24.65	2	P	P	06 37 54.4	-0.9
	baz=182,SNR=6.0						
S42A	Caledonia	24.72	359	P	P	06 37 53.6	-2.4
	baz=178						
T34A	McClaskey Farm	24.77	347	P	P	06 37 55.3	-1.1
	baz=163						
S39A	Bolivar	24.79	354	P	P	06 37 55.8	-0.8
	baz=172,SNR=8.6						
S38A	Stockton	24.80	353	P	P	06 37 55.3	-1.4
	baz=171						
S37A	Fort Scott	25.05	351	P	P	06 37 57.2	-1.6
	baz=169						
S36A	Lake Cedric, C	25.13	350	P	P	06 37 58.3	-1.3
	baz=167						
R44A	Waltonville	25.21	2	P	P	06 37 58.8	-1.6
	baz=182						
R43A	Red Bud	25.22	1	P	P	06 37 59.2	-1.3
	baz=180						
S35A	Otter Creek Ra	25.22	349	P	P	06 37 59.7	-0.8
	baz=165						
R42A	Luebbering	25.23	359	P	P	06 37 59.5	-1.1
	baz=178						
R41A	Rosebud	25.26	358	P	P	06 37 59.7	-1.2
	baz=177						
121A	Cookes Peak, D	25.27	323	P	P	06 38 03.3	+2.1
	baz=136,SNR=8.9						
121A	Cookes Peak, D	25.27	323	eP	P	06 38 03.2	+2.0
	comp=E,7.8nm,0.9s						
R40A	Maddies Statio	25.30	356	P	P	06 37 59.6	-1.6
	baz=175						
R38A	Fenwick Farm,	25.34	353	P	P	06 38 00.9	-0.7
	baz=171,SNR=5.6						
R39A	Chumby, Stover	25.38	355	P	P	06 38 01.4	-0.6
	baz=173,SNR=6.5						
WCI	Wyandotte Cave	25.41	7	eP	P	06 38 01.4	-0.8
	comp=E,15nm,0.8s						
R37A	Teagarden Farm	25.59	352	P	P	06 38 02.8	-1.0
	baz=169						
BNM	Barren Site	25.84	327	eP	P	06 38 07.6	+1.1
Q44A	Meyer Farm, Va	25.87	2	P	P	06 38 04.5	-1.8
	baz=182						
Q41A	Truxton	25.91	358	P	P	06 38 05.2	-1.5
	baz=177						
Q39A	Willow Grove F	26.10	355	P	P	06 38 07.3	-1.2
	baz=173						
ANMO	Albuquerque	26.38	329	P	P	06 38 11.9	+0.7
	comp=E,0.4nm,0.5s,baz=156,slow=9.4,SNR=6.0						
ANMO	Albuquerque	26.38	329	eP	P	06 38 11.9	+0.7
	comp=E,4.0nm,1.5s						
P40A	Paris	26.52	357	P	P	06 38 10.6	-1.6
	baz=175						
P39B	Salisbury	26.52	356	P	P	06 38 10.7	-1.6
	baz=174						
P42A	Winchester	26.53	360	P	P	06 38 10.6	-1.7
	baz=179						
P41A	Barry, Barry	26.63	359	P	P	06 38 11.0	-2.2
	baz=178						
P38A	Dawn	26.73	354	P	P	06 38 12.6	-1.5
	baz=172						
P37A	Lathrop	26.78	353	P	P	06 38 13.1	-1.5
	baz=170						
P36A	Good Intent, A	26.93	351	P	P	06 38 14.5	-1.4
	baz=169						
O40A	La Belle	27.10	357	P	P	06 38 15.7	-1.7
	baz=176						
SFIN	Lafayette	27.46	5	P	P	06 38 18.4	-2.2
	baz=186						
HDIL	Hopedale	27.51	2	P	P	06 38 18.9	-2.2
	baz=181						
N39A	Derby Farms, D	27.89	356	P	P	06 38 23.2	-1.3
	baz=175						
N35A	Tabor	28.21	351	P	P	06 38 26.3	-1.0
	baz=168						
M38A	Pleasantville	28.48	355	P	P	06 38 28.3	-1.4
	baz=173						
M36A	Felix, Anita	28.68	353	P	P	06 38 30.4	-1.1
	baz=170						
X16A	Lo Mia Camp, P	28.77	322	eP	P	06 38 33.6	+1.0
	comp=E,2.1nm,0.8s						
S22A	4UR Ranch, Cre	28.80	332	P	P	06 38 33.3	+0.2
	baz=144						
L40A	Anamosa	29.02	358	P	P	06 38 33.4	-1.2
	baz=177						
L41A	Preston	29.02	360	P	P	06 38 33.1	-1.5
	baz=179						
MVCO	Mesa Verde	29.17	329	eP	P	06 38 36.9	+0.6
	comp=E,16nm,1.8s						
L36A	Harm Buss Farm	29.30	353	P	P	06 38 35.2	-1.9
	baz=170						
N54A	Morning State	29.30	16	P	P	06 38 35.1	-2.1
	baz=200						
L35A	Bielow Farm, R	29.42	352	P	P	06 38 37.0	-1.2
	baz=169						
K40A	Colesburg	29.65	359	P	P	06 38 38.5	-1.7
	baz=178						
K39A	Oelwein	29.68	358	P	P	06 38 38.2	-2.3
	baz=176						
J41A	Loganville	30.30	0	P	P	06 38 43.3	-2.6
	baz=180						
J37A	Redenius Farm,	30.39	355	P	P	06 38 44.6	-2.1
	baz=173						
J36A	Seneca 1, Swea	30.48	354	P	P	06 38 45.6	-1.9
	baz=172						
U15A	North Rim	30.65	324	eP	P	06 38 51.1	+1.6
	comp=E,2.7nm,0.9s						
SWSC	Sam W. Stewart	30.69	315	eP	P	06 38 54.8	+5.2
I41A	Arkdale	31.00	0	P	P	06 38 50.2	-1.9
	baz=180						
I38A	Scanlan Farm,	31.03	357	P	P	06 38 50.7	-1.6
	baz=175						
I37A	Lemond, Waseca	31.07	356	P	P	06 38 51.0	-1.7
	baz=173						
ECSD	EROS Data Cent	31.16	351	P	P	06 38 52.1	-1.4
	baz=167						
ECSD	EROS Data Cent	31.16	351	eP	P	06 38 51.5	-2.0
	comp=E,6.4nm,1.0s						
KNB	Kanab	31.37	324	eP	P	06 38 58.0	+2.4
	baz=E,3.3nm,0.9s						
I33A	Coleman	31.50	351	P	P	06 38 54.6	-1.9
	baz=167						
PFO	Pinyon Flats O	31.53	315	eP	P	06 38 56.0	-1.0
H41A	Junction City	31.56	1	P	P	06 38 54.5	-2.5
	baz=180						
H40A	Chili	31.56	360	P	P	06 38 54.8	-2.2
	baz=179						
H37A	Dierke Farm, C	31.60	356	P	P	06 38 55.4	-2.0
	baz=174						
LCMT	Little Creek M	31.61	323	eP	P	06 38 59.7	+2.0
	comp=E,2.3nm,0.9s						
H39A	Augusta	31.63	359	P	P	06 38 55.2	-2.4
	baz=178						
H38A	Maiden Rock	31.66	357	P	P	06 38 55.6	-2.3
	baz=176						
H36A	Jessenland, He	31.68	355	P	P	06 38 56.0	-2.0
	baz=173						
H35A	Sunnyside Ranc	31.88	354	P	P	06 38 58.0	-1.9
	baz=171						
H32A	Carlson Farm,	32.05	350	P	P	06 38 59.3	-2.0
	baz=166						
CCUT	Cedar City	32.05	324	eP	P	06 39 02.9	+1.2
	comp=E,3.9nm,1.1s						
MSU	Marysvale	32.07	326	eP	P	06 39 03.3	+1.5
H33A	Prehn Over Nor	32.11	351	P	P	06 39 00.2	-1.7
	baz=167						
G38A	Ridgeland	32.14	358	P	P	06 38 59.7	-2.4
	baz=176						
G39A	Holcombe	32.23	359	P	P	06 39 00.7	-2.2
	baz=178						
SPMN	Marine on St.	32.24	357	P	P	06 39 01.1	-1.8
	baz=175,SNR=9.0						
SPMN	Marine on St.	32.24	357	eP	P	06 39 01.2	-1.8
	comp=E,18nm,0.9s						
TUQ	Turquoise Moun	32.24	318	P	P	06 39 02.3	-1.0
	baz=127						
G43A	Wallace	32.27	3	P	P	06 39 00.5	-2.7
	baz=184						
TCRU	Three Creeks R	32.28	326	eP	P	06 39 05.2	+1.4
	comp=E,3.7nm,0.8s						
G36A	St. Michael	32.31	355	P	P	06 39 01.4	-2.2
	baz=173						
G34A	Benson	32.51	353	P	P	06 39 03.6	-1.7
	baz=170						
G33A	Ortonville	32.57	352	P	P	06 39 04.3	-1.6
	baz=168						
F41A	Three Lakes	32.69	1	P	P	06 39 05.0	-1.9
	baz=182						
F40A	Park Falls	32.86	0	P	P	06 39 05.7	-2.7
	baz=180						
F39A	Loretta	32.86	359	P	P	06 39 06.4	-2.0
	baz=178						
F36A	Milaca	32.92	356	P	P	06 39 06.9	-2.0
	baz=174						
F38A	Pierce - Schro	32.93	358	P	P	06 39 07.0	-1.9
	baz=176,SNR=6.7						
PTGA	Pitinga	32.94	112	P	P	06 39 09.7	+0.3
	comp=E,2.3nm,0.7s,baz=313,slow=9.7,SNR=7.6						
PTGA	Pitinga	32.94	112	eP	P	06 39 09.8	+0.3
	comp=E,2.9nm,0.8s						
F35A	Swanville	33.00	354	P	P	06 39 07.5	-2.2
	baz=172						
F34A	Alexandria	33.01	354	P	P	06 39 07.7	-2.0
	baz=170						
F33A	5 Mile Ranch,	33.18	352	P	P	06 39 09.3	-1.9
	baz=169						
SBI	Santa Barbara	33.26	313	eP	P	06 39 13.6	+1.5
E40A	Wakefield	33.38	0	P	P	06 39 11.2	-1.8
	baz=180,SNR=6.8						
E43A	Lone Tree Farm	33.42	4	P	P	06 39 10.7	-2.6
	baz=185						
E38A	The Farm, Brul	33.56	358	P	P	06 39 12.5	-2.0
	baz=177						
BALC	Balcom Canyon	33.65	314	eP	P	06 39 19.2	+3.8
E35A	Pequot Lakes	33.68	355	P	P	06 39 13.8	-1.7
	baz=172						
E34A	Wadena	33.71	354	P	P	06 39 14.3	-1.5
	baz=171,SNR=14						
E33A	Westby DABS, E	33.80	353	P	P	06 39 14.4	-2.2
	baz=169						
R11A	Troy Canyon, C	33.88	323	eP	P	06 39 19.3	+1.6
	comp=E,4.4nm,1.1s						
ARVC	Arvin	34.00	315	eP	P	06 39 21.1	+2.7
PD31	Pinedale Array	34.10	334	eP	P	06 39 19.4	-0.2
PDAR	Pinedale Array	34.10	334	P	P	06 39 19.7	+0.1
	comp=E,0.3nm,0.6s,baz=117,slow=11,SNR=2.9						
D37A	Cotton	34.15	357	P	P	06 39 17.1	-2.5
	baz=176						
D35A	Remer	34.17	355	P	P	06 39 17.4	-2.4
	baz=173						
D36A	Goodland	34.20	356	P	P	06 39 18.0	-2.1
	baz=174						
D34A	Park Rapids	34.28	354	P	P	06 39 18.8	-2.0
	baz=171						
SAML	Samuel	34.56	128	eP	P	06 39 22.5	-1.0
	comp=E,2.5nm,0.8s						
D31A	Mcclaflin, Tow	34.57	351	P	P	06 39 21.1	-2.1
	baz=166						
C38A	Sawbill Land.	34.67	359	P	P	06 39 21.4	-2.7
	baz=178						
C39A	Grand Marais	34.76	0	P	P	06 39 22.0	-2.8
	baz=180						
C36A	Pine Crest Far	34.77	357	P	P	06 39 23.0	-2.0
	baz=175						
C35A	Jirik Farms, M	34.78	356	P	P	06 39 22.9	-2.1
	baz=173,SNR=8.0						
EYMN	Ely	34.90	358	P	P	06 39 23.8	-2.3
	baz=177						
REDW	Red Top Meadow	35.14	333	eP	P	06 39 29.1	+0.5
	comp=E,3.6nm,0.7s						
LOHW	Long Hollow	35.23	334	eP	P	06 39 29.2	-0.1
	comp=E,2.2nm,0.8s						
TPAW	Teton Pass	35.28	334	eP	P	06 39 31.1	+1.3
	comp=E,3.0nm,0.8s						
C31A	Landman Farms,	35.30	351	P	P	06 39 27.6	-1.9
	baz=167						
B35A	Bob, Littlefor	35.42	356	P	P	06 39 28.4	-2.2
	baz=174						
AGMN	Agassiz Nation	35.55	354	P	P	06 39 29.8	-1.9
	baz=170,SNR=7.7						
AGMN	Agassiz Nation	35.55	354	eP	P	06 39 29.9	-1.8
	comp=E,10nm,0.7s						
B34A	Aery, Baudette	35.62	355	P	P	06 39 30.4	-1.9
	baz=172						
MDND	Maddock	35.66	349	P	P	06 39 31.4	-1.3
	baz=164,SNR=8.0						
MDND	Maddock	35.66	349	eP	P	06 39 31.4	-1.3
	comp=E,38nm,0.8s						
B32A	Ashes, Strandq	35.72	353	P	P	06 39 31.5	-1.7
	baz=169,SNR=7.7						
TVH3	East Aurora ar	35.85	320	eP	P	06 39 36.4	+1.7
	comp=E,8.0nm,1.6s						
B31A	Greenbush Farm	35.90	352	P	P	06 39 32.9	-1.8
	baz=167,SNR=5.5						
RLMT	Red Lodge	35.94	337	P	P	06 39 33.8	-1.5
	baz=147						
A33A	Warroad	36.13	354	P	P	06 39 34.8	-1.8
	baz=171,SNR=8.4						
A32A	Rocking H Ranc	36.23	353	P	P	06 39 34.9	-2.6
	baz=169						
MCMT	McKenzie Canyo	37.18	333	eP	P	06 39 47.1	+1.2
BOZ	Bozeman (W)	37.27	335	P	P	06 39 46.6	+0.1
	baz=144						
BOZ	Bozeman (W)	37.27	335	eP	P	06 39 46.7	+0.1
	comp=E,7.7nm,1.7s						
ULM	Lac du Bonnet	37.48	354	P	P	06 39 45.6	-2.5
	comp=E,4.1nm,0.6s,baz=171,slow=8.5,SNR=7.7						
BEKR	Beckworth	37.72	321	eP	P	06 39 51.7	+1.2
	comp=E,3.0nm,0.9s						
WVOR	Wild Horse Val	38.33	325	eP	P	06 39 54.9	-0.7
	comp=E,3.0nm,0.9s						
EGMT	Eagleton	38.57	339	P	P	06 39 56.6	-0.9
	baz=148						
F10A	Beach Ranch, E	40.06	331	eP	P	06 40 10.2	+0.3
	comp=E,5.1nm,0.9s						
M02C	Callahan	40.15	321	P	P	06 40 11.0	+0.3
	baz=125						
K04D	Chiloquin, OR	40.22	323	P	P	06 40 11.6	+0.2
	baz=127						
SIV	San Ignacio	40.72	134	P	P	06 40 15.8	+0.1
	comp=E,3.6nm,0.7s,baz=315,slow=8.8,SNR=8.6						
J04D	Umpqua Nationa	40.81	324	P	P	06 40 16.8	+0.4
	baz=128						
I05D	Terrebonne, OR	41.06	326	P	P	06 40 18.7	+0.4
	baz=129						
EDM	Edmonton	44.19	340	eP	P	06 40 42.5	-0.9
	comp=E,5.2nm,0.7s						
SCHQ	Schefferville	45.62	19	P	P	06 40 52.3	-2.5
	comp=E,5.2nm,0.4s,baz=220,slow=8.8,SNR=5.6						
SCHQ	Schefferville	45.62	19	eP	P	06 40 52.3	-2.5
	comp=E,61nm,1.8s						
YKA	Yellowknife Ar	52.45	346	P	P	06 41 45.4	-1.5
	comp=E,1.5nm,0.3s,baz=150,slow=7.8,SNR=13						
ILAR	Eielson Array	64.48	337	P	P	06 43 09.8	-1.0
	comp=E,1.0nm,0.8s,baz=134,slow=4.8,SNR=7.2						
ILB	Eielson Array	64.48	337	eP	P	06 43 09.8	-1.0
LZH	Lanzhou	129.45	345	ePKP	PKPdf	06 51 44.5	+0.7
LZH				pPKP	sPKPdf	06 52 07.8	+11
LZH				sPKP		06 52 17.6	
LZH				LR	LR		
	comp=N,93nm,18.0s						
LZH				LR	LR		
	comp=E,100nm,18.1s						
LZH				LR	LR		
	comp=Z,130nm,20.2s						
WR1	Warramunga Arr	136.81	255	ePKPdf	PKPdf	06 51 58.9	+1.1
WRA	Warramunga Arr	136.81	255	PKP	PKPdf	06 51 58.9	+1.1
	comp=Z,3.4nm,0.8s,baz=92,slow=2.9,SNR=3.7						
CMAR	Chiang Mai Arr	147.51	344	PKPbc	PKPbc	06 52 19.9	+0.5
	comp=Z,1.8nm,0.4s,baz=347,slow=3.7,SNR=9.1						

IDC ***20*** *06:38:19.4±1.5,51.92N×159.13E,h0km,mb3.6/4, mb1 4.0/4,mb1mx3.5/38,mbtmp3.6/4,MS3.9/1,Ms1 3.9/1, ms1mx2.7/33,Error ellipse: s-maj=34.4km s-min=25.4km az=167.0*

KRSC ***20*** *06:38:22.4±0.8,51.92N×158.75E,h59km±13km,ML3.9*

ISCJB ***20*** *06:38:23.6±0.8,51.90N±0.06×158.80E±0.10, h50km±10km,mb3.6/4,MS3.9/1,Error ellipse: s-maj=12.5km s-min=5.4km az=43.5*

MOS ***20*** *06:38:23.0±0.7,51.87N×158.85E,h45km,mb4.0/2,Error ellipse: s-maj=18.9km s-min=6.4km az=90.0*

ISC 20 06:38:24.5±1.2,51.91N±0.05×158.78E±0.05,h41km±15km, n36,σ0=82/53,mb3.6/4,Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RUS	Russkaya	0.55	343	PN	Pn	06 38 35.9	+0.1
RUS				S	Sn	06 38 43.9	0.0
RUS	Russkaya	0.55	343	eP	Pn	06 38 35.9	+0.1
RUS				eS	Sn	06 38 43.9	0.0
KRMR	Karymshinskiy	1.00	337	PN	Pn	06 38 42.2	+0.2
KRMR				S	Sn	06 38 54.9	0.0
KRMR	Karymshinskiy	1.00	337	eP	Pn	06 38 42.2	+0.2
KRMR				eS	Sn	06 38 54.9	0.0
PET	Petropavlovsk	1.11	356	ePN	Pn	06 38 43.0	-0.6
PET				eS	Sn	06 38 54.3	-3.4
PET				smax	smax		
	comp=N,344nm,0.6s						
PET				smax	smax		
	comp=E,192nm,0.6s						
PET	Petropavlovsk	1.11	356	eP	Pn	06 38 43.2	-0.4
PET				eS	Sn	06 38 57.1	-0.6
DALK	Dalny	1.12	359	PN	Pn	06 38 43.3	-0.3
DALK	Dalny	1.12	359	eP	Pn	06 38 43.3	-0.3
UGLR	Uglovaya	1.30	1	PN	Pn	06 38 46.1	-0.1
UGLR	Uglovaya	1.30	1	eP	Pn	06 38 46.1	-0.1
PAU	Pauzhetka	1.30	251	PN	Pn	06 38 44.9	-1.2
PAU				S	Sn	06 39 01.2	-1.1
PAU	Pauzhetka	1.30	251	eP	Pn	06 38 44.9	-1.2
PAU				eS	Sn	06 39 01.2	-1.1
AVH	Avacha	1.35	359	PN	Pn	06 38 47.7	+0.8
AVH	Avacha	1.35	359	eP	Pn	06 38 47.7	+0.8
PETK	Petropavlovsk-	1.36	332	Pn	Pn	06 38 47.4	+0.3
	comp=E,7.4nm,0.3s,baz=139,slow=17,SNR=19						
PETK				Sn	Sn	06 39 04.8	+0.9
	comp=E,16nm,0.3s,baz=128,slow=30,SNR=13						
PETK				LR	LR	06 39 40.3	
	comp=E,51nm,19.8s,baz=164,slow=55						
SDLR	Sedlovina	1.37	3	PN	Pn	06 38 46.4	-0.8
SDLR	Sedlovina	1.37	3	eP	Pn	06 38 46.4	-0.8
KOK	Koryaka	1.38	357	PN	Pn	06 38 48.2	+0.8
KOK	Koryaka	1.38	357	eP	Pn	06 38 48.2	+0.8
SPN	Mys Shipunski	1.41	32	PN	Pn	06 38 47.8	+0.2
SPN				S	Sn	06 39 05.2	+0.2
SPN	Mys Shipunski	1.41	32	eP	Pn	06 38 47.8	+0.2
SPN				eS	Sn	06 39 05.2	+0.2
APC	Apacha	1.42	316	PN	Pn	06 38 48.0	+0.3
APC				S	Sn	06 39 05.3	+0.2
APC	Apacha	1.42	316	eP	Pn	06 38 48.0	+0.3
APC				eS	Sn	06 39 05.3	+0.2
KRX	Arik	1.45	357	PN	Pn	06 38 48.2	-0.1
KRX	Arik	1.45	357	eP	Pn	06 38 48.2	-0.1
GNL	Ganaly	1.85	345	PN	Pn	06 38 54.2	+0.4
GNL	Ganaly	1.85	345	eP	Pn	06 38 54.2	+0.4
SKR	Severo-Kuril's	2.07	235	ePN	Pn	06 38 57.1	+0.4
SKR				eS	Sn	06 39 21.3	0.0
SKR				pmax	pmax		
	comp=Z,90nm,0.4s						
SKR				smax	smax		
	comp=E,498nm,0.3s						
SKR				smax	smax		
	comp=N,519nm,0.2s						
SKR	Severo-Kuril's	2.07	235	eP	Pn	06 38 57.6	+0.9
SKR				eS	Sn	06 39 21.8	+0.5
MKZ	Mys Kozlova	3.19	33	PN	Pn

PDAR	**Pinedale Array**	**58.81**	**59**	P		**P**	**06 48 18.8**	**+0.2**
	comp=Z,0.5nm,0.8s,baz=298,slow=3.2,SNR=5.0							
PDAR				LR		LR	07 14 35.4	
	comp=Z,89nm,18.1s,baz=124,slow=37							
TXAR	**Lajitas Array**	**71.85**	**66**	P		**P**	**06 49 42.6**	**-0.4**
	comp=Z,0.4nm,0.6s,baz=291,slow=4.9,SNR=6.1							

*ISCJB **20** 06:43:10.1±1.4, 35°.67N±0°.06×141°.15E±0°.09, h17km±8km, mb3.5/2, MS3.8/2, Error ellipse: s-maj=13.2km s-min=8.5km az=157.4*
*IDC **20** 06:43:10.1±2.4, 35°.42N×140°.92E, h0km, mb3.4/2, mb1 3.5/3, mb1mx3.3/35, mbtmp3.2/3, ML2.7/1, MS3.7/2, Ms1 3.8/2, ms1mx2.8/27, Error ellipse: s-maj=51.0km s-min=26.9km az=59.0*
*JMA **20** 06:43:12.5±0.1, 35°.64N×140°.93E, h16km±1km, M3.5*
JMA Felt I J1.

ISC 20 06:43:11.6±1.5, 35°.62N±0°.07×141°.0E±0°.1, h16km±6km, n19, σ0°.88/16, 1C-1D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
CHOJ	**Chosi**	**0.13**	**312**	⇓P		**Pg**	**06 43 15.6**	**+0.3**
CHOJ				S		**Sg**	**06 43 18.0**	**+0.3**
JCN	**Nagara**	**0.66**	**253**	P		**Pn**	**06 43 25.7**	**-0.6**
JCN				S		**Sn**	**06 43 36.1**	**-0.2**
KTR	**Katsuura**	**0.71**	**229**	P		**Pn**	**06 43 25.9**	**-1.1**
BSO4	**Boso 4**	**0.81**	**220**	P		**Pn**	**06 43 28.4**	**+0.1**
JYT	**Yasato**	**0.88**	**314**	⇑P		**Pg**	**06 43 27.9**	**-0.8**
JYT				S		**Sg**	**06 43 39.2**	**-1.0**
BSO3	**Boso 3**	**0.90**	**205**	P		**Pn**	**06 43 29.3**	**0.0**
JHO	**Hitachi**	**1.04**	**342**	P		**Pg**	**06 43 30.6**	**-1.2**
MJAR	**Matsushiro Arr**	**2.42**	**293**	Pn		**Pn**	**06 43 51.2**	**+0.7**
	1.9nm,0.3s,baz=120,slow=14,SNR=6.4							
MJAR				Sn		**Sb**	**06 44 24.2**	**-0.2**
	2.3nm,0.3s,baz=116,slow=27,SNR=4.6							
MAT	**Matsushiro**	**2.42**	**293**	P		**Pn**	**06 43 50.7**	**+0.1**
MAT				*e*S		**Sn**	**06 44 21.7**	**+1.8**
H11N2	**WAKE ISLAND Hy**	**27.77**	**118**	T		T	07 17 57.8	
	baz=311							
H11N1	**WAKE ISLAND Hy**	**27.77**	**118**	T		T	07 17 58.4	
	baz=311							
H11N3	**WAKE ISLAND Hy**	**27.78**	**118**	T		T	07 17 57.4	
	baz=311							
H11S1	**WAKE ISLAND Hy**	**28.42**	**120**	T		T	07 18 46.5	
	baz=312,slow=75,SNR=65							
H11S3	**WAKE ISLAND Hy**	**28.42**	**120**	T		T	07 18 46.5	
	baz=312,slow=75,SNR=62							
H11S2	**WAKE ISLAND Hy**	**28.44**	**120**	T		T	07 18 48.3	
	baz=312,slow=75,SNR=52							
CMAR	**Chiang Mai Arr**	**40.81**	**257**	LR		LR	07 10 27.9	
	comp=Z,63nm,18.2s,baz=210,slow=40							
MKAR	**Makanchi Array**	**44.58**	**303**	P		**P**	**06 51 23.7**	**+0.8**
	0.5nm,0.8s,baz=99,slow=8.9,SNR=3.3							
WRA	**Warramunga Arr**	**55.61**	**188**	P		**P**	**06 52 46.5**	**-0.2**
	0.3nm,0.6s,baz=5.8,slow=7.8,SNR=5.1							
FINES	**FINES Array B**	**69.90**	**332**	LR		LR	07 26 42.2	
	comp=Z,84nm,18.6s,baz=316,slow=37							

IDC 20 06:46:27.7±680.0, 53°.58N×101°.78E, h0km, Error ellipse: s-maj=304.6km s-min=127.5km az=141.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
I34MN	**SONGINO INFRAS**	**6.49**	**151**	*i*			07 28 30.0	
	baz=334,slow=327,SNR=0.4							
I45RU	**USSURIYSK INFR**	**21.81**	**103**	*i*			08 59 00.0	
	baz=306,slow=325,SNR=1.5							
I44RU	**PETROPAVLOVSK**	**32.67**	**68**	*i*			10 06 20.0	
	baz=293,slow=328,SNR=0.5							

IDC 20 06:51:26.9±400.0, 51°.25N×115°.95E, h0km, Error ellipse: s-maj=152.7km s-min=141.9km az=96.0, East of Lake Baykal

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
I34MN	**SONGINO INFRAS**	**7.10**	**245**	*i*			07 37 10.0	
	baz=55,slow=324,SNR=0.3							
I45RU	**USSURIYSK INFR**	**12.88**	**117**	*i*			08 06 00.0	
	baz=308,slow=323,SNR=2.8							
I44RU	**PETROPAVLOVSK**	**25.42**	**69**	*i*			09 28 20.0	
	baz=281,slow=321,SNR=0.9							

*ISCJB **20** 07:01:57.9±0.5, 39°.10N±0°.03×29°.13E±0°.03, h5km±4km, Error ellipse: s-maj=5.1km s-min=3.5km az=167.8*
*CSEM **20** 07:01:57.9±0.1, 39°.11N×29°.13E, h5km, ML3.2, Error ellipse: s-maj=2.2km s-min=1.7km az=159.0*
*ISK **20** 07:01:57.6, 39°.12N×29°.14E, h5km, ML3.2*
*DDA **20** 07:01:57.4, 39°.11N×29°.13E, h7km, Ml3.5*

ISC 20 07:01:57.8±0.8, 39°.09N±0°.02×29°.13E±0°.02, h11km±6km, n52, σ0°.94/69, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
SIMA	**Simav-Kutahya**	**0.11**	**267**	PG		**Pg**	**07 02 00.9**	**+0.1**
SIMA	**Simav-Kutahya**	**0.11**	**267**	*i* Pg		**Pg**	**07 02 01.0**	**+0.1**
GEDZ	**Gediz**	**0.23**	**101**	PG		**Pg**	**07 02 02.7**	**0.0**
GEDZ				*e*SG		**Sg**	**07 02 06.5**	**+0.6**
GEDZ	**Gediz**	**0.23**	**101**	*i* Pg		**Pg**	**07 02 02.7**	**0.0**
GEDZ				*e*Sg		**Sg**	**07 02 06.5**	**+0.6**
DEMI	**Demirci**	**0.32**	**262**	*i* P		**Pg**	**07 02 04.5**	**+0.1**
DEMI				*i* S		**Sg**	**07 02 09.0**	**+0.3**
DEMI	**Demirci**	**0.32**	**262**	P		**Pg**	**07 02 04.5**	**+0.1**
DEMI				S		**Sg**	**07 02 09.0**	**+0.3**
TVSB	**Tavsanli**	**0.45**	**36**	PG		**Pg**	**07 02 06.3**	**-0.3**
TVSB				*e*SG		**Sg**	**07 02 11.9**	**-0.6**
TVSB	**Tavsanli**	**0.45**	**36**	*i* Pg		**Pg**	**07 02 06.3**	**-0.3**
TVSB				*e*Sg		**Sg**	**07 02 12.0**	**-0.6**
KULA	**Kula-Manisa**	**0.68**	**212**	*e*PG		**Pg**	**07 02 11.2**	**+0.2**
KULA	**Kula-Manisa**	**0.68**	**212**	*e*Pg		**Pg**	**07 02 11.2**	**+0.2**
MANT	**Manisa**	**0.74**	**217**	*i* P		Pg	07 02 05.0	-7.3
MANT				*i* S		**Sg**	**07 02 15.3**	**-6.8**
KHL	**Karahalli**	**0.83**	**158**	*e*PG		**Pb**	**07 02 14.2**	**0.0**
KHL	**Karahalli**	**0.83**	**158**	*e*Pg		**Pb**	**07 02 14.2**	**0.0**
ORLT	**Orhaneli**	**0.97**	**350**	*e*PG		**Pg**	**07 02 16.2**	**-0.4**
ORLT	**Orhaneli**	**0.97**	**350**	*e*Pg		**Pg**	**07 02 16.2**	**-0.4**
AKHS	**Akhisar**	**1.04**	**259**	*i* P		**Pb**	**07 02 17.8**	**-0.1**
AKHS				*i* S		**Sb**	**07 02 32.2**	**+0.6**
AKHS	**Akhisar**	**1.04**	**259**	P		**Pb**	**07 02 17.8**	**-0.1**
AKHS				S		**Sb**	**07 02 32.2**	**+0.6**
AKS	**Akhisar**	**1.04**	**259**	*e*PG		**Pn**	**07 02 18.7**	**+0.3**
AKS	**Akhisar**	**1.04**	**259**	*e*Pg		**Pn**	**07 02 18.7**	**+0.3**
BALB	**Balikesir**	**1.11**	**300**	*e*PN		**Pn**	**07 02 19.7**	**+0.4**
BALB				*e*SN		**Sn**	**07 02 35.5**	**+0.9**
BALB	**Balikesir**	**1.11**	**300**	*e*Pn		**Pn**	**07 02 19.7**	**+0.4**
BALB				*e*Sn		**Sn**	**07 02 35.5**	**+0.9**
IGD	**Bursa**	**1.18**	**3**	*i* P		**Pb**	**07 02 19.4**	**-0.8**
IGD				*i* S		**Sn**	**07 02 36.6**	**+0.5**
SHUT	**Suhut-Afyon**	**1.24**	**115**	*e*PN		**Pg**	**07 02 21.8**	**+0.2**
SHUT				*e*SN		**Sn**	**07 02 38.7**	**+0.9**
SHUT	**Suhut-Afyon**	**1.24**	**115**	*e*Pn		**Pg**	**07 02 21.8**	**+0.2**
SHUT				*e*Sn		**Sn**	**07 02 38.7**	**+0.9**
MDNY	**Mudanya-Bursa**	**1.29**	**352**	*e*PN		**Pb**	**07 02 22.2**	**+0.1**
MDNY	**Mudanya-Bursa**	**1.29**	**352**	*e*Pn		**Pb**	**07 02 22.2**	**+0.1**
BORA	**Eskisehir**	**1.30**	**52**	*i* P		**Pn**	**07 02 21.7**	**-0.3**
BORA				*i* S		**Sn**	**07 02 39.4**	**0.0**
BORA	**Eskisehir**	**1.30**	**52**	P		**Pn**	**07 02 21.7**	**-0.3**
BORA				S		**Sn**	**07 02 39.3**	**0.0**
KCTX	**Karacabey (Bur**	**1.32**	**333**	*e*PN		**Pb**	**07 02 22.6**	**0.0**
KCTX	**Karacabey (Bur**	**1.32**	**333**	*e*Pn		**Pb**	**07 02 22.6**	**0.0**
BALY	**Balya**	**1.33**	**300**	*i* P		**Pn**	**07 02 22.3**	**-0.2**
BALY				*i* S		**Sb**	**07 02 40.1**	**+0.1**
BALY	**Balya**	**1.33**	**300**	P		**Pn**	**07 02 22.3**	**-0.2**
BALY				S		**Sb**	**07 02 40.1**	**+0.1**
GEMT	**Gemlik**	**1.34**	**2**	*e*PN		**Pg**	**07 02 23.6**	**-0.1**
GEMT	**Gemlik**	**1.34**	**2**	*e*Pn		**Pg**	**07 02 23.6**	**-0.1**
ESKT	**Eskisehir**	**1.41**	**72**	*e*PN		**Pn**	**07 02 23.5**	**0.0**
ESKT	**Eskisehir**	**1.41**	**72**	*e*Pn		**Pn**	**07 02 23.5**	**0.0**
ADVT	**Abdulvahap**	**1.42**	**19**	*e*PN		**Pg**	**07 02 25.1**	**-0.1**
ADVT	**Abdulvahap**	**1.42**	**19**	*e*Pn		**Pg**	**07 02 25.1**	**-0.1**
ARMT	**Armutlu**	**1.49**	**352**	*e*PN		**Pb**	**07 02 25.4**	**-0.1**
ARMT	**Armutlu**	**1.49**	**352**	*e*Pn		**Pb**	**07 02 25.4**	**-0.1**
AYDB	**Zeytinkoy-Aydi**	**1.50**	**221**	*e*PN		**Pb**	**07 02 26.1**	**+0.4**
AYDB	**Zeytinkoy-Aydi**	**1.50**	**221**	*e*Pn		**Pb**	**07 02 26.1**	**+0.4**
SBT5	**Esenkoy-Cinarc**	**1.55**	**353**	*e*PN		**Pb**	**07 02 26.2**	**-0.3**
SBT5	**Esenkoy-Cinarc**	**1.55**	**353**	*e*Pn		**Pb**	**07 02 26.2**	**-0.3**
EDC	**Edincik**	**1.59**	**323**	*e*PN		**Pn**	**07 02 26.4**	**+0.5**
EDC	**Edincik**	**1.59**	**323**	*e*Pn		**Pn**	**07 02 26.4**	**+0.5**
GULT	**Gulveren**	**1.72**	**38**	*e*PN		**Pb**	**07 02 28.7**	**-0.7**
GULT	**Gulveren**	**1.72**	**38**	*e*Pn		**Pb**	**07 02 28.7**	**-0.7**
DKL	**Dikili**	**1.73**	**270**	*e*PN		**Pb**	**07 02 29.4**	**-0.2**
DKL	**Dikili**	**1.73**	**270**	*e*Pn		**Pb**	**07 02 29.4**	**-0.2**
HRT	**Hereke**	**1.78**	**13**	*e*PN		**Pn**	**07 02 29.5**	**+0.9**
HRT	**Hereke**	**1.78**	**13**	*e*Pn		**Pn**	**07 02 29.5**	**+0.9**

*IDC **20** 07:13:40.9±2.1, 8°.94S×110°.48E, h0km, mb3.7/8, mb1 3.7/8, mb1mx3.6/38, mbtmp3.7/8, MS3.9/4, Ms1 3.9/4, ms1mx3.1/38, Error ellipse: s-maj=89.8km s-min=21.1km az=49.0*
*DJA **20** 07:13:46.4±0.7, 9°.S±3°×11°.0E±°, h10km±4km, M4.2/12, MLv4.2/12*
*ISCJB **20** 07:13:47.3±1.1, 9°.26S±0°.08×110°.49E±0°.04, h79km±8km, mb3.5/8, Error ellipse: s-maj=14.1km s-min=6.5km az=14.2*

ISC 20 07:13:48.9±1.7, 9°.2S±0°.1×110°.49E±0°.05, h66km±14km, n22, σ1°.59/28, mb3.6/8, South of Jawa

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
PCJI	**Pacitan**	**1.19**	**35**	P		**Pn**	**07 14 06.6**	**-3.1**
PCJI				S		**Sn**	**07 14 25.8**	**+0.6**
UGM	**Wanagama**	**1.26**	**2**	P		**Pn**	**07 14 09.6**	**-1.0**
UGM				S		**Sn**	**07 14 28.0**	**+1.1**
WOJI	**Wonogiri, Jawa**	**1.40**	**18**	P		**Pn**	**07 14 10.7**	**-1.7**
WOJI				S		**Sn**	**07 14 31.5**	**+1.4**
PWJI	**Pagerwojo**	**1.74**	**49**	P		**Pn**	**07 14 15.3**	**-1.6**
PWJI				S		**Sn**	**07 14 37.1**	**-1.0**
NGJI	**Ngawi**	**2.04**	**28**	P		**Pn**	**07 14 23.1**	**+2.1**
NGJI				S		**Sn**	**07 14 47.5**	**+2.0**
SMRI	**Semarang**	**2.12**	**359**	P		**Pn**	**07 14 23.5**	**+1.4**
SMRI				S		**Sn**	**07 14 49.3**	**+1.9**
KPJI	**Karang Pucung**	**2.40**	**320**	P		**Pn**	**07 14 26.4**	**+0.5**
KPJI				S		**Sn**	**07 14 56.6**	**+2.4**
CMJI	**Cimerak**	**2.45**	**304**	P		**Pn**	**07 14 27.0**	**-1.6**
CMJI				S		**Sn**	**07 14 57.1**	**+1.7**
GMJI	**Gumukmas**	**3.06**	**73**	P		**Pn**	**07 14 35.3**	**+0.5**
GMJI				S		**Sn**	**07 15 12.2**	**+1.9**
BLJI	**Banyuglugur**	**3.39**	**65**	P		**Pn**	**07 14 39.9**	**+0.6**
JAGI	**Jajag, Banyuwa**	**3.69**	**79**	P		**Pn**	**07 14 44.4**	**+0.9**
NWAO	**Narrogin (SRO)**	**24.44**	**166**	LR		LR	07 29 35.9	
	comp=Z,88nm,18.7s,baz=270,slow=39							
WRA	**Warramunga Arr**	**25.40**	**118**	P		**P**	**07 19 10.4**	**-0.1**
	0.5nm,0.7s,baz=292,slow=11,SNR=6.1							
ASAR	**Alice Springs**	**26.62**	**126**	P		**P**	**07 19 23.9**	**+2.5**
	0.3nm,0.7s,baz=295,slow=8.8,SNR=4.9							
USRK	**Ussuriysk Ar.**	**56.59**	**18**	P		**P**	**07 23 23.8**	**-1.0**
	2.8nm,0.9s,baz=199,slow=7.8,SNR=4.7							
USRK				LR		LR	07 48 38.4	
	comp=Z,160nm,21.4s,baz=5.4,slow=37							
SONM	**Songino Array**	**56.88**	**357**	P		**P**	**07 23 26.6**	**-0.5**
	0.3nm,0.5s,baz=176,slow=8.9,SNR=2.9							
MKAR	**Makanchi Array**	**61.14**	**338**	P		**P**	**07 23 55.7**	**-0.7**
	0.2nm,0.3s,baz=153,slow=6.8,SNR=6.9							
KURBB	**Kurchatov Arra**	**65.71**	**338**	P		**P**	**07 24 25.6**	**-0.9**
	0.1nm,0.3s,baz=150,slow=6.3,SNR=2.6							
ZALV	**Zalesovo Beam**	**66.54**	**344**	P		**P**	**07 24 30.7**	**-1.0**
	0.9nm,0.3s,baz=171,slow=8.3,SNR=4.1							
BVAR	**Borovoye Array**	**70.74**	**336**	P		**P**	**07 24 57.3**	**-0.6**
	0.4nm,0.5s,baz=142,slow=7.3,SNR=2.7							
NRIK	**Noril'sk**	**79.95**	**352**	LR		LR	08 05 26.4	
	comp=Z,77nm,18.6s,baz=104,slow=39							
ARCES	**ARCESS Array B**	**96.78**	**339**	LR		LR	08 17 59.0	
	comp=Z,76nm,19.3s,baz=233,slow=40							

*SOME **20** 07:21:07.9, 40°.12N×71°.75E, h0km*
*KRNET **20** 07:21:09.2±0.1, 39°.90N×71°.32E, h35km, mb1.9*
*NNC **20** 07:21:12.0±1.3, 40°.22N×71°.29E, h0km±10km, mb3.1, mpv2.7, Error ellipse: s-maj=14.6km s-min=7.1km az=118.0*

ISC 20 07:21:09.2±2.0, 39°.98N±0°.09×71°.33E±0°.04, h4km±21km, n14, σ1°.85/24, 16C-9D, Tajikistan

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
BTK	**Batken**	**0.40**	**282**	⇓*e*P		**Pb**	**07 21 19.4**	**+0.5**
	baz=293							
BTK				⇓*i*S		**Sb**	**07 21 27.1**	**+1.6**
	baz=293							
OHH	**Osh**	**1.24**	**63**	⇑*i*P		**Pn**	**07 21 32.2**	**-1.2**
	baz=60							
OHH				⇑*i*S		**Sb**	**07 21 48.7**	**-1.0**
	baz=60							
ARSB	**Arslanbob**	**1.84**	**42**	⇑*e*P		**Pn**	**07 21 40.9**	**-0.9**
	baz=41							
ARSB				⇑*e*S		**Sn**	**07 22 04.1**	**-1.5**
	baz=41							
ARK	**Arkit**	**1.88**	**15**	⇑*e*P		**Pn**	**07 21 41.4**	**-0.9**
	baz=15							
ARK				⇑*e*S		**Sn**	**07 22 05.1**	**-1.5**
	baz=15							
DZET	**Dzherino**	**2.26**	**240**	⇑Pn		**Pg**	**07 21 51.8**	**-0.8**
	6.7nm,0.4s							
DZET				⇓Lg		Lg	07 22 28.0	
	16nm,0.6s							
IUG	**Iuzhnay**	**2.38**	**336**	*e*P		**Pb**	**07 21 52.5**	**-0.2**
	13nm,0.2s							
IUG				*e*S		**Sb**	**07 22 24.9**	**+2.4**
	24nm,0.4s							
MNAS	**Manas**	**2.66**	**19**	⇓*e*P		**Pn**	**07 21 52.4**	**-0.6**
	baz=19							
MNAS				⇓*e*S		**Sn**	**07 22 23.8**	**-2.0**
	baz=19							
MNAS	**Manas**	**2.66**	**19**	⇓Pg		**Pb**	**07 21 56.7**	**-0.9**
	1.1nm,0.4s							
MNAS				⇓Lg		Lg	07 22 28.4	
	2.1nm,0.4s							
AML	**Almayashu**	**2.80**	**39**	⇑*i*P		**Pn**	**07 21 53.7**	**-1.4**
	baz=38							
AML				⇑*i*S		**Sn**	**07 22 26.7**	**-2.9**
	baz=38							
MRKS	**Merke**	**3.11**	**27**	*e*P		**Pn**	**07 22 01.3**	**+2.1**
	0.9nm,0.2s							
MRKS				*e*S		**Sn**	**07 22 40.3**	**+3.4**
	4.6nm,0.3s							
KK31	**Karatay Array**	**3.19**	**349**	⇑Pg		**Pb**	**07 22 05.7**	**-0.7**
	0.4nm,0.3s,baz=155,slow=14,SNR=15							
KK31				⇑Sn		**Sn**	**07 22 37.0**	**-1.5**
	0.6nm,0.3s							
KK31				⇑Lg		Lg	07 22 46.4	
	1.4nm,0.5s,baz=153,slow=29,SNR=6.6							
EKS2	**Erkin-Say**	**3.26**	**34**	⇑*i*P		**Pn**	**07 22 01.3**	**+0.1**
	baz=33							
EKS2				⇑*i*S		**Sn**	**07 22 40.9**	**+0.5**
	baz=33							
AAK	**Ala-Archa**	**3.57**	**41**	⇑Lg		Lg	07 22 58.4	
	1.9nm,0.6s							
TKM2	**Tokmak 2**	**4.35**	**46**	⇓Pn		**Pn**	**07 22 19.0**	**+2.6**
	0.6nm,0.3s							
TKM2				⇓Pg		**Pb**	**07 22 29.5**	**+3.1**
	1.8nm,0.9s							
TKM2				⇑Lg		Lg	07 23 24.8	
	1.7nm,0.8s							

*SJA **20** 07:36:39.2±0.7, 25°.55S×70°.49W, h44km±14km, ML4.1, MW4.1*
*GUC **20** 07:36:40.5±0.6, 25°.55S×70°.41W, h37km±3km, ML4.4*
*NEIC **20** 07:36:40.0±0.0, 25°.56S×70°.33W, h36km, mb4.6/3, After GUC.*
*ISCJB **20** 07:36:41.0±0.4, 25°.54S±0°.02×70°.40W±0°.06, h63km±5km, mb4.4/10, Error ellipse: s-maj=8.8km s-min=3.5km az=3.8*
*IDC **20** 07:36:41.3±0.7, 25°.62S×70°.18W, h51km±4km, mb3.9/6, mb1 4.0/9, mb1mx3.8/25, mbtmp4.0/9, MS3.0/4, Ms1 3.0/4, ms1mx2.8/21, Error ellipse: s-maj=22.8km s-min=19.2km az=84.0*

ISC 20 07:36:41.5±0.5, 25°.53S±0°.03×70°.43W±0°.06, h51km±4km, n67, σ2°.03/79, mb4.4/10, 6C-1D, Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
PB14	**IPOC Station P**	**0.90**	**2**	⇑*i*P		**Pn**	**07 36 58.0**	**-0.3**
PB14				*i* S		**Sn**	**07 37 10.8**	**+0.3**
CDCH	**Caldera**	**1.57**	**193**	*e*P		**Pn**	**07 37 07.1**	**+0.2**
CDCH				*e*S		**Sn**	**07 37 27.7**	**+1.6**
CPCH	**Copiapo**	**1.82**	**178**	⇑*i*P		**Pn**	**07 37 10.3**	**-0.1**
CPCH				*i* S		**Sn**	**07 37 34.0**	**+1.7**
ANCH	**Antofagasta**	**1.84**	**1**	⇓*i*P		**Pn**	**07 37 11.3**	**+0.6**
ANCH				*i* S		**Sn**	**07 37 35.3**	**+2.5**
PB06	**IPOC Station P**	**2.92**	**16**	⇑*i*P		**Pn**	**07 37 25.4**	**-0.2**
PB06				*e*S		**Sn**	**07 38 00.8**	**+1.2**
PB06				IAML			07 38 19.2	
	comp=N,1μm,0.4s							
VACH	**Vallenar**	**3.04**	**185**	*e*P		**Pn**	**07 37 29.6**	**+2.5**
VACH				*i* S		**Sn**	**07 38 04.2**	**+1.8**
PB04	**IPOC Station P**	**3.19**	**5**	⇑*i*P		**Pn**	**07 37 28.4**	**-1.0**
PB04				*e*S		**Sn**	**07 38 06.7**	**+0.4**
PB04				IAML			07 38 21.2	
	comp=N,798nm,0.7s							
LVC	**Limon Verde**	**3.22**	**26**	P		**Pn**	**07 37 29.9**	**0.0**
	comp=N,329nm,0.3s,baz=200,slow=8.6,SNR=114							
LVC				S		**Sn**	**07 38 12.4**	**+5.1**
	comp=N,2μm,0.3s,baz=33,slow=18,SNR=5.0							
LVC				LR		LR	07 38 56.0	
	comp=N,750nm,19.4s,baz=180,slow=42							
LVC	**Limon Verde**	**3.22**	**26**	*i* S		**Sn**	**07 38 13.3**	**+6.0**
LVC	**Limon Verde**	**3.22**	**26**	*e*P		**Pn**	**07 37 30.6**	**+0.6**
LVC	**Limon Verde**	**3.22**	**26**	*e*Pn		**Pn**	**07 37 30.6**	**+0.6**
LVC				*e*Sn		Sn	07 38 17.2	+10
LCO	**Las Campanas**	**3.47**	**184**	*e*P		**Pn**	**07 37 33.4**	**+0.1**
LCO	**Las Campanas**	**3.47**	**184**	*e*Pn		**Pn**	**07 37 32.9**	**-0.4**
LCO				*e*Sn		**Sn**	**07 38 21.9**	**+8.6**
PB07	**IPOC Station P**	**3.82**	**8**	⇑*i*P		**Pn**	**07 37 36.9**	**-1.0**
FSA	**Cafayete**	**4.05**	**99**	*i* P		**Pn**	**07 37 42.0**	**+0.9**
FSA				IAML			07 38 13.7	
	comp=Z,24nm,0.5s							
FSA				*i* S		**Sn**	**07 38 22.2**	**-5.3**
FSA	**Cafayete**	**4.05**	**99**	*e*P		**Pn**	**07 37 42.5**	**+1.3**
AGUA	**GUANDACOL**	**4.30**	**157**	*i* P		**Pn**	**07 37 47.1**	**+2.6**
AGUA				*i* S		Sn	07 38 43.3	+10
SLA	**San Lorenzo**	**4.54**	**81**	*i* P		**Pn**	**07 37 48.6**	**+0.8**
SLA				IAML			07 38 21.1	
	comp=Z,28nm,0.5s							
SLA	**San Lorenzo**	**4.54**	**81**	*e*P		**Pn**	**07 37 50.9**	**+3.1**
AHML	**Horco Molle**	**4.75**	**106**	*i* P		**Pn**	**07 37 51.7**	**+1.1**
AHML	**Horco Molle**	**4.75**	**106**	*e*P		**Pn**	**07 37 51.6**	**+1.1**
AZAP	**Zapla**	**5.04**	**76**	*i* P		**Pn**	**07 37 56.0**	**+1.2**
AZAP	**Zapla**	**5.04**	**76**	*e*P		**Pn**	**07 37 56.3**	**+1.5**
CYA	**Choya**	**5.04**	**126**	*e*P		**Pn**	**07 37 55.8**	**+1.1**
HJA	**Humahuaca**	**5.13**	**64**	*i* P		**Pn**	**07 37 58.3**	**+2.1**
HJA	**Humahuaca**	**5.13**	**64**	*e*P		**Pn**	**07 37 59.1**	**+3.0**
YJA	**Yavi**	**5.61**	**54**	*i* P		**Pn**	**07 38 05.7**	**+3.0**
YJA	**Yavi**	**5.61**	**54**	*e*P		**Pn**	**07 38 06.1**	**+3.4**
AMOG	**MOGNA**	**5.65**	**163**	*i* P		**Pn**	**07 38 03.8**	**+0.9**
ASTB	**Santa Barbara**	**5.66**	**75**	*i* P		**Pn**	**07 38 04.0**	**+0.8**
AVFE	**Valle Fertil**	**5.74**	**153**	*i* P		**Pn**	**07 38 05.1**	**+0.8**
AVFE				IAML			07 39 19.7	
	comp=Z,112nm,0.5s							
ACHE	**Chepes**	**6.52**	**150**	*i* P		**Pn**	**07 38 15.6**	**+0.7**
RTCV	**Cerro Valdivia**	**6.52**	**166**	*e*P		**Pn**	**07 38 15.4**	**+0.5**
AUSP	**Uspallata**	**6.73**	**172**	*e*P		**Pn**	**07 38 18.5**	**+0.6**
ASAL	**Salagasta**	**7.17**	**169**	*e*P		**Pn**	**07 38 24.0**	**+0.2**
ACAN	**Cantantal**	**7.29**	**158**	*e*P		**Pn**	**07 38 25.5**	**+0.1**
ROC1	**El Roble**	**7.43**	**184**	*e*P		**Pn**	**07 38 24.4**	**-3.2**
TCA	**Tanti**	**7.73**	**140**	*e*P		**Pn**	**07 38 31.1**	**-0.5**
MRA	**San Martin**	**8.01**	**150**	*e*P		**Pn**	**07 38 34.6**	**-0.7**
LPAZ	**La Paz**	**9.45**	**14**	P		**Pn**	**07 38 54.5**	**-1.0**
	comp=Z,0.3nm,0.3s,baz=202,slow=6.1,SNR=20							
LPAZ				LR		LR	07 42 46.1	
	comp=Z,54nm,21.4s,baz=268,slow=38							
LPAZ	**La Paz**	**9.45**	**14**	*e*P		**Pn**	**07 38 55.3**	**-0.3**
CPUP	**Villa Florida**	**11.82**	**97**	P		Pn	07 39 22.6	-4.8
	comp=Z,0.1nm,0.3s,baz=248,slow=16,SNR=1.8							
CPUP				LR		LR	07 44 47.1	
	comp=Z,52nm,20.0s,baz=280,slow=42							
SIV	**San Ignacio**	**12.91**	**44**	P		Pn	07 39 37.9	-4.4
	comp=Z,1.

MJAR	**Matsushiro Arr**	**2.40**	**290**	P		**Pn**	**07 42 48.7**	**+1.1**
	7.8nm,0.3s,baz=99,slow=9.1,SNR=45							
MJAR				S		**Sn**	**07 43 16.2**	**+0.5**
	4.7nm,0.3s,baz=83,slow=15,SNR=5.2							
MJAR				LR		LR	07 43 52.5	
	comp=Z,213nm,21.0s,baz=75,slow=44							
JHJ	**Hachijo jima 2**	**2.82**	**201**	P		**Pn**	**07 42 53.9**	**+0.6**
	9.9nm,0.3s,baz=53,slow=20,SNR=4.0							
JHJ				S		**Sn**	**07 43 25.7**	**-0.4**
	41nm,0.3s,baz=294,slow=22,SNR=6.4							
KSRS	**Korea Array**	**10.66**	**283**	LR		LR	07 48 48.7	
	comp=Z,155nm,20.8s,baz=85,slow=37							
H11N2	**WAKE ISLAND Hy**	**27.80**	**118**	T		T	08 16 54.5	
	baz=311,slow=75,SNR=31							
H11N1	**WAKE ISLAND Hy**	**27.81**	**118**	T		T	08 16 55.1	
	baz=311,slow=75,SNR=31							
H11N3	**WAKE ISLAND Hy**	**27.82**	**118**	T		T	08 16 55.9	
	baz=311,slow=75,SNR=32							
H11S1	**WAKE ISLAND Hy**	**28.47**	**120**	T		T	08 17 44.3	
	baz=312,slow=75,SNR=44							
H11S3	**WAKE ISLAND Hy**	**28.47**	**120**	T		T	08 17 47.6	
	baz=312,slow=75,SNR=48							
H11S2	**WAKE ISLAND Hy**	**28.48**	**120**	T		T	08 17 45.5	
	baz=312,slow=75,SNR=33							
ZALV	**Zalesovo Beam**	**42.54**	**313**	P		**P**	**07 50 03.4**	**+0.6**
	1.2nm,0.3s,baz=72,slow=9.3,SNR=2.8							
MKAR	**Makanchi Array**	**44.53**	**303**	P		**P**	**07 50 19.3**	**+0.3**
	1.3nm,0.8s,baz=90,slow=9.7,SNR=8.2							
ILAR	**Eielson Array**	**50.75**	**32**	P		**P**	**07 51 09.2**	**+2.3**
	2.0nm,1.3s,baz=278,slow=7.7,SNR=3.7							
BVAR	**Borovoye Array**	**51.20**	**313**	P		**P**	**07 51 10.2**	**-0.2**
	0.8nm,0.6s,baz=98,slow=7.9,SNR=3.3							
WRA	**Warramunga Arr**	**55.75**	**188**	P		**P**	**07 51 42.7**	**-1.5**
	1.0nm,1.0s,baz=5.2,slow=7.1,SNR=6.4							
ASAR	**Alice Springs**	**59.48**	**188**	P		**P**	**07 52 10.1**	**-0.2**
	0.2nm,0.7s,baz=302,slow=5.2,SNR=2.6							
JMIC	**Jan Mayen**	**71.34**	**350**	LR		LR	08 25 18.7	
	comp=Z,48nm,19.7s,baz=76,slow=36							
NOA	**NORSAR Array B**	**75.24**	**337**	P		**P**	**07 53 50.2**	**+0.6**
	0.7nm,0.6s,baz=40,slow=5.7,SNR=2.9							
BORG	**Borgarnes**	**78.87**	**352**	LR		LR	08 29 12.4	
	comp=Z,77nm,19.4s,baz=196,slow=36							
TXAR	**Lajitas Array**	**91.16**	**52**	P		**P**	**07 55 12.2**	**-0.3**
	0.2nm,0.7s,baz=302,slow=5.2,SNR=2.6							
LPAZ	**La Paz**	**147.61**	**61**	PKPbc		**PKPab**	**08 01 53.8**	**-1.1**
	0.5nm,0.7s,baz=352,slow=7.1,SNR=3.0							

BUC 20 08:44:45.7±0.8**, 44°17N**×**28°77E, h16**km±2km**, MD2.2/2, 4C-4D, Error ellipse: s-maj=7.1km s-min=5.4km az=43.0, Romania**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
TIRR	**Tirgusor**	**0.39**	**319**	⇑	*iP*		Pb 08 44 54.0	-0.2
TIRR	**Tirgusor**	**0.39**	**319**	⇑	*iP*		Pb 08 44 54.0	-0.2
TIRR					*i*	S	Sb 08 45 00.0	0.0
TLB	**Topalu**	**0.67**	**309**	⇓	*iP*		Pb 08 44 59.1	+0.1
TLB	**Topalu**	**0.67**	**309**	⇓	*iP*		Pb 08 44 59.1	+0.1
TLB					*i*	S	Sb 08 45 08.1	+0.1
HARR	**Harsova**	**0.80**	**311**	⇑	*iP*		Pg 08 45 01.3	+0.1
HARR	**Harsova**	**0.80**	**311**	⇑	*iP*		Pg 08 45 01.3	+0.1
CFR	**Carcaliu**	**1.11**	**336**	⇓	*iP*		Pb 08 45 06.3	-0.2
CFR	**Carcaliu**	**1.11**	**336**	⇓	*iP*		Pb 08 45 06.3	-0.2

NDI ***20*** *08:51:25.5±1.7, 27°.92N×88°.31E, h44km±8km, ML3.8*
ISCJB ***20*** *08:51:27.1±1.4, 27°.98N±0°.06×88°.58E±0°.07, h10km, mb3.4/4, Error ellipse: s-maj=10.4km s-min=7.7km az=35.2*
IDC ***20*** *08:51:32.8±1.8, 27°.65N×90°.83E, h0km, mb3.3/5, mb1 3.5/5, mb1mx3.3/53, mbtmp3.4/5, Error ellipse: s-maj=72.3km s-min=22.7km az=68.0*

ISC 20 08:51:27.3±2.2**, 27°.95N**±0°.08×**88°.5E**±0°.1**, h10**km**, n13, σ1**§**10**/15**, mb3.4/4, Sikkim**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
GTK	**Tadong**	**0.64**	**167**	*eP*		**Pg**	**08 51 39.9**	**+0.2**
GTK				*eS*		**Sb**	**08 51 50.6**	**+1.0**
GTK				*eS*		**Sb**	**08 51 50.7**	**+1.0**
GTK				AML		AML	08 51 50.9	
	comp=N,4μm,0.1s							
GTK				AML		AML	08 51 51.3	
	comp=E,6μm,0.3s							
DHUB	**DHUBRI**	**2.36**	**144**	*eP*		**Pn**	**08 52 06.2**	**+0.1**
DHUB				*eS*		**Sn**	**08 52 34.5**	**-0.7**
DHUB				AML		AML	08 52 45.8	
	comp=E,845nm,0.3s							
DHUB				AML		AML	08 52 46.0	
	comp=N,1μm,0.2s							
TURI	**Tura**	**2.92**	**144**	*eP*		**Pn**	**08 52 12.5**	**-1.4**
TURI				*eS*		**Sn**	**08 52 48.4**	**-0.6**
TURI				AML		AML	08 53 01.4	
	comp=E,983nm,0.1s							
TURI				AML		AML	08 53 03.2	
	comp=N,947nm,0.4s							
GUWA	**GUWAHATI**	**3.38**	**120**	*eP*		**Pn**	**08 52 20.2**	**+0.1**
GUWA				*eS*		**Sn**	**08 53 00.8**	**+0.6**
GUWA				AML		AML	08 53 18.6	
	comp=E,406nm,0.5s							
TEZP	**TEZPUR**	**4.09**	**108**	*eS*		**Sn**	**08 53 18.3**	**+0.4**
TEZP				AML		AML	08 53 23.1	
	comp=E,205nm,0.0s							
TEZP				AML		AML	08 53 23.4	
	comp=N,243nm,0.2s							
ZIRO	**ZIRO**	**4.81**	**94**	*eS*		**Sn**	**08 53 35.9**	**+0.1**
KOHI	**KOHIMA**	**5.52**	**112**	*eS*		**Sn**	**08 53 50.7**	**-2.7**
KOHI				AML		AML	08 54 33.7	
	comp=N,102nm,0.4s							
KOHI				AML		AML	08 54 34.2	
	comp=E,173nm,0.4s							
MOKO	**MOKOCHONG**	**5.64**	**105**	*eP*		**Pn**	**08 52 52.4**	**+0.9**
MOKO				*eS*		**Sn**	**08 53 55.4**	**-1.0**
MOKO				AML		AML	08 54 00.1	
	comp=N,115nm,0.5s							
MOKO				AML		AML	08 54 00.8	
	comp=E,181nm,0.5s							
MKAR	**Makanchi Array**	**19.43**	**347**	P		Pn	08 56 11.2	+16
	comp=E,0.4nm,0.5s,baz=164,slow=12,SNR=5.4							
KURBB	**Kurchatov Arra**	**23.87**	**344**	P		P	08 56 55.3	+15
	comp=E,0.6nm,0.7s,baz=164,slow=8.8,SNR=4.7							
SONM	**Songino Array**	**24.28**	**30**	P		**P**	**08 56 44.6**	**-0.3**
	comp=E,4.9nm,1.0s,baz=212,slow=10,SNR=6.8							
WRA	**Warramunga Arr**	**65.09**	**132**	P		P	09 02 04.3	-4.0
	comp=E,0.1nm,0.5s,baz=325,slow=6.7,SNR=5.9							
ASAR	**Alice Springs**	**67.49**	**135**	P		P	09 02 19.8	-3.9
	comp=E,0.2nm,0.5s,baz=313,slow=6.4,SNR=4.7							

IDC ***20*** *08:55:20.8±0.7, 34°.46N×70°.37E, h0km, mb4.2/16, mb1 4.3/22, mb1mx4.1/52, mbtmp4.2/22, ML3.8/6, MS3.2/4, Ms1 3.2/4, ms1mx2.7/54, Error ellipse: s-maj=16.6km s-min=15.5km az=95.0*
NDI ***20*** *08:55:23.1±2.4, 34°.82N×70°.04E, h39km, ML4.6, mb4.8(NEIC)*
ISCJB ***20*** *08:55:24.9±0.2, 34°.48N±0°.02×70°.38E±0°.03, h42km, mb4.5/42, MS3.3/2, Error ellipse: s-maj=4.0km s-min=2.7km az=140.3*
MOS ***20*** *08:55:25.7±1.2, 34°.56N×70°.34E, h40km, mb4.6/17, Error ellipse: s-maj=9.8km s-min=5.1km az=86.1*
NEIC ***20*** *08:55:27.0±1.0, 34°.55N×70°.24E, h39km±9km, mb4.8/19, Error ellipse: s-maj=7.7km s-min=5.7km az=178.0*
NNC ***20*** *08:55:28.1±2.4, 34°.48N×70°.28E, h85km±26km, mb4.1, mpv4.6, Error ellipse: s-maj=19.5km s-min=16.7km az=33.0*
BJI ***20*** *08:55:34.9, 34°.93N×70°.62E, h114km, mb4.6/5, mB4.8/1*

ISC 20 08:55:26.9±0.4**, 34°46N**±0°.04×**70°26E**±0°.04**, h42**km**, n149, σ2§**06**/165**, mb4.5**/42**, 17C-10D, Southeastern Afghanistan**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
KBL	**Kabul**	**1.01**	**275**	*eP*		**Pn**	**08 55 43.1**	**-1.6**
KBL				*e*			08 55 59.0	
KBL	**Kabul**	**1.01**	**275**	*e*	Pn	**Pn**	**08 55 43.1**	**-1.6**
KBL				*e*	Sn	**Sn**	**08 55 59.0**	**+1.2**
CEP	**Cherat**	**1.51**	**115**	P		**Pn**	**08 55 51.5**	**-0.1**
THW	**Thamme Wali**	**2.08**	**143**	P		**Pn**	**08 56 01.9**	**+2.7**
CHCP	**Chirah Chowk**	**2.62**	**107**	P		**Pn**	**08 56 08.4**	**+1.7**
SARP	**Sargodha**	**3.24**	**141**	P		**Pn**	**08 56 16.3**	**+1.1**
DZET	**Dzherino**	**4.48**	**346**	⇑	P	**Pn**	**08 56 33.4**	**+1.0**
	73nm,0.6s							
DZET				⇑	Sn	**Sn**	**08 57 26.2**	**+2.9**
	280nm,0.7s							
DZET	**Dzherino**	**4.48**	**346**	P		**Pn**	**08 56 33.4**	**+1.0**
DZET				S		**Sn**	**08 57 26.2**	**+2.9**
DZET				pmax		pmax		
	comp=Z,73nm,0.6s							
DZET				smax		smax		
	comp=N,280nm,0.7s							
PONG	**Pong**	**5.39**	**116**	*eP*		**Pn**	**08 56 45.0**	**+0.3**
PONG				*ex*		x	08 57 50.0	
DHRM	**DHARAMSHALA**	**5.52**	**112**	*eP*		**Pn**	**08 56 47.6**	**+0.9**
DHRM				*eS*		**Sn**	**08 57 46.3**	**-2.6**
DHRM				IAML			08 58 16.8	
	comp=E,1μm,0.9s							
DHRM				IAML			08 58 18.7	
	comp=N,598nm,0.9s							
BHK	**Bhakra**	**6.00**	**119**	*eP*		**Pn**	**08 56 52.8**	**-0.4**
BHK				*ex*		x	08 58 02.0	
SDNR	**Sundarnagar**	**6.37**	**116**	*eP*		**Pn**	**08 56 57.6**	**-0.6**
SDNR				*eS*		**Sn**	**08 58 08.0**	**-1.6**
SMLA	**Simla**	**6.70**	**118**	*eP*		**Pn**	**08 57 03.0**	**+0.3**
SMLA				*eS*		**Sn**	**08 58 16.2**	**-1.5**
KSH	**Kashi**	**6.81**	**41**	P		**Pn**	**08 57 01.1**	**-3.2**
KSH				S		Sn	08 58 10.0	-11
KSH				pmax		pmax		
	comp=N,79nm,0.7s							
KSH				smax		smax		
	comp=N,110nm,0.7s							
KSH				smax		smax		
	comp=N,120nm,0.8s							
MNAS	**Manas**	**8.20**	**12**	⇑	P	**Pn**	**08 57 24.0**	**+0.6**
	comp=N,25nm,0.9s							
MNAS				⇓	S	**Sn**	**08 58 55.7**	**+0.9**
	comp=N,78nm,1.1s							
MNAS	**Manas**	**8.20**	**12**	P		**Pn**	**08 57 24.2**	**+0.8**
MNAS				S		**Sn**	**08 58 55.7**	**+0.9**
MNAS				pmax		pmax		
	comp=Z,25nm,0.9s							
MNAS				smax		smax		
	comp=N,78nm,1.1s							
NDI	**New Delhi**	**8.27**	**132**	*eP*		**Pn**	**08 57 26.0**	**+1.7**
NDI				*eS*		**Sn**	**08 58 53.0**	**-3.4**
KK31	**Karatay Array**	**8.63**	**1**	⇓	P	**Pn**	**08 57 28.4**	**-0.8**
	comp=N,8.8nm,0.4s,baz=182,slow=14,SNR=11							
KK31				⇑	S	**Sn**	**08 59 05.0**	**-0.1**
	comp=N,13nm,0.5s,baz=189,slow=23,SNR=8.6							
KK31	**Karatay Array**	**8.63**	**1**	P		**Pn**	**08 57 28.4**	**-0.8**
KK31				S		**Sn**	**08 59 05.0**	**-0.1**
KK31				pmax		pmax		
	comp=Z,9.0nm,0.4s							
KK31				smax		smax		
	comp=N,13nm,0.5s							
KKAR	**Karatay Array**	**8.63**	**1**	*eP*		**Pn**	**08 57 28.6**	**-0.5**
KKAR				*e*			08 59 08.5	
KKAR	**Karatay Array**	**8.63**	**1**	*eP*	n	**Pn**	**08 57 28.6**	**-0.5**
KKAR				*eS*	n	**Sn**	**08 59 08.5**	**+3.3**
AAK	**Ala-Archa**	**8.81**	**21**	Pn		**Pn**	**08 57 32.2**	**+0.4**
	comp=N,2.7nm,0.3s,baz=190,slow=5.2,SNR=20							
AAK				Sn		**Sn**	**08 59 11.3**	**+1.6**
	baz=300,slow=13,SNR=2.0							
AAK				LR		LR	09 01 07.1	
	comp=N,71nm,21.6s,baz=349,slow=39							
AAK	**Ala-Archa**	**8.81**	**21**	⇑	P	**Pn**	**08 57 33.6**	**+1.9**
	comp=N,13nm,0.6s							
AAK				⇑	S	**Sn**	**08 59 12.2**	**+2.5**
	comp=N,32nm,0.7s							
AAK	**Ala-Archa**	**8.81**	**21**	⇑	*iP*	**Pn**	**08 57 32.4**	**+0.7**
FRU	**Bishkek**	**9.02**	**21**	*eP*		**Pn**	**08 57 38.0**	**+3.4**
FRU				*eS*		**Sn**	**08 59 21.0**	**+6.2**
FRU				pmax		pmax		
	comp=Z,50nm,1.9s							
FRU				pmax		pmax		
	comp=E,120nm,1.9s							
TKM2	**Tokmak 2**	**9.41**	**25**	⇓	P	**Pn**	**08 57 40.2**	**+0.1**
	comp=E,10nm,0.6s							
TKM2				⇑	S	**Sn**	**08 59 23.2**	**-1.5**
	comp=E,12nm,0.9s							
TKM2	**Tokmak 2**	**9.41**	**25**	P		**Pn**	**08 57 40.2**	**+0.1**
TKM2				S		**Sn**	**08 59 23.2**	**-1.5**
TKM2				pmax		pmax		
	comp=Z,10.0nm,0.6s							
GEYT	**Alibeck**	**10.40**	**293**	Pn		**Pn**	**08 57 53.8**	**+0.3**
	comp=Z,0.6nm,0.3s,baz=138,slow=14,SNR=4.7							
BHJ	**Bhuj**	**11.18**	**183**	*eP*		**Pn**	**08 58 04.2**	**+0.1**
PDGK	**Podgornoye**	**11.40**	**36**	⇓	P	**Pn**	**08 58 07.7**	**+0.6**
PDGK	**Podgornoye**	**11.40**	**36**	P		**Pn**	**08 58 07.7**	**+0.6**
PYUN	**Piuthan**	**12.60**	**117**	*eP*		**Pn**	**08 58 20.9**	**-2.8**
BHPL	**Bhopal**	**12.82**	**149**	*eP*		**Pn**	**08 58 25.4**	**-1.2**
BHPL				*eS*		**Sn**	**09 00 41.0**	**-6.9**
BHPL				IAML			09 02 16.4	
	comp=N,71nm,0.0s							
BHPL				IAML			09 02 16.4	
	comp=E,129nm,0.0s							
KOLN	**Koldanda**	**13.23**	**117**	*eP*		**Pn**	**08 58 30.0**	**-2.3**
	comp=E,20nm,0.4s							
GKN	**Gorkha**	**13.88**	**114**	*eP*		**Pn**	**08 58 38.1**	**-3.0**
DMN	**Daman**	**14.44**	**114**	*eP*		**Pn**	**08 58 44.4**	**-4.4**
	comp=E,32nm,0.5s							
KKN	**Kakani**	**14.48**	**113**	*eP*		**Pn**	**08 58 45.0**	**-4.2**
	comp=E,36nm,0.5s							
PKIN	**Phulchoki**	**14.68**	**114**	*eP*		**Pn**	**08 58 47.8**	**-4.1**
	comp=E,40nm,0.5s							
PKI	**Pulchoki**	**14.69**	**114**	*eP*		**Pn**	**08 58 48.1**	**-4.1**
	comp=E,46nm,0.5s							
GUN	**Gumba**	**14.87**	**112**	*eP*		**Pn**	**08 58 51.6**	**-3.0**
	comp=E,24nm,0.4s							
MAKZ	**Makanchi**	**15.18**	**32**	*eP*		**Pn**	**08 58 57.3**	**-1.0**
MAKZ				pmax		pmax		
	comp=Z,6.0nm,0.6s							
MAKZ	**Makanchi**	**15.18**	**32**	*eP*	n	**Pn**	**08 58 57.3**	**-1.0**
	comp=Z,6.3nm,0.6s							
JIRN	**Jiri**	**15.24**	**112**	*eP*		**Pn**	**08 58 56.0**	**-3.4**
	comp=Z,69nm,0.4s							
MK01	**Makanchi Array**	**15.30**	**33**	*eP*	n	**Pn**	**08 58 59.2**	**-0.6**
MK31	**Makanchi Array**	**15.31**	**33**	⇑	P	**Pn**	**08 58 59.2**	**-0.7**
	comp=Z,2.3nm,0.5s,baz=205,slow=11,SNR=7.1							
MK31	**Makanchi Array**	**15.31**	**33**	*eP*		**Pn**	**08 58 59.3**	**-0.7**
MK31	**Makanchi Array**	**15.31**	**33**	*eP*	n	**Pn**	**08 58 59.3**	**-0.7**
MK32	**Makanchi Array**	**15.31**	**33**	*eP*	n	**Pn**	**08 58 59.7**	**-0.2**
MKAR	**Makanchi Array**	**15.31**	**33**	P	n	**Pn**	**08 58 59.7**	**-0.2**
	comp=Z,0.2nm,0.3s,baz=211,slow=14,SNR=7.7							
MKAR	**Makanchi Array**	**15.31**	**33**	*eP*		**Pn**	**08 59 01.0**	**+1.0**
MKAR				pmax		pmax		
	comp=Z,10.0nm,0.3s							
MKAR	**Makanchi Array**	**15.31**	**33**	*eP*	n	**Pn**	**08 58 59.3**	**-0.7**
	comp=Z,40nm,0.4s							
RAMN	**Ramite**	**15.91**	**114**	*eP*		**Pn**	**08 59 03.7**	**-4.4**
	comp=Z,38nm,0.4s							
AB31	**Akbulak array**	**16.63**	**336**	P		**Pn**	**08 59 14.3**	**-2.5**
	comp=Z,6.8nm,0.5s,baz=150,slow=12,SNR=179							
AB31				⇓	S	**Sn**	**09 02 16.4**	**-3.9**
	comp=Z,4.1nm,0.7s,baz=150,slow=24,SNR=7.6							
ABKAR	**Akbulak array**	**16.63**	**336**	*eP*	n	**Pn**	**08 59 15.1**	**-1.7**
	comp=Z,139nm,0.4s							
KURBB	**Kurchatov Arra**	**17.24**	**18**	P		**Pn**	**08 59 23.1**	**-1.3**
	comp=Z,0.2nm,0.3s,baz=208,slow=10.0,SNR=8.7							
BOK	**Bokaro**	**17.28**	**124**	*eP*		**Pn**	**08 59 24.8**	**-0.2**
KURK	**Kurchatov**	**17.35**	**18**	⇑	*iP*	**Pn**	**08 59 24.1**	**-1.6**
KURK				pmax		pmax		
	comp=Z,25nm,1.2s							
KURK	**Kurchatov**	**17.35**	**18**	*eP*	n	**P**	**08 59 25.3**	**-1.4**
	comp=Z,7.6nm,1.2s							
AKTO	**Aktyubinsk**	**18.30**	**334**	P		**P**	**08 59 36.7**	**-0.5**
	comp=Z,0.2nm,0.3s,baz=145,slow=13,SNR=6.1							
AKTO				S		**Sn**	**09 02 52.3**	**-8.3**
	comp=Z,0.1nm,0.3s,baz=215,slow=19,SNR=2.4							
AKTO				LR		LR	09 07 23.9	
	comp=Z,68nm,18.5s,baz=141,slow=39							
AKTO	**Aktyubinsk**	**18.30**	**334**	⇑	P	**Pn**	**08 59 37.2**	**-0.2**
	comp=Z,7.8nm,0.6s							
BVAR	**Borovoye Array**	**18.55**	**0**	P		**P**	**08 59 38.5**	**-1.4**
	comp=Z,0.6nm,0.3s,baz=168,slow=10,SNR=19							
BRVK	**Borovoye**	**18.59**	**0**	⇓	P	**P**	**08 59 38.6**	**-1.6**
	comp=Z,10nm,0.9s							
BRVK	**Borovoye**	**18.59**	**0**	⇑	*iP*	**P**	**08 59 38.9**	**-1.4**
BRVK				pmax		pmax		
	comp=Z,41nm,1.2s							
BRVK	**Borovoye**	**18.59**	**0**	*eP*		**P**	**08 59 39.6**	**-0.7**
	comp=Z,12nm,0.9s							
DGZ	**Jazzator, Alta**	**19.78**	**35**	*i*	P	**Pn**	**08 59 54.2**	**-1.1**
GNI	**Garni**	**21.04**	**293**	⇑	*iP*	**P**	**09 00 11.1**	**+3.8**
GNI				*i*	*PP	sP	09 00 33.0	+10
GNI				pmax		pmax		
	comp=Z,100nm,1.2s							
GNI	**Garni**	**21.04**	**293**	*eP*		**P**	**09 00 06.2**	**-1.1**
	comp=Z,25nm,1.0s							
ZAA0	**Zalesovo Array**	**22.02**	**23**	*eP*		**P**	**09 00 18.9**	**+1.5**
ZALV	**Zalesovo Beam**	**22.02**	**23**	P		**P**	**09 00 16.2**	**-1.2**
	comp=Z,9.7nm,0.3s,baz=223,slow=11,SNR=8.8							
ZAA1	**Zalesovo Array**	**22.02**	**23**	*eP*		**P**	**09 00 16.2**	**-1.3**
ZEI	**Tsey**	**22.14**	**300**	*eP*		**P**	**09 00 20.7**	**+1.6**
ZEI				pmax		pmax		
	comp=Z,22nm,0.9s							
NVS	**Novosibirsk**	**22.30**	**20**	*eP*		**P**	**09 00 22.6**	**+2.2**
KBZ	**Khabaz**	**23.08**	**302**	P		**P**	**09 00 29.6**	**+0.9**
	comp=Z,4.3nm,0.9s,baz=154,slow=7.5,SNR=5.8							
NEY	**Neytrino**	**23.09**	**301**	⇓	*iP*	**P**	**09 00 33.7**	**+4.7**
KIV	**Kislovodsk**	**23.28**	**302**	*eP*		**P**	**09 00 32.3**	**+1.5**
KIV				pmax		pmax		
	comp=Z,18nm,1.1s							
ARU	**Arti**	**23.38**	**344**	P		**P**	**09 00 31.3**	**-0.3**
	comp=Z,2.7nm,0.5s,baz=184,slow=3.6,SNR=5.3							
ARU	**Arti**	**23.38**	**344**	*c*	*iP*	**P**	**09 00 32.1**	**+0.5**
ARU							09 00 58.7	
ARU				S		**S**	**09 04 33.1**	**-8.3**
ARU				pmax		pmax		
	comp=Z,5.0nm,0.8s							
ARU	**Arti**	**23.38**	**344**	*eP*		**P**	**09 00 31.5**	**-0.1**
	comp=Z,5.7nm,0.7s							
GTA	**Gaotai**	**24.08**	**70**	*eP*		**P**	**09 00 39.4**	**+1.0**
GTA				pmax		pmax		
	comp=Z,12nm,1.1s							
PALK	**Pallekele**	**28.72**	**158**	LR		LR	09 12 45.5	
	comp=Z,27nm,18.7s,baz=300,slow=36							
ZAK	**Zakamensk**	**28.81**	**46**	*eP*		**P**	**09 01 20.4**	**-0.5**
ZAK				pmax		pmax		
	comp=Z,2.0nm,1.7s							
BR101	**Keskin Array S**	**29.54**	**291**	*eP*		**P**	**09 01 28.8**	**+1.2**
BR131	**Keskin Array S**	**29.54**	**291**	*eP*		**P**	**09 01 29.2**	**+1.6**
BRTR	**Keskin Array B**	**29.54**	**291**	P		**P**	**09 01 28.8**	**+1.2**
	comp=Z,3.3nm,0.8s,baz=99,slow=8.0,SNR=13							
BRTR	**Keskin Array B**	**29.54**	**291**	*eP*		**P**	**09 01 29.2**	**+1.6**
BRTR				pmax		pmax		
	comp=Z,4.0nm,0.9s							
SONA1	**Songino Array**	**30.03**	**53**	*eP*		**P**	**09 01 34.7**	**+2.9**
BR231	**Keskin MP Arra**	**30.20**	**291**	*eP*		**P**	**09 01 30.2**	**-3.2**
ULN	**Ulaanbaatar**	**30.46**	**53**	⇓	*iP*	**P**	**09 01 35.9**	**+0.3**
ULN				pmax		pmax		
	comp=Z,1.0nm,0.8s							
OBN	**Obninsk**	**31.13**	**322**	⇑	*iP*	**P**	**09 01 41.0**	**-0.2**
OBN				pmax		pmax		
	comp=Z,12nm,1.1s							
AKASG	**Malin Array Be**	**33.79**	**311**	P		**P**	**09 02 04.8**	**+0.2**
	comp=Z,1.6nm,0.5s,baz=90,slow=6.9,SNR=6.9							
AKBB	**Malin Array Si**	**33.79**	**311**	*eP*		**P**	**09 02 04.8**	**+0.2**
AKBB				pmax		pmax		
	comp=Z,3.0nm,0.6s							
AKBB	**Malin Array Si**	**33.79**	**311**	*eP*		**P**	**09 02 04.8**	**+0.2**
	comp=Z,3.3nm,0.6s							
MLR	**Muntele Rosu**	**35.29**	**302**	*eP*		**P**	**09 02 18.6**	**+0.8**
MLR				pmax		pmax		
	comp=Z,10.0nm,1.1s							
MLR	**Muntele Rosu**	**35.29**	**302**	*eP*		**P**	**09 02 18.6**	**+0.8**
	comp=Z,9.9nm,1.1s							
APE	**Apeiranthos**	**36.14**	**287**	⇑	*iP*	P	09 02 30.2	+5.2
APE				pmax		pmax		
	comp=Z,5.0nm,0.8s							
NRIK	**Noril'sk**	**36.23**	**10**	P		**P**	**09 02 24.9**	**-0.5**
	comp=Z,3.7nm,0.5s,baz=189,slow=6.4,SNR=5.0							
VSU	**Vasula**	**37.43**	**323**	⇓	*eP*	**P**	**09 02 38.9**	**+3.2**
VSU				pmax		pmax		
	comp=Z,32nm,0.9s							
FIA1	**FINESS Array S**	**38.85**	**328**	*eP*		**P**	**09 02 48.0**	**+0.4**
	comp=Z,19nm,1.2s							
FIA0	**FINESS Array S**	**38.86**	**328**	*eP*		**P**	**09 02 47.6**	**-0.1**
FIA0	**FINESS Array S**	**38.86**	**328**	*eP*		**P**	**09 02 47.5**	**-0.1**
FINES	**FINESS Array B**	**38.86**	**328**	P		**P**	**09 02 47.5**	**-0.1**
	comp=Z,5.1nm,0.7s,baz=123,slow=14,SNR=9.6							
ARCES	**ARCESS Array B**	**42.80**	**339**	P		**P**	**09 03 19.9**	**-0.2**
	comp=Z,1.6nm,0.8s,baz=114,slow=9.0,SNR=3.7							
ARCES	**ARCESS Array B**	**42.80**	**339**	*eP*		**P**	**09 03 24.4**	**+4.3**
ARCES				pmax		pmax		
	comp=Z,1.0nm,0.6s							
GERES	**GERESS Array B**	**43.64**	**307**	P		**P**	**09 03 28.1**	**+0.9**
	comp=Z,0.3nm,0.2s,baz=108,slow=8.3,SNR=3.7				

az=30.6
IDC ***20*** *09:20:11.6±1.1,37.13N×141.44E,h0km,mb3.6/4, mb1 3.7/7,mb1mx3.5/43,mbtmp3.6/7,ML3.2/2,MS2.9/2, Ms1 2.9/2,ms1mx2.5/47,Error ellipse: s-maj=26.8km s-min=19.2km az=118.0*
JMA ***20*** *09:20:14.4±0.1,37.23N×141.25E,h23km±1km,M3.8*
JMA Felt II J1.

ISC 20 09:20:11.8±1.9,37°20N±0.04×141°41E±0.07,h4km±11km, n23,σ1°9̄02/25,mb3.8/4,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JFK	**Kawauchi**	**0.46**	**292**	P	**Pg**	**09 20 21.4**	**+0.8**
JFK				S	**Sg**	**09 20 26.9**	**+0.3**
ONAJ	**Iwakimizuishiy**	**0.49**	**259**	P	**Pg**	**09 20 22.4**	**-0.8**
ONAJ				S	**Sg**	**09 20 28.0**	**+0.3**
JMM	**Marumori**	**0.83**	**324**	P	**Pg**	**09 20 28.1**	**+0.4**
JMM				S	**Sg**	**09 20 38.3**	**-0.2**
JHO	**Hitachi**	**0.89**	**229**	P	**Pg**	**09 20 29.0**	**+0.1**
JFT	**Otama**	**0.91**	**291**	P	**Pg**	**09 20 29.6**	**+0.3**
JFT				S	**Sg**	**09 20 40.2**	**-0.9**
JSB	**Shiboa**	**1.21**	**260**	P	**Pg**	**09 20 35.1**	**+0.1**
JSB				S	**Sg**	**09 20 49.9**	**-0.8**
JIO	**Ouri**	**1.26**	**358**	P	**Pn**	**09 20 35.5**	**-0.7**
JFY	**Yanaizu**	**1.37**	**279**	P	**Pn**	**09 20 37.3**	**-0.5**
JFY				S	**Sb**	**09 20 53.8**	**-2.3**
MJAR	**Matsushiro Arr** 2.6nm,0.3s,baz=79,slow=16,SNR=24	**2.65**	**257**	Pn	**Pn**	**09 20 56.6**	**+1.2**
MJAR				Sn	**Sn**	**09 21 29.2**	**+1.3**
MJAR	9.3nm,0.3s,baz=259,slow=14,SNR=8.0			LR	LR	09 21 43.9	
MAT	comp=Z,23nm,19.4s,baz=115,slow=35 **Matsushiro**	**2.65**	**257**	P	**Pn**	**09 20 56.1**	**+0.7**
MAT				*e*S	**Sn**	**09 21 27.8**	**-0.1**
JHJ	**Hachijo jima 2** 7.5nm,0.3s,baz=254,slow=23,SNR=1.6	**4.28**	**199**	Pn	**Pn**	**09 21 17.9**	**+0.2**
JHJ				Sn	**Sn**	**09 22 07.9**	**-0.3**
USRK	13nm,0.3s,baz=226,slow=21,SNR=1.2 **Ussuriysk Ar.** 0.0nm,0.3s,baz=144,slow=16,SNR=1.6	**10.00**	**317**	Pn	**Pn**	**09 22 38.8**	**+2.6**
H11N2	**WAKE ISLAND Hy 28.23** baz=314,slow=75,SNR=170	**121**	T	T		09 55 47.3	
H11N1	**WAKE ISLAND Hy 28.24** baz=314,slow=75,SNR=136	**121**	T	T		09 55 47.9	
H11N3	**WAKE ISLAND Hy 28.25** baz=314,slow=75,SNR=158	**121**	T	T		09 55 48.6	
H11S1	**WAKE ISLAND Hy 28.95** baz=316,slow=76,SNR=89	**123**	T	T		09 56 36.0	
H11S3	**WAKE ISLAND Hy 28.95** baz=316,slow=76,SNR=62	**123**	T	T		09 56 38.1	
H11S2	**WAKE ISLAND Hy 28.97** baz=316,slow=76,SNR=56	**123**	T	T		09 56 41.0	
KURBB	**Kurchatov Arra** 0.6nm,0.6s,baz=82,slow=8.5,SNR=7.0	**45.90**	**308**	P	**P**	**09 28 34.5**	**-0.8**
ILAR	**Eielson Array** 0.7nm,0.8s,baz=281,slow=6.6,SNR=5.5	**49.36**	**32**	P	**P**	**09 29 02.7**	**+0.6**
INK	**Inuvik** 1.2nm,0.9s,baz=295,slow=7.4,SNR=4.8	**54.25**	**27**	P	**P**	**09 29 39.5**	**+1.0**
WRA	**Warramunga Arr** 0.2nm,0.4s,baz=5.0,slow=6.7,SNR=7.8	**57.22**	**188**	P	**P**	**09 29 60.0**	**-0.3**
JMIC	**Jan Mayen** comp=Z,76nm,18.9s,baz=66,slow=37	**69.99**	**350**	LR	LR	10 03 04.8	

SGS 20 09:24:14.7,31.16N×34.84E,h17km,Dead Sea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HQLS		**1.87**	**174**	S	Sn	09 25 06.9	-2.1
HQLS				P	Pn	09 24 44.4	-1.5
HQLS		**1.87**	**174**	S	Sn	09 25 06.9	-2.1
HQLS				P	Pn	09 24 44.5	-1.4
HAQS	**Haql**	**2.11**	**178**	P	Pn	09 24 48.0	-1.1
HAQS	**Haql**	**2.11**	**178**	P	Pn	09 24 48.0	-1.2
JLOS		**2.48**	**167**	P	Pn	09 24 53.2	-1.3
JLOS		**2.48**	**167**	S	Sn	09 25 23.5	-1.0
JLOS				P	Pn	09 24 54.1	-0.5
BDAS	**Al Bad'**	**2.73**	**175**	P	Pn	09 24 55.5	-2.3

IDC 20 09:40:36.2±393.0,52.18N×113.31E,h0km,Error ellipse: s-maj=152.1km s-min=135.6km az=26.0,East of Lake Baykal

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I34MN	**SONGINO INFRAS** baz=41,slow=309,SNR=3.5	**6.25**	**228**	*i*		10 22 00.0	
I45RU	**USSURIYSK INFR** baz=307,slow=321,SNR=5.5	**14.76**	**115**	*i*		11 04 55.0	
I44RU	**PETROPAVLOVSK** baz=284,slow=322,SNR=0.9	**26.64**	**70**	*i*		12 24 30.0	

ISCJB ***20*** *09:47:36.5±2.5,22.3N±0.2×143.6E±0.9,h118km,mb3.7/5, Error ellipse: s-maj=112.8km s-min=15.8km az=172.4*
IDC ***20*** *09:47:40.1±7.1,22.31N×143.39E,h129km±61km,mb3.4/5, mb1 3.5/6,mb1mx3.1/56,mbtmp3.8/6,MS2.4/1,Ms1 2.4/1, ms1mx2.2/14,Error ellipse: s-maj=52.9km s-min=17.1km az=78.0*

ISC 20 09:47:38.5±1.0,22.3N±0.2×143.5E±0.4,h118km,n10, σ0°67/11,mb3.8/5,Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam** comp=Z,25nm,21.5s,baz=202,slow=33	**8.78**	**171**	LR	LR	09 52 28.6	
MJAR	**Matsushiro Arr** 0.2nm,0.3s,baz=159,slow=10,SNR=3.0	**14.90**	**343**	P	**Pn**	**09 51 03.4**	**+0.3**
WRA	**Warramunga Arr** 0.8nm,0.4s,baz=17,slow=8.7,SNR=42	**42.95**	**193**	P	**P**	**09 55 25.7**	**-0.2**
WRA				PcP	**PcP**	**09 57 14.3**	**-0.2**
ASAR	1.6nm,1.3s,baz=5.4,slow=3.5,SNR=3.0 **Alice Springs** 0.3nm,0.5s,baz=15,slow=9.6,SNR=11	**66.66**	**192**	P	**P**	**09 55 55.6**	**+0.3**
MKAR	**Makanchi Array** 0.4nm,0.7s,baz=82,slow=10,SNR=3.4	**54.51**	**312**	P	**P**	**09 56 54.8**	**+0.7**
BVAR	**Borovoye Array** 0.6nm,0.5s,baz=132,slow=8.2,SNR=3.8	**62.41**	**319**	P	**P**	**09 57 49.0**	**+0.2**
BVAR				PcP	**PcP**	**09 58 26.7**	**-0.4**
FINES	0.8nm,0.5s,baz=87,slow=5.8,SNR=4.1 **FINESS Array B** 1.5nm,0.8s,baz=46,slow=5.5,SNR=4.9	**82.76**	**335**	P	**P**	**09 59 47.8**	**-1.2**
TORD	**Torodi Ar. Bea** 0.2nm,0.4s,baz=27,slow=0.8,SNR=3.5	**128.59**	**310**	PKP	**PKPdf**	**10 06 31.9**	**-0.6**
PLCA	**Paso Flores** 1.0nm,0.3s,baz=285,slow=9.4,SNR=4.1	**145.93**	**131**	PKPbc	**PKPbc**	**10 07 05.0**	**+0.5**
LPAZ	**La Paz** 0.8nm,0.5s,baz=4.4,slow=5.1,SNR=4.9	**149.57**	**84**	PKPbc	**PKPbc**	**10 07 16.3**	**+0.6**

MEX 20 10:02:40.9±0.4,16.43N×98.51W,h17km±116km,MD3.6, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.37**	**96**	*i* P	Pg	10 02 47.4	-1.2
PNIG				*i* S	Sg	10 02 52.7	-1.2
TLIG	**Tlapa**	**1.13**	**357**	*e*P	Pb	10 02 58.3	-3.7
TLIG				*e*S	Sb	10 03 11.8	-4.6
CAIG	**El Cayaco**	**1.79**	**290**	*i* P	Pn	10 03 07.0	-4.0
CAIG				*i* S	Sn	10 03 29.1	-4.3
VHO	**Vista Hermosa**	**1.82**	**69**	*i* P	Pn	10 03 08.8	-2.8
VHO				*i* S	Sn	10 03 29.9	-4.5
MEIG	**Mezcala**	**1.82**	**325**	*i* P	Pn	10 03 07.9	-3.7
MEIG				*i* S	Sn	10 03 29.6	-4.7
PLIG	**Platanillo**	**2.17**	**334**	*i* P	Pn	10 03 13.7	-2.6
PLIG				*i* S	Sn	10 03 38.9	-4.0

DJA 20 10:05:54.5±1.0,10.5±6.×11.6E±.,h22km±11km,M3.5/8, MLv3.5/8,South of Bali

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IGBI	**Denpasar**	**1.46**	**332**	P	Pn	10 06 19.4	-0.2
IGBI				S	Sb	10 06 38.9	-0.3
DNP	**Denpasar**	**1.56**	**337**	P	Pn	10 06 21.3	+0.3
DNP				S	Sn	10 06 41.3	+0.8
TWSI	**Taliwang, Sumb**	**1.71**	**37**	P	Pn	10 06 23.1	0.0
TWSI				S	Sn	10 06 44.6	+0.3
SRBI	**Singaraja**	**2.12**	**343**	P	Pn	10 06 27.7	-0.9
PLAI	**Plampang**	**2.30**	**56**	P	Pn	10 06 31.1	-0.1
PLAI				S	Sn	10 06 59.6	+0.8
GMJI	**Gumukmas**	**2.99**	**308**	P	Pn	10 06 40.5	-0.2
GMJI				S	Sn	10 07 16.5	+0.6
BLJI	**Banyuglugur**	**3.24**	**317**	P	Pn	10 06 43.9	-0.1

ISCJB ***20*** *10:11:59.7±0.6,20.0S±0.1×68.20E±0.06,h10km, mb4.2/13,MS3.6/6,Error ellipse: s-maj=18.4km s-min=8.0km az=1.2*
IDC ***20*** *10:12:00.3±1.1,20.05S×68.32E,h0km,mb4.1/8, mb1 4.2/8,mb1mx3.8/44,mbtmp4.1/8,MS3.5/6,Ms1 3.5/6, ms1mx3.2/37,Error ellipse: s-maj=35.8km s-min=24.4km az=22.0*
NEIC ***20*** *10:12:02.1±0.6,19.94S×68.27E,h10km,mb4.3/4,Error ellipse: s-maj=20.0km s-min=11.0km az=195.0*

ISC 20 10:12:02.1±0.8,20.0S±0.2×68.26E±0.08,h10km,n29, σ1°9̄10/18,mb4.3/13,MS3.5/6,Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MRIV	**Mauritius Mete**	**10.12**	**266**	*e*Pn	**Pn**	**10 14 27.5**	**-0.1**
MRIV				*e*Sn	**Sn**	**10 16 20.8**	**-0.4**
H08S1	**Diego Garcia H** baz=200,slow=76,SNR=115	**12.90**	**19**	T	T	10 28 43.4	
H08S2	**Diego Garcia H** baz=200,slow=76,SNR=133	**12.91**	**19**	T	T	10 28 40.6	
H08S3	**Diego Garcia H** baz=200,slow=76,SNR=76	**12.92**	**19**	T	T	10 28 42.8	
H08N3	**Diego Garcia H** baz=188,slow=77,SNR=7.1	**13.79**	**11**	T	T	10 30 06.2	
H08N1	**Diego Garcia H** baz=188,slow=77,SNR=6.3	**13.79**	**12**	T	T	10 30 14.2	
H08N2	**Diego Garcia H** baz=188,slow=77,SNR=8.9	**13.81**	**11**	T	T	10 30 14.8	
MSEY	**Mahe Island**	**19.64**	**319**	*e*P	**P**	**10 16 30.9**	**-0.3**
PALK	**Pallekele** comp=Z,68nm,21.3s,baz=295,slow=30	**29.70**	**26**	LR	LR	10 26 59.7	
H01W3	**Cape Leeuwin H** baz=278,slow=75,SNR=5.9	**42.98**	**120**	T	T	11 05 53.1	
H01W2	**Cape Leeuwin H** baz=278,slow=75,SNR=7.1	**42.98**	**120**	T	T	11 05 52.7	
H01W1	**Cape Leeuwin H** baz=278,slow=75,SNR=6.9	**43.00**	**120**	T	T	11 05 54.1	
MAW	**Mawson** comp=Z,52nm,21.4s,baz=61,slow=29	**47.76**	**183**	LR	LR	10 35 19.0	
CMAR	**Chiang Mai Arr** 1.7nm,0.4s,baz=236,slow=8.5,SNR=14	**48.62**	**40**	P	**P**	**10 20 47.9**	**+1.6**
CMAR				LR	LR	10 37 54.9	
FITZ	comp=Z,50nm,21.4s,baz=216,slow=32 **Fitzroy Crossi** 3.4nm,0.9s	**54.05**	**98**	*e*P	**P**	**10 21 26.6**	**-0.6**
SOEI	**Soe** 4.9nm,0.7s	**54.87**	**88**	*e*P	**P**	**10 21 31.9**	**-1.4**
ASAR	**Alice Springs** 0.9nm,0.7s,baz=267,slow=6.1,SNR=16	**60.59**	**106**	P	**P**	**10 22 12.5**	**-1.0**
ASAR				LR	LR	10 45 44.7	
BBOO	comp=Z,66nm,18.2s,baz=188,slow=34 **Buckleboo**	**61.17**	**117**	*e*P	**P**	**10 22 18.0**	**+0.8**
WRA	**Warramunga Arr** 1.6nm,1.0s,baz=262,slow=6.2,SNR=8.0	**61.72**	**102**	P	**P**	**10 22 20.1**	**-1.0**
WRAB	**Tennant Creek** 1.6nm,0.8s	**61.73**	**102**	*e*P	**P**	**10 22 22.9**	**+1.7**
MKAR	**Makanchi Array** 1.5nm,0.8s,baz=198,slow=6.4,SNR=9.1	**67.63**	**10**	P	**P**	**10 22 58.3**	**-0.8**
ABKAR	**Akbulak array** 0.3nm,0.3s	**69.30**	**354**	*e*P	**P**	**10 23 08.3**	**-1.1**
KURK	**Kurchatov** 10.0nm,0.5s	**70.95**	**7**	*e*P	**P**	**10 23 20.1**	**+0.6**
TORD	**Torodi Ar. Bea** 0.5nm,0.6s,baz=93,slow=5.6,SNR=4.2	**73.28**	**291**	P	**P**	**10 23 34.0**	**-0.3**
ZALV	**Zalesovo Beam** 2.4nm,0.6s,baz=227,slow=5.2,SNR=6.2	**74.97**	**10**	P	**P**	**10 23 42.7**	**-0.6**
ZALV				LR	LR	10 55 18.3	
SONM	comp=Z,49nm,18.4s,baz=68,slow=35 **Songino Array** 2.4nm,0.9s,baz=220,slow=6.2,SNR=8.4	**75.65**	**25**	P	**P**	**10 23 48.3**	**+0.7**
DBIC	**Dimbokro** 3.3nm,0.8s,baz=114,slow=3.7,SNR=3.5	**76.57**	**282**	P	**P**	**10 23 55.1**	**+1.8**
KSRS	**Korea Array** comp=Z,22nm,21.0s,baz=140,slow=34	**80.06**	**44**	LR	LR	10 57 33.3	
EDM	**Edmonton**	**146.77**	**2**	*e*PKPbc	**PKPbc**	**10 31 43.1**	**-1.2**

ISCJB ***20*** *10:15:07.6±0.4,39.62N±0.03×29.33E±0.04,h0km,Error ellipse: s-maj=4.4km s-min=3.9km az=135.7*
CSEM ***20*** *10:15:07.7±0.2,39.60N×29.36E,h1km,MD2.5,Error ellipse: s-maj=5.8km s-min=5.4km az=149.0,Suspected Mining explosion.*
ISK ***20*** *10:15:07.7,39.57N×29.25E,h14km,MD2.5*
DDA ***20*** *10:15:08.3,39.65N×29.41E,h7km,Md2.7,Suspected Mining explosion.*

ISC 20 10:15:07.9±0.8,39.61N±0.02×29.37E±0.02,h0km,n31, σ0°97/43,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TVSB	**Tavsanli**	**0.18**	**155**	*e*Pg	**Pg**	**10 15 12.5**	**+1.2**
TVSB				*e*SG	**Sg**	**10 15 16.6**	**+3.0**
TVSB	**Tavsanli**	**0.18**	**155**	*e*Pg	**Pg**	**10 15 12.5**	**+1.2**
SIMA	**Simav-Kutahya**	**0.60**	**210**	*e*Pg	**Pg**	**10 15 18.4**	**-1.0**
SIMA				*e*SG	**Sg**	**10 15 26.6**	**-0.7**
SIMA	**Simav-Kutahya**	**0.60**	**210**	*e*Pg	**Pg**	**10 15 18.4**	**-1.0**
SIMA				*e*Sg	**Sg**	**10 15 26.6**	**-0.7**
IGD	**Bursa**	**0.67**	**349**	*i* P	**Pg**	**10 15 20.2**	**-0.4**
DEMI	**Demirci**	**0.76**	**222**	*i* P	**Pb**	**10 15 23.1**	**-0.9**
DEMI				*i* S	**Sn**	**10 15 40.6**	**+2.5**
DEMI	**Demirci**	**0.76**	**222**	P	**Pb**	**10 15 23.1**	**-0.9**
MDNY	**Mudanya-Bursa**	**0.84**	**334**	*e*PG	**Pg**	**10 15 24.4**	**+0.4**
MDNY	**Mudanya-Bursa**	**0.84**	**334**	*e*Pg	**Pg**	**10 15 24.5**	**+0.4**
BORA	**Eskisehir**	**0.88**	**72**	*i* P	**Pg**	**10 15 23.6**	**-1.2**
BORA				*i* S	**Sg**	**10 15 37.0**	**+0.8**
BORA	**Eskisehir**	**0.88**	**72**	P	**Pg**	**10 15 23.6**	**-1.2**
BORA				S	**Sg**	**10 15 37.0**	**+0.8**
KCTX	**Karacabey (Bur**	**1.01**	**311**	*e*PG	**Pg**	**10 15 27.2**	**-0.2**
KCTX	**Karacabey (Bur**	**1.01**	**311**	*e*Pg	**Pg**	**10 15 27.2**	**-0.2**
ARMT	**Armutlu**	**1.03**	**338**	*e*PG	**Pg**	**10 15 27.8**	**+0.1**
ARMT	**Armutlu**	**1.03**	**338**	*e*Pg	**Pg**	**10 15 27.8**	**+0.1**
SBT5	**Esenkoy-Cinarc**	**1.09**	**340**	*e*PN	**Pb**	**10 15 29.4**	**-0.1**
SBT5	**Esenkoy-Cinarc**	**1.09**	**340**	*e*Pn	**Pb**	**10 15 29.4**	**-0.1**
ESKT	**Eskisehir**	**1.15**	**94**	*e*PN	**Pb**	**10 15 30.4**	**-0.3**
ESKT	**Eskisehir**	**1.15**	**94**	*i* P	**Pg**	**10 15 29.6**	**-0.4**
ESKT				*i* S	**Sn**	**10 15 47.5**	**-0.4**
ESKT	**Eskisehir**	**1.15**	**94**	*e*Pn	**Pb**	**10 15 30.5**	**-0.3**
SEYT	**Eskypehyr**	**1.15**	**94**	P	**Pg**	**10 15 29.6**	**-0.4**
SEYT				S	**Sn**	**10 15 47.5**	**-0.4**
GULT	**Gulveren**	**1.21**	**47**	*e*PN	**Pn**	**10 15 32.0**	**-0.1**
GULT	**Gulveren**	**1.21**	**47**	*e*Pn	**Pn**	**10 15 32.0**	**-0.1**
KULA	**Kula-Manisa**	**1.22**	**207**	*e*PN	**Pg**	**10 15 30.1**	**-1.2**
KULA	**Kula-Manisa**	**1.22**	**207**	*e*Pn	**Pg**	**10 15 30.1**	**-1.2**
BALY	**Balya**	**1.35**	**276**	*i* P	**Pb**	**10 15 34.5**	**+0.3**
BALY				*i* S	**Sn**	**10 15 54.1**	**+1.3**
BALY	**Balya**	**1.35**	**276**	P	**Pb**	**10 15 34.5**	**+0.3**
BALY				S	**Sn**	**10 15 54.1**	**+1.3**
KAVV	**Kandilli-Istan**	**1.47**	**351**	*e*PN	**Pn**	**10 15 34.9**	**-0.8**
KAVV	**Kandilli-Istan**	**1.47**	**351**	*e*Pn	**Pn**	**10 15 34.9**	**-0.8**
SAHE	**Sakarya_HENDEK**	**1.69**	**42**	*i* P	**Pb**	**10 15 39.4**	**-0.4**
SAHE				*i* S	**Sg**	**10 16 02.4**	**+0.3**
SAHE	**Sakarya_HENDEK**	**1.69**	**42**	P	**Pb**	**10 15 39.4**	**-0.4**
SAHE				S	**Sg**	**10 16 02.4**	**+0.3**

DDA ***20*** *10:31:56.5,39.11N×28.95E,h7km,Md2.6*
CSEM ***20*** *10:31:57.5±0.1,39.14N×28.94E,h2km,ML2.6,Error ellipse: s-maj=3.6km s-min=3.4km az=77.0*
ISK ***20*** *10:31:57.0,39.15N×28.94E,h5km,ML2.6*

ISC 20 10:31:56.9±0.9,39.10N±0.03×28.92E±0.03,h11km±5km, n37,σ1°9̄19/45,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIMA	**Simav-Kutahya**	**0.05**	**112**	*e*PG	**Pg**	**10 31 59.3**	**+0.1**
SIMA				*e*SG	**Sg**	**10 32 00.8**	**-0.1**
SIMA	**Simav-Kutahya**	**0.05**	**112**	*e*Pg	**Pg**	**10 31 59.3**	**+0.1**
SIMA				*e*Sg	**Sg**	**10 32 00.8**	**-0.1**
GEDZ	**Gediz**	**0.38**	**98**	*e*PG	**Pb**	**10 32 05.4**	**-0.3**
GEDZ	**Gediz**	**0.38**	**98**	*e*Pg	**Pb**	**10 32 05.4**	**-0.3**
TVSB	**Tavsanli**	**0.54**	**50**	*e*PG	**Pg**	**10 32 07.1**	**-0.4**
TVSB				*e*SG	**Sg**	**10 32 14.0**	**-0.7**
TVSB	**Tavsanli**	**0.54**	**50**	*e*Pg	**Pg**	**10 32 07.1**	**-0.4**
TVSB				*e*Sg	**Sg**	**10 32 14.0**	**-0.7**
KULA	**Kula-Manisa**	**0.62**	**199**	*e*PG	**Pg**	**10 32 09.8**	**+0.8**
KULA	**Kula-Manisa**	**0.62**	**199**	*e*Pg	**Pg**	**10 32 09.8**	**+0.8**
MANT	**Manisa**	**0.67**	**205**	*i* P	Pg	10 32 03.6	-6.3
MANT				*i* S	**Sg**	**10 32 12.1**	**-6.7**
AKS	**Akhisar**	**0.89**	**256**	*e*PG	**Pb**	**10 32 14.9**	**+0.6**
AKS	**Akhisar**	**0.89**	**256**	*e*Pg	**Pb**	**10 32 15.0**	**+0.6**
KHL	**Karahalli**	**0.91**	**149**	*e*PG	**Pg**	**10 32 14.9**	**+0.6**
KHL	**Karahalli**	**0.91**	**149**	*e*Pg	**Pg**	**10 32 15.0**	**+0.6**
ORLT	**Orhaneli**	**0.94**	**359**	*e*PG	**Pg**	**10 32 14.2**	**-0.9**
ORLT	**Orhaneli**	**0.94**	**359**	*e*Pg	**Pg**	**10 32 14.2**	**-0.9**
IGD	**Bursa**	**1.18**	**10**	*i* P	**Pb**	**10 32 19.1**	**-0.2**
IGD				*i* S	**Sb**	**10 32 34.4**	**-0.1**
BALY	**Balya**	**1.20**	**303**	*i* P	Pg	10 32 11.8	-8.1
BALY				*i* S	**Sn**	**10 32 37.4**	**+1.6**
KCTX	**Karacabey (Bur**	**1.24**	**340**	*e*PN	**Pn**	**10 32 20.7**	**+0.5**
KCTX	**Karacabey (Bur**	**1.24**	**340**	*e*Pn	**Pn**	**10 32 20.7**	**+0.5**
MDNY	**Mudanya-Bursa**	**1.27**	**359**	*e*PN	**Pn**	**10 32 20.9**	**+0.4**
MDNY	**Mudanya-Bursa**	**1.27**	**359**	*e*Pn	**Pn**	**10 32 20.9**	**+0.4**
BORA	**Eskisehir**	**1.42**	**56**	*i* P	**Pg**	**10 32 23.5**	**-0.6**
BORA				*i* S	**Sn**	**10 32 41.8**	**+0.5**
BORA	**Eskisehir**	**1.42**	**56**	P	**Pg**	**10 32 23.5**	**-0.6**
BORA				S	**Sn**	**10 32 41.8**	**+0.5**
ARMT	**Armutlu**	**1.46**	**358**	*e*PN	**Pg**	**10 32 25.0**	**0.0**
ARMT	**Armutlu**	**1.46**	**358**	*e*Pn	**Pg**	**10 32 25.0**	**0.0**
EDC	**Edincik**	**1.49**	**327**	*e*PN	**Pg**	**10 32 25.5**	**0.0**
EDC	**Edincik**	**1.49**	**327**	*e*Pn	**Pg**	**10 32 25.5**	**0.0**
SBT5	**Esenkoy-Cinarc**	**1.53**	**359**	*e*PN	**Pg**	**10 32 25.9**	**-0.3**
SBT5	**Esenkoy-Cinarc**	**1.53**	**359**	*e*Pn	**Pg**	**10 32 25.9**	**-0.3**
ESKT	**Eskisehir**	**1.55**	**74**	*e*PN	**Pg**	**10 32 26.5**	**-0.2**
ESKT	**Eskisehir**	**1.55**	**74**	*i* P	**Pb**	**10 32 26.1**	**+0.4**
ESKT	**Eskisehir**	**1.55**	**74**	*e*Pn	**Pg**	**10 32 26.5**	**-0.2**
SEYT	**Eskypehyr**	**1.55**	**74**	P	**Pb**	**10 32 26.1**	**+0.5**
GULT	**Gulveren**	**1.81**	**42**	*e*PN	**Pb**	**10 32 29.5**	**-0.5**
GULT	**Gulveren**	**1.81**	**42**	*e*Pn	**Pb**	**10 32 29.5**	**-0.5**
SAHE	**Sakarya_HENDEK**	**2.29**	**40**	*i* P	**Pb**	**10 32 39.0**	**+0.7**
SAHE				*i* S	**Sg**	**10 33 10.6**	**+0.1**
SAHE	**Sakarya_HENDEK**	**2.29**	**40**	P	**Pb**	**10 32 39.0**	**+0.7**

ISCJB ***20*** *10:53:20.7±1.0,34.17N±0.06×141.64E±0.10,h24km, mb3.6/4,Error ellipse: s-maj=11.5km s-min=7.8km az=170.1*
JMA ***20*** *10:53:21.5±0.6,34.16N×141.54E,h19km,M3.1*
IDC ***20*** *10:53:24.3±7.4,34.11N×141.60E,h37km±55km,mb3.4/4, mb1 3.6/5,mb1mx3.4/34,mbtmp3.6/5,ML3.3/1,MS2.5/1, Ms1 2.5/1,ms1mx2.3/29,Error ellipse: s-maj=63.5km s-min=23.9km az=78.0*

ISC 20 10:53:22.4±1.4,34.10N±0.06×141.5E±0.1,h24km,n16, σ0°74/19,mb3.6/4,Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSO1	**Boso 1**	**0.70**	**322**	P	**Pb**	**10 53 34.4**	**-1.3**
BSO3	**Boso 3**	**1.08**	**310**	P	**Pn**	**10 53 41.8**	**0.0**
BSO4	**Boso 4**	**1.31**	**313**	P	**Pn**	**10 53 44.9**	**-0.2**
TATJ	**Tateyama 2**	**1.62**	**305**	P	**Pn**	**10 53 50.2**	**+0.7**
CHOJ	**Chosi**	**1.68**	**342**	P	**Pn**	**10 53 49.6**	**-0.7**
JHJ2	**Mitsune**	**1.72**	**235**	P	**Pb**	**10 53 52.4**	**-1.0**
JHJ	**Hachijo jima 2** 32nm,0.3s,baz=356,slow=21,SNR=1.9	**1.74**	**236**	Pn	**Pb**	**10 53 52.5**	**-1.3**
JHJ				Sn	**Sb**	**10 54 15.2**	**+0.1**
JIM2	47nm,0.3s,baz=261,slow=23,SNR=2.9 **Oshima 3**	**1.82**	**290**	P	**Pn**	**10 53 52.0**	**-0.3**
JIM2				*e*S	**Sn**	**10 54 14.8**	**+0.1**
JIZS	**Izushimoda**	**2.26**	**286**	P	**Pn**	**10 53 58.4**	**+0.1**
JOD2	**Odawara 2**	**2.31**	**301**	P	**Pn**	**10 53 58.6**	**-0.3**
MJAR	**Matsushiro Arr** 2.2nm,0.3s,baz=139,slow=13,SNR=11	**3.63**	**313**	Pn	**Pn**	**10 54 18.3**	**+1.1**
MJAR				LR	LR	10 55 45.3	
MAT	comp=Z,72nm,20.0s,baz=100,slow=39 **Matsushiro**	**3.63**	**313**	P	**Pn**	**10 54 18.0**	**+0.8**
MAT				*e*S	**Sn**	**10 54 59.4**	**0.0**
SONM	**Songino Array** 0.9nm,0.6s,baz=108,slow=9.5,SNR=2.8	**29.57**	**308**	P	**P**	**10 59 26.6**	**+1.1**
MKAR	**Makanchi Array** 0.3nm,0.5s,baz=90,slow=9.6,SNR=3.0	**45.79**	**305**	P	**P**	**11 01 42.2**	**+0.1**
WRA	**Warramunga Arr** 0.6nm,0.5s,baz=5.6,slow=7.5,SNR=7.6	**54.18**	**188**	P	**P**	**11 02 45.8**	**-0.1**
ASAR	**Alice Springs** 0.3nm,0.6s,baz=16,slow=8.9,SNR=3.8	**57.90**	**188**	P	**P**	**11 03 12.9**	**+0.4**

ISK ***20*** *11:07:04.8,40.28N×29.15E,h13km,ML2.3*
CSEM ***20*** *11:07:05.7±0.2,40.28N×29.12E,h5km,ML2.3,Error ellipse: s-maj=5.5km s-min=3.8km az=31.0*
DDA ***20*** *11:07:06.4,40.30N×29.15E,h7km,Md2.5*

ISC 20 11:07:05.9±1.0,40.28N±0.03×29.13E±0.03,h10km±7km, n26,σ0°67/38,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GEMT	**Gemlik**	**0.16**	**15**	*e*Pg	**Pg**	**11 07 08.8**	**-0.7**
GEMT				*e*SG	**Sg**	**11 07 12.5**	**+0.6**
GEMT	**Gemlik**	**0.16**	**15**	*e*Pg	**Pg**	**11 07 08.8**	**-0.7**
GEMT				*e*Sg	**Sg**	**11 07 12.5**	**+0.6**
MDNY	**Mudanya-Bursa**	**0.21**	**295**	*e*PG	**Pg**	**11 07 09.9**	**-0.4**
MDNY				*

WEL 20 11:09:40.7±0.8, 38.67S×175.88E, h152km±6km, ML3.1/14, 3C, Error ellipse: s-maj=8.3km s-min=5.2km az=90.0, North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BKZ	**Black Stump Fm**	**0.69**	**136**	⇑P	Pn	11 10 03.4	+0.1
BKZ	**Black Stump Fm**	**0.69**	**136**	⇑P	Pn	11 10 03.4	+0.1
BKZ				*e*S	Sn	11 10 20.6	-0.1
WNVZ	**Wahianoa**	**0.69**	**199**	Pn	Pn	11 10 03.7	+0.2
NMHZ	**Naumai**	**0.84**	**121**	*e*P	Pn	11 10 04.9	+0.5
NMHZ				AML	AML	11 10 25.3	
KWHZ	**Kaweka Forest**	**0.86**	**151**	PN	Pn	11 10 05.1	+0.5
KRHZ	**Kereru**	**1.04**	**159**	PN	Pn	11 10 06.2	+0.2
ARHZ	**Aropaoanui**	**1.05**	**125**	AML	AML	11 10 26.9	
PNHZ	**Pukenui**	**1.26**	**169**	*e*PN	Pn	11 10 08.7	+0.6
TSZ	**Takapari Road**	**1.39**	**177**	PN	Pn	11 10 09.7	+0.5
DVHZ	**Dannevirke**	**1.64**	**172**	PN	Pn	11 10 11.9	0.0
MRZ	**Mangatainoka R**	**2.00**	**187**	⇑PN	Pn	11 10 15.6	-0.3
MRZ				SN	Sn	11 10 42.1	-1.0
BFZ	**Birch Farm**	**2.03**	**172**	PN	Pn	11 10 16.4	+0.2
TIWZ	**Tintock**	**2.10**	**180**	PN	Pn	11 10 17.0	-0.1
OGWZ	**Otaki Gorge**	**2.21**	**194**	PN	Pn	11 10 18.1	-0.3
HOWZ	**Holdsworth Sta**	**2.24**	**187**	PN	Pn	11 10 18.1	-0.7
KIW	**Kapiti Island**	**2.31**	**199**	PN	Pn	11 10 18.7	-0.9
MTW	**Mount Morrison**	**2.50**	**187**	PN	Pn	11 10 20.9	-1.0
CAW	**Cannon Point**	**2.51**	**194**	PN	Pn	11 10 21.2	-0.9
NNZ	**Nelson**	**3.19**	**216**	*e*PN	Pn	11 10 28.6	-1.8
MQZ	**McQueen's Vall**	**5.59**	**205**	*e*SN	Sn	11 11 57.8	-7.4

*ISCJB **20** 11:15:15.7±1.0, 0.31N±0.08×120.23E±0.07, h55km, mb3.5/3, MS3.1/1, Error ellipse: s-maj=13.3km s-min=7.0km az=143.6*
*DJA **20** 11:15:15.4±1.3, 0.7N±4.2×12.0E±.9, h18km±12km, M4.4/6, mB4.9/1, mb4.8/1, MLv4.2/6, Mw(mB)4.1/1*
*IDC **20** 11:15:30.3±9.9, 0.28N×121.25E, h182km±95km, mb3.2/3, mb1 3.3/4, mb1mx3.1/37, mbtmp3.7/4, MS3.2/1, Ms1 3.2/1, ms1mx2.4/20, Error ellipse: s-maj=153.3km s-min=26.1km az=59.0*

ISC 20 11:15:17.4±1.1, 0.25N±0.09×120.28E±0.08, h55km, n12, σ2s43/16, mb3.7/3, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PCI	**Palu**	**1.23**	**201**	P	**Pn**	**11 15 37.5**	**-0.9**
PCI				S	**Sn**	**11 15 56.7**	**+2.6**
MRSI	**Marisa**	**1.68**	**82**	P	**Pn**	**11 15 44.3**	**0.0**
TTSI	**Tana Toraja**	**3.31**	**188**	P	**Pn**	**11 16 08.7**	**+2.0**
TTSI				S	**Sn**	**11 16 47.9**	**+3.0**
BKB	**Balikpapan**	**3.70**	**246**	P	**Pn**	**11 16 10.0**	**-2.1**
KMSI	**Cibinong**	**3.71**	**85**	P	**Pn**	**11 16 13.4**	**+1.1**
KMSI				S	**Sn**	**11 16 57.0**	**+2.2**
SPSI	**Sidrap Palu**	**4.22**	**187**	P	**Pn**	**11 16 19.0**	**-0.2**
KDI	**Kendari**	**4.79**	**151**	P	**Pn**	**11 16 27.9**	**+0.8**
SANI	**Sanana**	**6.15**	**112**	P	**Pn**	**11 16 43.9**	**-1.8**
FITZ	**Fitzroy Crossi**	**18.99**	**164**	P	**P**	**11 19 34.5**	**0.0**
	0.1nm,0.3s,baz=353,slow=8.1,SNR=2.2						
WRA	**Warramunga Arr**	**24.34**	**146**	P	**P**	**11 20 27.7**	**-2.6**
	2.7nm,0.7s,baz=332,slow=9.6,SNR=16						
ASAR	**Alice Springs**	**27.21**	**152**	P	**P**	**11 20 53.8**	**-2.5**
	0.4nm,0.6s,baz=336,slow=11,SNR=4.7						
ASAR				PcP	**PcP**	**11 24 11.1**	**-4.4**
	0.2nm,0.4s,baz=344,slow=2.5,SNR=4.7						
ASAR				LR	LR	11 34 28.8	
	comp=Z,49nm,20.2s,baz=151,slow=42						
MKAR	**Makanchi Array**	**57.00**	**330**	P	**P**	**11 25 00.4**	**+2.9**
	0.5nm,0.6s,baz=116,slow=8.2,SNR=4.1						

JMA 20 11:22:21.1±0.2, 37.97N×144.28E, h19km, M3.5, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OFUJ	**Ofunato**	**2.33**	**299**	P	Pn	11 22 59.6	+1.2
JIO	**Ouri**	**2.36**	**283**	P	Pn	11 22 59.8	+1.0
JIO				S	Sn	11 23 28.5	+1.3
MIYJ	**Miyakonagasawa**	**2.50**	**311**	P	Pn	11 23 01.7	+0.9
MIYJ				S	Sn	11 23 32.5	+1.7
JMK	**Ichinoseki**	**2.59**	**293**	P	Pn	11 23 03.7	+1.7
JMK				S	Sn	11 23 35.0	+2.0
JOM	**Ohasama**	**2.78**	**304**	P	Pn	11 23 06.2	+1.6
JOM				*e*S	Sn	11 23 39.6	+2.1
JOU	**Okura**	**2.88**	**279**	*e*S	Sn	11 23 41.9	+1.9
JFT	**Otama**	**3.16**	**263**	S	Sn	11 23 47.7	+0.7
JRG	**Rokugo**	**3.19**	**298**	P	Pn	11 23 12.5	+2.3
JRG				*e*S	Sn	11 23 51.3	+3.6
JANG	**Nango**	**3.22**	**319**	P	Pn	11 23 12.1	+1.4
JANG				*e*S	Sn	11 23 49.9	+1.4
JYK	**Kaneyama**	**3.22**	**288**	P	Pn	11 23 12.4	+1.7
JRY	**Ryogami san**	**4.73**	**247**	S	Sn	11 24 22.5	-3.2
NEM2	**Nemuro 2**	**5.50**	**11**	*e*S	Sn	11 24 38.6	-6.1

*SOF **20** 11:28:41.9, 42.22N×25.68E, h15km, MD3.0*
*CSEM **20** 11:28:42.4±0.3, 42.17N×25.72E, h2km, ML2.4, Error ellipse: s-maj=8.4km s-min=4.1km az=45.0*
*ATH **20** 11:28:42.6, 42.15N×25.73E, h16km±2km, ML2.2/3, Error ellipse: s-maj=4.4km s-min=1.6km az=197.0*
*THE **20** 11:28:43.5, 42.10N×25.78E, h1km±2km, ML2.4/5, Error ellipse: s-maj=2.6km s-min=1.0km az=28.0*
*BEO **20** 11:28:47.3±1.6, 42.05N×25.38E, h12km, M2.1/4*

ISC 20 11:28:41.9±1.2, 42.19N±0.02×25.74E±0.02, h4km±11km, n47, σ0s81/69, 4D, Bulgaria

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DIM	**Dimitrovgrad**	**0.21**	**228**	*i* Pg	**Pg**	**11 28 46.7**	**+0.7**
KDZ	**Kurdzhali**	**0.59**	**204**	*i* Pg	**Pb**	**11 28 54.4**	**-0.4**
JMB	**Yambol**	**0.68**	**66**	*i* Pg	**Pb**	**11 28 56.1**	**-0.3**
PLD	**Plovdiv**	**0.78**	**264**	*i* Pg	**Pg**	**11 28 57.0**	**+0.2**
EDRB	**Edirne**	**0.82**	**114**	P	**Pg**	**11 28 58.2**	**+0.6**
EDRB				S	**Sg**	**11 29 08.6**	**+0.3**
EDRB	**Edirne**	**0.82**	**114**	P	**Pg**	**11 28 58.2**	**+0.6**
EDRB				S	**Sg**	**11 29 08.6**	**+0.3**
RZN	**Rozhen**	**0.92**	**237**	*i* Pg	**Pg**	**11 28 59.6**	**+0.1**
RDO	**Rodhopi**	**1.05**	**188**	P	**Pg**	**11 29 01.8**	**-0.3**
RDO				S	**Sg**	**11 29 15.5**	**-0.3**
RDO	**Rodhopi**	**1.05**	**188**	P	**Pg**	**11 29 01.8**	**-0.3**
RDO				S	**Sb**	**11 29 16.1**	**-0.8**
RDO	**Rodhopi**	**1.05**	**188**	P	**Pg**	**11 29 01.6**	**-0.4**
RDO				S	**Sb**	**11 29 16.1**	**-0.8**
RDO				AML	AML	11 29 17.6	
	comp=E,422μm,0.3s						
RDO				AML	AML	11 29 18.8	
	comp=N,620μm,0.3s						
PVL	**Pavlikeni**	**1.07**	**344**	*i* P	**Pg**	**11 28 59.8**	**-2.6**
SZH	**Strazhica**	**1.08**	**7**	*i* P	**Pn**	**11 29 05.2**	**+1.3**
ALN	**Alexandroupoli**	**1.31**	**170**	P	**Pg**	**11 29 06.8**	**-0.2**
ALN				S	**Sg**	**11 29 23.8**	**-0.2**
ALN	**Alexandroupoli**	**1.31**	**170**	P	**Pg**	**11 29 06.8**	**-0.2**
ALN				S	**Sb**	**11 29 24.1**	**-0.2**
ALN	**Alexandroupoli**	**1.31**	**170**	P	**Pb**	**11 29 07.3**	**+0.2**
ALN				S	**Sb**	**11 29 24.3**	**0.0**
ALN				AML	AML	11 29 25.9	
	comp=N,120μm,0.3s						
ALN				AML	AML	11 29 26.5	
	comp=E,130μm,0.2s						
KAVA	**Kavala**	**1.51**	**218**	P	**Pn**	**11 29 09.8**	**+0.1**
KAVA				S	**Sg**	**11 29 30.1**	**-0.2**
KAVA	**Kavala**	**1.51**	**218**	P	**Pn**	**11 29 10.0**	**+0.3**
KAVA				S	**Sg**	**11 29 30.1**	**-0.2**
KAVA	**Kavala**	**1.51**	**218**	P	**Pn**	**11 29 10.0**	**+0.3**
MMB	**Musomiste**	**1.62**	**249**	P	**Pn**	**11 29 11.3**	**0.0**
NVR	**Nevrokopi**	**1.64**	**240**	P	**Pb**	**11 29 12.6**	**-0.1**
NVR				S	**Sg**	**11 29 34.9**	**+0.4**
NVR	**Nevrokopi**	**1.64**	**240**	P	**Pb**	**11 29 12.6**	**-0.1**
NVR				S	**Sg**	**11 29 34.9**	**+0.4**
NVR	**Nevrokopi**	**1.64**	**240**	P	**Pb**	**11 29 12.8**	**+0.1**
NVR				S	**Sg**	**11 29 34.9**	**+0.4**
NVR				AML	AML	11 29 38.3	
	comp=E,108μm,0.3s						
NVR				AML	AML	11 29 38.6	
	comp=N,152μm,0.3s						
SMTH	**Samothraki Isl**	**1.73**	**185**	P	**Pn**	**11 29 12.7**	**0.0**
SMTH				S	**Sb**	**11 29 35.9**	**-0.3**
SMTH	**Samothraki Isl**	**1.73**	**185**	P	**Pn**	**11 29 13.3**	**+0.6**
SMTH				S	**Sb**	**11 29 35.9**	**-0.3**
SMTH	**Samothraki Isl**	**1.73**	**185**	P	**Pn**	**11 29 13.2**	**+0.5**
MPEP	**Malo Peshtene**	**1.88**	**309**	P	**Pn**	**11 29 14.8**	**0.0**
VTS	**Vitosha**	**1.92**	**283**	P	**Pn**	**11 29 16.6**	**+1.1**
VTS	**Vitosha**	**1.92**	**283**	⇓*i*Pg	**Pb**	**11 29 17.1**	**-0.5**
VTS				*e*Sg	**Sn**	**11 29 40.0**	**-0.2**
VTS	**Vitosha**	**1.92**	**283**	P	**Pb**	**11 29 16.9**	**-0.7**
VTS	**Vitosha**	**1.92**	**283**	P	**Pn**	**11 29 16.6**	**+1.1**
VTS	**Vitosha**	**1.92**	**283**	⇓*i*Pg	**Pb**	**11 29 17.1**	**-0.5**
VTS				*e*Sg	**Sn**	**11 29 40.0**	**-0.2**
SRS	**Serrai**	**1.94**	**237**	P	**Pn**	**11 29 16.3**	**+0.7**
SRS	**Serrai**	**1.94**	**237**	P	**Pn**	**11 29 16.3**	**+0.7**
SRS	**Serrai**	**1.94**	**237**	P	**Pb**	**11 29 17.1**	**-0.6**
GADA	**Gvkgeada**	**2.00**	**177**	P	**Pn**	**11 29 15.9**	**-0.6**
GADA	**Gvkgeada**	**2.00**	**177**	P	**Pn**	**11 29 15.9**	**-0.6**
KKB	**Krupnik**	**2.01**	**262**	Pg	**Pb**	**11 29 18.8**	**-0.2**
LIA	**Limnos Island**	**2.33**	**191**	P	**Pn**	**11 29 21.6**	**+0.6**
LIA	**Limnos Island**	**2.33**	**191**	P	**Pn**	**11 29 21.6**	**+0.6**
LIA	**Limnos Island**	**2.33**	**191**	P	**Pn**	**11 29 20.7**	**-0.3**
ZAPS	**Zavoj**	**2.53**	**296**	*e*Pg	**Pg**	**11 29 30.7**	**+0.3**
ZAPS				*e*Sg	**Sg**	**11 30 02.2**	**-1.1**
BARS	**Barje**	**2.97**	**283**	⇓*i*Pn	**Pn**	**11 29 31.6**	**+1.8**
BARS				*e*Sg	**Sg**	**11 30 16.2**	**-1.1**
BARS	**Barje**	**2.97**	**283**	⇓*i*Pn	**Pn**	**11 29 31.6**	**+1.8**
BARS				*e*Sg	**Sg**	**11 30 16.2**	**-1.1**
ZAGS	**Zajecar**	**3.04**	**303**	*e*Pn	**Pn**	**11 29 33.3**	**+2.5**
ZAGS				*e*Sg	**Sg**	**11 30 20.3**	**+0.7**
ZAGS	**Zajecar**	**3.04**	**303**	*e*Pn	**Pn**	**11 29 33.3**	**+2.5**
ZAGS				*e*Sg	**Sg**	**11 30 20.3**	**+0.7**
KUBS	**Kucevo**	**3.71**	**308**	*e*Sg	**Sg**	**11 30 41.2**	**+0.2**
KUBS	**Kucevo**	**3.71**	**308**	*e*Sg	**Sg**	**11 30 41.2**	**+0.2**

DJA 20 12:11:19.0±1.2, 5°S±11°×10°3E±°, h54km±21km, M3.7/4, MLv3.7/4, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MNAI	**Manna**	**0.84**	**29**	P	Pn	12 11 35.8	+1.0
MNAI				S	Sn	12 11 47.5	+1.1
KSI	**Kapahiang**	**1.44**	**2**	P	Pn	12 11 42.5	-0.3
LWLI	**Liwa**	**1.52**	**87**	P	Pn	12 11 44.7	+0.8
LWLI				S	Sn	12 12 00.3	-2.3
KASI	**Kota Agung**	**1.99**	**102**	P	Pn	12 11 49.2	-1.1
KASI				S	Sn	12 12 12.5	-1.6
KLSI		**2.22**	**80**	P	Pn	12 11 53.8	+0.4
KLSI				S	Sn	12 12 20.1	+0.4

*NNC **20** 12:12:26.4±0.9, 38.76N×70.30E, h0km, mb4.1, mpv3.9, Error ellipse: s-maj=10.3km s-min=2.6km az=156.0*
*KRNET **20** 12:12:26.6±0.1, 39.11N×70.05E, mb3.4*
*ISCJB **20** 12:12:28.4±0.9, 38.89N±0.07×70.21E±0.05, h13km, Error ellipse: s-maj=10.4km s-min=4.6km az=159.0*

ISC 20 12:12:28.4±1.2, 39.03N±0.07×70.17E±0.05, h13km, n17, σ3s26/33, 18C-13D, Tajikistan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZET	**Dzherino**	**1.07**	**258**	⇑P	**Pb**	**12 12 48.2**	**-0.7**
	96nm,0.4s						
DZET				⇓S	**Sn**	**12 13 04.7**	**+0.7**
	294nm,0.4s						
BTK	**Batken**	**1.15**	**26**	⇑*e*P	**Pb**	**12 12 48.3**	**-1.8**
	baz=32						
BTK				⇑*e*S	**Sg**	**12 13 04.5**	**-0.9**
	baz=32						
OHH	**Osh**	**2.51**	**53**	⇑*i*P	**Pb**	**12 13 11.3**	**-2.1**
	baz=55						
OHH				⇑*e*S	**Sb**	**12 13 43.8**	**-0.4**
	baz=55						
ARK	**Arkit**	**3.09**	**26**	⇑*e*P	**Pn**	**12 13 18.7**	**+1.8**
	baz=28						
ARK				⇑*e*S	**Sn**	**12 13 56.0**	**+2.2**
	baz=28						
MNAS	**Manas**	**3.88**	**26**	⇓*e*P	**Pn**	**12 13 29.3**	**+1.4**
	baz=28						
MNAS				⇓*e*S	**Sn**	**12 14 14.9**	**+1.4**
	baz=28						
MNAS	**Manas**	**3.88**	**26**	⇓Pn	**Pn**	**12 13 30.7**	**+2.8**
	13nm,0.4s						
MNAS				⇓Sn	**Sb**	**12 14 19.9**	**-3.9**
	42nm,0.9s						
KK31	**Karatay Array**	**4.08**	**4**	Pn	**Pn**	**12 13 33.8**	**+3.3**
	2.9nm,0.3s,baz=134,slow=35,SNR=45						
KK31				⇑Sn	**Sb**	**12 14 26.0**	**-3.3**
	7.1nm,0.4s,baz=174,slow=20,SNR=3.7						
AML	**Almayashu**	**4.10**	**40**	⇑*i*P	**Pn**	**12 13 33.3**	**+2.2**
	baz=41						
AML				⇑*i*S	**Sb**	**12 14 25.3**	**-5.0**
	baz=41						
EKS2	**Erkin-Say**	**4.55**	**36**	⇑*i*P	**Pn**	**12 13 40.0**	**+3.0**
	baz=37						
EKS2				⇑*i*S	**Sb**	**12 14 36.9**	**-5.9**
	baz=37						
UCH	**Uchtor**	**4.60**	**45**	⇓*i*P	**Pn**	**12 13 39.8**	**+1.8**
	baz=46						
UCH				⇓*i*S	**Sn**	**12 14 36.4**	**+4.9**
	baz=46						
AAK	**Ala-Archa**	**4.88**	**41**	⇓Pn	**Pn**	**12 13 43.9**	**+2.3**
	10nm,0.6s						
AAK				⇓Sn	**Sn**	**12 14 43.6**	**+5.7**
	17nm,0.7s						
KZA	**Kyzart**	**4.92**	**50**	⇓*i*P	**Pn**	**12 13 44.3**	**+1.8**
	baz=52						
KZA				⇓*i*S	**Sn**	**12 14 44.8**	**+5.3**
	baz=52						
NRN	**Naryn**	**5.07**	**60**	⇑*i*P	**Pn**	**12 13 46.3**	**+1.9**
	baz=61						
NRN				⇑*i*S	**Sn**	**12 14 44.9**	**+2.0**
	baz=61						
TKM2	**Tokmak 2**	**5.66**	**45**	⇑Pn	**Pn**	**12 13 53.8**	**+1.5**
	12nm,0.5s						
TKM2				⇑Sn	**Sn**	**12 15 02.0**	**+4.7**
	10.0nm,0.8s						
PDGK	**Podgornoye**	**8.24**	**56**	⇑Pn	**Pn**	**12 14 27.6**	**-0.1**
	0.8nm,0.3s						
AB31	**Akbulak array**	**12.57**	**328**	Pn	**Pn**	**12 15 27.4**	**+0.5**
	1.4nm,0.6s,baz=141,slow=12,SNR=46						
AB31				⇑Sn	**Sn**	**12 17 46.0**	**-0.7**
	3.3nm,0.6s,baz=154,slow=23,SNR=9.9						
AKTO	**Aktyubinsk**	**14.28**	**327**	⇓Pn	**P**	**12 15 53.9**	**-3.5**
	6.1nm,1.1s						
AKTO				⇓Sn	**Sn**	**12 18 34.5**	**+6.1**
	5.6nm,0.8s						

MAN 20 12:14:57, 9.35N×122.26E, h6km, mb4.9, ML3.9, MS3.9, 1C-5D, Negros

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SNPH	**Sibulan**	**0.97**	**90**	⇓*i*P	Pb	12 15 16.5	+0.3
SNPH				*i* S	Sn	12 15 31.1	-0.1
GUIM	**Jordan**	**1.31**	**14**	*e*P	Pb	12 15 22.0	-0.1
GUIM				*e*S	Sn	12 15 41.5	+1.9
DCPH	**Dipolog City**	**1.32**	**125**	⇓*e*P	Pn	12 15 21.3	-0.8
DCPH				*e*S	Sb	12 15 39.1	-0.4
JAP	**San Jose, Anti**	**1.42**	**348**	⇓*e*P	Pg	12 15 24.7	+0.4
TBP	**Tagbilaran**	**1.62**	**78**	⇓*i*P	Pg	12 15 31.4	+3.4
TBP				*i* S	Sg	12 15 54.4	+5.3
PAGZ	**Pagadian**	**1.86**	**143**	*e*P	Pb	12 15 31.5	+0.1
PAGZ				*e*S	Sb	12 15 55.3	+0.2
LLP	**Lapu-Lapu**	**1.94**	**60**	*e*P	Pb	12 15 31.7	-1.1
LLP				*e*S	Sn	12 15 56.1	+0.9
RCP	**Roxas**	**2.25**	**12**	⇑*e*P	Pb	12 15 37.9	-0.1
RCP				*e*S	Sb	12 16 07.4	+1.3
CGP	**Cagayan de Oro**	**2.57**	**110**	⇓*e*P	Pn	12 15 40.8	+1.7
CGP				*e*S	Sn	12 16 12.1	+1.4
CTBH	**Cotabato--PC H**	**2.89**	**137**	*e*P	Pn	12 15 45.9	+2.3
CTBH				*i* S	Sb	12 16 25.4	+0.8
OTRP	**Odiongan**	**3.00**	**356**	*e*P	Pn	12 15 47.3	+2.1
OTRP				*e*S	Sn	12 16 24.4	+2.9
BUSP	**Coron**	**3.32**	**323**	*e*P	Pn	12 15 50.2	+0.7
BUSP				*e*S	Sn	12 16 27.5	-1.9
ENPP	**El Nido**	**3.34**	**304**	*e*P	Pn	12 15 50.5	+0.7

*ISCJB **20** 12:20:08.8±0.4, 40.42N±0.03×27.54E±0.04, h14km±3km, Error ellipse: s-maj=5.3km s-min=4.5km az=28.6*
*CSEM **20** 12:20:08.8±0.1, 40.40N×27.52E, h12km, MD2.5, Error ellipse: s-maj=2.4km s-min=2.2km az=146.0*
*DDA **20** 12:20:08.3, 40.39N×27.49E, h22km, Md2.5*
*ISK **20** 12:20:08.4, 40.43N×27.51E, h13km, MD2.5*

ISC 20 12:20:08.6±0.8, 40.41N±0.02×27.51E±0.03, h15km±6km, n27, σ0s35/38, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KNL	**Bal˜–kesir**	**0.14**	**175**	*i* P	**Pb**	**12 20 14.0**	**+1.1**
KNL				*i* S	**Sb**	**12 20 16.2**	**+0.4**
KRBG	**Karabiga-Canak**	**0.16**	**265**	*e*PG	**Pg**	**12 20 12.6**	**-0.1**
KRBG				*e*SG	**Sg**	**12 20 15.6**	**+0.3**
KRBG	**Karabiga-Canak**	**0.16**	**265**	*e*Pg	**Pg**	**12 20 12.6**	**-0.1**
KRBG				*e*Sg	**Sg**	**12 20 15.6**	**+0.3**
MRMT	**Marmara Adasi**	**0.20**	**18**	*e*PG	**Pg**	**12 20 13.6**	**+0.3**
MRMT				*e*SG	**Sg**	**12 20 15.9**	**-0.6**
MRMT	**Marmara Adasi**	**0.20**	**18**	*e*Pg	**Pg**	**12 20 13.6**	**+0.3**
MRMT				*e*Sg	**Sg**	**12 20 15.9**	**-0.6**
EDC	**Edincik**	**0.28**	**103**	*e*PG	**Pg**	**12 20 14.2**	**-0.2**
EDC	**Edincik**	**0.28**	**103**	*e*Pg	**Pg**	**12 20 14.3**	**-0.2**
SART	**Tekirdag**	**0.38**	**318**	*i* P	**Pb**	**12 20 17.1**	**+0.1**
SART				*i* S	**Sb**	**12 20 22.4**	**-0.3**
SBT3	**Marmara-Eregli**	**0.59**	**36**	*e*PG	**Pb**	**12 20 20.6**	**+0.1**
SBT3				*e*SG	**Sb**	**12 20 29.0**	**+0.4**
SBT3	**Marmara-Eregli**	**0.59**	**36**	*e*Pg	**Pb**	**12 20 20.6**	**+0.1**
SBT3				*e*Sg	**Sb**	**12 20 29.0**	**+0.4**
KCTX	**Karacabey (Bur**	**0.66**	**102**	*e*PG	**Pb**	**12 20 22.0**	**+0.2**
KCTX	**Karacabey (Bur**	**0.66**	**102**	*e*Pg	**Pb**	**12 20 22.0**	**+0.2**
BALY	**Balya**	**0.67**	**173**	*i* P	**Pg**	**12 20 21.6**	**-0.1**
BALY				*i* S	**Sb**	**12 20 30.7**	**-0.5**
BALY	**Balya**	**0.67**	**173**	P	**Pg**	**12 20 21.6**	**-0.1**
BALY				S	**Sb**	**12 20 30.7**	**-0.5**
BALB	**Balikesir**	**0.82**	**160**	*e*PG	**Pn**	**12 20 25.1**	**-0.4**
BALB	**Balikesir**	**0.82**	**160**	*e*Pg	**Pn**	**12 20 25.1**	**-0.4**
ARMT	**Armutlu**	**1.04**	**81**	*e*PG	**Pn**	**12 20 28.9**	**+0.3**
ARMT	**Armutlu**	**1.04**	**81**	*e*Pg	**Pn**	**12 20 28.9**	**+0.3**
SBT5	**Esenkoy-Cinarc**	**1.07**	**78**	*e*PG	**Pb**	**12 20 28.6**	**-0.1**
SBT5	**Esenkoy-Cinarc**	**1.07**	**78**	*e*Pg	**Pb**	**12 20 28.6**	**-0.1**
CTKS	**Kestanelik-??a**	**1.12**	**42**	*e*PN	**Pn**	**12 20 29.9**	**+0.2**
CTKS	**Kestanelik-??a**	**1.12**	**42**	*e*Pn	**Pn**	**12 20 29.9**	**+0.2**
ALN	**Alexandroupoli**	**1.22**	**294**	*e*PN	**Pg**	**12 20 31.9**	**-0.1**
ALN	**Alexandroupoli**	**1.22**	**294**	*e*Pn	**Pg**	**12 20 31.9**	**-0.1**
BOZC	**Bozcaada**	**1.25**	**244**	*e*PN	**Pb**	**12 20 32.0**	**+0.1**
BOZC	**Bozcaada**	**1.25**	**244**	*i* P	**Pb**	**12 20 32.0**	**+0.1**
BOZC				*i* S	**Sg**	**12 20 48.9**	**-0.2**
BOZC	**Bozcaada**	**1.25**	**244**	*e*Pn	**Pb**	**12 20 32.0**	**+0.1**

WEL 20 12:22:55.7±0.3, 36.80S×176.68E, h232km±4km, ML3.7/11, 3C-2D, Error ellipse: s-maj=7.3km s-min=6.9km az=90.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OPRZ	**Ohinepanea**	**1.05**	**185**	*e*PN	Pn	12 23 31.1	+2.0
HAZ	**Te Kaha**	**1.30**	**138**	⇑PN	Pn	12 23 31.0	+0.2
HAZ				SN	S	12 23 58.1	-0.2
HAZ				AML	AML	12 24 05.1	
RUGZ	**Raukumara Rang**	**1.41**	**146**	PN	Pn	12 23 31.5	-0.3
RUGZ				SN	S	12 23 59.3	-0.8
URZ	**Urewera**	**1.50**	**167**	PN	Pn	12 23 32.6	+0.3
URZ				SN	S	12 24 01.5	+0.4
PKGZ	**Pakihiroa**	**1.56**	**135**	PN	Pn	12 23 33.2	+0.3
MWZ	**Matawai**	**1.68**	**157**	PN	Pn	12 23 34.0	+0.2
MWZ				*e*SN	S	12 24 03.5	-0.2
MUGZ	**Murupara**	**1.68**	**178**	PN	Pn	12 23 34.1	+0.3
WMGZ	**Waiomatatini S**	**1.72**	**127**	PN	Pn	12 23 34.3	+0.2
WMGZ				*e*SN	S	12 24 03.7	-0.6
WMGZ				AML	AML	12 24 06.8	
PUZ	**Puketiti**	**1.79**	**136**	PN	Pn	12 23 34.6	-0.2
RTZ	**Ruatahuna**	**1.83**	**173**	PN	Pn	12 23 35.3	+0.1
TKGZ	**Te Karaka**	**1.88**	**151**	PN	Pn	12 23 35.5	-0.1
TKGZ				AML	AML	12 24 09.7	
TKGZ				AML	AML	12 24 09.9	
SNGZ	**Shannon Statio**	**2.05**	**165**	PN	Pn	12 23 37.3	+0.1
SNGZ				AML	AML	12 24 12.3	
SNGZ				AML	AML	12 24 14.9	
CNGZ	**Carnagh Statio**	**2.08**	**145**	PN	Pn	12 23 37.6	+0.2
RIGZ	**Rimuhau**	**2.09**	**156**	⇓PN	Pn	12 23 37.7	+0.1
RIGZ				AML	AML	12 24 13.9	
RIGZ				AML	AML	12 24 14.3	
NMHZ	**Naumai**	**2.30**	**178**	PN	Pn	12 23 40.2	+0.5
NMHZ				AML	AML	12 24 21.4	
BKZ	**Black Stump Fm**	**2.37**	**184**	⇑PN	Pn	12 23 39.0	-0.6
BKZ				SN	S	12 24 14.7	-0.8
ARHZ	**Aropaoanui**	**2.48**	**174**	PN	Pn	12

MKAR	**Makanchi Array**	**11.02**	**12**	Pn		Pn		12 39 23.6	-4.8
	0.6nm,0.3s,baz=193,slow=14,SNR=22								
KURBB	**Kurchatov Arra**	**14.57**	**359**	Pn		Pn		12 40 12.7	-4.2
	baz=183,slow=10,SNR=4.0								
GTA	**Gaotai**	**16.81**	**72**	*e*P		**P**		**12 40 55.5**	**+7.0**
GTA				pP		sP		12 40 59.8	+7.1
GTA				sP		pP		12 41 02.6	+11
GTA				pmax		pmax			
	comp=Z,4.0nm,1.3s								
BVAR	**Borovoye Array**	**18.02**	**343**	P		**Pn**		**12 40 58.5**	**-2.7**
	comp=Z,0.3nm,0.3s,baz=138,slow=8.9,SNR=5.3								
ZALV	**Zalesovo Beam**	**18.36**	**11**	P		**Pn**		**12 41 01.3**	**-4.0**
	comp=Z,0.3nm,0.3s,baz=188,slow=8.7,SNR=2.7								
ZALV				LR		LR		12 49 17.9	
	comp=Z,69nm,18.5s,baz=250,slow=42								
AB31	**Akbulak array**	**19.18**	**319**	Pn		**P**		**12 41 13.8**	**-0.6**
	comp=Z,1.0nm,0.6s,baz=122,slow=10,SNR=18								
AKTO	**Aktyubinsk**	**20.88**	**320**	P		**P**		**12 41 31.3**	**-1.6**
	comp=Z,1nm,0.3s,baz=110,slow=11,SNR=9.5								
WSAR	**Wadi Sarin**	**21.76**	**240**	LR		LR		12 53 20.0	
	comp=Z,45nm,18.7s,baz=246,slow=45								
SONM	**Songino Array**	**23.41**	**51**	P		**P**		**12 41 58.1**	**-1.9**
	comp=Z,0.3nm,0.4s,baz=253,slow=9.9,SNR=2.0								
FINES	**FINESS Array B**	**41.53**	**325**	P		**P**		**12 44 37.3**	**-0.7**
	comp=Z,3.1nm,0.9s,baz=106,slow=9.2,SNR=3.0								
TORD	**Torodi Ar. Bea**	**72.18**	**273**	P		**P**		**12 48 16.9**	**+0.7**
	comp=Z,0.3nm,0.3s,baz=49,slow=5.9,SNR=7.5								
ILAR	**Eielson Array**	**73.29**	**19**	P		**P**		**12 48 20.1**	**-1.9**
	comp=Z,1.0nm,1.1s,baz=323,slow=5.6,SNR=4.9								

*SJA **20** 12:37:44.8±0.6,31.˚48S×68.˚91W,h123km±3km,ML3.5, MW3.8*
*ISCJB **20** 12:37:45.0±0.8,31.˚49S±0.˚03×68.˚94W±0.˚05,h128km±7km, Error ellipse: s-maj=7.0km s-min=4.5km az=9.5*
*GUC **20** 12:37:45.9±0.5,31.˚44S×69.˚13W,h130km,ML3.6*
ISC 20 12:37:45.7±1.6,31.˚48S±0.˚03×68.˚94W±0.˚05, h123km±11km,n22,σ0.˚70/34,1C-2D,San Juan Province

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op		ISC	h m s	ISC
SJA	**San Juan**	**0.33**	**98**	*i* P		**Pn**	**12 38 02.5**	**-0.7**
SJA				*i* S		**Sn**	**12 38 16.1**	**-0.2**
SJA				IAML			12 38 18.5	
	comp=Z,1μm,0.2s							
RTCV	**Cerro Valdivia**	**0.51**	**138**	*i* P		**Pn**	**12 38 03.4**	**-0.7**
AMOG	**MOGNA**	**0.66**	**35**	*i* P		**Pn**	**12 38 04.7**	**-0.4**
AUSP	**Uspallata**	**0.83**	**207**	*i* P		**Pn**	**12 38 06.7**	**-0.1**
ACCO	**Cerro Coronel**	**0.90**	**353**	*i* P		**Pn**	**12 38 07.6**	**+0.1**
ACCO				IAML			12 38 24.5	
	comp=Z,1μm,0.3s							
ACCO				*i* S		**Sn**	**12 38 24.8**	**+1.0**
ASAL	**Salagasta**	**1.11**	**176**	*i* P		**Pn**	**12 38 09.2**	**+0.1**
ASAL				*i* S		**Sn**	**12 38 27.2**	**+0.3**
ACDV	**Cuesta del Vie**	**1.32**	**353**	*i* P		**Pn**	**12 38 11.8**	**+0.4**
ARCO	**CERRO ARCO**	**1.35**	**180**	*i* P		**Pn**	**12 38 11.9**	**+0.1**
ARCO				*i* S		**Sn**	**12 38 32.0**	**+0.2**
ARCO				IAML			12 38 38.6	
	comp=Z,339nm,0.3s							
AROD	**Rodeo**	**1.39**	**340**	*i* P		**Pn**	**12 38 13.1**	**+0.7**
AROD				*i* S		**Sn**	**12 38 33.5**	**+0.8**
AAGR	**Agrelo**	**1.60**	**177**	*i* P		**Pn**	**12 38 14.8**	**+0.2**
ACAN	**Cantantal**	**1.68**	**118**	*i* P		**Pn**	**12 38 15.6**	**+0.1**
ACHE	**Chepes**	**1.97**	**81**	*i* P		**Pn**	**12 38 18.8**	**-0.4**
AGUA	**GUANDACOL**	**2.03**	**11**	*i* P		**Pn**	**12 38 19.7**	**-0.1**
TLL	**Tololo Astrono**	**2.07**	**309**	⇑*i*P		**Pn**	**12 38 20.4**	**-0.1**
TLL				*i* S		**Sn**	**12 38 46.1**	**-0.9**
TLL				IAML			12 38 49.5	
	comp=N,501nm,0.5s							
FCH	**Farellones**	**2.17**	**212**	*e*P		**Pn**	**12 38 23.1**	**+1.4**
FCH				*i* S		**Sn**	**12 38 51.1**	**+1.9**
PEL	**Peldehue**	**2.22**	**221**	*e*P		**Pn**	**12 38 22.3**	**+0.2**
PEL				*i* S		**Sn**	**12 38 50.0**	**0.0**
PEL				IAML			12 38 53.3	
	comp=N,204nm,0.5s							
ROCH	**El Roble**	**2.30**	**229**	⇓*i*P		**Pn**	**12 38 22.7**	**-0.6**
ROCH				*i* S		**Sn**	**12 38 51.6**	**-0.5**
ROCH				IAML			12 38 55.1	
	comp=N,316nm,0.4s							
CLCH	**Cerro Calan**	**2.34**	**215**	*e*P		**Pn**	**12 38 23.5**	**-0.2**
CLCH				*i* S		**Sn**	**12 38 53.0**	**+0.3**
CLCH				IAML			12 39 00.5	
	comp=E,237nm,0.5s							
ANTU	**Antumapu**	**2.53**	**214**	*i* S		**Sn**	**12 38 57.0**	**+0.1**
RCDM	**Rinconada Maip**	**2.55**	**218**	*e*P		**Pn**	**12 38 24.5**	**-1.8**
RCDM				*i* S		**Sn**	**12 38 57.3**	**-0.2**
MRA	**San Martin**	**2.89**	**110**	*i* P		**Pn**	**12 38 30.6**	**-0.2**
MRA				IAML			12 39 04.7	
	comp=Z,106nm,0.6s							
LCO	**Las Campanas**	**2.90**	**328**	⇓*i*P		**Pn**	**12 38 31.1**	**0.0**
LCO				*i* S		**Sn**	**12 39 05.2**	**-0.7**
LCO				IAML			12 39 08.1	
	comp=N,248nm,0.3s							

*SOME **20** 12:40:07.8,44.˚40N×83.˚38E,h5km*
*NNC **20** 12:40:09.0±2.2,44.˚37N×83.˚24E,h0km,mb2.9,mpv2.5, Error ellipse: s-maj=22.4km s-min=12.0km az=119.0*
ISC 20 12:40:10.9±2.4,44.˚6N±0.˚1×83.˚2E±0.˚1,h10km,n6, σ1§93/10,3C-2D,Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op		ISC	h m s	ISC
MK31	**Makanchi Array**	**2.27**	**345**	Pn		**Pb**	**12 40 51.0**	**-1.0**
	0.9nm,0.6s,baz=53,slow=28,SNR=21							
MK31				⇑Pg		**Pg**	**12 40 54.7**	**+0.3**
	2.0nm,0.3s,baz=153,slow=17,SNR=5.5							
MK31				Lg		Lg	12 41 27.7	
	3.0nm,0.2s,baz=157,slow=27,SNR=8.9							
MAKZ	**Makanchi**	**2.35**	**340**	⇓Pn		**Pb**	**12 40 52.3**	**-1.1**
	0.8nm,0.6s							
MAKZ				⇑Pg		**Pg**	**12 40 56.5**	**+0.6**
	2.5nm,0.4s							
MAKZ				⇑Lg		Lg	12 41 31.2	
	7.3nm,0.6s							
DJR	**Jarkent**	**2.42**	**265**	*e*P		**Pg**	**12 40 56.9**	**-0.4**
	10nm,0.4s							
DJR				*e*S		**Sg**	**12 41 32.5**	**+3.8**
	30nm,0.5s							
PDGK	**Podgornoye**	**2.94**	**246**	⇓Lg		Lg	12 41 40.7	
	22nm,0.6s							
ZSN	**Zaisan**	**3.08**	**22**	*e*P		**Pb**	**12 41 06.7**	**+0.9**
	4.2nm,0.2s							
ZSN				*e*S		**Sg**	**12 41 49.2**	**-0.7**
	12nm,0.4s							
KPKS	**Kokpek**	**3.42**	**252**	*e*P		**Pb**	**12 41 11.7**	**+0.1**
	22nm,0.7s							
KPKS				*e*S		**Sg**	**12 41 57.9**	**-2.7**
	48nm,0.5s							

*CSEM **20** 12:45:36.5±0.5,71.˚09N×28.˚53E,h5km,ML2.8,Error ellipse: s-maj=10.8km s-min=9.3km az=94.0*
*IDC **20** 12:45:36.6±1.5,71.˚11N×28.˚43E,h0km,mb1 3.4/4, mb1mx3.1/40,mbtmp3.4/4,ML3.2/4,Error ellipse: s-maj=26.2km s-min=8.2km az=93.0*
*NAO **20** 12:45:37.0±1.0,71.˚06N×28.˚49E,ML2.8*
*BER **20** 12:45:38.1±3.2,71.˚06N×28.˚63E,h0km±12km,ML2.1, ML2.8(NAO)*
*UPP **20** 12:45:41.1,70.˚57N×29.˚61E,h0km,ML1.5*
ISC 20 12:45:36.2±1.2,71.˚17N±0.˚06×28.˚71E±0.˚06,h10km,n47, σ1§18/57,Northern Norway

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op		ISC	h m s	ISC
KEV	**Kevo**	**1.54**	**203**	Pg		**Pn**	**12 46 02.5**	**-1.1**
KEV				Lg		Lg	12 46 20.7	
KEV	**Kevo**	**1.54**	**203**	*e*P		**Pn**	**12 46 02.5**	**-1.1**
KEV				*e*S		**Sn**	**12 46 21.3**	**-2.2**
KEV	**Kevo**	**1.54**	**203**	*e*P		**Pn**	**12 46 02.5**	**-1.1**
	SNR=50							
KEV				Lg		Lg	12 46 20.7	
KEV				*e*S		**Sn**	**12 46 21.3**	**-2.2**
	SNR=50							
HAMF	**Hammerfest**	**1.74**	**255**	*e*P		**Pn**	**12 46 06.7**	**+0.4**
HAMF				*e*S		**Sn**	**12 46 27.8**	**-0.7**
HAMF				IAML			12 46 33.9	
	comp=Z,64nm,0.3s							
HAMF	**Hammerfest**	**1.74**	**255**	*e*P		**Pn**	**12 46 06.7**	**+0.4**
	SNR=50							
HAMF				*e*S		**Sn**	**12 46 27.8**	**-0.7**
	SNR=50							
ARA0	**ARCESS Array S**	**1.97**	**215**	Pn		**Pn**	**12 46 10.2**	**+0.6**
	baz=36,slow=18							
ARA0				Lg		Lg	12 46 34.3	
	baz=36,slow=28							
ARA0	**ARCESS Array S**	**1.97**	**215**	Pn		**Pn**	**12 46 10.2**	**+0.6**
	baz=36,slow=18							
ARA0				Lg		Lg	12 46 34.3	
	baz=36,slow=28							
ARA0	**ARCESS Array S**	**1.97**	**215**	Pn		**Pn**	**12 46 10.2**	**+0.6**
	SNR=720							
ARA0				Lg		Lg	12 46 34.3	
	SNR=5.1							
ARCES	**ARCESS Array B**	**1.97**	**215**	Pn		**Pn**	**12 46 10.1**	**+0.5**
	comp=Z,9.5nm,0.3s,baz=34,slow=14,SNR=157							
ARCES				Sn		**Sn**	**12 46 34.1**	**-0.2**
	comp=Z,21nm,0.3s,baz=34,slow=27,SNR=25							
ARE0	**ARCESS Array S**	**1.97**	**215**	*e*P		**Pn**	**12 46 10.1**	**+0.5**
ARE0				*e*Sg		**Sn**	**12 46 34.6**	**+0.3**
ARE0				IAML			12 46 36.3	
	comp=Z,33nm,0.3s							
ARE0	**ARCESS Array S**	**1.97**	**215**	*e*P		**Pn**	**12 46 10.1**	**+0.5**
	SNR=50							
ARE0				*e*Sg		**Sn**	**12 46 34.6**	**+0.3**
	SNR=90							
KTK1	**Kautokeino**	**2.87**	**223**	*e*P		**Pn**	**12 46 22.7**	**+0.8**
KTK1				IAML			12 47 04.0	
	comp=Z,11nm,0.3s							
KTK1	**Kautokeino**	**2.87**	**223**	*e*P		**Pn**	**12 46 22.7**	**+0.8**
	SNR=50							
HEF	**Hetta**	**3.28**	**215**	*e*P		**Pn**	**12 46 28.3**	**+0.7**
HEF				*e*S		**Sn**	**12 47 04.7**	**-2.0**
HEF				*e*Sg		**Sb**	**12 47 16.0**	**+1.6**
HEF	**Hetta**	**3.28**	**215**	*e*P		**Pn**	**12 46 28.3**	**+0.7**
	SNR=50							
HEF				*e*S		**Sn**	**12 47 04.7**	**-2.0**
	SNR=50							
KIF	**Kilpisjarvi**	**3.47**	**235**	Pn		**Pn**	**12 46 31.0**	**+0.9**
KIF				Sn		**Sn**	**12 47 10.3**	**-0.9**
KIF	**Kilpisjarvi**	**3.47**	**235**	Pn		**Pn**	**12 46 31.0**	**+0.9**
KIF				Sn		**Sn**	**12 47 10.3**	**-0.9**
KIF	**Kilpisjarvi**	**3.47**	**235**	Pn		**Pn**	**12 46 31.0**	**+0.9**
KIF				Sn		**Sn**	**12 47 10.3**	**-0.9**
APA0	**Apatity Array**	**3.89**	**155**	Pn		**Pn**	**12 46 36.0**	**+0.1**
APA0	**Apatity Array**	**3.89**	**155**	Pn		**Pn**	**12 46 36.0**	**+0.1**
APA0	**Apatity Array**	**3.89**	**155**	Pn		**Pn**	**12 46 36.0**	**+0.1**
APZ9	**Apatity**	**3.98**	**153**	Pn		**Pn**	**12 46 38.0**	**+0.8**
APZ9				Pg		**Pb**	**12 46 48.0**	**+1.7**
APZ9	**Apatity**	**3.98**	**153**	Pn		**Pn**	**12 46 38.0**	**+0.8**
APZ9				Pg		**Pb**	**12 46 48.0**	**+1.7**
APZ9	**Apatity**	**3.98**	**153**	Pn		**Pn**	**12 46 38.0**	**+0.8**
PAJU	**Pajala**	**4.62**	**208**	P		**Pn**	**12 46 46.9**	**+0.9**
PAJU				S		**Sn**	**12 47 36.7**	**-3.0**
ERTU	**Ertsjaerv**	**5.20**	**210**	P		**Pn**	**12 46 54.2**	**+0.3**
ERTU				S		**Sn**	**12 47 50.3**	**-3.6**
SJUU	**Sjulsmark**	**6.26**	**208**	P		**Pn**	**12 47 07.9**	**-0.6**
STOK	**Stokkvaagen**	**7.47**	**237**	*e*P		**Pn**	**12 47 25.9**	**+0.9**
STOK	**Stokkvaagen**	**7.47**	**237**	*e*P		**Pn**	**12 47 25.9**	**+0.9**
	SNR=47							
SVAU	**Svanoeiden**	**7.53**	**212**	P		**Pn**	**12 47 24.8**	**-1.1**
SPA0	**Spitsbergen Ar**	**7.73**	**341**	Pn		**Pn**	**12 47 29.1**	**+0.5**
	baz=141,slow=16							
SPA0	**Spitsbergen Ar**	**7.73**	**341**	Pn		**Pn**	**12 47 29.1**	**+0.5**
	baz=141,slow=16							
SPA0	**Spitsbergen Ar**	**7.73**	**341**	Pn		**Pn**	**12 47 29.1**	**+0.5**
	SNR=5.3							
SPITS	**Spitsbergen Ar**	**7.73**	**341**	Pn		**Pn**	**12 47 29.0**	**+0.3**
	baz=149,slow=16,SNR=12							
SPITS				Sn		**Sn**	**12 48 53.6**	**-2.5**
	baz=144,slow=30,SNR=2.2							
BREU	**Bredtraesk**	**8.26**	**213**	P		**Pn**	**12 47 35.5**	**-0.4**
FIA0	**FINESS Array S**	**9.83**	**187**	Pn		**Pn**	**12 47 57.3**	**0.0**
	baz=7.5,slow=11							
FIA0				Sn		Sn	12 49 40.0	-7.6
	baz=17,slow=22							
FIA0	**FINESS Array S**	**9.83**	**187**	Pn		**Pn**	**12 47 57.3**	**0.0**
	baz=7.5,slow=11							
FIA0				Sn		Sn	12 49 40.0	-7.6
	baz=17,slow=22							
FIA0	**FINESS Array S**	**9.83**	**187**	Pn		**Pn**	**12 47 57.3**	**0.0**
	SNR=7.1							
FINES	**FINESS Array B**	**9.83**	**187**	Pn		**Pn**	**12 47 57.0**	**-0.3**
	comp=Z,0.2nm,0.3s,baz=10,slow=12,SNR=4.3							
FINES				Sn		Sn	12 49 41.8	-5.7
	comp=Z,0.2nm,0.3s,baz=2.0,slow=20,SNR=2.7							
NB2	**NORSAR Subarra**	**12.32**	**223**	Pn		Pn	12 48 29.8	-1.7
	baz=29,slow=14							
NB2	**NORSAR Subarra**	**12.32**	**223**	Pn		Pn	12 48 29.8	-1.7
	baz=29,slow=14							
NB2	**NORSAR Subarra**	**12.32**	**223**	Pn		Pn	12 48 29.8	-1.7
	SNR=3.9							
NOA	**NORSAR Array B**	**12.32**	**223**	Pn		Pn	12 48 27.2	-4.2
	comp=Z,0.4nm,0.3s,baz=27,slow=12,SNR=5.6							
HFS	**Hagfors**	**12.63**	**216**	Pn		Pn	12 48 33.4	-2.3
	baz=30,slow=16							
HFS	**Hagfors**	**12.63**	**216**	Pn		Pn	12 48 31.2	-4.5
	comp=Z,0.1nm,0.3s,baz=26,slow=13,SNR=3.3							
HFS				Sn		Sn	12 50 46.9	-9.3
	comp=Z,0.2nm,0.3s,baz=28,slow=25,SNR=2.4							
HFS	**Hagfors**	**12.63**	**216**	Pn		Pn	12 48 33.4	-2.3
	baz=30,slow=16							
HFS	**Hagfors**	**12.63**	**216**	Pn		Pn	12 48 33.4	-2.3
	SNR=4.1							

*SOME **20** 12:55:54.7,41.˚65N×73.˚10E,h10km*
*KRNET **20** 12:55:54.3±0.1,41.˚65N×73.˚16E,h16km,mb3.2*
*NNC **20** 12:55:56.2±1.1,41.˚73N×73.˚15E,h0km,mb3.8,mpv3.6, Error ellipse: s-maj=7.9km s-min=4.3km az=9.0*
ISC 20 12:55:53.7±1.1,41.˚65N±0.˚03×73.˚21E±0.˚02,h5km±10km, n44,σ1§49/84,28C-17D,Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op		ISC	h m s	ISC
AML	**Almayashu**	**0.60**	**37**	⇓*i*P		**Pb**	**12 56 07.2**	**+0.2**
	baz=39							
AML				⇓*i*S		**Sb**	**12 56 15.4**	**-0.5**
	baz=39							
ARK	**Arkit**	**0.95**	**279**	⇑*e*P		**Pg**	**12 56 11.5**	**-0.4**
	baz=279							
ARK				⇑*i*S		**Sg**	**12 56 24.1**	**-0.1**
	baz=279							
MNAS	**Manas**	**0.99**	**328**	⇓*e*P		**Pb**	**12 56 13.2**	**-0.2**
	baz=330							
MNAS				⇓*i*S		**Sn**	**12 56 27.2**	**-1.6**
	baz=330							
MNAS	**Manas**	**0.99**	**328**	⇑P		**Pg**	**12 56 13.0**	**+0.2**
	32nm,0.3s							
MNAS				⇓S		**Sb**	**12 56 26.2**	**-0.6**
	110nm,0.4s							
EKS2	**Erkin-Say**	**1.10**	**22**	⇓*i*P		**Pn**	**12 56 15.7**	**-0.1**
	baz=25							
EKS2				⇓*i*S		**Sn**	**12 56 31.3**	**-0.1**
	baz=25							
MRKS	**Merke**	**1.10**	**1**	*e*P		**Pn**	**12 56 15.7**	**-0.1**
	157nm,0.2s							
MRKS				*e*S		**Sn**	**12 56 30.6**	**-0.8**
	242nm,0.3s							
UCH	**Uchtor**	**1.13**	**59**	⇓*i*P		**Pn**	**12 56 16.8**	**+0.2**
	baz=60							
UCH				⇓*i*S		**Sn**	**12 56 33.0**	**+0.3**
	baz=60							
OHH	**Osh**	**1.17**	**196**	⇓*e*P		**Pn**	**12 56 16.6**	**-0.2**
	baz=194							
OHH				⇓*e*S		**Sn**	**12 56 32.9**	**-0.2**
	baz=194							
AAK	**Ala-Archa**	**1.37**	**44**	⇑*i*P		**Pg**	**12 56 21.3**	**+1.2**
	baz=45							
AAK				⇑*i*S		**Sg**	**12 56 40.1**	**+2.2**
	baz=45							
AAK	**Ala-Archa**	**1.37**	**44**	P		**Pg**	**12 56 21.5**	**+1.4**
	30nm,0.4s							
AAK				S		**Sg**	**12 56 40.3**	**+2.4**
	42nm,0.4s							
FRU1	**Bishkek**	**1.57**	**42**	⇑*i*P		**Pg**	**12 56 24.9**	**+1.1**
	baz=43							
FRU1				⇑*i*S		**Sg**	**12 56 47.2**	**+3.1**
	baz=43							
KZA	**Kyzart**	**1.58**	**74**	⇑*i*P		**Pg**	**12 56 24.7**	**+0.6**
	baz=74							
KZA				⇑*i*S		**Sg**	**12 56 46.3**	**+1.7**
	baz=74							
KBK	**Karagaybulak**	**1.64**	**51**	⇑*i*P		**Pg**	**12 56 26.1**	**+1.0**
	baz=52							
KBK				⇑*i*S		**Sg**	**12 56 48.3**	**+1.9**
	baz=52							
CHMS	**Chumysh**	**1.77**	**40**	⇑*i*P		**Pg**	**12 56 28.1**	**+0.5**
	baz=41							
CHMS				⇑*i*S		**Sg**	**12 56 52.3**	**+1.8**
	baz=41							
USP	**Ospenovka**	**1.88**	**30**	⇑*i*P		**Pg**	**12 56 29.8**	**+0.1**
	baz=31							
USP				⇑*i*S		**Sg**	**12 56 55.1**	**+1.1**
	baz=31							
NRN	**Naryn**	**2.10**	**95**	⇑*e*P		**Pg**	**12 56 33.6**	**-0.5**
	baz=95							
NRN				⇑*e*S		**Sg**	**12 57 02.0**	**+0.7**
	baz=95							
TKM2	**Tokmak 2**	**2.18**	**54**	⇑*i*P		**Pg**	**12 56 34.7**	**-0.8**
	baz=54							
TKM2				⇑*i*S		**Sg**	**12 57 04.1**	**+0.4**
	baz=54							
TKM2	**Tokmak 2**	**2.18**	**54**	⇑Pn		**Pg**	**12 56 34.6**	**-0.9**
	22nm,0.4s							
TKM2				⇑Lg		Lg	12 57 04.6	
	65nm,0.4s							
BOOM	**Boomskoye usch**	**2.20**	**67**	⇓*e*P		**Pb**	**12 56 34.7**	**+0.6**
	baz=67							
BOOM				⇓*i*S		**Sg**	**12 57 04.6**	**+0.2**
	baz=67							
ULHL	**Ulahol**	**2.34**	**74**	⇑*i*P		**Pb**	**12 56 36.2**	**-0.2**
	baz=75							
ULHL				⇑*i*S		**Sg**	**12 57 07.8**	**-1.0**
	baz=75							
BTK	**Batken**	**2.41**	**230**	⇑*i*P		**Pb**	**12 56 36.6**	**-1.0**
	baz=229							
BTK				⇑*i*S		**Sb**	**12 57 07.3**	**-0.4**
	baz=229							
IUG	**Iuzhnay**	**2.43**	**283**	*e*P		**Pg**	**12 56 39.2**	**-1.0**
	149nm,0.2s							
IUG				*e*S		**Sg**	**12 57 11.3**	**-0.4**
	180nm,0.3s							
KST	**Kastek**	**2.47**	**55**	*e*P		**Pb**	**12 56 39.2**	**+0.5**
	20nm,0.6s							
KST				*e*S		**Sb**	**12 57 10.3**	**+0.8**
	84nm,0.5s							
KK31	**Karatay Array**	**2.47**	**307**	⇓Pn		**Pb**	**12 56 38.1**	**-0.6**
	14nm,0.3s,baz=122,slow=15,SNR=217							
KK31				Sn		**Sb**	**12 57 09.8**	**+0.4**
	22nm,0.3s,baz=125,slow=28,SNR=6.8							
DGS	**Degeres**	**2.48**	**49**	*e*P		**Pg**	**12 56 40.3**	**-0.8**
	13nm,0.5s							
DGS				*e*S		**Sg**	**12 57 13.1**	**-0.2**
	100nm,0.7s							
MTBS	**Maitube**	**2.81**	**57**	*e*P		**Pg**	**12 56 46.5**	**-1.0**
	23nm,0.3s							
MTBS				*e*S		**Sg**	**12 57 23.8**	**-0.1**
	57nm,0.8s							
IZV	**Izvestkoviy**	**2.88**	**60**	*e*P		**Pg**	**12 56 49.3**	**+0.4**
	44nm,0.7s							
IZV				*e*S		**Sg**	**12 57 28.1**	**+2.0**
	39nm,0.5s							
TNSS	**Tian-Shan**	**3.10**	**62**	*e*P		**Pg**	**12 56 53.0**	**-0.1**
	14nm,0.6s							
TNSS				*e*S		**Sg**	**12 57 34.6**	**+1.3**
	36nm,0.6s							
MDOK	**Medeo**	**3.22**	**61**	⇓Pg		**Pb**	**12 56 53.1**	**+1.7**
MDOK				⇓Lg		Lg	12 57 36.8	
MDOK	**Medeo**	**3.22**	**61**	*e*P		**Pg**	**12 56 54.5**	**-0.9**
	12nm,0.4s							
MDOK				*e*S		**Sg**	**12 57 36.8**	**-0.4**
	33nm,0.7s							
KTBS	**Karatobe**	**3.29**	**50**	*e*P		**Pg**	**12 56 56.1**	**-0.5**
KTBS				*e*S		**Sg**	**12 57 39.7**	**+0.4**
KOTS	**Kotyrbulak**	**3.29**	**60**	*e*P		**Pg**	**12 56 56.7**	**-0.1**
KOTS				*e*S		**Sg**	**12 57 40.9**	**+1.4**
CHKK	**Chushkaly**	**3.55**	**50**	*e*P		**Pg**	**12 57 00.9**	**-0.8**
	6.6nm,0.3s							
CHKK				*e*S		**Sg**	**12 57 48.0**	**+0.3**
	78nm,0.4s							
KURS	**Kuram**	**4.10**	**62**	*e*P		**Pg**	**12 57 11.0**	**-1.2**
KURS				*e*S		**Sg**	**12 58 05.7**	**+0.4**
SATY	**Saty**	**4.10**	**68**	*e*P		**Pg**	**12 57 10.5**	**-1.8**
	10nm,0.3s							
SATY				*e*S		**Sg**	**12 58 04.4**	**-1.0**
	15nm,0.8s							
ARXS	**Arharly**	**4.25**	**51**	*e*P		**Pg**	**12 57 14.5**	**-0.6**
	9.6nm,0.6s							
ARXS				*e*S		**Sg**	**12 58 11.7**	**+1.6**
	33nm,0.5s							
DZET	**Dzherino**	**4.40**	**231**	⇑Pn		**Pn**	**12 57 04.5**	**+3.3**
	2.7nm,0.4s							
DZET				⇓Sn		**Sn**	**12 57 56.4**	**+3.6**
	28nm,0.7s							
KPKS	**Kokpek**	**4.43**	**64**	*e*P		**Pg**	**12 57 15.5**	**-3.1**
	20nm,0.4s							
KPKS				*e*S		**Sg**	**12 58 15.1**	**-0.9**
	36nm,0.5s							
MNBS	**Baschi**	**4.52**	**56**	*e*P		**Pg**	**12 57 18.5**	**-1.9**
	9.8nm,0.6s							
MNBS				*e*S		**Sg**	**12 58 18.4**	**-0.5**
	25nm,0.5s							
UZB	**Uzynbulak**	**4.56**	**69**	*e*P		**Pg**	**12 57 18.2**	**-2.8**
	8.3nm,0.7s							
UZB				*e*S		**Sg**	**12 58 18.3**	**-1.7**
	11nm,0.8s							
PDGK	**Podgornoye**	**4.94**	**68**	⇑Pg		**Pg**	**12 57 24.7**	**-3.6**
	3.0nm,0.6s							
PDGK				⇑Lg		Lg	12 58 33.9	
	13

KAHZ	**Kahuranaki**	**1.78**	**148**	*e*PN	Pn	12 56 53.4	-0.1
TSZ	**Takapari Road**	**1.79**	**172**	⇓PN	Pn	12 56 52.6	-0.9
TWGZ	**Tauwhareparae**	**1.84**	**87**	AML	AML	12 57 33.3	
TWGZ				AML	AML	12 57 33.9	
WPHZ	**Waipukurau**	**1.88**	**161**	PN	Pn	12 56 53.6	-0.8
OHWZ	**Ohakea**	**1.93**	**188**	PN	Pn	12 56 54.3	-0.7
MHGZ	**Mahia Peninsul**	**1.96**	**117**	PN	Pn	12 56 55.4	0.0
CNGZ	**Carnagh Statio**	**2.02**	**96**	PN	Pn	12 56 56.4	+0.4
DVHZ	**Dannevirke**	**2.05**	**169**	PN	Pn	12 56 54.9	-1.4
DVHZ				AML	AML	12 57 21.4	
DVHZ				AML	AML	12 57 24.0	
PUZ	**Puketiti**	**2.07**	**85**	PN	Pn	12 56 56.3	-0.3
PUZ				SN	Sn	12 57 23.3	-2.0
POWZ	**Post Office Ro**	**2.10**	**178**	PN	Pn	12 56 55.7	-1.6
MXZ	**Matakaoa Point**	**2.22**	**72**	PN	Pn	12 56 58.5	+0.2
MXZ				AML	AML	12 57 41.0	
WMGZ	**Waiomatatini S**	**2.23**	**79**	PN	Pn	12 56 58.2	-0.2
WMGZ				AML	AML	12 57 27.8	
WMGZ				AML	AML	12 57 28.3	
PRWZ	**Pori Road**	**2.28**	**174**	*e*PN	Pn	12 56 57.4	-1.5
MRZ	**Mangatainoka R**	**2.37**	**181**	PN	Pn	12 56 57.9	-2.1
MRZ				SN	Sn	12 57 26.5	-5.1
MRZ				AML	AML	12 57 29.8	
BFZ	**Birch Farm**	**2.44**	**169**	PN	Pn	12 56 58.9	-1.9
BFZ				*e*SN	Sn	12 57 27.6	-5.3
TIWZ	**Tintock**	**2.49**	**176**	PN	Pn	12 56 59.3	-2.1
OGWZ	**Otaki Gorge**	**2.55**	**188**	PN	Pn	12 56 59.9	-2.2
OGWZ				*e*SN	Sn	12 57 30.2	-5.2
OGWZ				AML	AML	12 57 33.1	
HOWZ	**Holdsworth Sta**	**2.61**	**182**	PN	Pn	12 57 00.2	-2.6
KIW	**Kapiti Island**	**2.63**	**192**	PN	Pn	12 57 00.5	-2.6
TMWZ	**Te Maipa**	**2.82**	**176**	*e*PN	Pn	12 57 02.8	-2.5
TMWZ				AML	AML	12 57 39.1	
CAW	**Cannon Point**	**2.85**	**189**	⇓PN	Pn	12 57 03.0	-2.7
CAW				AML	AML	12 57 39.0	
CAW				AML	AML	12 57 39.6	
MTW	**Mount Morrison**	**2.87**	**182**	PN	Pn	12 57 02.9	-3.0
MTW				AML	AML	12 57 39.1	
WEL	**Wellington**	**3.07**	**193**	PN	Pn	12 57 05.4	-3.0
WEL				AML	AML	12 57 43.0	
TCW	**Tory Channel**	**3.10**	**200**	PN	Pn	12 57 05.8	-3.0
TCW				AML	AML	12 57 43.1	
TCW				AML	AML	12 57 45.3	
MSWZ	**Moikau Station**	**3.14**	**186**	PN	Pn	12 57 05.9	-3.3
MSWZ				AML	AML	12 57 44.3	
PLWZ	**Palliser**	**3.29**	**185**	PN	Pn	12 57 07.6	-3.6
TUWZ	**Tuamarina**	**3.40**	**202**	PN	Pn	12 57 09.3	-3.2
TUWZ				AML	AML	12 57 50.0	
NNZ	**Nelson**	**3.41**	**210**	PN	Pn	12 57 08.8	-3.8
NNZ				*e*SN	Sn	12 57 48.5	-5.6
QRZ	**Quartz Range**	**3.50**	**223**	PN	Pn	12 57 10.1	-3.7
THZ	**Tophouse**	**4.06**	**210**	PN	Pn	12 57 17.0	-3.9
KHZ	**Kahutara**	**4.43**	**201**	⇑PN	Pn	12 57 21.7	-3.9
DSZ	**Denniston Nort**	**4.54**	**219**	*e*PN	Pn	12 57 22.3	-4.9
LTZ	**Lake Taylor**	**5.17**	**209**	PN	Pn	12 57 30.9	-4.6
INZ	**Inchbonnie**	**5.47**	**215**	⇓PN	Pn	12 57 35.0	-4.2
OXZ	**Oxford**	**5.73**	**207**	PN	Pn	12 57 37.2	-5.5

*ISCJB **20** 13:15:41.2±0.8, 50°.34N±0°.05×18°.74E±0°.04, h0km, Error ellipse: s-maj=7.5km s-min=4.0km az=179.8*
*WAR **20** 13:15:42.8, 50°.27N×18°.82E, h1km, Mw2.5*
*CSEM **20** 13:15:42.1±0.3, 50°.34N×18°.77E, h2km, ML2.5*
*PRU **20** 13:15:43.0, 50°.31N×18°.76E, h0km*
ISC 20 13:15:41.0±0.9, 50°23'N±0°.06×18°85'E±0°.03, h0km, n18, σ0s43/31, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OKC	**Ostrava-Krasne**	**0.60**	**229**	*e*PG	**Pb**	**13 15 55.1**	**+0.8**
OKC				*e*SG	**Sb**	**13 16 03.1**	**-0.2**
	comp=Z,13nm,0.4s						
OKC	**Ostrava-Krasne**	**0.60**	**229**	Pg	**Pb**	**13 15 55.1**	**+0.8**
OKC				Sg	**Sb**	**13 16 03.1**	**-0.2**
	13nm,0.4s						
OJC	**Ojcow**	**0.61**	**90**	*e*Pg	**Pb**	**13 15 54.7**	**+0.2**
OJC				*e*Sg	**Sb**	**13 16 03.7**	**0.0**
OJC	**Ojcow**	**0.61**	**90**	*e*Pg	**Pb**	**13 15 54.7**	**+0.2**
OJC				*e*Sg	**Sb**	**13 16 03.7**	**0.0**
OJC	**Ojcow**	**0.61**	**90**	*e*Pg	**Pb**	**13 15 54.7**	**+0.2**
OJC				*e*Sg	**Sb**	**13 16 03.7**	**0.0**
MORC	**Moravsky Berou**	**0.96**	**242**	*e*Sg	**Sb**	**13 16 13.3**	**-0.4**
KRLC	**Kraliky**	**1.34**	**264**	*e*PG	**Pn**	**13 16 06.8**	**-0.2**
KRLC				*e*SG	**Sg**	**13 16 23.9**	**-0.1**
KRLC	**Kraliky**	**1.34**	**264**	Pg	**Pn**	**13 16 06.8**	**-0.2**
KRLC				Sg	**Sg**	**13 16 23.9**	**-0.1**
DPC	**Dobruska-Polom**	**1.63**	**275**	*e*PG	**Pn**	**13 16 11.1**	**+0.2**
DPC				*e*SG	**Sb**	**13 16 32.8**	**-0.1**
	comp=Z,5.1nm,0.3s						
DPC	**Dobruska-Polom**	**1.63**	**275**	Pg	**Pn**	**13 16 11.1**	**+0.2**
DPC				Sg	**Sb**	**13 16 32.8**	**-0.1**
	5.1nm,0.3s						
VRAC	**Vranov**	**1.73**	**239**	*e*Pn	**Pg**	**13 16 13.9**	**-0.2**
VRAC				*e*Sg	**Sg**	**13 16 37.1**	**+0.6**
KSP	**Ksiaz**	**1.74**	**292**	*e*Pg	**Pg**	**13 16 14.5**	**+0.1**
KSP				*e*Sg	**Sg**	**13 16 36.9**	**-0.1**
KSP	**Ksiaz**	**1.74**	**292**	*e*Pg	**Pg**	**13 16 14.5**	**+0.1**
KSP				*e*Sg	**Sg**	**13 16 36.9**	**-0.1**
KSP	**Ksiaz**	**1.74**	**292**	*e*Pg	**Pg**	**13 16 14.5**	**+0.1**
KSP				*e*Sg	**Sg**	**13 16 36.9**	**-0.1**
PRU	**Pruhonice**	**2.78**	**267**	*e*SG	**Sg**	**13 17 09.7**	**-0.7**
PRU	**Pruhonice**	**2.78**	**267**	Sg	**Sg**	**13 17 09.7**	**-0.7**
KHC	**Kasperske Hory**	**3.59**	**254**	*e*SG	**Sg**	**13 17 35.4**	**-1.0**
	comp=Z,3.2nm,0.4s						
KHC	**Kasperske Hory**	**3.59**	**254**	Sg	**Sg**	**13 17 35.4**	**-1.0**
	3.2nm,0.4s						

*ISCJB **20** 13:24:37.4±0.6, 38°.4S±0°.1×17°.1W±0°.1, h10km, mb4.3/10, MS4.0/20, Error ellipse: s-maj=17.0km s-min=15.3km az=39.3*
*IDC **20** 13:24:37.9±1.0, 38°.30S×17°.09W, h0km, mb4.0/8, mb1 4.1/8, mb1mx3.8/39, mbtmp4.0/8, MS4.0/19, Ms1 4.0/19, ms1mx3.9/27, Error ellipse: s-maj=28.5km s-min=23.8km az=149.0*
*NEIC **20** 13:24:39.1±0.8, 38°.34S×16°.92W, h10km, mb4.4/2, Error ellipse: s-maj=21.9km s-min=16.9km az=148.0*
*GCMT **20** 13:24:39.1±0.3, 38°.70S×17°.01W, h17km±1km, MW4.8/74, Moment Tensor Solution. s12,c12; s74,c92; Duration: 0 Moment tensor: Scale 10^16 Nm; Mrr-2.40±.21; Mθθ 0.57±.14; Mφφ 1.83±.14; Mrθ -0.52±.60; Mrφ -0.36±.08; Mθφ 0.23±.41; Best double couple: Mo 2.22600×10^16 NP1: φs=156.00000°, δ50.00000°, λ-101.00000°, NP2: φs=353.00000°, δ41.00000°, λ-77.00000°. Principal axes: T 1.9570, Plg5.0000°, Azm254.0000°; N 0.5400, Plg8.0000°, Azm163.0000°; P -2.4950, Plg80.0000°, Azm13.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
ISC 20 13:24:39.2±0.8, 38°.4S±0°.1×16°.9W±0°.1, h10km, n41, σ1s67/13, mb4.1/10, MS4.1/20, Southern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H09W1	**TRISTAN DA CUN**	**3.82**	**72**	T	T	13 29 47.1	
	SNR=4.9						
H09N1	**TRISTAN DA CUN**	**3.85**	**72**	T	T	13 29 37.5	
TRIS	**Tristan da Cun**	**3.85**	**72**	*e*Pn	**Pn**	**13 25 35.1**	**-3.3**
H10S2	**ASCENSION HYDR**	**29.34**	**5**	T	T	14 01 27.8	
	baz=184,slow=75,SNR=156						
H10S3	**ASCENSION HYDR**	**29.34**	**4**	T	T	14 01 39.6	
	baz=184,slow=75,SNR=140						
H10S1	**ASCENSION HYDR**	**29.35**	**5**	T	T	14 01 29.2	
	baz=184,slow=75,SNR=157						
H10N1	**ASCENSION HYDR**	**30.45**	**5**	T	T	14 02 58.5	
	baz=190,slow=79,SNR=8.0						
H10N3	**ASCENSION HYDR**	**30.45**	**5**	T	T	14 03 00.1	
	baz=190,slow=79,SNR=96						
H10N2	**ASCENSION HYDR**	**30.47**	**5**	T	T	14 03 02.2	
	baz=190,slow=79,SNR=30						
SUR	**Sutherland**	**31.16**	**91**	LR	LR	13 40 29.2	
	comp=Z,25nm,20.9s,baz=234,slow=30						
SNAA	**Sanae**	**34.16**	**172**	LR	LR	13 41 39.2	
	comp=Z,73nm,18.3s,baz=356,slow=30						
SNAA	**Sanae**	**34.16**	**172**	*e*P	**P**	**13 31 22.8**	**-1.3**
	285nm,1.3s						
TSUM	**Tsumeb**	**35.45**	**67**	P	**P**	**13 31 37.8**	**+1.9**
	3.9nm,1.0s,baz=235,slow=12,SNR=3.0						
TSUM				LR	LR	13 42 54.4	
	comp=Z,444nm,20.7s,baz=158,slow=31						
CPUP	**Villa Florida**	**35.94**	**277**	LR	LR	13 43 50.3	
	comp=Z,283nm,21.2s,baz=132,slow=32						
PMSA	**Palmer Station**	**38.06**	**211**	LR	LR	13 44 17.8	
	comp=Z,144nm,18.4s,baz=66,slow=31						
USHA	**Ushuaia**	**38.10**	**227**	LR	LR	13 46 06.4	
	comp=Z,620nm,18.1s,baz=62,slow=34						
LBTB	**Lobatse**	**38.20**	**82**	LR	LR	13 44 58.0	
	comp=Z,216nm,18.1s,baz=230,slow=32						
PLCA	**Paso Flores**	**40.91**	**249**	LR	LR	13 45 51.1	
	comp=Z,351nm,21.8s,baz=152,slow=31						
MATP	**Matopo**	**42.92**	**79**	P	**P**	**13 32 38.8**	**+0.4**
	3.2nm,1.0s,baz=244,slow=5.7						
LSZ	**Lusaka**	**45.76**	**73**	P	**P**	**13 33 02.6**	**+1.5**
	3.2nm,0.9s,baz=255,slow=6.6,SNR=5.1						
LSZ	**Lusaka**	**45.76**	**73**	*e*P	**P**	**13 33 02.5**	**+1.4**
	5.5nm,1.1s						
DBIC	**Dimbokro**	**46.17**	**17**	LR	LR	13 47 35.3	
	comp=Z,110nm,19.4s,baz=164,slow=30						
LPAZ	**La Paz**	**49.84**	**282**	P	**P**	**13 33 32.2**	**-1.1**
	0.8nm,0.9s,baz=113,slow=9.4,SNR=2.6						
LPAZ				LR	LR	13 54 31.8	
	comp=Z,170nm,20.4s,baz=136,slow=36						
SAML	**Samuel**	**50.79**	**293**	*e*P	**P**	**13 33 38.8**	**-1.0**
	3.2nm,0.9s						
MAW	**Mawson**	**51.37**	**151**	P	**P**	**13 33 44.6**	**+1.1**
	2.2nm,1.0s,baz=278,slow=7.1,SNR=3.2						
MAW				LR	LR	13 51 22.7	
	comp=Z,52nm,20.6s,baz=242,slow=31						
QSPA	**South Pole Qui**	**51.90**	**180**	*e*P	**P**	**13 33 47.3**	**-0.4**
TORD	**Torodi Ar. Bea**	**54.11**	**23**	P	**P**	**13 34 04.0**	**-0.3**
	2.0nm,1.0s,baz=191,slow=6.7,SNR=5.8						
TORD				LR	LR	13 52 11.0	
	comp=Z,185nm,21.1s,baz=185,slow=30						
VNDA	**Vanda**	**64.40**	**180**	P	**P**	**13 35 15.5**	**+0.7**
	0.9nm,0.9s,baz=208,slow=8.7,SNR=3.3						
ROSC	**El Rosal**	**68.29**	**295**	LR	LR	14 04 16.8	
	comp=Z,309nm,19.9s,baz=102,slow=35						
KEST	**Kesra**	**77.61**	**22**	LR	LR	14 07 31.0	
	comp=Z,168nm,19.6s,baz=275,slow=33						
MMAI	**Mount Meron Ar**	**86.05**	**42**	LR	LR	14 13 20.7	
	comp=Z,74nm,19.7s,baz=190,slow=34						
DAVOX	**Davos/Dischmat**	**88.08**	**18**	LR	LR	14 13 02.9	
	comp=Z,106nm,19.5s,baz=224,slow=33						
BRTR	**Keskin Array B**	**90.45**	**37**	P	**P**	**13 37 42.5**	**+1.6**
	0.7nm,0.8s,baz=216,slow=6.1,SNR=5.2						
BRTR				LR	LR	14 19 13.7	
	comp=Z,25nm,18.1s,baz=250,slow=36						
VRAC	**Vranov**	**92.18**	**21**	LR	LR	14 16 44.5	
	comp=Z,80nm,18.4s,baz=213,slow=34						
WSAR	**Wadi Sarin**	**93.53**	**63**	LR	LR	14 18 04.7	
	comp=Z,141nm,19.2s,baz=232,slow=34						
H01W2	**Cape Leeuwin H**	**94.14**	**142**	T	T	15 23 22.2	
	baz=218,slow=75,SNR=19						
H01W3	**Cape Leeuwin H**	**94.16**	**142**	T	T	15 23 23.2	
	baz=218,slow=75,SNR=34						
H01W1	**Cape Leeuwin H**	**94.16**	**142**	T	T	15 23 22.9	
	baz=218,slow=75,SNR=26						
AKASG	**Malin Array Be**	**97.49**	**28**	LR	LR	14 22 10.6	
	comp=Z,39nm,18.2s,baz=300,slow=35						
TBI	**Tubuai**	**104.20**	**224**	*e*LR	LR	14 13 00.7	
	87nm,26.5s						
PPT2	**Papeete2**	**108.83**	**228**	*e*LR	LR	14 15 09.5	
	118nm,25.8s						

IDC 20 13:32:58.6±1.3, 48°.61S×30°.92E, h0km, mb3.8/5, mb1 3.9/5, mb1mx3.6/33, mbtmp3.8/5, 1C, Error ellipse: s-maj=69.3km s-min=28.1km az=62.0, South of Africa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SYO	**Syowa Base**	**20.91**	**171**	*e*P	Pn	13 37 51.6	+6.9
MAW	**Mawson**	**24.95**	**151**	P	P	13 38 24.4	+1.2
	6.0nm,0.9s,baz=291,slow=16,SNR=9.6						
VNDA	**Vanda**	**50.55**	**168**	P	P	13 41 57.1	-1.0
	0.5nm,0.7s,baz=198,slow=3.2,SNR=2.1						
TORD	**Torodi Ar. Bea**	**66.72**	**329**	P	P	13 43 51.7	+0.2
	0.5nm,0.6s,baz=168,slow=7.3,SNR=4.5						
ASAR	**Alice Springs**	**80.69**	**115**	P	P	13 45 13.0	-0.7
	0.4nm,0.7s,baz=218,slow=4.7,SNR=7.1						
WRA	**Warramunga Arr**	**83.76**	**113**	P	P	13 45 30.2	+0.4
	0.6nm,0.9s,baz=230,slow=5.1,SNR=3.3						

MEX 20 13:43:40.2±0.6, 15°.10N×93°.29W, h15km±32km, MD3.6, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CCIG	**Comitan**	**1.62**	**43**	*e*P	Pn	13 44 05.8	-2.5
CCIG				*i* S	Sn	13 44 23.4	-5.6
TGIG		**1.68**	**6**	*e*P	Pn	13 44 06.0	-3.0
TGIG				*e*S	Sn	13 44 25.5	-4.8

GUC 20 13:51:00.0±0.6, 35°.75S×71°.17W, h110km±8km, ML3.5, 1D, Central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LNCH	**Linares**	**0.36**	**254**	⇓*i*P	Pn	13 51 16.3	+0.3
LNCH				*i* S	Sn	13 51 28.9	+0.7
TALC	**Talca**	**0.52**	**313**	*e*P	Pn	13 51 17.0	+0.1
TALC				*i* S	Sn	13 51 30.2	+0.5
NICH	**Los Niches**	**0.74**	**356**	*e*P	Pn	13 51 19.4	+0.6
NICH				*i* S	Sn	13 51 33.7	+0.8
CCHI	**Chillan**	**1.12**	**220**	*i* S	Sn	13 51 39.0	-0.6
CCHI				IAML		13 51 41.0	
	comp=N,1μm,0.9s						
COCH	**Cobquecura**	**1.37**	**253**	*e*P	Pn	13 51 25.4	+0.1
COCH				*i* S	Sn	13 51 43.8	-0.6
CHPI	**Pichilemu**	**1.52**	**333**	*e*P	Pn	13 51 43.3	+16
CHPI				*i* S	Sn	13 51 47.7	+0.2
ANTU	**Antumapu**	**2.22**	**12**	*i* S	Sn	13 52 02.9	-0.3
ANTU				IAML		13 52 05.8	
	comp=E,222nm,0.3s						
CLCH	**Cerro Calan**	**2.40**	**13**	*i* S	Sn	13 52 07.5	-0.1
CLCH				IAML		13 52 10.0	
	comp=N,174nm,0.6s						
FCH	**Farellones**	**2.52**	**17**	*e*P	Pn	13 51 40.2	+0.1
FCH				*i* S	Sn	13 52 10.9	+0.2
PEL	**Peldehue**	**2.63**	**9**	*e*P	Pn	13 51 41.2	0.0
PEL				*i* S	Sn	13 52 12.3	-0.6
PEL				IAML		13 52 15.0	
	comp=N,222nm,0.1s						
ROCH	**El Roble**	**2.77**	**3**	*e*P	Pn	13 51 43.0	-0.2
ROCH				*i* S	Sn	13 52 16.1	-0.4

*CSEM **20** 14:04:57.5±0.2, 39°.65N×36°.98E, h2km, MD2.6, Error ellipse: s-maj=6.6km s-min=5.0km az=155.0*
*DDA **20** 14:04:57.3, 39°.70N×36°.97E, h7km, Md2.6*
*ISK **20** 14:04:57.2, 39°.68N×36°.94E, h5km, MD2.7*
ISC 20 14:04:57.8±1.0, 39°.66N±0°.03×37°.00E±0°.02, h8km±9km, n31, σ0s74/45, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SCER	**sogukcermik**	**0.22**	**26**	*i* P	**Pg**	**14 05 01.5**	**-0.9**
SCER	**sogukcermik**	**0.22**	**26**	P	**Pg**	**14 05 01.5**	**-0.9**
SVSK	**Karacayir**	**0.26**	**360**	*e*PG	**Pg**	**14 05 02.4**	**-0.5**
SVSK				*e*SG	**Sg**	**14 05 07.8**	**+1.4**
SVSK	**Karacayir**	**0.26**	**360**	*e*Pg	**Pg**	**14 05 02.4**	**-0.5**
SVSK				*e*Sg	**Sg**	**14 05 07.8**	**+1.4**
CUALT	**Altinyayla-SIV**	**0.43**	**206**	*i* P	**Pg**	**14 05 05.8**	**-0.5**
CUALT				*i* S	**Sb**	**14 05 13.7**	**-0.8**
CUALT	**Altinyayla-SIV**	**0.43**	**206**	P	**Pg**	**14 05 05.8**	**-0.5**
CUKAN	**kangal_SIVAS**	**0.50**	**133**	*i* P	**Pg**	**14 05 06.6**	**-0.9**
CUKAN				*i* S	**Sb**	**14 05 17.3**	**+0.9**
CUKAN	**kangal_SIVAS**	**0.50**	**133**	P	**Pg**	**14 05 06.6**	**-0.9**
CUSAR	**Sarkisla-SIVAS**	**0.63**	**248**	*i* P	**Pg**	**14 05 08.7**	**-1.4**
CUSAR				*i* S	**Sb**	**14 05 19.9**	**-0.3**
CUSAR	**Sarkisla-SIVAS**	**0.63**	**248**	P	**Pg**	**14 05 08.7**	**-1.4**
CUSAR				S	**Sb**	**14 05 19.9**	**-0.3**
CUZAR	**Zara_SIVAS**	**0.64**	**69**	*i* P	**Pg**	**14 05 09.8**	**-0.4**
CUZAR				*i* S	**Sb**	**14 05 20.3**	**-0.1**
CUZAR	**Zara_SIVAS**	**0.64**	**69**	P	**Pg**	**14 05 09.8**	**-0.4**
CUZAR				S	**Sb**	**14 05 20.3**	**-0.1**
TOKT	**Tokat**	**0.75**	**332**	*e*PG	**Pg**	**14 05 11.5**	**-0.7**
TOKT				*e*SG	**Sb**	**14 05 22.9**	**-0.6**
TOKT	**Tokat**	**0.75**	**332**	*e*Pg	**Pg**	**14 05 11.5**	**-0.7**
SUSE	**Susehri**	**1.07**	**59**	*i* P	**Pg**	**14 05 17.8**	**-0.7**
SUSE				*i* S	**Sn**	**14 05 34.7**	**+0.1**
SUSE	**Susehri**	**1.07**	**59**	P	**Pg**	**14 05 17.8**	**-0.7**
SUSE				S	**Sn**	**14 05 34.7**	**+0.1**
BNN	**Bunyan**	**1.21**	**228**	*e*PN	**Pn**	**14 05 21.6**	**+0.5**
BNN	**Bunyan**	**1.21**	**228**	*e*Pn	**Pn**	**14 05 21.6**	**+0.5**
KEMA	**Kemaliye**	**1.22**	**108**	*i* P	**Pg**	**14 05 20.1**	**-1.1**
KEMA				*i* S	**Sn**	**14 05 38.7**	**+0.7**
KEMA	**Kemaliye**	**1.22**	**108**	P	**Pg**	**14 05 20.1**	**-1.1**
KEMA				S	**Sn**	**14 05 38.7**	**+0.7**
YOZ	**Yozgat**	**1.30**	**270**	*e*PN	**Pn**	**14 05 22.6**	**+0.3**
YOZ	**Yozgat**	**1.30**	**270**	*e*Pn	**Pn**	**14 05 22.7**	**+0.3**
SARI	**SarD1z-Kayseri**	**1.33**	**200**	*e*PN	**Pb**	**14 05 23.8**	**+0.6**
KELT	**Kelkit**	**1.80**	**74**	*i* P	**Pn**	**14 05 29.2**	**-0.2**
KELT				*i* S	**Sg**	**14 05 56.7**	**+0.9**
KELT	**Kelkit**	**1.80**	**74**	P	**Pn**	**14 05 29.2**	**-0.2**
ESPY	**Espiye-Giresun**	**1.82**	**46**	*e*PN	**Pb**	**14 05 31.2**	**-0.3**
ESPY	**Espiye-Giresun**	**1.82**	**46**	*e*Pn	**Pb**	**14 05 31.2**	**-0.3**
PTK	**Pertek**	**2.01**	**112**	*e*PN	**Pb**	**14 05 34.4**	**-0.3**
PTK	**Pertek**	**2.01**	**112**	*e*Pn	**Pb**	**14 05 34.4**	**-0.3**
GUMT	**Gumushane**	**2.06**	**66**	*e*PN	**Pb**	**14 05 35.1**	**-0.5**
GUMT	**Gumushane**	**2.06**	**66**	*e*Pn	**Pb**	**14 05 35.1**	**-0.5**

WEL 20 14:10:27.0±0.4, 37°.80S×176°.52E, h164km±3km, ML3.5/13, 3C-2D, Error ellipse: s-maj=2.9km s-min=2.2km az=90.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**0.66**	**135**	⇑PN	Pn	14 10 50.5	-0.2
URZ				SN	Sn	14 11 09.2	+0.3
MUGZ	**Murupara**	**0.71**	**164**	PN	Pn	14 10 51.0	0.0
MUGZ				SN	Sn	14 11 09.7	+0.1
TOZ	**Tahuroa Road**	**0.81**	**274**	⇑PN	Pn	14 10 51.9	+0.3
RTZ	**Ruatahuna**	**0.90**	**156**	*e*PN	Pn	14 10 52.2	-0.2
RUGZ	**Raukumara Rang**	**0.93**	**101**	PN	Pn	14 10 52.4	-0.4
MWZ	**Matawai**	**0.96**	**124**	PN	Pn	14 10 53.0	+0.2
MWZ				SN	Sn	14 11 13.2	+0.6
HAZ	**Te Kaha**	**1.00**	**88**	SN	Sn	14 11 12.7	-0.3
MRHZ	**Matea Rd**	**1.04**	**184**	PN	Pn	14 10 53.5	0.0
MRHZ				AML	AML	14 11 15.6	
MRHZ				AML	AML	14 11 16.3	
SNGZ	**Shannon Statio**	**1.18**	**147**	PN	Pn	14 10 55.1	+0.5
SNGZ				AML	AML	14 11 17.8	
SNGZ				AML	AML	14 11 18.8	
NMHZ	**Naumai**	**1.32**	**170**	PN	Pn	14 10 56.7	+0.7
NMHZ				AML	AML	14 11 20.9	
NMHZ				AML	AML	14 11 23.4	
BKZ	**Black Stump Fm**	**1.37**	**181**	⇓PN	Pn	14 10 55.9	-0.5
BKZ				SN	Sn	14 11 18.0	-1.1
WMGZ	**Waiomatatini S**	**1.50**	**92**	AML	AML	14 11 22.6	
ARHZ	**Aropaoanui**	**1.51**	**166**	*e*PN	Pn	14 10 58.2	+0.5
ARHZ				AML	AML	14 11 22.0	
ARHZ				AML	AML	14 11 22.9	
KWHZ	**Kaweka Forest**	**1.63**	**183**	AML	AML	14 11 24.7	
KWHZ				AML	AML	14 11 25.6	
MCHZ	**McNeill Hill**	**1.65**	**175**	PN	Pn	14 10 59.5	+0.3
MCHZ				SN	Sn	14 11 24.3	+0.1
MCHZ				AML	AML	14 11 25.3	
WNVZ	**Wahianoa**	**1.69**	**205**	PN	Pn	14 10 59.3	-0.5
MHGZ	**Mahia Peninsul**	**1.74**	**142**	PN	Pn	14 11 00.1	0.0
KRHZ	**Kereru**	**1.85**	**184**	PN	Pn	14 11 00.3	-0.4
CKHZ	**Cape Kidnapper**	**1.91**	**167**	PN	Pn	14 11 01.9	0.0
CKHZ				AML	AML	14 11 30.8	
CKHZ				AML	AML	14 11 31.6	
KAHZ	**Kahuranaki**	**2.02**	**172**	PN	Pn	14 11 02.9	-0.3
KAHZ				AML	AML	14 11 33.6	
PNHZ	**Pukenui**	**2.13**	**187**	PN	Pn	14 11 03.5	-1.0
PNHZ				SN	Sn	14 11 31.5	-2.1
PXZ	**Pawanui**	**2.25**	**173**	PN	Pn	14 11 05.0	-0.8
PXZ				*e*SN	Sn	14 11 34.2	-1.7
PXZ				AML	AML	14 11 37.0	
WAZ	**Wanganui**	**2.29**	**211**	*e*PN	Pn	14 11 05.8	-0.6
TSZ	**Takapari Road**	**2.30**	**191**	PN	Pn	14 11 05.2	-1.3
TSZ				SN	Sn	14 11 35.3	-1.8
DVHZ	**Dannevirke**	**2.52**	**186**	PN	Pn	14 11 07.3	-1.7
OHWZ	**Ohakea**	**2.58**	**201**	PN	Pn	14 11 09.0	-0.8
POWZ	**Post Office Ro**	**2.66**	**192**	PN	Pn	14 11 09.0	-1.7
PRWZ	**Pori Road**	**2.79**	**189**	PN	Pn	14 11 10.6	-1.7
BFZ	**Birch Farm**	**2.89**	**184**	PN	Pn	14 11 11.4	-2.2
MRZ	**Mangatainoka R**	**2.95**	**194**	⇓PN	Pn	14 11 11.9	-2.4
MRZ				SN	Sn	14 11 46.4	-4.8
MRZ				AML	AML	14 11 49.2	
TIWZ	**Tintock**	**3.02**	**189**	⇑PN	Pn	14 11

LTK	**Loutraki**	**0.58**	**268**	P	Pg	14 11 21.3	-0.3
LTK	**Loutraki**	**0.58**	**268**	P	Pg	14 11 21.4	-0.2
LTK				S	Sg	14 11 28.8	-0.4
LTK	**Loutraki**	**0.58**	**268**	P	Pg	14 11 21.4	-0.2
LTK				S	Sg	14 11 28.8	-0.5
LTK	**Loutraki**	**0.58**	**268**	P	Pg	14 11 21.3	-0.3
KARY	**Karystos**	**0.58**	**92**	P	Pg	14 11 21.1	-0.6
KARY	**Karystos**	**0.58**	**92**	P	Pg	14 11 21.1	-0.6
DID	**Didima**	**0.66**	**214**	P	Pg	14 11 23.2	+0.1
DID				S	Sb	14 11 33.0	0.0
DID	**Didima**	**0.66**	**214**	P	Pg	14 11 22.6	-0.5
DID				S	Sb	14 11 33.8	+0.8
DID	**Didima**	**0.66**	**214**	P	Pg	14 11 22.6	-0.5
DID				S	Sb	14 11 33.8	+0.7
DID	**Didima**	**0.66**	**214**	P	Pg	14 11 23.2	+0.2
DID				S	Sb	14 11 33.0	-0.1
PROD	**Prodromos**	**0.66**	**289**	P	Pg	14 11 22.1	-1.1
PROD				S	Sg	14 11 32.0	+0.1
PROD	**Prodromos**	**0.66**	**289**	P	Pg	14 11 22.0	-1.2
PROD				S	Sb	14 11 34.4	+1.2
PROD	**Prodromos**	**0.66**	**289**	P	Pg	14 11 22.0	-1.2
PROD				S	Sb	14 11 34.4	+1.2
PROD	**Prodromos**	**0.66**	**289**	P	Pg	14 11 22.1	-1.1
PROD				S	Sg	14 11 31.9	0.0
PROD	comp=N,94μm,0.6s			AML	AML	14 11 35.5	
PROD	comp=E,78μm,0.3s			AML	AML	14 11 36.9	
THAL	**Thalero**	**0.82**	**269**	P	Pg	14 11 26.3	+0.2
THAL	**Thalero**	**0.82**	**269**	P	Pg	14 11 26.3	+0.2
DSF	**Desfina**	**0.99**	**292**	P	Pg	14 11 26.9	-2.5
DSF	**Desfina**	**0.99**	**292**	P	Pg	14 11 26.9	-2.6

IDC 20 14:17:47.4±1.6,**6°95**S×**129°24**E,**h0**km,**mb3.9**/1, **mb1 3.7**/4,**mb1mx3.5**/38,**mbtmp3.6**/4,**ML3.4**/3,**Error ellipse: s-maj=57.3km s-min=24.7km az=86.0**,**Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIJI	**Sorong**	**6.37**	**19**	Pn	Pn	14 19 21.6	-1.1
	19nm,0.3s,baz=184,slow=2.5,SNR=1.6						
SIJI				Sn	Sn	14 20 26.6	-10
	24nm,0.3s,baz=182,slow=8.9,SNR=2.2						
FITZ	**Fitzroy Crossi**	**11.62**	**197**	Pn	Pn	14 20 34.1	-0.6
	0.1nm,0.3s,baz=24,slow=12,SNR=4.3						
FITZ				Sn	Sn	14 22 40.1	-5.2
	0.1nm,0.3s,baz=90,slow=17,SNR=2.1						
WRA	**Warramunga Arr**	**13.83**	**160**	Pn	Pn	14 21 04.4	-0.5
	0.3nm,0.3s,baz=337,slow=13,SNR=21						
WRA				Sn	Sn	14 23 32.5	-6.8
	0.2nm,0.3s,baz=340,slow=22,SNR=5.0						
ASAR	**Alice Springs**	**17.21**	**165**	P	Pn	14 21 50.0	+0.6
	0.2nm,0.3s,baz=346,slow=10.0,SNR=4.1						
ASAR				S	Sn	14 24 53.0	-8.6
	baz=348,slow=26,SNR=3.5						
MKAR	**Makanchi Array**	**67.78**	**327**	P	P	14 28 47.4	+0.3
	1.0nm,0.7s,baz=117,slow=8.3,SNR=8.7						

IDC 20 14:20:03.1±385.0,**51°65N**×**112°59E**,**h0**km,**Error ellipse: s-maj=147.8km s-min=123.2km az=38.0**,**Lake Baykal region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I34MN	**SONGINO INFRAS**	**5.55**	**229**	*i*		14 56 00.0	
	baz=42,slow=321,SNR=1.1						
I45RU	**USSURIYSK INFR**	**14.95**	**112**	*i*		15 49 10.0	
	baz=306,slow=324,SNR=2.1						
I44RU	**PETROPAVLOVSK27.25**		**69**	*i*		17 07 20.0	
	baz=281,slow=324,SNR=0.4						

ISK ***20*** *14:22:26.2,41.36N×35.86E,h5km,MD2.6,ML2.6*
ISCJB ***20*** *14:22:27.3±0.5,41.40N±0.03×35.84E±0.03,h0km,Error ellipse: s-maj=5.1km s-min=3.3km az=21.0*
CSEM ***20*** *14:22:27.5±0.2,41.36N×35.85E,h2km,MD2.8,Error ellipse: s-maj=6.0km s-min=4.2km az=27.0*
DDA ***20*** *14:22:27.1,41.26N×35.91E,h5km,Md2.8,Suspected Mining explosion.*

ISC 20 14:22:27.4±0.8,**41°35N**±0.03×**35°84E**±0.02,**h0**km,**n38**, σ0**§85**/54,**Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SAMS	**Samsun-Alacam**	**0.26**	**88**	*i* P	**Pg**	**14 22 32.6**	**+0.2**
SAMS				*i* S	**Sg**	**14 22 37.2**	**+1.4**
SAMS	**Samsun-Alacam**	**0.26**	**88**	P	**Pg**	**14 22 32.6**	**+0.2**
SAMS				S	**Sg**	**14 22 37.2**	**+1.4**
HAVZ	**Havza**	**0.29**	**198**	*i* P	**Pg**	**14 22 33.0**	**+0.1**
HAVZ	**Havza**	**0.29**	**198**	P	**Pg**	**14 22 33.0**	**+0.1**
KVT	**Kavak**	**0.31**	**150**	*e*PG	**Pg**	**14 22 32.9**	**-0.4**
KVT				*e*SG	**Sg**	**14 22 39.4**	**+2.0**
KVT	**Kavak**	**0.31**	**150**	*e*Pg	**Pg**	**14 22 32.9**	**-0.4**
KVT				*e*Sg	**Sg**	**14 22 39.4**	**+2.0**
DIKM	**Dikmen**	**0.53**	**305**	*e*PG	**Pg**	**14 22 37.6**	**+0.2**
DIKM				*e*SG	**Sb**	**14 22 46.5**	**-1.2**
DIKM	**Dikmen**	**0.53**	**305**	*e*Pg	**Pg**	**14 22 37.7**	**+0.2**
DIKM				*e*Sg	**Sb**	**14 22 46.5**	**-1.2**
BYBT	**Boyabat**	**0.81**	**279**	*e*PG	**Pg**	**14 22 43.2**	**+0.2**
BYBT	**Boyabat**	**0.81**	**279**	*e*Pg	**Pg**	**14 22 43.2**	**+0.2**
SNOP	**Sinop**	**0.82**	**325**	*e*PG	**Pg**	**14 22 43.1**	**+0.1**
SNOP	**Sinop**	**0.82**	**325**	*e*Pg	**Pg**	**14 22 43.2**	**+0.1**
CTAK	**Corum_Osmancik**	**1.06**	**229**	*i* P	**Pg**	**14 22 47.2**	**-0.4**
CTAK				*i* S	**Sb**	**14 23 03.1**	**-0.1**
CTAK	**Corum_Osmancik**	**1.06**	**229**	P	**Pg**	**14 22 47.2**	**-0.4**
CTAK				S	**Sb**	**14 23 03.1**	**-0.1**
TOKA	**Tokat**	**1.14**	**154**	*i* P	**Pn**	**14 22 50.5**	**-0.1**
TOKA				*i* S	**Sn**	**14 23 07.2**	**+0.3**
TOKA	**Tokat**	**1.14**	**154**	P	**Pn**	**14 22 50.5**	**-0.1**
COAL	**Corum-Alaca**	**1.27**	**211**	*i* P	**Pg**	**14 22 50.0**	**-1.7**
COAL				*i* S	**Sn**	**14 23 10.5**	**+0.2**
COAL	**Corum-Alaca**	**1.27**	**211**	P	**Pg**	**14 22 50.0**	**-1.7**
COAL				S	**Sn**	**14 23 10.5**	**+0.2**
TOS	**Tosya**	**1.41**	**258**	*e*PN	**Pg**	**14 22 53.7**	**-0.6**
TOS	**Tosya**	**1.41**	**258**	*e*Pn	**Pg**	**14 22 53.7**	**-0.6**
CORM	**Corum**	**1.49**	**218**	*e*PN	**Pb**	**14 22 56.2**	**+0.2**
CORM	**Corum**	**1.49**	**218**	*e*Pn	**Pb**	**14 22 56.2**	**+0.2**
BZK	**Bozkurt**	**1.50**	**294**	*e*PN	**Pn**	**14 22 55.7**	**+0.1**
BZK	**Bozkurt**	**1.50**	**294**	*e*Pn	**Pn**	**14 22 55.7**	**+0.1**
ORDU	**Ordu-Boztepe**	**1.57**	**103**	*i* P	**Pn**	**14 22 55.4**	**-1.1**
ORDU	**Ordu-Boztepe**	**1.57**	**103**	P	**Pn**	**14 22 55.4**	**-1.1**
SVSK	**Karacayir**	**1.68**	**148**	*e*PN	**Pn**	**14 22 58.1**	**+0.1**
SVSK	**Karacayir**	**1.68**	**148**	*e*Pn	**Pn**	**14 22 58.1**	**+0.1**
YOZ	**Yozgat**	**1.75**	**193**	*e*PN	**Pn**	**14 22 59.4**	**+0.2**
YOZ	**Yozgat**	**1.75**	**193**	*e*Pn	**Pn**	**14 22 59.4**	**+0.2**
SCER	**sogukcermik**	**1.78**	**146**	*i* P	**Pn**	**14 22 59.5**	**-0.1**
SCER				*i* S	**Sg**	**14 23 25.9**	**+1.3**
SCER	**sogukcermik**	**1.78**	**146**	P	**Pn**	**14 22 59.5**	**-0.1**
GRSN	**GIRESUNGRSN**	**1.88**	**102**	*i* P	**Pn**	**14 23 00.1**	**-0.8**
GRSN				*i* S	**Sn**	**14 23 23.8**	**-1.6**
GRSN	**GIRESUNGRSN**	**1.88**	**102**	P	**Pn**	**14 23 00.1**	**-0.8**
GRSN				S	**Sn**	**14 23 23.8**	**-1.6**
CDAG	**Cicekdag**	**2.06**	**213**	*i* P	**Pb**	**14 23 05.1**	**-0.5**
CDAG				*i* S	**Sg**	**14 23 34.8**	**+1.4**
CDAG	**Cicekdag**	**2.06**	**213**	P	**Pb**	**14 23 05.1**	**-0.5**
SUSE	**Susehri**	**2.13**	**122**	*i* P	**Pn**	**14 23 05.1**	**+0.8**
SUSE				*i* S	**Sb**	**14 23 34.2**	**+0.3**
SUSE	**Susehri**	**2.13**	**122**	P	**Pn**	**14 23 05.1**	**+0.8**

IDC ***20*** *14:35:11.5±3.1,9.54S×113.68E,h0km,mb3.4/5, mb1 3.6/5,mb1mx3.4/26,mbtmp3.5/5,Error ellipse: s-maj=156.4km s-min=21.5km az=49.0*
DJA ***20*** *14:35:19.1±0.9,10.5S×11.4E,h10km,M3.6/6, MLv3.6/6*
ISCJB ***20*** *14:35:20.3±1.5,9.5S±0.1×113.7E±0.1,h85km±11km, mb3.3/5,Error ellipse: s-maj=23.3km s-min=10.2km az=38.8*

ISC 20 14:35:19.1±2.8,**9.7S**±0.2×**113.7E**±0.1,**h62**km±22km,**n13**, σ1**§67**/18,**mb3.5/5**,**South of Jawa**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAGI	**Jajag, Banyuwa**	**1.28**	**21**	P	**Pn**	**14 35 40.7**	**-0.2**
JAGI				S	**Sn**	**14 35 55.9**	**-1.2**
GMJI	**Gumukmas**	**1.40**	**350**	P	**Pn**	**14 35 42.4**	**-0.1**
GMJI				S	**Sn**	**14 35 58.3**	**-1.8**
IGBI	**Denpasar**	**1.67**	**60**	P	**Pn**	**14 35 45.6**	**-0.6**
IGBI				S	**Sn**	**14 36 07.9**	**+1.3**
BLJI	**Banyuglugur**	**1.91**	**357**	P	**Pn**	**14 35 51.1**	**+1.7**
BLJI				S	**Sn**	**14 36 14.6**	**+2.2**
ABJI	**Asem Bagus**	**1.94**	**16**	P	**Pn**	**14 35 52.2**	**+2.5**
SRBI	**Singaraja**	**2.18**	**44**	P	**Pn**	**14 35 53.7**	**+0.6**
KMMI	**Kalianget**	**2.62**	**6**	P	**Pn**	**14 36 01.3**	**+2.3**
KMMI				S	**Sn**	**14 36 26.3**	**-3.3**
TWSI	**Taliwang, Sumb**	**3.29**	**74**	P	**Pn**	**14 36 08.9**	**+0.7**
WRA	**Warramunga Arr**	**22.41**	**119**	P	**P**	**14 40 12.4**	**-0.3**
	0.1nm,0.4s,baz=294,slow=12,SNR=4.8						
ASAR	**Alice Springs**	**23.81**	**128**	P	**P**	**14 40 27.4**	**+0.9**
	0.3nm,0.6s,baz=303,slow=9.5,SNR=5.6						
CMAR	**Chiang Mai Arr**	**31.50**	**332**	P	**P**	**14 41 35.3**	**-0.1**
	0.5nm,0.5s,baz=164,slow=9.8,SNR=4.2						
SONM	**Songino Array**	**57.61**	**354**	P	**P**	**14 45 02.5**	**-0.3**
	0.6nm,0.3s,baz=170,slow=8.5,SNR=5.0						
MKAR	**Makanchi Array**	**62.80**	**336**	P	**P**	**14 45 37.5**	**-0.7**
	0.4nm,0.3s,baz=149,slow=7.3,SNR=9.3						

NIED ***20*** *14:59:00,35.70N×140.60E,h53km,Mw4.0 Best double couple: M0 1.32000×10^15 NP1:φs190.00000°,δ17.00000°, λ96.00000°. NP2:φs3.00000°,δ73.00000°,λ88.00000°.*
ISCJB ***20*** *14:59:05.2±0.5,35.66N±0.04×140.67E±0.07,h56km±3km, mb3.7/12,MS3.4/2,Error ellipse: s-maj=9.6km s-min=6.0km az=156.9*
JMA ***20*** *14:59:06.1,35.70N×140.61E,h47km±1km,M3.5 Broadband fault plane solution: P waves. NP1: φs9.00000°,δ82.00000°,λ86.00000°. NP2:φs214.00000°, δ9.00000°,λ116.00000°. Principal axes: T Plg53.0000°, Azm274.0000°; N Plg4.0000°, Azm9.0000°; P Plg37.0000°, Azm102.0000°;*
JMA Felt II J1.
IDC ***20*** *14:59:08.2±2.1,35.48N×140.63E,h73km±18km,mb3.5/12, mb1 3.6/16,mb1mx3.5/40,mbtmp3.8/16,MS3.2/4, Ms1 3.2/4,ms1mx2.8/46 Error ellipse: s-maj=25.3km s-min=7.7km az=69.0*

ISC 20 14:59:06.3±0.8,**35°67N**±0.04×**140°69E**±0.06,**h50**km±6km, **n31**,σ1**§53**/31,**mb3.7**/12,**1C-4D**,**Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHOJ	**Chosi**	**0.14**	**77**	⇑P	**Pn**	**14 59 14.1**	**-0.2**
CHOJ				*e*S	**Sn**	**14 59 19.6**	**-0.4**
JCN	**Nagara**	**0.47**	**238**	⇓P	**Pn**	**14 59 16.6**	**-0.6**
JCN				*e*S	**Sn**	**14 59 24.4**	**-0.6**
JYT	**Yasato**	**0.69**	**324**	⇓P	**Pn**	**14 59 18.8**	**-1.1**
JYT				S	**Sn**	**14 59 28.0**	**-1.7**
BSO4	**Boso 4**	**0.74**	**203**	⇓P	**Pn**	**14 59 20.3**	**-0.1**
BSO4				*e*X		14 59 31.8	
BSO3	**Boso 3**	**0.88**	**190**	P	**Pn**	**14 59 22.1**	**-0.1**
BSO1	**Boso 1**	**1.04**	**167**	P	**Pn**	**14 59 24.2**	**+0.1**
BSO1				*e*S	**Sn**	**14 59 39.5**	**+2.2**
JAG	**Ashikaga**	**1.25**	**307**	⇓P	**Pn**	**14 59 26.3**	**-1.2**
MJAR	**Matsushiro Arr**	**2.19**	**294**	P	**Pn**	**14 59 40.7**	**+0.5**
	20nm,0.3s,baz=101,slow=14,SNR=118						
MJAR				S	**Sn**	**15 00 10.4**	**+4.3**
	15nm,0.3s,baz=130,slow=14,SNR=7.1						
MJAR				LR	LR	15 00 38.9	
	comp=Z,236nm,20.0s,baz=120,slow=41						
MAT	**Matsushiro**	**2.19**	**294**	P	**Pn**	**14 59 40.8**	**+0.5**
MAT				*e*S	**Sn**	**15 00 06.0**	**-0.2**
JHJ	**Hachijo jima 2**	**2.65**	**197**	P	**Pn**	**14 59 44.9**	**-1.8**
	88nm,0.3s,baz=305,slow=23,SNR=13						
JHJ				S	**Sn**	**15 00 15.1**	**-2.4**
	65nm,0.3s,baz=221,slow=23,SNR=8.4						
JNU	**Nakatsue**	**8.50**	**255**	P	**Pn**	**15 01 08.6**	**+1.8**
	0.2nm,0.3s,baz=79,slow=5.2,SNR=2.5						
KSRS	**Korea Array**	**10.42**	**284**	P	**Pn**	**15 01 36.1**	**+3.1**
	0.2nm,0.3s,baz=93,slow=14,SNR=4.5						
KSRS				LR	LR	15 05 15.8	
	comp=Z,93nm,18.7s,baz=73,slow=35						
H11N2	**WAKE ISLAND Hy**	**28.00**	**118**	T	T	15 34 03.9	
	baz=310,slow=75,SNR=31						
H11N1	**WAKE ISLAND Hy**	**28.00**	**118**	T	T	15 34 06.1	
	baz=310,slow=75,SNR=32						
H11N3	**WAKE ISLAND Hy**	**28.01**	**118**	T	T	15 34 05.4	
	baz=310,slow=75,SNR=34						
SONM	**Songino Array**	**28.09**	**306**	P	**P**	**15 04 52.3**	**-1.0**
	0.7nm,0.6s,baz=105,slow=9.4,SNR=4.5						
SONM				LR	LR	15 17 26.3	
	comp=Z,42nm,19.8s,baz=78,slow=39						
H11S3	**WAKE ISLAND Hy**	**28.65**	**120**	T	T	15 34 50.6	
	baz=312,slow=75,SNR=32						
H11S1	**WAKE ISLAND Hy**	**28.65**	**120**	T	T	15 34 49.5	
	baz=312,slow=75,SNR=45						
H11S2	**WAKE ISLAND Hy**	**28.67**	**120**	T	T	15 34 53.2	
	baz=312,slow=75,SNR=27						
ZALV	**Zalesovo Beam**	**42.41**	**313**	P	**P**	**15 06 55.5**	**-0.3**
	0.5nm,0.3s,baz=98,slow=7.4,SNR=5.2						
MKAR	**Makanchi Array**	**44.36**	**303**	P	**P**	**15 07 11.6**	**-0.1**
	1.3nm,0.6s,baz=87,slow=9.4,SNR=15						
ILAR	**Eielson Array**	**50.96**	**32**	P	**P**	**15 08 03.6**	**+1.1**
	0.4nm,0.6s,baz=264,slow=7.2,SNR=4.6						
WRA	**Warramunga Arr**	**55.63**	**187**	P	**P**	**15 08 36.2**	**-1.1**
	0.9nm,0.5s,baz=4.1,slow=7.5,SNR=19						
ASAR	**Alice Springs**	**59.36**	**187**	P	**P**	**15 09 02.1**	**-1.4**
	0.3nm,0.7s,baz=16,slow=10,SNR=12						
GEYT	**Alibeck**	**63.98**	**299**	LR	LR	15 40 47.4	
	comp=Z,48nm,18.1s,baz=340,slow=39						
ARCES	**ARCESS Array B**	**65.06**	**339**	P	**P**	**15 09 41.1**	**0.0**
	1.8nm,0.8s,baz=54,slow=4.6,SNR=2.4						
FINES	**FINESS Array B**	**69.75**	**332**	P	**P**	**15 10 09.4**	**-1.4**
	0.4nm,0.3s,baz=46,slow=7.8,SNR=5.7						
AKASG	**Malin Array Be**	**75.02**	**322**	P	**P**	**15 10 41.2**	**-1.2**
	0.6nm,0.4s,baz=52,slow=5.4,SNR=3.8						
NOA	**NORSAR Array B**	**75.22**	**337**	P	**P**	**15 10 43.2**	**-0.2**
	0.3nm,0.4s,baz=49,slow=4.6,SNR=3.1						
PDAR	**Pinedale Array**	**79.04**	**45**	P	**P**	**15 11 07.1**	**+1.7**
	0.3nm,0.6s,baz=283,slow=5.2,SNR=2.2						
BRTR	**Keskin Array B**	**79.31**	**311**	P	**P**	**15 11 07.6**	**+0.7**
	0.3nm,0.3s,baz=51,slow=7.6,SNR=2.8						

ISCJB ***20*** *15:19:51.0±0.6,15.4S±0.2×177.2W±0.1,h372km, mb3.8/10,Error ellipse: s-maj=23.0km s-min=10.8km az=154.1*
IDC ***20*** *15:19:51.4±1.7,15.24S×177.32W,h358km±18km, mb3.6/10,mb1 3.8/11,mb1mx3.5/31,mbtmp4.3/11,Error ellipse: s-maj=23.1km s-min=12.2km az=143.0*

ISC 20 15:19:52.5±0.6,**15°2S**±0.2×**177°33W**±0.10,**h372**km,**n15**, σ1**§51**/19,**mb3.9**/10,**Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**5.54**	**77**	P	**Pn**	**15 21 16.1**	**-2.9**
	46nm,0.3s,baz=94,slow=0.7,SNR=98						
AFI				S	**S**	**15 22 32.6**	**+3.3**
	baz=319,slow=20,SNR=1.5						
DZM	**Mont Dzumac**	**16.81**	**244**	P	**Pn**	**15 23 28.7**	**-1.1**
	0.6nm,0.3s,baz=65,slow=17,SNR=9.1						
URZ	**Urewera**	**23.47**	**191**	P	**P**	**15 24 29.1**	**-1.2**
	11nm,0.6s,baz=72,slow=1.8,SNR=13						
RPZ	**Rata Peaks**	**30.08**	**197**	P	**P**	**15 25 27.4**	**-1.4**
	10nm,1.1s,baz=5.6,slow=2.1,SNR=3.9						
CTA	**Charters Tower**	**34.99**	**257**	P	**P**	**15 26 11.6**	**+0.1**
	0.9nm,0.3s,baz=63,slow=9.0,SNR=3.2						
STKA	**Stephens Creek**	**40.86**	**239**	P	**P**	**15 26 59.7**	**-0.1**
	0.9nm,0.6s,baz=59,slow=12,SNR=2.3						
WRA	**Warramunga Arr**	**46.19**	**257**	P	**P**	**15 27 42.0**	**0.0**
	0.4nm,0.4s,baz=90,slow=6.9,SNR=14						
WRA				PcP	**PcP**	**15 29 11.8**	**+0.9**
	0.6nm,0.9s,baz=91,slow=3.5,SNR=3.6						
WRA				S	**S**	**15 34 00.7**	**+0.9**
	0.2nm,0.6s,baz=92,slow=14,SNR=3.5						
ASAR	**Alice Springs**	**46.56**	**252**	P	**P**	**15 27 45.9**	**+1.1**
	6.3nm,0.4s,baz=85,slow=8.4,SNR=163						
ASAR				PcP	**PcP**	**15 29 13.3**	**+1.2**
	0.7nm,0.8s,baz=92,slow=7.0,SNR=2.8						
ASAR				S	**S**	**15 34 05.3**	**+0.3**
	1.7nm,0.9s,baz=84,slow=14,SNR=14						
ILAR	**Eielson Array**	**83.05**	**13**	P	**P**	**15 31 35.5**	**-1.2**
	1.1nm,0.9s,baz=224,slow=6.3,SNR=6.7						
TXAR	**Lajitas Array**	**83.69**	**57**	P	**P**	**15 31 42.1**	**+1.2**
	1.6nm,0.7s,baz=223,slow=7.2,SNR=18						
PDAR	**Pinedale Array**	**84.70**	**43**	P	**P**	**15 31 45.6**	**-0.1**
	0.5nm,0.3s,baz=238,slow=5.0,SNR=3.7						
MAW	**Mawson**	**86.73**	**199**	P	**P**	**15 31 57.0**	**+2.1**
	5.0nm,0.7s,baz=100,slow=5.7,SNR=18						
BRTR	**Keskin Array B**	**143.55**	**318**	PKP	PKPbc	15 38 42.6	+0.4
	1.1nm,0.9s,baz=117,slow=1.4,SNR=4.2						
GERES	**GERESS Array B**	**145.26**	**347**	PKPbc	**PKPbc**	**15 38 46.9**	**-0.2**
	0.9nm,0.7s,baz=4.1,slow=1.9,SNR=4.7						
MMAI	**Mount Meron Ar**	**145.46**	**307**	PKPbc	**PKPdf**	**15 38 46.3**	**-1.0**
	0.3nm,0.3s,baz=267,slow=11,SNR=3.7						

DDA ***20*** *15:37:20.3,35.79N×36.62E,h7km,Md2.8*
CSEM ***20*** *15:37:23.5±0.8,36.00N×36.59E,h0km±5km,ML2.0,Error ellipse: s-maj=17.3km s-min=8.6km az=141.0*

ISC 20 15:37:22.2±1.7,**35°94N**±0.07×**36°61E**±0.04,**h2**km±12km, **n15**,σ1**§06**/26,**Jordan-Syria region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BTCH	**Batrach**	**0.16**	**311**	*e*P	**Pg**	**15 37 26.1**	**+0.8**
	SNR=128						
BTCH				*e*S	**Sg**	**15 37 28.5**	**+1.1**
	2μm,0.5s,SNR=124						
YAYL	**Yayladag**	**0.42**	**284**	*e*PG	**Pg**	**15 37 29.1**	**-1.1**
YAYL				*e*SG	**Sb**	**15 37 38.2**	**-0.9**
YAYL	**Yayladag**	**0.42**	**284**	*i* P	**Pg**	**15 37 29.4**	**-0.8**
YAYL				*i* S	**Sg**	**15 37 37.4**	**+1.7**
YAYL	**Yayladag**	**0.42**	**284**	P	**Pg**	**15 37 29.4**	**-0.8**
ARNB	**Al Arnab**	**0.52**	**262**	*e*P	**Pb**	**15 37 34.2**	**+0.1**
	SNR=95						
ARNB				*e*S	**Sb**	**15 37 41.5**	**-0.6**
	50nm,0.3s,SNR=94						
TAHT	**Tahtakopru-Hat**	**0.56**	**322**	*e*PG	**Pg**	**15 37 32.9**	**0.0**
TAHT	**Tahtakopru-Hat**	**0.56**	**322**	*e*Pg	**Pg**	**15 37 32.9**	**0.0**
DRWC	**Darouich**	**0.69**	**4**	*e*P	**Pg**	**15 37 34.9**	**-0.5**
	SNR=95						
DRWC				*e*S	**Sg**	**15 37 42.0**	**-2.3**
	59nm,0.4s,SNR=94						
KUZU	**Kuzuini**	**0.92**	**24**	*i* P	**Pb**	**15 37 41.1**	**+0.2**
KUZU				*i* S	**Sb**	**15 37 54.9**	**+1.3**
KUZU	**Kuzuini**	**0.92**	**24**	P	**Pb**	**15 37 41.1**	**+0.2**
KAMA	**Osmaniye**	**1.25**	**2**	*i* P	**Pn**	**15 37 46.9**	**+0.1**
KAMA				*i* S	**Sg**	**15 37 59.8**	**-2.5**
ANDN	**Andirin**	**1.66**	**353**	*i* P	**Pg**	**15 37 54.6**	**+0.7**
ANDN				*i* S	**Sn**	**15 38 14.1**	**-0.1**
ANDN	**Andirin**	**1.66**	**353**	P	**Pg**	**15 37 54.6**	**+0.7**
ANDN				S	**Sn**	**15 38 14.1**	**-0.1**
SURC	**SANLIURFA_SURC**	**1.87**	**59**	*i* P	**Pn**	**15 37 55.9**	**+0.7**
SURC				*i* S	**Sb**	**15 38 20.6**	**-0.4**
SURC	**SANLIURFA_SURC**	**1.87**	**59**	P	**Pn**	**15 37 55.9**	**+0.7**
SURC				S	**Sb**	**15 38 20.6**	**-0.4**

KRNET ***20*** *15:42:58.8±0.1,39.28N×73.53E,mb3.3*
SOME ***20*** *15:42:59.4,39.60N×73.47E,h5km*
IDC ***20*** *15:43:00.9±1.5,39.51N×74.11E,h0km,mb3.8/3, mb1 3.8/7,mb1mx3.5/46,mbtmp3.7/7,ML3.2/4,Error ellipse: s-maj=33.7km s-min=19.0km az=83.0*
NNC ***20*** *15:43:04.9±2.0,39.67N×73.86E,h0km,mb3.8,mpv3.4, Error ellipse: s-maj=16.4km s-min=10.6km az=15.0*

ISC 20 15:43:01.2±1.0,**39°65N**±0.06×**73°53E**±0.03,**h10**km,**n45**, σ2**§41**/74,**mb3.7**/3,**28C-13D**,**Tajikistan-Xinjiang border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARK	**Arkit**	**2.45**	**331**	⇑*e*P	**Pg**	**15 43 47.2**	**-1.0**
	baz=335						
ARK				⇑*e*S	**Sg**	**15 44 22.4**	**+2.4**
	baz=335						
AML	**Almayashu**	**2.48**	**3**	⇑*i*P	**Pg**	**15 43 47.6**	**-1.1**
	baz=2.0						
AML				⇑*i*S	**Sg**	**15 44 22.4**	**+1.5**
	baz=2.0						
NRN	**Naryn**	**2.59**	**46**	⇓*e*P	**Pb**	**15 43 47.5**	**-0.4**
	baz=40						
NRN				⇓*e*S	**Sg**	**15 44 23.4**	**-1.0**
	baz=40						
UCH	**Uchtor**	**2.68**	**16**	⇑*i*P	**Pb**	**15 43 50.0**	**+0.5**
	baz=14						
UCH				⇑*i*S	**Sg**	**15 44 27.1**	**-0.2**
	baz=14						
KZA	**Kyzart**	**2.75**	**28**	⇑*i*P	**Pb**	**15 43 51.1**	**+0.4**
	baz=25						
KZA				⇑*i*S	**Sg**	**15 44 29.8**	**+0.2**
	baz=25						
MNAS	**Manas**	**2.94**	**345**	⇓*e*P	**Pg**	**15 43 54.5**	**-3.0**
	baz=347						
MNAS				⇓*e*S	**Sg**	**15 44 35.6**	**0.0**
	baz=347						
MNAS	**Manas**	**2.94**	**345**	⇓Pn	**Pb**	**15 43 54.0**	**+0.3**
	11nm,0.4s						
MNAS				⇑Sn	**Sg**	**15 44 32.7**	**-2.9**
	22nm,0.6s						
MNAS				⇑Lg	Lg	15 44 39.6	
	70nm,0.7s

MDOK	**Medeo**	**4.39**	**36**	⇓Pg	**Pb**	**15 44 20.5**	**+2.0**
MDOK				⇓Lg	Lg	15 45 17.6	
MDOK	**Medeo**	**4.39**	**36**	*e*P	**Pb**	**15 44 20.3**	**+1.8**
	5.3nm,0.7s						
MDOK				*e*S	**Sg**	**15 45 18.9**	**-3.3**
	31nm,1.0s						
KOTS	**Kotyrbulak**	**4.48**	**36**	*e*P	**Pb**	**15 44 22.4**	**+2.4**
KOTS				*e*S	**Sg**	**15 45 22.5**	**-2.4**
KTBS	**Karatobe**	**4.69**	**29**	*e*P	**Pg**	**15 44 27.1**	**-3.9**
KTBS				*e*S	**Sg**	**15 45 30.3**	**-1.5**
CHKK	**Chushkaly**	**4.93**	**30**	*e*P	**Pg**	**15 44 31.9**	**-3.7**
	3.9nm,0.6s						
CHKK				*e*S	**Sg**	**15 45 38.7**	**-0.7**
	28nm,0.8s						
SATY	**Saty**	**5.00**	**46**	*e*P	**Pb**	**15 44 32.0**	**+3.1**
	11nm,0.7s						
SATY				*e*S	**Sg**	**15 45 38.8**	**-2.9**
	16nm,1.0s						
KURS	**Kuram**	**5.17**	**41**	*e*P	**Pg**	**15 44 38.1**	**-2.1**
KURS				*e*S	**Sg**	**15 45 49.6**	**+2.3**
UZB	**Uzynbulak**	**5.41**	**48**	*e*P	**Pb**	**15 44 38.7**	**+2.9**
	2.3nm,0.5s						
UZB				*e*S	**Sg**	**15 45 50.4**	**-4.3**
	5.9nm,0.5s						
ARXS	**Arharly**	**5.57**	**34**	*e*P	**Pb**	**15 44 42.6**	**+4.1**
	4.3nm,0.9s						
ARXS				*e*S	**Sg**	**15 45 57.1**	**-2.8**
	25nm,0.9s						
PDGK	**Podgornoye**	**5.79**	**49**	⇓Pn	**Pn**	**15 44 30.0**	**+2.8**
	2.9nm,1.0s						
PDGK				⇓Lg	Lg	15 46 00.6	
	18nm,0.9s						
DJR	**Jarkent**	**6.60**	**43**	*e*P	Pg	15 45 01.7	-5.9
	3.5nm,0.8s						
DJR				*e*S	**Sg**	**15 46 30.2**	**-2.8**
	7.7nm,0.7s						
KAPS	**Kapalarasan**	**7.08**	**35**	*e*P	Pg	15 45 10.7	-6.1
	1.6nm,0.6s						
KAPS				*e*S	**Sg**	**15 46 44.6**	**-3.9**
	4.9nm,0.9s						
BVAR	**Borovoye Array**	**13.55**	**352**	Pn	**Pn**	**15 46 15.9**	**+2.5**
	0.1nm,0.3s,baz=162,slow=15,SNR=8.1						
BVAR				Lg	Lg	15 50 13.7	
	0.1nm,0.3s,baz=150,slow=30,SNR=3.4						
AB31	**Akbulak array**	**13.63**	**319**	P	P	15 46 17.9	-5.5
	1.4nm,0.8s,baz=127,slow=14,SNR=11						
AKTO	**Aktyubinsk**	**15.35**	**320**	Pn	**P**	**15 46 42.2**	**-0.2**
	0.2nm,0.3s,baz=122,slow=12,SNR=3.5						
AKTO	**Aktyubinsk**	**15.35**	**320**	⇑P	**P**	**15 46 42.8**	**+0.3**
	2.0nm,0.8s						
ZALV	**Zalesovo Beam**	**16.22**	**24**	Pn	**P**	**15 46 50.0**	**-2.1**
	0.2nm,0.3s,baz=220,slow=13,SNR=2.4						
FINES	**FINESS Array B**	**36.08**	**323**	P	P	15 50 05.9	+3.2
	0.8nm,0.5s,baz=116,slow=9.4,SNR=4.2						
ARCES	**ARCESS Array B**	**39.05**	**335**	P	**P**	**15 50 30.8**	**+3.0**
	1.7nm,0.8s,baz=96,slow=8.4,SNR=2.8						
WRA	**Warramunga Arr**	**82.02**	**124**	P	**P**	**15 55 20.7**	**-0.9**
	0.3nm,0.6s,baz=326,slow=4.7,SNR=5.3						

NIED ***20*** *15:46:00,38.90N×142.60E,h41km,Mw3.7 Best double couple: M0.3.99000×1014 NP1:φs61.00000°, δ36.00000°, λ94.00000°. NP2:φs236.00000°, δ54.00000°, λ87.00000°.*
JMA ***20*** *15:46:27.8±0.1,38.93N×142.50E,h39km±1km,M4.0*
JMA Felt II J1.
IDC ***20*** *15:46:30.0±3.0,38.84N×142.60E,h64km±28km,mb3.5/7, mb1 3.7/10,mb1mx3.4/45,mbtmp3.8/10,ML3.2/3,Error ellipse: s-maj=28.9km s-min=16.1km az=87.0*

ISC 20 15:46:25.4±2.2,38.88N±0.05×142.67E±0.08,h23km±15km, n28,σ2s16/30,mb3.9/7,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OFUJ	**Ofunato**	**0.81**	**285**	P	**Pb**	**15 46 40.9**	**+0.2**
OFUJ				S	**Sb**	**15 46 50.1**	**-1.1**
MIYJ	**Miyakonagasawa**	**0.96**	**317**	P	**Pn**	**15 46 43.2**	**-0.2**
MIYJ				S	**Sb**	**15 46 54.3**	**-1.3**
JIO	**Ouri**	**1.12**	**248**	P	**Pn**	**15 46 45.3**	**-0.2**
JIO				S	**Sn**	**15 46 57.9**	**-2.2**
JMK	**Ichinoseki**	**1.13**	**274**	P	**Pn**	**15 46 45.8**	**0.0**
JMK				S	**Sn**	**15 46 58.7**	**-1.9**
JOM	**Ohasama**	**1.23**	**300**	P	**Pn**	**15 46 47.1**	**+0.1**
JOM				S	**Sn**	**15 47 01.2**	**-1.7**
JTH	**Tanohata**	**1.23**	**330**	P	**Pn**	**15 46 47.2**	**+0.1**
JOU	**Okura**	**1.65**	**253**	P	**Pn**	**15 46 53.6**	**+0.7**
JOU				S	**Sn**	**15 47 12.6**	**-0.8**
JRG	**Rokugo**	**1.67**	**289**	P	**Pn**	**15 46 53.6**	**+0.5**
JANG	**Nango**	**1.74**	**330**	P	**Pn**	**15 46 54.3**	**+0.2**
JMM	**Marumori**	**1.79**	**236**	P	**Pn**	**15 46 55.2**	**+0.5**
JYK	**Kaneyama**	**1.80**	**272**	P	**Pn**	**15 46 55.5**	**+0.5**
MAT	**Matsushiro**	**4.24**	**238**	P	**Pn**	**15 47 30.8**	**+2.3**
MAT				*e*S	**Sn**	**15 48 22.5**	**+5.3**
MJAR	**Matsushiro Arr**	**4.24**	**238**	P	**Pn**	**15 47 30.4**	**+2.0**
	3.6nm,0.3s,baz=85,slow=16,SNR=32						
JHJ	**Hachijo jima 2**	**6.20**	**203**	P	**Pn**	**15 47 57.6**	**+2.2**
	5.5nm,0.3s,baz=120,slow=20,SNR=1.8						
JHJ				S	**Sn**	**15 48 59.2**	**-6.4**
	7.2nm,0.3s,baz=45,slow=20,SNR=1.9						
USRK	**Ussuriysk Ar.**	**9.61**	**307**	P	**Pn**	**15 48 46.4**	**+4.2**
	0.3nm,0.3s,baz=114,slow=15,SNR=9.3						
SEY	**Seymchan**	**24.80**	**11**	P	**P**	**15 51 46.9**	**+1.7**
	0.5nm,0.4s,baz=231,slow=6.5,SNR=4.1						
H11N2	**WAKE ISLAND Hy 28.32**	**125**		T	T	16 22 47.2	
	baz=318,slow=75,SNR=129						
H11N1	**WAKE ISLAND Hy 28.33**	**125**		T	T	16 22 48.0	
	baz=318,slow=75,SNR=222						
H11N3	**WAKE ISLAND Hy 28.34**	**125**		T	T	16 22 48.6	
	baz=318,slow=75,SNR=285						
H11S1	**WAKE ISLAND Hy 29.11**	**127**		T	T	16 23 47.5	
	baz=319,slow=76,SNR=51						
H11S3	**WAKE ISLAND Hy 29.11**	**127**		T	T	16 23 46.6	
	baz=319,slow=76,SNR=67						
H11S2	**WAKE ISLAND Hy 29.12**	**127**		T	T	16 23 46.8	
	baz=319,slow=76,SNR=49						
ZALV	**Zalesovo Beam**	**41.44**	**311**	P	**P**	**15 54 10.0**	**+0.1**
	0.5nm,0.4s,baz=98,slow=6.3,SNR=2.7						
MKAR	**Makanchi Array**	**44.01**	**301**	P	**P**	**15 54 30.4**	**-0.4**
	0.5nm,0.7s,baz=92,slow=8.3,SNR=4.0						
KURBB	**Kurchatov Arra**	**45.67**	**307**	P	**P**	**15 54 43.2**	**-0.8**
	1.0nm,0.4s,baz=82,slow=8.3,SNR=8.2						
ILAR	**Eielson Array**	**47.41**	**33**	P	**P**	**15 54 57.2**	**-0.3**
	0.9nm,0.8s,baz=264,slow=6.5,SNR=9.0						
WRA	**Warramunga Arr**	**59.03**	**189**	P	**P**	**15 56 22.9**	**-0.5**
	1.5nm,0.5s,baz=6.7,slow=7.0,SNR=25						
ASAR	**Alice Springs**	**62.75**	**189**	P	**P**	**15 56 48.8**	**+0.1**
	0.4nm,0.4s,baz=7.4,slow=7.2,SNR=9.2						

ISK ***20*** *15:52:34.8,36.91N×34.28E,h8km,MD2.5*
ISCJB ***20*** *15:52:35.4±0.7,36.84N±0.04×34.44E±0.07,h25km±7km, Error ellipse: s-maj=11.3km s-min=4.9km az=31.5*
CSEM ***20*** *15:52:35.9±0.3,36.87N×34.30E,h10km,MD2.5,Error ellipse: s-maj=7.2km s-min=4.4km az=122.0*
DDA ***20*** *15:52:35.9,36.86N×34.41E,h7km,Md2.5*

ISC 20 15:52:35.5±0.9,36.86N±0.03×34.33E±0.05,h14km±10km, n22,σ0s46/34,Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MERS	**Mersin**	**0.16**	**88**	*e*PG	**Pg**	**15 52 39.5**	**+0.1**
MERS				*e*SG	**Sg**	**15 52 42.2**	**+0.1**
MERS	**Mersin**	**0.16**	**88**	*e*Pg	**Pg**	**15 52 39.5**	**+0.1**
MERS				*e*Sg	**Sg**	**15 52 42.2**	**+0.1**
DED	**Mersin**	**0.39**	**75**	*i* P	**Pg**	**15 52 42.9**	**-0.5**
DED				*i* S	**Sg**	**15 52 47.6**	**-1.2**
KIZK	**Mersin**	**0.41**	**201**	*e*PG	**Pb**	**15 52 44.7**	**+0.2**
KIZK				*e*SG	**Sb**	**15 52 50.6**	**0.0**
KIZK	**Mersin**	**0.41**	**201**	*i* P	**Pb**	**15 52 44.8**	**+0.2**
KIZK				*i* S	**Sb**	**15 52 51.0**	**+0.4**
KIZK	**Mersin**	**0.41**	**201**	P	**Pb**	**15 52 44.8**	**+0.2**
KIZK				S	**Sb**	**15 52 51.0**	**+0.4**
GULE	**Gulek**	**0.55**	**40**	*i* S	**Sg**	**15 52 53.4**	**-0.5**
GULE	**Gulek**	**0.55**	**40**	S	**Sg**	**15 52 53.4**	**-0.5**
SLFK	**Silifke-Mersin**	**0.56**	**213**	*e*PG	**Pg**	**15 52 46.6**	**+0.1**
SLFK				*e*SG	**Sb**	**15 52 55.1**	**+0.2**
SLFK	**Silifke-Mersin**	**0.56**	**213**	*e*Pg	**Pg**	**15 52 46.6**	**+0.1**
SLFK				*e*Sg	**Sb**	**15 52 55.1**	**+0.2**
KERG	**Konya-Eregli**	**0.57**	**344**	*i* P	**Pb**	**15 52 47.9**	**+0.4**
KERG				*i* S	**Sb**	**15 52 56.1**	**+0.5**
KERG	**Konya-Eregli**	**0.57**	**344**	P	**Pb**	**15 52 47.9**	**+0.4**
KERG				S	**Sb**	**15 52 56.1**	**+0.5**
IKL	**Isikli**	**0.81**	**220**	*e*PG	**Pg**	**15 52 51.5**	**+0.3**
IKL				*e*SG	**Sb**	**15 53 02.8**	**+0.7**
IKL	**Isikli**	**0.81**	**220**	*e*Pg	**Pg**	**15 52 51.5**	**+0.3**
IKL				*e*Sg	**Sb**	**15 53 02.8**	**+0.7**
AKKU	**Akkuyu-Mersin**	**0.94**	**222**	*e*PG	**Pg**	**15 52 53.7**	**0.0**
AKKU	**Akkuyu-Mersin**	**0.94**	**222**	*e*Pg	**Pg**	**15 52 53.7**	**0.0**
BERE	**Bereket-Mersin**	**1.03**	**240**	*e*PG	**Pg**	**15 52 54.5**	**-0.9**
BERE	**Bereket-Mersin**	**1.03**	**240**	*e*Pg	**Pg**	**15 52 54.5**	**-0.9**
TEKE	**Tekeli-Mersin**	**1.21**	**234**	*e*PN	**Pb**	**15 52 57.9**	**-0.3**
TEKE	**Tekeli-Mersin**	**1.21**	**234**	*e*Pn	**Pb**	**15 52 57.9**	**-0.3**
HDMB	**Hadim**	**1.48**	**274**	*e*PN	**Pn**	**15 53 01.9**	**0.0**
HDMB	**Hadim**	**1.48**	**274**	*e*Pn	**Pn**	**15 53 01.9**	**0.0**

WEL 20 15:58:33.9±0.6,45.99S×165.85E,h12km,ML3.6/10, 1C-1D,Error ellipse: s-maj=5.8km s-min=2.6km az=90.0, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PYZ	**Puysegur Point**	**0.61**	**107**	P*	Pg	15 58 45.3	-0.4
PYZ				S*	Sb	15 58 54.4	-0.5
PYZ				AML	AML	15 58 54.7	
PYZ				AML	AML	15 58 54.8	
PYZ				AML	AML	15 58 54.9	
DCZ	**Deep Cove**	**1.05**	**61**	⇑P*	Pb	15 59 06.8	-1.2
DCZ				*e*S*	Sb	15 59 06.7	-1.0
DCZ				AML	AML	15 59 11.7	
DCZ				AML	AML	15 59 11.7	
DCZ				AML	AML	15 59 16.9	
WHZ	**Wether Hill Ro**	**1.47**	**87**	⇓PN	Pn	15 58 59.3	-0.9
WHZ				*e*SN	Sn	15 59 18.5	-0.8
WHZ				AML	AML	15 59 23.1	
MLZ	**Mavora Lakes**	**1.71**	**70**	PN	Pn	15 59 04.1	+0.6
MLZ				*e*SN	Sb	15 59 27.3	+0.6
MLZ				AML	AML	15 59 31.1	
MSZ	**Milford Sound**	**1.97**	**49**	PN	Pn	15 59 07.8	+0.8
MSZ				AML	AML	15 59 48.5	
MSZ				AML	AML	15 59 51.5	
SYZ	**Scrubby Hill**	**2.35**	**105**	PN	Pn	15 59 11.6	-0.6
SYZ				SN	Sn	15 59 40.4	-0.6
SYZ				AML	AML	15 59 49.1	
WKZ	**Wanaka**	**2.52**	**64**	PN	Pn	15 59 16.1	+1.5
WKZ				AML	AML	15 59 55.8	
WKZ				AML	AML	15 59 59.7	
EAZ	**Earnscleugh**	**2.54**	**74**	PN	Pn	15 59 16.1	+1.2
EAZ				AML	AML	15 59 52.1	
EAZ				AML	AML	15 59 54.7	
TUZ	**Tuapeka**	**2.64**	**91**	PN	Pn	15 59 16.4	+0.2
TUZ				SN	Sn	15 59 48.1	0.0
TUZ				AML	AML	15 59 57.8	
JCZ	**Jackson Bay**	**2.83**	**48**	PN	Pn	15 59 19.9	+1.0
JCZ				AML	AML	16 00 10.2	
JCZ				AML	AML	16 00 16.2	
LBZ	**Lake Benmore**	**3.46**	**64**	PN	Pn	15 59 27.7	+0.1
ODZ	**Otahua Downs**	**3.50**	**76**	PN	Pn	15 59 27.3	-0.8
FOZ	**Fox Glacier**	**3.74**	**50**	PN	Pn	15 59 32.1	+0.7

JMA 20 16:27:45.6±0.2,35.70N×143.59E,h41km,M3.9,Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JHO	**Hitachi**	**2.61**	**291**	P	Pn	16 28 26.6	+1.4
JHO				*e*S	Sn	16 28 57.5	+1.8
ONAJ	**Iwakimizuishiy**	**2.65**	**303**	S	Sn	16 28 58.6	+1.8
JFK	**Kawauchi**	**2.75**	**308**	P	Pn	16 28 28.6	+1.4
JFK				*e*S	Sn	16 29 01.1	+1.9
JYT	**Yasato**	**2.81**	**282**	P	Pn	16 28 29.6	+1.7
JFT	**Otama**	**3.19**	**306**	P	Pn	16 28 35.5	+2.3
JFT				*e*S	Sn	16 29 12.8	+2.9
JAG	**Ashikaga**	**3.43**	**283**	P	Pn	16 28 38.4	+1.9
JMK	**Ichinoseki**	**3.75**	**331**	P	Pn	16 28 42.4	+1.4
JMK				S	Sn	16 29 24.7	+0.8
JRY	**Ryogami san**	**3.82**	**276**	P	Pn	16 28 44.2	+2.3
JYK	**Kaneyama**	**4.12**	**322**	P	Pn	16 28 48.1	+2.1

IDC 20 16:28:05.9±62.0,21.47S×178.59W,h0km,mb4.3/3, mb1 4.5/3,mb1mx3.9/28,mbtmp4.3/3,Error ellipse: s-maj=1119.0km s-min=152.3km az=84.0,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**36.88**	**245**	P	P	16 35 15.1	-1.3
	1.5nm,0.4s,baz=96,slow=10.0,SNR=7.8						
ASAR	**Alice Springs**	**43.77**	**258**	P	P	16 36 13.6	-0.1
	2.3nm,0.6s,baz=95,slow=7.4,SNR=55						
WRA	**Warramunga Arr**	**43.93**	**263**	P	P	16 36 15.7	+0.8
	2.4nm,0.4s,baz=93,slow=8.4,SNR=101						

ISCJB ***20*** *16:32:38.3±0.2,6.85N±0.03×73.07W±0.02,h161km±1km, mb4.2/39,Error ellipse: s-maj=4.7km s-min=3.2km az=139.0*
NEIC ***20*** *16:32:39.6±0.4,6.81N×73.10W,h158km±5km,mb4.2/32, Error ellipse: s-maj=8.0km s-min=7.0km az=79.0*
IDC ***20*** *16:32:39.0±0.7,6.78N×72.97W,h162km±7km,mb3.7/8, mb1 3.9/12,mb1mx3.7/32,mbtmp4.2/12,Error ellipse: s-maj=13.2km s-min=10.5km az=108.0*
RSNC ***20*** *16:32:40.4±1.2,6.79N×73.13W,h152km±7km,ML4.3, Mw4.5*
FUNV ***20*** *16:32:41.9,6.88N×72.98W,h160km,MW3.8*

ISC 20 16:32:39.2±0.5,6.86N±0.03×73.03W±0.04,h159km±4km, n328,σ1s10/357,mb4.2/39,3C-6D,Northern Colombia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BTLC	**Betulia, Santa**	**0.25**	**284**	*e*P	**Pn**	**16 33 00.9**	**-0.1**
BARC	**Barichara**	**0.31**	**210**	*i* P	**Pn**	**16 33 00.7**	**-0.4**
BARC				*e*S	**Sn**	**16 33 16.1**	**-1.8**
BARC				*i*		16 33 18.2	
	comp=Z,3μm,0.4s						
PAMC	**Pamplona, Colo**	**0.58**	**34**	*i* P	**Pn**	**16 33 03.5**	**+1.0**
PAMC				*e*S	**Sn**	**16 33 20.9**	**+0.5**
BRRC	**Barranca, Sant**	**0.72**	**290**	⇓*i* P	**Pn**	**16 33 02.6**	**-0.2**
BRRC				*i*		16 33 02.9	
	comp=Z,5μm,0.1s						
BRRC				*e*S	**Sn**	**16 33 20.0**	**-0.8**
RUSC	**La Rusia**	**0.96**	**183**	⇓*i* P	**Pn**	**16 33 04.5**	**-0.6**
RUSC				*e*S	**Sn**	**16 33 23.5**	**-1.5**
RUSC	**La Rusia**	**0.96**	**183**	*e*Pn	**Pn**	**16 33 04.4**	**-0.6**
GUEC	**Guerrero, Nort**	**0.97**	**6**	*e*P	**Pn**	**16 33 06.0**	**+1.0**
CAPV	**Capacho**	**1.23**	**35**	⇓*e*P	**Pn**	**16 33 08.6**	**+1.6**
CAPV				*e*S	**Sn**	**16 33 28.5**	**+0.1**
OCAC	**Ocana**	**1.40**	**348**	*i* P	**Pn**	**16 33 09.3**	**+0.7**
OCAC				*e*S	**Sn**	**16 33 32.2**	**+0.9**
OCAC				*i*		16 33 36.6	
	comp=Z,4μm,0.4s						
YOPC	**Yopal, Colombi**	**1.61**	**158**	*i* P	**Pn**	**16 33 11.2**	**+0.5**
YOPC				*e*S	**Sn**	**16 33 33.9**	**-1.1**
ZARC	**Zaragoza, Cauc**	**1.92**	**289**	*e*P	**Pn**	**16 33 12.8**	**-1.2**
ZARC				*e*S	**Sn**	**16 33 38.7**	**-2.1**
ZARC				*i*		16 33 44.4	
	comp=Z,3μm,0.3s						
NORC	**Norcasia**	**2.24**	**235**	*e*P	**Pn**	**16 33 16.3**	**-1.4**
NORC				*e*S	**Sn**	**16 33 44.2**	**-3.2**
CHIC	**Chingaza**	**2.32**	**198**	⇓*i* P	**Pn**	**16 33 18.4**	**-0.7**
CHIC				*e*S	**Sn**	**16 33 47.8**	**-2.0**
CHIC				*i*		16 33 55.7	
	comp=Z,787nm,0.5s						
ROSC	**El Rosal**	**2.38**	**213**	P	**Pn**	**16 33 20.2**	**+0.5**
	comp=Z,121nm,0.3s,baz=173,slow=22,SNR=110						
ROSC				S	**Sn**	**16 33 50.4**	**-0.6**
	comp=Z,87nm,0.3s,baz=134,slow=16,SNR=7.8						
ROSC	**El Rosal**	**2.38**	**213**	⇓*i* P	**Pn**	**16 33 20.2**	**+0.5**
ROSC				*i*		16 33 58.1	
	comp=Z,1μm,0.6s						
ROSC	**El Rosal**	**2.38**	**213**	*e*Pn	**Pn**	**16 33 20.0**	**+0.3**
VIGV	**El Vigia**	**2.57**	**40**	⇓*e*P	**Pn**	**16 33 23.0**	**+1.4**
VIGV				*e*S	**Sn**	**16 33 52.7**	**-1.7**
HELC	**Santa Helena**	**2.57**	**255**	*e*P	**Pn**	**16 33 20.5**	**-1.5**
HELC				*e*S	**Sn**	**16 33 53.3**	**-1.7**
HELC				*i*		16 34 00.3	
	comp=Z,1μm,0.5s						
HELC	**Santa Helena**	**2.57**	**255**	*e*Pn	**Pn**	**16 33 22.3**	**+0.4**
SOCV	**Socops**	**2.58**	**57**	*e*P	**Pn**	**16 33 22.9**	**+1.1**
SOCV				*e*S	**Sn**	**16 33 52.8**	**-1.8**
VILC	**Villavicencio,**	**2.81**	**194**	*e*P	**Pn**	**16 33 23.5**	**-1.2**
GUYC	**Guyana, Colomb**	**2.86**	**235**	*e*P	**Pn**	**16 33 24.7**	**-0.9**
GUYC				*e*S	**Sn**	**16 33 59.6**	**-1.8**
GUYC				*i*		16 34 06.3	
	comp=Z,2μm,0.4s						
CODC	**Agust^>n Codaz**	**3.08**	**352**	⇑*i* P	**Pn**	**16 33 28.1**	**+0.1**
CODC				*i*		16 34 15.6	
	comp=Z,1μm,0.5s						
SDV	**Santo Domingo**	**3.11**	**50**	*e*Pn	**Pn**	**16 33 29.8**	**+1.3**
SDV	**Santo Domingo**	**3.11**	**50**	*e*P	**Pn**	**16 33 30.1**	**+1.6**
DBBC	**Dabeiba**	**3.16**	**273**	*e*P	**Pn**	**16 33 28.9**	**-0.1**
TOLC	**Tolima**	**3.21**	**225**	*e*P	**Pn**	**16 33 30.0**	**+0.1**
MOTC	**Monteria, Cord**	**3.23**	**306**	⇑*i* P	**Pn**	**16 33 27.7**	**-2.2**
MOTC				*i*		16 34 21.7	
	comp=Z,614nm,0.4s						
ELOV	**Elorza**	**3.52**	**87**	*e*P	**Pn**	**16 33 34.6**	**+1.1**
PRAC	**Prado**	**3.63**	**211**	*e*P	**Pn**	**16 33 33.6**	**-1.4**
PRAC	**Prado**	**3.63**	**211**	*e*Pn	**Pn**	**16 33 33.5**	**-1.4**
VIRV	**Villa del Rosa**	**3.67**	**10**	*e*P	**Pn**	**16 33 35.5**	**+0.1**
VIRV				*e*S	**Sn**	**16 34 16.2**	**-3.2**
SJCC	**San Jacinto, C**	**3.69**	**325**	⇑*i* P	**Pn**	**16 33 34.4**	**-1.4**
SJCC				*i*		16 34 20.7	
	comp=Z,611nm,0.5s						
QARV	**Quebrada Arrib**	**4.15**	**36**	*e*P	**Pn**	**16 33 43.2**	**+1.5**
SANV	**Sanarito**	**4.34**	**53**	*e*P	**Pn**	**16 33 45.0**	**+0.7**
CURV	**Curarigua**	**4.36**	**44**	*e*P	**Pn**	**16 33 45.1**	**+0.6**
CURV				*e*S	**Sn**	**16 34 32.3**	**-3.1**
SOLC	**Bahia Solano**	**4.40**	**262**	*e*P	**Pn**	**16 33 46.1**	**+1.3**
CAPC	**Capurgana**	**4.63**	**293**	*e*P	**Pn**	**16 33 45.1**	**-2.8**
CAPC				*i*		16 34 39.6	
	comp=Z,234nm,0.6s						
DABV	**Dabajuro**	**4.68**	**30**	*e*P	**Pn**	**16 33 49.1**	**+0.6**
DABV				*e*S	**Sn**	**16 34 39.2**	**-3.5**
TEPV	**Terepaima**	**4.89**	**51**	*e*P	**Pn**	**16 33 52.4**	**+1.0**
URIC	**Uribia, Colomb**	**4.92**	**12**	*e*P	**Pn**	**16 33 51.0**	**-0.7**
SIQV	**Siquisique**	**4.93**	**40**	*e*P	**Pn**	**16 33 51.4**	**-0.5**
SIQV				*e*S	**Sn**	**16 34 44.6**	**-4.1**
MALC	**Bahia Malaga**	**5.14**	**237**	*e*P	**Pn**	**16 33 54.0**	**-0.6**
BAUV	**El Baul**	**5.36**	**67**	*e*P	**Pn**	**16 33 56.7**	**-0.7**
BAUV				*e*S	**Sn**	**16 34 52.8**	**-5.9**
MAPV	**Macapo**	**5.40**	**57**	*e*P	**Pn**	**16 33 58.5**	**+0.4**
MONV	**Montecano**	**5.89**	**31**	*e*P	**Pn**	**16 34 04.8**	**+0.2**
BCIP	**Isla Barro Col**	**7.12**	**289**	*e*Pn	**Pn**	**16 34 18.3**	**-2.6**
BIRV	**Birongo**	**7.59**	**61**	*e*P	**Pn**	**16 34 26.5**	**-0.6**
CUPV	**Cœpira**	**7.83**	**66**	*e*P	**Pn**	**16 34 29.6**	**-0.9**
OTAV	**Otavalo**	**8.52**	**220**	*e*Pn	**Pn**	**16 34 40.5**	**+0.6**
PCRV	**Puerto La Cruz**	**8.93**	**68**	P	**Pn**	**16 34 45.6**	**+0.6**
	comp=Z,1.1nm,0.3s,baz=180,slow=1.0,SNR=5.4						
PCRV				S	**Sn**	**16 36 26.1**	**+1.8**
	comp=Z,1.8nm,0.3s,baz=228,slow=12,SNR=2.3						
MTDJ	**Mount Denham**	**12.12**	**339**	*e*Pn	**Pn**	**16 35 29.6**	**+2.6**
MTDJ				*e*Sn	**Sn**	**16 37 36.3**	**-4.9**
IDE	**Isla Desecheo**	**12.67**	**25**	*e*Pn	**Pn**	**16 35 33.7**	**-0.2**
SJG	**San Juan**	**13.04**	**30**	P	**Pn**	**16 35 37.7**	**-0.9**
	comp=Z,2.3nm,0.3s,baz=195,slow=14,SNR=3.6						
PTGA	**Pitinga**	**15.06**	**120**	P	**Pn**	**16 36 03.3**	**-0.7**
	comp=Z,0.2nm,0.3s,baz=299,slow=19,SNR=3.2						
PTGA	**Pitinga**	**15.06**	**120**	*e*Pn	**P**	**16 36 07.6**	**+2.1**
	comp=Z,19nm,1.0s						
SAML	**Samuel**	**18.52**	**148**	*e*P	**P**	**16 36 42.3**	**-1.3**
	comp=Z,8.5nm,0.8s						
SAML				*e*S	**Sn**	**16 40 10.2**	**-4.2**
LPAZ	**La Paz**	**23.50**	**168**	P	**P**	**16 37 34.1**	**-1.4**
	comp=Z,0.9nm,0.3s,baz=346,slow=6.4,SNR=9.9						
LPAZ				pP	**pP**	**16 38 07.0**	**+0.9**
	comp=Z,3.5nm,0.8s,baz=356,slow=9.4,SNR=4.7						
LPAZ	**La Paz**	**23.50**	**168**	*e*P	**P**	**16 37 34.5**	**-1.0**
	comp=Z,3.1nm,0.8s						
SIV	**San Ignacio**	**25.60**	**153**	P	**P**	**16 37 52.2**	**-1.7**
	comp=Z,2.3nm,0.8s,baz=326,slow=9.2,SNR=3.8						
347A	**Saraland**	**28.40**	**331**	P	**P**	**16 38 20.4**	**+1.6**
	baz=146						
247A	**Quitman**	**28.98**	**332**	P	**P**	**16 38 25.3**	**+1.5**
	baz=147						
KMSC	**Kings Mountain**	**29.17**	**346**	P	**P**	**16 38 26.6**	**+1.1**
	baz=163						
147A	**Livingston**	**29.34**	**333**	P	**P**	**16 38 28.2**	**+1.1**
	baz=148						
443A	**Delano Plantat**	**29.57**	**326**	P	**P**	**16 38 30.6**	**+1.5**

W39A	**Magazine** baz=141,SNR=5.3	34.05 329	P	P	16 39 09.3	+1.0
U41A	**Viola** baz=145,SNR=6.4	34.06 332	P	P	16 39 09.2	+0.9
433A	**Art** baz=129,SNR=9.6	34.08 318	P	P	16 39 08.7	+0.1
Y37A	**Hugo** baz=137	34.13 325	P	P	16 39 09.2	+0.2
X38A	**Whitesboro** baz=139	34.20 327	P	P	16 39 10.5	+0.9
T42A	**Van Buren** baz=147	34.25 334	P	P	16 39 10.7	+0.8
S43A	**Fulton Ridge,** baz=149	34.28 336	P	P	16 39 10.8	+0.6
333A	**Richland Sprin** baz=130	34.37 318	P	P	16 39 11.5	+0.4
X37A	**Clayton** baz=138	34.44 326	P	P	16 39 12.4	+0.8
R44A	**Waltonville** baz=151	34.47 337	P	P	16 39 12.9	+1.2
V39A	**Pettigrew** baz=142	34.48 330	P	P	16 39 13.1	+1.0
U40A	**Yellville** baz=144,SNR=11	34.51 331	P	P	16 39 13.2	+1.0
T41A	**Mountain View** baz=146,SNR=5.5	34.56 333	P	P	16 39 13.4	+0.8
S42A	**Caledonia** baz=148,SNR=5.3	34.74 335	P	P	16 39 14.8	+0.6
233A	**Rising Star** baz=131	34.76 319	P	P	16 39 15.2	+0.8
R43A	**Red Bud** baz=150	34.82 336	P	P	16 39 15.5	+0.6
U39A	**Green Forest** baz=143	34.83 330	P	P	16 39 15.6	+0.7
V38A	**Canehill** baz=141,SNR=7.0	34.89 329	P	P	16 39 15.7	+0.2
Y35A	**Marietta** baz=135	34.89 324	P	P	16 39 16.7	+1.2
X36A	**Centrahoma** baz=137	34.97 325	P	P	16 39 16.7	+0.5
T40A	**Mansfield** baz=145,SNR=5.1	34.99 332	P	P	16 39 17.1	+0.8
S41A	**Jillco Farms,** baz=146,SNR=5.8	35.00 334	P	P	16 39 17.2	+0.8
Q44A	**Meyer Farm, Va** baz=152	35.02 338	P	P	16 39 17.5	+1.0
R42A	**Luebbering** baz=148	35.18 335	P	P	16 39 18.7	+0.8
X35A	**Drake** baz=136	35.20 324	P	P	16 39 18.6	+0.4
V37A	**Hulbert** baz=140	35.29 328	P	P	16 39 19.4	+0.5
BINY	**Binghamton** comp=Z,43nm,1.0s	35.29 356	*e*P	P	16 39 20.1	+1.3
T39A	**Clever** baz=144	35.29 331	P	P	16 39 19.8	+0.8
W36A	**Wetumka** baz=138	35.32 326	P	P	16 39 19.7	+0.5
U38A	**Gravette** baz=142	35.33 329	P	P	16 39 19.7	+0.5
S40A	**Lebanon** baz=145,SNR=12	35.35 333	P	P	16 39 20.3	+0.9
R41A	**Rosebud** baz=148,SNR=7.1	35.44 335	P	P	16 39 20.8	+0.7
ABTX	**Abilene, Hawle** baz=130	35.63 320	P	P	16 39 23.0	+1.1
V36A	**Jenks** baz=139	35.64 327	P	P	16 39 23.1	+1.2
TUL1	**Leonard** baz=139	35.65 327	P	P	16 39 22.5	+0.6
U37A	**Salina** baz=140	35.67 329	P	P	16 39 22.1	-0.1
SFIN	**Lafayette** baz=156,SNR=5.3	35.68 341	P	P	16 39 23.3	+1.2
SFIN	**Lafayette** comp=Z,18nm,0.6s	35.68 341	*e*P	P	16 39 22.8	+0.7
W35A	**Tecumseh** baz=137	35.69 325	P	P	16 39 22.5	+0.2
T38A	**Diamond** baz=142	35.75 330	P	P	16 39 23.1	+0.3
S39A	**Bolivar** baz=144	35.80 332	P	P	16 39 24.0	+0.8
R40A	**Maddies Statio** baz=146	35.82 334	P	P	16 39 23.9	+0.6
P43A	**Skaggs, Pawnee** baz=152	35.85 338	P	P	16 39 24.2	+0.6
Q41A	**Truxton** baz=148	35.93 335	P	P	16 39 24.9	+0.6
U36A	**Oologah** baz=140	35.99 328	P	P	16 39 25.6	+0.8
S38A	**Stockton** baz=143	36.03 331	P	P	16 39 25.5	+0.4
P42A	**Winchester** baz=150	36.12 337	P	P	16 39 26.4	+0.5
T37A	**Cheneyville 18** baz=141,SNR=6.3	36.13 330	P	P	16 39 26.1	+0.1
R39A	**Chumby, Stover** baz=145,SNR=6.4	36.18 333	P	P	16 39 26.7	+0.3
Q40A	**Laux Farm, Aux** baz=147,SNR=6.4	36.32 335	P	P	16 39 28.2	+0.6
P41A	**Barry, Barry** baz=149	36.48 336	P	P	16 39 29.4	+0.5
R38A	**Fenwick Farm,** baz=144	36.48 332	P	P	16 39 29.3	+0.4
U35A	**Pawnee** baz=138	36.50 327	P	P	16 39 29.6	+0.4
WMOK	**Wichita Mounta** baz=134	36.51 323	P	P	16 39 29.5	+0.2
TXAR	**Lajitas Array** comp=Z,2.0nm,0.6s,baz=127,slow=9.0,SNR=30	36.51 312	P	P	16 39 30.2	+0.7
TXAR	comp=Z,0.4nm,0.6s,baz=132,slow=5.1,SNR=5.1		PcP	PcP	16 41 51.0	+1.2
TX31	**Lajitas Ar. Si**	36.51 312	*e*P	P	16 39 29.9	+0.5
S37A	**Fort Scott** baz=142	36.58 330	P	P	16 39 30.0	+0.2
P40A	**Paris** baz=148	36.76 335	P	P	16 39 31.9	+0.6
O41A	**Passleys Farm,** baz=150	36.78 337	P	P	16 39 32.1	+0.6
T35A	**Sooner Cattle** baz=139	36.79 328	P	P	16 39 32.0	+0.3
Q38A	**Cooks Store, C** baz=145,SNR=6.9	36.97 333	P	P	16 39 33.5	+0.5
R37A	**Teagarden Farm** baz=142	37.02 331	P	P	16 39 34.1	+0.6
P39B	**Salisbury** baz=146	37.02 334	P	P	16 39 33.9	+0.4
N42A	**Yates City** baz=151	37.08 338	P	P	16 39 34.4	+0.4
O40A	**La Belle** baz=148	37.18 336	P	P	16 39 35.3	+0.5
T34A	**McClaskey Farm** baz=138	37.23 327	P	P	16 39 35.7	+0.4
S35A	**Otter Creek Ra** baz=140	37.27 329	P	P	16 39 35.4	-0.3
N41A	**Harden Midland** baz=150	37.28 337	P	P	16 39 35.9	+0.2
Q37A	**Longview Farm,** baz=144	37.28 332	P	P	16 39 36.0	+0.2
R36A	**Gordon, Harris** baz=142	37.35 330	P	P	16 39 36.7	+0.4
P38A	**Dawn** baz=145	37.47 334	P	P	16 39 38.0	+0.6
M42A	**Sheffield** baz=152	37.53 339	P	P	16 39 38.4	+0.6
R35A	**Emporia Munici** baz=140	37.70 330	P	P	16 39 39.6	+0.3
U32A	**Winter Ranch,** baz=135	37.77 325	P	P	16 39 40.2	+0.2
O38A	**Galt** baz=146	37.85 334	P	P	16 39 41.3	+0.8
Q35A	**Mercer Eighty,** baz=141	38.03 330	P	P	16 39 41.9	-0.2
M40A	**Post Highland** baz=150	38.13 337	P	P	16 39 43.5	+0.6
O37A	**Wolven Farm, M** baz=145	38.19 333	P	P	16 39 44.0	+0.7
R34A	**Isabella, Hill** baz=139	38.22 329	P	P	16 39 44.3	+0.7
P36A	**Good Intent, A** baz=143	38.23 332	P	P	16 39 44.0	+0.3
N38A	**Joes South For** baz=147	38.31 335	P	P	16 39 44.8	+0.4
L41A	**Preston** baz=152	38.34 339	P	P	16 39 45.1	+0.6
AMTX	**Amarillo** baz=130	38.38 321	P	P	16 39 46.0	+0.8
M39A	**Webster** baz=149	38.45 337	P	P	16 39 45.9	+0.4
MSTX	**Muleshoe** baz=128	38.51 319	P	P	16 39 46.8	+0.5
P35A	**Duane Minner,** baz=142	38.54 331	P	P	16 39 46.1	-0.2
L40A	**Anamosa** baz=150	38.59 338	P	P	16 39 46.9	+0.2
N37A	**Lee Faris, Mou** baz=145	38.70 334	P	P	16 39 48.0	+0.4
M38A	**Pleasantville** baz=147	38.81 336	P	P	16 39 49.0	+0.5
MNTX	**Cornudas Mount** baz=123,SNR=9.4	39.01 314	P	P	16 39 51.0	+0.6
MNTX	**Cornudas Mount** comp=Z,4.9nm,0.8s	39.01 314	*e*P	P	16 39 51.0	+0.6
J41A	**Loganville** baz=153	39.31 340	P	P	16 39 53.2	+0.6
M36A	**Felix, Anita** baz=145	39.52 334	P	P	16 39 54.8	+0.4
J40A	**Soldiers Grove** baz=152	39.59 340	P	P	16 39 55.3	+0.3
O33A	**Hebron** baz=140	39.73 330	P	P	16 39 56.1	-0.1
N34A	**Lincoln** baz=142	39.80 332	P	P	16 39 56.7	0.0
J39A	**Decorah** baz=150	39.87 339	P	P	16 39 57.4	+0.1
M35A	**Neola** baz=144	39.93 333	P	P	16 39 58.2	+0.4
I40A	**Norwalk** baz=152	39.98 340	P	P	16 39 59.0	+0.8
L36A	**Harm Buss Farm** baz=146	39.99 335	P	P	16 39 59.1	+0.8
I39A	**Houston** baz=151	40.26 339	P	P	16 40 00.9	+0.4
H41A	**Junction City** baz=154	40.31 342	P	P	16 40 01.4	+0.5
L35A	**Bielow Farm, R** baz=144	40.38 334	P	P	16 40 02.2	+0.7
J37A	**Redenius Farm,** baz=148	40.55 337	P	P	16 40 03.6	+0.7
H40A	**Chili** baz=153	40.55 341	P	P	16 40 03.5	+0.6
L34A	**Svendsen Farm,** baz=143	40.63 333	P	P	16 40 04.3	+0.7
F44A	**Big Bay de Noc** baz=160	40.65 346	P	P	16 40 04.5	+0.9
F43A	**Flat Rock, Esc** baz=158	40.71 345	P	P	16 40 04.8	+0.7
I38A	**Scanlan Farm,** baz=150	40.71 339	P	P	16 40 04.7	+0.5
H39A	**Augusta** baz=152	40.90 340	P	P	16 40 06.5	+0.8
G40A	**Rib Lake** baz=154	41.07 341	P	P	16 40 07.7	+0.6
K34A	**Le Mars** baz=144	41.09 334	P	P	16 40 07.9	+0.7
121A	**Cookes Peak, D** baz=121	41.19 313	P	P	16 40 09.8	+1.3
G39A	**Holcombe** baz=152	41.40 341	P	P	16 40 10.8	+1.1
T25A	**Trinidad** baz=129	41.52 321	P	P	16 40 12.7	+1.6
G38A	**Ridgeland** baz=151	41.52 340	P	P	16 40 11.5	+0.7
F40A	**Park Falls** baz=154	41.63 342	P	P	16 40 12.4	+0.8
F39A	**Loretta** baz=153	41.87 341	P	P	16 40 14.1	+0.4
E40A	**Wakefield** baz=155	42.03 343	P	P	16 40 16.0	+1.0
ECSD	**EROS Data Cent** baz=144	42.15 334	P	P	16 40 16.4	+0.4
ECSD	**EROS Data Cent** comp=Z,4.7nm,1.1s	42.15 334	*e*P	P	16 40 15.1	-0.9
E39A	**Mellen** baz=154	42.17 342	P	P	16 40 17.1	+1.0
D41A	**Chassel** baz=157	42.22 344	P	P	16 40 17.3	+0.9
F38A	**Pierce - Schro** baz=152	42.23 340	P	P	16 40 17.2	+0.7
J32A	**Parkston** baz=142	42.41 333	P	P	16 40 18.2	+0.2
SDCO	**Great Sand Dun** baz=128,SNR=5.8	42.58 321	P	P	16 40 21.2	+1.4
SDCO	**Great Sand Dun** comp=Z,3.1nm,0.7s	42.58 321	*e*P	P	16 40 21.2	+1.4
F36A	**Milaca** baz=149	42.71 339	P	P	16 40 21.6	+1.2
E36A	**McGregor** baz=150	43.18 340	P	P	16 40 24.9	+0.7
I31A	**Royce, Wessing** baz=142	43.23 333	P	P	16 40 25.1	+0.4
G33A	**Ortonville** baz=145	43.27 336	P	P	16 40 25.0	+0.2
TUC	**Tucson** baz=118	43.29 311	P	P	16 40 26.2	+0.8
S22A	**4UR Ranch, Cre** baz=127	43.42 320	P	P	16 40 27.1	+0.5
D37A	**Lotton** baz=152	43.46 341	P	P	16 40 27.0	+0.6
H31A	**Wolsey** baz=142	43.56 333	P	P	16 40 27.7	+0.4
C38A	**Sawbill Land.** baz=153	43.59 342	P	P	16 40 27.8	+0.4
E35A	**Pequot Lakes** baz=149	43.62 339	P	P	16 40 28.1	+0.4
D36A	**Goodland** baz=151	43.72 340	P	P	16 40 28.7	+0.2
SUSD	**Miller** baz=141	43.74 333	P	P	16 40 28.9	+0.2
EYMN	**Ely** baz=153	43.86 342	P	P	16 40 30.1	+0.5
EYMN	**Ely** comp=Z,13nm,0.6s	43.86 342	*e*P	P	16 40 29.7	+0.1
W18A	**Petrified Fore** baz=121	43.90 315	P	P	16 40 32.0	+1.6
ISCO	**Idaho Springs** baz=130	43.93 323	P	P	16 40 32.2	+1.5
ISCO	**Idaho Springs** comp=Z,3.7nm,0.8s	43.93 323	*e*P	P	16 40 31.9	+1.3
C36A	**Pine Crest Far** baz=151	44.12 341	P	P	16 40 32.7	+1.0
MVCO	**Mesa Verde** baz=124	44.19 318	P	P	16 40 33.7	+1.0
D34A	**Park Rapids** baz=148	44.36 338	P	P	16 40 34.5	+0.9
C35A	**Jirik Farms, M** baz=150	44.45 340	P	P	16 40 34.5	+0.2
D33A	**AnnSam, Waubun** baz=147	44.64 338	P	P	16 40 36.4	+0.6
214A	**Organ Pipe Nat** baz=116	44.67 309	P	P	16 40 37.7	+1.3
PV01	**Paradox Valley**	44.76 319	*e*P	P	16 40 38.6	+1.4
N23A	**Red Feather La** baz=130	44.83 324	P	P	16 40 38.7	+1.0
B35A	**Bob, Littlefor** baz=150	44.94 341	P	P	16 40 38.5	+0.3
C33A	**Trail** baz=147	45.14 338	P	P	16 40 40.2	+0.5
WUAZ	**Wupatki** baz=120,SNR=7.5	45.26 315	P	P	16 40 42.4	+1.3
WUAZ	**Wupatki** comp=Z,8.9nm,1.0s	45.26 315	*e*P	P	16 40 42.4	+1.3
B34A	**Aery, Baudette** baz=149,SNR=5.8	45.36 340	P	P	16 40 41.8	+0.4
AGMN	**Agassiz Nation** baz=148	45.62 339	P	P	16 40 44.0	+0.5
C31A	**Landman Farms,** baz=145,SNR=5.9	45.91 337	P	P	16 40 45.8	+0.1
A33A	**Warroad** baz=148	46.00 340	P	P	16 40 47.1	+0.6
U15A	**North Rim** comp=Z,5.8nm,1.0s	46.36 315	*e*P	P	16 40 50.2	+0.4
A32A	**Rocking H Ranc** baz=147	46.37 339	P	P	16 40 49.6	+0.3
B31A	**Greenbush Farm** baz=145	46.39 337	P	P	16 40 50.1	+0.6
SRU	**San Rafael Swe** comp=Z,4.3nm,0.9s	46.57 319	*e*P	P	16 40 51.2	-0.2
ROA	**Roan Cliffs**	46.78 320	*e*P	P	16 40 54.2	+1.1
KNB	**Kanab** comp=Z,6.3nm,0.9s	47.02 316	*e*P	P	16 40 56.1	+1.2
ULM	**Lac du Bonnet** comp=Z,5.6nm,0.4s,baz=145,slow=7.0,SNR=18	47.28 340	P	P	16 40 56.0	-0.4
LCMT	**Little Creek M**	47.31 315	*e*P	P	16 40 58.2	+1.2
IRM	**Iron Mountain** baz=115	47.38 311	P	P	16 40 58.5	+1.0
BC3	**Big Chuckawall** baz=115	47.41 310	P	P	16 40 59.1	+1.3
GMRC	**Granite Mounta** baz=116	48.04 311	P	P	16 41 02.6	-0.1
BW06	**Boulder Array** baz=128	48.10 324	P	P	16 41 03.4	+0.3
BW06	**Boulder Array** comp=Z,0.2nm,1.4s	48.10 324	*e*P	P	16 41 03.5	+0.3
PD31	**Pinedale Array**	48.10 324	*e*P	P	16 41 03.1	-0.1
PDAR	**Pinedale Array** comp=Z,1.2nm,0.5s,baz=126,slow=7.7,SNR=7.7	48.10 324	P	P	16 41 03.2	0.0
TUQ	**Turquoise Moun** baz=116	48.51 312	P	P	16 41 05.8	-0.5
HEC	**Hector,Ludlow** baz=115	48.56 311	P	P	16 41 05.8	-0.8
HWUT	**Hardware Ranch** comp=Z,3.6nm,0.7s	48.63 321	*e*P	P	16 41 07.2	+0.1
DUG	**Dugway, Tooele** baz=122	48.65 319	P	P	16 41 07.9	+0.6
GSC	**Goldstone, Bar** baz=115	49.11 312	P	P	16 41 11.8	+1.0
DGMT	**Dagmar** baz=137,SNR=5.7	49.16 333	P	P	16 41 12.0	+1.1
DGMT	**Dagmar** comp=Z,21nm,0.6s	49.16 333	*e*P	P	16 41 11.8	+1.0
REDW	**Red Top Meadow** comp=Z,4.5nm,0.6s	49.22 324	*e*P	P	16 41 12.3	+0.6
LOHW	**Long Hollow** comp=Z,4.5nm,1.0s	49.22 324	*e*P	P	16 41 12.0	+0.4
MOOW	**Moose Ponds** comp=Z,2.6nm,0.8s	49.39 324	*e*P	P	16 41 13.1	+0.1
RLMT	**Red Lodge** baz=130	49.40 327	P	P	16 41 13.6	+0.6
TPNV	**Topopah Spring** baz=117	49.41 314	P	P	16 41 14.1	+1.0
TPNV	**Topopah Spring** comp=Z,4.9nm,1.1s	49.41 314	*e*P	P	16 41 13.6	+0.4
R11A	**Troy Canyon, C** baz=118	49.58 316	P	P	16 41 14.7	+0.3
R11A	**Troy Canyon, C** comp=Z,1.6nm,0.8s	49.58 316	*e*P	P	16 41 15.2	+0.8
IMW	**Indian Meadow** comp=Z,3.3nm,0.6s	49.59 324	*e*P	P	16 41 14.9	+0.4
FURC	**Furnace Creek,** baz=143	49.64 313	P	P	16 41 14.7	+0.1
EDW2	**Edwards Air Fo** baz=114	49.83 311	P	P	16 41 16.3	+0.1
LRMC	**Laurel Mtn Rad** baz=114	49.83 311	P	P	16 41 16.6	+0.3
GCMT	**Greycliff**	50.04 327	*e*P	P	16 41 18.4	+0.7
YHH	**Holmes Hill** comp=Z,10nm,1.9s	50.07 325	*e*P	P	16 41 19.0	+0.8
BOZ	**Bozeman (W)** baz=127	51.00 326	P	P	16 41 25.7	+0.8
BOZ	**Bozeman (W)** comp=Z,2.7nm,0.8s	51.00 326	*e*P	P	16 41 25.8	+0.8
HLID	**Hailey** baz=123	51.46 322	P	P	16 41 29.3	+0.8
HLID	**Hailey** comp=Z,2.3nm,0.8s	51.46 322	*e*P	P	16 41 28.9	+0.4
EGMT	**Eagleton** baz=131	51.52 329	P	P	16 41 29.2	+0.5
MFID	**Camas Ranch** comp=Z,5.5nm,0.8s	52.26 321	*e*P	P	16 41 34.7	+0.5
MOD	**Modoc Plateau** comp=Z,3.3nm,0.6s	54.42 318	*e*P	P	16 41 49.4	-0.8
F10A	**Beach Ranch, E** comp=Z,16nm,1.7s	54.45 323	*e*P	P	16 41 50.3	+0.2
M04C	**Macdoel** baz=115	55.40 317	P	P	16 41 57.6	+0.4
J05D	**Fort Rock, OR** baz=116	55.65 319	P	P	16 41 59.6	+0.7
J04D	**Umpqua Nationa** baz=116	56.20 318	P	P	16 42 03.1	+0.2
I04A	**Tendick Farm,** baz=116	56.64 319	P	P	16 42 05.9	+0.1
YKA	**Yellowknife Ar** comp=Z,4.9nm,0.6s,baz=132,slow=6.6,SNR=17	63.26 340	P	P	16 42 50.7	+0.2
SUMG	**Summit** comp=Z,7.8nm,0.7s	68.94 11	*i* P	P	16 43 27.8	+0.8
TORD	**Torodi Ar. Bea** comp=Z,0.1nm,0.3s,baz=283,slow=6.8,SNR=4.4	73.64 78	P	P	16 43 54.2	-1.6
ILAR	**Eielson Array** comp=Z,0.7nm,0.6s,baz=109,slow=4.2,SNR=6.9	76.97 335	P	P	16 44 14.1	+0.2
ILAR	comp=Z,0.5nm,0.8s,baz=99,slow=4.7,SNR=2.7		pP	pP	16 44 52.9	-0.1
CLL	**Collm**	82.21 39	*e*P	P	16 44 44.0	+1.5
ZALV	**Zalesovo Beam** comp=Z,0.5nm,0.3s,baz=336,slow=3.2,SNR=2.6	116.61 14	PKP	PKPdf	16 51 03.0	-1.3
MKAR	**Makanchi Array** comp=Z,0.1nm,0.3s,baz=354,slow=3.3,SNR=5.0	122.25 20	PKP	PKPdf	16 51 14.7	-0.7
SONM	**Songino Array** comp=Z,0.3nm,0.4s,baz=317,slow=2.0,SNR=2.9	125.54 0	PKP	PKPdf	16 51 22.1	+0.3
ASAR	**Alice Springs** comp=Z,1.1nm,0.7s,baz=118,slow=3.3,SNR=13	149.21 234	PKP	PKPdf	16 52 04.9	-0.5
ASAR	comp=Z,1.1nm,0.7s,baz=120,slow=3.5,SNR=7.9		PKPbc	PKPbc	16 52 08.6	-1.3
WRA	**Warramunga Arr** comp=Z,0.8nm,1.1s,baz=107,slow=2.6,SNR=5.7	150.44 241	PKP	PKPdf	16 52 06.7	-0.8
WRA	comp=Z,1.1nm,0.4s,baz=107,slow=2.7,SNR=36		PKPbc	PKPbc	16 52 11.8	-1.0
WRA	comp=Z,0.5nm,0.5s,baz=107,slow=2.5,SNR=1.9		pPKP	pPKPdf	16 52 49.4	-0.1
CMAR	**Chiang Mai Arr** comp=Z,0.5nm,0.5s,baz=322,slow=4.0,SNR=5.1	153.63 17	PKPbc	PKPbc	16 52 20.4	+0.3

*IDC **20** 16:54:22.6s 1.2, 14°.54S×166°.70E, h0km, mb4.1/10, mb1 4.2/12, mb1mx4.0/38, mbtmp4.1/12, ML3.6/2, MS3.4/7, Ms1 3.4/7, ms1mx3.1/29, Error ellipse: s-maj=33.5km s-min=22.7km az=118.0*

*NEIC **20** 16:54:24.4s 0.8, 14°.50S×166°.67E, h10km, mb4.6/2, Error ellipse: s-maj=18.7km s-min=13.3km az=90.0*

*ISCJB **20** 16:54:25.9s 0.8, 14°.59S±0°.09×166°.5E±0°.1, h28km, mb4.2/11, MS3.4/4, Error ellipse: s-maj=20.0km s-min=12.7km az=172.9*

ISC 20 16:54:27.4±0.8, 14°.65S±0°.07×166°.4E±0°.1, h28km, n23, σ2s 00/25, mb4.4/11, MS3.3/4, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac** 0.6nm,0.3s,baz=316,slow=21,SNR=15	**7.38**	**180**	Pn	**Pn**		**16 56 14.7**	**+1.3**
DZM	baz=336,slow=20,SNR=1.4			Sn	**Sn**		**16 57 32.1**	**-4.2**
DZM	comp=Z,232nm,20.5s,baz=12,slow=35			LR	LR		16 58 48.0	
DZM	**Mont Dzumac** 9.7nm,0.8s	**7.38**	**180**	*e*Pn	**Pn**		**16 56 13.8**	**+0.4**
DZM				Sn	**Sn**		**16 57 32.1**	**-4.2**
HNR	**Honiara** 1.4nm,0.3s,baz=172,slow=7.1,SNR=3.1	**8.17**	**309**	Pn	**Pn**		**16 56 24.9**	**+0.6**
HNR	1.1nm,0.3s,baz=292,slow=16,SNR=1.8			Sn	**Sn**		**16 57 52.8**	**-3.0**
HNR	comp=Z,170nm,18.5s,baz=183,slow=35			LR	LR		16 59 17.6	
HNR	**Honiara**	**8.17**	**309**	*e*Pn	**Pn**		**16 56 25.2**	**+0.9**
HNR				Sn	**Sn**		**16 57 52.8**	**-3.0**
PMG	**Port Moresby** comp=Z,158nm,18.1s,baz=27,slow=34	**19.52**	**283**	LR	LR		17 05 34.2	
CTA	**Charters Tower** 3.2nm,0.9s,baz=82,slow=9.9,SNR=5.8	**19.97**	**251**	P	**Pn**		**16 59 00.9**	**+1.4**
CTAO	**Charters Tower** 72nm,1.3s	**19.97**	**251**	*e*P	**Pn**		**16 59 01.0**	**+1.5**
STKA	**Stephens Creek** comp=Z,74nm,18.0s,baz=185,slow=33	**28.41**	**229**	LR	LR		17 10 10.6	
RPZ	**Rata Peaks** comp=Z,108nm,18.0s,baz=16,slow=36	**29.23**	**173**	LR	LR		17 12 12.8	
WRA	**Warramunga Arr** 0.7nm,0.8s,baz=87,slow=8.9,SNR=5.7	**31.03**	**256**	P	**P**		**17 00 43.5**	**+0.4**
WRA	0.6nm,0.8s,baz=89,slow=4.0,SNR=5.1			PcP	**PcP**		**17 03 38.6**	**-0.1**
ASAR	**Alice Springs** 0.5nm,0.8s,baz=74,slow=9.3,SNR=10	**31.92**	**249**	P	**P**		**17 00 51.9**	**+0.9**
ASAR	0.6nm,0.8s,baz=52,slow=2.4,SNR=5.3			PcP	**PcP**		**17 03 41.2**	**+0.1**
ASAR	comp=Z,60nm,18.1s,baz=54,slow=35			LR	LR		17 13 02.2	
FITZ	**Fitzroy Crossi** comp=Z,46nm,18.1s,slow=36	**39.20**	**259**	LR	LR		17 18 04.2	
MJAR	**Matsushiro Arr** 2.4nm,0.8s,baz=171,slow=8.3,SNR=5.4	**57.45**	**333**	P	**P**		**17 04 11.5**	**-2.5**
SBA	**Scott Base** 2.5nm,0.8s	**63.21**	**180**	*e*P	**P**		**17 04 55.4**	**+2.7**
USRK	**Ussuriysk Ar.** 3.9nm,1.0s,baz=117,slow=5.0,SNR=5.2	**66.44**	**334**	P	**P**		**17 05 14.5**	**+0.3**
CMAR	**Chiang Mai Arr**	**74.15**	**294**	P	**P**		**17 06 04.8**	**+2.8**

2.0nm,0.8s,baz=132,slow=4.7,SNR=11
ULN Ulaanbaatar 81.58 324 P P 17 06 43.1 +0.3
YAK Yakutsk 81.72 343 *eP* **P 17 06 42.7 -0.2**
9.2nm,0.8s
SONM Songino Array 81.94 324 P P **17 06 45.6 +0.9**
1.0nm,0.9s,baz=146,slow=7.5,SNR=4.7
ILAR Eielson Array 86.72 18 P P **17 07 06.8 -1.6**
2.6nm,0.7s,baz=234,slow=5.8,SNR=17
MKAR Makanchi Array 96.57 317 P P **17 07 54.8 +0.1**
1.2nm,0.8s,baz=96,slow=5.4,SNR=8.4
ZALV Zalesovo Beam 96.84 324 P P **17 07 55.3 -0.3**
0.7nm,0.6s,baz=121,slow=5.7,SNR=3.9
ARCES ARCESS Array B 119.97 345 PKP **PKPdf 17 13 13.6 -1.1**
2.4nm,0.8s,baz=333,slow=3.1,SNR=3.7

NEIC ***20*** *17:00:54.0±0.0,58.7°N×139.1°W,h1km,ML2.5(AEIC), ML2.6(OTT),After OTT.*
PGC 20 17:00:54.5±6.5,58.74N×139.11W,h1km,ML2.6/2,64km southeast of Yakutat, Ak Off Coast Of Southeastern Alaska,Off coast of southeastern Alaska

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DHAK	**Deception Hill**	**0.58**	**53**	P	Pb	17 01 07.0	-0.5
DHAK				S	Sb	17 01 15.3	-1.0
YKU2	**Yakutat**	**0.82**	**340**	P	Pg	17 01 09.8	-0.5
YKU2				S	Sb	17 01 22.4	-0.9
PNL	**Peninsula**	**0.94**	**351**	P	Pg	17 01 11.7	-0.8
PNL				S	Sg	17 01 24.0	-0.7
PNL	**Peninsula**	**0.94**	**351**	P	Pg	17 01 11.7	-0.9
PNL				S	Sg	17 01 24.1	-0.6
BCPM	**Bancas Point**	**1.25**	**348**	P	Pg	17 01 16.3	-2.1
BCPM				S	Sg	17 01 32.0	-2.5
PCA	**Pinnacle**	**1.48**	**337**	Pn	Pn	17 01 20.6	-1.7
PCA				Sg	Sg	17 01 39.6	-2.4
PCA	**Pinnacle**	**1.48**	**337**	P	Pn	17 01 20.1	-2.2
PCA				S	Sg	17 01 39.4	-2.7
PLBC	**Pleasant Camp**	**1.59**	**62**	Pn	Pn	17 01 22.9	-0.8
PLBC				Sg	Sn	17 01 43.3	-1.6
RKAV	**Rock Avalanche**	**1.94**	**325**	P	Pn	17 01 27.5	-1.2
TABL	**Table Mountain**	**1.99**	**330**	P	Pn	17 01 28.1	-1.4
BESE	**Bessie Mountai**	**2.23**	**92**	Pn	Pn	17 01 32.4	-0.2
BESE				Sg	Sb	17 02 03.1	-0.5
CTGM	**Chitina Glacie**	**2.50**	**334**	Pn	Pn	17 01 36.1	-0.3
CTGM				Sn	Sn	17 02 06.5	-1.0
CTGM	**Chitina Glacie**	**2.50**	**334**	P	Pn	17 01 35.8	-0.6
KHIT	**Khitrov Hills**	**2.71**	**311**	P	Pn	17 01 38.2	-1.0
WHY	**Whitehorse**	**2.88**	**46**	Pn	Pn	17 01 40.8	-0.8
WHY	**Whitehorse**	**2.88**	**46**	P	Pn	17 01 40.7	-0.9
YUK2	**White River**	**3.17**	**345**	Pn	Pn	17 01 47.0	+1.4
YUK2				Sg	Sb	17 02 29.5	-1.4

IDC ***20*** *17:07:04.2±0.7,18°.44N×122°.45E,h0km,mb3.9/15, mb1 4.0/16,mb1mx3.9/44,mbtmp3.9/16,ML3.7/1,MS3.4/2, Ms1 3.6/2,ms1mx2.8/36,Error ellipse: s-maj=22.6km s-min=16.2km az=75.0*
ISCJB ***20*** *17:07:05.1±0.4,18°.56N±0°.03×122°.49E±0°.06,h10km, mb4.0/20,MS3.4/2,Error ellipse: s-maj=8.3km s-min=3.7km az=23.7*
NEIC ***20*** *17:07:10.1±1.0,18°.46N×122°.44E,h41km±9km,mb4.7/4, Error ellipse: s-maj=11.7km s-min=7.4km az=97.0*
MAN ***20*** *17:07:13,18°.13N×122°.13E,h2km,mb4.8,ML3.7,MS3.8*
ISC 20 17:07:06.4±0.6,18°.57N±0°.05×122°.46E±0°.07,h10km,n42, σ1§91/44,mb4.0/20,2D,Luzon

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SGCP	**Mt. Cagua**	**0.51**	**231**	*e*P	**Pg**	**17 07 15.7**	**-0.7**
SGCP				*e*S	**Sg**	**17 07 21.2**	**-1.9**
CVP	**Callao Caves**	**1.05**	**215**	*i* P	**Pg**	**17 07 25.3**	**-1.3**
CVP				*i* S	**Sg**	**17 07 37.3**	**-3.1**
CAUP	**Cauayan**	**1.73**	**201**	*e*P	**Pn**	**17 07 37.5**	**+1.0**
CAUP				*e*S	**Sg**	**17 08 08.8**	**+6.9**
SZP	**Santa**	**2.16**	**242**	*e*Pn	**Pn**	**17 07 43.1**	**+0.7**
PCPH	**Palayan**	**3.26**	**204**	⇓*e*P	**Pn**	**17 07 59.5**	**+1.9**
PCPH				*e*S	**Sn**	**17 08 38.8**	**+2.2**
BOLP	**Bolinao**	**3.27**	**229**	*e*P	**Pn**	**17 07 58.9**	**+1.2**
BOLP				*e*S	**Sn**	**17 08 39.5**	**+3.0**
SCZP	**Santa Cruz**	**3.70**	**222**	*e*P	**Pn**	**17 08 05.1**	**+1.6**
SCZP				*e*S	**Sn**	**17 08 47.3**	**+0.1**
GQP	**Guinayangan**	**4.64**	**180**	⇓*e*P	**Pn**	**17 08 18.5**	**+1.9**
GQP				*e*S	**Sn**	**17 09 10.1**	**-0.3**
YULB	**Yu-li**	**4.92**	**347**	*e*Pn	**Pn**	**17 08 20.9**	**+0.4**
	12nm,0.3s						
TPUB	**Ta-pu**	**5.01**	**340**	*e*Pn	**Pn**	**17 08 26.0**	**+4.3**
	20nm,0.6s						
SSLB	**Suanglung**	**5.38**	**345**	*e*Pn	**Pn**	**17 08 29.1**	**+2.3**
	14nm,0.6s						
QIZ	**Qiongzhong**	**11.96**	**274**	*e*Pn	**Pn**	**17 09 57.1**	**0.0**
KSAR	**Wonju Array Be**	**19.39**	**13**	P	**P**	**17 11 34.5**	**+1.9**
KSRS	**Korea Array**	**19.41**	**13**	P	**P**	**17 11 34.5**	**+1.7**
	0.2nm,0.3s,baz=198,slow=10,SNR=7.7						
CMAR	**Chiang Mai Arr**	**22.30**	**273**	P	**P**	**17 12 04.5**	**+0.3**
	1.0nm,0.8s,baz=74,slow=10,SNR=7.6						
CMAR				PcP	**PcP**	**17 15 58.2**	**-1.8**
	0.4nm,0.6s,baz=37,slow=0.3,SNR=4.2						
CMAR				LR	LR	17 20 18.4	
	comp=Z,29nm,19.2s,baz=186,slow=36						
MJAR	**Matsushiro Arr**	**22.65**	**35**	P	**P**	**17 12 09.1**	**+1.4**
	1.6nm,0.9s,baz=224,slow=7.0,SNR=4.0						
USRK	**Ussuriysk Ar.**	**26.78**	**15**	P	**P**	**17 12 48.5**	**+2.1**
	1.6nm,0.6s,baz=188,slow=8.7,SNR=2.6						
SONM	**Songino Array**	**32.00**	**339**	P	**P**	**17 13 33.8**	**+0.9**
	0.9nm,0.6s,baz=156,slow=10.0,SNR=7.6						
SONM				PcP	**PcP**	**17 16 22.3**	**-0.5**
	0.6nm,0.8s,baz=183,slow=2.8,SNR=4.1						
MBWA	**Marble Bar**	**39.57**	**184**	*e*P	**P**	**17 14 35.8**	**-2.2**
	16nm,0.7s						
WRAB	**Tennant Creek**	**40.00**	**162**	*e*P	**P**	**17 14 41.1**	**-0.4**
	1.9nm,0.8s						
WRA	**Warramunga Arr**	**40.01**	**162**	P	**P**	**17 14 39.8**	**-1.8**
	1.4nm,0.7s,baz=342,slow=9.2,SNR=11						
H11S3	**WAKE ISLAND Hy**	**41.85**	**83**	T	T	17 59 53.7	
	baz=278,slow=75,SNR=372						
H11S1	**WAKE ISLAND Hy**	**41.86**	**83**	T	T	17 59 53.7	
	baz=278,slow=75,SNR=222						
H11S2	**WAKE ISLAND Hy**	**41.87**	**83**	T	T	17 59 55.0	
	baz=278,slow=75,SNR=140						
H11N1	**WAKE ISLAND Hy**	**41.90**	**81**	T	T	17 59 55.0	
	baz=276,slow=74,SNR=203						
H11N2	**WAKE ISLAND Hy**	**41.90**	**81**	T	T	17 59 57.1	
	baz=276,slow=74,SNR=147						
H11N3	**WAKE ISLAND Hy**	**41.91**	**81**	T	T	17 59 57.1	
	baz=276,slow=74,SNR=155						
MKAR	**Makanchi Array**	**43.28**	**320**	P	**P**	**17 15 09.2**	**+0.9**
	4.0nm,0.8s,baz=115,slow=9.1,SNR=28						
ASAR	**Alice Springs**	**43.44**	**165**	P	**P**	**17 15 09.0**	**-0.7**
	0.5nm,0.4s,baz=344,slow=6.9,SNR=47						
ZALV	**Zalesovo Beam**	**45.63**	**330**	P	**P**	**17 15 27.4**	**+0.5**
	0.8nm,0.4s,baz=122,slow=6.9,SNR=5.9						
KURK	**Kurchatov**	**47.21**	**323**	*e*P	**P**	**17 15 39.5**	**+0.1**
	78nm,1.2s						
BRVK	**Borovoye**	**52.88**	**323**	*e*P	**P**	**17 16 23.0**	**+0.6**
	3.9nm,0.7s						
GEYT	**Allbeck**	**58.77**	**304**	P	**P**	**17 17 05.9**	**+1.0**
	0.9nm,0.4s,baz=82,slow=12,SNR=3.1						
ILAR	**Eielson Array**	**73.66**	**27**	P	**P**	**17 18 38.6**	**-1.3**
	0.5nm,0.8s,baz=289,slow=5.6,SNR=3.4						
ARCES	**ARCESS Array B**	**75.17**	**339**	P	**P**	**17 18 48.7**	**0.0**
	0.8nm,0.4s,baz=71,slow=6.8,SNR=3.8						
FINES	**FINESS Array B**	**76.89**	**331**	P	**P**	**17 18 58.0**	**-0.5**
	0.6nm,0.4s,baz=46,slow=6.0,SNR=8.4						
BRTR	**Keskin Array B**	**77.50**	**308**	P	**P**	**17 19 01.1**	**-1.5**
	0.5nm,0.7s,baz=123,slow=6.5,SNR=4.4						
AKASG	**Malin Array Be**	**77.87**	**320**	P	**P**	**17 19 02.7**	**-1.5**
	0.7nm,0.3s,baz=88,slow=4.6,SNR=3.6						
NOA	**NORSAR Array B**	**83.73**	**333**	LR	LR	18 00 30.5	
	comp=Z,71nm,18.9s,baz=340,slow=38						
YKA	**Yellowknife Ar**	**87.66**	**23**	P	**P**	**17 19 55.0**	**+0.1**
	3.9nm,0.7s,baz=313,slow=5.0,SNR=6.9						
YKA	**Yellowknife Ar**	**87.66**	**23**	P	**P**	**17 19 55.0**	**+0.1**
GERES	**GERESS Array B**	**87.93**	**321**	P	**P**	**17 19 56.4**	**-0.2**
	0.6nm,0.7s,baz=72,slow=4.8,SNR=3.7						

IDC 20 17:10:22.9±2.0,4°.01N×126°.28E,h0km,mb3.3/4, mb1 3.5/4,mb1mx3.3/39,mbtmp3.3/4,MS4.2/1,Ms1 4.2/1, ms1mx2.7/18,Error ellipse: s-maj=121.2km s-min=24.0km az=69.0,Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KAPI	**Kappang**	**11.09**	**216**	LR	LR	17 16 52.3	
	comp=Z,1µm,18.0s,baz=311,slow=35						
FITZ	**Fitzroy Crossi**	**21.98**	**182**	P	P	17 15 19.7	+1.0
	0.6nm,0.5s,baz=352,slow=9.1,SNR=4.7						
WRA	**Warramunga Arr**	**25.09**	**162**	P	P	17 15 49.0	-0.5
	0.6nm,0.5s,baz=340,slow=9.5,SNR=4.8						
ASAR	**Alice Springs**	**28.50**	**165**	P	P	17 16 19.9	-0.3
	0.2nm,0.6s,baz=339,slow=7.2,SNR=3.5						
MKAR	**Makanchi Array**	**57.07**	**325**	P	P	17 20 10.9	-0.1
	0.1nm,0.4s,baz=125,slow=8.9,SNR=3.4						

ISCJB ***20*** *17:43:14.8±1.1,24°.88N±0°.08×123°.31E±0°.04, h23km±10km,mb3.5/5,MS2.7/3,Error ellipse: s-maj=13.9km s-min=5.4km az=175.4*
IDC ***20*** *17:43:14.1±1.9,24°.63N×122°.58E,h0km,mb3.6/5, mb1 3.7/5,mb1mx3.4/46,mbtmp3.6/5,MS2.9/3,Ms1 3.0/3, ms1mx2.7/42,Error ellipse: s-maj=145.2km s-min=19.4km az=64.0*
JMA ***20*** *17:43:15.4±0.2,24°.85N×123°.32E,h31km,M3.4*
ISC 20 17:43:16.6±1.3,24°.76N±0°.08×123°.33E±0°.04,h27km±11km, n19,σ1§22/24,mb3.6/5,MS2.6/3,Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
YOJ	**Yonaguni jima**	**0.41**	**224**	P	**Pb**	**17 43 25.3**	**-0.2**
YOJ				S	**Sb**	**17 43 31.6**	**+0.1**
JYNG	**Yonagunijimaku**	**0.47**	**229**	P	**Pb**	**17 43 26.0**	**-0.3**
JYNG				*e*S	**Sb**	**17 43 33.1**	**+0.2**
IRIF	**Iriomote-Funau**	**0.56**	**139**	P	**Pb**	**17 43 27.7**	**-0.2**
IRIF				S	**Sb**	**17 43 37.1**	**+1.6**
JKRS	**Kuro-shima**	**0.81**	**130**	P	**Pn**	**17 43 31.6**	**-0.6**
JKRS				S	**Sb**	**17 43 43.2**	**+0.6**
HATJ	**Hateruma jima**	**0.82**	**148**	P	**Pn**	**17 43 31.9**	**-0.5**
JIJ	**Ishigaki jima**	**0.84**	**118**	P	**Pn**	**17 43 31.4**	**-1.2**
JIJ				S	**Sb**	**17 43 42.9**	**-0.6**
JISG	**Ishigakijimahi**	**0.91**	**101**	P	**Pn**	**17 43 32.2**	**-1.4**
JISG				S	**Sb**	**17 43 44.4**	**-1.1**
JTJ	**Tarama**	**1.26**	**95**	P	**Pn**	**17 43 37.9**	**-0.4**
JIRB	**Irabujima**	**1.68**	**87**	P	**Pn**	**17 43 44.1**	**0.0**
JIKM	**Ikemajima**	**1.75**	**84**	P	**Pn**	**17 43 45.0**	**-0.1**
JIKM				S	**Sn**	**17 44 06.3**	**-0.3**
JMJ	**Miyako jima 2**	**1.79**	**88**	P	**Pn**	**17 43 44.3**	**-1.3**
JKE	**Kume jima 2**	**3.49**	**63**	P	**Pn**	**17 44 11.4**	**+2.3**
GUMO	**Guam**	**23.15**	**115**	LR	LR	17 57 47.8	
	comp=Z,21nm,18.4s,baz=40,slow=37						
CMAR	**Chiang Mai Arr**	**23.50**	**259**	LR	LR	17 56 39.7	
	comp=Z,21nm,18.2s,baz=95,slow=35						
SONM	**Songino Array**	**26.65**	**334**	P	**P**	**17 48 53.3**	**+0.2**
	1.7nm,0.9s,baz=149,slow=9.6,SNR=6.6						
SONM				LR	LR	18 00 19.1	
	comp=Z,39nm,20.4s,baz=156,slow=39						
MKAR	**Makanchi Array**	**39.30**	**315**	P	**P**	**17 50 40.9**	**-2.3**
	0.2nm,0.5s,baz=91,slow=10,SNR=3.0						
KURBB	**Kurchatov Arra**	**42.95**	**319**	P	**P**	**17 51 12.0**	**-1.0**
	0.2nm,0.2s,baz=110,slow=8.9,SNR=4.1						
WRA	**Warramunga Arr**	**45.71**	**165**	P	**P**	**17 51 37.0**	**+1.5**
	1.4nm,0.8s,baz=348,slow=8.6,SNR=9.3						
ASAR	**Alice Springs**	**49.22**	**167**	P	**P**	**17 52 05.0**	**+2.3**
	0.3nm,0.5s,baz=350,slow=7.5,SNR=14						

CSEM ***20*** *17:51:33.3±0.6,38°.92N×29°.03E,h5km,MD2.4,Error ellipse: s-maj=12.9km s-min=1.7km az=149.0*
ISK ***20*** *17:51:34.8,39°.07N×29°.09E,h8km,MD2.4*
DDA ***20*** *17:51:35.0,39°.12N×28°.98E,h8km,Md2.6*
ISC 20 17:51:34.1±1.0,39.00N±0°.04×29.03E±0°.04,h15km±6km, n19,σ1§63/28,Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SIMA	**Simav-Kutahya**	**0.09**	**337**	*e*PG	**Pg**	**17 51 37.4**	**0.0**
SIMA				*e*SG	**Sg**	**17 51 39.0**	**-0.6**
SIMA	**Simav-Kutahya**	**0.09**	**337**	*e*Pg	**Pg**	**17 51 37.4**	**0.0**
SIMA				*e*Sg	**Sg**	**17 51 39.0**	**-0.6**
DEMI	**Demirci**	**0.24**	**279**	*i* P	**Pg**	**17 51 39.9**	**+0.4**
DEMI				*i* S	**Sg**	**17 51 43.0**	**-0.2**
DEMI	**Demirci**	**0.24**	**279**	P	**Pg**	**17 51 39.9**	**+0.4**
DEMI				S	**Sg**	**17 51 43.0**	**-0.2**
TVSB	**Tavsanli**	**0.56**	**37**	*e*PG	**Pg**	**17 51 44.6**	**-0.6**
TVSB				*e*SG	**Sg**	**17 51 51.7**	**-1.0**
TVSB	**Tavsanli**	**0.56**	**37**	*e*Pg	**Pg**	**17 51 44.6**	**-0.6**
TVSB				*e*Sg	**Sg**	**17 51 51.7**	**-1.0**
KULA	**Kula-Manisa**	**0.57**	**210**	*e*PG	**Pb**	**17 51 47.7**	**+2.0**
KULA	**Kula-Manisa**	**0.57**	**210**	*e*Pg	**Pb**	**17 51 47.7**	**+2.0**
MANT	**Manisa**	**0.63**	**216**	*i* P	Pg	17 51 41.5	-5.0
MANT				*i* S	**Sg**	**17 51 50.4**	**-4.5**
MANT	**Manisa**	**0.63**	**216**	P	Pg	17 51 41.5	-5.0
MANT				S	**Sg**	**17 51 50.4**	**-4.5**
IGD	**Bursa**	**1.27**	**6**	*i* P	**Pb**	**17 51 57.2**	**-0.4**
IGD				*i* S	**Sg**	**17 52 11.9**	**-3.1**
BALY	**Balya**	**1.31**	**304**	*i* P	**Pn**	**17 51 58.6**	**+0.7**
BALY	**Balya**	**1.31**	**304**	P	**Pn**	**17 51 58.6**	**+0.7**
KCTX	**Karacabey (Bur**	**1.36**	**338**	*e*PN	**Pn**	**17 51 59.2**	**+0.6**
KCTX	**Karacabey (Bur**	**1.36**	**338**	*e*Pn	**Pn**	**17 51 59.2**	**+0.6**
BORA	**Eskisehir**	**1.41**	**51**	*i* P	**Pg**	**17 52 01.4**	**+0.1**
BORA				*i* S	**Sg**	**17 52 19.9**	**+0.3**
BORA	**Eskisehir**	**1.41**	**51**	P	**Pg**	**17 52 01.4**	**+0.1**
BORA				S	**Sg**	**17 52 19.9**	**+0.3**
ARMT	**Armutlu**	**1.56**	**355**	*e*PN	**Pb**	**17 52 02.9**	**+0.1**
ARMT	**Armutlu**	**1.56**	**355**	*e*Pn	**Pb**	**17 52 02.9**	**+0.1**

MAN 20 17:53:05,11°.29N×124°.78E,h30km,mb4.4,ML3.3,MS3.1, 1C-2D,Leyte

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PLP	**Palo**	**0.23**	**123**	⇓*e*P	Pn	17 53 12.9	+0.4
PLP				*i* S	Sb	17 53 19.3	+3.2
LLP	**Lapu-Lapu**	**1.26**	**220**	⇓*e*P	Pb	17 53 32.2	+4.1
LLP				*i* S	Sn	17 53 41.9	-0.5
RCP	**Roxas**	**2.01**	**278**	⇓*e*P	Pn	17 53 37.0	+0.1
RCP				*e*S	Sn	17 54 02.5	+1.4
GUIM	**Jordan**	**2.25**	**253**	*e*P	Pn	17 53 41.0	+0.8
GUIM				*e*S	Sn	17 54 07.1	+0.2
PAGZ	**Pagadian**	**3.69**	**202**	*e*P	Pn	17 54 02.0	+1.9

ISCJB ***20*** *18:15:37.6±0.7,18°.05S±0°.2×175°.4W±0°.2,h254km,mb3.8/8, Error ellipse: s-maj=31.0km s-min=12.6km az=137.3*
IDC ***20*** *18:15:38.2±2.3,18°.01S×175°.39W,h246km±21km,mb3.6/8, mb1 3.9/9,mb1mx3.6/27,mbtmp4.2/9,Error ellipse: s-maj=27.3km s-min=15.2km az=138.0*
ISC 20 18:15:38.7±0.7,17°.9S±0°.2×175°.3W±0°.2,h254km,n26, σ1§04/29,mb3.7/8,Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**5.21**	**41**	P	**Pn**	**18 16 58.3**	**+1.0**
	15nm,0.3s,baz=180,slow=2.3,SNR=14						
AFI				S	**S**	**18 17 56.7**	**-3.3**
	50nm,0.3s,baz=83,slow=21,SNR=18						
STKA	**Stephens Creek**	**41.25**	**242**	P	**P**	**18 22 58.5**	**-0.8**
	2.7nm,0.8s,baz=8.0,slow=3.8,SNR=4.5						
WRA	**Warramunga Arr**	**47.56**	**259**	P	**P**	**18 23 48.1**	**-1.2**
	3.9nm,0.5s,baz=97,slow=7.6,SNR=94						
WRA				PcP	**PcP**	**18 25 14.6**	**-0.4**
	0.9nm,0.6s,baz=96,slow=3.3,SNR=5.1						
ASAR	**Alice Springs**	**47.66**	**254**	P	**P**	**18 23 49.4**	**-0.7**
	12nm,0.5s,baz=89,slow=9.3,SNR=464						
ASAR				PcP	**PcP**	**18 25 14.8**	**-0.5**
	1.4nm,0.6s,baz=100,slow=4.1,SNR=6.9						
VNDA	**Vanda**	**60.72**	**186**	P	**P**	**18 25 23.2**	**+0.2**
	1.1nm,0.7s,baz=10,slow=8.5,SNR=7.0						
TXAR	**Lajitas Array**	**83.50**	**57**	P	**P**	**18 27 40.0**	**+1.5**
	0.6nm,0.7s,baz=221,slow=8.4,SNR=7.3						
MAW	**Mawson**	**84.85**	**199**	P	**P**	**18 27 43.4**	**-1.1**
	2.1nm,0.6s,baz=148,slow=9.6,SNR=13						
ILAR	**Eielson Array**	**85.24**	**12**	P	**P**	**18 27 47.0**	**+0.6**
	0.6nm,0.5s,baz=230,slow=5.8,SNR=6.4						
CMAR	**Chiang Mai Arr**	**91.69**	**289**	P	**P**	**18 28 19.4**	**+1.6**
	0.5nm,0.8s,baz=112,slow=2.4,SNR=4.4						
MKAR	**Makanchi Array**	**111.27**	**314**	PKiKP	**PKiKP**	**18 33 41.0**	**-1.4**
	0.5nm,0.6s,baz=64,slow=2.2,SNR=6.5						
ARCES	**ARCESS Array B**	**126.81**	**351**	PKP	**PKPdf**	**18 34 11.2**	**-0.2**
	1.9nm,0.8s,baz=8.1,slow=1.3,SNR=3.6						
FINES	**FINESS Array B**	**133.95**	**346**	PKP	**PKPdf**	**18 34 25.5**	**+0.3**
	1.0nm,0.6s,baz=190,slow=5.6,SNR=5.4						
BRG	**Berggiesshubel**	**146.29**	**349**	*e*(P)	**PKPbc**	**18 34 50.2**	**+0.9**
	4.9nm,1.2s						
BRTR	**Keskin Array B**	**146.85**	**317**	PKPbc	**PKPbc**	**18 34 51.9**	**+0.4**
	1.4nm,0.6s,baz=144,slow=5.0,SNR=7.7						
GERES	**GERESS Array B**	**148.29**	**349**	PKPbc	**PKPbc**	**18 34 54.5**	**-0.4**
	1.3nm,0.7s,baz=29,slow=3.0,SNR=9.5						
MMAI	**Mount Meron Ar**	**148.62**	**305**	PKPbc	**PKPbc**	**18 34 57.2**	**+1.0**
	1.6nm,0.5s,baz=70,slow=8.1,SNR=6.2						
CONA	**Conrad Observa**	**148.70**	**346**	*i* PKPbc	**PKPbc**	**18 34 56.8**	**+0.8**
	4.2nm,1.0s						
MOA	**Molln**	**149.13**	**347**	*i* PKPbc	**PKPbc**	**18 34 57.7**	**+0.7**
	2.4nm,1.1s						
WATA	**Walderalm**	**150.11**	**351**	*i* PKPbc	**PKPbc**	**18 34 59.4**	**-0.1**
	2.1nm,0.5s						
WTTA	**Wattenberg**	**150.17**	**351**	*i* PKPbc	**PKPbc**	**18 35 00.3**	**+0.5**
	5.3nm,0.5s						
MOTA	**Moosalm**	**150.17**	**351**	*i* PKPbc	**PKPbc**	**18 35 00.0**	**+0.3**
	2.5nm,0.8s						
DAVA	**Damuels**	**150.39**	**353**	*i* PKPbc	**PKPbc**	**18 35 01.1**	**+0.9**
	2.7nm,0.5s						
MYKA	**Terra Mystica**	**150.42**	**347**	*i* PKPbc	**PKPbc**	**18 35 00.0**	**-0.1**
	1.9nm,0.4s						
ABTA	**Abfaltersbach**	**150.52**	**349**	*i* PKPbc	**PKPbc**	**18 35 00.5**	**0.0**
	4.6nm,0.6s						
FETA	**Feichten**	**150.54**	**352**	*i* PKPbc	**PKPbc**	**18 35 01.3**	**+0.7**
	4.7nm,0.9s						
DAVOX	**Davos/Dischmat**	**150.89**	**353**	PKPbc	**PKPbc**	**18 35 01.8**	**+0.3**
	4.1nm,0.4s,baz=170,slow=1.3,SNR=9.1						

IDC ***20*** *18:29:01.7±1.1,34°.03N×26°.57E,h0km,mb3.8/8, mb1 3.8/14,mb1mx3.6/52,mbtmp3.7/14,ML3.6/6,Error ellipse: s-maj=21.3km s-min=14.6km az=16.0*
ISK ***20*** *18:29:01.7,33°.87N×26°.51E,h27km,ML3.5*
CSEM ***20*** *18:29:05.9±0.1,33°.96N×26°.60E,h40km,ML3.0,Error ellipse: s-maj=3.6km s-min=2.5km az=55.0*
HLW ***20*** *18:29:08.0,33°.93N×26°.83E,h32km±15km,Md3.6,Ml3.4*
ATH ***20*** *18:29:07.5,34°.18N×26°.53E,h42km±10km,ML3.0/8,Error ellipse: s-maj=12.1km s-min=1.8km az=162.0*
THE ***20*** *18:29:08.6,34°.05N×26°.53E,h49km±8km,ML3.3/7,Error ellipse: s-maj=8.7km s-min=0.8km az=5.0*
GII ***20*** *18:29:13.2±0.0,33°.96N×27°.29E,h30km,MD3.1/4*
ISC 20 18:29:04.2±0.6,33°.98N±0°.04×26°.66E±0°.04,h19km±4km, n196,σ1§59/252,mb3.7/8,1D,Eastern Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ZKR	**Zakros**	**1.19**	**342**	P	**Pb**	**18 29 26.2**	**0.0**
ZKR				S	**Sb**	**18 29 39.4**	**-1.9**
ZKR	**Zakros**	**1.19**	**342**	P	**Pb**	**18 29 26.2**	**0.0**
ZKR				S	**Sb**	**18 29 39.4**	**-1.9**
ZKR				AML	AML	18 29 45.0	
	comp=N,852µm,0.6s						
ZKR				AML	AML	18 29 45.7	
	comp=E,2008µm,0.6s						
LAST	**Lasithi**	**1.53**	**321**	P	**Pn**	**18 29 31.1**	**+0.5**
LAST				S	**Sn**	**18 29 49.1**	**-1.0**
LAST	**Lasithi**	**1.53**	**321**	P	**Pn**	**18 29 31.1**	**+0.5**
LAST				S	**Sn**	**18 29 47.7**	**-2.4**
LAST	**Lasithi**	**1.53**	**321**	P	**Pn**	**18 29 31.1**	**+0.5**
LAST				S	**Sn**	**18 29 47.7**	**-2.4**
LAST				AML	AML	18 29 57.1	
	comp=N,735µm,0.6s						
LAST				AML	AML	18 29 57.8	
	comp=E,762µm,0.9s						
NPS	**Neapolis**	**1.55**	**326**	P	**Pn**	**18 29 31.4**	**+0.6**
NPS				S	**Sn**	**18 29 49.5**	**-0.8**
NPS	**Neapolis**	**1.55**	**326**	P	**Pb**	**18 29 31.6**	**-0.7**
NPS				S	**Sn**	**18 29 47.4**	**-2.9**
NPS	**Neapolis**	**1.55**	**326**	P	**Pb**	**18 29 31.6**	**-0.7**
NPS				S	**Sn**	**18 29 47.4**	**-2.9**
NPS				AML	AML	18 29 55.3	
	comp=E,984µm,0.4s						
NPS				AML	AML	18 29 58.2	
	comp=N,834µm,0.6s						
KARP	**Karpathos**	**1.62**	**15**	*e*PN	**Pn**	**18 29 31.8**	**0.0**
KARP				*e*SN	**Sn**	**18 29 52.5**	**+0.3**
KARP	**Karpathos**	**1.62**	**15**	P	**Pb**	**18 29 33.2**	**-0.3**
KARP				S	**Sb**	**18 29 53.2**	**-0.4**
KARP	**Karpathos**	**1.62**	**15**	*e*Pn	**Pn**	**18 29 31.8**	**0.0**
KARP	**Karp

APE	**Apeiranthos**	**3.22**	**344**	*i* P	**Pn**	**18 29 52.9**	**-0.9**
APE	**Apeiranthos**	**3.22**	**344**	*e* Pn	**Pn**	**18 29 52.8**	**-1.0**
KSL	**Kastellorizon**	**3.23**	**47**	P	**Pn**	**18 29 56.3**	**+2.4**
DALY	**Dalyan (Mu˙la**	**3.27**	**29**	*e* PN	**Pn**	**18 29 55.0**	**+0.6**
DALY	**Dalyan (Mu˙la**	**3.27**	**29**	*i* P	**Pn**	**18 29 55.9**	**+1.5**
DALY				*i* S	**Sn**	**18 30 31.1**	**-1.7**
DALY	**Dalyan (Mu˙la**	**3.27**	**29**	*e* Pn	**Pn**	**18 29 55.0**	**+0.6**
DALY	**Dalyan (Mu˙la**	**3.27**	**29**	P	**Pn**	**18 29 55.9**	**+1.5**
DALY				S	**Sn**	**18 30 31.0**	**-1.7**
TURN	**Turunc**	**3.30**	**28**	*i* P	**Pn**	**18 29 53.8**	**-1.0**
TURN				*i* S	**Sn**	**18 30 26.9**	**-6.6**
TURN	**Turunc**	**3.30**	**28**	P	**Pn**	**18 29 53.8**	**-1.0**
AKAS	**Kas**	**3.30**	**46**	*e* PN	**Pn**	**18 29 55.6**	**+0.6**
AKAS	**Kas**	**3.30**	**46**	*i* P	**Pn**	**18 29 56.0**	**+1.0**
AKAS				*i* S	**Sn**	**18 30 33.1**	**-0.7**
AKAS	**Kas**	**3.30**	**46**	*e* Pn	**Pn**	**18 29 55.6**	**+0.6**
AKAS	**Kas**	**3.30**	**46**	P	**Pn**	**18 29 56.0**	**+1.0**
AKAS				S	**Sn**	**18 30 33.1**	**-0.7**
FETY	**Fethiye**	**3.31**	**36**	*e* PN	**Pn**	**18 29 55.3**	**+0.3**
FETY	**Fethiye**	**3.31**	**36**	*e* Pn	**Pn**	**18 29 55.3**	**+0.3**
FETY	**Fethiye**	**3.31**	**36**	P	**Pn**	**18 29 56.2**	**+1.2**
FETY				S	**Sn**	**18 30 30.8**	**-3.1**
MLSB	**Milas**	**3.44**	**15**	*e* PN	**Pn**	**18 29 57.0**	**+0.3**
MLSB	**Milas**	**3.44**	**15**	*e* Pn	**Pn**	**18 29 57.0**	**+0.3**
ELL	**Elmali**	**3.83**	**43**	*e* PN	**Pn**	**18 30 03.4**	**+1.1**
ELL	**Elmali**	**3.83**	**43**	*e* Pn	**Pn**	**18 30 03.4**	**+1.1**
GLHS	**Glhisar (BURDU**	**3.93**	**35**	*e* PN	**Pn**	**18 30 04.6**	**+1.0**
GLHS	**Glhisar (BURDU**	**3.93**	**35**	*e* Pn	**Pn**	**18 30 04.6**	**+1.0**
GOLH	**Golhisar**	**4.02**	**35**	*i* P	**Pn**	**18 30 06.9**	**+2.0**
GOLH				*i* S	**Sn**	**18 30 50.5**	**-1.0**
GOLH	**Golhisar**	**4.02**	**35**	P	**Pn**	**18 30 06.9**	**+2.0**
GOLH				S	**Sn**	**18 30 50.5**	**-1.0**
AYDB	**Zeytinkoy-Aydi**	**4.09**	**14**	*e* PN	**Pn**	**18 30 06.4**	**+0.6**
AYDB	**Zeytinkoy-Aydi**	**4.09**	**14**	*e* Pn	**Pn**	**18 30 06.4**	**+0.6**
KORT	**Korkueli**	**4.26**	**44**	*e* PN	**Pn**	**18 30 09.3**	**+1.1**
KORT	**Korkueli**	**4.26**	**44**	*i* P	**Pn**	**18 30 10.5**	**+2.3**
KORT				*i* S	**Sn**	**18 30 58.3**	**+0.8**
KORT	**Korkueli**	**4.26**	**44**	*e* Pn	**Pn**	**18 30 09.3**	**+1.1**
KORT	**Korkueli**	**4.26**	**44**	P	**Pn**	**18 30 10.5**	**+2.3**
KORT				S	**Sn**	**18 30 58.3**	**+0.8**
ANTB	**Antalya**	**4.38**	**47**	*e* PN	**Pn**	**18 30 10.7**	**+1.1**
ANTB	**Antalya**	**4.38**	**47**	*e* Pn	**Pn**	**18 30 10.7**	**+1.1**
URLA	**Izmir**	**4.38**	**359**	*e* PN	**Pn**	**18 30 09.8**	**+0.1**
URLA	**Izmir**	**4.38**	**359**	*e* Pn	**Pn**	**18 30 09.8**	**+0.1**
KULA	**Kula-Manisa**	**4.81**	**19**	*e* PN	**Pn**	**18 30 16.5**	**+0.9**
KULA	**Kula-Manisa**	**4.81**	**19**	*e* Pn	**Pn**	**18 30 16.5**	**+0.9**
SWA2	baz=195	**4.83**	**193**	P	**Pn**	**18 30 16.8**	**+1.0**
SWA2	baz=195			S	**Sn**	**18 31 09.1**	**-2.1**
SWA2		**4.83**	**193**	P	**Pn**	**18 30 16.8**	**+1.0**
SWA2				S	**Sn**	**18 31 09.1**	**-2.1**
SUTC	**Sutluce-Ispart**	**4.97**	**44**	*e* PN	**Pn**	**18 30 19.4**	**+1.6**
SUTC	**Sutluce-Ispart**	**4.97**	**44**	*e* Pn	**Pn**	**18 30 19.4**	**+1.6**
LEF	**Lefka**	**5.27**	**76**	*e* PN	**Pn**	**18 30 22.3**	**+0.4**
LEF	**Lefka**	**5.27**	**76**	*e* Pn	**Pn**	**18 30 22.3**	**+0.4**
HMYD	**Mayadein** baz=139	**5.46**	**139**	P	**Pn**	**18 30 23.6**	**-0.9**
HMYD	**Mayadein**	**5.46**	**139**	P	**Pn**	**18 30 23.6**	**-0.9**
CSS	**Mathiatis**	**5.60**	**78**	Pn	**Pn**	**18 30 26.7**	**+0.3**
CSS	**Mathiatis**	**5.60**	**78**	Pn	**Pn**	**18 30 26.7**	**+0.3**
HDMB	**Hadim**	**5.61**	**56**	*e* PN	**Pn**	**18 30 28.8**	**+2.0**
HDMB	**Hadim**	**5.61**	**56**	*e* Pn	**Pn**	**18 30 28.8**	**+2.0**
TEKE	**Tekeli-Mersin**	**5.72**	**66**	*e* PN	**Pn**	**18 30 29.6**	**+1.6**
TEKE	**Tekeli-Mersin**	**5.72**	**66**	*e* Pn	**Pn**	**18 30 29.7**	**+1.6**
LFK	**Lefkose**	**5.81**	**75**	*e* PN	**Pn**	**18 30 31.0**	**+1.6**
LFK	**Lefkose**	**5.81**	**75**	*e* Pn	**Pn**	**18 30 31.0**	**+1.6**
BERE	**Bereket-Mersin**	**5.87**	**64**	*e* PN	**Pn**	**18 30 32.1**	**+1.7**
BERE	**Bereket-Mersin**	**5.87**	**64**	*e* Pn	**Pn**	**18 30 32.1**	**+1.7**
TVSB	**Tavsanli**	**5.91**	**22**	*e* PN	**Pn**	**18 30 32.4**	**+1.6**
TVSB	**Tavsanli**	**5.91**	**22**	*e* Pn	**Pn**	**18 30 32.4**	**+1.6**
KOT	**Kottamia** baz=131	**5.96**	**131**	P	**Pn**	**18 30 30.7**	**-0.8**
KOT	**Kottamia**	**5.96**	**131**	P	**Pn**	**18 30 30.7**	**-0.8**
AKKU	**Akkuyu-Mersin**	**6.06**	**67**	*e* PN	**Pn**	**18 30 34.0**	**+1.3**
AKKU	**Akkuyu-Mersin**	**6.06**	**67**	*e* Pn	**Pn**	**18 30 34.0**	**+1.3**
TEVE	**Tevekalti-Mers**	**6.07**	**64**	*e* PN	**Pn**	**18 30 35.0**	**+2.0**
TEVE	**Tevekalti-Mers**	**6.07**	**64**	*e* Pn	**Pn**	**18 30 35.0**	**+2.0**
KONT	**Konya--Tatoy**	**6.09**	**48**	*e* PN	**Pn**	**18 30 35.3**	**+2.1**
KONT	**Konya--Tatoy**	**6.09**	**48**	*e* Pn	**Pn**	**18 30 35.3**	**+2.1**
HHAG	**Hagoal** baz=130	**6.12**	**129**	P	**Pn**	**18 30 32.9**	**-0.7**
HHAG	**Hagoal**	**6.12**	**129**	P	**Pn**	**18 30 32.9**	**-0.7**
AGG	**Agios Georgios**	**6.12**	**327**	*e* PN	**Pn**	**18 30 33.7**	**0.0**
AGG	**Agios Georgios**	**6.12**	**327**	*e* Pn	**Pn**	**18 30 33.7**	**0.0**
GLL	**Jalalah** baz=134	**6.14**	**134**	P	**Pn**	**18 30 33.1**	**-0.8**
GLL	**Jalalah**	**6.14**	**134**	P	**Pn**	**18 30 33.1**	**-0.8**
IKL	**Isikli**	**6.18**	**67**	*e* PN	**Pn**	**18 30 36.0**	**+1.6**
IKL	**Isikli**	**6.18**	**67**	*e* Pn	**Pn**	**18 30 36.0**	**+1.6**
KEBE	**Keben-Mersin**	**6.28**	**65**	*e* PN	**Pn**	**18 30 37.8**	**+2.0**
KEBE	**Keben-Mersin**	**6.28**	**65**	*e* Pn	**Pn**	**18 30 37.8**	**+2.0**
RSH	baz=115	**6.68**	**115**	P	**Pn**	**18 30 40.6**	**-0.7**
RSH		**6.68**	**115**	P	**Pn**	**18 30 40.6**	**-0.7**
ZAF	**Zafarana** baz=132	**6.86**	**131**	P	**Pn**	**18 30 43.2**	**-0.6**
ZAF	**Zafarana**	**6.86**	**131**	P	**Pn**	**18 30 43.2**	**-0.6**
MERS	**Mersin**	**7.04**	**64**	*e* PN	**Pn**	**18 30 47.9**	**+1.7**
MERS	**Mersin**	**7.04**	**64**	*e* Pn	**Pn**	**18 30 47.9**	**+1.7**
KZIT	**Kziot**	**7.22**	**113**	Pn	**Pn**	**18 30 50.0**	**+1.3**
KZIT				Sn	**Sn**	**18 32 06.2**	**-4.0**
KZIT	**Kziot**	**7.22**	**113**	Pn	**Pn**	**18 30 50.0**	**+1.3**
SLTI	**Sal'it**	**7.24**	**102**	Pn	**Pn**	**18 30 49.9**	**+0.9**
SLTI				Sn	**Sn**	**18 32 04.9**	**-5.8**
SLTI	**Sal'it**	**7.24**	**102**	Pn	**Pn**	**18 30 49.9**	**+0.9**
MMA0B	**Mount Meron ar**	**7.37**	**95**	Pn	**Pn**	**18 30 51.7**	**+0.9**
MMA0B	**Mount Meron ar**	**7.37**	**95**	Pn	**Pn**	**18 30 51.7**	**+0.9**
MMAI	**Mount Meron Ar** comp=N,2.4nm,0.3s,baz=268,slow=12,SNR=12	**7.37**	**95**	Pn	**Pn**	**18 30 51.7**	**+0.9**
MMAI	comp=N,7.2nm,0.3s,baz=286,slow=28,SNR=9.5			Sn	**Sn**	**18 32 13.9**	**+0.1**
AMAZ	**Amatzia**	**7.37**	**107**	Pn	**Pn**	**18 30 51.3**	**+0.5**
AMAZ				Sn	**Sn**	**18 32 09.6**	**-4.3**
AMAZ	**Amatzia**	**7.37**	**107**	Pn	**Pn**	**18 30 51.3**	**+0.5**
HNKL	**Nakhl** baz=121	**7.41**	**121**	P	**Pn**	**18 30 50.5**	**-0.9**
HNKL	**Nakhl**	**7.41**	**121**	P	**Pn**	**18 30 50.5**	**-0.9**
MMLI	**Mount Malkishu**	**7.50**	**99**	Pn	**Pn**	**18 30 53.8**	**+1.2**
MMLI	**Mount Malkishu**	**7.50**	**99**	Pn	**Pn**	**18 30 53.8**	**+1.2**
HMDT	**Nahal Hemdat**	**7.63**	**101**	Pn	**Pn**	**18 30 55.0**	**+0.6**
HMDT				Sn	**Sn**	**18 32 15.7**	**-4.7**
HMDT	**Nahal Hemdat**	**7.63**	**101**	Pn	**Pn**	**18 30 55.0**	**+0.6**
DSI	**Dead Sea**	**7.72**	**106**	Pn	**Pn**	**18 30 56.2**	**+0.6**
DSI				Sn	**Sn**	**18 32 18.9**	**-3.7**
DSI	**Dead Sea**	**7.72**	**106**	Pn	**Pn**	**18 30 56.2**	**+0.6**
GRB	**Gharib** baz=136	**7.74**	**136**	P	**Pn**	**18 30 55.0**	**-0.9**
GRB	**Gharib**	**7.74**	**136**	P	**Pn**	**18 30 55.0**	**-0.9**
BRBR	**Barbar**	**7.76**	**92**	*e* P	**Pn**	**18 30 56.6**	**+0.2**
BRBR	**Barbar** SNR=46	**7.76**	**92**	*e* P	**Pn**	**18 30 56.6**	**+0.2**
MZDA	**Masada**	**7.81**	**108**	Pn	**Pn**	**18 30 57.3**	**+0.6**
MZDA				Sn	**Sn**	**18 32 20.7**	**-3.8**
MZDA	**Masada**	**7.81**	**108**	Pn	**Pn**	**18 30 57.3**	**+0.6**
ARNB	**Al Arnab**	**7.88**	**74**	*e* P	**Pn**	**18 30 58.1**	**+0.3**
ARNB	**Al Arnab** SNR=46	**7.88**	**74**	*e* P	**Pn**	**18 30 58.1**	**+0.3**
PRNI	**Paran**	**7.94**	**115**	Pn	**Pn**	**18 30 59.5**	**+0.8**
PRNI				Sn	**Sn**	**18 32 23.2**	**-4.8**
PRNI	**Paran**	**7.94**	**115**	Pn	**Pn**	**18 30 59.5**	**+0.8**
FNA	**Florina**	**7.99**	**330**	*e* PN	**Pn**	**18 30 59.5**	**+0.3**
FNA	**Florina**	**7.99**	**330**	*e* Pn	**Pn**	**18 30 59.6**	**+0.3**
BRTR	**Keskin Array B** comp=N,0.1nm,0.3s,baz=217,slow=14,SNR=4.0	**8.01**	**42**	Pn	**Pn**	**18 31 03.2**	**+3.5**
BRTR	comp=N,0.2nm,0.3s,baz=212,slow=27,SNR=3.9			Sn	**Sn**	**18 32 26.6**	**-3.2**
YAYL	**Yayladag**	**8.02**	**72**	*e* PN	**Pn**	**18 31 00.0**	**+0.2**
YAYL	**Yayladag**	**8.02**	**72**	*e* Pn	**Pn**	**18 31 00.0**	**+0.2**
HRFI	**Mount Harif**	**8.12**	**117**	Pn	**Pn**	**18 31 02.7**	**+1.5**
HRFI				Sn	**Sn**	**18 32 28.5**	**-4.0**
HRFI	**Mount Harif**	**8.12**	**117**	Pn	**Pn**	**18 31 02.7**	**+1.5**
MARH	**Ras Al Marh**	**8.16**	**87**	*e* P	**Pn**	**18 31 02.4**	**+0.5**
MARH	**Ras Al Marh** SNR=46	**8.16**	**87**	*e* P	**Pn**	**18 31 02.4**	**+0.5**
MBRI	**Mt Berech**	**8.16**	**118**	Pn	**Pn**	**18 31 02.9**	**+1.2**
MBRI				Sn	**Sn**	**18 32 29.9**	**-3.6**
MBRI	**Mt Berech**	**8.16**	**118**	Pn	**Pn**	**18 31 02.9**	**+1.2**
KOZT	**Kozan**	**8.23**	**62**	*e* PN	**Pn**	**18 31 04.2**	**+1.6**
KOZT	**Kozan**	**8.23**	**62**	*e* Pn	**Pn**	**18 31 04.2**	**+1.6**
EIL	**Elat**	**8.26**	**119**	Pn	**Pn**	**18 31 03.8**	**+0.9**
	comp=N,0.9nm,0.3s,baz=340,slow=2.5,SNR=8.0						
EIL				Sn	**Sn**	**18 32 32.3**	**-3.4**
	comp=N,2.5nm,0.3s,baz=213,slow=10,SNR=6.8						
EIL	**Elat**	**8.26**	**119**	Pn	**Pn**	**18 31 04.3**	**+1.4**
EIL	**Elat**	**8.26**	**119**	Pn	**Pn**	**18 31 04.3**	**+1.4**
BTCH	**Batrach**	**8.30**	**73**	*e* P	**Pn**	**18 31 04.8**	**+1.2**
BTCH	**Batrach** SNR=46	**8.30**	**73**	*e* P	**Pn**	**18 31 04.8**	**+1.2**
SALA	**Sala**	**8.52**	**96**	*e* P	**Pn**	**18 31 07.8**	**+1.0**
SALA	**Sala** SNR=46	**8.52**	**96**	*e* P	**Pn**	**18 31 07.8**	**+1.0**
HDK1	**Dakhla** baz=164	**8.73**	**163**	P	**Pn**	**18 31 09.3**	**-0.2**
HDK1	**Dakhla**	**8.73**	**163**	P	**Pn**	**18 31 09.3**	**-0.2**
ASF	**Jabal al Asfar** comp=N,0.2nm,0.3s,baz=239,slow=5.9,SNR=2.7	**8.78**	**99**	Pn	**Pn**	**18 31 10.2**	**0.0**
ASF	comp=N,0.7nm,0.3s,baz=347,slow=14,SNR=3.6			Sn	**Sn**	**18 32 50.3**	**+1.7**
SH2	**Sharm el Sheik** baz=132	**8.80**	**132**	P	**Pn**	**18 31 10.0**	**-0.4**
SH2	**Sharm el Sheik**	**8.80**	**132**	P	**Pn**	**18 31 10.0**	**-0.4**
ROOS	**tl˙alroos**	**8.82**	**86**	*e* P	**Pn**	**18 31 13.6**	**+2.8**
ROOS	**tl˙alroos** SNR=46	**8.82**	**86**	*e* P	**Pn**	**18 31 13.6**	**+2.8**
HHRG	**Al Ghardaqah** baz=137	**8.99**	**137**	P	**Pn**	**18 31 14.5**	**+1.5**
HHRG	**Al Ghardaqah**	**8.99**	**137**	P	**Pn**	**18 31 14.5**	**+1.5**
AKRG	**Al Kharijah** baz=158	**9.08**	**157**	P	**Pn**	**18 31 14.0**	**-0.2**
HADB	baz=139	**11.03**	**139**	P	**Pn**	**18 31 40.7**	**-0.3**
HADB		**11.03**	**139**	P	**Pn**	**18 31 40.7**	**-0.3**
MABD	**Mabed**	**12.04**	**154**	P	**Pn**	**18 31 54.6**	**-0.2**
UDBI	**Udbina**	**13.49**	**325**	*e* Pn	**Pn**	18 32 09.8	-4.7
AKASG	**Malin Array Be** comp=N,1.1nm,0.3s,baz=192,slow=10,SNR=7.0	**16.82**	**6**	Pn	**Pn**	**18 32 58.2**	**-0.3**
GERES	**GERESS Array B** comp=N,0.1nm,0.3s,baz=158,slow=11,SNR=3.1	**17.71**	**331**	P	**Pn**	**18 33 07.7**	**-2.1**
ESDC	**Sonseca Array** comp=N,0.7nm,0.5s,baz=78,slow=9.7,SNR=6.3	**25.09**	**292**	P	**P**	**18 34 26.3**	**-1.4**
FINES	**FINESS Array B** comp=N,2.5nm,0.8s,baz=145,slow=12,SNR=4.6	**27.49**	**359**	P	**P**	**18 34 46.9**	**-2.1**
HFS	**Hagfors** comp=N,1.9nm,0.6s,baz=134,slow=12,SNR=6.6	**27.52**	**346**	P	**P**	**18 34 48.0**	**-1.2**
NOA	**NORSAR Array B** comp=N,0.5nm,0.7s,baz=148,slow=9.8,SNR=2.8	**28.86**	**344**	P	**P**	**18 35 02.4**	**+1.1**
EKA	**Eskdalemuir Ar** comp=N,0.4nm,0.4s,baz=120,slow=9.3,SNR=3.1	**29.72**	**325**	P	**P**	**18 35 07.9**	**-1.0**
TORD	**Torodi Ar. Bea** comp=N,1.4nm,0.6s,baz=29,slow=8.8,SNR=16	**30.73**	**234**	P	**P**	**18 35 18.9**	**+0.7**
MKAR	**Makanchi Array** comp=N,0.4nm,0.5s,baz=274,slow=6.6,SNR=6.0	**43.41**	**56**	P	**P**	**18 37 07.1**	**+1.6**
ZALV	**Zalesovo Beam** comp=N,0.4nm,0.3s,baz=251,slow=8.5,SNR=2.7	**44.94**	**45**	P	**P**	**18 37 18.2**	**+0.5**

*ISCJB **20** 18:32:52.8±0.5, 32.˚2N±0.˚1×40.˚13W±0.˚10, h10km, mb4.2/25, MS3.8/22, Error ellipse: s-maj=15.8km s-min=10.5km az=151.6*

*IDC **20** 18:32:53.1±0.7, 32.˚25N×40.˚13W, h0km, mb4.1/18, mb1 4.2/18, mb1mx3.9/62, mbtmp4.1/18, MS3.8/22, Ms1 3.7/22, ms1mx3.6/43, Error ellipse: s-maj=24.5km s-min=16.1km az=151.0*

*NEIC **20** 18:32:54.4±0.3, 32.˚22N×40.˚11W, h10km, mb4.5/8, Error ellipse: s-maj=12.3km s-min=8.2km az=152.0*

ISC 20 18:32:54.7±0.7, **32.˚2N**±0.˚1×**40.˚1W**±0.˚1, **h10km**, **n50,**
σ0**879**/28, **mb4.2**/25, **MS3.8**/22, **Northern Mid-Atlantic Ridge**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SJG	**San Juan** comp=Z,60nm,20.5s,baz=73,slow=32	**27.35**	**245**	LR		LR		18 47 19.1	
BBTS	**Babate** comp=Z,375nm,20.2s,baz=356,slow=31	**27.71**	**124**	LR		LR		18 47 08.8	
SCHQ	**Schefferville** comp=Z,295nm,21.4s,baz=115,slow=34	**29.44**	**328**	LR		LR		18 49 44.1	
MDT	**Midelt** comp=Z,329nm,21.8s,baz=314,slow=31	**29.86**	**79**	LR		LR		18 48 07.9	
TKL	**Tuckaleechee C** comp=Z,354nm,21.7s,baz=110,slow=32	**36.16**	**288**	LR		LR		18 51 51.4	
PTGA	**Pitinga** 1.3nm,0.3s,baz=11,slow=10,SNR=4.2	**37.78**	**214**	P		**P**		**18 40 11.6**	**+0.4**
DBIC	**Dimbokro** comp=Z,202nm,20.3s,baz=293,slow=33	**41.52**	**120**	LR		LR		18 55 43.8	
ROSC	**El Rosal** comp=Z,87nm,21.2s,baz=66,slow=34	**42.02**	**237**	LR		LR		18 56 47.8	
TORD	**Torodi Ar. Bea** 1.2nm,0.9s,baz=286,slow=4.2,SNR=7.1	**42.66**	**107**	P		**P**		**18 40 52.2**	**+0.5**
TORD	comp=Z,155nm,21.8s,baz=280,slow=33			LR		LR		18 56 21.0	
GERES	**GERESS Array B** comp=Z,75nm,19.4s,baz=262,slow=32	**43.20**	**51**	LR		LR		18 55 41.0	
NOA	**NORSAR Array B** 1.1nm,0.8s,baz=254,slow=7.9,SNR=2.7	**43.83**	**33**	P		**P**		**18 40 59.9**	**-0.7**
NOA	comp=Z,95nm,19.4s,baz=290,slow=31			LR		LR		18 55 30.6	
ULM	**Lac du Bonnet** comp=Z,100nm,18.4s,baz=90,slow=37	**44.51**	**311**	LR		LR		19 00 22.8	
HFS	**Hagfors** 3.5nm,1.0s,baz=254,slow=5.4,SNR=2.7	**44.77**	**35**	P		**P**		**18 41 09.1**	**+1.0**
VRAC	**Vranov** comp=Z,56nm,21.5s,baz=333,slow=33	**45.11**	**51**	LR		LR		18 57 34.6	
SAML	**Samuel** 5.0nm,1.1s	**46.50**	**212**	*e*P		**P**		**18 41 21.4**	**-0.9**
H10N2	**ASCENSION HYDR** baz=330,slow=75,SNR=90	**46.74**	**144**	T		T		19 31 20.4	
H10N3	**ASCENSION HYDR** baz=330,slow=75,SNR=127	**46.74**	**144**	T		T		19 31 20.7	
H10N1	**ASCENSION HYDR** baz=330,slow=75,SNR=130	**46.76**	**144**	T		T		19 31 21.9	
H10S1	**ASCENSION HYDR** baz=331,slow=75,SNR=221	**47.62**	**145**	T		T		19 32 28.7	
H10S3	**ASCENSION HYDR** baz=331,slow=75,SNR=193	**47.62**	**145**	T		T		19 32 32.5	
H10S2	**ASCENSION HYDR** baz=331,slow=75,SNR=218	**47.64**	**145**	T		T		19 32 30.1	
FINES	**FINESS Array B** 0.9nm,0.6s,baz=248,slow=11,SNR=4.1	**50.96**	**34**	P		**P**		**18 41 56.6**	**+0.6**
FINES	comp=Z,135nm,18.9s,baz=264,slow=32			LR		LR		18 59 56.7	
CMIG	**Matias Romero** comp=Z,70nm,18.8s,baz=16,slow=36	**51.49**	**267**	LR		LR		19 04 02.6	
MLR	**Muntele Rosu** 1.0nm,0.9s,baz=346,slow=5.2,SNR=5.6	**51.74**	**55**	P		**P**		**18 42 03.4**	**+1.0**
AKASG	**Malin Array Be** 0.5nm,0.5s,baz=275,slow=6.6,SNR=5.2	**53.15**	**48**	P		**P**		**18 42 10.9**	**-1.6**
AKASG	comp=Z,74nm,18.1s,baz=315,slow=34			LR		LR		19 02 45.9	
TXAR	**Lajitas Array** 1.0nm,0.9s,baz=91,slow=6.8,SNR=9.8	**53.97**	**285**	P		**P**		**18 42 18.8**	**-0.2**
TXAR	comp=Z,126nm,21.3s,baz=0.0,slow=34			LR		LR		19 02 59.7	
BW06	**Boulder Array** 4.8nm,0.9s	**54.67**	**302**	*e*P		**P**		**18 42 22.6**	**-1.5**
PDAR	**Pinedale Array** 4.4nm,1.0s,baz=69,slow=8.4,SNR=13	**54.67**	**302**	P		**P**		**18 42 23.5**	**-0.6**
PDAR	comp=Z,178nm,20.0s,baz=107,slow=35			LR		LR		19 04 28.6	
YKA	**Yellowknife Ar** comp=Z,18nm,20.4s,baz=0.0,slow=35	**54.88**	**327**	LR		LR		19 04 44.4	
LPAZ	**La Paz** 0.9nm,0.6s,baz=87,slow=13,SNR=3.6	**55.21**	**213**	P		**P**		**18 42 28.5**	**-0.1**
LPAZ	comp=Z,79nm,20.1s,baz=14,slow=34			LR		LR		19 04 35.5	
IMW	**Indian Meadow** 4.7nm,1.1s	**55.39**	**304**	*e*P		**P**		**18 42 29.5**	**+0.1**
DUG	**Dugway, Tooele** 4.4nm,1.1s	**57.71**	**300**	*e*P		**P**		**18 42 46.2**	**+0.5**
BRTR	**Keskin Array B** 1.5nm,0.9s,baz=280,slow=3.6,SNR=5.5	**58.62**	**60**	P		**P**		**18 42 51.4**	**-0.7**
MFID	**Camas Ranch** 4.2nm,1.0s	**58.94**	**304**	*e*P		**P**		**18 42 55.4**	**+1.1**
KBZ	**Khabaz** comp=Z,16nm,20.1s,baz=256,slow=34	**63.87**	**53**	LR		LR		19 08 40.5	
ILAR	**Eielson Array** 1.9nm,1.2s,baz=42,slow=7.0,SNR=4.8	**67.99**	**334**	P		**P**		**18 43 53.7**	**+0.1**
ARU	**Arti** 0.8nm,0.4s,baz=292,slow=9.4,SNR=4.8	**68.27**	**36**	P		**P**		**18 43 55.6**	**+0.1**
ARU	**Arti** 6.3nm,1.1s	**68.27**	**36**	*e*P		**P**		**18 43 55.6**	**+0.1**
AKTO	**Aktyubinsk** 3.6nm,0.8s,baz=315,slow=6.1,SNR=12	**70.65**	**42**	P		**P**		**18 44 09.8**	**-0.5**
NRIK	**Noril'sk** 4.0nm,0.7s,baz=321,slow=5.2,SNR=4.2	**71.80**	**17**	P		**P**		**18 44 17.9**	**+0.9**
ABKAR	**Akbulak array**	**72.30**	**43**	*e*P		**P**		**18 44 20.1**	**-0.3**
	3.6nm,1.0s								
H09N1	**TRISTAN DA CUN** SNR=6.4	**73.67**	**157**	T		T		20 05 11.7	
H09W1	**TRISTAN DA CUN** SNR=2.5	**73.69**	**157**	T		T		20 05 10.4	
KMBO	**Kilima Mbogo** comp=Z,57nm,18.5s,baz=88,slow=36	**79.92**	**98**	LR		LR		19 20 54.8	
KURK	**Kurchatov** 27nm,1.0s	**81.33**	**34**	*e*P		**P**		**18 45 10.7**	**-0.5**
ZALV	**Zalesovo Beam** 2.0nm,0.9s,baz=299,slow=6.6,SNR=6.7	**81.88**	**29**	P		**P**		**18 45 13.5**	**-0.6**
MKAR	**Makanchi Array** 1.3nm,0.9s,baz=316,slow=5.1,SNR=6.6	**85.78**	**36**	P		**P**		**18 45 33.5**	**-0.7**
BOSA	**Boshof** comp=Z,45nm,21.2s,baz=308,slow=32	**86.69**	**127**	LR		LR		19 18 35.5	
PETK	**Petropavlovsk-** 3.3nm,0.9s,baz=0.0,slow=4.3,SNR=3.1	**93.61**	**349**	P		**P**		**18 46 11.8**	**+0.8**
ASAR	**Alice Springs** 0.5nm,0.9s,baz=103,slow=2.1,SNR=4.5	**169.97**	**33**	PKP		**PKPdf**		**18 53 01.9**	**-1.2**
ASAR	1.0nm,1.1s,baz=323,slow=3.8,SNR=4.8			PKPab		**PKPab**		**18 54 17.4**	**-0.5**

*ISCJB **20** 18:36:22.9±0.5, 32.˚3N±0.˚1×40.˚2W±0.˚1, h13km, mb4.1/19, Error ellipse: s-maj=16.7km s-min=11.7km az=151.4*

*IDC **20** 18:36:22.4±0.7, 32.˚30N×40.˚12W, h0km, mb3.9/14, mb1 4.1/14, mb1mx3.8/62, mbtmp3.9/14, Error ellipse: s-maj=25.3km s-min=16.8km az=146.0*

*NEIC **20** 18:36:24.1±0.4, 32.˚30N×40.˚12W, h10km, mb4.5/5, Error ellipse: s-maj=13.8km s-min=9.6km az=153.0*

ISC 20 18:36:24.6±0.7, **32.˚3N**±0.˚1×**40.˚1W**±0.˚1, **h13km**, **n32,**
σ0**887**/23, **mb4.2**/19, **Northern Mid-Atlantic Ridge**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
H05S1	**Guadeloupe/Mar** SNR=32	**25.95**	**232**	T		T		19 08 20.7	
PTGA	**Pitinga** 2.1nm,0.7s,baz=336,slow=19,SNR=3.8	**37.81**	**214**	P		**P**		**18 43 41.1**	**+0.2**
TORD	**Torodi Ar. Bea** 1.6nm,0.9s,baz=295,slow=5.1,SNR=6.3	**42.68**	**107**	P		**P**		**18 44 21.6**	**+0.3**
SAML	**Samuel** 4.4nm,1.0s	**46.53**	**212**	*e*P		**P**		**18 44 52.5**	**+0.5**
H10N2	**ASCENSION HYDR** baz=330,slow=75,SNR=57	**46.77**	**144**	T		T		19 35 03.7	
H10N3	**ASCENSION HYDR** baz=330,slow=75,SNR=81	**46.78**	**144**	T		T		19 35 07.9	
H10N1	**ASCENSION HYDR** baz=330,slow=75,SNR=70	**46.79**	**144**	T		T		19 35 09.0	
H10S1	**ASCENSION HYDR** baz=331,slow=75,SNR=266	**47.65**	**145**	T		T		19 36 13.5	
H10S3	**ASCENSION HYDR** baz=331,slow=75,SNR=219	**47.66**	**145**	T		T		19 36 13.8	
H10S2	**ASCENSION HYDR** baz=331,slow=75,SNR=249	**47.67**	**145**	T		T		19 36 14.8	
MLR	**Muntele Rosu** 0.4nm,0.5s,baz=181,slow=22,SNR=11	**51.72**	**55**	P		**P**		**18 45 31.6**	**0.0**
AKASG	**Malin Array Be** 0.3nm,0.4s,baz=273,slow=6.7,SNR=3.8	**53.12**	**48**	P		**P**		**18 45 40

PPT2				*e*LR	LR	19 35 44.9	
	581nm,25.8s						
PPT	**Papeete**	**40.12 331**	LR	LR	LR	19 36 39.6	
	comp=Z,235nm,20.0s,baz=186,slow=29						
RAR	**Rarotonga**	**40.33 315**	LR	LR	LR	19 37 19.4	
	comp=Z,117nm,19.9s,baz=140,slow=30						
PLCA	**Paso Flores**	**41.20 95**	LR	LR	LR	19 37 52.7	
	comp=Z,137nm,18.3s,baz=186,slow=30						
VAH	**Vaihoa**	**41.83 334**	*e*T	T		20 09 18.8	
	126nm,0.3s						
RAO	**Raoul Island**	**42.58 287**	LR	LR	LR	19 42 03.6	
	comp=Z,59nm,18.1s,baz=191,slow=35						
SNAA	**Sanae**	**48.43 160**	P	**P**	**P**	**19 25 49.0**	**-1.6**
	0.9nm,0.7s,baz=255,slow=6.5,SNR=14						
SNAA	**Sanae**	**48.43 160**	*e*P	**P**	**P**	**19 25 49.5**	**-1.0**
AFI	**Afiamalu**	**52.08 305**	LR	LR	LR	19 42 29.9	
	comp=Z,65nm,21.8s,baz=124,slow=29						
MAW	**Mawson**	**57.43 186**	LR	LR	LR	19 49 48.2	
	comp=Z,101nm,19.9s,baz=222,slow=34						
CPUP	**Villa Florida**	**59.14 93**	LR	LR	LR	19 48 39.3	
	comp=Z,100nm,20.3s,baz=225,slow=32						
NNA	**Nana**	**59.61 66**	LR	LR	LR	19 45 27.4	
	comp=Z,55nm,21.0s,baz=207,slow=28						
LPAZ	**La Paz**	**60.83 76**	P	**P**	**P**	**19 27 21.6**	**-0.2**
	2.7nm,1.0s,baz=225,slow=3.0,SNR=6.9						
LPAZ			LR	LR	LR	19 48 08.4	
	comp=Z,33nm,21.0s,baz=220,slow=31						
ATAH	**Atahualpa**	**62.92 61**	LR	LR	LR	19 48 38.8	
	comp=Z,105nm,19.1s,baz=228,slow=30						
STKA	**Stephens Creek**	**63.62 252**	LR	LR	LR	19 50 04.3	
	comp=Z,130nm,20.8s,baz=183,slow=31						
SIV	**San Ignacio**	**65.07 82**	LR	LR	LR	19 52 04.8	
	comp=Z,32nm,20.1s,baz=238,slow=32						
OTAV	**Otavalo**	**69.25 57**	*e*P	**P**	**P**	**19 28 17.2**	**+0.8**
	1.0nm,0.6s						
ASAR	**Alice Springs**	**74.26 251**	P	**P**	**P**	**19 28 46.2**	**+0.3**
	1.5nm,0.8s,baz=144,slow=7.6,SNR=12						
ASAR			LR	LR	LR	19 57 48.4	
	comp=Z,107nm,19.0s,baz=152,slow=33						
H01W1	**Cape Leeuwin H**	**74.97 230**	T	T	T	20 52 05.9	
	baz=147,slow=76,SNR=107						
H01W2	**Cape Leeuwin H**	**74.98 230**	T	T	T	20 52 04.7	
	baz=147,slow=76,SNR=139						
H01W3	**Cape Leeuwin H**	**74.99 230**	T	T	T	20 52 06.4	
	baz=147,slow=76,SNR=156						
ROSC	**El Rosal**	**75.25 59**	P	**P**	**P**	**19 28 50.4**	**-1.8**
	4.8nm,0.3s,baz=53,slow=20,SNR=1.8						
ROSC			LR	LR	LR	19 56 05.8	
	comp=Z,39nm,19.6s,baz=158,slow=31						
WRA	**Warramunga Arr**	**77.00 254**	P	**P**	**P**	**19 29 01.9**	**+0.2**
	1.0nm,0.6s,baz=143,slow=5.2,SNR=21						
WRAB	**Tennant Creek**	**77.00 254**	*e*P	**P**	**P**	**19 29 02.0**	**+0.3**
	0.8nm,0.5s						
TXAR	**Lajitas Array**	**86.94 23**	P	**P**	**P**	**19 29 55.4**	**+1.8**
	0.7nm,0.9s,baz=195,slow=6.5,SNR=3.3						
H11S2	**WAKE ISLAND Hy**	**90.54 302**	T	T	T	21 10 33.2	
	baz=148,slow=75,SNR=108						
H11S3	**WAKE ISLAND Hy**	**90.55 302**	T	T	T	21 10 31.7	
	baz=148,slow=75,SNR=59						
H11S1	**WAKE ISLAND Hy**	**90.55 302**	T	T	T	21 10 34.5	
	baz=148,slow=75,SNR=46						
H11N3	**WAKE ISLAND Hy**	**91.48 303**	T	T	T	21 11 43.4	
	baz=148,slow=76,SNR=29						
H11N1	**WAKE ISLAND Hy**	**91.49 303**	T	T	T	21 11 44.1	
	baz=148,slow=76,SNR=31						
H11N2	**WAKE ISLAND Hy**	**91.50 303**	T	T	T	21 11 40.1	
	baz=148,slow=76,SNR=27						
BOSA	**Boshof**	**94.19 159**	LR	LR	LR	20 06 06.8	
	comp=Z,67nm,20.6s,baz=208,slow=31						
PDAR	**Pinedale Array**	**98.87 15**	LR	LR	LR	20 07 12.0	
	comp=Z,62nm,20.4s,baz=219,slow=30						
ILAR	**Eielson Array**	**120.03 352**	PKP		**PKPdf**	**19 35 58.4**	**+0.4**
	0.8nm,0.9s,baz=198,slow=2.3,SNR=5.2						
TIXI	**Tiksi**	**144.00 328**	PKP		**PKPdf**	**19 36 43.7**	**+1.1**
	5.5nm,0.7s,baz=65,slow=3.1,SNR=6.2						
TIXI	**Tiksi**	**144.00 328**	PKP		**PKPdf**	**19 36 43.7**	**+1.1**
TIXI			*e*PKPdf		**pPKPdf**	19 36 43.9	**-2.2**
ULN	**Ulaanbaatar**	**144.49 283**	*e*PKPdf		PKPbc	19 36 43.4	+0.3
SONM	**Songino Array**	**144.84 282**	PKPbc		PKPbc	19 36 44.5	+0.3
	2.8nm,1.0s,baz=148,slow=2.8,SNR=9.8						
MKAR	**Makanchi Array**	**158.11 262**	PKPab		**PKPab**	**19 37 38.8**	**0.0**
	0.5nm,0.6s,baz=129,slow=4.0,SNR=4.3						

MEX 20 19:24:48.8±0.7, 30°.31N×109°.65W, h5km, MD3.5, Sonora

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
319A	**Douglas**	**1.11**	**16**	*e*P	Pg	19 25 06.7	-3.5
319A				*e*S	Sg	19 25 22.1	-2.5
CGIG		**1.45**	**87**	*e*P	Pn	19 25 11.9	-3.8
CGIG				*e*S	Sb	19 25 30.5	-4.6
HSIG		**1.71**	**222**	*e*P	Pn	19 25 15.4	-3.9
HSIG				*e*S	Sn	19 25 37.6	-3.9

*NIED **20** 19:37:00,36°.90N×141°.20E,h56km,Mw3.7 Best double couple: Mo3.69000×10^14 NP1:φs301.00000°,δ25.00000°, λ-2.00000°. NP2:φs33.00000°,δ89.00000°,λ-115.00000°.*
*IDC **20** 19:37:39.9±2.5,37°.32N×141°.69E,h0km,mb3.4/2, mb1 3.7/4,mb1mx3.4/36,mbtmp3.6/4,ML3.8/2,Error ellipse: s-maj=44.4km s-min=30.8km az=56.0*
*ISCJB **20** 19:37:46.8±0.9,36°.90N±0°.04×141°.33E±0°.08,h51km±9km, mb3.3/2,Error ellipse: s-maj=11.0km s-min=6.3km az=12.9*
*JMA **20** 19:37:48.6±0.1,36°.94N×141°.18E,h54km±1km,M3.7*
JMA Felt II J1.

ISC 20 19:37:47.1±1.4, 36°.93N±0°.04×141°.34E±0°.09, h47km±12km, n21, σ1°.24/26, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ONAJ	**Iwakimizuishiy**	**0.47**	**292**	P	**Pn**	**19 37 58.3**	**+0.4**
ONAJ				S	**Sn**	**19 38 05.1**	**-0.4**
JFK	**Kawauchi**	**0.58**	**320**	P	**Pn**	**19 37 59.7**	**+0.5**
JFK				S	**Sn**	**19 38 07.6**	**-0.2**
JHO	**Hitachi**	**0.69**	**243**	P	**Pn**	**19 38 00.9**	**+0.2**
JHO				S	**Sn**	**19 38 10.0**	**-0.4**
JFT	**Otama**	**0.99**	**307**	P	**Pn**	**19 38 05.7**	**+1.0**
JFT				S	**Sn**	**19 38 17.7**	**0.0**
JMM	**Marumori**	**1.03**	**335**	P	**Pn**	**19 38 05.8**	**+0.6**
JMM				S	**Sn**	**19 38 18.6**	**0.0**
JFY	**Yanaizu**	**1.39**	**291**	P	**Pn**	**19 38 10.7**	**+0.6**
JFY				S	**Sn**	**19 38 27.1**	**-0.2**
JIO	**Ouri**	**1.53**	**0**	P	**Pn**	**19 38 13.1**	**+1.2**
JOU	**Okura**	**1.53**	**340**	P	**Pn**	**19 38 13.1**	**+1.0**
JAG	**Ashikaga**	**1.60**	**252**	P	**Pn**	**19 38 13.1**	**+0.2**
JAG				S	**Sn**	**19 38 31.8**	**-0.5**
JYS	**Shirataka**	**1.64**	**322**	P	**Pn**	**19 38 14.5**	**+1.0**
JYS				S	**Sn**	**19 38 34.2**	**+0.7**
MJAR	**Matsushiro Arr**	**2.54**	**262**	Pn	**Pn**	**19 38 26.2**	**+0.4**
	5.8nm,0.3s,baz=85,slow=15,SNR=47						
MJAR				Sn	**Sn**	**19 38 59.3**	**+3.7**
	12nm,0.3s,baz=50,slow=25,SNR=10						
MAT	**Matsushiro**	**2.54**	**262**	P	**Pn**	**19 38 27.1**	**+1.2**
MAT				S	**Sn**	**19 38 56.7**	**+1.0**
JHJ	**Hachijo jima 2**	**4.01**	**199**	Pn	**Pn**	**19 38 46.6**	**+0.7**
	32nm,0.3s,baz=68,slow=19,SNR=6.2						
JHJ				Sn	**Sn**	**19 39 32.5**	**+0.8**
	12nm,0.3s,baz=90,slow=20,SNR=4.7						
SONM	**Songino Array**	**27.80**	**304**	P	**P**	**19 43 28.6**	**-3.1**
	0.2nm,0.4s,baz=95,slow=8.0,SNR=2.6						
H11N2	**WAKE ISLAND Hy**	**28.14**	**121**	T	T	20 13 18.1	
	baz=314,slow=75,SNR=21						
H11N1	**WAKE ISLAND Hy**	**28.15**	**121**	T	T	20 13 43.9	
	baz=314,slow=75,SNR=22						
H11N3	**WAKE ISLAND Hy**	**28.16**	**121**	T	T	20 13 33.4	
	baz=314,slow=75,SNR=28						
H11S1	**WAKE ISLAND Hy**	**28.85**	**123**	T	T	20 14 33.1	
	baz=314,slow=76,SNR=25						
H11S3	**WAKE ISLAND Hy**	**28.85**	**123**	T	T	20 14 32.7	
	baz=314,slow=76,SNR=14						
H11S2	**WAKE ISLAND Hy**	**28.87**	**123**	T	T	20 14 15.7	
	baz=314,slow=76,SNR=15						
WRA	**Warramunga Arr**	**56.95**	**188**	P	**P**	**19 47 27.9**	**+0.2**
	0.3nm,0.7s,baz=5.5,slow=7.5,SNR=7.2						

*NEIC **20** 19:41:39.2±1.9,11°.83N×88°.79W,h10km,mb4.4/21,Error ellipse: s-maj=30.9km s-min=16.7km az=163.0*
*IDC **20** 19:41:44.6±2.7,12°.47N×88°.70W,h0km,mb3.7/3, mb1 4.1/4,mb1mx3.6/37,mbtmp3.7/4,ML3.5/1,MS3.2/2, Ms1 3.2/2,ms1mx2.6/37,Error ellipse: s-maj=61.8km s-min=39.4km az=31.0*

ISC 20 19:41:45.3±1.6, 12°.1N±0°.2×88°.81W±0°.09, h33km, n140, σ1°.03/139, mb4.3/22, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TGUH	**Tegucigalpa,Un**	**2.43**	**38**	*e*Pn	**Pn**	**19 42 24.4**	**+1.7**
CCIG	**Comitan**	**5.24**	**322**	*e*Pn	**Pn**	**19 43 02.4**	**+0.9**
CMIG	**Matias Romero**	**7.67**	**311**	Pn	**Pn**	**19 43 36.6**	**+1.9**
	0.7nm,0.3s,baz=123,slow=9.3,SNR=6.2						
CMIG				Sn	**Sn**	**19 45 01.3**	**+0.7**
	0.4nm,0.3s,baz=302,slow=19,SNR=2.2						
LNIG	**Linares**	**16.21**	**323**	*e*Pn	**P**	**19 45 34.6**	**+1.1**
	3.3nm,0.8s						
034A	**Hebbronville**	**17.51**	**329**	P	**P**	**19 45 48.8**	**+1.0**
	baz=146						
835A	**Beeville**	**18.15**	**334**	P	**Pn**	**19 45 55.5**	**+0.7**
	baz=151						
834A	**Tilden**	**18.34**	**332**	P	**P**	**19 45 56.0**	**-1.0**
	baz=149						
736A	**Circle Diamond**	**18.42**	**337**	P	**P**	**19 45 57.2**	**-0.7**
	baz=154						
636A	**Smothers Creek**	**18.89**	**337**	P	**P**	**19 46 03.6**	**+0.6**
	baz=155						
734A	**La Parita Cree**	**18.95**	**333**	P	**P**	**19 46 03.9**	**+0.2**
	baz=150						
635A	**Leesville**	**19.09**	**335**	P	**P**	**19 46 05.4**	**+0.2**
	baz=153						
733A	**Divot King Ran**	**19.18**	**331**	P	**Pn**	**19 46 07.4**	**0.0**
	baz=148						
633A	**Saathoff Ranch**	**19.75**	**332**	P	**P**	**19 46 12.9**	**+0.4**
	baz=149						
534A	**Blanco**	**19.94**	**335**	P	**P**	**19 46 14.9**	**+0.4**
	baz=152						
533A	**Kerrville**	**20.22**	**334**	P	**P**	**19 46 17.7**	**+0.1**
	baz=150						
435B	**Jarrell**	**20.26**	**338**	P	**P**	**19 46 18.3**	**+0.3**
	baz=155						
146A	**Union**	**20.41**	**359**	P	**P**	**19 46 20.9**	**+1.3**
	baz=180						
434A	**Burnet**	**20.55**	**336**	P	**P**	**19 46 20.9**	**-0.2**
	baz=153						
335A	**Moody**	**20.65**	**339**	P	**P**	**19 46 22.3**	**0.0**
	baz=156						
433A	**Art**	**20.83**	**334**	P	**P**	**19 46 24.0**	**-0.3**
	baz=151,SNR=8.1						
JCT	**Junction City**	**20.91**	**333**	P	**P**	**19 46 25.4**	**+0.3**
	baz=149						
JCT	**Junction City**	**20.91**	**333**	*e*P	**P**	**19 46 25.2**	**+0.2**
	8.1nm,0.7s						
334A	**Lometa**	**21.00**	**337**	P	**P**	**19 46 25.6**	**-0.4**
	baz=154,SNR=6.7						
139A	**Bunkhouse Ranc**	**21.08**	**347**	P	**P**	**19 46 26.5**	**-0.4**
	baz=165						
333A	**Richland Sprin**	**21.29**	**335**	P	**P**	**19 46 29.0**	**-0.1**
	baz=152,SNR=20						
WHTX	**Lake Whitney,**	**21.31**	**339**	*e*P	**P**	**19 46 28.8**	**-0.5**
	16nm,1.3s						
Z39A	**Irene McRaven,**	**21.58**	**348**	P	**P**	**19 46 32.6**	**+0.4**
	baz=166						
Y46A	**Houston**	**21.65**	**360**	P	**P**	**19 46 34.9**	**+1.9**
	baz=180						
Y47A	**UCPARC, Winfie**	**21.69**	**2**	P	**P**	**19 46 34.7**	**+1.3**
	baz=183						
233A	**Rising Star**	**21.86**	**336**	P	**P**	**19 46 34.8**	**-0.5**
	baz=153,SNR=5.7						
TXAR	**Lajitas Array**	**22.00**	**323**	P	**P**	**19 46 38.3**	**+1.4**
	3.2nm,0.7s,baz=147,slow=12,SNR=39						
TX31	**Lajitas Ar. Si**	**22.00**	**323**	*e*P	**P**	**19 46 37.6**	**+0.6**
Y40A	**Okolona**	**22.16**	**350**	P	**P**	**19 46 39.1**	**+0.7**
	baz=169						
ABTX	**Abilene, Hawle**	**22.69**	**336**	P	**P**	**19 46 44.1**	**-0.1**
	baz=152						
ABTX	**Abilene, Hawle**	**22.69**	**336**	*e*P	**P**	**19 46 43.0**	**-1.1**
	14nm,1.4s						
MIAR	**Mount Ida**	**22.73**	**350**	P	**P**	**19 46 44.8**	**+0.3**
	baz=168						
MIAR	**Mount Ida**	**22.73**	**350**	*e*P	**P**	**19 46 44.1**	**-0.4**
	12nm,0.9s						
UALR	**University of**	**22.77**	**352**	*e*P	**P**	**19 46 45.2**	**+0.3**
	11nm,0.8s						
X39A	**Fountain Ranch**	**22.79**	**349**	P	**P**	**19 46 45.5**	**+0.3**
	baz=167						
Y35A	**Marietta**	**22.94**	**342**	P	**P**	**19 46 46.6**	**-0.1**
	baz=159						
X38A	**Whitesboro**	**23.09**	**347**	P	**P**	**19 46 49.4**	**+1.1**
	baz=165						
X37A	**Clayton**	**23.14**	**346**	P	**P**	**19 46 49.6**	**+0.8**
	baz=164						
W41B	**Gary Mavity, V**	**23.15**	**353**	P	**P**	**19 46 49.7**	**+0.9**
	baz=172						
X301	**Greenbrier Sit**	**23.23**	**353**	*e*P	**P**	**19 46 50.8**	**+1.1**
	3.8nm,0.7s						
W40A	**Ferguson Farm,**	**23.28**	**351**	P	**P**	**19 46 50.6**	**+0.5**
	baz=170						
X35A	**Drake**	**23.38**	**343**	P	**P**	**19 46 51.4**	**+0.3**
	baz=160						
W39A	**Magazine**	**23.40**	**350**	P	**P**	**19 46 52.4**	**+1.1**
	baz=168						
W38A	**Poteau**	**23.42**	**348**	P	**P**	**19 46 52.7**	**+1.2**
	baz=166						
LPIG	**La Paz**	**23.61**	**303**	LR	LR	19 56 35.5	
	comp=Z,57nm,18.0s,baz=240,slow=38						
W37B	**Quinton**	**23.68**	**346**	P	**P**	**19 46 54.5**	**+0.5**
	baz=164,SNR=5.5						
V42A	**Cord**	**23.69**	**355**	P	**P**	**19 46 54.5**	**+0.5**
	baz=174						
V41A	**Mountainview**	**23.74**	**353**	P	**P**	**19 46 55.1**	**+0.4**
	baz=172						
V40A	**Witts Springs**	**23.85**	**352**	P	**P**	**19 46 56.1**	**+0.4**
	baz=170						
TKL	**Tuckaleechee C**	**23.86**	**10**	P	**P**	**19 46 56.0**	**+0.2**
	3.8nm,0.8s,baz=188,slow=9.7,SNR=4.2						
TKL				LR	LR	19 55 08.9	
	comp=Z,65nm,21.7s,baz=326,slow=34						
KMSC	**Kings Mountain**	**23.89**	**15**	P	**P**	**19 46 55.3**	**-0.7**
	baz=198						
KMSC	**Kings Mountain**	**23.89**	**15**	*e*P	**P**	**19 46 55.7**	**-0.3**
	29nm,1.8s						
V39A	**Pettigrew**	**24.00**	**350**	P	**P**	**19 46 57.4**	**+0.3**
	baz=169						
W35A	**Tecumseh**	**24.06**	**344**	P	**P**	**19 46 57.8**	**+0.2**
	baz=161						
V38A	**Canehill**	**24.16**	**349**	P	**P**	**19 46 58.9**	**+0.3**
	baz=167						
U42A	**Revenden**	**24.21**	**355**	P	**P**	**19 46 59.3**	**+0.3**
	baz=174						
WMOK	**Wichita Mounta**	**24.26**	**340**	P	**P**	**19 46 58.9**	**-0.5**
	baz=156						
WMOK	**Wichita Mounta**	**24.26**	**340**	*e*P	**P**	**19 46 59.2**	**-0.3**
	11nm,1.6s						
U41A	**Viola**	**24.27**	**354**	P	**P**	**19 46 60.0**	**+0.5**
	baz=173						
V37A	**Hulbert**	**24.33**	**347**	P	**P**	**19 46 59.9**	**-0.1**
	baz=165						
U40A	**Yellville**	**24.39**	**352**	P	**P**	**19 47 00.8**	**+0.1**
	baz=171,SNR=5.9						
HHAR	**Hobbs**	**24.49**	**350**	*e*P	**P**	**19 47 01.9**	**+0.4**
	6.2nm,0.9s						
TUL1	**Leonard**	**24.50**	**346**	*e*P	**P**	**19 47 00.7**	**-0.9**
	7.1nm,0.8s						
U39A	**Green Forest**	**24.51**	**351**	P	**P**	**19 47 01.9**	**+0.2**
	baz=169						
MNTX	**Cornudas Mount**	**24.75**	**324**	P	**P**	**19 47 03.7**	**-0.2**
	baz=138						
MNTX	**Cornudas Mount**	**24.75**	**324**	*e*P	**P**	**19 47 04.3**	**+0.4**
	4.6nm,1.4s						
U37A	**Salina**	**24.83**	**348**	P	**P**	**19 47 04.7**	**+0.1**
	baz=165						
T43A	**Greenville**	**24.88**	**357**	P	**P**	**19 47 04.9**	**-0.2**
	baz=177						
T41A	**Mountain View**	**24.95**	**354**	P	**P**	**19 47 05.7**	**0.0**
	baz=173						
T39A	**Clever**	**25.12**	**351**	P	**P**	**19 47 08.0**	**+0.8**
	baz=170,SNR=5.6						
T40A	**Mansfield**	**25.13**	**353**	P	**P**	**19 47 08.0**	**+0.7**
	baz=172,SNR=6.2						
U35A	**Pawnee**	**25.17**	**345**	P	**P**	**19 47 07.4**	**-0.2**
	baz=162						
MSTX	**Muleshoe**	**25.19**	**332**	P	**P**	**19 47 07.7**	**-0.4**
	baz=147						
MSTX	**Muleshoe**	**25.19**	**332**	*e*P	**P**	**19 47 08.4**	**+0.4**
	7.1nm,1.0s						
T37A	**Cheneyville 18**	**25.48**	**349**	P	**P**	**19 47 10.2**	**-0.3**
	baz=166						
S41A	**Jillco Farms,**	**25.48**	**355**	P	**P**	**19 47 09.8**	**-0.8**
	baz=174						
S40A	**Lebanon**	**25.57**	**353**	P	**P**	**19 47 11.3**	**0.0**
	baz=172						
T36A	**Boggs Farm, Ca**	**25.62**	**347**	P	**P**	**19 47 11.6**	**-0.2**
	baz=164						
S39A	**Bolivar**	**25.77**	**352**	P	**P**	**19 47 14.1**	**+1.0**
	baz=170,SNR=7.0						
S38A	**Stockton**	**25.80**	**351**	P	**P**	**19 47 13.6**	**+0.2**
	baz=169						
U32A	**Winter Ranch,**	**25.83**	**341**	P	**P**	**19 47 13.1**	**-0.6**
	baz=157						
T34A	**McCluskey Farm**	**25.90**	**345**	P	**P**	**19 47 14.0**	**-0.3**
	baz=161						
S37A	**Fort Scott**	**26.08**	**349**	P	**P**	**19 47 15.7**	**-0.2**
	baz=167						
R41A	**Rosebud**	**26.16**	**355**	P	**P**	**19 47 16.4**	**-0.3**
	baz=174						
S36A	**Lake Cedric, C**	**26.20**	**348**	P	**P**	**19 47 16.6**	**-0.4**
	baz=165						
R38A	**Fenwick Farm,**	**26.34**	**351**	P	**P**	**19 47 17.6**	**-0.7**
	baz=169						
R39A	**Chumby, Stover**	**26.34**	**352**	P	**P**	**19 47 18.3**	**0.0**
	baz=171						
R36A	**Gordon, Harris**	**26.76**	**348**	P	**P**	**19 47 21.7**	**-0.3**
	baz=166						
Q40A	**Laux Farm, Aux**	**26.91**	**354**	P	**P**	**19 47 22.2**	**-1.2**
	baz=173						
Q38A	**Cooks Store, C**	**27.06**	**352**	P	**P**	**19 47 23.6**	**-1.2**
	baz=170						
Q39A	**Willow Grove F**	**27.06**	**353**	P	**P**	**19 47 24.4**	**-0.3**
	baz=171						
R34A	**Isabella, Hill**	**27.13**	**345**	P	**P**	**19 47 24.6**	**-0.7**
	baz=162						
P40A	**Paris**	**27.44**	**355**	P	**P**	**19 47 27.4**	**-0.7**
	baz=173						
O40A	**La Belle**	**28.01**	**355**	P	**P**	**19 47 33.2**	**-0.1**
	baz=174						
P35A	**Duane Minner,**	**28.02**	**348**	P	**P**	**19 47 33.0**	**-0.4**
	baz=165						
O39A	**Kirksville**	**28.20**	**354**	P	**P**	**19 47 34.8**	**-0.1**
	baz=172						
P34A	**Walnut Farm, R**	**28.21**	**347**	P	**P**	**19 47 34.8**	**-0.3**
	baz=164						
HDIL	**Hopedale**	**28.32**	**359**	*e*P	**P**	**19 47 34.5**	**-1.5**
	11nm,0.6s						
O34A	**Beatrice**	**28.79**	**347**	P	**P**	**19 47 40.1**	**-0.1**
	baz=164						
N39A	**Derby Farms, D**	**28.82**	**354**	P	**P**	**19 47 39.9**	**-0.5**
	baz=173						
M39A	**Webster**	**29.38**	**355**	P	**P**	**19 47 45.4**	**0.0**
	baz=174						
L38A	**Oak Wood Farm,**	**30.11**	**354**	P	**P**	**19 47 51.3**	**-0.6**
	baz=172						
WUAZ	**Wupatki**	**30.96**	**323**	P	**P**	**19 47 58.3**	**-1.4**
	baz=133						
I41A	**Arkdale**	**31.83**	**359**	P	**P**	**19 48 06.4**	**-0.6**
	baz=178						
I38A	**Scanlan Farm,**	**31.94**	**355**	P	**P**	**19 48 07.2**	**-0.8**
	baz=174						
H40A	**Chili**	**32.41**	**358**	P	**P**	**19 48 11.3**	**-0.8**
	baz=177						
H37A	**Dierke Farm, C**	**32.53**	**355**	P	**P**	**19 48 11.6**	**-1.6**
	baz=173						
H38A	**Maiden Rock**	**32.57**	**355**	P	**P**	**19 48 12.4**	**-1.0**
	baz=174						
KNB	**Kanab**	**32.84**	**323**	*e*P	**P**	**19 48 15.1**	**-1.1**
	4.6nm,1.2s						
G39A	**Holcombe**	**33.10**	**357**	P	**P**	**19 48 17.2**	**-0.9**
	baz=176						
SPMN	**Marine on St.**	**33.16**	**355**	*e*P	**P**	**19 48 17.5**	**-1.1**
	19nm,0.4s						
F44A	**Big Bay de Noc**	**33.79**	**3**	P	**P**	**19 48 24.1**	**-0.1**
	baz=184						
F38A	**Pierce - Schro**	**33.81**	**356**	P	**P**	**19 48 23.7**	**-0.6**
	baz=175						
F36A	**Milaca**	**33.85**	**354**	P	**P**	**19 48 23.8**	**-0.8**
	baz=172						
LEVU	**Levan**	**34.03**	**327**	*e*PcP	**PcP**	**19 51 03.0**	**-1.0**
SCI	**San Clemente I**	**34.22**	**312**	P	**P**	**19 48 26.6**	**-1.4**
	baz=121						
MWC	**Mount Wilson**	**34.52**	**314**	*e*P	**P**	**19 48 31.9**	**+1.1**
D37A	**Cotton**	**35.05**	**356**	P	**P**	**19 48 34.3**	**-0.7**
	baz=174						
D35A	**Remer**	**35.12**	**354**	P	**P**	**19 48 34.6**	**-1.0**
	baz=171						
D36A	**Goodland**	**35.12**	**355**	P	**P**	**19 48 34.2**	**-1.5**
	baz=173						
SNUT	**Stansbury Nort**	**35.40**	**328**	*e*P	P	19 48 43.6	+5.2
PDAR	**Pinedale Array**	**35.44**	**333**	P	**P**	**19 48 41.3**	**+2.5**
	0.2nm,0.6s,baz=151,slow=8.0,SNR=2.7						
ISA	**Isabella, Lake**	**35.59**	**316**	P	**P**	**19 48 38.6**	**-1.3**
	baz=124						
ISA	**Isabella, Lake**	**35.59**	**316**	*e*P	**P**	**19 48 38.4**	**-1.5**
	6.0nm,0.8s						
C35A	**Jirik Farms, M**	**35.72**	**354**	P	**P**	**19 48 40.0**	**-0.7**
	baz=172						
SBC	**Santa Barbara**	**35.80**	**313**	*e*P	**P**	**19 48 43.0**	**+1.4**
AGMN	**Agassiz Nation**	**36.53**	**352**	P	**P**	**19 48 47.3**	**-0.4**
	baz=168						
AGMN	**Agassiz Nation**	**36.53**	**352**	*e*P	**P**	**19 48 45.9**	**-1.8**
	20nm,1.6s						
A33A	**Warroad**	**37.10**	**353**	P	**P**	**19 48 51.9**	**-0.7**
	baz=170						
YMV	**Mammoth Vault**	**37.70**	**334**	*e*P	**P**	**19 48 54.0**	**-3.9**
SAO	**San Andreas Ge**	**38.21**	**316**	*e*P	**P**	**19 49 00.3**	**-1.8**
	6.9nm,1.0s						
PNTR	**Pine Nut**	**38.28**	**320**	*e*P	**P**	**19 49 01.3**	**-1.7**
	17nm,1.8s						
DGMT	**Dagmar**	**38.43**	**343**	*e*P	**P**	**19 49 01.7**	**-2.2**
	7.6nm,0.8s						
CSPM	**San Pablo Ridg**	**39.42**	**317**	*e*P	**P**	**19 49 07.5**	**-4.7**
CSPM				*e*		19 49 11.8	
WRA	**Warramunga Arr**	**137.90**	**254**	PKP	**PKPdf**	**20 01 11.2**	**+3.8**
	0.3nm,0.8s,baz=90,slow=2.2,SNR=

NKC	**Novy Kostel** 4.7nm,0.3s	**2.63**	**246**	Sg	Sg	19 49 02.1	-1.7
KHC	**Kasperske Hory**	**2.80**	**217**	*e*PG	Pg	19 48 32.0	-1.1
KHC				*e*SN	Sn	19 48 59.0	-1.0
KHC				*e*SG	Sg	19 49 07.9	-1.5
KHC	**Kasperske Hory**	**2.80**	**217**	Pg	Pg	19 48 32.0	-1.1
KHC				Sn	Sn	19 48 59.0	-1.0
KHC				Sg	Sg	19 49 07.9	-1.5

IDC ***20*** *20:02:45.9±1.1,38°.32N×21°.80E,h0km,mb3.5/7, mb1 3.5/10,mb1mx3.4/41,mbtmp3.5/10,ML3.0/2,Error ellipse: s-maj=21.5km s-min=18.1km az=130.0*

THE ***20*** *20:02:46.8,38°.33N×21°.76E,h3km,ML3.4/13,Error ellipse: s-maj=0.7km s-min=0.2km az=290.0*

ISCJB ***20*** *20:02:46.3±0.3,38°.34N±0°.01×21°.75E±0°.02,h7km±2km, mb3.5/6,Error ellipse: s-maj=2.6km s-min=2.4km az=27.6*

CSEM ***20*** *20:02:46.8±0.1,38°.30N×21°.78E,h2km,ML3.5,Error ellipse: s-maj=2.7km s-min=2.3km az=48.0*

IASPEI ***20*** *20:02:46.7±0.8,38°.32N±0°.02×21°.78E±0°.01,h9km±5km, mb3.7/6,Error ellipse: s-maj=2.3km s-min=2.1km az=163.4,GT5 selection from ISC bulletin GT5 identified by Bond˜jr and McLaughlin (2009) selection criteria Bond˜jr and McLaughlin, A new ground truth data set for seismic studies, Seism. Res. Let., 80, 465-472, 2009*

ATH ***20*** *20:02:46.1,38°.32N×21°.77E,h19km±1km,ML3.2/18,Error ellipse: s-maj=1.1km s-min=0.6km az=263.0*

ISC 20 20:02:46.9±0.8,38°.32N±0°.01×21°.77E±0°.01,h9km±4km, n134,σ0s89/200,mb3.7/6,2D,Greece

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
UPR	**University Cam**	**0.04**	**166**	P	**Pg**	**20 02 48.2**	**-0.4**
UPR	**University Cam**	**0.04**	**166**	P	**Pg**	**20 02 48.0**	**-0.6**
UPR				S	**Sg**	**20 02 49.2**	**-0.6**
LAKA	**Lakka**	**0.18**	**117**	P	**Pg**	**20 02 50.4**	**-0.3**
LAKA				S	**Sg**	**20 02 53.7**	**+0.5**
LAKA	**Lakka**	**0.18**	**117**	P	**Pg**	**20 02 50.1**	**-0.6**
LAKA				S	**Sg**	**20 02 53.3**	**+0.1**
LAKA	**Lakka**	**0.18**	**117**	P	**Pg**	**20 02 50.1**	**-0.6**
TRIZ	**Trizonia**	**0.24**	**80**	P	**Pg**	**20 02 51.5**	**-0.2**
TRIZ				S	**Sg**	**20 02 55.1**	**+0.2**
TRIZ	**Trizonia**	**0.24**	**80**	P	**Pg**	**20 02 51.5**	**-0.2**
TRIZ				S	**Sg**	**20 02 55.6**	**+0.7**
SERG	**Sergoula**	**0.24**	**68**	P	**Pg**	**20 02 51.6**	**-0.1**
SERG				S	**Sg**	**20 02 55.0**	**0.0**
SERG	**Sergoula**	**0.24**	**68**	P	**Pg**	**20 02 51.6**	**-0.1**
SERG				S	**Sg**	**20 02 55.0**	**0.0**
SERG				AML	AML	20 02 55.9	
	comp=N,30848μm,0.3s						
SERG				AML	AML	20 02 59.4	
	comp=E,28791μm,0.2s						
KALE	**Kalithea**	**0.30**	**77**	P	**Pg**	**20 02 52.6**	**-0.2**
KALE				S	**Sg**	**20 02 57.0**	**+0.3**
KALE	**Kalithea**	**0.30**	**77**	P	**Pg**	**20 02 52.5**	**-0.2**
KALE				S	**Sg**	**20 02 56.5**	**-0.2**
KALE	**Kalithea**	**0.30**	**77**	P	**Pg**	**20 02 52.5**	**-0.2**
KALE				S	**Sg**	**20 02 56.5**	**-0.2**
KALE				AML	AML	20 03 02.1	
	comp=E,12364μm,0.2s						
KALE				AML	AML	20 03 03.2	
	comp=N,13716μm,0.2s						
AXS	**Araxos**	**0.34**	**248**	P	**Pg**	**20 02 52.9**	**-0.6**
AXS				S	**Sg**	**20 02 58.0**	**0.0**
AXS	**Araxos**	**0.34**	**248**	P	**Pg**	**20 02 52.9**	**-0.6**
AXS				S	**Sg**	**20 02 57.7**	**-0.3**
AXS	**Araxos**	**0.34**	**248**	P	**Pg**	**20 02 52.7**	**-0.8**
AXS				S	**Sg**	**20 02 57.7**	**-0.3**
PVO	**Paravola**	**0.35**	**326**	P	**Pg**	**20 02 53.6**	**-0.2**
PVO				S	**Sg**	**20 02 58.6**	**+0.1**
PVO	**Paravola**	**0.35**	**326**	P	**Pg**	**20 02 53.6**	**-0.2**
PVO				S	**Sg**	**20 02 58.6**	**+0.1**
PVO	**Paravola**	**0.35**	**326**	P	**Pg**	**20 02 53.5**	**-0.3**
PVO				S	**Sb**	**20 03 00.5**	**-0.6**
PVO				AML	AML	20 03 00.6	
	comp=N,22996μm,0.2s						
PVO				AML	AML	20 03 01.0	
	comp=E,23946μm,0.2s						
RLS	**Riolos of Patr**	**0.36**	**222**	P	**Pg**	**20 02 53.6**	**-0.4**
RLS				S	**Sg**	**20 02 59.2**	**+0.5**
RLS	**Riolos of Patr**	**0.36**	**222**	P	**Pg**	**20 02 53.5**	**-0.4**
RLS				S	**Sg**	**20 02 59.2**	**+0.5**
RLS	**Riolos of Patr**	**0.36**	**222**	P	**Pg**	**20 02 53.5**	**-0.4**
RLS				S	**Sg**	**20 02 59.4**	**+0.8**
RLS				AML	AML	20 02 59.5	
	comp=N,30609μm,0.2s						
RLS				AML	AML	20 03 01.5	
	comp=E,11540μm,0.3s						
DRO	**Drossia**	**0.37**	**188**	P	**Pg**	**20 02 53.6**	**-0.6**
DRO				S	**Sg**	**20 02 59.6**	**+0.5**
DRO	**Drossia**	**0.37**	**188**	P	**Pg**	**20 02 53.6**	**-0.6**
DRO				S	**Sg**	**20 02 59.6**	**+0.5**
DRO	**Drossia**	**0.37**	**188**	P	**Pg**	**20 02 53.6**	**-0.6**
DRO				S	**Sg**	**20 02 59.6**	**+0.5**
DRO				AML	AML	20 03 00.4	
	comp=E,32494μm,0.4s						
DRO				AML	AML	20 03 05.0	
	comp=N,21202μm,0.3s						
TRAZ	**Trapeza**	**0.38**	**114**	P	**Pg**	**20 02 51.8**	**-2.5**
TRAZ				S	**Sb**	**20 03 01.0**	**-0.9**
TRAZ	**Trapeza**	**0.38**	**114**	P	**Pg**	**20 02 51.8**	**-2.5**
TRAZ				AML	AML	20 03 00.5	
	comp=N,13821μm,0.3s						
TRAZ				S	**Sb**	**20 03 01.0**	**-0.9**
TRAZ				AML	AML	20 03 04.2	
	comp=E,9989μm,0.2s						
KLV	**Kalavryta, Ach**	**0.41**	**133**	P	**Pg**	**20 02 54.4**	**-0.5**
KLV				S	**Sg**	**20 03 01.1**	**+0.9**
KLV	**Kalavryta, Ach**	**0.41**	**133**	P	**Pg**	**20 02 54.2**	**-0.7**
KLV				S	**Sg**	**20 02 59.8**	**-0.4**
KLV	**Kalavryta, Ach**	**0.41**	**133**	P	**Pg**	**20 02 53.9**	**-1.0**
KLV				S	**Sg**	**20 02 60.0**	**-0.2**
KLV				AML	AML	20 03 01.9	
	comp=E,3106μm,0.3s						
KLV				AML	AML	20 03 03.3	
	comp=N,3181μm,0.5s						
EVR	**Evrytania**	**0.59**	**3**	P	**Pg**	**20 02 58.0**	**-0.4**
EVR				S	**Sg**	**20 03 06.4**	**+0.2**
EVR	**Evrytania**	**0.59**	**3**	P	**Pg**	**20 02 58.0**	**-0.4**
EVR				S	**Sg**	**20 03 06.4**	**+0.2**
EVR	**Evrytania**	**0.59**	**3**	P	**Pg**	**20 02 58.0**	**-0.4**
EVR				S	**Sb**	**20 03 08.2**	**+0.1**
EVR				AML	AML	20 03 10.4	
	comp=E,3982μm,0.3s						
EVR				AML	AML	20 03 10.5	
	comp=N,3670μm,0.2s						
DSF	**Desfina**	**0.60**	**81**	P	**Pg**	**20 02 57.9**	**-0.6**
DSF	**Desfina**	**0.60**	**81**	P	**Pg**	**20 02 57.9**	**-0.6**
DSF				S	**Sg**	**20 03 05.7**	**-0.6**
DSF	**Desfina**	**0.60**	**81**	P	**Pg**	**20 02 57.4**	**-1.1**
DSF				S	**Sg**	**20 03 05.7**	**-0.6**
DSF				AML	AML	20 03 09.7	
	comp=N,5571μm,0.3s						
DSF				AML	AML	20 03 10.6	
	comp=E,3477μm,0.3s						
VTN	**Vitineika**	**0.62**	**229**	P	**Pg**	**20 02 58.8**	**0.0**
VTN	**Vitineika**	**0.62**	**229**	P	**Pg**	**20 02 58.8**	**0.0**
THAL	**Thalero**	**0.76**	**112**	P	**Pg**	**20 03 00.6**	**-0.9**
THAL				S	**Sb**	**20 03 12.4**	**-0.3**
THAL	**Thalero**	**0.76**	**112**	P	**Pg**	**20 03 00.6**	**-0.9**
THAL				S	**Sb**	**20 03 12.4**	**-0.3**
THAL				AML	AML	20 03 18.6	
	comp=N,6030μm,0.3s						
THAL				AML	AML	20 03 18.8	
	comp=E,8500μm,0.3s						
AMT	**Artemida-Makis**	**0.79**	**184**	P	**Pg**	**20 03 01.9**	**-0.2**
AMT				S	**Sb**	**20 03 13.6**	**-0.1**
AMT	**Artemida-Makis**	**0.79**	**184**	P	**Pg**	**20 03 01.9**	**-0.2**
AMT				S	**Sb**	**20 03 13.6**	**-0.1**
AMT	**Artemida-Makis**	**0.79**	**184**	P	**Pg**	**20 03 02.5**	**+0.4**
KFL	**Anninata**	**0.81**	**255**	P	**Pg**	**20 03 01.9**	**-0.5**
KFL	**Anninata**	**0.81**	**255**	P	**Pg**	**20 03 02.2**	**-0.2**
KFL	**Anninata**	**0.81**	**255**	P	**Pg**	**20 03 02.2**	**-0.2**
AGG	**Agios Georgios**	**0.82**	**32**	P	**Pg**	**20 03 02.0**	**-0.7**
AGG				S	**Sb**	**20 03 14.6**	**0.0**
AGG	**Agios Georgios**	**0.82**	**32**	P	**Pg**	**20 03 02.0**	**-0.7**
AGG				S	**Sb**	**20 03 14.6**	**0.0**
AGG	**Agios Georgios**	**0.82**	**32**	P	**Pg**	**20 03 01.2**	**-1.5**
AGG				S	**Sb**	**20 03 14.7**	**0.0**
AGG				AML	AML	20 03 15.8	
	comp=E,5336μm,0.3s						
AGG				AML	AML	20 03 18.3	
	comp=N,4657μm,0.3s						
TRIP	**Tripoli**	**0.89**	**154**	P	**Pg**	**20 03 02.2**	**-1.7**
TRIP	**Tripoli**	**0.89**	**154**	P	**Pg**	**20 03 02.2**	**-1.7**
PROD	**Prodromos**	**0.89**	**94**	P	**Pb**	**20 03 04.5**	**0.0**
PROD	**Prodromos**	**0.89**	**94**	P	**Pb**	**20 03 04.5**	**0.0**
VLS	**Valsamata**	**0.94**	**261**	P	**Pg**	**20 03 04.1**	**-0.9**
VLS				S	**Sg**	**20 03 18.0**	**+0.7**
VLS	**Valsamata**	**0.94**	**261**	P	**Pg**	**20 03 04.1**	**-0.9**
VLS				S	**Sg**	**20 03 18.0**	**+0.7**
VLS	**Valsamata**	**0.94**	**261**	P	**Pg**	**20 03 03.3**	**-1.7**
VLS				S	**Sb**	**20 03 18.5**	**+0.4**
VLS				AML	AML	20 03 20.1	
	comp=N,3805μm,0.1s						
VLS				AML	AML	20 03 21.9	
	comp=E,2687μm,0.2s						
LTK	**Loutraki**	**0.99**	**107**	P	**Pg**	**20 03 05.7**	**-0.1**
LTK				S	**Sb**	**20 03 20.3**	**+1.0**
LTK	**Loutraki**	**0.99**	**107**	P	**Pg**	**20 03 05.7**	**-0.1**
LTK				S	**Sb**	**20 03 19.9**	**+0.5**
LTK	**Loutraki**	**0.99**	**107**	P	**Pg**	**20 03 05.9**	**0.0**
LTK				S	**Sb**	**20 03 19.9**	**+0.5**
LTK				AML	AML	20 03 21.7	
	comp=E,1829μm,0.6s						
LTK				AML	AML	20 03 24.8	
	comp=N,2122μm,0.4s						
LKD2	**Lefkada island**	**0.99**	**298**	P	**Pg**	**20 03 04.8**	**-1.1**
LKD2				S	**Sb**	**20 03 19.6**	**+0.1**
LKD2	**Lefkada island**	**0.99**	**298**	P	**Pg**	**20 03 04.8**	**-1.1**
LKD2				S	**Sb**	**20 03 19.6**	**+0.1**
LKD2	**Lefkada island**	**0.99**	**298**	P	**Pg**	**20 03 04.6**	**-1.4**
VLX	**Vlachokerasia**	**1.07**	**153**	P	**Pg**	**20 03 06.6**	**-0.7**
VLX				S	**Sb**	**20 03 22.5**	**+0.8**
VLX	**Vlachokerasia**	**1.07**	**153**	P	**Pg**	**20 03 06.6**	**-0.7**
VLX				S	**Sg**	**20 03 20.8**	**-0.4**
VLX	**Vlachokerasia**	**1.07**	**153**	P	**Pg**	**20 03 06.6**	**-0.7**
VLX				S	**Sg**	**20 03 20.8**	**-0.4**
VLX				AML	AML	20 03 28.1	
	comp=N,2386μm,0.6s						
VLX				AML	AML	20 03 28.8	
	comp=E,1934μm,0.6s						
ITM	**Ithomi**	**1.15**	**174**	P	**Pg**	**20 03 08.2**	**-0.7**
ITM				S	**Sn**	**20 03 25.4**	**+0.3**
ITM	**Ithomi**	**1.15**	**174**	P	**Pg**	**20 03 08.2**	**-0.7**
ITM				S	**Sg**	**20 03 23.1**	**-0.7**
ITM	**Ithomi**	**1.15**	**174**	P	**Pg**	**20 03 07.9**	**-1.0**
ITM				S	**Sg**	**20 03 23.1**	**-0.7**
ITM				AML	AML	20 03 28.7	
	comp=E,1565μm,0.3s						
ITM				AML	AML	20 03 28.9	
	comp=N,2093μm,0.8s						
VIL2	**Platees**	**1.18**	**95**	P	**Pn**	**20 03 10.6**	**+0.9**
VIL2				S	**Sn**	**20 03 27.4**	**+1.5**
VIL2				AML	AML	20 03 34.5	
	comp=N,1585μm,0.7s						
VIL2				AML	AML	20 03 35.4	
	comp=E,1316μm,0.4s						
VILL	**Villia**	**1.22**	**97**	P	**Pg**	**20 03 10.1**	**-0.2**
VILL				S	**Sn**	**20 03 28.1**	**+1.2**
VILL	**Villia**	**1.22**	**97**	P	**Pg**	**20 03 10.1**	**-0.2**
VILL				S	**Sn**	**20 03 27.4**	**+0.5**
THL	**Klokotos Trika**	**1.25**	**9**	P	**Pg**	**20 03 10.4**	**-0.5**
THL	**Klokotos Trika**	**1.25**	**9**	P	**Pg**	**20 03 10.5**	**-0.5**
THL	**Klokotos Trika**	**1.25**	**9**	P	**Pg**	**20 03 10.5**	**-0.5**
DID	**Didima**	**1.42**	**125**	P	**Pn**	**20 03 12.6**	**-0.3**
DID	**Didima**	**1.42**	**125**	P	**Pn**	**20 03 12.6**	**-0.3**
DID	**Didima**	**1.42**	**125**	P	**Pn**	**20 03 13.4**	**+0.5**
PYL	**PYLOS**	**1.43**	**181**	P	**Pn**	**20 03 12.4**	**-0.6**
PYL				S	**Sn**	**20 03 33.2**	**+1.3**
PYL	**PYLOS**	**1.43**	**181**	P	**Pn**	**20 03 12.4**	**-0.6**
PYL				S	**Sn**	**20 03 33.2**	**+1.3**
PYL	**PYLOS**	**1.43**	**181**	P	**Pn**	**20 03 12.1**	**-0.9**
NEO	**Neokhori**	**1.50**	**49**	P	**Pn**	**20 03 13.7**	**-0.3**
NEO	**Neokhori**	**1.50**	**49**	P	**Pn**	**20 03 13.7**	**-0.3**
NEO	**Neokhori**	**1.50**	**49**	P	**Pn**	**20 03 13.4**	**-0.6**
XOR	**Xorichti**	**1.52**	**46**	P	**Pn**	**20 03 14.1**	**-0.2**
XOR	**Xorichti**	**1.52**	**46**	P	**Pn**	**20 03 14.1**	**-0.2**
XOR	**Xorichti**	**1.52**	**46**	P	**Pn**	**20 03 13.9**	**-0.4**
ATH	**Athens Observa**	**1.57**	**102**	P	**Pn**	**20 03 15.7**	**+0.7**
ATH				S	**Sn**	**20 03 35.5**	**0.0**
ATH	**Athens Observa**	**1.57**	**102**	P	**Pn**	**20 03 15.7**	**+0.7**
ATH				S	**Sn**	**20 03 35.5**	**0.0**
ATH				AML	AML	20 03 37.3	
	comp=N,774μm,0.4s						
ATH				AML	AML	20 03 41.6	
	comp=E,882μm,0.5s						
VLY	**Voula,Athens**	**1.66**	**106**	P	**Pn**	**20 03 16.1**	**-0.1**
VLY	**Voula,Athens**	**1.66**	**106**	P	**Pn**	**20 03 17.0**	**+0.8**
VLY	**Voula,Athens**	**1.66**	**106**	P	**Pn**	**20 03 17.0**	**+0.8**
PTL	**Penteli**	**1.67**	**99**	P	**Pn**	**20 03 16.4**	**0.0**
PTL	**Penteli**	**1.67**	**99**	P	**Pn**	**20 03 16.4**	**0.0**
PTL				S	**Sn**	**20 03 37.0**	**-0.2**
PTL	**Penteli**	**1.67**	**99**	P	**Pn**	**20 03 35.2**	**-0.2**
PTL				S	**Sn**	**20 03 37.9**	**-0.2**
PTL				AML	AML	20 03 40.8	
	comp=E,577μm,0.6s						
PTL				AML	AML	20 03 47.2	
	comp=N,492μm,0.5s						
EREA	**Eretria**	**1.70**	**86**	P	**Pn**	**20 03 16.9**	**+0.1**
EREA	**Eretria**	**1.70**	**86**	P	**Pn**	**20 03 16.9**	**+0.1**
VLI	**Veliai**	**1.85**	**150**	P	**Pn**	**20 03 19.0**	**+0.2**
VLI	**Veliai**	**1.85**	**150**	P	**Pn**	**20 03 19.0**	**+0.2**
VLI	**Veliai**	**1.85**	**150**	P	**Pn**	**20 03 19.6**	**+0.7**
KARY	**Karystos**	**2.12**	**97**	P	**Pn**	**20 03 23.0**	**+0.5**
KARY	**Karystos**	**2.12**	**97**	P	**Pn**	**20 03 23.0**	**+0.5**
BIA	**Bitola**	**2.71**	**353**	*i* Pn	**Pb**	**20 03 35.6**	**-0.1**
BIA	**Bitola**	**2.71**	**353**	*i* Pn	**Pb**	**20 03 35.6**	**-0.1**
OHR	**Ohrid**	**2.88**	**345**	*i* Pn	**Pb**	**20 03 39.3**	**+0.7**
VAY	**Valandovo**	**3.06**	**11**	*i* Pn	**Pn**	**20 03 36.9**	**+1.4**
VAY	**Valandovo**	**3.06**	**11**	*i* Pn	**Pn**	**20 03 36.8**	**+1.4**
MMB	**Musomiste**	**3.59**	**24**	*e*P	**Pn**	**20 03 43.6**	**+0.8**
SKO	**Skopje**	**3.65**	**356**	*i* Pn	**Pb**	**20 03 50.3**	**-1.3**
KKB	**Krupnik**	**3.68**	**15**	*e*P	**Pn**	**20 03 44.3**	**+0.3**
IDI	**Anoyia**	**3.93**	**140**	Pn	**Pn**	**20 03 49.3**	**+1.9**
	comp=N,0.9nm,0.3s,baz=326,slow=14,SNR=13						
RZN	**Rozhen**	**4.05**	**33**	*e*P	**Pn**	**20 03 50.1**	**+0.9**
VTS	**Vitosha**	**4.40**	**14**	*e*P	**Pn**	**20 03 53.9**	**-0.1**
BARS	**Barje**	**4.49**	**0**	⇓*i*Pn	**Pn**	**20 03 57.1**	**+2.0**
MPEP	**Malo Peshtene**	**5.24**	**16**	*e*P	**Pn**	**20 04 06.9**	**+1.4**
IVAS	**Ivanjica**	**5.39**	**347**	*e*Pn	**Pn**	**20 04 09.4**	**+1.9**
ZAGS	**Zajecar**	**5.50**	**3**	*e*Pn	**Pn**	**20 04 09.2**	**+0.3**
STON	**Ston**	**5.50**	**327**	*e*Pn	**Pn**	**20 04 08.8**	**-0.2**
STON				Sn	**Sn**	**20 05 09.2**	**-3.1**
STON	**Ston**	**5.50**	**327**	*e*Pn	**Pn**	**20 04 08.7**	**-0.2**
GRUS	**Gruza**	**5.62**	**352**	⇓*i*Pn	**Pn**	**20 04 13.3**	**+2.7**
DIVS	**Divibare**	**5.92**	**347**	*e*Pn	**Pn**	**20 04 16.5**	**+1.6**
TRUS	**Trudelj**	**5.98**	**351**	*e*Pn	**Pn**	**20 04 18.7**	**+3.1**
TEKS	**Tekeris**	**6.44**	**346**	*e*Pn	**Pn**	**20 04 22.7**	**+0.7**
UDBI	**Udbina**	**7.67**	**326**	*i* Pn	**Pn**	**20 04 40.0**	**+1.2**
UDBI				Sn	**Sn**	**20 06 05.5**	**-0.3**
UDBI	**Udbina**	**7.67**	**326**	*i* Pn	**Pn**	**20 04 39.9**	**+1.2**
UDBI				Sn	**Sn**	**20 06 05.5**	**-0.3**
MLR	**Muntele Rosu** baz=143,slow=20	**7.81**	**22**	Pn	**Pn**	**20 04 42.8**	**+2.1**
NVLJ	**Novalja**	**8.11**	**322**	*i* Pn	**Pn**	**20 04 45.5**	**+0.8**
NVLJ				Sn	**Sn**	**20 06 13.1**	**-3.4**
NVLJ	**Novalja**	**8.11**	**322**	*i* Pn	**Pn**	**20 04 45.5**	**+0.8**
BRTR	**Keskin Array B**	**9.34**	**78**	Pn	**Pn**	**20 05 04.1**	**+2.3**
	comp=N,0.2nm,0.3s,baz=258,slow=12,SNR=6.6						
ESDC	**Sonseca Array**	**20.03**	**282**	P	**P**	**20 07 20.8**	**+0.7**
	comp=N,0.2nm,0.4s,baz=68,slow=11,SNR=4.3						
HFS	**Hagfors**	**22.43**	**349**	P	**P**	**20 07 45.2**	**-0.5**
	comp=N,1.0nm,0.7s,baz=181,slow=7.2,SNR=3.2						
FINES	**FINESS Array B**	**23.30**	**5**	P	**P**	**20 07 53.5**	**-1.3**
	comp=N,2.0nm,0.8s,baz=157,slow=10,SNR=4.0						
EKA	**Eskdalemuir Ar**	**23.89**	**324**	P	**P**	**20 08 02.7**	**+2.0**
	comp=N,0.8nm,0.6s,baz=121,slow=8.3,SNR=3.5						
TORD	**Torodi Ar. Bea**	**30.77**	**221**	P	**P**	**20 09 02.6**	**-0.2**
	comp=N,0.4nm,0.4s,baz=33,slow=9.1,SNR=14						
MKAR	**Makanchi Array**	**44.38**	**59**	P	**P**	**20 10 57.9**	**+0.2**
	comp=N,0.6nm,0.4s,baz=275,slow=7.6,SNR=18						
ZALV	**Zalesovo Beam**	**44.86**	**48**	P	**P**	**20 11 00.5**	**-0.8**
	comp=N,0.5nm,0.4s,baz=268,slow=8.4,SNR=2.9						

NNC ***20*** *20:14:35.9±0.7,44°.24N×78°.70E,h0km,mb2.7,mpv2.5, Error ellipse: s-maj=5.6km s-min=5.2km az=18.0*

SOME ***20*** *20:14:36.9,44°.30N×78°.75E,h20km*

ISC 20 20:14:35.7±1.2,44°.32N±0°.03×78°.74E±0°.03,h1km±11km, n19,σ1s27/34,6C-11D,Eastern Kazakhstan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MNBS	**Baschi** 16nm,0.0s	**0.34**	**226**	*e*P	**Pb**	**20 14 44.6**	**0.0**
MNBS				*e*S	**Sb**	**20 14 49.9**	**-0.7**
	54nm,0.1s						
ARXS	**Arharly** 8.2nm,0.1s	**0.66**	**261**	*e*P	**Pg**	**20 14 49.2**	**+0.8**
ARXS				*e*S	**Sg**	**20 14 57.5**	**+0.5**
	80nm,0.1s						
DJR	**Jarkent** 25nm,0.1s	**0.76**	**88**	*e*P	**Pg**	**20 14 50.2**	**0.0**
DJR				*e*S	**Sg**	**20 14 59.5**	**-0.6**
	52nm,0.1s						
KPKS	**Kokpek** 21nm,0.1s	**0.85**	**183**	*e*P	**Pg**	**20 14 52.0**	**0.0**
KPKS				*e*S	**Sg**	**20 15 03.1**	**+0.1**
	57nm,0.3s						
KURS	**Kuram** 4.0nm,1.1s	**0.92**	**206**	⇓*i*P	**Pg**	**20 14 54.0**	**+0.5**
KURS				⇓*i*S	**Sg**	**20 15 06.5**	**+1.2**
	12nm,0.4s						
KAPS	**Kapalarasan** 2.6nm,0.1s	**1.06**	**24**	⇓*i*P	**Pg**	**20 14 55.5**	**-0.6**
KAPS				⇓*i*S	**Sg**	**20 15 09.3**	**-0.7**
	26nm,0.3s						
PDGK	**Podgornoye** 2.4nm,0.3s	**1.13**	**151**	⇑P	**Pg**	**20 14 56.3**	**-1.0**
PDGK				⇑S	**Sg**	**20 15 11.4**	**-0.5**
	1.8nm,0.2s						
UZB	**Uzynbulak** 5.8nm,0.1s	**1.19**	**170**	⇓*i*P	**Pb**	**20 14 57.9**	**-1.2**
UZB				*e*S	**Sb**	**20 15 13.4**	**-1.6**
	26nm,0.2s						
SHLS	**Shalkode** 16nm,0.3s	**1.27**	**155**	⇑*i*P	**Pg**	**20 15 02.5**	**+2.4**
SHLS				⇓*i*S	**Sn**	**20 15 21.0**	**+2.4**
	20nm,0.2s						
SATY	**Saty** 13nm,0.1s	**1.28**	**191**	⇓*i*P	**Pn**	**20 14 59.7**	**-1.1**
SATY				⇑*i*S	**Sb**	**20 15 16.3**	**-1.3**
	79nm,0.2s						
CHKK	**Chushkaly** 12nm,0.1s	**1.34**	**250**	*e*P	**Pn**	**20 15 00.5**	**-1.1**
CHKK				*e*S	**Sb**	**20 15 17.2**	**-2.1**
	39nm,0.1s						
MDOK	**Medeo** 5.0nm,0.1s	**1.68**	**227**	*e*P	**Pn**	**20 15 07.2**	**+0.8**
MDOK				*e*S	**Sb**	**20 15 29.0**	**-0.3**
	10nm,0.1s						
TNSS	**Tian-Shan** 3.1nm,0.1s	**1.82**	**226**	*e*P	**Pn**	**20 15 09.3**	**+0.7**
TNSS				*e*S	**Sn**	**20 15 32.6**	**+0.1**
	10.0nm,0.3s						
IZV	**Izvestkoviy** 3.0nm,0.1s	**2.00**	**231**	*e*P	**Pn**	**20 15 11.8**	**+1.0**
IZV				*e*S	**Sn**	**20 15 36.9**	**+0.3**
	13nm,0.3s						
DGS	**Degeres** 2.3nm,0.2s	**2.40**	**244**	*e*P	**Pb**	**20 15 18.9**	**-0.9**
DGS				*e*S	**Sb**	**20 15 48.9**	**-1.0**
	14nm,0.2s						
TKM2	**Tokmak 2** 1.8nm,1.1s	**2.67**	**240**	⇓Pg	**Pb**	**20 15 22.9**	**-1.6**
TKM2				⇑Lg	Lg	20 15 58.5	
	1.1nm,0.2s						
MAKZ	**Makanchi** 2.6nm,0.9s	**3.38**	**41**	⇓Pg	**Pg**	**20 15 39.3**	**-1.1**
MAKZ				⇓Lg	Lg	20 16 24.1	
	0.9nm,0.7s						
AAK	**Ala-Archa** 0.8nm,0.2s	**3.51**	**243**	Pg	**Pb**	**20 15 40.2**	**+1.4**
AAK				Lg	Lg	20 16 26.2	
	3.3nm,0.8s						
MK31	**Makanchi Array** 0.1nm,0.3s	**3.52**	**44**	⇓Pg	**Pb**	**20 15 41.7**	**+2.9**
MK31				⇑Lg	Lg	20 16 29.6	
	0.1nm,0.2s,baz=218,slow=27,SNR=2.6						

THR ***20*** *20:23:43.4±0.3,27°.29N×53°.75E,h30km±4km,ML3.5*

ISCJB ***20*** *20:23:47.7±0.3,27°.62N±0°.03×53°.68E±0°.04,h23km, mb3.6/8,Error ellipse: s-maj=4.8km s-min=3.8km az=153.7*

TEH ***20*** *20:23:48.0,27°.50N×53°.61E,h17km,ML3.6*

CSEM ***20*** *20:23:50.3±0.3,27°.61N×53°.67E,h30km,ML3.6,Error ellipse: s-maj=12.5km s-min=5.0km az=58.0*

OMAN ***20*** *20:23:51.0±1.1,27°.59N×53°.91E,h17km,Error ellipse: s-maj=16.9km s-min=8.7km az=34.0*

DSN ***20*** *20:23:52.9±0.9,27°.49N×54°.06E,h15km,ML3.4/8,Error ellipse: s-maj=15.0km s-min=5.9km az=17.0*

IDC ***20*** *20:23:53.5±3.3,27°.37N×53°.86E,h87km±43km,mb3.3/9, mb1 3.4/11,mb1mx3.2/51,mbtmp3.7/11,Error ellipse: s-maj=26.6km s-min=20.2km az=2.0*

ISC 20 20:23:48.5±0.7,27°.59N±0°.04×53°.76E±0°.04,h23km,n70, σ1s67/77,mb3.6/8,Southern Iran

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GHIR	**Ghir-Karzin**	**0.97**	**315**	*e*Pg	**Pb**

ASHO					S		Sn	20 25 26.0	+2.3	
ASHO	**Ashiyiah**		**3.56**	**144**	Pn		**Pn**	**20 24 44.3**	**+2.0**	
	SNR=74									
ASHO	**Ashiyiah**		**3.56**	**144**	P		**Pn**	**20 24 44.3**	**+2.0**	
	SNR=74									
ASHO					S		Sn	20 25 26.0	+2.3	
KHGB	**Koh Gabri**		**3.66**	**40**	*e*Pn		**Pn**	**20 24 45.3**	**+1.4**	
KHGB	**Koh Gabri**		**3.66**	**40**	*e*Pn		**Pn**	**20 24 45.3**	**+1.4**	
IMEH	**Mehriz**		**3.86**	**11**	*e*Pn		**Pn**	**20 24 48.6**	**+1.9**	
IMEH					*e*AMB		AMB	20 24 50.2		
	comp=Z,3µm,0.1s									
IMEH	**Mehriz**		**3.86**	**11**	*e*Pn		**Pn**	**20 24 48.6**	**+1.9**	
SLWS			**3.95**	**226**	P		**Pn**	**20 24 49.3**	**+1.7**	
BOQSS			4.28	247	S		Sn	20 25 42.6	+1.1	
BOQSS					P		**Pn**	**20 24 53.7**	**+1.5**	
IBAF	**Bafgh**		**4.28**	**21**	*e*Pn		**Pn**	**20 24 53.8**	**+1.3**	
IBAF					*e*AMB		AMB	20 25 07.3		
	comp=Z,407nm,0.1s									
IBAF	**Bafgh**		**4.28**	**21**	*e*Pn		**Pn**	**20 24 53.8**	**+1.3**	
IRAM	**Ramesheh**		**4.37**	**344**	*e*Pn		**Pn**	**20 24 54.1**	**+0.4**	
IRAM					*e*AMB		AMB	20 25 16.5		
	comp=Z,274nm,0.2s									
IRAM	**Ramesheh**		**4.37**	**344**	*e*Pn		**Pn**	**20 24 54.1**	**+0.4**	
BTHS			**4.40**	**217**	S		**Sn**	**20 25 45.5**	**+1.0**	
BTHS					P		**Pn**	**20 24 55.2**	**+1.3**	
ICHK	**Chekchek**		**4.67**	**7**	*e*Pn		**Pn**	**20 24 59.1**	**+1.3**	
ICHK					*e*AMB		AMB	20 25 00.1		
	comp=Z,2µm,0.1s									
ICHK	**Chekchek**		**4.67**	**7**	*e*Pn		**Pn**	**20 24 59.1**	**+1.3**	
IGAR	**Gharneh**		**5.02**	**343**	*e*AMB		AMB	20 25 11.7		
	comp=Z,251nm,0.1s									
IGAR					*e*Pn		**Pn**	**20 25 03.0**	**+0.4**	
NASN	**Na'in**		**5.25**	**351**	*e*Pn		**Pn**	**20 25 06.6**	**+0.6**	
NASN	**Na'in**		**5.25**	**351**	*e*Pn		**Pn**	**20 25 06.6**	**+0.6**	
IZEF	**Zefreh**		**5.43**	**347**	*e*AMB		AMB	20 25 10.1		
	comp=Z,244nm,0.2s									
IZEF					*e*Pn		**Pn**	**20 25 07.9**	**-0.4**	
IPIR	**Pirpir**		**5.65**	**335**	*e*Pn		**Pn**	**20 25 11.2**	**-0.1**	
IPIR					*e*AMB		AMB	20 25 15.8		
	comp=Z,276nm,0.1s									
IPIR	**Pirpir**		**5.65**	**335**	*e*Pn		**Pn**	**20 25 11.2**	**-0.1**	
IKLH	**Kolahrood**		**6.01**	**342**	*e*Pn		**Pn**	**20 25 16.1**	**-0.2**	
IKLH					*e*AMB		AMB	20 25 21.5		
	comp=Z,151nm,0.1s									
IKLH	**Kolahrood**		**6.01**	**342**	*e*Pn		**Pn**	**20 25 16.1**	**-0.2**	
WSAR	**Wadi Sarin**		**6.18**	**133**	P		**Pn**	**20 25 19.7**	**+1.3**	
	comp=Z,1.9nm,0.3s,baz=315,slow=7.8,SNR=82									
WSAR					S		**Sn**	**20 26 26.2**	**-2.1**	
	comp=Z,4.4nm,0.3s,baz=40,slow=17,SNR=8.7									
IANJ	**Anjilo**		**7.85**	**1**	eAMB		AMB	20 25 43.3		
	comp=Z,285nm,0.2s									
LYLS			**8.10**	**228**	P		**Pn**	**20 25 45.1**	**+0.4**	
GNI	**Garni**		**14.58**	**331**	P		**P**	**20 27 19.2**	**-0.6**	
	comp=Z,0.5nm,0.3s,baz=148,slow=15,SNR=4.7									
BRTR	**Keskin Array B**		**20.61**	**311**	P		Pn	20 28 28.6	+0.1	
	comp=Z,0.6nm,0.7s,baz=117,slow=8.8,SNR=3.5									
AKTO	**Aktyubinsk**		**23.04**	**7**	P		**P**	**20 28 53.5**	**+1.5**	
	comp=Z,1.5nm,0.5s,baz=156,slow=12,SNR=5.0									
BVAR	**Borovoye Array**		**28.25**	**21**	P		**P**	**20 29 39.2**	**-0.5**	
	comp=Z,0.8nm,0.7s,baz=212,slow=5.3,SNR=4.1									
MKAR	**Makanchi Array**		**29.48**	**42**	P		**P**	**20 29 51.0**	**+0.3**	
	comp=Z,0.3nm,0.4s,baz=236,slow=12,SNR=3.7									
KURBB	**Kurchatov Arra**		**29.72**	**33**	P		**P**	**20 29 53.0**	**+0.3**	
	comp=Z,0.4nm,0.6s,baz=232,slow=8.8,SNR=4.3									
ZALV	**Zalesovo Beam**		**34.81**	**32**	P		**P**	**20 30 36.8**	**-0.5**	
	comp=Z,0.6nm,0.3s,baz=246,slow=9.4,SNR=4.4									
FINES	**FINESS Array B**		**38.58**	**339**	P		**P**	**20 31 08.7**	**-0.6**	
	comp=Z,0.7nm,0.3s,baz=144,slow=10,SNR=5.6									
NOA	**NORSAR Array B**		**43.88**	**332**	P		**P**	**20 31 52.3**	**-0.7**	
	comp=Z,0.6nm,0.6s,baz=112,slow=9.9,SNR=2.6									
TORD	**Torodi Ar. Bea**		**50.53**	**264**	P		**P**	**20 32 44.3**	**-1.1**	
	comp=Z,0.4nm,0.8s,baz=70,slow=7.2,SNR=4.8									

*IDC **20** 20:24:56.1±0.7,51˚13N×169˚55W, h0km, mb4.3/22, mb1 4.5/22, mb1mx4.2/53, mbtmp4.3/22, MS3.2/4, Ms1 3.3/4, ms1mx2.9/38, Error ellipse: s-maj=23.1km s-min=14.9km az=1.0*

*ISCJB **20** 20:24:57.9±1.1,51˚32N±0˚03×169˚45W±0˚04, h14km±7km, mb4.6/89, MS3.5/3, Error ellipse: s-maj=5.6km s-min=3.5km az=153.5*

*MOS **20** 20:24:59.9±1.0,51˚12N×169˚54W, h33km, mb4.8/37, Error ellipse: s-maj=11.9km s-min=6.9km az=98.8*

*NEIC **20** 20:25:02.4±0.0,51˚50N×169˚59W, h47km, mb4.6/56, ML4.0(AEIC), After AEIC.*

ISC 20 20:25:02.0±0.7,**51˚27N**±0˚07×**169˚49W**±0˚04,**h34**km±2km, **h34**km:**pP-P,n245,**σ1§**51**/265,**mb4.6**/96,**MS3.4**/3,**9C-5D, Fox Islands**

Code	Station Name	Δ°	AZ°	Phase ID			Time			Res
				Op		ISC	h	m	s	ISC
NIKH	**Nikolski High**	**1.75**	**13**	P		**Pn**	**20 25 28.0**			**-1.9**
NIKH				S		**Sn**	**20 25 48.7**			**-2.4**
OKSO	**Okmok South**	**2.25**	**21**	P		**Pn**	**20 25 35.0**			**-1.7**
OKSO				S		**Sn**	**20 26 00.9**			**-2.4**
OKTU	**Okmok Mt. Tuli**	**2.30**	**22**	P		**Pn**	**20 25 36.6**			**-0.9**
OKFG	**Magazine Ridge**	**2.36**	**24**	P		**Pn**	**20 25 36.8**			**-1.5**
OKFG				S		**Sn**	**20 26 03.6**			**-2.3**
MGOD	**Makushin Gods**	**2.99**	**31**	P		**Pn**	**20 25 46.0**			**-1.0**
MGOD				S		**Sn**	**20 26 20.6**			**-1.1**
KOSE	**Korovin Southe**	**3.03**	**293**	P		**Pn**	**20 25 47.8**			**+0.2**
KOFP	**Korovin Flat P**	**3.04**	**291**	P		**Pn**	**20 25 47.4**			**-0.3**
ATKA	**Atka Island**	**3.08**	**290**	P		**Pn**	**20 25 46.7**			**-1.3**
ATKA				S		**Sn**	**20 26 20.4**			**-3.3**
KOKL	**Mount Kliuchef**	**3.11**	**292**	P		**Pn**	**20 25 48.5**			**-0.2**
MCIR	**Makushin Cirqu**	**3.12**	**29**	P		**Pn**	**20 25 48.3**			**-0.5**
MSW	**Makushin Switc**	**3.12**	**31**	P		**Pn**	**20 25 47.9**			**-0.9**
MSW				S		**Sn**	**20 26 23.0**			**-1.9**
UNV	**Unalaska Valle**	**3.16**	**34**	P		**Pn**	**20 25 48.0**			**-1.3**
UNV				S		**Sn**	**20 26 23.0**			**-2.8**
MTBL	**Makushin Table**	**3.20**	**31**	P		**Pn**	**20 25 49.3**			**-0.7**
AKMO	**Akutan Morgan**	**3.53**	**35**	P		**Pn**	**20 25 53.8**			**-0.6**
AKUT	**Akutan**	**3.66**	**37**	P		**Pn**	**20 25 55.1**			**-0.9**
ADK	**Adak**	**4.53**	**281**	P		**Pn**	**20 26 06.9**			**-1.2**
ADK				*e*			20 26 54.9			
ADK	**Adak**	**4.53**	**281**	P		**Pn**	**20 26 06.9**			**-1.2**
ADK				*e*Sn		**Sn**	**20 26 54.9**			**-4.7**
SPIA	**Saint Paul Isl**	**5.94**	**356**	P		**Pn**	**20 26 27.4**			**-0.1**
SDPT	**Sand Point**	**6.77**	**49**	P		**Pn**	**20 26 38.3**			**-0.5**
CHGN	**Chignik**	**8.27**	**48**	*e*Pn		**Pn**	**20 26 59.5**			**+0.2**
CHGN				*e*Sn		**Sn**	**20 28 28.9**			**-2.5**
KDAK	**Kodiak Island**	**11.77**	**50**	Pn		**Pn**	**20 27 45.2**			**-2.0**
	9.7nm,0.3s,baz=232,slow=7.7,SNR=72									
KDAK				Sn		**Sn**	**20 29 50.9**			**-6.3**
	0.9nm,0.3s,baz=343,slow=19,SNR=5.9									
KDAK				LR		LR	20 32 39.1			
	comp=Z,77nm,21.1s,baz=249,slow=39									
KDAK	**Kodiak Island**	**11.77**	**50**	*e*P		**Pn**	**20 27 45.0**			**-2.2**
SVW2	**Sparrevohn**	**12.50**	**33**	*e*Pn		**Pn**	**20 27 57.5**			**+0.2**
PPLA	**Purkeypile**	**14.91**	**32**	*e*Pn		**Pn**	**20 28 30.9**			**+0.8**
CAST	**Castle Rocks**	**15.31**	**31**	*e*Pn		**Pn**	**20 28 34.5**			**-0.8**
	12nm,0.6s									
SML	**Sawmill**	**15.65**	**39**	*e*P		**Pn**	**20 28 36.7**			**-3.0**
SML				*e*			20 31 37.7			
SML				pmax		pmax				
	comp=Z,37nm,1.2s									
SML	**Sawmill**	**15.65**	**39**	*e*Pn		**Pn**	**20 28 36.7**			**-3.0**
	comp=Z,37nm,1.2s									
SML				*e*Sn		**Sn**	**20 31 37.7**			**+5.9**
KTH	**Kantishna Hill**	**15.78**	**32**	*e*Pn		**Pn**	**20 28 41.3**			**-0.1**
	comp=Z,32nm,0.9s									
FID	**Port Fidalgo**	**15.90**	**44**	*e*Pn		**Pn**	**20 28 38.7**			**-4.3**
	comp=Z,90nm,1.1s									
SCM	**Sheep Creek Mo**	**16.07**	**40**	*e*P		**Pn**	**20 28 41.7**			**-3.4**
SCM				pmax		pmax				
	comp=Z,52nm,1.0s									
SCM	**Sheep Creek Mo**	**16.07**	**40**	*e*Pn		**Pn**	**20 28 41.7**			**-3.4**
	comp=Z,52nm,1.0s									
DIV	**Divide**	**16.38**	**44**	*e*Pn		**Pn**	**20 28 44.2**			**-4.9**
	comp=Z,51nm,1.3s									
KLU	**Klutina**	**16.48**	**43**	*e*Pn		**Pn**	**20 28 46.3**			**-4.1**
	comp=Z,19nm,0.6s									
BMRM	**Bremner River**	**16.83**	**45**	*e*Pn		**Pn**	**20 28 51.6**			**-3.1**
	comp=Z,60nm,1.1s									
HARP	**HAARP**	**17.24**	**40**	*e*Pn		**Pn**	**20 28 57.4**			**-2.4**
	comp=Z,204nm,1.9s									
WRH	**Wood River Hil**	**17.32**	**32**	*e*Pn		**Pn**	**20 28 57.3**			**-3.5**
	comp=Z,51nm,1.7s									
PAX	**Paxson**	**17.40**	**38**	*e*P		**Pn**	**20 28 59.8**			**-2.1**
PAX				*e*			20 32 12.2			
PAX				pmax		pmax				
	comp=Z,25nm,1.5s									
PAX	**Paxson**	**17.40**	**38**	*e*Pn		**Pn**	**20 28 59.8**			**-2.1**
PAX				*e*Sn		**Sn**	**20 32 12.2**			**-2.1**
CCB	**Clear Creek Bu**	**17.53**	**32**	*e*Pn		**Pn**	**20 29 00.4**			**-3.0**
	comp=Z,15nm,1.2s									
MDM	**Murphy Dome**	**17.59**	**31**	*e*Pn		**Pn**	**20 29 01.9**			**-2.3**
	comp=Z,22nm,1.1s									
COLA	**College**	**17.66**	**31**	*e*P		**Pn**	**20 29 03.9**			**-1.1**
COLA				pmax		pmax				
	comp=Z,8.0nm,0.8s									
ILAR	**Eielson Array**	**17.91**	**32**	P		**Pn**	**20 29 04.7**			**-3.4**
	comp=Z,0.5nm,0.3s,baz=230,slow=11,SNR=14									
ILAR				S		**Sn**	**20 32 22.9**			**-3.7**
	comp=Z,0.1nm,0.3s,baz=209,slow=24,SNR=3.7									
ILAR				LR		LR	20 36 32.3			
	comp=Z,68nm,20.7s,baz=266,slow=39									
ILAR	**Eielson Array**	**17.91**	**32**	*e*P		**Pn**	**20 29 05.2**			**-2.9**
ILAR				pmax		pmax				
	comp=Z,1.0nm,0.3s									
ILB	**Eielson Array**	**17.91**	**32**	*e*Pn		**Pn**	**20 29 05.4**			**-2.7**
IL1	**Eielson Array**	**17.92**	**32**	*e*Pn		**Pn**	**20 29 05.4**			**-2.7**
MENT	**Mentasta**	**18.08**	**40**	*e*Pn		**Pn**	**20 29 08.0**			**-2.2**
	comp=Z,13nm,1.0s									
DOT	**Dot Lake**	**18.30**	**38**	*e*Pn		**P**	**20 29 10.2**			**-2.5**
	comp=Z,21nm,0.6s									
COLD	**Coldfoot**	**18.65**	**24**	*e*P		**P**	**20 29 16.7**			**+0.1**
	comp=Z,9.2nm,0.9s									
EGAK	**Eagle**	**19.96**	**37**	*e*P		**Pn**	**20 29 32.9**			**+0.1**
	comp=Z,14nm,0.7s									
PETK	**Petropavlovsk-**	**20.11**	**288**	P		**P**	**20 29 32.5**			**0.0**
	comp=Z,6.0nm,0.7s,baz=86,slow=14,SNR=7.5									
DAWY	**Dawson**	**20.32**	**39**	*e*P		**P**	**20 29 35.6**			**+0.7**
	comp=Z,28nm,1.3s									
BILL	**Bilibino**	**20.55**	**334**	⇓ *i*	P	Pn	20 29 43.2			+3.6
BILL				*i*			20 29 51.3			
BILL				pmax		pmax				
	comp=Z,10.0nm,0.9s									
WHY	**Whitehorse**	**21.29**	**50**	*e*P		**P**	**20 29 49.2**			**+3.9**
	comp=Z,22nm,0.8s									
SKR	**Severo-Kuril's**	**21.56**	**282**	⇑ *e*P		**P**	**20 29 49.3**			**+1.2**
SEY	**Seymchan**	**23.38**	**315**	P		**P**	**20 30 05.6**			**-1.6**
	comp=Z,3.2nm,0.6s,baz=87,slow=23,SNR=8.5									
SEY	**Seymchan**	**23.38**	**315**	*e*P		**P**	**20 30 06.6**			**-0.6**
INK	**Inuvik**	**24.32**	**32**	*e*P		**P**	**20 30 16.3**			**+0.4**
INK				pmax		pmax				
	comp=Z,17nm,0.8s									
INK	**Inuvik**	**24.32**	**32**	*e*P		**P**	**20 30 16.3**			**+0.4**
	comp=Z,17nm,0.8s									
JCW	**Jim Creek**	**30.47**	**77**	*e*P		P	20 31 05.7			-5.7
YKA	**Yellowknife Ar**	**31.03**	**47**	P		**P**	**20 31 15.1**			**-1.0**
	comp=Z,0.9nm,0.7s,baz=273,slow=8.7,SNR=2.6									
YSS	**Yuzh-Sakhalins**	**31.12**	**281**	*e*P		**P**	**20 31 17.3**			**+0.3**
YSS				pmax		pmax				
	comp=Z,21nm,1.5s									
PANH	**Panhandle Gap,**	**31.21**	**79**	*e*P		**P**	**20 31 19.2**			**+1.1**
B08A	**Colville Reser**	**31.99**	**75**	*e*P		**P**	**20 31 25.5**			**+0.8**
	comp=Z,4.1nm,0.8s									
JCC	**Jacoby Creek,**	**32.75**	**91**	*e*PcP		**PcP**	**20 34 13.0**			**-3.0**
YAK	**Yakutsk**	**33.85**	**312**	⇓ *e*P		**P**	**20 31 39.8**			**-1.0**
YAK				pmax		pmax				
	comp=Z,7.0nm,1.0s									
BSMT	**Bassoo Peak**	**34.96**	**74**	*e*P		**P**	**20 31 51.0**			**+0.2**
BLMT	**Blacktail Moun**	**35.14**	**73**	*e*P		**P**	**20 31 52.4**			**+0.1**
MSO	**Missoula**	**35.94**	**75**	*e*P		**P**	**20 31 59.0**			**-0.1**
	comp=Z,9.2nm,1.3s									
EMB	**Emerald Bay**	**36.28**	**90**	*e*PcP		**PcP**	**20 34 29.5**			**+2.9**
CHMT	**Chamberlain Mo**	**36.31**	**74**	*e*P		**P**	**20 32 01.9**			**-0.5**
MCMT	**McKenzie Canyo**	**37.58**	**77**	*e*P		**P**	**20 32 13.2**			**-0.1**
EGMT	**Eagleton**	**37.89**	**71**	*e*P		**P**	**20 32 15.8**			**+0.2**
	comp=Z,12nm,0.9s									
BOZ	**Bozeman (W)**	**37.94**	**75**	*e*P		**P**	**20 32 16.2**			**+0.1**
BOZ				pmax		pmax				
	comp=Z,4.0nm,0.6s									
BOZ	**Bozeman (W)**	**37.94**	**75**	*e*P		**P**	**20 32 16.2**			**+0.1**
	comp=Z,4.2nm,0.6s									
YHH	**Holmes Hill**	**38.82**	**76**	*e*P		**P**	**20 32 24.0**			**+0.3**
	comp=Z,6.6nm,0.7s									
YNR	**Norris Junctio**	**38.97**	**76**	*e*P		**P**	**20 32 25.3**			**+0.4**
	comp=Z,12nm,1.2s									
GCMT	**Greycliff**	**39.03**	**74**	*e*P		**P**	**20 32 25.7**			**+0.4**
IMW	**Indian Meadow**	**39.24**	**77**	*e*P		**P**	**20 32 27.6**			**+0.4**
	comp=Z,4.7nm,0.8s									
RLMT	**Red Lodge**	**39.61**	**75**	*e*P		**P**	**20 32 30.5**			**+0.2**
	comp=Z,8.2nm,0.8s									
GSC	**Goldstone, Bar**	**40.61**	**92**	*e*P		**P**	**20 32 39.0**			**+0.5**
GSC				pmax		pmax				
	comp=Z,7.0nm,1.3s									
GSC	**Goldstone, Bar**	**40.61**	**92**	*e*P		**P**	**20 32 39.0**			**+0.5**
	comp=Z,7.0nm,1.3s									
BW06	**Boulder Array**	**40.70**	**78**	*e*P		**P**	**20 32 39.3**			**0.0**
	comp=Z,11nm,1.0s									
PD31	**Pinedale Array**	**40.70**	**78**	*e*P		**P**	**20 32 39.2**			**-0.1**
PDAR	**Pinedale Array**	**40.70**	**78**	P		**P**	**20 32 39.5**			**+0.2**
	comp=Z,6.5nm,0.7s,baz=306,slow=5.1,SNR=39									
PDAR				LR		LR	20 47 54.5			
	comp=Z,54nm,18.4s,baz=338,slow=34									
SRU	**San Rafael Swe**	**42.20**	**83**	*e*P		**P**	**20 32 52.6**			**+1.0**
SRU				pmax		pmax				
	comp=Z,5.0nm,0.8s									
SRU	**San Rafael Swe**	**42.20**	**83**	*e*P		**P**	**20 32 52.6**			**+1.0**
	comp=Z,5.2nm,0.8s									
BOD	**Bodaibo**	**42.64**	**310**	*e*P		**P**	**20 32 53.0**			**-1.7**
BOD				pmax		pmax				
	comp=Z,8.0nm,1.6s									
U15A	**North Rim**	**42.73**	**87**	*e*P		**P**	**20 32 56.8**			**+0.7**
	comp=Z,3.2nm,0.8s									
O20A	**White River Ci**	**43.01**	**80**	*e*P		**P**	**20 32 57.2**			**-1.0**
	comp=Z,15nm,1.1s									
PV10	**Paradox Valley**	**43.57**	**83**	*e*P		**P**	**20 33 03.2**			**+0.5**
PV04	**Paradox Valley**	**43.64**	**83**	*e*P		**P**	**20 33 03.5**			**+0.2**
PV01	**Paradox Valley**	**44.01**	**83**	*e*P		**P**	**20 33 06.3**			**+0.1**
	comp=Z,404nm,0.7s									
ULM	**Lac du Bonnet**	**44.74**	**61**	P		**P**	**20 33 10.9**			**-0.7**
	comp=Z,7.7nm,0.8s,baz=194,slow=4.3,SNR=3.3									
SDCO	**Great Sand Dun**	**46.16**	**81**	*e*P		**P**	**20 33 23.7**			**+0.3**
	comp=Z,3.2nm,1.0s									
T25A	**Trinidad**	**47.21**	**81**	*e*P		**P**	**20 33 32.2**			**+0.6**
	comp=Z,15nm,1.3s									
LAZ	**Ladron**	**47.26**	**86**	*e*P		**P**	**20 33 33.6**			**+1.7**
ANMO	**Albuquerque**	**47.34**	**85**	⇑ *i*P		**P**	**20 33 32.5**			**0.0**
ANMO				pmax		pmax				
	comp=Z,3.0nm,1.2s									
ECSD	**EROS Data Cent**	**47.93**	**69**	*e*P		**P**	**20 33 35.2**			**-1.6**
	comp=Z,6.8nm,1.1s									
MNTX	**Loudas Mount**	**50.16**	**87**	*e*P		**P**	**20 33 54.1**			**+0.1**
	comp=Z,3.7nm,0.8s									
MSTX	**Muleshoe**	**50.27**	**83**	*e*P		**P**	**20 33 54.7**			**-0.3**
	comp=Z,9.5nm,0.9s									
TLY	**Talaya**	**50.94**	**307**	*e*P		**P**	**20 33 59.8**			**+0.1**
TLY				pmax		pmax				
	comp=Z,8.0nm,0.9s									
TLY	**Talaya**	**50.94**	**307**	*e*P		**P**	**20 33 59.6**			**-0.1**
	comp=Z,6.9nm,0.7s									
ULN	**Ulaanbaatar**	**51.44**	**301**	⇑ *i*P		**P**	**20 34 03.7**			**+0.1**
ULN				*i*	*PP	**sP**	**20 34 17.4**			**-0.4**
ULN				pmax		pmax				
	comp=Z,3.0nm,0.8s									
ULN	**Ulaanbaatar**	**51.44**	**301**	*e*P		**P**	**20 34 03.1**			**-0.5**
	comp=Z,4.2nm,0.9s									
SONA1	**Songino Array**	**51.80**	**301**	*e*P		**P**	**20 34 06.1**			**-0.2**
SONM	**Songino Array**	**51.81**	**301**	P		**P**	**20 34 06.8**			**+0.4**
	comp=Z,2.2nm,0.9s,baz=60,slow=7.0,SNR=15									
SUMG	**Summit**	**51.86**	**17**	*i* P		**P**	**20 34 07.4**			**+0.7**
SUMG	**Summit**	**51.86**	**17**	*i* P		**P**	**20 34 07.4**			**+0.7**
SUMG	**Summit**	**51.86**	**17**	*e*P		**P**	**20 34 07.7**			**+1.0**
	comp=Z,20nm,1.0s									
ZAK	**Zakamensk**	**51.90**	**306**	*e*P		**P**	**20 34 06.2**			**-0.8**
ZAK				pmax		pmax				
	comp=Z,4.0nm,1.4s									
WMOK	**Wichita Mounta**	**52.24**	**79**	*e*P		**P**	**20 34 08.4**			**-1.3**
WMOK				pmax		pmax				
	comp=Z,5.0nm,0.9s									
WMOK	**Wichita Mounta**	**52.24**	**79**	*e*P		**P**	**20 34 08.4**			**-1.3**
	comp=Z,5.2nm,0.9s									
MOY	**Mondy**	**52.27**	**308**	*e*P		**P**	**20 34 10.2**			**+0.5**
TX31	**Lajitas Ar. Si**	**52.85**	**88**	*e*P		**P**	**20 34 13.9**			**-0.3**
TXAR	**Lajitas Array**	**52.85**	**88**	P		**P**	**20 34 14.2**			**-0.1**
	comp=Z,4.4nm,0.7s,baz=298,slow=5.6,SNR=27									
TXAR				PcP		**PcP**	**20 35 22.9**			**-0.2**
	comp=Z,0.6nm,0.8s,baz=291,slow=2.0,SNR=3.4									
TXAR	**Lajitas Array**	**52.85**	**88**	*e*P		**P**	**20 34 14.3**			**0.0**
TXAR				pmax		pmax				
	comp=Z,5.0nm,0.7s									
HHC	**Hu-ho-hao-te**	**53.26**	**292**	*e*P		**P**	**20 34 18.5**			**+1.4**
HHC				pmax		pmax				
	comp=Z,13nm,1.4s									
HHC				pmax		pmax				
	comp=Z,150nm,5.3s									
NJ2	**Nanjing**	**54.64**	**279**	*e*P		**P**	**20 34 27.8**			**+0.6**
NJ2				pmax		pmax				
	comp=Z,26nm,0.5s									
MIAR	**Mount Ida**	**55.57**	**76**	*e*P		**P**	**20 34 33.1**			**-0.8**
MIAR				pmax		pmax				
	comp=Z,10.0nm,1.1s									
MIAR	**Mount Ida**	**55.57**	**76**	*e*P		**P**	**20 34 33.1**			**-0.8**
	comp=Z,9.8nm,1.1s									
ZAA0	**Zalesovo Array**	**58.19**	**318**	*e*P		**P**	**20 34 51.2**			**-0.9**
ZAA0				*e*PcP		**PcP**	**20 35 43.3**			**0.0**
ZALV	**Zalesovo Beam**	**58.19**	**318**	P		**P**	**20 34 51.4**			**-0.8**
	comp=Z,1.4nm,0.5s,baz=22,slow=4.4,SNR=7.3									
ZALV				PcP		**PcP**	**20 35 43.1**			**-0.2**
	comp=Z,1.8nm,0.6s,baz=28,slow=3.0,SNR=5.2									
NVS	**Novosibirsk**	**58.22**	**319**	*e*P		**P**	**20 34 50.5**			**-1.8**
ARCES	**ARCESS Array B**	**59.01**	**354**	P		**P**	**20 34 57.8**			**+0.1**
	comp=Z,2.8nm,0.7s,baz=10,slow=5.6,SNR=3.4									
ARCES				LR		LR	21 01 27.0			
	comp=Z,20nm,18.3s,baz=271,slow=37									
ARCES	**ARCESS Array B**	**59.01**	**354**	*e*P		P	20 35 02.8			+5.1
ARCES				pmax		pmax				
	comp=Z,1.0nm,0.4s									
SWET	**Sewanee**	**59.71**	**70**	*e*P		**P**	**20 35 03.4**			**+0.3**
	comp=Z,2.2nm,0.7s									
DGZ	**Jazzator, Alta**	**60.04**	**313**	*i* P		**P**	**20 35 06.0**			**+0.7**
DGZ				pmax		pmax				
	comp=Z,3.0nm,0.7s									
TZTN	**Tazewell**	**60.19**	**68**	*e*P		**P**	**20 35 06.0**			**-0.3**
	comp=Z,33nm,1.2s									
SSPA	**Standing Stone**	**60.57**	**61**	*e*P		**P**	**20 35 07.8**			**-1.0**
	comp=Z,12nm,0.8s									
GTA	**Gaotai**	**60.92**	**298**	*e*P		**P**	**20 35 11.3**			**-0.1**
GTA				pP		pP	20 35 15.8			-5.9
GTA				sP		sP	20 35 18.3			-7.4
GTA				pmax		pmax				
	comp=Z,5.0nm,1.0s									
BLA	**Blacksburg**	**61.53**	**65**	*e*P		**P**	**20 35 14

BAIF	**Baives**	**78.91**	**4**	*e*P		**P**	**20 37 02.0**	**+0.5**
BAIF				pmax	pmax			
	comp=Z,72nm,2.2s							
OKC	**Ostrava-Krasne**	**79.06**	**355**	*e*P		**P**	**20 37 03.5**	**+1.2**
OKC				*ep*P		**sP**	**20 37 17.3**	**+0.5**
OKC	**Ostrava-Krasne**	**79.06**	**355**	*e*P		**P**	**20 37 03.5**	**+1.2**
OKC				*e*			20 37 17.3	
PRU	**Pruhonice**	**79.06**	**357**	*e*P		**P**	**20 37 03.4**	**+1.1**
PRU				*ep*P		**sP**	**20 37 17.1**	**+0.2**
PRU	**Pruhonice**	**79.06**	**357**	*e*P		**P**	**20 37 03.4**	**+1.1**
PRU				*e*			20 37 17.1	
GOPC	**GO Pecny, Ondr**	**79.13**	**357**	*e*P		**P**	**20 37 03.9**	**+1.2**
GOPC	**GO Pecny, Ondr**	**79.13**	**357**	*e*P		**P**	**20 37 03.9**	**+1.2**
MORC	**Moravsky Berou**	**79.16**	**355**	⇓*i*P		**P**	**20 37 03.8**	**+0.9**
LANS	**Liptovska Anna**	**79.67**	**354**	*e*P		**P**	**20 37 07.7**	**+2.0**
LANS	**Liptovska Anna**	**79.67**	**354**	*e*P		**P**	**20 37 07.7**	**+2.0**
SORM	**Soroca**	**79.80**	**348**	⇓*i*P		**P**	**20 37 06.0**	**-0.4**
FLN	**La Foliniere**	**79.91**	**7**	*e*P		**P**	**20 37 07.6**	**+0.7**
FLN				pmax	pmax			
	comp=Z,68nm,1.8s							
KHC	**Kasperske Hory**	**79.95**	**358**	*e*P		**P**	**20 37 08.6**	**+1.4**
KHC				*ep*P		**sP**	**20 37 22.1**	**+0.4**
KHC	**Kasperske Hory**	**79.95**	**358**	*e*P		**P**	**20 37 08.6**	**+1.4**
KHC				*e*			20 37 22.1	
GOF	**Gofitskoye**	**80.01**	**337**⇑	*e*P		**P**	**20 37 08.7**	**+1.1**
GOF				pmax	pmax			
	comp=Z,22nm,1.1s							
LDF	**La Druitiere**	**80.10**	**7**	*e*P		**P**	**20 37 07.9**	**-0.1**
LDF				pmax	pmax			
	comp=Z,6.0nm,0.6s							
GERES	**GERESS Array B**	**80.23**	**358**	P		**P**	**20 37 09.9**	**+1.1**
	comp=Z,2.1nm,0.7s,baz=5.7,slow=5.4,SNR=23							
GEA0	**GERESS Array S**	**80.24**	**358**	*e*P		**P**	**20 37 09.3**	**+0.4**
GRR	**Gorron**	**80.25**	**8**	*e*P		**P**	**20 37 09.2**	**+0.4**
GRR				pmax	pmax			
	comp=Z,5.0nm,0.6s							
KECS	**Kecovo**	**80.26**	**353**	*e*P		**P**	**20 37 09.7**	**+0.8**
KECS				pmax	pmax			
	comp=Z,2.0nm,0.8s							
KECS	**Kecovo**	**80.26**	**353**	*e*P		**P**	**20 37 09.7**	**+0.8**
VYHS	**Vyhne**	**80.36**	**354**	*e*P		**P**	**20 37 10.4**	**+1.0**
VYHS				pmax	pmax			
	comp=Z,3.0nm,1.0s							
VYHS	**Vyhne**	**80.36**	**354**	*e*P		**P**	**20 37 10.4**	**+1.0**
CDF	**Champ du Feu**	**80.66**	**2**	*e*P		**P**	**20 37 11.6**	**+0.5**
CDF				pmax	pmax			
	comp=Z,4.0nm,0.7s							
BUR08	**Bucovina Ar. S**	**80.67**	**350**	*e*P		**P**	**20 37 11.4**	**+0.2**
BURAR	**Bucovina Array**	**80.69**	**350**⇑	*i*P		**P**	**20 37 11.6**	**+0.3**
BFO	**Black Forest**	**80.77**	**1**	*ce*P		**P**	**20 37 13.1**	**+1.5**
CONA	**Conrad Observa**	**81.08**	**356**	*i* PcP		**P**	**20 37 14.4**	**+1.1**
	comp=Z,5.5nm,0.8s							
HINF	**Hinteralfeld**	**81.25**	**2**	*e*P		**P**	**20 37 14.4**	**+0.2**
HINF				pmax	pmax			
	comp=Z,4.0nm,0.7s							
KBZ	**Khabaz**	**81.30**	**337**	P		**P**	**20 37 15.3**	**+0.9**
	comp=Z,1.7nm,0.7s,baz=350,slow=3.4,SNR=5.1							
RETA	**Reutte**	**81.63**	**360**	*i* PcP		**P**	**20 37 17.5**	**+1.3**
	comp=Z,4.6nm,0.6s							
MOTA	**Moosalm**	**81.77**	**360**	*i* PcP		**P**	**20 37 18.2**	**+1.1**
	comp=Z,4.5nm,0.7s							
GEYT	**Alibeck**	**81.88**	**324**	P		**P**	**20 37 18.1**	**+0.4**
	comp=Z,2.5nm,0.9s,baz=299,slow=6.6,SNR=3.6							
ZEI	**Tsey**	**81.93**	**336**	*e*P		**P**	**20 37 18.0**	**-0.1**
ZEI				pmax	pmax			
	comp=Z,12nm,0.9s							
KBA	**Koelnbreinsper**	**82.01**	**358**	*i* PcP		**P**	**20 37 20.1**	**+1.7**
	comp=Z,14nm,0.6s							
FETA	**Feichten**	**82.09**	**360**	*e*PcP		**P**	**20 37 20.2**	**+1.4**
	comp=Z,7.5nm,0.9s							
AVF	**Avril sur Loir**	**82.13**	**5**	*e*P		**P**	**20 37 19.1**	**+0.3**
AVF				pmax	pmax			
	comp=Z,6.0nm,0.7s							
SOKA	**Soboth**	**82.36**	**357**	*i* PcP		**P**	**20 37 21.3**	**+1.1**
	comp=Z,8.0nm,1.0s							
CABF	**La Chapelle**	**82.43**	**3**	*e*P		**P**	**20 37 22.2**	**+1.7**
CABF				pmax	pmax			
	comp=Z,8.0nm,0.8s							
FUORN	**Ofenpass-Fuorn**	**82.49**	**0**	*e*P		**P**	**20 37 22.2**	**+1.1**
	comp=Z,8.0nm,1.0s							
OBKA	**Obir**	**82.54**	**357**	*i* PcP		**P**	**20 37 22.8**	**+1.7**
	comp=Z,4.6nm,0.8s							
TCF	**Toulx Ste Croi**	**82.56**	**6**	*e*P		**P**	**20 37 21.3**	**+0.2**
TCF				pmax	pmax			
	comp=Z,7.0nm,1.2s							
ARR	**Arges**	**82.97**	**350**⇑	*i*P		**P**	**20 37 24.3**	**+1.0**
GZR	**Gura Zlata**	**83.14**	**351**⇑	*i*P		**P**	**20 37 24.8**	**+0.6**
CAF	**Calviac**	**83.91**	**6**	*e*P		**P**	**20 37 28.7**	**+0.6**
CAF				pmax	pmax			
	comp=Z,9.0nm,1.0s							
BNI	**Bardonecchia**	**84.00**	**3**	*e*P		**P**	**20 37 30.7**	**+2.0**
BNI				pmax	pmax			
	comp=Z,12nm,0.9s							
BNI	**Bardonecchia**	**84.00**	**3**	*e*P		**P**	**20 37 30.7**	**+2.0**
	comp=Z,12nm,0.9s							
ORIF	**Oris-en-Rattie**	**84.11**	**3**	*e*P		**P**	**20 37 30.3**	**+1.1**
ORIF				pmax	pmax			
	comp=Z,4.0nm,0.7s							
VIVF	**Saint-Julien-l**	**84.12**	**4**	*e*P		**P**	**20 37 30.0**	**+0.8**
VIVF				pmax	pmax			
	comp=Z,11nm,1.0s							
WRA	**Warramunga Arr**	**86.26**	**232**	P		**P**	**20 37 38.1**	**-1.9**
	comp=Z,0.5nm,0.8s,baz=36,slow=5.6,SNR=4.6							
BRTR	**Keskin Array B**	**87.16**	**342**	P		**P**	**20 37 45.1**	**+0.6**
	comp=Z,0.8nm,0.7s,baz=26,slow=3.7,SNR=5.3							
BR231	**Keskin MP Arra**	**87.20**	**343**	*e*P		**P**	**20 37 44.8**	**+0.1**
ES19	**SONSECA Array**	**88.54**	**11**	*e*P		**P**	**20 37 50.8**	**-0.2**
ESDC	**Sonseca Array**	**88.56**	**11**	P		**P**	**20 37 51.0**	**-0.1**
	comp=Z,1.0nm,0.7s,baz=355,slow=4.9,SNR=6.9							
PSI	**Prapat**	**88.83**	**273**	P		**P**	**20 37 52.0**	**-0.8**
	comp=Z,6.3nm,0.6s,baz=4.4,slow=3.6,SNR=5.7							
PSI	**Prapat**	**88.83**	**273**	P		**P**	**20 37 52.0**	**-0.8**
ASAR	**Alice Springs**	**89.63**	**230**	P		**P**	**20 37 55.0**	**-1.1**
	comp=Z,2.0nm,0.8s,baz=30,slow=4.8,SNR=30							
TORD	**Torodi Ar. Bea**	**115.40**	**10**	PKP		**PKPdf**	**20 43 38.4**	**-1.8**
	comp=Z,0.4nm,0.6s,baz=3.6,slow=2.4,SNR=5.2							

*IDC **20** 20:28:23.5±1.1,0.°92N×121.°49E,h0km,mb4.0/5, mb1 4.1/5,mb1mx3.7/39,mbtmp4.0/5,Error ellipse: s-maj=143.0km s-min=18.7km az=64.0*

*ISCJB **20** 20:28:29.9±0.7,1.°17N±0.°08×121.°47E±0.°08,h49km, mb4.0/5,Error ellipse: s-maj=11.8km s-min=10.7km az=36.6.*

*DJA **20** 20:28:30.3±0.5,1.°1N±5.°×12.°1E±.°,h10km,M4.3/6,mB5.2/1, mb4.5/5,MLv4.2/6,Mw(mB)4.6/1*

ISC 20 20:28:31.4±1.0,1.°0N±0.°1×121.°50E±0.°07,h49km,n13, σ2s23/13,mb4.0/5,Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MRSI	**Marisa**	**0.70**	**141**	P	**Pn**	**20 28 44.5**	**-0.6**
KMSI	**Cibinong**	**2.52**	**100**	P	**Pn**	**20 29 12.9**	**+3.0**
PCI	**Palu**	**2.53**	**221**	P	**Pn**	**20 29 11.9**	**+1.8**
TTSI	**Tana Toraja**	**4.37**	**203**	P	**Pn**	**20 29 38.2**	**+2.9**
SPSI	**Sidrap Palu**	**5.25**	**199**	P	**Pn**	**20 29 49.3**	**+2.0**
SANI	**Sanana**	**5.43**	**124**	P	**Pn**	**20 29 51.2**	**+1.4**
LBMI	**Labuha**	**6.22**	**105**	P	**Pn**	**20 30 03.3**	**+2.5**
NLAI	**Namlea**	**7.02**	**127**	P	**Pn**	**20 30 13.8**	**+2.1**
WRA	**Warramunga Arr**	**24.34**	**150**	P	**P**	**20 33 42.6**	**-2.2**
	4.5nm,0.8s,baz=325,slow=11,SNR=81						
ASAR	**Alice Springs**	**27.34**	**155**	P	**P**	**20 34 09.9**	**-2.1**
	0.7nm,0.6s,baz=340,slow=10,SNR=19						
SONM	**Songino Array**	**48.44**	**346**	P	**P**	**20 37 08.9**	**-0.1**
	1.0nm,0.7s,baz=166,slow=9.1,SNR=7.3						
MKAR	**Makanchi Array**	**56.96**	**329**	P	**P**	**20 38 11.8**	**-0.1**
	2.3nm,0.6s,baz=129,slow=8.9,SNR=16						
ZALV	**Zalesovo Beam**	**60.77**	**336**	P	**P**	**20 38 36.5**	**-1.6**
	0.7nm,0.3s,baz=127,slow=6.5,SNR=6.1						

MEX 20 20:34:17.5±0.4,17.°22N×101.°23W,h9km±34km,MD3.6, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ZIIG	**Zihuatanejo**	**0.45**	**330**	*e*P	Pg	20 34 25.9	-0.3
ZIIG				*i* S	Sg	20 34 32.3	+0.1
CAIG	**El Cayaco**	**0.94**	**100**	*e*P	Pg	20 34 33.0	-2.6
CAIG				*e*S	Sg	20 34 44.7	-3.1
ARIG	**Puente Sto Nin**	**1.35**	**38**	*e*P	Pn	20 34 38.7	-3.9
ARIG				*e*S	Sb	20 34 55.3	-5.1
MEIG	**Mezcala**	**1.69**	**65**	*e*P	Pn	20 34 44.0	-3.2
MEIG				*i* S	Sn	20 35 04.6	-4.5
PLIG	**Platanillo**	**2.02**	**54**	*i* P	Pn	20 34 47.7	-4.1
PLIG				*i* S	Sn	20 35 13.2	-4.0
TLIG	**Tlapa**	**2.57**	**82**	*i* P	Pn	20 34 56.5	-2.9
TLIG				*i* S	Sn	20 35 26.4	-4.4
YAIG	**Yautepec**	**2.63**	**51**	*i* P	Pn	20 34 58.0	-2.2
YAIG				*i* S	Sn	20 35 28.2	-4.1

JMA 20 20:49:25.2±0.2,38.°83N×144.°46E,h29km,M3.5,Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MIYJ	**Miyakonagasawa**	**2.18**	**291**	P	Pn	20 50 00.8	+1.3
MIYJ				*e*S	Sn	20 50 26.8	+1.2
OFUJ	**Ofunato**	**2.19**	**277**	P	Pn	20 50 00.7	+1.1
OFUJ				*e*S	Sn	20 50 28.1	+2.3
JTH	**Tanohata**	**2.30**	**300**	P	Pn	20 50 02.3	+1.2
JTH				*e*S	Sn	20 50 29.9	+1.5
JMK	**Ichinoseki**	**2.53**	**274**	P	Pn	20 50 06.1	+1.8
JMK				S	Sn	20 50 36.1	+1.9
JOM	**Ohasama**	**2.54**	**286**	P	Pn	20 50 06.3	+1.8
JOM				S	Sn	20 50 36.4	+1.9
JANG	**Nango**	**2.75**	**305**	P	Pn	20 50 08.2	+0.9

SJA 20 20:49:30.1±0.9,28.°61S×67.°42W,h138km±5km,ML3.4, MW3.6,La Rioja Province

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AGUA	**GUANDACOL**	**1.28**	**227**	*e*P	Pn	20 49 57.5	+1.0
AVFE	**Valle Fertil**	**2.04**	**181**	*e*P	Pn	20 50 06.4	+1.3
AVFE				IAML		20 50 37.5	
	comp=Z,215nm,0.4s						
ACDV	**Cuesta del Vie**	**2.15**	**223**	*e*P	Pn	20 50 07.9	+1.4
AROD	**Rodeo**	**2.37**	**229**	*e*P	Pn	20 50 10.9	+1.6
ACCO	**Cerro Coronel**	**2.44**	**216**	*e*P	Pn	20 50 11.3	+1.2
AMOG	**MOGNA**	**2.50**	**202**	*e*P	Pn	20 50 11.7	+1.0
ACHE	**Chepes**	**2.62**	**166**	*e*P	Pn	20 50 14.0	+1.7
FSA	**Cafayete**	**2.80**	**28**	*e*P	Pn	20 50 15.8	+1.1
FSA				IAML		20 50 51.5	
	comp=Z,19nm,0.5s						
RTLL	**Cerro Villicun**	**2.86**	**198**	*e*P	Pn	20 50 16.3	+1.1
RTCV	**Cerro Valdivia**	**3.38**	**196**	*e*P	Pn	20 50 23.1	+1.1
RTLS	**Leoncito**	**3.57**	**207**	*e*P	Pn	20 50 25.6	+1.0
RTLS				IAML		20 51 13.1	
	comp=Z,49nm,0.5s						
ACAN	**Cantantal**	**3.66**	**177**	*e*P	Pn	20 50 27.1	+1.5
TCA	**Tanti**	**3.66**	**139**	*e*P	Pn	20 50 26.4	+0.8
AUSP	**Uspallata**	**3.98**	**205**	*e*P	Pn	20 50 31.0	+0.9
MRA	**San Martin**	**4.07**	**159**	*e*P	Pn	20 50 32.0	+1.0
MRA				IAML		20 51 19.1	
	comp=Z,99nm,0.6s						
ASAL	**Salagasta**	**4.15**	**197**	*e*P	Pn	20 50 33.1	+1.0
ARCO	**CERRO ARCO**	**4.41**	**197**	*e*P	Pn	20 50 36.3	+0.6
ARCO				IAML		20 51 29.2	
	comp=Z,99nm,0.3s						

*IDC **20** 20:49:57.8±1.0,37.°42N×143.°65E,h0km,mb3.8/9, mb1 4.0/11,mb1mx3.8/34,mbtmp3.8/11,ML4.0/1,MS2.6/1, Ms1 2.6/1,ms1mx2.3/39,Error ellipse: s-maj=24.3km s-min=18.6km az=104.0*

*NEIC **20** 20:49:59.4±0.7,37.°43N×143.°68E,h10km,mb4.6/1,Error ellipse: s-maj=14.4km s-min=10.8km az=137.0*

*NIED **20** 20:50:00,37.°50N×143.°40E,h11km,Mw3.7 Best double couple: M0 3.99000×10^14 NP1:φs=31.00000°,δ42.00000°, λ-58.00000°. NP2:φs=171.00000°,δ55.00000°, λ-116.00000°.*

*ISCJB **20** 20:50:01.4±0.7,37.°49N±0.°06×143.°47E±0.°06,h33km, mb3.8/10,Error ellipse: s-maj=8.8km s-min=6.4km az=173.4*

*JMA **20** 20:50:02.0±0.3,37.°52N×143.°38E,h51km,M3.9*

ISC 20 20:50:02.7±0.9,37.°41N±0.°06×143.°53E±0.°08,h35km,n26, σ1s99/27,mb3.8/10,Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JIO	**Ouri**	**2.01**	**302**	P	**Pn**	**20 50 32.4**	**-1.7**
JIO				S	**Sn**	**20 50 55.0**	**-3.0**
JFK	**Kawauchi**	**2.11**	**270**	P	**Pn**	**20 50 34.4**	**-1.1**
JFK				S	**Sn**	**20 50 58.0**	**-2.6**
JMM	**Marumori**	**2.22**	**283**	P	**Pn**	**20 50 35.6**	**-1.3**
JMM				*e*S	**Sn**	**20 51 00.6**	**-2.5**
JFT	**Otama**	**2.54**	**273**	P	**Pn**	**20 50 40.9**	**-0.5**
JFT				*e*S	**Sn**	**20 51 09.8**	**-1.3**
JOM	**Ohasama**	**2.70**	**320**	S	**Sn**	**20 51 12.0**	**-3.1**
JAG	**Ashikaga**	**3.41**	**254**	P	**Pn**	**20 50 53.4**	**+0.1**
MJAR	**Matsushiro Arr**	**4.34**	**260**	Pn	**Pn**	**20 51 07.4**	**+1.2**
	7.5nm,0.3s,baz=89,slow=15,SNR=37						
MJAR				Sn	**Sn**	**20 51 58.8**	**+3.2**
	1.5nm,0.3s,baz=107,slow=20,SNR=5.6						
MJAR				LR	LR	20 52 35.2	
	comp=Z,73nm,18.7s,baz=170,slow=36						
MAJO	**Matsushiro**	**4.35**	**260**	*e*Pn	**Pn**	**20 51 07.3**	**+1.1**
MAT	**Matsushiro**	**4.35**	**260**	P	**Pn**	**20 51 07.2**	**+1.0**
MAT				*e*S	**Sn**	**20 51 56.3**	**+0.6**
JHJ	**Hachijo jima 2**	**5.26**	**217**	Pn	**Pn**	**20 51 17.2**	**-1.6**
	baz=246,slow=20,SNR=3.5						
JHJ				Sn	**Sn**	**20 52 12.6**	**-5.6**
	25nm,0.3s,baz=73,slow=19,SNR=3.7						
SEY	**Seymchan**	**26.12**	**9**	P	**P**	**20 55 33.4**	**+0.4**
	1.5nm,0.6s,baz=187,slow=9.5,SNR=3.6						
H11N2	**WAKE ISLAND Hy**	**26.93**	**124**	T	T	21 23 59.4	
	baz=317,slow=74						
H11N1	**WAKE ISLAND Hy**	**26.94**	**124**	T	T	21 24 01.3	
	baz=317						
H11N3	**WAKE ISLAND Hy**	**26.95**	**124**	T	T	21 23 58.7	
	baz=317,slow=74						
H11S1	**WAKE ISLAND Hy**	**27.69**	**127**	T	T	21 24 55.6	
	baz=319						
H11S3	**WAKE ISLAND Hy**	**27.69**	**127**	T	T	21 24 54.1	
	baz=319						
H11S2	**WAKE ISLAND Hy**	**27.70**	**127**	T	T	21 24 55.2	
	baz=319						
SONM	**Songino Array**	**28.98**	**303**	P	**P**	**20 56 00.5**	**+1.5**
	0.5nm,0.9s,baz=109,slow=7.6,SNR=3.5						
ZALV	**Zalesovo Beam**	**42.91**	**312**	P	**P**	**20 57 58.7**	**+1.1**
	0.4nm,0.4s,baz=81,slow=8.9,SNR=2.7						
MKAR	**Makanchi Array**	**45.35**	**302**	P	**P**	**20 58 18.4**	**+1.1**
	0.6nm,0.9s,baz=90,slow=9.9,SNR=2.5						
KURK	**Kurchatov**	**47.03**	**308**	*e*P	**P**	**20 58 31.2**	**+0.8**
	3.3nm,0.6s						
KURBB	**Kurchatov Arra**	**47.10**	**308**	P	**P**	**20 58 31.6**	**+0.6**
	1.6nm,0.7s,baz=82,slow=7.9,SNR=12						
ILAR	**Eielson Array**	**48.27**	**33**	P	**P**	**20 58 40.2**	**+0.3**
	1.2nm,0.7s,baz=263,slow=6.8,SNR=12						
WRA	**Warramunga Arr**	**57.70**	**190**	P	**P**	**20 59 50.3**	**+0.5**
	0.9nm,0.6s,baz=8.1,slow=7.2,SNR=7.5						
ASAR	**Alice Springs**	**61.42**	**190**	P	**P**	**21 00 16.3**	**+0.9**
	0.3nm,0.8s,baz=10.0,slow=7.8,SNR=4.5						
NOA	**NORSAR Array B**	**74.48**	**338**	P	**P**	**21 01 36.3**	**-0.8**
	1.0nm,0.8s,baz=37,slow=6.1,SNR=2.8						

*NIED **20** 20:59:00,38.°50N×141.°80E,h50km,Mw4.8 Best double couple: M0 1.83000×10^16 NP1:φs=208.00000°,δ20.00000°, λ92.00000°. NP2:φs=26.00000°,δ70.00000°,λ89.00000°.*

*BJI **20** 20:59:01.5,38.°49N×141.°98E,h63km,mb5.0/74,mB5.0/51, Ms4.4/54,Ms7 4.1/51*

*ISCJB **20** 20:59:03.8±0.3,38.°56N±0.°02×141.°72E±0.°02,h59km±2km, mb5.0/226,MS4.1/29,Error ellipse: s-maj=3.6km s-min=2.6km az=139.9*

*MOS **20** 20:59:03.8±0.9,38.°63N×141.°68E,h58km,mb5.2/90,Error ellipse: s-maj=6.4km s-min=4.0km az=106.5*

*IDC **20** 20:59:04.5±1.6,38.°54N×141.°76E,h56km±14km,mb4.6/25, mb1 4.7/32,mb1mx4.6/45,mbtmp4.8/32,MS4.0/20, Ms1 4.0/20,ms1mx3.8/40,Error ellipse: s-maj=14.2km s-min=10.3km az=104.0*

*JMA **20** 20:59:04.1±0.1,38.°53N×141.°82E,h51km±1km,M4.8*

JMA Felt III J1.

*GCMT **20** 20:59:05.8±0.4,38.°60N×141.°97E,h55km±1km,MW4.9/72, Moment Tensor Solution. s35,c40; s72,c100; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr2.14±.14; Mθθ-0.38±.10; Mφφ-1.75±.09; Mrθ0.71±.07; Mφθ-0.80±.08; Mφr1.15±.07; Best double couple: M0 2.52100×10^16 NP1:φs=28.00000°,δ61.00000°,λ94.00000°. NP2: φs=201.00000°,δ29.00000°,λ83.00000°. Principal axes: T 2.5380, Plg74.0000°, Azm307.0000°; N -0.0280, Plg3.0000°, Azm207.0000°; P -2.5040, Plg16.0000°, Azm116.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

*NEIC **20** 20:59:05.8±0.4,38.°55N×141.°68E,h66km±4km,mb5.0/126 Error ellipse: s-maj=3.8km s-min=2.5km az=135.0*

NEIC Recorded [3 JMA] in Iwate and Miyagi.

ISC 20 20:59:04.2±0.4,38.°56N±0.°03×141.°84E±0.°03,h52km±2km, h52km:pP-P,n670,σ1s22/746,mb5.1/243,MS4.1/31, 62C-16D,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JIO	**Ouri**	**0.40**	**255**	P	**Pn**	**20 59 14.0**	**-0.5**
JIO				*i* S	**Sn**	**20 59 20.6**	**-1.3**
OFUJ	**Ofunato**	**0.54**	**345**	P	**Pn**	**20 59 16.2**	**+0.1**
OFUJ				S	**Sn**	**20 59 24.5**	**-0.1**
JMK	**Ichinoseki**	**0.63**	**309**	P	**Pn**	**20 59 17.2**	**+0.1**
JMK				S	**Sn**	**20 59 26.4**	**0.0**
JOU	**Okura**	**0.95**	**259**	P	**Pn**	**20 59 20.8**	**-0.5**
JOU				S	**Sn**	**20 59 33.2**	**-0.7**
JOM	**Ohasama**	**1.01**	**335**	P	**Pn**	**20 59 22.5**	**+0.4**
JOM				S	**Sn**	**20 59 36.0**	**+0.7**
JMM	**Marumori**	**1.08**	**230**	P	**Pn**	**20 59 22.0**	**-1.0**
JMM				S	**Sn**	**20 59 35.4**	**-1.6**
JYK	**Kaneyama**	**1.22**	**288**	P	**Pn**	**20 59 24.9**	**0.0**
JYK				S	**Sn**	**20 59 40.0**	**-0.3**
JRG	**Rokugo**	**1.26**	**312**	P	**Pn**	**20 59 25.6**	**+0.1**
JFK	**Kawauchi**	**1.42**	**213**	P	**Pn**	**20 59 26.7**	**-0.9**
JFK				S	**Sn**	**20 59 43.3**	**-1.9**
JYS	**Shirataka**	**1.44**	**257**	P	**Pn**	**20 59 27.7**	**-0.2**
JYS				S	**Sn**	**20 59 45.5**	**-0.2**
JFT	**Otama**	**1.58**	**229**	P	**Pn**	**20 59 29.4**	**-0.5**
MJAR	**Matsushiro Arr**	**3.52**	**236**	P	**Pn**	**20 59 57.6**	**+1.1**
	28nm,0.3s,baz=36,slow=12,SNR=235						
MJAR				LR	LR	21 01 31.5	
	comp=Z,2μm,21.4s,baz=50,slow=43						
MAJO	**Matsushiro**	**3.52**	**236**	*d*iP	**Pn**	**20 59 57.8**	**+1.4**
MAJO	**Matsushiro**	**3.52**	**236**	*e*Pn	**Pn**	**20 59 57.5**	**+1.1**
MAT	**Matsushiro**	**3.52**	**236**	P	**Pn**	**20 59 57.3**	**+0.9**
MAT				*e*S	**Sn**	**21 00 43.3**	**+6.5**
MJB9	**Matsu-Tunnel**	**3.52**	**236**	*e*Pn	**Pn**	**20 59 57.6**	**+1.1**
ERM	**Erimo**	**3.59**	**16**	*c* iP	**Pn**	**20 59 57.3**	**-0.1**
ERM				pmax	pmax		
	comp=Z,67nm,1.0s						
ERM	**Erimo**	**3.59**	**16**	*e*Pn	**Pn**	**20 59 56.8**	**-0.5**
INU	**Inuyama**	**5.02**	**232**	*e*Pn	**Pn**	**21 00 18.9**	**+1.9**
ASAJ	**Asahikawa**	**5.58**	**6**	P	**Pn**	**21 00 25.2**	**+0.6**
	baz=270,slow=20						
ASAJ				S	**Sn**	**21 01 29.1**	**+1.7**
	comp=Z,14nm,0.3s,baz=90,slow=20,SNR=7.0						
JHJ	**Hachijo jima 2**	**5.68**	**198**	P	**Pn**	**21 00 24.9**	**-1.1**
	comp=Z,38nm,0.3s,baz=163,slow=24,SNR=7.3						
JHJ				S	**Sn**	**21 01 26.8**	**-3.1**
	comp=Z,75nm,0.3s,baz=232,slow=19,SNR=3.9						
JHJ2	**Mitsune**	**5.68**	**197**	*e*Pn	**Pn**	**21 00 24.9**	**-1.1**
YUK	**Yuzh-Kuril'sk**	**6.25**	**28**	*e*P	**Pn**	**21 00 32.7**	**-1.1**
YUK				*e*S	**Sn**	**21 01 40.2**	**-3.6**
YUK				pmax	pmax		
	comp=Z,457nm,0.3s						
YUK				pmax	pmax		
	comp=N,303nm,0.5s						
YUK				MLR	MLR		
	comp=Z,681nm,15.0s						
SHO	**Shikotan**	**6.50**	**34**	*e*P	**Pn**	**21 00 35.9**	**-1.3**
SHO				pmax	pmax		
	comp=N,81nm,0.5s						
SHO				pmax	pmax		
	comp=Z,115nm,0.5s						
SHO				pmax	pmax		
	comp=E,163nm,0.4s						
KUR	**Kuril'sk**	**8.04**	**32**	*e*P	**Pn**	**21 00 57.4**	**-0.8**
KUR				*e*S	**Sn**	**21 02 22.9**	**-4.8**
KUR				pmax	pmax		
	comp=E,59nm,0.5s						
KUR				pmax	pmax		
	comp=Z,133nm,0.5s						
KUR				pmax	pmax		
	comp=N,46nm,0.3s						
KUR				smax	smax		
	comp=E,951nm,1.3s						
KUR				smax	smax		
	comp=N,333nm,0.6s						
KUR				smax	smax		
	comp=N,84nm,0.3s						
KUR				smax	smax		
	comp=E,472nm,0.3s						
KUR				MLR	MLR		
	comp=Z,450nm,17.0s						
YSS	**Yuzh-Sakhalins**	**8.42**	**4**⇑	*i*P	**Pn**	**21 01 03.5**	**+0.1**
YSS				*e*S	**Sn**	**21 02 36.0**	**-0.9**
YSS				pmax	pmax		
	comp=Z,40nm,1.2s						
YSS				MLR	MLR		
	comp=Z,300nm,14.0s						
YSS	**Yuzh-Sakhalins**	**8.42**	**4**	*e*Pn	**Pn**	**21 01 01.4**	**-2.0**
VLA	**Vladivostok**	**8.81**	**304**⇓	*i*P	**

DL2 Dalian 15.78 278 P **Pn** **21 02 43.6 +0.7**
DL2 sP **pP** **21 02 59.4 +1.8**
DL2 S **Sn** **21 05 39.6 +2.8**
DL2 pmax pmax
comp=Z,160nm,1.0s
DL2 pmax pmax
comp=Z,470nm,4.3s
DL2 LR LR
comp=Z,490nm,14.2s
DL2 LR LR
comp=Z,560nm,18.2s
DL2 LR LR
comp=Z,810nm,21.8s
PEA0 Petropavlovsk- 18.21 32 *e*P **Pn** **21 03 13.0 +0.1**
PEA0B Petropavlovsk- 18.21 32 *e*P **Pn** **21 03 13.3 +0.3**
comp=Z,66nm,1.4s
PETK Petropavlovsk- 18.21 32 P **P** **21 03 11.8 -0.9**
comp=Z,1.0nm,0.3s,baz=214,slow=10,SNR=4.1
PETK LR LR 21 11 12.4
comp=Z,169nm,18.8s,baz=218,slow=40
SSE Sheshan 18.50 253 P **Pn** **21 03 16.6 0.0**
SSE pmax pmax
comp=Z,55nm,0.8s
SSE pmax pmax
comp=Z,230nm,3.5s
SSE LR LR
comp=Z,38nm,17.1s
SSE LR LR
comp=Z,110nm,17.2s
PET Petropavlovsk 18.55 33 *i*P **Pn** **21 03 19.1 +2.0**
PET pmax pmax
comp=Z,18nm,1.0s
PET Petropavlovsk 18.55 33 *e*P **Pn** **21 03 17.6 +0.5**
comp=Z,20nm,0.6s
HIA Hailar 19.11 311 *e*P **P** **21 03 21.5 -1.2**
HIA pmax pmax
comp=Z,17nm,0.8s
HIA Hailar 19.11 311 *e*P **P** **21 03 21.5 -1.2**
comp=Z,16nm,0.8s
TIA Tai'an 19.77 271 ⇓P **P** **21 03 28.3 -1.6**
TIA pmax pmax
comp=Z,40nm,1.0s
NJ2 Nanjing 19.83 258 *e*P **P** **21 03 31.5 +0.9**
NJ2 pmax pmax
comp=Z,18nm,0.6s
BJI Beijing 19.90 282 P **P** **21 03 29.8 -1.5**
BJI S **S** **21 07 11.1 -1.3**
BJI pmax pmax
comp=Z,30nm,1.3s
BJI pmax pmax
comp=Z,110nm,3.7s
BJI LR LR
comp=Z,350nm,13.7s
BJI LR LR
comp=Z,400nm,14.9s
BJI LR LR
comp=Z,440nm,20.2s
BJT Baijiatuau 19.91 282 *e*P **P** **21 03 28.8 -2.6**
BJT pmax pmax
comp=Z,35nm,0.8s
BJT Baijiatuau 19.91 282 *e*P **P** **21 03 28.8 -2.6**
comp=Z,35nm,0.8s
CLNS Chul'man 21.45 334 *e*P **P** **21 03 46.9 -0.9**
CLNS *e* 21 04 08.9
CLNS *e*S **S** **21 07 43.4 +0.6**
CLNS *e* 21 07 49.9
CLNS *e*SS **SnSn** **21 08 11.5 +2.7**
CLNS pmax pmax
comp=Z,27nm,0.8s
CLNS pmax pmax
comp=N,14nm,0.9s
CLNS pmax pmax
comp=E,7.0nm,1.1s
CLNS pmax pmax
comp=N,25nm,1.0s
CLNS pmax pmax
comp=Z,19nm,0.8s
CLNS pmax pmax
comp=E,10.0nm,0.9s
CLNS smax smax
comp=E,115nm,11.1s
CLNS smax smax
comp=N,115nm,10.2s
CLNS MLR MLR
comp=Z,387nm,16.0s
CLNS MLR MLR
comp=N,247nm,16.0s
CLNS MLR MLR
comp=E,139nm,12.0s
MA2 Magadan 21.79 12 P **P** **21 03 51.7 +0.3**
comp=E,41nm,0.6s,baz=200,slow=8.6,SNR=16
MA2 LR LR 21 11 59.3
comp=E,138nm,21.1s,baz=200,slow=36
MA2 Magadan 21.79 12 ⇓*i*P **P** **21 03 52.5 +1.0**
TATO Taipei 21.91 238 *e*P **P** **21 03 52.8 -0.2**
comp=E,255nm,1.4s
YHNB Yeheng 22.20 237 *e*P **P** **21 03 54.0 -2.2**
comp=E,58nm,0.9s
NACB Ninganchiao 22.39 236 *e*P **P** **21 03 55.1 -3.1**
comp=E,31nm,0.9s
SSLB Suanglung 23.08 236 *e*P **P** **21 04 02.4 -3.1**
comp=E,37nm,0.9s
YULB Yu-li 23.14 235 *e*P **P** **21 04 04.5 -1.5**
comp=E,22nm,0.9s
HHC Hu-ho-hao-te 23.36 285 *e*P **P** **21 04 06.3 -1.8**
HHC pP pP 21 04 21.0 +0.5
HHC PP **PnPn** **21 04 40.1 +4.1**
HHC S **S** **21 08 10.9 -6.1**
HHC sS Sn 21 08 33.3 -5.8
HHC pmax pmax
comp=E,30nm,1.4s
HHC pmax pmax
comp=E,55nm,4.6s
HHC LR LR
comp=E,270nm,13.7s
HHC LR LR
comp=E,510nm,14.9s
HHC LR LR
comp=E,480nm,17.4s
TPUB Ta-pu 23.63 236 *e*P **P** **21 04 07.8 -2.9**
comp=E,50nm,0.7s
TWG Pinlang 23.69 235 *e*P **P** **21 04 09.1 -2.1**
comp=E,613nm,1.5s
WHN Wuhan 23.95 259 ⇓*i*P **P** **21 04 12.9 -0.6**
WHN pP **pP** **21 04 25.4 -1.3**
WHN sP **sP** **21 04 30.1 -2.8**
WHN pmax pmax
comp=E,92nm,0.7s
YAK Yakutsk 24.66 346 P **P** **21 04 18.7 -1.0**
comp=E,35nm,0.4s,baz=198,slow=1.6,SNR=21
YAK Yakutsk 24.66 346 ⇓*i*P **P** **21 04 19.2 -0.5**
YAK pmax pmax
comp=Z,107nm,0.9s
YAK Yakutsk 24.66 346 *e*P **P** **21 04 18.4 -1.3**
comp=Z,143nm,1.0s
SEY Seymchan 25.23 11 P **P** **21 04 25.9 +1.1**
comp=Z,61nm,1.0s,baz=201,slow=6.7,SNR=85
SEY Seymchan 25.23 11*c i*P **P** **21 04 26.6 +1.7**
BOD Bodaibo 26.44 326 ⇑*i*P **P** **21 04 35.6 -0.3**
BOD pmax pmax
comp=Z,50nm,0.9s
ULN Ulaanbaatar 26.81 302*d i*P **P** **21 04 39.9 +0.3**
ULN pmax pmax
comp=Z,22nm,1.2s
ULN Ulaanbaatar 26.81 302 *e*P **P** **21 04 39.6 +0.1**
comp=Z,12nm,0.8s
ULN Ulaanbaatar 26.81 302 P **P** **21 04 40.1 +0.6**
SNR=8.7
ULN Ulaanbaatar 26.81 302 P **P** **21 04 40.1 +0.6**
SNR=8.7
XAN Xi'an 26.83 271 P **P** **21 04 38.1 -1.6**
XAN pmax pmax
comp=Z,29nm,0.6s
SONA1 Songino Array 27.25 301 *e*P **P** **21 04 41.4 -2.0**
SONM Songino Array 27.25 301 P **P** **21 04 42.2 -1.2**
comp=Z,6.1nm,0.7s,baz=102,slow=8.3,SNR=23
SONM PcP **PcP** **21 08 02.3 +0.2**
comp=Z,2.4nm,0.6s,baz=110,slow=2.0,SNR=6.1
SONM ScP **ScP** **21 11 38.3 +0.3**
comp=Z,0.9nm,0.9s,baz=126,slow=2.0,SNR=4.1
SONM LR LR 21 16 00.0
comp=Z,227nm,19.3s,baz=115,slow=37
ENH Enshi 27.83 263 *e*P **P** **21 04 47.3 -1.4**
comp=Z,141nm,0.8s
SZP Santa 28.05 228 P **P** **21 04 51.5 +0.8**
H11N2 WAKE ISLAND Hy 28.67 124 T T 21 35 21.7
baz=317,slow=75,SNR=2079
H11N1 WAKE ISLAND Hy 28.68 124 T T 21 35 26.5
baz=317,slow=75,SNR=1809
H11N3 WAKE ISLAND Hy 28.69 124 T T 21 35 27.2
baz=317,slow=75,SNR=1581
H11S1 WAKE ISLAND Hy 29.44 126 T T 21 36 14.3
baz=318,slow=76,SNR=1200
H11S3 WAKE ISLAND Hy 29.44 126 T T 21 36 10.2
baz=318,slow=76,SNR=1334
H11S2 WAKE ISLAND Hy 29.45 126 T T 21 36 11.4
baz=318,slow=76,SNR=1107
TLY Talaya 29.61 309 *e*P **P** **21 05 03.2 -1.1**
TLY *e*S **S** **21 09 55.5 -0.3**
TLY pmax pmax
comp=Z,25nm,1.4s
TLY MLR MLR
comp=Z,272nm,16.0s
TLY Talaya 29.61 309 *e*P **P** **21 05 02.4 -1.9**
comp=Z,13nm,0.8s
TLY Talaya 29.61 309 P **P** **21 05 03.7 -0.6**
SNR=7.0
ZAK Zakamensk 29.62 306 *e*P **P** **21 05 03.7 -0.8**
ZAK pmax pmax
comp=Z,14nm,1.2s
LZH Lanzhou 30.18 277 ⇑P **P** **21 05 09.5 -0.1**
LZH pP pP 21 05 23.8 +0.8
LZH sP sP 21 05 31.3 +2.1
LZH PP **PnPn** **21 06 11.0 +2.3**
LZH PcP **PcP** **21 08 10.8 +1.1**
LZH *e*S **S** **21 10 01.3 -4.0**
LZH sS sS 21 10 26.3 -1.5
LZH SS **SnSn** **21 11 43.4 +0.9**
LZH pmax pmax
comp=Z,41nm,1.0s
LZH pmax pmax
comp=Z,170nm,4.2s
LZH LR LR
comp=Z,400nm,10.0s
LZH LR LR
comp=Z,460nm,12.6s
LZH LR LR
comp=Z,680nm,16.2s
MOY Mondy 31.24 308 *e*P **P** **21 05 18.9 +0.1**
MOY pmax pmax
comp=Z,20nm,1.7s
GYA Guiyang 31.84 258 ⇑*i*P **P** **21 05 22.9 -1.4**
GYA pP pP 21 05 40.4 +2.7
GYA PP **PnPn** **21 06 31.3 +1.0**
GYA PcP **PcP** **21 08 15.8 +1.6**
GYA S **S** **21 10 30.0 -1.3**
GYA ScP **ScP** **21 11 52.3 -0.8**
GYA SS **SnSn** **21 12 23.6 +0.7**
GYA pmax pmax
comp=Z,60nm,0.8s
GYA pmax pmax
comp=Z,140nm,5.2s
GYA LR LR
comp=Z,640nm,17.2s
GYA LR LR
comp=Z,510nm,17.8s
GYA LR LR
comp=Z,550nm,17.6s
CD2 Chengdu 32.04 268 ⇓*i*P **P** **21 05 25.0 -0.9**
CD2 pP pP 21 05 38.9 -0.4
CD2 sP sP 21 05 44.4 -1.1
CD2 PP **PnPn** **21 06 33.8 +1.1**
CD2 S **S** **21 10 28.1 -6.1**
CD2 pmax pmax
comp=Z,60nm,0.9s
CD2 pmax pmax
comp=Z,290nm,6.0s
CD2 LR LR
comp=Z,500nm,13.3s
CD2 LR LR
comp=Z,360nm,14.2s
GTA Gaotai 32.47 285 *e*P **P** **21 05 29.3 -0.4**
GTA pP pP 21 05 40.1 -3.0
GTA PcP **PcP** **21 08 16.0 +0.3**
GTA S **S** **21 10 39.4 -1.5**
GTA PcS **PcS** **21 12 01.0 +0.1**
GTA SS **SnSn** **21 12 34.1 -3.8**
GTA pmax pmax
comp=Z,8.0nm,1.4s
GTA pmax pmax
comp=Z,100nm,5.9s
GTA LR LR
comp=Z,210nm,19.8s
GTA LR LR
comp=Z,420nm,19.1s
GTA LR LR
comp=Z,480nm,20.9s
BILL Bilibino 32.47 17 ⇓*e*P **P** **21 05 29.5 +0.3**
BILL *i* 21 05 48.1
BILL *i* 21 06 39.9
BILL pmax pmax
comp=Z,12nm,0.8s
BILL MLR MLR
comp=Z,100nm,19.0s
TIXI Tiksi 33.82 353*d i*P **P** **21 05 40.8 -0.1**
TIXI pmax pmax
comp=Z,4.0nm,0.6s
TIXI Tiksi 33.82 353 *e*P **P** **21 05 40.0 -0.9**
comp=Z,12nm,0.8s
QIZ Qiongzhong 33.88 244 P **P** **21 05 42.8 +0.7**
QIZ S **S** **21 11 03.0 +0.1**
QIZ LR LR
comp=Z,250nm,18.3s
KMI Kunming 35.55 260 P **P** **21 05 55.8 -0.9**
KMI pP pP 21 06 09.3 -0.9
KMI sP sP 21 06 16.0 -0.3
KMI PP **PnPn** **21 07 15.3 -1.7**
KMI S **S** **21 11 27.4 -1.5**
KMI ScS **ScS** **21 16 10.4 -1.0**
KMI pmax pmax
comp=Z,18nm,1.3s
KMI LR LR
comp=Z,230nm,6.6s
KMI LR LR
comp=Z,210nm,6.1s
KMI LR LR
comp=Z,270nm,24.3s
SLVN Son La 36.78 253 *e*P **P** **21 06 07.3 +0.3**
comp=Z,12nm,1.0s
MYLDM Lahad Datu 39.41 218 *e*P **P** **21 06 29.0 -0.1**
comp=Z,26nm,0.9s
DLV T Lat 39.78 237 *e*P **P** **21 06 32.8 +0.4**
comp=Z,43nm,1.2s
DGZ Jazzator, Alta 39.79 304 *i*P **P** **21 06 33.1 +0.9**
DGZ pmax pmax
comp=Z,10.0nm,0.9s
SMPI Sarmi 40.45 185 P **P** **21 06 41.1 +3.4**
comp=Z,11nm,1.1s
WMQ Urumqi 40.48 295 P **P** **21 06 38.3 +0.5**
WMQ pP pP 21 06 53.8 +2.3
WMQ sP sP 21 07 03.0 +5.4
WMQ PcP **PcP** **21 08 41.8 +2.2**
WMQ sS sS 21 13 08.1 +2.3
WMQ pmax pmax
comp=Z,120nm,0.9s
WMQ pmax pmax
comp=Z,200nm,3.8s
WMQ LR LR
comp=Z,80nm,17.1s
WMQ LR LR
comp=Z,190nm,29.9s
WMQ LR LR
comp=Z,230nm,26.7s
ZAA0 Zalesovo Array 41.16 311 *e*P **P** **21 06 42.2 -0.9**
ZALV Zalesovo Beam 41.16 311 P **P** **21 06 42.6 -0.5**
comp=Z,18nm,0.5s,baz=90,slow=6.9,SNR=107
ZALV PcP **PcP** **21 08 41.5 0.0**
comp=Z,7.8nm,0.5s,baz=95,slow=3.3,SNR=8.4
ZALV LR LR 21 24 33.0
comp=Z,282nm,18.5s,baz=70,slow=37
LBMI Labuha 41.18 202 P **P** **21 06 45.7 +2.0**
comp=Z,33nm,0.9s
UTTA Uttaradit 41.46 252 P **P** **21 06 46.8 +0.8**
comp=Z,5.4nm,0.8s
SDPT Sand Point 41.50 47 *e*P **P** **21 06 46.8 +0.9**
comp=Z,92nm,1.0s
CHAI Chaiyaphum 41.57 248 P **P** **21 06 46.7 -0.3**
comp=Z,8.0nm,0.8s
LAMP Lampang 41.67 254 P P 21 06 56.8 +9.0
PBKT Sadao Pong 41.89 250 P **P** **21 06 50.0 +0.5**
comp=Z,15nm,1.0s
CMMT Chiang Mai 42.01 254 P **P** **21 06 53.7 +3.1**
comp=Z,23nm,0.7s
CHTO Chiang Mai 42.01 254 P **P** **21 06 53.8 +3.2**
comp=Z,100nm,0.7s
CHTO Chiang Mai 42.01 254 *e*P **P** **21 06 50.0 -0.5**
CHTO pmax pmax
comp=Z,17nm,0.6s
CHTO Chiang Mai 42.01 254 *e*P **P** **21 06 50.0 -0.5**
comp=Z,16nm,0.6s
NRIK Noril'sk 42.03 335 P **P** **21 06 49.7 -0.4**
comp=Z,12nm,0.7s,baz=103,slow=9.8,SNR=12
NRIK LR LR 21 25 24.7
comp=Z,396nm,19.1s,baz=90,slow=38
NVS Novosibirsk 42.05 313 *e*P **P** **21 06 50.5 +0.1**
NVS *e* 21 08 43.7
NVS pmax pmax
comp=N,11nm,1.4s
NVS pmax pmax
comp=E,46nm,1.4s
NVS pmax pmax
comp=Z,54nm,1.4s
MRSI Marisa 42.07 211 P **P** **21 06 52.2 +1.2**
FAKI Fak Fak 42.21 194 *e*P **P** **21 06 51.5 -0.6**
comp=Z,20nm,0.7s
CM31 Chiang Mai Arr 42.23 254 *e*P **P** **21 06 51.1 -1.2**
CMAR Chiang Mai Arr 42.23 254 P **P** **21 06 51.6 -0.7**
comp=Z,2.1nm,0.7s,baz=44,slow=7.0,SNR=16
CMAR PcP **PcP** **21 08 46.0 +0.4**
comp=Z,3.8nm,0.9s,baz=29,slow=1.9,SNR=7.7
CMAR LR LR 21 25 09.9
comp=Z,75nm,18.4s,baz=70,slow=37
CMAR Chiang Mai Arr 42.23 254*ce*P **P** **21 06 52.0 -0.3**
CMAR pmax pmax
comp=Z,2.0nm,0.7s
CM01 Chiang Mai Arr 42.24 254 *e*P **P** **21 06 50.8 -1.6**
SUKH Sukhothai 42.31 252 P **P** **21 06 53.5 +0.6**
comp=Z,6.2nm,0.9s
LSA Lhasa 42.43 274 P **P** **21 06 55.1 +0.7**
LSA pmax pmax
comp=Z,23nm,1.3s
LSA Lhasa 42.43 274 *e*P **P** **21 06 54.8 +0.4**
LSA pmax pmax
comp=Z,25nm,0.9s
LSA Lhasa 42.43 274 *e*P **P** **21 06 54.8 +0.4**
comp=Z,25nm,0.9s
SRAK Srakaew 42.78 246 P **P** **21 06 54.7 -2.1**
comp=Z,40nm,0.8s
SANI Sanana 42.98 204 P **P** **21 06 58.1 -0.2**
RABL Rabaul 43.60 165 *e*P **P** **21 07 04.0 +0.6**
comp=Z,85nm,1.4s
MK01 Makanchi Array 43.61 301 *e*P **P** **21 07 02.8 -0.5**
MK31 Makanchi Array 43.61 301 *e*P **P** **21 07 02.9 -0.3**
MK31 Makanchi Array 43.61 301 *e*P **P** **21 07 02.9 -0.3**
MKAR Makanchi Array 43.61 301 P **P** **21 07 03.2 -0.1**
comp=Z,31nm,0.8s,baz=86,slow=9.2,SNR=136
MKAR LR LR 21 25 57.6
comp=Z,104nm,18.1s,baz=57,slow=37
MKAR Makanchi Array 43.61 301 P **P** **21 07 03.2 -0.1**
MKAR pmax pmax
comp=Z,32nm,0.9s
MKAR MLR MLR
comp=Z,104nm,18.1s
MKAR Makanchi Array 43.61 301 *e*P **P** **21 07 02.8 -0.5**
comp=Z,216nm,0.8s
UMPA Umpang Tak 43.68 252 P **P** **21 07 06.5 +2.4**
comp=Z,10nm,1.1s,comp=Z,212nm
SHL Shillong 43.78 268 ⇑*i*P **P** **21 07 05.5 +0.5**
MAKZ Makanchi 43.82 301 *i* P **P** **21 07 04.0 -0.9**
MAKZ pmax pmax
comp=Z,43nm,1.1s
MAKZ Makanchi 43.82 301 *e*P **P** **21 07 04.6 -0.3**
comp=Z,36nm,0.9s
TT01 Tatalina 43.98 36 *e*P **P** **21 07 07.5 +1.6**
SVW2 Sparrevohn 44.11 38 *e*P **P** **21 07 09.0 +2.0**
comp=Z,85nm,1.9s
PCI Palu 44.19 213 P **P** **21 07 08.7 +0.6**
comp=Z,45nm,1.2s
SBUM Sibu 44.99 224 *e*P **P** **21 07 13.9 -0.5**
comp=Z,9.9nm,1.0s
PHET Kaeng Krachan 45.25 247 P **P** **21 07 17.2 +0.6**
comp=Z,16nm,0.8s,comp=Z,183nm
KURK Kurchatov 45.27 307*ce*P **P** **21 07 16.0 -0.3**
KURK pmax pmax
comp=Z,683nm,1.2s
KURK Kurchatov 45.27 307 P **P** **21 07 16.1 -0.3**
SNR=42
KURK Kurchatov 45.27 307 P **P** **21 07 16.1 -0.3**
SNR=42
OHAK Old Harbor 45.41 44 *e*P **P** **21 07 17.8 +0.4**
comp=Z,186nm,1.9s
OHAK *e*PcP **PcP** **21 08 56.6 +0.8**
PPLA Purkeypile 45.73 36 *e*P **P** **21 07 21.9 +1.9**
comp=Z,29nm,1.3s
KDAK Kodiak Island 45.74 43 *e*P **P** **21 07 20.3 +0.3**
KDAK pmax pmax
comp=Z,226nm,1.9s
KDAK Kodiak Island 45.74 43 *e*P **P** **21 07 20.3 +0.3**
comp=Z,226nm,1.9s
CAST Castle Rocks 45.78 35 *e*P **P** **21 07 21.6 +1.3**
comp=Z,43nm,1.9s
TAPN Taplejung 46.19 273 *e*P **P** **21 07 24.5 +0.2**
KTH Kantishna Hill 46.30 35 *e*P **P** **21 07 23.9 -0.5**
comp=Z,44nm,1.3s
PDGK Podgornoye 46.38 297 *i* P **P** **21 07 23.3 -2.1**
PDGK pmax pmax
comp=Z,48nm,1.2s
SUA Susitna One 46.44 38 *e*P **P** **21 07 25.1 -0.5**
comp=Z,58nm,1.5s
MTKI Muara Teweh, K 46.48 219 P **P** **21 07 27.0 +0.8**
ODAN Odare 46.67 272 *e*P **P** **21 07 27.9 -0.1**
comp=Z,105nm,1.0s
KSM Kuching 46.85 226 *e*P **P** **21 07 29.0 -0.2**
comp=Z,11nm,0.8s
RC01 Rabbit Creek A 46.95 38 *e*P **P** **21 07 29.4 0.0**
comp=Z,34nm,1.2s
TOLK Toolik Lake Re 46.96 28 P **P** **21 07 31.1 +1.6**
baz=267
SPSI Sidrap Palu 46.99 211 P **P** **21 07 31.3 +1.1**
comp=Z,12nm,0.8s
MCK McKinley 47.18 35 *e*P **P** **21 07 32.0 +0.8**
MCK pmax pmax
comp=Z,22nm,1.1s
MCK McKinley 47.18 35 *e*P **P** **21 07 32.0 +0.8**
comp=Z,22nm,1.1s
JIRN Jiri 47.23 274 *e*P **P** **21 07 32.7 +0.1**
comp=Z,126nm,0.9s
RAMN Ramite 47.25 273 *e*P **P** **21 07 32.6 +0.1**
comp=Z,335nm,0.9s
GUN Gumba 47.36 274 *e*P **P** **21 07 33.6 +0.1**
comp=Z,156nm,0.8s
MDM Murphy Dome 47.45 33 *e*P **P** **21 07 33.7 +0.4**
comp=Z,69nm,1.8s
MDM *e*PcP **PcP** **21 09 04.9 +2.0**
WRH Wood River Hil 47.52 34 *e*P **P** **21 07 34.8 +1.0**
WRH *e*PcP **PcP** **21 09 03.5 +0.4**
SML Sawmill 47.57 37 *e*P **P** **21 07 35.5 +1.2**
SML pmax pmax
comp=Z,45nm,1.3s
SML Sawmill 47.57 37 *e*P **P** **21 07 35.5 +1.2**
comp=Z,45nm,1.3s
COLA College 47.61 33 ⇑*e*P **P** **21 07 36.2 +1.7**
COLA pmax pmax
comp=Z,4.0nm,0.9s
CCB Clear Creek Bu 47.64 33 *e*P **P** **21 07 35.7 +1.0**
comp=Z,23nm,1.5s
CCB *e*PcP **PcP** **21 09 03.3 -0.2**
KKN Kakani 47.88 275 *e*P **P** **21 07 37.4 0.0**
comp=Z,158nm,0.8s
PKI Pulchoki 47.89 274 *e*P **P** **21 07 37.2 -0.4**
comp=Z,58nm,0.8s
PKIN Phulchoki 47.89 274 *e*P **P** **21 07 37.1 -0.4**
comp=Z,42nm,0.8s
DHY Denali Highway 47.92 35 *e*P **P** **21 07 36.8 -0.3**
DHY *e*PcP **PcP** **21 09 06.9 +2.2**
IL1 Eielson Array 48.03 33 *e*P **P** **21 07 38.7 +0.9**
IL1 *e*PcP **PcP** **21 09 03.7 -1.2**
ILAR Eielson Array 48.03 33 P **P** **21 07 38.4 +0.6**
comp=Z,5.2nm,0.7s,baz=269,slow=6.5,SNR=49
ILB Eielson Array 48.03 33 *e*P **P** **21 07 39.0 +1.2**
ILB *e*PcP **PcP** **21 09 03.9 -1.1**
SCM Sheep Creek Mo 48.04 37 *e*P **P** **21 07 38.9 +0.9**
SCM pmax pmax
comp=Z,187nm,2.0s
SCM Sheep Creek Mo 48.04 37 *e*P **P** **21 07 38.9 +0.9**
comp=Z,187nm,2.0s
DMN Daman 48.11 275 *e*P **P** **21 07 39.1 -0.1**
GKN Gorkha 48.29 275 *e*P **P** **21 07 40.3 -0.1**
comp=Z,179nm,1.0s

KLU **Klutina** 48.74 37 *e*P P 21 07 43.6 +0.2
comp=Z,46nm,1.5s
KRAB **Krabi** 48.78 243 P P 21 07 44.5 +0.4
comp=Z,102nm,0.7s,comp=Z,5µm
PAX **Paxson** 48.79 35 *e*P P 21 07 44.8 +1.0
PAX *e* 21 09 08.4
PAX **Paxson** 48.79 35 *e*P P 21 07 44.8 +1.0
PAX *e*PcP PcP 21 09 08.4 +0.6
KOLN **Koldanda** 49.21 276 *e*P P 21 07 47.7 +0.1
TKM2 **Tokmak 2** 49.22 297 *i* P P 21 07 47.2 -0.3
TKM2 pmax pmax
comp=Z,35nm,0.8s
DOT **Dot Lake** 49.35 34 *e*P P 21 07 48.9 +0.9
comp=Z,23nm,1.1s
DOT *e*PcP PcP 21 09 11.1 +1.3
BMRM **Bremner River** 49.45 38 *e*P P 21 07 50.3 +1.5
comp=Z,70nm,1.5s
PYUN **Piuthan** 49.53 276 *e*P P 21 07 50.1 +0.1
comp=Z,258nm,1.1s
BRVK **Borovoye** 49.86 311 *c i*P P 21 07 51.9 -0.1
BRVK pmax pmax
comp=Z,50nm,0.8s
BRVK **Borovoye** 49.86 311 *e*P P 21 07 51.0 -0.9
comp=Z,20nm,0.9s
BRVK *e*PcP PcP 21 09 11.6 -0.2
BRVK **Borovoye** 49.86 311 P P 21 07 52.2 +0.3
SNR=8.4
BRVK **Borovoye** 49.86 311 P P 21 07 52.2 +0.3
SNR=8.4
KULM **Kulim** 49.88 239 *e*P P 21 07 52.6 0.0
comp=Z,26nm,0.8s
FRU **Bishkek** 49.93 298 *e*P P 21 07 52.0 -0.7
FRU *e* 21 08 10.0
FRU pmax pmax
comp=Z,30nm,1.5s
AAK **Ala-Archa** 50.08 297 *c i*P P 21 07 52.6 -1.4
AAK pmax pmax
comp=Z,12nm,1.0s
AAK **Ala-Archa** 50.08 297 *e*P P 21 07 53.1 -0.9
comp=Z,8.6nm,0.8s
KSH **Kashi** 50.11 293⇑ *i*P P 21 07 58.0 +3.8
KSH pP sP 21 08 12.9 -1.4
KSH PcP PcP 21 09 16.8 +3.7
KSH PP PP 21 09 54.9 +5.4
KSH S S 21 15 04.4 +2.5
KSH ScS ScS 21 17 40.4 -0.5
KSH SS SS 21 18 35.5 +0.2
KSH pmax pmax
comp=Z,18nm,0.9s
KSH pmax pmax
comp=Z,170nm,5.0s
KSH LR LR
comp=Z,110nm,5.8s
KSH LR LR
comp=Z,81nm,4.7s
KSH LR LR
comp=Z,130nm,10.1s
IPM **Ipoh** 50.23 238 *e*P P 21 07 54.9 -0.3
comp=Z,43nm,0.8s
TPRI **Tanjung Pinang** 50.70 232 P P 21 07 59.2 +0.5
SOEI **Soe** 50.78 203 *e*P P 21 07 59.1 -0.3
comp=Z,15nm,0.9s
MNAS **Manas** 51.51 298 *i* P P 21 08 03.8 -0.9
MNAS pmax pmax
comp=Z,26nm,0.8s
MTN **Manton Dam** 52.11 193 *e*P P 21 08 08.7 -0.4
comp=Z,33nm,1.3s
COEN **Coen** 52.25 178 *e*P P 21 08 10.7 +0.5
comp=Z,47nm,1.6s
KK31 **Karatay Array** 52.67 299 *ce*P P 21 08 12.3 -0.8
KK31 pmax pmax
comp=Z,21nm,0.8s
KKAR **Karatay Array** 52.67 299 *e*P P 21 08 13.2 +0.1
KKAR pmax pmax
comp=Z,159nm,0.8s
KKAR **Karatay Array** 52.67 299 *e*P P 21 08 13.2 +0.1
comp=Z,159nm,0.8s
PSI **Prapat** 52.87 239 *e*P P 21 08 14.8 -0.3
PSI pmax pmax
comp=Z,25nm,0.8s
PSI **Prapat** 52.87 239 *e*P P 21 08 14.8 -0.3
comp=Z,25nm,0.8s
INK **Inuvik** 52.88 28 *e*P P 21 08 15.0 +0.8
INK pmax pmax
comp=Z,16nm,0.9s
INK **Inuvik** 52.88 28 *e*P P 21 08 15.0 +0.8
comp=Z,16nm,0.9s
BKNI **Bangkinang** 53.35 235 *e*P P 21 08 18.3 -0.1
comp=Z,134nm,1.1s
SVE **Sverdlovsk** 54.24 318⇓ *e*P P 21 08 24.9 +0.5
SVE pmax pmax
comp=Z,69nm,0.9s
SOKR **Solikamsk** 55.33 322 *c i*P P 21 08 30.5 -1.7
SOKR pmax pmax
comp=Z,22nm,1.2s
ARU **Arti** 55.45 318 *c i*P P 21 08 33.0 -0.2
ARU *PP pP 21 08 46.1 -1.3
ARU 21 09 32.3
ARU S S 21 16 15.4 +1.4
ARU SS SS 21 19 56.9 -1.8
ARU pmax pmax
comp=Z,58nm,1.0s
ARU MLR MLR
comp=Z,316nm,20.0s
ARU **Arti** 55.45 318 *e*P P 21 08 32.7 -0.4
comp=Z,65nm,1.1s
KBL **Kabul** 57.20 290 *e*P P 21 08 45.4 -0.8
KBL pmax pmax
comp=Z,25nm,0.9s
KBL **Kabul** 57.20 290 *e*P P 21 08 45.4 -0.8
comp=Z,25nm,0.9s
AB31 **Akbulak array** 57.23 310 *ce*P P 21 08 44.9 -1.0
AB31 pmax pmax
comp=Z,21nm,0.7s
ABKAR **Akbulak array** 57.23 310 *e*P P 21 08 45.4 -0.5
comp=Z,25nm,0.7s
FITZ **Fitzroy Crossi** 58.38 198 *e*P P 21 08 54.2 0.0
comp=Z,32nm,1.6s
WRAB **Tennant Creek** 58.61 188 *c i*P P 21 08 55.3 -0.5
WRAB pmax pmax
comp=Z,49nm,1.2s
WRAB **Tennant Creek** 58.61 188 *e*P P 21 08 55.0 -0.8
comp=Z,19nm,0.9s
WB2 **Warramunga Ar** 58.62 188 *e*P P 21 08 54.2 -1.7
WRA **Warramunga Arr** 58.62 188 P P 21 08 55.0 -0.9
comp=Z,18nm,0.8s,baz=6.6,slow=7.1,SNR=97
WRA **Warramunga Arr** 58.62 188 *ce*P P 21 08 55.0 -0.9
WRA pmax pmax
comp=Z,18nm,0.8s
SPA0 **Spitsbergen Ar** 59.10 349 *e*P P 21 08 58.9 +0.3
KBS **Kingsbay** 59.22 350⇑ *i*P P 21 09 00.0 +0.6
KBS IAmb IAmb 21 09 02.2
comp=Z,14nm,0.9s
KBS **Kingsbay** 59.22 350 *e*P P 21 09 00.0 +0.6
KBS pmax pmax
comp=Z,12nm,0.8s
KBS **Kingsbay** 59.22 350 *e*P P 21 08 60.0 +0.6
comp=Z,12nm,0.8s
LVZ **Lovozero** 60.86 336⇓ *i*P P 21 09 10.9 +0.1
LVZ pmax pmax
comp=Z,41nm,2.5s
APA **Apatity** 61.44 336⇑ *i*P P 21 09 13.5 -1.2
APA pmax pmax
comp=Z,16nm,0.8s
APA MLR MLR
comp=Z,400nm,23.0s
TMCR **Tamitsa** 61.58 331 *e*P P 21 09 14.0 -1.6
TMCR pmax pmax
comp=Z,94nm,0.4s
KEV **Kevo** 62.14 339 *e*P P 21 09 19.4 +0.1
YKA **Yellowknife Ar** 62.32 31 P P 21 09 21.2 +0.6
comp=Z,5.6nm,0.7s,baz=297,slow=6.5,SNR=6.9
AS01 **Alice Springs** 62.34 188 *e*P P 21 09 20.8 -0.5
AS31 **Alice Springs** 62.34 188 *e*P P 21 09 20.6 -0.6
comp=Z,2.6nm,0.7s
ASAR **Alice Springs** 62.34 188 P P 21 09 20.8 -0.5
comp=Z,6.5nm,0.8s,baz=10,slow=6.0,SNR=69
KLMR **Klimovskoe** 62.65 327 *e*P P 21 09 21.5 -1.4
KLMR *e* 21 11 39.0
KLMR pmax pmax
comp=Z,18nm,0.9s
ARA0 **ARCESS Array S** 62.69 339 *e*P P 21 09 23.1 0.0
ARCES **ARCESS Array B** 62.69 339 P P 21 09 23.0 -0.1
comp=Z,7.0nm,0.9s,baz=61,slow=7.5,SNR=10
ARCES LR LR 21 38 49.1
comp=Z,85nm,22.0s,baz=54,slow=38

ARCES **ARCESS Array B** 62.69 339 P P 21 09 23.0 -0.1
ARCES pmax pmax
comp=Z,7.0nm,0.9s
ARCES MLR MLR
comp=Z,85nm,22.0s
ARE0 **ARCESS Array S** 62.69 339 *e*P P 21 09 23.5 +0.4
ARE0 IAmb IAmb 21 09 24.6
comp=Z,25nm,1.2s
MBWA **Marble Bar** 62.92 203 *e*P P 21 09 24.6 -0.5
GEYT **Alibeck** 63.40 298 P P 21 09 28.2 -0.1
comp=Z,8.9nm,0.7s,baz=35,slow=3.6,SNR=20
GEYT LR LR 21 38 12.7
comp=Z,132nm,21.5s,baz=330,slow=37
HEF **Hetta** 63.92 339 *e*P P 21 09 31.2 0.0
EIDS **Eidsvold** 64.18 171 *e*P P 21 09 32.3 -1.0
comp=Z,10nm,0.6s
DAG **Danmarks Havn** 64.29 355 *i* P P 21 09 33.3 -0.2
DAG **Danmarks Havn** 64.29 355 *i* P P 21 09 33.3 -0.2
KIF **Kilpisjarvi** 64.32 340 *e*P P 21 09 33.5 -0.2
TRO **Tromso** 64.39 341 *e*P P 21 09 37.0 +2.8
TRO IAmb IAmb 21 09 37.7
comp=Z,33nm,1.0s
LLLB **Lillooet** 64.92 44 *e*P P 21 09 39.1 +1.0
comp=Z,12nm,1.3s
NLWA **Neilton Lookou** 65.44 48 *e*P P 21 09 43.6 +2.1
comp=Z,16nm,0.9s
HDW **Hoodsport** 65.78 48 P P 21 09 46.0 +2.3
E03A **Lebam** 66.06 49 *e*P P 21 09 47.1 +1.7
comp=Z,17nm,1.0s
JCW **Jim Creek** 66.14 47 P P 21 09 47.7 +1.7
MOS **Moscow** 66.23 323 *e*P P 21 09 45.5 -0.9
MOS *e* 21 10 00.7
RPW **Rockport** 66.25 46 P P 21 09 48.0 +1.3
STEI **Steigen** 66.54 341 *e*P P 21 09 47.9 -0.2
STEI IAmb IAmb 21 09 49.1
comp=Z,17nm,0.9s
LOF **Lofoten** 66.83 341 *e*P P 21 09 50.2 +0.3
LOF IAmb IAmb 21 09 55.3
comp=Z,179nm,1.8s
LON **Longmire** 66.98 48 *e*P P 21 09 52.3 +0.9
LON pmax pmax
comp=Z,3.0nm,0.7s
LON **Longmire** 66.98 48 *e*P P 21 09 52.2 +0.9
comp=Z,3.3nm,0.7s
F04A **Amboy** 67.05 49 *e*P P 21 09 52.8 +1.0
comp=Z,12nm,0.8s
OBN **Obninsk** 67.08 323 *c i*P P 21 09 51.2 -0.6
OBN *e* 21 12 18.1
OBN pmax pmax
comp=Z,27nm,1.0s
LPSR **Galich'ya Gora** 67.35 320 *e*P P 21 09 53.3 -0.3
LPSR pmax pmax
comp=Z,30nm,0.9s
LTY **Liberty** 67.36 47 *e*P P 21 09 55.0 +1.1
comp=Z,8.6nm,1.0s
ETW **Entiat** 67.37 47 P P 21 09 55.5 +1.5
TBM **Table Mountain** 67.45 47 P P 21 09 56.0 +1.6
B08A **Colville Reser** 67.52 46 *e*P P 21 09 56.0 +1.2
comp=Z,8.2nm,1.1s
FIA1 **FINESS Array S** 67.62 332 *e*P P 21 09 54.7 -0.4
comp=Z,32nm,0.9s
FINES **FINESS Array B** 67.63 332 P P 21 09 54.9 -0.2
comp=Z,16nm,0.7s,baz=46,slow=8.2,SNR=39
FINES LR LR 21 40 33.5
comp=Z,213nm,19.9s,baz=53,slow=37
I03D **Drain, OR** 67.69 51 P P 21 09 58.0 +2.1
baz=303
EDM **Edmonton** 67.94 39 *e*P P 21 09 57.9 +0.6
EDM pmax pmax
comp=Z,11nm,0.9s
EDM **Edmonton** 67.94 39 *e*P P 21 09 57.9 +0.6
comp=Z,11nm,0.9s
VSR **Storozhevoye** 68.01 319 *e*P P 21 09 57.0 -0.7
VSR pmax pmax
comp=Z,20nm,0.7s
MOR8 **Moi Rana** 68.05 340 *e*P P 21 09 56.5 -1.3
MOR8 IAmb IAmb 21 09 57.1
comp=Z,29nm,0.8s
D08A **Wollman Farm,** 68.47 47 *e*P P 21 10 01.5 +0.8
comp=Z,6.1nm,0.8s
GROC **Groznyy** 68.71 309 *e*P P 21 10 01.5 -0.8
GROC pmax pmax
comp=Z,15nm,1.0s
NEW **Newport** 68.80 45 P P 21 10 04.0 +1.1
baz=305
NEW **Newport** 68.80 45 *e*P P 21 10 03.9 +1.1
NEW pmax pmax
comp=Z,8.0nm,1.0s
NEW **Newport** 68.80 45 *e*P P 21 10 03.9 +1.0
comp=Z,8.4nm,1.0s
SEKA **Sheki** 68.93 306 P P 21 10 02.1 -1.7
ZKTA **Zakatala** 69.06 307 P P 21 10 02.8 -1.7
YBH **Yreka Blue Hor** 69.15 53 *e*P P 21 10 06.8 +1.7
YBH *e*PP pP 21 10 21.2 +1.4
YBH pmax pmax
comp=Z,20nm,1.6s
YBH **Yreka Blue Hor** 69.15 53 *e*P P 21 10 06.8 +1.7
comp=Z,20nm,1.6s
YBH *e*pP pP 21 10 21.2 +1.4
SUMG **Summit** 69.16 0 *i* P P 21 10 05.8 +0.7
comp=Z,26nm,0.8s
SUMG **Summit** 69.16 0 *i* P P 21 10 05.8 +0.7
SUMG pmax pmax
comp=Z,26nm,0.8s
SUMG **Summit** 69.16 0 *e*P P 21 10 05.8 +0.7
comp=Z,28nm,0.8s
J05D **Fort Rock, OR** 69.20 51 P P 21 10 06.8 +1.3
baz=304
E09A **Wood Farm, Sta** 69.22 47 *e*P P 21 10 06.6 +1.2
comp=Z,5.9nm,0.9s
MNGR **Mingechevir, A** 69.24 306 P P 21 10 04.0 -1.6
M02C **Callahan** 69.24 53 P P 21 10 07.7 +1.9
baz=304
LKRN **Lenkeran, Azer** 69.28 303 P P 21 10 04.3 -1.5
VSU **Vasula** 69.31 329 *ce*P P 21 10 06.0 +0.3
VSU pmax pmax
comp=Z,99nm,1.7s
GOF **Gofitskoye** 69.33 312⇑ *i*P P 21 10 06.3 +0.2
GOF pmax pmax
comp=Z,72nm,0.9s
M04C **Macdoel** 69.66 52 P P 21 10 09.5 +1.2
baz=304
K05A **Summer Lake** 69.72 51 *e*P P 21 10 10.8 +2.0
comp=Z,15nm,1.0s
GANJ **Ganja** 69.79 306 P P 21 10 07.4 -1.7
STKA **Stephens Creek** 70.08 180 P P 21 10 10.3 -0.2
comp=Z,16nm,0.8s,baz=342,slow=6.8,SNR=7.2
WALA **Waterton Lakes** 70.08 43 *e*P P 21 10 11.9 +1.1
comp=Z,10nm,0.9s
ZEI **Tsey** 70.10 309 *e*P P 21 10 07.0 -4.1
ZEI pmax pmax
comp=Z,27nm,0.8s
KIV **Kislovodsk** 70.17 311 *i* P P 21 10 11.8 +0.4
SNR=8.3
KIV **Kislovodsk** 70.17 311 *e*P P 21 10 12.6 +1.2
KIV pmax pmax
comp=Z,91nm,1.1s
KIV MLR MLR
comp=Z,83nm,18.0s
KIV **Kislovodsk** 70.17 311 *e*P P 21 10 11.6 +0.3
comp=Z,69nm,0.9s
KIV **Kislovodsk** 70.17 311 P P 21 10 10.8 -0.6
SNR=9.9
KIV **Kislovodsk** 70.17 311 P P 21 10 10.8 -0.6
SNR=9.9
KBZ **Khabaz** 70.17 310 P P 21 10 11.8 +0.5
comp=Z,24nm,0.9s,baz=61,slow=4.0,SNR=55
KBZ LR LR 21 45 55.0
comp=Z,95nm,18.7s,baz=50,slow=40
BMO **Blue Mountains** 70.65 48 *e*P P 21 10 15.6 +1.3
BMO pmax pmax
comp=Z,4.0nm,0.9s
BMO **Blue Mountains** 70.65 48 *e*P P 21 10 15.6 +1.3
comp=Z,4.1nm,0.9s
JTMT **Jette** 70.66 44 *e*P P 21 10 15.7 +1.3
YBMT **Yellow Bay** 70.74 44 *e*P P 21 10 16.0 +1.2
SWMT **Swartz Lake** 70.95 44 *e*P P 21 10 16.8 +0.7
AKH **Akhalkalaki** 71.13 308⇑ *i*P P 21 10 18.1 +0.7
NAX **Nakhchivan** 71.15 305 P P 21 10 15.7 -1.7
SLMT **Seeley Lake** 71.39 44 *e*P P 21 10 19.8 +1.0
MSO **Missoula** 71.39 45 P P 21 10 20.2 +1.4
baz=307
TBLU **Trondheim** 71.45 339 *e*P P 21 10 17.9 -0.7
TBLU IAmb IAmb 21 10 18.4
comp=Z,19nm,0.9s
NACGM **Naroch** 71.64 327 *e* P 21 10 20.0 0.0

NACGM *e*LR LR 22 32 04.0
BEKR **Beckworth** 71.67 53 *e*P P 21 10 21.3 +0.6
comp=Z,4.9nm,0.7s
UOSS **Minazif** 71.67 288 *e*P P 21 10 20.4 -0.3
comp=Z,13nm,0.9s
HATD **Hatta, Dubai** 71.79 287 *i* P P 21 10 22.0 +0.5
SNR=7.5
ASHO **Ashiyiah** 71.93 287 *i* P P 21 10 22.4 +0.1
SNR=6.9
ARTV **Artvin** 72.22 309 *e*P P 21 10 24.2 +0.2
comp=Z,9.9nm,0.8s
FAQ **Al Faqa, Dubai** 72.24 288 P P 21 10 23.7 -0.4
FFC **Flin Flon** 72.24 33 *e*P P 21 10 23.6 0.0
FFC *e*PP sP 21 10 43.2 -1.0
FFC pmax pmax
comp=Z,13nm,0.9s
FFC **Flin Flon** 72.24 33 *e*P P 21 10 23.6 0.0
comp=Z,13nm,0.9s
FFC *e*pP sP 21 10 43.2 -1.0
MFID **Camas Ranch** 72.35 48 *e*P P 21 10 25.2 +0.6
comp=Z,4.9nm,0.8s
PAHR **Pah Rah Range** 72.38 53 *e*P P 21 10 26.3 +1.4
comp=Z,6.9nm,1.0s
NC405 **NORSAR Array S** 72.70 337 *e*P P 21 10 26.1 -0.2
CMB **Columbia Colle** 72.71 55 *e*P P 21 10 27.3 +0.6
CMB *e*PP PcP 21 10 44.0 +0.1
CMB pmax pmax
comp=Z,6.0nm,0.9s
CMB **Columbia Colle** 72.71 55 *e*P P 21 10 27.3 +0.6
comp=Z,5.7nm,0.9s
CMB *e*pP PcP 21 10 44.0 +0.1
ANN **Anapa** 72.72 314 *e*P P 21 10 25.8 -0.8
ANN pmax pmax
comp=Z,63nm,1.6s
NC303 **NORSAR Array S** 72.72 337 *e*P P 21 10 26.4 +0.1
MOL **Molde** 72.75 340 *e*P P 21 10 26.8 +0.4
MOL IAmb IAmb 21 10 27.1
comp=Z,21nm,0.8s
DOMB **Dombas** 72.75 339 *e*P P 21 10 26.7 +0.2
DOMB IAmb IAmb 21 10 27.2
comp=Z,21nm,0.8s
LRM **Limekiln Ridge** 72.82 45 *e*P P 21 10 28.5 +1.0
NC204 **NORSAR Array S** 72.86 338 *e*P P 21 10 27.3 +0.1
NB201 **NORSAR Array S** 72.88 337 *e*P P 21 10 27.4 +0.1
YERR **Yerington** 72.89 54 *e*P P 21 10 28.9 +0.9
comp=Z,9.2nm,1.1s
YERR *e*pP PcP 21 10 44.2 -0.6
EGMT **Eagleton** 72.91 42 P P 21 10 28.8 +1.0
baz=309
NB2 **NORSAR Subarra** 72.91 337 P P 21 10 27.3 -0.3
baz=39,slow=6.2
NB2 **NORSAR Subarra** 72.91 337 P P 21 10 27.2 -0.3
NB2 pmax pmax
comp=Z,10.0nm,0.8s
NB2 **NORSAR Subarra** 72.91 337 P P 21 10 27.3 -0.3
comp=Z,24nm,0.8s,baz=39,slow=6.2
NOA **NORSAR Array B** 72.91 337 P P 21 10 27.5 0.0
comp=Z,26nm,0.9s,baz=38,slow=5.9,SNR=64
NOA PP PP 21 13 09.3 -0.3
comp=Z,1.8nm,0.8s,baz=57,slow=6.3,SNR=3.7
NOA LR LR 21 44 56.5
comp=Z,171nm,21.8s,baz=45,slow=38
NBO02 **NORSAR Array S** 73.01 337 *e*P P 21 10 28.3 +0.2
NBO00 **NORSAR Array S** 73.05 337 *e*P P 21 10 28.4 +0.1
NC602 **NORSAR Array S** 73.05 337 *e*P P 21 10 28.4 +0.1
HLID **Hailey** 73.09 48 P P 21 10 30.5 +1.4
baz=307
HLID **Hailey** 73.09 48 *e*P P 21 10 30.4 +1.3
comp=Z,4.1nm,0.9s
NAO01 **NORSAR Array S** 73.17 337 *e*P P 21 10 28.7 -0.3
AKASG **Malin Array Be** 73.30 322 P P 21 10 29.4 -0.5
comp=Z,16nm,0.7s,baz=47,slow=6.1,SNR=47
AKASG LR LR 21 45 38.4
comp=Z,161nm,18.2s,baz=55,slow=38
AKBB **Malin Array Si** 73.30 322 *e*P P 21 10 29.4 -0.5
AKBB pmax pmax
comp=Z,25nm,0.8s
AKBB **Malin Array Si** 73.30 322 *e*P P 21 10 29.4 -0.5
comp=Z,24nm,0.8s
KIEV **Kiev** 73.31 322 *e*P P 21 10 29.3 -0.7
KIEV pmax pmax
comp=Z,23nm,0.8s
KIEV **Kiev** 73.31 322 *e*P P 21 10 29.3 -0.7
comp=Z,23nm,0.8s
AK11 **Malin Array Si** 73.34 322 *e*P P 21 10 29.7 -0.5
BOZ **Bozeman (W)** 73.41 45 P P 21 10 32.0 +1.1
baz=308
OSL **Oslo** 73.93 337 *e*P P 21 10 33.9 +0.5
OSL IAmb IAmb 21 10 34.5
comp=Z,31nm,0.9s
PAGB **Antelope Grade** 74.15 57 *e*P P 21 10 36.6 +1.4
comp=Z,8.2nm,0.7s
HYA **Hoyanger** 74.27 339 *e*P P 21 10 35.7 +0.4
HYA IAmb IAmb 21 10 36.4
comp=Z,30nm,1.0s
SFJD **Kangerlussuaq** 74.34 5 *i* P P 21 10 36.1 +0.4
comp=Z,16nm,0.8s
SFJD **Kangerlussuaq** 74.34 5 *i* P P 21 10 36.1 +0.4
SFJD pmax pmax
comp=Z,16nm,0.8s
SFJD **Kangerlussuaq** 74.34 5 *e*P P 21 10 35.5 -0.2
comp=Z,20nm,0.9s
SIM **Simferopol'** 74.48 315 *c i*P P 21 10 37.0 +0.1
SIM *e*PP sP 21 10 56.0 -1.6
SIM pmax pmax
comp=Z,27nm,0.8s
KONO **Kongsberg** 74.51 337 *e*P P 21 10 37.1 +0.3
PKM **Mcpherson Peak** 74.93 57 P P 21 10 41.6 +1.6
baz=307
ASK **Askoy** 75.11 339 *e*P P 21 10 41.0 +0.8
CWC **Cottonwood Cre** 75.14 55 P P 21 10 42.2 +1.1
baz=307
BER **Bergen** 75.15 339 *e*P P 21 10 41.2 +0.7
ODD1 **Odda** 75.18 338 *e*P P 21 10 41.3 +0.6
ODD1 IAmb IAmb 21 10 41.9
comp=Z,29nm,0.9s
MARD **Mardin** 75.24 306 *e*P P 21 10 42.1 +0.5
comp=Z,23nm,0.9s
REDW **Red Top Meadow** 75.25 46 *e*P P 21 10 44.8 +3.1
comp=Z,8.8nm,0.9s
SORM **Soroca** 75.43 321⇑ *i*P P 21 10 41.8 -0.5
R11A **Troy Canyon, C** 75.56 52 P P 21 10 44.7 +1.2
baz=308
R11A **Troy Canyon, C** 75.56 52 *e*P P 21 10 44.5 +0.9
comp=Z,5.5nm,1.0s
LAO **LASA Array** 75.60 41 P P 21 10 44.9 +1.4
baz=312
BLS5 **Blasjo** 75.63 338 *e*P P 21 10 43.6 +0.2
BLS5 IAmb IAmb 21 10 45.7
comp=Z,29nm,1.1s
MPMC **Manual Prospec** 75.75 55 P P 21 10 45.5 +0.9
baz=308
TPNV **Topopah Spring** 76.00 54 P P 21 10 47.3 +1.2
baz=308
TPNV **Topopah Spring** 76.00 54 *e*P P 21 10 47.2 +1.2
TPNV pmax pmax
comp=Z,6.0nm,1.0s
TPNV **Topopah Spring** 76.00 54 *e*P P 21 10 47.2 +1.2
comp=Z,5.5nm,1.0s
DUG **Dugway, Tooele** 76.10 50 P P 21 10 48.0 +1.4
baz=309
DUG **Dugway, Tooele** 76.10 50 *e*P P 21 10 48.0 +1.4
DUG pmax pmax
comp=Z,8.0nm,1.0s
DUG **Dugway, Tooele** 76.10 50 *e*P P 21 10 48.0 +1.4
comp=Z,8.3nm,1.0s
STAV **Stavanger** 76.25 338 *e*P P 21 10 47.3 +0.5
BSD **Bornholm Skovb** 76.26 332 *i* P P 21 10 46.3 -0.6
comp=Z,40nm,1.0s
BSD **Bornholm Skovb** 76.26 332 *i* P P 21 10 46.3 -0.6
BSD pmax pmax
comp=Z,40nm,1.0s
SNART **Snartemo** 76.30 337 *e*P P 21 10 47.6 +0.5
LVV **L'vov** 76.35 324 *e*P P 21 10 48.8 +1.2
BW06 **Boulder Array** 76.36 46 P P 21 10 48.8 +0.7
baz=310
BW06 **Boulder Array** 76.36 46 *e*P P 21 10 48.6 +0.5
PDAR **Pinedale Array** 76.36 46 P P 21 10 48.9 +0.8
comp=Z,6.5nm,0.8s,baz=272,slow=1.5,SNR=9.0
LEOM **Leova** 76.60 319⇑ *i*P P 21 10 48.4 -0.6
GSC **Goldstone, Bar** 76.65 56 P P 21 10 50.4 +0.8
baz=308
GSC **Goldstone, Bar** 76.65 56 *e*P P 21 10 50.7 +1.0
GSC pmax pmax
comp=Z,8.0nm,0.6s
GSC **Goldstone, Bar** 76.65 56 *e*P P 21 10 50.6 +1.0

SHPR **Sheep Range** 76.96 54 *e*P P 21 10 53.0 +1.5
comp=Z,4.3nm,1.0s
PRAR **RASCA** 77.01 321⇑ *i*P P 21 10 51.8 +0.5
KWP **Kalwaria Pacla** 77.09 324 *e*P P 21 10 52.4 +0.6
KWP **Kalwaria Pacla** 77.09 324 *e*P P 21 10 52.4 +0.6
TLCR 77.17 318⇑ *i*P P 21 10 52.4 +0.1
ILGA **Ilgaz** 77.19 313 *e*P P 21 10 53.4 +0.6
comp=Z,28nm,0.8s
MUD **Monsted U'grnd** 77.21 335 *i*P P 21 10 52.1 -0.2
comp=Z,23nm,1.0s
MUD **Monsted U'grnd** 77.21 335 *i*P P 21 10 52.1 -0.2
MUD pmax pmax
comp=Z,23nm,1.0s
HEC **Hector,Ludlow** 77.24 56 P P 21 10 54.3 +1.3
baz=308
BUR08 **Bucovina Ar. S** 77.31 322 *e*P P 21 10 53.4 +0.2
BURAR **Bucovina Array** 77.33 322 P P 21 10 53.6 +0.3
TESR **Tescani** 77.38 320⇑ *i*P P 21 10 53.6 +0.1
CCUT **Cedar City** 77.43 52 *e*P P 21 10 54.5 +0.3
comp=Z,14nm,1.6s
CFR **Carcaliu** 77.53 318⇑ *i*P P 21 10 54.3 0.0
PETR **Petresti** 77.63 319⇑ *i*P P 21 10 56.5 +1.7
ODBI **Odobesti** 77.69 319⇑ *i*P P 21 10 56.3 +1.1
GMRC **Granite Mounta** 77.71 55 P P 21 10 56.6 +1.0
baz=309
VRI **Vrincioaia** 77.79 320⇑ *i*P P 21 10 56.3 +0.5
VRI **Vrincioaia** 77.79 320 P P 21 10 56.2 +0.5
PLOR **Plostina** 77.84 320⇑ *i*P P 21 10 56.5 +0.4
PLOR **Plostina** 77.84 320 P P 21 10 56.4 +0.4
LCMT **Little Creek M** 77.84 52 *e*P P 21 10 57.3 +1.0
comp=Z,4.7nm,1.0s
LCMT *e*pP **pP** 21 11 12.1 +0.8
STHS **Stebnicka Huta** 77.91 325 *e*P P 21 10 57.6 +1.2
STHS pmax pmax
comp=Z,11nm,1.1s
STHS **Stebnicka Huta** 77.91 325 *e*P P 21 10 57.6 +1.2
OJC **Ojcow** 77.96 326 *e*P P 21 10 57.1 +0.5
OJC **Ojcow** 77.96 326 *e*P P 21 10 56.8 +0.2
OJC pmax pmax
comp=Z,30nm,1.0s
OJC **Ojcow** 77.96 326 *e*P P 21 10 56.8 +0.2
comp=Z,30nm,1.0s
TLB **Topalu** 77.98 318⇑ *i*P P 21 10 57.2 +0.4
UZH **Uzhgorod** 78.00 324⇑ *i*P P 21 10 57.1 +0.3
UZH *e* 21 11 15.1
ULM **Lac du Bonnet** 78.05 34 P P 21 10 57.2 +0.1
comp=Z,7.8nm,1.0s,baz=300,slow=6.6,SNR=3.6
BR131 **Keskin Array S** 78.10 312 *e*P P 21 10 57.6 -0.2
BRTR **Keskin Array B** 78.10 312 P P 21 10 57.7 0.0
comp=Z,3.7nm,0.6s,baz=74,slow=4.4,SNR=26
BRTR PP **PP** 21 13 52.5 -1.5
comp=Z,2.0nm,0.9s,baz=61,slow=4.6,SNR=4.6
BRTR LR LR 21 49 59.2
comp=Z,54nm,18.5s,baz=36,slow=39
NIE **Niedzica** 78.33 325 *e*P P 21 10 59.5 +0.8
NIE **Niedzica** 78.33 325 *e*P P 21 10 59.5 +0.8
DOPR **Dopca** 78.39 320⇑ *i*P P 21 11 00.2 +1.1
IRM **Iron Mountain** 78.43 56 P P 21 11 00.3 +0.7
baz=309
MLR **Muntele Rosu** 78.44 320 *e*P P 21 10 59.6 +0.1
MLR *e**PP **sP** 21 11 18.8 -1.5
MLR **Muntele Rosu** 78.44 320 *e*P P 21 10 59.6 +0.1
MLR *e*pP **sP** 21 11 18.8 -1.5
BR231 **Keskin MP Arra** 78.53 312 *e*P P 21 10 57.9 -2.1
W13A **Hualapai Mount** 78.65 54 *e*P P 21 11 01.0 0.0
comp=Z,3.4nm,1.0s
CJR **Cluj-Napoca** 78.75 322⇑ *i*P P 21 11 02.0 +0.9
U15A **North Rim** 78.80 52 *e*P P 21 11 03.6 +1.7
comp=Z,4.7nm,0.7s
LANS **Liptovska Anna** 78.90 326 *e*P P 21 11 02.9 +1.1
LANS *e* 21 14 01.0
LANS **Liptovska Anna** 78.90 326 *e*P P 21 11 02.9 +1.1
LANS *e*PP **PP** 21 14 01.0 +0.7
KECS **Kecovo** 78.93 325 *e*P P 21 11 02.2 +0.2
KECS pmax pmax
comp=Z,3.0nm,1.1s
KECS **Kecovo** 78.93 325 *e*P P 21 11 02.2 +0.2
VOIR 78.93 320⇑ *i*P P 21 11 03.2 +1.1
VOIR 78.93 320 P P 21 11 03.2 +1.1
OKC **Ostrava-Krasne** 78.96 327⇑ *e*P P 21 11 02.7 +0.6
OKC **Ostrava-Krasne** 78.96 327 *e*P P 21 11 02.7 +0.6
KSP **Ksiaz** 78.98 328 *e*P P 21 11 02.9 +0.6
KSP **Ksiaz** 78.98 328 *e*P P 21 11 02.8 +0.6
DRGR 79.12 322⇑ *i*P P 21 11 03.5 +0.4
ARR **Arges** 79.19 320⇑ *i*P P 21 11 04.8 +1.3
A33A **Warroad** 79.23 34 P P 21 11 04.1 +0.5
baz=318
MORC **Moravsky Berou** 79.27 327⇑ *i*P P 21 11 04.6 +0.7
MORC **Moravsky Berou** 79.27 327 *e*P P 21 11 04.1 +0.2
MORC pmax pmax
comp=Z,70nm,0.9s
MORC **Moravsky Berou** 79.27 327 *e*P P 21 11 04.1 +0.2
comp=Z,70nm,0.9s
DPC **Dobruska-Polom** 79.35 328 *e*P P 21 11 05.2 +0.9
DPC *e*pP **pP** 21 11 19.7 +0.5
DPC *e*PP **PP** 21 14 05.6 +1.6
DPC **Dobruska-Polom** 79.35 328 *e*P P 21 11 05.2 +0.9
DPC *e* 21 11 19.7
DPC *e* 21 14 05.6
UPC **Upice** 79.36 328⇑ *e*P P 21 11 05.0 +0.7
UPC **Upice** 79.36 328 *e*P P 21 11 05.0 +0.7
KRLC **Kraliky** 79.36 328 *e*P P 21 11 05.0 +0.6
KRLC *ex* x 21 11 16.1
KRLC **Kraliky** 79.36 328 *e*P P 21 11 05.0 +0.6
KRLC *e* 21 11 16.1
PV10 **Paradox Valley** 79.52 49 *e*P P 21 11 07.0 +1.3
PV10 *e*pP **pP** 21 11 22.5 +1.8
LOT **Lotru** 79.56 321⇓ *i*P P 21 11 05.8 +0.2
PSZ **Piszkesteto** 79.61 325⇑ *i*P P 21 11 06.4 +0.6
PSZ **Piszkesteto** 79.61 325 *e*P P 21 11 06.1 +0.3
PSZ pmax pmax
comp=Z,25nm,1.1s
PSZ **Piszkesteto** 79.61 325⇑ *e*P P 21 11 06.4 +0.6
PSZ **Piszkesteto** 79.61 325 *e*P P 21 11 06.1 +0.3
comp=Z,25nm,1.1s
N23A **Red Feather La** 79.62 46 P P 21 11 07.8 +1.6
baz=313
VYHS **Vyhne** 79.66 325 *e*P P 21 11 06.6 +0.6
VYHS pmax pmax
comp=Z,6.0nm,1.0s
VYHS **Vyhne** 79.66 325 *e*P P 21 11 06.6 +0.6
VYHS *e*PP **PP** 21 14 03.8 -2.9
PV05 **Paradox Valley** 79.67 49 *e*P P 21 11 07.5 +1.0
PV05 *e*pP **pP** 21 11 22.1 +0.6
BRG **Berggiesshubel** 79.91 329 *i*P P 21 11 07.5 +0.2
comp=Z,20nm,1.2s
BRG **Berggiesshubel** 79.91 329 *i*P P 21 11 07.5 +0.2
BRG pmax pmax
comp=Z,20nm,1.2s
PVCC **Panska Ves** 79.93 329⇑ *e*P P 21 11 08.1 +0.7
PVCC **Panska Ves** 79.93 329 *e*P P 21 11 08.1 +0.7
CLL **Collm** 79.94 330⇑ *i*P P 21 11 07.3 -0.1
CLL pmax pmax
comp=Z,30nm,1.0s
CLL **Collm** 79.94 330⇑ *i*P P 21 11 07.3 -0.1
comp=Z,30nm,1.0s
CLL **Collm** 79.94 330 *e*P P 21 11 07.0 -0.5
comp=Z,23nm,0.8s
Y14A **Wickenburg** 79.94 55 *e*P P 21 11 08.7 +0.9
comp=Z,22nm,0.8s
Y14A *e*pP **pP** 21 11 23.6 +0.9
WUAZ **Wupatki** 79.96 52 P P 21 11 09.7 +1.7
baz=310
WUAZ **Wupatki** 79.96 52 *e*P P 21 11 09.7 +1.7
comp=Z,5.5nm,0.9s
SIRR **Siria** 80.00 322⇑ *i*P P 21 11 08.2 +0.3
GZR **Gura Zlata** 80.09 321⇑ *i*P P 21 11 08.5 +0.1
GZR **Gura Zlata** 80.09 321 P P 21 11 08.5 +0.1
113A **Mohawk Valley,** 80.20 56 *e*P P 21 11 09.8 +0.7
comp=Z,3.7nm,0.8s
GOPC **GO Pecny, Ondr** 80.32 328 *e*P P 21 11 10.2 +0.7
GOPC **GO Pecny, Ondr** 80.32 328 *e*P P 21 11 10.2 +0.7
PRA **Prague** 80.34 329⇑ *e*P P 21 11 10.2 +0.6
PRA **Prague** 80.34 329 *e*P P 21 11 10.2 +0.6
PRU **Pruhonice** 80.36 329⇑ *i*P P 21 11 10.3 +0.6
PRU **Pruhonice** 80.36 329 *i*P P 21 11 10.3 +0.6
B35A **Bob, Littlefor** 80.39 34 P P 21 11 10.3 +0.4
baz=319
BZS **Buzias** 80.49 322⇑ *i*P P 21 11 10.5 0.0
ISCO **Idaho Springs** 80.55 46 P P 21 11 12.5 +1.2
baz=313
MVCO **Mesa Verde** 80.61 50 P P 21 11 12.7 +1.2
baz=312
X16A **Lo Mia Camp, P** 80.63 53 *e*P P 21 11 12.6 +1.0
comp=Z,5.2nm,0.9s
D34A **Park Rapids** 80.69 36 P P 21 11 11.6 +0.1
baz=318
C35A **Jirik Farms, M** 80.78 34 P P 21 11 12.1 +0.1
baz=319
S22A **4UR Ranch, Cre** 81.23 48 P P 21 11 16.3 +1.3
baz=313
S22A **4UR Ranch, Cre** 81.23 48 *e*P P 21 11 16.3 +1.3
comp=Z,4.4nm,0.9s
C36A **Pine Crest Far** 81.24 34 P P 21 11 14.4 0.0
baz=320
CONA **Conrad Observa** 81.39 327 *i*P P 21 11 15.8 +0.5
comp=Z,17nm,0.9s,SNR=8.9
KHC **Kasperske Hory** 81.42 329 *e*P P 21 11 15.9 +0.5
KHC *e*PP **PP** 21 14 18.5 -2.7
KHC *ex* x 21 14 25.3
KHC **Kasperske Hory** 81.42 329 *e*P P 21 11 15.5 +0.1
KHC pmax pmax
comp=Z,7.0nm,0.9s
KHC **Kasperske Hory** 81.42 329 *e*P P 21 11 15.5 +0.1
comp=Z,6.9nm,0.9s
GEC2 **GERESS Array S** 81.59 328 *e*P P 21 11 16.0 -0.5
GEC2 pmax pmax
comp=Z,12nm,1.1s
GEC2 **GERESS Array S** 81.59 328 *e*P P 21 11 15.9 -0.5
comp=Z,12nm,1.1s
GERES **GERESS Array B** 81.59 328 P P 21 11 16.2 -0.3
comp=Z,4.8nm,0.7s,baz=37,slow=5.3,SNR=39
GERES PP **PP** 21 14 19.2 -3.5
comp=Z,1.4nm,0.9s,baz=37,slow=6.9,SNR=4.5
GERES LR LR 21 50 01.9
comp=Z,184nm,20.8s,baz=28,slow=38
GEA0 **GERESS Array S** 81.60 328 *e*P P 21 11 16.0 -0.5
H33A **Prehn Over Nor** 81.75 38 P P 21 11 18.4 +1.2
baz=318
VTS **Vitosha** 81.89 319⇓ *i*P P 21 11 18.8 +0.6
VTS **Vitosha** 81.89 319 *e*P P 21 11 18.0 -0.2
VTS pmax pmax
comp=Z,17nm,0.8s
VTS **Vitosha** 81.89 319 *e*P P 21 11 17.9 -0.2
comp=Z,17nm,0.8s
ARSA **Arzberg** 82.06 326 *i*P P 21 11 19.2 +0.4
comp=Z,9.7nm,1.1s,SNR=6.8
MOA **Molln** 82.14 327 *i*P P 21 11 19.4 +0.2
comp=Z,12nm,1.2s
TUC **Tucson** 82.42 55 P P 21 11 21.4 +0.4
baz=311
ECSD **EROS Data Cent** 82.51 39 P P 21 11 20.9 -0.3
baz=318
PERS **Pernice** 82.72 326 *i*P P 21 11 22.4 +0.2
SOKA **Soboth** 82.72 326 *i*P P 21 11 22.5 +0.2
comp=Z,38nm,1.1s,SNR=10.0
F38A **Pierce - Schro** 83.04 35 P P 21 11 24.4 +0.5
baz=321
BEBN **Eben Emael** 83.06 334 P P 21 11 23.9 0.0
comp=Z,7.2nm,1.0s
OBKA **Obir** 83.06 326 *i*P P 21 11 24.0 -0.1
comp=Z,5.3nm,0.7s
MEM **Membach** 83.10 333 P P 21 11 24.0 -0.1
comp=Z,12nm,1.0s
KBA **Koelnbreinsper** 83.13 327 *i*PcP P 21 11 25.8 +1.2
comp=Z,21nm,0.9s
I35A **Creekview Farm** 83.21 38 P P 21 11 24.9 0.0
baz=319
LAZ **Lazon** 83.30 51 *e*P P 21 11 24.3 -1.4
ANMO **Albuquerque** 83.35 50 P P 21 11 26.5 +0.5
baz=313
ANMO **Albuquerque** 83.35 50 *ce*P P 21 11 28.2 +2.2
ANMO pmax pmax
comp=Z,9.0nm,2.5s
ANMO **Albuquerque** 83.35 50 *e*P P 21 11 26.4 +0.5
comp=Z,3.4nm,1.0s
MYKA **Terra Mystica** 83.36 327 *i*P P 21 11 25.1 -0.5
comp=Z,7.6nm,0.5s
VISS **Visnje** 83.48 326 *i*P P 21 11 25.9 -0.3
F39A **Loretta** 83.50 34 P P 21 11 26.5 +0.2
baz=321
BCLA **Clavier** 83.51 334 P P 21 11 25.8 -0.4
E40A **Wakefield** 83.53 33 P P 21 11 26.8 +0.3
baz=322
BOJS **Bojanci** 83.53 325 *i*P P 21 11 26.4 0.0
WTTA **Wattenberg** 83.69 328 *i*PcP P 21 11 27.5 +0.1
comp=Z,8.5nm,0.8s
ABTA **Abfaltersbach** 83.74 328 *i*P P 21 11 27.6 0.0
comp=Z,14nm,1.0s,SNR=5.2
JAVS **Javornik** 83.75 326 *i*P P 21 11 27.0 -0.7
M33A **Taylor Creek F** 83.81 40 P P 21 11 28.0 0.0
baz=318
I37A **Lemond, Waseca** 83.84 37 P P 21 11 28.6 +0.5
baz=320
MOTA **Moosalm** 83.85 329 *i*P P 21 11 28.1 -0.1
comp=Z,26nm,1.2s,SNR=14
RETA **Reutte** 83.87 329 *i*PcP P 21 11 28.5 +0.3
comp=Z,32nm,1.0s,SNR=12
G39A **Holcombe** 83.88 35 P P 21 11 28.1 -0.1
baz=321
J36A **Seneca 1, Swea** 83.91 38 P P 21 11 28.4 0.0
baz=319
319A **Douglas** 83.99 54 *e*P P 21 11 29.5 +0.3
comp=Z,7.7nm,0.8s
PDG **Podgorica** 83.99 321⇑ *i*P P 21 11 28.7 -0.1
DOU **Dourbes** 84.02 334 P P 21 11 29.0 +0.1
BFO **Black Forest** 84.14 331 *ce*P P 21 11 29.9 +0.4
BFO **Black Forest** 84.14 331 *e*P P 21 11 29.0 -0.5
comp=Z,33nm,1.0s
121A **Cookes Peak, D** 84.16 53 P P 21 11 31.1 +1.0
baz=313
BAIF **Baives** 84.19 334 *e*P P 21 11 29.0 -0.7
BAIF pmax pmax
comp=Z,13nm,1.2s
FETA **Feichten** 84.26 329 *i*PcP P 21 11 30.4 0.0
comp=Z,17nm,0.9s,SNR=8.8
H39A **Augusta** 84.30 35 P P 21 11 30.1 -0.3
baz=321
G40A **Rib Lake** 84.32 34 P P 21 11 30.7 +0.3
baz=322
DAVA **Damuels** 84.39 329 *i*PcP P 21 11 31.0 +0.1
comp=Z,38nm,0.9s,SNR=15
CDF **Champ du Feu** 84.47 332 *e*P P 21 11 30.8 -0.5
CDF pmax pmax
comp=Z,25nm,1.0s
PMOR **Pomariorio Ree** 84.48 114 *e*T T 22 44 56.8
comp=Z,75nm,0.3s
TIR **Tirane** 84.50 320⇑ *i*P P 21 11 31.5 +0.1
K37A **Belmond** 84.67 38 P P 21 11 32.3 0.0
baz=320
ECH **Echery** 84.68 331⇑ *e*P P 21 11 31.9 -0.3
H40A **Chili** 84.74 35 P P 21 11 32.3 -0.3
baz=322
FUORN **Ofenpass-Fuorn** 84.77 329 *e*P P 21 11 32.7 -0.3
comp=Z,39nm,0.8s
I39A **Houston** 84.83 36 P P 21 11 32.8 -0.2
baz=321
MOF **Molkenrain** 84.99 331 *e*P P 21 11 32.1 -1.8
PPT2 **Papeete2** 85.03 117 *e*LR LR 21 38 24.8
comp=Z,267nm,26.5s
THEF **They Montfort** 85.10 332 *e*P P 21 11 34.3 -0.1
HINF **Hinteralfeld** 85.12 331 *e*P P 21 11 33.5 -1.0
HINF pmax pmax
comp=Z,15nm,1.1s
J39A **Decorah** 85.14 36 P P 21 11 34.2 -0.5
baz=321
TIAR **Tiarei** 85.17 117 *e*T T 22 45 46.9
comp=Z,5.0nm,0.2s
TUE **Stuetta** 85.26 329 *e*P P 21 11 34.6 -0.8
comp=Z,15nm,0.9s
LOMF **Lomont** 85.52 331 *e*P P 21 11 33.6 -3.0
K39A **Oelwein** 85.55 37 P P 21 11 36.8 +0.2
baz=321
K40A **Colesburg** 85.90 36 P P 21 11 38.8 +0.4
baz=321
SENIN **Lac Senin/Sane** 86.16 330 *e*P P 21 11 38.7 -1.2
comp=Z,11nm,0.8s
IDI **Anoyia** 86.20 313 LR LR 21 55 19.8
comp=Z,33nm,19.3s,baz=83,slow=39
MNTX **Cornudas Mount** 86.22 52 P P 21 11 41.0 +0.7
baz=314
MNTX **Cornudas Mount** 86.22 52 *e*P P 21 11 40.6 +0.4
comp=Z,1.9nm,0.8s
K41A **Shullsburg** 86.36 36 P P 21 11 40.5 -0.2
baz=322
L40A **Anamosa** 86.36 37 P P 21 11 40.7 0.0
baz=321
M39A **Webster** 86.36 38 P P 21 11 40.8 +0.1
baz=321
CABF **La Chapelle** 86.42 331 *e*P P 21 11 40.2 -0.8
CABF pmax pmax
comp=Z,11nm,0.9s
Q35A **Mercer Eighty,** 86.42 41 P P 21 11 41.7 +0.6
baz=318
R35A **Emporia Munici** 86.73 42 P P 21 11 43.2 +0.6
baz=318
FLN **La Foliniere** 86.86 336 *e*P P 21 11 42.3 -0.7
FLN pmax pmax
comp=Z,17nm,0.9s
LPL **La Plagne** 87.08 330 *e*P P 21 11 44.7 +0.2
LPL pmax pmax
comp=Z,11nm,0.8s
LPG **La Plagne** 87.09 330 *e*P P 21 11 44.1 -0.5
LPG pmax pmax
comp=Z,9.0nm,0.7s
R36A **Gordon, Harris** 87.10 42 P P 21 11 44.5 +0.1
baz=319
P38A **Dawn** 87.12 40 P P 21 11 44.8 +0.3
baz=320
S35A **Otter Creek Ra** 87.15 42 P P 21 11 44.9 +0.3
baz=318
AVF **Avril sur Loir** 87.27 333 *e*P P 21 11 44.5 -0.5
AVF pmax pmax
comp=Z,38nm,0.9s
S36A **Lake Cedric, C** 87.50 42 P P 21 11 47.0 +0.6
baz=319
O40A **La Belle** 87.55 38 P P 21 11 46.9 +0.4
baz=321
Q38A **Cooks Store, C** 87.58 40 P P 21 11 46.6 0.0
baz=320
P39B **Salisbury** 87.61 39 P P 21 11 47.2 +0.4
baz=320
T36A **Boggs Farm, Ca** 87.85 43 P P 21 11 48.6 +0.7
baz=319
S37A **Fort Scott** 87.87 42 P P 21 11 48.3 +0.2
baz=319
N42A **Yates City** 87.88 37 P P 21 11 48.0 0.0
baz=322
ORIF **Oris-en-Rattie** 87.91 330 *e*P P 21 11 48.6 +0.3
ORIF pmax pmax
comp=Z,5.0nm,0.7s
P40A **Paris** 87.92 39 P P 21 11 48.9 +0.6
baz=321
O41A **Passleys Farm,** 88.04 38 P P 21 11 49.3 +0.4
baz=322
P41A **Barry, Barry** 88.29 38 P P 21 11 50.6 +0.5
baz=322
Q40A **Laux Farm, Aux** 88.33 39 P P 21 11 50.5 +0.3
baz=321
R39A **Chumby, Stover** 88.37 40 P P 21 11 50.4 -0.1
baz=320
VIVF **Saint-Julien-l** 88.43 331 *e*P P 21 11 50.2 -0.5
VIVF pmax pmax
comp=Z,10.0nm,0.9s
S38A **Stockton** 88.45 41 P P 21 11 50.6 -0.2
baz=320
T38A **Diamond** 88.70 42 P P 21 11 52.3 +0.3
baz=320
S39A **Bolivar** 88.70 41 P P 21 11 51.7 -0.4
baz=320
P42A **Winchester** 88.71 38 P P 21 11 52.6 +0.6
baz=322
U37A **Salina** 88.74 43 P P 21 11 53.0 +0.8
baz=319
Q41A **Truxton** 88.77 39 P P 21 11 52.8 +0.5
baz=321
R40A **Maddies Statio** 88.77 40 P P 21 11 52.6 +0.3
baz=321
TX31 **Lajitas Ar. Si** 88.92 53 *e*P P 21 11 53.7 +0.4
TXAR **Lajitas Array** 88.92 53 P P 21 11 54.3 +0.9
comp=Z,2.8nm,0.7s,baz=296,slow=3.2,SNR=45
TBI **Tubuai** 89.02 121 *e*LR LR 21 39 55.5
comp=Z,146nm,26.0s
TBI **Tubuai** 89.02 121 *e*T T 22 50 33.0
comp=Z,66nm,0.3s
U38A **Gravette** 89.10 42 P P 21 11 54.0 0.0
baz=320
S40A **Lebanon** 89.19 40 P P 21 11 54.2 -0.2
baz=321
R41A **Rosebud** 89.21 39 P P 21 11 55.0 +0.6
baz=321
CAF **Calviac** 89.33 333 *e*P P 21 11 54.9 0.0
CAF pmax pmax
comp=Z,7.0nm,0.7s
X36A **Centrahoma** 89.45 45 P P 21 11 56.2 +0.6
baz=318
R42A **Luebbering** 89.51 39 P P 21 11 55.8 0.0
baz=322
W37B **Quinton** 89.52 44 P P 21 11 56.6 +0.6
baz=319
T40A **Mansfield** 89.52 40 P P 21 11 56.0 +0.1
baz=321
V38A **Canehill** 89.53 42 P P 21 11 56.3 +0.3
baz=320
U39A **Green Forest** 89.62 42 P P 21 11 56.8 +0.4
baz=320
Q44A **Meyer Farm, Va** 89.88 37 P P 21 11 57.8 +0.3
baz=323
S42A **Caledonia** 89.91 39 P P 21 11 57.9 +0.2
baz=322
U40A **Yellville** 89.96 41 P P 21 11 58.0 0.0
baz=320
X37A **Clayton** 89.97 44 P P 21 11 58.2 +0.2
baz=319
T41A **Mountain View** 89.99 40 P P 21 11 58.2 +0.1
baz=321
X38A **Whitesboro** 90.20 44 P P 21 11 59.7 +0.6
baz=319
333A **Richland Sprin** 90.34 48 P P 21 12 00.4 +0.6
baz=317
V40A **Witts Springs** 90.40 42 P P 21 12 00.2 +0.2
baz=320
U41A **Viola** 90.45 41 P P 21 12 00.3 +0.1
baz=321
JCT **Junction City** 90.47 49 *e*P P 21 12 01.0 +0.5
JCT pmax pmax
comp=Z,4.0nm,0.6s
JCT **Junction City** 90.47 49 *e*P P 21 12 01.0 +0.5
comp=Z,4.4nm,0.6s
X39A **Fountain Ranch** 90.71 43 P P 21 12 01.1 -0.4
baz=320
S44A **Carbondale** 90.72 38 P P 21 12 01.9 +0.5
baz=323
WHTX **Lake Whitney,** 90.73 47 P P 21 12 02.2 +0.5
baz=318
334A **Lometa** 90.77 48 P P 21 12 02.5 +0.7
baz=317
MIAR **Mount Ida** 90.97 43 P P 21 12 03.3 +0.7
baz=320
MIAR **Mount Ida** 90.97 43 *e*P P 21 12 02.8 +0.1
MIAR pmax pmax
comp=Z,6.0nm,0.8s
MIAR **Mount Ida** 90.97 43 *e*P P 21 12 02.8 +0.1
comp=Z,6.3nm,0.8s
WHAR **Wooly Hollow** 91.08 42 *e*P P 21 12 03.3 +0.2
comp=Z,7.2nm,0.7s
ES19 **SONSECA Array** 96.03 334 *e*P P 21 12 25.1 -0.8
ESDC **Sonseca Array** 96.07 334 P P 21 12 24.4 -1.7
comp=Z,1.3nm,0.8s,baz=22,slow=4.1,SNR=5.3
ESDC LR LR 21 59 18.1
comp=Z,112nm,18.6s,baz=305,slow=38
RKT **Rikitea** 99.02 112 *e*LR LR 21 44 16.5
comp=Z,271nm,30.0s
VNDA **Vanda** 116.47 175 PKP **PKPdf** 21 17 40.3 -0.4
comp=Z,1.0nm,1.0s,baz=311,slow=4.7,SNR=5.5
TORD **Torodi Ar. Bea** 116.49 316 PKP **PKPdf** 21 17 41.6 -1.0
comp=Z,0.8nm,0.9s,baz=71,slow=1.6,SNR=6.1
MAW **Mawson** 121.06 206 PKP **PKPdf** 21 17 48.7 -1.0
comp=Z,1.8nm,0.7s,baz=332,slow=2.3,SNR=5.6
DBIC **Dimbokro** 125.40 318 PKP **PKPdf** 21 17 58.8 -1.0
comp=Z,2.3nm,0.7s,baz=72,slow=4.9,SNR=4.0
QSPA **South Pole Qui** 128.30 180 *e*PKPdf **PKPdf** 21 18 02.6 -1.2
SYO **Syowa Base** 129.72 207⇑ *e*PP PP 21 20 18.0 -0.3
SNAA **Sanae** 142.30 197 *e*PKHKP PKPpre 21 18 24.1
SNAA **Sanae** 142.30 197 *e*PKPpre PKPpre 21 18 24.1
LPAZ **La Paz** 145.61 58 PKPbc **PKPbc** 21 18 38.3 +0.2
comp=Z,14nm,0.9s,baz=327,slow=2.7,SNR=42
LPAZ **La Paz** 145.61 58 *e*PKPdf **PKPbc** 21 18 38.1 0.0
LCO **Las Campanas** 151.45 80 *e*PKPbc **PKPbc** 21 18 53.0 +0.3

CSEM **20** *21:08:11.8±0.3,50.28N×18.78E, h1km, Error ellipse: s-maj=7.0km s-min=3.8km az=13.0*
PRU 20 21:08:13.1,50.24N×18.78E, h0km, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OKC	**Ostrava-Krasne**	**0.57**	**226**	*e*PG	Pg	21 08 24.5	+0.4
OKC	**Ostrava-Krasne**	**0.57**	**226**	Pg	Pg	21 08 24.5	+0.4
OJC	**Ojcow**	**0.65**	**91**	*e*Pg	Pg	21 08 24.5	-1.1
OJC				*e*Sg	Sg	21 08 33.3	-0.8
OJC	**Ojcow**	**0.65**	**91**	*e*Pg	Pg	21 08 24.5	-1.1
OJC				*e*Sg	Sg	21 08 33.3	-0.8
MORC	**Moravsky Berou**	**0.92**	**240**	*e*Pg	Pg	21 08 30.1	-0.7
MORC				*e*Sg	Sg	21 08 42.9	+0.2
LANS	**Liptovska Anna**	**1.18**	**157**	*e*Pg	Pg	21 08 34.9	-0.8
LANS				*e*Sg	Sg	21 08 50.8	-0.1
LANS	**Liptovska Anna**	**1.18**	**157**	*e*PG	Pg	21 08 34.9	-0.8
LANS				*e*SG	Sg	21 08 50.8	-0.1
KRLC	**Kraliky**	**1.30**	**263**	*e*PG	Pg	21 08 36.2	-1.7
KRLC				*e*SG	Sg	21 08 54.5	-0.2
KRLC	**Kraliky**	**1.30**	**263**	Pg	Sg	21 08 36.2	-1.7
KRLC				Sg	Sg	21 08 54.5	-0.2
DPC	**Dobruska-Polom**	**1.58**	**275**	*e*PG	Pn	21 08 40.8	-1.6
DPC				*e*SG	Sn	21 09 03.5	-0.1
	comp=Z,3.4nm,0.6s						
DPC	**Dobruska-Polom**	**1.58**	**275**	Pg	Pn	21 08 40.8	-1.6
DPC				Sg	Sn	21 09 03.5	-0.1
	3.4nm,0.6s						
VRAC	**Vranov**	**1.70**	**237**	*e*Pn	Pn	21 08 43.4	-0.6
VRAC				*e*Sg	Sn	21 09 06.1	-0.3
KSP	**Ksiaz**	**1.70**	**292**	*e*Pg	Pn	21 08 44.3	+0.3
KSP				*e*Sg	Sg	21 09 07.4	-0.2
KSP	**Ksiaz**	**1.70**	**292**	*e*Pg	Pn	21 08 44.3	+0.3
KSP				*e*Sg	Sg	21 09 07.4	-0.2
VYHS	**Vyhne**	**1.75**	**179**	*e*Sn	Sn	21 09 06.4	-1.3
VYHS	**Vyhne**	**1.75**	**179**	*e*SN	Sn	21 09 06.4	-1.3

IDC 20 21:08:55.0±2.5, 5°.79S×152°.12E, h0km, mb3.3/3, mb1 3.6/4, mb1mx3.4/30, mbtmp3.4/4, ML1.6/1, Error ellipse: s-maj=168.9km s-min=27.6km az=129.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**6.09**	**234**	Pn	Pn	21 10 27.0	+0.6
	1.0nm,0.3s,baz=22,slow=5.4,SNR=2.1						
PMG				Sn	Sn	21 11 33.4	-3.5
	1.0nm,0.3s,baz=90,slow=20,SNR=2.9						
WRA	**Warramunga Arr**	**22.29**	**229**	P	P	21 13 53.5	-0.6
	0.4nm,0.5s,baz=55,slow=10,SNR=3.3						
ASAR	**Alice Springs**	**24.97**	**223**	P	P	21 14 20.6	+0.1
	0.5nm,0.7s,baz=54,slow=9.3,SNR=4.2						
ILAR	**Eielson Array**	**83.32**	**22**	P	P	21 21 23.4	-0.2
	0.4nm,0.8s,baz=248,slow=4.8,SNR=4.2						
TORD	**Torodi Ar. Bea**	**149.95**	**286**	PKPbc	PKPbc	21 28 48.5	-0.1
	0.3nm,0.8s,baz=78,slow=3.7,SNR=3.1						

*BJI **20** 21:28:26.5, 18°.57S×169°.56E, h210km, mb5.1/60, mB5.1/39*

*GCMT **20** 21:28:28.9±0.2, 18°.80S×169°.04E, h227km±1km, MW5.2/101, Moment Tensor Solution. s70,c93; s101,c161; Duration: 1s0 Moment tensor: Scale 10^17 Nm; Mrr0.56±.02; Mθθ0.23±.02; Mφφ-0.79±.02; Mrθ0.26±.02; Mθφ-0.11±.02; Mφr-0.19±.02; Best double couple: M0 0.78200×10^17 NP1:φs161.00000°, δ58.00000°, λ55.00000°. NP2:φs33.00000°, δ46.00000°, λ133.00000°. Principal axes: T 0.7350, Plg60.0000°, Azm17.0000°; N 0.0940, Plg29.0000°, Azm181.0000°; P -0.8290, Plg7.0000°, Azm274.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

*NEIC **20** 21:28:28.9±0.1, 18°.79S×169°.10E, mb5.2/79 Error ellipse: s-maj=4.7km s-min=3.3km az=149.0*

*IDC **20** 21:28:29.1±0.7, 18°.80S×169°.19E, h219km±5km, mb4.7/26, mb1 4.8/28, mb1mx4.7/34, mbtmp5.2/28, Error ellipse: s-maj=11.4km s-min=8.5km az=89.0*

*ISCJB **20** 21:28:29.7±0.6, 18°.81S±0°.04×169°.07E±0°.03, h230km±6km, mb5.0/134, Error ellipse: s-maj=5.9km s-min=3.6km az=161.6*

*MOS **20** 21:28:29.9±1.0, 18°.78S×169°.08E, h233km, mb5.3/46, Error ellipse: s-maj=7.6km s-min=7.0km az=95.7*

ISC 20 21:28:29.0±0.4, 18°.90S±0°.04×169°.18E±0°.04, h219km±3km, h219km:pP-P, n705, σ1s22/739, mb5.1/133, 47C-22D, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**4.07**	**219**	P	**Pn**	**21 29 33.1**	**+0.6**
	54nm,0.3s,baz=57,slow=15,SNR=234						
DZM				S	**S**	**21 30 22.9**	**+0.7**
	19nm,0.3s,baz=329,slow=18,SNR=10						
DZM	**Mont Dzumac**	**4.07**	**219**	*e*Pn	**Pn**	**21 29 32.4**	**0.0**
DZM				*e*S	**S**	**21 30 23.7**	**+1.5**
MSVF	**Nonsavu**	**8.50**	**84**	*e*P	**Pn**	**21 30 31.7**	**+2.9**
MSVF	**Nonsavu**	**8.50**	**84**	*e*Pn	**Pn**	**21 30 31.7**	**+2.9**
NFK	**Norfolk Island**	**10.16**	**186**	P	**P**	**21 30 54.9**	**-2.1**
	baz=10,SNR=5.1						
HNR	**Honiara**	**12.99**	**315**	P	**Pn**	**21 31 25.2**	**-0.6**
	3.2nm,0.3s,baz=204,slow=3.9,SNR=18						
HNR	**Honiara**	**12.99**	**315**	*e*P	**Pn**	**21 31 25.0**	**-0.8**
HNR	**Honiara**	**12.99**	**315**	*e*Pn	**Pn**	**21 31 26.2**	**+0.4**
FUNA	**Funafuti**	**14.17**	**45**	*e*P	**P**	**21 31 42.3**	**+0.7**
OUZ	**Omahuta**	**16.72**	**167**	*e*P	**Pn**	**21 32 11.6**	**+0.6**
	73nm,1.2s						
EIDS	**Eidsvold**	**17.96**	**246**	P	**Pn**	**21 32 25.6**	**0.0**
	baz=18,SNR=20						
EIDS	**Eidsvold**	**17.96**	**246**	*e*P	**Pn**	**21 32 25.7**	**0.0**
	132nm,0.9s						
ARMA	**Armidale**	**19.62**	**231**	P	**Pn**	**21 32 43.6**	**-1.8**
	baz=20,SNR=11						
ARMA	**Armidale**	**19.62**	**231**	*e*P	**P**	**21 32 42.6**	**+1.4**
	91nm,1.2s						
RMQ	**Roma**	**20.29**	**244**	P	**P**	**21 32 50.4**	**+2.1**
	baz=20,SNR=41						
TARA	**Tarawa**	**20.46**	**11**	*e*P	**P**	**21 32 50.0**	**-0.1**
	22nm,1.0s						
URZ	**Urewera**	**20.49**	**162**	P	**P**	**21 32 52.0**	**+1.7**
	14nm,0.6s,baz=275,slow=3.5,SNR=7.1						
URZ				S	**S**	**21 36 29.2**	**+2.3**
	4.5nm,0.7s,baz=68,slow=19,SNR=2.7						
URZ	**Urewera**	**20.49**	**162**	*e*P	**P**	**21 32 52.7**	**+2.4**
URZ				S	**S**	**21 36 29.2**	**+2.3**
BKZ	**Black Stump Fm**	**21.17**	**164**	*e*P	**P**	**21 32 59.4**	**+2.0**
	22nm,0.8s						
MGCD	**Mangrove Creek**	**21.56**	**225**	P	**P**	**21 33 03.5**	**+2.2**
	baz=22,SNR=9.7						
CTA	**Charters Tower**	**21.65**	**263**	P	**P**	**21 33 01.9**	**-0.5**
	61nm,0.8s,baz=90,slow=12,SNR=91						
CTA				S	**S**	**21 36 49.0**	**+1.8**
	14nm,0.9s,baz=278,slow=18,SNR=11						
CTAO	**Charters Tower**	**21.65**	**263**	*e*P	**P**	**21 33 02.7**	**+0.3**
CTAO				pmax	pmax		
	comp=Z,82nm,0.9s						
CTAO	**Charters Tower**	**21.65**	**263**	*e*P	**P**	**21 33 02.7**	**+0.3**
	comp=Z,82nm,0.9s						
SNZO	**South Karori**	**22.83**	**169**	*e*P	**P**	**21 33 15.0**	**+1.9**
THZ	**Tophouse**	**23.01**	**173**	*e*P	**P**	**21 33 16.6**	**+1.8**
	comp=Z,22nm,0.8s						
PMG	**Port Moresby**	**23.32**	**291**	P	**P**	**21 33 18.1**	**+0.2**
	comp=Z,51nm,0.8s,baz=65,slow=6.7,SNR=11						
PMG	**Port Moresby**	**23.32**	**291**	*c i*P	**P**	**21 33 19.1**	**+1.2**
PMG				pmax	pmax		
	comp=Z,193nm,0.9s						
PMG	**Port Moresby**	**23.32**	**291**	*e*P	**P**	**21 33 18.2**	**+0.4**
MTSU	**Mount Surprise**	**23.59**	**268**	P	**P**	**21 33 21.8**	**+1.5**
	baz=24,SNR=142						
LTZ	**Lake Taylor**	**23.95**	**174**	*e*P	**P**	**21 33 24.4**	**+1.0**
	comp=Z,19nm,0.9s						
CNB	**Canberra Magne**	**23.98**	**223**	P	**P**	**21 33 25.6**	**+1.9**
	baz=24,SNR=7.7						
QLP	**Quilpie**	**24.22**	**247**	P	**P**	**21 33 26.6**	**+0.7**
	baz=24,SNR=51						
CAN	**Canberra**	**24.22**	**223**	*e*P	**P**	**21 33 26.6**	**+0.7**
CAN				pmax	pmax		
	comp=Z,44nm,1.2s						
CAN	**Canberra**	**24.22**	**223**	*e*P	**P**	**21 33 26.6**	**+0.7**
	comp=Z,44nm,1.2s						
CMSA	**Cobar Meteorol**	**24.64**	**235**	P	**P**	**21 33 30.6**	**+1.0**
	baz=25,SNR=36						
RPZ	**Rata Peaks**	**24.79**	**177**	P	**P**	**21 33 32.6**	**+1.7**
	comp=Z,5.9nm,0.6s,baz=7.7,slow=9.9,SNR=3.4						
COEN	**Coen**	**25.41**	**277**	P	**P**	**21 33 37.7**	**+0.9**
	baz=26,SNR=8.2						
COEN	**Coen**	**25.41**	**277**	*e*P	**P**	**21 33 37.1**	**+0.2**
	comp=Z,51nm,1.1s						
QIS	**Mount Isa**	**27.88**	**262**	P	**P**	**21 33 59.2**	**+0.4**
	baz=28,SNR=11						
STKA	**Stephens Creek**	**27.98**	**237**	P	**P**	**21 34 00.5**	**+0.9**
	comp=Z,24nm,0.7s,baz=65,slow=8.9,SNR=84						
STKA				pP	**pP**	**21 34 42.8**	**-0.6**
	comp=Z,8.8nm,0.9s,baz=50,slow=10.0,SNR=2.5						
STKA				PcP	**PcP**	**21 37 09.2**	**+0.2**
	comp=Z,16nm,0.8s,baz=56,slow=4.8,SNR=8.9						
STKA				ScP	**ScP**	**21 40 30.9**	**+1.9**
	comp=Z,5.6nm,0.9s,baz=13,slow=5.4,SNR=5.1						
STKA	**Stephens Creek**	**27.98**	**237**	P	**P**	**21 34 00.8**	**+1.2**
	baz=28,SNR=51						
HTT	**Hallett**	**30.64**	**236**	P	**P**	**21 34 24.2**	**+1.1**
	baz=31,SNR=10.0						
JAY	**Jayapura**	**32.28**	**297**	S	**S**	**21 39 33.9**	**-1.1**
	comp=Z,0.4nm,0.9s,baz=107,slow=20,SNR=3.3						
BBOO	**Buckleboo**	**32.72**	**238**	P	**P**	**21 34 41.9**	**+0.7**
	baz=33,SNR=15						
BBOO	**Buckleboo**	**32.72**	**238**	*e*P	**P**	**21 34 42.1**	**+0.9**
	comp=Z,29nm,0.8s						
WB2	**Warramunga Arr**	**32.83**	**262**	*e*P	**P**	**21 34 41.6**	**-0.7**
WB2				*e*S	**S**	**21 39 40.4**	**-3.1**
WRAB	**Tennant Creek**	**32.84**	**262**	*d i*P	**P**	**21 34 41.6**	**-0.8**
WRAB				pmax	pmax		
	comp=Z,87nm,1.0s						
WRAB	**Tennant Creek**	**32.84**	**262**	*e*P	**P**	**21 34 41.5**	**-0.9**
	comp=Z,37nm,0.9s						
WRAB				*e*S	**S**	**21 39 39.1**	**-4.4**
WRA	**Warramunga Arr**	**32.85**	**262**	P	**P**	**21 34 41.3**	**-1.1**
	comp=Z,9.6nm,0.3s,baz=82,slow=6.4,SNR=149						
WRA				PcP	**PcP**	**21 37 21.6**	**-0.3**
	comp=Z,8.0nm,0.9s,baz=92,slow=2.7,SNR=7.6						
WRA				S	**S**	**21 39 39.1**	**-4.5**
	comp=Z,20nm,1.2s,baz=89,slow=14,SNR=20						
WRA				ScP	**ScP**	**21 40 45.6**	**+0.3**
	comp=Z,4.5nm,1.0s,baz=90,slow=3.6,SNR=5.1						
WRA				PKiKP	**PKiKP**	**21 44 46.0**	**-2.3**
	comp=Z,1.3nm,0.8s,baz=76,slow=0.9,SNR=7.4						
WRA				P3KPbc		22 05 58.4	
	comp=Z,1.2nm,0.9s,baz=297,slow=2.8,SNR=8.5						
WRA	**Warramunga Arr**	**32.85**	**262**	*i* P	**P**	**21 34 41.2**	**-1.3**
WRA				pmax	pmax		
	comp=Z,10.0nm,0.3s						
AS01	**Alice Springs**	**33.12**	**256**	*e*P	**P**	**21 34 44.6**	**-0.3**
AS01				*e*S	**S**	**21 39 44.8**	**-3.0**
AS31	**Alice Springs**	**33.16**	**256**	*e*P	**P**	**21 34 45.2**	**0.0**
	comp=Z,60nm,0.8s						
AS31				*e*S	**S**	**21 39 47.1**	**-1.3**
ASAR	**Alice Springs**	**33.16**	**256**	P	**P**	**21 34 45.1**	**0.0**
	comp=Z,122nm,0.6s,baz=84,slow=8.9,SNR=1504						
ASAR				PcP	**PcP**	**21 37 22.4**	**-0.4**
	comp=Z,6.5nm,0.8s,baz=104,slow=3.6,SNR=7.4						
ASAR				S	**S**	**21 39 45.0**	**-3.5**
	comp=Z,10nm,0.9s,baz=83,slow=18,SNR=24						
ASAR				ScP	**ScP**	**21 40 46.9**	**+0.5**
	comp=Z,2.4nm,1.0s,baz=102,slow=3.3,SNR=4.7						
ASAR				PKiKP	**PKiKP**	**21 44 46.4**	**-2.1**
	comp=Z,0.8nm,0.7s,baz=98,slow=1.9,SNR=6.8						
ASAR				P3KPbc		22 05 57.0	
	comp=Z,1.0nm,0.8s,baz=261,slow=4.4,SNR=6.2						
SMPI	**Sarmi**	**34.25**	**296**	P	**P**	**21 34 56.7**	**+2.1**
	comp=Z,20nm,2.1s						
MTN	**Manton Dam**	**37.04**	**274**	*e*P	**P**	**21 35 18.4**	**+0.1**
	comp=Z,30nm,0.6s						
MTN				*e*S	**S**	**21 40 46.2**	**-1.6**
KNRA	**Kununurra**	**38.67**	**268**	P	**P**	**21 35 31.6**	**-0.3**
	baz=39,SNR=15						
FORT	**Forrest**	**38.95**	**244**	*e*P	**P**	**21 35 34.5**	**+0.4**
	comp=Z,261nm,0.8s						
GUMO	**Guam**	**40.20**	**322**	P	**P**	**21 35 43.3**	**-1.1**
	comp=Z,60nm,0.5s,baz=181,slow=12,SNR=3.6						
FITZ	**Fitzroy Crossi**	**41.23**	**264**	P	**P**	**21 35 53.3**	**+0.4**
	comp=Z,40nm,0.8s,baz=106,slow=7.9						
FITZ				pP	**pP**	**21 36 41.6**	**+2.7**
	comp=Z,20nm,0.9s,baz=97,slow=10,SNR=4.3						
FITZ				S	**S**	**21 41 47.7**	**-2.5**
	comp=Z,4.4nm,1.1s,baz=266,slow=23,SNR=3.3						
FITZ	**Fitzroy Crossi**	**41.23**	**264**	P	**P**	**21 35 53.3**	**+0.4**
	baz=41,SNR=42						
FITZ	**Fitzroy Crossi**	**41.23**	**264**	*e*P	**P**	**21 35 53.3**	**+0.4**
	comp=Z,28nm,0.7s						
FITZ				*e*pP	**pP**	**21 36 41.7**	**+2.8**
FITZ				*e*PP	**PP**	**21 37 31.0**	**-2.0**
FITZ				*e*S	**S**	**21 41 50.4**	**+0.2**
MBWA	**Marble Bar**	**46.37**	**258**	*e*P	**P**	**21 36 33.9**	**+0.1**
	comp=Z,26nm,0.8s						
KIP	**Kipapa**	**51.35**	**40**	*d i*P	**P**	**21 37 11.4**	**-0.1**
KIP				pmax	pmax		
	comp=Z,464nm,0.9s						
MWH	**Moku'aweowe**	**51.47**	**44**	*e*P	**P**	**21 37 12.9**	**-0.1**
	comp=Z,127nm,0.9s						
AIN	**Ainahou**	**51.48**	**44**	*e*P	**P**	**21 37 13.0**	**+0.3**
	comp=Z,140nm,0.8s						
MLOA	**Mauna Loa Obse**	**51.52**	**44**	*e*P	**P**	**21 37 11.8**	**-1.5**
	comp=Z,172nm,0.9s						
SDHHI	**Sand Hill**	**51.60**	**44**	*e*P	**P**	**21 37 11.6**	**-1.9**
	comp=Z,91nm,0.8s						
MLH	**Mauna Loa**	**51.61**	**44**	*e*P	**P**	**21 37 14.0**	**+0.3**
MLH				pmax	pmax		
	comp=Z,148nm,1.0s						
MLH	**Mauna Loa**	**51.61**	**44**	*e*P	**P**	**21 37 14.0**	**+0.3**
	comp=Z,148nm,1.0s						
RIM	**Rim**	**51.62**	**44**	*e*P	**P**	**21 37 14.1**	**+0.5**
	comp=Z,96nm,0.9s						
KKO	**Keanakako'i**	**51.62**	**44**	*e*P	**P**	**21 37 12.6**	**-1.1**
	comp=Z,98nm,0.8s						
STCH	**Steam Cracks**	**51.71**	**45**	*e*P	**P**	**21 37 12.2**	**-2.1**
	comp=Z,161nm,0.8s						
NPOC	**North of Pu'u**	**51.73**	**45**	*e*P	**P**	**21 37 13.6**	**-0.8**
	comp=Z,163nm,0.8s						
HPAH	**Hawaii Prepara**	**51.79**	**44**	*e*P	**P**	**21 37 14.3**	**-0.6**
	comp=Z,291nm,1.0s						
MYLDM	**Lahad Datu**	**55.35**	**290**	*e*P	**P**	**21 37 42.4**	**+1.7**
	comp=Z,28nm,1.2s						
TGY	**Tagaytay City**	**57.74**	**301**	P	**P**	**21 37 57.5**	**-0.1**
	comp=Z,30nm,0.3s,baz=159,slow=6.0,SNR=4.9						
KKM	**Kota Kinabalu**	**57.77**	**290**	*e*P	**P**	**21 37 55.8**	**-2.1**
	comp=Z,30nm,1.3s						
VNDA	**Vanda**	**58.77**	**182**	P	**P**	**21 38 04.0**	**+0.3**
	comp=Z,3.2nm,0.8s,baz=2.4,slow=7.8,SNR=19						
VNDA	**Vanda**	**58.77**	**182**	P	**P**	**21 38 04.0**	**+0.3**
VNDA				pmax	pmax		
	comp=Z,3.0nm,0.8s						
VNDA	**Vanda**	**58.77**	**182**	*e*P	**P**	**21 38 04.1**	**+0.4**
SBA	**Scott Base**	**59.00**	**181**	*e*P	**P**	**21 38 06.7**	**+1.4**
SBA				pmax	pmax		
	comp=Z,40nm,1.0s						
SBA	**Scott Base**	**59.00**	**181**	*e*P	**P**	**21 38 06.7**	**+1.4**
	comp=Z,40nm,1.0s						
KSM	**Kuching**	**61.25**	**283**	*e*P	**P**	**21 38 21.5**	**-0.1**
	comp=Z,22nm,1.0s						
KSM				*e*PcP	**PcP**	**21 39 01.8**	**-0.2**
MJAR	**Matsushiro Arr**	**62.43**	**332**	P	**P**	**21 38 27.9**	**-1.0**
	comp=Z,30nm,1.1s,baz=165,slow=7.2,SNR=37						
MAJO	**Matsushiro**	**62.43**	**332**	*i*P	**P**	**21 38 29.2**	**+0.2**
MAJO				pmax	pmax		
	comp=Z,247nm,1.1s						
MAJO	**Matsushiro**	**62.43**	**332**	*e*P	**P**	**21 38 28.4**	**-0.6**
	comp=Z,37nm,0.9s						
MAT	**Matsushiro**	**62.43**	**332**	P	**P**	**21 38 28.3**	**-0.7**
MJB9	**Matsu-Tunnel**	**62.43**	**332**	*e*P	**P**	**21 38 29.1**	**+0.1**
	comp=Z,9.9nm,0.9s						
NACB	**Ninganchiao**	**63.12**	**311**	*e*P	**P**	**21 38 33.4**	**-0.4**
	comp=Z,95nm,1.2s						
TPUB	**Ta-pu**	**63.29**	**310**	*e*P	**P**	**21 38 34.2**	**-0.7**
	comp=Z,54nm,0.9s						
SSLB	**Suanglung**	**63.35**	**310**	*e*P	**P**	**21 38 34.2**	**-1.0**
	comp=Z,35nm,0.7s						
JNU	**Nakatsue**	**63.36**	**324**	P	**P**	**21 38 34.8**	**-0.4**
	comp=Z,28nm,0.8s,baz=170,slow=0.7,SNR=12						
JNU	**Nakatsue**	**63.36**	**324**	*e*P	**P**	**21 38 34.7**	**-0.5**
	comp=Z,54nm,1.0s						
YHNB	**Yeheng**	**63.59**	**311**	*e*P	**P**	**21 38 36.2**	**-0.6**
	comp=Z,90nm,1.2s						
ERM	**Erimo**	**65.21**	**339**	*i*P	**P**	**21 38 48.5**	**+1.6**
ERM				pmax	pmax		
	comp=Z,35nm,1.2s						
KUR	**Kuril'sk**	**66.71**	**344**	*i*P	**P**	**21 38 57.5**	**+1.1**
ASAJ	**Asahikawa**	**67.27**	**340**	*e*P	**P**	**21 39 00.8**	**+0.9**
	comp=Z,104nm,0.9s						
MIR	**Mirnyy**	**67.32**	**205**	*i* P	**P**	**21 39 02.0**	**+2.0**
MIR				pmax	pmax		
	comp=Z,5.0nm,1.3s						
KSRS	**Korea Array**	**68.20**	**326**	P	**P**	**21 39 06.2**	**+0.3**
	comp=Z,5.6nm,1.0s,baz=135,slow=6.2,SNR=11						
KSAR	**Wonju Array Be**	**68.21**	**326**	P	**P**	**21 39 06.2**	**+0.2**
KSAR	**Wonju Array Be**	**68.21**	**326**	P	**P**	**21 39 06.2**	**+0.2**
KS01	**Wonju Array Si**	**68.23**	**326**	*e*P	**P**	**21 39 06.1**	**0.0**
QIZ	**Qiongzhong**	**69.37**	**300**	P	**P**	**21 39 15.3**	**+1.8**
QIZ				sP	**sP**	**21 40 24.0**	**-4.0**
QIZ				S	**S**	**21 48 06.8**	**+4.0**
QIZ				LR	LR		
	comp=Z,310nm,7.0s						
YSS	**Yuzh-Sakhalins**	**69.74**	**341**	*e*P	**P**	**21 39 16.5**	**+1.3**
YSS				*e*		21 39 34.9	
YSS				pmax	pmax		
	comp=Z,100nm,0.9s						
YSS	**Yuzh-Sakhalins**	**69.74**	**341**	*e*P	**P**	**21 39 15.6**	**+0.5**
	comp=Z,114nm,1.0s						
NJ2	**Nanjing**	**69.93**	**316**	*e*P	**P**	**21 39 18.8**	**+2.1**
NJ2				pmax	pmax		
	comp=Z,21nm,0.5s						
MSHR	**Mys Shultsa**	**70.50**	**331**	*e*P	**P**	**21 39 20.7**	**+0.8**
VLA	**Vladivostok**	**70.60**	**332**	*i*P	**P**	**21 39 21.3**	**+0.9**
VLA				pmax	pmax		
	comp=Z,22nm,1.0s						
QSPA	**South Pole Qui**	**71.15**	**180**	*e*P	**P**	**21 39 23.7**	**0.0**
	comp=Z,151nm,1.0s						
QSPA				*e*pP	**pP**	**21 40 13.4**	**-1.5**
USRK	**Ussuriysk Ar.**	**71.41**	**333**	P	**P**	**21 39 25.2**	**-0.1**
	comp=Z,29nm,1.0s,baz=139,slow=4.5,SNR=43						
KULM	**Kulim**	**71.61**	**282**	*e*P	**P**	**21 39 27.4**	**+0.2**
WHN	**Wuhan**	**72.08**	**312**	*i*P	**P**	**21 39 30.1**	**+0.5**
WHN				pmax	pmax		
	comp=Z,90nm,1.0s						
PET	**Petropavlovsk**	**72.20**	**353**	*i* P	**P**	**21 39 30.0**	**+0.3**
PET				pmax	pmax		
	comp=Z,59nm,0.9s						
PET	**Petropavlovsk**	**72.20**	**353**	*e*P	**P**	**21 39 30.1**	**+0.3**
	comp=Z,192nm,1.4s						
ATKA	**Atka Island**	**72.27**	**11**	*e*P	**P**	**21 39 29.8**	**-0.4**
PSI	**Prapat**	**72.32**	**279**	*e*P	**P**	**21 39 30.5**	**-1.1**
PSI	**Prapat**	**72.32**	**279**	*e*P	**P**	**21 39 30.5**	**-1.1**
PEA0	**Petropavlovsk-**	**72.39**	**353**	*e*P	**P**	**21 39 31.6**	**+0.6**
PEA0B	**Petropavlovsk-**	**72.39**	**353**	*e*P	**P**	**21 39 31.7**	**+0.7**
	comp=Z,160nm,1.0s						
PETK	**Petropavlovsk-**	**72.39**	**353**	P	**P**	**21 39 31.6**	**+0.6**
	comp=Z,96nm,0.8s,baz=139,slow=7.5,SNR=62						
PETK	**Petropavlovsk-**	**72.39**	**353**	P	**P**	**21 39 31.6**	**+0.6**
PETK				pmax	pmax		
	comp=Z,95nm,0.7s						
DL2	**Dalian**	**72.71**	**323**	P	**P**	**21 39 33.8**	**+0.6**
DL2				pmax	pmax		
	comp=Z,110nm,0.9s						
MDJ	**Mudanjiang**	**72.80**	**332**	P	**P**	**21 39 34.3**	**+0.7**
MDJ				pP	pP	21 40 21.4	-3.7
MDJ				sP	sP	21 40 43.8	-4.6
MDJ				S	**SKiKP**	**21 48 43.1**	**-1.2**
MDJ				sS	sS	21 50 02.4	-8.9
MDJ				SS	**SS**	**21 53 26.8**	**+0.2**
MDJ				pmax	pmax		
	comp=Z,44nm,1.1s						
MDJ				pmax	pmax		
	comp=Z,130nm,5.0s						
MDJ				LR	LR		
	comp=Z,91nm,28.9s						
MDJ				LR	LR		
	comp=Z,87nm,26.7s						
MDJ				LR	LR		
	comp=Z,54nm,20.0s						
MDJ	**Mudanjiang**	**72.80**	**332**	*e*P	**P**	**21 39 34.0**	**+0.5**
	comp=Z,42nm,1.0s						
TYV	**Tymovskoe**	**73.28**	**343**	*e*P	**P**	**21 39 36.8**	**+0.6**
TYV				pmax	pmax		
	comp=Z,36nm,1.3s						
SKNT	**Sakolnakorn**	**73.35**	**295**	P	**P**	**21 39 37.7**	**+0.3**
	comp=Z,79nm,1.2s						
TIA	**Tai'an**	**73.66**	**318**	*i*P	**P**	**21 39 38.8**	**0.0**
TIA				pmax	pmax		
	comp=Z,50nm,0.9s						
HABR	**Khabarovsk**	**73.67**	**337**	*e*P	**P**	**21 39 37.7**	**-0.8**
HABR				*e*		21 39 52.1	
HABR				*e**PP	**pP**	**21 40 29.4**	**-0.7**
HABR				*e**SP	**sP**	**21 40 53.2**	**-0.2**
HABR				*e*		21 42 24.6	
HABR				*e*PPP	PPP	21 44 10.6	
HABR				*e*S	**S**	**21 48 50.3**	**-0.5**
HABR				*e*		21 49 25.4	
HABR				SS	**SS**	**21 53 38.6**	**-1.0**
HABR				pmax	pmax		
	comp=N,12nm,1.0s						
HABR				pmax	pmax		
	comp=E,14nm,1.0s						
HABR				pmax	pmax		
	comp=Z,68nm,1.0s						
HABR				MLR	MLR		
	comp=Z,73nm,21.0s						
CN2	**Changchun**	**74.14**	**329**	*e*P	**P**	**21 39 41.6**	**+0.2**
CN2				*e*PP	**PP**	**21 42 31.8**	**+1.4**
CN2				*e*S	**S**	**21 48 57.3**	**+1.0**
CN2				pmax	pmax		
	comp=Z,60nm,0.8s						
CN2				pmax	pmax	

CMAR PKPPKP **P'P'df** **22 07 06.5 +1.1**
comp=Z,1.0nm,1.0s,baz=279,slow=2.7,SNR=4.1
CMMT Chiang Mai 78.46 295 P **P** **21 40 07.1 +0.9**
comp=Z,35nm,1.1s,comp=Z,511nm
CHTO Chiang Mai 78.46 295 P **P** **21 40 07.2 +0.9**
comp=Z,159nm,1.1s
CHTO Chiang Mai 78.46 295 *e*P **P** **21 40 07.2 +0.9**
CHTO pmax pmax
comp=Z,17nm,0.8s
CHTO Chiang Mai 78.46 295 *e*P **P** **21 40 07.2 +0.9**
comp=Z,16nm,0.8s
MAW Mawson 78.73 202 P **P** **21 40 07.7 +0.9**
comp=Z,15nm,0.9s,baz=115,slow=6.7,SNR=35
MAW pP **pP** **21 41 00.7 +1.6**
comp=Z,8.2nm,1.0s,baz=108,slow=9.2,SNR=3.5
MAW Mawson 78.73 202 P **P** **21 40 07.9 +1.1**
baz=79,SNR=22
MA2 Magadan 79.63 351 P **P** **21 40 10.5 -1.1**
comp=Z,15nm,0.7s,baz=179,slow=5.8,SNR=6.5
MA2 Magadan 79.63 351 *d* *i*P **P** **21 40 11.5 -0.1**
HHC Hu-ho-hao-te 79.93 319 *e*P **P** **21 40 14.9 +1.1**
HHC pP pP 21 41 04.4 -1.9
HHC sP sP 21 41 26.0 -3.4
HHC PP **PP** **21 43 19.9 +0.9**
HHC S **S** **21 50 02.1 +3.0**
HHC SKS **SKSac** **21 50 08.3 -1.8**
HHC SS **SS** **21 55 15.5 +1.1**
HHC pmax pmax
comp=Z,34nm,1.3s
HHC pmax pmax
comp=Z,200nm,5.3s
CD2 Chengdu 79.99 307⇑ *i*P **P** **21 40 14.8 +0.5**
CD2 pP pP 21 41 01.3 -5.5
CD2 PP **PP** **21 43 15.9 -3.7**
CD2 S **S** **21 49 59.3 -0.7**
CD2 SS **SS** **21 55 21.0 +5.4**
CD2 pmax pmax
comp=Z,40nm,1.2s
CD2 pmax pmax
comp=Z,370nm,6.6s
HIA Hailar 80.79 330 *e*P **P** **21 40 17.5 -0.6**
HIA pmax pmax
comp=Z,49nm,1.3s
HIA Hailar 80.79 330 *e*P **P** **21 40 17.5 -0.6**
comp=Z,49nm,1.3s
OHAK Old Harbor 82.05 20 *e*P **P** **21 40 24.8 +0.3**
comp=Z,32nm,0.7s
LZH Lanzhou 82.46 312 ⇑P **P** **21 40 28.8 +1.4**
LZH pP pP 21 41 20.0 -0.1
LZH sP sP 21 41 42.0 -1.1
LZH PP **PP** **21 43 43.5 +3.5**
LZH *e*S **S** **21 50 26.3 +0.8**
LZH sS sS 21 51 57.0 -0.8
LZH SS **SS** **21 55 54.0 +1.6**
LZH pmax pmax
comp=Z,61nm,1.0s
LZH pmax pmax
comp=Z,360nm,4.5s
SEY Seymchan 82.63 352 P **P** **21 40 26.8 -0.5**
comp=Z,7.3nm,0.5s,baz=152,slow=5.9,SNR=27
SEY Seymchan 82.63 352 *c* *i*P **P** **21 40 27.4 +0.1**
KDAK Kodiak Island 82.73 20 P **P** **21 40 27.6 -0.3**
comp=Z,85nm,0.9s,baz=206,slow=1.8,SNR=20
KDAK Kodiak Island 82.73 20 *i*P **P** **21 40 28.5 +0.6**
KDAK Kodiak Island 82.73 20 *e*P **P** **21 40 28.6 +0.6**
CLNS Chul'man 84.06 337 *e*P **P** **21 40 35.7 +0.9**
CLNS pmax pmax
comp=Z,80nm,1.0s
CLNS pmax pmax
comp=N,30nm,1.0s
CLNS pmax pmax
comp=E,11nm,1.0s
HOM Homer 84.53 19 *e*P **P** **21 40 37.6 +0.5**
CNPM China Poot 84.55 19 *e*P **P** **21 40 37.2 -0.1**
SVW2 Sparrevohn 84.59 16 *e*P **P** **21 40 37.5 +0.1**
BRLK Bradley Lake 84.85 19 *e*P **P** **21 40 39.2 +0.5**
RSO Redoubt South 84.85 18 *e*P **P** **21 40 38.8 -0.2**
SYO Syowa Base 85.24 196⇓ *e*P **P** **21 40 39.0 -1.6**
SNCC San Nicolas Is 85.48 53 P **P** **21 40 43.2 +0.7**
baz=244
KCPM Cahto Peak 85.53 46 *e*P **P** **21 40 44.2 +1.5**
HOPS Hopland Field 85.54 46 *e*P **P** **21 40 43.8 +1.2**
SAO San Andreas Ge 85.64 49 *e*P **P** **21 40 43.9 +0.7**
SAO San Andreas Ge 85.64 49 *e*P **P** **21 40 43.9 +0.7**
GDXM Geysers 85.65 47 *e*P **P** **21 40 44.9 +1.7**
KMRM Mail Ridge 85.70 45 *e*P **P** **21 40 45.2 +1.7**
BSC Santa Cruz Isl 85.72 52 P **P** **21 40 44.3 +0.7**
baz=244
PMPB Monarch Peak 85.85 50 *e*P **P** **21 40 45.7 +1.4**
SBC Santa Barbara 85.86 52 P **P** **21 40 45.3 +1.0**
baz=244
PKM Mcpherson Peak 85.98 51 P **P** **21 40 46.0 +0.9**
baz=244
KHMM Horse Mountain 86.00 44 *e*P **P** **21 40 46.5 +1.5**
PAGB Antelope Grade 86.04 50 *e*P **P** **21 40 46.3 +1.1**
SMMC Simmler 86.04 51 P **P** **21 40 46.2 +1.0**
baz=244
SCI San Clemente I 86.11 53 P **P** **21 40 46.3 +0.8**
baz=245
KRMB Red Mountain 86.20 44 *e*P **P** **21 40 47.3 +1.3**
SUA Susitna One 86.25 18 *e*P **P** **21 40 45.2 -0.5**
RC01 Rabbit Creek A 86.25 19 *e*P **P** **21 40 44.9 -0.7**
comp=E,20nm,0.8s
KBO Bosley Butte 86.33 43 *e*P **P** **21 40 48.0 +1.5**
YAK Yakutsk 86.53 343 P **P** **21 40 46.3 -0.5**
comp=E,16nm,0.3s,baz=43,slow=1.0,SNR=16
YAK Yakutsk 86.53 343 *i*P **P** **21 40 47.0 +0.1**
YAK pmax pmax
comp=Z,85nm,1.0s
YAK Yakutsk 86.53 343 *e*P **P** **21 40 46.6 -0.3**
ULN Ulaanbaatar 86.56 323 *c* *i*P **P** **21 40 47.9 +0.3**
ULN pmax pmax
comp=Z,62nm,1.0s
ULN Ulaanbaatar 86.56 323 *e*P **P** **21 40 47.8 +0.2**
comp=Z,53nm,0.9s
KEBM Edson Butte 86.59 42 *e*P **P** **21 40 49.5 +1.8**
FMP Fort Macarthur 86.61 53 P **P** **21 40 48.7 +0.7**
baz=245
WDC Whiskeytown Da 86.66 45 *e*P **P** **21 40 48.9 +0.9**
WDC Whiskeytown Da 86.66 45 *e*P **P** **21 40 48.9 +0.9**
OSI Osito Audit: C 86.67 52 P **P** **21 40 49.1 +0.8**
baz=244
L02D Cave Junction, 86.71 43 P **P** **21 40 49.3 +1.0**
baz=241,SNR=8.5
BILL Bilibino 86.71 359 *d* *i*P **P** **21 40 47.2 -0.4**
BILL *e* 21 44 15.3
BILL pmax pmax
comp=Z,82nm,0.9s
N02D Trinity Center 86.73 45 P **P** **21 40 49.7 +1.2**
baz=242,SNR=32
DECC Green Verdugo 86.81 52 P **P** **21 40 49.2 +0.2**
baz=245
ARVC Arvin 86.81 51 P **P** **21 40 49.6 +0.7**
baz=244
PMR Palmer 86.83 19 *e*P **P** **21 40 47.4 -0.9**
PMR pmax pmax
comp=Z,10.0nm,0.5s
PMR Palmer 86.83 19 *e*P **P** **21 40 47.4 -0.9**
comp=Z,9.6nm,0.5s
M02C Callahan 86.83 44 P **P** **21 40 50.3 +1.3**
baz=242,SNR=30
GTA Gaotai 86.86 313 ⇑P **P** **21 40 49.6 +0.4**
GTA pP pP 21 41 44.8 +2.3
GTA sP sP 21 42 06.6 +1.2
GTA S **S** **21 51 08.8 +0.2**
GTA SS **SS** **21 57 01.8 +5.1**
GTA pmax pmax
comp=Z,41nm,1.3s
GTA pmax pmax
comp=Z,150nm,6.4s
ORV Oroville 86.89 46 *e*P **P** **21 40 49.7 +0.6**
ORV Oroville 86.89 46 *e*P **P** **21 40 49.7 +0.6**
SONM Songino Array 86.92 323 P **P** **21 40 49.3 0.0**
comp=Z,39nm,1.0s,baz=147,slow=5.7,SNR=191
SONM PKPbc **PKKPbc** **21 58 41.8 -1.9**
comp=Z,1.2nm,1.0s,baz=276,slow=3.3,SNR=5.7
SONA1 Songino Array 86.92 323 *e*P **P** **21 40 48.6 -0.7**
VES Vestal, Richgr 86.94 51 P **P** **21 40 49.8 +0.3**
baz=244
CMB Columbia Colle 86.97 48 *e*P **P** **21 40 50.2 +0.5**
CMB pmax pmax
comp=Z,182nm,0.9s
CMB Columbia Colle 86.97 48 *e*P **P** **21 40 50.2 +0.5**
comp=Z,182nm,0.9s
AFDM Forest Hills D 86.97 47 *e*P **P** **21 40 50.2 +0.5**

MWC Mount Wilson 87.00 52 *e*P **P** **21 40 50.5 +0.4**
MWC Mount Wilson 87.00 52 *e*P **P** **21 40 50.5 +0.4**
RCTC Rector, Farmer 87.02 50 P **P** **21 40 50.1 +0.2**
baz=244
YBH Yreka Blue Hor 87.09 44 *e*P **P** **21 40 50.8 +0.6**
YBH Yreka Blue Hor 87.09 44 *e*P **P** **21 40 50.8 +0.6**
SHL Shillong 87.15 298 *i*P **P** **21 40 53.0 +2.1**
109C Camp Elliot, M 87.17 54 P **P** **21 40 51.2 +0.6**
baz=246
SML Sawmill 87.23 19 *e*P **P** **21 40 49.0 -1.3**
SML pmax pmax
comp=Z,9.0nm,1.2s
SML Sawmill 87.23 19 *e*P **P** **21 40 49.0 -1.3**
comp=Z,9.2nm,1.2s
PMSA Palmer Station 87.25 160 *e*P **P** **21 40 50.4 0.0**
comp=Z,30nm,1.1s
ISA Isabella, Lake 87.31 51 P **P** **21 40 52.1 +0.7**
baz=245,SNR=12
ISA Isabella, Lake 87.31 51 *e*P **P** **21 40 52.1 +0.7**
ISA Isabella, Lake 87.31 51 *e*P **P** **21 40 52.1 +0.7**
BFSC Mount Baldy Ra 87.31 53 P **P** **21 40 51.7 +0.2**
baz=245,SNR=13
EDW2 Edwards Air Fo 87.33 52 P **P** **21 40 52.0 +0.5**
baz=245,SNR=18
HUMO Hull Mountain 87.35 43 *e*P **P** **21 40 52.2 +0.9**
comp=Z,136nm,0.8s
MURC Murrieta 87.39 53 P **P** **21 40 52.2 +0.4**
baz=245,SNR=6.8
BAR Barrett 87.41 54 *e*P **P** **21 40 52.3 +0.4**
CAST Castle Rocks 87.44 16 *e*P **P** **21 40 49.3 -2.0**
SCM Sheep Creek Mo 87.56 19 *e*P **P** **21 40 51.3 -0.7**
SCM Sheep Creek Mo 87.56 19 *e*P **P** **21 40 51.3 -0.7**
LBCM Butte Creek Ri 87.58 45 P **P** **21 40 53.3 +0.7**
I03D Drain, OR 87.62 42 P **P** **21 40 53.3 +0.8**
baz=241,SNR=9.5
M04C Macdoel 87.69 44 P **P** **21 40 53.9 +0.8**
baz=242,SNR=14
MONP Monument Peak, 87.69 54 P **P** **21 40 54.2 +0.7**
baz=246,SNR=24
KLU Klutina 87.75 20 *e*P **P** **21 40 52.1 -0.8**
BEKR Beckworth 87.81 47 *e*P **P** **21 40 54.6 +0.8**
LRMC Laurel Mtn Rad 87.81 51 P **P** **21 40 54.4 +0.6**
baz=245,SNR=41
IKP In-Ko-Pah, Jac 87.83 55 P **P** **21 40 54.7 +0.8**
baz=246,SNR=13
BBRC Big Bear Solar 87.87 53 P **P** **21 40 55.0 +0.7**
baz=246
MLAC Mammoth, Mammo 87.89 49 P **P** **21 40 55.1 +0.9**
baz=244
CWC Cottonwood Cre 87.93 50 P **P** **21 40 54.9 +0.5**
baz=245
PFO Pinyon Flats O 87.96 54 P **P** **21 40 55.0 +0.5**
baz=246,SNR=8.2
TPFO Pinon Flats 87.96 54 P **P** **21 40 55.0 +0.5**
baz=246,SNR=8.1
PNTR Pine Nut 87.99 47 *e*P **P** **21 40 55.6 +0.9**
RRX Edison Barstow 88.07 52 P **P** **21 40 55.7 +0.8**
baz=246
TIN Tinemaha, Big 88.08 50 P **P** **21 40 56.0 +1.0**
baz=245
K04D Chiloquin, OR 88.14 44 P **P** **21 40 56.1 +0.9**
baz=242
SWSC Sam W. Stewart 88.19 54 P **P** **21 40 56.2 +0.8**
baz=246,SNR=11
YERR Yerington 88.19 48 *e*P **P** **21 40 56.7 +1.1**
J04D Umpqua Nationa 88.20 43 P **P** **21 40 56.4 +0.8**
baz=242,SNR=12
MPMC Manual Prospec 88.20 51 P **P** **21 40 56.3 +0.6**
baz=245,SNR=36
DAC Darwin (Calif) 88.21 51 *e*P **P** **21 40 56.0 +0.2**
DAC pmax pmax
comp=Z,61nm,1.5s
DAC Darwin (Calif) 88.21 51 *e*P **P** **21 40 56.0 +0.2**
comp=Z,61nm,1.5s
TVH3 East Aurora ar 88.22 48 *e*P **P** **21 40 57.0 +1.2**
I04A Tendick Farm, 88.26 42 P **P** **21 40 56.0 +0.4**
baz=242,SNR=21
RND Reindeer 88.32 18 *e*P **P** **21 40 54.2 -1.2**
RND Reindeer 88.32 18 *e*P **P** **21 40 54.2 -1.2**
GSC Goldstone, Bar 88.39 52 P **P** **21 40 57.0 +0.5**
baz=246,SNR=16
GSC Goldstone, Bar 88.39 52 *e*P **P** **21 40 57.0 +0.5**
GSC Goldstone, Bar 88.39 52 *e*P **P** **21 40 57.0 +0.5**
G03D McMinnville, O 88.41 41 P **P** **21 40 57.1 +0.9**
baz=241,SNR=5.9
BELC Belle Mtn. Jos 88.47 53 P **P** **21 40 57.7 +0.7**
baz=246,SNR=31
HEC Hector,Ludlow 88.55 52 P **P** **21 40 57.6 +0.4**
baz=246,SNR=27
MCK McKinley 88.55 17 *e*P **P** **21 40 54.7 -1.8**
MCK McKinley 88.55 17 *e*P **P** **21 40 54.7 -1.8**
GRAC Grapevine Rang 88.68 50 P **P** **21 40 58.6 +0.9**
baz=245,SNR=15
BC3 Big Chuckawall 88.74 54 P **P** **21 40 59.0 +0.8**
baz=246,SNR=24
K05A Summer Lake 88.75 44 *e*P **P** **21 40 59.2 +1.0**
MOD Modoc Plateau 88.77 45 *e*P **P** **21 40 57.9 -0.2**
comp=Z,47nm,1.0s
J05D Fort Rock, OR 88.78 43 P **P** **21 40 59.2 +1.0**
baz=243,SNR=93
FURC Furnace Creek, 88.83 51 P **P** **21 40 59.2 +0.8**
baz=246,SNR=31
E03A Lebam 88.87 40 *e*P **P** **21 40 59.0 +0.7**
F04D Rainier, OR 88.98 40 P **P** **21 40 59.7 +0.9**
baz=241
GLA Glamis 88.98 55 P **P** **21 41 00.4 +1.1**
baz=247,SNR=26
GLA Glamis 88.98 55 *e*P **P** **21 41 00.6 +1.3**
GLA Glamis 88.98 55 *e*P **P** **21 41 00.6 +1.3**
BOD Bodaibo 89.01 334 *e*P **P** **21 40 57.6 -1.1**
BOD pmax pmax
comp=Z,56nm,1.4s
SHOC Shoshone, Teco 89.03 52 P **P** **21 40 59.9 +0.5**
baz=246,SNR=9.5
GMRC Granite Mounta 89.04 53 P **P** **21 41 00.1 +0.5**
baz=246,SNR=22
NLWA Neilton Lookou 89.10 39 *e*P **P** **21 41 00.2 +0.8**
comp=Z,55nm,1.1s
TUQ Turquoise Moun 89.10 52 P **P** **21 41 00.4 +0.5**
baz=246,SNR=27
IRM Iron Mountain 89.18 53 P **P** **21 41 01.1 +0.9**
baz=247,SNR=45
NVL N'lazarevskaya 89.19 187 *e*P **P** **21 40 57.6 -1.9**
I05D Terronne, OR 89.20 42 P **P** **21 41 00.7 +0.7**
baz=242,SNR=24
F04A Amboy 89.27 40 *e*P **P** **21 41 01.0 +0.8**
LSA Lhasa 89.31 302 P **P** **21 41 01.8 +0.4**
LSA pmax pmax
comp=Z,7.0nm,0.4s
LSA Lhasa 89.31 302 *e*P **P** **21 41 01.1 -0.3**
LSA pmax pmax
comp=Z,11nm,0.6s
LSA Lhasa 89.31 302 *e*P **P** **21 41 01.1 -0.3**
comp=Z,11nm,0.6s
WRH Wood River Hil 89.36 17 *e*P **P** **21 40 58.7 -1.5**
TPNV Topopah Spring 89.48 51 P **P** **21 41 02.3 +0.7**
baz=246,SNR=49
TPNV Topopah Spring 89.48 51 *e*P **P** **21 41 02.1 +0.5**
TPNV Topopah Spring 89.48 51 *e*P **P** **21 41 02.1 +0.5**
SLBS Sierra La Lagu 89.48 65 *e*P **P** **21 41 03.7 +1.8**
Y12C Blythe 89.49 54 P **P** **21 41 02.5 +0.9**
baz=247,SNR=14
Y12C Blythe 89.49 54 *e*P **P** **21 41 02.9 +1.4**
SNAA Sanae 89.50 183 *d* *i*P **P** **21 41 00.6 -0.5**
SNAA Sanae 89.50 183 *e*P **P** **21 40 59.9 -1.1**
SNAA epP **pP** **21 41 52.9 -1.7**
MENT Mentasta 89.51 20 *e*P **P** **21 41 00.4 -0.6**
LDFC Landfair 89.57 53 *e*P **P** **21 41 03.1 +1.1**
CCB Clear Creek Bu 89.57 17 *e*P **P** **21 40 59.4 -1.8**
VFP Flag Point 89.58 41 P **P** **21 41 02.3 +0.4**
TDL Tradedollar La 89.59 40 P **P** **21 41 02.9 +1.0**
G05D Wamic, OR 89.63 41 P **P** **21 41 02.7 +0.7**
baz=242
MDM Murphy Dome 89.69 17 *e*P **P** **21 40 60.0 -1.8**
HDW Hoodsport 89.71 39 P **P** **21 41 03.5 +1.1**
COLA College 89.73 17 *e*P **P** **21 41 00.7 -1.2**
COLA pmax pmax
comp=Z,41nm,0.9s
COLA College 89.73 17 *e*P **P** **21 41 00.7 -1.2**
comp=Z,41nm,0.9s
NEE2 Needles Airpor 89.82 53 P **P** **21 41 04.0 +1.0**
baz=247,SNR=5.8
DOT Dot Lake 89.92 19 *e*P **P** **21 41 01.1 -1.8**
ILAR Eielson Array 89.92 17 P **P** **21 41 01.1 -1.7**
comp=Z,14nm,0.7s,baz=237,slow=4.8,SNR=105

ILB Eielson Array 89.92 17 *e*P **P** **21 41 01.1 -1.7**
BLN Blyn Mountain 89.93 38 P **P** **21 41 04.5 +1.2**
ZAK Zakamensk 89.99 324 *e*P **P** **21 41 02.5 -1.1**
ZAK pmax pmax
comp=Z,23nm,1.4s
PDMCI Parker Dam,Lak 90.00 54 P **P** **21 41 04.7 +0.8**
baz=247,SNR=46
LON Longmire 90.03 40 *e*P **P** **21 41 04.1 +0.2**
LON Longmire 90.03 40 *e*P **P** **21 41 04.1 +0.2**
SHPR Sheep Range 90.10 51 *e*P **P** **21 41 05.5 +0.9**
WVOR Wild Horse Val 90.11 45 P **P** **21 41 05.3 +0.9**
D05A Enumclaw 90.13 39 *e*P **P** **21 41 05.8 +1.6**
214A Organ Pipe Nat 90.13 56 P **P** **21 41 05.4 +0.7**
baz=248,SNR=27
214A Organ Pipe Nat 90.13 56 *e*P **P** **21 41 05.6 +0.9**
comp=Z,237nm,1.2s
SKAG Skagway 90.16 25 *e*P **P** **21 41 03.8 -0.3**
BMN Battle Mountai 90.22 47 *e*P **P** **21 41 05.6 +0.6**
BMN pmax pmax
comp=Z,31nm,0.9s
BMN Battle Mountai 90.22 47 *e*P **P** **21 41 05.6 +0.6**
comp=Z,31nm,0.9s
A04D Lummi Island 90.43 38 P **P** **21 41 06.5 +1.0**
baz=242
TLY Talaya 90.45 325 *e*P **P** **21 41 05.1 -0.5**
TLY pmax pmax
comp=Z,42nm,1.5s
TLY Talaya 90.45 325 *e*P **P** **21 41 04.9 -0.8**
comp=Z,47nm,1.4s
R11A Troy Canyon, C 90.52 49 P **P** **21 41 06.9 +0.4**
baz=246,SNR=23
R11A Troy Canyon, C 90.52 49 *e*P **P** **21 41 04.9 -1.6**
HSIG 90.54 60 *e*P **P** **21 41 07.4 +0.8**
B05A Bryant 90.57 39 P **P** **21 41 06.9 +0.8**
baz=242
TRW Toppenish Ridg 90.59 41 P **P** **21 41 07.2 +0.7**
PALK Pallekele 90.89 277 *i*P **P** **21 41 09.7 +1.1**
LTY Liberty 90.96 40 *e*P **P** **21 41 08.4 +0.2**
COLD Coldfoot 90.96 15 *e*P **P** **21 41 07.8 +0.2**
comp=Z,23nm,0.8s
RPW Rockport 91.00 39 P **P** **21 41 08.5 +0.2**
WRW Wenatchee Ridg 91.10 39 P **P** **21 41 09.2 +0.4**
HAWA Hanford 91.27 41 *e*P **P** **21 41 10.3 +0.8**
TAPN Taplejung 91.28 298 *e*P **P** **21 41 09.9 -0.5**
comp=Z,63nm,1.3s
ODAN Odare 91.37 298 *e*P **P** **21 41 10.4 -0.4**
comp=Z,50nm,1.0s
WTV Waterville 91.59 40 P **P** **21 41 11.0 0.0**
EGAK Eagle 91.62 19 *e*P **P** **21 41 10.3 -0.4**
comp=Z,17nm,0.7s
DAWY Dawson 91.69 20 *e*P **P** **21 41 10.4 -0.8**
comp=Z,6.8nm,0.6s
LCMT Little Creek M 91.71 51 *e*P **P** **21 41 12.8 +0.8**
DLBC Dease Lake 91.76 27 *e*P **P** **21 41 11.5 -0.1**
LLLB Lillooet 91.79 37 *e*P **P** **21 41 12.4 +0.5**
CCUT Cedar City 91.83 51 *e*P **P** **21 41 12.7 +0.1**
TUC Tucson 91.86 57 P **P** **21 41 13.8 +1.1**
baz=249
TUC Tucson 91.86 57 *e*P **P** **21 41 13.6 +0.9**
TUC pmax pmax
comp=Z,62nm,1.1s
TUC Tucson 91.86 57 *e*P **P** **21 41 13.6 +0.9**
comp=Z,62nm,1.1s
MOY Mondy 91.88 325 *e*P **P** **21 41 12.5 +0.1**
MOY pmax pmax
comp=Z,41nm,1.8s
D08A Wollman Farm, 91.94 41 *e*P **P** **21 41 13.5 +0.9**
BMO Blue Mountains 92.01 43 *e*P **P** **21 41 12.9 -0.2**
BMO pmax pmax
comp=Z,21nm,1.4s
BMO Blue Mountains 92.01 43 *e*P **P** **21 41 12.9 -0.2**
comp=Z,21nm,1.4s
KNB Kanab 92.03 52 *e*P **P** **21 41 14.5 +1.0**
KNB Kanab 92.03 52 *e*P **P** **21 41 14.5 +1.0**
SZCU Shurtz Canyon 92.05 51 *e*P **P** **21 41 14.9 +1.3**
RAMN Ramite 92.07 298 *e*P **P** **21 41 13.5 -0.5**
comp=Z,55nm,1.2s
E09A Wood Farm, Sta 92.18 41 *e*P **P** **21 41 14.2 +0.5**
TOLK Toolik Lake Re 92.22 14 P **P** **21 41 15.0 +1.5**
baz=219
B08A Colville Reser 92.25 39 *e*P **P** **21 41 14.4 +0.4**
MFID Camas Ranch 92.39 45 *e*P **P** **21 41 15.4 +0.4**
comp=Z,18nm,1.0s
F10A Beach Ranch, E 92.53 42 *e*P **P** **21 41 15.0 -0.5**
WUAZ Wupatki 92.56 53 P **P** **21 41 16.7 +0.8**
baz=249
WUAZ Wupatki 92.56 53 *e*P **P** **21 41 16.3 +0.3**
comp=Z,18nm,0.8s
PKCU Pink Cliffs 92.56 51 *e*P **P** **21 41 18.3 +2.1**
JIRN Jiri 92.65 298 *e*P **P** **21 41 16.3 -0.5**
MTPU Mount Pierson 92.88 51 *e*P **P** **21 41 20.0 +2.3**
GUN Gumba 92.99 298 *e*P **P** **21 41 17.9 -0.5**
DUG Dugway, Tooele 93.22 49 P **P** **21 41 19.1 +0.2**
baz=248
PKI Pulchoki 93.27 298 *e*P **P** **21 41 19.1 -0.6**
comp=Z,52nm,1.1s
PKIN Phulchoki 93.29 298 *e*P **P** **21 41 18.9 -0.7**
comp=Z,45nm,1.2s
HLID Hailey 93.40 45 P **P** **21 41 20.0 +0.4**
baz=247
KKN Kakani 93.45 298 *e*P **P** **21 41 19.8 -0.5**
comp=Z,29nm,1.0s
DMN Daman 93.54 298 *e*P **P** **21 41 20.4 -0.4**
comp=Z,68nm,1.1s
NEW Newport 93.55 40 P **P** **21 41 21.6 +1.5**
baz=246
NEW Newport 93.55 40 *e*P **P** **21 41 19.8 -0.2**
NEW pmax pmax
comp=Z,9.0nm,1.0s
NEW Newport 93.55 40 *e*P **P** **21 41 19.8 -0.2**
comp=Z,8.6nm,1.0s
W18A Petrified Fore 93.67 54 P **P** **21 41 21.6 +0.5**
baz=250
HVU Hansel Valley 93.84 47 *e*P **P** **21 41 22.5 +0.8**
HVU Hansel Valley 93.84 47 *e*P **P** **21 41 22.5 +0.8**
TMUT Trail Mountain 94.05 50 *e*P **P** **21 41 24.1 +1.2**
GKN Gorkha 94.06 298 *e*P **P** **21 41 22.1 -0.9**
comp=Z,39nm,1.1s
121A Cookes Peak, D 94.32 57 P **P** **21 41 24.8 +0.6**
baz=250
121A Cookes Peak, D 94.32 57 *e*P **P** **21 41 23.8 -0.4**
comp=Z,30nm,1.3s
JLU Jordanelle 94.34 49 *e*P **P** **21 41 24.9 +0.8**
SRU San Rafael Swe 94.48 50 *e*P **P** **21 41 25.3 +0.6**
SRU San Rafael Swe 94.48 50 *e*P **P** **21 41 25.3 +0.6**
BSMT Bassoo Peak 94.82 41 *e*P **P** **21 41 26.4 +0.3**
KOLN Koldanda 94.86 298 *e*P **P** **21 41 25.6 -1.1**
comp=Z,14nm,1.0s
MCMT McKenzie Canyo 94.92 44 *e*P **P** **21 41 27.2 +0.5**
PV05 Paradox Valley 95.17 52 *e*P **P** **21 41 29.5 +1.6**
DLMT Dillon 95.28 44 *e*P **P** **21 41 28.4 +0.2**
comp=Z,11nm,1.2s
PV09 Paradox Valley 95.29 51 *e*P **P** **21 41 29.4 +0.9**
PV10 Paradox Valley 95.31 51 *e*P **P** **21 41 26.7 -2.0**
PYUN Piuthan 95.47 298 *e*P **P** **21 41 28.2 -1.4**
comp=Z,48nm,1.0s
PV01 Paradox Valley 95.58 52 *e*P **P** **21 41 30.3 +0.4**
TPAW Teton Pass 95.71 46 *e*P **P** **21 41 30.8 +0.5**
REDW Red Top Meadow 95.73 46 *e*P **P** **21 41 30.9 +0.5**
IMW Indian Meadow 95.86 46 *e*P **P** **21 41 31.2 +0.2**
MNTX Cornudas Mount 95.97 59 P **P** **21 41 31.7 +0.2**
baz=252
MNTX Cornudas Mount 95.97 59 *e*P **P** **21 41 31.2 -0.3**
comp=Z,8.0nm,1.2s
YHB Horse Butte 95.99 45 *e*P **P** **21 41 32.9 +1.4**
BOZ Bozeman (W) 96.00 44 P **P** **21 41 31.6 +0.1**
baz=249
BOZ Bozeman (W) 96.00 44 *e*P **P** **21 41 31.4 -0.1**
BOZ pmax pmax
comp=Z,8.0nm,1.2s
BOZ Bozeman (W) 96.00 44 *e*P **P** **21 41 31.4 -0.1**
comp=Z,8.2nm,1.2s
ANMO Albuquerque 96.15 55 P **P** **21 41 32.3 -0.1**
baz=251
ANMO Albuquerque 96.15 55 *c* *i*P **P** **21 41 32.7 +0.2**
ANMO pmax pmax
comp=Z,8.0nm,1.2s
ANMO Albuquerque 96.15 55 *e*P **P** **21 41 32.4 -0.1**
comp=Z,7.4nm,1.1s
YHH Holmes Hill 96.23 45 *e*P **P** **21 41 34.1 +1.4**
INK Inuvik 96.24 18 *e*P **P** **21 41 30.9 -0.9**
INK pmax pmax
comp=Z,42nm,1.3s
INK Inuvik 96.24 18 *e*P **P** **21 41 30.9 -0.9**
comp=Z,42nm,1.3s

BW06	Boulder Array	96.42	47	P		P	21 41 34.0	+0.4
	baz=250							
BW06	Boulder Array	96.42	47	*e*P		P	21 41 33.4	-0.2
PD31	Pinedale Array	96.42	47	*e*P		P	21 41 33.3	-0.3
PDAR	Pinedale Array	96.42	47	P		P	21 41 32.5	-1.0
	comp=Z,1.0nm,0.6s,baz=240,slow=2.9,SNR=7.3							
TX31	Lajitas Ar. Si	96.65	61	*e*P		P	21 41 34.7	0.0
TXAR	Lajitas Array	96.65	61	P		P	21 41 35.0	+0.3
	comp=Z,4.3nm,0.9s,baz=222,slow=5.5,SNR=38							
TXAR				PKkP		PKKPbc	21 58 17.3	-0.3
	comp=Z,1.0nm,0.9s,baz=100,slow=3.0,SNR=7.4							
TXAR	Lajitas Array	96.65	61	P		P	21 41 35.0	+0.3
TXAR				pmax	pmax			
	comp=Z,4.0nm,0.9s							
S22A	4UR Ranch, Cre	96.75	53	P		P	21 41 35.1	-0.2
	baz=252							
S22A	4UR Ranch, Cre	96.75	53	*e*P		P	21 41 36.0	+0.8
WMQ	Urumqi	96.93	314	P		P	21 41 35.6	0.0
WMQ				pP		pP	21 42 27.3	-2.1
WMQ				pmax	pmax			
	comp=Z,19nm,1.3s							
WMQ				pmax	pmax			
	comp=Z,150nm,4.7s							
WMQ				LR	LR			
	comp=Z,40nm,14.9s							
WMQ				LR	LR			
	comp=Z,39nm,16.5s							
WMQ				LR	LR			
	comp=Z,50nm,19.7s							
GCMT	Greycliff	97.36	44	*e*P		Pdif	21 41 38.8	+1.2
RLMT	Red Lodge	97.40	45	P		P	21 41 37.6	-0.3
	baz=251							
RWWY	Rawlins	97.72	49	*e*P		Pdif	21 41 40.1	+0.6
SDCO	Great Sand Dun	97.75	53	Pdiff		P	21 41 39.6	-0.1
	baz=252							
SDCO	Great Sand Dun	97.75	53	*e*P		Pdif	21 41 39.8	0.0
	comp=Z,3.6nm,1.0s							
K22A	Casper	98.50	48	Pdiff		P	21 41 42.5	-0.3
	baz=252							
MSTX	Muleshoe	98.75	57	Pdiff		Pdif	21 41 43.5	-0.5
	baz=253							
DGZ	Jazzator, Alta	99.01	319	*i* P		Pdif	21 41 44.6	-0.3
DGZ				pmax	pmax			
	comp=Z,4.0nm,1.2s							
YKA	Yellowknife Ar	100.39	27	P		Pdif	21 41 50.9	+0.4
	comp=Z,9.0nm,0.8s,baz=254,slow=4.5,SNR=3.9							
ABTX	Abilene, Hawle	100.90	59	Pdiff		Pdif	21 41 52.9	-0.6
	baz=255							
MKAR	Makanchi Array	101.46	316	P		Pdif	21 41 55.7	0.0
	comp=Z,3.3nm,0.7s,baz=94,slow=5.6,SNR=24							
MKAR				PKiKP		PKiKP	21 46 17.3	-1.3
	comp=Z,1.7nm,0.9s,baz=29,slow=2.8,SNR=3.7							
ZALV	Zalesovo Beam	101.81	323	P		Pdif	21 41 55.9	-1.2
	comp=Z,1.9nm,0.7s,baz=108,slow=4.8,SNR=10							
ZALV				PKiKP		PKiKP	21 46 17.6	-1.3
	comp=Z,1.0nm,0.6s,baz=131,slow=2.9,SNR=4.5							
NRIK	Noril'sk	104.60	339	Pdiff		Pdif	21 42 08.4	-0.7
	comp=Z,6.0nm,1.0s,baz=101,slow=3.8,SNR=5.2							
KURK	Kurchatov	104.74	319	P		Pdif	21 42 10.4	+0.3
KURK				pmax	pmax			
	comp=Z,2.0nm,1.1s							
KURK	Kurchatov	104.74	319	Pdif		Pdif	21 42 10.4	+0.3
KURK				PKiKP		PKiKP	21 46 22.9	-1.5
KURBB	Kurchatov Arra	104.78	319	Pdiff		Pdif	21 42 10.4	+0.1
	comp=Z,1.7nm,1.1s,baz=112,slow=4.0,SNR=6.0							
KURBB				PKiKP		PKiKP	21 46 22.9	-1.6
	comp=Z,3.0nm,1.0s,baz=98,slow=1.8,SNR=8.6							
KKAR	Karatay Array	108.89	310	*e*PKPdf		PKiKP	21 46 31.9	-0.6
C37A	Embarrass	109.48	45	PKiKP		PKiKP	21 46 33.1	-0.3
	baz=263							
BVAR	Borovoye Array	110.12	321	PKiKP		PKiKP	21 46 33.3	-1.1
	comp=Z,1.5nm,0.7s,baz=105,slow=1.7,SNR=11							
BRVK	Borovoye	110.19	321	ǁ*i*PKiKP		PKiKP	21 46 33.6	-0.9
BRVK				pmax	pmax			
	comp=Z,12nm,1.0s							
LPAZ	La Paz	113.66	118	PKiKP		PKiKP	21 46 42.7	-0.3
	comp=Z,1.0nm,0.5s,baz=195,slow=3.0,SNR=3.6							
ABKAR	Akbulak array	116.59	316	*e*PKPdf		PKPdf	21 46 46.0	-0.9
ARU	Arti	116.93	324	PKP		PKPdf	21 46 46.1	-1.2
	comp=Z,4.2nm,0.4s,baz=94,slow=0.4,SNR=19							
ARU	Arti	116.93	324	*i* PKIKP		PKPdf	21 46 46.3	-1.0
ARU							21 47 57.1	
ARU							21 53 37.0	
ARU				SP		SP	21 57 15.9	-4.0
ARU				SS		SS	22 03 43.0	-7.0
ARU	Arti	116.93	324	*e*PKPdf		PKPdf	21 46 45.9	-1.4
N54A	Moraine State	117.72	53	PKiKP		PKPdf	21 46 48.3	-1.1
	baz=269							
AKTO	Aktyubinsk	117.78	318	PKP		PKPdf	21 46 48.2	-0.9
	comp=Z,7.8nm,0.8s,baz=86,slow=0.8							
GEYT	Alibeck	117.79	303	PKP		PKPdf	21 46 49.1	-0.4
	comp=Z,8.9nm,0.8s,baz=38,slow=3.6,SNR=28							
M54A	Oil Creek Stat	117.98	52	PKiKP		PKPdf	21 46 48.6	-1.3
	baz=269							
O56A	Blue Knob Stat	118.79	54	PKiKP		PKPdf	21 46 50.0	-1.5
	baz=269							
KBS	Kingsbay	118.99	355	*e*PKPdf		PKPdf	21 46 49.3	-1.4
SPA0	Spitsbergen Ar	119.25	354	*e*PKPdf		PKPdf	21 46 49.6	-1.6
N59A	State Game Lan	120.92	53	PKiKP		PKPdf	21 46 54.5	-1.0
	baz=271							
BOSA	Boshof	121.29	217	PKP		PKPdf	21 46 56.4	-0.4
	comp=Z,8.7nm,0.9s,baz=184,slow=0.5,SNR=8.5							
LVZ	Lovozero	123.32	341	ǁ*i*PKiKP		PKPdf	21 46 58.6	-0.7
KEV	Kevo	124.20	345	*e*PKPdf		PKPdf	21 46 59.6	-1.3
HAMF	Hammerfest	124.31	347	*e*PKPdf		PKPdf	21 46 59.4	-1.7
ARCES	ARCESS Array B	124.73	345	PKP		PKPdf	21 47 00.7	-1.2
	comp=Z,3.9nm,0.3s,baz=57,slow=2.0,SNR=30							
ARE0	ARCESS Array S	124.73	345	*e*PKPdf		PKPdf	21 47 01.0	-0.9
KLMR	Klimovskoe	125.21	333	*e*PKiKP		PKPdf	21 47 00.6	-2.4
KLMR				pmax	pmax			
	comp=Z,37nm,1.3s							
HEF	Hetta	126.01	345	*e*PKPdf		PKPdf	21 47 03.3	-1.1
KIF	Kilpisjarvi	126.22	346	*e*PKPdf		PKPdf	21 47 03.5	-1.2
GNI	Garni	128.11	307	PKP		PKPdf	21 47 10.0	+0.5
	comp=Z,9.2nm,0.8s,baz=45,slow=2.9,SNR=6.4							
GNI	Garni	128.11	307	ǁ*i*PKiKP		PKPdf	21 47 10.2	+0.7
STEI	Steigen	128.28	348	*e*PKPdf		PKPdf	21 47 08.4	-0.3
ZEI	Tsey	128.35	310	*i* PKiKP		PKPdf	21 47 08.3	-1.6
ZEI				pmax	pmax			
	comp=Z,39nm,1.0s							
GOF	Gofitskoye	128.53	313	⇑*e*PKiKP		PKPdf	21 47 09.6	-0.3
GOF				pmax	pmax			
	comp=Z,25nm,1.1s							
LSZ	Lusaka	128.74	231	*e*PKiKP		PKPdf	21 47 11.6	+0.2
LSZ	Lusaka	128.74	231	*e*PKPdf		PKPdf	21 47 11.6	+0.2
KMBO	Kilima Mbogo	128.78	253	PKP		PKPdf	21 47 12.2	+0.6
	comp=Z,3.4nm,0.7s,baz=7,slow=2.2,SNR=6.7							
AKH	Akhalkalaki	128.88	308	⇑*i*P		PKPdf	21 47 11.7	+0.8
KBZ	Khabaz	128.90	311	PKP		PKPdf	21 47 11.9	+1.4
	comp=Z,3.9nm,1.0s,baz=59,slow=1.0,SNR=6.0							
KBZ	Khabaz	128.90	311	PKiKP		PKPdf	21 47 12.0	+1.4
KBZ				pmax	pmax			
	comp=Z,4.0nm,1.0s							
LPSR	Galich'ya Gora	128.92	323	*e*PKiKP		PKPdf	21 47 09.8	-0.6
LPSR				pmax	pmax			
	comp=Z,50nm,1.2s							
KIV	Kislovodsk	129.00	312	*e*PKiKP		PKPdf	21 47 10.5	-0.5
KIV				pmax	pmax			
	comp=Z,15nm,1.1s							
KIV	Kislovodsk	129.00	312	*e*PKPdf		PKPdf	21 47 10.3	-0.7
NEY	Neytrino	129.12	311	ǁ*e*PKiKP		PKPdf	21 47 12.1	+0.8
OBN	Obninsk	129.18	327	*d i*PKiKP		PKPdf	21 47 08.2	-2.6
OBN				*e*			21 49 23.1	
OBN				pmax	pmax			
	comp=Z,53nm,1.9s							
VSR	Storozhevoye	129.29	322	*e*PKiKP		PKPdf	21 47 09.6	-1.5
VSR				pmax	pmax			
	comp=Z,30nm,1.6s							
KONS	Konsvik	129.94	348	*e*PKPdf		PKPdf	21 47 11.1	-0.8
MOR8	Moi Rana	129.94	347	*e*PKPdf		PKPdf	21 47 10.7	-1.2
STOK	Stokkvaagen	130.10	348	*e*PKPdf		PKPdf	21 47 10.9	-1.3
FINES	FINESS Array B	130.25	338	PKhKP		PKPpre	21 47 04.3	
	comp=Z,1.8nm,0.8s,baz=90,slow=2.8,SNR=4.2							
FINES				PKP		PKPdf	21 47 12.2	-0.4
	comp=Z,6.5nm,1.0s,baz=113,slow=4.4,SNR=6.7							
FINES				SKPbc		SKPbc	21 50 14.2	-0.9
	comp=Z,2.3nm,0.7s,baz=102,slow=4.7,SNR=6.2							
FINES	FINESS Array B	130.25	338	*c i*PKiKP		PKPdf	21 47 12.8	+0.2
FINES				pmax	pmax			
	comp=Z,7.0nm,1.0s							
NB2	NORSAR Subarra	135.10	345	PKPdf		PKPdf	21 47 21.6	-0.3
	baz=31,slow=1.9							
NB2	NORSAR Subarra	135.10	345	PKPdf		PKPdf	21 47 21.6	-0.3
	comp=Z,1.4nm,0.8s,baz=31,slow=1.9							
NOA	NORSAR Array B	135.10	345	PKP		PKPdf	21 47 21.1	-0.8
	comp=Z,3.9nm,0.9s,baz=30,slow=2.0,SNR=9.7							
AKASG	Malin Array Be	135.19	325	PKP		PKPdf	21 47 21.3	-1.0
	comp=Z,2.3nm,0.6s,baz=58,slow=2.4,SNR=9.6							
AKASG				PP		PP	21 49 59.0	-1.4
	comp=Z,0.5nm,0.4s,baz=52,slow=7.0,SNR=4.9							
AKASG				SKPbc		SKPbc	21 50 31.2	-1.2
	comp=Z,2.3nm,0.7s,baz=41,slow=3.8,SNR=7.2							
AKASG	Malin Array Be	135.19	325	*c i*PKIKP		PKPdf	21 47 21.6	-0.7
AKASG				pmax	pmax			
	comp=Z,2.0nm,0.6s							
HFS	Hagfors	135.22	343	PKP		PKPdf	21 47 21.8	-0.2
	comp=Z,2.3nm,0.6s,baz=128,slow=2.4,SNR=7.6							
NC602	NORSAR Array S	135.29	345	*e*PKPdf		PKPdf	21 47 22.1	-0.1
ASF	Jabal al Asfar	135.30	297	PKP		PKPdf	21 47 23.1	-0.1
	comp=Z,6.4nm,1.0s,baz=161,slow=1.8,SNR=7.2							
MMAI	Mount Meron Ar	136.47	298	PKP		PKPdf	21 47 25.2	-0.1
	comp=Z,11nm,0.9s,baz=87,slow=6.8,SNR=13							
MMAI				SKP			21 50 38.8	
	comp=Z,1.3nm,0.6s,baz=100,slow=2.3,SNR=4.4							
BRTR	Keskin Array B	136.56	308	PKhKP		PKPpre	21 47 15.9	
	comp=Z,0.5nm,0.7s,baz=28,slow=3.4,SNR=3.7							
BRTR				PKP		PKPdf	21 47 24.9	-0.5
	comp=Z,3.1nm,0.8s,baz=142,slow=2.7,SNR=12							
BRTR				PP		PP	21 50 09.4	-0.4
	comp=Z,2.1nm,1.0s,baz=93,slow=5.8,SNR=5.9							
BRTR	Keskin Array B	136.56	308	*c i*PKIKP		PKPdf	21 47 24.3	-1.1
BRTR				pmax	pmax			
	comp=Z,3.0nm,0.8s							
EIL	Elat	137.17	293	PKP		PKPdf	21 47 26.5	-0.2
	comp=Z,12nm,0.9s,baz=16,slow=2.1,SNR=10							
CSS	Mathiatis	137.87	301	*e*PKPdf		PKPdf	21 47 27.3	-0.5
CFR	Carcaliu	138.45	318	⇑*i*P		PKPdf	21 47 26.7	-1.8
CFR	Carcaliu	138.45	318	⇑PKiKP		PKPdf	21 47 26.7	-1.8
LVV	L'vov	138.47	326	*e*PKiKP		PKPdf	21 47 28.7	+0.3
TESR	Tescani	138.75	320	⇑*i*P		PKPdf	21 47 28.5	-0.5
TLB	Topalu	138.77	317	⇑*i*P		PKPdf	21 47 29.8	+0.7
TLB	Topalu	138.77	317	⇑PKiKP		PKPdf	21 47 29.8	+0.7
BURAR	Bucovina Array	139.03	323	⇑*i*P		PKPpre	21 47 23.4	
BURAR	Bucovina Array	139.03	323	⇑PKHKP		PKPpre	21 47 23.4	
MLR	Muntele Rosu	139.67	319	PKhKP		PKPpre	21 47 23.4	
	comp=Z,0.4nm,0.7s,baz=184,slow=1.8,SNR=5.1							
UZH	Uzhgorod	140.09	326	*e*PKhKP		PKPpre	21 47 24.9	
UZH				*e*			21 47 28.7	
ARR	Arges	140.54	320	⇑*i*P		PKPpre	21 47 26.5	
HUMR	Humele	140.74	319	ǁ*i*P		PKPpre	21 47 25.9	
DRGR		140.91	323	⇑*i*P		PKPpre	21 47 27.2	
DRGR		140.91	323	⇑PKHKP		PKPpre	21 47 27.2	
LOT	Lotru	141.02	321	⇑*i*P		PKPpre	21 47 28.5	
GZR	Gura Zlata	141.64	321	⇑*i*P		PKPpre	21 47 30.1	
GZR	Gura Zlata	141.64	321	⇑PKHKP		PKPpre	21 47 30.1	
PSZ	Piszkesteto	141.79	326	ǁ*i*P		PKPpre	21 47 26.4	
PSZ	Piszkesteto	141.79	326	ǁPKHKP		PKPpre	21 47 26.4	
PSZ	Piszkesteto	141.79	326	ǁ*e*PKPdf		PKPpre	21 47 30.3	
SIRR	Siria	141.81	323	ǁ*i*P		PKPpre	21 47 30.0	
VYHS	Vyhne	141.97	328	*e*PKiKP		PKPpre	21 47 31.9	
VYHS	Vyhne	141.97	328	*e*PKP		PKPpre	21 47 31.8	
BZS	Buzias	142.20	322	ǁ*i*P		PKPpre	21 47 30.5	
BZS	Buzias	142.20	322	ǁPKHKP		PKPpre	21 47 30.5	
BRG	Berggiesshubel	142.54	334	*e*PKP		PKPpre	21 47 31.4	
	comp=Z,18nm,1.0s							
BRG	Berggiesshubel	142.54	334	*e*PKHKP		PKPpre	21 47 31.4	
BRG				pmax	pmax			
	comp=Z,18nm,1.0s							
CLL	Collm	142.59	335	ǁ*i*PKHKP		PKPpre	21 47 31.6	
CLL				*e*			21 47 37.0	
CLL				*e*			21 50 51.0	
CLL				pmax	pmax			
	comp=Z,19nm,1.2s							
CLL	Collm	142.59	335	ǁ*i*PKPpre		PKPpre	21 47 31.6	
	comp=Z,19nm,1.2s							
CLL				*e*PKPdf		PKPdf	21 47 37.0	+1.2
CLL				*e*PKiKP		PKiKP	21 47 41.0	+2.1
CLL				*e*SKPbc		SKPbc	21 50 51.0	-1.9
VTS	Vitosha	142.80	317	⇑*i*P		PKPdf	21 47 33.9	-2.8
VTS	Vitosha	142.80	317	⇑PKiKP		PKPdf	21 47 33.9	-2.8
VTS	Vitosha	142.80	317	*e*P		PKPdf	21 47 32.0	-4.7
MMB	Musomiste	142.93	315	*e*P		PKPdf	21 47 32.7	-4.1
PRA	Prague	142.94	333	*e*PKP		PKPdf	21 47 32.7	-3.7
PRA	Prague	142.94	333	*e*PKiKP		PKPdf	21 47 32.7	-3.7
PRU	Pruhonice	142.95	333	*e*PKP		PKPdf	21 47 32.6	-3.9
PRU				*ex*		x	21 47 38.8	
PRU	Pruhonice	142.95	333	*e*PKiKP		PKPdf	21 47 32.6	-3.9
CSKK	Cs˘ákako	143.00	327	ǁ*e*PKPdf		PKPdf	21 47 32.3	-4.3
TREC	Trest	143.04	331	*e*PKP		PKPab	21 47 32.9	+0.4
TREC	Trest	143.04	331	*e*PKiKP		PKPab	21 47 32.9	+0.4
EKA	Eskdalemuir Ar	143.16	353	PKhKP		PKPpre	21 47 32.2	
	comp=Z,4.7nm,0.7s,baz=355,slow=2.1,SNR=11							
KKB	Krupnik	143.23	316	*e*P		PKPab	21 47 34.2	+0.7
SRS	Serrai	143.23	314	P		PKPab	21 47 33.4	-0.2
NKC	Novy Kostel	143.65	335	*e*PKP		PKPbc	21 47 35.5	-0.3
NKC	Novy Kostel	143.65	335	*e*PKiKP		PKPbc	21 47 35.5	-0.3
KNT	Kendrikon	143.68	315	P		PKPab	21 47 35.1	-0.2
SANT	Santorini	143.72	306	*e*PKPdf		PKPab	21 47 34.6	-1.0
THR3	Thira Island,	143.75	306	P		PKPab	21 47 35.3	-0.4
THR6	Thira Island,	143.77	306	P		PKPab	21 47 35.5	-0.3
CONA	Conrad Observa	143.82	329	*i* PKPdf		PKPab	21 47 36.0	+0.2
	comp=Z,46nm,0.9s,SNR=20							
VAY	Valandovo	143.82	315	P		PKPab	21 47 35.6	-0.3
VAY	Valandovo	143.82	315	*i* P		PKPab	21 47 35.8	0.0
NPS	Neapolis	143.94	304	P		PKPab	21 47 36.8	+0.3
KHC	Kasperske Hory	144.01	333	*e*PKP		PKPab	21 47 36.6	+0.2
KHC				*e*SKP			21 50 56.2	
KHC	Kasperske Hory	144.01	333	*e*PKiKP		PKPab	21 47 36.6	+0.2
KHC				*e*			21 50 56.2	
KHC	Kasperske Hory	144.01	333	*e*PKPdf		PKPab	21 47 36.5	+0.2
DIVS	Divibare	144.01	321	P		PKPab	21 47 36.7	+0.1
LAST	Lasithi	144.08	304	P		PKPbc	21 47 37.7	+0.1
GERES	GERESS Array B	144.17	332	PKP		PKPab	21 47 36.8	-0.3
	comp=Z,32nm,0.8s,baz=33,slow=3.2,SNR=232							
GERES				SKPbc		SKPbc	21 50 55.9	-1.1
	comp=Z,1.2nm,0.8s,baz=46,slow=3.9,SNR=3.6							
WTSB	Winterswijk	144.22	341	*e*P		PKPab	21 47 36.5	-0.4
	comp=Z,66nm,1.6s							
BEHE	Becsehely	144.35	327	ǁ*e*PKPdf		PKPbc	21 47 38.2	+0.2
ARSA	Arzberg	144.46	329	*i* PKPdf		PKPab	21 47 38.2	+0.1
	comp=Z,88nm,1.3s,SNR=32							
IDI	Anoyia	144.50	305	PKP		PKPab	21 47 38.0	-0.7
	comp=Z,58nm,0.9s,baz=146,slow=2.5,SNR=91							
IDI	Anoyia	144.50	305	P		PKPab	21 47 38.3	-0.4
IDI	Anoyia	144.50	305	*e*PKPdf		PKPab	21 47 38.3	-0.4
MOA	Molln	144.64	330	*i* PKPdf		PKPbc	21 47 39.0	+0.1
	comp=Z,179nm,1.0s,SNR=68							
SIVA	Sivas	144.64	304	P		PKPbc	21 47 39.5	+0.3
IVA	Berane	144.75	319	⇑*i*PKP		PKPbc	21 47 39.4	-0.1
BIA	Bitola	144.79	316	*i* P		PKPbc	21 47 39.5	-0.1
PLE	Pljevlja	144.81	320	⇑*i*PKP		PKPbc	21 47 39.6	-0.1
PVY	Pljav	144.86	319	⇑*i*PKP		PKPbc	21 47 39.3	-0.6
FNA	Florina	144.87	315	P		PKPbc	21 47 38.6	-1.3
LTK	Loutraki	144.98	310	P		PKPbc	21 47 38.6	-1.6
DID	Didima	144.99	309	P		PKPbc	21 47 38.7	-1.6
VAM	Vamos	145.00	305	P		PKPab	21 47 40.9	+0.4
SHEL	Horse Pasture	145.00	189	*i* PKP2		PKPdf	21 47 43.2	+2.1
WACR	West Acre	145.08	348	*e*P		PKPbc	21 47 39.4	-0.6
PERS	Pernice	145.09	328	*i* PKPdf		PKPbc	21 47 39.9	-0.4
OHR	Ohrid	145.09	316	*i* P		PKPbc	21 47 40.3	-0.2
SOKA	Soboth	145.10	328	*i* PKPdf		PKPbc	21 47 40.0	-0.4
	comp=Z,78nm,0.8s,SNR=39							
DSF	Desfina	145.14	311	P		PKPdf	21 47 40.6	-0.1
IMMV	Iera Moni Meta	145.15	305	P		PKPab	21 47 41.0	-0.1
UPM	Unac-Piva	145.17	321	⇑*i*PKP		PKPdf	21 47 40.2	-0.6
THAL	Thalero	145.19	310	P		PKPdf	21 47 39.7	-1.0
WME	Myndd Eilian	145.20	353	*e*P		PKPdf	21 47 39.6	-0.7
WPS	Cemaes, Angles	145.22	353	*e*P		PKPdf	21 47 39.3	-0.9
STNC	Stoke	145.22	351	*e*P		PKPdf	21 47 40.0	-0.3
WPM1	Penmaenmawr	145.29	353	*e*P		PKPdf	21 47 40.1	-0.3
WLF1	Llynfaes	145.32	353	*e*P		PKPdf	21 47 39.6	-0.8
NKME	Niksic	145.39	320	⇑*i*PKP		PKPdf	21 47 41.1	+0.1
PDG	Podgorica	145.39	319	P		PKPab	21 47 42.0	+0.3
TTG	Podgorica	145.39	319	*e*PKP		PKPdf	21 47 41.0	+0.1
KALE	Kalithea	145.42	311	P		PKPdf	21 47 41.0	-0.2
YLL	Llanberis	145.44	353	*e*P		PKPdf	21 47 40.2	-0.4
OBKA	Obir	145.46	329	*i* PKPab		PKPdf	21 47 41.0	0.0
	comp=Z,61nm,0.9s,SNR=13							
CEME	Cevo	145.53	320	⇑*i*PKP		PKPdf	21 47 41.2	-0.1
HGN	Heimansgroeve	145.53	341	*e*P		PKPdf	21 47 41.0	+0.1
	comp=Z,174nm,1.7s							
FOEL	Foel Wylfa	145.56	352	*e*P		PKPdf	21 47 40.7	-0.3
BRY	Bratogost	145.56	320	⇑*i*PKP		PKPdf	21 47 41.4	0.0
KLV	Kalavryta, Ach	145.56	311	P		PKPdf	21 47 41.7	+0.2
DRME	Dracevica, Mon	145.56	319	⇑*i*PKP		PKPdf	21 47 41.3	0.0
BEBN	Eben Emael	145.58	341	PKP		PKPdf	21 47 41.2	+0.3
TIR	Tirane	145.58	317	⇑*i*P		PKPdf	21 47 41.1	-0.2
TIR	Tirane	145.58	317	*e*PKP2		PKPbc	21 47 42.0	0.0
TIR	Tirane	145.58	317	*e*PKPbc		PKPbc	21 47 42.0	0.0
OZLJ	Ozalj	145.60	327	P		PKPbc	21 47 41.8	-0.1
KBA	Koelnbreinsper	145.63	330	*i* PKPab		PKPdf	21 47 41.4	-0.1
	comp=Z,32nm,0.9s,SNR=7.9							
KBA	Koelnbreinsper	145.63	330	PKP2		PKPdf	21 47 41.4	-0.1
MEM	Membach	145.64	341	PKP		PKPdf	21 47 41.0	-0.1
ULC	Ulcinj	145.65	319	⇑*i*PKP		PKPdf	21 47 41.1	-0.4
LLW	Llanuwychllyn	145.66	352	*e*P		PKPdf	21 47 41.1	0.0
VLX	Vlachokerasia	145.67	309	P		PKPbc	21 47 42.5	0.0
BUM	Brajici-Budva	145.68	319	⇑*i*PKP		PKPdf	21 47 41.5	-0.1
BOJS	Bojanci	145.79	327	*i* PKPdf		PKPbc	21 47 42.6	+0.2
VISS	Visnje	145.80	327	*i* PKPdf		PKPbc	21 47 42.2	-0.3
MYKA	Terra Mystica	145.81	329	*i* PKPbc		PKPdf	21 47 41.7	0.0
	comp=Z,33nm,0.7s,SNR=10							
HLM1	Long Mynd	145.88	351	*e*P		PKPdf	21 47 41.8	+0.3
BCLA	Clavier	146.03	341	PKP		PKPbc	21 47 43.0	0.0
RLS	Riolos of Patr	146.05	311	P		PKPbc	21 47 43.8	+0.4
STON	Ston	146.08	321	P		PKPdf	21 47 42.2	+0.1
STU	Stuttgart	146.09	336	*e*PKP2		PKPbc	21 47 43.3	+0.1
STU	Stuttgart	146.09	336	*e*PKPbc		PKPbc	21 47 43.3	+0.1
JAVS	Javornik	146.13	328	*i* PKPdf		PKPdf	21 47 42.9	+0.6
WATA	Walderalm	146.24	332	*i* PKPbc		PKPbc	21 47 43.3	-0.7
	comp=Z,31nm,0.9s,SNR=22							
SNF	Seneffe	146.25	343	PKP		PKPbc	21 47 43.2	-0.4
SSW	Stow on the Wo	146.26	350	*e*P		PKPbc	21 47 43.1	-0.5
ABTA	Abfaltersbach	146.26	331	*i* PKPbc		PKPdf	21 47 42.9	+0.5
	comp=Z,67nm,0.9s,SNR=34							
WTTA	Wattenberg	146.27	332	*i* PKPab		PKPbc	21 47 43.7	-0.4
	comp=Z,68nm,1.4s,SNR=14							
LKD2	Lefkada island	146.29	313	P		PKPbc	21 47 44.2	0.0
MCH1	Michaelchurch	146.40	351	*e*P		PKPbc	21 47 43.2	-0.8
WLF	Walferdange	146.42	340	PKP		PKPbc	21 47 44

ZALV	**Zalesovo Beam**	**56.72**	**333**	P		**P**	**21 38 58.3**	**-1.1**
	0.4nm,0.4s,baz=119,slow=5.1,SNR=2.6							
KURBB	**Kurchatov Arra**	**57.87**	**327**	P		**P**	**21 39 06.3**	**-1.2**
	1.5nm,0.8s,baz=128,slow=6.2,SNR=10							

*IDC **20** 21:44:14.1±0.7, 6.42N×124.59E, h0km, mb4.1/16, mb1 4.2/16, mb1mx4.0/48, mbtmp4.1/16, ML2.7/1, MS3.4/8, Ms1 3.5/8, ms1mx3.2/36, Error ellipse: s-maj=36.3km s-min=13.9km az=65.0*
*MAN **20** 21:44:16, 6.47N×124.66E, h12km, mb5.2, ML4.2, MS4.4*
*NEIC **20** 21:44:19.9±1.0, 6.53N×124.72E, h40km±10km, mb4.6/13, Error ellipse: s-maj=10.0km s-min=6.9km az=59.0*
*DJA **20** 21:44:19.6±1.3, 7.1N×124.5E, h12km±10km, M4.7/11, mB6.2/2, mb4.5/11, ML v4.8/4, Mw(mB)5.9/2*

ISC 20 21:44:17.7±1.1, 6.59N±0.04×124.54E±0.04, h15km±7km, n83, σ1s78/92, mb4.5/34, MS3.5/10, 5C-1D, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
GSPH	**General Santos**	**0.64**	**141**	*i*	P	**Pn**	**21 44 30.1**	**-2.2**
GSPH				*i*	S	**Sn**	**21 44 41.4**	**-0.8**
KCP	**Kidapawan**	**0.69**	**52**	*i*	P	**Pg**	**21 44 29.3**	**-1.9**
CTBH	**Cotabato--PC H**	**0.69**	**335**	*e*	P	**Pg**	**21 44 30.4**	**-0.9**
CTBH				*i*	S	**Sg**	**21 44 41.0**	**+0.5**
DAV	**Davao City (W)**	**1.14**	**65**	*e*	Pn	**Pg**	**21 44 37.1**	**-2.6**
PAGZ	**Pagadian**	**1.70**	**318**	*e*	P	**Pn**	**21 44 46.7**	**-0.1**
PAGZ				*e*	S	**Sn**	**21 45 05.2**	**-3.1**
MATI	**Mati**	**1.74**	**78**	*e*	P	**Pn**	**21 44 45.6**	**-1.8**
MATI				*e*	S	**Sg**	**21 45 18.5**	**+4.6**
CGP	**Cagayan de Oro**	**1.86**	**5**	*e*	P	**Pn**	**21 44 49.7**	**+0.7**
CGP				*e*	S	**Sb**	**21 45 15.9**	**+1.4**
DCPH	**Dipolog City**	**2.31**	**329**	*e*	P	**Pb**	**21 44 57.4**	**-1.5**
DCPH				*i*	S	**Sg**	**21 45 32.1**	**+0.1**
BIPH	**Bislig**	**2.41**	**49**	*e*	P	**Pg**	**21 45 02.4**	**-1.4**
BIPH				*e*	S	Sg	21 45 46.0	+11
SNPH	**Sibulan**	**3.03**	**335**	*e*	P	**Pn**	**21 45 07.7**	**+2.6**
SCPH	**Surigao**	**3.31**	**16**	*e*	P	**Pb**	**21 45 16.8**	**+0.7**
MYLDM	**Lahad Datu**	**6.17**	**257**	*e*	Pn	**Pn**	**21 45 50.6**	**+2.3**
ENPP	**El Nido**	**6.83**	**313**	*e*	P	**Pn**	**21 45 58.8**	**+1.6**
LBMI	**Labuha**	**7.76**	**158**	P		**Pn**	**21 46 13.9**	**+3.8**
	36nm,0.6s,0.2nm							
LBMI				S		**Sn**	**21 47 35.6**	**-2.2**
	36nm,0.6s,0.2nm							
LUWI	**Luwuk**	**7.78**	**193**	*e*	Pn	**Pn**	**21 46 09.2**	**-1.2**
LUWI				*e*	S	**Sn**	**21 47 36.9**	**-1.3**
KKM	**Kota Kinabalu**	**8.29**	**267**	*e*	Pn	**Pn**	**21 46 20.1**	**+2.6**
NLAI	**Namlea**	**10.09**	**165**	P		**Pn**	**21 46 38.8**	**-3.3**
KDI	**Kendari**	**10.65**	**190**	P		**Pn**	**21 46 47.9**	**-1.8**
MMRI	**Maumere**	**15.29**	**189**	P		**P**	**21 47 59.5**	**+1.6**
MMRI	**Maumere**	**15.29**	**189**	*e*	Pn	**P**	**21 47 55.7**	**-2.2**
	77nm,1.2s							
SOEI	**Soe**	**16.23**	**181**	P		**P**	**21 48 12.0**	**+3.5**
	36nm,1.4s							
SOEI	**Soe**	**16.23**	**181**	*e*	Pn	**P**	**21 48 09.0**	**+0.6**
	32nm,1.0s							
JAY	**Jayapura**	**18.50**	**119**	P		**P**	**21 48 32.4**	**-1.1**
	0.0nm,0.3s,baz=287,slow=19,SNR=2.7							
MTN	**Manton Dam**	**20.38**	**161**	*e*	P	**P**	**21 48 52.3**	**-1.7**
	20nm,1.3s							
GUMO	**Guam**	**21.18**	**69**	LR		LR	21 55 01.7	
	comp=Z,45nm,21.6s,baz=157,slow=31							
FITZ	**Fitzroy Crossi**	**24.55**	**177**	P		**P**	**21 49 34.5**	**-2.5**
	2.8nm,0.8s,baz=14,slow=8.3,SNR=14							
SLVN	**Son La**	**24.77**	**308**	*e*	P	**P**	**21 49 40.1**	**+1.1**
	22nm,1.5s							
PPI	**Padang Panjang**	**25.09**	**255**	P		**P**	**21 49 44.9**	**+3.0**
	5.7nm,0.5s							
PSI	**Prapat**	**25.80**	**263**	*e*	P	**P**	**21 49 49.1**	**+0.6**
	20nm,1.3s							
NJ2	**Nanjing**	**25.89**	**349**	*e*	P	**P**	**21 49 47.8**	**-1.2**
NJ2					pmax	pmax		
	comp=Z,17nm,0.6s							
CM01	**Chiang Mai Arr**	**27.56**	**298**	*e*	P	**P**	**21 50 03.7**	**-0.6**
CMAR	**Chiang Mai Arr**	**27.59**	**298**	P		**P**	**21 50 05.9**	**+1.4**
	comp=Z,0.5nm,0.8s,baz=98,slow=6.8,SNR=4.3							
CMAR					LR	LR	22 01 27.1	
	comp=Z,79nm,19.3s,baz=115,slow=37							
WRAB	**Tennant Creek**	**28.07**	**160**	*e*	P	**P**	**21 50 08.8**	**+0.1**
	comp=Z,1.4nm,0.7s							
WRA	**Warramunga Arr**	**28.07**	**160**	P		**P**	**21 50 05.6**	**-3.2**
	comp=Z,1.0nm,0.8s,baz=329,slow=11,SNR=8.5							
WB2	**Warramunga Arr**	**28.07**	**160**	*e*	P	**P**	**21 50 05.6**	**-3.2**
	comp=Z,30nm,1.8s							
KSRS	**Korea Array**	**30.88**	**5**	LR		LR	22 01 49.9	
	comp=Z,58nm,21.5s,baz=175,slow=34							
ASAR	**Alice Springs**	**31.43**	**163**	P		**P**	**21 50 36.2**	**-2.3**
	comp=Z,0.6nm,0.5s,baz=339,slow=6.9,SNR=7.8							
MJAR	**Matsushiro Arr**	**32.33**	**21**	LR		LR	22 05 34.6	
	comp=Z,38nm,18.3s,baz=210,slow=39							
BJI	**Beijing**	**34.15**	**349**	P		**P**	**21 51 02.8**	**+0.7**
BJI					pmax	pmax		
	comp=Z,14nm,1.1s							
HHC	**Hu-ho-hao-te**	**36.04**	**343**	*e*	P	**P**	**21 51 21.5**	**+3.0**
HHC					pP	sP	21 51 34.6	+9.4
HHC					S	**S**	**21 56 59.4**	**+2.3**
HHC					pmax	pmax		
	comp=Z,140nm,4.4s							
HHC					pmax	pmax		
	comp=Z,180nm,5.0s							
HHC					LR	LR		
	comp=N,180nm,16.2s							
HHC					LR	LR		
	comp=E,190nm,17.4s							
HHC					LR	LR		
	comp=Z,180nm,12.4s							
SHL	**Shillong**	**36.45**	**305**	*e*	P	**P**	**21 51 25.0**	**+2.6**
USRK	**Ussuriysk Ar.**	**38.03**	**9**	P		**P**	**21 51 36.2**	**+1.0**
	comp=Z,1.4nm,0.8s,baz=201,slow=7.7,SNR=3.5							
LSA	**Lhasa**	**38.93**	**310**	*e*	P	**P**	**21 51 44.4**	**+0.7**
	comp=Z,13nm,1.3s							
GTA	**Gaotai**	**39.54**	**329**	P		**P**	**21 51 50.3**	**+2.1**
GTA					pP	sP	21 52 01.3	+6.4
GTA					sP	pP	21 52 06.8	+14
GTA					pmax	pmax		
	comp=Z,11nm,1.1s							
TAPN	**Taplejung**	**40.59**	**305**	*e*	P	**P**	**21 51 58.3**	**+1.0**
	comp=Z,32nm,1.1s							
ODAN	**Odare**	**40.66**	**304**	*e*	P	**P**	**21 51 58.9**	**+1.1**
	comp=Z,39nm,1.1s							
RAMN	**Ramite**	**41.34**	**304**	*e*	P	**P**	**21 52 04.3**	**+0.8**
	comp=Z,75nm,1.1s							
STKA	**Stephens Creek**	**41.57**	**158**	P		**P**	**21 52 06.7**	**+1.9**
	comp=Z,2.6nm,0.8s,baz=339,slow=10,SNR=4.8							
JIRN	**Jiri**	**41.95**	**305**	*e*	P	**P**	**21 52 09.4**	**+0.8**
	comp=Z,71nm,1.0s							
GUN	**Gumba**	**42.30**	**305**	*e*	P	**P**	**21 52 12.2**	**+0.8**
	comp=Z,70nm,1.0s							
PKI	**Pulchoki**	**42.56**	**304**	*e*	P	**P**	**21 52 13.9**	**+0.4**
PKIN	**Phulchoki**	**42.57**	**304**	*e*	P	**P**	**21 52 13.6**	**+0.1**
KKN	**Kakani**	**42.75**	**304**	*e*	P	**P**	**21 52 15.2**	**+0.3**
	comp=Z,30nm,1.0s							
DMN	**Daman**	**42.82**	**304**	*e*	P	**P**	**21 52 16.1**	**+0.5**
	comp=Z,41nm,1.1s							
GKN	**Gorkha**	**43.35**	**304**	*e*	P	**P**	**21 52 19.9**	**+0.2**
	comp=Z,32nm,1.2s							
ULN	**Ulaanbaatar**	**43.76**	**343**	P		**P**	**21 52 23.3**	**+0.6**
	comp=Z,4.3nm,1.0s							
SONM	**Songino Array**	**43.92**	**342**	P		**P**	**21 52 24.4**	**+0.4**
	comp=Z,2.3nm,0.9s,baz=157,slow=10,SNR=13							
SONM					LR	LR	22 13 24.7	
	comp=Z,50nm,18.0s,baz=131,slow=40							
SONA1	**Songino Array**	**43.93**	**342**	*e*	P	**P**	**21 52 22.4**	**-1.6**
KOLN	**Koldanda**	**44.12**	**303**	*e*	P	**P**	**21 52 26.6**	**+0.6**
	comp=Z,19nm,0.8s							
PYUN	**Piuthan**	**44.75**	**304**	*e*	P	**P**	**21 52 31.9**	**+0.9**
	comp=Z,53nm,1.0s							
WMQ	**Urumqi**	**49.15**	**325**	P		**P**	**21 53 02.3**	**-2.7**
WMQ					pP	sP	21 53 16.3	+4.5
WMQ					sP	pP	21 53 23.5	+14
WMQ					PcS	**PcS**	**21 58 23.4**	**-1.3**
WMQ					pmax	pmax		
	comp=Z,13nm,0.7s							
WMQ					pmax	pmax		
	comp=Z,66nm,4.3s							
WMQ					LR	LR		
	comp=N,54nm,20.7s							
WMQ					LR	LR		
	comp=E,44nm,19.3s							
WMQ					LR	LR		
	comp=Z,41nm,22.3s							
MK01	**Makanchi Array**	**53.96**	**325**	*e*	P	**P**	**21 53 41.7**	**+0.8**
MKAR	**Makanchi Array**	**53.98**	**325**	P		**P**	**21 53 41.9**	**+0.8**
	comp=Z,6.6nm,0.8s,baz=128,slow=8.1,SNR=27							
MKAR					PcP	**PcP**	**21 54 44.5**	**-1.7**
	comp=Z,1.7nm,0.7s,baz=106,slow=3.9,SNR=4.3							
MKAR					LR	LR	22 18 36.8	
	comp=Z,59nm,18.7s,baz=48,slow=38							
KSH	**Kashi**	**54.50**	**315**	*e*	P	**P**	**21 53 47.3**	**+2.2**
KSH					pP	sP	21 53 59.4	+7.5
KSH					PcP	**PcP**	**21 54 48.5**	**+0.1**
KSH					PP	**PP**	**21 55 51.4**	**+4.0**
KSH					S	**S**	**22 01 22.4**	**-1.4**
KSH					sS	sS	22 01 44.4	+13
KSH	**Kashi**	**54.50**	**315**		SS	**SS**	**22 05 06.4**	**0.0**
KSH					pmax	pmax		
	comp=Z,7.0nm,1.3s							
KSH					pmax	pmax		
	comp=Z,95nm,5.5s							
KSH					LR	LR		
	comp=N,86nm,7.6s							
KSH					LR	LR		
	comp=E,87nm,4.4s							
KSH					LR	LR		
	comp=Z,170nm,6.1s							
AAK	**Ala-Archa**	**56.79**	**317**	P		**P**	**21 54 03.4**	**+1.9**
	comp=Z,0.6nm,0.3s,baz=188,slow=12,SNR=3.6							
ZAA0	**Zalesovo Array**	**57.07**	**333**	*e*	P	**P**	**21 54 02.6**	**-0.5**
ZALV	**Zalesovo Beam**	**57.07**	**333**	P		**P**	**21 54 02.8**	**-0.3**
	comp=Z,2.8nm,0.8s,baz=115,slow=6.7,SNR=11							
KBL	**Kabul**	**58.07**	**307**	*e*	P	**P**	**21 54 10.4**	**-0.4**
	comp=Z,4.1nm,0.8s							
KURBB	**Kurchatov Arra**	**58.17**	**327**	P		**P**	**21 54 11.3**	**+0.4**
	comp=Z,6.7nm,0.9s,baz=126,slow=6.0,SNR=23							
KURK	**Kurchatov**	**58.18**	**327**	*e*	P	**P**	**21 54 10.9**	**0.0**
	comp=Z,18nm,1.0s							
KKAR	**Karatay Array**	**59.67**	**317**	*e*	P	**P**	**21 54 22.2**	**+0.7**
	comp=Z,38nm,0.8s							
BRVK	**Borovoye**	**63.82**	**327**	*e*	P	**P**	**21 54 49.2**	**-0.1**
	comp=Z,7.1nm,0.9s							
NRIK	**Noril'sk**	**67.16**	**347**	LR		LR	22 27 17.7	
	comp=Z,41nm,18.1s,baz=126,slow=38							
GEYT	**Ailbeck**	**67.42**	**308**	P		**P**	**21 55 13.1**	**+0.2**
	comp=Z,2.1nm,0.8s,baz=103,slow=6.5,SNR=6.3							
ABKAR	**Akbulak array**	**68.57**	**321**	*e*	P	**P**	**21 55 19.5**	**-0.3**
	comp=Z,24nm,1.0s							
AKTO	**Aktyubinsk**	**70.08**	**321**	P		**P**	**21 55 28.6**	**-0.5**
	comp=Z,3.5nm,0.9s,baz=100,slow=8.4,SNR=9.2							
ARU	**Arti**	**71.37**	**328**	P		**P**	**21 55 35.6**	**-1.3**
	comp=Z,4.8nm,0.9s,baz=185,slow=4.7,SNR=8.8							
ARU	**Arti**	**71.37**	**328**	*e*	P	**P**	**21 55 35.8**	**-1.1**
KBZ	**Khabaz**	**79.44**	**313**	P		**P**	**21 56 24.0**	**+0.5**
	comp=Z,1.8nm,0.9s,baz=117,slow=4.3,SNR=3.2							
FINES	**FINESS Array B**	**88.30**	**332**	P		**P**	**21 57 06.5**	**-1.9**
	comp=Z,1.3nm,0.7s,baz=90,slow=4.2,SNR=3.6							
AKASG	**Malin Array Be**	**88.31**	**321**	P		**P**	**21 57 06.7**	**-2.1**
	comp=Z,0.4nm,0.4s,baz=68,slow=4.3,SNR=4.2							
NOA	**NORSAR Array B**	**95.27**	**333**	LR		LR	22 46 55.7	
	comp=Z,25nm,18.3s,baz=270,slow=39							

*IPEC **20** 21:46:40.9±0.2, 49.84N×18.49E, h0km±3km, ML1.4/2, Error ellipse: s-maj=2.1km s-min=1.1km az=161.0*
*CSEM **20** 21:46:40.3±0.9, 49.86N×18.46E, h1km, ML2.3/5, Error ellipse: s-maj=12.8km s-min=9.6km az=76.0*

PRU 20 21:46:42.0, 49.89N×18.42E, h0km, Czech and Slovak Republics

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
OKC	**Ostrava-Krasne**	**0.18**	**254**	*e*	PG	Pg	21 46 45.7	+0.2
OKC				*e*	SG	Sg	21 46 49.0	+1.1
	comp=Z,58nm,0.3s							
OKC	**Ostrava-Krasne**	**0.18**	**254**		Pg	Pg	21 46 45.7	+0.2
OKC					Sg	Sg	21 46 49.0	+1.1
	58nm,0.3s							
MORC	**Moravsky Berou**	**0.58**	**259**	*e*	Pg	Pg	21 46 52.5	-0.6
MORC				*e*	Sg	Sg	21 47 00.3	-0.3
	8.0nm,0.2s							
OJC	**Ojcow**	**0.95**	**69**	*e*	Pg	Pg	21 46 58.7	-1.4
OJC				*e*	Sg	Sg	21 47 11.7	-0.7
LANS	**Liptovska Anna**	**1.01**	**137**	*e*	PG	Pg	21 47 00.7	-0.6
LANS				*e*	SG	Sb	21 47 16.7	+0.6
KRLC	**Kraliky**	**1.07**	**281**	*e*	PG	Pg	21 47 01.2	-1.4
KRLC				*e*	SG	Sg	21 47 16.4	-0.1
KRLC	**Kraliky**	**1.07**	**281**		Pg	Pg	21 47 01.2	-1.4
KRLC					Sg	Sg	21 47 16.4	-0.1
NIE	**Niedzica**	**1.31**	**110**	*e*	Pg	Pg	21 47 06.2	-0.9
NIE				*e*	Sg	Sb	21 47 24.6	-0.3
VRAC	**Vranov**	**1.32**	**245**	*e*	Pg	Pg	21 47 06.1	-1.2
VRAC				*e*	Sg	Sg	21 47 23.0	-1.5
VYHS	**Vyhne**	**1.42**	**169**	*e*	PG	Pn	21 47 07.2	-1.9
VYHS				*e*	SN	Sg	21 47 26.3	-1.4
VYHS				*e*	LG	Lg	21 47 28.3	
DPC	**Dobruska-Polom**	**1.43**	**290**	*e*	PG	Pn	21 47 08.2	-1.0
DPC				*e*	SG	Sg	21 47 27.7	-0.1
	comp=Z,7.9nm,0.5s							
DPC	**Dobruska-Polom**	**1.43**	**290**		Pg	Pn	21 47 08.2	-1.0
DPC					Sg	Sg	21 47 27.7	-0.1
	7.9nm,0.5s							
KRUC	**Moravsky**	**1.56**	**239**	*e*	Pg	Pn	21 47 09.5	-1.5
KRUC				*e*	Sg	Sn	21 47 30.2	-1.7
	4.2nm,0.2s							
UPC	**Upice**	**1.67**	**293**	*e*	PG	Pn	21 47 12.5	0.0
UPC				*e*	SG	Sg	21 47 35.7	+0.2
UPC	**Upice**	**1.67**	**293**		Pg	Pn	21 47 12.5	0.0
UPC					Sg	Sg	21 47 35.7	+0.2
KECS	**Kecovo**	**1.95**	**135**	*e*	SN	Sn	21 47 40.6	-1.0
GOPC	**GO Pecny, Ondr**	**2.35**	**272**	*e*	SG	Sb	21 47 54.2	-0.5
GOPC	**GO Pecny, Ondr**	**2.35**	**272**		Sg	Sb	21 47 54.2	-0.5
PRU	**Pruhonice**	**2.51**	**274**	*e*	SG	Sb	21 48 00.1	+0.8
PRU	**Pruhonice**	**2.51**	**274**		Sg	Sb	21 48 00.1	+0.8
PVCC	**Panska Ves**	**2.56**	**286**	*e*	SG	Sg	21 48 03.4	-0.6
	comp=Z,4.9nm,0.3s							
PVCC	**Panska Ves**	**2.56**	**286**		Sg	Sg	21 48 03.4	-0.6
	4.9nm,0.3s							
BRG	**Berggiesshubel**	**3.03**	**291**		SG	Sg	21 48 17.4	-1.9
	2.5nm,0.4s							

DJA 20 22:18:58.0±1.1, 9.5S±10.1×11.0E±.1, h51km±23km, M3.7/7, MLv3.7/7, Jawa

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
UGM	**Wanagama**	**0.93**	**7**	P		Pn	22 19 14.6	-0.3
UGM				S		Sn	22 19 28.7	+1.5
WOJI	**Wonogiri, Jawa**	**1.12**	**27**	P		Pn	22 19 17.4	0.0
WOJI				S		Sn	22 19 31.7	0.0
PWJI	**Pagerwojo**	**1.60**	**60**	P		Pn	22 19 22.4	-1.5
PWJI				S		Sn	22 19 41.3	-2.1
SMRI	**Semarang**	**1.78**	**1**	P		Pn	22 19 26.6	+0.2
SMRI				S		Sn	22 19 53.2	+5.3
NGJI	**Ngawi**	**1.79**	**36**	P		Pn	22 19 27.9	+1.3
NGJI				S		Sn	22 19 54.9	+6.7

*IDC **20** 22:30:35.1±1.2, 43.70N×105.49W, h0km, mb1 3.4/3, mb1mx3.2/57, mbtmp3.1/3, ML2.5/2, Error ellipse: s-maj=21.2km s-min=10.3km az=151.0*
*NEIC **20** 22:30:36.6±0.5, 43.58N×105.23W, h0km, MN2.9, Error ellipse: s-maj=7.4km s-min=7.3km az=112.0, Suspected Mining explosion.*
NEIC 83 km [52 miles] SSE of Gillette.

ISC 20 22:30:35.8±0.7, 43.62N±0.03×105.06W±0.03, h0km, n33, σ2s49/59, Wyoming

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
RSSD	**Black Hills**	**0.90**	**55**	*e*	Pn	**Pb**	**22 30 54.5**	**+0.1**
RSSD				*e*	S	**Sn**	**22 31 10.6**	**+0.9**
K22A	**Casper**	**1.44**	**228**	*e*	Pn	**Pn**	**22 30 59.7**	**-3.6**
K22A				*e*	S	**Sg**	**22 31 15.2**	**-6.9**
PHWY	**Pilot Hill**	**2.33**	**187**	*e*	Pn	**Pn**	**22 31 15.2**	**-0.5**
PHWY				*e*	S	**Sn**	**22 31 46.9**	**+1.7**
RWWY	**Rawlins**	**2.50**	**220**	*e*	Pn	Pn	22 31 07.6	-10
RWWY				*e*	S	**Sn**	**22 31 49.6**	**+0.4**
LAO	**LASA Array**	**3.18**	**345**	*e*	Pn	**Pn**	**22 31 28.6**	**+1.4**
LAO				*e*	S	**Sg**	**22 32 15.7**	**-2.2**
RLMT	**Red Lodge**	**3.37**	**298**	*e*	Pn	**Pn**	**22 31 29.0**	**-0.9**
RLMT				*e*	S	**Sn**	**22 32 13.3**	**+2.6**
BW06	**Boulder Array**	**3.40**	**257**	*e*	Pn	**Pn**	**22 31 29.2**	**-1.1**
BW06				*e*	S	**Sn**	**22 32 12.9**	**+1.5**
PDAR	**Pinedale Array**	**3.40**	**257**		Pn	**Pn**	**22 31 28.4**	**-1.9**
	4.1nm,0.3s,baz=75,slow=17,SNR=33							
PDAR					Lg	Lg	22 32 13.5	
	8.2nm,0.3s,baz=73,slow=32,SNR=4.0							

OGNE	**Ogallala**	**3.49**	**139**	*e*	Pn	**Pn**	**22 31 32.8**	**+1.3**
OGNE				*e*	S	**Sg**	**22 32 26.8**	**-1.1**
ISCO	**Idaho Springs**	**3.84**	**186**	*e*	Pn	**Pn**	**22 31 36.8**	**+0.3**
ISCO				*e*	S	**Sb**	**22 32 30.5**	**-1.2**
LOHW	**Long Hollow**	**4.03**	**272**	*e*	Pn	**Pn**	**22 31 39.5**	**+0.6**
LOHW				*e*	S	**Sb**	**22 32 34.5**	**-2.5**
MOOW	**Moose Ponds**	**4.12**	**274**	*e*	Pn	**Pn**	**22 31 38.1**	**-2.1**
MOOW				*e*	Pg	**Pb**	**22 31 49.6**	**+0.2**
MOOW				*e*	S	**Sb**	**22 32 38.7**	**-1.2**
SNOW	**Snow King Moun**	**4.14**	**270**	*e*	Pn	**Pn**	**22 31 40.9**	**+0.3**
SNOW				*e*	S	**Sb**	**22 32 35.5**	**-5.0**
O20A	**White River Ci**	**4.21**	**215**	*e*	Pn	**Pn**	**22 31 38.9**	**-2.6**
O20A				*e*	Pg	**Pb**	**22 31 51.9**	**+1.0**
O20A				*e*	S	**Sb**	**22 32 43.1**	**+0.7**
REDW	**Red Top Meadow**	**4.22**	**269**	*e*	Pn	**Pn**	**22 31 40.1**	**-1.5**
REDW				*e*	S	**Sb**	**22 32 42.4**	**-0.3**
IMW	**Indian Meadow**	**4.27**	**276**	*e*	Pn	**Pn**	**22 31 42.6**	**+0.3**
TPAW	**Teton Pass**	**4.28**	**270**	*e*	Pn	**Pn**	**22 31 44.1**	**+1.6**
TPAW				*e*	Pg	**Pb**	**22 31 54.4**	**+2.2**
DGMT	**Dagmar**	**4.89**	**7**	*e*	Pn	**Pn**	**22 31 52.4**	**+1.8**
DGMT				*e*	Pg	**Pb**	**22 32 05.5**	**+3.2**
DGMT				*e*	S	**Sb**	**22 33 04.7**	**+2.9**
KSCO	**Kaye Shedlock'**	**4.95**	**157**	*e*	Pn	**Pn**	**22 31 52.5**	**+0.9**
KSCO				*e*	S	**Sg**	**22 33 10.7**	**-4.3**
BOZ	**Bozeman (W)**	**5.09**	**295**	*e*	Pn	**Pn**	**22 31 52.6**	**-0.9**
	7.2nm,0.7s							
BOZ				*e*	S	**Sb**	**22 33 06.5**	**-1.1**
HWUT	**Hardware Ranch**	**5.20**	**250**	*e*	Pn	**Pn**	**22 31 53.9**	**-1.2**
	9.1nm,0.6s							
HWUT				*e*	S	**Sb**	**22 33 15.2**	**+4.3**
EGMT	**Eagleton**	**5.49**	**325**	*e*	Pn	**Pn**	**22 31 58.8**	**-0.2**
	12nm,0.6s							
EGMT				*e*	S	**Sn**	**22 33 08.6**	**+5.7**
SDCO	**Great Sand Dun**	**5.88**	**183**	*e*	Pn	**Pn**	**22 32 05.1**	**+0.7**
	2.5nm,0.7s							
SDCO				*e*	S	**Sg**	**22 33 40.3**	**-4.3**
PV04	**Paradox Valley**	**5.97**	**210**	*e*	Pn	**Pn**	**22 32 06.0**	**+0.3**
PV04				*e*	Pg	**Pb**	**22 32 24.6**	**+3.7**
PV04				*e*	S	**Sb**	**22 33 38.4**	**+5.4**
PV01	**Paradox Valley**	**6.09**	**207**	*e*	Pn	**Pn**	**22 32 07.7**	**+0.4**
	412nm,0.7s							
PV01				*e*	S	**Sb**	**22 33 38.7**	**+2.3**
ECSD	**EROS Data Cent**	**6.13**	**86**	*e*	Pn	**Pn**	**22 32 10.2**	**+2.6**
	7.1nm,0.5s							
ECSD				*e*	Pg	**Pg**	**22 32 31.5**	**-1.7**
CBKS	**Cedar Bluff**	**6.25**	**138**	*e*	Pn	Pn	22 32 16.2	+6.8
	18nm,0.5s							
CBKS				*e*	S	**Sg**	**22 33 54.5**	**-2.2**
AGMN	**Agassiz Nation**	**7.94**	**51**	*e*	Pn	Pn	22 32 37.7	+5.4
	6.0nm,0.6s							
AGMN				*e*	Pg	**Pg**	**22 33 05.6**	**-2.2**
AGMN				*e*	S	**Sg**	**22 34 47.0**	**-3.5**
I10CA	**LAC DU BONNET**	**9.03**	**40**	*i*			23 28 00.0	
	baz=224,slow=337,SNR=0.9							
ULM	**Lac du Bonnet**	**9.13**	**40**	Pn		Pn	**22 32 47.9**	**-0.9**
	0.3nm,0.3s,baz=222,slow=12,SNR=3.9							
ULM					Lg	Lg	22 35 22.6	
	0.4nm,0.3s,baz=128,slow=19,SNR=2.9							
WUAZ	**Wupatki**	**9.44**	**213**	*e*	Pn	**Pn**	**22 32 54.0**	**+0.8**
WMOK	**Wichita Mounta**	**10.11**	**149**	*e*	Pn	Pn	22 33 16.8	+15
TXAR	**Lajitas Array**	**14.30**	**175**	Pn		**Pn**	**22 34 02.1**	**+2.4**
	0.0nm,0.3s,baz=355,slow=9.4,SNR=2.3							
TXAR					Pg	P	22 34 59.1	+52
	0.1nm,0.3s,baz=357,slow=15,SNR=4.0							
TXAR					Lg	Lg	22 38 00.7	
	baz=360,slow=32,SNR=2.7							

*ISCJB **20** 22:44:41.6±0.2, 22.21S±0.04×176.58W±0.04, h134km, mb4.6/73, Error ellipse: s-maj=6.5km s-min=3.6km az=40.7*
*IDC **20** 22:44:43.2±1.3, 21.91S×176.57W, h136km±9km, mb4.3/17, mb1 4.5/18, mb1mx4.4/29, mbtmp4.8/18, MS3.8/6, Ms1 3.7/6, ms1mx3.2/26, Error ellipse: s-maj=14.5km s-min=12.4km az=168.0*
*NEIC **20** 22:44:46.7±0.9, 22.22S×176.55W, h171km±8km, mb4.7/56, Error ellipse: s-maj=6.7km s-min

	19nm,0.8s								
EIDS	**Eidsvold**	**29.74**	**258**	P		**P**	**22 50 38.0**	**+1.3**	
	baz=30,SNR=7.2								
EIDS	**Eidsvold**	**29.74**	**258**	*e*P		**P**	**22 50 38.1**	**+1.3**	
	10nm,0.7s								
MGCD	**Mangrove Creek**	**30.52**	**242**	P		**P**	**22 50 46.1**	**+2.6**	
	baz=31,SNR=10.0								
RMQ	**Roma**	**31.83**	**255**	P		**P**	**22 50 57.6**	**+2.5**	
	baz=32,SNR=7.5								
CTA	**Charters Tower**	**34.71**	**267**	P		**P**	**22 51 21.4**	**+1.3**	
	33nm,0.5s,baz=95,slow=11,SNR=77								
CTAO	**Charters Tower**	**34.71**	**267**	*e*P		**P**	**22 51 21.3**	**+1.1**	
	36nm,0.6s								
CMSA	**Cobar Meteorol**	**34.78**	**246**	P		**P**	**22 51 22.1**	**+1.5**	
	baz=35,SNR=21								
QLP	**Quilpie**	**35.88**	**255**	P		**P**	**22 51 31.4**	**+1.3**	
	baz=36,SNR=22								
TOO	**Toolangi**	**36.00**	**236**	P		**P**	**22 51 33.7**	**+2.7**	
	baz=36,SNR=5.1								
MTSU	**Mount Surprise**	**36.90**	**269**	P		**P**	**22 51 40.1**	**+1.2**	
	baz=37,SNR=12								
PMG	**Port Moresby**	**37.08**	**284**	P		**P**	**22 51 39.8**	**-0.6**	
	18nm,0.7s,baz=92,slow=12,SNR=4.2								
PMG	**Port Moresby**	**37.08**	**284**	*e*P		**P**	**22 51 40.5**	**+0.1**	
RKT	**Rikitea**	**38.26**	**99**	*e*T		T	23 31 17.6		
	6.5nm,0.3s								
STKA	**Stephens Creek**	**38.29**	**246**	P		**P**	**22 51 51.1**	**+0.7**	
	5.7nm,0.4s,baz=92,slow=12,SNR=36								
STKA					ScP	**ScP**	**22 57 37.0**	**-0.3**	
	1.8nm,0.7s,baz=102,slow=6.2,SNR=4.3								
STKA	**Stephens Creek**	**38.29**	**246**	P		**P**	**22 51 52.0**	**+1.5**	
	baz=38,SNR=31								
COEN	**Coen**	**39.08**	**275**	P		**P**	**22 51 58.7**	**+1.5**	
	baz=39,SNR=11								
HTT	**Hallett**	**40.65**	**244**	P		**P**	**22 52 10.8**	**+0.8**	
	baz=41,SNR=16								
QIS	**Mount Isa**	**40.76**	**264**	P		**P**	**22 52 11.5**	**+0.4**	
	baz=41,SNR=4.4								
BBOO	**Buckleboo**	**43.01**	**245**	P		**P**	**22 52 29.7**	**+0.5**	
	baz=43,SNR=8.0								
AS01	**Alice Springs**	**45.42**	**258**	*e*P		**P**	**22 52 49.3**	**+0.7**	
AS31	**Alice Springs**	**45.47**	**258**	*e*P		**P**	**22 52 49.4**	**+0.5**	
	5.0nm,0.6s								
ASAR	**Alice Springs**	**45.47**	**258**	P		**P**	**22 52 48.9**	**0.0**	
	18nm,0.8s,baz=92,slow=8.0,SNR=134								
ASAR					PcP	**PcP**	**22 54 25.7**	**0.0**	
	4.5nm,0.7s,baz=107,slow=4.0,SNR=7.2								
ASAR					ScP	**ScP**	**22 58 05.8**	**-0.4**	
	2.1nm,0.7s,baz=102,slow=4.3,SNR=9.1								
ASAR					S	**S**	**22 59 14.7**	**-6.0**	
	0.7nm,0.6s,baz=97,slow=15,SNR=5.7								
WB2	**Warramunga Arr**	**45.72**	**263**	*e*P		**P**	**22 52 50.5**	**-0.4**	
	24nm,0.7s								
WRAB	**Tennant Creek**	**45.72**	**263**	*e*P		**P**	**22 52 50.2**	**-0.7**	
	26nm,0.8s								
WRA	**Warramunga Arr**	**45.73**	**263**	P		**P**	**22 52 50.3**	**-0.7**	
	15nm,0.6s,baz=98,slow=5.1,SNR=180								
WRA					ScP	**ScP**	**22 58 07.0**	**-0.2**	
	1.6nm,0.7s,baz=96,slow=4.1,SNR=7.0								
WRA					S	**S**	**22 59 16.5**	**-7.9**	
	0.8nm,0.8s,baz=104,slow=13,SNR=3.9								
JAY	**Jayapura**	**45.90**	**289**	P		**P**	**22 52 52.0**	**-0.4**	
	2.2nm,0.3s,baz=172,slow=23,SNR=57								
KDU	**Kakadu**	**49.37**	**272**	P		**P**	**22 53 18.7**	**-0.4**	
	baz=49,SNR=7.1								
FORT	**Forrest**	**49.87**	**248**	P		**P**	**22 53 22.6**	**-0.1**	
	baz=50,SNR=30								
FORT	**Forrest**	**49.87**	**248**	*e*P		**P**	**22 53 21.9**	**-0.8**	
	403nm,0.8s								
WRKA	**Warakurna**	**50.32**	**255**	P		**P**	**22 53 25.8**	**-0.5**	
	baz=50,SNR=24								
MTN	**Manton Dam**	**50.56**	**271**	P		**P**	**22 53 27.6**	**-0.5**	
	baz=51,SNR=8.4								
MTN	**Manton Dam**	**50.56**	**271**	*e*P		**P**	**22 53 27.6**	**-0.5**	
	23nm,0.6s								
KNRA	**Kununurra**	**51.92**	**267**	P		**P**	**22 53 37.7**	**-0.5**	
	baz=52,SNR=23								
FITZ	**Fitzroy Crossi**	**54.16**	**263**	P		**P**	**22 53 54.5**	**-0.1**	
	12nm,0.5s,baz=126,slow=7.6,SNR=50								
SBA	**Scott Base**	**56.21**	**184**	*e*P		**P**	**22 54 12.2**	**+3.8**	
	19nm,0.8s								
VNDA	**Vanda**	**56.28**	**186**	P		**P**	**22 54 12.0**	**+3.1**	
	6.5nm,0.8s,baz=358,slow=8.4,SNR=31								
SOEI	**Soe**	**57.92**	**272**	*e*P		**P**	**22 54 23.1**	**+1.4**	
	66nm,0.9s								
MBWA	**Marble Bar**	**58.81**	**258**	*e*P		**P**	**22 54 26.8**	**-0.7**	
	43nm,0.6s								
NWAO	**Narrogin (SRO)**	**58.81**	**244**	*e*P		**P**	**22 54 28.3**	**+0.9**	
BLDU	**Ballidu**	**59.59**	**247**	P		**P**	**22 54 32.2**	**-0.6**	
	baz=60,SNR=13								
MORW	**Morawa**	**60.43**	**248**	P		**P**	**22 54 39.8**	**+1.2**	
	baz=60,SNR=6.4								
GIRL	**Giralia**	**63.40**	**255**	P		**P**	**22 55 00.1**	**+1.6**	
	baz=64,SNR=4.1								
QSPA	**South Pole Qui**	**67.81**	**180**	*e*P		**P**	**22 55 28.2**	**+2.0**	
	32nm,0.8s								
MJAR	**Matsushiro Arr**	**72.44**	**323**	P		**P**	**22 55 52.3**	**-2.4**	
	2.3nm,0.6s,baz=165,slow=5.6,SNR=7.1								
KSM	**Kuching**	**75.00**	**278**	*e*P		**P**	**22 56 09.5**	**-0.6**	
	5.6nm,0.6s								
PETK	**Petropavlovsk-**	**78.33**	**344**	P		**P**	**22 56 25.7**	**-2.2**	
	3.2nm,0.7s,baz=119,slow=8.7,SNR=3.5								
KSRS	**Korea Array**	**79.11**	**318**	LR		LR	23 26 36.1		
	comp=Z,50nm,21.8s,baz=118,slow=32								
MONP	**Monument Peak,**	**79.36**	**48**	P		**P**	**22 56 34.5**	**+0.2**	
	baz=235								
IKP	**In-Ko-Pah, Jac**	**79.44**	**48**	P		**P**	**22 56 34.6**	**+0.1**	
	baz=235								
EDW2	**Edwards Air Fo**	**79.46**	**46**	P		**P**	**22 56 34.5**	**-0.1**	
	baz=233								
LRMC	**Laurel Mtn Rad**	**80.02**	**45**	P		**P**	**22 56 37.8**	**+0.1**	
	baz=234								
BELC	**Belle Mtn. Jos**	**80.29**	**47**	P		**P**	**22 56 39.2**	**0.0**	
	baz=235								
CWC	**Cottonwood Cre**	**80.34**	**44**	P		**P**	**22 56 39.6**	**+0.2**	
	baz=233								
N02D	**Trinity Center**	**80.34**	**38**	P		**P**	**22 56 39.4**	**+0.2**	
	baz=229								
MAW	**Mawson**	**80.36**	**200**	P		**P**	**22 56 40.6**	**+1.7**	
	8.5nm,0.5s,baz=137,slow=5.7,SNR=28								
MAW	**Mawson**	**80.36**	**200**	P		**P**	**22 56 40.6**	**+1.7**	
	baz=80,SNR=13								
MAW	**Mawson**	**80.36**	**200**	*e*P		**P**	**22 56 40.6**	**+1.7**	
	2.9nm,0.9s								
MPMC	**Manual Prospec**	**80.49**	**45**	P		**P**	**22 56 40.3**	**0.0**	
	baz=234								
GSC	**Goldstone, Bar**	**80.50**	**46**	P		**P**	**22 56 39.8**	**-0.4**	
	baz=234								
GSC	**Goldstone, Bar**	**80.50**	**46**	*e*P		**P**	**22 56 40.1**	**-0.1**	
	3.5nm,0.9s								
M02C	**Callahan**	**80.53**	**38**	P		**P**	**22 56 41.0**	**+0.7**	
	baz=229								
HEC	**Hector,Ludlow**	**80.54**	**46**	P		**P**	**22 56 40.3**	**-0.2**	
	baz=234								
IRM	**Iron Mountain**	**80.96**	**47**	P		**P**	**22 56 42.8**	**+0.1**	
	baz=235								
GMRC	**Granite Mounta**	**80.97**	**47**	P		**P**	**22 56 42.7**	**0.0**	
	baz=235								
FURC	**Furnace Creek,**	**81.14**	**45**	P		**P**	**22 56 43.9**	**+0.5**	
	baz=234								
Y12C	**Blythe**	**81.16**	**48**	P		**P**	**22 56 44.2**	**+0.6**	
	baz=236								
USRK	**Ussuriysk Ar.**	**81.19**	**325**	P		**P**	**22 56 42.5**	**-1.0**	
	2.5nm,0.7s,baz=106,slow=5.9,SNR=4.9								
LDFC	**Landfair**	**81.50**	**47**	*e*P		**P**	**22 56 42.9**	**-2.7**	
	20nm,1.4s								
TPNV	**Topopah Spring**	**81.82**	**45**	P		**P**	**22 56 47.6**	**+0.3**	
	baz=234								
TPNV	**Topopah Spring**	**81.82**	**45**	*e*P		**P**	**22 56 45.9**	**-1.4**	
	2.7nm,0.9s								
NJ2	**Nanjing**	**82.05**	**309**	*e*P		**P**	**22 56 47.4**	**-0.9**	
NJ2					pmax	pmax			
	comp=Z,11nm,0.5s								
Y14A	**Wickenburg**	**82.31**	**49**	*e*P		**P**	**22 56 47.8**	**-2.0**	
	comp=Z,33nm,1.1s								
W13A	**Hualapai Mount**	**82.34**	**47**	*e*P		**P**	**22 56 49.4**	**-0.7**	
	comp=Z,4.1nm,1.0s								
K05A	**Summer Lake**	**82.51**	**38**	*e*P		**P**	**22 56 49.6**	**-1.1**	
	comp=Z,36nm,1.8s								
J05D	**Fort Rock, OR**	**82.67**	**37**	P		**P**	**22 56 51.8**	**+0.3**	
	baz=230								
TUC	**Tucson**	**83.01**	**51**	P		**P**	**22 56 54.2**	**+0.8**	
	baz=238								
TUC	**Tucson**	**83.01**	**51**	*e*P		**P**	**22 56 54.0**	**+0.5**	
	comp=Z,7.7nm,0.9s								
R11A	**Troy Canyon, C**	**83.06**	**44**	P		**P**	**22 56 53.4**	**-0.4**	
	baz=235								
BMN	**Battle Mountai**	**83.26**	**41**	*e*P		**P**	**22 56 53.8**	**-0.8**	
	comp=Z,6.6nm,1.1s								
E03A	**Lebam**	**83.55**	**34**	*e*P		**P**	**22 56 56.5**	**+0.7**	
	comp=Z,17nm,1.0s								
319A	**Douglas**	**83.62**	**53**	*e*P		**P**	**22 56 56.1**	**-0.6**	
	comp=Z,10nm,0.9s								
WVOR	**Wild Horse Val**	**83.62**	**39**	*e*P		**P**	**22 56 56.0**	**-0.4**	
	comp=Z,6.4nm,1.0s								
X16A	**Lo Mia Camp, P**	**83.66**	**49**	*e*P		**P**	**22 56 57.5**	**+0.7**	
	comp=Z,8.1nm,1.0s								
LCMT	**Little Creek M**	**83.84**	**46**	*e*P		**P**	**22 56 57.6**	**0.0**	
	comp=Z,4.7nm,1.0s								
CCUT	**Cedar City**	**84.06**	**45**	*e*P		**P**	**22 56 58.6**	**-0.2**	
	comp=Z,7.0nm,1.1s								
KNB	**Kanab**	**84.12**	**46**	*e*P		**P**	**22 56 59.9**	**+0.7**	
	comp=Z,6.8nm,1.0s								
U15A	**North Rim**	**84.16**	**47**	*e*P		**P**	**22 56 59.6**	**+0.1**	
	comp=Z,9.8nm,0.9s								
SYO	**Syowa Base**	**85.30**	**192**	*e*P		**P**	**22 57 03.2**	**-1.1**	
SYO	**Syowa Base**	**85.30**	**192**	*e*PcP		**P**	**22 57 05.4**	**+1.1**	
121A	**Cookes Peak, D**	**85.30**	**52**	*e*P		**P**	**22 57 04.4**	**-0.8**	
	comp=Z,3.3nm,0.4s								
PSI	**Prapat**	**86.00**	**275**	LR		LR	23 39 54.0		
	comp=Z,66nm,18.3s,slow=38								
SNAA	**Sanae**	**86.20**	**178**	*e*P		**P**	**22 57 08.1**	**-0.8**	
	comp=Z,5.3nm,0.9s								
RAGM	**Ragged Mountai**	**86.35**	**15**	*e*P		**P**	**22 57 07.9**	**-1.5**	
	comp=Z,248nm,0.6s								
TMUT	**Trail Mountain**	**86.43**	**45**	*e*P		**P**	**22 57 10.0**	**-0.7**	
	comp=Z,6.3nm,0.7s								
F10A	**Beach Ranch, E**	**86.58**	**37**	*e*P		**P**	**22 57 10.4**	**-0.6**	
	comp=Z,4.6nm,0.8s								
MNTX	**Cornudas Mount**	**86.68**	**54**	P		**P**	**22 57 11.9**	**+0.1**	
	baz=241								
MNTX	**Cornudas Mount**	**86.68**	**54**	*e*P		**P**	**22 57 11.8**	**0.0**	
	comp=Z,10nm,1.1s								
SRU	**San Rafael Swe**	**86.78**	**45**	*e*P		**P**	**22 57 12.3**	**0.0**	
	comp=Z,6.1nm,0.7s								
HLID	**Hailey**	**86.79**	**40**	P		**P**	**22 57 12.2**	**0.0**	
	baz=235								
TX31	**Lajitas Ar. Si**	**86.87**	**57**	*e*P		**P**	**22 57 12.6**	**-0.3**	
TXAR	**Lajitas Array**	**86.87**	**57**	P		**P**	**22 57 13.1**	**+0.2**	
	comp=Z,4.2nm,0.8s,baz=217,slow=7.4,SNR=34								
PLCA	**Paso Flores**	**87.07**	**133**	P		**P**	**22 57 14.7**	**+0.9**	
	comp=Z,3.9nm,0.8s,baz=256,slow=5.2,SNR=7.8								
PLCA					LR	LR	23 30 23.9		
	comp=Z,28nm,20.6s,baz=354,slow=31								
ANMO	**Albuquerque**	**87.46**	**51**	P		**P**	**22 57 15.9**	**+0.3**	
	baz=241								
ANMO	**Albuquerque**	**87.46**	**51**	*e*P		**P**	**22 57 15.1**	**-0.5**	
	comp=Z,6.2nm,1.3s								
DHY	**Denali Highway**	**88.13**	**13**	*e*P		**P**	**22 57 18.4**	**+0.3**	
	comp=Z,18nm,0.8s								
LNIG	**Linares**	**88.26**	**62**	*e*P		**P**	**22 57 18.6**	**-0.9**	
	comp=Z,8.1nm,0.8s								
S22A	**4UR Ranch, Cre**	**88.57**	**48**	P		**P**	**22 57 21.3**	**+0.3**	
	baz=240								
S22A	**4UR Ranch, Cre**	**88.57**	**48**	*e*P		**P**	**22 57 20.5**	**-0.5**	
	comp=Z,2.1nm,0.9s								
GYA	**Guiyang**	**88.70**	**299**	*e*P		**P**	**22 57 21.3**	**-0.3**	
GYA				pP		pP	22 57 56.8	+0.9	
GYA				PP		**PP**	**23 00 55.6**	**+3.0**	
GYA	**Guiyang**	**88.70**	**299**	SKS		**SKSac**	**23 07 37.4**	**-1.5**	
GYA	**Guiyang**	**88.70**	**299**	S		**S**	**23 07 57.0**	**-0.6**	
GYA				pmax		pmax			
	comp=Z,10.0nm,1.0s								
O20A	**White River Ci**	**88.82**	**45**	P		**P**	**22 57 21.8**	**-0.2**	
	baz=239								
WRH	**Wood River Hil**	**89.24**	**12**	*e*P		**P**	**22 57 22.6**	**-0.5**	
	comp=Z,48nm,2.0s								
PDAR	**Pinedale Array**	**89.33**	**43**	P		**P**	**22 57 22.8**	**-1.6**	
	comp=Z,0.8nm,0.5s,baz=248,slow=4.0,SNR=6.3								
CCB	**Clear Creek Bu**	**89.45**	**12**	*e*P		**P**	**22 57 23.1**	**-1.0**	
	comp=Z,25nm,1.8s								
BOZ	**Bozeman (W)**	**89.57**	**39**	P		**P**	**22 57 25.5**	**+0.2**	
	baz=237								
BOZ	**Bozeman (W)**	**89.57**	**39**	*e*P		**P**	**22 57 25.4**	**+0.2**	
	comp=Z,3.7nm,0.8s								
MSTX	**Muleshoe**	**89.68**	**53**	P		**P**	**22 57 26.2**	**+0.1**	
	baz=243								
MSTX	**Muleshoe**	**89.68**	**53**	*e*P		**P**	**22 57 25.3**	**-0.7**	
	comp=Z,9.3nm,0.9s								
ILAR	**Eielson Array**	**89.74**	**12**	P		**P**	**22 57 24.1**	**-1.4**	
	comp=Z,1.3nm,0.5s,baz=222,slow=5.8,SNR=20								
034A	**Hebbronville**	**89.81**	**61**	P		**P**	**22 57 27.3**	**+0.7**	
	baz=245								
533A	**Kerrville**	**90.81**	**58**	P		**P**	**22 57 31.1**	**-0.2**	
	baz=245								
433A	**Art**	**91.06**	**57**	P		**P**	**22 57 31.7**	**-0.7**	
	baz=245								
534A	**Blanco**	**91.23**	**58**	P		**P**	**22 57 32.6**	**-0.6**	
	baz=245								
333A	**Richland Sprin**	**91.38**	**57**	P		**P**	**22 57 32.9**	**-1.0**	
	baz=245								
ABTX	**Abilene, Hawle**	**91.43**	**55**	P		**P**	**22 57 34.0**	**-0.1**	
	baz=244								
ABTX	**Abilene, Hawle**	**91.43**	**55**	*e*P		**P**	**22 57 34.0**	**-0.1**	
	comp=Z,10nm,1.0s								
HHC	**Hu-ho-hao-te**	**91.56**	**314**	*e*P		**P**	**22 57 37.6**	**+3.0**	
HHC				pmax		pmax			
	comp=Z,22nm,1.4s								
HHC				pmax		pmax			
	comp=Z,89nm,5.4s								
434A	**Burnet**	**91.72**	**57**	P		**P**	**22 57 34.8**	**-0.7**	
	baz=245								
233A	**Rising Star**	**91.74**	**56**	P		**P**	**22 57 35.4**	**-0.1**	
	baz=245								
CM01	**Chiang Mai Arr**	**91.95**	**289**	*e*P		**P**	**22 57 36.5**	**-0.3**	
334A	**Lometa**	**91.96**	**57**	P		**P**	**22 57 36.0**	**-0.6**	
	baz=245								
CMAR	**Chiang Mai Arr**	**91.98**	**289**	P		**P**	**22 57 37.2**	**+0.3**	
	comp=Z,3.4nm,0.9s,baz=120,slow=3.3,SNR=11								
CHTO	**Chiang Mai**	**92.12**	**289**	*e*P		**P**	**22 57 38.1**	**+0.5**	
	comp=Z,3.7nm,0.8s								
335A	**Moody**	**92.57**	**57**	P		**P**	**22 57 39.1**	**-0.3**	
	baz=246								
RSSD	**Black Hills**	**93.49**	**43**	P		**P**	**22 57 42.8**	**-0.7**	
	baz=242								
RSSD	**Black Hills**	**93.49**	**43**	*e*P		**P**	**22 57 43.1**	**-0.5**	
	comp=Z,7.5nm,1.0s								
ATAH	**Atahualpa**	**94.80**	**100**	LR		LR	23 31 44.2		
	comp=Z,26nm,19.7s,baz=68,slow=30								
LZH	**Lanzhou**	**94.92**	**307**	P		**P**	**22 57 51.4**	**+1.1**	
LZH				pP		pP	22 58 25.5	+0.9	
LZH				sP		sP	22 58 39.6	+0.9	
LZH				PP		**PP**	**23 01 44.8**	**+3.4**	
LZH				pmax		pmax			
	comp=Z,23nm,1.3s								
LZH				pmax		pmax			
	comp=Z,76nm,9.2s								
TEIG	**Tepich**	**95.92**	**71**	LR		LR	23 35 58.4		
	comp=Z,221nm,18.4s,baz=176,slow=32								
SONM	**Songino Array**	**97.98**	**318**	PP		PP	23 02 00.2	-4.5	
	comp=Z,0.3nm,0.5s,baz=138,slow=10.0,SNR=3.7								
LPAZ	**La Paz**	**100.13**	**112**	P		**Pdif**	**22 58 16.8**	**+2.0**	
	comp=Z,1.4nm,0.8s,baz=213,slow=3.2,SNR=5.9								
ZALV	**Zalesovo Beam**	**112.72**	**321**	PKiKP		**PKiKP**	**23 03 01.3**	**-1.9**	
	comp=Z,1.0nm,0.6s,baz=150,slow=1.6,SNR=5.2								
MKAR	**Makanchi Array**	**113.40**	**313**	PKiKP		**PKiKP**	**23 03 03.6**	**-1.2**	
	comp=Z,0.5nm,0.5s,baz=110,slow=1.2,SNR=5.5								
KSH	**Kashi**	**117.01**	**304**	*e*PKP		**PKPdf**	**23 03 08.8**	**-3.4**	
KSH				sPKP			23 04 08.6		
KSH				PP		**PP**	**23 04 27.8**	**+4.0**	
KSH				PKS		**PKSdf**	**23 06 44.8**	**-4.1**	
KSH				SKS		**SKSdf**	**23 10 04.3**	**-7.7**	
KSH	**Kashi**	**117.01**	**304**	SS		SS	23 20 21.8	-0.3	
KSH				AMB		AMB			
	comp=Z,110nm,5.4s								
KSH				LR		LR			
	comp=N,99nm,7.8s								
KSH				LR		LR			
	comp=E,86nm,9.6s								
KSH				LR		LR			
	comp=Z,120nm,7.9s								
ARU	**Arti**	**127.43**	**325**	*e*PKPdf		**PKPdf**	**23 03 30.7**	**-0.8**	
GEYT	**Alibeck**	**130.87**	**301**	PKP		**PKPdf**	**23 03 38.5**	**-0.1**	
	comp=Z,1.4nm,0.5s,baz=10.0,slow=3.5,SNR=4.6								
GEYT				SKPbc		**SKPbc**	**23 06 47.4**	**-3.2**	
	comp=Z,2.7nm,0.9s,baz=98,slow=2.1,SNR=7.5								
ARCES	**ARCESS Array B**	**130.90**	**350**	PKP		**PKPdf**	**23 03 36.4**	**-1.3**	
	comp=Z,1.8nm,0.4s,baz=48,slow=1.3,SNR=8.1								
MATP	**Matopo**	**131.02**	**212**	PKP		**PKPdf**	**23 03 39.2**	**-0.4**	
	comp=Z,1.9nm,0.7s,baz=208,slow=4.3,SNR=4.6								
MATP				SKPbc		**SKPab**	**23 06 54.2**	**+2.0**	
	comp=Z,4.8nm,1.1s,baz=218,slow=16,SNR=4.4								
MATP				SKP			23 07 02.3		
	comp=Z,3.2nm,0.6s,baz=132,slow=3.4,SNR=8.4								
FINES	**FINESS Array B**	**137.85**	**344**	PKhKP		PKPpre	23 03 42.5		
	comp=Z,0.7nm,0.5s,baz=90,slow=2.1,SNR=4.8								
FINES				PKP		**PKPdf**	**23 03 48.8**	**-2.1**	
	comp=Z,1.4nm,0.6s,baz=51,slow=2.2,SNR=7.5								
FINES				SKPbc		**SKPbc**	**23 07 10.4**	**-2.0**	
	comp=Z,6.8nm,1.0s,baz=27,slow=4.7,SNR=7.6								
NOA	**NORSAR Array B**	**140.89**	**354**	PKhKP		PKPpre	23 03 48.2		
	comp=Z,0.6nm,0.5s,baz=6.5,slow=3.8,SNR=4.1								
SUW	**Suwalki**	**144.97**	**340**	*e*PKP		PKPbc	23 04 02.6	-0.8	
AKASG	**Malin Array Be**	**145.22**	**331**	PKP		**PKPbc**	**23 04 02.4**	**-1.9**	
	comp=Z,4.8nm,0.5s,baz=42,slow=4.5,SNR=27								
AKASG				SKPbc		**SKPbc**	**23 07 30.4**	**-1.2**	
	comp=Z,0.2nm,0.3s,baz=30,slow=2.1,SNR=5.9								
KIEV	**Kiev**	**145.23**	**331**	*e*PKPdf		**PKPbc**	**23 04 02.6**	**-1.7**	
SORM	**Soroca**	**147.42**	**328**	⇑*i*P		**PKPdf**	**23 04 09.9**	**+1.7**	
BEL	**Belsk**	**147.59**	**340**	*e*PKP		**PKPbc**	**23 04 11.0**	**-0.2**	
ROOS	**tl_alroos**	**148.07**	**299**	*e*P		**PKPbc**	**23 04 14.1**	**+0.9**	
ARNB	**Al Arnab**	**148.68**	**303**	*e*P		**PKPbc**	**23 04 13.7**	**-1.0**	
KWP	**Kalwaria Pacla**	**148.75**	**336**	*e*PKP		**PKPbc**	**23 04 13.9**	**-0.4**	
MARH	**Ras Al Marh**	**148.75**	**299**	*e*P		**PKPbc**	**23 04 15.0**	**-0.2**	
ASF	**Jabal al Asfar**	**148.78**	**296**	PKPbc		**PKPbc**	**23 04 15.0**	**-0.1**	
	comp=Z,5.4nm,0.8s,baz=62,slow=1.8,SNR=8.7								
SALA	**Sala**	**148.82**	**297**	*e*P		**PKPbc**	**23 04 15.3**	**0.0**	
BRTR	**Keskin Array B**	**149.03**	**311**	PKPbc		**PKPbc**	**23 04 14.6**	**-1.0**	
	comp=Z,2.3nm,0.5s,baz=153,slow=4.9,SNR=16								
TLCR		**149.14**	**324**	⇑*i*P		**PKPbc**	**23 04 15.0**	**-0.4**	
BURAR	**Bucovina Array**	**149.27**	**331**	⇑*i*P		**PKPbc**	**23 04 16.6**	**+0.8**	
OJC	**Ojcow**	**149.29**	**339**	*e*PKP		**PKPbc**	**23 04 15.1**	**-0.6**	
BRBR	**Barbar**	**149.32**	**298**	*e*P		**PKPbc**	**23 04 15.3**	**-1.2**	
TESR	**Tescani**	**149.38**	**328**	⇓*i*P		**PKPbc**	**23 04 15.4**	**-0.6**	
CFR	**Carcaliu**	**149.51**	**324**	⇑*i*P		**PKPbc**	**23 04 15.6**	**-0.7**	
VRI	**Vrincioaia**	**149.79**	**327**	⇑*i*P		**PKPbc**	**23 04 16.7**	**-0.3**	
NIE	**Niedzica**	**149.81**	**338**	*e*PKP		**PKPbc**	**23 04 16.7**	**-0.3**	
PLOR	**Plostina**	**149.84**	**327**	⇑*i*P		**PKPbc**	**23 04 16.8**	**-0.4**	
MMAI	**Mount Meron Ar**	**149.86**	**298**	PKPbc		**PKPbc**	**23 04 17.5**	**-0.2**	
	comp=Z,5.1nm,0.4s,baz=64,slow=5.7,SNR=36								
UPC	**Upice**	**150.15**	**344**	⇑*e*PKP		**PKPbc**	**23 04 17.5**	**-0.2**	
DPC	**Dobruska-Polom**	**150.21**	**343**	⇑*e*PKP		**PKPbc**	**23 04 17.8**	**-0.1**	
DPC				*ex*		x	23 04 19.8		
LANS	**Liptovska Anna**	**150.32**	**339**	*e*PKP		**PKPbc**	**23 04 18.8**	**+0.6**	
KRLC	**Kraliky**	**150.34**	**343**	⇑*e*PKP		**PKPbc**	**23 04 17.8**	**-0.5**	
DOPR	**Dopca**	**150.38**	**328**	⇑*i*P		**PKPbc**	**23 04 18.4**	**-0.1**	
MORC	**Moravsky Berou**	**150.39**	**341**	⇑*i*P		**PKPbc**	**23 04 18.1**	**-0.3**	
PVCC	**Panska Ves**	**150.48**	**346**	⇑*e*PKP		**PKPbc**	**23 04 18.3**	**-0.2**	
PVCC				*ep*PKP		**pPKPab**	**23 05 00.0**	**-0.2**	
KECS	**Kecovo**	**150.53**	**337**	*e*PKP		**PKPbc**	**23 04 19.0**	**+0.3**	
EIL	**Elat**	**150.81**	**291**	PKPbc		**PKPbc**	**23 04 19.5**	**-0.5**	
	comp=Z,7.6nm,0.8s,baz=28,slow=2.0,SNR=8.0								
VOIR		**150.93**	**328**	⇑*i*P		**PKPbc**	**23 04 19.5**	**-0.3**	
PRA	**Prague**	**150.94**	**345**	⇑*e*PKP		**PKPbc**	**23 04 19.1**	**-0.5**	
PRU	**Pruhonice**	**150.99**	**345**	⇑*e*PKP		**PKPbc**	**23 04 19.3**	**-0.4**	
PRU				*ex*		x	23 04 23.4		
GOPC	**GO Pecny, Ondr**	**151.00**	**345**	⇑*e*PKP		**PKPbc**	**23 04 19.4**	**-0.4**	
CSS	**Mathiatis

LANU	**Lannavaara**	**0.71**	**71**	P		Pn	23 18 14.9	+0.4
LANU	**Lannavaara**	**0.71**	**71**	P		Pg	23 18 11.1	-0.5
LANU				S		Sg	23 18 20.6	-0.3
DUNU	**Dundret**	**0.73**	**168**	P		Pn	23 18 15.1	+0.4
DUNU				S		Sn	23 18 25.2	-0.9
DUNU	**Dundret**	**0.73**	**168**	P		Pg	23 18 11.3	-0.5
DUNU				S		Sg	23 18 21.9	+0.6
MASU	**Masugnsbyn**	**0.79**	**118**	P		Pn	23 18 16.3	+0.8
MASU	**Masugnsbyn**	**0.79**	**118**	P		Pg	23 18 12.6	-0.4
KIF	**Kilpisjarvi**	**1.20**	**11**	*eP*		Pg	23 18 20.8	-0.1
KIF				*eS*		Sn	23 18 40.0	+2.3
KIF	**Kilpisjarvi** SNR=50	**1.20**	**11**	*eS*		Sn	23 18 40.0	+2.3
KIF	**Kilpisjarvi** SNR=50	**1.20**	**11**	*eP*		Pg	23 18 20.8	-0.1
PAJU	**Pajala**	**1.39**	**124**	P		Pg	23 18 26.8	+2.3
PAJU	**Pajala**	**1.39**	**124**	P		Pn	23 18 23.2	-0.6
HEF	**Hetta**	**1.43**	**64**	*eP*		Pn	23 18 24.0	-0.3
HEF				*eS*		Sg	23 18 44.6	+1.0
HEF	**Hetta** SNR=50	**1.43**	**64**	*eP*		Pn	23 18 24.0	-0.3
HEF	SNR=50			*eS*		Sg	23 18 44.6	+1.0
ERTU	**Ertsjaerv**	**1.50**	**148**	P		Pn	23 18 25.4	+0.1
ARE0	**ARCESS Array S**	**2.59**	**46**	*eP*		Pn	23 18 41.9	+1.7
ARE0	comp=Z,1.9nm,0.4s			IAML			23 19 27.6	
ARE0	**ARCESS Array S** SNR=50	**2.59**	**46**	*eP*		Pn	23 18 41.9	+1.6

NIED ***20*** *23:18:00.38˚.60N×144˚.50E, h5km, Mw3.6 Best double couple: M₀2.79000×10¹⁴ NP1:φs42.00000°, δ25.00000°, λ-39.00000°. NP2:φs169.00000°, δ74.00000°, λ-110.00000°.*

JMA 20 23:18:52.6±0.1**, 38˚.63N×144˚.47E, h21km, M3.7, Off east coast of Honshu**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
OFUJ	**Ofunato**	**2.23**	**282**	P		Pn	23 19 29.7	+1.4
OFUJ				*eS*		Sn	23 19 56.8	+1.5
MIYJ	**Miyakonagasawa**	**2.27**	**295**	P		Pn	23 19 29.6	+0.8
MIYJ				*eS*		Sn	23 19 57.4	+1.2
JTH	**Tanohata**	**2.41**	**304**	P		Pn	23 19 32.0	+1.2
JTH				*eS*		Sn	23 20 01.0	+1.4
JMK	**Ichinoseki**	**2.56**	**278**	P		Pn	23 19 34.1	+1.3
JMK				*eS*		Sn	23 20 04.9	+1.6
JOM	**Ohasama**	**2.61**	**290**	P		Pn	23 19 35.1	+1.5
JOM				*eS*		Sn	23 20 06.6	+1.9
JOU	**Okura**	**3.00**	**266**	*eS*		Sn	23 20 15.9	+1.7
JRG	**Rokugo**	**3.08**	**286**	*eS*		Sn	23 20 18.8	+2.5
JYK	**Kaneyama**	**3.23**	**276**	*eS*		Sn	23 20 22.6	+2.8
JAH	**Hinai**	**3.35**	**299**	*eS*		Sn	23 20 26.7	+3.8
JTM	**Tennabayashi**	**3.40**	**310**	*eS*		Sn	23 20 25.1	+1.2
JFT	**Otama**	**3.44**	**252**	*eS*		Sn	23 20 26.6	+1.4
JOT	**Ohata**	**3.80**	**317**	*eS*		Sn	23 20 33.9	-0.1
JCH	**Churui**	**4.07**	**348**	P		Pn	23 19 52.2	-1.4
JCH				*eS*		Sn	23 20 37.2	-3.3
JTKR	**Abashiri--Toko**	**5.35**	**356**	*eS*		Sn	23 21 07.9	-4.2

ISCJB ***20*** *23:19:52.0±0.8, 8˚.1S±0˚.1×122˚.7E±0˚.2, h226km, mb3.6/5, Error ellipse: s-maj=29.9km s-min=8.8km az=155.3*
IDC ***20*** *23:19:51.5±4.2, 8˚.00S×122˚.72E, h200km±42km, mb3.5/5, mb1 3.5/8, mb1mx3.3/33, mbtmp4.0/8, Error ellipse: s-maj=54.5km s-min=17.2km az=71.0*

ISC 20 23:19:53.7±0.9**, 8˚.2S**±0˚.1×**122˚.8E**±0˚.2**, h226km, n9, σ2.5**61**/12**, **mb3.7/5, Flores region**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**10.26**	**164**	P		**Pn**	**23 22 15.9**	**0.0**
FITZ	0.3nm,0.3s,baz=354,slow=10,SNR=13			S		**S**	**23 24 07.2**	**-3.9**
WRA	**Warramunga Arr**	**16.20**	**137**	P		**P**	**23 23 28.5**	**+0.1**
WRA	0.5nm,0.3s,baz=318,slow=12,SNR=11			S		**S**	**23 26 23.7**	**-3.2**
ASAR	**Alice Springs**	**18.74**	**147**	P		**Pn**	**23 23 57.8**	**-1.5**
ASAR	1.2nm,0.3s,baz=331,slow=14,SNR=49			S		**S**	**23 27 22.2**	**+4.9**
STKA	**Stephens Creek**	**29.38**	**146**	P		**P**	**23 25 37.5**	**+1.5**
USRK	1.7nm,0.4s,baz=327,slow=12,SNR=6.8 **Ussuriysk Ar.**	**52.80**	**8**	P		**P**	**23 28 45.0**	**-0.8**
MKAR	1.5nm,0.5s,baz=182,slow=7.1,SNR=4.1 **Makanchi Array**	**65.50**	**331**	P		**P**	**23 30 13.6**	**+0.8**
ZALV	1.0nm,0.6s,baz=134,slow=8.8,SNR=5.8 **Zalesovo Beam**	**69.67**	**337**	P		**P**	**23 30 36.9**	**-1.7**
VNDA	0.5nm,0.4s,baz=126,slow=7.3,SNR=2.8 **Vanda**	**72.24**	**172**	P		**P**	**23 30 55.7**	**+1.9**
TORD	0.5nm,0.6s,baz=333,slow=6.5,SNR=8.4 **Torodi Ar. Bea**	**121.98**	**280**	PKP		**PKPdf**	**23 38 21.7**	**-0.5**
	0.3nm,0.9s,baz=73,slow=3.4,SNR=4.6							

SJA ***20*** *23:26:03.2±0.8, 34˚.83S×72˚.43W, h40km, ML4.1, MW4.2*
IDC ***20*** *23:26:07.7±2.3, 34˚.92S×69˚.99W, h0km, mb4.1/5, mb1 4.1/8, mb1mx3.9/32, mbtmp4.1/8, ML4.4/3, MS4.7/1, Ms1 4.7/1, ms1mx2.9/17, Error ellipse: s-maj=77.7km s-min=17.6km az=96.0*
ISCJB ***20*** *23:26:08.0±0.5, 34˚.92S±0˚.03×71˚.71W±0˚.07, h64km±4km, mb4.1/5, Error ellipse: s-maj=10.2km s-min=4.6km az=9.2*
GUC ***20*** *23:26:09.0±0.7, 34˚.88S×71˚.63W, h59km±3km, ML4.1*
NEIC ***20*** *23:26:09.0±0.0, 34˚.95S×71˚.54W, h61km, MG4.2(GUC), After GUC.*
NEIC Felt [V] at Hualane; [IV] at Chepica, Chimbarongo, Lolol, Paredones, Rancagua, San Fernando and Santa Cruz; [III] at Curico, Machali, Molina, Mostazal, Pencahue, Pichilemu, Rio Claro and Talca; [II] at Colbun, Constitucion, Duao, Iloca, Melipilla and Romeral.

ISC 20 23:26:09.1±0.8**, 34˚.90S**±0˚.03×**71˚.74W**±0˚.07**, h56**km±7km**, n35**, σ1.9**44**/44**, mb4.1/5, 5C-1D, Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
GO05	**HualaæØ**	**0.19**	**235**	⇑*iP*		**Pn**	**23 26 18.8**	**+0.7**
GO05				*i* S		**Sn**	**23 26 25.4**	**+0.9**
GO05	comp=E,11μm,0.5s			IAML			23 26 29.3	
NICH	**Los Niches**	**0.43**	**104**	⇓*iP*		**Pn**	**23 26 19.7**	**-0.4**
NICH				*i* S		**Sn**	**23 26 26.8**	**-1.2**
TALC	**Talca**	**0.50**	**170**	⇑*iP*		**Pn**	**23 26 21.4**	**+0.6**
TALC				*i* S		**Sn**	**23 26 29.8**	**+0.6**
CHPI	**Pichilemu**	**0.55**	**337**	*eP*		**Pn**	**23 26 21.4**	**+0.1**
CHPI				*i* S		**Sn**	**23 26 31.0**	**+0.8**
LNCH	**Linares**	**0.95**	**173**	⇑*iP*		**Pn**	**23 26 26.7**	**+0.4**
LNCH				*i* S		**Sn**	**23 26 39.5**	**+0.4**
ANTU	**Antumapu**	**1.62**	**35**	*eP*		**Pn**	**23 26 35.5**	**+0.2**
FSR	**Penalolen**	**1.74**	**36**	*eP*		Pn	23 26 23.8	-13
FSR				*i* S		**Sn**	**23 26 58.0**	**-0.2**
CLCH	**Cerro Calan**	**1.80**	**34**	⇑*iP*		**Pn**	**23 26 37.7**	**-0.2**
CLCH				*i* S		**Sn**	**23 26 59.5**	**-0.2**
CLCH	comp=E,4μm,0.2s			IAML			23 27 05.4	
FCH	**Farellones**	**1.98**	**38**	*eP*		**Pn**	**23 26 40.3**	**-0.2**
FCH				*i* S		**Sn**	**23 27 02.9**	**-1.5**
FCH	comp=E,3μm,0.2s			IAML			23 27 06.6	
ROC1	**El Roble**	**2.01**	**18**	*eP*		**Pn**	**23 26 42.0**	**+1.1**
ROC1				*eS*		**Sn**	**23 27 08.0**	**+2.9**
ROCH	**El Roble**	**2.02**	**18**	⇑*iP*		**Pn**	**23 26 41.3**	**+0.3**
ROCH				*i* S		**Sn**	**23 27 06.1**	**+0.9**
ROCH	comp=N,3μm,0.6s			IAML			23 27 09.9	
AAGR	**Agrelo**	**3.02**	**54**	*eP*		**Pn**	**23 26 57.0**	**+2.3**
AUSP	**Uspallata**	**3.32**	**37**	*eP*		**Pn**	**23 27 01.2**	**+2.4**
ASAL	**Salagasta**	**3.34**	**47**	*eP*		**Pn**	**23 27 02.5**	**+3.5**
RTLS	**Leoncito**	**3.71**	**34**	*eP*		**Pn**	**23 27 06.8**	**+2.6**
RTLS	comp=Z,210nm,0.4s			IAML			23 27 11.9	
RTLS				*eS*		Sn	23 27 57.6	+11
RTCV	**Cerro Valdivia**	**4.04**	**42**	*eP*		**Pn**	**23 27 10.5**	**+1.9**
ACAN	**Cantantal**	**4.62**	**57**	*eP*		**Pn**	**23 27 17.6**	**+1.2**
AMOG	**MOGNA**	**4.80**	**36**	*eP*		**Pn**	**23 27 19.6**	**+0.6**
ACCO	**Cerro Coronel**	**4.86**	**28**	*eP*		**Pn**	**23 27 20.6**	**+0.7**
AROD	**Rodeo**	**5.09**	**23**	*eP*		**Pn**	**23 27 24.7**	**+1.5**
AROD				*eS*		**Sn**	**23 28 22.6**	**+1.7**
AVFE	**Valle Fertil**	**5.56**	**42**	*eP*		**Pn**	**23 27 29.2**	**-0.2**
AVFE	comp=Z,56nm,0.4s			IAML			23 27 35.5	
PLCA	**Paso Flores**	**5.90**	**171**	Pn		**Pn**	**23 27 36.5**	**+2.6**
PLCA	comp=Z,1.7nm,0.3s,baz=0.8,slow=13,SNR=22			Lg		Lg	23 29 14.4	
LCO	comp=Z,0.2nm,0.3s,baz=270,slow=19,SNR=1.9 **Las Campanas**	**5.94**	**9**	*e*Pn		**Pn**	**23 27 34.0**	**-0.7**
LCO	comp=Z,21nm,0.4s			*e*Sn		**Sn**	**23 28 38.7**	**-2.9**
CYA	**Choya**	**8.19**	**40**	IAML			23 28 10.3	
TRQA	comp=Z,14nm,0.3s **Tornquist**	**8.47**	**115**	*e*Pn		**Pn**	**23 28 09.6**	**+0.5**
LVC	comp=Z,9.0nm,1.0s **Limon Verde**	**12.50**	**12**	Pn		**Pn**	**23 29 05.2**	**+0.7**
LVC	comp=Z,8.4nm,0.3s,baz=191,slow=10,SNR=1.8 **Limon Verde**	**12.50**	**12**	*e*Pn		**Pn**	**23 29 02.7**	**-1.8**
LPAZ	**La Paz**	**18.82**	**11**	P		**Pn**	**23 30 26.7**	**+0.8**
SIV	comp=Z,0.3nm,0.3s,baz=178,slow=9.7,SNR=7.9 **San Ignacio**	**21.12**	**30**	P		**P**	**23 30 47.7**	**-1.7**
RPN	comp=Z,3.8nm,0.8s,baz=226,slow=11,SNR=13 **Rapa Nui**	**32.99**	**273**	LR		LR	23 43 25.0	
SNAA	comp=Z,1μm,21.9s,baz=196,slow=30 **Sanae**	**50.66**	**158**	P		**P**	**23 35 02.5**	**+0.1**
SNAA	comp=Z,1.2nm,0.9s,baz=262,slow=8.0,SNR=4.0 **Sanae**	**50.66**	**158**	*eP*		**P**	**23 35 02.7**	**+0.3**
DBIC	**Dimbokro**	**75.24**	**71**	P		**P**	**23 37 45.5**	**-0.7**
BOSA	comp=Z,1.5nm,0.6s,baz=231,slow=4.2,SNR=3.8 **Boshof**	**79.44**	**117**	P		**P**	**23 38 09.2**	**-0.6**
TORD	comp=Z,6.7nm,1.2s,baz=232,slow=6.5,SNR=5.2 **Torodi Ar. Bea**	**84.29**	**70**	P		**P**	**23 38 35.0**	**-0.2**
	comp=Z,1.4nm,0.7s,baz=230,slow=5.0,SNR=21							

GUC ***20*** *23:30:49.9±0.3, 33˚.63S×72˚.11W, h39km±3km, ML3.7*
SJA ***20*** *23:30:50.1±1.2, 33˚.12S×72˚.07W, h12km±16km, ML3.4, MW3.8*

ISC 20 23:30:51.8±3.3**, 33˚.6S**±0˚.1×**72˚.0W**±0˚.1**, h7**km±14**km, n19, σ1.8**15**/23, 4C-1D, Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
RCDM	**Rinconada Maip**	**0.99**	**84**	⇑*iP*		Pg	23 31 03.9	-6.8
ROC1	**El Roble**	**1.03**	**52**	*eP*		**Pb**	**23 31 11.6**	**-0.5**
ROC1				*eS*		**Sb**	**23 31 24.7**	**-1.1**
ROCH	**El Roble**	**1.03**	**52**	⇓*iP*		**Pg**	**23 31 11.3**	**-0.3**
ROCH				*i* S		**Sn**	**23 31 27.5**	**-0.3**
ROCH	comp=N,2μm,0.5s			IAML			23 31 37.1	
ANTU	**Antumapu**	**1.13**	**88**	⇑*iP*		**Pb**	**23 31 12.3**	**-1.4**
ANTU				*i* S		**Sb**	**23 31 29.5**	**+0.9**
ANTU	comp=N,4μm,0.3s			IAML			23 31 31.4	
PEL	**Peldehue**	**1.18**	**67**	⇑*iP*		**Pb**	**23 31 13.4**	**-1.2**
PEL				*i* S		**Sn**	**23 31 30.9**	**-0.3**
PEL	comp=E,2μm,0.5s			IAML			23 31 39.7	
FCH	**Farellones**	**1.44**	**79**	⇑*iP*		**Pn**	**23 31 17.8**	**-0.8**
FCH				*i* S		**Sg**	**23 31 39.3**	**+1.1**
FCH	comp=N,1μm,0.3s			IAML			23 31 46.6	
AUSP	**Uspallata**	**2.58**	**58**	*eP*		**Pb**	**23 31 37.2**	**-1.4**
ARCO	**CERRO ARCO**	**2.67**	**74**	*eP*		**Pb**	**23 31 39.5**	**-0.5**
ARCO	comp=Z,316nm,0.5s			IAML			23 31 42.2	
AAGR	**Agrelo**	**2.69**	**80**	*eP*		**Pb**	**23 31 40.2**	**-0.2**
ASAL	**Salagasta**	**2.83**	**70**	*eP*		**Pb**	**23 31 42.0**	**-0.7**
RTLS	**Leoncito**	**2.90**	**52**	*eP*		**Pn**	**23 31 40.2**	**+1.6**
RTLS	comp=Z,110nm,0.3s			IAML			23 31 46.9	
RTCV	**Cerro Valdivia**	**3.38**	**60**	*eP*		**Pn**	**23 31 47.1**	**+2.0**
RTLL	**Cerro Villicun**	**3.74**	**54**	*eP*		**Pn**	**23 31 51.1**	**+1.1**
ACCO	**Cerro Coronel**	**3.90**	**40**	*eP*		**Pn**	**23 31 54.0**	**+1.6**
AMOG	**MOGNA**	**3.98**	**49**	*eP*		**Pn**	**23 31 54.3**	**+1.0**
AROD	**Rodeo**	**4.04**	**33**	*eP*		**Pn**	**23 31 55.3**	**+0.9**
ACAN	**Cantantal**	**4.25**	**73**	*eP*		**Pn**	**23 31 58.5**	**+1.6**
AVFE	**Valle Fertil**	**4.84**	**54**	*eP*		**Pn**	**23 32 04.8**	**-0.3**
AVFE	comp=Z,28nm,0.5s			IAML			23 33 33.9	
AGUA	**GUANDACOL**	**5.08**	**37**	*eP*		**Pn**	**23 32 08.8**	**+0.4**

IDC 20 23:34:07.2±1.5**, 14˚.25N×119˚.20E, h0km, mb3.4/3, mb1 3.6/3, mb1mx3.3/37, mbtmp3.4/3, 1C, Error ellipse: s-maj=34.2km s-min=23.9km az=53.0, Luzon**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
TGY	**Tagaytay City**	**1.69**	**95**	Pn		Pb	23 34 38.7	-0.6
TGY	157nm,0.3s,baz=186,slow=9.2,SNR=3.7			Sn		Sn	23 35 00.7	+0.1
PCPH	107nm,0.3s,baz=324,slow=18,SNR=5.3 **Palayan**	**2.25**	**54**	⇑*eP*		Pn	23 34 44.7	-1.0
PCPH				*eS*		Sn	23 35 10.8	-3.4
SONM	**Songino Array**	**35.13**	**345**	P		P	23 41 02.4	-0.2
WRA	0.4nm,0.5s,baz=147,slow=7.8,SNR=3.2 **Warramunga Arr**	**37.10**	**156**	P		P	23 41 18.9	-0.7
ASAR	0.4nm,0.6s,baz=337,slow=9.4,SNR=4.0 **Alice Springs**	**40.34**	**159**	P		P	23 41 47.2	+0.5
	0.4nm,0.6s,baz=340,slow=7.9,SNR=4.9							

JMA ***20*** *23:49:01.4±0.1, 40˚.22N×142˚.34E, h29km±1km, M3.3*
IDC ***20*** *23:49:09.4±4.9, 39˚.68N×142˚.69E, h65km±47km, mb3.2/3, mb1 3.5/4, mb1mx3.1/31, mbtmp3.5/4, ML2.9/1, MS3.8/1, Ms1 3.8/1, ms1mx2.6/16, Error ellipse: s-maj=41.6km s-min=27.4km az=106.0*

ISC 20 23:49:01.7±2.1**, 40˚.20N**±0˚.07×**142˚.3E**±0˚.1**, h31km, n18, σ0.5**57**/12**, **mb3.6/3, Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
JTH	**Tanohata**	**0.42**	**231**	P		**Pn**	**23 49 11.1**	**-0.4**
JANG	**Nango**	**0.61**	**287**	P		**Pn**	**23 49 13.8**	**-0.2**
MIYJ	**Miyakonagasawa**	**0.72**	**210**	P		**Pb**	**23 49 15.3**	**-0.4**
MIYJ				*eS*		**Sn**	**23 49 25.3**	**-0.4**
JKZ	**Kuzumaki**	**0.76**	**254**	P		**Pn**	**23 49 16.3**	**-0.1**
JKZ				*eS*		**Sn**	**23 49 27.2**	**+0.3**
JOM	**Ohasama**	**1.05**	**227**	P		**Pb**	**23 49 20.9**	**-0.5**
JOM				*eS*		**Sn**	**23 49 34.9**	**+0.9**
JTM	**Tenmabayashi**	**1.10**	**303**	P		**Pb**	**23 49 21.4**	**-0.7**
JTM				*eS*		**Sn**	**23 49 35.3**	**+0.3**
JAH	**Hinai**	**1.26**	**270**	P		**Pb**	**23 49 24.5**	**-0.4**
MJAR	**Matsushiro Arr**	**4.86**	**223**	P		Pn	23 50 17.9	+5.3
JHJ	0.6nm,0.3s,baz=38,slow=11,SNR=4.9 **Hachijo jima 2**	**7.35**	**197**	LR		LR	23 53 19.7	
H11N2	comp=Z,786nm,19.9s,baz=78,slow=36 **WAKE ISLAND Hy**	**29.34**	**127**	T		T	00 25 55.3	
H11N1	baz=320,slow=75,SNR=49 **WAKE ISLAND Hy**	**29.35**	**127**	T		T	00 25 55.1	
H11N3	baz=320,slow=75,SNR=63 **WAKE ISLAND Hy**	**29.36**	**127**	T		T	00 25 57.5	
H11S1	baz=320,slow=75,SNR=42 **WAKE ISLAND Hy**	**30.16**	**129**	T		T	00 27 02.9	
H11S3	baz=321,slow=76,SNR=19 **WAKE ISLAND Hy**	**30.16**	**129**	T		T	00 27 05.3	
H11S2	baz=321,slow=76,SNR=9.9 **WAKE ISLAND Hy**	**30.17**	**129**	T		T	00 27 03.5	
MKAR	baz=321,slow=76,SNR=12 **Makanchi Array**	**43.09**	**299**	P		P	23 57 07.1	+8.3
ILAR	1.0nm,0.7s,baz=84,slow=8.6,SNR=5.5 **Eielson Array**	**46.47**	**34**	P		P	23 57 31.4	+6.0
WRA	0.2nm,0.6s,baz=277,slow=7.0,SNR=3.9 **Warramunga Arr**	**60.29**	**189**	P		**P**	**23 59 07.9**	**+0.6**
	0.3nm,0.6s,baz=8.8,slow=7.4,SNR=3.0							

IDC ***21*** *00:07:42.3±4.8, 43˚.14N×142˚.57E, h0km, mb3.9/3, mb1 3.9/4, mb1mx3.5/27, mbtmp3.8/4, ML3.5/1, Error ellipse: s-maj=108.8km s-min=40.6km az=97.0*
ISCJB ***21*** *00:07:54.1±0.4, 42˚.50N±0˚.03×142˚.19E±0˚.05, h128km±3km, mb3.9/5, Error ellipse: s-maj=6.1km s-min=5.2km az=34.6*
JMA ***21*** *00:07:54.9±0.2, 42˚.55N×142˚.19E, h129km±2km, M2.9*
NEIC ***21*** *00:07:55.3±0.7, 42˚.53N×142˚.22E, h126km±14km, mb4.3/1, Error ellipse: s-maj=33.2km s-min=11.8km az=102.0*

ISC 21 00:07:55.0±0.9**, 42˚.50N**±0˚.04×**142˚.20E**±0˚.04**, h125**km±6**km, n26, σ0.9**66**/44**, **mb4.0/5, Hokkaido region**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
JBT2	**Biratori 2**	**0.31**	**24**	P		**Pn**	**00 08 12.9**	**+0.3**
JBT2				*eS*		**Sn**	**00 08 26.2**	**+0.4**
JNBK	**Urakawa-nobuka**	**0.47**	**118**	P		**Pn**	**00 08 14.1**	**+0.8**
JNBK				*eS*		**Sn**	**00 08 28.6**	**+1.5**
JEW	**Eniwo**	**0.65**	**302**	P		**Pn**	**00 08 14.4**	**-0.1**
JEW				*eS*		**Sn**	**00 08 28.5**	**-0.7**
JFR	**Furan**	**0.73**	**24**	P		**Pn**	**00 08 14.8**	**-0.3**
JFR				*eS*		**Sn**	**00 08 30.0**	**-0.3**
JNB	**Noboribetsu**	**0.86**	**268**	P		**Pn**	**00 08 15.6**	**-0.5**
JNB				*eS*		**Sn**	**00 08 31.5**	**-0.6**
ERM	**Erimo**	**0.86**	**124**	*e*Pn		**Pn**	**00 08 16.9**	**+0.8**
ERM				*e*Sn		**Sn**	**00 08 31.1**	**-1.0**
JEM	**Erimo**	**0.86**	**124**	P		**Pn**	**00 08 17.0**	**+0.8**
JEM				*eS*		**Sn**	**00 08 32.8**	**+0.7**
JCH	**Churui**	**0.87**	**82**	P		**Pn**	**00 08 15.4**	**-0.8**
JCH				*eS*		**Sn**	**00 08 31.8**	**-0.5**
JAB	**Ashibetsu**	**1.01**	**1**	P		**Pn**	**00 08 17.8**	**+0.3**
JAB				*eS*		**Sn**	**00 08 34.7**	**+0.1**
JKB	**Kayabe**	**1.06**	**235**	P		**Pn**	**00 08 17.8**	**-0.2**
JKB				*eS*		**Sn**	**00 08 34.1**	**-1.3**
JHR	**Hokuryu**	**1.29**	**345**	P		**Pn**	**00 08 20.7**	**+0.3**
JHR				*eS*		**Sn**	**00 08 40.4**	**+0.6**
JAR	**Ashorobuto**	**1.41**	**55**	P		**Pn**	**00 08 21.5**	**-0.2**
JAR				*eS*		**Sn**	**00 08 40.9**	**-1.1**
JOT	**Ohata**	**1.41**	**218**	P		**Pn**	**00 08 21.7**	**0.0**
JOT				*eS*		**Sn**	**00 08 41.3**	**-0.6**
JKK2	**Kamakawa 2**	**1.43**	**16**	P		**Pn**	**00 08 22.2**	**+0.2**
JKK2				*eS*		**Sn**	**00 08 42.3**	**-0.3**
JSK	**Shakotan**	**1.52**	**305**	P		**Pn**	**00 08 23.5**	**+0.5**
ASAJ	**Asahikawa**	**1.64**	**10**	*e*Pn		**Pn**	**00 08 24.2**	**-0.2**
ASAJ				*e*Sn		**Sn**	**00 08 46.1**	**-0.8**
JAK	**Akkeshi**	**1.91**	**74**	P		**Pn**	**00 08 27.3**	**-0.2**
JAK				*eS*		**Sn**	**00 08 50.9**	**-1.5**
JTKR	**Abashiri--Toko**	**1.93**	**40**	P		**Pn**	**00 08 28.4**	**+0.6**
JTKR				*eS*		**Sn**	**00 08 53.3**	**+0.3**
JYG	**Yagishiri**	**2.01**	**344**	P		**Pn**	**00 08 29.2**	**+0.4**
JYG				*eS*		**Sn**	**00 08 54.8**	**+0.2**
MJAR	**Matsushiro Arr**	**6.70**	**209**	Pn		**Pn**	**00 09 31.5**	**+0.6**
ZALV	0.8nm,0.3s,baz=21,slow=13,SNR=4.1 **Zalesovo Beam**	**38.87**	**308**	P		**P**	**00 15 07.9**	**+0.1**
MKAR	0.6nm,0.4s,baz=69,slow=8.1,SNR=4.6 **Makanchi Array**	**41.94**	**297**	P		**P**	**00 15 34.0**	**+0.7**
KURK	0.6nm,0.6s,baz=84,slow=10,SNR=4.9 **Kurchatov**	**43.21**	**304**	*eP*		**P**	**00 15 43.2**	**-0.2**
BRVK	4.4nm,0.4s **Borovoye**	**47.53**	**309**	*eP*		**P**	**00 16 18.0**	**+0.6**
ABKAR	3.7nm,0.6s **Akbulak array**	**54.98**	**308**	*eP*		**P**	**00 17 13.1**	**0.0**
FINES	**FINESS Array B**	**64.29**	**331**	P		**P**	**00 18 16.0**	**-0.6**
	1.4nm,0.7s,baz=54,slow=9.8,SNR=4.5							

BKK 21 00:22:21.7±0.9**, 21˚.N**±6˚×**10˚.0E**±˚**, h10km, M3.9/12, mb3.8/4, mB4.6/3, MLv4.0/12, Mw(mB)3.8/3, Myanmar-China border region**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
CMMT	**Chiang Mai**	**2.47**	**205**	P		Pn	00 23 03.2	+1.1
CMMT				S		Sb	00 23 35.8	-1.0
CHTO	**Chiang Mai**	**2.47**	**206**	P		Pn	00 23 03.2	+1.1
CHTO				S		Sb	00 23 36.1	-0.7
LAMP	**Lampang**	**2.56**	**189**	P		Pn	00 23 03.6	+0.3
LAMP				S		Sn	00 23 36.4	+1.9
UTTA	**Uttaradit**	**3.33**	**172**	P		Pn	00 23 14.6	+0.7
UTTA				S		Sn	00 23 57.3	+3.8
SUKH	**Sukhothai**	**3.58**	**187**	P		Pn	00 23 17.8	+0.4
SUKH				S		Sb	00 24 06.8	-2.0
PBKT	**Sadao Pong**	**4.55**	**169**	P		Pn	00 23 32.5	+1.9
UMPA	**Umpang Tak**	**4.96**	**194**	P		Pn	00 23 36.6	+0.2
CHAI	**Chaiyaphum**	**5.44**	**160**	P		Pn	00 23 44.9	+1.9
SKNT	7.6nm,0.9s,325nm0.2nm **Sakolnakorn**	**5.50**	**137**	P		Pn	00 23 50.7	+7.0
UTHA	**Uthaitani**	**5.50**	**186**	P		Pn	00 23 45.0	+1.2
UBPT	4.2nm,0.9s,157nm0.1nm **Khong Chiam**	**7.71**	**137**	P		Pn	00 24 14.4	+0.4

IDC 21 00:23:34.2±4.2**, 4˚.06S×152˚.46E, h98km**±37**km, mb3.5/4, mb1 3.8/4, mb1mx3.4/28, mbtmp3.9/4, MS2.7/1, Ms1 2.7/1, ms1mx2.4/21, Error ellipse: s-maj=107.6km s-min=18.5km az=129.0, New Britain region**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
WRA	**Warramunga Arr**	**23.70**	**227**	P		P	00 28 37.3	0.0
WRA	2.7nm,0.5s,baz=52,slow=9.5,SNR=29			S		S	00 32 46.2	+1.0
ASAR	1.4nm,0.9s,baz=51,slow=15,SNR=5.9 **Alice Springs**	**26.48**	**221**	P		P	00 29 02.5	-0.1
ASAR	0.4nm,0.4s,baz=54,slow=8.6,SNR=6.7			LR		LR	00 40 38.8	
FITZ	comp=Z,16nm,18.8s,baz=120,slow=39 **Fitzroy Crossi**	**29.73**

	2.2nm,0.6s,baz=236,slow=10,SNR=6.9							
SIV	**San Ignacio**	**44.74**	**287**	P	**P**	**00 38 06.2**	**-0.5**
	1.7nm,0.6s,baz=134,slow=11,SNR=5.2							
LSZ	**Lusaka**	**45.70**	**72**	*e*P	**P**	**00 38 15.7**	**+1.3**
	3.9nm,0.9s							
LIC	**Lamto**	**45.72**	**16**	*e*P	**P**	**00 38 17.9**	**+3.6**
	50nm,1.1s							
KIC	**Kosan Boka**	**45.91**	**17**	*e*P	**P**	**00 38 15.4**	**-0.4**
	36nm,0.9s							
TIC	**Toumodi**	**46.12**	**16**	*e*P	**P**	**00 38 17.8**	**+0.3**
DBIC	**Dimbokro**	**46.19**	**17**	P	**P**	**00 38 16.8**	**-1.2**
	6.0nm,0.8s,baz=165,slow=7.4,SNR=3.5							
DBIC				LR	LR	00 52 49.5		
	comp=Z,271nm,19.7s,baz=172,slow=30							
LPAZ	**La Paz**	**49.93**	**281**	P	**P**	**00 38 44.8**	**-3.0**
	1.9nm,1.0s,baz=115,slow=3.5,SNR=6.1							
LPAZ				LR	LR	00 59 45.6		
	comp=Z,322nm,20.5s,baz=132,slow=36							
SAML	**Samuel**	**50.88**	**293**	*e*P	**P**	**00 38 53.2**	**-1.1**
	2.4nm,0.6s							
MAW	**Mawson**	**51.29**	**151**	P	**P**	**00 38 55.9**	**-0.7**
	4.2nm,1.1s,baz=268,slow=8.2,SNR=5.2							
MAW				LR	LR	00 56 28.5		
	comp=Z,81nm,21.1s,baz=241,slow=31							
QSPA	**South Pole Qui**	**51.86**	**180**	*e*P	**P**	**00 39 01.6**	**+0.4**
BBTS	**Babate**	**52.77**	**0**	LR	LR	00 56 00.3		
	comp=Z,186nm,19.9s,slow=30							
TORD	**Torodi Ar. Bea**	**54.11**	**22**	P	**P**	**00 39 16.4**	**-1.7**
	5.2nm,0.9s,baz=198,slow=6.9,SNR=22							
TORD				LR	LR	00 58 04.6		
	comp=Z,381nm,18.8s,baz=190,slow=31							
PTGA	**Pitinga**	**54.50**	**303**	LR	LR	01 00 21.3		
	comp=Z,380nm,18.9s,baz=142,slow=34							
KMBO	**Kilima Mbogo**	**61.74**	**67**	LR	LR	01 05 00.1		
	comp=Z,508nm,18.3s,baz=230,slow=34							
VNDA	**Vanda**	**64.36**	**180**	P	**P**	**00 40 28.1**	**-0.2**
	1.9nm,1.0s,baz=200,slow=5.6,SNR=6.8							
VNDA				LR	LR	01 04 22.7		
	comp=Z,67nm,21.9s,baz=170,slow=32							
TAM	**Tamanrasset**	**64.36**	**23**	*e*P	**P**	**00 40 30.6**	**+1.5**
	1.1nm,0.6s							
ROSC	**El Rosal**	**68.38**	**295**	LR	LR	01 09 40.4		
	comp=Z,584nm,19.2s,baz=164,slow=35							
KEST	**Kesra**	**77.62**	**22**	P	**P**	**00 41 49.8**	**+0.6**
	6.8nm,1.0s,baz=323,slow=13,SNR=3.2							
KEST				LR	LR	01 12 24.5		
	comp=Z,359nm,21.1s,baz=182,slow=33							
ESDC	**Sonseca Array**	**78.58**	**10**	LR	LR	01 14 13.1		
	comp=Z,116nm,18.1s,baz=90,slow=34							
CUC	**Castrocucco**	**83.53**	**25**	*e*P	**P**	**00 42 18.6**	**-2.3**
	11nm,0.9s							
BRTR	**Keskin Array B**	**90.43**	**36**	P	**P**	**00 42 54.3**	**-0.3**
	1.5nm,0.8s,baz=181,slow=4.9,SNR=9.2							
BRTR				LR	LR	01 21 32.2		
	comp=Z,26nm,21.5s,baz=194,slow=34							
GERES	**GERESS Array B**	**90.97**	**20**	P	**P**	**00 42 57.5**	**+0.7**
	0.7nm,0.8s,baz=132,slow=2.0,SNR=3.6							
GERES				LR	LR	01 20 19.7		
	comp=Z,149nm,21.4s,baz=212,slow=33							
KHC	**Kasperske Hory**	**91.20**	**19**	*e*P	**P**	**00 43 01.0**	**+3.2**
KHC				*ex*	x	00 43 10.0		
TREC	**Trest**	**91.86**	**20**	*e*P	**P**	**00 43 02.4**	**+1.6**
TREC				*ex*	x	00 43 14.0		
VYHS	**Vyhne**	**92.11**	**23**	*e*P	**P**	**00 43 02.3**	**+0.3**
VYHS				*e*		00 43 09.3		
VYHS				*e*		00 43 14.5		
PRU	**Pruhonice**	**92.24**	**20**	*e*P	**P**	**00 43 06.1**	**+3.6**
PRU				*ex*	x	00 43 15.4		
KECS	**Kecovo**	**92.62**	**24**	*e*P	**P**	**00 43 04.3**	**0.0**
CLL	**Collm**	**93.06**	**18**	*e*P	P	00 43 14.0	+7.8
CLL				*e*		00 43 19.0		
	comp=Z,14nm,1.5s							
H01W2	**Cape Leeuwin H**	**94.06**	**141**	T	T	02 28 34.6		
	baz=218,slow=75,SNR=121							
H01W3	**Cape Leeuwin H**	**94.07**	**141**	T	T	02 28 37.1		
	baz=218,slow=75,SNR=140							
H01W1	**Cape Leeuwin H**	**94.07**	**141**	T	T	02 28 35.4		
	baz=218,slow=75,SNR=101							
AKASG	**Malin Array Be**	**97.48**	**27**	LR	LR	01 26 53.2		
	comp=Z,53nm,19.0s,baz=310,slow=35							
KBZ	**Khabaz**	**97.96**	**39**	LR	LR	01 26 25.9		
	comp=Z,72nm,20.0s,baz=220,slow=35							
TBI	**Tubuai**	**104.23**	**224**	*e*LR	LR	01 18 42.9		
	comp=Z,197nm,24.2s							
PPT2	**Papeete2**	**108.87**	**228**	*e*LR	LR	01 20 44.4		
	comp=Z,290nm,26.2s							
ILAR	**Eielson Array**	**140.87**	**329**	PKP	**PKPdf**	**00 49 22.4**	**+0.2**	
	comp=Z,0.9nm,0.9s,baz=8.0,slow=2.6,SNR=6.5							

*DDA **21** 00:53:36.9,38˚.47N×31˚.79E,h29km,MI3.4*
*ISK **21** 00:53:36.5,38˚.54N×31˚.87E,h5km,MD3.2*
*CSEM **21** 00:53:38.3±0.1,38˚.57N×31˚.86E,h10km,ML3.4,Error ellipse: s-maj=3.8km s-min=3.3km az=31.0*
ISC 21 00:53:37.1±0.9,**38˚.54N**±0˚.02×**31˚.85E**±0˚.02,**h10**km±7km,
n92,σ1§**25**/113,**Turkey**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KDHN	**Kadinhani**	**0.21**	**95**	*i* P	**Pg**	**00 53 41.5**	**0.0**
KDHN				*i* S	**Sg**	**00 53 41.0**	**+0.5**
KDHN	**Kadinhani**	**0.21**	**95**	P	**Pg**	**00 53 41.5**	**0.0**
KDHN				S	**Sg**	**00 53 45.0**	**+0.5**
KIZT	**Kizilcal**	**0.34**	**4**	*e*PG	**Pg**	**00 53 44.3**	**+0.4**
KIZT	**Kizilcal**	**0.34**	**4**	*e*Pg	**Pg**	**00 53 44.3**	**+0.4**
KONT	**Konya--Tatoy**	**0.72**	**146**	*e*PG	**Pg**	**00 53 50.7**	**-0.2**
KONT	**Konya--Tatoy**	**0.72**	**146**	*i* P	**Pg**	**00 53 50.8**	**-0.2**
KONT				*i* S	**Sg**	**00 54 00.1**	**-0.3**
KONT	**Konya--Tatoy**	**0.72**	**146**	*e*Pg	**Pg**	**00 53 50.7**	**-0.2**
BOLV	**Bolvadin**	**0.73**	**284**	*i* P	**Pg**	**00 53 50.9**	**-0.4**
BOLV				*i* S	**Sg**	**00 54 00.9**	**+0.2**
BOLV	**Bolvadin**	**0.73**	**284**	P	**Pg**	**00 53 50.8**	**-0.4**
BOLV				S	**Sg**	**00 54 00.9**	**+0.2**
CHBY	**Cihanbeyli**	**0.81**	**87**	*e*PG	**Pg**	**00 53 52.4**	**-0.5**
CHBY	**Cihanbeyli**	**0.81**	**87**	*e*Pg	**Pg**	**00 53 52.4**	**-0.5**
KMER	**Konya-Meram**	**0.87**	**152**	*i* P	**Pg**	**00 53 53.4**	**-0.5**
KMER				*i* S	**Sb**	**00 54 05.7**	**-0.5**
KMER	**Konya-Meram**	**0.87**	**152**	P	**Pg**	**00 53 53.4**	**-0.5**
KMER				S	**Sb**	**00 54 05.7**	**-0.5**
SVRH	**Sivrihisar-ESK**	**0.94**	**344**	*e*PG	**Pb**	**00 53 55.2**	**-0.4**
SVRH	**Sivrihisar-ESK**	**0.94**	**344**	*e*Pg	**Pb**	**00 53 55.2**	**-0.4**
BAGO	**Egridir - ISPA**	**1.00**	**237**	*i* P	**Pg**	**00 53 55.9**	**-0.5**
BAGO				*i* S	**Sn**	**00 54 12.2**	**+0.6**
SHUT	**Suhut-Afyon**	**1.02**	**271**	*e*PG	**Pg**	**00 53 56.6**	**-0.2**
SHUT	**Suhut-Afyon**	**1.02**	**271**	*e*Pg	**Pg**	**00 53 56.6**	**-0.2**
KULU	**Kulu**	**1.03**	**61**	*e*PG	**Pn**	**00 53 57.9**	**+0.2**
KULU				*e*SG	**Sn**	**00 54 12.1**	**-0.2**
KULU	**Kulu**	**1.03**	**61**	*e*Pg	**Pn**	**00 53 57.9**	**+0.2**
KULU				*e*Sg	**Sn**	**00 54 12.1**	**-0.2**
KKUL	**Konya-Kulu**	**1.04**	**53**	*i* P	**Pn**	**00 53 57.7**	**-0.2**
KKUL				*i* S	**Sn**	**00 54 12.9**	**+0.3**
KKUL	**Konya-Kulu**	**1.04**	**53**	P	**Pn**	**00 53 57.7**	**-0.2**
KKUL				S	**Sn**	**00 54 12.9**	**+0.3**
ESKT	**Eskisehir**	**1.25**	**322**	*e*PN	**Pg**	**00 54 01.7**	**+0.5**
ESKT	**Eskisehir**	**1.25**	**322**	*i* P	**Pg**	**00 54 01.0**	**-0.2**
ESKT				*i* S	**Sn**	**00 54 17.9**	**+0.1**
ESKT	**Eskisehir**	**1.25**	**322**	*e*Pn	**Pg**	**00 54 01.7**	**+0.5**
SEYT	**Eskypehyr**	**1.25**	**322**	P	**Pg**	**00 54 01.0**	**-0.2**
SEYT				S	**Sn**	**00 54 17.9**	**+0.1**
SUTC	**Sutluce-Ispart**	**1.26**	**213**	*e*PN	**Pg**	**00 54 01.4**	**+0.1**
SUTC	**Sutluce-Ispart**	**1.26**	**213**	*e*Pn	**Pg**	**00 54 01.4**	**+0.1**
AFSR	**Afˇar-Bala (A**	**1.31**	**46**	*e*PN	**Pg**	**00 54 02.6**	**+0.3**
AFSR	**Afˇar-Bala (A**	**1.31**	**46**	*e*Pn	**Pg**	**00 54 02.6**	**+0.3**
SULT	**Sultanhani-AKS**	**1.35**	**104**	*e*PN	**Pg**	**00 54 02.9**	**-0.2**
SULT	**Sultanhani-AKS**	**1.35**	**104**	*e*Pn	**Pg**	**00 54 02.9**	**-0.2**
SERE	**Sereflikochisa**	**1.40**	**73**	*e*PN	**Pg**	**00 54 03.9**	**-0.1**
SERE	**Sereflikochisa**	**1.40**	**73**	*e*Pn	**Pg**	**00 54 03.9**	**-0.1**
BBAL	**Bala**	**1.41**	**44**	*i* P	**Pg**	**00 54 04.1**	**-0.1**
BBAL				*i* S	**Sg**	**00 54 24.4**	**+2.0**
BBAL	**Bala**	**1.41**	**44**	P	**Pg**	**00 54 04.1**	**-0.1**
BBAL				S	**Sg**	**00 54 24.4**	**+2.0**
AKSY	**AKSARAY - Alti**	**1.50**	**85**	*i* P	**Pg**	**00 54 05.8**	**-0.1**
AKSY				*i* S	**Sg**	**00 54 28.4**	**+3.1**
AKSY	**AKSARAY - Alti**	**1.50**	**85**	P	**Pg**	**00 54 05.8**	**-0.1**
LOD	**Lodumlu**	**1.52**	**27**	*e*PN	**Pg**	**00 54 06.0**	**-0.3**
LOD	**Lodumlu**	**1.52**	**27**	*e*Pn	**Pg**	**00 54 06.0**	**-0.3**
HDMB	**Hadim**	**1.65**	**162**	*e*PN	**Pb**	**00 54 08.0**	**+0.2**
HDMB	**Hadim**	**1.65**	**162**	*e*Pn	**Pb**	**00 54 08.0**	**+0.2**
BORA	**Eskisehir**	**1.72**	**321**	*i* P	**Pn**	**00 54 07.8**	**+0.6**
BORA				*i* S	**Sg**	**00 54 31.9**	**-0.6**
BORA	**Eskisehir**	**1.72**	**321**	P	**Pn**	**00 54 07.8**	**+0.6**
BORA				S	**Sg**	**00 54 31.9**	**-0.6**
KHL	**Karahalli**	**1.84**	**264**	*e*PN	**Pb**	**00 54 10.6**	**-0.3**
KHL	**Karahalli**	**1.84**	**264**	*e*Pn	**Pb**	**00 54 10.6**	**-0.3**
ANTB	**Antalya**	**1.89**	**210**	*e*PN	**Pb**	**00 54 11.8**	**0.0**
ANTB	**Antalya**	**1.89**	**210**	*e*Pn	**Pb**	**00 54 11.8**	**0.0**
KORT	**Korkueli**	**1.94**	**218**	*e*PN	**Pb**	**00 54 11.8**	**-0.9**
KORT	**Korkueli**	**1.94**	**218**	*i* P	**Pb**	**00 54 11.6**	**-1.1**
KORT	**Korkueli**	**1.94**	**218**	*e*Pn	**Pb**	**00 54 11.8**	**-0.9**
MDUB	**Mudurnu**	**1.99**	**345**	*e*PN	**Pb**	**00 54 12.9**	**-0.6**
MDUB	**Mudurnu**	**1.99**	**345**	*e*Pn	**Pb**	**00 54 12.9**	**-0.6**
TVSB	**Tavsanli**	**2.07**	**297**	*e*PN	**Pb**	**00 54 14.3**	**-0.5**
TVSB	**Tavsanli**	**2.07**	**297**	*e*Pn	**Pb**	**00 54 14.4**	**-0.5**
KERG	**Konya-Eregli**	**2.12**	**121**	*i* P	**Pn**	**00 54 13.4**	**+0.7**
KERG	**Konya-Eregli**	**2.12**	**121**	P	**Pn**	**00 54 13.4**	**+0.7**
GULT	**Gulveren**	**2.15**	**332**	*e*PN	**Pb**	**00 54 14.7**	**-1.6**
GULT	**Gulveren**	**2.15**	**332**	*e*Pn	**Pb**	**00 54 14.7**	**-1.6**
CDAG	**Cicekdag**	**2.24**	**60**	*i* P	**Pn**	**00 54 15.4**	**+1.0**
CDAG				*i* S	**Sb**	**00 54 43.8**	**-1.8**
CDAG	**Cicekdag**	**2.24**	**60**	P	**Pn**	**00 54 15.4**	**+1.0**
CDAG				S	**Sb**	**00 54 43.8**	**-1.8**
SIMA	**Simav-Kutahya**	**2.31**	**284**	*e*PN	**Pb**	**00 54 17.8**	**-1.1**
SIMA	**Simav-Kutahya**	**2.31**	**284**	*e*Pn	**Pb**	**00 54 17.8**	**-1.1**
AVNS	**Nevsehir-Avano**	**2.36**	**83**	*i* P	**Pb**	**00 54 17.9**	**-1.9**
AVNS	**Nevsehir-Avano**	**2.36**	**83**	P	**Pb**	**00 54 17.9**	**-1.9**
ELL	**Elmali**	**2.36**	**221**	*e*PN	**Pb**	**00 54 18.4**	**-1.5**
ELL	**Elmali**	**2.36**	**221**	*e*Pn	**Pb**	**00 54 18.4**	**-1.5**
BERE	**Bereket-Mersin**	**2.45**	**153**	*e*PN	**Pn**	**00 54 19.0**	**+1.8**
BERE	**Bereket-Mersin**	**2.45**	**153**	*e*Pn	**Pn**	**00 54 19.0**	**+1.8**
TEVE	**Tevekalti-Mers**	**2.45**	**148**	*e*PN	**Pb**	**00 54 19.2**	**-2.1**
TEVE	**Tevekalti-Mers**	**2.45**	**148**	*e*Pn	**Pb**	**00 54 19.2**	**-2.1**
KULA	**Kula-Manisa**	**2.50**	**270**	*e*PN	**Pb**	**00 54 20.4**	**-1.8**
KULA	**Kula-Manisa**	**2.50**	**270**	*e*Pn	**Pb**	**00 54 20.4**	**-1.8**
KEBE	**Keben-Mersin**	**2.56**	**144**	*e*PN	**Pb**	**00 54 21.3**	**-1.9**
KEBE	**Keben-Mersin**	**2.56**	**144**	*e*Pn	**Pb**	**00 54 21.3**	**-1.9**
TEKE	**Tekeli-Mersin**	**2.60**	**157**	*e*PN	**Pb**	**00 54 21.9**	**-1.8**
TEKE	**Tekeli-Mersin**	**2.60**	**157**	*e*Pn	**Pb**	**00 54 21.9**	**-1.8**
MERS	**Mersin**	**2.70**	**127**	*e*PN	**Pn**	**00 54 22.4**	**+1.8**
MERS	**Mersin**	**2.70**	**127**	*e*Pn	**Pn**	**00 54 22.4**	**+1.8**
CORM	**Corum**	**2.70**	**52**	*e*PN	**Pn**	**00 54 22.7**	**+1.9**
CORM	**Corum**	**2.70**	**52**	*e*Pn	**Pn**	**00 54 22.7**	**+1.9**
IKL	**Isikli**	**2.72**	**147**	*e*PN	**Pb**	**00 54 23.4**	**-2.5**
IKL	**Isikli**	**2.72**	**147**	*e*Pn	**Pb**	**00 54 23.4**	**-2.5**
AKKU	**Akkuyu-Mersin**	**2.74**	**150**	*e*PN	**Pn**	**00 54 23.3**	**+2.2**
AKKU	**Akkuyu-Mersin**	**2.74**	**150**	*e*Pn	**Pn**	**00 54 23.3**	**+2.2**
FETY	**Fethiye**	**2.91**	**230**	*e*PN	**Pb**	**00 54 26.4**	**-2.7**
FETY	**Fethiye**	**2.91**	**230**	*e*Pn	**Pb**	**00 54 26.4**	**-2.7**
AKAS	**Kas**	**2.92**	**219**	*e*PN	**Pn**	**00 54 26.1**	**+2.5**
AKAS	**Kas**	**2.92**	**219**	*e*Pn	**Pn**	**00 54 26.2**	**+2.5**
BNN	**Bunyan**	**3.14**	**83**	*e*PN	**Pn**	**00 54 28.9**	**+2.1**
BNN	**Bunyan**	**3.14**	**83**	*e*Pn	**Pn**	**00 54 28.9**	**+2.1**
SARI	**SarD1z-Kayseri**	**3.59**	**91**	*e*PN	**Pn**	**00 54 35.4**	**+2.4**

*NNC **21** 00:55:01.6±2.9,38˚.76N×69˚.75E,h0km,mb4.3,mpv4.1,Error ellipse: s-maj=26.3km s-min=15.5km az=167.0*
*KRNET **21** 00:55:02.2±0.1,39˚.09N×69˚.72E,mb4.0*
ISC 21 00:55:05.8±2.4,**39˚.0N**±0˚.1×**69˚.90E**±0˚.07,**h13**km,**n20**,
σ1§**82**/39,**31C-6D**,**Tajikistan**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BTK	**Batken**	**1.31**	**33**	⇑*e*P	**Pn**	**00 55 27.0**	**-2.8**
	baz=41						
BTK				⇑*i*S	**Sb**	**00 55 45.7**	**-1.3**
	baz=41						
OHH	**Osh**	**2.72**	**54**	⇑*e*P	**Pn**	**00 55 50.0**	**+0.8**
	baz=58						
OHH				⇑*i*S	**Sn**	**00 56 25.9**	**+3.9**
	baz=58						
ARK	**Arkit**	**3.24**	**28**	⇑*e*P	**Pn**	**00 55 56.0**	**-0.5**
	baz=32						
ARK				⇑*e*S	**Sn**	**00 56 35.3**	**+0.3**
	baz=32						
ARSB	**Arslanbob**	**3.34**	**44**	⇑*e*P	**Pn**	**00 55 57.6**	**-0.2**
	baz=47						
ARSB				⇑*e*S	**Sn**	**00 56 39.3**	**+1.8**
	baz=47						
MNAS	**Manas**	**4.04**	**28**	⇓*e*P	**Pn**	**00 56 07.3**	**-0.2**
	baz=31						
MNAS				⇓*e*S	**Sn**	**00 56 54.6**	**-0.1**
	baz=31						
MNAS	**Manas**	**4.04**	**28**	⇑Pn	**Pn**	**00 56 07.6**	**+0.1**
	24nm,0.7s						
MNAS				⇑Sn	**Sn**	**00 57 00.6**	**+5.8**
	16nm,0.4s						
KK31	**Karatay Array**	**4.17**	**6**	⇑Pn	**Pn**	**00 56 10.8**	**+1.8**
	5.5nm,0.3s,baz=176,slow=12,SNR=75						
KK31				⇓Lg	Lg	00 57 18.3	
	11nm,0.4s,baz=174,slow=31,SNR=4.4						
AML	**Almayashu**	**4.29**	**41**	⇑*i*P	**Pn**	**00 56 11.0**	**-0.1**
	baz=44						
AML				⇑*i*S	**Sn**	**00 57 00.9**	**-0.3**
	baz=44						
EKS2	**Erkin-Say**	**4.72**	**37**	⇑*i*P	**Pn**	**00 56 17.0**	**+0.1**
	baz=40						
EKS2				⇑*i*S	**Sn**	**00 57 11.2**	**-0.4**
	baz=40						
UCH	**Uchtor**	**4.79**	**46**	⇑*i*P	**Pn**	**00 56 18.3**	**+0.2**
	baz=48						
UCH				⇑*i*S	**Sn**	**00 57 13.2**	**-0.5**
	baz=48						
AAK	**Ala-Archa**	**5.07**	**42**	⇑*i*P	**Pn**	**00 56 21.7**	**+0.2**
	baz=44						
AAK				⇑*i*S	**Sn**	**00 57 19.2**	**-0.8**
	baz=44						
AAK	**Ala-Archa**	**5.07**	**42**	Pn	**Pn**	**00 56 22.2**	**+0.7**
	16nm,0.5s						
AAK				Sn	**Sn**	**00 57 25.1**	**+5.1**
	34nm,1.2s						
KZA	**Kyzart**	**5.13**	**51**	⇑*i*P	**Pn**	**00 56 22.9**	**+0.2**
	baz=53						
KZA				⇑*i*S	**Sn**	**00 57 21.0**	**-1.0**
	baz=53						
NRN	**Naryn**	**5.28**	**60**	⇑*e*P	**Pn**	**00 56 24.8**	**+0.1**
	baz=62						
NRN				⇑*e*S	**Sn**	**00 57 25.9**	**+0.3**
	baz=62						
KBK	**Karagaybulak**	**5.32**	**44**	⇑*i*P	**Pn**	**00 56 25.1**	**0.0**
	baz=46						
KBK				⇑*i*S	**Sn**	**00 57 25.3**	**-1.0**
	baz=46						
CHMS	**Chumysh**	**5.46**	**41**	⇑*i*P	**Pn**	**00 56 26.9**	**+0.1**
	baz=43						
CHMS				⇑*i*S	**Sn**	**00 57 28.2**	**-1.2**
	baz=43						
USP	**Ospenovka**	**5.53**	**37**	⇑*i*P	**Pn**	**00 56 27.6**	**-0.2**
	baz=39						
USP				⇑*i*S	**Sn**	**00 57 29.8**	**-1.5**
	baz=39						
TKM2	**Tokmak 2**	**5.85**	**46**	⇓Pn	**Pn**	**00 56 31.0**	**-1.5**
	10.0nm,0.3s						
TKM2				⇑Sn	**Sn**	**00 57 43.4**	**+3.9**
	11nm,0.7s						
AB31	**Akbulak array**	**12.52**	**329**	P	**Pn**	**00 58 02.2**	**-1.3**
	0.9nm,0.3s,baz=145,slow=13,SNR=36						
AB31				⇑S	**Sn**	**01 00 22.2**	**-0.6**
	2.0nm,0.5s,baz=150,slow=23,SNR=9.4						
AKTO	**Aktyubinsk**	**14.23**	**328**	⇓P	**Pn**	**00 58 27.4**	**+0.5**
	2.4nm,0.7s						
AKTO				⇓S	**Sn**	**01 01 05.0**	**+0.6**
	6.4nm,1.1s						

BUC 21 00:55:10.0±0.7,**44˚.59N×28˚.42E,h2**km,**MD1.8**/2,**9C-3D,**
Error ellipse: s-maj=9.4km s-min=3.4km az=68.0,
Romania

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TIRR	**Tirgusor**	**0.13**	**183**	⇓*i*P	Pg	**00 55 12.7**	**+0.2**
TIRR	**Tirgusor**	**0.13**	**183**	⇓*i*P	Pg	00 55 12.7	+0.2
TIRR	**Tirgusor**	**0.13**	**183**	⇓*i*P	Pg	00 55 12.7	+0.2
TLB	**Topalu**	**0.27**	**269**	⇑*i*P	Pg	00 55 15.8	+0.6
TLB	**Topalu**	**0.27**	**269**	S	Sg	00 55 19.2	+0.5
TLB	**Topalu**	**0.27**	**269**	⇑*i*P	Pg	00 55 15.8	+0.6
TLB				*i* S	Sg	00 55 19.2	+0.5
TLB	**Topalu**	**0.27**	**269**	⇑*i*P	Pg	00 55 15.8	+0.6
HARR	**Harsova**	**0.36**	**286**	⇑*i*P	Pg	00 55 17.2	+0.2
HARR	**Harsova**	**0.36**	**286**	⇑*i*P	Pg	00 55 17.2	+0.2
HARR	**Harsova**	**0.36**	**286**	⇑*i*P	Pg	00 55 17.2	+0.2
CFR	**Carcaliu**	**0.62**	**341**	⇑*i*P	Pg	00 55 22.6	+0.7
CFR				S	Sb	00 55 31.5	-1.3
CFR	**Carcaliu**	**0.62**	**341**	⇑*i*P	Pg	00 55 22.6	+0.7
CFR				*i* S	Sb	00 55 31.5	-1.3
CFR	**Carcaliu**	**0.62**	**341**	⇑*i*P	Pg	00 55 22.6	+0.7

*KRNET **21** 01:05:09.7±0.1,39˚.05N×69˚.85E,mb3.5*
*NNC **21** 01:05:10.0±5.9,38˚.60N×70˚.30E,h0km,mb4.1,mpv3.7,Error ellipse: s-maj=52.0km s-min=36.7km az=156.0*
ISC 21 01:05:12.6±3.6,**38˚.9N**±0˚.2×**70˚.0E**±0˚.1,**h13**km,**n15,**
σ2§**36**/29,**22C-6D**,**Tajikistan**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BTK	**Batken**	**1.37**	**28**	⇑*i*P	**Pn**	**01 05 34.0**	**-3.5**
	baz=36						
BTK				⇑*i*S	**Sb**	**01 05 52.2**	**-3.3**
	baz=36						
OHH	**Osh**	**2.73**	**51**	⇑*e*P	**Pn**	**01 05 57.0**	**+0.8**
	baz=56						
OHH				⇑*e*S	**Sb**	**01 06 31.6**	**-3.1**
	baz=56						
ARK	**Arkit**	**3.31**	**26**	⇑*e*P	**Pn**	**01 06 04.1**	**-0.1**
	baz=30						
ARK				⇑*e*S	**Sn**	**01 06 43.4**	**0.0**
	baz=30						
ARSB	**Arslanbob**	**3.37**	**42**	⇑*e*P	**Pn**	**01 06 04.8**	**-0.3**
	baz=45						
ARSB				⇑*e*S	**Sn**	**01 06 45.5**	**+0.5**
	baz=45						
MNAS	**Manas**	**4.11**	**27**	⇓*e*P	**Pn**	**01 06 15.4**	**+0.2**
	baz=30						
MNAS				⇓*i*S	**Sn**	**01 07 01.9**	**-1.2**
	baz=30						
MNAS	**Manas**	**4.11**	**27**	⇓Pn	**Pn**	**01 06 15.0**	**-0.1**
	7.6nm,0.5s						
MNAS				⇑Sn	**Sn**	**01 07 06.9**	**+3.8**
	8.0nm,0.5s						
KK31	**Karatay Array**	**4.27**	**5**	⇓Pn	**Pn**	**01 06 18.0**	**+0.7**
	4.3nm,0.5s,baz=178,slow=12,SNR=113						
KK31				⇓Lg	Lg	01 07 29.1	
	7.0nm,0.5s,baz=178,slow=31,SNR=5.7						
AML	**Almayashu**	**4.33**	**40**	⇑*i*P	**Pn**	**01 06 17.8**	**-0.6**
	baz=42						
AML				⇑*i*S	**Sn**	**01 07 13.0**	**+4.1**
	baz=42						
EKS2	**Erkin-Say**	**4.77**	**36**	⇑*i*P	**Pn**	**01 06 24.4**	**+0.1**
	baz=38						
EKS2				⇑*i*S	**Sn**	**01 07 23.7**	**+4.2**
	baz=38						
UCH	**Uchtor**	**4.82**	**44**	⇑*i*P	**Pn**	**01 06 24.6**	**-0.7**
	baz=47						
UCH				⇑*i*S	**Sn**	**01 07 24.6**	**+3.4**
	baz=47						
AAK	**Ala-Archa**	**5.10**	**41**	⇑*i*P	**Pn**	**01 06 28.4**	**-0.4**
	baz=43						
AAK				⇑*i*S	**Sn**	**01 07 31.0**	**+3.3**
	baz=43						
AAK	**Ala-Archa**	**5.10**	**41**	Pn	**Pn**	**01 06 29.3**	**+0.5**
	6.4nm,0.4s						
AAK				Sn	**Sn**	**01 07 31.3**	**+3.7**
	5.0nm,0.6s						
NRN	**Naryn**	**5.28**	**59**	⇑*i*P	**Pn**	**01 06 29.8**	**-1.6**
	baz=61						
NRN				⇑*i*S	**Sn**	**01 07 33.5**	**+1.2**
	baz=61						
USP	**Ospenovka**	**5.58**	**36**	⇑*i*P	**Pn**	**01 06 34.9**	**-0.3**
	baz=38						
USP				⇑*i*S	**Sn**	**01 07 42.1**	**+2.9**
	baz=38		

*SJA **21** 02:27:19.1±0.5, 32°.74S×72°.63W, h0km±51km, ML3.3, MW3.4*

*GUC **21** 02:27:32.6±0.7, 32°.83S×71°.67W, h17km±8km, ML3.0*

ISC 21 02:27:29.1±3.0, **32°.85S**±0°.06×**71°.9W**±0°.1, **h12km**±15km, **n13**, σ1s**19**/20, **4D**, **Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ROCH	**El Roble**	**0.77**	**99**	*i* P	**Pb**	**02 27 44.6**	**0.0**
ROCH				*i* S	**Sb**	**02 27 54.3**	**-0.8**
ROCH				IAML		02 27 54.5	
	comp=E,2μm,0.5s						
PEL	**Peldehue**	**1.07**	**106**	⇓*i* P	**Pb**	**02 27 49.7**	**0.0**
PEL				*eS*	**Sb**	**02 28 03.1**	**-0.6**
PEL				IAML		02 28 05.1	
	comp=E,2μm,0.3s						
CLCH	**Cerro Calan**	**1.28**	**116**	⇓*i* P	**Pb**	**02 27 53.3**	**+0.1**
CLCH				*eS*	**Sg**	**02 28 09.1**	**-1.2**
CLCH				IAML		02 28 11.4	
	comp=N,577nm,0.8s						
ANTU	**Antumapu**	**1.29**	**124**	*e*P	**Pg**	**02 27 54.3**	**+0.3**
ANTU				*eS*	**Sg**	**02 28 10.5**	**-0.2**
ANTU				IAML		02 28 13.6	
	comp=N,592nm,0.6s						
FCH	**Farellones**	**1.44**	**110**	⇓*i* P	**Pn**	**02 27 55.8**	**+0.4**
FCH				*i* S	**Sb**	**02 28 13.9**	**-0.7**
AUSP	**Uspallata**	**2.22**	**74**	*i* P	**Pb**	**02 28 08.4**	**-1.0**
RTLS	**Leoncito**	**2.45**	**65**	*i* P	**Pb**	**02 28 11.2**	**-2.1**
RTLS				*i* S	**Sg**	**02 28 49.9**	**+2.0**
RTLS				IAML		02 28 55.0	
	comp=Z,85nm,0.8s						
ASAL	**Salagasta**	**2.61**	**85**	*i* P	**Pb**	**02 28 14.3**	**-1.5**
RTCV	**Cerro Valdivia**	**3.02**	**72**	*i* P	**Pn**	**02 28 18.9**	**+2.0**
ACCO	**Cerro Coronel**	**3.31**	**48**	*i* P	**Pn**	**02 28 22.2**	**+1.1**
ACCO				*i* S	**Sb**	**02 29 08.5**	**+0.1**
ACCO				IAML		02 29 15.6	
	comp=Z,65nm,0.4s						
AROD	**Rodeo**	**3.39**	**39**	*i* P	**Pn**	**02 28 22.0**	**-0.2**
AMOG	**MOGNA**	**3.48**	**58**	*i* P	**Pn**	**02 28 24.6**	**+1.4**
ACDV	**Cuesta del Vie**	**3.58**	**43**	*i* P	**Pn**	**02 28 24.7**	**0.0**

*ISK **21** 03:07:43.3, 33°.44N×27°.73E, h10km, MD4.3*

*CSEM **21** 03:07:45.3±0.2, 33°.41N×27°.79E, h10km, ML2.3, Error ellipse: s-maj=6.0km s-min=3.2km az=35.0*

*ISCJB **21** 03:07:46.1±0.5, 33°.41N±0°.03×27°.87E±0°.04, h33km, Error ellipse: s-maj=5.8km s-min=3.6km az=40.7*

*GII **21** 03:07:52.1±0.0, 33°.31N×28°.54E, h1km, MD2.9/6*

*ATH **21** 03:07:57.6, 34°.26N×27°.09E, h17km±3km, ML2.3/3, Error ellipse: s-maj=4.8km s-min=1.5km az=20.0*

*DDA **21** 03:08:16.8, 35°.73N×28°.40E, h38km, MI3.3*

ISC 21 03:07:44.8±1.3, **33°.38N**±0°.06×**27°.70E**±0°.04, **h35km**, **n117**, σ3s**07**/156, **Eastern Mediterranean Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZKR	**Zakros**	**2.12**	**325**	P	**Pn**	**03 08 19.2**	**+1.4**
ZKR				S	**Sn**	**03 08 34.4**	**-8.5**
ZKR	**Zakros**	**2.12**	**325**	P	**Pn**	**03 08 19.2**	**+1.4**
ZKR				S	**Sn**	**03 08 34.4**	**-8.5**
ZKR	**Zakros**	**2.12**	**325**	P	**Pn**	**03 08 19.2**	**+1.4**
ZKR				S	**Sn**	**03 08 34.4**	**-8.5**
ZKR				AML	AML	03 08 51.6	
	comp=N,151μm,0.5s						
ZKR				AML	AML	03 08 51.7	
	comp=E,155μm,0.3s						
KARP	**Karpathos**	**2.20**	**349**	*e*PN	**Pn**	**03 08 21.2**	**+2.2**
KARP				*e*SN	**Sn**	**03 08 47.3**	**+2.2**
KARP	**Karpathos**	**2.20**	**349**	P	**Pn**	**03 08 21.4**	**+2.4**
KARP				S	**Sn**	**03 08 39.8**	**-5.2**
KARP	**Karpathos**	**2.20**	**349**	*e*Pn	**Pn**	**03 08 21.2**	**+2.2**
KARP				S	**Sn**	**03 08 39.8**	**-5.2**
KARP				*e*Sn	Sn	03 08 47.3	+2.2
KARP	**Karpathos**	**2.20**	**349**	P	**Pn**	**03 08 21.4**	**+2.4**
KARP				S	**Sn**	**03 08 39.9**	**-5.2**
NPS	**Neapolis**	**2.55**	**318**	P	**Pn**	**03 08 27.7**	**+4.0**
NPS	**Neapolis**	**2.55**	**318**	P	**Pn**	**03 08 27.7**	**+4.0**
NPS	**Neapolis**	**2.55**	**318**	P	**Pn**	**03 08 27.7**	**+4.0**
LAST	**Lasithi**	**2.55**	**315**	P	**Pn**	**03 08 28.1**	**+4.3**
LAST				S	**Sn**	**03 08 49.3**	**-4.4**
LAST	**Lasithi**	**2.55**	**315**	P	**Pn**	**03 08 28.1**	**+4.3**
LAST				S	**Sn**	**03 08 49.3**	**-4.4**
LAST	**Lasithi**	**2.55**	**315**	P	**Pn**	**03 08 28.1**	**+4.3**
LAST				S	**Sn**	**03 08 49.3**	**-4.4**
LAST				AML	AML	03 08 59.5	
	comp=E,170μm,0.6s						
LAST				AML	AML	03 09 01.4	
	comp=N,98μm,0.7s						
SIVA	**Sivas**	**2.90**	**305**	P	**Pn**	**03 08 33.1**	**+4.7**
SIVA				S	**Sn**	**03 08 58.9**	**-3.1**
SIVA	**Sivas**	**2.90**	**305**	P	**Pn**	**03 08 33.1**	**+4.7**
SIVA				S	**Sn**	**03 08 58.9**	**-3.1**
SIVA	**Sivas**	**2.90**	**305**	P	**Pn**	**03 08 33.1**	**+4.7**
SIVA				S	**Sn**	**03 08 58.9**	**-3.1**
SIVA				AML	AML	03 09 08.8	
	comp=N,276μm,0.5s						
SIVA				AML	AML	03 09 16.9	
	comp=E,309μm,0.7s						
IDI	**Anoyia**	**3.00**	**310**	P	**Pn**	**03 08 34.4**	**+4.4**
IDI	**Anoyia**	**3.00**	**310**	P	**Pn**	**03 08 34.4**	**+4.4**
IDI	**Anoyia**	**3.00**	**310**	P	**Pn**	**03 08 34.4**	**+4.4**
AKAS	**Kas**	**3.25**	**28**	*i* P	**Pn**	**03 08 35.5**	**+2.0**
AKAS				*i* S	**Sn**	**03 09 10.7**	**-0.2**
AKAS	**Kas**	**3.25**	**28**	P	**Pn**	**03 08 35.5**	**+2.0**
AKAS				S	**Sn**	**03 09 10.7**	**-0.2**
DAT	**Datca**	**3.34**	**358**	*e*PN	**Pn**	**03 08 36.4**	**+1.7**
DAT	**Datca**	**3.34**	**358**	*i* P	**Pn**	**03 08 36.6**	**+1.9**
DAT	**Datca**	**3.34**	**358**	*e*Pn	**Pn**	**03 08 36.4**	**+1.7**
FETY	**Fethiye**	**3.44**	**19**	*e*PN	**Pn**	**03 08 38.1**	**+2.2**
FETY	**Fethiye**	**3.44**	**19**	*e*Pn	**Pn**	**03 08 38.1**	**+2.2**
FETY				S	**Sn**	**03 09 12.3**	**-3.2**
DALY	**Dalyan (Mu¨la**	**3.52**	**13**	*e*PN	**Pn**	**03 08 39.0**	**+2.0**
DALY	**Dalyan (Mu¨la**	**3.52**	**13**	*i* P	**Pn**	**03 08 39.4**	**+2.5**
DALY				*i* S	**Sn**	**03 09 16.7**	**-0.6**
DALY	**Dalyan (Mu¨la**	**3.52**	**13**	*e*Pn	**Pn**	**03 08 39.0**	**+2.0**
DALY	**Dalyan (Mu¨la**	**3.52**	**13**	P	**Pn**	**03 08 39.4**	**+2.5**
DALY				S	**Sn**	**03 09 16.7**	**-0.6**
VAM	**Vamos**	**3.53**	**306**	P	**Pn**	**03 08 41.4**	**+4.3**
VAM	**Vamos**	**3.53**	**306**	P	**Pn**	**03 08 41.4**	**+4.3**
VAM	**Vamos**	**3.53**	**306**	P	**Pn**	**03 08 41.4**	**+4.3**
TURN	**Turunc**	**3.56**	**12**	*i* P	**Pn**	**03 08 38.4**	**+0.8**
TURN				*i* S	**Sn**	**03 09 14.3**	**-4.1**
BODT	**Bodrum**	**3.69**	**355**	*e*PN	**Pn**	**03 08 41.0**	**+1.7**
BODT	**Bodrum**	**3.69**	**355**	*e*Pn	**Pn**	**03 08 41.0**	**+1.7**
IMMV	**Iera Moni Meta**	**3.71**	**305**	P	**Pn**	**03 08 44.1**	**+4.5**
IMMV	**Iera Moni Meta**	**3.71**	**305**	P	**Pn**	**03 08 44.1**	**+4.5**
IMMV	**Iera Moni Meta**	**3.71**	**305**	P	**Pn**	**03 08 44.1**	**+4.5**
ELL	**Elmali**	**3.82**	**28**	*e*PN	**Pn**	**03 08 43.4**	**+2.2**
ELL	**Elmali**	**3.82**	**28**	*e*Pn	**Pn**	**03 08 43.4**	**+2.2**
MLSB	**Milas**	**3.90**	**1**	*e*PN	**Pn**	**03 08 44.2**	**+1.9**
MLSB	**Milas**	**3.90**	**1**	*e*Pn	**Pn**	**03 08 44.3**	**+1.9**
GLHS	**Glhisar (BURDU**	**4.04**	**21**	*e*PN	**Pn**	**03 08 46.1**	**+1.8**
GLHS	**Glhisar (BURDU**	**4.04**	**21**	*e*Pn	**Pn**	**03 08 46.1**	**+1.8**
APE	**Apeiranthos**	**4.08**	**335**	*e*PN	**Pn**	**03 08 47.1**	**+2.3**
APE	**Apeiranthos**	**4.08**	**335**	*e*Pn	**Pn**	**03 08 47.1**	**+2.3**
GOLH	**Golhisar**	**4.14**	**21**	*i* P	**Pn**	**03 08 48.8**	**+3.2**
GOLH				*i* S	**Sn**	**03 09 32.8**	**0.0**
GOLH	**Golhisar**	**4.14**	**21**	S	**Sn**	**03 09 32.8**	**0.0**
KORT	**Korkueli**	**4.21**	**30**	*e*PN	**Pn**	**03 08 49.0**	**+2.3**
KORT	**Korkueli**	**4.21**	**30**	*i* P	**Pn**	**03 08 49.3**	**+2.6**
KORT				*i* S	**Sn**	**03 09 36.2**	**+1.5**
KORT	**Korkueli**	**4.21**	**30**	*e*Pn	**Pn**	**03 08 49.0**	**+2.3**
KORT	**Korkueli**	**4.21**	**30**	P	**Pn**	**03 08 49.3**	**+2.6**
KORT				S	**Sn**	**03 09 36.2**	**+1.5**
ANTB	**Antalya**	**4.26**	**34**	*e*PN	**Pn**	**03 08 49.3**	**+2.1**
ANTB	**Antalya**	**4.26**	**34**	*e*Pn	**Pn**	**03 08 49.3**	**+2.1**
GCAM	**G?zelcaml?**	**4.33**	**355**	*i* P	**Pn**	**03 08 50.4**	**+2.3**
GCAM				*i* S	**Sn**	**03 09 35.5**	**-1.8**
AYDB	**Zeytinkoy-Aydi**	**4.56**	**2**	*e*PN	**Pn**	**03 08 53.6**	**+2.2**
AYDB	**Zeytinkoy-Aydi**	**4.56**	**2**	*e*Pn	**Pn**	**03 08 53.6**	**+2.2**
LEF	**Lefka**	**4.64**	**67**	*e*PN	**Pn**	**03 08 54.5**	**+2.1**
LEF	**Lefka**	**4.64**	**67**	*e*Pn	**Pn**	**03 08 54.5**	**+2.1**
SUTC	**Sutluce-Ispart**	**4.89**	**32**	*e*PN	**Pn**	**03 08 58.6**	**+2.6**
SUTC	**Sutluce-Ispart**	**4.89**	**32**	*e*Pn	**Pn**	**03 08 58.6**	**+2.6**
CSS	**Mathiatis**	**4.93**	**70**	Pn	**Pn**	**03 08 57.0**	**+0.6**
CSS	**Mathiatis**	**4.93**	**70**	Pn	**Pn**	**03 08 57.0**	**+0.6**
KULA	**Kula-Manisa**	**5.18**	**8**	*e*PN	**Pn**	**03 09 02.7**	**+2.8**
KULA	**Kula-Manisa**	**5.18**	**8**	*e*Pn	**Pn**	**03 09 02.7**	**+2.8**
LFK	**Lefkose**	**5.18**	**67**	*e*PN	**Pn**	**03 09 03.0**	**+3.0**
LFK	**Lefkose**	**5.18**	**67**	*e*Pn	**Pn**	**03 09 03.0**	**+3.0**
TEKE	**Tekeli-Mersin**	**5.24**	**57**	*e*PN	**Pn**	**03 09 03.6**	**+2.9**
TEKE	**Tekeli-Mersin**	**5.24**	**57**	*e*Pn	**Pn**	**03 09 03.6**	**+2.9**
HDMB	**Hadim**	**5.30**	**46**	*e*PN	**Pn**	**03 09 04.5**	**+2.7**
HDMB	**Hadim**	**5.30**	**46**	*e*Pn	**Pn**	**03 09 04.5**	**+2.7**
BERE	**Bereket-Mersin**	**5.42**	**55**	*e*PN	**Pn**	**03 09 05.9**	**+2.6**
BERE	**Bereket-Mersin**	**5.42**	**55**	*e*Pn	**Pn**	**03 09 05.9**	**+2.6**
AKS	**Akhisar**	**5.49**	**1**	*e*PN	**Pn**	**03 09 07.1**	**+3.0**
AKS	**Akhisar**	**5.49**	**1**	*e*Pn	**Pn**	**03 09 07.1**	**+3.0**
TEVE	**Tevekalti-Mers**	**5.62**	**56**	*e*PN	**Pn**	**03 09 08.8**	**+2.9**
TEVE	**Tevekalti-Mers**	**5.62**	**56**	*e*Pn	**Pn**	**03 09 08.8**	**+2.9**
IKL	**Isikli**	**5.69**	**58**	*e*PN	**Pn**	**03 09 09.7**	**+2.8**
IKL	**Isikli**	**5.69**	**58**	*e*Pn	**Pn**	**03 09 09.7**	**+2.8**
SIMA	**Simav-Kutahya**	**5.78**	**10**	*e*PN	**Pn**	**03 09 11.2**	**+3.0**
SIMA	**Simav-Kutahya**	**5.78**	**10**	*e*Pn	**Pn**	**03 09 11.2**	**+3.0**
KEBE	**Keben-Mersin**	**5.81**	**57**	*e*PN	**Pn**	**03 09 11.8**	**+3.2**
KEBE	**Keben-Mersin**	**5.81**	**57**	*e*Pn	**Pn**	**03 09 11.8**	**+3.2**
KONT	**Konya--Tatoy**	**5.93**	**38**	*e*PN	**Pn**	**03 09 13.3**	**+3.2**
KONT	**Konya--Tatoy**	**5.93**	**38**	*e*Pn	**Pn**	**03 09 13.3**	**+3.2**
KIZK	**Mersin**	**6.13**	**58**	*e*PN	**Pn**	**03 09 15.9**	**+3.0**
KIZK	**Mersin**	**6.13**	**58**	*i* P	**Pn**	**03 09 15.3**	**+2.4**
KIZK				*i* S	**Sn**	**03 10 18.1**	**-3.7**
KZIT	**Kziot**	**6.20**	**112**	Pn	**Pn**	**03 09 15.4**	**+1.6**
KZIT				Sn	**Sn**	**03 10 21.0**	**-2.4**
KZIT	**Kziot**	**6.20**	**112**	Pn	**Pn**	**03 09 15.4**	**+1.6**
KZIT				Sn	**Sn**	**03 10 21.0**	**-2.4**
TVSB	**Tavsanli**	**6.22**	**13**	*e*PN	**Pn**	**03 09 16.8**	**+2.6**
TVSB	**Tavsanli**	**6.22**	**13**	*e*Pn	**Pn**	**03 09 16.8**	**+2.6**
SLTI	**Sal'it**	**6.29**	**98**	Pn	**Pn**	**03 09 16.3**	**+1.2**
SLTI				Sn	**Sn**	**03 10 22.4**	**-3.3**
SLTI	**Sal'it**	**6.29**	**98**	Pn	**Pn**	**03 09 16.3**	**+1.2**
SLTI				Sn	**Sn**	**03 10 22.4**	**-3.3**
KIZT	**Kizilcal**	**6.45**	**30**	*e*PN	**Pn**	**03 09 20.0**	**+2.7**
KIZT	**Kizilcal**	**6.45**	**30**	*e*Pn	**Pn**	**03 09 20.0**	**+2.7**
MMLI	**Mount Malkishu**	**6.56**	**96**	Pn	**Pn**	**03 09 20.3**	**+1.4**
MMLI				Sn	**Sn**	**03 10 28.2**	**-4.4**
MMLI	**Mount Malkishu**	**6.56**	**96**	Pn	**Pn**	**03 09 20.3**	**+1.4**
MMLI				Sn	**Sn**	**03 10 28.2**	**-4.4**
MERS	**Mersin**	**6.58**	**56**	*e*PN	**Pn**	**03 09 22.0**	**+2.8**
MERS	**Mersin**	**6.58**	**56**	*e*Pn	**Pn**	**03 09 22.0**	**+2.8**
KERG	**Konya-Eregli**	**6.61**	**51**	*i* P	**Pn**	**03 09 22.4**	**+2.8**
KERG				*i* S	**Sn**	**03 10 31.5**	**-2.3**
HMDT	**Nahal Hemdat**	**6.69**	**98**	Pn	**Pn**	**03 09 22.4**	**+1.9**
HMDT				Sn	**Sn**	**03 10 33.5**	**-2.0**
HMDT	**Nahal Hemdat**	**6.69**	**98**	Pn	**Pn**	**03 09 22.4**	**+1.9**
HMDT				Sn	**Sn**	**03 10 33.5**	**-2.0**
DSI	**Dead Sea**	**6.74**	**103**	Pn	**Pn**	**03 09 22.9**	**+1.6**
DSI				Sn	**Sn**	**03 10 34.9**	**-1.9**
DSI	**Dead Sea**	**6.74**	**103**	Pn	**Pn**	**03 09 22.9**	**+1.6**
DSI				Sn	**Sn**	**03 10 34.9**	**-1.9**
MZDA	**Masada**	**6.81**	**106**	Pn	**Pn**	**03 09 24.3**	**+2.1**
MZDA	**Masada**	**6.81**	**106**	Pn	**Pn**	**03 09 24.3**	**+2.1**
KSHT	**Keshet**	**6.81**	**91**	Pn	**Pn**	**03 09 23.6**	**+1.2**
KSHT	**Keshet**	**6.81**	**91**	Pn	**Pn**	**03 09 23.6**	**+1.2**
PRNI	**Paran**	**6.91**	**114**	Pn	**Pn**	**03 09 25.9**	**+2.2**
PRNI	**Paran**	**6.91**	**114**	Pn	**Pn**	**03 09 25.9**	**+2.2**
HRFI	**Mount Harif**	**7.09**	**116**	Pn	**Pn**	**03 09 27.8**	**+1.7**
HRFI	**Mount Harif**	**7.09**	**116**	Pn	**Pn**	**03 09 27.8**	**+1.7**
MBRI	**Mt Berech**	**7.12**	**118**	Pn	**Pn**	**03 09 29.4**	**+2.8**
MBRI				Sn	**Sn**	**03 10 43.5**	**-2.8**
MBRI	**Mt Berech**	**7.12**	**118**	Pn	**Pn**	**03 09 29.4**	**+2.8**
MBRI				Sn	**Sn**	**03 10 43.5**	**-2.8**
EIL	**Elat**	**7.21**	**119**	Pn	**Pn**	**03 09 29.9**	**+2.1**
EIL				Sn	**Sn**	**03 10 45.1**	**-3.4**
EIL	**Elat**	**7.21**	**119**	Pn	**Pn**	**03 09 29.9**	**+2.1**
EIL				Sn	**Sn**	**03 10 45.1**	**-3.4**

IDC 21 03:27:26.0±2.3, **6°.36S×129°.61E, h0km, mb3.7/1, mb1 3.5/3, mb1mx3.4/21, mbtmp3.4/3, ML3.1/2, MS4.3/1, Ms1 4.3/1, ms1mx2.8/30, Error ellipse: s-maj=129.9km s-min=32.4km az=69.0, Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**14.26**	**162**	Pn	Pn	03 30 47.9	-1.5
	0.1nm,0.3s,baz=341,slow=15,SNR=3.0						
WRA				Sn	Sn	03 33 14.3	-14
	0.3nm,0.3s,baz=339,slow=24,SNR=6.5						
ASAR	**Alice Springs**	**17.70**	**167**	P	P	03 31 35.1	+0.1
	0.1nm,0.3s,baz=348,slow=12,SNR=5.3						
RAO	**Raoul Island**	**54.37**	**121**	LR	LR	03 56 43.3	
	comp=Z,275nm,20.8s,baz=316,slow=32						
MKAR	**Makanchi Array**	**67.48**	**327**	P	P	03 38 23.9	0.0
	0.4nm,0.4s,baz=114,slow=7.3,SNR=4.6						

*ISCJB **21** 03:34:10.2±1.0, 10°.81S±0°.09×119°.60E±0°.06, h30km, mb3.7/1, Error ellipse: s-maj=13.9km s-min=6.6km az=22.1*

*IDC **21** 03:34:11.7±3.0, 10°.32S×120°.44E, h0km, mb3.6/1, mb1 3.5/3, mb1mx3.4/30, mbtmp3.4/3, ML3.5/2, Error ellipse: s-maj=263.4km s-min=30.3km az=50.0*

*DJA **21** 03:34:13.6±2.0, 11°.5S×12°×12°.0E×, h30km±29km, M4.0/7, mb4.2/1, MLv3.9/7*

ISC 21 03:34:12.9±1.2, **10°.7S**±0°.1×**119°.62E**±0°.06, **h30km**, **n7**, σ2s**47**/10, **Sumba region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BASI	**Baing, Sumba**	**1.07**	**61**	P	**Pn**	**03 34 31.0**	**-0.9**
BASI				S	**Sn**	**03 34 43.9**	**-1.9**
PLAI	**Plampang**	**2.63**	**316**	P	**Pn**	**03 34 52.4**	**-0.9**
PLAI				S	**Sn**	**03 35 23.5**	**-0.7**
TWSI	**Taliwang, Sumb**	**3.35**	**306**	P	**Pn**	**03 35 03.2**	**0.0**
TWSI				S	**Sn**	**03 35 40.6**	**-1.4**
SOEI	**Soe**	**4.68**	**78**	P	**Pn**	**03 35 23.9**	**+2.3**
WRA	**Warramunga Arr**	**16.88**	**125**	Pn	**Pn**	**03 38 03.0**	**-4.1**
	0.2nm,0.3s,baz=297,slow=14,SNR=6.4						
WRA				Sn	Sn	03 41 00.8	-13
	0.1nm,0.3s,baz=330,slow=3.5,SNR=3.7						
ASAR	**Alice Springs**	**18.73**	**135**	P	**P**	**03 38 29.9**	**+0.6**
	0.2nm,0.3s,baz=319,slow=14,SNR=5.4						
ASAR				S	Sn	03 41 47.0	-12
	baz=309,slow=24,SNR=10						
MKAR	**Makanchi Array**	**66.27**	**333**	P	**P**	**03 45 01.8**	**+3.5**
	0.4nm,0.6s,baz=127,slow=8.2,SNR=3.1						

BUC 21 03:39:21.3±0.2, **45°.92N×26°.93E, h61km**±2km, **MD2.8/3, 16C-6D, Error ellipse: s-maj=2.4km s-min=1.6km az=37.0, Romania**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VRI	**Vrincioaia**	**0.15**	**249**	⇑*i* P	Pn	03 39 30.9	+0.3
VRI	**Vrincioaia**	**0.15**	**249**	⇑*i* P	Pn	03 39 30.9	+0.3
PLOR	**Plostina**	**0.21**	**251**	⇑*i* P	Pn	03 39 31.3	+0.4
PLOR	**Plostina**	**0.21**	**251**	⇑*i* P	Pn	03 39 31.3	+0.4
PLOR				*i* S	Sn	03 39 38.2	+0.3
PETR	**Petresti**	**0.29**	**133**	⇑*i* P	Pn	03 39 32.5	+1.1
PETR	**Petresti**	**0.29**	**133**	⇑*i* P	Pn	03 39 32.5	+1.1
TESR	**Tescani**	**0.62**	**342**	⇑*i* P	Pn	03 39 35.0	+0.3
TESR	**Tescani**	**0.62**	**342**	⇑*i* P	Pn	03 39 35.0	+0.3
TESR				*i* S	Sn	03 39 44.3	-0.2
LEOM	**Leova**	**1.07**	**58**	⇑*i* P	Pn	03 39 41.2	+1.0
LEOM				S	Sn	03 39 55.8	+1.5
LEOM	**Leova**	**1.07**	**58**	⇑*i* P	Pn	03 39 41.2	+1.0
LEOM				*i* S	Sn	03 39 55.8	+1.5
DOPR	**Dopca**	**1.08**	**273**	⇑*i* P	Pn	03 39 40.9	+0.5
DOPR	**Dopca**	**1.08**	**273**	⇑*i* P	Pn	03 39 40.9	+0.5
DOPR				*i* S	Sn	03 39 55.2	+0.6
CFR	**Carcaliu**	**1.13**	**131**	⇑*i* P	Pn	03 39 41.6	+0.6
CFR	**Carcaliu**	**1.13**	**131**	⇑*i* P	Pn	03 39 41.6	+0.6
CFR				*i* S	Sn	03 39 56.3	+0.7
VOIR		**1.41**	**251**	⇓*i* P	Pn	03 39 45.4	+0.6
VOIR		**1.41**	**251**	⇓*i* P	Pn	03 39 45.4	+0.6
VOIR				*i* S	Sn	03 40 02.6	+0.2
TLB	**Topalu**	**1.55**	**149**	⇓*i* P	Pn	03 39 47.2	+0.6
TLB	**Topalu**	**1.55**	**149**	⇓*i* P	Pn	03 39 47.2	+0.6
TLB				*i* S	Sn	03 40 05.8	+0.1
MILM	**Milestii Mici**	**1.64**	**52**	⇑*i* P	Pn	03 39 48.6	+0.7
MILM	**Milestii Mici**	**1.64**	**52**	⇑*i* P	Pn	03 39 48.6	+0.7
MILM				*i* S	Sn	03 40 07.8	-0.1
TIRR	**Tirgusor**	**1.80**	**144**	⇓*i* P	Pn	03 39 50.8	+0.8
TIRR	**Tirgusor**	**1.80**	**144**	⇓*i* P	Pn	03 39 50.8	+0.8
TIRR				*i* S	Sn	03 40 11.9	+0.1

*IDC **21** 03:45:25.4±1.2, 8°.95S×158°.93E, h0km, mb3.9/4, mb1 4.2/4, mb1mx3.8/37, mbtmp3.9/4, MS3.1/3, Ms1 3.1/3, ms1mx2.8/30, Error ellipse: s-maj=30.6km s-min=17.8km az=2.0*

*ISCJB **21** 03:45:31.8±1.1, 9°.1S±0°.2×159°.03E±0°.07, h65km, mb3.6/4, Error ellipse: s-maj=25.2km s-min=9.9km az=2.1*

ISC 21 03:45:33.1±1.3, **9°.1S**±0°.2×**159°.08E**±0°.09, **h65km**, **n15**, σ1s**72**/9, **mb3.8/4, Bougainville-Solomon Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**0.91**	**109**	Pn	**Pn**	**03 45 48.7**	**-1.5**
	412nm,0.3s,baz=226,slow=8.0,SNR=57						
HNR				Sn	**Sn**	**03 46 03.5**	**+0.7**
	739nm,0.3s,baz=82,slow=22,SNR=19						
HNR	**Honiara**	**0.91**	**109**	*i* P	**Pn**	**03 45 48.0**	**-2.2**
HNR				*i* S	**Sn**	**03 46 05.0**	**+2.2**
PMG	**Port Moresby**	**11.77**	**268**	LR	LR	03 52 30.9	
	comp=Z,93nm,20.1s,baz=181,slow=37						
CTA	**Charters Tower**	**16.50**	**227**	Pn	**P**	**03 49 22.0**	**0.0**
	0.5nm,0.3s,baz=44,slow=8.6,SNR=5.1						
WRA	**Warramunga Arr**	**26.21**	**243**	P	**P**	**03 51 01.6**	**-0.4**
	2.0nm,0.7s,baz=70,slow=9.6,SNR=17						
GUMO	**Guam**	**26.62**	**328**	LR	LR	04 02 07.9	
	comp=Z,30nm,18.1s,baz=98,slow=38						
STKA	**Stephens Creek**	**27.85**	**213**	P	**P**	**03 51 18.5**	**+1.9**
	1.4nm,0.5s,baz=48,slow=15,SNR=3.8						
STKA				LR	LR	04 02 22.2	
	comp=Z,52nm,18.1s,baz=195,slow=36						
ASAR	**Alice Springs**	**28.07**	**236**	P	**P**	**03 51 17.6**	**-1.1**
	0.6nm,0.7s,baz=70,slow=8.3,SNR=6.5						
H11S3	**WAKE ISLAND Hy 28.46**		**15**	T	T	04 20 04.4	
	baz=195,slow=75,SNR=42						
H11S2	**WAKE ISLAND Hy 28.46**		**15**	T	T	04 20 11.7	
	baz=195,slow=75,SNR=48						
H11S1	**WAKE ISLAND Hy 28.48**		**15**	T	T	04 20 13.6	
	baz=195,slow=75,SNR=31						
H11N1	**WAKE ISLAND Hy 29.68**		**15**	T	T	04 21 47.6	
	baz=194,slow=76,SNR=34						
H11N3	**WAKE ISLAND Hy 29.69**		**15**	T	T	04 21 48.3	
	baz=194,slow=76,SNR=37						
H11N2	**WAKE ISLAND Hy 29.70**		**15**	T	T	04 21 35.0	
	baz=194,slow=76,SNR=52						
ILAR	**Eielson Array**	**83.91**	**20**	P	**P**	**03 57 56.4**	**+0.8**
	0.5nm,0.4s,baz=245,slow=4.9,SNR=15						

*NEIC **21** 03:59:58.1±0.0, 19°.21N×64°.48W, h45km, MD3.5(RSPR), After RSPR.*

RSPR 21 03:59:58.1, 19°.21N×64°.48W, h45km±8km, **MD3.5/5, 8C-9D, Virgin Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STVI	**Saint Thomas**	**0.97**	**208**	⇓*e*P	Pn	04 00 14.1	-1.1
STVI	**Saint Thomas**	**0.97**	**208**	*e*S	Sn	04 00 26.8	-1.0
STVI	**Saint Thomas**	**0.97**	**208**	⇓*e*P	Pn	04 00 14.1	-1.1
STVI				*e*S	Sn	04 00 26.8	-1.0
STVI	**Saint Thomas**	**0.97**	**208**	⇓*e*P	Pn	04 00 14.1	-1.1
STVI				*e*S	Sn	04 00 26.8	-1.0
HUMP

comp=Z,59nm,18.1s,slow=36

MEX 21 04:12:53.5±0.3, 15°94'N×98°62'W, h16km±10km, MD3.7, Off coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.66**	**46**	*eP*	Pg	04 13 04.0	-2.4
PNIG				*eS*	Sg	04 13 12.2	-2.9
TLIG	**Tlapa**	**1.62**	**2**	*eP*	Pn	04 13 17.7	-3.8
TLIG				*eS*	Sn	04 13 37.1	-5.0
CAIG	**El Cayaco**	**1.93**	**305**	*eP*	Pn	04 13 22.3	-3.3
CAIG				*i S*	Sn	04 13 44.2	-5.4
VHO	**Vista Hermosa**	**2.13**	**58**	*eP*	Pn	04 13 25.5	-3.2
VHO				*i S*	Sn	04 13 50.4	-4.5
PLIG	**Platanillo**	**2.58**	**341**	*eP*	Pn	04 13 31.8	-3.0
PLIG				*i S*	Sn	04 14 01.6	-4.4
ARIG	**Puente Sto Nin**	**2.86**	**325**	*i P*	Pn	04 13 36.1	-2.3
ARIG				*i S*	Sn	04 14 08.4	-4.2
YAIG	**Yautepec**	**2.94**	**352**	*i P*	Pn	04 13 37.7	-2.1
YAIG				*i S*	Sn	04 14 11.5	-3.3

*IDC **21** 04:14:40.0±1.3, 36°80'N×140°63'E, h0km, mb3.7/3, mb1 3.9/3, mb1mx3.5/37, mbtmp3.7/3, Error ellipse: s-maj=27.0km s-min=17.0km az=171.0*
*ISCJB **21** 04:14:41.4±0.8, 36°66'N±0°04×140°66'E±0°06, h13km±4km, mb3.6/3, Error ellipse: s-maj=9.0km s-min=4.8km az=27.1*
*JMA **21** 04:14:42.2, 36°70'N×140°58'E, h3km± 1km, M3.4*
JMA Felt II J1.

ISC 21 04:14:41.5±1.0, 36°72'N±0°06×140°59'E±0°05, h10km±8km, n13, σ0s55/21, mb3.5/3, 6C, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHO	**Hitachi**	**0.11**	**187**	⇑P	**Pg**	**04 14 44.3**	**+0.1**
JHO				S	**Sg**	04 14 45.8	-0.3
ONAJ	**Iwakimizuishiy**	**0.41**	**24**	⇑P	**Pb**	**04 14 50.9**	**-0.1**
ONAJ				S	**Sb**	04 14 57.1	-0.3
JYT	**Yasato**	**0.59**	**213**	⇑P	**Pg**	**04 14 53.1**	**+0.2**
JYT				S	**Sg**	04 15 00.8	+0.3
JSB	**Shiboa**	**0.59**	**295**	⇑P	**Pb**	**04 14 54.3**	**+0.3**
JSB				S	**Sb**	04 15 02.2	-0.2
JFK	**Kawauchi**	**0.68**	**20**	⇑P	**Pb**	**04 14 55.6**	**0.0**
JFK				S	**Sb**	04 15 05.3	+0.2
JFT	**Otama**	**0.82**	**346**	⇑P	**Pb**	**04 14 58.4**	**+0.5**
JFT				S	**Sb**	04 15 09.6	+0.6
JAG	**Ashikaga**	**0.96**	**252**	P	**Pg**	04 14 59.6	-0.4
JFY	**Yanaizu**	**0.98**	**314**	⇑P	**Pn**	04 15 01.3	-0.1
JFY				*eS*	**Sb**	04 15 14.1	+0.4
MJAR	**Matsushiro Arr**	**1.92**	**265**	Pn	**Pb**	**04 15 16.0**	**-0.7**
	15nm,0.3s,baz=78,slow=12,SNR=61						
MJAR				Lg	Lg	04 15 41.5	
	29nm,0.3s,baz=80,slow=30,SNR=16						
MAT	**Matsushiro**	**1.92**	**265**	P	**Pn**	**04 15 15.6**	**+1.2**
MAT				S	**Sb**	04 15 40.9	+0.1
KURBB	**Kurchatov Arra**	**45.67**	**308**	P	**P**	**04 23 01.1**	**-1.2**
	0.8nm,0.4s,baz=83,slow=8.0,SNR=7.8						
WRA	**Warramunga Arr**	**56.66**	**187**	P	**P**	**04 24 25.0**	**-0.1**
	0.2nm,0.4s,baz=1.3,slow=7.6,SNR=6.7						
PDAR	**Pinedale Array**	**78.36**	**45**	P	**P**	**04 26 43.0**	**+0.5**
	0.2nm,0.6s,baz=299,slow=3.7,SNR=4.4						

MEX 21 04:27:10.0±0.6, 14°91N×93°14W, h15km, MD3.6, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CCIG	**Comitan**	**1.68**	**35**	*eP*	Pn	04 27 35.4	-3.6
CCIG				*eS*	Sn	04 27 55.0	-5.3
TGIG		**1.86**	**1**	*eP*	Pn	04 27 37.8	-3.7
TGIG				*i S*	Sn	04 27 59.7	-5.0

*NEIC **21** 04:36:59.0±0.0, 48°93N×129°36W, h10km, mb4.0/33, MW4.5(OTT), After OTT.*
*PGC **21** 04:36:59.0±2.2, 48°93N×129°36W, h10km, MLSn3.4/32, Mw4.0/32, 241km southwest of Pt. Hardy, Bc Vancouver Island, Canada Region*
*IDC **21** 04:36:59.6±2.0, 48°91N×129°14W, h0km, mb3.6/4, mb1 4.0/8, mb1mx3.8/44, mbtmp3.7/8, ML3.7/4, MS3.5/15, Ms1 3.5/15, ms1mx3.3/44, Error ellipse: s-maj=34.5km s-min=21.7km az=56.0*
*ISCJB **21** 04:37:00.6±0.7, 49°11N±0°02×128°93W±0°04, h6km±6km, mb3.9/9, MS3.6/12, Error ellipse: s-maj=4.9km s-min=3.2km az=159.4*

ISC 21 04:37:03.0±1.0, 49°17N±0°04×128°86W±0°05, h10km±5km, n277, σ1s76/317, mb3.9/9, MS3.6/12, Vancouver Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EDB	**Eliza Dome**	**1.33**	**58**	Pn	**Pg**	**04 37 26.8**	**-1.9**
EDB				Sn	**Sn**	04 37 47.9	+2.3
EDB	**Eliza Dome**	**1.33**	**58**	Pn	**Pg**	**04 37 26.8**	**-1.9**
EDB				Sn	**Sn**	04 37 47.9	+2.3
NC89	**ODP889**	**1.42**	**110**	Pn	**Pn**	04 37 26.4	-2.3
NC89	**ODP889**	**1.42**	**110**	Pn	**Pn**	04 37 26.4	-2.3
ETB	**Estevan Point**	**1.54**	**82**	Pn	**Pn**	**04 37 29.8**	**-0.6**
ETB	**Estevan Point**	**1.54**	**82**	Pn	**Pn**	**04 37 29.8**	**-0.6**
NC27	**ODP1027**	**1.59**	**152**	Pn	Pn	04 37 23.7	-7.2
NC27	**ODP1027**	**1.59**	**152**	Pn	Pn	04 37 23.7	-7.2
WOSB	**Woss**	**1.79**	**56**	Pn	**Pn**	**04 37 34.0**	**0.0**
WOSB	**Woss**	**1.79**	**56**	Pn	**Pn**	04 37 34.0	0.0
PHC	**Port Hardy**	**1.79**	**30**	Pn	**Pn**	**04 37 33.1**	**-0.9**
PHC				Sn	**Sg**	04 37 58.5	-2.1
PHC	**Port Hardy**	**1.79**	**30**	Pn	**Pn**	**04 37 33.1**	**-0.9**
PHC				Sn	**Sg**	04 37 58.5	-2.1
TLCB	**Telegraph Cove**	**1.90**	**43**	Pn	**Pn**	**04 37 35.2**	**-0.3**
TLCB				Sn	**Sg**	**04 38 01.5**	**-2.6**
TLCB	**Telegraph Cove**	**1.90**	**43**	Pn	**Pn**	04 37 35.2	-0.3
TLCB				Sn	**Sg**	**04 38 01.5**	**-2.6**
TOFB	**Tofino**	**1.94**	**89**	Pn	**Pn**	04 37 34.9	-1.1
TOFB				Sn	**Sn**	**04 38 01.2**	**+0.8**
TOFB	**Tofino**	**1.94**	**89**	Pn	**Pn**	04 37 34.9	-1.1
TOFB				Sn	**Sn**	04 38 01.2	+0.8
NCRB	**Newcastle Ridg**	**2.20**	**55**	Pn	**Pn**	04 37 40.3	+0.6
NCRB				Sn	**Sb**	04 38 09.7	-0.5
NCRB	**Newcastle Ridg**	**2.20**	**55**	Pn	**Pn**	04 37 40.3	+0.6
NCRB				Sn	**Sb**	04 38 09.7	-0.5
B012	**Ucluelet**	**2.20**	**95**	Pn	**Pn**	04 37 37.8	-1.7
B012				Sn	**Sn**	04 38 06.6	-0.2
B012	**Ucluelet**	**2.20**	**95**	Pn	**Pn**	04 37 37.8	-1.7
B012				Sn	**Sn**	04 38 06.6	-0.2
BTB	**Buttle Lake**	**2.21**	**81**	Pn	**Pn**	04 37 39.3	-0.6
BTB				Sn	**Sn**	04 38 07.9	+0.6
BTB	**Buttle Lake**	**2.21**	**81**	Pn	**Pn**	04 37 39.3	-0.6
BTB				Sn	**Sn**	04 38 07.9	+0.6
SPLB	**Strathcona Par**	**2.21**	**70**	Pn	**Pn**	04 37 40.1	+0.3
SPLB				Sn	**Sn**	04 38 08.7	+1.6
SPLB	**Strathcona Par**	**2.21**	**70**	Pn	**Pn**	04 37 40.1	+0.3
SPLB				Sn	**Sn**	04 38 08.7	+1.6
OZB	**Mount Ozzard**	**2.23**	**94**	Pn	**Pn**	04 37 38.1	-1.9
OZB				Sn	**Sn**	04 38 07.3	-0.2
OZB	**Mount Ozzard**	**2.23**	**94**	Pn	**Pn**	04 37 38.1	-1.9
OZB				Sn	**Sn**	04 38 07.3	-0.2
OZB	**Mount Ozzard**	**2.23**	**94**	*eP*	**Pn**	04 37 38.4	-1.7
MWAB	**Mount Washingt**	**2.39**	**75**	Pn	**Pn**	04 37 42.4	0.0
MWAB				Sn	**Sb**	04 38 14.7	-1.0
MWAB	**Mount Washingt**	**2.39**	**75**	Pn	**Pn**	04 37 42.4	0.0
MWAB				Sn	**Sb**	04 38 14.7	-1.0
CBB	**Campbell River**	**2.43**	**68**	Pn	**Pn**	04 37 43.2	+0.4
CBB				Sn	**Sb**	04 38 16.5	-0.3
CBB	**Campbell River**	**2.43**	**68**	Pn	**Pn**	04 37 43.2	+0.4
CBB				Sn	**Sb**	04 38 16.5	-0.3
BMSB	**Bamfield Mari**	**2.48**	**96**	Pn	**Pn**	04 37 41.6	-1.8
BMSB				Sn	**Sn**	04 38 13.3	-0.3
BMSB	**Bamfield Mari**	**2.48**	**96**	Pn	**Pn**	04 37 41.6	-1.8
BMSB				Sn	**Sn**	04 38 13.3	-0.3
B928	**Bamfield**	**2.48**	**96**	Pn	**Pn**	04 37 41.7	-1.7
B928				Sn	**Sn**	04 38 13.6	0.0
B928	**Bamfield**	**2.48**	**96**	Pn	**Pn**	04 37 41.7	-1.7
B928				Sn	**Sn**	04 38 13.6	0.0
B928	**Bamfield**	**2.48**	**96**	*eP*	**Pn**	04 37 41.7	-1.7
ALB	**Alberni**	**2.64**	**86**	Pn	**Pn**	04 37 45.7	0.0
ALB	**Alberni**	**2.64**	**86**	Pn	**Pn**	04 37 45.7	0.0
B927	**Port Alberni**	**2.66**	**87**	Pn	**Pn**	**04 37 45.6**	**-0.2**
B927				Sn	**Sn**	04 38 19.6	+1.6
B927	**Port Alberni**	**2.66**	**87**	Pn	**Pn**	04 37 45.6	-0.2
B927				Sn	**Sn**	04 38 19.6	+1.6
B927	**Port Alberni**	**2.66**	**87**	*ePn*	**Pn**	04 37 45.7	-0.2
MGB	**Mount Grey**	**2.75**	**92**	Pn	**Pn**	04 37 45.7	-1.6
MGB				Sn	**Sn**	04 38 20.8	+0.3
MGB	**Mount Grey**	**2.75**	**92**	Pn	**Pn**	04 37 45.7	-1.6
MGB				Sn	**Sn**	04 38 20.8	+0.3
TXB	**Texada**	**2.94**	**78**	Pn	**Pn**	04 37 49.9	+0.2
TXB	**Texada**	**2.94**	**78**	Pn	**Pn**	04 37 49.9	+0.2
OCP	**Olym-Cheeka Pk**	**2.94**	**106**	Pn	**Pn**	04 37 48.0	-1.7
OCP	**Olym-Cheeka Pk**	**2.94**	**106**	Pn	**Pn**	04 37 48.0	-1.7
OCP	**Olym-Cheeka Pk**	**2.94**	**106**	*ePn*	**Pn**	04 37 48.1	-1.7
PFB	**Port Renfrew**	**2.98**	**100**	Pn	**Pn**	04 37 48.6	-1.8
PFB				Sn	**Sn**	04 38 25.3	-0.9
PFB	**Port Renfrew**	**2.98**	**100**	Pn	**Pn**	04 37 48.6	-1.8
PFB				Sn	**Sn**	04 38 25.3	-0.9
YOUB	**Youbou, Lake C**	**3.04**	**93**	Pn	**Pn**	04 37 50.2	-1.0
YOUB				Sn	**Sn**	04 38 27.6	-0.1
YOUB	**Youbou, Lake C**	**3.04**	**93**	Pn	**Pn**	04 37 50.2	-1.0
YOUB				Sn	**Sn**	04 38 27.6	-0.1
BBB	**Bella Bella**	**3.05**	**9**	Pn	**Pn**	04 37 49.9	-1.4
BBB				Sn	**Sn**	04 38 27.0	-0.8
BBB	**Bella Bella**	**3.05**	**9**	Pn	**Pn**	04 37 49.9	-1.4
BBB				Sn	**Sn**	04 38 27.0	-0.8
BBB	**Bella Bella**	**3.05**	**9**	*ePn*	**Pn**	04 37 49.7	-1.6
BBB				*eSn*	**Sn**	04 38 24.9	-3.0
B926	**Mesachie Lake**	**3.13**	**95**	Sn	**Sn**	04 38 30.6	+0.7
B926	**Mesachie Lake**	**3.13**	**95**	Sn	**Sn**	04 38 30.6	+0.7
NLLB	**Nanaimo Lost L**	**3.20**	**87**	Pn	**Pn**	04 37 53.7	+0.4
NLLB				Sn	**Sn**	04 38 33.0	+1.5
NLLB	**Nanaimo Lost L**	**3.20**	**87**	Pn	**Pn**	04 37 53.7	+0.4
NLLB				Sn	**Sn**	04 38 33.0	+1.5
SHB	**Sechelt**	**3.29**	**81**	Pn	**Pn**	04 37 55.3	+0.6
SHB	**Sechelt**	**3.29**	**81**	Pn	**Pn**	04 37 55.3	+0.6
LZB	**Mount Lazard**	**3.37**	**98**	Pn	**Pn**	04 37 54.9	-0.9
LZB				Sn	**Sn**	04 38 35.7	-0.2
LZB	**Mount Lazard**	**3.37**	**98**	Pn	**Pn**	04 37 54.9	-0.9
LZB				Sn	**Sn**	04 38 35.7	-0.2
OBC	**Olympics--Boni**	**3.37**	**108**	Sn	**Sn**	04 38 35.4	-0.6
OBC	**Olympics--Boni**	**3.37**	**108**	Sn	**Sn**	04 38 35.4	-0.6
BPCB	**Bare Point**	**3.40**	**92**	Pn	**Pn**	04 37 56.1	0.0
BPCB	**Bare Point**	**3.40**	**92**	Pn	**Pn**	04 37 56.1	0.0
BCBC	**Bella Coola**	**3.47**	**22**	Pn	**Pn**	04 37 57.8	+0.7
BCBC				Sn	**Sn**	04 38 39.8	+1.6
BCBC	**Bella Coola**	**3.47**	**22**	Pn	**Pn**	04 37 57.8	+0.7
BCBC				Sn	**Sn**	04 38 39.8	+1.6
GOBB	**Galiano Island**	**3.52**	**92**	Pn	**Pn**	04 37 58.0	+0.1
GOBB				Sn	**Sn**	04 38 39.8	+0.3
GOBB	**Galiano Island**	**3.52**	**92**	Pn	**Pn**	04 37 58.0	+0.1
GOBB				Sn	**Sn**	04 38 39.8	+0.3
B009	**North Saanich**	**3.61**	**96**	Pn	**Pn**	04 37 58.1	-0.8
B009				Sn	**Sn**	04 38 42.1	+0.6
B009	**North Saanich**	**3.61**	**96**	Pn	**Pn**	04 37 58.1	-0.8
B009				Sn	**Sn**	04 38 42.1	+0.6
B010	**North Saanich**	**3.61**	**96**	Pn	**Pn**	04 37 57.8	-1.1
B010				Sn	**Sn**	04 38 42.4	+0.8
B010	**North Saanich**	**3.61**	**96**	Pn	**Pn**	04 37 57.8	-1.1
B010				Sn	**Sn**	04 38 42.4	+0.8
B011	**North Saanich**	**3.61**	**96**	Pn	**Pn**	04 37 57.9	-1.1
B011				Sn	**Sn**	04 38 42.1	+0.5
B011	**North Saanich**	**3.61**	**96**	Pn	**Pn**	04 37 57.9	-1.1
B011				Sn	**Sn**	04 38 42.1	+0.5
BIB	**Bowen Island**	**3.64**	**84**	Pn	**Pn**	04 37 59.7	+0.2
BIB	**Bowen Island**	**3.64**	**84**	Pn	**Pn**	04 37 59.7	+0.2
WPB	**Watts Point**	**3.72**	**80**	Pn	**Pn**	04 38 01.0	+0.4
WPB	**Watts Point**	**3.72**	**80**	Pn	**Pn**	04 38 01.0	+0.4
VGZ	**Gonzales**	**3.74**	**100**	Pn	**Pn**	04 37 59.3	-1.4
VGZ				Sn	**Sn**	04 38 44.2	-0.6
VGZ	**Gonzales**	**3.74**	**100**	Pn	**Pn**	04 37 59.3	-1.4
VGZ				Sn	**Sn**	04 38 44.2	-0.6
SNB	**Saturna Island**	**3.77**	**94**	Pn	**Pn**	04 38 00.7	-0.5
SNB				Sn	**Sn**	04 38 47.1	+1.5
SNB	**Saturna Island**	**3.77**	**94**	Pn	**Pn**	04 38 00.7	-0.5
SNB				Sn	**Sn**	04 38 47.1	+1.5
NLWA	**Neilton Lookou**	**3.78**	**116**	*ePn*	**Pn**	04 38 00.3	-1.1
NLWA				*eSn*	**Sn**	04 38 42.5	-3.4
WSLR	**Whistler**	**3.98**	**74**	Pn	**Pn**	04 38 05.5	+1.4
WSLR	**Whistler**	**3.98**	**74**	Pn	**Pn**	04 38 05.5	+1.4
WISH	**Wishkah**	**3.98**	**119**	Pn	**Pn**	04 38 03.2	-0.8
WISH	**Wishkah**	**3.98**	**119**	Pn	**Pn**	04 38 03.2	-0.8
MCW	**Mount Constitu**	**4.00**	**95**	Pn	**Pn**	04 38 04.5	0.0
MCW	**Mount Constitu**	**4.00**	**95**	Pn	**Pn**	04 38 04.5	0.0
BLN	**Blyn Mountain**	**4.08**	**104**	Pn	**Pn**	04 38 05.1	-0.4
BLN	**Blyn Mountain**	**4.08**	**104**	Pn	**Pn**	04 38 05.1	-0.4
A04D	**Lummi Island**	**4.08**	**94**	P	**Pn**	**04 38 05.4**	**0.0**
	baz=275,SNR=8.1						
HDW	**Hoodsport**	**4.16**	**109**	Pn	**Pn**	04 38 06.0	-0.7
HDW	**Hoodsport**	**4.16**	**109**	Pn	**Pn**	04 38 06.0	-0.7
E03A	**Lebam**	**4.43**	**124**	Pn	**Pn**	04 38 08.6	-1.7
E03A	**Lebam**	**4.43**	**124**	Pn	**Pn**	04 38 08.6	-1.7
E03A	**Lebam**	**4.43**	**124**	*ePn*	**Pn**	04 38 09.1	-1.1
CMW	**Cultus Mountai**	**4.52**	**97**	Pn	**Pn**	04 38 11.9	+0.3
CMW	**Cultus Mountai**	**4.52**	**97**	Pn	**Pn**	04 38 11.9	+0.3
B05A	**Bryant**	**4.57**	**99**	P	**Pn**	04 38 11.4	-0.8
	baz=281,SNR=9.3						
MBW	**Mount Baker**	**4.60**	**92**	Pn	**Pn**	04 38 13.1	+0.3
MBW	**Mount Baker**	**4.60**	**92**	Pn	**Pn**	04 38 13.1	+0.3
JCW	**Jim Creek**	**4.70**	**99**	Pn	**Pn**	04 38 14.1	+0.2
JCW	**Jim Creek**	**4.70**	**99**	Pn	**Pn**	04 38 14.1	+0.2
LLLB	**Lillooet**	**4.74**	**70**	Pn	**Pn**	04 38 16.1	+1.5
LLLB	**Lillooet**	**4.74**	**70**	Pn	**Pn**	04 38 16.1	+1.5
LLLB	**Lillooet**	**4.74**	**70**	*ePn*	**Pn**	04 38 15.9	+1.4
UBRB	**Upper Baezaeko**	**4.79**	**37**	Pn	**Pn**	04 38 17.0	+1.7
UBRB	**Upper Baezaeko**	**4.79**	**37**	Pn	**Pn**	04 38 17.0	+1.7
HOPB	**Hope**	**4.88**	**85**	Pn	**Pn**	04 38 16.9	+0.5
HOPB	**Hope**	**4.88**	**85**	Pn	**Pn**	04 38 16.9	+0.5
RPW	**Rockport**	**4.91**	**96**	Pn	**Pn**	04 38 16.7	-0.2
RPW	**Rockport**	**4.91**	**96**	Pn	**Pn**	04 38 16.7	-0.2
B06A	**Marblemount**	**4.91**	**95**	Pn	**Pn**	04 38 17.3	+0.4
B06A	**Marblemount**	**4.91**	**95**	Pn	**Pn**	04 38 17.3	+0.4
B06A	**Marblemount**	**4.91**	**95**	*ePn*	**Pn**	04 38 17.9	+1.0
D05A	**Enumclaw**	**5.01**	**111**	*ePn*	**Pn**	04 38 19.6	+1.4
FMW	**Mount Fremont**	**5.32**	**112**	Pn	**Pn**	04 38 23.1	+0.4
FMW	**Mount Fremont**	**5.32**	**112**	Pn	**Pn**	04 38 23.1	+0.4
LON	**Longmire**	**5.32**	**114**	Pn	**Pn**	04 38 21.8	-0.8
LON	**Longmire**	**5.32**	**114**	Pn	**Pn**	04 38 21.8	-0.8
LON	**Longmire**	**5.32**	**114**	*ePn*	**Pn**	04 38 23.1	+0.5
LON				*eSn*	**Sn**	04 39 23.3	-0.7
F04A	**Amboy**	**5.43**	**124**	*ePn*	**Pn**	04 38 24.2	+0.2
G03D	**McMinnville, O**	**5.50**	**134**	P	**Pn**	04 38 24.3	-0.6
	baz=314						
LTY	**Liberty**	**5.80**	**106**	*ePn*	**Pn**	04 38 30.0	+0.8
LTY				*eSn*	**Sn**	04 39 38.5	+2.8
ETW	**Entiat**	**5.89**	**102**	*ePn*	**Pn**	04 38 31.6	+1.0
COR	**Corvallis**	**5.96**	**138**	*ePn*	**Pn**	04 38 31.7	+0.4
PNT	**Penticton**	**6.06**	**85**	Pn	**Pn**	04 38 32.9	+0.3
PNT	**Penticton**	**6.06**	**85**	Pn	**Pn**	04 38 32.9	+0.3
B08A	**Colville Reser**	**6.35**	**94**	Pn	**Pn**	04 38 36.9	+0.2
B08A	**Colville Reser**	**6.35**	**94**	Pn	**Pn**	04 38 36.9	+0.2
B08A	**Colville Reser**	**6.35**	**94**	*ePn*	**Pn**	04 38 37.5	+0.8
E07A	**Sunnyside**	**6.60**	**110**	*ePn*	Pb	04 38 49.7	-8.1
I03D	**Drain, OR**	**6.67**	**143**	P	**Pn**	**04 38 40.6**	**-0.5**
	baz=324,SNR=5.8						
BLBC	**Blue River**	**6.76**	**61**	Pn	**Pn**	04 38 44.6	+2.0
BLBC	**Blue River**	**6.76**	**61**	Pn	**Pn**	04 38 44.6	+2.0
G06A	**Carlson Farm,**	**6.85**	**122**	*ePn*	**Pn**	04 38 44.2	+0.7
HAWA	**Hanford**	**6.87**	**110**	*ePn*	**Pn**	04 38 44.6	+0.8
I04A	**Tendick Farm,**	**6.98**	**138**	P	**Pn**	04 38 44.6	-0.8
	baz=319						
DOWB	**Downie Slide**	**7.02**	**67**	Pn	**Pn**	04 38 47.2	+1.3
DOWB	**Downie Slide**	**7.02**	**67**	Pn	**Pn**	04 38 47.2	+1.3
KEBM	**Edson Butte**	**7.04**	**152**	*ePn*	**Pn**	04 38 45.2	-1.1
MNB	**Mounoet Dainar**	**7.31**	**62**	Pn	**Pn**	04 38 52.2	+2.1
MNB	**Mounoet Dainar**	**7.31**	**62**	Pn	**Pn**	04 38 52.2	+2.1
WRAK	**Wrangell Islan**	**7.56**	**345**	*ePn*	**Pn**	04 38 40.0	-5.2
KBO	**Bosley Butte**	**7.68**	**153**	*ePn*	**Pn**	04 38 52.4	-2.6
HUMO	**Hull Mountain**	**7.75**	**146**	*ePn*	**Pn**	04 38 52.6	-3.3
NEW	**Newport**	**7.82**	**92**	Pn	**Pn**	04 38 56.6	-0.2
	0.9nm,0.3s,baz=282,slow=13,SNR=6.3						
NEW				LR	LR	04 42 07.2	
	comp=Z,498nm,18.0s,baz=278,slow=38						
NEW	**Newport**	**7.82**	**92**	P	**Pn**	04 38 56.1	-0.8
	baz=279						
NEW	**Newport**	**7.82**	**92**	*ePn*	**Pn**	04 38 57.4	+0.6
L02D	**Cave Junction,**	**7.92**	**150**	P	**Pn**	04 38 58.2	-0.1
	baz=331						
K04D	**Chiloquin, OR**	**8.21**	**140**	P	**Pn**	04 39 03.2	+0.9
	baz=323						
BUOR	**Burton Butte**	**8.30**	**144**	*eSn*	**Sn**	04 40 35.8	-1.7
KRMB	**Red Mountain**	**8.41**	**154**	*ePn*	**Pn**	04 39 04.9	0.0
F10A	**Beach Ranch, E**	**8.49**	**108**	*ePn*	**Pn**	04 39 06.0	-0.1
YBH	**Yreka Blue Hor**	**8.60**	**148**	*ePn*	**Pn**	04 39 09.2	+1.6
M02C	**Callahan**	**8.86**	**149**	P	**Pn**	04 39 12.0	+0.8
	baz=331,SNR=13						
M04C	**Macdoel**	**8.88**	**144**	P	**Pn**	04 39 12.3	+0.7
	baz=326,SNR=19						
BMO	**Blue Mountains**	**9.00**	**114**	*ePn*	**Pn**	04 39 13.7	+0.6
LGMM	**Garner Mountai**	**9.04**	**144**	*ePn*	**Pn**	04 39 15.1	+1.4
KHMM	**Horse Mountain**	**9.06**	**154**	*ePn*	**Pn**	04 39 13.7	-0.2
N02D	**Trinity Center**	**9.28**	**150**	P	**Pn**	04 39 17.7	+0.8
	baz=332,SNR=11						
DLBC	**Dease Lake**	**9.31**	**356**	*ePn*	**Pn**	04 39 17.9	+0.6
MOD	**Modoc Plateau**	**9.42**	**137**	*ePn*	**Pn**	04 39 19.3	+0.3
BSMT	**Bassoo Peak**	**9.44**	**93**	*ePn*	**Pn**	04 39 20.8	+1.6
PRDA	**Priddis**	**9.53**	**74**	Pn	**Pn**	04 39 23.9	+3.5
PRDA	**Priddis**	**9.53**	**74**	Pn	**Pn**	04 39 23.9	+3.5
WDC	**Whiskeytown Da**	**9.59**	**150**	*ePn*	**Pn**	04 39 24.1	+1.7
JTMT	**Jette**	**9.79**	**93**	*ePn*	**Pn**	04 39 25.1	+1.1
WALA	**Waterton Lakes**	**9.81**	**85**	Pn	**Pn**	04 39 25.6	+1.5
WALA	**Waterton Lakes**	**9.81**	**85**	Pn	**Pn**	04 39 25.6	+1.5
WALA	**Waterton Lakes**	**9.81**	**85**	*ePn*	**Pn**	04 39 26.0	+1.8
WVOR	**Wild Horse Val**	**9.81**	**130**	*ePn*	**Pn**	04 39 23.8	-0.4
SWMT	**Swartz Lake**	**10.04**	**94**	*ePn*	**Pn**	04 39 28.8	+1.5
FNBB	**Fort Nelson**	**10.32**	**17**	Pn	**Pn**	04 39 32.0	+0.9
FNBB	**Fort Nelson**	**10.32**	**17**	Pn	**Pn**	04 39 32.0	+0.9
SLMT	**Seeley Lake**	**10.44**	**95**	*ePn*	**Pn**	04 39 33.8	+1.0
EDM	**Edmonton**	**10.54**	**62**	*ePn*	**Pn**	04 39 35.9	+1.8
CHMT	**Chamberlain Mo**	**10.70**	**96**	*ePn*	**Pn**	04 39 37.2	+0.8
ORV	**Oroville**	**10.96**	**149**	*ePn*	**Pn**	04 39 40.5	+0.6
BEKR	**Beckworth**	**11.10**	**144**	*ePn*	**Pn**	04 39 43.8	+1.8
PAHR	**Pah Rah Range**	**11.63**	**141**	*ePn*	**Pn**	04 39 51.6	+2.5
AFDM	**Forest Hills D**	**11.68**	**148**	*ePn*	**Pn**	04 39 51.0	+1.2
WHY	**Whitehorse**	**12.01**	**346**	*ePn*	**Pn**	04 39 57.0	+2.7
PNTR	**Pine Nut**	**12.07**	**143**	*ePn*	**Pn**	04 39 59.5	+4.3
YERR	**Yerington**	**12.30**	**142**	*ePn*	**Pn**	04 40 02.0	+3.6
EGMT	**Eagleton**	**12.70**	**88**	*ePn*	**Pn**	04 40 05.6	+1.9
CMB	**Columbia Colle**	**12.71**	**148**	*ePn*	**Pn**	04 40 05.4	+1.6
CMB				*eSn*	Sn	04 42 35.3	+10
TVH1	**TV Hill, Hawth**	**12.94**	**142**	*ePn*	**Pn**	04 40 08.9	+1.6
TVH3	**East Aurora ar**	**13.01**	**142**	*ePn*	**Pn**

TIXI	Tiksi	47.82	335	LR	LR	05 06 16.1	
	comp=Z,39nm,19.3s,baz=280,slow=37						
SPITS	Spitsbergen Ar	51.16	9	LR	LR	05 09 11.9	
	comp=Z,24nm,21.4s,baz=185,slow=38						
H11N2	WAKE ISLAND Hy	58.54	264	T	T	05 50 00.7	
	baz=44,slow=75,SNR=33						
H11N3	WAKE ISLAND Hy	58.54	264	T	T	05 50 02.5	
	baz=44,slow=75,SNR=35						
H11N1	WAKE ISLAND Hy	58.56	264	T	T	05 49 59.1	
	baz=44,slow=75,SNR=19						
FINES	FINESS Array B	67.91	13	LR	LR	05 16 44.9	
	comp=Z,38nm,19.5s,baz=1.0,slow=35						
ZALV	Zalesovo Beam	73.39	340	LR	LR	05 22 55.3	
	comp=Z,44nm,18.2s,baz=70,slow=38						
AKTO	Aktyubinsk	80.60	356	LR	LR	05 31 37.2	
	comp=Z,28nm,18.4s,baz=24,slow=40						
LPAZ	La Paz	84.39	123	P	P	04 49 34.3	-2.0
	0.4nm,0.6s,baz=350,slow=6.1,SNR=3.2						
KVAR	Kislovodsk Arr	86.96	6	LR	LR	05 32 24.9	
	comp=Z,24nm,18.4s,baz=312,slow=38						
KBZ	Khabaz	87.20	6	LR	LR	05 32 07.4	
	comp=Z,34nm,19.0s,baz=80,slow=38						
DZM	Mont Dzumac	91.24	237	LR	LR	05 26 23.0	
	comp=Z,21nm,18.6s,baz=93,slow=33						

IDC 21 04:38:14.8±2.1, 6°52S × 149°77E, h0 km, mb3.8/3, mb1 4.2/4, mb1mx3.7/34, mbtmp4.0/4, ML1.9/1, Error ellipse: s-maj=119.0km s-min=25.5km az=127.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**3.86**	**222**	Pn	Pn	04 39 17.0	+1.4
	6.3nm,0.3s,baz=40,slow=9.9,SNR=15						
PMG				Sn	Sn	04 40 04.7	+3.0
	6.8nm,0.3s,baz=140,slow=18,SNR=9.1						
WRA	**Warramunga Arr**	**20.07**	**227**	P	P	04 42 49.9	0.0
	6.0nm,0.7s,baz=52,slow=11,SNR=20						
ASAR	**Alice Springs**	**22.88**	**220**	P	P	04 43 18.9	-1.3
	1.9nm,0.8s,baz=53,slow=9.5,SNR=16						
ILAR	**Eielson Array**	**84.89**	**23**	P	P	04 50 51.8	+0.4
	0.6nm,0.8s,baz=230,slow=5.2,SNR=4.1						

JMA 21 04:39:28.7±0.5, 34°84N × 142°66E, h20 km, M3.5, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BSO1	**Boso 1**	**1.40**	**263**	P	Pb	04 39 53.3	-0.5
BSO1				S	Sb	04 40 11.0	0.0
BSO3	**Boso 3**	**1.77**	**269**	P	Pb	04 39 59.8	-0.5
BSO3				*e*S	Sn	04 40 20.7	+1.0
JFT	**Otama**	**3.27**	**326**	P	Pn	04 40 21.0	+2.2
JFT				*e*S	Sn	04 40 56.9	-0.2

*IDC **21** 04:39:58.6±0.8, 6°77S × 132°37E, h0 km, mb4.3/6, mb1 4.6/12, mb1mx4.3/35, mbtmp4.5/12, ML5.1/4, MS3.1/4, Ms1 3.1/4, ms1mx2.8/29, Error ellipse: s-maj=31.0km s-min=16.5km az=69.0*
*ISCJB **21** 04:40:01.4±0.2, 6°85S±0°03 × 132°45E±0°04, h33 km, mb4.6/31, MS3.7/3, Error ellipse: s-maj=5.8km s-min=3.4km az=162.8*
*NEIC **21** 04:40:04.8±1.1, 6°83S × 132°47E, h51km±11km, mb4.6/15, Error ellipse: s-maj=12.7km s-min=6.8km az=68.0*
*DJA **21** 04:40:06.2±0.3, 7°S±3' × 13°2E±', h92km±21km, M5.1/7, mb5.2/7, mB5.5/6, MLv5.1/7, Mw(mB)5.0/6*

ISC 21 04:40:03.1±0.4, 6.79S±0°04 × 132°46E±0°05, h35 km, n105, σ 2.9 67/122, mb4.6/31, MS3.9/3, Tanimbar Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SAUI	**Saumlaki**	**1.65**	**224**	P	Pn	04 40 34.8	+5.2
SAUI				S	**Sn**	**04 40 52.6**	**+3.0**
SAUI	**Saumlaki**	**1.65**	**224**	*e*Pn	**Pn**	**04 40 34.3**	**+4.7**
SAUI				*e*Sn	**Sn**	**04 40 50.9**	**+1.3**
BNDI	**Bandanaira**	**3.40**	**311**	P	**Sn**	**04 41 33.9**	**+1.1**
BNDI				S	**Sn**	**04 41 32.9**	**+0.1**
FAKI	**Fak Fak**	**3.85**	**357**	P	**Pn**	**04 41 01.5**	**+1.5**
FAKI				S	**Sn**	**04 41 41.0**	**-3.1**
FAKI	**Fak Fak**	**3.85**	**357**	*e*Pn	**Pn**	**04 41 01.2**	**+1.3**
FAKI				*e*Sn	**Sn**	**04 41 35.9**	**-8.2**
MSAI	**Masohi**	**4.91**	**314**	P	**Pn**	**04 41 15.8**	**+1.3**
MSAI				S	**Sn**	**04 42 06.5**	**-3.6**
AAI	**Ambon**	**5.25**	**306**	P	**Pn**	**04 41 21.0**	**+1.9**
KDU	**Kakadu**	**5.86**	**180**	P	**Pn**	**04 41 31.1**	**+3.6**
	baz=5.9,SNR=229						
SIJI	**Sorong**	**6.00**	**349**	Pn	**Pn**	**04 41 29.6**	**0.0**
	14nm,0.3s,baz=357,slow=11,SNR=2.5						
SIJI				Sn	**Sn**	**04 42 30.1**	**-7.1**
	19nm,0.3s,baz=271,slow=24,SNR=11						
MTN	**Manton Dam**	**6.15**	**192**	P	**Pn**	**04 41 34.9**	**+3.3**
	baz=6.2,SNR=639						
MTN	**Manton Dam**	**6.15**	**192**	*e*Pn	**Pn**	**04 41 34.8**	**+3.2**
MTN				*e*Sn	**Sn**	**04 42 42.6**	**+1.9**
NLAI	**Namlea**	**6.40**	**303**	P	**Pn**	**04 41 39.2**	**+4.2**
SMPI	**Sarmi**	**7.85**	**53**	P	**Pn**	**04 41 57.7**	**+2.8**
SMPI				S	**Sn**	**04 43 18.9**	**-3.7**
LBMI	**Labuha**	**7.86**	**321**	P	**Pn**	**04 41 56.3**	**+1.2**
LBMI				S	**Sn**	**04 43 15.3**	**-7.6**
SOEI	**Soe**	**8.62**	**249**	P	**Pn**	**04 42 08.6**	**+3.0**
SOEI				S	**Sn**	**04 43 39.8**	**-2.0**
SOEI	**Soe**	**8.62**	**249**	*e*Pn	**Pn**	**04 42 07.2**	**+1.6**
SOEI				*e*Sn	**Sn**	**04 43 37.5**	**-4.3**
GENI	**Genyem**	**8.74**	**62**	P	**Pn**	**04 42 10.3**	**+3.1**
JAY	**Jayapura**	**9.25**	**63**	Pn	**Pn**	**04 42 15.3**	**+1.1**
	0.2nm,0.3s,baz=270,slow=23,SNR=8.9						
JAY	**Jayapura**	**9.25**	**63**	P	**Pn**	**04 42 17.5**	**+3.3**
KNRA	**Kununurra**	**9.54**	**202**	P	**Pn**	**04 42 18.8**	**+0.6**
	baz=9.6,SNR=148						
COEN	**Coen**	**12.72**	**125**	P	**Pn**	**04 43 01.0**	**-0.6**
	baz=13,SNR=53						
COEN	**Coen**	**12.72**	**125**	*e*Pn	**Pn**	**04 43 02.8**	**+1.2**
COEN				*e*Sn	Sn	04 45 08.4	-14
MRSI	**Marisa**	**12.74**	**304**	P	**Pn**	**04 43 02.8**	**+0.9**
FITZ	**Fitzroy Crossi**	**13.06**	**210**	Pn	**Pn**	**04 43 05.2**	**-1.1**
	14nm,0.3s,baz=31,slow=11,SNR=247						
FITZ				Sn	Sn	04 45 21.0	-9.4
	16nm,0.3s,baz=176,slow=7.3,SNR=8.5						
FITZ				LR	LR	04 48 59.0	
	comp=Z,54nm,21.8s,baz=41,slow=42						
FITZ	**Fitzroy Crossi**	**13.06**	**210**	P	**Pn**	**04 43 05.2**	**-1.1**
	baz=13,SNR=362						
FITZ	**Fitzroy Crossi**	**13.06**	**210**	*e*Pn	**Pn**	**04 43 05.2**	**-1.1**
FITZ				*e*Sn	**Sn**	**04 45 22.8**	**-7.6**
WRAB	**Tennant Creek**	**13.19**	**172**	*e*Pn	**Pn**	**04 43 07.5**	**-0.6**
WRAB				*e*Sn	Sn	04 45 23.2	-10
WR1	**Warramunga Arr**	**13.20**	**172**	*e*Pn	**Pn**	**04 43 06.9**	**-1.3**
WR1				*e*Sn	**Sn**	**04 45 27.3**	**-6.5**
WRA	**Warramunga Arr**	**13.20**	**172**	Pn	**Pn**	**04 43 06.9**	**-1.3**
	10nm,0.3s,baz=351,slow=13,SNR=40						
WRA				Sn	**Sn**	**04 45 27.3**	**-6.5**
	13nm,0.3s,baz=1.8,slow=22,SNR=11						
WB2	**Warramunga Arr**	**13.20**	**172**	*e*Pn	**Pn**	**04 43 07.2**	**-1.0**
WB2				*e*Sn	**Sn**	**04 45 26.5**	**-7.4**
PMG	**Port Moresby**	**14.78**	**101**	LR	LR	04 49 45.1	
	comp=Z,88nm,20.9s,baz=293,slow=40						
QIS	**Mount Isa**	**15.34**	**154**	P	**Pn**	**04 43 35.1**	**-2.0**
	baz=15,SNR=23						
MTSU	**Mount Surprise**	**16.15**	**135**	P	**Pn**	**04 43 48.3**	**+0.7**
	baz=16,SNR=25						
AS31	**Alice Springs**	**16.83**	**175**	*e*Pn	**Pn**	**04 43 55.9**	**-0.4**
	16nm,0.3s						
AS31				*e*Sn	**Sn**	**04 46 55.9**	**-6.5**
ASAR	**Alice Springs**	**16.84**	**175**	Pn	**Pn**	**04 43 55.8**	**-0.5**
	6.6nm,0.3s,baz=16,slow=13,SNR=87						
ASAR				Sn	**Sn**	**04 46 55.9**	**-6.5**
	3.9nm,0.3s,baz=360,slow=28,SNR=11						
ASAR				LR	LR	04 50 05.4	
	comp=Z,89nm,18.8s,baz=351,slow=36						
AS01	**Alice Springs**	**16.84**	**175**	*e*Pn	**Pn**	**04 43 55.6**	**-0.7**
WRKA	**Warakurna**	**18.57**	**192**	P	**P**	**04 44 16.2**	**-1.1**
	baz=19,SNR=114						
CTA	**Charters Tower**	**18.81**	**136**	P	**Pn**	**04 44 21.6**	**+1.0**
	0.2nm,0.3s,baz=306,slow=14,SNR=2.8						
CTAO	**Charters Tower**	**18.81**	**136**	*e*P	**P**	**04 44 20.4**	**+0.5**
	11nm,0.9s						
MBWA	**Marble Bar**	**18.86**	**220**	*e*P	**P**	**04 44 20.6**	**+0.3**
	115nm,2.0s						
KKM	**Kota Kinabalu**	**20.62**	**308**	*e*P	**P**	**04 44 39.7**	**-0.1**
	25nm,0.7s						
SBUM	**Sibu**	**22.19**	**294**	*e*P	**P**	**04 44 55.9**	**-0.7**
	9.3nm,0.9s						
QLP	**Quilpie**	**22.65**	**152**	P	**P**	**04 45 04.6**	**+3.2**
	baz=23,SNR=4.1						
FORT	**Forrest**	**24.22**	**189**	P	**P**	**04 45 18.6**	**+2.0**
	baz=24,SNR=25						
FORT	**Forrest**	**24.22**	**189**	*e*P	**P**	**04 45 17.8**	**+1.1**
	561nm,0.6s						
CISI	**Cisompet, Garu**	**24.46**	**267**	*e*P	**P**	**04 45 17.6**	**-1.5**
	198nm,1.6s						
BBOO	**Buckleboo**	**26.10**	**173**	*e*P	**P**	**04 45 33.1**	**-0.7**
	15nm,0.6s						
STKA	**Stephens Creek**	**26.38**	**162**	P	**P**	**04 45 37.7**	**+1.4**
	2.6nm,0.5s,baz=329,slow=8.2,SNR=6.8						
STKA	**Stephens Creek**	**26.38**	**162**	P	**P**	**04 45 38.5**	**+2.3**
	baz=26,SNR=4.1						
STKA	**Stephens Creek**	**26.38**	**162**	*e*P	**P**	**04 45 33.9**	**-2.3**
	2.9nm,1.1s						
HNR	**Honiara**	**27.34**	**97**	LR	LR	04 56 02.2	
	comp=Z,44nm,20.8s,baz=338,slow=35						
BLDU	**Ballidu**	**27.93**	**210**	P	**P**	**04 45 52.1**	**+1.9**
	baz=28,SNR=12						
KULM	**Kulim**	**33.94**	**290**	*e*P	**P**	**04 46 43.2**	**-0.2**
	13nm,0.7s						
CHAI	**Chaiyaphum**	**37.67**	**307**	P	**P**	**04 47 16.2**	**+0.9**
	7.7nm,0.8s						
UTHA	**Uthaitani**	**39.53**	**304**	P	**P**	**04 47 31.8**	**+0.8**
	7.2nm,0.9s						
UTTA	**Uttaradit**	**39.84**	**308**	P	**P**	**04 47 35.4**	**+1.9**
	2.9nm,1.0s						
NFK	**Norfolk Island**	**40.11**	**128**	P	**P**	**04 47 31.9**	**-3.8**
	baz=40,SNR=3.9						
UMPA	**Umpang Tak**	**40.35**	**305**	P	**P**	**04 47 38.7**	**+0.9**
	5.3nm,1.2s						
SUKH	**Sukhothai**	**40.42**	**307**	P	**P**	**04 47 40.7**	**+2.4**
	4.8nm,0.8s						
NJ2	**Nanjing**	**40.75**	**342**	*e*P	**P**	**04 47 41.6**	**+0.8**
NJ2				pmax	pmax		
	comp=Z,15nm,0.5s						
LAMP	**Lampang**	**41.00**	**308**	P	**P**	**04 47 47.6**	**+4.5**
	comp=Z,7.0nm,0.5s,comp=Z,330nm						
GYA	**Guiyang**	**41.46**	**324**	*e*P	**P**	**04 47 50.0**	**+3.1**
GYA				pmax	pmax		
	comp=Z,10.0nm,1.0s						
CM01	**Chiang Mai Arr**	**41.47**	**308**	*e*P	**P**	**04 47 47.3**	**+0.3**
CM31	**Chiang Mai Arr**	**41.50**	**308**	*e*P	**P**	**04 47 47.1**	**-0.1**
CMAR	**Chiang Mai Arr**	**41.50**	**308**	P	**P**	**04 47 47.1**	**-0.1**
	comp=Z,2.0nm,0.5s,baz=143,slow=7.8,SNR=13						
CHTO	**Chiang Mai**	**41.70**	**308**	*e*P	**P**	**04 47 48.3**	**-0.6**
	comp=Z,7.1nm,0.9s						
KMI	**Kunming**	**42.93**	**319**	P	**P**	**04 47 59.6**	**+0.5**
KMI				sP	sP	04 48 20.3	+6.7
KMI				pmax	pmax		
	comp=Z,7.0nm,0.9s						
BJI	**Beijing**	**48.97**	**343**	P	**P**	**04 48 46.3**	**+0.2**
BJI				pmax	pmax		
	comp=Z,8.0nm,0.7s						
LZH	**Lanzhou**	**50.41**	**330**	*e*P	**P**	**04 48 58.8**	**+1.3**
LZH				pP	sP	04 49 11.4	-0.7
LZH				sP	pP	04 49 17.0	+9.1
LZH				pmax	pmax		
	comp=Z,62nm,1.7s						
LZH				pmax	pmax		
	comp=Z,230nm,4.6s						
SHL	**Shillong**	**50.89**	**311**	*ex*	**P**	**04 49 00.0**	**-1.2**
HHC	**Hu-ho-hao-te**	**51.15**	**340**	*e*P	**P**	**04 49 06.3**	**+3.4**
HHC				pmax	pmax		
	comp=Z,13nm,0.7s						
HHC				pmax	pmax		
	comp=Z,130nm,6.9s						
ODAN	**Odare**	**54.99**	**309**	*e*P	**P**	**04 49 31.8**	**+0.2**
	comp=Z,34nm,0.7s						
TAPN	**Taplejung**	**55.00**	**310**	*e*P	**P**	**04 49 32.1**	**+0.4**
	comp=Z,50nm,0.4s						
GTA	**Gaotai**	**55.00**	**329**	*e*P	**P**	**04 49 32.3**	**+1.0**
GTA				pP	sP	04 49 44.5	-1.5
GTA				sP	pP	04 49 50.4	+8.5
GTA				pmax	pmax		
	comp=Z,10.0nm,0.8s						
RAMN	**Ramite**	**55.64**	**309**	*e*P	**P**	**04 49 36.9**	**+0.6**
	comp=Z,129nm,0.5s						
JIRN	**Jiri**	**56.31**	**310**	*e*P	**P**	**04 49 41.6**	**+0.4**
	comp=Z,20nm,0.3s						
GUN	**Gumba**	**56.68**	**310**	*e*P	**P**	**04 49 44.2**	**+0.4**
	comp=Z,73nm,0.5s						
PKI	**Pulchoki**	**56.87**	**309**	*e*P	**P**	**04 49 45.1**	**0.0**
	comp=Z,17nm,0.5s						
PKIN	**Phulchoki**	**56.88**	**309**	*e*P	**P**	**04 49 45.0**	**-0.2**
	comp=Z,7.3nm,0.3s						
KKN	**Kakani**	**57.08**	**309**	*e*P	**P**	**04 49 46.8**	**+0.3**
DMN	**Daman**	**57.12**	**309**	*e*P	**P**	**04 49 47.3**	**+0.5**
	comp=Z,21nm,0.4s						
GKN	**Gorkha**	**57.67**	**309**	*e*P	**P**	**04 49 51.0**	**+0.4**
	comp=Z,59nm,0.4s						
KOLN	**Koldanda**	**58.37**	**308**	*e*P	**P**	**04 49 56.1**	**+0.6**
	comp=Z,23nm,0.3s						
ULN	**Ulaanbaatar**	**58.86**	**340**	*e*P	**P**	**04 49 58.8**	**+0.3**
	comp=Z,5.5nm,0.9s						
PYUN	**Piuthan**	**59.00**	**308**	*e*P	**P**	**04 50 00.6**	**+0.7**
SONA0	**Songino Array**	**59.05**	**340**	*e*P	**P**	**04 50 00.9**	**+1.1**
	comp=Z,4.1nm,1.1s						
SONM	**Songino Array**	**59.05**	**340**	P	**P**	**04 50 00.9**	**+1.1**
	comp=Z,1.9nm,0.8s,baz=148,slow=8.6,SNR=6.9						
SONA1	**Songino Array**	**59.06**	**340**	*e*P	**P**	**04 50 00.7**	**+0.8**
WMQ	**Urumqi**	**64.58**	**326**	P	**P**	**04 50 38.4**	**+1.4**
WMQ				pmax	pmax		
	comp=Z,19nm,1.3s						
WMQ				pmax	pmax		
	comp=Z,97nm,4.5s						
WMQ				LR	LR		
	comp=N,62nm,17.1s						
WMQ				LR	LR		
	comp=Z,42nm,17.1s						
MK01	**Makanchi Array**	**69.39**	**326**	*e*P	**P**	**04 51 08.2**	**+0.7**
MK31	**Makanchi Array**	**69.41**	**326**	*e*P	**P**	**04 51 08.6**	**+1.0**
MK32	**Makanchi Array**	**69.41**	**326**	*e*P	**P**	**04 51 08.6**	**+0.9**
MKAR	**Makanchi Array**	**69.41**	**326**	P	**P**	**04 51 08.6**	**+1.0**
	comp=Z,4.8nm,0.5s,baz=118,slow=8.2,SNR=41						
MKAR	**Makanchi Array**	**69.41**	**326**	*e*P	**P**	**04 51 08.6**	**+1.0**
	comp=Z,40nm,0.8s						
KSH	**Kashi**	**69.53**	**316**	P	**P**	**04 51 10.8**	**+2.1**
KSH				pP	sP	04 51 23.6	0.0
KSH				PP	**PP**	**04 53 46.8**	**+4.0**
KSH				S	**S**	**05 00 12.0**	**-2.3**
KSH				sS	sS	05 00 34.1	+1.9
KSH				ScS	**SKSac**	**05 01 02.1**	**-4.7**
KSH	**Kashi**	**69.53**	**316**	SS	SS	05 04 43.3	+0.6
KSH				pmax	pmax		
	comp=Z,8.0nm,0.8s						
KSH				pmax	pmax		
	comp=Z,120nm,5.2s						
KSH				LR	LR		
	comp=N,100nm,8.1s						
KSH				LR	LR		
	comp=E,90nm,9.6s						
KSH				LR	LR		
	comp=Z,110nm,10.0s						
AAK	**Ala-Archa**	**71.98**	**319**	*e*P	**P**	**04 51 25.6**	**+2.0**
	comp=Z,4.1nm,0.7s						
ZAA0	**Zalesovo Array**	**72.50**	**333**	*e*P	**P**	**04 51 26.2**	**+0.1**
ZALV	**Zalesovo Beam**	**72.50**	**333**	P	**P**	**04 51 26.1**	**0.0**
	comp=Z,54nm,0.5s,baz=123,slow=4.7,SNR=14						
ZAA1	**Zalesovo Array**	**72.50**	**333**	*e*P	**P**	**04 51 26.1**	**0.0**
KURK	**Kurchatov**	**73.63**	**328**	*e*P	**P**	**04 51 33.4**	**+0.5**
	comp=Z,7.8nm,1.0s						
ILAR	**Eielson Array**	**92.12**	**25**	P	**P**	**04 53 07.7**	**-0.9**
	comp=Z,0.3nm,0.8s,baz=284,slow=3.6,SNR=2.6						
ILB	**Eielson Array**	**92.12**	**25**	*e*P	**P**	**04 53 07.7**	**-0.9**
TORD	**Torodi Ar. Bea**	**131.16**	**281**	PKP	**PKPdf**	**04 59 13.3**	**+0.8**
	comp=Z,0.5nm,0.6s,baz=58,slow=1.8,SNR=3.6						
TOA1	**Torodi Ar. Sit**	**131.16**	**281**	*e*PKPdf	**PKPdf**	**04 59 13.3**	**+0.8**

*CSEM **21** 04:49:56.9±0.9, 36°39N × 34°51E, h10 km, ML2.4, Error ellipse: s-maj=19.9km s-min=4.8km az=130.0*
*ISCJB **21** 04:49:57.9±1.3, 36°40N±0°06 × 34°41E±0°08, h12km±7km, Error ellipse: s-maj=14.5km s-min=5.7km az=42.5*
*ISK **21** 04:49:58.1, 36°42N × 34°40E, h7 km, MD2.7*
*DDA **21** 04:49:59.2, 36°53N × 34°35E, h7 km, Ml2.4*

ISC 21 04:49:56.7±2.0, 36°41N±0°07 × 34°51E±0°07, h4 km±14 km, n24, σ 0.9 62/36, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KIZK	**Mersin**	**0.30**	**284**	*e*PG	**Pg**	**04 50 03.0**	**+0.4**
KIZK				*e*SG	**Sg**	**04 50 06.0**	**-0.5**
KIZK	**Mersin**	**0.30**	**284**	*i* P	**Pg**	**04 50 03.0**	**+0.4**
KIZK				*i* S	**Sg**	**04 50 06.1**	**-0.5**
MERS	**Mersin**	**0.46**	**1**	*e*PG	**Pg**	**04 50 07.0**	**+1.4**
MERS				*e*SG	**Sb**	**04 50 14.8**	**+0.2**
MERS	**Mersin**	**0.46**	**1**	*e*Pg	**Pg**	**04 50 07.0**	**+1.4**
MERS				*e*Sg	**Sb**	**04 50 14.8**	**+0.2**
DED	**Mersin**	**0.60**	**23**	*i* P	**Pn**	**04 50 11.6**	**-0.5**
DED				*i* S	**Sb**	**04 50 18.8**	**+0.2**
KEBE	**Keben-Mersin**	**0.64**	**274**	*e*PG	**Pb**	**04 50 10.0**	**-0.5**
KEBE	**Keben-Mersin**	**0.64**	**274**	*e*Pg	**Pb**	**04 50 10.0**	**-0.5**
IKL	**Isikli**	**0.69**	**256**	*e*PG	**Pg**	**04 50 10.0**	**+0.1**
IKL				*e*SG	**Sg**	**04 50 18.9**	**+0.1**
IKL	**Isikli**	**0.69**	**256**	*e*Pg	**Pg**	**04 50 10.0**	**+0.1**
IKL				*e*Sg	**Sg**	**04 50 18.9**	**+0.1**
AKKU	**Akkuyu-Mersin**	**0.81**	**252**	*e*PG	**Pg**	**04 50 12.6**	**+0.3**
AKKU	**Akkuyu-Mersin**	**0.81**	**252**	*e*Pg	**Pg**	**04 50 12.6**	**+0.3**
TEVE	**Tevekalti-Mers**	**0.86**	**272**	*e*PG	**Pb**	**04 50 13.9**	**-0.3**
TEVE	**Tevekalti-Mers**	**0.86**	**272**	*e*Pg	**Pb**	**04 50 14.0**	**-0.3**
GULE	**Gulek**	**0.90**	**14**	*i* P	**Pg**	**04 50 13.7**	**-0.3**
GULE				*i* S	**Sb**	**04 50 28.6**	**+1.2**
GULE	**Gulek**	**0.90**	**14**	P	**Pg**	**04 50 13.7**	**-0.3**
GULE				S	**Sb**	**04 50 28.6**	**+1.2**
BERE	**Bereket-Mersin**	**1.04**	**267**	*e*PG	**Pb**	**04 50 17.1**	**-0.3**
BERE	**Bereket-Mersin**	**1.04**	**267**	*e*Pg	**Pb**	**04 50 17.1**	**-0.3**
KERG	**Konya-Eregli**	**1.05**	**343**	*i* P	**Pg**	**04 50 16.5**	**-0.4**
KERG				*i* S	**Sg**	**04 50 29.8**	**-0.7**
KERG	**Konya-Eregli**	**1.05**	**343**	P	**Pg**	**04 50 16.5**	**-0.4**
KERG				S	**Sg**	**04 50 29.8**	**-0.7**
TEKE	**Tekeli-Mersin**	**1.16**	**257**	*e*PG	**Pb**	**04 50 18.6**	**-0.7**
TEKE	**Tekeli-Mersin**	**1.16**	**257**	*e*Pg	**Pb**	**04 50 18.6**	**-0.7**
HDMB	**Hadim**	**1.72**	**289**	*e*PN	**Pn**	**04 50 28.0**	**+0.4**
HDMB	**Hadim**	**1.72**	**289**	*e*Pn	**Pn**	**04 50 28.0**	**+0.4**

IDC 21 04:52:10.7±1.7, 2°44S × 128°29E, h0 km, mb3.5/3, mb1 3.6/4, mb1mx3.5/40, mbtmp3.5/4, ML3.7/1, Error ellipse: s-maj=139.0km s-min=23.3km az=68.0, Ceram Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**18.37**	**162**	P	Pn	04 56 26.0	-1.1
	0.2nm,0.3s,baz=340,slow=11,SNR=12						
ASAR	**Alice Springs**	**21.79**	**166**	P	P	04 57 04.5	0.0
	0.4nm,0.4s,baz=350,slow=13,SNR=6.1						
MKAR	**Makanchi Array**	**63.50**	**326**	P	P	05 02 43.1	+0.3
	0.3nm,0.5s,baz=126,slow=7.3,SNR=2.8						
KURBB	**Kurchatov Arra**	**67.76**	**328**	P	P	05 03 10.1	-0.1
	0.7nm,0.8s,baz=128,slow=5.9,SNR=4.8						

MAN 21 05:15:08, 13°77N × 120°71E, h23 km, mb4.2, ML3.0, MS2.8, 1C, Mindoro

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PGP	**Puerto Galera**	**0.36**	**138**	*e*P	Pn	05 15 17.5	-0.4
PGP				*i* S	Sb	05 15 22.6	+1.5
LUBP	**Lubang**	**0.45**	**265**	*e*P	Pn	05 15 18.7	-0.3
LUBP				*e*S	Sb	05 15 24.4	+0.7
SJMP	**San Jose**	**1.36**	**163**	*e*P	Pb	05 15 32.4	-0.5
SJMP				*e*S	Sb	05 15 50.0	+0.1

*ISCJB **21** 05:15:59.0±0.6, 37°01N±0°04 × 28°32E±0°03, h0 km, Error ellipse: s-maj=6.2km s-min=3.1km az=22.8*
*ISK **21** 05:15:58.3, 36°99N × 28°29E, h5 km, MD2.5*
*CSEM **21** 05:15:59.0±0.2, 37°02N × 28°30E, h2 km, MD2.5, Error ellipse: s-maj=6.7km s-min=4.0km az=22.0*
*DDA **21** 05:15:59.1, 36°98N × 28°30E, h7 km, Md2.5, Suspected Mining explosion.*

ISC 21 05:15:59.4±0.9, 37°01N±0°04 × 28°30E±0°02, h0 km, n22, σ 0.9 95/36, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TURN	**Turunc**	**0.28**	**120**	*i* P	**Pg**	**05 16 03.0**	**-1.8**
TURN				*i* S	**Sg**	**05 16 06.6**	**-1.8**
TURN	**Turunc**	**0.28**	**120**	P	**Pg**	**05 16 03.0**	**-1.8**
TURN				S	**Sg**	**05 16 06.6**	**-1.8**
MRSB	**Marmaris-Mugla**	**0.31**	**196**	*e*PG	**Pg**	**05 16 04.4**	**-0.9**
MRSB				*e*SG	**Sg**	**05 16 08.9**	**-0.4**
MRSB	**Marmaris-Mugla**	**0.31**	**196**	*e*Pg	**Pg**	**05 16 04.4**	**-0.9**
MRSB				*e*Sg	**Sg**	**05 16 08.9**	**-0.4**
DALY	**Dalyan (Mu¨la**	**0.34**	**124**	*e*PG	**Pg**	**05 16 05.5**	**-0.5**
DALY				*e*SG	**Sg**	**05 16 10.8**	**+0.3**
DALY	**Dalyan (Mu¨la**	**0.34**	**124**	*i* P	**Pg**	**05 16 05.7**	**-0.3**
DALY				*i* S	**Sg**	**05 16 11.0**	**+0.5**
DALY	**Dalyan (Mu¨la**	**0.34**	**124**	P	**Pg**	**05 16 05.7**	**-0.3**
DALY				*e*Sg	**Sg**	**05 16 10.8**	**+0.3**
DAT	**Datca**	**0.65**	**244**	*e*PG	**Pg**	**05 16 11.0**	**-0.8**
DAT				*e*SG	**Sg**	**05 16 20.2**	**+0.1**
DAT	**Datca**	**0.65**	**244**	*i* P	**Pg**	**05 16 11.2**	**-0.6**
DAT				*i* S	**Sg**	**05 16 20.9**	**+0.8**
DAT	**Datca**	**0.65**	**244**	P	**Pg**	**05 16 11.2**	**-0.6**
DAT				*e*Sg	**Sg**	**05 16 20.2**	**+0.1**
BDRM	**Kayabasi**	**

ASAR	**Alice Springs**	**17.41**	**164**	P		Pn	05 27 10.2	+0.3
	0.1nm,0.3s,baz=340,slow=9.6,SNR=5.6							
MKAR	**Makanchi Array**	**67.45**	**327**	P		P	05 34 03.1	0.0
	0.1nm,0.3s,baz=122,slow=7.9,SNR=4.3							

*NSSP **21** 05:35:45.8, 38.55N×44.33E, h7km, Ms3.0*
*CSEM **21** 05:35:46.3±0.3, 38.58N×44.21E, h2km, ML2.7, Error ellipse: s-maj=5.8km s-min=5.2km az=61.0*
*ISK **21** 05:35:46.5, 38.62N×44.11E, h5km, ML2.7*
*DDA **21** 05:35:46.2, 38.60N×44.21E, h7km, Md2.7*
*TEH **21** 05:35:47.6, 38.61N×44.24E, h5km, ML2.8*

ISC 21 05:35:46.5±1.2, 38.59N±0.02×44.19E±0.02, h2km±10km, n33, σ0.99/57, 3C, Turkey-Iran border region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
							h m s	
BASK	**Baskale_VAN**	**0.55**	**195**	*i* P		**Pg**	**05 35 56.6**	**-0.5**
BASK				*i* S		**Sb**	**05 36 07.0**	**-0.5**
BASK	**Baskale_VAN**	**0.55**	**195**	P		**Pg**	**05 35 56.6**	**-0.5**
BASK				S		**Sb**	**05 36 07.0**	**-0.5**
CLDR	**Caldiran**	**0.59**	**339**	*e*PG		**Pg**	**05 35 57.9**	**0.0**
CLDR				*e*SG		**Sg**	**05 36 06.5**	**+0.8**
CLDR	**Caldiran**	**0.59**	**339**	*i* P		**Pg**	**05 35 57.9**	**0.0**
CLDR				*i* S		**Sb**	**05 36 07.1**	**-1.5**
CLDR	**Caldiran**	**0.59**	**339**	P		**Pg**	**05 35 57.9**	**0.0**
CLDR				S		**Sb**	**05 36 07.1**	**-1.5**
VANB	**Van**	**0.62**	**271**	*e*PG		**Pg**	**05 35 58.4**	**-0.1**
VANB				*e*SG		**Sg**	**05 36 07.2**	**+0.6**
VANB	**Van**	**0.62**	**271**	*e*Pg		**Pg**	**05 35 58.4**	**-0.1**
VANB				*e*Sg		**Sg**	**05 36 07.2**	**+0.6**
VMUR	**Van-Muradiye**	**0.62**	**310**	*i* P		**Pb**	**05 35 59.8**	**-0.5**
VMUR				*i* S		**Sb**	**05 36 10.3**	**+0.8**
VMUR	**Van-Muradiye**	**0.62**	**310**	P		**Pb**	**05 35 59.8**	**-0.5**
VMUR				S		**Sb**	**05 36 10.3**	**+0.8**
GEVA	**Gevas**	**0.93**	**253**	*i* P		**Pg**	**05 36 03.1**	**-1.2**
GEVA				*i* S		**Sb**	**05 36 18.7**	**+0.5**
GEVA	**Gevas**	**0.93**	**253**	P		**Pg**	**05 36 03.1**	**-1.2**
GEVA				S		**Sb**	**05 36 18.7**	**+0.5**
DYDN	**Diyadin**	**1.03**	**338**	*i* P		**Pb**	**05 36 07.0**	**-0.2**
DYDN				*i* S		**Sg**	**05 36 20.0**	**+0.4**
DYDN	**Diyadin**	**1.03**	**338**	P		**Pb**	**05 36 07.0**	**-0.2**
DYDN				S		**Sg**	**05 36 20.0**	**+0.4**
HAKT	**HAKKARI**	**1.09**	**200**	*i* P		**Pg**	**05 36 05.7**	**-1.8**
HAKT				*i* S		**Sn**	**05 36 25.2**	**+0.3**
HAKT	**HAKKARI**	**1.09**	**200**	P		**Pg**	**05 36 05.7**	**-1.8**
HAKT				S		**Sn**	**05 36 25.2**	**+0.3**
ISHB	**Shabestar**	**1.17**	**105**	*e*AMB		AMB	05 36 29.1	
	comp=Z,3μm,0.2s							
ISHB				*e*Pg		**Pg**	**05 36 07.8**	**-1.1**
IMRD	**Marand**	**1.20**	**84**	*e*AMB		AMB	05 36 12.8	
	comp=Z,6μm,0.1s							
IMRD				*e*Pg		**Pg**	**05 36 07.8**	**-1.6**
TUTA	**Tutak**	**1.34**	**308**	*i* P		**Pn**	**05 36 10.9**	**-1.6**
TUTA	**Tutak**	**1.34**	**308**	P		**Pn**	**05 36 10.9**	**-1.6**
AGRB	**Hanur-Agry**	**1.35**	**317**	*e*PN		**Pn**	**05 36 12.3**	**-0.3**
AGRB				*e*SN		**Sn**	**05 36 30.7**	**-0.5**
AGRB	**Hanur-Agry**	**1.35**	**317**	*e*Pn		**Pn**	**05 36 12.3**	**-0.3**
AGRB				*e*Sn		**Sn**	**05 36 30.7**	**-0.5**
CUKT	**Cukurca**	**1.41**	**199**	*e*PN		**Pg**	**05 36 14.3**	**+0.8**
CUKT				*e*SN		**Sn**	**05 36 34.9**	**+2.3**
CUKT	**Cukurca**	**1.41**	**199**	*i* P		**Pn**	**05 36 13.5**	**-0.2**
CUKT				*i* S		**Sn**	**05 36 34.2**	**+1.6**
CUKT	**Cukurca**	**1.41**	**199**	P		**Pb**	**05 36 13.5**	**-0.2**
CUKT	**Cukurca**	**1.41**	**199**	*e*Pn		**Pg**	**05 36 14.4**	**+0.8**
CUKT				S		**Sn**	**05 36 34.2**	**+1.6**
ITBZ	**Tabriz**	**1.58**	**102**	*e*Pn		**Pb**	**05 36 15.9**	**-0.7**
ITBZ				*e*Sg		**Sn**	**05 36 36.4**	**-0.4**
ITBZ				*e*AMB		AMB	05 36 39.1	
	comp=E,1μm,0.2s							
ITBZ	**Tabriz**	**1.58**	**102**	*e*Pn		**Pb**	**05 36 15.9**	**-0.7**
ITBZ				*e*Sg		**Sn**	**05 36 36.4**	**-0.4**
GNI	**Garni**	**1.62**	**15**	⇑*i* P		**Pg**	**05 36 17.8**	**+0.3**
GNI				⇑*i* S		**Sg**	**05 36 40.6**	**+2.1**
GNI	**Garni**	**1.62**	**15**	⇑P		**Pg**	**05 36 17.8**	**+0.3**
GNI				S		**Sg**	**05 36 40.6**	**+2.1**
IHRS	**Heris**	**2.26**	**96**	*e*Pn		**Pn**	**05 36 25.8**	**+0.7**
IHRS				*e*AMB		AMB	05 36 30.0	
	comp=Z,498nm,0.2s							
IHRS	**Heris**	**2.26**	**96**	*e*Pn		**Pn**	**05 36 25.8**	**+0.7**
IBST	**Bostanabad**	**2.31**	**112**	*e*Sg		**Sb**	**05 36 58.4**	**+0.3**
IBST				*e*AMB		AMB	05 37 00.8	
	comp=Z,269nm,0.3s							
IBST	**Bostanabad**	**2.31**	**112**	*e*Sg		**Sb**	**05 36 58.4**	**+0.3**

GUC 21 05:55:37.0±0.4, 23.77S×67.37W, h210km, ML3.8, 6C, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
							h m s	
PB06	**IPOC Station P**	**2.28**	**297**	⇑*i* P		Pn	05 56 21.0	+1.6
PB06				*i* S		S	05 56 54.4	+2.4
PB06				IAML			05 56 57.5	
	comp=E,152nm,0.1s							
PB09	**IPOC Station P**	**2.61**	**318**	⇑*i* P		Pn	05 56 24.3	+1.3
PB09				*i* S		S	05 57 01.1	+2.6
PB09				IAML			05 57 03.5	
	comp=E,176nm,0.6s							
ANCH	**Antofagasta**	**2.79**	**271**	*e*P		Pn	05 56 27.6	+2.9
ANCH				*i* S		S	05 57 05.0	+3.5
PB14	**IPOC Station P**	**2.90**	**252**	⇑*i* P		Pn	05 56 28.4	+2.1
PB14				*i* S		S	05 57 07.4	+3.0
PB14				IAML			05 57 09.3	
	comp=N,171nm,0.6s							
PB04	**IPOC Station P**	**2.93**	**299**	⇑*i* P		Pn	05 56 28.3	+1.8
PB04				*i* S		S	05 57 07.2	+2.4
PB04				IAML			05 57 10.2	
	comp=N,106nm,0.2s							
PB07	**IPOC Station P**	**3.08**	**311**	⇑*i* P		Pn	05 56 29.6	+1.2
PB07				*i* S		S	05 57 10.1	+2.0
PB07				IAML			05 57 11.2	
	comp=E,126nm,0.2s							
PB01	**IPOC Station P**	**3.34**	**324**	⇑*i* P		Pn	05 56 31.8	+0.4
PB01				*i* S		S	05 57 13.8	+0.3
PB01				IAML			05 57 16.2	
	comp=E,76nm,0.3s							
PB08	**IPOC Station P**	**3.97**	**335**	*e*P		Pn	05 56 39.8	+0.6
PB08				*i* S		S	05 57 27.7	0.0
PB08				IAML			05 57 30.8	
	comp=E,57nm,0.4s							
HMBC	**Humberstone**	**4.18**	**326**	*e*P		Pn	05 56 41.4	-0.2
HMBC				*i* S		S	05 57 30.9	-1.2
HMBC				IAML			05 57 32.0	
	comp=N,70nm,0.1s							

*ISCJB **21** 06:02:29.5±0.4, 32.35N±0.03×115.39W±0.03, h26km±4km, Error ellipse: s-maj=4.7km s-min=4.0km az=34.7*
*ECX **21** 06:02:30.6±0.6, 32.33N×115.41W, h4km, MD2.5, ML2.6*
*MEX **21** 06:02:30.8±0.7, 32.43N×115.27W, h16km±20km, MD3.7*

ISC 21 06:02:28.4±1.0, 32.37N±0.03×115.34W±0.03, h26km±8km, n29, σ0.72/43, 4C-3D, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
							h m s	
CPBX	**Cerro Prieto**	**0.06**	**29**	*e*P		**Pb**	**06 02 33.2**	**+0.2**
CPBX				IAML			06 02 43.2	
	comp=N,8μm,0.3s							
CPBX				*e*			06 02 43.2	
DREC	**Desert Rsrch C**	**0.45**	**348**	*e*P		**Pn**	**06 02 39.7**	**+0.6**
ERPC	**Ernies Place**	**0.47**	**324**	⇓*i* P		**Pn**	**06 02 39.3**	**-0.1**
EMSC	**East Mesa**	**0.47**	**39**	*e*P		**Pn**	**06 02 40.9**	**+1.4**
WESC	**Westside Schoo**	**0.51**	**319**	⇓*i* P		**Pn**	**06 02 39.8**	**-0.3**
YUH	**Yuha Desert**	**0.57**	**299**	⇑*i* P		**Pb**	**06 02 39.6**	**-0.2**
COK	**Cook Ranch**	**0.58**	**326**	⇓*i* P		**Pn**	**06 02 41.2**	**+0.3**
RMX	**La Rumorosa**	**0.67**	**291**	*e*P		**Pb**	**06 02 40.9**	**-0.8**
RMX				*e*S		**Sb**	**06 02 49.3**	**-1.3**
SWSC	**Sam W. Stewart**	**0.69**	**326**	P		**Pn**	**06 02 42.5**	**0.0**
	baz=156,SNR=22							
SWSC				S		**Sn**	**06 02 52.3**	**-0.2**
	baz=156							
IKP	**In-Ko-Pah, Jac**	**0.71**	**293**	P		**Pb**	**06 02 42.1**	**-0.1**
	baz=123,SNR=19							
IKP				S		**Sb**	**06 02 51.3**	**-0.4**
	baz=123							
IKP	**In-Ko-Pah, Jac**	**0.71**	**293**	⇑*i* P		**Pb**	**06 02 42.2**	**-0.1**
GLA	**Glamis**	**0.81**	**32**	P		**Pn**	**06 02 45.5**	**+1.4**
	baz=215,SNR=16							
GLA				S		**Sn**	**06 02 56.9**	**+1.7**
	baz=215							

ECBX	**El Chinero**	**0.93**	**165**	*e*P		**Pb**	**06 02 46.1**	**+0.2**
ECBX				*e*S		**Sn**	**06 02 58.3**	**+0.2**
MONP	**Monument Peak,**	**1.05**	**300**	P		**Pb**	**06 02 48.5**	**+0.3**
	baz=126,SNR=20							
MONP				S		**Sn**	**06 03 01.7**	**+0.1**
	baz=126							
CBX	**Cerro Bola**	**1.12**	**268**	*e*P		**Pb**	**06 02 49.4**	**+0.1**
CBX				*e*S		**Sn**	**06 03 03.7**	**+0.4**
CBX				IAML			06 03 06.0	
	comp=N,184nm,0.2s							
CBX				⇑*e*			06 03 06.0	
CBX	**Cerro Bola**	**1.12**	**268**	*e*P		**Pb**	**06 02 49.4**	**+0.1**
CBX				*e*S		**Sn**	**06 03 03.5**	**+0.2**
TJIG	**Tijuana**	**1.13**	**274**	*e*P		**Pb**	**06 02 49.3**	**-0.1**
TJIG	**Tijuana**	**1.13**	**274**	*e*P		**Pb**	**06 02 49.2**	**-0.1**
TJIG				*e*S		**Sn**	**06 03 02.7**	**-0.6**
ZAX	**El Zacaton**	**1.17**	**223**	*e*P		**Pb**	**06 02 49.9**	**-0.1**
BAR	**Barrett**	**1.17**	**286**	⇑*i* P		**Pb**	**06 02 50.2**	**+0.2**
ECNX	**Esteban Cantu**	**1.28**	**237**	*e*P		**Pb**	**06 02 52.0**	**0.0**
BC3	**Big Chuckawall**	**1.29**	**356**	P		**Pb**	**06 02 52.2**	**+0.2**
	baz=180,SNR=18							
BC3				S		**Sb**	**06 03 08.2**	**-0.1**
	baz=180							
SPIG	**San Pedro Mart**	**1.32**	**185**	*e*P		**Pb**	**06 02 52.6**	**-0.2**
SPIG	**San Pedro Mart**	**1.32**	**185**	*i* P		**Pb**	**06 02 53.0**	**+0.2**
SPIG				*e*S		**Sn**	**06 03 08.9**	**+0.5**
PBX	**Punta Banda**	**1.33**	**242**	*e*P		**Pb**	**06 02 52.5**	**-0.3**
TPFO	**Pinon Flats**	**1.55**	**323**	P		**Pb**	**06 02 55.5**	**-1.0**
	baz=147,SNR=11							
TPFO				S		**Sn**	**06 03 13.8**	**0.0**
	baz=147							
PFO	**Pinyon Flats O**	**1.56**	**323**	P		**Pb**	**06 02 55.7**	**-1.0**
	baz=147							
109C	**Camp Elliot, M**	**1.58**	**290**	Pb		**Pb**	**06 02 57.1**	**+0.1**
	baz=113,SNR=8.2							
109C				Sb		**Sb**	**06 03 17.3**	**+0.8**
	baz=113							
214A	**Organ Pipe Nat**	**2.18**	**100**	P		**Pb**	**06 03 05.1**	**-2.1**
	baz=279							
214A				S		**Sb**	**06 03 32.4**	**-1.4**
	baz=279							

IDC 21 06:15:00.0±3.3, 30.36S×138.33E, h0km, mb1 3.6/4, mb1mx3.4/30, mbtmp3.3/4, ML3.3/4, Error ellipse: s-maj=89.9km s-min=21.6km az=43.0, South Australia

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
							h m s	
STKA	**Stephens Creek**	**3.18**	**119**	Pn		Pn	06 15 51.8	+0.4
	0.7nm,0.3s,baz=302,slow=12,SNR=9.3							
STKA				Sn		Sn	06 16 29.6	-0.5
	3.3nm,0.3s,baz=309,slow=16,SNR=4.0							
ASAR	**Alice Springs**	**7.75**	**328**	Pn		Pn	06 16 55.3	+1.2
	0.6nm,0.3s,baz=151,slow=12,SNR=20							
ASAR				Sn		Sn	06 18 22.0	-0.7
	0.3nm,0.3s,baz=152,slow=22,SNR=4.9							
WRA	**Warramunga Arr**	**10.98**	**340**	Pn		Pn	06 17 38.8	+0.3
	0.4nm,0.3s,baz=155,slow=11,SNR=22							
WRA				Sn		Sn	06 19 38.6	-3.6
	0.1nm,0.3s,baz=160,slow=24,SNR=3.6							
FITZ	**Fitzroy Crossi**	**16.80**	**314**	Pn		Pn	06 18 55.3	-1.4
	0.1nm,0.3s,baz=154,slow=12,SNR=3.3							
FITZ				Sn		Sn	06 21 54.1	-10
	0.1nm,0.3s,baz=158,slow=20,SNR=2.2							

*IDC **21** 06:43:09.1±2.4, 37.69N×142.12E, h0km, mb3.5/2, mb1 3.7/3, mb1mx3.4/37, mbtmp3.4/3, ML3.7/1, MS3.4/1, Ms1 3.4/1, ms1mx2.5/37, Error ellipse: s-maj=46.8km s-min=35.7km az=47.0*
*ISCJB **21** 06:43:11.1±1.5, 37.65N±0.04×141.84E±0.07, h4km±7km, mb3.5/2, MS3.4/1, Error ellipse: s-maj=10.0km s-min=5.7km az=21.2*
*JMA **21** 06:43:13.2±0.1, 37.65N×141.80E, h26km±2km, M3.9*

ISC 21 06:43:10.5±2.1, 37.68N±0.04×141.88E±0.09, h3km±11km, n21, σ1.03/25, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
							h m s	
JFK	**Kawauchi**	**0.85**	**249**	P		**Pb**	**06 43 27.9**	**-0.1**
JFK				*e*S		**Sg**	**06 43 37.9**	**-0.1**
JMM	**Marumori**	**0.88**	**283**	P		**Pb**	**06 43 28.6**	**+0.2**
JMM				S		**Sg**	**06 43 39.2**	**+0.4**
JIO	**Ouri**	**0.88**	**332**	P		**Pn**	**06 43 29.2**	**-0.6**
JIO				S		**Sb**	**06 43 40.7**	**+0.1**
ONAJ	**Iwakimizuishiy**	**1.03**	**237**	P		**Pg**	**06 43 30.4**	**+0.1**
ONAJ				S		**Sg**	**06 43 43.1**	**-0.6**
JOU	**Okura**	**1.18**	**306**	P		**Pn**	**06 43 34.0**	**+0.1**
JOU				S		**Sg**	**06 43 48.8**	**+0.4**
JFT	**Otama**	**1.23**	**263**	P		**Pb**	**06 43 34.5**	**+0.1**
JFT				S		**Sg**	**06 43 49.3**	**-0.8**
JMK	**Ichinoseki**	**1.38**	**338**	P		**Pg**	**06 43 37.1**	**+0.2**
JMK				S		**Sb**	**06 43 54.9**	**+0.1**
JYS	**Shirataka**	**1.53**	**291**	P		**Pb**	**06 43 39.4**	**-0.1**
JYS				S		**Sn**	**06 43 58.8**	**-0.4**
JYK	**Kaneyama**	**1.72**	**317**	P		**Pn**	**06 43 41.7**	**+0.3**
JFY	**Yanaizu**	**1.75**	**262**	P		**Pn**	**06 43 42.3**	**+0.6**
JFY				S		**Sn**	**06 44 03.4**	**-1.1**
MJAR	**Matsushiro Arr**	**3.14**	**250**	Pn		**Pn**	**06 44 02.3**	**+1.4**
	7.5nm,0.3s,baz=83,slow=16,SNR=26							
MJAR				Sn		**Sb**	**06 44 43.3**	**-2.4**
	3.2nm,0.3s,baz=59,slow=11,SNR=4.4							
MAT	**Matsushiro**	**3.14**	**250**	P		**Pn**	**06 44 02.1**	**+1.2**
MAT				*e*S		**Sn**	**06 44 42.0**	**+3.0**
H11N2	**WAKE ISLAND Hy**	**28.17**	**122**	T		T	07 18 40.1	
	baz=315,slow=75,SNR=61							
H11N1	**WAKE ISLAND Hy**	**28.18**	**122**	T		T	07 18 36.5	
	baz=315,slow=75,SNR=77							
H11N3	**WAKE ISLAND Hy**	**28.19**	**122**	T		T	07 18 37.9	
	baz=315,slow=75,SNR=58							
H11S1	**WAKE ISLAND Hy**	**28.91**	**124**	T		T	07 19 27.6	
	baz=317,slow=76,SNR=57							
H11S3	**WAKE ISLAND Hy**	**28.91**	**125**	T		T	07 19 30.2	
	baz=317,slow=76,SNR=58							
H11S2	**WAKE ISLAND Hy**	**28.92**	**125**	T		T	07 19 28.4	
	baz=317,slow=76,SNR=60							
MKAR	**Makanchi Array**	**44.09**	**302**	P		**P**	**06 51 20.0**	**+0.2**
	0.4nm,0.7s,baz=76,slow=6.1,SNR=2.8							
HNR	**Honiara**	**49.82**	**156**	LR		LR	07 08 54.9	
	comp=Z,45nm,21.3s,baz=114,slow=31							
WRA	**Warramunga Arr**	**57.75**	**188**	P		**P**	**06 53 02.1**	**-0.7**
	0.4nm,0.5s,baz=5.5,slow=7.4,SNR=7.8							

*ISCJB **21** 07:11:35.2±1.3, 54.6N±0.1×19.5E±0.2, h10km, Error ellipse: s-maj=16.4km s-min=13.6km az=27.1*
*IDC **21** 07:11:38.2±2.0, 54.65N×19.40E, h0km, mb1 3.4/4, mb1mx3.2/42, mbtmp3.3/4, ML3.3/4, Error ellipse: s-maj=32.6km s-min=14.3km az=58.0*
*CSEM **21** 07:12:26.4, 58.01N×21.46E, h0km, ML1.6*

ISC 21 07:11:36.0±1.3, 54.6N±0.1×19.30E±0.09, h10km, n9, σ2.35/9, Poland

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
							h m s	
BSD	**Bornholm Skovb**	**2.58**	**283**	*i* P		**Pn**	**07 12 20.6**	**+2.8**
SLIT	**Slitere, Latvi**	**3.45**	**28**	*e*P		**Pb**	**07 12 37.0**	**-0.2**
	SNR=90							
MTSE	**Matsula**	**4.80**	**29**	*e*P		**Pn**	**07 12 50.6**	**+2.3**
	SNR=68							
MEF	**Metsahovi**	**6.25**	**24**	*e*P		**Pn**	**07 13 10.7**	**+2.5**
	SNR=50							
RAF	**Rauma**	**6.56**	**11**	*e*P		**Pn**	**07 13 14.1**	**+1.7**
	SNR=50							
AKASG	**Malin Array Be**	**7.20**	**119**	Pn		**Pn**	**07 13 21.3**	**+0.1**
	1.9nm,0.3s,baz=308,slow=12,SNR=6.5							
FINES	**FINESS Array B**	**7.73**	**25**	Pn		**Pn**	**07 13 29.7**	**+1.2**
	0.7nm,0.3s,baz=213,slow=12,SNR=19							
NOA	**NORSAR Array B**	**7.75**	**329**	Pn		**Pn**	**07 13 29.1**	**+0.3**
	0.3nm,0.3s,baz=120,slow=15,SNR=4.2							
ARCES	**ARCESS Array B**	**15.24**	**8**	Pn		**Pn**	**07 15 07.8**	**-3.2**
	0.1nm,0.3s,baz=191,slow=14,SNR=2.7							
ARCES				Sn		Sn	07 17 48.9	-11
	0.1nm,0.3s,baz=194,slow=22,SNR=3.6							

IDC 21 07:46:36.9±12.0, 16.08S×164.22E, h0km, mb4.0/3, mb1 4.1/4, mb1mx3.7/33, mbtmp3.9/4, ML3.6/1, Error ellipse: s-maj=233.9km s-min=39.9km az=41.0, Vanuatu Islands region

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

DZM	**Mont Dzumac**	**6.32**	**161**	Pn		Pn	07 48 11.5	0.0
	1.5nm,0.3s,baz=8.0,slow=15,SNR=21							
STKA	**Stephens Creek**	**25.89**	**229**	P		P	07 52 10.4	-0.2
	2.6nm,0.7s,baz=44,slow=8.4,SNR=6.2							
WRA	**Warramunga Arr**	**28.65**	**258**	P		P	07 52 35.5	-0.1
	0.4nm,0.5s,baz=83,slow=7.9,SNR=10							
ASAR	**Alice Springs**	**29.44**	**250**	P		P	07 52 42.9	+0.2
	1.5nm,0.7s,baz=76,slow=9.2,SNR=30							

*NEIC **21** 08:24:58.0±0.0, 14.41N×94.31W, h17km, MD4.0(MEX), After MEX.*

MEX 21 08:24:58.0±0.3, 14.41N×94.31W, h17km±34km, MD4.0, Off coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
							h m s	
TGIG		**2.62**	**26**	*e*P		Pn	08 25 36.9	-2.8
TGIG				*e*S		Sn	08 26 07.5	-3.7
TGIG		**2.62**	**26**	*e*P		Pn	08 25 36.9	-2.8
TGIG				*e*S		Sn	08 26 07.5	-3.7
CCIG	**Comitan**	**2.80**	**48**	*e*P		Pn	08 25 39.8	-2.5
CCIG				*i* S		Sn	08 26 12.6	-3.3
CCIG	**Comitan**	**2.80**	**48**	*e*P		Pn	08 25 39.8	-2.5
CCIG				*i* S		Sn	08 26 12.6	-3.3
VHO	**Vista Hermosa**	**3.53**	**319**	*i* P		Pn	08 25 49.8	-2.6
VHO				*i* S		Sn	08 26 29.8	-4.0
VHO	**Vista Hermosa**	**3.53**	**319**	*i* P		Pn	08 25 49.8	-2.6
VHO				*i* S		Sn	08 26 29.8	-4.0
PNIG	**Pinotepa**	**4.18**	**299**	*e*P		Pn	08 25 59.2	-1.9
PNIG				*i* S		Sn	08 26 46.3	-3.3
PNIG	**Pinotepa**	**4.18**	**299**	*e*P		Pn	08 25 59.2	-1.9
PNIG				*i* S		Sn	08 26 46.3	-3.3

*ISCJB **21** 08:32:28.1±0.5, 1.92N±0.05×99.15E±0.08, h152km±5km, mb4.0/5, Error ellipse: s-maj=14.5km s-min=5.3km az=151.1*
*IDC **21** 08:32:28.7±1.5, 1.87N×99.31E, h138km±7km, mb3.8/5, mb1 3.9/6, mb1mx3.4/38, mbtmp4.2/6, Error ellipse: s-maj=96.7km s-min=15.9km az=58.0*
*DJA **21** 08:32:29.3±1.0, 2.1N±3.3×9.9E±., h146km±17km, M3.9/7, MLv3.9/7*

ISC 21 08:32:29.0±0.8, 1.90N±0.05×99.15E±0.09, h146km±7km, n15, σ1.19/25, mb4.1/5, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
							h m s	
PSI	**Prapat**	**0.92**	**346**	P		**Pn**	**08 32 52.5**	**-0.5**
	107nm,0.3s,baz=168,slow=9.3,SNR=114							
PSI				S		**Sn**	**08 33 09.6**	**-1.6**
	baz=55,slow=19							
MNSI	**Mandailing Nat**	**1.18**	**159**	P		**Pn**	**08 32 55.9**	**+0.8**
MNSI				S		**Sn**	**08 33 16.0**	**+0.9**
KCSI	**Kotacane, Aceh**	**2.12**	**319**	P		**Pn**	**08 33 05.1**	**-0.2**
KCSI				S		**Sn**	**08 33 32.7**	**-0.5**
PBSI	**Pulau Batu**	**2.13**	**204**	P		**Pn**	**08 33 06.3**	**+0.8**
PBSI				S		**Sn**	**08 33 34.5**	**+0.9**
TPTI		**2.38**	**304**	P		**Pn**	**08 33 09.6**	**+1.1**
TPTI				S		**Sn**	**08 33 39.0**	**0.0**
PPI	**Padang Panjang**	**2.66**	**152**	P		**Pn**	**08 33 12.9**	**+0.9**
PPI				S		**Sn**	**08 33 45.8**	**+0.7**
PDSI	**Padang**	**3.09**	**155**	P		**Pn**	**08 33 18.0**	**+0.5**
SISI	**Saibi**	**3.21**	**181**	P		**Pn**	**08 33 17.6**	**-1.4**
SISI				S		**Sn**	**08 33 54.8**	**-2.8**
MLSI	**Meulaboh, Aceh**	**3.61**	**311**	P		**Pn**	**08 33 25.3**	**+1.2**
MLSI				S		**Sn**	**08 34 04.9**	**-1.9**
CMAR	**Chiang Mai Arr**	**16.45**	**359**	P		**P**	**08 36 13.1**	**+1.4**
	0.7nm,0.3s,baz=194,slow=11,SNR=12							
WRA	**Warramunga Arr**	**40.78**	**124**	P		**P**	**08 39 55.4**	**-0.9**
	3.2nm,0.4s,baz=305,slow=9.0,SNR=46							
WRA				PcP		**PcP**	**08 41 54.4**	**-0.3**
	0.2nm,0.5s,baz=318,slow=2.5,SNR=4.0							
ASAR	**Alice Springs**	**42.29**	**129**	P		**P**	**08 40 07.4**	**-1.2**
	1.2nm,0.5s,baz=301,slow=7.8,SNR=28							
ASAR				PcP		**PcP**	**08 41 59.8**	**+0.1**
	0.3nm,0.6s,baz=316,slow=2.2,SNR=3.7							
MKAR	**Makanchi Array**	**47.06**	**344**	P		**P**	**08 40 46.8**	**+0.9**
	1.9nm,0.4s,baz=157,slow=8.7,SNR=9.7							
STKA	**Stephens Creek**	**52.40**	**134**	P		**P**	**08 41 26.1**	**-0.5**
	0.6nm,0.4s,baz=323,slow=10,SNR=2.9							
ZALV	**Zalesovo Beam**	**53.20**	**349**	P		**P**	**08 41 32.8**	**+0.8**
	1.7nm,0.5s,baz=181,slow=5.4,SNR=5.7							

*SOME **21** 08:37:04.7, 44.75N×82.38E, h35km*
*NNC **21** 08:37:06.1±0.7, 44.77N×81.83E, h0km, mb3.4, mpv2.9, Error ellipse: s-maj=9.6km s-min=3.6km az=118.0*
*ISCJB **21** 08:37:08.4±1.6, 44.81N±0.07×82.2E±0.1, h10km, Error ellipse: s-maj=17.7km s-min=5.5km az=33.5*

**ISC 21 08:37:04.1±1.5, 44.76N±0.06×82.09E±0.09, h

	3.1nm,0.4s							
MNAS				⇑Lg	Lg	08 51 52.5		
	4.5nm,0.9s							
KK31	**Karatay Array**	**4.46**	**10**	⇑Pn	**Pn**	**08 50 42.3**	**-1.8**	
	0.6nm,0.3s,baz=189,slow=14,SNR=18							
KK31				Pg	**Pb**	**08 50 55.6**	**+0.8**	
	1.7nm,0.3s,baz=192,slow=19,SNR=15							
KK31				⇑Lg	Lg	08 51 58.1		
	13nm,0.7s,baz=190,slow=26,SNR=10							
AML	**Almayashu**	**4.69**	**42**	⇑*iP*	**Pn**	**08 50 47.5**	**-0.1**	
	baz=42							
AML				⇑*iS*	**Sn**	**08 51 40.8**	**-1.3**	
	baz=42							
UCH	**Uchtor**	**5.20**	**46**	⇑*iP*	**Pn**	**08 50 54.5**	**-0.2**	
	baz=47							
UCH				⇑*iS*	**Sn**	**08 51 52.8**	**-2.0**	
	baz=47							
AAK	**Ala-Archa**	**5.47**	**43**	⇓Pn	**Pn**	**08 50 58.2**	**+0.1**	
	1.9nm,0.7s							
AAK				⇓Lg	Lg	08 52 30.3		
	4.8nm,0.8s							
TKM2	**Tokmak 2**	**6.26**	**46**	⇑Pn	**Pn**	**08 51 08.6**	**-0.3**	
	0.9nm,0.5s							
TKM2				⇓Lg	Lg	08 52 50.3		
	2.0nm,0.6s							

NNC 21 08:49:48.9±1.6, 51°73'N×75°65'E, h0km, mb3.6, mpv3.1, 5C-2D, Error ellipse: s-maj=32.8km s-min=10.4km az=26.0, Suspected Mining explosion., Eastern Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KURBB	**Kurchatov Arra**	**2.13**	**120**	⇑Pn	Pn	08 50 26.6	+0.9
	19nm,0.5s,baz=298,slow=18						
KURBB				⇓Sn	Sn	08 50 53.6	+0.8
	24nm,0.3s,baz=305,slow=26						
KURK	**Kurchatov**	**2.13**	**117**	⇑Pn	Pn	08 50 26.5	+0.9
	6.2nm,0.6s						
KURK				⇑Sn	Sn	08 50 53.2	+0.4
	13nm,0.7s						
BRVK	**Borovoye**	**3.54**	**294**	⇑Pg	Pb	08 50 52.9	+0.5
	2.5nm,0.6s						
BRVK				⇓Lg	Lg	08 51 39.0	
	6.4nm,0.5s						
MK31	**Makanchi Array**	**6.58**	**136**	⇑Lg	Lg	08 53 19.2	
	2.0nm,0.6s,baz=319,slow=26,SNR=4.5						

OTT 21 08:53:01.9±0.3, 73°71N×82°45W, h1km, MN4.0/15, Mw3.9/1, 92km south from Dundas Harbour, Nu Eastern Arctic Background Seismic Zone., Baffin Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MRYN	**Mary River**	**2.56**	**157**	PN	Pn	08 53 44.0	-0.5
MRYN				SN	Sn	08 54 14.6	-1.5
MRYN				LG	Lg	08 54 20.0	
MRYN				Trac		08 54 30.9	
	comp=Z,322nm,0.6s						
RES	**Resolute Bay**	**3.54**	**292**	PN	Pn	08 53 56.7	-1.2
RES				PG	Pb	08 54 07.4	+2.2
RES				SN	Sn	08 54 37.0	-3.3
RES				LG	Lg	08 54 54.0	
RES				Trac		08 55 02.3	
	comp=Z,75nm,0.3s						
ILON	**Igloolik, Nuna**	**4.37**	**177**	PN	Pn	08 54 08.7	-0.5
ILON				SN	Sn	08 54 56.9	-3.7
ILON				LG	Lg	08 55 16.1	
ILON				Trac		08 55 23.1	
	comp=Z,101nm,0.5s						
TULEG	**Thule**	**4.51**	**45**	PN	Pn	08 54 09.1	-2.0
TULEG				SN	Sn	08 54 58.6	-5.4
CLRN	**Clyde River**	**5.36**	**120**	PN	Pn	08 54 22.5	-0.3
CLRN				SN	Sn	08 55 21.1	-4.0
CLRN				LG	Lg	08 55 48.0	
CLRN				Trac		08 56 00.9	
	comp=Z,85nm,0.7s						
SMLN	**Simpson Lake,**	**5.98**	**216**	PN	Pn	08 54 29.0	-2.3
SMLN				SN	Sn	08 55 35.4	-4.9
SMLN				LG	Lg	08 56 07.8	
SMLN				Trac		08 56 09.7	
	comp=Z,289nm,1.1s						
KUGN	**Kugaaruk Camp,**	**6.17**	**208**	PN	Pn	08 54 32.5	-1.4
KUGN				SN	Sn	08 55 40.6	-4.4
KUGN				LG	Lg	08 56 13.8	
KUGN				Trac		08 56 22.3	
	comp=Z,294nm,1.1s						
EUNU	**Eureka**	**6.44**	**354**	PN	Pn	08 54 35.8	-1.9
EUNU				SN	Sn	08 55 43.5	-8.2
EUNU				SN	Sn	08 55 44.2	-7.6
EUNU				Trac		08 55 50.0	
	comp=Z,277nm,2.4s						
STLN	**Stellar Camp,**	**7.32**	**214**	PN	Pn	08 54 47.8	-1.9
STLN				SN	Sn	08 56 06.6	-6.6
STLN				LG	Lg	08 56 48.3	
STLN				Trac		08 57 01.6	
	comp=Z,230nm,0.9s						
BULN	**Bullion Camp,**	**8.18**	**212**	SN	Sn	08 56 28.9	-5.6
BULN				LG	Lg	08 57 13.8	
BULN				Trac		08 57 20.8	
	comp=Z,114nm,0.8s						
WAGN	**Wager Bay**	**8.22**	**200**	PN	Pn	08 55 00.5	-1.6
WAGN				SN	Sn	08 56 28.3	-7.1
WAGN				LG	Lg	08 57 15.7	
WAGN				Trac		08 57 22.1	
	comp=Z,104nm,0.6s						
CB31	**Cambridge Bay**	**8.52**	**249**	PN	Pn	08 55 04.9	-1.2
CB31				SN	Sn	08 56 38.0	-4.7
CB31				LG	Lg	08 57 20.1	
CB31				Trac		08 57 39.0	
	comp=Z,97nm,0.5s						
NUNN	**Nunuq Camp, NU**	**9.04**	**204**	SN	Sn	08 56 45.5	-10
NUNN				LG	Lg	08 57 40.3	
NUNN				Trac		08 57 49.2	
	comp=Z,101nm,0.6s						
CMBN	**Cumberland Cam**	**10.14**	**133**	PN	Pn	08 55 24.2	-4.0
CMBN				SN	Sn	08 57 13.6	-8.8
CMBN				LG	Lg	08 58 09.2	
CMBN				Trac		08 58 18.6	
	comp=Z,145nm,1.2s						
YBKN	**Baker Lake, Hu**	**10.57**	**214**	LG	Lg	08 58 25.2	
YBKN				Trac		08 58 35.7	
	comp=Z,58nm,0.6s						
SEDN	**First Sedna Si**	**10.97**	**201**	PN	Pn	08 55 36.6	-3.0
SEDN				SN	Sn	08 57 33.2	-10
SEDN				LG	Lg	08 58 40.0	
SEDN				Trac		08 58 47.9	
	comp=Z,167nm,1.8s						
MCMN	**McManaman Lake**	**11.03**	**204**	PN	Pn	08 55 38.0	-2.5
MCMN				SN	Sn	08 57 36.0	-8.3
MCMN				LG	Lg	08 58 42.5	
MCMN				Trac		08 59 03.6	
	comp=Z,170nm,1.8s						
CDKN	**Chidliak Camp**	**11.07**	**141**	PN	Pn	08 55 36.7	-4.4
CDKN				SN	Sn	08 57 34.9	-10
CDKN				LG	Lg	08 58 37.4	
CDKN				Trac		08 58 50.5	
	comp=Z,138nm,1.4s						
FRB	**Frobisher Bay**	**11.16**	**146**	PN	Pn	08 55 37.6	-4.6
FRB				SN	Sn	08 57 38.3	-9.1
FRB				LG	Lg	08 58 49.0	
FRB				Trac		08 59 05.2	
	comp=Z,71nm,1.0s						
KNGQ	**Kangiqsujuaq**	**12.78**	**157**	PN	Pn	08 55 58.5	-5.8
KNGQ				SN	Sn	08 58 14.0	-13
KNGQ				LG	Lg	08 59 36.1	
HPLN	**Hepburn Lake,**	**13.23**	**253**	LG	Lg	08 59 43.5	
WHFN	**White Fish Lak**	**14.29**	**231**	LG	Lg	09 00 17.1	
HFRN	**Hoarfrost Rive**	**14.53**	**236**	LG	Lg	09 00 22.3	
HFRN				Trac		09 00 27.6	
	comp=Z,140nm,1.3s						

GCMT 21 08:55:52.0±0.5, 38°54S×16°86W, h21km±2km, MW4.8/75, Moment Tensor Solution. s22,c26; s75,c91; Duration: 0 Moment tensor: Scale 10^{16}Nm; Mrr-0.33±.13; Mθθ0.45±.13; Mϕϕ-0.12±.10; Mrθ0.72±.23; Mθϕ-1.70±.09; Mϕr-0.02±.17; **Best double couple:** M0 1.87200×10^{16} **NP1:**ϕs267.00000°, δ86.00000°, λ-156.00000°. **NP2:**ϕs175.00000°, δ66.00000°, λ-4.00000°. **Principal axes:** T 2.0270, Plg14.0000°, Azm38.0000°; N -0.3110, Plg66.0000°, Azm275.0000°; P -1.7170, Plg19.0000°, Azm133.0000°; **nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Southern Mid-Atlantic Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNA1	**Neumayer--Stat**	**32.49**	**175**	P	P	09 02 22.0	+1.4
VNA2	**Neumayer--Watz**	**32.83**	**174**	P	P	09 02 23.8	+0.2
	baz=342,slow=11						
VNA3	**Neumayer Olymp**	**32.98**	**176**	P	P	09 02 24.5	-0.4
SNAA	**Sanae**	**33.97**	**172**	P	P	09 02 32.6	-1.0

IDC 21 09:06:51.2±3.2, 4°36S×153°09E, h0km, mb3.8/3, mb1 4.0/3, mb1mx3.6/27, mbtmp3.8/3 Error ellipse: s-maj=127.3km s-min=44.7km az=124.0, New Ireland region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.95**	**228**	P	P	09 12 07.4	0.0
	2.7nm,0.6s,baz=54,slow=9.7,SNR=50						
ASAR	**Alice Springs**	**26.66**	**222**	P	P	09 12 32.2	+0.1
	0.4nm,0.4s,baz=54,slow=9.0,SNR=16						
FITZ	**Fitzroy Crossi**	**30.12**	**241**	P	P	09 13 02.9	0.0
	0.7nm,0.5s,baz=53,slow=8.3,SNR=4.9						
TORD	**Torodi Ar. Bea**	**150.44**	**289**	PKPbc	PKPbc	09 26 45.5	-0.5
	0.3nm,0.4s,baz=54,slow=2.0,SNR=8.0						

*ISCJB **21** 09:14:06.8±0.4, 39°.79N±0°.03×40°.56E±0°.04, h11km, Error ellipse: s-maj=4.7km s-min=4.4km az=171.1*
*CSEM **21** 09:14:06.7±0.3, 39°.79N×40°.55E, h10km, MD2.7, Error ellipse: s-maj=9.2km s-min=7.6km az=19.0*
*DDA **21** 09:14:06.0, 39°.78N×40°.59E, h18km, Md2.7*
*ISK **21** 09:14:06.4, 39°.81N×40°.50E, h8km, MD2.8*
ISC 21 09:14:07.0±0.9, 39°79N±0°.03×40°57E±0°.03, h11km, n32, σ1s15/36, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KOPT	**Kop Dagi**	**0.23**	**346**	*i* P	**Pg**	**09 14 10.9**	**-1.1**
KOPT				*i* S	**Sg**	**09 14 16.5**	**+1.1**
KOPT	**Kop Dagi**	**0.23**	**346**	P	**Pg**	**09 14 10.9**	**-1.1**
KOPT				S	**Sg**	**09 14 16.5**	**+1.1**
YEDI	**Yedisu-Bingol**	**0.35**	**184**	*e*PG	**Pg**	**09 14 13.4**	**-0.7**
YEDI				*e*SG	**Sb**	**09 14 19.9**	**-1.1**
YEDI	**Yedisu-Bingol**	**0.35**	**184**	*e*Pg	**Pg**	**09 14 13.4**	**-0.7**
ECAT	**Cat-ERZURUM**	**0.36**	**121**	*i* P	**Pg**	**09 14 13.1**	**-1.1**
ECAT	**Cat-ERZURUM**	**0.36**	**121**	P	**Pg**	**09 14 13.1**	**-1.1**
EZM	**Erzurum**	**0.62**	**79**	*e*PG	**Pg**	**09 14 18.7**	**-0.4**
ERZM	**Erzurum**	**0.62**	**79**	*i* P	**Pg**	**09 14 18.4**	**-0.7**
ERZM	**Erzurum**	**0.62**	**79**	P	**Pg**	**09 14 18.4**	**-0.7**
ERZN	**Erzincan**	**0.69**	**253**	*e*PG	**Pg**	**09 14 19.4**	**-0.9**
ERZN				*e*SG	**Sg**	**09 14 28.6**	**-0.7**
BNGB	**Bing¶‖**	**0.80**	**174**	*e*PG	**Pb**	**09 14 23.1**	**+0.1**
BINT	**Bingol**	**0.92**	**184**	*e*Pg	**Pg**	**09 14 23.1**	**-1.6**
EZC	**Erzincan**	**0.94**	**268**	*e*Pg	Pg	09 14 19.4	-5.7
TNCL	**Tunceli-Merkez**	**1.05**	**230**	*i* P	**Pn**	**09 14 28.2**	**+0.6**
TNCL				*i* S	**Sn**	**09 14 46.6**	**+4.3**
GUMT	**Gumushane**	**1.07**	**309**	*e*PG	**Pg**	**09 14 26.6**	**-1.0**
GUMT	**Gumushane**	**1.07**	**309**	*e*Pg	**Pg**	**09 14 26.6**	**-1.0**
KELT	**Kelkit**	**1.07**	**290**	*i* P	**Pg**	**09 14 26.4**	**-1.2**
KELT	**Kelkit**	**1.07**	**290**	P	**Pg**	**09 14 26.4**	**-1.2**
PTK	**Pertek**	**1.28**	**226**	*e*PN	**Pb**	**09 14 30.5**	**-0.7**
PTK	**Pertek**	**1.28**	**226**	*e*Pn	**Pb**	**09 14 30.5**	**-0.7**
KTUT	**Trabzon**	**1.34**	**333**	*e*PN	**Pb**	**09 14 31.6**	**-0.6**
KTUT	**Trabzon**	**1.34**	**333**	*e*Pn	**Pb**	**09 14 31.6**	**-0.6**
SENK	**Senkaya-Erzuru**	**1.56**	**60**	*e*PN	**Pb**	**09 14 35.7**	**-0.3**
SENK	**Senkaya-Erzuru**	**1.56**	**60**	*e*Pn	**Pb**	**09 14 35.7**	**-0.3**
KEMA	**Kemaliye**	**1.69**	**253**	*i* P	**Pb**	**09 14 37.8**	**-0.4**
KEMA	**Kemaliye**	**1.69**	**253**	P	**Pb**	**09 14 37.8**	**-0.4**
SVAN	**Silvan-Diyarba**	**1.71**	**163**	*e*PN	**Pb**	**09 14 38.2**	**-0.2**
SVAN	**Silvan-Diyarba**	**1.71**	**163**	*e*Pn	**Pb**	**09 14 38.2**	**-0.2**
SUSE	**Susehri**	**1.87**	**284**	*i* P	**Pb**	**09 14 40.5**	**-0.7**
SUSE	**Susehri**	**1.87**	**284**	P	**Pb**	**09 14 40.5**	**-0.7**
AGRB	**Hanur-Agry**	**1.88**	**96**	*e*PN	**Pb**	**09 14 40.3**	**-1.1**
AGRB	**Hanur-Agry**	**1.88**	**96**	*e*Pn	**Pb**	**09 14 40.3**	**-1.1**

MEX 21 09:14:38.8±0.3, 16°27N×97°90W, h5km±12km, MD3.6, Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.25**	**299**	*e*P	Pg	09 14 43.3	-0.3
PNIG				*e*S	Sg	09 14 47.1	+0.2
VHIG	**Vista Hermosa**	**1.37**	**54**	*e*P	Pn	09 15 01.1	-3.7
VHO				*i* S	Sg	09 15 18.6	-4.5
TLIG	**Tlapa**	**1.43**	**334**	*e*P	Pn	09 15 02.0	-3.6
TLIG				*e*S	Sb	09 15 19.7	-5.0

*IDC **21** 09:41:57.8±2.6, 38°.17N×144°.92E, h0km, mb3.6/2, mb1 3.8/4, mb1mx3.4/62, mbtmp3.6/4, ML2.7/2, Error ellipse: s-maj=50.3km s-min=34.8km az=54.0*
*NIED **21** 09:42:00, 38°.50N×144°.60E, h5km, Mw3.8 Best double couple: M0 5.29000×10^{14} NP1:ϕs29.00000°, δ24.00000°, λ-92.00000°. NP2:ϕs211.00000°, δ66.00000°, λ-89.00000°.*
*ISCJB **21** 09:42:01.1±0.9, 38°.53N±0°.04×144°.74E±0°.06, h43km, mb3.6/2, Error ellipse: s-maj=7.2km s-min=4.9km az=38.1*
*JMA **21** 09:42:03.0±0.2, 38°.46N×144°.56E, h39km, M3.9*
ISC 21 09:42:02.9±1.4, 38°48N±0°.06×144°76E±0°.08, h43km, n22, σ1s77/33, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OFUJ	**Ofunato**	**2.49**	**285**	P	**Pn**	**09 42 40.4**	**-0.5**
OFUJ				*e*S	**Sn**	**09 43 08.0**	**-2.0**
MIYJ	**Miyakonagasawa**	**2.54**	**297**	P	**Pn**	**09 42 41.2**	**-0.4**
MIYJ				S	**Sn**	**09 43 09.2**	**-2.1**
JMK	**Ichinoseki**	**2.81**	**281**	P	**Pn**	**09 42 45.3**	**0.0**
JMK				S	**Sn**	**09 43 17.0**	**-0.9**
JOM	**Ohasama**	**2.88**	**291**	P	**Pn**	**09 42 46.2**	**-0.1**
JOM				S	**Sn**	**09 43 19.1**	**-0.5**
JANG	**Nango**	**3.14**	**308**	S	**Sn**	**09 43 25.1**	**-1.1**
JOU	**Okura**	**3.21**	**269**	*e*S	**Sn**	**09 43 26.5**	**-1.5**
JRG	**Rokugo**	**3.34**	**287**	P	**Pn**	**09 42 52.9**	**+0.2**
JRG				*e*S	**Sn**	**09 43 29.8**	**-1.3**
JYK	**Kaneyama**	**3.47**	**279**	P	**Pn**	**09 42 54.9**	**+0.5**
JYK				S	**Sn**	**09 43 33.4**	**-0.8**
JFT	**Otama**	**3.62**	**256**	S	**Sn**	**09 43 34.8**	**-3.2**
JAH	**Hinai**	**3.62**	**299**	S	**Sn**	**09 43 38.2**	**+0.2**
JTM	**Tenmabayashi**	**3.67**	**310**	P	**Pn**	**09 42 57.6**	**+0.5**
JTM				S	**Sn**	**09 43 38.3**	**-0.7**
JOT	**Ohata**	**4.07**	**317**	S	**Sn**	**09 43 47.2**	**-1.7**
JCH	**Churui**	**4.27**	**346**	*e*S	**Sn**	**09 43 53.3**	**-0.6**
JKB	**Kayabe**	**4.44**	**321**	S	**Sn**	**09 43 56.9**	**-1.3**
NEM2	**Nemuro 2**	**4.94**	**8**	P	**Pn**	**09 43 13.3**	**-1.3**
NEM2				S	**Sn**	**09 44 07.8**	**-2.6**
JRY	**Ryogami san**	**5.28**	**244**	*e*S	**Sn**	**09 44 13.1**	**-5.7**
JTKR	**Abashiri--Toko**	**5.53**	**354**	P	**Pn**	**09 43 22.7**	**+0.1**
JTKR				S	**Sn**	**09 44 22.7**	**-2.1**
MJAR	**Matsushiro Arr**	**5.55**	**252**	Pn	**Pn**	**09 43 22.9**	**-0.1**
	1.0nm,0.3s,baz=76,slow=14,SNR=5.7						
MJAR				Sn	**Sn**	**09 44 26.1**	**+0.6**
	0.5nm,0.3s,baz=124,slow=21,SNR=3.0						
MAT	**Matsushiro**	**5.55**	**252**	P	**Pn**	**09 43 23.8**	**+0.8**
MAT				*e*S	**Sn**	**09 44 25.1**	**-0.5**
USRK	**Ussuriysk Ar.**	**11.17**	**305**	Pn	**Pn**	**09 44 42.6**	**+2.7**
	0.1nm,0.3s,baz=119,slow=14,SNR=5.5						
KURBB	**Kurchatov Arra**	**47.22**	**307**	P	**P**	**09 50 34.1**	**+2.8**
	0.6nm,0.4s,baz=80,slow=8.6,SNR=2.9						
WRA	**Warramunga Arr**	**58.93**	**191**	P	**P**	**09 51 56.9**	**-0.9**
	0.3nm,0.8s,baz=8.0,slow=7.1,SNR=3.8						

*ISCJB **21** 09:49:27.9±0.3, 32°.34N±0°.02×115°.38W±0°.03, h23km±3km, Error ellipse: s-maj=3.8km s-min=3.3km az=141.5*
*NEIC **21** 09:49:29.3±0.0, 32°.33N×115°.43W, h4km, ML3.3(PAS), ML3.4(ECX), After ECX.*
*ECX **21** 09:49:29.2±0.6, 32°.33N×115°.43W, h4km, MD3.1, ML3.4*
*MEX **21** 09:49:29.3±0.8, 32°.43N×115°.31W, h13km±7km, MD3.7*
ISC 21 09:49:27.9±0.9, 32°31N±0°.02×115°44W±0°.02, h12km±7km, n50, σ1s53/74, 7C-6D, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CPBX	**Cerro Prieto**	**0.15**	**46**	⇑*eP*	**Pg**	**09 49 31.5**	**0.0**
CPBX				IAML		09 49 34.2	
	comp=E,44μm,0.2s						
CPBX				⇓*e*		09 49 34.2	
CPBX	**Cerro Prieto**	**0.15**	**46**	*eP*	**Pg**	**09 49 31.5**	**0.0**
CPBX				*i* S	**Sg**	**09 49 33.2**	**-0.7**
MBIG	**Mexicali**	**0.22**	**64**	*eP*	**Pg**	**09 49 33.4**	**+0.8**
ERPC	**Ernies Place**	**0.47**	**336**	⇓*iP*	**Pg**	**09 49 37.8**	**+0.6**
DREC	**Desert Rsrch C**	**0.49**	**359**	⇓*iP*	**Pg**	**09 49 38.2**	**+0.6**
WESC	**Westside Schoo**	**0.51**	**331**	⇓*iP*	**Pg**	**09 49 38.2**	**+0.3**
YUH	**Yuha Desert**	**0.53**	**309**	⇑*iP*	**Pg**	**09 49 38.1**	**-0.2**
EMSC	**East Mesa**	**0.57**	**42**	⇑*iP*	**Pg**	**09 49 39.6**	**+0.6**
COK	**Cook Ranch**	**0.59**	**335**	⇓*iP*	**Pg**	**09 49 39.7**	**+0.3**
COA	**Coachella**	**0.61**	**25**	*i* PC		09 49 40.0	
RMX	**La Rumorosa**	**0.62**	**298**	*eP*	**Pg**	**09 49 39.2**	**-0.7**
RMX				*eS*	**Sg**	**09 49 47.6**	**-0.5**
IKP	**In-Ko-Pah, Jac**	**0.66**	**301**	P	**Pg**	**09 49 40.6**	**-0.1**
	baz=123,SNR=117						
IKP				S	**Sg**	**09 49 49.4**	**-0.1**
	baz=123						
IKP	**In-Ko-Pah, Jac**	**0.66**	**301**	⇑*iP*	**Pg**	**09 49 40.6**	**-0.1**
SWSC	**Sam W. Stewart**	**0.70**	**334**	P	**Pg**	**09 49 41.1**	**-0.5**
	baz=155,SNR=128						
SWSC				S	**Sg**	**09 49 50.6**	**-0.2**
	baz=155						
ECBX	**El Chinero**	**0.90**	**159**	*eP*	**Pg**	**09 49 44.7**	**-0.5**
ECBX				*eS*	**Sg**	**09 49 57.3**	**+0.4**
GLA	**Glamis**	**0.90**	**35**	P	**Pg**	**09 49 44.1**	**-1.2**
	baz=214,SNR=48						
GLA				S	**Sg**	**09 49 55.7**	**-1.3**
	baz=214						
MONP	**Monument Peak,**	**1.02**	**305**	P	**Pg**	**09 49 46.9**	**-0.5**
	baz=126,SNR=248						
MONP				S	**Sg**	**09 49 59.9**	**-0.9**
	baz=126						
CBX	**Cerro Bola**	**1.04**	**270**	*eP*	**Pg**	**09 49 47.8**	**-0.1**
CBX				*eS*	**Sg**	**09 50 01.6**	**+0.1**
CBX				*e*		09 50 07.2	
CBX				IAML		09 50 07.2	
	comp=N,945nm,0.5s						
CBX	**Cerro Bola**	**1.04**	**270**	*eP*	**Pg**	**09 49 47.8**	**-0.1**
CBX				*eS*	**Sg**	**09 50 01.6**	**+0.1**
CBX	**Cerro Bola**	**1.04**	**270**	*eP*	**Pg**	**09 49 47.8**	**-0.1**
CBX				*eS*	**Sg**	**09 50 01.6**	**+0.1**
TJIG	**Tijuana**	**1.06**	**277**	⇑*eP*	**Pg**	**09 49 47.8**	**-0.5**
TJIG	**Tijuana**	**1.06**	**277**	*eP*	**Pg**	**09 49 47.7**	**-0.5**
TJIG				*eS*	**Sg**	**09 50 00.8**	**-1.1**
ZAX	**El Zacaton**	**1.07**	**222**	*eP*	**Pg**	**09 49 48.2**	**-0.2**
ZAX				*eS*	**Sg**	**09 50 02.8**	**+0.4**
ZAX				⇑*e*		09 50 05.7	
ZAX				IAML		09 50 05.7	
	comp=E,807nm,0.6s						
BAR	**Barrett**	**1.11**	**290**	*eP*	**Pg**	**09 49 48.6**	**-0.6**
ECNX	**Esteban Cantu**	**1.18**	**237**	*eP*	**Pb**	**09 49 50.4**	**0.0**
ECNX				⇑*eP*	**Pg**	**09 49 48.8**	**-1.9**
PBX	**Punta Banda**	**1.23**	**243**	*eP*	**Pg**	**09 49 51.1**	**-0.5**
SPIG	**San Pedro Mart**	**1.26**	**181**	⇓*eP*	**Pg**	**09 49 51.6**	**-0.6**
SPIG				*eS*	**Sg**	**09 50 08.6**	**0.0**
SPIG	**San Pedro Mart**	**1.26**	**181**	*eP*	**Pg**	**09 49 51.6**	**-0.6**
SPIG				*i* S	**Sg**	**09 50 07.7**	**-0.9**
SPIG	**San Pedro Mart**	**1.26**	**181**	*eP*	**Pg**	**09 49 51.6**	**-0.6**
SPIG				*i* S	**Sg**	**09 50 07.7**	**-0.9**
SPX	**San Pedro Mart**	**1.26**	**181**	*eP*	**Pg**	**09 49 50.6**	**-1.6**
SPX				*eS*	**Sg**	**09 50 07.2**	**-1.4**
BC3	**Big Chuckawall**	**1.34**	**359**	P	**Pg**	**09 49 50.8**	**-2.9**
	baz=179,SNR=60						
BC3				S	**Sg**	**09 50 06.9**	**-4.2**
	baz=179						
SDRC	**San Diego Road**	**1.34**	**289**	*eP*	**Pn**	**09 49 52.5**	**0.0**
109C	**Camp Elliot, M**	**1.52**	**293**	Pb	**Pn**	**09 49 55.4**	**+0.4**
	baz=113,SNR=31						
109C				Sb	**Sn**	**09 50 15.3**	**+0.6**
	baz=113						
TPFO	**Pinon Flats**	**1.55**	**327**	P	**Pn**	**09 49 53.9**	**-1.5**
	baz=147,SNR=35						
TPFO				S	**Sn**	**09 50 12.7**	**-2.9**
	baz=147						
PFO	**Pinyon Flats O**	**1.56**	**327**	P	**Pn**	**09 49 54.1**	**-1.5**
	baz=147,SNR=33						
PFO				S	**Sn**	**09 50 13.4**	**-2.4**
	baz=147						
PFO	**Pinyon Flats O**	**1.56**	**327**	*e*Pn	**Pn**	**09 49 54.0**	**-1.5**
PFO				*e*Sn	**Sn**	**09 50 12.8**	**-3.0**
Y12C	**Blythe**	**1.63**	**28**	P	**Pn**	**09 49 54.8**	**-1.5**
	baz=208						
BELC	**Belle Mtn. Jos**	**1.75**	**344**	P	**Pn**	**09 49 57.0**	**-1.2**
	baz=164,SNR=46						
IRM	**Iron Mountain**	**1.86**	**7**	Pb	**Pn**	**09 50 00.2**	**+0.6**
	baz=187						
MURC	**Murrieta**	**1.96**	**311**	P	**Pn**	**09 50 00.1**	**-0.9**
	baz=131						
MURC				Sb	**Sn**	**09 50 29.2**	**+3.6**
	baz=131						
214A	**Organ Pipe Nat**	**2.25**	**98**	P	**Pn**	**09 50 03.6**	**-1.5**
	baz=279,SNR=7.5						
PDMCI	**Parker Dam,Lak**	**2.26**	**28**	P	**Pn**	**09 50 04.2**	**-0.9**
	baz=208						
BFSC	**Mount Baldy Ra**	**2.68**	**317**	Sb	**Sb**	**09 50 49.6**	**+0.8**
	baz=136						
CIS	**Catalina Islan**	**2.73**	**294**	P	**Pn**	**09 50 11.2**	**-0.5**
	baz=113						
CIS				Sb	**Sb**	**09 50 51.4**	**+1.2**
	baz=113						
FMP	**Fort Macarthur**	**2.78**	**301**	Sb	**Sb**	**09 50 52.7**	**+1.2**
	baz=120						
PASC	**Pasadena Art C**	**2.96**	**310**	Pg	Pg	**09 50 25.8**	**+1.2**
PASC				*e*Sg	**Sg**	**09 51 07.0**	**+4.1**
DECC	**Green Verdugo**	**3.11**	**309**	Sb	**Sb**	**09 51 02.0**	**+1.0**
	baz=128						
EDW2	**Edwards Air Fo**	**3.34**	**321**	Sb	**Sb**	**09 51 10.0**	**+2.4**
	baz=140						
TUC	**Tucson**	**3.94**	**89**	Pn	P

	0.3nm,0.3s,baz=81,slow=13,SNR=3.9							
QSPA	**South Pole Qui**	**32.22**	**180**	*e*P	**P**	**10 14 41.6**	**+2.3**
	1.0nm,0.3s							
VNDA	**Vanda**	**44.65**	**182**	P	**P**	**10 16 25.2**	**+2.1**
	1.2nm,0.8s,baz=196,slow=6.1,SNR=7.7							
H10S2	**ASCENSION HYDR**	**49.59**	**13**	T	T	11 10 46.6		
	baz=188							
H10S3	**ASCENSION HYDR**	**49.60**	**13**	T	T	11 10 47.7		
	baz=188,slow=74							
H10S1	**ASCENSION HYDR**	**49.61**	**13**	T	T	11 10 48.0		
	baz=188,slow=74							
H10N1	**ASCENSION HYDR**	**50.71**	**13**	T	T	11 12 10.7		
	baz=195							
H10N3	**ASCENSION HYDR**	**50.71**	**13**	T	T	11 12 11.1		
	baz=195							
H10N2	**ASCENSION HYDR**	**50.73**	**13**	T	T	11 12 13.0		
	baz=195							
LPAZ	**La Paz**	**52.51**	**304**	P	**P**	**10 17 21.4**	**-3.6**
	0.6nm,0.4s,baz=149,slow=5.9,SNR=7.8							
DBIC	**Dimbokro**	**66.50**	**22**	P	**P**	**10 19 01.0**	**+0.4**
	0.8nm,0.4s,baz=160,slow=6.8,SNR=3.6							
TORD	**Torodi Ar. Bea**	**74.22**	**27**	P	**P**	**10 19 48.4**	**+0.6**
	0.9nm,0.5s,baz=199,slow=6.2,SNR=17							
H08N3	**Diego Garcia H**	**87.81**	**98**	T	T	12 00 32.2		
	baz=231,slow=75,SNR=17							
H08N1	**Diego Garcia H**	**87.82**	**98**	T	T	12 00 29.9		
	baz=231,slow=75,SNR=22							
H08N2	**Diego Garcia H**	**87.83**	**98**	T	T	12 00 32.2		
	baz=231,slow=75,SNR=20							
ASAR	**Alice Springs**	**96.72**	**161**	P	**P**	**10 21 40.6**	**-0.8**
	0.3nm,0.8s,baz=183,slow=4.2,SNR=4.4							
YKA	**Yellowknife Ar**	**138.46**	**316**	PKP	**PKPdf**	**10 27 35.0**	**+0.2**
	1.9nm,0.9s,baz=130,slow=2.0,SNR=4.1							
INK	**Inuvik**	**148.10**	**318**	PKPbc	**PKPdf**	**10 27 52.4**	**+0.9**
	4.9nm,0.9s,baz=83,slow=4.4,SNR=6.5							
SONM	**Songino Array**	**149.59**	**88**	PKPbc	**PKPbc**	**10 27 59.4**	**-0.1**
	0.9nm,0.4s,baz=223,slow=5.3,SNR=4.2							
ILAR	**Eielson Array**	**152.33**	**308**	PKPbc	**PKPbc**	**10 28 03.9**	**-1.2**
	7.3nm,1.1s,baz=142,slow=3.6,SNR=26							

*ISK **21** 10:13:03.7,39.62N×34.51E,h9km,MD2.6*
*ISCJB **21** 10:13:04.6±0.5,39.64N±0.03×34.54E±0.04,h0km, Error ellipse: s-maj=4.9km s-min=3.9km az=23.4*
*CSEM **21** 10:13:04.3±0.3,39.62N×34.53E,h1km,MD2.6, Error ellipse: s-maj=7.6km s-min=5.4km az=110.0,Suspected Mining explosion.*
*DDA **21** 10:13:05.2,39.67N×34.51E,h7km,Md2.6,Suspected Mining explosion.*

ISC 21 10:13:03.7±0.8,39.60N±0.03×34.61E±0.04,h0km,n20, σ0s54/31,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CDAG	**Cicekdag**	**0.19**	**279**	*i* P	**Pg**	**10 13 07.9**	**+0.6**
CDAG				*i* S	**Sg**	**10 13 10.4**	**+0.7**
CDAG	**Cicekdag**	**0.19**	**279**	P	**Pg**	**10 13 07.9**	**+0.6**
CDAG				S	**Sg**	**10 13 10.4**	**+0.7**
YOZ	**Yozgat**	**0.55**	**85**	*e*PG	**Pb**	**10 13 16.1**	**-0.2**
YOZ				*e*Sg	**Sb**	**10 13 25.5**	**+0.7**
YOZ	**Yozgat**	**0.55**	**85**	*e*Pg	**Pb**	**10 13 16.1**	**-0.2**
YOZ				*e*Sg	**Sb**	**10 13 25.5**	**+0.7**
CORM	**Corum**	**0.58**	**1**	*e*PG	**Pg**	**10 13 15.2**	**+0.3**
CORM				*e*SG	**Sg**	**10 13 23.2**	**+0.8**
CORM	**Corum**	**0.58**	**1**	*e*Pg	**Pg**	**10 13 15.2**	**+0.3**
CORM				*e*Sg	**Sg**	**10 13 23.3**	**+0.8**
COAL	**Corum-Alaca**	**0.72**	**23**	*i* P	**Pg**	**10 13 17.8**	**+0.3**
COAL				*i* S	**Sb**	**10 13 29.8**	**+0.1**
COAL	**Corum-Alaca**	**0.72**	**23**	P	**Pg**	**10 13 17.8**	**+0.3**
COAL				S	**Sb**	**10 13 29.8**	**+0.1**
AVNS	**Nevsehir-Avano**	**0.81**	**167**	*i* P	**Pn**	**10 13 22.2**	**-0.3**
AVNS				*i* S	**Sn**	**10 13 35.7**	**+0.5**
AVNS	**Nevsehir-Avano**	**0.81**	**167**	P	**Pn**	**10 13 22.2**	**-0.3**
SERE	**Sereflikochisa**	**1.04**	**232**	*e*PG	**Pg**	**10 13 23.4**	**-0.3**
SERE	**Sereflikochisa**	**1.04**	**232**	*e*Pg	**Pg**	**10 13 23.4**	**-0.3**
CTAK	**Corum_Osmancik**	**1.06**	**7**	*i* P	**Pg**	**10 13 23.8**	**-0.2**
CTAK				*i* S	**Sb**	**10 13 39.3**	**-0.3**
CTAK	**Corum_Osmancik**	**1.06**	**7**	P	**Pg**	**10 13 23.8**	**-0.2**
CTAK				S	**Sb**	**10 13 39.3**	**-0.3**
NIG	**Nigde**	**1.48**	**180**	*e*PN	**Pn**	**10 13 31.3**	**-0.6**
NIG	**Nigde**	**1.48**	**180**	*e*Pn	**Pn**	**10 13 31.3**	**-0.6**
TOS	**Tosya**	**1.51**	**343**	*e*PN	**Pn**	**10 13 31.4**	**-0.7**
TOS	**Tosya**	**1.51**	**343**	*e*Pn	**Pn**	**10 13 31.4**	**-0.7**
SVSK	**Karacayir**	**1.87**	**79**	*e*PN	**Pb**	**10 13 37.9**	**-0.8**
SVSK	**Karacayir**	**1.87**	**79**	*e*Pn	**Pb**	**10 13 37.9**	**-0.8**

*NEIC **21** 10:27:30.4±0.6,16.16N×94.69W,h40km±9km,mb4.1/11, MD4.0(MEX),Error ellipse: s-maj=9.8km s-min=5.3km az=199.0*
*MEX **21** 10:27:31.6±0.5,16.15N×94.75W,h16km±27km,MD4.0*

ISC 21 10:27:28.7±1.0,16.13N±0.06×94.73W±0.03,h26km±8km, n56,σ1s16/75,Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TGIG		**1.67**	**67**	*e*P	**Pn**	**10 27 56.6**	**+0.3**
TGIG				*e*S	**Sn**	**10 28 17.0**	**0.0**
TGIG		**1.67**	**67**	*e*P	**Pn**	**10 27 56.6**	**+0.3**
TGIG				*e*S	**Sn**	**10 28 17.0**	**0.0**
TGBT	**Tuxtla Gutierr**	**1.70**	**68**	*e*P	**Pn**	**10 27 57.8**	**+1.1**
TGBT				*i* S	**Sn**	**10 28 17.8**	**+0.2**
PANG	**Puerto Angel**	**1.74**	**255**	*i* P	**Pn**	**10 27 57.2**	**0.0**
PANG				*e*S	**Sn**	**10 28 17.3**	**-1.3**
TUIG	**Tuzandepetl**	**1.91**	**9**	*e*Pn	**Pn**	**10 27 59.4**	**-0.2**
TUIG				*e*Sn	**Sn**	**10 28 22.3**	**-0.6**
TUIG	**Tuzandepetl**	**1.91**	**9**	*i* P	**Pn**	**10 27 59.8**	**+0.2**
TUIG				*i* S	**Sn**	**10 28 21.9**	**-1.0**
OXBJ	**Oaxaca**	**2.13**	**296**	*i* P	**Pn**	**10 28 02.5**	**-0.2**
OXBJ				*i* S	**Sn**	**10 28 28.0**	**-0.5**
VHO	**Vista Hermosa**	**2.14**	**296**	*e*P	**Pn**	**10 28 04.0**	**+1.1**
VHO				*e*S	**Sn**	**10 28 28.4**	**-0.3**
VHO	**Vista Hermosa**	**2.14**	**296**	*e*P	**Pn**	**10 28 04.0**	**+1.1**
VHO				*e*S	**Sn**	**10 28 28.4**	**-0.3**
CCIG	**Comitan**	**2.50**	**86**	*e*Pn	**Pn**	**10 28 08.1**	**+0.3**
CCIG				*e*S	**Sn**	**10 28 37.4**	**-0.1**
CCIG	**Comitan**	**2.50**	**86**	*e*P	**Pn**	**10 28 08.6**	**+0.8**
CCIG				*e*S	**Sn**	**10 28 37.4**	**-0.1**
PNIG	**Pinotepa**	**3.27**	**275**	*e*P	**Pn**	**10 28 17.8**	**-0.6**
PNIG				*e*S	**Sn**	**10 28 55.0**	**-1.5**
PNIG	**Pinotepa**	**3.27**	**275**	*e*P	**Pn**	**10 28 17.8**	**-0.6**
PNIG				*e*S	**Sn**	**10 28 55.0**	**-1.5**
TPIG	**Tehuac#an**	**3.39**	**313**	*e*P	**Pn**	**10 28 20.8**	**+0.6**
TPIG				*i* S	**Sn**	**10 28 59.2**	**-0.4**
TPIG	**Tehuac#an**	**3.39**	**313**	*e*P	**Pn**	**10 28 20.8**	**+0.6**
TPIG				*i* S	**Sn**	**10 28 59.2**	**-0.4**
TLIG	**Tlapa**	**3.94**	**292**	*e*Pn	**Pn**	**10 28 28.9**	**+1.3**
TLIG				*e*Sn	**Sn**	**10 29 11.4**	**-1.7**
SCIG	**Sabancuy**	**4.40**	**50**	*e*Pn	**Pn**	**10 28 32.8**	**-1.0**
SCIG				*e*Sn	**Sn**	**10 29 21.9**	**-2.5**
UNM	**Universidad Na**	**5.30**	**308**	*e*Pn	**Pn**	**10 28 47.3**	**+0.8**
MOIG	**Morelia**	**7.09**	**301**	*e*Pn	**Pn**	**10 29 12.8**	**+1.7**
TEIG	**Tepich**	**7.36**	**55**	*e*Pn	**Pn**	**10 29 14.3**	**-0.2**
TGUH	**Tegucigalpa,Un**	**7.49**	**105**	*e*Pn	**Pn**	**10 29 16.3**	**-0.1**
LNIG	**Linares**	**9.78**	**334**	*e*Pn	**Pn**	**10 29 49.2**	**+1.4**
ZAIG	**Zacatecas**	**9.91**	**313**	*e*Pn	**Pn**	**10 29 53.0**	**+3.2**
ZAIG				*e*Sn	**Sn**	**10 31 42.4**	**+2.1**
835A	**Beeville**	**12.43**	**347**	P	**Pn**	**10 30 23.0**	**-1.0**
	baz=166						
833A	**Chaparral WMA,**	**12.88**	**341**	P	**Pn**	**10 30 27.6**	**-2.5**
	baz=159,SNR=8.5						
733A	**Divot King Ran**	**13.22**	**342**	P	**Pn**	**10 30 32.3**	**-2.5**
	baz=160						
633A	**Saathoff Ranch**	**13.88**	**344**	P	**Pn**	**10 30 42.5**	**-1.3**
	baz=162,SNR=18						
534A	**Blanco**	**14.25**	**347**	P	**Pn**	**10 30 47.4**	**-1.5**
	baz=165,SNR=52						
533A	**Kerrville**	**14.43**	**345**	P	**Pn**	**10 30 49.2**	**-2.1**
	baz=163						
435B	**Jarrell**	**14.81**	**350**	P	**Pn**	**10 30 55.7**	**-0.8**
	baz=169,SNR=5.4						
434A	**Burnet**	**14.97**	**348**	P	**Pn**	**10 30 57.5**	**-1.2**
	baz=167,SNR=11						
JCT	**Junction City**	**15.02**	**343**	P	**Pn**	**10 30 57.8**	**-1.6**
	baz=161						
JCT	**Junction City**	**15.02**	**343**	*e*Pn	**Pn**	**10 30 59.9**	**+0.5**
	7.3nm,0.5s						
433A	**Art**	**15.09**	**345**	P	**Pn**	**10 30 59.3**	**-1.0**
	baz=164,SNR=15						
335A	**Moody**	**15.28**	**351**	P	**Pn**	**10 31 02.1**	**-0.7**
	baz=170,SNR=8.3						
334A	**Lometa**	**15.47**	**349**	P	**Pn**	**10 31 04.7**	**-0.5**
	baz=167,SNR=24						
TX31	**Lajitas Ar. Si**	**15.50**	**329**	*e*Pn	**Pn**	**10 31 07.0**	**+1.2**
333A	**Richland Sprin**	**15.61**	**346**	P	**Pn**	**10 31 06.4**	**-0.7**
	baz=164,SNR=12						
WHTX	**Lake Whitney,**	**15.98**	**352**	P	**Pn**	**10 31 12.4**	**+0.6**
	baz=170						
WHTX	**Lake Whitney,**	**15.98**	**352**	*e*Pn	**Pn**	**10 31 12.9**	**+1.1**
	30nm,0.5s						
BCIP	**Isla Barro Col**	**16.09**	**114**	*e*Pn	**Pn**	**10 31 15.6**	**+2.3**
	17nm,1.4s						
234A	**Clairette**	**16.10**	**350**	P	**Pn**	**10 31 13.2**	**-0.1**
	baz=168,SNR=20						
233A	**Rising Star**	**16.26**	**347**	P	**Pn**	**10 31 15.0**	**-0.4**
	baz=165						
ABTX	**Abilene, Hawle**	**17.01**	**346**	P	**Pn**	**10 31 24.8**	**-0.2**
	baz=164						
ABTX	**Abilene, Hawle**	**17.01**	**346**	*e*Pn	**Pn**	**10 31 26.4**	**+1.5**
	12nm,0.4s						
Y35A	**Marietta**	**17.82**	**354**	P	**Pn**	**10 31 35.9**	**+1.0**
	baz=173						
MNTX	**Cornudas Mount**	**18.28**	**330**	*e*P	**P**	**10 31 39.9**	**-0.7**
	5.8nm,1.6s						
X35A	**Drake**	**18.30**	**354**	P	**Pn**	**10 31 43.1**	**+2.3**
	baz=173						
MIAR	**Mount Ida**	**18.36**	**3**	*e*P	**P**	**10 31 40.0**	**-1.4**
	22nm,2.0s						
WMOK	**Wichita Mounta**	**18.88**	**350**	*e*P	**P**	**10 31 47.9**	**+0.7**
	13nm,1.6s						
MSTX	**Muleshoe**	**19.18**	**339**	*e*P	**P**	**10 31 49.5**	**-1.1**
	5.5nm,0.9s						
WHAR	**Wooly Hollow**	**19.20**	**6**	*e*P	**P**	**10 31 50.4**	**-0.3**
AMTX	**Amarillo**	**19.69**	**343**	*e*P	**P**	**10 31 56.0**	**0.0**
	8.9nm,0.6s						
TUL1	**Leonard**	**19.72**	**357**	*e*P	**P**	**10 31 56.4**	**+0.1**
	7.1nm,0.9s						
HHAR	**Hobbs**	**20.08**	**2**	*e*P	**P**	**10 32 00.3**	**+0.1**
	14nm,0.2s						
PB01	**IPOC Station P**	**44.48**	**145**	*e*P	**P**	**10 35 37.8**	**-0.4**
PB01				*e*pP	**sP**	**10 35 49.3**	**+0.1**

*ISCJB **21** 10:35:34.3±0.5,38.29S±0.09×16.77W±0.08,h10km, mb4.3/14,MS4.1/19,Error ellipse: s-maj=13.9km s-min=7.9km az=162.0*
*IDC **21** 10:35:35.3±0.7,38.36S×17.03W,h0km,mb4.2/12, mb1 4.3/12,mb1mx4.1/25,mbtmp4.2/12,MS4.0/19, Ms1 4.0/19,ms1mx4.0/20,Error ellipse: s-maj=19.7km s-min=18.1km az=131.0*
*NEIC **21** 10:35:36.8±0.5,38.35S×17.01W,h10km,mb4.9/1,Error ellipse: s-maj=14.5km s-min=14.1km az=45.0*
*GCMT **21** 10:35:36.8±0.2,38.54S×16.85W,h18km±1km,MW5.0/98, Moment Tensor Solution. s38,c40; s98,c132; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-0.69±.13; $M_{\theta\theta}$1.41±.14; $M_{\phi\phi}$-0.72±.11; $M_{r\theta}$1.36±.29; $M_{\theta\phi}$-3.18±.10; $M_{\phi r}$-1.69±.29; Best double couple: $M_0$3.86500×10^{16} NP1:ϕ_s170.00000°,δ87.00000°,λ28.00000°. NP2: ϕ_s78.00000°,δ62.00000°,λ176.00000°. Principal axes: T 4.5400, Plg22.0000°, Azm37.0000°; N -1.3520, Plg62.0000°, Azm176.0000°; P -3.1910, Plg17.0000°, Azm300.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

ISC 21 10:35:36.2±0.6,38.35S±0.1×16.79W±0.08,h10km,n41, σ1s68/21,mb4.2/14,MS4.1/19,1D,Southern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H09W1	**TRISTAN DA CUN**	**3.74**	**72**	Pn	**Pn**	**10 36 32.2**	**-1.8**
	SNR=22						
H09W1				Sn	**Sn**	**10 37 16.4**	**-1.7**
H10S2	**ASCENSION HYDR**	**29.31**	**4**	T	T	11 12 32.5	
	baz=184,slow=75,SNR=89						
H10S3	**ASCENSION HYDR**	**29.32**	**4**	T	T	11 12 32.9	
	baz=184,slow=75,SNR=107						
H10S1	**ASCENSION HYDR**	**29.33**	**4**	T	T	11 12 33.8	
	baz=184,slow=75,SNR=40						
H10N1	**ASCENSION HYDR**	**30.43**	**5**	T	T	11 13 57.2	
	baz=191,slow=79,SNR=33						
H10N3	**ASCENSION HYDR**	**30.43**	**4**	T	T	11 13 57.9	
	baz=191,slow=79,SNR=144						
H10N2	**ASCENSION HYDR**	**30.44**	**5**	T	T	11 13 57.9	
	baz=191,slow=79,SNR=58						
SNAA	**Sanae**	**34.16**	**172**	P	**P**	**10 42 21.2**	**0.0**
	5.2nm,1.0s,baz=326,slow=7.2,SNR=12						
SNAA	**Sanae**	**34.16**	**172**	*e*P	**P**	**10 42 21.7**	**+0.4**
CPUP	**Villa Florida**	**36.02**	**277**	P	**P**	**10 42 37.6**	**+0.1**
	2.2nm,1.0s,baz=86,slow=14,SNR=2.1						
CPUP				LR	LR	10 55 21.0	
	comp=Z,268nm,18.5s,baz=130,slow=33						
BOSA	**Boshof**	**36.12**	**87**	LR	LR	10 54 17.5	
	comp=Z,84nm,18.5s,baz=234,slow=31						
PMSA	**Palmer Station**	**38.11**	**211**	P	**P**	**10 42 54.4**	**-0.5**
	6.8nm,0.8s,baz=74,slow=11,SNR=4.7						
PLCA	**Paso Flores**	**40.99**	**249**	P	**P**	**10 43 19.4**	**-0.1**
	3.3nm,0.8s,baz=165,slow=6.2,SNR=6.3						
PLCA				LR	LR	10 59 08.9	
	comp=Z,346nm,18.2s,baz=134,slow=35						
MATP	**Matopo**	**42.84**	**79**	P	**P**	**10 43 35.7**	**+0.9**
	1.3nm,0.7s,baz=306,slow=6.1,SNR=4.3						
SYO	**Syowa Base**	**42.85**	**154**	*i*eP	**P**	**10 43 33.1**	**-1.0**
SIV	**San Ignacio**	**44.72**	**287**	P	**P**	**10 43 47.0**	**-2.8**
	2.8nm,0.8s,baz=135,slow=9.8,SNR=4.9						
DBIC	**Dimbokro**	**46.13**	**17**	LR	LR	10 58 34.8	
	comp=Z,270nm,20.1s,baz=168,slow=30						
LPAZ	**La Paz**	**49.91**	**281**	P	**P**	**10 44 29.2**	**-1.7**
	2.2nm,0.8s,baz=79,slow=3.0,SNR=7.2						
LPAZ				LR	LR	11 03 14.4	
	comp=Z,139nm,21.9s,baz=122,slow=33						
SAML	**Samuel**	**50.85**	**293**	*e*P	**P**	**10 44 37.9**	**+0.6**
	18nm,1.2s						
MAW	**Mawson**	**51.35**	**151**	P	**P**	**10 44 41.5**	**+1.2**
	3.4nm,1.1s,baz=250,slow=12,SNR=5.6						
MAW				LR	LR	11 03 20.2	
	comp=Z,112nm,19.0s,baz=242,slow=32						
QSPA	**South Pole Qui**	**51.92**	**180**	*e*P	**P**	**10 44 45.8**	**+0.8**
	57nm,1.2s						
QSPA				*e*PcP	**PcP**	**10 45 56.9**	**-0.5**
TORD	**Torodi Ar. Bea**	**54.06**	**22**	P	**P**	**10 45 01.4**	**+0.4**
	2.8nm,0.9s,baz=198,slow=6.8,SNR=11						
TORD				LR	LR	11 03 30.6	
	comp=Z,441nm,19.8s,baz=195,slow=31						
KMBO	**Kilima Mbogo**	**61.72**	**67**	LR	LR	11 11 01.5	
	comp=Z,179nm,18.3s,baz=98,slow=34						
VNDA	**Vanda**	**64.41**	**180**	P	**P**	**10 46 12.8**	**+0.8**
	3.2nm,1.1s,baz=212,slow=4.7,SNR=5.7						
VNDA				LR	LR	11 12 27.9	
	comp=Z,124nm,18.2s,baz=176,slow=34						
ROSC	**El Rosal**	**68.35**	**295**	LR	LR	11 15 54.7	
	comp=Z,302nm,18.1s,baz=96,slow=36						
KEST	**Kesra**	**77.57**	**22**	P	**P**	**10 47 35.1**	**+2.9**
	3.8nm,0.9s,baz=239,slow=5.9,SNR=2.4						
KEST				LR	LR	11 19 17.4	
	comp=Z,364nm,18.3s,baz=186,slow=34						
ESDC	**Sonseca Array**	**78.52**	**10**	LR	LR	11 19 49.0	
	comp=Z,127nm,19.0s,baz=280,slow=34						
BRTR	**Keskin Array B**	**90.39**	**36**	P	**P**	**10 48 39.8**	**+2.1**
	0.8nm,0.8s,baz=188,slow=5.0,SNR=4.5						
BRTR				LR	LR	11 27 29.2	
	comp=Z,17nm,20.9s,baz=216,slow=34						
GERES	**GERESS Array B**	**90.92**	**20**	LR	LR	11 25 53.2	
	comp=Z,150nm,21.7s,baz=222,slow=33						
MLR	**Muntele Rosu**	**91.88**	**29**	LR	LR	11 27 08.4	
	comp=Z,16nm,19.1s,baz=224,slow=34						
VRAC	**Vranov**	**92.13**	**21**	LR	LR	11 29 01.1	
	comp=Z,143nm,18.2s,baz=214,slow=35						
H01W2	**Cape Leeuwin H**	**94.11**	**141**	T	T	12 34 21.0	
	baz=217,slow=75,SNR=108						
H01W3	**Cape Leeuwin H**	**94.12**	**141**	T	T	12 34 21.8	
	baz=217,slow=75,SNR=115						
H01W1	**Cape Leeuwin H**	**94.12**	**141**	T	T	12 34 22.1	
	baz=217,slow=75,SNR=121						
GNI	**Garni**	**96.28**	**43**	LR	LR	11 29 03.2	
	comp=Z,40nm,21.2s,baz=230,slow=33						
KBZ	**Khabaz**	**97.92**	**39**	LR	LR	11 32 11.8	
	comp=Z,47nm,20.4s,baz=219,slow=35						
KVAR	**Kislovodsk Arr**	**97.98**	**39**	LR	LR	11 32 02.7	
	comp=Z,41nm,19.7s,slow=34						
TBI	**Tubuai**	**104.27**	**224**	*e*LR	LR	11 24 07.5	
	148nm,23.0s						
PPT2	**Papeete2**	**108.91**	**228**	*e*LR	LR	11 26 11.9	
	218nm,26.2s						
CMB	**Columbia Colle**	**121.67**	**296**	*e*PKPdf	**PKPdf**	**10 54 26.2**	**-3.9**
ILAR	**Eielson Array**	**140.82**	**329**	PKP	**PKPdf**	**10 55 04.7**	**-0.6**
	0.6nm,0.9s,baz=72,slow=1.3,SNR=3.0						

*ISCJB **21** 10:50:51.0±0.3,26.58N±0.05×126.61E±0.05, h107km±4km,mb3.8/9,Error ellipse: s-maj=10.1km s-min=3.1km az=140.5*
*IDC **21** 10:50:52.5±2.6,26.59N×126.50E,h103km±27km,mb3.6/9, mb1 3.7/11,mb1mx3.5/37,mbtmp3.9/11,Error ellipse: s-maj=37.6km s-min=13.2km az=68.0*
*JMA **21** 10:50:53.0±0.2,26.56N×126.64E,h99km±2km,M3.6*

ISC 21 10:50:52.3±0.7,26.58N±0.06×126.61E±0.06,h105km±7km, n37,σ0s96/55,mb3.9/9,Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JKE	**Kume jima 2**	**0.29**	**148**	P	**Pn**	**10 51 07.4**	**-0.1**
JKE				S	**Sn**	**10 51 17.9**	**-1.0**
JAGN	**Aguni-jima**	**0.56**	**89**	P	**Pn**	**10 51 09.0**	**-0.1**
JAGN				S	**Sn**	**10 51 20.9**	**-0.8**
JJT2	**Tamagusuku 2**	**1.10**	**113**	P	**Pn**	**10 51 14.9**	**+0.6**
JJT2				S	**Sn**	**10 51 30.9**	**0.0**
JNTH	**Nagotoyohara**	**1.26**	**92**	P	**Pn**	**10 51 16.3**	**+0.3**
JNTH				S	**Sn**	**10 51 32.5**	**-1.5**
JIH	**Iheya**	**1.29**	**69**	P	**Pn**	**10 51 16.8**	**+0.4**
JIH				S	**Sn**	**10 51 33.6**	**-1.0**
JOW	**Kunigami**	**1.51**	**80**	P	**Pn**	**10 51 19.1**	**+0.2**
	82nm,0.3s,baz=115,slow=28,SNR=99						
JOW				S	**Sn**	**10 51 37.3**	**-1.9**
	425nm,0.3s,baz=142,slow=19,SNR=125						
JOW	**Kunigami**	**1.51**	**80**	P	**Pn**	**10 51 19.1**	**+0.2**
JOW				S	**Sn**	**10 51 37.7**	**-1.5**
JOKE	**Okinoerabujima**	**1.91**	**65**	P	**Pn**	**10 51 23.8**	**-0.2**
JIKM	**Ikemajima**	**2.06**	**217**	P	**Pn**	**10 51 26.3**	**+0.5**
JIKM				S	**Sn**	**10 51 50.9**	**-0.5**
JOGS	**Gusukube**	**2.11**	**211**	P	**Pn**	**10 51 27.0**	**+0.4**
JOGS				S	**Sn**	**10 51 52.4**	**-0.3**
JMJ	**Miyako jima 2**	**2.12**	**214**	P	**Pn**	**10 51 27.0**	**+0.3**
JMJ				S	**Sn**	**10 51 52.4**	**-0.5**
JIRB	**Irabujima**	**2.17**	**217**	P	**Pn**	**10 51 27.3**	**0.0**
JIRB				S	**Sn**	**10 51 52.8**	**-1.3**
JTK	**Tokunoshima**	**2.41**	**59**	P	**Pn**	**10 51 30.3**	**-0.1**
JTK				S	**Sn**	**10 51 57.6**	**-1.9**
JTJ	**Tarama**	**2.59**	**222**	P	**Pn**	**10 51 32.7**	**0.0**
JTJ				S	**Sn**	**10 52 02.0**	**-1.8**
JAMN	**Amaminishikomi**	**2.82**	**53**	P	**Pn**	**10 51 35.3**	**-0.5**
JISG	**Ishigakijimahi**	**2.87**	**227**	P	**Pn**	**10 51 36.3**	**-0.2**
JISG				S	**Sn**	**10 52 08.7**	**-1.8**
JIJ	**Ishigaki jima**	**3.14**	**226**	P	**Pn**	**10 51 39.2**	**-0.8**
JIJ				S	**Sn**	**10 52 14.9**	**-1.9**
JAM	**Amami Oshima**	**3.23**	**55**	P	**Pn**	**10 51 40.8**	**-0.4**
JAM				S	**Sn**	**10 52 17.3**	**-1.6**
JKRS	**Kuro-shima**	**3.31**	**226**	P	**Pn**	**10 51 41.8**	**-0.6**
JKRS				S	**Sn**	**10 52 19.9**	**-1.1**
IRIF	**Iriomote-Funau**	**3.43**	**230**	P	**Pn**	**10 51 43.4**	**-0.6**
JTAJ	**Takarajima**	**3.44**	**41**	P	**Pn**	**10 51 44.8**	**+0.7**
JZK	**Kikaishima**	**3.45**	**59**	P	**Pn**	**10 51 44.2**	**0.0**
HATJ	**Hateruma jima**	**3.57**	**226**	P	**Pn**	**10 51 45.1**	**-0.7**
YOJ	**Yonaguni jima**	**3.88**	**238**	P	**Pn**	**10 51 50.4**	**+0.5**
JYNG	**Yonagunijimaku**	**3.93**	**238**	P	**Pn**	**10 51 51.1**	**+0.4**
JMZ	**Minamidaito 2**	**4.21**	**99**	P	**Pn**	**10 51 52.9**	**-1.5**
JNU	**Nakatsue**	**7.50**	**29**	P	**Pn**	**10 52 40.6**	**+1.6**
	2.4nm,0.3s,baz=290,slow=3.1,SNR=22						
JNU				S	**Sn**	**10 54 01.7**	**-0.8**
	baz=344,slow=20,SNR=1.8						
KSRS	**Korea Array**	**10.90**	**6**	P	**Pn**	**10 53 26.9**	**+1.8**
	0.3nm,0.3s,baz=183,slow=12,SNR=4.0						
SONM	**Songino Array**	**26.49**	**329**	P	**P**	**10 56 20.2**	**+0.4**
	0.8nm,0.4s,baz=133,slow=8.1,SNR=6.7						
MKAR	**Makanchi Array**	**40.23**	**312**	P	**P**	**10 58 18.1**	**-0.4**
	0.9nm,0.5s,baz=98,slow=11,SNR=12						
ZALV	**Zalesovo Beam**	**41.10**	**323**	P	**P**	**10 58 24.7**	**-0.9**
	1.6nm,0.3s,baz=106,slow=11,SNR=5.1						
WRA	**Warramunga Arr**	**46.85**	**170**	P	**P**	**10 59 12.1**	**+0.3**
	1.0nm,0.5s,baz=352,slow=8.6,SNR=15						
ASAR	**Alice Springs**	**50.44**	**171**	P	**P**	**10 59 40.4**	**+1.0**
	0.5nm,0.5s,baz=358,slow=14,SNR=23						
STKA

CAW	**Cannon Point**	**1.08**	**135**		PN	Pn	11 04 26.4	+0.2
CAW					SN	Sn	11 04 42.0	-0.8
CAW					AML	AML	11 04 42.9	
PKE	**Pukeiti**	**1.16**	**358**		PN	Pn	11 04 26.7	-0.4
DREZ	**Durham Road**	**1.17**	**6**	⇑	PN	Pn	11 04 27.0	-0.2
MRZ	**Mangatainoka R**	**1.21**	**105**		PN	Pn	11 04 27.5	-0.2
MRZ					AML	AML	11 04 44.6	
MRZ					AML	AML	11 04 45.0	
BHW	**Baring Head**	**1.23**	**150**	⇑	PN	Pn	11 04 27.7	-0.1
BHW					SN	Sn	11 04 44.1	-1.5
BHW					AML	AML	11 04 46.0	
HOWZ	**Holdsworth Sta**	**1.25**	**117**		PN	Pn	11 04 28.0	-0.1
HOWZ					SN	Sn	11 04 44.3	-1.7
HOWZ					AML	AML	11 04 44.6	
QRZ	**Quartz Range**	**1.25**	**247**		PN	Pn	11 04 27.1	-1.0
MHEZ	**Mangahewa**	**1.29**	**10**	⇑	PN	Pn	11 04 28.5	-0.1
POWZ	**Post Office Ro**	**1.32**	**92**		PN	Pn	11 04 28.6	-0.3
POWZ					AML	AML	11 04 49.1	
POWZ					AML	AML	11 04 49.1	
VRZ	**Vera Road**	**1.34**	**24**	⇑	PN	Pn	11 04 29.0	-0.2
BSWZ	**Blackbirch Sta**	**1.37**	**185**		PN	Pn	11 04 29.7	+0.2
BSWZ					AML	AML	11 04 50.2	
BSWZ					AML	AML	11 04 50.3	
MTW	**Mount Morrison**	**1.37**	**127**		PN	Pn	11 04 29.3	-0.2
MTW					SN	Sn	11 04 46.9	-1.6
MTW					AML	AML	11 04 47.7	
CMWZ	**Cape Campbell**	**1.40**	**175**	⇑	PN	Pn	11 04 30.6	+0.7
CMWZ					AML	AML	11 04 56.1	
CMWZ					AML	AML	11 05 08.8	
MSWZ	**Moikau Station**	**1.40**	**140**	⇑	PN	Pn	11 04 29.8	-0.1
MSWZ					AML	AML	11 04 49.0	
MSWZ					AML	AML	11 04 49.0	
PKVZ	**Pokaka**	**1.46**	**44**		PN	Pn	11 04 30.7	0.0
MTVZ	**Mangateitei**	**1.46**	**49**		PN	Pn	11 04 30.4	-0.2
TIWZ	**Tintock**	**1.47**	**107**	⇓	PN	Pn	11 04 30.4	-0.3
TIWZ					AML	AML	11 04 48.8	
TIWZ					AML	AML	11 04 48.8	
PAWZ	**Paruwai Farm**	**1.47**	**135**	⇑	PN	Pn	11 04 30.6	-0.1
PAWZ					SN	Sn	11 04 49.1	-1.6
PAWZ					AML	AML	11 04 49.3	
PRWZ	**Pori Road**	**1.48**	**99**		PN	Pn	11 04 30.8	0.0
PRWZ					AML	AML	11 04 49.7	
PRWZ					AML	AML	11 04 51.8	
TSZ	**Takapari Road**	**1.50**	**79**	⇓	PN	Pn	11 04 30.4	-0.7
TSZ					AML	AML	11 04 51.3	
TSZ					AML	AML	11 04 52.5	
PLWZ	**Palliser**	**1.52**	**143**	⇑	PN	Pn	11 04 31.2	-0.2
PLWZ					AML	AML	11 04 50.5	
PLWZ					AML	AML	11 04 50.8	
TRWZ	**Turoa**	**1.56**	**48**		PN	Pn	11 04 31.8	-0.3
WNVZ	**Wahianoa**	**1.57**	**50**		PN	Pn	11 04 31.7	-0.4
DRZ	**Dome Shelter**	**1.59**	**48**		PN	Pn	11 04 33.3	+0.8
TMWZ	**Te Maipa**	**1.59**	**119**		PN	Pn	11 04 32.1	-0.1
TMWZ					AML	AML	11 04 51.7	
TMWZ					AML	AML	11 04 51.8	
FWVZ	**Far West T-bar**	**1.60**	**47**		PN	Pn	11 04 32.0	-0.4
WHVZ	**Whangaehu Hut**	**1.60**	**49**		PN	Pn	11 04 32.2	-0.3
MOVZ	**Moawhango**	**1.62**	**55**		PN	Pn	11 04 31.9	-0.7
DVHZ	**Dannevirke**	**1.62**	**89**	⇓	PN	Pn	11 04 31.8	-0.7
DVHZ					AML	AML	11 04 54.9	
DVHZ					AML	AML	11 04 54.9	
TRWZ	**Traveller**	**1.63**	**131**		PN	Pn	11 04 32.5	-0.1
TRWZ					AML	AML	11 04 53.2	
TRWZ					AML	AML	11 04 53.4	
TUVZ	**Tukino**	**1.65**	**49**		PN	Pn	11 04 32.5	-0.4
THZ	**Tophouse**	**1.65**	**211**	⇑	PN	Pn	11 04 32.6	-0.4
TWVZ	**Taurewa**	**1.67**	**41**		PN	Pn	11 04 32.6	-0.6
NGZ	**Ngauruhoe**	**1.68**	**46**		PN	Pn	11 04 32.9	-0.5
PNHZ	**Pukenui**	**1.71**	**76**		PN	Pn	11 04 32.7	-1.0
PNHZ					AML	AML	11 04 56.2	
PNHZ					AML	AML	11 04 56.9	
BFZ	**Birch Farm**	**1.71**	**102**	⇓	PN	Pn	11 04 33.0	-0.6
BFZ					AML	AML	11 04 55.6	
BFZ					AML	AML	11 04 56.2	
WTVZ	**West Tongariro**	**1.71**	**45**		PN	Pn	11 04 33.1	-0.7
OTVZ	**Oturere**	**1.72**	**47**		PN	Pn	11 04 33.5	-0.4
CPWZ	**Castlepoint**	**1.73**	**110**		PN	Pn	11 04 34.1	+0.2
CPWZ					AML	AML	11 04 58.4	
CPWZ					AML	AML	11 04 58.5	
KRVZ	**Karewarewa**	**1.76**	**45**		PN	Pn	11 04 34.2	-0.2
WPHZ	**Waipukurau**	**1.86**	**82**		PN	Pn	11 04 34.7	-0.7
WPHZ					AML	AML	11 04 59.2	
WPHZ					AML	AML	11 04 59.3	
KATZ	**Kakaramea**	**1.87**	**43**		PN	Pn	11 04 35.9	+0.1
KRZ	**Kereru**	**1.92**	**69**		PN	Pn	11 04 35.1	-1.2
KRHZ					AML	AML	11 05 01.4	
KRHZ					AML	AML	11 05 03.0	
HIZ	**Hauiti**	**1.94**	**19**		PN	Pn	11 04 36.0	-0.5
PRHZ	**Porangahau**	**1.98**	**88**		PN	Pn	11 04 36.3	-0.7
PRHZ					AML	AML	11 05 03.0	
PRHZ					AML	AML	11 05 05.3	
RATZ	**Rangitukua**	**1.99**	**43**		PN	Pn	11 04 37.0	-0.3
KWHZ	**Kaweka Forest**	**2.05**	**64**		PN	Pn	11 04 36.8	-1.1
KWHZ					AML	AML	11 05 04.0	
KWHZ					AML	AML	11 05 10.0	
WATZ	**Wairara**	**2.10**	**39**		PN	Pn	11 04 38.0	-0.5
KHZ	**Kahutara**	**2.10**	**190**		PN	Pn	11 04 38.2	-0.3
KHZ					AML	AML	11 05 04.6	
KHZ					AML	AML	11 05 04.7	
PXZ	**Pawanui**	**2.18**	**83**		PN	Pn	11 04 38.2	-1.3
PXZ					AML	AML	11 05 07.4	
PXZ					AML	AML	11 05 08.5	
DSZ	**Denniston Nort**	**2.19**	**230**	⇑	PN	Pn	11 04 39.2	-0.6
BKZ	**Black Stump Fm**	**2.23**	**59**	⇑	PN	Pn	11 04 38.7	-1.5
BKZ					AML	AML	11 05 06.4	
BKZ					AML	AML	11 05 07.5	
MCHZ	**McNeill Hill**	**2.23**	**67**		PN	Pn	11 04 39.2	-1.1
MCHZ					AML	AML	11 05 08.1	
MCHZ					AML	AML	11 05 22.2	
KAHZ	**Kahuranaki**	**2.24**	**77**		PN	Pn	11 04 39.6	-0.9
KAHZ					AML	AML	11 05 09.1	
KUTZ	**Kaahu Road**	**2.31**	**37**		PN	Pn	11 04 40.9	-0.4
TLZ	**Tolley Road**	**2.33**	**30**		PN	Pn	11 04 40.5	-1.0
CKHZ	**Cape Kidnapper**	**2.43**	**74**		PN	Pn	11 04 41.6	-1.2
CKHZ					AML	AML	11 05 12.9	
CKHZ					AML	AML	11 05 14.6	
NMHZ	**Naumai**	**2.47**	**60**		PN	Pn	11 04 42.3	-1.1
NMHZ					AML	AML	11 05 17.2	
NMHZ					AML	AML	11 05 22.6	
ARHZ	**Aropaoanui**	**2.52**	**65**		PN	Pn	11 04 42.4	-1.5
ARHZ					AML	AML	11 05 14.8	
ARHZ					AML	AML	11 05 20.8	
LTZ	**Lake Taylor**	**2.77**	**208**		PN	Pn	11 04 45.9	-1.4
WHHZ	**Waihua**	**2.77**	**64**		AML	AML	11 05 21.7	
WHHZ					AML	AML	11 05 23.5	
TOZ	**Tahuroa Road**	**2.85**	**24**	⇑	PN	Pn	11 04 47.0	-1.3
SNGZ	**Shannon Statio**	**2.99**	**59**		PN	Pn	11 04 51.4	+1.2
SNGZ					AML	AML	11 05 24.7	
SNGZ					AML	AML	11 05 27.6	
INZ	**Inchbonnie**	**3.07**	**219**		PN	Pn	11 04 50.1	-1.1
URZ	**Urewera**	**3.17**	**50**		PN	Pn	11 04 50.0	-2.5
URZ					AML	AML	11 05 26.8	
URZ					AML	AML	11 05 27.0	
RAGZ	**Rawiri**	**3.20**	**56**		PN	Pn	11 04 53.9	+0.8
RAGZ					AML	AML	11 05 29.1	
RAGZ					AML	AML	11 05 29.6	
RIGZ	**Rimuhau**	**3.31**	**61**		PN	Pn	11 04 52.0	-2.5
RIGZ					AML	AML	11 05 32.5	
RIGZ					AML	AML	11 05 32.9	
AWAZ	**Awhitu Peninsu**	**3.31**	**8**		PN	Pn	11 04 53.9	-0.6
KBAZ	**Karaka Road Bo**	**3.32**	**12**		PN	Pn	11 04 54.1	-0.4
OXZ	**Oxford**	**3.33**	**206**	⇓	PN	Pn	11 04 52.0	-2.6
MKAZ	**Moumakai**	**3.36**	**15**		PN	Pn	11 04 53.9	-1.1
MWZ	**Matawai**	**3.37**	**54**		PN	Pn	11 04 52.3	-3.0
MWZ					AML	AML	11 05 31.8	
MWZ					AML	AML	11 05 44.4	
CRLZ	**Canterbury Las**	**3.39**	**198**		PN	Pn	11 04 52.9	-2.6
ETAZ	**East Tamaki Re**	**3.46**	**12**		PN	Pn	11 04 55.6	-0.8
MQZ	**McQueen's Vall**	**3.51**	**197**		PN	Pn	11 04 54.2	-2.9
RVAZ	**Riverhead Bore**	**3.60**	**7**	⇓	PN	Pn	11 04 57.6	-0.7
WIAZ	**Waiheke Island**	**3.65**	**14**		PN	Pn	11 04 58.4	-0.6
WVZ	**Waitaha Valley**	**3.68**	**221**		PN	Pn	11 04 57.7	-1.7
ABAZ	**Army Bay**	**3.79**	**10**		PN	Pn	11 05 00.4	-0.5
KUZ	**Kuaotunu**	**3.83**	**21**	⇓	PN	Pn	11 04 59.7	-1.7
HAZ	**Te Kaha**	**3.90**	**50**		PN	Pn	11 04 58.6	-3.7
HAZ					AML	AML	11 05 50.5	
HAZ					AML	AML	11 05 52.9	
PKGZ	**Pakihiroa**	**3.98**	**53**		PN	Pn	11 05 01.3	-2.3
PUZ	**Puketiti**	**3.99**	**57**		PN	Pn	11 05 00.2	-3.4
RPZ	**Rata Peaks**	**4.03**	**213**		PN	Pn	11 05 02.5	-1.6
WMGZ	**Waiomatatini S**	**4.24**	**55**		PN	Pn	11 05 04.0	-2.9
WMGZ					AML	AML	11 05 52.5	
WMGZ					AML	AML	11 05 52.6	
WCZ	**Waipu Caves**	**4.41**	**3**		PN	Pn	11 05 07.8	-1.4
FOZ	**Fox Glacier**	**4.48**	**223**		PN	Pn	11 05 07.6	-2.4
LBZ	**Lake Benmore**	**4.94**	**214**		PN	Pn	11 05 13.7	-2.6
JCZ	**Jackson Bay**	**5.39**	**225**		PN	Pn	11 05 19.8	-2.8
TUZ	**Tuapeka**	**6.46**	**208**		PN	Pn	11 05 35.6	-1.3

*IDC **21** 11:10:38.5±1.3, 7°.48S×154°.88E, h0km, mb3.9/11, mb1 4.0/12, mb1mx3.9/39, mbtmp3.9/12, ML2.0/1, Error ellipse: s-maj=40.0km s-min=19.8km az=123.0*
*ISCJB **21** 11:10:41.2±0.9, 7°.6S±0°.1×154°.9E±0°.1, h31km, mb3.9/11, Error ellipse: s-maj=23.2km s-min=11.0km az=146.1*

ISC 21 11:10:43.0±1.1, 7°.5S±0°.2×154°.9E±0°.1, h31km, n13, σ1§00/16, mb3.9/11, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°		Phase	ID	Time	Res
					Op	ISC	h m s	ISC
PMG	**Port Moresby**	**7.90**	**256**		Pn	**Pn**	**11 12 35.8**	**-0.1**
	1.1nm,0.3s,baz=66,slow=10.0,SNR=3.6							
PMG					Sn	**Sn**	**11 14 04.9**	**+0.7**
	2.6nm,0.3s,baz=298,slow=18,SNR=6.5							
WRA	**Warramunga Arr**	**23.45**	**236**		P	**P**	**11 15 49.4**	**-0.6**
	4.1nm,0.7s,baz=58,slow=9.4,SNR=36							
WRA					PcP	**PcP**	**11 19 38.0**	**+2.3**
	0.4nm,1.0s,baz=56,slow=2.1,SNR=4.7							
ASAR	**Alice Springs**	**25.76**	**229**		P	**P**	**11 16 11.0**	**-0.3**
	0.3nm,0.6s,baz=65,slow=8.9,SNR=8.3							
STKA	**Stephens Creek**	**27.21**	**205**		P	**P**	**11 16 24.3**	**+0.2**
	1.1nm,0.6s,baz=26,slow=8.2,SNR=2.5							
FITZ	**Fitzroy Crossi**	**30.38**	**247**		P	**P**	**11 16 51.3**	**-1.1**
	1.3nm,0.9s,baz=75,slow=12,SNR=4.5							
CMAR	**Chiang Mai Arr**	**60.96**	**296**		P	**P**	**11 20 53.9**	**+0.2**
	1.1nm,0.6s,baz=122,slow=6.0,SNR=6.3							
SONM	**Songino Array**	**69.76**	**327**		P	**P**	**11 21 50.9**	**+0.5**
	0.6nm,0.5s,baz=123,slow=5.5,SNR=6.2							
MKAR	**Makanchi Array**	**83.77**	**319**		P	**P**	**11 23 09.9**	**+0.6**
	1.7nm,0.8s,baz=100,slow=6.8,SNR=11							
ILAR	**Eielson Array**	**83.91**	**21**		P	**P**	**11 23 09.1**	**-0.4**
	0.8nm,0.9s,baz=247,slow=4.4,SNR=6.2							
ZALV	**Zalesovo Beam**	**84.59**	**326**		P	**P**	**11 23 13.0**	**-0.2**
	1.4nm,0.6s,baz=114,slow=3.6,SNR=3.2							
KURBB	**Kurchatov Arra**	**87.25**	**322**		P	**P**	**11 23 25.7**	**-0.7**
	0.2nm,0.3s,baz=122,slow=1.2,SNR=3.2							
BVAR	**Borovoye Array**	**92.69**	**323**		P	**P**	**11 23 50.0**	**-1.9**
	0.8nm,0.7s,baz=104,slow=6.1,SNR=4.0							
TORD	**Torodi Ar. Bea**	**153.10**	**284**		PKPbc	**PKPbc**	**11 30 39.4**	**+0.7**
	1.5nm,0.7s,baz=65,slow=2.4,SNR=10							
TORD					PKPab	**PKPab**	**11 30 50.2**	**0.0**
	1.5nm,0.8s,baz=82,slow=2.5,SNR=6.3							

*KRSC **21** 11:16:24.9±1.7, 51°.52N×152°.30E, h540km±29km, ML4.3*
*ISCJB **21** 11:16:26.8±0.6, 51°.98N±0°.10×151°.64E±0°.09, h500km, mb3.2/8, Error ellipse: s-maj=13.0km s-min=7.1km az=171.6*
*MOS **21** 11:16:26.5±0.9, 51°.92N×151°.51E, h501km, mb3.7/3, Error ellipse: s-maj=21.3km s-min=12.6km az=47.6*
*IDC **21** 11:16:28.5±1.5, 52°.03N×151°.46E, h511km±19km, mb2.7/7, mb1 3.0/10, mb1mx2.7/58, mbtmp3.7/10, Error ellipse: s-maj=21.2km s-min=16.8km az=140.0*

ISC 21 11:16:27.7±0.9, 52°.0N±0°.1×151°.88E±0°.09, h500km, n39, σ1§90/50, mb3.3/8, Sea of Okhotsk

Code	Station Name	Δ°	AZ°		Phase	ID	Time	Res
					Op	ISC	h m s	ISC
APC	**Apacha**	**3.37**	**71**		P	**P**	**11 17 43.0**	**+1.9**
APC	**Apacha**	**3.37**	**71**		*e*P	**P**	**11 17 43.0**	**+1.9**
PETK	**Petropavlovsk-**	**3.73**	**70**		P	**P**	**11 17 46.3**	**+2.4**
	1.3nm,0.3s,baz=220,slow=2.5,SNR=10							
PETK					S	**S**	**11 18 47.2**	**+1.1**
	baz=256,slow=30,SNR=1.8							
KDTR	**Khodutka, Kamc**	**3.84**	**90**		*e*P	**P**	**11 17 45.5**	**+0.8**
KDTR					*e*S	**S**	**11 18 46.4**	**-1.2**
KRMR	**Karymshinskiy**	**3.92**	**75**		P	**P**	**11 17 47.4**	**+2.0**
KRMR	**Karymshinskiy**	**3.92**	**75**		*e*P	**P**	**11 17 47.4**	**+2.0**
GNL	**Ganaly**	**4.06**	**62**		P	**P**	**11 17 48.7**	**+2.1**
GNL	**Ganaly**	**4.06**	**62**		*e*P	**P**	**11 17 48.7**	**+2.1**
RUS	**Russkaya**	**4.11**	**81**		P	**P**	**11 17 48.3**	**+1.5**
RUS					S	**S**	**11 18 51.3**	**-0.2**
RUS	**Russkaya**	**4.11**	**81**		*e*P	**P**	**11 17 48.3**	**+1.5**
RUS					*e*S	**S**	**11 18 51.3**	**-0.2**
PET	**Petropavlovsk**	**4.27**	**73**		P	**P**	**11 17 50.3**	**+2.1**
PET					S	**S**	**11 18 55.3**	**+1.3**
DALK	**Dalny**	**4.33**	**73**		P	**P**	**11 17 50.8**	**+2.1**
DALK					S	**S**	**11 18 56.0**	**+1.1**
DALK	**Dalny**	**4.33**	**73**		*e*P	**P**	**11 17 50.8**	**+2.1**
DALK					*e*S	**S**	**11 18 56.0**	**+1.1**
KRX	**Arik**	**4.35**	**69**		P	**P**	**11 17 50.9**	**+1.9**
KRX	**Arik**	**4.35**	**69**		*e*P	**P**	**11 17 50.9**	**+1.9**
AVH	**Avacha**	**4.38**	**70**		P	**P**	**11 17 50.7**	**+1.5**
AVH	**Avacha**	**4.38**	**70**		*e*P	**P**	**11 17 50.7**	**+1.5**
KRER	**Koryakskii**	**4.39**	**70**		P	**P**	**11 17 49.7**	**+0.2**
KRER	**Koryakskii**	**4.39**	**70**		*e*P	**P**	**11 17 49.7**	**+0.2**
UGLR	**Uglovaya**	**4.41**	**71**		P	**P**	**11 17 51.9**	**+2.4**
UGLR	**Uglovaya**	**4.41**	**71**		*e*P	**P**	**11 17 51.9**	**+2.4**
SDLR	**Sedlovina**	**4.46**	**70**		P	**P**	**11 17 51.7**	**+1.7**
SDLR	**Sedlovina**	**4.46**	**70**		*e*P	**P**	**11 17 51.7**	**+1.7**
SPN	**Mys Shipunski**	**5.10**	**74**		P	**P**	**11 17 54.8**	**-0.6**
SPN					S	**S**	**11 19 03.6**	**-3.6**
SPN	**Mys Shipunski**	**5.10**	**74**		*e*P	**P**	**11 17 54.8**	**-0.6**
SPN					*e*S	**S**	**11 19 03.6**	**-3.6**
MKZ	**Mys Kozlova**	**6.45**	**62**		P	**P**	**11 18 08.6**	**+0.4**
MKZ					S	**S**	**11 19 26.6**	**-4.0**
MKZ	**Mys Kozlova**	**6.45**	**62**		*e*P	**P**	**11 18 08.6**	**+0.4**
MKZ					*e*S	**S**	**11 19 26.6**	**-4.0**
MA2	**Magadan**	**7.65**	**356**		P	**P**	**11 18 21.5**	**+1.3**
	0.3nm,0.3s,baz=142,slow=9.6,SNR=4.3							
KBG	**Krutoberegovo**	**7.67**	**5**		*e*S	**S**	**11 19 52.2**	**-0.9**
BKI	**Bering**	**8.98**	**63**		*e*S	**S**	**11 20 17.1**	**-1.0**
SEY	**Seymchan**	**11.00**	**1**		P	**P**	**11 18 57.2**	**+1.9**
	0.2nm,0.3s,baz=192,slow=11,SNR=13							
ILAR	**Eielson Array**	**33.13**	**43**		P	**P**	**11 22 22.1**	**+0.7**
	0.6nm,0.8s,baz=276,slow=9.7,SNR=6.7							
INK	**Inuvik**	**37.77**	**36**		P	**P**	**11 23 00.5**	**+0.6**
	1.1nm,0.4s,baz=291,slow=7.7,SNR=9.7							
KURK	**Kurchatov**	**43.97**	**299**		P	**P**	**11 23 47.7**	**-1.8**
KURK					pmax	pmax		
	comp=Z,1.0nm,0.6s							
MKAR	**Makanchi Array**	**44.02**	**292**		P	**P**	**11 23 47.5**	**-2.6**
	comp=Z,0.5nm,0.3s,baz=57,slow=7.7,SNR=7.9							
KURBB	**Kurchatov Arra**	**44.06**	**299**		P	**P**	**11 23 47.7**	**-2.6**
	comp=Z,0.6nm,0.5s,baz=61,slow=7.6,SNR=3.5							
WRA	**Warramunga Arr**	**73.23**	**197**		P	**P**	**11 27 06.8**	**-0.5**
	comp=Z,0.3nm,0.5s,baz=14,slow=6.4,SNR=3.1							
TXAR	**Lajitas Array**	**75.63**	**61**		P	**P**	**11 27 22.4**	**+1.3**
	comp=Z,0.1nm,0.5s,baz=327,slow=6.5,SNR=2.7							
ASAR	**Alice Springs**	**76.94**	**197**		P	**P**	**11 27 28.1**	**0.0**
	comp=Z,0.8nm,0.8s,baz=7.9,slow=5.4,SNR=14							

*IDC **21** 11:38:49.2±1.1, 43°.18N×87°.55E, h0km, mb3.7/5, mb1 3.9/9, mb1mx3.6/50, mbtmp3.7/9, ML3.3/4, Error ellipse: s-maj=37.6km s-min=15.0km az=59.0*
*NNC **21** 11:38:49.6±5.2, 43°.25N×87°.55E, h0km, mb3.9, mpv3.5, Error ellipse: s-maj=40.8km s-min=33.2km az=86.0*
*ISCJB **21** 11:38:52.2±0.7, 43°.24N±0°.07×87°.56E±0°.09, h33km, mb3.5/5, Error ellipse: s-maj=12.3km s-min=5.9km az=135.6*

ISC 21 11:38:54.7±0.9, 43°.23N±0°.09×87°.61E±0°.08, h35km, n15, σ1§67/21, mb3.5/5, 8C-6D, Northern Xinjiang

Code	Station Name	Δ°	AZ°		Phase	ID	Time	Res
					Op	ISC	h m s	ISC
MK31	**Makanchi Array**	**5.19**	**315**	⇓	Pn	**Pn**	**11 40 09.4**	**-0.5**
	1.0nm,0.2s,baz=128,slow=14,SNR=101							
MK31				⇓	Sn	**Sn**	**11 41 10.0**	**+1.6**
	4.9nm,0.4s,baz=126,slow=25							
MK31				⇑	Lg	Lg	11 41 32.3	
	9.6nm,0.6s,baz=138,slow=30							
MKAR	**Makanchi Array**	**5.19**	**315**		Pn	**Pn**	**11 40 09.0**	**-0.8**
	2.8nm,0.3s,baz=131,slow=14,SNR=51							
MKAR					Sn	**Sn**	**11 41 10.4**	**+2.0**
	1.8nm,0.3s,baz=130,slow=23,SNR=3.7							
MKAR					Lg	Lg	11 41 29.1	
	2.2nm,0.3s,baz=133,slow=28,SNR=5.6							
MAKZ	**Makanchi**	**5.36**	**314**	⇑	Pn	**Pn**	**11 40 11.7**	**-0.5**
	2.8nm,0.4s							
MAKZ				⇑	Sn	**Sn**	**11 41 14.2**	**+1.5**
	4.9nm,0.5s							
MAKZ				⇑	Lg	Lg	11 41 38.0	
	5.0nm,0.5s							
PDGK	**Podgornoye**	**5.93**	**274**	⇓	Pn	**Pn**	**11 40 17.8**	**-2.3**
	3.1nm,0.4s							
PDGK				⇓	Lg	Lg	11 41 53.8	
	34nm,1.2s							
KURBB	**Kurchatov Arra**	**9.65**	**323**		Pn	**Pn**	**11 41 08.3**	**-2.7**
	0.2nm,0.3s,baz=134,slow=13,SNR=26							
KURBB					Sn	**Sn**	**11 42 59.3**	**+1.2**
	0.1nm,0.3s,baz=298,slow=33,SNR=4.3							
KURBB					Lg	Lg	11 44 03.6	
	0.1nm,0.3s,baz=129,slow=30,SNR=4.6							
KURBB	**Kurchatov Arra**	**9.65**	**323**	⇑	Pn	Pn	11 41 06.2	-4.8
	3.3nm,0.8s							
KURBB				⇑	Sn	**Sn**	**11 42 57.2**	**-0.9**
	3.1nm,0.6s							
KURBB				⇓	Lg	Lg	11 43 54.1	
	7.3nm,0.5s							
KURK	**Kurchatov**	**9.68**	**324**	⇑	Pn	**Pn**	**11 41 07.4**	**-4.0**
	1.9nm,0.7s							
KURK				⇑	Sn	**Sn**	**11 42 58.3**	**-0.5**
	2.0nm,0.7s							
KURK				⇓	Lg	Lg	11 43 54.1	
	6.1nm,0.9s							
ZALV	**Zalesovo Beam**	**10.88**	**351**		Pn	**Pn**	**11 41 25.8**	**-2.0**
	0.5nm,0.3s,baz=186,slow=12,SNR=2.1							
ZALV					Sn	**Sn**	**11 43 29.3**	**+1.0**
	0.4nm,0.3s,baz=158,slow=28,SNR=2.8							
SONM	**Songino Array**	**13.94**	**64**		Pn	**Pn**	**11 42 10.7**	**+0.9**
	0.2nm,0.3s,baz=268,slow=14,SNR=2.8							
BVAR	**Borovoye Array**	**15.07**	**317**		Pn	**Pn**	**11 42 23.7**	**-1.2**
	0.2nm,0.3s,baz=110,slow=12,SNR=3.4							
NRIK	**Noril'sk**	**26.18**	**360**		P	**P**	**11 44 26.6**	**+1.1**
	1.5nm,0.4s,baz=173,slow=7.0,SNR=4.5							
CMAR	**Chiang Mai Arr**	**26.49**	**155**		P	**P**	**11 44 29.3**	**+0.5**
	0.8nm,0.6s,baz=339,slow=7.6,SNR=4.9							
ILAR	**Eielson Array**	**64.23**	**23**		P	**P**	**11 49 25.6**	**-0.1**
	0.3nm,0.7s,baz=324,slow=5.6,SNR=3.7							
WRA	**Warramunga Arr**	**76.12**	**135**		P	**P**	**11 50 38.1**	**-0.9**
	0.3nm,0.5s,baz=332,slow=5.1,SNR=7.1							
ASAR	**Alice Springs**	**79.01**	**138**		P	**P**	**11 50 54.7**	**-0.4**
	0.2nm,0.4s,baz=314,slow=5.6,SNR=4.8							

*ISCJB **21** 11:39:15.3±0.4, 39°.98N±0°.03×30°.15E±0°.04, h0km, Error ellipse: s-maj=4.4km s-min=3.8km az=39.4*
*CSEM **21** 11:39:15.6±0.1, 39°.97N×30°.17E, h1km, MD2.3, Error ellipse: s-maj=2.9km s-min=2.5km az=46.0, Suspected Mining explosion.*
*ISK **21** 11:39:15.5, 39°.98N×30°.19E, h6km, MD2.6*
*DDA **21** 11:39:16.1, 39°.99N×30°.25E, h7km, Md2.3, Suspected Mining explosion.*

ISC 21 11:39:15.2±0.8, 39°.95N±0°.03×30°.14E±0°.03, h0km, n35, σ0§59/48, Turkey

Code	Station Name	Δ°	AZ°		Phase	ID	Time	Res
					Op	ISC	h m s	ISC
BORA	**Eskisehir**	**0.25**	**105**		*i* P	**Pg**	**11 39 20.0**	**0.0**
BORA					*i* S	**Sg**	**11 39 24.2**	**+1.0**
BORA	**Eskisehir**	**0.25**	**105**		P	**Pg**	**11 39 20.0**	**0.0**
BORA					S	**Sg**	**11 39 24.2**	**+1.0**
GULT	**Gulveren**	**0.56**	**30**		*e*PG	**Pg**	**11 39 26.1**	**+0.2**
GULT					*e*SG	**Sg**	**11 39 33.6**	**+0.3**
GULT	**Gulveren**	**0.56**	**30**		*e*Pg	**Pg**	**11 39 26.2**	**+0.2**
GULT					*e*Sg	**Sg**	**11

IDC 21 11:49:18.1±1.9, 18°00.0′S×167°53.6′E, h0km, mb3.7/4, mb1 3.9/5, mb1mx3.6/26, mbtmp3.7/5, ML3.4/1, MS3.0/3, Ms1 3.0/3, ms1mx2.7/28, Error ellipse: s-maj=56.5km s-min=30.6km az=128.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**4.18**	**194**	Pn	Pn	11 50 22.8	-0.4
	2.4nm,0.3s,baz=348,slow=5.6,SNR=12						
DZM				Sn	Sn	11 51 09.7	-3.1
	2.7nm,0.3s,baz=126,slow=19,SNR=3.5						
HNR	**Honiara**	**11.26**	**318**	LR	LR	11 55 19.9	
	comp=Z,63nm,20.9s,baz=155,slow=32						
RAO	**Raoul Island**	**17.39**	**133**	LR	LR	11 57 44.9	
	comp=Z,76nm,20.0s,baz=284,slow=29						
PMG	**Port Moresby**	**21.54**	**291**	LR	LR	12 01 07.6	
	comp=Z,43nm,20.4s,baz=246,slow=33						
STKA	**Stephens Creek**	**27.19**	**235**	P	P	11 55 04.0	+0.4
	2.0nm,0.9s,baz=62,slow=8.3,SNR=4.0						
WRA	**Warramunga Arr**	**31.42**	**261**	P	P	11 55 41.1	-0.2
	0.7nm,0.8s,baz=90,slow=9.2,SNR=5.5						
ASAR	**Alice Springs**	**31.88**	**254**	P	P	11 55 45.1	-0.2
	0.5nm,0.5s,baz=81,slow=8.0,SNR=8.6						
ILAR	**Eielson Array**	**89.54**	**18**	P	P	12 02 16.9	0.0
	0.2nm,0.7s,baz=238,slow=5.2,SNR=2.6						

SJA 21 11:51:21.3±0.3, 30°.94S×68°.87W, h107km±2km, ML2.6, MW3.7, San Juan Province

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AMOG	**MOGNA**	**0.33**	**91**	*i* P	Pn	11 51 37.6	+0.6
AMOG				*i* S	Sn	11 51 49.7	+1.0
RTLS	**Leoncito**	**0.93**	**203**	*i* P	Pn	11 51 43.1	+1.2
RTLS				*i* S	Sn	11 51 59.3	+1.8
RTLS				IAML		11 51 59.6	
	comp=Z,69nm,0.2s						
RTCV	**Cerro Valdivia**	**0.97**	**163**	*i* P	Pn	11 51 42.8	+0.7
AVFE	**Valle Fertil**	**1.25**	**78**	*i* P	Pn	11 51 46.0	+0.9
AVFE				*i* S	Sn	11 52 04.3	+1.2
AVFE				IAML		11 52 04.8	
	comp=Z,89nm,0.3s						
AGUA	**GUANDACOL**	**1.48**	**13**	*i* P	Pn	11 51 48.9	+1.0
ASAL	**Salagasta**	**1.65**	**179**	*i* P	Pn	11 51 51.1	+1.2
ACAN	**Cantantal**	**1.96**	**133**	*i* P	Pn	11 51 55.0	+1.2

*IDC **21** 12:10:45.2±0.7, 14°.81S×66°.60E, h0km, mb3.9/11, mb1 4.1/11, mb1mx3.8/42, mbtmp3.9/11, MS3.6/14, Ms1 3.6/14, ms1mx3.3/44, Error ellipse: s-maj=25.5km s-min=17.8km az=180.0*
*ISCJB **21** 12:10:46.2±0.7, 14°.85S±0°.1×66°.60E±0°.10, h19km, mb3.9/11, MS3.6/14, Error ellipse: s-maj=18.8km s-min=13.4km az=172.8*
*NEIC **21** 12:10:46.8±0.4, 14°.82S×66°.59E, h10km, mb4.1/1, Error ellipse: s-maj=12.8km s-min=9.3km az=174.0*

ISC 21 12:10:48.3±0.8, 14°.85S±0°.2×66°.66E±0°.1, h19km, n35, σ0s56/17, mb4.0/11, MS3.6/14, Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
H08S1	**Diego Carcia H**	**9.17**	**40**	T	T	12 22 20.0	
	baz=219,slow=75,SNR=1488						
H08S2	**Diego Garcia H**	**9.18**	**40**	T	T	12 22 20.0	
	baz=219,slow=75,SNR=2029						
H08S3	**Diego Garcia H**	**9.19**	**40**	T	T	12 22 20.0	
	baz=219,slow=75,SNR=2039						
H08N3	**Diego Garcia H**	**9.46**	**28**	T	T	12 23 05.6	
	baz=207,slow=75,SNR=4649						
H08N1	**Diego Garcia H**	**9.47**	**28**	T	T	12 23 05.0	
	baz=207,slow=75,SNR=3812						
H08N2	**Diego Garcia H**	**9.48**	**28**	T	T	12 23 06.1	
	baz=207,slow=75,SNR=3348						
MSEY	**Mahe Island**	**14.85**	**312**	*e*Pn	**Pn**	**12 14 17.0**	**-0.4**
ABPO	**Ambohimpanom**	**18.97**	**255**	*e*P	**P**	**12 15 08.7**	**-0.2**
	11nm,0.8s						
PALK	**Pallekele**	**26.03**	**34**	LR	LR	12 24 13.1	
	comp=Z,245nm,19.8s,baz=296,slow=31						
LSZ	**Lusaka**	**37.04**	**264**	P	**P**	**12 17 58.2**	**+0.7**
	3.5nm,1.0s,baz=126,slow=10,SNR=4.3						
LSZ				LR	LR	12 31 38.3	
	comp=Z,161nm,20.9s,baz=124,slow=34						
WSAR	**Wadi Sarin**	**38.60**	**348**	LR	LR	12 30 11.5	
	comp=Z,27nm,21.3s,baz=204,slow=30						
LBTB	**Lobatse**	**39.71**	**249**	P	**P**	**12 18 19.2**	**-0.6**
	1.5nm,0.5s,baz=93,slow=2.3,SNR=3.6						
BOSA	**Boshof**	**40.56**	**243**	P	**P**	**12 18 26.7**	**-0.3**
	1.5nm,0.6s,baz=100,slow=6.1,SNR=3.0						
BOSA				LR	LR	12 31 55.0	
	comp=Z,115nm,18.7s,baz=50,slow=31						
CMAR	**Chiang Mai Arr**	**45.93**	**45**	LR	LR	12 36 31.3	
	comp=Z,66nm,19.5s,baz=198,slow=34						
H01W3	**Cape Leeuwin H**	**47.07**	**124**	T	T	13 09 44.5	
	baz=283,slow=75,SNR=124						
H01W2	**Cape Leeuwin H**	**47.07**	**124**	T	T	13 09 46.8	
	baz=283,slow=75,SNR=110						
H01W1	**Cape Leeuwin H**	**47.09**	**124**	T	T	13 09 45.8	
	baz=283,slow=75,SNR=118						
MAW	**Mawson**	**52.82**	**182**	LR	LR	12 37 42.3	
	comp=Z,63nm,18.5s,baz=59,slow=31						
GEYT	**Alibeck**	**53.05**	**352**	LR	LR	12 40 35.3	
	comp=Z,38nm,19.0s,baz=0.0,slow=34						
GNI	**Garni**	**58.32**	**340**	LR	LR	12 44 20.9	
	comp=Z,35nm,19.5s,baz=148,slow=35						
KVAR	**Kislovodsk Arr**	**62.41**	**341**	LR	LR	12 48 35.1	
	comp=Z,23nm,18.2s,baz=192,slow=36						
MKAR	**Makanchi Array**	**62.92**	**12**	P	**P**	**12 21 12.6**	**-0.8**
	0.5nm,0.7s,baz=212,slow=9.9,SNR=2.8						
ASAR	**Alice Springs**	**63.70**	**109**	P	**P**	**12 21 19.1**	**0.0**
	0.6nm,0.7s,baz=278,slow=6.2,SNR=10						
ASAR				PcP	**PcP**	**12 21 55.3**	**0.0**
	0.4nm,0.7s,baz=272,slow=4.9,SNR=3.3						
ASAR				LR	LR	12 46 58.7	
	comp=Z,43nm,18.6s,baz=334,slow=34						
WRA	**Warramunga Arr**	**64.51**	**105**	P	**P**	**12 21 23.7**	**-0.7**
	1.0nm,0.8s,baz=270,slow=5.7,SNR=9.3						
TORD	**Torodi Ar. Bea**	**69.96**	**290**	P	**P**	**12 21 59.3**	**+0.2**
	1.1nm,1.0s,baz=116,slow=3.4,SNR=4.8						
ZALV	**Zalesovo Beam**	**70.23**	**11**	LR	LR	12 50 15.1	
	comp=Z,43nm,19.0s,baz=250,slow=34						
SONM	**Songino Array**	**71.77**	**27**	P	**P**	**12 22 10.4**	**+0.9**
	0.5nm,0.4s,baz=215,slow=4.8,SNR=3.1						
SONM				LR	LR	12 51 59.0	
	comp=Z,85nm,19.0s,baz=238,slow=34						
AKASG	**Malin Array Be**	**72.96**	**336**	P	**P**	**12 22 15.7**	**-0.6**
	1.2nm,0.7s,baz=139,slow=5.3,SNR=4.5						
VNDA	**Vanda**	**76.80**	**167**	LR	LR	12 53 08.8	
	comp=Z,15nm,20.9s,baz=254,slow=33						
KSRS	**Korea Array**	**77.57**	**46**	LR	LR	12 58 00.8	
	comp=Z,25nm,18.9s,baz=106,slow=37						
GERES	**GERESS Array B**	**78.75**	**328**	P	**P**	**12 22 50.0**	**+0.4**
	0.4nm,0.4s,baz=123,slow=6.6,SNR=3.7						
ESDC	**Sonseca Array**	**84.99**	**313**	P	**P**	**12 23 23.2**	**+0.5**
	1.1nm,0.6s,baz=104,slow=4.1,SNR=5.8						
DGMT	**Dagmar**	**145.57**	**349**	*e*PKPbc	**PKPab**	**12 30 26.5**	**+0.6**
PDAR	**Pinedale Array**	**151.93**	**354**	PKPbc	**PKPbc**	**12 30 42.5**	**-0.1**
	0.8nm,0.7s,baz=87,slow=2.1,SNR=7.5						
TXAR	**Lajitas Array**	**162.96**	**330**	PKPab	**PKPab**	**12 31 39.4**	**0.0**
	0.3nm,0.8s,baz=67,slow=3.0,SNR=3.0						

IDC 21 12:12:48.2±6.6, 29°.18N×140°.87E, h36km±52km, mb3.7/6, mb1 3.8/7, mb1mx3.5/40, mbtmp3.9/7, ML3.6/1, MS3.8/1, Ms1 3.8/1, ms1mx2.6/31, Error ellipse: s-maj=101.6km s-min=19.9km az=74.0, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MJAR	**Matsushiro Arr**	**7.67**	**344**	Pn	Pn	12 14 37.5	+0.1
	0.9nm,0.3s,baz=163,slow=12,SNR=6.5						
GUMO	**Guam**	**15.95**	**166**	LR	LR	12 21 47.8	
	comp=Z,339nm,21.1s,baz=346,slow=34						
H11N2	**WAKE ISLAND Hy**	**25.44**	**106**	T	T	12 43 51.2	
	baz=297,slow=74						
H11N1	**WAKE ISLAND Hy**	**25.45**	**106**	T	T	12 43 57.2	
	baz=297						
H11N3	**WAKE ISLAND Hy**	**25.46**	**106**	T	T	12 43 54.4	
	baz=297,slow=74						
MKAR	**Makanchi Array**	**48.27**	**308**	P	P	12 21 26.0	+0.4
	0.9nm,0.7s,baz=82,slow=8.7,SNR=5.6						
WRA	**Warramunga Arr**	**49.24**	**188**	P	P	12 21 32.9	-0.4
	2.1nm,0.6s,baz=8.5,slow=7.9,SNR=36						
WRA				PcP	PcP	12 22 56.3	+0.3
	0.5nm,0.5s,baz=1.0,slow=3.9,SNR=6.6						
ASAR	**Alice Springs**	**52.97**	**188**	P	P	12 22 00.9	-0.3
	0.2nm,0.6s,baz=8.3,slow=6.5,SNR=5.1						
ASAR				PcP	PcP	12 23 10.1	+0.3
	0.4nm,0.8s,baz=13,slow=5.6,SNR=3.5						
BVAR	**Borovoye Array**	**55.73**	**316**	P	P	12 22 21.0	-0.1
	1.2nm,0.6s,baz=99,slow=9.3,SNR=5.6						
BVAR				PcP	PcP	12 23 20.3	+0.3
	0.8nm,0.7s,baz=100,slow=5.0,SNR=3.7						
FINES	**FINESS Array B**	**75.57**	**333**	P	P	12 24 28.1	-0.7
	1.3nm,0.7s,baz=66,slow=4.6,SNR=3.3						
BRTR	**Keskin Array B**	**83.74**	**312**	P	P	12 25 13.4	-0.4
	1.5nm,0.6s,baz=89,slow=4.0,SNR=7.0						

*ISCJB **21** 12:20:10.1±0.4, 26°.39S±0°.02×27°.43E±0°.03, h7km±2km, mb4.4/23, Error ellipse: s-maj=4.5km s-min=3.1km az=43.7*
*PRE **21** 12:20:10.2±1.9, 26°.37S×27°.42E, h2km, ML3.9*
*IDC **21** 12:20:11.2±0.7, 26°.38S×27°.46E, h0km, mb4.3/18, mb1 4.3/24, mb1mx4.2/46, mbtmp4.3/24, ML3.7/5, MS2.4/1, Ms1 2.4/1, ms1mx2.1/33, Error ellipse: s-maj=19.7km s-min=16.7km az=95.0*
*NEIC **21** 12:20:12.0±0.3, 26°.35S×27°.39E, h5km, mb4.0/3, Error ellipse: s-maj=9.0km s-min=6.5km az=115.0*

ISC 21 12:20:10.8±1.1, 26°.38S±0°.02×27°.43E±0°.02, h1km±7km, n62, σ1s93/92, mb4.4/23, South Africa

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WDLM	**Western Deep L**	**0.04**	**192**	*e*P	**Pg**	**12 20 11.6**	**0.0**
WDLM				*e*S	**Sg**	**12 20 12.1**	**-0.2**
WDLM				AML	AML	12 20 17.7	
	comp=Z,28μm,0.6s						
KLOF	**Kloof**	**0.16**	**79**	*e*P	**Pg**	**12 20 14.1**	**+0.2**
KLOF				*e*S	**Sg**	**12 20 15.8**	**-0.2**
KLOF				AML	AML	12 20 19.3	
	comp=Z,22μm,0.8s						
PRYS	**Parys**	**0.55**	**187**	*e*P	**Pg**	**12 20 22.4**	**+1.1**
PRYS				*e*S	**Sg**	**12 20 29.1**	**+0.7**
PRYS				AML	AML	12 20 41.9	
	comp=Z,963nm,0.6s						
KSR	**Koster**	**0.71**	**318**	*e*P	**Pg**	**12 20 25.0**	**+0.5**
KSR				*e*S	**Sg**	**12 20 32.8**	**-0.9**
KSR				AML	AML	12 20 41.4	
	comp=Z,2μm,0.8s						
ERPM	**east rand prop**	**0.73**	**87**	*e*P	**Pg**	**12 20 24.7**	**0.0**
ERPM				*e*S	**Sg**	**12 20 34.7**	**+0.5**
ERPM				AML	AML	12 20 41.3	
	comp=Z,2μm,0.9s						
BFSD	**Buffelsfontein**	**0.75**	**230**	*e*P	**Pg**	**12 20 26.0**	**+0.8**
BFSD				*e*S	**Sg**	**12 20 35.4**	**+0.4**
BFSD				AML	AML	12 20 49.5	
	comp=Z,1μm,0.7s						
MOAB	**Moab Khotsong**	**0.83**	**223**	*e*P	**Pg**	**12 20 26.2**	**-0.5**
MOAB				*e*S	**Sg**	**12 20 37.0**	**-0.3**
MOAB				AML	AML	12 20 44.8	
	comp=Z,937nm,0.3s						
TLEK	**Tau Lekoa**	**0.89**	**230**	*e*P	**Pg**	**12 20 28.3**	**+0.4**
TLEK				*e*S	**Sg**	**12 20 39.1**	**-0.4**
TLEK				AML	AML	12 20 53.8	
	comp=Z,873nm,0.6s						
SLR	**Silverton**	**1.00**	**50**	*e*P	**Pg**	**12 20 29.2**	**-0.7**
SLR				*e*S	**Sg**	**12 20 42.7**	**-0.2**
SLR				AML	AML	12 20 51.0	
	comp=Z,1μm,0.8s						
SWZ	**Schweizer**	**2.04**	**247**	*e*P	**Pn**	**12 20 47.3**	**+0.9**
SWZ				*e*S	**Sn**	**12 21 11.4**	**-1.3**
SWZ				AML	AML	12 21 16.2	
	comp=Z,1μm,0.5s						
LBTB	**Lobatse**	**2.14**	**309**	Pn	**Pb**	**12 20 49.5**	**-1.0**
	comp=Z,176nm,0.3s,baz=132,slow=14,SNR=1094						
LBTB				Sn	**Sg**	**12 21 18.8**	**-0.9**
	comp=Z,533nm,0.3s,baz=203,slow=19,SNR=45						
LBTB				LR	LR	12 21 24.0	
	comp=Z,80nm,18.8s,baz=168,slow=34						
LBTB	**Lobatse**	**2.14**	**309**	*e*P	**Pn**	**12 20 48.2**	**+0.4**
LBTB				*e*S	**Sn**	**12 21 14.8**	**-0.4**
LBTB				AML	AML	12 21 20.2	
	comp=Z,1μm,0.4s						
BOSA	**Boshof**	**2.95**	**221**	*i* P	**Pn**	**12 20 59.5**	**+0.6**
BOSA				*i* S	**Sb**	**12 21 42.0**	**+1.2**
BOSA	**Boshof**	**2.95**	**221**	Pn	**Pn**	**12 20 59.3**	**+0.4**
	comp=Z,25nm,0.3s,baz=35,slow=12,SNR=414						
BOSA				Sn	**Sb**	**12 21 41.0**	**+0.2**
	comp=Z,91nm,0.3s,baz=127,slow=18,SNR=18						
BOSA	**Boshof**	**2.95**	**221**	*e*P	**Pn**	**12 20 59.2**	**+0.3**
BOSA				*e*S	**Sn**	**12 21 33.3**	**-1.7**
BOSA				AML	AML	12 21 42.4	
	comp=Z,249nm,0.3s						
CNG	**Changalane**	**4.27**	**90**	*e*P	**Pn**	**12 21 15.2**	**-1.8**
CNG				*e*S	**Sn**	**12 22 01.4**	**-6.0**
CNG				AML	AML	12 22 23.2	
	comp=Z,549nm,0.6s						
KSD	**Kokstad**	**4.50**	**158**	*e*P	**Pn**	**12 21 20.7**	**+0.5**
KSD				*e*S	**Sn**	**12 22 11.2**	**-2.1**
KSD				AML	AML	12 22 35.9	
	comp=Z,95nm,0.5s						
HVD	**Gariep Dam**	**4.54**	**202**	*e*P	**Pn**	**12 21 19.9**	**-0.9**
HVD				*e*S	**Sn**	**12 22 11.7**	**-2.7**
HVD				AML	AML	12 22 12.6	
	comp=Z,82nm,0.3s						
PKA	**Prieska**	**5.27**	**231**	*e*P	**Pn**	**12 21 30.9**	**0.0**
PKA				*e*S	**Sn**	**12 22 29.4**	**-2.9**
PKA				AML	AML	12 22 29.7	
	comp=Z,749nm,0.3s						
UPI	**Upington**	**5.84**	**249**	*e*P	**Pn**	**12 21 39.8**	**+1.2**
UPI				*e*S	**Sn**	**12 22 42.2**	**-4.1**
UPI				AML	AML	12 23 21.2	
	comp=Z,78nm,0.5s						
MATP	**Matopo**	**6.01**	**10**	*i* P	**Pn**	**12 21 41.7**	**+0.7**
MATP				*i* S	**Sn**	**12 22 49.2**	**-1.4**
MATP	**Matopo**	**6.01**	**10**	Pn	**Pn**	**12 21 41.1**	**+0.1**
	comp=Z,11nm,0.3s,baz=191,slow=13,SNR=225						
MATP				Sn	**Sn**	**12 22 47.5**	**-3.1**
	comp=Z,8.2nm,0.3s,baz=295,slow=23,SNR=8.1						
MATP				Lg	Lg	12 23 17.2	
	comp=Z,34nm,0.3s,baz=275,slow=22,SNR=13						
KEIM	**Keimoes**	**6.19**	**247**	*e*P	**Pn**	**12 21 42.5**	**-0.9**
KEIM				*e*S	**Sn**	**12 22 50.9**	**-4.0**
KEIM				AML	AML	12 23 19.0	
	comp=Z,31nm,0.5s						
BLWY	**Bulawayo**	**6.31**	**10**	*i* P	**Pn**	**12 21 45.0**	**-0.1**
BLWY				*i* S	**Sn**	**12 22 55.4**	**-2.5**
SOE	**Somerset East**	**6.51**	**194**	*e*P	**Pn**	**12 21 49.1**	**+1.2**
SOE				*e*S	**Sn**	**12 22 59.1**	**-3.9**
SOE				AML	AML	12 23 03.3	
	comp=Z,53nm,0.7s						
BUFB	**Buffelsbos**	**8.09**	**196**	*e*P	**Pn**	**12 22 08.5**	**-0.9**
BUFB				*e*S	**Sn**	**12 23 37.9**	**-3.6**
BUFB				AML	AML	12 23 39.8	
	comp=Z,18nm,0.5s						
SUR	**Sutherland**	**8.31**	**222**	Pn	**Pn**	**12 22 12.7**	**+0.1**
	comp=Z,0.3nm,0.3s,baz=59,slow=8.9,SNR=51						
SUR				Sn	**Sn**	**12 23 42.7**	**-4.6**
	comp=Z,0.1nm,0.3s,baz=323,slow=20,SNR=4.2						
SUR				Lg	Lg	12 24 29.9	
	comp=Z,0.7nm,0.3s,baz=333,slow=20,SNR=5.7						
CVNA	**Calvinia**	**8.42**	**231**	*e*P	**Pn**	**12 22 13.4**	**-0.8**
CVNA				*e*S	**Sn**	**12 23 44.6**	**-5.5**
CVNA				AML	AML	12 24 00.3	
	comp=Z,22nm,0.4s						
KOMG	**Komaggas**	**9.42**	**247**	*e*P	**Pn**	**12 22 27.4**	**-0.3**
KOMG				*e*S	**Sn**	**12 24 07.8**	**-6.6**
KOMG				AML	AML	12 25 05.7	
	comp=Z,50nm,0.6s						
LSZ	**Lusaka**	**11.07**	**4**	Pn	**Pn**	**12 22 48.9**	**-1.6**
	comp=Z,2.2nm,0.3s,baz=188,slow=12,SNR=28						
LSZ				Sn	**Sn**	**12 24 51.0**	**-4.1**
	comp=Z,1.4nm,0.3s,baz=239,slow=18,SNR=4.0						
LSZ				Lg	Lg	12 25 56.4	
	comp=Z,0.8nm,0.3s,baz=70,slow=14,SNR=3.9						
TSUM	**Tsumeb**	**11.55**	**306**	Pn	**Pn**	**12 22 56.5**	**-0.6**
	comp=Z,3.7nm,0.3s,baz=125,slow=11,SNR=39						
TSUM				Sn	**Sn**	**12 25 12.3**	**+5.3**
	comp=Z,0.7nm,0.3s,baz=246,slow=20,SNR=4.3						
TSUM				Lg	Lg	12 26 16.1	
	comp=Z,1.8nm,0.3s,baz=240,slow=20,SNR=5.8						
ABPO	**Ambohimpanom**	**19.66**	**72**	*e*P	**Pn**	**12 24 43.4**	**+0.6**
	comp=Z,3.7nm,0.4s						
KMBO	**Kilima Mbogo**	**26.83**	**22**	*e*P	**P**	**12 25 54.0**	**+0.9**
	comp=Z,29nm,2.8s						
KIC	**Kosan Boka**	**45.09**	**312**	*e*P	**P**	**12 28 28.7**	**-0.1**
	comp=Z,102nm,1.9s						
LIC	**Lamto**	**45.18**	**311**	*e*P	**P**	**12 28 28.1**	**-1.5**
	comp=Z,62nm,1.7s						
DBIC	**Dimbokro**	**45.39**	**312**	P	**P**	**12 28 31.2**	**0.0**
	comp=Z,11nm,1.2s,baz=122,slow=12,SNR=5.4						
TIC	**Toumodi**	**45.48**	**312**	*e*P	**P**	**12 28 32.0**	**0.0**
TORD	**Torodi Ar. Bea**	**46.59**	**324**	P	**P**	**12 28 40.5**	**-0.1**
	comp=Z,5.8nm,0.9s,baz=137,slow=7.0,SNR=29						
SNAA	**Sanae**	**48.37**	**192**	P	**P**	**12 28 54.9**	**+1.0**
SNAA	**Sanae**	**48.37**	**192**	*e*P	**P**	**12 28 54.6**	**+0.7**
	comp=Z,197nm,0.8s						
VNA1	**Neumayer--Stat**	**48.74**	**195**	P	**P**	**12 28 57.5**	**+0.8**
VNA2	**Neumayer--Watz**	**48.74**	**194**	P	**P**	**12 28 56.2**	**-0.5**
	baz=28,slow=6.6						
BRTR	**Keskin Array B**	**66.02**	**5**	P	**P**	**12 30 59.3**	**+0.2**
	comp=Z,0.9nm,0.6s,baz=190,slow=6.2,SNR=4.1						
ESDC	**Sonseca Array**	**71.94**	**335**	P	**P**	**12 31 36.6**	**+0.7**
	comp=Z,1.8nm,0.5s,baz=153,slow=5.9,SNR=14						
VNDA	**Vanda**	**72.86**	**171**	P	**P**	**12 31 41.6**	**+0.8**
	comp=Z,0.8nm,0.5s,baz=216,slow=4.4,SNR=5.6						
GERES	**GERESS Array B**	**75.89**	**351**	P	**P**	**12 32 00.6**	**+1.7**
	comp=Z,0.4nm,0.3s,baz=164,slow=5.4,SNR=5.6						
AKASG	**Malin Array Be**	**76.76**	**1**	P	**P**	**12 32 04.1**	**+0.5**
	comp=Z,1.1nm,0.6s,baz=168,slow=4.9,SNR=5.2						
ABKAR	**Akbulak array**	**80.69**	**21**	*e*P	**P**	**12 32 25.4**	**+0.1**
	comp=Z,0.8nm,0.7s						
AKTO	**Aktyubinsk**	**81.14**	**19**	P	**P**	**12 32 28.1**	**+0.4**
	comp=Z,0.9nm,0.4s,baz=237,slow=17,SNR=4.6						
ARU	**Ati**	**86.61**	**17**	P	**P**	**12 32 56.5**	**+1.0**
	comp=Z,2.5nm,0.5s,baz=155,slow=6.7,SNR=5.4						
PTGA	**Pitinga**	**87.35**	**270**	P	**P**	**12 33 00.7**	**+0.5**
	comp=Z,2.3nm,0.8s,baz=270,slow=20,SNR=4.2						
BVAR	**Borovoye Array**	**87.46**	**24**	P	**P**	**12 33 00.2**	**+0.5**
	comp=Z,0.3nm,0.4s,baz=197,slow=4.6,SNR=4.5						
FINES	**FINESS Array B**	**87.52**	**359**	P	**P**	**12 33 00.7**	**+0.9**
	comp=Z,2.2nm,0.8s,baz=134,slow=11,SNR=5.9						
LPAZ	**La Paz**	**87.73**	**253**	P	**P**	**12 33 03.1**	**+0.4**
	comp=Z,1.5nm,0.8s,baz=123,slow=5.3,SNR=5.0						
MKAR	**Makanchi Array**	**88.07**	**34**	P	**P**	**12 33 03.1**	**+0.3**
	comp=Z,1.6nm,0.7s,baz=226,slow=3.2,SNR=5.6						
NOA	**NORSAR Array B**	**88.10**	**352**	P	**P**	**12 33 03.6**	**+0.9**
	comp=Z,1.4nm,0.8s,baz=167,slow=4.3,SNR=3.1						
KURBB	**Kurchatov Arra**	**88.96**	**30**	P	**P**	**12 33 06.0**	**-0.9**
	comp=Z,0.5nm,0.7s,baz=235,slow=4.6,SNR=4.4						
KURK	**Kurchatov**	**89.07**	**30**	P	**P**	**12 33 06.0**	**-1.4**
ASAR	**Alice Springs**	**93.26**	**118**	P	**P**	**12 33 28.5**	**+0.7**
	comp=Z,0.2nm,0.6s,baz=232,slow=4.9,SNR=5.7						
ZALV	**Zalesovo Beam**	**94.05**	**30**	P	**P**	**12 33 30.1**	**-0.3**
	comp=Z,1.1nm,0.7s,baz=197,slow=11,SNR=8.8						
SONM	**Songino Array**	**102.17**	**43**	P	**Pdif**	**12 34 10.2**	**+2.8**
	comp=Z,1.1nm,0.7s,baz=248,slow=7.6,SNR=8.5						
PDAR	**Pinedale Array**	**141.45**	**306**	PKhKP	PKPpre	12 39 41.0	
	comp=Z,0.2nm,0.6s,baz=0.0,slow=2.7,SNR=3.1						

*CSEM **21** 12:20:36.7±1.1, 40°.52N×33°.65E, h2km, MD2.6, Error ellipse: s-maj=2.9km s-min=2.8km az=76.0*
*ISK **21** 12:20:36.2, 40°.56N×33°.68E, h7km, MD2.8*
*DDA **21** 12:20:36.5, 40°.52N×33°.64E, h13km, Md2.6*

ISC 21 12:20:36.7±1.1, 40°.53N±0°.02×33°.66E±0°.02, h8km±10km, n34, σ0s51/54, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ILGA	**Ilgaz**	**0.52**	**4**	*i* P	**Pb**	**12 20 47.6**	**-0.7**
ILGA				*i* S	**Sg**	**12 20 54.7**	**+0.9**
ILGA	**Ilgaz**	**0.52**	**4**	P	**Pb**	**12 20 47.6**	**-0.7**
ILGA				S	**Sg**	**12 20 54.7**	**+0.9**
TOS	**Tosya**	**0.57**	**28**	*e*PG	**Pg**	**12 20 47.7**	**-0.2**
TOS				*e*SG	**Sg**	**12 20 55.3**	**-0.1**
TOS	**Tosya**	**0.57**	**28**	*e*Pg	**Pg**	**12 20 47.7**	**-0.2**
TOS				*e*Sg	**Sg**	**12 20 55.3**	**-0.1**
CORM	**Corum**	**0.82**	**115**	*e*PG	**Pg**	**12 20 52.5**	**0.0**
CORM				*e*SG	**Sb**	**12 21 04.3**	**-0.2**
CORM	**Corum**	**0.82**	**115**	*e*Pg	**Pg**	**12 20 52.5**	**0.0**
CORM				*e*Sg	**Sb**	**12 21 04.3**	**-0.2**
CTAK	**Corum_Osmancik**	**0.87**	**82**	*i* P	**Pb**	**12 20 53.9**	**-0.2**
CTAK				*i* S	**Sb**	**12 21 06.0**	**+0.1**
CTAK	**Corum_Osmancik**	**0.87**	**82**	P	**Pb**	**12 20 53.9**	**-0.2**
CTAK				S	**Sb**	**12 21 06.0**	**+0.1**
LOD	**Lodumlu**	**0.94**	**227**	*e*PG	**Pb**	**12 20 55.2**	**-0.1**
LOD	**Lodumlu**	**0.94**	**227**	*e*Pg	**Pb**	**12 20 55.2**	**-0.1**
SAFT	**Safranbolu**	**

MKAR Sn **Sn** **12 33 52.5 +2.1**
0.5nm,0.3s,baz=185,slow=24,SNR=5.1
BVAR Borovoye Array 18.37 337 P **Pn** **12 33 46.6 -0.1**
1.0nm,0.6s,baz=144,slow=11,SNR=6.0
TIXI Tiksi 42.31 20 LR LR 12 58 25.8
comp=Z,28nm,18.3s,baz=285,slow=41

GUC 21 12:32:50.9±0.6, 19°.11S×69°.25W, h137km±4km, ML3.5, 4C-2D, Northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
MNMC	**Minye Minye**	**0.33**	**265**	*e*P		Pn	12 33 10.6	+0.3
MNMC				*e*S		Sn	12 33 25.4	+0.5
MNMC				IAML			12 33 28.5	
	comp=N,4μm,0.2s							
PB11	**IPOC Station P**	**0.76**	**211**	⇑*i*P		Pn	12 33 13.4	+0.8
PB11				*e*S		Sn	12 33 29.8	+0.7
PB13	**IPOC Station P**	**0.80**	**342**	⇓*i*P		Pn	12 33 14.1	+0.6
PB13				*e*S		Sn	12 33 31.2	+0.6
PSGC	**Pisagua**	**0.96**	**239**	*i* P		Pn	12 33 15.0	+0.8
PSGC				*e*S		Sn	12 33 32.7	+0.8
PSGC				IAML			12 33 34.0	
	comp=N,573nm,0.2s							
PB08	**IPOC Station P**	**1.03**	**175**	⇑*i*P		Pn	12 33 16.2	+1.0
PB08				*e*S		Sn	12 33 35.0	+1.3
PB08				IAML			12 33 36.9	
	comp=N,815nm,0.6s							
PB12	**IPOC Station P**	**1.14**	**295**	⇓*i*P		Pn	12 33 16.4	+0.6
PB12				*i* S		Sn	12 33 35.5	+0.8
HMBC	**Humberstone**	**1.31**	**207**	⇑*i*P		Pn	12 33 18.4	+0.8
HMBC				*i* S		Sn	12 33 39.2	+1.2
HMBC				IAML			12 33 40.4	
	comp=E,427nm,0.5s							
PB01	**IPOC Station P**	**1.94**	**187**	⇑*i*P		Pn	12 33 25.6	+1.0
PB01				*i* S		Sn	12 33 51.3	+0.8
PB01				IAML			12 33 52.5	
	comp=N,618nm,0.2s							
PB07	**IPOC Station P**	**2.68**	**193**	*e*P		Pn	12 33 34.8	+1.0
PB07				IAML			12 34 12.7	
	comp=E,156nm,0.3s							
PB09	**IPOC Station P**	**2.68**	**180**	*e*P		Pn	12 33 35.0	+1.2
PB04	**IPOC Station P**	**3.32**	**195**	*e*P		Pn	12 33 42.9	+0.8
PB04				IAML			12 34 26.5	
	comp=N,125nm,0.1s							

*SOME **21** 12:41:05.9, 44°.68N×82°.20E, h15km*
*ISCJB **21** 12:41:07.4±1.5, 44°.61N±0°.07×82°.3E±0°.1, h10km, Error ellipse: s-maj=15.9km s-min=5.7km az=32.9*
*NNC **21** 12:41:07.4±1.0, 44°.68N×81°.92E, h0km, mb3.1, mpv2.7, Error ellipse: s-maj=16.4km s-min=2.9km az=116.0*
ISC 21 12:41:06.8±1.7, 44.70N±0.06×82.16E±0.09, h10km, n9, σ1§36/17, 1C-5D, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
DJR	**Jarkent**	**1.74**	**259**	*e*P		**Pb**	**12 41 38.6**	**-0.2**
	8.1nm,0.2s							
DJR				*e*S		**Sg**	**12 42 02.5**	**-0.1**
	6.4nm,0.2s							
KAPS	**Kapalarasan**	**2.08**	**287**	*e*P		**Pb**	**12 41 44.0**	**-0.5**
	2.3nm,0.1s							
KAPS				*e*S		**Sb**	**12 42 11.8**	**+1.3**
	5.2nm,0.3s							
MK31	**Makanchi Array**	**2.10**	**2**	⇓Pn		**Pb**	**12 41 44.5**	**-0.4**
	4.3nm,0.3s,baz=191,slow=13,SNR=100							
MK31				⇓Sn		**Sb**	**12 42 12.2**	**+1.2**
	4.1nm,0.4s,baz=182,slow=27,SNR=17							
MAKZ	**Makanchi**	**2.11**	**357**	⇑Pn		**Pb**	**12 41 44.1**	**-1.1**
	3.1nm,0.5s							
MAKZ				⇓Sn		**Sb**	**12 42 12.4**	**+1.0**
	6.2nm,0.4s							
PDGK	**Podgornoye**	**2.37**	**236**	⇓Pg		**Pb**	**12 41 47.8**	**-1.8**
	0.7nm,0.4s							
PDGK				⇓Lg		Lg	12 42 18.2	
	1.9nm,0.4s							
SHLS	**Shalkode**	**2.49**	**233**	*e*P		**Pn**	**12 41 48.0**	**+0.5**
	4.4nm,0.2s							
SHLS				*e*S		**Sn**	**12 42 18.4**	**+0.4**
	6.9nm,0.2s							
KPKS	**Kokpek**	**2.79**	**245**	*e*P		**Pb**	**12 41 56.1**	**-0.8**
	7.9nm,0.2s							
KPKS				*e*S		**Sb**	**12 42 31.7**	**+0.6**
	14nm,0.3s							
ARXS	**Arharly**	**3.14**	**263**	*e*P		**Pb**	**12 42 03.4**	**+0.6**
	1.9nm,0.2s							
ARXS				*e*S		**Sg**	**12 42 44.4**	**-3.3**
	7.1nm,0.3s							
SATY	**Saty**	**3.17**	**240**	*e*P		**Pb**	**12 42 03.5**	**+0.1**
	3.6nm,0.2s							
SATY				*e*S		**Sb**	**12 42 44.2**	**+2.1**
	7.6nm,0.1s							

*NIED **21** 12:50:00, 36°.50N×143°.60E, h5km, Mw4.0 Best double couple: M0 1.26000×10^15 NP1:φ=21.00000°, δ=18.00000°, λ=-87.00000°. NP2:φ=198.00000°, δ=72.00000°, λ=-91.00000°.*
*IDC **21** 12:50:05.5±0.6, 36°.28N×143°.93E, h0km, mb4.0/14, mb1 4.2/17, mb1mx4.0/39, mbtmp4.0/17, ML3.8/3, MS2.9/1, Ms1 2.9/1, ms1mx2.3/43, Error ellipse: s-maj=18.9km s-min=15.9km az=115.0*
*NEIC **21** 12:50:07.1±0.4, 36°.39N×143°.90E, h10km, mb4.0/1, Error ellipse: s-maj=9.1km s-min=7.3km az=136.0*
*ISCJB **21** 12:50:09.1±0.5, 36°.45N±0°.05×143°.64E±0°.04, h33km, mb4.1/16, Error ellipse: s-maj=6.5km s-min=4.7km az=176.5*
*JMA **21** 12:50:10.5±0.1, 36°.50N×143°.55E, h78km, M4.2*
ISC 21 12:50:11.2±0.7, 36°.47N±0°.06×143°.67E±0°.07, h35km, n42, σ1§91/48, mb4.1/16, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
ONAJ	**Iwakimizuishiy**	**2.39**	**286**	*e*S		**Sn**	**12 51 13.7**	**-2.4**
JFK	**Kawauchi**	**2.42**	**293**	P		**Pn**	**12 50 47.3**	**-0.9**
JFK				*e*S		**Sn**	**12 51 15.3**	**-1.3**
JHO	**Hitachi**	**2.50**	**274**	P		**Pn**	**12 50 48.5**	**-0.9**
JHO				S		**Sn**	**12 51 16.6**	**-2.1**
JFT	**Otama**	**2.87**	**292**	P		**Pn**	**12 50 53.6**	**-0.9**
JMK	**Ichinoseki**	**3.15**	**323**	P		**Pn**	**12 50 57.5**	**-0.8**
JMK				S		**Sn**	**12 51 33.2**	**-1.5**
JAG	**Ashikaga**	**3.40**	**271**	P		**Pn**	**12 51 01.4**	**-0.4**
JAG				S		**Sn**	**12 51 39.1**	**-1.8**
JOM	**Ohasama**	**3.54**	**329**	P		**Pn**	**12 51 03.0**	**-0.7**
JOM				*e*S		**Sn**	**12 51 43.1**	**-1.2**
JRY	**Ryogami san**	**3.88**	**265**	P		**Pn**	**12 51 07.7**	**-0.7**
JRY				S		**Sn**	**12 51 51.1**	**-1.7**
MJAR	**Matsushiro Arr**	**4.40**	**273**	Pn		**Pn**	**12 51 15.9**	**+0.3**
	4.7nm,0.3s,baz=223,slow=14,SNR=35							
MJAR				Sn		**Sn**	**12 52 05.8**	**+0.2**
	3.3nm,0.3s,baz=152,slow=13,SNR=4.4							
MAJO	**Matsushiro**	**4.40**	**273**	*e*Pn		**Pn**	**12 51 16.6**	**+1.0**
MAT	**Matsushiro**	**4.40**	**273**	P		**Pn**	**12 51 16.2**	**+0.6**
MAT				*e*S		**Sn**	**12 52 05.6**	**0.0**
JHJ2	**Mitsune**	**4.61**	**225**	*e*Pn		**Pn**	**12 51 17.7**	**-0.7**
JHJ2				*e*Sn		**Sn**	**12 52 06.8**	**-3.9**
JHJ	**Hachijo jima 2**	**4.62**	**225**	Pn		**Pn**	**12 51 16.5**	**-2.1**
	33nm,0.3s,baz=158,slow=24,SNR=7.6							
JHJ				Sn		**Sn**	**12 52 06.7**	**-4.4**
	101nm,0.3s,baz=102,slow=23,SNR=6.7							
ERM	**Erimo**	**5.55**	**356**	*e*Pn		**Pn**	**12 51 29.6**	**-1.7**
ERM				*e*Sn		**Sn**	**12 52 26.6**	**-7.3**
ASAJ	**Asahikawa**	**7.69**	**354**	*e*Pn		**Pn**	**12 51 58.8**	**-1.8**
ASAJ				*e*Sn		**Sn**	**12 53 24.1**	**-2.2**
USRK	**Ussuriysk Ar.**	**11.79**	**315**	LR		LR	12 57 23.6	
	comp=Z,54nm,20.0s,baz=177,slow=36							
KSRS	**Korea Array**	**12.64**	**279**	Pn		**Pn**	**12 53 10.7**	**+2.3**
	0.2nm,0.3s,baz=85,slow=13,SNR=6.8							
KSAR	**Wonju Array Be**	**12.67**	**279**	Pn		**Pn**	**12 53 10.7**	**+1.8**
H11N2	**WAKE ISLAND Hy**	**26.31**	**123**	T		T	13 22 51.8	
	baz=314,slow=75,SNR=18							
H11N1	**WAKE ISLAND Hy**	**26.32**	**123**	T		T	13 22 52.2	
	baz=314,slow=75,SNR=11							
H11N3	**WAKE ISLAND Hy**	**26.33**	**123**	T		T	13 22 51.8	
	baz=314,slow=75,SNR=17							
H11S1	**WAKE ISLAND Hy**	**27.04**	**125**	T		T	13 23 51.7	
	baz=317,slow=76,SNR=8.9							
H11S3	**WAKE ISLAND Hy**	**27.04**	**125**	T		T	13 23 50.2	
	baz=317,slow=76,SNR=11							
H11S2	**WAKE ISLAND Hy**	**27.05**	**125**	T		T	13 23 50.8	
	baz=317,slow=76,SNR=8.9							

SONM	**Songino Array**	**29.61**	**304**	P		**P**	**12 56 15.8**	**+2.8**
	0.4nm,0.4s,baz=101,slow=8.0,SNR=3.1							
ZALV	**Zalesovo Beam**	**43.63**	**313**	P		**P**	**12 58 13.8**	**+1.8**
	0.8nm,0.3s,baz=104,slow=6.3,SNR=5.1							
ZALV				PcP		**PcP**	**12 59 59.4**	**+0.5**
	0.7nm,0.4s,baz=75,slow=1.0,SNR=2.8							
MKAR	**Makanchi Array**	**45.95**	**303**	P		**P**	**12 58 32.6**	**+2.0**
	0.8nm,0.8s,baz=99,slow=7.6,SNR=3.9							
KDAK	**Kodiak Island**	**46.31**	**42**	P		**P**	**12 58 32.7**	**-0.5**
	5.6nm,0.7s,baz=301,slow=1.2,SNR=5.1							
KURK	**Kurchatov**	**47.70**	**309**	*e*P		**P**	**12 58 45.5**	**+1.3**
	36nm,0.9s							
ILAR	**Eielson Array**	**49.01**	**32**	P		**P**	**12 58 53.6**	**-0.4**
	1.5nm,0.8s,baz=264,slow=6.5,SNR=15							
INK	**Inuvik**	**54.06**	**27**	P		**P**	**12 59 32.2**	**+0.4**
	3.5nm,1.0s,baz=297,slow=8.3,SNR=4.5							
WRA	**Warramunga Arr**	**56.79**	**191**	P		**P**	**12 59 50.0**	**-1.9**
	1.7nm,0.6s,baz=12,slow=7.3,SNR=29							
ABKAR	**Akbulak array**	**59.69**	**311**	*e*P		**P**	**13 00 12.4**	**+0.5**
	0.8nm,0.6s							
ASAR	**Alice Springs**	**60.52**	**190**	P		**P**	**13 00 16.4**	**-1.4**
	0.9nm,0.8s,baz=19,slow=11,SNR=8.3							
STKA	**Stephens Creek**	**68.02**	**182**	P		**P**	**13 01 06.2**	**-0.6**
	2.1nm,0.7s,baz=22,slow=11,SNR=4.3							
FINES	**FINESS Array B**	**70.15**	**333**	P		**P**	**13 01 20.8**	**+1.0**
	2.5nm,0.7s,baz=20,slow=6.1,SNR=5.5							
NB2	**NORSAR Subarra**	**75.40**	**338**	P		**P**	**13 01 51.5**	**+0.5**
	comp=Z,1.3nm,0.7s,baz=38,slow=5.9							
NOA	**NORSAR Array B**	**75.40**	**338**	P		**P**	**13 01 51.8**	**+0.8**
	comp=Z,1.8nm,0.6s,baz=38,slow=5.8,SNR=6.1							
AKASG	**Malin Array Be**	**75.84**	**323**	P		**P**	**13 01 54.1**	**+0.5**
	comp=Z,0.3nm,0.4s,baz=42,slow=6.4,SNR=4.3							
PDAR	**Pinedale Array**	**76.76**	**46**	P		**P**	**13 01 59.1**	**-0.2**
	comp=Z,0.2nm,0.3s,baz=298,slow=1.9,SNR=2.5							
TXAR	**Lajitas Array**	**89.01**	**54**	P		**P**	**13 03 02.4**	**-0.4**
	comp=Z,0.3nm,0.6s,baz=310,slow=4.0,SNR=5.4							
LPAZ	**La Paz**	**145.37**	**63**	PKPbc		**PKPdf**	**13 09 46.1**	**-0.5**
	comp=Z,1.3nm,0.8s,baz=3.2,slow=7.9,SNR=4.2							

*ISCJB **21** 13:16:16.5±0.7, 49°.5S±0°.1×125°.1E±0°.3, h10km, mb4.1/8, MS3.4/6, Error ellipse: s-maj=29.2km s-min=12.7km az=20.9*
*IDC **21** 13:16:16.6±1.0, 49°.45S×125°.08E, h0km, mb4.0/6, mb1 4.2/6, mb1mx3.9/35, mbtmp4.0/6, MS3.5/7, Ms1 3.4/7, ms1mx3.2/25, Error ellipse: s-maj=48.5km s-min=19.1km az=102.0*
*NEIC **21** 13:16:18.2±0.8, 49°.48S×125°.11E, h10km, mb4.5/2, Error ellipse: s-maj=26.2km s-min=12.8km az=107.0*
ISC 21 13:16:18.5±0.9, 49.5S±0°.1×125.2E±0°.2, h10km, n16, σ0§83/10, mb4.1/8, MS3.3/6, 1C, Western Indian-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
H01W1	**Cape Leeuwin H**	**16.69**	**327**	T		T	13 37 17.9	
	baz=152,slow=74,SNR=21							
H01W2	**Cape Leeuwin H**	**16.69**	**327**	T		T	13 37 21.9	
	baz=152,slow=74,SNR=20							
H01W3	**Cape Leeuwin H**	**16.71**	**327**	T		T	13 37 19.0	
	baz=152,slow=74,SNR=21							
NWAO	**Narrogin (SRO)**	**17.57**	**337**	LR		LR	13 25 34.2	
	comp=Z,120nm,21.1s,baz=149,slow=32							
STKA	**Stephens Creek**	**21.45**	**41**	P		**P**	**13 21 07.9**	**+1.1**
	5.6nm,0.8s,baz=218,slow=11,SNR=11							
STKA				LR		LR	13 27 57.9	
	comp=Z,134nm,20.5s,baz=205,slow=33							
CAN	**Canberra**	**22.44**	**60**	P		**P**	**13 21 17.5**	**0.0**
	35nm,1.6s							
ASAR	**Alice Springs**	**26.66**	**18**	P		**P**	**13 21 56.8**	**-0.7**
	2.8nm,0.8s,baz=191,slow=9.0,SNR=26							
ASAR				LR		LR	13 31 13.9	
	comp=Z,159nm,21.7s,baz=198,slow=34							
WRA	**Warramunga Arr**	**30.37**	**17**	P		**P**	**13 22 29.1**	**-1.5**
	0.8nm,0.9s,baz=199,slow=6.6,SNR=51							
WRA				LR		LR	13 33 59.3	
	comp=Z,165nm,19.4s,baz=200,slow=35							
WRAB	**Tennant Creek**	**30.38**	**17**	*e*P		**P**	**13 22 31.3**	**+0.7**
	4.8nm,0.7s							
FITZ	**Fitzroy Crossi**	**31.30**	**1**	LR		LR	13 33 46.2	
	comp=Z,82nm,21.9s,baz=180,slow=34							
VNDA	**Vanda**	**31.38**	**166**	P		**P**	**13 22 38.8**	**-0.1**
	1.3nm,0.8s,baz=308,slow=8.9,SNR=5.2							
VNDA				LR		LR	13 34 15.9	
	comp=Z,52nm,20.0s,baz=324,slow=34							
MAW	**Mawson**	**35.29**	**216**	LR		LR	13 35 09.4	
	comp=Z,43nm,19.7s,baz=61,slow=32							
SYO	**Syowa Base**	**43.52**	**211**	⇑*e*P		**P**	**13 24 22.2**	**+0.6**
SNAA	**Sanae**	**53.70**	**198**	P		**P**	**13 25 39.8**	**-0.3**
	2.6nm,0.8s,baz=142,slow=8.4,SNR=12							
SNAA	**Sanae**	**53.70**	**198**	*e*P		**P**	**13 25 39.7**	**-0.3**
	317nm,1.0s							
CMAR	**Chiang Mai Arr**	**71.54**	**334**	P		**P**	**13 27 39.5**	**0.0**
	1.6nm,0.8s,baz=198,slow=5.5,SNR=6.8							

*MDD **21** 13:18:12.3±1.4, 39°.31N×5°.64E, h0km, mb4.0/12, Error ellipse: s-maj=14.0km s-min=8.6km az=146.0, PRXIMO*
*CSEM **21** 13:18:14.3±0.5, 39°.38N×5°.60E, h20km, mb4.0, Error ellipse: s-maj=9.7km s-min=5.6km az=147.0*
*LDG **21** 13:18:14.6±0.3, 39°.21N×5°.77E, h25km, Md2.9/2, Ml3.0/7, Error ellipse: s-maj=7.1km s-min=3.8km az=151.0*
ISC 21 13:18:08.5±1.7, 39°.20N±0°.07×5°.77E±0°.05, h10km, n73, σ2§47/118, Western Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
ETOS	**Mallorca**	**2.36**	**285**	P		**Pn**	**13 18 48.8**	**+1.5**
	1.4nm,0.1s,SNR=44							
ETOS				S		**Sn**	**13 19 15.5**	**-0.8**
	2.9nm,0.1s							
ETOS	**Mallorca**	**2.36**	**285**	P		**Pn**	**13 18 48.8**	**+1.5**
	1.4nm,0.1s,SNR=44							
ETOS				S		**Sn**	**13 19 15.5**	**-0.8**
	2.9nm,0.1s							
EIBI	**Ibiza**	**3.45**	**269**	P		**Pn**	**13 19 04.1**	**+1.9**
	2.2nm,0.1s,SNR=21							
EIBI				S		**Sn**	**13 19 39.4**	**-3.7**
	2.6nm,0.2s							
EIBI	**Ibiza**	**3.45**	**269**	P		**Pn**	**13 19 04.1**	**+1.9**
	2.2nm,0.1s,SNR=21							
CFON	**Fontmartina**	**3.61**	**316**	P		**Pn**	**13 19 04.9**	**+0.3**
	1.8nm,0.2s,SNR=12							
CFON				S		**Sn**	**13 19 46.3**	**-1.0**
	1.6nm,0.2s							
CFON	**Fontmartina**	**3.61**	**316**	P		**Pn**	**13 19 04.9**	**+0.3**
	1.8nm,0.2s,SNR=12							
CFON				S		**Sn**	**13 19 46.3**	**-1.0**
	1.6nm,0.2s							
EJON	**La Jonquera**	**3.92**	**327**	P		**Pn**	**13 19 09.5**	**+0.7**
	1.3nm,0.1s,SNR=7.9							
EJON				S		**Sn**	**13 19 53.4**	**-1.4**
	0.6nm,0.1s,SNR=7.9							
EJON	**La Jonquera**	**3.92**	**327**	P		**Pn**	**13 19 09.5**	**+0.7**
	1.3nm,0.1s,SNR=7.9							
EJON				S		**Sn**	**13 19 53.4**	**-1.4**
	0.6nm,0.1s,SNR=7.9							
SJAF	**Saint Jean de**	**3.95**	**327**	P		**Pn**	**13 19 10.4**	**+1.2**
	0.8nm,0.1s,SNR=7.9							
SJAF				S		**Sn**	**13 19 53.8**	**-1.7**
	1.6nm,0.2s,SNR=7.9							
SJAF	**Saint Jean de**	**3.95**	**327**	P		**Pn**	**13 19 10.4**	**+1.2**
	0.8nm,0.1s,SNR=7.9							
SJAF				S		**Sn**	**13 19 53.8**	**-1.7**
	1.6nm,0.2s,SNR=7.9							
PGF	**Pioggiola**	**4.15**	**35**	*e*Pn		**Pn**	**13 19 13.9**	**+1.9**
PGF				*e*Sn		**Sn**	**13 19 56.8**	**-3.8**
	7.0nm,0.2s							
PGF	**Pioggiola**	**4.15**	**35**	P		**Pn**	**13 19 13.9**	**+1.9**
PGF				S		**Sn**	**13 19 56.8**	**-3.8**
	3.5nm,0.2s							
PGF	**Pioggiola**	**4.15**	**35**	P		**Pn**	**13 19 13.9**	**+1.9**
LMR	**La Mourre**	**4.17**	**7**	*e*Pn		**Pn**	**13 19 14.7**	**+2.5**
LMR				*e*Sn		**Sn**	**13 19 59.2**	**-1.8**
	4.7nm,0.2s							
LMR	**La Mourre**	**4.17**	**7**	P		**Pn**	**13 19 14.7**	**+2.5**
LMR				S		**Sn**	**13 19 59.2**	**-1.8**
	2.3nm,0.2s							
LMR	**La Mourre**	**4.17**	**7**	P		**Pn**	**13 19 14.7**	**+2.5**
LMR				S		**Sn**	**13 19 59.2**	**-1.8**
	2.3nm,0.2s							
EPOB	**Poblet**	**4.18**	**302**	P		**Pn**	**13 19 14.0**	**+1.6**
	1.0nm,0.1s,SNR=9.7							
EPOB				S		**Sn**	**13 19 58.5**	**-3.0**
	0.7nm,0.1s							
EPOB	**Poblet**	**4.18**	**302**	P		**Pn**	**13 19 14.0**	**+1.6**
	1.0nm,0.1s,SNR=9.7							
EPOB				S		**Sn**	**13 19 58.5**	**-3.0**
	0.7nm,0.1s							
EMIR	**Miracle**	**4.22**	**311**	P		**Pn**	**13 19 15.2**	**+2.2**
	2.4nm,0.1s,SNR=5.9							
EMIR				S		**Sn**	**13 20 00.6**	**-1.8**
	0.5nm,0.1s							
EMIR	**Miracle**	**4.22**	**311**	P		**Pn**	**13 19 15.2**	**+2.2**
	2.4nm,0.1s,SNR=5.9							
EMIR				S		**Sn**	**13 20 00.6**	**-1.8**
	0.5nm,0.1s							
CLLI	**Llivia**	**4.36**	**320**	P		**Pn**	**13 19 16.7**	**+1.7**
	2.9nm,0.3s,SNR=9.5							
CLLI				S		**Sn**	**13 20 03.8**	**-2.2**
	0.9nm,0.2s							
CLLI	**Llivia**	**4.36**	**320**	P		**Pn**	**13 19 16.7**	**+1.7**
	2.9nm,0.3s,SNR=9.5							
CLLI				S		**Sn**	**13 20 03.8**	**-2.2**
	0.9nm,0.2s							
FRF	**La Foret Royal**	**4.41**	**8**	*e*Pn		**Pn**	**13 19 18.6**	**+3.1**
FRF				*e*Sn		**Sn**	**13 20 05.1**	**-1.8**
	3.3nm,0.2s							
FRF	**La Foret Royal**	**4.41**	**8**	P		**Pn**	**13 19 18.6**	**+3.1**
FRF				S		**Sn**	**13 20 05.1**	**-1.8**
	1.7nm,0.2s							
FRF	**La Foret Royal**	**4.41**	**8**	P		**Pn**	**13 19 18.6**	**+3.1**
FRF				S		**Sn**	**13 20 05.1**	**-1.8**
	1.7nm,0.2s							
ERTA	**Horta de San J**	**4.53**	**295**	P		**Pn**	**13 19 19.3**	**+2.2**
	1.1nm,0.1s,SNR=7.9							
ERTA				S		**Sn**	**13 20 07.2**	**-2.6**
	0.7nm,0.1s,SNR=7.9							
ERTA	**Horta de San J**	**4.53**	**295**	P		**Pn**	**13 19 19.3**	**+2.2**
	1.1nm,0.1s,SNR=7.9							
ERTA				S		**Sn**	**13 20 07.2**	**-2.6**
	0.7nm,0.1s,SNR=7.9							
CSOR	**Sort**	**4.74**	**314**	P		**Pn**	**13 19 22.7**	**+2.6**
	0.9nm,0.2s,SNR=7.9							
CSOR				S		**Sn**	**13 20 12.4**	**-2.8**
	0.2nm,0.2s							
CSOR	**Sort**	**4.74**	**314**	P		**Pn**	**13 19 22.7**	**+2.6**
	0.9nm,0.2s,SNR=7.9							
CSOR				S		**Sn**	**13 20 12.4**	**-2.8**
	0.2nm,0.2s							
SBF	**Sospel**	**4.83**	**14**	*e*Pn		**Pn**	**13 19 23.2**	**+1.9**
SBF				*e*Sn		**Sn**	**13 20 14.0**	**-3.3**
	5.0nm,0.3s							
SBF	**Sospel**	**4.83**	**14**	P		**Pn**	**13 19 23.2**	**+1.9**
SBF				S		**Sn**	**13 20 14.0**	**-3.3**
	2.5nm,0.3s							
SBF	**Sospel**	**4.83**	**14**	P		**Pn**	**13 19 23.2**	**+1.9**
SBF				*e*Sn		**Sn**	**13 20 14.0**	**-3.3**
	2.5nm,0.3s							
MTLF	**Montolieu**	**4.93**	**328**	*e*Pn		**Pn**	**13 19 23.9**	**+1.3**
MTLF				*e*Sn		**Sn**	**13 20 17.2**	**-2.5**
	1.5nm,0.2s							
MTLF	**Montolieu**	**4.93**	**328**	P		**Pn**	**13 19 23.9**	**+1.3**
MTLF				S		**Sn**	**13 20 17.2**	**-2.5**
	0.8nm,0.2s							
MTLF	**Montolieu**	**4.93**	**328**	P		**Pn**	**13 19 23.9**	**+1.3**
MTLF				S		**Sn**	**13 20 17.2**	**-2.5**
	0.8nm,0.2s							
EMOS	**Mosqueruela**	**4.95**	**286**	P		**Pn**	**13 19 24.9**	**+1.9**
	0.3nm,0.1s,SNR=7.6							
EMOS				S		**Sn**	**13 20 18.0**	**-2.4**
	0.1nm,0.2s							
EMOS	**Mosqueruela**	**4.95**	**286**	P		**Pn**	**13 19 24.9**	**+1.9**
	0.3nm,0.1s,SNR=7.6							
EMOS				S		**Sn**	**13 20 18.0**	**-2.4**
	0.1nm,0.2s							
LASF	**Ste Croix**	**5.08**	**344**	*e*Pn		**Pn**	**13 19 26.8**	**+2.1**
LASF				*e*Sn		**Sn**	**13 20 22.0**	**-1.5**
	2.6nm,0.3s							
LASF	**Ste Croix**	**5.08**	**344**	P		**Pn**	**13 19 26.8**	**+2.1**
LASF				S		**Sn**	**13 20 22.0**	**-1.5**
	1.3nm,0.3s							
LASF	**Ste Croix**	**5.08**	**344**	P		**Pn**	**13 19 26.8**	**+2.1**
LASF				S		**Sn**	**13 20 22.0**	**-1.5**
	1.3nm,0.3s							
ESAC	**San Caprasio**	**5.38**	**300**	P		**Pn**	**13 19 31.9**	**+2.9**
	17nm,0.1s,SNR=9.6							
ESAC				S		**Sn**	**13 20 28.9**	**-2.1**
	4.1nm,0.2s							
ESAC	**San Caprasio**	**5.38**	**300**	P		**Pn**	**13 19 31.9**	**+2.9**
	17nm,0.1s,SNR=9.6							
ESAC				S		**Sn**	**13 20 28.9**	**-2.1**
	4.1nm,0.2s							
MBDF	**Montbardon**	**5.58**	**7**	*e*Pn		**Pn**	**13 19 36.0**	**+4.3**
MBDF	**Montbardon**	**5.58**	**7**	P		**Pn**	**13 19 36.0**	**+4.3**
MBDF	**Montbardon**	**5.58**	**7**	P		**Pn**	**13 19 36.0**	**+4.3**
EPF	**Esparros**	**5.61**	**315**	*e*Pn		**Pn**	**13 19 35.0**	**+3.0**
EPF	**Esparros**	**5.61**	**315**	P		**Pn**	**13 19 35.0**	**+3.0**
EPF	**Esparros**	**5.61**	**315**	P		**Pn**	**13 19 35.0**	**+3.0**
VIVF	**Saint-Julien-l**	**5.71**	**352**	*e*Pn		**Pn**	**13 19 35.9**	**+2.5**
VIVF				*e*Sn		**

FITZ	**Fitzroy Crossi**	**24.03 237**	P	**P**	**13 23 28.6**	**-0.1**
	12nm,0.8s,baz=51,slow=8.5,SNR=43						
STKA	**Stephens Creek**	**26.50 190**	P	**P**	**13 23 51.8**	**+0.9**
	2.4nm,0.9s,baz=3.1,slow=8.2,SNR=3.1						
ILAR	**Eielson Array**	**85.29 23**	P	**P**	**13 30 47.9**	**-0.3**
	0.5nm,0.8s,baz=252,slow=5.0,SNR=6.1						
TORD	**Torodi Ar. Bea**	**144.78 285**	PKP	PKPbc	13 37 48.0	-0.2
	0.4nm,0.7s,baz=29,slow=3.3,SNR=3.9						

*IDC **21** 13:20:21.2±2.9, 29˚97S × 177˚27W, h0km, mb4.0/3, mb1 4.1/4, mb1mx3.8/33, mbtmp4.0/4, ML3.2/1, Error ellipse: s-maj=55.4km s-min=22.6km az=77.0*

*NEIC **21** 13:20:23.0±1.4, 30˚00S × 177˚33W, h10km, mb4.2/1, Error ellipse: s-maj=29.9km s-min=14.7km az=80.0*

*ISCJB **21** 13:20:25.9±2.0, 30˚12S±0˚07 × 177˚5W±0˚3, h35km, mb3.9/4, Error ellipse: s-maj=40.5km s-min=9.6km az=173.3*

ISC 21 13:20:27.5±1.7, 30˚10S±0˚07 × 177˚6W±0˚2, h35km, n9, σ1§79/11, mb4.0/4, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time	Res
								h m s	ISC
RAO	**Raoul Island**	**0.89**	**341**	Pn		**Pn**		**13 20 41.6**	**-1.9**
	188nm,0.3s,baz=218,slow=23,SNR=6.3								
RAO				Sn		**Sn**		**13 20 55.1**	**-0.2**
	616nm,0.3s,baz=3.5,slow=21,SNR=9.5								
RAO				LR		LR		13 21 08.4	
	comp=Z,300nm,18.2s,baz=16,slow=52								
URZ	**Urewera**	**9.25**	**207**	Pn		**Pn**		**13 22 37.7**	**-0.7**
	0.2nm,0.3s,baz=289,slow=5.4,SNR=3.8								
URZ				Sn		**Sn**		**13 24 18.4**	**-2.8**
	0.5nm,0.3s,baz=101,slow=22,SNR=9.4								
STKA	**Stephens Creek**	**34.90**	**256**	P		**P**		**13 27 18.0**	**+2.2**
	0.9nm,0.5s,baz=102,slow=10,SNR=6.6								
STKA	**Stephens Creek**	**34.90**	**256**	P		**P**		**13 27 18.0**	**+2.2**
ASAR	**Alice Springs**	**43.49**	**266**	P		**P**		**13 28 28.5**	**+0.8**
	0.7nm,0.5s,baz=103,slow=7.7,SNR=17								
WRAB	**Tennant Creek**	**44.44**	**272**	*e*P		**P**		**13 28 36.4**	**+1.0**
	3.2nm,0.9s								
WRA	**Warramunga Arr**	**44.45**	**272**	P		**P**		**13 28 36.1**	**+0.7**
	0.8nm,0.3s,baz=110,slow=8.1,SNR=23								
QSPA	**South Pole Qui**	**60.01**	**180**	*e*P		**P**		**13 30 31.5**	**+1.0**
FINES	**FINESS Array B**	**144.98**	**340**	PKP		**PKPab**		**13 39 58.8**	**-0.9**
	2.0nm,0.5s,baz=58,slow=2.2,SNR=18								

*NIED **21** 13:26:00, 39˚50N × 143˚50E, h14km, Mw3.8 Best double couple: M0 5.31000×1014 NP1:φs161.00000°, δ20.00000°, λ39.00000°. NP2:φs34.00000°, δ77.00000°, λ106.00000°.*

*IDC **21** 13:26:28.8±1.7, 39˚47N × 143˚59E, h0km, mb3.8/6, mb1 3.8/7, mb1mx3.6/46, mbtmp3.8/7, ML3.6/1, Error ellipse: s-maj=40.4km s-min=25.3km az=87.0*

*ISCJB **21** 13:26:29.3±0.8, 39˚54N±0˚04 × 143˚59E±0˚07, h11km, mb3.7/6, Error ellipse: s-maj=8.3km s-min=5.1km az=26.1*

*JMA **21** 13:26:31.4±0.2, 39˚51N × 143˚53E, h29km, M3.6*

ISC 21 13:26:31.0±1.1, 39˚55N±0˚05 × 143˚51E±0˚09, h11km, n23, σ1§12/27, mb3.7/6, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time	Res
								h m s	ISC
MIYJ	**Miyakonagasawa**	**1.30**	**272**	P		**Pn**		**13 26 54.4**	**-0.7**
MIYJ				*e*S		**Sn**		**13 27 11.8**	**-0.8**
JTH	**Tanohata**	**1.32**	**287**	P		**Pn**		**13 26 54.7**	**-0.7**
JTH				*e*S		**Sn**		**13 27 12.2**	**-0.8**
OFUJ	**Ofunato**	**1.50**	**252**	P		**Pn**		**13 26 57.0**	**-0.8**
JOM	**Ohasama**	**1.72**	**268**	P		**Pn**		**13 27 00.7**	**-0.1**
JMK	**Ichinoseki**	**1.88**	**252**	P		**Pn**		**13 27 02.7**	**-0.2**
JIO	**Ouri**	**2.01**	**238**	P		**Pn**		**13 27 03.7**	**-1.1**
JRG	**Rokugo**	**2.23**	**267**	P		**Pn**		**13 27 08.5**	**+0.7**
JTM	**Tenmabayashi**	**2.24**	**304**	P		**Pn**		**13 27 08.5**	**+0.5**
JTM				*e*S		**Sn**		**13 27 35.3**	**-0.3**
JYK	**Kaneyama**	**2.53**	**256**	P		**Pn**		**13 27 12.4**	**+0.5**
JNBK	**Urakawa-nobuka**	**2.78**	**348**	P		**Pn**		**13 27 16.8**	**+1.4**
JNBK				*e*S		**Sn**		**13 27 49.5**	**+0.5**
JCH	**Churui**	**3.06**	**358**	P		**Pn**		**13 27 19.1**	**-0.1**
JCH				*e*S		**Sn**		**13 27 53.9**	**-1.9**
JFT	**Otama**	**3.21**	**232**	P		**Pn**		**13 27 20.8**	**-0.6**
JFT				*e*S		**Sn**		**13 27 58.6**	**-1.0**
MJAR	**Matsushiro Arr**	**5.15**	**236**	Pn		**Pn**		**13 27 49.1**	**+1.1**
	2.0nm,0.3s,baz=40,slow=12,SNR=21								
MAT	**Matsushiro**	**5.15**	**236**	P		**Pn**		**13 27 49.1**	**+1.1**
MAT				*e*S		**Sn**		**13 28 50.9**	**+3.4**
SEY	**Seymchan**	**24.02**	**10**	P		**P**		**13 31 46.7**	**+1.2**
	1.6nm,0.7s,baz=166,slow=8.4,SNR=4.2								
SONM	**Songino Array**	**27.86**	**300**	P		**P**		**13 32 21.1**	**+0.5**
	0.5nm,0.5s,baz=88,slow=8.2,SNR=3.9								
H11N2	**WAKE ISLAND Hy**	**28.20**	**128**	T		T		14 01 48.3	
	baz=320,slow=74,SNR=10								
H11N1	**WAKE ISLAND Hy**	**28.21**	**128**	T		T		14 01 48.3	
	baz=320,slow=74,SNR=9.2								
H11N3	**WAKE ISLAND Hy**	**28.22**	**128**	T		T		14 01 49.1	
	baz=320,slow=74,SNR=11								
ZALV	**Zalesovo Beam**	**41.49**	**310**	P		**P**		**13 34 17.7**	**-0.1**
	0.8nm,0.4s,baz=91,slow=9.5,SNR=4.3								
MKAR	**Makanchi Array**	**44.23**	**300**	P		**P**		**13 34 40.0**	**0.0**
	1.4nm,0.7s,baz=76,slow=10,SNR=6.2								
KURBB	**Kurchatov Arra**	**45.79**	**306**	P		**P**		**13 34 52.3**	**-0.1**
	1.9nm,0.5s,baz=81,slow=8.4,SNR=11								
WRA	**Warramunga Arr**	**59.80**	**190**	P		**P**		**13 36 35.0**	**-1.3**
	0.2nm,0.7s,baz=8.0,slow=6.8,SNR=3.0								

*NIED **21** 13:30:00, 36˚70N × 140˚60E, h5km, Mw5.1 Best double couple: M0 5.81000×1016 NP1:φs340.00000°, δ32.00000°, λ-93.00000°. NP2:φs163.00000°, δ58.00000°, λ-88.00000°.*

*IDC **21** 13:30:57.7±2.4, 36˚76N × 140˚44E, h14km±14km, mb4.8/33, mb1 4.9/35, mb1mx4.9/45, mbtmp4.9/35, ML3.9/2, MS4.3/40, Ms1 4.3/40, ms1mx4.2/57, Error ellipse: s-maj=12.0km s-min=9.2km az=114.0*

*JMA **21** 13:30:57.1, 36˚74N × 140˚58E, h9km±1km, M5.2 Broadband fault plane solution: P waves. NP1: φs192.00000°, δ64.00000°, λ-45.00000°. NP2: φs306.00000°, δ50.00000°, λ-145.00000°. Principal axes: T Plg8.0000°, Azm252.0000°; N Plg39.0000°, Azm349.0000°; P Plg50.0000°, Azm153.0000°;*

*ISCJB **21** 13:30:57.6±0.4, 36˚78N±0˚02 × 140˚44E±0˚02, h22km±2km, mb5.1/339, MS4.5/64 Error ellipse: s-maj=3.3km s-min=2.3km az=156.0*

*BJI **21** 13:30:58.7, 36˚70N × 140˚71E, h53km, mb4.8/68, mB5.0/59, Ms4.9/76, Ms7 4.6/72*

*MOS **21** 13:30:59.1±0.9, 37˚01N × 140˚40E, h27km, mb5.3/143, MS4.4/30, Error ellipse: s-maj=5.7km s-min=3.9km az=95.9*

*NEIC **21** 13:31:01.4±0.4, 36˚77N × 140˚32E, h42km±3km, mb5.2/240, Error ellipse: s-maj=3.4km s-min=2.4km az=142.0*

NEIC Felt [II] at Tokyo. Felt widely in eastern Honshu. Recorded [5L JMA] in Ibaraki.

*GCMT **21** 13:31:01.4±0.1, 36˚78N × 140˚51E, h12km, MW5.2/122, Moment Tensor Solution. s78,c118; s122,c200; Duration: 0 Moment tensor: Scale 10^16 Nm; Mrr-6.24±.08; Mθθ 1.04±.09; Mφφ 5.20±.08; Mrθ 1.08±.26; Mrφ -2.20±.07; Mθφ 1.95±.25; Best double couple: M0 6.56700×1016 NP1:φs171.00000°, δ53.00000°, λ-72.00000°. NP2: φs323.00000°, δ40.00000°, λ-112.00000°. Principal axes: T 6.3020, Plg6.0000°, Azm249.0000°; N 0.5300, Plg14.0000°, Azm340.0000°; P -6.8320, Plg75.0000°, Azm134.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

ISC 21 13:30:57.7±0.5, 36˚76N±0˚02 × 140˚56E±0˚02, h15km±2km, h16km:pP-P, n1015, σ1§48/1031, mb5.2/345, MS4.5/65, 27C-36D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time	Res
								h m s	ISC
JHO	**Hitachi**	**0.15**	**177**	⇓P		**Pg**		**13 30 59.9**	**-1.8**
JHO				S		**Sg**		**13 31 01.9**	**-2.4**
ONAJ	**Iwakimizuishiy**	**0.39**	**29**	⇑P		**Pg**		**13 31 05.0**	**-0.7**
ONAJ				*e*S		**Sg**		**13 31 10.7**	**-0.4**
JSB	**Shiboa**	**0.55**	**292**	⇑P		**Pg**		**13 31 08.8**	**+0.1**
JSB				S		**Sb**		**13 31 17.1**	**+0.2**
JYT	**Yasato**	**0.61**	**209**	⇑P		**Pg**		**13 31 08.3**	**-1.4**
JYT				S		**Sg**		**13 31 16.7**	**-1.1**
JFK	**Kawauchi**	**0.66**	**23**	⇑P		**Pg**		**13 31 09.6**	**-1.0**
JFK				S		**Sg**		**13 31 18.7**	**-0.6**
JFT	**Otama**	**0.78**	**347**	P		**Pg**		**13 31 12.4**	**-0.5**
JFT				S		**Sg**		**13 31 23.2**	**+0.1**
JFY	**Yanaizu**	**0.94**	**314**	P		**Pg**		**13 31 15.5**	**-0.4**
JFY				*e*S		**Sg**		**13 31 28.2**	**-0.1**
JAG	**Ashikaga**	**0.95**	**250**	⇑P		**Pg**		**13 31 14.6**	**-1.5**
JAG				S		**Sg**		**13 31 27.8**	**-0.8**
JMM	**Marumori**	**1.12**	**10**	⇑P		**Pb**		**13 31 17.9**	**-0.9**
JYS	**Shirataka**	**1.51**	**345**	⇓P		**Pn**		**13 31 24.9**	**+0.7**
JRY	**Ryogami san**	**1.53**	**241**	⇑P		**Pn**		**13 31 23.7**	**-0.8**
JIO	**Ouri**	**1.80**	**20**	⇑P		**Pn**		**13 31 28.0**	**-0.2**
MJAR	**Matsushiro Arr**	**1.90**	**264**	Pn		**Pn**		**13 31 28.9**	**-0.8**
	308nm,0.3s,baz=352,slow=15,SNR=1073								
MJAR				Lg		Lg		13 31 55.3	
	1µm,0.3s,baz=140,slow=18,SNR=18								
MJAR				LR		LR		13 32 32.9	
	comp=Z,16µm,19.4s,baz=90,slow=53								
MAJO	**Matsushiro**	**1.90**	**264**	*c* *i*P		**Pn**		**13 31 30.5**	**+0.9**
MAJO	**Matsushiro**	**1.90**	**264**	*e*Pn		**Pn**		**13 31 30.3**	**+0.7**
MAT	**Matsushiro**	**1.90**	**264**	P		**Pn**		**13 31 30.1**	**+0.5**
MAT				S		**Sb**		**13 31 55.4**	**-0.3**
MAT	**Matsushiro**	**1.90**	**264**	P		**Pn**		**13 31 30.3**	**+0.7**
MJB9	**Matsu-Tunnel**	**1.91**	**264**	*e*Pn		**Pn**		**13 31 30.4**	**+0.7**
JYN	**Shimob**	**2.06**	**233**	⇑P		**Pn**		**13 31 31.9**	**0.0**
JSD	**Sado**	**2.23**	**306**	⇑P		**Pn**		**13 31 34.6**	**+0.5**
INU	**Inuyama**	**3.20**	**245**	*e*Pn		**Pn**		**13 31 48.8**	**+1.4**
JHJ	**Hachijo jima 2**	**3.69**	**190**	Pn		**Pn**		**13 31 54.6**	**+0.4**
	246nm,0.3s,baz=70,slow=4.9,SNR=14								
JHJ				Sn		**Sn**		**13 32 37.6**	**+0.3**
	286nm,0.3s,baz=52,slow=22,SNR=3.8								
JHJ				LR		LR		13 33 11.9	
	comp=Z,4µm,21.0s,baz=4.5,slow=37								
JHJ2	**Mitsune**	**3.69**	**190**	*e*Pn		**Pn**		**13 31 54.4**	**+0.2**
ERM	**Erimo**	**5.62**	**20**	*e*P		**Pn**		**13 32 21.7**	**+1.1**
ERM	**Erimo**	**5.62**	**20**	*e*Pn		**Pn**		**13 32 21.7**	**+1.1**
ASAJ	**Asahikawa**	**7.51**	**11**	Pn		**Pn**		**13 32 47.8**	**+1.2**
ASAJ	**Asahikawa**	**7.51**	**11**	*e*Pn		**Pn**		**13 32 47.0**	**+0.4**
YUK	**Yuzh-Kuril'sk**	**8.31**	**27**	P		**Pn**		**13 32 59.1**	**+1.5**
YUK				*i* S		**Sn**		**13 34 26.9**	**-4.3**
YUK					pmax	pmax			
	comp=Z,289nm,0.8s								
YUK					pmax	pmax			
	comp=N,164nm,0.6s								
YUK					pmax	pmax			
	comp=E,43nm,0.3s								
YUK					MLR	MLR			
	comp=Z,3µm,17.0s								
YUK					MLR	MLR			
	comp=E,534nm,12.0s								
YUK					MLR	MLR			
	comp=N,3µm,14.0s								
SHO	**Shikotan**	**8.56**	**32**	*e*P		**Pn**		**13 32 59.7**	**-1.3**
SHO				*i* S		**Sn**		**13 34 29.7**	**-7.6**
SHO					pmax	pmax			
	comp=E,50nm,0.7s								
SHO					pmax	pmax			
	comp=Z,169nm,0.7s								
SHO					pmax	pmax			
	comp=N,46nm,0.4s								
JNU	**Nakatsue**	**8.74**	**248**	Pn		**Pn**		**13 33 04.0**	**+0.4**
	comp=N,0.4nm,0.3s,baz=58,slow=13,SNR=5.8								
JNU	**Nakatsue**	**8.74**	**248**	*e*Pn		**Pn**		**13 33 05.9**	**+2.3**
MSHR	**Mys Shultsa**	**9.29**	**312**	⇓*e*P		**Pn**		**13 33 12.6**	**+1.6**
CBIJ	**Chichi jima**	**9.73**	**171**	*e*Pn		**Pn**		**13 33 14.0**	**-3.2**
USRK	**Ussuriysk Ar.**	**9.89**	**321**	Pn		Pn		13 33 24.2	+5.0
	comp=N,2.1nm,0.3s,baz=134,slow=12,SNR=36								
USRK				LR		LR		13 36 58.8	
	comp=N,915nm,18.1s,baz=137,slow=37								
KUR	**Kuril'sk**	**10.10**	**31**	*d* *i*P		**Pn**		**13 33 22.4**	**+0.3**
KUR				*e*S		**Sn**		**13 35 09.1**	**-6.0**
KUR					pmax	pmax			
	comp=Z,151nm,0.7s								
KUR					pmax	pmax			
	comp=E,57nm,0.5s								
KUR					pmax	pmax			
	comp=N,85nm,0.7s								
KUR					smax	smax			
	comp=E,208nm,0.7s								
KUR					smax	smax			
	comp=N,97nm,0.4s								
KUR					MLR	MLR			
	comp=Z,2µm,14.0s								
KUR					MLR	MLR			
	comp=N,3µm,21.0s								
KUR					MLR	MLR			
	comp=E,4µm,19.0s								
KSRS	**Korea Array**	**10.12**	**278**	Pn		**Pn**		**13 33 26.0**	**+3.6**
	comp=E,0.9nm,0.3s,baz=91,slow=13,SNR=23								
KSRS				LR		LR		13 37 04.7	
	comp=E,4µm,20.4s,baz=86,slow=36								
KS01	**Wonju Array Si**	**10.14**	**278**	*e*Pn		**Pn**		**13 33 20.7**	**-2.0**
KS15	**Wonju Array Si**	**10.15**	**278**	*e*Pn		**Pn**		**13 33 22.7**	**-0.1**
KSAR	**Wonju Array Be**	**10.15**	**278**	P		**Pn**		**13 33 26.0**	**+3.2**
KSAR	**Wonju Array Be**	**10.15**	**278**	Pn		**Pn**		**13 33 26.0**	**+3.2**
YSS	**Yuzh-Sakhalins**	**10.31**	**8**	*c* *i*P		**Pn**		**13 33 25.4**	**+0.4**
YSS				*e*S		**Sn**		**13 35 15.0**	**-5.3**
YSS					pmax	pmax			
	comp=Z,700nm,6.0s								
YSS					pmax	pmax			
	comp=Z,280nm,0.9s								
YSS					MLR	MLR			
	comp=Z,2µm,13.0s								
YSS					MLR	MLR			
	comp=N,2µm,12.0s								
YSS					MLR	MLR			
	comp=E,2µm,11.0s								
YSS	**Yuzh-Sakhalins**	**10.31**	**8**	*e*Pn		**Pn**		**13 33 25.2**	**+0.2**
MDJ	**Mudanjiang**	**11.43**	**317**	P		Pn		13 33 45.3	+4.9
MDJ				S		**Sn**		**13 35 49.1**	**+1.4**
MDJ					pmax	pmax			
	comp=E,39nm,1.2s								
MDJ					pmax	pmax			
	comp=E,1µm,6.9s								
MDJ					LR	LR			
	comp=E,2µm,14.0s								
MDJ					LR	LR			
	comp=E,3µm,13.4s								
MDJ					LR	LR			
	comp=E,3µm,14.5s								
MDJ	**Mudanjiang**	**11.43**	**317**	*e*Pn		**Pn**		**13 33 44.6**	**+4.3**
HABR	**Khabarovsk**	**12.38**	**343**	P		**Pn**		**13 33 52.2**	**-1.1**
HABR				*e*S		**Sn**		**13 36 08.6**	**-2.3**
HABR					MLR	MLR			
	comp=Z,2µm,14.0s								
CN2	**Changchun**	**13.50**	**306**	*e*P		**Pn**		**13 34 10.9**	**+2.3**
CN2				*e*S		**Sn**		**13 36 41.3**	**+3.0**
CN2					pmax	pmax			
	comp=Z,10.0nm,0.6s								
CN2					pmax	pmax			
	comp=Z,700nm,7.0s								
CN2					LR	LR			
	comp=Z,2µm,15.0s								
CN2					LR	LR			
	comp=Z,2µm,15.0s								
CN2					LR	LR			
	comp=Z,1µm,18.0s								
KLR	**Kul'dur**	**14.02**	**336**	⇓*e*P		**Pn**		**13 34 17.9**	**+2.3**
SNY	**Shenyang**	**14.09**	**296**	⇑P		**Pn**		**13 34 19.3**	**+2.7**
SNY				S		Sn		13 37 03.1	+11
SNY					pmax	pmax			
	comp=Z,38nm,3.6s								
SNY					LR	LR			
	comp=Z,4µm,14.5s								
SNY					LR	LR			
	comp=Z,2µm,21.6s								
SNY					LR	LR			
	comp=Z,3µm,20.8s								
TYV	**Tymovskoe**	**14.18**	**5**	*e*P		**Pn**		**13 34 18.1**	**+0.3**
TYV					pmax	pmax			
	comp=Z,1µm,10.5s								
TYV					MLR	MLR			
	comp=Z,2µm,14.0s								
DL2	**Dalian**	**15.11**	**284**	⇑*i*P		**P**		**13 34 34.3**	**-1.4**
DL2				S		**Sn**		**13 37 21.9**	**+4.2**
DL2					pmax	pmax			
	comp=Z,55nm,1.2s								
DL2					pmax	pmax			
	comp=Z,1µm,8.7s								
DL2					LR	LR			
	comp=Z,3µm,13.0s								
DL2					LR	LR			
	comp=Z,2µm,15.2s								
DL2					LR	LR			
	comp=Z,3µm,17.4s								
OKH	**Okha**	**16.87**	**5**	⇓*i*P		**Pn**		**13 34 52.2**	**-0.9**
OKH				*i* S		**Sn**		**13 37 53.6**	**-6.5**
OKH					pmax	pmax			
	comp=Z,300nm,7.3s								
OKH					smax	smax			
	comp=N,400nm,8.6s								
OKH					smax	smax			
	comp=Z,2µm,15.0s								
SSE	**Sheshan**	**17.03**	**256**	P		**P**		**13 34 56.8**	**-0.3**
SSE				S		**Sn**		**13 38 09.5**	**+5.1**
SSE					pmax	pmax			
	comp=Z,39nm,0.8s								
SSE					pmax	pmax			
	comp=Z,740nm,7.3s								
SSE					LR	LR			
	comp=Z,2µm,14.6s								
SSE					LR	LR			
	comp=Z,2µm,14.7s								
SSE					LR	LR			
	comp=Z,2µm,13.5s								
SKR	**Severo-Kuril's**	**17.84**	**34**	⇑*i*P		**Pn**		**13 35 03.9**	**-1.3**
SKR					pmax	pmax			
	comp=Z,700nm,2.6s								
SKR					pmax	pmax			
	comp=Z,298nm,1.1s								
SKR					pmax	pmax			
	comp=Z,400nm,8.1s								
SKR					MLR	MLR			
	comp=Z,2µm,13.0s								
SKR					MLR	MLR			
	comp=Z,2µm,12.0s								
NJ2	**Nanjing**	**18.51**	**262**	*e*P		**P**		**13 35 10.0**	**-3.3**
NJ2				pP		**sP**		**13 35 21.0**	**+1.4**
NJ2				sP		pP		13 35 30.5	+13
NJ2				S		**Sn**		**13 38 39.9**	**-0.1**
NJ2					pmax	pmax			
	comp=Z,12nm,0.5s								
NJ2					pmax	pmax			
	comp=Z,800nm,5.6s								
NJ2					LR	LR			
	comp=Z,2µm,14.1s								
NJ2					LR	LR			
	comp=Z,3µm,20.6s								
NJ2					LR	LR			
	comp=Z,3µm,19.5s								
TIA	**Tai'an**	**18.85**	**275**	*e*P		**P**		**13 35 16.6**	**-0.5**
TIA					pmax	pmax			
	comp=Z,40nm,0.7s								
TIA					pmax	pmax			
	comp=Z,890nm,7.0s								
TIA					LR	LR			
	comp=Z,3µm,15.0s								
TIA					LR	LR			
	comp=Z,1µm,19.0s								
TIA					LR	LR			
	comp=Z,2µm,21.0s								
BJI	**Beijing**	**19.37**	**287**	P		**P**		**13 35 22.3**	**-0.5**
BJI				S		**Sn**		**13 38 55.3**	**-5.6**
BJI					pmax	pmax			
	comp=Z,5.0nm,0.7s								
BJI					pmax	pmax			
	comp=Z,520nm,9.6s								
BJI					LR	LR			
	comp=Z,2µm,15.6s								
BJI					LR	LR			
	comp=Z,940nm,22.8s								
BJI					LR	LR			
	comp=Z,1µm,29.6s								
BJT	**Baijiatuau**	**19.38**	**287**	*e*P		**P**		**13 35 22.4**	**-0.5**
BJT					pmax	pmax			
	comp=Z,36nm,0.8s								
BJT	**Baijiatuau**	**19.38**	**287**	*e*P		**P**		**13 35 22.4**	**-0.5**
	comp=Z,36nm,0.8s								
PEA0	**Petropavlovsk-**	**20.27**	**31**	*e*P		**P**		**13 35 33.2**	**+0.7**
PEA0B	**Petropavlovsk-**	**20.27**	**31**	*e*P		Pn		13 35 38.2	+3.7
	comp=Z,130nm,1.2s								
PETK	**Petropavlovsk-**	**20.27**	**31**	P		Pn		13 35 34.8	+0.3
	comp=Z,39nm,0.9s,baz=231,slow=11,SNR=17								
PETK				LR		LR		13 42 59.3	
	comp=Z,1µm,21.3s,baz=220,slow=36								
PET	**Petropavlovsk**	**20.61**	**32**	*c* *i*P		Pn		13 35 39.6	+1.2
PET				*e**PP		sP		13 35 53.0	+11
PET				*e*S		Sn		13 39 29.5	-0.9
PET					pmax	pmax			
	comp=Z,2µm,4.4s								
PET					pmax	pmax			
	comp=Z,900nm,10.6s								
PET					pmax	pmax			
	comp=Z,140nm,1.5s								
PET					MLR	MLR			
	comp=Z,900nm,18.0s								
PET					MLR	MLR			
	comp=Z,1µm,16.0s								
PET	**Petropavlovsk**	**20.61**	**32**	*e*P		**P**		**13 35 37.0**	**+0.9**
	comp=Z,312nm,1.5s								
YULB	**Yu-li**	**21.29**	**237**	*e*P		**P**		**13 35 42.1**	**-1.6**
TPUB	**Ta-pu**	**21.80**	**238**	*e*P		**P**		**13 35 49.7**	**+0.5**
	comp=Z,30nm,0.8s								
QZH	**Quanzhou**	**22.18**	**244**	*e*P		**P**		**13 35 54.6**	**+1.3**
QZH				S		**S**		**13 39 57.0**	**-0.1**
QZH				LR		LR			
	comp=Z,2µm,15.0s								
QZH				LR		LR			
	comp=Z,3µm,14.4s								
QZH				LR		LR			
	comp=Z,2µm,18.4s								
WHN	**Wuhan**	**22.64**	**262**	P		**P**		**13 35 57.8**	**-0.4**
WHN				S		**S**		**13 40 00.3**	**-5.3**
WHN				LR		LR			
	comp=Z,3µm,10.4s								
WHN				LR		LR			
	comp=Z,4µm,16.3s								
WHN				LR		LR			
	comp=Z,7µm,17.4s								
CLNS	**Chul'man**	**22.66**	**337**	*e*P		**P**		**13 35 58.0**	**-0.2**
CLNS				*e**PP		sP		13 36 10.9	+6.3
CLNS				*e*				13 36 17.2	
CLNS				*e*				13 39 51.9	
CLNS				*e*S		**S**		**13 40 00.2**	**-5.4**
CLNS				*e*SS		**SnSn**		**13 40 47.6**	**+12**
CLNS					pmax	pmax			
	comp=E,6.0nm,0.8s								
CLNS					pmax	pmax			
	comp=Z,30nm,0.9s								
CLNS					pmax	pmax			
	comp=N,17nm,0.9s								
CLNS					pmax	pmax			
	comp=Z,27nm,1.1s								
CLNS					pmax	pmax			
	comp=N,24nm,1.0s								
CLNS					pmax	pmax			
	comp=E,23nm,1.0s								
CLNS					smax	smax			
	comp=N,194nm,8.1s								
CLNS					smax	smax			
	comp=E,131nm,9.3s								
CLNS					MLR	MLR			
	comp=E,871nm,12.0s								
CLNS					MLR	MLR			
	comp=N,2

XAN PcP **PcP** **13 40 00.4 +2.6**
XAN S **S** **13 40 49.3 -8.9**
XAN pmax pmax
comp=Z,13nm,0.6s
XAN pmax pmax
comp=Z,290nm,9.5s
XAN LR LR
comp=Z,710nm,19.1s
XAN LR LR
comp=Z,1µm,15.7s
XAN LR LR
comp=Z,2µm,13.5s
YAK Yakutsk 26.19 348 P **P** **13 36 30.1 -1.2**
comp=Z,40nm,0.5s,baz=197,slow=5.3,SNR=10
YAK LR LR 13 46 51.6
comp=Z,1µm,18.7s,baz=182,slow=36
YAK Yakutsk 26.19 348 *i* P **P** **13 36 29.8 -1.6**
YAK pmax pmax
comp=Z,35nm,1.1s
YAK Yakutsk 26.19 348 *e*P **P** **13 36 29.7 -1.6**
comp=Z,64nm,0.7s
ENH Enshi 26.63 265 *e*P **P** **13 36 32.9 -2.9**
comp=Z,46nm,0.8s
ULN Ulaanbaatar 26.95 305⇑ *e*P **P** **13 36 37.1 -1.5**
ULN pmax pmax
comp=Z,15nm,0.8s
ULN Ulaanbaatar 26.95 305 *e*P **P** **13 36 35.8 -2.7**
comp=Z,16nm,0.9s
ULN Ulaanbaatar 26.95 305 P **P** **13 36 37.5 -1.1**
SNR=7.9
ULN Ulaanbaatar 26.95 305 P **P** **13 36 37.5 -1.1**
SNR=7.9
GZH Guangzhou 27.13 247 P **P** **13 36 38.0 -2.2**
GZH S **S** **13 41 13.0 -5.1**
GZH pmax pmax
comp=Z,760nm,4.0s
SEY Seymchan 27.19 12 P **P** **13 36 41.2 +0.8**
comp=Z,12nm,0.7s,baz=198,slow=7.2,SNR=19
SEY LR LR 13 48 02.9
comp=Z,648nm,21.4s,baz=202,slow=38
SONA1 Songino Array 27.37 305 *e*P **P** **13 36 39.7 -2.7**
SONM Songino Array 27.37 305 P **P** **13 36 41.0 -1.4**
comp=Z,8.2nm,0.6s,baz=108,slow=8.5,SNR=44
SONM PcP **PcP** **13 40 02.5 +1.3**
comp=Z,4.1nm,1.0s,baz=138,slow=3.0,SNR=4.6
SONM ScP **ScP** **13 43 42.4 +1.4**
comp=Z,0.2nm,0.3s,baz=101,slow=1.5,SNR=2.7
SONM LR LR 13 47 40.8
comp=Z,840nm,19.6s,baz=104,slow=37
BOD Bodaibo 27.40 329 *e*P **P** **13 36 41.0 -1.3**
BOD pmax pmax
comp=Z,19nm,1.5s
TGY Tagaytay City 28.57 223 LR LR 13 49 09.7
comp=Z,157nm,18.6s,baz=20,slow=38
H11N2 WAKE ISLAND Hy 28.61 119 T T 14 06 39.9
baz=313,slow=75
H11N1 WAKE ISLAND Hy 28.61 119 T T 14 06 40.4
baz=313,slow=75
H11N3 WAKE ISLAND Hy 28.62 119 T T 14 06 41.2
baz=313,slow=75
H11S1 WAKE ISLAND Hy 29.30 121 T T 14 07 31.3
baz=314,slow=76
H11S3 WAKE ISLAND Hy 29.30 121 T T 14 07 31.2
baz=314,slow=76
H11S2 WAKE ISLAND Hy 29.31 121 T T 14 07 33.0
baz=314,slow=76
LZH Lanzhou 29.44 280 *e*P **P** **13 37 03.8 +2.9**
LZH pP sP 13 37 17.8 +10
LZH sP pP 13 37 23.1 +17
LZH *e*S **S** **13 41 50.3 -4.3**
LZH sS sS 13 42 15.3 +13
LZH SS **SnSn** **13 43 25.0 +3.5**
LZH pmax pmax
comp=Z,23nm,1.1s
LZH pmax pmax
comp=Z,89nm,4.0s
LZH LR LR
comp=Z,3µm,15.5s
LZH LR LR
comp=Z,2µm,16.3s
LZH LR LR
comp=Z,2µm,16.4s
ZAK Zakamensk 29.90 309 *e*P **P** **13 37 04.6 -0.2**
ZAK *e* 13 40 02.5
ZAK pmax pmax
comp=Z,6.0nm,1.2s
ZAK pmax pmax
comp=Z,4.0nm,1.1s
TLY Talaya 30.00 312 *e*P **P** **13 37 04.4 -1.1**
TLY *e* 13 37 58.8
TLY *e*S **S** **13 42 07.9 +5.1**
TLY pmax pmax
comp=Z,16nm,1.2s
TLY MLR MLR
comp=Z,781nm,14.0s
TLY Talaya 30.00 312 *e*P **P** **13 37 03.2 -2.3**
comp=Z,9.8nm,0.7s
TLY Talaya 30.00 312 P **P** **13 37 04.7 -0.9**
SNR=8.1
TLY Talaya 30.00 312 P **P** **13 37 04.7 -0.9**
SNR=8.1
GYA Guiyang 30.50 260⇑ *i*P **P** **13 37 11.1 +0.7**
GYA pP sP 13 37 19.8 +2.9
GYA PP **PnPn** **13 38 10.3 +1.1**
GYA PcP **PcP** **13 40 10.0 +0.6**
GYA S **S** **13 42 06.8 -4.5**
GYA SS **SnSn** **13 43 49.8 +2.3**
GYA pmax pmax
comp=Z,20nm,0.8s
GYA pmax pmax
comp=Z,130nm,5.2s
GYA LR LR
comp=Z,630nm,17.6s
GYA LR LR
comp=Z,610nm,18.0s
GYA LR LR
comp=Z,680nm,17.5s
MOY Mondy 31.59 311 *e*P **P** **13 37 22.6 +2.8**
GTA Gaotai 31.99 287 *e*P **P** **13 37 23.8 +0.4**
GTA pP sP 13 37 35.6 +5.6
GTA sP pP 13 37 41.8 +14
GTA PcP **PcP** **13 40 13.9 +0.8**
GTA S **S** **13 42 30.1 -4.4**
GTA sS sS 13 42 49.4 +7.2
GTA SS **SnSn** **13 44 22.9 -0.6**
GTA pmax pmax
comp=Z,5.0nm,1.0s
GTA pmax pmax
comp=Z,130nm,8.1s
GTA LR LR
comp=Z,1µm,15.7s
GTA LR LR
comp=Z,740nm,15.0s
GTA LR LR
comp=Z,670nm,15.7s
QIZ Qiongzhong 32.19 245 P **P** **13 37 24.3 -0.9**
QIZ S **S** **13 42 33.3 -4.3**
QIZ LR LR
comp=Z,960nm,16.5s
QIZ LR LR
comp=Z,970nm,13.7s
QIZ LR LR
comp=Z,890nm,14.9s
KMI Kunming 34.24 261 P **P** **13 37 42.0 -1.3**
KMI pP sP 13 37 51.0 +1.1
KMI PP **PP** **13 39 00.1 -0.7**
KMI S **S** **13 43 05.5 -4.4**
KMI pmax pmax
comp=Z,10.0nm,1.7s
KMI pmax pmax
comp=Z,150nm,5.0s
KMI LR LR
comp=Z,1µm,18.1s
KMI LR LR
comp=Z,1µm,18.8s
KMI LR LR
comp=Z,2µm,22.2s
SLVN Son La 35.30 254 *e*P **P** **13 37 48.5 -3.7**
comp=Z,18nm,1.2s
TIXI Tiksi 35.48 354 P **P** **13 37 53.7 +0.5**
comp=Z,8.7nm,0.5s,baz=129,slow=13,SNR=3.1
TIXI Tiksi 35.48 354‖ *e*P **P** **13 37 55.5 +2.3**
TIXI pmax pmax
comp=Z,9.0nm,0.6s
TIXI MLR MLR
comp=Z,415nm,17.0s
TIXI Tiksi 35.48 354 *e*P **P** **13 37 51.2 -1.9**
comp=Z,11nm,0.7s
SKNT Sakolnakorn 37.81 248 P P 13 38 18.4 +4.8
comp=Z,21nm,1.4s,comp=Z,4µm
DLV T Lat 37.96 238 *e*P **P** **13 38 18.3 +3.2**
comp=Z,116nm,1.7s
UTTA Uttaradit 39.94 253 P **P** **13 38 34.6 +3.1**
comp=Z,3.5nm,1.0s
CHAI Chaiyaphum 39.97 249 P **P** **13 38 31.9 +0.1**
comp=Z,14nm,1.0s,comp=Z,101nm
LAMP Lampang 40.19 254 P P 13 38 40.6 +7.0
comp=Z,7.2nm,1.0s
PBKT Sadao Pong 40.33 251 P **P** **13 38 37.9 +3.2**
comp=Z,18nm,1.1s
WMQ Urumqi 40.35 297 P **P** **13 38 34.8 0.0**
WMQ pP sP 13 38 52.3 +11
WMQ S **S** **13 44 39.0 -3.1**
WMQ SS **SS** **13 47 33.0 -7.7**
WMQ pmax pmax
comp=Z,8.0nm,0.7s
WMQ pmax pmax
comp=Z,350nm,6.1s
WMQ LR LR
comp=Z,2µm,20.7s
WMQ LR LR
comp=Z,590nm,15.9s
WMQ LR LR
comp=Z,700nm,19.7s
CMMT Chiang Mai 40.56 255 P P 13 38 43.7 +7.1
comp=Z,8.5nm,2.5s
CHTO Chiang Mai 40.56 255 P P 13 38 43.8 +7.1
comp=Z,37nm,2.5s
CHTO Chiang Mai 40.56 255 *e*P **P** **13 38 38.9 +2.3**
CHTO pmax pmax
comp=Z,5.0nm,0.7s
CHTO Chiang Mai 40.56 255 *e*P **P** **13 38 38.9 +2.3**
comp=Z,4.7nm,0.7s
CMAR Chiang Mai Arr 40.77 255 P **P** **13 38 38.7 +0.3**
comp=Z,3.2nm,0.8s,baz=50,slow=6.4,SNR=15
CMAR PcP **PcP** **13 40 40.6 +1.1**
comp=Z,2.9nm,0.8s,baz=24,slow=3.0,SNR=7.0
CM01 Chiang Mai Arr 40.77 255 *e*P **P** **13 38 37.5 -1.0**
SUKH Sukhothai 40.80 253 P P 13 38 47.0 +8.4
comp=Z,4.5nm,0.8s
SRAK Srakaew 41.13 247 P **P** **13 38 41.6 +0.3**
comp=Z,55nm,1.1s
NAYO Nakonayok 41.47 248 P **P** **13 38 48.3 +4.2**
comp=Z,16nm,1.1s
LSA Lhasa 41.55 275 P **P** **13 38 45.4 +0.1**
LSA pmax pmax
comp=Z,6.0nm,1.6s
LSA Lhasa 41.55 275 *e*P **P** **13 38 45.2 -0.1**
LSA pmax pmax
comp=Z,7.0nm,0.6s
LSA Lhasa 41.55 275 *e*P **P** **13 38 45.2 -0.1**
comp=Z,7.3nm,0.6s
ZAA0 Zalesovo Array 41.59 313 *e*P **P** **13 38 43.5 -1.3**
ZALV Zalesovo Beam 41.59 313 P **P** **13 38 43.9 -0.9**
comp=Z,19nm,0.5s,baz=94,slow=6.7,SNR=41
ZALV PcP **PcP** **13 40 41.2 -0.4**
comp=Z,11nm,0.9s,baz=94,slow=2.9,SNR=4.9
ZALV ScP **ScP** **13 44 31.1 -0.1**
comp=Z,1.2nm,0.7s,baz=94,slow=4.5,SNR=3.7
ZALV LR LR 13 58 17.9
comp=Z,218nm,21.0s,baz=70,slow=40
NVS Novosibirsk 42.53 314 *e*P **P** **13 38 52.4 0.0**
NVS *e* 13 40 42.1
NVS pmax pmax
comp=Z,9.0nm,0.4s
NVS pmax pmax
comp=N,1.0nm,0.3s
NVS pmax pmax
comp=E,5.0nm,0.4s
SHL Shillong 42.72 269 *e*P **P** **13 38 57.0 +2.5**
SRDT SRDT 43.09 250 P P 13 39 11.2 +14
NRIK Noril'sk 43.23 336 P **P** **13 38 56.9 -0.9**
comp=E,5.2nm,0.6s,baz=116,slow=8.2,SNR=6.2
NRIK LR LR 13 58 30.8
comp=E,1µm,19.2s,baz=96,slow=38
PHET Kaeng Krachan 43.62 248 P **P** **13 39 05.8 +4.1**
comp=E,11nm,1.0s
MK01 Makanchi Array 43.68 302 *e*P **P** **13 39 00.8 -1.0**
MK31 Makanchi Array 43.68 302 *e*P **P** **13 39 00.9 -1.0**
MK31 pmax pmax
comp=Z,9.0nm,0.7s
MK31 Makanchi Array 43.68 302 *e*P **P** **13 39 01.2 -0.7**
MKAR Makanchi Array 43.68 302 P **P** **13 39 01.1 -0.8**
comp=Z,7.5nm,0.7s,baz=89,slow=9.7,SNR=24
MKAR LR LR 13 57 34.5
comp=Z,703nm,18.9s,baz=84,slow=37
MKAR Makanchi Array 43.68 302 *i* P **P** **13 39 01.7 -0.2**
MKAR pmax pmax
comp=Z,8.0nm,0.7s
MKAR Makanchi Array 43.68 302 *e*P **P** **13 39 01.1 -0.8**
comp=Z,64nm,0.6s
MAKZ Makanchi 43.89 302 *e*P **P** **13 39 01.3 -2.3**
MAKZ pmax pmax
comp=Z,10.0nm,0.8s
MAKZ Makanchi 43.89 302 *e*P **P** **13 39 01.3 -2.3**
comp=Z,10.0nm,0.8s
KSM Kuching 44.87 226 *e*P **P** **13 39 15.8 +4.2**
comp=Z,34nm,1.0s
TAPN Taplejung 45.28 274 *e*P **P** **13 39 14.7 -0.5**
comp=Z,16nm,0.4s
KURK Kurchatov 45.56 308 P **P** **13 39 16.4 -0.3**
KURK pmax pmax
comp=Z,45nm,0.6s
KURK Kurchatov 45.56 308 *e*P **P** **13 39 15.6 -1.1**
comp=Z,50nm,0.6s
KURK Kurchatov 45.56 308 P **P** **13 39 16.1 -0.6**
SNR=25
KURK Kurchatov 45.56 308 P **P** **13 39 16.1 -0.6**
SNR=25
KURBB Kurchatov Arra 45.63 308 P **P** **13 39 16.4 -0.9**
comp=Z,45nm,0.6s,baz=84,slow=8.6,SNR=58
KAPI Kappang 45.88 210 *e*P **P** **13 39 19.1 -0.5**
comp=Z,46nm,1.0s
TT01 Tatalina 46.03 35 *e*P **P** **13 39 21.4 +1.1**
TTA Tatalina 46.03 35 *e*P **P** **13 39 20.9 +0.5**
TTA pmax pmax
comp=Z,14nm,1.0s
TTA Tatalina 46.03 35 *e*P **P** **13 39 20.9 +0.5**
comp=Z,14nm,1.0s
SVW2 Sparrevohn 46.15 37 *e*P **P** **13 39 22.7 +1.4**
comp=Z,30nm,0.9s
PDGK Podgornoye 46.30 298 P **P** **13 39 21.3 -1.5**
PDGK pmax pmax
comp=Z,26nm,0.6s
RAMN Ramite 46.34 274 *e*P **P** **13 39 23.0 -0.5**
comp=Z,59nm,0.7s
JIRN Jiri 46.36 275 *e*P **P** **13 39 23.9 +0.1**
comp=Z,122nm,1.0s
GUN Gumba 46.50 275 *e*P **P** **13 39 25.1 +0.2**
PKIN Phulchoki 47.03 275 *e*P **P** **13 39 28.1 -0.8**
comp=Z,27nm,0.9s
KKN Kakani 47.03 276 *e*P **P** **13 39 28.4 -0.5**
comp=Z,38nm,0.7s
OHAK Old Harbor 47.42 43 *e*P **P** **13 39 31.1 0.0**
comp=Z,37nm,1.0s
GKN Gorkha 47.45 276 *e*P **P** **13 39 31.5 -0.6**
comp=Z,127nm,1.1s
RSO Redoubt South 47.54 38 *e*P **P** **13 39 32.7 +0.4**
KDAK Kodiak Island 47.76 42 P **P** **13 39 34.2 +0.4**
comp=Z,26nm,0.8s,baz=286,slow=4.6,SNR=13
KDAK Kodiak Island 47.76 42 *e*P **P** **13 39 34.5 +0.7**
KDAK pmax pmax
comp=Z,50nm,1.0s
KDAK Kodiak Island 47.76 42 *e*P **P** **13 39 34.5 +0.7**
comp=Z,50nm,1.0s
PPLA Purkeypile 47.78 35 *e*P **P** **13 39 35.8 +1.6**
comp=Z,47nm,1.2s
CAST Castle Rocks 47.84 34 *e*P **P** **13 39 36.0 +1.5**
comp=Z,15nm,0.8s
SPU Mount Spurr 47.86 37 *e*P **P** **13 39 35.8 +1.1**
AAA Alma-Ata 48.15 298 *e*P **P** **13 39 40.2 +3.0**
AAA pmax pmax
comp=Z,300nm,6.2s
AAA MLR MLR
comp=Z,1µm,18.0s
KTH Kantishna Hill 48.36 34 *e*P **P** **13 39 39.5 +1.0**
comp=Z,24nm,1.0s
KOLN Koldanda 48.38 276 *e*P **P** **13 39 39.1 -0.3**
IPM Ipoh 48.41 238 *e*P **P** **13 39 38.0 -1.4**
comp=Z,28nm,1.2s
SUA Susitna One 48.49 37 *e*P **P** **13 39 39.8 +0.2**
comp=Z,28nm,1.0s
COLD Coldfoot 48.72 29 *e*P **P** **13 39 44.4 +3.2**
comp=Z,12nm,1.0s
PYUN Piuthan 48.73 277 *e*P **P** **13 39 41.8 -0.2**
SOEI Soe 48.74 202 *e*P **P** **13 39 40.2 -1.8**
comp=Z,118nm,0.9s
RC01 Rabbit Creek A 48.99 37 *e*P **P** **13 39 43.3 -0.1**
comp=Z,25nm,0.9s
TOLK Toolik Lake Re 49.02 27 P **P** **13 39 44.2 +0.7**
baz=267
TKM2 Tokmak 2 49.16 298 P **P** **13 39 44.9 -0.2**
TKM2 pmax pmax
comp=Z,16nm,0.5s
MCK McKinley 49.24 34 *e*P **P** **13 39 45.3 +0.1**
MCK pmax pmax
comp=Z,28nm,1.0s
MCK McKinley 49.24 34 *e*P **P** **13 39 45.3 +0.1**
comp=Z,28nm,1.0s
PMR Palmer 49.25 36 *e*P **P** **13 39 45.3 0.0**
PMR pmax pmax
comp=Z,33nm,1.1s
PMR Palmer 49.25 36 *e*P **P** **13 39 45.2 0.0**
comp=Z,33nm,1.1s
RND Reindeer 49.29 34 *e*P **P** **13 39 46.1 +0.5**
RND pmax pmax
comp=Z,24nm,1.0s
RND Reindeer 49.29 34 *e*P **P** **13 39 46.1 +0.5**
comp=Z,24nm,1.0s
HNR Honiara 49.43 154 LR LR 13 59 31.5
comp=Z,232nm,20.4s,baz=358,slow=35
MDM Murphy Dome 49.51 32 *e*P **P** **13 39 48.5 +1.2**
comp=Z,44nm,1.1s
WRH Wood River Hil 49.59 33 *e*P **P** **13 39 48.4 +0.6**
SML Sawmill 49.62 36 *e*P **P** **13 39 48.8 +0.6**
SML pmax pmax
comp=Z,41nm,1.0s
SML Sawmill 49.62 36 *e*P **P** **13 39 48.8 +0.6**
comp=Z,41nm,1.0s
COLA College 49.67 32 *e*P **P** **13 39 49.4 +1.0**
COLA pmax pmax
comp=Z,13nm,0.8s
COLA College 49.67 32 *e*P **P** **13 39 49.4 +1.0**
comp=Z,13nm,0.8s
CCB Clear Creek Bu 49.70 32 *e*P **P** **13 39 49.6 +1.0**
comp=Z,10nm,1.0s
FRU Bishkek 49.87 299‖ *e*P **P** **13 39 50.5 +0.1**
FRU *e* 13 47 09.0
FRU pmax pmax
comp=Z,40nm,2.0s
KSH Kashi 49.89 294 *e*P **P** **13 39 54.4 +3.7**
KSH pP sP 13 40 06.5 +9.1
KSH sP pP 13 40 11.5 +16
KSH PP **PP** **13 41 50.4 +5.1**
KSH S **S** **13 46 59.8 -0.5**
KSH sS sS 13 47 20.8 +13
KSH SS **SS** **13 50 30.1 -2.7**
KSH pmax pmax
comp=Z,8.0nm,0.9s
KSH pmax pmax
comp=Z,250nm,7.1s
KSH LR LR
comp=Z,680nm,15.6s
KSH LR LR
comp=Z,1µm,18.5s
KSH LR LR
comp=Z,500nm,21.7s
DHY Denali Highway 49.97 34 *e*P **P** **13 39 51.5 +0.5**
comp=Z,19nm,1.0s
AAK Ala-Archa 50.02 298 *d i*P **P** **13 39 51.4 -0.2**
AAK pmax pmax
comp=Z,15nm,1.0s
AAK Ala-Archa 50.02 298 *e*P **P** **13 39 50.6 -1.0**
comp=Z,22nm,1.4s
AAK Ala-Archa 50.02 298 P **P** **13 39 51.8 +0.1**
SNR=5.5
AAK Ala-Archa 50.02 298 P **P** **13 39 51.8 +0.1**
SNR=5.5
HDA Harding Lake 50.08 33 *e*P **P** **13 39 51.5 -0.1**
comp=Z,30nm,1.0s
IL1 Eielson Array 50.09 32 *e*P **P** **13 39 51.7 0.0**
ILAR Eielson Array 50.09 32 P **P** **13 39 51.9 +0.2**
comp=Z,7.3nm,0.8s,baz=272,slow=6.3,SNR=56
ILAR LR LR 14 02 14.0
comp=Z,332nm,20.9s,baz=276,slow=37
ILB Eielson Array 50.09 32 *e*P **P** **13 39 51.6 0.0**
MTN Manton Dam 50.13 192 *e*P **P** **13 39 51.6 -0.9**
comp=Z,31nm,0.8s
BRVK Borovoye 50.31 312 *d i*P **P** **13 39 52.7 -0.7**
BRVK pmax pmax
comp=Z,42nm,0.8s
BRVK Borovoye 50.31 312 *e*P **P** **13 39 52.6 -0.9**
comp=Z,14nm,0.7s
BRVK Borovoye 50.31 312 P **P** **13 39 53.2 -0.2**
SNR=7.6
BRVK Borovoye 50.31 312 P **P** **13 39 53.2 -0.2**
SNR=7.8
COEN Coen 50.51 177 *e*P **P** **13 39 55.8 +0.5**
comp=Z,30nm,0.8s
FYU Fort Yukon 50.69 30 *e*P **P** **13 39 58.2 +2.1**
comp=Z,84nm,1.7s
KLU Klutina 50.79 36 *e*P **P** **13 39 58.5 +1.3**
comp=Z,23nm,1.0s
DIV Divide 50.91 37 *e*P **P** **13 39 59.0 +1.1**
comp=Z,31nm,1.0s
DOT Dot Lake 51.41 34 *e*P **P** **13 40 02.1 +0.4**
comp=Z,33nm,1.0s
MNAS Manas 51.46 299 P **P** **13 40 02.3 -0.2**
MNAS pmax pmax
comp=Z,20nm,0.7s
BMRM Bremner River 51.49 37 *e*P **P** **13 40 03.5 +1.2**
comp=Z,36nm,1.0s
MENT Mentasta 51.65 34 *e*P **P** **13 40 04.8 +1.3**
comp=Z,45nm,1.1s
EGAK Eagle 52.53 32 *e*P **P** **13 40 10.2 +0.2**
comp=Z,14nm,0.8s
KK31 Karatay Array 52.67 300 P **P** **13 40 10.3 -1.0**
KK31 pmax pmax
comp=Z,27nm,1.2s
KKAR Karatay Array 52.67 300 *e*P **P** **13 40 10.6 -0.7**
KKAR pmax pmax
comp=Z,95nm,0.7s
KKAR Karatay Array 52.67 300 *e*P **P** **13 40 10.6 -0.7**
comp=Z,95nm,0.7s
DAWY Dawson 53.40 33 *e*P **P** **13 40 16.5 0.0**
comp=Z,6.6nm,0.8s
SVE Sverdlovsk 54.90 319⇑ *e*P **P** **13 40 27.3 -0.1**
SVE pmax pmax
comp=Z,37nm,0.8s
INK Inuvik 54.94 27 P **P** **13 40 28.7 +1.2**
comp=Z,20nm,0.8s,baz=293,slow=5.8,SNR=16
INK Inuvik 54.94 27 *e*P **P** **13 40 28.1 +0.7**
comp=Z,19nm,0.8s
ARU Arti 56.11 318 LR LR 14 05 57.7
comp=Z,272nm,20.1s,baz=76,slow=38
ARU Arti 56.11 318 *d i*P **P** **13 40 35.2 -0.9**
ARU 13 42 35.9
ARU S **S** **13 48 22.6 -1.7**
ARU 13 50 13.3
ARU SS **SS** **13 52 02.2 -7.8**
ARU pmax pmax
comp=Z,26nm,0.8s
ARU Arti 56.11 318 *e*P **P** **13 40 35.2 -0.9**
comp=Z,29nm,0.8s
SOKR Solikamsk 56.12 322⇑ *i*P **P** **13 40 35.3 -0.8**
SOKR pmax pmax
comp=Z,22nm,1.1s
SOKR MLR MLR
comp=Z,350nm,17.0s
WHY Whitehorse 56.21 36 *e*P **P** **13 40 37.9 +0.9**
comp=Z,23nm,0.9s
SKAG Skagway 56.33 38 *e*P P 13 40 43.8 +6.2
comp=Z,32nm,1.2s
FITZ Fitzroy Crossi 56.36 197 P **P** **13 40 38.4 +0.2**
comp=Z,6.6nm,0.5s,baz=27,slow=6.6,SNR=9.4
FITZ Fitzroy Crossi 56.36 197 *e*P **P** **13 40 36.6 -1.6**
comp=Z,22nm,1.3s
WRAB Tennant Creek 56.69 187 *c i*P **P** **13 40 39.8 -0.8**
WRAB pmax pmax
comp=Z,71nm,1.2s
WRAB Tennant Creek 56.69 187 *e*P **P** **13 40 38.5 -2.1**
comp=Z,16nm,0.8s
WB2 Warramunga Arr 56.70 187 *e*P **P** **13 40 39.0 -1.7**
WRA Warramunga Ar 56.70 187 P **P** **13 40 39.4 -1.2**
comp=Z,16nm,0.8s,baz=3.0,slow=7.5,SNR=65
WRA LR LR 14 03 55.2
comp=Z,221nm,21.7s,baz=345,slow=35
CTA Charters Tower 56.80 174 P **P** **13 40 42.2 +0.9**
comp=Z,3.2nm,0.6s,baz=72,slow=2.8,SNR=4.1
CTAO Charters Tower 56.80 174 *e*P **P** **13 40 42.7 +1.4**

CTAO pmax pmax
comp=Z,17nm,1.2s
CTAO Charters Tower 56.80 174 *e*P **P 13 40 42.7 +1.4**
comp=Z,17nm,1.2s
KBL Kabul 56.87 291 *e*P **P 13 40 40.7 -1.5**
KBL pmax pmax
comp=Z,15nm,1.0s
KBL Kabul 56.87 291 *e*P **P 13 40 40.7 -1.5**
comp=Z,15nm,1.0s
HYB Hyderabad 57.51 268 *i* P **P 13 40 48.0 +1.4**
AB31 Akbulak array 57.59 310 P **P 13 40 45.7 -1.0**
AB31 pmax pmax
comp=Z,13nm,0.6s
ABKAR Akbulak array 57.59 310 *e*P **P 13 40 45.6 -1.1**
comp=Z,187nm,0.7s
DLBC Dease Lake 59.26 38 P **P 13 41 00.9 +2.6**
comp=Z,12nm,1.0s,baz=290,slow=6.6,SNR=7.1
DLBC Dease Lake 59.26 38 *e*P **P 13 40 58.8 +0.5**
comp=Z,41nm,1.3s
AS01 Alice Springs 60.42 187 *e*P **P 13 41 05.5 -1.1**
AS31 Alice Springs 60.43 187 *e*P **P 13 41 05.6 -1.0**
comp=Z,5.5nm,1.0s
ASAR Alice Springs 60.43 187 P **P 13 41 05.8 -0.8**
comp=Z,14nm,0.9s,baz=7.7,slow=5.7,SNR=24
ASAR LR LR 14 05 58.6
comp=Z,162nm,21.5s,baz=6.0,slow=35
SPITS Spitsbergen Ar 60.66 349 LR LR 14 11 23.7
comp=Z,204nm,18.2s,baz=20,slow=40
KBS Kingsbay 60.81 350 *e*P **P 13 41 09.1 +0.5**
KBS pmax pmax
comp=Z,24nm,0.8s
KBS Kingsbay 60.81 350 *e*P **P 13 41 09.1 +0.5**
comp=Z,24nm,0.8s
MBWA Marble Bar 60.87 202 *e*P **P 13 41 09.2 -0.5**
comp=Z,36nm,1.3s
LVZ Lovozero 62.08 336‖ *e*P **P 13 41 15.9 -1.4**
LVZ pmax pmax
comp=Z,8.0nm,0.9s
LVZ Lovozero 62.08 336 *e*P **P 13 41 16.0 -1.4**
comp=Z,39nm,1.5s
EIDS Eidsvold 62.59 169 *e*P **P 13 41 20.7 -0.4**
comp=Z,13nm,0.9s
TMCR Tamitsa 62.66 331 *e*P **P 13 41 21.0 -0.2**
TMCR pmax pmax
comp=Z,23nm,1.1s
RES Resolute Bay 63.03 14 P **P 13 41 23.8 +0.2**
comp=Z,18nm,0.8s,baz=121,slow=14,SNR=3.2
GEYT Alibeck 63.37 299 P **P 13 41 25.9 -0.5**
comp=Z,3.9nm,0.6s,baz=49,slow=6.7,SNR=7.5
GEYT LR LR 14 09 02.9
comp=Z,370nm,21.2s,baz=100,slow=36
DZM Mont Dzumac 63.41 153 *e*P **P 13 41 27.2 +0.4**
comp=Z,94nm,1.3s
DZM *e*S **S 13 49 58.0 -1.1**
comp=Z,570nm,33.1s
DZM Mont Dzumac 63.41 153 *e*LR LR 14 00 18.7
comp=Z,216nm,21.4s
DZM Mont Dzumac 63.41 153 *e*P **P 13 41 26.7 -0.1**
comp=Z,54nm,1.3s
KLMR Klimovskoe 63.62 328 *e*P **P 13 41 25.7 -1.9**
KLMR *e* 13 42 03.0
KLMR pmax pmax
comp=Z,16nm,0.7s
ARA0 ARCESS Array S 64.01 339 *e*P **P 13 41 29.5 -0.6**
ARCES ARCESS Array B 64.01 339 P **P 13 41 29.8 -0.3**
comp=Z,4.7nm,0.6s,baz=44,slow=6.8,SNR=12
ARCES LR LR 14 14 44.2
comp=Z,450nm,18.0s,baz=28,slow=41
YKA Yellowknife Ar 64.39 30 P **P 13 41 33.6 +0.9**
comp=Z,8.6nm,0.8s,baz=310,slow=7.6,SNR=6.0
YKA LR LR 14 11 36.8
comp=Z,24nm,19.7s,baz=0.0,slow=38
DAG Danmarks Havn 65.98 355 *i* P **P 13 41 40.9 -1.9**
comp=Z,12nm,0.6s
DAG Danmarks Havn 65.98 355 *i* P **P 13 41 40.9 -1.9**
DAG pmax pmax
comp=Z,8.0nm,0.6s
LLLB Lillooet 66.92 43 *e*P **P 13 41 49.9 +0.6**
comp=Z,36nm,1.2s
MOS Moscow 67.06 323 *e*P **P 13 41 49.0 -1.0**
NLWA Neilton Lookou 67.40 47 *e*P **P 13 41 53.8 +1.4**
comp=Z,38nm,1.0s
A04D Lummi Island 67.41 45 P **P 13 41 53.3 +1.0**
baz=300
AFI Afiamalu 67.49 129 LR LR 14 05 31.3
comp=Z,178nm,21.3s,baz=300,slow=31
ARMA Armidale 67.63 170 *e*P **P 13 41 57.6 +3.7**
comp=Z,19nm,1.1s
OBN Obninsk 67.90 323 *i* P **P 13 41 53.9 -1.4**
OBN *i* 13 42 25.4
OBN *i* SS SS 13 55 14.4 +0.3
OBN pmax pmax
comp=Z,39nm,1.2s
OBN MLR MLR
comp=Z,568nm,15.0s
B05A Bryant 67.99 46 P **P 13 41 56.9 +0.9**
baz=301
E03A Lebam 68.01 48 *e*P **P 13 41 57.8 +1.7**
comp=Z,51nm,1.0s
LPSR Galich'ya Gora 68.07 320 *e*P **P 13 41 55.2 -1.2**
LPSR pmax pmax
comp=Z,20nm,0.8s
FORT Forrest 68.20 192 *e*P **P 13 41 57.0 -0.4**
comp=Z,860nm,1.5s
B06A Marblemount 68.21 45 *e*P **P 13 41 59.6 +2.2**
comp=Z,23nm,1.1s
STKA Stephens Creek 68.29 179 P **P 13 41 57.0 -0.9**
comp=Z,9.2nm,0.9s,baz=351,slow=7.0,SNR=11
STKA LR LR 14 13 23.0
comp=Z,88nm,18.2s,baz=16,slow=37
STKA Stephens Creek 68.29 179 P **P 13 41 57.0 -0.9**
STKA pmax pmax
comp=Z,9.0nm,0.9s
STKA MLR MLR
comp=Z,88nm,18.2s
STKA Stephens Creek 68.29 179 *e*P **P 13 41 57.2 -0.7**
comp=Z,3.2nm,1.1s
D05A Enumclaw 68.61 47 *e*P **P 13 42 00.0 +0.1**
comp=Z,22nm,0.9s
VSR Storozhevoye 68.68 319 *e*P **P 13 41 59.0 -1.3**
VSR pmax pmax
comp=Z,10.0nm,0.5s
FIA1 FINESS Array S 68.73 332 *e*P **P 13 41 59.6 -0.8**
FINES FINESS Array B 68.73 332 P **P 13 41 60.0 -0.4**
comp=Z,26nm,1.0s,baz=57,slow=7.0,SNR=22
FINES LR LR 14 17 23.4
comp=Z,332nm,18.2s,baz=31,slow=41
FINES FINESS Array B 68.73 332 P **P 13 42 00.0 -0.4**
FINES pmax pmax
comp=Z,26nm,1.0s
FINES MLR MLR
comp=Z,332nm,18.2s
C06D Leavenworth 68.86 45 P **P 13 42 02.9 +1.4**
baz=302
G03D McMinnville, O 68.87 49 P **P 13 42 03.2 +1.6**
baz=301
TDL Tradedollar La 68.91 47 *e*P **P 13 42 03.6 +1.6**
LON Longmire 68.94 47 *e*P **P 13 42 03.1 +1.0**
LON pmax pmax
comp=Z,15nm,1.1s
LON Longmire 68.94 47 *e*P **P 13 42 03.1 +1.0**
comp=Z,15nm,1.1s
F04A Amboy 69.01 48 *e*P **P 13 42 03.5 +1.0**
comp=Z,33nm,0.9s
COR Corvallis 69.17 49 *e*P **P 13 42 05.3 +1.8**
COR pmax pmax
comp=Z,51nm,1.0s
COR Corvallis 69.17 49 *e*P **P 13 42 05.3 +1.8**
comp=Z,51nm,1.0s
ETW Entiat 69.35 46 *e*P **P 13 42 05.7 +1.0**
KEBM Edson Butte 69.43 51 *e*P **P 13 42 07.2 +2.0**
comp=Z,91nm,1.1s
B08A Colville Reser 69.51 45 *e*P **P 13 42 06.5 +0.9**
comp=Z,25nm,1.4s
I03D Drain, OR 69.61 50 P **P 13 42 08.2 +2.0**
baz=302,SNR=18
GOF Gofitskoye 69.76 312‖ *e*P **P 13 42 05.9 -1.2**
GOF pmax pmax
comp=Z,30nm,0.9s
SAW Saint Andrews 69.83 45 P **P 13 42 08.7 +1.1**
VFP Flag Point 69.90 48 P **P 13 42 10.1 +1.9**
EDM Edmonton 69.98 38 *e*P **P 13 42 08.8 +0.4**
EDM pmax pmax
comp=Z,47nm,1.3s
EDM Edmonton 69.98 38 *e*P **P 13 42 08.8 +0.4**
comp=Z,47nm,1.3s
G05D Wamic, OR 70.03 48 P **P 13 42 10.2 +1.4**
baz=302
I04A Tendick Farm, 70.14 50 P **P 13 42 11.2 +1.6**
baz=302,SNR=18
E07A Sunnyside 70.18 46 *e*P **P 13 42 10.4 +0.7**
comp=Z,23nm,1.1s
NCK Nalchik 70.25 310‖ *e*P **P 13 42 10.7 +0.5**
NCK pmax pmax
comp=Z,4.0nm,0.2s
L02D Cave Junction, 70.26 52 P **P 13 42 12.1 +1.8**
baz=302
JMIC Jan Mayen 70.29 350 LR LR 14 13 02.8
comp=Z,56nm,18.3s,baz=64,slow=36
VSU Vasula 70.34 329 *de*P **P 13 42 09.9 -0.5**
VSU pmax pmax
comp=Z,85nm,1.2s
HUMO Hull Mountain 70.43 51 *e*P **P 13 42 11.9 +0.6**
comp=Z,12nm,1.3s
G06A Carlson Farm, 70.44 48 *e*P **P 13 42 12.4 +1.1**
comp=Z,121nm,1.8s
D08A Wollman Farm, 70.45 46 *e*P **P 13 42 11.6 +0.3**
comp=Z,18nm,1.0s
HAWA Hanford 70.46 46 *e*P **P 13 42 12.6 +1.2**
comp=Z,22nm,1.2s
I05D Terrebonne, OR 70.50 49 P **P 13 42 13.5 +1.7**
baz=303,SNR=10
KBZ Khabaz 70.56 310 P **P 13 42 11.8 -0.2**
comp=Z,8.1nm,0.6s,baz=27,slow=5.8,SNR=11
KBZ LR LR 14 15 53.8
comp=Z,448nm,18.9s,baz=63,slow=38
KBZ Khabaz 70.56 310 P **P 13 42 11.8 -0.2**
KBZ pmax pmax
comp=Z,9.0nm,0.7s
KBZ MLR MLR
comp=Z,448nm,18.9s
KIV Kislovodsk 70.57 311 *e*P **P 13 42 13.0 +0.8**
KIV pmax pmax
comp=Z,41nm,1.1s
KIV Kislovodsk 70.57 311 *e*P **P 13 42 11.3 -0.9**
comp=Z,30nm,0.8s
KIV Kislovodsk 70.57 311 P **P 13 42 15.9 +3.7**
SNR=7.2
J04D Umpqua Nationa 70.62 50 P **P 13 42 14.5 +1.8**
baz=303
NEW Newport 70.80 44 P **P 13 42 14.5 +1.0**
baz=304,SNR=11
NEW Newport 70.80 44 *e*P **P 13 42 14.3 +0.8**
NEW pmax pmax
comp=Z,25nm,1.2s
NEW Newport 70.80 44 *e*P **P 13 42 14.3 +0.8**
comp=Z,26nm,1.2s
KHMM Horse Mountain 70.86 53 *e*P **P 13 42 15.2 +1.1**
comp=Z,47nm,1.4s
NEY Neytrino 70.92 310‖ *e*P **P 13 42 14.8 +0.3**
NEY pmax pmax
comp=Z,2.0nm,1.2s
SUMG Summit 70.95 360 *i* P **P 13 42 14.4 0.0**
comp=Z,47nm,1.1s
SUMG Summit 70.95 360 *e*P **P 13 42 14.6 +0.2**
SUMG pmax pmax
comp=Z,46nm,1.1s
SUMG Summit 70.95 360 *e*P **P 13 42 14.6 +0.2**
comp=Z,46nm,1.1s
YBH Yreka Blue Hor 71.05 52 *e*P **P 13 42 16.5 +1.3**
YBH pmax pmax
comp=Z,44nm,1.7s
YBH Yreka Blue Hor 71.05 52 *e*P **P 13 42 16.5 +1.3**
comp=Z,44nm,1.7s
J05D Fort Rock, OR 71.13 50 P **P 13 42 17.8 +2.1**
baz=303,SNR=17
M02C Callahan 71.14 52 P **P 13 42 17.7 +2.0**
baz=303,SNR=9.3
K04D Chiloquin, OR 71.17 51 P **P 13 42 18.0 +2.0**
baz=303
E09A Wood Farm, Sta 71.19 46 *e*P **P 13 42 17.2 +1.3**
comp=Z,44nm,1.2s
UOSS Minazif 71.24 287 *e*P **P 13 42 15.9 -0.6**
comp=Z,9.2nm,0.8s
GNI Garni 71.32 306 LR LR 14 15 45.4
comp=Z,180nm,18.5s,baz=65,slow=38
GNI Garni 71.32 306‖ *e*P **P 13 42 17.0 +0.1**
GNI pmax pmax
comp=Z,27nm,1.1s
GNI Garni 71.32 306 *e*P **P 13 42 15.9 -1.0**
AKH Akhalkalaki 71.44 308 *i* P **P 13 42 17.9 +0.3**
AKH Akhalkalaki 71.44 308 P **P 13 42 17.9 +0.3**
N02D Trinity Center 71.46 52 P **P 13 42 19.6 +1.9**
baz=303
M04C Macdoel 71.57 51 P **P 13 42 20.3 +1.9**
baz=303,SNR=8.9
K05A Summer Lake 71.65 50 *e*P **P 13 42 20.4 +1.5**
comp=Z,62nm,1.2s
WDC Whiskeytown Da 71.78 53 *e*P **P 13 42 21.3 +1.8**
WDC pmax pmax
comp=Z,19nm,1.0s
WDC Whiskeytown Da 71.78 53 *e*P **P 13 42 21.3 +1.8**
comp=Z,19nm,1.0s
F10A Beach Ranch, E 72.03 46 *e*P **P 13 42 22.0 +1.0**
comp=Z,16nm,1.1s
WALA Waterton Lakes 72.10 42 *e*P **P 13 42 22.0 +0.6**
comp=Z,25nm,1.0s
BSMT Bassoo Peak 72.32 43 *e*P **P 13 42 23.3 +0.4**
BLMT Blacktail Moun 72.46 43 *e*P **P 13 42 23.5 -0.3**
MOD Modoc Plateau 72.47 51 *e*P **P 13 42 22.4 -1.3**
comp=Z,12nm,1.1s
NACGM Naroch 72.57 326 *e* **P 13 42 24.0 +0.1**
NACGM *e*LQ LQ 14 14 24.0
NACGM *e*LR LR 14 17 02.0
BMO Blue Mountains 72.62 47 *e*P **P 13 42 25.1 +0.5**
BMO pmax pmax
comp=Z,19nm,1.0s
BMO Blue Mountains 72.62 47 *e*P **P 13 42 25.1 +0.5**
comp=Z,19nm,1.0s
JTMT Jette 72.66 43 *e*P **P 13 42 25.6 +0.8**
YBMT Yellow Bay 72.74 43 *e*P **P 13 42 25.8 +0.5**
SWMT Swartz Lake 72.96 43 *e*P **P 13 42 27.3 +0.8**
ORV Oroville 73.01 53 *e*P **P 13 42 27.1 +0.2**
ORV pmax pmax
comp=Z,29nm,1.3s
ORV Oroville 73.01 53 *e*P **P 13 42 27.1 +0.2**
comp=Z,29nm,1.3s
WVOR Wild Horse Val 73.19 49 *e*P **P 13 42 29.1 +1.1**
WVOR pmax pmax
comp=Z,32nm,1.4s
WVOR Wild Horse Val 73.19 49 *e*P **P 13 42 29.1 +1.1**
comp=Z,32nm,1.4s
ANN Anapa 73.22 314 *e*P **P 13 42 26.8 -1.2**
ANN pmax pmax
comp=Z,31nm,1.1s
ANN MLR MLR
comp=E,191nm,17.0s
ANN MLR MLR
comp=N,239nm,17.0s
ANN MLR MLR
comp=Z,459nm,17.0s
MSO Missoula 73.39 44 P **P 13 42 30.1 +1.0**
baz=306
MSO Missoula 73.39 44 *e*P **P 13 42 29.6 +0.5**
comp=Z,22nm,1.0s
SLMT Seeley Lake 73.39 43 *e*P **P 13 42 29.6 +0.4**
BEKR Beckworth 73.57 52 *e*P **P 13 42 30.9 +0.6**
comp=Z,34nm,1.1s
AFDM Forest Hills D 73.69 53 *e*P **P 13 42 31.5 +0.6**
comp=Z,14nm,1.2s
CHMT Chamberlain Mo 73.72 43 *e*P **P 13 42 31.2 0.0**
NC405 NORSAR Array S 73.96 337 *e*P **P 13 42 31.5 -0.6**
HFS Hagfors 74.05 335 LR LR 14 20 16.9
comp=Z,417nm,18.2s,baz=26,slow=40
AKASG Malin Array Be 74.09 322 P **P 13 42 32.1 -0.9**
comp=Z,9.8nm,0.6s,baz=47,slow=6.4,SNR=18
AKASG LR LR 14 15 38.8
comp=Z,228nm,20.3s,baz=35,slow=36
AKBB Malin Array Si 74.09 322 *e*P **P 13 42 31.6 -1.4**
AKBB pmax pmax
comp=Z,15nm,0.6s
AKBB Malin Array Si 74.09 322 *e*P **P 13 42 31.6 -1.4**
comp=Z,15nm,0.6s
KIEV Kiev 74.10 322 *d i* P **P 13 42 32.1 -0.9**
KIEV pmax pmax
comp=Z,11nm,0.8s
KIEV Kiev 74.10 322 *e*P **P 13 42 31.8 -1.3**
comp=Z,15nm,0.7s
NC204 NORSAR Array S 74.13 337 *e*P **P 13 42 31.9 -1.3**
AK11 Malin Array Si 74.13 322 *e*P **P 13 42 31.9 -1.3**
NB201 NORSAR Array S 74.14 337 *e*P **P 13 42 32.4 -0.8**
NB2 NORSAR Subarra 74.17 337 P **P 13 42 32.8 -0.5**
comp=Z,12nm,0.8s,baz=39,slow=6.2
NOA NORSAR Array B 74.17 337 P **P 13 42 32.9 -0.5**
comp=Z,9.8nm,0.8s,baz=38,slow=5.7,SNR=17
NOA LR LR 14 18 13.8
comp=Z,379nm,19.2s,baz=45,slow=38
NBO02 NORSAR Array S 74.28 337 *e*P **P 13 42 32.6 -1.3**
PAHR Pah Rah Range 74.28 52 *e*P **P 13 42 35.5 +1.0**
comp=Z,32nm,1.2s
FFC Flin Flon 74.30 32 *e*P **P 13 42 34.3 +0.1**
FFC pmax pmax
comp=Z,22nm,0.8s
FFC Flin Flon 74.30 32 *e*P **P 13 42 34.3 +0.1**
comp=Z,22nm,0.8s
MFID Camas Ranch 74.31 47 *e*P **P 13 42 35.1 +0.5**
comp=Z,26nm,1.1s
NBO00 NORSAR Array S 74.31 337 *e*P **P 13 42 33.6 -0.5**
PNTR Pine Nut 74.49 53 *e*P **P 13 42 36.8 +1.0**
comp=Z,18nm,0.9s
FCC Fort Churchill 74.55 26 *e*P **P 13 42 37.9 +2.4**
FCC pmax pmax
comp=Z,40nm,1.0s
FCC Fort Churchill 74.55 26 *e*P **P 13 42 37.9 +2.4**
comp=Z,40nm,1.0s
CMB Columbia Colle 74.58 54 *e*P **P 13 42 37.1 +0.9**
CMB pmax pmax
comp=Z,29nm,1.0s
CMB Columbia Colle 74.58 54 *e*P **P 13 42 37.1 +0.9**
comp=Z,29nm,1.0s
HRY Holter Researc 74.62 43 *e*P **P 13 42 37.3 +1.0**
YERR Yerington 74.78 53 *e*P **P 13 42 38.7 +1.2**
comp=Z,33nm,1.0s
LRM Limekiln Ridge 74.82 44 *e*P **P 13 42 38.6 +0.9**
EGMT Eagleton 74.93 41 P **P 13 42 39.1 +1.1**
baz=309,SNR=24
EGMT Eagleton 74.93 41 *e*P **P 13 42 38.8 +0.7**
comp=Z,48nm,0.9s
WAKR Walker 74.93 53 *e*P **P 13 42 39.4 +1.0**
comp=Z,124nm,2.0s
DLMT Dillon 75.02 44 *e*P **P 13 42 39.7 +1.0**
comp=Z,42nm,1.0s
SIM Simferopol' 75.04 315 *ce*P **P 13 42 38.6 0.0**
SIM pmax pmax
comp=Z,28nm,0.8s
HLID Hailey 75.06 47 P **P 13 42 40.7 +1.7**
baz=307
HLID Hailey 75.06 47 *e*P **P 13 42 40.1 +1.1**
comp=Z,20nm,1.0s
MCMT McKenzie Canyo 75.20 45 *e*P **P 13 42 40.2 +0.3**
BMN Battle Mountai 75.21 50 *e*P **P 13 42 41.0 +1.1**
BMN pmax pmax
comp=Z,32nm,1.0s
BMN Battle Mountai 75.21 50 *e*P **P 13 42 41.0 +1.1**
comp=Z,32nm,1.0s
TVH1 TV Hill, Hawth 75.39 53 *e*P **P 13 42 42.2 +1.0**
comp=Z,109nm,1.7s
BOZ Bozeman (W) 75.41 44 P **P 13 42 42.3 +1.4**
baz=308
BOZ Bozeman (W) 75.41 44 *e*P **P 13 42 41.5 +0.5**
BOZ pmax pmax
comp=Z,27nm,0.9s
BOZ Bozeman (W) 75.41 44 *e*P **P 13 42 41.5 +0.5**
comp=Z,27nm,0.9s
TVH3 East Aurora ar 75.41 53 *e*P **P 13 42 42.2 +1.0**
comp=Z,37nm,1.3s
TVH2 Borealis Mine 75.44 53 *e*P **P 13 42 42.5 +1.1**
comp=Z,30nm,1.3s
MARD Mardin 75.47 306 *e*P **P 13 42 41.1 -0.3**
comp=Z,15nm,0.7s
PAGB Antelope Grade 75.99 56 *e*P **P 13 42 45.4 +1.1**
comp=Z,52nm,1.1s
QLMT Earthquake Lak 76.00 44 *e*P **P 13 42 45.2 +0.9**
SORM Soroca 76.17 320‖ *e*P **P 13 42 43.9 -1.1**
YHB Horse Butte 76.17 44 *e*P **P 13 42 46.9 +1.4**
comp=Z,22nm,0.9s
SFJD Kangerlussuaq 76.21 5 *i* P **P 13 42 45.7 +0.8**
comp=Z,18nm,0.9s
SFJD Kangerlussuaq 76.21 5 *e*P **P 13 42 46.5 +1.6**
SFJD pmax pmax
comp=Z,45nm,1.4s
SFJD Kangerlussuaq 76.21 5 *e*P **P 13 42 46.5 +1.6**
comp=Z,45nm,1.4s
YHH Holmes Hill 76.34 44 *e*P **P 13 42 47.5 +1.0**
comp=Z,21nm,1.1s
GCMT Greycliff 76.37 43 *e*P **P 13 42 47.4 +1.0**
SMMC Simmler 76.40 56 P **P 13 42 48.3 +1.6**
baz=306
YNR Norris Junctio 76.49 44 *e*P **P 13 42 48.5 +1.3**
comp=Z,50nm,1.4s
TIN Tinemaha, Big 76.55 54 P **P 13 42 48.7 +1.1**
baz=306
YFT Old Faithful 76.56 44 *e*P **P 13 42 50.0 +2.3**
comp=Z,25nm,1.0s
KIS Kishinev 76.65 319 *e*P P 13 42 43.0 -4.8
KIS *e*LR LR 14 14 00.0
comp=Z,700nm,15.0s
KIS Kishinev 76.65 319 *e*P P 13 42 43.0 -4.8
KIS MLR MLR
comp=Z,800nm,16.0s
KIS MLR MLR
comp=Z,700nm,15.0s
YPP Pitchstone Pla 76.69 44 *e*P **P 13 42 50.7 +2.2**
comp=Z,20nm,1.3s
VES Vestal, Richgr 76.70 55 P **P 13 42 49.1 +0.8**
baz=306,SNR=7.4
LKWY Lake 76.73 44 *e*P **P 13 42 50.7 +2.0**
LKWY pmax pmax
comp=Z,38nm,1.0s
LKWY Lake 76.73 44 *e*P **P 13 42 50.6 +2.0**
comp=Z,38nm,1.0s
PKM Mcpherson Peak 76.77 56 P **P 13 42 50.2 +1.3**
baz=306
IMW Indian Meadow 76.85 45 *e*P **P 13 42 51.1 +1.7**
comp=Z,33nm,1.0s
CWC Cottonwood Cre 77.01 54 P **P 13 42 51.4 +1.2**
baz=306
RLMT Red Lodge 77.01 43 P **P 13 42 51.5 +1.4**
baz=310
RLMT Red Lodge 77.01 43 *e*P **P 13 42 51.0 +0.8**
comp=Z,20nm,1.0s
MOOW Moose Ponds 77.05 45 *e*P **P 13 42 51.7 +1.3**
comp=Z,70nm,1.8s
TPAW Teton Pass 77.10 45 *e*P **P 13 42 52.2 +1.5**
comp=Z,21nm,1.0s
HVU Hansel Valley 77.10 47 *e*P **P 13 42 51.9 +1.3**
HVU pmax pmax
comp=Z,23nm,0.9s
HVU Hansel Valley 77.10 47 *e*P **P 13 42 51.9 +1.3**
comp=Z,23nm,0.9s
GRAC Grapevine Rang 77.14 53 P **P 13 42 52.5 +1.7**
baz=307
LVV L'vov 77.19 324 *e*P **P 13 42 50.3 -0.5**
LVV MLR MLR
comp=N,400nm,15.0s
LVV MLR MLR
comp=E,500nm,15.0s
LVV MLR MLR
comp=Z,300nm,15.0s
ISA Isabella, Lake 77.20 55 P **P 13 42 52.0 +0.8**
baz=306
ISA Isabella, Lake 77.20 55 *e*P **P 13 42 51.3 +0.1**
ISA pmax pmax
comp=Z,18nm,1.3s
ISA Isabella, Lake 77.20 55 *e*P **P 13 42 51.3 +0.1**
comp=Z,18nm,1.3s
LOHW Long Hollow 77.22 45 *e*P **P 13 42 52.5 +1.2**
comp=Z,16nm,1.1s
SNOW Snow King Moun 77.22 45 *e*P **P 13 42 52.7 +1.2**
comp=Z,32nm,1.0s
REDW Red Top Meadow 77.23 45 *e*P **P 13 42 52.5 +1.0**
comp=Z,24nm,1.1s
ARVC Arvin 77.28 56 P **P 13 42 52.6 +1.1**
baz=306
DAC Darwin (Calif) 77.42 54 *e*P **P 13 42 53.3 +0.7**
DAC pmax pmax
comp=Z,14nm,1.0s
DAC Darwin (Calif) 77.42 54 *e*P **P 13 42 53.3 +0.7**
comp=Z,14nm,1.0s
R11A Troy Canyon, C 77.47 51 P **P 13 42 54.5 +1.7**
baz=307
R11A Troy Canyon, C 77.47 51 *e*P **P 13 42 53.6 +0.9**
comp=Z,56nm,1.3s
BGU Big Grassy Mou 77.47 48 *e*P **P 13 42 53.1 +0.4**
comp=Z,10nm,0.9s
DGMT Dagmar 77.48 38 P **P 13 42 53.4 +0.9**
baz=312
DGMT Dagmar 77.48 38 *e*P **P 13 42 53.0 +0.6**
comp=Z,52nm,1.0s
SPUT South Promonto 77.58 48 *e*P **P 13 42 53.4 0.0**
comp=Z,16nm,1.1s

MPMC **Manual Prospec** 77.62 54 P P 13 42 54.8 +1.1
baz=307,SNR=27
LAO **LASA Array** 77.63 40 P P 13 42 54.4 +1.1
baz=311,SNR=12
LAO **LASA Array** 77.63 40 *e*P P 13 42 54.5 +1.1
comp=Z,42nm,1.0s
ILGA **Ilgaz** 77.65 312 *e*P P 13 42 53.4 -0.4
comp=Z,18nm,0.7s
BLG **Laguna Peak, P** 77.72 57 P P 13 42 55.1 +1.0
baz=306
FURC **Furnace Creek,** 77.78 54 P P 13 42 55.9 +1.7
baz=307,SNR=14
LRMC **Laurel Mtn Rad** 77.83 55 P P 13 42 55.9 +1.1
baz=307
TPNV **Topopah Spring** 77.89 53 P P 13 42 56.6 +1.5
baz=307,SNR=41
TPNV **Topopah Spring** 77.89 53 *e*P P 13 42 55.9 +0.8
TPNV pmax pmax
comp=Z,49nm,1.0s
TPNV **Topopah Spring** 77.89 53 *e*P P 13 42 55.9 +0.8
comp=Z,49nm,1.0s
HWUT **Hardware Ranch** 77.92 47 *e*P P 13 42 56.3 +1.1
comp=Z,37nm,1.1s
KWP **Kalwaria Pacla** 77.95 324 *e*P P 13 42 55.4 +0.3
KWP **Kalwaria Pacla** 77.95 324 *e*P P 13 42 55.3 +0.3
EDW2 **Edwards Air Fo** 77.98 55 P P 13 42 56.9 +1.3
baz=307,SNR=15
DUG **Dugway, Tooele** 78.05 49 P P 13 42 57.6 +1.7
baz=308
DUG **Dugway, Tooele** 78.05 49 *e*P P 13 42 57.1 +1.1
DUG pmax pmax
comp=Z,34nm,1.0s
DUG **Dugway, Tooele** 78.05 49 *e*P P 13 42 57.1 +1.1
comp=Z,34nm,1.0s
BUR08 **Bucovina Ar. S** 78.09 321 *e*P P 13 42 55.7 -0.2
BURAR **Bucovina Array** 78.10 321 ⇑ *i*P P 13 42 55.8 -0.2
BURAR **Bucovina Array** 78.10 321 P P 13 42 55.8 -0.2
TESR **Tescani** 78.10 320 ⇓ *i*P P 13 42 55.4 -0.5
MWC **Mount Wilson** 78.33 56 *e*P P 13 42 58.2 +0.6
MWC pmax pmax
comp=Z,44nm,1.7s
MWC **Mount Wilson** 78.33 56 *e*P P 13 42 58.2 +0.6
comp=Z,44nm,1.7s
BW06 **Boulder Array** 78.34 45 P P 13 42 58.7 +1.0
baz=310
BW06 **Boulder Array** 78.34 45 *e*P P 13 42 57.8 +0.1
comp=Z,11nm,0.9s
PD31 **Pinedale Array** 78.34 45 *e*P P 13 42 58.0 +0.3
PDAR **Pinedale Array** 78.34 45 P P 13 42 58.1 +0.5
comp=Z,7.3nm,0.7s,baz=174,slow=1.5,SNR=6.9
PDAR LR LR 14 15 05.9
comp=Z,111nm,20.9s,baz=330,slow=34
VRI **Vrincioaia** 78.49 319 ⇑ *i*P P 13 42 57.4 -0.7
VRI **Vrincioaia** 78.49 319 P P 13 42 57.4 -0.7
SHOC **Shoshone, Teco** 78.50 54 P P 13 42 59.4 +1.1
baz=307
GSC **Goldstone, Bar** 78.51 55 P P 13 42 59.5 +1.0
baz=307
GSC **Goldstone, Bar** 78.51 55 *e*P P 13 42 59.4 +0.9
GSC pmax pmax
comp=Z,17nm,1.0s
GSC **Goldstone, Bar** 78.51 55 *e*P P 13 42 59.4 +0.9
comp=Z,17nm,1.0s
BR131 **Keskin Array S** 78.52 311 *e*P P 13 42 58.0 -0.6
BRTR **Keskin Array B** 78.52 311 P P 13 42 57.8 -0.8
comp=Z,5.3nm,0.7s,baz=88,slow=4.0,SNR=12
BRTR LR LR 14 20 58.0
comp=Z,106nm,19.5s,baz=44,slow=38
BRTR **Keskin Array B** 78.52 311 P P 13 42 57.8 -0.8
BRTR pmax pmax
comp=Z,3.0nm,0.6s
BRTR MLR MLR
comp=Z,106nm,19.5s
PLOR **Plostina** 78.54 319 ⇓ *i*P P 13 42 58.3 -0.2
PLOR **Plostina** 78.54 319 P P 13 42 58.2 -0.2
CIS **Catalina Islan** 78.58 57 P P 13 42 60.0 +1.1
baz=307
BFSC **Mount Baldy Ra** 78.59 56 P P 13 43 00.4 +1.3
baz=307
JLU **Jordanelle** 78.61 48 *e*P P 13 43 00.2 +1.1
comp=Z,25nm,1.1s
TLB **Topalu** 78.63 318 ⇓ *i*P P 13 42 58.5 -0.3
NLU **North Lily Min** 78.64 48 *e*P P 13 43 00.2 +0.9
comp=Z,25nm,1.0s
STHS **Stebnicka Huta** 78.78 325 *e*P P 13 43 00.4 +0.7
STHS pmax pmax
comp=Z,13nm,1.0s
STHS **Stebnicka Huta** 78.78 325 *e*P P 13 43 00.4 +0.7
UZH **Uzhgorod** 78.84 323 *e*P P 13 42 59.5 -0.4
UZH *i* 13 43 08.5
UZH *e* 13 43 15.5
SHPR **Sheep Range** 78.85 53 *e*P P 13 43 01.7 +1.2
comp=Z,24nm,1.0s
OJC **Ojcow** 78.88 326 *e*P P 13 43 00.6 +0.4
OJC **Ojcow** 78.88 326 *e*P P 13 42 59.5 -0.6
OJC pmax pmax
comp=Z,18nm,0.9s
OJC **Ojcow** 78.88 326 *e*P P 13 42 59.5 -0.6
comp=Z,18nm,0.9s
ARCR **ARCALIA** 78.89 321 ⇓ *i*P P 13 43 03.6 +3.3
ANTO **Ankara** 78.94 312 *e*P P 13 43 03.9 +3.2
ANTO pmax pmax
comp=Z,17nm,0.6s
ANTO **Ankara** 78.94 312 *e*P P 13 43 03.9 +3.2
comp=Z,17nm,0.6s
BR231 **Keskin MP Arra** 78.96 312 *e*P P 13 42 58.7 -2.3
TUQ **Turquoise Moun** 79.01 54 P P 13 43 03.0 +1.7
baz=308,SNR=38
BBRC **Big Bear Solar** 79.06 55 P P 13 43 02.8 +1.1
baz=307
ISR **Istrita** 79.08 319 ⇓ *i*P P 13 43 01.8 +0.4
HEC **Hector,Ludlow** 79.11 55 P P 13 43 03.0 +1.3
baz=307,SNR=16
DOPR **Dopca** 79.12 320 ⇓ *i*P P 13 43 02.1 +0.5
MLR **Muntele Rosu** 79.15 319 ⇓ *i*P P 13 43 02.1 +0.2
MLR **Muntele Rosu** 79.15 319 P P 13 43 02.0 +0.2
NIE **Niedzica** 79.22 325 *e*P P 13 43 02.5 +0.4
NIE **Niedzica** 79.22 325 *e*P P 13 43 02.5 +0.4
MURC **Murrieta** 79.28 56 P P 13 43 03.8 +1.1
baz=307
CCUT **Cedar City** 79.35 51 *e*P P 13 43 02.8 -0.5
comp=Z,25nm,1.3s
MSU **Marysvale** 79.48 50 *e*P P 13 43 05.0 +1.0
MSU **Marysvale** 79.48 50 *e*P P 13 43 05.0 +1.0
SZCU **Shurtz Canyon** 79.49 51 *e*P P 13 43 05.0 +1.0
comp=Z,64nm,1.8s
GMRC **Granite Mounta** 79.57 54 P P 13 43 05.5 +1.0
baz=308,SNR=23
TMUT **Trail Mountain** 79.58 49 *e*P P 13 43 04.6 0.0
comp=Z,24nm,1.0s
LCMT **Little Creek M** 79.75 51 *e*P P 13 43 06.6 +1.3
comp=Z,36nm,1.1s
LDFC **Landfair** 79.75 54 *e*P P 13 43 05.8 +0.4
comp=Z,78nm,1.4s
PFO **Pinyon Flats O** 79.76 56 P P 13 43 06.5 +1.1
baz=308,SNR=5.7
PFO **Pinyon Flats O** 79.76 56 *e*P P 13 43 06.2 +0.8
PFO pmax pmax
comp=Z,27nm,1.2s
PFO **Pinyon Flats O** 79.76 56 *e*P P 13 43 06.2 +0.8
comp=Z,28nm,1.2s
109C **Camp Elliot, M** 79.77 57 P P 13 43 06.3 +1.0
baz=307
TPFO **Pinon Flats** 79.77 56 P P 13 43 06.5 +1.1
baz=308,SNR=11
MTPU **Mount Pierson** 79.77 50 *e*P P 13 43 07.3 +1.6
comp=Z,20nm,0.8s
LANS **Liptovska Anna** 79.80 325 *e*P P 13 43 05.7 +0.5
LANS **Liptovska Anna** 79.80 325 *e*P P 13 43 05.7 +0.5
KECS **Kecovo** 79.80 324 *e*P P 13 43 07.9 +2.7
KECS pmax pmax
comp=Z,3.0nm,0.9s
KECS **Kecovo** 79.80 324 *e*P P 13 43 07.9 +2.7
BELC **Belle Mtn. Jos** 79.83 55 P P 13 43 06.6 +0.8
baz=308,SNR=13
OKC **Ostrava-Krasne** 79.90 326 AMS AMS 14 22 20.0
comp=Z,500nm,14.4s
ARR **Arges** 79.91 320 ⇓ *i*P P 13 43 07.0 +1.0
KSP **Ksiaz** 79.97 328 *e*P P 13 43 06.2 +0.1
KSP **Ksiaz** 79.97 328 *e*P P 13 43 06.2 +0.1
PKCU **Pink Cliffs** 80.07 51 *e*P P 13 43 12.4 +5.2
comp=Z,31nm,1.1s
ULM **Lac du Bonnet** 80.11 33 P P 13 43 06.8 0.0
comp=Z,21nm,1.0s,baz=314,slow=4.4,SNR=7.2
ULM LR LR 14 21 38.8
comp=Z,95nm,19.3s,baz=258,slow=38
ULM **Lac du Bonnet** 80.11 33 *e*P P 13 43 06.4 -0.4
comp=Z,28nm,1.1s
SRU **San Rafael Swe** 80.11 48 *e*P P 13 43 08.2 +0.9
SRU pmax pmax
comp=Z,45nm,0.8s
SRU **San Rafael Swe** 80.11 48 *e*P P 13 43 08.2 +0.9
comp=Z,45nm,0.8s
K22A **Casper** 80.12 44 P P 13 43 07.7 +0.4
baz=312
K22A **Casper** 80.12 44 *e*P P 13 43 07.6 +0.3
comp=Z,25nm,1.1s
MDND **Maddock** 80.14 36 P P 13 43 07.7 +0.6
baz=315
MDND **Maddock** 80.14 36 *e*P P 13 43 07.8 +0.7
comp=Z,59nm,0.9s
BAR **Barrett** 80.18 57 *e*P P 13 43 08.2 +0.6
comp=Z,15nm,1.0s
MORC **Moravsky Berou** 80.21 327 ⇓ *i*P P 13 43 07.4 -0.1
MORC **Moravsky Berou** 80.21 327 *e*P P 13 43 07.0 -0.5
MORC pmax pmax
comp=Z,41nm,1.0s
MORC **Moravsky Berou** 80.21 327 *e*P P 13 43 07.0 -0.5
comp=Z,41nm,1.0s
MONP **Monument Peak,** 80.22 56 P P 13 43 08.9 +0.8
baz=308,SNR=11
NEE2 **Needles Airpor** 80.26 54 P P 13 43 09.0 +1.1
baz=308
IRM **Iron Mountain** 80.29 55 P P 13 43 09.5 +1.3
baz=308,SNR=22
DPC **Dobruska-Polom** 80.32 328 *e*P P 13 43 08.5 +0.5
DPC *e*PP PP 13 46 09.3 -0.8
DPC AMS AMS 14 23 00.0
comp=Z,600nm,18.0s
DPC **Dobruska-Polom** 80.32 328 *e*P P 13 43 08.5 +0.5
DPC *e* 13 46 09.3
DPC MLR MLR
comp=Z,600nm,18.0s
UPC **Upice** 80.34 328 *e*P P 13 43 08.3 +0.2
UPC **Upice** 80.34 328 *e*P P 13 43 08.3 +0.2
RWWY **Rawlins** 80.37 45 *e*P P 13 43 09.2 +0.5
comp=Z,27nm,0.9s
BC3 **Big Chuckawall** 80.40 55 P P 13 43 10.0 +1.2
baz=308,SNR=15
PSZ **Piszkesteto** 80.48 324 ⇑ *i*P P 13 43 09.1 +0.1
PSZ **Piszkesteto** 80.48 324 *e*P P 13 43 08.5 -0.5
PSZ pmax pmax
comp=Z,21nm,1.0s
PSZ **Piszkesteto** 80.48 324 *e*P P 13 43 08.5 -0.5
comp=Z,21nm,1.0s
RSSD **Black Hills** 80.49 41 P P 13 43 09.7 +0.4
baz=313
RSSD **Black Hills** 80.49 41 *e*P P 13 43 09.5 +0.2
RSSD pmax pmax
comp=Z,14nm,0.8s
RSSD **Black Hills** 80.49 41 *e*P P 13 43 09.5 +0.2
comp=Z,14nm,0.8s
W13A **Hualapai Mount** 80.53 53 *e*P P 13 43 10.3 +0.6
comp=Z,20nm,1.3s
VYHS **Vyhne** 80.56 325 *e*P P 13 43 09.7 +0.4
VYHS pmax pmax
comp=Z,5.0nm,1.1s
VYHS **Vyhne** 80.56 325 *e*P P 13 43 09.7 +0.4
IKP **In-Ko-Pah, Jac** 80.58 56 P P 13 43 11.3 +1.5
baz=308,SNR=14
SWSC **Sam W. Stewart** 80.60 56 P P 13 43 10.9 +1.1
baz=308
B31A **Greenbush Farm** 80.64 35 P P 13 43 10.3 +0.6
baz=316
U15A **North Rim** 80.72 51 *e*P P 13 43 11.6 +0.9
comp=Z,158nm,1.9s
O20A **White River Ci** 80.80 46 P P 13 43 11.9 +0.9
baz=311
O20A **White River Ci** 80.80 46 *e*P P 13 43 11.2 +0.3
comp=Z,25nm,0.9s
SIRR **Siria** 80.80 322 ⇓ *i*P P 13 43 10.8 +0.2
A32A **Rocking H Ranc** 80.81 34 P P 13 43 11.1 +0.4
baz=317
PDMCI **Parker Dam,Lak** 80.86 54 P P 13 43 12.7 +1.6
baz=309,SNR=22
BRG **Berggiesshubel** 80.94 329 *i*P P 13 43 10.8 -0.5
comp=Z,8.4nm,0.8s
BRG *i* 13 43 13.9
comp=Z,12nm,1.0s
BRG **Berggiesshubel** 80.94 329 *i*P P 13 43 10.8 -0.5
BRG *i* 13 43 13.9
BRG pmax pmax
comp=Z,8.0nm,0.8s
BRG pmax pmax
comp=Z,12nm,1.0s
PVCC **Panska Ves** 80.94 328 *e*P P 13 43 11.7 +0.4
PVCC AMS AMS 14 23 20.0
PVCC **Panska Ves** 80.94 328 *e*P P 13 43 11.7 +0.4
Y12C **Blythe** 80.95 55 P P 13 43 13.4 +1.7
baz=308,SNR=13
Y12C **Blythe** 80.95 55 *e*P P 13 43 12.5 +0.9
comp=Z,35nm,1.1s
CLL **Collm** 80.99 330 ⇓ *i*P P 13 43 11.0 -0.5
CLL pmax pmax
comp=Z,20nm,1.1s
CLL MLR MLR
comp=Z,400nm,19.5s
CLL **Collm** 80.99 330 ⇓ *i*P P 13 43 11.0 -0.5
comp=Z,20nm,1.1s
CLL *i* 13 43 13.8
comp=Z,19nm,0.8s
CLL *i* PcP **sP** 13 43 15.9 -2.5
CLL LmH 14 20 00.0
comp=N,400nm,19.3s
CLL LmH 14 20 00.0
comp=E,900nm,19.2s
CLL LmV 14 22 00.0
comp=Z,400nm,19.5s
CLL **Collm** 80.99 330 *e*P P 13 43 10.6 -1.0
comp=Z,17nm,0.8s
C31A **Landman Farms,** 81.06 36 P P 13 43 12.7 +0.7
baz=316
B32A **Ashes, Strandq** 81.17 34 P P 13 43 12.4 -0.2
baz=317
GLA **Glamis** 81.18 55 P P 13 43 14.1 +1.1
baz=308,SNR=5.5
GLA **Glamis** 81.18 55 *e*P P 13 43 14.0 +1.1
GLA pmax pmax
comp=Z,29nm,1.0s
GLA **Glamis** 81.18 55 *e*P P 13 43 14.0 +1.1
comp=Z,29nm,1.0s
BZS **Buzias** 81.27 322 ⇓ *i*P P 13 43 12.0 -1.2
A33A **Warroad** 81.29 34 P P 13 43 13.3 +0.2
baz=318,SNR=9.3
GOPC **GO Pecny, Ondr** 81.31 328 *e*P P 13 43 13.5 +0.2
GOPC *e*PCP **pP** 13 43 16.2 -2.1
GOPC **GO Pecny, Ondr** 81.31 328 *e*P P 13 43 13.5 +0.2
PV09 **Paradox Valley** 81.33 48 *e*P P 13 43 15.2 +1.1
PRU **Pruhonice** 81.35 328 *e*P P 13 43 13.7 +0.2
PRU *e*PCP **pP** 13 43 16.4 -2.2
PRU AMS AMS 14 23 40.0
comp=Z,600nm,17.5s
PRU **Pruhonice** 81.35 328 *e*P P 13 43 13.7 +0.2
PRU MLR MLR
comp=Z,600nm,17.5s
PV10 **Paradox Valley** 81.47 48 *e*P P 13 43 16.2 +1.5
TREC **Trest** 81.47 327 *e*P P 13 43 14.5 +0.3
TREC *e*PCP **pP** 13 43 16.9 -2.3
TREC AMS AMS 14 23 30.0
comp=Z,700nm,12.9s
TREC **Trest** 81.47 327 *e*P P 13 43 14.5 +0.3
TREC MLR MLR
comp=Z,700nm,12.9s
PV04 **Paradox Valley** 81.54 48 *e*P P 13 43 14.8 -0.2
AGMN **Agassiz Nation** 81.55 34 P P 13 43 14.6 0.0
baz=318
AGMN **Agassiz Nation** 81.55 34 *e*P P 13 43 14.1 -0.5
comp=Z,16nm,0.9s
MMAI **Mount Meron Ar** 81.56 305 LR LR 14 22 38.3
comp=Z,231nm,20.1s,baz=55,slow=38
N23A **Red Feather La** 81.61 45 P P 13 43 15.9 +0.5
baz=312
N23A **Red Feather La** 81.61 45 *e*P P 13 43 16.7 +1.3
comp=Z,42nm,1.1s
PHWY **Pilot Hill** 81.61 44 *e*P P 13 43 16.0 +0.5
comp=Z,10nm,1.0s
PV05 **Paradox Valley** 81.62 48 *e*P P 13 43 16.7 +1.2
CSS **Mathiatis** 81.69 308 *e*P P 13 43 14.8 -0.8
comp=Z,6.9nm,1.2s
B33A **Robert and Kas** 81.69 34 P P 13 43 15.5 +0.2
baz=318
Y14A **Wickenburg** 81.82 54 *e*P P 13 43 17.4 +1.0
comp=Z,67nm,0.9s
WUAZ **Wupatki** 81.87 52 P P 13 43 18.6 +1.9
baz=310,SNR=28
WUAZ **Wupatki** 81.87 52 *e*P P 13 43 17.6 +0.9
comp=Z,32nm,1.0s
E31A **Nome** 81.88 36 P P 13 43 16.8 +0.4
baz=316
PV01 **Paradox Valley** 81.90 48 *e*P P 13 43 17.9 +0.9
B34A **Aery, Baudette** 81.95 33 P P 13 43 16.6 -0.1
baz=318
C33A **Trail** 81.99 35 P P 13 43 17.2 +0.3
baz=318
113A **Mohawk Valley,** 82.06 55 *e*P P 13 43 18.2 +0.7
comp=Z,9.7nm,0.9s
SMCO **Snowmass** 82.16 46 *e*P P 13 43 19.7 +1.2
comp=Z,21nm,1.1s
F31A **Hecla** 82.20 37 P P 13 43 18.5 +0.4
baz=316
CONA **Conrad Observa** 82.33 326 *i* P P 13 43 18.9 +0.1
comp=Z,7.1nm,1.0s
D33A **AnnSam, Waubun** 82.41 35 P P 13 43 19.3 +0.1
baz=318
KHC **Kasperske Hory** 82.41 328 *e*P P 13 43 19.1 -0.1
KHC *e*PCP **pP** 13 43 21.9 -2.3
KHC AMS AMS 14 25 10.0
comp=Z,700nm,17.7s
KHC **Kasperske Hory** 82.41 328 *e*P P 13 43 18.8 -0.4
KHC pmax pmax
comp=Z,7.0nm,1.0s
KHC **Kasperske Hory** 82.41 328 *e*P P 13 43 18.8 -0.4
comp=Z,6.6nm,1.0s
B35A **Bob, Littlefor** 82.45 33 P P 13 43 19.6 +0.2
baz=319
X16A **Lo Mia Camp, P** 82.52 52 *e*P P 13 43 20.9 +0.7
comp=Z,21nm,1.0s
ISCO **Idaho Springs** 82.53 45 P P 13 43 21.5 +1.2
baz=312,SNR=13
ISCO **Idaho Springs** 82.53 45 *e*P P 13 43 21.1 +0.8
ISCO pmax pmax
comp=Z,10.0nm,0.9s
ISCO **Idaho Springs** 82.53 45 *e*P P 13 43 21.1 +0.8
comp=Z,10.0nm,0.9s
MVCO **Mesa Verde** 82.55 49 P P 13 43 21.7 +1.3
baz=311,SNR=18
MVCO **Mesa Verde** 82.55 49 *e*P P 13 43 21.5 +1.2
comp=Z,24nm,0.8s
VTS **Vitosha** 82.57 319 ⇓ *i*P P 13 43 19.6 -0.6
VTS **Vitosha** 82.57 319 *e*P P 13 43 20.1 -0.2
VTS pmax pmax
comp=Z,19nm,1.3s
VTS **Vitosha** 82.57 319 *e*P P 13 43 20.1 -0.2
comp=Z,19nm,1.3s
GEC2 **GERESS Array S** 82.58 328 *e*P P 13 43 19.2 -0.9
GEC2 pmax pmax
comp=Z,8.0nm,0.9s
GEC2 **GERESS Array S** 82.58 328 *e*P P 13 43 19.2 -0.9
comp=Z,7.7nm,0.9s
GERES **GERESS Array B** 82.58 328 P P 13 43 19.6 -0.5
comp=Z,3.8nm,0.4s,baz=28,slow=3.5,SNR=16
GERES LR LR 14 23 55.5
comp=Z,272nm,18.1s,baz=30,slow=38
GEA0 **GERESS Array S** 82.58 328 *e*P P 13 43 19.2 -0.9
G31A **Conde** 82.68 38 P P 13 43 21.3 +0.7
baz=316
F32A **Veblen** 82.74 37 P P 13 43 21.0 +0.2
baz=317
D34A **Park Rapids** 82.75 35 P P 13 43 21.3 +0.4
baz=318
E33A **Westby DABS, E** 82.81 36 P P 13 43 21.3 +0.1
baz=318
C35A **Jirik Farms, M** 82.84 34 P P 13 43 21.3 0.0
baz=319,SNR=8.4
SUSD **Miller** 82.88 38 P P 13 43 21.9 +0.3
baz=316
ARSA **Arzberg** 82.98 326 *i* PcP P 13 43 22.5 +0.3
comp=Z,3.8nm,0.8s
G32A **Webster** 83.01 37 P P 13 43 22.9 +0.6
baz=317
H31A **Wolsey** 83.09 38 P P 13 43 23.4 +0.7
baz=316
MOA **Molln** 83.09 327 *i* PcP P 13 43 23.7 +1.0
comp=Z,7.9nm,1.3s
W18A **Petrified Fore** 83.15 51 P P 13 43 24.9 +1.4
baz=311
W18A **Petrified Fore** 83.15 51 *e*P P 13 43 28.0 +4.6
comp=Z,13nm,1.0s
F33A **5 Mile Ranch,** 83.16 36 P P 13 43 23.6 +0.5
baz=318
E34A **Wadena** 83.19 35 P P 13 43 24.0 +0.9
baz=318
214A **Organ Pipe Nat** 83.19 55 P P 13 43 25.0 +1.5
baz=310
214A **Organ Pipe Nat** 83.19 55 *e*P P 13 43 23.8 +0.3
comp=Z,69nm,1.1s
S22A **4UR Ranch, Cre** 83.19 47 P P 13 43 25.6 +1.8
baz=312,SNR=26
S22A **4UR Ranch, Cre** 83.19 47 *e*P P 13 43 25.1 +1.3
comp=Z,20nm,1.0s
D35A **Remer** 83.27 34 P P 13 43 23.5 -0.1
baz=319
C36A **Pine Crest Far** 83.30 33 P P 13 43 23.8 +0.1
baz=320
Q24A **Divide** 83.36 46 P P 13 43 25.6 +1.0
baz=313,SNR=8.6
Q24A **Divide** 83.36 46 *e*P P 13 43 25.1 +0.5
comp=Z,8.3nm,0.8s
X18A **Snowflake** 83.40 52 *e*P P 13 43 25.9 +1.2
comp=Z,27nm,1.2s
E35A **Pequot Lakes** 83.50 35 P P 13 43 25.1 +0.2
baz=319
G33A **Ortonville** 83.56 37 P P 13 43 25.4 +0.3
baz=318
H32A **Carlson Farm,** 83.58 38 P P 13 43 25.7 +0.4
baz=317
D36A **Goodland** 83.59 34 P P 13 43 25.2 0.0
baz=320
C37A **Embarrass** 83.60 33 P P 13 43 25.6 +0.3
baz=320,SNR=12
SOKA **Soboth** 83.64 326 *i* PcP P 13 43 25.7 +0.1
comp=Z,18nm,0.8s
F34A **Alexandria** 83.68 36 P P 13 43 26.3 +0.6
baz=318
EYMN **Ely** 83.73 32 P P 13 43 26.4 +0.4
baz=321
EYMN **Ely** 83.73 32 *e*P P 13 43 26.4 +0.4
comp=Z,33nm,0.9s
H33A **Prehn Over Nor** 83.79 37 P P 13 43 27.1 +0.7
baz=317,SNR=11
J31A **Geddes** 83.81 39 P P 13 43 27.3 +0.8
baz=316
G34A **Benson** 83.91 36 P P 13 43 28.0 +1.1
baz=318
I32A **Karley and Nic** 83.92 38 P P 13 43 27.9 +0.9
baz=317
SDCO **Great Sand Dun** 83.98 47 P P 13 43 29.2 +1.4
baz=313,SNR=30
SDCO **Great Sand Dun** 83.98 47 *e*P P 13 43 28.5 +0.7
comp=Z,16nm,1.0s
OBKA **Obir** 83.98 326 *i* P P 13 43 26.9 -0.5
comp=Z,7.9nm,1.1s
C38A **Sawbill Land,** 84.01 32 P P 13 43 27.7 +0.3
baz=321,SNR=9.8
E36A **McGregor** 84.05 34 P P 13 43 27.8 +0.2
baz=320,SNR=12
KBA **Koelnbreinsper** 84.08 327 *i* P P 13 43 27.3 -0.7
comp=Z,13nm,0.8s
J32A **Parkston** 84.20 39 P P 13 43 29.5 +1.0
baz=317
I33A **Coleman** 84.23 38 P P 13 43 29.6 +1.0
baz=317
MEM **Membach** 84.24 333 P P 13 43 28.7 +0.3
H34A **Spellman Lake,** 84.27 37 P P 13 43 29.8 +1.0
baz=318
K31A **O'Neill** 84.29 40 P P 13 43 30.1 +1.1
baz=316
TUC **Tucson** 84.29 54 P P 13 43 30.4 +1.2
baz=310
TUC **Tucson** 84.29 54 *e*P P 13 43 30.2 +1.0
TUC pmax pmax
comp=Z,26nm,1.3s
TUC **Tucson** 84.29 54 *e*P P 13 43 30.2 +1.0
comp=Z,26nm,1.3s
MYKA **Terra Mystica** 84.30 326 *i* P P 13 43 28.0 -0.9
comp=Z,5.0nm,0.5s
C39A **Grand Marais** 84.42 32 P P 13 43 30.2 +0.8
baz=322
F36A **Milaca** 84.43 35 P P 13 43 30.9 +1.3
baz=319

G35A	**Watkins**	84.47	36	P		P	13 43 30.7	+1.0		baz=320,SNR=10					
	baz=319								L36A	**Harm Buss Farm**	86.72	38	P	P	13 43 41.0 0.0
ECSD	**EROS Data Cent**	84.55	38	P	P	13 43 30.6	+0.4		baz=319						
	baz=318,SNR=17								N34A	**Lincoln**	86.74	40	P	P	13 43 41.3 +0.1
ECSD	**EROS Data Cent**	84.55	38	*e*P	P	13 43 29.8	-0.4		baz=318						
	comp=Z,17nm,0.8s								H40A	**Chili**	86.80	34	P	P	13 43 41.5 +0.1
BCLA	**Clavier**	84.66	333	P	P	13 43 30.2	-0.3		baz=322						
J33A	**Davis**	84.68	38	P	P	13 43 30.5	-0.4	J38A	**Wedel Dairy, R**	86.85	36	P	P	13 43 41.4 -0.2	
	baz=317								baz=320						
H35A	**Sunnyside Ranc**	84.70	36	P	P	13 43 31.5	+0.6	F42A	**Maple Grove Fa**	86.88	32	P	P	13 43 41.8 +0.1	
	baz=319,SNR=18								baz=323						
PMOR	**Pomariorio Ree**	84.70	113	*e*T	T	15 16 43.2		I39A	**Houston**	86.88	35	P	P	13 43 41.7 -0.1	
	comp=Z,96nm,0.2s								baz=321						
ABTA	**Abfaltersbach**	84.70	327	*i* P	P	13 43 29.6	-1.4	H41A	**Junction City**	87.13	33	P	P	13 43 42.6 -0.4	
	comp=Z,4.4nm,0.7s								baz=322						
PDG	**Podgorica**	84.74	321	jj *i*P	P	13 43 30.8	-0.3	M36A	**Felix, Anita**	87.14	38	P	P	13 43 43.3 +0.2	
E38A	**The Farm, Brul**	84.74	33	P	P	13 43 31.2	+0.1		baz=319						
	baz=321							L37A	**Phoenix Point,**	87.15	37	P	P	13 43 43.6 +0.4	
KSCO	**Kaye Shedlock'**	84.76	44	P	P	13 43 32.1	+0.6		baz=320						
	baz=314							N35A	**Tabor**	87.16	39	P	P	13 43 43.5 +0.3	
KSCO	**Kaye Shedlock'**	84.76	44	*e*P	P	13 43 31.5	0.0		baz=318						
	comp=Z,59nm,1.5s							J39A	**Decorah**	87.20	35	P	P	13 43 43.2 -0.1	
MOTA	**Moosalm**	84.84	328	*i* PcP	P	13 43 31.7	-0.1		baz=321						
	comp=Z,2.3nm,0.5s							SENIN	**Lac Senin/Sane**	87.20	330	*e*P	P	13 43 46.6 +3.1	
RETA	**Reutte**	84.88	328	*i* PcP	P	13 43 31.7	-0.2		comp=Z,20nm,1.5s						
	comp=Z,12nm,1.1s							F43A	**Flat Rock, Esc**	87.23	31	P	P	13 43 43.4 0.0	
F37A	**Hinrichs Farm,**	84.94	34	P	P	13 43 32.0	-0.2		baz=324						
	baz=320							I40A	**Norwalk**	87.27	34	P	P	13 43 43.7 0.0	
T25A	**Trinidad**	85.03	47	P	P	13 43 34.1	+1.1		baz=322						
	baz=313,SNR=24							O35A	**Humboldt**	87.47	40	P	P	13 43 45.0 +0.3	
T25A	**Trinidad**	85.03	47	*e*P	P	13 43 33.6	+0.6		baz=318						
	comp=Z,29nm,0.8s							I41A	**Arkdale**	87.47	34	P	P	13 43 44.8 +0.1	
GIVF	**Givet**	85.09	333	*e*P	P	13 43 30.5	-2.3		baz=322						
GIVF				pmax	pmax			G43A	**Wallace**	87.47	32	P	P	13 43 44.5 0.0	
	comp=Z,19nm,1.0s								baz=323						
F38A	**Pierce - Schro**	85.10	34	P	P	13 43 33.7	+0.8	CABF	**La Chapelle**	87.49	331	*e*P	P	13 43 47.2 +2.4	
	baz=321,SNR=20							CABF				pmax	pmax		
L32A	**Elgin**	85.11	40	P	P	13 43 33.6	+0.5		comp=Z,16nm,1.3s						
	baz=317							L38A	**Oak Wood Farm,**	87.52	37	P	P	13 43 45.0 +0.1	
PPT	**Papeete**	85.13	116	LR	LR	14 12 26.1			baz=320						
	comp=Z,142nm,22.0s,baz=331,slow=29							P34A	**Walnut Farm, R**	87.52	41	P	P	13 43 45.1 +0.1	
PPT2	**Papeete2**	85.14	116	*e*S	S	13 54 04.5	+1.5		baz=318,SNR=14						
	comp=Z,370nm,33.5s							N36A	**Muff Farm, Cla**	87.54	39	P	P	13 43 45.5 +0.5	
PPT2	**Papeete2**	85.14	116	*e*LR	LR	14 09 53.6			baz=319						
	comp=Z,754nm,31.8s,baz=309							M37A	**Trindle Farm,**	87.55	38	P	P	13 43 45.5 +0.4	
PPT2	**Papeete2**	85.14	116	*e*T	T	15 17 17.4			baz=319						
	comp=Z,14nm,0.3s							SCIA	**State Center**	87.58	37	*e*P	P	13 43 45.6 +0.5	
PAE	**Paea**	85.19	116	*e*T	T	15 17 20.0			comp=Z,31nm,0.8s						
	comp=Z,1.6nm,0.2s							J40A	**Soldiers Grove**	87.59	35	P	P	13 43 45.3 0.0	
K33A	**Hardington**	85.19	39	P	P	13 43 33.9	+0.5		baz=321						
	baz=317							K39A	**Oelwein**	87.60	36	P	P	13 43 45.2 -0.1	
BFO	**Black Forest**	85.20	330	*e*P	P	13 43 32.5	-0.9		baz=321,SNR=5.2						
BFO				pmax	pmax			LOR	**Lormes**	87.80	332	*e*P	P	13 43 45.0 -1.2	
	comp=Z,19nm,0.9s							LOR				pmax	pmax		
BFO	**Black Forest**	85.20	330	*e*P	P	13 43 32.5	-0.9		comp=Z,22nm,1.2s						
	comp=Z,19nm,0.9s							Q34A	**Chapman**	87.92	41	P	P	13 43 47.4 +0.5	
J34A	**George**	85.21	38	P	P	13 43 33.9	+0.4		baz=318						
	baz=318							J41A	**Loganville**	87.95	34	P	P	13 43 46.6 -0.4	
H36A	**Jessenland, He**	85.21	36	P	P	13 43 33.9	+0.3		baz=322						
	baz=319							K40A	**Colesburg**	87.95	35	P	P	13 43 47.2 +0.3	
LAZ	**Ladron**	85.23	50	*e*P	P	13 43 34.3	+0.2		baz=321						
SPMN	**Marine on St.**	85.24	35	P	P	13 43 34.2	+0.6	P35A	**Duane Minner,**	87.96	40	P	P	13 43 47.4 +0.3	
	baz=320								baz=318						
SPMN	**Marine on St.**	85.24	35	*e*P	P	13 43 34.1	+0.4	M38A	**Pleasantville**	87.96	37	P	P	13 43 47.7 +0.7	
	comp=Z,15nm,0.9s								baz=320						
I35A	**Creekview Farm**	85.25	37	P	P	13 43 34.2	+0.5	N37A	**Lee Faris, Mou**	87.96	38	P	P	13 43 47.7 +0.7	
	baz=319								baz=319						
FETA	**Feichten**	85.26	328	*i* P	P	13 43 32.9	-1.0	KSU1	**Kansas State U**	87.96	41	P	P	13 43 47.7 +0.6	
	comp=Z,5.3nm,0.9s								baz=318						
ANMO	**Albuquerque**	85.28	49	P	P	13 43 35.5	+1.2	KSU1	**Kansas State U**	87.96	41	*e*P	P	13 43 47.1 0.0	
	baz=312							L39A	**Vinton**	87.99	36	P	P	13 43 47.8 +0.7	
ANMO	**Albuquerque**	85.28	49	*d i*P	P	13 43 35.3	+1.0		baz=321						
ANMO				pmax	pmax			O36A	**Bolckow**	88.05	39	P	P	13 43 48.3 +0.8	
	comp=Z,29nm,1.2s								baz=319						
ANMO	**Albuquerque**	85.28	49	*e*P	P	13 43 34.9	+0.5	FLN	**La Foliniere**	88.07	335	*e*P	P	13 43 46.9 -0.5	
	comp=Z,21nm,1.0s							FLN				pmax	pmax		
TIAR	**Tiarei**	85.29	116	*e*T	T	15 17 26.3			comp=Z,4.0nm,0.2s						
	comp=Z,7.9nm,0.3s							LDF	**La Druitiere**	88.10	335	*e*P	P	13 43 50.6 +3.1	
BAIF	**Baives**	85.35	333	*e*P	P	13 43 34.3	+0.2	LDF				pmax	pmax		
BAIF				pmax	pmax				comp=Z,21nm,1.2s						
	comp=Z,5.0nm,0.6s							SSF	**Saint Saulge**	88.11	332	*e*P	P	13 43 47.6 0.0	
E39A	**Mellen**	85.36	33	P	P	13 43 34.7	+0.5	SSF				pmax	pmax		
	baz=321								comp=Z,6.0nm,0.7s						
L33A	**Hoskins**	85.37	39	P	P	13 43 34.9	+0.5	LPL	**La Plagne**	88.12	330	*e*P	P	13 43 51.3 +3.3	
	baz=317							LPL				pmax	pmax		
DAVA	**Damuels**	85.40	329	*i* PcP	P	13 43 34.5	-0.1		comp=Z,2.0nm,0.4s						
	comp=Z,9.5nm,0.8s							LPG	**La Plagne**	88.13	329	*e*P	P	13 43 51.7 +3.6	
BGNE	**Belgrade**	85.47	40	P	P	13 43 35.4	+0.5	LPG				pmax	pmax		
	baz=317								comp=Z,5.0nm,0.6s						
BGNE	**Belgrade**	85.47	40	*e*P	P	13 43 34.8	-0.1	MNTX	**Cornudas Mount**	88.14	51	P	P	13 43 49.1 +1.0	
	comp=Z,62nm,0.6s								baz=313						
J35A	**Milford**	85.51	37	P	P	13 43 35.6	+0.6	MNTX	**Cornudas Mount**	88.14	51	*e*P	P	13 43 48.2 +0.2	
	baz=318								comp=Z,5.5nm,0.9s						
CDF	**Champ du Feu**	85.55	331	*e*P	P	13 43 33.2	-2.0	MSTX	**Muleshoe**	88.17	48	P	P	13 43 48.5 +0.2	
CDF				pmax	pmax				baz=314						
	comp=Z,39nm,1.0s							MSTX	**Muleshoe**	88.17	48	*e*P	P	13 43 47.9 -0.4	
F39A	**Loretta**	85.56	33	P	P	13 43 35.6	+0.4		comp=Z,10nm,1.0s						
	baz=321							AMTX	**Amarillo**	88.18	47	P	P	13 43 49.3 +1.0	
K34A	**Le Mars**	85.58	38	P	P	13 43 36.1	+0.7		baz=315						
	baz=318							AMTX	**Amarillo**	88.18	47	*e*P	P	13 43 48.8 +0.5	
Y22D	**IRIS PASSCAL I**	85.58	50	P	P	13 43 36.5	+0.8		comp=Z,32nm,1.1s						
	baz=312							R34A	**Isabella, Hill**	88.21	42	P	P	13 43 48.8 +0.5	
E40A	**Wakefield**	85.59	32	P	P	13 43 35.7	+0.4		baz=317						
	baz=322							P36A	**Good Intent, A**	88.31	40	P	P	13 43 49.0 +0.3	
LPM	**Los Pinos Moun**	85.60	50	*e*P	P	13 43 35.8	-0.1		baz=319						
H37A	**Dierke Farm, C**	85.68	35	P	P	13 43 36.4	+0.6	AVF	**Avril sur Loir**	88.39	332	*e*P	P	13 43 48.6 -0.3	
	baz=320							AVF				pmax	pmax		
BNM	**Barren Site**	85.71	50	*e*P	P	13 43 36.4	-0.2		comp=Z,10.0nm,0.8s						
FUORN	**Ofenpass-Fuorn**	85.77	328	*e*P	P	13 43 35.7	-0.9	M39A	**Webster**	88.41	37	P	P	13 43 49.5 +0.4	
	comp=Z,14nm,0.8s								baz=320						
SCHQ	**Schefferville**	85.78	15	LR	LR	14 21 55.7		L40A	**Anamosa**	88.41	36	P	P	13 43 49.4 +0.3	
	comp=Z,179nm,21.8s,baz=292,slow=36								baz=321						
DAVOX	**Davos/Dischmat**	85.81	328	LR	LR	14 25 13.0		K41A	**Shullsburg**	88.41	35	P	P	13 43 49.3 +0.1	
	comp=Z,320nm,18.1s,baz=64,slow=38								baz=322						
M33A	**Taylor Creek F**	85.85	40	P	P	13 43 37.2	+0.5	N38A	**Joes South For**	88.42	38	P	P	13 43 50.0 +0.8	
	baz=317								baz=320						
319A	**Douglas**	85.87	54	*e*P	P	13 43 37.6	+0.4	O37A	**Wolven Farm, M**	88.44	39	P	P	13 43 50.0 +0.7	
	comp=Z,26nm,1.1s								baz=319						
I37A	**Lemond, Waseca**	85.89	36	P	P	13 43 38.0	+1.1	Q35A	**Mercer Eighty,**	88.44	41	P	P	13 43 50.2 +0.8	
	baz=320,SNR=9.3								baz=318,SNR=12						
H38A	**Maiden Rock**	85.90	35	P	P	13 43 37.5	+0.6	GRR	**Gorron**	88.52	335	*e*P	P	13 43 51.9 +2.4	
	baz=320							GRR				pmax	pmax		
F40A	**Park Falls**	85.90	33	P	P	13 43 37.2	+0.2		comp=Z,31nm,1.4s						
	baz=322							Q36A	**Arnold C. Orve**	88.67	40	P	P	13 43 50.9 +0.5	
G39A	**Holcombe**	85.93	34	P	P	13 43 37.6	+0.5		baz=318						
	baz=321							N39A	**Derby Farms, D**	88.71	37	P	P	13 43 50.7 +0.2	
J36A	**Seneca 1, Swea**	85.96	37	P	P	13 43 37.8	+0.6		baz=320						
	baz=319							S34A	**Willow Spring**	88.73	42	P	P	13 43 51.5 +0.7	
L34A	**Svendsen Farm,**	85.97	39	P	P	13 43 38.5	+1.1		baz=318						
	baz=318							L41A	**Preston**	88.74	35	P	P	13 43 50.8 +0.1	
121A	**Cookes Peak, D**	86.07	52	P	P	13 43 40.1	+1.9		baz=322						
	baz=312							R35A	**Emporia Munici**	88.75	41	P	P	13 43 51.7 +0.8	
121A	**Cookes Peak, D**	86.07	52	*e*P	P	13 43 38.8	+0.6		baz=318,SNR=14						
	comp=Z,21nm,1.0s							P37A	**Lathrop**	88.77	39	P	P	13 43 51.3 +0.4	
HINF	**Hinteralfeld**	86.20	331	*e*P	P	13 43 37.5	-0.9		baz=319						
HINF				pmax	pmax			M40A	**Post Highland**	88.78	36	P	P	13 43 51.3 +0.4	
	comp=Z,7.0nm,0.8s								baz=321						
M34A	**Aspy Farms, Fr**	86.21	39	P	P	13 43 38.3	-0.3	O38A	**Galt**	88.81	38	P	P	13 43 51.7 +0.7	
	baz=318								baz=320						
HAU	**Haudompre**	86.25	331	*e*P	P	13 43 37.9	-0.7	VLDQ	**Val d'Or**	88.95	24	*e*P	P	13 43 50.3 -1.3	
HAU				pmax	pmax				comp=Z,31nm,0.8s						
	comp=Z,10.0nm,0.6s							TBI	**Tubuai**	88.98	120	*e*LR	LR	14 11 45.2	
TUE	**Stuetta**	86.27	329	*e*P	P	13 43 41.4	+2.4		comp=Z,408nm,27.8s,baz=312						
	comp=Z,16nm,1.2s							TBI	**Tubuai**	88.98	120	*e*T	T	15 21 59.5	
L35A	**Bielow Farm, R**	86.28	38	P	P	13 43 38.7	-0.2		comp=Z,115nm,0.3s						
	baz=318							R36A	**Gordon, Harris**	89.12	41	P	P	13 43 53.3 +0.7	
J37A	**Redenius Farm,**	86.35	36	P	P	13 43 39.1	-0.1		baz=318						
	baz=320							N40A	**Mertquake, Sal**	89.15	37	P	P	13 43 53.3 +0.6	
H39A	**Augusta**	86.35	34	P	P	13 43 39.3	+0.2		baz=321						
	baz=321							P38A	**Dawn**	89.15	39	P	P	13 43 53.4 +0.7	
I38A	**Scanlan Farm,**	86.37	35	P	P	13 43 39.1	-0.2		baz=320						
	baz=320							S35A	**Otter Creek Ra**	89.17	42	P	P	13 43 53.5 +0.7	
G40A	**Rib Lake**	86.38	33	P	P	13 43 39.2	-0.1		baz=318						
	baz=322							T34A	**McClaskey Farm**	89.18	43	P	P	13 43 54.0 +1.1	
K36A	**Gilmore City**	86.42	37	P	P	13 43 39.8	+0.2		baz=318						
	baz=319							TCF	**Toulx Ste Croi**	89.24	333	*e*P	P	13 43 55.4 +2.4	
E42A	**Champion**	86.44	31	P	P	13 43 39.5	0.0	TCF				pmax	pmax		
	baz=323								comp=Z,9.0nm,1.1s						
F41A	**Three Lakes**	86.48	32	P	P	13 43 39.7	-0.2	M41A	**Milan**	89.26	36	P	P	13 43 54.0 +0.9	
	baz=322								baz=322						
CBKS	**Cedar Bluff**	86.50	43	P	P	13 43 40.3	+0.3	L43A	**Garden Prairie**	89.46	34	P	P	13 43 54.6 +0.6	
	baz=316								baz=323						
CBKS	**Cedar Bluff**	86.50	43	*e*P	P	13 43 40.4	+0.3	VIVF	**Saint-Julien-l**	89.50	330	*e*P	P	13 43 57.5 +3.3	
CBKS				pmax	pmax			VIVF				pmax	pmax		
	comp=Z,23nm,1.0s								comp=Z,4.0nm,0.6s						
CBKS	**Cedar Bluff**	86.50	43	*e*P	P	13 43 40.4	+0.3	S36A	**Lake Cedric, C**	89.52	41	P	P	13 43 55.0 +0.6	
	comp=Z,23nm,1.0s								baz=318						
K37A	**Belmond**	86.72	37	P	P	13 43 41.6	+0.6	PGF	**Pioggiola**	89.55	326	*e*P	P	13 43 56.1 +1.5	

PGF				pmax	pmax		
	comp=Z,6.0nm,0.7s						
O40A	**La Belle**	89.60	37	P	P	13 43 54.8	0.0
	baz=321						
Q38A	**Cooks Store, C**	89.61	39	P	P	13 43 54.7	-0.2
	baz=320						
T35A	**Sooner Cattle**	89.63	42	P	P	13 43 55.3	+0.3
	baz=318						
N41A	**Harden Midland**	89.63	36	P	P	13 43 54.8	-0.1
	baz=321						
P39B	**Salisbury**	89.65	38	P	P	13 43 55.3	+0.3
	baz=320						
FRF	**La Foret Royal**	89.75	328	*e*P	P	13 43 57.3	+1.9
FRF				pmax	pmax		
	comp=Z,2.0nm,0.3s						
MFF	**Saint Martin d**	89.82	334	*e*P	P	13 43 55.7	0.0
MFF				pmax	pmax		
	comp=Z,16nm,0.9s						
T36A	**Boggs Farm, Ca**	89.86	42	P	P	13 43 56.4	+0.3
	baz=318						
Q39A	**Willow Grove F**	89.87	39	P	P	13 43 56.4	+0.3
	baz=320						
S37A	**Fort Scott**	89.89	41	P	P	13 43 56.3	+0.1
	baz=319,SNR=11						
U35A	**Pawnee**	89.91	43	P	P	13 43 56.6	+0.3
	baz=318						
N42A	**Yates City**	89.93	36	P	P	13 43 57.1	+0.9
	baz=322						
WMOK	**Wichita Mounta**	89.96	45	P	P	13 43 56.3	-0.3
	baz=317						
WMOK	**Wichita Mounta**	89.96	45	*e*P	P	13 43 55.3	-1.3
WMOK				pmax	pmax		
	comp=Z,13nm,1.1s						
WMOK	**Wichita Mounta**	89.96	45	*e*P	P	13 43 55.3	-1.3
	comp=Z,13nm,1.1s						
P40A	**Paris**	89.97	38	P	P	13 43 56.9	+0.4
	baz=321						
R38A	**Fenwick Farm,**	90.05	40	P	P	13 43 56.9	-0.1
	baz=320						
O41A	**Passleys Farm,**	90.08	37	P	P	13 43 57.1	+0.1
	baz=321						
V35A	**Meyer Ranch, C**	90.30	43	P	P	13 43 58.2	+0.1
	baz=318						
T37A	**Cheneyville 18**	90.33	41	P	P	13 43 58.0	-0.2
	baz=319						
P41A	**Barry, Barry**	90.34	37	P	P	13 43 58.3	+0.1
	baz=321						
Q40A	**Laux Farm, Aux**	90.36	38	P	P	13 43 58.6	+0.3
	baz=321						
R39A	**Chumby, Stover**	90.40	39	P	P	13 43 58.6	0.0
	baz=320						
U36A	**Oologah**	90.43	42	P	P	13 43 58.8	+0.1
	baz=318						
CAF	**Calviac**	90.45	332	*e*P	P	13 43 58.1	-0.6
CAF				pmax	pmax		
	comp=Z,26nm,1.6s						
S38A	**Stockton**	90.47	40	P	P	13 43 58.8	-0.1
	baz=320						
T38A	**Diamond**	90.72	41	P	P	13 44 00.4	+0.3
	baz=319,SNR=14						
W35A	**Tecumseh**	90.73	44	P	P	13 44 00.5	+0.3
	baz=318						
S39A	**Bolivar**	90.73	40	P	P	13 43 59.7	-0.3
	baz=320						
P42A	**Winchester**	90.75	37	P	P	13 44 00.4	+0.2
	baz=322						
U37A	**Salina**	90.75	42	P	P	13 44 00.4	+0.2
	baz=319						
TUL1	**Leonard**	90.76	43	P	P	13 44 00.5	+0.2
	baz=318						
TUL1	**Leonard**	90.76	43	*e*P	P	13 44 00.2	0.0
	comp=Z,19nm,0.7s						
V36A	**Jenks**	90.77	43	P	P	13 44 00.6	+0.3
	baz=318						
R40A	**Maddies Statio**	90.81	39	P	P	13 44 00.7	+0.3
	baz=320						
Q41A	**Truxton**	90.81	38	P	P	13 44 00.7	+0.3
	baz=321						
TX31	**Lajitas Ar. Si**	90.83	52	*e*P	P	13 44 01.5	+0.6
TXAR	**Lajitas Array**	90.83	52	P	P	13 44 01.6	+0.7
	comp=Z,7.2nm,0.8s,baz=297,slow=3.4,SNR=50						
TXAR				LR	LR	14 18 37.2	
	comp=Z,213nm,22.0s,baz=0.0,slow=32						
LFF	**La Frestale**	90.93	333	*e*P	P	13 44 00.7	-0.2
LFF				pmax	pmax		
	comp=Z,11nm,0.7s						
ABTX	**Abilene, Hawle**	90.98	47	P	P	13 44 01.9	+0.5
	baz=316						
ABTX	**Abilene, Hawle**	90.98	47	*e*P	P	13 44 01.8	+0.5
	comp=Z,42nm,1.3s						
W36A	**Wetumka**	91.09	43	P	P	13 44 02.4	+0.6
	baz=318						
P43A	**Skaggs, Pawnee**	91.10	36	P	P	13 44 02.4	+0.6
	baz=322						
U38A	**Gravette**	91.12	41	P	P	13 44 02.1	+0.2
	baz=319						
V37A	**Hulbert**	91.13	42	P	P	13 44 02.7	+0.7
	baz=319,SNR=13						
HPIG		91.18	55	*e*P	P	13 44 02.7	+0.1
	comp=Z,12nm,1.1s						
T39A	**Clever**	91.21	40	P	P	13 44 02.4	0.0
	baz=320						
S40A	**Lebanon**	91.22	39	P	P	13 44 02.8	+0.4
	baz=320						
X35A	**Drake**	91.22	44	P	P	13 44 03.3	+0.8
	baz=318						
R41A	**Rosebud**	91.25	38	P	P	13 44 03.1	+0.6
	baz=321						
SADO	**Sadowa**	91.25	27	*e*P	P	13 44 05.5	+3.2
	comp=Z,12nm,1.0s						
X36A	**Centrahoma**	91.44	44	P	P	13 44 04.3	+0.8
	baz=318						
HHAR	**Hobbs**	91.47	41	*e*P	P	13 44 03.2	-0.4
	comp=Z,12nm,0.9s						
W37B	**Quinton**	91.53	43	P	P	13 44 04.5	+0.7
	baz=318						
V38A	**Canehill**	91.54	42	P	P	13 44 04.2	+0.3
	baz=319,SNR=13						
Y35A	**Marietta**	91.55	45	P	P	13 44 04.3	+0.4
	baz=318						
T40A	**Mansfield**	91.55	40	P	P	13 44 04.1	+0.1
	baz=320						
TRQ	**Mont Tremblant**	91.56	24	*e*P	P	13 44 04.0	+0.1
S41A	**Jillco Farms,**	91.61	39	P	P	13 44 04.6	+0.4
	baz=321						
LMQ	**La Malbaie**	91.64	20	*e*P	P	13 44 07.6	+3.5
U39A	**Green Forest**	91.64	41	P	P	13 44 04.5	+0.1
	baz=320,SNR=19						
SFIN	**Lafayette**	91.64	34	P	P	13 44 04.6	+0.3
	baz=324						
SFIN	**Lafayette**	91.64	34	*e*P	P	13 44 04.3	+0.1
	comp=Z,25nm,1.0s						
P44A	**Sand Creek, Wi**	91.67	36	P	P	13 44 04.7	+0.3
	baz=323						
MTLF	**Montolieu**	91.73	331	*e*P	P	13 44 04.3	-0.3
MTLF				pmax	pmax		
	comp=Z,9.0nm,1.2s						
PLVO	**Plevna**	91.76	26	*e*P	P	13 44 04.8	+0.1
	comp=Z,13nm,0.9s						
233A	**Rising Star**	91.85	47	P	P	13 44 05.8	+0.4
	baz=316						
Q44A	**Meyer Farm, Va**	91.93	36	P	P	13 44 05.8	+0.2
	baz=323						
S42A	**Caledonia**	91.95	38	P	P	13 44 06.0	+0.2
	baz=321						
X37A	**Clayton**	91.97	43	P	P	13 44 06.3	+0.5
	baz=319						
Y36A	**Durant**	91.98	44	P	P	13 44 06.4	+0.5
	baz=318						
R43A	**Red Bud**	91.98	37	P	P	13 44 06.2	+0.3
	baz=322						
U40A	**Yellville**	91.99	40	P	P	13 44 06.3	+0.4
	baz=320						
T41A	**Mountain View**	92.02	39	P	P	13 44 06.3	+0.2
	baz=321						
W38A	**Poteau**	92.08	42	P	P	13 44 06.8	+0.4
	baz=319						
X38A	**Whitesboro**	92.21	43	P	P	13 44 07.7	+0.7
	baz=319,SNR=10						
Y37A	**Hugo**	92.29	44	P	P	13 44 07.7	+0.3
	baz=318						
333A	**Richland Sprin**	92.30	48	P	P	13 44 07.7	+0.2
	baz=316						
234A	**Clairette**	92.31	47	P	P	13 44 07.6	+0.1
	baz=317						
Z36A	**Blue Ridge**	92.36	45	P	P	13 44 08.3	+0.6
	baz=318						
W39A	**Magazine**	92.38	42	P	P	13 44 07.9	+0.2

	baz=320							
JCT	**Junction City**	**92.41**	**49**	P		**P**	**13 44 08.1**	**0.0**
	baz=316							
JCT	**Junction City**	**92.41**	**49**	*e*P		**P**	**13 44 07.7**	**-0.4**
JCT				pmax		pmax		
	comp=Z,53nm,1.8s							
JCT	**Junction City**	**92.41**	**49**	*e*P		**P**	**13 44 07.7**	**-0.4**
	comp=Z,53nm,1.8s							
V40A	**Witts Springs**	**92.42**	**41**	P		**P**	**13 44 07.9**	**-0.2**
	baz=320							
S43A	**Fulton Ridge,**	**92.46**	**38**	P		**P**	**13 44 07.9**	**-0.2**
	baz=322							
U41A	**Viola**	**92.48**	**40**	P		**P**	**13 44 08.3**	**+0.1**
	baz=321							
433A	**Art**	**92.64**	**48**	P		**P**	**13 44 09.1**	**0.0**
	baz=316							
WHTX	**Lake Whitney,**	**92.71**	**46**	P		**P**	**13 44 10.1**	**+0.7**
	baz=317							
WHTX	**Lake Whitney,**	**92.71**	**46**	*e*P		**P**	**13 44 09.5**	**+0.2**
	comp=Z,29nm,0.9s							
EPF	**Esparros**	**92.72**	**332**	*e*P		**P**	**13 44 12.2**	**+3.0**
EPF				pmax		pmax		
	comp=Z,9.0nm,1.3s							
X39A	**Fountain Ranch**	**92.72**	**42**	P		**P**	**13 44 09.9**	**+0.5**
	baz=319,SNR=13							
334A	**Lometa**	**92.73**	**47**	P		**P**	**13 44 09.7**	**+0.2**
	baz=317							
T43A	**Greenville**	**92.73**	**38**	P		**P**	**13 44 09.1**	**-0.3**
	baz=322							
W40A	**Ferguson Farm,**	**92.76**	**41**	P		**P**	**13 44 09.7**	**+0.2**
	baz=320							
V41A	**Mountainview**	**92.79**	**40**	P		**P**	**13 44 09.8**	**+0.1**
	baz=320							
Z37A	**Pogue Cattle C**	**92.87**	**44**	P		**P**	**13 44 10.6**	**+0.6**
	baz=318							
PBMO	**Poplar Bluff**	**92.90**	**39**	*e*P		**P**	**13 44 10.2**	**+0.1**
	comp=Z,23nm,1.4s							
MIAR	**Mount Ida**	**92.98**	**42**	P		**P**	**13 44 11.2**	**+0.7**
	baz=320,SNR=15							
MIAR	**Mount Ida**	**92.98**	**42**	*e*P		**P**	**13 44 10.8**	**+0.2**
MIAR				pmax		pmax		
	comp=Z,20nm,0.9s							
MIAR	**Mount Ida**	**92.98**	**42**	*e*P		**P**	**13 44 10.8**	**+0.2**
	comp=Z,20nm,0.9s							
X301	**Greenbrier Sit**	**93.08**	**41**	*e*P		**P**	**13 44 11.0**	**0.0**
	comp=Z,11nm,1.1s							
434A	**Burnet**	**93.09**	**47**	P		**P**	**13 44 11.5**	**+0.3**
	baz=317							
WHAR	**Wooly Hollow**	**93.10**	**41**	*e*P		**P**	**13 44 11.1**	**0.0**
	comp=Z,18nm,1.0s							
Y39A	**Lockesburg**	**93.16**	**43**	P		**P**	**13 44 11.9**	**+0.6**
	baz=319							
ETSF	**Etsaut**	**93.17**	**332**	*e*P		**P**	**13 44 11.7**	**+0.3**
ETSF				pmax		pmax		
	comp=Z,12nm,1.1s							
533A	**Kerrville**	**93.17**	**48**	P		**P**	**13 44 12.5**	**+1.0**
	baz=316							
V42A	**Cord**	**93.17**	**40**	P		**P**	**13 44 11.8**	**+0.4**
	baz=321							
W41B	**Gary Mavity, V**	**93.21**	**41**	P		**P**	**13 44 12.0**	**+0.4**
	baz=320							
X40A	**Basin Creek Fa**	**93.42**	**42**	P		**P**	**13 44 13.6**	**+1.0**
	baz=320							
534A	**Blanco**	**93.53**	**48**	P		**P**	**13 44 14.1**	**+0.8**
	baz=317							
ACSO	**Alum Creek Sta**	**93.57**	**32**	*e*P		**P**	**13 44 13.1**	**-0.1**
	comp=Z,17nm,0.8s							
NCB	**Newcomb**	**93.67**	**24**	*e*P		**P**	**13 44 13.5**	**0.0**
	comp=Z,0.4nm,1.8s							
WVT	**Waverly**	**94.70**	**37**	*e*P		**P**	**13 44 18.5**	**+0.1**
WVT				pmax		pmax		
	comp=Z,5.0nm,0.8s							
WVT	**Waverly**	**94.70**	**37**	*e*P		**P**	**13 44 18.5**	**+0.1**
	comp=Z,4.6nm,0.8s							
933A	**Laredo**	**94.78**	**50**	P		**P**	**13 44 21.2**	**+2.3**
	baz=316							
KEST	**Kesra**	**94.82**	**322**	LR		LR	14 30 51.0	
	comp=Z,298nm,19.9s,baz=332,slow=38							
034A	**Hebbronville**	**95.54**	**50**	P		**P**	**13 44 24.3**	**+1.9**
	baz=316							
SWET	**Sewanee**	**96.35**	**37**	*e*P		**P**	**13 44 26.4**	**+0.3**
	comp=Z,2.5nm,0.9s							
LNIG	**Linares**	**96.60**	**52**	*e*P		**P**	**13 44 26.3**	**-1.0**
	comp=Z,8.2nm,1.1s							
TKL	**Tuckaleechee C**	**97.00**	**35**	*e*P		**P**	**13 44 28.3**	**-0.7**
TKL				pmax		pmax		
	comp=Z,10.0nm,1.0s							
TKL	**Tuckaleechee C**	**97.00**	**35**	*e*P		**P**	**13 44 28.2**	**-0.7**
	comp=Z,9.8nm,1.0s							
ES19	**SONSECA Array**	**97.18**	**333**	*e*P		**P**	**13 44 27.7**	**-2.0**
ESDC	**Sonseca Array**	**97.23**	**333**	P		**P**	**13 44 29.5**	**-0.4**
	comp=Z,1.5nm,0.7s,baz=17,slow=4.6,SNR=5.9							
ESDC				LR		LR	14 33 42.2	
	comp=Z,174nm,18.0s,baz=10.0,slow=39							
RKT	**Rikitea**	**99.29**	**112**	*e*LR		LR	14 16 30.3	
	comp=Z,364nm,26.8s,baz=319							
TOA0	**Torodi Ar. Sit**	**117.03**	**314**	*e*PKPdf		**PKPdf**	**13 49 40.8**	**-1.7**
TORD	**Torodi Ar. Bea**	**117.03**	**314**	PKP		**PKPdf**	**13 49 41.6**	**-0.9**
	comp=Z,2.5nm,0.9s,baz=11,slow=2.0,SNR=6.8							
MAW	**Mawson**	**119.00**	**205**	PKP		**PKPdf**	**13 49 45.1**	**+0.5**
	comp=Z,3.7nm,0.9s,baz=12,slow=2.7,SNR=7.2							
BOSA	**Boshof**	**125.85**	**259**	PKP		**PKPdf**	**13 49 58.7**	**-0.5**
	comp=Z,5.5nm,1.0s,baz=50,slow=1.1,SNR=4.0							
SDV	**Santo Domingo**	**125.97**	**39**	*e*PKPdf		**PKPdf**	**13 49 59.6**	**-0.3**
QSPA	**South Pole Qui**	**126.50**	**180**	*e*PKPdf		**PKPdf**	**13 49 59.3**	**+0.1**
RUSC	**La Rusia**	**127.18**	**44**	*e*PKPdf		**PKPdf**	**13 50 01.2**	**-1.5**
SYO	**Syowa Base**	**127.66**	**207**	*e*PKPdf		**PKPdf**	**13 50 02.4**	**+1.2**
PRAC	**Prado**	**127.92**	**47**	*e*PKPdf		**PKPdf**	**13 50 02.2**	**-1.3**
PTGA	**Pitinga**	**139.43**	**33**	*e*PKPpre		PKPpre	13 50 19.1	
SNAA	**Sanae**	**140.29**	**197**	PKP		PKPpre	13 50 16.1	
SNAA	**Sanae**	**140.29**	**197**	*e*PKHKP		PKPpre	13 50 17.0	
SNAA	**Sanae**	**140.29**	**197**	*e*PKPpre		PKPpre	13 50 17.0	
VNA2	**Neumayer--Watz**	**141.87**	**196**	PKP		PKPpre	13 50 22.1	
	baz=94,slow=1.9							
VNA1	**Neumayer--Stat**	**142.26**	**196**	PKP		**PKPdf**	**13 50 27.9**	**-0.5**
SAML	**Samuel**	**144.92**	**44**	*e*PKPbc		**PKPab**	**13 50 33.7**	**-0.2**
LPAZ	**La Paz**	**147.42**	**59**	PKPbc		**PKPdf**	**13 50 40.6**	**+0.9**
	comp=Z,6.8nm,0.8s,baz=11,slow=4.7,SNR=16							
LPAZ	**La Paz**	**147.42**	**59**	*e*PKPdf		**PKPdf**	**13 50 40.5**	**+0.8**
PB11	**IPOC Station P**	**148.63**	**66**	*e*PKPbc		**PKPbc**	**13 50 45.2**	**+0.5**
PB01	**IPOC Station P**	**149.55**	**67**	*e*PKPbc		**PKPbc**	**13 50 46.1**	**-0.8**
PB04	**IPOC Station P**	**149.82**	**70**	*e*PKPbc		**PKPbc**	**13 50 48.4**	**+0.7**
LVC	**Limon Verde**	**150.91**	**69**	*e*PKPbc		**PKPbc**	**13 50 50.7**	**+0.2**
GO09	**Cerro Castillo**	**152.53**	**132**	*e*PKPbc		**PKPbc**	**13 50 53.4**	**+0.5**
LCO	**Las Campanas**	**152.72**	**83**	*e*PKPbc		**PKPbc**	**13 50 54.6**	**+0.3**
CPUP	**Villa Florida**	**161.57**	**61**	PKPab		**PKPab**	**13 51 45.0**	**+2.0**
	comp=Z,3.0nm,0.9s,baz=311,slow=10.0,SNR=3.5							

IDC 21 13:45:27.7±50.0, 16°87S×172°27W, h0km, mb3.9/3, mb1 4.1/3, mb1mx3.7/26, mbtmp3.9/3, Error ellipse: s-maj=960.4km s-min=174.0km az=80.0, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**44.27**	**241**	P	P	13 53 39.8	+0.4
	1.1nm,0.7s,baz=76,slow=12,SNR=6.2						
WRA	**Warramunga Arr**	**50.58**	**258**	P	P	13 54 28.3	-0.4
	0.5nm,0.4s,baz=98,slow=6.9,SNR=29						
ASAR	**Alice Springs**	**50.71**	**253**	P	P	13 54 29.4	-0.2
	0.9nm,0.4s,baz=85,slow=8.7,SNR=15						

JMA 21 13:56:33.0±0.2, 38°15N×142°92E, h8km±3km, M3.5, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JIO	**Ouri**	**1.27**	**284**	P	Pn	13 56 56.6	-0.5
JIO				*e*S	Sb	13 57 13.5	-0.2
OFUJ	**Ofunato**	**1.35**	**314**	P	Pn	13 56 57.8	-0.4
JMK	**Ichinoseki**	**1.56**	**302**	P	Pn	13 57 00.8	-0.2
JMM	**Marumori**	**1.70**	**261**	P	Pn	13 57 03.0	0.0
JMM				*e*S	Sn	13 57 24.3	-0.7
JOU	**Okura**	**1.79**	**278**	*e*S	Sb	13 57 28.2	-0.4
JFK	**Kawauchi**	**1.80**	**245**	P	Pn	13 57 04.4	0.0
JOM	**Ohasama**	**1.83**	**317**	P	Pn	13 57 05.5	+0.7
JOM				*e*S	Sb	13 57 29.4	-0.5
JFT	**Otama**	**2.14**	**254**	P	Pn	13 57 10.0	+1.0

*ISCJB **21** 14:12:20.9±0.7, 23°85N±0°05×122°69E±0°02, h22km±6km, Error ellipse: s-maj=7.9km s-min=3.5km az=172.7*
*TAP **21** 14:12:20.7, 23°94N×122°74E, h24km±1km, ML2.6, C*

*JMA **21** 14:12:21.9±0.1, 24°02N×122°63E, h30km, M2.0*
ISC 21 14:12:20.0±1.3, 23°89N±0°06×122°67E±0°03, h14km±10km, n17, σ0s49/31, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JYNG	**Yonagunijimaku**	**0.62**	**24**	P	**Pb**	**14 12 32.4**	**-0.2**
JYNG				S	**Sg**	**14 12 39.6**	**-0.7**
ENA	**Nanau**	**1.00**	**303**	*i* P	**Pn**	**14 12 39.6**	**-0.1**
	baz=298						
ENA				*i* S	**Sn**	**14 12 54.1**	**+0.6**
	baz=298						
TWC	**Suao**	**1.04**	**314**	P	**Pg**	**14 12 39.8**	**-0.2**
	baz=309						
TWC				*e*S	**Sn**	**14 12 54.7**	**+0.2**
	baz=309						
HATJ	**Hateruma jima**	**1.05**	**81**	P	**Pn**	**14 12 41.2**	**+0.8**
IRIF	**Iriomote-Funau**	**1.07**	**65**	P	**Pn**	**14 12 40.8**	**+0.2**
IRIF				S	**Sn**	**14 12 55.8**	**+0.6**
ESL	**Shilin**	**1.13**	**267**	P	**Pb**	**14 12 41.1**	**-0.3**
	baz=264						
ESL				*e*S	**Sn**	**14 12 56.9**	**+0.1**
	baz=264						
TWE	**Neicheng**	**1.23**	**313**	*e*P	**Pg**	**14 12 43.7**	**-0.1**
	baz=308						
TWE				*e*S	**Sg**	**14 13 00.1**	**+0.3**
	baz=308						
ENTT	**Nioudou**	**1.25**	**307**	*e*P	**Pg**	**14 12 44.2**	**0.0**
	baz=288						
ENTT				S	**Sg**	**14 13 01.3**	**+0.8**
	baz=288						
JKRS	**Kuro-shima**	**1.28**	**74**	P	**Pg**	**14 12 44.9**	**+0.3**
EHY	**Hungye**	**1.29**	**253**	*e*P	**Pn**	**14 12 43.7**	**+0.1**
	baz=251						
EHY				*e*S	**Sb**	**14 13 00.3**	**-0.1**
	baz=251						
NNS	**Nan Shan**	**1.30**	**295**	P	**Pb**	**14 12 44.3**	**0.0**
	baz=278						
NNS				S	**Sg**	**14 13 02.4**	**+0.2**
	baz=278						
TWF1	**Yuli**	**1.36**	**247**	P	**Pb**	**14 12 45.1**	**-0.3**
	baz=246						
TWF1				*e*S	**Sb**	**14 13 02.8**	**+0.2**
	baz=246						
TWT	**Tachien**	**1.41**	**285**	*e*P	**Pb**	**14 12 46.5**	**+0.3**
	baz=269						
TWT				S	**Sg**	**14 13 05.4**	**-0.2**
	baz=269						
JIJ	**Ishigaki jima**	**1.43**	**70**	P	**Pn**	**14 12 45.9**	**+0.4**
JIJ				S	**Sn**	**14 13 03.7**	**-0.4**
NSK	**Sanguang**	**1.43**	**304**	P	**Pb**	**14 12 46.3**	**-0.2**
	baz=300						
NSK				*e*S	**Sg**	**14 13 06.1**	**0.0**
	baz=300						
JISG	**Ishigakijimahi**	**1.66**	**65**	P	**Pn**	**14 12 48.8**	**+0.2**
JISG				*e*S	**Sn**	**14 13 08.2**	**-1.5**
ELDTW	**Lidau**	**1.67**	**246**	*e*S	**Sn**	**14 13 09.4**	**-0.7**
	baz=245						

*ISCJB **21** 14:19:00.2±1.1, 36°70N±0°05×140°77E±0°09, h10km±5km, mb3.3/2, Error ellipse: s-maj=13.0km s-min=5.2km az=29.4*
*IDC **21** 14:19:00.8±2.2, 36°59N×140°68E, h0km, mb3.6/2, mb1 3.8/2, mb1mx3.3/55, mbtmp3.6/2, Error ellipse: s-maj=43.2km s-min=30.1km az=46.0*
*JMA **21** 14:19:01.3, 36°75N×140°64E, h3km±1km, M3.0*
JMA Felt I J1.
ISC 21 14:19:01.4±1.2, 36°74N±0°04×140°66E±0°06, h7km±9km, n16, σ0s69/16, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JHO	**Hitachi**	**0.15**	**211**	P	**Pg**	**14 19 04.4**	**-0.1**
JHO				S	**Sg**	**14 19 06.8**	**+0.2**
ONAJ	**Iwakimizuishiy**	**0.38**	**17**	P	**Pg**	**14 19 08.7**	**-0.1**
ONAJ				S	**Sg**	**14 19 13.9**	**+0.1**
JYT	**Yasato**	**0.64**	**217**	P	**Pg**	**14 19 13.4**	**-0.2**
JSB	**Shiboa**	**0.64**	**291**	P	**Pg**	**14 19 14.0**	**+0.3**
JFK	**Kawauchi**	**0.65**	**15**	P	**Pg**	**14 19 13.6**	**-0.3**
JFK				S	**Sg**	**14 19 22.6**	**+0.2**
JFT	**Otama**	**0.82**	**342**	P	**Pg**	**14 19 16.8**	**-0.4**
JFT				S	**Sg**	**14 19 27.8**	**-0.1**
MJAR	**Matsushiro Arr**	**1.98**	**265**	Pn	**Pn**	**14 19 35.9**	**+0.4**
	13nm,0.3s,baz=89,slow=15,SNR=80						
MJAR				Sn	**Sb**	**14 20 01.6**	**-1.2**
	15nm,0.3s,baz=58,slow=22,SNR=18						
MAT	**Matsushiro**	**1.98**	**265**	P	**Pn**	**14 19 36.2**	**+0.7**
MAT				S	**Sb**	**14 20 01.7**	**-1.2**
H11N2	**WAKE ISLAND Hy**	**28.52**	**119**	T	T	14 54 41.6	
	baz=312,slow=75,SNR=103						
H11N1	**WAKE ISLAND Hy**	**28.53**	**119**	T	T	14 54 42.7	
	baz=312,slow=75,SNR=129						
H11N3	**WAKE ISLAND Hy**	**28.54**	**119**	T	T	14 54 43.7	
	baz=312,slow=75,SNR=138						
H11S1	**WAKE ISLAND Hy**	**29.21**	**121**	T	T	14 55 33.8	
	baz=314,slow=75,SNR=896						
H11S3	**WAKE ISLAND Hy**	**29.21**	**121**	T	T	14 55 33.9	
	baz=314,slow=75,SNR=914						
H11S2	**WAKE ISLAND Hy**	**29.23**	**121**	T	T	14 55 35.1	
	baz=314,slow=75,SNR=681						
ZALV	**Zalesovo Beam**	**41.67**	**313**	P	**P**	**14 26 51.5**	**+1.1**
	1.2nm,0.8s,baz=99,slow=8.9,SNR=2.9						
WRA	**Warramunga Arr**	**56.69**	**187**	P	**P**	**14 28 45.0**	**-0.7**
	0.1nm,0.6s,baz=1.7,slow=7.4,SNR=4.6						

IDC 21 14:26:49.6±3.5, 14°79S×167°10E, h172km±25km, mb3.3/4, mb1 3.6/6, mb1mx3.3/33, mbtmp4.0/6, Error ellipse: s-maj=39.1km s-min=20.7km az=62.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**7.27**	**185**	P	Pn	14 28 33.3	-0.1
	1.9nm,0.3s,baz=314,slow=11,SNR=26						
DZM				S	Sn	14 29 54.4	-0.9
	0.4nm,0.3s,baz=143,slow=23,SNR=3.4						
HNR	**Honiara**	**8.79**	**306**	P	Pn	14 28 54.4	+1.0
	12nm,0.3s,baz=172,slow=10,SNR=4.1						
STKA	**Stephens Creek**	**28.83**	**229**	P	P	14 32 33.0	+1.1
	1.1nm,0.6s,baz=49,slow=11,SNR=4.3						
WRA	**Warramunga Arr**	**31.66**	**256**	P	P	14 32 56.5	-0.4
	0.4nm,0.6s,baz=85,slow=9.3,SNR=8.9						
ASAR	**Alice Springs**	**32.50**	**249**	P	P	14 33 03.9	-0.4
	0.5nm,0.3s,baz=77,slow=9.3,SNR=28						
VNDA	**Vanda**	**62.80**	**181**	P	P	14 36 56.9	+0.6
	0.8nm,0.6s,baz=356,slow=6.5,SNR=4.5						
ARCES	**ARCESS Array B**	**120.27**	**345**	PKP	PKPdf	14 45 18.5	-1.1
	0.6nm,0.3s,baz=72,slow=2.9,SNR=3.8						

*IDC **21** 14:30:34.4±2.1, 9°17S×110°38E, h0km, mb3.7/3, mb1 3.9/3, mb1mx3.5/40, mbtmp3.7/3, Error ellipse: s-maj=122.1km s-min=26.2km az=47.0*
*ISCJB **21** 14:30:38.1±1.3, 9°15S±0°04×110°62E±0°04, h14km±7km, mb3.5/3, Error ellipse: s-maj=7.5km s-min=5.9km az=171.0*
*DJA **21** 14:30:40.3±0.7, 9°S±3°×111°1E±°, h10km±4km, M4.1/12, MLv4.1/12*
ISC 21 14:30:37.8±1.9, 9°16S±0°07×110°60E±0°04, h14km±10km, n20, σ1s24/30, mb3.6/3, South of Jawa

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PCJI	**Pacitan**	**1.11**	**31**	P	**Pn**	**14 30 58.5**	**-0.4**
PCJI				Sg	**Sg**	**14 31 14.5**	**+0.6**
UGM	**Wanagama**	**1.24**	**357**	P	**Pg**	**14 31 01.8**	**+0.2**
UGM				S	**Sb**	**14 31 16.8**	**0.0**
WOJI	**Wonogiri, Jawa**	**1.35**	**14**	P	**Pb**	**14 31 03.0**	**+0.2**
WOJI				S	**Sn**	**14 31 18.6**	**-1.3**
PWJI	**Pagerwojo**	**1.64**	**47**	P	**Pn**	**14 31 06.4**	**+0.2**
PWJI				S	**Sn**	**14 31 25.9**	**-1.2**
NGJI	**Ngawi**	**1.97**	**26**	P	**Pg**	**14 31 15.2**	**-0.5**
NGJI				Sg	**Sg**	**14 31 42.1**	**+0.8**
SMRI	**Semarang**	**2.10**	**356**	P	**Pb**	**14 31 15.9**	**+0.3**
SMRI				S	**Sb**	**14 31 43.3**	**+1.7**
SMRI				Sg	**Sg**	**14 31 45.2**	**-0.2**
KPJI	**Karang Pucung**	**2.45**	**318**	P	**Pb**	**14 31 20.4**	**-1.2**
KPJI				S	**Sg**	**14 31 55.4**	**-1.2**
CMJI	**Cimerak**	**2.52**	**303**	P	**Pn**	**14 31 20.0**	**+1.7**
CMJI				S	**Sn**	**14 31 48.3**	**-0.6**
TBJI	**Tambak Boyo**	**2.63**	**28**	P	**Pb**	**14 31 22.7**	**-2.0**
TBJI				S	**Sn**	**14 31 53.5**	**+1.9**
GMJI	**Gumukmas**	**2.95**	**73**	P	**Pn**	**14 31 24.9**	**+0.7**
GMJI				S	**Sn**	**14 32 00.8**	**+1.4**
CISI	**Cisompet, Garu**	**3.18**	**300**	P	**Pn**	**14 31 30.0**	**+2.6**
CISI				S	**Sn**	**14 32 04.8**	**-0.3**
BLJI	**Banyuglugur**	**3.28**	**65**	P	**Pn**	**14 31 30.4**	**+1.6**
JCJI	**Jatiwangi**	**3.51**	**319**	P	**Pn**	**14 31 33.2**	**+1.3**
BWJI	**Bawean**	**3.87**	**32**	S	**Sn**	**14 32 23.3**	**+1.2**
WRA	**Warramunga Arr**	**25.32**	**118**	P	**P**	**14 36 04.7**	**+0.4**
	1.1nm,0.8s,baz=290,slow=11,SNR=12						
ASAR	**Alice Springs**	**26.55**	**126**	P	**P**	**14 36 15.5**	**+0.1**
	0.9nm,0.8s,baz=301,slow=9.6,SNR=14						
ASAR				PcP	**PcP**	**14 39 40.0**	**-0.1**
	0.2nm,0.5s,baz=316,slow=1.9,SNR=6.9						
H08S2	**Diego Garcia H**	**37.71**	**269**	T	T	15 17 59.0	
	baz=94,slow=75,SNR=4.8						
H08S3	**Diego Garcia H**	**37.72**	**269**	T	T	15 17 58.7	
	baz=94,slow=75,SNR=4.5						
H08S1	**Diego Carcia H**	**37.73**	**269**	T	T	15 18 02.1	
	baz=94,slow=75,SNR=5.9						
MKAR	**Makanchi Array**	**61.16**	**338**	P	**P**	**14 40 49.9**	**-1.8**
	0.3nm,0.4s,baz=151,slow=7.0,SNR=6.6						

IDC 21 14:32:37.4±2.6, 18°80S×179°39W, h0km, mb3.9/3, mb1 4.3/3, mb1mx3.7/24, mbtmp3.9/3, Error ellipse: s-maj=266.4km s-min=34.6km az=160.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**43.56**	**261**	P	P	14 40 44.0	+0.6
	0.8nm,0.2s,baz=95,slow=7.7,SNR=78						
ASAR	**Alice Springs**	**43.66**	**255**	P	P	14 40 43.4	-0.8
	1.3nm,0.5s,baz=89,slow=8.4,SNR=40						
TXAR	**Lajitas Array**	**87.26**	**58**	P	P	14 45 26.4	0.0
	0.4nm,0.8s,baz=243,slow=5.5,SNR=3.5						

*IDC **21** 14:54:36.7±1.1, 1°25N×126°19E, h0km, mb3.6/5, mb1 3.8/5, mb1mx3.5/41, mbtmp3.7/5, Error ellipse: s-maj=136.7km s-min=18.4km az=68.0*
*ISCJB **21** 14:54:50.2±0.9, 1°59N±0°07×127°46E±0°06, h134km, mb3.5/5, Error ellipse: s-maj=9.5km s-min=8.5km az=21.4*
*DJA **21** 14:54:57.1±0.3, 1°N±3°×127°E±°, h10km, M4.4/4, MLv4.4/4*
ISC 21 14:54:51.5±1.1, 1°59N±0°08×127°43E±0°08, h134km, n11, σ1s80/16, mb3.6/5, Halmahera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LBMI	**Labuha**	**2.22**	**178**	P	**Pn**	**14 55 31.0**	**+2.6**
KMSI	**Cibinong**	**3.60**	**254**	P	**Pn**	**14 55 47.5**	**+1.4**
KMSI				S	**Sn**	**14 56 26.7**	**-1.6**
SANI	**Sanana**	**3.90**	**202**	P	**Pn**	**14 55 51.1**	**+1.1**
SANI				S	**Sn**	**14 56 33.2**	**-2.2**
GTOI	**Gorontalo**	**4.52**	**258**	P	**Pn**	**14 56 00.9**	**+2.6**
GTOI				S	**Sn**	**14 56 52.8**	**+2.5**
NLAI	**Namlea**	**4.81**	**184**	P	**Pn**	**14 56 04.7**	**+2.5**
NLAI				S	**Sn**	**14 56 56.3**	**-0.9**
TTSI	**Tana Toraja**	**8.90**	**239**	P	**Pn**	**14 56 57.7**	**+0.6**
TTSI				S	**Sn**	**14 58 34.2**	**-1.6**
WRA	**Warramunga Arr**	**22.45**	**163**	P	**P**	**14 59 39.3**	**-0.3**
	0.9nm,0.3s,baz=336,slow=11,SNR=46						
ASAR	**Alice Springs**	**25.89**	**166**	P	**P**	**15 00 10.6**	**-0.5**
	0.3nm,0.5s,baz=343,slow=7.0,SNR=16						
STKA	**Stephens Creek**	**35.90**	**159**	P	**P**	**15 01 38.8**	**0.0**
	1.0nm,0.9s,baz=334,slow=10,SNR=4.1						
SONM	**Songino Array**	**49.53**	**341**	P	**P**	**15 03 27.9**	**-0.8**
	0.4nm,0.5s,baz=156,slow=11,SNR=2.6						
MKAR	**Makanchi Array**	**59.70**	**326**	P	**P**	**15 04 41.1**	**-0.9**
	0.8nm,0.5s,baz=116,slow=7.7,SNR=9.8						

*ISCJB **21** 15:00:58.1±0.7, 37°16N±0°05×28°01E±0°04, h0km, Error ellipse: s-maj=6.8km s-min=4.5km az=17.9*
*CSEM **21** 15:00:58.6±0.3, 37°14N×27°99E, h2km, MD2.4, Error ellipse: s-maj=6.0km s-min=5.0km az=22.0*
*ISK **21** 15:00:58.8, 37°14N×27°88E, h11km, MD2.4*
*DDA **21** 15:00:60.0, 37°16N×27°94E, h7km, Md2.6, Suspected Mining explosion.*
ISC 21 15:00:58.5±1.1, 37°12N±0°03×27°99E±0°03, h0km, n14, σ0s54/24, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MLSB	**Milas**	**0.24**	**316**	*e*PG	**Pg**	**15 01 03.0**	**-0.2**
MLSB				*e*SG	**Sg**	**15 01 06.2**	**-0.1**
MLSB	**Milas**	**0.24**	**316**	*e*Pg	**Pg**	**15 01 03.0**	**-0.2**
MLSB				*e*Sg	**Sg**	**15 01 06.2**	**-0.1**
BDRM	**Kayabasi**	**0.44**	**263**	*i* P	**Pg**	**15 01 06.9**	**0.0**
BDRM				*i* S	**Sg**	**15 01 13.8**	**+1.2**
BDRM	**Kayabasi**	**0.44**	**263**	P	**Pg**	**15 01 06.9**	**0.0**
BDRM				S	**Sg**	**15 01 13.8**	**+1.2**
DAT	**Datca**	**0.51**	**220**	*e*PG	**Pg**	**15 01 08.6**	**+0.4**
DAT	**Datca**	**0.51**	**220**	*i* P	**Pb**	**15 01 10.1**	**-0.3**
DAT				*i* S	**Sb**	**15 01 18.7**	**+0.3**
DAT	**Datca**	**0.51**	**220**	*e*Pg	**Pg**	**15 01 08.6**	**+0.4**
DAT	**Datca**	**0.51**	**220**	P	**Pb**	**15 01 10.1**	**-0.3**
DAT				S	**Sb**	**15 01 18.7**	**+0.3**
BODT	**Bodrum**	**0.55**	**264**	*e*PG	**Pg**	**15 01 08.3**	**-0.6**
BODT				*e*SG	**Sg**	**15 01 15.3**	**-0

BARC	**Barichara**	**2.70**	**121**	*eP*	Pn	15 11 42.2	-0.6
BARC				*eS*	Sn	15 12 14.8	-0.4
BARC				*i*		15 12 26.4	
	comp=Z,295nm,0.4s						
CODC	**Agust`›n Codaz**	**2.82**	**47**	*eP*	Pn	15 11 43.6	-0.6
CODC				*i*		15 12 25.0	
	comp=Z,184nm,0.4s						
CHIC	**Chingaza**	**3.78**	**152**	*eP*	Pn	15 11 56.7	-1.1
CHIC				*i*		15 12 59.2	
	comp=Z,51nm,0.8s						
PRAC	**Prado**	**4.29**	**171**	*eP*	Pn	15 12 03.9	-0.7

IDC 21 15:11:58.2±45.0, 19°45S×178°58W, h520km±402km, mb2.7/2, mb1 3.0/2, mb1mx2.6/39, mbtmpg3.6/2, Error ellipse: s-maj=348.7km s-min=143.7km az=113.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**44.21**	**261**	P	P	15 19 21.2	0.0
	0.2nm,0.2s,baz=96,slow=7.5,SNR=25						
ASAR	**Alice Springs**	**44.23**	**256**	P	P	15 19 21.1	-0.3
	0.8nm,0.5s,baz=92,slow=8.1,SNR=30						
ASAR				PcP	PcP	15 20 54.5	-0.3
	0.3nm,0.5s,baz=108,slow=3.9,SNR=6.2						
BVAR	**Borovoye Array**	**117.92**	**320**	PKP	PKPdf	15 29 45.4	+0.1
	0.3nm,0.4s,baz=90,slow=0.4,SNR=4.0						
AKASG	**Malin Array Be**	**141.83**	**331**	PKP	PKPdf	15 30 27.9	-2.5
	0.8nm,0.5s,baz=43,slow=4.2,SNR=5.9						

IDC 21 15:20:30.0±2.6, 33°80N×87°23E, h0km, mb3.4/2, mb1 3.5/4, mb1mx3.2/58, mbtmpg3.3/4, ML2.8/2, MS3.0/5, Ms1 3.0/5, ms1mx2.7/26, Error ellipse: s-maj=76.1km s-min=30.8km az=71.0, Xizang

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AAK	**Ala-Archa**	**13.34**	**315**	LR	LR	15 29 01.3	
	comp=Z,40nm,19.4s,baz=257,slow=8						
MKAR	**Makanchi Array**	**13.52**	**345**	Pn	Pn	15 23 42.2	-0.7
	0.1nm,0.3s,baz=165,slow=12,SNR=3.3						
MKAR				LR	LR	15 29 00.5	
	comp=Z,38nm,18.8s,baz=36,slow=38						
KURBB	**Kurchatov Arra**	**17.98**	**342**	Pn	Pn	15 24 39.0	-2.3
	0.0nm,0.3s,baz=161,slow=12,SNR=3.9						
SONM	**Songino Array**	**20.10**	**40**	P	P	15 25 05.0	-0.2
	0.9nm,0.7s,baz=226,slow=15,SNR=5.2						
GEYT	**Alibeck**	**23.91**	**289**	LR	LR	15 36 42.7	
	comp=Z,60nm,18.4s,baz=55,slow=41						
ARU	**Arti**	**29.97**	**328**	LR	LR	15 40 46.5	
	comp=Z,27nm,18.2s,baz=140,slow=41						
NRIK	**Noril'sk**	**35.59**	**0**	LR	LR	15 43 14.0	
	comp=Z,21nm,19.6s,baz=116,slow=38						
WRA	**Warramunga Arr**	**69.79**	**133**	P	P	15 31 42.4	+0.1
	0.1nm,0.4s,baz=323,slow=7.0,SNR=5.0						

WEL 21 15:23:17.2±0.1, 43°58S×172°50E, h8km, ML3.5/16, 3C-3D, Error ellipse: s-maj=0.7km s-min=0.6km az=90.0, South Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MQZ	**McQueen's Vall**	**0.17**	**137**	⇓PG	Pg	15 23 20.7	0.0
MQZ				SG	Sg	15 23 23.4	+0.4
MQZ				AML	AML	15 23 23.7	
OXZ	**Oxford**	**0.42**	**308**	⇑PG	Pg	15 23 25.1	-0.4
OXZ				AML	AML	15 23 35.1	
OXZ				AML	AML	15 23 35.2	
LTZ	**Lake Taylor**	**0.82**	**348**	P*	Pg	15 23 33.1	+0.1
LTZ				AML	AML	15 23 46.9	
RPZ	**Rata Peaks**	**1.05**	**262**	P*	Pg	15 23 36.8	-0.7
RPZ				AML	AML	15 23 52.3	
RPZ				AML	AML	15 23 57.8	
INZ	**Inchbonnie**	**1.15**	**318**	P*	Pg	15 23 38.7	-0.7
WVZ	**Waitaha Valley**	**1.38**	**291**	PN	Pn	15 23 42.4	-0.3
WVZ				AML	AML	15 24 05.2	
WVZ				AML	AML	15 24 10.4	
KHZ	**Kahutara**	**1.40**	**34**	⇓PN	Pn	15 23 41.2	-1.7
KHZ				AML	AML	15 24 15.8	
THZ	**Tophouse**	**1.84**	**10**	PN	Pn	15 23 47.9	-1.3
THZ				AML	AML	15 24 17.4	
THZ				AML	AML	15 24 33.8	
LBZ	**Lake Benmore**	**1.85**	**244**	PN	Pn	15 23 48.2	-1.1
LBZ				AML	AML	15 24 18.0	
LBZ				AML	AML	15 24 20.8	
DSZ	**Denniston Nort**	**1.91**	**344**	PN	Pn	15 23 48.9	-1.2
DSZ				AML	AML	15 24 22.9	
DSZ				AML	AML	15 24 26.6	
FOZ	**Fox Glacier**	**1.95**	**271**	PN	Pn	15 23 50.5	-0.1
FOZ				AML	AML	15 24 24.6	
FOZ				AML	AML	15 24 29.1	
ODZ	**Otahua Downs**	**1.97**	**222**	⇑PN	Pn	15 23 49.4	-1.6
ODZ				AML	AML	15 24 28.6	
ODZ				AML	AML	15 24 29.5	
JCZ	**Jackson Bay**	**2.73**	**258**	PN	Pn	15 24 00.5	-0.9
JCZ				AML	AML	15 24 50.8	
JCZ				AML	AML	15 24 51.8	
QRZ	**Quartz Range**	**2.76**	**1**	PN	Pn	15 24 00.4	-1.3
QRZ				AML	AML	15 24 49.1	
WKZ	**Wanaka**	**2.79**	**242**	PN	Pn	15 24 00.9	-1.4
WKZ				AML	AML	15 24 57.2	
WKZ				AML	AML	15 24 57.6	
EAZ	**Earnscleugh**	**2.82**	**233**	⇑PN	Pn	15 24 01.0	-1.5
EAZ				AML	AML	15 24 52.1	
EAZ				AML	AML	15 25 00.2	
DUWZ	**D'Urville Isla**	**2.98**	**21**	PN	Pn	15 24 04.0	-0.8
TUZ	**Tuapeka**	**3.13**	**220**	PN	Pn	15 24 05.1	-1.6
TUZ				AML	AML	15 25 02.9	
TUZ				AML	AML	15 25 06.4	
MLZ	**Mavora Lakes**	**3.60**	**239**	⇓PN	Pn	15 24 11.7	-1.7
MRZ	**Mangatainoka R**	**3.71**	**39**	PN	Pn	15 24 13.2	-1.7

*ISCJB **21** 15:23:57.1±0.4, 11°05N±0°05×138°89E±0°07, h31km, mb4.2/17, MS3.2/6, Error ellipse: s-maj=9.4km s-min=7.2km az=179.3*
*NEIC **21** 15:24:02.4±1.5, 11°06N×138°91E, h62km±17km, mb4.0/3, Error ellipse: s-maj=17.1km s-min=6.9km az=92.0*
*IDC **21** 15:24:02.0±3.4, 11°05N×138°94E, h58km±35km, mb3.8/13, mb1 3.9/15, mb1mx3.7/49, mbtmpg4.1/15, ML4.0/2, MS3.1/7, Ms1 3.1/7, ms1mx2.9/31, Error ellipse: s-maj=23.6km s-min=13.0km az=96.0*
ISC 21 15:23:59.6±0.6, 11°09N±0°07×138°81E±0°08, h31km, n28, σ1°06/24, mb4.1/17, MS3.1/6, Western Caroline Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GUMO	**Guam**	**6.42**	**67**	P	**Pn**	**15 25 34.4**	**+2.4**
	9.5nm,0.3s,baz=348,slow=15,SNR=7.1						
GUMO				S	**Sn**	**15 26 42.9**	**-1.4**
	baz=326,slow=14,SNR=2.1						
GUMO				LR	LR	15 27 52.3	
	comp=Z,138nm,18.8s,baz=249,slow=36						
GUMO	**Guam**	**6.42**	**67**	*e*Pn	**Pn**	**15 25 33.1**	**+1.1**
GUMO				S	**Sn**	**15 26 42.9**	**-1.4**
JAY	**Jayapura**	**13.65**	**172**	P	**Pn**	**15 27 13.2**	**+2.1**
	0.3nm,0.3s,baz=228,slow=22,SNR=18						
JAY				S	**Sn**	**15 29 40.3**	**-1.6**
	0.1nm,0.3s,baz=68,slow=23,SNR=7.3						
TGY	**Tagaytay City**	**17.70**	**282**	LR	LR	15 33 50.6	
	comp=Z,51nm,19.5s,baz=152,slow=33						
JHJ	**Hachijo jima 2**	**21.94**	**2**	LR	LR	15 35 40.4	
	comp=Z,875nm,18.0s,baz=125,slow=32						
PMG	**Port Moresby**	**21.99**	**158**	LR	LR	15 36 21.9	
	comp=Z,56nm,20.4s,baz=356,slow=34						
KSRS	**Korea Array**	**28.02**	**341**	P	**P**	**15 29 47.3**	**-0.5**
	1.1nm,0.5s,baz=166,slow=10,SNR=5.2						
KSRS				LR	LR	15 40 14.5	
	comp=Z,31nm,20.0s,baz=205,slow=35						
KSAR	**Wonju Array Be**	**28.02**	**341**	P	**P**	**15 29 47.3**	**-0.5**
H11N1	**WAKE ISLAND Hy**	**28.36**	**69**	T	T	16 00 17.7	
	baz=252,slow=75,SNR=4.0						
H11N2	**WAKE ISLAND Hy**	**28.37**	**69**	T	T	16 00 16.8	
	baz=252						
H11N3	**WAKE ISLAND Hy**	**28.38**	**69**	T	T	16 00 19.2	
	baz=252,slow=75,SNR=3.5						
WRAB	**Tennant Creek**	**31.14**	**188**	*e*P	**P**	**15 30 14.9**	**-0.8**
	0.8nm,0.5s						
WRA	**Warramunga Arr**	**31.15**	**188**	P	**P**	**15 30 14.7**	**-1.1**
	0.5nm,0.5s,baz=2.6,slow=9.7,SNR=14						

ASAR	**Alice Springs**	**34.88**	**188**	P	**P**	**15 30 47.4**	**-0.9**
	0.9nm,0.5s,baz=16,slow=12,SNR=64						
CMAR	**Chiang Mai Arr**	**39.17**	**286**	P	**P**	**15 31 25.5**	**+0.4**
	2.3nm,0.7s,baz=93,slow=7.0,SNR=18						
CMAR				LR	LR	15 47 51.8	
	comp=Z,14nm,19.4s,baz=190,slow=36						
STKA	**Stephens Creek**	**42.81**	**177**	P	**P**	**15 31 54.6**	**-0.1**
	1.9nm,0.8s,baz=342,slow=13,SNR=4.6						
SONM	**Songino Array**	**45.61**	**330**	P	**P**	**15 32 17.8**	**+0.7**
	0.6nm,0.4s,baz=134,slow=8.3,SNR=3.3						
SONM				LR	LR	15 51 51.4	
	comp=Z,26nm,20.2s,baz=83,slow=36						
MKAR	**Makanchi Array**	**59.28**	**318**	P	**P**	**15 33 59.0**	**+0.6**
	2.4nm,0.7s,baz=102,slow=8.8,SNR=25						
ZALV	**Zalesovo Beam**	**60.31**	**327**	P	**P**	**15 34 05.2**	**-0.1**
	1.4nm,0.6s,baz=113,slow=7.1,SNR=5.4						
KURK	**Kurchatov**	**62.76**	**322**	*e*P	**P**	**15 34 21.8**	**-0.1**
	28nm,0.7s						
KURBB	**Kurchatov Arra**	**62.79**	**322**	P	**P**	**15 34 22.2**	**+0.1**
	2.8nm,0.8s,baz=105,slow=6.8,SNR=20						
BVAR	**Borovoye Array**	**68.26**	**323**	P	**P**	**15 34 57.6**	**+0.1**
	2.7nm,0.7s,baz=103,slow=6.5,SNR=14						
BRVK	**Borovoye**	**68.33**	**323**	*e*P	**P**	**15 34 58.1**	**+0.2**
	5.0nm,0.6s						
ILAR	**Eielson Array**	**73.35**	**26**	P	**P**	**15 35 28.1**	**-0.1**
	0.4nm,0.4s,baz=245,slow=5.4,SNR=9.1						
ABKAR	**Akbulak array**	**74.42**	**318**	*e*P	**P**	**15 35 34.4**	**-0.3**
	0.8nm,0.4s						
ARU	**Arti**	**75.45**	**326**	P	**P**	**15 35 40.1**	**-0.4**
	4.8nm,0.5s,baz=88,slow=3.9,SNR=10						
FINES	**FINESS Array B**	**90.84**	**334**	P	**P**	**15 36 58.6**	**-1.2**
	2.4nm,0.9s,baz=79,slow=9.9,SNR=5.2						
AKASG	**Malin Array Be**	**93.54**	**323**	LR	LR	16 21 17.6	
	comp=Z,14nm,20.6s,baz=280,slow=37						

*FUNV **21** 15:31:03.8, 7°94N×72°70W, h28km, MW3.4*
*RSNC **21** 15:31:06.4±0.9, 8°33N×72°55W, h2km±7km, ML3.1*
ISC 21 15:31:04.9±1.4, 8°25N±0°04×72°48W±0°03, h8km±11km, n24, σ1°23/36, Venezuela

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CAPV	**Capacho**	**0.42**	**157**	*e*P	**Pg**	**15 31 12.4**	**-0.7**
CAPV				*e*S	**Sg**	**15 31 19.0**	**+0.3**
OCAC	**Ocana**	**0.83**	**269**	*e*P	**Pb**	**15 31 20.0**	**-1.6**
OCAC				*e*S	**Sb**	**15 31 31.8**	**-1.2**
OCAC				*i*		15 31 38.3	
	comp=Z,618nm,0.5s						
VIGV	**El Vigia**	**1.25**	**62**	*e*P	**Pb**	**15 31 29.2**	**+0.4**
VIGV				*e*S	**Sg**	**15 31 48.6**	**+3.4**
BTLC	**Betulia, Santa**	**1.54**	**210**	*e*P	**Pb**	**15 31 33.7**	**-0.1**
SOCV	**Socops**	**1.61**	**89**	*e*P	**Pn**	**15 31 33.5**	**-0.1**
SOCV				*e*S	**Sb**	**15 31 55.0**	**-0.4**
BRRC	**Barranca, Sant**	**1.67**	**227**	*e*P	**Pn**	**15 31 34.8**	**+0.4**
BRRC				*e*S	**Sb**	**15 31 57.7**	**+0.6**
BRRC				*i*		15 32 11.8	
	comp=Z,138nm,0.8s						
BARC	**Barichara**	**1.79**	**203**	*e*P	**Pb**	**15 31 37.5**	**-0.6**
BARC				*i*		15 31 40.3	
	comp=Z,265nm,0.3s						
BARC				*e*S	**Sg**	**15 32 02.1**	**-0.4**
CODC	**Agust`›n Codaz**	**1.92**	**330**	*e*P	**Pn**	**15 31 37.6**	**-0.4**
CODC				*e*S	**Sn**	**15 32 01.2**	**-1.1**
CODC				*i*		15 32 09.6	
	comp=Z,228nm,0.3s						
SDV	**Santo Domingo**	**1.93**	**71**	*e*P	**Pn**	**15 31 38.1**	**-0.2**
VIRV	**Villa del Rosa**	**2.24**	**2**	*e*P	**Pn**	**15 31 42.4**	**+0.1**
VIRV				*e*S	**Sn**	**15 32 11.5**	**+1.3**
RUSC	**La Rusia**	**2.42**	**194**	*e*P	**Pb**	**15 31 47.7**	**-1.3**
RUSC				*e*S	**Sb**	**15 32 18.9**	**-0.3**
RUSC				*i*		15 32 39.5	
	comp=Z,68nm,0.7s						
ZARC	**Zaragoza, Cauc**	**2.47**	**252**	*e*P	**Pn**	**15 31 46.5**	**+1.0**
ZARC				*e*S	**Sn**	**15 32 17.0**	**+1.1**
ZARC				*i*		15 32 29.7	
	comp=Z,141nm,0.5s						
QARV	**Quebrada Arrib**	**2.74**	**45**	*e*P	**Pn**	**15 31 50.9**	**+1.6**
CURV	**Curarigua**	**3.04**	**55**	*e*P	**Pn**	**15 31 54.1**	**+0.6**
SANV	**Sanarito**	**3.17**	**67**	*e*P	**Pn**	**15 31 54.5**	**-0.7**
DABV	**Dabajuro**	**3.22**	**34**	*e*P	**Pn**	**15 31 56.9**	**+1.1**
NORC	**Norcasia**	**3.57**	**222**	*e*P	**Pn**	**15 32 02.1**	**+1.4**
NORC				*e*S	**Sn**	**15 32 44.5**	**+1.3**
HELC	**Santa Helena**	**3.65**	**236**	*e*P	**Pn**	**15 32 03.3**	**+1.2**
HELC				*i*		15 33 05.8	
	comp=Z,36nm,0.4s						
TEPV	**Terepaima**	**3.67**	**62**	*e*P	**Pn**	**15 32 01.8**	**-0.2**
CHIC	**Chingaza**	**3.81**	**199**	*e*P	**Pn**	**15 32 06.8**	**+2.5**
CHIC				*i*		15 32 19.9	
	comp=Z,24nm,0.5s						
MAPV	**Macapo**	**4.27**	**68**	*e*P	**Pn**	**15 32 09.7**	**-0.7**
MONV	**Montecano**	**4.43**	**34**	*e*P	**Pn**	**15 32 13.4**	**+0.9**
BAUV	**El Baul**	**4.45**	**81**	*e*P	**Pn**	**15 32 12.1**	**-0.6**
BAUV				*e*S	**Sn**	**15 33 02.3**	**-2.4**
CAPC	**Capurgana**	**4.83**	**275**	*e*P	**Pn**	**15 32 18.1**	**+0.1**

WEL 21 15:49:28.5±0.4, 34°94S×178°20E, h33km, ML3.7/6, Error ellipse: s-maj=8.0km s-min=3.0km az=90.0, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MXZ	**Matakaoa Point**	**2.62**	**178**	P*	Pn	15 50 07.9	-0.6
MXZ				S*	Sn	15 50 39.0	-0.1
HAZ	**Te Kaha**	**2.83**	**187**	P*	Pn	15 50 11.7	+0.3
HAZ				S*	Sn	15 50 45.2	+0.8
WMGZ	**Waiomatatini S**	**2.88**	**177**	PN	Pn	15 50 11.3	-0.7
WMGZ				SN	Sn	15 50 43.3	-2.2
PKGZ	**Pakihiroa**	**2.94**	**182**	PN	Pn	15 50 12.6	-0.5
PKGZ				SN	Sn	15 50 45.6	-1.6
RUGZ	**Raukumara Rang**	**3.05**	**188**	P*	Pn	15 50 14.4	-0.1
RUGZ				S*	Sn	15 50 49.3	-0.6
PUZ	**Puketiti**	**3.13**	**179**	PN	Pn	15 50 13.9	-1.6
PUZ				SN	Sn	15 50 48.4	-3.3
URZ	**Urewera**	**3.43**	**194**	P*	Pn	15 50 19.5	-0.1
MWZ	**Matawai**	**3.43**	**189**	P*	Pn	15 50 19.3	-0.4
MWZ				S*	Sn	15 50 58.6	-0.6

*ISCJB **21** 16:02:43.0±0.5, 6°87N±0°04×73°09W±0°04, h152km±5km, Error ellipse: s-maj=7.8km s-min=4.7km az=136.8*
*FUNV **21** 16:02:43.7, 6°81N×73°15W, h166km, MW3.0*
*RSNC **21** 16:02:44.1±1.2, 6°86N×73°08W, h148km±7km, ML3.2*
ISC 21 16:02:42.7±1.5, 6°84N±0°04×73°08W±0°04, h155km±8km, n29, σ1°09/40, 2C, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BTLC	**Betulia, Santa**	**0.20**	**292**	*e*P	**Pn**	**16 03 04.6**	**+0.6**
BTLC				*e*S	**Sn**	**16 03 19.0**	**-1.1**
BARC	**Barichara**	**0.27**	**202**	*i* P	**Pn**	**16 03 04.3**	**+0.1**
BARC				*e*S	**Sn**	**16 03 19.1**	**-1.4**
BARC				*i*		16 03 20.0	
	comp=Z,319nm,0.3s						
PAMC	**Pamplona, Colo**	**0.62**	**37**	*e*S	**Sn**	**16 03 23.9**	**+0.2**
BRRC	**Barranca, Sant**	**0.68**	**293**	⇑*i*P	**Pn**	**16 03 06.2**	**+0.5**
BRRC				*e*S	**Sn**	**16 03 22.6**	**-0.6**
BRRC				*i*		16 03 26.1	
	comp=Z,170nm,0.3s						
RUSC	**La Rusia**	**0.94**	**180**	⇑*i*P	**Pn**	**16 03 08.2**	**0.0**
RUSC				*e*S	**Sn**	**16 03 26.8**	**-0.8**
CAPV	**Capacho**	**1.27**	**37**	*e*P	**Pn**	**16 03 12.3**	**+1.6**
CAPV				*e*S	**Sn**	**16 03 33.7**	**-1.1**
OCAC	**Ocana**	**1.41**	**350**	*e*P	**Pn**	**16 03 11.2**	**-0.7**
OCAC				*e*S	**Sn**	**16 03 33.4**	**-1.0**
OCAC				*i*		16 03 40.1	
	comp=Z,233nm,0.4s						
YOPC	**Yopal, Colombi**	**1.62**	**156**	*e*P	**Pn**	**16 03 15.0**	**+0.9**
ZARC	**Zaragoza, Cauc**	**1.88**	**290**	*e*P	**Pn**	**16 03 17.2**	**+0.4**
ZARC				*e*S	**Sn**	**16 03 43.2**	**+0.2**
ZARC				*i*		16 03 50.4	
	comp=Z,148nm,0.3s						
NORC	**Norcasia**	**2.19**	**235**	*e*P	**Pn**	**16 03 20.8**	**+0.3**
CHIC	**Chingaza**	**2.29**	**196**	*e*P	**Pn**	**16 03 22.5**	**+0.4**
CHIC				*i*		16 03 55.1	
	comp=Z,76nm,0.6s						
HELC	**Santa Helena**	**2.52**	**255**	*e*P	**Pn**	**16 03 25.9**	**+1.2**
HELC				*i*		16 04 01.3	
	comp=Z,61nm,0.3s						
VIGV	**El Vigia**	**2.61**	**40**	*e*P	**Pn**	**16 03 26.9**	**+1.3**
VIGV				*e*S	**Sn**	**16 03 58.3**	**-0.4**
SOCV	**Socops**	**2.63**	**57**	*e*P	**Pn**	**16 03 26.7**	**+0.9**

SOCV				*e*S	**Sn**	**16 03 58.9**	**-0.1**
VILC	**Villavicencio,**	**2.78**	**193**	*e*P	**Pn**	**16 03 28.1**	**+0.3**
GUYC	**Guyana, Colomb**	**2.80**	**235**	*e*P	**Pn**	**16 03 30.1**	**+1.7**
GUYC				*i*		16 04 09.6	
	comp=Z,96nm,0.3s						
CODC	**Agust`›n Codaz**	**3.09**	**353**	*e*P	**Pn**	**16 03 32.0**	**+0.5**
CODC				*i*		16 04 16.4	
	comp=Z,49nm,0.7s						
DBBC	**Dabeiba**	**3.11**	**273**	*e*P	**Pn**	**16 03 32.4**	**+0.6**
TOLC	**Tolima**	**3.16**	**225**	*e*P	**Pn**	**16 03 34.0**	**+1.3**
SDV	**Santo Domingo**	**3.16**	**50**	*e*P	**Pn**	**16 03 33.6**	**+1.1**
SDV				*e*S	**Sn**	**16 04 11.4**	**-0.2**
ELOV	**Elorza**	**3.58**	**87**	*e*P	**Pn**	**16 03 39.1**	**+1.4**
PRAC	**Prado**	**3.59**	**210**	*e*P	**Pn**	**16 03 37.8**	**-0.1**
SJCC	**San Jacinto, C**	**3.68**	**326**	*e*P	**Pn**	**16 03 38.6**	**-0.4**
SJCC				*i*		16 04 23.9	
	comp=Z,57nm,0.5s						
VIRV	**Villa del Rosa**	**3.70**	**10**	*e*P	**Pn**	**16 03 39.4**	**+0.1**
SANV	**Sanarito**	**4.39**	**53**	*e*P	**Pn**	**16 03 49.4**	**+1.0**
CURV	**Curarigua**	**4.41**	**44**	*e*P	**Pn**	**16 03 49.2**	**+0.6**
DABV	**Dabajuro**	**4.72**	**31**	*e*P	**Pn**	**16 03 53.5**	**+1.0**
BAUV	**El Baul**	**5.41**	**67**	*e*P	**Pn**	**16 04 01.3**	**-0.4**
BAUV				*e*S	**Sn**	**16 04 59.6**	**-3.9**
MAPV	**Macapo**	**5.45**	**57**	*e*P	**Pn**	**16 04 02.5**	**+0.2**

MAN 21 17:05:49, 13°77N×120°01E, h33km, mb4.1, ML2.9, MS2.6, Mindoro

JMA 21 17:07:51.5±0.2, 37°72N×142°11E, h32km±5km, M3.6, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JIO	**Ouri**	**0.95**	**321**	P	Pn	17 08 08.7	+0.1
JIO				*e*S	Sn	17 08 20.2	-0.8
JFK	**Kawauchi**	**1.04**	**251**	P	Pn	17 08 10.0	+0.1
JFK				*e*S	Sn	17 08 22.9	-0.5
JMM	**Marumori**	**1.05**	**278**	P	Pn	17 08 10.3	+0.3
JMM				*e*S	Sn	17 08 23.3	-0.3
ONAJ	**Iwakimizuishiy**	**1.21**	**240**	P	Pn	17 08 12.4	+0.1
ONAJ				*e*S	Sn	17 08 27.1	-0.5
JOU	**Okura**	**1.31**	**300**	P	Pb	17 08 14.8	-0.8
JOU				*e*S	Sn	17 08 30.6	+0.6
OFUJ	**Ofunato**	**1.40**	**346**	P	Pn	17 08 14.6	-0.2
JMK	**Ichinoseki**	**1.42**	**331**	P	Pn	17 08 15.5	+0.5
JFT	**Otama**	**1.42**	**262**	P	Pb	17 08 16.5	-0.9
JFT				*e*S	Sb	17 08 34.1	-1.1
JYS	**Shirataka**	**1.69**	**288**	P	Pb	17 08 20.7	-1.3
JYS				*e*S	Sb	17 08 42.4	-0.5
JYK	**Kaneyama**	**1.82**	**312**	P	Pn	17 08 22.0	+1.4
JOM	**Ohasama**	**1.86**	**340**	P	Pn	17 08 22.1	+0.9
JFY	**Yanaizu**	**1.94**	**261**	*e*S	Sn	17 08 47.6	+2.1

*NSSC **21** 17:23:28.8±1.2, 34°49N×36°28E, h0km±3km, MD1.1, ML1.9*
*ISCJB **21** 17:23:29.0±0.7, 34°50N±0°02×36°31E±0°04, h3km±5km, Error ellipse: s-maj=6.1km s-min=3.7km az=0.8*
*CSEM **21** 17:23:29.1±0.2, 34°49N×36°30E, h2km, ML2.9, Error ellipse: s-maj=4.9km s-min=3.0km az=93.0*
*GRAL **21** 17:23:29.7±0.3, 34°46N×36°39E, h0km±45km, MD2.9*
ISC 21 17:23:28.2±1.0, 34°51N±0°02×36°39E±0°04, h9km±9km, n28, σ0°70/51, Jordan-Syria region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FKH	**Fakeheh**	**0.26**	**176**	*e*P	**Pg**	**17 23 33.6**	**+0.1**
FKH				*e*S	**Sg**	**17 23 36.5**	**-0.5**
FKH	**Fakeheh**	**0.26**	**176**	*e*P	**Pg**	**17 23 33.6**	**+0.1**
FKH				*e*S	**Sg**	**17 23 36.5**	**-0.5**
HWQ	**Hawqa**	**0.43**	**238**	*e*P	**Pg**	**17 23 37.0**	**+0.4**
HWQ				*e*S	**Sg**	**17 23 42.5**	**+0.2**
HWQ	**Hawqa**	**0.43**	**238**	*e*P	**Pg**	**17 23 37.0**	**+0.4**
HWQ				*e*S	**Sg**	**17 23 42.5**	**+0.2**
MARH	**Ras Al Marh**	**0.48**	**171**	*e*P	**Pg**	**17 23 38.0**	**+0.4**
MARH				*e*S	**Sb**	**17 23 46.0**	**-0.4**
MARH				AML	AML	17 23 49.7	
	comp=E,144nm,0.3s						
MARH				AML	AML	17 23 53.1	
	comp=N,166nm,0.5s						
MARH	**Ras Al Marh**	**0.48**	**171**	*e*P	**Pg**	**17 23 38.0**	**+0.4**
	SNR=93						
MARH				*e*S	**Sb**	**17 23 46.0**	**-0.4**
	comp=N,166nm,0.5s,SNR=59						
ROOS	**tl_alroos**	**0.82**	**114**	*e*P	**Pn**	**17 23 46.7**	**+0.7**
ROOS				*e*S	**Sn**	**17 23 59.6**	**+1.4**
ROOS				AML	AML	17 24 07.8	
	comp=N,63nm,0.5s						
ROOS				AML	AML	17 24 11.4	
	comp=E,31nm,0.5s						
ROOS	**tl_alroos**	**0.82**	**114**	*e*P	**Pn**	**17 23 46.7**	**+0.7**
	SNR=75						
ROOS				*e*S	**Sn**	**17 23 59.6**	**+1.4**
	comp=E,31nm,0.5s,SNR=59						
BHL	**Bhannes**	**0.86**	**226**	*e*P	**Pg**	**17 23 44.6**	**-0.1**
BHL	**Bhannes**	**0.86**	**226**	*e*P	**Pg**	**17 23 44.6**	**-0.1**
DQRL	**Deir Qamar**	**1.05**	**221**	*e*P	**Pg**	**17 23 47.9**	**-0.5**
DQRL	**Deir Qamar**	**1.05**	**221**	*e*P	**Pg**	**17 23 47.9**	**-0.5**
TOTH	**TOTAH**

DRWC	**Darouich**	**2.12**	**6**	*eP*	**Pb**	**17 24 06.5**	**-0.4**
	SNR=45							
DRWC				*eS*	**Sb**	**17 24 33.3**	**-0.1**
	comp=E,16nm,0.4s,SNR=40							
KSRV	**Kasrt alli**	**2.53**	**57**	*eP*	**Pn**	**17 24 08.6**	**-0.9**
KSRV				*eS*	**Sn**	**17 24 37.6**	**-2.9**
KSRV				AML	AML	17 24 52.9	
	comp=Z,7.2nm,0.2s							
KSRV	**Kasrt alli**	**2.53**	**57**	*eP*	**Pn**	**17 24 08.6**	**-0.9**
	SNR=45							

IDC ***21*** *17:33:08.0±2.2, 9°32S×118°37E, h0km, mb3.7/4, mb1 4.0/6, mb1mx3.7/35, mbtmp3.8/6, ML3.8/1, Error ellipse: s-maj=149.9km s-min=20.3km az=54.0*

ISCJB ***21*** *17:33:15.5±0.5, 9°63S±0°07×118°57E±0°04, h48km, mb3.7/3, Error ellipse: s-maj=10.6km s-min=4.3km az=19.1*

DJA ***21*** *17:33:17.2±1.1, 9°S±4°×11°9E±°, h22km±10km, M4.5/11, mb4.5/4, MLv4.5/11*

ISC 21 17:33:14.7±0.8, 9°63S±0°08×118°61E±0°05, h48km, n17, σ3°09/23, mb3.7/3, Sumbawa region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLAI	**Plampang**	**1.14**	**314**	P	**Pn**	**17 33 35.5**	**+1.2**
PLAI				S	**Sn**	**17 33 48.4**	**-0.5**
WSI	**Waingapu**	**1.66**	**92**	P	**Pn**	**17 33 45.0**	**+3.6**
TWSI	**Taliwang, Sumb**	**1.92**	**297**	P	**Pn**	**17 33 47.3**	**+2.4**
TWSI				S	**Sn**	**17 34 09.1**	**+1.2**
BASI	**Baing, Sumba**	**2.02**	**107**	P	Pn	17 33 52.9	+6.6
IGBI	**Denpasar**	**3.51**	**283**	P	**Pn**	**17 34 09.5**	**+2.7**
IGBI				S	**Sn**	**17 34 48.8**	**+1.7**
MMRI	**Maumere**	**3.71**	**75**	P	**Pn**	**17 34 13.7**	**+4.2**
JAGI	**Jajag, Banyuwa**	**4.55**	**284**	P	**Pn**	**17 34 22.5**	**+1.5**
JAGI				S	**Sn**	**17 35 15.1**	**+2.4**
GMJI	**Gumukmas**	**5.28**	**284**	P	**Pn**	**17 34 32.2**	**+1.2**
	84nm,0.5s						
GMJI				S	**Sn**	**17 35 34.4**	**+3.8**
	84nm,0.5s						
SOEI	**Soe**	**5.58**	**92**	P	**Pn**	**17 34 39.8**	**+4.5**
BBSI	**Bau Bau**	**5.68**	**44**	P	**Pn**	**17 34 39.3**	**+2.7**
	15nm,0.8s						
SPSI	**Sidrap Palu**	**5.74**	**12**	P	**Pn**	**17 34 38.8**	**+1.4**
	15nm,0.5s						
FITZ	**Fitzroy Crossi**	**10.84**	**142**	Pn	**Pn**	**17 35 50.0**	**+2.7**
	baz=335,slow=10						
FITZ				Sn	**Sn**	**17 37 43.7**	**-3.5**
	baz=188,slow=19						
WRA	**Warramunga Arr**	**18.32**	**126**	P	**Pn**	**17 37 27.4**	**+1.9**
	0.3nm,0.3s,baz=303,slow=14,SNR=24						
WRA				S	**Sn**	**17 40 42.6**	**-6.8**
	0.2nm,0.3s,baz=293,slow=24,SNR=4.9						
ASAR	**Alice Springs**	**20.21**	**136**	P	Pn	17 37 49.3	+1.3
	2.3nm,0.6s,baz=308,slow=9.9,SNR=64						
ASAR				S	**S**	**17 41 28.0**	**-2.1**
	0.8nm,0.8s,baz=311,slow=23,SNR=4.6						
SONM	**Songino Array**	**58.23**	**350**	P	**P**	**17 43 02.0**	**-2.2**
	0.5nm,0.5s,baz=166,slow=8.6,SNR=4.5						
MKAR	**Makanchi Array**	**64.84**	**333**	P	**P**	**17 43 46.5**	**-2.2**
	0.4nm,0.5s,baz=144,slow=7.5,SNR=6.9						
ZALV	**Zalesovo Beam**	**69.49**	**339**	P	**P**	**17 44 15.6**	**-2.3**
	0.3nm,0.3s,baz=143,slow=5.0,SNR=3.4						

NIED ***21*** *17:48:00.34°70N×142°70E, h5km, Mw3.8 Best double couple: M0 6.19000×10^14 NP1:φ=36.00000°, δ=27.00000°, λ=-84.00000°. NP2:φ=210.00000°, δ=63.00000°, λ=-93.00000°.*

ISCJB ***21*** *17:48:23.2±0.5, 34°67N±0°05×142°68E±0°05, h10km, mb3.9/17, Error ellipse: s-maj=6.8km s-min=6.2km az=22.8*

IDC ***21*** *17:48:23.2±0.7, 34°67N×142°76E, h0km, mb3.9/16, mb1 4.0/19, mb1mx3.9/35, mbtmp3.9/19, ML3.3/3, MS2.7/2, Ms1 2.7/2, ms1mx2.4/37, Error ellipse: s-maj=18.5km s-min=16.0km az=99.0*

NEIC ***21*** *17:48:24.8±0.3, 34°67N×142°72E, h10km, mb4.4/1, Error ellipse: s-maj=8.0km s-min=7.5km az=117.0*

JMA ***21*** *17:48:25.8±0.4, 34°75N×142°68E, h32km, M4.0*

ISC 21 17:48:25.0±0.7, 34°74N±0°05×142°72E±0°08, h10km, n43, σ1°75/45, mb3.9/17, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSO1	**Boso 1**	**1.44**	**267**	P	**Pn**	**17 48 49.7**	**-0.9**
BSO1				X		17 49 07.8	
CHOJ	**Chosi**	**1.80**	**303**	P	**Pn**	**17 48 55.7**	**-0.4**
CHOJ				S	**Sn**	**17 49 17.8**	**-1.1**
BSO3	**Boso 3**	**1.82**	**273**	P	**Pn**	**17 48 56.0**	**-0.1**
BSO3				X		17 49 19.1	
BSO4	**Boso 4**	**1.97**	**278**	P	**Pn**	**17 48 58.6**	**+0.2**
JCN	**Nagara**	**2.17**	**289**	P	**Pn**	**17 49 01.6**	**+0.4**
JHJ2	**Mitsune**	**2.91**	**237**	P	**Pn**	**17 49 10.1**	**-1.2**
JHJ2				eS	**Sn**	**17 49 42.2**	**-4.1**
JHJ2	**Mitsune**	**2.91**	**237**	*eP*	**Pn**	**17 49 10.1**	**-1.2**
JHJ	**Hachijo jima 2**	**2.93**	**237**	Pn	**Pn**	**17 49 10.4**	**-1.2**
	38nm,0.3s,baz=50,slow=16,SNR=8.8						
JHJ				Sn	**Sn**	**17 49 42.7**	**-4.1**
	95nm,0.3s,baz=54,slow=20,SNR=8.5						
JFK	**Kawauchi**	**3.02**	**331**	P	**Pn**	**17 49 10.7**	**-2.2**
JFK				S	**Sn**	**17 49 43.7**	**-5.4**
JAG	**Ashikaga**	**3.15**	**303**	P	**Pn**	**17 49 13.9**	**-0.7**
JAG				S	**Sn**	**17 49 49.8**	**-2.4**
JRY	**Ryogami san**	**3.37**	**293**	P	**Pn**	**17 49 17.8**	**+0.1**
JFT	**Otama**	**3.38**	**326**	P	**Pn**	**17 49 16.7**	**-1.1**
JFT				S	**Sn**	**17 49 53.8**	**-4.1**
JYN	**Shimob**	**3.50**	**284**	P	**Pn**	**17 49 18.8**	**-0.8**
MJAR	**Matsushiro Arr**	**4.09**	**297**	Pn	**Pn**	**17 49 27.7**	**+0.1**
	3.7nm,0.3s,baz=113,slow=9.4,SNR=24						
MJAR				Sn	**Sn**	**17 50 16.2**	**+0.7**
	4.5nm,0.3s,baz=138,slow=24,SNR=6.6						
MJAR				LR	LR	17 51 33.6	
	comp=Z,122nm,19.7s,baz=140,slow=46						
MAJO	**Matsushiro**	**4.09**	**297**	*eP*	**Pn**	**17 49 27.4**	**-0.2**
MAT	**Matsushiro**	**4.09**	**297**	P	**Pn**	**17 49 27.7**	**+0.1**
MAT				S	**Sn**	**17 50 12.8**	**-2.7**
ASAJ	**Asahikawa**	**9.36**	**359**	Pn	**Pn**	**17 50 37.4**	**-2.6**
	1.8nm,0.3s,baz=270,slow=34,SNR=1.9						
KSRS	**Korea Array**	**12.27**	**287**	LR	LR	17 56 03.5	
	comp=Z,31nm,19.3s,baz=71,slow=37						
USRK	**Ussuriysk Ar.**	**12.55**	**322**	Pn	**Pn**	**17 51 26.0**	**+2.4**
	0.2nm,0.3s,baz=119,slow=15,SNR=2.7						
H11N2	**WAKE ISLAND Hy**	**26.09**	**119**	T	T	18 21 15.5	
	baz=310,slow=75,SNR=11						
H11N1	**WAKE ISLAND Hy**	**26.10**	**119**	T	T	18 21 18.0	
	baz=310,slow=75,SNR=9.5						
H11N3	**WAKE ISLAND Hy**	**26.11**	**119**	T	T	18 21 16.8	
	baz=310,slow=75,SNR=11						
H11S1	**WAKE ISLAND Hy**	**26.75**	**121**	T	T	18 22 03.4	
	baz=312,slow=75,SNR=17						
H11S3	**WAKE ISLAND Hy**	**26.75**	**121**	T	T	18 22 04.3	
	baz=312,slow=75,SNR=16						
H11S2	**WAKE ISLAND Hy**	**26.77**	**121**	T	T	18 22 08.6	
	baz=312,slow=75,SNR=15						
SEY	**Seymchan**	**28.86**	**9**	P	**P**	**17 54 24.2**	**+0.9**
	2.1nm,0.2s,baz=355,slow=23,SNR=3.9						
SONM	**Songino Array**	**29.98**	**307**	P	**P**	**17 54 34.7**	**+1.1**
	0.5nm,0.8s,baz=101,slow=3.7,SNR=2.9						
CMAR	**Chiang Mai Arr**	**42.02**	**259**	P	**P**	**17 56 17.4**	**+0.7**
	0.3nm,0.6s,baz=53,slow=7.3,SNR=3.8						
ZALV	**Zalesovo Beam**	**44.25**	**314**	P	**P**	**17 56 34.7**	**+0.3**
	1.7nm,0.7s,baz=98,slow=7.0,SNR=6.5						
ZALV				PcP	**PP**	**17 58 18.6**	**+1.2**
	0.3nm,0.4s,baz=114,slow=3.6,SNR=2.3						
MKAR	**Makanchi Array**	**46.26**	**304**	P	**P**	**17 56 50.4**	**-0.1**
	0.6nm,0.7s,baz=94,slow=8.7,SNR=6.6						
ILAR	**Eielson Array**	**50.88**	**31**	P	**P**	**17 57 25.5**	**-0.3**
	1.0nm,0.9s,baz=269,slow=7.3,SNR=6.6						
WRAB	**Tennant Creek**	**54.95**	**190**	*eP*	**P**	**17 57 55.5**	**-0.7**
	3.4nm,0.9s						
WRA	**Warramunga Arr**	**54.96**	**190**	P	**P**	**17 57 55.5**	**-0.8**
	2.5nm,0.8s,baz=9.7,slow=7.5,SNR=22						
INK	**Inuvik**	**55.95**	**26**	P	**P**	**17 58 03.2**	**+0.3**
	0.6nm,0.4s,baz=253,slow=9.3,SNR=2.3						
ASAR	**Alice Springs**	**58.69**	**189**	P	**P**	**17 58 22.1**	**-0.7**
	1.2nm,0.9s,baz=2.3,slow=6.1,SNR=19						
GEYT	**Alibeck**	**65.89**	**300**	P	**P**	**17 59 11.6**	**+0.5**
	1.7nm,0.5s,baz=225,slow=57,SNR=3.4						
FINES	**FINESS Array B**	**71.33**	**333**	P	**P**	**17 59 44.4**	**-0.1**
	2.1nm,0.9s,baz=41,slow=7.4,SNR=2.9						
KBZ	**Khabaz**	**73.20**	**312**	P	**P**	**17 59 56.7**	**+0.6**
	1.6nm,0.8s,baz=76,slow=4.2,SNR=3.6						
NOA	**NORSAR Array B**	**76.70**	**338**	P	**P**	**18 00 16.2**	**+0.2**
	0.5nm,0.6s,baz=39,slow=5.7,SNR=2.7						
AKASG	**Malin Array Be**	**76.76**	**323**	P	**P**	**18 00 16.0**	**-0.5**
	0.6nm,0.5s,baz=50,slow=5.8,SNR=2.6						
GERES	**GERESS Array B**	**85.22**	**329**	P	**P**	**18 01 01.1**	**-0.6**
	0.3nm,0.5s,baz=37,slow=5.0,SNR=3.1						
TXAR	**Lajitas Array**	**90.66**	**53**	P	**P**	**18 01 28.6**	**+0.3**
	0.1nm,0.7s,baz=288,slow=3.4,SNR=2.8						
LPAZ	**La Paz**	**146.84**	**64**	PKPbc	**PKPdf**	**18 08 08.3**	**+1.4**
	0.8nm,0.5s,baz=212,slow=1.3,SNR=3.9						

GUC 21 17:48:49.9±0.5, 21°11S×70°47W, h48km±2km, ML3.8, 6C-2D, Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB02	**IPOC Station P**	**0.57**	**111**	*iP*	Pn	17 49 02.3	+0.3
PB02				*i* S	Sn	17 49 11.4	+0.7
PB02				IAML		17 49 11.7	
	comp=N,22μm,0.2s						
PB07	**IPOC Station P**	**0.81**	**139**	IAML		17 49 16.4	
	comp=E,9μm,0.3s						
PB01	**IPOC Station P**	**0.92**	**86**	*iP*	Pn	17 49 07.2	+0.6
PB01				*i* S	Sn	17 49 20.0	+1.2
PB01				IAML		17 49 20.9	
	comp=E,2μm,0.2s						
HMBC	**Humberstone**	**0.99**	**33**	*iP*	Pn	17 49 08.3	+0.7
HMBC				*i* S	Sn	17 49 22.1	+1.5
HMBC				IAML		17 49 22.9	
	comp=N,4μm,0.4s						
PB04	**IPOC Station P**	**1.25**	**166**	IAML		17 49 25.8	
	comp=N,3μm,0.1s						
PB09	**IPOC Station P**	**1.33**	**121**	*iP*	Pn	17 49 13.0	+0.8
PB09				*i* S	Sn	17 49 30.2	+1.3
PB09				IAML		17 49 31.2	
	comp=E,6μm,0.1s						
PSGC	**Pisagua**	**1.54**	**12**	*iP*	Pn	17 49 15.6	+0.5
PSGC				*eS*	Sn	17 49 34.5	+0.5
PSGC				IAML		17 49 36.9	
	comp=E,2μm,0.3s						
PB11	**IPOC Station P**	**1.54**	**30**	*iP*	Pn	17 49 15.8	+0.6
PB11				*i* S	Sn	17 49 35.6	+1.5
PB08	**IPOC Station P**	**1.56**	**52**	*iP*	Pn	17 49 16.9	+1.3
PB08				*i* S	Sn	17 49 37.3	+2.4
PB08				IAML		17 49 38.4	
	comp=N,2μm,0.2s						
PB06	**IPOC Station P**	**1.79**	**153**	IAML		17 49 42.7	
	comp=N,463nm,0.2s						
MNMC	**Minye Minye**	**2.13**	**23**	*iP*	Pn	17 49 24.3	+1.0
MNMC				*i* S	Sn	17 49 50.1	+1.3
MNMC				IAML		17 49 55.3	
	comp=E,1μm,0.3s						

ISCJB ***21*** *18:23:18.6±0.3, 4°72N±0°05×32°80W±0°03, h10km, mb4.7/61, MS3.9/26, Error ellipse: s-maj=7.7km s-min=4.5km az=175.6*

IDC ***21*** *18:23:18.2±0.5, 4°50N×32°65W, h0km, mb4.4/25, mb1 4.5/27, mb1mx4.5/36, mbtmp4.4/27, ML4.0/2, MS3.9/28, Ms1 3.9/28, ms1mx3.9/29, Error ellipse: s-maj=16.0km s-min=10.9km az=155.0*

NEIC ***21*** *18:23:19.7±0.3, 4°49N×32°64W, h10km, mb5.0/27, Error ellipse: s-maj=8.1km s-min=5.8km az=165.0*

GCMT ***21*** *18:23:19.7±0.4, 4°73N×32°63W, h14km±1km, MW4.8/72, Moment Tensor Solution. s22,c24; s72,c88; Duration: 0 Moment tensor: Scale 10^16 Nm; Mrr=1.88±.14; Mθθ 0.12±.09; Mφφ 1.76±.10; Mrθ 0.77±.26; Mrφ -0.11±.06; Mθφ -0.49±.21; Best double couple: M0 2.02300×10^16 NP1:φ=338.00000°, δ=56.00000°, λ=-110.00000°. NP2: φ=192.00000°, δ=39.00000°, λ=-63.00000°. Principal axes: T 1.8540, Plg9.0000°, Azm82.0000°; N 0.3320, Plg17.0000°, Azm350.0000°; P -2.1910, Plg71.0000°, Azm199.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

ISC 21 18:23:19.8±0.4, 4°40N±0°07×32°68W±0°07, h11km, n360, σ1°24/346, mb4.8/61, MS4.0/26, 15C-2D, Central Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RCBR	**Riachuelo**	**10.65**	**198**	Pn	**Pn**	**18 25 53.3**	**+0.8**
	0.4nm,0.3s,baz=12,slow=18,SNR=5.6						
RCBR				Sn	**Sn**	**18 27 47.0**	**-5.0**
	0.8nm,0.3s,baz=82,slow=19,SNR=4.2						
RCBR				LR	LR	18 29 00.5	
	comp=Z,697nm,20.8s,baz=358,slow=32						
BBTS	**Babate**	**18.89**	**56**	P	**Pn**	**18 27 40.1**	**-0.9**
	1.4nm,0.3s,baz=229,slow=2.8,SNR=2.7						
BBTS				LR	LR	18 33 13.4	
	comp=Z,515nm,18.8s,baz=212,slow=32						
H10N3	**ASCENSION HYDR**	**21.84**	**124**	T	T	18 50 46.3	
	baz=304,slow=75,SNR=218						
H10N2	**ASCENSION HYDR**	**21.84**	**124**	T	T	18 50 49.5	
	baz=304,slow=75,SNR=263						
H10N1	**ASCENSION HYDR**	**21.86**	**124**	T	T	18 50 47.8	
	baz=304,slow=75,SNR=254						
H10S3	**ASCENSION HYDR**	**22.33**	**126**	T	T	18 51 34.7	
	baz=306,slow=75,SNR=526						
H10S1	**ASCENSION HYDR**	**22.34**	**126**	T	T	18 51 35.1	
	baz=306,slow=75,SNR=546						
H10S2	**ASCENSION HYDR**	**22.35**	**126**	T	T	18 51 36.2	
	baz=306,slow=75,SNR=475						
LIC	**Lamto**	**27.59**	**85**	*eP*	**P**	**18 29 08.8**	**+1.4**
	106nm,1.4s						
TIC	**Toumodi**	**27.62**	**84**	*eP*	**P**	**18 29 06.7**	**-1.0**
PTGA	**Pitinga**	**27.73**	**260**	P	**P**	**18 29 09.2**	**+0.5**
	6.1nm,0.8s,baz=89,slow=11,SNR=16						
PTGA				LR	LR	18 39 08.9	
	comp=Z,514nm,19.5s,baz=75,slow=34						
DBIC	**Dimbokro**	**27.79**	**84**	P	**P**	**18 29 07.5**	**-1.6**
	11nm,0.9s,baz=246,slow=9.6,SNR=5.5						
DBIC				LR	LR	18 38 08.5	
	comp=Z,350nm,18.2s,baz=252,slow=32						
KIC	**Kosan Boka**	**27.88**	**85**	*eP*	**P**	**18 29 08.2**	**-1.8**
	49nm,1.2s						
H05S1	**Guadeloupe/Mar**	**29.47**	**292**	T	T	19 00 18.5	
	SNR=71						
H05N1	**Guadeloupe/Mar**	**30.27**	**295**	T	T	19 01 19.2	
	SNR=11						
SAML	**Samuel**	**33.17**	**246**	*eP*	**P**	**18 29 58.5**	**+1.8**
	12nm,1.2s						
SIV	**San Ignacio**	**34.63**	**234**	P	**P**	**18 30 10.3**	**+0.9**
	7.6nm,0.8s,baz=93,slow=10,SNR=14						
TORD	**Torodi Ar. Bea**	**35.03**	**73**	P	**P**	**18 30 11.2**	**-1.7**
	15nm,0.6s,baz=263,slow=9.2,SNR=72						
TORD				LR	LR	18 42 44.2	
	comp=Z,402nm,18.8s,baz=260,slow=33						
SJG	**San Juan**	**35.45**	**295**	P	**P**	**18 30 16.3**	**-0.1**
	8.0nm,0.3s,baz=70,slow=10.0,SNR=4.1						
MDT	**Midelt**	**38.56**	**39**	P	**P**	**18 30 43.0**	**+0.1**
	2.0nm,0.9s,baz=249,slow=10,SNR=3.7						
CPUP	**Villa Florida**	**38.77**	**217**	P	**P**	**18 30 46.2**	**+1.7**
	8.0nm,1.1s,baz=26,slow=8.6,SNR=8.8						
CPUP				LR	LR	18 46 08.0	
	comp=Z,280nm,21.6s,baz=54,slow=35						
PBDV	**Barranco-do-Ve**	**39.78**	**31**	*eP*	P	18 30 58.9	+6.0
PCVE	**Castro Verde**	**40.02**	**31**	*eP*	P	18 31 01.3	+6.5
RUSC	**La Rusia**	**40.26**	**274**	*eP*	**P**	**18 30 57.6**	**-0.2**
SDDR	**Presa de Saban**	**40.36**	**294**	*eP*	**P**	**18 30 58.5**	**+0.5**
	24nm,0.9s						
BARC	**Barichara**	**40.37**	**275**	*eP*	**P**	**18 30 59.7**	**+1.4**
OCAC	**Ocana**	**40.55**	**277**	*eP*	**P**	**18 30 59.2**	**-0.6**
LPAZ	**La Paz**	**40.64**	**239**	P	**P**	**18 31 02.5**	**+1.6**
	4.5nm,0.8s,baz=52,slow=6.7,SNR=18						
LPAZ				LR	LR	18 47 10.2	
	comp=Z,262nm,18.4s,baz=70,slow=35						
EVO	**Evora**	**40.72**	**30**	*eP*	**P**	**18 31 01.2**	**+0.6**
	26nm,1.4s						
VILC	**Villavicencio,**	**40.90**	**271**	*eP*	**P**	**18 31 03.0**	**+0.3**
TAM	**Tamanrasset**	**41.20**	**60**	*eP*	**P**	**18 31 05.0**	**0.0**
	15nm,1.3s						
CTAB	**Cerro Tablazo,**	**41.38**	**273**	*eP*	**P**	**18 31 06.7**	**-0.3**
ROSC	**El Rosal**	**41.50**	**272**	P	**P**	**18 31 09.0**	**+1.1**
	9.2nm,0.7s,baz=70,slow=3.1,SNR=8.2						
ROSC				LR	LR	18 49 19.0	
	comp=Z,276nm,18.4s,baz=82,slow=38						
NORC	**Norcasia**	**42.04**	**273**	*eP*	**P**	**18 31 09.4**	**-2.5**
ZARC	**Zaragoza, Cauc**	**42.05**	**276**	*eP*	**P**	**18 31 09.4**	**-2.5**
MTE	**Manteigas**	**42.39**	**29**	*eP*	**P**	**18 31 16.6**	**+2.2**
GUYC	**Guyana, Colomb**	**42.56**	**273**	*eP*	P	18 31 05.1	-12
BETC	**Betania**	**42.71**	**269**	*eP*	**P**	**18 31 16.9**	**-0.4**
ESDC	**Sonseca Array**	**43.67**	**32**	P	**P**	**18 31 25.3**	**+0.5**
	1.6nm,0.8s,baz=229,slow=8.4,SNR=10						
ESDC				LR	LR	18 48 03.0	
	comp=Z,78nm,18.6s,baz=250,slow=34						
OTAV	**Otavalo**	**45.91**	**266**	*eP*	**P**	**18 31 45.6**	**+2.2**
	3.3nm,0.7s						
KEST	**Kesra**	**49.69**	**46**	P	**P**	**18 32 13.1**	**+1.0**
	6.2nm,0.9s,baz=212,slow=9.5,SNR=4.7						
KEST				LR		18 53 32.9	
	comp=Z,300nm,19.0s,baz=239,slow=37						
N59A	**State Game Lan**	**53.02**	**320**	P	**P**	**18 32 36.7**	**-0.2**
	baz=122						
O56A	**Blue Knob Stat**	**54.54**	**318**	P	**P**	**18 32 48.2**	**+0.2**
	baz=118						
TSUM	**Tsumeb**	**54.73**	**117**	P	**P**	**18 32 51.0**	**+1.1**
	4.2nm,0.8s,baz=336,slow=9.0,SNR=3.4						
N54A	**Moraine State**	**55.82**	**318**	P	**P**	**18 32 56.7**	**-0.6**
	baz=118						
M54A	**Oil Creek Stat**	**55.86**	**318**	P	**P**	**18 32 57.0**	**-0.6**
	baz=118						
DAVA	**Damuels**	**56.24**	**34**	*i* P	**P**	**18 32 59.2**	**-1.1**
	8.0nm,0.9s						
FETA	**Feichten**	**56.55**	**34**	*eP*	**P**	**18 33 02.6**	**0.0**
	4.2nm,1.0s						
PLCA	**Paso Flores**	**56.73**	**214**	LR	LR	18 57 23.8	
	comp=Z,201nm,20.0s,baz=98,slow=36						
SCHQ	**Schefferville**	**57.35**	**337**	P	**P**	**18 33 07.6**	**-0.3**
	9.5nm,0.8s,baz=127,slow=10,SNR=3.1						
SCHQ				LR	LR	18 53 47.6	
	comp=Z,61nm,20.1s,baz=108,slow=32						
ABTA	**Abfaltersbach**	**57.42**	**35**	*eP*	**P**	**18 33 09.5**	**+0.9**
	9.1nm,1.1s						
ACSO	**Alum Creek Sta**	**57.55**	**316**	*eP*	**P**	**18 33 09.7**	**+0.2**
	27nm,1.1s						
OBKA	**Obir**	**58.48**	**36**	pP	pP	18 33 18.6	-1.1
	5.9nm,0.8s						
Z48A	**Northport**	**58.55**	**307**	P	**P**	**18 33 16.0**	**-0.7**
	baz=107						
SOKA	**Soboth**	**58.86**	**37**	*eP*	**P**	**18 33 18.6**	**-0.1**
	8.3nm,0.9s						
Y47A	**UCPARC, Winfie**	**58.94**	**307**	P	**P**	**18 33 19.2**	**-0.2**
	baz=107						
GERES	**GERESS Array B**	**59.23**	**34**	P	**P**	**18 33 20.1**	**-1.1**
	1.3nm,0.8s,baz=235,slow=4.7,SNR=11						
GERES				LR	LR	18 56 20.3	
	comp=Z,55nm,20.6s,baz=246,slow=34						
KHC	**Kasperske Hory**	**59.32**	**33**	*eP*	**P**	**18 33 22.0**	**+0.2**
KHC				*ep*	**sP**	**18 33 27.2**	**+0.5**
Y45A	**Yeager Farm, C**	**60.28**	**307**	P	**P**	**18 33 28.7**	**+0.1**
	baz=106						
TREC	**Trest**	**60.47**	**34**	*eP*	**P**	**18 33 28.9**	**-0.8**
BRG	**Berggiesshubel**	**60.48**	**32**	*e*(P)	P	18 33 35.6	+6.0
	3.9nm,0.9s						
SFIN	**Lafayette**	**60.50**	**314**	P	**P**	**18 33 29.5**	**-0.5**
	baz=111						
344A	**Westbrook Farm**	**60.63**	**304**	P	**P**	**18 33 31.2**	**+0.1**
	baz=104						
S45A	**Carrier Mills**	**60.66**	**311**	P	**P**	**18 33 30.5**	**-0.7**
	baz=109						
Z44A	**Pea Ridge, Bel**	**60.84**	**306**	P	**P**	**18 33 31.6**	**-0.8**
	baz=105						
R44A	**Waltonville**	**61.22**	**312**	P	**P**	**18 33 33.8**	**-1.2**
	baz=109						
P44A	**Sand Creek, Wi**	**61.28**	**313**	P	**P**	**18 33 34.2**	**-1.2**
	baz=110						
Q44A	**Meyer Farm, Va**	**61.38**	**312**	P	**P**	**18 33 35.1**	**-1.0**
	baz=109						
S43A	**Fulton Ridge,**	**61.76**	**311**	P	**P**	**18 33 37.4**	**-1.3**
	baz=108						
T43A	**Greenville**	**61.78**	**310**	P	**P**	**18 33 37.0**	**-1.7**
	baz=107						
R43A	**Red Bud**	**61.87**	**311**	P	**P**	**18 33 37.7**	**-1.7**
	baz=108						
Q43A	**New Douglas**	**61.90**	**312**	P	**P**	**18 33 38.4**	**-1.2**
	baz=108						
242A	**Grayson**	**61.95**	**304**	P	**P**	**18 33 39.4**	**-0.6**
	baz=103						
P43A	**Skaggs, Pawnee**	**62.00**	**313**	P	**P**	**18 33 38.6**	**-1.6**
	baz=109						
HDIL	**Hopedale**	**62.13**	**314**	P	**P**	**18 33 39.7**	**-1.4**
	baz=110						
V42A	**Cord**	**62.27**	**308**	P	**P**	**18 33 41.0**	**-1.1**
	baz=106,SNR=7.2						
U42A	**Revenden**	**62.30**	**309**	P	**P**	**18 33 40.9**	**-1.4**
	baz=106,SNR=5.3						
L43A	**Garden Prairie**	**62.31**	**316**	P	**P**	**18 33 41.2**	**-1.1**
	baz=111						
PSZ	**Piszkesteto**	**62.36**	**37**	*iP*	**P**	**18 33 42.1**	**-0.5**
S42A	**Caledonia**	**62.36**	**311**	P	**P**	**18 33 41.3**	**-1.4**
	baz=107						
BZS	**Buzias**	**62.44**	**40**	*iP*	**P**	**18 33 44.4**	**+1.3**
Q42A	**Golden Eagle**	**62.51**	**312**	P	**P**	**18 33 42.4**	**-1.3**
	baz=108						
R42A	**Luebbering**	**62.51**	**311**	P	**P**	**18 33 42.5**	**-1.2**
	baz=107						
P42A	**Winchester**	**62.58**	**313**	P	**P**	**18 33 42.7**	**-1.4**
	baz=108						
F43A	**Flat Rock, Esc**	**62.65**	**320**	P	**P**	**18 33 43.5**	**-1.0**
	baz=114						
SIRR	**Siria**	**62.73**	**39**	*iP*	**P**	**18 33 45.9**	**+0.9**
G43A	**Wall

J40A	Soldiers Grove	64.11 317	P		P	18 33 52.6	-1.6	
	baz=110							
T39A	Clever	64.14 309	P		P	18 33 53.2	-1.3	
	baz=105							
K40A	Colesburg	64.15 316	P		P	18 33 53.1	-1.4	
	baz=109,SNR=5.4							
R39A	Chumby, Stover	64.22 311	P		P	18 33 54.0	-1.0	
	baz=106,SNR=7.5							
HUMR	Humele	64.23 42 ⇓	*i*P		P	18 33 55.7	+0.8	
S39A	Bolivar	64.27 310	P		P	18 33 53.9	-1.4	
	baz=105,SNR=5.1							
H40A	Chili	64.30 318	P		P	18 33 54.4	-1.0	
	baz=111							
ARR	Arges	64.30 41 ⇑	*i*P		P	18 33 55.8	+0.3	
P39B	Salisbury	64.33 312	P		P	18 33 54.3	-1.4	
	baz=106,SNR=5.4							
Q39A	Willow Grove F	64.37 311	P		P	18 33 54.5	-1.5	
	baz=106							
O39A	Kirksville	64.39 313	P		P	18 33 54.3	-1.8	
	baz=107							
M39A	Webster	64.49 314	P		P	18 33 54.7	-2.0	
	baz=108							
N39A	Derby Farms, D	64.55 313	P		P	18 33 55.4	-1.7	
	baz=107							
L39A	Vinton	64.57 315	P		P	18 33 55.3	-1.9	
	baz=108							
F40A	Park Falls	64.59 319	P		P	18 33 56.0	-1.2	
	baz=112							
BOSA	Boshof	64.59 124	P		P	18 33 57.6	-0.1	
	10.0nm,0.9s,baz=260,slow=4.3,SNR=12							
BOSA			LR		LR	18 56 12.4		
	comp=Z,156nm,21.6s,baz=274,slow=31							
VOIR		64.60 41 ⇑	*i*P		P	18 33 59.6	+2.1	
E40A	Wakefield	64.64 320	P		P	18 33 56.4	-1.2	
	baz=112							
V38A	Canehill	64.65 308	P		P	18 33 56.2	-1.7	
	baz=104							
K39A	Oelwein	64.67 316	P		P	18 33 56.1	-1.8	
	baz=109,SNR=5.4							
S38A	Stockton	64.70 310	P		P	18 33 56.5	-1.7	
	baz=105,SNR=5.4							
X38A	Whitesboro	64.72 306	P		P	18 33 56.8	-1.5	
	baz=103							
J39A	Decorah	64.75 316	P		P	18 33 56.8	-1.6	
	baz=109,SNR=6.3							
I39A	Houston	64.80 317	P		P	18 33 57.1	-1.6	
	baz=109							
Q38A	Cooks Store, C	64.83 311	P		P	18 33 58.0	-1.0	
	baz=106							
R38A	Fenwick Farm,	64.84 310	P		P	18 33 57.4	-1.6	
	baz=105							
T38A	Diamond	64.85 309	P		P	18 33 57.5	-1.7	
	baz=104							
337A	Centerville	64.91 302	P		P	18 33 59.1	-0.5	
	baz=101							
H39A	Augusta	64.91 318	P		P	18 33 58.4	-1.0	
	baz=110							
P38A	Dawn	64.94 312	P		P	18 33 58.4	-1.4	
	baz=106							
DOPR	Dopca	65.01 41 ⇑	*i*P		P	18 34 01.7	+1.6	
E39A	Mellen	65.03 320	P		P	18 33 58.7	-1.5	
	baz=111							
O38A	Galt	65.04 312	P		P	18 33 59.1	-1.3	
	baz=106							
G39A	Holcombe	65.05 318	P		P	18 33 58.7	-1.6	
	baz=110							
N38A	Joes South For	65.06 313	P		P	18 33 58.6	-1.8	
	baz=107							
M38A	Pleasantville	65.21 314	P		P	18 34 00.1	-1.3	
	baz=107							
MLR	Muntele Rosu	65.21 41 ⇑	*i*P		P	18 34 01.1	-0.4	
V37A	Hulbert	65.24 308	P		P	18 33 59.8	-1.9	
	baz=103							
L38A	Oak Wood Farm,	65.25 315	P		P	18 34 00.1	-1.6	
	baz=108							
J38A	Wedel Dairy, R	65.28 316	P		P	18 34 00.2	-1.6	
	baz=108							
W37B	Quinton	65.30 307	P		P	18 34 00.8	-1.4	
	baz=103							
U37A	Salina	65.34 308	P		P	18 34 01.1	-1.3	
	baz=103,SNR=6.5							
T37A	Cheneyville 18	65.35 309	P		P	18 34 01.0	-1.4	
	baz=104,SNR=7.7							
NB2	NORSAR Subarra	65.40 22	P		P	18 34 02.9	+0.6	
	comp=Z,4.3nm,1.0s,baz=229,slow=6.5							
NOA	NORSAR Array B	65.40 22	P		P	18 34 03.1	+0.8	
	comp=Z,0.9nm,0.8s,baz=230,slow=6.4,SNR=3.7							
NOA			LR		LR	19 00 24.7		
	comp=Z,48nm,18.8s,baz=215,slow=34							
I38A	Scanlan Farm,	65.41 317	P		P	18 34 00.9	-1.8	
	baz=109							
S37A	Fort Scott	65.44 310	P		P	18 34 01.4	-1.6	
	baz=104							
G38A	Ridgeland	65.46 318	P		P	18 34 01.2	-1.8	
	baz=110							
ISR	Istrita	65.48 42 ⇑	*i*P		P	18 34 05.3	+2.1	
BURAR	Bucovina Array	65.51 39 ⇓	*i*P		P	18 34 03.6	+0.3	
P37A	Lathrop	65.54 312	P		P	18 34 01.9	-1.7	
	baz=105							
O37A	Wolven Farm, M	65.55 312	P		P	18 34 02.3	-1.3	
	baz=106							
R37A	Teagarden Farm	65.58 310	P		P	18 34 02.4	-1.5	
	baz=104							
H38A	Maiden Rock	65.58 317	P		P	18 34 02.3	-1.5	
	baz=109							
636A	Smothers Creek	65.59 300	P		P	18 34 03.7	-0.4	
	baz=99							
Z36A	Blue Ridge	65.73 304	P		P	18 34 03.9	-1.0	
	baz=101							
F38A	Pierce - Schro	65.75 319	P		P	18 34 02.9	-1.9	
	baz=110							
N37A	Lee Faris, Mou	65.75 313	P		P	18 34 03.4	-1.6	
	baz=106							
TUL1	Leonard	65.76 307	P		P	18 34 03.6	-1.5	
	baz=103							
E38A	The Farm, Brul	65.76 320	P		P	18 34 02.7	-2.1	
	baz=111							
PLOR	Plostina	65.80 41 ⇑	*i*P		P	18 34 08.2	+3.0	
L37A	Phoenix Point,	65.81 314	P		P	18 34 03.4	-1.9	
	baz=107							
U36A	Oologah	65.82 308	P		P	18 34 04.3	-1.2	
	baz=103							
M37A	Trindle Farm,	65.83 314	P		P	18 34 03.9	-1.5	
	baz=106							
VRI	Vrincioaia	65.85 41 ⇑	*i*P		P	18 34 06.2	+0.7	
K37A	Belmond	65.92 315	P		P	18 34 04.2	-1.8	
	baz=107							
H37A	Dierke Farm, C	65.98 317	P		P	18 34 05.1	-1.2	
	baz=109							
S36A	Lake Cedric, C	66.02 309	P		P	18 34 05.3	-1.4	
	baz=104							
J37A	Redenius Farm,	66.02 316	P		P	18 34 05.1	-1.6	
	baz=108							
TESR	Tescani	66.02 41 ⇑	*i*P		P	18 34 07.6	+1.0	
R36A	Gordon, Harris	66.09 310	P		P	18 34 05.5	-1.7	
	baz=104,SNR=5.2							
SPMN	Marine on St.	66.11 318	P		P	18 34 05.6	-1.6	
	baz=109							
SPMN	Marine on St.	66.11 318	*e*P		P	18 34 05.9	-1.2	
	comp=Z,23nm,0.9s							
I37A	Lemond, Waseca	66.13 317	P		P	18 34 05.8	-1.6	
	baz=108							
035A	Encino	66.14 297	P		P	18 34 08.2	+0.6	
	baz=97							
EYMN	Ely	66.20 321	P		P	18 34 06.3	-1.4	
	baz=111							
Y35A	Marietta	66.35 305	P		P	18 34 07.9	-1.0	
	baz=101							
K36A	Gilmore City	66.46 315	P		P	18 34 08.4	-1.0	
	baz=107							
W35A	Tecumseh	66.46 306	P		P	18 34 09.0	-0.7	
	baz=102							
D37A	Cotton	66.51 320	P		P	18 34 08.4	-1.3	
	baz=110,SNR=7.1							
T35A	Sooner Cattle	66.55 308	P		P	18 34 08.6	-1.5	
	baz=103							
C37A	Embarrass	66.56 321	P		P	18 34 08.0	-2.0	
	baz=110							
S35A	Otter Creek Ra	66.57 309	P		P	18 34 08.7	-1.6	
	baz=103							
R35A	Emporia Munici	66.62 310	P		P	18 34 09.0	-1.6	
	baz=104							
G36A	St. Michael	66.75 318	P		P	18 34 09.8	-1.4	
	baz=108							
P35A	Duane Minner,	66.78 311	P		P	18 34 10.1	-1.4	
	baz=104,SNR=5.6							
F36A	Milaca	66.80 318	P		P	18 34 10.1	-1.4	
	baz=109							
N35A	Tabor	66.83 313	P		P	18 34 10.7	-1.1	
	baz=105							
E36A	McGregor	66.83 319	P		P	18 34 10.0	-1.8	
	baz=109							
C36A	Pine Crest Far	66.98 321	P		P	18 34 11.1	-1.5	
	baz=110							
D36A	Goodland	66.99 320	P		P	18 34 11.4	-1.4	
	baz=110,SNR=11							
L35A	Bielow Farm, R	67.09 314	P		P	18 34 11.9	-1.6	
	baz=106							
T34A	McClaskey Farm	67.10 308	P		P	18 34 12.8	-0.9	
	baz=102,SNR=6.4							
I35A	Creekview Farm	67.18 316	P		P	18 34 12.4	-1.6	
	baz=107							
S34A	Willow Spring	67.19 309	P		P	18 34 13.0	-1.2	
	baz=103							
G35A	Watkins	67.24 318	P		P	18 34 13.0	-1.4	
	baz=108							
933A	Laredo	67.26 298	P		P	18 34 15.1	+0.3	
	baz=97							
H35A	Sunnyside Ranc	67.32 317	P		P	18 34 13.5	-1.4	
	baz=107							
Q34A	Chapman	67.33 310	P		P	18 34 13.3	-1.7	
	baz=103							
P34A	Walnut Farm, R	67.39 311	P		P	18 34 13.3	-2.1	
	baz=104							
R34A	Isabella, Hill	67.42 310	P		P	18 34 14.2	-1.4	
	baz=103,SNR=8.7							
O34A	Beatrice	67.44 312	P		P	18 34 14.3	-1.4	
	baz=104							
833A	Chaparral WMA,	67.45 299	P		P	18 34 15.9	-0.1	
	baz=97							
N34A	Lincoln	67.45 313	P		P	18 34 13.9	-2.0	
	baz=104							
333A	Richland Sprin	67.52 302	P		P	18 34 15.2	-1.2	
	baz=99							
433A	Art	67.53 301	P		P	18 34 15.1	-1.4	
	baz=98							
D35A	Remer	67.54 320	P		P	18 34 14.3	-1.9	
	baz=109							
233A	Rising Star	67.56 303	P		P	18 34 16.0	-0.7	
	baz=99							
L34A	Svendsen Farm,	67.65 314	P		P	18 34 15.4	-1.6	
	baz=105							
SORM	Sorosa	67.66 39 ⇑	*i*P		P	18 34 14.9	-2.0	
M34A	Aspy Farms, Fr	67.68 313	P		P	18 34 15.5	-1.7	
	baz=104							
C35A	Jirik Farms, M	67.69 320	P		P	18 34 15.8	-1.4	
	baz=109							
B35A	Bob, Littlefor	67.75 321	P		P	18 34 15.8	-1.7	
	baz=110							
WMOK	Wichita Mounta	67.92 306	P		P	18 34 17.5	-1.4	
	baz=100							
H34A	Spellman Lake,	67.96 317	P		P	18 34 17.6	-1.3	
	baz=106							
O33A	Hebron	68.08 311	P		P	18 34 18.1	-1.6	
	baz=103							
JCT	Junction City	68.09 301	P		P	18 34 19.4	-0.7	
	baz=98							
ABTX	Abilene, Hawle	68.27 303	P		P	18 34 20.2	-1.0	
	baz=99							
ECSD	EROS Data Cent	68.28 316	P		P	18 34 19.3	-1.7	
	baz=105,SNR=9.2							
ECSD	EROS Data Cent	68.28 316	*e*P		P	18 34 19.4	-1.5	
	comp=Z,13nm,0.9s							
B34A	Aery, Baudette	68.37 321	P		P	18 34 19.7	-1.7	
	baz=109							
I33A	Coleman	68.49 316	P		P	18 34 20.7	-1.6	
	baz=105							
G33A	Ortonville	68.55 317	P		P	18 34 21.3	-1.3	
	baz=106							
F33A	5 Mile Ranch,	68.64 318	P		P	18 34 21.1	-2.1	
	baz=106							
D33A	AnnSam, Waubun	68.72 319	P		P	18 34 21.9	-1.8	
	baz=107							
BGNE	Belgrade	68.80 313	P		P	18 34 22.9	-1.4	
	baz=103							
BGNE	Belgrade	68.80 313	*e*P		P	18 34 23.1	-1.2	
	comp=Z,32nm,0.7s							
K32A	Verdigre	68.97 314	P		P	18 34 24.0	-1.3	
	baz=104							
A33A	Warroad	68.98 321	P		P	18 34 23.4	-1.8	
	baz=108							
H32A	Carlson Farm,	69.05 316	P		P	18 34 24.3	-1.5	
	baz=105							
AKASG	Malin Array Be	69.06 37	P		P	18 34 25.6	-0.1	
	comp=Z,3.0nm,0.7s,baz=251,slow=6.6,SNR=8.5							
AKASG			LR		LR	19 05 00.7		
	comp=Z,50nm,18.6s,baz=295,slow=36							
BRTR	Keskin Array B	69.06 49	P		P	18 34 25.9	-0.3	
	comp=Z,3.7nm,0.8s,baz=247,slow=4.1,SNR=14							
BRTR			LR		LR	19 06 14.8		
	comp=Z,36nm,19.2s,baz=244,slow=37							
AGMN	Agassiz Nation	69.08 320	P		P	18 34 24.5	-1.4	
	baz=108							
AGMN	Agassiz Nation	69.08 320	*e*P		P	18 34 24.2	-1.6	
	comp=Z,12nm,1.1s							
CBKS	Cedar Bluff	69.44 310	P		P	18 34 27.2	-1.1	
	baz=101							
A32A	Rocking H Ranc	69.66 321	P		P	18 34 27.7	-1.7	
	baz=107							
J31A	Geddes	69.67 315	P		P	18 34 27.9	-1.7	
	baz=104							
ULM	Lac du Bonnet	69.69 322	P		P	18 34 28.0	-1.6	
	comp=Z,8.1nm,0.9s,baz=72,slow=5.7,SNR=4.5							
ULM			LR		LR	19 01 15.3		
	comp=Z,66nm,19.1s,baz=248,slow=33							
F31A	Hecla	69.96 317	P		P	18 34 30.0	-1.4	
	baz=105							
KMBO	Kilina Mbogo	70.09 93	P		P	18 34 32.1	-1.0	
	comp=Z,0.7nm,0.3s,baz=314,slow=12,SNR=2.8							
KMBO			LR		LR	19 02 44.6		
	comp=Z,134nm,19.0s,baz=88,slow=34							
SUSD	Miller	70.09 316	P		P	18 34 30.5	-1.7	
	baz=104							
C31A	Landman Farms,	70.13 319	P		P	18 34 30.8	-1.5	
	baz=106							
TXAR	Lajitas Array	71.29 299	P		P	18 34 39.5	-0.4	
	comp=Z,0.5nm,0.6s,baz=106,slow=6.7,SNR=7.8							
TXAR			LR		LR	19 07 07.6		
	comp=Z,21nm,19.1s,baz=0.0,slow=37							
MDND	Maddock	71.36 319	P		P	18 34 38.5	-1.3	
	baz=104							
OGNE	Ogallala	71.57 312	P		P	18 34 40.5	-0.9	
	baz=100							
FINES	FINESS Array B	71.62 26	P		P	18 34 40.0	-1.1	
	comp=Z,3.3nm,0.8s,baz=250,slow=6.9,SNR=4.1							
FINES			LR		LR	19 02 42.4		
	comp=Z,22nm,21.9s,baz=236,slow=33							
KSCO	Kaye Shedlock'	71.69 310	P		P	18 34 41.8	-0.4	
	baz=99							
T25A	Trinidad	72.81 307	P		P	18 34 49.2	+0.2	
	baz=98							
MNTX	Cornudas Mount	72.99 302	P		P	18 34 50.1	+0.1	
	baz=95							
MNTX	Cornudas Mount	72.99 302	*e*P		P	18 34 49.1	-0.8	
	comp=Z,8.8nm,1.1s							
RSSD	Black Hills	73.59 315	P		P	18 34 53.0	-0.5	
	baz=100							
Q24A	Divide	73.63 309	P		P	18 34 54.0	0.0	
	baz=98							
SDCO	Great Sand Dun	73.75 308	P		P	18 34 54.4	-0.3	
	baz=97							
SDCO	Great Sand Dun	73.75 308	*e*P		P	18 34 54.6	0.0	
	comp=Z,6.1nm,1.0s							
ISCO	Idaho Springs	74.10 310	P		P	18 34 57.1	+0.4	
	baz=98							
ISCO	Idaho Springs	74.10 310	*e*P		P	18 34 57.3	+0.6	
	comp=Z,18nm,1.3s							
ANMO	Albuquerque	74.20 305	P		P	18 34 57.6	+0.4	
	baz=96							
N23A	Red Feather La	74.49 311	P		P	18 34 59.2	+0.3	
	baz=98							
DGMT	Dagmar	74.50 319	P		P	18 34 58.7	+0.2	
	baz=101							
DGMT	Dagmar	74.50 319	*e*P		P	18 34 58.8	+0.3	
	comp=Z,64nm,1.0s							
FFC	Flin Flon	74.54 326	*e*P		P	18 34 57.9	-0.7	
	comp=Z,27nm,1.3s							
S22A	4UR Ranch, Cre	74.79 308	P		P	18 35 01.0	+0.2	
	baz=96							
121A	Cookes Peak, D	75.09 302	P		P	18 35 03.2	+0.7	
	baz=94							
ARCES	ARCESS Array B	75.16 18	LR		LR	19 01 17.8		
	comp=Z,52nm,21.5s,baz=238,slow=30							
LAO	LASA Array	75.54 317	P		P	18 35 04.7	+0.1	
	baz=99							
LAO	LASA Array	75.54 317	*e*P		P	18 35 04.6	0.0	
	comp=Z,29nm,1.0s							
RWWY	Rawlins	75.54 312	*e*P		P	18 35 05.0	+0.1	
	comp=Z,21nm,1.4s							
MVCO	Mesa Verde	76.06 307	P		P	18 35 08.3	+0.3	
	baz=95							
O20A	White River Ci	76.14 310	P		P	18 35 08.5	+0.1	
	baz=96							
O20A	White River Ci	76.14 310	*e*P		P	18 35 08.7	+0.4	
	comp=Z,22nm,1.0s							
PV01	Paradox Valley	76.20 308	*e*P		P	18 35 09.6	+0.8	
	comp=Z,599nm,1.4s							
KBZ	Khabaz	76.56 46	P		P	18 35 11.4	+1.1	
	comp=Z,1.6nm,0.8s,baz=270,slow=3.0,SNR=2.2							
KBZ			LR		LR	19 10 52.9		
	comp=Z,25nm,20.8s,baz=265,slow=37							
VNA1	Neumayer--Stat	76.66 172	P		P	18 35 12.6	+2.4	
VNA3	Neumayer Olymp	77.01 173	P		P	18 35 13.3	+1.0	
VNA2	Neumayer--Watz	77.03 172	P		P	18 35 13.8	+1.4	
	baz=347,slow=6.0							
PDAR	Pinedale Array	77.39 313	P		P	18 35 14.7	-0.7	
	comp=Z,2.2nm,0.7s,baz=92,slow=5.9,SNR=17							
PDAR			LR		LR	19 05 35.5		
	comp=Z,102nm,20.7s,baz=112,slow=33							
BW06	Boulder Array	77.39 313	P		P	18 35 14.6	-0.8	
	baz=96							
BW06	Boulder Array	77.39 313	*e*P		P	18 35 14.3	-1.1	
	comp=Z,3.7nm,1.0s							
RLMT	Red Lodge	77.43 315	P		P	18 35 15.4	-0.2	
	baz=96							
RLMT	Red Lodge	77.43 315	*e*P		P	18 35 15.4	-0.2	
	comp=Z,8.5nm,0.8s							
TUC	Tucson	77.61 302	P		P	18 35 17.2	+0.6	
	baz=92							
TUC	Tucson	77.61 302	*e*P		P	18 35 17.3	+0.6	
	comp=Z,12nm,1.3s							
EGMT	Eagleton	78.10 318	P		P	18 35 18.6	-0.4	
	baz=97							
EGMT	Eagleton	78.10 318	*e*P		P	18 35 18.2	-0.8	
	comp=Z,10.0nm,1.1s							
LOHW	Long Hollow	78.23 313	*e*P		P	18 35 19.2	-0.9	
	comp=Z,13nm,1.1s							
WUAZ	Wupatki	78.25 305	P		P	18 35 20.9	+0.7	
	baz=93							
WUAZ	Wupatki	78.25 305	*e*P		P	18 35 20.5	+0.2	
	comp=Z,13nm,1.2s							
SNAA	Sanae	78.38 171	P		P	18 35 20.8	+0.7	
IMW	Indian Meadow	78.50 314	*e*P		P	18 35 21.2	-0.4	
	comp=Z,15nm,1.1s							
HWUT	Hardware Ranch	78.78 311	*e*P		P	18 35 22.7	-0.4	
	comp=Z,14nm,0.8s							
BOZ	Bozeman (W)	79.14 315	P		P	18 35 24.4	-0.5	
	baz=95							
214A	Organ Pipe Nat	79.31 302	P		P	18 35 26.9	+0.8	
	baz=91							
DUG	Dugway, Tooele	79.64 310	P		P	18 35 28.0	+0.2	
	baz=93							
PDMCI	Parker Dam,Lak	80.48 304	P		P	18 35 32.5	+0.3	
	baz=91							
Y12C	Blythe	80.79 303	P		P	18 35 34.8	+0.9	
	baz=91							
MSO	Missoula	80.83 317	P		P	18 35 33.6	-0.3	
	baz=93							
EDM	Edmonton	80.90 323	*e*P		P	18 35 33.8	-0.4	
	comp=Z,53nm,1.1s							
HLID	Hailey	80.99 313	P		P	18 35 35.2	+0.2	
	baz=92							
GLA	Glamis	81.04 303	P		P	18 35 35.8	+0.5	
	baz=90							
IRM	Iron Mountain	81.31 304	P		P	18 35 37.4	+0.7	
	baz=90							
BC3	Big Chuckawall	81.57 303	P		P	18 35 38.7	+0.5	
	baz=90							
R11A	Troy Canyon, C	81.72 308	P		P	18 35 39.1	+0.1	
	baz=91							
GMRC	Granite Mounta	81.74 304	P		P	18 35 39.4	+0.3	
	baz=90							
SWSC	Sam W. Stewart	81.85 303	P		P	18 35 40.1	+0.6	
	baz=90							
TUQ	Turquoise Moun	81.97 305	P		P	18 35 40.6	+0.3	
	baz=90							
BELC	Belle Mtn. Jos	82.02 304	P		P	18 35 41.2	+0.6	
	baz=90							
IKP	In-Ko-Pah, Jac	82.11 302	P		P	18 35 41.9	+0.8	
	baz=90							
TPNV	Topopah Spring	82.24 307	P		P	18 35 41.9	+0.2	
	baz=90							
HEC	Hector,Ludlow	82.30 304	P		P	18 35 42.4	+0.4	
	baz=90							
MONP	Monument Peak,	82.38 302	P		P	18 35 42.9	+0.3	
	baz=90							
TPFO	Pinon Flats	82.40 303	P		P	18 35 43.1	+0.5	
	baz=90							
PFO	Pinyon Flats O	82.41 303	P		P	18 35 43.0	+0.3	
	baz=90							
GSC	Goldstone, Bar	82.69 305	P		P	18 35 44.3	+0.3	
	baz=90							
NEW	Newport	83.04 318	P		P	18 35 44.9	-0.6	
	baz=91							
MPMC	Manual Prospec	83.24 306	P		P	18 35 47.1	+0.1	
	baz=89							
BFSC	Mount Baldy Ra	83.40 304	P		P	18 35 48.3	+0.5	
	baz=89							
LRMC	Laurel Mtn Rad	83.40 305	P		P	18 35 48.0	+0.3	
	baz=89							
CWC	Cottonwood Cre	83.71 306	P		P	18 35 49.8	+0.4	
	baz=89							
SNCC	San Nicolas Is	84.97 303	P		P	18 35 56.0	+0.3	
	baz=88							
MOD	Modoc Plateau	85.32 312	*e*P		P	18 35 58.2	+0.9	
	comp=Z,22nm,1.2s							
G05D	Wamic, OR	85.95 315	P		P	18 36 00.4	+0.1	
	baz=88							
J05D	Fort Rock, OR	85.96 313	P		P	18 36 00.9	+0.4	
	baz=88							
I05D	Terrebonne, OR	86.00 314	P		P	18 36 01.0	+0.5	
	baz=88							
B05A	Bryant	86.36 318	P		P	18 36 01.4	-0.8	
	baz=87							
M04C	Macdoel	86.47 311	P		P	18 36 03.1	0.0	
	baz=87							
J04D	Umpqua Nationa	86.60 313	P		P	18 36 03.5	-0.3	
	baz=87							
I04A	Tendick Farm,	86.79 314	P		P	18 36 04.4	-0.1	
	baz=87							
I03D	Drain, OR	87.48 313	P		P	18 36 07.8	+0.1	
	baz=86							
L02D	Cave Junction,	87.76 312	P		P	18 36 09.3	+0.1	
	baz=86							
SYO	Syowa Base	87.80 160 ⇑	*e*P		P	18 36 09.4	+0.7	
GEYT	Alibeck	87.96 52	LR		LR	19 19 15.1		
	comp=Z,47nm,19.0s,baz=210,slow=38							
TOLK	Toolik Lake Re	95.41 341	P		P	18 36 44.8	+0.6	
	baz=63							
ILAR	Eielson Array	96.11 337	P		P	18 36 46.3	-1.1	
	comp=Z,2.4nm,0.8s,baz=55,slow=3.5,SNR=16							
ILAR			LR		LR	19 18 07.2		
	comp=Z,51nm,18.2s,baz=106,slow=34							
NRIK	Norilʹsk	96.14 18	LR		LR	19 18 36.1		
	comp=Z,41nm,19.4s,baz=208,slow=34							
MAW	Mawson	96.16 157	LR		LR	19 12 18.1		
	comp=Z,54nm,19.2s,baz=239,slow=30							
CMAR	Chiang Mai Arr	127.21 63	PKP		PKPdf	18 42 25.3	-0.1	
	comp=Z,1.0nm,0.9s,baz=285,slow=3.6,SNR=5.8							
ASAR	Alice Springs	156.88 147	PKP		PKPdf	18 43 14.6	-1.7	
	comp=Z,0.7nm,0.9s,baz=222,slow=1.7,SNR=6.3							
ASAR			PKPab		PKPab	18 43 46.7	+0.8	
	comp=Z,0.4nm,0.8s,baz=207,slow=2.2,SNR=4.2							
WRA	Warramunga Arr	160.03 142	PKP		PKPdf	18 43 18.6	-1.6	
	comp=Z,1.0nm,1.0s,baz=236,slow=0.8,SNR=5.5							
WRA			PKPab		PKPab	18 44 00.0	+0.4	
	comp=Z,1.1nm,1.1s,baz=222,slow=3.6,SNR=3.3

FITZ	**Fitzroy Crossi**	**28.25**	**242**	P		P	18 52 51.7	-1.1	
	1.0nm,0.5s,baz=70,slow=7.6,SNR=5.3								
TORD	**Torodi Ar. Bea**	**149.55**	**286**	PKPbc		PKPbc	19 06 46.9	-1.3	
	0.1nm,0.4s,baz=93,slow=3.2,SNR=3.4								
TORD				PKPab		PKPab	19 06 55.4	+2.0	
	0.4nm,0.6s,baz=71,slow=2.4,SNR=3.7								

IDC 21 19:23:51.7±3.1, 1°94.5S×139°57.6E, h0km, mb3.7/4, mb1 3.9/5, mb1mx3.6/39, mbtmp3.8/5, ML4.0/1, Error ellipse: s-maj=111.9km s-min=23.5km az=92.0, Near north coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
WRA	**Warramunga Arr**	**18.61**	**196**	P		P	19 28 10.8	-0.1
	0.5nm,0.3s,baz=19,slow=12,SNR=25							
WRA				S		Sn	19 31 29.5	-10
	0.0nm,0.3s,baz=15,slow=22,SNR=3.0							
FITZ	**Fitzroy Crossi**	**21.09**	**220**	P		P	19 28 37.5	-0.4
	1.2nm,0.7s,baz=49,slow=12,SNR=3.7							
ASAR	**Alice Springs**	**22.29**	**194**	P		P	19 28 51.4	+0.6
	3.5nm,0.9s,baz=17,slow=12,SNR=30							
H11S3	**WAKE ISLAND Hy**	**33.53**	**52**	T		T	20 06 22.8	
	baz=236,slow=76,SNR=24							
H11S2	**WAKE ISLAND Hy**	**33.54**	**52**	T		T	20 06 26.1	
	baz=236,slow=76,SNR=32							
H11S1	**WAKE ISLAND Hy**	**33.55**	**52**	T		T	20 06 25.0	
	baz=236,slow=76,SNR=28							
H11N1	**WAKE ISLAND Hy**	**34.39**	**50**	T		T	20 07 30.0	
	baz=232,slow=74							
H11N2	**WAKE ISLAND Hy**	**34.40**	**50**	T		T	20 07 32.3	
	baz=232,slow=74							
H11N3	**WAKE ISLAND Hy**	**34.40**	**50**	T		T	20 07 33.4	
	baz=232							
MKAR	**Makanchi Array**	**69.71**	**322**	P		P	19 35 04.6	+1.0
	0.6nm,0.9s,baz=112,slow=7.0,SNR=3.8							
BVAR	**Borovoye Array**	**79.17**	**325**	P		P	19 35 57.7	-0.8
	0.6nm,0.4s,baz=115,slow=6.5,SNR=5.8							

*NEIC **21** 19:25:49.6±0.0, 60.44N×137.75W, h1km, ML2.6(AEIC), ML2.8(OTT), After OTT.*
PGC 21 19:25:49.6±0.0, 60.44N×137.75W, h1km, ML2.8/8, 37km southwest of Haines Jct., Yt Southern Yukon Territory, Canada, Southern Yukon Territory

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
BCPM	**Bancas Point**	**1.06**	**244**	P		Pg	19 26 08.6	-1.2
BCPM				S		Sg	19 26 22.8	-0.7
PNL	**Peninsula**	**1.13**	**228**	P		Pg	19 26 09.7	-1.4
PNL	**Peninsula**	**1.13**	**228**	P		Pg	19 26 09.7	-1.5
PNL				S		Sg	19 26 25.6	-0.2
PLBC	**Pleasant Camp**	**1.20**	**144**	P		Pg	19 26 10.9	-1.6
PLBC				S		Sg	19 26 26.9	-1.2
PLBC	**Pleasant Camp**	**1.20**	**144**	P		Pg	19 26 10.9	-1.7
PLBC				S		Sg	19 26 26.9	-1.3
PCA	**Pinnacle**	**1.29**	**256**	P		Pg	19 26 13.0	-1.3
PCA				S		Sg	19 26 30.1	-0.9
PCA	**Pinnacle**	**1.29**	**256**	P		Pg	19 26 13.1	-1.3
PCA				S		Sg	19 26 29.9	-1.2
DHAK	**Deception Hill**	**1.37**	**190**	P		Pg	19 26 13.8	-2.0
DHAK				S		Sg	19 26 32.1	-1.3
WHY	**Whitehorse**	**1.44**	**80**	Pn		Pn	19 26 15.4	-1.4
WHY				Sg		Sg	19 26 34.4	-1.3
WHY	**Whitehorse**	**1.44**	**80**	P		Pn	19 26 15.4	-1.5
WHY				S		Sg	19 26 34.5	-1.1
SAMH	**Samovar Hills**	**1.54**	**260**	P		Pn	19 26 18.1	-0.2
SKAG	**Skagway**	**1.56**	**128**	P		Pn	19 26 17.5	-0.9
TABL	**Table Mountain**	**1.68**	**272**	P		Pn	19 26 18.6	-1.7
RKAV	**Rock Avalanche**	**1.79**	**267**	P		Pn	19 26 21.2	-0.5
CTGM	**Chitina Glacie**	**1.84**	**288**	Pn		Pn	19 26 21.9	-0.5
CTGM				Sg		Sn	19 26 46.5	+0.1
CTGM	**Chitina Glacie**	**1.84**	**288**	P		Pn	19 26 22.0	-0.4
YUK3	**Moose Creek**	**1.88**	**317**	Pn		Pn	19 26 22.0	-1.0
YUK3				Sg		Sn	19 26 47.7	+0.2
YUK2	**White River**	**2.02**	**313**	Pn		Pn	19 26 24.5	-0.4
YUK2				Sg		Sb	19 26 52.5	-0.4
MESA	**MESA**	**2.10**	**265**	P		Pn	19 26 26.8	+0.7
BAGL	**Bagley Icefiel**	**2.15**	**273**	P		Pn	19 26 26.5	0.0
YUK1	**Sand Pete Hill**	**2.19**	**323**	Pn		Pn	19 26 26.9	-0.3
YUK1				Sg		Sn	19 26 56.2	+1.3
BARK	**Barkley Ridge**	**2.35**	**271**	P		Pn	19 26 30.1	+0.7
BESE	**Bessie Mountai**	**2.38**	**140**	Pg		Pb	19 26 31.6	-1.5
BESE				Sg		Sb	19 27 04.0	+1.0
PTPK	**Patty Peak**	**2.43**	**290**	P		Pn	19 26 31.6	+1.0
BVCY	**Beaver Creek**	**2.49**	**324**	Pn		Pn	19 26 31.2	+0.1
BVCY				Sg		Sb	19 27 07.3	+1.2
TGL	**Tana Glacier**	**2.53**	**280**	P		Pn	19 26 32.0	+0.2
KHIT	**Khitrov Hills**	**2.73**	**273**	P		Pn	19 26 34.5	0.0
BCA3	**Beaver Creek A**	**3.26**	**326**	P		Pn	19 26 41.5	-0.4
DAWY	**Dawson**	**3.72**	**349**	Pn		Pn	19 26 48.2	0.0
DAWY				Sg		Sg	19 27 45.8	-3.2
DAWY	**Dawson**	**3.72**	**349**	*e*P		Pn	19 26 48.5	+0.3
DLBC	**Dease Lake**	**4.42**	**114**	Sg		Sg	19 28 08.6	-2.9

*ISCJB **21** 19:46:10.8±0.9, 51°.51N±0°.04×16°.11E±0°.04, h0km, Error ellipse: s-maj=5.7km s-min=3.2km az=21.7*
*CSEM **21** 19:46:11.4±0.6, 51°.56N×16°.13E, h2km, ML2.7/10, Error ellipse: s-maj=8.1km s-min=4.6km az=14.0*
*WAR **21** 19:46:12.8, 51°.54N×16°.14E, h1km, Mw2.1*
ISC 21 19:46:12.8±1.3, 51°.53N±0°.06×16°.07E±0°.03, h0km, n31, σ0s70/59, Poland

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
KSP	**Ksiaz**	**0.70**	**168**	*e*Pg		**Pg**	**19 46 26.1**	**-0.1**
KSP				*e*Sg		**Sg**	**19 46 35.4**	**+0.2**
KSP	**Ksiaz**	**0.70**	**168**	*e*Pg		**Pg**	**19 46 26.1**	**-0.1**
KSP				*e*Sg		**Sg**	**19 46 35.4**	**+0.2**
KSP	**Ksiaz**	**0.70**	**168**	*e*Pg		**Pg**	**19 46 26.1**	**-0.1**
KSP				*e*Sg		**Sg**	**19 46 35.4**	**+0.2**
UPC	**Upice**	**1.02**	**182**	*e*PG		**Pg**	**19 46 32.3**	**0.0**
UPC				*e*SG		**Sg**	**19 46 46.0**	**+0.5**
	comp=Z,17nm,0.4s							
UPC	**Upice**	**1.02**	**182**	Pg		**Pg**	**19 46 32.3**	**0.0**
UPC				Sg		**Sg**	**19 46 46.0**	**+0.5**
	17nm,0.4s							
DPC	**Dobruska-Polom**	**1.19**	**172**	*e*PG		**Pg**	**19 46 35.0**	**-0.5**
DPC				*e*SG		**Sg**	**19 46 50.4**	**-0.5**
	comp=Z,5.0nm,0.5s							
DPC	**Dobruska-Polom**	**1.19**	**172**	Pg		**Pg**	**19 46 35.0**	**-0.5**
DPC				Sg		**Sg**	**19 46 50.4**	**-0.5**
	5.0nm,0.5s							
PVCC	**Panska Ves**	**1.38**	**224**	*e*PG		**Pn**	**19 46 39.3**	**+0.1**
PVCC				*e*SG		**Sn**	**19 46 58.7**	**+0.5**
	comp=Z,21nm,0.4s							
PVCC	**Panska Ves**	**1.38**	**224**	Pg		**Pn**	**19 46 39.3**	**+0.1**
PVCC				Sg		**Sn**	**19 46 58.7**	**+0.5**
	21nm,0.4s							
BRG	**Berggiesshubel**	**1.49**	**245**	PG		**Pb**	**19 46 41.5**	**+0.2**
BRG				SG		**Sn**	**19 47 01.9**	**+0.9**
	24nm,0.4s							
KRLC	**Kraliky**	**1.52**	**162**	*e*PG		**Pn**	**19 46 40.6**	**-0.7**
KRLC				*e*SG		**Sg**	**19 46 59.8**	**-1.8**
KRLC	**Kraliky**	**1.52**	**162**	Pg		**Pn**	**19 46 40.6**	**-0.7**
KRLC				Sg		**Sg**	**19 46 59.8**	**-1.8**
GOPC	**GO Pecny, Ondr**	**1.81**	**207**	*e*PG		**Pb**	**19 46 46.4**	**-0.4**
GOPC				*e*SG		**Sg**	**19 47 10.9**	**0.0**
GOPC	**GO Pecny, Ondr**	**1.81**	**207**	Pg		**Pb**	**19 46 46.4**	**-0.4**
GOPC				Sg		**Sg**	**19 47 10.9**	**0.0**
PRU	**Pruhonice**	**1.82**	**213**	*e*PG		**Pb**	**19 46 46.6**	**-0.3**
PRU				*e*SG		**Sg**	**19 47 11.6**	**+0.4**
	comp=Z,6.2nm,0.4s							
PRU	**Pruhonice**	**1.82**	**213**	Pg		**Pb**	**19 46 46.6**	**-0.3**
PRU				Sg		**Sg**	**19 47 11.6**	**+0.4**
	6.2nm,0.4s							
CLL	**Collm**	**1.93**	**265**	*e*Pn		**Pn**	**19 46 46.0**	**-0.9**
CLL				*e*Pg		**Pb**	**19 46 49.0**	**+0.1**
CLL				*i*			19 46 52.6	
CLL				*e*Sg		**Sg**	**19 47 15.0**	**+0.1**
	comp=Z,5.0nm,0.5s							
MORC	**Moravsky Berou**	**1.99**	**151**	*e*Sg		**Sb**	**19 47 14.4**	**-0.7**
OKC	**Ostrava-Krasne**	**2.15**	**141**	*e*PG		**Pb**	**19 46 52.8**	**+0.3**
OKC				*e*SG		**Sb**	**19 47 19.3**	**-0.3**
	comp=Z,5.8nm,0.5s							
OKC	**Ostrava-Krasne**	**2.15**	**141**	Pg		**Pb**	**19 46 52.8**	**+0.3**
OKC				Sg		**Sb**	**19 47 19.3**	**-0.3**
	comp=Z,5.8nm,0.5s							
TREC	**Trest**	**2.27**	**190**	*e*SG		**Sg**	**19 47 25.5**	**0.0**
	comp=Z,2.9nm,0.3s							
TREC	**Trest**	**2.27**	**190**	Sg		**Sg**	**19 47 25.5**	**0.0**
	comp=Z,2.9nm,0.3s							
NKC	**Novy Kostel**	**2.63**	**242**	*e*PG		**Pg**	**19 47 02.7**	**-0.5**
NKC				*e*SG		**Sg**	**19 47 37.6**	**+0.2**
	comp=Z,10nm,0.4s							
NKC	**Novy Kostel**	**2.63**	**242**	Pg		**Pg**	**19 47 02.7**	**-0.5**
NKC				Sg		**Sg**	**19 47 37.6**	**+0.2**
	comp=Z,10nm,0.4s							
KHC	**Kasperske Hory**	**2.88**	**215**	*e*PG		**Pb**	**19 47 06.0**	**+0.9**
KHC				*e*SG		**Sg**	**19 47 44.5**	**-0.8**
	comp=Z,2.6nm,0.4s							
KHC	**Kasperske Hory**	**2.88**	**215**	Pg		**Pb**	**19 47 06.0**	**+0.9**
KHC				Sg		**Sg**	**19 47 44.5**	**-0.8**
	comp=Z,2.6nm,0.4s							
CONA	**Conrad Observa**	**3.60**	**182**	Pg		**Pb**	**19 47 18.3**	**+0.9**
	comp=Z,0.9nm,0.4s							
CONA				*e*Sg		**Sg**	**19 48 08.3**	**-0.2**
	comp=Z,2.1nm,0.4s							
CONA	**Conrad Observa**	**3.60**	**182**	Pg		**Pb**	**19 47 18.3**	**+0.9**
	comp=Z,0.9nm,0.4s							
CONA				Sg		**Sg**	**19 48 08.3**	**-0.2**
	comp=Z,2.1nm,0.4s							
MOA	**Molln**	**3.86**	**198**	*i* Pn		**Pn**	**19 47 13.4**	**0.0**
	comp=Z,0.8nm,0.3s							
MOA				Sg		**Sg**	**19 48 18.4**	**+1.6**
	comp=Z,4.3nm,0.7s							
MOA	**Molln**	**3.86**	**198**	Pn		**Pn**	**19 47 13.4**	**0.0**
	comp=Z,0.8nm,0.3s							
MOA				Sg		**Sg**	**19 48 18.4**	**+1.6**
	comp=Z,4.3nm,0.7s							
STHS	**Stebnicka Huta**	**3.92**	**121**	*e*SG		**Sg**	**19 48 20.6**	**+1.9**
STHS				*e*LG		Lg	19 48 24.2	

*CSEM **21** 19:49:20.3±0.7, 50°.17N×19°.24E, h2km, Error ellipse: s-maj=14.8km s-min=9.9km az=165.0*
PRU 21 19:49:21.3, 50°.24N×19°.26E, h0km, Poland

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
OJC	**Ojcow**	**0.35**	**93**	*e*Pg		Pg	19 49 27.2	-0.7
OJC				*e*Sg		Sg	19 49 31.7	-0.7
OJC	**Ojcow**	**0.35**	**93**	*e*Pg		Pg	19 49 27.2	-0.7
OJC				*e*Sg		Sg	19 49 31.7	-0.7
LANS	**Liptovska Anna**	**1.10**	**173**	*e*Pg		Pg	19 49 41.0	-1.3
LANS				*e*Sg		Sg	19 49 55.6	-1.0
LANS	**Liptovska Anna**	**1.10**	**173**	*e*PG		Pg	19 49 41.0	-1.3
LANS				*e*SG		Sg	19 49 55.6	-1.0
STHS	**Stebnicka Huta**	**1.53**	**122**	*e*Sn		Sn	19 50 10.9	+0.5
STHS	**Stebnicka Huta**	**1.53**	**122**	*e*SN		Sn	19 50 10.8	+0.4
STHS				*e*LG		Lg	19 50 11.8	
KRLC	**Kraliky**	**1.60**	**265**	*e*SG		Sn	19 50 12.2	-0.1
KRLC	**Kraliky**	**1.60**	**265**	Sg		Sn	19 50 12.2	-0.1
VYHS	**Vyhne**	**1.77**	**189**	*e*Pg		Pn	19 49 51.1	-2.1
VYHS				*e*Sn		Sn	19 50 13.3	-3.1
VYHS	**Vyhne**	**1.77**	**189**	*e*PG		Pn	19 49 51.1	-2.1
VYHS				*e*SN		Sn	19 50 13.3	-3.1
DPC	**Dobruska-Polom**	**1.89**	**274**	*e*SG		Sg	19 50 21.8	-0.1
DPC	**Dobruska-Polom**	**1.89**	**274**	Sg		Sg	19 50 21.8	-0.1

*MOS **21** 19:52:29.2±1.3, 9°.44S×117°.86E, h44km, mb5.3/60, MS4.0/15, Error ellipse: s-maj=10.2km s-min=5.9km az=116.6*
*BJI **21** 19:52:30.0, 9°.60S×117°.80E, h45km, mb5.1/71, mB5.1/46, Ms4.8/51, Ms7 4.5/48*
*NEIC **21** 19:52:30.7±0.5, 9°.59S×117°.82E, h46km±4km, mb5.2/43, Error ellipse: s-maj=7.0km s-min=4.3km az=215.0*
NEIC Felt at Sumbawa. Felt [IV] at Mataram, Lombok. Felt [III] at Denpasar and [II] at Kuta and Ubud, Bali.
*IDC **21** 19:52:30.2±1.7, 9°.53S×117°.73E, h41km±14km, mb4.8/31, mb1 4.8/31, mb1mx4.7/37, mbtmp5.0/31, MS4.0/25, Ms1 4.0/25, ms1mx3.9/39, Error ellipse: s-maj=14.1km s-min=10.5km az=56.0*
*GCMT **21** 19:52:30.7±0.2, 9°.82S×117°.77E, h66km±2km, MW5.2/75, Moment Tensor Solution. s57,c78; s75,c122; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}1.76±.16; $M_{\theta\theta}$5.05±.15; $M_{\phi\phi}$-6.81±.18; $M_{r\theta}$1.25±.13; $M_{\theta\phi}$3.02±.14; $M_{\phi r}$1.18±.19; Best double couple: $M_0$6.94400×10^{16} NP1:ϕs30.00000°, δ81.00000°, λ163.00000°. NP2: ϕs123.00000°, δ73.00000°, λ10.00000°. Principal axes: T 6.2730, Plg18.0000°, Azm345.0000°; N 1.3410, Plg71.0000°, Azm183.0000°; P -7.6140, Plg5.0000°, Azm77.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*ISCJB **21** 19:52:31.1±0.2, 9°.72S±0°.03×117°.78E±0°.02, h71km, mb5.0/108 Error ellipse: s-maj=4.0km s-min=2.5km az=15.8*
*DJA **21** 19:52:32.3±0.2, 10°S±2°×11°8E±°, h62km±2km, M5.2/42, mb5.4/42, mB5.6/32, MLv5.9/21, Mw(mB)5.1/32, Mwp5.6/1*
ISC 21 19:52:33.0±0.3, 9°.67S±0°.03×117°.74E±0°.03, h71km, n390, σ190/404, mb5.1/106, 13C-13D, Sumbawa region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
PLAI	**Plampang**	**0.84**	**3**	P		**Pn**	**19 52 48.3**	**-1.3**
PLAI				S		**Sn**	**19 52 59.7**	**-2.2**
TWSI	**Taliwang, Sumb**	**1.25**	**318**	P		**Pn**	**19 52 55.0**	**+0.2**
TWSI				S		**Sn**	**19 53 12.6**	**+1.4**
WSI	**Waingapu**	**2.52**	**90**	P		**Pn**	**19 53 08.7**	**-3.1**
DNP	**Denpasar**	**2.68**	**291**	P		**Pn**	**19 53 15.2**	**+1.3**
IGBI	**Denpasar**	**2.70**	**288**	P		**Pn**	**19 53 14.2**	**+0.1**
IGBI				S		**Sn**	**19 53 46.8**	**+1.1**
BASI	**Baing, Sumba**	**2.85**	**101**	P		**Pn**	**19 53 13.7**	**-2.5**
SRBI	**Singaraja**	**2.95**	**302**	P		**Pn**	**19 53 18.9**	**+1.3**
JAGI	**Jajag, Banyuwa**	**3.74**	**288**	P		**Pn**	**19 53 28.3**	**0.0**
JAGI				S		**Sn**	**19 54 13.0**	**+1.8**
JAGI	**Jajag, Banyuwa**	**3.74**	**288**	*e*Pn		**Pn**	**19 53 27.8**	**-0.5**
ABJI	**Asem Bagus**	**3.93**	**298**	P		**Pn**	**19 53 32.0**	**+1.0**
BSSI	**Bau Bau, Buton**	**4.44**	**38**	P		**Pn**	**19 53 38.4**	**+0.5**
GMJI	**Gumukmas**	**4.46**	**288**	P		**Pn**	**19 53 37.2**	**-1.0**
GMJI				S		**Sn**	**19 54 30.7**	**+1.8**
KMMI	**Kalianget**	**4.55**	**305**	P		**Pn**	**19 53 42.0**	**+2.6**
MMRI	**Maumere**	**4.56**	**77**	P		**Pn**	**19 53 38.3**	**-1.3**
MMRI	**Maumere**	**4.56**	**77**	*e*Pn		**Pn**	**19 53 38.0**	**-1.6**
KAPI	**Kappang**	**5.04**	**23**	*e*Pn		**Pn**	**19 53 47.1**	**+1.0**
KAPI				*e*Sn		**Sn**	**19 54 40.1**	**-3.0**
SPSI	**Sidrap Palu**	**6.02**	**20**	P		**Pn**	**19 54 00.8**	**+1.3**
	241nm,0.5s,4μm1.6nm							
PWJI	**Pagerwojo**	**6.09**	**285**	P		**Pn**	**19 53 59.5**	**-1.0**
	893nm,1.0s,12μm7.5nm							
PWJI				S		**Sn**	**19 55 09.7**	**+0.9**
	893nm,1.0s,12μm7.5nm							
BWJI	**Bawean**	**6.30**	**307**	P		**Pn**	**19 54 06.2**	**+2.8**
	219nm,0.6s,4μm2.0nm							
BWJI				S		**Sn**	**19 55 16.7**	**+2.6**
	219nm,0.6s,4μm2.0nm							
BBSI	**Bau Bau**	**6.34**	**49**	P		**Pn**	**19 54 05.2**	**+1.3**
	222nm,0.7s,2μm0.8nm							
SOEI	**Soe**	**6.44**	**91**	P		**Pn**	**19 54 03.1**	**-2.2**
	2μm,0.8s,17μm8.3nm							
SOEI	**Soe**	**6.44**	**91**	*e*Pn		**Pn**	**19 54 03.1**	**-2.2**
NGJI	**Ngawi**	**6.62**	**290**	P		Pn	19 54 12.2	+4.5
	656nm,0.9s,7.1nm							
PCJI	**Pacitan**	**6.65**	**282**	P		**Pn**	**19 54 08.9**	**+0.8**
	642nm,0.8s,10μm9.1nm							
PCJI				S		**Sn**	**19 55 21.1**	**-1.3**
	642nm,0.8s,10μm9.1nm							
TTSI	**Tana Toraja**	**6.90**	**18**	P		**Pn**	**19 54 14.6**	**+3.0**
TTSI				S		**Sn**	**19 55 33.0**	**+4.3**
UGM	**Wanagama**	**7.34**	**283**	P		**Pn**	**19 54 17.8**	**+0.2**
	788nm,0.8s,10μm12nm							
UGM	**Wanagama**	**7.34**	**283**	*e*Pn		**Pn**	**19 54 18.0**	**+0.4**
KDI	**Kendari**	**7.46**	**41**	P		Pn	19 54 23.0	+3.7
	178nm,0.9s,2μm0.6nm							
SMRI	**Semarang**	**7.68**	**289**	P		**Pn**	**19 54 25.2**	**+3.0**
	380nm,1.0s,5.9nm							
SMRI				S		Sn	19 56 07.3	+20
	380nm,1.0s,5.9nm							
SMRI	**Semarang**	**7.68**	**289**	*e*Pn		**Pn**	**19 54 25.4**	**+3.2**
PCI	**Palu**	**8.96**	**14**	P		Pn	19 54 44.9	+5.2
	297nm,0.9s,3μm							
MTKI	**Muara Teweh, K**	**9.12**	**342**	P		Pn	19 54 45.8	+3.8
PBKI	**Pangkalan Bun**	**9.18**	**319**	P		Pn	19 54 46.3	+3.6
	308nm,0.9s,5μm							
PBKI				S		**Sn**	**19 56 29.6**	**+5.1**
	308nm,0.9s,5μm							
JCJI	**Jatiwangi**	**9.89**	**288**	P		Pn	19 55 10.5	+18
CISI	**Cisompet, Garu**	**10.03**	**281**	P		**Pn**	**19 54 52.0**	**-2.5**
	289nm,0.5s,8μm							
CISI	**Cisompet, Garu**	**10.03**	**281**	*e*Pn		**Pn**	**19 54 52.1**	**-2.3**
CNJI	**Cibinong**	**10.75**	**282**	P		**Pn**	**19 55 03.5**	**-0.7**
	248nm,1.1s,3μm							
MRSI	**Marisa**	**10.92**	**23**	P		**Pn**	**19 55 08.8**	**+2.4**
	62nm,1.0s,4μm							
SANI	**Sanana**	**11.16**	**48**	P		**Pn**	**19 55 12.6**	**+2.8**
NLAI	**Namlea**	**11.28**	**56**	P		**Pn**	**19 55 15.1**	**+3.6**
	672nm,0.8s,5μm							
FITZ	**Fitzroy Crossi**	**11.36**	**138**	P		Pn	19 55 06.8	-5.6
	12nm,0.3s,baz=326,slow=9.7,SNR=143							
FITZ				S		Sn	19 57 04.1	-14
	18nm,0.3s,baz=180,slow=20,SNR=11							
FITZ				LR		LR	19 59 38.6	
	comp=Z,733nm,18.4s,baz=320,slow=37							
GTOI	**Gorontalo**	**11.51**	**27**	P		Pn	19 55 18.6	+4.1
	48nm,1.1s,590nm							
MBWA	**Marble Bar**	**11.58**	**171**	*e*Pn		Pn	19 55 09.3	-6.2
AAI	**Ambon**	**11.96**	**61**	P		**Pn**	**19 55 22.4**	**+1.6**
	236nm,0.8s,2μm							
CGJI	**Cibinong**	**12.30**	**283**	P		**Pn**	**19 55 23.4**	**-2.0**
	320nm,0.5s,3μm							
CGJI				S		**Sn**	**19 57 34.5**	**-6.3**
	320nm,0.5s,3μm							
MSAI	**Masohi**	**12.77**	**61**	P		**Pn**	**19 55 32.4**	**+0.7**
BLSI	**Bandar Lampung**	**13.10**	**288**	P		P	19 55 49.4	+5.5
BNDI	**Bandanaira**	**13.11**	**68**	P		**P**	**19 55 45.0**	**+1.1**
LBMI	**Labuha**	**13.22**	**48**	P		**P**	**19 55 41.1**	**-4.1**
SBUM	**Sibu**	**13.24**	**335**	*e*Pn		**P**	**19 55 42.5**	**-2.9**
SBUM	**Sibu**	**13.24**	**335**	⇓P		**P**	**19 55 44.6**	**-0.7**
KSM	**Kuching**	**13.32**	**326**	*e*Pn		**P**	**19 55 43.9**	**-2.3**
KSM	**Kuching**	**13.32**	**326**	⇓P		**P**	**19 55 45.0**	**-1.3**
SAUI	**Saumlaki**	**13.51**	**84**	P		**Pn**	**19 55 37.9**	**-3.7**
	819nm,0.9s,8μm							
SAUI				S		Sn	19 58 00.2	-10
	819nm,0.9s,8μm							
SAUI	**Saumlaki**	**13.51**	**84**	*e*Pn		**Pn**	**19 55 37.3**	**-4.3**
MTN	**Manton Dam**	**13.51**	**105**	*e*Pn		Pn	19 55 35.0	-6.7
PPBI	**Pangkal Pinang**	**13.73**	**302**	P		**Pn**	**19 55 45.2**	**+0.5**
KASI	**Kota Agung**	**13.76**	**286**	P		**Pn**	**19 55 43.5**	**-1.4**
KLSI		**13.82**	**290**	P		**Pn**	**19 55 44.5**	**-1.3**
	37nm,0.8s							
LWLI	**Liwa**	**14.33**	**288**	P		**Pn**	**19 55 50.4**	**-2.2**
MYLDM	**Lahad Datu**	**14.77**	**3**	⇓P		P	19 56 06.5	+4.1
SGSI	**Sangihe**	**15.37**	**31**	P		**P**	**19 56 13.1**	**+4.0**
KKM	**Kota Kinabalu**	**15.69**	**354**	*e*Pn		**P**	**19 56 15.5**	**+2.8**
	175nm,1.2s							
KKM	**Kota Kinabalu**	**15.69**	**354**	⇓P		**P**	**19 56 16.3**	**+3.6**
FAKI	**Fak Fak**	**15.90**	**66**	P		**Pn**	**19 56 08.6**	**-4.0**
	282nm,0.7s,2μm							
FAKI				S		**Sn**	**19 59 02.3**	**-5.9**
	282nm,0.7s,2μm							
FAKI	**Fak Fak**	**15.90**	**66**	*e*Pn		**Pn**	**19 56 08.4**	**-4.2**
	190nm,0.7s							
FAKI				*e*Sn		**Sn**	**19 59 07.3**	**-0.9**
KSI	**Kapahiang**	**16.18**	**291**	P		**Pn**	**19 56 14.7**	**-1.5**
	221nm,0.8s,3μm							
KDM	**Kudat**	**16.50**	**357**	⇑P		**P**	**19 56 26.6**	**+5.0**
MASI	**Maura Aman, Be**	**16.70**	**292**	P		**P**	**19 56 25.6**	**+1.7**
	190nm,0.6s,3μm							
TPRI	**Tanjung Pinang**	**16.84**	**308**	P		**P**	**19 56 28.5**	**+3.1**
	92nm,1.0s							
MYKOM	**Kota Tinggi**	**17.92**	**309**	*e*Pn		**Pn**	**19 56 37.8**	**+0.2**
	37nm,0.9s							
MYKOM	**Kota Tinggi**	**17.92**	**309**	⇓P		**Pn**	**19 56 38.2**	**+0.7**
DAV	**Davao City (W)**	**18.38**	**25**	*e*P		**P**	**19 56 40.7**	**-1.6**
	451nm,0.4s							
SDSI	**Sungai Dareh**	**18.40**	**297**	P		**Pn**	**19 56 44.6**	**+1.2**
	76nm,1.0s,33μm							
KGM	**Kluang**	**18.47**	**308**	⇑P		**Pn**	**19 56 44.5**	**+0.3**
WRA	**Warramunga Arr**	**19.00**	**124**	P		**P**	**19 56 46.5**	**-2.7**
	4.0nm,0.3s,baz=300,slow=14,SNR=87							
WRA				S		S	20 00 03.5	-18
	3.7nm,0.3s,baz=299,slow

comp=Z,15nm,0.9s
QIZ Qiongzhong 29.56 345 P P 19 58 33.0 +1.7
QIZ S **S** **20 03 26.8 +5.5**
QIZ LR LR
comp=Z,380nm,9.2s
QIZ LR LR
comp=Z,470nm,22.3s
SKNT Sakolnakorn 29.77 333 P **P** **19 58 34.0 +0.9**
comp=Z,40nm,0.9s
SRDT SRDT 30.18 322 P **P** **19 58 38.3 +1.6**
comp=Z,140nm,1.6s
MANU Manus Island 30.41 77 *e*P **P** **19 58 38.8 -0.1**
comp=Z,25nm,0.7s
PBKT Sadao Pong 30.90 327 P **P** **19 58 44.0 +0.9**
comp=Z,49nm,0.9s,comp=Z,1µm
UTHA Uthaitani 30.93 324 P **P** **19 58 44.3 +0.9**
comp=Z,266nm,0.8s,comp=Z,167nm
STKA Stephens Creek 31.25 138 P **P** **19 58 46.1 0.0**
comp=Z,4.7nm,0.4s,baz=319,slow=8.2,SNR=20
STKA LR LR 20 12 07.2
comp=Z,402nm,19.0s,baz=302,slow=38
STKA Stephens Creek 31.25 138 *e*P **P** **19 58 46.5 +0.4**
comp=Z,3.7nm,0.8s
UMPA Umpang Tak 31.78 324 P **P** **19 58 50.8 -0.1**
comp=Z,12nm,0.9s,comp=Z,661nm
UTTA Uttaradit 32.10 328 P **P** **19 58 54.7 +1.1**
comp=Z,14nm,0.8s,comp=Z,122nm
SUKH Sukhothai 32.38 326 P **P** **19 58 57.2 +1.2**
comp=Z,15nm,0.8s,comp=Z,117nm
GZH Guangzhou 32.84 353 *e*P P 19 59 05.3 +5.3
LAMP Lampang 33.23 327 P **P** **19 59 05.2 +1.7**
comp=Z,8.2nm,0.9s
SSLB Suanglung 33.40 5 *e*P **P** **19 59 04.6 -0.4**
CM01 Chiang Mai Arr 33.51 326 *e*P **P** **19 59 06.0 +0.1**
CM31 Chiang Mai Arr 33.55 326 *e*P **P** **19 59 07.5 +1.2**
CMAR Chiang Mai Arr 33.55 326 P **P** **19 59 06.5 +0.2**
comp=Z,12nm,0.8s,baz=151,slow=6.3,SNR=64
CMAR PcP **PcP** **20 01 47.3 +1.6**
comp=Z,1.5nm,0.7s,baz=170,slow=2.9,SNR=4.0
CMAR ScP **ScP** **20 05 26.9 +2.7**
comp=Z,2.5nm,0.8s,baz=178,slow=2.4,SNR=8.7
CMAR LR LR 20 14 10.0
comp=Z,458nm,18.9s,baz=155,slow=39
SLVN Son La 33.68 336 *e*P **P** **19 59 08.2 +0.7**
comp=Z,20nm,0.9s
CMMT Chiang Mai 33.83 327 P **P** **19 59 09.6 +0.8**
comp=Z,17nm,0.9s
CHTO Chiang Mai 33.84 327 P **P** **19 59 09.7 +0.9**
comp=Z,78nm,0.9s
CHTO Chiang Mai 33.84 327 *e*P **P** **19 59 09.1 +0.3**
CHTO pmax pmax
comp=Z,14nm,0.9s
CHTO Chiang Mai 33.84 327 *e*P **P** **19 59 09.1 +0.3**
comp=Z,14nm,0.9s
YHNB Yeheng 34.32 6 P **P** **19 59 13.7 +0.7**
GUMO Guam 35.49 50 P **P** **19 59 22.6 -0.5**
comp=Z,18nm,0.3s,baz=175,slow=13,SNR=4.1
GYA Guiyang 37.49 344 *e*P **P** **19 59 43.0 +2.8**
GYA pmax pmax
comp=Z,10.0nm,1.0s
KMI Kunming 37.55 337 P **P** **19 59 42.3 +1.5**
KMI pP pP 19 59 55.3 -2.7
KMI sP sP 20 00 00.4 -5.9
KMI S S 20 05 33.6 +8.4
KMI sS sS 20 05 51.4 -3.2
KMI pmax pmax
comp=Z,57nm,1.0s
KMI pmax pmax
comp=Z,160nm,5.0s
KMI LR LR
comp=Z,210nm,22.3s
KMI LR LR
comp=Z,290nm,25.7s
KMI LR LR
comp=Z,290nm,16.1s
ARMA Armidale 37.71 128 *e*P **P** **19 59 45.8 +3.7**
comp=Z,9.9nm,0.8s
WHN Wuhan 40.12 355 P **P** **20 00 02.6 +0.7**
WHN pmax pmax
comp=Z,56nm,0.7s
ENH Enshi 40.50 349 *e*P **P** **20 00 04.8 -0.4**
comp=Z,48nm,1.0s
PALK Pallekele 40.55 293 P **P** **20 00 05.2 -0.7**
comp=Z,10nm,0.8s,baz=117,slow=8.2,SNR=5.2
NJ2 Nanjing 41.50 1 *e*P **P** **20 00 14.5 +1.2**
NJ2 pmax pmax
comp=Z,45nm,1.0s
HNR Honiara 41.60 93 P **P** **20 00 15.4 +0.9**
comp=Z,242nm,0.8s,baz=210,slow=2.4,SNR=23
HNR Honiara 41.60 93 *e*P **P** **20 00 14.0 -0.5**
HNR Honiara 41.60 93 *e*P **P** **20 00 15.4 +0.9**
comp=Z,237nm,0.8s
CD2 Chengdu 42.52 342 P **P** **20 00 22.3 +0.6**
CD2 sP pP 20 00 39.9 +0.7
CD2 PP **PP** **20 02 02.3 +0.7**
CD2 sS sS 20 06 57.3 -12
CD2 pmax pmax
comp=Z,130nm,0.7s
CD2 pmax pmax
comp=Z,370nm,5.4s
CD2 LR LR
comp=Z,630nm,14.4s
CD2 LR LR
comp=Z,430nm,18.0s
CD2 LR LR
comp=Z,400nm,16.8s
XAN Xi'an 44.27 349 P **P** **20 00 35.1 -0.6**
XAN sP pP 20 00 52.1 -1.2
XAN PP **PP** **20 02 20.3 0.0**
XAN S **S** **20 07 04.5 +0.1**
XAN SS SS 20 10 14.4 -11
XAN pmax pmax
comp=Z,37nm,1.0s
XAN pmax pmax
comp=Z,58nm,5.4s
XAN LR LR
comp=Z,140nm,12.5s
XAN LR LR
comp=Z,420nm,15.1s
XAN LR LR
comp=Z,520nm,20.2s
JNU Nakatsue 44.36 16 P **P** **20 00 35.4 -1.1**
comp=Z,16nm,0.9s,baz=171,slow=13,SNR=60
JNU Nakatsue 44.36 16 *e*P **P** **20 00 36.3 -0.1**
comp=Z,27nm,1.0s
H08S2 Diego Garcia H 44.75 269 T T 20 47 53.6
baz=95,slow=76
H08S3 Diego Garcia H 44.76 269 T T 20 48 57.7
baz=95
H08S1 Diego Garcia H 44.77 269 T T 20 47 52.6
baz=95,slow=76
TIA Tai'an 45.64 359 *e*P **P** **20 00 45.5 -1.0**
TIA pmax pmax
comp=Z,30nm,0.8s
ODAN Odare 46.76 322 *e*P **P** **20 00 55.0 -0.7**
comp=Z,80nm,0.8s
LSA Lhasa 46.78 328 P **P** **20 00 57.1 +1.0**
LSA Lhasa 46.78 328 *e*P **P** **20 00 57.1 +1.0**
LSA pmax pmax
comp=Z,10.0nm,0.6s
LSA Lhasa 46.78 328 *e*P **P** **20 00 57.1 +1.0**
comp=Z,10nm,0.6s
TAPN Taplejung 46.92 322 *e*P **P** **20 00 56.6 -0.5**
comp=Z,118nm,0.9s
HYB Hyderabad 47.16 305 *i* P **P** **20 00 58.0 -0.8**
RAMN Ramite 47.31 321 *e*P **P** **20 00 59.2 -0.8**
comp=Z,98nm,0.7s
LZH Lanzhou 47.36 345 *e*P **P** **20 01 01.0 +0.8**
LZH pP pP 20 01 14.6 -3.4
LZH sP sP 20 01 18.8 -7.3
LZH pmax pmax
comp=Z,30nm,1.0s
LZH pmax pmax
comp=Z,150nm,4.0s
LZH LR LR
comp=Z,410nm,15.0s
LZH LR LR
comp=Z,460nm,15.3s
LZH LR LR
comp=Z,500nm,16.1s
KS15 Wonju Array Si 47.82 11 *e*P **P** **20 01 04.3 +0.9**
KSAR Wonju Array Be 47.82 11 P **P** **20 01 04.0 +0.5**
KSAR Wonju Array Be 47.82 11 P **P** **20 01 04.0 +0.5**
KSRS Korea Array 47.84 11 P **P** **20 01 04.0 +0.4**
comp=Z,37nm,0.8s,baz=189,slow=7.7,SNR=65
KSRS LR LR 20 23 10.7

comp=Z,53nm,20.7s,baz=210,slow=39
KS01 Wonju Array Si 47.86 11 *e*P **P** **20 01 03.3 -0.5**
JIRN Jiri 48.07 321 *e*P **P** **20 01 04.9 -1.2**
comp=Z,188nm,0.6s
DZM Mont Dzumac 48.25 111 P **P** **20 01 08.8 +1.5**
comp=Z,28nm,0.8s,baz=289,slow=7.5,SNR=22
DZM LR LR 20 21 60.0
comp=Z,172nm,19.7s,baz=285,slow=37
DZM Mont Dzumac 48.25 111 *e*P **P** **20 01 07.8 +0.5**
comp=Z,80nm,1.0s
DZM Mont Dzumac 48.25 111 *e*LR LR 20 14 59.7
comp=Z,481nm,24.8s
DZM Mont Dzumac 48.25 111 *e*P **P** **20 01 07.3 +0.1**
GUN Gumba 48.44 321 *e*P **P** **20 01 07.8 -1.1**
comp=Z,164nm,0.7s
DL2 Dalian 48.46 4 P **P** **20 01 06.9 -1.5**
DL2 *e*S **S** **20 08 03.8 -0.3**
DL2 pmax pmax
comp=Z,45nm,0.8s
DL2 LR LR
comp=Z,520nm,15.3s
DL2 LR LR
comp=Z,560nm,14.8s
DL2 LR LR
comp=Z,690nm,17.5s
PKI Pulchoki 48.49 321 *e*P **P** **20 01 07.5 -1.8**
comp=Z,72nm,0.8s
PKIN Phulchoki 48.50 321 *e*P **P** **20 01 07.4 -1.9**
comp=Z,52nm,0.6s
DMN Daman 48.71 320 *e*P **P** **20 01 09.2 -1.7**
comp=Z,114nm,0.8s
KKN Kakani 48.73 321 *e*P **P** **20 01 09.2 -1.7**
comp=Z,65nm,0.7s
GKN Gorkha 49.28 320 *e*P **P** **20 01 13.5 -1.6**
comp=Z,63nm,0.5s
BJT Baijiatuau 49.46 358 *e*P **P** **20 01 15.6 -0.4**
BJT pmax pmax
comp=Z,27nm,0.7s
BJT Baijiatuau 49.46 358 *e*P **P** **20 01 15.6 -0.4**
comp=Z,27nm,0.7s
BJI Beijing 49.48 358 P **P** **20 01 16.1 -0.1**
BJI pP **pP** **20 01 30.3 -3.8**
BJI S **S** **20 08 23.6 +5.2**
BJI pmax pmax
comp=Z,32nm,0.6s
BJI pmax pmax
comp=Z,180nm,3.7s
BJI LR LR
comp=Z,410nm,13.5s
BJI LR LR
comp=Z,520nm,16.8s
BJI LR LR
comp=Z,340nm,17.7s
KOLN Koldanda 49.78 319 *e*P **P** **20 01 17.2 -1.7**
comp=Z,130nm,0.7s
MAJO Matsushiro 49.84 22⇑ *i*P **P** **20 01 17.8 -1.3**
MAJO pmax pmax
comp=Z,232nm,0.8s
MAJO Matsushiro 49.84 22 *e*P **P** **20 01 17.7 -1.3**
comp=Z,34nm,0.8s
MAT Matsushiro 49.84 22 P **P** **20 01 16.7 -2.3**
MJAR Matsushiro Arr 49.84 22 P **P** **20 01 17.3 -1.8**
comp=Z,21nm,0.8s,baz=194,slow=7.8,SNR=41
MJAR LR LR 20 21 03.3
comp=Z,84nm,21.0s,baz=150,slow=34
MJB9 Matsu-Tunnel 49.84 22 *e*P **P** **20 01 17.8 -1.3**
comp=Z,8.7nm,0.8s
PYUN Piuthan 50.40 319 *e*P **P** **20 01 21.9 -1.7**
comp=Z,93nm,0.6s
HHC Hu-ho-hao-te 50.59 354 *e*P **P** **20 01 25.6 +0.9**
HHC pP pP 20 01 38.6 -4.1
HHC sP sP 20 01 43.0 -7.8
HHC S **S** **20 08 36.8 +2.7**
HHC SS **SS** **20 12 06.0 -3.4**
HHC pmax pmax
comp=Z,31nm,0.8s
HHC pmax pmax
comp=Z,90nm,5.8s
HHC LR LR
comp=Z,240nm,14.8s
HHC LR LR
comp=Z,350nm,16.9s
HHC LR LR
comp=Z,410nm,17.3s
GTA Gaotai 51.59 342 *e*P **P** **20 01 32.4 +0.1**
GTA pP pP 20 01 45.0 -5.4
GTA sP sP 20 01 49.6 -8.8
GTA S **S** **20 08 50.4 +2.3**
GTA sS sS 20 09 12.1 -6.6
GTA ScS **ScS** **20 11 15.5 -0.7**
GTA SS **SS** **20 12 26.1 +0.7**
GTA pmax pmax
comp=Z,16nm,1.2s
GTA pmax pmax
comp=Z,160nm,6.9s
GTA LR LR
comp=Z,230nm,18.5s
GTA LR LR
comp=Z,230nm,18.3s
GTA LR LR
comp=Z,450nm,18.1s
MSHR Mys Shultsa 53.43 12*de*P **P** **20 01 46.2 +0.6**
MDJ Mudanjiang 55.09 10 P **P** **20 01 57.0 -0.7**
MDJ pP pP 20 02 08.8 -7.1
MDJ sP sP 20 02 14.5 -9.4
MDJ PcS **PcS** **20 06 59.5 +1.4**
MDJ S **S** **20 09 36.6 +1.6**
MDJ sS pS 20 09 55.4 0.0
MDJ pmax pmax
comp=Z,66nm,0.8s
MDJ pmax pmax
comp=Z,80nm,4.3s
MDJ LR LR
comp=Z,74nm,18.6s
MDJ LR LR
comp=Z,95nm,24.3s
MDJ LR LR
comp=Z,150nm,22.7s
MDJ Mudanjiang 55.09 10 *e*P **P** **20 01 57.0 -0.7**
comp=Z,57nm,0.8s
USRK Ussuriysk Ar. 55.15 12 P **P** **20 01 57.9 -0.3**
comp=Z,32nm,0.7s,baz=190,slow=6.3,SNR=76
RPZ Rata Peaks 57.18 136 *e*P **P** **20 02 15.3 +2.5**
comp=Z,37nm,0.9s
ULN Ulaanbaatar 58.06 352⇓ *e*P **P** **20 02 18.7 -0.2**
ULN pmax pmax
comp=Z,16nm,0.7s
ULN Ulaanbaatar 58.06 352 *e*P **P** **20 02 18.1 -0.8**
comp=Z,17nm,0.8s
SONM Songino Array 58.13 351 P **P** **20 02 18.9 -0.5**
comp=Z,26nm,0.7s,baz=169,slow=8.8,SNR=175
SONM LR LR 20 31 14.5
comp=Z,182nm,18.1s,baz=182,slow=40
SONM Songino Array 58.13 351 P **P** **20 02 18.9 -0.5**
SONM pmax pmax
comp=Z,26nm,0.7s
SONM MLR MLR
comp=Z,182nm,18.1s
SONA1 Songino Array 58.14 351 *e*P **P** **20 02 18.7 -0.7**
WMQ Urumqi 59.83 335 P **P** **20 02 31.3 +0.2**
WMQ pP pP 20 02 48.1 -1.5
WMQ sP sP 20 02 54.0 -3.5
WMQ PcP **PcP** **20 03 19.0 +1.9**
WMQ S **S** **20 10 39.4 +2.0**
WMQ SS **SS** **20 14 35.9 +1.0**
WMQ pmax pmax
comp=Z,13nm,0.9s
WMQ pmax pmax
comp=Z,180nm,3.6s
WMQ LR LR
comp=Z,370nm,19.7s
WMQ LR LR
comp=Z,220nm,11.5s
WMQ LR LR
comp=Z,310nm,24.7s
BKZ Black Stump Fm 59.83 130 *e*P **P** **20 02 33.3 +2.0**
comp=Z,25nm,1.0s
HABR Khabarovsk 59.88 13 *e*P **P** **20 02 28.4 -2.9**
HABR *e**PP pP 20 02 40.4 -9.3
HABR *e**SP sP 20 02 45.3 -12
HABR *e* 20 03 15.0
HABR *e* 20 04 40.8
HABR *e*S **S** **20 10 36.8 -0.8**
HABR *e**SS **pS** **20 10 57.1 -1.7**
HABR *e* 20 12 15.4
HABR *e*SS **SS** **20 14 34.5 -0.8**

HABR pmax pmax
comp=N,4.0nm,1.4s
HABR pmax pmax
comp=Z,63nm,1.4s
HABR pmax pmax
comp=E,35nm,1.4s
HABR MLR MLR
comp=Z,73nm,18.0s
KLR Kul'dur 59.93 11⇑ *i*P **P** **20 02 30.4 -1.2**
YSS Yuzh-Sakhalins 60.63 19 *e*P P 20 02 29.5 -6.9
YSS pmax pmax
comp=Z,20nm,1.4s
ZAK Zakamensk 61.12 349 *e*P **P** **20 02 39.3 -0.5**
ZAK pmax pmax
comp=Z,8.0nm,1.4s
TLY Talaya 62.30 350 *e*P **P** **20 02 48.0 +0.3**
TLY *e*S S 20 11 23.6 +15
TLY pmax pmax
comp=Z,17nm,1.5s
TLY MLR MLR
comp=Z,103nm,19.0s
TLY Talaya 62.30 350 *e*P **P** **20 02 48.2 +0.6**
KSH Kashi 62.41 324 P **P** **20 02 48.0 -0.8**
KSH pP pP 20 03 00.9 -6.5
KSH PP **PP** **20 05 07.4 +0.4**
KSH ScP **ScP** **20 07 23.1 -0.5**
KSH S **S** **20 11 06.1 -4.4**
KSH SS **SS** **20 15 13.3 -2.4**
KSH pmax pmax
comp=Z,14nm,0.8s
KSH pmax pmax
comp=Z,59nm,4.0s
KSH LR LR
comp=Z,95nm,4.3s
KSH LR LR
comp=Z,130nm,7.8s
KSH LR LR
comp=Z,200nm,23.5s
MOY Mondy 62.78 348 *e*P **P** **20 02 51.4 +0.4**
MOY pmax pmax
comp=Z,25nm,1.6s
KBL Kabul 63.70 316 *e*P **P** **20 02 55.8 -1.8**
KBL pmax pmax
comp=Z,29nm,0.7s
KBL Kabul 63.70 316 *e*P **P** **20 02 55.8 -1.8**
comp=Z,29nm,0.7s
MK01 Makanchi Array 64.47 334 *e*P **P** **20 03 00.9 -1.2**
MK31 Makanchi Array 64.50 334 *e*P **P** **20 03 01.4 -0.9**
MK31 Makanchi Array 64.50 334 *e*P **P** **20 03 01.4 -0.9**
MKAR Makanchi Array 64.50 334 P **P** **20 03 01.1 -1.2**
comp=Z,12nm,0.6s,baz=153,slow=6.9,SNR=96
MKAR LR LR 20 32 55.4
comp=Z,270nm,20.1s,baz=144,slow=38
MKAR Makanchi Array 64.50 334 *e*P **P** **20 03 01.4 -0.9**
MKAR pmax pmax
comp=Z,85nm,0.6s
MKAR Makanchi Array 64.50 334 *e*P **P** **20 03 01.4 -0.9**
comp=Z,85nm,0.6s
MAKZ Makanchi 64.64 334 *e*P **P** **20 03 02.5 -0.7**
MAKZ pmax pmax
comp=Z,15nm,1.3s
MAKZ Makanchi 64.64 334 *e*P **P** **20 03 02.5 -0.7**
comp=Z,15nm,1.3s
DGZ Jazzator, Alta 64.80 339 *e*P **P** **20 03 03.9 -0.5**
DGZ pmax pmax
comp=Z,21nm,0.8s
AAK Ala-Archa 65.33 326 *e*P **P** **20 03 08.0 0.0**
AAK pmax pmax
comp=Z,18nm,0.8s
AAK Ala-Archa 65.33 326 *e*P **P** **20 03 08.0 0.0**
comp=Z,18nm,0.8s
CLNS Chul'man 66.53 4 *e*P **P** **20 03 15.5 +0.3**
CLNS pmax pmax
comp=Z,16nm,0.9s
CLNS pmax pmax
comp=N,6.0nm,0.8s
BOD Bodaibo 67.32 358 *e*P **P** **20 03 19.3 -0.8**
BOD pmax pmax
comp=Z,20nm,1.1s
KKAR Karatay Array 67.87 325 *e*P **P** **20 03 22.6 -1.3**
KKAR Karatay Array 67.87 325 *e*P **P** **20 03 22.6 -1.3**
MAW Mawson 68.19 200 P **P** **20 03 29.9 +4.5**
comp=Z,2.9nm,0.8s,baz=66,slow=10.0,SNR=4.6
MAW LR LR 20 27 17.9
comp=Z,127nm,21.3s,baz=60,slow=31
KURK Kurchatov 69.06 335*c i*P **P** **20 03 30.7 -0.4**
KURK pmax pmax
comp=Z,235nm,1.7s
KURK Kurchatov 69.06 335 *e*P **P** **20 03 30.1 -1.0**
comp=Z,33nm,0.8s
UOSS Minazif 69.11 301 *e*P **P** **20 03 32.2 +0.1**
HATD Hatta, Dubai 69.12 301 P **P** **20 03 32.1 -0.1**
ASHO Ashiyiah 69.13 301 *i* P **P** **20 03 31.9 -0.3**
SNR=6.6
ZALV Zalesovo Beam 69.23 340 P **P** **20 03 30.4 -1.7**
comp=Z,18nm,0.6s,baz=144,slow=4.0,SNR=69
ZALV LR LR 20 36 12.2
comp=Z,143nm,20.2s,baz=250,slow=38
FAQ Al Faqa, Dubai 69.55 301 *i* P **P** **20 03 34.1 -0.6**
SNR=17
NVS Novosibirsk 70.50 340⇓ *i*P **P** **20 03 39.2 -0.7**
NVS *e* 20 03 57.7
NVS pmax pmax
comp=Z,19nm,1.2s
NVS pmax pmax
comp=N,6.0nm,0.7s
NVS pmax pmax
comp=E,3.0nm,0.4s
PEA0 Petropavlovsk- 71.19 24 *e*P **P** **20 03 45.3 +1.1**
PETK Petropavlovsk- 71.19 24 P **P** **20 03 43.9 -0.3**
comp=E,7.9nm,0.8s,baz=246,slow=2.9,SNR=6.2
PETK LR LR 20 35 52.2
comp=E,34nm,19.6s,baz=213,slow=37
VNDA Vanda 71.52 171 P **P** **20 03 47.3 +1.4**
comp=E,0.8nm,0.4s,baz=318,slow=12,SNR=5.8
VNDA LR LR 20 32 39.6
comp=E,92nm,21.4s,baz=326,slow=34
VNDA Vanda 71.52 171 *e*P **P** **20 03 48.2 +2.3**
VNDA pmax pmax
comp=Z,10.0nm,1.2s
VNDA Vanda 71.52 171 *e*P **P** **20 03 48.2 +2.3**
comp=Z,9.9nm,1.2s
YAK Yakutsk 72.09 6 P **P** **20 03 48.7 -0.6**
comp=Z,16nm,0.6s,baz=238,slow=0.4,SNR=15
YAK Yakutsk 72.09 6 *i* P **P** **20 03 49.2 -0.1**
YAK pmax pmax
comp=Z,34nm,0.8s
YAK Yakutsk 72.09 6 *e*P **P** **20 03 48.9 -0.4**
comp=Z,43nm,0.9s
GEYT Alibeck 73.02 314 P **P** **20 03 55.5 0.0**
comp=Z,3.3nm,0.6s,baz=138,slow=6.9,SNR=7.8
GEYT LR LR 20 40 41.5
comp=Z,84nm,18.4s,baz=65,slow=40
MA2 Magadan 73.92 17 P **P** **20 04 00.5 +0.3**
comp=Z,7.3nm,0.7s,baz=188,slow=7.6,SNR=3.8
BRVK Borovoye 74.38 332*d i*P **P** **20 04 02.9 -0.1**
BRVK pmax pmax
comp=Z,97nm,1.7s
BRVK Borovoye 74.38 332 *e*P **P** **20 04 02.7 -0.3**
comp=Z,27nm,1.1s
SYO Syowa Base 76.78 201⇓ *e*X **P** **20 04 15.4 -1.1**
SYO Syowa Base 76.78 201⇓ *e*pP pP 20 04 30.8 -4.9
SEY Seymchan 77.14 15 P **P** **20 04 17.9 -0.6**
comp=Z,6.5nm,0.9s,baz=225,slow=3.5,SNR=15
ABKAR Akbulak array 77.40 325 *e*P **P** **20 04 19.6 -0.7**
QSPA South Pole Qui 80.33 180 *e*P **P** **20 04 37.0 +0.7**
comp=Z,34nm,0.9s
KMBO Kilima Mbogo 80.43 270 P **P** **20 04 40.0 +2.0**
comp=Z,6.1nm,0.8s,baz=71,slow=9.3,SNR=16
KMBO LR LR 20 36 47.0
comp=Z,142nm,21.5s,baz=94,slow=33
KMBO Kilima Mbogo 80.43 270 *e*P **P** **20 04 40.4 +2.4**
SVE Sverdlovsk 81.08 332⇑ *e*P **P** **20 04 39.5 -0.7**
SVE pmax pmax
comp=Z,19nm,0.9s
TIXI Tiksi 81.48 4 P **P** **20 04 40.4 -1.7**
comp=Z,22nm,0.9s,baz=119,slow=2.3,SNR=6.2
TIXI LR LR 20 47 15.8
comp=Z,65nm,18.2s,baz=62,slow=40
TIXI Tiksi 81.48 4*ce*P **P** **20 04 41.3 -0.7**
TIXI pmax pmax
comp=Z,16nm,0.7s
NRIK Noril'sk 81.58 350 P **P** **20 04 42.3 -0.3**
comp=Z,3.3nm,0.4s,baz=167,slow=6.6,SNR=9.0
ARU Arti 81.84 331*c i*P **P** **20 04 43.0 -1.3**
ARU 20 07 46.6

ARU S **S** **20 14 53.4 +1.5**
ARU SS **SS** **20 20 06.1 -5.7**
ARU pmax pmax
comp=Z,16nm,1.7s
ARU Arti 81.84 331 *e*P **P** **20 04 42.8 -1.5**
MNGR Mingechevir, A 81.98 314 P **P** **20 04 45.7 +0.4**
SEKA Sheki 82.05 314 P **P** **20 04 46.1 +0.3**
GANJ Ganja 82.48 313 P **P** **20 04 48.3 +0.2**
NAX Nakhchivan 82.60 312 P **P** **20 04 48.9 +0.1**
ZKTA Zakatala 82.61 314 P **P** **20 04 49.0 +0.4**
ADK Adak 83.01 35 *e*pP pP 20 05 04.5 -5.3
GNI Garni 83.47 312 P **P** **20 04 54.4 +1.1**
GNI Garni 83.47 312*c i*P **P** **20 04 54.4 +1.1**
GNI pmax pmax
comp=Z,52nm,1.3s
GNI Garni 83.47 312 *e*P **P** **20 04 55.6 +2.3**
TBLG Delisi 83.97 314 P **P** **20 04 56.7 +1.0**
TBLG Delisi 83.97 314 *e*P **P** **20 04 56.6 +1.0**
GUDG Gudauri 84.39 315 P **P** **20 05 00.2 +2.2**
BGD Bogdanovka 84.64 313 P **P** **20 04 59.5 +0.2**
AKH Akhalkalaki 84.76 313 P **P** **20 05 02.2 +2.4**
AKH Akhalkalaki 84.76 313 *e*P **P** **20 05 02.2 +2.4**
BILL Bilibino 84.78 16 *i*P P 20 05 05.3 +6.2
BILL pmax pmax
comp=Z,6.0nm,1.0s
ZEI Tsey 84.89 315 *e*P **P** **20 05 00.0 -0.5**
ZEI pmax pmax
comp=Z,93nm,1.4s
ONI Oni 85.14 314 P **P** **20 05 01.9 +0.2**
ONI Oni 85.14 314 *e*P **P** **20 05 01.8 +0.2**
NCK Nalchik 85.32 315⇓ *e*P **P** **20 05 04.0 +1.6**
NCK pmax pmax
comp=Z,20nm,0.8s
MARD Mardin 85.61 309 *e*P **P** **20 05 05.5 +1.4**
KBSD Kabsdagh 85.70 308 *e*P **P** **20 05 06.3 +1.8**
ARTV Artvin 85.82 313 *e*P **P** **20 05 07.2 +2.0**
NEY Neytrino 85.85 315⇑ *i*P **P** **20 05 08.1 +2.8**
NEY pmax pmax
comp=Z,7.0nm,1.3s
KBZ Khabaz 85.87 315 P **P** **20 05 05.3 +0.3**
comp=Z,15nm,0.8s,baz=116,slow=4.6,SNR=39
KBZ LR LR 20 51 12.6
comp=Z,93nm,18.1s,baz=98,slow=41
SFNV Sufian 85.89 308 *e*P **P** **20 05 07.7 +2.3**
KIV Kislovodsk 86.09 316 P **P** **20 05 06.8 +0.5**
KIV Kislovodsk 86.09 316 *e*P **P** **20 05 07.5 +1.2**
KIV pmax pmax
comp=Z,8.0nm,1.0s
KIV Kislovodsk 86.09 316 *e*pP pP 20 05 18.7 -7.1
GOF Gofitskoye 86.17 317⇑ *e*P **P** **20 05 07.7 +1.1**
GOF pmax pmax
comp=Z,37nm,1.2s
LSZ Lusaka 87.07 255 *e*P **P** **20 05 13.4 +1.6**
LSZ pmax pmax
comp=Z,11nm,0.6s
LSZ Lusaka 87.07 255 *e*P **P** **20 05 13.4 +1.6**
comp=Z,11nm,0.6s
SLMH Al Salmeh 87.54 307 *e*P **P** **20 05 13.4 -0.1**
BOSA Boshof 87.59 242 P **P** **20 05 15.5 +1.4**
comp=Z,5.6nm,0.7s,baz=113,slow=5.0,SNR=11
BOSA LR LR 20 37 36.7
comp=Z,118nm,21.5s,baz=104,slow=31
SALA Sala 87.70 304 *e*P **P** **20 05 15.9 +1.4**
LBTB Lobatse 87.89 245 *e*P **P** **20 05 19.1 +3.5**
LBTB Lobatse 87.89 245 *e*P **P** **20 05 19.1 +3.5**
MARH Ras Al Marh 88.19 305 *e*P **P** **20 05 19.3 +2.3**
BRBR Barbar 88.49 304 *e*P **P** **20 05 20.8 +2.5**
DRWC Darouich 88.63 307 *e*P **P** **20 05 19.3 +0.6**
ARNB Al Arnab 89.01 306 *e*P **P** **20 05 21.2 +0.7**
PPT2 Papeete2 89.65 108 *e*LR LR 20 34 01.0
comp=Z,311nm,31.8s
PPT Papeete 89.66 108 LR LR 20 41 20.5
comp=Z,62nm,21.9s,baz=186,slow=33
SNAA Sanae 90.02 196 P **P** **20 05 26.0 +1.4**
SNAA Sanae 90.02 196 *e*P **P** **20 05 26.6 +2.0**
SNAA Sanae 90.02 196 *e*P **P** **20 05 26.6 +2.0**
VSR Storozhevoye 90.39 322 *e*P **P** **20 05 25.3 -1.2**
VSR pmax pmax
comp=Z,10.0nm,0.5s
BR131 Keskin Array S 91.61 310 *e*P **P** **20 05 32.5 -0.1**
BRTR Keskin Array B 91.61 310 P **P** **20 05 32.1 -0.5**
comp=Z,4.2nm,0.8s,baz=133,slow=5.9,SNR=21
BRTR LR LR 20 49 25.5
comp=Z,49nm,21.7s,baz=98,slow=37
VNA2 Neumayer--Watz 91.66 196 P **P** **20 05 34.0 +1.9**
baz=110,slow=3.9
VNA3 Neumayer Olymp 92.05 195 P **P** **20 05 35.5 +1.5**
SIM Simferopol' 92.28 315 P **P** **20 05 36.0 +0.6**
SIM pmax pmax
comp=Z,11nm,0.8s
BR231 Keskin MP Arra 92.28 310 *e*P **P** **20 05 33.2 -2.5**
KLMR Klimovskoe 92.69 331 *e*P **P** **20 05 35.0 -1.9**
KLMR pmax pmax
comp=Z,10.0nm,0.9s
OBN Obninsk 92.85 325 *e*P **P** **20 05 36.6 -1.1**
OBN pmax pmax
comp=Z,10.0nm,0.9s
AKASG Malin Array Be 96.46 320 P **P** **20 05 52.5 -1.9**
comp=Z,2.2nm,0.7s,baz=84,slow=4.4,SNR=9.4
AKASG Malin Array Be 96.46 320 *i*P **P** **20 05 52.9 -1.5**
AKASG pmax pmax
comp=Z,1.0nm,0.4s
BUR08 Bucovina Ar. S 98.77 317 *e*P Pdif 20 06 05.2 +0.1
FINES FINESS Array B 99.21 331 P **Pdif** **20 06 05.4 -1.1**
comp=Z,8.1nm,0.8s,baz=101,slow=6.0,SNR=15
FINES LR LR 20 56 46.3
comp=Z,112nm,18.2s,baz=74,slow=39
FINES FINESS Array B 99.21 331 *i*P **Pdif** **20 06 05.9 -0.6**
FINES pmax pmax
comp=Z,8.0nm,0.8s
ARCES ARCESS Array B 99.77 339 P **Pdif** **20 06 08.4 -0.5**
comp=Z,3.3nm,0.9s,baz=85,slow=4.9,SNR=5.4
ARCES LR LR 20 56 58.7
comp=Z,185nm,18.8s,baz=104,slow=39
ILAR Eielson Array 100.98 26 P **Pdif** **20 06 14.4 0.0**
comp=Z,0.2nm,0.6s,baz=272,slow=4,SNR=2.6
STHS Stebnicka Huta 101.49 319 *e*P **Pdif** **20 06 17.8 +0.8**
STHS Stebnicka Huta 101.49 319 *e*PDIFF **Pdif** **20 06 17.8 +0.8**
GERES GERESS Array B 106.46 318 PKiKP **PKiKP** **20 10 51.6 +1.7**
comp=Z,0.6nm,0.7s,baz=90,slow=0.1,SNR=5.8
YKA Yellowknife Ar 115.31 24 PKP **PKPdf** **20 11 06.5 +0.4**
comp=Z,1.6nm,0.4s,baz=303,slow=2.0,SNR=8.6
TORD Torodi Ar. Bea 117.35 280 PKP **PKPdf** **20 11 11.9 +0.5**
comp=Z,2.8nm,0.7s,baz=52,slow=1.7,SNR=17
ESDC Sonseca Array 120.40 310 PKP **PKPdf** **20 11 17.5 +0.8**
comp=Z,0.7nm,0.7s,baz=30,slow=2.6,SNR=5.7
BMO Blue Mountains 121.28 43 *e*PKPdf **PKPdf** **20 11 19.8 +1.5**
MFID Camas Ranch 122.75 44 *e*PKPdf **PKPdf** **20 11 22.2 +1.0**
DBIC Dimbokro 123.15 272 PKP **PKPdf** **20 11 23.4 +0.8**
comp=Z,5.8nm,0.9s,baz=75,slow=3.5,SNR=6.3
EDW2 Edwards Air Fo 123.47 55 P **PKPdf** **20 11 24.8 +2.0**
baz=282
GRAC Grapevine Rang 123.48 52 P **PKPdf** **20 11 23.8 +1.1**
baz=284
LRMC Laurel Mtn Rad 123.58 54 P **PKPdf** **20 11 25.0 +2.0**
baz=283
MPMC Manual Prospec 123.61 53 P **PKPdf** **20 11 25.5 +2.3**
baz=284
HLID Hailey 123.67 44 P **PKPdf** **20 11 25.2 +2.2**
baz=291
HLID Hailey 123.67 44 *e*PKPdf **PKPdf** **20 11 25.2 +2.2**
R11A Troy Canyon, C 124.48 50 *e*PKPdf **PKPdf** **20 11 27.3 +2.5**
EGMT Eagleton 124.82 37 *e*PKPdf **PKPdf** **20 11 23.6 -1.4**
DUG Dugway, Tooele 125.96 47 P **PKPdf** **20 11 29.9 +2.4**
baz=290
ULM Lac du Bonnet 130.93 28 PKP **PKPdf** **20 11 38.2 +1.8**
comp=Z,3.6nm,0.8s,baz=328,slow=4.0,SNR=3.2
ULM SKPbc **SKPab** **20 14 55.6 +0.8**
comp=Z,13nm,0.8s,baz=281,slow=2.4,SNR=7.7
ANMO Albuquerque 132.52 51 PKP **PKPdf** **20 11 42.3 +2.1**
comp=Z,1.0nm,0.6s,baz=281,slow=3.9,SNR=3.0
ANMO SKPbc **SKPab** **20 15 04.0 +1.5**
comp=Z,2.4nm,0.8s,baz=299,slow=4.2,SNR=6.1
TXAR Lajitas Array 136.64 57 PKhKP PKPpre 20 11 38.4
comp=Z,0.4nm,0.6s,baz=263,slow=3.3,SNR=4.9
TXAR SKPbc **SKPbc** **20 15 15.9 +1.4**
comp=Z,0.6nm,0.7s,baz=302,slow=1.7,SNR=4.0
JCT Junction City 139.39 54 *e*PKHKP PKPpre 20 11 46.6
JCT Junction City 139.39 54 *e*PKPpre PKPpre 20 11 46.6
R41A Rosebud 141.33 38 P PKPpre 20 11 50.7
baz=310
S41A Jillco Farms, 141.56 39 P PKPpre 20 11 53.5
baz=309
X39A Fountain Ranch 141.79 45 P PKPpre 20 11 52.8
baz=303

T41A Mountain View 141.88 40 P PKPpre 20 11 52.5
baz=308
MIAR Mount Ida 142.14 44 *e*PKIKP **PKPdf** **20 11 56.1 -1.6**
MIAR Mount Ida 142.14 44 *e*PKPdf **PKPdf** **20 11 56.0 -1.6**
U41A Viola 142.21 41 P **PKPdf** **20 11 53.8 -3.9**
baz=307
V41A Mountainview 142.39 42 P **PKPdf** **20 11 54.6 -3.5**
baz=306
U42A Revenden 142.64 40 P **PKPdf** **20 11 55.5 -3.0**
baz=308
T43A Greenville 142.77 38 P **PKPdf** **20 11 56.1 -2.6**
baz=310
CPUP Villa Florida 143.89 188 PKP **PKPdf** **20 12 00.9 -0.1**
comp=Z,2.6nm,0.6s,baz=182,slow=4.0,SNR=6.2
M54A Oil Creek Stat 144.77 23 P PKPbc 20 12 01.1 -0.1
baz=329
OXF Oxford 144.95 41 *e*PKIKP PKPbc 20 12 01.8 -0.1
OXF Oxford 144.95 41 *e*PKPdf PKPbc 20 12 01.8 -0.1
Z44A Pea Ridge, Bel 145.01 44 P **PKPdf** **20 12 04.2 +1.5**
baz=306
X45A UM Field Stati 145.01 41 P **PKPab** **20 12 01.7 -0.4**
baz=308
N54A Moraine State 145.11 24 P **PKPdf** **20 12 02.6 -0.1**
baz=328
Y45A Yeager Farm, C 145.26 42 P **PKPdf** **20 12 04.3 +1.2**
baz=308
BINY Binghamton 145.43 18 *e*PKPdf **PKPab** **20 12 03.4 -0.1**
Y46A Houston 145.70 41 P **PKPab** **20 12 04.8 +0.1**
baz=309
245A Little AP, Sta 146.10 45 P **PKPab** **20 12 06.7 +0.4**
baz=305
SSPA Standing Stone 146.19 22 *e*PKPdf **PKPdf** **20 12 04.4 -0.1**
O56A Blue Knob Stat 146.26 23 P **PKPab** **20 12 06.3 -0.4**
baz=330
HRV Adam Dziewonsk 146.29 12 *e*PKP2 **PKPab** **20 12 06.2 -0.5**
HRV Adam Dziewonsk 146.29 12 *e*PKPdf **PKPab** **20 12 06.2 -0.5**
Y47A UCPARC, Winfie 146.34 40 P **PKPbc** **20 12 06.1 -0.2**
baz=310
N59A State Game Lan 146.66 19 P **PKPab** **20 12 07.6 -0.7**
baz=335
Z48A Northport 146.86 41 P **PKPbc** **20 12 07.5 -0.2**
baz=310
LVC Limon Verde 147.26 169 *e*PKPbc **PKPab** **20 12 12.8 +1.3**
LRAL Lakeview Retre 147.44 41 *e*PKPdf **PKPbc** **20 12 08.3 -1.1**
TKL Tuckaleechee C 147.55 34 PKPbc **PKPbc** **20 12 09.3 -0.4**
comp=Z,14nm,0.7s,baz=151,slow=1.7,SNR=12
KMSC Kings Mountain 149.24 32 P **PKPbc** **20 12 14.2 +0.2**
baz=321
KMSC Kings Mountain 149.24 32 *e*PKPbc **PKPbc** **20 12 13.7 -0.3**
GOGA Godfrey 149.35 36 *e*PKP2 **PKPbc** **20 12 14.8 +0.4**
GOGA Godfrey 149.35 36 *e*PKPbc **PKPbc** **20 12 14.8 +0.4**
TIGA Tifton 150.65 39 P **PKPbc** **20 12 19.1 +1.5**
baz=313
TIGA Tifton 150.65 39 *e*PKPbc **PKPbc** **20 12 18.9 +1.3**
LPAZ La Paz 153.56 167 PKP **PKPdf** **20 12 19.6 +2.0**
comp=Z,1.2nm,0.7s,baz=300,slow=2.2,SNR=5.5
LPAZ PKPbc **PKiKP** **20 12 27.4 +2.0**
comp=Z,1.6nm,0.6s,baz=161,slow=4.5,SNR=5.0

NIED ***21*** *19:59:00,27˚10N×143˚50E,h8km,Mw4.6 Best double couple: M₀8.71000×10¹⁵ NP1:φs346.00000°,δ31.00000°, λ-71.00000°. NP2:φs144.00000°,δ61.00000°, λ-101.00000°.*
BJI ***21*** *19:59:18.9,26˚72N×143˚88E,h10km,mb4.7/24,mB4.9/14, Ms4.5/7,Ms7 4.3/8*
IDC ***21*** *19:59:22.5±0.5,26˚99N×143˚53E,h0km,mb4.6/28, mb1 4.7/32,mb1mx4.6/55,mbtmp4.6/32,ML4.1/4,MS3.6/7, Ms1 3.6/7,ms1mx3.2/45,Error ellipse: s-maj=15.9km s-min=12.8km az=86.0*
ISCJB ***21*** *19:59:23.1±0.2,27˚05N±0˚05×143˚46E±0˚04,h10km, mb4.8/72,MS3.8/11,Error ellipse: s-maj=7.3km s-min=4.6km az=2.3*
NEIC ***21*** *19:59:24.1±0.2,27˚00N×143˚50E,h10km,mb4.9/13,Error ellipse: s-maj=5.7km s-min=5.5km az=46.0*
MOS ***21*** *19:59:26.0±1.0,27˚24N×143˚49E,h24km,mb5.0/53,Error ellipse: s-maj=11.6km s-min=5.3km az=115.7*

ISC 21 19:59:25.4±0.8,27.05N±0˚06×143.51E±0˚07,h16km±4km, n216,σ1$20/232,mb4.8/72,MS3.9/11,1C-12D,Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**1.18**	**272**	*e*Pn	**Pn**	**Pn**	**19 59 46.0**	**-1.3**
JHJ	**Hachijo jima 2**	**6.85**	**333**	Pn	**Pn**	**Pn**	**20 01 04.8**	**-0.5**
	13nm,0.3s,baz=104,slow=24,SNR=7.3							
JHJ				Sn		**Sn**	**20 02 17.2**	**-5.6**
	16nm,0.3s,baz=90,slow=20,SNR=2.4							
MJAR	**Matsushiro Arr**	**10.48**	**336**	Pn	**Pn**	**Pn**	**20 01 53.6**	**-1.3**
	3.9nm,0.3s,baz=157,slow=11,SNR=16							
MAJO	**Matsushiro**	**10.48**	**336**	*e*P	**Pn**	**Pn**	**20 01 54.2**	**-0.8**
MAJO				pmax	pmax			
	comp=Z,41nm,0.8s							
MAJO	**Matsushiro**	**10.48**	**336**	*e*P	**Pn**	**Pn**	**20 01 54.2**	**-0.8**
	comp=Z,41nm,0.8s							
KSRS	**Korea Array**	**16.75**	**312**	Pn	**P**	**P**	**20 03 20.6**	**-0.9**
	comp=Z,0.8nm,0.3s,baz=124,slow=12,SNR=14							
KSRS				LR	LR		20 10 00.3	
	comp=Z,298nm,18.9s,baz=124,slow=38							
KSAR	**Wonju Array Be**	**16.77**	**312**	P	**Pn**	**Pn**	**20 03 20.6**	**+1.0**
KSAR	**Wonju Array Be**	**16.77**	**312**	Pn	**Pn**	**Pn**	**20 03 20.6**	**+1.0**
USRK	**Ussuriysk Ar.**	**19.47**	**334**	P	**P**	**P**	**20 03 51.3**	**-0.1**
	comp=Z,1.1nm,0.3s,baz=141,slow=9.5,SNR=12							
USRK				LR	LR		20 10 48.6	
	comp=Z,103nm,21.2s,baz=127,slow=35							
YSS	**Yuzh-Sakhalins**	**19.87**	**358**	*e*P	**P**	**P**	**20 03 53.7**	**-2.1**
YSS				pmax	pmax			
	comp=Z,30nm,1.0s							
YULB	**Yu-li**	**20.42**	**265**	*e*P	**P**	**P**	**20 04 02.8**	**+0.8**
	comp=Z,23nm,0.8s							
SSLB	**Suanglung**	**20.63**	**266**	*e*P	**P**	**P**	**20 04 04.7**	**+0.4**
	comp=Z,25nm,0.7s							
MDJ	**Mudanjiang**	**20.79**	**331**	*e*P	**P**	**P**	**20 04 05.3**	**-0.6**
HABR	**Khabarovsk**	**22.38**	**345**	*e*P	**P**	**P**	**20 04 21.3**	**-1.5**
HABR				*e**PP	**pP**	**pP**	**20 04 26.9**	**-0.5**
HABR				*e**SP	**sP**	**sP**	**20 04 29.6**	**+0.1**
HABR				*e*PPP	PPP	PPP	20 04 52.1	
HABR				*e*			20 08 16.0	
HABR				*e*S	**S**	**S**	**20 08 27.0**	**-1.0**
HABR				*e**SS	**sS**	**sS**	**20 08 36.6**	**+0.9**
HABR				*e*SS	**SnSn**	**SnSn**	**20 08 56.7**	**+0.4**
HABR				*e*SSS	SSS	SSS	20 09 09.7	
HABR				*e*			20 15 37.5	
HABR				pmax	pmax			
	comp=E,11nm,1.3s							
HABR				pmax	pmax			
	comp=N,15nm,1.3s							
HABR				pmax	pmax			
	comp=Z,58nm,1.3s							
HABR				MLR	MLR			
	comp=Z,88nm,17.0s							
KLR	**Kul'dur**	**23.94**	**341**	*d*iP	**P**	**P**	**20 04 39.4**	**+0.7**
TIA	**Tai'an**	**24.19**	**299**	*e*P	**P**	**P**	**20 04 38.8**	**-2.4**
TIA				pmax	pmax			
	comp=Z,10.0nm,0.8s							
WHN	**Wuhan**	**25.76**	**285**	P	**P**	**P**	**20 04 58.0**	**+2.6**
WHN				S	**S**	**S**	**20 09 15.9**	**-8.0**
WHN				LR	LR			
	comp=Z,1μm,25.1s							
PETK	**Petropavlovsk-**	**28.09**	**18**	LR	LR	LR	20 19 31.2	
	comp=Z,48nm,18.8s,baz=191,slow=43							
HIA	**Hailar**	**28.78**	**327**	P	**P**	**P**	**20 05 22.4**	**0.0**
HIA				pmax	pmax			
	comp=Z,27nm,0.9s							
HIA	**Hailar**	**28.78**	**327**	P	**P**	**P**	**20 05 22.4**	**0.0**
	comp=Z,27nm,0.9s							
ENH	**Enshi**	**29.96**	**284**	*e*P	**P**	**P**	**20 05 31.4**	**-1.8**
	comp=Z,11nm,0.8s							
ULN	**Ulaanbaatar**	**35.17**	**316**	*e*P	**P**	**P**	**20 06 18.1**	**-0.5**
ULN	**Ulaanbaatar**	**35.17**	**316**	*e*P	**P**	**P**	**20 06 18.1**	**-0.5**
SONM	**Songino Array**	**35.57**	**316**	P	**P**	**P**	**20 06 22.4**	**+0.3**
	comp=Z,4.6nm,0.8s,baz=114,slow=7.2,SNR=9.2							
SONM				PcP	**PcP**	**PcP**	**20 08 50.9**	**+0.1**
	comp=Z,2.6nm,1.0s,baz=149,slow=2.3,SNR=4.5							
YAK	**Yakutsk**	**36.17**	**349**	P	**P**	**P**	**20 06 27.0**	**+0.1**
	comp=Z,33nm,0.8s,baz=175,slow=2.0,SNR=11							
YAK	**Yakutsk**	**36.17**	**349**	*i*P	**P**	**P**	**20 06 26.9**	**+0.1**
YAK				pmax	pmax			
	comp=Z,42nm,0.8s							
YAK	**Yakutsk**	**36.17**	**349**	*e*P	**P**	**P**	**20 06 26.9**	**+0.1**
	comp=Z,38nm,0.8s							
SEY	**Seymchan**	**36.35**	**7**	P	**P**	**P**	**20 06 29.1**	**+0.7**
	comp=Z,10.0nm,0.9s,baz=182,slow=9.2,SNR=6.2							

KMI Kunming 36.56 276 P **P** **20 06 33.3 +2.4**
KMI pmax pmax
comp=Z,11nm,1.5s
BOD Bodaibo 37.10 334 *e*P **P** **20 06 34.8 0.0**
BOD pmax pmax
comp=Z,8.0nm,1.5s
GTA Gaotai 38.23 300 *e*P P 20 06 39.1 -5.7
GTA pP pP 20 06 43.9 -5.9
GTA sP sP 20 06 46.8 -5.0
GTA pmax pmax
comp=Z,3.0nm,1.0s
ZAK Zakamensk 38.42 318 *e*P **P** **20 06 47.0 +0.7**
ZAK pmax pmax
comp=Z,16nm,1.2s
TLY Talaya 38.72 320 *e*P **P** **20 06 49.7 +1.0**
TLY *e*S **S** **20 12 47.4 +2.4**
TLY pmax pmax
comp=Z,24nm,1.3s
TLY MLR MLR
comp=Z,135nm,16.0s
TLY Talaya 38.72 320 *e*P **P** **20 06 49.6 +1.0**
comp=Z,23nm,1.2s
MOY Mondy 40.24 319 *e*P **P** **20 07 02.5 +1.1**
CHTO Chiang Mai 41.68 268 *e*P **P** **20 07 12.7 -0.9**
CHTO pmax pmax
comp=Z,12nm,0.9s
CHTO Chiang Mai 41.68 268 *e*P **P** **20 07 12.7 -0.9**
comp=Z,12nm,0.9s
CMAR Chiang Mai Arr 41.80 268 P **P** **20 07 14.4 -0.2**
comp=Z,3.9nm,0.9s,baz=59,slow=7.9,SNR=13
CMAR PcP **PcP** **20 09 11.3 +0.7**
comp=Z,0.5nm,0.7s,baz=48,slow=1.3,SNR=4.3
CMAR LR LR 20 23 21.8
comp=Z,66nm,21.5s,baz=165,slow=34
BILL Bilibino 43.24 12 *i*P **P** **20 07 25.9 +0.3**
BILL *i* 20 09 07.9
BILL pmax pmax
comp=Z,12nm,0.9s
TIXI Tiksi 45.38 354⇓ *e*P **P** **20 07 41.7 -0.9**
TIXI pmax pmax
comp=Z,25nm,1.3s
LSA Lhasa 45.82 286 *e*P **P** **20 07 48.0 +0.7**
LSA Lhasa 45.82 286 *e*P **P** **20 07 48.0 +0.7**
WRAB Tennant Creek 47.55 192*de*P **P** **20 07 59.1 -1.1**
WRAB pmax pmax
comp=Z,57nm,0.8s
WRAB Tennant Creek 47.55 192 *e*P **P** **20 07 59.3 -0.9**
WRA Warramunga Arr 47.56 192 P **P** **20 07 59.0 -1.3**
comp=Z,17nm,0.9s,baz=12,slow=8.5,SNR=12
WRA Warramunga Arr 47.56 192 *i*P **P** **20 08 02.4 +2.1**
WRA pmax pmax
comp=Z,17nm,0.9s
FITZ Fitzroy Crossi 48.12 203 P **P** **20 08 04.3 -0.4**
comp=Z,13nm,0.9s,baz=2.6,slow=8.6,SNR=6.0
DGZ Jazzator, Alta 48.15 314 *e*P **P** **20 08 05.8 +0.9**
DGZ pmax pmax
comp=Z,10.0nm,1.0s
TAPN Taplejung 49.26 284 *e*P **P** **20 08 14.5 +0.6**
comp=Z,8.6nm,0.6s
ODAN Odare 49.65 283 *e*P **P** **20 08 16.3 -0.5**
comp=Z,52nm,1.2s
ZALV Zalesovo Beam 50.30 319 P **P** **20 08 21.1 +0.2**
comp=Z,8.1nm,0.9s,baz=102,slow=6.4,SNR=13
ZALV PcP **PcP** **20 09 39.3 -0.3**
comp=Z,3.1nm,0.7s,baz=102,slow=3.5,SNR=4.5
RAMN Ramite 50.32 284 *e*P **P** **20 08 21.1 -0.8**
comp=Z,32nm,0.9s
JIRN Jiri 50.50 285 *e*P **P** **20 08 23.5 +0.1**
comp=Z,102nm,1.1s
GUN Gumba 50.71 285 *e*P **P** **20 08 25.0 0.0**
comp=Z,104nm,1.1s
PKI Pulchoki 51.20 285 *e*P **P** **20 08 28.2 -0.4**
PKIN Phulchoki 51.21 285 *e*P **P** **20 08 27.7 -0.9**
comp=Z,10nm,0.8s
PKIN Phulchoki 51.21 285 *e*P **P** **20 08 28.1 -0.5**
KKN Kakani 51.26 285 *e*P **P** **20 08 28.5 -0.4**
ASAR Alice Springs 51.27 191 P **P** **20 08 27.2 -1.5**
comp=Z,1.2nm,0.8s,baz=20,slow=11,SNR=4.7
NVS Novosibirsk 51.33 320 *e*P **P** **20 08 29.4 +0.6**
NVS pmax pmax
comp=Z,16nm,1.4s
NVS pmax pmax
comp=N,3.0nm,0.7s
NVS pmax pmax
comp=E,6.0nm,0.8s
MKAR Makanchi Array 51.41 310 P **P** **20 08 29.8 +0.2**
comp=E,1.3nm,0.3s,baz=87,slow=11,SNR=26
DMN Daman 51.45 285 *e*P **P** **20 08 29.9 -0.5**
comp=E,46nm,1.3s
GKN Gorkha 51.76 285 *e*P **P** **20 08 32.0 -0.6**
comp=E,48nm,1.3s
KOLN Koldanda 52.71 285 *e*P **P** **20 08 39.9 +0.2**
comp=E,14nm,0.7s
NRIK Noril'sk 53.12 338 P **P** **20 08 41.9 0.0**
comp=E,13nm,0.8s,baz=118,slow=8.5,SNR=7.7
NRIK PcP **PcP** **20 09 49.9 0.0**
comp=E,3.3nm,0.6s,baz=112,slow=4.9,SNR=4.4
PYUN Piuthan 53.15 286 *e*P **P** **20 08 42.7 -0.3**
comp=E,40nm,0.8s
PDGK Podgornoye 53.53 305 P **P** **20 08 46.4 +0.9**
PDGK pmax pmax
comp=Z,12nm,0.9s
DZM Mont Dzumac 53.64 153 P **P** **20 08 45.3 -1.0**
comp=Z,7.6nm,0.8s,baz=35,slow=12,SNR=4.4
KDAK Kodiak Island 53.69 37 P **P** **20 08 46.2 0.0**
comp=Z,14nm,0.5s,baz=271,slow=4.8,SNR=29
KURK Kurchatov 53.86 315*d*iP **P** **20 08 47.7 +0.1**
KURK pmax pmax
comp=Z,126nm,1.1s
KURK Kurchatov 53.86 315 *e*P **P** **20 08 47.5 -0.1**
COLD Coldfoot 56.20 25 *e*P **P** **20 09 05.2 +0.9**
comp=Z,14nm,1.0s
KSH Kashi 56.61 301 *e*P **P** **20 09 10.1 +2.3**
KSH pP sP 20 09 16.1 +1.1
KSH PcP **PcP** **20 10 06.1 +2.0**
KSH PP **PP** **20 11 18.1 +4.4**
KSH S **S** **20 16 59.9 +0.5**
KSH sS sS 20 17 19.6 +12
KSH pmax pmax
comp=Z,5.0nm,0.5s
KSH pmax pmax
comp=Z,82nm,5.8s
KSH LR LR
comp=Z,100nm,8.8s
KSH LR LR
comp=Z,150nm,14.9s
TOLK Toolik Lake Re 56.70 24 P **P** **20 09 09.0 +1.2**
baz=259
COLA College 56.78 28 *i*P **P** **20 09 09.3 +0.9**
COLA pmax pmax
comp=Z,6.0nm,1.0s
ILAR Eielson Array 57.18 29 P **P** **20 09 10.7 -0.6**
comp=Z,6.3nm,0.9s,baz=261,slow=6.0,SNR=31
ILAR LR LR 20 33 57.1
comp=Z,58nm,19.0s,baz=266,slow=36
AAK Ala-Archa 57.25 305⇓ *e*P **P** **20 09 13.1 +0.8**
AAK pmax pmax
comp=Z,22nm,2.2s
BRVK Borovoye 58.93 318*d*iP **P** **20 09 24.2 +0.5**
BRVK pmax pmax
comp=Z,46nm,1.2s
BRVK Borovoye 58.93 318 *e*P **P** **20 09 23.6 -0.1**
KKAR Karatay Array 60.07 306 *e*P **P** **20 09 31.6 -0.2**
KKAR Karatay Array 60.07 306 *e*P **P** **20 09 31.6 -0.2**
INK Inuvik 62.58 25 P **P** **20 09 48.7 +0.4**
comp=Z,8.7nm,1.0s,baz=318,slow=4.9,SNR=7.0
INK Inuvik 62.58 25 *e*P **P** **20 09 48.7 +0.4**
comp=Z,16nm,1.3s
SVE Sverdlovsk 63.98 323⇓ *i*P **P** **20 09 58.8 +1.1**
SVE pmax pmax
comp=Z,17nm,1.3s
ARU Arti 65.18 322*d*iP **P** **20 10 05.6 0.0**
ARU **20 10 35.7**
ARU **20 12 26.6**
ARU S **S** **20 18 49.7 +1.9**
ARU SS **SS** **20 23 06.8 +6.9**
ARU pmax pmax
comp=Z,19nm,1.0s
ARU Arti 65.18 322 *e*P **P** **20 10 05.4 -0.2**
comp=Z,23nm,1.2s
ABKAR Akbulak array 65.97 315 *e*P **P** **20 10 10.6 -0.3**
GEYT Alibeck 70.52 303 P **P** **20 10 40.4 +0.7**
comp=Z,3.3nm,0.7s,baz=56,slow=3.9,SNR=7.0
YKA Yellowknife Ar 71.61 29 P **P** **20 10 45.3 -0.4**
comp=Z,4.3nm,0.9s,baz=296,slow=5.6,SNR=5.3
YKA Yellowknife Ar 71.61 29 *i*P **P** **20 10 45.5 -0.2**

YKA pmax pmax
comp=Z,4.0nm,0.9s
TMCR Tamitsa 72.40 334 *e*P **P 20 10 50.6 +0.2**
TMCR pmax pmax
comp=Z,21nm,1.0s
KLMR Klimovskoe 73.21 330 *e*P **P 20 10 54.3 -1.0**
KLMR pmax pmax
comp=Z,14nm,0.8s
ARCES ARCESS Array B 73.97 341 P **P 20 10 60.0 +0.4**
comp=Z,3.2nm,0.8s,baz=90,slow=5.4,SNR=7.1
ARCES ARCESS Array B 73.97 341 P **P 20 11 00.0 +0.4**
ARCES pmax pmax
comp=Z,3.0nm,0.8s
I03D Drain, OR 73.98 49 P **P 20 11 01.3 +1.1**
baz=292
I04A Tendick Farm, 74.57 49 P **P 20 11 04.2 +0.6**
baz=293
MSF Maaselka 74.88 337 P **P 20 11 06.3 +1.3**
MSF pmax pmax
comp=Z,16nm,1.5s
J04D Umpqua Nationa 74.99 49 P **P 20 11 06.8 +0.5**
baz=293
M02C Callahan 75.20 51 P **P 20 11 08.6 +1.1**
baz=293
N02D Trinity Center 75.47 51 P **P 20 11 10.2 +1.2**
baz=293
J05D Fort Rock, OR 75.56 49 P **P 20 11 10.6 +1.1**
baz=294
JOF Joensuu 75.64 334 P **P 20 11 10.1 +0.7**
JOF pmax pmax
comp=Z,20nm,1.1s
M04C Macdoel 75.75 50 P **P 20 11 11.2 +0.5**
baz=294
NEW Newport 76.14 43 P **P 20 11 13.1 +0.5**
comp=Z,5.1nm,0.7s,baz=264,slow=1.6,SNR=6.9
NEW Newport 76.14 43 P **P 20 11 13.4 +0.8**
baz=295
O03D Paynes Creek 76.37 52 P **P 20 11 13.5 -0.6**
baz=294
MOS Moscow 76.41 326 *e*P **P 20 11 14.2 +0.3**
OBN Obninsk 77.23 326 *i*P **P 20 11 17.9 -0.6**
OBN *i* 20 11 29.6
OBN pmax pmax
comp=Z,20nm,1.2s
OBN MLR MLR
comp=Z,115nm,17.0s
VSR Storozhevoye 77.72 321 *e*P **P 20 11 19.4 -1.9**
VSR pmax pmax
comp=Z,20nm,1.1s
FINES FINESS Array B 78.50 334 P **P 20 11 25.5 0.0**
comp=Z,5.1nm,0.8s,baz=58,slow=4.6,SNR=11
NCK Nalchik 78.55 313⇑ *e*P **P 20 11 27.1 +0.9**
NCK pmax pmax
comp=Z,3.0nm,0.4s
ZEI Tsey 78.66 312 *e*P **P 20 11 26.4 -0.6**
ZEI pmax pmax
comp=Z,22nm,1.0s
KBZ Khabaz 78.90 313 P **P 20 11 28.6 +0.6**
comp=Z,9.2nm,0.9s,baz=27,slow=2.3,SNR=18
KIV Kislovodsk 78.93 314 *e*P **P 20 11 29.1 +0.7**
KIV pmax pmax
comp=Z,15nm,1.1s
KIV MLR MLR
comp=Z,104nm,18.0s
KIV Kislovodsk 78.93 314 *e*P **P 20 11 29.5 +1.1**
comp=Z,9.9nm,1.0s
NEY Neytrino 79.23 313⇓ *e*P **P 20 11 32.1 +2.0**
NEY pmax pmax
comp=Z,9.0nm,2.6s
GNI Garni 79.26 310⇓ *e*P **P 20 11 30.6 +0.3**
GNI pmax pmax
comp=Z,20nm,1.3s
VSU Vasula 80.00 332 *d i*P **P 20 11 33.9 +0.2**
VSU pmax pmax
comp=Z,74nm,0.9s
PKM Mcpherson Peak 80.08 56 P **P 20 11 35.2 +0.3**
baz=296
SUMG Summit 80.63 1 *i*P **P 20 11 38.5 +1.1**
comp=Z,17nm,1.1s
SUMG Summit 80.63 1 *i*P **P 20 11 38.5 +1.1**
SUMG pmax pmax
comp=Z,17nm,1.1s
SUMG Summit 80.63 1 *e*P **P 20 11 38.7 +1.3**
comp=Z,4.7nm,0.7s
GRAC Grapevine Rang 80.92 53 P **P 20 11 39.8 +0.6**
baz=297
FFC Flin Flon 81.15 32 *i*P **P 20 11 41.1 +1.1**
MPMC Manual Prospec 81.25 54 P **P 20 11 41.2 0.0**
baz=297
LRMC Laurel Mtn Rad 81.38 55 P **P 20 11 42.1 +0.4**
baz=297
EDW2 Edwards Air Fo 81.42 55 P **P 20 11 42.2 +0.3**
baz=297
R11A Troy Canyon, C 81.55 51 P **P 20 11 43.1 +0.4**
baz=298
TPNV Topopah Spring 81.73 53 P **P 20 11 43.7 0.0**
baz=298
NACGM Naroch 82.09 329 *e* **P 20 11 44.0 -0.9**
GSC Goldstone, Bar 82.09 54 P **P 20 11 46.2 +0.7**
baz=298
DUG Dugway, Tooele 82.57 49 P **P 20 11 48.9 +0.9**
baz=299
DUG Dugway, Tooele 82.57 49 *e*P **P 20 11 48.6 +0.6**
DUG pmax pmax
comp=Z,40nm,1.3s
DUG Dugway, Tooele 82.57 49 *e*P **P 20 11 48.6 +0.6**
comp=Z,40nm,1.3s
TUQ Turquoise Moun 82.67 54 P **P 20 11 48.9 +0.3**
baz=298
TPFO Pinon Flats 83.14 56 P **P 20 11 50.5 -0.5**
baz=298
GMRC Granite Mounta 83.17 55 P **P 20 11 51.1 -0.1**
baz=298
BELC Belle Mtn. Jos 83.29 55 P **P 20 11 51.2 -0.7**
baz=298
AKASG Malin Array Be 83.34 324 P **P 20 11 50.6 -0.9**
comp=Z,6.3nm,0.6s,baz=48,slow=5.4,SNR=28
AKASG Malin Array Be 83.34 324 *i*P **P 20 11 51.0 -0.6**
AKASG pmax pmax
comp=Z,6.0nm,0.6s
PDAR Pinedale Array 83.41 45 LR LR 20 48 22.5
comp=Z,80nm,18.7s,baz=298,slow=35
MONP Monument Peak, 83.49 56 P **P 20 11 52.5 -0.5**
baz=298
SIM Simferopol' 83.79 318 P **P 20 11 54.8 +0.8**
SIM pmax pmax
comp=Z,11nm,0.8s
IKP In-Ko-Pah, Jac 83.84 57 P **P 20 11 54.8 +0.2**
baz=298
BC3 Big Chuckawall 83.85 55 P **P 20 11 54.6 -0.1**
baz=298
NB2 NORSAR Subarra 84.08 339 P **P 20 11 54.6 -0.6**
comp=Z,1.0nm,0.6s,baz=44,slow=5.1
NOA NORSAR Array B 84.08 339 P **P 20 11 54.6 -0.6**
comp=Z,3.6nm,0.9s,baz=42,slow=5.0,SNR=5.0
SUW Suwalki 84.29 329 *e*P **P 20 11 55.6 -0.8**
SUW Suwalki 84.29 329 P **P 20 11 56.1 -0.2**
SUW pmax pmax
comp=Z,445nm,1.0s
GLA Glamis 84.60 56 P **P 20 11 58.2 -0.2**
baz=299
WUAZ Wupatki 85.88 52 P **P 20 12 04.7 -0.2**
baz=300
FRB Frobisher Bay 86.04 14 P **P 20 12 04.5 -0.4**
comp=Z,9.8nm,0.6s,baz=339,slow=4.3,SNR=4.7
PV04 Paradox Valley 86.10 49 *e*P **P 20 12 06.3 +0.4**
214A Organ Pipe Nat 86.62 56 P **P 20 12 08.7 +0.2**
baz=300
ULM Lac du Bonnet 86.83 34 P **P 20 12 08.4 -0.7**
comp=Z,2.3nm,0.5s,baz=297,slow=3.4,SNR=3.4
ULM LR LR 20 55 51.1
comp=Z,25nm,18.0s,baz=293,slow=39
BRTR Keskin Array B 86.89 313 P **P 20 12 09.3 -0.5**
comp=Z,3.2nm,1.0s,baz=116,slow=2.9,SNR=9.2
KWP Kalwaria Pacla 87.32 326 *e*P **P 20 12 11.1 -0.4**
KWP Kalwaria Pacla 87.32 326 *e*P **P 20 12 11.1 -0.4**
A32A Rocking H Ranc 87.37 35 P **P 20 12 11.9 +0.1**
baz=309
C31A Landman Farms, 87.43 36 P **P 20 12 12.3 +0.2**
baz=309
ISCO Idaho Springs 87.50 46 P **P 20 12 12.4 -0.6**
baz=304
ISCO Idaho Springs 87.50 46 P **P 20 12 12.7 -0.3**
ISCO pmax pmax
comp=Z,14nm,0.9s
AGMN Agassiz Nation 88.09 35 P **P 20 12 14.7 -0.5**
baz=310
E31A Nome 88.12 37 P **P 20 12 15.5 +0.1**
baz=308
STHS Stebnicka Huta 88.19 326 *e*P **P 20 12 16.5 +0.8**
STHS pmax pmax
comp=Z,3.0nm,1.0s
STHS Stebnicka Huta 88.19 326 *e*P **P 20 12 16.5 +0.8**
OJC Ojcow 88.35 328 *e*P **P 20 12 16.8 +0.4**
OJC Ojcow 88.35 328 *e*P **P 20 12 16.8 +0.4**
F31A Hecla 88.35 38 P **P 20 12 16.5 0.0**
baz=308
B34A Aery, Baudette 88.58 34 P **P 20 12 17.1 -0.4**
baz=311
NIE Niedzica 88.65 327 *e*P **P 20 12 17.7 -0.2**
NIE Niedzica 88.65 327 *e*P **P 20 12 17.7 -0.2**
D33A AnnSam, Waubun 88.84 36 P **P 20 12 18.5 -0.3**
baz=310
B35A Bob, Littlefor 89.13 34 P **P 20 12 20.2 +0.1**
baz=312
KECS Kecovo 89.18 326 *e*P **P 20 12 20.1 -0.2**
KECS pmax pmax
comp=Z,2.0nm,0.8s
KECS Kecovo 89.18 326 *e*P **P 20 12 20.1 -0.2**
F33A 5 Mile Ranch, 89.43 37 P **P 20 12 21.7 +0.2**
baz=310
ANMO Albuquerque 89.60 51 P **P 20 12 23.0 +0.1**
comp=Z,1.9nm,0.8s,baz=1.8,slow=3.9,SNR=3.5
ANMO Albuquerque 89.60 51 P **P 20 12 23.5 +0.7**
baz=303
ANMO Albuquerque 89.60 51⇓ *i*P **P 20 12 24.4 +1.6**
ANMO pmax pmax
comp=Z,4.0nm,1.2s
G33A Ortonville 89.76 38 P **P 20 12 23.6 +0.4**
baz=310
DPC Dobruska-Polom 89.88 329 *e*P **P 20 12 23.5 -0.2**
DPC Dobruska-Polom 89.88 329 *e*P **P 20 12 23.5 -0.2**
H33A Prehn Over Nor 89.92 38 P **P 20 12 22.9 -1.0**
baz=309
VYHS Vyhne 89.98 327 *e*P **P 20 12 24.0 -0.1**
VYHS pmax pmax
comp=Z,3.0nm,0.9s
VYHS Vyhne 89.98 327 *e*P **P 20 12 24.0 -0.1**
VYHS *e*PP **PP 20 15 57.2 +0.8**
EYMN Ely 90.51 33 P **P 20 12 25.4 -1.2**
baz=313
D37A Cotton 90.58 34 P **P 20 12 26.5 -0.4**
baz=312
CLL Collm 90.66 331 *e*P **P 20 12 26.0 -1.1**
CLL pmax pmax
comp=Z,6.0nm,0.9s
CLL Collm 90.66 331 *e*P **P 20 12 26.0 -1.1**
comp=Z,6.0nm,0.9s
CLL LmV 21 02 00.0
comp=Z,100nm,19.0s
C38A Sawbill Land. 90.78 33 P **P 20 12 27.3 -0.5**
baz=313
F36A Milaca 90.89 36 P **P 20 12 28.2 -0.1**
baz=312
H35A Sunnyside Ranc 90.96 37 P **P 20 12 28.9 +0.2**
baz=311
E38A The Farm, Brul 91.40 34 P **P 20 12 30.7 0.0**
baz=313
F38A Pierce - Schro 91.67 35 P **P 20 12 32.5 +0.5**
baz=313
SPMN Marine on St. 91.69 36 P **P 20 12 32.5 +0.4**
baz=312
KHC Kasperske Hory 92.00 330 *e*P **P 20 12 32.6 -0.9**
KHC Kasperske Hory 92.00 330 *e*P **P 20 12 32.6 -0.9**
MNTX Cornudas Mount 92.13 53 P **P 20 12 35.1 +0.7**
baz=304
GERES GERESS Array B 92.15 329 P **P 20 12 32.8 -1.5**
comp=Z,1.3nm,0.8s,baz=43,slow=2.5,SNR=7.2
G38A Ridgelund 92.22 36 P **P 20 12 34.5 -0.1**
baz=313
H38A Maiden Rock 92.33 36 P **P 20 12 35.4 +0.3**
baz=312
E41A Kenton 92.78 33 P **P 20 12 37.2 +0.1**
baz=315
H39A Augusta 92.85 36 P **P 20 12 37.7 +0.2**
baz=313
K37A Belmond 92.88 38 P **P 20 12 37.7 +0.1**
baz=312
G40A Rib Lake 93.00 35 P **P 20 12 38.5 +0.3**
baz=314
Q35A Mercer Eighty, 94.03 42 P **P 20 12 43.0 -0.1**
baz=310
TXAR Lajitas Array 94.68 54 P **P 20 12 46.5 +0.2**
comp=Z,1.9nm,0.9s,baz=302,slow=2.0,SNR=6.7
BFO Black Forest 94.89 332 *i*P **P 20 12 47.9 +1.1**
TORD Torodi Ar. Bea 125.49 312 PKP **PKPdf 20 18 25.8 -0.8**
comp=Z,1.6nm,0.9s,baz=37,slow=1.3,SNR=7.0
TORD PP **PP 20 20 15.5 -1.3**
comp=Z,0.8nm,1.1s,baz=36,slow=5.3,SNR=3.6
SNAA Sanae 131.61 194 P **PKPdf 20 18 35.3 -1.4**
VNA2 Neumayer--Watz 133.11 193 P **PKPdf 20 18 35.6 -3.8**
baz=68,slow=0.8
VNA3 Neumayer Olymp 133.28 192 P **PKPdf 20 18 39.5 -0.2**
LPAZ La Paz 148.79 76 PKPbc **PKPbc 20 19 13.7 +0.1**
comp=Z,14nm,0.7s,baz=236,slow=1.4,SNR=30
PLCA Paso Flores 148.82 125 PKPbc **PKPbc 20 19 12.0 -0.3**
comp=Z,2.8nm,1.0s,baz=280,slow=6.1,SNR=3.3
SAML Samuel 148.99 59 *e*PKPdf **PKPbc 20 19 12.7 -0.8**

*ISCJB **21** 20:06:37.6±1.5,4°.8S±0°.2×153°.1E±0°.3, h43km, mb3.9/9, Error ellipse: s-maj=45.9km s-min=10.5km az=37.8*
*IDC **21** 20:06:41.8±5.2,4°.82S×153°.17E, h68km±43km, mb3.7/9, mb1 3.8/10, mb1mx3.7/34, mbtmp4.0/10, ML1.7/1, Error ellipse: s-maj=48.8km s-min=21.7km az=115.0*
ISC 21 20:06:39.1±1.5,4°.8S±0°.2×153°.2E±0°.3, h43km, n11, σ1s43/13, mb3.9/9, New Ireland region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**7.56**	**232**	P		**Pn**		**20 08 30.0**	**+3.1**
	0.7nm,0.3s,baz=22,slow=11,SNR=3.2								
PMG				S		**Sn**		**20 09 49.2**	**-2.2**
	2.6nm,0.3s,baz=197,slow=20,SNR=3.7								
WRA	**Warramunga Arr**	**23.77**	**229**	P		**P**		**20 11 47.6**	**-0.3**
	6.4nm,0.6s,baz=53,slow=9.9,SNR=30								
WRA				PcP		**PcP**		**20 15 31.4**	**+0.5**
	0.4nm,0.8s,baz=54,slow=2.6,SNR=3.3								
ASAR	**Alice Springs**	**26.44**	**223**	P		**P**		**20 12 11.8**	**-0.4**
	1.0nm,0.6s,baz=56,slow=9.1,SNR=8.2								
FITZ	**Fitzroy Crossi**	**30.03**	**242**	P		**P**		**20 12 42.9**	**-1.4**
	7.5nm,0.8s,baz=60,slow=6.7,SNR=12								
PETK	**Petropavlovsk-**	**57.80**	**3**	P		**P**		**20 16 26.1**	**+0.1**
	2.5nm,0.7s,baz=177,slow=7.3,SNR=3.7								
CMAR	**Chiang Mai Arr**	**58.25**	**295**	P		**P**		**20 16 29.6**	**-0.1**
	0.7nm,0.7s,baz=113,slow=5.2,SNR=5.5								
SONM	**Songino Array**	**66.54**	**328**	P		**P**		**20 17 26.3**	**+1.4**
	0.4nm,0.5s,baz=144,slow=5.4,SNR=3.5								
MKAR	**Makanchi Array**	**80.59**	**319**	P		**P**		**20 18 46.9**	**-0.4**
	0.4nm,0.5s,baz=93,slow=8.2,SNR=9.0								
ZALV	**Zalesovo Beam**	**81.38**	**326**	P		**P**		**20 18 50.3**	**-0.9**
	0.8nm,0.3s,baz=120,slow=5.9,SNR=2.9								
ILAR	**Eielson Array**	**81.99**	**22**	P		**P**		**20 18 53.7**	**-0.7**
	0.3nm,0.6s,baz=253,slow=5.6,SNR=3.1								
TORD	**Torodi Ar. Bea**	**150.70**	**288**	PKPbc		**PKPbc**		**20 26 27.4**	**-0.4**
	2.1nm,0.6s,baz=52,slow=2.1,SNR=30								

*ISCJB **21** 20:18:33.6±0.9,23°.98S±0°.07×67°.60W±0°.07, h200km, mb3.5/1, Error ellipse: s-maj=10.1km s-min=7.8km az=40.4*
*GUC **21** 20:18:33.1±0.3,23°.87S×67°.67W, h208km±9km, ML4.2*
*IDC **21** 20:18:42.8±6.0,23°.31S×66°.65W, h231km±29km, mb3.4/1, mb1 3.3/3, mb1mx3.1/25, mbtmp3.7/3, Error ellipse: s-maj=110.7km s-min=24.0km az=53.0*
ISC 21 20:18:34.2±1.1,23°.95S±0°.08×67°.62W±0°.08, h200km, n13, σ0s80/18, 2D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**1.78**	**318**	*i*P		**Pn**		**20 19 10.7**	**-0.3**
PB06	**IPOC Station P**	**2.18**	**304**	*i* S		**Sn**		**20 19 46.4**	**+0.1**
PB06				IAML				20 19 48.2	
	comp=E,578nm,0.2s								
ANCH	**Antofagasta**	**2.57**	**275**	*i* P		**Pn**		**20 19 19.0**	**+0.2**
ANCH				*i* S		**Sn**		**20 19 53.9**	**+0.3**
PB09	**IPOC Station P**	**2.61**	**325**	*e*P		**Pn**		**20 19 20.5**	**+0.9**
PB09				*i* S		**Sn**		**20 19 56.2**	**+1.3**
PB04	**IPOC Station P**	**2.83**	**304**	*e*S		**Sn**		**20 19 59.3**	**-0.1**
PB04				IAML				20 20 02.0	
	comp=N,435nm,0.2s								
PB07	**IPOC Station P**	**3.04**	**316**	*e*P		**Pn**		**20 19 24.6**	**+0.1**
PB07				IAML				20 20 04.5	
	comp=E,568nm,0.3s								
PB01	**IPOC Station P**	**3.37**	**329**	*i* S		**Sn**		**20 20 10.8**	**+0.1**
PB11	**IPOC Station P**	**4.57**	**335**	*e*P		**Pn**		**20 19 42.8**	**-0.6**
PB11				*i* S		**Sn**		**20 20 36.8**	**-1.1**
MNMC	**Minye Minye**	**5.13**	**339**⇓	*i*P		**Pn**		**20 19 51.2**	**+0.6**
MNMC				*i* S		**Sn**		**20 20 51.1**	**+0.3**
LPAZ	**La Paz**	**7.63**	**356**	P		**Pn**		**20 20 24.8**	**+1.5**
	comp=E,1.0nm,0.3s,baz=164,slow=10,SNR=17								
LPAZ				S		**Sn**		**20 21 48.8**	**-1.2**
	comp=E,0.1nm,0.3s,baz=93,slow=17,SNR=1.7								
CPUP	**Villa Florida**	**9.62**	**106**	P		**Pn**		**20 20 49.0**	**+0.5**
	comp=E,0.1nm,0.3s,baz=283,slow=15,SNR=3.7								
TORD	**Torodi Ar. Bea**	**77.08**	**69**	P		**P**		**20 30 05.0**	**-0.8**
	comp=E,0.6nm,0.5s,baz=255,slow=5.5,SNR=11								
MKAR	**Makanchi Array**	**146.84**	**39**	PKPbc		**PKPab**		**20 37 54.1**	**-0.4**
	comp=E,0.2nm,0.6s,baz=298,slow=3.1,SNR=3.0								

*ISCJB **21** 20:43:07.3±0.5,9°.06S±0°.07×114°.08E±0°.03, h98km±5km, mb3.9/10, Error ellipse: s-maj=12.6km s-min=4.0km az=11.5*
*IDC **21** 20:43:08.5±2.6,8°.73S×114°.25E, h97km±22km, mb3.7/10, mb1 3.9/10, mb1mx3.6/37, mbtmp4.0/10, MS3.6/2, Ms1 3.6/2, ms1mx2.8/30, Error ellipse: s-maj=40.2km s-min=12.9km az=52.0*
*DJA **21** 20:43:08.7±0.3,9°.5S±4°×11°4E±°, h47km±11km, M4.9/18, mb4.9/7, mB5.7/7, MLv4.6/18, Mw(mB)5.2/7*
ISC 21 20:43:08.1±0.8,9°.03S±0°.08×114°.14E±0°.04, h95km±7km, n44, σ1s84/53, mb3.8/10, South of Bali

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
JAGI	**Jajag, Banyuwa**	**0.56**	**1**	P		**Pn**		**20 43 23.1**	**-0.7**
JAGI				S		**Sn**		**20 43 34.1**	**-1.4**
IGBI	**Denpasar**	**1.02**	**78**	P		**Pn**		**20 43 29.0**	**+0.7**
IGBI				S		**Sn**		**20 43 43.1**	**-0.4**
GMJI	**Gumukmas**	**1.02**	**317**	P		**Pn**		**20 43 28.1**	**-0.2**
GMJI				S		**Sn**		**20 43 42.2**	**-1.3**
DNP	**Denpasar**	**1.11**	**72**	P		**Pn**		**20 43 30.8**	**+1.4**
ABJI	**Asem Bagus**	**1.23**	**4**	P		**Pn**		**20 43 32.2**	**+1.4**
ABJI				S		**Sn**		**20 43 50.4**	**+2.5**
SRBI	**Singaraja**	**1.42**	**49**	P		**Pn**		**20 43 34.0**	**+0.9**
SRBI				S		**Sn**		**20 43 52.1**	**+0.2**
KMMI	**Kalianget**	**1.97**	**355**	P		**Pn**		**20 43 41.4**	**+1.2**
PWJI	**Pagerwojo**	**2.52**	**293**	P		**Pn**		**20 43 47.7**	**+0.4**
PWJI				S		**Sn**		**20 44 15.4**	**-2.0**
GRJI	**Gresik**	**2.67**	**322**	P		**Pn**		**20 43 50.7**	**+1.4**
TWSI	**Taliwang, Sumb**	**2.73**	**84**	P		**Pn**		**20 43 51.8**	**+1.7**
PCJI	**Pacitan**	**3.04**	**286**	P		**Pn**		**20 43 54.2**	**-0.1**
NGJI	**Ngawi**	**3.12**	**302**	P		**Pn**		**20 43 57.1**	**+1.7**
TBJI	**Tambak Boyo**	**3.16**	**314**	P		**Pn**		**20 43 56.4**	**+0.5**
PLAI	**Plampang**	**3.60**	**87**	P		**Pn**		**20 44 03.5**	**+1.7**
PLAI				S		**Sn**		**20 44 45.1**	**+1.7**
UGM	**Wanagama**	**3.75**	**287**	P		**Pn**		**20 44 04.2**	**+0.4**
UGM				S		**Sn**		**20 44 53.8**	**+6.8**
CMJI	**Cimerak**	**5.77**	**282**	P		**Pn**		**20 44 29.8**	**-1.4**
	93nm,0.6s,5µm0.7nm								
WSI	**Waingapu**	**6.11**	**96**	P		**Pn**		**20 44 38.0**	**+2.1**
	261nm,0.7s,1.7nm								
CISI	**Cisompet, Garu**	**6.43**	**283**	P		**Pn**		**20 44 39.7**	**-0.6**
CNJI	**Cibinong**	**7.15**	**283**	P		**Pn**		**20 44 50.4**	**+0.4**
CNJI				S		**Sn**		**20 46 10.5**	**+0.7**
MMRI	**Maumere**	**8.01**	**88**	P		**Pn**		**20 45 00.2**	**-1.6**
TTSI	**Tana Toraja**	**8.20**	**44**	P		Pn		20 45 09.4	+5.0
CGJI	**Cibinong**	**8.71**	**285**	P		**Pn**		**20 45 11.4**	**+0.1**
	391nm,0.6s,5µm								
BBSI	**Bau Bau**	**9.07**	**68**	P		**Pn**		**20 45 19.0**	**+2.7**
	5.9nm,0.7s								
SOEI	**Soe**	**10.02**	**95**	P		**Pn**		**20 45 31.0**	**+1.7**
	32nm,0.6s								
KASI	**Kota Agung**	**10.18**	**289**	P		**Pn**		**20 45 31.6**	**+0.2**
	42nm,0.6s								
KLSI		**10.29**	**294**	P		**Pn**		**20 45 32.5**	**-0.4**
	8.7nm,0.8s								
LWLI	**Liwa**	**10.77**	**291**	P		**Pn**		**20 45 39.8**	**+0.3**
FITZ	**Fitzroy Crossi**	**14.35**	**130**	P		**Pn**		**20 46 25.5**	**-1.4**
	0.7nm,0.3s,baz=310,slow=8.2,SNR=18								
FITZ				S		Sn		20 48 53.7	-11
	0.5nm,0.3s,baz=0.0,slow=20,SNR=5.6								
WRA	**Warramunga Arr**	**22.34**	**121**	P		**P**		**20 47 58.4**	**0.0**
	0.8nm,0.3s,baz=295,slow=12,SNR=30								
WRA				S		**S**		**20 51 51.5**	**-6.3**
	0.3nm,0.6s,baz=298,slow=22,SNR=3.3								
WRA				ScP		**ScP**		**20 55 18.8**	**-0.9**
	0.2nm,0.5s,baz=319,slow=2.0,SNR=4.7								
ASAR	**Alice Springs**	**23.86**	**130**	P		**P**		**20 48 14.0**	**+1.0**
	1.8nm,0.5s,baz=304,slow=9.2,SNR=37								
ASAR				PcP		**PcP**		**20 51 54.5**	**+0.7**
	0.7nm,0.5s,baz=316,slow=1.8,SNR=7.4								
ASAR				S		**S**		**20 52 22.0**	**-0.3**
	0.2nm,0.4s,baz=309,slow=23,SNR=3.5								
ASAR				ScP		**ScP**		**20 55 23.7**	**0.0**
	0.2nm,0.6s,baz=312,slow=2.0,SNR=2.8								
ASAR				LR		LR		20 58 04.3	
	comp=Z,43nm,19.9s,baz=356,slow=37								
CMAR	**Chiang Mai Arr**	**31.16**	**331**	P		**P**		**20 49 18.1**	**-0.1**
	0.8nm,0.8s,baz=164,slow=8.6,SNR=5.2								
STKA	**Stephens Creek**	**34.14**	**136**	P		**P**		**20 49 45.9**	**+1.7**
	3.3nm,0.3s,baz=318,slow=8.3,SNR=29								
H08S2	**Diego Garcia H**	**41.21**	**269**	T		T		21 35 06.3	
	baz=94,slow=74								
H08S3	**Diego Garcia H**	**41.23**	**269**	T		T		21 34 51.9	
	baz=94,slow=74								
H08S1	**Diego Garcia H**	**41.23**	**269**	T		T		21 35 03.8	
	baz=94								
JHJ	**Hachijo jima 2**	**48.51**	**29**	LR		LR		21 11 53.6	
	comp=Z,243nm,19.1s,baz=299,slow=36								
SONM	**Songino Array**	**57.03**	**354**	P		**P**		**20 52 42.5**	**-1.7**
	0.4nm,0.8s,baz=176,slow=8.8,SNR=7.7								
MKAR	**Makanchi Array**	**62.41**	**336**	P		**P**		**20 53 19.1**	**-1.9**
	0.5nm,0.5s,baz=144,slow=7.2,SNR=9.5								
WSAR	**Wadi Sarin**	**63.04**	**302**	P		**P**		**20 53 25.0**	**-0.7**
	4.4nm,0.8s,baz=149,slow=5.9,SNR=3.4								
VNDA	**Vanda**	**72.74**	**170**	P		**P**		**20 54 27.3**	**+1.8**
	0.7nm,0.4s,baz=312,slow=7.7,SNR=4.6								
KBZ	**Khabaz**	**82.94**	**316**	P		**P**		**20 55 22.0**	**-0.6**
	0.7nm,0.7s,baz=164,slow=4.3,SNR=4.0								
BRTR	**Keskin Array B**	**88.48**	**310**	P		**P**		**20 55 49.4**	**-1.0**
	0.9nm,0.7s,baz=131,slow=5.1,SNR=5.9								
CPUP	**Villa Florida**	**143.89**	**193**	PKP		**PKPdf**		**21 02 32.8**	**-0.4**
	2.4nm,0.7s,baz=114,slow=2.0,SNR=4.6								
LPAZ	**La Paz**	**154.75**	**175**	PKPab		**PKPab**		**21 03 17.1**	**+2.1**
	1.5nm,0.6s,baz=212,slow=2.3,SNR=4.5								

*ISCJB **21** 20:57:42.7±1.2,21°.09S±0°.07×67°.0W±0°.3, h273km±26km, mb4.0/1, Error ellipse: s-maj=40.3km s-min=9.9km az=6.6*
*GUC **21** 20:57:42.5±0.7,21°.06S×66°.71W, h232km±18km, ML4.2*
*IDC **21** 20:57:48.2±6.3,20°.44S×66°.68W, h304km±27km, mb3.7/1, mb1 3.3/3, mb1mx3.0/25, mbtmp3.9/3, Error ellipse: s-maj=189.5km s-min=27.0km az=60.0*
ISC 21 20:57:43.2±1.1,21°.05S±0°.07×67°.0W±0°.2, h268km±24km, n13, σ0s98/23, 3C-2D, Southern Bolivia

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PB08	**IPOC Station P**	**2.24**	**294**	*e*P		**Pn**		**20 58 30.5**	**+0.7**
PB08				*e*S		**S**		**20 59 05.5**	**-1.2**
PB08				IAML				20 59 14.7	
	comp=E,118nm,0.2s								
PB09	**IPOC Station P**	**2.24**	**250**	*e*P		**Pn**		**20 58 29.5**	**-0.1**
PB09				*i* S		**S**		**20 59 05.1**	**-1.2**
PB09				IAML				20 59 09.6	
	comp=N,443nm,0.4s								
PB01	**IPOC Station P**	**2.35**	**270**	*e*P		**Pn**		**20 58 30.9**	**+0.4**
PB01				*e*S		**S**		**20 59 07.4**	**-0.5**
PB01				IAML				20 59 10.2	
	comp=N,322nm,0.2s								
PB02	**IPOC Station P**	**2.74**	**264**⇓	*i*P		**Pn**		**20 58 35.2**	**+0.8**
PB02				*i* S		**S**		**20 59 14.5**	**-0.4**
PB02				IAML				20 59 15.5	
	comp=N,694nm,0.4s								
PB07	**IPOC Station P**	**2.80**	**256**⇑	*i*P		**Pn**		**20 58 35.8**	**+0.8**
PB07				*e*S		**S**		**20 59 15.4**	**-0.6**
PB11	**IPOC Station P**	**2.83**	**297**⇓	*i*P		**Pn**		**20 58 36.1**	**+0.8**
PB11				*e*S		**S**		**20 59 16.4**	**-0.2**
HMBC	**Humberstone**	**2.84**	**285**	*e*P		**Pn**		**20 58 35.8**	**+0.4**
HMBC				*e*S		**S**		**20 59 16.9**	**+0.1**
PB06	**IPOC Station P**	**2.92**	**235**	*e*P		**Pn**		**20 58 36.3**	**+0.1**
PB06				*e*S		**S**		**20 59 17.2**	**-1.2**
MNMC	**Minye Minye**	**3.12**	**307**⇑	*i*P		**Pn**		**20 58 39.6**	**+1.1**
MNMC				*i* S		**S**		**20 59 23.0**	**+0.6**

MNMC				IAML			20 59 27.3	
	comp=E,276nm,0.3s							
PB04	**IPOC Station P**	**3.22 246**	⇑*iP*		**Pn**	**20 58 40.0**	**+0.6**	
LPAZ	**La Paz**	**4.86 347**	P		**Pn**	**20 58 59.4**	**+0.6**	
	comp=E,1.6nm,0.3s,baz=161,slow=9.0,SNR=25							
LPAZ				S	**S**	**20 59 56.8**	**-2.1**	
	comp=E,0.2nm,0.3s,baz=338,slow=12,SNR=9.7							
CPUP	**Villa Florida**	**10.28 123**	P		**P**	**21 00 11.1**	**+1.4**	
	comp=E,0.3nm,0.3s,baz=292,slow=13,SNR=3.8							
TORD	**Torodi Ar. Bea**	**75.50 70**	P		**P**	**21 08 57.4**	**-1.3**	
	comp=E,1.7nm,0.5s,baz=254,slow=5.3,SNR=40							

*NIED **21** 21:06:00.34˝80N×142˚80E, h5km, Mw4.0 Best double couple: M₀9.97000×10¹⁴ NP1:ϕs13.00000°, δ30.00000°, λ-111.00000°. NP2:ϕs217.00000°, δ63.00000°, λ-78.00000°*

*IDC **21** 21:06:40.7±0.8,34˚71N×142˚86E, h0km,mb3.9/10, mb1 4.0/13,mb1mx3.9/57,mbtmp3.9/13,ML3.6/2,MS2.9/5, Ms1 2.9/5,ms1mx2.6/29,Error ellipse: s-maj=23.6km s-min=16.4km az=92.0*

*ISCJB **21** 21:06:43.7±0.6,34˚78N±0˝.05×142˚76E±0˝.05,h33km, mb3.9/10,MS2.9/3,Error ellipse: s-maj=7.9km s-min=5.3km az=18.4*

*JMA **21** 21:06:43.2±0.3,34˚75N×142˚77E, h38km,M3.7*

ISC 21 21:06:45.6±0.8,34˚75N±0˝.06×142˚78E±0˝.07,h35km,n36, σ1s72/40,mb4.0/10,MS2.9/3,Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BSO1	**Boso 1**	**1.48**	**267**	P	**Pn**	**21 07 08.0**	**-1.3**
BSO1				S	**Sn**	**21 07 25.9**	**-1.3**
BSO2	**Boso 2**	**1.66**	**271**	*eS*	**Sn**	**21 07 32.6**	**+0.6**
CHOJ	**Chosi**	**1.83**	**302**	P	**Pn**	**21 07 13.7**	**-0.9**
CHOJ				*eS*	**Sn**	**21 07 36.0**	**-0.6**
BSO3	**Boso 3**	**1.86**	**272**	P	**Pn**	**21 07 14.2**	**-0.6**
BSO3				S	**Sn**	**21 07 36.4**	**-0.6**
BSO4	**Boso 4**	**2.02**	**277**	P	**Pn**	**21 07 16.7**	**-0.4**
BSO4				S	**Sn**	**21 07 41.3**	**+0.3**
JHJ2	**Mitsune**	**2.95**	**237**	P	**Pn**	**21 07 28.4**	**-1.6**
JHJ	**Hachijo jima 2**	**2.97**	**238**	Pn	**Pn**	**21 07 28.1**	**-2.2**
	35nm,0.3s,baz=132,slow=23,SNR=11						
JHJ				Sn	**Sn**	**21 08 00.2**	**-4.5**
	80nm,0.3s,baz=83,slow=20,SNR=7.6						
JAG	**Ashikaga**	**3.18**	**303**	P	**Pn**	**21 07 32.2**	**-1.0**
JAG				*eS*	**Sn**	**21 08 07.9**	**-2.0**
JFT	**Otama**	**3.39**	**325**	P	**Pn**	**21 07 35.5**	**-0.6**
JFT				*eS*	**Sn**	**21 08 11.7**	**-3.5**
JRY	**Ryogami san**	**3.41**	**293**	P	**Pn**	**21 07 36.0**	**-0.3**
JRY				*eS*	**Sn**	**21 08 14.7**	**-0.8**
JYN	**Shimob**	**3.55**	**283**	P	**Pn**	**21 07 37.0**	**-1.3**
JYN				*eS*	**Sn**	**21 08 17.7**	**-1.3**
MJAR	**Matsushiro Arr**	**4.12**	**297**	Pn	**Pn**	**21 07 45.3**	**-0.8**
	1.6nm,0.3s,baz=108,slow=7.2,SNR=12						
MJAR				Sn	**Sn**	**21 08 32.1**	**-1.2**
	1.4nm,0.3s,baz=123,slow=21,SNR=5.3						
MJAR				LR	LR	21 10 03.1	
	comp=Z,120nm,19.4s,baz=160,slow=48						
MAT	**Matsushiro**	**4.13**	**297**	P	**Pn**	**21 07 46.0**	**-0.2**
MAT				S	**Sn**	**21 08 32.0**	**-1.3**
ASAJ	**Asahikawa**	**9.35**	**359**	Pn	**Pn**	**21 08 55.5**	**-2.4**
	baz=203,slow=12						
ASAJ				Sn	**Sn**	**21 10 38.1**	**-3.7**
	baz=240,slow=20						
KSRS	**Korea Array**	**12.31**	**287**	LR	LR	21 14 23.3	
	comp=Z,48nm,21.4s,baz=78,slow=37						
H11N2	**WAKE ISLAND Hy**	**26.06**	**119**	T	T	21 39 32.0	
	baz=310,slow=75,SNR=23						
H11N1	**WAKE ISLAND Hy**	**26.06**	**119**	T	T	21 39 35.6	
	baz=310,slow=75,SNR=20						
H11N3	**WAKE ISLAND Hy**	**26.07**	**119**	T	T	21 39 38.1	
	baz=310,slow=75,SNR=17						
H11S1	**WAKE ISLAND Hy**	**26.71**	**121**	T	T	21 40 22.0	
	baz=312,slow=74						
H11S3	**WAKE ISLAND Hy**	**26.71**	**121**	T	T	21 40 22.7	
	baz=312						
H11S2	**WAKE ISLAND Hy**	**26.73**	**121**	T	T	21 40 25.7	
	baz=312,slow=74						
SONM	**Songino Array**	**30.01**	**307**	P	**P**	**21 12 53.7**	**+2.6**
	0.9nm,1.0s,baz=107,slow=9.6,SNR=5.1						
SONM				LR	LR	21 24 21.0	
	comp=Z,19nm,21.5s,baz=56,slow=35						
ZALV	**Zalesovo Beam**	**44.28**	**314**	P	**P**	**21 14 52.4**	**+0.7**
	2.2nm,0.7s,baz=88,slow=5.8,SNR=8.1						
MKAR	**Makanchi Array**	**46.29**	**304**	P	**P**	**21 15 08.6**	**+0.8**
	0.3nm,0.7s,baz=93,slow=8.1,SNR=2.8						
MKAR				LR	LR	21 36 35.7	
	comp=Z,12nm,19.3s,baz=318,slow=39						
ILAR	**Eielson Array**	**50.85**	**31**	P	**P**	**21 15 42.6**	**+0.2**
	1.2nm,0.8s,baz=262,slow=5.8,SNR=8.1						
WRA	**Warramunga Arr**	**54.98**	**190**	P	**P**	**21 16 13.3**	**-0.1**
	3.1nm,0.9s,baz=8.1,slow=7.4,SNR=19						
FITZ	**Fitzroy Crossi**	**55.03**	**200**	P	**P**	**21 16 14.7**	**+0.9**
	2.5nm,0.8s,baz=29,slow=7.2,SNR=3.9						
INK	**Inuvik**	**55.92**	**26**	P	**P**	**21 16 19.6**	**-0.1**
	3.5nm,1.0s,baz=328,slow=4.5,SNR=4.5						
ASAR	**Alice Springs**	**58.70**	**190**	P	**P**	**21 16 39.4**	**-0.5**
	1.1nm,0.9s,baz=15,slow=5.3,SNR=7.8						
NOA	**NORSAR Array B**	**76.71**	**338**	LR	LR	21 57 33.3	
	comp=Z,10nm,18.1s,baz=260,slow=40						
BRTR	**Keskin Array B**	**81.20**	**312**	P	**P**	**21 18 58.5**	**+0.5**
	1.5nm,1.0s,baz=12,slow=7.4,SNR=3.4						
GERES	**GERESS Array B**	**85.23**	**329**	P	**P**	**21 19 19.4**	**+0.7**
	0.1nm,0.3s,baz=33,slow=5.9,SNR=3.6						
VNA2	**Neumayer--Watz**	**140.42**	**195**	P	**Pdif**	**21 23 30.0**	**+4.0**
	baz=313,slow=14						
VNA3	**Neumayer Olymp**	**140.63**	**194**	P	**Pdif**	**21 23 27.3**	**+0.3**
VNA1	**Neumayer--Stat**	**140.82**	**195**	P	**Pdif**	**21 23 25.6**	**-2.1**
LPAZ	**La Paz**	**146.79**	**64**	PKPbc	**PKPab**	**21 26 26.2**	**-0.4**
	0.8nm,0.3s,baz=27,slow=2.3,SNR=4.7						

*IDC **21** 21:10:30.0±1.8, 17˚.82S×178˚.62W,h537km±21km, mb3.7/21,mb1 3.8/22,mb1mx3.7/43,mbtmp4.5/22,Error ellipse: s-maj=16.6km s-min=11.0km az=140.0*

*ISCJB **21** 21:10:32.2±0.5,17˚.9S±0˝.1×178˚.7W±0˝.1, h579km, mb4.1/20,Error ellipse: s-maj=16.6km s-min=10.7km az=43.2*

ISC 21 21:10:33.4±0.7,17˚.9S±0˝.1×178˚.7W±0˝.1,h579km,n65, σ0s83/66,mb4.1/20,9C-1D,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**7.73**	**60**	P	P	21 12 23.6	-6.0
	2.9nm,0.3s,baz=294,slow=18,SNR=5.7						
AFI				S	S	21 13 55.1	-10
	1.0nm,0.3s,baz=336,slow=19,SNR=3.2						
DZM	**Mont Dzumac**	**14.59**	**251**	P	**P**	**21 13 39.9**	**+1.6**
	0.6nm,0.3s,baz=115,slow=19,SNR=4.9						
URZ	**Urewera**	**20.64**	**189**	P	**P**	**21 14 32.1**	**-1.5**
	8.3nm,0.5s,baz=42,slow=4.4,SNR=9.6						
RPZ	**Rata Peaks**	**27.18**	**196**	P	**P**	**21 15 31.4**	**-0.2**
	4.9nm,0.5s,baz=34,slow=15,SNR=3.5						
PMG	**Port Moresby**	**34.19**	**280**	P	**P**	**21 16 32.2**	**+0.2**
	17nm,0.7s,baz=42,slow=4.1,SNR=5.3						
STKA	**Stephens Creek**	**38.41**	**241**	P	**P**	**21 17 07.1**	**+0.7**
	5.6nm,0.7s,baz=86,slow=9.6,SNR=18						
WRA	**Warramunga Arr**	**44.38**	**260**	P	**P**	**21 17 52.4**	**-1.2**
	5.0nm,0.7s,baz=97,slow=7.1,SNR=122						
WRA				PcP	**PcP**	**21 19 25.3**	**+0.5**
	1.3nm,0.5s,baz=94,slow=3.3,SNR=6.9						
ASAR	**Alice Springs**	**44.54**	**254**	P	**P**	**21 17 54.8**	**-0.1**
	34nm,0.5s,baz=88,slow=8.1,SNR=682						
ASAR				PcP	**PcP**	**21 19 25.8**	**+0.5**
	2.1nm,0.5s,baz=106,slow=4.0,SNR=8.5						
ASAR				S	**S**	**21 23 47.2**	**-2.1**
	1.1nm,0.8s,baz=81,slow=15,SNR=8.1						
FITZ	**Fitzroy Crossi**	**52.77**	**261**	P	P	**21 18 55.8**	**0.0**
	2.3nm,0.5s,baz=91,slow=4.3,SNR=15						
MJAR	**Matsushiro Arr**	**67.72**	**324**	P	**P**	**21 20 33.3**	**-0.7**
	5.9nm,0.7s,baz=158,slow=6.2,SNR=11						
MAT	**Matsushiro**	**67.72**	**324**	P	**P**	**21 20 33.2**	**-0.8**
PETK	**Petropavlovsk-**	**73.58**	**345**	P	**P**	**21 21 07.5**	**-0.5**
	7.1nm,0.7s,baz=139,slow=7.9,SNR=5.1						
KSRS	**Korea Array**	**74.50**	**318**	P	**P**	**21 21 14.7**	**+1.2**
	1.1nm,0.6s,baz=128,slow=6.0,SNR=3.8						
USRK	**Ussuriysk Ar.**	**76.44**	**326**	P	**P**	**21 21 25.6**	**+1.4**
	2.0nm,0.6s,baz=133,slow=6.2,SNR=7.9						
KDAK	**Kodiak Island**	**78.44**	**14**	P	**P**	**21 21 34.5**	**-0.1**
	4.6nm,0.6s,baz=180,slow=2.0,SNR=3.3						
SEY	**Seymchan**	**83.69**	**347**	P	**P**	**21 22 00.9**	**-0.5**
	9.6nm,0.5s,baz=150,slow=5.8,SNR=25						
NEW	**Newport**	**85.64**	**36**	P	**P**	**21 22 11.6**	**+0.1**
	2.0nm,0.5s,baz=193,slow=11,SNR=3.8						
ILAR	**Eielson Array**	**85.92**	**13**	P	**P**	**21 22 11.2**	**-1.1**
	1.3nm,0.4s,baz=223,slow=5.2,SNR=18						
TXAR	**Lajitas Array**	**86.20**	**58**	P	**P**	**21 22 16.4**	**+1.9**
	1.9nm,0.7s,baz=216,slow=6.1,SNR=25						
ANMO	**Albuquerque**	**86.29**	**52**	P	**P**	**21 22 15.3**	**+0.3**
	0.5nm,0.4s,baz=256,slow=6.8,SNR=3.8						
PDAR	**Pinedale Array**	**87.51**	**44**	P	**P**	**21 22 20.9**	**+0.2**
	1.5nm,0.6s,baz=219,slow=3.8,SNR=10						
CMAR	**Chiang Mai Arr**	**88.62**	**290**	P	**P**	**21 22 27.5**	**+1.5**
	2.6nm,0.9s,baz=111,slow=2.9,SNR=12						
INK	**Inuvik**	**91.93**	**15**	P	**P**	**21 22 39.4**	**-0.7**
	1.4nm,0.6s,baz=254,slow=5.4,SNR=3.3						
SONM	**Songino Array**	**93.35**	**319**	P	**P**	**21 22 46.9**	**-0.4**
	0.3nm,0.5s,baz=130,slow=4.4,SNR=4.5						
ZALV	**Zalesovo Beam**	**108.04**	**322**	PKiKP	**PKiKP**	**21 27 55.0**	**-0.7**
	0.7nm,0.5s,baz=127,slow=0.4,SNR=4.0						
MKAR	**Makanchi Array**	**108.92**	**314**	PKiKP	**PKiKP**	**21 27 57.1**	**-0.5**
	0.8nm,0.5s,baz=153,slow=1.3,SNR=16						
ARCES	**ARCESS Array B**	**126.24**	**350**	PKP	**PKPdf**	**21 28 29.8**	**-0.3**
	1.8nm,0.8s,baz=2.9,slow=3.6,SNR=4.7						
GEYT	**Alibeck**	**126.80**	**304**	PKP	**PKPdf**	**21 28 33.0**	**+0.8**
	1.7nm,0.8s,baz=45,slow=2.3,SNR=3.9						
FINES	**FINESS Array B**	**133.09**	**344**	PKhKP	PKPpre	21 28 37.4	
	3.1nm,1.0s,baz=46,slow=4.0,SNR=3.3						
FINES				PKP	**PKPdf**	**21 28 43.2**	**-0.1**
	1.7nm,0.7s,baz=96,slow=1.9,SNR=7.9						
AKASG	**Malin Array Be**	**140.41**	**332**	PKP	**PKPdf**	**21 28 58.5**	**+1.4**
	0.7nm,0.4s,baz=46,slow=3.0,SNR=3.2						
SORM	**Soroca**	**142.63**	**330**	⇑*iP*	**PKPdf**	**21 28 58.8**	**-2.3**
BRTR	**Keskin Array B**	**144.57**	**315**	PKP	PKPbc	21 29 05.5	+0.2
	4.6nm,0.7s,baz=112,slow=2.8,SNR=24						
TESR	**Tescani**	**144.60**	**329**	⇑*iP*	**PKPab**	**21 29 05.4**	**-0.2**
ARCR	**ARCALIA**	**145.25**	**332**	⇑*iP*	**PKPab**	**21 29 07.9**	**-0.2**
CLL	**Collm**	**145.37**	**347**	⇑*iPKPbc*	**PKPbc**	**21 29 07.3**	**+0.2**
	comp=Z,16nm,0.6s						
CLL				*i*		21 29 10.3	
CLL				*e*		21 30 44.0	
UPC	**Upice**	**145.38**	**343**	*e*PKP	**PKPab**	**21 29 08.0**	**-0.5**
DPC	**Dobruska-Polom**	**145.44**	**343**	*e*PKP	**PKPab**	**21 29 08.4**	**-0.4**
BRG	**Berggiesshubel**	**145.57**	**346**	*eP*	**PKPbc**	**21 29 08.1**	**+0.4**
	comp=Z,8.6nm,0.8s						
MORC	**Moravsky Berou**	**145.60**	**341**	⇓*iP*	**PKPab**	**21 29 08.9**	**-0.6**
PVCC	**Panska Ves**	**145.74**	**345**	*e*PKP	**PKPbc**	**21 29 09.1**	**+0.9**
PVCC				*ex*	x	21 29 10.7	
DRGR		**146.19**	**333**	⇑*iP*	**PKPbc**	**21 29 10.1**	**+0.4**
PRU	**Pruhonice**	**146.25**	**345**	*e*PKP	**PKPbc**	**21 29 10.3**	**+0.7**
NKC	**Novy Kostel**	**146.51**	**347**	*e*PKP	**PKPbc**	**21 29 11.0**	**+0.7**
GZR	**Gura Zlata**	**147.24**	**332**	⇑*iP*	**PKPbc**	**21 29 12.6**	**+0.1**
KHC	**Kasperske Hory**	**147.28**	**345**	*e*PKP	**PKPbc**	**21 29 13.3**	**+0.9**
KHC				*ex*	x	21 29 16.7	
GERES	**GERESS Array B**	**147.51**	**345**	PKPbc	**PKPbc**	**21 29 13.6**	**+0.5**
	comp=Z,5.8nm,0.6s,baz=22,slow=2.9,SNR=56						
BZS	**Buzias**		**147.59**	**333**	⇑*iP*	**PKPbc**	**21 29 13.8**	**+0.5**
CONA	**Conrad Observa**	**147.75**	**342**	*i* PKPbc	**PKPbc**	**21 29 14.2**	**+0.5**
	comp=Z,5.8nm,0.6s,SNR=7.4						
MOA	**Molln**	**148.28**	**343**	*i* PKPbc	**PKPbc**	**21 29 15.5**	**+0.5**
	comp=Z,2.2nm,0.7s						
ARSA	**Arzberg**	**148.46**	**341**	*i* PKPbc	**PKPbc**	**21 29 16.7**	**+1.2**
	comp=Z,5.1nm,1.2s						
VTS	**Vitosha**	**149.12**	**328**	⇑*iP*	**PKPbc**	**21 29 17.8**	**+0.4**
SOKA	**Soboth**	**149.12**	**341**	*i* PKPbc	**PKPbc**	**21 29 17.2**	**0.0**
	comp=Z,2.3nm,0.6s						
KBA	**Koelnbreinsper**	**149.24**	**344**	*i* PKPbc	**PKPbc**	**21 29 17.3**	**-0.2**
	comp=Z,4.4nm,0.4s						
WATA	**Walderalm**	**149.43**	**346**	*i* PKPbc	**PKPbc**	**21 29 18.2**	**+0.3**
	comp=Z,5.1nm,0.4s						
RETA	**Reutte**	**149.47**	**347**	*i* PKPbc	**PKPbc**	**21 29 18.3**	**+0.3**
	comp=Z,3.4nm,0.5s						
WTTA	**Wattenberg**	**149.49**	**346**	*i* PKPbc	**PKPbc**	**21 29 18.7**	**+0.5**
	comp=Z,6.3nm,0.4s						
MOTA	**Moosalm**	**149.53**	**347**	*i* PKPbc	**PKPbc**	**21 29 18.4**	**+0.2**
	comp=Z,3.5nm,0.5s,SNR=5.6						
MYKA	**Terra Mystica**	**149.57**	**343**	*i* PKPbc	**PKPbc**	**21 29 18.0**	**-0.3**
	comp=Z,5.9nm,0.5s						
ABTA	**Abfaltersbach**	**149.76**	**345**	*i* PKPbc	**PKPbc**	**21 29 18.6**	**-0.1**
	comp=Z,8.9nm,0.6s,SNR=5.4						
DAVA	**Damuels**	**149.83**	**348**	*i* PKPbc	**PKPbc**	**21 29 19.8**	**+0.9**
	comp=Z,6.5nm,0.8s						
FETA	**Feichten**	**149.92**	**347**	*i* PKPbc	**PKPbc**	**21 29 19.7**	**+0.5**
	comp=Z,10nm,1.1s						
BOJS	**Bojanci**	**150.10**	**340**	*i* PKPbc	**PKPbc**	**21 29 20.0**	**+0.6**
PDG	**Podgorica**	**151.15**	**332**	⇑*iP*	**PKPbc**	**21 29 22.0**	**+0.1**
ESDC	**Sonseca Array**	**157.80**	**11**	PKPab	**PKPab**	**21 30 00.2**	**-0.9**
	comp=Z,0.2nm,0.6s,baz=348,slow=3.0,SNR=4.1						
TORD	**Torodi Ar. Bea**	**175.28**	**185**	PKP	**PKPdf**	**21 29 37.5**	**-0.8**
	comp=Z,1.0nm,1.1s,baz=270,slow=1.4,SNR=3.9						

*ISCJB **21** 21:13:28.2±0.7,27˚.10S±0˝.08×178˚.3W±0˝.1,h300km, mb3.7/5,Error ellipse: s-maj=18.3km s-min=9.0km az=20.1*

*IDC **21** 21:13:31.1±1.8,27˚.10S×178˚.32W,h310km±15km,mb3.5/5, mb1 3.7/7,mb1mx3.3/39,mbtmp4.3/7,Error ellipse: s-maj=28.4km s-min=19.5km az=44.0*

ISC 21 21:13:29.5±0.8,27˚.03S±0˝.10×178˚.2W±0˝.2,h300km,n10, σ2s09/11,mb3.6/5,Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**2.23**	**174**	P	**Pn**	**21 14 19.8**	**+1.7**
	57nm,0.3s,baz=301,slow=19,SNR=13						
RAO				S	**S**	**21 14 54.0**	**-2.8**
	70nm,0.3s,baz=72,slow=20,SNR=3.4						
URZ	**Urewera**	**11.88**	**198**	P	Pn	21 16 05.8	-4.7
	4.5nm,0.3s,baz=306,slow=18,SNR=15						
URZ				S	S	21 18 07.8	-15
	2.0nm,0.3s,baz=41,slow=19,SNR=10						
AFI	**Afiamalu**	**14.36**	**26**	P	**P**	**21 16 42.3**	**+2.5**
	2.1nm,0.3s,baz=217,slow=5.1,SNR=3.5						
AFI				S	**S**	**21 19 14.2**	**-3.5**
	0.7nm,0.3s,baz=107,slow=20,SNR=3.2						
CTA	**Charters Tower**	**33.25**	**274**	P	**P**	**21 19 40.4**	**+0.9**
	5.7nm,0.5s,baz=102,slow=10,SNR=9.9						
ASAR	**Alice Springs**	**43.24**	**263**	P	**P**	**21 21 00.9**	**-1.2**
	0.9nm,0.5s,baz=100,slow=7.2,SNR=10						
WRA	**Warramunga Arr**	**43.92**	**269**	P	**P**	**21 21 06.4**	**-1.2**
	1.7nm,0.6s,baz=108,slow=7.1,SNR=10						
VNDA	**Vanda**	**51.42**	**185**	P	**P**	**21 22 04.8**	**+0.9**
	0.9nm,0.6s,baz=8.1,slow=7.1,SNR=3.3						
MAW	**Mawson**	**75.40**	**200**	P	**P**	**21 24 39.7**	**-0.5**
	1.8nm,0.5s,baz=135,slow=5.7,SNR=5.0						
AKASG	**Malin Array Be**	**148.48**	**326**	PKPbc	**PKPbc**	**21 32 40.6**	**0.0**
	0.4nm,0.3s,baz=55,slow=4.0,SNR=5.0						
TORD	**Torodi Ar. Bea**	**166.19**	**179**	PKPab	**PKPab**	**21 34 00.9**	**-1.0**
	0.5nm,0.8s,baz=160,slow=4.6,SNR=3.7						

*ISCJB **21** 21:56:05.7±0.4,33˚.34N±0˝.02×35˚.35E±0˝.03,h7km±2km, Error ellipse: s-maj=4.5km s-min=2.2km az=26.1*

*CSEM **21** 21:56:06.2±0.1,33˚.34N×35˚.38E,h8km, MD2.8,Error ellipse: s-maj=3.4km s-min=1.9km az=120.0*

*HLW **21** 21:56:06.4,33˚.45N×35˚.37E,h19km±10km,Md3.4,MI3.5*

*GII **21** 21:56:06.1±0.0,33˚.23N×35˚.41E,h1km,MD2.8/9*

*NSSC **21** 21:56:06.0±1.8,33˚.33N×35˚.38E,h6km±8km,ML2.7*

*GRAL **21** 21:56:07.0±0.3,33˚.33N×35˚.38E,h0km±1km,MD3.4*

ISC 21 21:56:06.2±0.9,33˚.33N±0˝.02×35˚.37E±0˝.03,h11km±7km, n58,σ0s70/100,Jordan-Syria region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KSDI	**Kefar Szold**	**0.28**	**121**	Pg	**Pg**	**21 56 11.5**	**-0.4**
KSDI				Sg	**Sg**	**21 56 16.0**	**+0.3**
NAQL	**Naqoura**	**0.29**	**222**	*eP*	**Pg**	**21 56 12.1**	**0.0**
NAQL	**Naqoura**	**0.29**	**222**	*eP*	**Pg**	**21 56 12.1**	**0.0**
HNTI	**Hanita**	**0.30**	**214**	Pg	**Pg**	**21 56 11.9**	**-0.4**
HNTI				Sg	**Sb**	**21 56 18.1**	**-0.6**
HNTI	**Hanita**	**0.30**	**214**	Pg	**Pg**	**21 56 11.9**	**-0.4**
HNTI				Sg	**Sb**	**21 56 18.1**	**-0.6**
MMA0B	**Mount Meron ar**	**0.32**	**176**	Pg	**Pg**	**21 56 12.3**	**-0.4**
MMA0B				Sg	**Sg**	**21 56 16.7**	**-0.3**
DQRL	**Deir Qamar**	**0.41**	**24**	*eP*	**Pg**	**21 56 14.4**	**+0.1**
DQRL				*eS*	**Sg**	**21 56 19.9**	**+0.2**
DQRL	**Deir Qamar**	**0.41**	**24**	*eP*	**Pg**	**21 56 14.4**	**+0.1**
DQRL				*eS*	**Sg**	**21 56 19.9**	**+0.2**
RCY	**Rachaya**	**0.42**	**67**	*eP*	**Pg**	**21 56 14.5**	**0.0**
RCY				*eS*	**Sg**	**21 56 20.2**	**+0.1**
BRBR	**Barbar**	**0.49**	**81**	*eP*	**Pg**	**21 56 15.7**	**-0.2**
BRBR				*eS*	**Sg**	**21 56 22.7**	**+0.3**
BRBR				AML	AML	21 56 24.6	
	comp=E,983nm,0.6s						
BRBR				AML	AML	21 56 27.1	
	comp=N,902nm,0.5s						
BRBR	**Barbar**	**0.49**	**81**	*eP*	**Pg**	**21 56 15.7**	**-0.2**
	SNR=93						
BRBR				*eS*	**Sg**	**21 56 22.7**	**+0.3**
	comp=N,902nm,0.5s,SNR=92						
KSHT	**Keshet**	**0.51**	**134**	Pg	**Pg**	**21 56 16.2**	**0.0**
KSHT	**Keshet**	**0.51**	**134**	Pg	**Pg**	**21 56 16.2**	**0.0**
BEYL	**Beirut**	**0.55**	**10**	*eP*	**Pg**	**21 56 16.9**	**0.0**
BEYL	**Beirut**	**0.55**	**10**	*eP*	**Pg**	**21 56 16.9**	**0.0**
BHL	**Bhannes**	**0.61**	**22**	*eP*	**Pg**	**21 56 18.0**	**-0.2**
BHL				*eS*	**Sg**	**21 56 26.5**	**+0.2**
BHL	**Bhannes**	**0.61**	**22**	*eP*	**Pg**	**21 56 18.0**	**-0.2**
BHL				*eS*	**Sg**	**21 56 26.5**	**+0.2**
BLGI	**Bet Lehem HaGe**	**0.62**	**194**	Pg	**Pg**	**21 56 18.1**	**-0.1**
BLGI	**Bet Lehem HaGe**	**0.62**	**194**	Pg	**Pg**	**21 56 18.1**	**-0.1**
QASN	**Qassioun**	**0.78**	**75**	*eP*	**Pb**	**21 56 22.0**	**+0.1**
QASN				*eS*	**Sg**	**21 56 31.6**	**+0.1**
QASN				AML	AML	21 56 34.6	
	comp=N,1μm,0.7s						
QASN				AML	AML	21 56 37.4	
	comp=E,312nm,0.2s						
QASN	**Qassioun**	**0.78**	**75**	*eP*	**Pb**	**21 56 22.0**	**+0.1**
	SNR=72						
QASN				*eS*	**Sg**	**21 56 31.6**	**+0.1**
	comp=E,312nm,0.2s,SNR=91						
OFRI	**'Ofer**	**0.78**	**205**	Pg	**Pg**	**21 56 21.2**	**-0.2**
TCHB	**Talchebab**	**0.83**	**143**	*eP*	**Pg**	**21 56 21.9**	**-0.4**
TCHB				*eS*	**Sg**	**21 56 32.8**	**-0.3**
TCHB				AML	AML	21 56 44.8	
	comp=N,667nm,0.6s						
TCHB				AML	AML	21 56 46.1	
	comp=E,443nm,0.4s						
TCHB	**Talchebab**	**0.83**	**143**	*eP*	**Pg**	**21 56 21.9**	**-0.4**
	SNR=72						
TCHB				*eS*	**Sg**	**21 56 32.8**	**-0.3**
	comp=E,443nm,0.4s,SNR=91						
TOTH	**TOTAH**	**0.88**	**88**	*eP*	**Pg**	**21 56 23.1**	**-0.2**
TOTH				*eS*	**Sg**	**21 56 34.3**	**-0.5**
TOTH				AML	AML	21 56 40.7	
	comp=E,123nm,0.3s						
TOTH				AML	AML	21 56 47.1	
	comp=N,108nm,0.6s						
TOTH	**TOTAH**	**0.88**	**88**	*eP*	**Pg**	**21 56 23.0**	**-0.2**
	SNR=72						
TOTH				*eS*	**Sg**	**21 56 34.3**	**-0.5**
	comp=N,108nm,0.6s,SNR=91						
MMLI	**Mount Malkishu**	**0.90**	**177**	Pg	**Pg**	**21 56 22.8**	**-0.7**
MMLI				Sg	**Sg**	**21 56 34.8**	**-0.3**
HWQ	**Hawqa**	**1.05**	**27**	*eP*	**Pg**	**21 56 26.1**	**-0.4**
HWQ				*eS*	**Sg**	**21 56 40.1**	**-0.2**
HWQ	**Hawqa**	**1.05**	**27**	*eP*	**Pg**	**21 56 26.1**	**-0.4**
HWQ				*eS*	**Sg**	**21 56 40.1**	**-0.2**
HMDT	**Nahal Hemdat**	**1.09**	**173**	Pg	**Pg**	**21 56 26.0**	**-1.1**
HMDT				Sg	**Sb**	**21 56 41.6**	**+0.4**
SLTI	**Sal'it**	**1.13**	**195**	Pg	**Pg**	**21 56 26.9**	**-1.0**
SLTI				Sg	**Sb**	**21 56 42.9**	**+0.5**
MARH	**Ras Al Marh**	**1.15**	**53**	*eP*	**Pg**	**21 56 28.2**	**-0.2**
MARH				*eS*	**Sg**	**21 56 43.6**	**+0.1**
MARH				AML	AML	21

HMBC	**Humberstone**	**0.68**	**251**	⇑*iP*	Pn	22 14 12.9	+0.2
HMBC				*i* S	Sn	22 14 26.3	+0.9
HMBC				IAML		22 14 27.4	
	comp=E,4μm,0.2s						
PSGC	**Pisagua**	**0.97**	**298**	⇑*iP*	Pn	22 14 15.8	+0.1
PSGC				*i* S	Sn	22 14 31.4	+0.8
PSGC				IAML		22 14 31.9	
	comp=N,1μm,0.3s						
MNMC	**Minye Minye**	**0.99**	**338**	⇓*iP*	Pn	22 14 16.6	+0.5
MNMC				*i* S	Sn	22 14 32.5	+1.3
MNMC				IAML		22 14 36.1	
	comp=N,4μm,0.2s						
PB01	**IPOC Station P**	**1.02**	**195**	⇑*iP*	Pn	22 14 16.7	+0.5
PB01				*i* S	Sn	22 14 32.6	+1.2
PB01				IAML		22 14 33.8	
	comp=E,3μm,0.3s						
PB09	**IPOC Station P**	**1.73**	**181**	*eP*	Pn	22 14 25.9	+1.0
PB09				*i* S	Sn	22 14 48.3	+1.2
PB09				IAML		22 14 52.6	
	comp=E,2μm,0.2s						
PB13	**IPOC Station P**	**1.73**	**351**	*eP*	Pn	22 14 26.5	+1.1
PB07	**IPOC Station P**	**1.78**	**201**	⇑*iP*	Pn	22 14 25.9	+0.4
PB07				*i* S	Sn	22 14 49.6	+1.5
PB07				IAML		22 14 55.3	
	comp=E,1μm,0.3s						
PB12	**IPOC Station P**	**1.78**	**323**	*eP*	Pn	22 14 25.2	-0.3
PB12				*i* S	Sn	22 14 47.8	-0.2
PB04	**IPOC Station P**	**2.43**	**201**	*eP*	Pn	22 14 35.2	+1.2
PB04				IAML		22 15 15.5	
	comp=N,658nm,0.3s						
PB06	**IPOC Station P**	**2.66**	**187**	IAML		22 15 19.7	
	comp=N,378nm,0.7s						

SJA ***21*** *22:16:43.5±0.6, 35°.56S×70°.78W, h30km, ML3.3, MW3.8*
ISCJB ***21*** *22:16:48.0±0.7, 35°.25S±0°.05×71°.2W±0°.1, h107km±7km, Error ellipse: s-maj=15.1km s-min=5.0km az=25.9*
GUC ***21*** *22:16:49.4±0.6, 35°.25S×71°.19W, h98km±3km, ML3.8*

ISC 21 22:16:49.1±1.5, 35°.24S±0°.06×71°.22W±0°.08, h99km±10km, n22, σ0s75/38, 5C-2D, Central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NICH	**Los Niches**	**0.24**	**359**	⇓*iP*	**Pn**	**22 17 02.9**	**-0.5**
NICH				*i* S	**Sn**	**22 17 13.6**	**-0.4**
TALC	**Talca**	**0.37**	**245**	⇑*iP*	**Pn**	**22 17 03.8**	**-0.1**
TALC				*i* S	**Sn**	**22 17 15.0**	**0.0**
GO05	**HualaæØ**	**0.62**	**292**	⇓*iP*	**Pn**	**22 17 06.1**	**+0.2**
GO05				*i* S	**Sn**	**22 17 18.6**	**+0.2**
GO05				IAML		22 17 19.5	
	comp=N,2μm,0.2s						
GO05	**HualaæØ**	**0.62**	**292**	*i* P	**Pn**	**22 17 04.7**	**-1.1**
GO05				*i* S	**Sn**	**22 17 20.2**	**+1.8**
CHPI	**Pichilemu**	**1.06**	**323**	*eP*	**Pn**	**22 17 10.6**	**+0.4**
CHPI				*i* S	**Sn**	**22 17 26.1**	**+0.1**
CCHI	**Chillan**	**1.52**	**207**	⇑*iP*	**Pn**	**22 17 15.7**	**+0.1**
CCHI				*i* S	**Sn**	**22 17 36.1**	**+0.4**
CCHI				IAML		22 17 37.3	
	comp=N,1μm,0.5s						
COCH	**Cobquecura**	**1.55**	**235**	⇑*iP*	**Pn**	**22 17 16.0**	**0.0**
COCH				*i* S	**Sn**	**22 17 36.1**	**-0.2**
ANTU	**Antumapu**	**1.74**	**16**	*eP*	**Pn**	**22 17 18.4**	**0.0**
ANTU				*eS*	**Sn**	**22 17 40.6**	**0.0**
ANTU				IAML		22 17 42.6	
	comp=E,1μm,0.2s						
YECH	**El Yeso**	**1.83**	**31**	*eP*	**Pn**	**22 17 20.4**	**+0.6**
YECH				IAML		22 17 56.0	
	comp=E,1μm,1.7s						
FSR	**Penalolen**	**1.85**	**18**	*eP*	**Pn**	**22 17 20.2**	**+0.4**
FSR				*i* S	**Sn**	**22 17 43.6**	**+0.4**
CLCH	**Cerro Calan**	**1.93**	**17**	⇑*iP*	**Pn**	**22 17 20.8**	**-0.1**
CLCH				*i* S	**Sn**	**22 17 44.9**	**0.0**
CLCH				IAML		22 17 48.3	
	comp=E,1000nm,0.4s						
FCH	**Farellones**	**2.06**	**22**	*eP*	**Pn**	**22 17 22.7**	**-0.1**
FCH				*i* S	**Sn**	**22 17 48.6**	**+0.2**
FCH				IAML		22 17 49.8	
	comp=E,1μm,0.4s						
PEL	**Peldehue**	**2.14**	**12**	⇑*iP*	**Pn**	**22 17 23.5**	**0.0**
PEL				*i* S	**Sn**	**22 17 49.5**	**-0.3**
PEL				IAML		22 17 51.5	
	comp=E,1μm,0.3s						
ROC1	**El Roble**	**2.27**	**4**	*i* P	**Pn**	**22 17 25.6**	**+0.1**
ROC1				*eS*	**Sn**	**22 17 53.0**	**-0.1**
ROCH	**El Roble**	**2.27**	**5**	*eP*	**Pn**	**22 17 25.3**	**-0.1**
ROCH				IAML		22 17 55.9	
	comp=N,1μm,0.3s						
ASAL	**Salagasta**	**3.31**	**38**	*i* P	**Pn**	**22 17 39.2**	**+0.2**
AUSP	**Uspallata**	**3.38**	**27**	*i* P	**Pn**	**22 17 40.3**	**+0.1**
RTLS	**Leoncito**	**3.79**	**26**	*i* P	**Pn**	**22 17 45.9**	**+0.1**
RTLS				IAML		22 17 47.5	
	comp=Z,35nm,0.4s						
RTLS				*i* S	**Sn**	**22 18 32.3**	**+2.7**
AMOG	**MOGNA**	**4.86**	**29**	*i* P	**Pn**	**22 17 59.2**	**-0.9**
ACCO	**Cerro Coronel**	**4.98**	**22**	*i* P	**Pn**	**22 18 00.9**	**-1.0**
ACCO				IAML		22 18 01.6	
	comp=Z,26nm,0.2s						
ACCO				*i* S	**Sn**	**22 18 59.1**	**+0.6**
AROD	**Rodeo**	**5.27**	**17**	*eP*	**Pn**	**22 18 05.5**	**-0.3**
AROD				*eS*	**Sn**	**22 19 04.9**	**-0.6**
AGUA	**GUANDACOL**	**6.18**	**23**	*eP*	**Pn**	**22 18 16.4**	**-1.6**

NIED ***21*** *22:18:00, 24°.00N×121°.70E, h8km, Mw4.9 Best double couple: M0 2.46000×10^16 NP1:φ=251.00000°, δ=23.00000°, λ=105.00000°. NP2:φ=54.00000°, δ=68.00000°, λ=84.00000°.*
BJI ***21*** *22:18:30.4, 24°.11N×121°.73E, h10km, mb4.5/63, mB4.8/51, ML4.7/13, Ms4.7/69, Ms7 4.6/64*
JMA ***21*** *22:18:31.2±0.1, 24°.02N×121°.74E, h0km, M4.7*
MOS ***21*** *22:18:31.5±1.3, 24°.03N×121°.64E, h23km, mb5.1/44, MS4.3/7, Error ellipse: s-maj=8.0km s-min=5.4km az=111.9*
GCMT ***21*** *22:18:32.0±0.5, 23°.91N×121°.72E, h30km±1km, MW4.8/56, Moment Tensor Solution. s24,c30; s56,c77; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr2.08±.20; Mθθ-0.85±.11; Mφφ-1.23±.12; Mrθ1.00±.14; Mrφ-0.74±.05; Mθφ0.41±.15; Best double couple: M0 2.21500×10^16 NP1:φ=50.00000°, δ59.00000°, λ101.00000°. NP2: φ=209.00000°, δ33.00000°, λ72.00000°. Principal axes: T 2.3980, Plg73.0000°, Azm350.0000°; N -0.3700, Plg10.0000°, Azm224.0000°; P -2.0320, Plg13.0000°, Azm132.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
NEIC ***21*** *22:18:32.0±0.6, 24°.04N×121°.70E, h15km±3km, mb5.1/66, ML5.2(TAP) Error ellipse: s-maj=4.7km s-min=3.5km az=110.0*
NEIC Felt [II] at Taipei. Also felt at Hualien and Taichung. Recorded [4 TAP] in Hualien and Nantou; [3 TAP] in Yilan; [1 TAP] in Changhua, Hsinchu, Miaoli, Taoyuan and Yunlin.
ISCJB ***21*** *22:18:33.1±0.2, 24°.08N±0°.01×121°.75E±0°.01, h29km±1km, mb4.8/126, MS4.2/26, Error ellipse: s-maj=2.2km s-min=1.6km az=138.5*
BKK ***21*** *22:18:33.8±0.4, 24°.N±.5′×12°.2E±.′, h10km, M5.2/17, mB5.7/2, mb4.6/17, MLv5.5/1, Mw(mB)5.3/2*
TAP ***21*** *22:18:33.4, 24°.09N×121°.67E, h17km, ML5.1, B*
IDC ***21*** *22:18:34.8±0.8, 24°.08N×121°.81E, h38km±5km, mb4.3/28, mb1 4.4/29, mb1mx4.3/50, mbtmp4.5/29, ML4.2/1, MS4.0/16, Ms1 4.0/16, ms1mx3.7/36, Error ellipse: s-maj=15.2km s-min=11.4km az=68.0*

ISC 21 22:18:32.8±0.4, 24°.03N±0°.01×121°.75E±0°.02, h19km±1km, h19km:pP-P, n384, σ1s87/501, mb4.9/126, MS4.2/26, 30C-36D, Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HWA	**Hwalien**	**0.15**	**249**	⇓*iP*	**Pg**	**22 18 37.7**	**+0.6**
	baz=205						
TWD	**Chiawan**	**0.15**	**289**	⇑*iP*	**Pg**	**22 18 36.7**	**-0.5**
	baz=264						
TWD				*eS*	**Sg**	**22 18 39.2**	**-1.0**
	baz=264						
NACB	**Ninganchiao**	**0.20**	**315**	*ePg*	**Pb**	**22 18 36.6**	**-0.8**
NACB				*eSg*	**Sb**	**22 18 38.9**	**-1.3**
ESF	**Shoufeng Towns**	**0.28**	**235**	*eP*	**Pb**	**22 18 40.1**	**+1.1**
	baz=220						
EHP	**Heping Village**	**0.28**	**358**	*eP*	**Pb**	**22 18 39.5**	**+0.4**
	baz=19						
EHP				*eS*	**Sb**	**22 18 43.8**	**+0.4**
	baz=19						
ESL	**Shilin**	**0.36**	**234**	⇑*iP*	**Pb**	**22 18 40.7**	**0.0**
	baz=221						
TEGC	**Jichi Village**	**0.38**	**212**	*eP*	**Pn**	**22 18 42.7**	**-0.5**
	baz=188						
TEGC				*eS*	**Sn**	**22 18 49.3**	**-0.6**
	baz=188						
ENA	**Nanau**	**0.40**	**358**	⇑*iP*	**Pg**	**22 18 40.8**	**-0.3**
	baz=13						
ENA				*eS*	**Sg**	**22 18 46.4**	**-0.4**
	baz=13						
WHF	**Hehuan Shan**	**0.46**	**284**	⇑*iP*	**Pg**	**22 18 41.6**	**-0.9**
	baz=279						
NNS	**Nan Shan**	**0.54**	**320**	⇑*iP*	**Pb**	**22 18 42.7**	**-1.0**
	baz=321						
NNS				*eS*	**Sg**	**22 18 50.0**	**-1.0**
	baz=321						
TWT	**Tachien**	**0.57**	**293**	⇑*iP*	**Pb**	**22 18 44.0**	**-0.2**
	baz=289						
TWC	**Suao**	**0.58**	**9**	⇑*iP*	**Pb**	**22 18 44.4**	**0.0**
	baz=16						
ENTT	**Nioudou**	**0.63**	**344**	⇑*iP*	**Pb**	**22 18 44.8**	**-0.4**
	baz=343						
EHY	**Hungye**	**0.66**	**217**	⇓*iP*	**Pb**	**22 18 45.3**	**-0.3**
	baz=217						
TWE	**Neicheng**	**0.69**	**353**	⇑*iP*	**Pb**	**22 18 46.1**	**-0.2**
	baz=2.0						
TWE				*eS*	**Sb**	**22 18 53.7**	**-1.7**
	baz=2.0						
YHNB	**Yeheng**	**0.72**	**332**	*ePg*	**Pb**	**22 18 45.9**	**-0.9**
YHNB				*eSn*	**Sb**	**22 18 55.6**	**-0.9**
ILA	**Ilan**	**0.73**	**360**	⇑*P*	**Pg**	**22 18 47.2**	**-0.1**
ILA				S	**Sb**	**22 18 56.7**	**+0.2**
NSK	**Sanguang**	**0.74**	**331**	⇑*iP*	**Pb**	**22 18 46.4**	**-0.7**
	baz=343						
YULB	**Yu-li**	**0.76**	**214**	*ePg*	**Pb**	**22 18 46.4**	**-1.1**
SSLB	**Suanglung**	**0.77**	**252**	*ePg*	**Pb**	**22 18 47.0**	**-0.6**
SSLB				*eSn*	**Sb**	**22 18 53.8**	**-4.0**
TWF1	**Yuli**	**0.79**	**212**	⇓*eP*	**Pb**	**22 18 47.4**	**-0.6**
	baz=216						
SMLT	**Sun Moon Lake**	**0.80**	**260**	⇓*iP*	**Pb**	**22 18 47.9**	**-0.2**
	baz=254						
TYC	**Yuchr**	**0.83**	**262**	⇓*iP*	**Pb**	**22 18 48.3**	**-0.3**
	baz=256						
TYC				S	**Sb**	**22 18 58.4**	**-1.0**
	baz=256						
NSTT	**Nanjuang**	**0.91**	**311**	⇓*P*	**Pb**	**22 18 49.7**	**-0.3**
	baz=311						
NSTT				*eS*	**Sb**	**22 19 00.3**	**-1.4**
	baz=311						
YUS	**Yu-Shan**	**0.91**	**234**	⇓*iP*	**Pg**	**22 18 50.6**	**-0.1**
	baz=216						
YUS				*eS*	**Sb**	**22 19 02.2**	**0.0**
	baz=216						
TWQ1	**Liyutan**	**0.95**	**290**	⇓*iP*	**Pb**	**22 18 50.9**	**+0.2**
	baz=296						
TWQ1				S	**Sb**	**22 19 02.8**	**0.0**
	baz=296						
TWA	**Mucha**	**0.96**	**351**	⇑*P*	**Pb**	**22 18 51.0**	**+0.1**
	baz=354						
TWA				S	**Sb**	**22 19 02.9**	**-0.2**
	baz=354						
TATO	**Taipei**	**0.97**	**346**	*ePg*	**Pb**	**22 18 50.6**	**-0.5**
TATO				*eSg*	**Sb**	**22 19 02.4**	**-1.1**
NSY	**Sanyi**	**0.98**	**293**	⇓*iP*	**Pg**	**22 18 51.9**	**-0.1**
	baz=299						
NSY				*eS*	**Sg**	**22 19 04.7**	**-0.3**
	baz=299						
WNT	**Mingjian**	**0.99**	**261**	⇓*iP*	**Pg**	**22 18 52.1**	**0.0**
	baz=257						
WNT				S	**Sg**	**22 19 05.1**	**-0.1**
	baz=257						
TCU	**Taichung**	**0.99**	**277**	⇓*iP*	**Pg**	**22 18 52.2**	**+0.1**
	baz=273						
TCU				S	**Sn**	**22 19 05.7**	**+0.5**
	baz=273						
CHKT	**Chengkung**	**0.99**	**201**	⇑*eP*	**Pb**	**22 18 51.3**	**-0.1**
	baz=206						
CHKT				*eS*	**Sn**	**22 19 06.2**	**+1.1**
	baz=206						
TWB1	**Santiao Chiao**	**1.00**	**12**	⇑*P*	**Pn**	**22 18 51.9**	**+0.1**
	baz=12						
TWB1				*eS*	**Sb**	**22 19 04.6**	**+0.4**
	baz=12						
ALS	**Alishan**	**1.01**	**239**	⇓*iP*	**Pn**	**22 18 52.2**	**0.0**
	baz=224						
ALS				*eS*	**Sb**	**22 19 05.2**	**+0.3**
	baz=224						
TAP1	**Taipei**	**1.03**	**348**	⇓*P*	**Pb**	**22 18 52.0**	**0.0**
	baz=350						
TAP1				*eS*	**Sn**	**22 19 05.7**	**-0.4**
	baz=350						
TAP	**Taipei**	**1.03**	**347**	*eP*	**Pb**	**22 18 51.5**	**-0.6**
	baz=350						
TAP				S	**Sb**	**22 19 05.1**	**-0.1**
	baz=350						
NWF	**Wu-fen Shan**	**1.04**	**1**	⇓*P*	**Pn**	**22 18 52.5**	**+0.1**
	baz=6.0						
HSN	**Hsinchu**	**1.05**	**317**	⇑*P*	**Pg**	**22 18 53.0**	**-0.2**
	baz=319						
HSN				*eS*	**Sg**	**22 19 07.8**	**+0.8**
	baz=319						
NCU	**National Centr**	**1.07**	**331**	P	**Pb**	**22 18 52.6**	**-0.1**
	baz=331						
NCU				S	**Sn**	**22 19 07.0**	**-0.1**
	baz=331						
CHN5	**Tsauling**	**1.08**	**247**	⇓*iP*	**Pg**	**22 18 53.6**	**-0.1**
	baz=242						
ELDTW	**Lidau**	**1.08**	**219**	⇓*eP*	**Pb**	**22 18 51.7**	**-1.2**
	baz=213						
TWS1	**Kuangyinshan**	**1.11**	**344**	*eP*	**Pn**	**22 18 53.4**	**0.0**
	baz=344						
TWS1				S	**Sg**	**22 19 08.9**	**-0.1**
	baz=344						
WGK	**Gukeng**	**1.14**	**253**	⇓*P*	**Pg**	**22 18 54.5**	**-0.5**
	baz=249						
WGK				*eS*	**Sg**	**22 19 10.8**	**+0.8**
	baz=249						
JYNG	**Yonagunijimaku**	**1.17**	**69**	P	**Pb**	**22 18 54.4**	**+0.1**
JYNG				S	**Sg**	**22 19 10.5**	**-0.2**
YOJ	**Yonaguni jima**	**1.23**	**69**	⇓*iP*	**Pb**	**22 18 55.7**	**+0.4**
	baz=89						
YOJ				*eS*	**Sg**	**22 19 12.4**	**-0.2**
	baz=89						
YOJ	**Yonaguni jima**	**1.23**	**69**	P	**Pb**	**22 18 55.8**	**+0.4**
YOJ				S	**Sg**	**22 19 12.3**	**-0.3**
YOJ	**Yonaguni jima**	**1.23**	**69**	*eP*	**Pb**	**22 18 55.7**	**+0.4**
YOJ				*e*		22 19 05.9	
YOJ	**Yonaguni jima**	**1.23**	**69**	*ePn*	**Pb**	**22 18 55.7**	**+0.4**
YOJ				*eSn*	**Sb**	**22 19 05.9**	**-4.8**
TWY	**Chenhua**	**1.25**	**354**	*eP*	**Pn**	**22 18 55.0**	**-0.2**
	baz=341						
STYT	**Tauyuan**	**1.26**	**227**	⇓*iP*	**Pb**	**22 18 56.1**	**+0.1**
	baz=221						
STYT				*eS*	**Sn**	**22 19 12.2**	**+0.4**
	baz=221						
CHN4	**Tsaushan**	**1.26**	**238**	⇓*P*	**Pb**	**22 18 56.6**	**+0.7**
	baz=222						
CHN4				*eS*	**Sg**	**22 19 14.8**	**+1.1**
	baz=222						
TPUB	**Ta-pu**	**1.26**	**235**	*ePn*	**Pb**	**22 18 56.2**	**+0.3**
TPUB				*eSn*	**Sb**	**22 19 10.5**	**-1.4**
CHN2	**Minshiung**	**1.27**	**247**	*eP*	**Pb**	**22 18 56.6**	**+0.4**
	baz=244						
CHN2				*eS*	**Sg**	**22 19 15.8**	**+1.7**
	baz=244						
WTP	**Ta-pu**	**1.30**	**234**	⇓*iP*	**Pb**	**22 18 57.2**	**+0.5**
	baz=229						
WTP				S	**Sg**	**22 19 15.3**	**+0.2**
	baz=229						
CHY	**Chiayi**	**1.33**	**247**	*eP*	**Pb**	**22 18 57.0**	**-0.1**
	baz=243						
CHY				S	**Sg**	**22 19 15.9**	**0.0**
	baz=243						
TWG	**Pinlang**	**1.36**	**208**	*eP*	**Pn**	**22 18 55.5**	**-1.2**
	baz=187						
TWG	**Pinlang**	**1.36**	**208**	*ePn*	**Pn**	**22 18 55.1**	**-1.7**
TWG				*eSn*	**Sn**	**22 19 07.3**	**-6.9**
WTCT	**Ta-ch'eng**	**1.36**	**263**	⇓*iP*	**Pb**	**22 18 57.5**	**-0.1**
	baz=261						
WTCT				S	**Sg**	**22 19 16.1**	**-0.7**
	baz=261						
TTN	**Taitung**	**1.39**	**204**	*eP*	**Pn**	**22 18 57.2**	**+0.1**
	baz=199						
TWK	**Hsinying**	**1.39**	**237**	⇓*P*	**Pb**	**22 18 58.2**	**+0.1**
	baz=233						
TWK				S	**Sg**	**22 19 17.4**	**-0.4**
	baz=233						
CHN1	**Nanshi**	**1.40**	**233**	⇓*P*	**Pb**	**22 18 58.7**	**+0.3**
	baz=230						
CHN1				*eS*	**Sg**	**22 19 18.2**	**-0.1**
	baz=230						
SGST	**Jiashian**	**1.43**	**229**	⇓*P*	**Pb**	**22 18 59.3**	**+0.4**
	baz=225						
SGST				*eS*	**Sg**	**22 19 18.8**	**-0.4**
	baz=225						
WSF	**Szhu**	**1.46**	**255**	P	**Pb**	**22 18 59.4**	**+0.1**
	baz=251						
WSF				*eS*	**Sg**	**22 19 19.5**	**-0.4**
	baz=251						
CHN8	**Yiju**	**1.57**	**245**	⇓*eP*	**Pb**	**22 19 00.8**	**-0.5**
	baz=241						
CHN8				*eS*	**Sg**	**22 19 22.5**	**-1.1**
	baz=241						
CHN3	**Shinhua**	**1.59**	**234**	*eP*	**Pb**	**22 19 01.5**	**0.0**
	baz=231						
CHN3				*eS*	**Sg**	**22 19 23.9**	**-0.3**
	baz=231						
ECL	**Taimali**	**1.60**	**207**	*eP*	**Pn**	**22 18 58.5**	**-1.6**
	baz=190						
PCYT	**Pengchaiyu**	**1.62**	**10**	P	**Pn**	**22 19 00.9**	**+0.6**
	baz=350						
PCYT				S	**Sb**	**22 19 23.0**	**+0.8**
	baz=350						
SSD	**Sandimen**	**1.64**	**219**	⇓*eP*	**Pb**	**22 19 01.7**	**-0.8**
	baz=227						
SSD				*eS*	**Sg**	**22 19 24.9**	**-0.9**
	baz=227						
SCLT	**Jiali**	**1.67**	**240**	*eP*	**Pb**	**22 19 02.3**	**-0.5**
	baz=237						
SCLT				*eS*	**Sb**	**22 19 24.6**	**+1.2**
	baz=237						
TAI1	**Yung-k'ang**	**1.71**	**235**	*eP*	**Pn**	**22 19 02.2**	**+0.6**
	baz=234						
TWM1	**Shoushan**	**1.71**	**226**	*eP*	**Pb**	**22 19 04.5**	**+0.7**
	baz=222						
SGLT	**Jiouru**	**1.74**	**222**	*eP*	**Pb**	**22 19 04.6**	**+0.4**
	baz=221						
IRIF	**Iriomote-Funau**	**1.83**	**80**	P	**Pn**	**22 19 04.2**	**+1.0**
IRIF				S	**Sn**	**22 19 26.2**	**+0.3**
EAST	**Anshuo**	**1.84**	**207**	⇑*eP*	**Pn**	**22 19 02.1**	**-1.2**
	baz=192						
TAW	**Tawu**	**1.84**	**206**	*eP*	**Pn**	**22 19 02.4**	**-1.0**
	baz=189						
HATJ	**Hateruma jima**	**1.88**	**89**	P	**Pb**	**22 19 05.1**	**-1.3**
HATJ				S	**Sb**	**22 19 28.9**	**-0.6**
SCZT	**Fangliau**	**1.95**	**213**	*eP*	**Pb**	**22 19 07.2**	**-0.6**
	baz=209						
SCZT				*eS*	**Sb**	**22 19 32.5**	**+0.8**
	baz=209						
KAU	**Kaohsiung**	**1.97**	**223**	*eP*	**Pb**	**22 19 07.0**	**-1.1**
	baz=241						
LAY	**Lan-yu**	**1.99**	**185**	⇑*eP*	**Pn**	**22 19 04.3**	**-1.2**
	baz=182						
PNG	**Penghu**	**2.07**	**258**	⇓*eP*	**Pn**	**22 19 06.3**	**-0.2**
	baz=257						
PNG				*eS*	**Sn**	**22 19 32.8**	**+1.1**
	baz=257						
WDGT	**Dungji**	**2.07**	**249**	⇓*iP*	**Pn**	**22 19 07.3**	**+0.8**
	baz=233						
WDGT				*eS*	**Sn**	**22 19 33.0**	**+1.3**
	baz=233						
JKRS	**Kuro-shima**	**2.07**	**84**	P	**Pb**	**22 19 08.1**	**-1.7**
TWP	**Hsiaoliuchiu**	**2.11**	**218**	*eP*	**Pb**	**22 19 09.8**	**-0.6**
	baz=237						
JIJ	**Ishigaki jima**	**2.21**	**81**	P	**Pn**	**22 19 09.3**	**+0.9**
JIJ				S	**Sn**	**22 19 35.4**	**+0.2**
HEN	**Hengchun**	**2.22**	**205**	*eP*	**Pb**	**22 19 10.9**	**-1.5**
	baz=191						
TWK1	**Hengchun**	**2.25**	**203**	*eP*	**Pn**	**22 19 09.6**	**+0.5**
	baz=187						
TSEB	**Hengchuen, Pin**	**2.26**	**201**	*eP*	**Pb**	**22 19 11.5**	**-1.6**
	baz=187						
JISG	**Ishigakijimahi**	**2.40**	**76**	P	**Pn**	**22 19 11.6**	**+0.6**
JISG				S	**Sn**	**22 19 41.8**	**+1.9**
JTJ	**Tarama**	**2.76**	**77**	P	**Pn**	**22 19 17.2**	**+1.2**
QZH	**Quanzhou**	**3.02**	**288**	⇑*iPn*	**Pn**	**22 19 17.6**	**-2.0**
QZH				Sn	**Sn**	**22 19 51.8**	**-3.5**
QZH				smax	smax		
	comp=N,4μm,1.2s						
QZH				smax	smax		
	comp=E,2μm,0.7s						
KNM	**Kinmen**	**3.06**	**278**	*eP*	**Pn**	**22 19 21.4**	**+1.3**
	baz=275						
JIRB	**Irabujima**	**3.22**	**75**	P	**Pn**	**22 19 23.5**	**+1.2**
JIRB				S	**Sn**	**22 20 01.7**	**+1.6**
JIKM	**Ikemajima**	**3.31**	**74**	P	**Pn**	**22 19 25.1**	**+1.6**
JIKM				S	**Sn**	**22 20 05.4**	**+3.1**
JMJ	**Miyako jima 2**	**3.32**	**76**	*eP*	**Pn**	**22 19 24.7**	**+1.0**
	baz=77						
JMJ	**Miyako jima 2**	**3.32**	**76**	P	**Pn**	**22 19 23.4**	**-0.3**
JMJ				S	**Sn**	**22 20 04.7**	**+2.1**
JOGS	**Gusukube**	**3.41**	**77**	P	**Pn**	**22 19 26.5**	**+1.6**
JOGS				S	**Sn**	**22 20 06.3**	**+1.5**
JKE	**Kume jima 2**	**5.10**	**62**	P	**Pn**	**22 19 49.6**	**+1.4**
JJT2	**Tamagusuku 2**	**5.83**	**68**	P	**Pn**	**22 19 59.6**	**+1.4**
JNTH	**Nagotoyohara**	**6.19**	**65**	P	**Pn**	**22 20 03.1**	**-0.1**
JNTH				S	**Sn**	**22 21 13.8**	**+0.3**
JIH	**Iheya**	**6.36**	**61**	P	**Pn**	**22 20 06.3**	**+0.8**
JOW	**Kunigami**	**6.52**	**63**	*eP*	**Pn**	**22 20 07.7**	**-0.1**
	baz=68						
JOW	**Kunigami**	**6.52**	**63**	P	**Pn**	**22 20 07.7**	**-0.1**
JOW	**Kunigami**	**6.52**	**63**	*ePn*	**Pn**	**22 20 06.9**	**-0.8**
SZP	**Santa**	**6.56**	**191**	*ePn*	**Pn**	**22 20 07.5**	**-0.8**
JOKE	**Okinoerabujima**	**6.99**	**60**	P	**Pn**	**22 20 13.6**	**-0.5**
SSE	**Sheshan**	**7.06**	**356**	P	**Pn**	**22 20 14.8**	**-0.3**
SSE				S	**Sn**	**22 21 36.6**	**+1.8**
SSE				smax	smax		
	comp=N,250nm,1.0s						
SSE				smax	smax		
	comp=E,440nm,0.9s						
SSE				LR	LR		
	comp=N,450nm,6.2s						
SSE				LR	LR		
	comp=E,1μm,6.1s						
SSE				LR	LR		
	comp=Z,2μm,9.0s						
JTK	**Tokunoshima**	**7.48**	**58**	P	**Pn**	**22 20 20.2**	**-0.7**
GZH	**Guangzhou**	**7.77**	**265**	Pn	**Pn**	**22 20 20.5**	**-4.4**
GZH				Sn	Sn	22 21 41.4	-11
GZH				pmax	pmax		
	comp=Z,100nm,0.8s						
MCO	**Taipa Grande**	**7.78**	**258**	P	**Pn**	**22 20 26.0**	**+0.9**
JAMN	**Amaminishikomi**	**7.88**	**56**	P	**Pn**	**22 20 25.5**	**-0.9**
JAM	**Amami Oshima**	**8.29**	**57**	P	**P

TIA S **Sn** 22 23 51.3 -4.0
TIA LR LR
comp=Z,2μm,12.0s
TIA LR LR
comp=Z,620nm,13.0s
TIA LR LR
comp=Z,3μm,11.0s
GYA Guiyang 13.87 283⇑*i*P **Pn** 22 21 49.0 +0.5
GYA PP **P** 22 22 00.3 +3.6
GYA S **Sn** 22 24 24.8 +2.7
GYA SS **S** 22 24 40.4 -3.6
GYA pmax pmax
comp=Z,20nm,0.8s
GYA pmax pmax
comp=Z,120nm,4.6s
GYA LR LR
comp=Z,1μm,7.2s
GYA LR LR
comp=Z,3μm,10.6s
GYA LR LR
comp=Z,4μm,11.9s
KS15 Wonju Array Si 14.36 20 *e*Pn **Pn** 22 21 53.4 -1.7
KSAR Wonju Array Be 14.36 20 P **Pn** 22 21 58.2 +3.0
KSAR Wonju Array Be 14.36 20 Pn **Pn** 22 21 58.1 +3.0
KSRS Korea Array 14.39 20 Pn **Pn** 22 21 58.1 +2.7
comp=Z,1.8nm,0.3s,baz=199,slow=11,SNR=52
KSRS LR LR 22 28 12.1
comp=Z,382nm,19.8s,baz=202,slow=40
KS01 Wonju Array Si 14.40 20 *e*Pn **Pn** 22 21 52.7 -2.9
DL2 Dalian 14.83 360 P **P** 22 22 05.5 -1.7
DL2 *e*S **Sn** 22 24 51.5 +6.3
DL2 pmax pmax
comp=Z,38nm,0.7s
DL2 LR LR
comp=Z,1μm,13.7s
DL2 LR LR
comp=Z,570nm,11.0s
DL2 LR LR
comp=Z,1μm,13.1s
XAN Xi'an 15.00 315 P **Pn** 22 22 03.8 -0.1
XAN sP P 22 22 10.3 +1.1
XAN S **Sn** 22 24 49.1 -0.4
XAN pmax pmax
comp=Z,15nm,1.4s
XAN pmax pmax
comp=Z,120nm,4.3s
XAN LR LR
comp=Z,650nm,9.3s
XAN LR LR
comp=Z,2μm,11.9s
XAN LR LR
comp=Z,3μm,11.7s
TIY Taiyuan 15.80 332 *e*P **P** 22 22 24.4 +6.3
TIY S **S** 22 25 26.8 +3.5
TIY LR LR
comp=N,2μm,11.0s
TIY LR LR
comp=E,1μm,11.7s
TIY LR LR
comp=Z,2μm,12.2s
BJI Beijing 16.64 345 P **Pn** 22 22 25.0 0.0
BJI S **Sn** 22 25 31.9 +2.7
BJI pmax pmax
comp=Z,110nm,5.1s
BJI LR LR
comp=Z,1μm,13.0s
BJI LR LR
comp=Z,670nm,10.6s
BJI LR LR
comp=Z,480nm,14.4s
SLVN Son La 16.69 264 *e*Pn **Pn** 22 22 24.3 -1.5
comp=Z,12nm,0.9s
KMI Kunming 17.33 278 P **Pn** 22 22 33.9 -0.1
KMI pP pP 22 22 38.5 -2.2
KMI sP sP 22 22 41.9 -1.3
KMI S **Sn** 22 25 44.4 -2.1
KMI SS **SnSn** 22 26 08.8 +8.9
KMI pmax pmax
comp=Z,7.0nm,0.6s
KMI pmax pmax
comp=Z,61nm,3.1s
KMI LR LR
comp=Z,510nm,8.9s
KMI LR LR
comp=Z,4μm,10.3s
KMI LR LR
comp=Z,4μm,11.5s
CD2 Chengdu 17.37 297 *e*P **P** 22 22 35.0 -0.5
CD2 pP Pn 22 22 37.4 +3.2
CD2 sP pP 22 22 40.1 -0.8
CD2 S **Sn** 22 25 43.5 -3.6
CD2 sS S 22 25 54.5 -0.9
CD2 SS **SnSn** 22 26 07.0 +6.5
CD2 pmax pmax
comp=Z,20nm,1.1s
CD2 pmax pmax
comp=Z,240nm,5.2s
CD2 LR LR
comp=Z,2μm,9.5s
CD2 LR LR
comp=Z,2μm,13.3s
CD2 LR LR
comp=Z,3μm,12.3s
SNY Shenyang 17.82 4⇓P **Pn** 22 22 33.4 -6.2
SNY S **S** 22 26 01.4 -2.8
SNY pmax pmax
comp=Z,300nm,5.1s
SNY pmax pmax
comp=Z,460nm,5.0s
SNY LR LR
comp=N,1μm,14.5s
SNY LR LR
comp=E,510nm,12.8s
SNY LR LR
comp=Z,2μm,11.7s
HHC Hu-ho-hao-te 18.82 335 *e*P **Pn** 22 22 53.1 +1.0
HHC sP sP 22 23 01.1 +1.7
HHC S **Sn** 22 26 19.0 -3.2
HHC SS **SnSn** 22 26 43.6 +7.2
HHC pmax pmax
comp=Z,25nm,0.8s
HHC pmax pmax
comp=Z,210nm,6.9s
HHC LR LR
comp=Z,1μm,11.6s
HHC LR LR
comp=Z,460nm,13.6s
HHC LR LR
comp=Z,970nm,14.7s
MAT Matsushiro 18.87 45 P **Pn** 22 22 55.0 +2.4
MJAR Matsushiro Arr 18.87 45 P **Pn** 22 22 53.0 +0.4
comp=Z,0.7nm,0.3s,baz=231,slow=7.8,SNR=11
MJAR LR LR 22 30 51.8
comp=Z,375nm,21.0s,baz=200,slow=39
MJAR Matsushiro Arr 18.87 45 P **Pn** 22 22 53.0 +0.4
LZH Lanzhou 19.58 312 *e*P **Pn** 22 23 03.0 +1.8
LZH pP sP 22 23 07.1 -0.7
LZH sP pP 22 23 09.4 +4.1
LZH PP **PnPn** 22 23 22.0 +7.2
LZH *e*S **S** 22 26 36.0 -4.3
LZH sS Sn 22 26 43.6 +3.0
LZH SS **SnSn** 22 27 05.0 +10
LZH pmax pmax
comp=Z,170nm,1.8s
LZH pmax pmax
comp=Z,410nm,5.2s
LZH LR LR
comp=Z,980nm,11.9s
LZH LR LR
comp=Z,2μm,10.9s
LZH LR LR
comp=Z,3μm,12.0s
CN2 Changchun 19.95 8 *e*P **Pn** 22 23 04.8 -0.7
CN2 *e*S **S** 22 26 48.1 +0.7
CN2 pmax pmax
comp=Z,10.0nm,1.4s
CN2 pmax pmax
comp=Z,200nm,5.0s
CN2 LR LR
comp=Z,300nm,21.0s
CN2 LR LR
comp=Z,1μm,21.0s
CN2 LR LR
comp=Z,700nm,16.0s
TSM Tawau 19.98 191⇓P **Pn** 22 23 08.1 +2.2
MSHR Mys Shultsa 20.07 21⇑*e*P Pn 22 23 07.8 +0.9

CHAI Chaiyaphum 20.25 250 P Pn 22 23 10.0 +0.9
comp=Z,5.7nm,0.9s
PBKT Sadao Pong 20.84 253 P Pn 22 23 16.1 0.0
comp=Z,26nm,1.6s,comp=Z,1μm
SRAK Srakaew 21.11 245 P **P** 22 23 14.6 -1.8
LAMP Lampang 21.32 259 P **P** 22 23 22.2 +3.5
comp=Z,6.3nm,1.1s
MDJ Mudanjiang 21.51 15 P **P** 22 23 21.8 +1.3
MDJ pP pP 22 23 24.6 -1.4
MDJ S **S** 22 27 20.3 +2.1
MDJ pmax pmax
comp=Z,9.0nm,0.8s
MDJ pmax pmax
comp=Z,160nm,5.9s
MDJ LR LR
comp=Z,180nm,18.1s
MDJ LR LR
comp=Z,560nm,19.5s
MDJ LR LR
comp=Z,340nm,16.7s
NAYO Nakonayok 21.56 247 P **P** 22 23 28.3 +7.0
comp=Z,64nm,1.3s,comp=Z,9μm
SUKH Sukhothai 21.68 257 P **P** 22 23 25.0 +2.5
comp=Z,5.3nm,1.0s
USRK Ussuriysk Ar. 21.80 20 P **P** 22 23 24.2 +0.6
comp=Z,5.6nm,0.5s,baz=176,slow=7.4,SNR=13
CMMT Chiang Mai 21.85 261 P **P** 22 23 26.3 +1.9
comp=Z,14nm,0.9s
CHTO Chiang Mai 21.85 261 P **P** 22 23 26.4 +2.0
comp=Z,64nm,1.0s
CHTO Chiang Mai 21.85 261 *e*P **P** 22 23 22.5 -1.9
CHTO pmax pmax
comp=Z,12nm,0.9s
CHTO Chiang Mai 21.85 261 *e*P **P** 22 23 22.5 -1.9
comp=Z,12nm,0.9s
CM01 Chiang Mai Arr 21.96 260 *e*P **P** 22 23 27.0 +1.4
CMAR Chiang Mai Arr 21.96 260 P **P** 22 23 27.4 +1.8
comp=Z,3.3nm,0.7s,baz=64,slow=8.3,SNR=23
CMAR PcP **PcP** 22 27 22.1 -2.1
comp=Z,1.0nm,0.4s,baz=43,slow=1.0,SNR=9.7
CMAR LR LR 22 32 36.0
comp=Z,362nm,18.0s,baz=76,slow=38
CMAR Chiang Mai Arr 21.96 260 *i*P **P** 22 23 27.3 +1.7
CMAR pmax pmax
comp=Z,4.0nm,0.7s
SBUM Sibu 23.35 205 *e*P **P** 22 23 38.7 -1.5
comp=Z,15nm,0.6s
SBUM Sibu 23.35 205⇓P **P** 22 23 40.7 +0.5
GTA Gaotai 24.06 315 *e*P **P** 22 23 46.8 -0.3
GTA pP pP 22 23 51.4 -1.5
GTA sP sP 22 23 54.8 -0.5
GTA PcP **PcP** 22 27 29.1 +0.7
GTA S **S** 22 28 00.5 -3.1
GTA sS pS 22 28 06.9 -2.9
GTA SS **SnSn** 22 28 52.8 +8.0
GTA pmax pmax
comp=Z,10.0nm,1.4s
GTA pmax pmax
comp=Z,180nm,6.7s
GTA LR LR
comp=Z,650nm,12.8s
GTA LR LR
comp=Z,1μm,12.8s
GTA LR LR
comp=Z,2μm,12.6s
KSM Kuching 25.01 208 *e*P **P** 22 23 56.5 +0.8
comp=Z,32nm,1.0s
KSM Kuching 25.01 208⇑P **P** 22 23 57.1 +1.4
MTKI Muara Teweh, K 25.70 196 P **P** 22 24 00.3 -1.6
KTGM Kuala Trenggan 25.82 227⇓P **P** 22 24 05.9 +2.8
ULN Ulaanbaatar 26.50 337*c i*P **P** 22 24 09.0 -0.2
ULN pmax pmax
comp=Z,25nm,1.7s
ULN Ulaanbaatar 26.50 337 *e*P **P** 22 24 09.0 -0.2
comp=Z,11nm,0.8s
HABR Khabarovsk 26.57 20 *e*P **P** 22 24 08.8 -0.7
HABR *e**PP **pP** 22 24 13.3 -2.0
HABR *e**SP **sP** 22 24 15.4 -2.3
HABR *e*PPP PPP 22 24 57.7
HABR *e*S **S** 22 28 44.0 +1.0
HABR *e**SS **sS** 22 28 52.0 -0.6
HABR *e*SS **SnSn** 22 29 48.3 +2.6
HABR *e* 22 35 02.1
HABR pmax pmax
comp=N,6.0nm,1.0s
HABR pmax pmax
comp=E,37nm,1.0s
HABR pmax pmax
comp=Z,31nm,1.0s
HABR MLR MLR
comp=Z,63nm,17.0s
SONM Songino Array 26.71 337 P **P** 22 24 11.0 0.0
comp=Z,12nm,0.7s,baz=154,slow=9.8,SNR=56
SONM LR LR 22 35 22.3
comp=Z,309nm,20.6s,baz=148,slow=38
SONM Songino Array 26.71 337 P **P** 22 24 11.0 0.0
SONA1 Songino Array 26.72 337 *e*P **P** 22 24 10.5 -0.6
NLAI Namlea 27.60 168 P **P** 22 24 25.2 +6.2
LSA Lhasa 27.83 288 P **P** 22 24 22.8 +1.2
LSA pP **sP** 22 24 31.6 +1.7
LSA pmax pmax
comp=Z,11nm,0.7s
LSA LR LR
comp=Z,190nm,17.2s
LSA LR LR
comp=Z,1μm,29.5s
LSA LR LR
comp=Z,1μm,17.2s
LSA Lhasa 27.83 288 *e*P **P** 22 24 22.3 +0.7
LSA pmax pmax
comp=Z,9.0nm,0.7s
LSA Lhasa 27.83 288 *e*P **P** 22 24 22.3 +0.7
comp=Z,9.2nm,0.7s
YSS Yuzh-Sakhalins 28.39 31 *e*P **P** 22 24 29.6 +3.8
YSS pmax pmax
comp=Z,104nm,2.0s
ZAK Zakamensk 29.97 336 *e*P **P** 22 24 38.8 -1.2
ZAK pmax pmax
comp=Z,3.0nm,1.1s
SMPI Sarmi 30.67 145 P **P** 22 24 48.6 +2.2
TAPN Taplejung 30.80 283 *e*P **P** 22 24 49.1 +1.2
comp=Z,49nm,1.0s
TLY Talaya 30.91 338 *e*P **P** 22 24 47.0 -1.2
TLY pmax pmax
comp=Z,6.0nm,0.9s
TLY MLR MLR
comp=Z,485nm,16.0s
BKNI Bangkinang 30.96 223 *e*P **P** 22 24 50.2 +1.2
comp=Z,47nm,0.5s
ODAN Odare 31.10 283 *e*P **P** 22 24 51.0 +0.6
comp=Z,64nm,1.0s
MNSI Mandailing Nat 31.55 226 P **P** 22 24 54.3 +0.2
RAMN Ramite 31.80 283 *e*P **P** 22 24 57.5 +0.9
comp=Z,80nm,1.0s
JIRN Jiri 32.14 284 *e*P **P** 22 25 00.5 +0.8
comp=Z,322nm,0.9s
GUN Gumba 32.41 285 *e*P **P** 22 25 03.7 +1.6
comp=Z,18nm,0.6s
PKIN Phulchoki 32.85 284 *e*P **P** 22 25 06.2 +0.4
comp=Z,19nm,0.6s
KKN Kakani 32.95 284 *e*P **P** 22 25 06.9 +0.3
comp=Z,26nm,0.8s
DMN Daman 33.11 284 *e*P **P** 22 25 08.4 +0.4
comp=Z,56nm,1.1s
GKN Gorkha 33.51 285 *e*P **P** 22 25 11.5 +0.1
comp=Z,24nm,0.7s
WMQ Urumqi 34.14 314 P **P** 22 25 17.3 +0.7
WMQ pP pP 22 25 21.3 -1.2
WMQ sP sP 22 25 25.1 +0.2
WMQ S **S** 22 30 48.8 +6.9
WMQ ScS **ScS** 22 35 39.9 +0.1
WMQ pmax pmax
comp=Z,8.0nm,1.5s
WMQ pmax pmax
comp=Z,150nm,4.1s
WMQ LR LR
comp=Z,750nm,11.1s
WMQ LR LR
comp=Z,1μm,12.1s
WMQ LR LR
comp=Z,300nm,12.1s
KOLN Koldanda 34.43 285 *e*P **P** 22 25 19.7 +0.2
comp=Z,21nm,0.8s
PYUN Piuthan 34.96 285 *e*P **P** 22 25 24.6 +0.5
comp=Z,32nm,0.8s
DGZ Jazzator, Alta 37.03 323 *e*P **P** 22 25 41.3 -0.2

DGZ pmax pmax
comp=Z,2.0nm,0.8s
MTN Manton Dam 37.78 165 *e*P **P** 22 25 46.5 -1.4
comp=Z,12nm,0.8s
YAK Yakutsk 38.37 6 *e*P **P** 22 25 53.7 +1.3
YAK pmax pmax
comp=Z,18nm,0.9s
MK01 Makanchi Array 38.80 316 *e*P **P** 22 25 56.1 -0.2
MK01 *e*PcP **PcP** 22 28 06.8 -0.7
MK31 Makanchi Array 38.81 316 *e*P **P** 22 25 55.4 -1.0
MK31 *e* 22 28 06.4
MK31 Makanchi Array 38.81 316 *e*P **P** 22 25 55.4 -1.0
MK31 *e*PcP **PcP** 22 28 06.4 -1.1
MKAR Makanchi Array 38.81 316 P **P** 22 25 56.4 0.0
comp=Z,6.2nm,0.6s,baz=102,slow=9.5,SNR=77
MKAR PcP **PcP** 22 28 05.8 -1.7
comp=Z,1.6nm,0.7s,baz=125,slow=1.6,SNR=4.2
MKAR ScP **S** 22 31 52.4 -0.8
comp=Z,1.0nm,0.9s,baz=108,slow=4.7,SNR=5.1
MKAR LR LR 22 43 06.3
comp=Z,353nm,18.3s,baz=91,slow=38
MKAR Makanchi Array 38.81 316 *e*P **P** 22 25 56.4 0.0
comp=Z,71nm,1.0s
MKAR *e*PcP **PcP** 22 28 06.4 -1.1
MKAR ScP **S** 22 31 52.4 -0.8
MAKZ Makanchi 39.02 316 *e*P **P** 22 25 58.3 +0.2
MAKZ pmax pmax
comp=Z,9.0nm,0.7s
MAKZ Makanchi 39.02 316 *e*P **P** 22 25 58.3 +0.2
comp=Z,8.9nm,0.7s
PDGK Podgornoye 39.59 310 P **P** 22 26 04.2 +1.1
PDGK pmax pmax
comp=Z,18nm,0.9s
PETK Petropavlovsk- 39.70 34 LR LR 22 43 51.7
comp=Z,212nm,18.4s,baz=221,slow=38
ZAA0 Zalesovo Array 40.66 327 *e*P **P** 22 26 10.5 -1.1
ZALV Zalesovo Beam 40.66 327 P **P** 22 26 10.3 -1.3
ZALV PcP **PcP** 22 28 11.5 -1.7
comp=Z,1.6nm,0.7s,baz=115,slow=8.1,SNR=46
ZALV LR LR 22 44 15.4
comp=Z,1.5nm,0.6s,baz=121,slow=3.9,SNR=3.7
comp=Z,320nm,18.2s,baz=70,slow=38
KSH Kashi 41.42 303 P **P** 22 26 21.5 +3.2
KSH pP sP 22 26 25.6 -1.0
KSH sP pP 22 26 28.5 +4.3
KSH PP **PnPn** 22 28 01.4 +2.7
KSH S **S** 22 32 36.5 +4.0
KSH sS sS 22 32 46.5 +4.2
KSH SS **SS** 22 35 36.5 -0.3
KSH pmax pmax
comp=Z,7.0nm,1.0s
KSH pmax pmax
comp=Z,63nm,4.9s
KSH LR LR
comp=Z,550nm,14.1s
KSH LR LR
comp=Z,400nm,13.5s
KSH LR LR
comp=Z,620nm,16.1s
PMG Port Moresby 41.48 140⇓*e*P **P** 22 26 20.9 +2.1
PMG pmax pmax
comp=Z,172nm,1.2s
PMG Port Moresby 41.48 140 *e*P **P** 22 26 18.7 -0.1
comp=Z,51nm,1.3s
PMG *e*PP **PP** 22 27 51.9 -3.0
NVS Novosibirsk 41.92 327⇑*i*P **P** 22 26 20.7 -1.2
NVS pmax pmax
comp=N,2.0nm,0.5s
NVS pmax pmax
comp=E,2.0nm,0.5s
NVS pmax pmax
comp=Z,5.0nm,0.5s
KURK Kurchatov 42.54 320 *e*P **P** 22 26 26.6 -0.5
KURK *e* 22 28 05.6
KURK pmax pmax
comp=Z,9.0nm,0.9s
KURK Kurchatov 42.54 320 *e*P **P** 22 26 26.6 -0.5
comp=Z,8.8nm,0.9s
KURK *e*PP **PP** 22 28 05.6 -0.2
AAK Ala-Archa 43.01 307*ce*P **P** 22 26 31.8 +0.5
AAK pmax pmax
comp=Z,14nm,1.1s
COEN Coen 43.17 149 *e*P **P** 22 26 34.0 +1.5
comp=Z,50nm,1.4s
SEY Seymchan 43.95 20 P **P** 22 26 37.6 -0.6
comp=Z,3.1nm,0.2s,baz=243,slow=5.9,SNR=6.0
SEY PcP **PcP** 22 28 23.4 -0.4
comp=Z,1.5nm,0.3s,baz=236,slow=4.8,SNR=8.4
MNAS Manas 44.44 307 P **P** 22 26 44.2 +1.4
MNAS pmax pmax
comp=Z,9.0nm,1.0s
MBWA Marble Bar 44.96 183 *e*P **P** 22 26 45.8 -1.0
comp=Z,20nm,1.0s
WRAB Tennant Creek 45.39 163⇓*i*P **P** 22 26 50.2 -0.1
WRAB pmax pmax
comp=Z,50nm,1.7s
WRAB Tennant Creek 45.39 163 *e*P **P** 22 26 50.0 -0.3
comp=Z,8.9nm,0.7s
WRA Warramunga Arr 45.39 163 P **P** 22 26 49.8 -0.5
comp=Z,7.3nm,0.6s,baz=345,slow=8.8,SNR=66
WB2 Warramunga Arr 45.40 163 *e*P **P** 22 26 50.2 -0.2
KKAR Karatay Array 45.98 307 *e*P **P** 22 26 54.6 -0.2
KKAR *e* 22 28 29.5
KKAR pmax pmax
comp=Z,30nm,0.6s
KKAR Karatay Array 45.98 307 *e*P **P** 22 26 54.6 -0.2
comp=Z,30nm,0.6s
KKAR *e*PcP **PcP** 22 28 29.4 -1.9
KBL Kabul 46.70 296 *e*P **P** 22 27 01.2 +0.4
KBL pmax pmax
comp=Z,20nm,1.0s
KBL Kabul 46.70 296 *e*P **P** 22 27 01.2 +0.4
comp=Z,20nm,1.0s
TIXI Tiksi 47.82 3⇑*e*P **P** 22 27 07.8 -0.9
TIXI pmax pmax
comp=Z,28nm,1.6s
TIXI MLR MLR
comp=Z,340nm,16.0s
BRVK Borovoye 48.19 321*c i*P **P** 22 27 11.7 -0.2
BRVK pmax pmax
comp=Z,25nm,0.8s
BRVK Borovoye 48.19 321 *e*P **P** 22 27 11.7 -0.2
comp=Z,9.3nm,0.8s
AS31 Alice Springs 48.86 165 *e*P **P** 22 27 17.4 +0.1
comp=Z,2.2nm,0.8s
ASAR Alice Springs 48.86 165 P **P** 22 27 17.2 -0.1
comp=Z,4.4nm,0.7s,baz=342,slow=7.2,SNR=43
ASAR ScP **ScP** 22 32 32.1 -3.8
comp=Z,0.6nm,0.8s,baz=352,slow=5.0,SNR=4.6
ASAR LR LR 22 47 35.3
comp=Z,49nm,20.0s,baz=331,slow=36
AS01 Alice Springs 48.87 165 *e*P **P** 22 27 16.8 -0.6
AS01 *e*PcP **PcP** 22 28 41.2 -0.6
NRIK Noril'sk 49.69 345 P **P** 22 27 21.3 -1.8
comp=Z,4.2nm,0.7s,baz=124,slow=7.5,SNR=7.7
NRIK LR LR 22 49 59.1
comp=Z,173nm,18.8s,baz=120,slow=38
CTA Charters Tower 49.93 149 P **P** 22 27 25.4 -0.1
comp=Z,3.6nm,0.6s,baz=5.0,slow=13,SNR=4.2
BILL Bilibino 51.65 20 *e*P **P** 22 27 36.1 -1.8
BILL pmax pmax
comp=Z,9.0nm,1.0s
BILL MLR MLR
comp=Z,201nm,19.0s
ABKAR Akbulak array 53.92 314 *e*P **P** 22 27 55.1 +0.1
comp=Z,72nm,0.6s
ABKAR *e*PcP **PcP** 22 28 58.7 -1.6
SVE Sverdlovsk 54.48 324 *e*P **P** 22 27 58.6 -0.3
SVE pmax pmax
comp=Z,15nm,0.9s
SVE MLR MLR
comp=Z,371nm,16.0s
AKTO Aktyubinsk 55.25 316 P **P** 22 28 04.4 -0.2
comp=Z,4.1nm,0.9s,baz=93,slow=7.7,SNR=7.2
GEYT Alibeck 55.32 301 P **P** 22 28 05.3 -0.1
comp=Z,12nm,0.9s,baz=82,slow=3.1,SNR=20
GEYT LR LR 22 54 20.5
comp=Z,147nm,19.8s,baz=105,slow=39
ARU Arti 55.54 323 P P 22 27 57.3 -9.4
comp=Z,0.4nm,0.3s,baz=81,slow=5.8,SNR=1.7
ARU Arti 55.54 323*c i*P **P** 22 28 05.6 -1.0
ARU 22 29 01.8
ARU S **S** 22 35 51.7 +0.7
ARU SS **SS** 22 39 27.7 -8.0
ARU pmax pmax
comp=Z,16nm,1.0s

ARU	**Arti**	**55.54**	**323**	*e*P		**P**	**22 28 05.6**	**-1.0**
ARU				*e*PcP		**PcP**	**22 29 05.4**	**-0.9**
SOKR	**Solikamsk**	**56.94**	**327**⇑	*i*P		**P**	**22 28 12.0**	**-4.5**
SOKR	comp=Z,9.0nm,0.9s			pmax	pmax			
SOKR	comp=Z,324nm,16.0s			MLR	MLR			
STKA	**Stephens Creek**	**58.74**	**160**	P		**P**	**22 28 28.9**	**-0.6**
	comp=Z,6.7nm,0.6s,baz=337,slow=6.9,SNR=25							
LKRN	**Lenkeran, Azer**	**62.51**	**303**	P		**P**	**22 28 53.4**	**-1.8**
SEKA	**Sheki**	**63.29**	**305**	P		**P**	**22 28 58.6**	**-1.9**
MNGR	**Mingechevir, A**	**63.45**	**305**	P		**P**	**22 28 59.6**	**-1.9**
ZKTA	**Zakatala**	**63.65**	**306**	P		**P**	**22 29 00.9**	**-1.9**
GANJ	**Ganja**	**64.04**	**305**	P		**P**	**22 29 03.5**	**-2.0**
NAX	**Nakhchivan**	**64.94**	**304**	P		**P**	**22 29 09.4**	**-2.0**
TT01	**Tatalina**	**65.38**	**30**	*e*P		**P**	**22 29 14.2**	**+0.5**
TTA	**Tatalina**	**65.38**	**30**	*e*P		**P**	**22 29 13.3**	**-0.5**
TTA	comp=Z,10.0nm,0.9s			pmax	pmax			
TTA	**Tatalina**	**65.38**	**30**	*e*P		**P**	**22 29 13.3**	**-0.5**
	comp=Z,9.9nm,0.9s							
ZEI	**Tsey**	**65.44**	**308**	*e*P		**P**	**22 29 13.4**	**-1.3**
ZEI	comp=Z,21nm,0.6s			pmax	pmax			
NCK	**Nalchik**	**65.53**	**309**⇑	*e*P		**P**	**22 29 14.4**	**-0.7**
NCK	comp=Z,9.0nm,0.7s			pmax	pmax			
KLMR	**Klimovskoe**	**65.57**	**328**	*e*P		**P**	**22 29 12.4**	**-2.6**
KLMR	comp=Z,20nm,1.3s			pmax	pmax			
SVW2	**Sparrevohn**	**65.75**	**32**	*e*P		**P**	**22 29 17.0**	**+0.7**
	comp=Z,11nm,1.0s							
TMCR	**Tamitsa**	**65.93**	**332**	*e*P		**P**	**22 29 16.6**	**-0.6**
TMCR	comp=Z,15nm,0.4s			pmax	pmax			
KBZ	**Khabaz**	**65.98**	**309**	P		**P**	**22 29 18.3**	**+0.4**
	comp=Z,5.3nm,0.8s,baz=86,slow=7.1,SNR=14							
KBZ				LR	LR		23 02 40.1	
	comp=Z,94nm,18.2s,baz=82,slow=40							
KVAR	**Kislovodsk Arr**	**66.08**	**309**	P		**P**	**22 29 18.8**	**+0.1**
	comp=Z,6.9nm,0.8s,baz=312,slow=1.9,SNR=9.2							
KIV	**Kislovodsk**	**66.09**	**309**	*e*P		**P**	**22 29 18.9**	**+0.1**
KIV	comp=Z,10.0nm,1.0s			pmax	pmax			
KIV	comp=Z,87nm,17.0s			MLR	MLR			
KIV	**Kislovodsk**	**66.09**	**309**	*e*P		**P**	**22 29 18.7**	**-0.1**
	comp=Z,46nm,1.7s							
NEY	**Neytrino**	**66.20**	**308**⇑	*e*P		**P**	**22 29 20.5**	**+0.9**
NEY	comp=Z,2.0nm,0.8s			pmax	pmax			
CAST	**Castle Rocks**	**67.10**	**29**	*e*P		**P**	**22 29 25.7**	**+0.9**
	comp=Z,11nm,0.8s							
VSR	**Storozhevoye**	**67.11**	**317**	*e*P		**P**	**22 29 23.9**	**-1.1**
VSR	comp=Z,8.0nm,1.1s			pmax	pmax			
PPLA	**Purkeypile**	**67.12**	**30**	*e*P		**P**	**22 29 25.6**	**+0.5**
	comp=Z,30nm,1.2s							
TOLK	**Toolik Lake Re**	**67.39**	**23**	P		**P**	**22 29 26.8**	**+0.2**
	baz=278							
SPU	**Mount Spurr**	**67.44**	**32**	*e*P		**P**	**22 29 27.2**	**+0.2**
KTH	**Kantishna Hill**	**67.59**	**29**	*e*P		**P**	**22 29 28.2**	**+0.3**
	comp=Z,17nm,1.2s							
KDAK	**Kodiak Island**	**67.73**	**35**	P		**P**	**22 29 27.7**	**-1.1**
	comp=Z,16nm,0.8s,baz=266,slow=6.9,SNR=12							
KDAK	**Kodiak Island**	**67.73**	**35**	*i* P		**P**	**22 29 29.8**	**+1.0**
TRF	**Thorofare Moun**	**67.89**	**29**	*e*P		**P**	**22 29 30.2**	**+0.2**
	comp=Z,13nm,1.1s							
OBN	**Obninsk**	**67.94**	**322**	P		**P**	**22 29 29.0**	**-1.2**
	comp=Z,5.5nm,0.4s,baz=150,slow=20,SNR=2.5							
OBN	**Obninsk**	**67.94**	**322**	*i* P		**P**	**22 29 32.7**	**+2.5**
OBN				*i*			22 29 53.9	
OBN				*i* S		**S**	**22 38 19.9**	**-8.1**
OBN				*i* SS		**SS**	**22 42 52.8**	**+3.3**
OBN	comp=Z,20nm,1.4s			pmax	pmax			
OBN	comp=Z,114nm,16.0s			MLR	MLR			
SUA	**Susitna One**	**68.02**	**31**	*e*P		**P**	**22 29 30.7**	**-0.1**
	comp=Z,26nm,0.8s							
MCK	**McKinley**	**68.44**	**29**	*e*P		**P**	**22 29 33.4**	**+0.2**
MCK	comp=Z,19nm,1.3s			pmax	pmax			
MCK	**McKinley**	**68.44**	**29**	*e*P		**P**	**22 29 33.4**	**+0.2**
	comp=Z,19nm,1.3s							
MDM	**Murphy Dome**	**68.51**	**27**	*e*P		**P**	**22 29 34.4**	**+0.7**
	comp=Z,20nm,1.0s							
RND	**Reindeer**	**68.53**	**29**	*e*P		**P**	**22 29 33.5**	**-0.4**
RND	comp=Z,35nm,1.0s			pmax	pmax			
RND	**Reindeer**	**68.53**	**29**	*e*P		**P**	**22 29 33.5**	**-0.4**
	comp=Z,35nm,1.0s							
WRH	**Wood River Hil**	**68.66**	**28**	*e*P		**P**	**22 29 35.9**	**+1.3**
	comp=Z,9.0nm,0.9s							
COLA	**College**	**68.69**	**27**	*e*P		**P**	**22 29 35.9**	**+1.2**
COLA	comp=Z,5.0nm,0.6s			pmax	pmax			
MARD	**Mardin**	**68.97**	**302**	*e*P		**P**	**22 29 37.3**	**+0.1**
	comp=Z,13nm,0.8s							
SML	**Sawmill**	**69.08**	**31**	*e*P		**P**	**22 29 36.8**	**-0.5**
SML	comp=Z,51nm,1.6s			pmax	pmax			
SML	**Sawmill**	**69.08**	**31**	*e*P		**P**	**22 29 36.8**	**-0.5**
	comp=Z,51nm,1.6s							
IL1	**Eielson Array**	**69.11**	**27**	*e*P		**P**	**22 29 36.1**	**-1.2**
ILAR	**Eielson Array**	**69.11**	**27**	P		**P**	**22 29 35.8**	**-1.6**
	comp=Z,1.8nm,0.5s,baz=271,slow=4.2,SNR=22							
ILB	**Eielson Array**	**69.11**	**27**	*e*P		**P**	**22 29 37.6**	**+0.2**
HDA	**Harding Lake**	**69.16**	**28**	*e*P		**P**	**22 29 36.4**	**-1.3**
	comp=Z,39nm,1.2s							
SCM	**Sheep Creek Mo**	**69.54**	**30**	*e*P		**P**	**22 29 40.5**	**+0.3**
SCM	comp=Z,20nm,0.8s			pmax	pmax			
SCM	**Sheep Creek Mo**	**69.54**	**30**	*e*P		**P**	**22 29 40.5**	**+0.3**
	comp=Z,20nm,0.8s							
SPITS	**Spitsbergen Ar**	**69.74**	**348**	P		**P**	**22 29 40.0**	**-1.1**
	comp=Z,2.1nm,0.6s,baz=88,slow=7.4,SNR=3.8							
ARCES	**ARCESS Array B**	**69.88**	**338**	P		**P**	**22 29 40.9**	**-1.2**
	comp=Z,3.3nm,0.8s,baz=69,slow=6.6,SNR=5.5							
ARCES				LR		LR	23 03 40.2	
	comp=Z,95nm,18.8s,baz=77,slow=39							
PAX	**Paxson**	**70.12**	**29**	*e*P		**P**	**22 29 43.2**	**-0.6**
PAX	comp=Z,10.0nm,0.8s			pmax	pmax			
PAX	**Paxson**	**70.12**	**29**	*e*P		**P**	**22 29 43.2**	**-0.6**
	comp=Z,9.9nm,0.8s							
KLU	**Klutina**	**70.28**	**31**	*e*P		**P**	**22 29 45.1**	**+0.3**
	comp=Z,21nm,1.1s							
DOT	**Dot Lake**	**70.57**	**28**	*e*P		**P**	**22 29 46.5**	**+0.1**
	comp=Z,17nm,0.7s							
MENT	**Mentasta**	**70.91**	**29**	*e*P		**P**	**22 29 48.1**	**-0.4**
	comp=Z,16nm,0.9s							
BMRM	**Bremner River**	**71.03**	**31**	*e*P		**P**	**22 29 50.2**	**+0.9**
	comp=Z,22nm,1.0s							
EGAK	**Eagle**	**71.49**	**27**	*e*P		**P**	**22 29 51.8**	**-0.1**
	comp=Z,10nm,0.7s							
FINES	**FINESS Array B**	**71.84**	**330**	P		**P**	**22 29 53.1**	**-1.0**
	comp=Z,2.9nm,0.5s,baz=57,slow=5.9,SNR=38							
FINES				pP		**sP**	**22 30 03.9**	**+1.3**
	comp=Z,3.2nm,0.5s,baz=54,slow=5.8,SNR=3.3							
FINES				LR		LR	23 04 12.9	
	comp=Z,285nm,18.0s,baz=77,slow=38							
FINES	**FINESS Array B**	**71.84**	**330**	*i* P		**P**	**22 29 53.5**	**-0.6**
FINES	comp=Z,3.0nm,0.5s			pmax	pmax			
DAWY	**Dawson**	**72.44**	**27**	*e*P		**P**	**22 29 58.1**	**+0.4**
	comp=Z,16nm,0.7s							
INK	**Inuvik**	**73.17**	**22**	P		**P**	**22 30 00.4**	**-1.4**
	comp=Z,6.7nm,0.6s,baz=226,slow=3.1,SNR=9.9							
INK	**Inuvik**	**73.17**	**22**	*e*P		**P**	**22 30 01.0**	**-0.8**
INK	comp=Z,9.0nm,0.8s			pmax	pmax			
INK	**Inuvik**	**73.17**	**22**	*e*P		**P**	**22 30 01.0**	**-0.8**
	comp=Z,9.1nm,0.8s							
AKASG	**Malin Array Be**	**73.33**	**318**	P		**P**	**22 30 01.1**	**-2.1**
	comp=Z,1.9nm,0.7s,baz=58,slow=6.3,SNR=5.9							
BR131	**Keskin Array S**	**73.68**	**307**	*e*P		**P**	**22 30 04.2**	**-1.5**
BRTR	**Keskin Array B**	**73.68**	**307**	P		**P**	**22 30 05.5**	**-0.1**
	comp=Z,2.8nm,0.8s,baz=114,slow=6.3,SNR=16							
BRTR				LR		LR	23 05 51.6	
	comp=Z,34nm,18.6s,baz=40,slow=38							
WHY	**Whitehorse**	**75.62**	**30**	*e*P		**P**	**22 30 16.7**	**+0.3**
	comp=Z,18nm,0.8s							
SKAG	**Skagway**	**75.89**	**31**	*e*P		**P**	**22 30 20.1**	**+2.2**
	comp=Z,38nm,1.0s							
NB2	**NORSAR Subarra**	**78.60**	**332**	P		**P**	**22 30 31.3**	**-1.8**
	comp=Z,1.7nm,0.7s,baz=59,slow=5.6							
NOA	**NORSAR Array B**	**78.60**	**332**	P		**P**	**22 30 32.0**	**-1.1**
	comp=Z,2.9nm,0.8s,baz=65,slow=5.0,SNR=7.4							
NOA				pP		**PcP**	**22 30 44.3**	**+2.3**
	comp=Z,2.1nm,0.7s,baz=59,slow=5.6,SNR=3.7							
NOA				LR		LR	23 08 26.2	
	comp=Z,150nm,19.3s,baz=80,slow=38							
OJC	**Ojcow**	**79.13**	**320**	*e*P		**P**	**22 30 35.4**	**-0.7**
OJC	**Ojcow**	**79.13**	**320**	*e*P		**P**	**22 30 34.0**	**-2.1**
OJC	comp=Z,7.0nm,0.8s			pmax	pmax			
OJC	**Ojcow**	**79.13**	**320**	*e*P		**P**	**22 30 34.0**	**-2.1**
	comp=Z,6.5nm,0.8s							
NIE	**Niedzica**	**79.16**	**319**	*e*P		**P**	**22 30 37.1**	**+0.7**
NIE	**Niedzica**	**79.16**	**319**	*e*P		**P**	**22 30 37.1**	**+0.7**
VYHS	**Vyhne**	**80.42**	**319**	*e*P		**P**	**22 30 42.9**	**-0.3**
VYHS	comp=Z,3.0nm,1.0s			pmax	pmax			
VYHS	**Vyhne**	**80.42**	**319**	*e*P		**P**	**22 30 42.9**	**-0.3**
DPC	**Dobruska-Polom**	**81.08**	**321**	*e*P		**P**	**22 30 47.2**	**+0.5**
DPC				*ex*		x	22 30 57.8	
DPC	**Dobruska-Polom**	**81.08**	**321**	*e*P		**P**	**22 30 47.2**	**+0.5**
DPC				*e*			22 30 57.8	
CONA	**Conrad Observa**	**82.46**	**319**	P		**P**	**22 30 51.9**	**-2.2**
	comp=Z,0.6nm,0.4s							
CLL	**Collm**	**82.49**	**323**	*e*P		**P**	**22 30 54.0**	**-0.1**
CLL				*i*			22 31 04.3	
CLL	**Collm**	**82.49**	**323**	*e*P		**P**	**22 30 54.0**	**-0.1**
CLL	comp=Z,31nm,2.1s			*i*			22 31 04.3	
CLL	comp=Z,200nm,18.4s			LmV			23 11 00.0	
YKW3	**Yellowknife Ar**	**82.86**	**23**	*e*P		**P**	**22 30 55.6**	**-0.2**
	comp=Z,13nm,0.7s							
YKA	**Yellowknife Ar**	**82.91**	**23**	P		**P**	**22 30 55.9**	**-0.1**
	comp=Z,7.6nm,0.6s,baz=310,slow=5.0,SNR=22							
YKB5	**Yellowknife Ar**	**82.91**	**23**	*e*P		**P**	**22 30 55.1**	**-0.9**
KHC	**Kasperske Hory**	**83.22**	**321**	*e*P		**P**	**22 30 59.4**	**+1.4**
KHC	**Kasperske Hory**	**83.22**	**321**	*e*P		**P**	**22 30 59.4**	**+1.4**
GERES	**GERESS Array B**	**83.29**	**321**	P		**P**	**22 30 57.8**	**-0.7**
	comp=Z,0.6nm,0.5s,baz=60,slow=5.9,SNR=8.8							
GERES				pP		**sP**	**22 31 09.5**	**+2.4**
	comp=Z,1.9nm,0.8s,baz=73,slow=4.6,SNR=7.1							
GEA0	**GERESS Array S**	**83.30**	**321**	*e*P		**P**	**22 30 56.8**	**-1.6**
MOA	**Molln**	**83.44**	**320**	*i* P		**P**	**22 30 57.8**	**-1.4**
OBKA	**Obir**	**83.91**	**318**	*e*P		**P**	**22 31 00.0**	**-1.6**
	comp=Z,1.0nm,0.4s							
ABPO	**Ambohimpanom**	**84.28**	**246**	*e*P		**P**	**22 31 03.6**	**-0.4**
ABPO	comp=Z,28nm,1.3s			pmax	pmax			
ABPO	**Ambohimpanom**	**84.28**	**246**	*e*P		**P**	**22 31 03.6**	**-0.4**
	comp=Z,28nm,1.3s							
ABTA	**Abfaltersbach**	**85.02**	**319**	*e*P		**P**	**22 31 04.7**	**-2.6**
	comp=Z,1.3nm,0.4s							
KMBO	**Kilima Mbogo**	**85.43**	**267**	P		**P**	**22 31 09.3**	**-0.7**
	comp=Z,1.7nm,0.5s,baz=48,slow=8.2,SNR=10							
LON	**Longmire**	**89.19**	**38**	*e*P		**P**	**22 31 28.4**	**+0.9**
LON	comp=Z,13nm,1.4s			pmax	pmax			
LON	**Longmire**	**89.19**	**38**	*e*P		**P**	**22 31 28.4**	**+0.9**
	comp=Z,13nm,1.4s							
F04A	**Amboy**	**89.31**	**39**	*e*P		**P**	**22 31 29.4**	**+1.5**
	comp=Z,65nm,1.8s							
B08A	**Colville Reser**	**89.61**	**36**	*e*P		**P**	**22 31 30.2**	**+0.8**
	comp=Z,33nm,1.4s							
I04A	**Tendick Farm,**	**90.53**	**41**	P		**P**	**22 31 35.6**	**+1.8**
	baz=305							
D08A	**Wollman Farm,**	**90.61**	**37**	*e*P		**P**	**22 31 33.6**	**-0.4**
	comp=Z,12nm,1.0s							
G06A	**Carlson Farm,**	**90.74**	**39**	*e*P		**P**	**22 31 35.8**	**+1.1**
	comp=Z,16nm,1.1s							
NEW	**Newport**	**90.83**	**35**	P		**P**	**22 31 36.0**	**+0.9**
	baz=309							
NEW	**Newport**	**90.83**	**35**	*e*P		**P**	**22 31 35.9**	**+0.9**
NEW	comp=Z,11nm,1.0s			pmax	pmax			
NEW	**Newport**	**90.83**	**35**	*e*P		**P**	**22 31 35.9**	**+0.9**
	comp=Z,10nm,1.0s							
E09A	**Wood Farm, Sta**	**91.36**	**37**	*e*P		**P**	**22 31 38.7**	**+1.2**
	comp=Z,12nm,1.1s							
J05D	**Fort Rock, OR**	**91.52**	**41**	P		**P**	**22 31 39.9**	**+1.4**
	baz=306							
WALA	**Waterton Lakes**	**91.96**	**33**	*e*P		**P**	**22 31 40.4**	**0.0**
	comp=Z,12nm,0.9s							
K05A	**Summer Lake**	**92.05**	**41**	*e*P		**P**	**22 31 42.6**	**+1.6**
	comp=Z,28nm,1.3s							
F10A	**Beach Ranch, E**	**92.20**	**37**	*e*P		**P**	**22 31 42.2**	**+0.7**
	comp=Z,29nm,1.8s							
BSMT	**Bassoo Peak**	**92.31**	**34**	*e*P		**P**	**22 31 43.0**	**+0.9**
YBMT	**Yellow Bay**	**92.69**	**34**	*e*P		**P**	**22 31 44.5**	**+0.7**
MOD	**Modoc Plateau**	**92.89**	**41**	*e*P		**P**	**22 31 45.9**	**+1.0**
	comp=Z,33nm,1.7s							
SWMT	**Swartz Lake**	**92.93**	**34**	*e*P		**P**	**22 31 45.6**	**+0.7**
FFC	**Flin Flon**	**93.06**	**24**	*e*P		**P**	**22 31 44.8**	**-0.4**
FFC	comp=Z,8.0nm,0.8s			pmax	pmax			
FFC	**Flin Flon**	**93.06**	**24**	*e*P		**P**	**22 31 44.8**	**-0.4**
	comp=Z,8.4nm,0.8s							
SLMT	**Seeley Lake**	**93.37**	**34**	*e*P		**P**	**22 31 48.2**	**+1.2**
MSO	**Missoula**	**93.41**	**35**	P		**P**	**22 31 47.5**	**+0.4**
	baz=311							
MSO	**Missoula**	**93.41**	**35**	*e*P		**P**	**22 31 47.6**	**+0.6**
	comp=Z,13nm,1.4s							
WVOR	**Wild Horse Val**	**93.57**	**40**	*e*P		**P**	**22 31 50.1**	**+2.2**
WVOR	comp=Z,10.0nm,1.5s			pmax	pmax			
WVOR	**Wild Horse Val**	**93.57**	**40**	*e*P		**P**	**22 31 50.1**	**+2.2**
	comp=Z,9.5nm,1.5s							
BEKR	**Beckworth**	**94.05**	**43**	*e*P		**P**	**22 31 50.0**	**-0.3**
	comp=Z,13nm,1.7s							
EGMT	**Eagleton**	**94.70**	**32**	P		**P**	**22 31 53.1**	**+0.2**
	baz=314							
EGMT	**Eagleton**	**94.70**	**32**	*e*P		**P**	**22 31 51.7**	**-1.2**
	comp=Z,11nm,1.1s							
HLID	**Hailey**	**95.28**	**37**	P		**P**	**22 31 56.5**	**+0.6**
	baz=310							
HLID	**Hailey**	**95.28**	**37**	*e*P		**P**	**22 31 57.3**	**+1.5**
	comp=Z,2.4nm,0.9s							
BOZ	**Bozeman (W)**	**95.42**	**34**	*e*P		**P**	**22 31 57.1**	**+0.6**
BOZ	comp=Z,45nm,2.0s			pmax	pmax			
BOZ	**Bozeman (W)**	**95.42**	**34**	*e*P		**P**	**22 31 57.0**	**+0.6**
	comp=Z,45nm,2.0s							
VNA2	**Neumayer--Watz**	**124.90**	**198**	PKP		**PKPdf**	**22 37 30.1**	**-0.7**
	baz=48,slow=1.2							
VNA3	**Neumayer Olymp**	**125.37**	**197**	PKP		**PKPdf**	**22 37 30.8**	**-0.9**
ZARC	**Zaragoza, Cauc**	**144.72**	**29**	*e*P		**PKPab**	**22 38 04.5**	**-3.4**
SDV	**Santo Domingo**	**145.12**	**22**	*e*P		**PKPbc**	**22 38 08.3**	**-1.3**
SDV	**Santo Domingo**	**145.12**	**22**	*e*PKPbc		**PKPbc**	**22 38 09.1**	**-0.5**
HELC	**Santa Helena**	**145.55**	**31**	*e*P		**PKPdf**	**22 38 09.7**	**-1.5**
HELC	**Santa Helena**	**145.55**	**31**	*e*PKPdf		**PKPdf**	**22 38 10.7**	**-0.5**
BARC	**Barichara**	**146.25**	**27**	*e*P		**PKPdf**	**22 38 12.7**	**+0.5**
RUSC	**La Rusia**	**146.93**	**28**	*e*P		**PKPbc**	**22 38 14.9**	**-0.6**
RUSC	**La Rusia**	**146.93**	**28**	*e*PKPdf		**PKPbc**	**22 38 14.9**	**-0.6**
CHIC	**Chingaza**	**147.76**	**30**	*e*P		**PKPdf**	**22 38 15.7**	**+0.8**
PRAC	**Prado**	**148.01**	**33**	*e*PKPbc		**PKPbc**	**22 38 17.6**	**-0.4**
VILC	**Villavicencio,**	**148.24**	**30**	*e*P		**PKPbc**	**22 38 18.9**	**+0.3**
OTAV	**Otavalo**	**148.91**	**42**	*e*P		**PKPbc**	**22 38 21.2**	**+0.4**
RCBR	**Riachuelo**	**151.91**	**307**	PKPbc		**PKPbc**	**22 38 26.3**	**-1.2**
	comp=Z,14nm,0.7s,baz=353,slow=1.5,SNR=8.4							

MEX 21 22:41:44.5±0.3, 15.92N×93.86W, h98km±10km, MD3.9,
Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TGIG		**1.11**	**39**	*i* P	Pn	22 42 04.9	-1.2
TGIG				*i* S	Sn	22 42 20.8	-1.6
CCIG	**Comitan**	**1.69**	**77**	*e*P	Pn	22 42 12.2	-1.0
CCIG				*e*S	Sn	22 42 33.4	-1.6
VHO	**Vista Hermosa**	**2.99**	**293**	*i* P	Pn	22 42 29.3	-1.0
VHO				*i* S	Sn	22 43 04.3	-1.2
PNIG	**Pinotepa**	**4.13**	**277**	*i* P	Pn	22 42 44.5	-1.0
PNIG				*i* S	Sn	22 43 31.0	-1.8
TPIG	**Tehuac#an**	**4.17**	**307**	*i* P	Pn	22 42 49.0	+2.8

*JMA **21** 22:42:31.5±0.1, 24.04N×121.74E, h0km, M3.3*
*ISCJB **21** 22:42:33.5±0.3, 24.07N±0.01×121.75E±0.02, h16km±4km,*
Error ellipse: s-maj=3.0km s-min=1.8km az=38.7
*TAP **21** 22:42:33.5, 24.10N×121.68E, h16km, ML4.0, B*
*NEIC **21** 22:42:34.0±0.0, 24.10N×121.67E, h21km, ML4.0(TAP),*
After TAP.

NEIC Recorded [3 TAP] in Hualien and [2 TAP] in Nantou and Yilan.

ISC 21 22:42:33.1±0.8, 24.08N±0.02×121.72E±0.02, h16km±5km,
n80, σ0.74/132, 11C-11D, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TWD	**Chiawan**	**0.11**	**273**⇑	*i*P	**Pg**	**22 42 36.8**	**+0.2**
	baz=257						
TWD				*i* S	**Sg**	**22 42 39.1**	**+0.2**
	baz=257						
HWA	**Hwalien**	**0.14**	**226**⇓	*i*P	**Pb**	**22 42 37.9**	**+0.4**
	baz=204						
HWA				*i* S	**Sb**	**22 42 41.3**	**+1.1**
	baz=204						
NACB	**Ninganchiao**	**0.15**	**312**	*e*Pg	**Pg**	**22 42 36.8**	**-0.3**
NACB				*e*S	**Sg**	**22 42 39.3**	**-0.4**
EHP	**Heping Village**	**0.24**	**6**	*e*P	**Pb**	**22 42 39.3**	**+0.2**
	baz=12						
ESF	**Shoufeng Towns**	**0.28**	**223**	*e*P	**Pb**	**22 42 40.3**	**+0.5**
	baz=224						
ENA	**Nanau**	**0.35**	**4**⇑	*i*P	**Pg**	**22 42 40.8**	**+0.3**
	baz=12						
ENA				*e*S	**Sg**	**22 42 45.6**	**+0.2**
	baz=12						
ESL	**Shilin**	**0.37**	**225**⇑	*i*P	**Pg**	**22 42 40.9**	**+0.2**
	baz=220						
ESL				*e*S	**Sb**	**22 42 46.5**	**-0.3**
	baz=220						
TEGC	**Jichi Village**	**0.40**	**204**	*e*P	**Pb**	**22 42 42.4**	**+0.6**
	baz=190						
WHF	**Hehuan Shan**	**0.42**	**280**⇑	*i*P	**Pg**	**22 42 41.7**	**-0.1**
	baz=277						
WHF				S	**Sg**	**22 42 47.0**	**-0.6**
	baz=277						
NNS	**Nan Shan**	**0.48**	**319**⇑	*i*P	**Pg**	**22 42 42.7**	**-0.1**
	baz=320						
NNS				*i* S	**Sb**	**22 42 49.4**	**-0.8**
	baz=320						
TWT	**Tachien**	**0.52**	**290**⇑	*i*P	**Pb**	**22 42 44.1**	**0.0**
	baz=288						
TWT				*i* S	**Sb**	**22 42 51.4**	**-0.2**
	baz=288						
TWC	**Suao**	**0.55**	**13**⇑	*i*P	**Pg**	**22 42 44.3**	**+0.3**
	baz=14						
TWC				*i* S	**Sb**	**22 42 51.9**	**-0.1**
	baz=14						
ENTT	**Nioudou**	**0.58**	**346**⇑	*i*P	**Pb**	**22 42 44.8**	**-0.2**
	baz=340						
ENTT				*i* S	**Sb**	**22 42 52.8**	**-0.2**
	baz=340						
TWE	**Neicheng**	**0.65**	**356**	⇑P	**Pb**	**22 42 46.0**	**0.0**
	baz=1.0						
TWE				*e*S	**Sb**	**22 42 54.4**	**-0.4**
	baz=1.0						
YHNB	**Yeheng**	**0.67**	**332**	*e*Pg	**Pg**	**22 42 46.0**	**-0.2**
YHNB				*e*S	**Sb**	**22 42 55.2**	**-0.4**
EHY	**Hungye**	**0.67**	**213**	*e*P	**Pg**	**22 42 45.6**	**-0.6**
	baz=208						
NSK	**Sanguang**	**0.68**	**332**⇑	*i*P	**Pb**	**22 42 46.4**	**-0.3**
	baz=333						
NSK				S	**Sb**	**22 42 55.2**	**-0.7**
	baz=333						
ILA	**Ilan**	**0.69**	**2**	*e*P	**Pg**	**22 42 45.9**	**-0.7**
	baz=2.0						
ILA				*e*S	**Sb**	**22 42 57.0**	**+0.9**
	baz=2.0						
SSLB	**Suanglung**	**0.75**	**248**	*e*Pg	**Pg**	**22 42 47.1**	**-0.7**
SSLB				*e*S	**Sg**	**22 42 56.9**	**-0.9**
SMLT	**Sun Moon Lake**	**0.77**	**256**⇓	*i*P	**Pg**	**22 42 48.0**	**-0.2**
	baz=253						
SMLT				S	**Sb**	**22 42 58.1**	**-0.5**
	baz=253						
YULB	**Yu-li**	**0.78**	**210**	*e*Pn	**Pb**	**22 42 48.1**	**-0.2**
YULB				*e*S	**Sn**	**22 43 00.2**	**-0.7**
TYC	**Yuchr**	**0.80**	**258**⇓	*i*P	**Pb**	**22 42 48.2**	**-0.5**
	baz=256						
TYC				S	**Sb**	**22 42 58.6**	**-0.8**
	baz=256						
TWF1	**Yuli**	**0.81**	**208**	*e*P	**Pb**	**22 42 47.9**	**-1.1**
	baz=215						
NSTT	**Nanjuang**	**0.85**	**311**	⇓P	**Pg**	**22 42 49.7**	**0.0**
	baz=310						
NSTT				*e*S	**Sb**	**22 43 00.1**	**-0.8**
	baz=310						
TWQ1	**Liyutan**	**0.90**	**288**⇓	*e*P	**Pn**	**22 42 50.8**	**-0.5**
	baz=295						
TWQ1				*e*S	**Sn**	**22 43 04.3**	**+0.3**
	baz=295						
TWA	**Mucha**	**0.91**	**352**	*e*P	**Pn**	**22 42 51.0**	**-0.3**
	baz=354						
TWA				*e*S	**Sn**	**22 43 03.2**	**-1.0**
	baz=354						
YUS	**Yu-Shan**	**0.91**	**230**⇓	*i*P	**Pb**	**22 42 50.7**	**-0.1**
	baz=227						
TATO	**Taipei**	**0.92**	**347**	*e*Pg	**Pg**	**22 42 51.0**	**0.0**
TATO

WTP	**Ta-pu**	**1.30**	**231**	⇑*i*P		**Pg**	**22 42 57.9**	**-0.3**
	baz=230							
WTP				*e*S		**Sn**	**22 43 14.2**	**+0.3**
	baz=230							
CHY	**Chiayi**	**1.31**	**244**	*e*P		**Pg**	**22 42 58.6**	**+0.1**
	baz=243							
CHY				*e*S		**Sg**	**22 43 16.4**	**+0.8**
	baz=243							
WTCT	**Ta-ch'eng**	**1.33**	**261**	*e*P		**Pg**	**22 42 58.2**	**-0.6**
	baz=261							
WTCT				*e*S		**Sg**	**22 43 16.4**	**+0.3**
	baz=261							
TWG	**Pinlang**	**1.38**	**205**	*e*P		**Pn**	**22 42 57.2**	**-0.6**
	baz=186							
TWG	**Pinlang**	**1.38**	**205**	*e*Pn		**Pn**	**22 42 55.6**	**-2.2**
TWG				*e*S		**Sg**	**22 43 21.1**	**+3.3**
TWK	**Hsinying**	**1.38**	**235**	⇓P		**Pb**	**22 42 59.0**	**+0.3**
	baz=233							
TWK				*e*S		**Sg**	**22 43 17.6**	**-0.3**
	baz=233							
CHN1	**Nanshi**	**1.40**	**231**	*e*P		**Pb**	**22 42 59.0**	**0.0**
	baz=219							
CHN1				*e*S		**Sg**	**22 43 18.9**	**+0.5**
	baz=219							
SGST	**Jiashian**	**1.43**	**227**	*e*P		**Pb**	**22 42 59.6**	**+0.1**
	baz=225							
SGST				*e*S		**Sg**	**22 43 19.9**	**+0.5**
	baz=225							
WSF	**Szhu**	**1.44**	**253**	*e*P		**Pb**	**22 42 59.6**	**+0.1**
	baz=253							
WSF				*e*S		**Sg**	**22 43 19.2**	**-0.3**
	baz=253							
CHN8	**Yiju**	**1.56**	**243**	*e*P		**Pb**	**22 43 01.2**	**-0.4**
	baz=241							
CHN8				*e*S		**Sg**	**22 43 22.8**	**-0.6**
	baz=241							
ECL	**Taimali**	**1.63**	**206**	*e*P		**Pn**	**22 43 00.3**	**-0.8**
	baz=189							
SSD	**Sandimen**	**1.66**	**217**	*e*P		**Pn**	**22 43 02.1**	**+0.6**
	baz=228							
TWM1	**Shoushan**	**1.72**	**224**	*e*P		**Pn**	**22 43 03.1**	**+0.6**
	baz=224							
IRIF	**Iriomote-Funau**	**1.86**	**82**	P		**Pn**	**22 43 04.4**	**+0.1**
IRIF				S		**Sn**	**22 43 28.6**	**+1.1**
EAST	**Anshuo**	**1.86**	**206**	*e*P		**Pb**	**22 43 06.6**	**-0.2**
	baz=190							
TAW	**Tawu**	**1.87**	**204**	*e*P		**Pb**	**22 43 06.4**	**-0.5**
	baz=189							
HATJ	**Hateruma jima**	**1.91**	**90**	P		**Pn**	**22 43 05.2**	**+0.1**
HATJ				S		**Sn**	**22 43 28.7**	**-0.1**
SCZT	**Fangliau**	**1.97**	**211**	*e*P		**Pn**	**22 43 06.4**	**+0.5**
	baz=192							
LAY	**Lan-yu**	**2.03**	**184**	*e*P		**Pn**	**22 43 04.9**	**-1.9**
	baz=182							
PNG	**Penghu**	**2.04**	**256**	*e*P		**Pn**	**22 43 07.6**	**+0.8**
	baz=256							
WDGT	**Dungji**	**2.05**	**247**	*e*P		**Pn**	**22 43 07.1**	**+0.1**
	baz=248							
JKRS	**Kuro-shima**	**2.10**	**85**	P		**Pn**	**22 43 08.1**	**+0.4**
JKRS				S		**Sn**	**22 43 35.2**	**+1.7**
JIJ	**Ishigaki jima**	**2.23**	**82**	P		**Pn**	**22 43 09.1**	**-0.4**
JIJ				S		**Sn**	**22 43 35.9**	**-0.9**
JISG	**Ishigakijimahi**	**2.42**	**77**	P		**Pn**	**22 43 12.1**	**0.0**
JISG				S		**Sn**	**22 43 41.2**	**-0.2**
JTJ	**Tarama**	**2.78**	**78**	P		**Pn**	**22 43 17.0**	**0.0**
JTJ				*e*S		**Sn**	**22 43 51.7**	**+1.4**
KNM	**Kinmen**	**3.02**	**277**	*e*P		**Pn**	**22 43 21.3**	**+1.0**
	baz=275							
JIRB	**Irabujima**	**3.24**	**76**	P		**Pn**	**22 43 24.4**	**+1.1**
JKE	**Kume jima 2**	**5.11**	**63**	S		**Sn**	**22 44 45.9**	**-1.9**

*ISCJB **21** 22:43:56.8±0.5,38°.41S±0°.08×16°.8W±0°.1,h10km, mb4.2/15,MS4.1/16,Error ellipse: s-maj=11.8km s-min=11.0km az=26.1*
*IDC **21** 22:43:57.3±0.7,38°.44S×16°.91W,h0km,mb4.1/12, mb1 4.2/12,mb1mx4.1/28,mbtmp4.1/12,MS4.0/16, Ms1 4.0/16,ms1mx4.0/18,Error ellipse: s-maj=20.1km s-min=18.1km az=107.0*
*NEIC **21** 22:43:58.4±0.4,38°.42S×16°.81W,h10km,mb4.3/2,Error ellipse: s-maj=12.6km s-min=10.3km az=156.0*
*GCMT **21** 22:43:58.4±0.3,38°.51S×16°.85W,h18km±1km,MW4.9/78, Moment Tensor Solution. s12,c14; s78,c107; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-0.65±.15; $M_{\theta\theta}$1.74±.14; $M_{\phi\phi}$-1.08±.12; $M_{r\theta}$0.92±.29; $M_{\theta\phi}$-2.46±.10; $M_{\phi r}$-0.66±.27; Best double couple: M_o2.99300×10^{16} NP1:ϕ_s166.00000°,δ82.00000°,λ.14.00000°. NP2: ϕ_s74.00000°,δ77.00000°,λ172.00000°. Principal axes: T 3.4740, Plg15.0000°, Azm30.0000°; N -0.9560, Plg74.0000°, Azm196.0000°; P -2.5120, Plg4.0000°, Azm299.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

ISC 21 22:43:58.4±0.6,38°.4S±0°.1×16°.64W±0°.09,h10km,n37, σ1^{s}71/22,mb4.2/15,MS4.1/16,Southern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TRIS	**Tristan da Cun**	**3.67**	**70**	*e*Pn	**Pn**	**22 44 54.7**	**-0.5**
TRIS				*e*S	**Sn**	**22 45 33.4**	**-5.1**
H10S2	**ASCENSION HYDR**	**29.35**	**4**	T	T	23 20 53.7	
	baz=184,slow=75,SNR=530						
H10S3	**ASCENSION HYDR**	**29.36**	**4**	T	T	23 20 54.5	
	baz=184,slow=75,SNR=614						
H10S1	**ASCENSION HYDR**	**29.37**	**4**	T	T	23 21 02.9	
	baz=184,slow=75,SNR=543						
H10N1	**ASCENSION HYDR**	**30.46**	**4**	T	T	23 22 20.9	
	baz=191,slow=78,SNR=59						
H10N3	**ASCENSION HYDR**	**30.47**	**4**	T	T	23 22 17.7	
	baz=191,slow=78,SNR=296						
H10N2	**ASCENSION HYDR**	**30.48**	**4**	T	T	23 22 18.9	
	baz=191,slow=78,SNR=95						
VNA1	**Neumayer--Stat**	**32.63**	**175**	P	**P**	**22 50 31.7**	**+1.8**
VNA2	**Neumayer--Watz**	**32.97**	**174**	P	**P**	**22 50 33.3**	**+0.5**
	baz=344,slow=11						
VNA3	**Neumayer Olymp**	**33.13**	**176**	P	**P**	**22 50 34.4**	**+0.1**
SNAA	**Sanae**	**34.10**	**172**	P	**P**	**22 50 41.8**	**-1.0**
SNAA	**Sanae**	**34.10**	**172**	P	**P**	**22 50 42.6**	**-0.2**
	2.4nm,0.9s,baz=307,slow=9.0,SNR=20						
SNAA	**Sanae**	**34.10**	**172**	*e*P	**P**	**22 50 42.2**	**-0.6**
	384nm,1.2s						
BOSA	**Boshof**	**36.01**	**87**	LR	LR	23 02 38.3	
	comp=Z,106nm,21.2s,baz=218,slow=31						
CPUP	**Villa Florida**	**36.14**	**277**	P	**P**	**22 50 59.5**	**-1.3**
	1.7nm,0.8s,baz=136,slow=9.9,SNR=3.7						
CPUP				LR	LR	23 03 42.1	
	comp=Z,249nm,18.1s,baz=130,slow=33						
PMSA	**Palmer Station**	**38.13**	**211**	*e*P	**P**	**22 51 16.3**	**-0.9**
	4.4nm,0.7s						
PLCA	**Paso Flores**	**41.09**	**249**	P	**P**	**22 51 41.4**	**-1.0**
	1.4nm,0.7s,baz=110,slow=7.0,SNR=3.4						
PLCA				LR	LR	23 07 21.2	
	comp=Z,247nm,18.2s,baz=143,slow=34						
MATP	**Matopo**	**42.74**	**78**	P	**P**	**22 51 58.1**	**+2.0**
	1.6nm,0.7s,baz=228,slow=8.6,SNR=5.9						
SIV	**San Ignacio**	**44.84**	**287**	P	**P**	**22 52 11.9**	**-1.0**
	3.0nm,0.9s,baz=190,slow=4.4,SNR=4.4						
DBIC	**Dimbokro**	**46.14**	**16**	LR	LR	23 06 56.6	
	comp=Z,224nm,20.5s,baz=165,slow=30						
LPAZ	**La Paz**	**50.04**	**281**	P	**P**	**22 52 52.0**	**-2.0**
	1.4nm,0.4s,baz=150,slow=5.4,SNR=4.3						
LPAZ				LR	LR	23 11 46.6	
	comp=Z,95nm,21.6s,baz=122,slow=34						
SAML	**Samuel**	**50.98**	**293**	*e*P	**P**	**22 52 58.8**	**-1.7**
	2.9nm,0.8s						
MAW	**Mawson**	**51.25**	**151**	P	**P**	**22 53 02.7**	**+1.0**
	2.9nm,0.9s,baz=302,slow=5.7,SNR=2.3						
MAW				LR	LR	23 10 47.9	
	comp=Z,82nm,19.6s,baz=243,slow=31						
QSPA	**South Pole Qui**	**51.87**	**180**	*e*P	**P**	**22 53 06.6**	**-0.1**
	28nm,0.9s						
TORD	**Torodi Ar. Bea**	**54.06**	**22**	P	**P**	**22 53 24.1**	**+1.0**
	2.6nm,1.0s,baz=203,slow=5.5,SNR=18						
TORD				LR	LR	23 11 52.2	
	comp=Z,374nm,19.8s,baz=200,slow=31						
KMBO	**Kilima Mbogo**	**61.63**	**67**	LR	LR	23 19 22.8	
	comp=Z,124nm,18.2s,baz=196,slow=34						
VNDA	**Vanda**	**64.36**	**180**	P	**P**	**22 54 34.0**	**+0.2**
	1.7nm,1.0s,baz=225,slow=4.3,SNR=2.9						
VNDA				LR	LR	23 20 49.8	
	comp=Z,84nm,18.5s,baz=180,slow=34						
ROSC	**El Rosal**	**68.48**	**295**	LR	LR	23 23 57.4	
	comp=Z,250nm,18.2s,baz=229,slow=35						
RPN	**Rapa Nui**	**75.67**	**247**	LR	LR	23 23 10.4	
	comp=Z,128nm,18.2s,baz=179,slow=31						
KEST	**Kesra**	**77.57**	**21**	P	**P**	**22 55 55.8**	**+1.4**
	7.0nm,1.2s,baz=32,slow=9.5,SNR=2.7						
KEST				LR	LR	23 27 39.0	
	comp=Z,308nm,18.0s,baz=178,slow=34						
ESDC	**Sonseca Array**	**78.55**	**10**	P	**P**	**22 56 01.1**	**+1.3**
	0.3nm,0.7s,baz=188,slow=5.7,SNR=2.6						
ESDC				LR	LR	23 28 11.3	
	comp=Z,106nm,18.1s,baz=335,slow=34						
BRTR	**Keskin Array B**	**90.36**	**36**	P	**P**	**22 57 01.5**	**+1.8**
	1.1nm,0.9s,baz=193,slow=4.7,SNR=3.7						
BRTR				LR	LR	23 36 22.8	
	comp=Z,20nm,19.3s,baz=208,slow=35						
GERES	**GERESS Array B**	**90.93**	**19**	LR	LR	23 34 36.9	
	comp=Z,106nm,20.8s,baz=215,slow=33						
H01W2	**Cape Leeuwin H**	**94.00**	**141**	T	T	00 42 42.5	
	baz=217,slow=75,SNR=133						
H01W3	**Cape Leeuwin H**	**94.01**	**141**	T	T	00 42 43.5	
	baz=217,slow=75,SNR=116						
H01W1	**Cape Leeuwin H**	**94.01**	**141**	T	T	00 42 43.6	
	baz=217,slow=75,SNR=146						
KBZ	**Khabaz**	**97.88**	**39**	LR	LR	23 40 12.5	
	comp=Z,38nm,21.0s,baz=233,slow=34						

*CSEM **21** 22:50:56.3,39°.13N×28°.45W,h5km±8km,ML1.8*
PDA 21 22:50:56.3±0.8,39°.13N×28°.45W,h5km±8km,MD3.5, ML1.8,Error ellipse: s-maj=6.2km s-min=3.6km az=157.0,Azores Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PGRA	**Graciosa**	**0.38**	**105**	*e*P	Pg	22 51 03.3	-0.2
PGRA				*e*S	Sg	22 51 08.1	-0.4
PGRA				A	A	22 51 12.3	
	45nm,0.2s						
PGRA	**Graciosa**	**0.38**	**105**	*e*P	Pg	22 51 03.3	-0.2
PGRA				*e*S	Sg	22 51 08.1	-0.4
ROSA	**Rosais**	**0.44**	**159**	*e*P	Pg	22 51 08.9	-0.9
ROSA				*e*S	Sg	22 51 09.7	-0.8
ROSA				A	A	22 51 12.4	
	45nm,0.1s						
ROSA	**Rosais**	**0.44**	**159**	*e*P	Pg	22 51 03.9	-0.9
ROSA				*e*S	Sg	22 51 09.7	-0.8
PMAN	**Manadas**	**0.57**	**151**	*e*P	Pg	22 51 05.6	-1.6
PMAN				*e*S	Sg	22 51 13.3	-1.3
PMAN				A	A	22 51 15.7	
	33nm,0.1s						
PMAN	**Manadas**	**0.57**	**151**	*e*P	Pg	22 51 05.6	-1.6
PMAN				*e*S	Sg	22 51 13.3	-1.3
CALA	**Caldeira**	**0.58**	**200**	*e*P	Pg	22 51 06.5	-1.0
CALA				*e*S	Sg	22 51 14.0	-1.1
CALA	**Caldeira**	**0.58**	**200**	*e*P	Pg	22 51 06.5	-1.0
CALA				*e*S	Sg	22 51 14.0	-1.1
PICO	**Pico**	**0.63**	**179**	*e*P	Pg	22 51 07.1	-1.3
PICO				*e*S	Sg	22 51 15.1	-1.4
PICO				A	A	22 51 20.8	
	55nm,0.3s						
PICO	**Pico**	**0.63**	**179**	*e*P	Pg	22 51 07.1	-1.3
PICO				*e*S	Sg	22 51 15.1	-1.4
PCAN	**Candelaria**	**0.67**	**183**	*e*P	Pg	22 51 07.0	-2.1
PCAN				*e*S	Sg	22 51 15.8	-1.9
	28nm,0.2s						
PCAN	**Candelaria**	**0.67**	**183**	*e*P	Pg	22 51 07.0	-2.1
PCAN				*e*S	Sg	22 51 15.8	-1.9

JMA 21 23:02:40.2±0.1,38°.49N×142°.26E,h28km±2km,M3.6, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIO	**Ouri**	**0.72**	**267**	P	Pb	23 02 53.7	-0.4
JIO				S	Sb	23 03 02.8	-0.8
OFUJ	**Ofunato**	**0.75**	**322**	P	Pb	23 02 54.4	-0.3
OFUJ				S	Sb	23 03 04.2	-0.4
JMK	**Ichinoseki**	**0.94**	**300**	P	Pn	23 02 57.4	-0.1
JMK				*e*S	Sb	23 03 09.4	-0.4
JOM	**Ohasama**	**1.24**	**323**	P	Pn	23 03 02.1	+0.5
JOU	**Okura**	**1.26**	**265**	P	Pn	23 03 02.4	+0.4
JOU				*e*S	Sn	23 03 18.2	+0.2
JMM	**Marumori**	**1.31**	**242**	P	Pn	23 03 02.2	-0.5
JMM				*e*S	Sn	23 03 18.3	-0.9
JYK	**Kaneyama**	**1.55**	**287**	P	Pn	23 03 06.8	+0.9
JYK				*e*S	Sb	23 03 26.4	-1.0
JRG	**Rokugo**	**1.56**	**306**	P	Pb	23 03 07.6	-0.8
JFK	**Kawauchi**	**1.57**	**225**	P	Pn	23 03 04.9	-1.3
JFK				*e*S	Sn	23 03 22.8	-2.8

*ISCJB **21** 23:10:43.0±0.4,17°.02S±0°.07×172°.87W±0°.09,h17km, mb4.8/28,MS3.9/16,Error ellipse: s-maj=14.4km s-min=6.6km az=32.0*
*IDC **21** 23:10:42.0±0.7,17°.31S×172°.66W,h0km,mb4.4/13, mb1 4.6/13,mb1mx4.3/44,mbtmp4.4/13,MS3.9/17, Ms1 3.9/17,ms1mx3.8/26,Error ellipse: s-maj=27.8km s-min=17.1km az=139.0*
*NEIC **21** 23:10:47.0±0.4,17°.05S×172°.80W,h35km,mb4.9/10, Error ellipse: s-maj=16.1km s-min=8.2km az=128.0*
*BJI **21** 23:10:46.5,17°.07S×172°.98W,h32km,mb4.9/9,mB5.3/3, Ms5.2/1,Ms7 5.0/1*
ISC 21 23:10:44.3±0.5,17°.09S±0°.08×172°.7W±0°.1,h17km,n81, σ1^{s}82/72,mb4.8/28,MS4.0/16,1C,Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**3.27**	**15**	Pn	**Pn**	**23 11 32.3**	**-2.5**
	14nm,0.3s,baz=112,slow=5.6,SNR=16						
AFI				Sn	**Sn**	**23 12 11.0**	**-2.4**
	41nm,0.3s,baz=70,slow=21,SNR=4.2						
AFI				LR	LR	23 12 41.9	
	comp=Z,964nm,21.3s,baz=160,slow=34						
AFI	**Afiamalu**	**3.27**	**15**	*e*Pn	**Pn**	**23 11 33.3**	**-1.5**
AFI				*e*S	**Sn**	**23 12 13.2**	**-0.2**
MSVF	**Nonsavu**	**8.89**	**264**	*e*Pn	Pn	23 12 59.1	+6.9
RAR	**Rarotonga**	**12.85**	**111**	Pn	Pn	23 13 37.3	-8.9
	2.5nm,0.3s,baz=280,slow=5.3,SNR=6.1						
RAR	**Rarotonga**	**12.85**	**111**	*e*Pn	Pn	23 13 37.8	-8.4
DZM	**Mont Dzumac**	**20.30**	**253**	P	**P**	**23 15 19.1**	**-0.5**
	3.5nm,0.7s,baz=94,slow=10,SNR=3.7						
DZM				LR	LR	23 21 56.1	
	comp=Z,548nm,20.6s,baz=42,slow=33						
DZM	**Mont Dzumac**	**20.30**	**253**	*e*LR	LR	23 19 48.8	
	945nm,27.3s						
PPT2	**Papeete2**	**22.04**	**95**	*e*LQ	LQ	23 19 40.6	
	526nm,26.5s						
PPT2				*e*LR	LR	23 20 33.5	
	1µm,25.8s,baz=261						
PPT	**Papeete**	**22.04**	**95**	LR	LR	23 21 27.1	
	comp=Z,308nm,20.7s,baz=196,slow=29						
URZ	**Urewera**	**22.93**	**201**	P	**P**	**23 15 45.5**	**-1.9**
	35nm,0.7s,baz=337,slow=3.5,SNR=27						
URZ	**Urewera**	**22.93**	**201**	*e*P	**P**	**23 15 46.5**	**-1.0**
	36nm,0.6s						
BKZ	**Black Stump Fm**	**23.95**	**201**	*e*P	**P**	**23 15 56.9**	**-0.8**
	15nm,0.7s						
HIZ	**Hauiti**	**23.99**	**205**	*e*P	**P**	**23 15 59.4**	**+1.4**
	155nm,1.6s						
HNR	**Honiara**	**27.70**	**282**	LR	LR	23 25 57.8	
	comp=Z,744nm,21.4s,baz=138,slow=33						
RPZ	**Rata Peaks**	**29.92**	**204**	LR	LR	23 27 22.8	
	comp=Z,85nm,18.4s,baz=32,slow=34						
RKT	**Rikitea**	**35.82**	**106**	*e*LR	LR	23 26 44.2	
	674nm,28.8s,baz=279						
CTA	**Charters Tower**	**38.99**	**259**	P	**P**	**23 18 08.4**	**-1.7**
	2.9nm,0.5s,baz=330,slow=16,SNR=4.6						
CTAO	**Charters Tower**	**38.99**	**259**	*e*P	**P**	**23 18 09.8**	**-0.3**
PMG	**Port Moresby**	**39.79**	**276**	LR	LR	23 33 23.7	
	comp=Z,166nm,20.1s,baz=68,slow=34						
JCUZ	**Jacuzzi**	**40.14**	**26**	*e*P	P	23 18 14.1	-5.4
	222nm,0.7s						
STKA	**Stephens Creek**	**43.84**	**242**	P	**P**	**23 18 49.0**	**-0.8**
	1.9nm,0.5s,baz=89,slow=9.9,SNR=5.8						
STKA				LR	LR	23 35 58.7	
	comp=Z,209nm,18.1s,baz=42,slow=35						
WB2	**Warramunga Arr**	**50.16**	**258**	*e*P	**P**	**23 19 37.6**	**-1.7**
	12nm,1.2s						
WRAB	**Tennant Creek**	**50.17**	**258**	*e*P	**P**	**23 19 37.7**	**-1.6**
	34nm,1.5s						
WRA	**Warramunga Arr**	**50.17**	**258**	P	**P**	**23 19 38.5**	**-0.9**
	3.1nm,0.5s,baz=96,slow=6.7,SNR=91						
WRA				LR	LR	23 41 00.3	
	comp=Z,157nm,18.8s,baz=105,slow=36						
AS01	**Alice Springs**	**50.25**	**253**	*e*P	**P**	**23 19 39.0**	**-1.0**
AS31	**Alice Springs**	**50.29**	**253**	*e*P	**P**	**23 19 39.3**	**-1.0**
	6.5nm,0.6s						
ASAR	**Alice Springs**	**50.29**	**253**	P	**P**	**23 19 39.6**	**-0.7**
	20nm,0.7s,baz=88,slow=8.4,SNR=182						
ASAR				LR	LR	23 40 49.2	
	comp=Z,274nm,18.1s,baz=106,slow=36						
GUMO	**Guam**	**51.85**	**303**	LR	LR	23 42 05.3	
	comp=Z,54nm,18.4s,baz=216,slow=36						
SBA	**Scott Base**	**61.64**	**185**	*e*P	**P**	**23 21 00.6**	**0.0**
	103nm,2.4s						
VNDA	**Vanda**	**61.78**	**186**	P	**P**	**23 21 02.0**	**+0.4**
	0.9nm,0.7s,baz=44,slow=8.9,SNR=3.4						
VNDA				LR	LR	23 43 52.2	
	comp=Z,15nm,20.7s,baz=2.5,slow=32						
QSPA	**South Pole Qui**	**72.97**	**180**	*e*P	**P**	**23 22 12.6**	**-0.1**
	41nm,2.0s						
KDAK	**Kodiak Island**	**76.43**	**11**	LR	LR	23 51 00.8	
	comp=Z,74nm,19.0s,baz=183,slow=32						
KSRS	**Korea Array**	**77.85**	**316**	P	**P**	**23 22 44.3**	**+3.2**
	0.7nm,0.4s,baz=102,slow=12,SNR=4.5						
KSAR	**Wonju Array Be**	**77.87**	**315**	P	**P**	**23 22 44.3**	**+3.1**
MNTX	**Cornudas Mount**	**80.66**	**53**	*e*P	**P**	**23 22 56.1**	**-0.5**
	11nm,1.8s						
TX31	**Lajitas Ar. Si**	**80.96**	**56**	*e*P	**P**	**23 23 00.6**	**+2.2**
TXAR	**Lajitas Array**	**80.96**	**56**	P	**P**	**23 23 00.8**	**+2.5**
	1.2nm,1.0s,baz=251,slow=3.8,SNR=5.7						
TXAR				LR	LR	23 53 37.2	
	comp=Z,55nm,18.6s,baz=0.0,slow=32						
NJ2	**Nanjing**	**81.74**	**307**	*e*P	**P**	**23 23 01.5**	**-0.8**
NJ2				pmax	pmax		
	comp=Z,16nm,0.5s						
CN2	**Changchun**	**82.83**	**320**	*e*P	**P**	**23 23 10.1**	**+2.4**
CN2				pmax	pmax		
	comp=Z,10.0nm,0.6s						
PDAR	**Pinedale Array**	**83.04**	**41**	P	**P**	**23 23 10.0**	**+0.8**
	1.1nm,0.3s,baz=223,slow=3.7,SNR=5.1						
BOZ	**Bozeman (W)**	**83.26**	**38**	*e*P	**P**	**23 23 11.3**	**+1.2**
	14nm,1.7s						
YHH	**Holmes Hill**	**83.30**	**39**	*e*P	**P**	**23 23 12.8**	**+2.3**
	8.4nm,1.5s						
WRH	**Wood River Hil**	**83.47**	**10**	*e*P	**P**	**23 23 10.8**	**+0.2**
CCB	**Clear Creek Bu**	**83.68**	**10**	*e*P	**P**	**23 23 10.8**	**-0.8**
MDM	**Murphy Dome**	**83.89**	**10**	*e*P	**P**	**23 23 12.6**	**-0.1**
IL1	**Eielson Array**	**83.95**	**11**	*e*P	**P**	**23 23 11.6**	**-1.5**
ILAR	**Eielson Array**	**83.95**	**11**	P	**P**	**23 23 13.8**	**+0.7**
	1.1nm,0.6s,baz=224,slow=5.7,SNR=17						
ILB	**Eielson Array**	**83.95**	**11**	*e*P	**P**	**23 23 09.1**	**-3.9**
QIZ	**Qiongzhong**	**84.19**	**292**	P	**P**	**23 23 16.3**	**+1.0**
QIZ				S	**S**	**23 33 36.3**	**-3.8**
DAWY	**Dawson**	**84.87**	**14**	*e*P	**P**	**23 23 17.6**	**-0.1**
MAW	**Mawson**	**86.43**	**198**	LR	LR	00 02 33.7	
	comp=Z,72nm,18.5s,baz=62,slow=36						
PLCA	**Paso Flores**	**87.86**	**132**	LR	LR	23 56 13.1	
	comp=Z,90nm,19.0s,baz=326,slow=31						
GYA	**Guiyang**	**89.46**	**298**	*e*P	**P**	**23 23 41.0**	**+0.1**
GYA				pmax	pmax		
	comp=Z,10.0nm,1.0s						
INK	**Inuvik**	**89.73**	**14**	P	**P**	**23 23 41.3**	**+0.3**
	3.4nm,0.8s,baz=259,slow=2.4,SNR=3.7						
HHC	**Hu-ho-hao-te**	**90.69**	**313**	*e*P	**P**	**23 23 44.6**	**-1.8**
HHC				pmax	pmax		
	comp=Z,15nm,0.9s						
HHC				pmax	pmax		
	comp=Z,110nm,9.8s						
KMI	**Kunming**	**92.39**	**295**	P	**P**	**23 23 59.1**	**+4.3**
KMI				pmax	pmax		
	comp=Z,10.0nm,2.0s						
CD2	**Chengdu**	**93.29**	**301**	*e*P	**P**	**23 23 56.3**	**-2.3**
CMAR	**Chiang Mai Arr**	**93.81**	**288**	P	**P**	**23 24 03.2**	**+2.1**
	0.6nm,0.3s,baz=143,slow=3.2,SNR=2.9						
ULM	**Lac du Bonnet**	**94.79**	**39**	LR	LR	00 02 23.8	
	comp=Z,102nm,19.0s,baz=306,slow=33						
LPAZ	**La Paz**	**98.57**	**110**	LR	LR	23 58 59.5	
	comp=Z,47nm,21.0s,baz=287,slow=29						
MKAR	**Makanchi Array**	**112.51**	**314**	PKiKP	**PKiKP**	**23 29 19.7**	**0.0**
	0.3nm,0.7s,baz=80,slow=1.6,SNR=3.1						
KSH	**Kashi**	**117.04**	**306**	*e*PKP	**PKPdf**	**23 29 29.3**	**+0.6**
KSH				sPKP		23 29 43.3	
KSH				PP	**PP**	**23 30 44.3**	**+5.7**
KSH				PKS	**PKSdf**	**23 33 04.3**	**-1.2**
KSH				SKS	**SKSdf**	**23 36 36.3**	**-4.1**
KSH				SS	**SS**	**23 46 48.3**	**+1.6**
KSH				AMB	AMB		
	comp=Z,70nm,4.9s						
KSH				LR	LR		
	comp=E,91nm,6.0s						
KSH				LR	LR		
	comp=Z,110nm,5.9s						
KMBO	**Kilima Mbogo**	**145.41**	**241**	PKPbc	**PKPab**	**23 30 23.4**	**+0.6**
	7.1nm,1.1s,baz=148,slow=5.3,SNR=15						
CLL	**Collm**	**145.56**	**354**	⇑*i*PKPbc	**PKPab**	**23 30 23.1**	**+1.2**
CLL				*e*		23 31 00.0	
STHS	**Stebnicka Huta**	**145.84**	**344**	*e*PKP	**PKPab**	**23 30 25.1**	**+2.1**
STHS				*e*		23 30 31.1	
BRG	**Berggiesshubel**	**145.88**	**353**	*e*P	**PKPab**	**23 30 24.0**	**+0.9**
	28nm,2.0s						
DPC	**Dobruska-Polom**	**146.04**	**350**	*e*PKP	**PKPab**	**23 30 25.0**	**+1.2**
PVCC	**Panska Ves**	**146.14**	**352**	*e*PKP	**PKPab**	**23 30 25.5**	**+1.4**
PRA	**Prague**	**146.60**	**352**	*e*PKP	**PKPab**	**23 30 26.8**	**+0.9**
PRU	**Pruhonice**	**146.67**	**352**	*e*PKP	**PKPdf**	**23 30

KUR					AMB	AMB	23 17 14.1	
	40nm,0.2s							
KUR					*e*S	**Sb**	**23 17 45.7**	**-3.0**
KUR					A	A	23 17 46.9	
	40nm,0.3s							
KUR					A	A	23 17 46.9	
	160nm,0.3s							
YSS	**Yuzh-Sakhalins**	**4.54**	**335**	*e*P		**Pn**	**23 17 32.2**	**+1.9**
MJAR	**Matsushiro Arr**	**8.48**	**224**	P		**Pn**	**23 18 25.2**	**+0.7**
	0.4nm,0.3s,baz=30,slow=15,SNR=4.0							
KSRS	**Korea Array**	**14.51**	**254**	LR		LR	23 24 43.8	
	comp=Z,30nm,21.7s,baz=20,slow=34							
SONM	**Songino Array**	**27.74**	**294**	P		**P**	**23 22 10.6**	**+0.5**
	1.5nm,0.6s,baz=83,slow=7.7,SNR=10							
H11N2	**WAKE ISLAND Hy**	**29.25**	**135**	T		T	23 53 25.3	
	baz=328,slow=75,SNR=208							
H11N1	**WAKE ISLAND Hy**	**29.26**	**135**	T		T	23 53 26.3	
	baz=328,slow=75,SNR=143							
H11N3	**WAKE ISLAND Hy**	**29.27**	**135**	T		T	23 53 14.6	
	baz=328,slow=75,SNR=159							
H11S1	**WAKE ISLAND Hy**	**30.18**	**137**	T		T	23 54 29.6	
	baz=329,slow=76,SNR=269							
H11S3	**WAKE ISLAND Hy**	**30.18**	**137**	T		T	23 54 32.7	
	baz=329,slow=76,SNR=251							
H11S2	**WAKE ISLAND Hy**	**30.19**	**137**	T		T	23 54 20.0	
	baz=329,slow=76,SNR=230							
MKAR	**Makanchi Array**	**43.96**	**298**	P		**P**	**23 24 28.3**	**-0.2**
	0.9nm,0.4s,baz=82,slow=11,SNR=20							
FINES	**FINESS Array B**	**65.12**	**333**	P		**P**	**23 27 01.4**	**-0.4**
	3.0nm,0.5s,baz=45,slow=7.6,SNR=36							
KBZ	**Khabaz**	**69.50**	**311**	P		**P**	**23 27 30.4**	**+0.6**
	1.4nm,0.8s,baz=274,slow=23,SNR=4.0							
NB2	**NORSAR Subarra**	**69.99**	**338**	P		**P**	**23 27 32.1**	**-0.6**
	comp=Z,1.1nm,0.6s,baz=32,slow=6.5							
NOA	**NORSAR Array B**	**69.99**	**338**	P		**P**	**23 27 32.2**	**-0.4**
	comp=Z,1.1nm,0.8s,baz=21,slow=5.3,SNR=6.1							
AKASG	**Malin Array Be**	**71.58**	**323**	P		**P**	**23 27 41.9**	**-0.6**
	comp=Z,1.4nm,0.4s,baz=44,slow=6.0,SNR=7.4							
SADO	**Sadowa**	**84.06**	**30**	LR		LR	00 11 41.8	
	comp=Z,20nm,20.9s,baz=254,slow=40							

*CSEM **21** 23:39:30.6±0.6,51.53N×16.11E,h1km,ML2.4/6,Error ellipse: s-maj=8.1km s-min=4.5km az=18.0*
*PRU **21** 23:39:32.7,51.47N×16.11E,h0km*
WAR 21 23:39:30.3,51.55N×16.11E,h1km,Poland

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
KSP	**Ksiaz**	**0.71**	**170**	*e*Pg		Pg	23 39 43.7	-0.2
KSP				*e*Sg		Sg	23 39 53.1	-0.1
KSP	**Ksiaz**	**0.71**	**170**	*e*Pg		Pg	23 39 43.7	-0.3
KSP				*e*Sg		Sg	23 39 53.1	-0.1
KSP	**Ksiaz**	**0.71**	**170**	*e*Pg		Pg	23 39 43.7	-0.3
KSP				*e*Sg		Sg	23 39 53.1	-0.1
UPC	**Upice**	**1.04**	**183**	*e*PG		Pb	23 39 50.9	-0.2
UPC				*e*SG		Sg	23 40 03.8	+0.1
	comp=Z,6.0nm,0.3s							
UPC	**Upice**	**1.04**	**183**	Pg		Pb	23 39 50.9	-0.2
UPC				Sg		Sg	23 40 03.8	+0.1
	6.0nm,0.3s							
DPC	**Dobruska-Polom**	**1.21**	**173**	*e*SG		Sg	23 40 08.3	-0.7
	comp=Z,2.2nm,0.3s							
DPC	**Dobruska-Polom**	**1.21**	**173**	Sg		Sg	23 40 08.3	-0.7
	2.2nm,0.3s							
PVCC	**Panska Ves**	**1.41**	**224**	*e*PG		Pn	23 39 57.1	0.0
PVCC				*e*SG		Sn	23 40 16.2	0.0
	comp=Z,6.4nm,0.2s							
PVCC	**Panska Ves**	**1.41**	**224**	Pg		Pn	23 39 57.1	0.0
PVCC				Sg		Sn	23 40 16.2	0.0
	6.4nm,0.2s							
BRG	**Berggiesshubel**	**1.52**	**244**	PG		Pn	23 39 58.9	+0.3
BRG				SG		Sb	23 40 18.8	-0.1
	4.5nm,0.3s							
KRLC	**Kraliky**	**1.54**	**164**	*e*SG		Sn	23 40 18.5	-1.0
KRLC	**Kraliky**	**1.54**	**164**	Sg		Sn	23 40 18.5	-1.0
PRU	**Pruhonice**	**1.85**	**213**	*e*SG		Sg	23 40 29.6	-0.1
	comp=Z,2.1nm,0.3s							
PRU	**Pruhonice**	**1.85**	**213**	Sg		Sg	23 40 29.6	-0.1
	2.1nm,0.3s							
TREC	**Trest**	**2.29**	**190**	*e*SG		Sg	23 40 43.4	-0.4
	comp=Z,1.4nm,0.2s							
TREC	**Trest**	**2.29**	**190**	Sg		Sg	23 40 43.4	-0.4
	1.4nm,0.2s							
NKC	**Novy Kostel**	**2.66**	**242**	*e*SG		Sg	23 40 55.3	-0.5
	comp=Z,2.7nm,0.3s							
NKC	**Novy Kostel**	**2.66**	**242**	Sg		Sg	23 40 55.3	-0.5
	2.7nm,0.3s							
KHC	**Kasperske Hory**	**2.91**	**215**	*e*SG		Sg	23 41 03.6	-0.2
KHC	**Kasperske Hory**	**2.91**	**215**	Sg		Sg	23 41 03.6	-0.2

*NIED **21** 23:43:00,33.80N×139.90E,h104km,Mw4.2 Best double couple: M0 2.41000×10^15 NP1:φ=47.00000°, δ=21.00000°, λ=93.00000°. NP2:φ=224.00000°, δ=69.00000°, λ=89.00000°.*
*BJI **21** 23:43:07.3,33.65N×139.96E,h123km,mb4.5/14,mB4.9/8*
*ISCJB **21** 23:43:08.8±0.3,33.68N±0.03×139.76E±0.05, h122km±2km,mb4.4/47,Error ellipse: s-maj=6.9km s-min=4.7km az=151.2*
*JMA **21** 23:43:09.9±0.1,33.76N×139.85E,h109km±2km,M4.2*
*IDC **21** 23:43:09.3±0.4,33.63N×139.72E,h115km±3km,mb4.1/17, mb1 4.2/20,mb1mx4.0/38,mbtmp4.4/20,Error ellipse: s-maj=16.6km s-min=10.5km az=69.0*
*NEIC **21** 23:43:10.2±0.4,33.65N×139.67E,h123km±3km,mb4.4/28, Error ellipse: s-maj=5.4km s-min=4.2km az=60.0*
ISC 21 23:43:09.2±0.6,33.70N±0.04×139.84E±0.06,h116km±4km, n110,σ1s45/125,mb4.4/47,7C-3D,Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
JHJ	**Hachijo jima 2**	**0.58**	**184**	P		**Pn**	**23 43 28.0**	**+0.7**
	978nm,0.3s,baz=333,slow=22,SNR=242							
JHJ				S		**Sn**	**23 43 41.5**	**+0.7**
	3μm,0.3s,baz=82,slow=20,SNR=124							
JHJ2	**Mitsune**	**0.58**	**181**	P		**Pn**	**23 43 27.9**	**+0.6**
JHJ2				S		**Sn**	**23 43 42.2**	**+1.3**
JHJ2	**Mitsune**	**0.58**	**181**	*e*Pn		**Pn**	**23 43 28.0**	**+0.7**
JHJ2				*e*Sn		**Sn**	**23 43 41.6**	**+0.7**
JHCJ	**Hachijojimakas**	**0.62**	**183**	P		**Pn**	**23 43 28.3**	**+0.7**
JHCJ				S		**Sn**	**23 43 42.0**	**+0.6**
JKO	**Kozu shima**	**0.76**	**310**	P		**Pn**	**23 43 28.6**	**0.0**
JKO				*e*S		**Sn**	**23 43 43.2**	**-0.1**
JNIO	**Niijimaoohara**	**0.80**	**325**	P		**Pn**	**23 43 29.0**	**0.0**
JNIO				*e*S		**Sn**	**23 43 44.1**	**+0.1**
JIM2	**Oshima 3**	**1.07**	**342**	P		**Pn**	**23 43 31.5**	**-0.1**
JIM2				S		**Sn**	**23 43 48.0**	**-0.6**
BSO3	**Boso 3**	**1.23**	**27**	P		**Pn**	**23 43 33.7**	**+0.6**
BSO1	**Boso 1**	**1.34**	**45**	P		**Pn**	**23 43 34.6**	**+0.6**
JOD2	**Odawara 2**	**1.68**	**339**	P		**Pn**	**23 43 38.7**	**+0.2**
JOD2				S		**Sn**	**23 44 00.4**	**-0.5**
TK02	**Tokai 2**	**1.75**	**279**	P		**Pn**	**23 43 40.2**	**+1.1**
TK02				S		**Sn**	**23 44 04.3**	**+2.4**
TK04	**Tokai 4**	**1.77**	**293**	P		**Pn**	**23 43 40.6**	**+1.2**
TK04				S		**Sn**	**23 44 04.5**	**+2.0**
SHZ3	**Shizuoka 3**	**1.92**	**316**	P		**Pn**	**23 43 42.4**	**+1.0**
SHZ3				S		**Sn**	**23 44 07.3**	**+1.2**
INU	**Inuyama**	**2.85**	**306**	*e*Pn		**Pn**	**23 43 53.6**	**+0.2**
INU				*e*Sn		**Sn**	**23 44 21.5**	**-5.9**
MJAR	**Matsushiro Arr**	**3.13**	**335**	P		**Pn**	**23 43 57.1**	**0.0**
	32nm,0.3s,baz=166,slow=11,SNR=158							
MAJO	**Matsushiro**	**3.14**	**335**	*e*Pn		**Pn**	**23 43 57.8**	**+0.6**
MAJO				*e*Sn		Sn	23 44 22.0	-12
MAT	**Matsushiro**	**3.14**	**335**	P		**Pn**	**23 43 57.5**	**+0.4**
MAT				*e*S		**Sn**	**23 44 34.4**	**+0.2**
MJB9	**Matsu-Tunnel**	**3.14**	**335**	*e*Pn		**Pn**	**23 43 57.8**	**+0.6**
MJB9				*e*Sn		Sn	23 44 22.2	-12
CBIJ	**Chichi jima**	**6.89**	**162**	*e*Pn		**Pn**	**23 44 50.4**	**+2.8**
CBIJ				*e*Sn		**Sn**	**23 45 56.2**	**-8.3**
JNU	**Nakatsue**	**7.51**	**268**	P		**Pn**	**23 44 56.5**	**+0.4**
	0.7nm,0.3s,baz=68,slow=5.8,SNR=5.6							
ERM	**Erimo**	**8.71**	**17**	*e*Pn		**Pn**	**23 45 09.6**	**-2.5**
ERM				*e*Sn		Sn	23 46 39.4	-9.0
KSRS	**Korea Array**	**10.40**	**294**	P		**Pn**	**23 45 36.2**	**+1.2**
	0.6nm,0.3s,baz=106,slow=14,SNR=28							
KSAR	**Wonju Array Be**	**10.42**	**294**	P		**Pn**	**23 45 36.2**	**+0.9**
KS01	**Wonju Array Si**	**10.43**	**295**	*e*Pn		Pn	23 45 30.4	-5.0
ASAJ	**Asahikawa**	**10.62**	**11**	*e*Pn		Pn	23 45 33.1	-4.9
YSS	**Yuzh-Sakhalins**	**13.43**	**9**	*e*Pn		**Pn**	**23 46 12.1**	**-2.8**
HHC	**Hu-ho-hao-te**	**23.54**	**296**	*e*P		**P**	**23 48 07.8**	**-1.2**
HHC				pmax		pmax		
	comp=Z,17nm,0.9s							
HHC				pmax		pmax		

	comp=Z,110nm,6.5s							
H11N2	**WAKE ISLAND Hy**	**27.79**	**113**	T		T	00 17 53.7	
	baz=306,slow=75,SNR=64							
H11N1	**WAKE ISLAND Hy**	**27.79**	**113**	T		T	00 17 54.3	
	baz=306,slow=75,SNR=83							
H11N3	**WAKE ISLAND Hy**	**27.80**	**113**	T		T	00 17 55.2	
	baz=306,slow=75,SNR=70							
ULN	**Ulaanbaatar**	**28.33**	**310**	*e*P		**P**	**23 48 51.8**	**-0.2**
	4.8nm,0.9s							
H11S3	**WAKE ISLAND Hy**	**28.36**	**116**	T		T	00 18 29.0	
	baz=307,slow=75,SNR=12							
H11S1	**WAKE ISLAND Hy**	**28.36**	**115**	T		T	00 18 37.7	
	baz=307,slow=75,SNR=12							
H11S2	**WAKE ISLAND Hy**	**28.38**	**116**	T		T	00 18 39.4	
	baz=307,slow=75,SNR=4.5							
SONA1	**Songino Array**	**28.74**	**309**	*e*P		**P**	**23 48 56.0**	**+0.3**
SONM	**Songino Array**	**28.74**	**309**	P		**P**	**23 48 56.0**	**+0.3**
	1.2nm,0.5s,baz=114,slow=8.4,SNR=8.6							
SONM				ScP		**ScP**	**23 55 32.6**	**-1.0**
	0.3nm,0.6s,baz=111,slow=2.5,SNR=4.6							
KMI	**Kunming**	**33.28**	**265**	P		**P**	**23 49 38.4**	**+2.4**
KMI				pmax		pmax		
	comp=Z,8.0nm,1.0s							
WMQ	**Urumqi**	**41.29**	**300**	P		**P**	**23 50 42.9**	**-0.2**
WMQ				sP		sP	23 51 21.8	-1.0
WMQ				pmax		pmax		
	comp=Z,6.0nm,0.7s							
WMQ				pmax		pmax		
	comp=Z,97nm,4.1s							
WMQ				LR		LR		
	comp=N,56nm,17.9s							
WMQ				LR		LR		
	comp=E,36nm,16.3s							
WMQ				LR		LR		
	comp=Z,41nm,19.5s							
ZAA0	**Zalesovo Array**	**43.28**	**315**	*e*P		**P**	**23 50 58.2**	**-0.8**
ZALV	**Zalesovo Beam**	**43.28**	**315**	P		**P**	**23 50 58.4**	**-0.7**
	2.4nm,0.3s,baz=114,slow=7.4,SNR=11							
ZALV				PcP		**PcP**	**23 52 45.6**	**-0.2**
	1.2nm,0.5s,baz=114,slow=3.6,SNR=4.3							
MK01	**Makanchi Array**	**44.87**	**305**	*e*P		**P**	**23 51 11.5**	**-0.4**
MK31	**Makanchi Array**	**44.88**	**305**	*e*P		**P**	**23 51 11.5**	**-0.4**
MKAR	**Makanchi Array**	**44.88**	**305**	P		**P**	**23 51 11.4**	**-0.5**
	1.8nm,0.5s,baz=87,slow=9.1,SNR=31							
MKAR				ScP		**ScP**	**23 56 32.0**	**-1.2**
	0.5nm,0.6s,baz=71,slow=6.7,SNR=5.0							
MKAR	**Makanchi Array**	**44.88**	**305**	*e*P		**P**	**23 51 11.5**	**-0.5**
	16nm,0.6s							
MKAR				ScP		**ScP**	**23 56 32.0**	**-1.2**
MAKZ	**Makanchi**	**45.09**	**305**	*e*P		**P**	**23 51 13.3**	**-0.3**
	2.2nm,0.6s							
NRIK	**Noril'sk**	**45.79**	**337**	P		**P**	**23 51 18.8**	**+0.1**
	4.5nm,0.5s,baz=102,slow=6.3,SNR=12							
MTN	**Manton Dam**	**47.02**	**192**	*e*P		**P**	**23 51 27.4**	**-1.4**
	13nm,1.4s							
KURK	**Kurchatov**	**47.04**	**310**	*e*P		**P**	**23 51 27.9**	**-0.8**
	7.9nm,0.7s							
COEN	**Coen**	**47.50**	**176**	*e*P		**P**	**23 51 33.0**	**+0.4**
	35nm,1.5s							
TTA	**Tatalina**	**48.90**	**33**	*e*P		**P**	**23 51 43.9**	**+0.8**
	28nm,1.8s							
KDAK	**Kodiak Island**	**50.46**	**40**	P		**P**	**23 51 55.8**	**+1.1**
	6.5nm,0.5s,baz=248,slow=6.2,SNR=6.8							
ILAR	**Eielson Array**	**53.00**	**31**	P		**P**	**23 52 14.2**	**+0.7**
	1.4nm,0.7s,baz=267,slow=6.0,SNR=12							
WRAB	**Tennant Creek**	**53.59**	**186**	*e*P		**P**	**23 52 17.3**	**-1.0**
	8.9nm,0.4s							
WB2	**Warramunga Arr**	**53.60**	**186**	*e*P		**P**	**23 52 17.6**	**-0.8**
WB2				*e*PcP		**PcP**	**23 53 23.9**	**+0.4**
WRA	**Warramunga Arr**	**53.60**	**186**	P		**P**	**23 52 17.3**	**-1.1**
	5.6nm,0.3s,baz=2.3,slow=7.6,SNR=259							
WRA				ScP		**ScP**	**23 57 09.8**	**-0.7**
	1.5nm,0.8s,baz=3.4,slow=4.4,SNR=6.8							
KKAR	**Karatay Array**	**53.73**	**302**	*e*P		**P**	**23 52 18.8**	**-0.4**
	26nm,0.5s							
AS01	**Alice Springs**	**57.32**	**186**	*e*P		**P**	**23 52 44.1**	**-0.9**
AS31	**Alice Springs**	**57.32**	**186**	*e*P		**P**	**23 52 44.7**	**-0.4**
	3.4nm,0.8s							
ASAR	**Alice Springs**	**57.33**	**186**	P		**P**	**23 52 44.5**	**-0.6**
	4.1nm,0.4s,baz=21,slow=12,SNR=66							
ARU	**Arti**	**58.03**	**320**	*e*P		**P**	**23 52 49.2**	**-0.4**
	5.2nm,0.7s							
ABKAR	**Akbulak array**	**59.13**	**311**	*e*P		**P**	**23 52 56.7**	**-0.7**
STKA	**Stephens Creek**	**65.25**	**178**	P		**P**	**23 53 38.8**	**+0.5**
	7.9nm,0.5s,baz=352,slow=6.8,SNR=22							
STKA	**Stephens Creek**	**65.25**	**178**	*e*P		**P**	**23 53 38.8**	**+0.5**
	1.9nm,0.7s							
STKA				*e*PP		**PP**	**23 55 58.1**	**-5.4**
FINES	**FINESS Array B**	**71.16**	**332**	P		**P**	**23 54 14.8**	**0.0**
	2.1nm,0.4s,baz=78,slow=6.4,SNR=24							
KBZ	**Khabaz**	**72.10**	**311**	P		**P**	**23 54 21.3**	**+0.5**
	4.3nm,0.8s,baz=113,slow=2.5,SNR=12							
KIV	**Kislovodsk**	**72.12**	**311**	*e*P		**P**	**23 54 22.1**	**+1.0**
	6.3nm,0.7s							
B08A	**Colville Reser**	**72.12**	**43**	*e*P		**P**	**23 54 20.2**	**-0.7**
	5.8nm,0.9s							
NEW	**Newport**	**73.43**	**43**	*e*P		**P**	**23 54 29.0**	**+0.3**
	5.4nm,0.9s							
E09A	**Wood Farm, Sta**	**73.77**	**45**	*e*P		**P**	**23 54 32.0**	**+1.3**
	6.1nm,0.9s							
JTMT	**Jette**	**75.31**	**42**	*e*P		**P**	**23 54 41.1**	**+1.4**
AKASG	**Malin Array Be**	**76.14**	**322**	P		**P**	**23 54 43.6**	**-0.5**
	2.7nm,0.4s,baz=48,slow=6.3,SNR=11							
AKBB	**Malin Array Si**	**76.14**	**322**	*e*P		**P**	**23 54 43.2**	**-0.9**
	7.3nm,0.6s							
AK11	**Malin Array Si**	**76.18**	**322**	*e*P		**P**	**23 54 43.9**	**-0.5**
NB2	**NORSAR Subarra**	**76.75**	**337**	P		**P**	**23 54 47.0**	**-0.5**
	comp=Z,4.7nm,1.1s,baz=42,slow=5.9							
NOA	**NORSAR Array B**	**76.75**	**337**	P		**P**	**23 54 47.9**	**+0.4**
	comp=Z,0.4nm,0.3s,baz=62,slow=9.1,SNR=5.5							
MFID	**Camas Ranch**	**76.83**	**46**	*e*P		**P**	**23 54 50.0**	**+1.6**
	comp=Z,3.6nm,1.1s							
DLMT	**Dillon**	**77.63**	**43**	*e*P		**P**	**23 54 54.0**	**+1.2**
	comp=Z,3.6nm,0.6s							
TVH3	**East Aurora ar**	**77.74**	**52**	*e*P		**P**	**23 54 54.8**	**+1.1**
	3.6nm,0.8s							
RLMT	**Red Lodge**	**79.66**	**42**	*e*P		**P**	**23 55 05.8**	**+1.7**
RLMT				*e*pP		**pP**	**23 55 34.3**	**+0.7**
R11A	**Troy Canyon, C**	**79.85**	**51**	*e*P		**P**	**23 55 06.0**	**+0.8**
	comp=Z,1.7nm,0.6s							
TESR	**Tescani**	**80.06**	**320**	↑*i*P		**P**	**23 55 06.0**	**+0.1**
BR131	**Keskin Array S**	**80.08**	**311**	*e*P		**P**	**23 55 06.0**	**-0.3**
BRTR	**Keskin Array B**	**80.08**	**311**	P		**P**	**23 55 07.0**	**+0.6**
	comp=Z,1.8nm,0.8s,baz=103,slow=3.9,SNR=8.6							
BURAR	**Bucovina Array**	**80.11**	**321**	↓*i*P		**P**	**23 55 06.4**	**+0.1**
VRI	**Vrincioaia**	**80.42**	**319**	↑*i*P		**P**	**23 55 07.6**	**-0.3**
TLB	**Topalu**	**80.49**	**318**	↑*i*P		**P**	**23 55 08.7**	**+0.5**
DUG	**Dugway, Tooele**	**80.53**	**48**	*e*P		**P**	**23 55 09.3**	**+0.6**
	comp=Z,5.8nm,1.3s							
BR231	**Keskin MP Arra**	**80.56**	**312**	*e*P		**P**	**23 55 07.0**	**-1.8**
PDAR	**Pinedale Array**	**80.94**	**44**	P		**P**	**23 55 11.9**	**+0.9**
	comp=Z,0.7nm,0.5s,baz=276,slow=2.6,SNR=4.3							
DOPR	**Dopca**	**81.08**	**320**	↑*i*P		**P**	**23 55 13.3**	**+1.9**
NLU	**North Lily Min**	**81.13**	**48**	*e*P		**P**	**23 55 13.3**	**+1.3**
	comp=Z,3.4nm,1.1s							
SHPR	**Sheep Range**	**81.19**	**52**	*e*P		**P**	**23 55 12.9**	**+0.6**
	comp=Z,2.9nm,0.9s							
SECR		**81.30**	**319**	↑*i*P		**P**	**23 55 12.8**	**+0.2**
VOIR		**81.60**	**320**	↑*i*P		**P**	**23 55 15.8**	**+1.6**
ARR	**Arges**	**81.87**	**320**	↑*i*P		**P**	**23 55 16.8**	**+1.2**
MORC	**Moravsky Berou**	**82.43**	**326**	↓*i*P		**P**	**23 55 18.8**	**+0.4**
GZR	**Gura Zlata**	**82.84**	**321**	↓*i*P		**P**	**23 55 21.0**	**+0.3**
U15A	**North Rim**	**83.10**	**51**	*e*P		**P**	**23 55 23.9**	**+1.5**
	comp=Z,2.7nm,0.9s							
CLL	**Collm**	**83.33**	**330**	*e*P		**P**	**23 55 24.0**	**+1.1**
PV05	**Paradox Valley**	**84.11**	**48**	*e*P		**P**	**23 55 29.3**	**+1.8**
Y14A	**Wickenburg**	**84.12**	**53**	*e*P		**P**	**23 55 28.4**	**+0.9**
	comp=Z,24nm,1.3s							
N23A	**Red Feather La**	**84.21**	**44**	*e*P		**P**	**23 55 29.7**	**+1.7**
	comp=Z,8.7nm,1.1s							
WUAZ	**Wupatki**	**84.24**	**51**	*e*P		**P**	**23 55 28.8**	**+0.6**
	comp=Z,3.8nm,0.8s							
PV01	**Paradox Valley**	**84.40**	**47**	*e*P		**P**	**23 55 30.2**	**+1.3**
KHC	**Kasperske Hory**	**84.69**	**328**	*e*P		**P**	**23 55 30.8**	**+0.8**
GERES	**GERESS Array B**	**84.84**	**328**	P		**P**	**23 55 30.9**	**0.0**
	comp=Z,0.7nm,0.6s,baz=38,slow=6.8,SNR=9.7							
GERES				pP		**pP**	**23 55 59.9**	**-0.8**
	comp=Z,0.8nm,0.7s,baz=43,slow=6.0,SNR=4.9							
X16A	**Lo Mia Camp, P**	**84.87**	**52**	*e*P		**P**	**23 55 32.5**	**+1.2**
	comp=Z,2.3nm,0.9s							
TXAR	**Lajitas Array**	**93.19**	**52**	P		**P**	**23 56 12.2**	**+1.4**
	comp=Z,2.7nm,0.7s,baz=308,slow=3.3,SNR=9.7							
TORD	**Torodi Ar. Bea**	**118.69**	**312**	PKP		**PKPdf**	**00 01 43.5**	**-0.7**
	comp=Z,0.3nm,0.4s,baz=24,slow=1.3,SNR=16							
LPAZ	**La Paz**	**149.44**	**62**	PKPbc		**PKPbc**	**00 02 46.8**	**+0.8**
	comp=Z,2.3nm,0.7s,baz=16,slow=5.5,SNR=11							

MEX 21 23:44:17.3±0.5,16.59N×99.47W,h12km±5km,MD3.6, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
ACX	**Acapulco**	**0.47**	**306**	*e*P		Pg	23 44 21.5	-5.0
ACX				*e*S		Sg	23 44 27.8	-4.9
ACP2	**Acapulco**	**0.49**	**305**	*i* P		Pg	23 44 25.4	-1.6
ACP2				*e*S		Sg	23 44 32.5	-1.0
CAIG	**El Cayaco**	**0.89**	**301**	*e*P		Pg	23 44 31.7	-2.8
CAIG				*e*S		Sg	23 44 43.3	-2.9
TLIG	**Tlapa**	**1.29**	**42**	*e*P		Pn	23 44 37.5	-3.7
TLIG				*e*S		Sb	23 44 53.1	-5.1
PNIG	**Pinotepa**	**1.30**	**99**	*e*P		Pn	23 44 37.6	-3.6
PNIG				*i* S		Sb	23 44 53.5	-4.9
MEIG	**Mezcala**	**1.33**	**354**	*e*P		Pn	23 44 37.7	-4.1
MEIG				*i* S		Sb	23 44 53.8	-5.6
PLIG	**Platanillo**	**1.79**	**359**	*e*P		Pn	23 44 44.8	-3.3
PLIG				*e*S		Sn	23 45 06.1	-4.7
ARIG	**Puente Sto Nin**	**1.88**	**333**	*e*P		Pn	23 44 46.4	-2.8
ARIG				*e*S		Sn	23 45 08.6	-4.2
ZIIG	**Zihuatanejo**	**2.16**	**298**	*i* P		Pn	23 44 49.9	-3.2
ZIIG				*i* S		Sn	23 45 15.6	-4.2
YAIG	**Yautepec**	**2.29**	**10**	*i* P		Pn	23 44 51.9	-3.1
YAIG				*i* S		Sn	23 45 18.9	-4.2

*ISCJB **22** 00:03:00.1±1.4,34.94S±0.03×72.64W±0.06,h14km±10km, Error ellipse: s-maj=8.1km s-min=4.0km az=17.2*
*GUC **22** 00:03:01.7±1.1,34.94S×72.61W,h25km±5km,ML3.7*
ISC 22 00:02:57.3±1.6,34.89S±0.03×72.63W±0.07,h4km±13km, n17,σ1s44/31,1C,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
GO05	**HualaæØ**	**0.59**	**102**	*e*P		**Pn**	**00 03 11.8**	**-0.6**
GO05				*e*S		**Sb**	**00 03 19.7**	**+0.9**
GO05				IAML			00 03 20.3	
	comp=N,7μm,0.2s							
CHPI	**Pichilemu**	**0.72**	**46**	*e*P		**Pn**	**00 03 14.6**	**+0.4**
CHPI				*e*S		**Sn**	**00 03 24.9**	**-0.8**
CHPI				IAML			00 03 25.9	
	comp=E,5μm,0.5s							
TALC	**Talca**	**0.96**	**122**	*e*P		**Pn**	**00 03 17.8**	**+0.3**
TALC				*e*S		**Sb**	**00 03 29.4**	**-0.1**
NICH	**Los Niches**	**1.16**	**96**	*e*P		**Pn**	**00 03 21.4**	**+1.2**
NICH				*e*S		**Sn**	**00 03 35.8**	**-0.6**
COCH	**Cobquecura**	**1.24**	**186**	*e*P		**Pn**	**00 03 21.8**	**+0.5**
COCH				*e*S		**Sg**	**00 03 37.0**	**-0.2**
COCH				IAML			00 03 41.3	
	comp=N,2μm,0.4s							
LNCH	**Linares**	**1.27**	**139**	↑*i*P		**Pn**	**00 03 22.5**	**+0.7**
LNCH				*i* S		**Sb**	**00 03 38.0**	**-0.4**
CCHI	**Chillan**	**1.77**	**165**	*e*P		**Pb**	**00 03 30.2**	**0.0**
CCHI				*e*S		**Sn**	**00 03 51.7**	**+0.3**
CCHI				IAML			00 03 57.3	
	comp=E,3μm,0.6s							
CCSP	**San Pedro de C**	**1.98**	**191**	*e*P		**Pb**	**00 03 33.4**	**-0.5**
CCSP				*i* S		**Sn**	**00

AFI					LR	LR	00 51 52.8	
	comp=Z,618nm,20.4s,baz=155,slow=34							
AFI					T	T	00 54 31.3	
	16nm,0.3s,baz=2.1,slow=23,SNR=4.4							
AFI	**Afiamalu**	**3.29**	**9**	*e*Pn	**Pn**	**Pn**	**00 50 45.1**	**-2.7**
AFI				*e*S	**Sn**	**Sn**	**00 51 22.9**	**-3.4**
AFI				TT			00 54 31.3	
MSVF	**Nonsavu**	**9.21**	**265**	*e*Pn	**Pn**	**Pn**	**00 52 10.3**	**+1.1**
RAR	**Rarotonga**	**12.52**	**111**	Pn	Pn	Pn	00 52 49.2	-5.2
	3.6nm,0.3s,baz=254,slow=9.9,SNR=4.1							
RAR	**Rarotonga**	**12.52**	**111**	*e*Pn	Pn	Pn	00 52 49.4	-5.0
DZM	**Mont Dzumac**	**20.58**	**253**	LR	LR	LR	01 01 19.7	
	comp=Z,185nm,18.3s,baz=44,slow=34							
DZM	**Mont Dzumac**	**20.58**	**253**	*e*LR	LR	LR	00 59 40.9	
	314nm,28.6s							
PPT2	**Papeete2**	**21.71**	**94**	*e*LQ	LQ	LQ	00 58 51.9	
	676nm,27.2s							
PPT2				*e*LR	LR	LR	00 59 45.6	
	533nm,25.8s							
PPT	**Papeete**	**21.71**	**94**	LR	LR	LR	01 00 39.6	
	comp=Z,169nm,20.8s,baz=206,slow=29							
URZ	**Urewera**	**22.96**	**202**	P	**P**	**P**	**00 54 58.7**	**-1.8**
	12nm,0.4s,baz=358,slow=8.2,SNR=19							
URZ	**Urewera**	**22.96**	**202**	*e*P	**P**	**P**	**00 54 58.8**	**-1.7**
BKZ	**Black Stump Fm**	**23.99**	**202**	*e*P	**P**	**P**	**00 55 09.4**	**-1.3**
	40nm,1.6s							
HIZ	**Hauiti**	**24.05**	**205**	*e*P	**P**	**P**	**00 55 12.6**	**+1.4**
	115nm,1.5s							
BFZ	**Birch Farm**	**25.43**	**201**	*e*P	**P**	**P**	**00 55 21.8**	**-1.9**
	98nm,1.9s							
HNR	**Honiara**	**28.04**	**282**	LR	LR	LR	01 05 10.6	
	comp=Z,467nm,21.4s,baz=97,slow=33							
RKT	**Rikitea**	**35.49**	**106**	*e*LR	LR	LR	01 05 56.6	
	384nm,30.0s							
CTAO	**Charters Tower**	**39.29**	**259**	*e*P	**P**	**P**	**00 57 22.3**	**-2.9**
	18nm,0.4s							
STKA	**Stephens Creek**	**44.08**	**242**	P	**P**	**P**	**00 58 01.4**	**-2.9**
	3.5nm,0.9s,baz=86,slow=12,SNR=4.2							
STKA				LR	LR	LR	01 14 52.7	
	comp=Z,59nm,18.4s,baz=26,slow=34							
JAY	**Jayapura**	**48.36**	**282**	P	**P**	**P**	**00 58 36.7**	**-1.5**
	1.0nm,0.6s,baz=199,slow=23,SNR=5.4							
WB2	**Warramunga Arr**	**50.46**	**258**	*e*P	**P**	**P**	**00 58 51.5**	**-2.7**
WRAB	**Tennant Creek**	**50.46**	**258**	*e*P	**P**	**P**	**00 58 51.1**	**-3.1**
	17nm,1.1s							
WRA	**Warramunga Arr**	**50.47**	**258**	P	**P**	**P**	**00 58 51.2**	**-3.1**
	5.3nm,0.7s,baz=97,slow=6.8,SNR=131							
WRA				LR	LR	LR	01 18 20.0	
	comp=Z,76nm,21.2s,baz=105,slow=34							
AS01	**Alice Springs**	**50.53**	**253**	*e*P	**P**	**P**	**00 58 51.6**	**-3.1**
AS31	**Alice Springs**	**50.57**	**253**	*e*P	**P**	**P**	**00 58 53.0**	**-2.1**
	9.3nm,0.6s							
ASAR	**Alice Springs**	**50.57**	**253**	P	**P**	**P**	**00 58 53.0**	**-2.1**
	27nm,0.6s,baz=89,slow=8.6,SNR=297							
ASAR				LR	LR	LR	01 20 11.8	
	comp=Z,87nm,18.6s,baz=87,slow=36							
FITZ	**Fitzroy Crossi**	**58.87**	**259**	P	**P**	**P**	**00 59 53.6**	**-1.7**
	1.8nm,0.8s,baz=251,slow=2.8,SNR=4.1							
VNDA	**Vanda**	**61.73**	**186**	P	**P**	**P**	**01 00 13.5**	**-0.3**
	0.4nm,0.4s,baz=4.1,slow=8.2,SNR=3.3							
SOEI	**Soe**	**61.89**	**268**	*e*P	**P**	**P**	**01 00 16.4**	**+0.3**
	64nm,1.4s							
MJAR	**Matsushiro Arr**	**70.95**	**320**	P	**P**	**P**	**01 01 14.6**	**+1.1**
	3.3nm,0.9s,baz=166,slow=4.8,SNR=5.3							
MJAR				LR	LR	LR	01 26 21.7	
	comp=Z,42nm,21.6s,baz=105,slow=31							
QSPA	**South Pole Qui**	**72.88**	**180**	*e*P	**P**	**P**	**01 01 25.1**	**+0.2**
	207nm,2.1s							
PETK	**Petropavlovsk-**	**74.62**	**342**	LR	LR	LR	01 28 20.9	
	comp=Z,28nm,20.6s,baz=191,slow=31							
KDAK	**Kodiak Island**	**76.45**	**11**	LR	LR	LR	01 28 33.0	
	comp=Z,37nm,21.0s,baz=222,slow=30							
X16A	**Lo Mia Camp, P**	**77.32**	**48**	*e*P	**P**	**P**	**01 01 52.1**	**+1.1**
	14nm,2.0s							
KSRS	**Korea Array**	**78.14**	**315**	P	**P**	**P**	**01 01 57.8**	**+2.5**
	0.9nm,0.3s,baz=152,slow=5.5,SNR=6.5							
KSRS				LR	LR	LR	01 30 28.2	
	comp=Z,38nm,19.8s,baz=154,slow=31							
KSAR	**Wonju Array Be**	**78.16**	**315**	P	**P**	**P**	**01 01 57.8**	**+2.4**
KS01	**Wonju Array Si**	**78.17**	**315**	*e*P	**P**	**P**	**01 01 57.6**	**+2.2**
KSM	**Kuching**	**78.38**	**275**	*e*P	**P**	**P**	**01 01 58.2**	**+1.1**
	33nm,1.1s							
TX31	**Lajitas Ar. Si**	**80.75**	**55**	*e*P	**P**	**P**	**01 02 09.7**	**-0.1**
TXAR	**Lajitas Array**	**80.75**	**55**	P	**P**	**P**	**01 02 11.2**	**+1.5**
	0.8nm,1.0s,baz=230,slow=7.7,SNR=4.9							
ANMO	**Albuquerque**	**81.15**	**49**	*e*P	**P**	**P**	**01 02 13.0**	**+1.0**
	3.1nm,1.2s							
MA2	**Magadan**	**82.16**	**342**	LR	LR	LR	01 34 58.9	
	comp=Z,32nm,19.9s,baz=140,slow=33							
RND	**Reindeer**	**82.38**	**10**	*e*P	**P**	**P**	**01 02 18.9**	**+1.4**
	13nm,1.2s							
IMW	**Indian Meadow**	**82.63**	**40**	*e*P	**P**	**P**	**01 02 22.2**	**+2.5**
	10nm,1.6s							
MCK	**McKinley**	**82.67**	**10**	*e*P	**P**	**P**	**01 02 20.2**	**+1.1**
	12nm,1.0s							
BOZ	**Bozeman (W)**	**83.13**	**38**	*e*P	**P**	**P**	**01 02 23.2**	**+1.2**
	8.9nm,1.6s							
YHH	**Holmes Hill**	**83.16**	**39**	*e*P	**P**	**P**	**01 02 23.3**	**+0.9**
	8.4nm,1.6s							
WRH	**Wood River Hil**	**83.49**	**10**	*e*P	**P**	**P**	**01 02 24.0**	**+0.8**
	18nm,1.3s							
CCB	**Clear Creek Bu**	**83.70**	**10**	*e*P	**P**	**P**	**01 02 24.8**	**+0.5**
	27nm,1.6s							
COLA	**College**	**83.91**	**10**	*e*P	**P**	**P**	**01 02 25.5**	**+0.2**
	12nm,0.9s							
MDM	**Murphy Dome**	**83.92**	**10**	*e*P	**P**	**P**	**01 02 26.0**	**+0.6**
	14nm,1.2s							
ILAR	**Eielson Array**	**83.98**	**11**	P	**P**	**P**	**01 02 26.1**	**+0.5**
	1.9nm,0.8s,baz=226,slow=6.1,SNR=14							
ILB	**Eielson Array**	**83.98**	**11**	*e*P	**P**	**P**	**01 02 26.2**	**+0.5**
IL1	**Eielson Array**	**83.98**	**11**	*e*P	**P**	**P**	**01 02 25.6**	**-0.1**
DAWY	**Dawson**	**84.88**	**14**	*e*P	**P**	**P**	**01 02 31.8**	**+1.4**
	8.6nm,0.9s							
MAW	**Mawson**	**86.45**	**198**	LR	LR	LR	01 41 46.5	
	comp=Z,60nm,18.6s,baz=60,slow=36							
BJI	**Beijing**	**87.43**	**313**	P	**P**	**P**	**01 02 45.4**	**+2.0**
BJI				pmax	pmax			
	comp=Z,10.0nm,0.5s							
PLCA	**Paso Flores**	**87.56**	**132**	LR	LR	LR	01 34 37.3	
	comp=Z,49nm,18.4s,baz=303,slow=31							
INK	**Inuvik**	**89.74**	**13**	*e*P	**P**	**P**	**01 02 53.5**	**-0.1**
	25nm,1.7s							
GYA	**Guiyang**	**89.78**	**298**	*e*P	**P**	**P**	**01 02 56.4**	**+1.4**
GYA				pmax	pmax			
	comp=Z,10.0nm,1.0s							
HHC	**Hu-ho-hao-te**	**90.98**	**313**	*e*P	**P**	**P**	**01 03 02.5**	**+2.2**
HHC				pmax	pmax			
	comp=Z,19nm,0.7s							
HHC				pmax	pmax			
	comp=Z,130nm,7.3s							
SYO	**Syowa Base**	**91.07**	**191⇓**	*e*pP	pP		01 03 10.0	+2.9
SNAA	**Sanae**	**91.09**	**177**	P	**P**	**P**	**01 02 57.7**	**-2.6**
KMI	**Kunming**	**92.72**	**295**	P	**P**	**P**	**01 03 09.8**	**+1.0**
KMI				pmax	pmax			
	comp=Z,8.0nm,0.8s							
CMAR	**Chiang Mai Arr**	**94.15**	**288**	P	**P**	**P**	**01 03 17.4**	**+2.1**
	0.6nm,0.3s,baz=58,slow=3.4,SNR=6.3							
CMAR				LR	LR	LR	01 45 35.8	
	comp=Z,21nm,18.4s,baz=150,slow=36							
SONM	**Songino Array**	**96.85**	**318**	LR	LR	LR	01 39 50.4	
	comp=Z,33nm,21.2s,baz=82,slow=31							
LPAZ	**La Paz**	**98.24**	**110**	LR	LR	LR	01 40 12.1	
	comp=Z,24nm,19.5s,baz=254,slow=31							
KSH	**Kashi**	**117.35**	**306**	*e*PKP	**PKPdf**		**01 08 41.9**	**0.0**
KSH				sPKP			01 08 56.1	
KSH				PP	**PP**		**01 10 01.1**	**+7.8**
KSH				PKS	**PKSdf**		**01 12 17.1**	**-1.6**
KSH				SKS	**SKSdf**		**01 15 49.3**	**-3.7**
KSH				AMB	AMB			
	comp=Z,180nm,5.9s							
KSH				LR	LR			
	comp=N,70nm,7.7s							
KSH				LR	LR			
	comp=E,66nm,8.8s							
OJC	**Ojcow**	**145.62**	**346**	*e*PKP	**PKPab**		**01 09 35.6**	**+0.9**
KMBO	**Kilima Mbogo**	**145.64**	**241**	PKPbc	**PKPab**		**01 09 37.4**	**+1.1**
	6.3nm,0.9s,baz=21,slow=3.4,SNR=16							
KMBO	**Kilima Mbogo**	**145.64**	**241**	*e*PKPdf	**PKPab**		**01 09 36.8**	**+0.6**
KMBO				*e*PKP	**PKPab**		**01 09 37.4**	**+1.1**
CLL	**Collm**	**145.68**	**354**	*i* PKPbc	**PKPab**		**01 09 35.3**	**+0.4**
	comp=Z,10.0nm,1.0s							
KSP	**Ksiaz**	**145.71**	**350**	*e*PKP	**PKPab**		**01 09 36.0**	**+1.0**
BRG	**Berggiesshubel**	**146.01**	**353**	*e*P	**PKPab**		**01 09 36.5**	**+0.4**
	comp=Z,14nm,1.5s							
STHS	**Stebnicka Huta**	**146.01**	**344**	*e*PKP	**PKPab**		**01 09 37.0**	**+0.8**
STHS				*e*			01 09 37.0	
UPC	**Upice**	**146.08**	**350**	*e*PKP	**PKPab**		**01 09 36.9**	**+0.5**
DPC	**Dobruska-Polom**	**146.18**	**350**	*e*PKP	**PKPab**		**01 09 37.1**	**+0.2**
NIE	**Niedzica**	**146.25**	**345**	*e*PKP	**PKPab**		**01 09 37.7**	**+0.5**
KRLC	**Kraliky**	**146.37**	**349**	*e*PKP	**PKPab**		**01 09 38.1**	**+0.5**
LANS	**Liptovska Anna**	**146.69**	**346**	*e*	**PKPab**		**01 09 40.9**	**+2.0**
PRU	**Pruhonice**	**146.80**	**352**	*e*PKP	**PKPbc**		**01 09 38.9**	**+0.9**
KECS	**Kecovo**	**147.06**	**344**	*e*PKP	**PKPab**		**01 09 40.0**	**-0.3**
KECS				*e*			01 09 40.1	
VYHS	**Vyhne**	**147.46**	**346**	*e*PKP	**PKPbc**		**01 09 41.1**	**+1.2**
VYHS				*e*			01 09 41.3	
VYHS				*e*			01 10 09.8	
VYHS				*e*PP	**PP**		**01 13 07.8**	**+2.8**
VYHS				*e*			01 13 07.9	
KHC	**Kasperske Hory**	**147.76**	**353**	*e*PKP	**PKPbc**		**01 09 41.6**	**+0.9**
KHC				*ex*	x		01 09 59.4	
GERES	**GERESS Array B**	**148.03**	**352**	PKPbc	**PKPbc**		**01 09 42.5**	**+1.0**
	comp=Z,2.0nm,1.0s,baz=42,slow=2.2,SNR=12							
BRTR	**Keskin Array B**	**148.18**	**320**	PKPbc	**PKPbc**		**01 09 43.1**	**+0.8**
	comp=Z,3.7nm,1.0s,baz=124,slow=2.3,SNR=10.0							
CONA	**Conrad Observa**	**148.60**	**349**	*e*PKiKP	**PKPbc**		**01 09 43.9**	**+0.9**
	comp=Z,9.6nm,1.3s							
MOA	**Molln**	**148.93**	**351**	*e*PKiKP	**PKPbc**		**01 09 44.6**	**+0.8**
	comp=Z,3.6nm,1.1s							
ARSA	**Arzberg**	**149.31**	**350**	*e*PKiKP	**PKPbc**		**01 09 45.4**	**+0.6**
	comp=Z,6.6nm,1.5s							
RETA	**Reutte**	**149.66**	**356**	*e*PKiKP	**PKPbc**		**01 09 46.2**	**+0.5**
	comp=Z,8.7nm,1.5s							
MOTA	**Moosalm**	**149.78**	**355**	*e*pPKPdf	**PKPab**		**01 09 51.8**	**+0.4**
	comp=Z,2.8nm,0.7s							
WTTA	**Wattenberg**	**149.81**	**355**	*e*pPKPdf	**PKPab**		**01 09 51.9**	**+0.3**
	comp=Z,3.8nm,0.6s							
SQTA	**Sankt Quirin**	**149.89**	**355**	*e*PKiKP	**PKiKP**		**01 09 49.1**	**+1.8**
DAVA	**Damuels**	**149.91**	**357**	*e*PKPdf	**PKPdf**		**01 09 38.7**	**-2.9**
	comp=Z,7.8nm,1.2s							
SOKA	**Sokolnice**	**149.95**	**350**	*e*PKiKP	**PKPbc**		**01 09 46.9**	**+0.4**
	comp=Z,6.4nm,1.1s							
FETA	**Feichten**	**150.13**	**356**	*e*PKiKP	**PKiKP**		**01 09 48.1**	**+0.2**
	comp=Z,4.8nm,1.0s							
ABTA	**Abfaltersbach**	**150.24**	**353**	*e*PKPbc	**PKPbc**		**01 09 46.1**	**-1.0**
	comp=Z,5.4nm,0.8s							
TORD	**Torodi Ar. Bea**	**172.97**	**124**	PKPab	**PKPab**		**01 11 33.1**	**+0.3**
	comp=Z,1.0nm,1.0s,baz=251,slow=4.4,SNR=4.2							

NIED ***22*** *00:50:00, 35.7N × 141.0E, h8km, Mw3.8 Best double couple: M0=4.80000×10^14 NP1:φ=174.00000°, δ=20.00000°, λ=-110.00000°. NP2:φ=15.00000°, δ=71.00000°, λ=-83.00000°.*

IDC ***22*** *00:50:18.1±17.0, 35.6N × 141.4E, h0km, mb3.5/4, mb1 3.5/5, mb1mx3.3/47, mbtmp3.4/5, ML3.3/1, MS2.5/1, Ms1 2.5/1, ms1mx2.2/29, Error ellipse: s-maj=426.3km s-min=31.7km az=172.0*

ISCJB ***22*** *00:50:21.1±1.3, 35.6N × 141.0E × 0.04 × 141.0E × 0.09, h14km±5km, mb3.4/4, Error ellipse: s-maj=12.5km s-min=6.4km az=172.9*

JMA ***22*** *00:50:22.9±0.1, 35.6N × 140.9E, h14km±1km, M3.8*

JMA Felt I J1.

ISC 22 00:50:18.8±2.5, 35.7N±0.0 × 141.9E±0.0, h3km±15km, n15, σ=0.82/19, mb3.4/4, 1C, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CHOJ	**Chosi**	**0.27**	**268**	P	**Pb**	**00 50 25.6**	**-0.6**
CHOJ				S	**Sg**	**00 50 27.7**	**+0.3**
JCN	**Nagara**	**0.86**	**250**	⇑P	**Pb**	**00 50 36.0**	**-0.2**
KTR	**Katsuura**	**0.91**	**232**	P	**Pg**	**00 50 36.6**	**+0.4**
KTR				*e*S	**Sg**	**00 50 46.6**	**-1.3**
JYT	**Yasato**	**0.95**	**303**	P	**Pb**	**00 50 38.1**	**+0.2**
JYT				S	**Sg**	**00 50 48.6**	**-0.8**
BSO4	**Boso 4**	**1.00**	**224**	P	**Pb**	**00 50 39.1**	**+0.4**
JHO	**Hitachi**	**1.02**	**331**	P	**Pn**	**00 50 40.8**	**+0.8**
JHO				S	**Sb**	**00 50 53.1**	**+0.1**
BSO3	**Boso 3**	**1.07**	**211**	P	**Pb**	**00 50 40.0**	**+0.3**
BSO1	**Boso 1**	**1.07**	**189**	P	**Pn**	**00 50 40.3**	**+0.2**
MJAR	**Matsushiro Arr**	**2.55**	**290**	Pn	**Pn**	**00 51 00.9**	**-0.1**
	5.4nm,0.3s,baz=96,slow=8.7,SNR=16						
MAT	**Matsushiro**	**2.55**	**290**	P	**Pn**	**00 51 01.0**	**0.0**
MAT				S	**Sn**	**00 51 32.7**	**+0.1**
KSRS	**Korea Array**	**10.81**	**283**	LR	LR	00 56 59.4	
	comp=Z,27nm,19.8s,baz=80,slow=36						
ZALV	**Zalesovo Beam**	**42.68**	**313**	P	**P**	**00 58 17.4**	**+0.9**
	0.3nm,0.3s,baz=107,slow=9.2,SNR=2.4						
MKAR	**Makanchi Array**	**44.67**	**303**	P	**P**	**00 58 33.8**	**+1.1**
	0.2nm,0.4s,baz=87,slow=8.1,SNR=2.8						
KURBB	**Kurchatov Arra**	**46.68**	**309**	P	**P**	**00 58 49.4**	**+0.9**
	0.8nm,0.7s,baz=82,slow=8.1,SNR=4.2						
ILAR	**Eielson Array**	**50.71**	**32**	P	**P**	**00 59 17.5**	**-1.8**
	0.2nm,0.6s,baz=283,slow=5.1,SNR=3.4						

MEX 22 00:51:49.6±0.6, 16.74N × 100.63W, h16km±6km, MD3.6, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CAIG	**El Cayaco**	**0.47**	**49**	*e*P	Pg	00 51 57.5	-1.5
CAIG				*e*S	Sg	00 52 03.3	-2.1
ACX	**Acapulco**	**0.75**	**80**	*e*P	Pg	00 51 59.2	-5.1
ACX				*i* S	Sg	00 52 08.2	-6.1
ZIIG	**Zihuatanejo**	**1.18**	**318**	*i* P	Pn	00 52 08.0	-3.4
ZIIG				*e*S	Sb	00 52 21.5	-5.0
MEIG	**Mezcala**	**1.53**	**39**	*e*P	Pn	00 52 13.0	-3.4
MEIG				*i* S	Sn	00 52 31.4	-4.5
ARIG	**Puente Sto Nin**	**1.56**	**10**	*e*P	Pn	00 52 13.7	-3.0
ARIG				*i* S	Sn	00 52 32.1	-4.5
TLIG	**Tlapa**	**2.14**	**67**	*i* P	Pn	00 52 22.0	-2.8
TLIG				*i* S	Sn	00 52 46.3	-4.8
YAIG	**Yautepec**	**2.59**	**35**	*i* P	Pn	00 52 28.5	-2.4
YAIG				*i* S	Sn	00 52 59.0	-3.2

ISCJB ***22*** *00:52:25.6±0.4, 6.85N±0.03 × 73.08W±0.04, h157km±4km, mb3.1/1, Error ellipse: s-maj=6.8km s-min=3.7km az=39.8*

FUNV ***22*** *00:52:27.3, 6.79N × 73.09W, h165km, MW3.6*

RSNC ***22*** *00:52:28.3±0.9, 6.80N × 73.17W, h142km±4km, ML3.7*

IDC ***22*** *00:52:29.9±7.2, 4.60N × 76.73W, h88km±72km, mb3.1/1, mb1 3.6/2, mb1mx3.1/30, mbtmp3.6/2, ML2.7/1, MS3.6/1, Ms1 3.6/1, ms1mx2.5/11, Error ellipse: s-maj=92.2km s-min=34.3km az=36.0*

ISC 22 00:52:26.1±0.9, 6.84N±0.04 × 73.07W±0.04, h156km±6km, n40, σ=1.916/59, 11C-3D, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BTLC	**Betulia, Santa**	**0.21**	**293**	*e*P	**Pn**	**00 52 47.5**	**+0.1**
BARC	**Barichara**	**0.26**	**204**	*i* P	**Pn**	**00 52 47.4**	**-0.2**
BARC				*e*S	**Sn**	**00 53 01.6**	**-2.4**
BARC				*i*		00 53 03.1	
	comp=Z,997nm,0.1s						
GIRC	**Giron, Santand**	**0.27**	**334**	*i* P	**Pn**	**00 52 47.5**	**+0.1**
GIRC				*e*S	**Sn**	**00 53 02.4**	**-1.4**
PAMC	**Pamplona, Colo**	**0.62**	**37**	*i* P	**Pn**	**00 52 50.3**	**+0.9**
PAMC				*e*S	**Sn**	**00 53 07.2**	**+0.1**
BRRC	**Barranca, Sant**	**0.69**	**293⇓**	*i* P	**Pn**	**00 52 49.3**	**+0.1**
BRRC				*e*S	**Sn**	**00 53 05.9**	**-0.9**
BRRC				*i*		00 53 07.3	
	comp=Z,992nm,0.2s						
CBRI	**Barrientos, No**	**0.92**	**17**	*i* P	**Pn**	**00 52 52.1**	**+1.1**
CBRI				*e*S	**Sn**	**00 53 09.5**	**-0.6**
RUSC	**La Rusia**	**0.94**	**181⇓**	*i* P	**Pn**	**00 52 51.3**	**-0.2**
RUSC				*e*S	**Sn**	**00 53 09.7**	**-1.3**
RUSC				*i*		00 53 11.4	
	comp=Z,562nm,0.3s						
GUEC	**Guerrero, Nort**	**1.00**	**9**	*e*P	**Pn**	**00 52 52.6**	**+0.8**
CAPV	**Capacho**	**1.27**	**36⇓**	*i* P	**Pn**	**00 52 55.6**	**+1.5**
CAPV				*e*S	**Sn**	**00 53 17.0**	**+1.4**
OCAC	**Ocana**	**1.42**	**350**	*i* P	**Pn**	**00 52 56.0**	**+0.6**
OCAC				*e*S	**Sn**	**00 53 17.8**	**-0.2**
OCAC				*i*		00 53 26.9	
	comp=Z,568nm,0.3s						
YOPC	**Yopal, Colombi**	**1.61**	**156**	*i* P	**Pn**	**00 52 58.2**	**+0.8**
YOPC				*e*S	**Sn**	**00 53 22.0**	**+0.6**
ZARC	**Zaragoza, Cauc**	**1.89**	**290**	*e*P	**Pn**	**00 53 00.3**	**0.0**
ZARC				*e*S	**Sn**	**00 53 26.1**	**-0.5**
ZARC				*i*		00 53 34.3	
	comp=Z,573nm,0.3s						
NORC	**Norcasia**	**2.19**	**235**	*e*P	**Pn**	**00 53 03.5**	**-0.3**
NORC				*e*S	**Sn**	**00 53 30.6**	**-2.3**
ROSC	**El Rosal**	**2.34**	**212**	P	**Pn**	**00 53 07.5**	**+1.6**
	comp=Z,37nm,0.3s,baz=309,slow=17,SNR=74						
ROSC				S	**Sn**	**00 53 37.7**	**+1.0**
HELC	**Santa Helena**	**2.52**	**255**	*e*P	**Pn**	**00 53 07.8**	**-0.3**
HELC				*i*		00 53 46.8	
	comp=Z,370nm,0.3s						
VIGV	**El Vigia**	**2.62**	**40⇑**	*i* P	**Pn**	**00 53 10.3**	**+1.3**
VIGV				*e*S	**Sn**	**00 53 41.3**	**-0.8**
SOCV	**Socops**	**2.63**	**57⇑**	*e*P	**Pn**	**00 53 10.0**	**+0.9**
SOCV				*e*S	**Sn**	**00 53 41.8**	**-0.6**
VILC	**Villavicencio,**	**2.77**	**193**	*e*P	**Pn**	**00 53 11.5**	**+0.4**
VILC				*e*S	**Sn**	**00 53 44.9**	**-0.9**
GUYC	**Guyana, Colomb**	**2.81**	**235**	*e*P	**Pn**	**00 53 11.9**	**+0.2**
GUYC				*e*S	**Sn**	**00 53 45.0**	**-2.0**
GUYC				*i*		00 53 52.7	
	comp=Z,442nm,0.1s						
TOLC	**Tolima**	**3.16**	**225**	*e*P	**Pn**	**00 53 16.7**	**+0.6**
SDV	**Santo Domingo**	**3.16**	**50⇑**	*e*P	**Pn**	**00 53 17.2**	**+1.3**
SDV				*e*S	**Sn**	**00 53 53.7**	**-0.8**
ELOV	**Elorza**	**3.57**	**87⇑**	*e*P	**Pn**	**00 53 21.8**	**+0.9**
PRAC	**Prado**	**3.59**	**210**	*e*P	**Pn**	**00 53 20.9**	**-0.4**
VIRV	**Villa del Rosa**	**3.70**	**10⇑**	*e*P	**Pn**	**00 53 22.7**	**0.0**
VIRV				*e*S	**Sn**	**00 54 04.7**	**-2.0**
QARV	**Quebrada Arrib**	**4.19**	**37**	*e*P	**Pn**	**00 53 30.3**	**+1.2**
SANV	**Sanarito**	**4.39**	**53**	*e*P	**Pn**	**00 53 32.1**	**+0.3**
CURV	**Curarigua**	**4.41**	**44⇑**	*e*P	**Pn**	**00 53 32.5**	**+0.6**
CURV				*e*S	**Sn**	**00 54 20.7**	**-2.6**
DABV	**Dabajuro**	**4.72**	**31**	*e*P	**Pn**	**00 53 37.1**	**+1.1**
TEPV	**Terepaima**	**4.94**	**51⇑**	*e*P	**Pn**	**00 53 39.0**	**+0.1**
TEPV				*e*S	**Sn**	**00 54 32.3**	**-3.4**
BAUV	**El Baul**	**5.41**	**67⇑**	*e*P	**Pn**	**00 53 44.0**	**-1.0**
MAPV	**Macapo**	**5.45**	**57⇑**	*i* P	**Pn**	**00 53 45.6**	**-0.1**
MONV	**Montecano**	**5.94**	**31**	*e*P	**Pn**	**00 53 52.1**	**+0.1**
TURV	**Turiamo**	**6.30**	**55**	*e*P	**Pn**	**00 53 56.9**	**+0.1**
MERV	**Las Mercedes**	**7.13**	**70⇑**	*e*P	**Pn**	**00 54 06.7**	**-1.2**
CUPV	**Cœpira**	**7.89**	**66⇑**	*e*P	**Pn**	**00 54 16.9**	**-1.1**
GUNV	**Guanoco**	**10.55**	**71**	*e*P	**Pn**	**00 54 52.1**	**-1.2**
LVC	**Limon Verde**	**29.55**	**172**	LR	LR	01 11 00.2	
	comp=Z,117nm,21.4s,baz=158,slow=40						
TXAR	**Lajitas Array**	**36.49**	**312**	P	**P**	**00 59 17.9**	**+1.4**
	comp=Z,0.3nm,0.6s,baz=123,slow=9.8,SNR=2.4						
ASAR	**Alice Springs**	**149.16**	**234**	PKP	**PKPbc**	**01 11 57.0**	**+0.1**
	comp=Z,0.8nm,0.6s,baz=125,slow=3.3,SNR=10						
WRA	**Warramunga Arr**	**150.38**	**241**	PKPbc	**PKPbc**	**01 12 00.1**	**+0.1**
	comp=Z,0.8nm,0.4s,baz=108,slow=2.7,SNR=14						

CSEM ***22*** *00:54:05.6±0.7, 51.46N × 16.21E, h1km, ML2.6/9, Error ellipse: s-maj=9.8km s-min=6.1km az=24.0*

VIE ***22*** *00:54:08.7±1.0, 51.28N × 16.02E, h0km, mb2.0/2, ML2.0/5, Error ellipse: s-maj=6.6km s-min=4.3km az=24.0, Suspected Mining induced.*

PRU ***22*** *00:54:09.1, 51.35N × 16.22E, h0km*

WAR 22 00:54:07.0, 51.44N × 16.19E, h1km, Mw2.2, Poland

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KSP	**Ksiaz**	**0.60**	**174**	*e*Pg	Pg	00 54 18.2	-0.2
KSP				*e*Sg	Sg	00 54 26.2	0.0
KSP	**Ksiaz**	**0.60**	**174**	*e*Pg	Pg	00 54 18.2	-0.2
KSP				*e*Sg	Sg	00 54 26.2	+0.1
KSP	**Ksiaz**	**0.60**	**174**	*e*Pg	Pg	00 54 18.2	-0.2
KSP

ESF	**Shoufeng Towns**	**0.29**	**226**	*e*P	**Pb**	**00 56 05.1**	**+0.6**
	baz=220						
ENA	**Nanau**	**0.35**	**1**	⇓*i*P	**Pb**	**00 56 05.7**	**+0.1**
	baz=13						
ENA				S	**Sb**	**00 56 10.7**	**-0.3**
	baz=13						
ESL	**Shilin**	**0.38**	**227**	⇑P	**Pg**	**00 56 05.5**	**+0.2**
	baz=221						
ESL				S	**Sg**	**00 56 10.9**	**+0.5**
	baz=221						
TEGC	**Jichi Village**	**0.40**	**206**	*e*P	**Pb**	**00 56 07.3**	**+0.9**
	baz=189						
WHF	**Hehuan Shan**	**0.43**	**280**	⇑*i*P	**Pg**	**00 56 06.4**	**-0.1**
	baz=279						
WHF				S	**Sg**	**00 56 11.9**	**-0.6**
	baz=279						
NNS	**Nan Shan**	**0.49**	**318**	⇑*i*P	**Pb**	**00 56 07.6**	**-0.5**
	baz=322						
NNS				S	**Sb**	**00 56 14.3**	**-0.8**
	baz=322						
TWT	**Tachien**	**0.54**	**290**	⇑*i*P	**Pb**	**00 56 08.9**	**0.0**
	baz=294						
TWT				*i* S	**Sg**	**00 56 15.7**	**+0.1**
	baz=294						
TWC	**Suao**	**0.55**	**11**	⇓*i*P	**Pn**	**00 56 09.4**	**-1.4**
	baz=15						
TWC				*i* S	**Sn**	**00 56 17.3**	**-2.4**
	baz=15						
ENTT	**Nioudou**	**0.58**	**345**	P	**Pb**	**00 56 09.6**	**0.0**
	baz=342						
ENTT				S	**Sb**	**00 56 18.2**	**+0.6**
	baz=342						
WDT	**Danda**	**0.63**	**240**	⇓*i*P	**Pg**	**00 56 10.2**	**0.0**
	baz=235						
WDT				S	**Sg**	**00 56 18.6**	**+0.1**
	baz=235						
TWE	**Neicheng**	**0.65**	**355**	⇑P	**Pn**	**00 56 11.1**	**-1.2**
	baz=2.0						
TWE				S	**Sb**	**00 56 19.6**	**+0.1**
	baz=2.0						
EHY	**Hungye**	**0.68**	**214**	⇓P	**Pg**	**00 56 10.0**	**-0.9**
	baz=216						
EHY				*e*S	**Sg**	**00 56 20.4**	**+0.5**
	baz=216						
YHNB	**Yeheng**	**0.68**	**331**	*e*Pg	**Pb**	**00 56 10.8**	**-0.4**
YHNB				*e*S	**Sb**	**00 56 19.6**	**-0.8**
ILA	**Ilan**	**0.69**	**1**	*e*P	**Pb**	**00 56 10.8**	**-0.5**
	baz=358						
NSK	**Sanguang**	**0.69**	**331**	⇑*i*P	**Pb**	**00 56 11.2**	**-0.2**
	baz=334						
NSK				S	**Sb**	**00 56 20.1**	**-0.7**
	baz=334						
SSLB	**Suanglung**	**0.77**	**248**	*e*Pg	**Pb**	**00 56 12.0**	**-0.6**
SSLB				*e*S	**Sb**	**00 56 21.7**	**-1.2**
SMLT	**Sun Moon Lake**	**0.78**	**256**	⇓*i*P	**Pb**	**00 56 12.7**	**-0.3**
	baz=254						
SMLT				S	**Sb**	**00 56 22.6**	**-0.9**
	baz=254						
YULB	**Yu-li**	**0.79**	**211**	*e*Pn	**Pb**	**00 56 13.3**	**+0.3**
YULB				*e*S	**Sb**	**00 56 23.6**	**+0.1**
EGS		**0.79**	**13**	*e*P	**Pn**	**00 56 14.1**	**-0.2**
	baz=19						
TYC	**Yuchr**	**0.82**	**258**	P	**Pb**	**00 56 13.1**	**-0.4**
	baz=256						
TYC				S	**Sb**	**00 56 23.3**	**-1.1**
	baz=256						
TWF1	**Yuli**	**0.82**	**209**	*e*P	**Pb**	**00 56 12.3**	**-1.3**
	baz=217						
NSTT	**Nanjuang**	**0.87**	**310**	⇑*i*P	**Pn**	**00 56 14.7**	**-0.6**
	baz=311						
NSTT				S	**Sg**	**00 56 25.5**	**-0.5**
	baz=311						
TWA	**Mucha**	**0.91**	**352**	*e*P	**Pb**	**00 56 13.9**	**-1.3**
	baz=355						
TWQ1	**Liyutan**	**0.92**	**288**	⇓P	**Pn**	**00 56 16.1**	**+0.1**
	baz=296						
TWQ1				*e*S	**Sn**	**00 56 28.3**	**-0.6**
	baz=296						
YUS	**Yu-Shan**	**0.92**	**231**	⇓*i*P	**Pb**	**00 56 15.5**	**-0.1**
	baz=216						
YUS				S	**Sb**	**00 56 27.0**	**-0.8**
	baz=216						
TATO	**Taipei**	**0.93**	**346**	*e*Pg	**Pn**	**00 56 15.6**	**-0.5**
TATO				*e*S	**Sn**	**00 56 28.1**	**-1.0**
NSY	**Sanyi**	**0.95**	**291**	⇑P	**Pn**	**00 56 16.7**	**+0.3**
	baz=300						
NSY				*e*S	**Sn**	**00 56 29.4**	**-0.3**
	baz=300						
TWB1	**Santiao Chiao**	**0.96**	**14**	*e*P	**Pn**	**00 56 17.0**	**+0.5**
	baz=12						
TWB1				*e*S	**Sn**	**00 56 29.2**	**-0.7**
	baz=12						
TCU	**Taichung**	**0.97**	**275**	P	**Pn**	**00 56 17.6**	**+0.9**
	baz=274						
TCU				S	**Sn**	**00 56 30.2**	**+0.1**
	baz=274						
WNT	**Mingjian**	**0.98**	**259**	*e*P	**Pn**	**00 56 16.5**	**-0.2**
	baz=257						
WNT				*e*S	**Sg**	**00 56 29.5**	**+0.1**
	baz=257						
TAP1	**Taipei**	**0.98**	**349**	*e*P	**Pn**	**00 56 16.3**	**-0.5**
	baz=349						
TAP1				*e*S	**Sn**	**00 56 29.6**	**-0.8**
	baz=349						
TAP	**Taipei**	**0.98**	**348**	*e*P	**Pn**	**00 56 17.4**	**+0.5**
	baz=341						
NWF	**Wu-fen Shan**	**0.99**	**3**	*e*P	**Pn**	**00 56 17.6**	**+0.5**
	baz=357						
NWF				*e*S	**Sn**	**00 56 31.0**	**0.0**
	baz=357						
HSN	**Hsinchu**	**1.00**	**316**	*e*P	**Pn**	**00 56 16.6**	**-0.5**
	baz=321						
ALS	**Alishan**	**1.02**	**237**	⇓P	**Pb**	**00 56 17.1**	**0.0**
	baz=224						
ALS				*e*S	**Sb**	**00 56 30.2**	**-0.1**
	baz=224						
NCU	**National Centr**	**1.02**	**331**	*e*P	**Pg**	**00 56 17.9**	**+0.5**
	baz=332						
NCU				*e*S	**Sn**	**00 56 33.1**	**+1.6**
	baz=332						
CHKT	**Chengkung**	**1.02**	**199**	*e*P	**Pb**	**00 56 16.3**	**-0.8**
	baz=206						
CHKT				*e*S	**Sg**	**00 56 31.4**	**+0.6**
	baz=206						
TWS1	**Kuangyinshan**	**1.06**	**344**	P	**Pg**	**00 56 18.9**	**+0.7**
	baz=345						
TWS1				S	**Sn**	**00 56 33.9**	**+1.4**
	baz=345						
CHN5	**Tsauling**	**1.07**	**244**	⇓*i*P	**Pg**	**00 56 18.6**	**+0.2**
	baz=242						
CHN5				S	**Sg**	**00 56 33.7**	**+1.3**
	baz=242						
ELDTW	**Lidau**	**1.10**	**217**	*e*P	**Pb**	**00 56 16.7**	**-1.7**
	baz=213						
WGK	**Gukeng**	**1.14**	**250**	*e*P	**Pb**	**00 56 19.4**	**+0.4**
	baz=249						
TWY	**Chenhua**	**1.20**	**354**	*e*P	**Pg**	**00 56 21.9**	**+1.0**
	baz=341						
YOJ	**Yonaguni jima**	**1.23**	**71**	⇓*e*P	**Pb**	**00 56 20.6**	**0.0**
	baz=73						
YOJ	**Yonaguni jima**	**1.23**	**71**	P	**Pb**	**00 56 20.6**	**0.0**
YOJ				S	**Sg**	**00 56 37.5**	**+0.1**
YOJ	**Yonaguni jima**	**1.23**	**71**	*e*Pn	**Pn**	**00 56 20.1**	**-0.2**
CHN4	**Tsaushan**	**1.27**	**236**	P	**Pb**	**00 56 21.2**	**+0.1**
	baz=221						
CHN4				*e*S	**Sg**	**00 56 39.2**	**+0.6**
	baz=221						
TPUB	**Ta-pu**	**1.27**	**233**	*e*Pn	**Pn**	**00 56 20.6**	**-0.2**
TPUB				*e*S	**Sg**	**00 56 39.1**	**+0.4**
CHN2	**Minshiung**	**1.27**	**245**	*e*P	**Pg**	**00 56 21.9**	**-0.2**
	baz=244						
CHN2				*e*S	**Sg**	**00 56 40.6**	**+2.0**
	baz=244						
STYT	**Tauyuan**	**1.27**	**225**	⇓*i*P	**Pn**	**00 56 20.8**	**-0.1**
	baz=221						
STYT				S	**Sb**	**00 56 37.6**	**+0.1**
	baz=221						
WTP	**Ta-pu**	**1.31**	**231**	⇓*i*P	**Pb**	**00 56 22.1**	**+0.1**
	baz=229						
WTP				*i* S	**Sg**	**00 56 40.4**	**+0.3**
	baz=229						
CHY	**Chiayi**	**1.33**	**245**	*e*P	**Pb**	**00 56 22.4**	**+0.2**
	baz=243						
WTCT	**Ta-ch'eng**	**1.34**	**261**	*e*P	**Pg**	**00 56 23.1**	**-0.4**
	baz=261						
WTCT				*e*S	**Sg**	**00 56 40.6**	**-0.4**
	baz=261						
TWG	**Pinlang**	**1.39**	**206**	*e*P	**Pn**	**00 56 20.5**	**-2.0**
	baz=187						
TWG	**Pinlang**	**1.39**	**206**	*e*Pn	**Pn**	**00 56 20.4**	**-2.0**
TWG				*e*S	**Sn**	**00 56 38.7**	**-1.8**
TWK	**Hsinying**	**1.39**	**235**	P	**Pb**	**00 56 23.6**	**+0.2**
	baz=233						
TWK				S	**Sg**	**00 56 42.9**	**+0.3**
	baz=233						
CHN1	**Nanshi**	**1.41**	**232**	P	**Pb**	**00 56 23.8**	**0.0**
	baz=219						
CHN1				*e*S	**Sg**	**00 56 44.4**	**+1.1**
	baz=219						
SGST	**Jiashian**	**1.44**	**227**	*e*P	**Pb**	**00 56 24.4**	**+0.2**
	baz=225						
SGST				*e*S	**Sb**	**00 56 43.8**	**+1.4**
	baz=225						
WSF	**Szhu**	**1.45**	**253**	*e*P	**Pb**	**00 56 24.0**	**-0.3**
	baz=253						
WSF				*e*S	**Sg**	**00 56 45.5**	**+1.2**
	baz=253						
CHN8	**Yiju**	**1.57**	**243**	*e*P	**Pn**	**00 56 25.2**	**+0.3**
	baz=243						
ECL	**Taimali**	**1.63**	**206**	*e*P	**Pn**	**00 56 25.1**	**-0.7**
	baz=190						
SSD	**Sandimen**	**1.66**	**218**	*e*P	**Pn**	**00 56 26.7**	**+0.5**
	baz=227						
SCLT	**Jiali**	**1.67**	**238**	*e*P	**Pb**	**00 56 27.6**	**-0.4**
	baz=237						
SCLT				*e*S	**Sb**	**00 56 50.0**	**+1.2**
	baz=237						
TWM1	**Shoushan**	**1.73**	**224**	*e*P	**Pn**	**00 56 27.8**	**+0.7**
	baz=225						
IRIF	**Iriomote-Funau**	**1.84**	**81**	P	**Pn**	**00 56 29.3**	**+0.6**
IRIF				S	**Sb**	**00 56 53.1**	**-0.8**
EAST	**Anshuo**	**1.87**	**206**	*e*P	**Pn**	**00 56 27.8**	**-1.2**
	baz=191						
HATJ	**Hateruma jima**	**1.90**	**90**	P	**Pn**	**00 56 29.7**	**+0.3**
HATJ				*e*S	**Sn**	**00 56 53.7**	**+0.7**
SCZT	**Fangliau**	**1.98**	**211**	*e*P	**Pn**	**00 56 32.0**	**+1.5**
	baz=192						
LAY	**Lan-yu**	**2.03**	**185**	*e*P	**Pn**	**00 56 28.9**	**-2.5**
	baz=182						
PNG	**Penghu**	**2.06**	**256**	*e*P	**Pn**	**00 56 31.6**	**0.0**
	baz=257						
PNG				*e*S	**Sn**	**00 56 57.6**	**+0.7**
	baz=257						
WDGT	**Dungji**	**2.06**	**247**	*e*P	**Pn**	**00 56 32.2**	**+0.5**
	baz=236						
WDGT				*e*S	**Sn**	**00 56 57.6**	**+0.5**
	baz=236						
JKRS	**Kuro-shima**	**2.09**	**85**	P	**Pn**	**00 56 32.9**	**+0.9**
JKRS				S	**Sb**	**00 57 00.0**	**-0.9**
JIJ	**Ishigaki jima**	**2.22**	**82**	P	**Pn**	**00 56 34.2**	**+0.3**
JIJ				S	**Sn**	**00 57 01.1**	**0.0**
TWK1	**Hengchun**	**2.28**	**202**	*e*P	**Pn**	**00 56 36.4**	**+1.6**
	baz=187						
JISG	**Ishigakijimahi**	**2.41**	**77**	P	**Pn**	**00 56 37.0**	**+0.5**
JISG				S	**Sn**	**00 57 05.5**	**-0.2**
JTJ	**Tarama**	**2.77**	**78**	P	**Pn**	**00 56 42.3**	**+0.9**
JTJ				S	**Sn**	**00 57 16.2**	**+1.6**
KNM	**Kinmen**	**3.03**	**277**	*e*P	**Pn**	**00 56 46.0**	**+0.9**
	baz=275						
CMAR	**Chiang Mai Arr**	**21.95**	**260**	P	**P**	**01 00 52.3**	**+1.5**
	1.3nm,0.3s,baz=69,slow=8.8,SNR=6.1						
SONM	**Songino Array**	**26.67**	**337**	P	**P**	**01 01 36.5**	**+0.5**
	1.2nm,0.7s,baz=149,slow=8.6,SNR=4.3						
MKAR	**Makanchi Array**	**38.77**	**316**	P	**P**	**01 03 21.9**	**+0.4**
	0.9nm,0.8s,baz=97,slow=10,SNR=2.8						
ZALV	**Zalesovo Beam**	**40.61**	**327**	P	**P**	**01 03 35.8**	**-0.9**
	1.4nm,0.7s,baz=118,slow=7.0,SNR=5.8						
KURBB	**Kurchatov Arra**	**42.52**	**320**	P	**P**	**01 03 52.2**	**-0.1**
	0.2nm,0.3s,baz=109,slow=7.8,SNR=4.1						
WRAB	**Tennant Creek**	**45.44**	**163**	*e*P	**P**	**01 04 15.6**	**-0.5**
	1.8nm,0.8s						
WRA	**Warramunga Arr**	**45.44**	**163**	P	**P**	**01 04 15.1**	**-1.1**
	0.8nm,0.5s,baz=345,slow=8.7,SNR=8.1						
ASAR	**Alice Springs**	**48.90**	**165**	P	**P**	**01 04 41.8**	**-1.3**
	0.5nm,0.8s,baz=334,slow=6.6,SNR=4.4						

NIED ***22*** *01:00:00,23.˙80N×121.˙60E,h20km,Mw4.4 Best double couple: M₀4.88000×10¹⁵ NP1:φ₀227.00000°, δ24.00000°, λ91.00000°. NP2:φ₀47.00000°, δ66.00000°, λ90.00000°.*
JMA ***22*** *01:00:58.4±0.1,23.˙78N×121.˙64E,h33km±3km,M4.1*
TAP ***22*** *01:00:59.0,23.˙78N×121.˙67E,h26km,ML4.8,B*
ISCJB ***22*** *01:00:59.0±0.3,23.˙77N±0.˙01×121.˙69E±0.˙01,h31km±2km, mb4.2/24,MS3.7/10,Error ellipse: s-maj=2.6km s-min=1.7km az=144.4*
BJI ***22*** *01:00:58.7,23.˙87N×121.˙51E,h10km,mb4.3/17,mB4.5/8, ML4.2/6,Ms4.0/12,Ms7 4.0/10*
NEIC ***22*** *01:00:59.0±0.0,23.˙78N×121.˙67E,h26km,mb4.6/9, ML4.8(TAP),After TAP.*
NEIC Recorded [4 TAP] in Hualien; [2 TAP] in Changhua, Nantou, Taitung and Yilan; [1 TAP] in Chiayi, Hsinchu, Miaoli, Taichung, Taoyuan and Yunlin.
IDC ***22*** *01:01:02.2±5.2,23.˙76N×121.˙75E,h60km±48km,mb3.8/16, mb1 4.0/17,mb1mx3.8/34,mbtmp4.1/17,ML3.4/1,MS3.7/12, Ms1 3.7/12,ms1mx3.4/36,Error ellipse: s-maj=25.1km s-min=13.7km az=65.0*

ISC 22 01:00:59.6±0.8, 23.˙76N±0.˙02×121.˙65E±0.˙02, h31km±5km, n154, σ1§41/207, mb4.2/24, MS3.7/10, 21C-11D, Taiwan

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC Time h m s	Res ISC
TEGC	**Jichi Village**	**0.12**	**244**	*e*P		**Pn**	**01 01 06.2**	**+0.9**
	baz=237							
ESF	**Shoufeng Towns**	**0.17**	**309**	*e*P		**Pn**	**01 01 05.9**	**-0.2**
	baz=301							
ESL	**Shilin**	**0.21**	**285**	⇑*i*P		**Pb**	**01 01 05.6**	**-0.4**
	baz=278							
HWA	**Hwalien**	**0.22**	**348**	P		**Pb**	**01 01 05.7**	**-0.4**
	baz=345							
TWD	**Chiawan**	**0.32**	**351**	⇓*i*P		**Pb**	**01 01 06.8**	**-0.6**
	baz=349							
TWD				*e*S		**Sn**	**01 01 13.3**	**-0.5**
	baz=349							
EHY	**Hungye**	**0.40**	**230**	⇑*i*P		**Pb**	**01 01 07.9**	**-0.6**
	baz=228							
EHY				*e*S		**Sb**	**01 01 13.9**	**-0.7**
	baz=228							
NACB	**Ninganchiao**	**0.41**	**353**	*e*Pg		**Pb**	**01 01 07.0**	**-1.7**
NACB				*e*Sg		**Sb**	**01 01 14.0**	**-1.1**
TWF1	**Yuli**	**0.52**	**219**	⇑*i*P		**Pb**	**01 01 09.9**	**-0.5**
	baz=218							
WHF	**Hehuan Shan**	**0.52**	**317**	⇑*i*P		**Pb**	**01 01 09.6**	**-1.2**
	baz=315							
EHP	**Heping Village**	**0.55**	**8**	*e*P		**Pb**	**01 01 10.6**	**-0.3**
	baz=7.0							
TWT	**Tachien**	**0.66**	**318**	⇑*i*P		**Pb**	**01 01 12.1**	**-0.7**
	baz=315							
TWT				S		**Sb**	**01 01 20.4**	**-1.3**
	baz=315							
ENA	**Nanau**	**0.67**	**7**	⇑P		**Pb**	**01 01 12.0**	**-0.9**
	baz=6.0							
YUS	**Yu-Shan**	**0.70**	**247**	⇑*i*P		**Pb**	**01 01 13.4**	**-0.2**
	baz=245							
YUS				S		**Sb**	**01 01 22.2**	**-1.0**
	baz=245							
SMLT	**Sun Moon Lake**	**0.70**	**280**	⇑*i*P		**Pb**	**01 01 12.7**	**-0.7**
	baz=278							
SMLT				S		**Sb**	**01 01 21.8**	**-1.1**
	baz=278							
CHKT	**Chengkung**	**0.71**	**202**	⇑*e*P		**Pb**	**01 01 12.9**	**-0.6**
	baz=201							
CHKT				*e*S		**Sn**	**01 01 24.4**	**+1.1**
	baz=201							
NNS	**Nan Shan**	**0.72**	**339**	⇑P		**Pb**	**01 01 12.5**	**-1.3**
	baz=338							
NNS				*e*S		**Sb**	**01 01 21.4**	**-2.1**
	baz=338							
TYC	**Yuchr**	**0.74**	**281**	⇑*i*P		**Pn**	**01 01 13.2**	**-0.8**
	baz=279							
TYC				S		**Sb**	**01 01 22.6**	**-1.3**
	baz=279							
ELDTW	**Lidau**	**0.82**	**226**	*e*P		**Pn**	**01 01 13.9**	**-1.2**
	baz=225							
ALS	**Alishan**	**0.82**	**252**	⇑*i*P		**Pn**	**01 01 15.2**	**0.0**
	baz=251							
ALS				*e*S		**Sb**	**01 01 25.6**	**-0.8**
	baz=251							
TWC	**Suao**	**0.86**	**12**	⇑P		**Pn**	**01 01 15.1**	**-0.5**
	baz=11							
TWC				S		**Sn**	**01 01 26.6**	**-0.5**
	baz=11							
ENTT	**Nioudou**	**0.88**	**355**	⇑P		**Pn**	**01 01 14.8**	**-1.0**
	baz=354							
WNT	**Mingjian**	**0.90**	**278**	⇑*i*P		**Pb**	**01 01 16.5**	**-0.1**
	baz=276							
WNT				*i* S		**Sb**	**01 01 28.4**	**+0.2**
	baz=276							
CHN5	**Tsauling**	**0.91**	**260**	⇑*i*P		**Pb**	**01 01 16.8**	**-0.1**
	baz=258							
YHNB	**Yeheng**	**0.94**	**344**	*e*Pn		**Pn**	**01 01 15.8**	**-0.9**
NSK	**Sanguang**	**0.95**	**344**	⇑*i*P		**Pn**	**01 01 16.2**	**-0.6**
	baz=342							
NSK				S		**Sn**	**01 01 27.1**	**-2.3**
	baz=342							
TWE	**Neicheng**	**0.96**	**1**	*e*P		**Pn**	**01 01 15.9**	**-1.0**
TWE				*e*S		**Sb**	**01 01 29.9**	**-0.1**
TCU	**Taichung**	**0.97**	**293**	⇑*i*P		**Pb**	**01 01 17.7**	**-0.2**
	baz=292							
TCU				*e*S		**Sb**	**01 01 31.9**	**+1.4**
	baz=292							
TWQ1	**Liyutan**	**0.99**	**306**	⇑*i*P		**Pb**	**01 01 18.1**	**-0.2**
	baz=304							
TWQ1				S		**Sn**	**01 01 30.5**	**0.0**
	baz=304							
WGK	**Gukeng**	**1.00**	**266**	*e*P		**Pn**	**01 01 18.0**	**+0.4**
	baz=264							
WGK				*e*S		**Sb**	**01 01 31.5**	**+0.2**
	baz=264							
ILA	**Ilan**	**1.00**	**5**	*e*P		**Pb**	**01 01 18.6**	**+0.1**
	baz=4.0							
STYT	**Tauyuan**	**1.02**	**234**	⇓P		**Pn**	**01 01 17.9**	**+0.2**
	baz=233							
STYT				*e*S		**Sn**	**01 01 30.9**	**-0.1**
	baz=233							
NSY	**Sanyi**	**1.04**	**309**	⇑*i*P		**Pb**	**01 01 18.8**	**-0.3**
	baz=307							
NSY				S		**Sb**	**01 01 32.1**	**-0.4**
	baz=307							
TPUB	**Ta-pu**	**1.05**	**244**	*e*Pn		**Pn**	**01 01 18.4**	**+0.3**
NSTT	**Nanjuang**	**1.05**	**326**	⇑*i*P		**Pn**	**01 01 18.6**	**+0.4**
	baz=324							
NSTT				S		**Sn**	**01 01 31.1**	**-0.7**
	baz=324							
CHN4	**Tsaushan**	**1.06**	**247**	⇓*i*P		**Pb**	**01 01 19.0**	**-0.3**
	baz=246							
CHN4				S		**Sb**	**01 01 32.8**	**0.0**
	baz=246							
TWG	**Pinlang**	**1.08**	**210**	⇓*i*P		**Pn**	**01 01 17.1**	**-1.5**
	baz=209							
TWG				*e*S		**Sn**	**01 01 30.8**	**-1.7**
	baz=209							
TWG	**Pinlang**	**1.08**	**210**	*e*Pn		**Pn**	**01 01 17.0**	**-1.6**
WTP	**Ta-pu**	**1.08**	**242**	⇓P		**Pb**	**01 01 19.4**	**-0.4**
	baz=240							
WTP				S		**Sb**	**01 01 34.0**	**+0.3**
	baz=240							
CHN2	**Minshiung**	**1.10**	**258**	*e*P		**Pb**	**01 01 19.8**	**-0.3**
	baz=257							
CHN2				*e*S		**Sb**	**01 01 34.4**	**+0.2**
	baz=257							
TTN	**Taitung**	**1.10**	**205**	*e*P		**Pn**	**01 01 17.8**	**-1.2**
	baz=204							
EGS		**1.11**	**13**	*e*P		**Pn**	**01 01 19.2**	**+0.2**
	baz=13							
CHY	**Chiayi**	**1.16**	**257**	*e*P		**Pb**	**01 01 20.5**	**-0.6**
	baz=256							
TWK	**Hsinying**	**1.18**	**246**	*e*P		**Pn**	**01 01 20.7**	**+0.7**
	baz=244							
TWK				*e*S		**Sb**	**01 01 36.6**	**+0.3**
	baz=244							
CHN1	**Nanshi**	**1.18**	**241**	⇓P		**Pn**	**01 01 20.8**	**+0.8**
	baz=240							
CHN1				S		**Sb**	**01 01 37.1**	**+0.7**
	baz=240							
SGST	**Jiashian**	**1.19**	**236**	⇓P		**Pb**	**01 01 21.2**	**-0.4**
	baz=234							
SGST				*e*S		**Sb**	**01 01 37.1**	**+0.4**
	baz=234							
HSN	**Hsinchu**	**1.21**	**329**	*e*P		**Pb**	**01 01 21.6**	**-0.3**
	baz=330							
HSN				S		**Sb**	**01 01 38.0**	**+0.8**
	baz=330							
TWA	**Mucha**	**1.22**	**357**	*e*P		**Pn**	**01 01 20.2**	**-0.2**
	baz=356							
TWA				*e*S		**Sn**	**01 01 35.9**	**-0.1**
	baz=356							
TATO	**Taipei**	**1.22**	**353**	*e*Pn		**Pn**	**01 01 20.6**	**+0.1**
WTCT	**Ta-ch'eng**	**1.26**	**275**	*e*P		**Pn**	**01 01 21.4**	**+0.4**
	baz=273							
WTCT				*e*S		**Sb**	**01 01 38.3**	**-0.4**
	baz=273							
NCU	**National Centr**	**1.28**	**341**	*e*P		**Pn**	**01 01 21.8**	**+0.5**
	baz=339							
NCU				*e*S		**Sb**	**01 01 38.4**	**-0.7**
	baz=339							
TAP1	**Taipei**	**1.28**	**355**	*e*P		**Pn**	**01 01 21.0**	**-0.3**
	baz=353							
TAP1				*e*S		**Sn**	**01 01 37.4**	**0.0**
	baz=353							
TWB1	**Santiao Chiao**	**1.28**	**14**	*e*P		**Pn**	**01 01 21.9**	**+0.6**
	baz=13							
TWB1				*e*S		**Sb**	**01 01 38.5**	**-0.7**
	baz=13							
TAP	**Taipei**	**1.28**	**354**	*e*P		**Pn**	**01 01 21.4**	**0.0**
	baz=353							
TAP				*e*S		**Sn**	**01 01 36.2**	**-1.3**
	baz=353							
NWF	**Wu-fen Shan**	**1.31**	**5**	*e*P		**Pn**	**01 01 22.0**	**+0.2**
	baz=4.0							
WSF	**Szhu**	**1.32**	**265**	*e*P		**Pn**	**01 01 22.4**	**+0.5**
	baz=263							
WSF				*e*S		**Sb**	**01 01 40.0**	**-0.3**
	baz=263							
ECL	**Taimali**	**1.33**	**209**	*e*P		**Pn**	**01 01 21.3**	**-0.7**
	baz=208							
TWS1	**Kuangyinshan**	**1.35**	**351**	*e*P		**Pn**	**01 01 22.5**	**+0.1**
	baz=350							
TWS1				*e*S		**Sb**	**01 01 40.1**	**-1.1**
	baz=350							
JYNG	**Yonagunijimaku**	**1.36**	**60**	P		**Pn**	**01 01 22.6**	**+0.1**
JYNG				*e*S		**Sn**	**01 01 40.1**	**+0.5**
CHN3	**Shinhua**	**1.37**	**240**	*e*P		**Pb**	**01 01 24.6**	**+0.1**
	baz=239							
CHN3				*e*S		**Sb**	**01 01 42.7**	**+1.1**
	baz=239							
SSD	**Sandimen**	**1.38**	**223**	⇓*e*P		**Pn**	**01 01 23.0**	**+0.3**
	baz=222							
SSD				*e*S		**Sb**	**01 01 42.7**	**+0.7**
	baz=222							
CHN8	**Yiju**	**1.39**	**253**	*e*P		**Pn**	**01 01 23.1**	**+0.3**
	baz=252							
CHN8				*e*S		**Sn**	**01 01 41.3**	**+1.2**
	baz=252							
YOJ	**Yonaguni jima**	**1.42**	**60**	⇓P		**Pn**	**01 01 23.4**	**+0.2**
	baz=60							
YOJ				S		**Sn**	**01 01 40.8**	**-0.2**
	baz=60							
YOJ	**Yonaguni jima**	**1.42**	**60**	P		**Pn**	**01 01 23.5**	**+0.2**
YOJ				*e*S		**Sn**	**01 01 41.6**	**+0.6**
YOJ	**Yonaguni jima**	**1.42**	**60

HEN	**Hengchun**	**1.94**	**206**	*e*P		**Pb**	**01 01 33.0**	**-1.3**
	baz=205								
TWK1	**Hengchun**	**1.97**	**204**	*e*P		**Pn**	**01 01 31.4**	**+0.5**
	baz=203								
TSEB	**Hengchuen, Pin**	**1.98**	**201**	*e*P		**Pn**	**01 01 30.8**	**-0.2**
	baz=201								
IRIF	**Iriomote-Funau**	**1.98**	**73**	P		**Pn**	**01 01 31.4**	**+0.4**
IRIF				S		**Sn**	**01 01 55.7**	**+0.9**
HATJ	**Hateruma jima**	**1.99**	**81**	P		**Pn**	**01 01 31.4**	**+0.3**
HATJ				*e*S		**Sn**	**01 01 55.2**	**+0.2**
JKRS	**Kuro-shima**	**2.21**	**77**	P		**Pn**	**01 01 34.7**	**+0.6**
JKRS				*e*S		**Sn**	**01 02 00.8**	**+0.5**
JIJ	**Ishigaki jima**	**2.35**	**75**	P		**Pn**	**01 01 36.1**	**0.0**
JIJ				S		**Sn**	**01 02 03.8**	**-0.1**
JISG	**Ishigakijimahi**	**2.56**	**71**	P		**Pn**	**01 01 39.0**	**0.0**
JISG				S		**Sn**	**01 02 08.3**	**-0.8**
JTJ	**Tarama**	**2.92**	**72**	P		**Pn**	**01 01 44.3**	**+0.4**
JTJ				*e*S		**Sn**	**01 02 18.1**	**+0.2**
KNM	**Kinmen**	**3.02**	**283**	*e*P		**Pn**	**01 01 45.8**	**+0.6**
	baz=281								
QZH	**Quanzhou**	**3.03**	**293**	⇓*i*Pn		**Pn**	**01 01 44.0**	**-1.4**
QZH				Sn		**Sn**	**01 02 16.4**	**-4.3**
QZH				smax	smax				
	comp=N,3μm,0.8s								
QZH				smax	smax				
	comp=E,2μm,1.0s								
JIRB	**Irabujima**	**3.38**	**71**	P		**Pn**	**01 01 50.8**	**+0.5**
JIRB				*e*S		**Sn**	**01 02 29.9**	**+0.6**
JIKM	**Ikemajima**	**3.48**	**70**	P		**Pn**	**01 01 52.3**	**+0.8**
JIKM				*e*S		**Sn**	**01 02 32.1**	**+0.4**
JMJ	**Miyako jima 2**	**3.48**	**72**	P		**Pn**	**01 01 52.1**	**+0.5**
JMJ				S		**Sn**	**01 02 32.1**	**+0.3**
JOGS	**Gusukube**	**3.57**	**73**	P		**Pn**	**01 01 53.7**	**+0.9**
JOGS				*e*S		**Sn**	**01 02 34.9**	**+1.0**
JKE	**Kume jima 2**	**5.31**	**60**	P		**Pn**	**01 02 16.6**	**-0.2**
JAGN	**Aguni-jima**	**5.79**	**60**	S		**Sn**	**01 03 30.2**	**+1.4**
JIH	**Iheya**	**6.57**	**59**	P		**Pn**	**01 02 33.5**	**-0.6**
JOW	**Kunigami**	**6.73**	**62**	P		**Pn**	**01 02 34.8**	**-1.4**
JOKE	**Okinoerabujima**	**7.20**	**59**	P		**Pn**	**01 02 40.8**	**-2.0**
GZH	**Guangzhou**	**7.66**	**267**	P		**Pn**	**01 02 46.8**	**-2.3**
GZH				S		**Sn**	**01 04 08.9**	**-6.0**
GZH				pmax	pmax				
	comp=Z,27nm,0.5s								
JTK	**Tokunoshima**	**7.70**	**57**	P		**Pn**	**01 02 48.1**	**-1.5**
JAMN	**Amaminishikomi**	**8.10**	**55**	P		**Pn**	**01 02 52.8**	**-2.3**
WHN	**Wuhan**	**9.38**	**318**	P		**Pn**	**01 03 17.1**	**+4.5**
WHN				S		**Sn**	**01 04 54.3**	**-2.6**
WHN				LR	LR				
	comp=N,1μm,8.9s								
WHN				LR	LR				
	comp=E,900nm,8.7s								
WHN				LR	LR				
	comp=Z,1μm,15.8s								
TGY	**Tagaytay City**	**9.63**	**184**	LR	LR		01 07 04.1		
	comp=Z,241nm,19.2s,baz=114,slow=38								
KS15	**Wonju Array Si**	**14.65**	**20**	*e*Pn		**Pn**	**01 04 26.8**	**+2.1**
KSAR	**Wonju Array Be**	**14.65**	**20**	P		**Pn**	**01 04 26.8**	**+2.1**
KSRS	**Korea Array**	**14.67**	**20**	P		**Pn**	**01 04 26.8**	**+1.8**
	0.2nm,0.3s,baz=199,slow=11,SNR=4.3								
KSRS				LR	LR		01 10 26.1		
	comp=Z,98nm,18.2s,baz=204,slow=39								
KMI	**Kunming**	**17.28**	**278**	P		**P**	**01 05 04.8**	**+4.7**
KMI				pmax	pmax				
	comp=Z,6.0nm,1.7s								
KMI				LR	LR				
	comp=N,220nm,13.4s								
KMI				LR	LR				
	comp=E,390nm,18.4s								
KMI				LR	LR				
	comp=Z,390nm,16.7s								
CD2	**Chengdu**	**17.41**	**298**	*e*P		**P**	**01 05 02.1**	**+0.8**
CD2				pP	pP		01 05 07.3	-2.2	
CD2				sP	sP		01 05 11.5	-2.0	
CD2				PP		**PnPn**	**01 05 18.8**	**+8.1**
CD2				S		**S**	**01 08 18.1**	**-2.8**
CD2				SS		**SnSn**	**01 08 34.3**	**+7.6**
CD2				pmax	pmax				
	comp=Z,10.0nm,0.7s								
CD2				LR	LR				
	comp=N,410nm,16.1s								
CD2				LR	LR				
	comp=E,610nm,14.2s								
CD2				LR	LR				
	comp=Z,730nm,14.2s								
MJAR	**Matsushiro Arr**	**19.13**	**44**	LR	LR		01 13 23.4		
	comp=Z,84nm,18.3s,baz=205,slow=39								
CM31	**Chiang Mai Arr**	**21.82**	**260**	*e*P		**P**	**01 05 51.0**	**+1.5**
CMAR	**Chiang Mai Arr**	**21.82**	**260**	P		**P**	**01 05 51.0**	**+1.5**
	1.6nm,0.3s,baz=61,slow=8.9,SNR=7.2								
CMAR				LR	LR		01 14 38.0		
	comp=Z,145nm,20.5s,baz=78,slow=37								
SONA0	**Songino Array**	**26.92**	**337**	*e*P		**P**	**01 06 37.0**	**-1.1**
	4.6nm,1.1s								
SONM	**Songino Array**	**26.92**	**337**	P		**P**	**01 06 37.0**	**-1.1**
	0.7nm,0.4s,baz=160,slow=9.9,SNR=6.3								
SONM				LR	LR		01 18 24.7		
	comp=Z,219nm,18.5s,baz=152,slow=39								
WMQ	**Urumqi**	**34.26**	**314**	P		**P**	**01 07 46.5**	**+3.6**
WMQ				pP	pP		01 07 50.9	-1.0	
WMQ				sP	sP		01 07 53.5	-2.2	
WMQ				pmax	pmax				
	comp=Z,8.0nm,0.9s								
WMQ				LR	LR				
	comp=N,55nm,17.9s								
WMQ				LR	LR				
	comp=E,110nm,21.7s								
WMQ				LR	LR				
	comp=Z,67nm,16.9s								
MK32	**Makanchi Array**	**38.94**	**316**	*e*P		**P**	**01 08 23.0**	**+0.3**
MK32				*e*PcP		**PcP**	**01 10 31.5**	**-1.4**
MKAR	**Makanchi Array**	**38.94**	**316**	P		**P**	**01 08 23.0**	**+0.3**
	4.1nm,0.8s,baz=132,slow=7.7,SNR=15								
MKAR				PcP		**PcP**	**01 10 31.5**	**-1.4**
	1.3nm,0.8s,baz=86,slow=3.8,SNR=5.3								
MKAR				LR	LR		01 25 55.6		
	comp=Z,141nm,18.3s,baz=86,slow=38								
MKAR	**Makanchi Array**	**38.94**	**316**	*e*P		**P**	**01 08 22.6**	**-0.1**
	19nm,0.8s								
MKAR				PcP		**PcP**	**01 10 31.5**	**-1.4**
MAKZ	**Makanchi**	**39.14**	**316**	*e*P		**P**	**01 08 25.0**	**+0.7**
	7.4nm,1.0s								
ZAA0	**Zalesovo Array**	**40.83**	**327**	*e*P		**P**	**01 08 36.7**	**-1.6**
ZALV	**Zalesovo Beam**	**40.83**	**327**	P		**P**	**01 08 37.8**	**-0.4**
	4.2nm,0.8s,baz=119,slow=7.4,SNR=10.0								
ZALV				LR	LR		01 26 26.2		
	comp=Z,103nm,18.6s,baz=70,slow=37								
ZAA1	**Zalesovo Array**	**40.83**	**327**	*e*P		**P**	**01 08 37.8**	**-0.5**
H11N1	**WAKE ISLAND Hy**	**42.08**	**86**	T		T	01 54 03.7		
	baz=283,slow=75,SNR=65								
H11N2	**WAKE ISLAND Hy**	**42.08**	**86**	T		T	01 53 52.2		
	baz=283,slow=75,SNR=82								
H11N3	**WAKE ISLAND Hy**	**42.10**	**86**	T		T	01 53 53.4		
	baz=283,slow=75,SNR=50								
H11S3	**WAKE ISLAND Hy**	**42.20**	**88**	T		T	01 53 59.6		
	baz=285,slow=75,SNR=140								
H11S1	**WAKE ISLAND Hy**	**42.21**	**88**	T		T	01 54 03.0		
	baz=285,slow=75,SNR=98								
H11S2	**WAKE ISLAND Hy**	**42.22**	**88**	T		T	01 54 01.7		
	baz=285,slow=75,SNR=102								
KURK	**Kurchatov**	**42.69**	**320**	*e*P		**P**	**01 08 53.1**	**-0.4**
KURBB	**Kurchatov Arra**	**42.71**	**320**	P		**P**	**01 08 53.1**	**-0.5**
	2.0nm,0.9s,baz=113,slow=8.5,SNR=11								
WR1	**Warramunga Arr**	**45.16**	**163**	*e*P		**P**	**01 09 12.0**	**-1.6**
	24nm,1.6s								
WRA	**Warramunga Arr**	**45.16**	**163**	P		**P**	**01 09 12.0**	**-1.6**
	1.3nm,0.7s,baz=344,slow=8.7,SNR=16								
KBL	**Kabul**	**46.73**	**296**	*e*P		**P**	**01 09 27.1**	**+0.9**
	15nm,1.1s								
AS31	**Alice Springs**	**48.62**	**165**	*e*P		**P**	**01 09 39.3**	**-1.3**
	4.6nm,1.7s								
ASAR	**Alice Springs**	**48.62**	**165**	P		**P**	**01 09 39.3**	**-1.4**
	1.0nm,0.6s,baz=347,slow=5.6,SNR=8.4								
NRIK	**Noril'sk**	**49.92**	**345**	LR	LR		01 32 18.3		
	comp=Z,420nm,19.2s,baz=117,slow=38								
ABKAR	**Akbulak array**	**54.04**	**315**	*e*P		**P**	**01 10 20.9**	**-0.1**
	29nm,0.8s								
GEYT	**Alibeck**	**55.38**	**301**	P		**P**	**01 10 32.3**	**+1.3**
	1.4nm,0.3s,baz=114,slow=1.7,SNR=3.7								
GEYT				LR	LR		01 38 30.2		
	comp=Z,110nm,18.6s,baz=285,slow=40								
ARU	**Arti**	**55.70**	**323**	*e*P		**P**	**01 10 31.8**	**-1.1**
	6.2nm,1.0s								
STKA	**Stephens Creek**	**58.52**	**160**	P		**P**	**01 10 53.1**	**+0.1**
	1.8nm,0.6s,baz=4.2,slow=2.7,SNR=5.2								
STKA	**Stephens Creek**	**58.52**	**160**	*e*P		**P**	**01 10 53.1**	**+0.1**
	4.9nm,1.6s								
KBZ	**Khabaz**	**66.08**	**309**	P		**P**	**01 11 43.7**	**0.0**
	2.9nm,0.9s,baz=116,slow=4.1,SNR=6.9								
ILAR	**Eielson Array**	**69.39**	**27**	P		**P**	**01 12 03.5**	**-0.7**
	0.5nm,0.6s,baz=262,slow=5.4,SNR=8.1								
ILB	**Eielson Array**	**69.39**	**27**	*e*P		**P**	**01 12 03.5**	**-0.7**
FIA0	**FINESS Array S**	**72.03**	**330**	*e*P		**P**	**01 12 19.3**	**-0.9**
FINES	**FINESS Array B**	**72.03**	**330**	P		**P**	**01 12 19.3**	**-0.9**
	2.2nm,0.8s,baz=46,slow=5.5,SNR=5.4								
FINES				LR		LR	01 44 42.2		
	comp=Z,77nm,18.8s,baz=54,slow=36								
BR101	**Keskin Array S**	**73.77**	**307**	*e*P		**P**	**01 12 30.7**	**-0.5**
BRTR	**Keskin Array B**	**73.77**	**307**	P		**P**	**01 12 30.7**	**-0.5**
	1.4nm,0.8s,baz=114,slow=6.5,SNR=7.0								
NB200	**NORSAR Array S**	**78.80**	**332**	*e*P		**P**	**01 12 58.5**	**-0.7**
NOA	**NORSAR Array B**	**78.80**	**332**	P		**P**	**01 12 58.5**	**-0.7**
	1.0nm,0.9s,baz=60,slow=7.2,SNR=2.5								
NOA				LR		LR	01 51 23.5		
	comp=Z,102nm,18.2s,baz=70,slow=38								
CLL	**Collm**	**82.65**	**323**	*e*P		**P**	**01 13 19.0**	**-0.9**
CLL				*i* pP		**PcP**	**01 13 26.3**	**+1.4**
YKA	**Yellowknife Ar**	**83.19**	**23**	P		**P**	**01 13 21.9**	**-0.6**
	0.6nm,0.4s,baz=307,slow=4.9,SNR=4.8								
YKB5	**Yellowknife Ar**	**83.19**	**23**	*e*P		**P**	**01 13 21.9**	**-0.6**
GERES	**GERESS Array B**	**83.44**	**321**	P		**P**	**01 13 23.2**	**-1.0**
	1.4nm,0.8s,baz=69,slow=4.6,SNR=11								
PPT	**Papeete**	**95.82**	**107**	LR		LR	01 48 57.4		
	comp=Z,20nm,19.6s,baz=182,slow=30								

WEL 22 01:28:32.8±0.4, 37.70S×176.37E, h148km±3km, ML3.5/19, 2C-4D, Error ellipse: s-maj=3.4km s-min=3.2km az=90.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**0.81**	**134**	⇓PN	Pn	01 28 55.7	0.0
URZ				SN	Sn	01 29 13.7	+0.4
URZ				AML	AML	01 29 17.9	
MUHZ	**Murupara**	**0.83**	**158**	PN	Pn	01 28 56.2	+0.2
RTZ	**Ruatahuna**	**1.03**	**152**	⇑PN	Pn	01 28 57.6	0.0
RUGZ	**Raukumara Rang**	**1.07**	**105**	PN	Pn	01 28 57.4	-0.7
MWZ	**Matawai**	**1.11**	**125**	PN	Pn	01 28 58.2	-0.1
MWZ				AML	AML	01 29 21.1	
MWZ				AML	AML	01 29 23.2	
HAZ	**Te Kaha**	**1.12**	**93**	PN	Pn	01 28 58.1	-0.2
HAZ				SN	Sn	01 29 18.3	+0.4
HAZ				AML	AML	01 29 22.4	
MRHZ	**Matea Rd**	**1.13**	**178**	PN	Pn	01 28 58.7	+0.2
MRHZ				AML	AML	01 29 19.2	
MRHZ				AML	AML	01 29 22.2	
RAGZ	**Rawiri**	**1.14**	**134**	⇓PN	Pn	01 28 58.7	+0.1
RAGZ				AML	AML	01 29 25.6	
RAGZ				AML	AML	01 29 25.6	
SNGZ	**Shannon Statio**	**1.32**	**145**	PN	Pn	01 29 00.2	-0.1
SNGZ				AML	AML	01 29 30.8	
SNGZ				AML	AML	01 29 38.6	
TWGZ	**Tauwhareparae**	**1.36**	**111**	PN	Pn	01 29 01.2	+0.5
TWGZ				AML	AML	01 29 33.1	
TWGZ				AML	AML	01 29 34.5	
TKGZ	**Te Karaka**	**1.38**	**123**	PN	Pn	01 29 00.9	0.0
TKGZ				SN	Sn	01 29 21.7	-0.7
TKGZ				AML	AML	01 29 23.4	
NMHZ	**Naumai**	**1.43**	**166**	PN	Pn	01 29 02.2	+0.6
NMHZ				AML	AML	01 29 31.5	
NMHZ				AML	AML	01 29 32.2	
BKZ	**Black Stump Fm**	**1.46**	**176**	PN	Pn	01 29 01.3	-0.5
BKZ				AML	AML	01 29 24.5	
BKZ				AML	AML	01 29 33.1	
RIGZ	**Rimuhau**	**1.48**	**133**	PN	Pn	01 29 02.1	+0.1
RIGZ				AML	AML	01 29 26.5	
RIGZ				AML	AML	01 29 36.8	
PUZ	**Puketiti**	**1.54**	**104**	PN	Pn	01 29 02.4	-0.1
MXZ	**Matakaoa Point**	**1.54**	**85**	PN	Pn	01 29 03.2	+0.6
MXZ				AML	AML	01 29 33.5	
OTVZ	**Oturere**	**1.56**	**201**	PN	Pn	01 29 03.6	+0.6
NGZ	**Ngauruhoe**	**1.59**	**202**	PN	Pn	01 29 04.2	+1.0
WMGZ	**Waiomatatini S**	**1.62**	**95**	PN	Pn	01 29 03.5	+0.1
WMGZ				SN	Sn	01 29 26.4	-0.6
WMGZ				AML	AML	01 29 27.7	
ARHZ	**Aropaoanui**	**1.63**	**163**	PN	Pn	01 29 03.5	-0.1
ARHZ				AML	AML	01 29 36.3	
ARHZ				AML	AML	01 29 37.2	
CNGZ	**Carnagh Statio**	**1.65**	**119**	PN	Pn	01 29 04.0	+0.3
TUVZ	**Tukino**	**1.66**	**200**	PN	Pn	01 29 04.2	+0.2
KNZ	**Kokohu**	**1.67**	**142**	PN	Pn	01 29 03.4	-0.5
WHVZ	**Whangaehu Hut**	**1.69**	**201**	PN	Pn	01 29 04.7	+0.2
KWHZ	**Kaweka Forest**	**1.72**	**179**	PN	Pn	01 29 04.2	-0.4
KWHZ				AML	AML	01 29 36.2	
KWHZ				AML	AML	01 29 37.2	
WNVZ	**Wahianoa**	**1.73**	**200**	⇓PN	Pn	01 29 04.8	0.0
MCHZ	**McNeill Hill**	**1.76**	**172**	PN	Pn	01 29 05.0	0.0
MCHZ				AML	AML	01 29 38.3	
MOVZ	**Moawhango**	**1.77**	**196**	PN	Pn	01 29 04.5	-0.6
MHGZ	**Mahia Peninsul**	**1.88**	**141**	PN	Pn	01 29 06.0	-0.3
KRHZ	**Kereru**	**1.94**	**180**	PN	Pn	01 29 06.1	-0.9
KRHZ				AML	AML	01 29 41.3	
KRHZ				AML	AML	01 29 41.6	
CKHZ	**Cape Kidnapper**	**2.03**	**164**	PN	Pn	01 29 07.5	-0.6
KAHZ	**Kahuranaki**	**2.12**	**169**	PN	Pn	01 29 08.5	-0.7
PNHZ	**Pukenui**	**2.21**	**183**	PN	Pn	01 29 08.8	-1.4
PXZ	**Pawanui**	**2.35**	**171**	PN	Pn	01 29 10.7	-1.2
WPHZ	**Waipukurau**	**2.36**	**179**	PN	Pn	01 29 10.8	-1.2
TSZ	**Takapari Road**	**2.37**	**188**	PN	Pn	01 29 10.7	-1.5
PRHZ	**Porangahau**	**2.57**	**175**	PN	Pn	01 29 12.8	-1.8
DVHZ	**Dannevirke**	**2.60**	**183**	PN	Pn	01 29 12.8	-2.1
POWZ	**Post Office Ro**	**2.72**	**190**	PN	Pn	01 29 14.7	-1.8
ANWZ	**Angora Road**	**2.75**	**178**	PN	Pn	01 29 15.2	-1.6
ANWZ				AML	AML	01 29 48.6	
ANWZ				AML	AML	01 29 51.9	
PRWZ	**Pori Road**	**2.86**	**186**	PN	Pn	01 29 16.4	-1.8
BFZ	**Birch Farm**	**2.98**	**182**	PN	Pn	01 29 17.1	-2.5
MRZ	**Mangatainoka R**	**3.02**	**192**	⇓PN	Pn	01 29 17.7	-2.5
TIWZ	**Tintock**	**3.09**	**187**	PN	Pn	01 29 18.7	-2.5
CPWZ	**Castlepoint**	**3.20**	**182**	PN	Pn	01 29 20.4	-2.1
OGWZ	**Otaki Gorge**	**3.25**	**196**	PN	Pn	01 29 20.5	-2.6
OGWZ				AML	AML	01 30 00.5	
OGWZ				AML	AML	01 30 02.7	
HOWZ	**Holdsworth Sta**	**3.26**	**191**	PN	Pn	01 29 20.4	-2.9
KIW	**Kapiti Island**	**3.35**	**199**	PN	Pn	01 29 21.7	-2.8
TMWZ	**Te Maipa**	**3.42**	**186**	PN	Pn	01 29 22.5	-2.8
MTW	**Mount Morrison**	**3.51**	**191**	PN	Pn	01 29 23.1	-3.5
CAW	**Cannon Point**	**3.54**	**196**	PN	Pn	01 29 23.8	-3.2
DUWZ	**D'Urville Isla**	**3.63**	**211**	⇑PN	Pn	01 29 25.4	-2.7
TRWZ	**Traveller**	**3.73**	**188**	PN	Pn	01 29 26.1	-3.2
MSWZ	**Moikau Station**	**3.81**	**193**	PN	Pn	01 29 26.6	-3.7
TCW	**Tory Channel**	**3.86**	**204**	PN	Pn	01 29 28.0	-3.1
PLWZ	**Palliser**	**3.96**	**192**	PN	Pn	01 29 28.2	-4.1
NNZ	**Nelson**	**4.20**	**212**	PN	Pn	01 29 32.3	-3.2
QRZ	**Quartz Range**	**4.31**	**223**	PN	Pn	01 29 33.6	-3.3
THZ	**Tophouse**	**4.85**	**212**	PN	Pn	01 29 40.8	-3.4
KHZ	**Kahutara**	**5.18**	**204**	PN	Pn	01 29 44.2	-4.2
INZ	**Inchbonnie**	**6.27**	**215**	PN	Pn	01 29 57.2	-5.7

GUC 22 01:35:36.3±0.7, 21.55S×68.43W, h130km±5km, ML3.5, 3C, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB09	**IPOC Station P**	**0.79**	**252**	*e*P	Pn	01 35 58.8	+1.2
PB09				*i* S	Sn	01 36 15.1	+1.3
PB09				IAML		01 36 17.9	
	comp=E,1μm,0.2s						
PB01	**IPOC Station P**	**1.10**	**297**	*e*P	Pn	01 36 01.2	+0.9
PB01				*e*S	Sn	01 36 19.8	+1.2
LVC	**Limon Verde**	**1.15**	**203**	⇑*i*P	Pn	01 36 01.9	+0.8
LVC				*i* S	Sn	01 36 20.7	+0.8
PB07	**IPOC Station P**	**1.36**	**262**	*e*P	Pn	01 36 04.2	+1.0
PB07				*e*S	Sn	01 36 24.6	+1.1
PB07				IAML		01 36 25.2	
	comp=N,943nm,0.1s						
PB02	**IPOC Station P**	**1.38**	**279**	*e*P	Pn	01 36 04.2	+0.9
PB02				*e*S	Sn	01 36 24.9	+1.1
PB02				IAML		01 36 25.4	
	comp=N,648nm,0.2s						
PB08	**IPOC Station P**	**1.55**	**334**	*e*P	Pn	01 36 06.7	+1.2
PB08				*e*S	Sn	01 36 29.5	+1.9
PB06	**IPOC Station P**	**1.56**	**222**	*e*P	Pn	01 36 06.3	+0.9
PB06				*e*S	Sn	01 36 28.4	+1.0
PB04	**IPOC Station P**	**1.78**	**244**	*e*P	Pn	01 36 08.4	+0.6
PB04				*e*S	Sn	01 36 31.5	-0.3
PB04				IAML		01 36 35.4	
	comp=N,347nm,0.1s						
HMBC	**Humberstone**	**1.86**	**313**	⇑*i*P	Pn	01 36 09.2	+0.5
HMBC				*i* S	Sn	01 36 34.6	+1.1
HMBC				IAML		01 36 35.5	
	comp=N,639nm,0.5s						
PB11	**IPOC Station P**	**2.12**	**327**	*e*P	Pn	01 36 12.4	+0.5
PB11				*e*S	Sn	01 36 39.9	+0.8
PSGC	**Pisagua**	**2.50**	**320**	*e*P	Pn	01 36 16.5	-0.2
PSGC				*i* S	Sn	01 36 46.4	-1.4
PSGC				IAML		01 36 49.3	
	comp=E,122nm,0.4s						
MNMC	**Minye Minye**	**2.64**	**335**	*e*P	Pn	01 36 19.5	+0.9
MNMC				*i* S	Sn	01 36 52.6	+1.5
MNMC				IAML		01 36 55.4	
	comp=N,311nm,0.1s						
PB13	**IPOC Station P**	**3.35**	**342**	*e*P	Pn	01 36 29.8	+1.7
PB13				*i* S	Sn	01 37 09.2	+1.1
PB12	**IPOC Station P**	**3.42**	**328**	⇑*i*P	Pn	01 36 27.3	-1.3
PB12				*i* S	Sn	01 37 06.7	-2.2

IDC 22 02:07:38.8±5.8, 6.49S×148.62E, h126km±46km, mb3.9/2, mb1 3.8/4, mb1mx3.4/28, mbtmp4.0/4, Error ellipse: s-maj=94.2km s-min=48.5km az=126.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.24**	**206**	P	Pn	02 08 26.6	-1.8
	8.8nm,0.3s,baz=1.4,slow=8.9,SNR=27						
PMG				S	Sn	02 09 08.0	+1.2
	19nm,0.3s,baz=181,slow=20,SNR=13						
WRA	**Warramunga Arr**	**19.27**	**225**	P	P	02 11 52.8	-0.9
	0.6nm,0.3s,baz=52,slow=11,SNR=27						
ASAR	**Alice Springs**	**22.18**	**218**	P	P	02 12 25.8	+1.0
	1.2nm,0.4s,baz=56,slow=8.5,SNR=20						
FITZ	**Fitzroy Crossi**	**25.21**	**241**	P	P	02 12 51.6	-1.3
	13nm,0.6s,baz=66,slow=7.9,SNR=56						
TORD	**Torodi Ar. Bea**	**146.77**	**284**	PKPbc	PKPbc	02 27 07.8	+0.7
	0.2nm,0.3s,baz=90,slow=3.8,SNR=6.0						

*NSSC **22** 02:08:39.1±1.1, 33.36N×35.36E, h16km±5km, MD1.1, ML1.2*
*ISCJB **22** 02:08:40.1±1.3, 33.33N±0.04×35.39E±0.08, h18km±20km, Error ellipse: s-maj=12.2km s-min=6.5km az=163.0*
*CSEM **22** 02:08:40.1±0.4, 33.34N×35.42E, h20km, ML2.6, Error ellipse: s-maj=8.0km s-min=4.0km az=75.0*
*GRAL **22** 02:08:40.8±0.3, 33.31N×35.40E, h0km±175km, MD2.6*
ISC 22 02:08:40.3±1.5, 33.34N±0.04×35.44E±0.07, h22km±8km, n17, σ0.51/30, Jordan-Syria region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RCY	**Rachaya**	**0.37**	**65**	*e*P	**Pb**	**02 08 48.2**	**-0.1**
RCY				*e*S	**Sb**	**02 08 53.7**	**0.0**
DQRL	**Deir Qamar**	**0.38**	**17**	*e*P	**Pb**	**02 08 48.3**	**-0.2**
DQRL				*e*S	**Sb**	**02 08 54.0**	**-0.1**
DQRL	**Deir Qamar**	**0.38**	**17**	*e*P	**Pb**	**02 08 48.3**	**-0.2**
DQRL				*e*S	**Sb**	**02 08 54.0**	**-0.1**
BRBR	**Barbar**	**0.44**	**80**	*e*P	**Pb**	**02 08 49.3**	**-0.1**
BRBR				*e*S	**Sb**	**02 08 56.3**	**+0.7**
BRBR				AML	AML	02 08 57.4	
	comp=E,18nm,0.3s						
BRBR				AML	AML	02 08 58.8	
	comp=N,17nm,0.5s						
BRBR	**Barbar**	**0.44**	**80**	*e*P	**Pb**	**02 08 49.3**	**-0.1**
	SNR=102						
BRBR				*e*S	**Sb**	**02 08 56.3**	**+0.7**
	comp=N,17nm,0.5s,SNR=105						
BHL	**Bhannes**	**0.59**	**18**	*e*P	**Pb**	**02 08 52.2**	**+0.1**
BHL	**Bhannes**	**0.59**	**18**	*e*P	**Pb**	**02 08 52.2**	**+0.1**
TCHB	**Talchebab**	**0.80**	**146**	*e*P	**Pb**	**02 08 55.4**	**-0.2**
TCHB				*e*S	**Sb**	**02 09 06.2**	**+0.2**
TCHB				AML	AML	02 09 08.1	
	comp=N,18nm,0.6s						
TCHB				AML	AML	02 09 19.5	
	comp=E,10nm,0.4s						
TCHB	**Talchebab**	**0.80**	**146**	*e*P	**Pb**	**02 08 55.4**	**-0.2**
	SNR=66						
TCHB				*e*S	**Sb**	**02 09 06.2**	**+0.2**
	comp=E,10nm,0.4s,SNR=62						
TOTH	**TOTAH**	**0.83**	**88**	*e*P	**Pb**	**02 08 55.9**	**-0.2**

ARIG				*e*S	Sb	02 57 36.4	-4.8	
MEIG	**Mezcala**	**1.25**	**50**	*e*P	Pn	02 57 23.3	-3.6	
MEIG				*e*S	Sb	02 57 38.5	-4.7	
PLIG	**Platanillo**	**1.66**	**40**	*e*P	Pn	02 57 29.4	-3.2	
PLIG				*e*S	Sn	02 57 49.0	-4.9	
TLIG	**Tlapa**	**2.01**	**77**	*i* P	Pn	02 57 34.6	-2.9	
TLIG				*i* S	Sn	02 57 58.1	-4.7	
YAIG	**Yautepec**	**2.28**	**40**	*i* P	Pn	02 57 38.0	-3.1	
YAIG				*i* S	Sn	02 58 05.4	-4.0	

JMA ***22*** *03:04:02.6±0.1,24°.03N×121°.74E,h0km,M3.1*
ISCJB ***22*** *03:04:04.6±0.3,24°.07N±0°.02×121°.75E±0°.02,h16km±4km, Error ellipse: s-maj=3.2km s-min=1.9km az=40.7*
TAP ***22*** *03:04:04.2,24°.09N×121°.69E,h17km,ML3.9,B*
ISC 22 03:04:04.2±0.8,24°.07N±0°.02×121°.72E±0°.02,h18km±5km, n69,σ0s87/113,7C-5D,Taiwan

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TWD	**Chiawan**	**0.11**	**277**	⇓*i*P	**Pg**	**03 04 07.8**	**-0.2**
	baz=266						
TWD				*i* S	**Sg**	**03 04 10.1**	**-0.3**
	baz=266						
HWA	**Hwalien**	**0.14**	**229**	*e*P	**Pg**	**03 04 08.6**	**+0.4**
	baz=216						
HWA				*e*S	**Sg**	**03 04 12.4**	**+1.5**
	baz=216						
EHP	**Heping Village**	**0.24**	**5**	*e*P	**Pb**	**03 04 09.9**	**-0.3**
	baz=9.0						
ESF	**Shoufeng Towns**	**0.27**	**225**	*e*P	**Pb**	**03 04 11.5**	**+0.8**
	baz=222						
ENA	**Nanau**	**0.36**	**4**	⇑*i*P	**Pb**	**03 04 11.6**	**-0.6**
	baz=11						
ENA				S	**Sb**	**03 04 16.9**	**-0.6**
	baz=11						
ESL	**Shilin**	**0.36**	**226**	*e*P	**Pb**	**03 04 11.8**	**-0.4**
	baz=218						
TEGC	**Jichi Village**	**0.39**	**204**	*e*P	**Pb**	**03 04 13.2**	**+0.5**
	baz=191						
WHF	**Hehuan Shan**	**0.42**	**281**	⇑*i*P	**Pb**	**03 04 12.6**	**-0.8**
	baz=278						
WHF				*i* S	**Sg**	**03 04 18.1**	**-0.9**
	baz=278						
NNS	**Nan Shan**	**0.49**	**320**	⇑*i*P	**Pg**	**03 04 13.6**	**-0.5**
	baz=321						
NNS				*i* S	**Sg**	**03 04 20.4**	**-0.4**
	baz=321						
TWT	**Tachien**	**0.53**	**291**	⇑*i*P	**Pb**	**03 04 15.0**	**-0.1**
	baz=288						
TWT				S	**Sb**	**03 04 22.1**	**-0.4**
	baz=288						
TWC	**Suao**	**0.55**	**13**	P	**Pb**	**03 04 15.0**	**-0.4**
	baz=14						
TWC				*e*S	**Sb**	**03 04 22.8**	**-0.3**
	baz=14						
ENTT	**Nioudou**	**0.59**	**346**	⇑*i*P	**Pb**	**03 04 15.6**	**-0.4**
	baz=342						
ENTT				*i* S	**Sb**	**03 04 23.8**	**-0.2**
	baz=342						
WDT	**Danda**	**0.62**	**240**	⇓*i*P	**Pb**	**03 04 16.3**	**-0.4**
	baz=235						
WDT				*e*S	**Sb**	**03 04 25.1**	**-0.1**
	baz=235						
TWE	**Neicheng**	**0.65**	**356**	⇑P	**Pb**	**03 04 16.9**	**-0.3**
	baz=1.0						
TWE				S	**Sb**	**03 04 25.8**	**-0.1**
	baz=1.0						
EHY	**Hungye**	**0.67**	**213**	*e*P	**Pg**	**03 04 16.4**	**-1.0**
	baz=218						
NSK	**Sanguang**	**0.69**	**332**	⇑P	**Pg**	**03 04 17.3**	**-0.6**
	baz=334						
NSK				S	**Sg**	**03 04 26.3**	**-0.7**
	baz=334						
ILA	**Ilan**	**0.70**	**2**	*e*P	**Pg**	**03 04 16.2**	**-1.7**
	baz=357						
SMLT	**Sun Moon Lake**	**0.77**	**256**	⇓P	**Pb**	**03 04 18.9**	**-0.3**
	baz=253						
SMLT				S	**Sb**	**03 04 28.8**	**-0.6**
	baz=253						
EGS		**0.80**	**14**	*e*P	**Pb**	**03 04 19.7**	**+0.1**
	baz=18						
TYC	**Yuchr**	**0.80**	**258**	P	**Pg**	**03 04 19.0**	**-0.9**
	baz=255						
TYC				S	**Sb**	**03 04 29.8**	**-0.4**
	baz=255						
TWF1	**Yuli**	**0.81**	**208**	*e*P	**Pg**	**03 04 18.2**	**-1.8**
	baz=218						
NSTT	**Nanjuang**	**0.86**	**311**	*e*P	**Pb**	**03 04 20.6**	**-0.1**
	baz=311						
NSTT				*e*S	**Sg**	**03 04 31.2**	**-1.2**
	baz=311						
TWQ1	**Liyutan**	**0.91**	**288**	*e*P	**Pn**	**03 04 21.9**	**-0.3**
	baz=295						
TWQ1				S	**Sb**	**03 04 34.0**	**+0.8**
	baz=295						
YUS	**Yu-Shan**	**0.91**	**231**	⇓*i*P	**Pb**	**03 04 21.6**	**-0.2**
	baz=216						
YUS				*e*S	**Sb**	**03 04 34.6**	**+0.9**
	baz=216						
TWA	**Mucha**	**0.92**	**352**	*e*P	**Pb**	**03 04 21.6**	**-0.1**
	baz=356						
TWA				*e*S	**Sb**	**03 04 33.7**	**+0.2**
	baz=356						
NSY	**Sanyi**	**0.94**	**292**	P	**Pn**	**03 04 22.8**	**+0.2**
	baz=299						
NSY				*e*S	**Sn**	**03 04 36.8**	**+1.2**
	baz=299						
TCU	**Taichung**	**0.95**	**275**	*e*P	**Pn**	**03 04 23.2**	**+0.4**
	baz=268						
TCU				*e*S	**Sn**	**03 04 37.4**	**+1.5**
	baz=268						
WNT	**Mingjian**	**0.96**	**259**	*e*P	**Pn**	**03 04 23.0**	**+0.1**
	baz=256						
WNT				*e*S	**Sn**	**03 04 36.2**	**0.0**
	baz=256						
TWB1	**Santiao Chiao**	**0.97**	**15**	*e*P	**Pb**	**03 04 22.5**	**0.0**
	baz=11						
TWB1				*e*S	**Sg**	**03 04 35.2**	**-0.6**
	baz=11						
TAP1	**Taipei**	**0.98**	**350**	*e*P	**Pn**	**03 04 23.3**	**+0.1**
	baz=345						
TAP1				*e*S	**Sb**	**03 04 36.0**	**+0.6**
	baz=345						
TAP	**Taipei**	**0.99**	**349**	*e*P	**Pb**	**03 04 22.7**	**-0.1**
	baz=341						
HSN	**Hsinchu**	**1.00**	**317**	*e*P	**Pn**	**03 04 24.3**	**+0.8**
	baz=319						
HSN				*e*S	**Sn**	**03 04 38.7**	**+1.7**
	baz=319						
NWF	**Wu-fen Shan**	**1.00**	**3**	*e*P	**Pb**	**03 04 23.3**	**+0.1**
	baz=359						
NWF				*e*S	**Sb**	**03 04 36.8**	**+0.7**
	baz=359						
ALS	**Alishan**	**1.00**	**237**	⇓P	**Pb**	**03 04 23.3**	**0.0**
	baz=223						
ALS				*e*S	**Sn**	**03 04 37.7**	**+0.1**
	baz=223						
CHKT	**Chengkung**	**1.02**	**199**	*e*P	**Pg**	**03 04 22.8**	**-1.1**
	baz=179						
NCU	**National Centr**	**1.02**	**332**	*e*P	**Pn**	**03 04 24.6**	**+0.9**
	baz=337						
NCU				S	**Sn**	**03 04 38.6**	**+1.0**
	baz=337						
CHN5	**Tsauling**	**1.06**	**244**	*e*P	**Pn**	**03 04 24.5**	**+0.2**
	baz=241						
CHN5				S	**Sn**	**03 04 40.0**	**+1.3**
	baz=241						
TWS1	**Kuangyinshan**	**1.06**	**345**	*e*P	**Pn**	**03 04 24.6**	**+0.2**
	baz=347						
TWS1				*e*S	**Sn**	**03 04 39.4**	**+0.7**
	baz=347						
ELDTW	**Lidau**	**1.08**	**216**	*e*P	**Pg**	**03 04 23.5**	**-1.7**
	baz=213						
WGK	**Gukeng**	**1.12**	**250**	*e*P	**Pn**	**03 04 26.2**	**+1.1**
	baz=249						
JYNG	**Yonaguni jimaku**	**1.19**	**71**	P	**Pb**	**03 04 25.9**	**-0.3**
JYNG				*e*S	**Sb**	**03 04 41.6**	**+0.4**
TWY	**Chenhua**	**1.21**	**355**	*e*P	**Pg**	**03 04 27.8**	**+0.2**
	baz=5.0						
YOJ	**Yonaguni jima**	**1.25**	**71**	*e*P	**Pn**	**03 04 26.8**	**0.0**
	baz=73						
YOJ	**Yonaguni jima**	**1.25**	**71**	P	**Pn**	**03 04 26.8**	**0.0**
YOJ				*e*S	**Sg**	**03 04 43.6**	**-1.0**
CHN4	**Tsaushan**	**1.25**	**236**	*e*P	**Pg**	**03 04 27.9**	**-0.5**
	baz=220						
CHN4				*e*S	**Sn**	**03 04 46.5**	**+3.2**
	baz=220						
CHN2	**Minshiung**	**1.26**	**245**	*e*P	**Pg**	**03 04 27.6**	**-0.9**
	baz=244						
STYT	**Tauyuan**	**1.26**	**225**	*e*P	**Pn**	**03 04 27.1**	**+0.1**
	baz=220						
STYT				S	**Sn**	**03 04 44.0**	**+0.4**
	baz=220						
WTP	**Ta-pu**	**1.30**	**231**	*e*P	**Pg**	**03 04 28.2**	**-1.1**
	baz=227						
WTP				*e*S	**Sn**	**03 04 46.4**	**+1.8**
	baz=227						
CHY	**Chiayi**	**1.31**	**245**	*e*P	**Pg**	**03 04 29.6**	**0.0**
	baz=243						
WTCT	**Ta-ch'eng**	**1.33**	**262**	*e*P	**Pg**	**03 04 29.7**	**-0.2**
	baz=259						
WTCT				*e*S	**Sg**	**03 04 47.7**	**+0.5**
	baz=259						
TWG	**Pinlang**	**1.38**	**206**	*e*P	**Pn**	**03 04 28.3**	**-0.3**
	baz=203						
TWK	**Hsinying**	**1.38**	**235**	*e*P	**Pg**	**03 04 29.9**	**-1.0**
	baz=226						
TWK				*e*S	**Sg**	**03 04 49.1**	**+0.2**
	baz=226						
CHN1	**Nanshi**	**1.40**	**231**	*e*P	**Pg**	**03 04 30.0**	**-1.2**
	baz=218						
CHN1				*e*S	**Sg**	**03 04 48.1**	**-1.4**
	baz=218						
SGST	**Jiashian**	**1.43**	**227**	*e*P	**Pb**	**03 04 30.1**	**-0.3**
	baz=222						
SGST				*e*S	**Sg**	**03 04 50.7**	**+0.2**
	baz=222						
WSF	**Szhu**	**1.43**	**253**	*e*P	**Pg**	**03 04 30.5**	**-1.4**
	baz=250						
WSF				*e*S	**Sg**	**03 04 51.6**	**+1.0**
	baz=250						
ECL	**Taimali**	**1.62**	**206**	*e*P	**Pn**	**03 04 32.6**	**+0.6**
	baz=190						
SSD	**Sandimen**	**1.65**	**217**	*e*P	**Pb**	**03 04 33.5**	**-0.6**
	baz=227						
TWM1	**Shoushan**	**1.72**	**224**	*e*P	**Pb**	**03 04 34.4**	**-0.9**
	baz=222						
EAST	**Anshuo**	**1.86**	**206**	*e*P	**Pn**	**03 04 35.6**	**+0.4**
	baz=191						
IRIF	**Iriomote-Funau**	**1.86**	**81**	P	**Pn**	**03 04 35.5**	**+0.3**
IRIF				*e*S	**Sn**	**03 04 59.4**	**+1.1**
TAW	**Tawu**	**1.86**	**204**	*e*P	**Pb**	**03 04 36.4**	**-1.4**
	baz=189						
HATJ	**Hateruma jima**	**1.91**	**90**	P	**Pn**	**03 04 36.0**	**+0.1**
HATJ				*e*S	**Sn**	**03 05 00.8**	**+1.3**
SCZT	**Fangliau**	**1.97**	**211**	*e*P	**Pb**	**03 04 39.2**	**-0.3**
	baz=193						
PNG	**Penghu**	**2.04**	**256**	*e*P	**Pb**	**03 04 39.4**	**-1.4**
	baz=249						
PNG				*e*S	**Sn**	**03 05 03.5**	**+0.7**
	baz=249						
WDGT	**Dungji**	**2.05**	**247**	*e*P	**Pn**	**03 04 38.4**	**+0.6**
	baz=248						
JKRS	**Kuro-shima**	**2.10**	**85**	P	**Pn**	**03 04 39.3**	**+0.7**
JKRS				S	**Sn**	**03 05 06.6**	**+2.3**
JIJ	**Ishigaki jima**	**2.23**	**82**	P	**Pn**	**03 04 40.3**	**-0.1**
JIJ				*e*S	**Sn**	**03 05 07.5**	**-0.1**
JISG	**Ishigakijimahi**	**2.42**	**77**	P	**Pn**	**03 04 43.1**	**+0.1**
JTJ	**Tarama**	**2.78**	**78**	P	**Pn**	**03 04 48.8**	**+0.9**
JTJ				*e*S	**Sn**	**03 05 23.1**	**+2.0**

NIED ***22*** *03:04:00,37°.40N×143°.70E,h11km,Mw3.7 Best double couple: M0 3.78000×10^14 NP1:φs343.00000°,δ71.00000°, λ167.00000°. NP2:φs78.00000°,δ78.00000°,λ20.00000°.*
IDC ***22*** *03:04:43.5±2.1,36°.81N×143°.80E,h0km,mb3.8/3, mb1 3.9/5,mb1mx3.5/60,mbtmp3.9/5,ML3.9/2,MS2.5/2, Ms1 2.5/2,ms1mx2.2/57,Error ellipse: s-maj=38.8km s-min=27.3km az=77.0*
ISCJB ***22*** *03:04:44.2±1.2,37°.40N±0°.06×143°.76E±0°.08,h33km, mb3.7/3,Error ellipse: s-maj=10.0km s-min=7.8km az=23.0.*
JMA ***22*** *03:04:44.4±0.3,37°.43N×143°.73E,h44km,M4.0*
ISC 22 03:04:42.9±1.8,37°.32N±0°.06×144°.0E±0°.1,h35km,n16, σ1s81/23,mb3.8/3,Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JIO	**Ouri**	**2.36**	**299**	P	**Pn**	**03 05 19.1**	**0.0**
JIO				*e*S	**Sn**	**03 05 44.7**	**-2.0**
JFK	**Kawauchi**	**2.46**	**272**	P	**Pn**	**03 05 20.8**	**+0.2**
JFK				S	**Sn**	**03 05 47.2**	**-2.2**
OFUJ	**Ofunato**	**2.52**	**315**	P	**Pn**	**03 05 21.0**	**-0.3**
OFUJ				S	**Sn**	**03 05 48.3**	**-2.5**
ONAJ	**Iwakimizuishiy**	**2.54**	**266**	P	**Pn**	**03 05 21.9**	**+0.3**
ONAJ				*e*S	**Sn**	**03 05 49.1**	**-2.2**
JMK	**Ichinoseki**	**2.71**	**308**	P	**Pn**	**03 05 23.5**	**-0.4**
JFT	**Otama**	**2.89**	**275**	P	**Pn**	**03 05 27.7**	**+1.2**
JFT				S	**Sn**	**03 05 59.2**	**-0.9**
JOM	**Ohasama**	**3.00**	**316**	P	**Pn**	**03 05 28.5**	**+0.6**
JOM				S	**Sn**	**03 06 00.9**	**-1.8**
JYK	**Kaneyama**	**3.26**	**300**	P	**Pn**	**03 05 32.2**	**+0.7**
JAG	**Ashikaga**	**3.73**	**257**	P	**Pn**	**03 05 39.1**	**+1.2**
JAG				*e*S	**Sn**	**03 06 19.6**	**-1.0**
MJAR	**Matsushiro Arr**	**4.67**	**262**	Pn	**Pn**	**03 05 53.2**	**+2.2**
	3.4nm,0.3s,baz=90,slow=15,SNR=27						
MJAR				Sn	**Sn**	**03 06 45.2**	**+1.1**
	2.2nm,0.3s,baz=180,slow=32,SNR=6.3						
MJAR				LR	LR	03 08 32.8	
	comp=Z,58nm,18.2s,baz=120,slow=51						
MAT	**Matsushiro**	**4.68**	**262**	P	**Pn**	**03 05 53.2**	**+2.2**
MAT				S	**Sn**	**03 06 43.4**	**-0.7**
JHJ	**Hachijo jima 2**	**5.41**	**220**	Pn	**Pn**	**03 05 59.9**	**-1.2**
	20nm,0.3s,baz=90,slow=20,SNR=5.3						
JHJ				Sn	**Sn**	**03 06 57.6**	**-4.5**
	9.7nm,0.3s,baz=233,slow=20,SNR=4.3						
KSRS	**Korea Array**	**12.76**	**275**	LR	LR	03 12 02.6	
	comp=Z,15nm,18.1s,baz=240,slow=34						
SONM	**Songino Array**	**29.32**	**303**	P	P	03 10 48.6	+6.4
	0.4nm,0.5s,baz=97,slow=8.6,SNR=2.5						
ZALV	**Zalesovo Beam**	**43.23**	**312**	P	P	03 12 48.9	+8.5
	1.2nm,0.5s,baz=81,slow=9.2,SNR=3.6						
WRA	**Warramunga Arr**	**57.68**	**191**	P	**P**	**03 14 31.7**	**+1.8**
	0.8nm,0.8s,baz=11,slow=7.2,SNR=6.7						

IDC 22 03:18:58.0±10.0,2°.83N×128°.41E,h237km±103km, mb3.3/5,mb1 3.5/5,mb1mx3.1/66,mbtmp3.8/5,Error ellipse: s-maj=89.5km s-min=17.2km az=58.0, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**20.98**	**187**	P	P	03 23 23.2	-0.1
	1.2nm,0.5s,baz=21,slow=7.0,SNR=3.6						
WRA	**Warramunga Arr**	**23.37**	**166**	P	P	03 23 45.6	0.0
	1.6nm,0.4s,baz=344,slow=10.0,SNR=32						
ASAR	**Alice Springs**	**26.87**	**169**	P	P	03 24 17.1	-0.1
	0.6nm,0.4s,baz=354,slow=7.3,SNR=9.8						
ASAR				PcP	PcP	03 27 33.4	+0.1
	0.3nm,0.4s,baz=335,slow=2.4,SNR=4.5						
CMAR	**Chiang Mai Arr**	**32.77**	**300**	P	P	03 25 09.9	+0.8
	0.6nm,0.3s,baz=119,slow=7.3,SNR=5.3						
MKAR	**Makanchi Array**	**59.25**	**325**	P	P	03 28 34.0	-0.7
	0.7nm,0.5s,baz=132,slow=6.0,SNR=7.0						

NSSC ***22*** *03:22:17.4±2.3,41°.00N×38°.83E,h0km±80km,MD2.8, ML4.4*
ISN ***22*** *03:22:21.9±0.8,39°.58N×38°.69E,h5km±37km,ML5.6*
DDA ***22*** *03:22:33.9,39°.66N×38°.68E,h7km,Ml5.4*
ISCJB ***22*** *03:22:34.9±0.3,39°.72N±0°.01×38°.73E±0°.01,h4km±1km, mb5.5/427,MS5.3/403,Error ellipse: s-maj=1.8km s-min=1.3km az=10.4*
BJI ***22*** *03:22:35.2,39°.70N×38°.70E,h5km,mb5.3/73,mB5.4/54, Ms5.7/80,Ms7 5.4/68*
DSN ***22*** *03:22:35.2±0.7,39°.62N×38°.47E,h4km,mb6.0/5,Ms5.3/5, Error ellipse: s-maj=12.6km s-min=7.3km az=71.0*
IDC ***22*** *03:22:35.5±0.3,39°.72N×38°.70E,h0km,mb5.0/56, mb1 5.0/70,mb1mx5.0/88,mbtmp5.0/70,ML4.2/11, MS5.1/43,Ms1 5.1/43,ms1mx5.1/49,Error ellipse: s-maj=6.5km s-min=5.6km az=157.0*
NEIC ***22*** *03:22:36.1±0.0,39°.79N×38°.84E,h5km,mb5.6/272, MS5.4/300,MW5.5,MW5.5,ML5.6(ISK),Moment Tensor Solution. s17 Moment tensor: Scale 10^17Nm; Mrr0.31; Mθθ-1.67; Mφφ 1.35; Mrθ-0.82; Mrφ0.89; Mθφ0.13; Best double couple: M0 2.00000×10^17 NP1:φs152.00000°, δ74.00000°,λ-170.00000°. NP2:φs59.00000°,δ81.00000°, λ-17.00000°. Principal axes: T 1.6100, Plg5.0000°, Azm106.0000°; N 0.5800, Plg71.0000°, Azm210.0000°; P -2.1900, Plg18.000°, Azm15.0000°; Moment Tensor Solution. s21 Moment tensor: Scale 10^17 Nm; Mrr0.17; Mθθ-1.49; Mφφ 1.32; Mrθ0.12; Mφθ0.42; Mrr-1.30; Best double couple: M0 2.00000×10^17 NP1:φs141.00000°, δ78.00000°,λ146.00000°. NP2:φs239.00000°,δ57.00000°, λ15.00000°. Principal axes: T 2.1900, Plg32.0000°, Azm95.0000°; N -0.5600, Plg54.0000°, Azm304.0000°; P -1.6300, Plg14.0000°, Azm194.0000°; After ISK.*
NEIC Felt [V] at Sivas; [IV] at Erzincan, Malatya and Trabzon; [III] at Elazig. Also felt at Duzkoy, Erzurum, Gemerek, Gurun, Ilic, Kayseri, Kemah, Kemaliye, Ladik, Ordu, Palu, Refahiye, Sebinkarahisar and Tonya.
CSEM ***22*** *03:22:36.8±0.1,39°.74N×38°.72E,h5km,mb5.6/99,Ms5.4, Mw5.5 Error ellipse: s-maj=2.4km s-min=1.8km az=9.0*
GCMT ***22*** *03:22:36.1±0.1,39°.68N×38°.60E,h16km,MW5.6/129, Moment Tensor Solution. s88,c135; s129,c317; Duration: 1s5 Moment tensor: Scale 10^17Nm; Mrr-0.10±.03; Mθθ-2.24±.03; Mφφ2.34±.03; Mrθ0.49±.09; Mθφ1.30±.03; Mφr-0.42±.09; Best double couple: M0 2.71100×10^17 NP1:φs330.00000°,δ85.00000°, λ-167.00000°. NP2:φs239.00000°,δ77.00000°, λ-5.00000°. Principal axes: T 2.7110, Plg6.0000°, Azm104.0000°; N 0.0020, Plg76.0000°, Azm350.0000°; P -2.7110, Plg12.0000°, Azm195.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*
ISK ***22*** *03:22:36.0,39°.79N×38°.85E,h5km,ML5.6*
MOS ***22*** *03:22:37.1±1.3,39°.91N×38°.67E,h14km,mb5.7/106, MS5.2/100,Error ellipse: s-maj=3.5km s-min=2.4km az=127.2*
SFS ***22*** *03:22:38.0,39°.70N×38°.50E,h0km,ML5.7*
ISC 22 03:22:37.0±0.4,39°.67N±0°.01×38°.67E±0°.01,h7km±2km, h7km:pP-P,n2554,σ1s93/2651,mb5.5/434,MS5.4/406, 132C-75D,Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KEMA	**Kemaliye**	**0.42**	**199**	⇓*i*P	**Pg**	**03 22 42.4**	**-2.8**
KEMA				*i* S	**Sg**	**03 22 49.3**	**-1.4**
KEMA	**Kemaliye**	**0.42**	**199**	P	**Pg**	**03 22 42.4**	**-2.8**
KEMA				S	**Sg**	**03 22 49.3**	**-1.4**
EZC	**Erzincan**	**0.53**	**80**	P	**Pn**	**03 22 51.1**	**0.0**
EZC	**Erzincan**	**0.53**	**80**	*i* Pg	**Pn**	**03 22 50.6**	**-0.5**
EZC	**Erzincan**	**0.53**	**80**	P	**Pn**	**03 22 51.1**	**0.0**
SUSE	**Susehri**	**0.65**	**326**	⇓*i*P	**Pg**	**03 22 47.5**	**-2.1**
SUSE				*i* S	**Sb**	**03 23 01.1**	**+1.0**
SUSE	**Susehri**	**0.65**	**326**	P	**Pg**	**03 22 47.5**	**-2.1**
SUSE				S	**Sb**	**03 23 01.1**	**+1.0**
KELT	**Kelkit**	**0.66**	**43**	⇓*i*P	**Pg**	**03 22 46.9**	**-2.8**
KELT				*i* S	**Sg**	**03 22 56.4**	**-2.0**
KELT	**Kelkit**	**0.66**	**43**	P	**Pg**	**03 22 46.9**	**-2.8**
KELT				S	**Sg**	**03 22 56.4**	**-2.0**
CUZAR	**Zara_SIVAS**	**0.73**	**288**	⇑*i*P	**Pg**	**03 22 48.4**	**-2.6**
CUZAR				*i* S	**Sn**	**03 23 07.1**	**+1.8**
CUZAR	**Zara_SIVAS**	**0.73**	**288**	P	**Pg**	**03 22 48.4**	**-2.6**
CUZAR				S	**Sn**	**03 23 07.1**	**+1.8**
EUZM	**Uzumlu**	**0.79**	**87**	⇑*i*P	**Pg**	**03 22 49.7**	**-2.5**
EUZM				*i* S	**Sb**	**03 23 05.3**	**+1.2**
EUZM	**Uzumlu**	**0.79**	**87**	P	**Pg**	**03 22 49.7**	**-2.5**
EUZM				S	**Sb**	**03 23 05.3**	**+1.2**
ERZN	**Erzincan**	**0.81**	**95**	PG	**Pg**	**03 22 50.6**	**-2.1**
TNCL	**Tunceli-Merkez**	**0.87**	**129**	⇑*i*P	**Pg**	**03 22 50.2**	**-3.5**
TNCL				*i* S	**Sn**	**03 23 08.0**	**-0.7**
TNCL	**Tunceli-Merkez**	**0.87**	**129**	P	**Pg**	**03 22 50.2**	**-3.5**
TNCL				S	**Sn**	**03 23 08.0**	**-0.7**
PTK	**Pertek**	**0.95**	**144**	PG	**Pg**	**03 22 55.5**	**+0.2**
PTK				*e*SG	**Sn**	**03 23 10.7**	**-0.2**
PTK	**Pertek**	**0.95**	**144**	*i* Pg	**Pg**	**03 22 55.5**	**+0.2**
PTK				*e*Sg	**Sn**	**03 23 10.7**	**-0.2**
CUKAN	**kangal_SIVAS**	**1.00**	**250**	⇑*i*P	**Pg**	**03 22 52.4**	**-3.7**
CUKAN				*i* S	**Sn**	**03 23 12.5**	**+0.6**
CUKAN	**kangal_SIVAS**	**1.00**	**250**	P	**Pg**	**03 22 52.4**	**-3.7**
CUKAN				S	**Sn**	**03 23 12.5**	**+0.6**
GUMT	**Gumushane**	**1.01**	**38**	PG	**Pg**	**03 22 53.2**	**-3.1**
GUMT	**Gumushane**	**1.01**	**38**	*i* Pg	**Pg**	**03 22 53.2**	**-3.1**
ELZG	**Elazig**	**1.19**	**168**	⇑*i*P	**Pg**	**03 22 56.2**	**-3.7**
ELZG				*i* S	**Sg**	**03 23 13.3**	**-1.9**
ELZG	**Elazig**	**1.19**	**168**	P	**Pg**	**03 22 56.2**	**-3.7**
ELZG				S	**Sg**	**03 23 13.4**	**-1.9**
SCER	**sogukcermik**	**1.21**	**280**	⇑*i*P	**Pg**	**03 22 56.7**	**-3.4**
SCER				*i* S	**Sn**	**03 23 17.1**	**0.0**
SCER	**sogukcermik**	**1.21**	**280**	P	**Pg**	**03 22 56.7**	**-3.4**
SCER				S	**Sn**	**03 23 17.1**	**0.0**
ESPY	**Espiye-Giresun**	**1.25**	**2**	PN	**Pb**	**03 22 58.1**	**-2.8**
ESPY	**Espiye-Giresun**	**1.25**	**2**	*i* Pn	**Pb**	**03 22 58.1**	**-2.8**
RSDY	**Resadiye-TOKAT**	**1.27**	**306**	*e*PN	**Pg**	**03 23 02.3**	**+1.0**
RSDY	**Resadiye-TOKAT**	**1.27**	**306**	*e*Pn	**Pg**	**03 23 02.3**	**+1.0**
GRSN	**GIRESUNGRSN**	**1.29**	**346**	⇑*i*P	**Pn**	**03 22 58.2**	**-3.3**
GRSN	**GIRESUNGRSN**	**1.29**	**346**	P	**Pn**	**03 22 58.2**	**-3.3**
SVSK	**Karacayir**	**1.31**	**282**	*e*PN	**Pg**	**03 23 04.0**	**+1.8**
SVSK	**Karacayir**	**1.31**	**282**	*e*Pn	**Pg**	**03 23 04.0**	**+1.8**
SVRC	**Sivrice-ELAZID**	**1.38**	**159**	*e*PN	**Pg**	**03 23 03.9**	**+0.5**
SVRC	**Sivrice-ELAZID**	**1.38**	**159**	*e*Pn	**Pg**	**03 23 03.9**	**+0.5**
DARE	**Darende-Malaty**	**1.43**	**221**	*e*PN	**Pg**	**03 23 06.6**	**+2.2**
DARE	**Darende-Malaty**	**1.43**	**221**	*e*Pn	**Pg**	**03 23 06.6**	**+2.2**
CUGUR	**Gurin_S¨VAS**	**1.44**	**230**	⇓*i*P	**Pn**	**03 23 01.0**	**-2.6**
CUGUR				*i* S	**Sb**	**03 23 22.1**	**-0.6**
CUGUR	**Gurin_S¨VAS**	**1.44**	**230**	P	**Pn**	**03 23 01.0**	**-2.6**
CUGUR				S	**Sb**	**03 23 22.1**	**-0.6**
KOPT	**Kop Dagi**	**1.45**	**75**	⇑*i*P	**Pn**	**03 23 01.6**	**-2.2**
KOPT				*i* S	**Sg**	**03 23 26.7**	**+3.1**
KOPT	**Kop Dagi**	**1.45**	**75**	P	**Pn**	**03 23 01.6**	**-2.2**
KOPT	**Kop Dagi**	**1.45**	**75**	*e*Pn	**Pn**	**03 23 02.0**	**-1.9**
KOPT				*e*Sn	**Sb**	**03 23 21.8**	**-1.4**
KOPT				S	**Sg**	**03 23 26.7**	**+3.1**
KOPT	**Kop Dagi**	**1.45**	**75

DIY	Diyarbakir	2.14	145	ePn	Pn	03 23 13.6	+0.4	SLMH			AML AML 03 24 43.2
SARI	SarD1z-Kayseri	2.16	235	ePN	Pb	03 23 16.9	+0.4		comp=Z,2µm,0.6s		
ATAB	Bozova	2.21	188⇑	iP	Pn	03 23 13.9	-0.2	CEYT	Ceyhan	3.51	222 ePN Pb 03 23 36.8 -2.6
ATAB				i S	Sg	03 23 53.3	+5.2	CEYT	Ceyhan	3.51	222 ePn Pb 03 23 36.8 -2.6
ATAB	Bozova	2.21	188	P	Pn	03 23 13.9	-0.2	SNOP	Sinop	3.53	313 ePN Pn 03 23 34.5 +2.4
ATAB				S	Sg	03 23 53.3	+5.2	SNOP	Sinop	3.53	313 ePn Pn 03 23 34.5 +2.4
VRTB	Varto-Mus	2.21	102	ePN	Pn	03 23 14.6	+0.3	NIG	Nigde	3.53	245 ePN Pb 03 23 36.8 -3.1
VRTB	Varto-Mus	2.21	102⇑	iP	Pn	03 23 13.8	-0.5	NIG	Nigde	3.53	245 ePn Pb 03 23 36.8 -3.1
VRTB				i S	Sg	03 23 53.7	+5.6	SIRN	S¯¯rnak	3.65	125⇑ iP Pn 03 23 31.9 -1.9
VRTB	Varto-Mus	2.21	102	P	Pn	03 23 13.8	-0.5	SIRN			i S Sg 03 24 34.4 +0.4
VRTB	Varto-Mus	2.21	102	ePn	Pn	03 23 14.6	+0.3	SIRN	S¯¯rnak	3.65	125 P Pn 03 23 32.0 -1.9
VRTB				S	Sg	03 23 53.7	+5.6	SIRN			S Sg 03 24 34.4 +0.4
URFA	Urfa	2.22	177	ePN	Pb	03 23 17.4	-0.2	GEVA	Gevas	3.67	110⇑ iP Pn 03 23 33.9 -0.5
URFA	Urfa	2.22	177	ePn	Pb	03 23 17.4	-0.2	GEVA			i S Sg 03 24 34.7 -0.3
BNN	Bunyan	2.34	251	ePN	Pb	03 23 19.2	-0.3	GEVA	Gevas	3.67	110 P Pn 03 23 33.9 -0.5
BNN	Bunyan	2.34	251	ePn	Pb	03 23 19.2	-0.3	GEVA			S Sg 03 24 34.7 -0.3
KVT	Kavak	2.45	306	ePN	Pb	03 23 19.7	-1.8	DIGO	Kars	3.69	77⇑ iP Pn 03 23 33.7 -0.9
KVT	Kavak	2.45	306	P	Pb	03 23 19.6	-1.8	DIGO			i S Sg 03 24 41.0 +5.6
KVT	Kavak	2.45	306	P	Pb	03 23 19.6	-1.8	DIGO	Kars	3.69	77 P Pn 03 23 33.7 -0.9
GZT	Gaziantep	2.46	201	i P	Pn	03 23 17.0	-0.7	DIGO			S Sg 03 24 41.0 +5.6
SVAN	Silvan-Diyarba	2.48	127	ePN	Pn	03 23 18.7	+0.8	GULA	Gulagac	3.70	251 ePN Pb 03 23 39.2 -3.5
SVAN	Silvan-Diyarba	2.48	127⇑	iP	Pn	03 23 16.5	-1.4	GULA	Gulagac	3.70	251 ePn Pb 03 23 39.2 -3.5
SVAN				i S	Sb	03 23 54.8	+2.1	YURE	YUREGIR	3.71	221 ePN Pb 03 23 39.6 -3.2
SVAN	Silvan-Diyarba	2.48	127	P	Pn	03 23 16.5	-1.4	YURE	YUREGIR	3.71	221 ePn Pb 03 23 39.6 -3.2
SVAN	Silvan-Diyarba	2.48	127	ePn	Pn	03 23 18.7	+0.8	MNKR	ALMNKUR	3.75	173 AML AML 03 23 49.1
SVAN				S	Sb	03 23 54.8	+2.1		comp=Z,2µm,0.6s		
HOMI	Horasan	2.52	80⇑	iP	Pn	03 23 17.5	-1.0	TOS	Tosya	3.81	293 ePN Pn 03 23 38.2 +2.1
HOMI				i S	Sg	03 24 08.7	+11	TOS	Tosya	3.81	293 ePn Pn 03 23 38.2 +2.1
SAMS	Samsun-Alacam	2.54	313⇓	iP	Pn	03 23 17.4	-1.2	VANB	Van	3.82	105 ePN Pn 03 23 37.3 +1.0
SAMS				i S	Sg	03 24 00.8	+2.2	VANB	Van	3.82	105 ePn Pn 03 23 37.3 +1.0
SAMS	Samsun-Alacam	2.54	313	P	Pn	03 23 17.4	-1.2	TAHT	Tahtakopru-Hat	3.83	212 ePN Pb 03 23 41.0 -3.8
SAMS				S	Sg	03 24 00.8	+2.2	TAHT	Tahtakopru-Hat	3.83	212 ePn Pb 03 23 41.0 -3.8
KMRS	Kahramanmaras	2.56	213	ePN	Pb	03 23 22.9	-0.4	BR101	Keskin Array S	3.88	272 ePn Pn 03 23 36.5 -0.7
KMRS	Kahramanmaras	2.56	213	ePn	Pb	03 23 22.9	-0.4	BR101			eLg Lg 03 24 39.7
YOZ	Yozgat	2.59	271	ePN	Pb	03 23 22.0	-1.8	BR101	Keskin Array S	3.88	272 ePn Pn 03 23 36.5 -0.7
YOZ	Yozgat	2.59	271	ePn	Pb	03 23 22.0	-1.8	BR101			eLg Lg 03 24 39.6
MAZI	Mazidag	2.60	147	ePN	Pn	03 23 21.1	+1.5	BR101			e 03 25 36.2
MAZI	Mazidag	2.60	147	ePn	Pn	03 23 21.1	+1.5	BR131	Keskin Array S	3.88	272 ePn Pn 03 23 36.3 -0.9
DDEM	Demirkent	2.66	62⇓	iP	Pn	03 23 19.5	-0.8	BR131			eSn Sn 03 24 20.4 -2.7
DDEM				i S	Sg	03 24 05.7	+3.4	BR131	Keskin Array S	3.88	272 ePn Pn 03 23 36.3 -0.9
DDEM	Demirkent	2.66	62	P	Pn	03 23 19.5	-0.8	BR131			eSn Sn 03 24 20.4 -2.7
DDEM				S	Sg	03 24 05.7	+3.4	BRTR	Keskin Array B	3.88	272 Pn Pn 03 23 36.5 -0.8
EKAR	Karacoban	2.66	98⇑	iP	Pn	03 23 20.6	+0.2		comp=Z,42nm,0.3s,baz=101,slow=13,SNR=605		
EKAR				i S	Sg	03 24 06.0	+3.6	BRTR			Lg Lg 03 24 39.6
EKAR	Karacoban	2.66	98	P	Pn	03 23 20.6	+0.2		comp=Z,41nm,0.3s,baz=96,slow=22,SNR=3.7		
EKAR				S	Sg	03 24 06.0	+3.6	BRTR			LR LR 03 25 36.2
HAVZ	Havza	2.66	303⇓	iP	Pn	03 23 19.4	-0.9		comp=Z,23µm,21.6s,baz=79,slow=46		
HAVZ				i S	Sg	03 24 06.2	+3.8	AKSY	AKSARAY - Alti	3.95	257⇑ iP Pn 03 23 37.3 -0.8
HAVZ	Havza	2.66	303	P	Pn	03 23 19.4	-0.9	AKSY			i S Sg 03 24 42.4 -1.5
HAVZ				S	Sg	03 24 06.2	+3.8	AKSY	AKSARAY - Alti	3.95	257 P Pn 03 23 37.3 -0.8
BTMN	Batman	2.69	130⇑	iP	Pn	03 23 19.1	-1.8	AKSY			S Sg 03 24 42.4 -1.5
BTMN				i S	Sg	03 24 07.9	+4.4	CANT	Cankiri	3.98	285 ePN Pn 03 23 42.4 +3.9
BTMN	Batman	2.69	130	P	Pn	03 23 19.0	-1.8	SOC	Sochi	3.99	11 d iP Pn 03 23 36.9 -1.6
BTMN				S	Sg	03 24 07.9	+4.4	SOC			eSN Sn 03 24 24.3 -1.3
HCB	Kahramanmara¯	2.70	211⇓	iP	Pn	03 23 19.6	-1.2	SOC	Sochi	3.99	11 i P Pn 03 23 36.9 -1.6
HCB				i S	Sg	03 24 02.3	-1.4	BTCH	Batrach	4.02	206 eP Pn 03 23 38.5 -0.6
GAZ	Gaziantep	2.74	205	ePN	Pb	03 23 25.2	-1.1	BTCH			eS Sb 03 24 36.2 -0.9
GAZ	Gaziantep	2.74	205	ePn	Pb	03 23 25.2	-1.1	BTCH			AML AML 03 24 52.2
ANDN	Andirin	2.77	222⇓	iP	Pn	03 23 20.4	-1.4		comp=E,1µm,0.6s		
ANDN				i S	Sg	03 24 10.4	+4.5	BTCH			AML AML 03 25 02.7
ANDN	Andirin	2.77	222	P	Pn	03 23 20.4	-1.4		comp=N,2µm,0.7s		
ANDN				S	Sg	03 24 10.4	+4.5	BTCH	Batrach	4.02	206 eP Pn 03 23 38.5 -0.6
SURC	SANLIURFA_SURC	2.78	181⇑	iP	Pn	03 23 21.1	-0.9		SNR=45		
SURC				i S	Sg	03 24 08.2	+1.9	BTCH			eS Sb 03 24 36.2 -0.9
SURC	SANLIURFA_SURC	2.78	181	P	Pn	03 23 21.1	-0.9		comp=N,2µm,0.7s,SNR=40		
SURC				S	Sg	03 24 08.2	+1.9	SERE	Serefiikochisa	4.03	261 ePN Pn 03 23 43.3 +4.2
DBOC	Borcka	2.83	53⇓	iP	Pn	03 23 21.9	-0.8	SERE	Serefiikochisa	4.03	261 ePn Pn 03 23 43.3 +4.2
DBOC				i S	Sg	03 24 06.5	-1.4	ILGA	Ilgaz	4.03	292 ePN Pn 03 23 39.9 +0.6
DBOC	Borcka	2.83	53	P	Pn	03 23 21.9	-0.8	ILGA			eSn Sn 03 24 27.2 +0.3
DBOC				S	Sg	03 24 06.6	-1.4	ILGA	Ilgaz	4.03	292 ePn Pn 03 23 39.9 +0.6
DAGI	Agillar	2.85	59⇓	iP	Pn	03 23 22.4	-0.6	ILGA			eSn Sn 03 24 27.2 +0.3
DAGI				i S	Sg	03 24 06.7	-1.9	KRTS	Karatas	4.04	221 ePN Pn 03 23 43.8 +4.7
MARD	Mardin	2.87	144⇑	iP	Pn	03 23 21.6	-1.7	KRTS	Karatas	4.04	221 ePn Pn 03 23 43.8 +4.7
MARD				i S	Sn	03 23 52.2	-5.9	AKH	Akhalkalaki	4.07	63 ePN Pn 03 23 39.3 -0.4
MARD	Mardin	2.87	144	ePn	Pn	03 23 21.8	-1.5	AKH	Akhalkalaki	4.07	63 P Pb 03 23 48.5 -0.5
MARD				eSn	Sn	03 23 50.8	-7.4	AKH	Akhalkalaki	4.07	63 P Pn 03 23 41.3 +1.6
MARD	Mardin	2.87	144	ePn	Pn	03 23 21.8	-1.5	AKH	Akhalkalaki	4.07	63 ePn Pn 03 23 39.3 -0.4
MARD				eSn	Sn	03 23 50.8	-7.4	AKH	Akhalkalaki	4.07	63 P Pn 03 23 41.3 +1.6
COAL	Corum-Alaca	2.89	283⇑	iP	Pn	03 23 23.1	-0.5	DED	Mersin	4.07	230 i P Pn 03 23 38.6 -1.1
COAL				i S	Sb	03 24 06.9	+2.3	DED			i S Sg 03 24 45.1 -2.6
COAL	Corum-Alaca	2.89	283	P	Pn	03 23 23.1	-0.5	BGD	Bogdanovka	4.08	65 P Pb 03 23 51.1 +1.8
COAL				S	Sb	03 24 06.9	+2.3	CLDR	Caldiran	4.10	96 ePN Pn 03 23 40.3 +0.1
ARTV	Artvin	2.91	58⇓	iP	Pn	03 23 23.4	-0.6	CLDR	Caldiran	4.10	96 ePn Pn 03 23 40.3 +0.1
ARTV				i S	Sb	03 24 06.5	+1.3	YAYL	Yayladag	4.16	210 ePN Pn 03 23 44.7 +3.8
ARTV	Artvin	2.91	58	P	Pn	03 23 23.9	0.0	YAYL	Yayladag	4.16	210 i P Pn 03 23 36.6 -4.3
ARTV	Artvin	2.91	58	ePn	Pn	03 23 23.9	0.0	YAYL			i S Sg 03 24 49.5 -0.9
ARTV				eSn	Sn	03 23 59.2	-0.1	YAYL	Yayladag	4.16	210 P Pn 03 23 36.6 -4.3
ARTV				S	Sb	03 24 06.5	+1.3	YAYL	Yayladag	4.16	210 ePn Pn 03 23 44.7 +3.8
ARTV	Artvin	2.91	58	ePn	Pn	03 23 23.9	0.0	YAYL			S Sg 03 24 49.5 -0.9
ARTV				eSn	Sn	03 23 59.1	-0.1	KERG	Konya-Eregli	4.21	239⇑ iP Pn 03 23 41.6 -0.1
KAMA	Osmaniye	2.93	213⇓	iP	Pn	03 23 22.3	-1.8	KERG			i S Sg 03 24 47.8 -4.5
KAMA				i S	Sg	03 24 12.4	+1.2	KERG	Konya-Eregli	4.21	239 P Pn 03 23 41.6 -0.1
KAMA	Osmaniye	2.93	213	P	Pn	03 23 22.3	-1.8	KERG			S Sg 03 24 47.8 -4.5
KAMA				S	Sg	03 24 12.4	+1.2	BZK	Bozkurt	4.22	304 ePN Pn 03 23 44.3 +2.6
SENK	Senkaya-Erzuru	2.96	71	ePN	Pn	03 23 23.9	-0.7	BZK	Bozkurt	4.22	304 ePn Pn 03 23 44.3 +2.6
SENK	Senkaya-Erzuru	2.96	71	ePn	Pn	03 23 23.9	-0.7	SULT	Sultanhani-AKS	4.28	252 ePN Pn 03 23 47.5 +4.9
YAHY	KAYSERI_Yahyal	3.02	240⇑	iP	Pn	03 23 24.3	-1.0	SULT	Sultanhani-AKS	4.28	252 ePn Pn 03 23 47.5 +4.9
YAHY				i S	Sg	03 24 17.4	+3.3	MERS	Mersin	4.30	231 ePN Pb 03 23 48.0 -4.9
YAHY	KAYSERI_Yahyal	3.02	240	P	Pn	03 23 24.3	-1.0	MERS	Mersin	4.30	231 ePn Pb 03 23 48.0 -4.9
YAHY				S	Sg	03 24 17.4	+3.3	AFSR	Af˙ar-Bala (A	4.33	269 ePN Pn 03 23 47.5 +4.1
TATV	Tatvan	3.03	111⇑	iP	Pn	03 23 18.2	-7.3	AFSR	Af˙ar-Bala (A	4.33	269 ePn Pn 03 23 47.5 +4.1
TATV				i S	Sb	03 24 07.9	-0.6	ARNB	Al Arnab	4.36	210 eP Pn 03 23 42.5 -1.2
TATV	Tatvan	3.03	111	P	Pn	03 23 18.2	-7.3	ARNB			eS Sb 03 24 45.9 -0.8
TATV				S	Sb	03 24 07.9	-0.6	ARNB			AML AML 03 25 00.8
KBSD	Kabsdagh	3.04	150	eP	Pn	03 23 24.9	-0.6		comp=N,782nm,0.7s		
KBSD				eS	Sb	03 24 11.2	+2.5	ARNB			AML AML 03 25 08.5
KBSD				AML	AML	03 24 20.7			comp=E,1µm,0.7s		
	comp=Z,2µm,0.7s							ARNB	Al Arnab	4.36	210 eP Pn 03 23 42.5 -1.2
KBSD	Kabsdagh	3.04	150	eP	Pn	03 23 24.9	-0.6		SNR=45		
	SNR=45							ARNB			eS Sb 03 24 45.9 -0.8
KBSD				eS	Sb	03 24 11.2	+2.5		comp=E,1µm,0.7s,SNR=40		
	comp=Z,2µm,0.7s,SNR=40							KULU	Kulu	4.44	264 ePN Pn 03 23 49.4 +4.6
AVNS	Nevsehir-Avano	3.09	255⇑	iP	Pn	03 23 25.3	-1.0	KULU	Kulu	4.44	264 ePn Pn 03 23 49.4 +4.6
AVNS				i S	Sg	03 24 22.1	+5.8	ANTO	Ankara	4.54	274 eP Pn 03 23 46.0 -0.1
AVNS	Nevsehir-Avano	3.09	255	P	Pn	03 23 25.3	-1.0	ANTO	Ankara	4.54	274 ePN Pn 03 23 46.0 -0.1
AVNS				S	Sg	03 24 22.1	+5.8	ANTO	Ankara	4.54	274 P Pn 03 23 46.9 +0.8
KOZT	Kozan	3.12	227	ePN	Pb	03 23 31.3	-1.5		SNR=271		
KOZT	Kozan	3.12	227	ePn	Pb	03 23 31.3	-1.5	ANTO	Ankara	4.54	274 ePn Pn 03 23 46.0 -0.1
CTAK	Corum_Osmancik	3.13	289⇑	iP	Pn	03 23 26.5	-0.4	ANTO	Ankara	4.54	274 Pn Pn 03 23 46.9 +0.8
CTAK				i S	Sg	03 24 16.8	-0.8		SNR=271		
CTAK	Corum_Osmancik	3.13	289	P	Pn	03 23 26.5	-0.4	ANTO	Ankara	4.54	274 P Pn 03 23 46.9 +0.8
CTAK				S	Sg	03 24 16.8	-0.8		SNR=271		
KUZU	Kuzuini	3.15	204⇓	iP	Pn	03 23 25.6	-1.4	BR231	Keskin MP Arra	4.55	274 ePn Pn 03 23 47.0 +0.7
KUZU				i S	Sg	03 24 15.8	-2.4	BR231			eSn Sn 03 24 36.6 -2.9
KUZU	Kuzuini	3.15	204	P	Pn	03 23 25.6	-1.4	BR231	Keskin MP Arra	4.55	274 ePn Pn 03 23 47.0 +0.7
KUZU				S	Sg	03 24 15.8	-2.4	BR231			eSn Sn 03 24 36.6 -2.9
CORM	Corum	3.15	281	ePN	Pb	03 23 30.4	-3.0	BR231			eSn Sn 03 24 37.1 -2.4
CORM	Corum	3.15	281	ePn	Pb	03 23 30.4	-3.0	LOD	Lodumlu	4.56	275 ePN Pn 03 23 50.8 +4.4
DIKM	Dikmen	3.27	308	ePN	Pn	03 23 30.4	+1.8	LOD	Lodumlu	4.56	275 ePn Pn 03 23 50.8 +4.4
DIKM	Dikmen	3.27	308	ePn	Pn	03 23 30.4	+1.8	CUKT	Cukurca	4.56	120 ePN Pn 03 23 48.4 +1.9
CDAG	Cicekdag	3.32	271⇑	iP	Pn	03 23 28.5	-0.9	CUKT	Cukurca	4.56	120 ePn Pn 03 23 48.4 +1.9
CDAG				i S	Sg	03 24 24.4	+0.8	CHBY	Cihanbeyli	4.62	258 ePN Pn 03 23 52.1 +4.8
CDAG	Cicekdag	3.32	271	P	Pn	03 23 28.5	-0.9	CHBY	Cihanbeyli	4.62	258 ePn Pn 03 23 52.2 +4.8
CDAG				S	Sg	03 24 24.4	+0.8	ONI	Oni	4.64	49 P Pn 03 23 47.6 0.0
AGRB	Hanur-Agry	3.34	90	ePN	Pn	03 23 29.4	-0.3	ONI	Oni	4.64	49 eP Pn 03 23 47.6 0.0
AGRB	Hanur-Agry	3.34	90	ePn	Pn	03 23 29.4	-0.3	ONI	Oni	4.64	49 ePn Pn 03 23 47.6 0.0
AKO	Adana	3.35	230⇑	iP	Pn	03 23 29.0	-0.8	GNI	Garni	4.69	82 Pn Pn 03 23 48.2 -0.1
AKO				i S	Sg	03 24 27.6	+3.0		comp=E,2.6nm,0.3s,baz=302,slow=3.0,SNR=26		
DRWC	Darouich	3.43	208	eP	Pn	03 23 28.9	-2.0	GNI			Lg Lg 03 25 13.7
DRWC				eS	Sb	03 24 22.1	+2.2		baz=270,slow=18,SNR=1.2		
DRWC				AML	AML	03 24 43.1		GNI	Garni	4.69	82 i P Pn 03 23 50.0 +1.6
	comp=N,1µm,0.8s								SNR=23		
DRWC				AML	AML	03 24 43.2		GNI	Garni	4.69	82 eP Pn 03 23 49.7 +1.3
	comp=E,3µm,0.8s							GNI			e 03 24 35.7
DRWC	Darouich	3.43	208	eP	Pn	03 23 28.9	-2.0	GNI	Garni	4.69	82 P Pn 03 23 48.3 -0.1
	SNR=45								SNR=425		
DRWC				eS	Sb	03 24 22.1	+2.2	GNI	Garni	4.69	82 ePn Pn 03 23 49.7 +1.3
	comp=E,3µm,0.8s,SNR=40							GNI			eS Sn 03 24 35.7 -7.4
SFNV	Sufian	3.44	160	eP	Pn	03 23 30.8	-0.2	GNI	Garni	4.69	82 ePn Pn 03 23 49.7 +1.3
SFNV				eS	Sb	03 24 20.8	+0.6	GNI			eSn Sn 03 24 35.7 -7.4
SFNV				AML	AML	03 24 44.0		GNI			eLg Lg 03 25 13.7
	comp=Z,3µm,0.7s							GNI	Garni	4.69	82 Pn Pn 03 23 48.3 -0.1
SFNV	Sufian	3.44	160	eP	Pn	03 23 30.8	-0.2		SNR=425		
	SNR=45							GNI	Garni	4.69	82 P Pn 03 23 48.3 -0.1
SFNV				eS	Sb	03 24 20.8	+0.6		SNR=425		
	comp=Z,3µm,0.7s,SNR=40							NEY	Neytrino	4.70	39 d iP Pn 03 23 48.7 +0.3
BYBT	Boyabat	3.48	302	ePN	Pn	03 23 34.1	+2.6	NEY	Neytrino	4.70	39 i P Pn 03 23 48.7 +0.3
BYBT	Boyabat	3.48	302	ePn	Pn	03 23 34.1	+2.6	KZR	Kazreti	4.70	67 P Pg 03 24 06.1 -0.9
SLMH	Al Salmeh	3.50	190	eP	Pn	03 23 31.8	0.0	KIZK	Mersin	4.78	230 ePN Pn 03 23 54.5 +5.0
SLMH				eS	Sb	03 24 24.3	+2.4	SAFT	Safranbolu	4.83	291 ePN Pn 03 23 54.0 +3.9
								SAFT	Safranbolu	4.83	291 ePn Pn 03 23 54.0 +3.9
								SILI	Silifke-Mersin	4.99	230 ePN Pn 03 23 57.7 +5.5
								SILI	Silifke-Mersin	4.99	230 ePn Pn 03 23 57.7 +5.4
								ZEI	Tsey	5.03	50 eP Pn 03 23 52.0 -1.0
								ZEI			pmax pmax
									comp=Z,887nm,0.8s		
								TBLG	Delisi	5.05	64 ePN Pn 03 23 53.2 +0.1
								TBLG	Delisi	5.05	64 P Pb 03 24 08.0 +2.3
								TBLG	Delisi	5.05	64 ePn Pn 03 23 53.2 +0.1
								KEBE	Keben-Mersin	5.06	232 ePN Pn 03 23 58.2 +4.8
								KEBE	Keben-Mersin	5.06	232 ePn Pn 03 23 58.2 +4.9
								SEAG	Tbilisi Sea	5.11	64 P Pb 03 24 06.0 -0.7
								KBZ	Khabaz	5.15	37 Pn Pn 03 23 54.2 -0.1
									comp=Z,7.1nm,0.3s,baz=214,slow=5.1,SNR=102		
								KBZ			LR LR 03 26 06.1
									comp=Z,45µm,19.5s,baz=221,slow=41		
								DUS	Dusheti	5.17	60 P Pn 03 24 00.3 +5.5
								DUS	Dusheti	5.17	60 eP Pn 03 24 00.3 +5.4
								GUDG	Gudauri	5.20	56 P Pg 03 24 12.6 -4.1
								ANN	Anapa	5.21	350 d iP Pn 03 23 54.9 -0.4
								ANN			eS Sn 03 24 57.2 +1.6
								ANN			pmax pmax
									comp=Z,562nm,1.5s		
								ANN			MLR MLR
									comp=Z,14µm,11.0s		
								ANN	Anapa	5.21	350 i P Pn 03 23 54.9 -0.4
									comp=Z,562nm,1.5s		
								IKL	Isikli	5.22	231 ePN Pn 03 24 00.5 +5.1
								IKL	Isikli	5.22	231 ePn Pn 03 24 00.5 +5.1
								KONT	Konya--Tatoy	5.22	253 ePN Pn 03 24 01.0 +5.5
								KONT	Konya--Tatoy	5.22	253 ePn Pn 03 24 01.0 +5.5
								KIV	Kislovodsk	5.23	34 i P Pn 03 23 55.9 +0.2
									SNR=112		
								KIV	Kislovodsk	5.23	34 eP Pn 03 23 55.9 +0.2
								KIV			eS Sn 03 24 57.7 +1.4
								KIV			pmax pmax
									comp=Z,553nm,1.1s		
								KIV			MLR MLR
									comp=E,6µm,6.0s		
								KIV	Kislovodsk	5.23	34 P Pn 03 23 55.9 +0.2
									SNR=112		
								KIV	Kislovodsk	5.23	34 Pn Pn 03 23 56.2 +0.5
									SNR=167		
								KIV	Kislovodsk	5.23	34 ePn Pn 03 23 56.3 +0.6
								KIV	Kislovodsk	5.23	34 Pn Pn 03 23 56.2 +0.5
									SNR=167		
								KIV	Kislovodsk	5.23	34 P Pn 03 23 56.2 +0.5
									SNR=167		
								KVAR	Kislovodsk Arr	5.24	34 Pn Pn 03 23 55.4 -0.3
									baz=224,slow=6.6,SNR=50		
								KVAR			LR LR 03 26 08.8
									comp=Z,41µm,20.4s,baz=202,slow=41		
								TEVE	Tevekalti-Mers	5.24	234 ePN Pn 03 24 01.4 +5.7
								TEVE	Tevekalti-Mers	5.24	234 ePn Pn 03 24 01.4 +5.7
								NCK	Nalchik	5.32	42 deP Pn 03 23 57.9 +1.1
								NCK	Nalchik	5.32	42 eP Pn 03 23 57.9 +1.1
								KIZT	Kizilcal	5.33	264 ePN Pn 03 24 01.9 +4.9
								KIZT	Kizilcal	5.33	264 ePn Pn 03 24 01.9 +4.9
								DGRG	David-gareji	5.41	69 P Pg 03 24 17.6 -2.9
								BERE	Bereket-Mersin	5.43	234 ePN Pn 03 24 04.2 +5.8
								BERE	Bereket-Mersin	5.43	234 ePn Pn 03 24 04.2 +5.7
								SVRH	Sivrihisar-ESK	5.53	270 ePN Pn 03 24 04.2 +4.4
								SVRH	Sivrihisar-ESK	5.53	270 ePn Pn 03 24 04.2 +4.4
								HDMB	Hadim	5.56	243 ePN Pn 03 24 05.6 +5.3
								HDMB	Hadim	5.56	243 ePn Pn 03 24 05.6 +5.3
								ROOS	tl_alroos	5.60	192 eP Pn 03 24 01.3 +0.6
								ROOS			eS Sb 03 25 17.1 -5.3
								ROOS			AML AML 03 25 55.8
									comp=E,802nm,0.7s		
								ROOS			AML AML 03 26 02.2
									comp=N,1µm,0.7s		
								ROOS	tl_alroos	5.60	192 eP Pn 03 24 01.3 +0.6
									SNR=45		
								ROOS			eS Sb 03 25 17.1 -5.3
									comp=N,1µm,0.7s,SNR=40		
								TEKE	Tekeli-Mersin	5.63	233 ePN Pn 03 24 07.0 +6.0
								TEKE	Tekeli-Mersin	5.63	233 ePn Pn 03 24 07.0 +6.0
								FKH	Fakeheh	5.71	199 eP Pn 03 24 01.6 -0.7
								BOZY	Bozyazi-Mersin	5.74	234 ePN Pn 03 24 07.5 +5.0
								BOZY	Bozyazi-Mersin	5.74	234 ePn Pn 03 24 07.5 +5.0
								MDUB	Mudurnu	5.79	280 ePN Pn 03 24 08.4 +5.0
								MDUB	Mudurnu	5.79	280 ePn Pn 03 24 08.4 +5.0
								HWQ	Hawqa	5.80	203 eP Pn 03 24 03.5 -0.1
								KERU	Kerch	5.87	345⇑ iP Pn 03 24 05.0 +0.6
								KERU	Kerch	5.87	345 i P Pn 03 24 05.0 +0.6
								YAL	Yalta	5.87	327⇓ iP Pn 03 24 03.2 -1.2
								YAL			eS Sn 03 25 08.4 -3.5
								YAL	Yalta	5.87	327 i P Pn 03 24 03.2 -1.2
								YAL			eS Sn 03 25 08.4 -3.5
								FEO	Feodosiya	5.88	337⇓ iP Pn 03 24 04.1 -0.3
								FEO			eS Sn 03 25 09.0 -3.0
								FEO	Feodosiya	5.88	337 i P Pn 03 24 04.1 -0.3
								FEO			eS Sn 03 25 09.0 -3.0
								SUDU	Sudak	5.89	334⇓ iP Pn 03 24

SPNC	**Sapanca-Adapaz**	**6.49 282**	*e*PN		Pn		03 24 18.1	+5.3
SPNC	**Sapanca-Adapaz**	**6.49 282**	*e*Pn		Pn		03 24 18.1	+5.3
MNGR	**Mingechevir, A**	**6.53 78**	P		**Pn**		**03 24 12.5**	**-0.9**
MNGR	**Mingechevir, A**	**6.53 78**	P		**Pn**		**03 24 12.5**	**-0.9**
TOTH	**TOTAH**	**6.55 197**	*e*P		**Pn**		**03 24 13.8**	**+0.1**
TOTH			*e*S		Sn		03 25 38.1	+9.4
TOTH				AML	AML		03 26 30.9	
	comp=N,257nm,0.7s							
TOTH				AML	AML		03 26 39.0	
	comp=E,317nm,0.8s							
TOTH	**TOTAH**	**6.55 197**	*e*P		**Pn**		**03 24 13.8**	**+0.1**
	SNR=45							
TOTH			*e*S		Sn		03 25 38.1	+9.5
	comp=E,317nm,0.8s,SNR=40							
RCY	**Rachaya**	**6.57 201**	*e*P		**Pn**		**03 24 15.2**	**+1.1**
ALFC	**Alefka**	**6.60 229**	P		**Pn**		**03 24 12.8**	**-1.7**
BRBR	**Barbar**	**6.62 200**	*e*P		**Pn**		**03 24 15.4**	**+0.6**
BRBR			*e*S		Sn		03 25 40.8	+10
BRBR				AML	AML		03 26 23.5	
	comp=E,258nm,0.7s							
BRBR				AML	AML		03 26 23.8	
	comp=N,297nm,0.7s							
BRBR	**Barbar**	**6.62 200**	*e*P		**Pn**		**03 24 15.4**	**+0.6**
	SNR=45							
BRBR			*e*S		Sn		03 25 40.8	+10
	comp=N,297nm,0.7s,SNR=40							
SEKA	**Sheki**	**6.69 74**	P		**Pn**		**03 24 14.4**	**-1.2**
SEKA	**Sheki**	**6.69 74**	P		**Pn**		**03 24 14.4**	**-1.2**
SZAC	**Souni**	**6.73 225**	P		**Pn**		**03 24 17.0**	**+0.7**
RTB	**Rutbah**	**6.75 168**	*e*Pn		**Pn**		**03 24 14.0**	**-2.5**
	SNR=3.0							
RTB			*e*Sn		**Sn**		**03 25 32.0**	**-1.7**
	SNR=3.0							
AKMC	**Akamas**	**6.85 229**	P		**Pn**		**03 24 20.0**	**+2.1**
ANTB	**Antalya**	**6.88 249**	*e*PN		Pn		03 24 24.2	+5.9
ANTB	**Antalya**	**6.88 249**	*e*Pn		Pn		03 24 24.2	+5.9
ADVT	**Abdulvahap**	**6.90 279**	*e*PN		**Pn**		**03 24 22.8**	**+4.3**
ADVT	**Abdulvahap**	**6.90 279**	*e*Pn		**Pn**		**03 24 22.8**	**+4.3**
PPCY	**Paphos**	**6.94 229**	P		**Pn**		**03 24 20.0**	**+0.9**
HRT	**Hereke**	**6.99 282**	*e*PN		Pn		03 24 24.6	+4.9
HRT	**Hereke**	**6.99 282**	*e*Pn		Pn		03 24 24.6	+4.9
SILT	**Sile**	**7.05 285**	*e*PN		**Pn**		**03 24 25.1**	**+4.6**
SILT	**Sile**	**7.05 285**	*e*Pn		**Pn**		**03 24 25.1**	**+4.6**
KORT	**Korkueli**	**7.06 250**	*e*PN		Pn		03 24 26.0	+5.2
KORT	**Korkueli**	**7.06 250**	*e*Pn		Pn		03 24 26.0	+5.1
SALA	**Sala**	**7.12 193**	*e*P		**Pn**		**03 24 21.4**	**-0.2**
SALA			*e*S		Sn		03 25 53.0	+10
SALA				AML	AML		03 26 28.3	
	comp=N,336nm,0.6s							
SALA	**Sala**	**7.12 193**	*e*P		**Pn**		**03 24 21.4**	**-0.2**
	SNR=45							
SALA			*e*S		Sn		03 25 53.0	+10
	comp=N,336nm,0.6s,SNR=40							
TVSB	**Tavsanli**	**7.12 271**	*e*PN		Pn		03 24 26.5	+4.9
TVSB	**Tavsanli**	**7.12 271**	*e*Pn		Pn		03 24 26.5	+4.9
MMAI	**Mount Meron Ar**	**7.14 203**	Pn		**Pn**		**03 24 22.4**	**+0.5**
	comp=N,5.7nm,0.3s,baz=25,slow=14,SNR=38							
MMAI			Lg		Lg		03 26 26.5	
	comp=N,3.8nm,0.3s,baz=12,slow=30,SNR=2.4							
GEDZ	**Gediz**	**7.20 268**	*e*PN		**Pn**		**03 24 27.4**	**+4.7**
GEDZ	**Gediz**	**7.20 268**	*e*Pn		**Pn**		**03 24 27.4**	**+4.7**
TCHB	**Talchebab**	**7.32 198**	*e*P		**Pn**		**03 24 25.1**	**+0.8**
TCHB			*e*S		Sn		03 25 57.4	+10
TCHB				AML	AML		03 26 24.9	
	comp=N,318nm,0.7s							
TCHB				AML	AML		03 26 49.6	
	comp=E,180nm,0.7s							
TCHB	**Talchebab**	**7.32 198**	*e*P		**Pn**		**03 24 25.1**	**+0.8**
	SNR=45							
TCHB			*e*S		Sn		03 25 57.4	+10
	comp=E,180nm,0.7s,SNR=40							
MAK	**Makhachkala**	**7.42 61**	*c i*P		Pn		03 24 32.3	+6.7
MAK				pmax	pmax			
	comp=Z,8μm,1.4s							
MAK				MLR	MLR			
	comp=Z,236μm,10.0s							
KAVV	**Kandilli-Istan**	**7.47 284**	*e*PN		**Pn**		**03 24 30.7**	**+4.3**
KAVV	**Kandilli-Istan**	**7.47 284**	*e*Pn		**Pn**		**03 24 30.7**	**+4.3**
ISK	**Istanbul-Kandi**	**7.47 284**	*e*PN		**Pn**		**03 24 30.7**	**+4.3**
ISK	**Istanbul-Kandi**	**7.47 284**	P		**Pn**		**03 24 26.3**	**0.0**
ISK	**Istanbul-Kandi**	**7.47 284**	P		**Pn**		**03 24 26.3**	**0.0**
ISK	**Istanbul-Kandi**	**7.47 284**	P		**Pn**		**03 24 26.3**	**0.0**
ISK	**Istanbul-Kandi**	**7.47 284**	*e*Pn		**Pn**		**03 24 30.7**	**+4.3**
ISK	**Istanbul-Kandi**	**7.47 284**	P		**Pn**		**03 24 26.3**	**0.0**
ELL	**Elmali**	**7.49 250**	*e*PN		Pn		03 24 32.1	+5.3
ELL	**Elmali**	**7.49 250**	*e*Pn		Pn		03 24 32.1	+5.4
SIMA	**Simav-Kutahya**	**7.53 269**	*e*PN		Pn		03 24 32.1	+4.8
SIMA	**Simav-Kutahya**	**7.53 269**	*e*Pn		Pn		03 24 32.1	+4.9
MDNY	**Mudanya-Bursa**	**7.55 278**	*e*PN		**Pn**		**03 24 32.1**	**+4.7**
MDNY	**Mudanya-Bursa**	**7.55 278**	*e*Pn		Pn		03 24 32.1	+4.8
SBT5	**Esenkoy-Cinarc**	**7.56 280**	*e*PN		**Pn**		**03 24 32.1**	**+4.6**
SBT5	**Esenkoy-Cinarc**	**7.56 280**	*e*Pn		**Pn**		**03 24 32.1**	**+4.6**
ARMT	**Armutlu**	**7.57 280**	*e*PN		Pn		03 24 32.5	+4.8
ARMT	**Armutlu**	**7.57 280**	*e*Pn		Pn		03 24 32.5	+4.7
ASF	**Jabal al Asfar**	**7.61 191**	Pn		**Pn**		**03 24 28.2**	**-0.2**
	comp=Z,1.2nm,0.3s,baz=331,slow=5.5,SNR=148							
ASF			Lg		Lg		03 26 39.4	
	comp=Z,3.8nm,0.3s,baz=148,slow=19,SNR=2.9							
GLHS	**Glhisar (BURDU**	**7.63 254**	*e*PN		Pn		03 24 33.9	+5.3
GLHS	**Glhisar (BURDU**	**7.63 254**	*e*Pn		Pn		03 24 33.9	+5.3
DENT	**Denizli**	**7.78 259**	*e*PN		**Pn**		**03 24 35.3**	**+4.7**
DENT	**Denizli**	**7.78 259**	*e*Pn		**Pn**		**03 24 35.3**	**+4.7**
SBT2	**Guzelce-Avcila**	**7.86 282**	*e*PN		Pn		03 24 36.7	+5.1
SBT2	**Guzelce-Avcila**	**7.86 282**	*e*Pn		Pn		03 24 36.7	+5.1
BHD	**Baghdad**	**7.86 142**	*e*Pn		**Pn**		**03 24 31.0**	**-0.7**
	SNR=3.0							
BHD			*e*Sn		**Sn**		**03 26 02.0**	**+1.0**
	SNR=3.0							
KULA	**Kula-Manisa**	**7.87 265**	*e*PN		Pn		03 24 37.2	+5.3
KULA	**Kula-Manisa**	**7.87 265**	P		**Pn**		**03 24 32.7**	**+0.8**
KULA	**Kula-Manisa**	**7.87 265**	P		**Pn**		**03 24 32.7**	**+0.8**
KULA	**Kula-Manisa**	**7.87 265**	*e*Pn		Pn		03 24 37.2	+5.3
KULA	**Kula-Manisa**	**7.87 265**	P		**Pn**		**03 24 32.7**	**+0.8**
CTKS	**Kestanelik-??a**	**7.91 285**	*e*PN		Pn		03 24 37.2	+4.8
CTKS	**Kestanelik-??a**	**7.91 285**	*e*Pn		Pn		03 24 37.2	+4.9
AKAS	**Kas**	**7.94 247**	*e*PN		**Pn**		**03 24 37.6**	**+4.7**
AKAS	**Kas**	**7.94 247**	*e*Pn		**Pn**		**03 24 32.8**	**-0.1**
AKAS	**Kas**	**7.94 247**	*e*Pn		**Pn**		**03 24 32.9**	**-0.1**
KCTX	**Karacabey (Bur**	**7.95 278**	*e*PN		Pn		03 24 38.1	+5.2
KCTX	**Karacabey (Bur**	**7.95 278**	*e*Pn		Pn		03 24 38.1	+5.2
MANT	**Manisa**	**7.96 265**	*e*Pn		Pn		03 24 26.4	-6.8
MANT			*e*Sn		Sn		03 25 54.3	-9.2
MANT	**Manisa**	**7.96 265**	*e*Pn		Pn		03 24 26.4	-6.8
MANT			*e*Sn		Sn		03 25 54.3	-9.3
SLVT	**Silivri**	**8.13 284**	*e*PN		**Pn**		**03 24 40.0**	**+4.6**
SLVT	**Silivri**	**8.13 284**	*e*Pn		**Pn**		**03 24 40.0**	**+4.6**
FETY	**Fethiye**	**8.14 251**	*e*PN		Pn		03 24 40.9	+5.4
FETY	**Fethiye**	**8.14 251**	P		**Pn**		**03 24 37.8**	**+2.3**
FETY	**Fethiye**	**8.14 251**	P		**Pn**		**03 24 37.8**	**+2.3**
FETY	**Fethiye**	**8.14 251**	*e*Pn		Pn		03 24 40.9	+5.4
FETY	**Fethiye**	**8.14 251**	P		**Pn**		**03 24 37.8**	**+2.3**
EDC	**Edincik**	**8.32 278**	*e*PN		**Pn**		**03 24 42.7**	**+4.7**
EDC	**Edincik**	**8.32 278**	P		**Pn**		**03 24 42.7**	**+4.7**
EDC	**Edincik**	**8.32 278**	*e*Pn		**Pn**		**03 24 42.7**	**+4.7**
BALB	**Balikesir**	**8.33 273**	*e*PN		**Pn**		**03 24 42.7**	**+4.6**
BALB	**Balikesir**	**8.33 273**	*e*Pn		**Pn**		**03 24 42.7**	**+4.6**
DALY	**Dalyan (Mu¨la**	**8.38 253**	*e*PN		Pn		03 24 44.1	+5.3
DALY	**Dalyan (Mu¨la**	**8.38 253**	*e*Pn		Pn		03 24 44.1	+5.3
AKS	**Akhisar**	**8.46 268**	*e*PN		**Pn**		**03 24 44.6**	**+4.7**
AKS	**Akhisar**	**8.46 268**	*e*Pn		**Pn**		**03 24 44.6**	**+4.7**
MRMT	**Marmara Adasi**	**8.54 280**	*e*PN		**Pn**		**03 24 45.0**	**+4.0**
MRMT	**Marmara Adasi**	**8.54 280**	*e*Pn		**Pn**		**03 24 45.1**	**+4.0**
AYDB	**Zeytinkoy-Aydi**	**8.59 262**	*e*PN		**Pn**		**03 24 46.5**	**+4.6**
AYDB	**Zeytinkoy-Aydi**	**8.59 262**	*e*Pn		**Pn**		**03 24 46.5**	**+4.6**
TIRR	**Tirgusor**	**9.01 305** ⇑	*i*P		**Pn**		**03 24 45.3**	**-2.1**
TIRR	**Tirgusor**	**9.01 305**	*e*P		**Pn**		**03 24 45.8**	**-1.6**
TIRR			*e*				03 26 23.1	
TIRR	**Tirgusor**	**9.01 305**	*e*Pn		**Pn**		**03 24 45.8**	**-1.6**
TIRR			*e*Sn		**Sn**		**03 26 23.1**	**-5.9**
TIRR	**Tirgusor**	**9.01 305**	*e*Pn		**Pn**		**03 24 45.8**	**-1.6**
TIRR			*e*Sn		**Sn**		**03 26 23.1**	**-5.9**
ARG	**Arkhangelos**	**9.01 251**	P		**Pn**		**03 24 49.9**	**+2.4**
ARG	**Arkhangelos**	**9.01 251**	P		**Pn**		**03 24 49.9**	**+2.4**
ARG	**Arkhangelos**	**9.01 251**	P		**Pn**		**03 24 49.9**	**+2.4**
ARG	**Arkhangelos**	**9.01 251**	P		**Pn**		**03 24 49.9**	**+2.4**
DKL	**Dikili**	**9.13 270**	*e*PN		Pn		03 24 54.3	+5.2
DKL	**Dikili**	**9.13 270**	*e*Pn		Pn		03 24 54.3	+5.2
LPK	**Lapseki**	**9.17 278**	*e*PN		**Pn**		**03 24 53.4**	**+3.8**
LPK	**Lapseki**	**9.17 278**	*e*Pn		**Pn**		**03 24 53.4**	**+3.8**
PRD	**Provadia**	**9.17 296**	*e*P		**Pn**		**03 24 49.0**	**-0.6**
BODT	**Bodrum**	**9.29 257**	*e*PN		Pn		03 24 56.2	+4.8
BODT	**Bodrum**	**9.29 257**	*e*Pn		Pn		03 24 56.2	+4.8
TLB	**Topalu**	**9.30 305** ⇓	*i*P		**Pn**		**03 24 49.3**	**-2.1**
TLB	**Topalu**	**9.30 305** ⇓	P		**Pn**		**03 24 49.3**	**-2.1**
EDRB	**Edirne**	**9.31 287**	*e*PN		**Pn**		**03 24 56.2**	**+4.6**
EDRB	**Edirne**	**9.31 287**	*e*Pn		**Pn**		**03 24 56.2**	**+4.6**
ERIK	**Erikli-Kesan**	**9.36 280**	*e*PN		Pn		03 24 57.1	+4.9
ERIK	**Erikli-Kesan**	**9.36 280**	*e*Pn		Pn		03 24 57.1	+4.8
HARR	**Harsova**	**9.42 306** ⇓	*i*P		**Pn**		**03 24 51.8**	**-1.2**
HARR	**Harsova**	**9.42 306** ⇓	P		**Pn**		**03 24 51.8**	**-1.2**
SMG	**Samos**	**9.46 262**	P		**Pn**		**03 24 56.4**	**+2.8**
SMG	**Samos**	**9.46 262**	P		**Pn**		**03 24 56.4**	**+2.8**
SMG	**Samos**	**9.46 262**	P		**Pn**		**03 24 56.4**	**+2.8**
URLA	**Izmir**	**9.49 266**	*e*PN		Pn		03 24 59.0	+4.9
URLA	**Izmir**	**9.49 266**	*e*Pn		Pn		03 24 59.0	+4.9
EZN	**Ezine**	**9.51 275**	*e*PN		**Pn**		**03 24 58.5**	**+4.2**
EZN	**Ezine**	**9.51 275**	P		**Pn**		**03 24 54.6**	**+0.3**
EZN	**Ezine**	**9.51 275**	P		**Pn**		**03 24 54.6**	**+0.3**
EZN	**Ezine**	**9.51 275**	P		**Pn**		**03 24 54.6**	**+0.3**
EZN	**Ezine**	**9.51 275**	*e*Pn		**Pn**		**03 24 58.5**	**+4.2**
EZN	**Ezine**	**9.51 275**	P		**Pn**		**03 24 54.6**	**+0.3**
CFR	**Carcaliu**	**9.54 309** ⇓	*i*P		**Pn**		**03 24 52.7**	**-1.9**
CFR	**Carcaliu**	**9.54 309** ⇓	P		**Pn**		**03 24 52.7**	**-1.9**
NIS1	**Nisyros Isl.**	**9.56 255**	*e*PN		Pn		03 25 00.4	+5.4
NIS1	**Nisyros Isl.**	**9.56 255**	*e*Pn		Pn		03 25 00.4	+5.4
PRK	**Paraskevi**	**9.60 271**	P		**Pn**		**03 24 57.0**	**+1.5**
PRK	**Paraskevi**	**9.60 271**	P		**Pn**		**03 24 57.0**	**+1.5**
PRK	**Paraskevi**	**9.60 271**	P		**Pn**		**03 24 57.0**	**+1.5**
PRK	**Paraskevi**	**9.60 271**	P		**Pn**		**03 24 57.0**	**+1.5**
ALN	**Alexandroupoli**	**9.73 281**	*e*PN		**Pn**		**03 25 01.6**	**+4.3**
ALN	**Alexandroupoli**	**9.73 281**	P		**Pn**		**03 24 59.2**	**+1.9**
ALN	**Alexandroupoli**	**9.73 281**	P		**Pn**		**03 24 59.2**	**+1.9**
ALN	**Alexandroupoli**	**9.73 281**	P		**Pn**		**03 24 59.2**	**+1.9**
ALN	**Alexandroupoli**	**9.73 281**	*e*Pn		**Pn**		**03 25 01.6**	**+4.3**
ALN	**Alexandroupoli**	**9.73 281**	P		**Pn**		**03 24 59.2**	**+1.9**
GADA	**Gvkgeada**	**9.83 277**	*e*PN		**Pn**		**03 25 02.7**	**+4.1**
GADA	**Gvkgeada**	**9.83 277**	P		**Pn**		**03 25 00.3**	**+1.7**
GADA	**Gvkgeada**	**9.83 277**	P		**Pn**		**03 25 00.3**	**+1.7**
GADA	**Gvkgeada**	**9.83 277**	*e*Pn		**Pn**		**03 25 02.7**	**+4.1**
GADA	**Gvkgeada**	**9.83 277**	P		**Pn**		**03 25 00.3**	**+1.7**
CHOS	**Chios island**	**9.90 267**	*e*PN		Pn		03 25 04.7	+5.0
CHOS	**Chios island**	**9.90 267**	P		**Pn**		**03 25 00.9**	**+1.2**
CHOS	**Chios island**	**9.90 267**	P		**Pn**		**03 25 00.9**	**+1.2**
CHOS	**Chios island**	**9.90 267**	*e*Pn		Pn		03 25 04.7	+5.0
CHOS	**Chios island**	**9.90 267**	P		**Pn**		**03 25 00.9**	**+1.2**
KARP	**Karpathos**	**10.01 249**	*e*PN		**Pn**		**03 25 05.4**	**+4.2**
KARP	**Karpathos**	**10.01 249**	*e*Pn		**Pn**		**03 25 02.6**	**+1.3**
KARP	**Karpathos**	**10.01 249**	*e*Pn		**Pn**		**03 25 02.6**	**+1.3**
RDO	**Rodhopi**	**10.13 283**	P		**Pn**		**03 25 03.5**	**+0.8**
RDO	**Rodhopi**	**10.13 283**	P		**Pn**		**03 25 03.5**	**+0.8**
RDO	**Rodhopi**	**10.13 283**	P		**Pn**		**03 25 03.5**	**+0.8**
MILM	**Milestii Mici**	**10.20 318** ⇑	*i*P		**Pn**		**03 24 00.4**	**-3.2**
LEOM	**Leova**	**10.21 315** ⇓	*i*P		**Pn**		**03 25 04.1**	**+0.2**
LEOM	**Leova**	**10.21 315** ⇓	P		**Pn**		**03 25 04.1**	**+0.2**
LEOM	**Leova**	**10.21 315**	P		**Pn**		**03 25 04.1**	**+0.2**
SZH	**Strazhica**	**10.21 295**	*e*P		**Pn**		**03 25 07.9**	**+4.0**
DIM	**Dimitrovgrad**	**10.23 288**	*e*P		**Pn**		**03 25 07.1**	**+2.9**
KIS	**Kishinev**	**10.25 319**	*e*P		**Pn**		**03 25 02.0**	**-2.4**
	comp=Z,600nm,1.5s							
KIS	**Kishinev**	**10.25 319**	*e*PP		**Pn**		**03 25 08.0**	**+3.6**
KIS			*e*S		**Sn**		**03 26 59.0**	**-0.5**
KIS			*e*Lg1				03 27 40.0	
KIS			*e*Lg2				03 28 19.0	
KIS			*e*L		L		03 29 28.0	
	comp=Z,15μm,19.0s							
KIS				LQM			03 30 38.0	
	comp=Z,11μm,20.0s							
KIS				LRM	MLR		03 32 03.0	
	comp=Z,16μm,14.0s							
KIS	**Kishinev**	**10.25 319** ⇑	*e*P		**Pn**		**03 25 02.0**	**-2.4**
KIS			*e*S		**Sn**		**03 26 59.0**	**-0.5**
KIS				pmax	pmax			
	comp=Z,580nm,1.5s							
KIS				pmax	pmax			
	comp=Z,900nm,1.8s							
KIS				MLR	MLR			
	comp=Z,14μm,13.0s							
KIS				MLR	MLR			
	comp=Z,15μm,13.0s							
KIS				MLR	MLR			
	comp=N,16μm,14.0s							
KIS				MLR	MLR			
	comp=E,10μm,15.0s							
KDZ	**Kurdzhali**	**10.27 285**	*e*P		Pn		03 25 10.1	+5.4
PETR	**Petresti**	**10.37 309**	*i*P		**Pn**		**03 25 05.5**	**-0.5**
EIL	**Elat**	**10.43 198**	Pn		**Pn**		**03 25 07.0**	**+0.1**
	comp=E,0.2nm,0.3s,baz=3.8,slow=10,SNR=30							
EIL			Lg		Lg		03 28 05.4	
	comp=E,0.5nm,0.3s,baz=342,slow=20,SNR=2.1							
EIL				LR	LR		03 29 33.9	
	comp=E,35μm,18.7s,baz=9.5,slow=40							
SULR		**10.49 303** ⇑	*i*P		**Pn**		**03 25 09.6**	**+2.0**
ISR	**Istrita**	**10.49 305** ⇓	*i*P		**Pn**		**03 25 07.2**	**-0.5**
ISR	**Istrita**	**10.49 305** ⇓	P		**Pn**		**03 25 07.3**	**-0.5**
ISR	**Istrita**	**10.49 305** ⇓	P		**Pn**		**03 25 07.3**	**-0.5**
ISR	**Istrita**	**10.49 305**	P		**Pn**		**03 25 07.3**	**-0.5**
ODBI	**Odobesti**	**10.49 309** ⇓	*i*P		**Pn**		**03 25 07.9**	**+0.2**
NSR	**Nassriya**	**10.57 143**	*e*Pn		Pn		03 25 14.5	+5.7
	SNR=3.0							
NSR			*e*Sn		**Sn**		**03 27 14.0**	**+6.6**
	SNR=3.0							
PVL	**Pavlikeni**	**10.62 294**	*e*P		**Pn**		**03 25 11.5**	**+2.0**
APE	**Apeiranthos**	**10.64 260** ⇑	*i*P		**Pn**		**03 25 11.5**	**+1.7**
APE	**Apeiranthos**	**10.64 260** ⇑	P		**Pn**		**03 25 11.5**	**+1.7**
APE	**Apeiranthos**	**10.64 260**	P		**Pn**		**03 25 11.5**	**+1.7**
VRI	**Vrincioaia**	**10.74 309** ⇓	*i*P		**Pn**		**03 25 09.8**	**-1.4**
VRI	**Vrincioaia**	**10.74 309** ⇓	P		**Pn**		**03 25 09.8**	**-1.4**
PLOR	**Plostina**	**10.78 309** ⇓	*i*P		**Pn**		**03 25 10.7**	**-1.0**
PLOR	**Plostina**	**10.78 309** ⇓	P		**Pn**		**03 25 10.7**	**-1.0**
PLOR	**Plostina**	**10.78 309**	P		**Pn**		**03 25 10.7**	**-1.0**
RZN	**Rozhen**	**10.79 285**	*e*P		**Pn**		**03 25 15.1**	**+3.1**
PLD	**Plovdiv**	**10.86 287**	P		**Pn**		**03 25 16.8**	**+4.1**
PLD	**Plovdiv**	**10.86 287**	*e*P		**Pn**		**03 25 14.2**	**+1.5**
PLD	**Plovdiv**	**10.86 287**	P		**Pn**		**03 25 16.8**	**+4.1**
SANT	**Santorini**	**10.93 257**	*e*PN		**Pn**		**03 25 17.2**	**+3.4**
SANT	**Santorini**	**10.93 257**	*e*Pn		**Pn**		**03 25 17.2**	**+3.4**
MLR	**Muntele Rosu**	**11.04 306** ⇑	*i*P		**Pn**		**03 25 13.6**	**-1.7**
MLR	**Muntele Rosu**	**11.04 306**	*e*P		**Pn**		**03 25 14.6**	**-0.7**
MLR	**Muntele Rosu**	**11.04 306**	*e*P		**Pn**		**03 25 14.6**	**-0.7**
MLR	**Muntele Rosu**	**11.04 306**	*e*Pn		**Pn**		**03 25 14.6**	**-0.7**
TESR	**Tescani**	**11.13 312** ⇑	*i*P		**Pn**		**03 25 14.6**	**-1.9**
SORM	**Soroca**	**11.27 322** ⇓	*i*P		**Pn**		**03 25 14.6**	**-3.7**
SORM	**Soroca**	**11.27 322** ⇓	P		**Pn**		**03 25 14.6**	**-3.7**
HUMR	**Humele**	**11.27 300** ⇑	*i*P		**Pn**		**03 25 17.4**	**-1.0**
PGB	**Panagyurishte**	**11.32 289**	*e*P		**Pn**		**03 25 22.3**	**+3.2**
NVR	**Nevrokopi**	**11.40 283**	P		**Pn**		**03 25 22.5**	**+2.3**
NVR	**Nevrokopi**	**11.40 283**	P		**Pn**		**03 25 22.5**	**+2.3**
NVR	**Nevrokopi**	**11.40 283**	P		**Pn**		**03 25 22.5**	**+2.3**
MMB	**Musomiste**	**11.52 284**	*e*P		**Pn**		**03 25 24.6**	**+2.7**
VSR	**Storozhevoye**	**11.56 2**	*e*P		**Pn**		**03 25 19.2**	**-3.0**
VSR			*e*S		**Sn**		**03 27 29.7**	**-1.8**
VSR				pmax	pmax			
	comp=Z,50nm,0.6s							
VSR				MLR	MLR			
	comp=Z,11μm,13.0s							
VSR	**Storozhevoye**	**11.56 2**	*e*P		**Pn**		**03 25 19.2**	**-3.0**
	comp=Z,50nm,0.6s							
VOIR		**11.58 304** ⇑	*i*P		**Pn**		**03 25 21.6**	**-1.1**
VOIR		**11.58 304** ⇑	P		**Pn**		**03 25 21.6**	**-1.1**
SRS	**Serrai**	**11.59 282**	P		**Pn**		**03 25 25.5**	**+2.7**
SRS	**Serrai**	**11.59 282**	P		**Pn**		**03 25 25.5**	**+2.7**
SRS	**Serrai**	**11.59 282**	P		**Pn**		**03 25 25.5**	**+2.7**
SRS	**Serrai**	**11.59 282**	P		**Pn**		**03 25 25.5**	**+2.7**
DOPR	**Dopca**	**11.60 307** ⇓	*i*P		**Pn**		**03 25 20.9**	**-2.1**
PTL	**Penteli**	**11.66 267**	P		**Pn**		**03 25 26.8**	**+3.0**
PTL	**Penteli**	**11.66 267**	P		**Pn**		**03 25 26.8**	**+3.0**
PTL	**Penteli**	**11.66 267**	P		**Pn**		**03 25 26.8**	**+3.0**
VLY	**Voula,Athens**	**11.76 266**	P		**Pn**		**03 25 28.0**	**+2.9**
VLY	**Voula,Athens**	**11.76 266**	P		**Pn**		**03 25 28.0**	**+2.9**
VLY	**Voula,Athens**	**11.76 266**	P		**Pn**		**03 25 28.0**	**+2.9**
MPEP	**Malo Peshtene**	**11.79 293**	*e*P		**Pn**		**03 25 28.5**	**+3.1**
IDI	**Anoyia**	**11.79 253**	Pn		**Pn**		**03 25 25.3**	**-0.2**
	comp=Z,0.2nm,0.3s,baz=13,slow=20,SNR=3.2							
IDI				LR	LR		03 30 36.7	
	comp=Z,15μm,18.4s,baz=64,slow=41							
ARR	**Arges**	**11.82 303** ⇑	*i*P		**Pn**		**03 25 25.6**	**-0.3**
PRAR	**RASCA**	**11.86 315** ⇓	*i*P		**Pn**		**03 25 26.2**	**-0.2**
HORT	**Hortiatis**	**11.96 279**	P		**Pn**		**03 25 31.7**	**+3.8**
HORT	**Hortiatis**	**11.96 279**	P		**Pn**		**03 25 31.7**	**+3.8**
HORT	**Hortiatis**	**11.96 279**	P		**Pn**		**03 25 31.7**	**+3.8**
VORR	**Voronezh**	**12.01 2**	*e*P		**Pn**		**03 25 25.0**	**-3.5**
VORR				pmax	pmax			
	comp=Z,500nm,1.4s							
VORR	**Voronezh**	**12.01 2**	*e*P		**Pn**		**03 25 25.0**	**-3.5**
	comp=Z,500nm,1.4s							
VTS	**Vitosha**	**12.02 289**	P		**Pn**		**03 25 31.0**	**+2.2**
VTS	**Vitosha**	**12.02 289** ⇑	*i*P		**Pn**		**03 25 29.0**	**+0.2**
VTS	**Vitosha**	**12.02 289**	*e*P		**Pn**		**03 25 30.7**	**+1.9**
VTS	**Vitosha**	**12.02 289**	*e*P		**Pn**		**03 25 31.2**	**+2.4**
VTS	**Vitosha**	**12.02 289**	*e*P		**Pn**		**03 25 30.7**	**+1.9**
VTS	**Vitosha**	**12.02 289**	*e*Pn		**Pn**		**03 25 30.7**	**+1.9**
KKB	**Krupnik**	**12.03 286**	*e*P		Pn		03 25 32.1	+3.4
VILL	**Villia**	**12.06 268**	P		Pn		03 25 32.5	+3.2
THE	**Thessaloniki**	**12.06 280**	P		**Pn**		**03 25 33.0**	**+3.8**
THE	**Thessaloniki**	**12.06 280**	P		**Pn**		**03 25 33.0**	**+3.8**
THE	**Thessaloniki**	**12.06 280**	P		**Pn**		**03 25 33.0**	**+

PDG	Podgorica	14.91 287	⇓	iP	P	03 26 12.0	-1.8		
PDG	Podgorica	14.91 287	⇑	iP	P	03 26 12.0	-1.8		
TTG	Podgorica	14.91 287		P	P	03 26 11.6	-2.2		
TTG	Podgorica	14.91 287	⇑	iP	P	03 26 12.0	-1.8		
TTG	Podgorica	14.91 287		P	P	03 26 11.6	-2.2		
TTG	Podgorica	14.91 287		P	P	03 26 11.6	-2.2		
DRME	Dracevica, Mon	14.95 286	⇑	iP	P	03 26 12.3	-2.0		
DRME	Dracevica, Mon	14.95 286	⇑	iP	P	03 26 12.4	-1.9		
KWP	Kalwaria Pacla	15.08 317		eP	Pn	03 26 09.6	-0.8		
KWP				eS	Sn	03 28 59.5	+1.9		
KWP				LMZ	LR	03 33 20.6			
	comp=Z,9µm,20.4s								
KWP	Kalwaria Pacla	15.08 317		eP	Pn	03 26 09.6	-0.8		
KWP				eS	Sn	03 28 59.5	+1.9		
KWP				MLR	MLR				
	comp=Z,9µm,20.4s								
NKY	Niksic	15.13 288	⇑	iP	P	03 26 14.7	-1.8		
NKY	Niksic	15.13 288	⇑	iP	P	03 26 14.7	-1.8		
NKME	Niksic	15.16 288	⇑	iP	P	03 26 14.6	-2.1		
NKME	Niksic	15.16 288	⇑	iP	P	03 26 14.7	-2.0		
CEME	Cevo	15.17 287	⇑	iP	P	03 26 14.6	-2.2		
CEME	Cevo	15.17 287	⇑	iP	P	03 26 14.7	-2.1		
BUM	Brajici-Budva	15.17 286	⇑	iP	P	03 26 14.6	-2.2		
BUM	Brajici-Budva	15.17 286	⇑	iP	P	03 26 14.6	-2.2		
UPM	Unac-Piva	15.24 290	⇑	iP	P	03 26 15.3	-2.4		
UPM	Unac-Piva	15.24 290	⇑	iP	P	03 26 15.4	-2.3		
GEYT	Alibeck	15.26 90		Pn	Pn	03 26 11.5	-1.4		
	comp=Z,0.4nm,0.3s,baz=291,slow=9.4,SNR=32								
GEYT				Sn	S	03 29 11.1	-7.9		
	comp=Z,0.4nm,0.3s,baz=284,slow=13,SNR=2.4								
GEYT				LR	LR	03 33 58.2			
	comp=Z,8µm,18.8s,baz=285,slow=45								
BRY	Bratogost	15.47 289		P	P	03 26 19.7	-0.6		
BRY	Bratogost	15.47 289	⇑	iP	P	03 26 18.5	-1.8		
BRY	Bratogost	15.47 289	⇑	iP	P	03 26 18.5	-1.8		
OBN	Obninsk	15.52 355		Pn	Pn	03 26 12.3	-3.8		
	comp=Z,8.9nm,0.3s,baz=170,slow=3.3,SNR=13								
OBN				Sn	Sn	03 29 05.2	-2.9		
	comp=Z,4.9nm,0.3s,baz=180,slow=20,SNR=3.9								
OBN				LR	LR	03 33 42.4			
	comp=Z,11µm,20.9s,baz=174,slow=43								
OBN	Obninsk	15.52 355	*d*	iP	Pn	03 26 11.6	-4.5		
OBN				pmax	pmax				
	comp=Z,29nm,1.3s								
OBN				MLR	MLR				
	comp=Z,13µm,17.0s								
OBN	Obninsk	15.52 355		ePn	Pn	03 26 10.9	-5.2		
OBN				esP	P	03 26 12.8	-7.7		
OBN	Obninsk	15.52 355		ePn	Pn	03 26 10.9	-5.2		
OBN				esP	P	03 26 12.8	-7.8		
OBN				eSn	Sn	03 29 05.2	-2.9		
KECS	Kecovo	15.73 310		eP	Pn	03 26 18.1	-0.8		
KECS	Kecovo	15.73 310		ePN	Pn	03 26 18.1	-0.8		
KECS				e		03 26 25.5			
STHS	Stebnicka Huta	15.76 314		eP	Pn	03 26 20.6	+1.3		
STHS	Stebnicka Huta	15.76 314		eP	Pn	03 26 20.6	+1.3		
STHS	Stebnicka Huta	15.76 314		ePN	Pn	03 26 20.6	+1.3		
STHS				e		03 26 25.3			
PSZ	Piszkesteto	15.84 308	⇓	iP	Pn	03 26 18.7	-1.7		
PSZ	Piszkesteto	15.84 308		eP	Pn	03 26 19.0	-1.4		
PSZ				pmax	pmax				
	comp=Z,750nm,1.7s								
PSZ	Piszkesteto	15.84 308		ePn	Pn	03 26 19.0	-1.4		
	comp=Z,746nm,1.7s								
PSZ	Piszkesteto	15.84 308	⇓	ePn	Pn	03 26 19.1	-1.4		
PSZ	Piszkesteto	15.84 308		ePn	Pn	03 26 19.0	-1.4		
	comp=Z,746nm,1.7s								
STON	Ston	16.09 288		*i* P	Pn	03 26 24.9	+1.4		
MOS	Moscow	16.10 358		eP	Pn	03 26 20.3	-3.2		
MOS				eS	Sn	03 29 14.7	-7.4		
MOS				pmax	pmax				
	comp=Z,667nm,1.7s								
MOS				pmax	pmax				
	comp=N,542nm,1.8s								
MOS				pmax	pmax				
	comp=Z,4µm,3.3s								
MOS				pmax	pmax				
	comp=N,4µm,3.3s								
MOS				MLR	MLR				
	comp=N,8µm,14.0s								
MOS				MLR	MLR				
	comp=Z,11µm,14.0s								
BUD	Budapest	16.21 305	⇓	eP	P	03 26 28.5	+0.2		
BUD	Budapest	16.21 305	⇓	ePn	P	03 26 28.5	+0.2		
NIE	Niedzica	16.29 313		eP	Pn	03 26 25.7	-0.4		
NIE				eS	S	03 29 39.4	-0.5		
NIE				LMZ	LR	03 35 13.5			
	comp=Z,7µm,18.2s								
NIE	Niedzica	16.29 313		eP	Pn	03 26 25.7	-0.4		
NIE				MLR	MLR				
	comp=Z,7µm,18.2s								
MICGM	Minsk	16.53 337	⇑	eP	Pn	03 26 25.0	-4.1		
MICGM				PM		03 26 28.0			
	comp=Z,1.0nm,2.2s								
MICGM				PM		03 26 29.0			
	comp=N,1.1nm,2.2s								
MICGM				PM		03 26 29.0			
	comp=E,0.6nm,2.0s								
MICGM				ePP	PnPn	03 26 40.0	+1.8		
MICGM				ePPP	PPP	03 26 45.0			
MICGM				eS	Sn	03 29 26.0	-6.7		
MICGM				eSS	S	03 29 34.0	-11		
MICGM				eSSS	SSS	03 29 44.0			
MICGM				eLR	LR	03 32 24.0			
MICGM				LRM	MLR	03 35 30.0			
	comp=Z,7.9nm,14.0s								
MICGM				LRM	MLR	03 35 34.0			
	comp=N,5.6nm,12.0s								
MICGM				LRM	MLR	03 35 37.0			
	comp=E,5.4nm,12.0s								
MNK	Minsk	16.53 337	⇑	eP	Pn	03 26 25.0	-4.1		
MNK				eS	Sn	03 29 26.0	-6.7		
MNK				pmax	pmax				
	comp=Z,980nm,2.2s								
MNK				pmax	pmax				
	comp=E,590nm,2.0s								
MNK				pmax	pmax				
	comp=N,1µm,2.2s								
MNK				MLR	MLR				
	comp=Z,10µm,14.0s								
MNK				MLR	MLR				
	comp=N,6µm,12.0s								
MNK				MLR	MLR				
	comp=E,5µm,12.0s								
LANS	Liptovska Anna	16.64 311		eP	Pn	03 26 30.8	+0.2		
LANS	Liptovska Anna	16.64 311		eP	Pn	03 26 30.8	+0.2		
LANS	Liptovska Anna	16.64 311		ePN	Pn	03 26 30.8	+0.2		
LANS				e		03 26 35.3			
CSKK	Cs˙‡kako	16.66 304	⇓	eP	P	03 26 32.9	-0.3		
CSKK	Cs˙‡kako	16.66 304	⇓	ePn	P	03 26 32.9	-0.3		
BLY	Banja Luka	16.70 295		eP	Pn	03 26 32.2	+0.9		
BLY	Banja Luka	16.70 295		eP	Pn	03 26 32.2	+0.9		
VYHS	Vyhne	16.73 308		eP	Pn	03 26 30.7	-1.0		
VYHS	Vyhne	16.73 308		ePn	Pn	03 26 30.7	-1.0		
VYHS	Vyhne	16.73 308		ePN	Pn	03 26 30.7	-1.0		
VYHS				e		03 26 36.7			
VYHS				eS	S	03 29 48.6	-0.2		
OJC	Ojcow	16.98 315		eP	Pn	03 26 32.1	-2.7		
OJC				eS	S	03 29 52.9	-1.0		
OJC				LMZ	LR	03 34 57.7			
	comp=E,12µm,18.3s								
OJC	Ojcow	16.98 315		eP	Pn	03 26 32.1	-2.7		
OJC				MLR	MLR				
	comp=Z,12µm,18.3s								
OJC	Ojcow	16.98 315		ePn	Pn	03 26 32.4	-2.4		
	comp=Z,730nm,1.5s								
OJC	Ojcow	16.98 315		ePn	Pn	03 26 32.4	-2.4		
	comp=Z,730nm,1.5s								
NACGM	Naroch	17.21 336		eP	Pn	03 26 34.0	-3.6		
NACGM				eP	Pn	03 26 34.0	-3.6		
NACGM				PM		03 26 45.0			
	comp=Z,0.7nm,0.9s								
NACGM				ePP	PnPn	03 26 57.0	+10		
NACGM				ePPP	PPP	03 27 16.0			
NACGM				eS	S	03 29 54.0	-4.4		
NACGM				eSS	SnSn	03 30 40.0	+38		
NACGM				eLQ	LQ	03 33 48.0			
NACGM				eLR	LR	03 34 30.0			
NACGM				LRM	MLR	03 35 58.0			
	comp=Z,16nm,14.0s								
AKTO	Aktyubinsk	17.35 45		P	Pn	03 26 36.8	-2.7		
	comp=Z,0.5nm,0.3s,baz=235,slow=12,SNR=39								
AKTO				S	Sn	03 29 47.9	-4.7		
	comp=Z,0.1nm,0.3s,baz=253,slow=19,SNR=1.6								
AKTO				LR	LR	03 34 55.5			
	comp=Z,5µm,18.8s,baz=221,slow=43								
BEHE	Becsehely	17.36 300	⇑	eP	P	03 26 40.7	-0.2		
BEHE	Becsehely	17.36 300	⇑	ePn	P	03 26 40.7	-0.2		
BEL	Belsk	17.37 320		eP	Pn	03 26 38.3	-1.4		
BEL				eS	S	03 30 03.4	+1.5		
BEL				LMZ	LR	03 34 03.2			
	comp=Z,5µm,21.2s								
BEL	Belsk	17.37 320		eP	Pn	03 26 38.3	-1.4		
BEL				MLR	MLR				
	comp=Z,5µm,21.2s								
BEL	Belsk	17.37 320		eP	Pn	03 26 38.3	-1.4		
	comp=Z,5µm,21.2s								
SISC	Sisak	17.40 297		*i* P	Pn	03 26 39.7	-0.4		
SISC	Sisak	17.40 297		*i* P	Pn	03 26 39.6	-0.4		
CUC	Castrocucco	17.56 278		ePn	P	03 26 43.0	-0.3		
	comp=Z,690nm,1.8s								
CUC	Castrocucco	17.56 278		ePn	P	03 26 43.0	-0.3		
	comp=Z,690nm,1.8s								
IDID	Didziasalis	17.57 337		eP	Pn	03 26 39.3	-2.8		
IDID				IAmb	IAmb	03 26 51.1			
	comp=Z,115nm,1.0s								
SMOL	Smolenice	17.59 307		eP	P	03 26 44.5	+0.9		
SMOL	Smolenice	17.59 307		eP	P	03 26 44.5	+0.9		
SMOL	Smolenice	17.59 307		ePN	P	03 26 44.5	+0.9		
SMOL				e		03 26 57.9			
UDBI	Udbina	17.66 293		*i* P	Pn	03 26 42.9	-0.5		
UDBI	Udbina	17.66 293		*i* P	Pn	03 26 42.9	-0.5		
KOGS	Kog	17.70 300		eP	P	03 26 44.5	-0.2		
OKC	Ostrava-Krasne	17.72 312		eP	Pn	03 26 43.9	-0.2		
OKC				ex	x	03 26 52.2			
OKC				ex	x	03 26 59.5			
OKC				eS	S	03 30 06.2	-2.7		
OKC				AMS	AMS	03 36 20.0			
	comp=Z,8µm,13.8s								
OKC	Ostrava-Krasne	17.72 312		eP	Pn	03 26 43.9	-0.2		
OKC				eS	S	03 30 06.2	-2.7		
OKC				MLR	MLR				
	comp=Z,8µm,13.8s								
OKC	Ostrava-Krasne	17.72 312		eP	Pn	03 26 43.9	-0.2		
	comp=Z,8µm,13.8s								
ZAG	Zagreb	17.73 298	⇑	iP	P	03 26 44.9	-0.2		
CEL	Celeste	17.77 273		ePn	P	03 26 46.1	+0.5		
	comp=Z,293nm,1.4s								
CEL	Celeste	17.77 273		ePn	P	03 26 46.1	+0.5		
	comp=Z,293nm,1.4s								
SUW	Suwalki	17.78 329		eP	Pn	03 26 41.7	-3.1		
SUW				eS	Sn	03 29 59.8	-3.1		
SUW				LMZ	LR	03 36 30.9			
	comp=Z,10µm,16.6s								
SUW	Suwalki	17.78 329		eP	Pn	03 26 41.7	-3.1		
SUW				eS	Sn	03 29 59.8	-3.1		
SUW				MLR	MLR				
	comp=Z,10µm,16.6s								
RAC	Raciborz	17.81 313		eP	Pn	03 26 44.7	-0.4		
RAC				MLR	MLR				
	comp=Z,7µm,20.3s								
RAC	Raciborz	17.81 313		eP	Pn	03 26 44.7	-0.4		
	comp=Z,7µm,20.3s								
AB31	Akbulak array	17.90 51		*i* P	Pn	03 26 44.1	-2.2		
AB31				pmax	pmax				
	comp=Z,111nm,1.3s								
AB31	Akbulak array	17.90 51		*i* P	Pn	03 26 44.1	-2.2		
	comp=Z,111nm,1.3s								
ABKAR	Akbulak array	17.90 51		ePn	Pn	03 26 44.1	-2.2		
	comp=Z,719nm,1.4s								
ABKAR	Akbulak array	17.90 51		ePn	Pn	03 26 44.1	-2.2		
	comp=Z,719nm,1.4s								
ISAL	Salakas	17.97 336		eP	Pn	03 26 44.1	-3.0		
ISAL				IAmb	IAmb	03 26 48.3			
	comp=Z,128nm,1.6s								
ISAL	Salakas	17.97 336		eP	Pn	03 26 44.1	-3.0		
	SNR=35								
MORC	Moravsky Berou	18.04 311	⇑	*i* P	Pn	03 26 47.4	-0.7		
MORC	Moravsky Berou	18.04 311	⇑	iP	Pn	03 26 47.4	-0.7		
MORC	Moravsky Berou	18.04 311		ePn	Pn	03 26 47.1	-1.0		
	comp=Z,3µm,1.8s								
MORC	Moravsky Berou	18.04 311		P	Pn	03 26 47.4	-0.7		
MORC	Moravsky Berou	18.04 311		ePn	Pn	03 26 47.1	-1.0		
	comp=Z,3µm,1.8s								
OZLJ	Ozalj	18.05 297		*i* P	Pn	03 26 46.6	-1.5		
IZAR	Zarasai	18.09 337		eP	Pn	03 26 45.0	-3.5		
IZAR				IAmb	IAmb	03 26 49.5			
	comp=Z,78nm,1.2s								
CRES	Cresnjev	18.10 297	⇑	*i* P	P	03 26 49.5	+0.3		
BOJS	Bojanci	18.18 296		*i* P	P	03 26 50.4	+0.3		
NVLJ	Novalja	18.30 293		*i* P	Pn	03 26 49.7	-1.5		
CONA	Conrad Observa	18.37 304		eP	P	03 26 52.6	+0.3		
	comp=Z,24nm,0.9s,SNR=108								
CONA	Conrad Observa	18.37 304		P	P	03 26 52.6	+0.3		
	comp=Z,24nm,0.9s,SNR=108								
ARSA	Arzberg	18.39 302		eP	P	03 26 52.8	+0.4		
	comp=Z,6.0nm,0.9s,SNR=22								
ARSA	Arzberg	18.39 302		P	P	03 26 52.8	+0.4		
	comp=Z,6.0nm,0.9s,SNR=22								
VRAC	Vranov	18.41 309		P	Pn	03 26 50.4	-2.1		
	baz=111,slow=13,SNR=32								
VRAC				S	Sn	03 30 19.8	+1.5		
	comp=Z,0.2nm,0.3s,baz=350,slow=17,SNR=1.5								
VRAC				LR	LR	03 35 51.8			
	comp=Z,11µm,18.3s,baz=110,slow=43								
VRAC	Vranov	18.41 309		ePn	Pn	03 26 50.7	-1.9		
PERS	Pernice	18.50 300		*i* P	Pn	03 26 54.5	+0.7		
VISS	Visnje	18.52 297		*i* P	Pn	03 26 54.7	+0.8		
KRLC	Kraliky	18.61 311		eP	Pn	03 26 55.1	0.0		
KRLC				ex	x	03 27 08.0			
KRLC	Kraliky	18.61 311		eP	Pn	03 26 55.1	0.0		
KRLC	Kraliky	18.61 311		eP	Pn	03 26 55.1	0.0		
LJU	Ljubljana	18.78 298		eP	Pn	03 26 58.5	+1.4		
LJU	Ljubljana	18.78 298	⇑	iP	Pn	03 26 58.2	+1.1		
CEY	Cerknica	18.79 297	⇑	iP	Pn	03 26 58.0	+0.8		
OBKA	Obir	18.86 299		eP	Pn	03 26 58.8	+0.7		
	comp=Z,42nm,1.4s,SNR=23								
OBKA	Obir	18.86 299		P	Pn	03 26 58.8	+0.7		
	comp=Z,42nm,1.4s,SNR=23								
DPC	Dobruska-Polom	19.00 312		eP	P	03 26 58.8	-0.3		
DPC				eS	S	03 30 35.2	+0.2		
DPC				AMS	AMS	03 36 30.0			
	comp=Z,9µm,13.7s								
DPC	Dobruska-Polom	19.00 312		eP	P	03 26 58.8	-0.3		
DPC				MLR	MLR				
	comp=Z,9µm,13.7s								
DPC	Dobruska-Polom	19.00 312		eP	P	03 26 58.8	-0.3		
	comp=Z,9µm,13.7s								
JAVS	Javornik	19.07 297		eP	Pn	03 27 01.1	+0.5		
TREC	Trest	19.07 308		eP	Pn	03 27 01.6	+1.0		
TREC				eS	S	03 30 38.9	+2.5		
TREC				AMS	AMS	03 36 10.0			
	comp=Z,11µm,18.0s								
TREC	Trest	19.07 308		eP	Pn	03 27 01.6	+1.0		
TREC				MLR	MLR				
	comp=Z,11µm,18.0s								
TREC	Trest	19.07 308		eP	Pn	03 27 01.6	+1.0		
	comp=Z,11µm,18.0s								
VAE	Valgiarnera	19.08 271		P	Pn	03 27 02.1	+1.2		
	comp=Z,0.4nm,0.3s,baz=142,slow=2.3,SNR=10								
VAE				S	S	03 30 43.9	+7.1		
	comp=Z,0.4nm,0.3s,baz=197,slow=19,SNR=2.0								
KSP	Ksiaz	19.23 313		eP	P	03 27 00.9	-0.7		
KSP				eS	S	03 30 38.9	-0.7		
KSP				LMZ	LR	03 35 14.1			
	comp=Z,8µm,22.5s								
KSP	Ksiaz	19.23 313		eP	P	03 27 00.9	-0.7		
KSP				eS	S	03 30 38.9	-0.7		
KSP				MLR	MLR				
	comp=Z,8µm,22.5s								
KSP	Ksiaz	19.23 313		eP	P	03 27 00.9	-0.7		
	comp=Z,8µm,22.5s								
AQU	L'Aquila	19.24 286		eP	Pn	03 27 03.4	+0.7		
AQU				pmax	pmax				
	comp=Z,840nm,1.3s								
AQU	L'Aquila	19.24 286		eP	Pn	03 27 03.4	+0.7		
	comp=Z,844nm,1.3s								
AQU	L'Aquila	19.24 286		eP	Pn	03 27 03.4	+0.7		
	comp=Z,844nm,1.3s								
TRI	Trieste	19.24 296		eP	Pn	03 27 02.3	-0.3		
TRI				pmax	pmax				
	comp=Z,200nm,1.4s								
TRI	Trieste	19.24 296		eP	Pn	03 27 02.3	-0.3		
	comp=Z,201nm,1.4s								
TRI	Trieste	19.24 296		eP	Pn	03 27 02.3	-0.3		
	comp=Z,201nm,1.4s								
UPC	Upice	19.25 312		eP	P	03 27 01.3	-0.5		
UPC				ex	x	03 27 17.1			
UPC				eS	S	03 30 41.7	+1.8		
UPC				AMS	AMS	03 36 40.0			
	comp=Z,7µm,11.8s								
UPC	Upice	19.25 312		eP	P	03 27 01.3	-0.5		
UPC				MLR	MLR				
	comp=Z,7µm,11.8s								
UPC	Upice	19.25 312		eP	P	03 27 01.3	-0.5		
	comp=Z,7µm,11.8s								
MOA	Molln	19.38 303		esP	Pn	03 27 04.4	+0.1		
	comp=Z,29nm,0.8s,SNR=39								
KLNR	Kaliningrad	19.43 326	*d*	iP	P	03 27 01.5	-2.1		
KLNR	Kaliningrad	19.43 326		*i* P	P	03 27 01.5	-2.1		
MYKA	Terra Mystica	19.50 299		esP	Pn	03 27 06.2	+0.5		
	comp=Z,6.0nm,0.5s,SNR=19								
GOPC	GO Pecny, Ondr	19.73 309		eP	P	03 27 07.6	+0.6		
GOPC				ex	x	03 27 19.4			
GOPC				eS	Sn	03 30 53.0	+2.9		
GOPC				AMS	AMS	03 36 30.0			
	comp=Z,15µm,16.6s								
GOPC	GO Pecny, Ondr	19.73 309		eP	P	03 27 07.6	+0.6		
GOPC				MLR	MLR				
	comp=Z,15µm,16.6s								
GOPC	GO Pecny, Ondr	19.73 309		eP	P	03 27 07.6	+0.6		
	comp=Z,15µm,16.6s								
KBA	Koelnbreinsper	19.79 300		ePn	Pn	03 27 08.7	-0.7		
	comp=Z,68nm,1.2s,SNR=53								
PRU	Pruhonice	19.90 309		eP	P	03 27 08.9	0.0		
PRU				epP	sP	03 27 18.3	+6.4		
PRU				eS	Sn	03 30 54.1	-0.2		
PRU				AMS	AMS	03 36 40.0			
	comp=Z,14µm,19.0s								
PRU	Pruhonice	19.90 309		eP	P	03 27 08.9	0.0		
PRU				eS	Sn	03 30 54.1	-0.2		
PRU				MLR	MLR				
	comp=Z,14µm,19.0s								
PRU	Pruhonice	19.90 309		eP	P	03 27 08.9	0.0		
SHME	Shamm	19.95 128		P	P	03 27 08.1	-1.5		
	SNR=17								
GKP	Gorka Klasztor	19.97 320		eP	P	03 27 08.8	-0.8		
GKP				eS	S	03 30 54.1	-0.2		
GKP				LMZ	LR	03 36 42.5			
	comp=Z,10µm,20.1s								
GKP	Gorka Klasztor	19.97 320		eP	P	03 27 08.8	-0.8		
GKP				eS	S	03 30 54.1	-0.2		
GKP				MLR	MLR				
	comp=Z,10µm,20.1s								
GKP	Gorka Klasztor	19.97 320		eP	P	03 27 08.8	-0.8		
	comp=Z,10µm,20.1s								
PRA	Prague	20.00 309		eP	P	03 27 10.2	+0.3		
PRA				ex	x	03 27 21.4			
PRA				eS	Sn	03 30 59.3	+2.7		
PRA				AMS	AMS	03 36 40.0			
	comp=Z,14µm,17.4s								
PRA	Prague	20.00 309		eP	P	03 27 10.2	+0.3		
PRA				MLR	MLR				
	comp=Z,14µm,17.4s								
PRA	Prague	20.00 309		eP	P	03 27 10.2	+0.3		
	comp=Z,14µm,17.4s								
GEA0	GERESS Array S	20.02 305		eP	P	03 27 09.2	-1.2		
GEA0	GERESS Array S	20.02 305		eP	P	03 27 09.2	-1.2		
GEC2	GERESS Array S	20.03 305		eP	P	03 27 10.6	+0.2		
GEC2				pmax	pmax				
	comp=Z,630nm,1.8s								
GEC2	GERESS Array S	20.03 305		eP	P	03 27 10.6	+0.2		
	comp=Z,633nm,1.8s								
GEC2	GERESS Array S	20.03 305		eP	P	03 27 10.6	+0.2		
	comp=Z,633nm,1.8s								
GEC2				LR	LR				
	comp=Z,7µm,21.0s								
GERES	GERESS Array B	20.03 305		P	P	03 27 10.5	+0.2		
	comp=Z,8.5nm,0.8s,baz=111,slow=7.3,SNR=93								
GERES				LR	LR	03 36 05.4			
	comp=Z,7µm,19.7s,baz=112,slow=40								
PVCC	Panska Ves	20.09 311		eP	P	03 27 11.3	+0.3		
PVCC				ex	x	03 27 23.3			
PVCC				eS	Sn	03 30 58.3	-0.6		
PVCC				AMS	AMS	03 37 00.0			
	comp=Z,13µm,13.6s								
PVCC	Panska Ves	20.09 311		eP	P	03 27 11.3	+0.3		
PVCC				eS	Sn	03 30 58.3	-0.6		
PVCC				MLR	MLR				
	comp=Z,13µm,13.6s								
PVCC	Panska Ves	20.09 311		eP	P	03 27 11.3	+0.3		
BANOM	Banah	20.13 128		*i* P	P	03 27 10.6	-1.0		
	SNR=43								
BANOM	Banah	20.13 128		P	Pn	03 27 12.7	-0.8		
	SNR=30								
BANOM	Banah	20.13 128		P	Pn	03 27 12.7	-0.8		
	SNR=30								
BANOM	Banah	20.13 128		P	Pn	03 27 12.7	-0.8		
	SNR=30								
KHC	Kasperske Hory	20.19 306		eP	P	03 27 12.4	+0.3		
KHC				ex	x	03 27 24.7			
KHC				eS	S	03 30 59.3	+0.4		
KHC				AMS	AMS	03 37 50.0			
	comp=Z,10µm,10.8s								
KHC	Kasperske Hory	20.19 306		eP	P	03 27 12.4	+0.3		
KHC				e		03 27 24.7			
KHC				eS	S	03 30 59.3	+0.4		
KHC				MLR	MLR				
	comp=Z,10µm,10.8s								
KHC	Kasperske Hory	20.19 306		eP	P	03 27 11.7	-0.5		
	comp=Z,273nm,2.0s								
KHC	Kasperske Hory	20.19 306		eP	P	03 27 11.7	-0.5		
	comp=Z,273nm,2.0s								
KHC				LR	LR				
	comp=Z,3µm,20.0s								
ABTA	Abfaltersbach	20.28 299		epP	P	03 27 13.8	+0.6		
	comp=Z,70nm,1.3s,SNR=86								
VSU	Vasula	20.32 342	*d*	iP	P	03 27 12.5	-0.8		
VSU				pmax	pmax				
	comp=Z,2µm,3.1s								
VSU				MLR	MLR				
	comp=Z,20µm,15.0s								
VSU	Vasula	20.32 342		eP	P	03 27 12.5	-0.8		

HATD Hatta, Dubai 20.85 130 *i* P **P 03 27 18.8 -0.6**
SNR=129
HATD Hatta, Dubai 20.85 130 P **P 03 27 19.0 -0.4**
SNR=148
HATD Hatta, Dubai 20.85 130 P **P 03 27 19.0 -0.4**
SNR=148
HATD Hatta, Dubai 20.85 130 P **P 03 27 19.0 -0.4**
SNR=148
HATD P **P 03 27 19.0 -0.4**
SNR=148
SLIT Slitere, Latvi 20.88 335 *e*P **P 03 27 19.2 -0.2**
SNR=146
ASHO Ashiyiah 20.91 130 *i* P **P 03 27 19.3 -0.8**
SNR=287
ASHO Ashiyiah 20.91 130 P **P 03 27 19.7 -0.4**
SNR=208
ASHO Ashiyiah 20.91 130 P **P 03 27 19.7 -0.4**
SNR=208
ASHO Ashiyiah 20.91 130 P **P 03 27 19.7 -0.4**
SNR=208
WTTA Wattenberg 20.97 300 *es*P Pn 03 27 22.0 -1.3
comp=Z,46nm,0.7s,SNR=55
WATA Walderalm 21.02 300 *ep*P **P 03 27 21.9 +0.7**
comp=Z,98nm,1.0s,SNR=58
KLMR Klimovskoe 21.22 1 *e*P **P 03 27 19.0 -4.1**
KLMR *e*S **S 03 31 14.5 -4.4**
KLMR pmax pmax
comp=Z,657nm,1.5s
NKC Novy Kostel 21.25 308 *e*P **P 03 27 23.3 -0.2**
NKC *ep*P **sP 03 27 29.2 +2.7**
NKC *e*S Sn 03 31 24.3 -2.4
NKC AMS AMS 03 36 40.0
comp=Z,11µm,16.7s
NKC Novy Kostel 21.25 308 *e*P **P 03 27 23.3 -0.2**
NKC *e* 03 27 29.2
NKC *e*S Sn 03 31 24.3 -2.4
NKC MLR MLR
comp=Z,11µm,16.7s
NKC Novy Kostel 21.25 308 *e*P **P 03 27 23.3 -0.2**
ARU Arti 21.27 31 P **P 03 27 21.2 -2.5**
comp=Z,50nm,0.6s,baz=228,slow=7.1,SNR=114
ARU S **S 03 31 17.0 -3.1**
comp=Z,7.3nm,0.8s,baz=176,slow=14,SNR=1.8
ARU LR LR 03 37 43.7
comp=Z,6µm,19.4s,baz=232,slow=43
ARU Arti 21.27 31 *d i*P **P 03 27 21.5 -2.1**
ARU 03 27 40.5
ARU S **S 03 31 18.6 -1.5**
ARU SS **SnSn 03 31 44.7 +2.7**
ARU pmax pmax
comp=Z,187nm,1.0s
ARU MLR MLR
comp=Z,6µm,19.0s
ARU Arti 21.27 31 *i* P **P 03 27 21.5 -2.1**
comp=Z,187nm,1.0s
ARU *e*S **S 03 31 17.0 -3.1**
ARU Arti 21.27 31 *e*P **P 03 27 21.6 -2.1**
comp=Z,458nm,1.4s
ARU *e*S **S 03 31 17.0 -3.1**
MTSE Matsula 21.30 338 *e*P **P 03 27 25.0 +1.1**
SNR=29
CLL Collm 21.31 312 *e*P **P 03 27 24.0 -0.1**
CLL *i* 03 27 25.7
CLL *e*S **S 03 31 23.0 +2.0**
CLL Collm 21.31 312 *e*P **P 03 27 24.1 -0.1**
comp=Z,812nm,1.4s
CLL Collm 21.31 312 *e*P **P 03 27 24.0 -0.1**
CLL *i* 03 27 25.7
comp=Z,1µm,1.6s
CLL *e*Pmax 03 27 28.0
CLL *i* 03 27 30.4
CLL *e*PPP PPP 03 27 56.0
CLL *e*S **S 03 31 23.0 +2.0**
CLL Lmax 03 37 00.0
CLL Collm 21.31 312 *e*P **P 03 27 24.1 0.0**
comp=Z,812nm,1.4s
CLL LR LR
comp=Z,9µm,20.0s
MOTA Moosalm 21.34 300 *e*P **P 03 27 24.4 -0.3**
comp=Z,155nm,0.9s,SNR=183
MOTA Moosalm 21.34 300 P **P 03 27 24.4 -0.3**
comp=Z,155nm,0.9s,SNR=183
FUR Furstenfeldbru 21.40 302 P **P 03 27 26.0 +0.8**
VLC Villacollemand 21.47 291 *e*P **P 03 27 27.2 +1.2**
comp=Z,609nm,1.6s
VLC Villacollemand 21.47 291 *e*P **P 03 27 27.2 +1.2**
comp=Z,609nm,1.6s
VLC LR LR
comp=Z,6µm,20.0s
FETA Feichten 21.53 299 *ep*P **P 03 27 26.7 0.0**
comp=Z,54nm,0.9s,SNR=94
RETA Reutte 21.59 300 *e*P **P 03 27 26.6 -0.7**
comp=Z,87nm,1.4s,SNR=71
RETA Reutte 21.59 300 P **P 03 27 26.6 -0.7**
comp=Z,87nm,1.4s,SNR=71
FUORN Ofenpass-Fuorn 21.79 298 *e*P **P 03 27 31.4 +1.8**
comp=Z,701nm,1.7s
FUORN Ofenpass-Fuorn 21.79 298 *e*P **P 03 27 31.4 +1.8**
comp=Z,701nm,1.7s
FUORN LR LR
comp=Z,6µm,19.0s
MOX Moxa 21.89 309 P **P 03 27 30.9 +0.5**
MOX pmax pmax
comp=Z,134nm,2.3s
DAVOX Davos/Dischmat 22.07 298 P **P 03 27 32.5 -0.1**
comp=Z,78nm,0.9s,baz=119,slow=8.3,SNR=45
DAVOX S **S 03 31 40.9 +4.7**
comp=Z,2.3nm,0.8s,baz=348,slow=20,SNR=2.7
DAVOX LR LR 03 38 42.2
comp=Z,4µm,18.4s,baz=98,slow=44
DAVOX Davos/Dischmat 22.07 298 P **P 03 27 32.5 -0.1**
DAVOX pmax pmax
comp=Z,40nm,0.9s
DAVOX MLR MLR
comp=Z,4µm,18.4s
BSD Bornholm Skovb 22.14 322 *i* P **P 03 27 30.6 -2.4**
comp=Z,805nm,1.8s
BSD Bornholm Skovb 22.14 322 *i* P **P 03 27 30.6 -2.4**
BSD pmax pmax
comp=Z,800nm,1.8s
BSD Bornholm Skovb 22.14 322 *e*P **P 03 27 30.8 -2.2**
SNR=29
DAVA Damuels 22.15 300 *e*P **P 03 27 32.5 -0.9**
comp=Z,86nm,1.1s,SNR=80
DAVA Damuels 22.15 300 P **P 03 27 32.5 -0.9**
comp=Z,86nm,1.1s,SNR=80
SVE Sverdlovsk 22.39 33 *c i*P **P 03 27 34.1 -1.6**
SVE *e*S **S 03 31 36.1 -5.6**
SVE pmax pmax
comp=Z,494nm,1.2s
SVE MLR MLR
comp=Z,6µm,15.0s
TUE Stuetta 22.39 297 *e*P **P 03 27 35.4 -0.7**
comp=Z,617nm,1.6s
TUE Stuetta 22.39 297 *e*P **P 03 27 35.4 -0.7**
comp=Z,617nm,1.6s
TUE LR LR
comp=Z,5µm,21.0s
MEF Metsahovi 22.43 341 *e*P **P 03 27 36.2 +0.1**
SNR=147
PGF Pioggiola 22.49 287 *e*P **P 03 27 38.8 +1.8**
PGF pmax pmax
comp=Z,298nm,1.8s
VSL Villasalto 22.54 279 *e*P **P 03 27 35.3 -2.1**
comp=Z,267nm,1.4s
VSL Villasalto 22.54 279 *e*P **P 03 27 35.4 -2.1**
comp=Z,267nm,1.4s
VSL LR LR
comp=Z,8µm,18.0s
RGN Rugen 22.61 320 *e*P **P 03 27 38.0 -0.1**
comp=Z,1µm,1.5s
RGN Rugen 22.61 320 *e*P **P 03 27 38.0 -0.1**
comp=Z,1µm,1.5s
STU Stuttgart 22.88 303 *e*P **P 03 27 40.3 -0.7**
STU pmax pmax
comp=Z,190nm,1.4s
STU Stuttgart 22.88 303 *e*P **P 03 27 40.3 -0.7**
comp=Z,191nm,1.4s
STU Stuttgart 22.88 303 *e*P **P 03 27 40.3 -0.7**
comp=Z,191nm,1.4s
STU LR LR
comp=Z,6µm,22.0s
SOKR Solikamsk 23.00 24 *c i*P **P 03 27 39.8 -2.2**
SOKR pmax pmax
comp=Z,116nm,1.3s
SOKR MLR MLR
comp=Z,4µm,15.0s

SPAK Spaichingen-Ko 23.02 301⇑ *e*P **P 03 27 42.3 -0.2**
BIDO Bidbid 23.02 129 P **P 03 27 43.0 +0.3**
SNR=55
BIDO Bidbid 23.02 129 P **P 03 27 43.0 +0.3**
SNR=55
BIDO P **P 03 27 43.0 +0.3**
SNR=55
BIDO P **P 03 27 43.0 +0.3**
SNR=55
FIA0 FINESS Array S 23.14 345 *e*P **P 03 27 41.1 -2.5**
FIA0 FINESS Array S 23.14 345 *e*P **P 03 27 41.0 -2.5**
FIA0 *e*S **S 03 31 57.3 +2.2**
FIA0 FINESS Array S 23.14 345 *e*P **P 03 27 41.0 -2.5**
FIA0 *e*S **S 03 31 57.3 +2.2**
FIA1 FINESS Array S 23.14 345 *e*P **P 03 27 42.3 -1.2**
FIA1 FINESS Array S 23.14 345 *e*P **P 03 27 42.3 -1.2**
FINES FINESS Array B 23.14 345 P **P 03 27 41.0 -2.5**
comp=Z,12nm,1.0s,baz=161,slow=8.2,SNR=12
FINES S **S 03 31 57.3 +2.2**
comp=Z,34nm,1.1s,baz=134,slow=17,SNR=4.9
FINES LR LR 03 38 52.2
comp=Z,10µm,18.8s,baz=157,slow=42
TOD Tromm 23.32 305 *e*P **P 03 27 46.0 +0.5**
BFO Black Forest 23.36 302 *e*P **P 03 27 44.7 -1.2**
BFO pmax pmax
comp=Z,210nm,1.5s
BFO Black Forest 23.36 302 *e*P **P 03 27 44.7 -1.2**
comp=Z,209nm,1.5s
BFO Black Forest 23.36 302 *e*P **P 03 27 44.7 -1.2**
comp=Z,209nm,1.5s
BFO LR LR
comp=Z,7µm,21.0s
KEST Kesra 23.48 270 P **P 03 27 48.7 +1.3**
comp=Z,21nm,0.9s,baz=33,slow=5.3,SNR=23
KEST S **S 03 32 02.9 +1.6**
comp=Z,9.1nm,1.2s,baz=291,slow=14,SNR=2.5
KEST LR LR 03 38 39.7
comp=Z,7µm,21.0s,baz=20,slow=41
KEST Kesra 23.48 270 *e*P **P 03 27 47.7 +0.3**
KEST Kesra 23.48 270 *e*P **P 03 27 47.6 +0.3**
KEST *ep*P **pP 03 27 48.2 -1.2**
KEST *e*S **S 03 32 02.9 +1.6**
FELD Feldberg im Sc 23.50 301 *e*P **P 03 27 48.0 +0.6**
WSAR Wadi Sarin 23.54 128 P **P 03 27 46.7 -1.1**
comp=Z,149nm,1.3s,baz=344,slow=14,SNR=45
WSAR S **S 03 32 00.9 -1.3**
comp=Z,9.9nm,1.1s,baz=69,slow=13,SNR=2.8
WSAR LR LR 03 38 18.0
comp=Z,16µm,19.2s,baz=347,slow=40
LLD Lille Linde 23.56 320 *i* P **P 03 27 47.9 +0.1**
comp=Z,887nm,1.6s
LLD Lille Linde 23.56 320 *i* P **P 03 27 47.9 +0.1**
LLD pmax pmax
comp=Z,890nm,1.6s
BRLS Borolday 23.57 72 *i* P **P 03 27 45.4 -2.6**
comp=Z,105nm,1.1s
BRLS *i* S **S 03 32 00.1 -2.3**
BRLS LR LR 03 36 58.3
comp=Z,528nm,14.8s
COP Copenhagen 23.64 321⇑ *i* P **P 03 27 49.3 +0.8**
comp=Z,183nm,1.2s
COP Copenhagen 23.64 321⇑ *i* P **P 03 27 49.3 +0.8**
COP pmax pmax
comp=Z,180nm,1.2s
JOF Joensuu 23.70 352 P **P 03 27 48.6 -0.5**
JOF pmax pmax
comp=Z,57nm,1.0s
IUG Iuzhnay 23.76 74 *i* P **P 03 27 48.2 -1.9**
comp=Z,4µm,1.4s
IUG *i* S **S 03 32 04.8 -0.9**
IUG LRM MLR 03 38 09.2
SENIN Lac Senin/Sane 23.79 297 *e*P **P 03 27 49.1 -1.3**
comp=Z,868nm,1.5s
SENIN Lac Senin/Sane 23.79 297 *e*P **P 03 27 49.1 -1.3**
comp=Z,868nm,1.5s
RAF Rauma 23.81 339 *e*P **P 03 27 47.3 -2.8**
SNR=28
LANF Langenberg 23.82 303⇑ *e*P **P 03 27 50.3 -0.2**
LANF Langenberg 23.82 303⇑ *e*P **P 03 27 50.3 -0.2**
ISO Isola 23.87 291 P **P 03 27 51.6 +0.6**
ISO pmax pmax
comp=Z,223nm,2.1s
KK31 Karatay Array 24.06 71 P **P 03 27 52.7 0.0**
KK31 pmax pmax
comp=Z,338nm,1.4s
KKAR Karatay Array 24.06 71 *e*P **P 03 27 53.1 +0.4**
KKAR pmax pmax
comp=Z,2µm,1.2s
KKAR Karatay Array 24.06 71 *e*P **P 03 27 53.1 +0.4**
comp=Z,2µm,1.3s
KKAR Karatay Array 24.06 71 *e*P **P 03 27 53.1 +0.4**
comp=Z,2µm,1.3s
MOF Molkenrain 24.07 300⇑ *e*P **P 03 27 53.2 +0.3**
MOF Molkenrain 24.07 300 P **P 03 27 52.1 -0.8**
MOF Molkenrain 24.07 300⇑ *e*P **P 03 27 53.2 +0.3**
ECH Echery 24.11 301⇑ *e*P **P 03 27 53.6 +0.4**
ECH Echery 24.11 301⇑ *e*P **P 03 27 53.6 +0.4**
LPG La Plagne 24.11 294 *e*P **P 03 27 53.1 -0.5**
LPG pmax pmax
comp=Z,415nm,1.4s
LPL La Plagne 24.13 295 *e*P **P 03 27 53.1 -0.5**
LPL pmax pmax
comp=Z,636nm,1.7s
BNI Bardonecchia 24.15 293 *e*P **P 03 27 53.2 -0.5**
BNI pmax pmax
comp=Z,890nm,1.6s
BNI Bardonecchia 24.15 293 *e*P **P 03 27 53.2 -0.5**
comp=Z,891nm,1.6s
BNI Bardonecchia 24.15 293 *e*P **P 03 27 53.2 -0.5**
comp=Z,891nm,1.6s
BNI LR LR
comp=Z,5µm,20.0s
FRF La Foret Royal 24.18 290 *e*P **P 03 27 53.2 -0.6**
FRF pmax pmax
comp=Z,890nm,1.6s
ABH Alteburg 24.18 305 *e*P **P 03 27 55.1 +1.3**
LOMF Lomont 24.21 299 *e*P **P 03 27 55.1 +0.9**
LOMF Lomont 24.21 299 *e*P **P 03 27 55.1 +0.9**
HINF Hinteralfeld 24.26 300 *e*P **P 03 27 53.5 -1.1**
HINF pmax pmax
comp=Z,535nm,2.0s
LMR La Mourre 24.28 289 *e*P **P 03 27 54.2 -0.6**
LMR pmax pmax
comp=Z,1µm,2.3s
SUF Sumiainen 24.29 346 P **P 03 27 55.7 +1.0**
SUF pmax pmax
comp=Z,226nm,1.4s
RUP Ruppelstein 24.45 305⇑ *e*P **P 03 27 56.8 +0.5**
TMCR Tamitsa 24.54 359 *e*P **P 03 27 54.7 -2.2**
TMCR *e*S **S 03 32 19.0 +1.5**
TMCR pmax pmax
comp=Z,389nm,1.5s
GDM Grand'Maison 24.55 294 *e*P **P 03 27 57.4 0.0**
GDM Grand'Maison 24.55 294 *e*P **P 03 27 57.4 0.0**
KBL Kabul 24.69 92 *e*P **P 03 28 01.4 +2.6**
KBL pmax pmax
comp=Z,430nm,1.3s
KBL Kabul 24.69 92 *e*P **P 03 28 01.4 +2.6**
comp=Z,431nm,1.4s
KBL Kabul 24.69 92 *e*P **P 03 28 01.4 +2.6**
comp=Z,431nm,1.4s
CMAH Djebel Manchou 24.70 273 P **P 03 28 00.3 +1.6**
CMAH Djebel Manchou 24.70 273 P **P 03 28 00.3 +1.6**
ABSA Djebel Ababsia 24.76 272 P **P 03 28 01.1 +1.8**
ABSA Djebel Ababsia 24.76 272 P **P 03 28 01.1 +1.8**
GRN Grenoble 24.81 294 *e*P **P 03 27 59.5 -0.2**
GRN Grenoble 24.81 294 *e*P **P 03 27 59.5 -0.2**
THEF They Montfort 24.89 301⇑ *e*P **P 03 27 59.9 -0.3**
THEF They Montfort 24.89 301⇑ *e*P **P 03 27 59.9 -0.3**
WLF Walferdange 25.02 304 P **P 03 28 02.1 +0.8**
comp=Z,110nm,2.1s
WLF Walferdange 25.02 304 *e*P **P 03 28 00.5 -0.9**
WLF pmax pmax
comp=Z,130nm,1.2s
WLF Walferdange 25.02 304 *e*P **P 03 28 00.5 -0.9**
comp=Z,128nm,1.2s
WLF Walferdange 25.02 304 *e*P **P 03 28 00.5 -0.9**
comp=Z,128nm,1.2s
WLF LR LR
comp=Z,5µm,21.0s
CAEH 'Ain El Ouahch 25.10 274 P **P 03 28 03.5 +1.3**
CAEH 'Ain El Ouahch 25.10 274 P **P 03 28 03.5 +1.3**
WTSB Winterswijk 25.17 310 *e*P **P 03 28 02.8 +0.1**
comp=Z,2µm,2.4s
VAF Ylistaro 25.30 343 P **P 03 28 04.8 +1.0**
VAF pmax pmax
comp=Z,172nm,1.2s
CKFL Kef-Lekhel 25.31 273 P **P 03 28 05.7 +1.4**
CKFL Kef-Lekhel 25.31 273 P **P 03 28 05.7 +1.4**
MEM Membach 25.31 306 P **P 03 28 03.2 -0.8**
comp=Z,196nm,2.6s
BRVK Borovoye 25.36 48 *d i*P **P 03 28 03.6 -0.8**
BRVK pmax pmax
BRVK comp=Z,210nm,1.2s MLR MLR
comp=Z,10µm,18.0s
BRVK Borovoye 25.36 48 *e*P **P 03 28 03.4 -1.0**
comp=Z,167nm,1.3s
BRVK Borovoye 25.36 48 *e*P **P 03 28 03.4 -1.0**
comp=Z,167nm,1.3s
BRVK Borovoye 25.36 48 P **P 03 28 03.9 -0.5**
SNR=54
BRVK Borovoye 25.36 48 P **P 03 28 03.9 -0.5**
SNR=54
BRVK P **P 03 28 03.9 -0.5**
SNR=54
BRVK P **P 03 28 03.9 -0.5**
SNR=54
HGN Heimansgroeve 25.39 307 *e*P **P 03 28 04.5 -0.2**
comp=Z,1µm,1.8s
HGN *e*S **S 03 32 36.9 +5.6**
HGN *e*L L 03 39 32.4
comp=Z,5µm,20.6s
BVAR Borovoye Array 25.41 48 P **P 03 28 04.3 -0.6**
comp=Z,51nm,1.2s,baz=243,slow=6.5,SNR=56
BVAR S **S 03 32 34.3 +2.7**
comp=Z,0.7nm,0.4s,baz=347,slow=10,SNR=2.1
BVAR LR LR 03 39 38.0
comp=Z,4µm,18.3s,baz=262,slow=40
DAMY Dhamar 25.50 167 *e*P **P 03 28 06.3 0.0**
comp=Z,182nm,1.6s
DAMY Dhamar 25.50 167 *e*P **P 03 28 06.3 0.0**
comp=Z,182nm,1.6s
DAMY LR LR
comp=Z,17µm,19.0s
CASM Ain Smara 25.53 273 P **P 03 28 08.6 +2.4**
CASM Ain Smara 25.53 273 P **P 03 28 08.6 +2.4**
BEBN Eben Emael 25.55 307 P **P 03 28 06.0 -0.2**
MNAS Manas 25.56 73 P **P 03 28 07.3 +0.7**
MNAS pmax pmax
comp=Z,176nm,1.3s
MUD Monsted U'grnd 25.61 321 *i* P **P 03 28 08.0 +1.4**
comp=Z,373nm,1.3s
MUD Monsted U'grnd 25.61 321 *i* P **P 03 28 08.0 +1.4**
MUD pmax pmax
comp=Z,370nm,1.3s
CTEI Djebel Teioual 25.65 272 P **P 03 28 09.0 +1.6**
CTEI Djebel Teioual 25.65 272 P **P 03 28 09.0 +1.6**
SSB Saint Sauveur 25.66 294 *e*P **P 03 28 06.9 -0.4**
SSB pmax pmax
comp=Z,150nm,1.4s
SSB Saint Sauveur 25.66 294 *e*P **P 03 28 06.9 -0.4**
comp=Z,146nm,1.4s
SSB Saint Sauveur 25.66 294 *e*P **P 03 28 06.9 -0.4**
comp=Z,146nm,1.4s
BCLA Clavier 25.71 306 P **P 03 28 07.4 -0.2**
HFS Hagfors 25.76 331 P **P 03 28 07.7 -0.3**
comp=Z,16nm,0.8s,baz=127,slow=9.2,SNR=18
HFS LR LR 03 40 34.2
comp=Z,6µm,19.7s,baz=134,slow=42
DFRA Djebel Bou Aff 25.91 274 P **P 03 28 11.0 +1.2**
DFRA Djebel Bou Aff 25.91 274 P **P 03 28 11.0 +1.2**
BRZS Berezniki 26.02 55 *i* P **P 03 28 08.8 -1.8**
comp=Z,22nm,1.1s
BRZS *i* S **S 03 32 40.1 -1.4**
DOU Dourbes 26.09 305 P **P 03 28 10.5 -0.6**
comp=Z,36nm,1.5s
PLDF La Plantade 26.32 295 *e*P **P 03 28 13.8 +0.5**
PLDF La Plantade 26.32 295 *e*P **P 03 28 13.8 +0.5**
BAIF Baives 26.33 305 *e*P **P 03 28 13.0 -0.2**
BAIF pmax pmax
comp=Z,102nm,1.2s
MAHO Mahon 26.35 282 *e*P **P 03 28 15.0 +1.5**
MAHO *e*S **S 03 32 47.6 +0.8**
CKHR Kef el Ahmar 26.35 273 P **P 03 28 15.0 +1.2**
CKHR Kef el Ahmar 26.35 273 P **P 03 28 15.0 +1.2**
SNF Seneffe 26.36 306 P **P 03 28 14.8 +1.2**
SET Setif 26.38 273 P **P 03 28 15.0 +1.0**
SET Setif 26.38 273 P **P 03 28 15.0 +1.0**
SSF Saint Saulge 26.44 298 *e*P **P 03 28 13.4 -0.9**
SSF pmax pmax
comp=Z,154nm,1.2s
LBL Lubilhac 26.58 294 *e*P **P 03 28 16.3 +0.6**
LBL Lubilhac 26.58 294 *e*P **P 03 28 16.3 +0.6**
AGO Saint Agoulin 26.66 296⇑ *e*P **P 03 28 17.1 +0.7**
AGO Saint Agoulin 26.66 296⇑ *e*P **P 03 28 17.1 +0.7**
PYM Petit Puy Mans 26.75 295⇑ *e*P **P 03 28 17.7 +0.5**
PYM Petit Puy Mans 26.75 295⇑ *e*P **P 03 28 17.7 +0.5**
OSL Oslo 26.80 328 *e*P **P 03 28 16.7 -0.7**
OSL IAmb IAmb 03 28 23.8
comp=Z,851nm,2.7s
OSL *e*S **S 03 32 55.9 +2.5**
OSL Oslo 26.80 328 *e*P **P 03 28 16.7 -0.7**
SNR=28
OSL *e*S **S 03 32 55.9 +2.5**
SNR=28
HOMB Homborsund 26.82 324 IAmb IAmb 03 28 19.9
comp=Z,97nm,1.2s
MSF Maaselka 26.86 351 P **P 03 28 17.0 -0.9**
MSF pmax pmax
comp=Z,32nm,1.4s
NC602 NORSAR Array S 26.97 330 IAmb IAmb 03 28 27.5
comp=Z,51nm,1.2s
NC602 *e*S **S 03 32 57.1 +0.9**
SJAF Saint Jean de 27.00 288⇑ *e*P **P 03 28 18.7 -0.8**
SJAF Saint Jean de 27.00 288⇑ *e*P **P 03 28 18.7 -0.8**
AAK Ala-Archa 27.01 72 P **P 03 28 20.1 +0.4**
comp=Z,78nm,1.2s,baz=234,slow=11,SNR=35
AAK S **S 03 33 07.0 +9.5**
comp=Z,0.8nm,0.3s,baz=348,slow=19,SNR=1.8
AAK LR LR 03 40 45.8
comp=Z,6µm,18.1s,baz=269,slow=40
AAK Ala-Archa 27.01 72 *e*P **P 03 28 21.6 +1.9**
comp=Z,153nm,1.4s
AAK Ala-Archa 27.01 72 *e*P **P 03 28 21.6 +1.9**
comp=Z,153nm,1.4s
AAK *e*S **S 03 33 07.0 +9.5**
AAK Ala-Archa 27.01 72 P **P 03 28 21.3 +1.6**
SNR=21
AAK Ala-Archa 27.01 72 P **P 03 28 21.3 +1.6**
SNR=21
AAK P **P 03 28 21.3 +1.6**
SNR=21
AAK P **P 03 28 21.3 +1.6**
SNR=21
FRU Bishkek 27.08 72 *i* P **P 03 28 23.0 +2.8**
FRU *e*S **S 03 33 03.0 +4.6**
FRU smax smax
comp=E,4µm,9.5s
FRU MLR MLR
comp=E,8µm,14.0s
KONO Kongsberg 27.09 327 *e*P **P 03 28 20.1 +0.1**
KONO IAmb IAmb 03 28 31.8
comp=Z,407nm,1.9s
KONO *e*S **S 03 32 60.0 +1.9**
KONO Kongsberg 27.09 327 *e*P **P 03 28 16.2 -3.8**
KONO pmax pmax
comp=Z,210nm,1.6s
KONO Kongsberg 27.09 327 *e*P **P 03 28 20.1 +0.1**
SNR=28
KONO *e*S **S 03 33 00.0 +1.9**
SNR=28
KONO Kongsberg 27.09 327 *e*P **P 03 28 16.2 -3.8**
comp=Z,213nm,1.6s
KONO LR LR
comp=Z,4µm,22.0s
LRDF Laroque-de-Fa 27.21 289⇑ *e*P **P 03 28 21.2 -0.1**
LRDF Laroque-de-Fa 27.21 289⇑ *e*P **P 03 28 21.2 -0.1**
FILF Fillols 27.23 288⇑ *e*P **P 03 28 22.0 +0.4**
FILF Fillols 27.23 288⇑ *e*P **P 03 28 22.0 +0.4**
NB2 NORSAR Subarra 27.29 331 P **P 03 28 19.8 -2.0**
baz=129,slow=9.3
NB2 NORSAR Subarra 27.29 331 P **P 03 28 19.8 -2.0**
SNR=28
NB2 NORSAR Subarra 27.29 331 P **P 03 28 19.8 -2.0**
comp=Z,77nm,1.4s,baz=129,slow=9.3
NB200 NORSAR Array S 27.29 331 *e*P **P 03 28 20.2 -1.6**
NB200 NORSAR Array S 27.29 331 *e*P **P 03 28 20.2 -1.6**
NOA NORSAR Array B 27.29 331 P **P 03 28 20.2 -1.6**
comp=Z,3.3nm,0.9s,baz=126,slow=9.0,SNR=4.4

NOA LR LR 03 41 30.1
comp=Z,5µm,18.9s,baz=140,slow=42
TCF Toulx Ste Croi 27.31 296 eP **P 03 28 21.5 -0.7**
TCF pmax pmax
comp=Z,174nm,1.4s
CAF Calviac 27.42 293 eP **P 03 28 22.5 -0.7**
CAF pmax pmax
comp=Z,80nm,1.6s
TKM2 Tokmak 2 27.79 71 P **P 03 28 27.6 +0.9**
TKM2 pmax pmax
comp=Z,50nm,1.2s
APA Apatity 28.11 356⇑ iP P 03 28 36.2 +7.2
APA i 03 29 11.6
APA iS **S 03 33 16.0 +2.0**
APA pmax pmax
comp=Z,10.0nm,0.9s
APA MLR MLR
comp=Z,8µm,16.0s
BLS5 Blasjo 28.33 325 eS **S 03 33 19.0 +1.4**
BLS5 Blasjo 28.33 325 eS **S 03 33 19.0 +1.4**
SNR=28
LFF La Frestale 28.36 293 eP **P 03 28 30.9 -0.7**
LFF pmax pmax
comp=Z,53nm,1.1s
LVZ Lovozero 28.37 357⇑ eP **P 03 28 29.9 -1.6**
LVZ pmax pmax
comp=Z,8.0nm,1.2s
LVZ MLR MLR
comp=Z,4µm,15.0s
LVZ Lovozero 28.37 357 PFAKE 03 28 40.0 +8.5
LVZ LR LR
comp=Z,5µm,22.0s
KSH Kashi 28.61 78 P **P 03 28 34.0 0.0**
KSH pP sP 03 28 39.3 +2.2
KSH PP **PnPn 03 29 24.8 +1.1**
KSH S **S 03 33 20.5 -2.3**
KSH sS sS 03 33 27.0 +0.6
KSH SS **SnSn 03 34 43.1 +1.1**
KSH pmax pmax
comp=Z,140nm,1.3s
KSH pmax pmax
comp=Z,310nm,4.1s
KSH LR LR
comp=Z,4µm,8.8s
KSH LR LR
comp=Z,1µm,10.8s
DOMB Dombas 28.72 331 eS **S 03 33 24.8 +1.0**
DOMB Dombas 28.72 331 eS **S 03 33 24.8 +1.0**
SNR=28
AAA Alma-Ata 28.72 70 eP **P 03 28 32.7 -2.2**
AAA eS **S 03 33 15.4 -8.9**
AAA pmax pmax
comp=Z,900nm,2.0s
AAA smax smax
comp=E,2µm,3.5s
AAA MLR MLR
comp=Z,3µm,6.0s
MDOK Medeo 28.82 70 i P **P 03 28 34.0 -1.8**
comp=Z,148nm,1.3s
MDOK iS **S 03 33 25.0 -1.0**
MDOK LRM MLR 03 41 43.5
comp=Z,2µm,14.8s
RESF Ens 28.83 289⇑ eP **P 03 28 36.3 +0.4**
RESF Ens 28.83 289⇑ eP **P 03 28 36.3 +0.4**
LDF La Druitiere 28.97 301 eP **P 03 28 36.3 -0.7**
LDF pmax pmax
comp=Z,87nm,1.8s
VIEF Viey 29.05 289⇑ eP **P 03 28 38.2 +0.4**
VIEF Viey 29.05 289⇑ eP **P 03 28 38.2 +0.4**
TBLU Trondheim 29.05 334 eS **S 03 33 30.6 +1.7**
TBLU Trondheim 29.05 334 eS **S 03 33 30.6 +1.7**
SNR=28
BER Bergen 29.30 326 eS **S 03 33 35.7 +2.9**
BER Bergen 29.30 326 eS **S 03 33 35.7 +2.9**
SNR=28
REYF Montagne du Re 29.33 289 eP **P 03 28 39.6 -0.7**
REYF Montagne du Re 29.33 289 eP **P 03 28 39.6 -0.7**
ATE Arette 29.56 290 eP **P 03 28 41.7 -0.5**
ATE Arette 29.56 290 eP **P 03 28 41.7 -0.5**
AKN Aaknes 29.58 330 IAmb IAmb 03 28 46.8
comp=Z,385nm,2.1s
AKN eS **S 03 33 39.7 +2.4**
MOL Molde 29.60 331 eS **S 03 33 38.0 +0.5**
MOL Molde 29.60 331 eS **S 03 33 38.0 +0.5**
SNR=28
SATY Saty 29.82 70 i P **P 03 28 44.0 -0.8**
comp=Z,452nm,1.7s
SATY iS **S 03 33 41.7 -0.1**
SATY LR LR 03 40 50.5
comp=Z,1µm,14.8s
KURBB Kurchatov Arra 29.83 55 P **P 03 28 44.1 -0.4**
comp=Z,76nm,1.0s,baz=272,slow=9.3,SNR=83
KURBB ScP **ScP 03 35 31.2 +1.3**
comp=Z,0.7nm,0.5s,baz=251,slow=5.8,SNR=5.2
KURK Kurchatov 29.89 55*d* i P **P 03 28 44.7 -0.4**
KURK pmax pmax
comp=Z,200nm,1.3s
KURK MLR MLR
comp=Z,19µm,15.0s
KURK Kurchatov 29.89 55 eP **P 03 28 44.6 -0.5**
comp=Z,107nm,0.9s
KURK eScP **ScP 03 35 31.2 +1.1**
KURK Kurchatov 29.89 55 eP **P 03 28 44.6 -0.5**
comp=Z,107nm,0.9s
KURK eScP **ScP 03 35 31.2 +1.1**
KURK LR LR
comp=Z,3µm,19.0s
KURK Kurchatov 29.89 55 P **P 03 28 45.5 +0.4**
SNR=33
KURK Kurchatov 29.89 55 P **P 03 28 45.5 +0.4**
SNR=33
KURK P **P 03 28 45.5 +0.4**
SNR=33
STOK Stokkvaagen 30.40 340 eP **P 03 28 49.2 -0.1**
STOK IAmb IAmb 03 28 53.3
comp=Z,106nm,1.6s
STOK Stokkvaagen 30.40 340 eP **P 03 28 49.2 -0.1**
SNR=27
KONS Konsvik 30.50 340 IAmb IAmb 03 28 54.0
comp=Z,43nm,1.1s
KTK1 Kautokeino 30.56 349 eP **P 03 28 50.4 -0.3**
KTK1 IAmb IAmb 03 28 55.0
comp=Z,21nm,1.2s
KTK1 Kautokeino 30.56 349 eP **P 03 28 50.4 -0.3**
SNR=27
PDGK Podgornoye 30.57 70 P **P 03 28 51.3 -0.1**
PDGK pmax pmax
comp=Z,113nm,1.3s
ARE0 ARCESS Array S 30.74 351 eS **S 03 33 56.2 +0.9**
ARE0 ARCESS Array S 30.74 351 eS **S 03 33 56.2 +0.9**
SNR=28
ARE0 ARCESS Array S 30.74 351 PFAKE 03 29 00.0 +7.6
ARE0 LR LR
comp=Z,10µm,18.0s
ARA0 ARCESS Array S 30.74 351 eP **P 03 28 56.3 +3.9**
ARCES ARCESS Array B 30.74 351 P **P 03 28 52.0 -0.3**
comp=Z,2.5nm,0.7s,baz=164,slow=10.0,SNR=8.9
ARCES LR LR 03 43 04.7
comp=Z,9µm,18.4s,baz=156,slow=40
KEV Kevo 30.78 352 PFAKE 03 29 00.0 +7.3
KEV LR LR
comp=Z,9µm,19.0s
CART Cartagena 30.89 279 eS **S 03 33 57.8 -0.5**
SEM Semipalatinsk 30.90 56 i P **P 03 28 51.7 -2.6**
comp=Z,116nm,1.2s
SEM iS **S 03 33 56.4 -2.3**
SEM LR LR 03 41 08.3
comp=Z,2µm,14.7s
DYA Yadsworthy 31.56 304 PFAKE 03 29 10.0 +10
DYA LR LR
comp=Z,6µm,21.0s
LOF Lofoten 31.65 342 eS **S 03 34 11.9 +2.4**
LOF Lofoten 31.65 342 eS **S 03 34 11.9 +2.4**
SNR=28
EKA Eskdalemuir Ar 31.75 314 P **P 03 29 01.8 +0.4**
comp=Z,20nm,1.0s,baz=100,slow=9.5,SNR=9.5
EKA PcP **PcP 03 31 52.4 -0.2**
comp=Z,5.7nm,0.8s,baz=109,slow=2.6,SNR=6.6
ESK Eskdalemuir 31.77 314 i P **P 03 29 02.7 +1.1**
ESK Eskdalemuir 31.77 314 PFAKE 03 29 10.0 +8.4
ESK LR LR
comp=Z,6µm,21.0s
TRO Tromso 31.80 347 eS **S 03 34 10.9 -0.9**
TRO IAMs_20 IAMs_20 03 43 14.4
comp=Z,10µm,20.1s
TRO Tromso 31.80 347 eS **S 03 34 10.9 -0.9**
SNR=28
HAMF Hammerfest 32.01 351 eS **S 03 34 15.9 +0.9**
HAMF Hammerfest 32.01 351 eS **S 03 34 15.9 +0.9**
SNR=28
MAKZ Makanchi 32.02 63 eP **P 03 29 04.6 +0.7**
MAKZ pmax pmax
comp=Z,50nm,1.3s
MAKZ Makanchi 32.02 63 eP **P 03 29 04.6 +0.7**
comp=Z,50nm,1.3s
MAKZ Makanchi 32.02 63 eP **P 03 29 04.6 +0.7**
comp=Z,50nm,1.3s
MAKZ LR LR
comp=Z,4µm,20.0s
MK31 Makanchi Array 32.23 63 P **P 03 29 04.8 -1.0**
MK31 pmax pmax
comp=Z,45nm,1.4s
MK31 Makanchi Array 32.23 63 eP **P 03 29 06.2 +0.4**
MK31 Makanchi Array 32.23 63 eP **P 03 29 06.2 +0.4**
MK32 Makanchi Array 32.23 63 eP **P 03 29 06.1 +0.3**
MK32 Makanchi Array 32.23 63 eP **P 03 29 06.1 +0.3**
MK32 ePcP **PcP 03 31 54.5 +0.4**
MKAR Makanchi Array 32.23 63 P **P 03 29 06.1 +0.3**
comp=Z,20nm,1.1s,baz=266,slow=9.1,SNR=38
MKAR PcP **PcP 03 31 54.5 +0.4**
comp=Z,6.4nm,1.0s,baz=250,slow=4.5,SNR=4.0
MKAR LR LR 03 43 31.6
comp=Z,4µm,19.1s,baz=268,slow=39
MKAR Makanchi Array 32.23 63 eP **P 03 29 06.2 +0.3**
comp=Z,159nm,1.2s
MKAR Makanchi Array 32.23 63 eP **P 03 29 06.2 +0.4**
comp=Z,159nm,1.2s
MKAR LR LR
comp=Z,1µm,18.0s
ES19 SONSECA Array 32.54 284 eP **P 03 29 07.3 -1.3**
ES19 SONSECA Array 32.54 284 eP **P 03 29 07.3 -1.3**
ESDC Sonseca Array 32.59 284 P **P 03 29 08.6 -0.5**
comp=Z,41nm,1.1s,baz=66,slow=9.0,SNR=112
ESDC PcP **PcP 03 31 55.1 -0.1**
comp=Z,2.3nm,1.0s,baz=67,slow=3.9,SNR=3.4
ESDC LR LR 03 42 53.4
comp=Z,3µm,21.2s,baz=70,slow=37
ESLA Sonseca Array 32.59 284 eP **P 03 29 08.4 -0.7**
comp=Z,165nm,1.4s
ESLA Sonseca Array 32.59 284 eP **P 03 29 08.3 -0.7**
comp=Z,165nm,1.4s
ESLA LR LR
comp=Z,5µm,18.0s
TAM Tamanrasset 32.73 249 eP **P 03 29 11.0 +0.5**
TAM pmax pmax
comp=Z,39nm,1.1s
TAM Tamanrasset 32.73 249 eP **P 03 29 11.0 +0.5**
comp=Z,39nm,1.1s
TAM Tamanrasset 32.73 249 eP **P 03 29 11.0 +0.5**
comp=Z,39nm,1.1s
TAM LR LR
comp=Z,2µm,20.0s
PAB San Pablo 32.91 284 eP **P 03 29 10.1 -1.8**
PAB pmax pmax
comp=Z,160nm,1.4s
PAB San Pablo 32.91 284 eP **P 03 29 10.1 -1.8**
comp=Z,160nm,1.4s
PAB San Pablo 32.91 284 eP **P 03 29 10.1 -1.8**
comp=Z,160nm,1.4s
PAB LR LR
comp=Z,5µm,18.0s
NVS Novosibirsk 33.20 48⇓ iP **P 03 29 14.9 +0.8**
NVS pmax pmax
comp=Z,114nm,1.2s
NVS pmax pmax
comp=N,30nm,1.3s
NVS pmax pmax
comp=E,55nm,1.3s
ZSN Zaisan 33.95 61 eP **P 03 29 16.3 -4.5**
comp=E,12nm,1.1s
ZSN eS **S 03 34 39.7 -6.1**
ZSN LR LR 03 42 47.3
comp=E,313nm,9.6s
ZAA0 Zalesovo Array 34.01 50 eP **P 03 29 20.2 -1.0**
ZAA0 Zalesovo Array 34.01 50 eP **P 03 29 20.2 -1.0**
ZALV Zalesovo Beam 34.01 50 P **P 03 29 20.7 -0.5**
comp=E,22nm,0.9s,baz=266,slow=9.2,SNR=32
ZALV LR LR 03 44 52.3
comp=E,2µm,21.8s,baz=252,slow=39
ZALV Zalesovo Beam 34.01 50 P **P 03 29 20.7 -0.5**
ZALV pmax pmax
comp=Z,22nm,0.9s
ZALV MLR MLR
comp=Z,2µm,21.8s
ZAA1 Zalesovo Array 34.01 50 eP **P 03 29 20.7 -0.5**
ZAA1 Zalesovo Array 34.01 50 eP **P 03 29 20.7 -0.5**
PBRG Braganca 34.17 289 eP **P 03 29 22.5 -0.3**
comp=Z,67nm,2.2s
PVLZ Peæn de 34.18 276 eS **S 03 34 45.4 -4.1**
MVO Moncorvo 34.52 288 eS **S 03 34 56.2 +1.3**
MVO eLR LR 03 40 10.7
comp=Z,4µm,20.0s
CEU Ceuta 34.75 278 eS **S 03 34 51.9 -6.4**
PVRL Vila Real 35.00 288 eP **P 03 29 29.9 -0.1**
comp=Z,78nm,1.8s
POLO Lamas de Olo 35.04 288 eP **P 03 29 30.1 -0.3**
comp=Z,44nm,2.0s
MTE Manteigas 35.08 286 eP **P 03 29 30.4 -0.3**
comp=Z,216nm,1.6s
MTE eS **S 03 35 09.1 +5.6**
MTE eLR LR 03 40 08.4
comp=Z,5µm,20.0s
MTE Manteigas 35.08 286 eP **P 03 29 30.2 -0.5**
comp=Z,307nm,1.6s
MTE Manteigas 35.08 286 eP **P 03 29 30.2 -0.5**
comp=Z,307nm,1.6s
MTE LR LR
comp=Z,4µm,19.0s
PCAB Cabril 35.14 289 eP **P 03 29 32.8 +1.7**
comp=Z,97nm,2.1s
PCBR Castelo Branco 35.17 285 eP **P 03 29 30.9 -0.5**
comp=Z,158nm,1.6s
SFS San Fernando 35.20 279 P **P 03 29 32.4 +0.7**
SFS pmax pmax
comp=Z,232nm,1.5s
SFS San Fernando 35.20 279 eS **S 03 34 58.8 -6.4**
PMRV Marv??o 35.22 285 eP **P 03 29 31.7 -0.1**
comp=Z,162nm,1.7s
PMRV eS **S 03 35 06.2 +0.7**
PMRV eLR LR 03 39 35.8
comp=Z,3µm,16.0s
PGAV Gavieira, Arco 35.26 289 eP **P 03 29 32.3 +0.1**
comp=Z,168nm,1.7s
PGAV eS **S 03 35 12.2 +6.0**
PGAV eLR LR 03 40 25.2
comp=Z,5µm,22.0s
PVIS Viseu 35.27 287 eP **P 03 29 32.3 0.0**
comp=Z,85nm,1.4s
PBAR Barrancos 35.30 283 eP **P 03 29 32.3 -0.2**
comp=Z,227nm,1.5s
PBAR eS **S 03 35 08.8 +2.0**
MDT Midelt 35.31 273 P **P 03 29 33.4 +0.6**
comp=Z,27nm,1.3s,baz=76,slow=10,SNR=29
PESTR Estremoz 35.52 284 eP **P 03 29 33.9 -0.5**
comp=Z,184nm,1.6s
PESTR eS **S 03 35 13.6 +3.5**
DGZ Jazzator, Alta 35.52 57 i P **P 03 29 34.6 +0.1**
DGZ pmax pmax
comp=Z,17nm,1.1s
VAL Valentia 35.58 307 eS **S 03 35 16.5 +5.8**
VAL Valentia 35.58 307⇓ iSS SS 03 37 46.3 +1.2
PCAS Casmilo, Conde 35.88 286 eP **P 03 29 37.5 0.0**
comp=Z,110nm,1.9s
PCAS eS **S 03 35 22.6 +7.0**
PTOM Tomar 35.93 285 eP **P 03 29 38.1 +0.2**
comp=Z,261nm,1.5s
EVO Evora 35.93 283 eP **P 03 29 37.6 -0.3**
comp=Z,54nm,1.6s
PBEJ Beja 35.97 283 eP **P 03 29 37.8 -0.5**
comp=Z,114nm,1.5s
PVAQ Vaqueiros 36.05 282 eP **P 03 29 38.8 -0.2**
comp=Z,164nm,1.6s
PVAQ eS **S 03 35 19.9 +1.7**
PVAQ eLR LR 03 41 03.2
comp=Z,2µm,20.0s
PCVE Castro Verde 36.22 282 eP **P 03 29 40.3 -0.1**
comp=Z,184nm,1.5s
PCVE eS **S 03 35 23.0 +2.1**
PBDV Barranco-do-Ve 36.26 281 eP **P 03 29 40.7 -0.1**
comp=Z,297nm,1.4s
PBDV eS **S 03 35 22.9 +1.3**
MESJ Messejana 36.29 282 eP **P 03 29 41.2 +0.2**
MESJ AMb AMB 03 29 44.5
comp=Z,97nm,1.6s
MESJ eS **S 03 35 23.9 +1.9**
MESJ Messejana 36.29 282 eP **P 03 29 41.2 +0.2**
MESJ eS **S 03 35 23.8 +1.9**
WMQ Urumqi 36.38 67 P **P 03 29 42.5 +0.6**
WMQ sP sP 03 29 50.3 +5.3
WMQ PP **PP 03 31 10.0 +5.5**
WMQ PcP **PcP 03 32 08.0 +1.8**
WMQ S **S 03 35 28.5 +5.1**
WMQ SS **SnSn 03 37 52.1 +1.5**
WMQ pmax pmax
comp=Z,59nm,1.3s
WMQ pmax pmax
comp=Z,410nm,3.8s
WMQ LR LR
comp=Z,6µm,9.6s
WMQ LR LR
comp=Z,5µm,7.6s
WMQ LR LR
comp=Z,5µm,10.0s
PNCL Nicolau / Gran 36.44 283 eP **P 03 29 42.4 +0.1**
comp=Z,97nm,1.7s
PNCL eS **S 03 35 25.9 +1.7**
LIS Lisbon 36.73 284 eP **P 03 29 44.9 +0.1**
LIS AMb AMB 03 29 47.1
comp=Z,165nm,1.1s
LIS eS **S 03 35 30.5 +1.9**
LIS Lisbon 36.73 284 eP **P 03 29 44.8 +0.1**
LIS eS **S 03 35 30.4 +1.9**
PMST Lisbon--Monsan 36.75 284 eP **P 03 29 45.7 +0.8**
comp=Z,358nm,1.4s
PMAFR Mafra 36.76 285 eP **P 03 29 45.3 +0.3**
comp=Z,218nm,1.5s
PMAFR eS **S 03 35 31.5 +2.4**
PTEO Sao Teotonio 36.77 282 eP **P 03 29 45.1 0.0**
comp=Z,174nm,1.7s
MORF Marmelete 36.78 282 eP **P 03 29 45.4 0.0**
MORF AMb AMB 03 29 49.6
comp=Z,143nm,2.3s
MORF eS **S 03 35 31.4 +1.8**
MORF Marmelete 36.78 282 eP **P 03 29 45.3 0.0**
comp=Z,147nm,2.2s
MORF eS **S 03 35 32.9 +3.3**
MORF Marmelete 36.78 282 eP **P 03 29 45.3 0.0**
MORF eS **S 03 35 31.4 +1.8**
PFVI Vila Bisbo 36.97 282 eP **P 03 29 46.9 0.0**
comp=Z,294nm,1.6s
PFVI eS **S 03 35 36.0 +3.6**
PFVI Vila Bisbo 36.97 282 eP **P 03 29 47.5 +0.7**
comp=Z,534nm,1.8s
PFVI Vila Bisbo 36.97 282 eP **P 03 29 47.5 +0.7**
comp=Z,534nm,1.8s
PFVI LR LR
comp=Z,2µm,20.0s
HOPEN Hopen 37.43 355 eP **P 03 29 50.1 -0.1**
HOPEN e 03 31 08.4
HOPEN Hopen 37.43 355 eP **P 03 29 50.1 -0.1**
SNR=26
PYUN Piuthan 38.21 94 eP **P 03 29 57.6 -0.1**
comp=Z,603nm,1.2s
JBP Jabalpur 38.53 103⇑ ex **P 03 29 59.0 -1.1**
JBP ex x 03 35 53.1
HSPB Hornsund (broa 38.75 352 eP **P 03 30 01.9 +0.6**
HSPB IAmb IAmb 03 30 06.2
comp=Z,72nm,1.4s
HSPB ePP **PP 03 31 27.0 -2.8**
HSPB Hornsund (broa 38.75 352 eP **P 03 30 00.0 -1.3**
HSPB e 03 31 27.0
HSPB e 03 32 11.2
HSPB MLR MLR
comp=Z,5µm,22.9s
HSPB Hornsund (broa 38.75 352 eP **P 03 30 01.9 +0.6**
SNR=26
HSPB Hornsund (broa 38.75 352 ePP PP 03 31 27.0 -2.8
SNR=35
KOLN Koldanda 38.84 94 eP **P 03 30 02.9 -0.1**
comp=Z,323nm,1.1s
KLRI Killari 39.18 112 eP **P 03 30 03.9 -1.8**
KLRI IAmb IAmb 03 30 14.1
comp=Z,170nm,2.0s
KLRI ePP **PP 03 31 34.3 -1.1**
KLRI eS **S 03 36 05.7 -0.4**
KLRI IVMs_BB IVMs_BB 03 49 04.2
comp=Z,4µm,15.7s
NRIK Noril'sk 39.24 25 P **P 03 30 05.3 -0.2**
comp=Z,43nm,1.0s,baz=245,slow=6.7,SNR=38
NRIK LR LR 03 48 01.2
comp=Z,4µm,21.3s,baz=244,slow=39
JMIC Jan Mayen 39.41 338 eS **S 03 36 09.9 +1.4**
JMIC Jan Mayen 39.41 338 eS **S 03 36 09.9 +1.4**
SNR=27
GKN Gorkha 39.52 93 eP **P 03 30 08.7 +0.1**
comp=Z,788nm,1.2s
SPA0 Spitsbergen Ar 39.70 353 eP **P 03 30 09.4 0.0**
SPA0 IAmb IAmb 03 30 32.6
comp=Z,83nm,1.1s
SPA0 ePP **PP 03 31 39.0 -1.2**
SPA0 eS **S 03 36 13.4 +0.6**
SPA0 Spitsbergen Ar 39.70 353 eP **P 03 30 09.4 0.0**
SNR=26
SPA0 Spitsbergen Ar 39.70 353 eP **P 03 30 13.3 +4.0**
SPITS Spitsbergen Ar 39.70 353 P **P 03 30 08.5 -0.9**
comp=Z,17nm,0.9s,baz=161,slow=24,SNR=5.6
SRSP Sriramsagar 39.88 110 eP **P 03 30 09.6 -1.9**
SRSP IAmb IAmb 03 30 19.7
comp=Z,77nm,1.5s
SRSP ePP **PP 03 31 41.5 -1.5**
SRSP eS **S 03 36 16.3 -0.3**
SRSP IVMs_BB IVMs_BB 03 49 02.2
comp=Z,3µm,14.7s
DMN Daman 40.08 93 eP **P 03 30 13.6 +0.2**
comp=Z,915nm,1.2s
KKN Kakani 40.12 93 eP **P 03 30 13.6 -0.1**
comp=Z,421nm,1.1s
PKIN Phulchoki 40.32 93 eP **P 03 30 15.2 -0.2**
comp=Z,538nm,1.2s
PKI Pulchoki 40.33 93 eP **P 03 30 15.5 0.0**
comp=Z,751nm,1.2s
GUN Gumba 40.53 92 eP **P 03 30 17.3 +0.1**
comp=Z,1µm,1.2s
KMBO Kilima Mbogo 40.62 182 P **P 03 30 18.2 +0.4**
comp=Z,1.5nm,0.5s,baz=358,slow=7.8,SNR=13
KMBO LR LR 03 46 23.6
comp=Z,3µm,18.5s,baz=355,slow=35
KMBO Kilima Mbogo 40.62 182 eP **P 03 30 19.4 +1.6**
comp=Z,57nm,1.8s
KMBO Kilima Mbogo 40.62 182 eP **P 03 30 19.4 +1.6**
comp=Z,57nm,1.8s
KMBO Kilima Mbogo 40.62 182 P **P 03 30 19.9 +2.1**
SNR=11
KMBO Kilima Mbogo 40.62 182 P **P 03 30 19.9 +2.1**
SNR=11
RPR Rampur 40.62 109 eP **P 03 30 15.6 -1.9**
RPR IAmb IAmb 03 30 26.4
comp=Z,63nm,1.4s
RPR ePP **PP 03 31 50.7 -0.3**
RPR eS **S 03 36 27.0 -0.6**
RPR IVMs_BB IVMs_BB 03 49 18.1
comp=Z,3µm,14.7s
KBS Kingsbay 40.80 352 ePP PP 03 31 49.0 -3.1
KBS eS **S 03 36 29.7 +0.7**
KBS Kingsbay 40.80 352 PFAKE 03 30 30.0 +12
KBS LR LR
comp=Z,4µm,19.0s
JIRN Jiri 40.89 92 eP **P 03 30 20.5 +0.3**
comp=Z,4µm,1.3s
HYBB Hyderabad (bro 41.00 111 eP **P 03 30 21.0 +0.2**
HYBB IAmb IAmb 03 30 22.2
comp=Z,101nm,1.7s
HYBB ePP **PP 03 31 53.5 -1.9**
HYBB eScP **ScP 03 36 12.7 +1.7**
HYBB eS **S 03 36 32.5 -1.0**
HYBB IVMs_BB IVMs_BB 03 49 49.7
comp=Z,2µm,14.6s
HYB Hyderabad 41.01 111 i P **P 03 30 21.5 +0.7**
HYB ePP **PnPn 03 31 59.0 -0.6**
HYB eScP **ScP 03 36 10.0 -1.0**
HYB eS **S 03 36 36.0 +2.5**
RAMN Ramite 41.56 93 eP **P 03 30 25.3 -0.3**
comp=Z,721nm,1.2s
URV Uravakonda 41.74 115 eP **P 03 30 25.0 -1.9**
URV IAmb IAmb 03 30 28.1
comp=Z,33nm,1.1s

URV *e*PP **PP** **03 32 02.3 -1.1**
URV *e*S **S** **03 36 45.7 +1.3**
URV IVMs_BB IVMs_BB 03 51 56.9
comp=Z,1µm,13.6s
TOC2 Torodi Ar. Sit 41.87 241 PFAKE 03 30 40.0 +12
TOC2 LR LR
comp=Z,4µm,19.0s
TOC1 Torodi Ar. Sit 41.87 241 PFAKE 03 30 40.0 +12
TOC1 LR LR
comp=Z,4µm,19.0s
TOB2 Torodi Ar. Sit 41.88 241 PFAKE 03 30 40.0 +12
TOB2 LR LR
comp=Z,4µm,20.0s
TOC3 Torodi Ar. Sit 41.88 241 PFAKE 03 30 40.0 +12
TOC3 LR LR
comp=Z,4µm,20.0s
TOA1 Torodi Ar. Sit 41.89 241 *e*P **P** **03 30 26.6 -1.5**
comp=Z,50nm,1.1s
TOA1 Torodi Ar. Sit 41.89 241 *e*P **P** **03 30 26.6 -1.5**
comp=Z,50nm,1.1s
TOA1 *e*PcP **PcP** **03 32 22.8 -1.0**
TOA1 *e*ScP **ScP** **03 36 15.2 +0.8**
TOA0 Torodi Ar. Sit 41.90 241 *e*P **P** **03 30 27.6 -0.5**
TOA0 Torodi Ar. Sit 41.90 241 *e*P **P** **03 30 27.6 -0.5**
TORD Torodi Ar. Bea 41.90 241 P **P** **03 30 26.6 -1.5**
comp=Z,9.7nm,0.9s,baz=40,slow=7.2,SNR=36
TORD PcP **PcP** **03 32 22.8 -1.0**
comp=Z,2.6nm,0.9s,baz=51,slow=3.0,SNR=4.5
TORD ScP **ScP** **03 36 15.2 +0.8**
comp=Z,0.6nm,1.0s,baz=69,slow=1.7,SNR=3.8
TORD LR LR 03 51 08.0
comp=Z,4µm,19.1s,baz=55,slow=41
TOB5 Torodi Ar. Sit 41.90 241 PFAKE 03 30 40.0 +12
TOB5 LR LR
comp=Z,4µm,19.0s
TOB4 Torodi Ar. Sit 41.91 241 PFAKE 03 30 40.0 +12
TOB4 LR LR
comp=Z,4µm,19.0s
TOC4 Torodi Ar. Sit 41.91 241 PFAKE 03 30 40.0 +12
TOC4 LR LR
comp=Z,4µm,19.0s
TOC5 Torodi Ar. Sit 41.92 241 PFAKE 03 30 40.0 +12
TOC5 LR LR
comp=Z,4µm,20.0s
NJS Nagarjunasagar 42.11 111 *e*P **P** **03 30 28.4 -1.4**
NJS IAmb IAmb 03 30 36.2
comp=Z,30nm,1.1s
NJS *e*PP **PP** **03 32 06.4 -0.9**
NJS *e*S **S** **03 36 47.6 -2.2**
NJS IVMs_BB IVMs_BB 03 50 39.5
comp=Z,2µm,17.4s
SRLM Srisailam 42.12 112 *e*P **P** **03 30 28.7 -1.3**
SRLM IAmb IAmb 03 30 31.6
comp=Z,89nm,1.4s
SRLM *e*PP **PP** **03 32 06.4 -1.0**
SRLM *e*S **S** **03 36 47.8 -2.2**
SRLM IVMs_BB IVMs_BB 03 50 50.2
comp=Z,3µm,14.1s
ODAN Odare 42.21 92 *e*P **P** **03 30 31.1 +0.2**
comp=Z,745nm,1.2s
TAPN Taplejung 42.22 92 *e*P **P** **03 30 30.9 -0.1**
comp=Z,414nm,1.2s
BORG Borgarnes 42.28 326 LR LR 03 51 12.2
comp=Z,881nm,18.5s,baz=98,slow=41
RCLA Racherla 42.59 113 *e*P **P** **03 30 32.8 -1.0**
RCLA IAmb IAmb 03 30 35.5
comp=Z,98nm,1.3s
RCLA *e*PP **PP** **03 32 10.4 -2.1**
RCLA *e*S **S** **03 36 56.8 -0.1**
RCLA IVMs_BB IVMs_BB 03 51 08.2
comp=Z,2µm,12.9s
ADKI Addanki 43.06 112 *e*P **P** **03 30 36.1 -1.4**
ADKI IAmb IAmb 03 30 42.8
comp=Z,126nm,1.9s
ADKI *e*PP **PP** **03 32 16.3 -1.2**
ADKI *e*S **S** **03 37 04.3 +0.6**
ADKI IVMs_BB IVMs_BB 03 51 08.3
comp=Z,2µm,16.2s
PVM Polavaram 43.34 108 *e*P **P** **03 30 44.4 +4.5**
LSA Lhasa 43.74 86 Pn **P** **03 30 44.8 +1.2**
LSA smax smax
comp=N,9.0nm,2.2s
LSA smax smax
comp=E,39nm,1.5s
LSA Lhasa 43.74 86 *e*P **P** **03 30 45.6 +2.0**
LSA pmax pmax
comp=Z,85nm,1.1s
LSA MLR MLR
comp=Z,4µm,22.0s
LSA Lhasa 43.74 86 *e*P **P** **03 30 45.6 +2.0**
comp=Z,85nm,1.1s
LSA Lhasa 43.74 86 *e*P **P** **03 30 45.6 +2.0**
comp=Z,86nm,1.1s
LSA LR LR
comp=Z,4µm,22.0s
MOY Mondy 43.89 53 *e*P **P** **03 30 44.9 +0.9**
MOY pmax pmax
comp=Z,119nm,1.7s
PMPS Porto Santo 44.20 279 *e*P **P** **03 30 47.0 +0.4**
comp=Z,442nm,1.5s
SKHT Srikalahasti 44.29 114 *e*P **P** **03 30 46.1 -1.3**
SKHT IAmb IAmb 03 30 49.6
comp=Z,69nm,1.7s
SKHT *e*PP **PP** **03 32 29.3 -1.4**
SKHT *e*S **S** **03 37 24.6 +2.9**
SKHT IVMs_BB IVMs_BB 03 52 12.5
comp=Z,2µm,14.4s
CHLP Challavanipeta 44.36 105 *e*P **P** **03 30 48.8 +0.8**
CHLP IAmb IAmb 03 30 50.6
comp=Z,175nm,1.4s
CHLP *e*PP **PP** **03 32 29.2 -2.1**
CHLP *e*S **S** **03 37 23.2 +0.5**
CHLP IVMs_BB IVMs_BB 03 51 23.9
comp=Z,2µm,14.6s
DAG Danmarks Havn 44.39 344 *i* P **P** **03 30 51.5 +4.0**
comp=Z,2µm,21.0s
DAG Danmarks Havn 44.39 344 *e*P **P** **03 30 51.5 +4.0**
DAG MLR MLR
comp=Z,2µm,21.0s
PMAR Madeira 44.78 279 *e*P **P** **03 30 52.1 +0.6**
comp=Z,441nm,1.4s
FUL Funchal 44.80 279 *e*P **P** **03 30 52.0 +0.6**
comp=Z,218nm,1.6s
PMOZ Porto Moniz, M 44.96 279 *e*P **P** **03 30 53.5 +0.7**
comp=Z,182nm,1.7s
TLY Talaya 45.51 52 *d i*P **P** **03 30 57.4 +0.6**
TLY *e*S **S** **03 37 46.2 +7.4**
TLY *e*SS **SS** **03 40 58.3 -3.6**
TLY *e*SSS SSS 03 41 48.9
TLY pmax pmax
comp=Z,110nm,1.2s
TLY MLR MLR
comp=Z,3µm,18.0s
TLY Talaya 45.51 52 *e*P **P** **03 30 57.8 +1.0**
comp=Z,146nm,1.4s
TLY Talaya 45.51 52 *e*P **P** **03 30 57.8 +1.0**
comp=Z,146nm,1.4s
TLY LR LR
comp=Z,4µm,18.0s
ZAK Zakamensk 45.55 54 *e*P **P** **03 30 57.8 +0.5**
ZAK pmax pmax
comp=Z,33nm,1.4s
IRK Irkutsk 45.78 51 *e*P **P** **03 30 58.6 -0.4**
IRK pmax pmax
comp=Z,177nm,1.6s
GTA Gaotai 46.32 70 *e*P **P** **03 31 04.3 +0.7**
GTA pP sP 03 31 08.5 +1.8
GTA sP pP 03 31 11.5 +5.7
GTA PcS **PcS** **03 36 33.8 +0.4**
GTA S **S** **03 37 57.1 +6.1**
GTA sS sS 03 38 03.5 +8.8
GTA pmax pmax
comp=Z,34nm,1.1s
GTA pmax pmax
comp=Z,270nm,5.9s
GTA LR LR
comp=Z,2µm,14.3s
GTA LR LR
comp=Z,3µm,13.3s
GTA LR LR
comp=Z,3µm,14.3s
MSEY Mahe Island 46.76 157 PFAKE 03 31 20.0 +13
MSEY LR LR
comp=Z,3µm,20.0s
SONA0 Songino Array 48.17 57 *e*P **P** **03 31 18.1 +0.3**
comp=Z,30nm,1.3s
SONA0 *e*PcP **PcP** **03 32 44.6 -0.6**
SONM Songino Array 48.17 57 P **P** **03 31 18.1 +0.3**
comp=Z,10nm,1.1s,baz=274,slow=6.1,SNR=23
SONM PcP **PcP** **03 32 44.6 -0.6**
comp=Z,6.9nm,1.0s,baz=262,slow=3.4,SNR=6.5
SONM LR LR 03 53 34.1
comp=Z,6µm,20.1s,baz=290,slow=39
SONA1 Songino Array 48.17 57 *e*P **P** **03 31 17.6 -0.3**
SONA1 Songino Array 48.17 57 *e*P **P** **03 31 17.6 -0.3**
ULN Ulaanbaatar 48.58 57 *d i*P **P** **03 31 20.9 -0.2**
ULN pmax pmax
comp=Z,118nm,1.2s
ULN MLR MLR
comp=Z,5µm,18.0s
ULN Ulaanbaatar 48.58 57 *e*P **P** **03 31 21.3 +0.2**
comp=Z,114nm,1.2s
ULN Ulaanbaatar 48.58 57 *e*P **P** **03 31 21.3 +0.2**
comp=Z,114nm,1.2s
ULN LR LR
comp=Z,6µm,20.0s
ULN Ulaanbaatar 48.58 57 P **P** **03 31 22.2 +1.1**
SNR=41
ULN Ulaanbaatar 48.58 57 P **P** **03 31 22.2 +1.1**
SNR=41
ULN P **P** **03 31 22.2 +1.1**
SNR=41
SUMG Summit 48.85 337 *i* P **P** **03 31 22.8 -0.3**
SUMG Summit 48.85 337 *e*P **P** **03 31 22.8 -0.3**
SUMG Summit 48.85 337 *e*P **P** **03 31 26.2 +3.1**
SUMG Summit 48.85 337 *e*P **P** **03 31 26.2 +3.1**
SUMG *e*PcP **PcP** **03 32 48.1 +0.6**
SUMG LR LR
comp=Z,3µm,18.0s
PSMN Pico do Norte, 49.12 288 *e*LR LR 03 46 38.7
comp=Z,2µm,22.6s
CMLA Cha da Macela 49.16 289 *e*LR LR 03 46 34.4
CMLA Cha da Macela 49.16 289 PFAKE 03 31 40.0 +15
CMLA LR LR
comp=Z,3µm,22.0s
PSET Sete Cidades 49.28 290 *e*LR LR 03 47 12.7
comp=Z,2µm,21.7s
PALK Pallekele 49.55 119 P **P** **03 31 29.3 +0.6**
comp=Z,35nm,1.2s,baz=296,slow=9.4,SNR=8.5
PALK Pallekele 49.55 119 *i* P **P** **03 31 29.4 +0.6**
SNR=6.3
PALK Pallekele 49.55 119 *e*P **P** **03 31 29.7 +1.0**
comp=Z,210nm,1.6s
PALK Pallekele 49.55 119 *e*P **P** **03 31 29.7 +1.0**
comp=Z,210nm,1.6s
PALK LR LR
comp=Z,3µm,20.0s
BOD Bodaibo 50.08 42 *e*P **P** **03 31 30.5 -1.7**
BOD pmax pmax
comp=Z,141nm,1.1s
PGRA Graciosa 50.43 292 *e*LR LR 03 46 50.0
comp=Z,2µm,20.1s
LZH Lanzhou 50.55 72 ⇑P **P** **03 31 38.3 +2.0**
LZH pP sP 03 31 42.5 +3.1
LZH sP pP 03 31 45.0 +6.4
LZH PP **PP** **03 33 36.3 +4.4**
LZH *e*S **S** **03 38 48.1 -2.9**
LZH pmax pmax
comp=Z,180nm,1.3s
LZH pmax pmax
comp=Z,660nm,7.8s
LZH LR LR
comp=Z,3µm,14.9s
LZH LR LR
comp=Z,3µm,16.7s
LZH LR LR
comp=Z,4µm,18.4s
ROSA Rosais 50.74 292 *e*LR LR 03 46 31.6
comp=Z,1µm,22.6s
DBIC Dimbokro 51.00 242 P **P** **03 31 38.3 -1.4**
comp=Z,31nm,1.1s,baz=25,slow=9.7,SNR=13
DBIC LR LR 03 56 33.4
comp=Z,2µm,19.9s,baz=32,slow=40
DBIC Dimbokro 51.00 242 *e*P **P** **03 31 39.2 -0.4**
comp=Z,96nm,1.4s
DBIC Dimbokro 51.00 242 *e*P **P** **03 31 39.2 -0.4**
comp=Z,96nm,1.4s
TIC Toumodi 51.13 242 *e*P **P** **03 31 39.4 -1.3**
KIC Kosan Boka 51.15 241 *e*P **P** **03 31 39.1 -1.7**
comp=Z,334nm,1.5s
CIT Chita 51.37 50 *e*P **P** **03 31 44.4 +2.3**
CIT *e* 03 31 52.6
CIT pmax pmax
comp=Z,146nm,1.4s
LIC Lamto 51.44 241 *e*P **P** **03 31 41.9 -1.1**
comp=Z,192nm,1.1s
H07S1 FLORES T-PHASE 52.59 294 *e*LR LR 03 47 08.4
CD2 Chengdu 52.81 78 P **P** **03 31 53.9 +0.8**
CD2 sP sP 03 32 00.3 +4.1
CD2 PcP **PcP** **03 33 03.8 +1.3**
CD2 S **S** **03 39 20.5 -1.4**
CD2 ScS **ScS** **03 41 36.1 -7.4**
CD2 pmax pmax
comp=Z,70nm,1.4s
CD2 pmax pmax
comp=Z,160nm,10.4s
CD2 LR LR
comp=Z,2µm,24.7s
CD2 LR LR
comp=Z,2µm,19.9s
CD2 LR LR
comp=Z,2µm,19.9s
TIXI Tiksi 52.97 23 P **P** **03 31 53.0 -0.6**
comp=Z,33nm,1.0s,baz=285,slow=6.8,SNR=5.4
TIXI Tiksi 52.97 23 *d i*P **P** **03 31 52.7 -0.9**
TIXI pmax pmax
comp=Z,86nm,1.7s
TIXI Tiksi 52.97 23 *e*P **P** **03 31 53.0 -0.6**
TIXI LR LR
comp=Z,2µm,21.0s
SFJD Kangerlussuaq 53.96 331 LR LR 03 56 24.1
comp=Z,486nm,18.8s,baz=77,slow=38
SFJD Kangerlussuaq 53.96 331 PFAKE 03 32 10.0 +9.1
SFJD LR LR
comp=Z,3µm,18.0s
HHC Hu-ho-hao-te 54.09 64 *e*P **P** **03 32 03.1 +0.7**
HHC S **S** **03 39 38.0 -1.2**
HHC ScS **ScS** **03 41 50.1 -2.2**
HHC SS **SS** **03 43 17.8 -2.5**
HHC pmax pmax
comp=Z,48nm,1.2s
HHC pmax pmax
comp=Z,370nm,5.6s
HHC LR LR
comp=Z,5µm,18.5s
HHC LR LR
comp=Z,2µm,18.5s
HHC LR LR
comp=Z,2µm,18.5s
BBTS Babate 54.11 259 P **P** **03 32 02.5 -0.2**
comp=Z,69nm,1.1s,baz=28,slow=3.3,SNR=6.9
KMI Kunming 54.94 85 P **P** **03 32 09.6 +0.7**
KMI pP sP 03 32 13.8 +1.7
KMI sP pP 03 32 15.6 +4.4
KMI PP **PP** **03 34 17.1 +5.3**
KMI S **S** **03 39 46.9 -4.3**
KMI pmax pmax
comp=Z,38nm,1.2s
KMI pmax pmax
comp=Z,200nm,3.1s
KMI LR LR
comp=Z,2µm,24.6s
KMI LR LR
comp=Z,910nm,26.5s
KMI LR LR
comp=Z,1µm,24.9s
XAN Xi'an 55.19 72 P **P** **03 32 10.8 +0.4**
XAN PcP **PcP** **03 33 12.9 +1.4**
XAN PP **PP** **03 34 15.5 +1.8**
XAN S **S** **03 39 52.0 -2.1**
XAN ScS **ScS** **03 41 57.8 -2.5**
XAN SS **SS** **03 43 36.5 -1.3**
XAN pmax pmax
comp=Z,67nm,1.4s
XAN pmax pmax
comp=Z,260nm,9.0s
XAN LR LR
comp=Z,2µm,14.7s
XAN LR LR
comp=Z,2µm,18.3s
XAN LR LR
comp=Z,3µm,16.8s
CHTO Chiang Mai 55.50 94 P **P** **03 32 13.3 +0.5**
comp=Z,206nm,1.5s,comp=Z,3µm
CHTO Chiang Mai 55.50 94 *e*P **P** **03 32 13.3 +0.5**
CHTO pmax pmax
comp=Z,191nm,1.9s
CHTO MLR MLR
comp=Z,2µm,22.0s
CHTO Chiang Mai 55.50 94 *e*P **P** **03 32 13.3 +0.5**
comp=Z,190nm,1.9s
CHTO Chiang Mai 55.50 94 *e*P **P** **03 32 13.3 +0.5**
comp=Z,190nm,1.9s
CHTO LR LR
comp=Z,2µm,22.0s
CHTO Chiang Mai 55.50 94 P **P** **03 32 14.2 +1.4**
SNR=12
CHTO Chiang Mai 55.50 94 P **P** **03 32 14.2 +1.4**
SNR=12
CHTO P **P** **03 32 14.2 +1.4**
SNR=12
CMMT Chiang Mai 55.51 94 P **P** **03 32 13.3 +0.5**
comp=Z,42nm,1.4s,comp=Z,793nm
LSZ Lusaka 55.52 192 P **P** **03 32 13.1 +0.2**
comp=Z,14nm,1.1s,baz=14,slow=7.1,SNR=22
LSZ Lusaka 55.52 192 *e*P **P** **03 32 13.4 +0.5**
LSZ pmax pmax
comp=Z,206nm,1.8s
LSZ MLR MLR
comp=Z,4µm,21.0s
LSZ Lusaka 55.52 192 *e*P **P** **03 32 13.4 +0.5**
comp=Z,206nm,1.8s
LSZ Lusaka 55.52 192 *e*P **P** **03 32 13.4 +0.5**
comp=Z,206nm,1.8s
LSZ LR LR
comp=Z,4µm,21.0s
LSZ Lusaka 55.52 192 P **P** **03 32 14.6 +1.6**
SNR=19
LSZ Lusaka 55.52 192 P **P** **03 32 14.6 +1.6**
SNR=19
LSZ P **P** **03 32 14.6 +1.6**
SNR=19
CM31 Chiang Mai Arr 55.71 94 *e*P **P** **03 32 15.9 +1.6**
CM31 Chiang Mai Arr 55.71 94 *e*P **P** **03 32 15.8 +1.6**
CM31 *e*PP **PP** **03 34 19.4 +0.9**
CMAR Chiang Mai Arr 55.71 94 P **P** **03 32 14.1 -0.2**
comp=Z,21nm,1.0s,baz=301,slow=7.6,SNR=68
CMAR PP **PP** **03 34 19.4 +0.9**
comp=Z,21nm,1.1s,baz=296,slow=9.6,SNR=10
CMAR LR LR 04 01 33.7
comp=Z,2µm,19.8s,baz=288,slow=42
CM01 Chiang Mai Arr 55.74 94 *e*P **P** **03 32 14.7 +0.2**
CM01 Chiang Mai Arr 55.74 94 *e*P **P** **03 32 14.7 +0.2**
CLNS Chul'man 56.01 41 *e*P **P** **03 32 15.7 -0.2**
CLNS pmax pmax
comp=N,9.0nm,0.9s
CLNS pmax pmax
comp=Z,24nm,0.8s
CLNS pmax pmax
comp=E,10.0nm,1.0s
CLNS MLR MLR
comp=N,2µm,19.0s
CLNS MLR MLR
comp=Z,4µm,21.0s
HIA Hailar 56.02 51 *e*P **P** **03 32 16.8 +0.6**
HIA pmax pmax
comp=Z,145nm,1.4s
HIA MLR MLR
comp=Z,2µm,18.0s
HIA Hailar 56.02 51 *e*P **P** **03 32 16.8 +0.6**
comp=Z,145nm,1.4s
HIA Hailar 56.02 51 *e*P **P** **03 32 16.8 +0.6**
comp=Z,145nm,1.4s
HIA LR LR
comp=Z,2µm,18.0s
TIY Taiyuan 56.05 67 *e*P **P** **03 32 17.5 +0.9**
TIY S **S** **03 40 07.3 +1.8**
TIY LR LR
comp=Z,4µm,19.4s
TIY LR LR
comp=Z,500nm,8.9s
TIY LR LR
comp=Z,2µm,17.3s
LAMP Lampang 56.20 93 P **P** **03 32 19.2 +1.4**
comp=Z,20nm,1.3s,comp=Z,279nm
YAK Yakutsk 56.34 34 P **P** **03 32 16.9 -1.2**
comp=Z,32nm,0.5s,baz=280,slow=2.4,SNR=8.4
YAK Yakutsk 56.34 34 *i* P **P** **03 32 16.7 -1.4**
YAK pmax pmax
comp=Z,76nm,1.0s
YAK Yakutsk 56.34 34 *e*P **P** **03 32 15.6 -2.6**
comp=Z,139nm,1.1s
YAK Yakutsk 56.34 34 *e*P **P** **03 32 15.6 -2.6**
comp=Z,139nm,1.1s
YAK LR LR
comp=Z,4µm,19.0s
SUKH Sukhothai 56.81 94 P **P** **03 32 23.3 +1.2**
comp=Z,16nm,1.2s,comp=Z,167nm
NANT Nan 56.86 92 P **P** **03 32 23.0 +0.5**
comp=Z,9.9nm,1.2s
UMPA Umpang Tak 56.97 96 P **P** **03 32 25.6 +2.3**
comp=Z,23nm,1.2s,comp=Z,964nm
GYA Guiyang 57.24 81 P **P** **03 32 25.8 +0.5**
GYA PP **PP** **03 34 33.6 +1.4**
GYA S **S** **03 40 20.0 -1.7**
GYA SS **SS** **03 44 09.4 -1.1**
GYA pmax pmax
comp=Z,20nm,1.0s
GYA pmax pmax
comp=Z,140nm,6.3s
GYA LR LR
comp=Z,610nm,19.2s
GYA LR LR
comp=Z,550nm,20.6s
UTTA Uttaradit 57.37 94 P **P** **03 32 27.2 +1.1**
comp=Z,12nm,1.4s,comp=Z,122nm
ENH Enshi 57.43 76 *e*P **P** **03 32 24.9 -1.6**
comp=Z,173nm,1.4s
ENH Enshi 57.43 76 *e*P **P** **03 32 24.9 -1.6**
comp=Z,173nm,1.4s
ENH LR LR
comp=Z,2µm,22.0s
BJI Beijing 57.61 63 P **P** **03 32 27.3 -0.2**
BJI S **S** **03 40 25.4 -0.5**
BJI pmax pmax
comp=Z,45nm,1.4s
BJI pmax pmax
comp=Z,400nm,3.9s
BJI LR LR
comp=Z,6µm,22.0s
BJI LR LR
comp=Z,3µm,27.1s
BJI LR LR
comp=Z,2µm,24.3s
BJT Baijiatuau 57.62 63 *e*P **P** **03 32 28.2 +0.6**
BJT MLR MLR
comp=Z,3µm,21.0s
BJT Baijiatuau 57.62 63 *e*P **P** **03 32 28.2 +0.6**
BJT Baijiatuau 57.62 63 *e*P **P** **03 32 28.2 +0.6**
BJT LR LR
comp=Z,3µm,21.0s
UTHA Uthaitani 57.81 96 P **P** **03 32 30.5 +1.3**
comp=Z,16nm,1.3s,comp=Z,162nm
SLVN Son La 57.90 88 *e*P **P** **03 32 31.0 +1.1**
comp=Z,65nm,1.5s
SLVN Son La 57.90 88 *e*P **P** **03 32 30.9 +1.1**
comp=Z,65nm,1.5s
SLVN LR LR
comp=Z,1µm,19.0s
SRDT SRDT 58.30 98 P **P** **03 32 33.9 +1.3**
comp=Z,137nm,1.4s
OPO Ambohidratompo 58.48 171 P **P** **03 32 33.9 0.0**
comp=Z,10nm,1.1s,baz=171,slow=22,SNR=6.3
ABPO Ambohimpanom 58.92 171 *e*P **P** **03 32 37.8 +0.9**
ABPO pmax pmax
comp=Z,69nm,1.6s
ABPO MLR MLR
comp=Z,3µm,22.0s
ABPO Ambohimpanom 58.92 171 *e*P **P** **03 32 37.8 +0.9**
comp=Z,69nm,1.6s
ABPO Ambohimpanom 58.92 171 *e*P **P** **03 32 37.8 +0.9**
comp=Z,69nm,1.6s
ABPO LR LR
comp=Z,3µm,22.0s
CHAI Chaiyaphum 59.56 94 P **P** **03 32 42.2 +0.8**
comp=Z,15nm,1.4s,comp=Z,279nm
PHET Kaeng Krachan 59.57 99 P **P** **03 32 42.7 +1.2**

comp=Z,25nm,1.0s,comp=Z,241nm
NAYO Nakonayok 60.00 96 P **P** **03 32 45.6 +1.2**
comp=Z,54nm,1.4s
TIA Tai'an 60.07 66 *e*P **P** **03 32 45.0 +0.3**
TIA S **S** **03 41 02.3 +4.3**
TIA pmax pmax
comp=Z,40nm,1.2s
TIA pmax pmax
comp=Z,300nm,5.0s
TIA LR LR
comp=Z,2μm,19.0s
TIA LR LR
comp=Z,1μm,19.0s
TIA LR LR
comp=Z,2μm,20.0s
SKNT Sakolnakorn 60.46 92 P **P** **03 32 48.3 +0.7**
comp=Z,77nm,1.5s
MATP Matopo 60.53 191 P **P** **03 32 48.2 +0.3**
comp=Z,15nm,1.0s,baz=8.8,slow=8.1,SNR=20
WHN Wuhan 60.91 73⇓ *i*P **P** **03 32 52.3 +1.8**
WHN PP **PP** **03 35 10.3 +5.9**
WHN S **S** **03 41 11.1 +2.3**
WHN ScS SKKSac 03 42 41.5 -0.5
WHN pmax pmax
comp=Z,270nm,1.4s
WHN LR LR
comp=Z,2μm,18.0s
WHN LR LR
comp=Z,3μm,12.2s
WHN LR LR
comp=Z,3μm,14.9s
SNY Shenyang 61.73 58⇑P **P** **03 32 58.3 +2.4**
SNY pmax pmax
comp=Z,19nm,1.1s
SNY pmax pmax
comp=Z,210nm,3.9s
SNY LR LR
comp=Z,4μm,22.0s
SNY LR LR
comp=Z,4μm,22.2s
SNY LR LR
comp=Z,6μm,18.8s
TSUM Tsumeb 61.79 203 P **P** **03 32 57.1 +0.6**
comp=Z,7.9nm,0.9s,baz=358,slow=8.9,SNR=8.8
DL2 Dalian 61.87 61 P **P** **03 32 56.3 -0.5**
DL2 S **S** **03 41 23.3 +2.6**
DL2 pmax pmax
comp=Z,74nm,1.4s
DL2 pmax pmax
comp=Z,270nm,5.7s
DL2 LR LR
comp=Z,3μm,25.3s
DL2 LR LR
comp=Z,3μm,26.1s
DL2 LR LR
comp=Z,3μm,18.0s
RES Resolute Bay 61.87 347 PFAKE 03 33 10.0 +14
RES LR LR
comp=Z,3μm,19.0s
CN2 Changchun 61.97 55 *e*P **P** **03 32 56.6 -0.9**
CN2 *es*P sP 03 33 03.6 +2.9
CN2 *e*S **S** **03 41 17.8 -4.1**
CN2 pmax pmax
comp=Z,10.0nm,1.1s
CN2 pmax pmax
comp=Z,200nm,4.0s
CN2 LR LR
comp=Z,2μm,22.0s
CN2 LR LR
comp=Z,3μm,22.0s
CN2 LR LR
comp=Z,1μm,23.0s
FRB Frobisher Bay 62.11 331 P **P** **03 32 57.8 -0.2**
comp=Z,35nm,1.0s,baz=47,slow=6.6,SNR=7.3
FRB Frobisher Bay 62.11 331 P **P** **03 32 57.8 -0.2**
FRB pmax pmax
comp=Z,54nm,1.1s
UBPT Khong Chiam 62.61 93 P **P** **03 33 03.2 +1.1**
comp=Z,39nm,2.4s
MLSI Meulaboh, Aceh 62.74 108 P **P** **03 33 01.8 -1.2**
comp=Z,80nm,1.3s
TRTT Trang 62.83 103 P **P** **03 33 03.7 +0.1**
comp=Z,61nm,1.0s
KLR Kul'dur 63.07 47 *i* P **P** **03 33 04.0 -0.7**
QIZ Qiongzhong 63.79 86 P **P** **03 33 09.6 -0.3**
QIZ S **S** **03 41 45.6 +0.3**
QIZ SS **SS** **03 45 57.3 +4.2**
QIZ pmax pmax
comp=Z,140nm,2.3s
QIZ LR LR
comp=Z,1μm,16.5s
QIZ LR LR
comp=Z,2μm,16.5s
QIZ LR LR
comp=Z,1μm,23.4s
QIZ Qiongzhong 63.79 86 PFAKE 03 33 20.0 +10
QIZ LR LR
comp=Z,1μm,22.0s
TPTI 63.99 109 P **P** **03 33 10.9 -0.4**
comp=Z,66nm,1.2s
MDJ Mudanjiang 64.14 53 P **P** **03 33 10.8 -1.1**
MDJ PcP **PcP** **03 33 44.6 -2.3**
MDJ S **S** **03 41 50.3 +1.2**
MDJ ScS **ScS** **03 43 06.3 +0.1**
MDJ SS **SS** **03 46 00.6 +3.1**
MDJ pmax pmax
comp=Z,12nm,1.8s
MDJ pmax pmax
comp=Z,200nm,5.8s
MDJ LR LR
comp=Z,2μm,16.6s
MDJ LR LR
comp=Z,2μm,13.8s
MDJ LR LR
comp=Z,3μm,15.6s
MDJ Mudanjiang 64.14 53 PFAKE 03 33 20.0 +8.1
MDJ LR LR
comp=Z,2μm,22.0s
DRLN Deer Lake 64.79 314 *e*P **P** **03 33 14.9 -1.2**
comp=Z,72nm,1.3s
DRLN Deer Lake 64.79 314 *e*P **P** **03 33 14.9 -1.2**
comp=Z,72nm,1.3s
DRLN LR LR
comp=Z,2μm,19.0s
SEY Seymchan 64.95 28 P **P** **03 33 16.4 -0.5**
comp=Z,89nm,1.1s,baz=296,slow=6.8,SNR=52
KULM Kulim 65.21 104 *e*P **P** **03 33 19.3 +0.1**
comp=Z,66nm,1.2s
KULM Kulim 65.21 104 *e*P **P** **03 33 19.3 +0.1**
comp=Z,66nm,1.2s
KULM LR LR
comp=Z,1μm,20.0s
HABR Khabarovsk 65.32 47 *ce*P **P** **03 33 17.4 -2.1**
HABR *e**PP **pP** **03 33 20.7 -1.1**
HABR *e**SP **sP** **03 33 21.8 -0.9**
HABR *e* 03 33 49.5
HABR *e*PPP PPP 03 37 13.9
HABR *e*S **S** **03 42 01.7 -1.8**
HABR *e* 03 43 12.6
HABR *e*SS **SS** **03 46 15.4 -0.3**
HABR pmax pmax
comp=N,47nm,2.3s
HABR pmax pmax
comp=Z,37nm,2.3s
HABR pmax pmax
comp=E,48nm,2.3s
HABR MLR MLR
comp=Z,2μm,16.0s
LBTB Lobatse 65.49 193 P **P** **03 33 21.2 +0.4**
comp=Z,14nm,1.0s,baz=4.2,slow=7.2,SNR=11
LBTB Lobatse 65.49 193 *e*P **P** **03 33 21.6 +0.7**
LBTB pmax pmax
comp=Z,94nm,1.5s
LBTB Lobatse 65.49 193 *e*P **P** **03 33 21.6 +0.7**
comp=Z,94nm,1.5s
LBTB Lobatse 65.49 193 *e*P **P** **03 33 21.6 +0.7**
comp=Z,94nm,1.5s
PSI Prapat 65.58 108 *e*P **P** **03 33 20.1 -1.7**
PSI pmax pmax
comp=Z,320nm,1.6s
PSI MLR MLR
comp=Z,2μm,20.0s
PSI Prapat 65.58 108 *e*P **P** **03 33 20.1 -1.7**
comp=Z,320nm,1.6s
PSI LR LR
comp=Z,2μm,20.0s

SSE Sheshan 65.61 69 P **P** **03 33 22.8 +1.2**
SSE S **S** **03 42 11.0 +3.5**
SSE pmax pmax
comp=Z,66nm,1.4s
SSE pmax pmax
comp=Z,320nm,3.7s
SSE LR LR
comp=Z,1μm,20.5s
SSE LR LR
comp=Z,1μm,21.0s
SSE LR LR
comp=Z,1μm,16.4s
BILL Bilibino 65.67 19 *d* *i*P **P** **03 33 20.4 -1.1**
BILL *i* 03 33 53.2
BILL *i* S **S** **03 41 59.4 -7.8**
BILL pmax pmax
comp=Z,40nm,1.1s
BILL MLR MLR
comp=Z,2μm,22.0s
USRK Ussuriysk Ar. 65.82 52 P **P** **03 33 21.8 -1.1**
comp=Z,50nm,1.2s,baz=323,slow=2.9,SNR=19
USRK LR LR 04 05 17.3
comp=Z,2μm,19.7s,baz=291,slow=39
INCN Inchon 65.98 61 *e*P **P** **03 33 24.2 +0.2**
comp=Z,187nm,1.4s
INCN Inchon 65.98 61 *e*P **P** **03 33 24.2 +0.2**
comp=Z,187nm,1.4s
INCN LR LR
comp=Z,2μm,21.0s
IPM Ipoh 66.02 105 *e*P **P** **03 33 24.0 -0.5**
comp=Z,124nm,1.3s
IPM Ipoh 66.02 105 *e*P **P** **03 33 24.1 -0.5**
comp=Z,124nm,1.3s
IPM LR LR
comp=Z,1μm,18.0s
IPM Ipoh 66.02 105⇓P **P** **03 33 24.8 +0.2**
MSHR Mys Shultsa 66.18 54⇓ *e*P **P** **03 33 25.7 +0.6**
MA2 Magadan 66.45 31 P **P** **03 33 26.6 0.0**
comp=Z,24nm,0.9s,baz=328,slow=9.8,SNR=10
SCHQ Schefferville 66.47 323 P **P** **03 33 25.9 -0.9**
comp=Z,32nm,1.1s,baz=58,slow=6.7,SNR=10
SCHQ LR LR 04 03 52.6
comp=Z,1μm,18.3s,baz=74,slow=37
SCHQ Schefferville 66.47 323 *e*P **P** **03 33 26.1 -0.8**
comp=Z,82nm,1.3s
SCHQ Schefferville 66.47 323 *e*P **P** **03 33 26.1 -0.8**
comp=Z,82nm,1.3s
KS01 Wonju Array Si 66.83 60 *e*P **P** **03 33 27.8 -1.6**
KS01 Wonju Array Si 66.83 60 *e*P **P** **03 33 27.8 -1.6**
KS15 Wonju Array Si 66.84 60 *e*P **P** **03 33 29.1 -0.3**
KS15 Wonju Array Si 66.84 60 *e*P **P** **03 33 29.1 -0.3**
KSAR Wonju Array Be 66.84 60 P **P** **03 33 29.0 -0.4**
KSAR Wonju Array Be 66.84 60 P **P** **03 33 29.0 -0.4**
KSAR Wonju Array Be 66.84 60 P **P** **03 33 29.0 -0.4**
KSRS Korea Array 66.86 60 P **P** **03 33 29.0 -0.6**
comp=Z,78nm,1.0s,baz=298,slow=5.4,SNR=77
KSRS LR LR 04 03 21.4
comp=Z,1μm,21.4s,baz=304,slow=37
KSRS Korea Array 66.86 60 P **P** **03 33 29.0 -0.6**
KSRS pmax pmax
comp=Z,75nm,1.0s
KSRS MLR MLR
comp=Z,1μm,21.4s
DLV T Lat 66.96 93 PFAKE 03 33 40.0 +9.3
DLV LR LR
comp=Z,2μm,19.0s
KTGM Kuala Trenggan 67.05 103⇓P **P** **03 33 31.5 +0.5**
PBSI Pulau Batu 67.05 110 P **P** **03 33 32.1 +1.0**
QZH Quanzhou 67.09 76⇓ *i*P **P** **03 33 28.4 -2.8**
QZH *e*S **S** **03 42 20.3 -5.4**
QZH LR LR
comp=Z,1μm,9.5s
QZH LR LR
comp=Z,3μm,14.9s
QZH LR LR
comp=Z,3μm,13.1s
MNSI Mandailing Nat 67.42 109 P **P** **03 33 32.1 -1.3**
BKNI Bangkinang 68.80 108 PFAKE 03 33 50.0 +7.9
BKNI LR LR
comp=Z,2μm,22.0s
PPI Padang Panjang 68.86 109 P **P** **03 33 42.7 +0.2**
comp=Z,56nm,1.4s,comp=Z,1μm
BOSA Boshof 69.07 193 P **P** **03 33 43.4 -0.1**
comp=Z,7.6nm,0.9s,baz=357,slow=7.7,SNR=6.4
BOSA LR LR 04 02 54.0
comp=Z,789nm,20.7s,baz=16,slow=35
BOSA Boshof 69.07 193 *e*P **P** **03 33 43.8 +0.3**
BOSA Boshof 69.07 193 *e*P **P** **03 33 43.8 +0.3**
PDSI Padang 69.22 110 P **P** **03 33 43.2 -1.5**
comp=Z,74nm,1.3s,comp=Z,7μm
YHNB Yeheng 69.32 75 *e*P **P** **03 33 47.2 +1.8**
comp=Z,109nm,1.3s
YHNB *e*S **S** **03 42 51.8 -0.7**
YHNB Yeheng 69.32 75 *e*P **P** **03 33 47.2 +1.8**
comp=Z,109nm,1.3s
YHNB *e*S **S** **03 42 51.9 -0.7**
YHNB LR LR
comp=Z,1μm,22.0s
TPUB Ta-pu 69.55 76 *e*P **P** **03 33 49.0 +2.3**
comp=Z,208nm,1.6s
TPUB Ta-pu 69.55 76 *e*P **P** **03 33 49.0 +2.3**
comp=Z,208nm,1.6s
TPUB LR LR
comp=Z,1μm,18.0s
NACB Ninganchiao 69.77 75 PFAKE 03 34 00.0 +12
NACB LR LR
comp=Z,2μm,19.0s
MYKOM Kota Tinggi 69.90 105 PFAKE 03 34 00.0 +11
MYKOM LR LR
comp=Z,1μm,22.0s
SDSI Sungai Dareh 69.94 109 P **P** **03 33 48.6 -0.5**
comp=Z,58nm,1.6s,comp=Z,32μm
YULB Yu-li 70.00 76 *e*P **P** **03 33 51.5 +2.0**
comp=Z,46nm,1.3s
YULB Yu-li 70.00 76 *e*P **P** **03 33 51.5 +2.0**
comp=Z,46nm,1.3s
YULB LR LR
comp=Z,1μm,20.0s
TWG Pinlang 70.16 76 PFAKE 03 34 00.0 +10
TWG LR LR
comp=Z,5μm,20.0s
YSS Yuzh-Sakhalins 70.46 45⇑ *e*P **P** **03 33 52.1 +0.2**
YSS *e**SP **pP** **03 33 54.0 -0.2**
YSS *e*S **S** **03 43 02.3 -2.7**
YSS *e*SSS SSS 03 50 47.0
YSS MLR MLR
comp=Z,3μm,18.0s
YSS MLR MLR
comp=E,3μm,17.0s
YSS Yuzh-Sakhalins 70.46 45 *e*P **P** **03 33 54.4 +2.5**
comp=E,158nm,1.5s
YSS Yuzh-Sakhalins 70.46 45 *e*P **P** **03 33 54.4 +2.5**
comp=E,158nm,1.5s
YSS LR LR
comp=Z,1μm,19.0s
LMN Caledonia Moun 70.80 314 *e*P **P** **03 33 53.5 -0.5**
comp=Z,56nm,1.1s
LMN Caledonia Moun 70.80 314 *e*P **P** **03 33 53.5 -0.5**
comp=Z,56nm,1.1s
LMN LR LR
comp=Z,2μm,21.0s
JNU Nakatsue 71.29 62 P **P** **03 33 57.5 +0.3**
comp=Z,24nm,0.9s,baz=62,slow=3.7,SNR=8.8
JNU Nakatsue 71.29 62 *e*P **P** **03 33 57.9 +0.7**
comp=Z,34nm,0.9s
JNU Nakatsue 71.29 62 *e*P **P** **03 33 57.9 +0.7**
comp=Z,34nm,0.9s
TOLK Toolik Lake Re 71.84 3 P **P** **03 34 00.0 +0.1**
baz=353
MASI Maura Aman, Be 72.03 110 P **P** **03 34 01.6 -0.3**
comp=Z,210nm,1.6s
PQI Presque Isle 72.04 316 *e*P **P** **03 34 01.2 -0.3**
comp=Z,109nm,1.3s
PQI Presque Isle 72.04 316 *e*P **P** **03 34 01.2 -0.3**
comp=Z,109nm,1.3s
PQI LR LR
comp=Z,3μm,21.0s
INK Inuvik 72.19 357 P **P** **03 34 02.6 +0.7**
comp=Z,10nm,1.1s,baz=3.3,slow=10,SNR=5.8
INK LR LR 04 11 22.8
comp=Z,968nm,18.7s,baz=22,slow=41
INK Inuvik 72.19 357 *e*P **P** **03 34 02.8 +0.8**
comp=Z,52nm,1.6s
INK Inuvik 72.19 357 *e*P **P** **03 34 02.8 +0.8**
comp=Z,52nm,1.6s
GGN Saint George 72.38 314 *e*P **P** **03 34 03.5 0.0**
comp=Z,58nm,1.2s

GGN Saint George 72.38 314 *e*P **P** **03 34 03.5 0.0**
comp=Z,58nm,1.2s
GGN LR LR
comp=Z,2μm,20.0s
LMQ La Malbaie 72.70 318 *e*P **P** **03 34 05.7 +0.3**
LMQ La Malbaie 72.70 318 *e*P **P** **03 34 05.7 +0.3**
LMQ LR LR
comp=Z,2μm,21.0s
EMMW East Machias 72.97 314 *e*P **P** **03 34 06.7 -0.3**
comp=Z,83nm,1.2s
EMMW East Machias 72.97 314 *e*P **P** **03 34 06.7 -0.3**
comp=Z,83nm,1.2s
JOW Kunigami 73.13 69 P **P** **03 34 07.7 -0.6**
comp=Z,30nm,0.8s,baz=352,slow=9.4,SNR=5.7
JOW Kunigami 73.13 69 *e*P **P** **03 34 08.5 +0.2**
comp=Z,208nm,1.5s
JOW Kunigami 73.13 69 *e*P **P** **03 34 08.5 +0.2**
comp=Z,208nm,1.5s
JOW LR LR
comp=Z,2μm,21.0s
COLD Coldfoot 73.22 4 *e*P **P** **03 34 09.0 +0.8**
comp=Z,71nm,1.4s
COLD Coldfoot 73.22 4 *e*P **P** **03 34 09.0 +0.8**
comp=Z,71nm,1.4s
COLD LR LR
comp=Z,2μm,20.0s
SUR Sutherland 73.57 196 PFAKE 03 34 20.0 +9.2
SUR LR LR
comp=Z,4μm,21.0s
PKME Peaks-Kenny Pk 73.62 316 *e*P **P** **03 34 11.0 +0.1**
comp=Z,57nm,1.0s
PKME Peaks-Kenny Pk 73.62 316 *e*P **P** **03 34 11.0 +0.1**
comp=Z,57nm,1.0s
PKME LR LR
comp=Z,1μm,19.0s
PEA1 Petropavlovsk- 73.65 33 *e*P **P** **03 34 09.0 -1.9**
PEA1 Petropavlovsk- 73.65 33 *e*P **P** **03 34 09.0 -1.9**
PEA0 Petropavlovsk- 73.65 33 *e*P **P** **03 34 09.2 -1.7**
PEA0 Petropavlovsk- 73.65 33 *e*P **P** **03 34 09.2 -1.7**
PEA0B Petropavlovsk- 73.65 33 *e*P **P** **03 34 10.4 -0.5**
comp=Z,59nm,1.1s
PEA0B Petropavlovsk- 73.65 33 *e*P **P** **03 34 10.4 -0.5**
comp=Z,59nm,1.1s
PEA0B LR LR
comp=Z,1μm,20.0s
PETK Petropavlovsk- 73.65 33 P **P** **03 34 09.0 -1.9**
comp=Z,6.2nm,0.6s,baz=90,slow=1.5,SNR=8.2
PETK LR LR 04 10 36.6
comp=Z,1μm,18.2s,baz=301,slow=39
FYU Fort Yukon 74.06 2 *e*P **P** **03 34 14.7 +1.7**
comp=Z,147nm,1.6s
FYU Fort Yukon 74.06 2 *e*P **P** **03 34 14.7 +1.7**
comp=Z,147nm,1.6s
FYU LR LR
comp=Z,1μm,21.0s
INU Inuyama 74.06 57 *e*P **P** **03 34 13.8 +0.1**
comp=Z,72nm,1.4s
INU Inuyama 74.06 57 *e*P **P** **03 34 13.8 +0.1**
comp=Z,72nm,1.4s
MJB9 Matsu-Tunnel 74.10 56 *e*P **P** **03 34 13.9 0.0**
comp=Z,32nm,1.3s
MJB9 Matsu-Tunnel 74.10 56 *e*P **P** **03 34 13.9 0.0**
comp=Z,32nm,1.3s
MAJO Matsushiro 74.10 56⇓ *e*P **P** **03 34 13.0 -0.9**
MAJO pmax pmax
comp=Z,647nm,1.3s
MAJO MLR MLR
comp=Z,9μm,17.0s
MAJO Matsushiro 74.10 56 *e*P **P** **03 34 13.7 -0.2**
comp=Z,120nm,1.3s
MAJO Matsushiro 74.10 56 *e*P **P** **03 34 13.7 -0.2**
comp=Z,120nm,1.3s
MAT Matsushiro 74.10 56 P **P** **03 34 11.5 -2.4**
MAT *e*S **SKiKP** **03 43 42.2 0.0**
MJAR Matsushiro Arr 74.10 56 P **P** **03 34 12.7 -1.2**
comp=Z,67nm,1.2s,baz=312,slow=6.3,SNR=38
MJAR LR LR 04 09 38.4
comp=Z,1μm,18.8s,baz=295,slow=38
GAMB Gambell 74.11 14 PFAKE 03 34 20.0 +6.6
GAMB LR LR
comp=Z,1μm,20.0s
PET Petropavlovsk 74.12 33 *e*P **P** **03 34 12.9 -0.7**
PET *e*S **SKiKP** **03 43 40.6 -1.1**
PET *e*SS **SS** **03 48 26.7 -3.9**
PET MLR MLR
comp=Z,1μm,18.0s
PET MLR MLR
comp=Z,1μm,16.0s
PET Petropavlovsk 74.12 33 PFAKE 03 34 20.0 +6.4
PET LR LR
comp=Z,1μm,20.0s
WVL Waterville 74.27 315 *e*P **P** **03 34 15.1 +0.4**
comp=Z,39nm,1.0s
WVL Waterville 74.27 315 *e*P **P** **03 34 15.1 +0.4**
comp=Z,39nm,1.0s
WVL LR LR
comp=Z,3μm,19.0s
FCC Fort Churchill 74.37 337 PFAKE 03 34 30.0 +15
FCC LR LR
comp=Z,2μm,19.0s
KLSI 74.90 109 P **P** **03 34 18.5 -0.2**
comp=Z,16nm,1.6s
KSM Kuching 74.97 101 PFAKE 03 34 30.0 +11
KSM LR LR
comp=Z,1μm,20.0s
KSM Kuching 74.97 101⇓P **P** **03 34 20.8 +1.6**
KASI Kota Agung 75.29 110 P **P** **03 34 18.5 -2.5**
comp=Z,65nm,1.4s
MDM Murphy Dome 75.57 3 *e*P **P** **03 34 22.3 +0.4**
comp=Z,121nm,1.4s
MDM Murphy Dome 75.57 3 *e*P **P** **03 34 22.3 +0.4**
comp=Z,121nm,1.4s
COLA College 75.67 3 *e*P **P** **03 34 23.3 +0.9**
COLA pmax pmax
comp=Z,98nm,1.3s
COLA MLR MLR
comp=Z,900nm,20.0s
COLA College 75.67 3 *e*P **P** **03 34 23.3 +0.9**
comp=Z,98nm,1.3s
COLA College 75.67 3 *e*P **P** **03 34 23.3 +0.9**
comp=Z,98nm,1.3s
COLA LR LR
comp=Z,900nm,20.0s
LBNH Lisbon 75.71 316 *e*P **P** **03 34 23.4 +0.4**
LBNH pmax pmax
comp=Z,74nm,1.4s
LBNH MLR MLR
comp=Z,2μm,20.0s
LBNH Lisbon 75.71 316 *e*P **P** **03 34 23.4 +0.4**
comp=Z,74nm,1.4s
LBNH Lisbon 75.71 316 *e*P **P** **03 34 23.4 +0.4**
comp=Z,74nm,1.4s
LBNH LR LR
comp=Z,2μm,20.0s
TRQ Mont Tremblant 75.75 319 *e*P **P** **03 34 23.1 -0.2**
TRQ Mont Tremblant 75.75 319 *e*P **P** **03 34 23.1 -0.2**
SBUM Sibu 75.79 99 *e*P **P** **03 34 25.8 +1.9**
comp=Z,58nm,1.4s
SBUM Sibu 75.79 99 *e*P **P** **03 34 25.8 +1.9**
comp=Z,58nm,1.4s
SBUM LR LR
comp=Z,1μm,22.0s
IL1 Eielson Array 75.81 2 *e*P **P** **03 34 21.3 -1.9**
IL1 Eielson Array 75.81 2 *e*P **P** **03 34 21.3 -1.9**
ILAR Eielson Array 75.81 2 P **P** **03 34 22.7 -0.5**
comp=Z,13nm,1.2s,baz=340,slow=3.3,SNR=30
ILAR LR LR 04 14 38.8
comp=Z,470nm,18.7s,baz=358,slow=41
ILAR Eielson Array 75.81 2 P **P** **03 34 22.7 -0.5**
ILAR pmax pmax
comp=Z,8.0nm,1.1s
ILB Eielson Array 75.81 2 *e*P **P** **03 34 23.5 +0.3**
ILB Eielson Array 75.81 2 *e*P **P** **03 34 23.5 +0.3**
VLDQ Val d'Or 75.87 322 *e*P **P** **03 34 24.0 +0.1**
comp=Z,65nm,1.4s
VLDQ Val d'Or 75.87 322 *e*P **P** **03 34 23.9 +0.1**
comp=Z,65nm,1.4s
YKW3 Yellowknife Ar 75.88 348 *e*P **P** **03 34 23.2 -0.4**
comp=Z,74nm,1.4s
YKW3 Yellowknife Ar 75.88 348 *e*P **P** **03 34 23.2 -0.4**
comp=Z,74nm,1.4s
YKW3 LR LR
comp=Z,2μm,21.0s
EGAK Eagle 75.89 360 *e*P **P** **03 34 23.8 +0.1**
comp=Z,55nm,1.3s
EGAK Eagle 75.89 360 *e*P **P** **03 34 23.8 +0.1**
comp=Z,55nm,1.3s

EGAK LR LR
comp=Z,800nm,18.0s
CCB Clear Creek Bu 75.90 3 eP P 03 34 23.5 -0.2
comp=Z,82nm,1.4s
CCB Clear Creek Bu 75.90 3 eP P 03 34 23.5 -0.2
comp=Z,82nm,1.4s
CCB LR LR
comp=Z,1µm,18.0s
YKA Yellowknife Ar 75.94 348 P P 03 34 23.5 -0.5
comp=Z,18nm,1.0s,baz=18,slow=6.0,SNR=27
YKA LR LR 04 09 51.0
comp=Z,243nm,20.9s,baz=0.0,slow=37
YKA Yellowknife Ar 75.94 348 P P 03 34 23.5 -0.5
YKA pmax pmax
comp=Z,10.0nm,0.8s
YKA MLR MLR
comp=Z,243nm,20.9s
YKB5 Yellowknife Ar 75.94 348 eP P 03 34 23.8 -0.1
YKB5 Yellowknife Ar 75.94 348 eP P 03 34 23.8 -0.1
WRH Wood River Hil 76.06 3 eP P 03 34 24.8 +0.1
comp=Z,76nm,1.5s
WRH Wood River Hil 76.06 3 eP P 03 34 24.8 +0.1
comp=Z,76nm,1.5s
WRH LR LR
comp=Z,900nm,19.0s
FFD Franklin Falls 76.08 315 eP P 03 34 26.3 +1.2
comp=Z,66nm,1.3s
FFD Franklin Falls 76.08 315 eP P 03 34 26.3 +1.2
comp=Z,66nm,1.3s
FFD LR LR
comp=Z,5µm,18.0s
HDA Harding Lake 76.17 3 eP P 03 34 25.1 -0.2
comp=Z,57nm,1.4s
HDA Harding Lake 76.17 3 eP P 03 34 25.1 -0.2
comp=Z,57nm,1.4s
HDA LR LR
comp=Z,1µm,22.0s
FRNY Flat Rock 76.19 317 eP P 03 34 25.4 -0.3
comp=Z,40nm,1.4s
FRNY Flat Rock 76.19 317 eP P 03 34 25.4 -0.3
comp=Z,40nm,1.4s
FRNY LR LR
comp=Z,2µm,20.0s
HNH Hanover 76.26 316 eP P 03 34 26.6 +0.5
comp=Z,123nm,1.4s
HNH Hanover 76.26 316 eP P 03 34 26.6 +0.5
comp=Z,123nm,1.4s
HNH LR LR
comp=Z,4µm,20.0s
MDV Middlebury 76.54 316 eP P 03 34 28.5 +0.8
MDV Middlebury 76.54 316 eP P 03 34 28.5 +0.8
BCX Boston College 76.57 314 eP P 03 34 28.8 +0.9
comp=Z,92nm,1.3s
BCX Boston College 76.57 314 eP P 03 34 28.8 +0.9
comp=Z,92nm,1.3s
KKM Kota Kinabalu 76.58 93 PFAKE 03 34 40.0 +11
KKM LR LR
comp=Z,1µm,20.0s
DAWY Dawson 76.60 359 eP P 03 34 28.4 +0.6
comp=Z,82nm,1.3s
DAWY Dawson 76.60 359 eP P 03 34 28.4 +0.6
comp=Z,82nm,1.3s
WES Weston 76.62 314 eP P 03 34 28.8 +0.6
WES pmax pmax
comp=Z,62nm,1.4s
WES MLR MLR
comp=Z,2µm,18.0s
WES Weston 76.62 314 eP P 03 34 28.8 +0.6
comp=Z,62nm,1.4s
WES Weston 76.62 314 eP P 03 34 28.8 +0.6
comp=Z,62nm,1.4s
WES LR LR
comp=Z,2µm,18.0s
HRV Adam Dziewonsk 76.67 315 eP P 03 34 29.1 +0.6
HRV pmax pmax
comp=Z,51nm,1.5s
HRV MLR MLR
comp=Z,2µm,20.0s
HRV Adam Dziewonsk 76.67 315 eP P 03 34 29.1 +0.6
comp=Z,51nm,1.5s
HRV Adam Dziewonsk 76.67 315 eP P 03 34 29.1 +0.6
comp=Z,51nm,1.5s
HRV LR LR
comp=Z,2µm,20.0s
MCK McKinley 76.77 3 eP P 03 34 28.6 -0.1
MCK pmax pmax
comp=Z,90nm,1.3s
MCK MLR MLR
comp=Z,1µm,19.0s
MCK McKinley 76.77 3 eP P 03 34 28.6 -0.1
comp=Z,90nm,1.3s
MCK McKinley 76.77 3 eP P 03 34 28.6 -0.1
comp=Z,90nm,1.3s
MCK LR LR
comp=Z,1µm,19.0s
KTH Kantishna Hill 76.84 4 eP P 03 34 30.0 +0.8
comp=Z,28nm,1.1s
KTH Kantishna Hill 76.84 4 eP P 03 34 30.0 +0.8
comp=Z,28nm,1.1s
KTH LR LR
comp=Z,1µm,20.0s
LONY Lake Ozonia 76.86 318 eP P 03 34 29.8 +0.2
comp=Z,50nm,1.4s
LONY Lake Ozonia 76.86 318 eP P 03 34 29.8 +0.2
comp=Z,50nm,1.4s
LONY LR LR
comp=Z,2µm,20.0s
CAST Castle Rocks 76.90 5 eP P 03 34 29.7 +0.2
comp=Z,108nm,1.4s
CAST Castle Rocks 76.90 5 eP P 03 34 29.7 +0.2
comp=Z,108nm,1.4s
CAST LR LR
comp=Z,1µm,21.0s
CGJI Cibinong 76.90 110 P P 03 34 23.6 -6.5
TRF Thorofare Moun 76.98 4 eP P 03 34 30.6 +0.5
comp=Z,81nm,1.7s
TRF Thorofare Moun 76.98 4 eP P 03 34 30.6 +0.5
comp=Z,81nm,1.7s
TRF LR LR
comp=Z,1µm,20.0s
DOT Dot Lake 77.00 1 eP P 03 34 30.9 +0.8
comp=Z,258nm,1.4s
DOT Dot Lake 77.00 1 eP P 03 34 30.9 +0.8
comp=Z,258nm,1.4s
BRYW Bryant College 77.05 314 eP P 03 34 32.0 +1.3
comp=Z,51nm,1.2s
BRYW Bryant College 77.05 314 eP P 03 34 32.0 +1.3
comp=Z,51nm,1.2s
BRYW LR LR
comp=Z,3µm,21.0s
TTA Tatalina 77.07 7 eP P 03 34 30.4 -0.1
TTA pmax pmax
comp=Z,65nm,1.4s
TTA MLR MLR
comp=Z,800nm,22.0s
TTA Tatalina 77.07 7 eP P 03 34 30.4 -0.1
comp=Z,65nm,1.4s
TTA Tatalina 77.07 7 eP P 03 34 30.4 -0.1
comp=Z,65nm,1.4s
TTA LR LR
comp=Z,800nm,22.0s
TT01 Tatalina 77.09 7 eP P 03 34 30.7 +0.2
TT01 Tatalina 77.09 7 eP P 03 34 30.7 +0.2
RND Reindeer 77.10 3 eP P 03 34 30.0 -0.7
RND pmax pmax
comp=Z,47nm,1.2s
RND MLR MLR
comp=Z,1µm,22.0s
RND Reindeer 77.10 3 eP P 03 34 30.0 -0.7
comp=Z,47nm,1.2s
RND Reindeer 77.10 3 eP P 03 34 30.0 -0.7
comp=Z,47nm,1.2s
RND LR LR
comp=Z,1µm,22.0s
ACCN Adirondack Com 77.22 316 eP P 03 34 32.5 +0.9
comp=Z,56nm,1.4s
ACCN Adirondack Com 77.22 316 eP P 03 34 32.5 +0.9
comp=Z,56nm,1.4s
ACCN LR LR
comp=Z,2µm,19.0s
QUA2 Belchertown 77.25 315 eP P 03 34 32.8 +1.0
comp=Z,42nm,1.4s
QUA2 Belchertown 77.25 315 eP P 03 34 32.8 +1.0
comp=Z,42nm,1.4s
QUA2 LR LR
comp=Z,2µm,19.0s
PPLA Purkeypile 77.41 5 eP P 03 34 33.8 +1.3
comp=Z,113nm,1.6s
PPLA LR LR
comp=Z,1µm,22.0s
DHY Denali Highway 77.49 3 eP P 03 34 33.1 +0.1
comp=Z,42nm,1.3s
DHY Denali Highway 77.49 3 eP P 03 34 33.1 +0.1
comp=Z,42nm,1.3s
DHY LR LR
comp=Z,1µm,22.0s
PAX Paxson 77.66 2 PFAKE 03 34 40.0 +6.2
PAX LR LR
comp=Z,1µm,22.0s
TRY Troy 77.66 316 eP P 03 34 36.9 +2.8
comp=Z,154nm,2.0s
TRY Troy 77.66 316 eP P 03 34 36.9 +2.8
comp=Z,154nm,2.0s
TRY LR LR
comp=Z,3µm,20.0s
MENT Mentasta 77.72 1 eP P 03 34 34.6 +0.5
comp=Z,85nm,1.5s
MENT Mentasta 77.72 1 eP P 03 34 34.6 +0.5
comp=Z,85nm,1.5s
PLVO Plevna 77.84 319 eP P 03 34 35.8 +0.8
comp=Z,56nm,1.5s
PLVO Plevna 77.84 319 eP P 03 34 35.8 +0.8
comp=Z,56nm,1.5s
PLVO LR LR
comp=Z,2µm,20.0s
HARP HAARP 78.23 2 eP P 03 34 39.4 +2.5
comp=Z,111nm,1.3s
HARP HAARP 78.23 2 eP P 03 34 39.4 +2.5
comp=Z,111nm,1.3s
YLE Yale 78.23 314 PFAKE 03 34 50.0 +13
YLE LR LR
comp=Z,500nm,20.0s
SML Sawmill 78.72 3 eP P 03 34 40.3 +0.7
SML pmax pmax
comp=Z,85nm,1.0s
SML MLR MLR
comp=Z,1µm,21.0s
SML Sawmill 78.72 3 eP P 03 34 40.3 +0.7
comp=Z,85nm,1.0s
SML Sawmill 78.72 3 eP P 03 34 40.3 +0.7
comp=Z,85nm,1.0s
SML LR LR
comp=Z,1µm,21.0s
SCM Sheep Creek Mo 78.73 3 eP P 03 34 40.0 +0.2
SCM pmax pmax
comp=Z,108nm,1.1s
SCM MLR MLR
comp=Z,800nm,21.0s
SCM Sheep Creek Mo 78.73 3 eP P 03 34 40.0 +0.2
comp=Z,108nm,1.1s
SCM Sheep Creek Mo 78.73 3 eP P 03 34 40.0 +0.2
comp=Z,108nm,1.1s
SCM LR LR
comp=Z,800nm,21.0s
MYLDM Lahad Datu 78.88 92 PFAKE 03 34 50.0 +8.8
MYLDM LR LR
comp=Z,2µm,20.0s
PMR Palmer 78.89 4 eP P 03 34 40.2 -0.3
PMR pmax pmax
comp=Z,59nm,1.3s
PMR MLR MLR
comp=Z,1µm,19.0s
PMR Palmer 78.89 4 eP P 03 34 40.2 -0.3
comp=Z,59nm,1.3s
PMR Palmer 78.89 4 eP P 03 34 40.2 -0.3
comp=Z,59nm,1.3s
PMR LR LR
comp=Z,1µm,19.0s
SVW2 Sparrevohn 78.92 7 eP P 03 34 40.6 -0.1
comp=Z,70nm,1.4s
SVW2 Sparrevohn 78.92 7 eP P 03 34 40.6 -0.1
comp=Z,70nm,1.4s
SVW2 LR LR
comp=Z,1µm,19.0s
SUA Susitna One 78.93 5 eP P 03 34 40.6 -0.3
comp=Z,60nm,1.0s
SUA Susitna One 78.93 5 eP P 03 34 40.6 -0.3
comp=Z,60nm,1.0s
SUA LR LR
comp=Z,1µm,20.0s
PAL Palisades 78.97 315 eP P 03 34 42.7 +1.4
PAL pmax pmax
comp=Z,25nm,1.2s
PAL MLR MLR
comp=Z,2µm,21.0s
PAL Palisades 78.97 315 eP P 03 34 42.7 +1.4
comp=Z,24nm,1.2s
PAL Palisades 78.97 315 eP P 03 34 42.7 +1.4
comp=Z,24nm,1.2s
PAL LR LR
comp=Z,2µm,21.0s
SADO Sadowa 79.07 320 P P 03 34 41.5 -0.3
comp=Z,16nm,1.0s,baz=81,slow=7.5,SNR=4.4
SADO Sadowa 79.07 320 eP P 03 34 43.6 +1.8
comp=Z,32nm,1.2s
SADO Sadowa 79.07 320 eP P 03 34 43.6 +1.8
comp=Z,32nm,1.2s
SADO LR LR
comp=Z,2µm,19.0s
CISI Cisompet, Garu 79.08 109 P P 03 34 39.7 -2.6
comp=Z,37nm,1.2s,comp=Z,5µm
CISI Cisompet, Garu 79.08 109 eP P 03 34 41.9 -0.4
comp=Z,75nm,1.0s
CISI Cisompet, Garu 79.08 109 eP P 03 34 41.9 -0.4
comp=Z,75nm,1.0s
CISI LR LR
comp=Z,900nm,21.0s
KLU Klutina 79.12 2 eP P 03 34 42.7 +0.8
comp=Z,91nm,1.2s
KLU Klutina 79.12 2 eP P 03 34 42.7 +0.8
comp=Z,91nm,1.2s
SPU Mount Spurr 79.12 5 eP P 03 34 41.7 -0.2
SPU Mount Spurr 79.12 5 eP P 03 34 41.7 -0.2
CPNY Central Park 79.15 314 PFAKE 03 34 50.0 +7.7
CPNY LR LR
comp=Z,1µm,19.0s
BBSR BB Station 79.18 303 PFAKE 03 34 50.0 +7.4
BBSR LR LR
comp=Z,800nm,19.0s
BINY Binghamton 79.27 317 eP P 03 34 43.5 +0.5
comp=Z,56nm,1.3s
BINY Binghamton 79.27 317 eP P 03 34 43.5 +0.5
comp=Z,56nm,1.3s
BINY LR LR
comp=Z,1µm,20.0s
ODNJ Ogdensburg 79.30 315 eP P 03 34 43.0 -0.2
comp=Z,35nm,1.2s
ODNJ Ogdensburg 79.30 315 eP P 03 34 43.0 -0.2
comp=Z,35nm,1.2s
ODNJ LR LR
comp=Z,1µm,19.0s
RC01 Rabbit Creek A 79.36 4 eP P 03 34 42.8 -0.4
comp=Z,110nm,1.6s
RC01 Rabbit Creek A 79.36 4 eP P 03 34 42.8 -0.4
comp=Z,110nm,1.6s
DIV Divide 79.49 2 eP P 03 34 44.8 +0.8
comp=Z,110nm,1.4s
DIV Divide 79.49 2 eP P 03 34 44.8 +0.8
comp=Z,110nm,1.4s
DIV LR LR
comp=Z,1µm,20.0s
BRNJ Basking Ridge 79.56 315 eP P 03 34 45.2 +0.7
comp=Z,35nm,1.1s
BRNJ Basking Ridge 79.56 315 eP P 03 34 45.2 +0.7
comp=Z,35nm,1.1s
BRNJ LR LR
comp=Z,1µm,21.0s
KSPA Keystone Colle 79.60 316 PFAKE 03 35 00.0 +15
KSPA LR LR
comp=Z,2µm,20.0s
BMRM Bremner River 79.68 2 eP P 03 34 47.3 +2.3
comp=Z,56nm,1.4s
BMRM Bremner River 79.68 2 eP P 03 34 47.3 +2.3
comp=Z,56nm,1.4s
GLI Glacier Island 79.70 3 eP P 03 34 46.8 +1.9
comp=Z,58nm,1.3s
GLI Glacier Island 79.70 3 eP P 03 34 46.8 +1.9
comp=Z,58nm,1.3s
GLI LR LR
comp=Z,1µm,21.0s
RSO Redoubt South 79.79 6 eP P 03 34 45.6 -0.1
RSO Redoubt South 79.79 6 eP P 03 34 45.6 -0.1
FID Port Fidalgo 79.85 3 eP P 03 34 46.0 +0.2
comp=Z,116nm,1.4s
FID Port Fidalgo 79.85 3 eP P 03 34 46.0 +0.2
comp=Z,116nm,1.4s
WHY Whitehorse 79.89 357 eP P 03 34 47.4 +1.2
comp=Z,22nm,1.1s
WHY Whitehorse 79.89 357 eP P 03 34 47.4 +1.2
comp=Z,22nm,1.1s
MMNY Mt. Morris Dam 79.90 318 eP P 03 34 46.7 +0.3
MMNY Mt. Morris Dam 79.90 318 eP P 03 34 46.7 +0.3
CRQM Cirque 79.92 1 eP P 03 34 47.3 +0.9
comp=Z,242nm,1.4s
CRQM Cirque 79.92 1 eP P 03 34 47.3 +0.9
comp=Z,242nm,1.4s
CRQM LR LR
comp=Z,900nm,22.0s
N59A State Game Lan 80.05 316 P P 03 34 46.9 -0.4
baz=45
LUPA Lehigh Univers 80.06 315 eP P 03 34 48.3 +1.0
comp=Z,31nm,1.2s
LUPA Lehigh Univers 80.06 315 eP P 03 34 48.3 +1.0
comp=Z,31nm,1.2s
LUPA LR LR
comp=Z,2µm,18.0s
EYAK Cordova Ski Ar 80.07 2 eP P 03 34 48.1 +1.1
comp=Z,138nm,1.4s
EYAK Cordova Ski Ar 80.07 2 eP P 03 34 48.1 +1.1
comp=Z,138nm,1.4s
EYAK LR LR
comp=Z,2µm,21.0s
FFC Flin Flon 80.12 338 eP P 03 34 47.3 -0.1
FFC pmax pmax
comp=Z,29nm,1.1s
FFC MLR MLR
comp=Z,2µm,19.0s
FFC Flin Flon 80.12 338 eP P 03 34 47.3 -0.1
comp=Z,29nm,1.1s
FFC Flin Flon 80.12 338 eP P 03 34 47.3 -0.1
comp=Z,29nm,1.1s
FFC LR LR
comp=Z,2µm,19.0s
RAGM Ragged Mountai 80.26 2 eP P 03 34 49.9 +1.8
comp=Z,194nm,1.7s
RAGM Ragged Mountai 80.26 2 eP P 03 34 49.9 +1.8
comp=Z,194nm,1.7s
SEW Seward 80.36 4 eP P 03 34 49.5 +1.0
comp=Z,131nm,1.6s
SEW Seward 80.36 4 eP P 03 34 49.5 +1.0
comp=Z,131nm,1.6s
PSUB Penn St. - Bra 80.57 315 eP P 03 34 50.5 +0.5
comp=Z,36nm,1.5s
PSUB Penn St. - Bra 80.57 315 eP P 03 34 50.5 +0.5
comp=Z,36nm,1.5s
PSUB LR LR
comp=Z,2µm,22.0s
PCA Pinnacle 80.59 359 eP P 03 34 51.0 +1.1
comp=Z,218nm,1.4s
PCA Pinnacle 80.59 359 eP P 03 34 51.0 +1.1
comp=Z,218nm,1.4s
BRLK Bradley Lake 80.61 5 eP P 03 34 50.7 +0.8
comp=Z,130nm,1.6s
BRLK Bradley Lake 80.61 5 eP P 03 34 50.7 +0.8
comp=Z,130nm,1.6s
CNPM China Poot 80.83 5 eP P 03 34 51.8 +0.7
comp=Z,97nm,1.4s
CNPM China Poot 80.83 5 eP P 03 34 51.8 +0.7
comp=Z,97nm,1.4s
MVL Millersville 81.01 315 eP P 03 34 52.9 +0.5
comp=Z,32nm,1.4s
MVL Millersville 81.01 315 eP P 03 34 52.9 +0.5
comp=Z,32nm,1.4s
SSPA Standing Stone 81.39 316 eP P 03 34 54.2 -0.2
comp=Z,32nm,1.0s
SSPA Standing Stone 81.39 316 eP P 03 34 54.2 -0.2
comp=Z,32nm,1.0s
SSPA LR LR
comp=Z,2µm,20.0s
ERPA Erie 81.41 319 eP P 03 34 55.3 +0.8
comp=Z,194nm,1.8s
ERPA Erie 81.41 319 eP P 03 34 55.3 +0.8
comp=Z,194nm,1.8s
ERPA LR LR
comp=Z,2µm,20.0s
D41A Chassel 81.68 327 P P 03 34 55.7 -0.1
baz=38
M54A Oil Creek Stat 81.69 318 P P 03 34 55.5 -0.5
baz=43
SDMD Soldier's Deli 81.69 315 eP P 03 34 56.1 +0.1
comp=Z,17nm,1.3s
SDMD Soldier's Deli 81.69 315 eP P 03 34 56.1 +0.1
comp=Z,17nm,1.3s
SDMD LR LR
comp=Z,700nm,22.0s
C39A Grand Marais 81.74 328 P P 03 34 54.5 -1.7
baz=37
DLBC Dease Lake 81.80 354 P P 03 34 56.0 -0.4
comp=Z,20nm,1.2s,baz=6.4,slow=6.8,SNR=6.6
DLBC Dease Lake 81.80 354 eP P 03 34 57.0 +0.6
comp=Z,72nm,1.5s
DLBC Dease Lake 81.80 354 eP P 03 34 57.0 +0.6
comp=Z,72nm,1.5s
E42A Champion 81.90 326 P P 03 34 55.6 -1.4
baz=38
RCBR Riachuelo 81.94 256 PFAKE 03 35 10.0 +12
RCBR LR LR
comp=Z,1µm,21.0s
ULM Lac du Bonnet 81.96 332 P P 03 34 56.6 -0.6
comp=Z,36nm,1.2s,baz=54,slow=5.0,SNR=12
ULM LR LR 04 14 23.4
comp=Z,1µm,18.5s,baz=36,slow=38
ULM Lac du Bonnet 81.96 332 eP P 03 34 56.6 -0.6
comp=Z,91nm,1.5s
ULM Lac du Bonnet 81.96 332 eP P 03 34 56.6 -0.6
comp=Z,91nm,1.5s
O56A Blue Knob Stat 82.01 317 P P 03 34 56.5 -1.3
baz=44
F43A Flat Rock, Esc 82.04 325 P P 03 34 56.4 -1.4
baz=39
EYMN Ely 82.19 329 P P 03 34 57.6 -0.9
baz=36
EYMN Ely 82.19 329 eP P 03 34 59.6 +1.1
comp=Z,82nm,1.5s
EYMN Ely 82.19 329 eP P 03 34 59.6 +1.1
comp=Z,82nm,1.5s
EYMN LR LR
comp=Z,2µm,21.0s
N54A Moraine State 82.25 318 P P 03 34 57.9 -1.1
baz=43
C38A Sawbill Land. 82.28 329 P P 03 34 57.7 -1.3
baz=36
KDAK Kodiak Island 82.45 6 P P 03 34 59.6 0.0
comp=Z,19nm,0.7s,baz=305,slow=1.0,SNR=14
KDAK LR LR 04 12 44.8
comp=Z,192nm,21.4s,baz=3.4,slow=36
KDAK Kodiak Island 82.45 6 eP P 03 35 00.3 +0.7
comp=Z,103nm,1.3s
KDAK Kodiak Island 82.45 6 eP P 03 35 00.3 +0.7
comp=Z,103nm,1.3s
F42A Maple Grove Fa 82.52 326 P P 03 34 59.4 -0.9
baz=38
C37A Embarrass 82.64 329 P P 03 35 00.1 -0.8
baz=36
G43A Wallace 82.71 325 P P 03 35 00.6 -0.7
baz=38
B35A Bob, Littlefor 82.73 330 P P 03 35 00.4 -0.9
baz=35
E40A Wakefield 82.73 327 P P 03 35 00.6 -0.8
baz=37
CBN Corbin Frederi 82.84 314 eP P 03 35 02.0 -0.1
comp=Z,62nm,1.6s
CBN Corbin Frederi 82.84 314 eP P 03 35 01.9 -0.1
comp=Z,62nm,1.6s
CBN LR LR
comp=Z,1µm,19.0s
C36A Pine Crest Far 82.87 329 P P 03 35 01.5 -0.6
baz=35,SNR=6.7
A33A Warroad 82.88 331 P P 03 35 01.0 -1.1
baz=34,SNR=13
OHAK Old Harbor 82.95 7 eP P 03 35 04.3 +2.1
comp=Z,197nm,1.6s
OHAK Old Harbor 82.95 7 eP P 03 35 04.3 +2.1
comp=Z,197nm,1.6s
F41A Three Lakes 82.95 326 P P 03 35 01.5 -1.1
baz=38
B34A Aery, Baudette 82.97 331 P P 03 35 01.4 -1.2
baz=34,SNR=8.8
PTRD Partlow Road 83.04 315 PFAKE 03 35 10.0 +6.9
PTRD LR LR
comp=Z,2µm,19.0s
E39A Mellen 83.06 327 P P 03 35 02.2 -0.9

baz=37
AAM Ann Arbor 83.10 321 *e*P P 03 35 03.9 +0.5
AAM pmax pmax
comp=Z,90nm,1.4s
AAM MLR MLR
comp=Z,2µm,20.0s
AAM Ann Arbor 83.10 321 *e*P P 03 35 03.9 +0.5
comp=Z,90nm,1.4s
AAM Ann Arbor 83.10 321 *e*P P 03 35 03.9 +0.5
comp=Z,90nm,1.4s
AAM LR LR
comp=Z,2µm,20.0s
MCWV Mont Chateau 83.13 317 *e*P P 03 35 03.8 +0.3
comp=Z,111nm,0.5s
MCWV Mont Chateau 83.13 317 *e*P P 03 35 03.8 +0.3
comp=Z,111nm,0.5s
MCWV LR LR
comp=Z,1µm,21.0s
CVRD Centerville Ro 83.18 315 *e*P P 03 35 03.4 -0.4
comp=Z,20nm,1.3s
CVRD Centerville Ro 83.18 315 *e*P P 03 35 03.4 -0.4
comp=Z,20nm,1.3s
CVRD LR LR
comp=Z,2µm,20.0s
D37A Cotton 83.20 329 P P 03 35 03.1 -0.7
baz=36
F40A Park Falls 83.25 327 P P 03 35 02.4 -1.7
baz=37
E38A The Farm, Brul 83.29 328 P P 03 35 03.1 -1.2
baz=36
A32A Rocking H Ranc 83.30 332 P P 03 35 03.4 -0.8
baz=33,SNR=14
IP01 Cuckoo 83.32 315 *e*P P 03 35 04.8 +0.3
comp=Z,36nm,1.5s
IP01 Cuckoo 83.32 315 *e*P P 03 35 04.8 +0.3
comp=Z,36nm,1.5s
IP04 Greensprings 83.32 315 *e*P P 03 35 07.2 +2.7
comp=Z,46nm,1.9s
IP04 Greensprings 83.32 315 *e*P P 03 35 07.2 +2.7
comp=Z,46nm,1.9s
IP04 LR LR
comp=Z,2µm,19.0s
IP05 Hopewell Churc 83.32 314 *e*P P 03 35 03.9 -0.7
comp=Z,37nm,1.5s
IP05 Hopewell Churc 83.32 314 *e*P P 03 35 03.9 -0.7
comp=Z,37nm,1.5s
IP05 LR LR
comp=Z,2µm,18.0s
IP03 Louisa 83.33 315 PFAKE 03 35 20.0 +15
IP03 LR LR
comp=Z,2µm,19.0s
C35A Jirik Farms, M 83.36 330 P P 03 35 03.2 -1.4
baz=35
IP06 Yanceyville 83.37 315 *e*P P 03 35 04.5 -0.3
comp=Z,29nm,1.4s
IP06 Yanceyville 83.37 315 *e*P P 03 35 04.5 -0.3
comp=Z,29nm,1.4s
IP06 LR LR
comp=Z,2µm,21.0s
URVA University of 83.39 314 *e*P P 03 35 04.9 0.0
URVA University of 83.39 314 *e*P P 03 35 04.9 0.0
G41A Antigo 83.40 326 P P 03 35 03.5 -1.4
baz=38
IP07 Quail 83.41 315 *e*P P 03 35 05.3 +0.3
comp=Z,45nm,1.6s
IP07 Quail 83.41 315 *e*P P 03 35 05.3 +0.3
comp=Z,45nm,1.6s
IP07 LR LR
comp=Z,2µm,21.0s
D36A Goodland 83.48 329 P P 03 35 04.3 -0.9
baz=35
JSRW J. Sargeant Re 83.49 314 *e*P P 03 35 04.6 -0.8
JSRW J. Sargeant Re 83.49 314 *e*P P 03 35 04.6 -0.8
B33A Robert and Kas 83.50 331 P P 03 35 03.9 -1.4
baz=34
A31A Linda, St. Vin 83.53 332 P P 03 35 04.4 -1.1
baz=32
AGMN Agassiz Nation 83.58 331 P P 03 35 04.7 -1.1
baz=33
AGMN Agassiz Nation 83.58 331 *e*P P 03 35 05.2 -0.5
comp=Z,18nm,1.0s
AGMN Agassiz Nation 83.58 331 *e*P P 03 35 05.2 -0.5
comp=Z,18nm,1.0s
AGMN LR LR
comp=Z,2µm,18.0s
F39A Loretta 83.58 327 P P 03 35 04.5 -1.3
baz=36,SNR=13
E37A Wrenshall 83.67 328 P P 03 35 05.0 -1.2
baz=36
B32A Ashes, Strandq 83.75 332 P P 03 35 05.4 -1.2
baz=33,SNR=19
C34A RKJ Ranch, Bem 83.76 330 P P 03 35 05.2 -1.4
baz=34
G40A Rib Lake 83.80 326 P P 03 35 05.8 -1.1
baz=37
D35A Remer 83.90 330 P P 03 35 06.3 -1.1
baz=34
F38A Pierce - Schro 83.95 328 P P 03 35 07.3 -0.3
baz=36,SNR=20
C33A Trail 84.00 331 P P 03 35 06.6 -1.3
baz=33
E36A McGregor 84.05 329 P P 03 35 07.2 -0.9
baz=35,SNR=16
H41A Junction City 84.08 326 P P 03 35 07.3 -1.0
baz=37
B31A Greenbush Farm 84.13 332 P P 03 35 07.7 -0.8
baz=32,SNR=13
G39A Holcombe 84.19 327 P P 03 35 08.1 -0.8
baz=36,SNR=23
C32A Crookston 84.22 331 P P 03 35 07.8 -1.2
baz=33
ACSO Alum Creek Sta 84.32 319 *e*P P 03 35 08.8 -0.9
comp=Z,148nm,1.7s
ACSO Alum Creek Sta 84.32 319 *e*P P 03 35 08.8 -0.9
comp=Z,148nm,1.7s
ACSO LR LR
comp=Z,2µm,21.0s
D34A Park Rapids 84.34 330 P P 03 35 08.6 -1.1
baz=34
EDM Edmonton 84.37 344 *e*P P 03 35 09.6 -0.1
EDM pmax pmax
comp=Z,121nm,1.3s
EDM Edmonton 84.37 344 *e*P P 03 35 09.6 -0.1
comp=Z,122nm,1.3s
EDM Edmonton 84.37 344 *e*P P 03 35 09.6 -0.1
comp=Z,122nm,1.3s
H40A Chili 84.39 326 P P 03 35 08.8 -1.2
baz=37
F37A Hinrichs Farm, 84.44 328 P P 03 35 09.7 -0.4
baz=35,SNR=14
E35A Pequot Lakes 84.47 330 P P 03 35 09.2 -1.1
baz=34,SNR=11
MRSI Marisa 84.51 94 P P 03 35 10.6 -0.3
comp=Z,28nm,1.1s,comp=Z,2µm
D33A AnnSam, Waubun 84.54 331 P P 03 35 09.7 -1.0
baz=33
G38A Ridgeland 84.57 327 P P 03 35 09.4 -1.4
baz=36,SNR=16
I41A Arkdale 84.62 326 P P 03 35 09.8 -1.3
baz=37
C31A Landman Farms, 84.69 332 P P 03 35 10.1 -1.3
baz=32,SNR=16
F36A Milaca 84.69 329 P P 03 35 10.4 -1.1
baz=35,SNR=19
H39A Augusta 84.73 327 P P 03 35 10.6 -1.0
baz=36,SNR=11
E34A Wadena 84.80 330 P P 03 35 10.9 -1.1
baz=34,SNR=9.1
SPMN Marine on St. 84.92 328 P P 03 35 11.8 -0.8
baz=35,SNR=12
SPMN Marine on St. 84.92 328 *e*P P 03 35 12.3 -0.3
comp=Z,91nm,1.3s
SPMN Marine on St. 84.92 328 *e*P P 03 35 12.3 -0.3
comp=Z,91nm,1.3s
SPMN LR LR
comp=Z,2µm,19.0s
D32A Dogwood Acres, 84.98 331 P P 03 35 11.7 -1.2
baz=32
I40A Norwalk 85.08 326 P P 03 35 12.3 -1.1
baz=37
F35A Swanville 85.11 329 P P 03 35 12.2 -1.3
baz=34,SNR=8.6
E33A Westby DABS, E 85.13 330 P P 03 35 12.7 -1.0
baz=33
H38A Maiden Rock 85.15 327 P P 03 35 12.7 -1.1
baz=36
BLA Blacksburg 85.23 316 *e*P P 03 35 14.2 -0.1
BLA pmax pmax
comp=Z,32nm,1.2s
BLA MLR MLR
comp=Z,2µm,18.0s
BLA Blacksburg 85.23 316 *e*P P 03 35 14.2 -0.1
comp=Z,32nm,1.2s
BLA Blacksburg 85.23 316 *e*P P 03 35 14.2 -0.1
comp=Z,32nm,1.2s
BLA LR LR
comp=Z,2µm,18.0s
J41A Loganville 85.23 325 P P 03 35 12.5 -1.7
baz=37
CNNC Cliffs of the 85.26 313 *e*P P 03 35 14.6 +0.1
comp=Z,59nm,1.4s
CNNC Cliffs of the 85.26 313 *e*P P 03 35 14.6 +0.1
comp=Z,59nm,1.4s
CNNC LR LR
comp=Z,2µm,20.0s
G36A St. Michael 85.30 328 P P 03 35 13.3 -1.2
baz=35,SNR=8.0
MDND Maddock 85.30 333 P P 03 35 13.3 -1.2
baz=31
MDND Maddock 85.30 333 *e*P P 03 35 14.8 +0.3
comp=Z,158nm,1.4s
MDND Maddock 85.30 333 *e*P P 03 35 14.8 +0.3
comp=Z,158nm,1.4s
MDND LR LR
comp=Z,1µm,22.0s
D31A Mcclaflin, Tow 85.32 332 P P 03 35 13.6 -1.0
baz=32
F34A Alexandria 85.44 330 P P 03 35 14.0 -1.2
baz=34
E32A Braaten, Kindr 85.46 331 P P 03 35 14.4 -0.8
baz=32
H37A Dierke Farm, C 85.49 328 P P 03 35 14.7 -0.8
baz=35,SNR=6.4
I39A Houston 85.50 326 P P 03 35 13.9 -1.6
baz=36
J40A Soldiers Grove 85.53 326 P P 03 35 14.1 -1.5
baz=36
L43A Garden Prairie 85.60 324 P P 03 35 14.4 -1.6
baz=38
G35A Watkins 85.61 329 P P 03 35 15.0 -1.1
baz=34
I38A Scanlan Farm, 85.69 327 P P 03 35 15.4 -1.1
baz=36,SNR=8.1
JFWS Jewell Farm 85.69 325 *e*P P 03 35 16.3 -0.2
JFWS pmax pmax
comp=Z,49nm,1.3s
JFWS MLR MLR
comp=Z,2µm,20.0s
JFWS Jewell Farm 85.69 325 *e*P P 03 35 16.3 -0.2
comp=Z,49nm,1.3s
JFWS Jewell Farm 85.69 325 *e*P P 03 35 16.3 -0.2
comp=Z,49nm,1.3s
JFWS LR LR
comp=Z,2µm,20.0s
E31A Nome 85.79 332 P P 03 35 15.7 -1.2
baz=32,SNR=13
F33A 5 Mile Ranch, 85.80 330 P P 03 35 15.9 -1.1
baz=33
H36A Jessenland, He 85.91 328 P P 03 35 16.9 -0.7
baz=34,SNR=13
K41A Shullsburg 85.96 325 P P 03 35 16.3 -1.5
baz=37
J39A Decorah 85.99 326 P P 03 35 16.6 -1.4
baz=36,SNR=11
G34A Benson 86.04 330 P P 03 35 17.2 -0.9
baz=33,SNR=15
F32A Veblen 86.09 331 P P 03 35 17.4 -1.0
baz=32
I37A Lemond, Waseca 86.16 328 P P 03 35 18.0 -0.8
baz=35,SNR=23
H35A Sunnyside Ranc 86.17 329 P P 03 35 18.3 -0.6
baz=34,SNR=7.4
SFIN Lafayette 86.24 322 P P 03 35 17.1 -2.1
baz=39
SFIN Lafayette 86.24 322 PFAKE 03 35 30.0 +11
SFIN LR LR
comp=Z,2µm,22.0s
K40A Colesburg 86.26 325 P P 03 35 17.6 -1.7
baz=36
DGMT Dagmar 86.27 336 P P 03 35 18.8 -0.5
baz=28
DGMT Dagmar 86.27 336 *e*P P 03 35 19.5 +0.2
comp=Z,112nm,1.5s
DGMT Dagmar 86.27 336 *e*P P 03 35 19.5 +0.2
comp=Z,112nm,1.5s
DGMT LR LR
comp=Z,2µm,19.0s
KAPI Kappang 86.33 100 PFAKE 03 35 30.0 +10
KAPI LR LR
comp=Z,800nm,22.0s
KAPI Kappang 86.33 100 P P 03 35 22.1 +2.1
SNR=7.5
KAPI P P 03 35 22.1 +2.1
SNR=7.5
J38A Wedel Dairy, R 86.33 327 P P 03 35 18.5 -1.2
baz=35,SNR=9.4
G33A Ortonville 86.39 330 P P 03 35 18.8 -1.1
baz=33,SNR=11
I36A Flimmmons Fa 86.41 328 P P 03 35 19.3 -0.7
baz=34,SNR=8.7
L41A Preston 86.48 325 P P 03 35 18.8 -1.5
baz=37,SNR=14
F31A Hecla 86.52 331 P P 03 35 19.6 -1.0
baz=32,SNR=12
H34A Spellman Lake, 86.58 329 P P 03 35 20.5 -0.3
baz=33,SNR=19
K39A Oelwein 86.58 326 P P 03 35 19.1 -1.8
baz=36,SNR=8.0
M42A Sheffield 86.64 324 P P 03 35 19.5 -1.6
baz=37
ANWB Willy Bob 86.66 290 PFAKE 03 35 30.0 +8.4
ANWB LR LR
comp=Z,600nm,22.0s
G32A Webster 86.75 331 P P 03 35 20.8 -0.9
baz=32
J37A Redenius Farm, 86.80 327 P P 03 35 20.9 -1.1
baz=35,SNR=19
L40A Anamosa 86.81 325 P P 03 35 19.8 -2.2
baz=36
BLO Bloomington 86.90 320 PFAKE 03 35 30.0 +7.5
BLO LR LR
comp=Z,2µm,20.0s
I35A Creekview Farm 86.93 328 P P 03 35 21.6 -1.0
baz=34
H33A Prehn Over Nor 86.94 330 P P 03 35 21.9 -0.7
baz=33,SNR=11
K38A Parkersburg 87.01 326 P P 03 35 20.4 -2.5
baz=35,SNR=6.1
G31A Conde 87.04 331 P P 03 35 22.2 -0.8
baz=32,SNR=5.8
M41A Milan 87.06 324 P P 03 35 21.4 -1.8
baz=36
L39A Vinton 87.10 326 P P 03 35 21.6 -1.8
baz=36
J36A Seneca 1, Swea 87.11 328 P P 03 35 22.5 -0.9
baz=34,SNR=29
I34A Hadley 87.13 329 P P 03 35 22.4 -1.2
baz=33
HDIL Hopedale 87.14 323 P P 03 35 21.6 -2.0
baz=37
HDIL Hopedale 87.14 323 *e*P P 03 35 23.5 -0.1
comp=Z,96nm,1.4s
HDIL Hopedale 87.14 323 *e*P P 03 35 23.5 -0.1
comp=Z,96nm,1.4s
HDIL LR LR
comp=Z,1µm,19.0s
KMSC Kings Mountain 87.25 315 P P 03 35 23.2 -1.1
baz=42
KMSC Kings Mountain 87.25 315 *e*P P 03 35 24.4 +0.1
comp=Z,46nm,1.4s
KMSC Kings Mountain 87.25 315 *e*P P 03 35 24.4 +0.1
comp=Z,46nm,1.4s
KMSC LR LR
comp=Z,2µm,18.0s
N42A Yates City 87.26 324 P P 03 35 22.7 -1.5
baz=37
K37A Belmond 87.28 327 P P 03 35 22.4 -1.9
baz=35,SNR=7.6
SMRT St. Maarten 87.35 291 PFAKE 03 35 40.0 +15
SMRT LR LR
comp=Z,2µm,22.0s
H32A Carlson Farm, 87.36 330 P P 03 35 23.7 -1.0
baz=32,SNR=20
O43A Sugar Creek Fa 87.36 323 P P 03 35 22.5 -2.3
baz=37
TZTN Tazewell 87.39 317 *e*P P 03 35 26.5 +1.5
comp=Z,81nm,1.8s
TZTN Tazewell 87.39 317 *e*P P 03 35 26.5 +1.5
comp=Z,81nm,1.8s
TZTN LR LR
comp=Z,2µm,20.0s
J35A Milford 87.43 328 P P 03 35 23.0 -2.1
baz=34
M40A Post Highland 87.47 325 P P 03 35 23.4 -1.8
baz=36
I33A Coleman 87.50 330 P P 03 35 24.1 -1.2
baz=32
L38A Oak Wood Farm, 87.50 326 P P 03 35 22.8 -2.5
baz=35
WCI Wyandotte Cave 87.51 320 *e*P P 03 35 25.4 -0.1
WCI pmax pmax
comp=Z,59nm,1.9s
WCI MLR MLR
comp=Z,2µm,20.0s
WCI Wyandotte Cave 87.51 320 *e*P P 03 35 25.4 -0.1
comp=Z,59nm,1.9s
WCI Wyandotte Cave 87.51 320 *e*P P 03 35 25.4 -0.1
comp=Z,59nm,1.9s
WCI LR LR
comp=Z,2µm,20.0s
GDHS Morne Mazeau, 87.55 289 PFAKE 03 35 40.0 +14
GDHS LR LR
comp=Z,1µm,21.0s
SEUS St. Eustatius 87.64 291 PFAKE 03 35 40.0 +14
SEUS LR LR
comp=Z,900nm,21.0s
P44A Sand Creek, Wi 87.68 322 P P 03 35 24.4 -1.9
baz=38
ECSD EROS Data Cent 87.69 329 P P 03 35 25.2 -1.1
baz=33,SNR=17
ECSD EROS Data Cent 87.69 329 *e*P P 03 35 25.7 -0.5
comp=Z,126nm,1.9s
ECSD EROS Data Cent 87.69 329 *e*P P 03 35 25.7 -0.5
comp=Z,126nm,1.9s
ECSD LR LR
comp=Z,2µm,19.0s
M39A Webster 87.70 325 P P 03 35 24.4 -1.9
baz=36
K36A Gilmore City 87.72 327 P P 03 35 25.4 -1.1
baz=34
N41A Harden Midland 87.73 324 P P 03 35 25.0 -1.5
baz=36
SABA Saba 87.75 291 PFAKE 03 35 40.0 +13
SABA LR LR
comp=Z,2µm,22.0s
I32A Karley and Nic 87.77 330 P P 03 35 25.3 -1.3
baz=32
H31A Wolsey 87.78 331 P P 03 35 25.8 -0.8
baz=31
O42A Bath 87.79 323 P P 03 35 25.1 -1.6
baz=37
SCIA State Center 87.80 326 *e*P P 03 35 27.4 +0.6
comp=Z,28nm,0.9s
SCIA State Center 87.80 326 *e*P P 03 35 27.4 +0.6
comp=Z,28nm,0.9s
SCIA LR LR
comp=Z,1µm,18.0s
J34A George 87.80 329 P P 03 35 25.7 -1.1
baz=33
KDI Kendari 87.84 97 P P 03 35 29.0 +1.6
JSC Jenkinsville 87.85 314 *e*P P 03 35 27.4 +0.3
JSC pmax pmax
comp=Z,20nm,1.3s
JSC MLR MLR
comp=Z,1µm,18.0s
JSC Jenkinsville 87.85 314 *e*P P 03 35 27.4 +0.3
comp=Z,20nm,1.3s
JSC Jenkinsville 87.85 314 *e*P P 03 35 27.4 +0.3
comp=Z,20nm,1.3s
JSC LR LR
comp=Z,1µm,18.0s
L37A Phoenix Point, 87.85 327 P P 03 35 25.4 -1.7
baz=34,SNR=6.1
N40A Mertquake, Sal 87.92 325 P P 03 35 25.6 -1.8
baz=36
P43A Skaggs, Pawnee 87.97 323 P P 03 35 26.1 -1.5
baz=37
K35A Storm Lake 87.98 328 P P 03 35 26.2 -1.5
baz=34
SUSD Miller 87.98 331 P P 03 35 26.7 -1.0
baz=31,SNR=7.6
OLIL Olney 88.01 321 *e*P P 03 35 27.4 -0.4
comp=Z,29nm,1.0s
OLIL Olney 88.01 321 *e*P P 03 35 27.4 -0.4
comp=Z,29nm,1.0s
OLIL LR LR
comp=Z,2µm,21.0s
FDF Fort de France 88.09 287 PFAKE 03 35 40.0 +11
FDF LR LR
comp=Z,600nm,21.0s
NHSC New Hope 88.11 313 PFAKE 03 35 40.0 +12
NHSC LR LR
comp=Z,2µm,20.0s
J33A Davis 88.17 329 P P 03 35 27.5 -1.1
baz=32,SNR=9.1
I31A Royce, Wessing 88.18 331 P P 03 35 27.6 -1.0
baz=31
TKL Tuckaleechee C 88.18 317 P P 03 35 27.4 -1.4
comp=Z,13nm,1.2s,baz=59,slow=7.1,SNR=10
TKL Tuckaleechee C 88.18 317 *e*P P 03 35 28.9 +0.1
TKL pmax pmax
comp=Z,121nm,1.8s
TKL MLR MLR
comp=Z,2µm,19.0s
TKL Tuckaleechee C 88.18 317 *e*P P 03 35 28.9 +0.1
comp=Z,121nm,1.8s
TKL Tuckaleechee C 88.18 317 *e*P P 03 35 28.9 +0.1
comp=Z,121nm,1.8s
TKL LR LR
comp=Z,2µm,19.0s
M38A Pleasantville 88.19 326 P P 03 35 27.1 -1.5
baz=35,SNR=9.9
O41A Passleys Farm, 88.22 324 P P 03 35 26.9 -1.9
baz=36
L36A Harm Buss Farm 88.26 327 P P 03 35 27.7 -1.3
baz=34
EGMT Eagleton 88.30 339 P P 03 35 28.5 -0.6
baz=24
EGMT Eagleton 88.30 339 *e*P P 03 35 29.1 -0.1
comp=Z,67nm,1.6s
EGMT Eagleton 88.30 339 *e*P P 03 35 29.1 -0.1
comp=Z,67nm,1.6s
EGMT LR LR
comp=Z,1µm,20.0s
Q44A Meyer Farm, Va 88.31 322 P P 03 35 28.0 -1.2
baz=37
N39A Derby Farms, D 88.33 325 P P 03 35 27.7 -1.7
baz=35,SNR=8.7
K34A Le Mars 88.36 328 P P 03 35 28.3 -1.2
baz=33
P42A Winchester 88.40 323 P P 03 35 28.2 -1.5
baz=37
USIN University of 88.40 320 *e*P P 03 35 29.1 -0.6
comp=Z,40nm,1.0s
USIN University of 88.40 320 *e*P P 03 35 29.1 -0.6
comp=Z,40nm,1.0s
J32A Parkston 88.47 330 P P 03 35 29.0 -1.0
baz=32
LAO LASA Array 88.49 337 P P 03 35 30.5 +0.4
baz=26
LAO LASA Array 88.49 337 *e*P P 03 35 31.0 +0.9
comp=Z,150nm,1.5s
LAO LASA Array 88.49 337 *e*P P 03 35 31.0 +0.9
comp=Z,150nm,1.5s
LAO LR LR
comp=Z,2µm,19.0s
LLLB Lillooet 88.50 348 *e*P P 03 35 30.4 +0.4
comp=Z,108nm,1.4s
LLLB Lillooet 88.50 348 *e*P P 03 35 30.4 +0.4
comp=Z,108nm,1.4s
LLLB LR LR
comp=Z,3µm,20.0s
M37A Trindle Farm, 88.58 326 P P 03 35 29.6 -0.9
baz=34
Q43A New Douglas 88.61 322 P P 03 35 29.4 -1.3
baz=37
L35A Bielow Farm, R 88.61 328 P P 03 35 29.2 -1.5
baz=33
P41A Barry, Barry 88.66 324 P P 03 35 28.9 -2.0
baz=36
O40A La Belle 88.66 324 P P 03 35 29.4 -1.5
baz=36
N38A Joes South For 88.72 326 P P 03 35 29.8 -1.4
baz=35

CPCT	Cooper Cave	88.74 317	eP		P	03 35 31.6	+0.2	
	comp=Z,27nm,1.7s							
CPCT	Cooper Cave	88.74 317	eP		P	03 35 31.6	+0.2	
	comp=Z,27nm,1.7s							
CPCT			LR		LR			
	comp=Z,1μm,21.0s							
K33A	Hardington	88.79 329	P		P	03 35 30.0	-1.5	
	baz=32							
M36A	Felix, Anita	88.85 327	P		P	03 35 30.2	-1.6	
	baz=34							
O39A	Kirksville	88.86 325	P		P	03 35 30.5	-1.3	
	baz=35							
R44A	Waltonville	88.86 321	P		P	03 35 30.4	-1.5	
	baz=37							
J31A	Geddes	88.89 330	P		P	03 35 30.6	-1.4	
	baz=31							
Q42A	Golden Eagle	89.02 323	P		P	03 35 31.5	-1.1	
	baz=36							
S45A	Carrier Mills	89.07 321	P		P	03 35 30.9	-2.0	
	baz=38							
L34A	Svendsen Farm,	89.07 328	P		P	03 35 30.9	-2.0	
	baz=33							
SLM	Saint Louis	89.10 322	PFAKE			03 35 40.0	+7.0	
SLM			LR		LR			
	comp=Z,2μm,19.0s							
K32A	Verdigre	89.13 330	P		P	03 35 31.5	-1.6	
	baz=32							
N37A	Lee Faris, Mou	89.17 326	P		P	03 35 31.9	-1.4	
	baz=34							
M35A	Neola	89.21 327	P		P	03 35 31.8	-1.7	
	baz=33							
P40A	Paris	89.22 324	P		P	03 35 32.3	-1.3	
	baz=36							
R43A	Red Bud	89.25 322	P		P	03 35 32.4	-1.3	
	baz=37							
L33A	Hoskins	89.27 329	P		P	03 35 32.3	-1.5	
	baz=32							
HUMP	Col San Antoni	89.27 293	eP		P	03 35 35.8	+1.7	
	comp=Z,146nm,1.5s							
HUMP	Col San Antoni	89.27 293	eP		P	03 35 35.8	+1.7	
	comp=Z,146nm,1.5s							
HUMP			LR		LR			
	comp=Z,700nm,20.0s							
Q41A	Truxton	89.31 323	P		P	03 35 32.7	-1.3	
	baz=36,SNR=7.2							
O38A	Galt	89.37 325	P		P	03 35 33.0	-1.3	
	baz=35							
S44A	Carbondale	89.39 321	P		P	03 35 33.2	-1.1	
	baz=37							
N36A	Muff Farm, Cla	89.44 327	P		P	03 35 33.4	-1.2	
	baz=34							
K31A	O'Neill	89.46 330	P		P	03 35 33.8	-0.9	
	baz=31							
BLMT	Blacktail Moun	89.47 342	eP		P	03 35 34.5	-0.4	
BLMT	Blacktail Moun	89.47 342	eP		P	03 35 34.5	-0.4	
SJG	San Juan	89.50 293	PFAKE			03 35 50.0	+15	
SJG			LR		LR			
	comp=Z,700nm,21.0s							
YBMT	Yellow Bay	89.53 342	eP		P	03 35 35.2	+0.2	
YBMT	Yellow Bay	89.53 342	eP		P	03 35 35.2	+0.2	
M34A	Aspy Farms, Fr	89.55 328	P		P	03 35 33.5	-1.6	
	baz=33							
P39B	Salisbury	89.57 325	P		P	03 35 33.7	-1.5	
	baz=35							
O37A	Wolven Farm, M	89.63 326	P		P	03 35 34.2	-1.3	
	baz=34							
R42A	Luebbering	89.65 323	P		P	03 35 34.3	-1.3	
	baz=36							
SWET	Sewanee	89.65 318	PFAKE			03 35 50.0	+14	
SWET			LR		LR			
	comp=Z,600nm,20.0s							
Q40A	Laux Farm, Aux	89.67 324	P		P	03 35 34.6	-1.0	
	baz=36,SNR=7.6							
N35A	Tabor	89.69 327	P		P	03 35 34.3	-1.5	
	baz=33							
L32A	Elgin	89.70 329	P		P	03 35 34.9	-0.9	
	baz=32,SNR=6.7							
JTMT	Jette	89.70 342	eP		P	03 35 35.6	-0.2	
JTMT	Jette	89.70 342	eP		P	03 35 35.6	-0.2	
GOGA	Godfrey	89.72 315	PFAKE			03 35 50.0	+14	
GOGA			LR		LR			
	comp=Z,2μm,18.0s							
BSMT	Bassoo Peak	89.72 342	eP		P	03 35 36.1	+0.1	
BSMT	Bassoo Peak	89.72 342	eP		P	03 35 36.1	+0.1	
M33A	Taylor Creek F	89.74 329	P		P	03 35 34.9	-1.1	
	baz=32							
P38A	Dawn	89.81 325	P		P	03 35 34.6	-1.7	
	baz=35							
CELP	Cerrillos	89.83 293	eP		P	03 35 37.1	+0.4	
CELP	Cerrillos	89.83 293	eP		P	03 35 37.1	+0.4	
NEW	Newport	89.85 344	P		P	03 35 36.9	+0.5	
	comp=Z,26nm,1.0s,baz=12,slow=3.8,SNR=25							
NEW	Newport	89.85 344	P		P	03 35 36.3	-0.1	
	baz=18							
NEW	Newport	89.85 344	eP		P	03 35 36.5	+0.1	
NEW			pmax		pmax			
	comp=Z,114nm,1.4s							
NEW	Newport	89.85 344	eP		P	03 35 36.5	+0.1	
	comp=Z,114nm,1.4s							
NEW	Newport	89.85 344	eP		P	03 35 36.5	+0.1	
	comp=Z,114nm,1.4s							
SWMT	Swartz Lake	89.86 342	eP		P	03 35 36.8	+0.2	
SWMT	Swartz Lake	89.86 342	eP		P	03 35 36.8	+0.2	
S43A	Fulton Ridge,	89.88 322	P		P	03 35 35.3	-1.4	
	baz=37							
R41A	Rosebud	89.91 323	P		P	03 35 35.5	-1.3	
	baz=36,SNR=11							
WVT	Waverly	89.91 319	eP		P	03 35 35.8	-1.1	
WVT			pmax		pmax			
	comp=Z,33nm,1.7s							
WVT			MLR		MLR			
	comp=Z,2μm,20.0s							
WVT	Waverly	89.91 319	eP		P	03 35 35.8	-1.1	
	comp=Z,33nm,1.7s							
WVT	Waverly	89.91 319	eP		P	03 35 35.8	-1.1	
	comp=Z,33nm,1.7s							
WVT			LR		LR			
	comp=Z,2μm,20.0s							
SLMT	Seeley Lake	89.98 341	eP		P	03 35 37.1	-0.1	
SLMT	Seeley Lake	89.98 341	eP		P	03 35 37.1	-0.1	
O36A	Bolckow	90.01 326	P		P	03 35 36.1	-1.2	
	baz=34							
T44A	Benton	90.03 321	P		P	03 35 36.0	-1.4	
	baz=37							
Q39A	Willow Grove F	90.03 324	P		P	03 35 36.3	-1.0	
	baz=35							
HRY	Holter Researc	90.06 340	eP		P	03 35 37.5	0.0	
HRY	Holter Researc	90.06 340	eP		P	03 35 37.5	0.0	
S42A	Caledonia	90.06 322	P		P	03 35 36.0	-1.5	
	baz=36,SNR=12							
RSSD	Black Hills	90.07 334	P		P	03 35 37.1	-0.7	
	baz=28							
RSSD	Black Hills	90.07 334	eP		P	03 35 37.7	-0.1	
RSSD			pmax		pmax			
	comp=Z,50nm,1.5s							
RSSD			MLR		MLR			
	comp=Z,1μm,18.0s							
RSSD	Black Hills	90.07 334	eP		P	03 35 37.7	-0.1	
	comp=Z,50nm,1.5s							
RSSD	Black Hills	90.07 334	eP		P	03 35 37.7	-0.1	
	comp=Z,50nm,1.5s							
RSSD			LR		LR			
	comp=Z,1μm,18.0s							
N34A	Lincoln	90.07 328	P		P	03 35 36.1	-1.5	
	baz=33							
MPR	Mayaguez	90.14 294	PFAKE			03 35 50.0	+12	
MPR			LR		LR			
	comp=Z,14μm,21.0s							
GRGR	Grenville	90.15 286	PFAKE			03 35 50.0	+12	
GRGR			LR		LR			
	comp=Z,300nm,21.0s							
P37A	Lathrop	90.20 326	P		P	03 35 36.3	-1.8	
	baz=34							
U45A	Rockin P Farm,	90.21 320	P		P	03 35 36.2	-2.0	
	baz=38							
B08A	Colville Reser	90.21 346	eP		P	03 35 38.0	-0.1	
	comp=Z,30nm,1.5s							
B08A	Colville Reser	90.21 346	eP		P	03 35 38.0	-0.1	
	comp=Z,30nm,1.5s							
CHMT	Chamberlain Mo	90.23 341	eP		P	03 35 38.1	-0.3	
CHMT	Chamberlain Mo	90.23 341	eP		P	03 35 38.1	-0.3	
BGNE	Belgrade	90.26 329	P		P	03 35 37.5	-0.9	
	baz=32,SNR=8.2							
BGNE	Belgrade	90.26 329	eP		P	03 35 38.9	+0.5	
	comp=Z,178nm,1.4s							
BGNE	Belgrade	90.26 329	eP		P	03 35 38.9	+0.5	
	comp=Z,178nm,1.4s							
BGNE			LR		LR			
	comp=Z,2μm,22.0s							
UTMT	University of	90.26 320	eP		P	03 35 39.9	+1.4	
	comp=Z,89nm,0.3s							
UTMT	University of	90.26 320	eP		P	03 35 39.9	+1.4	
	comp=Z,89nm,0.3s							
O35A	Humboldt	90.30 327	P		P	03 35 36.7	-2.0	
	baz=33							
GCMT	Greycliff	90.31 338	eP		P	03 35 39.1	+0.3	
GCMT	Greycliff	90.31 338	eP		P	03 35 39.1	+0.3	
R40A	Maddies Statio	90.33 324	P		P	03 35 37.5	-1.3	
	baz=35,SNR=16							
T43A	Greenville	90.37 322	P		P	03 35 37.9	-1.0	
	baz=37,SNR=13							
Q38A	Cooks Store, C	90.39 325	P		P	03 35 37.4	-1.7	
	baz=34,SNR=6.6							
B06A	Marblemount	90.45 347	eP		P	03 35 39.7	+0.6	
	comp=Z,42nm,1.4s							
B06A	Marblemount	90.45 347	eP		P	03 35 39.7	+0.6	
	comp=Z,42nm,1.4s							
B06A			LR		LR			
	comp=Z,2μm,22.0s							
A04D	Lummi Island	90.46 348	P		P	03 35 38.0	-1.1	
	baz=14							
MSO	Missoula	90.48 342	P		P	03 35 38.4	-1.1	
	baz=21							
MSO	Missoula	90.48 342	eP		P	03 35 39.2	-0.3	
	comp=Z,44nm,1.3s							
MSO	Missoula	90.48 342	eP		P	03 35 39.2	-0.3	
	comp=Z,44nm,1.3s							
MSO			LR		LR			
	comp=Z,2μm,20.0s							
U44B	Burton Farm, H	90.50 320	P		P	03 35 38.0	-1.6	
	baz=37							
MMRI	Maumere	90.53 101	PFAKE			03 35 50.0	+10	
MMRI			LR		LR			
	comp=Z,1μm,21.0s							
U44A	Portageville	90.54 321	P		P	03 35 38.3	-1.5	
	baz=37							
P36A	Good Intent, A	90.54 326	P		P	03 35 37.8	-1.9	
	baz=34							
PVMO	Portageville	90.62 321	PFAKE			03 35 50.0	+10	
PVMO			LR		LR			
	comp=Z,2μm,21.0s							
S41A	Jillco Farms,	90.65 323	P		P	03 35 38.7	-1.6	
	baz=36,SNR=22							
R39A	Chumby, Stover	90.66 324	P		P	03 35 38.3	-2.1	
	baz=35							
GRTK	Grand Turk	90.67 299	PFAKE			03 35 50.0	+9.4	
GRTK			LR		LR			
	comp=Z,800nm,20.0s							
PBMO	Poplar Bluff	90.68 321	eP		P	03 35 39.7	-0.7	
	comp=Z,66nm,1.4s							
PBMO	Poplar Bluff	90.68 321	eP		P	03 35 39.7	-0.7	
	comp=Z,66nm,1.4s							
PBMO			LR		LR			
	comp=Z,2μm,20.0s							
O34A	Beatrice	90.70 327	P		P	03 35 39.5	-1.0	
	baz=33,SNR=9.3							
V45A	Humboldt	90.78 320	P		P	03 35 38.8	-2.1	
	baz=37							
B05A	Bryant	90.80 347	P		P	03 35 39.2	-1.5	
	baz=14							
RLMT	Red Lodge	90.81 338	P		P	03 35 38.1	-3.1	
	baz=24							
RLMT	Red Lodge	90.81 338	eP		P	03 35 41.6	+0.4	
	comp=Z,46nm,1.3s							
RLMT	Red Lodge	90.81 338	eP		P	03 35 41.6	+0.4	
	comp=Z,46nm,1.3s							
RLMT			LR		LR			
	comp=Z,2μm,19.0s							
Q37A	Longview Farm,	90.83 325	P		P	03 35 39.0	-2.1	
	baz=34							
P35A	Duane Minner,	90.96 327	P		P	03 35 40.2	-1.5	
	baz=33,SNR=6.6							
S40A	Lebanon	91.00 323	P		P	03 35 40.8	-1.1	
	baz=35,SNR=11							
U43A	Rector	91.00 321	P		P	03 35 40.1	-1.8	
	baz=36							
BOZ	Bozeman (W)	91.03 340	P		P	03 35 39.0	-3.1	
	baz=22							
BOZ	Bozeman (W)	91.03 340	eP		P	03 35 42.1	0.0	
BOZ			pmax		pmax			
	comp=Z,28nm,1.4s							
BOZ			MLR		MLR			
	comp=Z,2μm,20.0s							
BOZ	Bozeman (W)	91.03 340	eP		P	03 35 42.1	0.0	
	comp=Z,28nm,1.4s							
BOZ	Bozeman (W)	91.03 340	eP		P	03 35 42.1	0.0	
	comp=Z,28nm,1.4s							
BOZ			LR		LR			
	comp=Z,2μm,20.0s							
LRM	Limekiln Ridge	91.04 340	eP		P	03 35 42.3	0.0	
LRM	Limekiln Ridge	91.04 340	eP		P	03 35 42.3	0.0	
T41A	Mountain View	91.10 322	P		P	03 35 41.1	-1.3	
	baz=36,SNR=17							
R38A	Fenwick Farm,	91.15 325	P		P	03 35 41.0	-1.6	
	baz=34							
O33A	Hebron	91.16 328	P		P	03 35 40.7	-1.9	
	baz=32							
Q36A	Arnold C. Orve	91.20 326	P		P	03 35 41.2	-1.6	
	baz=33							
TIGA	Tifton	91.27 314	P		P	03 35 41.5	-1.8	
	baz=40							
TIGA	Tifton	91.27 314	PFAKE			03 35 50.0	+6.7	
TIGA			LR		LR			
	comp=Z,1μm,19.0s							
P34A	Walnut Farm, R	91.29 327	P		P	03 35 42.1	-1.1	
	baz=32,SNR=8.2							
S39A	Bolivar	91.30 324	P		P	03 35 41.5	-1.8	
	baz=35,SNR=10.0							
W45A	Hickory Valley	91.36 320	P		P	03 35 41.7	-1.9	
	baz=37							
T40A	Mansfield	91.37 323	P		P	03 35 41.9	-1.7	
	baz=35,SNR=11							
D08A	Wollman Farm,	91.37 345	eP		P	03 35 44.5	+1.1	
	comp=Z,28nm,1.3s							
D08A	Wollman Farm,	91.37 345	eP		P	03 35 44.5	+1.1	
	comp=Z,28nm,1.3s							
U42A	Revenden	91.41 322	P		P	03 35 42.4	-1.4	
	baz=36,SNR=22							
R37A	Teagarden Farm	91.46 325	P		P	03 35 41.7	-2.3	
	baz=34,SNR=7.8							
DLMT	Dillon	91.51 340	eP		P	03 35 44.3	0.0	
	comp=Z,28nm,1.3s							
DLMT	Dillon	91.51 340	eP		P	03 35 44.3	0.0	
	comp=Z,28nm,1.3s							
DLMT			LR		LR			
	comp=Z,2μm,20.0s							
LTY	Liberty	91.52 346	eP		P	03 35 43.3	-0.9	
	comp=Z,41nm,1.7s							
LTY	Liberty	91.52 346	eP		P	03 35 43.3	-0.9	
	comp=Z,41nm,1.7s							
LTY			LR		LR			
	comp=Z,1μm,19.0s							
V43A	Jonesboro	91.53 321	P		P	03 35 42.7	-1.6	
	baz=36							
Q35A	Mercer Eighty,	91.53 326	P		P	03 35 42.8	-1.6	
	baz=33,SNR=6.5							
YHH	Holmes Hill	91.57 339	eP		P	03 35 45.2	+0.4	
	comp=Z,38nm,1.4s							
YHH	Holmes Hill	91.57 339	eP		P	03 35 45.2	+0.4	
	comp=Z,38nm,1.4s							
YHH			LR		LR			
	comp=Z,2μm,19.0s							
KSU1	Kansas State U	91.57 327	P		P	03 35 42.8	-1.7	
	baz=33							
KSU1	Kansas State U	91.57 327	PFAKE			03 36 00.0	+15	
KSU1			LR		LR			
	comp=Z,2μm,18.0s							
YNR	Norris Junctio	91.58 339	eP		P	03 35 48.3	+3.5	
	comp=Z,31nm,1.4s							
YNR			LR		LR			
	comp=Z,2μm,18.0s							
S38A	Stockton	91.61 324	P		P	03 35 42.8	-1.9	
	baz=34,SNR=12							
LKWY	Lake	91.64 338	eP		P	03 35 46.8	+1.7	
LKWY			pmax		pmax			
	comp=Z,37nm,1.4s							
LKWY			MLR		MLR			
	comp=Z,4μm,19.0s							
LKWY	Lake	91.64 338	eP		P	03 35 46.8	+1.7	
	comp=Z,37nm,1.4s							
LKWY	Lake	91.64 338	eP		P	03 35 46.8	+1.7	
	comp=Z,37nm,1.4s							
LKWY			LR		LR			
	comp=Z,4μm,19.0s							
Y47A	UCPARC, Winfie	91.67 318	P		P	03 35 43.7	-1.4	
	baz=38							
W44A	Shelby Farms P	91.69 320	P		P	03 35 43.7	-1.4	
	baz=37							
QLMT	Earthquake Lak	91.69 339	eP		P	03 35 46.3	+1.1	
QLMT	Earthquake Lak	91.69 339	eP		P	03 35 46.3	+1.1	
YHB	Horse Butte	91.70 339	eP		P	03 35 46.7	+1.4	
	comp=Z,38nm,1.6s							
YHB	Horse Butte	91.70 339	eP		P	03 35 46.7	+1.4	
	comp=Z,38nm,1.6s							
YMR	Madison River	91.71 339	eP		P	03 35 46.9	+1.6	
	comp=Z,60nm,1.5s							
YMR	Madison River	91.71 339	eP		P	03 35 46.9	+1.6	
	comp=Z,60nm,1.5s							
YMR			LR		LR			
	comp=Z,1μm,19.0s							
E09A	Wood Farm, Sta	91.73 344	eP		P	03 35 45.3	+0.2	
	comp=Z,47nm,1.3s							
E09A	Wood Farm, Sta	91.73 344	eP		P	03 35 45.3	+0.2	
	comp=Z,47nm,1.3s							
U41A	Viola	91.74 322	P		P	03 35 43.9	-1.4	
	baz=36							
R36A	Gordon, Harris	91.75 326	P		P	03 35 44.1	-1.2	
	baz=33							
MET	Memphis--Engin	91.76 320	PFAKE			03 36 00.0	+15	
MET			LR		LR			
	comp=Z,2μm,18.0s							
HBAR	Harrisburg	91.77 321	eP		P	03 35 46.7	+1.2	
HBAR	Harrisburg	91.77 321	eP		P	03 35 46.7	+1.2	
D05A	Enumclaw	91.82 347	eP		P	03 35 46.5	+1.0	
	comp=Z,56nm,1.4s							
D05A	Enumclaw	91.82 347	eP		P	03 35 46.5	+1.0	
	comp=Z,56nm,1.4s							
Q34A	Chapman	91.86 327	P		P	03 35 44.4	-1.5	
	baz=32							
T39A	Clever	91.87 324	P		P	03 35 44.1	-1.8	
	baz=35							
YFT	Old Faithful	91.87 339	eP		P	03 35 48.3	+2.2	
	comp=Z,58nm,1.3s							
YFT	Old Faithful	91.87 339	eP		P	03 35 48.4	+2.2	
	comp=Z,58nm,1.3s							
YFT			LR		LR			
	comp=Z,2μm,18.0s							
LRAL	Lakeview Retre	91.90 317	eP		P	03 35 46.1	0.0	
	comp=Z,31nm,1.5s							
LRAL	Lakeview Retre	91.90 317	eP		P	03 35 46.1	0.0	
	comp=Z,31nm,1.5s							
LRAL			LR		LR			
	comp=Z,3μm,21.0s							
S37A	Fort Scott	91.92 325	P		P	03 35 43.9	-2.2	
	baz=34,SNR=6.5							
V42A	Cord	91.92 322	P		P	03 35 44.9	-1.3	
	baz=36,SNR=10							
OXF	Oxford	91.98 319	PFAKE			03 36 00.0	+14	
OXF			LR		LR			
	comp=Z,2μm,19.0s							
YPP	Pitchstone Pla	92.03 339	eP		P	03 35 48.8	+1.9	
	comp=Z,42nm,1.4s							
YPP	Pitchstone Pla	92.03 339	eP		P	03 35 48.8	+1.9	
	comp=Z,42nm,1.4s							
YPP			LR		LR			
	comp=Z,3μm,20.0s							
E07A	Sunnyside	92.04 345	eP		P	03 35 47.7	+1.1	
	comp=Z,38nm,1.6s							
E07A	Sunnyside	92.04 345	eP		P	03 35 47.7	+1.1	
	comp=Z,38nm,1.6s							
X45A	UM Field Stati	92.04 319	P		P	03 35 44.6	-2.1	
	baz=37							
R35A	Emporia Munici	92.05 326	P		P	03 35 45.3	-1.5	
	baz=33							
F10A	Beach Ranch, E	92.05 343	eP		P	03 35 46.5	-0.2	
	comp=Z,50nm,1.5s							
F10A	Beach Ranch, E	92.05 343	eP		P	03 35 46.5	-0.2	
	comp=Z,50nm,1.5s							
F10A			LR		LR			
	comp=Z,1μm,18.0s							
MCMT	McKenzie Canyo	92.07 340	eP		P	03 35 47.3	+0.3	
MCMT	McKenzie Canyo	92.07 340	eP		P	03 35 47.3	+0.3	
HAWA	Hanford	92.13 345	eP		P	03 35 47.5	+0.5	
	comp=Z,31nm,1.3s							
HAWA	Hanford	92.13 345	eP		P	03 35 47.5	+0.5	
	comp=Z,31nm,1.3s							
OGNE	Ogallala	92.15 331	P		P	03 35 45.9	-1.4	
	baz=29							
OGNE	Ogallala	92.15 331	PFAKE			03 36 00.0	+13	
OGNE			LR		LR			
	comp=Z,1μm,21.0s							
U40A	Yellville	92.17 323	P		P	03 35 45.9	-1.5	
	baz=35,SNR=10							
FLWY	Flagg Ranch	92.17 338	eP		P	03 35 48.7	+1.2	
FLWY	Flagg Ranch	92.17 338	eP		P	03 35 48.7	+1.2	
Y46A	Houston	92.20 319	P		P	03 35 45.4	-2.1	
	baz=38							
K22A	Casper	92.20 335	P		P	03 35 46.2	-1.4	
	baz=26							
K22A	Casper	92.20 335	eP		P	03 35 46.6	-1.0	
	comp=Z,50nm,1.4s							
K22A	Casper	92.20 335	eP		P	03 35 46.6	-1.0	
	comp=Z,50nm,1.4s							
K22A			LR		LR			
	comp=Z,3μm,18.0s							
T38A	Diamond	92.27 324	P		P	03 35 46.0	-1.8	
	baz=34,SNR=13							
S36A	Lake Cedric, C	92.28 325	P		P	03 35 46.0	-1.8	
	baz=33,SNR=10							
V41A	Mountainview	92.30 322	P		P	03 35 46.2	-1.8	
	baz=36,SNR=9.6							
Z47A	Carrollton	92.33 318	P		P	03 35 46.0	-2.1	
	baz=38							
X44A	Crenshaw	92.36 320	P		P	03 35 46.0	-2.3	
	baz=37							
IMW	Indian Meadow	92.41 339	eP		P	03 35 49.8	+1.1	
	comp=Z,81nm,2.0s							
IMW	Indian Meadow	92.41 339	eP		P	03 35 49.8	+1.1	
	comp=Z,81nm,2.0s							
IMW			LR		LR			
	comp=Z,2μm,20.0s							
U39A	Green Forest	92.44 323	P		P	03 35 46.8	-1.9	
	baz=35,SNR=11							
T37A	Cheneyville 18	92.48 325	P		P	03 35 46.9	-1.8	
	baz=34,SNR=9.3							
MOOW	Moose Ponds	92.49 338	eP		P	03 35 49.8	+0.8	
	comp=Z,39nm,1.3s							
MOOW	Moose Ponds	92.49 338	eP		P	03 35 49.8	+0.8	
	comp=Z,39nm,1.3s							
SDDR	Presa de Saban	92.51 297	eP		P	03 35 51.5	+2.3	
	comp=Z,68nm,1.6s							
SDDR	Presa de Saban	92.51 297	eP		P	03 35 51.5	+2.3	
	comp=Z,68nm,1.6s							
SDDR			LR		LR			
	comp=Z,1μm,21.0s							
R34A	Isabella, Hill	92.51 327	P		P	03 35 46.9	-2.0	
	baz=32,SNR=6.0							
DWPF	Disney Wildern	92.52 310	PFAKE			03 36 00.0	+11	
DWPF			LR		LR			
	comp=Z,1μm,20.0s							
Y45A	Yeager Farm, C	92.56 319	P		P	03 35 47.0	-2.1	
	baz=37							
LOHW	Long Hollow	92.58 338	eP		P	03 35 50.0	+0.6	
	comp=Z,37nm,1.4s							
LOHW	Long Hollow	92.58 338	eP		P	03 35 50.0	+0.6	
	comp=Z,37nm,1.4s							
LOHW			LR		LR			
	comp=Z,2μm,20.0s							
V40A	Witts Springs	92.60 322	P		P	03 35 47.4	-2.0	
	baz=35							
S35A	Otter Creek Ra	92.64 326	P		P	03 35 47.9	-1.6	
	baz=33,SNR=8.5							
X43A	Marvell	92.71 320	P		P	03 35 47.6	-2.3	
	baz=36							
HHAR	Hobbs	92.73 323	PFAKE			03 36 00.0	+10	
HHAR			LR		LR			
	comp=Z,2μm,21.0s							
SNOW	Snow King Moun	92.76 338	eP		P	03 35 51.2	+0.9	
	comp=Z,36nm,1.3s							
SNOW	Snow King Moun	92.76 338	eP		P	03 35 51.1	+0.9	
	comp=Z,36nm,1.3s							
SNOW			LR		LR			
	comp=Z,2μm,20.0s							
WHAR	Wooly Hollow	92.77 322	eP		P	03 35 49.5	-0.6	
	comp=Z,39nm,1.4s							
WHAR	Wooly Hollow	92.77 322	eP		P	03 35 49.5	-0.6	
	comp=Z,39nm,1.4s							
WHAR			LR		LR			
	comp=Z,2μm,22.0s							
SOEI	Soe	92.78 100	PFAKE			03 36 00.0	+9.4	
SOEI			LR		LR			
	comp=Z,1μm,22.0s							
TPAW	Teton Pass	92.79 338	eP		P	03 35 51.3	+0.9	

comp=Z,64nm,1.4s
TPAW Teton Pass 92.79 338 *eP* **P** 03 35 51.3 +0.9
comp=Z,64nm,1.4s
U38A Gravette 92.81 324 P **P** 03 35 47.7 -2.6
baz=34,SNR=8.1
Y44A Strider, Charl 92.82 320 P **P** 03 35 48.4 -2.0
baz=37
W41B Gary Mavity, V 92.84 322 P **P** 03 35 49.0 -1.4
baz=35,SNR=6.8
147A Livingston 92.85 318 P **P** 03 35 48.2 -2.4
baz=38
X301 Greenbrier Sit 92.86 322 *eP* **P** 03 35 50.2 -0.3
comp=Z,47nm,1.5s
X301 Greenbrier Sit 92.86 322 *eP* **P** 03 35 50.2 -0.3
comp=Z,47nm,1.5s
X301 LR LR
comp=Z,2µm,22.0s
REDW Red Top Meadow 92.88 338 *eP* **P** 03 35 51.3 +0.5
comp=Z,55nm,1.4s
REDW Red Top Meadow 92.88 338 *eP* **P** 03 35 51.3 +0.5
comp=Z,55nm,1.4s
V39A Pettigrew 92.96 323 P **P** 03 35 48.9 -2.2
baz=35
S34A Willow Spring 92.96 326 P **P** 03 35 48.6 -2.4
baz=32
T36A Boggs Farm, Ca 92.96 325 P **P** 03 35 48.5 -2.5
baz=33
248A Dixon Mills 93.02 317 P **P** 03 35 49.5 -1.9
baz=38
Z45A Winona 93.03 319 P **P** 03 35 49.5 -1.9
baz=37
X42A Stuttgart 93.04 321 P **P** 03 35 49.0 -2.4
baz=36
BW06 Boulder Array 93.05 337 P **P** 03 35 49.0 -2.6
baz=24
BW06 Boulder Array 93.05 337 *eP* **P** 03 35 50.8 -0.8
comp=Z,28nm,1.4s
BW06 Boulder Array 93.05 337 *eP* **P** 03 35 50.8 -0.8
comp=Z,28nm,1.4s
BW06 LR LR
comp=Z,2µm,19.0s
PD31 Pinedale Array 93.05 337 *eP* **P** 03 35 51.3 -0.3
PD31 Pinedale Array 93.05 337 *eP* **P** 03 35 51.3 -0.3
PDAR Pinedale Array 93.05 337 P **P** 03 35 50.7 -0.9
comp=Z,6.1nm,1.1s,baz=28,slow=3.5,SNR=25
PDAR LR LR 04 21 28.1
comp=Z,784nm,18.8s,baz=33,slow=38
PHWY Pilot Hill 93.05 334 *eP* **P** 03 35 51.9 +0.2
comp=Z,52nm,1.4s
PHWY Pilot Hill 93.05 334 *eP* **P** 03 35 51.9 +0.2
comp=Z,52nm,1.4s
PHWY LR LR
comp=Z,1µm,20.0s
F04D Rainier, OR 93.07 347 P **P** 03 35 48.2 -3.1
baz=14
CBKS Cedar Bluff 93.10 329 P **P** 03 35 49.4 -2.3
baz=31
CBKS Cedar Bluff 93.10 329 *eP* **P** 03 35 52.2 +0.5
CBKS pmax pmax
comp=Z,62nm,1.3s
CBKS MLR MLR
comp=Z,2µm,20.0s
CBKS Cedar Bluff 93.10 329 *eP* **P** 03 35 52.2 +0.5
comp=Z,62nm,1.3s
CBKS Cedar Bluff 93.10 329 *eP* **P** 03 35 52.2 +0.5
comp=Z,62nm,1.3s
CBKS LR LR
comp=Z,2µm,20.0s
BMO Blue Mountains 93.13 343 *eP* **P** 03 35 50.3 -1.4
BMO pmax pmax
comp=Z,39nm,1.3s
BMO MLR MLR
comp=Z,1µm,20.0s
BMO Blue Mountains 93.13 343 *eP* **P** 03 35 50.3 -1.4
comp=Z,39nm,1.3s
BMO Blue Mountains 93.13 343 *eP* **P** 03 35 50.3 -1.4
comp=Z,39nm,1.3s
BMO LR LR
comp=Z,1µm,20.0s
U37A Salina 93.17 324 P **P** 03 35 50.1 -1.8
baz=34,SNR=7.3
UALR University of 93.21 322 *eP* **P** 03 35 52.5 +0.3
comp=Z,10nm,0.9s
UALR University of 93.21 322 *eP* **P** 03 35 52.5 +0.3
comp=Z,10nm,0.9s
UALR LR LR
comp=Z,2µm,20.0s
Y43A Makayla and Ka 93.22 320 P **P** 03 35 50.0 -2.1
baz=36
W40A Ferguson Farm, 93.22 322 P **P** 03 35 50.3 -1.9
baz=35,SNR=6.5
146A Union 93.28 318 P **P** 03 35 50.6 -1.9
baz=37
RWWY Rawlins 93.29 335 *eP* **P** 03 35 52.8 0.0
comp=Z,50nm,1.5s
RWWY Rawlins 93.29 335 *eP* **P** 03 35 52.8 0.0
comp=Z,50nm,1.5s
RWWY LR LR
comp=Z,2µm,19.0s
V38A Canehill 93.29 324 P **P** 03 35 50.8 -1.7
baz=34
T35A Sooner Cattle 93.36 326 P **P** 03 35 51.0 -1.9
baz=33,SNR=6.1
BRAL Brewton 93.38 316 PFAKE 03 36 00.0 +7.0
BRAL LR LR
comp=Z,1µm,19.0s
U36A Oologah 93.45 325 P **P** 03 35 51.0 -2.2
baz=33
G06A Carlson Farm, 93.46 346 *eP* **P** 03 35 54.3 +1.1
comp=Z,56nm,1.7s
G06A Carlson Farm, 93.46 346 *eP* **P** 03 35 54.4 +1.1
comp=Z,56nm,1.7s
G06A LR LR
comp=Z,2µm,18.0s
Z44A Pea Ridge, Bel 93.48 319 P **P** 03 35 51.6 -1.8
baz=37
247A Quitman 93.51 317 P **P** 03 35 52.5 -1.1
baz=38
W39A Magazine 93.55 323 P **P** 03 35 52.4 -1.3
baz=34
T34A McClaskey Farm 93.56 326 P **P** 03 35 52.4 -1.4
baz=32,SNR=7.2
G05D Wamic, OR 93.58 346 P **P** 03 35 52.2 -1.5
baz=15
N23A Red Feather La 93.58 334 P **P** 03 35 53.6 -0.6
baz=26
N23A Red Feather La 93.58 334 *eP* **P** 03 35 54.0 -0.1
comp=Z,45nm,1.3s
N23A Red Feather La 93.58 334 *eP* **P** 03 35 54.0 -0.1
comp=Z,45nm,1.3s
N23A LR LR
comp=Z,1µm,21.0s
V37A Hulbert 93.61 324 P **P** 03 35 52.4 -1.6
baz=34
CCAR Cane Creek 93.63 321 *eP* **P** 03 35 52.1 -2.0
comp=Z,29nm,1.1s
CCAR Cane Creek 93.63 321 *eP* **P** 03 35 52.1 -2.0
comp=Z,29nm,1.1s
CCAR LR LR
comp=Z,2µm,18.0s
348A Jackson 93.64 317 P **P** 03 35 52.7 -1.5
baz=38
HLID Hailey 93.66 341 P **P** 03 35 52.2 -2.1
baz=20
HLID Hailey 93.66 341 *eP* **P** 03 35 54.2 -0.1
comp=Z,21nm,1.8s
HLID Hailey 93.66 341 *eP* **P** 03 35 54.1 -0.1
comp=Z,21nm,1.8s
HLID LR LR
comp=Z,2µm,20.0s
X40A Basin Creek Fa 93.68 322 P **P** 03 35 52.6 -1.7
baz=35
TUL1 Leonard 93.88 324 P **P** 03 35 53.1 -2.1
baz=33,SNR=7.6
TUL1 Leonard 93.88 324 *eP* **P** 03 35 54.3 -1.0
comp=Z,48nm,1.4s
TUL1 Leonard 93.88 324 *eP* **P** 03 35 54.3 -1.0
comp=Z,48nm,1.4s
TUL1 LR LR
comp=Z,1µm,18.0s
U35A Pawnee 93.91 325 P **P** 03 35 54.0 -1.4
baz=33,SNR=5.8
G03D McMinnville, O 93.96 347 P **P** 03 35 53.9 -1.5
baz=14
MIAR Mount Ida 93.99 322 P **P** 03 35 54.8 -1.0
baz=35,SNR=15
MIAR Mount Ida 93.99 322 *eP* **P** 03 35 55.0 -0.7
MIAR pmax pmax
comp=Z,38nm,1.4s
MIAR MLR MLR
comp=Z,2µm,20.0s
MIAR Mount Ida 93.99 322 *eP* **P** 03 35 55.0 -0.7
comp=Z,38nm,1.4s
MIAR Mount Ida 93.99 322 *eP* **P** 03 35 55.0 -0.7
comp=Z,38nm,1.4s
MIAR LR LR
comp=Z,2µm,20.0s
347A Saraland 93.99 317 P **P** 03 35 55.1 -0.6
baz=38
448A Bay Minette 94.00 316 P **P** 03 35 54.5 -1.4
baz=38
W38A Poteau 94.00 323 P **P** 03 35 54.6 -1.2
baz=34
V36A Jenks 94.05 325 P **P** 03 35 53.9 -2.1
baz=33
KSCO Kaye Shedlock' 94.06 331 P **P** 03 35 55.1 -1.1
baz=29
KSCO Kaye Shedlock' 94.06 331 *eP* **P** 03 35 56.0 -0.2
comp=Z,60nm,1.4s
KSCO Kaye Shedlock' 94.06 331 *eP* **P** 03 35 56.0 -0.2
comp=Z,60nm,1.4s
KSCO LR LR
comp=Z,1µm,19.0s
Y41A Eaglette Beard 94.07 321 P **P** 03 35 54.8 -1.3
baz=35
MFID Camas Ranch 94.14 342 *eP* **P** 03 35 56.7 +0.2
comp=Z,43nm,1.4s
MFID Camas Ranch 94.14 342 *eP* **P** 03 35 56.7 +0.2
comp=Z,43nm,1.4s
245A Little AP, Sta 94.19 318 P **P** 03 35 55.2 -1.5
baz=37
Z42A Norrel Spur, H 94.23 320 P **P** 03 35 55.2 -1.7
baz=36
X39A Fountain Ranch 94.27 323 P **P** 03 35 56.1 -1.0
baz=34,SNR=7.7
Y40A Okolona 94.28 322 P **P** 03 35 55.8 -1.3
baz=35
W37B Quinton 94.36 324 P **P** 03 35 56.5 -1.0
baz=34
VBMS Vicksburg 94.36 319 P **P** 03 35 57.0 -0.5
baz=37
VBMS Vicksburg 94.36 319 PFAKE 03 36 10.0 +13
VBMS LR LR
comp=Z,2µm,21.0s
143A Socs Landing, 94.42 320 P **P** 03 35 56.7 -1.0
baz=36
GTBY Guantanamo Bay 94.44 300 PFAKE 03 36 10.0 +12
GTBY LR LR
comp=Z,1µm,21.0s
ISCO Idaho Springs 94.44 333 P **P** 03 35 57.0 -1.1
baz=27
ISCO Idaho Springs 94.44 333 *eP* **P** 03 35 57.6 -0.6
ISCO pmax pmax
comp=Z,13nm,1.3s
ISCO MLR MLR
comp=Z,2µm,21.0s
ISCO Idaho Springs 94.44 333 *eP* **P** 03 35 57.6 -0.6
comp=Z,13nm,1.3s
ISCO Idaho Springs 94.44 333 *eP* **P** 03 35 57.6 -0.6
comp=Z,13nm,1.3s
ISCO LR LR
comp=Z,2µm,21.0s
I05D Terrebonne, OR 94.46 346 P **P** 03 35 57.1 -0.7
baz=15
WLAR White Oak Lake 94.47 321 *eP* **P** 03 35 58.3 +0.4
comp=Z,60nm,1.4s
WLAR White Oak Lake 94.47 321 *eP* **P** 03 35 58.4 +0.4
comp=Z,60nm,1.4s
WLAR LR LR
comp=Z,2µm,20.0s
V35A Meyer Ranch, C 94.47 325 P **P** 03 35 56.6 -1.4
baz=33
X38A Whitesboro 94.47 323 P **P** 03 35 56.9 -1.1
baz=34,SNR=8.8
346A Big Creek Wild 94.48 318 P **P** 03 35 57.5 -0.5
baz=37
244A Avery, Jackson 94.59 319 P **P** 03 35 57.9 -0.7
baz=36,SNR=6.7
HWUT Hardware Ranch 94.70 338 *eP* **P** 03 35 59.2 0.0
comp=Z,37nm,1.4s
HWUT Hansel Valley 94.70 338 *eP* **P** 03 35 59.1 0.0
comp=Z,37nm,1.4s
HWUT LR LR
comp=Z,2µm,19.0s
X37A Clayton 94.79 323 P **P** 03 35 58.2 -1.2
baz=34,SNR=7.7
HVU Hansel Valley 94.88 339 *eP* **P** 03 36 00.3 +0.3
HVU pmax pmax
comp=Z,40nm,1.4s
HVU MLR MLR
comp=Z,2µm,19.0s
HVU Hansel Valley 94.88 339 *eP* **P** 03 36 00.3 +0.3
comp=Z,40nm,1.4s
HVU Hansel Valley 94.88 339 *eP* **P** 03 36 00.3 +0.3
comp=Z,40nm,1.4s
HVU LR LR
comp=Z,2µm,19.0s
W35A Tecumseh 95.00 325 P **P** 03 35 59.0 -1.4
baz=33
Q24A Divide 95.02 332 P **P** 03 35 59.1 -1.8
baz=27
Q24A Divide 95.02 332 *eP* **P** 03 36 01.3 +0.5
comp=Z,13nm,1.1s
Q24A Divide 95.02 332 *eP* **P** 03 36 01.3 +0.5
comp=Z,13nm,1.1s
Q24A *eS* **S** 03 47 17.2 +1.2
Q24A LR LR
comp=Z,1µm,21.0s
O20A White River Ci 95.03 335 P **P** 03 35 59.4 -1.3
baz=25
O20A White River Ci 95.03 335 *eP* **P** 03 36 03.2 +2.5
comp=Z,43nm,1.9s
O20A White River Ci 95.03 335 *eP* **P** 03 36 03.2 +2.5
comp=Z,43nm,1.9s
O20A LR LR
comp=Z,2µm,18.0s
Y38A Idabel 95.04 323 P **P** 03 35 59.3 -1.2
baz=34
344A Westbrook Farm 95.08 318 P **P** 03 35 59.6 -1.2
baz=36
I04A Tendick Farm, 95.18 346 P **P** 03 36 00.0 -1.1
baz=14
SPUT South Promonto 95.23 339 *eP* **P** 03 36 01.8 +0.3
comp=Z,40nm,1.4s
SPUT South Promonto 95.23 339 *eP* **P** 03 36 01.8 +0.3
comp=Z,40nm,1.4s
X36A Centrahoma 95.25 324 P **P** 03 35 59.5 -2.0
baz=33
242A Grayson 95.31 320 P **P** 03 36 01.4 -0.5
baz=36
I03D Drain, OR 95.44 347 P **P** 03 36 01.3 -0.9
baz=14
J05D Fort Rock, OR 95.45 345 P **P** 03 36 02.2 -0.3
baz=15
SMCO Snowmass 95.47 334 *eP* **P** 03 36 02.8 -0.2
comp=Z,13nm,1.5s
SMCO Snowmass 95.47 334 *eP* **P** 03 36 02.9 -0.2
comp=Z,13nm,1.5s
SMCO LR LR
comp=Z,1µm,19.0s
JLU Jordanelle 95.59 338 *eP* **P** 03 36 04.1 +0.8
comp=Z,29nm,1.5s
JLU Jordanelle 95.59 338 *eP* **P** 03 36 04.1 +0.8
comp=Z,29nm,1.5s
JLU LR LR
comp=Z,2µm,18.0s
J04D Umpqua Nationa 95.66 346 P **P** 03 36 02.3 -1.2
baz=15
X35A Drake 95.67 324 P **P** 03 36 01.7 -1.8
baz=32
241A Mo Tay, Goldon 95.72 320 P **P** 03 36 03.5 -0.2
baz=35
WVOR Wild Horse Val 95.73 343 *eP* **P** 03 36 04.0 +0.3
WVOR pmax pmax
comp=Z,38nm,1.5s
WVOR Wild Horse Val 95.73 343 *eP* **P** 03 36 04.0 +0.3
comp=Z,38nm,1.5s
WVOR Wild Horse Val 95.73 343 *eP* **P** 03 36 04.0 +0.3
comp=Z,38nm,1.5s
BGU Big Grassy Mou 95.75 339 *eP* **P** 03 36 04.2 +0.3
comp=Z,32nm,1.6s
BGU Big Grassy Mou 95.75 339 *eP* **P** 03 36 04.2 +0.3
comp=Z,32nm,1.6s
K05A Summer Lake 95.92 345 *eP* **P** 03 36 05.4 +0.7
comp=Z,40nm,1.4s
K05A Summer Lake 95.92 345 *eP* **P** 03 36 05.5 +0.7
comp=Z,40nm,1.4s
Y35A Marietta 96.11 324 P **P** 03 36 04.6 -0.9
baz=32
P18A Preston Nutter 96.12 336 *eP* **P** 03 36 06.5 +0.7
comp=Z,16nm,0.3s
P18A Preston Nutter 96.12 336 *eP* **P** 03 36 06.5 +0.7
comp=Z,16nm,0.3s
WMOK Wichita Mounta 96.18 326 PFAKE 03 36 20.0 +14
WMOK LR LR
comp=Z,2µm,18.0s
SDCO Great Sand Dun 96.23 332 P **P** 03 36 05.2 -1.1
baz=27
SDCO Great Sand Dun 96.23 332 PFAKE 03 36 20.0 +14
SDCO LR LR
comp=Z,1µm,18.0s
DUG Dugway, Tooele 96.36 338 P **P** 03 36 05.6 -1.1
baz=22
DUG Dugway, Tooele 96.36 338 *eP* **P** 03 36 07.0 +0.3
DUG pmax pmax
comp=Z,25nm,1.4s
DUG MLR MLR
comp=Z,2µm,20.0s
DUG Dugway, Tooele 96.36 338 *eP* **P** 03 36 07.0 +0.3
comp=Z,26nm,1.4s
DUG Dugway, Tooele 96.36 338 *eP* **P** 03 36 07.0 +0.3
comp=Z,26nm,1.4s
DUG LR LR
comp=Z,2µm,20.0s
T25A Trinidad 96.37 331 P **P** 03 36 05.5 -1.4
baz=28
T25A Trinidad 96.37 331 *eP* **P** 03 36 06.8 -0.1
comp=Z,12nm,1.4s
T25A Trinidad 96.37 331 *eP* **P** 03 36 06.8 -0.1
comp=Z,12nm,1.4s
T25A LR LR
comp=Z,2µm,20.0s
Z36A Blue Ridge 96.37 323 P **P** 03 36 05.7 -0.9
baz=33
NLU North Lily Min 96.37 338 *eP* **P** 03 36 07.8 +1.0
comp=Z,12nm,1.6s
NLU North Lily Min 96.37 338 *eP* **P** 03 36 07.8 +1.0
comp=Z,12nm,1.6s
NLU LR LR
comp=Z,2µm,19.0s
P17A Butcher Ranch, 96.42 337 *eP* **P** 03 36 07.1 +0.1
comp=Z,12nm,1.2s
P17A Butcher Ranch, 96.42 337 *eP* **P** 03 36 07.0 +0.1
comp=Z,14µm,1.2s
P17A *eS* **S** 03 47 31.1 +3.3
HUMO Hull Mountain 96.43 346 *eP* **P** 03 36 08.0 +1.2
comp=Z,16nm,1.4s
HUMO Hull Mountain 96.43 346 *eP* **P** 03 36 08.0 +1.2
comp=Z,16nm,1.4s
MHTCO State Highway 96.48 331 *eP* **P** 03 36 07.0 -0.4
comp=Z,27nm,1.4s
MHTCO State Highway 96.48 331 *eP* **P** 03 36 07.0 -0.4
comp=Z,27nm,1.4s
MOD Modoc Plateau 96.59 344 *eP* **P** 03 36 08.4 +0.7
comp=Z,20nm,1.4s
MOD Modoc Plateau 96.59 344 *eP* **P** 03 36 08.4 +0.7
comp=Z,20nm,1.4s
SRU San Rafael Swe 96.68 336 *eP* **P** 03 36 08.8 +0.6
SRU pmax pmax
comp=Z,26nm,1.8s
SRU MLR MLR
comp=Z,2µm,19.0s
SRU San Rafael Swe 96.68 336 *eP* **P** 03 36 08.8 +0.6
comp=Z,26nm,1.8s
SRU San Rafael Swe 96.68 336 *eP* **P** 03 36 08.8 +0.6
comp=Z,26nm,1.8s
SRU LR LR
comp=Z,2µm,19.0s
340A Bronson 96.69 321 P **P** 03 36 07.3 -0.9
baz=35
S22A 4UR Ranch, Cre 96.70 333 P **P** 03 36 07.7 -0.8
baz=26
S22A 4UR Ranch, Cre 96.70 333 *eP* **P** 03 36 07.9 -0.6
comp=Z,16nm,1.4s
S22A 4UR Ranch, Cre 96.70 333 *eP* **P** 03 36 07.9 -0.6
comp=Z,16nm,1.4s
S22A LR LR
comp=Z,2µm,19.0s
TMUT Trail Mountain 96.72 337 *eP* **P** 03 36 09.0 +0.4
comp=Z,13nm,1.3s
TMUT Trail Mountain 96.72 337 *eP* **P** 03 36 09.0 +0.4
comp=Z,13nm,1.3s
TMUT LR LR
comp=Z,2µm,19.0s
NATX Nacogdoches 96.79 321 PFAKE 03 36 20.0 +11
NATX LR LR
comp=Z,1µm,22.0s
PV09 Paradox Valley 96.80 335 *eP* **P** 03 36 08.8 -0.1
PV09 Paradox Valley 96.80 335 *eP* **P** 03 36 08.8 -0.1
PV10 Paradox Valley 96.88 335 *eP* **P** 03 36 09.7 +0.5
PV10 Paradox Valley 96.88 335 *eP* **P** 03 36 09.7 +0.5
PV01 Paradox Valley 96.95 335 *eP* **P** 03 36 09.0 -0.5
PV01 Paradox Valley 96.95 335 *eP* **P** 03 36 09.0 -0.5
M04C Macdoel 97.02 345 P **P** 03 36 08.5 -1.2
baz=15
136A Ennis 97.08 323 P **P** 03 36 08.3 -1.5
baz=33
339A Huntington 97.09 321 P **P** 03 36 08.7 -1.3
baz=34
PTGA Pitinga 97.12 275 PFAKE 03 36 20.0 +10
PTGA LR LR
comp=Z,500nm,19.0s
PV05 Paradox Valley 97.17 335 *eP* **P** 03 36 10.0 -0.5
PV05 Paradox Valley 97.17 335 *eP* **P** 03 36 10.0 -0.5
MTDJ Mount Denham 97.26 301 PFAKE 03 36 20.0 +8.9
MTDJ LR LR
comp=Z,600nm,20.0s
AMTX Amarillo 97.28 328 PFAKE 03 36 20.0 +9.1
AMTX LR LR
comp=Z,2µm,18.0s
440A Kirbyville 97.28 320 P Pdif 03 36 10.9 0.0
baz=35
BMN Battle Mountai 97.30 342 *eP* Pdif 03 36 12.4 +1.4
BMN pmax pmax
comp=Z,19nm,1.4s
BMN Battle Mountai 97.30 342 *eP* Pdif 03 36 12.4 +1.4
comp=Z,19nm,1.4s
BMN Battle Mountai 97.30 342 *eP* Pdif 03 36 12.4 +1.3
comp=Z,19nm,1.4s
338A Crockett 97.43 322 P **P** 03 36 10.9 -0.6
baz=34
M02C Callahan 97.59 346 P **P** 03 36 11.8 -0.4
baz=14
TCRU Three Creeks R 97.73 338 PFAKE 03 36 20.0 +6.9
TCRU LR LR
comp=Z,2µm,18.0s
MSU Marysvale 97.74 337 *eP* Pdif 03 36 13.7 +0.6
MSU Marysvale 97.74 337 *eP* Pdif 03 36 13.7 +0.6
MSU Marysvale 97.74 337 *eP* Pdif 03 36 13.7 +0.6
MVCO Mesa Verde 97.76 334 P **P** 03 36 12.3 -0.9
baz=25
MVCO Mesa Verde 97.76 334 *eP* **P** 03 36 12.8 -0.4
comp=Z,17nm,1.4s
MVCO Mesa Verde 97.76 334 *eP* **P** 03 36 12.8 -0.4
comp=Z,17nm,1.4s
MVCO LR LR
comp=Z,2µm,20.0s
WHTX Lake Whitney, 97.91 324 PFAKE 03 36 20.0 +6.3
WHTX LR LR
comp=Z,1µm,20.0s
N02D Trinity Center 97.97 346 P **P** 03 36 13.6 -0.3
baz=14
438A Sam Houston St 98.01 321 P Pdif 03 36 14.2 0.0
baz=34
WDC Whiskeytown Da 98.31 346 PFAKE 03 36 30.0 +15
WDC LR LR
comp=Z,1µm,20.0s
ABTX Abilene, Hawle 98.36 325 P **P** 03 36 15.5 -0.2
baz=31
ABTX Abilene, Hawle 98.36 325 PFAKE 03 36 30.0 +14
ABTX LR LR
comp=Z,2µm,21.0s
PAHR Pah Rah Range 98.50 343 *eP* Pdif 03 36 17.4 +1.0
comp=Z,19nm,1.4s
PAHR Pah Rah Range 98.50 343 *eP* Pdif 03 36 17.4 +1.1
comp=Z,19nm,1.4s
MSTX Muleshoe 98.51 328 PFAKE 03 36 30.0 +14
MSTX LR LR
comp=Z,2µm,19.0s
233A Rising Star 98.54 325 P **P** 03 36 16.0 -0.6
baz=32
BEKR Beckworth 98.56 344 *eP* Pdif 03 36 17.3 +0.6
comp=Z,19nm,1.4s

BEKR	**Beckworth**	**98.56 344**	*e*P		Pdif	03 36 17.3 +0.7
	comp=Z,19nm,1.4s					
BEKR			LR		LR	
	comp=Z,1µm,18.0s					
PKCU	**Pink Cliffs**	**98.76 337**	*e*P		Pdif	03 36 19.7 +1.9
	comp=Z,17nm,1.4s					
PKCU	**Pink Cliffs**	**98.76 337**	*e*P		Pdif	03 36 19.7 +1.8
	comp=Z,17nm,1.4s					
334A	**Lometa**	**98.82 324**	P		**P**	**03 36 17.1 -0.7**
	baz=32					
R11A	**Troy Canyon, C**	**98.85 340**	P		**P**	**03 36 17.0 -1.0**
	baz=20					
R11A	**Troy Canyon, C**	**98.85 340**	*e*P		Pdif	03 36 18.1 +0.1
	comp=Z,15nm,1.4s					
R11A	**Troy Canyon, C**	**98.85 340**	*e*P		Pdif	03 36 18.1 +0.1
	comp=Z,15nm,1.4s					
R11A			LR		LR	
	comp=Z,2µm,19.0s					
SZCU	**Shurtz Canyon**	**98.85 338**	*e*P		Pdif	03 36 20.6 +2.5
	comp=Z,4.9nm,1.0s					
SZCU	**Shurtz Canyon**	**98.85 338**	*e*P		Pdif	03 36 20.6 +2.6
	comp=Z,4.9nm,1.0s					
SZCU			LR		LR	
	comp=Z,1µm,18.0s					
SDV	**Santo Domingo**	**98.89 289**	PFAKE			03 36 30.0 +11
SDV			LR		LR	
	comp=Z,400nm,20.0s					
CCUT	**Cedar City**	**98.98 338**	*e*P		Pdif	03 36 19.3 +0.7
	comp=Z,25nm,1.5s					
CCUT	**Cedar City**	**98.98 338**	*e*P		Pdif	03 36 19.3 +0.7
	comp=Z,25nm,1.5s					
FITZ	**Fitzroy Crossi**	**99.06 106**	P		**Pdif**	**03 36 19.1 +0.3**
	comp=Z,2.9nm,0.8s,baz=235,slow=4.1,SNR=5.5					
ANMO	**Albuquerque**	**99.08 332**	P		**Pdif**	**03 36 18.8 -0.3**
	comp=Z,0.9nm,0.9s,baz=333,slow=4.5,SNR=3.0					
ANMO	**Albuquerque**	**99.08 332**	P		**Pdif**	**03 36 18.0 -1.1**
	baz=26					
ANMO	**Albuquerque**	**99.08 332**	*e*P		**Pdif**	**03 36 18.8 -0.3**
	comp=Z,6.0nm,1.5s					
ANMO	**Albuquerque**	**99.08 332**	*e*P		**Pdif**	**03 36 18.8 -0.3**
	comp=Z,6.0nm,1.5s					
ANMO			LR		LR	
	comp=Z,2µm,21.0s					
ORV	**Oroville**	**99.10 345**	*e*P		**Pdif**	**03 36 19.2 +0.3**
ORV			pmax		pmax	
	comp=Z,21nm,1.7s					
ORV	**Oroville**	**99.10 345**	*e*P		**Pdif**	**03 36 19.2 +0.3**
	comp=Z,21nm,1.7s					
ORV	**Oroville**	**99.10 345**	*e*P		**Pdif**	**03 36 19.2 +0.3**
	comp=Z,21nm,1.7s					
YERR	**Yerington**	**99.15 343**	PFAKE			03 36 30.0 +11
YERR			LR		LR	
	comp=Z,1µm,20.0s					
333A	**Richland Sprin**	**99.17 324**	P		**Pdif**	**03 36 17.9 -1.5**
	baz=32					
434A	**Burnet**	**99.27 323**	P		**Pdif**	**03 36 18.4 -1.4**
	baz=32					
LCMT	**Little Creek M**	**99.44 338**	*e*P		**Pdif**	**03 36 20.9 +0.3**
	comp=Z,17nm,1.7s					
LCMT	**Little Creek M**	**99.44 338**	*e*P		**Pdif**	**03 36 20.9 +0.3**
	comp=Z,17nm,1.7s					
LCMT			LR		LR	
	comp=Z,2µm,19.0s					
TVH1	**TV Hill, Hawth**	**99.55 342**	*e*P		**Pdif**	**03 36 22.9 +1.6**
	comp=Z,21nm,1.3s					
TVH1	**TV Hill, Hawth**	**99.55 342**	*e*P		**Pdif**	**03 36 22.9 +1.6**
	comp=Z,21nm,1.3s					
AFDM	**Forest Hills D**	**99.57 344**	*e*P		**Pdif**	**03 36 21.5 +0.5**
	comp=Z,13nm,1.4s					
AFDM	**Forest Hills D**	**99.57 344**	*e*P		**Pdif**	**03 36 21.5 +0.5**
	comp=Z,13nm,1.4s					
TVH2	**Borealis Mine**	**99.62 342**	*e*P		**Pdif**	**03 36 23.0 +1.5**
	comp=Z,6.6nm,1.3s					
TVH2	**Borealis Mine**	**99.62 342**	*e*P		**Pdif**	**03 36 23.0 +1.5**
	comp=Z,6.6nm,1.3s					
TVH2			LR		LR	
	comp=Z,900nm,18.0s					
WAKR	**Walker**	**99.66 343**	*e*Pdif		**Pdif**	**03 36 23.1 +1.5**
	comp=Z,14nm,1.5s					
WAKR			LR		LR	
	comp=Z,2µm,22.0s					
U15A	**North Rim**	**99.69 337**	*e*Pdif		**Pdif**	**03 36 22.6 +0.6**
	comp=Z,9.1nm,1.4s					
U15A			LR		LR	
	comp=Z,1µm,21.0s					
433A	**Art**	**99.70 324**	P		**Pdif**	**03 36 20.9 -0.8**
	baz=32					
636A	**Smothers Creek**	**99.83 322**	P		**Pdif**	**03 36 22.1 -0.1**
	baz=33					
BNM	**Barren Site**	**99.85 331**	*e*Pdif		**Pdif**	**03 36 23.3 +0.7**
534A	**Blanco**	**100.03 323**	P		**Pdif**	**03 36 23.4 +0.2**
	baz=32					
W18A	**Petrified Fore**	**100.07 334**	PFAKE			03 36 30.0 +6.5
W18A			LR		LR	
	comp=Z,2µm,21.0s					
GDXM	**Geysers**	**100.08 345**	PFAKE			03 36 30.0 +6.7
GDXM			LR		LR	
	comp=Z,2µm,20.0s					
635A	**Leesville**	**100.24 322**	P		**Pdif**	**03 36 24.2 +0.1**
	baz=32					
WUAZ	**Wupatki**	**100.25 336**	P		**Pdif**	**03 36 24.0 -0.3**
	baz=23					
WUAZ	**Wupatki**	**100.25 336**	*e*Pdif		**Pdif**	**03 36 24.7 +0.5**
WUAZ			LR		LR	
	comp=Z,2µm,20.0s					
JCT	**Junction City**	**100.25 324**	PFAKE			03 36 30.0 +5.8
JCT			LR		LR	
	comp=Z,2µm,20.0s					
CMB	**Columbia Colle**	**100.32 343**	PFAKE			03 36 30.0 +5.6
CMB			LR		LR	
	comp=Z,1µm,20.0s					
TPNV	**Topopah Spring**	**100.34 340**	P		**Pdif**	**03 36 25.0 +0.3**
	baz=19					
TPNV	**Topopah Spring**	**100.34 340**	PFAKE			03 36 30.0 +5.4
TPNV			LR		LR	
	comp=Z,2µm,18.0s					
SHPR	**Sheep Range**	**100.46 339**	*e*Pdif		**Pdif**	**03 36 27.0 +1.8**
SHPR			LR		LR	
	comp=Z,2µm,20.0s					
GRAC	**Grapevine Rang**	**100.59 341**	P		**Pdif**	**03 36 26.0 +0.5**
	baz=18					
X18A	**Snowflake**	**100.68 334**	PFAKE			03 36 40.0 +14
X18A			LR		LR	
	comp=Z,2µm,20.0s					
FURC	**Furnace Creek,**	**100.96 340**	P		**Pdi**	**03 36 27.5 +0.3**
	baz=19					
X16A	**Lo Mia Camp, P**	**101.28 335**	*e*Pdif		**Pdif**	**03 36 30.4 +1.5**
X16A			LR		LR	
	comp=Z,2µm,19.0s					
CWC	**Cottonwood Cre**	**101.30 341**	P		**Pdif**	**03 36 28.8 -0.1**
	baz=18					
DAC	**Darwin (Calif)**	**101.33 341**	PFAKE			03 36 40.0 +11
DAC			LR		LR	
	comp=Z,1µm,20.0s					
W13A	**Hualapai Mount**	**101.41 337**	PFAKE			03 36 40.0 +11
W13A			LR		LR	
	comp=Z,2µm,21.0s					
MNTX	**Cornudas Mount**	**101.55 329**	P		**Pdif**	**03 36 29.6 -0.3**
	baz=27					
MNTX	**Cornudas Mount**	**101.55 329**	PFAKE			03 36 40.0 +10
MNTX			LR		LR	
	comp=Z,2µm,21.0s					
LDFC	**Landfair**	**101.78 338**	PFAKE			03 36 40.0 +9.0
LDFC			LR		LR	
	comp=Z,2µm,19.0s					
SPB	**Sao Paulo**	**101.82 249**	PFAKE			03 36 40.0 +9.0
SPB			LR		LR	
	comp=Z,900nm,20.0s					
KVTX	**Kingsville**	**101.84 321**	PFAKE			03 36 40.0 +8.8
KVTX			LR		LR	
	comp=Z,1µm,19.0s					
GSC	**Goldstone, Bar**	**102.04 340**	PFAKE			03 36 40.0 +7.9
GSC			LR		LR	
	comp=Z,2µm,19.0s					
Y14A	**Wickenburg**	**102.22 336**	PFAKE			03 36 40.0 +7.1
Y14A			LR		LR	
	comp=Z,7µm,18.0s					
RUSC	**La Rusia**	**102.69 289**	PFAKE			03 36 50.0 +14
RUSC			LR		LR	
	comp=Z,200nm,21.0s					
LTX	**Lajitas**	**102.93 327**	*e*P		**Pdif**	**03 36 36.3 +0.1**
LTX			*e*			03 40 52.2
LTX	**Lajitas**	**102.93 327**	*e*Pdif		**Pdif**	**03 36 36.3 +0.1**
LTX			*e*PP		**PP**	**03 40 52.1 +2.8**
TXAR	**Lajitas Array**	**102.93 327**	P		**Pdif**	**03 36 36.3 +0.1**
	comp=Z,0.8nm,1.0s,baz=35,slow=4.6,SNR=4.5					
TXAR			PP		**PP**	**03 40 52.1 +2.8**

	comp=Z,1.0nm,1.1s,baz=58,slow=12,SNR=4.5					
TUC	**Tucson**	**102.99 334**	*e*P		**Pdif**	**03 36 37.8 +1.4**
TUC			MLR		MLR	
	comp=Z,2µm,20.0s					
TUC	**Tucson**	**102.99 334**	*e*Pdif		**Pdif**	**03 36 37.8 +1.4**
TUC			LR		LR	
	comp=Z,2µm,20.0s					
OSI	**Osito Audit: C**	**103.19 341**	PFAKE			03 36 50.0 +13
OSI			LR		LR	
	comp=Z,2µm,20.0s					
319A	**Douglas**	**103.31 332**	PFAKE			03 36 50.0 +12
319A			LR		LR	
	comp=Z,2µm,18.0s					
MWC	**Mount Wilson**	**103.39 340**	PFAKE			03 36 50.0 +12
MWC			LR		LR	
	comp=Z,1µm,19.0s					
113A	**Mohawk Valley,**	**103.54 336**	PFAKE			03 36 50.0 +11
113A			LR		LR	
	comp=Z,2µm,18.0s					
PFO	**Pinyon Flats O**	**103.54 339**	PFAKE			03 36 50.0 +11
PFO			LR		LR	
	comp=Z,2µm,19.0s					
HELC	**Santa Helena**	**104.27 291**	PFAKE			03 36 50.0 +7.3
HELC			LR		LR	
	comp=Z,900nm,20.0s					
ROSC	**El Rosal**	**104.31 289**	PFAKE			03 36 50.0 +7.1
ROSC			LR		LR	
	comp=Z,1µm,22.0s					
SAML	**Samuel**	**104.77 271**	PFAKE			03 37 00.0 +16
SAML			LR		LR	
	comp=Z,200nm,18.0s					
LNIG	**Linares**	**104.83 321**	PFAKE			03 37 00.0 +15
LNIG			LR		LR	
	comp=Z,500nm,19.0s					
SCIG	**Sabancuy**	**105.23 311**	PFAKE			03 41 10.0
SCIG			LR		LR	
	comp=Z,1µm,20.0s					
PRAC	**Prado**	**105.48 288**	PFAKE			03 41 10.0
PRAC			LR		LR	
	comp=Z,1µm,21.0s					
HPIG		**105.87 327**	PFAKE			03 41 10.0
HPIG			LR		LR	
	comp=Z,2µm,18.0s					
HSIG		**106.05 333**	PFAKE			03 41 10.0
HSIG			LR		LR	
	comp=Z,2µm,20.0s					
TGUH	**Tegucigalpa,Un**	**106.63 305**	PFAKE			03 41 10.0
TGUH			LR		LR	
	comp=Z,800nm,21.0s					
WRA	**Warramunga Arr**	**106.69 102**	PP		PP	03 41 19.1 +0.5
	comp=Z,7.3nm,1.2s,baz=315,slow=7.6,SNR=5.9					
WR1	**Warramunga Arr**	**106.69 102**	*e*PP		PP	03 41 19.1 +0.5
WR1	**Warramunga Arr**	**106.69 102**	*e*PP		PP	03 41 19.1 +0.5
HDC	**Heredia**	**107.58 300**	PFAKE			03 41 20.0
HDC			LR		LR	
	comp=Z,900nm,21.0s					
TUIG	**Tuzandepetl**	**107.83 313**	PFAKE			03 41 20.0
TUIG			LR		LR	
	comp=Z,1µm,21.0s					
CCIG	**Comitan**	**107.90 310**	PFAKE			03 41 20.0
CCIG			LR		LR	
	comp=Z,1µm,19.0s					
SRIG	**Santa Rosalia**	**108.05 333**	PFAKE			03 41 20.0
SRIG			LR		LR	
	comp=Z,2µm,20.0s					
ZAIG	**Zacatecas**	**108.11 323**	PFAKE			03 41 20.0
ZAIG			LR		LR	
	comp=Z,900nm,19.0s					
JRQG	**Juriquilla Cam**	**108.84 320**	PFAKE			03 41 20.0
JRQG			LR		LR	
	comp=Z,1µm,21.0s					
UNM	**Universidad Na**	**109.34 318**	PFAKE			03 41 20.0
UNM			LR		LR	
	comp=Z,700nm,22.0s					
MOIG	**Morelia**	**110.08 320**	PFAKE			03 41 20.0
MOIG			LR		LR	
	comp=Z,700nm,20.0s					
OTAV	**Otavalo**	**110.44 288**	PFAKE			03 41 20.0
OTAV			LR		LR	
	comp=Z,600nm,22.0s					
SLBS	**Sierra La Lagu**	**110.50 329**	PFAKE			03 41 20.0
SLBS			LR		LR	
	comp=Z,2µm,20.0s					
SNAA	**Sanae**	**114.85 193**	PKP		PKPdf	03 41 16.8 -0.4
SNAA	**Sanae**	**114.85 193**	PKP		PKPdf	03 41 16.4 -0.8
	comp=Z,1.8nm,1.1s,baz=14,slow=5.0,SNR=4.3					
SNAA	**Sanae**	**114.85 193**	*e*PKiKP		**PKiKP**	**03 41 18.6 +1.4**
SNAA	**Sanae**	**114.85 193**	*e*PKiKP		**PKiKP**	**03 41 18.6 +1.4**
SNAA			LR		LR	
	comp=Z,2µm,19.0s					
VNA1	**Neumayer--Stat**	**115.07 196**	PKP		**PKPdf**	**03 41 17.0 -0.5**
VNA2	**Neumayer--Watz**	**115.11 195**	PKP		**PKPdf**	**03 41 19.0 +1.3**
	baz=49,slow=1.7					
VNA3	**Neumayer Olymp**	**115.82 196**	PKP		**PKPdf**	**03 41 19.0 0.0**
CTAO	**Charters Tower**	**115.86 95**	PFAKE			03 41 30.0 +9.4
CTAO			LR		LR	
	comp=Z,800nm,19.0s					
PB11	**IPOC Station P**	**116.25 265**	PFAKE			03 41 30.0 +8.4
PB11			LR		LR	
	comp=Z,700nm,20.0s					
PB01	**IPOC Station P**	**116.85 264**	PFAKE			03 41 30.0 +7.4
PB01			LR		LR	
	comp=Z,700nm,21.0s					
NNA	**Nana**	**117.16 277**	PFAKE			03 41 30.0 +6.7
NNA			LR		LR	
	comp=Z,600nm,22.0s					
LVC	**Limon Verde**	**117.29 262**	PFAKE			03 41 40.0 +16
LVC			LR		LR	
	comp=Z,600nm,20.0s					
STKA	**Stephens Creek**	**118.75 109**	PFAKE			03 41 40.0 +14
STKA			LR		LR	
	comp=Z,200nm,21.0s					
TRQA	**Tornquist**	**120.19 244**	PFAKE			03 41 40.0 +12
TRQA			LR		LR	
	comp=Z,1µm,21.0s					
LCO	**Las Campanas**	**122.08 257**	*e*PKIKP		**PKPdf**	**03 41 33.9 +1.2**
LCO	**Las Campanas**	**122.08 257**	*e*PKPdf		**PKPdf**	**03 41 33.9 +1.2**
LCO			LR		LR	
	comp=Z,1µm,20.0s					
GO05	**Hualaæø**	**125.88 251**	PFAKE			03 41 50.0 +11
GO05			LR		LR	
	comp=Z,800nm,19.0s					
PLCA	**Paso Flores**	**127.33 244**	PKP		**PKPdf**	**03 41 43.7 +1.6**
	comp=Z,20nm,1.1s,baz=13,slow=1.4,SNR=6.7					
PLCA	**Paso Flores**	**127.33 244**	*e*PKIKP		**PKPdf**	**03 41 43.9 +1.8**
PLCA	**Paso Flores**	**127.33 244**	*e*PKPdf		**PKPdf**	**03 41 43.9 +1.8**
QSPA	**South Pole Qui**	**129.50 180**	*e*PKIKP		**PKPdf**	**03 41 44.5 -0.9**
QSPA	**South Pole Qui**	**129.50 180**	*e*PKPdf		**PKPdf**	**03 41 44.5 -0.9**
QSPA			LR		LR	
	comp=Z,1µm,20.0s					
PMSA	**Palmer Station**	**130.34 213**	PFAKE			03 42 00.0 +13
PMSA			LR		LR	
	comp=Z,601nm,20.0s					
DZM	**Mont Dzumac**	**132.54 84**	*e*LR		LR	04 24 03.6
	comp=Z,1µm,24.8s					
DZM	**Mont Dzumac**	**132.54 84**	PFAKE			03 42 00.0 +7.4
DZM			LR		LR	
	comp=Z,900nm,18.0s					
VNDA	**Vanda**	**135.43 165**	PKP		**PKPdf**	**03 41 56.3 0.0**
	comp=Z,0.4nm,0.4s,baz=302,slow=3.7,SNR=2.1					
SBA	**Scott Base**	**136.24 166**	PFAKE			03 42 10.0 +12
SBA			LR		LR	
	comp=Z,1µm,20.0s					
LBZ	**Lake Benmore**	**144.09 114**	PFAKE			03 42 20.0 +7.0
LBZ			LR		LR	
	comp=Z,1µm,19.0s					
OUZ	**Omahuta**	**144.22 97**	PFAKE			03 42 20.0 +6.6
OUZ			LR		LR	
	comp=Z,500nm,20.0s					
RPZ	**Rata Peaks**	**144.60 112**	PKP		**PKPdf**	**03 42 13.7 -0.2**
	comp=Z,37nm,0.9s,baz=28,slow=6.5,SNR=6.6					
RPZ	**Rata Peaks**	**144.60 112**	*e*PKPdf		**PKPdf**	**03 42 13.7 -0.2**
RPZ			*e*PKPdf		PKPbc	03 42 14.3 +1.6
OXZ	**Oxford**	**145.23 112**	PFAKE			03 42 30.0 +15
OXZ			LR		LR	
	comp=Z,800nm,20.0s					
LTZ	**Lake Taylor**	**145.30 111**	*e*PKPbc		**PKPdf**	**03 42 15.7 +0.5**
LTZ	**Lake Taylor**	**145.30 111**	*e*PKPbc		**PKPdf**	**03 42 15.7 +0.5**
THZ	**Tophouse**	**145.56 109**	*e*PKIKP		**PKPab**	**03 42 16.6 +0.5**
THZ	**Tophouse**	**145.56 109**	*e*PKPdf		**PKPab**	**03 42 16.6 +0.5**
KHZ	**Kahutara**	**146.15 110**	PFAKE			03 42 30.0 +12
KHZ			LR		LR	
	comp=Z,1µm,18.0s					
BKZ	**Black Stump Fm**	**147.63 103**	*e*PKPbc		**PKPbc**	**03 42 22.0 0.0**
BKZ	**Black Stump Fm**	**147.63 103**	*e*PKPbc		**PKPbc**	**03 42 22.0 0.0**
BKZ			LR		LR	
	comp=Z,700nm,21.0s					
BFZ	**Birch Farm**	**147.79 106**	*e*PKPbc		**PKPbc**	**03 42 22.8 +0.5**
BFZ	**Birch Farm**	**147.79 106**	*e*PKPbc		**PKPbc**	**03 42 22.8 +0.5**
URZ	**Urewera**	**147.86 101**	PKPbc		**PKPdf**	**03 42 19.6 +0.1**
	comp=Z,37nm,0.9s,baz=359,slow=2.5,SNR=17					
URZ	**Urewera**	**147.86 101**	*e*PKPdf		**PKPdf**	**03 42 19.6 +0.1**
URZ			*e*PKPdf		**pPKPdf**	**03 42 20.4 -1.6**
PPT2	**Papeete2**	**156.87 20**	*e*LR		LR	04 35 23.9
	comp=Z,1µm,27.8s					
RKT	**Rikitea**	**162.65 340**	*e*LR		LR	04 38 00.6
	comp=Z,920nm,25.0s					

ISK **22** *03:29:37.2,39.°70N×38.°74E,h5km,Ml3.9*
DDA **22** *03:29:37.1,39.°67N×38.°70E,h10km,Ml3.4*
CSEM **22** *03:29:38.2±0.2,39.°68N×38.°71E,h2km,Ml3.4,Error ellipse: s-maj=4.9km s-min=4.1km az=31.0*
ISC 22 03:29:37.7±1.0,**39.66N**±0.02×**38.70E**±0.02,**h9**km±9km, **n64,σ1§15/85,Turkey**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KEMA	**Kemaliye**	**0.42**	**203**	*i* P		**Pg 03 29 45.7**	**-0.4**
KEMA				*i* S		**Sg 03 29 52.5**	**+0.8**
KEMA	**Kemaliye**	**0.42**	**203**	P		**Pg 03 29 45.7**	**-0.4**
KEMA				S		**Sg 03 29 52.5**	**+0.8**
EZC	**Erzincan**	**0.51**	**80**	*e*Pg		**Pn 03 29 53.0**	**+1.6**
KELT	**Kelkit**	**0.65**	**41**	*i* P		**Pg 03 29 49.7**	**-0.6**
KELT				*i* S		**Sg 03 29 59.1**	**+0.3**
KELT	**Kelkit**	**0.65**	**41**	P		**Pg 03 29 49.7**	**-0.6**
KELT				S		**Sg 03 29 59.1**	**+0.3**
SUSE	**Susehri**	**0.67**	**325**	*i* P		**Pg 03 29 50.5**	**-0.2**
SUSE				*i* S		**Sb 03 30 00.7**	**-0.4**
SUSE	**Susehri**	**0.67**	**325**	P		**Pg 03 29 50.5**	**-0.2**
SUSE				S		**Sb 03 30 00.7**	**-0.4**
CUZAR	**Zara_SIVAS**	**0.75**	**288**	*i* P		**Pg 03 29 51.4**	**-0.9**
CUZAR				*i* S		**Sb 03 30 03.8**	**+0.2**
CUZAR	**Zara_SIVAS**	**0.75**	**288**	P		**Pg 03 29 51.4**	**-0.9**
CUZAR				S		**Sb 03 30 03.8**	**+0.2**
ERZN	**Erzincan**	**0.79**	**95**	*e*PG		**Pg 03 29 53.0**	**0.0**
ERZN				*e*SG		**Sb 03 30 04.6**	**0.0**
TNCL	**Tunceli-Merkez**	**0.85**	**130**	*i* P		**Pg 03 29 53.1**	**-1.0**
TNCL				*i* S		**Sn 03 30 07.3**	**-1.4**
TNCL	**Tunceli-Merkez**	**0.85**	**130**	P		**Pg 03 29 53.1**	**-1.0**
TNCL				S		**Sn 03 30 07.3**	**-1.4**
PTK	**Pertek**	**0.94**	**145**	*e*PG		**Pb 03 29 56.3**	**0.0**
PTK				*e*SG		**Sn 03 30 09.7**	**-1.2**
PTK	**Pertek**	**0.94**	**145**	*e*Pg		**Pb 03 29 56.3**	**0.0**
PTK				*e*Sg		**Sn 03 30 09.7**	**-1.2**
GUMT	**Gumushane**	**0.99**	**37**	*e*PG		**Pg 03 29 56.6**	**-0.3**
GUMT	**Gumushane**	**0.99**	**37**	*e*Pg		**Pg 03 29 56.6**	**-0.3**
CUKAN	**kangal_SIVAS**	**1.02**	**251**	*i* P		**Pg 03 29 55.6**	**-1.7**
CUKAN				*i* S		**Sn 03 30 13.0**	**+0.1**
CUKAN	**kangal_SIVAS**	**1.02**	**251**	P		**Pg 03 29 55.6**	**-1.7**
CUKAN				S		**Sn 03 30 13.0**	**+0.1**
ELZG	**Elazig**	**1.18**	**169**	*i* P		**Pb 03 29 59.4**	**-1.0**
ELZG				*i* S		**Sg 03 30 15.8**	**0.0**
ELZG	**Elazig**	**1.18**	**169**	P		**Pb 03 29 59.4**	**-1.0**
ELZG				S		**Sg 03 30 15.8**	**0.0**
SCER	**sogukcermik**	**1.23**	**280**	*i* P		**Pn 03 30 00.2**	**-1.1**
SCER				*i* S		**Sb 03 30 17.4**	**+0.1**
SCER	**sogukcermik**	**1.23**	**280**	P		**Pn 03 30 00.2**	**-1.1**
SCER				S		**Sb 03 30 17.4**	**+0.1**
ESPY	**Espiye-Giresun**	**1.25**	**1**	*e*PN		**Pn 03 30 00.9**	**-0.6**
ESPY	**Espiye-Giresun**	**1.25**	**1**	*e*Pn		**Pn 03 30 00.9**	**-0.6**
RSDY	**Resadiye-TOKAT**	**1.29**	**305**	*e*PN		**Pg 03 30 02.6**	**+0.1**
RSDY	**Resadiye-TOKAT**	**1.29**	**305**	*e*Pn		**Pg 03 30 02.6**	**+0.1**
SVSK	**Karacayir**	**1.34**	**282**	*e*PN		**Pg 03 30 04.3**	**+0.9**
SVSK	**Karacayir**	**1.34**	**282**	*e*Pn		**Pg 03 30 04.3**	**+0.9**
SVRC	**Sivrice-ELAZID**	**1.36**	**160**	*e*PN		**Pg 03 30 04.6**	**+0.7**
SVRC	**Sivrice-ELAZID**	**1.36**	**160**	*e*Pn		**Pg 03 30 04.6**	**+0.7**
YEDI	**Yedisu-Bingol**	**1.44**	**98**	*e*PN		**Pg 03 30 04.8**	**-0.6**
YEDI	**Yedisu-Bingol**	**1.44**	**98**	*e*Pn		**Pg 03 30 04.8**	**-0.6**
DARE	**Darende-Malaty**	**1.45**	**221**	*e*PN		**Pg 03 30 06.0**	**+0.6**
DARE	**Darende-Malaty**	**1.45**	**221**	*e*Pn		**Pg 03 30 06.0**	**+0.6**
CUGUR	**Gurin_S¨VAS**	**1.45**	**230**	*i* P		**Pg 03 30 05.5**	**-0.2**
CUGUR				*i* S		**Sg 03 30 26.4**	**+1.9**
CUGUR	**Gurin_S¨VAS**	**1.45**	**230**	P		**Pg 03 30 05.5**	**-0.2**
CUGUR				S		**Sg 03 30 26.4**	**+1.9**
KTUT	**Trabzon**	**1.55**	**31**	*e*PN		**Pb 03 30 06.4**	**-0.3**
KTUT	**Trabzon**	**1.55**	**31**	*e*Pn		**Pb 03 30 06.4**	**-0.3**
BINT	**Bingol**	**1.59**	**119**	*e*Pn		**Pg 03 30 08.8**	**+0.5**
BNGB	**Bing¶ll**	**1.67**	**113**	*e*PN		**Pb 03 30 08.8**	**0.0**
TOKT	**Tokat**	**1.78**	**292**	*e*PN		**Pb 03 30 10.2**	**-0.4**
TOKT	**Tokat**	**1.78**	**292**	*e*Pn		**Pb 03 30 10.2**	**-0.4**
EZM	**Erzurum**	**2.06**	**82**	*e*PN		**Pn 03 30 13.3**	**+0.5**
SARI	**SarD1z-Kayseri**	**2.18**	**236**	*e*PN		**Pb 03 30 16.8**	**-0.6**
URFA	**Urfa**	**2.22**	**178**	*e*PN		**Pb 03 30 17.1**	**-1.0**
URFA	**Urfa**	**2.22**	**178**	*e*Pn		**Pb 03 30 17.1**	**-1.0**
BNN	**Bunyan**	**2.36**	**251**	*e*PN		**Pb 03 30 19.3**	**-1.2**
BNN	**Bunyan**	**2.36**	**251**	*e*Pn		**Pb 03 30 19.3**	**-1.2**
SVAN	**Silvan-Diyarba**	**2.46**	**127**	*e*PN		**Pb 03 30 20.5**	**-1.7**
SVAN	**Silvan-Diyarba**	**2.46**	**127**	*e*Pn		**Pb 03 30 20.5**	**-1.7**
KVT	**Kavak**	**2.48**	**306**	*e*PN		**Pb 03 30 20.8**	**-1.6**
KVT	**Kavak**	**2.48**	**306**	*e*Pn		**Pb 03 30 20.8**	**-1.6**
KMRS	**Kahramanmaras**	**2.58**	**214**	*e*PN		**Pb 03 30 23.0**	**-1.1**
KMRS	**Kahramanmaras**	**2.58**	**214**	*e*Pn		**Pb 03 30 23.0**	**-1.1**
MAZI	**Mazidag**	**2.59**	**148**	*e*PN		**Pb 03 30 22.8**	**-1.6**
MAZI	**Mazidag**	**2.59**	**148**	*e*Pn		**Pb 03 30 22.8**	**-1.6**
YOZ	**Yozgat**	**2.61**	**271**	*e*PN		**Pb 03 30 23.0**	**-1.8**
YOZ	**Yozgat**	**2.61**	**271**	*e*Pn		**Pb 03 30 23.0**	**-1.8**
DIKM	**Dikmen**	**3.29**	**308**	*e*PN		**Pn 03 30 32.4**	**+3.0**
DIKM	**Dikmen**	**3.29**	**308**	*e*Pn		**Pn 03 30 32.4**	**+3.0**
AGRB	**Hanur-Agry**	**3.31**	**90**	*e*PN

REFA				*i* S		**Sb**	**03 38 33.0**	**+4.4**
REFA	**Refahiye_ERZ˜**	**0.27**	**175**	P		**Pg**	**03 38 21.3**	**0.0**
KEMA	**Kemaliye**	**0.44**	**205**	*i* P		**Pg**	**03 38 23.5**	**-1.0**
KEMA				*i* S		**Sg**	**03 38 29.7**	**-0.5**
KEMA	**Kemaliye**	**0.44**	**205**	P		**Pg**	**03 38 23.5**	**-1.0**
KEMA				S		**Sg**	**03 38 29.7**	**-0.5**
KELT	**Kelkit**	**0.62**	**40**	*i* P		**Pg**	**03 38 28.3**	**+0.3**
KELT				*i* S		**Sb**	**03 38 38.1**	**-0.7**
KELT	**Kelkit**	**0.62**	**40**	P		**Pg**	**03 38 28.3**	**+0.3**
KELT				S		**Sb**	**03 38 38.1**	**-0.7**
SUSE	**Susehri**	**0.68**	**323**	*i* P		**Pg**	**03 38 28.4**	**-0.5**
SUSE				*i* S		**Sg**	**03 38 38.5**	**+0.7**
SUSE	**Susehri**	**0.68**	**323**	P		**Pg**	**03 38 28.5**	**-0.5**
SUSE				S		**Sg**	**03 38 38.5**	**+0.7**
EUZM	**Uzumlu**	**0.74**	**87**	*i* P		**Pg**	**03 38 31.4**	**-0.2**
EUZM				*i* S		**Sn**	**03 38 43.8**	**-1.4**
EUZM	**Uzumlu**	**0.74**	**87**	P		**Pb**	**03 38 31.4**	**-0.2**
ERZN	**Erzincan**	**0.77**	**96**	*e*PG		**Pg**	**03 38 30.6**	**-0.1**
CUZAR	**Zara_SIVAS**	**0.78**	**287**	*i* P		**Pg**	**03 38 30.0**	**-0.9**
CUZAR				*i* S		**Sg**	**03 38 40.0**	**-0.9**
CUZAR	**Zara_SIVAS**	**0.78**	**287**	P		**Pg**	**03 38 30.0**	**-0.9**
CUZAR				S		**Sg**	**03 38 40.0**	**-0.9**
TNCL	**Tunceli-Merkez**	**0.83**	**131**	*i* P		**Pg**	**03 38 31.9**	**-0.1**
TNCL				*i* S		**Sb**	**03 38 44.5**	**-0.3**
TNCL	**Tunceli-Merkez**	**0.83**	**131**	P		**Pg**	**03 38 31.9**	**-0.1**
TNCL				S		**Sb**	**03 38 44.5**	**-0.3**
PTK	**Pertek**	**0.93**	**146**	*e*PG		**Pg**	**03 38 33.6**	**-0.2**
PTK	**Pertek**	**0.93**	**146**	*e*Pg		**Pg**	**03 38 33.6**	**-0.2**
GUMT	**Gumushane**	**0.98**	**36**	*e*PG		**Pg**	**03 38 34.6**	**-0.1**
GUMT				*e*SG		**Sg**	**03 38 47.6**	**+0.2**
GUMT	**Gumushane**	**0.98**	**36**	*e*Pg		**Pg**	**03 38 34.6**	**-0.1**
GUMT				*e*Sg		**Sg**	**03 38 47.6**	**+0.2**
RSDY	**Resadiye-TOKAT**	**1.30**	**304**	*e*PN		**Pg**	**03 38 41.5**	**+0.5**
RSDY	**Resadiye-TOKAT**	**1.30**	**304**	*e*Pn		**Pg**	**03 38 41.5**	**+0.5**
SVSK	**Karacayir**	**1.36**	**281**	*e*PN		**Pg**	**03 38 42.3**	**+0.2**
SVSK	**Karacayir**	**1.36**	**281**	*e*Pn		**Pg**	**03 38 42.3**	**+0.2**
SVRC	**Sivrice-ELAZID**	**1.36**	**161**	*e*PN		**Pn**	**03 38 41.5**	**-0.5**
SVRC	**Sivrice-ELAZID**	**1.36**	**161**	*e*Pn		**Pn**	**03 38 41.5**	**-0.5**
DARE	**Darende-Malaty**	**1.47**	**222**	*e*PN		**Pb**	**03 38 43.4**	**-0.4**
DARE	**Darende-Malaty**	**1.47**	**222**	*e*Pn		**Pb**	**03 38 43.4**	**-0.4**
MACK	**Trabzon**	**1.50**	**32**	*i* P		**Pb**	**03 38 44.1**	**-0.3**
MACK				*i* S		**Sg**	**03 39 06.2**	**+2.0**
MACK	**Trabzon**	**1.50**	**32**	P		**Pb**	**03 38 44.1**	**-0.3**
MACK				S		**Sg**	**03 39 06.2**	**+2.0**
KTUT	**Trabzon**	**1.54**	**31**	*e*PN		**Pn**	**03 38 43.8**	**-0.4**
KTUT	**Trabzon**	**1.54**	**31**	*e*Pn		**Pn**	**03 38 43.8**	**-0.4**
BINT	**Bingol**	**1.57**	**120**	*e*Pn		**Pn**	**03 38 44.9**	**+0.1**
BNGB	**Bing¶ll**	**1.65**	**114**	*e*PN		**Pn**	**03 38 44.9**	**-0.9**
TOKT	**Tokat**	**1.80**	**292**	*e*PN		**Pb**	**03 38 48.8**	**-0.8**
TOKT	**Tokat**	**1.80**	**292**	*e*Pn		**Pb**	**03 38 48.8**	**-0.8**
SARI	**SarD1z-Kayseri**	**2.20**	**236**	*e*PN		**Pn**	**03 38 54.1**	**+0.7**
BNN	**Bunyan**	**2.39**	**251**	*e*PN		**Pn**	**03 38 57.2**	**+1.2**
BNN	**Bunyan**	**2.39**	**251**	*e*Pn		**Pn**	**03 38 57.2**	**+1.2**
KMRS	**Kahramanmaras**	**2.59**	**214**	*e*PN		**Pn**	**03 38 59.8**	**+1.0**
KMRS	**Kahramanmaras**	**2.59**	**214**	*e*Pn		**Pn**	**03 38 59.8**	**+1.0**
KOZT	**Kozan**	**3.16**	**227**	*e*PN		**Pn**	**03 39 07.6**	**+1.1**
KOZT	**Kozan**	**3.16**	**227**	*e*Pn		**Pn**	**03 39 07.6**	**+1.1**

*MAN **22** 03:49:16,15.32N×119.45E,h11km,mb4.8,ML3.7,MS3.8*
MAN INTENSITY IV - IBA ZAMBALES; INTENSITY III - PALAUIG ZAMBALES; INTENSITY II - CANDELARIA SAN FELIPE & STA CRUZ ZAMBALES.
*BJI **22** 03:49:20.1,15.23N×119.89E,h54km,mb4.5/14,mB5.0/11,Ms4.7/12,Ms7 4.4/13*
*ISCJB **22** 03:49:21.0±0.4,15.28N±0.03×119.88E±0.04,h74km±5km,mb4.5/38,Error ellipse: s-maj=7.2km s-min=4.2km az=177.6*
*NEIC **22** 03:49:21.8±0.6,15.26N×119.89E,h69km±6km,mb4.8/17,Error ellipse: s-maj=7.8km s-min=5.0km az=88.0*
NEIC Felt [IV PIVS] at Iba, [III PIVS] at Palauig and [II PIVS] at Candelaria, San Felipe and Santa Cruz.
*IDC **22** 03:49:22.4±2.0,15.30N×119.87E,h72km±19km,mb3.8/17,mb1 4.0/17,mb1mx3.8/41,mbtmp4.1/17,Error ellipse: s-maj=19.3km s-min=12.4km az=60.0*

ISC 22 03:49:21.0±0.7,15.32N±0.03×119.74E±0.05,h53km±6km, n96,σ2^{17}/116,mb4.4/37,MS4.5/3,3C-2D,Luzon

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
SCZP	**Santa Cruz**	**0.48**	**20**		*e*P	**Pn**	**03 49 28.7**	**-3.6**
SCZP					*e*S	**Sn**	**03 49 35.9**	**-4.4**
BOLP	**Bolinao**	**1.07**	**9**		*e*P	**Pn**	**03 49 36.6**	**-3.1**
PCPH	**Palayan**	**1.33**	**79¶**		*e*P	**Pn**	**03 49 41.8**	**-1.4**
PCPH					*e*S	**Sn**	**03 49 59.1**	**-0.7**
LUBP	**Lubang**	**1.65**	**163**		*e*P	**Pn**	**03 49 46.3**	**-1.3**
LUBP					*e*S	**Sn**	**03 50 12.6**	**+4.9**
TGY	**Tagaytay City**	**1.68**	**136**	P		**Pn**	**03 49 48.8**	**+0.8**
	705nm,0.3s,baz=292,slow=3.4,SNR=25							
TGY				S		**Sn**	**03 50 13.1**	**+4.7**
	1µm,0.3s,baz=325,slow=18,SNR=12							
TGY				LR		LR	03 50 37.3	
	comp=Z,1µm,18.4s,baz=300,slow=47							
TGY	**Tagaytay City**	**1.68**	**136**		*e*P	**Pn**	**03 49 48.8**	**+0.8**
TGY					*i* S	**Sn**	**03 50 11.3**	**+2.9**
LQP	**Lukban**	**2.11**	**124¶**		*e*P	**Pn**	**03 49 55.1**	**+0.9**
PGP	**Puerto Galera**	**2.16**	**147¶**		*e*P	**Pn**	**03 49 54.2**	**-0.3**
PGP					*i* S	**Sn**	**03 50 26.5**	**+6.4**
SZP	**Santa**	**2.32**	**17**		*e*Pn	**Pn**	**03 49 56.2**	**-0.6**
SZP					*e*Sn	**Sn**	**03 50 26.5**	**+0.5**
ABRA	**Dolores**	**2.49**	**22**		*e*P	**Pn**	**03 49 58.4**	**-0.8**
CAUP	**Cauayan**	**2.57**	**51**		*e*P	**Pn**	**03 50 01.7**	**+1.5**
BOAC	**Boac**	**2.75**	**132**		*e*P	**Pn**	**03 50 03.9**	**+1.2**
GQP	**Guinayangan**	**2.97**	**118¶**		*e*P	**Pn**	**03 50 06.7**	**+1.0**
GQP					*i* S	Sn	03 50 09.5	-31
CVP	**Callao Caves**	**3.10**	**40**		*e*P	**Pn**	**03 50 06.2**	**-1.2**
CVP					*e*S	**Sn**	**03 50 46.2**	**+3.0**
SJMP	**San Jose**	**3.14**	**155**		*e*P	**Pn**	**03 50 09.1**	**+1.1**
BUSP	**Coron**	**3.33**	**172**		*e*P	**Pn**	**03 50 10.7**	**+0.1**
BUSP					*e*S	**Sn**	**03 50 49.9**	**+1.0**
AUQP	**San Andres**	**3.47**	**125**		*e*P	**Pn**	**03 50 17.1**	**+4.5**
ENPP	**El Nido**	**4.10**	**184**		*e*P	**Pn**	**03 50 20.5**	**-0.7**
ENPP					*e*S	**Sn**	**03 51 03.7**	**-4.3**
TPUB	**Ta-pu**	**7.98**	**6**		*e*Pn	**Pn**	**03 51 15.2**	**+0.7**
YULB	**Yu-li**	**8.16**	**10**		*e*Pn	**Pn**	**03 51 18.0**	**+1.1**
SSLB	**Suanglung**	**8.50**	**8**		*e*Pn	**Pn**	**03 51 23.9**	**+2.4**
MCO	**Taipa Grande**	**8.95**	**320**	P		**Pn**	**03 51 27.0**	**-0.6**
YHNB	**Yeheng**	**9.43**	**9**		*e*Pn	**Pn**	**03 51 36.5**	**+2.2**
MYLDM	**Lahad Datu**	**10.15**	**187**		*e*Pn	**Pn**	**03 51 42.1**	**-2.0**
SBUM	**Sibu**	**14.79**	**211**		*e*Pn	**Pn**	**03 52 47.9**	**+0.8**
WHN	**Wuhan**	**15.94**	**343**		*e*P	**P**	**03 53 05.4**	**+0.8**
GYA	**Guiyang**	**16.48**	**314**	P		**P**	**03 53 11.8**	**+1.0**
GYA				pP		pP	03 53 21.3	-1.2
GYA				S		**Sn**	**03 56 13.4**	**+2.4**
GYA				sS		S	03 56 30.0	+9.4
GYA				SS		**SnSn**	**03 56 35.6**	**+11**
GYA				pmax		pmax		
	comp=Z,20nm,0.7s							
GYA				pmax		pmax		
	comp=Z,120nm,4.8s							
GYA				LR		LR		
	comp=N,1µm,13.2s							
GYA				LR		LR		
	comp=E,1µm,14.6s							
GYA				LR		LR		
	comp=Z,1µm,14.2s							
NJ2	**Nanjing**	**16.68**	**357**		*e*P	**P**	**03 53 12.6**	**-0.1**
NJ2				pmax		pmax		
	comp=Z,40nm,1.0s							
KMI	**Kunming**	**18.68**	**304**	P		**Pn**	**03 53 40.4**	**+4.4**
CM01	**Chiang Mai Arr**	**20.12**	**282**	*e*P		Pn	03 53 53.3	+0.3
CM31	**Chiang Mai Arr**	**20.14**	**282**	*e*P		Pn	03 53 54.0	+0.7
CMAR	**Chiang Mai Arr**	**20.14**	**282**	P		Pn	03 53 54.0	+0.7
	7.2nm,0.9s,baz=96,slow=8.3,SNR=22							
KS15	**Wonju Array Si**	**23.19**	**17**		*e*P	**P**	**03 54 24.4**	**+1.2**
KSAR	**Wonju Array Be**	**23.19**	**17**	P		**P**	**03 54 24.4**	**+1.2**
KSRS	**Korea Array**	**23.21**	**17**	P		**P**	**03 54 24.4**	**+1.0**
	0.9nm,0.5s,baz=198,slow=11,SNR=3.6							
PSI	**Prapat**	**23.99**	**241**		*e*P	**P**	**03 54 32.7**	**+1.6**
	8.2nm,0.8s							
GUMO	**Guam**	**24.39**	**91**	P		**P**	**03 54 33.2**	**-1.4**
	20nm,0.3s,baz=0.0,slow=20,SNR=2.5							
BJI	**Beijing**	**24.82**	**353**	P		**P**	**03 54 39.6**	**+1.4**
BJI				pmax		pmax		
	comp=Z,13nm,1.1s							
BJI				LR		LR		
	comp=Z,1µm,19.0s							
SNY	**Shenyang**	**26.62**	**6**	¶P		P	03 54 45.9	-8.6
SNY				pmax		pmax		
	comp=Z,44nm,0.8s							
XMIS	**Christmas Isla**	**29.19**	**209**		*e*P	**P**	**03 55 16.8**	**-0.9**
	comp=Z,123nm,1.3s							
GTA	**Gaotai**	**29.68**	**328**		*e*P	P	03 55 27.3	+5.3
GTA					pP	sP	03 55 41.3	-0.5
GTA					sP	pP	03 55 49.8	+14
GTA					pmax	pmax		
	comp=Z,5.0nm,0.6s							
SONA0	**Songino Array**	**34.25**	**344**		*e*P	**P**	**03 56 01.7**	**-0.3**
	comp=Z,3.2nm,1.1s							
SONM	**Songino Array**	**34.25**	**344**	P		**P**	**03 56 01.7**	**-0.3**
	comp=Z,1.6nm,0.7s,baz=155,slow=8.5,SNR=6.8							
SONA1	**Songino Array**	**34.26**	**344**		*e*P	**P**	**03 56 00.1**	**-1.9**
ASAJ	**Asahikawa**	**34.66**	**29**		*e*P	**P**	**03 56 04.5**	**-0.9**
	comp=Z,170nm,1.6s							
WRAB	**Tennant Creek**	**37.86**	**157**		*e*P	**P**	**03 56 31.8**	**-1.2**
	comp=Z,4.9nm,1.0s							
WRA	**Warramunga Arr**	**37.87**	**157**	P		**P**	**03 56 30.3**	**-2.7**
	comp=Z,1.7nm,0.4s,baz=330,slow=10,SNR=16							
WRA					PcP	**PcP**	**03 58 48.1**	**-0.5**
	comp=Z,0.6nm,1.0s,baz=344,slow=3.3,SNR=7.7							
WR1	**Warramunga Arr**	**37.87**	**157**		*e*P	**P**	**03 56 30.3**	**-2.7**
	comp=Z,15nm,1.4s							
WR1					*e*PcP	**PcP**	**03 58 48.1**	**-0.5**
WB2	**Warramunga Arr**	**37.87**	**157**		*e*P	**P**	**03 56 30.0**	**-3.1**
WMQ	**Urumqi**	**39.36**	**323**	P		**P**	**03 56 47.0**	**+1.6**
WMQ					sP	sP	03 57 07.3	+1.9
WMQ					pmax	pmax		
	comp=Z,12nm,0.7s							
WMQ					pmax	pmax		
	comp=Z,59nm,3.7s							
WMQ					LR	LR		
	comp=Z,700nm,11.5s							
WMQ					LR	LR		
	comp=Z,690nm,16.9s							
WMQ					LR	LR		
	comp=Z,300nm,22.1s							
AS31	**Alice Springs**	**41.15**	**160**		*e*P	**P**	**03 56 58.7**	**-1.6**
	comp=Z,1.6nm,0.4s							
AS31					*e*PcP	**PcP**	**03 58 58.4**	**-0.6**
ASAR	**Alice Springs**	**41.15**	**160**	P		**P**	**03 56 58.7**	**-1.6**
	comp=Z,1.2nm,0.6s,baz=337,slow=6.7,SNR=12							
ASAR					PcP	**PcP**	**03 58 58.4**	**-0.6**
	comp=Z,1.4nm,0.7s,baz=349,slow=2.4,SNR=6.0							
AS01	**Alice Springs**	**41.16**	**160**		*e*P	**P**	**03 56 58.7**	**-1.7**
MK31	**Makanchi Array**	**44.19**	**323**		*e*P	**P**	**03 57 25.6**	**+0.8**
MK31					*e*pP	**pP**	**03 57 38.7**	**0.0**
MK32	**Makanchi Array**	**44.19**	**323**		*e*P	**P**	**03 57 24.9**	**+0.1**
MK32					*e*PcP	**PcP**	**03 59 09.1**	**+0.2**
MKAR	**Makanchi Array**	**44.19**	**323**	P		**P**	**03 57 24.9**	**+0.1**
	comp=Z,2.1nm,0.8s,baz=125,slow=10,SNR=9.6							
MKAR					PcP	**PcP**	**03 59 09.1**	**+0.2**
	comp=Z,2.8nm,0.9s,baz=138,slow=4.4,SNR=5.3							
MKAR	**Makanchi Array**	**44.19**	**323**		*e*P	**P**	**03 57 25.6**	**+0.8**
	comp=Z,16nm,0.8s							
MKAR					*e*pP	**pP**	**03 57 38.8**	**+0.1**
MAKZ	**Makanchi**	**44.38**	**323**		*e*P	**P**	**03 57 26.3**	**+0.1**
	comp=Z,5.5nm,1.3s							
KSH	**Kashi**	**45.14**	**311**		*e*P	**P**	**03 57 35.3**	**+2.7**
KSH					sP	sP	03 57 58.3	+5.6
KSH					PP	**PP**	**03 59 23.3**	**+4.4**
KSH					S	**S**	**04 04 10.8**	**+2.3**
KSH					sS	sS	04 04 37.8	+5.8
KSH					SS	**ScS**	**04 07 26.8**	**+1.7**
KSH					pmax	pmax		
	comp=Z,7.0nm,1.1s							
KSH					pmax	pmax		
	comp=Z,410nm,12.0s							
KSH					LR	LR		
	comp=Z,490nm,12.9s							
KSH					LR	LR		
	comp=Z,410nm,11.7s							
KSH					LR	LR		
	comp=Z,250nm,13.3s							
ZAA0	**Zalesovo Array**	**47.20**	**333**		*e*P	**P**	**03 57 47.3**	**-1.1**
ZALV	**Zalesovo Beam**	**47.20**	**333**	P		**P**	**03 57 46.4**	**-1.9**
	comp=Z,0.8nm,0.4s,baz=124,slow=6.3,SNR=5.1							
ZALV					PcP	**PcP**	**03 59 18.0**	**-1.1**
	comp=Z,0.6nm,0.3s,baz=144,slow=1.1,SNR=3.7							
ZAA1	**Zalesovo Array**	**47.20**	**333**		*e*P	**P**	**03 57 46.4**	**-2.0**
ZAA1					*e*PcP	**PcP**	**03 59 18.0**	**-1.1**
PEA0	**Petropavlovsk-**	**48.07**	**30**		*e*P	**P**	**03 57 54.4**	**-0.8**
PEA0B	**Petropavlovsk-**	**48.07**	**30**		*e*P	**P**	**03 57 53.2**	**-2.0**
	comp=Z,51nm,1.4s							
PETK	**Petropavlovsk-**	**48.07**	**30**	P		**P**	**03 57 54.3**	**-0.9**
	comp=Z,8.2nm,0.6s,baz=212,slow=4.6,SNR=11							
PEA1	**Petropavlovsk-**	**48.08**	**30**		*e*P	**P**	**03 57 54.3**	**-0.9**
KURK	**Kurchatov**	**48.33**	**326**		*e*P	**P**	**03 57 57.4**	**+0.2**
	comp=Z,15nm,1.1s							
KKAR	**Karatay Array**	**50.19**	**314**		*e*P	**P**	**03 58 12.0**	**+0.4**
	comp=Z,40nm,0.9s							
BBOO	**Buckleboo**	**50.34**	**162**		*e*P	**P**	**03 58 10.9**	**-1.8**
	comp=Z,161nm,2.0s							
GEYT	**Alibeck**	**58.44**	**305**	P		**P**	**03 59 12.1**	**+0.4**
	comp=Z,1.9nm,0.9s,baz=145,slow=3.6,SNR=7.2							
ABKAR	**Akbulak array**	**58.91**	**319**		*e*P	**P**	**03 59 14.8**	**+0.1**
	comp=Z,28nm,0.6s							
GSTR	**Great Sitkin T**	**62.24**	**39**		*e*P	**P**	**03 59 38.3**	**+0.9**
KBZ	**Khabaz**	**70.12**	**311**	P		**P**	**04 00 27.2**	**-0.7**
	comp=Z,3.0nm,0.9s,baz=191,slow=1.9,SNR=6.1							
CAST	**Castle Rocks**	**75.62**	**28**		*e*P	**P**	**04 01 00.0**	**-0.2**
	comp=Z,9.5nm,1.0s							
SUA	**Susitna One**	**76.45**	**30**		*e*P	**P**	**04 01 04.4**	**-0.7**
	comp=Z,10nm,0.8s							
ARCES	**ARCESS Array B**	**77.25**	**339**	P		**P**	**04 01 08.2**	**-1.1**
	comp=Z,0.8nm,0.5s,baz=88,slow=7.5,SNR=3.1							
ILAR	**Eielson Array**	**77.71**	**26**	P		**P**	**04 01 09.8**	**-2.1**
	comp=Z,0.2nm,0.5s,baz=257,slow=4.7,SNR=5.1							
ILB	**Eielson Array**	**77.71**	**26**		*e*P	**P**	**04 01 09.8**	**-2.1**
FIA0	**FINESS Array S**	**78.42**	**331**		*e*P	**P**	**04 01 15.3**	**-0.6**
FINES	**FINESS Array B**	**78.42**	**331**	P		**P**	**04 01 15.3**	**-0.6**
	comp=Z,2.0nm,0.7s,baz=66,slow=6.7,SNR=10							
BUR08	**Bucovina Ar. S**	**81.85**	**317**		*e*P	**P**	**04 01 35.3**	**+0.5**
KMBO	**Kilima Mbogo**	**83.05**	**267**	P		**P**	**04 01 42.2**	**+0.4**
	comp=Z,1.2nm,0.4s,baz=38,slow=9.9,SNR=6.1							
KMBO	**Kilima Mbogo**	**83.05**	**267**		*e*P	**P**	**04 01 42.2**	**+0.4**
	comp=Z,5.5nm,1.1s							
NB2	**NORSAR Subarra**	**85.40**	**332**	P		**P**	**04 01 51.4**	**-1.3**
	baz=69,slow=4.6							
NB2	**NORSAR Subarra**	**85.40**	**332**	P		**P**	**04 01 51.4**	**-1.3**
	comp=Z,3.7nm,0.7s,baz=69,slow=4.6							
NB200	**NORSAR Array S**	**85.40**	**332**		*e*P	**P**	**04 01 50.9**	**-1.7**
NOA	**NORSAR Array B**	**85.40**	**332**	P		**P**	**04 01 50.9**	**-1.7**
	comp=Z,2.2nm,0.7s,baz=66,slow=4.6,SNR=7.1							
GERES	**GERESS Array B**	**98.80**	**321**	P		**P**	**04 02 09.7**	**+0.3**
	comp=Z,0.1nm,0.3s,baz=64,slow=9.1,SNR=3.6							
YKA	**Yellowknife Ar**	**91.64**	**22**	P		**P**	**04 02 22.3**	**+0.1**
	comp=Z,0.8nm,0.5s,baz=313,slow=4.2,SNR=4.1							
YKB5	**Yellowknife Ar**	**91.64**	**22**		*e*P	**P**	**04 02 22.3**	**+0.1**
KMRM	**Mail Ridge**	**99.28**	**44**		*e*P	**Pdif**	**04 02 52.9**	**-4.8**
	comp=Z,56nm,1.3s							
TORD	**Torodi Ar. Bea**	**112.50**	**291**		PKiKP	**PKiKP**	**04 07 50.3**	**-2.0**
	comp=Z,0.4nm,0.8s,baz=48,slow=2.1,SNR=3.2							
TOA1	**Torodi Ar. Sit**	**112.50**	**291**		*e*PKiKP	**PKiKP**	**04 07 50.3**	**-2.0**
LTX	**Lajitas**	**118.95**	**43**		*e*PKPdf	**PKPdf**	**04 08 04.7**	**+0.2**
TXAR	**Lajitas Array**	**118.95**	**43**		PKP	**PKPdf**	**04 08 04.7**	**+0.2**
	comp=Z,0.5nm,0.7s,baz=270,slow=1.3,SNR=8.2							
PLCA	**Paso Flores**	**153.14**	**163**		PKPbc	**PKPbc**	**04 09 13.3**	**+0.1**
	comp=Z,2.8nm,0.7s,baz=240,slow=8.9,SNR=6.3							

*IDC **22** 03:55:33.0±1.6,10.89S×162.65E,h0km,mb4.0/5,mb1 4.2/6,mb1mx3.9/34,mbtmp4.1/6,ML4.9/1,MS3.5/3,Ms1 3.5/3,ms1mx3.1/35,Error ellipse: s-maj=40.3km s-min=27.8km az=144.0*
*ISCJB **22** 03:55:38.3±1.1,10.8S±0.1×162.6E±0.1,h46km,mb3.9/5,MS3.4/2,Error ellipse: s-maj=19.7km s-min=16.9km az=24.4*

ISC 22 03:55:40.0±1.3,10.8S±0.2×162.6E±0.1,h46km,n16, σ1^{9}26/9,mb4.0/5,Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
HNR	**Honiara**	**2.92**	**297**		*e*P	**Pn**	**03 56 22.8**	**-1.1**
	165nm,0.3s,baz=181,slow=2.0,SNR=26							
HNR					Sn	**Sn**	**03 56 58.6**	**+0.8**
	123nm,0.3s,baz=176,slow=17,SNR=2.7							
HNR					LR	LR	03 57 37.9	
	comp=Z,510nm,20.3s,baz=82,slow=41							
HNR	**Honiara**	**2.92**	**297**		*i* P	**Pn**	**03 56 23.0**	**-1.0**
HNR					*i* S	Sn	03 57 05.5	+7.7
CTA	**Charters Tower**	**18.24**	**238**	P		**Pn**	**03 59 51.5**	**+1.6**
	0.4nm,0.3s,baz=74,slow=17,SNR=3.4							
AFI	**Afiamalu**	**25.24**	**100**	LR		LR	04 09 03.0	
	comp=Z,118nm,19.8s,baz=306,slow=32							
RAO	**Raoul Island**	**25.88**	**138**	LR		LR	04 10 02.4	
	comp=Z,114nm,18.4s,baz=297,slow=34							
WRA	**Warramunga Arr**	**28.67**	**248**	P		**P**	**04 01 31.9**	**-1.0**
	1.4nm,0.7s,baz=77,slow=9.2,SNR=7.5							
H11S2	**WAKE ISLAND Hy**	**29.37**	**8**	T		T	04 32 32.9	
	baz=188,slow=76,SNR=579							
H11S3	**WAKE ISLAND Hy**	**29.37**	**8**	T		T	04 32 33.6	
	baz=188,slow=76,SNR=240							
H11S1	**WAKE ISLAND Hy**	**29.39**	**8**	T		T	04 32 34.7	
	baz=188,slow=76,SNR=319							
ASAR	**Alice Springs**	**30.16**	**241**	P		**P**	**04 01 44.9**	**-1.2**
	0.5nm,0.5s,baz=67,slow=9.4,SNR=7.7							
H11N1	**WAKE ISLAND Hy**	**30.60**	**8**	T		T	04 34 06.1	
	baz=188,slow=76,SNR=134							
H11N3	**WAKE ISLAND Hy**	**30.61**	**8**	T		T	04 34 07.3	
	baz=188,slow=76,SNR=160							
H11N2	**WAKE ISLAND Hy**	**30.62**	**8**	T		T	04 34 08.3	
	baz=188,slow=76,SNR=168							
SONM	**Songino Array**	**76.64**	**325**	P		**P**	**04 07 26.9**	**+0.8**
	2.5nm,0.9s,baz=134,slow=6.2,SNR=10							
ILAR	**Eielson Array**	**84.28**	**19**	P		**P**	**04 08 06.2**	**-0.4**
	1.5nm,0.7s,baz=246,slow=5.3,SNR=14							
MKAR	**Makanchi Array**	**91.21**	**317**	P		**P**	**04 08 41.2**	**+0.8**
	0.4nm,0.6s,baz=109,slow=5.7,SNR=3.1							

*ISK **22** 04:00:12.6,39.66N×38.70E,h5km,MD2.6*
*ISCJB **22** 04:00:13.4±0.5,39.66N±0.03×38.70E±0.03,h1km±7km, Error ellipse: s-maj=4.6km s-min=4.2km az=148.9*
*CSEM **22** 04:00:13.3±0.2,39.66N×38.72E,h5km,ML2.6,Error ellipse: s-maj=4.2km s-min=3.8km az=111.0*
*DDA **22** 04:00:13.2,39.65N×38.72E,h7km,Ml2.6*

ISC 22 04:00:13.2±1.2,39.66N±0.02×38.72E±0.02,h4km±11km, n26,σ0^{8}81/41,Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
REFA	**Refahiye_ERZ˜**	**0.27**	**172**		*i* P	**Pg**	**04 00 15.6**	**-2.8**
REFA					*i* S	**Sg**	**04 00 23.1**	**+1.2**
KEMA	**Kemaliye**	**0.43**	**204**		*i* P	**Pg**	**04 00 20.7**	**-0.7**
KEMA					*i* S	**Sg**	**04 00 28.0**	**+1.0**
KEMA	**Kemaliye**	**0.43**	**204**	P		**Pg**	**04 00 20.7**	**-0.7**
KEMA				S		**Sg**	**04 00 28.0**	**+1.0**
KELT	**Kelkit**	**0.64**	**40**		*i* P	**Pg**	**04 00 25.3**	**-0.2**
KELT					*i* S	**Sb**	**04 00 35.3**	**-1.1**
KELT	**Kelkit**	**0.64**	**40**	P		**Pg**	**04 00 25.3**	**-0.2**
KELT				S		**Sb**	**04 00 35.3**	**-1.1**
SUSE	**Susehri**	**0.68**	**324**		*i* P	**Pg**	**04 00 26.2**	**0.0**
SUSE					*i* S	**Sb**	**04 00 36.5**	**-0.9**
SUSE	**Susehri**	**0.68**	**324**	P		**Pg**	**04 00 26.2**	**0.0**
SUSE				S		**Sb**	**04 00 36.5**	**-0.9**
EUZM	**Uzumlu**	**0.76**	**86**		*i* P	**Pg**	**04 00 28.3**	**+0.6**
EUZM					*i* S	**Sn**	**04 00 42.5**	**-0.2**
EUZM	**Uzumlu**	**0.76**	**86**	P		**Pg**	**04 00 28.3**	**+0

KELT	**Kelkit**	**0.66**	**40**	*i* P	**Pg**	**04 09 23.9**	**-0.6**
KELT				*i* S	**Sg**	**04 09 33.4**	**+0.1**
KELT	**Kelkit**	**0.66**	**40**	P	**Pg**	**04 09 23.9**	**-0.6**
KELT				S	**Sg**	**04 09 33.4**	**+0.1**
SUSE	**Susehri**	**0.68**	**326**	*i* P	**Pg**	**04 09 24.4**	**-0.4**
SUSE				*i* S	**Sb**	**04 09 34.4**	**-0.6**
SUSE	**Susehri**	**0.68**	**326**	P	**Pg**	**04 09 24.4**	**-0.4**
SUSE				S	**Sb**	**04 09 34.4**	**-0.6**
CUZAR	**Zara_SIVAS**	**0.75**	**289**	*i* P	**Pg**	**04 09 26.0**	**-0.2**
CUZAR				*i* S	**Sb**	**04 09 36.8**	**-0.3**
CUZAR	**Zara_SIVAS**	**0.75**	**289**	P	**Pg**	**04 09 26.0**	**-0.2**
CUZAR				S	**Sb**	**04 09 36.8**	**-0.3**
ERZN	**Erzincan**	**0.80**	**94**	*e*PG	**Pb**	**04 09 28.4**	**+0.9**
ERZN				*e*SG	**Sn**	**04 09 40.9**	**+0.2**
PTK	**Pertek**	**0.93**	**144**	*e*PG	**Pn**	**04 09 30.9**	**+0.2**
PTK	**Pertek**	**0.93**	**144**	*e*Pg	**Pn**	**04 09 30.9**	**+0.2**
CUKAN	**kangal_SIVAS**	**1.01**	**251**	*i* P	**Pg**	**04 09 28.5**	**-2.5**
CUKAN				*i* S	**Sn**	**04 09 45.9**	**-0.1**
CUKAN	**kangal_SIVAS**	**1.01**	**251**	P	**Pg**	**04 09 28.5**	**-2.5**
CUKAN				S	**Sn**	**04 09 45.9**	**-0.1**
GUMT	**Gumushane**	**1.01**	**36**	*e*PG	**Pb**	**04 09 30.9**	**-0.3**
GUMT	**Gumushane**	**1.01**	**36**	*e*Pg	**Pb**	**04 09 30.9**	**-0.3**
ELZG	**Elazig**	**1.17**	**169**	*i* P	**Pg**	**04 09 32.6**	**-1.4**
ELZG				*i* S	**Sn**	**04 09 50.4**	**+0.4**
ELZG	**Elazig**	**1.17**	**169**	P	**Pg**	**04 09 32.7**	**-1.4**
ELZG				S	**Sn**	**04 09 50.4**	**+0.4**
ESPY	**Espiye-Giresun**	**1.27**	**1**	*e*PN	**Pn**	**04 09 36.0**	**+0.8**
ESPY	**Espiye-Giresun**	**1.27**	**1**	*e*Pn	**Pn**	**04 09 36.1**	**+0.8**
SVSK	**Karacayir**	**1.34**	**282**	*e*PN	**Pg**	**04 09 37.4**	**+0.1**
SVSK	**Karacayir**	**1.34**	**282**	*e*Pn	**Pg**	**04 09 37.4**	**+0.1**
DARE	**Darende-Malaty**	**1.43**	**222**	*e*PN	**Pg**	**04 09 39.7**	**+0.6**
DARE	**Darende-Malaty**	**1.43**	**222**	*e*Pn	**Pg**	**04 09 39.7**	**+0.6**

*ISK **22** 04:17:35.9, 39°.69N×38°.74E, h8km, MD2.5*
*ISCJB **22** 04:17:36.9±0.5, 39°.67N±0°.03×38°.76E±0°.04, h6km±7km, Error ellipse: s-maj=5.2km s-min=4.2km az=1.3*
*CSEM **22** 04:17:36.7±0.2, 39°.67N×38°.75E, h10km, MD2.5, Error ellipse: s-maj=4.7km s-min=3.6km az=97.0*
*DDA **22** 04:17:36.9, 39°.67N×38°.70E, h7km, Md2.6*
ISC 22 04:17:36.9±1.0, **39°.67N**±0°.02×**38°.74E**±0°.03, **h9**km±9km, **n21**, σ0**°53**/35, **Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ILIC	**ilic-Erzincan**	**0.26**	**211**	*e*PG	**Pg**	**04 17 41.7**	**-0.4**
ILIC				*e*SG	**Sg**	**04 17 46.1**	**+0.5**
ILIC	**ilic-Erzincan**	**0.26**	**211**	*e*Pg	**Pg**	**04 17 41.7**	**-0.4**
ILIC				*e*Sg	**Sg**	**04 17 46.1**	**+0.5**
KEMA	**Kemaliye**	**0.45**	**205**	*i* P	**Pg**	**04 17 45.3**	**-0.3**
KEMA				*i* S	**Sg**	**04 17 52.2**	**+0.7**
KEMA	**Kemaliye**	**0.45**	**205**	P	**Pg**	**04 17 45.3**	**-0.3**
KEMA				S	**Sg**	**04 17 52.2**	**+0.7**
KELT	**Kelkit**	**0.62**	**40**	*i* P	**Pg**	**04 17 49.2**	**+0.3**
KELT				*i* S	**Sb**	**04 17 59.0**	**+0.1**
KELT	**Kelkit**	**0.62**	**40**	P	**Pg**	**04 17 49.2**	**+0.3**
KELT				S	**Sb**	**04 17 59.0**	**+0.1**
SUSE	**Susehri**	**0.68**	**322**	*i* P	**Pg**	**04 17 49.9**	**-0.1**
SUSE				*i* S	**Sb**	**04 18 01.3**	**+0.8**
SUSE	**Susehri**	**0.68**	**322**	P	**Pg**	**04 17 49.9**	**-0.1**
SUSE				S	**Sb**	**04 18 01.3**	**+0.8**
ERZN	**Erzincan**	**0.76**	**96**	*e*PG	**Pg**	**04 17 51.2**	**-0.4**
CUZAR	**Zara_SIVAS**	**0.78**	**286**	*i* P	**Pb**	**04 17 52.2**	**-0.5**
CUZAR				*i* S	**Sb**	**04 18 04.1**	**+0.7**
CUZAR	**Zara_SIVAS**	**0.78**	**286**	P	**Pb**	**04 17 52.2**	**-0.5**
CUZAR				S	**Sb**	**04 18 04.1**	**+0.7**
PTK	**Pertek**	**0.93**	**147**	*e*PG	**Pg**	**04 17 54.5**	**-0.3**
PTK				*e*SG	**Sb**	**04 18 08.0**	**+0.2**
PTK	**Pertek**	**0.93**	**147**	*e*Pg	**Pg**	**04 17 54.5**	**-0.3**
PTK				*e*Sg	**Sb**	**04 18 08.0**	**+0.2**
GUMT	**Gumushane**	**0.97**	**36**	*e*PG	**Pg**	**04 17 54.8**	**-0.7**
GUMT	**Gumushane**	**0.97**	**36**	*e*Pg	**Pg**	**04 17 54.8**	**-0.7**
CUKAN	**kangal_SIVAS**	**1.05**	**251**	*i* P	**Pg**	**04 17 56.2**	**-0.8**
CUKAN	**kangal_SIVAS**	**1.05**	**251**	P	**Pg**	**04 17 56.2**	**-0.8**
ELZG	**Elazig**	**1.19**	**171**	*i* P	**Pb**	**04 17 59.6**	**-0.1**
ELZG				*i* S	**Sn**	**04 18 16.8**	**+0.5**
ELZG	**Elazig**	**1.19**	**171**	P	**Pb**	**04 17 59.6**	**-0.1**
ELZG				S	**Sn**	**04 18 16.8**	**+0.5**
ESPY	**Espiye-Giresun**	**1.24**	**360**	*e*PN	**Pn**	**04 17 60.0**	**-0.5**
ESPY	**Espiye-Giresun**	**1.24**	**360**	*e*Pn	**Pn**	**04 18 00.0**	**-0.5**

*ISCJB **22** 04:17:58.5±1.0, 36°.11N±0°.08×140°.11E±0°.08, h81km±8km, mb3.8/2, Error ellipse: s-maj=13.1km s-min=10.7km az=31.6*
*JMA **22** 04:18:00.9±0.1, 36°.14N×140°.02E, h67km±1km, M2.2*
*IDC **22** 04:18:03.8±1.1, 35°.69N×139°.29E, h88km±13km, mb3.3/2, mb1 3.6/3, mb1mx3.1/44, mbtmp3.7/3, Error ellipse: s-maj=33.8km s-min=8.0km az=71.0*
ISC 22 04:18:00.8±1.0, **36°.03N**±0°.05×**140°.02E**±0°.06, **h65**km±8km, **n12**, σ1**°95**/20, **Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JYT	**Yasato**	**0.25**	**35**	P	**Pn**	**04 18 11.1**	**+0.1**
JYT				S	**Sn**	**04 18 18.5**	**0.0**
JAG	**Ashikaga**	**0.61**	**311**	P	**Pn**	**04 18 13.9**	**-0.4**
JAG				S	**Sn**	**04 18 23.5**	**-0.7**
JRY	**Ryogami san**	**0.91**	**270**	P	**Pn**	**04 18 18.4**	**+0.5**
JRY				*e*S	**Sn**	**04 18 31.5**	**+1.0**
JKT	**Katashina**	**0.97**	**320**	P	**Pn**	**04 18 17.8**	**-0.9**
JKT				*e*S	**Sn**	**04 18 30.8**	**-1.2**
JYN	**Shimob**	**1.31**	**247**	P	**Pn**	**04 18 24.5**	**+1.3**
JYN				S	**Sn**	**04 18 41.5**	**+1.6**
JHK	**Hiroka**	**1.46**	**327**	P	**Pn**	**04 18 24.1**	**-1.0**
MJAR	**Matsushiro Arr**	**1.55**	**290**	P	**Pn**	**04 18 25.9**	**-0.4**
	3.3nm,0.3s,baz=134,slow=15,SNR=12						
MJAR				S	**Sn**	**04 18 41.8**	**-3.7**
	1.6nm,0.3s,baz=91,slow=16,SNR=5.3						
MAT	**Matsushiro**	**1.55**	**290**	P	**Pn**	**04 18 26.1**	**-0.2**
MAT				*e*S	**Sn**	**04 18 46.2**	**+0.6**
JHJ	**Hachijo jima 2**	**2.91**	**184**	P	**Pn**	**04 18 44.7**	**0.0**
	9.9nm,0.3s,baz=328,slow=21,SNR=4.4						
JHJ				S	**Sn**	**04 19 15.4**	**-3.1**
	32nm,0.3s,baz=41,slow=23,SNR=4.7						
ILAR	**Eielson Array**	**50.94**	**32**	P	**P**	**04 26 59.7**	**+4.4**
	0.6nm,1.0s,baz=265,slow=4.4,SNR=3.0						
WRA	**Warramunga Arr**	**55.92**	**186**	P	**P**	**04 27 29.5**	**-2.7**
	1.2nm,0.8s,baz=7.6,slow=7.7,SNR=8.9						
LPAZ	**La Paz**	**148.17**	**59**	PKPbc	**PKPab**	**04 37 42.9**	**-0.7**
	0.9nm,0.7s,baz=295,slow=3.0,SNR=4.2						

*JMA **22** 04:39:06.6±0.1, 22°.85N×121°.15E, h46km*
*ISCJB **22** 04:39:07.5±0.5, 22°.80N±0°.02×121°.47E±0°.03, h15km±6km, Error ellipse: s-maj=4.2km s-min=3.6km az=2.0*
*TAP **22** 04:39:08.7, 22°.85N×121°.32E, h20km, ML3.7, B*
ISC 22 04:39:07.4±1.1, **22°.83N**±0°.02×**121°.39E**±0°.03, **h13**km±9km, **n60**, σ0**°81**/89, **11C-4D, Taiwan region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TTN	**Taitung**	**0.24**	**251**	P	**Pb**	**04 39 14.3**	**+0.7**
	baz=236						
TTN				*e*S	**Sb**	**04 39 18.4**	**+0.6**
	baz=236						
CHKT	**Chengkung**	**0.27**	**354**	⇓*i*P	**Pb**	**04 39 15.1**	**+0.9**
	baz=21						
CHKT				*i* S	**Sb**	**04 39 19.4**	**+0.7**
	baz=21						
TWG	**Pinlang**	**0.30**	**268**	⇓P	**Pb**	**04 39 14.6**	**-0.1**
	baz=262						
TWG				*i* S	**Sb**	**04 39 19.0**	**-0.5**
	baz=262						
ECL	**Taimali**	**0.47**	**240**	⇑*i*P	**Pb**	**04 39 17.2**	**-0.3**
	baz=245						
ECL				*e*S	**Sb**	**04 39 22.9**	**-1.5**
	baz=245						
ELDTW	**Lidau**	**0.50**	**316**	⇑*i*P	**Pb**	**04 39 17.5**	**-0.6**
	baz=322						
ELDTW				S	**Sg**	**04 39 23.3**	**-0.6**
	baz=322						
TWF1	**Yuli**	**0.53**	**350**	⇑P	**Pg**	**04 39 18.5**	**+0.7**
	baz=347						
TWF1				*e*S	**Sg**	**04 39 24.7**	**-0.1**
	baz=347						
TAW	**Tawu**	**0.66**	**224**	P	**Pb**	**04 39 20.6**	**-0.2**
	baz=230						
STYT	**Tauyuan**	**0.67**	**299**	⇑*i*P	**Pb**	**04 39 20.6**	**-0.5**
	baz=302						
STYT				S	**Sb**	**04 39 29.5**	**-0.9**
	baz=302						
EAST	**Anshuo**	**0.67**	**229**	⇓P	**Pb**	**04 39 20.7**	**-0.4**
	baz=223						
EHY	**Hungye**	**0.67**	**354**	*e*P	**Pg**	**04 39 20.5**	**-0.1**
	baz=1.0						
SSD	**Sandimen**	**0.71**	**263**	⇑*i*P	**Pb**	**04 39 20.9**	**-0.8**
	baz=262						
YUS	**Yu-Shan**	**0.77**	**328**	⇑*i*P	**Pb**	**04 39 22.8**	**-0.3**
	baz=333						
YUS				S	**Sg**	**04 39 32.0**	**-0.8**
	baz=333						
LAY	**Lan-yu**	**0.80**	**170**	⇓P	**Pg**	**04 39 23.4**	**+0.4**
	baz=153						
WTP	**Ta-pu**	**0.83**	**300**	⇑*i*P	**Pb**	**04 39 23.7**	**0.0**
	baz=302						
WTP				S	**Sn**	**04 39 35.3**	**-1.7**
	baz=302						
SGLT	**Jiouru**	**0.84**	**263**	*e*P	**Pb**	**04 39 23.5**	**-0.4**
	baz=262						
SCZT	**Fangliau**	**0.85**	**238**	*e*P	**Pb**	**04 39 23.8**	**-0.2**
	baz=235						
ALS	**Alishan**	**0.87**	**321**	⇑*i*P	**Pb**	**04 39 24.6**	**+0.1**
	baz=325						
CHN1	**Nanshi**	**0.87**	**294**	*e*P	**Pn**	**04 39 25.1**	**-0.4**
	baz=298						
CHN1				*e*S	**Sn**	**04 39 37.2**	**-0.9**
	baz=298						
TWM1	**Shoushan**	**0.90**	**270**	*e*P	**Pn**	**04 39 25.8**	**0.0**
	baz=269						
CHN4	**Tsaushan**	**0.90**	**305**	⇑*i*P	**Pn**	**04 39 25.3**	**-0.6**
	baz=315						
CHN4				*e*S	**Sn**	**04 39 39.2**	**+0.4**
	baz=315						
TWK	**Hsinying**	**0.94**	**298**	P	**Pn**	**04 39 25.8**	**-0.6**
	baz=300						
WDT	**Danda**	**0.95**	**345**	⇑*e*P	**Pg**	**04 39 25.6**	**-0.3**
	baz=360						
ESL	**Shilin**	**0.98**	**2**	*e*P	**Pb**	**04 39 24.9**	**-1.4**
	baz=7.0						
CHN3	**Shinhua**	**0.98**	**285**	*e*P	**Pn**	**04 39 27.7**	**+0.8**
	baz=286						
CHN3				*e*S	**Sn**	**04 39 43.5**	**+2.8**
	baz=286						
CHN5	**Tsauling**	**1.01**	**319**	*i* P	**Pn**	**04 39 27.2**	**-0.2**
	baz=328						
CHN5				*e*S	**Sn**	**04 39 42.0**	**+0.5**
	baz=328						
HEN	**Hengchun**	**1.02**	**217**	*e*P	**Pn**	**04 39 28.5**	**+1.0**
	baz=203						
KAU	**Kaohsiung**	**1.04**	**256**	*e*P	**Pn**	**04 39 29.4**	**+1.7**
	baz=256						
TWK1	**Hengchun**	**1.04**	**212**	*e*P	**Pb**	**04 39 26.3**	**-1.0**
	baz=198						
TWP	**Hsiaoliuchiu**	**1.07**	**243**	*e*P	**Pn**	**04 39 28.7**	**+0.6**
	baz=236						
CHN2	**Minshiung**	**1.10**	**310**	P	**Pn**	**04 39 29.2**	**+0.7**
	baz=312						
CHN2				S	**Sn**	**04 39 44.4**	**+0.8**
	baz=312						
CHY	**Chiayi**	**1.11**	**307**	⇑P	**Pn**	**04 39 29.3**	**+0.6**
	baz=309						
CHY				S	**Sn**	**04 39 44.1**	**+0.2**
	baz=309						
SMLT	**Sun Moon Lake**	**1.14**	**337**	*e*P	**Pg**	**04 39 29.6**	**+0.1**
	baz=348						
SMLT				*e*S	**Sn**	**04 39 44.8**	**-0.1**
	baz=348						
WGK	**Gukeng**	**1.14**	**318**	*e*P	**Pg**	**04 39 30.1**	**+0.6**
	baz=321						
WGK				*e*S	**Sn**	**04 39 45.9**	**+1.2**
	baz=321						
TYC	**Yuchr**	**1.18**	**335**	*e*P	**Pg**	**04 39 30.4**	**+0.3**
	baz=339						
TYC				S	**Sn**	**04 39 46.2**	**+0.7**
	baz=339						
CHN8	**Yiju**	**1.20**	**295**	*e*P	**Pb**	**04 39 29.6**	**-0.6**
	baz=297						
WNT	**Mingjian**	**1.23**	**328**	P	**Pg**	**04 39 31.8**	**+0.7**
	baz=331						
WNT				*e*S	**Sg**	**04 39 48.2**	**+1.1**
	baz=331						
TWD	**Chiawan**	**1.26**	**8**	*e*P	**Pn**	**04 39 29.7**	**-1.0**
WHF	**Hehuan Shan**	**1.31**	**355**	*e*P	**Pn**	**04 39 31.1**	**-0.8**
	baz=10.0						
TWT	**Tachien**	**1.43**	**352**	*e*P	**Pn**	**04 39 32.9**	**-0.4**
	baz=354						
TCU	**Taichung**	**1.47**	**333**	*e*P	**Pg**	**04 39 35.9**	**+0.3**
	baz=336						
NNS	**Nan Shan**	**1.60**	**359**	*e*P	**Pb**	**04 39 37.9**	**+0.9**
	baz=14						
TWQ1	**Liyutan**	**1.61**	**339**	*e*P	**Pb**	**04 39 37.9**	**+0.7**
	baz=339						
TWQ1				*e*S	**Sg**	**04 39 58.2**	**-1.2**
	baz=339						
ENA	**Nanau**	**1.62**	**11**	*e*P	**Pn**	**04 39 36.1**	**+0.4**
	baz=3.0						
WDGT	**Dungji**	**1.65**	**285**	*e*P	**Pn**	**04 39 35.3**	**-0.9**
	baz=287						
NSY	**Sanyi**	**1.68**	**340**	*e*P	**Pb**	**04 39 38.9**	**+0.6**
	baz=340						
NSY				*e*S	**Sg**	**04 40 00.9**	**-0.7**
	baz=340						
TWC	**Suao**	**1.82**	**13**	*e*P	**Pn**	**04 39 38.7**	**+0.2**
	baz=4.0						
NSTT	**Nanjuang**	**1.83**	**349**	*e*P	**Pb**	**04 39 41.0**	**+0.3**
	baz=1.0						
NSTT				*e*S	**Sb**	**04 40 03.0**	**-0.6**
	baz=1.0						
NSK	**Sanguang**	**1.84**	**359**	*e*P	**Pn**	**04 39 38.9**	**+0.1**
	baz=13						
PNG	**Penghu**	**1.84**	**294**	*e*P	**Pn**	**04 39 38.1**	**-0.7**
	baz=295						
TWE	**Neicheng**	**1.90**	**8**	*e*P	**Pn**	**04 39 41.2**	**+1.7**
	baz=9.0						
JYNG	**Yonagunijimaku**	**2.15**	**41**	P	**Pn**	**04 39 44.0**	**+1.0**
JYNG				S	**Sn**	**04 40 09.7**	**+0.1**
YOJ	**Yonaguni jima**	**2.20**	**42**	P	**Pn**	**04 39 44.1**	**+0.4**
YOJ				*e*S	**Sn**	**04 40 11.3**	**+0.5**
NWF	**Wu-fen Shan**	**2.26**	**9**	*e*P	**Pn**	**04 39 44.5**	**-0.1**
	baz=10.0						
HATJ	**Hateruma jima**	**2.53**	**61**	P	**Pn**	**04 39 48.4**	**+0.2**
HATJ				*e*S	**Sn**	**04 40 17.6**	**-1.3**
IRIF	**Iriomote-Funau**	**2.61**	**55**	*e*S	**Sn**	**04 40 21.0**	**0.0**
JKRS	**Kuro-shima**	**2.78**	**59**	P	**Pn**	**04 39 52.3**	**+0.6**
JKRS				*e*S	**Sn**	**04 40 24.4**	**-0.7**
JIJ	**Ishigaki jima**	**2.95**	**58**	P	**Pn**	**04 39 54.7**	**+0.7**
JIJ				*e*S	**Sn**	**04 40 29.0**	**-0.2**
KNM	**Kinmen**	**3.14**	**301**	*e*P	**Pn**	**04 39 57.3**	**+0.7**
	baz=300						
JISG	**Ishigakijimahi**	**3.19**	**56**	P	**Pn**	**04 39 57.7**	**+0.3**
JISG				S	**Sn**	**04 40 33.8**	**-1.5**
JTJ	**Tarama**	**3.53**	**59**	P	**Pn**	**04 40 03.2**	**+1.3**
JTJ				*e*S	**Sn**	**04 40 42.7**	**-0.8**

MAN 22 04:39:47, 13°.31N×120°.76E, h49km, mb3.5, ML2.2, MS1.7, 1D, Mindoro

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PGP	**Puerto Galera**	**0.27**	**44**	⇓*e*P	Pn	04 39 58.5	+2.7
PGP				*i* S	Sn	04 40 05.8	+3.8
LUBP	**Lubang**	**0.66**	**310**	*e*P	Pn	04 40 02.3	+2.2
LUBP				*e*S	Sn	04 40 13.5	+3.8
SJMP	**San Jose**	**0.91**	**158**	*e*P	Pn	04 40 05.4	+1.8
SJMP				*e*S	Sn	04 40 18.4	+2.8

*ISCJB **22** 04:43:04.1±0.4, 57°.91S±0°.07×25°.8W±0°.2, h64km, mb4.7/17, Error ellipse: s-maj=13.0km s-min=8.3km az=148.5*
*IDC **22** 04:43:06.0±5.6, 57°.80S×25°.68W, h60km±49km, mb4.0/6, mb1 4.1/8, mb1mx3.8/23, mbtmp4.3/8, ML4.5/2, Error ellipse: s-maj=25.7km s-min=21.2km az=56.0*
*BJI **22** 04:43:05.0, 57°.80S×25°.90W, h33km, mB5.4/3, Ms5.3/2, Ms7 5.2/1*
*NEIC **22** 04:43:09.3±1.3, 57°.94S×25°.84W, h94km±11km, mb4.6/16, Error ellipse: s-maj=10.9km s-min=7.9km az=48.0*
ISC 22 04:43:06.5±0.4, **57°.93S**±0°.09×**25°.90W**±0°.09, **h64**km, **n56**, σ1**°73**/52, **mb4.6**/17, **1C, South Sandwich Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPE	**Hope Point**	**6.96**	**297**	*e*Pn	Pn	04 44 50.4	+4.7
VNA1	**Neumayer--Stat**	**14.78**	**157**	P	**Pn**	**04 46 29.4**	**-2.2**
VNA3	**Neumayer Olymp**	**14.98**	**160**	P	**Pn**	**04 46 31.4**	**-2.7**
VNA2	**Neumayer--Watz**	**15.18**	**157**	P	**Pn**	**04 46 30.4**	**-6.3**
	baz=186,slow=1.9						
SNAA	**Sanae**	**16.73**	**155**	P	**Pn**	**04 46 55.4**	**-0.9**
SNAA	**Sanae**	**16.73**	**155**	P	**Pn**	**04 46 54.9**	**-1.5**
	1.0nm,0.3s,baz=320,slow=15,SNR=46						
SNAA				S	Sn	04 49 47.0	-14
	0.1nm,0.3s,baz=323,slow=20,SNR=4.0						
SNAA	**Sanae**	**16.73**	**155**	*e*Pn	**Pn**	**04 46 55.5**	**-0.9**
	7.9nm,1.1s						
SNAA				*e*Sn	Sn	04 49 47.0	-14
PMSA	**Palmer Station**	**19.27**	**233**	P	**Pn**	**04 47 28.9**	**+1.8**
	0.3nm,0.3s,baz=68,slow=4.6,SNR=5.3						
PMSA	**Palmer Station**	**19.27**	**233**	*e*P	**P**	**04 47 26.3**	**+0.8**
	42nm,1.4s						
GO09	**Cerro Castillo**	**27.25**	**264**	*e*P	**P**	**04 48 43.1**	**-1.3**
	46nm,1.8s						
SYO	**Syowa Base**	**29.69**	**139**	⇑*e*P	**P**	**04 49 05.0**	**-0.7**
QSPA	**South Pole Qui**	**32.31**	**180**	*e*P	**P**	**04 49 29.7**	**+0.6**
	11nm,1.3s						
PLCA	**Paso Flores**	**33.05**	**282**	P	**P**	**04 49 36.4**	**+0.6**
	1.7nm,0.7s,baz=183,slow=4.6,SNR=5.6						
PLCA	**Paso Flores**	**33.05**	**282**	*e*P	**P**	**04 49 35.8**	**+0.1**
	17nm,1.5s						
CPUP	**Villa Florida**	**38.59**	**311**	P	**P**	**04 50 22.1**	**-1.0**
	4.0nm,1.2s,baz=169,slow=7.1,SNR=4.1						
VNDA	**Vanda**	**44.72**	**182**	P	**P**	**04 51 13.5**	**+0.9**
	3.3nm,0.8s,baz=181,slow=5.9,SNR=5.8						
VNDA	**Vanda**	**44.72**	**182**	*e*P	**P**	**04 51 14.0**	**+1.4**
	3.7nm,0.8s						
BOSA	**Boshof**	**45.80**	**73**	*e*P	**P**	**04 51 20.6**	**-1.3**
	41nm,1.8s						
PB01	**IPOC Station P**	**48.48**	**301**	*e*P	**P**	**04 51 41.6**	**-1.2**
	38nm,2.0s						
H10S2	**ASCENSION HYDR**	**49.62**	**15**	T	T	05 45 34.1	
	baz=188,slow=75,SNR=202						
H10S3	**ASCENSION HYDR**	**49.63**	**15**	T	T	05 45 34.4	
	baz=188,slow=75,SNR=301						
H10S1	**ASCENSION HYDR**	**49.64**	**15**	T	T	05 45 35.4	
	baz=188,slow=75,SNR=278						
H10N1	**ASCENSION HYDR**	**50.74**	**15**	T	T	05 47 00.7	
	baz=187,slow=76,SNR=44						
H10N3	**ASCENSION HYDR**	**50.74**	**15**	T	T	05 46 58.0	
	baz=187,slow=76,SNR=153						
H10N2	**ASCENSION HYDR**	**50.76**	**15**	T	T	05 46 59.6	
	baz=187,slow=76,SNR=88						
LPAZ	**La Paz**	**52.04**	**305**	P	**P**	**04 52 09.8**	**-0.4**
	1.8nm,0.4s,baz=98,slow=7.8,SNR=21						
LPAZ	**La Paz**	**52.04**	**305**	*e*P	**P**	**04 52 10.2**	**-0.1**
	2.4nm,0.5s						
SAML	**Samuel**	**56.63**	**314**	*e*P	**P**	**04 52 42.2**	**-0.7**
	5.2nm,0.6s						
DBIC	**Dimbokro**	**66.61**	**23**	P	**P**	**04 53 48.9**	**-1.0**
	2.4nm,0.4s,baz=176,slow=5.8,SNR=8.4						
DBIC	**Dimbokro**	**66.61**	**23**	*e*P	**P**	**04 53 49.4**	**-0.6**
	40nm,1.5s						
TUMC	**Tumaco**	**72.82**	**304**	*e*P	**P**	**04 54 27.4**	**-0.8**
	150nm,1.0s						
PRAC	**Prado**	**72.85**	**308**	*e*P	**P**	**04 54 28.0**	**-0.4**
	26nm,1.7s						
RUSC	**La Rusia**	**74.07**	**311**	*e*P	**P**	**04 54 34.4**	**-1.7**
	7.6nm,1.8s						
TOA0	**Torodi Ar. Sit**	**74.37**	**28**	*e*P	**P**	**04 54 36.6**	**-0.6**
	4.3nm,0.6s						
TORD	**Torodi Ar. Bea**	**74.37**	**28**	P	**P**	**04 54 36.8**	**-0.4**
	2.9nm,0.6s,baz=198,slow=6.2,SNR=31						
TOA1	**Torodi Ar. Sit**	**74.37**	**28**	*e*P	**P**	**04 54 36.8**	**-0.4**
	4.3nm,0.6s						
GDHS	**Morne Mazeau,**	**79.65**	**325**	*e*P	**P**	**04 55 06.8**	**-0.1**
	51nm,0.7s						
PD31	**Pinedale Array**	**121.93**	**300**	*e*PKPdf	**PKPdf**	**05 01 51.9**	**-1.0**
PDAR	**Pinedale Array**	**121.93**	**300**	PKP	**PKPdf**	**05 01 51.9**	**-1.0**
	0.5nm,0.5s,baz=138,slow=4.7,SNR=7.7						
NB200	**NORSAR Array S**	**122.13**	**20**	*e*PKPdf	**PKPdf**	**05 01 52.4**	**0.0**
NOA	**NORSAR Array B**	**122.13**	**20**	PKP	**PKPdf**	**05 01 52.4**	**0.0**
	1.0nm,0.8s,baz=192,slow=4.5,SNR=3.0						
CM31	**Chiang Mai Arr**	**123.74**	**110**	*e*PKPdf	**PKPdf**	**05 01 56.1**	**-0.6**
CMAR	**Chiang Mai Arr**	**123.74**	**110**	PKP	**PKPdf**	**05 01 56.1**	**-0.6**
	1.2nm,0.3s,baz=236,slow=2.7,SNR=4.2						
FIA0	**FINESS Array S**	**125.72**	**28**	*e*PKPdf	**PKPdf**	**05 01 58.2**	**-0.9**
FINES	**FINESS Array B**	**125.72**	**28**	PKP	**PKPdf**	**05 01 58.2**	**-0.9**
	1.9nm,0.8s,baz=194,slow=1.1,SNR=8.2						
KSH	**Kashi**	**128.38**	**75**	*e*PKP	**PKPdf**	**05 02 07.9**	**+2.8**
KSH				sPKP		05 02 23.0	
KSH				PP	**PP**	**05 04 15.9**	**+4.7**
KSH				PKS	**PKSdf**	**05 05 42.8**	**+1.1**
KSH				SKS	**SKSdf**	**05 09 15.0**	**+4.1**
KSH				AMB	AMB		
	comp=Z,100nm,5.5s						
KSH				LR	LR		
	comp=N,150nm,15.3s						
KSH				LR	LR		
	comp=E,130nm,13.9s						
WMQ	**Urumqi**	**137.57**	**79**	PKP	**PKPdf**	**05 02 22.9**	**+0.7**
YKA	**Yellowknife Ar**	**138.03**	**316**	PKP	**PKPdf**	**05 02 21.7**	**-0.6**

DEMI				*i* S	**Sb**	**04 54 57.9**	**+0.2**
DEMI	**Demirci**	**0.62**	**180**	P	**Pb**	**04 54 48.3**	**-0.2**
DEMI				S	**Sb**	**04 54 57.9**	**+0.2**
BALB	**Balikesir**	**0.64**	**268**	*e*PG	**Pb**	**04 54 48.3**	**-0.4**
BALB				*e*SG	**Sb**	**04 54 58.4**	**+0.2**
BALB	**Balikesir**	**0.64**	**268**	*e*Pg	**Pb**	**04 54 48.3**	**-0.4**
BALB				*e*Sg	**Sb**	**04 54 58.4**	**+0.2**
IGD	**Bursa**	**0.71**	**32**	*i* P	**Pg**	**04 54 47.9**	**-0.4**
IGD				*i* S	**Sg**	**04 54 56.5**	**-1.0**
MDNY	**Mudanya-Bursa**	**0.71**	**11**	*e*PG	**Pg**	**04 54 48.3**	**-0.1**
MDNY	**Mudanya-Bursa**	**0.71**	**11**	*e*Pg	**Pg**	**04 54 48.3**	**-0.1**
GEDZ	**Gediz**	**0.82**	**139**	*e*PG	**Pb**	**04 54 51.9**	**0.0**
GEDZ	**Gediz**	**0.82**	**139**	*e*Pg	**Pb**	**04 54 51.9**	**0.0**
BALY	**Balya**	**0.84**	**275**	*i* P	**Pb**	**04 54 51.9**	**-0.3**
BALY				*i* S	**Sb**	**04 54 04.4**	**+0.3**
BALY	**Balya**	**0.84**	**275**	P	**Pb**	**04 54 51.9**	**-0.3**
BALY				S	**Sb**	**04 55 04.4**	**+0.3**
GEMT	**Gemlik**	**0.85**	**25**	*e*PG	**Pb**	**04 54 52.4**	**+0.1**
GEMT	**Gemlik**	**0.85**	**25**	*e*Pg	**Pb**	**04 54 52.4**	**+0.1**
ARMT	**Armutlu**	**0.91**	**7**	*e*PG	**Pb**	**04 54 53.1**	**-0.2**
ARMT	**Armutlu**	**0.91**	**7**	*e*Pg	**Pb**	**04 54 53.1**	**-0.2**
EDC	**Edincik**	**0.94**	**317**	*e*PG	**Pg**	**04 54 53.0**	**+0.3**
EDC	**Edincik**	**0.94**	**317**	*e*Pg	**Pg**	**04 54 53.0**	**+0.3**
SBT5	**Esenkoy-Cinarc**	**0.97**	**8**	*e*PG	**Pb**	**04 54 54.1**	**-0.2**
SBT5	**Esenkoy-Cinarc**	**0.97**	**8**	*e*Pg	**Pb**	**04 54 54.2**	**-0.2**
AKS	**Akhisar**	**1.05**	**222**	*e*PG	**Pn**	**04 54 56.6**	**0.0**
AKS	**Akhisar**	**1.05**	**222**	*e*Pg	**Pn**	**04 54 56.6**	**0.0**
KNL	**Bal¯–kesir**	**1.09**	**304**	*i* P	**Pg**	**04 54 55.9**	**+0.3**
KNL				*i* S	**Sb**	**04 55 10.6**	**-0.6**
ADVT	**Abdulvahap**	**1.10**	**46**	*e*PG	**Pn**	**04 54 56.9**	**-0.4**
ADVT	**Abdulvahap**	**1.10**	**46**	*e*Pg	**Pn**	**04 54 56.9**	**-0.4**
KULA	**Kula-Manisa**	**1.15**	**182**	*e*PN	**Pn**	**04 54 58.0**	**-0.1**
KULA	**Kula-Manisa**	**1.15**	**182**	*e*Pn	**Pn**	**04 54 58.0**	**-0.1**
MANT	**Manisa**	**1.18**	**186**	*i* P	Pg	04 54 51.6	-5.7
MANT				*i* S	**Sg**	**04 55 06.8**	**-5.7**
SBT2	**Guzelce-Avcila**	**1.22**	**353**	*e*PN	**Pg**	**04 54 58.2**	**+0.1**
SBT2	**Guzelce-Avcila**	**1.22**	**353**	*e*Pn	**Pg**	**04 54 58.2**	**+0.1**
TUZL	**Tuzla-Istanbul**	**1.22**	**20**	*e*PN	**Pn**	**04 54 59.0**	**0.0**
TUZL	**Tuzla-Istanbul**	**1.22**	**20**	*e*Pn	**Pn**	**04 54 59.0**	**0.0**
MRMT	**Marmara Adasi**	**1.27**	**318**	*e*PN	**Pn**	**04 54 59.7**	**0.0**
MRMT	**Marmara Adasi**	**1.27**	**318**	*e*Pn	**Pn**	**04 54 59.7**	**0.0**
SBT3	**Marmara-Eregli**	**1.34**	**335**	*e*PN	**Pb**	**04 55 00.3**	**-0.2**
SBT3	**Marmara-Eregli**	**1.34**	**335**	*e*Pn	**Pb**	**04 55 00.3**	**-0.2**
HRT	**Hereke**	**1.37**	**32**	*e*PN	**Pn**	**04 55 00.0**	**-1.0**
HRT	**Hereke**	**1.37**	**32**	*e*Pn	**Pn**	**04 55 00.0**	**-1.0**
KAVV	**Kandilli-Istan**	**1.42**	**11**	*e*PN	**Pn**	**04 55 01.4**	**-0.3**
KAVV	**Kandilli-Istan**	**1.42**	**11**	*e*Pn	**Pn**	**04 55 01.4**	**-0.3**
ISK	**Istanbul-Kandi**	**1.42**	**11**	*e*PN	**Pb**	**04 55 01.7**	**-0.4**
ISK	**Istanbul-Kandi**	**1.42**	**11**	*e*Pn	**Pb**	**04 55 01.7**	**-0.4**
BOTS	**Marmara Eregli**	**1.44**	**337**	*e*PN	**Pn**	**04 55 01.9**	**0.0**
BOTS	**Marmara Eregli**	**1.44**	**337**	*e*Pn	**Pn**	**04 55 01.9**	**0.0**
KHL	**Karahalli**	**1.48**	**154**	*e*PN	**Pn**	**04 55 02.8**	**+0.1**
KHL	**Karahalli**	**1.48**	**154**	*e*Pn	**Pn**	**04 55 02.8**	**+0.1**
DKL	**Dikili**	**1.52**	**248**	*e*PN	**Pb**	**04 55 03.6**	**-0.1**
DKL	**Dikili**	**1.52**	**248**	*e*Pn	**Pb**	**04 55 03.6**	**-0.1**
SART	**Tekirdag**	**1.56**	**312**	*i* P	**Pn**	**04 55 03.8**	**+0.2**
SART				*i* S	**Sg**	**04 55 25.6**	**+0.9**
SART	**Tekirdag**	**1.56**	**312**	P	**Pn**	**04 55 03.8**	**+0.2**
SART				S	**Sg**	**04 55 25.5**	**+0.9**
CTKS	**Kestanelik-??a**	**1.58**	**354**	*e*PN	**Pn**	**04 55 03.5**	**-0.4**
CTKS	**Kestanelik-??a**	**1.58**	**354**	*e*Pn	**Pn**	**04 55 03.5**	**-0.4**
GULT	**Gulveren**	**1.58**	**61**	*e*PN	**Pn**	**04 55 04.1**	**+0.1**
GULT	**Gulveren**	**1.58**	**61**	*e*Pn	**Pn**	**04 55 04.1**	**+0.1**
SPNC	**Sapanca-Adapaz**	**1.59**	**50**	*e*PN	**Pn**	**04 55 04.0**	**-0.1**
SPNC	**Sapanca-Adapaz**	**1.59**	**50**	*e*Pn	**Pn**	**04 55 04.0**	**-0.1**
AYVA	**Ayvalik**	**1.60**	**258**	*i* P	**Pb**	**04 55 05.0**	**-0.1**
AYVA				*i* S	**Sg**	**04 55 26.8**	**+0.6**
AYVA	**Ayvalik**	**1.60**	**258**	P	**Pb**	**04 55 05.0**	**-0.1**
AYVA				S	**Sg**	**04 55 26.8**	**+0.6**
KLYT	**Kilyos**	**1.61**	**9**	*e*PN	**Pb**	**04 55 04.5**	**-0.7**
KLYT	**Kilyos**	**1.61**	**9**	*e*Pn	**Pb**	**04 55 04.5**	**-0.7**
SLVT	**Silivri**	**1.61**	**346**	*e*PN	**Pn**	**04 55 04.5**	**+0.2**
SLVT	**Silivri**	**1.61**	**346**	*e*Pn	**Pn**	**04 55 04.5**	**+0.2**
CUND	**Cunda Adasi-Ba**	**1.61**	**259**	*e*PN	**Pn**	**04 55 04.3**	**0.0**
CUND	**Cunda Adasi-Ba**	**1.61**	**259**	*e*Pn	**Pn**	**04 55 04.3**	**0.0**
CRLT	**Corlu**	**1.64**	**333**	*e*PN	**Pn**	**04 55 04.9**	**+0.2**
CRLT	**Corlu**	**1.64**	**333**	*e*Pn	**Pn**	**04 55 04.9**	**+0.2**
CAND	**Candarli**	**1.64**	**245**	*e*PN	**Pn**	**04 55 05.1**	**+0.3**
LPK	**Lapseki**	**1.66**	**296**	*e*PN	**Pn**	**04 55 05.3**	**+0.4**
LPK	**Lapseki**	**1.66**	**296**	*e*Pn	**Pn**	**04 55 05.3**	**+0.4**
ESKT	**Eskisehir**	**1.66**	**94**	*e*PN	**Pn**	**04 55 04.8**	**-0.3**
ESKT	**Eskisehir**	**1.66**	**94**	*i* P	**Pn**	**04 55 04.5**	**-0.6**
ESKT				*i* S	**Sg**	**04 55 29.7**	**+1.7**
ESKT	**Eskisehir**	**1.66**	**94**	*e*Pn	**Pn**	**04 55 04.8**	**-0.3**
SEYT	**Eskypehyr**	**1.66**	**94**	P	**Pn**	**04 55 04.5**	**-0.6**
SEYT				S	**Sg**	**04 55 29.7**	**+1.7**
FOCM	**Fo¯§a**	**1.81**	**239**	*e*PN	**Pn**	**04 55 06.9**	**-0.1**
FOCM	**Fo¯§a**	**1.81**	**239**	*e*Pn	**Pn**	**04 55 06.9**	**-0.1**
SHUT	**Suhut-Afyon**	**1.81**	**127**	*e*PN	**Pn**	**04 55 07.5**	**+0.3**
SHUT	**Suhut-Afyon**	**1.81**	**127**	*e*Pn	**Pn**	**04 55 07.5**	**+0.3**
KAND	**Kocaeli-Kandir**	**1.82**	**38**	*i* P	**Pb**	**04 55 07.8**	**-1.0**
KAND				*i* S	**Sb**	**04 55 32.2**	**0.0**
KAND	**Kocaeli-Kandir**	**1.82**	**38**	P	**Pb**	**04 55 07.8**	**-1.0**
KAND				S	**Sb**	**04 55 32.2**	**0.0**
AYDB	**Zeytinkoy-Aydi**	**1.83**	**201**	*e*PN	**Pn**	**04 55 07.8**	**+0.3**
AYDB	**Zeytinkoy-Aydi**	**1.83**	**201**	*e*Pn	**Pn**	**04 55 07.8**	**+0.3**
EZN	**Ezine**	**1.84**	**276**	*e*PN	**Pn**	**04 55 07.7**	**+0.2**
EZN	**Ezine**	**1.84**	**276**	*e*Pn	**Pn**	**04 55 07.7**	**+0.2**
DENT	**Denizli**	**1.93**	**172**	*e*PN	**Pn**	**04 55 08.8**	**+0.1**
DENT	**Denizli**	**1.93**	**172**	*e*Pn	**Pn**	**04 55 08.8**	**+0.1**
KESN	**Edirne-Kesan**	**1.94**	**307**	*i* P	**Pb**	**04 55 11.2**	**+0.1**
KESN				*i* S	**Sg**	**04 55 36.8**	**-0.2**
KESN	**Edirne-Kesan**	**1.94**	**307**	P	**Pb**	**04 55 11.2**	**+0.1**
KESN				S	**Sg**	**04 55 36.8**	**-0.2**
ERIK	**Erikli-Kesan**	**1.96**	**302**	*e*PN	**Pn**	**04 55 09.6**	**+0.5**
ERIK	**Erikli-Kesan**	**1.96**	**302**	*e*Pn	**Pn**	**04 55 09.6**	**+0.5**
BTAS	**Taskesti**	**1.98**	**62**	*i* P	**Pb**	**04 55 11.7**	**+0.2**
BTAS				*i* S	**Sg**	**04 55 39.6**	**+1.5**
BTAS	**Taskesti**	**1.98**	**62**	P	**Pb**	**04 55 11.7**	**+0.2**
BOLV	**Bolvadin**	**1.98**	**118**	*i* P	**Pg**	**04 55 12.3**	**-0.4**
BOLV				*i* S	**Sg**	**04 55 40.1**	**+1.7**
BOLV	**Bolvadin**	**1.98**	**118**	P	**Pg**	**04 55 12.3**	**-0.4**
SAHE	**Sakarya_HENDEK**	**2.02**	**53**	*i* P	**Pb**	**04 55 11.7**	**-0.6**
SAHE				*i* S	**Sg**	**04 55 38.8**	**-1.0**
SAHE	**Sakarya_HENDEK**	**2.02**	**53**	P	**Pb**	**04 55 11.7**	**-0.6**
SAHE				S	**Sg**	**04 55 38.8**	**-1.0**
BOZC	**Bozcaada**	**2.06**	**276**	*e*PN	**Pn**	**04 55 10.9**	**+0.5**
BOZC	**Bozcaada**	**2.06**	**276**	*e*Pn	**Pn**	**04 55 10.9**	**+0.5**
MDUB	**Mudurnu**	**2.07**	**66**	*e*PN	**Pn**	**04 55 10.8**	**0.0**
MDUB	**Mudurnu**	**2.07**	**66**	*e*Pn	**Pn**	**04 55 10.8**	**0.0**
URLA	**Izmir**	**2.10**	**232**	*e*PN	**Pn**	**04 55 11.2**	**+0.1**
URLA	**Izmir**	**2.10**	**232**	*e*Pn	**Pn**	**04 55 11.2**	**+0.1**
SVRH	**Sivrihisar-ESK**	**2.19**	**95**	*e*PN	**Pn**	**04 55 12.7**	**+0.4**
SVRH	**Sivrihisar-ESK**	**2.19**	**95**	*e*Pn	**Pn**	**04 55 12.7**	**+0.4**
KIZT	**Kizilcal**	**2.58**	**107**	*e*PN	**Pn**	**04 55 17.5**	**-0.3**
KIZT	**Kizilcal**	**2.58**	**107**	*e*Pn	**Pn**	**04 55 17.5**	**-0.3**

*ISCJB **22** 04:59:43.8±0.6,39.°68N±0.°03×38.°64E±0.°06,h8km±10km, Error ellipse: s-maj=7.9km s-min=5.0km az=19.9*
*ISK **22** 04:59:43.3,39.°69N×38.°63E,h7km,MD2.6*
*CSEM **22** 04:59:44.0±0.1,39.°67N×38.°65E,h10km,ML2.2, Error ellipse: s-maj=3.3km s-min=2.2km az=97.0*
*DDA **22** 04:59:44.3,39.°64N×38.°61E,h7km,Ml2.2*
ISC 22 04:59:44.1±1.1,**39.°68N**±0.°03×**38.°62E**±0.°05,**h10**km±11km, **n19**,σ0**°34**/28,**Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
REFA	**Refahiye_ERZ¯**	**0.31**	**158**	*i* P	**Pg**	**04 59 50.5**	**+0.1**
REFA				*i* S	**Sg**	**04 59 55.0**	**+0.5**
REFA	**Refahiye_ERZ¯**	**0.31**	**158**	P	**Pg**	**04 59 50.5**	**+0.1**
REFA				S	**Sg**	**04 59 55.0**	**+0.5**
KEMA	**Kemaliye**	**0.42**	**193**	*i* P	**Pg**	**04 59 52.0**	**-0.5**
KEMA				*i* S	**Sg**	**04 59 57.9**	**-0.2**
KEMA	**Kemaliye**	**0.42**	**193**	P	**Pg**	**04 59 52.0**	**-0.5**
KEMA				S	**Sg**	**04 59 57.9**	**-0.2**
SUSE	**Susehri**	**0.61**	**329**	*i* P	**Pb**	**04 59 57.0**	**0.0**
SUSE	**Susehri**	**0.61**	**329**	P	**Pb**	**04 59 57.0**	**0.0**
KELT	**Kelkit**	**0.68**	**46**	*i* P	**Pg**	**04 59 57.0**	**-0.2**
KELT	**Kelkit**	**0.68**	**46**	P	**Pg**	**04 59 57.0**	**-0.2**
ERZN	**Erzincan**	**0.86**	**96**	*e*PG	**Pg**	**05 00 00.2**	**-0.5**
ERZN				*e*SG	**Sb**	**05 00 12.6**	**-0.2**
PTK	**Pertek**	**0.99**	**143**	*e*PG	**Pg**	**05 00 02.6**	**-0.5**
PTK				*e*SG	**Sb**	**05 00 16.9**	**+0.2**
PTK	**Pertek**	**0.99**	**143**	*e*Pg	**Pg**	**05 00 02.7**	**-0.5**
PTK				*e*Sg	**Sb**	**05 00 16.9**	**+0.2**
GUMT	**Gumushane**	**1.02**	**40**	*e*PG	**Pg**	**05 00 03.3**	**-0.4**
GUMT				*e*SG	**Sb**	**05 00 17.5**	**+0.1**
GUMT	**Gumushane**	**1.02**	**40**	*e*Pg	**Pg**	**05 00 03.3**	**-0.4**
GUMT				*e*Sg	**Sb**	**05 00 17.5**	**+0.1**
ESPY	**Espiye-Giresun**	**1.23**	**4**	*e*PN	**Pb**	**05 00 07.5**	**0.0**
ESPY	**Espiye-Giresun**	**1.23**	**4**	*e*Pn	**Pb**	**05 00 07.5**	**0.0**
SVSK	**Karacayir**	**1.27**	**281**	*e*PN	**Pn**	**05 00 08.2**	**+0.4**
SVSK	**Karacayir**	**1.27**	**281**	*e*Pn	**Pn**	**05 00 08.2**	**+0.4**
DARE	**Darende-Malaty**	**1.42**	**219**	*e*PN	**Pn**	**05 00 10.0**	**0.0**
DARE	**Darende-Malaty**	**1.42**	**219**	*e*Pn	**Pn**	**05 00 10.0**	**0.0**

MEX 22 05:03:31.6±0.6,**17.°02N×99.°59W,h47**km±8km,**MD3.9, Guerrero**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ACX	**Acapulco**	**0.30**	**239**	*e*P	**Pn**	**05 03 33.5**	**-7.0**
ACX				*e*S	**Sn**	**05 03 39.2**	**-7.6**
ACP2	**Acapulco**	**0.32**	**243**	*e*P	**Pn**	**05 03 38.4**	**-2.3**
ACP2				*e*S	**Sn**	**05 03 45.6**	**-1.5**
CAIG	**El Cayaco**	**0.65**	**272**	*e*P	**Pn**	**05 03 43.0**	**-1.6**
CAIG				*e*S	**Sn**	**05 03 52.0**	**-2.0**
MEIG	**Mezcala**	**0.90**	**358**	*e*P	**Pn**	**05 03 45.7**	**-2.3**
MEIG				*e*S	**Sn**	**05 03 57.5**	**-2.5**
TLIG	**Tlapa**	**1.11**	**61**	*i* P	**Pn**	**05 03 49.4**	**-1.5**
TLIG				*e*S	**Sn**	**05 04 03.4**	**-1.9**
PLIG	**Platanillo**	**1.36**	**3**	*e*P	**Pn**	**05 03 53.1**	**-1.2**
PLIG				*e*S	**Sn**	**05 04 09.7**	**-1.6**
ARIG	**Puente Sto Nin**	**1.44**	**330**	*e*P	**Pn**	**05 03 54.1**	**-1.2**
ARIG				*i* S	**Sn**	**05 04 10.6**	**-2.6**
PNIG	**Pinotepa**	**1.53**	**114**	*i* P	**Pn**	**05 03 55.0**	**-1.5**
PNIG				*i* S	**Sn**	**05 04 13.0**	**-2.4**
ZIIG	**Zihuatanejo**	**1.88**	**288**	*i* P	**Pn**	**05 04 00.2**	**-1.1**
ZIIG				*e*S	**Sn**	**05 04 22.4**	**-1.6**
YAIG	**Yautepec**	**1.89**	**15**	*e*P	**Pn**	**05 03 59.8**	**-1.9**
YAIG				*i* S	**Sn**	**05 04 22.9**	**-1.5**

*ISK **22** 05:13:53.8,39.°69N×38.°59E,h4km,MD2.6*
*DDA **22** 05:13:55.8,39.°64N×38.°68E,h7km,Ml2.0*
*CSEM **22** 05:13:55.5±0.3,39.°67N×38.°68E,h5km,ML2.0, Error ellipse: s-maj=9.8km s-min=5.9km az=94.0*
ISC 22 05:13:54.4±3.3,**39.°65N**±0.°03×**38.°66E**±0.°04,**h10**km±25km, **n15**,σ0**°73**/27,**Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
REFA	**Refahiye_ERZ¯**	**0.27**	**162**	*i* P	**Pb**	**05 14 01.8**	**+0.4**
REFA				*i* S	**Sb**	**05 14 06.1**	**0.0**
REFA	**Refahiye_ERZ¯**	**0.27**	**162**	P	**Pb**	**05 14 01.8**	**+0.4**
KEMA	**Kemaliye**	**0.40**	**199**	*i* P	**Pb**	**05 14 03.7**	**0.0**
KEMA				*i* S	**Sb**	**05 14 09.8**	**-0.1**
KEMA	**Kemaliye**	**0.40**	**199**	P	**Pb**	**05 14 03.7**	**0.0**
KEMA				S	**Sb**	**05 14 09.8**	**-0.1**
SUSE	**Susehri**	**0.66**	**328**	*i* P	**Pn**	**05 14 08.9**	**-1.1**
SUSE				*i* S	**Sb**	**05 14 19.1**	**+1.6**
SUSE	**Susehri**	**0.66**	**328**	P	**Pn**	**05 14 08.9**	**-1.1**
SUSE				S	**Sb**	**05 14 19.0**	**+1.6**
KELT	**Kelkit**	**0.68**	**42**	*i* P	**Pb**	**05 14 08.5**	**0.0**
KELT				*i* S	**Sb**	**05 14 19.0**	**+1.0**
KELT	**Kelkit**	**0.68**	**42**	P	**Pb**	**05 14 08.5**	**0.0**
KELT				S	**Sb**	**05 14 19.0**	**+1.0**
ERZN	**Erzincan**	**0.82**	**94**	*e*PG	**Pn**	**05 14 11.2**	**-1.0**
ERZN				*e*SG	**Sn**	**05 14 24.1**	**-0.4**
PTK	**Pertek**	**0.95**	**143**	*e*PG	**Pn**	**05 14 13.7**	**-0.2**
PTK				*e*SG	**Sn**	**05 14 28.2**	**+0.6**
PTK	**Pertek**	**0.95**	**143**	*e*Pg	**Pn**	**05 14 13.7**	**-0.2**
PTK				*e*Sg	**Sn**	**05 14 28.2**	**+0.6**
GUMT	**Gumushane**	**1.03**	**38**	*e*PG	**Pb**	**05 14 14.1**	**-0.2**
GUMT				*e*SG	**Sn**	**05 14 29.0**	**-0.5**
GUMT	**Gumushane**	**1.03**	**38**	*e*Pg	**Pb**	**05 14 14.1**	**-0.2**
GUMT				*e*Sg	**Sn**	**05 14 29.0**	**-0.5**
ESPY	**Espiye-Giresun**	**1.27**	**2**	*e*PN	**Pn**	**05 14 17.9**	**-0.3**
ESPY	**Espiye-Giresun**	**1.27**	**2**	*e*Pn	**Pn**	**05 14 17.9**	**-0.3**

IDC 22 05:14:26.5±2.5,**54.°12N×86.°41E,h0km,mb1 3.3**/2, **mb1mx3.1**/40,**mbtmp3.3**/2,**ML3.0**/2,**Error ellipse: s-maj=20.0km s-min=12.7km az=57.0,Southwestern Siberia**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**0.95**	**260**	*i*		05 19 51.5	
	baz=80,slow=327,SNR=6.5						
ZALV	**Zalesovo Beam**	**0.95**	**260**	Pg	Pg	05 14 43.4	-1.4
	3.3nm,0.3s,baz=77,slow=16,SNR=13						
ZALV				Lg	Lg	05 14 58.5	
	5.2nm,0.3s,baz=78,slow=29,SNR=9.3						
KURBB	**Kurchatov Arra**	**5.96**	**237**	Pn	Pn	05 15 56.9	+0.9
	0.2nm,0.3s,baz=55,slow=14,SNR=16						
KURBB				Lg	Lg	05 17 37.0	
	0.1nm,0.3s,baz=54,slow=36,SNR=5.5						
MKAR	**Makanchi Array**	**7.79**	**201**	Pn	Pn	05 16 22.1	+1.0
	0.4nm,0.3s,baz=20,slow=13,SNR=8.5						
MKAR				Lg	Lg	05 18 32.2	
	0.1nm,0.3s,baz=23,slow=30,SNR=3.4						

*IDC **22** 05:22:25.4±2.6,37.°17N×141.°65E,h0km,mb3.4/3, mb1 3.6/5,mb1mx3.4/37,mbtmp3.5/5,ML3.4/2,Error ellipse: s-maj=58.6km s-min=28.6km az=71.0*
*JMA **22** 05:22:34.2±0.1,36.°94N×141.°06E,h51km±1km,M3.5*
JMA Felt I J1.
ISC 22 05:22:32.4±1.7,**36.°92N**±0.°04×**141.°18E**±0.°07,**h30**km±12km, **n15**,σ1**°20**/24,**mb3.5**/3,**Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ONAJ	**Iwakimizuishiy**	**0.35**	**300**	P	**Pn**	**05 22 43.0**	**+1.5**
ONAJ				S	**Sn**	**05 22 49.0**	**+1.5**
JFK	**Kawauchi**	**0.50**	**331**	P	**Pn**	**05 22 44.7**	**+1.1**
JFK				S	**Sn**	**05 22 51.9**	**+0.6**
JHO	**Hitachi**	**0.58**	**238**	P	**Pn**	**05 22 45.6**	**+1.0**
JHO				S	**Sn**	**05 22 53.4**	**+0.3**
JFT	**Otama**	**0.90**	**312**	P	**Pn**	**05 22 50.2**	**+1.2**
JFT				S	**Sb**	**05 23 01.2**	**+0.1**
JMM	**Marumori**	**0.99**	**342**	P	**Pb**	**05 22 51.0**	**0.0**
JMM				*e*S	**Sb**	**05 23 03.1**	**-0.6**
JSB	**Shiboa**	**1.01**	**273**	P	**Pn**	**05 22 51.3**	**+0.8**
JSB				S	**Sb**	**05 23 03.8**	**-0.5**
JFY	**Yanaizu**	**1.27**	**293**	P	**Pn**	**05 22 54.7**	**+0.6**
JAG	**Ashikaga**	**1.47**	**251**	P	**Pn**	**05 22 57.5**	**+0.6**
JOU	**Okura**	**1.50**	**344**	P	**Pn**	**05 22 58.3**	**+1.1**
MJAR	**Matsushiro Arr**	**2.42**	**262**	Pn	**Pn**	**05 23 11.1**	**+1.2**
	3.9nm,0.3s,baz=82,slow=15,SNR=11						
MJAR				Sn	**Sb**	**05 23 43.2**	**-1.4**
	2.8nm,0.3s,baz=262,slow=24,SNR=5.6						
MAT	**Matsushiro**	**2.42**	**262**	P	**Pn**	**05 23 11.2**	**+1.3**
MAT				S	**Sn**	**05 23 39.5**	**+1.1**
JHJ	**Hachijo jima 2**	**3.96**	**197**	Pn	**Pn**	**05 23 33.0**	**+1.9**
	11nm,0.3s,baz=45,slow=13,SNR=3.5						
JHJ				Sn	**Sn**	**05 24 17.1**	**+0.5**
	11nm,0.3s,baz=90,slow=20,SNR=3.0						
MKAR	**Makanchi Array**	**44.02**	**302**	P	**P**	**05 30 37.2**	**+0.1**
	0.1nm,0.3s,baz=90,slow=9,3,SNR=2.8						
KURBB	**Kurchatov Arra**	**45.92**	**308**	P	**P**	**05 30 49.5**	**-2.6**
	0.2nm,0.3s,baz=82,slow=8.5,SNR=4.1						
WRA	**Warramunga Arr**	**56.93**	**188**	P	**P**	**05 32 14.1**	**-0.6**
	0.3nm,0.6s,baz=3.8,slow=7.4,SNR=5.1						

*ISCJB **22** 05:30:07.4±0.7,6.°81N±0.°04×73.°09W±0.°04,h146km±7km, Error ellipse: s-maj=7.6km s-min=4.7km az=40.8*
*FUNV **22** 05:30:08.0,6.°52N×72.°89W,h4km,MW2.5*
*RSNC **22** 05:30:09.0±0.9,6.°79N×73.°13W,h142km±5km,ML2.2*
ISC 22 05:30:07.3±1.5,**6.°79N**±0.°04×**73.°07W**±0.°04,**h150**km±9km, **n17**,σ1**°09**/30,**1C,Northern Colombia**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BARC	**Barichara**	**0.23**	**210**	*e*P	**Pn**	**05 30 28.4**	**+0.5**
BARC				*e*S	**Sn**	**05 30 42.7**	**-0.9**
BARC				*i*		05 30 44.1	
	comp=Z,60nm,0.2s						
BTLC	**Betulia, Santa**	**0.23**	**303**	*e*P	**Pn**	**05 30 28.6**	**+0.7**
BRRC	**Barranca, Sant**	**0.71**	**296**	*i* P	**Pn**	**05 30 30.4**	**+0.5**
BRRC				*e*S	**Sn**	**05 30 46.8**	**-0.3**
BRRC				*i*		05 30 48.4	
	comp=Z,48nm,0.1s						
RUSC	**La Rusia**	**0.89**	**181**	*e*P	**Pn**	**05 30 32.4**	**+0.7**
RUSC				*e*S	**Sn**	**05 30 50.1**	**-0.3**
RUSC				*i*		05 30 52.4	
	comp=Z,16nm,0.3s						
CAPV	**Capacho**	**1.31**	**35**	*e*P	**Pn**	**05 30 35.6**	**+0.4**
CAPV				*e*S	**Sn**	**05 30 55.6**	**-0.8**
OCAC	**Ocana**	**1.46**	**350**	*e*P	**Pn**	**05 30 37.1**	**+0.5**
OCAC				*e*S	**Sn**	**05 30 58.5**	**-0.6**
OCAC				*i*		05 31 02.4	
	comp=Z,39nm,0.5s						
YOPC	**Yopal, Colombi**	**1.56**	**156**	*e*S	**Sn**	**05 31 01.7**	**+0.8**
ZARC	**Zaragoza, Cauc**	**1.91**	**292**	*e*P	**Pn**	**05 30 40.8**	**-0.6**
ZARC				*e*S	**Sn**	**05 31 06.9**	**-0.6**
NORC	**Norcasia**	**2.16**	**236**	*e*P	**Pn**	**05 30 44.4**	**0.0**
NORC				*e*S	**Sn**	**05 31 12.2**	**-0.7**
CHIC	**Chingaza**	**2.24**	**197**	*e*P	**Pn**	**05 30 46.5**	**+0.8**
CHIC				*e*S	**Sn**	**05 31 15.3**	**0.0**
CHIC				*i*		05 31 20.1	
	comp=Z,4.6nm,0.6s						
HELC	**Santa Helena**	**2.52**	**256**	*e*P	**Pn**	**05 30 48.9**	**0.0**
HELC				*e*S	**Sn**	**05 31 20.1**	**-0.8**
HELC				*i*		05 31 27.4	
	comp=Z,6.7nm,0.3s						
VIGV	**El Vigia**	**2.65**	**40**	*e*P	**Pn**	**05 30 51.6**	**+1.3**
VIGV				*e*S	**Sn**	**05 31 24.4**	**+1.0**
SOCV	**Socops**	**2.65**	**56**	*e*P	**Pn**	**05 30 51.2**	**+0.9**
SOCV				*e*S	**Sn**	**05 31 22.1**	**-1.4**
PRAC	**Prado**	**3.55**	**211**	*e*P	**Pn**	**05 31 02.5**	**+0.8**
PRAC				*e*S	**Sn**	**05 31 44.0**	**0.0**
ELOV	**Elorza**	**3.57**	**86**	*e*P	**Pn**	**05 31 01.4**	**-0.5**
ELOV				*e*S	**Sn**	**05 31 40.7**	**-3.6**
CURV	**Curarigua**	**4.44**	**44**	*e*P	**Pn**	**05 31 15.7**	**+2.3**
BAUV	**El Baul**	**5.42**	**66**	*e*P	**Pn**	**05 31 26.5**	**+0.2**

GUC 22 05:33:23.5±0.4,**24.°11S×67.°28W,h199**km±42km,**ML3.7, Chile-Argentina border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB06	**IPOC Station P**	**2.53**	**303**	*e*P	**Pn**	**05 34 09.6**	**+1.7**
PB06				*e*S	**Sn**	**05 34 44.2**	**+1.8**
PB06				IAML		05 34 45.9	
	comp=E,226nm,0.1s						

ERM	**Erimo**	**5.38**	**15**	*e*Pn		**Pn**	05 47 46.2	+0.3
ERM				*e*Sn		**Sn**	05 48 47.0	+0.1
ASAJ	**Asahikawa**	**7.35**	**7**	P		**Pn**	05 48 16.1	+3.1
	1.6nm,0.3s,baz=174,slow=18,SNR=2.4							
ASAJ				S		**Sn**	05 49 33.9	-1.5
	1.3nm,0.3s,baz=143,slow=27,SNR=2.0							
JNU	**Nakatsue**	**9.31**	**250**	*e*Pn		**Pn**	05 48 38.4	-1.5
MSHR	**Mys Shultsa**	**9.69**	**309**⇑	*e*P		**Pn**	05 48 43.9	-1.1
YSS	**Yuzh-Sakhalins**	**10.18**	**6**	*i* P		**Pn**	05 48 52.6	+0.9
USRK	**Ussuriysk Ar.**	**10.21**	**319**	P		**Pn**	05 48 56.1	+4.0
	0.5nm,0.3s,baz=138,slow=13,SNR=6.7							
KSRS	**Korea Array**	**10.69**	**277**	P		**Pn**	05 49 02.1	+3.3
	0.3nm,0.3s,baz=88,slow=15,SNR=5.1							
KSRS				LR		LR	05 52 54.5	
	comp=Z,98nm,19.7s,baz=98,slow=36							
KSAR	**Wonju Array Be**	**10.72**	**277**	P		**Pn**	05 49 02.1	+2.9
KSAR	**Wonju Array Be**	**10.72**	**277**	P		**Pn**	05 49 02.1	+2.9
KLR	**Kul'dur**	**14.21**	**334***c*	*i* P		**Pn**	05 49 46.0	-0.8
SKR	**Severo-Kuril's**	**17.46**	**33**	*e*P		**P**	05 50 31.6	+1.7
NJ2	**Nanjing**	**19.09**	**262**	*e*P		**P**	05 50 48.1	+0.1
NJ2				pmax	pmax			
	comp=Z,20nm,0.5s							
PET	**Petropavlovsk**	**20.25**	**31**	*e*P		Pn	05 51 02.6	+0.1
PET				pmax	pmax			
	comp=Z,19nm,1.1s							
TPUB	**Ta-pu**	**22.33**	**239**	*e*P		**P**	05 51 23.4	+0.2
	comp=Z,185nm,2.0s							
TWG	**Pinlang**	**22.35**	**237**	*e*P		**P**	05 51 22.7	-0.7
	comp=Z,358nm,1.7s							
HHC	**Hu-ho-hao-te**	**23.44**	**289**	*e*P		**P**	05 51 32.9	-1.8
HHC				pmax	pmax			
	comp=Z,19nm,0.9s							
HHC				pmax	pmax			
	comp=Z,66nm,4.6s							
MA2	**Magadan**	**23.58**	**12**⇑	*i* P		**P**	05 51 37.2	+1.6
YAK	**Yakutsk**	**26.25**	**348**	*i* P		**P**	05 52 00.1	+0.1
YAK				pmax	pmax			
	comp=Z,17nm,0.5s							
YAK	**Yakutsk**	**26.25**	**348**	*e*P		**P**	05 51 59.2	-0.8
	comp=Z,37nm,1.0s							
SZP	**Santa**	**26.58**	**229**	*e*P		**P**	05 52 03.3	0.0
	comp=Z,62nm,0.6s							
SEY	**Seymchan**	**27.01**	**11**	*e*P		**P**	05 52 08.4	+1.5
ENH	**Enshi**	**27.21**	**265**	*e*P		**P**	05 52 08.9	-0.3
	comp=Z,13nm,0.7s							
ULN	**Ulaanbaatar**	**27.39**	**305**	*e*P		**P**	05 52 10.9	+0.2
ULN				pmax	pmax			
	comp=Z,6.0nm,1.3s							
ULN	**Ulaanbaatar**	**27.39**	**305**	*e*P		**P**	05 52 10.9	+0.2
	comp=Z,6.4nm,1.3s							
BOD	**Bodaibo**	**27.65**	**328**	*e*P		**P**	05 52 11.2	-1.5
BOD				pmax	pmax			
	comp=Z,6.0nm,0.7s							
SONA1	**Songino Array**	**27.81**	**304**	*e*P		**P**	05 52 13.1	-1.4
SONM	**Songino Array**	**27.82**	**304**	P		**P**	05 52 13.3	-1.2
	comp=Z,2.6nm,0.6s,baz=106,slow=9.7,SNR=12							
H11N2	**WAKE ISLAND Hy**	**28.13**	**120**	T		T	06 21 31.1	
	baz=313,slow=75,SNR=787							
H11N1	**WAKE ISLAND Hy**	**28.14**	**120**	T		T	06 21 39.0	
	baz=313,slow=75,SNR=929							
H11N3	**WAKE ISLAND Hy**	**28.15**	**120**	T		T	06 21 34.9	
	baz=313,slow=75,SNR=600							
H11S1	**WAKE ISLAND Hy**	**28.83**	**122**	T		T	06 23 15.2	
	baz=314,slow=76,SNR=946							
H11S3	**WAKE ISLAND Hy**	**28.83**	**122**	T		T	06 23 13.1	
	baz=314,slow=76,SNR=540							
H11S2	**WAKE ISLAND Hy**	**28.85**	**122**	T		T	06 23 13.1	
	baz=314,slow=76,SNR=477							
LZH	**Lanzhou**	**30.00**	**280**	*e*P		**P**	05 52 33.3	-0.7
LZH				pP		sP	05 52 44.3	-1.2
LZH				sP		pP	05 52 49.9	+7.8
LZH				pmax	pmax			
	comp=Z,12nm,1.0s							
LZH				pmax	pmax			
	comp=Z,66nm,4.3s							
LZH				LR	LR			
	comp=Z,200nm,12.9s							
LZH				LR	LR			
	comp=Z,210nm,13.0s							
LZH				LR	LR			
	comp=Z,210nm,13.6s							
CD2	**Chengdu**	**31.57**	**270**	*e*P		**P**	05 52 46.6	-1.2
CD2				pmax	pmax			
	comp=Z,10.0nm,0.8s							
GTA	**Gaotai**	**32.53**	**287**	*e*P		**P**	05 52 56.3	+0.1
GTA				pP		sP	05 53 07.6	-0.1
GTA				sP		pP	05 53 13.3	+9.0
GTA				pmax	pmax			
	comp=Z,4.0nm,0.6s							
KMI	**Kunming**	**34.83**	**262**	P		**P**	05 53 19.3	+2.8
KMI				pmax	pmax			
	comp=Z,15nm,0.9s							
TIXI	**Tiksi**	**35.48**	**353**	*e*P		**P**	05 53 20.2	-1.1
TIXI				pmax	pmax			
	comp=Z,11nm,0.9s							
WMQ	**Urumqi**	**40.84**	**297**	P		**P**	05 54 07.5	+0.6
WMQ				sP		sP	05 54 25.4	+6.9
WMQ				pmax	pmax			
	comp=Z,11nm,0.8s							
WMQ				pmax	pmax			
	comp=Z,29nm,3.7s							
WMQ				LR	LR			
	comp=Z,140nm,25.5s							
WMQ				LR	LR			
	comp=Z,150nm,25.5s							
ZAA0	**Zalesovo Array**	**41.98**	**313**	*e*P		**P**	05 54 15.4	-0.5
ZALV	**Zalesovo Beam**	**41.98**	**313**	P		**P**	05 54 16.1	+0.2
	comp=Z,8.0nm,0.6s,baz=96,slow=6.4,SNR=11							
ZALV				PcP		**PcP**	05 56 10.2	-0.5
	comp=Z,1.4nm,0.5s,baz=83,slow=3.6,SNR=3.9							
ZALV	**Zalesovo Beam**	**41.98**	**313**	P		**P**	05 54 16.1	+0.2
ZALV							05 56 10.2	
ZALV				pmax	pmax			
	comp=Z,5.0nm,0.5s							
ZALV				pmax	pmax			
	comp=Z,1.0nm,0.5s							
LSA	**Lhasa**	**42.13**	**275**	*e*P		**P**	05 54 16.4	-1.6
LSA				pmax	pmax			
	comp=Z,7.0nm,1.2s							
LSA	**Lhasa**	**42.13**	**275**	*e*P		**P**	05 54 16.4	-1.6
	comp=Z,7.3nm,1.2s							
NRIK	**Noril'sk**	**43.41**	**335**	LR		LR	06 14 34.6	
	comp=Z,107nm,19.0s,baz=104,slow=39							
MK01	**Makanchi Array**	**44.14**	**302**	*e*P		**P**	05 54 33.0	-0.5
MK31	**Makanchi Array**	**44.14**	**302**	*e*P		**P**	05 54 32.2	-0.4
MK31	**Makanchi Array**	**44.14**	**302**	*e*P		**P**	05 54 33.1	-0.4
MKAR	**Makanchi Array**	**44.14**	**302**	P		**P**	05 54 33.5	-0.1
	comp=Z,3.6nm,0.6s,baz=89,slow=9.8,SNR=29							
MKAR				PcP		**PcP**	05 56 18.5	+0.3
	comp=Z,0.7nm,0.7s,baz=104,slow=6.1,SNR=4.1							
MKAR	**Makanchi Array**	**44.14**	**302**	*e*P		**P**	05 54 33.0	-0.6
MKAR							05 56 18.5	
MKAR				pmax	pmax			
	comp=Z,34nm,0.8s							
MKAR	**Makanchi Array**	**44.14**	**302**	*e*P		**P**	05 54 33.0	-0.6
	comp=Z,34nm,0.8s							
MKAR				PcP		**PcP**	05 56 18.5	+0.3
MAKZ	**Makanchi**	**44.35**	**302**	*e*P		**P**	05 54 35.5	+0.2
MAKZ				pmax	pmax			
	comp=Z,5.0nm,0.8s							
MAKZ	**Makanchi**	**44.35**	**302**	*e*P		**P**	05 54 35.5	+0.2
	comp=Z,4.8nm,0.8s							
TAPN	**Taplejung**	**45.85**	**274**	*e*P		**P**	05 54 48.1	+0.3
	comp=Z,13nm,0.5s							
KURK	**Kurchatov**	**45.98**	**308**	*e*P		**P**	05 54 47.6	-0.5
KURK				pmax	pmax			
	comp=Z,16nm,0.9s							
KURK	**Kurchatov**	**45.98**	**308**	*e*P		**P**	05 54 47.6	-0.5
	comp=Z,16nm,0.9s							
KURBB	**Kurchatov Arra**	**46.05**	**308**	P		**P**	05 54 48.8	+0.2
	comp=Z,8.3nm,0.6s,baz=87,slow=8.1,SNR=42							
ODAN	**Odare**	**46.33**	**274**	*e*P		**P**	05 54 51.4	0.0
	comp=Z,21nm,0.7s							
RAMN	**Ramite**	**46.92**	**274**	*e*P		**P**	05 54 56.3	+0.2
	comp=Z,71nm,0.7s							
JIRN	**Jiri**	**46.94**	**275**	*e*P		**P**	05 54 56.8	+0.4
GUN	**Gumba**	**47.08**	**276**	*e*P		**P**	05 54 57.7	+0.3
	comp=Z,56nm,1.0s							
KDAK	**Kodiak Island**	**47.32**	**42**	*i* P		**P**	05 54 58.2	-0.2
PKI	**Pulchoki**	**47.60**	**276**	*e*P		**P**	05 55 01.2	-0.3
	comp=Z,12nm,0.8s							
KKN	**Kakani**	**47.60**	**276**	*e*P		**P**	05 55 01.6	+0.2
PKIN	**Phulchoki**	**47.60**	**276**	*e*P		**P**	05 55 01.2	-0.3
DMN	**Daman**	**47.82**	**276**	*e*P		**P**	05 55 03.0	-0.1
GKN	**Gorkha**	**48.03**	**277**	*e*P		**P**	05 55 04.7	+0.1
	comp=Z,50nm,0.7s							

KOLN	**Koldanda**	**48.95**	**277**	*e*P		**P**	05 55 11.9	+0.1
	comp=Z,9.5nm,0.5s								
MDM	**Murphy Dome**	**49.14**	**32**	*e*P		**P**	05 55 12.8	+0.3
	comp=Z,6.5nm,1.0s								
PYUN	**Piuthan**	**49.30**	**277**	*e*P		**P**	05 55 14.6	+0.2
	comp=Z,64nm,0.9s								
COLA	**College**	**49.31**	**32**	*e*P		**P**	05 55 14.7	+1.0
COLA					pmax	pmax			
	comp=Z,3.0nm,0.7s								
IL1	**Eielson Array**	**49.72**	**32**	*e*P		**P**	05 55 16.6	-0.3
ILAR	**Eielson Array**	**49.72**	**32**	P		**P**	05 55 16.6	-0.3
	comp=Z,2.2nm,0.8s,baz=269,slow=6.5,SNR=26								
ILB	**Eielson Array**	**49.72**	**32**	*e*P		**P**	05 55 16.4	-0.5
KSH	**Kashi**	**50.40**	**294**	*e*P		**P**	05 55 25.0	+2.5
KSH				pP		sP	05 55 38.1	+3.8
KSH				PP		**PP**	05 57 23.1	+5.0
KSH				S		**S**	06 02 34.1	-0.1
KSH				sS		sS	06 02 56.3	+8.3
KSH				SS		**SS**	06 06 06.1	-1.7
KSH				pmax	pmax				
	comp=Z,32nm,4.2s								
KSH				LR		LR			
	comp=Z,710nm,18.5s								
KSH				LR		LR			
	comp=Z,410nm,15.6s								
AAK	**Ala-Archa**	**50.50**	**298**	*i* P		**P**	05 55 22.2	-1.1
AAK				pmax	pmax				
	comp=Z,12nm,1.6s								
BVAR	**Borovoye Array**	**50.64**	**312**	P		**P**	05 55 23.8	-0.2
	comp=Z,3.4nm,0.7s,baz=76,slow=7.6,SNR=13								
BVAR				PcP		**PcP**	05 56 41.0	-0.2	
	comp=Z,1.6nm,0.5s,baz=112,slow=4.4,SNR=4.8								
BRVK	**Borovoye**	**50.69**	**312**⇑	*i* P		**P**	05 55 24.3	-0.1	
BRVK				pmax	pmax				
	comp=Z,8.0nm,0.9s								
INK	**Inuvik**	**54.62**	**27**	P		**P**	05 55 53.5	+0.4	
	comp=Z,2.8nm,0.9s,baz=288,slow=3.2,SNR=3.6								
ARU	**Arti**	**56.45**	**319**	*d i* P		**P**	05 56 05.9	-0.6	
ARU							05 57 00.0		
ARU							05 58 09.7		
ARU				S		**S**	06 03 56.5	+0.9	
ARU				SS		**SS**	06 07 41.1	-1.2	
ARU				pmax	pmax				
	comp=Z,15nm,1.0s								
ARU	**Arti**	**56.45**	**319**	*e*P		**P**	05 56 05.5	-1.0	
	comp=Z,12nm,0.9s								
WRAB	**Tennant Creek**	**56.83**	**188**	*e*P		**P**	05 56 08.5	-1.1	
WRAB				pmax	pmax				
	comp=Z,1.0nm,0.5s								
WRAB	**Tennant Creek**	**56.83**	**188**	*e*P		**P**	05 56 08.5	-1.1	
	comp=Z,1.4nm,0.5s								
WB2	**Warramunga Arr**	**56.84**	**188**	*e*P		**P**	05 56 08.6	-1.1	
WRA	**Warramunga Arr**	**56.84**	**188**	P		**P**	05 56 08.3	-1.4	
	comp=Z,0.9nm,0.5s,baz=6.1,slow=7.5,SNR=21								
ABKAR	**Akbulak array**	**57.99**	**310**	*e*P		**P**	05 56 17.0	-0.6	
	comp=Z,29nm,0.6s								
ASAR	**Alice Springs**	**60.57**	**188**	P		**P**	05 56 34.6	-1.0	
	comp=Z,1.0nm,0.8s,baz=8.8,slow=7.2,SNR=7.0								
OBN	**Obninsk**	**68.20**	**323**	*i* P		**P**	05 57 25.7	+0.6	
OBN				pmax	pmax				
	comp=Z,3.0nm,0.6s								
FINES	**FINESS Array B**	**68.95**	**332**	P		**P**	05 57 29.3	-0.5	
	comp=Z,2.9nm,0.7s,baz=44,slow=8.5,SNR=6.6								
VSR	**Storozhevoye**	**69.02**	**319**	*i* P		**P**	05 57 29.5	-0.9	
VSR				pmax	pmax				
	comp=Z,3.0nm,0.7s								
KBZ	**Khabaz**	**70.96**	**311**	P		**P**	05 57 42.7	+0.3	
	comp=Z,1.5nm,0.6s,baz=56,slow=3.6,SNR=5.1								
KIV	**Kislovodsk**	**70.96**	**311**	*e*P		**P**	05 57 40.9	-1.7	
KIV				pmax	pmax				
	comp=Z,9.0nm,1.0s								
NB2	**NORSAR Subarra**	**74.34**	**337**	P		**P**	05 58 00.7	-1.6	
	comp=Z,3.5nm,1.0s,baz=37,slow=6.2								
NOA	**NORSAR Array B**	**74.34**	**337**	P		**P**	05 58 01.7	-0.5	
	comp=Z,1.6nm,0.8s,baz=37,slow=6.0,SNR=4.8								
AKASG	**Malin Array Be**	**74.40**	**322**	P		**P**	05 58 02.0	-0.7	
	comp=Z,1.6nm,0.4s,baz=46,slow=6.1,SNR=15								
AKASG	**Malin Array Be**	**74.40**	**322**	P		**P**	05 58 02.0	-0.7	
AKASG				pmax	pmax				
	comp=Z,2.0nm,0.4s								
KIEV	**Kiev**	**74.41**	**322**⇓	*i* P		**P**	05 58 01.9	-0.9	
KIEV				pmax	pmax				
	comp=Z,2.0nm,0.6s								
R11A	**Troy Canyon, C**	**76.97**	**52**	*e*P		**P**	05 58 17.7	-0.3	
	comp=Z,3.2nm,1.3s								
PDAR	**Pinedale Array**	**77.88**	**45**	P		**P**	05 58 23.0	0.0	
	comp=Z,0.4nm,0.6s,baz=304,slow=2.1,SNR=5.7								
BRTR	**Keskin Array B**	**78.91**	**312**	P		**P**	05 58 28.6	-0.1	
	comp=Z,0.7nm,0.5s,baz=73,slow=4.1,SNR=3.6								
BRTR	**Keskin Array B**	**78.91**	**312**	*ce*P		**P**	05 58 30.1	+1.4	
BRTR				pmax	pmax				
	comp=Z,1.0nm,0.4s								
STHS	**Stebnicka Huta**	**79.07**	**325**	*e*P		**P**	05 58 30.5	+1.3	
STHS	**Stebnicka Huta**	**79.07**	**325**	*e*P		**P**	05 58 30.5	+1.3	
DPC	**Dobruska-Polom**	**80.58**	**328**	*e*P		**P**	05 58 38.1	+0.7	
DPC	**Dobruska-Polom**	**80.58**	**328**	*e*P		**P**	05 58 38.1	+0.7	
PV10	**Paradox Valley**	**80.99**	**49**	*e*P		**P**	05 58 39.6	-0.4	
CLL	**Collm**	**81.22**	**330**	*e*P		**P**	05 58 39.0	-1.7	
CLL	**Collm**	**81.22**	**330**	*e*P		**P**	05 58 39.0	-1.7	
CLL				*e*pP		**sP**	05 58 53.0	+0.3	
VRAC	**Vranov**	**81.24**	**327**	LR		LR	06 37 53.6		
	comp=Z,78nm,18.2s,baz=350,slow=38								
KHC	**Kasperske Hory**	**82.67**	**328**	*e*P		**P**	05 58 48.6	+0.2	
KHC	**Kasperske Hory**	**82.67**	**328**	*e*P		**P**	05 58 48.6	+0.2	
GERES	**GERESS Array B**	**82.83**	**328**	P		**P**	05 58 49.1	-0.3	
	comp=Z,0.7nm,0.5s,baz=28,slow=6.0,SNR=6.5								
ANMO	**Albuquerque**	**84.80**	**50**	*e*P		**P**	05 58 59.1	-0.7	
ANMO				pmax	pmax				
	comp=Z,2.0nm,1.0s								
ANMO	**Albuquerque**	**84.80**	**50**	*e*P		**P**	05 58 59.1	-0.7	
	comp=Z,2.4nm,1.0s								
DAVOX	**Davos/Dischmat**	**86.05**	**329**	LR		LR	06 39 34.5		
	comp=Z,50nm,18.5s,baz=341,slow=37								
TXAR	**Lajitas Array**	**90.33**	**52**	P		**P**	05 59 26.6	+0.2	
	comp=Z,0.7nm,0.8s,baz=292,slow=2.7,SNR=7.7								
TORD	**Torodi Ar. Bea**	**117.40**	**315**	PKP		**PKPdf**	06 05 10.1	-1.0	
	comp=Z,0.4nm,0.8s,baz=29,slow=3.3,SNR=3.8								
SNAA	**Sanae**	**140.52**	**197**	PKP	PKPpre		06 05 46.2		
VNA2	**Neumayer--Watz**	**142.09**	**196**	PKP		**PKPdf**	06 05 56.5	+0.5	
	baz=98,slow=1.4								
VNA3	**Neumayer Olymp**	**142.34**	**195**	PKP	PKPpre		06 05 51.9		
VNA1	**Neumayer--Stat**	**142.49**	**196**	PKP	PKPpre		06 05 54.1		
LPAZ	**La Paz**	**146.88**	**60**	PKPbc		**PKPbc**	06 06 08.4	-0.1	
	comp=Z,1.9nm,0.6s,baz=323,slow=0.7,SNR=18								

ISK ***22*** *05:47:26.9,39.80N×38.59E,h19km, MD2.3*
CSEM ***22*** *05:47:28.7±0.3,39.69N×38.75E, h8km, MD2.6, Error ellipse: s-maj=6.8km s-min=4.9km az=103.0*
ISCJB ***22*** *05:47:29.6±0.6, 39.67N±0.03×38.69E±0.04, h5km±7km, Error ellipse: s-maj=5.4km s-min=5.2km az=41.0*
DDA ***22*** *05:47:29.4, 39.67N×38.67E, h7km, Md2.6*

ISC 22 05:47:28.6±1.3, 39.71N±0.03×38.69E±0.03, h10km±10km, n19, σ0°80/31, Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ILIC	**ilic-Erzincan**	**0.27**	**200**	*e*PG	**Pg**	05 47 34.6	+0.4
ILIC	**ilic-Erzincan**	**0.27**	**200**	*e*Pg	**Pg**	05 47 34.6	+0.4
REFA	**Refahiye_ERZ**	**0.32**	**169**	*i* P	**Pg**	05 47 34.8	-0.2
REFA	**Refahiye_ERZ**	**0.32**	**169**	P	**Pg**	05 47 34.8	-0.2
KEMA	**Kemaliye**	**0.46**	**199**	*i* P	**Pg**	05 47 37.6	-0.1
KEMA				*i* S	**Sb**	05 47 44.4	-1.4
KEMA	**Kemaliye**	**0.46**	**199**	P	**Pg**	05 47 37.6	-0.1
KEMA				S	**Sb**	05 47 44.4	-1.4
KELT	**Kelkit**	**0.62**	**44**	*i* P	**Pb**	05 47 42.2	+0.5
KELT				*i* S	**Sb**	05 47 52.3	+1.8
KELT	**Kelkit**	**0.62**	**44**	P	**Pb**	05 47 42.2	+0.5
SUSE	**Susehri**	**0.63**	**324**	*i* P	**Pb**	05 47 41.8	0.0
SUSE				*i* S	**Sb**	05 47 51.7	+1.0
SUSE	**Susehri**	**0.63**	**324**	P	**Pb**	05 47 41.8	0.0
SUSE				S	**Sb**	05 47 51.7	+1.0
ERZN	**Erzincan**	**0.81**	**98**	*e*PG	**Pg**	05 47 44.9	+0.6
ERZN				*e*SG	**Sn**	05 47 57.9	-0.4
GUMT	**Gumushane**	**0.97**	**39**	*e*PG	**Pg**	05 47 45.7	-1.6
GUMT	**Gumushane**	**0.97**	**39**	*e*Pg	**Pg**	05 47 45.7	-1.6
PTK	**Pertek**	**0.98**	**146**	*e*PN	**Pb**	05 47 47.9	+0.1
PTK				*e*SN	**Sn**	05 48 02.9	+0.3
PTK	**Pertek**	**0.98**	**146**	*e*Pn	**Pb**	05 47 47.9	+0.1
PTK				*e*Sn	**Sn**	05 48 02.9	+0.3
CUKAN	**kangal_SIVAS**	**1.02**	**248**	*i* P	**Pn**	05 47 48.8	-0.3
CUKAN				*i* S	**Sn**	05 48 04.0	+0.4
CUKAN	**kangal_SIVAS**	**1.02**	**248**	P	**Pn**	05 47 48.8	-0.3
CUKAN				S	**Sn**	05 48 04.0	+0.4

ELZG	**Elazig**	**1.23**	**169**	*i* P		**Pg**	05 47 52.0	-0.2	
ELZG				*i* S		**Sn**	05 48 09.2	+0.5	
ELZG	**Elazig**	**1.23**	**169**	P		**Pg**	05 47 52.0	-0.2	
ELZG				S		**Sn**	05 48 09.2	+0.5	

IDC 22 06:05:31.6±3.2, 54.15N×87.46E, h0km, mb1 3.3/2, mb1mx3.1/35, mbtmp3.3/2, ML2.6/2, Error ellipse: s-maj=26.7km s-min=16.8km az=59.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**1.57**	**264**	*i*		06 13 15.6	
	baz=81,slow=329,SNR=1.0						
ZALV	**Zalesovo Beam**	**1.57**	**264**	Pg	Pn	06 05 59.9	-0.9
	1.9nm,0.3s,baz=79,slow=16,SNR=16						
ZALV				Lg	Lg	06 06 20.8	
	0.9nm,0.3s,baz=81,slow=28,SNR=3.5						
KURBB	**Kurchatov Arra**	**6.50**	**241**	Pn	Pn	06 07 10.0	+1.5
	0.1nm,0.3s,baz=56,slow=14,SNR=4.0						
KURBB				Lg	Lg	06 08 59.5	
	0.1nm,0.3s,baz=59,slow=31,SNR=2.6						
MKAR	**Makanchi Array**	**8.06**	**206**	Pn	Pn	06 07 30.6	+0.7
	0.1nm,0.3s,baz=27,slow=13,SNR=5.1						
MKAR				Sn	Sn	06 09 01.0	-0.7
	0.1nm,0.3s,baz=30,slow=26,SNR=3.0						

IDC 22 06:15:03.9±3.0, 29.94S×138.78E, h0km, mb1 3.0/3, mb1mx3.0/16, mbtmp2.8/3, ML2.5/3, Error ellipse: s-maj=93.2km s-min=16.5km az=47.0, South Australia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**3.10**	**129**	Pn	Pn	06 15 55.7	+1.7
	0.3nm,0.3s,baz=306,slow=17,SNR=4.8						
STKA				Sn	Sn	06 16 28.4	-3.3
	1.2nm,0.3s,baz=313,slow=19,SNR=6.4						
STKA				Lg	Lg	06 16 40.6	
	2.2nm,0.3s,baz=0.0,slow=20,SNR=6.7						
ASAR	**Alice Springs**	**7.62**	**324**	Pn	Pn	06 16 55.6	-0.6
	0.1nm,0.3s,baz=147,slow=12,SNR=3.9						
ASAR				Sn	Sn	06 18 25.5	+2.2
	0.1nm,0.3s,baz=148,slow=21,SNR=3.0						
WRA	**Warramunga Arr**	**10.74**	**337**	Pn	Pn	06 17 38.5	-0.4
	0.1nm,0.3s,baz=160,slow=13,SNR=5.3						
WRA				Sn	Sn	06 19 40.9	+0.9
	0.0nm,0.3s,baz=159,slow=20,SNR=3.4						

MEX 22 06:27:54.7±0.6, 18.58N×102.20W, h49km±19km, MD3.5, Michoacan

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
URUA	**Uruapan**	**0.85**	**8**	*e*P	Pn	06 28 08.6	-2.0
URUA				*i* S	Sn	06 28 20.1	-2.1
MMIG	**Aquila**	**1.12**	**255**	*e*P	Pn	06 28 12.6	-1.5
MMIG				*e*S	Sn	06 28 26.1	-2.3
ZIIG	**Zihuatanejo**	**1.19**	**144**	*e*P	Pn	06 28 13.7	-1.3
ZIIG				*e*S	Sn	06 28 27.8	-2.4
MOIG	**Morelia**	**1.45**	**41**	*i* P	Pn	06 28 16.7	-2.1
MOIG				*i* S	Sn	06 28 34.4	-2.4
EZ5V		**1.60**	**304**	*e*P	Pn	06 28 20.1	-0.8
EZ5V				*i* S	Sn	06 28 38.4	-2.1
ARIG	**Puente Sto Nin**	**1.78**	**99**	*i* P	Pn	06 28 22.5	-0.6
ARIG				*i* S	Sn	06 28 42.2	-2.4
R15V		**1.79**	**290**	*e*P	Pn	06 28 22.3	-0.9

ISCJB ***22*** *06:51:25.7±0.6, 22.35N±0.06×143.6E±0.1, h118km, mb4.1/18, Error ellipse: s-maj=16.4km s-min=8.5km az=169.9*
NEIC ***22*** *06:51:27.6±1.2, 22.35N×143.60E, h121km±10km, mb4.1/3, Error ellipse: s-maj=12.0km s-min=8.1km az=92.0*
IDC ***22*** *06:51:28.7±3.2, 22.37N×143.59E, h129km±27km, mb3.8/17, mb1 3.9/18, mb1mx3.8/43, mbtmp4.2/18, MS2.7/1, Ms1 2.7/1, ms1mx2.2/42, Error ellipse: s-maj=21.2km s-min=13.1km az=87.0*

**ISC 22 06:51:27.3±0.7, 22.35N±0.09×143.6E±0.1, h118km, n33, σ0°72/28,

	baz=254									
HWA	**Hwalien**	**0.15**	**221**	⇓P		**Pg**	**06 57 11.4**	**+0.6**
	baz=202									
EHP	**Heping Village**	**0.22**	**7**	*e*P		**Pg**	**06 57 10.7**	**-1.3**
	baz=19									
ENA	**Nanau**	**0.34**	**5**	⇓*i*P		**Pb**	**06 57 14.2**	**-0.5**
	baz=7.0									
ENA				S		**Sb**	**06 57 19.4**	**-0.5**
	baz=7.0									
ESL	**Shilin**	**0.37**	**223**	⇑P		**Pb**	**06 57 14.3**	**-1.0**
	baz=220									
WHF	**Hehuan Shan**	**0.41**	**278**	P		**Pg**	**06 57 15.1**	**-0.3**
	baz=277									
WHF				*i* S		**Sg**	**06 57 20.9**	**-0.3**
	baz=277									
NNS	**Nan Shan**	**0.47**	**319**	*e*P		**Pg**	**06 57 16.0**	**-0.3**
	baz=320									
NNS				*e*S		**Sg**	**06 57 22.4**	**-0.2**
	baz=320									
TWT	**Tachien**	**0.52**	**289**	⇑P		**Pb**	**06 57 17.5**	**-0.3**
	baz=288									
TWT				S		**Sb**	**06 57 24.3**	**-0.9**
	baz=288									
TWC	**Suao**	**0.53**	**14**	P		**Pb**	**06 57 17.6**	**-0.4**
	baz=11									
TWC				S		**Sb**	**06 57 25.4**	**-0.1**
	baz=11									
ENTT	**Nioudou**	**0.56**	**347**	*e*P		**Pb**	**06 57 18.1**	**-0.5**
	baz=339									
ENTT				*e*S		**Sb**	**06 57 26.3**	**-0.2**
	baz=339									
WDT	**Danda**	**0.62**	**238**	⇓*i*P		**Pb**	**06 57 18.9**	**-0.9**
	baz=236									
WDT				*e*S		**Sb**	**06 57 28.6**	**+0.2**
	baz=236									
TWE	**Neicheng**	**0.63**	**356**	*e*P		**Pb**	**06 57 19.7**	**0.0**
	baz=359									
TWE				*e*S		**Sb**	**06 57 28.3**	**-0.1**
	baz=359									
NSK	**Sanguang**	**0.67**	**331**	⇓*i*P		**Pb**	**06 57 19.9**	**-0.5**
	baz=332									
NSK				S		**Sg**	**06 57 28.4**	**-0.5**
	baz=332									
EHY	**Hungye**	**0.68**	**212**	*e*P		**Pg**	**06 57 19.7**	**-0.5**
	baz=207									
SMLT	**Sun Moon Lake**	**0.77**	**255**	*e*P		**Pb**	**06 57 21.6**	**-0.5**
	baz=253									
EGS		**0.78**	**15**	*e*P		**Pb**	**06 57 22.7**	**+0.5**
	baz=19									
TYC	**Yuchr**	**0.80**	**257**	*e*P		**Pg**	**06 57 21.3**	**-1.2**
	baz=256									
TYC				*e*S		**Sg**	**06 57 31.9**	**-1.2**
	baz=256									
TWF1	**Yuli**	**0.83**	**207**	*e*P		**Pg**	**06 57 22.4**	**-0.6**
	baz=215									
NSTT	**Nanjuang**	**0.84**	**310**	*e*P		**Pb**	**06 57 23.4**	**+0.1**
	baz=310									
NSTT				*e*S		**Sg**	**06 57 33.9**	**-0.5**
	baz=310									
TWA	**Mucha**	**0.89**	**353**	*e*P		**Pg**	**06 57 22.4**	**-1.9**
	baz=354									
TWQ1	**Liyutan**	**0.89**	**287**	*e*P		**Pn**	**06 57 25.1**	**+0.1**
	baz=295									
TWQ1				*e*S		**Sb**	**06 57 36.5**	**+0.6**
	baz=295									
YUS	**Yu-Shan**	**0.92**	**229**	*e*P		**Pg**	**06 57 23.5**	**-1.4**
	baz=228									
NSY	**Sanyi**	**0.93**	**291**	*e*P		**Pn**	**06 57 25.7**	**+0.2**
	baz=291									
TCU	**Taichung**	**0.95**	**274**	*e*P		**Pn**	**06 57 26.5**	**+0.8**
	baz=274									
TWB1	**Santiao Chiao**	**0.95**	**15**	*e*P		**Pg**	**06 57 24.5**	**-0.8**
	baz=9.0									
WNT	**Mingjian**	**0.96**	**258**	*e*P		**Pn**	**06 57 26.4**	**+0.5**
	baz=250									
NWF	**Wu-fen Shan**	**0.98**	**4**	*e*P		**Pb**	**06 57 26.0**	**+0.3**
	baz=343									
NWF				*e*S		**Sb**	**06 57 39.1**	**+0.6**
	baz=343									
ALS	**Alishan**	**1.01**	**235**	*e*P		**Pg**	**06 57 25.2**	**-1.4**
	baz=234									
CHKT	**Chengkung**	**1.03**	**198**	*e*P		**Pb**	**06 57 26.5**	**-0.1**
	baz=210									
TWS1	**Kuangyinshan**	**1.04**	**345**	*e*P		**Pn**	**06 57 27.5**	**+0.4**
	baz=342									
TWS1				*e*S		**Sn**	**06 57 43.1**	**+1.8**
	baz=342									
CHN5	**Tsauling**	**1.06**	**243**	⇑P		**Pn**	**06 57 27.4**	**-0.1**
	baz=242									
ELDTW	**Lidau**	**1.10**	**215**	*e*P		**Pn**	**06 57 27.8**	**-0.1**
	baz=213									
YOJ	**Yonaguni jima**	**1.24**	**72**	*e*P		**Pn**	**06 57 29.9**	**+0.1**
	baz=74									
YOJ	**Yonaguni jima**	**1.24**	**72**	P		**Pn**	**06 57 29.6**	**-0.2**
CHN4	**Tsaushan**	**1.26**	**235**	*e*P		**Pg**	**06 57 30.3**	**-0.9**
	baz=225									
CHN4				*e*S		**Sn**	**06 57 50.0**	**+3.2**
	baz=225									
STYT	**Tauyuan**	**1.27**	**224**	*e*P		**Pn**	**06 57 28.4**	**-1.9**
	baz=223									
WTP	**Ta-pu**	**1.31**	**230**	*e*P		**Pg**	**06 57 31.7**	**-0.5**
	baz=230									
TWG	**Pinlang**	**1.39**	**205**	*e*P		**Pn**	**06 57 30.5**	**-1.4**
	baz=186									
CHN1	**Nanshi**	**1.41**	**231**	*e*P		**Pb**	**06 57 32.6**	**-0.4**
	baz=233									
CHN1				*e*S		**Sg**	**06 57 54.5**	**+2.0**
	baz=233									
SGST	**Jiashian**	**1.44**	**226**	*e*P		**Pn**	**06 57 32.1**	**-0.4**
	baz=226									
IRIF	**Iriomote-Funau**	**1.86**	**82**	P		**Pn**	**06 57 38.8**	**+0.5**
IRIF				*e*S		**Sn**	**06 58 02.7**	**+1.2**
HATJ	**Hateruma jima**	**1.92**	**91**	P		**Pn**	**06 57 39.0**	**0.0**
JKRS	**Kuro-shima**	**2.10**	**86**	P		**Pn**	**06 57 41.9**	**+0.2**
JKRS				S		**Sn**	**06 58 09.0**	**+1.4**
JIJ	**Ishigaki jima**	**2.24**	**83**	P		**Pn**	**06 57 42.9**	**-0.6**
JISG	**Ishigakijimahi**	**2.42**	**78**	P		**Pn**	**06 57 45.9**	**-0.1**
JISG				S		**Sn**	**06 58 15.5**	**+0.1**
JTJ	**Tarama**	**2.78**	**78**	*e*S		**Sn**	**06 58 26.2**	**+1.9**

IDC 22 07:01:45.2±7.1, 20°.97S×179°.00W, h0km, mb3.9/3, mb1 4.2/3, mb1mx3.8/32, mbtmp3.9/3, Error ellipse: s-maj=307.5km s-min=36.8km az=146.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**43.50**	**257**	P	P	07 09 51.4	+0.7
	2.0nm,0.5s,baz=96,slow=8.5,SNR=39						
WRA	**Warramunga Arr**	**43.61**	**263**	P	P	07 09 50.5	-1.1
	0.4nm,0.4s,baz=97,slow=6.0,SNR=16						
ILAR	**Eielson Array**	**88.98**	**13**	P	P	07 14 41.5	+0.1
	0.6nm,0.9s,baz=219,slow=5.6,SNR=3.8						

IDC 22 07:05:35.0±1.7, 53°.78N×85°.67E, h0km, mb1 2.8/2, mb1mx2.7/41, mbtmp2.8/2, ML2.5/2, Error ellipse: s-maj=12.8km s-min=7.4km az=88.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**0.53**	**288**	*i*		07 08 15.3	
	baz=108,slow=328,SNR=96						
ZALV	**Zalesovo Beam**	**0.53**	**288**	Pg	Pg	07 05 44.2	-1.0
	2.1nm,0.3s,baz=109,slow=18,SNR=11						
ZALV				Lg	Lg	07 05 53.4	
	3.1nm,0.3s,baz=107,slow=30,SNR=52						
KURBB	**Kurchatov Arra**	**5.41**	**237**	Pn	Pn	07 06 58.2	+1.3
	0.1nm,0.3s,baz=53,slow=13,SNR=4.1						
KURBB				Lg	Lg	07 08 25.0	
	0.0nm,0.3s,baz=54,slow=33,SNR=2.6						
MKAR	**Makanchi Array**	**7.32**	**199**	Pn	Pn	07 07 24.6	+1.4
	0.1nm,0.3s,baz=23,slow=11,SNR=5.2						
MKAR				Sn	Sn	07 08 46.3	-0.7
	0.1nm,0.3s,baz=29,slow=28,SNR=2.9						
MKAR				Lg	Lg	07 09 21.9	
	0.1nm,0.3s,baz=23,slow=33,SNR=5.4						

IDC 22 07:07:17.2±3.9, 55°.77S×24°.97W, h0km, mb4.0/2, mb1 4.2/2, mb1mx3.7/16, mbtmp4.0/2, MS3.5/1, Ms1 3.4/1, ms1mx2.7/15, Error ellipse: s-maj=133.4km s-min=47.2km az=169.0, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BOSA	**Boshof**	**44.69**	**74**	LR	LR	07 31 19.2	
	comp=Z,56nm,18.6s,baz=177,slow=32						
LPAZ	**La Paz**	**51.26**	**303**	P	P	07 16 23.2	-0.1
	1.5nm,0.7s,baz=114,slow=6.4,SNR=9.5						
TORD	**Torodi Ar. Bea**	**72.22**	**27**	P	P	07 18 43.9	0.0
	1.4nm,0.7s,baz=194,slow=6.3,SNR=7.9						
ILAR	**Eielson Array**	**150.86**	**312**	PKPbc	PKPbc	07 27 09.8	-0.2
	1.0nm,1.0s,baz=111,slow=0.6,SNR=6.5						

IDC 22 07:10:47.5±2.5, 54°.02N×86°.40E, h0km, mb1 2.8/2, mb1mx2.8/40, mbtmp2.8/2, ML2.5/2, Error ellipse: s-maj=20.3km s-min=11.9km az=67.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**0.94**	**267**	*i*		07 16 00.0	
	baz=84,slow=327,SNR=2.5						
ZALV	**Zalesovo Beam**	**0.94**	**267**	Pg	Pg	07 11 04.0	-1.4
	0.7nm,0.3s,baz=83,slow=17,SNR=6.2						
ZALV				Lg	Lg	07 11 19.1	
	1.4nm,0.3s,baz=88,slow=32,SNR=7.9						
KURBB	**Kurchatov Arra**	**5.90**	**238**	Pn	Pn	07 12 17.0	+0.9
	0.1nm,0.3s,baz=56,slow=15,SNR=4.3						
MKAR	**Makanchi Array**	**7.69**	**202**	Pn	Pn	07 12 41.7	+1.0
	0.1nm,0.3s,baz=23,slow=13,SNR=5.7						

DJA 22 07:14:27.5±0.6, 1°.N×3°.×10°.0E±°, h165km±5km, M3.6/6, MLv3.6/6, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MNSI	**Mandailing Nat**	**0.23**	**266**	P	Pn	07 14 50.3	+0.7
MNSI				S	Sn	07 15 07.8	+1.3
BKNI	**Bangkinang**	**1.32**	**111**	P	Pn	07 14 56.9	+0.4
BKNI				S	Sn	07 15 19.7	+0.9
PPI	**Padang Panjang**	**1.39**	**155**	P	Pn	07 14 57.5	+0.4
PPI				S	Sn	07 15 20.8	+0.8
PBSI	**Pulau Batu**	**1.75**	**241**	P	Pn	07 15 01.4	+0.5
PBSI				S	Sn	07 15 27.3	+0.7
PDSI	**Padang**	**1.83**	**159**	P	Pn	07 15 02.0	+0.3
SISI	**Saibi**	**2.24**	**199**	P	Pn	07 15 06.7	+0.4
SISI				S	Sn	07 15 37.7	+1.3
PPSI	**Pulau Pagai**	**3.56**	**177**	P	Pn	07 15 21.5	-1.0
PPSI				S	Sn	07 16 05.4	+0.1
TPTI		**3.58**	**313**	P	Pn	07 15 23.5	+0.7
TPTI				S	Sn	07 16 06.0	+0.1

ISK 22 07:16:03.9, 39°.69N×38°.56E, h14km, MD2.8
ISCJB 22 07:16:05.7±0.5, 39°.68N±0°.03×38°.67E±0°.04, h8km±7km, Error ellipse: s-maj=5.5km s-min=4.3km az=4.3
CSEM 22 07:16:05.2±0.2, 39°.67N×38°.66E, h15km, MD2.6, Error ellipse: s-maj=6.0km s-min=3.9km az=96.0
DDA 22 07:16:05.7, 39°.65N×38°.69E, h7km, Md2.6
ISC 22 07:16:05.2±1.1, 39°.68N±0°.03×38°.64E±0°.03, h15km±9km, n19, σ0°.61/33, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
REFA	**Refahiye_ERZ˜**	**0.30**	**161**	*i* P	**Pg**	**07 16 11.0**	**-0.6**
REFA	**Refahiye_ERZ˜**	**0.30**	**161**	P	**Pg**	**07 16 11.0**	**-0.6**
KEMA	**Kemaliye**	**0.43**	**196**	*i* P	**Pg**	**07 16 13.8**	**0.0**
KEMA				*i* S	**Sb**	**07 16 20.3**	**-0.4**
KEMA	**Kemaliye**	**0.43**	**196**	P	**Pg**	**07 16 13.8**	**0.0**
KEMA				S	**Sb**	**07 16 20.3**	**-0.4**
SUSE	**Susehri**	**0.63**	**328**	*i* P	**Pb**	**07 16 18.6**	**+0.7**
SUSE				*i* S	**Sn**	**07 16 28.7**	**-0.8**
SUSE	**Susehri**	**0.63**	**328**	P	**Pb**	**07 16 18.6**	**+0.7**
SUSE				S	**Sn**	**07 16 28.7**	**-0.8**
KELT	**Kelkit**	**0.67**	**45**	*i* P	**Pb**	**07 16 18.7**	**+0.1**
KELT				*i* S	**Sb**	**07 16 28.4**	**+0.7**
KELT	**Kelkit**	**0.67**	**45**	P	**Pb**	**07 16 18.7**	**+0.1**
KELT				S	**Sb**	**07 16 28.4**	**+0.7**
ERZN	**Erzincan**	**0.84**	**96**	*e*PG	**Pn**	**07 16 22.4**	**-0.2**
ERZN				*e*SG	**Sn**	**07 16 34.8**	**+0.1**
CUKAN	**kangal_SIVAS**	**0.98**	**249**	*i* P	**Pb**	**07 16 23.7**	**-0.2**
CUKAN				*i* S	**Sn**	**07 16 40.0**	**+1.9**
CUKAN	**kangal_SIVAS**	**0.98**	**249**	P	**Pb**	**07 16 23.7**	**-0.2**
PTK	**Pertek**	**0.98**	**143**	*e*PG	**Pg**	**07 16 24.2**	**0.0**
PTK				*e*SG	**Sn**	**07 16 37.9**	**-0.3**
PTK	**Pertek**	**0.98**	**143**	*e*Pg	**Pg**	**07 16 24.2**	**0.0**
PTK				*e*Sg	**Sn**	**07 16 37.9**	**-0.3**
GUMT	**Gumushane**	**1.01**	**39**	*e*PG	**Pg**	**07 16 24.7**	**-0.1**
GUMT				*e*SG	**Sn**	**07 16 38.6**	**-0.3**
GUMT	**Gumushane**	**1.01**	**39**	*e*Pg	**Pg**	**07 16 24.7**	**-0.1**
GUMT				*e*Sg	**Sn**	**07 16 38.6**	**-0.3**
ELZG	**Elazig**	**1.21**	**167**	*i* P	**Pn**	**07 16 27.6**	**-0.1**
ELZG				*i* S	**Sg**	**07 16 45.1**	**+0.7**
ELZG	**Elazig**	**1.21**	**167**	P	**Pn**	**07 16 27.6**	**-0.1**
ELZG				S	**Sg**	**07 16 45.1**	**+0.7**
ESPY	**Espiye-Giresun**	**1.24**	**3**	*e*PN	**Pn**	**07 16 27.1**	**-0.8**
ESPY	**Espiye-Giresun**	**1.24**	**3**	*e*Pn	**Pn**	**07 16 27.1**	**-0.8**

ISCJB 22 07:23:01.7±0.6, 39°.66N±0°.03×38°.68E±0°.04, h2km±8km, Error ellipse: s-maj=5.3km s-min=4.2km az=162.4
CSEM 22 07:23:01.4±0.1, 39°.65N×38°.68E, h8km, MD2.6, Error ellipse: s-maj=3.9km s-min=3.0km az=66.0
DDA 22 07:23:01.4, 39°.65N×38°.68E, h7km, Md2.6
ISK 22 07:23:01.2, 39°.62N×38°.66E, h8km, MD2.6
ISC 22 07:23:01.4±1.3, 39°.64N±0°.02×38°.67E±0°.03, h9km±10km, n19, σ0°.54/32, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ILIC	**ilic-Erzincan**	**0.20**	**202**	*e*PG	**Pg**	**07 23 05.4**	**-0.2**
ILIC	**ilic-Erzincan**	**0.20**	**202**	*e*Pg	**Pg**	**07 23 05.4**	**-0.2**
REFA	**Refahiye_ERZ˜**	**0.26**	**163**	*i* P	**Pg**	**07 23 07.2**	**+0.6**
REFA				*i* S	**Sb**	**07 23 11.9**	**-1.0**
REFA	**Refahiye_ERZ˜**	**0.26**	**163**	P	**Pg**	**07 23 07.2**	**+0.6**
REFA				S	**Sb**	**07 23 11.9**	**-1.0**
KEMA	**Kemaliye**	**0.40**	**200**	*i* P	**Pg**	**07 23 09.3**	**+0.2**
KEMA				*i* S	**Sb**	**07 23 15.9**	**-0.9**
KEMA	**Kemaliye**	**0.40**	**200**	P	**Pg**	**07 23 09.3**	**+0.2**
KEMA				S	**Sb**	**07 23 15.9**	**-0.9**
SUSE	**Susehri**	**0.67**	**328**	*i* P	**Pg**	**07 23 14.7**	**+0.3**
SUSE				*i* S	**Sb**	**07 23 24.2**	**-0.6**
SUSE	**Susehri**	**0.67**	**328**	P	**Pg**	**07 23 14.7**	**+0.3**
SUSE				S	**Sb**	**07 23 24.2**	**-0.6**
KELT	**Kelkit**	**0.68**	**42**	*i* P	**Pg**	**07 23 14.3**	**-0.2**
KELT				*i* S	**Sb**	**07 23 24.2**	**-0.9**
KELT	**Kelkit**	**0.68**	**42**	P	**Pg**	**07 23 14.3**	**-0.2**
ERZN	**Erzincan**	**0.82**	**93**	*e*PG	**Pn**	**07 23 17.9**	**+0.3**
ERZN				*e*SG	**Sb**	**07 23 29.3**	**+0.3**
PTK	**Pertek**	**0.94**	**143**	*e*PG	**Pg**	**07 23 19.4**	**0.0**
PTK				*e*SG	**Sb**	**07 23 32.8**	**+0.3**
PTK	**Pertek**	**0.94**	**143**	*e*Pg	**Pg**	**07 23 19.4**	**0.0**
PTK				*e*Sg	**Sb**	**07 23 32.8**	**+0.3**
ELZG	**Elazig**	**1.17**	**168**	*i* P	**Pg**	**07 23 23.7**	**-0.1**
ELZG				*i* S	**Sn**	**07 23 40.5**	**+0.3**
ELZG	**Elazig**	**1.17**	**168**	P	**Pg**	**07 23 23.7**	**-0.1**
SCER	**sogukcermik**	**1.21**	**281**	*i* P	**Pb**	**07 23 24.5**	**0.0**
SCER				*i* S	**Sn**	**07 23 41.9**	**+0.8**
SCER	**sogukcermik**	**1.21**	**281**	P	**Pb**	**07 23 24.5**	**0.0**
SCER				S	**Sn**	**07 23 41.9**	**+0.8**
YEDI	**Yedisu-Bingol**	**1.47**	**97**	*e*PN	**Pb**	**07 23 28.7**	**-0.2**
YEDI	**Yedisu-Bingol**	**1.47**	**97**	*e*Pn	**Pb**	**07 23 28.7**	**-0.2**

JMA 22 07:25:34.2, 31°.33N×130°.56E, h9km±1km, M2.2, Kyushu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JSU	**Suzuyama**	**0.20**	**333**	P	Pg	07 25 38.4	+0.1
JTSR	**Tashiro 2**	**0.35**	**118**	P	Pg	07 25 40.8	-0.3
JTSR				*e*S	Sg	07 25 45.5	-0.3
JNAR	**Kushima--Naru**	**0.64**	**72**	P	Pg	07 25 47.0	+0.4
JNAR				*e*S	Sb	07 25 55.9	-0.7
JTZ	**Takazaki**	**0.73**	**38**	P	Pg	07 25 48.5	+0.3
JTZ				S	Sg	07 25 58.3	+0.6
JSJ	**Shimokoshiki**	**0.80**	**296**	P	Pg	07 25 48.8	-0.8

JMA 22 07:25:36.9, 31°.32N×130°.56E, h8km±1km, M2.2, Kyushu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JSU	**Suzuyama**	**0.21**	**334**	P	Pg	07 25 41.5	+0.4
JSU				S	Sg	07 25 44.3	+0.3
JSU	**Suzuyama**	**0.21**	**334**	S	Pg	07 25 41.5	+0.4
JTSR	**Tashiro 2**	**0.35**	**116**	*e*S	Sg	07 25 48.5	+0.2

ISK 22 07:26:29.0, 39°.74N×38°.57E, h20km, MD2.5
ISCJB 22 07:26:31.3±0.6, 39°.69N±0°.03×38°.68E±0°.04, h5km±6km, Error ellipse: s-maj=6.4km s-min=4.2km az=37.4
CSEM 22 07:26:31.1±0.2, 39°.66N×38°.72E, h15km, MD2.7, Error ellipse: s-maj=6.3km s-min=4.0km az=109.0
DDA 22 07:26:31.6, 39°.63N×38°.68E, h7km, Md2.7
ISC 22 07:26:31.3±0.9, 39°.66N±0°.03×38°.71E±0°.03, h12km±7km, n20, σ0°.74/37, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ILIC	**ilic-Erzincan**	**0.23**	**207**	*e*PG	**Pg**	**07 26 36.0**	**-0.4**
ILIC				*e*SG	**Sb**	**07 26 40.5**	**+0.7**
ILIC	**ilic-Erzincan**	**0.23**	**207**	*e*Pg	**Pg**	**07 26 36.0**	**-0.4**
ILIC				*e*Sg	**Sb**	**07 26 40.5**	**+0.7**
REFA	**Refahiye_ERZ˜**	**0.27**	**170**	*i* P	**Pb**	**07 26 37.9**	**-0.3**
REFA				*i* S	**Sb**	**07 26 42.7**	**-0.1**
REFA	**Refahiye_ERZ˜**	**0.27**	**170**	P	**Pb**	**07 26 37.9**	**-0.3**
REFA				S	**Sb**	**07 26 42.7**	**-0.1**
KEMA	**Kemaliye**	**0.43**	**203**	*i* P	**Pg**	**07 26 39.6**	**-0.2**
KEMA				*i* S	**Sg**	**07 26 45.4**	**-0.1**
KEMA	**Kemaliye**	**0.43**	**203**	P	**Pg**	**07 26 39.6**	**-0.2**
KEMA				S	**Sg**	**07 26 45.4**	**-0.1**
EZC	**Erzincan**	**0.51**	**80**	*e*Pg	**Pn**	**07 26 46.5**	**+2.0**
KELT	**Kelkit**	**0.64**	**41**	*i* P	**Pb**	**07 26 44.9**	**+0.2**
KELT				*i* S	**Sb**	**07 26 54.0**	**+0.3**
KELT	**Kelkit**	**0.64**	**41**	P	**Pb**	**07 26 44.9**	**+0.2**
KELT				S	**Sb**	**07 26 54.0**	**+0.3**
SUSE	**Susehri**	**0.67**	**325**	*i* P	**Pb**	**07 26 44.9**	**-0.2**
SUSE				*i* S	**Sb**	**07 26 54.8**	**+0.4**
SUSE	**Susehri**	**0.67**	**325**	P	**Pb**	**07 26 44.9**	**-0.2**
SUSE				S	**Sb**	**07 26 54.8**	**+0.4**
ERZN	**Erzincan**	**0.79**	**95**	*e*PG	**Pg**	**07 26 46.5**	**-0.1**
ERZN				*e*SG	**Sn**	**07 26 60.0**	**-0.2**
PTK	**Pertek**	**0.94**	**145**	*e*PG	**Pg**	**07 26 49.4**	**0.0**
PTK	**Pertek**	**0.94**	**145**	*e*Pg	**Pg**	**07 26 49.4**	**0.0**
GUMT	**Gumushane**	**0.99**	**36**	*e*PG	**Pb**	**07 26 48.5**	**-2.1**
GUMT				*e*SG	**Sb**	**07 27 02.8**	**-0.9**
GUMT	**Gumushane**	**0.99**	**36**	*e*Pg	**Pb**	**07 26 48.5**	**-2.1**
GUMT				*e*Sg	**Sb**	**07 27 02.8**	**-0.9**
CUKAN	**kangal_SIVAS**	**1.02**	**251**	*i* P	**Pb**	**07 26 50.4**	**-0.6**
CUKAN				*i* S	**Sg**	**07 27 04.2**	**-0.1**
CUKAN	**kangal_SIVAS**	**1.02**	**251**	P	**Pb**	**07 26 50.4**	**-0.6**
CUKAN				S	**Sg**	**07 27 04.2**	**-0.1**
ELZG	**Elazig**	**1.18**	**169**	*i* P	**Pg**	**07 26 54.1**	**0.0**
ELZG				*i* S	**Sn**	**07 27 09.2**	**-0.7**
ELZG	**Elazig**	**1.18**	**169**	P	**Pg**	**07 26 54.1**	**0.0**
ELZG				S	**Sn**	**07 27 09.2**	**-0.7**

ISK 22 07:38:17.6, 39°.78N×38°.58E, h9km, MD2.7
CSEM 22 07:38:19.7±0.2, 39°.66N×38°.69E, h10km, MD2.5, Error ellipse: s-maj=5.2km s-min=4.4km az=95.0
ISCJB 22 07:38:20.1±0.5, 39°.66N±0°.03×38°.68E±0°.04, h5km±6km, Error ellipse: s-maj=4.7km s-min=4.2km az=143.9
DDA 22 07:38:20.0, 39°.65N×38°.67E, h7km, Md2.5
ISC 22 07:38:19.2±1.1, 39°.71N±0°.02×38°.69E±0°.03, h8km±9km, n26, σ0°.95/41, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ILIC	**ilic-Erzincan**	**0.27**	**201**	*e*PG	**Pg**	**07 38 24.4**	**-0.3**
ILIC	**ilic-Erzincan**	**0.27**	**201**	*e*Pg	**Pg**	**07 38 24.4**	**-0.3**
REFA	**Refahiye_ERZ˜**	**0.32**	**170**	*i* P	**Pg**	**07 38 25.9**	**+0.4**
REFA				*i* S	**Sg**	**07 38 29.5**	**-0.2**
REFA	**Refahiye_ERZ˜**	**0.32**	**170**	P	**Pg**	**07 38 25.9**	**+0.4**
REFA				S	**Sg**	**07 38 29.5**	**-0.2**
KEMA	**Kemaliye**	**0.47**	**199**	*i* P	**Pg**	**07 38 28.0**	**-0.2**
KEMA				*i* S	**Sg**	**07 38 34.5**	**+0.2**
KEMA	**Kemaliye**	**0.47**	**199**	P	**Pg**	**07 38 28.0**	**-0.2**
KEMA				S	**Sg**	**07 38 34.5**	**+0.2**
KELT	**Kelkit**	**0.62**	**44**	*i* P	**Pb**	**07 38 33.5**	**+1.1**
KELT				*i* S	**Sb**	**07 38 42.4**	**+1.0**
KELT	**Kelkit**	**0.62**	**44**	P	**Pb**	**07 38 33.5**	**+1.1**
KELT				S	**Sb**	**07 38 42.4**	**+1.0**
SUSE	**Susehri**	**0.63**	**323**	*i* P	**Pb**	**07 38 33.4**	**+0.9**
SUSE				*i* S	**Sb**	**07 38 43.0**	**+1.4**
SUSE	**Susehri**	**0.63**	**323**	P	**Pb**	**07 38 33.4**	**+0.9**
SUSE				S	**Sb**	**07 38 43.0**	**+1.4**
ERZN	**Erzincan**	**0.80**	**98**	*e*PG	**Pb**	**07 38 36.1**	**+0.6**
ERZN				*e*SG	**Sb**	**07 38 47.9**	**+1.2**
TNCL	**Tunceli-Merkez**	**0.89**	**132**	*i* P	Pg	07 38 27.3	-8.9
TNCL				*i* S	**Sb**	**07 38 49.4**	**+0.4**
GUMT	**Gumushane**	**0.96**	**39**	*e*PG	**Pg**	**07 38 37.2**	**-0.5**
GUMT	**Gumushane**	**0.96**	**39**	*e*Pg	**Pg**	**07 38 37.2**	**-0.5**
PTK	**Pertek**	**0.98**	**146**	*e*PN	**Pn**	**07 38 39.1**	**-0.3**
PTK	**Pertek**	**0.98**	**146**	*e*Pn	**Pn**	**07 38 39.2**	**-0.3**
CUKAN	**kangal_SIVAS**	**1.03**	**248**	*i* P	**Pg**	**07 38 38.1**	**-0.8**
CUKAN				*i* S	**Sb**	**07 38 53.2**	**+0.2**
CUKAN	**kangal_SIVAS**	**1.03**	**248**	P	**Pg**	**07 38 38.1**	**-0.8**
CUKAN				S	**Sb**	**07 38 53.2**

DPC				Sg	**Sb**	**07 46 34.5**	**-0.3**
	16nm,0.5s						
VRAC	**Vranov**	**1.80**	**244**	*e*Pn	**Pb**	**07 46 12.2**	**-0.3**
VRAC				*e*Sg	**Sb**	**07 46 36.0**	**+0.3**
KSP	**Ksiaz**	**1.90**	**293**	*e*Pg	**Pg**	**07 46 15.3**	**+0.2**
KSP				*e*Sg	**Sg**	**07 46 39.9**	**+0.1**
KSP	**Ksiaz**	**1.90**	**293**	*e*Pg	**Pg**	**07 46 15.3**	**+0.2**
KSP				*e*Sg	**Sg**	**07 46 39.9**	**+0.1**
KSP	**Ksiaz**	**1.90**	**293**	*e*Pg	**Pg**	**07 46 15.3**	**+0.2**
KSP				*e*Sg	**Sg**	**07 46 39.9**	**+0.1**
PRU	**Pruhonice**	**2.92**	**269**	*e*SG	**Sb**	**07 47 10.0**	**+2.3**
	comp=Z,3.6nm,0.5s						
PRU	**Pruhonice**	**2.92**	**269**	Sg	**Sb**	**07 47 10.0**	**+2.3**
	3.6nm,0.5s						
KHC	**Kasperske Hory**	**3.70**	**256**	*e*SG	**Sg**	**07 47 35.6**	**-2.0**
	comp=Z,3.0nm,0.4s						
KHC	**Kasperske Hory**	**3.70**	**256**	Sg	**Sg**	**07 47 35.6**	**-2.0**
	3.0nm,0.4s						

IDC 22 08:05:17.7±5.3, 14°36S×174°77E, h615km±83km, mb3.1/4, mb1 3.3/5, mb1mx2.9/28, mbtmp4.2/5, Error ellipse: s-maj=109.9km s-min=36.4km az=148.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**11.02**	**225**	P	P	08 07 46.7	-0.2
	0.4nm,0.3s,baz=43,slow=19,SNR=5.1						
STKA	**Stephens Creek**	**34.95**	**234**	P	P	08 11 20.4	+0.1
	3.3nm,0.6s,baz=59,slow=8.2,SNR=4.8						
WRA	**Warramunga Arr**	**38.96**	**256**	P	P	08 11 53.0	-0.2
	2.9nm,0.6s,baz=89,slow=8.2,SNR=46						
ASAR	**Alice Springs**	**39.61**	**250**	P	P	08 11 58.3	0.0
	3.0nm,0.4s,baz=85,slow=8.5,SNR=61						
ILAR	**Eielson Array**	**84.08**	**16**	P	P	08 16 44.6	0.0
	0.2nm,0.5s,baz=216,slow=4.5,SNR=3.1						

ISCJB ***22*** *08:09:59.9±0.8, 36°.32N±0°.04×141°.16E±0°.08, h45km±10km, mb3.5/3, Error ellipse: s-maj=10.4km s-min=6.1km az=176.7*
JMA ***22*** *08:10:00.9±0.1, 36°.33N×141°.08E, h45km±2km, M3.4*
IDC ***22*** *08:10:02.1±3.6, 36°.27N×141°.16E, h57km±36km, mb3.3/3, mb1 3.6/5, mb1mx3.2/46, mbtmp3.6/5, ML3.1/2, Error ellipse: s-maj=31.0km s-min=12.7km az=65.0*

ISC 22 08:09:59.2±1.6, 36°32N±0°.05×141°19E±0°.07, h26km±12km, n12, σ0s93/21, mb3.5/3, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHO	**Hitachi**	**0.58**	**300**	P	**Pn**	**08 10 11.6**	**-0.1**
JHO				S	**Sb**	**08 10 18.9**	**+0.2**
CHOJ	**Chosi**	**0.67**	**204**	P	**Pn**	**08 10 13.7**	**+0.7**
CHOJ				*e*S	**Sn**	**08 10 22.9**	**+0.2**
JYT	**Yasato**	**0.81**	**264**	P	**Pn**	**08 10 14.8**	**-0.1**
JYT				S	**Sb**	**08 10 24.3**	**-0.9**
ONAJ	**Iwakimizuishiy**	**0.84**	**338**	P	**Pb**	**08 10 15.4**	**+0.2**
ONAJ				S	**Sb**	**08 10 25.7**	**-0.5**
JFT	**Otama**	**1.38**	**330**	P	**Pb**	**08 10 24.2**	**-0.1**
JFT				S	**Sn**	**08 10 40.5**	**+0.4**
JAG	**Ashikaga**	**1.41**	**275**	P	**Pn**	**08 10 23.4**	**+0.3**
JAG				*e*S	**Sn**	**08 10 39.8**	**-1.0**
MJAR	**Matsushiro Arr**	**2.41**	**276**	P	**Pn**	**08 10 38.0**	**+1.0**
	5.6nm,0.3s,baz=86,slow=12,SNR=32						
MJAR				S	**Sn**	**08 11 07.2**	**+1.5**
	6.8nm,0.3s,baz=85,slow=17,SNR=8.7						
MAT	**Matsushiro**	**2.42**	**276**	P	**Pn**	**08 10 38.3**	**+1.3**
MAT				S	**Sn**	**08 11 05.8**	**+0.1**
JHJ	**Hachijo jima 2**	**3.40**	**200**	P	**Pn**	**08 10 50.6**	**+0.1**
	3.7nm,0.3s,baz=59,slow=19,SNR=2.9						
JHJ				S	**Sn**	**08 11 31.4**	**+1.5**
	12nm,0.3s,baz=62,slow=17,SNR=3.5						
SONM	**Songino Array**	**28.04**	**305**	P	**P**	**08 15 48.7**	**+0.4**
	0.6nm,0.6s,baz=90,slow=8.8,SNR=3.0						
ILAR	**Eielson Array**	**50.19**	**32**	P	**P**	**08 18 52.9**	**+0.6**
	0.4nm,0.7s,baz=260,slow=5.7,SNR=5.1						
WRA	**Warramunga Arr**	**56.33**	**188**	P	**P**	**08 19 35.8**	**-2.0**
	0.6nm,1.0s,baz=5.4,slow=7.5,SNR=6.6						

DDA 22 08:11:06.0, 37°98N×35°63E, h7km, Md2.7, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YAHY	**KAYSERI_Yahyal**	**0.24**	**299**	*i* P	Pg	08 11 10.9	+0.1
YAHY				*i* S	Sg	08 11 15.2	+1.2
AKO	**Adana**	**0.54**	**196**	*i* P	Pg	08 11 16.5	+0.2
AKO				*i* S	Sb	08 11 24.8	-0.8
GULE	**Gulek**	**0.97**	**225**	*i* P	Pg	08 11 22.4	-2.2
GULE				*i* S	Sb	08 11 38.3	0.0

ISCJB ***22*** *08:17:19.8±0.6, 39°.66N±0°.03×38°.73E±0°.06, h3km±17km, Error ellipse: s-maj=7.6km s-min=4.8km az=178.5*
CSEM ***22*** *08:17:19.9±0.1, 39°.65N×38°.69E, h8km, MD2.7, Error ellipse: s-maj=3.6km s-min=2.1km az=85.0*
DDA ***22*** *08:17:19.8, 39°.65N×38°.68E, h7km, Md2.7*
ISK ***22*** *08:17:20.7, 39°.75N×39°.53E, h22km, MD2.6*

ISC 22 08:17:18.6±1.1, 39°67N±0°.02×38°85E±0°.05, h12km±10km, n16, σ0s80/25, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
REFA	**Refahiye_ERZ¯**	**0.28**	**193**	*i* P	**Pb**	**08 17 25.6**	**0.0**
REFA				*i* S	**Sb**	**08 17 29.7**	**-0.6**
REFA	**Refahiye_ERZ¯**	**0.28**	**193**	P	**Pb**	**08 17 25.6**	**0.0**
REFA				S	**Sb**	**08 17 29.7**	**-0.6**
EZC	**Erzincan**	**0.40**	**78**	*e*Pg	**Pg**	**08 17 26.7**	**+0.1**
KEMA	**Kemaliye**	**0.48**	**215**	*i* P	**Pg**	**08 17 27.8**	**-0.2**
KEMA				*i* S	**Sg**	**08 17 34.2**	**-0.3**
KEMA	**Kemaliye**	**0.48**	**215**	P	**Pg**	**08 17 27.8**	**-0.2**
KEMA				S	**Sg**	**08 17 34.2**	**-0.3**
KELT	**Kelkit**	**0.57**	**33**	*i* P	**Pn**	**08 17 32.9**	**+0.1**
KELT				*i* S	**Sn**	**08 17 41.8**	**-0.5**
KELT	**Kelkit**	**0.57**	**33**	P	**Pn**	**08 17 32.9**	**+0.1**
KELT				S	**Sn**	**08 17 41.8**	**-0.5**
ERZN	**Erzincan**	**0.68**	**96**	*e*PG	Pg	08 17 26.7	-5.1
SUSE	**Susehri**	**0.73**	**318**	*i* P	**Pg**	**08 17 32.8**	**0.0**
SUSE				*i* S	**Sg**	**08 17 42.8**	**+0.3**
SUSE	**Susehri**	**0.73**	**318**	P	**Pg**	**08 17 32.8**	**0.0**
SUSE				S	**Sg**	**08 17 42.8**	**+0.3**
PTK	**Pertek**	**0.88**	**151**	*e*PG	**Pn**	**08 17 37.9**	**+0.9**
PTK				*e*SG	**Sn**	**08 17 50.4**	**+0.5**
PTK	**Pertek**	**0.88**	**151**	*e*Pg	**Pn**	**08 17 37.9**	**+0.9**
PTK				*e*Sg	**Sn**	**08 17 50.4**	**+0.5**
GUMT	**Gumushane**	**0.93**	**31**	*e*PG	**Pb**	**08 17 35.5**	**-1.3**
GUMT	**Gumushane**	**0.93**	**31**	*e*Pg	**Pb**	**08 17 35.5**	**-1.3**
ESPY	**Espiye-Giresun**	**1.25**	**356**	*e*PN	**Pg**	**08 17 44.4**	**+1.7**
ESPY	**Espiye-Giresun**	**1.25**	**356**	*e*Pn	**Pg**	**08 17 44.4**	**+1.7**

WEL 22 08:56:21.3±0.4, 36°56S×177°40E, h161km±4km, ML3.7/19, Error ellipse: s-maj=6.8km s-min=5.0km az=90.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HAZ	**Te Kaha**	**1.23**	**166**	PN	Pn	08 56 49.2	+0.1
HAZ				SN	Sn	08 57 10.2	-0.3
HAZ				AML	AML	08 57 15.1	
MXZ	**Matakaoa Point**	**1.24**	**144**	PN	Pn	08 56 49.3	+0.2
MXZ				SN	Sn	08 57 11.4	+0.8
RUGZ	**Raukumara Rang**	**1.42**	**171**	PN	Pn	08 56 50.5	-0.5
PKGZ	**Pakihiroa**	**1.43**	**158**	PN	Pn	08 56 51.1	0.0
WMGZ	**Waiomatatini S**	**1.50**	**147**	PN	Pn	08 56 51.6	-0.1
WMGZ				AML	AML	08 57 24.3	
WMGZ				AML	AML	08 57 24.3	
PUZ	**Puketiti**	**1.66**	**156**	PN	Pn	08 56 53.1	-0.3
PUZ				SN	Sn	08 57 16.6	-1.5
PUZ				AML	AML	08 57 27.8	
TWGZ	**Tauwhareparae**	**1.68**	**164**	PN	Pn	08 56 54.0	+0.4
TWGZ				SN	Sn	08 57 18.4	-0.2
TWGZ				AML	AML	08 57 29.4	
URZ	**Urewera**	**1.71**	**188**	PN	Pn	08 56 53.9	0.0
URZ				AML	AML	08 57 21.6	
URZ				AML	AML	08 57 21.6	
MWZ	**Matawai**	**1.77**	**177**	PN	Pn	08 56 55.0	+0.3
MWZ				AML	AML	08 57 26.4	
MWZ				AML	AML	08 57 29.2	
TKGZ	**Te Karaka**	**1.91**	**169**	PN	Pn	08 56 56.4	+0.3
TKGZ				AML	AML	08 57 24.7	
TKGZ				AML	AML	08 57 32.7	
RAGZ	**Rawiri**	**1.93**	**180**	PN	Pn	08 56 57.9	+1.4
RAGZ				AML	AML	08 57 27.0	
RAGZ				AML	AML	08 57 30.1	
MUGZ	**Murupara**	**1.98**	**194**	PN	Pn	08 56 57.1	+0.2
CNGZ	**Carnagh Statio**	**2.02**	**162**	PN	Pn	08 56 57.5	+0.1
RTZ	**Ruatahuna**	**2.08**	**189**	PN	Pn	08 56 58.0	-0.1
RIGZ	**Rimuhau**	**2.16**	**172**	PN	Pn	08 56 58.7	-0.3
RIGZ				AML	AML	08 57 30.2	
RIGZ				AML	AML	08 57 40.8	
SNGZ	**Shannon Statio**	**2.22**	**181**	PN	Pn	08 56 59.6	0.0
SNGZ				AML	AML	08 57 47.3	
SNGZ				AML	AML	08 57 50.0	
NMHZ	**Naumai**	**2.58**	**190**	PN	Pn	08 57 04.4	+0.4
NMHZ				AML	AML	08 57 49.6	
NMHZ				AML	AML	08 57 50.5	
MHGZ	**Mahia Peninsul**	**2.62**	**171**	PN	Pn	08 57 03.7	-0.7
BKZ	**Black Stump Fm**	**2.70**	**195**	PN	Pn	08 57 04.6	-0.8
ARHZ	**Aropaoanui**	**2.72**	**187**	PN	Pn	08 57 05.2	-0.4
ARHZ				AML	AML	08 57 41.8	
ARHZ				AML	AML	08 57 52.4	
MCHZ	**McNeill Hill**	**2.93**	**191**	PN	Pn	08 57 07.9	-0.3
KWHZ	**Kaweka Forest**	**2.96**	**195**	PN	Pn	08 57 07.7	-1.0
KWHZ				AML	AML	08 57 57.3	
KWHZ				AML	AML	08 57 58.1	
TUVZ	**Tukino**	**3.04**	**207**	PN	Pn	08 57 10.1	+0.5
CKHZ	**Cape Kidnapper**	**3.10**	**185**	PN	Pn	08 57 09.3	-1.1
WNVZ	**Wahianoa**	**3.11**	**207**	PN	Pn	08 57 10.3	-0.3
MOVZ	**Moawhango**	**3.12**	**204**	PN	Pn	08 57 10.1	-0.7
KRHZ	**Kereru**	**3.18**	**194**	PN	Pn	08 57 10.4	-1.0
KRHZ				AML	AML	08 58 02.7	
MTVZ	**Mangateitei**	**3.21**	**208**	PN	Pn	08 57 11.9	+0.2
KAHZ	**Kahuranaki**	**3.25**	**187**	PN	Pn	08 57 10.9	-1.4
PNHZ	**Pukenui**	**3.48**	**195**	PN	Pn	08 57 13.1	-2.0
PXZ	**Pawanui**	**3.49**	**187**	PN	Pn	08 57 13.1	-2.2
TSZ	**Takapari Road**	**3.67**	**197**	PN	Pn	08 57 15.2	-2.4
WAZ	**Wanganui**	**3.71**	**210**	PN	Pn	08 57 17.8	-0.4
PRHZ	**Porangahau**	**3.75**	**189**	PN	Pn	08 57 16.4	-2.2
PRHZ				AML	AML	08 58 04.9	
DVHZ	**Dannevirke**	**3.86**	**194**	PN	Pn	08 57 17.4	-2.6
ANWZ	**Angora Road**	**3.96**	**190**	PN	Pn	08 57 19.0	-2.3
POWZ	**Post Office Ro**	**4.03**	**198**	PN	Pn	08 57 19.8	-2.4
PRWZ	**Pori Road**	**4.14**	**195**	PN	Pn	08 57 21.6	-2.1
MRZ	**Mangatainoka R**	**4.33**	**199**	PN	Pn	08 57 23.0	-3.2
TIWZ	**Tintock**	**4.37**	**195**	PN	Pn	08 57 23.7	-2.9
HOWZ	**Holdsworth Sta**	**4.57**	**198**	PN	Pn	08 57 25.7	-3.6
OGWZ	**Otaki Gorge**	**4.59**	**202**	PN	Pn	08 57 26.2	-3.3
OGWZ				AML	AML	08 58 20.3	
TMWZ	**Te Maipa**	**4.69**	**194**	PN	Pn	08 57 27.3	-3.5
KIW	**Kapiti Island**	**4.71**	**204**	PN	Pn	08 57 27.8	-3.3
MTW	**Mount Morrison**	**4.82**	**197**	PN	Pn	08 57 28.6	-4.0
CAW	**Cannon Point**	**4.89**	**201**	PN	Pn	08 57 29.4	-4.0
DUWZ	**D'Urville Isla**	**5.03**	**212**	PN	Pn	08 57 32.0	-3.3
TCW	**Tory Channel**	**5.24**	**207**	PN	Pn	08 57 34.1	-3.9
PLWZ	**Palliser**	**5.27**	**198**	PN	Pn	08 57 33.9	-4.6
TUWZ	**Tuamarina**	**5.56**	**208**	PN	Pn	08 57 38.1	-4.1
QRZ	**Quartz Range**	**5.71**	**220**	PN	Pn	08 57 40.7	-3.5
THZ	**Tophouse**	**6.26**	**213**	PN	Pn	08 57 48.1	-3.4
KHZ	**Kahutara**	**6.56**	**206**	PN	Pn	08 57 51.2	-4.3
INZ	**Inchbonnie**	**7.68**	**215**	PN	Pn	08 58 06.7	-3.7
OXZ	**Oxford**	**7.91**	**210**	PN	Pn	08 58 07.5	-5.9
MQZ	**McQueen's Vall**	**8.01**	**206**	PN	Pn	08 58 08.2	-6.4

WEL 22 09:03:05.8±0.3, 45°07S×167°43E, h130km±2km, ML3.5/9, 3C-5D, Error ellipse: s-maj=2.6km s-min=1.5km az=90.0, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DCZ	**Deep Cove**	**0.44**	**207**	PN	Pn	09 03 24.3	-0.2
DCZ				SN	Sn	09 03 37.8	-1.0
DCZ				AML	AML	09 03 38.4	
MSZ	**Milford Sound**	**0.53**	**42**	↑PN	Pn	09 03 25.1	+0.1
MSZ				SN	Sn	09 03 39.1	-0.5
MSZ				AML	AML	09 03 41.0	
MLZ	**Mavora Lakes**	**0.57**	**122**	↑PN	Pn	09 03 25.3	-0.1
MLZ				AML	AML	09 03 40.7	
MLZ				AML	AML	09 03 41.5	
WHZ	**Wether Hill Ro**	**0.90**	**156**	↓PN	Pn	09 03 27.7	-0.1
WHZ				AML	AML	09 03 44.2	
WHZ				AML	AML	09 03 44.2	
WKZ	**Wanaka**	**1.15**	**78**	↑PN	Pn	09 03 30.2	0.0
WKZ				AML	AML	09 03 49.1	
WKZ				AML	AML	09 03 50.6	
PYZ	**Puysegur Point**	**1.22**	**205**	PN	Pn	09 03 30.7	-0.1
EAZ	**Earnscleugh**	**1.34**	**98**	↓PN	Pn	09 03 31.9	-0.2
EAZ				AML	AML	09 03 51.1	
EAZ				AML	AML	09 03 51.2	
JCZ	**Jackson Bay**	**1.39**	**45**	PN	Pn	09 03 32.2	-0.6
JCZ				AML	AML	09 03 52.0	
JCZ				AML	AML	09 03 52.8	
TUZ	**Tuapeka**	**1.78**	**121**	↓PN	Pn	09 03 36.9	-0.1
TUZ				AML	AML	09 04 00.7	
TUZ				AML	AML	09 04 01.1	
APZ	**The Paps**	**1.80**	**168**	PN	Pn	09 03 37.1	-0.3
SYZ	**Scrubby Hill**	**1.89**	**141**	↓PN	Pn	09 03 38.3	-0.1
SYZ				SN	Sn	09 04 01.5	-1.8
SYZ				AML	AML	09 04 03.6	
LBZ	**Lake Benmore**	**2.08**	**72**	↓PN	Pn	09 03 39.3	-1.4
LBZ				SN	Sn	09 04 03.9	-3.5
ODZ	**Otahua Downs**	**2.28**	**90**	PN	Pn	09 03 42.0	-1.1
INZ	**Inchbonnie**	**3.73**	**52**	PN	Pn	09 03 60.0	-1.9
OXZ	**Oxford**	**3.74**	**64**	PN	Pn	09 04 01.0	-1.1
MQZ	**McQueen's Vall**	**3.98**	**72**	PN	Pn	09 04 04.8	-0.4
DSZ	**Denniston Nort**	**4.60**	**45**	PN	Pn	09 04 11.2	-2.4

IDC 22 09:04:58.6±3.6, 4°23S×151°66E, h0km, mb3.3/2, mb1 3.7/2, mb1mx3.3/39, mbtmp3.4/2, MS3.2/2, Ms1 3.2/2, ms1mx2.5/21, Error ellipse: s-maj=151.6km s-min=46.7km az=117.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.00**	**226**	P	P	09 10 04.3	-0.9
	0.6nm,0.4s,baz=52,slow=9.8,SNR=12						
ASAR	**Alice Springs**	**25.83**	**220**	P	P	09 10 32.9	+1.0
	0.2nm,0.5s,baz=48,slow=9.6,SNR=5.9						
JOW	**Kunigami**	**38.27**	**325**	LR	LR	09 25 12.7	
	comp=Z,34nm,19.3s,baz=144,slow=32						
JHJ	**Hachijo jima 2**	**38.81**	**344**	LR	LR	09 28 55.8	
	comp=Z,27nm,18.4s,baz=68,slow=37						
TORD	**Torodi Ar. Bea**	**149.05**	**289**	PKPbc	PKPbc	09 24 49.1	-0.8
	0.5nm,1.0s,baz=94,slow=1.8,SNR=3.4						

IDC 22 09:20:50.1±1.6, 34°79S×179°87W, h0km, mb3.7/3, mb1 4.0/4, mb1mx3.8/20, mbtmp3.7/4, ML3.9/1, Error ellipse: s-maj=47.4km s-min=28.0km az=144.0, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**4.23**	**214**	Pn	Pn	09 21 54.8	-1.0
	7.3nm,0.3s,baz=109,slow=1.4,SNR=74						
URZ				Sn	Sn	09 22 46.8	+1.0
	4.4nm,0.3s,baz=330,slow=21,SNR=12						
ASAR	**Alice Springs**	**41.52**	**273**	P	P	09 28 39.8	+0.5
	0.8nm,0.6s,baz=115,slow=7.8,SNR=17						
WRA	**Warramunga Arr**	**42.91**	**278**	P	P	09 28 50.8	+0.2
	0.6nm,0.5s,baz=118,slow=7.6,SNR=12						
TXAR	**Lajitas Array**	**96.05**	**59**	P	P	09 34 20.8	+1.2
	0.1nm,0.6s,baz=212,slow=8.5,SNR=2.8						
FINES	**FINESS Array B**	**148.62**	**336**	PKPbc	PKPdf	09 40 35.7	+1.2
	3.2nm,1.1s,baz=64,slow=3.2,SNR=2.8						

IDC ***22*** *09:27:48.8±0.9, 57°.95S×25°.31W, h0km, mb4.0/5, mb1 4.0/5, mb1mx3.9/21, mbtmp4.0/5, MS3.0/1, Ms1 2.9/1, ms1mx2.5/16, Error ellipse: s-maj=36.3km s-min=24.6km az=74.0*
ISCJB ***22*** *09:27:53.7±0.8, 58°.0S±0°.1×25°.2W±0°.4, h49km, mb4.0/5, MS2.9/1, Error ellipse: s-maj=34.6km s-min=12.6km az=161.9*

ISC 22 09:27:55.5±0.8, 58°.0S±0°.1×25°.2W±0°.2, h49km, n19, σ1s00/12, mb4.1/5, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNA1	**Neumayer--Stat**	**14.54**	**157**	P	**P**	**09 31 23.0**	**-0.4**
VNA3	**Neumayer Olymp**	**14.75**	**160**	P	**Pn**	**09 31 19.7**	**-1.0**
VNA2	**Neumayer--Watz**	**14.93**	**157**	P	**Pn**	**09 31 22.2**	**-0.9**
	baz=321,slow=14						
SNAA	**Sanae**	**16.48**	**155**	P	**Pn**	**09 31 43.1**	**+0.2**
PLCA	**Paso Flores**	**33.43**	**281**	LR	LR	09 47 35.8	
	comp=Z,21nm,18.2s,baz=69,slow=36						
MAW	**Mawson**	**37.91**	**141**	P	**P**	**09 35 07.0**	**-0.3**
	1.0nm,0.8s,baz=249,slow=11,SNR=5.4						
VNDA	**Vanda**	**44.62**	**182**	P	**P**	**09 36 04.5**	**+2.3**
	0.6nm,0.6s,baz=186,slow=6.9,SNR=3.0						
H10S2	**ASCENSION HYDR**	**49.64**	**14**	T	T	10 30 16.8	
	baz=186						
H10S3	**ASCENSION HYDR**	**49.65**	**14**	T	T	10 30 16.8	
	baz=186						
H10S1	**ASCENSION HYDR**	**49.66**	**14**	T	T	10 30 16.8	
	baz=186						
H10N1	**ASCENSION HYDR**	**50.76**	**14**	T	T	10 31 39.1	
	baz=192						
H10N3	**ASCENSION HYDR**	**50.76**	**14**	T	T	10 31 40.2	
	baz=192						
H10N2	**ASCENSION HYDR**	**50.78**	**14**	T	T	10 31 39.1	
	baz=192						
LPAZ	**La Paz**	**52.40**	**304**	P	**P**	**09 37 02.3**	**-1.1**
	0.7nm,0.4s,baz=99,slow=5.9,SNR=11						
DBIC	**Dimbokro**	**66.57**	**22**	P	**P**	**09 38 40.7**	**+0.4**
	3.6nm,0.9s,baz=174,slow=10,SNR=2.7						
TORD	**Torodi Ar. Bea**	**74.30**	**27**	P	**P**	**09 39 27.8**	**+0.4**
	1.6nm,0.6s,baz=201,slow=6.3,SNR=19						
FINES	**FINESS Array B**	**125.65**	**27**	PKP	**PKPdf**	**09 46 49.5**	**-0.2**
	0.9nm,0.7s,baz=198,slow=8.7,SNR=4.2						
SONM	**Songino Array**	**149.74**	**88**	PKPbc	**PKPbc**	**09 47 38.5**	**-0.4**
	0.5nm,0.4s,baz=247,slow=2.5,SNR=3.7						
ILAR	**Eielson Array**	**152.23**	**308**	PKPbc	**PKPbc**	**09 47 44.1**	**+0.2**
	0.6nm,0.4s,baz=139,slow=2.0,SNR=11						

DDA ***22*** *09:29:21.3, 39°.64N×38°.68E, h7km, Ml2.6*
CSEM ***22*** *09:29:22.1±0.3, 39°.67N×38°.65E, h2km, ML2.6, Error ellipse: s-maj=6.9km s-min=5.5km az=73.0*
ISK ***22*** *09:29:24.2, 39°.75N×38°.90E, h5km, ML2.7*

ISC 22 09:29:21.8±1.0, 39°67N±0°.02×38°67E±0°.03, h8km±10km, n31, σ1s29/40, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
REFA	**Refahiye_ERZ¯**	**0.29**	**166**	*i* P	**Pg**	**09 29 27.1**	**-0.4**
REFA				*i* S	**Sg**	**09 29 31.4**	**+0.1**
REFA	**Refahiye_ERZ¯**	**0.29**	**166**	P	**Pg**	**09 29 27.1**	**-0.4**
REFA				S	**Sg**	**09 29 31.4**	**+0.1**
KEMA	**Kemaliye**	**0.43**	**199**	*i* P	**Pg**	**09 29 29.1**	**-1.0**
KEMA				*i* S	**Sg**	**09 29 35.6**	**-0.1**
KEMA	**Kemaliye**	**0.43**	**199**	P	**Pg**	**09 29 29.1**	**-1.0**
KEMA				S	**Sg**	**09 29 35.6**	**-0.1**
SUSE	**Susehri**	**0.65**	**326**	*i* P	**Pg**	**09 29 34.4**	**+0.2**
SUSE	**Susehri**	**0.65**	**326**	P	**Pg**	**09 29 34.4**	**+0.2**
KELT	**Kelkit**	**0.65**	**43**	*i* P	**Pg**	**09 29 34.3**	**-0.1**
KELT				*i* S	**Sg**	**09 29 43.9**	**+1.0**
KELT	**Kelkit**	**0.65**	**43**	P	**Pg**	**09 29 34.3**	**-0.1**
KELT				S	**Sg**	**09 29 43.9**	**+1.0**
CUZAR	**Zara_SIVAS**	**0.73**	**287**	*i* P	**Pg**	**09 29 35.8**	**0.0**
CUZAR				*i* S	**Sb**	**09 29 46.4**	**-0.6**
CUZAR	**Zara_SIVAS**	**0.73**	**287**	P	**Pg**	**09 29 35.8**	**0.0**
CUZAR				S	**Sb**	**09 29 46.4**	**-0.6**
ERZN	**Erzincan**	**0.81**	**96**	*e*PG	**Pb**	**09 29 37.9**	**-0.4**
ERZN				*e*SG	**Sg**	**09 29 48.0**	**0.0**
TNCL	**Tunceli-Merkez**	**0.87**	**129**	*i* P	**Pg**	**09 29 38.0**	**-0.5**
TNCL				*i* S	**Sn**	**09 29 51.5**	**-2.0**
TNCL	**Tunceli-Merkez**	**0.87**	**129**	P	**Pg**	**09 29 38.0**	**-0.5**
TNCL				S	**Sn**	**09 29 51.5**	**-2.0**
PTK	**Pertek**	**0.96**	**144**	*e*PG	**Pn**	**09 29 43.3**	**+1.5**
PTK	**Pertek**	**0.96**	**144**	*e*Pg	**Pn**	**09 29 43.3**	**+1.5**
GUMT	**Gumushane**	**1.00**	**38**	*e*PG	**Sg**	**09 29 40.6**	**-0.4**
GUMT				*e*SG	**Sg**	**09 29 54.0**	**0.0**
GUMT	**Gumushane**	**1.00**	**38**	*e*Pg	**Sg**	**09 29 40.6**	**-0.4**
GUMT				*e*Sg	**Sg**	**09 29 54.0**	**0.0**
ESPY	**Espiye-Giresun**	**1.24**	**2**	*e*PN	**Pg**	**09 29 47.7**	**+2.1**
ESPY	**Espiye-Giresun**	**1.24**	**2**	*e*Pn	**Pg**	**09 29 47.7**	**+2.1**
RSDY	**Resadiye-TOKAT**	**1.26**	**305**	*e*PN	Pg	09 29 51.1	+5.1
RSDY	**Resadiye-TOKAT**	**1.26**	**305**	*e*Pn	Pg	09 29 51.1	+5.1
GRSN	**GIRESUNGRSN**	**1.29**	**346**	*i* P	**Pg**	**09 29 46.6**	**+0.1**
GRSN	**GIRESUNGRSN**	**1.29**	**346**	P	**Pg**	**09 29 46.6**	**+0.1**
SVSK	**Karacayir**	**1.31**	**281**	*e*PN	Pg	09 29 53.2	+6.2
SVRC	**Sivrice-ELAZID**	**1.38**	**159**	*e*PN	**Pg**	**09 29 51.9**	**+3.6**
SVRC	**Sivrice-ELAZID**	**1.38**	**159**	*e*Pn	**Pg**	**09 29 51.9**	**+3.6**

PTF				Sg		Sb	09 53 37.9	+0.5	
ASQU	**Asqua**	**0.55**	**163**	Pg		Pg	09 53 29.7	-1.4	
ASQU				Sg		Sb	09 53 38.8	+0.4	
	206nm,0.6s								
ASQU	**Asqua**	**0.55**	**163**	Pg		Pg	09 53 29.7	-1.4	
ASQU				Sg		Sb	09 53 38.8	+0.4	
	206nm,0.6s								
CRMI	**Carmignano**	**0.69**	**220**	Pg		Pg	09 53 32.7	-1.0	
CRMI				Sg		Sb	09 53 42.8	+0.4	
	60nm,0.5s								
CRMI	**Carmignano**	**0.69**	**220**	Pg		Pg	09 53 32.7	-1.0	
CRMI				Sg		Sb	09 53 42.8	+0.4	
	60nm,0.5s								
BDI	**Bagni Di Lucca**	**0.75**	**250**	Pg		Pg	09 53 34.5	-0.3	
BDI				Sg		Sb	09 53 45.3	+1.0	
	68nm,0.6s								
BDI	**Bagni Di Lucca**	**0.75**	**250**	Pg		Pg	09 53 34.5	-0.3	
BDI				Sg		Sb	09 53 45.3	+1.0	
	68nm,0.6s								
CPGN	**Carpegna, Ital**	**0.75**	**134**	Pg		Pg	09 53 34.7	-0.2	
	177µm,27.0s								
CPGN	**Carpegna, Ital**	**0.75**	**134**	Pg		Pg	09 53 34.7	-0.2	
	177µm,27.0s								
PARC	**Parchiule**	**0.83**	**144**	Pg		Pg	09 53 35.1	-1.2	
	43nm,0.4s								
PARC	**Parchiule**	**0.83**	**144**	Pg		Pg	09 53 35.1	-1.2	
	43nm,0.4s								
SARO	**Sassorosso**	**0.85**	**261**	P		Pn	09 53 38.7	+1.6	
MAIM	**Mastiano**	**0.88**	**243**	Pg		Pg	09 53 36.9	-0.3	
MAIM	**Mastiano**	**0.88**	**243**	P		Pg	09 53 36.7	-0.5	
MAIM	**Mastiano**	**0.88**	**243**	Pg		Pg	09 53 36.9	-0.3	
BADI	**Badiali**	**0.94**	**149**	Pg		Pn	09 53 38.9	+0.6	
	87nm,0.7s								
BADI	**Badiali**	**0.94**	**149**	Pg		Pn	09 53 38.9	+0.6	
	87nm,0.7s								
ATMC	**Monte Cedrone**	**0.98**	**153**	Pg		Pg	09 53 38.2	-1.0	
	98nm,0.8s								
ATMC	**Monte Cedrone**	**0.98**	**153**	Pg		Pg	09 53 38.2	-1.0	
	98nm,0.8s								
TEOL	**Teolo**	**1.04**	**4**	*e*Pg		Pb	09 53 38.4	-1.1	
TEOL				*e*Sg		Sb	09 53 53.6	+0.8	
TEOL	**Teolo**	**1.04**	**4**	*e*Pg		Pb	09 53 38.4	-1.1	
TEOL				*e*Sg		Sb	09 53 53.6	+0.8	
PIEI	**Pieia**	**1.05**	**138**	Pg		Pn	09 53 41.1	+1.3	
	32nm,0.3s								
PIEI	**Pieia**	**1.05**	**138**	Pg		Pn	09 53 41.1	+1.3	
	32nm,0.3s								
ATPC	**Poggio Castell**	**1.05**	**142**	Pg		Pn	09 53 41.5	+1.6	
	76nm,0.6s								
ATPC	**Poggio Castell**	**1.05**	**142**	Pg		Pn	09 53 41.5	+1.6	
	76nm,0.6s								
FSSB	**Fossombrone**	**1.07**	**125**	Pg		Pn	09 53 41.8	+1.7	
	109nm,0.4s								
FSSB	**Fossombrone**	**1.07**	**125**	Pg		Pn	09 53 41.8	+1.7	
	109nm,0.4s								
MPAG	**Monte Paganucc**	**1.10**	**128**	Pg		Pn	09 53 42.0	+1.5	
	71nm,1.0s								
MPAG	**Monte Paganucc**	**1.10**	**128**	Pg		Pn	09 53 42.0	+1.5	
	71nm,1.0s								
ATVO	**AVT- Monte Val**	**1.11**	**147**	Pg		Pn	09 53 41.9	+1.2	
	93nm,0.7s								
ATVO	**AVT- Monte Val**	**1.11**	**147**	Pg		Pn	09 53 41.9	+1.2	
	93nm,0.7s								
FROS	**Frosini**	**1.15**	**195**	Pg		Pg	09 53 42.0	-0.4	
	51nm,0.5s								
FROS	**Frosini**	**1.15**	**195**	Pg		Pg	09 53 42.0	-0.4	
	51nm,0.5s								
MARN	**Marana (Italy)**	**1.34**	**349**	*e*Pg		Pn	09 53 42.7	-1.1	
MARN				*e*Sg		Sb	09 54 02.6	+1.2	
MARN	**Marana (Italy)**	**1.34**	**349**	*e*Pg		Pn	09 53 42.7	-1.1	
MARN				*e*Sg		Sb	09 54 02.6	+1.2	
CIMO	**Cimolais**	**2.08**	**17**	*e*Pn		Pn	09 53 52.8	-1.2	
CIMO	**Cimolais**	**2.08**	**17**	*e*Pn		Pn	09 53 52.8	-1.2	
CARE	**Lago del Cares**	**2.19**	**344**	*e*Pn		Pn	09 53 55.9	+0.1	
CARE	**Lago del Cares**	**2.19**	**344**	*e*Pn		Pn	09 53 55.9	+0.1	
SABO	**M.te Sabotino**	**2.19**	**40**	*e*Pn		Pn	09 53 54.3	-1.2	
SABO	**M.te Sabotino**	**2.19**	**40**	*e*Pn		Pn	09 53 54.3	-1.2	
VINO	**Villanova**	**2.28**	**31**	*e*Pn		Pn	09 53 55.1	-1.7	
VINO	**Villanova**	**2.28**	**31**	*e*Pn		Pn	09 53 55.1	-1.7	
NVLJ	**Novalja**	**2.38**	**83**	*e*Pn		Pn	09 53 57.8	-0.2	
NVLJ						Sn	09 54 25.8	-0.7	
ZOU	**Zoufplan**	**2.44**	**23**	*e*Pn		Pn	09 53 58.2	-0.9	
ABTA	**Abfaltersbach**	**2.52**	**15**	Sn		Sg	09 54 40.8	-0.2	
	5.4nm,0.3s								
FETA	**Feichten**	**2.77**	**348**	*e*Pn		Pn	09 54 04.4	+0.9	
	1.6nm,0.6s								
FETA				*e*Sn		Sg	09 54 48.2	-0.8	
	5.9nm,0.6s								
FETA	**Feichten**	**2.77**	**348**	Pn		Pn	09 54 04.4	+0.9	
	1.6nm,0.6s								
WTTA	**Wattenberg**	**2.94**	**1**	Pg		Pg	09 54 15.9	-0.6	
	2.1nm,0.3s								
WTTA				Sn		Sg	09 54 53.0	-1.7	
	11nm,0.5s								
WTTA	**Wattenberg**	**2.94**	**1**	Pg		Pg	09 54 15.9	-0.6	
	2.1nm,0.3s								
WATA	**Walderalm**	**3.02**	**0**	*i* Pn		Pn	09 54 09.3	+2.4	
	3.7nm,0.2s								
WATA				*e*Sn		Sg	09 54 56.8	-0.2	
	13nm,0.6s								
WATA	**Walderalm**	**3.02**	**0**	Pn		Pn	09 54 09.3	+2.4	
	3.7nm,0.2s								
OBKA	**Obir**	**3.03**	**43**	*i* Pn		Pb	09 54 15.3	+1.8	
	1.1nm,0.2s								
OBKA				Sg		Sg	09 54 59.2	+1.7	
	7.7nm,0.3s								
MOTA	**Moosalm**	**3.04**	**354**	*e*Pn		Pn	09 54 09.5	+2.2	
	2.2nm,0.3s								
MOTA				*i* Sn		Sg	09 54 58.3	+0.4	
	5.6nm,0.4s								
MOTA	**Moosalm**	**3.04**	**354**	Pn		Pn	09 54 09.5	+2.2	
	2.2nm,0.3s								
SOKA	**Soboth**	**3.39**	**45**	*e*Sn		Sg	09 55 08.3	-0.6	
	1.9nm,0.4s								

DDA ***22*** *10:03:40.2,39˚.88N×29˚.65E,h5km,Ml2.9*
ISCJB ***22*** *10:03:44.9±0.9,39˚.66N±0˚.04×29˚.38E±0˚.09,h9km, Error ellipse: s-maj=10.4km s-min=6.0km az=12.6*
CSEM ***22*** *10:03:45.8±0.3,39˚.68N×29˚.40E,h10km,ML2.3, Error ellipse: s-maj=7.3km s-min=5.4km az=121.0*
ISK ***22*** *10:03:47.8,39˚.83N×29˚.39E,h11km,ML2.3*
ISC 22 10:03:45.1±1.0,39˚.68N±0˚.04×29˚.38E±0˚.06,h9km,n23, σ1§01/26,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ORLT	**Orhaneli**	**0.52**	**315**	*e*PG	**Pb**	**10 03 56.8**	**+0.4**
ORLT	**Orhaneli**	**0.52**	**315**	*e*Pg	**Pb**	**10 03 56.8**	**+0.4**
GEMT	**Gemlik**	**0.77**	**349**	*e*PG	**Pb**	**10 04 00.7**	**+0.1**
GEMT	**Gemlik**	**0.77**	**349**	*e*Pg	**Pb**	**10 04 00.7**	**+0.1**
MDNY	**Mudanya-Bursa**	**0.79**	**331**	*e*PG	**Pb**	**10 04 01.2**	**+0.3**
MDNY	**Mudanya-Bursa**	**0.79**	**331**	*e*Pg	**Pb**	**10 04 01.2**	**+0.3**
ADVT	**Abdulvahap**	**0.80**	**20**	*e*PG	**Pb**	**10 04 00.9**	**-0.3**
ADVT	**Abdulvahap**	**0.80**	**20**	*e*Pg	**Pb**	**10 04 00.9**	**-0.3**
DEMI	**Demirci**	**0.82**	**219**	*i* P	**Pb**	**10 04 01.6**	**+0.1**
DEMI				*i* S	**Sn**	**10 04 18.1**	**+2.9**
DEMI	**Demirci**	**0.82**	**219**	P	**Pb**	**10 04 01.6**	**+0.1**
ARMT	**Armutlu**	**0.97**	**336**	*e*PG	**Pn**	**10 04 04.8**	**-0.1**
ARMT				*e*SG	**Sg**	**10 04 16.4**	**+0.1**
ARMT	**Armutlu**	**0.97**	**336**	*e*Pg	**Pn**	**10 04 04.8**	**-0.1**
ARMT				*e*Sg	**Sg**	**10 04 16.5**	**+0.1**
SBT5	**Esenkoy-Cinarc**	**1.02**	**338**	*e*PG	**Pn**	**10 04 05.3**	**-0.3**
SBT5	**Esenkoy-Cinarc**	**1.02**	**338**	*e*Pg	**Pn**	**10 04 05.3**	**-0.3**
GULT	**Gulveren**	**1.15**	**49**	*e*PG	**Pn**	**10 04 08.4**	**+0.9**
GULT	**Gulveren**	**1.15**	**49**	*e*Pg	**Pn**	**10 04 08.4**	**+0.9**
HRT	**Hereke**	**1.16**	**11**	*e*PG	**Pb**	**10 04 06.9**	**-0.5**
HRT	**Hereke**	**1.16**	**11**	*e*Pg	**Pb**	**10 04 06.9**	**-0.5**
MANT	**Manisa**	**1.35**	**208**	*i* P	Pn	10 04 04.3	-6.0
MANT				*i* S	**Sb**	**10 04 24.6**	**-3.5**
KAVV	**Kandilli-Istan**	**1.40**	**350**	*e*PN	**Pg**	**10 04 11.8**	**-0.2**
KAVV	**Kandilli-Istan**	**1.40**	**350**	*e*Pn	**Pg**	**10 04 11.8**	**-0.2**
ISK	**Istanbul-Kandi**	**1.41**	**350**	*e*PN	**Pg**	**10 04 12.0**	**0.0**
ISK	**Istanbul-Kandi**	**1.41**	**350**	*e*Pn	**Pg**	**10 04 12.0**	**0.0**

IDC ***22*** *10:13:36.0±3.0,13˚.05N×88˚.53W,h68km±27km, mb4.0/14, mb1 4.2/14,mb1mx3.9/38,mbtmp4.3/14, Error ellipse: s-maj=25.9km s-min=12.8km az=61.0*
ISCJB ***22*** *10:13:36.0±0.3,13˚.00N±0˚.03×88˚.67W±0˚.03,h83km±2km, mb4.4/82, Error ellipse: s-maj=6.9km s-min=2.6km az=40.9*
CASC ***22*** *10:13:36.4±1.6,12˚.94N×88˚.73W,h60km±21km,ML3.8, mb4.4(NEIC)*
NEIC ***22*** *10:13:38.5±0.6,12˚.96N×88˚.58W,h91km±5km,mb4.4/75, Error ellipse: s-maj=7.5km s-min=4.2km az=48.0*
NEIC Felt [I] at San Salvador.
ISC 22 10:13:36.6±0.9,12˚.97N±0˚.06×88˚.73W±0˚.05,h72km±7km, n407,σ1§04/415,mb4.4/83,1C-3D,Off coast of central America

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LCY	**Lacayo**	**0.62**	**43**	*i*/*i*P	**Pn**	**10 13 50.6**	**-0.4**
PACA	**Pacayal**	**0.64**	**39**	*e*P	**Pn**	**10 13 51.1**	**-0.1**
VSM	**San Miguel**	**0.64**	**44**	*e*P	**Pn**	**10 13 51.0**	**-0.3**
SNVI	**San Vicente**	**0.65**	**351**	*e*P	**Pn**	**10 13 50.9**	**-0.4**
LFRS	**El Faro**	**0.72**	**334**	*e*P	**Pn**	**10 13 51.3**	**-0.7**
LBRS	**Las Brisas**	**0.82**	**339**	*e*P	**Pn**	**10 13 53.0**	**-0.1**
UDBS	**Soyapango**	**0.86**	**331**	*e*P	**Pn**	**10 13 53.0**	**-0.5**
UDBS				*e*S	**Sn**	**10 14 05.5**	**-0.6**
UDBS				AML	AML	10 14 07.3	
	comp=Z,12µm,0.5s						
LFU	**La Fuente**	**0.86**	**335**	*e*P	**Pn**	**10 13 53.3**	**-0.3**
SNET	**Serv Nac Est T**	**0.86**	**326**	*i* P	**Pn**	**10 13 53.0**	**-0.6**
SNET				*e*S	**Sn**	**10 14 05.4**	**-0.8**
OPAM	**San Salvador**	**0.87**	**329**	*e*P	**Pn**	**10 13 53.2**	**-0.5**
OPAM				AML	AML	10 14 13.4	
	comp=Z,9µm,0.5s						
CNCH	**Conchagua**	**0.93**	**71**	*e*P	**Pn**	**10 13 53.9**	**-0.5**
BOQS	**Boqueron**	**0.93**	**325**	*e*P	**Pn**	**10 13 54.3**	**-0.3**
BOQS				*e*S	**Sn**	**10 14 08.4**	**+0.5**
SBLS	**San Blas**	**1.23**	**315**	*e*P	**Pn**	**10 13 58.3**	**0.0**
SNJE	**San Jose**	**1.23**	**317**	*e*P	**Pn**	**10 13 58.4**	**0.0**
MONT	**Ecomontaæa**	**1.25**	**315**	*e*P	**Pn**	**10 13 58.9**	**+0.2**
RBDL	**Robledal**	**1.47**	**321**	*e*P	**Pn**	**10 14 01.3**	**0.0**
CUS1	**Cusmapa**	**1.51**	**309**	*e*P	**Pn**	**10 14 01.6**	**-0.1**
MTO3	**Montecristo**	**1.55**	**337**	*i* P	**Pn**	**10 14 02.6**	**+0.2**
MTO3				*e*S	**Sn**	**10 14 22.3**	**+0.3**
TGUH	**Tegucigalpa,Un**	**1.79**	**53**	*e*Pn	**Pn**	**10 14 06.2**	**+0.8**
TGUH	**Tegucigalpa,Un**	**1.79**	**53**	*i* P	**Pn**	**10 14 06.2**	**+0.8**
CNGN	**Cerro Negro**	**2.04**	**103**	*i* P	**Pn**	**10 14 08.4**	**-0.4**
CNGN				*e*S	**Sn**	**10 14 33.6**	**+0.2**
CNGN				AML	AML	10 14 38.3	
	comp=N,2µm,0.3s						
IXG	**Ixpaco**	**2.06**	**306**	*e*P	**Pn**	**10 14 09.1**	**-0.1**
MOMN	**Momotombo**	**2.21**	**104**	*e*P	**Pn**	**10 14 10.4**	**-0.8**
COPN	**Copaltepe**	**2.23**	**110**	*e*P	**Pn**	**10 14 10.4**	**-1.0**
ESTN	**Estel**	**2.31**	**86**	*i*/*i*P	**Pn**	**10 14 12.6**	**+0.1**
ESTN				*e*S	**Sn**	**10 14 41.0**	**+1.0**
ESTN				AML	AML	10 14 44.7	
	comp=N,559nm,0.4s						
BRAN	**Las Pilas**	**2.34**	**96**	*e*P	**Pn**	**10 14 14.3**	**+1.5**
BRAN				*e*S	**Sn**	**10 14 42.6**	**+2.0**
BRAN				AML	AML	10 14 49.8	
	comp=N,3µm,1.0s						
XAVN	**Gruta Xavier**	**2.49**	**109**	*e*P	**Pn**	**10 14 14.2**	**-0.6**
MGAN	**Managua**	**2.56**	**108**	*i* P	**Pn**	**10 14 15.0**	**-0.8**
MGAN				*e*S	**Sn**	**10 14 44.4**	**-1.6**
MGAN				AML	AML	10 14 46.4	
	comp=N,214nm,0.7s						
CONN	**Concepcion**	**3.34**	**114**	*e*P	**Pn**	**10 14 26.6**	**+0.1**
CRZ1	**La Cruz**	**3.57**	**122**	*e*P	**Pn**	**10 14 29.0**	**-0.6**
ACON	**Acoyapa**	**3.62**	**106**	*i* P	**Pn**	**10 14 29.3**	**-0.9**
ACON				AML	AML	10 15 33.7	
	comp=E,50nm,0.5s						
BUEV	**Buena Vista**	**3.91**	**123**	*e*P	**Pn**	**10 14 33.5**	**-0.8**
CUI	**Cuipilapa**	**4.18**	**123**	*e*P	**Pn**	**10 14 38.1**	**+0.1**
CUI				*e*S	**Sn**	**10 15 27.5**	**+1.8**
ESPN	**Las Esperanzas**	**4.40**	**100**	*e*P	**Pn**	**10 14 40.6**	**-0.2**
ESPN				AML	AML	10 15 58.4	
	comp=E,40nm,0.6s						
CCIG	**Comitan**	**4.66**	**315**	*e*Pn	**Pn**	**10 14 47.1**	**+2.5**
CGA2	**Cerro Gallo 2**	**5.11**	**125**	*e*P	**Pn**	**10 14 52.2**	**+1.4**
HDC	**Heredia**	**5.40**	**123**	*e*Pn	**Pn**	**10 14 55.7**	**+0.9**
HDC				*e*Sn	**Sn**	**10 15 57.9**	**+2.2**
LCR2	**La Lucha 2**	**5.64**	**124**	*e*P	**Pn**	**10 14 58.4**	**+0.3**
CVTR	**Volcan Turrial**	**5.69**	**120**	*e*P	**Pn**	**10 14 57.3**	**-1.6**
QCR1	**Quepos**	**5.70**	**128**	*i*/*i*P	**Pn**	**10 14 60.0**	**+1.3**
URSC	**Urasca**	**5.77**	**122**	*i*/*e*P	**Pn**	**10 15 01.0**	**+1.2**
BUS	**Buena Vista**	**5.94**	**124**	*e*P	**Pn**	**10 15 04.5**	**+2.0**
SCIG	**Sabancuy**	**6.41**	**339**	*e*Pn	**Pn**	**10 15 10.0**	**+1.6**
BRU2	**Volcan**	**7.24**	**124**	*e*P	**Pn**	**10 15 19.5**	**-0.4**
TBS2		**7.27**	**124**	*e*P	**Pn**	**10 15 21.5**	**+1.2**
ICCO	**Coco Island**	**7.56**	**167**	*e*P	**Pn**	**10 15 26.0**	**+1.8**
LNIG	**Linares**	**15.61**	**321**	*e*Pn	**P**	**10 17 14.2**	**-0.9**
	comp=E,8.1nm,1.1s						
035A	**Encino**	**16.44**	**329**	P	**P**	**10 17 25.0**	**+0.7**
	baz=146						
034A	**Hebbronville**	**16.84**	**328**	P	**P**	**10 17 31.5**	**+2.8**
	baz=144,SNR=5.5						
934A	**Benavides**	**17.20**	**329**	P	**P**	**10 17 35.2**	**+2.5**
	baz=146						
835A	**Beeville**	**17.44**	**332**	P	**P**	**10 17 37.4**	**+2.1**
	baz=149						
933A	**Laredo**	**17.59**	**328**	P	**P**	**10 17 38.7**	**+1.7**
	baz=144						
834A	**Tilden**	**17.65**	**330**	P	**P**	**10 17 39.2**	**+1.6**
	baz=146						
443A	**Delano Plantat**	**17.93**	**351**	P	**Pn**	**10 17 41.3**	**+0.3**
	baz=170						
636A	**Smothers Creek**	**18.16**	**336**	P	**Pn**	**10 17 45.6**	**+1.8**
	baz=153,SNR=9.4						
833A	**Chaparral WMA,**	**18.23**	**329**	P	**Pn**	**10 17 45.9**	**+1.2**
	baz=144						
344A	**Westbrook Farm**	**18.49**	**355**	P	Pn	10 17 55.0	+7.3
	baz=173,SNR=9.4						
832A	**Faith Ranch, C**	**18.50**	**327**	P	**Pn**	**10 17 48.6**	**+0.7**
	baz=143,SNR=5.6						
733A	**Divot King Ran**	**18.50**	**330**	P	**Pn**	**10 17 48.4**	**+0.4**
	baz=146,SNR=8.6						
535A	**Dale**	**18.85**	**336**	P	**Pn**	**10 17 52.7**	**+0.6**
	baz=152						
340A	**Bronson**	**18.96**	**346**	P	**Pn**	**10 17 54.4**	**+0.9**
	baz=164						
TIGA	**Tifton**	**18.98**	**14**	P	**Pn**	**10 17 54.5**	**+0.8**
	baz=195						
247A	**Quitman**	**19.00**	**0**	P	**Pn**	**10 17 55.2**	**+1.4**
	baz=180						
633A	**Saathoff Ranch**	**19.06**	**331**	P	**Pn**	**10 17 54.3**	**-0.3**
	baz=147						
534A	**Blanco**	**19.23**	**334**	P	**P**	**10 17 55.6**	**+0.6**
	baz=150,SNR=7.3						
VBMS	**Vicksburg**	**19.23**	**355**	P	**Pn**	**10 17 57.4**	**+0.8**
	baz=174						
242A	**Grayson**	**19.26**	**351**	P	**P**	**10 17 55.7**	**+0.4**
	baz=170						
533A	**Kerrville**	**19.51**	**332**	P	**P**	**10 17 58.8**	**+0.7**
	baz=148,SNR=18						
435B	**Jarrell**	**19.52**	**337**	P	**Pn**	**10 17 59.4**	**-0.7**
	baz=153						
146A	**Union**	**19.58**	**359**	P	**Pn**	**10 18 00.5**	**-0.2**
	baz=179						
147A	**Livingston**	**19.62**	**1**	P	**Pn**	**10 18 01.2**	**+0.1**
	baz=181,SNR=5.4						
434A	**Burnet**	**19.82**	**335**	P	**P**	**10 18 02.1**	**+0.6**
	baz=151						
LRAL	**Lakeview Retre**	**20.04**	**4**	*e*P	Pn	10 18 05.5	-0.6
	comp=E,9.7nm,0.8s						
433A	**Art**	**20.12**	**333**	P	**P**	**10 18 04.9**	**+0.2**
	baz=149,SNR=12						
Z46A	**Louisville**	**20.13**	**359**	P	Pn	10 18 07.2	-0.1
	baz=179,SNR=8.1						
Z47A	**Carrollton**	**20.15**	**2**	P	Pn	10 18 06.5	-0.9
	baz=181,SNR=7.9						
JCT	**Junction City**	**20.21**	**331**	P	**P**	**10 18 06.3**	**+0.6**
	baz=147,SNR=7.4						
JCT	**Junction City**	**20.21**	**331**	*e*P	**P**	**10 18 06.1**	**+0.4**
	comp=E,9.1nm,0.8s						
334A	**Lometa**	**20.27**	**336**	P	**P**	**10 18 06.6**	**+0.4**
	baz=152,SNR=8.1						
Z44A	**Pea Ridge, Bel**	**20.28**	**356**	P	Pn	10 18 08.4	-0.5
	baz=175						
Z48A	**Northport**	**20.34**	**3**	P	Pn	10 18 09.7	0.0
	baz=183						
138A	**Matatall Enter**	**20.45**	**344**	P	Pn	10 18 12.4	+1.5
	baz=162						
WHTX	**Lake Whitney,**	**20.56**	**338**	P	**P**	**10 18 10.5**	**+1.1**
	baz=155						
WHTX	**Lake Whitney,**	**20.56**	**338**	*e*P	**P**	**10 18 10.5**	**+1.1**
	comp=E,26nm,0.7s						
333A	**Richland Sprin**	**20.57**	**334**	P	**P**	**10 18 10.1**	**+0.6**
	baz=150,SNR=25						
Y45A	**Yeager Farm, C**	**20.82**	**358**	P	Pn	10 18 14.0	-1.2
	baz=177						
Y46A	**Houston**	**20.82**	**360**	P	**P**	**10 18 13.5**	**+1.3**
	baz=179,SNR=16						
234A	**Clairette**	**20.82**	**337**	P	**P**	**10 18 13.3**	**+1.0**
	baz=153,SNR=9.9						
Y47A	**UCPARC, Winfie**	**20.86**	**2**	P	**P**	**10 18 14.0**	**+1.5**
	baz=182,SNR=19						
GOGA	**Godfrey**	**20.91**	**12**	*e*P	**P**	**10 18 14.6**	**+1.4**
	comp=E,12nm,0.6s						
WLAR	**White Oak Lake**	**21.01**	**350**	*e*P	**P**	**10 18 15.7**	**+1.5**
	comp=E,31nm,1.3s						
CCAR	**Cane Creek**	**21.04**	**353**	*e*P	**P**	**10 18 16.9**	**+2.4**
	comp=E,23nm,0.8s						
HPIG		**21.09**	**314**	*e*P	**P**	**10 18 17.1**	**+1.7**
	comp=E,2.7nm,0.8s						
Y41A	**Eaglette Beard**	**21.12**	**351**	P	**P**	**10 18 16.9**	**+1.6**
	baz=169						
233A	**Rising Star**	**21.13**	**335**	P	**P**	**10 18 16.1**	**+0.4**
	baz=151,SNR=11						
Y40A	**Okolona**	**21.35**	**350**	P	**P**	**10 18 20.3**	**+2.4**
	baz=167						
TXAR	**Lajitas Array**	**21.39**	**322**	P	**P**	**10 18 19.8**	**+1.4**
	comp=E,5.9nm,0.6s,baz=142,slow=11,SNR=70						
TXAR				PcP	**PcP**	**10 22 20.7**	**+0.9**
	comp=E,0.4nm,0.7s,baz=129,slow=3.4,SNR=3.8						
TXAR				ScP	**ScP**	**10 25 51.8**	**+1.1**
	comp=E,0.2nm,0.6s,baz=160,slow=4.0,SNR=3.7						
TX31	**Lajitas Ar. Si**	**21.39**	**322**	*e*P	**P**	**10 18 19.9**	**+1.5**
TX31				*e*P	**P**	**10 18 20.1**	**+1.7**
Y39A	**Lockesburg**	**21.44**	**348**	P	**P**	**10 18 20.2**	**+1.4**
	baz=165						
X41A	**Kaden, Bauxite**	**21.70**	**352**	P	**P**	**10 18 22.7**	**+1.1**
	baz=170						
X40A	**Basin Creek Fa**	**21.75**	**351**	P	**P**	**10 18 24.2**	**+2.1**
	baz=169						
Y37A	**Hugo**	**21.84**	**344**	P	**P**	**10 18 24.4**	**+1.3**
	baz=161,SNR=9.9						
MIAR	**Mount Ida**	**21.93**	**349**	P	**P**	**10 18 24.9**	**+0.9**
	baz=167,SNR=12						
MIAR	**Mount Ida**	**21.93**	**349**	*e*P	**P**	**10 18 25.0**	**+1.0**
	comp=E,11nm,0.7s						
Y36A	**Durant**	**21.94**	**343**	P	**P**	**10 18 24.9**	**+0.7**
	baz=160						
UALR	**University of**	**21.96**	**352**	*e*P	**P**	**10 18 25.3**	**+1.0**
	comp=E,17nm,0.6s						
ABTX	**Abilene, Hawle**	**21.97**	**335**	P	**P**	**10 18 25.0**	**+0.4**
	baz=150						
ABTX	**Abilene, Hawle**	**21.97**	**335**	*e*P	**P**	**10 18 26.6**	**+2.1**
	comp=E,8.8nm,0.6s						
X39A	**Fountain Ranch**	**22.00**	**348**	P	**P**	**10 18 25.4**	**+0.6**
	baz=166						
W45A	**Hickory Valley**	**22.09**	**359**	P	**P**	**10 18 25.7**	**-0.2**
	baz=178						
Y35A	**Marietta**	**22.17**	**341**	P	**P**	**10 18 27.4**	**+0.7**
	baz=158						
JSC	**Jenkinsville**	**22.28**	**17**	*e*P	**P**	**10 18 29.3**	**+1.5**
	comp=E,14nm,0.7s						
SWET	**Sewanee**	**22.30**	**6**	*e*P	**P**	**10 18 28.3**	**+0.3**
	comp=E,3.3nm,0.6s						
SWET	**Sewanee**	**22.30**	**6**	*e*P	**P**	**10 18 34.0**	**+6.0**
SWET				*e*Sn	Sn	10 22 43.4	-1.9
X38A	**Whitesboro**	**22.30**	**347**	P	**P**	**10 18 28.8**	**+0.7**
	baz=164,SNR=9.3						
W41B	**Gary Mavity, V**	**22.34**	**352**	P	**P**	**10 18 29.2**	**+0.8**
	baz=171,SNR=8.3						
W42A	**Bald Knob**	**22.35**	**354**	P	**P**	**10 18 28.6**	**+0.1**
	baz=172						
X37A	**Clayton**	**22.35**	**345**	P	**P**	**10 18 29.2**	**+0.6**
	baz=162						
X301	**Greenbrier Sit**	**22.42**	**352**	*e*P	**P**	**10 18 29.7**	**+0.4**
	comp=E,33nm,1.8s						
WHAR	**Wooly Hollow**	**22.46**	**352**	*e*P	**P**	**10 18 30.6**	**+0.9**
	comp=E,6.9nm,0.8s						
W40A	**Ferguson Farm,**	**22.47**	**351**	P	**P**	**10 18 30.7**	**+0.9**
	baz=169						
X36A	**Centrahoma**	**22.59**	**343**	P	**P**	**10 18 31.8**	**+0.6**
	baz=160,SNR=6.0						
W39A	**Magazine**	**22.60**	**349**	P	**P**	**10 18 31.7**	**+0.5**
	baz=167,SNR=5.8						
X35A	**Drake**	**22.61**	**342**	P	**P**	**10 18 31.9**	**+0.

	baz=165								
S40A	**Lebanon**	24.76	353	P		P	10 18 51.2	-0.3	
	baz=171,SNR=14								
S42A	**Caledonia**	24.77	356	P		P	10 18 51.1	-0.4	
	baz=175								
AMTX	**Amarillo**	24.77	334	P		P	10 18 52.3	+0.7	
	baz=148								
AMTX	**Amarillo**	24.77	334	*e*P		P	10 18 52.4	+0.7	
	comp=E,17nm,0.5s								
T36A	**Boggs Farm, Ca**	24.83	346	P		P	10 18 51.4	-0.7	
	baz=163,SNR=5.7								
S39A	**Bolivar**	24.96	351	P		P	10 18 53.3	0.0	
	baz=169,SNR=38								
S38A	**Stockton**	24.99	350	P		P	10 18 53.6	+0.1	
	baz=168								
T34A	**McClaskey Farm**	25.12	344	P		P	10 18 54.7	-0.1	
	baz=160								
R44A	**Waltonville**	25.18	359	P		P	10 18 54.7	-0.5	
	baz=179								
R43A	**Red Bud**	25.23	358	P		P	10 18 55.3	-0.3	
	baz=177								
WCI	**Wyandotte Cave**	25.25	5	*e*P		P	10 18 55.2	-0.8	
	comp=E,11nm,0.6s								
R42A	**Luebbering**	25.28	356	P		P	10 18 56.0	-0.2	
	baz=175								
S37A	**Fort Scott**	25.28	349	P		P	10 18 55.9	-0.3	
	baz=166,SNR=6.7								
R41A	**Rosebud**	25.34	355	P		P	10 18 56.2	-0.5	
	baz=174,SNR=17								
S36A	**Lake Cedric, C**	25.40	347	P		P	10 18 56.8	-0.5	
	baz=164,SNR=12								
R40A	**Maddies Statio**	25.41	354	P		P	10 18 57.0	-0.4	
	baz=172,SNR=8.0								
S35A	**Otter Creek Ra**	25.53	346	P		P	10 18 58.3	-0.1	
	baz=162								
R39A	**Chumby, Stover**	25.53	352	P		P	10 18 58.2	-0.2	
	baz=170,SNR=21								
R38A	**Fenwick Farm,**	25.54	351	P		P	10 18 58.2	-0.3	
	baz=168								
Q44A	**Meyer Farm, Va**	25.83	359	P		P	10 19 00.5	-0.6	
	baz=179								
R36A	**Gordon, Harris**	25.96	348	P		P	10 19 01.5	-0.9	
	baz=164								
Q41A	**Truxton**	25.98	356	P		P	10 19 02.4	0.0	
	baz=174								
Q40A	**Laux Farm, Aux**	26.09	354	P		P	10 19 02.9	-0.6	
	baz=172,SNR=7.4								
121A	**Cookes Peak, D**	26.14	321	P		P	10 19 05.7	+1.4	
	baz=134,SNR=7.4								
121A	**Cookes Peak, D**	26.14	321	*e*P		P	10 19 05.7	+1.4	
	comp=E,5.1nm,0.7s								
Q39A	**Willow Grove F**	26.24	353	P		P	10 19 04.3	-0.5	
	baz=170,SNR=9.3								
Q38A	**Cooks Store, C**	26.25	351	P		P	10 19 05.0	+0.1	
	baz=169								
R34A	**Isabella, Hill**	26.34	345	P		P	10 19 05.2	-0.6	
	baz=161								
P42A	**Winchester**	26.55	357	P		P	10 19 06.2	-1.4	
	baz=176								
P40A	**Paris**	26.62	354	P		P	10 19 07.9	-0.4	
	baz=172,SNR=9.1								
BNM	**Barren Site**	26.63	325	*e*P		P	10 19 10.5	+1.8	
P39B	**Salisbury**	26.65	353	P		P	10 19 08.1	-0.5	
	baz=171,SNR=5.4								
P41A	**Barry, Barry**	26.68	356	P		P	10 19 08.4	-0.4	
	baz=175								
Q34A	**Chapman**	26.86	346	P		P	10 19 10.2	-0.2	
	baz=162								
P37A	**Lathrop**	26.98	350	P		P	10 19 10.9	-0.6	
	baz=168								
LAZ	**Ladron**	27.10	325	*e*P		P	10 19 12.5	-0.4	
ANMO	**Albuquerque**	27.13	327	P		P	10 19 14.8	+1.6	
	comp=E,1.9nm,0.7s,baz=137,slow=9.4,SNR=10								
ANMO	**Albuquerque**	27.13	327	P		P	10 19 14.2	+1.0	
	baz=139								
ANMO	**Albuquerque**	27.13	327	*e*P		P	10 19 14.6	+1.4	
	comp=E,1.9nm,0.8s								
O40A	**La Belle**	27.19	355	P		P	10 19 13.2	-0.1	
	baz=173								
P35A	**Duane Minner,**	27.23	348	P		P	10 19 13.2	-0.5	
	baz=164								
O39A	**Kirksville**	27.39	354	P		P	10 19 14.8	-0.3	
	baz=172,SNR=5.9								
P34A	**Walnut Farm, R**	27.42	346	P		P	10 19 15.1	-0.4	
	baz=162								
CBKS	**Cedar Bluff**	27.53	341	P		P	10 19 16.8	+0.3	
	baz=156								
N41A	**Harden Midland**	27.70	357	P		P	10 19 17.2	-0.7	
	baz=175								
T25A	**Trinidad**	27.86	332	P		P	10 19 20.9	+1.2	
	baz=146,SNR=14								
T25A	**Trinidad**	27.86	332	*e*P		P	10 19 21.2	+1.5	
	comp=E,10nm,0.7s								
TUC	**Tucson**	27.91	317	*e*P		P	10 19 21.9	+1.9	
	comp=E,1.9nm,1.0s								
N40A	**Mertquake, Sal**	27.92	355	P		P	10 19 19.0	-0.9	
	baz=174								
N38A	**Joes South For**	28.00	353	P		P	10 19 20.2	-0.4	
	baz=170,SNR=7.5								
N39A	**Derby Farms, D**	28.00	354	P		P	10 19 20.2	-0.4	
	baz=172,SNR=5.2								
O34A	**Beatrice**	28.00	347	P		P	10 19 20.2	-0.5	
	baz=163,SNR=11								
N37A	**Lee Faris, Mou**	28.10	351	P		P	10 19 21.4	-0.1	
	baz=168								
O33A	**Hebron**	28.11	345	P		P	10 19 21.9	+0.4	
	baz=161								
N36A	**Muff Farm, Cla**	28.27	350	P		P	10 19 22.9	-0.2	
	baz=167								
M40A	**Post Highland**	28.43	356	P		P	10 19 24.6	+0.1	
	baz=174								
M39A	**Webster**	28.56	355	P		P	10 19 25.7	+0.1	
	baz=173								
M38A	**Pleasantville**	28.61	353	P		P	10 19 25.3	-0.7	
	baz=171,SNR=6.1								
KSCO	**Kaye Shedlock'**	28.71	337	P		P	10 19 27.6	+0.4	
	baz=151								
SDCO	**Great Sand Dun**	28.86	332	P		P	10 19 29.9	+1.3	
	baz=144,SNR=7.2								
SDCO	**Great Sand Dun**	28.86	332	*e*P		P	10 19 30.0	+1.3	
	comp=E,3.9nm,1.0s								
M36A	**Felix, Anita**	28.87	351	P		P	10 19 27.7	-0.7	
	baz=167,SNR=5.0								
N54A	**Moraine State**	28.92	14	P		P	10 19 27.7	-1.1	
	baz=198								
M35A	**Neola**	29.04	349	P		P	10 19 29.6	-0.2	
	baz=166								
L41A	**Preston**	29.04	357	P		P	10 19 28.6	-1.2	
	baz=176								
L39A	**Vinton**	29.19	355	P		P	10 19 31.1	0.0	
	baz=173								
L38A	**Oak Wood Farm,**	29.30	354	P		P	10 19 31.8	-0.3	
	baz=171,SNR=12								
L36A	**Harm Buss Farm**	29.48	351	P		P	10 19 33.8	+0.1	
	baz=168								
S22A	**4UR Ranch, Cre**	29.49	330	P		P	10 19 35.8	+1.6	
	baz=162,SNR=26								
S22A	**4UR Ranch, Cre**	29.49	330	*e*P		P	10 19 35.5	+1.3	
	comp=E,7.4nm,0.8s								
BGNE	**Belgrade**	29.50	346	P		P	10 19 34.1	+0.1	
	baz=161								
BGNE	**Belgrade**	29.50	346	*e*P		P	10 19 34.0	+0.1	
	comp=E,35nm,0.8s								
M54A	**Oil Creek Stat**	29.52	14	P		P	10 19 33.5	-0.6	
	baz=198								
K41A	**Shullsburg**	29.56	358	P		P	10 19 34.0	-0.5	
	baz=177								
L35A	**Bielow Farm, R**	29.64	350	P		P	10 19 34.8	-0.3	
	baz=166								
X16A	**Lo Mia Camp, P**	29.67	320	*e*P		P	10 19 37.7	+1.9	
	comp=E,1.5nm,0.8s								
K39A	**Oelwein**	29.75	355	P		P	10 19 35.5	-0.7	
	baz=174								
K38A	**Parkersburg**	29.78	354	P		P	10 19 35.9	-0.5	
	baz=172								
MVCO	**Mesa Verde**	29.92	327	P		P	10 19 39.6	+1.5	
	baz=138								
MVCO	**Mesa Verde**	29.92	327	*e*P		P	10 19 40.0	+2.0	
	comp=E,3.8nm,0.8s								
K37A	**Belmond**	29.99	353	P		P	10 19 37.9	-0.3	
	baz=170,SNR=9.1								
L33A	**Hoskins**	30.02	347	P		P	10 19 38.8	+0.2	
	baz=163								
L32A	**Elgin**	30.04	346	P		P	10 19 39.0	+0.3	
	baz=162								
N59A	**State Game Lan**	30.07	20	P		P	10 19 38.5	-0.5	
	baz=206								
K35A	**Storm Lake**	30.18	350	P		P	10 19 40.2	+0.3	
	baz=167								
K34A	**Le Mars**	30.29	349	P		P	10 19 40.2	-0.7	
	baz=165								
J41A	**Loganville**	30.31	358	P		P	10 19 40.2	-0.8	
	baz=177								
J39A	**Decorah**	30.37	356	P		P	10 19 40.9	-0.7	
	baz=174								
J40A	**Soldiers Grove**	30.37	357	P		P	10 19 40.9	-0.7	
	baz=176								
K33A	**Hardington**	30.39	348	P		P	10 19 41.7	0.0	
	baz=164								
J38A	**Wedel Dairy, R**	30.41	355	P		P	10 19 41.1	-0.9	
	baz=172								
J37A	**Redenius Farm,**	30.52	353	P		P	10 19 42.6	-0.3	
	baz=170,SNR=12								
ISCO	**Idaho Springs**	30.59	334	P		P	10 19 44.8	+0.8	
	baz=146,SNR=8.5								
ISCO	**Idaho Springs**	30.59	334	*e*P		P	10 19 45.1	+1.1	
	comp=E,4.4nm,0.8s								
J36A	**Seneca 1, Swea**	30.64	352	P		P	10 19 43.5	-0.5	
	baz=169								
K32A	**Verdigre**	30.65	347	P		P	10 19 43.7	-0.4	
	baz=162								
SMCO	**Snowmass**	30.69	332	*e*P		P	10 19 46.2	+1.3	
	comp=E,5.8nm,0.7s								
K31A	**O'Neill**	30.80	345	P		P	10 19 45.8	+0.4	
	baz=160,SNR=5.1								
I40A	**Norwalk**	30.86	357	P		P	10 19 45.1	-0.8	
	baz=176								
I39A	**Houston**	30.87	356	P		P	10 19 44.8	-1.2	
	baz=174								
I41A	**Arkdale**	31.00	358	P		P	10 19 46.3	-0.8	
	baz=178								
PV04	**Paradox Valley**	31.03	328	*e*P		P	10 19 48.6	+0.9	
PV10	**Paradox Valley**	31.08	328	*e*P		P	10 19 49.4	+1.2	
I38A	**Scanlan Farm,**	31.12	355	P		P	10 19 47.3	-0.9	
	baz=173								
I37A	**Lemond, Waseca**	31.20	353	P		P	10 19 48.5	-0.4	
	baz=171								
I35A	**Creekview Farm**	31.25	351	P		P	10 19 48.8	-0.5	
	baz=168								
I36A	**Fitzsimmons Fa**	31.27	353	P		P	10 19 48.9	-0.6	
	baz=170								
J32A	**Parkston**	31.30	347	P		P	10 19 49.3	-0.5	
	baz=162								
ECSD	**EROS Data Cent**	31.40	349	P		P	10 19 49.7	-0.9	
	baz=165								
I34A	**Hadley**	31.56	350	P		P	10 19 51.3	-0.8	
	baz=166								
H40A	**Chili**	31.58	358	P		P	10 19 51.1	-1.1	
	baz=177								
N23A	**Red Feather La**	31.64	335	P		P	10 19 54.0	+0.9	
	baz=146								
N23A	**Red Feather La**	31.64	335	*e*P		P	10 19 53.8	+0.6	
	comp=E,5.5nm,0.7s								
H39A	**Augusta**	31.68	357	P		P	10 19 52.4	-0.7	
	baz=175								
H37A	**Dierke Farm, C**	31.71	354	P		P	10 19 52.6	-0.8	
	baz=172								
H38A	**Maiden Rock**	31.74	355	P		P	10 19 53.4	-0.3	
	baz=173								
PHWY	**Pilot Hill**	31.79	336	*e*P		P	10 19 55.3	+0.9	
	comp=E,4.7nm,0.9s								
H36A	**Jessland, He**	31.81	353	P		P	10 19 53.9	-0.4	
	baz=170								
BC3	**Big Chuckawall**	31.87	315	P		P	10 19 56.1	+1.1	
	baz=124								
O20A	**White River Ci**	32.05	331	P		P	10 19 57.9	+1.3	
	baz=142,SNR=20								
O20A	**White River Ci**	32.05	331	*e*P		P	10 19 58.1	+1.5	
	comp=E,19nm,0.8s								
H35A	**Sunnyside Ranc**	32.05	352	P		P	10 19 55.5	-0.8	
	baz=148,SNR=8.1								
G41A	**Antigo**	32.14	359	P		P	10 19 55.6	-1.5	
	baz=179								
G43A	**Wallace**	32.19	1	P		P	10 19 56.0	-1.6	
	baz=182								
G38A	**Ridgeland**	32.20	356	P		P	10 19 56.5	-1.2	
	baz=174								
G40A	**Rib Lake**	32.22	358	P		P	10 19 56.6	-1.3	
	baz=177								
G39A	**Holcombe**	32.28	357	P		P	10 19 57.5	-0.9	
	baz=175,SNR=7.0								
H32A	**Carlson Farm,**	32.30	348	P		P	10 19 57.9	-0.7	
	baz=164								
SPMN	**Marine on St.**	32.34	355	P		P	10 19 58.0	-0.8	
	baz=172,SNR=17								
SPMN	**Marine on St.**	32.34	355	*e*P		P	10 19 57.8	-1.0	
	comp=E,28nm,0.6s								
H33A	**Prehn Over Nor**	32.34	349	P		P	10 19 57.9	-1.0	
	baz=165								
G36A	**St. Michael**	32.44	353	P		P	10 19 58.9	-0.9	
	baz=171,SNR=6.8								
G35A	**Watkins**	32.52	352	P		P	10 19 59.2	-1.3	
	baz=169								
SUSD	**Miller**	32.57	346	P		P	10 20 00.2	-0.7	
	baz=161								
F41A	**Three Lakes**	32.66	360	P		P	10 20 00.3	-1.5	
	baz=179								
F43A	**Flat Rock, Esc**	32.78	2	P		P	10 20 00.8	-2.0	
	baz=182								
G33A	**Ortonville**	32.78	350	P		P	10 20 01.6	-1.2	
	baz=166,SNR=6.2								
F37A	**Hinrichs Farm,**	32.81	355	P		P	10 20 02.0	-1.1	
	baz=173								
RWWY	**Rawlins**	32.84	334	*e*P		P	10 20 05.0	+1.4	
	comp=E,9.7nm,0.7s								
F40A	**Park Falls**	32.86	358	P		P	10 20 02.2	-1.3	
	baz=177								
F39A	**Loretta**	32.89	357	P		P	10 20 02.5	-1.3	
	baz=176								
F38A	**Pierce - Schro**	32.99	356	P		P	10 20 04.0	-0.6	
	baz=174,SNR=5.5								
G32A	**Webster**	33.03	349	P		P	10 20 04.3	-0.7	
	baz=164								
F36A	**Milaca**	33.04	354	P		P	10 20 04.2	-0.8	
	baz=171								
G31A	**Conde**	33.15	348	P		P	10 20 05.1	-0.8	
	baz=163								
F35A	**Swanville**	33.15	353	P		P	10 20 05.0	-1.0	
	baz=169,SNR=5.7								
E43A	**Lone Tree Farm**	33.33	2	P		P	10 20 06.4	-1.1	
	baz=183								
K22A	**Casper**	33.35	336	P		P	10 20 08.3	+0.3	
	baz=147,SNR=5.5								
K22A	**Casper**	33.35	336	*e*P		P	10 20 08.5	+0.6	
	comp=E,8.1nm,0.8s								
E42A	**Champion**	33.36	1	P		P	10 20 06.4	-1.4	
	baz=181								
E40A	**Wakefield**	33.38	359	P		P	10 20 07.2	-0.8	
	baz=178								
F33A	**5 Mile Ranch,**	33.38	350	P		P	10 20 06.9	-1.1	
	baz=166,SNR=8.2								
SAML	**Samuel**	33.44	129	*e*P		P	10 20 08.0	-0.8	
	comp=E,2.2nm,0.8s								
E36A	**McGregor**	33.66	354	P		P	10 20 09.2	-1.2	
	baz=172								
RSSD	**Black Hills**	33.71	340	P		P	10 20 11.9	+0.8	
	baz=152								
RSSD	**Black Hills**	33.71	340	*e*P		P	10 20 11.9	+0.8	
	comp=E,5.2nm,0.6s								
SSK	**Sunset Peak**	33.73	314	*e*P		P	10 20 16.0	+4.6	
F31A	**Hecla**	33.76	348	P		P	10 20 10.8	-0.5	
	baz=163								
E35A	**Pequot Lakes**	33.82	353	P		P	10 20 11.0	-0.8	
	baz=170,SNR=6.9								
E33A	**Westby DABS, E**	33.99	351	P		P	10 20 12.0	-1.3	
	baz=167								
D37A	**Cotton**	34.22	356	P		P	10 20 14.0	-1.2	
	baz=173								
D35A	**Remer**	34.30	354	P		P	10 20 14.4	-1.5	
	baz=170,SNR=5.1								
D36A	**Goodland**	34.30	355	P		P	10 20 14.5	-1.5	
	baz=172,SNR=6.2								
D34A	**Park Rapids**	34.44	352	P		P	10 20 16.0	-1.2	
	baz=169,SNR=5.1								
D33A	**AnnSam, Waubun**	34.58	351	P		P	10 20 17.3	-1.1	
	baz=168,SNR=5.2								
BW06	**Boulder Array**	34.73	333	P		P	10 20 19.3	-0.7	
	baz=142								
BW06	**Boulder Array**	34.73	333	*e*P		P	10 20 20.2	+0.2	
BW06				*e*P		P	10 20 20.7	+0.7	
PD31	**Pinedale Array**	34.73	333	*e*P		P	10 20 20.3	+0.2	
PDAR	**Pinedale Array**	34.73	333	P		P	10 20 20.6	+0.6	
	comp=E,2.3nm,0.9s,baz=131,slow=8.7,SNR=15								
PDAR				PcP		PcP	10 22 51.5	-0.9	
	comp=E,0.3nm,0.5s,baz=140,slow=5.8,SNR=4.4								
D32A	**Dogwood Acres,**	34.76	350	P		P	10 20 18.7	-1.3	
	baz=166								
C37A	**Embarrass**	34.77	356	P		P	10 20 19.4	-0.7	
	baz=174								
HWUT	**Hardware Ranch**	34.79	329	*e*P		P	10 20 21.8	+1.3	
	comp=E,2.2nm,0.8s								
C36A	**Pine Crest Far**	34.85	355	P		P	10 20 19.8	-0.9	
	baz=173								
C35A	**Jirik Farms, M**	34.90	354	P		P	10 20 19.8	-1.4	
	baz=171,SNR=15								
C34A	**RKJ Ranch, Bem**	34.96	353	P		P	10 20 20.2	-1.4	
	baz=169,SNR=9.8								
SPUT	**South Promonto**	35.01	328	*e*P		P	10 20 23.3	+0.9	
	comp=E,2.5nm,0.8s								
LPAZ	**La Paz**	35.49	144	P		P	10 20 26.4	-0.9	
	comp=E,0.5nm,0.6s,baz=282,slow=9.3,SNR=2.7								
C31A	**Landman Farms,**	35.52	350	P		P	10 20 25.3	-1.2	
	baz=165,SNR=5.0								
HVU	**Hansel Valley**	35.52	328	*e*P		P	10 20 28.0	+1.2	
	comp=E,2.8nm,0.8s								
B35A	**Bob, Littlefor**	35.53	354	P		P	10 20 25.1	-1.4	
	baz=171								
B33A	**Robert and Kas**	35.66	352	P		P	10 20 26.4	-1.2	
	baz=168								
AGMN	**Agassiz Nation**	35.72	352	P		P	10 20 27.1	-1.0	
	baz=168,SNR=9.6								
AGMN	**Agassiz Nation**	35.72	352	*e*P		P	10 20 27.1	-1.0	
	comp=E,10nm,0.6s								
B34A	**Aery, Baudette**	35.75	353	P		P	10 20 27.1	-1.2	
	baz=170,SNR=8.4								
REDW	**Red Top Meadow**	35.79	332	*e*P		P	10 20 29.8	+0.7	
	comp=E,14nm,1.1s								
SNOW	**Snow King Moun**	35.82	332	*e*P		P	10 20 30.5	+1.1	
	comp=E,11nm,0.6s								
LOHW	**Long Hollow**	35.87	332	*e*P		P	10 20 30.7	+1.0	
	comp=E,2.7nm,0.8s								
B32A	**Ashes, Strandq**	35.91	351	P		P	10 20 29.1	-0.7	
	baz=167,SNR=17								
TPAW	**Teton Pass**	35.93	332	*e*P		P	10 20 31.6	+1.2	
	comp=E,5.2nm,0.7s								
MDND	**Maddock**	35.94	348	P		P	10 20 29.6	-0.4	
	baz=162,SNR=6.9								
MDND	**Maddock**	35.94	348	*e*P		P	10 20 29.9	-0.2	
	comp=E,32nm,0.6s								
MOOW	**Moose Ponds**	36.04	333	*e*P		P	10 20 31.9	+0.7	
	comp=E,3.0nm,0.8s								
B31A	**Greenbush Farm**	36.12	350	P		P	10 20 30.5	-1.0	
	baz=165,SNR=6.0								
IMW	**Indian Meadow**	36.24	332	*e*P		P	10 20 33.6	+0.6	
	comp=E,3.5nm,0.7s								
A33A	**Warroad**	36.28	353	P		P	10 20 32.1	-0.8	
	baz=169,SNR=13								
A32A	**Rocking H Ranc**	36.41	351	P		P	10 20 32.8	-1.3	
	baz=167,SNR=6.8								
YPP	**Pitchone Pla**	36.48	333	*e*P		P	10 20 36.4	+1.4	
	comp=E,2.5nm,0.8s								
RLMT	**Red Lodge**	36.51	335	P		P	10 20 35.6	+0.4	
	baz=145,SNR=12								
RLMT	**Red Lodge**	36.51	335	*e*P		P	10 20 35.8	+0.6	
	comp=E,9.3nm,0.8s								
A31A	**Linda, St. Vin**	36.53	351	P		P	10 20 33.8	-1.3	
	baz=166								
LAO	**LASA Array**	36.70	340	P		P	10 20 36.5	-0.1	
	baz=150								
YMR	**Madison River**	36.86	333	*e*P		P	10 20 40.1	+1.9	
	comp=E,7.8nm,0.8s								
YHH	**Holmes Hill**	36.91	333	*e*P		P	10 20 39.6	+0.9	
	comp=E,3.1nm,0.7s								
YHB	**Horse Butte**	37.03	333	*e*P		P	10 20 40.8	+1.2	
	comp=E,4.4nm,0.8s								
GCMT	**Greycliff**	37.22	336	*e*P		P	10 20 41.6	+0.5	
ULM	**Lac du Bonnet**	37.63	352	P		P	10 20 42.7	-1.7	
	comp=E,9.4nm,0.6s,baz=171,slow=8.5,SNR=26								
ULM	**Lac du Bonnet**	37.63	352	*e*P		P	10 20 42.6	-1.7	
	comp=E,10nm,0.6s								
HLID	**Hailey**	37.65	329	P		P	10 20 45.7	+0.9	
	baz=136								
HLID	**Hailey**	37.65	329	*e*P		P	10 20 45.9	+1.1	
	comp=E,1.6nm,0.7s								
DGMT	**Dagmar**	37.66	343	P		P	10 20 45.0	+0.4	
	baz=155,SNR=14								
DGMT	**Dagmar**	37.66	343	*e*P		P	10 20 45.0	+0.4	
	comp=E,36nm,0.6s								
MCMT	**McKenzie Canyo**	37.83	332	*e*P		P	10 20 48.2	+1.8	
BOZ	**Bozeman (W)**	37.88	334	P		P	10 20 47.7	+0.9	
	baz=142,SNR=11								
BOZ	**Bozeman (W)**	37.88	334	*e*P		P	10 20 47.8	+1.1	
	comp=E,4.9nm,0.8s								
CCOB	**Coe Ranch Numb**	38.08	315	*e*P		P	10 20 51.5	+3.2	
DLMT	**Dillon**	38.13	332	*e*P		P	10 20 50.0	+1.2	
	comp=E,4.0nm,0.9s								
HRY	**Holter Researc**	38.85	335	*e*P		P	10 20 55.2	+0.4	
EGMT	**Eagleton**	39.09	338	P		P	10 20 57.6	+0.8	
	baz=146,SNR=15								
EGMT	**Eagleton**	39.09	338	*e*P		P	10 20 57.3	+0.5	
	comp=E,26nm,0.6s								
WVOR	**Wild Horse Val**	39.15	324	*e*P		P	10 20 58.2	+0.9	
	comp=E,3.0nm,0.9s								
SIV	**San Ignacio**	39.70	136	P		P	10 21 00.8	-1.4	
	comp=E,1.4nm,0.5s,baz=300,slow=6.6,SNR=3.8								
SIV				PcP		PcP	10 23 07.8	+0.1	
	comp=E,2.7nm,0.7s,baz=300,slow=3.1,SNR=5.4								
MSO	**Missoula**	39.85	333	*e*P		P	10 21 04.0	+0.9	
	comp=E,5.8nm,1.3s								
F10A	**Beach Ranch, E**	40.77	329	*e*P		P	10 21 11.0	+0.2	
	comp=E,21nm,1.8s								
RPN	**Rapa Nui**	44.59	207	P		P	10 21 41.3	-0.4	
	comp=E,73nm,0.4s,baz=45,slow=5.7,SNR=3.7								
B06A	**Marblemount**	44.63	329	*e*P		P	10 21 42.1	+0.4	
	comp=E,8.7nm,0.6s								
EDM	**Edmonton**	44.68	339	*e*P		P	10 21 41.7	-0.5	
	comp=E,34nm,0.8s								
SCHQ	**Schefferville**	45.16	18	P		P	10 21 44.0	-1.9	
	comp=E,5.6n

SUSE	**Susehri**	**0.66**	**324**	⇑*iP*		**Pg**	**10 14 13.4**	**-1.8**
SUSE				*iS*		**Sg**	**10 14 23.4**	**-0.5**
SUSE	**Susehri**	**0.66**	**324**	P		**Pg**	**10 14 13.4**	**-1.8**
SUSE				S		**Sg**	**10 14 23.4**	**-0.5**
CUZAR	**Zara_SIVAS**	**0.76**	**286**	⇑*iP*		**Pg**	**10 14 14.6**	**-2.4**
CUZAR				*iS*		**Sg**	**10 14 25.7**	**-1.2**
CUZAR	**Zara_SIVAS**	**0.76**	**286**	P		**Pg**	**10 14 14.6**	**-2.4**
CUZAR				S		**Sg**	**10 14 25.7**	**-1.2**
EUZM	**Uzumlu**	**0.76**	**87**	⇑*iP*		**Pg**	**10 14 15.3**	**-1.8**
EUZM				*iS*		**Sb**	**10 14 27.5**	**-0.7**
EUZM	**Uzumlu**	**0.76**	**87**	P		**Pg**	**10 14 15.3**	**-1.8**
EUZM				S		**Sb**	**10 14 27.5**	**-0.7**
ERZN	**Erzincan**	**0.78**	**96**	*e*PG		**Pg**	**10 14 15.5**	**-2.0**
ERZN				*e*SG		**Sg**	**10 14 27.5**	**-0.3**
TNCL	**Tunceli-Merkez**	**0.85**	**131**	⇑*iP*		**Pg**	**10 14 16.3**	**-2.5**
TNCL				*iS*		**Sg**	**10 14 28.6**	**-1.4**
TNCL	**Tunceli-Merkez**	**0.85**	**131**	P		**Pg**	**10 14 16.3**	**-2.5**
TNCL				S		**Sg**	**10 14 28.6**	**-1.4**
PTK	**Pertek**	**0.94**	**146**	*e*PG		**Pg**	**10 14 19.4**	**-1.2**
PTK				*e*SG		**Sb**	**10 14 33.0**	**-0.6**
PTK	**Pertek**	**0.94**	**146**	*e*Pg		**Pg**	**10 14 19.4**	**-1.2**
PTK				*e*Sg		**Sb**	**10 14 33.0**	**-0.6**
GUMT	**Gumushane**	**0.98**	**37**	*e*PG		**Pg**	**10 14 18.8**	**-2.4**
GUMT	**Gumushane**	**0.98**	**37**	*e*Pg		**Pg**	**10 14 18.8**	**-2.4**
CUKAN	**kangal_SIVAS**	**1.03**	**250**	⇑*iP*		**Pg**	**10 14 19.0**	**-3.3**
CUKAN				*iS*		**Sb**	**10 14 35.8**	**-0.3**
CUKAN	**kangal_SIVAS**	**1.03**	**250**	P		**Pg**	**10 14 19.0**	**-3.3**
CUKAN				S		**Sb**	**10 14 35.8**	**-0.3**
ELZG	**Elazig**	**1.20**	**170**	⇑*iP*		**Pb**	**10 14 22.2**	**-3.0**
ELZG				*iS*		**Sb**	**10 14 39.4**	**-1.5**
ELZG	**Elazig**	**1.20**	**170**	P		**Pb**	**10 14 22.2**	**-3.0**
ELZG				S		**Sb**	**10 14 39.4**	**-1.5**
SCER	**sogukcermik**	**1.24**	**279**	⇑*iP*		**Pn**	**10 14 22.8**	**-3.1**
SCER				*iS*		**Sb**	**10 14 41.1**	**-0.9**
SCER	**sogukcermik**	**1.24**	**279**	P		**Pn**	**10 14 22.8**	**-3.1**
SCER				S		**Sb**	**10 14 41.1**	**-0.9**
ESPY	**Espiye-Giresun**	**1.24**	**0**	*e*PN		**Pn**	**10 14 23.8**	**-2.0**
ESPY	**Espiye-Giresun**	**1.24**	**0**	*e*Pn		**Pn**	**10 14 23.8**	**-2.0**
RSDY	**Resadiye-TOKAT**	**1.28**	**304**	*e*PN		**Pn**	**10 14 25.0**	**-1.5**
RSDY	**Resadiye-TOKAT**	**1.28**	**304**	*e*Pn		**Pn**	**10 14 25.0**	**-1.5**
GRSN	**GIRESUNGRSN**	**1.29**	**345**	⇑*iP*		**Pn**	**10 14 24.3**	**-2.2**
GRSN				*iS*		**Sb**	**10 14 42.5**	**-1.0**
GRSN	**GIRESUNGRSN**	**1.29**	**345**	P		**Pn**	**10 14 24.3**	**-2.2**
GRSN				S		**Sb**	**10 14 42.5**	**-1.0**
SVSK	**Karacayir**	**1.34**	**281**	*e*PN		**Pn**	**10 14 26.2**	**-1.0**
SVSK	**Karacayir**	**1.34**	**281**	*e*Pn		**Pn**	**10 14 26.2**	**-1.0**
SVRC	**Sivrice-ELAZID**	**1.38**	**160**	*e*PN		**Pn**	**10 14 26.3**	**-1.6**
SVRC	**Sivrice-ELAZID**	**1.38**	**160**	*e*Pn		**Pn**	**10 14 26.3**	**-1.6**
KOPT	**Kop Dagi**	**1.41**	**76**	⇓*iP*		**Pn**	**10 14 51.7**	**-0.6**
KOPT				*iS*		**Sg**	**10 14 51.7**	**+3.8**
KOPT	**Kop Dagi**	**1.41**	**76**	P		**Pn**	**10 14 27.9**	**-0.6**
YEDI	**Yedisu-Bingol**	**1.44**	**99**	*e*PN		**Pn**	**10 14 27.1**	**-1.5**
YEDI	**Yedisu-Bingol**	**1.44**	**99**	*e*Pn		**Pn**	**10 14 27.1**	**-1.5**
DARE	**Darende-Malaty**	**1.46**	**221**	*e*PN		**Pn**	**10 14 27.6**	**-1.3**
DARE	**Darende-Malaty**	**1.46**	**221**	*e*Pn		**Pn**	**10 14 27.6**	**-1.3**
ORDU	**Ordu-Boztepe**	**1.47**	**334**	*i*P		**Pn**	**10 14 28.1**	**-0.9**
ORDU				*iS*		**Sn**	**10 14 47.8**	**-0.4**
ORDU	**Ordu-Boztepe**	**1.47**	**334**	P		**Pn**	**10 14 28.0**	**-0.9**
ORDU				S		**Sn**	**10 14 47.8**	**-0.4**
CUGUR	**Gurin_S¯VAS**	**1.47**	**230**	*i*P		**Pn**	**10 14 27.2**	**-1.9**
CUGUR				*iS*		**Sg**	**10 14 48.5**	**-1.2**
CUGUR	**Gurin_S¯VAS**	**1.47**	**230**	P		**Pn**	**10 14 27.2**	**-1.9**
CUGUR				S		**Sg**	**10 14 48.5**	**-1.2**
MACK	**Trabzon**	**1.50**	**32**	⇓*iP*		**Pn**	**10 14 28.1**	**-1.3**
MACK				*iS*		**Sn**	**10 14 47.8**	**-1.2**
MACK	**Trabzon**	**1.50**	**32**	P		**Pn**	**10 14 28.1**	**-1.3**
MACK				S		**Sn**	**10 14 47.8**	**-1.2**
KTUT	**Trabzon**	**1.54**	**31**	*e*PN		**Pn**	**10 14 29.1**	**-0.7**
KTUT	**Trabzon**	**1.54**	**31**	*e*Pn		**Pn**	**10 14 29.1**	**-0.7**
CUALT	**Altinyayla-SIV**	**1.57**	**256**	*i*P		**Pn**	**10 14 29.5**	**-0.9**
CUALT				*iS*		**Sg**	**10 14 53.2**	**+0.4**
CUALT	**Altinyayla-SIV**	**1.57**	**256**	P		**Pn**	**10 14 29.5**	**-0.9**
CUALT				S		**Sg**	**10 14 53.2**	**+0.4**
BINT	**Bingol**	**1.59**	**120**	*e*Pn		**Pb**	**10 14 31.2**	**-0.8**
BNGB	**Bing¶ll**	**1.67**	**114**	*e*PN		**Pn**	**10 14 31.2**	**-0.6**
TOKT	**Tokat**	**1.79**	**292**	*e*PN		**Pn**	**10 14 32.4**	**-1.0**
TOKT	**Tokat**	**1.79**	**292**	*e*Pn		**Pn**	**10 14 32.4**	**-1.0**
TOKA	**Tokat**	**1.83**	**291**	*i*P		**Pn**	**10 14 34.2**	**+0.2**
TOKA				*iS*		**Sb**	**10 14 59.4**	**+0.3**
TOKA	**Tokat**	**1.83**	**291**	P		**Pn**	**10 14 34.2**	**+0.2**
TOKA				S		**Sb**	**10 14 59.4**	**+0.3**
CUSAR	**Sarkisla-SIVAS**	**1.93**	**263**	⇑*iP*		**Pn**	**10 14 35.0**	**-0.4**
CUSAR				*iS*		**Sg**	**10 15 04.5**	**+0.2**
CUSAR	**Sarkisla-SIVAS**	**1.93**	**263**	P		**Pn**	**10 14 35.0**	**-0.4**
BNGL	**BINGOL**	**2.02**	**110**	⇑*iP*		**Pn**	**10 14 38.5**	**+0.1**
BNGL				*iS*		**Sg**	**10 15 07.6**	**+0.1**
DYBB	**Diyarbakir**	**2.05**	**147**	*e*PN		**Pn**	**10 14 36.6**	**-0.4**
EZM	**Erzurum**	**2.05**	**83**	*e*PN		**Pn**	**10 14 35.9**	**-1.3**
DIYA	**Diyarbakir**	**2.07**	**147**	*i*P		**Pb**	**10 14 38.3**	**-1.8**
DIYA	**Diyarbakir**	**2.07**	**147**	P		**Pb**	**10 14 38.3**	**-1.8**
DIY	**Diyarbakir**	**2.14**	**146**	*e*Pn		**Pn**	**10 14 36.6**	**-1.6**
VRTB	**Varto-Mus**	**2.19**	**103**	*e*PN		**Pn**	**10 14 38.4**	**-0.5**
VRTB	**Varto-Mus**	**2.19**	**103**	*e*Pn		**Pn**	**10 14 38.4**	**-0.5**
ATAB	**Bozova**	**2.23**	**189**	*i*P		**Pb**	**10 14 43.2**	**+0.4**
URFA	**Urfa**	**2.23**	**178**	*e*PN		**Pn**	**10 14 39.4**	**-0.2**
URFA	**Urfa**	**2.23**	**178**	*e*Pn		**Pn**	**10 14 39.4**	**-0.2**
BNN	**Bunyan**	**2.38**	**251**	*e*PN		**Pn**	**10 14 41.2**	**-0.3**
BNN	**Bunyan**	**2.38**	**251**	*e*Pn		**Pn**	**10 14 41.2**	**-0.3**
SVAN	**Silvan-Diyarba**	**2.46**	**127**	*e*PN		**Pn**	**10 14 42.4**	**-0.3**
SVAN	**Silvan-Diyarba**	**2.46**	**127**	*e*Pn		**Pn**	**10 14 42.4**	**-0.3**
KVT	**Kavak**	**2.47**	**305**	*e*PN		**Pn**	**10 14 42.1**	**-0.7**
KVT	**Kavak**	**2.47**	**305**	*e*Pn		**Pn**	**10 14 42.1**	**-0.7**
GZT	**Gaziantep**	**2.49**	**202**	*i*P		**Pn**	**10 14 44.3**	**+1.2**
KMRS	**Kahramanmaras**	**2.59**	**214**	*e*PN		**Pn**	**10 14 44.6**	**+0.2**
KMRS	**Kahramanmaras**	**2.59**	**214**	*e*Pn		**Pn**	**10 14 44.6**	**+0.2**
MAZI	**Mazidag**	**2.60**	**148**	*e*PN		**Pn**	**10 14 44.7**	**+0.1**
MAZI	**Mazidag**	**2.60**	**148**	*e*Pn		**Pn**	**10 14 44.7**	**+0.1**
YOZ	**Yozgat**	**2.62**	**270**	*e*PN		**Pn**	**10 14 44.7**	**-0.2**
YOZ	**Yozgat**	**2.62**	**270**	*e*Pn		**Pn**	**10 14 44.7**	**-0.2**
HAVZ	**Havza**	**2.68**	**302**	*i*P		**Pb**	**10 14 48.1**	**-2.4**
HCB	**Kahramanmara¯**	**2.73**	**212**	*i*P		**Pn**	**10 14 46.9**	**+0.6**
GAZ	**Gaziantep**	**2.77**	**206**	*e*PN		**Pn**	**10 14 46.7**	**-0.1**
GAZ	**Gaziantep**	**2.77**	**206**	*e*Pn		**Pn**	**10 14 46.7**	**-0.1**
SURC	**SANLIURFA_SURC**	**2.79**	**182**	*i*P		**Pn**	**10 14 47.5**	**+0.3**
SURC	**SANLIURFA_SURC**	**2.79**	**182**	P		**Pn**	**10 14 47.5**	**+0.3**
ANDN	**Andirin**	**2.80**	**222**	*i*P		**Pn**	**10 14 47.6**	**+0.3**
ANDN	**Andirin**	**2.80**	**222**	P		**Pn**	**10 14 47.6**	**+0.3**
MARD	**Mardin**	**2.86**	**145**	*i*P		**Pn**	**10 14 50.3**	**+2.1**
COAL	**Corum-Alaca**	**2.92**	**283**	*i*P		**Pn**	**10 14 50.5**	**+1.5**
COAL	**Corum-Alaca**	**2.92**	**283**	P		**Pn**	**10 14 50.5**	**+1.5**
SENK	**Senkaya-Erzuru**	**2.92**	**71**	*e*PN		**Pn**	**10 14 49.0**	**-0.2**
SENK	**Senkaya-Erzuru**	**2.92**	**71**	*e*Pn		**Pn**	**10 14 49.0**	**-0.2**
KAMA	**Osmaniye**	**2.96**	**214**	*i*P		**Pn**	**10 14 49.5**	**0.0**
KAMA	**Osmaniye**	**2.96**	**214**	P		**Pn**	**10 14 49.5**	**0.0**
YAHY	**KAYSERI_Yahyal**	**3.06**	**240**	*i*P		**Pn**	**10 14 52.0**	**+1.1**
YAHY	**KAYSERI_Yahyal**	**3.06**	**240**	P		**Pn**	**10 14 52.0**	**+1.1**
CTAK	**Corum_Osmancik**	**3.16**	**289**	*i*P		**Pn**	**10 14 53.5**	**+1.2**
CTAK	**Corum_Osmancik**	**3.16**	**289**	P		**Pn**	**10 14 53.5**	**+1.2**
KUZU	**Kuzuini**	**3.17**	**205**	*i*P		**Pn**	**10 14 53.2**	**+0.8**
KUZU	**Kuzuini**	**3.17**	**205**	P		**Pn**	**10 14 53.2**	**+0.8**
AGRB	**Hanur-Agry**	**3.31**	**90**	*e*PN		**Pn**	**10 14 54.2**	**-0.2**
AGRB	**Hanur-Agry**	**3.31**	**90**	*e*Pn		**Pn**	**10 14 54.2**	**-0.2**
CDAG	**Cicekdag**	**3.35**	**270**	*i*P		**Pn**	**10 14 55.6**	**+0.7**
CDAG	**Cicekdag**	**3.35**	**270**	P		**Pn**	**10 14 55.6**	**+0.7**
DRWC	**Darouich**	**3.45**	**209**	*e*P		**Pn**	**10 14 55.2**	**-1.1**
DRWC				*e*S		Sn	10 15 19.6	-18
DRWC	**Darouich** SNR=45	**3.45**	**209**	*e*P		**Pn**	**10 14 55.2**	**-1.1**
SLMH	**Al Salmeh**	**3.51**	**190**	*e*P		Pn	10 14 48.9	-8.1
KSRV	**Kasrt alli**	**3.81**	**176**	*e*P		**Pn**	**10 15 02.0**	**+0.8**
KSRV				*e*S		Sn	10 15 31.8	-14
KSRV				AML		AML	10 16 06.9	
	comp=Z,164nm,0.6s							
KSRV	**Kasrt alli** SNR=45	**3.81**	**176**	*e*P		**Pn**	**10 15 02.0**	**+0.8**
BRTR	**Keskin Array B**	**3.92**	**272**	Pn		**Pn**	**10 15 03.2**	**+0.5**
	comp=Z,5.7nm,0.3s,baz=105,slow=15,SNR=81							
BRTR				Lg		Lg	10 16 04.8	
	comp=Z,1.9nm,0.3s,baz=114,slow=18,SNR=4.1							
BRTR				LR		LR	10 17 03.8	
	comp=Z,147nm,19.4s,baz=82,slow=47							
SOC	**Sochi**	**3.97**	**11**	*e*P		**Pn**	**10 15 03.3**	**-0.1**
SOC				*e*S		**Sn**	**10 15 53.9**	**+3.9**
SOC				MLR		MLR		
	comp=Z,200nm,12.0s							
SOC	**Sochi**	**3.97**	**11**	*e*P		**Pn**	**10 15 03.3**	**-0.1**
	comp=Z,200nm,12.0s							
SOC				*e*S		**Sn**	**10 15 53.9**	**+3.9**
JHLN	**Al Jahlan**	**4.00**	**183**	*e*P		Pn	10 14 55.9	-7.9
JHLN				*e*S		**Pg**	**10 15 19.1**	**0.0**
JHLN				AML		AML	10 15 23.8	
	comp=Z,69nm,0.5s							
AKH	**Akhalkalaki**	**4.03**	**63**	P		**Pb**	**10 15 13.0**	**-0.6**
AKH	**Akhalkalaki**	**4.03**	**63**	*e*P		**Pb**	**10 15 13.0**	**-0.6**
BGD	**Bogdanovka**	**4.05**	**65**	P		**Pg**	**10 15 18.6**	**-1.4**
BTCH	**Batrach**	**4.05**	**207**	*e*P		**Pn**	**10 15 02.9**	**-1.6**
BTCH				*e*S		Sn	10 15 29.8	-22
BTCH				AML		AML	10 15 52.4	
	comp=N,139nm,0.5s							
BTCH				AML		AML	10 15 56.6	
	comp=E,208nm,0.5s							
BTCH	**Batrach** SNR=45	**4.05**	**207**	*e*P		**Pn**	**10 15 02.9**	**-1.6**
CLDR	**Caldiran**	**4.07**	**96**	*e*PN		**Pn**	**10 15 05.6**	**+0.7**
CLDR	**Caldiran**	**4.07**	**96**	*e*Pn		**Pn**	**10 15 05.6**	**+0.7**
ONI	**Oni**	**4.61**	**49**	P		**Pg**	**10 15 26.9**	**-3.9**
GNI	**Garni**	**4.66**	**82**	Pg		**Pb**	**10 15 24.5**	**+0.2**
	comp=E,1.2nm,0.3s,baz=300,slow=14,SNR=2.9							
GNI	**Garni**	**4.66**	**82**	*i*P		**Pn**	**10 15 12.6**	**-0.3**
GNI	**Garni**	**4.66**	**82**	*i*P		**Pn**	**10 15 12.6**	**-0.3**
NEY	**Neytrino**	**4.67**	**39**	*e*P		**Pn**	**10 15 14.8**	**+1.7**
NEY	**Neytrino**	**4.67**	**39**	*e*P		**Pn**	**10 15 14.8**	**+1.7**
ZEI	**Tsey**	**4.99**	**50**	*e*P		**Pn**	**10 15 19.0**	**+1.4**
ZEI				pmax		pmax		
	comp=Z,45nm,0.7s							
ZEI	**Tsey**	**4.99**	**50**	*e*P		**Pn**	**10 15 19.0**	**+1.4**
	comp=Z,45nm,0.7s							
TBLG	**Delisi**	**5.02**	**64**	P		**Pg**	**10 15 35.2**	**-3.3**
GNI	**Garni**	**4.66**	**82**	*i*P		**Pn**	**10 15 12.6**	**-0.3**
KBZ	**Khabaz**	**5.12**	**36**	Pn		**Pn**	**10 15 20.9**	**+1.9**
	comp=Z,0.8nm,0.3s,baz=237,slow=13,SNR=10							
KBZ				Sn		**Sb**	**10 16 27.0**	**-6.4**
	comp=Z,0.1nm,0.3s,baz=11,slow=10,SNR=2.4							
KBZ				LR		LR	10 17 30.4	
	comp=Z,166nm,18.9s,baz=246,slow=41							
LABN	**Labinsk**	**5.18**	**16**	*i*P		**Pn**	**10 15 21.5**	**+1.6**
LABN	**Labinsk**	**5.18**	**16**	*i*P		**Pn**	**10 15 21.5**	**+1.6**
KIV	**Kislovodsk**	**5.20**	**33**	*e*P		**Pn**	**10 15 19.1**	**-1.3**
KIV				pmax		pmax		
	comp=Z,21nm,1.1s							
KIV				MLR		MLR		
	comp=Z,18nm,6.0s							
KIV	**Kislovodsk** comp=Z,18nm,6.0s	**5.20**	**33**	*e*P		**Pn**	**10 15 19.1**	**-1.3**
KVAR	**Kislovodsk Arr** baz=39,slow=5.2,SNR=3.8	**5.21**	**34**	Pn		**Pn**	**10 15 23.2**	**+2.8**
KVAR				LR		LR	10 17 33.5	
	comp=Z,166nm,19.1s,baz=286,slow=41							
NCK	**Nalchik**	**5.29**	**42**	*i*P		**Pn**	**10 15 20.2**	**-1.2**
NCK	**Nalchik**	**5.29**	**42**	*i*P		**Pn**	**10 15 20.2**	**-1.2**
PYA1	**Pyatigorsk**	**5.47**	**35**	*i*P		**Pn**	**10 15 24.9**	**+1.0**
PYA1	**Pyatigorsk**	**5.47**	**35**	*i*P		**Pn**	**10 15 24.9**	**+1.0**
YAL	**Yalta**	**5.88**	**326**	*e*P		**Pn**	**10 15 33.4**	**+3.8**
SUDU	**Sudak**	**5.89**	**333**	⇑*iP*		**Pn**	**10 15 30.2**	**+0.5**
SUDU				*e*S		**Sn**	**10 16 38.8**	**+1.6**
SUDU	**Sudak**	**5.89**	**333**	*i*P		**Pn**	**10 15 30.2**	**+0.5**
SUDU				*e*S		**Sn**	**10 16 38.8**	**+1.6**
SEV	**Sevastopol'**	**6.14**	**324**	P		**Pn**	**10 15 36.2**	**+3.1**
SEV				*e*S		**Sn**	**10 16 49.0**	**+5.6**
GOF	**Gofitskoye**	**6.26**	**29**	⇑*eP*		**Pn**	**10 15 38.6**	**+3.8**
GOF				*e*S		**Sn**	**10 16 50.7**	**+4.4**
GOF				pmax		pmax		
	comp=Z,24nm,0.4s							
GOF				smax		smax		
	comp=N,33nm,0.6s							
GOF				smax		smax		
	comp=E,43nm,0.9s							
MMAI	**Mount Meron Ar**	**7.17**	**203**	Pn		**Pn**	**10 15 49.0**	**+1.7**
	comp=E,0.5nm,0.3s,baz=29,slow=15,SNR=2.2							
MMAI				Lg		Lg	10 17 58.5	
	comp=E,0.6nm,0.3s,baz=27,slow=36,SNR=3.0							
ASF	**Jabal al Asfar**	**7.63**	**192**	Pn		**Pn**	**10 15 55.5**	**+1.7**
	comp=E,0.3nm,0.3s,baz=347,slow=3.5,SNR=6.4							
ASF				Lg		Lg	10 18 12.0	
	comp=E,1.1nm,0.3s,baz=150,slow=20,SNR=4.4							
EIL	**Elat**	**10.45**	**198**	LR		LR	10 20 50.1	
	comp=E,88nm,21.2s,baz=54,slow=39							
VSR	**Storozhevoye**	**11.54**	**1**	*e*P		**Pn**	**10 16 47.7**	**+0.6**
VSR				pmax		pmax		
	comp=Z,8.0nm,0.4s							
VSR	**Storozhevoye** comp=Z,8.0nm,0.4s	**11.54**	**1**	*e*P		**Pn**	**10 16 47.7**	**+0.6**
AKASG	**Malin Array Be**	**12.88**	**332**	Pn		**Pn**	**10 17 04.1**	**-1.4**
	comp=Z,1.3nm,0.3s,baz=135,slow=14,SNR=6.1							
AKASG	**Malin Array Be**	**12.88**	**332**	*i*P		**Pn**	**10 17 07.3**	**+1.9**
AKASG				pmax		pmax		
	comp=Z,1.0nm,0.3s							
AKASG	**Malin Array Be** comp=Z,1.0nm,0.3s	**12.88**	**332**	*i*P		**Pn**	**10 17 07.3**	**+1.9**
KIEV	**Kiev**	**12.88**	**332**	*i*P		**Pn**	**10 17 06.4**	**+1.0**
KIEV	**Kiev**	**12.88**	**332**	*i*P		**Pn**	**10 17 06.4**	**+1.0**
LPSR	**Galich'ya Gora**	**12.93**	**1**	*e*P		**Pn**	**10 17 04.7**	**-1.3**
LPSR				pmax		pmax		
	comp=Z,10.0nm,0.6s							
LPSR	**Galich'ya Gora** comp=Z,10.0nm,0.6s	**12.93**	**1**	*e*P		**Pn**	**10 17 04.7**	**-1.3**
GEYT	**Alibeck**	**15.23**	**90**	LR		LR	10 25 00.1	
	comp=Z,55nm,19.9s,baz=230,slow=43							
OBN	**Obninsk**	**15.51**	**355**	LR		LR	10 25 14.8	
	comp=Z,50nm,18.9s,baz=266,slow=44							
OBN	**Obninsk**	**15.51**	**355**	*e*P		**P**	**10 17 42.9**	**-2.5**
OBN				pmax		pmax		
	comp=Z,7.0nm,0.7s							
OBN	**Obninsk** comp=Z,7.0nm,0.7s	**15.51**	**355**	*e*P		**P**	**10 17 42.9**	**-2.5**
STHS	**Stebnicka Huta**	**15.77**	**314**	*e*P		**P**	**10 17 51.8**	**+3.3**
STHS				pmax		pmax		
	comp=Z,5.0nm,1.0s							
STHS	**Stebnicka Huta**	**15.77**	**314**	*e*P		**P**	**10 17 51.8**	**+3.3**
VYHS	**Vyhne**	**16.74**	**308**	*e*P		**P**	**10 18 02.4**	**+3.2**
VYHS				pmax		pmax		
	comp=Z,10.0nm,1.9s							
VYHS	**Vyhne**	**16.74**	**308**	*e*P		**P**	**10 18 02.4**	**+3.2**
VRAC	**Vranov**	**18.43**	**309**	LR		LR	10 27 18.6	
	comp=Z,67nm,19.7s,baz=118,slow=43							
VSU	**Vasula**	**20.31**	**342**	*i*P		Pn	10 18 39.5	-0.8
VSU				pmax		pmax		
	comp=Z,3.0nm,0.4s							
VSU	**Vasula** comp=Z,3.0nm,0.4s	**20.31**	**342**	*i*P		Pn	10 18 39.5	-0.8
ARU	**Arti**	**21.25**	**31**	*c iP*		**P**	**10 18 47.6**	**-0.8**
ARU							10 19 07.2	
ARU				S		**S**	**10 22 44.4**	**+0.1**
ARU				pmax		pmax		
	comp=Z,8.0nm,1.0s							
ARU	**Arti** comp=Z,8.0nm,1.0s	**21.25**	**31**	*i*P		**P**	**10 18 47.6**	**-0.8**
CLL	**Collm**	**21.33**	**312**	*e*P		**P**	**10 18 52.0**	**+2.7**
CLL				*e*			10 18 56.0	
CLL	**Collm**	**21.33**	**312**	*e*		**P**	**10 18 52.0**	**+2.7**
CLL				*e*			10 18 56.0	
CLL				*e*PP		**PnPn**	**10 19 03.0**	**-6.0**
DAVOX	**Davos/Dischmat**	**22.09**	**298**	P		**P**	**10 19 02.0**	**+4.2**
	comp=Z,3.3nm,0.7s,baz=122,slow=19,SNR=5.0							
SVE	**Sverdlovsk**	**22.36**	**33**	*e*P		**P**	**10 19 00.2**	**-0.2**
SVE				pmax		pmax		
	comp=Z,20nm,1.1s							
FINES	**FINESS Array B**	**23.14**	**344**	P		**P**	**10 19 09.3**	**+0.9**
	comp=Z,7.5nm,1.2s,baz=123,slow=15,SNR=2.9							
FINES				LR		LR	10 30 18.6	
	comp=Z,53nm,20.2s,baz=188,slow=42							
WSAR	**Wadi Sarin**	**23.52**	**128**	LR		LR	10 29 32.8	
	comp=Z,89nm,18.4s,baz=240,slow=40							
KURBB	**Kurchatov Arra**	**29.79**	**55**	P		**P**	**10 20 10.6**	**+1.4**
	comp=Z,2.2nm,0.9s,baz=270,slow=8.6,SNR=9.1							
KURK	**Kurchatov**	**29.86**	**55**	P		**P**	**10 20 10.6**	**+0.8**
KURK				pmax		pmax		
	comp=Z,2.0nm,0.8s							
MKAR	**Makanchi Array**	**32.20**	**63**	P		**P**	**10 20 31.7**	**+1.2**
	comp=Z,0.8nm,0.8s,baz=277,slow=12,SNR=3.0							
ESDC	**Sonseca Array**	**32.62**	**284**	P		**P**	**10 20 34.8**	**+0.5**
	comp=Z,0.3nm,0.3s,baz=55,slow=11,SNR=2.4							
ZALV	**Zalesovo Beam**	**33.98**	**50**	P		**P**	**10 20 46.1**	**+0.2**
	comp=Z,0.8nm,0.5s,baz=275,slow=6.8,SNR=3.7							
TORD	**Torodi Ar. Bea**	**41.93**	**241**	P		**P**	**10 21 54.4**	**+1.1**
	comp=Z,0.9nm,1.0s,baz=36,slow=6.9,SNR=3.7							
BILL	**Bilibino**	**65.65**	**19**	*e*P		**P**	**10 24 46.6**	**+0.3**
BILL				*i*			10 25 18.1	
BILL				pmax		pmax		
	comp=Z,6.0nm,0.9s							
BILL	**Bilibino** comp=Z,6.0nm,0.9s	**65.65**	**19**	*e*P		**P**	**10 24 46.6**	**+0.3**
BILL	**Bilibino**	**65.65**	**19**	*i* PcP		**PcP**	**10 25 18.1**	**+0.4**
KSRS	**Korea Array**	**66.82**	**60**	P		**P**	**10 24 54.9**	**+0.6**
	comp=Z,0.7nm,0.4s,baz=297,slow=5.5,SNR=4.1							

BJI **22** *10:20:29.8, 4.2*0*S×103.0*0*E, h102km, mb5.0/59, mB5.0/47*
ISCJB **22** *10:20:31.6±0.2, 4.09S±0.02×103.02E±0.02, h117km±2km, mb5.2/177, Error ellipse: s-maj=4.5km s-min=2.4km az=136.1*
MOS **22** *10:20:31.4±1.1, 3.87S×103.07E, h108km, mb5.4/79, Error ellipse: s-maj=7.8km s-min=4.2km az=115.0*
DJA **22** *10:20:32.2±0.1, 4.4°S±2'×10'3E±', h92km±2km, M5.3/66, mb5.5/66, mB5.7/42, MLv5.7/23, Mw(mB)5.3/42*
GCMT **22** *10:20:32.4±0.2, 4.24S×102.84E, h108km±1km, MW5.1/96, Moment Tensor Solution. s74,c101; s96,c145; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr5.40±.11; Mθθ-2.36±.16; Mφφ-3.04±.18; Mrθ-0.75±.11; Mφφ-4.26±.13; Mrφ0.95±.13; Best double couple: M06.36100×10^16 NP1:φ27.00000°, δ48.00000°, λ68.00000°. NP2: φ238.00000°, δ46.00000°, λ112.00000°. Principal axes: T 5.7450, Plg74.0000°, Azm226.0000°; N 1.2310, Plg16.0000°, Azm42.0000°; P -6.9770, Plg1.0000°, Azm133.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
IDC **22** *10:20:32.8±0.4, 3.91S×103.09E, h112km±3km, mb4.9/40, mb1 5.0/41, mb1mx5.0/43, mbtmp5.3/41, MS3.8/24, Ms1 3.8/24, ms1mx3.6/44 Error ellipse: s-maj=10.5km s-min=6.7km az=59.0*
KLM **22** *10:20:32.9, 4.21S×103.09E, h80km, mb5.3*
NEIC **22** *10:20:32.4±0.4, 4.07S±0.03×103.05E±0.04, h109km±3km, mb5.3/88, Error ellipse: s-maj=4.7km s-min=2.8km az=49.0*
NEIC Felt [III] at Kapahiang.

ISC 22 10:20:32.0±0.3, **4.04S**±0°03×**103.01E**±0°.04, **h108**km±1km, **h108km:pP-P, n1272,** σ1**42**/1365, **mb5.3**/177, **49C-20D, Southern Sumatera**

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

PCI	**Palu**	**17.09**	**80**	P		**P**		**10 24 29.6**	**+5.1**
	162nm,1.5s,2µm									
PHET	**Kaeng Krachan**	**17.17**	**349**	P		**Pn**		**10 24 25.9**	**+0.5**
	20nm,0.7s,194nm									
BSSI	**Bau Bau, Buton**	**17.53**	**98**	P		**Pn**		**10 24 32.6**	**+2.8**
	83nm,1.1s,1µm									
MYLDM	**Lahad Datu**	**17.98**	**59**	*e*P		**Pn**		**10 24 36.5**	**+1.3**
	105nm,0.9s									
MYLDM	**Lahad Datu**	**17.98**	**59**	⇑P		**Pn**		**10 24 39.3**	**+4.2**
NAYO	**Nakonayok**	**18.32**	**355**	P		**Pn**		**10 24 40.5**	**+1.4**
	64nm,1.0s,3µm									
BASI	**Baing, Sumba**	**18.47**	**110**	P		**Pn**		**10 24 40.5**	**-0.5**
	621nm,0.6s,9µm									
UBPT	**Khong Chiam**	**19.35**	**7**	P		**Pn**		**10 24 50.5**	**-0.8**
	118nm,1.0s									
MRSI	**Marisa**	**19.44**	**77**	P		**Pn**		**10 24 52.0**	**-0.4**
	181nm,0.6s,5µm									
KDI	**Kendari**	**19.56**	**90**	P		**Pn**		**10 24 54.6**	**+0.8**
	139nm,0.8s,2µm									
MMRI	**Maumere**	**19.64**	**104**	P		**P**		**10 24 52.9**	**+0.5**
	300nm,0.6s,4µm									
MMRI	**Maumere**	**19.64**	**104**	*e*P		**P**		**10 24 51.1**	**-1.2**
	216nm,0.6s									
UTHA	**Uthaitani**	**19.79**	**350**	P		**Pn**		**10 24 57.1**	**+0.6**
	12nm,1.0s									
CHAI	**Chaiyaphum**	**19.84**	**357**	P		**Pn**		**10 24 58.3**	**+1.2**
	8.9nm,0.7s,172nm									
GTOI	**Gorontalo**	**20.52**	**77**	P		Pn		10 25 03.9	-1.1
	61nm,0.9s,647nm									
UMPA	**Umpang Tak**	**20.53**	**349**	P		Pn		10 25 14.1	+9.0
PBKT	**Sadao Pong**	**20.58**	**354**	P		Pn		10 25 05.8	+0.2
	50nm,0.9s									
GIRL	**Giralia**	**21.45**	**151**	P		**P**		**10 25 13.2**	**+1.6**
	baz=21,SNR=14									
SUKH	**Sukhothai**	**21.65**	**351**	P		**P**		**10 25 16.2**	**+2.4**
	13nm,1.1s,183nm									
UTTA	**Uttaradit**	**21.78**	**354**	P		**P**		**10 25 17.8**	**+2.5**
	5.9nm,0.8s,152nm									
SOEI	**Soe**	**21.84**	**106**	P		**P**		**10 25 16.1**	**0.0**
	403nm,0.8s,3µm									
SOEI	**Soe**	**21.84**	**106**	*e*P		**P**		**10 25 13.3**	**-2.8**
	271nm,0.7s									
LAMP	**Lampang**	**22.67**	**352**	P		**P**		**10 25 28.2**	**+3.8**
	12nm,1.0s,213nm									
CM01	**Chiang Mai Arr**	**22.68**	**350**	*e*P		**P**		**10 25 25.8**	**+1.3**
CM01				*e*PcP		**PcP**		**10 29 14.4**	**+0.9**
CM31	**Chiang Mai Arr**	**22.71**	**350**	*e*P		**P**		**10 25 26.1**	**+1.2**
CMAR	**Chiang Mai Arr**	**22.71**	**350**	P		**P**		**10 25 25.1**	**+0.2**
	15nm,0.6s,baz=182,slow=9.3,SNR=60									
CMAR				PcP		**PcP**		**10 29 14.7**	**+1.1**
	8.0nm,0.8s,baz=206,slow=2.8,SNR=8.2									
CMAR				S		**S**		**10 29 24.1**	**-1.3**
	0.7nm,0.3s,baz=196,slow=11,SNR=4.2									
CMAR				pPcP				10 29 42.2		
	5.4nm,0.8s,baz=199,slow=3.4,SNR=5.4									
CMAR				ScP		**ScP**		**10 32 41.0**	**-0.6**
	3.4nm,0.7s,baz=204,slow=2.8,SNR=9.7									
CMAR				LR		LR		10 34 00.5		
	comp=Z,127nm,20.3s,baz=170,slow=36									
CMAR	**Chiang Mai Arr**	**22.71**	**350**	P		**P**		**10 25 25.1**	**+0.2**
CMAR								10 29 14.7		
CMAR				S		**S**		**10 29 24.2**	**-1.3**
CMAR				pmax		pmax				
	comp=Z,14nm,0.7s									
CMAR				pmax		pmax				
	comp=Z,8.0nm,0.8s									
CMAR				smax		smax				
	comp=N,1.0nm,0.3s									
CMAR				MLR		MLR				
	comp=Z,127nm,20.3s									
CMMT	**Chiang Mai**	**23.06**	**350**	P		**P**		**10 25 29.1**	**+0.8**
	comp=Z,32nm,1.2s									
CHTO	**Chiang Mai**	**23.06**	**350**	P		**P**		**10 25 29.2**	**+0.9**
	comp=Z,75nm,0.8s									
CHTO	**Chiang Mai**	**23.06**	**350**	*e*P		**P**		**10 25 28.5**	**+0.2**
CHTO				pmax		pmax				
	comp=Z,32nm,1.1s									
CHTO	**Chiang Mai**	**23.06**	**350**	*e*P		**P**		**10 25 28.5**	**+0.2**
	comp=Z,32nm,1.1s									
MBWA	**Marble Bar**	**23.53**	**138**	*e*P		**P**		**10 25 32.8**	**+0.2**
	comp=Z,52nm,0.6s									
QIZ	**Qiongzhong**	**23.89**	**16**	P		**P**		**10 25 38.4**	**+2.6**
QIZ				pP		**pP**		**10 26 00.1**	**+1.6**
QIZ				S		**S**		**10 29 50.8**	**+6.4**
QIZ				pmax		pmax				
	comp=Z,40nm,0.8s									
QIZ				LR		LR				
	comp=Z,630nm,14.0s									
NLAI	**Namlea**	**24.05**	**89**	P		**P**		**10 25 43.0**	**+5.6**
	comp=Z,80nm,0.8s									
LBMI	**Labuha**	**24.70**	**83**	P		**P**		**10 25 45.1**	**+1.8**
	comp=Z,266nm,0.9s,comp=Z,3µm									
PALK	**Pallekele**	**24.94**	**297**	P		**P**		**10 25 46.6**	**+1.1**
	comp=Z,18nm,0.8s,baz=115,slow=4.1,SNR=3.8									
PALK				PcP		**PcP**		**10 29 19.9**	**+1.4**
	comp=Z,11nm,0.8s,baz=116,slow=3.4,SNR=4.2									
RCP	**Roxas**	**25.01**	**51**	⇓*e*P		**P**		**10 25 48.7**	**+2.6**
SLVN	**Son La**	**25.23**	**2**	*e*P		**P**		**10 25 49.6**	**+1.6**
	comp=Z,66nm,1.1s									
TGY	**Tagaytay City**	**25.32**	**44**	P		**P**		**10 25 50.8**	**+1.9**
	comp=Z,133nm,0.4s,baz=242,slow=4.6,SNR=4.8									
TGY				LR		LR		10 36 06.2		
	comp=Z,127nm,20.3s,baz=146,slow=37									
TGY	**Tagaytay City**	**25.32**	**44**	P		**P**		**10 25 50.8**	**+1.9**
TGY				pmax		pmax				
	comp=Z,275nm,0.7s									
TGY				MLR		MLR				
	comp=Z,127nm,20.3s									
MSAI	**Masohi**	**25.87**	**89**	P		P		10 26 01.8	+7.9
	comp=Z,9.1nm,0.4s									
FITZ	**Fitzroy Crossi**	**26.18**	**124**	P		**P**		**10 25 56.5**	**-0.2**
	comp=Z,36nm,0.7s,baz=315,slow=6.7,SNR=34									
FITZ				PcP		**PcP**		**10 29 22.1**	**+0.9**
	comp=Z,8.4nm,0.6s,baz=304,slow=7.3,SNR=3.0									
FITZ				S		**S**		**10 30 16.7**	**-4.2**
	comp=Z,10.0nm,1.0s,baz=347,slow=17,SNR=3.6									
MORW	**Morawa**	**27.79**	**155**	P		**P**		**10 26 13.2**	**+2.3**
	baz=28,SNR=5.7									
KNRA	**Kununurra**	**27.84**	**116**	P		**P**		**10 26 10.3**	**-1.2**
	baz=28,SNR=14									
KMI	**Kunming**	**28.99**	**359**	P		**pP**		**10 26 49.1**	**+3.3**
KMI				pmax		pmax				
	comp=Z,17nm,0.9s									
KMI	**Kunming**	**28.99**	**359**	P		P		10 26 27.0	+5.1
KMI				pP		pP		10 26 49.1	+3.3
KMI				sP		sP		10 27 02.3	+4.0
KMI				S		**S**		**10 31 11.0**	**+5.7**
KMI				sS		sS		10 31 51.8	+4.8
KMI				pmax		pmax				
	comp=Z,16nm,1.3s									
KMI				pmax		pmax				
	comp=Z,46nm,3.7s									
KMI				LR		LR				
	comp=Z,230nm,14.3s									
KMI				LR		LR				
	comp=Z,450nm,12.5s									
KMI				LR		LR				
	comp=Z,530nm,11.0s									
MTN	**Manton Dam**	**29.13**	**109**	P		**P**		**10 26 21.0**	**-1.9**
	baz=29,SNR=29									
MTN	**Manton Dam**	**29.13**	**109**	*e*P		**P**		**10 26 21.1**	**-1.9**
	comp=Z,45nm,0.6s									
BLDU	**Ballidu**	**29.42**	**155**	P		**P**		**10 26 25.8**	**+0.4**
	baz=29,SNR=13									
GYA	**Guiyang**	**30.52**	**6**	P		**P**		**10 26 39.6**	**+4.3**
GYA				pP		pP		10 27 02.4	+3.1
GYA				PP		**PP**		**10 27 44.6**	**-1.7**
GYA				S		**S**		**10 31 35.0**	**+5.8**
GYA				sS		sS		10 32 15.3	+4.4
GYA				pmax		pmax				
	comp=Z,20nm,0.8s									
GYA				pmax		pmax				
	comp=Z,120nm,5.2s									
KLBR	**Kellerberrin**	**30.71**	**155**	P		**P**		**10 26 37.1**	**+0.4**
	baz=31,SNR=27									
NWAO	**Narrogin (SRO)**	**31.67**	**157**	LR		LR		10 37 51.5		
	comp=Z,246nm,21.5s,baz=214,slow=33									
NWAO	**Narrogin (SRO)**	**31.67**	**157**	P		**P**		**10 26 45.8**	**+0.6**
	baz=32,SNR=7.5									
NWAO				P		**P**		**10 26 45.8**	**+0.6**
	baz=32,SNR=7.5									
NWAO	**Narrogin (SRO)**	**31.67**	**157**	*e*P		**P**		**10 26 44.3**	**-0.8**
NWAO				pmax		pmax				
	comp=Z,58nm,1.3s									
NWAO	**Narrogin (SRO)**	**31.67**	**157**	*e*P		**P**		**10 26 44.3**	**-0.8**
	comp=Z,58nm,1.3s									
TWG	**Pinlang**	**32.00**	**33**	*e*P		**P**		**10 26 49.5**	**+1.3**
	comp=Z,163nm,1.0s									
WRKA	**Warakurna**	**32.04**	**133**	P		**P**		**10 26 48.7**	**+0.1**
	baz=32,SNR=60									
HYB	**Hyderabad**	**32.21**	**312**	*i* P		**P**		**10 26 51.0**	**+0.8**
HYB				*e*PcP		**PcP**		**10 29 34.5**	**-2.0**
H01W3	**Cape Leeuwin H**	**32.38**	**163**	T		T		11 00 19.9		
	baz=340,slow=76,SNR=24									
H01W1	**Cape Leeuwin H**	**32.39**	**163**	T		T		11 00 27.1		
	baz=340,slow=76,SNR=65									
H01W2	**Cape Leeuwin H**	**32.39**	**163**	T		T		11 00 20.0		
	baz=340,slow=76,SNR=254									
KMBL	**Kambalda**	**32.47**	**149**	P		**P**		**10 26 52.5**	**+0.3**
	baz=32,SNR=15									
YULB	**Yu-li**	**32.58**	**32**	*e*P		**P**		**10 26 55.3**	**+2.0**
	comp=Z,33nm,1.0s									
RKGY	**Rocky Gully**	**33.06**	**159**	P		**P**		**10 26 58.7**	**+1.4**
	baz=33,SNR=9.0									
ODAN	**Odare**	**34.23**	**335**	*e*P		**P**		**10 27 08.6**	**+0.7**
	comp=Z,36nm,0.7s									
WRA	**Warramunga Arr**	**34.37**	**120**	P		**P**		**10 27 08.4**	**-0.5**
	comp=Z,25nm,0.3s,baz=310,slow=8.8,SNR=540									
WRA				pP		**pP**		**10 27 32.6**	**-0.5**
	comp=Z,31nm,0.8s,baz=293,slow=9.9,SNR=7.6									
WRA				PcP		**PcP**		**10 29 42.7**	**+0.1**
	comp=Z,15nm,0.5s,baz=297,slow=2.4,SNR=11									
WRA				pPcP				10 30 09.2		
	comp=Z,4.8nm,0.7s,baz=292,slow=2.2,SNR=3.2									
WRA				S		**S**		**10 32 24.5**	**-4.5**
	comp=Z,20nm,0.9s,baz=294,slow=16,SNR=13									
WRA				P3KPbc				10 58 09.1		
	comp=Z,1.4nm,0.7s,baz=104,slow=4.5,SNR=18									
WRAB	**Tennant Creek**	**34.38**	**120**	*e*P		**P**		**10 27 08.7**	**-0.3**
WRAB				*e*S		**S**		**10 32 25.4**	**-3.7**
WRAB				pmax		pmax				
	comp=Z,49nm,0.5s									
WRAB	**Tennant Creek**	**34.38**	**120**	*e*P		**P**		**10 27 08.7**	**-0.3**
	comp=Z,49nm,0.5s									
WRAB				*e*S		**S**		**10 32 25.4**	**-3.7**
WB2	**Warramunga Arr**	**34.38**	**120**	*e*P		**P**		**10 27 08.5**	**-0.6**
TAPN	**Taplejung**	**34.53**	**336**	*e*P		**P**		**10 27 10.8**	**+0.3**
	comp=Z,116nm,0.9s									
RAMN	**Ramite**	**34.66**	**334**	*e*P		**P**		**10 27 11.9**	**+0.4**
	comp=Z,32nm,0.6s									
ENH	**Enshi**	**34.68**	**10**	*e*P		**P**		**10 27 12.5**	**+1.1**
	comp=Z,33nm,0.9s									
CD2	**Chengdu**	**34.76**	**1**	P		**P**		**10 27 13.5**	**+1.4**
CD2				pP		pP		10 27 37.8	+1.4
CD2				PP		**PP**		**10 28 37.4**	**+4.3**
CD2				S		**S**		**10 32 32.8**	**-1.9**
CD2				sS		ScP		10 33 19.3	+0.1
CD2				SS		**SnSn**		**10 35 00.8**	**+0.6**
CD2				ScS		**ScS**		**10 37 16.5**	**-6.3**
CD2				pmax		pmax				
	comp=Z,20nm,0.9s									
CD2				pmax		pmax				
	comp=Z,140nm,6.2s									
CD2				LR		LR				
	comp=Z,510nm,12.3s									
CD2				LR		LR				
	comp=Z,530nm,10.4s									
CD2				LR		LR				
	comp=Z,700nm,12.3s									
LSA	**Lhasa**	**35.42**	**342**	*e*P		**P**		**10 27 19.0**	**+0.7**
LSA				*e*S		**S**		**10 32 47.8**	**+2.1**
LSA				pmax		pmax				
	comp=Z,13nm,0.8s									
LSA	**Lhasa**	**35.42**	**342**	*e*P		**P**		**10 27 19.0**	**+0.7**
	comp=Z,13nm,0.8s									
LSA				*e*S		**S**		**10 32 47.8**	**+2.1**
JIRN	**Jiri**	**35.45**	**334**	*e*P		**P**		**10 27 18.2**	**-0.3**
	comp=Z,217nm,0.4s									
FORT	**Forrest**	**35.56**	**141**	P		**P**		**10 27 19.6**	**+0.6**
	baz=36,SNR=21									
FORT	**Forrest**	**35.56**	**141**	*e*P		**P**		**10 27 18.0**	**-1.0**
	comp=Z,676nm,0.7s									
AS31	**Alice Springs**	**35.63**	**126**	*e*P		**P**		**10 27 19.8**	**+0.1**
	comp=Z,25nm,0.4s									
ASAR	**Alice Springs**	**35.63**	**126**	P		**P**		**10 27 19.6**	**-0.1**
	comp=Z,35nm,0.5s,baz=299,slow=7.6,SNR=1080									
ASAR				PcP		**PcP**		**10 29 46.6**	**+0.4**
	comp=Z,38nm,0.7s,baz=307,slow=2.8,SNR=22									
ASAR				pPcP				10 30 13.6		
	comp=Z,10.0nm,0.8s,baz=311,slow=2.8,SNR=6.0									
ASAR				S		**S**		**10 32 44.6**	**-3.6**
	comp=Z,19nm,0.8s,baz=295,slow=15,SNR=26									
ASAR				ScS		**ScS**		**10 37 25.9**	**-2.0**
	comp=Z,2.5nm,0.8s,baz=302,slow=5.3,SNR=6.5									
ASAR				LR		LR		10 44 32.3		
	comp=Z,110nm,18.1s,baz=286,slow=40									
ASAR				P3KPbc				10 58 02.4		
	comp=Z,0.5nm,0.6s,baz=115,slow=4.2,SNR=8.6									
ASAR	**Alice Springs**	**35.63**	**126**	P		**P**		**10 27 19.6**	**-0.1**
ASAR								10 29 46.7		
ASAR				S		**S**		**10 32 44.6**	**-3.6**
ASAR								10 37 25.9		
ASAR				pmax		pmax				
	comp=Z,36nm,0.5s									
ASAR				smax		smax				
	comp=N,19nm,0.8s									
ASAR				MLR		MLR				
	comp=Z,110nm,18.1s									
AS01	**Alice Springs**	**35.66**	**126**	*e*P		**P**		**10 27 19.3**	**-0.7**
PKIN	**Phulchoki**	**35.74**	**333**	*e*P		**P**		**10 27 20.4**	**-0.4**
	comp=Z,20nm,0.6s									
GUN	**Gumba**	**35.80**	**334**	*e*P		**P**		**10 27 21.6**	**+0.1**
	comp=Z,57nm,0.4s									
DMN	**Daman**	**35.90**	**332**	*e*P		**P**		**10 27 22.3**	**+0.1**
	comp=Z,18nm,0.5s									
KKN	**Kakani**	**35.97**	**333**	*e*P		**P**		**10 27 22.4**	**-0.4**
	comp=Z,35nm,0.6s									
WHN	**Wuhan**	**36.06**	**17**	⇓P		**P**		**10 27 24.8**	**+1.6**
WHN				pP		**pP**		**10 27 49.9**	**+2.4**
WHN				S		**S**		**10 32 56.8**	**+2.4**
WHN				LR		LR				
	comp=Z,1µm,19.3s									
WHN				LR		LR				
	comp=Z,2µm,15.6s									
WHN				LR		LR				
	comp=Z,760nm,20.3s									
GKN	**Gorkha**	**36.45**	**332**	*e*P		**P**		**10 27 26.6**	**-0.2**
KOLN	**Koldanda**	**36.75**	**331**	*e*P		**P**		**10 27 29.6**	**+0.2**
	comp=Z,54nm,0.7s									
PYUN	**Piuthan**	**37.33**	**330**	*e*P		**P**		**10 27 33.6**	**-0.6**
	comp=Z,94nm,0.9s									
JAY	**Jayapura**	**37.66**	**89**	P		**P**		**10 27 39.0**	**+1.9**
	comp=Z,11nm,0.7s									
XAN	**Xi'an**	**38.28**	**8**	P		**P**		**10 27 41.9**	**-0.1**
XAN				pP		pP		10 28 04.6	-2.0
XAN				PP		**PnPn**		**10 29 14.5**	**-0.2**
XAN				PcP		**PcP**		**10 29 54.4**	**+0.4**
XAN				S		**S**		**10 33 27.8**	**-0.5**
XAN				SS		**SS**		**10 36 10.9**	**-10**
XAN				ScS		**ScS**		**10 37 41.4**	**-0.9**
XAN				pmax		pmax				
	comp=Z,47nm,1.0s									
XAN				pmax		pmax				
	comp=Z,68nm,11.8s									
XAN				LR		LR				
	comp=Z,210nm,13.4s									
XAN				LR		LR				
	comp=Z,350nm,16.1s									
XAN				LR		LR				
	comp=Z,640nm,13.3s									
NJ2	**Nanjing**	**38.93**	**22**	*e*P		**P**		**10 27 48.4**	**+1.1**
NJ2				pmax		pmax				
	comp=Z,9.0nm,0.5s									
QIS	**Mount Isa**	**39.20**	**118**	P		**P**		**10 27 49.3**	**-0.6**
	baz=39,SNR=50									
LZH	**Lanzhou**	**39.93**	**1**	*e*P		**P**		**10 27 59.8**	**+4.0**
LZH				pP		pP		10 28 24.1	+3.6
LZH				PcP		**PcP**		**10 30 00.6**	**+1.3**
LZH				ScP		**ScP**		**10 33 38.0**	**-0.6**
LZH				S		**S**		**10 33 59.8**	**+6.7**
LZH				pmax		pmax				
	comp=Z,22nm,1.0s									
LZH				pmax		pmax				
	comp=Z,100nm,4.0s									
LZH				LR		LR				
	comp=Z,450nm,12.7s									
LZH				LR		LR				
	comp=Z,350nm,13.4s									
LZH				LR		LR				
	comp=Z,380nm,12.9s									
COEN	**Coen**	**40.81**	**107**	P		**P**		**10 28 01.9**	**-1.3**
	baz=41,SNR=8.6									
COEN	**Coen**	**40.81**	**107**	*e*P		**P**		**10 28 02.5**	**-0.7**
	comp=Z,22nm,0.9s									
COEN				*e*PcP		**PcP**		**10 30 02.8**	**+0.4**
NDI	**New Delhi**	**40.91**	**324**	*e*P		**P**		**10 28 03.0**	**-0.9**
BBOO	**Buckleboo**	**42.10**	**137**	P		**P**		**10 28 13.4**	**-0.2**
	baz=42,SNR=15									
MTSU	**Mount Surprise**	**42.75**	**112**	P		**P**		**10 28 18.6**	**-0.4**
	baz=43,SNR=44									
SDNR	**Sundarnagar**	**43.18**	**327**	*e*P		**P**		**10 28 22.6**	**+0.3**
GTA	**Gaotai**	**43.34**	**356**	*e*P		**P**		**10 28 24.0**	**+0.5**
GTA				pP		pP		10 28 49.8	+1.2
GTA				sP		sP		10 29 02.5	+1.7
GTA				PcP		**PcP**		**10 30 10.8**	**+0.3**
GTA				ScP		**ScP**		**10 33 50.0**	**-2.1**
GTA				S		**S**		**10 34 44.5**	**+1.2**
GTA				sS		sS		10 35 29.9	+3.4
GTA				SS		**SS**		**10 37 55.0**	**-6.2**
GTA				pmax		pmax				
	comp=Z,9.0nm,0.7s									
GTA				pmax		pmax				
	comp=Z,75nm,5.2s									
GTA				LR		LR				
	comp=Z,210nm,15.7s									
GTA				LR		LR				
	comp=Z,200nm,19.0s									
GTA				LR		LR				
	comp=Z,210nm,15.9s									
PMG	**Port Moresby**	**44.14**	**99**	PcP		**PcP**		**10 30 13.6**	**+0.1**
	comp=Z,28nm,0.7s,baz=0.0,slow=3.0,SNR=4.5									
PMG	**Port Moresby**	**44.14**	**99**	*e*P		**P**		**10 28 29.5**	**-0.7**
PMG								10 30 13.6		
PMG				pmax		pmax				
	comp=Z,43nm,0.8s									
PMG	**Port Moresby**	**44.14**	**99**	*e*P		**P**		**10 28 29.5**	**-0.7**
	comp=Z,43nm,0.8s									
PMG				PcP		**PcP**		**10 30 13.6**	**+0.1**
MANU	**Manus Island**	**44.33**	**89**	*e*P		**P**		**10 28 31.4**	**-0.4**
	comp=Z,46nm,0.8s									
HTT	**Hallett**	**44.44**	**136**	P		**P**		**10 28 33.0**	**+0.6**
	baz=44,SNR=17									
CTA	**Charters Tower**	**45.02**	**114**	P		**P**		**10 28 37.1**	**0.0**
	comp=Z,62nm,0.7s,baz=296,slow=9.9,SNR=66									
CTA				pP		**pP**		**10 29 02.1**	**-0.2**
	comp=Z,26nm,0.7s,baz=286,slow=13,SNR=3.9									
CTA				PcP		**PcP**		**10 30 17.0**	**+0.5**
	comp=Z,12nm,0.5s,baz=8.7,slow=2.7,SNR=3.1									
CTA				S		**S**		**10 35 06.0**	**-2.0**
	comp=Z,3.0nm,0.9s,baz=252,slow=20,SNR=4.1									
CTAO	**Charters Tower**	**45.02**	**114**	*e*P		**P**		**10 28 37.1**	**0.0**
CTAO				pmax		pmax				
	comp=Z,76nm,0.8s									
CTAO	**Charters Tower**	**45.02**	**114**	*e*P		**P**		**10 28 37.1**	**0.0**
	comp=Z,76nm,0.8s									
QLP	**Quilpie**	**45.33**	**124**	P		**P**		**10 28 40.2**	**+0.7**
	baz=45,SNR=48									
HHC	**Hu-ho-hao-te**	**45.35**	**9**	*e*P		**P**		**10 28 41.9**	**+2.3**
HHC				pP		pP		10 29 06.1	+1.3
HHC				sP		sP		10 29 17.8	+0.8
HHC				S		**S**		**10 35 11.6**	**-0.9**
HHC				pmax		pmax				
	comp=Z,33nm,1.1s									
HHC				pmax		pmax				
	comp=Z,95nm,6.1s									
HHC				LR		LR				
	comp=Z,410nm,16.0s									
HHC				LR		LR				
	comp=Z,260nm,16.0s									
HHC				LR		LR				
	comp=Z,250nm,17.3s									
BJI	**Beijing**	**45.51**	**14**	P		**P**		**10 28 42.0**	**+1.4**
BJI				pP		**pP**		**10 29 06.8**	**+1.0**
BJI				sP		**sP**		**10 29 18.3**	**+0.3**
BJI				PcP		**PcP**		**10 30 18.3**	**+0.6**
BJI				ScP		**ScP**		**10 33 59.1**	**-1.7**
BJI				S		**S**		**10 35 12.8**	**-1.5**
BJI				sS		**sS**		**10 35 59.9**	**+2.1**
BJI				pmax		pmax				
	comp=Z,29nm,0.8s									
BJI				pmax		pmax				
	comp=Z,99nm,4.1s									
BJI				LR		LR				
	comp=Z,300nm,20.4s									
BJI				LR		LR				
	comp=Z,660nm,16.8s									
BJI				LR		LR				
	comp=Z,200nm,17.8s									
STKA	**Stephens Creek**	**45.55**	**132**	P		**P**		**10 28 41.5**	**+0.3**
	comp=Z,43nm,0.7s,baz=307,slow=7.5,SNR=96									
STKA				pP		**pP**		**10 29 07.6**	**+1.2**
	comp=Z,27nm,0.7s,baz=304,slow=8.9,SNR=4.5									
STKA				PcP		**PcP**		**10 30 18.5**	**+0.4**
	comp=Z,38nm,0.6s,baz=298,slow=4.9,SNR=6.8									
STKA				S		**S**		**10 35 13.2**	**-2.3**
	comp=Z,12nm,0.9s,baz=288,slow=20,SNR=7.6									
STKA	**Stephens Creek**	**45.55**	**132**	P		**P**		**10 28 41.5**	**+0.3**
	baz=46,SNR=66									
STKA	**Stephens Creek**	**45.55**	**132**	*e*P		**P**		**10 28 41.6**	**+0.3**
	comp=Z,8.0nm,0.7s									
STKA				pP		**pP**		**10 29 07.6**	**+1.2**
STKA				PcP		**PcP**		**10 30 18.5**	**+0.4**
STKA				*e*S		**S**		**10 35 14.2**	**-1.3**
MRIV	**Mauritius Mete**	**47.14**	**246**	*e*P		**P**		**10 28 55.7**	**+1.9**
KS15	**Wonju Array Si**	**47.32**	**27**	*e*P		**P**		**10 28 56.6**	**+1.8**
KS15				*e*pP		**pP**		**10 29 22.4**	**+2.2**
KSAR	**Wonju Array Be**	**47.32**	**27**	P		**P**		**10 28 55.6**	**+0.8**
KSAR				*PP		**pP**		**10 29 22.0**	**+1.8**
KSAR								10 30 24.6		
KSAR	**Wonju Array Be**	**47.32**	**27**	P		**P**		**10 28 55.5**	**+0.8**
KSAR			

WSAR PcP **PcP** **10 30 39.2 +1.0**
comp=Z,4.2nm,0.6s,baz=63,slow=2.3,SNR=3.0
WSAR ScP **ScP** **10 34 24.2 -0.6**
comp=Z,6.7nm,0.8s,baz=152,slow=7.9,SNR=4.3
TOO Toolangi 51.16 136 P **P** **10 29 25.9 +1.6**
baz=51,SNR=4.4
BIDO Bidbid 51.61 304 P **P** **10 29 30.0 +2.3**
SNR=7.3
BIDO Bidbid 51.61 304 P **P** **10 29 30.0 +2.3**
SNR=7.3
PDGK Podgornoye 51.72 338 P **P** **10 29 28.2 -0.1**
PDGK pmax pmax
comp=Z,39nm,0.9s
SONM Songino Array 51.74 3 P **P** **10 29 29.4 +1.0**
comp=Z,32nm,0.6s,baz=184,slow=9.3,SNR=112
SONM pP **pP** **10 29 55.1 +0.9**
comp=Z,20nm,0.8s,baz=181,slow=8.4,SNR=4.9
SONM PcP **PcP** **10 30 40.4 +0.1**
comp=Z,17nm,0.9s,baz=194,slow=4.7,SNR=14
SONM ScP **ScP** **10 34 25.1 -2.2**
comp=Z,5.5nm,0.9s,baz=179,slow=4.1,SNR=9.5
SONM S **S** **10 36 43.8 +1.7**
comp=Z,0.4nm,0.4s,baz=266,slow=39,SNR=3.9
SONM LR LR 10 53 46.6
comp=Z,162nm,19.1s,baz=176,slow=39
SONA1 Songino Array 51.76 3 *eP* **P** **10 29 29.1 +0.6**
ULN Ulaanbaatar 51.81 3 *eP* **P** **10 29 29.9 +0.9**
ULN pmax pmax
comp=Z,15nm,0.8s
ULN Ulaanbaatar 51.81 3 *eP* **P** **10 29 29.9 +0.9**
comp=Z,15nm,0.8s
ULN Ulaanbaatar 51.81 3 P **P** **10 29 30.0 +1.1**
SNR=8.7
ULN Ulaanbaatar 51.81 3 P **P** **10 29 30.0 +1.1**
SNR=8.7
MAJO Matsushiro 52.05 36 *eP* **P** **10 29 30.4 -0.4**
MAJO pmax pmax
comp=Z,35nm,0.9s
MAJO Matsushiro 52.05 36 *eP* **P** **10 29 30.4 -0.4**
comp=Z,35nm,0.9s
MAT Matsushiro 52.05 36 P **P** **10 29 29.6 -1.2**
MJAR Matsushiro Arr 52.05 36 P **P** **10 29 30.2 -0.6**
comp=Z,29nm,0.9s,baz=216,slow=7.3,SNR=53
MJAR pP **pP** **10 29 56.5 -0.1**
comp=Z,12nm,0.8s,baz=215,slow=7.5,SNR=5.5
MJAR ScP **ScP** **10 34 27.5 -1.2**
comp=Z,3.5nm,0.8s,baz=196,slow=5.1,SNR=6.1
MJAR Matsushiro Arr 52.05 36 P **P** **10 29 30.2 -0.6**
MJAR *PP **pP** **10 29 56.5 -0.1**
MJAR pmax pmax
comp=Z,27nm,0.9s
MJB9 Matsu-Tunnel 52.05 36 *eP* **P** **10 29 30.3 -0.5**
comp=Z,8.7nm,0.9s
CAN Canberra 52.62 132 *eP* **P** **10 29 35.5 +0.4**
CAN pmax pmax
comp=Z,23nm,0.9s
CAN Canberra 52.62 132 *eP* **P** **10 29 35.5 +0.4**
comp=Z,22nm,0.9s
ARMA Armidale 52.77 126 P **P** **10 29 37.9 +1.5**
baz=53,SNR=14
ARMA Armidale 52.77 126 *eP* **P** **10 29 37.9 +1.5**
comp=Z,35nm,1.0s
TKM2 Tokmak 2 52.92 335 P **P** **10 29 37.0 -0.3**
TKM2 pmax pmax
comp=Z,35nm,0.6s
MSHR Mys Shultsa 52.95 26⇑ *iP* **P** **10 29 37.5 +0.2**
DZET Dzherino 53.05 327 P **P** **10 29 37.0 -1.3**
DZET pmax pmax
comp=Z,24nm,0.7s
AAK Ala-Archa 53.16 334 P **P** **10 29 39.3 +0.3**
comp=Z,7.1nm,0.6s,baz=139,slow=3.6,SNR=25
AAK pP **pP** **10 30 06.7 +1.7**
comp=Z,13nm,0.9s,baz=183,slow=5.7,SNR=4.6
AAK PcP **PcP** **10 30 47.1 +1.3**
comp=Z,27nm,0.7s,baz=125,slow=4.2,SNR=10
AAK ScP **ScP** **10 34 31.9 -1.8**
comp=Z,3.6nm,0.7s,baz=161,slow=6.7,SNR=5.0
AAK S **S** **10 37 00.8 -0.9**
comp=Z,1.6nm,0.6s,baz=278,slow=19,SNR=8.9
AAK ScS **ScS** **10 39 17.3 -1.0**
comp=Z,1.0nm,0.3s,baz=180,slow=3.0,SNR=3.2
AAK Ala-Archa 53.16 334 *eP* **P** **10 29 39.3 +0.3**
comp=Z,26nm,0.8s
AAK pP **pP** **10 30 06.7 +1.7**
AAK PcP **PcP** **10 30 47.1 +1.3**
AAK S **S** **10 37 00.8 -0.9**
FRU Bishkek 53.27 334⇑ *iP* **P** **10 29 39.5 -0.2**
FRU *i *PP **pP** **10 30 07.5 +1.9**
FRU *i* 10 30 43.0
FRU *i* S **S** **10 37 02.5 -0.3**
FRU pmax pmax
comp=Z,53nm,1.8s
FRU smax smax
comp=N,57nm,1.9s
MGCD Mangrove Creek 53.37 129 P **P** **10 29 41.5 +1.0**
baz=53,SNR=6.3
MK01 Makanchi Array 53.81 342 *eP* **P** **10 29 43.0 -0.5**
MK01 *eS* **S** **10 37 10.0 0.0**
UOSS Minazif 53.81 305 *eP* **P** **10 29 44.9 +0.9**
comp=N,26nm,1.1s
ASHO Ashiyiah 53.82 305 *i* P **P** **10 29 45.3 +1.2**
SNR=9.5
HATD Hatta, Dubai 53.82 305 *i* P **P** **10 29 45.4 +1.4**
SNR=8.6
HATD Hatta, Dubai 53.82 305 P **P** **10 29 46.1 +2.1**
SNR=7.8
HATD Hatta, Dubai 53.82 305 P **P** **10 29 46.1 +2.1**
SNR=7.8
MK31 Makanchi Array 53.83 342 *eP* **P** **10 29 43.5 -0.2**
MK31 *eS* **S** **10 37 11.0 +0.7**
MK31 Makanchi Array 53.83 342 *eP* **P** **10 29 43.5 -0.2**
MK31 *eS* **S** **10 37 10.9 +0.7**
MKAR Makanchi Array 53.83 342 P **P** **10 29 43.4 -0.3**
comp=N,26nm,0.5s,baz=153,slow=8.3,SNR=208
MKAR PcP **PcP** **10 30 48.2 +0.1**
comp=N,16nm,0.8s,baz=147,slow=7.3,SNR=4.9
MKAR pPcP 10 31 15.6
comp=N,8.8nm,0.7s,baz=148,slow=8.1,SNR=2.4
MKAR ScP **ScP** **10 34 34.2 -2.1**
comp=N,1.1nm,0.7s,baz=169,slow=8.4,SNR=3.7
MKAR S **S** **10 37 10.8 +0.5**
comp=N,4.3nm,0.9s,baz=156,slow=12,SNR=7.4
MKAR LR LR 10 57 37.1
comp=N,96nm,18.6s,baz=156,slow=41
MKAR PKPPKP **P'P'df** **11 00 03.8 +3.6**
comp=N,1.0nm,0.8s,baz=238,slow=4.1,SNR=4.1
MKAR Makanchi Array 53.83 342 *eP* **P** **10 29 43.5 -0.3**
comp=N,203nm,0.5s
MKAR PcP **PcP** **10 30 48.2 +0.1**
MKAR *eS* **S** **10 37 10.9 +0.7**
MAKZ Makanchi 53.94 342 *eP* **P** **10 29 44.2 -0.3**
MAKZ pmax pmax
comp=Z,15nm,0.9s
MAKZ Makanchi 53.94 342 *eP* **P** **10 29 44.2 -0.3**
comp=Z,15nm,0.9s
MNAS Manas 53.94 332 P **P** **10 29 44.2 -0.5**
MNAS pmax pmax
comp=Z,70nm,1.3s
MDJ Mudanjiang 53.98 23 P **P** **10 29 45.0 +0.3**
MDJ pP pP 10 30 10.5 -0.2
MDJ sP sP 10 30 20.3 -2.4
MDJ S **S** **10 37 15.0 +2.8**
MDJ sS sS 10 38 00.9 +4.1
MDJ SS **SS** **10 40 56.0 +0.8**
MDJ pmax pmax
comp=Z,12nm,1.0s
MDJ pmax pmax
comp=Z,100nm,4.7s
MDJ LR LR
comp=Z,85nm,17.6s
MDJ LR LR
comp=Z,63nm,25.1s
MDJ LR LR
comp=Z,82nm,17.6s
BANOM Banah 54.16 306 P **P** **10 29 49.6 +3.1**
ZAK Zakamensk 54.21 0 *eP* **P** **10 29 45.8 -0.7**
ZAK *e* 10 30 46.3
ZAK pmax pmax
comp=Z,10.0nm,1.0s
FAQ Al Faqa, Dubai 54.23 304 *i* P **P** **10 29 48.2 +1.2**
SNR=10
FAQ Al Faqa, Dubai 54.23 304 P **P** **10 29 49.0 +2.0**
SNR=10
FAQ Al Faqa, Dubai 54.23 304 P **P** **10 29 49.0 +2.0**
SNR=10
NAZ Nazwa, Dubai 54.27 305 *i* P **P** **10 29 50.0 +2.7**
SNR=5.3
NAZ Nazwa, Dubai 54.27 305 P **P** **10 29 50.0 +2.7**
SNR=6.7
NAZ Nazwa, Dubai 54.27 305 P **P** **10 29 50.0 +2.7**
SNR=6.7
USRK Ussuriysk Ar. 54.62 25 P **P** **10 29 49.8 +0.4**
comp=Z,27nm,0.5s,baz=203,slow=4.9,SNR=70
USRK pP **pP** **10 30 16.6 +1.2**
comp=Z,14nm,0.7s,baz=223,slow=5.8,SNR=4.2
KK31 Karatay Array 55.35 331 *i* P **P** **10 29 54.0 -0.8**
KK31 pmax pmax
comp=Z,5.0nm,0.7s
KKAR Karatay Array 55.35 331 *eP* **P** **10 29 54.2 -0.6**
KKAR *eS* **S** **10 37 30.5 -0.3**
KKAR pmax pmax
comp=Z,77nm,0.6s
KKAR Karatay Array 55.35 331 *eP* **P** **10 29 54.2 -0.6**
comp=Z,77nm,0.6s
KKAR *eS* **S** **10 37 30.5 -0.3**
TLY Talaya 55.51 0 *eP* **P** **10 29 56.8 +1.1**
TLY *eS* S 10 37 46.6 +14
TLY pmax pmax
comp=Z,31nm,1.1s
TLY MLR MLR
comp=Z,90nm,13.0s
TLY Talaya 55.51 0 *eP* **P** **10 29 57.4 +1.7**
comp=Z,19nm,0.7s
MOY Mondy 55.52 358 *eP* **P** **10 29 56.4 +0.5**
IRK Irkutsk 56.08 1 *eP* **P** **10 29 59.6 -0.2**
IRK pmax pmax
comp=Z,28nm,1.9s
ABPO Ambohimpanom 56.40 250 *eP* **P** **10 30 04.9 +2.0**
ABPO pmax pmax
comp=Z,26nm,1.0s
ABPO Ambohimpanom 56.40 250 *eP* **P** **10 30 04.9 +2.0**
comp=Z,26nm,1.0s
KURBB Kurchatov Arra 58.38 342 P **P** **10 30 15.6 -0.3**
comp=Z,24nm,0.7s,baz=153,slow=7.3,SNR=167
KURBB pP **pP** **10 30 40.8 -1.5**
comp=Z,16nm,0.8s,baz=150,slow=7.3,SNR=6.2
KURBB PcP **PcP** **10 31 05.9 +0.3**
comp=Z,15nm,0.6s,baz=236,slow=3.5,SNR=16
KURBB ScP **ScP** **10 34 54.8 -1.3**
comp=Z,2.2nm,0.8s,baz=155,slow=3.5,SNR=5.9
KURBB S **S** **10 38 08.4 -1.8**
comp=Z,4.7nm,1.0s,baz=160,slow=13,SNR=12
KURBB PKPPKP **P'P'df** **10 59 54.7 +1.4**
comp=Z,0.3nm,0.4s,baz=336,slow=2.0,SNR=4.3
KURBB PKP2bc 11 00 04.2
comp=Z,1.6nm,0.9s,baz=314,slow=2.7,SNR=7.1
KURK Kurchatov 58.43 342 *eP* **P** **10 30 16.0 -0.3**
KURK *PP **pP** **10 30 40.8 -1.8**
KURK 10 31 05.9
KURK S **S** **10 38 08.4 -2.5**
KURK pmax pmax
comp=Z,36nm,0.7s
KURK Kurchatov 58.43 342 *eP* **P** **10 30 16.0 -0.3**
comp=Z,36nm,0.7s
KURK pP **pP** **10 30 40.8 -1.8**
KURK PcP **PcP** **10 31 05.9 +0.1**
KURK S **S** **10 38 08.4 -2.5**
KURK Kurchatov 58.43 342 P **P** **10 30 16.2 -0.1**
SNR=17
KURK Kurchatov 58.43 342 P **P** **10 30 16.2 -0.1**
SNR=17
ERM Erimo 58.56 34*c* *iP* **P** **10 30 18.1 +0.7**
ERM pmax pmax
comp=Z,70nm,0.8s
KLR Kul'dur 58.63 22*c* *iP* **P** **10 30 17.7 0.0**
GEYT Alibeck 58.94 319 P **P** **10 30 20.0 -0.2**
comp=Z,27nm,0.8s,baz=142,slow=7.5,SNR=30
GEYT PcP **PcP** **10 31 08.8 +0.6**
comp=Z,6.7nm,0.7s,baz=172,slow=4.1,SNR=2.4
GEYT ScP **ScP** **10 34 59.1 0.0**
comp=Z,1.6nm,0.5s,baz=158,slow=4.7,SNR=2.2
GEYT S **S** **10 38 15.1 -3.1**
comp=Z,1.5nm,0.5s,baz=94,slow=18,SNR=2.5
GEYT LR LR 10 59 21.6
comp=Z,41nm,18.2s,baz=35,slow=40
GEYT PKP2bc 11 00 04.6
comp=Z,2.2nm,0.6s,baz=297,slow=16,SNR=3.8
HABR Khabarovsk 59.30 24 *eP* **P** **10 30 19.7 -2.7**
HABR *e*PP **pP** **10 30 45.3 -3.4**
HABR *e*SP **sP** **10 30 57.1 -3.5**
HABR *e* 10 31 06.9
HABR *e* 10 32 31.5
HABR *eS* **S** **10 38 19.6 -2.7**
HABR *e* 10 39 59.4
HABR *eSS **SS** **10 42 17.0 -1.9**
HABR pmax pmax
comp=N,18nm,1.3s
HABR pmax pmax
comp=E,20nm,1.3s
HABR pmax pmax
comp=Z,28nm,1.3s
HABR MLR MLR
comp=Z,108nm,16.0s
ASAJ Asahikawa 59.66 32 *eP* **P** **10 30 25.4 +0.5**
comp=Z,20nm,0.8s
ZAA0 Zalesovo Array 59.76 348 *eP* **P** **10 30 24.8 -0.6**
ZALV Zalesovo Beam 59.76 348 P **P** **10 30 24.8 -0.5**
comp=Z,73nm,0.6s,baz=172,slow=5.5,SNR=216
ZALV pP **pP** **10 30 51.3 -0.5**
comp=Z,33nm,0.8s,baz=159,slow=4.5,SNR=3.9
ZALV ScP **ScP** **10 34 59.7 -2.4**
comp=Z,1.7nm,0.6s,baz=197,slow=3.3,SNR=3.1
ZALV S **S** **10 38 24.2 -3.7**
comp=Z,3.2nm,0.7s,baz=162,slow=12,SNR=9.7
ZALV LR LR 10 59 40.5
comp=Z,125nm,18.9s,baz=70,slow=39
ZALV PKPPKP **P'P'df** **10 59 53.7 +2.7**
comp=Z,1.5nm,0.5s,baz=304,slow=3.4,SNR=5.3
ZALV PKP2bc 11 00 01.6
comp=Z,0.8nm,0.4s,baz=262,slow=4.0,SNR=3.7
NVS Novosibirsk 60.93 347⇓ *iP* **P** **10 30 32.9 -0.4**
NVS *i *PP **pP** **10 30 58.5 -1.3**
NVS *i* 10 31 06.7
NVS *i* S **S** **10 38 35.6 -7.3**
NVS pmax pmax
comp=N,8.0nm,0.7s
NVS pmax pmax
comp=E,20nm,0.7s
NVS pmax pmax
comp=Z,24nm,0.7s
NVS smax smax
comp=N,7.0nm,1.3s
NVS smax smax
comp=E,42nm,1.7s
DAMY Dhamar 60.96 289 *eP* **P** **10 30 37.4 +2.7**
comp=E,72nm,0.9s
YUK Yuzh-Kuril'sk 61.38 34 *eP* **P** **10 30 36.1 -0.5**
YSS Yuzh-Sakhalins 61.68 30⇑ *iP* **P** **10 30 38.8 +0.3**
YSS *e* 10 31 04.8
YSS pmax pmax
comp=Z,150nm,0.8s
YSS Yuzh-Sakhalins 61.68 30 *eP* **P** **10 30 38.5 0.0**
comp=Z,116nm,0.7s
BOD Bodaibo 62.30 7 *eP* **P** **10 30 42.2 -0.3**
BOD pmax pmax
comp=Z,43nm,0.9s
MIR Mirnyy 62.79 184 *i* P **P** **10 30 47.0 +1.4**
MIR pmax pmax
comp=Z,6.0nm,1.1s
BVAR Borovoye Array 63.15 339 P **P** **10 30 47.5 -0.8**
comp=Z,35nm,0.6s,baz=144,slow=8.9,SNR=131
BVAR PcP **PcP** **10 31 24.9 +0.1**
comp=Z,13nm,0.6s,baz=145,slow=5.4,SNR=4.0
BVAR S **S** **10 39 07.8 -3.1**
comp=Z,1.4nm,0.7s,baz=122,slow=16,SNR=5.1
BVAR PKPPKP **P'P'df** **10 59 45.0 -1.0**
comp=Z,1.2nm,1.0s,baz=307,slow=5.0,SNR=5.2
BVAR PKP2bc 10 59 55.0
comp=Z,0.3nm,0.4s,baz=262,slow=1.0,SNR=4.7
BVAR LR LR 11 02 32.3
comp=Z,79nm,20.0s,baz=159,slow=40
BRVK Borovoye 63.21 339 P **P** **10 30 48.1 -0.6**
BRVK pmax pmax
comp=Z,33nm,0.7s
BRVK Borovoye 63.21 339 *eP* **P** **10 30 47.9 -0.7**
comp=Z,30nm,0.6s
BRVK Borovoye 63.21 339 P **P** **10 30 48.4 -0.2**
SNR=14
BRVK Borovoye 63.21 339 P **P** **10 30 48.4 -0.2**
SNR=14
CLNS Chul'man 63.24 13 *eP* **P** **10 30 47.2 -1.6**
CLNS pmax pmax
comp=Z,34nm,0.8s
CLNS pmax pmax
comp=E,15nm,0.9s
CLNS pmax pmax
comp=N,15nm,0.8s
KUR Kuril'sk 63.25 34 *i* P **P** **10 30 49.5 +0.5**
DZM Mont Dzumac 63.89 112 *eP* **P** **10 30 52.0 -1.9**
comp=N,77nm,1.0s
DZM *e*LR LR 10 49 15.0
comp=N,249nm,28.8s
DZM Mont Dzumac 63.89 112 *eP* **P** **10 30 52.9 -1.0**
comp=N,207nm,1.8s
AB31 Akbulak array 64.88 330 *i* P **P** **10 30 59.0 -0.6**
AB31 pmax pmax
comp=Z,70nm,0.6s
ABKAR Akbulak array 64.88 330 *eP* **P** **10 30 59.2 -0.4**
comp=Z,874nm,0.6s
LKRN Lenkeran, Azer 65.64 316 P **P** **10 31 05.5 +0.8**
KMBO Kilima Mbogo 65.74 271 P **P** **10 31 07.8 +1.5**
comp=Z,18nm,0.9s,baz=73,slow=9.0,SNR=30
KMBO Kilima Mbogo 65.74 271 *i* P **P** **10 31 08.3 +2.1**
KMBO pmax pmax
comp=Z,18nm,0.9s
KMBO Kilima Mbogo 65.74 271 *eP* **P** **10 31 08.0 +1.7**
comp=Z,30nm,1.2s
AKTO Aktyubinsk 66.59 330 P **P** **10 31 10.0 -0.7**
comp=Z,8.4nm,0.3s,baz=122,slow=8.4,SNR=62
AKTO S **S** **10 39 47.5 -5.8**
comp=Z,3.0nm,0.9s,baz=341,slow=21,SNR=16
AKTO PKP2bc 10 59 43.6
comp=Z,0.8nm,0.7s,baz=273,slow=2.5,SNR=4.2
AKTO LR LR 11 06 24.4
comp=Z,17nm,18.3s,baz=143,slow=41
SEKA Sheki 67.86 318 P **P** **10 31 19.5 +0.6**
NAX Nakhchivan 68.14 315 P **P** **10 31 21.1 +0.4**
GANJ Ganja 68.20 317 P **P** **10 31 21.4 +0.4**
ZKTA Zakatala 68.44 318 P **P** **10 31 23.1 +0.6**
YAK Yakutsk 68.99 13 P **P** **10 31 24.5 -0.8**
comp=Z,153nm,0.6s,baz=196,slow=0.2,SNR=29
YAK Yakutsk 68.99 13 *i* P **P** **10 31 24.6 -0.8**
YAK pmax pmax
comp=Z,167nm,0.6s
GNI Garni 69.08 316 S **S** **10 40 23.3 -0.3**
comp=Z,4.4nm,0.5s,baz=276,slow=24,SNR=7.7
GNI Garni 69.08 316 P **P** **10 31 27.3 +0.7**
GNI Garni 69.08 316 *i* P **P** **10 31 27.0 +0.4**
GNI pmax pmax
comp=Z,71nm,1.1s
GNI Garni 69.08 316 P **P** **10 31 27.5 +0.8**
SNR=5.8
MAW Mawson 69.09 195 P **P** **10 31 27.6 +1.7**
comp=Z,14nm,0.7s,baz=51,slow=4.9,SNR=38
MAW S **S** **10 40 23.6 +1.2**
comp=Z,0.5nm,0.5s,baz=36,slow=19,SNR=2.0
MAW LR LR 10 56 01.3
comp=Z,106nm,21.5s,baz=61,slow=31
MAW PKPPKP **P'P'df** **10 59 33.2 -3.0**
comp=Z,6.7nm,1.1s,baz=217,slow=4.7,SNR=6.5
MAW Mawson 69.09 195 P **P** **10 31 27.8 +1.8**
baz=69,SNR=23
MAW Mawson 69.09 195 *eP* **P** **10 31 27.8 +1.8**
MAW S **S** **10 40 23.6 +1.2**
MAW pmax pmax
comp=Z,37nm,2.0s
MAW Mawson 69.09 195 *eP* **P** **10 31 27.8 +1.8**
comp=Z,37nm,2.0s
MAW S **S** **10 40 23.6 +1.2**
SVE Sverdlovsk 69.72 337*d* *iP* **P** **10 31 30.2 +0.2**
SVE pmax pmax
comp=Z,126nm,1.1s
ARU Arti 70.28 336 P **P** **10 31 33.8 +0.3**
comp=Z,30nm,0.5s,baz=149,slow=2.8,SNR=34
ARU S **S** **10 40 32.4 -4.3**
comp=Z,1.0nm,0.3s,baz=284,slow=19,SNR=3.9
ARU LR LR 11 05 05.6
comp=Z,72nm,22.0s,baz=148,slow=38
ARU Arti 70.28 336*c* *iP* **P** **10 31 33.0 -0.4**
ARU 10 31 53.9
ARU *PP **pP** **10 31 58.0 -2.6**
ARU 10 34 05.2
ARU S **S** **10 40 37.0 +0.3**
ARU SS **SS** **10 45 04.2 -5.2**
ARU pmax pmax
comp=Z,102nm,1.0s
ARU Arti 70.28 336 *eP* **P** **10 31 33.1 -0.4**
comp=Z,66nm,0.7s
ARU S **S** **10 40 32.4 -4.3**
AKH Akhalkalaki 70.46 317⇑ *iP* pP 10 32 02.5 +0.2
ZEI Tsey 70.76 318 *eP* **P** **10 31 34.7 -2.2**
ZEI pmax pmax
comp=Z,92nm,1.1s
MARD Mardin 70.84 312 *eP* **P** **10 31 38.2 +0.8**
comp=Z,71nm,0.8s
KBSD Kabsdagh 70.90 311 *eP* **P** **10 31 38.0 +0.2**
SKR Severo-Kuril's 70.92 33 *i* P **P** **10 31 37.7 +0.3**
LBZ Lake Benmore 70.96 136 *eP* **P** **10 31 37.5 -0.4**
comp=Z,156nm,1.9s
SFNV Sufian 71.03 311 *eP* **P** **10 31 39.2 +0.6**
RPZ Rata Peaks 71.42 135 LR LR 11 01 18.1
comp=Z,136nm,18.1s,baz=267,slow=34
RPZ Rata Peaks 71.42 135 *eP* **P** **10 31 40.7 0.0**
comp=Z,79nm,1.5s
ARTV Artvin 71.45 316 *eP* **P** **10 31 41.1 -0.1**
comp=Z,18nm,1.5s
NEY Neytrino 71.73 318⇑ *iP* **P** **10 31 43.7 +0.9**
NEY pmax pmax
comp=Z,5.0nm,0.8s
KBZ Khabaz 71.81 319 P **P** **10 31 43.5 +0.5**
comp=Z,26nm,0.8s,baz=124,slow=5.6,SNR=52
KBZ pP **pP** **10 32 10.1 -0.1**
comp=Z,26nm,0.9s,baz=101,slow=3.8,SNR=5.9
KBZ S **S** **10 40 53.5 -1.3**
comp=Z,2.7nm,1.0s,baz=358,slow=23,SNR=14
KBZ LR LR 11 06 03.4
comp=Z,31nm,21.9s,baz=84,slow=38
KBZ Khabaz 71.81 319 P **P** **10 31 43.5 +0.5**
KBZ *PP **pP** **10 32 10.1 -0.1**
KBZ S **S** **10 40 53.6 -1.3**
KBZ pmax pmax
comp=Z,26nm,0.8s
KBZ pmax pmax
comp=Z,26nm,0.9s
KBZ smax smax
comp=N,3.0nm,1.0s
KBZ MLR MLR
comp=Z,31nm,21.9s
OXZ Oxford 72.03 134 *eP* **P** **10 31 44.0 -0.4**
comp=Z,30nm,0.8s
KVAR Kislovodsk Arr 72.04 319 S **S** **10 40 57.7 -0.1**
comp=Z,3.2nm,0.3s,baz=350,slow=21,SNR=8.1
KIV Kislovodsk 72.05 319 *i* P **P** **10 31 45.0 +0.4**
SNR=5.4
KIV Kislovodsk 72.05 319 *eP* **P** **10 31 44.7 +0.2**
KIV *e*PP **pP** **10 32 10.5 -1.3**
KIV *e*SP **sP** **10 32 21.5 -2.0**
KIV *eS* **S** **10 40 58.3 +0.5**
KIV pmax pmax
comp=Z,40nm,1.0s
KIV Kislovodsk 72.05 319 *eP* **P** **10 31 45.2 +0.7**
comp=Z,74nm,1.3s
KIV Kislovodsk 72.05 319 P **P** **10 31 45.1 +0.6**
SNR=6.5
KIV Kislovodsk 72.05 319 P **P** **10 31 45.1 +0.6**
SNR=6.5
LTZ Lake Taylor 72.09 134 *eP* **P** **10 31 44.9 +0.1**
comp=Z,121nm,1.8s
GOF Gofitskoye 72.28 320⇑ *iP* **P** **10 31 46.0 +0.3**
GOF *eS* **S** **10 40 58.2 -2.0**
GOF pmax pmax
comp=Z,95nm,1.3s
THZ Tophouse 72.36 133 *eP* **P** **10 31 46.6 +0.1**
comp=Z,50nm,0.7s
ROOS tl_alroos 72.49 308 *eP* **P** **10 31 48.9 +1.6**
SLMH Al Salmeh 72.62 310 *eP* **P** **10 31 48.6 +0.6**
KHZ Kahutara 72.94 133 *eP* **P** **10 31 49.5 -0.3**
comp=Z,39nm,0.8s
PEA0 Petropavlovsk- 73.03 31 *eP* **P** **10 31 49.6 -0.4**
PEA0B Petropavlovsk- 73.03 31 *eP* **P** **10 31 50.0 -0.1**
comp=Z,32nm,0.8s
PETK Petropavlovsk- 73.03 31 P **P** **10 31 49.6 -0.5**
comp=Z,32nm,0.7s,baz=207,slow=3.8,SNR=53
PETK LR LR 11 06 50.7
comp=Z,18nm,18.7s,baz=238,slow=38
SOKR Solikamsk 73.10 337*c* *iP* **P** **10 31 48.2 -2.0**
SOKR pmax pmax
comp=Z,134nm,1.2s

HIZ Hauiti 73.30 129 eP P 10 31 52.7 +0.7
comp=Z,43nm,0.9s
PET Petropavlovsk 73.48 31 eP P 10 31 52.2 -0.4
PET pmax pmax
comp=Z,150nm,0.6s
PET Petropavlovsk 73.48 31 eP P 10 31 52.3 -0.3
comp=Z,94nm,0.7s
SNZO South Karori 73.61 132 eP P 10 31 52.6 -1.1
comp=Z,170nm,0.8s
BTCH Batrach 73.70 309 eP P 10 31 54.4 -0.1
DRWC Darouich 73.72 310 eP P 10 31 54.8 +0.3
NRIK Noril'sk 73.99 354 P P 10 31 54.5 -0.8
comp=Z,13nm,0.5s,baz=156,slow=4.6,SNR=18
NRIK S SKiKP 10 41 13.5 +0.4
comp=Z,1.8nm,0.5s,baz=176,slow=23,SNR=6.0
NRIK LR LR 11 07 35.3
comp=Z,112nm,20.4s,baz=138,slow=38
ARNB Al Arnab 74.02 309 eP P 10 31 56.3 0.0
LSZ Lusaka 74.31 255 eP P 10 31 59.7 +1.2
LSZ pmax pmax
comp=Z,59nm,1.3s
LSZ Lusaka 74.31 255 eP P 10 31 59.7 +1.2
comp=Z,59nm,1.3s
LSZ Lusaka 74.31 255 P P 10 32 00.1 +1.6
SNR=8.5
LSZ Lusaka 74.31 255 P P 10 32 00.1 +1.6
SNR=8.5
MSVF Nonsavu 74.53 107 eP P 10 31 59.5 -0.2
MSVF pmax pmax
comp=Z,118nm,1.7s
MSVF Nonsavu 74.53 107 eP P 10 31 59.5 -0.2
comp=Z,118nm,1.7s
BKZ Black Stump Fm 74.66 129 eP P 10 31 59.6 -0.3
comp=Z,63nm,0.7s
BFZ Birch Farm 74.67 131 eP P 10 32 00.0 +0.1
comp=Z,70nm,0.8s
TOKA Tokat 75.02 313 eP P 10 32 02.5 +0.5
comp=Z,32nm,0.6s
URZ Urewera 75.03 128 eP P 10 32 02.2 +0.2
comp=Z,71nm,1.8s
CSS Mathiatis 75.84 307 eP P 10 32 07.4 +0.6
comp=Z,13nm,1.0s
ANN Anapa 75.85 318 eP P 10 32 05.2 -1.3
ANN pmax pmax
comp=Z,73nm,1.4s
SEY Seymchan 76.41 21c iP P 10 32 09.7 +0.4
BR131 Keskin Array S 76.91 312 eP P 10 32 12.5 -0.4
BRTR Keskin Array B 76.91 312 P P 10 32 12.2 -0.6
comp=Z,25nm,0.7s,baz=136,slow=7.1,SNR=111
BRTR pP pP 10 32 39.9 -0.5
comp=Z,15nm,0.8s,baz=127,slow=7.9,SNR=7.6
SYO Syowa Base 76.93 199 ⇓iP P 10 32 12.3 +0.2
VSR Storozhevoye 77.17 325 eP P 10 32 12.7 -1.1
VSR pmax pmax
comp=Z,100nm,0.8s
ILGA Ilgaz 77.24 314 eP P 10 32 15.0 +0.3
comp=Z,51nm,1.4s
BOSA Boshof 77.33 242 P P 10 32 16.4 +1.0
comp=Z,45nm,0.8s,baz=91,slow=5.3,SNR=56
BOSA LR LR 11 00 17.9
comp=Z,93nm,20.9s,baz=40,slow=31
BOSA Boshof 77.33 242 eP P 10 32 16.0 +0.6
comp=Z,54nm,0.9s
TIXI Tiksi 77.41 8 P P 10 32 13.3 -1.4
comp=Z,16nm,0.5s,baz=228,slow=3.2,SNR=15
TIXI LR LR 11 11 40.8
comp=Z,152nm,19.1s,baz=220,slow=40
TIXI Tiksi 77.41 8 iP P 10 32 13.3 -1.4
TIXI pmax pmax
comp=Z,68nm,1.3s
ANTO Ankara 77.58 312 eP P 10 32 16.8 +0.3
ANTO pmax pmax
comp=Z,35nm,1.0s
ANTO Ankara 77.58 312 eP P 10 32 16.8 +0.3
comp=Z,35nm,1.0s
LPSR Galich'ya Gora 77.85 326 eP P 10 32 17.2 -0.4
LPSR pmax pmax
comp=Z,110nm,0.8s
SIM Simferopol' 78.13 317ceP P 10 32 19.4 +0.1
SIM e*PP PcP 10 32 23.1 -5.4
SIM pmax pmax
comp=Z,39nm,0.8s
VNDA Vanda 79.59 169 P P 10 32 27.6 +0.9
comp=Z,17nm,0.8s,baz=307,slow=5.7,SNR=57
VNDA LR LR 11 03 24.0
comp=Z,62nm,19.8s,baz=318,slow=32
VNDA Vanda 79.59 169 eP P 10 32 27.7 +0.9
comp=Z,35nm,1.1s
MOS Moscow 79.79 329 eP P 10 32 27.7 -0.4
MOS pmax pmax
comp=Z,184nm,0.9s
OBN Obninsk 80.11 328 P P 10 32 30.3 +0.4
comp=Z,86nm,0.7s,baz=63,slow=1.9,SNR=26
OBN Obninsk 80.11 328c iP P 10 32 30.2 +0.4
OBN pmax pmax
comp=Z,126nm,0.8s
SBA Scott Base 80.68 169 eP P 10 32 34.4 +1.9
SBA pmax pmax
comp=Z,40nm,0.8s
SBA Scott Base 80.68 169 eP P 10 32 34.4 +1.9
comp=Z,40nm,0.8s
KARP Karpathos 80.89 307 eP P 10 32 35.5 +0.9
comp=Z,61nm,0.9s
KLMR Klimovskoe 80.97 334 eP P 10 32 32.0 -2.3
KLMR e*PP pP 10 32 59.1 -3.0
KLMR e*SP sP 10 33 10.5 -3.2
KLMR pmax pmax
comp=Z,182nm,1.3s
SUR Sutherland 81.27 238 eP P 10 32 39.0 +2.1
comp=Z,40nm,0.8s
TLCR 81.80 317⇑iP P 10 32 39.7 +0.6
TLCR 81.80 317⇑iP P 10 32 39.7 +0.6
TIRR Tirgusor 81.90 316⇓iP P 10 32 40.1 +0.5
TIRR Tirgusor 81.90 316⇓iP P 10 32 40.1 +0.5
TLB Topalu 82.19 316⇑iP P 10 32 41.5 +0.4
TLB Topalu 82.19 316⇑iP P 10 32 41.5 +0.4
KIS Kishinev 82.25 318 eP P 10 32 41.0 -0.4
KIS Kishinev 82.25 318 eP P 10 32 41.0 -0.4
KIS e 10 42 40.0
KIS e 10 43 30.0
CFR Carcaliu 82.27 316⇑iP P 10 32 41.8 +0.3
CFR Carcaliu 82.27 316⇑iP P 10 32 41.8 +0.3
HARR Harsova 82.29 316⇑iP P 10 32 42.7 +1.1
HARR Harsova 82.29 316⇑iP P 10 32 42.7 +1.1
APE Apeiranthos 82.48 308⇑iP P 10 32 41.9 -1.0
APE Apeiranthos 82.48 308⇑iP P 10 32 41.9 -1.0
LEOM Leova 82.50 318⇓iP P 10 32 43.7 +1.0
LEOM Leova 82.50 318⇓iP P 10 32 43.7 +1.0
IDI Anoyia 82.66 306 eP P 10 32 44.7 +0.8
comp=Z,56nm,0.8s
SORM Soroca 82.83 319⇑iP P 10 32 44.5 +0.1
SORM Soroca 82.83 319⇑iP P 10 32 44.5 +0.1
AKASG Malin Array Be 82.93 322 P P 10 32 44.1 -0.8
comp=Z,17nm,0.9s,baz=84,slow=5.0,SNR=54
AKASG pP pP 10 33 10.1 -2.6
comp=Z,6.0nm,0.8s,baz=83,slow=5.2,SNR=3.4
AKASG S S 10 42 49.4 -5.4
comp=Z,0.2nm,0.3s,baz=108,slow=9.1,SNR=3.0
AKASG LR LR 11 14 46.0
comp=Z,26nm,19.2s,baz=240,slow=39
AKBB Malin Array Si 82.93 322 eP P 10 32 44.5 -0.3
AKBB Malin Array Si 82.93 322 eP P 10 32 44.5 -0.3
KIEV Kiev 82.94 322c iP P 10 32 44.5 -0.4
KIEV pmax pmax
comp=Z,33nm,1.1s
KIEV Kiev 82.94 322 eP P 10 32 42.5 -2.3
comp=Z,41nm,1.3s
TMCR Tamitsa 83.00 336 eP P 10 32 44.8 0.0
TMCR pmax pmax
comp=Z,84nm,0.6s
VRI Vrincioaia 83.39 317⇑iP P 10 32 48.7 +1.4
VRI Vrincioaia 83.39 317⇑iP P 10 32 48.7 +1.4
PLOR Plostina 83.44 317⇓iP P 10 32 48.6 +1.0
PLOR Plostina 83.44 317⇓iP P 10 32 48.6 +1.0
MLR Muntele Rosu 83.84 316⇑iP P 10 32 50.3 +0.5
MLR Muntele Rosu 83.84 316 eP P 10 32 49.9 +0.1
MLR pmax pmax
comp=Z,58nm,1.1s
MLR Muntele Rosu 83.84 316 eP P 10 32 49.9 +0.1
comp=Z,58nm,1.1s
BILL Bilibino 84.03 20 iP P 10 32 49.2 -0.9
BILL pmax pmax
comp=Z,6.0nm,0.8s
PRAR RASCA 84.05 318⇑iP P 10 32 51.1 +0.4
DOPR Dopca 84.32 317⇑iP P 10 32 52.0 -0.1

AFI Afiamalu 84.40 104 eP P 10 32 52.5 -0.7
AFI pmax pmax
comp=Z,91nm,1.0s
AFI Afiamalu 84.40 104 eP P 10 32 52.5 -0.7
comp=Z,91nm,1.0s
VOIR 84.45 316⇑iP P 10 32 52.2 -0.6
VOIR 84.45 316⇑iP P 10 32 52.2 -0.6
MICGM Minsk 84.70 326 e P 10 32 53.0 -0.7
MNK Minsk 84.70 326 eP P 10 32 53.0 -0.7
ARR Arges 84.72 316⇓iP P 10 32 54.3 +0.1
BURAR Bucovina Array 84.77 316⇑iP P 10 32 55.7 +1.3
BURAR Bucovina Array 84.77 318⇑iP P 10 32 55.7 +1.3
BUR08 Bucovina Ar. S 84.79 318 eP P 10 32 55.9 +1.3
PUL Pulkovo 84.85 331d iP P 10 32 55.5 +1.1
PUL pmax pmax
comp=Z,91nm,0.4s
VTS Vitosha 85.23 313⇑iP P 10 32 57.3 +0.4
VTS Vitosha 85.23 313 eP P 10 32 57.2 +0.4
VTS e*PP pP 10 33 24.2 -0.8
VTS pmax pmax
comp=Z,17nm,0.7s
VTS Vitosha 85.23 313 eP P 10 32 57.1 +0.3
comp=Z,17nm,0.7s
VTS epP pP 10 33 24.1 -0.8
LVZ Lovozero 85.73 339c iP P 10 32 58.1 -0.6
LVZ pmax pmax
comp=Z,42nm,1.0s
LVZ Lovozero 85.73 339 eP P 10 32 58.0 -0.7
comp=Z,15nm,0.7s
QSPA South Pole Qui 85.93 180 eP P 10 33 00.6 +0.8
comp=Z,70nm,1.2s
LVV L'vov 85.98 320 eP P 10 33 01.8 +1.6
LVV e 10 33 26.4
APA Apatity 86.06 339 iP P 10 32 58.3 -1.9
APA i*PP pP 10 33 22.0 -6.3
APA pmax pmax
comp=Z,10.0nm,1.1s
APA MLR MLR
comp=Z,400nm,16.0s
DRGR 86.30 317⇑iP P 10 33 02.9 +0.9
DRGR 86.30 317⇑iP P 10 33 02.9 +0.9
NVL N'lazarevskaya 86.60 199 eP P 10 33 07.2 +4.3
KWP Kalwaria Pacla 86.79 320 eP P 10 33 04.8 +0.6
KWP Kalwaria Pacla 86.79 320 eP P 10 33 04.8 +0.6
BZS Buzias 86.86 316⇑iP P 10 33 04.8 +0.2
BZS Buzias 86.86 316⇑iP P 10 33 04.8 +0.2
UZH Uzhgorod 86.89 319 eP P 10 33 08.1 +3.4
UZH e 10 33 41.5
UZH eS S 10 43 36.7 +2.7
SIRR Siria 86.93 317⇓iP P 10 33 06.1 +1.1
SUW Suwalki 87.28 324 eP P 10 33 06.2 -0.3
SUW epP pP 10 33 32.6 -2.0
SUW Suwalki 87.28 324 eP P 10 33 06.2 -0.3
SUW e*PP pP 10 33 32.6 -2.0
FIA1 FINESS Array S 87.31 332 eP P 10 33 06.8 +0.4
comp=Z,55nm,0.9s
FINES FINESS Array B 87.31 332 P P 10 33 06.8 +0.4
comp=Z,38nm,0.7s,baz=101,slow=7.2,SNR=88
FINES PKKPbc PKKPdf 10 50 55.3 +2.5
comp=Z,3.3nm,1.0s,baz=252,slow=4.0,SNR=5.8
FINES LR LR 11 16 20.9
comp=Z,11nm,19.1s,baz=88,slow=38
STHS Stebnicka Huta 87.69 320 eP P 10 33 09.6 +1.0
STHS e 10 33 34.5
STHS pmax pmax
comp=Z,25nm,1.2s
STHS Stebnicka Huta 87.69 320 eP P 10 33 09.6 +1.0
STHS e 10 33 34.5
KECS Kecovo 88.05 319 eP P 10 33 10.9 +0.6
KECS pmax pmax
comp=Z,11nm,1.4s
KECS Kecovo 88.05 319 eP P 10 33 10.9 +0.6
PDG Podgorica 88.09 313⇑iP P 10 33 11.0 +0.4
NIE Niedzica 88.30 320 eP P 10 33 12.4 +0.9
NIE Niedzica 88.30 320 eP P 10 33 12.4 +0.9
BEL Belsk 88.35 322 eP P 10 33 12.6 +1.0
BEL Belsk 88.35 322 eP P 10 33 12.6 +1.0
PSZ Piszkesteto 88.36 318⇑iP P 10 33 12.0 +0.1
PSZ Piszkesteto 88.36 318 eP P 10 33 11.8 -0.1
PSZ pmax pmax
comp=Z,44nm,1.4s
PSZ Piszkesteto 88.36 318⇑eP P 10 33 12.3 +0.4
PSZ Piszkesteto 88.36 318 eP P 10 33 11.8 -0.1
comp=Z,44nm,1.4s
OJC Ojcow 88.74 320 eP P 10 33 13.6 +0.1
OJC Ojcow 88.74 320 eP P 10 33 14.5 +1.0
OJC pmax pmax
comp=Z,34nm,1.3s
OJC Ojcow 88.74 320 eP P 10 33 14.5 +1.0
comp=Z,34nm,1.3s
VYHS Vyhne 89.14 319 eP P 10 33 15.8 +0.4
VYHS e 10 33 41.8
VYHS pmax pmax
comp=Z,16nm,1.4s
VYHS Vyhne 89.14 319 eP P 10 33 15.8 +0.4
VYHS e 10 33 41.8
ARA0 ARCESS Array S 89.41 340 eP P 10 33 15.9 -0.3
ARCES ARCESS Array B 89.41 340 P P 10 33 16.1 -0.1
comp=Z,19nm,0.8s,baz=104,slow=4.1,SNR=32
ARCES pP pP 10 33 42.3 -2.1
comp=Z,9.2nm,0.9s,baz=151,slow=2.8,SNR=3.8
ARCES LR LR 11 17 27.1
comp=Z,77nm,19.0s,baz=75,slow=38
ARE0 ARCESS Array S 89.41 340 eP P 10 33 16.5 +0.3
comp=Z,43nm,1.1s
OKC Ostrava-Krasne 89.75 320 eP P 10 33 19.1 +0.9
OKC ex x 10 33 54.2
OKC Ostrava-Krasne 89.75 320 eP P 10 33 19.1 +0.9
OKC e 10 33 54.2
MORC Moravsky Berou 90.13 320⇑iP P 10 33 20.4 +0.3
MORC Moravsky Berou 90.13 320 eP P 10 33 20.1 0.0
MORC e*PP pP 10 33 47.1 -1.2
MORC Moravsky Berou 90.13 320 eP P 10 33 20.1 0.0
MORC epP pP 10 33 47.1 -1.2
CEL Celeste 90.21 308 eP P 10 33 22.1 +1.4
comp=Z,52nm,1.0s
CUC Castrocucco 90.42 310 eP P 10 33 20.7 -0.9
comp=Z,9.6nm,1.0s
VRAC Vranov 90.70 319 P P 10 33 22.8 +0.2
comp=Z,1.4nm,0.3s,baz=90,slow=4.6,SNR=4.4
DPC Dobruska-Polom 90.97 320 eP P 10 33 25.3 +1.3
DPC epP pP 10 33 51.3 -0.9
DPC esP sP 10 34 02.3 -1.4
DPC Dobruska-Polom 90.97 320 eP P 10 33 25.3 +1.3
DPC e*PP pP 10 33 51.3 -0.9
DPC e 10 34 02.3
KSP Ksiaz 91.03 321 eP P 10 33 25.2 +1.1
KSP Ksiaz 91.03 321 eP P 10 33 25.3 +1.1
CONA Conrad Observa 91.06 318 iP P 10 33 24.3 -0.2
SNAA Sanae 91.13 198 P P 10 33 26.5 +2.1
SNAA Sanae 91.13 198 eP P 10 33 26.5 +2.1
SNAA pmax pmax
comp=Z,64nm,1.5s
SNAA Sanae 91.13 198 eP P 10 33 26.4 +2.1
comp=Z,64nm,1.5s
UPC Upice 91.18 320 eP P 10 33 25.9 +1.0
UPC epP pP 10 33 51.8 -1.4
UPC Upice 91.18 320 eP P 10 33 25.9 +1.0
UPC e*PP pP 10 33 51.8 -1.4
ARSA Arzberg 91.23 317 iPcP PcP 10 33 26.3 +0.1
comp=Z,11nm,1.1s
BOJS Bojanci 91.28 315 iP P 10 33 26.0 +0.6
BOJS i 10 33 54.0
PERS Pernice 91.46 316 iP P 10 33 26.9 +0.6
PERS i 10 33 54.6
SOKA Soboth 91.52 316 iPcP PcP 10 33 27.8 +0.3
comp=Z,21nm,1.5s
VISS Visnje 91.59 316 iP P 10 33 27.7 +0.8
VISS i 10 33 55.2
PRU Pruhonice 92.08 320 eP P 10 33 29.8 +0.8
PRU epP pP 10 33 56.1 -1.2
PRU Pruhonice 92.08 320 eP P 10 33 29.8 +0.8
PRU e*PP pP 10 33 56.1 -1.2
JAVS Javornik 92.14 316 iP P 10 33 30.0 +0.4
JAVS i 10 33 57.2
MYKA Terra Mystica 92.48 316 iP P 10 33 31.5 +0.5
comp=Z,3.5nm,0.5s
BRG Berggiesshubel 92.52 321 iP P 10 33 31.6 +0.6
comp=Z,16nm,1.4s
BRG i 10 33 58.8
comp=Z,8.4nm,0.8s
BRG Berggiesshubel 92.52 321 iP P 10 33 31.6 +0.6
BRG i 10 33 58.8

BRG pmax pmax
comp=Z,16nm,1.4s
GEA0 GERESS Array S 92.56 319 eP P 10 33 31.0 -0.4
GEC2 GERESS Array S 92.56 319 eP P 10 33 32.0 +0.6
GEC2 pmax pmax
comp=Z,27nm,1.4s
GEC2 GERESS Array S 92.56 319 eP P 10 33 32.0 +0.6
comp=Z,27nm,1.4s
GERES GERESS Array B 92.56 319 P P 10 33 31.8 +0.4
comp=Z,1.9nm,0.6s,baz=82,slow=3.0,SNR=15
KHC Kasperske Hory 92.66 319 eP P 10 33 32.2 +0.4
KHC epP pP 10 33 56.3 -3.8
KHC Kasperske Hory 92.66 319 eP P 10 33 32.2 +0.4
KHC e*PP pP 10 33 56.3 -3.8
VNA2 Neumayer--Watz 92.76 198 P P 10 33 33.6 +1.8
baz=84,slow=4.3
VNA1 Neumayer--Stat 93.13 198 P P 10 33 35.6 +2.1
HFS Hagfors 93.13 330 P P 10 33 33.4 -0.2
comp=Z,21nm,0.8s,baz=97,slow=6.0,SNR=18
VNA3 Neumayer Olymp 93.34 197 P P 10 33 35.9 +1.4
HSPB Hornsund (broa 93.34 347 eP P 10 33 45.1 +11
MOTA Moosalm 94.24 317 iP P 10 33 38.4 -0.9
comp=Z,3.1nm,0.6s
NB2 NORSAR Subarra 94.38 331 P P 10 33 39.0 -0.5
baz=92,slow=4.6
NB2 NORSAR Subarra 94.38 331 P P 10 33 39.0 -0.5
comp=Z,7.0nm,0.8s,baz=92,slow=4.6
NOA NORSAR Array B 94.38 331 P P 10 33 39.4 -0.1
comp=Z,4.3nm,0.7s,baz=94,slow=4.9,SNR=12
NOA LR LR 11 19 48.1
comp=Z,23nm,21.6s,baz=75,slow=38
RETA Reutte 94.47 317 iP P 10 33 40.0 -0.2
comp=Z,3.1nm,0.6s
FETA Feichten 94.49 317 iP P 10 33 40.3 -0.2
comp=Z,2.8nm,0.9s
FUORN Ofenpass-Fuorn 94.80 316 eP P 10 33 42.4 +0.4
comp=Z,14nm,1.3s
DAVOX Davos/Dischmat 95.07 316 P P 10 33 43.9 +0.8
comp=Z,4.1nm,0.5s,baz=196,slow=20,SNR=11
DAVA Damuels 95.07 317 iP P 10 33 42.9 -0.2
comp=Z,5.9nm,0.8s
KONO Kongsberg 95.19 329c iP P 10 33 43.1 0.0
KONO pmax pmax
comp=Z,265nm,1.7s
KEST Kesra 95.31 305 P P 10 33 45.6 +1.3
comp=Z,7.2nm,0.9s,baz=2.7,slow=1.6,SNR=6.4
KEST Kesra 95.31 305 eP P 10 33 46.2 +1.8
comp=Z,16nm,1.2s
TOLK Toolik Lake Re 100.05 21 P Pdif 10 34 04.7 -0.2
baz=285
KDAK Kodiak Island 101.07 32 iP Pdif 10 34 10.3 +0.8
TORD Torodi Ar. Bea 101.92 283 P Pdif 10 34 14.7 +0.5
comp=Z,0.6nm,0.5s,baz=89,slow=5.6,SNR=8.7
TORD PKiKP PKiKP 10 38 36.8 -0.1
comp=Z,1.1nm,0.6s,baz=71,slow=1.5,SNR=9.3
TORD PKKPbc PKKPbc 10 50 17.8 -1.0
comp=Z,0.7nm,0.5s,baz=303,slow=3.4,SNR=7.2
ILAR Eielson Array 102.13 24 P Pdif 10 34 13.7 -0.5
comp=Z,0.4nm,0.8s,baz=301,slow=3.8,SNR=6.8
ILAR PP PP 10 38 21.8 -5.2
comp=Z,0.9nm,1.0s,baz=275,slow=7.3,SNR=6.1
ILAR PKKPbc PKKPbc 10 50 17.8 -2.2
comp=Z,3.4nm,0.7s,baz=133,slow=2.3,SNR=35
ESDC Sonseca Array 105.62 310 PKiKP PKiKP 10 38 43.2 +0.1
comp=Z,0.7nm,0.6s,baz=66,slow=3.2,SNR=4.8
INK Inuvik 105.64 19 PKKPbc PKKPbc 10 50 06.6 -2.9
comp=Z,2.9nm,0.6s,baz=180,slow=2.0,SNR=7.1
DBIC Dimbokro 106.19 276 P PKiKP 10 38 48.1 -0.4
comp=Z,2.6nm,0.7s,baz=108,slow=3.2,SNR=3.9
PMSA Palmer Station 110.69 186 PKKPbc PKKPbc 10 49 52.5 -0.9
comp=Z,2.2nm,0.3s,baz=330,slow=8.1,SNR=11
YKA Yellowknife Ar 115.40 18 PKP PKPdf 10 39 00.4 -0.4
comp=Z,2.9nm,0.8s,baz=337,slow=0.5,SNR=4.5
USHA Ushuaia 120.91 186 PKP PKPdf 10 39 11.8 +0.2
comp=Z,51nm,0.7s,baz=156,slow=1.9,SNR=6.1
A04D Lummi Island 120.91 34 P PKPdf 10 39 11.9 +0.2
baz=304
B05A Bryant 121.50 34 P PKPdf 10 39 13.4 +0.5
baz=304
B06A Marblemount 121.69 33 ePKPdf PKPdf 10 39 13.3 0.0
D05A Enumclaw 122.16 35 ePKPdf PKPdf 10 39 14.1 -0.1
C06D Leavenworth 122.36 34 P PKPdf 10 39 14.7 0.0
baz=305
G03D McMinnville, O 122.47 37 P PKPdf 10 39 15.5 +0.6
baz=301
LON Longmire 122.50 35 ePKIKP PKPdf 10 39 15.3 +0.3
LON Longmire 122.50 35 ePKPdf PKPdf 10 39 15.2 +0.3
F04A Amboy 122.59 36 ePKPdf PKPdf 10 39 15.8 +0.6
EDM Edmonton 122.61 25 ePKIKP PKPdf 10 39 14.8 -0.2
EDM Edmonton 122.61 25 ePKPdf PKPdf 10 39 14.8 -0.2
ETW Entiat 122.85 34 ePKPdf PKPdf 10 39 15.6 -0.2
LTY Liberty 122.86 34 ePKPdf PKPdf 10 39 15.7 0.0
B08A Colville Reser 122.95 32 ePKPdf PKPdf 10 39 15.8 0.0
WTV Waterville 123.00 33 ePKPdf PKPdf 10 39 15.8 -0.1
I03D Drain, OR 123.20 39 P PKPdf 10 39 16.8 +0.4
baz=300
SAW Saint Andrews 123.30 33 P PKPdf 10 39 16.4 -0.1
G05D Wamic, OR 123.62 36 P PKPdf 10 39 17.4 +0.3
baz=303
E07A Sunnyside 123.72 34 ePKPdf PKPdf 10 39 17.9 +0.6
I04A Tendick Farm, 123.73 38 P PKPdf 10 39 17.4 -0.1
baz=301,SNR=13
L02D Cave Junction, 123.80 41 P PKPdf 10 39 17.9 +0.3
baz=299
SNIWA Snively Ranch 123.89 34 P PKPdf 10 39 17.4 -0.2
D08A Wollman Farm, 123.95 33 ePKPdf PKPdf 10 39 18.2 +0.5
HUMO Hull Mountain 123.99 40 ePKPdf PKPdf 10 39 19.0 +1.1
HAWA Hanford 124.00 34 ePKPdf PKPdf 10 39 18.4 +0.6
I05D Terrebonne, OR 124.10 37 P PKPdf 10 39 18.3 +0.2
baz=303
VTHM Trough 124.10 36 P PKPdf 10 39 18.8 +0.7
NEW Newport 124.17 31 P PKPdf 10 39 18.3 +0.2
baz=309
NEW Newport 124.17 31 ePKIKP PKPdf 10 39 18.4 +0.2
NEW Newport 124.17 31 ePKPdf PKPdf 10 39 18.4 +0.2
J04D Umpqua Nationa 124.20 39 P PKPdf 10 39 18.5 -0.1
baz=301,SNR=20
KHMM Horse Mountain 124.33 42 ePKPdf PKPdf 10 39 20.1 +1.3
YBH Yreka Blue Hor 124.59 41 ePKIKP PKPdf 10 39 19.4 +0.2
YBH Yreka Blue Hor 124.59 41 ePKPdf PKPdf 10 39 19.4 +0.2
M02C Callahan 124.66 41 P PKPdf 10 39 20.2 +0.8
baz=300
E09A Wood Farm, Sta 124.70 34 ePKPdf PKPdf 10 39 19.6 +0.4
J05D Fort Rock, OR 124.72 38 P PKPdf 10 39 20.2 +0.6
baz=302
K04D Chiloquin, OR 124.75 39 P PKPdf 10 39 19.8 +0.3
baz=301
GO09 Cerro Castillo 124.76 184 ePKPdf PKPdf 10 39 20.1 +0.9
N02D Trinity Center 124.97 41 P PKPdf 10 39 20.5 +0.5
baz=299,SNR=11
M04C Macdoel 125.13 40 P PKPdf 10 39 20.6 +0.3
baz=301,SNR=11
K05A Summer Lake 125.23 39 ePKPdf PKPdf 10 39 21.3 +0.7
WALA Waterton Lakes 125.26 29 ePKPdf PKPdf 10 39 20.3 0.0
WDC Whiskeytown Da 125.27 42 ePKIKP PKPdf 10 39 20.7 +0.3
WDC Whiskeytown Da 125.27 42 ePKPdf PKPdf 10 39 20.7 +0.3
F10A Beach Ranch, E 125.54 34 ePKPdf PKPdf 10 39 21.0 +0.1
FFC Flin Flon 125.56 18 ePKIKP PKPdf 10 39 20.3 -0.2
FFC Flin Flon 125.56 18 ePKPdf PKPdf 10 39 20.3 -0.2
BSMT Bassoo Peak 125.64 31 ePKPdf PKPdf 10 39 21.0 -0.1
BLMT Blacktail Moun 125.74 30 ePKPdf PKPdf 10 39 21.3 -0.1
O03D Paynes Creek 125.90 42 P PKPdf 10 39 21.4 -0.4
baz=300
JTMT Jette 125.96 30 ePKPdf PKPdf 10 39 21.4 -0.3
YBMT Yellow Bay 126.02 30 ePKPdf PKPdf 10 39 21.5 -0.3
MOD Modoc Plateau 126.04 39 ePKPdf PKPdf 10 39 22.6 +0.5
BMO Blue Mountains 126.17 35 ePKIKP PKPdf 10 39 21.8 -0.4
BMO Blue Mountains 126.17 35 ePKPdf PKPdf 10 39 21.8 -0.4
SWMT Swartz Lake 126.26 30 ePKPdf PKPdf 10 39 21.9 -0.4
ORV Oroville 126.47 42 ePKIKP PKPdf 10 39 22.9 +0.1
ORV Oroville 126.47 42 ePKPdf PKPdf 10 39 22.9 +0.1
SLMT Seeley Lake 126.70 30 ePKPdf PKPdf 10 39 22.9 -0.3
MSO Missoula 126.74 31 P PKPdf 10 39 22.8 -0.4
baz=312
MSO Missoula 126.74 31 ePKPdf PKPdf 10 39 23.1 -0.2
WVOR Wild Horse Val 126.79 38 ePKIKP PKPdf 10 39 24.4 +0.9
WVOR Wild Horse Val 126.79 38 ePKPdf PKPdf 10 39 24.4 +0.9
CHMT Chamberlain Mo 127.04 31 ePKPdf PKPdf 10 39 23.6 -0.3
BEKR Beckworth 127.07 41 ePKPdf PKPdf 10 39 24.6 +0.5
AFDM Forest Hills D 127.12 43 ePKPdf PKPdf 10 39 24.7 +0.7
PAHR Pah Rah Range 127.80 41 ePKPdf PKPdf 10 39 26.2 +0.7
MFID Camas Ranch 127.89 35 ePKPdf PKPdf 10 39 26.1 +0.5
HRY Holter Researc 127.89 30 ePKPdf PKPdf 10 39 26.1 +0.7
EGMT Eagleton 127.95 27 P PKPdf 10 39 25.6 +0.2
baz=317

EGMT	Eagleton	127.95	27	ePKPdf	PKPdf	10 39 25.8	+0.3		
CMB	Columbia Colle	127.97	43	ePKIKP	PKPdf	10 39 26.2	+0.5		
CMB	Columbia Colle	127.97	43	ePKPdf	PKPdf	10 39 26.2	+0.5		
PNTR	Pine Nut	127.97	42	ePKPdf	PKPdf	10 39 26.9	+0.9		
YERR	Yerington	128.27	42	ePKPdf	PKPdf	10 39 27.7	+1.2		
WAKR	Walker	128.38	42	ePKPdf	PKPdf	10 39 28.0	+1.3		
DLMT	Dillon	128.42	32	ePKPdf	PKPdf	10 39 26.9	+0.4		
HLID	Hailey	128.60	34	P	PKPdf	10 39 27.6	+0.7		
	baz=309								
HLID	Hailey	128.60	34	ePKPdf	PKPdf	10 39 27.9	+0.9		
MCMT	McKenzie Canyo	128.64	32	ePKPdf	PKPdf	10 39 27.4	+0.4		
SCHQ	Schefferville	128.70	352	PKP	PKPdf	10 39 25.2	-1.4		
	comp=Z,3.4nm,0.4s,baz=16,slow=4.9,SNR=6.1								
SCHQ	Schefferville	128.70	352	ePKPdf	PKPdf	10 39 27.2	+0.6		
BOZ	Bozeman (W)	128.76	31	P	PKPdf	10 39 27.3	+0.2		
	baz=313								
BOZ	Bozeman (W)	128.76	31	ePKIKP	PKPdf	10 39 27.3	+0.2		
BOZ	Bozeman (W)	128.76	31	ePKPdf	PKPdf	10 39 27.3	+0.2		
TVH1	TV Hill, Hawth	128.86	42	ePKPdf	PKPdf	10 39 29.0	+1.2		
TVH3	East Aurora ar	128.88	42	ePKPdf	PKPdf	10 39 29.6	+1.9		
TVH2	Borealis Mine	128.91	42	ePKPdf	PKPdf	10 39 29.2	+1.5		
PAGB	Antelope Grade	129.18	46	ePKPdf	PKPdf	10 39 30.2	+2.1		
QLMT	Earthquake Lak	129.39	31	ePKPdf	PKPdf	10 39 29.7	+1.2		
SMMC	Simmler	129.56	46	P	PKPdf	10 39 30.2	+1.4		
	baz=298								
YHB	Horse Butte	129.56	31	ePKPdf	PKPdf	10 39 30.1	+1.3		
GCMT	Greycliff	129.60	29	ePKPdf	PKPdf	10 39 29.4	+0.6		
RCTC	Rector, Farmer	129.62	45	P	PKPdf	10 39 29.1	+0.2		
	baz=300								
YHH	Holmes Hill	129.72	31	ePKPdf	PKPdf	10 39 30.3	+1.1		
YMR	Madison River	129.74	31	ePKPdf	PKPdf	10 39 30.6	+1.4		
YNR	Norris Junctio	129.85	31	ePKPdf	PKPdf	10 39 30.9	+1.5		
PKM	Mcpherson Peak	129.89	47	P	PKPdf	10 39 30.8	+1.1		
	baz=298								
VES	Vestal, Richgr	129.96	45	P	PKPdf	10 39 29.9	+0.4		
	baz=299								
YFT	Old Faithful	129.96	31	ePKPdf	PKPdf	10 39 31.9	+2.3		
DGMT	Dagmar	129.99	23	P	PKPdf	10 39 30.2	+1.0		
	baz=324								
DGMT	Dagmar	129.99	23	ePKPdf	PKPdf	10 39 30.4	+1.2		
YPP	Pitchstone Pla	130.10	32	ePKPdf	PKPdf	10 39 32.2	+2.2		
SBC	Santa Barbara	130.17	47	P	PKPdf	10 39 31.0	+1.0		
	baz=298								
RLMT	Red Lodge	130.28	30	P	PKPdf	10 39 30.9	+0.7		
	baz=316								
RLMT	Red Lodge	130.28	30	ePKPdf	PKPdf	10 39 30.9	+0.7		
IMW	Indian Meadow	130.28	32	ePKPdf	PKPdf	10 39 31.0	+0.7		
CWC	Cottonwood Cre	130.36	44	P	PKPdf	10 39 31.3	+0.8		
	baz=301								
BSC	Santa Cruz Isl	130.43	48	P	PKPdf	10 39 31.7	+1.2		
	baz=297								
ISA	Isabella, Lake	130.48	45	P	PKPdf	10 39 31.8	+1.2		
	baz=300								
ISA	Isabella, Lake	130.48	45	ePKIKP	PKPdf	10 39 32.1	+1.5		
ISA	Isabella, Lake	130.48	45	ePKPdf	PKPdf	10 39 32.1	+1.5		
ARVC	Arvin	130.49	46	P	PKPdf	10 39 31.6	+1.0		
	baz=299								
MOOW	Moose Ponds	130.49	32	ePKPdf	PKPdf	10 39 31.1	+0.5		
LAO	LASA Array	130.54	26	P	PKPdf	10 39 31.9	+1.5		
	baz=320								
LAO	LASA Array	130.54	26	ePKPdf	PKPdf	10 39 31.4	+1.0		
TPAW	Teton Pass	130.55	32	ePKPdf	PKPdf	10 39 31.5	+0.7		
GRAC	Grapevine Rang	130.57	43	P	PKPdf	10 39 32.3	+1.6		
	baz=302								
LOHW	Long Hollow	130.65	32	ePKPdf	PKPdf	10 39 31.5	+0.6		
HVU	Hansel Valley	130.67	35	ePKIKP	PKPdf	10 39 31.4	+0.5		
HVU	Hansel Valley	130.67	35	ePKPdf	PKPdf	10 39 31.4	+0.5		
SNOW	Snow King Moun	130.68	32	ePKPdf	PKPdf	10 39 31.8	+0.7		
REDW	Red Top Meadow	130.69	32	ePKPdf	PKPdf	10 39 31.7	+0.7		
BLG	Laguna Peak, P	130.80	47	P	PKPdf	10 39 33.3	+2.1		
	baz=298								
SNCC	San Nicolas Is	130.85	49	P	PKPdf	10 39 32.9	+1.6		
	baz=297								
MPMC	Manual Prospec	130.97	44	P	PKPdf	10 39 33.1	+1.4		
	baz=301								
R11A	Troy Canyon, C	131.01	41	P	PKPdf	10 39 33.3	+1.6		
	baz=304								
R11A	Troy Canyon, C	131.01	41	ePKPdf	PKPdf	10 39 32.8	+1.1		
BGU	Big Grassy Mou	131.06	36	ePKPdf	PKPdf	10 39 32.5	+0.8		
LRMC	Laurel Mtn Rad	131.13	45	P	PKPdf	10 39 33.0	+1.1		
	baz=300								
SPUT	South Promonto	131.16	35	ePKPdf	PKPdf	10 39 32.7	+0.9		
FURC	Furnace Creek,	131.19	43	P	PKPdf	10 39 33.5	+1.7		
	baz=302								
EDW2	Edwards Air Fo	131.20	46	P	PKPdf	10 39 33.4	+1.4		
	baz=300								
ULM	Lac du Bonnet	131.27	16	PKP	PKPdf	10 39 30.8	-0.8		
	comp=Z,12nm,0.7s,baz=7.2,slow=1.6,SNR=21								
ULM				SKPbc	SKPbc	10 42 43.8	-2.9		
	comp=Z,27nm,1.0s,baz=336,slow=4.3,SNR=17								
TPNV	Topopah Spring	131.35	42	P	PKPdf	10 39 33.2	+0.8		
	baz=303								
TPNV	Topopah Spring	131.35	42	ePKIKP	PKPdf	10 39 32.9	+0.5		
TPNV	Topopah Spring	131.35	42	ePKPdf	PKPdf	10 39 32.9	+0.5		
PASC	Pasadena Art C	131.41	47	ePKPdf	PKPdf	10 39 33.3	+1.0		
HWUT	Hardware Ranch	131.47	35	ePKPdf	PKPdf	10 39 32.7	+0.2		
MWC	Mount Wilson	131.48	47	ePKIKP	PKPdf	10 39 33.7	+1.0		
MWC	Mount Wilson	131.48	47	ePKPdf	PKPdf	10 39 33.7	+1.0		
CIS	Catalina Islan	131.61	48	P	PKPdf	10 39 33.5	+0.8		
	baz=298								
DUG	Dugway, Tooele	131.65	37	P	PKPdf	10 39 34.2	+1.4		
	baz=309								
DUG	Dugway, Tooele	131.65	37	ePKIKP	PKPdf	10 39 33.4	+0.6		
DUG	Dugway, Tooele	131.65	37	ePKPdf	PKPdf	10 39 33.4	+0.6		
SCI	San Clemente I	131.71	48	P	PKPdf	10 39 34.2	+1.3		
	baz=298								
BFSC	Mount Baldy Ra	131.76	46	P	PKPdf	10 39 34.0	+0.8		
	baz=299								
BW06	Boulder Array	131.79	32	P	PKPdf	10 39 33.6	+0.5		
	baz=314								
BW06	Boulder Array	131.79	32	ePKPdf	PKPdf	10 39 32.3	-0.8		
BW06				ePKPdf	PKiKP	10 39 32.9	-1.2		
PD31	Pinedale Array	131.79	32	ePKPdf	PKPdf	10 39 32.9	-0.2		
PDAR	Pinedale Array	131.79	32	PKP	PKPdf	10 39 32.6	-0.5		
	comp=Z,3.5nm,0.7s,baz=221,slow=1.0,SNR=35								
PDAR				SKPbc	SKPbc	10 42 47.5	-1.8		
	comp=Z,5.6nm,0.7s,baz=72,slow=0.3,SNR=26								
PDAR				PKKP	PKKPdf	10 49 27.1	-2.9		
	comp=Z,0.5nm,0.8s,baz=107,slow=5.1,SNR=3.5								
PDAR				SKKPbc	SKKPbc	10 52 18.4	-0.8		
	comp=Z,0.5nm,0.8s,baz=104,slow=7.5,SNR=3.9								
GSC	Goldstone, Bar	131.83	45	P	PKPdf	10 39 34.2	+1.0		
	baz=301								
GSC	Goldstone, Bar	131.83	45	ePKIKP	PKPdf	10 39 34.3	+1.0		
GSC	Goldstone, Bar	131.83	45	ePKPdf	PKPdf	10 39 34.3	+1.0		
SHOC	Shoshone, Teco	131.89	44	P	PKPdf	10 39 34.8	+1.6		
	baz=302								
RRX	Edison Barstow	131.92	45	P	PKPdf	10 39 35.2	+1.9		
	baz=300								
JLU	Jordanelle	132.19	36	ePKPdf	PKPdf	10 39 35.6	+1.7		
MDND	Maddock	132.22	20	P	PKPdf	10 39 34.0	+0.5		
	baz=329								
MDND	Maddock	132.22	20	ePKPdf	PKPdf	10 39 33.3	-0.1		
NLU	North Lily Min	132.24	37	ePKPdf	PKPdf	10 39 35.3	+1.3		
BBRC	Big Bear Solar	132.28	46	P	PKPdf	10 39 34.7	+0.5		
	baz=300								
A32A	Rocking H Ranc	132.29	17	P	PKPdf	10 39 33.1	-0.4		
	baz=333								
SHPR	Sheep Range	132.32	42	ePKPdf	PKPdf	10 39 35.7	+1.5		
B31A	Greenbush Farm	132.37	19	P	PKPdf	10 39 33.2	-0.5		
	baz=332								
TUQ	Turquoise Moun	132.38	44	P	PKPdf	10 39 34.0	-0.3		
	baz=302								
HEC	Hector,Ludlow	132.41	45	P	PKPdf	10 39 34.1	-0.2		
	baz=301								
A33A	Warroad	132.59	16	P	PKPdf	10 39 34.1	0.0		
	baz=335								
B32A	Ashes, Strandq	132.74	18	P	PKPdf	10 39 34.1	-0.3		
	baz=333								
C31A	Landman Farms,	132.90	19	P	PKPdf	10 39 34.6	-0.1		
	baz=331								
GMRC	Granite Mounta	132.91	45	P	PKPdf	10 39 35.9	+0.6		
	baz=302								
CCUT	Cedar City	132.91	40	ePKPdf	PKPdf	10 39 35.5	+0.1		
PFO	Pinyon Flats O	132.94	46	P	PKPdf	10 39 35.7	+0.3		
	baz=300								
PFO	Pinyon Flats O	132.94	46	ePKIKP	PKPdf	10 39 36.4	+1.0		
PFO	Pinyon Flats O	132.94	46	ePKPdf	PKPdf	10 39 36.4	+1.0		
TPFO	Pinon Flats	132.94	46	P	PKPdf	10 39 36.3	+0.9		
	baz=300								
AGMN	Agassiz Nation	133.03	17	P	PKPdf	10 39 35.2	+0.3		
	baz=334								
SZCU	Shurtz Canyon	133.06	40	ePKPdf	PKPdf	10 39 37.1	+1.4		
BELC	Belle Mtn. Jos	133.07	46	P	PKPdf	10 39 35.9	+0.2		
	baz=301								
MSU	Marysvale	133.08	38	ePKIKP	PKPdf	10 39 37.2	+1.6		
MSU	Marysvale	133.08	38	ePKPdf	PKPdf	10 39 37.2	+1.6		
LDFC	Landfair	133.13	44	ePKPdf	PKPdf	10 39 37.1	+1.4		
B33A	Robert and Kas	133.13	17	P	PKPdf	10 39 35.7	+0.5		
	baz=334								
TMUT	Trail Mountain	133.17	37	ePKPdf	PKPdf	10 39 36.9	+1.0		
B34A	Aery, Baudette	133.21	16	P	PKPdf	10 39 35.3	0.0		
	baz=336								
BAR	Barrett	133.24	48	ePKPdf	PKPdf	10 39 36.8	+0.9		
LCMT	Little Creek M	133.30	41	ePKPdf	PKPdf	10 39 36.2	+0.2		
MONP	Monument Peak,	133.32	47	P	PKPdf	10 39 35.7	-0.5		
	baz=300								
K22A	Casper	133.44	30	P	PKPdf	10 39 35.7	-0.5		
	baz=317								
K22A	Casper	133.44	30	ePKPdf	PKPdf	10 39 35.9	-0.2		
RSSD	Black Hills	133.50	27	P	PKPdf	10 39 36.2	-0.1		
	baz=321								
RSSD	Black Hills	133.50	27	ePKIKP	PKPdf	10 39 35.9	-0.4		
RSSD	Black Hills	133.50	27	ePKPdf	PKPdf	10 39 35.9	-0.4		
C33A	Trail	133.54	17	P	PKPdf	10 39 35.3	-0.6		
	baz=334								
D31A	Mcclaflin, Tow	133.56	20	P	PKPdf	10 39 36.0	0.0		
	baz=331								
KNB	Kanab	133.57	40	ePKIKP	PKPdf	10 39 37.3	+0.7		
KNB	Kanab	133.57	40	ePKPdf	PKPdf	10 39 37.3	+0.7		
B35A	Bob, Littlefor	133.57	15	P	PKPdf	10 39 35.8	-0.2		
	baz=337								
IRM	Iron Mountain	133.60	45	P	PKPdf	10 39 36.8	+0.3		
	baz=302								
BC3	Big Chuckawall	133.64	46	P	PKPdf	10 39 37.4	+0.7		
	baz=301								
PKCU	Pink Cliffs	133.64	39	ePKPdf	PKPdf	10 39 38.9	+2.0		
IKP	In-Ko-Pah, Jac	133.67	47	P	PKPdf	10 39 36.8	+0.1		
	baz=300								
SRU	San Rafael Swe	133.70	36	ePKIKP	PKPdf	10 39 37.8	+1.0		
SRU	San Rafael Swe	133.70	36	ePKPdf	PKPdf	10 39 37.8	+1.0		
D32A	Dogwood Acres,	133.71	19	P	PKPdf	10 39 35.8	-0.5		
	baz=332								
SWSC	Sam W. Stewart	133.75	47	P	PKPdf	10 39 37.3	+0.6		
	baz=300								
RWWY	Rawlins	133.79	31	ePKPdf	PKPdf	10 39 36.8	-0.1		
C34A	RKJ Ranch, Bem	133.89	17	P	PKPdf	10 39 36.8	+0.2		
	baz=335								
E31A	Nome	133.93	20	P	PKPdf	10 39 36.8	+0.1		
	baz=330								
W13A	Hualapai Mount	133.96	43	ePKPdf	PKPdf	10 39 38.5	+1.1		
D33A	AnnSam, Waubun	134.07	18	P	PKPdf	10 39 37.1	+0.1		
	baz=333								
C35A	Jirik Farms, M	134.11	16	P	PKPdf	10 39 36.9	-0.1		
	baz=336								
PDMCI	Parker Dam,Lak	134.22	44	P	PKPdf	10 39 37.2	-0.4		
	baz=303								
Y12C	Blythe	134.25	45	P	PKPdf	10 39 38.0	+0.4		
	baz=302								
Y12C	Blythe	134.25	45	ePKPdf	PKPdf	10 39 39.1	+1.4		
U15A	North Rim	134.26	41	ePKPdf	PKPdf	10 39 39.7	+1.7		
D34A	Park Rapids	134.32	17	P	PKPdf	10 39 37.1	-0.3		
	baz=334								
O20A	White River Ci	134.33	34	P	PKPdf	10 39 38.2	+0.3		
	baz=314								
O20A	White River Ci	134.33	34	ePKPdf	PKPdf	10 39 38.4	+0.5		
C36A	Pine Crest Far	134.36	15	P	PKPdf	10 39 37.7	+0.2		
	baz=338								
GLA	Glamis	134.40	46	P	PKPdf	10 39 38.5	+0.5		
	baz=301								
GLA	Glamis	134.40	46	ePKIKP	PKPdf	10 39 39.2	+1.2		
GLA	Glamis	134.40	46	ePKPdf	PKPdf	10 39 39.2	+1.2		
F31A	Hecla	134.41	21	P	PKPdf	10 39 37.9	+0.3		
	baz=330								
EYMN	Ely	134.51	14	P	PKPdf	10 39 37.3	-0.5		
	baz=340								
C37A	Embarrass	134.55	14	P	PKPdf	10 39 37.8	0.0		
	baz=338								
E33A	Westby DABS, E	134.59	18	P	PKPdf	10 39 38.2	+0.2		
	baz=333								
D35A	Remer	134.65	16	P	PKPdf	10 39 38.0	0.0		
	baz=336								
D36A	Goodland	134.81	16	P	PKPdf	10 39 38.1	-0.3		
	baz=337								
E34A	Wadena	134.84	18	P	PKPdf	10 39 37.4	-1.0		
	baz=334								
PV09	Paradox Valley	134.92	36	ePKPdf	PKPdf	10 39 41.0	+1.8		
C39A	Grand Marais	134.94	13	P	PKPdf	10 39 38.0	-0.6		
	baz=341								
G31A	Conde	134.97	21	P	PKPdf	10 39 38.1	-0.6		
	baz=329								
PHWY	Pilot Hill	134.97	31	ePKPdf	PKPdf	10 39 39.0	-0.2		
N23A	Red Feather La	135.02	31	P	PKPdf	10 39 38.9	-0.4		
	baz=317								
N23A	Red Feather La	135.02	31	ePKPdf	PKPdf	10 39 39.5	+0.2		
D37A	Cotton	135.02	15	P	PKPdf	10 39 38.4	-0.3		
	baz=338								
E35A	Pequot Lakes	135.03	17	P	PKPdf	10 39 39.0	+0.2		
	baz=335								
PLCA	Paso Flores	135.05	187	PKP	PKPdf	10 39 39.2	+0.1		
	comp=Z,4.3nm,0.6s,baz=291,slow=1.2,SNR=7.1								
PLCA				SKPbc	SKPbc	10 42 59.7	-0.4		
	comp=Z,1.7nm,0.8s,baz=184,slow=8.9,SNR=2.9								
PV10	Paradox Valley	135.06	36	ePKPdf	PKPdf	10 39 40.5	+1.1		
F33A	5 Mile Ranch,	135.09	19	P	PKPdf	10 39 39.3	+0.4		
	baz=332								
G32A	Webster	135.19	21	P	PKPdf	10 39 39.3	+0.1		
	baz=330								
Y14A	Wickenburg	135.21	44	ePKPdf	PKPdf	10 39 40.4	+0.8		
PV05	Paradox Valley	135.22	37	ePKPdf	PKPdf	10 39 40.5	+0.8		
113A	Mohawk Valley,	135.31	46	ePKPdf	PKPdf	10 39 40.4	+0.7		
SUSD	Miller	135.36	22	P	PKPdf	10 39 40.1	+0.6		
	baz=328								
E36A	McGregor	135.39	16	P	PKPdf	10 39 39.9	+0.4		
	baz=337								
WUAZ	Wupatki	135.40	41	P	PKPdf	10 39 40.0	0.0		
	baz=307								
WUAZ	Wupatki	135.40	41	ePKPdf	PKPdf	10 39 41.4	+1.3		
PV01	Paradox Valley	135.49	36	ePKPdf	PKPdf	10 39 41.2	+1.0		
H31A	Wolsey	135.51	22	P	PKPdf	10 39 40.1	+0.4		
	baz=329								
E37A	Wrenshall	135.58	15	P	PKPdf	10 39 40.0	+0.2		
	baz=338								
G33A	Ortonville	135.61	20	P	PKPdf	10 39 39.9	0.0		
	baz=332								
F35A	Swanville	135.61	18	P	PKPdf	10 39 40.0	+0.1		
	baz=334								
SMCO	Snowmass	135.69	34	ePKPdf	PKPdf	10 39 41.7	+1.0		
G34A	Benson	135.83	19	P	PKPdf	10 39 39.7	-0.6		
	baz=333								
H32A	Carlson Farm,	135.87	21	P	PKPdf	10 39 40.0	-0.4		
	baz=330								
F36A	Milaca	135.92	17	P	PKPdf	10 39 40.2	-0.2		
	baz=336								
H33A	Prehn Over Nor	135.96	20	P	PKPdf	10 39 40.8	+0.2		
	baz=331								
D41A	Chassel	135.99	11	P	PKPdf	10 39 40.3	-0.2		
	baz=343								
ISCO	Idaho Springs	135.99	32	P	PKPdf	10 39 40.4	-0.8		
	baz=317								
ISCO	Idaho Springs	135.99	32	ePKIKP	PKPdf	10 39 42.5	+1.3		
ISCO	Idaho Springs	135.99	32	ePKPdf	PKPdf	10 39 42.5	+1.3		
X16A	Lo Mia Camp, P	136.00	42	ePKPdf	PKPdf	10 39 42.7	+1.5		
MVCO	Mesa Verde	136.15	37	P	PKPdf	10 39 41.2	-0.3		
	baz=311								
MVCO	Mesa Verde	136.15	37	ePKPdf	PKPdf	10 39 42.5	+1.1		
E39A	Mellen	136.21	14	P	PKPdf	10 39 41.2	+0.2		
	baz=340								
G35A	Watkins	136.22	18	P	PKPdf	10 39 41.1	+0.1		
	baz=334								
I32A	Karley and Nic	136.27	21	P	PKPdf	10 39 41.5	+0.3		
	baz=330								
F38A	Pierce - Schro	136.28	15	P	PKPdf	10 39 41.4	+0.3		
	baz=338								
LMQ	La Malbaie	136.28	353	ePKPdf	PKPdf	10 39 40.8	-0.3		
F37A	Hinrichs Farm,	136.29	16	P	PKPdf	10 39 41.7	+0.5		
	baz=337								
E40A	Wakefield	136.30	13	P	PKPdf	10 39 41.4	+0.3		
	baz=341								
H34A	Spellman Lake,	136.30	19	P	PKPdf	10 39 41.3	+0.1		
	baz=332								
J31A	Geddes	136.41	23	P	PKPdf	10 39 41.0	-0.4		
	baz=328								
214A	Organ Pipe Nat	136.42	46	P	PKPdf	10 39 41.6	-0.3		
	baz=302								
214A	Organ Pipe Nat	136.42	46	ePKPdf	PKPdf	10 39 42.5	+0.6		
G36A	St. Michael	136.42	17	P	PKPdf	10 39 40.7	-0.7		
	baz=335								
I33A	Coleman	136.49	21	P	PKPdf	10 39 40.8	-0.8		
	baz=331								
F39A	Loretta	136.56	14	P	PKPdf	10 39 41.2	-0.5		
	baz=340								
H35A	Sunnyside Ranc	136.57	19	P	PKPdf	10 39 41.7	0.0		
	baz=334								
J32A	Parkston	136.69	22	P	PKPdf	10 39 41.8	-0.2		
	baz=329								
SPMN	Marine on St.	136.70	16	P	PKPdf	10 39 42.0	+0.1		
	baz=337								
SPMN	Marine on St.	136.70	16	ePKPdf	PKPdf	10 39 42.6	+0.7		
W18A	Petrified Fore	136.71	40	P	PKPdf	10 39 42.7	+0.2		
	baz=308								
W18A	Petrified Fore	136.71	40	ePKPdf	PKPdf	10 39 43.8	+1.3		
E42A	Champion	136.72	11	P	PKPdf	10 39 42.3	+0.3		
	baz=344								
F40A	Park Falls	136.74	13	P	PKPdf	10 39 42.3	+0.3		
	baz=341								
S22A	4UR Ranch, Cre	136.77	35	P	PKPdf	10 39 43.0	+0.3		
	baz=314								
S22A	4UR Ranch, Cre	136.77	35	ePKPdf	PKPdf	10 39 43.7	+1.0		
I34A	Hadley	136.82	20	P	PKPdf	10 39 42.8	+0.6		
	baz=332								
ECSD	EROS Data Cent	136.83	21	P	PKPdf	10 39 43.3	+1.1		
	baz=331								
ECSD	EROS Data Cent	136.83	21	ePKPdf	PKPdf	10 39 41.6	-0.6		
Q24A	Divide	136.84	33	P	PKPdf	10 39 42.2	-0.6		
	baz=317								
X18A	Snowflake	136.93	41	ePKPdf	PKPdf	10 39 43.2	+0.3		
H36A	Jessenland, He	136.97	18	P	PKPdf	10 39 42.5	+0.1		
	baz=335								
K31A	O'Neill	136.97	24	P	PKPdf	10 39 42.1	-0.5		
	baz=327								
G38A	Ridgeland	137.01	15	P	PKPdf	10 39 42.6	+0.1		
	baz=338								
J33A	Davis	137.06	21	P	PKPdf	10 39 43.0	+0.3		
	baz=330								
G39A	Holcombe	137.08	15	P	PKPdf	10 39 43.0	+0.4		
	baz=339								
F41A	Three Lakes	137.14	12	P	PKPdf	10 39 43.0	+0.3		
	baz=342								
K32A	Verdigre	137.25	23	P	PKPdf	10 39 42.9	-0.1		
	baz=328								
I35A	Creekview Farm	137.28	19	P	PKPdf	10 39 43.2	+0.2		
	baz=333								
G40A	Rib Lake	137.34	14	P	PKPdf	10 39 43.3	+0.2		
	baz=340								
H38A	Maiden Rock	137.35	16	P	PKPdf	10 39 42.7	-0.4		
	baz=337								
F43A	Flat Rock, Esc	137.44	11	P	PKPdf	10 39 42.6	-0.6		
	baz=345								
I36A	Fitzsimmons Fa	137.44	18	P	PKPdf	10 39 42.8	-0.5		
	baz=334								
J34A	George	137.45	21	P	PKPdf	10 39 43.0	-0.3		
	baz=331								
SDCO	Great Sand Dun	137.52	34	P	PKPdf	10 39 43.7	-0.3		
	baz=315								
SDCO	Great Sand Dun	137.52	34	ePKPdf	PKPdf	10 39 43.8	-0.3		
H39A	Augusta	137.62	15	P	PKPdf	10 39 43.2	-0.4		
	baz=339								
G41A	Antigo	137.62	13	P	PKPdf	10 39 43.2	-0.4		
	baz=342								
I37A	Lemond, Waseca	137.63	18	P	PKPdf	10 39 43.4	-0.3		
	baz=335								
J35A	Milford	137.64	20	P	PKPdf	10 39 43.9	+0.2		
	baz=332								
TUC	Tucson	137.66	44	P	PKPdf	10 39 44.2	+0.1		
	baz=305								
TUC	Tucson	137.66	44	ePKIKP	PKPdf	10 39 43.7	-0.5		
TUC	Tucson	137.66	44	ePKPdf	PKPdf	10 39 43.7	-0.5		
K33A	Hardington	137.67	22	P	PKPdf	10 39 44.3	+0.5		
	baz=330								
L32A	Elgin	137.79	23	P

M40A	Post Highland baz=337	140.58	17	P		PKPpre	10 39 41.8	
N38A	Joes South For baz=334	140.60	20	P		PKPpre	10 39 42.3	
P35A	Duane Minner, baz=329	140.69	23	P		PKPpre	10 39 43.1	
N39A	Derby Farms, D baz=335	140.76	19	P		PKPpre	10 39 42.5	
O37A	Wolven Farm, M baz=332	140.84	21	P		PKPpre	10 39 42.8	
M41A	Milan baz=338	140.89	16	P		PKPpre	10 39 42.9	
N40A	Mertquake, Sal baz=336	141.04	18	P		PKPpre	10 39 44.3	
O38A	Galt baz=333	141.12	20	P		PKPpre	10 39 43.8	
R34A	Isabella, Hill baz=327	141.22	26	P		PKPpre	10 39 44.3	
Q35A	Mercer Eighty, baz=329	141.25	24	P		PKPpre	10 39 44.5	
P37A	Lathrop baz=332	141.28	22	P		PKPpre	10 39 44.9	
O39A	Kirksville baz=335	141.31	19	P		PKPpre	10 39 44.5	
Q36A	Arnold C. Orve baz=330	141.40	23	P		PKPpre	10 39 44.5	
N41A	Harden Midland baz=338	141.42	17	P		PKPpre	10 39 44.6	
P38A	Dawn baz=333	141.54	21	P		PKPpre	10 39 45.1	
N42A	Yates City baz=339	141.54	16	P		PKPpre	10 39 45.4	
R35A	Emporia Munici baz=328	141.64	25	P		PKPpre	10 39 45.6	
O40A	La Belle baz=336	141.65	19	P		PKPpre	10 39 45.7	
MNTX	Cornudas Mount baz=310	141.69	41	P		PKPpre	10 39 47.2	
MNTX	Cornudas Mount	141.69	41	*e*PKPdf		PKPdf	10 39 50.3	-1.1
AMTX	Amarillo	141.72	34	*e*PKPdf		PKPdf	10 39 50.9	-0.6
MSTX	Muleshoe baz=316	141.76	36	P		PKPpre	10 39 46.5	
MSTX	Muleshoe	141.76	36	*e*PKPdf		PKPdf	10 39 50.5	-1.2
Q37A	Longview Farm, baz=331	141.86	22	P		PKPpre	10 39 46.5	
R36A	Gordon, Harris baz=329	141.93	24	P		PKPpre	10 39 46.2	
P39B	Salisbury baz=334	141.93	20	P		PKPpre	10 39 46.4	
O41A	Passleys Farm, baz=337	141.96	17	P		PKPpre	10 39 45.9	
U32A	Winter Ranch, baz=323	141.97	29	P		PKPpre	10 39 46.6	
HDIL	Hopedale baz=340	141.99	15	P		PKPpre	10 39 46.3	
HDIL	Hopedale	141.99	15	*e*PKPpre		PKPpre	10 39 47.0	
BINY	Binghamton	142.00	359	*e*PKPdf		PKPdf	10 39 51.0	-0.7
Q38A	Cooks Store, C baz=332	142.09	21	P		PKPpre	10 39 46.7	
O42A	Bath baz=338	142.11	16	P		PKPpre	10 39 47.3	
P40A	Paris baz=335	142.13	19	P		PKPpre	10 39 46.9	
S35A	Otter Creek Ra baz=328	142.13	25	P		PKPpre	10 39 47.0	
R37A	Teagarden Farm baz=330	142.21	23	P		PKPpre	10 39 47.1	
O43A	Sugar Creek Fa baz=340	142.24	15	P		PKPpre	10 39 47.3	
Q39A	Willow Grove F baz=333	142.25	21	P		PKPpre	10 39 47.0	
T34A	McClaskey Farm baz=326	142.30	27	P		PKPpre	10 39 47.2	
P41A	Barry, Barry baz=337	142.31	18	P		PKPpre	10 39 47.1	
S36A	Lake Cedric, C baz=329	142.40	24	P		PKPpre	10 39 47.6	
Q40A	Laux Farm, Aux baz=335	142.60	20	P		PKPpre	10 39 47.7	
P42A	Winchester baz=338	142.60	17	P		PKPpre	10 39 47.6	
M54A	Oil Creek Stat baz=356	142.62	3	P		PKPpre	10 39 47.7	
R38A	Fenwick Farm, baz=331	142.67	22	P		PKPpre	10 39 47.8	
S37A	Fort Scott baz=330	142.68	24	P		PKPpre	10 39 48.4	
T35A	Sooner Cattle baz=327	142.69	26	P		PKPpre	10 39 48.5	
SFIN	Lafayette baz=343	142.69	13	P		PKPpre	10 39 48.4	
SFIN	Lafayette	142.69	13	*e*PKPpre		PKPpre	10 39 49.3	
P43A	Skaggs, Pawnee baz=339	142.79	16	P		PKPpre	10 39 48.7	
T36A	Boggs Farm, Ca baz=328	142.84	25	P		PKPpre	10 39 49.0	
R39A	Chumby, Stover baz=333	142.88	21	P		PKPpre	10 39 48.9	
Q41A	Truxton baz=336	142.91	19	P		PKPpre	10 39 48.8	
U35A	Pawnee baz=326	143.04	27	P		PKPab	10 39 49.4	+0.3
ODNJ	Ogdensburg	143.06	357	*e*PKPpre		PKPpre	10 39 49.7	
N54A	Moraine State baz=355	143.14	4	P		PKPbc	10 39 50.3	-0.6
S38A	Stockton baz=331	143.16	23	P		PKPab	10 39 50.0	+0.4
Q42A	Golden Eagle baz=337	143.17	18	P		PKPbc	10 39 50.4	-0.6
R40A	Maddies Statio baz=334	143.17	20	P		PKPab	10 39 50.0	+0.4
P44A	Sand Creek, Wi baz=340	143.19	15	P		PKPab	10 39 49.9	+0.3
T37A	Cheneyville 18 baz=329	143.19	24	P		PKPab	10 39 50.0	+0.3
N59A	State Game Lan baz=2.0	143.27	358	P		PKPbc	10 39 50.7	-0.5
S39A	Bolivar baz=332	143.32	22	P		PKPab	10 39 50.8	+0.6
WMOK	Wichita Mounta baz=322	143.37	31	P		PKPab	10 39 50.1	-0.4
WMOK	Wichita Mounta	143.37	31	*e*PKPpre		PKPpre	10 39 51.5	
Q43A	New Douglas baz=338	143.39	17	P		PKPab	10 39 50.5	0.0
R41A	Rosebud baz=335	143.46	19	P		PKPab	10 39 50.4	-0.4
U36A	Oologah baz=327	143.47	26	P		PKPab	10 39 50.1	-0.8
V35A	Meyer Ranch, C baz=325	143.50	28	P		PKPab	10 39 51.1	+0.1
T38A	Diamond baz=330	143.52	24	P		PKPab	10 39 50.7	-0.3
SSPA	Standing Stone	143.56	1	*e*PKPpre		PKPpre	10 39 51.3	
ACSO	Alum Creek Sta	143.57	8	*e*PKPpre		PKPpre	10 39 51.0	
Q44A	Meyer Farm, Va baz=340	143.62	16	P		PKPab	10 39 50.6	-0.7
R42A	Luebbering baz=336	143.67	18	P		PKPab	10 39 50.7	-0.8
S40A	Lebanon baz=333	143.71	21	P		PKPab	10 39 51.0	-0.7
U37A	Salina baz=328	143.72	25	P		PKPab	10 39 51.7	-0.1
TUL1	Leonard baz=327	143.85	26	P		PKPab	10 39 52.2	-0.1
TUL1	Leonard	143.85	26	*e*PKPdf		PKPab	10 39 52.3	-0.1
V36A	Jenks baz=327	143.89	27	P		PKPab	10 39 51.9	-0.5
T39A	Clever baz=332	143.89	23	P		PKPab	10 39 52.0	-0.5
O56A	Blue Knob Stat baz=357	143.91	2	P		PKPab	10 39 51.7	-0.8
R43A	Red Bud baz=338	143.94	17	P		PKPab	10 39 52.2	-0.3
W35A	Tecumseh baz=325	143.98	28	P		PKPab	10 39 52.5	-0.3
S41A	Jillco Farms, baz=334	143.98	20	P		PKPab	10 39 52.4	-0.4
U38A	Gravette baz=330	144.00	24	P		PKPab	10 39 52.2	-0.7
OLIL	Olney	144.02	15	*e*PKPdf		PKPbc	10 39 53.8	+0.4
T40A	Mansfield baz=333	144.10	21	P		PKPab	10 39 52.5	-0.7
S42A	Caledonia baz=336	144.13	19	P		PKPab	10 39 52.6	-0.7
V37A	Hulbert baz=328	144.16	26	P		PKPab	10 39 53.2	-0.3
MVL	Millersville	144.20	359	*e*PKPdf		PKPab	10 39 53.7	+0.2
R44A	Waltonville	144.21	16	P		PKPab	10 39 53.1	-0.5
W36A	Wetumka baz=326	144.29	28	P		PKPab	10 39 53.7	-0.4
CPUP	Villa Florida comp=Z,153nm,0.9s,baz=137,slow=2.3,SNR=243	144.31	211	PKP		PKPdf	10 39 55.6	-0.6
CPUP	Villa Florida	144.31	211	*e*PKPdf		PKPdf	10 39 55.8	-0.4
TX31	Lajitas Ar. Si	144.33	42	*e*PKPdf		PKPab	10 39 54.6	+0.1
TX31				*e*PKPdf		PKPbc	10 39 55.5	+0.6
TXAR	Lajitas Array comp=Z,16nm,0.5s,baz=260,slow=0.9,SNR=245	144.33	42	PKP		PKPbc	10 39 55.2	+0.4
TXAR				SKPbc		SKPbc	10 43 25.2	-0.5
U39A	Green Forest baz=331	144.41	23	P		PKPab	10 39 53.7	-0.8
T41A	Mountain View baz=334	144.46	21	P		PKPab	10 39 54.0	-0.6
V38A	Canehill baz=329	144.49	25	P		PKPab	10 39 53.9	-0.8
ABTX	Abilene, Hawle baz=319	144.53	34	P		PKPab	10 39 55.0	-0.1
ABTX	Abilene, Hawle	144.53	34	*e*PKPdf		PKPbc	10 39 55.4	+0.1
S43A	Fulton Ridge, baz=337	144.54	18	P		PKPab	10 39 54.0	-0.9
X35A	Drake baz=324	144.54	29	P		PKPab	10 39 54.4	-0.6
W37B	Quinton baz=327	144.65	27	P		PKPab	10 39 54.9	-0.5
S44A	Carbondale baz=338	144.68	17	P		PKPab	10 39 54.9	-0.4
U40A	Yellville baz=332	144.68	22	P		PKPab	10 39 54.8	-0.6
X36A	Centrahoma baz=325	144.70	28	P		PKPab	10 39 55.2	-0.4
SDMD	Soldier's Deli	144.79	360	*e*PKPbc		PKPab	10 39 55.4	-0.3
V39A	Pettigrew baz=330	144.82	24	P		PKPab	10 39 55.1	-0.9
USIN	University of	144.85	15	*e*PKPbc		PKPab	10 39 55.4	-0.6
S45A	Carrier Mills baz=340	144.88	16	P		PKPab	10 39 55.6	-0.5
Y35A	Marietta baz=324	144.91	30	P		PKPab	10 39 55.6	-0.8
T43A	Greenville baz=336	144.92	19	P		PKPab	10 39 55.3	-0.9
WCI	Wyandotte Cave	144.93	13	*e*PKIKP		PKPab	10 39 55.8	-0.5
WCI	Wyandotte Cave	144.93	13	*e*PKPbc		PKPab	10 39 55.8	-0.5
U41A	Viola baz=333	145.03	21	P		PKPbc	10 39 56.1	-0.6
W38A	Poteau baz=328	145.11	26	P		PKPbc	10 39 56.4	-0.6
T44A	Benton baz=338	145.14	18	P		PKPbc	10 39 56.2	-0.8
X37A	Clayton baz=327	145.14	27	P		PKPbc	10 39 56.5	-0.6
PBMO	Poplar Bluff	145.16	19	*e*PKPbc		PKPbc	10 39 56.2	-0.9
V40A	Witts Springs baz=332	145.17	23	P		PKPbc	10 39 56.3	-0.9
U42A	Revenden baz=334	145.27	20	P		PKPbc	10 39 56.8	-0.6
Y36A	Durant baz=325	145.28	29	P		PKPbc	10 39 56.8	-0.7
W39A	Magazine baz=330	145.32	25	P		PKPbc	10 39 56.9	-0.7
X38A	Whitesboro baz=328	145.32	26	P		PKPbc	10 39 57.4	-0.2
233A	Rising Star baz=319	145.40	34	P		PKPbc	10 39 58.1	+0.1
V41A	Mountainview baz=333	145.44	22	P		PKPdf	10 39 57.2	-0.7
PARMO	Parma	145.48	18	*e*PKPdf		PKPbc	10 39 58.0	0.0
Y37A	Hugo baz=326	145.53	28	P		PKPdf	10 39 57.6	-0.5
U43A	Rector baz=336	145.54	19	P		PKPdf	10 39 57.5	-0.5
W40A	Ferguson Farm, baz=331	145.61	24	P		PKPdf	10 39 57.8	-0.3
U44A	Portageville baz=337	145.64	18	P		PKPdf	10 39 58.1	-0.1
V42A	Cord baz=334	145.71	21	P		PKPdf	10 39 58.1	-0.2
Z36A	Blue Ridge baz=324	145.72	30	P		PKPdf	10 39 58.3	-0.1
X39A	Fountain Ranch baz=329	145.76	26	P		PKPdf	10 39 58.7	+0.2
234A	Clairette baz=320	145.83	33	P		PKPbc	10 39 59.2	-0.2
WHAR	Wooly Hollow	145.83	23	*e*PKPdf		PKPdf	10 39 58.4	-0.2
X301	Greenbrier Sit	145.83	23	*e*PKPdf		PKPdf	10 39 58.3	-0.2
333A	Richland Sprin baz=318	145.87	35	P		PKPbc	10 39 59.4	-0.1
U44B	Burton Farm, H baz=338	145.90	18	P		PKPbc	10 39 59.3	-0.1
W41B	Gary Mavity, V baz=332	145.95	23	P		PKPdf	10 39 58.7	0.0
MIAR	Mount Ida baz=329	145.96	25	P		PKPbc	10 39 59.3	-0.4
MIAR	Mount Ida	145.96	25	*e*PKP2		PKPdf	10 39 59.0	+0.2
MIAR	Mount Ida	145.96	25	*e*PKPdf		PKPdf	10 39 59.0	+0.2
Y38A	Idabel baz=327	145.98	27	P		PKPdf	10 39 58.8	0.0
GLAT	Glass	145.98	18	*e*PKPdf		PKPbc	10 39 59.5	-0.1
CBN	Corbin Frederi	146.00	1	*e*PKPdf		PKPbc	10 39 59.4	-0.2
JCT	Junction City baz=316	146.01	37	P		PKPbc	10 39 60.0	0.0
JCT	Junction City	146.01	37	*e*PKP2		PKPdf	10 39 59.3	+0.2
JCT	Junction City	146.01	37	*e*PKPdf		PKPdf	10 39 59.3	+0.2
V43A	Jonesboro baz=335	146.02	20	P		PKPbc	10 39 59.6	-0.2
GNAR	Gosnell	146.03	19	*e*PKPdf		PKPbc	10 39 59.8	0.0
UTMT	University of	146.04	17	*e*PKPdf		PKPbc	10 40 00.0	+0.2
U45A	Rockin P Farm, baz=339	146.07	17	P		PKPbc	10 39 59.6	-0.3
Z37A	Pogue Cattle C baz=325	146.17	29	P		PKPbc	10 39 59.9	-0.4
HBAR	Harrisburg	146.19	20	*e*PKPdf		PKPbc	10 40 00.1	-0.2
V44A	Blytheville baz=336	146.20	19	P		PKPbc	10 40 00.1	-0.2
WHTX	Lake Whitney, baz=321	146.21	32	P		PKPbc	10 40 00.2	-0.2
WHTX	Lake Whitney,	146.21	32	*e*PKPdf		PKPdf	10 39 59.8	+0.5
433A	Art baz=318	146.23	36	P		PKPbc	10 40 00.0	-0.6
Y39A	Lockesburg baz=328	146.26	26	P		PKPbc	10 39 60.0	-0.6
UALR	University of	146.26	23	*e*PKPdf		PKPdf	10 39 58.9	-0.4
334A	Lometa baz=319	146.28	34	P		PKPbc	10 40 00.3	-0.5
HALT	Halls	146.30	18	*e*PKPdf		PKPbc	10 40 00.3	-0.3
136A	Ennis baz=323	146.31	31	P		PKPbc	10 40 00.1	-0.7
X40A	Basin Creek Fa baz=331	146.32	24	P		PKPbc	10 40 00.2	-0.5
Z38A	Mt. Pleasant baz=326	146.43	28	P		PKPbc	10 40 00.7	-0.3
X41A	Kaden, Bauxite baz=331	146.44	24	P		PKPbc	10 40 00.5	-0.5
JSRW	J. Sargeant Re	146.50	1	*e*PKPdf		PKPdf	10 39 59.9	+0.3
WVT	Waverly	146.54	16	*e*PKIKP		PKPdf	10 39 59.5	-0.2
WVT	Waverly	146.54	16	*e*PKPdf		PKPdf	10 39 59.5	-0.2
Y40A	Okolona baz=330	146.54	25	P		PKPbc	10 40 00.8	-0.6
V45A	Humboldt baz=338	146.57	18	P		PKPbc	10 40 00.8	-0.6
LCO	Las Campanas	146.59	190	*e*PKPdf		PKPbc	10 40 01.2	-0.8
W43A	Forest City baz=335	146.59	21	P		PKPbc	10 40 00.9	-0.6
137A	Heron Place, G baz=324	146.59	30	P		PKPbc	10 40 00.9	-0.7
URVA	University of	146.63	1	*e*PKPdf		PKPdf	10 40 00.6	+0.8
434A	Burnet baz=319	146.66	35	P		PKPbc	10 40 01.3	-0.5
236A	Katherine and baz=323	146.68	31	P		PKPbc	10 40 01.5	-0.4
X42A	Stuttgart baz=333	146.74	22	P		PKPbc	10 40 01.3	-0.6
533A	Kerrville baz=317	146.76	36	P		PKPbc	10 40 01.9	-0.3
335A	Moody baz=321	146.77	33	P		PKPbc	10 40 02.1	0.0
Z39A	Irene McRaven, baz=227	146.81	27	P		PKPbc	10 40 02.1	0.0
BLA	Blacksburg	146.84	5	*e*PKIKP		PKPdf	10 40 00.5	+0.2
BLA	Blacksburg	146.84	5	*e*PKPdf		PKPdf	10 40 00.5	+0.2
VWCC	Virginia Weste	146.84	4	*e*PKPdf		PKPdf	10 40 01.1	+0.9
138A	Matatall Enter baz=326	146.87	29	P		PKPbc	10 40 02.7	+0.3
WLAR	White Oak Lake	146.90	25	*e*PKPdf		PKPbc	10 40 01.6	-0.8
Y41A	Eaglette Beard	146.94	24	P		PKPbc	10 40 02.4	-0.1
336A	Riesel baz=322	147.00	32	P		PKPbc	10 40 02.8	0.0
W45A	Hickory Valley baz=337	147.04	19	P		PKPbc	10 40 02.2	-0.6
X43A	Marvell baz=334	147.04	21	P		PKPbc	10 40 02.6	-0.1
237A	Wasatta, Mont baz=324	147.05	30	P		PKPbc	10 40 03.0	+0.1
435B	Jarrell baz=320	147.06	34	P		PKPbc	10 40 03.0	0.0
TZTN	Tazewell	147.09	10	*e*PKPdf		PKPbc	10 40 02.2	-0.7
633A	Saathoff Ranch baz=316	147.12	37	P		PKPbc	10 40 03.5	+0.3
534A	Blanco baz=318	147.12	36	P		PKPbc	10 40 03.0	-0.2
Z40A	Long Farm, Mag baz=329	147.14	26	P		PKPbc	10 40 03.1	0.0
139A	Bunkhouse Ranc baz=327	147.18	28	P		PKPbc	10 40 03.2	0.0
CCAR	Cane Creek	147.24	23	*e*PKPdf		PKPbc	10 40 03.4	0.0
Y42A	Garnett, Star baz=332	147.31	23	P		PKPbc	10 40 03.4	-0.1
X44A	Crenshaw baz=335	147.32	20	P		PKPbc	10 40 03.3	-0.2
238A	Jacksonville baz=325	147.39	29	P		PKPbc	10 40 04.2	+0.4
Z41A	Richland Creek baz=330	147.40	25	P		PKPbc	10 40 03.7	-0.1
832A	Faith Ranch, C baz=314	147.45	40	P		PKPbc	10 40 04.7	+0.6
436A	Wall Ranch, Ga baz=321	147.51	33	P		PKPbc	10 40 04.6	+0.5
337A	Centerville baz=323	147.56	31	P		PKPbc	10 40 05.1	+0.8
OXF	Oxford	147.56	19	*e*PKP2		PKPbc	10 40 03.1	-1.1
OXF	Oxford	147.56	19	*e*PKPdf		PKPbc	10 40 03.1	-1.1
Y43A	Makayla and Ka baz=333	147.57	22	P		PKPbc	10 40 04.4	+0.2
733A	Divot King Ran baz=315	147.57	38	P		PKPbc	10 40 04.8	+0.3
140A	Cam and Jess, baz=328	147.59	27	P		PKPbc	10 40 04.4	+0.1
535A	Dale baz=319	147.64	35	P		PKPbc	10 40 04.7	+0.1
X45A	UM Field Stati baz=336	147.65	19	P		PKPbc	10 40 03.7	-0.7
634A	China Grove, S baz=317	147.67	36	P		PKPbc	10 40 04.7	0.0
239A	Gary baz=326	147.69	29	P		PKPbc	10 40 04.9	+0.3
Z42A	Norrel Spur, H baz=331	147.74	24	P		PKPbc	10 40 04.8	+0.1
Y44A	Strider, Charl baz=335	147.78	21	P		PKPbc	10 40 04.8	0.0
833A	Chaparral WMA, baz=315	147.79	39	P		PKPbc	10 40 05.6	+0.6
437A	Phantom Ranch, baz=322	147.81	32	P		PKPbc	10 40 05.5	+0.5
NATX	Nacogdoches baz=325	147.81	29	P		PKPbc	10 40 05.2	+0.2
NATX	Nacogdoches	147.81	29	*e*PKPdf		PKPdf	10 40 02.7	+0.8
338A	Crockett baz=324	147.82	30	P		PKPbc	10 40 05.5	+0.5
536A	Bastrop baz=320	147.89	34	P		PKPbc	10 40 05.6	+0.4
SWET	Sewanee	147.89	14	*e*PKPdf		PKPdf	10 40 01.6	-0.5
SWET				*e*PKPbc		PKPbc	10 40 04.2	-0.9
141A	Papa Simpson, baz=329	147.91	26	P		PKPbc	10 40 05.2	0.0
TKL	Tuckaleechee C	147.92	10	*e*PKIKP		PKPdf	10 40 02.1	0.0
TKL	Tuckaleechee C	147.92	10	*e*PKPdf		PKPdf	10 40 02.1	0.0
734A	La Parita Cree baz=316	147.93	37	P		PKPbc	10 40 05.9	+0.5
CPCT	Cooper Cave	147.98	12	*e*PKPdf		PKPdf	10 40 02.3	+0.2
635A	Leesville baz=318	148.00	36	P		PKPbc	10 40 06.2	+0.6
240A	Hunter Patters baz=327	148.01	28	P		PKPbc	10 40 05.7	+0.3
Z43A	Armstrong Fami baz=332	148.07	23	P		PKPbc	10 40 05.3	-0.3
Y45A	Yeager Farm, C baz=336	148.10	20	P		PKPbc	10 40 05.5	-0.2
339A	Huntington baz=325	148.21	29	P		PKPbc	10 40 06.2	+0.2
438A	Sam Houston St baz=323	148.22	31	P		PKPbc	10 40 06.7	+0.7
537A	Green Hill Far baz=321	148.30	33	P		PKPbc	10 40 07.1	+0.8
Y46A	Houston baz=337	148.32	19	P		PKPbc	10 40 05.5	-0.7
Z44A	Pea Ridge, Bel baz=334	148.32	22	P		PKPbc	10 40 06.4	+0.2
636A	Smothers Creek baz=319	148.35	35	P		PKPbc	10 40 07.7	+1.3
933A	Laredo baz=314	148.36	40	P		PKPbc	10 40 07.6	+1.0
142A	Monroe baz=331	148.37	25	P		PKPbc	10 40 06.6	+0.2
735A	Kenedy baz=318	148.38	36	P		PKPbc	10 40 07.4	+0.9
241A	Mo Tay, Goldon baz=328	148.40	26	P		PKPbc	10 40 06.8	+0.3
834A	Tilden baz=316	148.45	38	P		PKPbc	10 40 07.6	+0.9
340A	Bronson baz=326	148.47	28	P		PKPbc	10 40 06.8	+0.1
Z45A	Winona baz=335	148.50	21	P		PKPbc	10 40 06.5	-0.2
439A	Center Grove, baz=324	148.55	30	P		PKPbc	10 40 07.4	+0.5
Y47A	UCPARC, Winfie baz=339	148.61	18	P		PKPbc	10 40 06.0	-1.0
538A	Harpers Horsep baz=323	148.63	32	P		PKPbc	10 40 08.4	+1.2
736A	Circle Diamond baz=319	148.74	35	P		PKPbc	10 40 09.1	+1.7
835A	Beeville baz=317	148.78	37	P		PKPbc	10 40 09.0	+1.4
637A	Eagle Lake baz=320	148.79	34	P		PKPbc	10 40 09.0	+1.5
KMSC	Kings Mountain baz=352	148.79	7	P		PKPbc	10 40 06.9	-0.5
KMSC	Kings Mountain	148.79	7	*e*PKPbc		PKPbc	10 40 06.8	-0.7
934A	Benavides baz=315	148.84	39	P		PKPbc	10 40 09.2	+1.4
341A	Kurthwood baz=328	148.87	27	P		PKPbc	10 40 08.1	+0.4
144A	Alexander Plac baz=333	148.90	22	P		PKPbc	10 40 08.0	+0.2
Z46A	Louisville baz=336	148.92	20	P		PKPbc	10 40 08.1	+0.3
CNNC	Cliffs of the	148.94	1	*e*PKPbc		PKPbc	10 40 08.1	+0.3
440A	Kirbyville baz=326	148.99	29	P		PKPbc	10 40 08.8	+0.8
ZAIG	Zacatecas	149.03	51	*e*PKPdf		PKPdf	10 40 05.8	+1.2
145A	Houston Renfro baz=334	149.11	22	P		PKPbc	10 40 08.6	+0.4
034A	Hebbronville baz=314	149.12	40	P		PKPbc	10 40 10.0	+1.5
539A	Cross D Ranch, baz=324	149.12	31	P		PKPbc	10 40 09.9	+1.6
243A	Waterproof baz=331	149.14	25	P		PKPbc	10 40 08.4	0.0
Z48A	Northport baz=339	149.19	17	P		PKPbc	10 40 07.5	-1.0
Z47A	Carrollton baz=338	149.20	18	P		PKPbc	10 40 07.9	-0.5
342A	Flagon Creek P baz=329	149.22	26	P		PKPbc	10 40 09.0	+0.4
VBMS	Vicksburg baz=333	149.23	23	P		PKPbc	10 40 08.8	+0.2
VBMS	Vicksburg	149.23	23	*e*PKPbc		PKPbc	10 40 08.8	+0.2
737A	Port Lavaca baz=320	149.24	35	P		PKPbc	10 40 10.5	+1.8
KVTX	Kingsville	149.28	38	*e*PKPbc		PKPbc	10 40 10.8	+1.9
638A	Rosharon baz=322	149.29	33	P		PKPbc	10 40 10.4	+1.6
244A	Avery, Jackson baz=332	149.32	23	P		PKPbc	10 40 09.0	+0.2
441A	DeRidder baz=327	149.35	28	P		PKPbc	10 40 09.9	+0.9
146A	Union baz=336	149.39	20	P		PKPbc	10 40 09.4	+0.4
540A	Vidor baz=325	149.42	30	P		PKPbc	10 40 10.8	+1.7
BBSR	BB Station	149.55	339	*e*PKPbc		PKPbc	10 40 09.2	-0.1
035A	Encino	149.57	39	P		PKPbc	10 40 11.1	+1.5

	baz=315							
343A	**Vidalia**	**149.60**	**25**	P		**PKPbc**	**10 40 10.0**	**+0.4**
	baz=330							
147A	**Livingston**	**149.62**	**19**	P		**PKPbc**	**10 40 09.3**	**-0.2**
	baz=337							
245A	**Little AP, Sta**	**149.63**	**22**	P		**PKPbc**	**10 40 09.7**	**+0.1**
	baz=334							
JSC	**Jenkinsville**	**149.65**	**7**	*e*PKPdf		**PKPdf**	**10 40 05.6**	**+0.7**
LRAL	**Lakeview Retre**	**149.68**	**17**	*e*PKPdf		**PKPdf**	**10 40 04.9**	**-0.1**
344A	**Westbrook Farm**	**149.82**	**24**	P		**PKPbc**	**10 40 10.7**	**+0.6**
	baz=332							
541A	**Lake Charles**	**149.93**	**29**	P		**PKPbc**	**10 40 11.8**	**+1.5**
	baz=326							
035Z	**Hargill**	**149.93**	**40**	P		**PKPbc**	**10 40 11.8**	**+1.4**
	baz=314							
246A	**Jackson Lee, B**	**149.93**	**21**	P		**PKPbc**	**10 40 10.7**	**+0.4**
	baz=335							
443A	**Delano Plantat**	**149.98**	**26**	P		**PKPbc**	**10 40 11.2**	**+0.7**
	baz=329							
LNIG	**Linares**	**150.04**	**44**	*e*PKPdf		**PKPdf**	**10 40 05.0**	**-0.8**
247A	**Quitman**	**150.07**	**20**	P		**PKPbc**	**10 40 11.1**	**+0.4**
	baz=336							
GOGA	**Godfrey**	**150.16**	**11**	*e*PKPdf		**PKPdf**	**10 40 06.1**	**+0.4**
542A	**Morse**	**150.17**	**28**	P		**PKPbc**	**10 40 11.5**	**+0.5**
	baz=328							
345A	**Thompson Farm,**	**150.23**	**23**	P		**PKPbc**	**10 40 11.5**	**+0.4**
	baz=333							
248A	**Dixon Mills**	**150.32**	**19**	P		**PKPbc**	**10 40 11.5**	**+0.2**
	baz=338							
346A	**Big Creek Wild**	**150.37**	**22**	P		**PKPbc**	**10 40 11.6**	**+0.2**
	baz=334							
444A	**Pine Grove**	**150.46**	**25**	P		**PKPbc**	**10 40 12.2**	**+0.6**
	baz=331							
543A	**St. Martinvill**	**150.53**	**27**	P		**PKPbc**	**10 40 12.5**	**+0.7**
	baz=329							
445A	**Amite**	**150.62**	**24**	P		**PKPbc**	**10 40 12.5**	**+0.5**
	baz=332							
347A	**Saraland**	**150.69**	**20**	P		**PKPbc**	**10 40 12.6**	**+0.4**
	baz=336							
544A	**White Castle**	**150.81**	**26**	P		**PKPbc**	**10 40 13.4**	**+1.0**
	baz=330							
348A	**Jackson**	**150.90**	**19**	P		**PKPbc**	**10 40 13.2**	**+0.6**
	baz=337							
NHSC	**New Hope**	**150.93**	**6**	*e*PKPdf		**PKPdf**	**10 40 07.8**	**+0.9**
446A	**Poplarville**	**150.94**	**22**	P		**PKPbc**	**10 40 12.8**	**+0.1**
	baz=334							
CSU	**Charleston Sou**	**151.06**	**5**	*e*PKPbc		**PKPbc**	**10 40 13.3**	**+0.3**
447A	**Lucedale**	**151.20**	**21**	P		**PKPbc**	**10 40 13.7**	**+0.3**
	baz=335							
546A	**Slidell**	**151.30**	**23**	P		**PKPbc**	**10 40 14.5**	**+0.9**
	baz=333							
448A	**Bay Minette**	**151.36**	**20**	P		**PKPbc**	**10 40 14.0**	**+0.3**
	baz=337							
BRAL	**Brewton**	**151.40**	**18**	*e*PKPbc		**PKPbc**	**10 40 14.5**	**+0.7**
645A	**Chauvin**	**151.62**	**26**	P		**PKPbc**	**10 40 15.5**	**+1.1**
	baz=330							
MOIG	**Morelia**	**151.74**	**55**	*e*PKPbc		**PKPbc**	**10 40 15.9**	**+0.7**
TIGA	**Tifton**	**152.05**	**12**	P		**PKPbc**	**10 40 15.4**	**+0.1**
	baz=346							
TIGA	**Tifton**	**152.05**	**12**	*e*PKPdf		**PKPdf**	**10 40 09.3**	**+0.6**
TIGA				*e*PKPbc		**PKPbc**	**10 40 15.2**	**-0.1**
LVC	**Limon Verde**	**152.36**	**196**	PKP		**PKPdf**	**10 40 11.6**	**+1.8**
	comp=Z,31nm,0.8s,baz=255,slow=4.2,SNR=7.0							
LVC				PKPbc		**PKiKP**	**10 40 18.2**	**+1.2**
	comp=Z,123nm,0.6s,baz=269,slow=1.5,SNR=25							
LVC				PKPab		**PKPab**	**10 40 27.3**	**+0.4**
	comp=Z,262nm,0.8s,baz=175,slow=1.4,SNR=16							
LVC				PP		**PP**	**10 43 58.9**	**+0.9**
	comp=Z,25nm,0.9s,baz=165,slow=4.1,SNR=3.8							
PB04	**IPOC Station P**	**152.95**	**194**	*e*PKPdf		**PKPdf**	**10 40 11.6**	**+1.1**
PB01	**IPOC Station P**	**154.01**	**196**	*e*PKPdf		**PKPdf**	**10 40 12.6**	**+0.7**
PB01				*e*PKPbc		**PKiKP**	**10 40 20.3**	**+0.2**
SIV	**San Ignacio**	**154.62**	**218**	PKP		**PKPdf**	**10 40 13.1**	**+0.3**
	comp=Z,6.8nm,0.7s,baz=128,slow=3.7,SNR=13							
SIV				PKPbc		**PKiKP**	**10 40 21.7**	**+0.4**
	comp=Z,3.5nm,0.6s,baz=187,slow=2.2,SNR=5.7							
SIV				PKPab		**PKPab**	**10 40 37.1**	**+0.8**
	comp=Z,16nm,0.8s,baz=132,slow=5.8,SNR=10							
TLIG	**Tlapa**	**154.95**	**56**	*e*PKPdf		**PKPdf**	**10 40 12.9**	**-0.4**
TLIG				*e*PKPbc		**PKPbc**	**10 40 23.0**	**+0.9**
TLIG				*e*PKPab		**PKPab**	**10 40 36.7**	**-1.1**
PB11	**IPOC Station P**	**155.27**	**197**	*e*PKPdf		**PKPdf**	**10 40 14.3**	**+0.6**
LPAZ	**La Paz**	**157.98**	**203**	PKP		**PKPdf**	**10 40 18.4**	**+0.4**
	comp=Z,8.6nm,1.0s,baz=69,slow=3.1,SNR=22							
LPAZ				PKPab		**PKPab**	**10 40 52.2**	**+0.9**
	comp=Z,12nm,1.0s,baz=111,slow=5.5,SNR=9.6							
LPAZ				PP		**PP**	**10 44 31.1**	**+1.3**
	comp=Z,1.2nm,0.8s,baz=189,slow=6.4,SNR=3.4							
LPAZ	**La Paz**	**157.98**	**203**	*e*PKPdf		**PKPdf**	**10 40 18.8**	**+0.9**
LPAZ				PKPab		**PKPab**	**10 40 52.2**	**+0.9**
LPAZ				PP		**PP**	**10 44 31.1**	**+1.3**
SAML	**Samuel**	**161.13**	**227**	*e*PKPdf		**PKPdf**	**10 40 21.1**	**+0.3**
SAML				*e*PKPab		**PKPab**	**10 41 05.1**	**+0.6**
PTGA	**Pitinga**	**162.34**	**255**	*e*PKPdf		**PKPdf**	**10 40 22.1**	**0.0**
PTGA				*e*PKPab		**PKPab**	**10 41 11.4**	**+1.4**
NNA	**Nana**	**164.07**	**181**	PKP		**PKPdf**	**10 40 23.7**	**0.0**
	comp=Z,8.5nm,0.6s,baz=240,slow=8.1,SNR=3.6							
SDDR	**Presa de Saban**	**164.14**	**340**	*e*PKPdf		**PKPdf**	**10 40 23.5**	**-0.2**
SDDR				*e*PKPab		**PKPab**	**10 41 17.6**	**+0.1**
TGUH	**Tegucigalpa,Un**	**165.79**	**45**	*e*PKPdf		**PKPdf**	**10 40 25.0**	**0.0**
SDV	**Santo Domingo**	**172.06**	**308**	*e*PKPdf		**PKPdf**	**10 40 28.5**	**-0.9**
CODC	**Agust´›n Codaz**	**173.17**	**329**	*e*P		**PKPdf**	**10 40 28.5**	**-1.1**
SJCC	**San Jacinto, C**	**173.91**	**343**	*e*P		**PKPdf**	**10 40 29.6**	**-0.3**
OCAC	**Ocana**	**174.46**	**319**	*e*P		**PKPdf**	**10 40 30.3**	**+0.1**
MOTC	**Monteria, Cord**	**175.11**	**344**	*e*P		**PKPdf**	**10 40 29.1**	**-1.2**
GUVC	**San Jose del G**	**175.40**	**251**	*e*P		**PKPdf**	**10 40 27.4**	**-3.0**
CAPC	**Capurgana**	**175.42**	**5**	*e*P		**PKPdf**	**10 40 28.5**	**-1.9**
BARC	**Barichara**	**175.44**	**304**	*e*P		**PKPdf**	**10 40 29.4**	**-1.3**
BRRC	**Barranca, Sant**	**175.54**	**313**	*e*P		**PKPdf**	**10 40 29.1**	**-1.3**
RUSC	**La Rusia**	**175.70**	**295**	*e*P		**PKPdf**	**10 40 29.3**	**-1.7**
RUSC	**La Rusia**	**175.70**	**295**	*e*PKPdf		**PKPdf**	**10 40 29.6**	**-1.5**
OTAV	**Otavalo**	**175.95**	**159**	*e*PKPdf		**PKPdf**	**10 40 30.9**	**-0.2**
ZARC	**Zaragoza, Cauc**	**175.97**	**328**	*e*P		**PKPdf**	**10 40 29.1**	**-1.4**
CHIC	**Chingaza**	**176.70**	**280**	*e*P		**PKPdf**	**10 40 29.1**	**-2.1**
CMBC	**Cumbal**	**176.81**	**165**	*e*P		**PKPdf**	**10 40 31.5**	**+0.2**
DBBC	**Dabeiba**	**176.94**	**345**	*e*P		PKPpre	10 40 26.8	
ROSC	**El Rosal**	**177.22**	**287**	PKP		**PKPdf**	**10 40 31.2**	**-0.1**
	comp=Z,4.2nm,0.3s,baz=102,slow=9.4,SNR=6.6							
NORC	**Norcasia**	**177.40**	**306**	*e*P		**PKPdf**	**10 40 29.8**	**-1.1**
PRAC	**Prado**	**177.88**	**261**	*e*PKPdf		**PKPdf**	**10 40 29.7**	**-1.2**

*NIED **22** 10:43:00, 36˚.20N× 141˚.10E, h26km, Mw3.9 Best double couple: M0 7.65000× 10^14 NP1:φ=50.00000°, δ31.00000°, λ=-50.00000°. NP2:φ=185.00000°, δ66.00000°, λ=-112.00000°.*

*ISCJB **22** 10:43:19.9±0.8, 36˚.18N±0˚.04× 141˚.08E±0˚.06, h34km±8km, mb3.8/9, Error ellipse: s-maj=8.6km s-min=5.9km az=2.6*

*JMA **22** 10:43:20.2±0.1, 36˚.14N× 141˚.01E, h40km±1km, M3.9*

JMA Felt II J1.

*IDC **22** 10:43:22.9±2.5, 36˚.16N× 140˚.88E, h41km±23km, mb3.6/8, mb1 3.8/12, mb1mx3.6/46, mbtmp3.9/12, ML3.4/3, Error ellipse: s-maj=23.4km s-min=16.9km az=87.0*

ISC 22 10:43:19.6±1.4, 36°23'N±0'.04×141°03'E±0'.06, h14km±9km, n29, σ1°s26°/29, mb3.8/9, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
JHO	**Hitachi**	**0.54**	**316**	P			**Pn**	**10 43 32.0**	**-0.8**
CHOJ	**Chosi**	**0.54**	**195**	P			**Pg**	**10 43 30.2**	**0.0**
CHOJ				*e*S			**Sg**	**10 43 37.4**	**0.0**
JYT	**Yasato**	**0.68**	**270**	P			**Pb**	**10 43 33.2**	**+0.1**
JYT				S			**Sb**	**10 43 43.1**	**+0.8**
ONAJ	**Iwakimizuishiy**	**0.90**	**348**	P			**Pb**	**10 43 37.1**	**+0.2**
JFK	**Kawauchi**	**1.15**	**354**	P			**Pn**	**10 43 40.7**	**-0.5**
JFK				S			**Sb**	**10 43 55.1**	**-0.8**
JAG	**Ashikaga**	**1.29**	**279**	P			**Pn**	**10 43 42.2**	**-0.9**
JAG				S			**Sb**	**10 43 58.2**	**-1.8**
MJAR	**Matsushiro Arr**	**2.30**	**279**	P			**Pn**	**10 43 56.6**	**-0.4**
	36nm,0.3s,baz=288,slow=4.4,SNR=229								
MJAR				S			**Sn**	**10 44 26.0**	**+0.9**
	11nm,0.3s,baz=96,slow=16,SNR=4.8								
MAT	**Matsushiro**	**2.30**	**279**	P			**Pn**	**10 43 57.3**	**+0.2**
MAT				S			**Sn**	**10 44 26.5**	**+1.3**
JHJ	**Hachijo jima 2**	**3.27**	**199**	P			**Pn**	**10 44 10.9**	**+0.6**
	8.9nm,0.3s,baz=223,slow=19,SNR=3.5								
JHJ				S			**Sn**	**10 44 48.4**	**-0.5**
	24nm,0.3s,baz=66,slow=20,SNR=4.0								
ASAJ	**Asahikawa**	**7.97**	**8**	P			**Pn**	**10 45 15.6**	**+0.6**
JNU	**Nakatsue**	**8.92**	**253**	P			**Pn**	**10 45 30.5**	**+2.5**
	0.2nm,0.3s,baz=77,slow=7.7,SNR=3.4								
USRK	**Ussuriysk Ar.**	**10.54**	**322**	P			Pn	10 45 55.6	+5.5
	0.3nm,0.3s,baz=142,slow=13,SNR=4.3								
KSRS	**Korea Array**	**10.58**	**281**	P			**Pn**	**10 45 51.1**	**+0.4**
	0.2nm,0.3s,baz=85,slow=14,SNR=3.2								
SEY	**Seymchan**	**27.64**	**11**	P			**P**	**10 49 10.2**	**+3.8**
	0.9nm,0.6s,baz=178,slow=11,SNR=3.8								
SONM	**Songino Array**	**27.99**	**305**	P			**P**	**10 49 09.0**	**-0.9**
	0.9nm,0.6s,baz=106,slow=11,SNR=3.0								
H11N2	**WAKE ISLAND Hy**	**28.01**	**119**	T			T	11 18 26.7	
	baz=311,slow=75,SNR=62								
H11N1	**WAKE ISLAND Hy**	**28.02**	**119**	T			T	11 18 29.4	
	baz=311,slow=75,SNR=73								
H11N3	**WAKE ISLAND Hy**	**28.03**	**119**	T			T	11 18 30.2	
	baz=311,slow=75,SNR=68								
H11S1	**WAKE ISLAND Hy**	**28.69**	**121**	T			T	11 19 18.1	
	baz=313,slow=76,SNR=125								
H11S3	**WAKE ISLAND Hy**	**28.69**	**121**	T			T	11 19 17.1	
	baz=313,slow=76,SNR=87								
H11S2	**WAKE ISLAND Hy**	**28.71**	**121**	T			T	11 19 21.4	
	baz=313,slow=76,SNR=82								
ZALV	**Zalesovo Beam**	**42.24**	**313**	P			**P**	**10 51 10.9**	**-1.0**
	0.8nm,0.3s,baz=104,slow=6.3,SNR=5.5								
MKAR	**Makanchi Array**	**44.29**	**303**	P			**P**	**10 51 27.7**	**-1.0**
	1.3nm,0.7s,baz=104,slow=4.9,SNR=9.7								
ILAR	**Eielson Array**	**50.34**	**32**	P			**P**	**10 52 16.8**	**+1.3**
	1.2nm,0.8s,baz=268,slow=5.9,SNR=12								
WRA	**Warramunga Arr**	**56.22**	**188**	P			**P**	**10 52 57.7**	**-1.5**
	0.4nm,0.5s,baz=4.6,slow=7.3,SNR=12								
ARU	**Arti**	**56.76**	**319**	P			**P**	**10 53 02.6**	**-0.1**
	1.4nm,0.3s,baz=92,slow=4.5,SNR=4.0								
ASAR	**Alice Springs**	**59.95**	**188**	P			**P**	**10 53 24.4**	**-0.9**
	0.5nm,0.7s,baz=20,slow=8.5,SNR=6.2								
PDAR	**Pinedale Array**	**78.45**	**45**	P			**P**	**10 55 20.2**	**0.0**
	0.4nm,0.6s,baz=312,slow=1.2,SNR=5.1								
LPAZ	**La Paz**	**147.36**	**60**	PKPbc			**PKPbc**	**11 03 03.5**	**-0.5**
	0.7nm,0.6s,baz=317,slow=2.9,SNR=5.1								

*JMA **22** 10:43:53.9±0.1, 24˚.60N× 122˚.80E, h89km±1km, M3.1*

*ISCJB **22** 10:43:54.1±0.4, 24˚.61N±0˚.03× 122˚.85E±0˚.02, h87km±4km, Error ellipse: s-maj=5.1km s-min=2.4km az=168.9*

*TAP **22** 10:43:54.3, 24˚.66N× 122˚.80E, h89km, ML4.0, C*

ISC 22 10:43:54.6±1.3, 24°58N±0'.04×122°85E±0'.02, h85km±7km, n64, σ1°s13°/114, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
JYNG	**Yonagunijimaku**	**0.16**	**145**	P			**Pn**	**10 44 06.8**	**0.0**
JYNG				S			**Sn**	**10 44 16.4**	**+0.6**
YOJ	**Yonaguni jima**	**0.19**	**129**	P			**Pn**	**10 44 07.1**	**+0.2**
YOJ				S			**Sn**	**10 44 16.5**	**+0.5**
IRIF	**Iriomote-Funau**	**0.84**	**107**	P			**Pn**	**10 44 12.4**	**+0.3**
IRIF				S			**Sn**	**10 44 25.7**	**+0.5**
TWB1	**Santiao Chiao**	**0.89**	**299**	P			**Pn**	**10 44 12.2**	**-0.5**
	baz=290								
TWB1				*e*S			**Sn**	**10 44 25.6**	**-0.6**
	baz=290								
TWC	**Suao**	**0.91**	**272**	*i* P			**Pn**	**10 44 12.3**	**-0.5**
	baz=270								
TWC				S			**Sn**	**10 44 25.0**	**-1.6**
	baz=270								
HATJ	**Hateruma jima**	**1.02**	**121**	P			**Pn**	**10 44 15.0**	**+0.9**
HATJ				*e*S			**Sn**	**10 44 30.0**	**+1.3**
ENA	**Nanau**	**1.02**	**262**	P			**Pn**	**10 44 14.2**	**+0.1**
	baz=252								
ENA				*e*S			**Sn**	**10 44 29.0**	**+0.2**
	baz=252								
TWE	**Neicheng**	**1.08**	**278**	*i* P			**Pn**	**10 44 14.7**	**-0.2**
	baz=276								
TWE				S			**Sn**	**10 44 29.5**	**-0.6**
	baz=276								
NWF	**Wu-fen Shan**	**1.08**	**297**	P			**Pn**	**10 44 15.0**	**0.0**
	baz=294								
NWF				*e*S			**Sn**	**10 44 30.3**	**-0.1**
	baz=294								
JKRS	**Kuro-shima**	**1.11**	**108**	P			**Pn**	**10 44 15.9**	**+0.7**
JKRS				S			**Sn**	**10 44 32.1**	**+1.3**
ENTT	**Nioudou**	**1.17**	**273**	*i* P			**Pn**	**10 44 16.1**	**+0.2**
	baz=263								
ENTT				S			**Sn**	**10 44 31.8**	**-0.2**
	baz=263								
JIJ	**Ishigaki jima**	**1.20**	**100**	P			**Pn**	**10 44 16.4**	**+0.1**
JIJ				S			**Sn**	**10 44 32.5**	**-0.2**
TWA	**Mucha**	**1.22**	**289**	P			**Pn**	**10 44 16.4**	**-0.1**
	baz=285								
TWA				*e*S			**Sn**	**10 44 33.7**	**+0.6**
	baz=285								
TWD	**Chiawan**	**1.25**	**247**	*e*P			**Pn**	**10 44 16.2**	**-0.7**
	baz=233								
TWD				*e*S			**Sn**	**10 44 32.3**	**-1.4**
	baz=233								
HWA	**Hwalien**	**1.28**	**242**	*e*S			**Sn**	**10 44 35.2**	**+0.7**
	baz=237								
TWY	**Chenhua**	**1.33**	**302**	*e*P			**Pn**	**10 44 19.1**	**+1.2**
	baz=299								
JISG	**Ishigakijimahi**	**1.33**	**89**	P			**Pn**	**10 44 18.0**	**+0.1**
JISG				S			**Sn**	**10 44 35.3**	**-0.3**
NNS	**Nan Shan**	**1.35**	**264**	P			**Pn**	**10 44 18.1**	**-0.2**
	baz=252								
NNS				S			**Sn**	**10 44 35.4**	**-0.8**
	baz=252								
NSK	**Sanguang**	**1.36**	**274**	*i* P			**Pn**	**10 44 18.5**	**+0.1**
	baz=262								
NSK				S			**Sn**	**10 44 35.9**	**-0.4**
	baz=262								
TWS1	**Kuangyinshan**	**1.40**	**292**	*e*P			**Pn**	**10 44 18.6**	**-0.2**
	baz=289								
ESL	**Shilin**	**1.50**	**240**	*e*P			**Pn**	**10 44 20.0**	**-0.1**
	baz=235								
ESL				S			**Sn**	**10 44 38.1**	**-1.3**
	baz=235								
WHF	**Hehuan Shan**	**1.51**	**254**	P			**Pn**	**10 44 20.4**	**-0.2**
	baz=249								
WHF				S			**Sn**	**10 44 39.4**	**-0.8**
	baz=249								
TWT	**Tachien**	**1.56**	**258**	P			**Pn**	**10 44 21.5**	**+0.5**
	baz=249								
TWT				S			**Sn**	**10 44 40.6**	**-0.4**
	baz=249								
NSTT	**Nanjuang**	**1.68**	**272**	P			**Pn**	**10 44 22.7**	**+0.2**
	baz=268								
NSTT				*e*S			**Sn**	**10 44 43.0**	**-0.5**
	baz=268								
JTJ	**Tarama**	**1.69**	**88**	P			**Pn**	**10 44 22.9**	**+0.4**
JTJ				*e*S			**Sn**	**10 44 44.7**	**+1.0**
EHY	**Hungye**	**1.76**	**233**	*e*P			**Pn**	**10 44 23.3**	**-0.2**
	baz=229								
EHY				*e*S			**Sn**	**10 44 43.5**	**-1.9**
	baz=229								
WDT	**Danda**	**1.77**	**243**	*e*P			**Pn**	**10 44 23.6**	**-0.3**
	baz=239								
WDT				*e*S			**Sn**	**10 44 44.9**	**-1.1**
	baz=239								
TWF1	**Yuli**	**1.87**	**230**	*e*P			**Pn**	**10 44 24.5**	**-0.5**
	baz=235								
TWF1				S			**Sn**	**10 44 48.0**	**0.0**
	baz=235								
TWQ1	**Liyutan**	**1.91**	**263**	P			**Pn**	**10 44 25.7**	**+0.4**
	baz=260								
TWQ1				*e*S			**Sn**	**10 44 49.9**	**+1.1**
	baz=260								
NSY	**Sanyi**	**1.91**	**265**	*e*P			**Pn**	**10 44 25.8**	**+0.3**
	baz=262								
NSY				S			**Sn**	**10 44 49.8**	**+0.9**
	baz=262								
SMLT	**Sun Moon Lake**	**1.91**	**249**	P			**Pn**	**10 44 26.2**	**+0.7**
	baz=241								
SMLT				*e*S			**Sn**	**10 44 48.6**	**-0.4**
	baz=241								
TYC	**Yuchr**	**1.94**	**250**	*i* P			**Pn**	**10 44 26.5**	**+0.7**
	baz=241								
TYC				S			**Sn**	**10 44 50.3**	**+0.8**
	baz=241								
CHKT	**Chengkung**	**2.00**	**223**	*e*P			**Pn**	**10 44 25.6**	**-1.0**
	baz=216								
CHKT				*e*S			**Sn**	**10 44 48.9**	**-2.3**
	baz=216								
TCU	**Taichung**	**2.03**	**258**	*e*P			**Pn**	**10 44 28.0**	**+1.1**
	baz=254								
TCU				*e*S			**Sn**	**10 44 53.4**	**+1.7**
	baz=254								
YUS	**Yu-Shan**	**2.05**	**238**	P			**Pn**	**10 44 28.1**	**+0.5**
	baz=235								
YUS				*e*S			**Sn**	**10 44 51.5**	**-1.3**
	baz=235								
WNT	**Mingjian**	**2.10**	**251**	*e*P			**Pn**	**10 44 28.9**	**+1.0**
	baz=258								
WNT				*e*S			**Sn**	**10 44 54.6**	**+1.3**
	baz=258								
JIRB	**Irabujima**	**2.13**	**83**	P			**Pn**	**10 44 28.8**	**+0.5**
ALS	**Alishan**	**2.15**	**241**	P			**Pn**	**10 44 29.9**	**+1.0**
	baz=231								
ALS				S			**Sn**	**10 44 55.2**	**+0.1**
	baz=231								
ELDTW	**Lidau**	**2.17**	**231**	*e*P			**Pn**	**10 44 28.5**	**-0.5**
	baz=230								
ELDTW				*e*S			**Sn**	**10 44 53.6**	**-1.8**
	baz=230								
JIKM	**Ikemajima**	**2.21**	**81**	P			**Pn**	**10 44 30.1**	**+0.7**
CHN5	**Tsauling**	**2.21**	**244**	*i* P			**Pn**	**10 44 30.7**	**+1.2**
	baz=234								
CHN5				*e*S			**Sn**	**10 44 57.2**	**+1.0**
	baz=234								
WGK	**Gukeng**	**2.27**	**247**	*e*S			**Sn**	**10 44 59.9**	**+2.5**
	baz=244								
STYT	**Tauyuan**	**2.38**	**234**	*e*P			**Pn**	**10 44 33.4**	**+1.7**
	baz=227								
STYT				S			**Sn**	**10 45 00.7**	**+0.5**
	baz=227								
TWG	**Pinlang**	**2.39**	**223**	*e*P			**Pn**	**10 44 31.8**	**-0.1**
	baz=226								
TWG				*e*S			**Sn**	**10 44 58.7**	**-1.7**
	baz=226								
TTN	**Taitung**	**2.40**	**221**	*e*S			**Sn**	**10 45 01.7**	**+1.3**
	baz=214								
CHN4	**Tsaushan**	**2.40**	**240**	*e*P			**Pn**	**10 44 33.3**	**+1.4**
	baz=236								
CHN4				*e*S			**Sn**	**10 45 01.9**	**+1.4**
	baz=236								
WTP	**Ta-pu**	**2.44**	**237**	*i* P			**Pn**	**10 44 33.5**	**+1.0**
	baz=227								
WTP				S			**Sn**	**10 45 02.6**	**+1.1**
	baz=227								
CHY	**Chiayi**	**2.46**	**245**	P			**Pn**	**10 44 33.8**	**+1.0**
	baz=252								
CHY				*e*S			**Sn**	**10 45 03.5**	**+1.4**
	baz=252								
TWK	**Hsinying**	**2.52**	**239**	P			**Pn**	**10 44 34.8**	**+1.1**
	baz=236								
TWK				*e*S			**Sn**	**10 45 04.7**	**+1.1**
	baz=236								
CHN1	**Nanshi**	**2.54**	**237**	P			**Pn**	**10 44 35.0**	**+1.2**
	baz=243								
CHN1				S			**Sn**	**10 45 05.0**	**+1.1**
	baz=243								
SGST	**Jiashian**	**2.56**	**235**	*e*P			**Pn**	**10 44 35.7**	**+1.7**
	baz=241								
SGST				*e*S			**Sn**	**10 45 05.2**	**+0.9**
	baz=241								
WSF	**Szhu**	**2.58**	**249**	*e*P			**Pn**	**10 44 34.5**	**+0.2**
	baz=255								
WSF				*e*S			**Sn**	**10 45 06.3**	**+1.5**
	baz=255								
ECL	**Taimali**	**2.63**	**222**	*e*P			**Pn**	**10 44 37.0**	**+2.0**
	baz=219								
ECL				*e*S			**Sn**	**10 45 04.4**	**-1.7**
	baz=219								
CHN8	**Yiju**	**2.71**	**244**	*e*S			**Sn**	**10 45 09.1**	**+1.2**
	baz=240								
SSD	**Sandimen**	**2.73**	**228**	*e*P			**Pn**	**10 44 38.3**	**+1.9**
	baz=225								
SSD				*e*S			**Sn**	**10 45 10.3**	**+1.8**
	baz=225								
LAY	**Lan-yu**	**2.80**	**205**	*e*P			**Pn**	**10 44 36.1**	**-1.2**
	baz=198								
LAY				*e*S			**Sn**	**10 45 07.1**	**-3.1**
	baz=198								
EAST	**Anshuo**	**2.86**	**220**	*e*P			**Pn**	**10 44 39.6**	**+1.5**
	baz=217								
EAST				*e*S			**Sn**	**10 45 10.9**	**-0.7**
	baz=217								
SCZT	**Fangliau**	**3.00**	**223**	*e*P			**Pn**	**10 44 42.5**	**+2.5**
	baz=214								
SCZT				*e*S			**Sn**	**10 45 17.1**	**+2.0**
	baz=214								
JKE	**Kume jima 2**	**3.96**	**63**	P			**Pn**	**10 44 53.3**	**+0.3**
JNTH	**Nagotoyohara**	**5.06**	**66**	P			**Pn**	**10 45 06.9**	**-1.0**
JOW	**Kunigami**	**5.38**	**64**	P			**Pn**	**10 45 11.2**	**-1.2**
JOKE	**Okinoerabujima**	**5.85**	**61**	P			**Pn**	**10 45 16.7**	**-2.0**
JTK

	0.1nm,0.3s,baz=338,slow=5.4,SNR=6.6							
MAW	**Mawson**	**40.38**	**144**	P	**P**	**11 27 36.4**	**-0.2**	
	1.6nm,0.5s,baz=248,slow=8.0,SNR=6.0							
MAW				PcP	**PcP**	**11 29 37.4**	**+0.1**	
	1.0nm,0.5s,baz=278,slow=14,SNR=4.0							
VNDA	**Vanda**	**46.66**	**183**	P	**P**	**11 28 27.4**	**+0.6**	
	2.4nm,0.6s,baz=184,slow=4.9,SNR=11							
H10S2	**ASCENSION HYDR**	**47.98**	**17**	T	T	12 20 57.4		
	baz=186							
H10S3	**ASCENSION HYDR**	**47.98**	**17**	T	T	12 20 51.7		
	baz=186							
H10S1	**ASCENSION HYDR**	**47.99**	**17**	T	T	12 20 55.1		
	baz=186							
LPAZ	**La Paz**	**50.12**	**306**	P	**P**	**11 28 55.0**	**+0.2**	
	1.1nm,0.3s,baz=106,slow=4.7,SNR=11							
LPAZ				PcP	**PcP**	**11 30 12.7**	**0.0**	
	0.8nm,0.6s,baz=270,slow=6.1,SNR=2.9							
TORD	**Torodi Ar. Bea**	**73.09**	**30**	P	**P**	**11 31 29.0**	**+0.8**	
	0.6nm,0.4s,baz=202,slow=6.3,SNR=11							
ASAR	**Alice Springs**	**99.16**	**163**	P	**Pdif**	**11 33 37.6**	**-1.4**	
	0.3nm,0.6s,baz=188,slow=4.1,SNR=7.1							
WRA	**Warramunga Arr**	**102.88**	**163**	P	**Pdif**	**11 33 55.3**	**-0.3**	
	0.3nm,0.9s,baz=194,slow=4.8,SNR=4.0							
FINES	**FINESS Array B**	**124.41**	**28**	PKP	**PKPdf**	**11 38 54.0**	**-0.7**	
	1.9nm,0.8s,baz=215,slow=12,SNR=3.1							
ILAR	**Eielson Array**	**149.86**	**312**	PKPbc	**PKPbc**	**11 39 45.1**	**-0.6**	
	4.3nm,0.8s,baz=133,slow=3.1,SNR=39							
SONM	**Songino Array**	**150.97**	**87**	PKPbc	**PKPbc**	**11 39 48.5**	**-0.6**	
	1.7nm,0.4s,baz=209,slow=3.0,SNR=9.5							

*ISK **22** 11:28:30.9, 39.66N×38.75E, h11km, ML2.6*
*ISCJB **22** 11:28:31.6±0.5, 39.67N±0.02×38.72E±0.03, h5km±5km, Error ellipse: s-maj=4.4km s-min=4.0km az=10.1*
*CSEM **22** 11:28:31.5±0.1, 39.65N×38.72E, h12km, ML2.6, Error ellipse: s-maj=3.3km s-min=2.6km az=99.0*
*DDA **22** 11:28:31.8, 39.64N×38.70E, h7km, Ml2.5*
ISC 22 11:28:31.7±0.9, 39.65N±0.02×38.72E±0.02, h14km±7km, n25, σ0.56/44, Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ILIC	**ilic-Erzincan**	**0.23**	**211**	*e*PG	**Pg**	**11 28 36.3**	**-0.5**
ILIC				*e*SG	**Sg**	**11 28 40.7**	**+0.4**
ILIC	**ilic-Erzincan**	**0.23**	**211**	*e*Pg	**Pg**	**11 28 36.3**	**-0.5**
ILIC				*e*Sg	**Sg**	**11 28 40.7**	**+0.4**
REFA	**Refahiye_ERZ¯**	**0.25**	**172**	*i* P	**Pg**	**11 28 37.3**	**0.0**
REFA				*i* S	**Sb**	**11 28 42.1**	**-0.4**
REFA	**Refahiye_ERZ¯**	**0.25**	**172**	P	**Pg**	**11 28 37.3**	**0.0**
REFA				S	**Sb**	**11 28 42.1**	**-0.4**
KEMA	**Kemaliye**	**0.42**	**205**	*i* P	**Pg**	**11 28 39.8**	**-0.3**
KEMA				*i* S	**Sb**	**11 28 46.4**	**-0.8**
KEMA	**Kemaliye**	**0.42**	**205**	P	**Pg**	**11 28 39.8**	**-0.3**
KEMA				S	**Sb**	**11 28 46.3**	**-0.8**
KELT	**Kelkit**	**0.65**	**39**	*i* P	**Pb**	**11 28 44.8**	**-0.2**
KELT				*i* S	**Sb**	**11 28 54.4**	**+0.4**
KELT	**Kelkit**	**0.65**	**39**	P	**Pb**	**11 28 44.8**	**-0.2**
KELT				S	**Sb**	**11 28 54.4**	**+0.4**
SUSE	**Susehri**	**0.69**	**325**	*i* P	**Pg**	**11 28 44.9**	**-0.3**
SUSE				*i* S	**Sb**	**11 28 55.1**	**+0.1**
SUSE	**Susehri**	**0.69**	**325**	P	**Pg**	**11 28 44.9**	**-0.3**
SUSE				S	**Sb**	**11 28 55.1**	**+0.1**
ERZN	**Erzincan**	**0.78**	**94**	*e*PG	**Pg**	**11 28 45.8**	**-1.1**
ERZN				*e*SG	**Sg**	**11 28 57.1**	**0.0**
TNCL	**Tunceli-Merkez**	**0.83**	**130**	*i* P	**Pb**	**11 28 48.3**	**+0.3**
TNCL				*i* S	**Sn**	**11 29 01.9**	**+0.7**
TNCL	**Tunceli-Merkez**	**0.83**	**130**	P	**Pb**	**11 28 48.3**	**+0.3**
TNCL				S	**Sn**	**11 29 02.0**	**+0.7**
PTK	**Pertek**	**0.92**	**145**	*e*PG	**Pg**	**11 28 48.9**	**-0.6**
PTK	**Pertek**	**0.92**	**145**	*e*Pg	**Pg**	**11 28 48.9**	**-0.6**
GUMT	**Gumushane**	**1.00**	**36**	*e*PG	**Pg**	**11 28 50.3**	**-0.8**
GUMT	**Gumushane**	**1.00**	**36**	*e*Pg	**Pg**	**11 28 50.3**	**-0.8**
CUKAN	**kangal_SIVAS**	**1.02**	**252**	*i* P	**Pg**	**11 28 50.4**	**-1.1**
CUKAN				*i* S	**Sb**	**11 29 04.8**	**+0.1**
CUKAN	**kangal_SIVAS**	**1.02**	**252**	P	**Pg**	**11 28 50.4**	**-1.1**
CUKAN				S	**Sb**	**11 29 04.8**	**+0.1**
ELZG	**Elazig**	**1.17**	**170**	*i* P	**Pb**	**11 28 53.8**	**0.0**
ELZG				*i* S	**Sn**	**11 29 10.2**	**+0.6**
ELZG	**Elazig**	**1.17**	**170**	P	**Pb**	**11 28 53.8**	**0.0**
ELZG				S	**Sn**	**11 29 10.2**	**+0.6**
SCER	**sogukcermik**	**1.24**	**280**	*i* P	**Pn**	**11 28 54.9**	**0.0**
SCER				*i* S	**Sn**	**11 29 12.2**	**+0.7**
SCER	**sogukcermik**	**1.24**	**280**	P	**Pn**	**11 28 54.9**	**0.0**
SCER				S	**Sn**	**11 29 12.2**	**+0.7**
ESPY	**Espiye-Giresun**	**1.27**	**0**	*e*PN	**Pn**	**11 28 55.1**	**0.0**
ESPY	**Espiye-Giresun**	**1.27**	**0**	*e*Pn	**Pn**	**11 28 55.1**	**0.0**

MEX 22 11:33:54.3±0.6, 19.48N×105.31W, h3km±15km, MD3.9, Near coast of Jalisco

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PUVA	**Puert Vallarta**	**1.14**	**4**	*e*P	Pg	11 34 12.8	-3.4
PUVA				*e*S	Sg	11 34 28.0	-3.0
R15V		**1.29**	**104**	*e*P	Pg	11 34 15.0	-4.0
R15V				*e*S	Sg	11 34 31.9	-3.8
ANIG	**Ahuacatlan**	**1.73**	**25**	*e*P	Pn	11 34 22.9	-2.4
ANIG				*e*S	Sn	11 34 43.7	-4.3
MMIG	**Aquila**	**2.20**	**122**	*e*P	Pn	11 34 29.1	-2.7
MMIG				*e*S	Sn	11 34 55.4	-4.2

IDC 22 11:44:19.3±2.0, 5.73S×151.76E, h0km, mb3.7/4, mb1 4.0/4, mb1mx3.6/30, mbtmp3.7/4, MS2.8/1, Ms1 2.8/1, ms1mx2.4/35, Error ellipse: s-maj=96.1km s-min=27.8km az=127.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**5.85**	**231**	Pn	Pn	11 45 51.2	+3.9
	2.4nm,0.3s,baz=89,slow=8.5,SNR=7.0						
PMG				Sn	Sn	11 46 54.6	-0.5
	0.9nm,0.3s,baz=284,slow=19,SNR=2.0						
WRA	**Warramunga Arr**	**22.06**	**229**	P	P	11 49 16.0	0.0
	1.1nm,0.7s,baz=55,slow=10,SNR=14						
ASAR	**Alice Springs**	**24.77**	**222**	P	P	11 49 43.3	+0.3
	1.7nm,0.8s,baz=56,slow=9.9,SNR=21						
FITZ	**Fitzroy Crossi**	**28.31**	**242**	P	P	11 50 14.6	-0.4
	1.2nm,0.5s,baz=64,slow=8.1,SNR=8.3						
KSRS	**Korea Array**	**48.37**	**335**	LR	LR	12 10 53.6	
	comp=Z,9.8nm,20.4s,baz=195,slow=33						
ILAR	**Eielson Array**	**83.40**	**22**	P	P	11 56 48.1	-0.2
	0.5nm,0.7s,baz=236,slow=5.6,SNR=3.6						
TORD	**Torodi Ar. Bea**	**149.59**	**286**	PKPbc	PKPbc	12 04 12.2	+0.3
	0.3nm,0.5s,baz=97,slow=2.7,SNR=4.1						
TORD				PKPab	PKPab	12 04 15.9	-1.0
	0.3nm,0.5s,baz=74,slow=4.3,SNR=5.1						

*ISCJB **22** 12:02:35.9±0.9, 24.96N×0.06×122.67E±0.03, h4km±5km, Error ellipse: s-maj=10.2km s-min=4.0km az=19.7*
*TAP **22** 12:02:35.4, 24.92N×122.63E, h5km±1km, ML3.4, D*
*JMA **22** 12:02:38.9±0.3, 24.72N×122.58E, h21km, M2.3*
ISC 22 12:02:35.7±1.4, 24.89N±0.05×122.62E±0.03, h11km±12km, n35, σ1.03/42, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JYNG	**Yonagunijimaku**	**0.53**	**146**	P	**Pn**	**12 02 47.7**	**-1.4**
YOJ	**Yonaguni jima**	**0.55**	**140**	P	**Pb**	**12 02 47.9**	**+0.5**
YOJ				S	**Sb**	**12 02 54.4**	**-0.9**
TWB1	**Santiao Chiao**	**0.59**	**282**	*e*P	**Pg**	**12 02 47.5**	**+0.3**
	baz=278						
TWB1				*e*S	**Sb**	**12 02 57.5**	**+1.1**
	baz=278						
TWC	**Suao**	**0.76**	**249**	*e*P	**Pb**	**12 02 50.9**	**0.0**
	baz=245						
TWC				*e*S	**Sn**	**12 03 03.5**	**-0.3**
	baz=245						
NWF	**Wu-fen Shan**	**0.79**	**284**	*e*P	**Pb**	**12 02 51.8**	**+0.3**
	baz=280						
NWF				*e*S	**Sn**	**12 03 04.4**	**-0.2**
	baz=280						
TWE	**Neicheng**	**0.89**	**259**	*e*P	**Pb**	**12 02 53.5**	**+0.4**
	baz=256						
TWE				*e*S	**Sn**	**12 03 06.9**	**0.0**
	baz=256						
PCYT	**Pengchaiyu**	**0.89**	**326**	*e*P	**Pg**	**12 02 51.0**	**-1.9**
	baz=324						
ENA	**Nanau**	**0.92**	**240**	*e*P	**Pb**	**12 02 53.9**	**+0.1**
	baz=238						
TWA	**Mucha**	**0.95**	**276**	*e*P	**Pb**	**12 02 54.4**	**+0.3**
	baz=273						
ENTT	**Nioudou**	**0.99**	**256**	*e*P	**Pb**	**12 02 55.2**	**+0.3**
	baz=253						
ENTT				*e*S	**Sn**	**12 03 09.4**	**-0.2**
	baz=253						
IRIF	**Iriomote-Funau**	**1.15**	**118**	P	**Pn**	**12 02 59.7**	**+2.0**
IRIF				*e*S	**Sb**	**12 03 11.6**	**-0.9**
NSK	**Sanguang**	**1.17**	**260**	*e*P	**Pg**	**12 02 58.5**	**+0.4**
	baz=257						
NNS	**Nan Shan**	**1.22**	**249**	*e*P	**Pg**	**12 02 59.4**	**+0.2**
	baz=246						
TWD	**Chiawan**	**1.23**	**230**	*e*P	**Pb**	**12 02 59.0**	**0.0**
	baz=228						
JKRS	**Kuro-shima**	**1.42**	**117**	P	**Pg**	**12 03 04.1**	**+1.2**
WHF	**Hehuan Shan**	**1.44**	**239**	*e*P	**Pg**	**12 03 03.3**	**-0.1**
	baz=237						
TWT	**Tachien**	**1.46**	**245**	*e*P	**Pg**	**12 03 05.2**	**+1.4**
	baz=243						
NSTT	**Nanjuang**	**1.50**	**260**	*e*P	**Pg**	**12 03 05.4**	**+0.9**
	baz=258						
ESL	**Shilin**	**1.52**	**226**	*e*P	**Pg**	**12 03 05.0**	**0.0**
	baz=224						
WDT	**Danda**	**1.77**	**231**	*e*P	**Pb**	**12 03 08.3**	**0.0**
	baz=229						
TWQ1	**Liyutan**	**1.77**	**253**	*e*P	**Pg**	**12 03 09.8**	**+0.1**
	baz=251						
EHY	**Hungye**	**1.82**	**221**	*e*P	**Pg**	**12 03 11.6**	**+1.0**
	baz=220						
SMLT	**Sun Moon Lake**	**1.86**	**238**	*e*P	**Pb**	**12 03 09.9**	**0.0**
	baz=236						
TYC	**Yuchr**	**1.89**	**239**	*e*P	**Pb**	**12 03 09.4**	**-0.7**
	baz=237						
TWF1	**Yuli**	**1.95**	**219**	*e*P	**Pb**	**12 03 11.3**	**0.0**
	baz=217						
YUS	**Yu-Shan**	**2.07**	**228**	*e*P	**Pn**	**12 03 12.0**	**+1.2**
	baz=226						
ALS	**Alishan**	**2.15**	**231**	*e*P	**Pg**	**12 03 16.0**	**-1.0**
	baz=229						
CHN5	**Tsauling**	**2.19**	**234**	*e*P	**Pb**	**12 03 15.1**	**-0.4**
	baz=233						
ELDTW	**Lidau**	**2.24**	**221**	*e*P	**Pb**	**12 03 16.5**	**+0.2**
	baz=220						
CHN4	**Tsaushan**	**2.41**	**231**	*e*P	**Pb**	**12 03 17.9**	**-1.2**
	baz=229						
STYT	**Tauyuan**	**2.42**	**225**	*e*P	**Pb**	**12 03 17.4**	**-1.9**
	baz=224						
WTP	**Ta-pu**	**2.46**	**229**	*e*P	**Pb**	**12 03 17.8**	**-2.1**
	baz=227						
TWK	**Hsinying**	**2.53**	**231**	*e*P	**Pb**	**12 03 20.1**	**-1.2**
	baz=229						
CHN1	**Nanshi**	**2.56**	**229**	*e*P	**Pb**	**12 03 20.9**	**-0.7**
	baz=228						
EAST	**Anshuo**	**2.98**	**213**	*e*P	**Pb**	**12 03 26.3**	**-2.6**
	baz=212						

*ISK **22** 12:05:03.2, 39.71N×38.69E, h11km, MD2.8*
*ISCJB **22** 12:05:04.2±0.5, 39.68N±0.02×38.71E±0.03, h8km±5km, Error ellipse: s-maj=4.6km s-min=3.8km az=144.5*
*CSEM **22** 12:05:04.3±0.2, 39.66N×38.67E, h12km, MD3.0, Error ellipse: s-maj=4.5km s-min=3.1km az=51.0*
*DDA **22** 12:05:04.4, 39.64N×38.68E, h7km, Md3.0*
ISC 22 12:05:04.4±1.0, 39.66N±0.02×38.69E±0.02, h14km±8km, n29, σ0.70/48, Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ILIC	**ilic-Erzincan**	**0.22**	**204**	*e*PG	**Pg**	**12 05 09.1**	**-0.4**
ILIC	**ilic-Erzincan**	**0.22**	**204**	*e*Pg	**Pg**	**12 05 09.1**	**-0.4**
REFA	**Refahiye_ERZ¯**	**0.27**	**167**	*i* P	**Pg**	**12 05 10.1**	**-0.1**
REFA				*i* S	**Sb**	**12 05 14.8**	**-0.7**
REFA	**Refahiye_ERZ¯**	**0.27**	**167**	P	**Pg**	**12 05 10.1**	**-0.1**
REFA				S	**Sb**	**12 05 14.8**	**-0.7**
KEMA	**Kemaliye**	**0.41**	**201**	*i* P	**Pg**	**12 05 12.0**	**-0.8**
KEMA				*i* S	**Sg**	**12 05 18.9**	**+0.5**
KEMA	**Kemaliye**	**0.41**	**201**	P	**Pg**	**12 05 12.0**	**-0.8**
KEMA				S	**Sg**	**12 05 18.9**	**+0.5**
EZC	**Erzincan**	**0.52**	**79**	*e*Pg	**Pn**	**12 05 18.7**	**+1.1**
KELT	**Kelkit**	**0.66**	**41**	*i* P	**Pg**	**12 05 17.2**	**-0.2**
KELT				*i* S	**Sb**	**12 05 26.9**	**0.0**
KELT	**Kelkit**	**0.66**	**41**	P	**Pg**	**12 05 17.2**	**-0.2**
KELT				S	**Sb**	**12 05 26.9**	**0.0**
SUSE	**Susehri**	**0.67**	**326**	*i* P	**Pg**	**12 05 17.4**	**-0.1**
SUSE				*i* S	**Sb**	**12 05 27.4**	**+0.3**
SUSE	**Susehri**	**0.67**	**326**	P	**Pg**	**12 05 17.4**	**-0.1**
SUSE				S	**Sb**	**12 05 27.4**	**+0.3**
CUZAR	**Zara_SIVAS**	**0.74**	**289**	*i* P	**Pg**	**12 05 17.4**	**-1.5**
CUZAR				*i* S	**Sb**	**12 05 30.2**	**+0.9**
CUZAR	**Zara_SIVAS**	**0.74**	**289**	P	**Pg**	**12 05 17.4**	**-1.5**
CUZAR				S	**Sb**	**12 05 30.2**	**+0.9**
ERZN	**Erzincan**	**0.80**	**95**	*e*PG	**Pg**	**12 05 18.7**	**-1.3**
ERZN				*e*SG	**Sg**	**12 05 30.8**	**+0.2**
TNCL	**Tunceli-Merkez**	**0.86**	**129**	*i* P	**Pb**	**12 05 21.7**	**+0.6**
TNCL				*i* S	**Sb**	**12 05 33.6**	**+1.1**
TNCL	**Tunceli-Merkez**	**0.86**	**129**	P	**Pb**	**12 05 21.7**	**+0.6**
TNCL				S	**Sb**	**12 05 33.6**	**+1.1**
PTK	**Pertek**	**0.94**	**144**	*e*PG	**Pb**	**12 05 22.7**	**+0.1**
PTK				*e*SG	**Sn**	**12 05 36.6**	**-0.1**
PTK	**Pertek**	**0.94**	**144**	*e*Pg	**Pb**	**12 05 22.7**	**+0.1**
PTK				*e*Sg	**Sn**	**12 05 36.6**	**-0.1**
GUMT	**Gumushane**	**1.01**	**37**	*e*PG	**Pg**	**12 05 22.4**	**-1.5**
ELZG	**Elazig**	**1.18**	**169**	*i* P	**Pb**	**12 05 26.2**	**-0.4**
ELZG				*i* S	**Sn**	**12 05 42.8**	**+0.3**
ELZG	**Elazig**	**1.18**	**169**	P	**Pb**	**12 05 26.2**	**-0.4**
ELZG				S	**Sn**	**12 05 42.8**	**+0.3**
SCER	**sogukcermik**	**1.22**	**280**	*i* P	**Pg**	**12 05 27.8**	**-0.1**
SCER				*i* S	**Sn**	**12 05 44.1**	**+0.7**
SCER	**sogukcermik**	**1.22**	**280**	P	**Pg**	**12 05 27.8**	**-0.1**
SCER				S	**Sn**	**12 05 44.2**	**+0.7**
SVSK	**Karacayir**	**1.33**	**282**	*e*PN	**Pn**	**12 05 28.0**	**-0.5**
SVSK	**Karacayir**	**1.33**	**282**	*e*Pn	**Pn**	**12 05 28.0**	**-0.5**
SVRC	**Sivrice-ELAZID**	**1.36**	**159**	*e*PN	**Pn**	**12 05 29.4**	**+0.2**
SVRC	**Sivrice-ELAZID**	**1.36**	**159**	*e*Pn	**Pn**	**12 05 29.4**	**+0.2**
DARE	**Darende-Malaty**	**1.43**	**221**	*e*PN	**Pb**	**12 05 30.8**	**-0.2**
EZM	**Erzurum**	**2.08**	**82**	*e*PN	**Pn**	**12 05 37.8**	**-1.2**

*NEIC **22** 12:07:50.3±0.0, 17.67N×101.20W, h44km, MD4.1(MEX), After MEX.*
MEX 22 12:07:50.3±0.9, 17.67N×101.20W, h44km±9km, MD4.1, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ZIIG	**Zihuatanejo**	**0.26**	**256**	*e*P	Pn	12 07 56.7	-1.8
ZIIG				*e*S	Sn	12 08 03.0	-1.3
ZIIG	**Zihuatanejo**	**0.26**	**256**	*e*P	Pn	12 07 56.7	-1.8
ZIIG				*e*S	Sn	12 08 03.0	-1.3
ARIG	**Puente Sto Nin**	**1.02**	**53**	*e*P	Pn	12 08 05.9	-2.3
ARIG				*i* S	Sn	12 08 18.8	-2.5
CAIG	**El Cayaco**	**1.09**	**125**	*e*P	Pn	12 08 06.7	-2.4
CAIG				*e*S	Sn	12 08 21.9	-1.1
CAIG	**El Cayaco**	**1.09**	**125**	*e*P	Pn	12 08 06.7	-2.4
CAIG				*e*S	Sn	12 08 21.9	-1.1
ACP2	**Acapulco**	**1.49**	**122**	*e*P	Pn	12 08 13.4	-1.1
ACP2				*e*S	Sn	12 08 30.3	-2.5
ACX	**Acapulco**	**1.51**	**122**	*i* P	Pn	12 08 17.6	+2.6
ACX				*i* S	Sn	12 08 34.6	+1.1
ACX	**Acapulco**	**1.51**	**122**	*i* P	Pn	12 08 17.6	+2.6
ACX				*i* S	Sn	12 08 34.6	+1.1
MEIG	**Mezcala**	**1.53**	**80**	*e*P	Pn	12 08 13.5	-1.8
MEIG				*e*S	Sn	12 08 31.4	-2.6
MEIG	**Mezcala**	**1.53**	**80**	*e*P	Pn	12 08 13.5	-1.8
MEIG				*e*S	Sn	12 08 31.4	-2.6
PLIG	**Platanillo**	**1.77**	**66**	*e*P	Pn	12 08 17.2	-1.3
PLIG				*e*S	Sn	12 08 37.7	-2.2
PLIG	**Platanillo**	**1.77**	**66**	*e*P	Pn	12 08 17.2	-1.3
PLIG				*e*S	Sn	12 08 37.7	-2.2
MOIG	**Morelia**	**2.00**	**0**	*e*P	Pn	12 08 21.2	-0.6
MOIG				*i* S	Sn	12 08 43.8	-1.9
MOIG	**Morelia**	**2.00**	**0**	*e*P	Pn	12 08 21.2	-0.6
MOIG				*i* S	Sn	12 08 43.8	-1.9
MMIG	**Aquila**	**2.13**	**287**	*i* P	Pn	12 08 22.2	-1.1
MMIG				*i* S	Sn	12 08 47.0	-1.6
MMIG	**Aquila**	**2.13**	**287**	*i* P	Pn	12 08 22.2	-1.1
MMIG				*i* S	Sn	12 08 47.0	-1.6
YAIG	**Yautepec**	**2.35**	**59**	*e*P	Pn	12 08 24.9	-1.7
YAIG				*e*S	Sn	12 08 52.3	-2.0
YAIG	**Yautepec**	**2.35**	**59**	*e*P	Pn	12 08 24.9	-1.7
YAIG				*e*S	Sn	12 08 52.3	-2.0
TLIG	**Tlapa**	**2.52**	**92**	*e*P	Pn	12 08 28.1	-0.8
TLIG				*e*S	Sn	12 08 56.5	-1.9
R15V		**3.03**	**300**	*i* P	Pn	12 08 33.8	-2.1
R15V				*i* S	Sn	12 09 08.3	-2.7
PNIG	**Pinotepa**	**3.21**	**113**	*e*P	Pn	12 08 37.0	-1.2
PNIG				*i* S	Sn	12 09 13.2	-2.0
PNIG	**Pinotepa**	**3.21**	**113**	*e*P	Pn	12 08 37.0	-1.2
PNIG				*i* S	Sn	12 09 13.2	-2.0

*JMA **22** 12:14:28.5±0.3, 37.05N×142.73E, h14km, M3.0*
*ISCJB **22** 12:14:32.7±1.2, 37.13N±0.05×142.3E±0.2, h10km, mb3.4/3, Error ellipse: s-maj=18.2km s-min=7.2km az=168.9*
*IDC **22** 12:14:32.5±2.8, 37.52N×142.23E, h0km, mb3.4/3, mb1 3.5/4, mb1mx3.3/50, mbtmp3.3/4, ML2.6/1, Error ellipse: s-maj=72.6km s-min=31.4km az=56.0*
ISC 22 12:14:34.4±1.5, 37.19N±0.06×142.3E±0.1, h10km, n14, σ1.44/13, mb3.4/3, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ONAJ	**Iwakimizuishiy**	**1.18**	**266**	P	**Pb**	**12 14 56.1**	**-0.8**
JMM	**Marumori**	**1.35**	**300**	P	**Pn**	**12 14 58.6**	**-0.7**
JIO	**Ouri**	**1.46**	**330**	P	**Pn**	**12 14 59.5**	**-1.3**
JIO				*e*S	**Sb**	**12 15 21.4**	**+1.2**
JFT	**Otama**	**1.57**	**283**	P	**Pn**	**12 15 02.5**	**+0.1**
JMK	**Ichinoseki**	**1.95**	**335**	P	**Pn**	**12 15 06.4**	**-1.1**
JMK				S	**Sn**	**12 15 33.5**	**+1.5**
JYK	**Kaneyama**	**2.29**	**319**	P	**Pn**	**12 15 12.1**	**-0.2**
MJAR	**Matsushiro Arr**	**3.32**	**260**	Pn	**Pn**	**12 15 26.2**	**-0.2**
	0.6nm,0.3s,baz=94,slow=10,SNR=2.9						
JHJ	**Hachijo jima 2**	**4.54**	**207**	Pn	**Pn**	**12 15 42.1**	**-1.1**
	7.5nm,0.3s,baz=77,slow=17,SNR=1.8						
JHJ				Sn	Sn	12 16 22.4	-14
	7.1nm,0.3s,baz=255,slow=20,SNR=1.7						
H11N2	**WAKE ISLAND Hy**	**27.64**	**122**	T	T	12 49 04.0	
	baz=319						
H11N1	**WAKE ISLAND Hy**	**27.65**	**122**	T	T	12 49 19.1	
	baz=319						
H11N3	**WAKE ISLAND Hy**	**27.66**	**122**	T	T	12 48 56.2	
	baz=319						
MKAR	**Makanchi Array**	**44.62**	**302**	P	**P**	**12 22 44.8**	**-2.1**
	0.3nm,0.8s,baz=91,slow=10,SNR=3.3						
WRA	**Warramunga Arr**	**57.31**	**189**	P	**P**	**12 24 24.9**	**+2.5**
	0.6nm,0.7s,baz=10,slow=7.5,SNR=6.6						
ASAR	**Alice Springs**	**61.04**	**189**	P	**P**	**12 24 49.5**	**+1.3**
	0.2nm,0.6s,baz=9.8,slow=7.6,SNR=3.3						

MEX 22 12:17:03.6±0.3, 17.69N×101.24W, h54km±6km, MD3.7, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ZIIG	**Zihuatanejo**	**0.23**	**250**	*e*P	Pn	12 17 11.2	-1.5
ZIIG				*e*S	Sn	12 17 17.3	-1.8
ARIG	**Puente Sto Nin**	**1.03**	**55**	*e*P	Pn	12 17 20.3	-1.6
ARIG				*e*S	Sn	12 17 33.3	-2.2
CAIG	**El Cayaco**	**1.12**	**124**	*e*P	Pn	12 17 21.8	-1.4
CAIG				*i* S	Sn	12 17 35.4	-2.2
MEIG	**Mezcala**	**1.56**	**81**	*i* P	Pn	12 17 27.8	-1.3
MEIG				*i* S	Sn	12 17 46.2	-2.0
PLIG	**Platanillo**	**1.79**	**67**	*e*P	Pn	12 17 31.0	-1.2
PLIG				*i* S	Sn	12 17 51.9	-2.1
MOIG	**Morelia**	**1.98**	**1**	*i* P	Pn	12 17 32.7	-2.2
MMIG	**Aquila**	**2.09**	**287**	*e*P	Pn	12 17 36.7	+0.4

*ISK **22** 12:17:17.8, 39.68N×38.62E, h7km, MD2.6, ML2.5*
*ISCJB **22** 12:17:18.7±0.5, 39.66N±0.02×38.67E±0.04, h2km±6km, Error ellipse: s-maj=4.8km s-min=3.8km az=178.9*
*CSEM **22** 12:17:18.5±0.2, 39.65N×38.68E, h5km, MD2.6, Error ellipse: s-maj=4.4km s-min=3.4km az=90.0*
*DDA **22** 12:17:18.5, 39.64N×38.66E, h7km, Md2.8*
ISC 22 12:17:18.9±1.0, 39.65N±0.02×38.67E±0.02, h11km±8km, n31, σ0.76/49, Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ILIC	**ilic-Erzincan**	**0.21**	**202**	*e*PG	**Pg**	**12 17 22.9**	**-0.5**
ILIC	**ilic-Erzincan**	**0.21**	**202**	*e*Pg	**Pg**	**12 17 22.9**	**-0.5**
REFA	**Refahiye_ERZ¯**	**0.26**	**164**	*i* P	**Pg**	**12 17 24.2**	**-0.1**
REFA				*i* S	**Sb**	**12 17 29.2**	**-1.2**
REFA	**Refahiye_ERZ¯**	**0.26**	**164**	P	**Pg**	**12 17 24.2**	**-0.1**
REFA				S	**Sb**	**12 17 29.2**	**-1.2**
KEMA	**Kemaliye**	**0.41**	**200**	*i* P	**Pg**	**12 17 26.3**	**-0.6**
KEMA				*i* S

NSK	**Sanguang** baz=261	**1.24**	**258**	*e*P	**Pn**	**12 23 03.5**	**+0.1**
NSK	baz=261			*e*S	**Sb**	**12 23 20.0**	**+0.4**
NNS	**Nan Shan** baz=250	**1.29**	**248**	*e*P	**Pn**	**12 23 04.3**	**+0.1**
WHF	**Hehuan Shan** baz=253	**1.52**	**239**	*e*P	**Pn**	**12 23 06.4**	**-1.1**
TWT	**Tachien** baz=246	**1.54**	**244**	*e*P	**Pg**	**12 23 08.7**	**+0.1**
NSTT	**Nanjuang** baz=262	**1.56**	**259**	*e*P	**Pb**	**12 23 08.8**	**0.0**
ESL	**Shilin** baz=207	**1.60**	**226**	*e*P	**Pn**	**12 23 07.4**	**-0.9**
TYC	**Yuchr** baz=222	**1.96**	**239**	*e*P	**Pb**	**12 23 14.9**	**-0.6**
YUS	**Yu-Shan** baz=211	**2.14**	**228**	*e*P	**Pn**	**12 23 17.4**	**+1.1**
ALS	**Alishan** baz=215	**2.23**	**231**	*e*P	**Pn**	**12 23 18.8**	**+1.6**
CHN5	**Tsauling** baz=216	**2.27**	**234**	*e*P	**Pn**	**12 23 18.0**	**+0.4**

NEIC 22 12:24:18.6±0.0, 59.45N×154.43W, h170km, MG3.0 (AEIC), **After AEIC., Southern Alaska**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AUNW	**Augustine NWes**	**0.49**	**98**	P	Pn	12 24 41.9	-0.2
AUL	**Augustine Lava**	**0.51**	**97**	P	Pn	12 24 42.0	-0.2
CDD	**Cape Douglas**	**0.66**	**142**	P	Pn	12 24 42.4	-0.6
CDD				S	Sn	12 25 01.2	-0.5
FONW	**Fourpeaked Sta**	**0.67**	**157**	P	Pn	12 24 42.6	-0.5
FOSS	**Fourpeaked Sta**	**0.75**	**149**	P	Pn	12 24 42.9	-0.6
FOPK	**Fourpeaked Vol**	**0.85**	**144**	P	Pn	12 24 43.5	-0.7
KAHC	**Katmai Hardscr**	**0.85**	**201**	P	Pn	12 24 43.3	-1.0
KAPH	**Katmai Pasha**	**0.85**	**177**	P	Pn	12 24 43.7	-0.6
KAPH				S	Sn	12 25 03.2	-0.8
ILS	**Iliamna Low So**	**0.86**	**53**	P	Pn	12 24 43.6	-0.7
ILIM	**Iliamna**	**0.98**	**49**	P	Pn	12 24 44.4	-0.7
KAWH	**Katmai**	**1.08**	**190**	P	Pn	12 24 45.2	-0.8
KAWH				S	Sn	12 25 05.8	-1.2
KVTA	**Katmai Vly 10**	**1.16**	**203**	P	Pn	12 24 45.9	-0.7
KAKN	**Katmai Knife C**	**1.20**	**196**	P	Pn	12 24 46.3	-0.7
KAKN				S	Sn	12 25 07.6	-1.3
KABU	**Katmai Buttres**	**1.26**	**201**	P	Pn	12 24 47.1	-0.5
KABU				S	Sn	12 25 09.7	-0.1
RED	**Redoubt Volcan**	**1.28**	**40**	P	Pn	12 24 46.6	-1.1
RDWB	**Redoubt West**	**1.32**	**37**	P	Pn	12 24 46.8	-1.3
KABR	**Katmai Barrier**	**1.35**	**192**	P	Pn	12 24 47.4	-0.9
CNPM	**China Poot**	**1.63**	**86**	P	Pn	12 24 50.6	-0.4
CNPM				S	Sn	12 25 14.6	-1.5
SVW2	**Sparrevohn**	**1.75**	**341**	P	Pn	12 24 50.9	-1.3
BRLK	**Bradley Lake**	**1.83**	**78**	P	Pn	12 24 52.5	-0.6
BRLK				S	Sn	12 25 17.5	-2.3
KDAK	**Kodiak Island**	**1.93**	**149**	P	Pn	12 24 53.1	-1.0
KDAK				S	Sn	12 25 19.2	-2.3
PLK2	**Peulik 2**	**1.96**	**211**	P	Pn	12 24 53.7	-0.8
PLK3	**Peulik 3**	**2.01**	**209**	P	Pn	12 24 54.8	-0.3
CKL	**Chakachamna La**	**2.04**	**30**	P	Pn	12 24 54.7	-0.7
SPWE	**Spurr West**	**2.06**	**26**	P	Pn	12 24 54.9	-0.8
SPBG	**Spurr Blockage**	**2.09**	**28**	P	Pn	12 24 55.5	-0.5
SPBG				S	Sn	12 25 24.0	-1.0
OHAK	**Old Harbor**	**2.31**	**164**	P	Pn	12 24 57.3	-1.2
OHAK				S	Sn	12 25 27.8	-1.5
SLKM	**Skilak Lake**	**2.37**	**61**	P	Pn	12 24 58.4	-0.7
STLK	**Strandline Lak**	**2.43**	**31**	P	Pn	12 24 59.5	-0.3
SEW	**Seward**	**2.60**	**73**	P	Pn	12 25 01.2	-0.7
SEW				S	Sn	12 25 32.3	-3.1
SUA	**Susitna One**	**2.73**	**40**	P	Pn	12 25 02.8	-0.7
FIB	**Fire Island**	**2.73**	**49**	P	Pn	12 25 03.2	-0.1
RC01	**Rabbit Creek A**	**2.86**	**53**	P	Pn	12 25 03.7	-1.3
SKT	**Skwentna**	**2.92**	**28**	P	Pn	12 25 05.5	-0.1
ANNE	**Aniakchak Nort**	**3.19**	**219**	P	Pn	12 25 09.0	-0.1
PWL	**Port Wells**	**3.36**	**62**	P	Pn	12 25 10.2	-1.0
PMR	**Palmer**	**3.39**	**48**	P	Pn	12 25 09.7	-1.8
TT01	**Tatalina**	**3.56**	**348**	P	Pn	12 25 12.2	-1.4
KNK	**Knik Glacier**	**3.56**	**54**	P	Pn	12 25 11.6	-2.0
GHO	**Glory Hole Cre**	**3.58**	**47**	P	Pn	12 25 12.1	-1.9
CUT	**Chulitna**	**3.60**	**33**	P	Pn	12 25 13.1	-1.0
PPLA	**Purkeypile**	**3.63**	**16**	P	Pn	12 25 14.6	-0.1
SML	**Sawmill**	**3.83**	**49**	P	Pn	12 25 15.0	-2.1
GLI	**Glacier Island**	**3.94**	**65**	P	Pn	12 25 17.1	-1.3
HIN	**Hinchinbrook I**	**4.10**	**73**	P	Pn	12 25 19.5	-1.1
FID	**Port Fidalgo**	**4.19**	**68**	P	Pn	12 25 20.3	-1.4
JPK	**Jack Peak**	**4.22**	**64**	P	Pn	12 25 21.5	-0.7
SCM	**Sheep Creek Mo**	**4.24**	**53**	P	Pn	12 25 20.5	-1.9
VLZ	**Valdez**	**4.37**	**64**	P	Pn	12 25 23.5	-0.5
KTH	**Kantishna Hill**	**4.45**	**21**	P	Pn	12 25 23.9	-1.3
TRF	**Thorofare Moun**	**4.48**	**25**	P	Pn	12 25 24.5	-1.1
EYAK	**Cordova Ski Ar**	**4.50**	**72**	P	Pn	12 25 25.0	-0.7
DIV	**Divide**	**4.63**	**65**	P	Pn	12 25 26.8	-0.7
RND	**Reindeer**	**4.79**	**32**	P	Pn	12 25 27.6	-2.0
MCK	**McKinley**	**5.04**	**29**	P	Pn	12 25 31.5	-1.2
BMRM	**Bremner River**	**5.13**	**68**	P	Pn	12 25 33.2	-0.8
HARP	**HAARP**	**5.41**	**53**	P	Pn	12 25 36.7	-0.9
PAX	**Paxson**	**5.59**	**47**	P	Pn	12 25 39.5	-0.5
WRH	**Wood River Hil**	**5.86**	**28**	P	Pn	12 25 41.0	-2.4
MCARA	**McCarthy VSAT**	**5.98**	**66**	P	Pn	12 25 44.2	-0.8
CCB	**Clear Creek Bu**	**6.08**	**28**	P	Pn	12 25 44.0	-2.3
BARK	**Barkley Ridge**	**6.08**	**76**	P	Pn	12 25 44.9	-1.6
MDM	**Murphy Dome**	**6.24**	**25**	P	Pn	12 25 46.5	-2.1
MENT	**Mentasta**	**6.25**	**51**	P	Pn	12 25 46.4	-2.2
COLA	**College**	**6.25**	**27**	P	Pn	12 25 46.4	-2.2
BAGL	**Bagley Icefiel**	**6.29**	**75**	P	Pn	12 25 48.8	-0.2
IL1	**Eielson Array**	**6.41**	**30**	P	Pn	12 25 48.4	-2.3
ILB	**Eielson Array**	**6.41**	**30**	P	Pn	12 25 48.3	-2.3
DOT	**Dot Lake** 6.8nm,0.4s	**6.50**	**45**	*e*Pn	Pn	12 25 50.6	-1.4
TABL	**Table Mountain**	**6.75**	**76**	P	Pn	12 25 54.8	-0.7
LOGN	**Logan Glacier**	**6.85**	**73**	P	Pn	12 25 55.6	-1.1
BCA3	**Beaver Creek A**	**7.09**	**54**	P	Pn	12 25 58.6	-1.2

*CSEM **22** 12:38:13.9, 34.96N×32.59E, h45km, ML2.4*
NIC 22 12:38:13.9±0.1, 34.96N×32.59E, h45km, ML2.4, Cyprus region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ALFC	**Alefka**	**0.20**	**1**	P	Pn	12 38 21.9	+0.1
ALFC				S	Sn	12 38 27.8	+0.5
ALFC	**Alefka** baz=181	**0.20**	**1**	P	Pn	12 38 21.9	+0.1
ALFC				S	Sn	12 38 27.8	+0.5
PPCY	**Paphos**	**0.22**	**250**	P	Pn	12 38 21.9	0.0
PPCY				S	Sn	12 38 27.9	+0.5
PPCY	**Paphos** baz=69	**0.22**	**250**	P	Pn	12 38 21.9	0.0
PPCY				S	Sn	12 38 27.9	+0.5
AKMC	**Akamas**	**0.23**	**287**	P	Pn	12 38 22.2	+0.2
AKMC				S	Sn	12 38 28.0	+0.3
AKMC	**Akamas** baz=107	**0.23**	**287**	P	Pn	12 38 22.2	+0.2
AKMC				S	Sn	12 38 28.0	+0.3
SZAC	**Souni**	**0.31**	**131**	P	Pn	12 38 22.9	+0.1
SZAC	**Souni** baz=310	**0.31**	**131**	P	Pn	12 38 22.9	+0.1

*DDA **22** 12:39:11.4, 39.66N×38.68E, h7km, Ml3.6*
*ISK **22** 12:39:11.0, 39.71N×38.71E, h3km, ML3.2*
*CSEM **22** 12:39:12.0±0.1, 39.69N×38.69E±0.02×38.69E±0.01, h3km±10km, n70, σ1°15/100, 2C-5D, Turkey*

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
REFA	**Refahiye_ERZ**	**0.30**	**168**	↓*i*P	**Pg**	**12 39 16.8**	**-1.0**
REFA				*i* S	**Sg**	**12 39 21.1**	**-0.7**
REFA	**Refahiye_ERZ**	**0.30**	**168**	P	**Pg**	**12 39 16.8**	**-1.0**
REFA				S	**Sg**	**12 39 21.1**	**-0.7**
KEMA	**Kemaliye**	**0.45**	**199**	↓*i*P	**Pg**	**12 39 20.0**	**-0.6**
KEMA				*i* S	**Sg**	**12 39 27.0**	**+0.6**
KEMA	**Kemaliye**	**0.45**	**199**	P	**Pg**	**12 39 20.0**	**-0.6**
KEMA				S	**Sg**	**12 39 27.0**	**+0.6**
KELT	**Kelkit**	**0.63**	**44**	↓*i*P	**Pg**	**12 39 23.7**	**-0.4**
KELT				*i* S	**Sg**	**12 39 32.7**	**+0.3**
KELT	**Kelkit**	**0.63**	**44**	P	**Pg**	**12 39 23.7**	**-0.4**
KELT				S	**Sg**	**12 39 32.7**	**+0.3**
SUSE	**Susehri**	**0.64**	**324**	*i* P	**Pg**	**12 39 24.7**	**+0.5**
SUSE				*i* S	**Sb**	**12 39 35.2**	**0.0**
SUSE	**Susehri**	**0.64**	**324**	P	**Pg**	**12 39 24.7**	**+0.5**
CUZAR	**Zara_SIVAS**	**0.73**	**286**	↑*i*P	**Pg**	**12 39 25.9**	**-0.1**
CUZAR				*i* S	**Sb**	**12 39 37.7**	**-0.2**
CUZAR	**Zara_SIVAS**	**0.73**	**286**	P	**Pg**	**12 39 25.9**	**-0.1**
CUZAR				S	**Sb**	**12 39 37.7**	**-0.2**
EUZM	**Uzumlu**	**0.78**	**89**	↑*i*P	**Pg**	**12 39 26.4**	**-0.6**
EUZM				*i* S	**Sb**	**12 39 38.9**	**-0.4**
EUZM	**Uzumlu**	**0.78**	**89**	P	**Pg**	**12 39 26.4**	**-0.6**
EUZM				S	**Sb**	**12 39 38.9**	**-0.4**
ERZN	**Erzincan**	**0.81**	**97**	*e*PG	**Pg**	**12 39 26.9**	**-0.5**
ERZN				*e*SG	**Sb**	**12 39 38.9**	**-1.2**
TNCL	**Tunceli-Merkez**	**0.88**	**131**	*i* P	**Pg**	**12 39 27.4**	**-1.4**
TNCL				*i* S	**Sg**	**12 39 40.7**	**+0.5**
TNCL	**Tunceli-Merkez**	**0.88**	**131**	P	**Pg**	**12 39 27.4**	**-1.4**
TNCL				S	**Sg**	**12 39 40.7**	**+0.5**
PTK	**Pertek**	**0.97**	**145**	*e*PG	**Pg**	**12 39 30.7**	**+0.2**
PTK				*e*SG	**Sb**	**12 39 44.6**	**-0.2**
PTK	**Pertek**	**0.97**	**145**	*e*Pg	**Pg**	**12 39 30.7**	**+0.2**
PTK				*e*Sg	**Sb**	**12 39 44.6**	**-0.2**
GUMT	**Gumushane**	**0.98**	**38**	*e*PG	**Pg**	**12 39 30.0**	**-0.8**
GUMT	**Gumushane**	**0.98**	**38**	*e*Pg	**Pg**	**12 39 30.0**	**-0.8**
CUKAN	**kangal_SIVAS**	**1.01**	**249**	*i* P	**Pg**	**12 39 30.6**	**-0.8**
CUKAN				*i* S	**Sg**	**12 39 41.7**	**-2.9**
CUKAN	**kangal_SIVAS**	**1.01**	**249**	P	**Pg**	**12 39 30.6**	**-0.8**
SCER	**sogukcermik**	**1.21**	**279**	*i* P	**Pb**	**12 39 35.0**	**-0.6**
SCER				*i* S	**Sn**	**12 39 52.7**	**-0.2**
SCER	**sogukcermik**	**1.21**	**279**	P	**Pb**	**12 39 35.0**	**-0.6**
SCER				S	**Sn**	**12 39 52.7**	**-0.2**
ESPY	**Espiye-Giresun**	**1.22**	**2**	*e*PN	**Pn**	**12 39 34.8**	**-1.2**
RSDY	**Resadiye-TOKAT**	**1.26**	**304**	*e*PN	**Pg**	**12 39 36.0**	**-0.1**
RSDY	**Resadiye-TOKAT**	**1.26**	**304**	*e*Pn	**Pg**	**12 39 36.0**	**-0.1**
GRSN	**GIRESUNGRSN**	**1.27**	**346**	*i* P	**Pg**	**12 39 35.8**	**-0.9**
GRSN	**GIRESUNGRSN**	**1.27**	**346**	P	**Pn**	**12 39 35.8**	**-0.9**
SVSK	**Karacayir**	**1.32**	**280**	*e*PN	**Pb**	**12 39 36.9**	**-0.5**
SVSK	**Karacayir**	**1.32**	**280**	*e*Pn	**Pb**	**12 39 36.9**	**-0.5**
SVRC	**Sivrice-ELAZID**	**1.40**	**160**	*e*PN	**Pb**	**12 39 38.2**	**-0.6**
SVRC	**Sivrice-ELAZID**	**1.40**	**160**	*e*Pn	**Pb**	**12 39 38.2**	**-0.6**
KOPT	**Kop Dagi**	**1.43**	**76**	*i* P	**Pg**	**12 39 40.1**	**+0.7**
KOPT				*i* S	**Sg**	**12 40 02.6**	**+4.6**
KOPT	**Kop Dagi**	**1.43**	**76**	P	**Pg**	**12 39 40.1**	**+0.7**
ORDU	**Ordu-Boztepe**	**1.44**	**334**	*i* P	**Pb**	**12 39 38.9**	**-0.6**
ORDU				*i* S	**Sg**	**12 39 59.1**	**+0.7**
ORDU	**Ordu-Boztepe**	**1.44**	**334**	P	**Pb**	**12 39 38.9**	**-0.6**
ORDU				S	**Sg**	**12 39 59.1**	**+0.7**
DARE	**Darende-Malaty**	**1.46**	**220**	*e*PN	**Pb**	**12 39 39.5**	**-0.3**
DARE	**Darende-Malaty**	**1.46**	**220**	*e*Pn	**Pb**	**12 39 39.5**	**-0.3**
CUGUR	**Gurin_S˜VAS**	**1.46**	**229**	*i* P	**Pb**	**12 39 39.2**	**-0.7**
CUGUR				*i* S	**Sg**	**12 40 01.4**	**+2.4**
CUGUR	**Gurin_S˜VAS**	**1.46**	**229**	P	**Pb**	**12 39 39.2**	**-0.7**
MACK	**Trabzon**	**1.50**	**33**	↓*i*P	**Pn**	**12 39 39.2**	**-0.6**
MACK				*i* S	**Sg**	**12 40 00.5**	**+0.4**
MACK	**Trabzon**	**1.50**	**33**	P	**Pn**	**12 39 39.2**	**-0.6**
MACK				S	**Sg**	**12 40 00.5**	**+0.4**
KTUT	**Trabzon**	**1.54**	**32**	*e*PN	**Pb**	**12 39 40.0**	**-1.0**
CUALT	**Altinyayla-SIV**	**1.55**	**255**	*i* P	**Pb**	**12 39 40.8**	**-0.6**
CUALT				*i* S	**Sg**	**12 40 05.2**	**+3.5**
CUALT	**Altinyayla-SIV**	**1.55**	**255**	P	**Pb**	**12 39 40.8**	**-0.6**
BINT	**Bingol**	**1.62**	**120**	*e*Pn	**Pb**	**12 39 42.4**	**-0.2**
BNGB	**Bing¶ll**	**1.70**	**114**	*e*PN	**Pn**	**12 39 42.4**	**-0.2**
TOKT	**Tokat**	**1.76**	**292**	*e*PN	**Pn**	**12 39 43.3**	**-0.1**
TOKT	**Tokat**	**1.76**	**292**	*e*Pn	**Pn**	**12 39 43.3**	**-0.1**
TOKA	**Tokat**	**1.81**	**291**	*i* P	**Pb**	**12 39 45.3**	**-0.4**
TOKA				*i* S	**Sg**	**12 40 10.7**	**+0.7**
TOKA	**Tokat**	**1.81**	**291**	P	**Pb**	**12 39 45.3**	**-0.4**
CUSAR	**Sarkisla-SIVAS**	**1.91**	**263**	↓*i*P	**Pb**	**12 39 47.1**	**-0.4**
CUSAR				*i* S	**Sg**	**12 40 15.9**	**+2.7**
CUSAR	**Sarkisla-SIVAS**	**1.91**	**263**	P	**Pb**	**12 39 47.1**	**-0.4**
BNGL	**BINGOL**	**2.05**	**110**	*i* P	**Pg**	**12 39 51.0**	**-0.3**
BNGL				*i* S	**Sg**	**12 40 23.4**	**+5.6**
EZM	**Erzurum**	**2.07**	**83**	*e*PN	**Pn**	**12 39 47.1**	**-0.9**
ERZM	**Erzurum**	**2.08**	**83**	*i* P	**Pb**	**12 39 50.3**	**-0.2**
ERZM				*i* S	**Sg**	**12 40 20.4**	**+1.7**
ERZM	**Erzurum**	**2.08**	**83**	P	**Pb**	**12 39 50.3**	**-0.2**
SARI	**SarD1z-Kayseri**	**2.18**	**235**	*e*PN	**Pb**	**12 39 50.4**	**-1.8**
URFA	**Urfa**	**2.25**	**177**	*e*PN	**Pn**	**12 39 50.2**	**0.0**
URFA	**Urfa**	**2.25**	**177**	*e*Pn	**Pn**	**12 39 50.2**	**0.0**
BNN	**Bunyan**	**2.36**	**250**	*e*PN	**Pn**	**12 39 52.5**	**+0.8**
BNN	**Bunyan**	**2.36**	**250**	*e*Pn	**Pn**	**12 39 52.5**	**+0.8**
SVAN	**Silvan-Diyarba**	**2.49**	**127**	*e*PN	**Pn**	**12 39 53.9**	**+0.5**
SVAN	**Silvan-Diyarba**	**2.49**	**127**	*e*Pn	**Pn**	**12 39 53.9**	**+0.5**
KMRS	**Kahramanmaras**	**2.59**	**213**	*e*PN	**Pn**	**12 39 56.1**	**+1.3**
KMRS	**Kahramanmaras**	**2.59**	**213**	*e*Pn	**Pn**	**12 39 56.1**	**+1.3**
YOZ	**Yozgat**	**2.60**	**270**	*e*PN	**Pn**	**12 39 55.7**	**+0.7**
YOZ	**Yozgat**	**2.60**	**270**	*e*Pn	**Pn**	**12 39 55.7**	**+0.7**
MAZI	**Mazidag**	**2.62**	**148**	*e*PN	**Pn**	**12 39 55.6**	**+0.3**
MAZI	**Mazidag**	**2.62**	**148**	*e*Pn	**Pn**	**12 39 55.6**	**+0.3**

*ISCJB **22** 12:57:18.0±1.6, 24.94N±0.04×122.76E±0.03, h10km±14km, mb3.6/3, MS3.2/7, Error ellipse: s-maj=7.6km s-min=4.0km az=26.0*
*TAP **22** 12:57:18.6, 24.81N×122.61E, h1km±1km, ML3.4, D*
*JMA **22** 12:57:18.1±0.3, 24.95N×122.72E, h24km±4km, M2.6*
*IDC **22** 12:57:42.0±14.0, 26.89N×120.22E, h0km, mb3.5/3, mb1 3.6/4, mb1mx3.4/37, mbtmpg3.6/4, ML3.5/1, MS3.2/8, Ms1 3.2/8, ms1mx2.9/36, Error ellipse: s-maj=248.8km s-min=55.8km az=154.0*
ISC 22 12:57:17.8±1.4, 24.87N±0.04×122.72E±0.03, h3km±11km, n49, σ0°76/53, mb3.5/3, MS3.2/7, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JYNG	**Yonagunijimaku**	**0.46**	**154**	P	**Pb**	**12 57 28.6**	**+0.1**
JYNG				*e*S	**Sb**	**12 57 36.2**	**+0.5**
YOJ	**Yonaguni jima** baz=133	**0.48**	**147**	*i* P	**Pb**	**12 57 28.9**	**+0.1**
YOJ				S	**Sb**	**12 57 37.8**	**+1.6**
YOJ	**Yonaguni jima**	**0.48**	**147**	P	**Pb**	**12 57 28.9**	**+0.1**
YOJ				*e*S	**Sb**	**12 57 36.5**	**+0.2**
TWB1	**Santiao Chiao** baz=289	**0.68**	**282**	P	**Pg**	**12 57 31.0**	**+0.1**
TWB1				*e*S	**Sb**	**12 57 41.3**	**-0.8**
TWC	**Suao** baz=253	**0.83**	**252**	P	**Pg**	**12 57 33.9**	**+0.1**
TWC				S	**Sg**	**12 57 44.7**	**+0.1**
NWF	**Wu-fen Shan** baz=289	**0.88**	**284**	*e*P	**Pg**	**12 57 34.5**	**-0.2**
NWF				*e*S	**Sn**	**12 57 49.2**	**-1.2**
PCYT	**Pengchaiyu** baz=329	**0.96**	**322**	*e*P	**Pg**	**12 57 36.4**	**+0.1**
TWE	**Neicheng** baz=263	**0.97**	**262**	P	**Pg**	**12 57 36.2**	**-0.3**
ENA	**Nanau** baz=243	**0.99**	**244**	P	**Pg**	**12 57 36.7**	**-0.1**
TWA	**Mucha** baz=280	**1.04**	**277**	*e*P	**Pg**	**12 57 37.7**	**0.0**
IRIF	**Iriomote-Funau**	**1.06**	**120**	P	**Pg**	**12 57 37.4**	**-0.7**
ENTT	**Nioudou** baz=259	**1.07**	**258**	P	**Pg**	**12 57 38.5**	**0.0**
ENTT				*e*S	**Sb**	**12 57 53.3**	**-0.2**
TWY	**Chenhua** baz=296	**1.10**	**292**	*e*P	**Pn**	**12 57 40.9**	**+0.9**
TAP1	**Taipei** baz=282	**1.10**	**279**	*e*P	**Pg**	**12 57 39.1**	**+0.2**
TWS1	**Kuangyinshan** baz=285	**1.21**	**281**	*e*P	**Pg**	**12 57 41.1**	**+0.1**
NSK	**Sanguang** baz=263	**1.25**	**262**	*e*P	**Pg**	**12 57 41.1**	**-0.8**
NSK				S	**Sg**	**12 57 58.0**	**-0.2**
HATJ	**Hateruma jima**	**1.27**	**129**	P	**Pn**	**12 57 42.3**	**-0.1**
TWD	**Chiawan** baz=231	**1.29**	**233**	*e*P	**Pb**	**12 57 42.6**	**-0.1**
NNS	**Nan Shan** baz=251	**1.30**	**251**	*e*P	**Pn**	**12 57 42.5**	**-0.4**
JKRS	**Kuro-shima**	**1.33**	**118**	P	**Pn**	**12 57 42.3**	**-0.9**
JIJ	**Ishigaki jima**	**1.39**	**111**	P	**Pn**	**12 57 43.5**	**-0.5**
WHF	**Hehuan Shan** baz=241	**1.51**	**242**	*e*P	**Pn**	**12 57 45.9**	**-0.2**
TWT	**Tachien** baz=247	**1.54**	**247**	*e*P	**Pg**	**12 57 47.5**	**+0.2**
ESL	**Shilin** baz=226	**1.57**	**229**	*e*P	**Pg**	**12 57 48.1**	**+0.1**
NSTT	**Nanjuang**	**1.58**	**262**	*e*P	**Pg**	**12 57 49.7**	**+1.5**
TWQ1	**Liyutan** baz=254	**1.85**	**254**	*e*P	**Pb**	**12 57 52.7**	**+0.5**
EHY	**Hungye** baz=221	**1.86**	**224**	*e*P	**Pn**	**12 57 51.1**	**+0.6**
SMLT	**Sun Moon Lake** baz=239	**1.93**	**240**	*e*P	**Pb**	**12 57 52.9**	**-0.8**
TYC	**Yuchr** baz=240	**1.95**	**241**	*e*P	**Pb**	**12 57 53.4**	**-0.6**
TWF1	**Yuli** baz=219	**1.99**	**221**	*e*P	**Pb**	**12 57 51.6**	**-0.7**
YUS	**Yu-Shan** baz=228	**2.12**	**230**	*e*P	**Pn**	**12 57 54.4**	**-0.2**
ALS	**Alishan** baz=231	**2.21**	**233**	*e*P	**Pb**	**12 57 58.0**	**-0.6**
CHN5	**Tsauling** baz=235	**2.25**	**236**	*e*P	**Pb**	**12 57 58.2**	**-1.0**
CHN4	**Tsaushan** baz=231	**2.46**	**233**	*e*P	**Pb**	**12 58 01.1**	**-1.6**
STYT	**Tauyuan** baz=225	**2.47**	**227**	*e*P	**Pn**	**12 57 59.6**	**+0.6**
WTP	**Ta-pu** baz=229	**2.51**	**231**	*e*P	**Pn**	**12 58 00.6**	**+1.0**
TWK	**Hsinying** baz=231	**2.59**	**233**	*e*P	**Pn**	**12 58 02.0**	**+1.4**
CHN1	**Nanshi** baz=229	**2.61**	**231**	*e*P	**Pb**	**12 58 04.0**	**-1.3**
SGST	**Jiashian** baz=226	**2.64**	**228**	*e*P	**Pn**	**12 58 02.0**	**+0.7**
SSD	**Sandimen** baz=221	**2.85**	**223**	*e*P	**Pn**	**12 58 05.4**	**+1.3**
EAST	**Anshuo** baz=213	**3.01**	**215**	*e*P	**Pn**	**12 58 07.0**	**+0.7**
KSRS	**Korea Array** 0.3nm,0.3s,baz=182,slow=13,SNR=7.9	**13.31**	**18**	Pn	**P**	**13 00 39.3**	**+1.8**
KSRS	comp=Z,73nm,19.8s,baz=185,slow=36			LR	LR	13 05 10.9	
USRK	**Ussuriysk Ar.** comp=Z,71nm,19.8s,baz=196,slow=37	**20.72**	**19**	LR	LR	13 09 46.8	
SONM	**Songino Array** 3.5nm,1.3s,baz=155,slow=11,SNR=5.9	**26.32**	**335**	P	**P**	**13 02 54.4**	**-0.4**
SONM	comp=Z,55nm,20.0s,baz=148,slow=41			LR	LR	13 13 49.0	
PETK	**Petropavlovsk-** comp=Z,33nm,19.1s,baz=236,slow=35	**38.52**	**34**	LR	LR	13 20 14.5	
MKAR	**Makanchi Array** 0.9nm,0.9s,baz=99,slow=8.9,SNR=5.6	**38.84**	**315**	P	**P**	**13 04 43.4**	**-0.7**
MKAR	comp=Z,48nm,18.1s,baz=113,slow=37			LR	LR	13 19 43.4	
ZALV	**Zalesovo Beam** 0.5nm,0.5s,baz=126,slow=9.6,SNR=2.0	**40.45**	**326**	P	**P**	**13 04 56.9**	**-0.4**
ZALV	comp=Z,38nm,18.8s,baz=68,slow=40			LR	LR	13 23 02.7	
AAK	**Ala-Archa** comp=Z,26nm,20.4s,baz=156,slow=35	**43.22**	**307**	LR	LR	13 21 27.0	
NRIK	**Noril'sk** comp=Z,43nm,19.1s,baz=138,slow=40	**49.12**	**344**	LR	LR	13 28 44.1	

*ISCJB **22** 13:03:13.5±1.1, 36.19N±0.05×142.1E±0.1, h35km, mb3.4/3, Error ellipse: s-maj=11.7km s-min=7.8km az=2.0*
*JMA **22** 13:03:14.7±0.3, 36.27N×141.86E, h79km, M2.7*
*IDC **22** 13:03:26.9±1.4, 34.61N×137.42E, h0km, mb3.3/3, mb1 3.3/5, mb1mx3.2/42, mbtmp3.3/5, ML2.9/2, Error ellipse: s-maj=36.6km s-min=25.0km az=63.0*
ISC 22 13:03:16.0±1.5, 36.22N±0.06×142.0E±0.1, h35km, n12, σ1°46/16, mb3.3/3, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHOJ	**Chosi**	**1.08**	**242**	P	**Pn**	**13 03 33.8**	**-0.8**
CHOJ				*e*S	**Sn**	**13 03 48.8**	**+0.5**
JHO	**Hitachi**	**1.24**	**289**	P	**Pn**	**13 03 34.5**	**-2.3**
ONAJ	**Iwakimizuishiy**	**1.32**	**312**	P	**Pn**	**13 03 36.2**	**-1.8**
JFK	**Kawauchi**	**1.47**	**321**	P	**Pn**	**13 03 38.7**	**-1.4**
JFT	**Otama**	**1.87**	**314**	P	**Pn**	**13 03 45.3**	**-0.3**
JFT				S	**Sn**	**13 04 10.1**	**+2.1**
JMM	**Marumori**	**1.92**	**329**	P	**Pn**	**13 03 45.7**	**-0.4**
MJAR	**Matsushiro Arr** 2.3nm,0.3s,baz=108,slow=9.5,SNR=13	**3.10**	**277**	Pn	**Pn**	**13 04 01.5**	**-0.9**
MAT	**Matsushiro**	**3.10**	**277**	P	**Pn**	**13 04 02.4**	**0.0**
MAT				*e*S	**Sn**	**13 04 40.2**	**+2.0**
JHJ	**Hachijo jima 2** 11nm,0.3s,baz=229,slow=20,SNR=1.4	**3.60**	**211**	Pn	**Pn**	**13 04 10.3**	**+1.0**
JHJ	18nm,0.3s,baz=71,slow=18,SNR=1.5			Sn	**Sn**	**13 04 48.2**	**-2.4**
MKAR	**Makanchi Array** 0.3nm,0.7s,baz=81,slow=8.9,S

Mining explosion.
*DDA **22** 13:33:16.7,37°.19N×38°.94E,h6km,Ml2.8,Suspected Mining explosion.*

ISC 22 13:33:15.0±0.8,37°.13N±0°.03×39°.01E±0°.02,h0km,n29,
σ1s06/45,Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
URFA	**Urfa**	**0.34**	**334**	*e*PG	**Pg**	**13 33 21.6**	**+0.1**
URFA				*e*SG	**Sg**	**13 33 27.3**	**+1.3**
URFA	**Urfa**	**0.34**	**334**	*e*Pg	**Pg**	**13 33 21.7**	**+0.1**
URFA				*e*Sg	**Sg**	**13 33 27.3**	**+1.3**
SURC	**SANLIURFA_SURC**	**0.40**	**231**	*i* P	**Pb**	**13 33 25.0**	**-0.1**
SURC				*i* S	**Sb**	**13 33 32.4**	**+0.6**
SURC	**SANLIURFA_SURC**	**0.40**	**231**	P	**Pb**	**13 33 25.0**	**-0.1**
SURC				S	**Sb**	**13 33 32.4**	**+0.6**
SFNV	**Sufian** SNR=129	**1.14**	**128**	*e*P	**Pg**	**13 33 36.4**	**-0.4**
SFNV	45nm,0.5s,SNR=129			*e*S	**Sg**	**13 33 48.3**	**-3.3**
GZT	**Gaziantep**	**1.17**	**281**	*i* P	**Pb**	**13 33 37.9**	**-0.4**
GZT				*i* S	**Sn**	**13 33 55.2**	**-0.4**
MAZI	**Mazidag**	**1.19**	**74**	*e*PN	**Pb**	**13 33 39.0**	**+0.4**
MAZI				*e*SN	**Sn**	**13 33 57.5**	**+1.4**
MAZI	**Mazidag**	**1.19**	**74**	*e*Pn	**Pb**	**13 33 39.0**	**+0.4**
DYBB	**Diyarbakir**	**1.22**	**47**	*e*PN	**Pb**	**13 33 39.1**	**+0.1**
DIY	**Diyarbakir**	**1.23**	**51**	*e*Pn	**Pg**	**13 33 39.1**	**+0.4**
KBSD	**Kabsdagh** SNR=121	**1.24**	**96**	*e*P	**Pg**	**13 33 38.0**	**-0.7**
KBSD	44nm,0.3s,SNR=121			*e*S	**Sg**	**13 33 52.5**	**-2.2**
KSRV	**Kasrt alli** SNR=112	**1.27**	**180**	*e*P	**Pn**	**13 33 42.8**	**+2.9**
SVRC	**Sivrice-ELAZID**	**1.27**	**11**	*e*PN	**Pb**	**13 33 39.7**	**-0.2**
SVRC	**Sivrice-ELAZID**	**1.27**	**11**	*e*Pn	**Pb**	**13 33 39.7**	**-0.2**
ELZG	**Elazig**	**1.36**	**359**	*i* P	**Pb**	**13 33 41.7**	**+0.2**
ELZG				*i* S	**Sn**	**13 34 00.3**	**0.0**
ELZG	**Elazig**	**1.36**	**359**	P	**Pb**	**13 33 41.7**	**+0.2**
ELZG				S	**Sn**	**13 34 00.3**	**0.0**
KUZU	**Kuzuini**	**1.59**	**258**	*i* P	**Pb**	**13 33 44.9**	**-0.3**
KUZU				*i* S	**Sg**	**13 34 07.3**	**+1.3**
KUZU	**Kuzuini**	**1.59**	**258**	P	**Pb**	**13 33 44.9**	**-0.3**
KUZU				S	**Sg**	**13 34 07.3**	**+1.3**
PTK	**Pertek**	**1.78**	**10**	*e*PN	**Pn**	**13 33 47.4**	**+0.1**
PTK	**Pertek**	**1.78**	**10**	*e*Pn	**Pn**	**13 33 47.4**	**+0.1**
KAMA	**Osmaniye**	**1.87**	**272**	*i* P	**Pn**	**13 33 47.8**	**-0.6**
KAMA				*i* S	**Sg**	**13 34 15.4**	**+0.3**
KAMA	**Osmaniye**	**1.87**	**272**	P	**Pn**	**13 33 47.8**	**-0.6**
KAMA				S	**Sg**	**13 34 15.4**	**+0.3**
DARE	**Darende-Malaty**	**1.88**	**320**	*e*PN	**Pn**	**13 33 47.5**	**-1.0**
DARE	**Darende-Malaty**	**1.88**	**320**	*e*Pn	**Pn**	**13 33 47.5**	**-1.0**
SVAN	**Silvan-Diyarba**	**2.02**	**59**	*e*PN	**Pn**	**13 33 50.9**	**+0.6**
SVAN	**Silvan-Diyarba**	**2.02**	**59**	*e*Pn	**Pn**	**13 33 50.9**	**+0.6**
ANDN	**Andirin**	**2.17**	**283**	*i* P	**Pb**	**13 33 54.6**	**-0.6**
ANDN				*i* S	**Sg**	**13 34 23.7**	**-0.9**
ANDN	**Andirin**	**2.17**	**283**	P	**Pb**	**13 33 54.6**	**-0.6**
ANDN				S	**Sg**	**13 34 23.7**	**-0.9**
SARI	**SarD1z-Kayseri**	**2.41**	**303**	*e*PN	**Pn**	**13 33 53.3**	**-2.6**

*ISK **22** 13:49:08.8,39°.72N×34°.99E,h14km,ML2.0*
*ISCJB **22** 13:49:09.9±0.5,39°.79N±0°.03×35°.12E±0°.04,h0km,Error ellipse: s-maj=5.1km s-min=3.6km az=148.8*
*CSEM **22** 13:49:09.8±0.2,39°.80N×35°.13E,h1km,ML2.0,Error ellipse: s-maj=6.6km s-min=4.4km az=55.0,Suspected Mining explosion.*
*DDA **22** 13:49:10.0,39°.81N×35°.10E,h7km,Ml2.9,Suspected Mining explosion.*

ISC 22 13:49:08.0±0.8,39°.82N±0°.03×35°.08E±0°.03,h0km,n19,
σ0s54/31,Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
YOZ	**Yozgat**	**0.26**	**133**	*e*PG	**Pb**	**13 49 14.8**	**-0.8**
YOZ	**Yozgat**	**0.26**	**133**	*e*Pg	**Pb**	**13 49 14.8**	**-0.8**
COAL	**Corum-Alaca**	**0.45**	**351**	*i* P	**Pb**	**13 49 18.8**	**0.0**
COAL				*i* S	**Sb**	**13 49 26.3**	**+0.2**
COAL	**Corum-Alaca**	**0.45**	**351**	P	**Pb**	**13 49 18.8**	**0.0**
COAL				S	**Sb**	**13 49 26.3**	**+0.2**
CORM	**Corum**	**0.50**	**317**	*e*PG	**Pb**	**13 49 19.9**	**+0.1**
CORM				*e*SG	**Sb**	**13 49 27.9**	**+0.2**
CORM	**Corum**	**0.50**	**317**	*e*Pg	**Pb**	**13 49 19.9**	**+0.1**
CORM				*e*Sg	**Sb**	**13 49 27.9**	**+0.2**
CDAG	**Cicekdag**	**0.58**	**251**	*i* P	**Pb**	**13 49 21.5**	**+0.5**
CDAG				*i* S	**Sb**	**13 49 30.0**	**+0.2**
CDAG	**Cicekdag**	**0.58**	**251**	P	**Pb**	**13 49 21.5**	**+0.5**
CDAG				S	**Sb**	**13 49 30.0**	**+0.2**
CTAK	**Corum_Osmancik**	**0.86**	**345**	*i* P	**Pn**	**13 49 27.1**	**-0.5**
CTAK				*i* S	**Sn**	**13 49 41.0**	**0.0**
CTAK	**Corum_Osmancik**	**0.86**	**345**	P	**Pn**	**13 49 27.1**	**-0.5**
CTAK				S	**Sn**	**13 49 41.0**	**0.0**
CUSAR	**Sarkisla-SIVAS**	**0.98**	**113**	*i* P	**Pb**	**13 49 28.0**	**0.0**
CUSAR				*i* S	**Sb**	**13 49 42.3**	**+0.7**
CUSAR	**Sarkisla-SIVAS**	**0.98**	**113**	P	**Pb**	**13 49 28.0**	**0.0**
CUSAR				S	**Sb**	**13 49 42.3**	**+0.7**
AVNS	**Nevsehir-Avano**	**1.02**	**190**	*i* P	**Pn**	**13 49 29.9**	**+0.2**
AVNS				*i* S	**Sn**	**13 49 44.8**	**0.0**
AVNS	**Nevsehir-Avano**	**1.02**	**190**	P	**Pn**	**13 49 29.9**	**+0.2**
AVNS				S	**Sn**	**13 49 44.8**	**0.0**
BNN	**Bunyan**	**1.13**	**148**	*e*PN	**Pb**	**13 49 30.8**	**+0.3**
BNN	**Bunyan**	**1.13**	**148**	*e*Pn	**Pb**	**13 49 30.8**	**+0.3**
SERE	**Sereflikochisa**	**1.46**	**234**	*e*PN	**Pn**	**13 49 33.6**	**-2.1**
SVSK	**Karacayir**	**1.48**	**85**	*e*PN	**Pg**	**13 49 36.7**	**+0.3**
SVSK	**Karacayir**	**1.48**	**85**	*e*Pn	**Pg**	**13 49 36.7**	**+0.3**

MEX 22 13:49:16.0±0.5,13°.37N×91°.78W,h13km±213km,MD3.9,
Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CCIG	**Comitan**	**2.92**	**353**	*e*P	Pn	13 49 59.8	-2.5
CCIG				*i* S	Sn	13 50 33.8	-3.5
TGIG		**3.63**	**339**	*i* P	Pn	13 50 09.4	-2.6
TGIG				*i* S	Sn	13 50 50.6	-4.1

*IDC **22** 13:58:47.8±1.1,15°.28S×173°.49W,h0km,mb4.2/7,mb1 4.3/7,mb1mx4.0/35,mbtmp4.2/7,MS3.6/18,Ms1 3.6/18,ms1mx3.5/31,Error ellipse: s-maj=41.9km s-min=22.5km az=113.0*

ISC 22 13:58:54.0±1.1,15°.3S±0°.2×173°.5W±0°.3,h42km,n38,
σ0s73/11,mb4.3/7,MS3.6/15,Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu** 107nm,0.3s,baz=189,slow=2.2,SNR=107	**2.20**	**51**	Pn	Pn	13 59 17.9	-10
AFI	402nm,0.3s,baz=57,slow=19,SNR=19			Sn	Sn	13 59 38.4	-16
AFI	comp=Z,664nm,18.2s,baz=216,slow=41			LR	LR	14 00 15.2	
RAR	**Rarotonga** comp=Z,251nm,20.7s,baz=292,slow=31	**14.34**	**116**	LR	LR	14 06 08.8	
RAO	**Raoul Island** comp=Z,132nm,18.1s,baz=351,slow=35	**14.46**	**195**	LR	LR	14 07 16.2	
DZM	**Mont Dzumac** 356nm,24.1s	**20.11**	**247**	*e*LR	LR	14 08 39.8	
PAE	**Paea** 1.2nm,0.2s	**23.10**	**99**	*e*T	T	14 26 47.7	
PPT	**Papeete** comp=Z,132nm,21.2s,baz=218,slow=30	**23.10**	**99**	LR	LR	14 10 08.9	
PPT2	**Papeete2** 396nm,29.8s	**23.10**	**99**	*e*LQ	LQ	14 08 12.2	
PPT2	385nm,25.0s			*e*LR	LR	14 09 16.1	
PPT2	**Papeete2** 2.3nm,0.4s	**23.10**	**99**	*e*T	T	14 26 48.0	
TVO	**Taravao** 0.9nm,0.3s	**23.41**	**99**	*e*T	T	14 27 12.1	
URZ	**Urewera** 9.6nm,1.1s,baz=356,slow=13,SNR=3.3	**24.31**	**198**	P	**P**	**14 04 07.0**	**-0.7**
RKT	**Rikitea** 199nm,25.2s	**37.16**	**108**	*e*LR	LR	14 15 49.1	
RKT	**Rikitea** 3.3nm,0.4s	**37.16**	**108**	*e*T	T	14 44 37.0	
H11S2	**WAKE ISLAND Hy** baz=149,slow=76,SNR=15	**38.81**	**329**	T	T	14 47 37.0	
H11S3	**WAKE ISLAND Hy** baz=149,slow=76,SNR=15	**38.82**	**329**	T	T	14 47 36.4	
H11S1	**WAKE ISLAND Hy** baz=149,slow=76,SNR=18	**38.83**	**329**	T	T	14 47 34.7	
H11N3	**WAKE ISLAND Hy** baz=150,slow=76,SNR=13	**39.76**	**330**	T	T	14 48 47.5	
H11N1	**WAKE ISLAND Hy** baz=150,slow=76,SNR=12	**39.76**	**330**	T	T	14 48 50.0	
H11N2	**WAKE ISLAND Hy** baz=150,slow=76,SNR=15	**39.77**	**330**	T	T	14 48 48.9	
STKA	**Stephens Creek** 5.2nm,1.0s,baz=98,slow=5.5,SNR=4.1	**43.97**	**240**	P	**P**	**14 06 57.1**	**-0.2**
STKA	comp=Z,64nm,19.3s,baz=27,slow=33			LR	LR	14 23 19.4	
WRA	**Warramunga Arr** 2.1nm,0.7s,baz=91,slow=7.1,SNR=45	**49.73**	**257**	P	**P**	**14 07 42.2**	**-0.4**
WRA	0.3nm,0.6s,baz=89,slow=3.7,SNR=6.3			PcP	**PcP**	**14 09 03.7**	**+0.4**
ASAR	**Alice Springs** 3.9nm,0.5s,baz=87,slow=8.0,SNR=69	**50.01**	**252**	P	**P**	**14 07 44.6**	**-0.1**
ASAR	comp=Z,204nm,20.6s,baz=100,slow=34			LR	LR	14 27 14.5	
GUMO	**Guam** comp=Z,29nm,18.8s,baz=172,slow=34	**50.16**	**303**	LR	LR	14 27 07.4	
FITZ	**Fitzroy Crossi** comp=Z,112nm,18.1s,slow=35	**58.09**	**258**	LR	LR	14 32 21.5	
VNDA	**Vanda** 0.6nm,0.6s,baz=4.3,slow=3.3,SNR=4.1	**63.46**	**186**	P	**P**	**14 09 19.8**	**+0.6**
VNDA	comp=Z,9.5nm,18.9s,baz=322,slow=33			LR	LR	14 33 41.2	
MJAR	**Matsushiro Arr** comp=Z,42nm,21.7s,baz=125,slow=31	**68.77**	**320**	LR	LR	14 34 40.8	
JOW	**Kunigami** comp=Z,53nm,20.6s,baz=166,slow=31	**70.31**	**306**	LR	LR	14 35 18.5	
PETK	**Petropavlovsk-** 2.7nm,0.8s,baz=132,slow=11,SNR=4.4	**72.49**	**342**	P	**P**	**14 10 16.9**	**+0.8**
KSRS	**Korea Array** comp=Z,35nm,21.2s,baz=102,slow=30	**75.99**	**316**	LR	LR	14 37 19.4	
MA2	**Magadan** comp=Z,24nm,21.8s,baz=173,slow=30	**80.03**	**342**	LR	LR	14 38 27.4	
TXAR	**Lajitas Array** comp=Z,42nm,21.0s,baz=0.0,slow=30	**80.67**	**56**	LR	LR	14 39 36.4	
ILAR	**Eielson Array** 0.5nm,0.8s,baz=226,slow=6.1,SNR=7.9	**82.38**	**11**	P	**P**	**14 11 09.8**	**-1.4**
CMAR	**Chiang Mai Arr** comp=Z,18nm,18.7s,baz=174,slow=34	**92.45**	**288**	LR	LR	14 51 17.1	
ULM	**Lac du Bonnet** comp=Z,63nm,19.6s,baz=132,slow=31	**93.94**	**39**	LR	LR	14 46 59.8	
SONM	**Songino Array** comp=Z,36nm,21.6s,baz=142,slow=31	**94.68**	**318**	LR	LR	14 48 15.7	
LPAZ	**La Paz** comp=Z,31nm,21.9s,baz=278,slow=29	**99.97**	**110**	LR	LR	14 46 54.7	
KHC	**Kasperske Hory**	**145.76**	**352**	*e*P	**PKPab**	**14 18 29.4**	**+0.4**
KHC				*ex*	x	14 18 48.6	
BRTR	**Keskin Array B** 3.8nm,0.8s,baz=127,slow=3.3,SNR=13	**145.99**	**321**	PKPbc	**PKPbc**	**14 18 30.1**	**+0.4**
GERES	**GERESS Array B** 0.6nm,0.8s,baz=104,slow=2.8,SNR=5.0	**146.02**	**351**	PKPbc	**PKPdf**	**14 18 29.1**	**+0.4**

MEX 22 14:15:06.7±0.6,13°.36N×90°.26W,h10km,MD3.8,Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CCIG	**Comitan**	**3.43**	**328**	*e*P	Pn	14 15 57.6	-2.9
CCIG				*i* S	Sn	14 16 37.4	-3.9
TGIG		**4.39**	**321**	*e*P	Pn	14 16 11.9	-1.6
TGIG				*i* S	Sn	14 17 01.8	-2.9

*MEX **22** 14:16:45.4±0.9,21°.76N×106°.68W,h16km±20km,MD4.3*
*NEIC **22** 14:16:45.4±0.0,21°.76N×106°.68W,h16km,MD4.3(MEX),After MEX.*
*IDC **22** 14:16:47.6±6.3,22°.01N×106°.20W,h0km,mb3.4/2,mb1 4.0/3,mb1mx3.7/34,mbtmp3.5/3,ML4.1/1,MS2.9/3,Ms1 2.9/3,ms1mx2.6/15,Error ellipse: s-maj=138.2km s-min=38.4km az=122.0*

ISC 22 14:16:37.7±2.0,21°.61N±0°.10×106°.8W±0°.1,h10km,n17,
σ1s82/19,Off coast of central Mexico

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MAIG	**Mazatlaan**	**1.60**	**12**	*e*P	**Pb**	**14 17 06.9**	**-0.5**
MAIG				*i* S	**Sn**	**14 17 24.8**	**-2.0**
MAIG	**Mazatlaan** baz=186,slow=14	**1.60**	**12**	*e*P	**Pb**	**14 17 06.9**	**-0.5**
MAIG				*i* S	**Sn**	**14 17 24.8**	**-2.0**
PUVA	**Puert Vallarta**	**1.75**	**124**	*i* P	**Pg**	**14 17 10.6**	**-0.8**
PUVA				*i* S	**Sb**	**14 17 31.1**	**-0.8**
ZAIG	**Zacatecas**	**4.07**	**73**	*e*P	**Pn**	**14 17 42.7**	**+2.5**
ZAIG				*i* S	**Sn**	**14 18 28.6**	**+0.6**
ZAIG	**Zacatecas**	**4.07**	**73**	*e*P	**Pn**	**14 17 42.7**	**+2.5**
ZAIG				*i* S	**Sn**	**14 18 28.6**	**+0.6**
LPIG	**La Paz** comp=Z,154nm,22.0s,baz=204,slow=31	**4.09**	**308**	LR	LR	14 19 03.3	
H06N1	**SOCORRO T-PHAS** SNR=11	**4.81**	**236**	T	T	14 23 08.7	
H06E1	**SOCORRO T-PHAS** SNR=352	**4.81**	**235**	T	T	14 23 06.6	
H06S1	**SOCORRO T** SNR=11	**4.86**	**235**	T	T	14 23 07.7	
HPIG		**5.39**	**11**	*e*P	**Pn**	**14 18 01.3**	**+2.9**
HPIG				*i* S	**Sn**	**14 19 00.9**	**+0.2**
HPIG		**5.39**	**11**	*e*P	**Pn**	**14 18 01.3**	**+2.9**
HPIG				*i* S	**Sn**	**14 19 00.9**	**+0.2**
LNIG	**Linares**	**7.47**	**63**	*i* P	**Pn**	**14 18 28.8**	**+2.0**
LNIG				*i* S	**Sn**	**14 19 50.1**	**-1.5**
LNIG	**Linares**	**7.47**	**63**	*i* P	**Pn**	**14 18 28.8**	**+2.0**
LNIG				*i* S	**Sn**	**14 19 50.1**	**-1.5**
TXAR	**Lajitas Array** 0.7nm,0.3s,baz=204,slow=15,SNR=34	**8.18**	**19**	Pn	Pn	14 18 41.3	+4.7
TXAR	0.5nm,0.3s,baz=197,slow=30,SNR=3.9			Lg	Lg	14 20 47.8	
TXAR	comp=Z,93nm,19.9s,baz=0.0,slow=41			LR	LR	14 22 01.7	
ANMO	**Albuquerque** 0.0nm,0.3s,baz=177,slow=13,SNR=3.1	**13.29**	**1**	Pn	**P**	**14 19 55.2**	**-1.3**
ANMO	comp=Z,52nm,20.3s,baz=170,slow=38			LR	LR	14 24 51.7	
PDAR	**Pinedale Array** 1.4nm,0.7s,baz=163,slow=11,SNR=4.3	**21.22**	**354**	P	P	14 21 33.1	+9.2
ILAR	**Eielson Array** 0.5nm,0.8s,baz=153,slow=7.2,SNR=6.5	**50.52**	**339**	P	P	14 25 45.5	+10

*BKK **22** 14:17:08.9±1.6,26°.1N×14°.9°4E±2°.9,h56km±40km,M4.8/11,mB4.3/3,mb4.3/11,MLv5.1/2,Mw(mB)3.4/3*
*ISCJB **22** 14:17:33.5±0.3,23°.71N±0°.02×94°.86E±0°.02,h135km±3km,mb4.4/45,Error ellipse: s-maj=3.5km s-min=2.8km az=19.7*
*BJI **22** 14:17:34.4,23°.76N×94°.92E,h141km,mb4.7/48,mB4.6/32*
*MOS **22** 14:17:34.5±0.9,23°.60N×94°.94E,h150km,mb4.6/17,Error ellipse: s-maj=14.0km s-min=6.1km az=114.4*
*NEIC **22** 14:17:34.6±0.7,23°.65N×95°.07E,h139km±7km,mb4.7/13,Error ellipse: s-maj=10.0km s-min=4.8km az=62.0*
NEIC Felt at Churachandpur, Manipur and Yairipok, India.
*IDC **22** 14:17:36.0±0.6,23°.67N×95°.03E,h149km±5km,mb3.9/20,mb1 4.0/21,mb1mx3.7/60,mbtmp4.4/21,Error ellipse: s-maj=13.4km s-min=8.4km az=71.0*

ISC 22 14:17:35.1±0.4,23°.66N±0°.04×94°.83E±0°.03,h143km±4km,
h144km:pP-P,n145,σ2s68/196,mb4.5/45,11C-2D,
Myanmar-India border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IMP	**Imphal**	**1.42**	**325**	*i* P	**Pn**	**14 18 03.5**	**+0.1**
IMP				*e*S	**Sn**	**14 18 23.4**	**-1.7**
IMP	comp=E,3μm,0.5s			AML	AML	14 18 28.8	
IMP	comp=N,4μm,0.5s			AML	AML	14 18 30.6	
MOKO	**MOKOCHONG**	**2.67**	**354**	*e*P	**Pn**	**14 18 17.7**	**-0.4**
MOKO				*e*S	**Sn**	**14 18 48.5**	**-2.7**
MOKO	comp=E,8μm,0.3s			AML	AML	14 18 51.6	
MOKO	comp=N,6μm,0.2s			AML	AML	14 18 52.5	
JORH	**JORHAT**	**3.12**	**350**	*e*P	**Pn**	**14 18 23.9**	**+0.3**
JORH				*e*S	**Sn**	**14 18 58.2**	**-3.0**
JORH	comp=N,9μm,0.7s			AML	AML	14 19 02.0	
JORH	comp=E,7μm,0.3s			AML	AML	14 19 02.1	
BELO	**BELONIA**	**3.14**	**263**	*i* P	**Pn**	**14 18 24.6**	**+0.7**
BELO				*e*pP		14 18 26.1	
BELO				*ex*	x	14 19 02.8	
SHL	**Shillong**	**3.29**	**306**	*e*P	**Pn**	**14 18 25.7**	**-0.3**
SHL				*e*PN		14 18 30.0	
SHL				*e*S	**Sn**	**14 19 03.3**	**-2.2**
SHL	comp=N,4μm,0.1s			AML	AML	14 19 05.5	
SHL	comp=E,6μm,0.1s			AML	AML	14 19 05.6	
SHL				*e*SN		14 19 07.5	
AGT	**Agartala**	**3.29**	**275**	*i* P	**Pn**	**14 18 26.8**	**+0.9**
AGT				*e*S	**Sn**	**14 19 04.4**	**-0.8**
AGT	comp=E,3μm,0.5s			AML	AML	14 19 08.7	
AGT	comp=N,3μm,0.4s			AML	AML	14 19 09.1	
TEZP	**TEZPUR**	**3.47**	**328**	*e*P	**Pn**	**14 18 27.7**	**-0.6**
TEZP				*e*S	**Sn**	**14 19 05.2**	**-4.3**
TEZP	comp=E,8μm,0.2s			AML	AML	14 19 07.2	
TEZP	comp=N,9μm,0.2s			AML	AML	14 19 07.6	
ITAN	**ITANAGAR**	**3.61**	**344**	*e*P	**Pn**	**14 18 30.0**	**-0.1**
ITAN				*e*S	**Sn**	**14 19 09.4**	**-3.4**
ITAN	comp=E,9μm,0.2s			AML	AML	14 19 15.7	
ITAN	comp=N,12μm,0.3s			AML	AML	14 19 17.1	
LKP	**Lekhapani**	**3.77**	**14**	*e*P	**Pn**	**14 18 31.9**	**-0.3**
LKP				*e*S	**Sn**	**14 19 13.9**	**-2.6**
DIBR	**DIBRUGARH**	**3.79**	**1**	*e*P	**Pn**	**14 18 32.3**	**-0.1**
DIBR				*e*S	**Sn**	**14 19 12.3**	**-4.7**
DIBR	comp=N,2μm,0.4s			AML	AML	14 19 15.8	
DIBR	comp=E,2μm,0.2s			AML	AML	14 19 16.5	
GUWA	**GUWAHATI**	**3.81**	**312**	*e*P	**Pn**	**14 18 31.6**	**-1.1**
GUWA				*e*S	**Sn**	**14 19 12.9**	**-4.4**
GUWA	comp=E,3μm,0.3s			AML	AML	14 19 15.7	
ZIRO	**ZIRO**	**3.95**	**347**	*e*P	**Pn**	**14 18 33.9**	**-0.8**
ZIRO				*e*S	**Sn**	**14 19 16.4**	**-4.6**
ZIRO	comp=N,22μm,0.4s			AML	AML	14 19 22.1	
ZIRO	comp=E,17μm,0.4s			AML	AML	14 19 22.6	
TURI	**Tura**	**4.51**	**296**	*i* P	**Pn**	**14 18 42.4**	**+0.5**
TURI				*e*S	**Sn**	**14 19 30.6**	**-3.2**
TURI	comp=E,4μm,0.3s			AML	AML	14 19 34.3	
TURI	comp=N,3μm,0.1s			AML	AML	14 19 34.7	
DHUB	**DHUBRI**	**4.98**	**299**	*i* P	**Pn**	**14 18 47.5**	**-0.7**
DHUB				*e*S	**Sn**	**14 19 40.6**	**-4.5**
DHUB	comp=N,4μm,0.1s			AML	AML	14 19 42.9	
DHUB	comp=E,3μm,0.1s			AML	AML	14 19 43.2	
CHTO	**Chiang Mai** comp=E,111nm,0.6s,comp=E,0.9nm	**6.16**	**141**	P	**Pn**	**14 19 03.0**	**-1.0**
CHTO	**Chiang Mai**	**6.16**	**141**	*e*P	**Pn**	**14 19 02.0**	**-2.0**
CHTO						14 20 06.7	
CHTO	**Chiang Mai**	**6.16**	**141**	*e*Pn	**Pn**	**14 19 01.9**	**-2.0**
CHTO				Sn	**Sn**	**14 20 06.7**	**-6.7**
CMMT	**Chiang Mai** comp=E,25nm,0.6s,comp=E,0.2nm	**6.16**	**141**	P	**Pn**	**14 19 03.0**	**-1.0**
CM31	**Chiang Mai Arr**	**6.44**	**143**	*e*Pn	**Pn**	**14 19 06.2**	**-1.5**
CMAR	**Chiang Mai Arr** comp=E,3.5nm,0.3s,baz=316,slow=13,SNR=77	**6.44**	**143**	P	**Pn**	**14 19 06.5**	**-1.3**
CMAR	baz=323,slow=16,SNR=2.2			S	**Sn**	**14 20 25.5**	**+5.3**
CM01	**Chiang Mai Arr**	**6.48**	**143**	*e*Pn	**Pn**	**14 19 05.7**	**-2.6**
GTK	**Tadong**	**6.71**	**304**	*e*P	**Pn**	**14 19 11.4**	**0.0**
GTK				*ex*	x	14 20 24.4	
GTK	comp=N,542nm,0.2s			AML	AML	14 20 30.2	
GTK	comp=E,624nm,0.6s			AML	AML	14 20 30.8	
LAMP	**Lampang** comp=E,12nm,0.7s	**6.80**	**138**	P	**Pn**	**14 19 12.4**	**-0.1**
LSA	**Lhasa**	**6.86**	**332**	P	**Pn**	**14 19 14.4**	**+0.7**
LSA	comp=E,440nm,0.7s			*s*max	*s*max		
LSA	comp=E,570nm,0.6s			*s*max	*s*max		
LSA	**Lhasa** comp=Z,100nm,0.6s	**6.86**	**332**	*e*P	**Pn**	**14 19 14.3**	**+0.7**
LSA				*p*max	*p*max		
LSA	**Lhasa** comp=Z,100nm,0.6s	**6.86**	**332**	*e*Pn	**Pn**	**14 19 14.3**	**+0.7**
LSA				*e*Sn	Sn	14 20 09.7	-21
KMI	**Kunming**	**7.35**	**77**	P	**Pn**	**14 19 21.6**	**+1.5**
KMI				S	**Sn**	**14 20 40.0**	**-2.4**
KMI	comp=Z,68nm,0.9s			*p*max	*p*max		
KMI	comp=Z,160nm,3.3s			*p*max	*p*max		
KMI	comp=Z,360nm,5.3s			LR	LR		
KMI	comp=Z,170nm,5.6s			LR	LR		
KMI	comp=Z,130nm,6.3s			LR	LR		
TAPN	**Taplejung**	**7.41**	**301**	*e*Pn	**Pn**	**14 19 20.8**	**-0.1**
TAPN				*e*Sn	**Sn**	**14 20 41.5**	**-2.3**
ODAN	**Odare**	**7.45**	**297**	*e*Pn	**Pn**	**14 19 21.5**	**+0.1**
ODAN	comp=Z,771nm,0.4s			*e*Sn	**Sn**	**14 20 42.3**	**-2.4**
SUKH	**Sukhothai** comp=Z,11nm,0.8s,comp=Z,81nm	**7.61**	**143**	P	**Pn**	**14 19 22.4**	**-1.0**
SUKH	comp=Z,11nm,0.8s,comp=Z,81nm			S	Sn	14 21 14.0	+26
UTTA	**Uttaradit** comp=Z,5.3nm,0.7s	**7.96**	**137**	P	**Pn**	**14 19 28.0**	**0.0**
RAMN	**Ramite**	**8.14**	**295**	*e*Pn	**Pn**	**14 19 30.8**	**+0.2**
RAMN	comp=Z,563nm,0.4s			*e*Sn	**Sn**	**14 20 58.0**	**-3.3**
BOK	**Bokaro**	**8.20**	**273**	*e*P	**Pn**	**14 19 32.0**	**+0.8**
BOK				*e*S	**Sn**	**14 20 56.1**	**-6.3**
BOK	comp=N,231nm,0.8s			AML	AML	14 21 06.2	
BOK	comp=E,165nm,0.5s			AML	AML	14 21 06.2	
UMPA	**Umpang Tak** comp=E,22nm,0.9s,comp=E,162nm	**8.33**	**152**	P	**Pn**	**14 19 35.1**	**+2.1**
SLVN	**Son La**	**8.70**	**104**	*e*Pn	Pn	14 19 32.9	-5.1
JIRN	**Jiri**	**8.76**	**299**	*e*Pn	**Pn**	**14 19 38.4**	**-0.6**
PBKT	**Sadao Pong** comp=E,16nm,0.8s	**9.11**	**140**	P	**Pn**	**14 19 43.6**	**+0.2**
GUN	**Gumba**	**9.11**	**300**	*e*Pn	**Pn**	**14 19 43.3**	**-0.4**
GUN	comp=E,562nm,0.5s			*e*Sn	**Sn**	**14 21 22.2**	**-2.7**
UTHA	**Uthaitani** comp=E,28nm,0.9s,comp=E,228nm	**9.15**	**151**	P	**Pn**	**14 19 44.4**	**+0.4**
PKI	**Pulchoki**	**9.35**	**297**	*e*Pn	**Pn**	**14 19 46.2**	**-0.7**
PKI	comp=E,351nm,0.6s			*e*Sn	**Sn**	**14 21 26.9**	**-3.8**
PKIN	**Phulchoki**	**9.37**	**297**	*e*Pn	**Pn**	**14 19 46.2**	**-0.8**
PKIN				*e*Sn	**Sn**	**14 21 26.8**	**-4.1**
KKN	**Kakani**	**9.54**

CHLP	**Challavanipeta**	**11.29**	**245**	*e*Pn	**Pn**	**14 20 13.0**	**+0.7**
CHLP				IAmb	IAmb	14 20 16.1	
	comp=Z,27nm,0.7s						
CHLP				Sn	Sn	14 22 07.9	-9.1
PYUN	**Piuthan**	**11.54**	**295**	*e*Pn	**Pn**	**14 20 14.2**	**-1.6**
PYUN				*e*Sn	**Sn**	**14 22 16.6**	**-6.8**
	comp=Z,181nm,0.5s						
VIS	**Vishakhapatnam**	**12.28**	**243**	*i* P	**Pn**	**14 20 26.4**	**+1.2**
VIS				*e*P	P	14 20 26.5	-5.1
VIS				*e*S	Sn	14 22 30.9	-10
VIS				*i* S	S	14 22 31.2	-27
VIS				*i* S	S	14 22 31.3	-27
VIS				*ex*	x	14 22 33.3	
	comp=N,104nm,0.6s						
VIS				*ex*	x	14 22 33.4	
	comp=E,94nm,0.6s						
UBPT	**Khong Chiam**	**13.04**	**128**	P	**Pn**	**14 20 32.8**	**-2.3**
PVM	**Polavaram**	**13.92**	**245**	*e*Pn	**Pn**	**14 20 48.9**	**+2.5**
PVM				IAmb	IAmb	14 20 51.8	
	comp=Z,17nm,0.8s						
PVM				Sn	Sn	14 23 12.6	-7.9
ENH	**Enshi**	**14.62**	**60**	*e*Pn	**Pn**	**14 20 51.3**	**-3.9**
	comp=Z,44nm,0.7s						
LZH	**Lanzhou**	**14.63**	**30**	*e*P	**Pn**	**14 20 53.0**	**-2.4**
LZH				sP	P	14 21 31.3	+33
LZH				*e*S	**Sn**	**14 23 31.0**	**-6.7**
LZH				pmax	pmax		
	comp=Z,51nm,1.1s						
LZH				pmax	pmax		
	comp=Z,170nm,4.0s						
NGP	**Nagpur**	**14.81**	**263**	*e*P	**P**	**14 20 59.5**	**-0.3**
NGP				*ex*	x	14 23 36.2	
RPR	**Rampur**	**15.25**	**255**	*e*Pn	**P**	**14 21 06.9**	**+2.3**
RPR				IAmb	IAmb	14 21 08.4	
	comp=Z,36nm,0.5s						
RPR				Sn	**Sn**	**14 23 45.0**	**-7.4**
BHPL	**Bhopal**	**15.98**	**272**	*e*P	**P**	**14 21 14.4**	**+1.7**
ADKI	**Addanki**	**16.00**	**244**	*e*Pn	**Pn**	**14 21 13.2**	**+1.0**
ADKI				IAmb	IAmb	14 21 17.3	
	comp=Z,13nm,1.2s						
ADKI				Sn	Sn	14 24 00.1	-10
SRSP	**Sriramsagar**	**16.07**	**256**	*e*Pn	**P**	**14 21 15.8**	**+2.0**
SRSP				IAmb	IAmb	14 21 19.3	
	comp=Z,72nm,0.7s						
SRSP				Sn	**Sn**	**14 24 02.8**	**-9.4**
XAN	**Xi'an**	**16.09**	**47**	P	**Pn**	**14 21 10.8**	**-2.4**
XAN				sP	sP	14 21 49.4	-7.4
XAN				pmax	pmax		
	comp=Z,53nm,0.8s						
XAN				pmax	pmax		
	comp=Z,80nm,8.5s						
NJS	**Nagarjunasagar**	**16.20**	**247**	*e*Pn	**P**	**14 21 17.4**	**+2.3**
NJS				IAmb	IAmb	14 21 22.1	
	comp=Z,7.5nm,0.5s						
NJS				Sn	**Sn**	**14 24 05.9**	**-9.4**
GTA	**Gaotai**	**16.26**	**14**	*e*P	**Pn**	**14 21 15.3**	**-0.1**
GTA				sP	sP	14 21 56.5	-2.3
GTA				pmax	pmax		
	comp=Z,7.0nm,0.4s						
HYB	**Hyderabad**	**16.46**	**251**	*i* P	**P**	**14 21 21.5**	**+3.5**
HYB				*e*S	**S**	**14 24 22.0**	**+0.6**
HYB	**Hyderabad**	**16.46**	**251**	*e*P	**P**	**14 21 19.9**	**+1.9**
HYBB	**Hyderabad (bro**	**16.46**	**251**	*e*Pn	**P**	**14 21 19.4**	**+1.3**
HYBB				IAmb	IAmb	14 21 22.3	
	comp=Z,14nm,0.8s						
HYBB				Sn	S	14 24 11.8	-10
NDI	**New Delhi**	**16.58**	**291**	*ex*	x	14 21 30.0	
SRLM	**Srisailam**	**16.76**	**246**	*e*Pn	**Pn**	**14 21 23.4**	**+1.8**
SRLM				IAmb	IAmb	14 21 25.1	
	comp=Z,9.2nm,0.7s						
SRLM				Sn	**S**	**14 24 20.0**	**-8.6**
RCLA	**Racherla**	**17.03**	**244**	*e*Pn	**Pn**	**14 21 25.9**	**+1.1**
RCLA				IAmb	IAmb	14 21 32.8	
	comp=Z,16nm,1.2s						
RCLA				Sn	S	14 24 24.6	-10
SMLA	**Simla**	**17.35**	**299**	*e*P	**P**	**14 21 27.2**	**-0.5**
SKHT	**Srikalahasti**	**17.38**	**238**	Sn	S	14 24 29.7	-12
KLRI	**Killari**	**17.92**	**255**	*e*Pn	**Pn**	**14 21 37.0**	**+1.5**
KLRI				IAmb	IAmb	14 21 37.8	
	comp=Z,18nm,0.9s						
KLRI				Sn	**S**	**14 24 44.0**	**-8.7**
WHN	**Wuhan**	**18.67**	**64**	P	**Pn**	**14 21 44.9**	**+0.8**
WHN				sP	**sP**	**14 22 21.5**	**-3.8**
WHN				S	**S**	**14 25 06.6**	**-0.6**
URV	**Uravakonda**	**18.70**	**246**	*e*Pn	**Pn**	**14 21 45.5**	**+0.9**
URV				IAmb	IAmb	14 21 46.1	
	comp=Z,9.1nm,0.6s						
URV				Sn	**S**	**14 25 05.6**	**-2.6**
IPM	**Ipoh**	**19.98**	**162**	*e*P	**P**	**14 21 53.4**	**-3.1**
	comp=Z,14nm,0.7s						
WMQ	**Urumqi**	**20.95**	**345**	P	**P**	**14 22 07.6**	**+0.9**
WMQ				pP	pP	14 22 34.0	+1.7
WMQ				S	**S**	**14 25 45.8**	**-6.3**
WMQ				pmax	pmax		
	comp=Z,37nm,1.1s						
WMQ				pmax	pmax		
	comp=Z,50nm,3.6s						
WMQ				LR	LR		
	comp=Z,110nm,4.9s						
WMQ				LR	LR		
	comp=Z,81nm,5.7s						
WMQ				LR	LR		
	comp=Z,38nm,19.7s						
PSI	**Prapat**	**21.11**	**169**	P	**P**	**14 22 10.0**	**+1.3**
	comp=Z,13nm,0.6s,baz=332,slow=7.1,SNR=11						
PSI	**Prapat**	**21.11**	**169**	*e*P	**P**	**14 22 08.1**	**-0.6**
PSI				pmax	pmax		
	comp=Z,17nm,0.8s						
PSI	**Prapat**	**21.11**	**169**	*e*P	**P**	**14 22 08.1**	**-0.6**
	comp=Z,17nm,0.8s						
PALK	**Pallekele**	**21.20**	**222**	P	**P**	**14 22 11.0**	**+1.4**
	comp=Z,3.1nm,0.4s,baz=119,slow=4.3,SNR=4.7						
PALK				S	**S**	**14 26 01.6**	**+4.4**
	comp=Z,13nm,0.6s,baz=296,slow=18,SNR=9.6						
PALK	**Pallekele**	**21.20**	**222**	P	**P**	**14 22 11.0**	**+1.4**
HHC	**Hu-ho-hao-te**	**22.16**	**35**	*e*P	**P**	**14 22 18.4**	**-1.1**
HHC				pmax	pmax		
	comp=Z,16nm,1.0s						
HHC				pmax	pmax		
	comp=Z,110nm,7.8s						
THW	**Thamme Wali**	**22.25**	**299**	P	**P**	**14 22 21.9**	**+1.5**
KSH	**Kashi**	**22.47**	**319**	*e*P	**P**	**14 22 24.3**	**+1.8**
KSH				pP	pP	14 22 52.3	+3.4
KSH				PP	**PnPn**	**14 23 00.3**	**+5.4**
KSH				S	**S**	**14 26 15.8**	**-2.8**
KSH				SS	**SnSn**	**14 27 10.6**	**+6.1**
KSH				pmax	pmax		
	comp=Z,7.0nm,0.6s						
KSH				pmax	pmax		
	comp=Z,63nm,3.6s						
KSH				LR	LR		
	comp=Z,95nm,4.8s						
KSH				LR	LR		
	comp=Z,100nm,4.9s						
KSH				LR	LR		
	comp=Z,87nm,7.0s						
NJ2	**Nanjing**	**22.79**	**63**	*e*P	**P**	**14 22 26.3**	**+0.8**
NJ2				pmax	pmax		
	comp=Z,20nm,0.5s						
PDGK	**Podgornoye**	**23.35**	**331**	P	**P**	**14 22 31.8**	**+1.1**
PDGK				pmax	pmax		
	comp=Z,11nm,0.7s						
TKM2	**Tokmak 2**	**24.95**	**325**	P	**P**	**14 22 47.3**	**+2.0**
TKM2				pmax	pmax		
	comp=Z,9.0nm,1.2s						
MK01	**Makanchi Array**	**25.16**	**339**	*e*P	**P**	**14 22 48.4**	**+1.3**
MK31	**Makanchi Array**	**25.19**	**339**	*e*P	**P**	**14 22 48.2**	**+0.9**
MK31				pmax	pmax		
	comp=Z,10.0nm,0.4s						
MK31	**Makanchi Array**	**25.19**	**339**	*e*P	**P**	**14 22 48.7**	**+1.4**
MKAR	**Makanchi Array**	**25.19**	**339**	P	**P**	**14 22 48.8**	**+1.5**
	comp=Z,24nm,0.6s,baz=146,slow=10,SNR=238						
MKAR				pP	**pP**	**14 23 20.2**	**+2.8**
	comp=Z,4.8nm,0.5s,baz=153,slow=9.4,SNR=2.7						
MKAR	**Makanchi Array**	**25.19**	**339**	*e*P	**P**	**14 22 48.5**	**+1.3**
	comp=Z,223nm,0.4s						
MKAR				pP	**pP**	**14 23 20.2**	**+2.8**
MAKZ	**Makanchi**	**25.30**	**339**	*e*P	**P**	**14 22 49.7**	**+1.4**
MAKZ				pmax	pmax		
	comp=Z,20nm,0.9s						
MAKZ	**Makanchi**	**25.30**	**339**	*e*P	**P**	**14 22 49.7**	**+1.4**
	comp=Z,20nm,0.9s						
AAK	**Ala-Archa**	**25.34**	**323**	P	**P**	**14 22 51.6**	**+2.7**
	comp=Z,3.1nm,0.6s,baz=152,slow=6.3,SNR=9.9						
AAK	**Ala-Archa**	**25.34**	**323**	*e*P	**P**	**14 22 50.9**	**+2.0**
AAK				pmax	pmax		
	comp=Z,9.0nm,1.1s						
AAK	**Ala-Archa**	**25.34**	**323**	*e*P	**P**	**14 22 50.9**	**+2.0**
	comp=Z,8.7nm,1.1s						
SONM	**Songino Array**	**25.82**	**18**	P	**P**	**14 22 52.7**	**-0.4**
	comp=Z,0.9nm,0.6s,baz=204,slow=11,SNR=5.7						
ULN	**Ulaanbaatar**	**26.04**	**19**	*e*P	**P**	**14 22 57.8**	**+2.7**
ULN				pmax	pmax		
	comp=Z,5.0nm,2.0s						
KURBB	**Kurchatov Arra**	**29.75**	**339**	P	**P**	**14 23 29.1**	**+1.3**
	comp=Z,5.3nm,0.5s,baz=146,slow=8.6,SNR=43						
KURK	**Kurchatov**	**29.80**	**339**	*d* iP	**P**	**14 23 29.3**	**+1.0**
KURK				pmax	pmax		
	comp=Z,25nm,0.7s						
KURK	**Kurchatov**	**29.80**	**339**	*e*P	**P**	**14 23 29.2**	**+1.0**
ZAA0	**Zalesovo Array**	**31.17**	**349**	*e*P	**P**	**14 23 39.7**	**-0.6**
ZALV	**Zalesovo Beam**	**31.17**	**349**	P	**P**	**14 23 40.8**	**+0.4**
	comp=Z,3.0nm,0.3s,baz=162,slow=8.3,SNR=24						
NVS	**Novosibirsk**	**32.32**	**347**	i P	**P**	**14 23 51.0**	**+0.7**
NVS				pmax	pmax		
	comp=N,8.0nm,0.7s						
NVS				pmax	pmax		
	comp=E,7.0nm,0.7s						
NVS				pmax	pmax		
	comp=Z,13nm,0.7s						
BVAR	**Borovoye Array**	**34.69**	**334**	P	**P**	**14 24 12.1**	**+1.2**
	comp=Z,5.8nm,0.5s,baz=139,slow=12,SNR=26						
BRVK	**Borovoye**	**34.76**	**334**	*ce*P	**P**	**14 24 12.7**	**+1.2**
BRVK				pmax	pmax		
	comp=Z,12nm,0.8s						
BRVK	**Borovoye**	**34.76**	**334**	*e*P	**P**	**14 24 12.6**	**+1.2**
	comp=Z,8.6nm,0.6s						
AB31	**Akbulak array**	**37.41**	**322**	P	**P**	**14 24 35.6**	**+1.5**
AB31				pmax	pmax		
	comp=Z,3.0nm,0.5s						
ABKAR	**Akbulak array**	**37.41**	**322**	*e*P	**P**	**14 24 35.6**	**+1.5**
	comp=Z,61nm,0.8s						
KLR	**Kul'dur**	**38.56**	**39**	i P	**P**	**14 24 44.1**	**+0.3**
AKTO	**Aktyubinsk**	**39.09**	**323**	P	**P**	**14 24 49.6**	**+1.5**
	comp=Z,3.2nm,0.3s,baz=114,slow=8.0,SNR=20						
MJAR	**Matsushiro Arr**	**39.35**	**61**	P	**P**	**14 24 49.9**	**-0.6**
	comp=Z,1.7nm,0.7s,baz=273,slow=8.0,SNR=4.9						
SVE	**Sverdlovsk**	**41.39**	**332**	*e*P	**P**	**14 25 08.5**	**+1.6**
SVE				pmax	pmax		
	comp=Z,21nm,0.6s						
ARU	**Arti**	**42.06**	**331**	P	**P**	**14 25 13.6**	**+1.2**
	comp=Z,7.1nm,0.5s,baz=127,slow=5.6,SNR=16						
ARU	**Arti**	**42.06**	**331**	*d* iP	**P**	**14 25 13.2**	**+0.8**
ARU				*PP	**pP**	**14 25 45.6**	**+1.4**
ARU						14 26 52.2	
ARU						14 27 03.8	
ARU				S	**S**	**14 31 23.2**	**+2.5**
ARU				SS	**SS**	**14 34 35.3**	**+1.8**
ARU				pmax	pmax		
	comp=Z,7.0nm,0.6s						
ARU	**Arti**	**42.06**	**331**	*e*P	**P**	**14 25 12.9**	**+0.5**
	comp=Z,8.4nm,0.6s						
YSS	**Yuzh-Sakhalins**	**44.63**	**46**	*i* P	**P**	**14 25 34.8**	**+1.6**
YSS				pmax	pmax		
	comp=Z,21nm,1.2s						
GNI	**Garni**	**44.99**	**304**	*i* P	**P**	**14 25 37.6**	**+1.2**
GNI				pmax	pmax		
	comp=Z,38nm,2.2s						
YAK	**Yakutsk**	**45.03**	**22**	*i* P	**P**	**14 25 38.0**	**+1.9**
YAK				pmax	pmax		
	comp=Z,3.0nm,0.6s						
ZEI	**Tsey**	**45.93**	**307**	*e*P	**P**	**14 25 44.9**	**+1.1**
ZEI				*e*		14 26 18.8	
ZEI				pmax	pmax		
	comp=Z,20nm,0.8s						
NEY	**Neytrino**	**46.85**	**308**	*i* P	**P**	**14 25 52.8**	**+1.9**
NEY				pmax	pmax		
	comp=Z,1.0nm,0.7s						
KIV	**Kislovodsk**	**46.97**	**309**	*e*P	**P**	**14 25 54.0**	**+2.3**
KIV				*e*PP	**pP**	**14 26 27.7**	**+3.5**
KIV				*e*S	**S**	**14 32 35.1**	**+2.8**
KIV				pmax	pmax		
	comp=Z,7.0nm,0.9s						
FITZ	**Fitzroy Crossi**	**51.26**	**141**	P	**P**	**14 26 21.5**	**-2.9**
OBN	**Obninsk**	**52.86**	**322**	*i* P	**P**	**14 26 34.4**	**-1.4**
OBN				pmax	pmax		
	comp=Z,8.0nm,0.5s						
AKASG	**Malin Array Be**	**56.72**	**316**	P	**P**	**14 27 03.5**	**-0.2**
	comp=Z,1.5nm,0.5s,baz=81,slow=6.6,SNR=5.8						
AKASG				pP	**pP**	**14 27 39.0**	**+1.8**
	comp=Z,0.9nm,0.4s,baz=81,slow=6.5,SNR=2.1						
KIEV	**Kiev**	**56.73**	**316**	i P	**P**	**14 27 03.6**	**-0.1**
KIEV				pmax	pmax		
	comp=Z,1.0nm,0.9s						
WRA	**Warramunga Arr**	**57.98**	**135**	P	**P**	**14 27 12.6**	**-0.3**
	comp=Z,8.8nm,0.6s,baz=323,slow=7.5,SNR=88						
WRA				pP	**pP**	**14 27 47.0**	**+0.4**
	comp=Z,2.3nm,0.8s,baz=325,slow=7.6,SNR=3.7						
WRAB	**Tennant Creek**	**57.98**	**135**	*c* iP	**P**	**14 27 12.7**	**-0.2**
WRAB				pmax	pmax		
	comp=Z,25nm,0.7s						
WRAB	**Tennant Creek**	**57.98**	**135**	*e*P	**P**	**14 27 12.6**	**-0.4**
	comp=Z,10nm,0.6s						
WB2	**Warramunga Arr**	**57.98**	**135**	*e*P	**P**	**14 27 11.5**	**-1.5**
	comp=Z,11nm,0.6s						
FINES	**FINESS Array B**	**59.36**	**329**	P	**P**	**14 27 22.2**	**+0.3**
	comp=Z,0.9nm,0.5s,baz=101,slow=7.7,SNR=7.1						
FINES	**FINESS Array B**	**59.36**	**329**	*ce*P	**P**	**14 27 23.8**	**+1.9**
FINES				pmax	pmax		
	comp=Z,2.0nm,0.8s						
AS31	**Alice Springs**	**60.43**	**138**	*e*P	**P**	**14 27 29.5**	**-0.3**
	comp=Z,3.2nm,0.6s						
ASAR	**Alice Springs**	**60.43**	**138**	P	**P**	**14 27 29.8**	**0.0**
	comp=Z,7.5nm,0.6s,baz=321,slow=6.8,SNR=164						
ASAR				pP	**pP**	**14 28 04.0**	**+0.2**
	comp=Z,1.9nm,0.7s,baz=324,slow=7.7,SNR=3.8						
AS01	**Alice Springs**	**60.46**	**138**	*e*P	**P**	**14 27 29.5**	**-0.5**
ARCES	**ARCESS Array B**	**60.83**	**338**	P	**P**	**14 27 32.3**	**+0.5**
	comp=Z,2.1nm,0.6s,baz=100,slow=6.7,SNR=5.4						
NOA	**NORSAR Array B**	**66.53**	**328**	P	**P**	**14 28 08.9**	**-0.4**
	comp=Z,0.7nm,0.5s,baz=86,slow=6.7,SNR=3.2						
GERES	**GERESS Array B**	**66.86**	**315**	P	**P**	**14 28 11.7**	**-0.1**
	comp=Z,0.4nm,0.4s,baz=57,slow=4.9,SNR=4.5						
GERES				pP	**pP**	**14 28 50.2**	**+3.9**
	comp=Z,1.0nm,0.7s,baz=74,slow=5.7,SNR=2.9						
BFO	**Black Forest**	**70.46**	**315**	*e*P	P	14 28 28.7	-5.3
BFO				pmax	pmax		
	comp=Z,28nm,0.6s						
BFO	**Black Forest**	**70.46**	**315**	*e*P	P	14 28 28.7	-5.3
	comp=Z,28nm,0.6s						
BOSA	**Boshof**	**84.77**	**236**	P	**P**	**14 29 54.0**	**+0.4**
	comp=Z,3.3nm,0.7s,baz=66,slow=6.0,SNR=5.5						
TORD	**Torodi Ar. Bea**	**87.63**	**283**	P	**P**	**14 30 07.3**	**-0.5**
	comp=Z,0.6nm,0.6s,baz=74,slow=3.5,SNR=4.1						
TORD				pP	**pP**	**14 30 45.9**	**+1.7**
	comp=Z,1.1nm,0.7s,baz=65,slow=4.8,SNR=6.5						
PPT2	**Papeete2**	**119.84**	**97**	*e*LR	LR	14 35 30.5	
	comp=Z,72nm,27.5s						

*IDC **22** 14:28:39.0±2.2,36°.38N×142°.36E,h0km,mb3.6/6, mb1 3.7/8,mb1mx3.5/48,mbtmp3.7/8,ML3.6/2,Error ellipse: s-maj=57.6km s-min=23.2km az=68.0*
*ISCJB **22** 14:28:40.6±0.9,36°.28N±0°.06×142°.28E±0°.09,h19km, mb3.6/6,Error ellipse: s-maj=10.2km s-min=8.5km az=8.8*
*JMA **22** 14:28:42.8±0.4,36°.27N×142°.11E,h79km,M3.3*

ISC 22 14:28:42.2±1.2,36°.28N±0°.06×142°.15E±0°.10,h19km,n24, σ1s35/21,mb3.6/6,Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHOJ	**Chosi**	**1.19**	**242**	P	**Pn**	**14 29 04.1**	**+0.3**
CHOJ				*e*S	**Sg**	**14 29 21.2**	**+0.4**
JHO	**Hitachi**	**1.31**	**285**	P	**Pn**	**14 29 05.2**	**-0.3**
ONAJ	**Iwakimizuishiy**	**1.36**	**308**	P	**Pn**	**14 29 06.2**	**0.0**
JFK	**Kawauchi**	**1.49**	**317**	P	**Pb**	**14 29 08.3**	**-1.0**
BSO1	**Boso 1**	**1.88**	**211**	P	**Pn**	**14 29 13.2**	**+0.4**
JFT	**Otama**	**1.91**	**311**	P	**Pb**	**14 29 15.1**	**-1.3**
JMM	**Marumori**	**1.92**	**326**	P	**Pb**	**14 29 14.9**	**-1.7**
JAG	**Ashikaga**	**2.18**	**275**	P	**Pn**	**14 29 18.0**	**+0.6**
JRY	**Ryogami san**	**2.64**	**265**	P	**Pn**	**14 29 24.3**	**+0.6**
MJAR	**Matsushiro Arr**	**3.19**	**276**	Pn	**Pn**	**14 29 32.2**	**+0.9**
	4.8nm,0.3s,baz=112,slow=9.7,SNR=24						
MAT	**Matsushiro**	**3.19**	**276**	P	**Pn**	**14 29 32.7**	**+1.4**
MAT				S	**Sn**	**14 30 09.7**	**+0.9**
JHJ	**Hachijo jima 2**	**3.70**	**212**	Pn	**Pn**	**14 29 39.5**	**+1.2**
	17nm,0.3s,baz=25,slow=14,SNR=2.1						
JHJ				Sn	**Sn**	**14 30 17.4**	**-4.0**
	29nm,0.3s,baz=80,slow=22,SNR=1.3						

H11N2	**WAKE ISLAND Hy**	**27.26**	**121**	T	T	15 02 55.8	
	baz=313,slow=75,SNR=6.2						
H11N1	**WAKE ISLAND Hy**	**27.26**	**121**	T	T	15 02 56.3	
	baz=313,slow=75,SNR=5.5						
H11N3	**WAKE ISLAND Hy**	**27.27**	**121**	T	T	15 02 55.5	
	baz=313,slow=75,SNR=4.8						
H11S1	**WAKE ISLAND Hy**	**27.95**	**123**	T	T	15 03 52.0	
	baz=315,slow=74,SNR=4.1						
H11S3	**WAKE ISLAND Hy**	**27.95**	**123**	T	T	15 03 54.2	
	baz=130,slow=74,SNR=4.4						
H11S2	**WAKE ISLAND Hy**	**27.97**	**123**	T	T	15 03 53.0	
SONM	**Songino Array**	**28.70**	**305**	P	**P**	**14 34 38.7**	**+0.6**
	0.8nm,0.5s,baz=107,slow=7.4,SNR=3.7						
ZALV	**Zalesovo Beam**	**42.86**	**313**	P	**P**	**14 36 39.5**	**+0.5**
	0.6nm,0.5s,baz=110,slow=9.0,SNR=2.1						
MKAR	**Makanchi Array**	**45.02**	**303**	P	**P**	**14 36 57.7**	**+1.3**
	0.9nm,0.6s,baz=89,slow=9.9,SNR=9.7						
KURBB	**Kurchatov Arra**	**46.93**	**309**	P	**P**	**14 37 10.2**	**-1.2**
	0.3nm,0.5s,baz=84,slow=8.2,SNR=4.5						
WRA	**Warramunga Arr**	**56.40**	**189**	P	**P**	**14 38 23.4**	**+1.1**
	1.0nm,1.2s,baz=7.1,slow=7.7,SNR=2.0						
ASAR	**Alice Springs**	**60.12**	**189**	P	**P**	**14 38 48.9**	**+0.5**
	0.3nm,0.9s,baz=20,slow=11,SNR=1.9						

IDC 22 14:35:47.0±2.1,1°.91N×126°.18E,h0km,mb3.3/3, mb1 3.5/4,mb1mx3.3/41,mbtmp3.3/4,ML3.3/1,Error ellipse: s-maj=124.9km s-min=27.4km az=68.0, Northern Moluccа Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**19.90**	**182**	P	P	14 40 20.5	+0.3
	0.1nm,0.3s,baz=40,slow=7.9,SNR=1.4						
WRA	**Warramunga Arr**	**23.15**	**160**	P	P	14 40 54.5	-0.6
	0.9nm,0.4s,baz=338,slow=11,SNR=6.0						
ASAR	**Alice Springs**	**26.51**	**164**	P	P	14 41 26.9	+0.4
	0.1nm,0.3s,baz=347,slow=12,SNR=3.0						
MKAR	**Makanchi Array**	**58.73**	**326**	P	P	14 45 46.7	0.0
	0.1nm,0.4s,baz=118,slow=9.7,SNR=1.9						

IDC 22 14:44:34.7±3.4,6°.12S×147°.81E,h0km,mb3.7/2, mb1 3.9/4,mb1mx3.5/26,mbtmp3.7/4,ML3.7/1,Error ellipse: s-maj=75.9km s-min=41.7km az=98.0,Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.32**	**191**	Pn	Pn	14 45 29.4	+1.5
	14nm,0.3s,baz=41,slow=6.7,SNR=14						
PMG				Sn	Sn	14 46 05.5	-2.7
	11nm,0.3s,baz=221,slow=21,SNR=2.1						
WRA	**Warramunga Arr**	**18.97**	**222**	P	P	14 48 57.2	-0.6
	0.3nm,0.3s,baz=49,slow=11,SNR=5.7						
ASAR	**Alice Springs**	**21.98**	**216**	P	P	14 49 30.1	-0.3
	0.8nm,0.5s,baz=52,slow=9.0,SNR=8.1						
FITZ	**Fitzroy Crossi**	**24.69**	**239**	P	P	14 49 57.6	0.0
	2.0nm,0.6s,baz=66,slow=9.8,SNR=4.1						
TORD	**Torodi Ar. Bea**	**145.90**	**284**	PKPbc	PKPdf	15 04 16.3	-0.3
	0.2nm,0.5s,baz=58,slow=3.4,SNR=1.8						

*IDC **22** 14:46:36.9±1.0,6°.42S×147°.11E,h0km,mb4.1/10, mb1 4.4/11,mb1mx4.2/26,mbtmp4.2/11,ML4.0/1,MS3.5/12, Ms1 3.5/12,ms1mx3.2/30,Error ellipse: s-maj=31.8km s-min=17.6km az=102.0*
*ISCJB **22** 14:46:42.4±0.7,6°.39S±0°.05×146°.9E±0°.1,h49km, mb4.1/10,MS3.5/10,Error ellipse: s-maj=17.6km s-min=7.1km az=171.8*
*NEIC **22** 14:46:44.3±1.5,6°.46S×146°.86E,h52km±14km,mb4.3/1, Error ellipse: s-maj=19.7km s-min=10.7km az=80.0*

ISC 22 14:46:44.1±0.8,6°.41S±0°.07×146.9E±0°.2,h49km,n22, σ1s22/18,mb4.2/10,MS3.4/10,Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**2.99**	**175**	Pn	**Pn**	**14 47 28.4**	**-0.6**
	20nm,0.3s,baz=340,slow=6.0,SNR=3.7						
PMG				Sn	**Sn**	**14 48 05.2**	**+1.5**
	32nm,0.3s,baz=110,slow=3.2,SNR=2.3						
PMG				LR	LR	14 48 56.8	
	comp=Z,1μm,18.4s,baz=340,slow=47						
JAY	**Jayapura**	**7.30**	**302**	Pn	**Pn**	**14 48 28.2**	**0.0**
	0.0nm,0.3s,baz=113,slow=23,SNR=2.9						
JAY				LR	LR	14 51 43.6	
	comp=Z,12nm,19.5s,baz=332,slow=41						
CTA	**Charters Tower**	**13.62**	**183**	Pn	**Pn**	**14 49 55.1**	**+0.4**
	0.7nm,0.3s,baz=6.5,slow=13,SNR=3.3						
WRAB	**Tennant Creek**	**18.16**	**221**	*e*P	**P**	**14 50 49.4**	**-3.2**
	25nm,1.0s						
WRA	**Warramunga Arr**	**18.17**	**221**	P	**P**	**14 50 51.6**	**-1.1**
	0.5nm,0.3s,baz=45,slow=12,SNR=69						
GUMO	**Guam**	**19.97**	**354**	LR	LR	14 58 15.4	
	comp=Z,53nm,20.2s,baz=190,slow=35						
ASAR	**Alice Springs**	**21.24**	**215**	P	**P**	**14 51 26.4**	**+0.2**
	11nm,0.9s,baz=33,slow=13,SNR=26						
ASAR				LR	LR	15 00 54.3	
	comp=Z,123nm,20.8s,baz=44,slow=40						
FITZ	**Fitzroy Crossi**	**23.78**	**239**	P	**P**	**14 51 52.1**	**-0.4**
	7.8nm,0.8s,baz=88,slow=8.1,SNR=12						
FITZ				LR	LR	15 02 23.3	
	comp=Z,152nm,19.1s,baz=90,slow=40						
STKA	**Stephens Creek**	**25.82**	**190**	P	**P**	**14 52 10.0**	**-0.9**
	4.4nm

REFA				*i* S		**Sg**	**14 54 46.2**	**+0.9**
REFA	**Refahiye_ERZ˜**	**0.33**	**176**	P		**Pg**	**14 54 41.0**	**0.0**
REFA				S		**Sg**	**14 54 46.2**	**+0.9**
KEMA	**Kemaliye**	**0.49**	**202**	*i* P		**Pg**	**14 54 43.6**	**-0.5**
KEMA				*i* S		**Sg**	**14 54 51.4**	**+0.9**
KEMA	**Kemaliye**	**0.49**	**202**	P		**Pg**	**14 54 43.6**	**-0.5**
KEMA				S		**Sg**	**14 54 51.3**	**+0.9**
KELT	**Kelkit**	**0.58**	**43**	*i* P		**Pb**	**14 54 47.5**	**-0.3**
KELT				*i* S		**Sb**	**14 54 56.5**	**-0.2**
KELT	**Kelkit**	**0.58**	**43**	P		**Pb**	**14 54 47.5**	**-0.3**
KELT				S		**Sb**	**14 54 56.5**	**-0.2**
SUSE	**Susehri**	**0.63**	**320**	*i* P		**Pg**	**14 54 46.2**	**-0.6**
SUSE				*i* S		**Sn**	**14 55 01.7**	**-0.1**
ERZN	**Erzincan**	**0.78**	**100**	*e*PG		**Pb**	**14 54 50.8**	**-0.3**
ERZN				*e*SG		**Sb**	**14 55 02.8**	**+0.6**
TNCL	**Tunceli-Merkez**	**0.88**	**134**	*i* P		**Pg**	**14 54 50.1**	**-1.3**
TNCL				*i* S		**Sb**	**14 55 05.6**	**+0.6**
TNCL	**Tunceli-Merkez**	**0.88**	**134**	P		**Pg**	**14 54 50.1**	**-1.3**
GUMT	**Gumushane**	**0.93**	**38**	*e*PG		**Pg**	**14 54 53.2**	**+0.7**
GUMT	**Gumushane**	**0.93**	**38**	*e*Pg		**Pg**	**14 54 53.2**	**+0.7**
PTK	**Pertek**	**0.98**	**148**	*e*PG		**Pn**	**14 54 54.9**	**-0.8**
PTK	**Pertek**	**0.98**	**148**	*e*Pg		**Pn**	**14 54 54.9**	**-0.8**
CUKAN	**kangal_SIVAS**	**1.06**	**248**	*i* P		**Pg**	**14 54 51.4**	**-3.6**
CUKAN				*i* S		**Sn**	**14 55 14.7**	**+2.3**
ESPY	**Espiye-Giresun**	**1.19**	**360**	*e*PN		**Pg**	**14 54 57.0**	**-0.5**
ESPY	**Espiye-Giresun**	**1.19**	**360**	*e*Pn		**Pg**	**14 54 57.0**	**-0.5**
ELZG	**Elazig**	**1.24**	**171**	*i* P		**Pg**	**14 54 57.8**	**-0.6**
ELZG				*i* S		**Sn**	**14 55 16.0**	**-0.8**
ELZG	**Elazig**	**1.24**	**171**	P		**Pg**	**14 54 57.8**	**-0.6**
SVSK	**Karacayir**	**1.35**	**279**	*e*PN		**Pg**	**14 55 01.4**	**+1.0**
SVSK	**Karacayir**	**1.35**	**279**	*e*Pn		**Pg**	**14 55 01.5**	**+1.0**
SVRC	**Sivrice-ELAZID**	**1.42**	**161**	*e*PN		**Pg**	**14 55 02.9**	**+1.1**
SVRC	**Sivrice-ELAZID**	**1.42**	**161**	*e*Pn		**Pg**	**14 55 02.9**	**+1.1**
DARE	**Darende-Malaty**	**1.51**	**221**	*e*PN		**Pg**	**14 55 04.0**	**+0.4**
DARE	**Darende-Malaty**	**1.51**	**221**	*e*Pn		**Pg**	**14 55 04.0**	**+0.4**

IDC ***22*** *15:18:19.4±1.1,4˚.18S×129˚.58E, h0km, mb4.0/5, mb1 4.1/8, mb1mx3.8/39, mbtmp4.0/8, ML3.7/3, Error ellipse: s-maj=41.7km s-min=20.5km az=67.0*
ISCJB ***22*** *15:18:22.0±0.4,4˚.18S±0˚.04×129˚.71E±0˚.04, h36km, mb3.9/5, Error ellipse: s-maj=5.9km s-min=4.6km az=34.1*
DJA ***22*** *15:18:21.0±0.4,4˚S±4˚×13˚0E±˚, h29km±6km, M4.2/9, mB5.2/1, mb4.7/2, MLv4.0/9, Mw(mB)4.5/1*
ISC 22 15:18:22.9±0.8,4˚21S±0˚.04×129˚.67E±0˚.04, h36km, n18, σ2§90/28, mb3.9/5, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BNDI	**Bandanaira**	**0.39**	**142**	P	**Pn**	**15 18 30.1**	**-1.7**
BNDI				S	**Sn**	**15 18 36.8**	**-1.7**
MSAI	**Masohi**	**1.13**	**319**	P	**Pn**	**15 18 41.9**	**-0.3**
MSAI				S	**Sn**	**15 18 56.3**	**-0.2**
AAI	**Ambon**	**1.56**	**290**	P	**Pn**	**15 19 08.0**	**-0.1**
AAI				S	**Sn**	**15 19 07.3**	**+0.3**
NLAI	**Namlea**	**2.74**	**291**	P	**Pn**	**15 19 06.0**	**+1.7**
NLAI				S	**Sn**	**15 19 37.8**	**+1.6**
FAKI	**Fak Fak**	**2.88**	**64**	P	**Pn**	**15 19 08.0**	**+1.7**
FAKI				S	**Sn**	**15 19 39.4**	**-0.4**
SIJI	**Sorong**	**3.69**	**26**	Pn	**Pn**	**15 19 19.1**	**+1.7**
	7.7nm,0.3s,baz=179,slow=21,SNR=1.1						
SIJI				Sn	**Sn**	**15 19 57.6**	**-2.0**
	24nm,0.3s,baz=189,slow=5.8,SNR=1.8						
SWI	**Sorong**	**3.69**	**26**	P	**Pn**	**15 19 16.3**	**-1.1**
SWI				S	**Sn**	**15 19 56.1**	**-3.6**
SAUI	**Saumlaki**	**4.08**	**157**	P	**Pn**	**15 19 24.2**	**+1.3**
LBMI	**Labuha**	**4.16**	**329**	P	**Pn**	**15 19 24.2**	**+0.3**
LBMI				S	**Sn**	**15 20 06.0**	**-5.3**
SANI	**Sanana**	**4.25**	**300**	P	**Pn**	**15 19 24.8**	**-0.4**
SANI				S	**Sn**	**15 20 05.2**	**-8.4**
FITZ	**Fitzroy Crossi**	**14.36**	**196**	Pn	**Pn**	**15 21 44.7**	**+1.0**
	0.2nm,0.3s,baz=30,slow=10,SNR=4.5						
WRA	**Warramunga Arr**	**16.29**	**164**	Pn	**Pn**	**15 22 05.4**	**-3.6**
	0.1nm,0.3s,baz=349,slow=13,SNR=4.0						
WRA				Sn	**Sn**	**15 25 02.0**	**-6.8**
	0.0nm,0.3s,baz=344,slow=22,SNR=2.5						
ASAR	**Alice Springs**	**19.77**	**168**	P	**Pn**	**15 22 51.8**	**0.0**
	0.3nm,0.3s,baz=350,slow=9.8,SNR=18						
CTA	**Charters Tower**	**22.59**	**136**	P	**P**	**15 23 22.7**	**+2.2**
	2.5nm,0.6s,baz=311,slow=13,SNR=1.9						
CMAR	**Chiang Mai Arr**	**37.73**	**308**	P	**P**	**15 25 37.6**	**+2.0**
	1.1nm,0.6s,baz=136,slow=6.7,SNR=5.0						
MKAR	**Makanchi Array**	**65.73**	**326**	P	**P**	**15 29 05.6**	**+1.5**
	1.0nm,0.6s,baz=121,slow=8.4,SNR=9.4						
ZALV	**Zalesovo Beam**	**68.95**	**333**	P	**P**	**15 29 24.9**	**+0.6**
	0.4nm,0.3s,baz=104,slow=4.6,SNR=2.4						
KURBB	**Kurchatov Arra**	**69.98**	**328**	P	**P**	**15 29 32.0**	**+1.4**
	1.8nm,0.8s,baz=127,slow=5.5,SNR=11						

SJA ***22*** *15:23:08.5±0.5,23˚.96S×66˚.73W, h230km±7km, ML2.7, MW3.1*
GUC ***22*** *15:23:10.9±0.5,23˚.89S×67˚.32W, h245km±9km, ML4.0*
ISCJB ***22*** *15:23:11.9±0.5,23˚.90S±0˚.07×66˚.86W±0˚.05, h181km, Error ellipse: s-maj=10.2km s-min=4.6km az=28.4*
ISC 22 15:23:12.2±1.3,23˚92S±0˚.07×66˚85W±0˚.05, h181km, n16, σ1§15/25, 6C, Jujuy Province

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SLA	**San Lorenzo**	**1.47**	**123**	*e*P	**Pn**	**15 23 44.6**	**+0.5**
SLA				IAML		15 23 45.5	
	comp=Z,37nm,0.5s						
SLA				*e*S	**Sn**	**15 24 10.9**	**+2.1**
AZAP	**Zapla**	**1.66**	**101**	*e*P	**Pn**	**15 23 45.8**	**-0.3**
AZAP				IAML		15 23 46.9	
	comp=Z,202nm,0.3s						
YJA	**Yavi**	**2.13**	**36**	*e*P	**Pn**	**15 23 51.9**	**+0.6**
YJA				IAML		15 23 55.6	
	comp=Z,10nm,0.4s						
ASTB	**Santa Barbara**	**2.19**	**91**	*e*P	**Pn**	**15 23 50.6**	**-1.0**
LVC	**Limon Verde**	**2.30**	**304**	*e*P	**Pn**	**15 23 54.1**	**+1.1**
LVC				*i* S	**Sn**	**15 24 27.5**	**+2.7**
LVC	**Limon Verde**	**2.30**	**304**	*e*P	**Pn**	**15 23 54.2**	**+1.1**
FSA	**Cafayete**	**2.32**	**160**	*e*P	**Pn**	**15 23 52.5**	**-0.6**
FSA				IAML		15 23 53.1	
	comp=Z,10nm,0.3s						
ALOL	**LOMAS DE OLMED**	**2.63**	**88**	*e*P	**Pn**	**15 23 55.1**	**-1.4**
PB06	**IPOC Station P**	**2.78**	**295**	⇑*i*P	**Pn**	**15 23 59.1**	**+0.7**
PB06				*i* S	**Sn**	**15 24 34.9**	**+0.5**
PB06				IAML		15 24 36.8	
	comp=E,192nm,0.2s						
PB09	**IPOC Station P**	**3.05**	**313**	⇑*i*P	**Pn**	**15 24 02.5**	**+0.7**
PB09				*i* S	**Sn**	**15 24 41.9**	**+1.5**
PB09				IAML		15 24 45.5	
	comp=E,186nm,0.2s						
PB14	**IPOC Station P**	**3.32**	**257**	⇑*i*P	**Pn**	**15 24 05.0**	**-0.2**
PB14				*i* S	**Sn**	**15 24 45.8**	**-0.6**
PB14				IAML		15 24 47.3	
	comp=E,86nm,0.6s						
PB14	**IPOC Station P**	**3.32**	**257**	*e*P	**Pn**	**15 24 05.0**	**-0.2**
PB04	**IPOC Station P**	**3.42**	**297**	*e*P	**Pn**	**15 24 05.8**	**-0.5**
PB04				*i* S	**Sn**	**15 24 47.8**	**-0.7**
PB04				IAML		15 24 49.8	
	comp=N,156nm,0.3s						
PB07	**IPOC Station P**	**3.55**	**307**	⇑*i*P	**Pn**	**15 24 07.5**	**-0.4**
PB07				*i* S	**Sn**	**15 24 50.0**	**-1.3**
PB07				IAML		15 24 53.8	
	comp=N,125nm,0.2s						
PB01	**IPOC Station P**	**3.76**	**319**	⇑*i*P	**Pn**	**15 24 09.6**	**-0.9**
PB01				*i* S	**Sn**	**15 24 55.0**	**-1.0**
PB01				IAML		15 25 00.4	
	comp=N,69nm,0.2s						
PB02	**IPOC Station P**	**3.82**	**312**	⇑*i*P	**Pn**	**15 24 10.3**	**-1.0**
PB02				*i* S	**Sn**	**15 24 56.2**	**-1.2**
PB02				IAML		15 25 02.3	
	comp=E,166nm,0.2s						

MOS ***22*** *15:24:20.5±2.7,53˚.30N×108˚.49E, h7km, mb4.3/1, Error ellipse: s-maj=16.9km s-min=9.3km az=53.4*
BYKL ***22*** *15:24:20.8±0.2,53˚.28N×108˚.48E, h13km±3km*
ISC 22 15:24:19.3±0.7,53˚25N±0˚.02×108˚64E±0˚.02, h13km±5km, n47, σ2§07/102, 6C-9D, Lake Baykal region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MXMB	**Maximikha**	**0.07**	**78**	⇑*i*Pg	**Pg**	**15 24 24.3**	**+2.3**
MXMB				*e*Sg	**Sg**	**15 24 26.9**	**+3.0**
KELR	**Kotokel**	**0.59**	**215**	⇓*i*Pg	**Pb**	**15 24 31.5**	**-0.1**
KELR				*e*Sg	**Sb**	**15 24 39.5**	**-0.4**
OGRR	**Ongureny**	**0.74**	**303**	⇑*i*Pg	**Pg**	**15 24 32.9**	**-0.7**
	306nm,0.4s						
OGRR				⇓*i*Pg	**Pg**	**15 24 32.9**	**-0.7**
	325nm,0.4s						
OGRR				⇑*i*Pg	**Pg**	**15 24 32.9**	**-0.7**
	450nm,0.4s						
OGRR				*i* Sg	**Sg**	**15 24 41.8**	**-1.5**
OGRR				*e*Sb	**Sn**	**15 24 47.3**	**+0.7**
OGRR				Pmax			
	223nm,0.2s						
OGRR				Smax			
	1µm,0.3s						
OGRR	**Ongureny**	**0.74**	**303**	⇑*i*PG	**Pg**	**15 24 33.0**	**-0.7**
OGRR				*e*		15 24 41.9	
OGRR				pmax	pmax		
	comp=Z,391nm,0.3s						
OGRR				smax	smax		
	comp=N,1µm,0.3s						
SYVR	**Suvo**	**0.91**	**63**	⇓*i*Pg	**Pn**	**15 24 38.5**	**+0.6**
SYVR				*e*Pb	**Pb**	**15 24 40.7**	**+3.7**
SYVR				*i* Sg	**Sn**	**15 24 51.8**	**+0.9**
SYVR				max			
	comp=N,141nm,0.2s						
SYVR				Smax			
	comp=N,406nm,0.4s						
SYVR	**Suvo**	**0.91**	**63**	*e*PG	**Pn**	**15 24 38.5**	**+0.6**
SYVR				*e*		15 24 51.7	
SYVR				pmax	pmax		
	comp=Z,143nm,0.2s						
SYVR				smax	smax		
	comp=E,419nm,0.4s						
ZRHB	**Zarechye**	**1.14**	**233**	⇓*i*Pg	**Pb**	**15 24 41.0**	**+0.2**
ZRHB				*e*Sg	**Sb**	**15 24 55.7**	**+0.2**
ZRHB				*e*		15 25 00.9	
ZRHB				Pmax			
	comp=E,112nm,0.2s						
ZRHB				Smax			
	comp=E,3µm,0.7s						
TRG	**Tyrgan**	**1.47**	**251**	*e*Pg	**Pn**	**15 24 46.1**	**+0.6**
TRG				*e*Sg	**Sb**	**15 25 04.8**	**-0.2**
TRG				Pmax			
	comp=E,208nm,0.2s						
TRG				Smax			
	comp=E,1µm,0.2s						
TRG	**Tyrgan**	**1.47**	**251**	*e*PG	**Pn**	**15 24 46.1**	**+0.6**
TRG				*e*		15 25 05.1	
TRG				pmax	pmax		
	comp=Z,210nm,0.2s						
TRG				smax	smax		
	comp=N,1µm,0.2s						
UUDB	**Ulan-Yde**	**1.51**	**204**	⇓*i*Pg	**Pg**	**15 24 48.1**	**-0.2**
UUDB				*e*		15 24 51.2	
UUDB				*e*Sg	**Sn**	**15 25 08.7**	**+3.2**
UUDB				max			
	comp=N,156nm,0.5s						
UUDB				Smax			
	comp=N,367nm,0.4s						
KAB	**Kabansk**	**1.70**	**226**	*e*Pg	**Pg**	**15 24 51.6**	**-0.4**
KAB				*e*Sg	**Sg**	**15 25 13.8**	**-0.3**
KAB				Pmax			
	comp=N,105nm,0.4s						
KAB				Smax			
	comp=N,1µm,0.7s						
KAB	**Kabansk**	**1.70**	**226**	⇑*i*PN	**Pg**	**15 24 51.6**	**-0.4**
KAB				*e*		15 25 14.0	
KAB				pmax	pmax		
	comp=Z,101nm,0.4s						
KAB				smax	smax		
	comp=N,1µm,0.8s						
STDB	**Stepnoy Dvoret**	**1.75**	**233**	*e*Pg	**Pb**	**15 24 51.5**	**+0.1**
STDB				*e*		15 25 10.6	
STDB				*e*Sg	**Sg**	**15 25 15.1**	**-0.6**
STDB				*e*		15 25 21.9	
HRMR	**Khuramsha**	**1.92**	**213**	⇑*i*Pn	**Pn**	**15 24 52.5**	**+0.7**
HRMR				*e*Pg	**Pg**	**15 24 54.9**	**-1.3**
HRMR				*e*Sg	**Sg**	**15 25 20.9**	**-0.2**
HRMR				Pmax			
	comp=N,214nm,0.6s						
HRMR				Smax			
	comp=N,2µm,0.7s						
YLYR	**Ulyunkhan**	**2.21**	**41**	⇓*i*Pn	**Pb**	**15 24 58.4**	**-0.7**
YLYR				⇓*i*Pg	**Pg**	**15 25 00.4**	**-1.3**
YLYR				*e*Sg	**Sg**	**15 25 30.8**	**+0.5**
YLYR				*e*		15 25 33.6	
YLYR				Pmax			
	comp=N,84nm,0.4s						
YLYR				Smax			
	comp=N,197nm,0.6s						
YLYR	**Ulyunkhan**	**2.21**	**41**	*e*PN	**Pb**	**15 24 58.5**	**-0.7**
YLYR				*e*		15 25 00.4	
YLYR				*e*		15 25 30.2	
YLYR				pmax	pmax		
	comp=Z,84nm,0.4s						
YLYR				smax	smax		
	comp=N,198nm,0.5s						
BGT	**Bolshoye Golou**	**2.31**	**240**	*e*Pg	**Pb**	**15 25 01.0**	**+0.2**
BGT				*e*Sg	**Sb**	**15 25 30.7**	**+1.5**
BGT				Pmax			
	comp=N,26nm,0.5s						
BGT				Smax			
	comp=N,213nm,0.5s						
NIZ	**Nizh Angarsk**	**2.59**	**11**	*e*Pn	**Pn**	**15 25 03.7**	**+2.8**
NIZ				*e*Pg	**Pb**	**15 25 06.9**	**+1.4**
NIZ				*e*		15 25 36.6	
NIZ				*e*Sg	**Sb**	**15 25 40.7**	**+3.5**
NIZ				Pmax			
	comp=N,31nm,0.4s						
NIZ				Smax			
	comp=N,218nm,0.3s						
NIZ	**Nizh Angarsk**	**2.59**	**11**	*e*PN	**Pn**	**15 25 03.6**	**+2.7**
NIZ				*e*		15 25 07.2	
NIZ				*e*		15 25 36.8	
NIZ				pmax	pmax		
	comp=Z,41nm,0.5s						
NIZ				smax	smax		
	comp=N,218nm,0.5s						
LSTR	**Listvyanka**	**2.70**	**241**	*e*Pn	**Pn**	**15 25 01.2**	**-1.3**
LSTR				*e*		15 25 03.5	
LSTR				*e*		15 25 06.7	
LSTR				*e*		15 25 34.6	
LSTR				*e*Sg	**Sb**	**15 25 40.8**	**+0.3**
LSTR				max			
LSTR				Smax			
	comp=N,125nm,0.5s						
IRK	**Irkutsk**	**2.84**	**251**	*e*Pg	**Pb**	**15 25 09.8**	**0.0**
IRK				*e*Sg	**Sb**	**15 25 45.8**	**+1.4**
IRK				Pmax			
	comp=N,60nm,0.3s						
IRK				Smax			
	comp=N,542nm,0.5s						
IRK	**Irkutsk**	**2.84**	**251**	*e*PN	**Pb**	**15 25 11.0**	**+1.2**
IRK				*e*		15 25 45.2	
IRK				pmax	pmax		
	comp=Z,59nm,0.3s						
IRK				smax	smax		
	comp=N,542nm,0.4s						
IVK	**Ivanovka**	**2.96**	**242**	*e*Pn	**Pn**	**15 25 07.0**	**+1.0**
IVK				*e*Pg	**Pb**	**15 25 11.4**	**-0.5**
IVK				*e*Sn	**Sn**	**15 25 41.0**	**-0.3**
IVK				*e*Sg	**Sb**	**15 25 49.1**	**+1.2**
IVK				Pmax			
	comp=N,15nm,0.3s						
IVK				Smax			
	comp=N,285nm,0.7s						
KMO	**Kumora**	**3.04**	**28**	*e*Pg	**Pb**	**15 25 14.9**	**+1.7**
KMO				*e*Sn	**Sn**	**15 25 45.2**	**+2.0**
KMO				*e*Sg	**Sg**	**15 25 55.0**	**-1.8**
KMO				Pmax			
	comp=N,64nm,0.4s						
KMO				Smax			
	comp=N,248nm,1.0s						
KMO	**Kumora**	**3.04**	**28**	*e*PN	**Pn**	**15 25 08.4**	**+1.4**
KMO				*e*		15 25 14.5	
KMO				*e*S	**Sn**	**15 25 45.2**	**+2.0**
KMO				*e*		15 25 54.4	
KMO				pmax	pmax		
	comp=Z,64nm,0.4s						
KMO				smax	smax		
	comp=N,183nm,0.8s						
CIT	**Chita**	**3.24**	**110**	*e*Pg	**Pg**	**15 25 19.2**	**-2.2**
CIT				*e*		15 25 23.8	
CIT				*e*Sg	**Sg**	**15 26 03.0**	**-0.3**
CIT				max			
	comp=N,24nm,0.1s						
CIT				Smax			
	comp=N,231nm,0.3s						
CIT	**Chita**	**3.24**	**110**	*e*PN	**Pg**	**15 25 22.2**	**+0.8**
CIT				*e*		15 26 03.7	
CIT				pmax	pmax		
	comp=Z,44nm,0.6s						
CIT				smax	smax		
	comp=E,230nm,0.2s						
YOA	**Uoyan**	**3.40**	**31**	*e*	**Pb**	**15 25 19.9**	**+0.5**
YOA				*e*		15 25 25.2	
YOA				*e*Sg	**Sg**	**15 26 07.6**	**-0.9**
YOA				max			
	comp=E,68nm,0.4s						
YOA				Smax			
	comp=E,345nm,1.1s						
YOA	**Uoyan**	**3.40**	**31**	*e*PN	**Pb**	**15 25 20.6**	**+1.2**
YOA				*i*		15 26 08.3	
YOA				pmax	pmax		
	comp=Z,44nm,0.2s						
YOA				smax	smax		
	comp=N,320nm,0.4s						
TLY	**Talaya**	**3.43**	**245**	*e*Pn	**Pn**	**15 25 12.3**	**-0.2**
TLY				*e*		15 25 17.7	
TLY				*e*Pg	**Pb**	**15 25 20.6**	**+0.6**
TLY				*e*Sg	**Sb**	**15 26 04.1**	**+2.5**
TLY				*e*		15 26 08.3	
TLY				Pmax			
	comp=N,15nm,0.6s						
TLY				max			
	comp=N,99nm,0.7s						
TLY	**Talaya**	**3.43**	**245**	*e*PN	**Pn**	**15 25 13.4**	**+0.9**
TLY				*e*		15 25 21.5	
TLY				*e*S	**Sn**	**15 25 57.4**	**+4.4**
TLY				*e*		15 26 03.1	
TLY				pmax	pmax		
	comp=Z,7.0nm,0.4s						
TLY				smax	smax		
	comp=E,77nm,0.4s						
UKT	**Uakit**	**3.68**	**50**	⇓*i*Pn	**Pn**	**15 25 18.9**	**+2.9**
UKT				*e*Pg	**Pg**	**15 25 27.9**	**-1.9**
UKT				*e*Sg	**Sg**	**15 26 16.3**	**-1.2**
UKT				Pmax			
	comp=E,30nm,1.0s						
UKT				Smax			
	comp=E,70nm,0.7s						
UKT	**Uakit**	**3.68**	**50**	*e*PN	**Pb**	**15 25 25.8**	**+1.5**
UKT				*e*		15 26 13.7	
UKT				pmax	pmax		
	comp=Z,30nm,0.7s						
UKT				smax	smax		
	comp=N,71nm,0.6s						
ARS	**Arshan**	**4.01**	**253**	*e*Pn	**Pn**	**15 25 22.8**	**+2.2**
ARS				*e*Pg	**Pb**	**15 25 30.1**	**+0.2**
ARS				*e*Sg	**Sb**	**15 26 22.0**	**+3.6**
ARS				Pmax			
	comp=N,29nm,0.8s						
ARS				Smax			
	comp=N,367nm,0.5s						
ARS	**Arshan**	**4.01**	**253**	*e*PN	**Pb**	**15 25 31.2**	**+1.3**
ARS				*e*		15 26 19.7	
ARS				pmax	pmax		
	comp=Z,24nm,0.3s						
ARS				smax	smax		
	comp=E,371nm,0.5s						
SVKR	**Severomuysk**	**4.05**	**43**	*e*	**Pb**	**15 25 30.6**	**+0.1**
SVKR				*e*Pg	**Pg**	**15 25 34.3**	**-2.6**
SVKR				*e*Sg	**Sg**	**15 26 29.0**	**-0.4**
SVKR				Pmax			
	comp=E,80nm,0.9s						
SVKR				Smax			
	comp=E,270nm,1.2s						
KPC	**Khapcheranga**	**4.25**	**145**	*e*Pn	**Pn**	**15 25 26.5**	**+2.7**
KPC				*e*Pg	**Pg**	**15 25 38.1**	**-2.6**
KPC				*e*Sn	**Sn**	**15 26 15.7**	**+2.4**
KPC				*e*Sg	**Sg**	**15 26 33.5**	**-2.3**
KPC				Pmax			
	comp=E,17nm,0.6s						
KPC				Smax			
	comp=E,83nm,1.0s						
ZAK	**Zakamensk**	**4.39**	**231**	*e*Pn	**Pn**	**15 25 28.2**	**+2.5**
ZAK				*e*Pg	**Pb**	**15 25 39.2**	**+2.9**
ZAK				*e*Sg	**Sg**	**15 26 36.0**	**-4.2**
ZAK				Pmax			
	comp=E,6.0nm,1.0s						
ZAK				Smax			
	comp=E,62nm,1.0s						
MOY	**Mondy**	**4.94**	**254**	*e*Pn	**Pn**	**15 25 36.2**	**+3.0**
MOY				*e*Pg	**Pb**	**15 25 45.8**	**+0.2**
MOY				*e*Sn	**Sn**	**15 26 26.2**	**-4.0**
MOY				*e*Sg	**Sb**	**15 26 49.4**	**+4.5**
MOY				Pmax			
	comp=E,17nm,1.1s						
MOY				Smax			
	comp=E,98nm,1.2s						
NLYR	**Nelyaty**	**5.22**	**49**	*e*	**Pb**	**15 25 47.1**	**-3.2**
NLYR				*e*Pg	Pg	15 25 55.2	-3.9
NLYR				*e*		15 25 59.0	
NLYR				*e*		15 26 42.4	
NLYR				*e*Sg	**Sg**	**15 27 04.9**	**-1.7**
NLYR				max			
	comp=E,11nm,0.6s						
NLYR				Smax			
	comp=E,129nm,1.5s						
ORL	**Orlik**	**5.39**	**266**	⇓*i*Pn	**Pn**	**15 25 42.1**	**+2.6**
ORL				*e*Pg	**Pb**	**15 25 54.2**	**+0.8**
ORL				*e*Sn	**Sn**	**15 26 41.3**	**-0.1**
ORL				*e*Sg	**Sb**	**15 27 03.4**	**+5.4**
ORL				Pmax			
	comp=E,13nm,0.6s						
ORL				Smax			
	comp=E,85nm,1.0s						
ORL	**Orlik**	**5.39**	**266**	*e*PN	**Pn**	**15 25 41.9**	**+2.4**
ORL				*e*		15 25 56.6	
ORL				*e*		15 27 02.7	
ORL				pmax	pmax		
	comp=Z,8.0nm,0.5s						
ORL				smax	smax		
	comp=N,85nm,1.2s						
ULN	**Ulaanbaatar**	**5.48**	**191**	*e*	Pn	15 25 46.5	+5.7
ULN				Pg	Pg	15 25 59.7	-4.6
ULN				*e*Sg	**Sg**	**15 27 12.0**	**-3.3**
BOD	**Bodaibo**	**5.50**	**31**	*e*	**Pb**	**15 25 54.5**	**-0.6**
BOD				*e*		15 26 00.1	
BOD				*e*Sg	**Sg**	**15 27 10.9**	**-4.8**
BOD				Smax			
	comp=N,32nm,1.1s						
CRS	**Chara**	**6.63**	**53**	*e*Pg	Pg	15 26 21.9	-4.3
CRS				*e*Sg	**Sg**	**15 27 48.9**	**-3.0**
CRS				Smax			
	comp=N,79nm,1.5s						
TUP	**Tupik**	**6.80**	**76**	*e*Pn	**Pn**	**15 26 01.8**	**+3.0**
TUP				*e*Pg	Pg	15 26 24.4	-5.1
TUP				*e*Sn	**Sn**	**15 27 16.2**	**+0.1**
TUP				*e*Sg	**Sg**	**15 27 53.5**	**-4.0**
TUP				*e*		15 27 59.8	
TUP				Pmax			
	comp=N,3.0nm,0.4s						
TUP				max			
	comp=N,172nm,1.6s						
TUP	**Tupik**	**6.80**	**76**	*e*PN	**Pn**	**15 26 01.2**	**+2.4**
TUP				*e*		15 26 22.9	
TUP				*e*S	**Sn**	**15 27 18.4**	**+2.3**
TUP				*e*		15 27 52.4	
TUP				pmax	pmax		
	comp=Z,6.0nm,0.5s						
TUP				smax	smax		
	comp=N,172nm,1.2s						

**IDC 22 15:34:57.6±2.2,4˚.64N×125˚.88E, h0km, mb3.2/4, mb1 3.5/4, mb1mx3.3/42, mbtmp3.3/

0.1nm,0.3s,baz=106,slow=7.2,SNR=1.4

*IDC **22** 15:35:16.8±1.0,35°.29N×142°.27E,h0km,mb3.8/7,*
mb1 3.9/10,mb1mx3.6/46,mbtmp3.8/10,ML3.6/3,Error
ellipse: s-maj=25.3km s-min=17.6km az=90.0
*JMA **22** 15:35:19.3±0.2,35°.39N×142°.33E,h60km,M3.4*
*NEIC **22** 15:35:20.0±9.1,35°.25N×142°.29E,h20km±56km,mb4.2/1,*
Error ellipse: s-maj=26.5km s-min=12.8km az=88.0
ISC 22 15:35:18.0±2.6,35°.35N±0°.06×142°.28E±0°.07,h8km±16km,
n28,σ1°19/40,mb3.8/9,Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CHOJ	**Chosi**	**1.21**	**288**	P	**Pn**	**15 35 41.3**	**+0.1**
CHOJ				*e*S	**Sb**	**15 35 56.3**	**-0.7**
BSO1	**Boso 1**	**1.27**	**238**	P	**Pn**	**15 35 41.5**	**-0.1**
BSO1				*e*S	**Sg**	**15 35 59.0**	**+0.1**
BSO2	**Boso 2**	**1.39**	**245**	*e*S	**Sb**	**15 36 01.7**	**0.0**
BSO3	**Boso 3**	**1.55**	**250**	P	**Pb**	**15 35 46.2**	**-0.6**
BSO3				S	**Sn**	**15 36 05.6**	**-0.2**
KTR	**Katsuura**	**1.62**	**264**	P	**Pn**	**15 35 46.9**	**+0.1**
KTR				*e*S	**Sn**	**15 36 07.2**	**-0.7**
BSO4	**Boso 4**	**1.63**	**258**	*e*S	**Sn**	**15 36 07.4**	**-0.6**
JAG	**Ashikaga**	**2.54**	**296**	P	**Pn**	**15 35 59.2**	**-0.3**
JOD2	**Odawara 2**	**2.61**	**269**	P	**Pn**	**15 36 00.6**	**+0.1**
JOD2				*e*S	**Sn**	**15 36 32.1**	**-0.3**
JFT	**Otama**	**2.68**	**325**	P	**Pn**	**15 36 00.5**	**-0.9**
JFT				S	**Sn**	**15 36 31.4**	**-2.6**
JRY	**Ryogami san**	**2.83**	**285**	P	**Pn**	**15 36 03.9**	**+0.4**
JRY				*e*S	**Sn**	**15 36 36.5**	**-1.3**
JHJ2	**Mitsune**	**3.02**	**223**	*e*Pn	**Pn**	**15 36 06.5**	**+0.4**
JHJ	**Hachijo jima 2**	**3.03**	**224**	Pn	**Pn**	**15 36 06.0**	**-0.3**
	8.8nm,0.3s,baz=342,slow=22,SNR=10						
JHJ				Sn	**Sn**	**15 36 39.1**	**-3.7**
	41nm,0.3s,baz=63,slow=22,SNR=2.1						
JYN	**Shimob**	**3.06**	**274**	P	**Pn**	**15 36 07.0**	**+0.3**
JYN				*e*S	**Sn**	**15 36 43.0**	**-0.4**
MJAR	**Matsushiro Arr**	**3.51**	**291**	Pn	**Pn**	**15 36 13.3**	**+0.4**
	2.2nm,0.3s,baz=50,slow=30,SNR=21						
MJAR				Sn	**Sn**	**15 36 54.1**	**-0.6**
	1.8nm,0.3s,baz=156,slow=19,SNR=4.8						
MAJO	**Matsushiro**	**3.51**	**291**	*e*Pn	**Pn**	**15 36 14.1**	**+1.1**
MAT	**Matsushiro**	**3.51**	**291**	P	**Pn**	**15 36 13.7**	**+0.8**
MAT				S	**Sn**	**15 36 54.3**	**-0.4**
MAT	**Matsushiro**	**3.51**	**291**	P	**Pn**	**15 36 13.2**	**+0.3**
MAT				*e*S	**Sn**	**15 36 53.9**	**-0.8**
ERM	**Erimo**	**6.70**	**6**	*e*Pn	**Pn**	**15 36 54.3**	**-2.2**
ASAJ	**Asahikawa**	**8.76**	**1**	Pn	**Pn**	**15 37 23.6**	**-1.4**
	1.6nm,0.3s,baz=214,slow=18,SNR=10						
SEY	**Seymchan**	**28.32**	**10**	P	**P**	**15 41 13.6**	**+1.7**
	0.2nm,0.3s,baz=218,slow=20,SNR=4.1						
SONM	**Songino Array**	**29.33**	**306**	P	**P**	**15 41 22.7**	**+1.5**
	0.5nm,0.6s,baz=98,slow=7.5,SNR=4.0						
MKAR	**Makanchi Array**	**45.62**	**304**	P	**P**	**15 43 37.5**	**-1.2**
	0.4nm,0.8s,baz=75,slow=7.8,SNR=2.8						
KURK	**Kurchatov**	**47.53**	**309**	*e*P	**P**	**15 43 56.3**	**+2.6**
	21nm,0.9s						
KURBB	**Kurchatov Arra**	**47.60**	**309**	P	**P**	**15 43 54.0**	**-0.2**
	1.2nm,0.7s,baz=81,slow=7.2,SNR=4.2						
ILAR	**Eielson Array**	**50.55**	**32**	P	**P**	**15 44 16.9**	**+0.4**
	0.6nm,0.9s,baz=273,slow=6.2,SNR=6.2						
WRAB	**Tennant Creek**	**55.49**	**189**	*e*P	**P**	**15 44 52.4**	**-1.0**
	1.6nm,0.7s						
WRA	**Warramunga Arr**	**55.50**	**189**	P	**P**	**15 44 53.0**	**-0.5**
	1.5nm,0.5s,baz=6.6,slow=7.6,SNR=27						
ASAR	**Alice Springs**	**59.22**	**189**	P	**P**	**15 45 19.4**	**-0.4**
	0.6nm,0.8s,baz=2.0,slow=7.2,SNR=10						

*JMA **22** 15:43:08.1±0.1,24°.94N×122°.70E,h31km±2km*
*TAP **22** 15:43:10.3,24°.83N×122°.46E,h2km±1km,ML2.7,C*
ISC 22 15:43:08.1±1.5,24°.83N±0°.08×122°.66E±0°.04,h15km±11km,
n15,σ1°00/22,Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JYNG	**Yonagunijimaku**	**0.46**	**145**	P	**Pb**	**15 43 18.8**	**+0.9**
JYNG				S	**Sb**	**15 43 26.4**	**+1.9**
TWB1	**Santiao Chiao**	**0.63**	**286**	P	**Pb**	**15 43 21.4**	**+0.5**
	baz=292						
TWB1				S	**Sg**	**15 43 28.8**	**-0.2**
	baz=292						
TWC	**Suao**	**0.77**	**254**	P	**Pg**	**15 43 23.1**	**-0.1**
	baz=247						
TWC				*e*S	**Sg**	**15 43 32.8**	**-0.5**
	baz=247						
NWF	**Wu-fen Shan**	**0.83**	**287**	*e*P	**Pn**	**15 43 26.3**	**+0.9**
	baz=291						
TWE	**Neicheng**	**0.91**	**263**	P	**Pg**	**15 43 25.8**	**+0.1**
	baz=249						
TWE				*e*S	**Sb**	**15 43 37.2**	**-0.3**
	baz=249						
ENA	**Nanau**	**0.93**	**245**	*e*P	**Pb**	**15 43 25.9**	**+0.1**
	baz=237						
ENA				*e*S	**Sb**	**15 43 35.3**	**-2.7**
	baz=237						
ENTT	**Nioudou**	**1.01**	**259**	*e*P	**Pg**	**15 43 28.1**	**+0.3**
	baz=256						
ENTT				*e*S	**Sn**	**15 43 41.9**	**+0.1**
	baz=256						
IRIF	**Iriomote-Funau**	**1.09**	**117**	P	**Pb**	**15 43 27.7**	**-1.0**
NSK	**Sanguang**	**1.19**	**263**	*e*P	**Pg**	**15 43 31.8**	**+0.6**
	baz=260						
JIJ	**Ishigaki jima**	**1.43**	**109**	P	**Pn**	**15 43 32.6**	**-0.9**
WHF	**Hehuan Shan**	**1.44**	**242**	*e*P	**Pg**	**15 43 36.0**	**0.0**
	baz=236						
TWT	**Tachien**	**1.47**	**247**	*e*P	**Pg**	**15 43 37.7**	**+1.3**
	baz=242						
NSTT	**Nanjuang**	**1.52**	**263**	P	**Pg**	**15 43 38.0**	**+0.6**
	baz=260						
NSTT				*e*S	**Sg**	**15 43 56.5**	**-0.7**
	baz=260						
SMLT	**Sun Moon Lake**	**1.86**	**240**	*e*P	**Pg**	**15 43 44.4**	**+0.5**
	baz=234						
CHN5	**Tsauling**	**2.19**	**236**	*e*P	**Pg**	**15 43 50.3**	**+0.2**
	baz=208						

*DDA **22** 16:08:03.5,40°.84N×27°.78E,h7km,Ml2.7*
*ISCJB **22** 16:08:04.8±0.6,40°.82N±0°.04×27°.68E±0°.04,h11km±5km,*
Error ellipse: s-maj=6.9km s-min=4.8km az=173.0
*ISK **22** 16:08:04.2,40°.83N×27°.61E,h8km,MD2.6*
*CSEM **22** 16:08:05.0±0.2,40°.81N×27°.63E,h10km,MD2.6,Error*
ellipse: s-maj=7.3km s-min=4.7km az=158.0
ISC 22 16:08:04.5±1.0,40°.82N±0°.04×27°.64E±0°.03,h15km±7km,
n26,σ0°66/35,Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MRMT	**Marmara Adasi**	**0.22**	**188**	*e*PG	**Pg**	**16 08 09.2**	**-0.4**
MRMT				*e*SG	**Sg**	**16 08 13.0**	**+0.1**
MRMT	**Marmara Adasi**	**0.22**	**188**	*e*Pg	**Pg**	**16 08 09.2**	**-0.4**
MRMT				*e*Sg	**Sg**	**16 08 13.0**	**+0.1**
SBT3	**Marmara-Eregli**	**0.27**	**76**	*e*PG	**Pg**	**16 08 10.3**	**+0.2**
SBT3	**Marmara-Eregli**	**0.27**	**76**	*e*Pg	**Pg**	**16 08 10.3**	**+0.2**
SART	**Tekirdag**	**0.37**	**249**	*i* P	**Pb**	**16 08 13.0**	**+0.1**
SART				*i* S	**Sb**	**16 08 19.8**	**+1.3**
SART	**Tekirdag**	**0.37**	**249**	P	**Pb**	**16 08 13.0**	**+0.1**
SART				S	**Sb**	**16 08 19.8**	**+1.3**
SLVT	**Silivri**	**0.59**	**47**	P	**Pn**	**16 08 18.8**	**+0.3**
KESN	**Edirne-Kesan**	**0.72**	**271**	*i* P	**Pb**	**16 08 19.3**	**+0.2**
KESN				*i* S	**Sn**	**16 08 30.9**	**-0.7**
KESN	**Edirne-Kesan**	**0.72**	**271**	P	**Pb**	**16 08 19.3**	**+0.2**
KESN				S	**Sn**	**16 08 31.0**	**-0.7**
CTKS	**Kestanelik-??a**	**0.78**	**58**	*e*PG	**Pn**	**16 08 20.7**	**-0.3**
CTKS	**Kestanelik-??a**	**0.78**	**58**	*e*Pg	**Pn**	**16 08 20.7**	**-0.3**
ERIK	**Erikli-Kesan**	**0.87**	**260**	*e*PG	**Pb**	**16 08 21.6**	**+0.3**
ERIK	**Erikli-Kesan**	**0.87**	**260**	*e*Pg	**Pb**	**16 08 21.6**	**+0.3**
BALY	**Balya**	**1.08**	**181**	*i* P	**Pg**	**16 08 25.2**	**-0.2**
BALY				*i* S	**Sn**	**16 08 40.6**	**+0.7**
BALY	**Balya**	**1.08**	**181**	P	**Pg**	**16 08 25.2**	**-0.2**
BALY				S	**Sn**	**16 08 40.7**	**+0.7**
ISK	**Istanbul-Kandi**	**1.10**	**77**	*e*PN	**Pn**	**16 08 25.8**	**+0.3**
ISK	**Istanbul-Kandi**	**1.10**	**77**	*e*Pn	**Pn**	**16 08 25.8**	**+0.3**
ENEZ	**Enez**	**1.13**	**266**	*e*PN	**Pg**	**16 08 25.8**	**-0.5**
ENEZ	**Enez**	**1.13**	**266**	*e*Pn	**Pg**	**16 08 25.8**	**-0.5**
ALN	**Alexandroupoli**	**1.21**	**274**	*e*PN	**Pb**	**16 08 27.2**	**+0.1**
ALN	**Alexandroupoli**	**1.21**	**274**	*e*Pn	**Pb**	**16 08 27.2**	**+0.1**
EDRB	**Edirne**	**1.22**	**327**	*e*PN	**Pg**	**16 08 27.6**	**-0.5**
EDRB	**Edirne**	**1.22**	**327**	*e*Pn	**Pg**	**16 08 27.6**	**-0.5**
IGD	**Bursa**	**1.32**	**115**	*i* P	**Pn**	**16 08 26.5**	**-1.9**
IGD				*i* S	**Sb**	**16 08 44.3**	**-1.4**
HRT	**Hereke**	**1.54**	**89**	*e*PN	**Pn**	**16 08 32.1**	**+0.5**
HRT	**Hereke**	**1.54**	**89**	*e*Pn	**Pn**	**16 08 32.1**	**+0.5**

*ISCJB **22** 16:09:41.8±0.5,33°.78N±0°.04×35°.71E±0°.08,h15km±8km,*
Error ellipse: s-maj=11.9km s-min=4.9km az=160.3
*CSEM **22** 16:09:41.6±0.2,33°.79N×35°.74E,h10km,ML3.0,Error*
ellipse: s-maj=4.9km s-min=3.4km az=93.0
*GRAL **22** 16:09:42.8±0.3,33°.79N×35°.78E,h0km±41km,MD3.0*
*NSSC **22** 16:09:43.9±1.8,33°.74N×35°.87E,h14km±8km,ML1.7*
ISC 22 16:09:42.0±1.0,33°.79N±0°.02×35°.77E±0°.04,h12km±10km,
n20,σ0°76/33,Jordan-Syria region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BHL	**Bhannes**	**0.15**	**320**	*e*P	**Pg**	**16 09 45.5**	**-0.2**
BHL	**Bhannes**	**0.15**	**320**	*e*P	**Pg**	**16 09 45.5**	**-0.2**
DQRL	**Deir Qamar**	**0.19**	**243**	*e*P	**Pg**	**16 09 46.3**	**+0.1**
DQRL				*e*S	**Sg**	**16 09 48.9**	**-0.2**
DQRL	**Deir Qamar**	**0.19**	**243**	*e*P	**Pg**	**16 09 46.3**	**+0.1**
DQRL				*e*S	**Sg**	**16 09 48.9**	**-0.2**
BEYL	**Beirut**	**0.24**	**290**	*e*P	**Pg**	**16 09 47.1**	**0.0**
RCY	**Rachaya**	**0.30**	**169**	*e*P	**Pg**	**16 09 48.2**	**0.0**
RCY				*e*S	**Sg**	**16 09 52.2**	**-0.1**
RCY	**Rachaya**	**0.30**	**169**	*e*P	**Pg**	**16 09 48.2**	**0.0**
BRBR	**Barbar**	**0.41**	**158**	*e*P	**Pg**	**16 09 50.3**	**+0.1**
BRBR				*e*S	**Sg**	**16 09 57.2**	**+1.6**
BRBR				AML	AML	16 10 01.5	
	comp=E,181nm,0.6s						
BRBR				AML	AML	16 10 01.8	
	comp=N,117nm,0.7s						
BRBR	**Barbar**	**0.41**	**158**	*e*P	**Pg**	**16 09 50.3**	**+0.1**
	SNR=107						
BRBR				*e*S	**Sg**	**16 09 57.2**	**+1.6**
	comp=N,117nm,0.7s,SNR=109						
HWQ	**Hawqa**	**0.51**	**17**	*e*P	**Pg**	**16 09 51.8**	**-0.2**
HWQ				*e*S	**Sg**	**16 09 58.5**	**-0.4**
HWQ	**Hawqa**	**0.51**	**17**	*e*P	**Pg**	**16 09 51.8**	**-0.2**
HWQ				*e*S	**Sg**	**16 09 58.5**	**-0.4**
MARH	**Ras Al Marh**	**0.64**	**68**	*e*P	**Pg**	**16 09 54.9**	**+0.4**
MARH				*e*S	**Sb**	**16 10 04.5**	**+0.1**
MARH				AML	AML	16 10 10.1	
	comp=N,39nm,0.5s						
MARH				AML	AML	16 10 11.2	
	comp=E,94nm,0.5s						
MARH	**Ras Al Marh**	**0.64**	**68**	*e*P	**Pg**	**16 09 54.9**	**+0.4**
	SNR=98						
MARH				*e*S	**Sb**	**16 10 04.4**	**+0.1**
	comp=E,94nm,0.5s,SNR=101						
TOTH	**TOTAH**	**0.70**	**128**	*e*P	**Pg**	**16 09 55.0**	**-0.6**
TOTH				*e*S	**Sg**	**16 10 03.9**	**-0.9**
TOTH				AML	AML	16 10 12.2	
	comp=E,31nm,0.5s						
TOTH				AML	AML	16 10 14.1	
	comp=N,46nm,0.5s						
TOTH	**TOTAH**	**0.70**	**128**	*e*P	**Pg**	**16 09 55.0**	**-0.6**
	SNR=96						
TOTH				*e*S	**Sg**	**16 10 03.8**	**-0.9**
	comp=N,46nm,0.5s,SNR=100						
FKH	**Fakeheh**	**0.70**	**49**	*e*P	**Pg**	**16 09 55.3**	**-0.4**
ROOS	**tl_alroos**	**1.32**	**73**	*e*P	**Pn**	**16 10 07.4**	**+1.1**
ROOS	**tl_alroos**	**1.32**	**73**	*e*P	**Pn**	**16 10 07.4**	**+1.1**
	SNR=66						
SALA	**Sala**	**1.34**	**143**	*e*P	**Pn**	**16 10 07.2**	**+0.4**
SALA				*e*S	**Sb**	**16 10 22.8**	**-1.7**
SALA				AML	AML	16 10 34.6	
	comp=E,3.3nm,0.4s						
SALA				AML	AML	16 10 37.7	
	comp=N,20nm,0.5s						
SALA	**Sala**	**1.34**	**143**	*e*P	**Pn**	**16 10 07.2**	**+0.4**
	SNR=66						
SALA				*e*S	**Sb**	**16 10 22.8**	**-1.7**
	comp=N,20nm,0.5s,SNR=62						

IDC 22 16:17:36.8±3.3,31°.90S×178°.02W,h0km,mb3.6/2,
mb1 3.9/3,mb1mx3.7/23,mbtmp3.7/3,ML3.1/1,MS3.0/1,
Ms1 3.0/1,ms1mx2.4/23,Error ellipse: s-maj=74.9km
s-min=47.5km az=117.0,Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
URZ	**Urewera**	**7.49**	**211**	Pn	Pn	16 19 25.9	-1.4
	0.3nm,0.3s,baz=273,slow=4.9,SNR=7.6						
URZ				Sn	Sn	16 20 50.3	-2.7
	1.4nm,0.3s,baz=217,slow=21,SNR=17						
DZM	**Mont Dzumac**	**16.95**	**301**	LR	LR	16 27 05.3	
	comp=Z,43nm,18.5s,baz=34,slow=34						
ASAR	**Alice Springs**	**43.04**	**269**	P	P	16 25 38.4	-0.1
	0.3nm,0.4s,baz=105,slow=7.1,SNR=9.0						
WRA	**Warramunga Arr**	**44.16**	**274**	P	P	16 25 47.6	+0.1
	0.5nm,0.4s,baz=112,slow=7.8,SNR=12						
FINES	**FINESS Array B**	**146.55**	**339**	PKPbc	PKPbc	16 37 18.7	-0.7
	1.4nm,0.6s,baz=116,slow=3.2,SNR=3.4						

IDC 22 16:17:52.6±2.6,13°.29N×88°.66W,h0km,mb3.1/1,
mb1 3.8/1,mb1mx3.4/24,mbtmp3.3/1,Error ellipse:
s-maj=215.7km s-min=60.2km az=52.0,El Salvador

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TXAR	**Lajitas Array**	**21.19**	**321**	P	P	16 22 39.9	0.0
	0.7nm,0.6s,baz=141,slow=10,SNR=11						
WRA	**Warramunga Arr**	**138.36**	**255**	PKP	PKPdf	16 37 20.0	-1.0
	1.0nm,1.1s,baz=87,slow=2.1,SNR=5.3						
ASAR	**Alice Springs**	**138.47**	**249**	PKP	PKPdf	16 37 20.8	-0.3
	0.2nm,1.0s,baz=90,slow=2.8,SNR=1.4						
CMAR	**Chiang Mai Arr**	**147.58**	**346**	PKPbc	PKPbc	16 37 39.1	-0.7
	0.7nm,0.6s,baz=328,slow=3.2,SNR=5.2						

*IASPEI **22** 16:19:08.5±0.9,36°.11N±0°.02×117°.57W±0°.03,h9km±7km,*
Error ellipse: s-maj=3.7km s-min=3.5km az=115.2,GT5
selection from ISC bulletin GT5 identified by Bond¨jr and
McLaughlin (2009) selection criteria Bond¨jr and
McLaughlin, A new ground truth data set for seismic
studies, Seism. Res. Let., 80, 465-472,
2009
*NEIC **22** 16:19:08.9±0.0,36°.11N×117°.59W,h1km,ML3.8(PAS),*
After PAS.
ISC 22 16:19:08.5±0.9,36°.11N±0°.02×117°.58W±0°.02,h9km±6km,
n87,σ1°76/119,California-Nevada border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MPMC	**Manual Prospec**	**0.09**	**126**	P	**Pg**	**16 19 11.0**	**-0.1**
	baz=300,SNR=1000						
MPMC				S	**Sg**	**16 19 12.5**	**-0.5**
	baz=300						
DAC	**Darwin (Calif)**	**0.17**	**356**	*e*Pg	**Pg**	**16 19 12.2**	**0.0**
CWC	**Cottonwood Cre**	**0.52**	**309**	P	**Pg**	**16 19 18.9**	**+0.2**
	baz=130						
CWC				S	**Sg**	**16 19 26.1**	**+0.5**
	baz=130						
LRMC	**Laurel Mtn Rad**	**0.64**	**188**	P	**Pg**	**16 19 20.9**	**0.0**
	baz=6.6,SNR=1000						
LRMC				S	**Sg**	**16 19 29.6**	**+0.4**
	baz=6.6						
FURC	**Furnace Creek,**	**0.68**	**58**	P	**Pg**	**16 19 22.3**	**+0.6**
	baz=239,SNR=238						
FURC				S	**Sg**	**16 19 31.6**	**+1.1**
	baz=239						
ISA	**Isabella, Lake**	**0.85**	**239**	P	**Pg**	**16 19 24.9**	**-0.1**
	baz=58,SNR=384						
ISA				S	**Sg**	**16 19 36.3**	**+0.2**
	baz=58						
ISA	**Isabella, Lake**	**0.85**	**239**	*e*Pg	**Pg**	**16 19 24.9**	**-0.1**
ISA				*e*Pn	Pn	16 19 34.7	+8.0
GRAC	**Grapevine Rang**	**0.90**	**11**	P	**Pg**	**16 19 26.0**	**+0.1**
	baz=192,SNR=924						
GRAC				S	**Sb**	**16 19 38.5**	**0.0**
	baz=192						
GSC	**Goldstone, Bar**	**1.02**	**142**	P	**Pg**	**16 19 28.1**	**-0.1**
	baz=322,SNR=111						
GSC				S	**Sb**	**16 19 42.3**	**+0.3**
	baz=322						
GSC	**Goldstone, Bar**	**1.02**	**142**	*e*Pg	**Pg**	**16 19 28.4**	**+0.2**
SHOC	**Shoshone, Teco**	**1.08**	**101**	P	**Pg**	**16 19 29.3**	**+0.1**
	baz=281,SNR=91						
SHOC				S	**Sb**	**16 19 44.6**	**+1.1**
	baz=281						
TIN	**Tinemaha, Big**	**1.08**	**331**	P	**Pg**	**16 19 28.8**	**-0.4**
	baz=151,SNR=144						
TIN				S	**Sb**	**16 19 44.2**	**+0.5**
	baz=151						
VES	**Vestal, Richgr**	**1.25**	**258**	P	**Pn**	**16 19 32.2**	**+0.1**
	baz=77,SNR=151						
VES				S	**Sn**	**16 19 49.2**	**+0.1**
	baz=77						
EDW2	**Edwards Air Fo**	**1.27**	**196**	P	**Pn**	**16 19 32.2**	**-0.3**
	baz=15,SNR=452						
EDW2				S	**Sn**	**16 19 50.2**	**+0.5**
	baz=15						
RRX	**Edison Barstow**	**1.32**	**159**	P	**Pn**	**16 19 33.0**	**-0.1**
	baz=339,SNR=50						
RRX				S	**Sg**	**16 19 52.1**	**+1.0**
	baz=339						
TPNV	**Topopah Spring**	**1.36**	**52**	Pb	**Pb**	**16 19 34.5**	**+0.3**
	baz=232,SNR=1000						
TPNV				S	**Sg**	**16 19 52.8**	**+0.5**
	baz=232						
TPNV	**Topopah Spring**	**1.36**	**52**	*e*Pn	**Pn**	**16 19 34.3**	**+0.5**
TPNV				*e*Sn	**Sn**	**16 19 52.4**	**+0.4**
RCTC	**Rector, Farmer**	**1.36**	**279**	P	**Pn**	**16 19 33.6**	**0.0**
	baz=98,SNR=12						
RCTC				S	**Sn**	**16 19 52.0**	**+0.2**
	baz=98						
ARVC	**Arvin**	**1.42**	**226**	Pb	**Pn**	**16 19 34.9**	**+0.5**
	baz=45,SNR=54						
TUQ	**Turquoise Moun**	**1.50**	**116**	P	**Pn**	**16 19 35.7**	**-0.1**
	baz=297,SNR=425						
HEC	**Hector,Ludlow**	**1.63**	**141**	P	**Pn**	**16 19 37.4**	**-0.1**
	baz=322,SNR=217						
HEC				Sb	**Sg**	**16 20 01.4**	**+0.3**
	baz=322						
OSI	**Osito Audit: C**	**1.76**	**212**	Sb	**Sg**	**16 20 04.6**	**-0.6**
	baz=31						
OSI	**Osito Audit: C**	**1.76**	**212**	*e*Pn	**Pg**	**16 19 42.6**	**+0.3**
MLAC	**Mammoth, Mammo**	**1.82**	**327**	Pg	**Pb**	**16 19 43.0**	**+0.9**
	baz=146						
BFSC	**Mount Baldy Ra**	**1.87**	**182**	Pg	**Pg**	**16 19 44.0**	**-0.3**
	baz=1.6						
BFSC				Sb	**Sg**	**16 20 08.2**	**-0.4**
	baz=1.6						
BBRC	**Big Bear Solar**	**1.92**	**164**	Pg	**Pg**	**16 19 45.1**	**-0.3**
	baz=344						
MWC	**Mount Wilson**	**1.92**	**192**	*e*Pn	**Pb**	**16 19 44.0**	**+0.2**
MWC				*e*Sn	**Sg**	**16 20 10.2**	**-0.2**
SHPR	**Sheep Range**	**1.99**	**78**	*e*Pn	**Pn**	**16 19 43.4**	**+0.9**
PASC	**Pasadena Art C**	**2.00**	**195**	*e*Pn	**Pb**	**16 19 44.8**	**-0.2**
GMRC	**Granite Mounta**	**2.05**	**130**	P	**Pn**	**16 19 42.7**	**-0.6**
	baz=311,SNR=89						
GMRC				Sb	**Sg**	**16 20 13.7**	**-0.7**
	baz=311						
SMMC	**Simmler**	**2.12**	**249**	Pb	**Pb**	**16 19 46.9**	**-0.2**
	baz=67						
PKM	**Mcpherson Peak**	**2.19**	**237**	Pb	**Pb**	**16 19 48.1**	**-0.3**
	baz=55						
PAGB	**Antelope Grade**	**2.20**	**261**	*e*Pn	**Pn**	**16 19 45.9**	**+0.7**
LDFC	**Landfair**	**2.26**	**116**	*e*Pn	**Pn**	**16 19 45.2**	**-0.9**
BLG	**Laguna Peak, P**	**2.34**	**212**	Pg	**Pg**	**16 19 53.1**	**-0.3**
	baz=31						
SBC	**Santa Barbara**	**2.41**	**227**	Pg	**Pg**	**16 19 54.5**	**-0.3**
	baz=46						
TVH3	**East Aurora ar**	**2.45**	**337**	*e*Pn	**Pn**	**16 19 50.5**	**+1.6**
TVH2	**Borealis Mine**	**2.45**	**338**	*e*Pn	**Pn**	**16 19 50.2**	**+1.3**
BELC	**Belle Mtn. Jos**	**2.47**	**148**	P	**Pn**	**16 19 49.2**	**+0.1**
	baz=329,SNR=64						
TVH1	**TV Hill, Hawth**	**2.53**	**338**	*e*Pn	**Pn**	**16 19 51.5**	**+1.5**
PMPB	**Monarch Peak**	**2.61**	**273**	*e*Pn	**Pn**	**16 19 52.8**	**+1.9**
PFO	**Pinyon Flats O**	**2.66**	**159**	P	**Pn**	**16 19 51.7**	**+0.1**
	baz=340,SNR=73						
PFO	**Pinyon Flats O**	**2.66**	**159**	*e*Pn	**Pn**	**16 19 51.9**	**+0.3**
TPFO	**Pinon Flats**	**2.67**	**159**	P	**Pn**	**16 19 51.9**	**+0.2**
	baz=340,SNR=64						
R11A	**Troy Canyon, C**	**2.74**	**35**	*e*Pn	**Pn**	**16 19 54.7**	**+1.9**
NEE2	**Needles Airpor**	**2.76**	**118**	Pg	**Pg**	**16 20 01.1**	**-0.4**
	baz=300						
IRM	**Iron Mountain**	**2.79**	**134**	P	**Pn**	**16 19 53.0**	**-0.3**
	baz=315,SNR=22						
CIS	**Catalina Islan**	**2.79**	**195**	Pg	**Pg**	**16 20 01.8**	**-0.2**
	baz=14						
WAKR	**Walker**	**2.81**	**329**	*e*Pn	**Pn**	**16 19 56.3**	**+2.5**
CMB	**Columbia Colle**	**2.95**	**311**	*e*Pn	**Pb**	**16 20 00.7**	**-0.6**
BC3	**Big Chuckawall**	**3.01**	**144**	P	**Pn**	**16 19 56.0**	**-0.4**
	baz=325,SNR=17						
YERR	**Yerington**	**3.16**	**336**	*e*Pn	**Pn**	**16 20 00.1**	**+1.5**
W13A	**Hualapai Mount**	**3.17**	**107**	*e*Pn	**Pn**	**16 20 00.1**	**+1.3**
SAO	**San Andreas Ge**	**3.19**	**283**	*e*Pn	**Pb**	**16 20 02.2**	**-3.0**
PNTR	**Pine Nut**	**3.38**	**332**	*e*Pn	**Pn**	**16 20 03.5**	**+1.8**
Y12C	**Blythe**	**3.44**	**132**	P	**Pn**	**16 20 02.2**	**0.0**
	baz=314						
Y12C	**Blythe**	**3.44**	**132**	*e*Pn	**Pn**	**16 20 02.3**	**0.0**
BAR	**Barrett**	**3.50**	**167**	*e*Pn	**Pn**	**16 20 05.2**	**+2.1**
LCMT	**Little Creek M**	**3.60**	**74**	*e*Pn	**Pn**	**16 20 06.3**	**+1.7**
CCUT	**Cedar City**	**3.67**	**66**	*e*Pn	**Pn**	**16 20 06.8**	**+1.

LSP				*e*S		**Sn**	**16 34 05.6 +0.9**
CRPR	**Cabo Rojo, PR**	**1.68**	**114**	*e*P		**Pn**	**16 33 41.9 +0.1**
CRPR	**Cabo Rojo, PR**	**1.68**	**114**	*e*P		**Pn**	**16 33 41.9 +0.1**
GBPR	**Guanica, Bosqu**	**1.89**	**112**	*e*P		**Pn**	**16 33 44.7 +0.5**
GBPR	**Guanica, Bosqu**	**1.89**	**112**	*e*P		**Pn**	**16 33 44.7 +0.5**
AOPR	**Arecibo Observ**	**1.89**	**101**	*e*P		**Pn**	**16 33 44.9 +0.5**
AOPR	**Arecibo Observ**	**1.89**	**101**	*e*P		**Pn**	**16 33 44.9 +0.5**
OBIP	**Obispado Ponce**	**2.11**	**108**	*e*P		**Pn**	**16 33 46.4 -0.4**
OBIP	**Obispado Ponce**	**2.11**	**108**	*e*S		**Sn**	**16 34 14.1 -0.3**
OBIP	**Obispado Ponce**	**2.11**	**108**	*e*P		**Pn**	**16 33 46.4 -0.4**
OBIP				*e*S		**Sn**	**16 34 14.1 -0.3**
CELP	**Cerrillos**	**2.12**	**107**	*e*P		**Pn**	**16 33 47.6 +0.6**
CELP	**Cerrillos**	**2.12**	**107**	*e*P		**Pn**	**16 33 47.6 +0.6**
CELP				*e*Sn		**Sn**	**16 34 15.4 +0.7**
ICMP	**Isla Caja de M**	**2.23**	**111**	*e*S		**Sn**	**16 34 16.8 -0.3**
SDDR	**Presa de Saban**	**2.45**	**277**	*e*P		**Pn**	**16 33 52.1 +1.0**
SDDR	**Presa de Saban**	**2.45**	**277**	*e*P		**Pn**	**16 33 52.1 +1.0**
SJG	**San Juan**	**2.50**	**103**	*e*P		**Pn**	**16 33 51.5 -0.2**
SJG	**San Juan**	**2.50**	**103**	*e*P		**Pn**	**16 33 51.5 -0.2**
HUMP	**Col San Antoni**	**2.78**	**101**	*e*P		**Pn**	**16 33 55.1 0.0**
HUMP	**Col San Antoni**	**2.78**	**101**	*e*P		**Pn**	**16 33 55.1 0.0**
STVI	**Saint Thomas**	**3.58**	**95**	*e*S		**Sn**	**16 34 47.7 -0.1**
STVI	**Saint Thomas**	**3.58**	**95**	*e*P		**Pn**	**16 34 05.4 -0.1**
STVI	**Saint Thomas**	**3.58**	**95**	*e*P		**Pn**	**16 34 05.4 -0.1**
STVI				*e*S		**Sn**	**16 34 47.7 -0.1**
GRTK	**Grand Turk**	**3.60**	**321**	*e*Pn		**Pn**	**16 34 06.8 +1.1**
GRTK				*e*Sn		**Sn**	**16 34 45.7 -2.4**
CDVI	**St. Croix**	**3.87**	**104**	*e*Pn		**Pn**	**16 34 09.2 -0.1**
CDVI				*e*Sn		**Sn**	**16 34 53.8 -0.7**
SMRT	**St. Maarten**	**5.39**	**96**	*e*Pn		**Pn**	**16 34 29.8 +0.4**
RUSC	**La Rusia**	**13.43**	**199**	*e*Pn		**Pn**	**16 36 15.8 -0.6**

NIED ***22*** *16:40:00, 36.80N×141.90E, h26km, Mw3.8 Best double couple: M0 5.44000×10^14 NP1:ϕ=149.00000°, δ=59.00000°, λ=-27.00000°. NP2:ϕ=254.00000°, δ=67.00000°, λ=-146.00000°.*

IDC ***22*** *16:40:54.5±1.1, 36.52N×142.04E, h0km, mb3.4/8, mb1 3.6/10, mb1mx3.4/51, mbtmp3.5/10, ML3.5/2, MS2.8/4, Ms1 2.9/4, ms1mx2.5/27, Error ellipse: s-maj=24.7km s-min=19.8km az=99.0*

ISCJB ***22*** *16:40:57.6±1.4, 36.73N±0.04×141.89E±0.07, h26km±8km, mb3.3/8, MS3.0/1, Error ellipse: s-maj=9.3km s-min=6.1km az=10.7*

JMA ***22*** *16:40:58.5, 36.75N×141.86E, h37km±1km, M3.9*

ISC 22 16:40:56.2±1.7, 36.66N±0.04×141.83E±0.06, h10km±10km, n32, σ1°24/35, mb3.5/8, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ONAJ	**Iwakimizuishiy**	**0.93**	**298**	P	**Pn**	**16 41 15.1**	**-0.3**
ONAJ				*e*S	**Sg**	**16 41 27.3**	**+1.0**
JHO	**Hitachi**	**1.01**	**268**	P	**Pn**	**16 41 17.0**	**+0.6**
JHO				*e*S	**Sn**	**16 41 30.6**	**-0.1**
JFK	**Kawauchi**	**1.04**	**313**	P	**Pb**	**16 41 16.3**	**+0.1**
JFK				S	**Sb**	**16 41 29.2**	**-0.7**
CHOJ	**Chosi**	**1.23**	**220**	P	**Pg**	**16 41 21.2**	**+1.3**
CHOJ				*e*S	**Sn**	**16 41 37.5**	**+1.4**
JYT	**Yasato**	**1.38**	**252**	P	**Pg**	**16 41 22.9**	**+0.2**
JYT				S	**Sg**	**16 41 40.8**	**+0.1**
JMM	**Marumori**	**1.46**	**326**	P	**Pn**	**16 41 22.1**	**-0.4**
JMM				*e*S	**Sn**	**16 41 39.7**	**-2.0**
JFT	**Otama**	**1.47**	**306**	P	**Pn**	**16 41 22.9**	**+0.2**
JFT				*e*S	**Sn**	**16 41 40.8**	**-1.1**
JSB	**Shiboa**	**1.56**	**282**	P	**Pb**	**16 41 24.9**	**-0.2**
JSB				*e*S	**Sn**	**16 41 44.0**	**-0.2**
JCN	**Nagara**	**1.81**	**227**	P	**Pg**	**16 41 29.7**	**-1.1**
JIO	**Ouri**	**1.83**	**348**	P	**Pn**	**16 41 27.1**	**-0.5**
JIO				*e*S	**Sn**	**16 41 48.4**	**-2.5**
JFY	**Yanaizu**	**1.85**	**294**	P	**Pn**	**16 41 28.6**	**+0.6**
JOU	**Okura**	**1.94**	**332**	P	**Pn**	**16 41 29.2**	**+0.1**
MJAR	**Matsushiro Arr**	**2.91**	**269**	Pn	**Pb**	**16 41 45.4**	**-2.8**
	5.3nm,0.3s,baz=104,slow=10.0,SNR=37						
MJAR				Sn	**Sb**	**16 42 23.9**	**0.0**
	11nm,0.3s,baz=89,slow=18,SNR=6.2						
MJAR				LR	LR	16 43 11.7	
	comp=Z,117nm,18.2s,baz=65,slow=45						
MAT	**Matsushiro**	**2.91**	**269**	P	**Pb**	**16 41 45.5**	**-2.7**
MAT				S	**Sb**	**16 42 23.3**	**-0.6**
JHJ	**Hachijo jima 2**	**3.91**	**206**	Pn	**Pn**	**16 41 55.1**	**-1.1**
	12nm,0.3s,baz=76,slow=14,SNR=2.2						
JHJ				Sn	**Sn**	**16 42 41.2**	**-1.0**
	40nm,0.3s,baz=57,slow=23,SNR=2.6						
USRK	**Ussuriysk Ar.**	**10.62**	**318**	LR	LR	16 47 21.7	
	comp=Z,46nm,18.7s,baz=125,slow=36						
KSRS	**Korea Array**	**11.14**	**278**	LR	LR	16 47 40.3	
	comp=Z,55nm,18.8s,baz=116,slow=36						
SEY	**Seymchan**	**27.09**	**11**	P	**P**	**16 46 39.5**	**+0.8**
	0.5nm,0.5s,baz=219,slow=16,SNR=2.5						
H11N2	**WAKE ISLAND Hy**	**27.67**	**121**	T	T	17 16 03.6	
	baz=320,slow=75,SNR=23						
H11N1	**WAKE ISLAND Hy**	**27.68**	**121**	T	T	17 16 39.5	
	SNR=18						
H11N3	**WAKE ISLAND Hy**	**27.69**	**121**	T	T	17 16 29.2	
	baz=314,slow=75,SNR=21						
SONM	**Songino Array**	**28.27**	**304**	P	**P**	**16 46 51.1**	**+1.5**
	0.2nm,0.5s,baz=108,slow=9.3,SNR=2.4						
H11S1	**WAKE ISLAND Hy**	**28.38**	**123**	T	T	17 17 55.9	
	SNR=18						
H11S3	**WAKE ISLAND Hy**	**28.38**	**123**	T	T	17 17 10.5	
	baz=256,slow=74,SNR=11						
H11S2	**WAKE ISLAND Hy**	**28.40**	**123**	T	T	17 16 58.8	
	baz=313,slow=74,SNR=11						
CMAR	**Chiang Mai Arr**	**41.72**	**256**	LR	LR	17 08 25.8	
	comp=Z,17nm,18.5s,baz=255,slow=39						
ZALV	**Zalesovo Beam**	**42.41**	**313**	P	**P**	**16 48 52.7**	**+2.1**
	0.2nm,0.3s,baz=69,slow=7.9,SNR=2.5						
MKAR	**Makanchi Array**	**44.60**	**302**	P	**P**	**16 49 09.6**	**+1.1**
	0.3nm,0.7s,baz=88,slow=10,SNR=2.2						
KURBB	**Kurchatov Arra**	**46.49**	**308**	P	**P**	**16 49 23.6**	**+0.2**
	0.3nm,0.6s,baz=82,slow=8.1,SNR=2.2						
WRA	**Warramunga Arr**	**56.74**	**188**	P	**P**	**16 50 39.4**	**-0.8**
	0.3nm,0.5s,baz=6.5,slow=7.2,SNR=2.5						
ASAR	**Alice Springs**	**60.47**	**188**	P	**P**	**16 51 05.2**	**-1.0**
	0.3nm,0.8s,baz=17,slow=8.4,SNR=2.4						
PDAR	**Pinedale Array**	**77.69**	**46**	P	**P**	**16 52 53.9**	**+0.5**
	0.2nm,0.5s,baz=316,slow=6.3,SNR=1.6						

NDI ***22*** *16:44:39.3±2.7, 27.55N×88.33E, h52km±18km, ML3.9*

IDC ***22*** *16:44:40.4±1.1, 27.47N×88.45E, h0km, mb3.8/7, mb1 3.8/9, mb1mx3.5/51, mbtmp3.7/9, ML3.4/2, MS2.5/1, Ms1 2.7/1, ms1mx2.2/39, Error ellipse: s-maj=42.4km s-min=18.6km az=61.0*

ISCJB ***22*** *16:44:42.4±0.6, 27.57N±0.06×88.47E±0.05, h22km, mb3.6/7, Error ellipse: s-maj=6.8km s-min=5.3km az=38.6*

ISC 22 16:44:43.6±0.7, 27.45N±0.06×88.47E±0.05, h22km, n22, σ2°11/30, mb3.8/7, Sikkim

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GTK	**Tadong**	**0.17**	**137**	*e*P	**Pb**	**16 44 51.7**	**+2.4**
GTK				*e*S	**Sb**	**16 44 56.9**	**+3.8**
GTK				AML	AML	16 44 57.5	
	comp=N,19μm,0.2s						
GTK				AML	AML	16 44 58.1	
	comp=E,21μm,0.3s						
SLGI	**Shiliguri**	**0.75**	**184**	*ex*	**Pn**	**16 45 01.0**	**+2.2**
SLGI				*e*S	**Sb**	**16 45 10.1**	**+2.4**
DHUB	**DHUBRI**	**1.97**	**136**	*e*P	**Pb**	**16 45 18.2**	**-0.6**
DHUB				*e*S	**Sb**	**16 45 43.4**	**+0.5**
DHUB				AML	AML	16 45 46.2	
	comp=E,608nm,0.2s						
DHUB				AML	AML	16 45 46.5	
	comp=N,734nm,0.3s						
TURI	**Tura**	**2.52**	**138**	*e*P	**Pn**	**16 45 25.3**	**+2.0**
TURI				*e*S	**Sn**	**16 45 52.8**	**-0.6**
TURI				AML	AML	16 46 05.2	
	comp=E,933nm,0.2s						
TURI				AML	AML	16 46 05.4	
	comp=N,711nm,0.1s						
SHL	**Shillong**	**3.59**	**121**	*e*P	**Pn**	**16 45 37.4**	**-0.7**
SHL				*e*S	**Sn**	**16 46 19.8**	**-0.1**
SHL				AML	AML	16 46 36.3	
	comp=N,201nm,0.3s						
SHL				AML	AML	16 46 36.4	
	comp=E,256nm,0.2s						
TEZP	**TEZPUR**	**3.95**	**101**	*e*P	**Pn**	**16 45 42.9**	**0.0**
TEZP				*e*S	**Sn**	**16 46 29.3**	**+0.8**
TEZP				AML	AML	16 46 30.4	
	comp=N,276nm,0.1s						
TEZP				AML	AML	16 46 47.2	
	comp=N,381nm,0.0s						
ITAN	**ITANAGAR**	**4.68**	**92**	*ex*	Pb	16 46 13.4	+8.4
ITAN				*e*S	**Sn**	**16 46 44.3**	**-2.4**
ITAN				AML	AML	16 47 14.2	
	comp=E,355nm,0.4s						
ITAN				AML	AML	16 47 15.0	
	comp=N,419nm,0.6s						
ZIRO	**ZIRO**	**4.78**	**88**	*e*P	**Pn**	**16 45 55.0**	**+0.5**
ZIRO				*e*S	**Sn**	**16 46 46.5**	**-2.9**
ZIRO				AML	AML	16 46 51.1	
	comp=N,276nm,0.4s						
ZIRO				AML	AML	16 47 16.3	
	comp=E,1μm,0.6s						
JORH	**JORHAT**	**5.20**	**96**	AML	AML	16 47 35.2	
	comp=N,219nm,0.5s						
JORH				AML	AML	16 47 35.7	
	comp=E,280nm,0.7s						
MOKO	**MOKOCHONG**	**5.51**	**100**	*e*P	**Pn**	**16 46 02.9**	**-1.7**
MOKO				*e*S	**Sn**	**16 47 04.9**	**-2.5**
MOKO				AML	AML	16 47 08.7	
	comp=E,119nm,0.2s						
MOKO				AML	AML	16 47 09.1	
	comp=N,100nm,0.4s						
JBP	**Jabalpur**	**8.78**	**243**	*e*P	**Pn**	**16 46 47.3**	**-2.0**
JBP				*e*S	**Sn**	**16 48 21.5**	**-6.1**
NGP	**Nagpur**	**10.63**	**236**	*ex*	**Pn**	**16 47 17.6**	**+3.0**
NGP				*ex*	**Sn**	**16 49 10.5**	**-2.6**
CMAR	**Chiang Mai Arr**	**13.15**	**131**	Pn	**Pn**	**16 47 48.5**	**-0.7**
	comp=N,0.0nm,0.3s,baz=298,slow=12,SNR=2.0						
CMAR				LR	LR	16 54 31.1	
	comp=N,21nm,18.7s,baz=200,slow=45						
MDRS	**Chennai**	**16.24**	**210**	*ex*	x	16 52 30.8	
MKAR	**Makanchi Array**	**19.92**	**347**	P	**P**	**16 49 13.9**	**+0.2**
	comp=N,0.2nm,0.3s,baz=167,slow=10,SNR=5.6						
KURBB	**Kurchatov Arra**	**24.35**	**345**	P	**P**	**16 49 59.7**	**-0.2**
	comp=N,1.1nm,0.5s,baz=170,slow=8.7,SNR=11						
SONM	**Songino Array**	**24.70**	**30**	P	**P**	**16 50 03.2**	**0.0**
	comp=N,0.5nm,0.5s,baz=212,slow=9.3,SNR=5.5						
ZALV	**Zalesovo Beam**	**26.61**	**355**	P	**P**	**16 50 19.3**	**-0.9**
	comp=N,0.8nm,0.3s,baz=188,slow=7.2,SNR=4.6						
FINES	**FINESS Array B**	**53.13**	**328**	P	**P**	**16 54 00.1**	**+0.7**
	comp=N,5.0nm,1.1s,baz=101,slow=9.9,SNR=2.1						
WRA	**Warramunga Arr**	**64.74**	**132**	P	**P**	**16 55 20.8**	**+0.2**
	comp=N,0.7nm,0.6s,baz=323,slow=6.7,SNR=6.4						
ASAR	**Alice Springs**	**67.12**	**135**	P	**P**	**16 55 36.7**	**+0.9**
	comp=N,0.6nm,0.7s,baz=316,slow=6.5,SNR=6.7						
TORD	**Torodi Ar. Bea**	**81.24**	**280**	P	**P**	**16 56 58.2**	**-0.2**
	comp=N,0.1nm,0.4s,baz=73,slow=4.6,SNR=1.9						

BJI 22 16:49:20.2, 24.74N×97.95E, h9km, ML3.4/5, Ms3.2/2, Ms7 3.0/1, Myanmar-China border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMI	**Kunming**	**4.37**	**84**	Pg	Pg	16 50 41.1	-2.8
KMI				Sg	Sg	16 51 36.3	-4.2
KMI				smax	smax		
	comp=N,87nm,1.0s						
KMI				smax	smax		
	comp=E,57nm,0.9s						
KMI				LR	LR		
	comp=N,310nm,7.8s						
KMI				LR	LR		
	comp=E,120nm,7.7s						
KMI				LR	LR		
	comp=Z,72nm,4.5s						
WMQ	**Urumqi**	**20.80**	**339**	*e*P	P	16 54 02.3	+0.4

FUNV ***22*** *16:53:31.1, 10.74N×69.42W, h1km, MW3.8*

ISCJB ***22*** *16:53:32.0±0.6, 10.74N±0.03×69.42W±0.02, h27km±5km, Error ellipse: s-maj=4.6km s-min=3.1km az=174.3*

ISC 22 16:53:31.3±1.2, 10.73N±0.03×69.42W±0.02, h11km±9km, n25, σ0°72/44, 4C-4D, Venezuela

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JACV	**Jacura**	**0.68**	**59**	*e*P	**Pg**	**16 53 44.7**	**+0.1**
JACV				*e*S	**Sg**	**16 53 53.7**	**+0.1**
TEPV	**Terepaima**	**0.80**	**163**	*e*P	**Pg**	**16 53 46.3**	**-0.4**
TEPV				*e*S	**Sg**	**16 53 57.8**	**+0.6**
CURV	**Curarigua**	**0.89**	**217**	*e*P	**Pg**	**16 53 47.3**	**-1.2**
CURV				*e*S	**Sg**	**16 54 00.3**	**+0.2**
QARV	**Quebrada Arrib**	**1.20**	**244**	*e*P	**Pn**	**16 53 54.0**	**-0.2**
QARV				*e*S	**Sb**	**16 54 10.9**	**+1.2**
DABV	**Dabajuro**	**1.21**	**279**	*e*P	**Pn**	**16 53 54.3**	**+0.1**
DABV				*e*S	**Sb**	**16 54 10.9**	**+1.1**
SANV	**Sanarito**	**1.23**	**185**	*e*P	**Pn**	**16 53 54.3**	**-0.3**
SANV				*e*S	**Sb**	**16 54 11.4**	**+0.9**
MAPV	**Macapo**	**1.30**	**133**	*e*P	**Pn**	**16 53 55.6**	**0.0**
MAPV				*e*S	**Sb**	**16 54 13.3**	**+0.6**
MONV	**Montecano**	**1.33**	**336**	*e*P	**Pn**	**16 53 55.3**	**-0.6**
MONV				*e*S	**Sb**	**16 54 14.0**	**+0.6**
TURV	**Turiamo**	**1.58**	**100**	*e*S	**Sn**	**16 54 00.6**	**+0.8**
SDV	**Santo Domingo**	**2.19**	**213**	*e*P	**Pn**	**16 54 08.7**	**+0.9**
SDV				*e*S	**Sn**	**16 54 35.2**	**+0.2**
BAUV	**El Baul**	**2.24**	**142**	*e*P	**Pn**	**16 54 08.8**	**+0.5**
BAUV				*e*S	**Sn**	**16 54 36.4**	**+0.4**
FUNV	**FUNVISIS**	**2.58**	**96**	*e*P	**Pn**	**16 54 13.1**	**-0.1**
FUNV				*e*S	**Sn**	**16 54 44.4**	**-0.3**
VIGV	**El Vigia**	**2.68**	**226**	*e*P	**Pn**	**16 54 15.0**	**+0.5**
VIGV				*e*S	**Sn**	**16 54 47.4**	**+0.4**
URIC	**Uribia, Colomb**	**2.70**	**291**	*e*P	Pn	16 54 12.8	-1.9
SOCV	**Socops**	**2.81**	**210**	*e*P	**Pn**	**16 54 16.9**	**+0.6**
SOCV				*e*S	**Sn**	**16 54 49.7**	**-0.6**
VIRV	**Villa del Rosa**	**2.94**	**266**	*e*P	**Pn**	**16 54 17.6**	**-0.4**
VIRV				*e*S	**Sn**	**16 54 53.2**	**-0.2**
BIRV	**Birongo**	**3.11**	**94**	*e*P	**Pn**	**16 54 20.2**	**-0.2**
BIRV				*e*S	**Sn**	**16 54 56.6**	**-1.0**
MERV	**Las Mercedes**	**3.41**	**115**	*e*P	**Pn**	**16 54 24.4**	**-0.1**
MERV				*e*S	**Sn**	**16 55 03.8**	**-1.3**
CUPV	**Cœpira**	**3.64**	**100**	*e*P	**Pn**	**16 54 28.0**	**+0.3**
CUPV				*e*S	**Sn**	**16 55 09.3**	**-1.4**
ELOV	**Elorza**	**3.71**	**181**	*e*P	**Pn**	**16 54 28.6**	**0.0**
ELOV				*e*S	**Sn**	**16 55 11.2**	**-1.1**
CAPV	**Capacho**	**4.03**	**225**	*e*P	**Pn**	**16 54 33.0**	**-0.3**
CAPV				*e*S	**Sn**	**16 55 18.7**	**-2.0**
CODC	**Agust¨n Codaz**	**4.04**	**259**	*e*P	**Pn**	**16 54 33.2**	**+0.1**
OCAC	**Ocana**	**4.57**	**238**	*e*P	**Pn**	**16 54 41.3**	**+0.6**
SJCC	**San Jacinto, C**	**5.72**	**262**	*e*P	**Pn**	**16 54 57.1**	**+0.7**
SJCC				*e*S	**Sn**	**16 56 02.1**	**-0.1**
ZARC	**Zaragoza, Cauc**	**6.26**	**240**	*e*P	**Pn**	**16 55 03.3**	**-0.4**

ISCJB ***22*** *16:58:16.0±0.7, 39.68N±0.04×38.61E±0.06, h12km, Error ellipse: s-maj=6.5km s-min=4.9km az=23.7*

CSEM ***22*** *16:58:15.8±0.2, 39.68N×38.61E, h5km, ML2.1, Error ellipse: s-maj=4.8km s-min=4.0km az=89.0*

ISK ***22*** *16:58:15.6, 39.67N×38.61E, h8km, MD2.7*

DDA ***22*** *16:58:15.6, 39.67N×38.65E, h7km, Ml2.1*

ISC 22 16:58:16.6±0.9, 39.68N±0.03×38.64E±0.03, h12km, n21, σ0°86/25, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
REFA	**Refahiye_ERZ¯**	**0.30**	**160**	*i* S	**Sg**	**16 58 26.6**	**-0.2**
REFA	**Refahiye_ERZ¯**	**0.30**	**160**	S	**Sg**	**16 58 26.6**	**-0.2**
KEMA	**Kemaliye**	**0.42**	**195**	*i* P	**Pg**	**16 58 24.0**	**-0.9**
KEMA				*i* S	**Sg**	**16 58 30.5**	**-0.1**
KEMA	**Kemaliye**	**0.42**	**195**	P	**Pg**	**16 58 24.0**	**-0.9**
KEMA				S	**Sg**	**16 58 30.5**	**-0.1**
KELT	**Kelkit**	**0.67**	**45**	*i* P	**Pg**	**16 58 28.8**	**-0.9**
KELT				*i* S	**Sg**	**16 58 38.3**	**-0.3**
KELT	**Kelkit**	**0.67**	**45**	P	**Pg**	**16 58 28.8**	**-0.9**
CUZAR	**Zara_SIVAS**	**0.70**	**288**	*i* P	**Pg**	**16 58 29.2**	**-1.0**
CUZAR				*i* S	**Sn**	**16 58 46.1**	**+2.8**
CUZAR	**Zara_SIVAS**	**0.70**	**288**	P	**Pg**	**16 58 29.2**	**-1.0**
ERZN	**Erzincan**	**0.84**	**96**	*e*PG	**Pg**	**16 58 32.0**	**-0.9**
ERZN				*e*SG	**Sb**	**16 58 44.9**	**+0.2**
TNCL	**Tunceli-Merkez**	**0.90**	**128**	*i* P	Pg	16 58 27.9	-6.0
TNCL				*i* S	**Sn**	**16 58 48.7**	**+0.5**
PTK	**Pertek**	**0.98**	**143**	*e*PG	**Pg**	**16 58 35.1**	**-0.3**
PTK	**Pertek**	**0.98**	**143**	*e*Pg	**Pg**	**16 58 35.2**	**-0.3**
ESPY	**Espiye-Giresun**	**1.24**	**3**	*e*PN	**Pb**	**16 58 39.8**	**-0.2**
ESPY	**Espiye-Giresun**	**1.24**	**3**	*e*Pn	**Pb**	**16 58 39.8**	**-0.2**
SVRC	**Sivrice-ELAZID**	**1.40**	**158**	*e*PN	**Pn**	**16 58 41.6**	**-0.5**
SVRC	**Sivrice-ELAZID**	**1.40**	**158**	*e*Pn	**Pn**	**16 58 41.6**	**-0.5**
YEDI	**Yedisu-Bingol**	**1.50**	**99**	*e*PN	**Pb**	**16 58 44.5**	**+0.1**
YEDI	**Yedisu-Bingol**	**1.50**	**99**	*e*Pn	**Pb**	**16 58 44.5**	**+0.1**
VRTB	**Varto-Mus**	**2.25**	**102**	*e*PN	**Pn**	**16 58 54.3**	**+0.6**
VRTB	**Varto-Mus**	**2.25**	**102**	*e*Pn	**Pn**	**16 58 54.3**	**+0.6**
ANDN	**Andirin**	**2.75**	**221**	*i* P	Pn	16 58 53.5	-7.2

IDC 22 16:59:31.3±3.9, 3.97S×152.51E, h0km, mb3.0/2, mb1 3.3/2, mb1mx3.1/22, mbtmp3.0/2, Error ellipse: s-maj=171.5km s-min=49.5km az=119.0, New Ireland region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.78**	**227**	P	P	17 04 46.0	+0.1
	0.2nm,0.4s,baz=52,slow=9.8,SNR=2.6						
ASAR	**Alice Springs**	**26.57**	**221**	P	P	17 05 11.8	+0.5
	0.3nm,1.0s,baz=56,slow=8.8,SNR=2.6						
TORD	**Torodi Ar. Bea**	**149.76**	**289**	PKPbc	PKPbc	17 19 23.3	-1.1
	0.3nm,0.5s,baz=78,slow=2.1,SNR=4.5						

ISCJB ***22*** *17:16:01.6±0.3, 6.05S±0.03×130.77E±0.04, h86km, mb4.2/25, Error ellipse: s-maj=5.0km s-min=4.3km az=17.0*

NEIC ***22*** *17:16:06.0±0.8, 5.98S×130.78E, h113km±8km, mb4.5/10, Error ellipse: s-maj=7.6km s-min=6.3km az=77.0*

DJA ***22*** *17:16:06.8±0.3, 6°S±2°×13°1E±°, h88km±5km, M4.8/12, mb4.8/12, mB5.2/4, MLv4.8/6, Mw(mB)4.6/4*

IDC ***22*** *17:16:06.4±2.1, 5.99S×130.84E, h116km±20km, mb3.8/18, mb1 3.9/21, mb1mx3.8/40, mbtmp4.2/21, MS2.8/1, Ms1 3.0/1, ms1mx2.3/27, Error ellipse: s-maj=17.5km s-min=10.8km az=77.0*

ISC 22 17:16:03.5±0.4, 6.01S±0.04×130.83E±0.05, h86km, n71, σ2°56/78, mb4.2/25, 1C, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BNDI	**Bandanaira**	**1.75**	**328**	P	Pn	17 16 37.5	+5.3
BNDI				S	**Sn**	**17 17 01.2**	**+7.2**
SAUI	**Saumlaki**	**2.01**	**167**	P	**Pn**	**17 16 40.3**	**+4.5**
MSAI	**Masohi**	**3.26**	**324**	P	**Pn**	**17 16 56.5**	**+4.1**
MSAI				S	**Sn**	**17 17 32.9**	**+2.7**
FAKI	**Fak Fak**	**3.38**	**25**	P	**Pn**	**17 16 57.0**	**+2.9**
FAKI				S	**Sn**	**17 17 34.6**	**+1.4**
FAKI	**Fak Fak**	**3.38**	**25**	*e*Pn	**Pn**	**17 16 56.8**	**+2.7**
AAI	**Ambon**	**3.50**	**311**	P	Pn	17 17 00.3	+4.6
NLAI	**Namlea**	**4.63**	**306**	P	Pn	17 17 18.9	+7.8
SIJI	**Sorong**	**5.13**	**5**	P	**Pn**	**17 17 20.3**	**+2.4**
	20nm,0.3s,baz=191,slow=16,SNR=2.6						
SIJI				S	**Sn**	**17 18 14.2**	**-1.6**
	17nm,0.3s,baz=92,slow=23,SNR=11						
LBMI	**Labuha**	**6.29**	**328**	P	**Pn**	**17 17 37.6**	**+3.9**
	54nm,0.8s,955nm						
LBMI				S	**Sn**	**17 18 43.4**	**-0.8**
	54nm,0.8s,955nm						
SOEI	**Soe**	**7.49**	**240**	P	**Pn**	**17 17 53.0**	**+2.7**
	100nm,0.9s,2μm						
SOEI				S	**Sn**	**17 19 15.4**	**+1.6**
	100nm,0.9s,2μm						
SOEI	**Soe**	**7.49**	**240**	*e*Pn	**Pn**	**17 17 52.9**	**+2.7**
	57nm,0.6s						
BATI	**Baumata**	**8.23**	**239**	P	**Pn**	**17 18 02.8**	**+2.6**
BATI				S	**Sn**	**17 19 31.1**	**-0.6**
BBSI	**Bau Bau**	**8.24**	**273**	P	Pn	17 18 08.1	+7.8
KDI	**Kendari**	**8.43**	**284**	P	Pn	17 18 08.4	+5.4
	40nm,1.3s						
GENI	**Genyem**	**9.91**	**70**	P	**Pn**	**17 18 27.5**	**+4.4**
JAY	**Jayapura**	**10.44**	**71**	P	**Pn**	**17 18 33.6**	**+3.3**
	0.1nm,0.3s,baz=214,slow=23,SNR=6.1						
JAY				S	**Sn**	**17 20 27.8**	**+2.3**
	0.1nm,0.3s,baz=334,slow=23,SNR=4.8						
MRSI	**Marisa**	**10.97**	**306**	P	**Pn**	**17 18 39.0**	**+1.4**
FITZ	**Fitzroy Crossi**	**13.04**	**202**	P	**Pn**	**17 19 02.6**	**-2.9**
	1.9nm,0.3s,baz=22,slow=9.2,SNR=48						
FITZ				S	Sn	17 21 17.7	-11
	8.2nm,0.3s,baz=174,slow=22,SNR=12						
FITZ	**Fitzroy Crossi**	**13.04**	**202**	*e*Pn	**Pn**	**17 19 02.4**	**-3.1**
	6.5nm,0.4s						
FITZ				S	Sn	17 21 17.7	-11
PLAI	**Plampang**	**13.25**	**257**	P	**Pn**	**17 19 06.9**	**-1.3**
WRAB	**Tennant Creek**	**14.26**	**166**	*e*Pn	**Pn**	**17 19 24.6**	**+3.3**
	5.7nm,0.4s						
WRA	**Warramunga Arr**	**14.26**	**166**	P	Pn	17 19 19.1	-2.3
	0.7nm,0.3s,baz=336,

YAK	**Yakutsk**	**67.85**	**359**	*eP*	**P**	**17 26 51.5**	**-0.6**
	comp=Z,5.9nm,0.7s						
KSH	**Kashi**	**67.86**	**317**	*eP*	**P**	**17 26 57.1**	**+4.1**
KSH				pmax	pmax		
	comp=Z,66nm,9.3s						
MKAR	**Makanchi Array**	**67.86**	**326**	P	**P**	**17 26 52.6**	**-0.1**
	comp=Z,3.6nm,0.4s,baz=114,slow=8.6,SNR=74						
AAK	**Ala-Archa**	**70.33**	**319**	P	**P**	**17 27 08.8**	**+0.6**
	comp=Z,2.9nm,0.8s,baz=147,slow=5.3,SNR=5.4						
ZALV	**Zalesovo Beam**	**71.07**	**333**	P	**P**	**17 27 11.6**	**-0.7**
	comp=Z,0.4nm,0.4s,baz=104,slow=6.1,SNR=3.2						
KURBB	**Kurchatov Area**	**72.11**	**328**	P	**P**	**17 27 18.2**	**-0.3**
	comp=Z,1.1nm,0.7s,baz=127,slow=5.2,SNR=12						
KURBB				pP	**sP**	**17 27 46.4**	**-3.9**
	comp=Z,0.5nm,0.3s,baz=132,slow=5.1,SNR=3.0						
KURK	**Kurchatov**	**72.11**	**328**	*eP*	**P**	**17 27 17.8**	**-0.7**
KURK				pP	**sP**	**17 27 46.4**	**-3.9**
KKAR	**Karatay Array**	**73.15**	**318**	*eP*	**P**	**17 27 24.6**	**-0.4**
	comp=Z,1.1nm,0.7s						
VNDA	**Vanda**	**73.33**	**173**	P	**P**	**17 27 25.0**	**-0.3**
	comp=Z,0.4nm,0.6s,baz=312,slow=4.8,SNR=4.2						
MAW	**Mawson**	**76.17**	**201**	P	**P**	**17 27 42.2**	**+0.3**
	comp=Z,1.2nm,0.7s,baz=355,slow=11,SNR=3.7						
BVAR	**Borovoye Array**	**77.68**	**327**	P	**P**	**17 27 50.1**	**-0.5**
	comp=Z,0.5nm,0.4s,baz=151,slow=3.4,SNR=5.6						
GEYT	**Alibeck**	**80.21**	**310**	P	**P**	**17 28 03.7**	**-1.2**
	comp=Z,3.5nm,0.7s,baz=150,slow=3.3,SNR=4.8						
SYO	**Syowa Base**	**84.88**	**201**↑	*eP*	pP	17 28 46.0	-5.3
ILAR	**Eielson Array**	**99.71**	**25**	P	**P**	**17 29 00.8**	**-2.1**
	comp=Z,0.3nm,0.6s,baz=261,slow=4.2,SNR=4.0						

IDC 22 17:42:19.3±1.7, 0.°58N×122.°52E, h0km, mb3.4/3, mb1 3.7/4, mb1mx3.4/29, mbtmp3.5/4, ML3.9/1, Error ellipse: s-maj=135.5km s-min=24.9km az=64.0, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**18.82**	**171**	P	Pn	17 46 42.2	+1.0
	0.3nm,0.3s,baz=346,slow=10,SNR=12						
WRA	**Warramunga Arr**	**23.46**	**151**	P	P	17 47 30.6	-0.1
	1.0nm,0.5s,baz=326,slow=11,SNR=16						
ASAR	**Alice Springs**	**26.52**	**156**	P	P	17 47 58.3	-0.6
	0.4nm,0.5s,baz=334,slow=9.6,SNR=13						
MKAR	**Makanchi Array**	**57.87**	**328**	P	P	17 52 13.1	0.0
	0.5nm,0.9s,baz=134,slow=6.9,SNR=4.1						

IDC 22 17:44:51.7±2.6, 27.°18N×55.°97E, h0km, mb3.5/5, mb1 3.6/6, mb1mx3.4/38, mbtmp3.5/6, ML3.2/1, MS2.7/1, Ms1 2.7/1, ms1mx2.3/27, Error ellipse: s-maj=57.5km s-min=28.1km az=158.0
OMAN 22 17:44:54.2, 27.°39N×55.°92E, h20km
TEH 22 17:44:54.2, 27.°39N×55.°92E, h20km, ML3.4
DSN 22 17:44:54.3±0.8, 27.°49N×56.°35E, h15km, ML3.4/8, Error ellipse: s-maj=24.9km s-min=6.9km az=92.0
ISCJB 22 17:44:55.0±0.4, 27.°44N±0.°03×55.°96E±0.°07, h15km, mb3.5/5, Error ellipse: s-maj=8.5km s-min=3.8km az=168.2
CSEM 22 17:44:57.1±0.2, 27.°38N×56.°04E, h20km, ML3.4, Error ellipse: s-maj=10.2km s-min=4.8km az=84.0

ISC 22 17:44:55.3±0.7, 27.°38N±0.°03×55.°96E±0.°06, h15km, n51, σ1§26/51, mb3.6/5, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IBND	**Bandar-abas**	**0.52**	**82**	*e*Pg	Pg	17 44 57.0	-8.6
IBND				*e*AMB	AMB	17 45 17.4	
	comp=Z,87μm,0.2s						
NIAN	**Nian**	**0.80**	**77**	*e*Pg	**Pg**	**17 45 09.6**	**-1.2**
NIAN	**Nian**	**0.80**	**77**	*e*Pg	**Pg**	**17 45 09.6**	**-1.2**
KHSK	**Kohestak**	**1.16**	**122**	*e*Pg	**Pg**	**17 45 17.8**	**+0.2**
KHSK	**Kohestak**	**1.16**	**122**	*e*Pg	**Pg**	**17 45 17.8**	**+0.2**
SHME	**Shamm**	**1.34**	**173**	P	**Pn**	**17 45 19.5**	**+0.1**
	SNR=11						
SHME				S	**Sg**	**17 45 39.3**	**+0.9**
BANOM	**Banah**	**1.48**	**168**	*e*P	**Pn**	**17 45 21.8**	**+0.3**
	SNR=51						
BANOM				S	**Sg**	**17 45 43.0**	**-0.1**
BANOM	**Banah**	**1.48**	**168**	Pn	**Pn**	**17 45 21.8**	**+0.3**
	SNR=51						
BANOM				S	**Sg**	**17 45 43.0**	**-0.1**
BANOM	**Banah**	**1.48**	**168**	P	**Pn**	**17 45 21.8**	**+0.3**
	SNR=51						
BANOM	**Banah**	**1.48**	**168**	Pn	**Pn**	**17 45 21.8**	**+0.3**
	SNR=51						
MSFE	**Esma-Masafi**	**2.02**	**175**	P	**Pn**	**17 45 29.9**	**+1.0**
	SNR=20						
NGRK	**Negar Kerman**	**2.35**	**17**	*e*Pn	**Pn**	**17 45 34.7**	**+0.9**
NGRK	**Negar Kerman**	**2.35**	**17**	*e*Pn	**Pn**	**17 45 34.7**	**+0.9**
NAZ	**Nazwa, Dubai**	**2.40**	**186**	P	**Pn**	**17 45 36.2**	**+2.2**
NAZ	**Nazwa, Dubai**	**2.40**	**186**	P	**Pn**	**17 45 36.2**	**+2.2**
UOSS	**Minazif**	**2.44**	**175**	P	**Pn**	**17 45 35.3**	**+0.8**
	SNR=12						
HATD	**Hatta, Dubai**	**2.55**	**176**	P	**Pn**	**17 45 36.2**	**+0.1**
HATD	**Hatta, Dubai**	**2.55**	**176**	P	**Pn**	**17 45 36.2**	**+0.1**
FAQ	**Al Faqa, Dubai**	**2.65**	**187**	*e*P	**Pn**	**17 45 38.7**	**+1.3**
	SNR=12						
FAQ	**Al Faqa, Dubai**	**2.65**	**187**	P	**Pn**	**17 45 38.7**	**+1.3**
	SNR=12						
FAQ	**Al Faqa, Dubai**	**2.65**	**187**	Pn	**Pn**	**17 45 39.0**	**+1.6**
	SNR=12						
FAQ	**Al Faqa, Dubai**	**2.65**	**187**	P	**Pn**	**17 45 39.0**	**+1.6**
	SNR=12						
FAQ	**Al Faqa, Dubai**	**2.65**	**187**	Pn	**Pn**	**17 45 39.0**	**+1.6**
	SNR=12						
ASHO	**Ashiyiah**	**2.69**	**178**	*e*P	**Pn**	**17 45 39.4**	**+1.4**
	SNR=72						
ASHO	**Ashiyiah**	**2.69**	**178**	P	**Pn**	**17 45 39.7**	**+1.7**
	SNR=72						
ASHO	**Ashiyiah**	**2.69**	**178**	P	**Pn**	**17 45 39.7**	**+1.6**
	SNR=72						
ASHO	**Ashiyiah**	**2.69**	**178**	Pn	**Pn**	**17 45 39.7**	**+1.7**
	SNR=72						
TVBK	**TV Kerman**	**2.69**	**15**	*e*Pn	**Pn**	**17 45 40.6**	**+2.2**
TVBK	**TV Kerman**	**2.69**	**15**	*e*Pn	**Pn**	**17 45 40.6**	**+2.2**
CHMN	**Cheshme madani**	**2.83**	**29**	*e*Pn	**Pn**	**17 45 42.3**	**+1.9**
CHMN	**Cheshme madani**	**2.83**	**29**	*e*Pn	**Pn**	**17 45 42.3**	**+1.9**
KHGB	**Koh Gabri**	**3.02**	**9**	*e*Pn	**Pn**	**17 45 44.6**	**+1.8**
KHGB	**Koh Gabri**	**3.02**	**9**	*e*Pn	**Pn**	**17 45 44.6**	**+1.8**
ISRV	**Sarvestan**	**3.20**	**309**	*e*Pn	**Pn**	**17 45 46.9**	**+1.5**
ISRV				*e*AMB	AMB	17 47 23.0	
	comp=Z,641nm,0.3s						
ISRV	**Sarvestan**	**3.20**	**309**	*e*Pn	**Pn**	**17 45 46.9**	**+1.5**
IMEH	**Mehriz**	**4.17**	**344**	*e*Pn	**Pn**	**17 46 00.0**	**+1.4**
IMEH				*e*AMB	AMB	17 46 05.6	
	comp=Z,318nm,0.1s						
IMEH	**Mehriz**	**4.17**	**344**	*e*Pn	**Pn**	**17 46 00.0**	**+1.4**
IBAF	**Bafgh**	**4.21**	**355**	*e*AMB	AMB	17 46 02.1	
	comp=Z,475nm,0.1s						
IRAM	**Ramesheh**	**5.40**	**326**	*e*Pn	**Pn**	**17 46 16.1**	**+0.6**
IRAM				*e*AMB	AMB	17 46 21.2	
	comp=Z,158nm,0.1s						
IRAM	**Ramesheh**	**5.40**	**326**	*e*Pn	**Pn**	**17 46 16.1**	**+0.6**
IGAR	**Gharneh**	**6.05**	**327**	*e*Pn	**Pn**	**17 46 24.9**	**+0.4**
IGAR				*e*AMB	AMB	17 46 26.9	
	comp=Z,299nm,0.1s						
IZEF	**Zefreh**	**6.33**	**331**	*e*Pn	**Pn**	**17 46 28.5**	**+0.1**
IZEF				*e*AMB	AMB	17 46 35.7	
	comp=Z,61nm,0.1s						
IZEF	**Zefreh**	**6.33**	**331**	*e*Pn	**Pn**	**17 46 28.5**	**+0.1**
IPIR	**Pirpir**	**6.87**	**321**	*e*Pn	**Pn**	**17 46 36.3**	**+0.5**
IPIR				*e*AMB	AMB	17 46 39.5	
	comp=Z,130nm,0.2s						
GEYT	**Alibeck**	**10.68**	**9**	LR	LR	17 52 16.6	
	comp=Z,42nm,20.2s,baz=125,slow=41						
KBZ	**Khabaz**	**19.43**	**330**	P	**Pn**	**17 49 22.4**	**+0.2**
	comp=Z,0.1nm,0.3s,baz=171,slow=13,SNR=3.1						
BRTR	**Keskin Array B**	**22.24**	**309**	P	**P**	**17 49 52.3**	**+0.7**
	comp=Z,0.7nm,0.8s,baz=122,slow=14,SNR=3.3						
MKAR	**Makanchi Array**	**28.36**	**40**	P	**P**	**17 50 48.4**	**-0.4**
	comp=Z,0.1nm,0.3s,baz=224,slow=10,SNR=2.7						
ZALV	**Zalesovo Beam**	**33.97**	**31**	P	**P**	**17 51 38.9**	**+0.9**
	comp=Z,0.3nm,0.2s,baz=243,slow=9.5,SNR=2.5						
FINES	**FINESS Array B**	**39.50**	**338**	P	**P**	**17 52 23.7**	**-1.2**
	comp=Z,1.5nm,0.7s,baz=123,slow=7.4,SNR=3.3						
TORD	**Torodi Ar. Bea**	**52.46**	**266**	P	**P**	**17 54 06.5**	**-1.3**
	comp=Z,0.4nm,0.5s,baz=60,slow=7.2,SNR=5.8						

SJA 22 17:49:50.6±0.8, 34.°48S×72.°33W, h39km, ML3.5
GUC 22 17:49:53.0±0.5, 34.°69S×71.°81W, h32km±6km, ML3.5

ISC 22 17:49:52.9±1.1, 34.°69S±0.°04×71.°77W±0.°07, h27km±13km, n20, σ1§40/24, 3C-1D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GO05	**Hualaæø**	**0.34**	**202**↑	*i*P	**Pb**	**17 50 00.7**	**-0.1**
GO05				*i* S	**Sb**	**17 50 06.8**	**+0.7**
NICH	**Los Niches**	**0.54**	**125**↓	*i*P	**Pb**	**17 50 03.6**	**-0.3**
NICH				*i* S	**Sb**	**17 50 12.0**	**+0.6**
TALC	**Talca**	**0.71**	**171**↑	*i*P	**Pn**	**17 50 06.3**	**-0.9**
TALC				*i* S	**Sb**	**17 50 14.9**	**-1.3**
ANTU	**Antumapu**	**1.46**	**40**	IAML		17 50 40.2	
	comp=E,1μm,0.2s						
CLCH	**Cerro Calan**	**1.65**	**39**	*e*P	**Pn**	**17 50 21.0**	**+0.9**
CLCH				*e*S	**Sb**	**17 50 43.1**	**+0.1**
CLCH				IAML		17 50 47.6	
	comp=N,1μm,0.4s						
PEL	**Peldehue**	**1.79**	**311**↑	*i*P	**Pn**	**17 50 22.8**	**+0.8**
PEL				*i* S	**Sn**	**17 50 45.2**	**+1.3**
ROC1	**El Roble**	**1.82**	**20**	*e*P	**Pn**	**17 50 22.8**	**+0.1**
ROC1				*e*S	**Sn**	**17 50 45.1**	**+0.1**
ROCH	**El Roble**	**1.83**	**20**	*e*P	**Pn**	**17 50 23.4**	**+0.7**
ROCH				*e*S	**Sb**	**17 50 46.8**	**-1.5**
ROCH				IAML		17 50 57.9	
	comp=N,705nm,0.3s						
FCH	**Farellones**	**1.83**	**42**	*e*P	**Pn**	**17 50 23.5**	**+0.6**
FCH				*i* S	**Sb**	**17 50 47.9**	**-0.7**
FCH				IAML		17 50 51.7	
	comp=N,801nm,0.5s						
CCHI	**Chillan**	**1.92**	**187**	IAML		17 50 59.7	
	comp=E,525nm,0.3s						
AAGR	**Agrelo**	**2.92**	**58**	*e*P	**Pb**	**17 50 41.7**	**-2.7**
AUSP	**Uspallata**	**3.17**	**40**	*e*P	**Pn**	**17 50 43.6**	**+2.4**
ASAL	**Salagasta**	**3.22**	**50**	*e*P	**Pn**	**17 50 44.7**	**+2.9**
RTCV	**Cerro Valdivia**	**3.91**	**45**	*e*P	**Pn**	**17 50 53.5**	**+2.3**
ACAN	**Cantantal**	**4.52**	**59**	*e*P	Pn	17 50 49.1	-11
ACCO	**Cerro Coronel**	**4.69**	**30**	*e*P	**Pn**	**17 51 03.5**	**+1.4**
AROD	**Rodeo**	**4.91**	**24**	*e*P	**Pn**	**17 51 05.8**	**+0.6**
AVFE	**Valle Fertil**	**5.42**	**43**	*e*P	**Pn**	**17 51 11.9**	**-0.1**
AVFE				IAML		17 52 27.2	
	comp=Z,17nm,0.4s						
AGUA	**GUANDACOL**	**5.89**	**29**	*e*P	**Pn**	**17 51 18.9**	**+0.5**
VCA	**Vinchina**	**6.67**	**28**	IAML		17 53 04.4	
	comp=Z,14nm,0.6s						

IDC 22 17:59:41.0±6.4, 4.°77S×151.°17E, h140km±43km, mb3.1/4, mb1 3.2/5, mb1mx3.0/37, mbtmp3.5/5, Error ellipse: s-maj=87.2km s-min=33.9km az=108.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**6.08**	**221**	P	Pn	18 01 10.3	+1.5
	0.6nm,0.3s,baz=324,slow=19,SNR=3.0						
PMG				S	Sn	18 02 17.8	+0.5
	3.0nm,0.3s,baz=217,slow=17,SNR=8.5						
WRA	**Warramunga Arr**	**22.27**	**226**	P	P	18 04 26.3	-0.5
	0.4nm,0.5s,baz=52,slow=9.6,SNR=16						
ASAR	**Alice Springs**	**25.10**	**220**	P	P	18 04 52.8	-0.1
	0.4nm,0.5s,baz=56,slow=9.2,SNR=15						
FITZ	**Fitzroy Crossi**	**28.25**	**240**	P	P	18 05 21.4	+0.2
	1.1nm,0.6s,baz=72,slow=6.4,SNR=4.8						
MKAR	**Makanchi Array**	**79.24**	**319**	P	P	18 11 30.2	-0.5
	0.2nm,0.7s,baz=94,slow=7.0,SNR=3.2						
TORD	**Torodi Ar. Bea**	**148.75**	**287**	PKPbc	PKPbc	18 19 13.1	+0.2
	0.4nm,0.6s,baz=82,slow=3.2,SNR=3.3						

IDC 22 18:00:12.9±3.0, 18.°85S×175.°57W, h0km, mb3.7/2, mb1 4.0/2, mb1mx3.5/37, mbtmp3.7/2, Error ellipse: s-maj=190.8km s-min=50.6km az=152.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**47.12**	**260**	P	P	18 08 46.5	-0.7
	0.2nm,0.3s,baz=95,slow=7.5,SNR=8.2						
WRA				PcP	PcP	18 10 17.5	-1.7
	0.7nm,1.2s,baz=92,slow=3.4,SNR=3.9						
ASAR	**Alice Springs**	**47.14**	**255**	P	P	18 08 48.8	+1.4
	0.9nm,0.4s,baz=88,slow=9.5,SNR=48						
ASAR				PcP	PcP	18 10 17.9	-1.4
	0.2nm,0.4s,baz=106,slow=4.0,SNR=5.9						
GERES	**GERESS Array B**	**149.16**	**348**	PKPbc	PKPbc	18 20 04.2	+0.7
	0.5nm,0.6s,baz=25,slow=5.4,SNR=4.1						

MEX 22 18:03:32.3±0.7, 18.°26N×100.°96W, h52km±9km, MD3.8, Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARIG	**Puente Sto Nin**	**0.58**	**88**	*e*P	Pn	18 03 42.6	-2.1
ARIG				*e*S	Sn	18 03 52.0	-1.6
ZIIG	**Zihuatanejo**	**0.81**	**217**	*i* P	Pn	18 03 45.9	-1.7
ZIIG				*e*S	Sn	18 03 57.4	-1.2
MEIG	**Mezcala**	**1.32**	**104**	*e*P	Pn	18 03 53.4	-1.1
MEIG				*e*S	Sn	18 04 09.1	-1.9
CAIG	**El Cayaco**	**1.38**	**151**	*i* P	Pn	18 03 53.3	-1.9
CAIG				*i* S	Sn	18 04 09.6	-2.7
PLIG	**Platanillo**	**1.39**	**84**	*e*P	Pn	18 03 54.5	-0.9
PLIG				*i* S	Sn	18 04 10.7	-2.1
MOIG	**Morelia**	**1.43**	**351**	*e*P	Pn	18 03 54.0	-2.1
MOIG				*i* S	Sn	18 04 11.7	-2.1
ACX	**Acapulco**	**1.74**	**143**	*i* P	Pn	18 04 01.9	+1.8
ACX				*e*S	Sn	18 04 22.5	+1.4
YAIG	**Yautepec**	**1.89**	**71**	*e*P	Pn	18 04 01.1	-1.3
YAIG				*e*S	Sn	18 04 22.6	-2.5
MMIG	**Aquila**	**2.27**	**271**	*e*P	Pn	18 04 06.6	-0.8
TLIG	**Tlapa**	**2.38**	**107**	*i* P	Pn	18 04 08.5	-0.5
TLIG				*i* S	Sn	18 04 34.7	-2.4
EZ5V		**2.78**	**296**	*i* P	Pn	18 04 13.3	-1.3
EZ5V				*i* S	Sn	18 04 45.0	-2.2
R15V		**3.00**	**288**	*i* P	Pn	18 04 17.0	-0.5
R15V				*e*S	Sn	18 04 51.1	-1.3

JMA 22 18:17:42.5±0.1, 23.°56N×121.°66E, h53km±2km, M3.0
ISCJB 22 18:17:43.4±0.3, 23.°55N±0.°02×121.°76E±0.°02, h36km±11km, Error ellipse: s-maj=3.3km s-min=2.2km az=138.7
TAP 22 18:17:43.1, 23.°56N×121.°74E, h33km, ML3.3, C

ISC 22 18:17:43.1±1.1, 23.°56N±0.°02×121.°71E±0.°03, h33km±5km, n55, σ0§82/105, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EHY	**Hungye**	**0.36**	**262**	P	**Pn**	**18 17 52.6**	**+0.5**
	baz=262						
EHY				S	**Sb**	**18 17 58.6**	**+1.2**
	baz=262						
ESL	**Shilin**	**0.36**	**316**	P	**Pn**	**18 17 52.4**	**+0.3**
	baz=313						
ESL				*e*S	**Sb**	**18 17 58.9**	**+1.4**
	baz=313						
TWF1	**Yuli**	**0.43**	**242**	P	**Pn**	**18 17 53.3**	**+0.3**
	baz=242						
TWF1				*e*S	**Sn**	**18 18 00.1**	**+0.4**
	baz=242						
HWA	**Hwalien**	**0.43**	**348**	P	**Pn**	**18 17 53.6**	**+0.6**
	baz=344						
HWA				*e*S	**Sn**	**18 18 02.6**	**+2.9**
	baz=344						
TWD	**Chiawan**	**0.53**	**349**	P	**Pn**	**18 17 54.6**	**+0.2**
	baz=346						
TWD				*e*S	**Sn**	**18 18 02.7**	**+0.4**
	baz=346						
CHKT	**Chengkung**	**0.55**	**215**	P	**Pn**	**18 17 54.7**	**0.0**
	baz=216						
CHKT				S	**Sn**	**18 18 03.5**	**+0.8**
	baz=216						
YUS	**Yu-Shan**	**0.69**	**265**	P	**Pb**	**18 17 57.7**	**+0.5**
	baz=264						
YUS				*e*S	**Sn**	**18 18 06.6**	**-0.4**
	baz=264						
WHF	**Hehuan Shan**	**0.71**	**326**	P	**Pn**	**18 17 57.0**	**-0.2**
	baz=323						
WHF				*e*S	**Sb**	**18 18 06.6**	**-0.6**
	baz=323						
ELDTW	**Lidau**	**0.73**	**240**	P	**Pn**	**18 17 56.7**	**-0.5**
	baz=240						
ELDTW				*e*S	**Sn**	**18 18 05.4**	**-2.0**
	baz=240						
SMLT	**Sun Moon Lake**	**0.81**	**294**	P	**Pb**	**18 17 58.7**	**-0.1**
	baz=293						
SMLT				S	**Sb**	**18 18 09.5**	**0.0**
	baz=293						
ALS	**Alishan**	**0.83**	**267**	P	**Pb**	**18 17 59.3**	**0.0**
	baz=266						
ALS				S	**Sb**	**18 18 10.5**	**+0.2**
	baz=266						
TWT	**Tachien**	**0.85**	**325**	P	**Pb**	**18 17 59.5**	**-0.1**
	baz=322						
TWT				S	**Sb**	**18 18 10.0**	**-0.7**
	baz=322						
TYC	**Yuchr**	**0.85**	**294**	P	**Pb**	**18 17 59.3**	**-0.2**
	baz=293						
TYC				*e*S	**Sb**	**18 18 10.7**	**+0.1**
	baz=293						
ENA	**Nanau**	**0.87**	**2**	*e*P	**Pn**	**18 17 58.9**	**-0.2**
ENA				*e*S	**Sn**	**18 18 10.8**	**+0.2**
NNS	**Nan Shan**	**0.93**	**341**	P	**Pn**	**18 18 00.1**	**0.0**
	baz=339						
NNS				*e*S	**Sb**	**18 18 12.3**	**-0.7**
	baz=339						
TWG	**Pinlang**	**0.94**	**219**	*e*P	**Pn**	**18 17 59.2**	**-0.7**
	baz=219						
TWG				S	**Sn**	**18 18 11.6**	**-0.7**
	baz=219						
CHN5	**Tsauling**	**0.94**	**273**	P	**Pb**	**18 18 01.1**	**-0.1**
	baz=272						
CHN5				S	**Sb**	**18 18 13.7**	**+0.3**
	baz=272						
TTN	**Taitung**	**0.95**	**213**	*e*S	**Sb**	**18 18 14.8**	**+1.4**
	baz=213						
STYT	**Tauyuan**	**0.96**	**246**	P	**Pn**	**18 18 00.8**	**+0.5**
	baz=246						
STYT				*e*S	**Sb**	**18 18 13.6**	**-0.1**
	baz=246						
WNT	**Mingjian**	**0.99**	**289**	P	**Pb**	**18 18 01.7**	**-0.1**
	baz=288						
WNT				*e*S	**Sb**	**18 18 15.8**	**+1.2**
	baz=288						
CHN4	**Tsaushan**	**1.04**	**259**	P	**Pb**	**18 18 02.5**	**-0.1**
	baz=259						
CHN4				*e*S	**Sb**	**18 18 16.8**	**+0.8**
	baz=259						
WTP	**Ta-pu**	**1.05**	**253**	P	**Pb**	**18 18 02.6**	**-0.3**
	baz=253						
WTP				*e*S	**Sb**	**18 18 17.2**	**+0.8**
	baz=253						
TWC	**Suao**	**1.06**	**7**	*e*P	**Pn**	**18 18 02.3**	**+0.7**
	baz=6.0						
TWC				S	**Sb**	**18 18 16.0**	**-0.5**
	baz=6.0						
WGK	**Gukeng**	**1.06**	**277**	P	**Pb**	**18 18 02.5**	**-0.4**
	baz=276						
WGK				S	**Sb**	**18 18 17.0**	**+0.5**
	baz=276						
ENTT	**Nioudou**	**1.09**	**353**	P	**Pn**	**18 18 02.1**	**0.0**
	baz=352						
ENTT				*e*S	**Sn**	**18 18 15.9**	**-0.1**
	baz=352						
TCU	**Taichung**	**1.11**	**302**	P	**Pb**	**18 18 03.6**	**-0.3**
	baz=301						
TCU				*e*S	**Sb**	**18 18 18.7**	**+0.6**
	baz=301						
CHN2	**Minshiung**	**1.13**	**269**	P	**Pb**	**18 18 03.8**	**-0.3**
	baz=268						
CHN2				S	**Sb**	**18 18 19.4**	**+0.8**
	baz=268						
SGST	**Jiashian**	**1.14**	**246**	P	**Pb**	**18 18 03.9**	**-0.3**
	baz=245						
SGST				*e*S	**Sb**	**18 18 19.3**	**+0.6**
	baz=245						
CHN1	**Nanshi**	**1.14**	**251**	P	**Pb**	**18 18 04.0**	**-0.4**
	baz=251						
CHN1				S	**Sb**	**18 18 19.1**	**+0.1**
	baz=251						
TWK	**Hsinying**	**1.16**	**256**	P	**Pn**	**18 18 03.9**	**+0.8**
	baz=255						
TWK				*e*S	**Sb**	**18 18 19.5**	**+0.2**
	baz=255						
NSK	**Sanguang**	**1.16**	**344**	P	**Pn**	**18 18 03.4**	**+0.3**
	baz=343						
NSK				S	**Sn**	**18 18 17.5**	**-0.4**
	baz=343						
TWE	**Neicheng**	**1.16**	**358**	*e*P	**Pn**	**18 18 03.0**	**-0.1**
	baz=357						
TWE				*e*S	**Sn**	**18 18 18.0**	**+0.2**
	baz=357						
TWQ1	**Liyutan**	**1.16**	**313**	P	**Pb**	**18 18 03.8**	**-0.9**
	baz=311						
TWQ1				*e*S	**Sb**	**18 18 19.4**	**-0.1**
	baz=311						
ECL	**Taimali**	**1.18**	**216**	*e*P	**Pn**	**18 18 02.2**	**-1.2**
	baz=216						
ECL				*e*S	**Sn**	**18 18 16.4**	**-1.9**
	baz=216						
NSY	**Sanyi**	**1.22**	**315**	P	**Pb**	**18 18 04.8**	**-0.9**
	baz=313						
NSY				*e*S	**Sb**	**18 18 20.6**	**-0.5**
	baz=313						
NSTT	**Nanjuang**	**1.25**	**329**	P	**Pb**	**18 18 05.4**	**-0.7**
	baz=328						
NSTT				S	**Sb**	**18 18 20.8**	**-1.1**
	baz=328						
CHN3	**Shinhua**	**1.32**	**249**	*e*S	**Sb**	**18 18 25.6**	**+1.6**
	baz=249						
WTCT	**Ta-ch'eng**	**1.34**	**283**	*e*P	**Pn**	**18 18 06.4**	**+0.8**
	baz=282						
WTCT				*e*S	**Sb**	**18 18 24.4**	**-0.2**
	baz=282						
WSF	**Szhu**	**1.36**	**274**	*e*P	**Pn**	**18 18 06.2**	**+0.4**
	baz=273						
WSF				*e*S	**Sb**	**18 18 23.8**	**-1.4**
	baz=273						
TWM1	**Shoushan**	**1.39**	**239**	*e*P	**Pb**	**18 18 09.3**	**+0.8**
	baz=238						
TWM1				*e*S	**Sb**	**18 18 26.8**	**+0.9**
	baz=238						
CHN8	**Yiju**	**1.39**	**262**	*e*P	**Pn**	**18 18 07.0**	**+0.8**
	baz=261						
CHN8				*e*S	**Sb**	**18 18 24.5**	**-1.4**
	baz=261						
EAST	**Anshuo**	**1.41**	**214**	*e*P	**Pn**	**18 18 08.2**	**+1.6**
	baz=214						
**JYN

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**3.85**	**250**	*d* iPN	**Pn**	**18 21 26.1**	**+0.9**
KUR				*i* S	**Sn**	**18 22 09.2**	**+0.1**
KUR				pmax	pmax		
	comp=Z,38nm,0.6s						
KUR				pmax	pmax		
	comp=E,11nm,0.2s						
KUR				pmax	pmax		
	comp=N,17nm,0.3s						
KUR				smax	smax		
	comp=E,26nm,0.3s						
KUR				smax	smax		
	comp=N,70nm,0.6s						
KUR	**Kuril'sk**	**3.85**	**250**	⇑ *i*P	**Pn**	**18 21 26.3**	**+1.1**
KUR				AMB	AMB	18 21 28.6	
	comp=N,60nm,0.7s						
KUR				*e*S	**Sn**	**18 22 09.4**	**+0.3**
KUR				A	A	18 22 25.4	
	comp=N,90nm,0.5s						
KUR				A	A	18 22 25.4	
	comp=N,45nm,0.5s						
SHO	**Shikotan**	**5.17**	**239**	PN	**Pn**	**18 21 42.1**	**-1.2**
SHO	**Shikotan**	**5.17**	**239**	*e*P	**Pn**	**18 21 46.0**	**+2.7**
SHO				AMB	AMB	18 21 49.3	
	comp=N,10.0nm,1.0s						
PETK	**Petropavlovsk-**	**7.11**	**24**	Pn	**Pn**	**18 22 11.0**	**+1.1**
	comp=N,0.1nm,0.3s,baz=182,slow=9.9,SNR=2.7						
H11N2	**WAKE ISLAND Hy**	**29.21**	**152**	T	T	18 57 55.6	
	baz=340,slow=76,SNR=133						
H11N1	**WAKE ISLAND Hy**	**29.22**	**152**	T	T	18 57 53.2	
	baz=340,slow=76,SNR=74						
H11N3	**WAKE ISLAND Hy**	**29.23**	**152**	T	T	18 57 55.1	
	baz=340,slow=76,SNR=67						
H11S1	**WAKE ISLAND Hy**	**30.30**	**153**	T	T	18 59 15.2	
	baz=341,slow=76,SNR=100						
H11S3	**WAKE ISLAND Hy**	**30.30**	**154**	T	T	18 59 14.9	
	baz=341,slow=76,SNR=74						
H11S2	**WAKE ISLAND Hy**	**30.31**	**154**	T	T	18 59 18.7	
	baz=341,slow=76,SNR=86						
MKAR	**Makanchi Array**	**46.88**	**297**	P	**P**	**18 28 53.1**	**-1.5**
	comp=N,0.2nm,0.5s,baz=63,slow=7.5,SNR=3.7						
FINES	**FINESS Array B**	**64.05**	**335**	P	**P**	**18 30 57.5**	**-0.2**
	comp=N,1.3nm,0.6s,baz=26,slow=6.8,SNR=6.2						
AKASG	**Malin Array Be**	**71.54**	**326**	P	**P**	**18 31 44.4**	**-0.5**
	comp=N,0.3nm,0.4s,baz=34,slow=6.2,SNR=2.1						
ASAR	**Alice Springs**	**72.12**	**198**	P	**P**	**18 31 48.3**	**-0.4**
	comp=N,0.2nm,0.6s,baz=19,slow=6.0,SNR=3.8						

AZER ***22*** *18:27:10.2±99.0, 35°.49N×47°.62E, h2km, Error ellipse: s-maj=159.0km s-min=12.1km az=293.0*
ISCJB ***22*** *18:27:15.7±0.3, 35°.71N±0°.04×49°.10E±0°.04, h10km, Error ellipse: s-maj=5.6km s-min=4.4km az=35.4*
CSEM ***22*** *18:27:15.2±0.3, 35°.76N×49°.11E, h10km, ML3.5, Error ellipse: s-maj=10.1km s-min=7.3km az=26.0*
TEH ***22*** *18:27:17.3, 35°.83N×49°.13E, h11km, ML3.5*
ISC 22 18:27:15.3±1.0, 35°.74N±0°.04×49°.10E±0°.03, h10km, n56, σ1§64/58, 6C-1D, Western Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IRAZ	**Razeghan**	**0.76**	**116**	*e*Pg	Pg	18 27 27.4	-2.6
IRAZ				*e*AMB	AMB	18 27 40.7	
	comp=Z,29μm,0.1s						
IRAZ	**Razeghan**	**0.76**	**116**	*e*Pg	Pg	18 27 27.4	-2.6
ZNJK	**Zanjan**	**0.98**	**340**	*e*Pg	**Pg**	**18 27 32.3**	**-2.0**
IMHD	**Mahdasht**	**1.28**	**92**	*e*Pg	**Pn**	**18 27 37.2**	**-2.2**
IMHD				*e*AMB	AMB	18 27 58.0	
	comp=Z,16μm,0.1s						
IMHD	**Mahdasht**	**1.28**	**92**	*e*Pg	**Pn**	**18 27 37.2**	**-2.2**
ASAO	**Ashtian**	**1.41**	**147**	*e*Pg	Pn	18 27 38.4	-3.0
THKV	**Tehran--Karaj**	**1.46**	**83**	*e*Pg	**Pn**	**18 27 40.5**	**-1.4**
SNGE	**Sanandaj**	**1.57**	**246**	*e*Pg	Pn	18 27 41.4	-2.1
CHTH	**Charan**	**1.66**	**84**	*e*Pn	**Pn**	**18 27 43.7**	**-1.0**
ILIN	**Lien**	**1.93**	**245**	*e*Pn	**Pn**	**18 27 47.9**	**-0.5**
ILIN				*e*AMB	AMB	18 28 16.9	
	comp=Z,2μm,0.2s						
ILIN	**Lien**	**1.93**	**245**	*e*Pn	**Pn**	**18 27 47.9**	**-0.5**
IKOM	**Komasi**	**2.03**	**220**	*e*Pn	**Pn**	**18 27 49.9**	**+0.1**
IKOM				*e*AMB	AMB	18 27 55.7	
	comp=Z,4μm,0.3s						
IKOM	**Komasi**	**2.03**	**220**	*e*Pn	**Pn**	**18 27 49.9**	**+0.1**
KHMZ	**Khomeyn**	**2.12**	**160**	*e*Pn	**Pn**	**18 27 49.8**	**-1.3**
IAFJ	**Afjeh**	**2.13**	**86**	*e*Pn	**Pn**	**18 27 51.2**	**-0.1**
IAFJ				*e*AMB	AMB	18 28 25.8	
	comp=Z,9μm,0.2s						
IAFJ	**Afjeh**	**2.13**	**86**	*e*Pn	**Pn**	**18 27 51.2**	**-0.1**
GHVR	**GHOM**	**2.20**	**124**	*e*Pn	**Pn**	**18 27 51.3**	**-0.7**
IVIS	**Veis**	**2.20**	**237**	*e*Pn	**Pn**	**18 27 52.0**	**-0.1**
IVIS				*e*AMB	AMB	18 28 33.4	
	comp=Z,1μm,0.4s						
IVIS	**Veis**	**2.20**	**237**	*e*Pn	**Pn**	**18 27 52.0**	**-0.1**
IVRN	**Varamin**	**2.28**	**108**	*e*Pn	**Pn**	**18 27 54.4**	**+1.3**
IVRN				*e*AMB	AMB	18 28 34.5	
	comp=Z,6μm,0.1s						
IVRN	**Varamin**	**2.28**	**108**	*e*Pn	**Pn**	**18 27 54.4**	**+1.3**
ISRB	**Sarab**	**2.38**	**332**	*e*Pn	**Pn**	**18 27 54.8**	**+0.2**
ISRB				*e*AMB	AMB	18 27 58.5	
	comp=Z,2μm,0.1s						
ISRB				*e*Sg	**Sb**	**18 28 29.6**	**+1.8**
ISRB	**Sarab**	**2.38**	**332**	*e*Pn	**Pn**	**18 27 54.8**	**+0.2**
ISRB				*e*Sg	**Sb**	**18 28 29.6**	**+1.8**
IDMV	**Damavand**	**2.40**	**93**	*e*Pn	**Pn**	**18 27 54.6**	**-0.3**
IDMV				*e*AMB	AMB	18 28 01.1	
	comp=Z,3μm,0.1s						
IDMV	**Damavand**	**2.40**	**93**	*e*Pn	**Pn**	**18 27 54.6**	**-0.3**
IKFM	**Kafar-mosalman**	**2.44**	**205**	*e*Pn	**Pn**	**18 27 58.0**	**+2.8**
IGHG	**Ghaleghazi**	**2.51**	**237**	*e*Pn	**Pn**	**18 27 59.5**	**+3.1**
IGHG				*e*AMB	AMB	18 28 39.4	
	comp=Z,3μm,0.4s						
IBST	**Bostanabad**	**2.64**	**318**	*e*Pn	**Pn**	**18 27 58.9**	**+0.7**
IBST				*e*AMB	AMB	18 28 07.6	
	comp=Z,1μm,0.3s						
IBST	**Bostanabad**	**2.64**	**318**	*e*Pn	**Pn**	**18 27 58.9**	**+0.7**
IPRN	**Peran**	**2.68**	**78**	*e*Pn	**Pn**	**18 27 59.8**	**+1.2**
IPRN				*e*Sg	**Sb**	**18 28 39.1**	**+2.7**
ASTR	**Astara**	**2.82**	**355**	⇑P	**Pn**	**18 28 03.5**	**+3.0**
ASTR				⇑S	**Sg**	**18 28 46.8**	**+0.7**
LRK	**Lerik**	**2.96**	**348**	⇑P	**Pn**	**18 28 05.3**	**+2.8**
LRK				⇑S	**Sg**	**18 28 49.6**	**-0.8**
LKRN	**Lenkeran, Azer**	**2.97**	**355**	⇑P	**Pb**	**18 28 06.7**	**-1.7**
LKRN				⇓S	**Sg**	**18 28 49.2**	**-1.7**
IFIR	**Firoozkooh**	**2.98**	**91**	*e*Pn	**Pn**	**18 28 04.5**	**+1.6**
IFIR				*e*AMB	AMB	18 28 50.7	
	comp=Z,2μm,0.2s						
IFIR	**Firoozkooh**	**2.98**	**91**	*e*Pn	**Pn**	**18 28 04.5**	**+1.6**
IALA	**Alasht**	**3.03**	**82**	*e*Pn	**Pn**	**18 28 04.7**	**+1.0**
IALA				*e*AMB	AMB	18 28 57.0	
	comp=Z,1μm,0.3s						
IALA	**Alasht**	**3.03**	**82**	*e*Pn	**Pn**	**18 28 04.7**	**+1.0**
IHRS	**Heris**	**3.05**	**328**	*e*AMB	AMB	18 28 10.8	
	comp=Z,1μm,0.3s						
IHRS				*e*Pn	**Pn**	**18 28 04.5**	**+0.6**
IKLH	**Kolahrood**	**3.17**	**139**	*e*AMB	AMB	18 28 54.8	
	comp=Z,799nm,0.2s						
IKLH				*e*Pn	**Pn**	**18 28 07.1**	**+1.6**
ILAS	**Lasjerd**	**3.17**	**95**	*e*Pn	**Pn**	**18 28 05.3**	**-0.2**
ILAS				*e*AMB	AMB	18 29 03.2	
	comp=E,2μm,0.2s						
ILAS	**Lasjerd**	**3.17**	**95**	*e*Pn	**Pn**	**18 28 05.3**	**-0.2**
IPIR	**Pirpir**	**3.39**	**153**	*e*Pn	**Pn**	**18 28 10.2**	**+1.6**
IPIR				*e*AMB	AMB	18 28 22.2	
	comp=Z,742nm,0.3s						
IPIR	**Pirpir**	**3.39**	**153**	*e*Pn	**Pn**	**18 28 10.2**	**+1.6**
ISHM	**Shahmirzad**	**3.41**	**88**	*e*Pn	**Pn**	**18 28 10.3**	**+1.4**
ISHM				*e*AMB	AMB	18 28 26.1	
	comp=Z,2μm,0.2s						
GLBA	**Clilabad**	**3.54**	**351**	⇑P	**Pn**	**18 28 13.8**	**+3.4**
SHGR	**Shooshtar-Gavs**	**3.63**	**184**	*e*Pn	**Pn**	**18 28 10.3**	**-1.3**
ISHB	**Shabestar**	**3.77**	**313**	*e*Pn	**Pn**	**18 28 15.2**	**+1.5**
ISHB				*e*AMB	AMB	18 28 31.3	
	comp=Z,416nm,0.2s						
IZEF	**Zefreh**	**3.90**	**136**	*e*Pn	**Pn**	**18 28 17.7**	**+2.1**
IZEF				*e*AMB	AMB	18 28 32.4	
	comp=Z,287nm,0.3s						
IZEF	**Zefreh**	**3.90**	**136**	*e*Pn	**Pn**	**18 28 17.7**	**+2.1**
IGLO	**Ghaloghah**	**3.91**	**77**	*e*Pn	**Pn**	**18 28 17.9**	**+2.3**
IGLO				*e*AMB	AMB	18 29 37.5	
	comp=Z,792nm,0.2s						
IANJ	**Anjilo**	**3.94**	**93**	*e*Pn	**Pn**	**18 28 17.3**	**+1.3**
IANJ				*e*AMB	AMB	18 28 28.2	
	comp=Z,415nm,0.2s						
IANJ	**Anjilo**	**3.94**	**93**	*e*Pn	**Pn**	**18 28 17.3**	**+1.3**
IMRD	**Marand**	**4.02**	**319**	*e*Pn	**Pn**	**18 28 17.2**	**+0.1**
IMRD				*e*AMB	AMB	18 28 36.0	
	comp=Z,626nm,0.2s						
IMRD	**Marand**	**4.02**	**319**	*e*Pn	**Pn**	**18 28 17.2**	**+0.1**
IGAR	**Gharneh**	**4.13**	**143**	*e*Pn	**Pn**	**18 28 21.6**	**+2.9**
IGAR				*e*AMB	AMB	18 28 39.7	
	comp=Z,261nm,0.3s						
IRAM	**Ramesheh**	**4.78**	**144**	*e*Pn	**Pn**	**18 28 30.6**	**+2.9**
IRAM				*e*AMB	AMB	18 28 49.6	
	comp=Z,186nm,0.3s						

JMA ***22*** *18:33:07.5±0.2, 24°.83N×122°.11E, h133km±2km, M2.3*
TAP ***22*** *18:33:07.1, 24°.99N×122°.10E, h138km, ML3.2, C*
ISCJB ***22*** *18:33:08.1±0.7, 24°.88N±0°.05×122°.18E±0°.03, h129km±4km, Error ellipse: s-maj=7.6km s-min=3.5km az=167.0*
ISC 22 18:33:08.5±1.9, 24°.89N±0°.07×122°.17E±0°.03, h128km±11km, n39, σ0§63/73, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TWB1	**Santiao Chiao**	**0.20**	**305**	P	**Pn**	**18 33 25.9**	**-0.1**
	baz=281						
TWB1				S	**Sn**	**18 33 39.3**	**0.0**
	baz=281						
NWF	**Wu-fen Shan**	**0.40**	**297**	P	**Pn**	**18 33 26.3**	**-0.6**
	baz=278						
NWF				S	**Sn**	**18 33 40.3**	**-0.5**
	baz=278						
TWC	**Suao**	**0.41**	**226**	P	**Pn**	**18 33 26.7**	**-0.1**
	baz=207						
TWC				*e*S	**Sn**	**18 33 40.2**	**-0.4**
	baz=207						
TWE	**Neicheng**	**0.49**	**250**	*e*P	**Pn**	**18 33 27.2**	**0.0**
	baz=235						
TWE				*e*S	**Sn**	**18 33 42.5**	**+1.1**
	baz=235						
TWA	**Mucha**	**0.54**	**280**	*e*P	**Pn**	**18 33 29.1**	**+1.6**
	baz=269						
ENA	**Nanau**	**0.60**	**220**	P	**Pn**	**18 33 28.4**	**+0.4**
	baz=204						
ENA				*e*S	**Sn**	**18 33 43.6**	**+0.9**
	baz=204						
ENTT	**Nioudou**	**0.60**	**246**	P	**Pn**	**18 33 28.1**	**+0.1**
	baz=246						
ENTT				*e*S	**Sn**	**18 33 42.2**	**-0.6**
	baz=246						
TWS1	**Kuangyinshan**	**0.71**	**287**	*e*P	**Pn**	**18 33 28.2**	**-0.5**
	baz=280						
TWS1				*e*S	**Sn**	**18 33 44.7**	**+0.6**
	baz=280						
NSK	**Sanguang**	**0.77**	**254**	P	**Pn**	**18 33 28.7**	**-0.6**
	baz=236						
NSK				*e*S	**Sn**	**18 33 43.9**	**-1.1**
	baz=236						
JYNG	**Yonagunijimaku**	**0.83**	**122**	P	**Pn**	**18 33 29.6**	**-0.1**
JYNG				*e*S	**Sn**	**18 33 46.2**	**+0.5**
NNS	**Nan Shan**	**0.85**	**238**	*e*P	**Pn**	**18 33 30.1**	**+0.1**
	baz=230						
NNS				*e*S	**Sn**	**18 33 46.0**	**-0.4**
	baz=230						
YOJ	**Yonaguni jima**	**0.88**	**119**	P	**Pn**	**18 33 30.1**	**0.0**
YOJ				S	**Sn**	**18 33 46.3**	**-0.1**
TWD	**Chiawan**	**0.96**	**213**	P	**Pn**	**18 33 30.5**	**-0.4**
	baz=215						
TWD				S	**Sn**	**18 33 47.7**	**-0.2**
	baz=215						
NSTT	**Nanjuang**	**1.09**	**257**	P	**Pn**	**18 33 31.7**	**-0.4**
	baz=245						
NSTT				*e*S	**Sn**	**18 33 49.3**	**-0.8**
	baz=245						
TWT	**Tachien**	**1.11**	**235**	P	**Pn**	**18 33 33.1**	**+0.6**
	baz=229						
TWT				*e*S	**Sn**	**18 33 50.7**	**+0.1**
	baz=229						
WHF	**Hehuan Shan**	**1.11**	**228**	P	**Pn**	**18 33 32.9**	**+0.1**
	baz=218						
WHF				*e*S	**Sn**	**18 33 51.5**	**+0.4**
	baz=218						
ESL	**Shilin**	**1.27**	**212**	*e*P	**Pn**	**18 33 32.9**	**-1.0**
	baz=207						
ESL				*e*S	**Sn**	**18 33 52.2**	**-1.0**
	baz=207						
NSY	**Sanyi**	**1.37**	**250**	*e*P	**Pn**	**18 33 34.9**	**-0.1**
	baz=245						
NSY				*e*S	**Sn**	**18 33 56.1**	**+0.9**
	baz=245						
TWQ1	**Liyutan**	**1.38**	**247**	*e*P	**Pn**	**18 33 34.8**	**-0.4**
	baz=242						
IRIF	**Iriomote-Funau**	**1.52**	**111**	P	**Pn**	**18 33 36.4**	**-0.3**
IRIF				S	**Sn**	**18 33 58.9**	**+0.7**
SMLT	**Sun Moon Lake**	**1.53**	**229**	P	**Pn**	**18 33 37.3**	**+0.3**
	baz=231						
SMLT				*e*S	**Sn**	**18 33 59.1**	**+0.5**
	baz=231						
TYC	**Yuchr**	**1.55**	**231**	P	**Pn**	**18 33 37.2**	**+0.1**
	baz=233						
TYC				*e*S	**Sn**	**18 33 58.8**	**0.0**
	baz=233						
EHY	**Hungye**	**1.58**	**210**	*e*P	**Pn**	**18 33 37.2**	**-0.2**
	baz=198						
EHY				*e*S	**Sn**	**18 33 59.1**	**-0.3**
	baz=198						
HATJ	**Hateruma jima**	**1.71**	**119**	P	**Pn**	**18 33 38.9**	**+0.1**
HATJ				S	**Sn**	**18 34 03.2**	**+1.3**
TWF1	**Yuli**	**1.73**	**208**	*e*P	**Pn**	**18 33 38.1**	**-1.0**
	baz=199						
YUS	**Yu-Shan**	**1.79**	**219**	*e*P	**Pn**	**18 33 41.2**	**+0.9**
	baz=208						
YUS				*e*S	**Sn**	**18 34 06.8**	**+2.3**
	baz=208						
JKRS	**Kuro-shima**	**1.80**	**111**	P	**Pn**	**18 33 40.2**	**+0.3**
JKRS				S	**Sn**	**18 34 04.2**	**+0.4**
ALS	**Alishan**	**1.86**	**223**	*e*P	**Pn**	**18 33 41.1**	**+0.1**
	baz=226						
ALS				*e*S	**Sn**	**18 34 05.2**	**-0.5**
	baz=226						
JIJ	**Ishigaki jima**	**1.87**	**106**	P	**Pn**	**18 33 40.6**	**-0.2**
JIJ				S	**Sn**	**18 34 04.8**	**-0.6**
CHN5	**Tsauling**	**1.88**	**227**	P	**Pn**	**18 33 41.2**	**+0.2**
	baz=223						
CHN5				*e*S	**Sn**	**18 34 06.4**	**+0.7**
	baz=223						
CHKT	**Chengkung**	**1.93**	**203**	*e*P	**Pn**	**18 33 40.5**	**-1.1**
	baz=199						
CHKT				*e*S	**Sn**	**18 34 06.2**	**-0.6**
	baz=199						
JISG	**Ishigakijimahi**	**1.97**	**98**	P	**Pn**	**18 33 42.0**	**+0.1**
JISG				S	**Sn**	**18 34 07.3**	**-0.2**
ELDTW	**Lidau**	**2.00**	**212**	*e*P	**Pn**	**18 33 42.7**	**+0.2**
	baz=202						
ELDTW				*e*S	**Sn**	**18 34 08.1**	**-0.3**
	baz=202						
CHN4	**Tsaushan**	**2.10**	**224**	*e*P	**Pn**	**18 33 43.7**	**0.0**
	baz=220						
CHN4				*e*S	**Sn**	**18 34 11.5**	**+0.9**
	baz=220						
STYT	**Tauyuan**	**2.15**	**217**	*e*P	**Pn**	**18 33 44.5**	**+0.2**
	baz=214						
WTP	**Ta-pu**	**2.17**	**221**	*e*P	**Pn**	**18 33 44.4**	**-0.2**
	baz=217						
WTP				*e*S	**Sn**	**18 34 12.2**	**+0.1**
	baz=217						
TWK	**Hsinying**	**2.23**	**224**	*e*P	**Pn**	**18 33 45.1**	**-0.2**
	baz=220						
CHN1	**Nanshi**	**2.27**	**222**	*e*P	**Pn**	**18 33 45.6**	**-0.2**
	baz=218						
CHN1				*e*S	**Sn**	**18 34 14.0**	**-0.3**
	baz=218						
JTJ	**Tarama**	**2.31**	**96**	P	**Pn**	**18 33 46.3**	**+0.1**
JTJ				S	**Sn**	**18 34 14.3**	**-0.9**

IDC 22 18:56:39.0±2.1, 18°.59S×167°.53E, h0km, mb3.8/3, mb1 4.0/4, mb1mx3.6/33, mbtmpg3.7/4, ML3.1/1, Error ellipse: s-maj=57.2km s-min=34.1km az=128.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**3.61**	**196**	Pn	Pn	18 57 36.0	-0.3
	1.8nm,0.3s,baz=90,slow=16,SNR=21						
DZM				Sn	Sn	18 58 13.8	-5.9
	9.8nm,0.3s,baz=102,slow=22,SNR=14						
WRA	**Warramunga Arr**	**31.33**	**262**	P	P	19 03 01.0	-0.5
	0.5nm,1.0s,baz=82,slow=6.3,SNR=4.3						
ASAR	**Alice Springs**	**31.72**	**255**	P	P	19 03 05.3	+0.4
	1.6nm,0.7s,baz=81,slow=8.9,SNR=30						
ILAR	**Eielson Array**	**90.11**	**18**	P	P	19 09 40.5	0.0
	0.6nm,0.8s,baz=232,slow=6.3,SNR=4.8						

IDC ***22*** *19:02:22.8±3.0, 34°.74S×179°.69W, h0km, mb3.4/2, mb1 3.7/3, mb1mx3.6/36, mbtmp3.5/3, ML3.4/1, Error ellipse: s-maj=70.8km s-min=37.5km az=116.0*
ISC 22 19:02:24.4±2.2, 34°.9S±0°.2×179°.0W±0°.3, h35km, n19, σ1§24/23, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**3.40**	**219**	*e*PN	**Pn**	**19 03 15.2**	**+0.2**
MXZ				*e*SN	**Sn**	**19 03 55.0**	**+0.9**
WMGZ	**Waiomatatini S**	**3.55**	**215**	*e*PN	**Pn**	**19 03 17.4**	**+0.4**
PKGZ	**Pakihiroa**	**3.77**	**218**	*e*PN	**Pn**	**19 03 20.4**	**+0.3**
HAZ	**Te Kaha**	**3.83**	**222**	*e*PN	**Pn**	**19 03 21.5**	**+0.7**
HAZ				*e*SN	**Sn**	**19 04 06.6**	**+2.1**
PUZ	**Puketiti**	**3.83**	**215**	*e*PN	**Pn**	**19 03 21.4**	**+0.5**
PUZ				*e*SN	**Sn**	**19 04 04.6**	**0.0**
RUGZ	**Raukumara Rang**	**4.04**	**221**	*e*PN	**Pn**	**19 03 23.8**	**0.0**
TWGZ	**Tauwhareparae**	**4.04**	**216**	*e*PN	**Pn**	**19 03 24.3**	**+0.5**
CNGZ	**Carnagh Statio**	**4.19**	**212**	*e*PN	**Pn**	**19 03 25.5**	**-0.2**
MWZ	**Matawai**	**4.39**	**219**	*e*PN	**Pn**	**19 03 28.2**	**-0.4**
URZ	**Urewera**	**4.56**	**222**	Pn	**Pn**	**19 03 29.8**	**-1.0**
	2.0nm,0.3s,baz=275,slow=3.2,SNR=23						
URZ				Sn	**Sn**	**19 04 22.3**	**-0.2**
	2.4nm,0.3s,baz=144,slow=22,SNR=9.1						
RIGZ	**Rimuhau**	**4.57**	**214**	*e*PN	**Pn**	**19 03 30.2**	**-0.9**
KNZ	**Kokohu**	**4.87**	**212**	*e*PN	**Pn**	**19 03 34.2**	**-0.9**
RTZ	**Ruatahuna**	**4.88**	**220**	*e*PN	**Pn**	**19 03 35.7**	**+0.3**
MUGZ	**Murupara**	**4.90**	**223**	*e*PN	**Pn**	**19 03 35.2**	**-0.4**
KWHZ	**Kaweka Forest**	**5.78**	**218**	*e*PN	**Pn**	**19 03 46.3**	**-1.4**
KAHZ	**Kahuranaki**	**5.85**	**213**	*e*PN	**Pn**	**19 03 46.0**	**-2.7**
ASAR	**Alice Springs**	**42.24**	**272**	P	**P**	**19 10 13.7**	**-0.7**
	0.4nm,0.6s,baz=108,slow=7.9,SNR=6.9						
WRA	**Warramunga Arr**	**43.64**	**277**	P	**P**	**19 10 23.9**	**-1.9**
	0.3nm,0.6s,baz=118,slow=7.6,SNR=4.6						
AKASG	**Malin Array Be**	**154.21**	**316**	PKPbc	**PKPbc**	**19 22 23.0**	**+2.9**
	0.3nm,0.4s,baz=46,slow=3.5,SNR=2.7						

IDC 22 19:09:15.4±3.3, 7°.90S×147°.19E, h0km, mb2.8/1, mb1 3.4/2, mb1mx3.2/38, mbtmp3.1/2, ML2.9/1, Error ellipse: s-maj=82.2km s-min=30.1km az=82.0, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**1.50**	**181**	Pn	Pn	19 09 43.3	-0.2
	27nm,0.3s,baz=351,slow=6.7,SNR=85						
PMG				Sn	Sn	19 10 05.8	+2.0
	28nm,0.3s,baz=308,slow=23,SNR=12						
WRA	**Warramunga Arr**	**17.27**	**225**	P	Pn	19 13 17.4	-0.8
	0.0nm,0.3s,baz=52,slow=13,SNR=2.9						
ASAR	**Alice Springs**	**20.20**	**218**	P	P	19 13 52.0	+0.1
	0.5nm,0.9s,baz=46,slow=10,SNR=6.1						
TORD	**Torodi Ar. Bea**	**145.70**	**282**	PKPbc	PKPdf	19 28 56.5	-0.4
	0.4nm,0.5s,baz=67,slow=3.7,SNR=5.3						

IDC ***22*** *19:12:50.5±0.6, 32°.25N×105°.04E, h0km, mb4.0/23, mb1 4.1/25, mb1mx4.0/49, mbtmp4.0/25, ML3.8/2, MS3.2/3, Ms1 3.3/3, ms1mx2.7/38, Error ellipse: s-maj=18.1km s-min=12.1km az=36.0*
ISCJB ***22*** *19:12:51.3±0.3, 32°.22N±0°.03×105°.00E±0°.04, h15km, mb4.0/27, MS3.5/1, Error ellipse: s-maj=5.5km s-min=4.5km az=11.2*
NEIC ***22*** *19:12:52.6±0.4, 32°.27N×105°.01E, h10km, mb4.1/4, Error ellipse: s-maj=8.7km s-min=7.8km az=48.0*
BJI ***22*** *19:12:56.0, 32°.26N×104°.97E, h20km, mb4.1/13, mB4.1/2, ML3.9/21, Ms3.8/8, Ms7 3.5/3*
ISC 22 19:12:53.2±0.4, 32°.26N±0°.03×105°.00E±0°.04, h15km, n47, σ1§81/62, mb4.0/27, Sichuan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CD2	**Chengdu**	**1.71**	**219**	Pn	**Pb**	**19 13 24.0**	**-0.4**
CD2				Pg	**Pg**	**19 13 28.5**	**+2.4**
CD2				Sn	**Sb**	**19 13 47.3**	**+1.6**
CD2				Sg	**Sg**	**19 13 49.1**	**+0.8**
CD2				smax	smax		
	comp=N,5μm,0.7s						
CD2				smax	smax		
	comp=E,9μm,0.8s						
XAN	**Xi'an**	**3.74**	**61**	Pn	**Pn**	**19 13 51.3**	**+0.9**
XAN				Pg	**Pb**	**19 14 00.5**	**+1.5**
XAN				Sg	**Sb**	**19 14 46.4**	**+2.3**
XAN				smax	smax		
	comp=N,450nm,0.8s						
XAN				smax	smax		
	comp=E,410nm,0.7s						
LZH	**Lanzhou**	**3.94**	**346**	Pn	**Pn**	**19 13 56.8**	**+3.6**
LZH				Pg	**Pg**	**19 14 06.6**	**-2.0**
LZH				Sn	**Sn**	**19 14 42.3**	**+3.1**
LZH				Sg	**Sg**	**19 14 55.9**	**-3.7**
LZH				smax	smax		
	comp=N,800nm,1.0s						
LZH				smax	smax		
	comp=E,980nm,0.8s						
LZH				LR	LR		
	comp=N,1μm,6.5s						
LZH				LR	LR		
	comp=E,2μm,4.8s						
LZH				LR	LR		
	comp=Z,800nm,7.1s						
ENH	**Enshi**	**4.32**	**116**	*e*Pn	**Pn**	**19 14 00.8**	**+2.3**
GYA	**Guiyang**	**5.96**	**165**	Pn	**Pn**	**19 14 25.3**	**+4.3**
GYA				Pg	**Pg**	**19 14 45.8**	**-1.5**
GYA				Sn	**Sn**	**19 15 27.1**	**-2.0**
GYA				Sg	**Sg**	**19 15 59.

WMQ LR LR
comp=Z,140nm,8.3s
GKN Gorkha 18.11 262 *e*P **Pn 19 17 02.8 -1.6**
PYUN Piuthan 19.46 263 *e*P **P 19 17 17.0 -2.7**
comp=Z,13nm,0.7s
KSAR Wonju Array Be 19.47 68 P **Pn 19 17 21.1 +0.5**
KSRS Korea Array 19.50 68 P **Pn 19 17 21.1 +0.1**
comp=Z,0.2nm,0.3s,baz=257,slow=12,SNR=5.6
JNU Nakatsue 21.79 81 P **P 19 17 45.6 +1.1**
comp=Z,1.2nm,0.6s,baz=73,slow=19,SNR=1.9
MKAR Makanchi Array 22.64 316 P **P 19 17 54.7 +1.1**
comp=Z,3.7nm,0.8s,baz=115,slow=11,SNR=22
MKAR PcP **PcP 19 21 43.9 -2.2**
comp=Z,0.3nm,0.5s,baz=125,slow=1.5,SNR=3.3
USRK Ussuriysk Ar. 24.21 53 P **P 19 18 09.7 +0.5**
comp=Z,1.9nm,0.7s,baz=257,slow=15,SNR=3.9
KSH Kashi 24.53 295 *e*P **P 19 18 15.8 +3.5**
KSH pP sP 19 18 20.3 +1.5
KSH pmax pmax
comp=Z,6.0nm,0.5s
ZALV Zalesovo Beam 26.04 332 P **P 19 18 25.9 +0.3**
comp=Z,1.8nm,0.5s,baz=131,slow=10.0,SNR=7.6
KURBB Kurchatov Arra 26.80 321 P **P 19 18 33.4 +0.8**
comp=Z,1.7nm,0.6s,baz=127,slow=9.4,SNR=28
KURBB PcP **PcP 19 21 54.6 -0.5**
comp=Z,0.8nm,0.4s,baz=114,slow=2.1,SNR=5.7
KURK Kurchatov 26.80 321 P **P 19 18 33.4 +0.8**
KURK PcP **PcP 19 21 54.6 -0.5**
MJAR Matsushiro Arr 27.65 72 P **P 19 18 38.7 -1.7**
comp=Z,1.5nm,0.7s,baz=276,slow=9.8,SNR=3.9
BVAR Borovoye Array 32.38 320 P **P 19 19 22.5 +0.5**
comp=Z,1.1nm,0.6s,baz=108,slow=9.5,SNR=10.0
BVAR LR LR 19 32 21.4
comp=Z,82nm,18.2s,baz=73,slow=36
BRVK Borovoye 32.45 320 *e*P **P 19 19 23.8 +1.2**
comp=Z,3.0nm,0.6s
ABKAR Akbulak array 37.49 310 *e*P **P 19 20 06.5 +0.3**
comp=Z,3.4nm,0.8s
GEYT Ailbeck 38.45 292 P **P 19 20 16.2 +1.7**
comp=Z,1.0nm,0.4s,baz=85,slow=3.6,SNR=4.9
ARU Arti 40.00 321 *e*P **P 19 20 27.7 +0.6**
comp=Z,4.7nm,1.1s
PETK Petropavlovsk- 42.83 45 P **P 19 20 50.8 +0.3**
comp=Z,3.3nm,0.8s,baz=242,slow=3.2,SNR=4.6
KBZ Khabaz 49.21 302 P **P 19 21 40.9 +0.1**
comp=Z,0.5nm,0.5s,baz=74,slow=15,SNR=3.1
ARCES ARCESS Array B 56.52 336 P **P 19 22 33.7 -0.7**
comp=Z,2.1nm,0.6s,baz=54,slow=9.1,SNR=2.9
BRTR Keskin Array B 56.84 299 P **P 19 22 36.8 -0.6**
comp=Z,0.8nm,0.8s,baz=101,slow=6.4,SNR=4.5
FINES FINESS Array B 57.04 326 P **P 19 22 37.8 -0.4**
comp=Z,2.1nm,0.7s,baz=100,slow=10,SNR=6.7
AKASG Malin Array Be 57.16 313 P **P 19 22 39.0 -0.2**
comp=Z,0.5nm,0.4s,baz=66,slow=7.3,SNR=3.1
WRA Warramunga Arr 59.02 147 P **P 19 22 52.1 -0.4**
comp=Z,13nm,1.3s,baz=341,slow=7.4,SNR=30
ASAR Alice Springs 62.09 150 P **P 19 23 13.7 +0.2**
comp=Z,1.3nm,0.7s,baz=331,slow=6.6,SNR=42
NOA NORSAR Array B 64.10 327 P **P 19 23 26.0 -0.5**
comp=Z,0.9nm,0.7s,baz=68,slow=5.9,SNR=2.7
GERES GERESS Array B 67.29 314 P **P 19 23 45.8 -1.5**
comp=Z,0.1nm,0.3s,baz=313,slow=10,SNR=2.4
ILAR Eielson Array 68.47 26 P **P 19 23 53.5 -0.8**
comp=Z,0.3nm,0.4s,baz=283,slow=4.3,SNR=7.0
KDAK Kodiak Island 69.46 34 P **P 19 24 00.3 -0.2**
comp=Z,3.6nm,0.5s,baz=278,slow=4.0,SNR=7.8
STKA Stephens Creek 72.57 148 P **P 19 24 18.8 -0.9**
comp=Z,1.8nm,0.8s,baz=340,slow=8.2,SNR=5.2
YKA Yellowknife Ar 80.36 17 P **P 19 25 02.3 -1.2**
comp=Z,1.3nm,0.5s,baz=322,slow=4.5,SNR=4.7
TORD Torodi Ar. Bea 94.00 288 P **P 19 26 10.7 -0.5**
comp=Z,0.4nm,0.8s,baz=28,slow=2.6,SNR=2.7

JMA ***22*** *19:42:20.8±0.4,25.08N×122.82E,h30km,M2.0*
ISCJB ***22*** *19:42:22.3±1.3,24.99N±0.09×122.81E±0.05,h30km±7km, Error ellipse: s-maj=15.5km s-min=6.6km az=18.4*
TAP ***22*** *19:42:23.4,24.77N×122.60E,h1km±1km,ML2.6,D*
ISC 22 19:42:21.8±1.6,24.9N±0.1×122.78E±0.06,h22km±9km, n15,σ0s70/24,Taiwan region

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
JYNG	**Yonagunijimaku**	**0.49**	**162**	P		**Pn**	**19 42 33.3**	**-0.2**
JYNG				S		**Sn**	**19 42 41.8**	**+0.5**
YOJ	**Yonaguni jima**	**0.50**	**155**	P		**Pn**	**19 42 33.5**	**-0.2**
	baz=129							
YOJ				*e*S		**Sn**	**19 42 41.4**	**-0.2**
	baz=129							
YOJ	**Yonaguni jima**	**0.50**	**155**	P		**Pb**	**19 42 32.7**	**+0.8**
YOJ				*e*S		**Sn**	**19 42 41.4**	**-0.2**
TWB1	**Santiao Chiao**	**0.73**	**277**	*e*P		**Pn**	**19 42 36.3**	**-0.5**
	baz=292							
TWC	**Suao**	**0.90**	**250**	P		**Pb**	**19 42 38.0**	**-0.7**
	baz=256							
TWC				S		**Sb**	**19 42 49.3**	**-1.0**
	baz=256							
NWF	**Wu-fen Shan**	**0.92**	**280**	*e*P		**Pn**	**19 42 39.1**	**-0.4**
	baz=291							
TWE	**Neicheng**	**1.03**	**259**	*e*P		**Pb**	**19 42 40.9**	**-0.1**
	baz=266							
TWE				*e*S		**Sn**	**19 42 56.2**	**+1.5**
	baz=266							
IRIF	**Iriomote-Funau**	**1.04**	**124**	P		**Pn**	**19 42 40.5**	**-0.6**
IRIF				S		**Sn**	**19 42 55.1**	**+0.2**
ENA	**Nanau**	**1.07**	**243**	P		**Pn**	**19 42 41.2**	**-0.3**
	baz=245							
ENA				*e*S		**Sb**	**19 42 53.9**	**-1.1**
	baz=245							
ENTT	**Nioudou**	**1.14**	**256**	*e*P		**Pb**	**19 42 43.2**	**+0.3**
	baz=261							
ENTT				*e*S		**Sb**	**19 42 57.7**	**+0.5**
	baz=261							
NSK	**Sanguang**	**1.32**	**260**	*e*P		**Pb**	**19 42 46.4**	**+0.5**
	baz=264							
NNS	**Nan Shan**	**1.37**	**250**	*e*P		**Pb**	**19 42 48.0**	**+1.2**
	baz=253							
NNS				*e*S		**Sb**	**19 43 04.6**	**+0.8**
	baz=253							
TWT	**Tachien**	**1.60**	**246**	*e*P		**Pb**	**19 42 50.8**	**0.0**
	baz=248							
ALS	**Alishan**	**2.29**	**233**	*e*P		**Pb**	**19 43 02.3**	**-0.3**
	baz=232							
CHN5	**Tsauling**	**2.33**	**236**	*e*P		**Pb**	**19 43 03.2**	**0.0**
	baz=236							

NIED ***22*** *19:59:00,37.30N×141.60E,h14km,Mw4.5 Best double couple: M0:6.24000×10^15 NP1:φ=234.00000°,δ=26.00000°, λ=-75.00000°. NP2:φ=37.00000°,δ=65.00000°,λ=-97.00000°.*
BJI ***22*** *19:59:15.0,37.21N×141.57E,h14km,mb4.8/64,mB5.0/44, Ms4.3/52,Ms7 4.2/41*
ISCJB ***22*** *19:59:19.3±0.6,37.33N±0.02×141.47E±0.03,h31km±3km, mb4.8/158,MS4.0/40,Error ellipse: s-maj=4.3km s-min=3.2km az=138.4*
JMA ***22*** *19:59:19.4±0.1,37.32N×141.49E,h34km±2km,M4.7*
JMA Felt III J1.
MOS ***22*** *19:59:19.6±1.1,37.41N×141.37E,h31km,mb5.1/68,Error ellipse: s-maj=7.0km s-min=4.2km az=106.8*
NEIC ***22*** *19:59:21.7±0.5,37.38N×141.40E,h36km±4km,mb4.9/60, Error ellipse: s-maj=4.8km s-min=3.2km az=130.0*
NEIC Felt at Fuchu and Ichinoseki. Recorded [3 JMA] in Fukushima.
IDC ***22*** *19:59:22.3±1.5,37.37N×141.50E,h45km±13km,mb4.4/30, mb1 4.5/36,mb1mx4.4/58,mbtmp4.6/36,ML3.4/4,MS3.8/32, Ms1 3.8/32,ms1mx3.6/62,Error ellipse: s-maj=12.6km s-min=9.4km az=126.0*
ISC 22 19:59:19.4±0.5,37.36N±0.03×141.57E±0.03,h22km±3km, h23km:pP-P,n438,σ1s41/454,mb4.9/160,MS4.0/41, 21C-25D,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
JFK	**Kawauchi**	**0.56**	**271**	P		**Pb**	**19 59 29.7**	**-0.8**
JFK				S		**Sb**	**19 59 36.8**	**-1.3**
ONAJ	**Iwakimizuishiy**	**0.67**	**248**	P		**Pb**	**19 59 31.1**	**-1.3**
ONAJ				S		**Sb**	**19 59 39.3**	**-2.0**
JMM	**Marumori**	**0.80**	**310**	P		**Pb**	**19 59 33.7**	**-0.9**
JMM				S		**Sb**	**19 59 43.9**	**-1.1**
JFT	**Otama**	**1.00**	**280**	P		**Pb**	**19 59 37.2**	**-0.8**
JFT				*e*S		**Sb**	**19 59 49.4**	**-1.3**
JHO	**Hitachi**	**1.09**	**227**	P		**Pn**	**19 59 36.9**	**-2.5**
JHO				S		**Sb**	**19 59 50.0**	**-3.5**
JIO	**Ouri**	**1.11**	**351**	P		**Pn**	**19 59 38.3**	**-1.3**
JIO				*e*S		**Sb**	**19 59 52.6**	**-1.3**
JOU	**Okura**	**1.24**	**325**	P		**Pn**	**19 59 41.2**	**-0.1**
JOU				S		**Sn**	**19 59 57.1**	**-0.3**
JYS	**Shirataka**	**1.47**	**306**	P		**Pn**	**19 59 44.9**	**+0.3**
JYS				S		**Sn**	**20 00 03.8**	**+0.6**
JFY	**Yanaizu**	**1.49**	**272**	P		**Pn**	**19 59 44.5**	**-0.3**
JFY				S		**Sn**	**20 00 02.8**	**-0.7**
MJAR	**Matsushiro Arr**	**2.81**	**254**	P		**Pn**	**20 00 03.4**	**+0.3**
	36nm,0.3s,baz=80,slow=16,SNR=165							
MJAR				S		**Sn**	**20 00 37.3**	**+1.1**
	72nm,0.3s,baz=62,slow=27,SNR=5.7							
MJAR				LR		LR	20 01 15.3	
	comp=Z,1μm,20.1s,baz=75,slow=41							
MAJO	**Matsushiro**	**2.81**	**254**	*d* P		**Pn**	**20 00 03.8**	**+0.8**
MAJO	**Matsushiro**	**2.81**	**254**	*e*Pn		**Pn**	**20 00 03.8**	**+0.8**
MAT	**Matsushiro**	**2.81**	**254**	P		**Pn**	**20 00 03.6**	**+0.6**
MAT				*e*S		**Sn**	**20 00 38.3**	**+2.0**
MJB9	**Matsu-Tunnel**	**2.82**	**254**	*e*Pn		**Pn**	**20 00 04.0**	**+1.0**
INU	**Inuyama**	**4.19**	**243**	*e*Pn		**Pn**	**20 00 23.3**	**+1.4**
JHJ2	**Mitsune**	**4.47**	**199**	*e*Pn		**Pn**	**20 00 25.2**	**-0.6**
JHJ	**Hachijo jima 2**	**4.47**	**200**	P		**Pn**	**20 00 25.6**	**-0.2**
	142nm,0.3s,baz=91,slow=22,SNR=37							
JHJ				S		**Sn**	**20 01 14.2**	**-3.0**
	114nm,0.3s,baz=182,slow=22,SNR=8.0							
JHJ				LR		LR	20 02 31.8	
	comp=Z,839nm,18.8s,baz=42,slow=42							
ERM	**Erimo**	**4.81**	**14**	*d* iP		**Pn**	**20 00 32.7**	**+2.3**
ERM	**Erimo**	**4.81**	**14**	*e*Pn		**Pn**	**20 00 30.8**	**+0.4**
ASAJ	**Asahikawa**	**6.80**	**6**	P		**Pn**	**20 00 57.5**	**-0.2**
	baz=220,slow=7.9							
ASAJ				S		**Sn**	**20 02 11.8**	**-2.6**
	baz=30,slow=20,SNR=2.6							
YUK	**Yuzh-Kuril'sk**	**7.42**	**25**	*d* iP		**Pn**	**20 01 06.1**	**-0.2**
YUK				*i* S		**Sn**	**20 02 26.2**	**-3.5**
YUK				pmax	pmax			
	comp=Z,125nm,0.5s							
YUK				pmax	pmax			
	comp=E,27nm,0.2s							
YUK				pmax	pmax			
	comp=N,64nm,0.3s							
SHO	**Shikotan**	**7.63**	**30**	*e*P		**Pn**	**20 01 07.6**	**-1.6**
SHO				*i* S		**Sn**	**20 02 29.3**	**-5.7**
KUR	**Kuril'sk**	**9.18**	**29**	P		**Pn**	**20 01 32.1**	**+1.7**
KUR				*e*S		**Sn**	**20 03 07.8**	**-5.1**
KUR				smax	smax			
	comp=N,35nm,0.7s							
KUR				smax	smax			
	comp=E,72nm,0.7s							
MSHR	**Mys Shultsa**	**9.54**	**306**	⇑ *i* P		**Pn**	**20 01 33.9**	**-1.5**
YSS	**Yuzh-Sakhalins**	**9.63**	**5**	⇓ *e*P		**Pn**	**20 01 36.4**	**-0.1**
YSS				pmax	pmax			
	comp=Z,50nm,0.6s							
YSS	**Yuzh-Sakhalins**	**9.63**	**5**	*e*Pn		**Pn**	**20 01 36.4**	**-0.1**
JNU	**Nakatsue**	**9.71**	**247**	P		**Pn**	**20 01 38.1**	**+0.4**
	comp=Z,0.4nm,0.3s,baz=347,slow=8.0,SNR=5.9							
USRK	**Ussuriysk Ar.**	**9.97**	**316**	P		**Pn**	**20 01 42.6**	**+1.3**
	comp=Z,0.8nm,0.3s,baz=137,slow=14,SNR=21							
USRK				LR		LR	20 05 17.3	
	comp=Z,552nm,18.9s,baz=119,slow=36							
KSRS	**Korea Array**	**10.86**	**275**	P		**Pn**	**20 01 57.6**	**+4.2**
	comp=Z,0.3nm,0.3s,baz=89,slow=14,SNR=22							
KSRS				LR		LR	20 05 46.8	
	comp=Z,545nm,18.1s,baz=88,slow=36							
KS01	**Wonju Array Si**	**10.88**	**275**	*e*Pn		Pn	20 01 59.9	+6.2
KS15	**Wonju Array Si**	**10.89**	**275**	*e*Pn		Pn	20 01 58.8	+4.9
KSAR	**Wonju Array Be**	**10.89**	**275**	P		**Pn**	**20 01 57.7**	**+3.8**
KSAR	**Wonju Array Be**	**10.89**	**275**	P		**Pn**	**20 01 57.6**	**+3.8**
MDJ	**Mudanjiang**	**11.59**	**312**	P		**Pn**	**20 02 06.1**	**+2.7**
MDJ				S		Sn	20 04 23.5	+11
MDJ				pmax	pmax			
	comp=Z,15nm,0.6s							
MDJ				pmax	pmax			
	comp=Z,78nm,3.5s							
MDJ	**Mudanjiang**	**11.59**	**312**	*e*Pn		Pn	20 02 08.5	+5.1
	comp=Z,22nm,0.5s							
HABR	**Khabarovsk**	**12.09**	**339**	*e*P		**Pn**	**20 02 07.9**	**-2.2**
HABR				*e*S		**Sn**	**20 04 21.1**	**-3.1**
HABR				pmax	pmax			
	comp=N,21nm,1.5s							
HABR				pmax	pmax			
	comp=E,20nm,1.5s							
HABR				pmax	pmax			
	comp=Z,20nm,1.5s							
HABR				MLR	MLR			
	comp=Z,379nm,13.0s							
CN2	**Changchun**	**13.83**	**303**	*e*P		**Pn**	**20 02 36.4**	**+2.4**
CN2				*e*sP		P	20 02 43.3	+1.1
CN2				*e*S		**Sn**	**20 05 10.6**	**+3.8**
CN2				pmax	pmax			
	comp=Z,10.0nm,0.7s							
CN2				pmax	pmax			
	comp=Z,200nm,4.0s							
KLR	**Kul'dur**	**13.84**	**332**	*e*P		**Pn**	**20 02 34.3**	**+0.2**
DL2	**Dalian**	**15.77**	**282**	P		P	20 03 13.3	+10
DL2				*e*S		S	20 06 22.8	+14
DL2				pmax	pmax			
	comp=Z,48nm,0.9s							
DL2				pmax	pmax			
	comp=Z,370nm,5.4s							
DL2				LR	LR			
	comp=E,610nm,10.9s							
DL2				LR	LR			
	comp=Z,580nm,13.7s							
SKR	**Severo-Kuril's**	**16.89**	**33**	*e*P		**P**	**20 03 17.5**	**+1.4**
PETK	**Petropavlovsk-**	**19.34**	**30**	P		**Pn**	**20 03 44.5**	**+0.2**
	comp=Z,0.2nm,0.3s,baz=203,slow=6.4,SNR=4.2							
PETK				LR		LR	20 10 52.1	
	comp=Z,95nm,21.9s,baz=225,slow=36							
NJ2	**Nanjing**	**19.40**	**261**	*e*P		**P**	**20 03 43.8**	**0.0**
NJ2				pmax	pmax			
	comp=Z,10.0nm,0.5s							
TIA	**Tai'an**	**19.61**	**274**	*e*P		**P**	**20 03 43.9**	**-2.2**
TIA				S		**S**	**20 07 26.0**	**-0.1**
TIA				pmax	pmax			
	comp=Z,20nm,1.0s							
TIA				LR	LR			
	comp=Z,300nm,13.0s							
TIA				LR	LR			
	comp=Z,520nm,14.0s							
TIA				LR	LR			
	comp=Z,620nm,13.0s							
PET	**Petropavlovsk**	**19.68**	**32**	*e*P		**Pn**	**20 03 50.1**	**+1.9**
PET				pmax	pmax			
	comp=Z,23nm,1.0s							
BJI	**Beijing**	**19.98**	**286**	P		**P**	**20 03 48.8**	**-1.4**
BJI				S		**S**	**20 07 33.1**	**-0.7**
BJI				pmax	pmax			
	comp=Z,12nm,0.8s							
BJI				pmax	pmax			
	comp=Z,61nm,3.9s							
BJI				LR	LR			
	comp=Z,310nm,11.5s							
BJI				LR	LR			
	comp=Z,150nm,13.1s							
BJT	**Baijiatuan**	**19.99**	**285**	*e*P		**P**	**20 03 48.7**	**-1.6**
BJT				pmax	pmax			
	comp=Z,30nm,1.1s							
BJT	**Baijiatuan**	**19.99**	**285**	*e*P		**P**	**20 03 48.7**	**-1.6**
	comp=Z,30nm,1.1s							
CLNS	**Chul'man**	**22.44**	**336**	*e*P		**P**	**20 04 17.5**	**+1.0**
CLNS				pmax	pmax			
	comp=E,8.0nm,1.0s							
CLNS				pmax	pmax			
	comp=N,10.0nm,0.9s							
CLNS				pmax	pmax			
	comp=Z,19nm,0.9s							
TPUB	**Ta-pu**	**22.80**	**238**	*e*P		**P**	**20 04 16.3**	**-4.3**
MA2	**Magadan**	**23.01**	**12**	P		**P**	**20 04 22.6**	**+0.2**
	comp=Z,11nm,0.6s,baz=195,slow=6.5,SNR=11							
MA2				LR		LR	20 12 50.3	
	comp=Z,91nm,21.2s,baz=199,slow=35							
HHC	**Hu-ho-hao-te**	**23.49**	**288**	*e*P		**P**	**20 04 26.0**	**-1.6**
HHC				S		**S**	**20 08 33.8**	**-6.3**
HHC				pmax	pmax			
	comp=Z,20nm,0.9s							
HHC				pmax	pmax			
	comp=Z,89nm,5.9s							
HHC				LR	LR			
	comp=Z,290nm,12.3s							
HHC				LR	LR			
	comp=Z,230nm,13.6s							
WHN	**Wuhan**	**23.53**	**261**	P		**P**	**20 04 27.0**	**-0.9**
WHN				S		**S**	**20 08 41.9**	**+1.3**
WHN				LR	LR			
	comp=Z,560nm,11.5s							
WHN				LR	LR			
	comp=Z,920nm,13.0s							
WHN				LR	LR			
	comp=Z,890nm,14.6s							
GUMO	**Guam**	**23.85**	**172**	LR		LR	20 19 14.8	
	comp=Z,44nm,18.1s,baz=186,slow=50							
CIT	**Chita**	**24.53**	**316**	*e*P		**P**	**20 04 34.6**	**-2.6**
YAK	**Yakutsk**	**25.78**	**347**	P		**P**	**20 04 47.8**	**-0.5**
	comp=Z,124nm,0.8s,baz=188,slow=1.2,SNR=74							
YAK	**Yakutsk**	**25.78**	**347**	*e*P		**P**	**20 04 47.6**	**-0.7**
YAK				pmax	pmax			
	comp=Z,105nm,0.7s							
YAK	**Yakutsk**	**25.78**	**347**	*e*P		**P**	**20 04 47.6**	**-0.7**
	comp=Z,119nm,0.8s							
SEY	**Seymchan**	**26.45**	**11**	P		**P**	**20 04 55.0**	**+0.7**
	comp=Z,9.7nm,0.9s,baz=199,slow=8.8,SNR=20							
ULN	**Ulaanbaatar**	**27.28**	**304**	*e*P		**P**	**20 05 01.2**	**-1.0**
ULN				pmax	pmax			
	comp=Z,10.0nm,0.7s							
ULN	**Ulaanbaatar**	**27.28**	**304**	*e*P		**P**	**20 05 01.2**	**-1.0**
	comp=Z,9.9nm,0.7s							
BOD	**Bodaibo**	**27.32**	**327**	*e*P		P	20 04 48.6	-14
BOD				pmax	pmax			
	comp=Z,17nm,0.7s							
ENH	**Enshi**	**27.49**	**265**	*e*P		**P**	**20 05 02.7**	**-1.4**
	comp=Z,19nm,0.6s							
SONA1	**Songino Array**	**27.71**	**303**	*e*P		**P**	**20 05 04.5**	**-1.5**
SONM	**Songino Array**	**27.71**	**303**	P		**P**	**20 05 04.9**	**-1.1**
	comp=Z,16nm,0.8s,baz=101,slow=8.1,SNR=90							
SONM				PcP		**PcP**	**20 08 22.2**	**-0.3**
	comp=Z,0.7nm,0.5s,baz=115,slow=2.1,SNR=4.2							
SONM				LR		LR	20 16 19.6	
	comp=Z,133nm,18.9s,baz=74,slow=37							
H11N2	**WAKE ISLAND Hy**	**28.21**	**122**	T		T	20 34 36.6	
	baz=314,slow=75,SNR=2224							
H11N1	**WAKE ISLAND Hy**	**28.21**	**122**	T		T	20 34 37.2	
	baz=314,slow=75,SNR=2754							
H11N3	**WAKE ISLAND Hy**	**28.22**	**122**	T		T	20 34 37.9	
	baz=314,slow=75,SNR=3553							
H11S1	**WAKE ISLAND Hy**	**28.93**	**124**	T		T	20 35 32.1	
	baz=316,slow=76,SNR=1621							
H11S3	**WAKE ISLAND Hy**	**28.93**	**124**	T		T	20 35 36.2	
	baz=316,slow=76,SNR=1501							
H11S2	**WAKE ISLAND Hy**	**28.95**	**124**	T		T	20 35 37.5	
	baz=316,slow=76,SNR=1076							
LZH	**Lanzhou**	**30.14**	**279**	*e*P		**P**	**20 05 32.0**	**+4.2**
LZH				pmax	pmax			
	comp=Z,36nm,1.2s							
LZH				pmax	pmax			
	comp=Z,170nm,4.5s							
LZH				LR	LR			
	comp=Z,280nm,13.2s							
LZH				LR	LR			
	comp=Z,590nm,16.0s							
LZH				LR	LR			
	comp=Z,390nm,16.0s							
ZAK	**Zakamensk**	**30.17**	**308**	*e*P		**P**	**20 05 26.2**	**-1.6**
ZAK				pmax	pmax			
	comp=Z,6.0nm,0.9s							
TLY	**Talaya**	**30.22**	**310**	*e*P		**P**	**20 05 28.7**	**+0.6**
TLY				*e*			20 06 37.7	
TLY				pmax	pmax			
	comp=Z,6.0nm,0.6s							
TLY				MLR	MLR			
	comp=Z,203nm,15.0s							
GYA	**Guiyang**	**31.40**	**260**	P		**P**	**20 05 40.0**	**+1.1**
GYA				PP		**PnPn**	**20 06 42.4**	**+0.6**
GYA				S		**S**	**20 10 45.3**	**-0.1**
GYA				ScP		**ScP**	**20 12 15.0**	**+1.1**
GYA				SS		**SnSn**	**20 12 31.8**	**+1.9**
GYA				pmax	pmax			
	comp=Z,20nm,0.8s							
GYA				pmax	pmax			
	comp=Z,120nm,5.0s							
GYA				LR	LR			
	comp=Z,510nm,17.2s							
GYA				LR	LR			
	comp=Z,550nm,17.6s							
GYA				LR	LR			
	comp=Z,540nm,17.4s							
CD2	**Chengdu**	**31.80**	**270**	*e*P		**P**	**20 05 41.3**	**-1.0**
CD2				pP		pP	20 05 45.6	-3.5
CD2				sP		sP	20 05 47.8	-4.1
CD2				S		**S**	**20 10 56.5**	**+5.1**
CD2				pmax	pmax			
	comp=Z,20nm,0.6s							
CD2				pmax	pmax			
	comp=Z,170nm,5.2s							
CD2				LR	LR			
	comp=Z,340nm,12.3s							
CD2				LR	LR			
	comp=Z,300nm,17.1s							
CD2				LR	LR			
	comp=Z,360nm,13.3s							
MOY	**Mondy**	**31.83**	**310**	*e*P		P	20 05 35.4	-7.0
MOY				pmax	pmax			
	comp=Z,9.0nm,1.9s							
GTA	**Gaotai**	**32.59**	**287**	*e*P		**P**	**20 05 48.4**	**-0.9**
GTA				pP		pP	20 05 52.8	-3.2
GTA				sP		sP	20 05 55.6	-3.2
GTA				S		**S**	**20 11 00.6**	**-3.1**
GTA				sS		pS	20 11 10.3	-1.0
GTA				SS		**SnSn**	**20 12 57.9**	**-0.6**
GTA				pmax	pmax			
	comp=Z,7.0nm,0.7s							
GTA				pmax	pmax			
	comp=Z,82nm,6.7s							
GTA				LR	LR			
	comp=Z,170nm,15.0s							
GTA				LR	LR			
	comp=Z,150nm,12.1s							
QIZ	**Qiongzhong**	**33.18**	**245**	P		**P**	**20 05 54.4**	**0.0**
QIZ				S		**S**	**20 11 12.1**	**-0.8**
QIZ				LR	LR			
	comp=Z,130nm,23.2s							
BILL	**Bilibino**	**33.68**	**16**	*e*P		**P**	**20 06 01.4**	**+3.1**
BILL				pmax	pmax			
	comp=Z,6.0nm,1.3s							
BILL				MLR	MLR			
	comp=Z,176nm,18.0s							
TIXI	**Tiksi**	**34.98**	**353**	P		**P**	**20 06 08.7**	**-0.8**
	comp=Z,9.8nm,0.8s,baz=128,slow=8.8,SNR=5.3							
TIXI	**Tiksi**	**34.98**	**353**	⇑ *e*P		**P**	**20 06 09.2**	**-0.3**
TIXI				pmax	pmax			
	comp=Z,9.0nm,0.8s							
KMI	**Kunming**	**35.14**	**261**	P		**P**	**20 06 10.8**	**-0.8**
KMI				pP		pP	20 06 18.9	+0.5
KMI				sP		sP	20 06 21.5	+0.3
KMI				S		**S**	**20 11 44.4**	**+0.9**
KMI				sS		sS	20 11 58.4	+3.7
KMI				pmax	pmax			
	comp=Z,20nm,1.0s							
KMI				pmax	pmax			
	comp=Z,41nm,3.4s							
KMI				LR	LR			
	comp=Z,280nm,15.3s							
MYLDM	**Lahad Datu**	**38.34**	**219**	*e*P		**P**	**20 06 39.6**	**+0.9**
	comp=Z,68nm,1.5s							
DLV	**T Lat**	**38.96**	**238**	*e*P		**P**	**20 06 44.0**	**-0.1**
WMQ	**Urumqi**	**40.81**	**297**	P		**P**	**20 06 59.8**	**+0.7**
WMQ				sP		pP	20 07 07.4	+1.4
WMQ				pmax	pmax			
	comp=Z,25nm,0.9s							
WMQ				pmax	pmax			
	comp=Z,84nm,3.7s							
MRSI	**Marisa**	**40.

ZAA0 Zalesovo Array 41.79 312 *eP* **P 20 07 06.1 -0.8**
ZALV Zalesovo Beam 41.79 312 P **P 20 07 06.8 -0.1**
comp=Z,26nm,0.7s,baz=87,slow=7.1,SNR=121
ZALV PcP **PcP 20 09 01.8 -0.9**
comp=Z,2.3nm,0.7s,baz=48,slow=2.1,SNR=3.7
ZALV LR LR 20 25 08.0
comp=Z,202nm,18.2s,baz=70,slow=37
SRAK Srakaew 42.11 247 P **P 20 07 06.7 -3.2**
comp=Z,49nm,0.9s
LSA Lhasa 42.31 275 P **P 20 07 12.5 +0.5**
LSA pmax pmax
comp=Z,13nm,1.7s
LSA Lhasa 42.31 275 *eP* **P 20 07 12.5 +0.5**
LSA pmax pmax
comp=Z,9.0nm,0.8s
LSA Lhasa 42.31 275 *eP* **P 20 07 12.5 +0.5**
comp=Z,9.3nm,0.8s
NVS Novosibirsk 42.71 313⇑ *iP* **P 20 07 14.5 +0.1**
NVS *e* 20 09 06.3
NVS pmax pmax
comp=Z,42nm,1.4s
NVS pmax pmax
comp=N,11nm,1.3s
NVS pmax pmax
comp=E,36nm,1.5s
CHBT CHBT 42.72 245 P **P 20 07 15.8 +0.9**
comp=E,67nm,0.9s
NRIK Noril'sk 43.03 335 P **P 20 07 15.3 -1.5**
comp=E,2.4nm,0.4s,baz=124,slow=7.3,SNR=2.6
NRIK PcP **PcP 20 09 05.8 -0.7**
comp=E,7.4nm,0.8s,baz=238,slow=2.5,SNR=3.7
NRIK LR LR 20 26 18.0
comp=E,178nm,18.1s,baz=84,slow=38
PCI Palu 43.06 213 P P 20 07 23.3 +5.6
comp=E,22nm,1.2s
SHL Shillong 43.54 269 *eP* **P 20 07 25.0 +3.3**
MK01 Makanchi Array 44.05 302 *eP* **P 20 07 24.9 -0.5**
MK31 Makanchi Array 44.05 302 *iP* **P 20 07 25.0 -0.5**
MK31 pmax pmax
comp=Z,20nm,0.6s
MK31 Makanchi Array 44.05 302 *eP* **P 20 07 25.0 -0.5**
MKAR Makanchi Array 44.05 302 P **P 20 07 24.9 -0.5**
comp=Z,24nm,0.7s,baz=88,slow=10.0,SNR=249
MKAR LR LR 20 26 49.7
comp=Z,93nm,18.0s,baz=84,slow=37
MKAR Makanchi Array 44.05 302 *eP* **P 20 07 25.0 -0.5**
MKAR pmax pmax
comp=Z,179nm,0.8s
MKAR Makanchi Array 44.05 302 *eP* **P 20 07 25.0 -0.5**
comp=Z,179nm,0.8s
MAKZ Makanchi 44.27 302 *eP* **P 20 07 26.7 -0.4**
MAKZ pmax pmax
comp=Z,25nm,0.8s
MAKZ Makanchi 44.27 302 *eP* **P 20 07 26.7 -0.4**
comp=Z,25nm,0.8s
PHET Kaeng Krachan 44.60 248 P **P 20 07 30.8 +0.8**
comp=Z,12nm,0.8s,comp=Z,173nm
MTKI Muara Teweh, K 45.41 219 P **P 20 07 39.4 +2.9**
KURK Kurchatov 45.83 308*ceP* **P 20 07 38.9 -0.5**
KURK *i* *PP **pP 20 07 46.9 +0.5**
KURK pmax pmax
comp=Z,163nm,1.0s
KURK Kurchatov 45.83 308 *eP* **P 20 07 38.9 -0.5**
comp=Z,133nm,1.2s
KSM Kuching 45.87 226 *eP* **P 20 07 41.1 +1.0**
comp=Z,16nm,0.9s
KURBB Kurchatov Arra 45.90 308 P **P 20 07 39.4 -0.6**
comp=Z,29nm,0.6s,baz=81,slow=7.8,SNR=116
TAPN Taplejung 46.05 274 *eP* **P 20 07 41.7 -0.1**
comp=Z,30nm,0.7s
ODAN Odare 46.52 273 *eP* **P 20 07 45.2 -0.3**
comp=Z,35nm,0.7s
PDGK Podgornoye 46.74 298 P **P 20 07 45.8 -1.1**
PDGK pmax pmax
comp=Z,47nm,1.2s
KDAK Kodiak Island 46.77 42 P **P 20 07 47.3 +0.6**
comp=Z,11nm,0.7s,baz=268,slow=5.5,SNR=17
KDAK LR LR 20 27 36.0
comp=Z,73nm,20.3s,baz=269,slow=36
KDAK Kodiak Island 46.77 42 *eP* **P 20 07 47.2 +0.6**
comp=Z,127nm,1.9s
KAPI Kappang 46.80 211 *eP* **P 20 07 47.0 -0.4**
comp=Z,15nm,0.8s
CAST Castle Rocks 46.89 34 *eP* **P 20 07 49.8 +2.2**
comp=Z,13nm,1.4s
RAMN Ramite 47.11 274 *eP* **P 20 07 49.9 -0.2**
comp=Z,88nm,0.7s
JIRN Jiri 47.12 275 *eP* **P 20 07 50.3 0.0**
GUN Gumba 47.25 275 *eP* **P 20 07 51.2 -0.1**
KTH Kantishna Hill 47.41 34 *eP* **P 20 07 53.7 +2.0**
comp=Z,12nm,1.0s
PKI Pulchoki 47.77 275 *eP* **P 20 07 54.6 -0.8**
KKN Kakani 47.78 276 *eP* **P 20 07 54.8 -0.5**
PKIN Phulchoki 47.78 275 *eP* **P 20 07 54.5 -0.9**
DMN Daman 48.00 275 *eP* **P 20 07 56.6 -0.4**
TOLK Toolik Lake Re 48.13 27 P **P 20 07 58.8 +1.6**
baz=267
GKN Gorkha 48.19 276 *eP* **P 20 07 58.1 -0.3**
comp=Z,103nm,1.0s
MDM Murphy Dome 48.58 32 *eP* **P 20 08 02.7 +2.0**
comp=Z,10.0nm,1.0s
WRH Wood River Hil 48.65 33 *eP* **P 20 08 02.9 +1.7**
comp=Z,4.3nm,0.8s
SML Sawmill 48.66 36 *eP* **P 20 08 02.8 +1.4**
SML pmax pmax
comp=Z,52nm,1.6s
SML Sawmill 48.66 36 *eP* **P 20 08 02.8 +1.4**
comp=Z,52nm,1.6s
COLA College 48.74 32 *iP* **P 20 08 04.9 +3.0**
COLA pmax pmax
comp=Z,9.0nm,1.0s
KOLN Koldanda 49.12 276 *eP* **P 20 08 05.3 -0.3**
comp=Z,24nm,0.7s
HDA Harding Lake 49.14 33 *eP* **P 20 08 05.9 +0.9**
comp=Z,6.1nm,0.9s
IL1 Eielson Array 49.15 33 *eP* **P 20 08 05.5 +0.4**
ILAR Eielson Array 49.15 33 P **P 20 08 05.2 +0.2**
comp=Z,3.9nm,0.8s,baz=270,slow=6.4,SNR=43
ILAR PcP **PcP 20 09 27.5 -0.6**
comp=Z,0.7nm,0.5s,baz=270,slow=5.2,SNR=2.8
ILB Eielson Array 49.15 33 *eP* **P 20 08 06.0 +0.9**
IPM Ipoh 49.42 239 *eP* **P 20 08 07.3 -0.4**
comp=Z,14nm,0.6s
PYUN Piuthan 49.45 277 *eP* **P 20 08 08.0 -0.2**
comp=Z,171nm,1.1s
TKM2 Tokmak 2 49.59 298 P **P 20 08 09.2 +0.2**
TKM2 pmax pmax
comp=Z,37nm,1.4s
SOEI Soe 49.59 203 P P 20 08 16.9 +7.8
SOEI Soe 49.59 203 *eP* **P 20 08 12.3 +3.3**
comp=Z,28nm,0.7s
FRU Bishkek 50.30 298 *iP* **P 20 08 14.5 +0.3**
FRU *i* 20 08 22.0
KSH Kashi 50.39 294 P **P 20 08 18.8 +3.8**
KSH pP sP 20 08 23.8 -1.0
KSH PP **PP 20 10 15.8 +5.3**
KSH S **S 20 15 31.3 +4.2**
KSH sS sS 20 15 39.4 +0.8
KSH SS **SS 20 19 02.1 +1.5**
KSH pmax pmax
comp=Z,5.0nm,0.6s
KSH pmax pmax
comp=Z,41nm,4.4s
KSH LR LR
comp=Z,130nm,9.1s
KSH LR LR
comp=Z,150nm,12.6s
KSH LR LR
comp=Z,340nm,14.7s
AAK Ala-Archa 50.45 298 P **P 20 08 15.2 -0.2**
comp=Z,4.0nm,0.7s,baz=130,slow=5.2,SNR=10.0
AAK LR LR 20 31 00.2
comp=Z,228nm,18.7s,baz=47,slow=38
AAK Ala-Archa 50.45 298 *eP* **P 20 08 15.0 -0.5**
BVAR Borovoye Array 50.45 312 P **P 20 08 14.7 -0.4**
comp=Z,7.5nm,0.5s,baz=71,slow=7.6,SNR=98
BVAR PcP **PcP 20 09 33.0 -0.1**
comp=Z,2.6nm,0.7s,baz=100,slow=4.4,SNR=4.3
DOT Dot Lake 50.47 34 *eP* **P 20 08 16.5 +1.3**
comp=Z,11nm,0.7s
BRVK Borovoye 50.51 312*ceP* **P 20 08 15.3 -0.2**
BRVK pmax pmax
comp=Z,25nm,0.9s
BRVK Borovoye 50.51 312 *eP* **P 20 08 15.3 -0.2**
comp=Z,16nm,1.0s
MTN Manton Dam 50.89 193 *eP* **P 20 08 18.6 -0.1**
comp=Z,15nm,0.9s
MNAS Manas 51.89 299 P **P 20 08 25.5 -0.8**
MNAS pmax pmax
comp=Z,23nm,0.8s
PSI Prapat 52.07 239 *eP* **P 20 08 27.7 -0.1**
PSI pmax pmax
comp=Z,11nm,0.7s
PSI Prapat 52.07 239 *eP* **P 20 08 27.7 -0.1**
comp=Z,11nm,0.7s
BKNI Bangkinang 52.48 235 P **P 20 08 30.7 0.0**
PWJI Pagerwojo 53.04 218 P **P 20 08 34.0 -0.8**
KK31 Karatay Array 53.07 300 *iP* **P 20 08 34.4 -0.5**
KK31 pmax pmax
comp=Z,9.0nm,0.8s
KKAR Karatay Array 53.07 300 *eP* **P 20 08 34.5 -0.4**
KKAR pmax pmax
comp=Z,87nm,0.9s
KKAR Karatay Array 53.07 300 *eP* **P 20 08 34.5 -0.4**
comp=Z,87nm,0.9s
MNSI Mandailing Nat 53.09 237 P **P 20 08 34.5 -0.8**
KPJI Karang Pucung 53.92 221 P **P 20 08 41.2 0.0**
comp=Z,38nm,0.9s
INK Inuvik 54.04 27 P **P 20 08 42.5 +1.0**
comp=Z,8.5nm,0.9s,baz=275,slow=7.3,SNR=5.8
INK Inuvik 54.04 27 *eP* **P 20 08 43.2 +1.7**
INK pmax pmax
comp=Z,13nm,1.0s
INK Inuvik 54.04 27 *eP* **P 20 08 43.2 +1.7**
comp=Z,13nm,1.0s
KLSI 54.09 228 P **P 20 08 43.2 +0.7**
comp=Z,19nm,0.6s
LEM Lembang 54.20 223 P **P 20 08 44.4 +0.9**
SVE Sverdlovsk 54.99 318⇑ *eP* **P 20 08 48.9 +0.3**
SVE pmax pmax
comp=Z,37nm,0.8s
SVE MLR MLR
comp=Z,207nm,14.0s
SOKR Solikamsk 56.15 322*diP* **P 20 08 55.0 -1.8**
SOKR pmax pmax
comp=Z,24nm,1.3s
ARU Arti 56.20 318 LR LR 20 35 06.4
comp=Z,142nm,19.2s,baz=96,slow=38
ARU Arti 56.20 318*diP* **P 20 08 56.8 -0.5**
ARU *PP **pP 20 09 05.1 +0.7
ARU 20 09 52.7
ARU PPP PPP 20 12 19.2
ARU S **S 20 16 44.8 -0.5**
ARU SS **SS 20 20 24.0 -7.4**
ARU pmax pmax
comp=Z,60nm,1.2s
ARU Arti 56.20 318 *eP* **P 20 08 56.6 -0.7**
comp=Z,71nm,1.2s
FITZ Fitzroy Crossi 57.17 198 *eP* **P 20 09 05.1 +0.6**
comp=Z,6.9nm,0.6s
WRAB Tennant Creek 57.39 188*diP* **P 20 09 05.6 -0.4**
WRAB pmax pmax
comp=Z,13nm,0.7s
WRAB Tennant Creek 57.39 188 *eP* **P 20 09 05.4 -0.6**
comp=Z,8.4nm,0.6s
WB2 Warramunga Arr 57.40 188 *eP* **P 20 09 04.4 -1.7**
WRA Warramunga Arr 57.40 188 P **P 20 09 05.4 -0.7**
comp=Z,5.8nm,0.6s,baz=6.6,slow=7.4,SNR=129
KBL Kabul 57.42 291 *eP* **P 20 09 06.0 -0.6**
KBL pmax pmax
comp=Z,23nm,1.2s
KBL Kabul 57.42 291 *eP* **P 20 09 06.0 -0.6**
comp=Z,23nm,1.2s
AB31 Akbulak array 57.83 310 *iP* **P 20 09 08.1 -0.8**
AB31 pmax pmax
comp=Z,11nm,0.5s
ABKAR Akbulak array 57.83 310 *eP* **P 20 09 08.3 -0.6**
comp=Z,210nm,0.6s
HYB Hyderabad 58.34 268 *iP* **P 20 09 13.0 0.0**
AKTO Aktyubinsk 58.55 312 LR LR 20 35 34.1
comp=Z,112nm,18.1s,slow=37
SPITS Spitsbergen Ar 60.23 349 P **P 20 09 25.3 +0.1**
comp=Z,3.0nm,0.7s,baz=93,slow=7.6,SNR=5.1
KBS Kingsbay 60.36 350 *iP* **P 20 09 27.3 +1.3**
AS01 Alice Springs 61.12 188 *eP* **P 20 09 31.5 -0.4**
AS31 Alice Springs 61.12 188 *eP* **P 20 09 32.1 +0.3**
comp=Z,1.9nm,0.7s
ASAR Alice Springs 61.12 188 P **P 20 09 31.5 -0.4**
comp=Z,2.8nm,0.8s,baz=14,slow=6.6,SNR=25
ASAR LR LR 20 33 49.3
comp=Z,45nm,21.6s,baz=340,slow=34
TMCR Tamitsa 62.52 331 *eP* **P 20 09 41.0 +0.2**
TMCR pmax pmax
comp=Z,24nm,0.9s
YKA Yellowknife Ar 63.47 30 P **P 20 09 47.3 +0.2**
comp=Z,3.4nm,0.7s,baz=303,slow=7.0,SNR=3.9
KLMR Klimovskoe 63.55 328 *eP* **P 20 09 45.9 -1.8**
KLMR *e* 20 12 05.5
KLMR pmax pmax
comp=Z,15nm,0.7s
DZM Mont Dzumac 63.59 154 *e*LR LR 20 28 54.8
comp=Z,164nm,21.6s
ARCES ARCESS Array B 63.74 339 P **P 20 09 48.5 -0.3**
comp=Z,4.6nm,0.5s,baz=59,slow=7.4,SNR=15
ARCES LR LR 20 43 37.0
comp=Z,77nm,18.1s,baz=56,slow=42
GEYT Alibeck 63.79 299 P **P 20 09 49.6 -0.2**
comp=Z,14nm,0.8s,baz=46,slow=4.3,SNR=40
GEYT LR LR 20 38 48.3
comp=Z,32nm,18.5s,baz=55,slow=37
DAG Danmarks Havn 65.46 355 *iP* **P 20 09 59.4 -0.6**
comp=Z,8.8nm,0.6s
DAG Danmarks Havn 65.46 355 *iP* **P 20 09 59.4 -0.6**
DAG pmax pmax
comp=Z,6.0nm,0.6s
OBN Obninsk 67.91 323*diP* **P 20 10 15.7 -0.2**
OBN *i* 20 10 22.5
OBN *i* 20 12 48.4
OBN pmax pmax
comp=Z,21nm,0.8s
OBN MLR MLR
comp=Z,98nm,16.0s
LPSR Galich'ya Gora 68.14 320 *eP* **P 20 10 16.4 -1.0**
LPSR pmax pmax
comp=Z,20nm,0.8s
FIA1 FINESS Array S 68.59 332 *eP* **P 20 10 19.7 -0.3**
FINES FINESS Array B 68.59 332 P **P 20 10 19.7 -0.3**
comp=Z,11nm,0.7s,baz=38,slow=8.1,SNR=35
FINES LR LR 20 42 45.8
comp=Z,100nm,18.9s,baz=43,slow=38
VSR Storozhevoye 68.77 319 *eP* **P 20 10 20.1 -1.3**
VSR pmax pmax
comp=Z,20nm,0.8s
STKA Stephens Creek 68.88 180 P **P 20 10 22.0 -0.1**
comp=Z,3.2nm,0.7s,baz=342,slow=11,SNR=5.4
FORT Forrest 68.95 192 *eP* **P 20 10 21.8 -0.7**
comp=Z,285nm,0.6s
I04A Tendick Farm, 69.13 50 P **P 20 10 25.6 +1.7**
baz=302
SEKA Sheki 69.47 307 P **P 20 10 23.8 -2.2**
ZKTA Zakatala 69.61 307 P **P 20 10 24.7 -2.1**
LKRN Lenkeran, Azer 69.76 304 P **P 20 10 25.7 -2.0**
MNGR Mingechevir, A 69.78 306 P **P 20 10 25.6 -2.2**
GOF Gofitskoye 69.97 312⇑ *eP* **P 20 10 28.6 -0.3**
J05D Fort Rock, OR 70.13 50 P **P 20 10 32.0 +1.9**
baz=303
GANJ Ganja 70.33 306 P **P 20 10 29.0 -2.3**
SUMG Summit 70.36 0 *iP* **P 20 10 31.6 +0.2**
comp=Z,11nm,0.9s
SUMG Summit 70.36 0 *eP* **P 20 10 31.8 +0.4**
SUMG pmax pmax
comp=Z,13nm,1.0s
SUMG Summit 70.36 0 *eP* **P 20 10 31.8 +0.4**
comp=Z,12nm,1.0s
N02D Trinity Center 70.46 53 P **P 20 10 34.1 +2.0**
baz=303
NCK Nalchik 70.49 310⇑ *iP* **P 20 10 32.3 +0.1**
NCK pmax pmax
comp=Z,28nm,1.3s
M04C Macdoel 70.57 52 P **P 20 10 34.3 +1.5**
baz=303
K05A Summer Lake 70.64 51 *eP* **P 20 10 35.7 +2.4**
comp=Z,16nm,1.0s
ZEI Tsey 70.69 309 *eP* **P 20 10 29.4 -4.3**
ZEI pmax pmax
comp=Z,18nm,0.6s
KBZ Khabaz 70.79 311 P **P 20 10 34.3 +0.4**
comp=Z,11nm,1.0s,baz=80,slow=1.4,SNR=17
KIV Kislovodsk 70.79 311 *iP* **P 20 10 34.3 +0.3**
SNR=8.1
KIV Kislovodsk 70.79 311 *eP* **P 20 10 34.7 +0.6**
KIV pmax pmax
comp=Z,42nm,1.1s
KIV MLR MLR
comp=Z,57nm,18.0s
KIV Kislovodsk 70.79 311⇑ *eP* **P 20 10 34.0 -0.1**
comp=Z,41nm,1.1s
NEY Neytrino 71.16 310⇑ *iP* **P 20 10 35.9 -0.6**
NEY pmax pmax
comp=Z,1.0nm,0.8s
BANOM Banah 71.23 289 P **P 20 10 36.8 -0.1**
GNI Garni 71.61 307 LR LR 20 44 43.5
comp=Z,73nm,18.4s,baz=54,slow=38
GNI Garni 71.61 307⇑ *iP* **P 20 10 40.2 +1.0**
GNI pmax pmax
comp=Z,38nm,1.2s
GNI Garni 71.61 307 *eP* **P 20 10 41.3 +2.0**
comp=Z,12nm,0.9s
BMO Blue Mountains 71.62 47 *eP* **P 20 10 40.4 +1.3**
BMO pmax pmax
comp=Z,5.0nm,0.9s
BMO Blue Mountains 71.62 47 *eP* **P 20 10 40.4 +1.3**
comp=Z,5.3nm,0.9s
NAX Nakhchivan 71.67 305 P **P 20 10 37.3 -2.2**
UOSS Minazif 71.83 288 *eP* **P 20 10 40.4 -0.1**
comp=Z,14nm,0.8s
HATD Hatta, Dubai 71.95 288 *iP* **P 20 10 41.2 -0.1**
SNR=7.8
ASHO Ashiyiah 72.08 288 P **P 20 10 41.7 -0.4**
NAZ Nazwa, Dubai 72.22 288 P **P 20 10 42.7 -0.2**
FAQ Al Faqa, Dubai 72.40 288 P **P 20 10 43.3 -0.7**
ARTV Artvin 72.81 309 *eP* **P 20 10 46.8 +0.4**
comp=Z,5.4nm,0.7s
PAHR Pah Rah Range 73.27 53 *eP* **P 20 10 51.0 +1.9**
comp=Z,16nm,1.3s
MFID Camas Ranch 73.31 48 *eP* **P 20 10 51.0 +1.7**
comp=Z,8.3nm,1.0s
CMB Columbia Colle 73.58 55 *eP* **P 20 10 52.6 +1.8**
CMB pmax pmax
comp=Z,12nm,1.2s
CMB Columbia Colle 73.58 55 *eP* **P 20 10 52.6 +1.8**
comp=Z,12nm,1.2s
NC405 NORSAR Array S 73.73 337 *eP* **P 20 10 51.4 +0.2**
YERR Yerington 73.78 53 *eP* **P 20 10 54.0 +1.8**
comp=Z,8.4nm,0.8s
LRM Limekiln Ridge 73.83 44 *eP* **P 20 10 54.0 +1.6**
HFS Hagfors 73.85 336 LR LR 20 45 58.5
comp=Z,184nm,18.4s,baz=12,slow=38
NC204 NORSAR Array S 73.89 338 *eP* **P 20 10 52.8 +0.6**
NB2 NORSAR Subarra 73.94 337 P **P 20 10 52.2 -0.3**
comp=Z,11nm,0.8s,baz=39,slow=6.2
NOA NORSAR Array B 73.94 337 P **P 20 10 52.4 -0.1**
comp=Z,33nm,1.2s,baz=48,slow=5.8,SNR=13
NOA LR LR 20 45 41.4
comp=Z,105nm,21.8s,baz=30,slow=38
DLMT Dillon 74.02 45 *eP* **P 20 10 55.2 +1.8**
comp=Z,14nm,1.3s
HLID Hailey 74.06 47 P **P 20 10 55.1 +1.3**
baz=307
AKASG Malin Array Be 74.12 322 P **P 20 10 53.1 -0.5**
comp=Z,8.6nm,0.5s,baz=47,slow=6.1,SNR=36
AKASG LR LR 20 45 24.6
comp=Z,50nm,18.1s,baz=340,slow=37
AKBB Malin Array Si 74.12 322 *eP* **P 20 10 53.1 -0.6**
AKBB pmax pmax
comp=Z,15nm,0.6s
AKBB Malin Array Si 74.12 322 *eP* **P 20 10 53.1 -0.6**
comp=Z,15nm,0.6s
KIEV Kiev 74.13 322*diP* **P 20 10 53.2 -0.5**
KIEV pmax pmax
comp=Z,12nm,0.9s
KIEV Kiev 74.13 322 *eP* **P 20 10 53.0 -0.7**
comp=Z,16nm,0.5s
AK11 Malin Array Si 74.16 322 *eP* **P 20 10 53.4 -0.5**
BOZ Bozeman (W) 74.42 44 P **P 20 10 56.7 +0.9**
baz=308
KONO Kongsberg 75.53 337⇑ *iP* **P 20 11 00.9 -0.8**
KONO pmax pmax
comp=Z,50nm,1.7s
RLMT Red Lodge 76.02 44 P **P 20 11 06.6 +1.5**
baz=309
GRAC Grapevine Rang 76.14 54 P **P 20 11 06.9 +1.3**
baz=307
SORM Soroca 76.22 321⇓ *iP* **P 20 11 05.1 -0.7**
SORM Soroca 76.22 321⇓ P **P 20 11 05.1 -0.7**
R11A Troy Canyon, C 76.46 52 P **P 20 11 08.7 +1.1**
baz=307
R11A Troy Canyon, C 76.46 52 *eP* **P 20 11 09.4 +1.8**
comp=Z,7.5nm,1.1s
MPMC Manual Prospec 76.61 55 P **P 20 11 09.5 +1.0**
baz=307
TPNV Topopah Spring 76.88 54 P **P 20 11 11.1 +1.1**
baz=307
TPNV Topopah Spring 76.88 54 *eP* **P 20 11 11.6 +1.6**
TPNV pmax pmax
comp=Z,7.0nm,0.9s
TPNV Topopah Spring 76.88 54 *eP* **P 20 11 11.6 +1.6**
comp=Z,7.4nm,0.9s
EDW2 Edwards Air Fo 76.98 56 P **P 20 11 11.5 +1.1**
baz=307
DUG Dugway, Tooele 77.05 49 P **P 20 11 11.7 +0.9**
baz=308
LVV L'vov 77.19 324 *eP* **P 20 11 11.8 +0.5**
BEL Belsk 77.25 327 *eP* **P 20 11 12.1 +0.6**
BEL Belsk 77.25 327 *eP* **P 20 11 12.1 +0.6**
BW06 Boulder Array 77.35 46 P **P 20 11 13.4 +0.7**
baz=310
BW06 Boulder Array 77.35 46 *eP* **P 20 11 13.3 +0.7**
PDAR Pinedale Array 77.35 46 P **P 20 11 13.6 +1.0**
comp=Z,1.6nm,0.6s,baz=257,slow=2.3,SNR=6.7
SHPR Sheep Range 77.85 53 *eP* **P 20 11 17.8 +2.3**
comp=Z,6.1nm,1.0s
KWP Kalwaria Pacla 77.94 324 *eP* **P 20 11 16.1 +0.6**
KWP Kalwaria Pacla 77.94 324 *eP* **P 20 11 16.1 +0.6**
TUQ Turquoise Moun 78.00 55 P **P 20 11 17.3 +1.0**
baz=308
BUR08 Bucovina Ar. S 78.12 322 *eP* **P 20 11 17.1 +0.5**
BURAR Bucovina Array 78.14 322⇓ *iP* **P 20 11 16.8 +0.1**
BURAR Bucovina Array 78.14 322⇓ P **P 20 11 16.8 +0.1**
TESR Tescani 78.17 320⇑ *iP* **P 20 11 16.6 -0.2**
VRI Vrincioaia 78.56 320⇑ *iP* **P 20 11 19.6 +0.6**
VRI Vrincioaia 78.56 320⇑ P **P 20 11 19.6 +0.6**
BR131 Keskin Array S 78.73 312 *eP* **P 20 11 21.0 +0.7**
BRTR Keskin Array B 78.73 312 P **P 20 11 19.2 -1.0**
comp=Z,1.6nm,0.7s,baz=103,slow=3.9,SNR=11
BRTR LR LR 20 50 36.7
comp=Z,31nm,18.6s,baz=52,slow=39
LCMT Little Creek M 78.75 52 *eP* **P 20 11 22.5 +2.1**
comp=Z,8.7nm,1.1s
STHS Stebnicka Huta 78.77 325 *eP* **P 20 11 20.9 +0.8**
STHS *e* 20 11 29.4
STHS pmax pmax
comp=Z,5.0nm,0.7s
STHS Stebnicka Huta 78.77 325 *eP* **P 20 11 20.9 +0.8**
STHS *e* 20 11 29.4
UZH Uzhgorod 78.84 324 *eP* **P 20 11 17.1 -3.3**
UZH *e* 20 11 22.3
OJC Ojcow 78.84 326 *eP* **P 20 11 20.7 +0.2**
OJC Ojcow 78.84 326 *eP* **P 20 11 20.8 +0.3**
OJC pmax pmax
comp=Z,16nm,1.0s
OJC Ojcow 78.84 326 *eP* **P 20 11 20.8 +0.3**
comp=Z,16nm,1.0s
ARCR ARCALIA 78.93 322⇓ *iP* **P 20 11 21.3 +0.3**
ISR Istrita 79.16 319⇑ *iP* P 20 11 31.8 +9.4
ISR Istrita 79.16 319⇑ P P 20 11 31.8 +9.4
BR231 Keskin MP Arra 79.17 312 *eP* **P 20 11 21.0 -1.6**
DOPR Dopca 79.18 320⇑ *iP* **P 20 11 23.7 +1.3**
VOIR 79.72 320⇓ *iP* **P 20 11 26.5 +1.1**
VOIR 79.72 320⇓ P **P 20 11 26.5 +1.1**
LANS Liptovska Anna 79.77 326 *eP* **P 20 11 26.6 +1.0**
LANS *e* 20 11 35.3
LANS Liptovska Anna 79.77 326 *eP* **P 20 11 26.6 +1.0**
LANS *e* 20 11 35.3
DRGR 79.94 322⇓ *iP* **P 20 11 26.1 -0.5**
DRGR 79.94 322⇓ P **P 20 11 26.1 -0.5**
ARR Arges 79.98 320⇑ *iP* **P 20 11 28.2 +1.4**
MORC Moravsky Berou 80.16 327⇓ *iP* **P 20 11 28.2 +0.5**
MORC Moravsky Berou 80.16 327 *eP* **P 20 11 27.9 +0.2**
MORC pmax pmax
comp=Z,36nm,1.0s
MORC Moravsky Berou 80.16 327 *eP* **P 20 11 27.9 +0.2**
comp=Z,36nm,1.0s
DPC Dobruska-Polom 80.25 328 *eP* **P 20 11 28.9 +0.7**
DPC epP **sP 20 11 37.8 -0.4**
DPC Dobruska-Polom 80.25 328 *eP* **P 20 11 28.9 +0.7**
DPC *e* 20 11 37.8

KRLC	**Kraliky**	**80.26**	**328**	*e*P		**P**	**20 11 28.7**	**+0.5**
KRLC				*e*pP		**sP**	**20 11 37.5**	**-0.7**
KRLC	**Kraliky**	**80.26**	**328**	*e*P		**P**	**20 11 28.7**	**+0.5**
KRLC				*e*			20 11 37.5	
UPC	**Upice**	**80.26**	**328**	*e*P		**P**	**20 11 28.7**	**+0.5**
UPC				*e*pP		**sP**	**20 11 37.5**	**-0.7**
UPC	**Upice**	**80.26**	**328**	*e*P		**P**	**20 11 28.7**	**+0.5**
UPC				*e*			20 11 37.5	
A33A	**Warroad**	**80.34**	**34**	P		**P**	**20 11 28.7**	**+0.1**
	baz=318							
PV10	**Paradox Valley**	**80.47**	**49**	*e*P		**P**	**20 11 31.8**	**+2.0**
PSZ	**Piszkesteto**	**80.47**	**325**	⇓*i*P		**P**	**20 11 30.0**	**+0.6**
PSZ	**Piszkesteto**	**80.47**	**325**	*e*P		**P**	**20 11 30.2**	**+0.8**
PSZ				pmax	pmax			
	comp=Z,12nm,1.0s							
PSZ	**Piszkesteto**	**80.47**	**325**	*e*P		**P**	**20 11 30.2**	**+0.8**
	comp=Z,12nm,1.0s							
VYHS	**Vyhne**	**80.53**	**325**	*e*P		**P**	**20 11 30.2**	**+0.5**
VYHS				pmax	pmax			
	comp=Z,3.0nm,1.1s							
VYHS	**Vyhne**	**80.53**	**325**	*e*P		**P**	**20 11 30.2**	**+0.5**
PV05	**Paradox Valley**	**80.62**	**49**	*e*P		**P**	**20 11 32.5**	**+1.8**
BRG	**Berggiesshubel**	**80.84**	**329**	*e*P		**P**	**20 11 31.3**	**+0.1**
	comp=Z,6.8nm,0.9s							
BRG				*e*			20 11 40.2	
	comp=Z,7.0nm,0.8s							
BRG	**Berggiesshubel**	**80.84**	**329**	*e*P		**P**	**20 11 31.3**	**+0.1**
BRG				*e*			20 11 40.2	
BRG				pmax	pmax			
	comp=Z,7.0nm,0.9s							
PVCC	**Panska Ves**	**80.85**	**329**	*e*P		**P**	**20 11 32.1**	**+0.8**
PVCC	**Panska Ves**	**80.85**	**329**	*e*P		**P**	**20 11 32.1**	**+0.8**
CLL	**Collm**	**80.88**	**330**	*e*P		**P**	**20 11 31.2**	**-0.2**
CLL				pmax	pmax			
	comp=Z,13nm,1.0s							
CLL	**Collm**	**80.88**	**330**	*i* P		**P**	**20 11 31.1**	**-0.3**
	comp=Z,14nm,1.0s							
CLL				*i*			20 11 33.5	
CLL				*i* PcP		**pP**	**20 11 39.6**	**+0.8**
CLL				*i* pP		**sP**	**20 11 44.1**	**+2.7**
CLL				*i* sP		PcP	20 11 48.0	+10
CLL	**Collm**	**80.88**	**330**	*e*P		**P**	**20 11 31.2**	**-0.2**
	comp=Z,13nm,1.0s							
GZR	**Gura Zlata**	**80.89**	**321**	⇓*i*P		**P**	**20 11 31.6**	**-0.1**
GZR	**Gura Zlata**	**80.89**	**321**	⇓P		**P**	**20 11 31.6**	**-0.1**
VRAC	**Vranov**	**80.92**	**327**	LR		LR	20 50 40.3	
	comp=Z,87nm,18.1s,baz=29,slow=38							
GOPC	**GO Pecny, Ondr**	**81.23**	**328**	*e*P		**P**	**20 11 34.0**	**+0.6**
GOPC				*e*pP		**sP**	**20 11 42.7**	**-0.7**
GOPC	**GO Pecny, Ondr**	**81.23**	**328**	*e*P		**P**	**20 11 34.0**	**+0.6**
GOPC				*e*			20 11 42.7	
F31A	**Hecla**	**81.24**	**38**	P		**P**	**20 11 33.8**	**+0.3**
	baz=316							
PRU	**Pruhonice**	**81.27**	**329**	*e*P		**P**	**20 11 34.2**	**+0.6**
PRU	**Pruhonice**	**81.27**	**329**	*e*P		**P**	**20 11 34.2**	**+0.6**
BZS	**Buzias**	**81.31**	**322**	⇓*i*P		**P**	**20 11 33.6**	**-0.2**
BZS	**Buzias**	**81.31**	**322**	⇓P		**P**	**20 11 33.6**	**-0.2**
TREC	**Trest**	**81.40**	**328**	*e*P		**P**	**20 11 34.9**	**+0.6**
TREC				*e*pP		**sP**	**20 11 43.5**	**-0.8**
TREC	**Trest**	**81.40**	**328**	*e*P		**P**	**20 11 34.9**	**+0.6**
TREC				*e*			20 11 43.5	
B35A	**Bob. Littlefor**	**81.51**	**34**	P		**P**	**20 11 35.0**	**+0.1**
	baz=319							
MDVR	**Moldovita**	**81.86**	**321**	⇑*i*P		**P**	**20 11 36.8**	**0.0**
MMAI	**Mount Meron Ar**	**81.88**	**305**	LR		LR	20 51 45.4	
	comp=Z,40nm,18.4s,baz=35,slow=38							
C35A	**Jirik Farms, M**	**81.89**	**34**	P		**P**	**20 11 36.9**	**0.0**
	baz=319							
CONA	**Conrad Observa**	**82.28**	**327**	*i* P		**P**	**20 11 39.5**	**+0.4**
	comp=Z,6.3nm,0.9s							
KHC	**Kasperske Hory**	**82.33**	**329**	*e*P		**P**	**20 11 39.4**	**+0.2**
KHC				*e*pP		**sP**	**20 11 48.4**	**-0.8**
KHC				*e*sP		pP	20 11 54.4	+7.8
KHC	**Kasperske Hory**	**82.33**	**329**	*e*P		**P**	**20 11 39.2**	**-0.1**
KHC				pmax	pmax			
	comp=Z,4.0nm,0.9s							
KHC	**Kasperske Hory**	**82.33**	**329**	*e*P		**P**	**20 11 39.1**	**-0.1**
	comp=Z,4.1nm,0.9s							
C36A	**Pine Crest Far**	**82.36**	**34**	P		**P**	**20 11 39.6**	**+0.3**
	baz=319							
GEC2	**GERESS Array S**	**82.50**	**328**	*e*P		**P**	**20 11 40.3**	**+0.1**
GEC2				pmax	pmax			
	comp=Z,4.0nm,0.6s							
GEC2	**GERESS Array S**	**82.50**	**328**	*e*P		**P**	**20 11 40.3**	**+0.1**
	comp=Z,4.1nm,0.6s							
GERES	**GERESS Array B**	**82.50**	**328**	P		**P**	**20 11 39.9**	**-0.4**
	comp=Z,3.4nm,0.8s,baz=35,slow=4.9,SNR=23							
GERES				LR		LR	20 53 27.6	
	comp=Z,64nm,19.6s,baz=11,slow=39							
GEA0	**GERESS Array S**	**82.51**	**328**	*e*P		**P**	**20 11 39.9**	**-0.3**
VTS	**Vitosha**	**82.65**	**319**	⇓*i*P		**P**	**20 11 41.7**	**+0.5**
VTS	**Vitosha**	**82.65**	**319**	*e*P		**P**	**20 11 41.6**	**+0.4**
VTS				pmax	pmax			
	comp=Z,7.0nm,0.8s							
VTS	**Vitosha**	**82.65**	**319**	*e*P		**P**	**20 11 41.5**	**+0.4**
	comp=Z,6.9nm,0.8s							
EYMN	**Ely**	**82.80**	**33**	P		**P**	**20 11 41.5**	**-0.1**
	baz=320							
ARSA	**Arzberg**	**82.94**	**326**	*i* P		**P**	**20 11 42.7**	**+0.3**
	comp=Z,3.7nm,0.8s							
MOA	**Molln**	**83.03**	**327**	*i* PcP		**P**	**20 11 43.7**	**+0.9**
	comp=Z,5.5nm,1.2s							
C38A	**Sawbill Land.**	**83.07**	**33**	P		**P**	**20 11 43.4**	**+0.3**
	baz=320							
PERS	**Pernice**	**83.59**	**326**	*i* P		**P**	**20 11 45.9**	**+0.1**
SOKA	**Soboth**	**83.60**	**326**	*i* P		**P**	**20 11 45.9**	**+0.1**
	comp=Z,11nm,0.9s,SNR=8.0							
OBKA	**Obir**	**83.94**	**326**	*i* P		**P**	**20 11 48.0**	**+0.4**
	comp=Z,6.4nm,0.9s							
KBA	**Koelnbreinsper**	**84.03**	**327**	*i* P		**P**	**20 11 48.3**	**+0.1**
	comp=Z,4.4nm,0.7s							
MEM	**Membach**	**84.08**	**333**	P		**P**	**20 11 48.1**	**-0.1**
F38A	**Pierce - Schro**	**84.15**	**34**	P		**P**	**20 11 49.3**	**+0.7**
	baz=320							
PMOR	**Pomariorio Dee**	**84.19**	**114**	*e*T		T	21 44 15.3	
	comp=Z,22nm,0.2s							
ANMO	**Albuquerque**	**84.28**	**50**	P		**P**	**20 11 50.9**	**+1.1**
	comp=Z,1.3nm,0.6s,baz=281,slow=3.3,SNR=4.3							
ANMO	**Albuquerque**	**84.28**	**50**	P		**P**	**20 11 51.4**	**+1.6**
	baz=312							
ANMO	**Albuquerque**	**84.28**	**50**	*c i* P		**P**	**20 11 51.7**	**+1.9**
ANMO				pmax	pmax			
	comp=Z,5.0nm,1.2s							
EIL	**Elat**	**84.31**	**303**	LR		LR	20 55 59.7	
	comp=Z,35nm,18.1s,baz=41,slow=40							
VISS	**Visnje**	**84.35**	**326**	*i* P		**P**	**20 11 49.4**	**-0.3**
BOJS	**Bojanci**	**84.40**	**325**	*i* P		**P**	**20 11 49.5**	**-0.4**
E39A	**Mellen**	**84.42**	**33**	P		**P**	**20 11 49.4**	**-0.5**
	baz=321							
BCLA	**Clavier**	**84.49**	**334**	P		**P**	**20 11 50.8**	**+0.6**
WATA	**Walderalm**	**84.57**	**328**	*i* P		**P**	**20 11 50.7**	**-0.2**
	comp=Z,1.8nm,0.5s							
WTTA	**Wattenberg**	**84.61**	**328**	*e*P		**P**	**20 11 51.1**	**-0.1**
	comp=Z,2.9nm,0.8s							
JAVS	**Javornik**	**84.63**	**326**	*i* P		**P**	**20 11 49.9**	**-1.3**
ABTA	**Abfaltersbach**	**84.64**	**328**	*i* P		**P**	**20 11 50.1**	**-1.2**
	comp=Z,2.4nm,0.8s							
E40A	**Wakefield**	**84.65**	**33**	P		**P**	**20 11 51.7**	**+0.5**
	baz=321							
PPT	**Papeete**	**84.67**	**117**	LR		LR	20 44 11.1	
	comp=Z,48nm,21.3s,baz=2.0,slow=32							
PPT2	**Papeete2**	**84.68**	**117**	*e*LR		LR	20 38 15.0	
	comp=Z,86nm,27.2s							
MOTA	**Moosalm**	**84.76**	**329**	*i* P		**P**	**20 11 51.6**	**-0.3**
	comp=Z,4.0nm,0.7s							
RETA	**Reutte**	**84.79**	**329**	*i* P		**P**	**20 11 52.0**	**+0.1**
	comp=Z,11nm,0.9s,SNR=6.3							
PDG	**Podgorica**	**84.79**	**321**	⇑*i*P		**P**	**20 11 51.5**	**-0.4**
I37A	**Lemond, Waseca**	**84.93**	**36**	P		**P**	**20 11 53.3**	**+0.7**
	baz=319							
SCHQ	**Schefferville**	**84.99**	**16**	LR		LR	20 53 03.4	
	comp=Z,38nm,18.9s,baz=19,slow=38							
121A	**Cookes Peak, D**	**85.06**	**53**	P		**P**	**20 11 54.9**	**+1.2**
	baz=312							
BFO	**Black Forest**	**85.08**	**331**	*e*P		**P**	**20 11 53.2**	**-0.1**
BFO				pmax	pmax			
	comp=Z,13nm,0.9s							
BFO	**Black Forest**	**85.08**	**331**	*e*P		**P**	**20 11 53.2**	**-0.1**
	comp=Z,13nm,0.9s							
FETA	**Feichten**	**85.17**	**329**	*i* P		**P**	**20 11 53.8**	**-0.2**
	comp=Z,4.5nm,0.9s							
DAVA	**Damuels**	**85.31**	**329**	*i* PcP		**P**	**20 11 54.6**	**-0.1**
	comp=Z,9.7nm,0.8s,SNR=5.7							
CDF	**Champ du Feu**	**85.42**	**331**	*e*P		**P**	**20 11 54.9**	**-0.2**
CDF				pmax	pmax			
	comp=Z,9.0nm,0.8s							
FUORN	**Ofenpass-Fuorn**	**85.69**	**329**	*e*P		**P**	**20 11 57.0**	**+0.4**
	comp=Z,13nm,0.9s							
M35A	**Neola**	**85.71**	**39**	P		**P**	**20 11 57.0**	**+0.4**
	baz=318							
DAVOX	**Davos/Dischmat**	**85.72**	**329**	LR		LR	20 53 40.8	
	comp=Z,82nm,20.0s,baz=356,slow=38							
K37A	**Belmond**	**85.76**	**37**	P		**P**	**20 11 56.9**	**+0.2**
	baz=319							
LOR	**Lormes**	**87.65**	**333**	*e*P		**P**	**20 12 05.7**	**-0.3**
LOR				pmax	pmax			
	comp=Z,10.0nm,1.1s							
LDF	**La Druitiere**	**87.90**	**336**	*e*P		**P**	**20 12 06.7**	**-0.4**
LDF				pmax	pmax			
	comp=Z,86nm,2.3s							
SSF	**Saint Saulge**	**87.95**	**333**	*e*P		**P**	**20 12 07.3**	**-0.1**
SSF				pmax	pmax			
	comp=Z,10.0nm,1.2s							
SMF	**Signal de Mont**	**88.18**	**332**	*e*P		**P**	**20 12 09.3**	**+0.8**
SMF				pmax	pmax			
	comp=Z,2.0nm,0.6s							
AVF	**Avril sur Loir**	**88.24**	**333**	*e*P		**P**	**20 12 08.6**	**-0.1**
AVF				pmax	pmax			
	comp=Z,20nm,1.3s							
GRR	**Gorron**	**88.31**	**336**	*e*P		**P**	**20 12 09.0**	**0.0**
GRR				pmax	pmax			
	comp=Z,16nm,1.0s							
SGMF	**Saint Gilles**	**88.97**	**337**	*e*P		**P**	**20 12 12.0**	**-0.1**
SGMF				pmax	pmax			
	comp=Z,48nm,1.9s							
ROSF	**Rostrenen**	**89.12**	**337**	*e*P		**P**	**20 12 12.9**	**+0.1**
ROSF				pmax	pmax			
	comp=Z,43nm,1.6s							
MFF	**Saint Martin d**	**89.64**	**335**	*e*P		**P**	**20 12 14.6**	**-0.7**
MFF				pmax	pmax			
	comp=Z,23nm,1.4s							
TXAR	**Lajitas Array**	**89.82**	**52**	P		**P**	**20 12 16.6**	**0.0**
	comp=Z,2.0nm,0.7s,baz=317,slow=3.4,SNR=11							
RJF	**Les Rejaudoux**	**90.18**	**333**	*e*P		**P**	**20 12 17.9**	**0.0**
RJF				pmax	pmax			
	comp=Z,7.0nm,1.1s							
CAF	**Calviac**	**90.30**	**333**	*e*P		**P**	**20 12 18.9**	**+0.4**
CAF				pmax	pmax			
	comp=Z,6.0nm,1.0s							
U39A	**Green Forest**	**90.66**	**41**	P		**P**	**20 12 20.5**	**+0.2**
	baz=320							
LMQ	**La Malbaie**	**90.79**	**21**	*e*P		**P**	**20 12 21.4**	**+0.7**
	comp=Z,9.0nm,1.0s							
U40A	**Yellville**	**91.01**	**41**	P		**P**	**20 12 21.9**	**0.0**
	baz=320							
ETSF	**Etsaut**	**93.01**	**333**	*e*P		**P**	**20 12 33.9**	**+2.8**
ETSF				pmax	pmax			
	comp=Z,30nm,2.0s							
SWET	**Sewanee**	**95.39**	**37**	*e*P		**P**	**20 12 40.7**	**-1.4**
	comp=Z,4.1nm,0.6s							
TORD	**Torodi Ar. Bea**	**117.19**	**315**	PKP		**PKPdf**	**20 18 01.9**	**-1.4**
	comp=Z,0.6nm,0.8s,baz=20,slow=1.4,SNR=12							
RPN	**Rapa Nui**	**120.42**	**102**	*i* PKIKP		**PKPdf**	**20 18 13.1**	**+4.0**
BOSA	**Boshof**	**126.76**	**260**	PKP		**PKPdf**	**20 18 21.4**	**0.0**
	comp=Z,1.8nm,0.8s,baz=148,slow=18,SNR=3.7							
QSPA	**South Pole Qui**	**127.10**	**180**	*e*PKPdf		**PKPdf**	**20 18 20.1**	**-0.6**
SNAA	**Sanae**	**141.09**	**197**	PKP		PKPpre	20 18 36.5	
VNA2	**Neumayer--Watz**	**142.66**	**196**	PKP		PKPpre	20 18 45.8	
	baz=74,slow=1.7							
VNA3	**Neumayer Olymp**	**142.91**	**195**	PKP		PKPpre	20 18 38.1	
VNA1	**Neumayer--Stat**	**143.06**	**196**	PKP		PKPbc	20 18 46.6	-0.5
SAML	**Samuel**	**143.93**	**45**	*e*PKPdf		PKPab	20 18 50.8	+0.1
LPAZ	**La Paz**	**146.42**	**59**	PKPbc		**PKPbc**	**20 19 00.0**	**+0.2**
	comp=Z,2.0nm,0.5s,baz=7.8,slow=2.6,SNR=12							
PB11	**IPOC Station P**	**147.65**	**66**	*e*PKPdf		**PKPdf**	**20 19 00.8**	**+0.9**
LVC	**Limon Verde**	**149.94**	**69**	*e*PKPbc		**PKPbc**	**20 19 09.0**	**+0.4**
LCO	**Las Campanas**	**151.84**	**82**	*e*PKPbc		**PKPbc**	**20 19 13.9**	**+1.1**

*ISCJB **22** 20:04:01.3±0.5, 43.83N±0.05×105.23W±0.06, h0km, Error ellipse: s-maj=7.7km s-min=6.5km az=174.7*
*IDC **22** 20:04:01.4±2.0, 43.67N×105.41W, h0km, mb1 4.0/2, mb1mx3.4/50, mbtmp3.8/2, ML3.6/2, Error ellipse: s-maj=51.0km s-min=8.8km az=151.0*
*NEIC **22** 20:04:02.4±0.9, 43.85N×105.34W, h0km, ML3.2, Error ellipse: s-maj=13.0km s-min=10.3km az=181.0, Suspected Mining explosion.*
NEIC 51 km [32 miles] SSE of Gillette.

ISC 22 20:04:02.3±1.0, 43.79N±0.06×105.34W±0.05, h0km, n26, σ1§33/23, Wyoming

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RSSD	**Black Hills**	**1.00**	**70**	*e*Pn	**Pg**	**20 04 20.7**	**-0.7**
K22A	**Casper**	**1.43**	**218**	*e*Pn	**Pg**	**20 04 28.3**	**-1.4**
PHWY	**Pilot Hill**	**2.49**	**182**	*e*Pn	**Pn**	**20 04 44.8**	**+0.5**
RWWY	**Rawlins**	**2.51**	**214**	*e*Pn	**Pn**	**20 04 45.9**	**+1.4**
LAO	**LASA Array**	**2.96**	**348**	*e*Pn	**Pn**	**20 04 52.0**	**+1.4**
RLMT	**Red Lodge**	**3.11**	**297**	*e*Pn	**Pn**	**20 04 53.4**	**+0.6**
BW06	**Boulder Array**	**3.24**	**253**	*e*Pn	**Pn**	**20 04 55.3**	**+0.7**
PDAR	**Pinedale Array**	**3.24**	**253**	Pn	**Pn**	**20 04 55.4**	**+0.8**
	6.3nm,0.3s,baz=76,slow=16,SNR=65						
PDAR				Lg	Lg	20 05 40.6	
	11nm,0.3s,baz=73,slow=31,SNR=12						
LKWY	**Lake**	**3.72**	**284**	*e*Pg	**Pb**	**20 05 08.7**	**-0.3**
OGNE	**Ogallala**	**3.75**	**138**	*e*Pn	**Pn**	**20 05 03.0**	**+1.5**
LOHW	**Long Hollow**	**3.82**	**269**	*e*Pn	**Pn**	**20 05 04.7**	**+2.1**
MOOW	**Moose Ponds**	**3.91**	**271**	*e*Pn	**Pn**	**20 05 06.0**	**+2.2**
SNOW	**Snow King Moun**	**3.94**	**267**	*e*Pn	**Pn**	**20 05 05.7**	**+1.5**
ISCO	**Idaho Springs**	**3.99**	**183**	*e*Pn	**Pn**	**20 05 05.5**	**+0.5**
REDW	**Red Top Meadow**	**4.03**	**266**	*e*Pg	**Pb**	**20 05 13.9**	**-0.3**
IMW	**Indian Meadow**	**4.05**	**273**	*e*Pn	**Pn**	**20 05 07.9**	**+2.1**
TPAW	**Teton Pass**	**4.08**	**268**	*e*Pn	**Pn**	**20 05 07.6**	**+1.4**
O20A	**White River Ci**	**4.24**	**212**	*e*Pn	**Pn**	**20 05 10.0**	**+1.7**
BOZ	**Bozeman (W)**	**4.83**	**294**	*e*Pn	**Pn**	**20 05 17.2**	**+0.8**
HWUT	**Hardware Ranch**	**5.08**	**247**	*e*Pn	**Pn**	**20 05 19.9**	**+0.1**
	9.4nm,0.4s						
PV04	**Paradox Valley**	**6.03**	**208**	*e*Pn	**Pn**	**20 05 34.2**	**+1.4**
ECSD	**EROS Data Cent**	**6.32**	**88**	*e*Pn	**Pn**	**20 05 36.6**	**-0.1**
	5.9nm,0.4s						
I10CA	**LAC DU BONNET**	**9.03**	**42**	*i*		21 00 45.0	
	baz=227,slow=322,SNR=4.9						
ULM	**Lac du Bonnet**	**9.14**	**42**	Pn	**Pn**	**20 06 14.1**	**-1.1**
	1.3nm,0.3s,baz=228,slow=12,SNR=13						
ULM				Pg	Pg	20 06 48.7	
	1.4nm,0.3s,baz=218,slow=15,SNR=5.2						
ULM				Lg	Lg	20 08 46.1	
	0.6nm,0.3s,baz=305,slow=22,SNR=4.6						
NEW	**Newport**	**9.33**	**303**	Lg	Lg	20 08 51.2	
	0.6nm,0.3s,baz=37,slow=18,SNR=3.4						
I56US	**NEWPORT INFRAS**	**9.34**	**303**	*i*		21 08 50.0	
	baz=113,slow=328,SNR=1.0						

*NIED **22** 20:15:00, 27.80N×141.80E, h8km, Mw4.4 Best double couple: M₀3.84000×10¹⁵ NP1:φs136.00000°, δ42.00000°, λ-132.00000°. NP2:φs7.00000°, δ60.00000°, λ-59.00000°.*
*ISCJB **22** 20:15:17.9±0.4, 27.79N±0.03×141.15E±0.08, h33km, mb4.0/12, MS3.0/5, Error ellipse: s-maj=11.1km s-min=3.6km az=160.9*
*JMA **22** 20:15:23.5±0.1, 27.79N×141.83E, h72km, M4.3*
JMA Felt I J1.
*IDC **22** 20:15:23.9±3.6, 27.76N×141.23E, h74km±33km, mb3.6/12, mb1 3.8/13, mb1mx3.5/47, mbtmp3.9/13, MS3.1/6, Ms1 3.1/6, ms1mx2.8/48, Error ellipse: s-maj=26.8km s-min=12.9km az=86.0*

ISC 22 20:15:19.9±0.7, 27.74N±0.06×141.36E±0.1, h35km, n38, σ1§65/36, mb4.0/12, MS3.1/5, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CBIJ	**Chichi jima**	**1.04**	**128**	P	**Pn**	**20 15 39.4**	**+1.4**
CBIJ				*e*S	**Sn**	**20 15 51.1**	**-0.3**
JHHJ	**Haha-jima-NKT**	**1.38**	**143**	P	**Pn**	**20 15 44.7**	**+2.1**
JHHJ				*e*S	**Sn**	**20 16 00.4**	**+0.8**
JHJ2	**Mitsune**	**5.50**	**347**	*e*S	**Sn**	**20 17 40.0**	**-1.2**
JHJ	**Hachijo jima 2**	**5.51**	**347**	S	**Sn**	**20 17 39.7**	**-1.9**
	17nm,0.3s,baz=53,slow=20,SNR=2.7						
BSO1	**Boso 1**	**6.89**	**358**	P	**Pn**	**20 17 00.3**	**+2.3**
BSO1				*e*S	**Sn**	**20 18 15.6**	**+0.7**
BSO3	**Boso 3**	**7.07**	**355**	P	**Pn**	**20 17 02.4**	**+1.8**
BSO3				*e*S	**Sn**	**20 18 16.9**	**-2.7**
BSO4	**Boso 4**	**7.27**	**354**	P	**Pn**	**20 17 06.9**	**+3.4**
BSO4				*e*S	**Sn**	**20 18 27.9**	**+3.1**
JHU	**Hanno**	**8.26**	**349**	P	**Pn**	**20 17 20.6**	**+3.4**
JHU				*e*S	**Sn**	**20 18 49.7**	**+0.4**
JRY	**Ryogami san**	**8.49**	**347**	P	**Pn**	**20 17 23.0**	**+2.6**
JYT	**Yasato**	**8.51**	**354**	P	**Pn**	**20 17 22.8**	**+2.2**
JYT				*e*S	**Sn**	**20 18 55.5**	**+0.1**
JAG	**Ashikaga**	**8.79**	**350**	*e*S	**Sn**	**20 19 00.8**	**-1.6**
JHO	**Hitachi**	**8.86**	**356**	P	**Pn**	**20 17 27.3**	**+1.8**
JHO				*e*S	**Sn**	**20 19 02.1**	**-2.0**
MJAR	**Matsushiro Arr**	**9.15**	**344**	P	Pn	20 17 34.0	+4.6
	1.1nm,0.3s,baz=277,slow=11,SNR=9.9						
MJAR				S	**Sn**	**20 19 12.6**	**+1.5**
	0.3nm,0.3s,baz=165,slow=28,SNR=2.5						
MJAR				LR	LR	20 20 40.4	
	comp=Z,102nm,19.7s,baz=195,slow=35						
JMK	**Ichinoseki**	**11.18**	**360**	P	**Pn**	**20 17 56.4**	**-0.8**
JMK				*e*S	Sn	20 19 51.7	-9.2
TGY	**Tagaytay City**	**23.29**	**238**	LR	LR	20 29 32.9	
	comp=Z,55nm,19.8s,baz=85,slow=36						
H11N2	**WAKE ISLAND Hy 24.75 103**			T	T	20 46 16.9	
	baz=296,slow=75,SNR=29						
H11N1	**WAKE ISLAND Hy 24.75 103**			T	T	20 46 29.0	
	baz=296,slow=75,SNR=16						
H11N3	**WAKE ISLAND Hy 24.77 103**			T	T	20 46 29.2	
	baz=296,slow=75,SNR=19						
H11S3	**WAKE ISLAND Hy 25.09 106**			T	T	20 46 02.3	
	baz=297,slow=76,SNR=52						
H11S1	**WAKE ISLAND Hy 25.09 106**			T	T	20 46 06.8	
	baz=297,slow=76,SNR=22						
H11S2	**WAKE ISLAND Hy 25.11 106**			T	T	20 46 06.9	
	baz=297,slow=76,SNR=31						
PETK	**Petropavlovsk-**	**28.12**	**21**	LR	LR	20 33 09.7	
	comp=Z,7.1nm,21.2s,baz=180,slow=38						
CMAR	**Chiang Mai Arr**	**39.84**	**266**	LR	LR	20 39 18.1	
	comp=Z,26nm,18.2s,baz=180,slow=36						
WRA	**Warramunga Arr**	**47.87**	**189**	P	**P**	**20 23 54.5**	**-0.1**
	2.6nm,0.3s,baz=8.2,slow=8.5,SNR=97						
FITZ	**Fitzroy Crossi**	**48.02**	**200**	P	**P**	**20 23 55.8**	**+0.1**
	3.5nm,0.8s,baz=14,slow=5.8,SNR=22						
ZALV	**Zalesovo Beam**	**48.46**	**319**	P	**P**	**20 23 57.6**	**-1.2**
	0.4nm,0.4s,baz=116,slow=9.8,SNR=2.3						
MKAR	**Makanchi Array**	**49.43**	**309**	P	**P**	**20 24 05.8**	**-0.6**
	0.3nm,0.9s,baz=91,slow=5.8,SNR=3.0						
ASAR	**Alice Springs**	**51.60**	**189**	P	**P**	**20 24 22.2**	**-0.7**
	0.5nm,0.4s,baz=8.3,slow=7.6,SNR=13						
ASAR				PcP	**PcP**	**20 25 36.3**	**-0.1**
	0.5nm,0.7s,baz=23,slow=4.1,SNR=4.9						
KURBB	**Kurchatov Arra**	**52.00**	**314**	P	**P**	**20 24 25.1**	**-0.5**
	0.3nm,0.3s,baz=89,slow=7.1,SNR=6.2						
KDAK	**Kodiak Island**	**54.34**	**37**	P	**P**	**20 24 42.2**	**-0.5**
	6.5nm,1.1s,baz=290,slow=15,SNR=4.0						
BVAR	**Borovoye Array**	**57.01**	**317**	P	**P**	**20 25 01.5**	**-0.5**
	0.2nm,0.4s,baz=98,slow=7.4,SNR=3.4						
ILAR	**Eielson Array**	**57.54**	**29**	P	**P**	**20 25 05.2**	**-0.4**
	1.3nm,1.0s,baz=267,slow=5.8,SNR=6.5						
STKA	**Stephens Creek**	**59.29**	**180**	P	**P**	**20 25 17.8**	**-0.2**
	3.6nm,1.1s,baz=356,slow=9.7,SNR=3.8						
SPITS	**Spitsbergen Ar**	**69.60**	**350**	LR	LR	20 57 29.0	
	comp=Z,14nm,19.8s,baz=210,slow=36						
FINES	**FINESS Array B**	**77.01**	**333**	P	**P**	**20 27 09.0**	**+0.2**
	3.0nm,0.8s,baz=90,slow=6.5,SNR=5.2						
NOA	**NORSAR Array B**	**82.71**	**338**	P	**P**	**20 27 39.5**	**-0.3**
	1.3nm,0.8s,baz=52,slow=9.1,SNR=3.1						
PDAR	**Pinedale Array**	**84.33**	**44**	LR	LR	20 56 57.3	
	comp=Z,27nm,21.7s,baz=222,slow=30						
TORD	**Torodi Ar. Bea**	**123.54**	**311**	PKP	**PKPdf**	**20 34 13.5**	**-0.9**
	0.3nm,0.5s,baz=35,slow=1.7,SNR=7.8						

IDC 22 20:19:27.8±6.2, 3.27S×129.34E, h132km±73km, mb2.9/3, mb1 3.1/5, mb1mx3.0/39, mbtmp3.5/5, Error ellipse: s-maj=96.2km s-min=18.0km az=84.0, Seram

| Code | Station

OKGL	**Djebel Kef Gue**	**1.90**	**336**	P		**Pn**	**20 40 17.8**	**-1.4**
	25nm,0.3s,SNR=7.9							
OKGL				S		Sn	20 40 45.9	+2.6
	333nm,0.6s,SNR=4.0							
OKGL	**Djebel Kef Gue**	**1.90**	**336**	P		**Pn**	**20 40 17.8**	**-1.4**
	25nm,0.3s,SNR=7.9							
EBNR	**Beni Rached**	**1.98**	**358**	P		**Pg**	**20 40 27.8**	**+3.1**
EMHD	**Djebel Mahouad**	**2.19**	**30**	P		**Pb**	**20 40 26.4**	**0.0**
EMHD	**Djebel Mahouad**	**2.19**	**30**	P		**Pb**	**20 40 26.4**	**0.0**
EMHD	**Djebel Mahouad**	**2.19**	**30**	P		**Pb**	**20 40 26.4**	**0.0**
EBER	**Berja**	**4.49**	**306**	P		**Pn**	**20 40 54.2**	**-0.7**
	1.2nm,0.4s,SNR=5.4							
EBER				S		Sn	20 41 45.5	-1.8
	1.3nm,0.3s,SNR=5.9							
EBER	**Berja**	**4.49**	**306**	P		**Pn**	**20 40 54.2**	**-0.7**
	1.2nm,0.4s,SNR=5.4							
EBER				S		Sn	20 41 45.5	-1.8
	1.3nm,0.3s,SNR=5.9							
EIBI	**Ibiza**	**4.72**	**357**	P		**Pn**	**20 40 57.3**	**-0.6**
	1.4nm,0.2s,SNR=7.9							
EIBI				S		Sn	20 41 51.2	-1.5
	2.7nm,0.2s,SNR=6.1							
EIBI	**Ibiza**	**4.72**	**357**	P		**Pn**	**20 40 57.3**	**-0.6**
	1.4nm,0.2s,SNR=7.9							
EIBI				S		Sn	20 41 51.2	-1.5
	2.7nm,0.2s,SNR=6.1							
ETOB	**Tobarra**	**5.02**	**330**	P		**Pn**	**20 41 02.3**	**+0.1**
	1.1nm,0.3s,SNR=6.4							
ETOB				S		Sn	20 41 58.4	-1.9
	1.8nm,0.2s,SNR=7.9							
ETOB	**Tobarra**	**5.02**	**330**	P		**Pn**	**20 41 02.3**	**+0.1**
	1.1nm,0.3s,SNR=6.4							
ETOB				S		Sn	20 41 58.4	-1.9
	1.8nm,0.2s,SNR=7.9							
SESP	**Santiago Espad**	**5.08**	**320**	P		**Pn**	**20 41 02.9**	**-0.1**
	4.1nm,0.3s,SNR=7.9							
SESP				S		Sn	20 42 00.4	-1.4
	4.3nm,0.3s,SNR=7.9							
SESP	**Santiago Espad**	**5.08**	**320**	P		**Pn**	**20 41 02.9**	**-0.1**
	4.1nm,0.3s,SNR=7.9							
SESP				S		Sn	20 42 00.4	-1.4
	4.3nm,0.3s,SNR=7.9							
EQES	**Quesada**	**5.15**	**314**	P		**Pn**	**20 41 03.9**	**-0.1**
	2.8nm,0.4s,SNR=7.9							
EQES				S		Sn	20 42 03.3	-0.3
	1.2nm,0.3s,SNR=7.9							
EQES	**Quesada**	**5.15**	**314**	P		**Pn**	**20 41 03.9**	**-0.1**
	2.8nm,0.4s,SNR=7.9							
EQES				S		Sn	20 42 03.3	-0.3
	1.2nm,0.3s,SNR=7.9							
EVIA	**Vianos**	**5.45**	**324**	S		**Sn**	**20 42 10.3**	**-0.5**
	2.2nm,0.3s,SNR=7.9							
EVIA	**Vianos**	**5.45**	**324**	S		**Sn**	**20 42 10.3**	**-0.5**
	2.2nm,0.3s,SNR=7.9							
ETOS	**Mallorca**	**5.54**	**10**	P		**Pn**	**20 41 08.5**	**-0.7**
	1.1nm,0.2s,SNR=6.3							
ETOS				S		Sn	20 42 11.2	-1.7
	0.6nm,0.5s,SNR=7.9							
ETOS	**Mallorca**	**5.54**	**10**	P		**Pn**	**20 41 08.5**	**-0.7**
	1.1nm,0.2s,SNR=6.3							
ETOS				S		Sn	20 42 11.2	-1.7
	0.6nm,0.5s,SNR=7.9							
EMOS	**Mosqueruela**	**6.27**	**345**	P		**Pn**	**20 41 19.1**	**-0.3**
	0.4nm,0.3s,SNR=4.0							
EMOS				S		Sn	20 42 29.0	-2.2
	0.4nm,0.4s,SNR=7.9							
EMOS	**Mosqueruela**	**6.27**	**345**	P		**Pn**	**20 41 19.1**	**-0.3**
	0.4nm,0.3s,SNR=4.0							
EMOS				S		Sn	20 42 29.0	-2.2
	0.4nm,0.4s,SNR=7.9							

IDC 22 20:39:59.9±999.0, 53°.10N×4°.20E, h0km, Error ellipse: s-maj=460.1km s-min=140.8km az=121.0, North Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I26DE	**FREYUNG INFRAS**	**7.36**	**122**	*i*		21 27 30.0	
	baz=310,slow=318,SNR=0.4						
I48TN	**KESRA INFRASON**	**17.66**	**166**	*i*		22 27 20.0	
	baz=348,slow=321,SNR=1.9						

*IDC **22** 20:42:21.5±7.5, 21°.14S×178°.45W, h525km±82km, mb3.1/5, mb1 3.3/6, mb1mx3.0/35, mbtmp4.1/6, Error ellipse: s-maj=51.1km s-min=33.4km az=21.0*
*ISCJB **22** 20:42:24.7±1.5, 21°.2S±0°.2×178°.6W±0°.3, h579km, mb3.8/5, Error ellipse: s-maj=31.4km s-min=25.8km az=22.2*

ISC 22 20:42:25.1±1.4, 21°.2S±0°.2×178°.5W±0°.2, h579km, n10, σ1°34/9, mb3.8/5, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**17.40**	**192**	P		**P**	**20 45 55.7**	**-0.3**
	1.1nm,0.3s,baz=37,slow=5.1,SNR=3.5							
CTA	**Charters Tower**	**32.95**	**266**	P		**P**	**20 48 13.6**	**+0.3**
	2.9nm,0.4s,baz=99,slow=11,SNR=5.9							
STKA	**Stephens Creek**	**37.05**	**245**	P		**P**	**20 48 47.8**	**+0.6**
	1.9nm,0.9s,baz=94,slow=13,SNR=2.9							
ASAR	**Alice Springs**	**43.90**	**258**	P		**P**	**20 49 42.1**	**+0.4**
	2.9nm,0.8s,baz=91,slow=8.2,SNR=7.3							
WRA	**Warramunga Arr**	**44.04**	**263**	P		**P**	**20 49 42.4**	**-0.5**
	1.5nm,0.5s,baz=96,slow=8.5,SNR=14							
ILAR	**Eielson Array**	**89.11**	**13**	P		**P**	**20 54 19.9**	**+0.9**
	0.2nm,0.5s,baz=201,slow=4.8,SNR=3.0							
NOA	**NORSAR Array B**	**139.63**	**353**	PKhKP		PKPpre	21 00 45.4	
	1.2nm,0.8s,baz=9.2,slow=3.0,SNR=3.4							
AKASG	**Malin Array Be**	**143.40**	**330**	PKP		**PKPdf**	**21 00 53.5**	**-0.7**
	0.7nm,0.3s,baz=45,slow=4.4,SNR=5.7							
BRTR	**Keskin Array B**	**146.96**	**311**	PKPbc		**PKPbc**	**21 01 04.8**	**+1.0**
	0.5nm,0.7s,baz=21,slow=4.6,SNR=3.2							
MMAI	**Mount Meron Ar**	**147.75**	**299**	PKPbc		**PKPab**	**21 01 07.7**	**-2.8**
	0.4nm,0.4s,baz=51,slow=4.6,SNR=3.8							

IDC 22 20:45:26.5±1.8, 7°.54S×128°.75E, h0km, mb3.4/2, mb1 3.7/5, mb1mx3.5/38, mbtmp3.5/5, ML3.6/3, Error ellipse: s-maj=84.0km s-min=26.3km az=78.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**10.93**	**196**	Pn		Pn	20 48 03.1	-1.2
	0.6nm,0.3s,baz=25,slow=8.3,SNR=7.7							
FITZ				Sn		Sn	20 49 58.5	-8.9
	0.3nm,0.3s,baz=50,slow=16,SNR=2.0							
WRA	**Warramunga Arr**	**13.47**	**157**	Pn		Pn	20 48 38.9	-0.1
	0.3nm,0.3s,baz=340,slow=12,SNR=5.7							
WRA				Sn		Sn	20 51 03.3	-6.3
	0.3nm,0.3s,baz=334,slow=22,SNR=9.0							
ASAR	**Alice Springs**	**16.78**	**163**	Pn		P	20 49 24.4	-1.0
	0.1nm,0.3s,baz=337,slow=9.7,SNR=5.5							
ASAR				Sn		Sn	20 52 20.9	-9.4
	0.0nm,0.3s,baz=339,slow=26,SNR=2.6							
SONM	**Songino Array**	**58.57**	**343**	P		P	20 55 25.0	-0.2
	0.4nm,0.9s,baz=150,slow=6.3,SNR=2.0							
MKAR	**Makanchi Array**	**68.00**	**328**	P		P	20 56 27.8	+0.1
	0.4nm,0.9s,baz=111,slow=6.8,SNR=2.3							

*JMA **22** 21:27:38.9±0.4, 22°.21N×121°.52E, h10km, M3.4*
*ISCJB **22** 21:27:39.6±0.4, 22°.19N±0°.03×121°.43E±0°.02, h26km±3km, Error ellipse: s-maj=4.6km s-min=3.2km az=5.7*
*TAP **22** 21:27:40.5, 22°.20N×121°.38E, h22km±1km, ML3.3, B*

ISC 22 21:27:39.8±1.0, 22°.21N±0°.03×121°.39E±0°.03, h17km±8km, n40, σ0°77/78, 1C, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LAY	**Lan-yu**	**0.23**	**140**	*i* P		**Pb**	**21 27 46.0**	**+0.7**
	baz=134							
LAY				*e*S		**Sb**	21 27 50.0	+0.9
	baz=134							
TAW	**Tawu**	**0.48**	**288**	*i* P		**Pg**	**21 27 49.9**	**+0.4**
	baz=289							
TAW				*e*S		**Sg**	**21 27 56.7**	**+0.6**
	baz=289							
EAST	**Anshuo**	**0.53**	**289**	P		**Pg**	**21 27 50.7**	**+0.2**
	baz=290							
EAST				*e*S		**Sg**	**21 27 58.0**	**+0.3**
	baz=290							
TSEB	**Hengchuen, Pin**	**0.55**	**236**	P		**Pg**	**21 27 51.4**	**+0.6**
	baz=238							
TSEB				*e*S		**Sb**	**21 27 59.6**	**+1.1**
	baz=238							
ECL	**Taimali**	**0.56**	**313**	*i* P		**Pg**	**21 27 51.1**	**+0.2**
	baz=315							
ECL				*e*S		**Sg**	**21 27 59.3**	**+0.9**
	baz=315							
TTN	**Taitung**	**0.59**	**337**	*e*P		**Pn**	**21 27 53.4**	**+0.1**
	baz=339							
TTN				*e*S		**Sg**	**21 28 00.1**	**+0.9**
	baz=339							
TWK1	**Hengchun**	**0.61**	**244**	P		**Pg**	**21 27 51.6**	**-0.2**
	baz=244							
TWK1				*e*S		**Sg**	**21 27 59.3**	**-0.6**
	baz=244							
HEN	**Hengchun**	**0.64**	**251**	P		**Pg**	**21 27 52.5**	**+0.1**
	baz=251							
HEN				*e*S		**Sg**	**21 28 01.1**	**+0.1**
	baz=251							
TWG	**Pinlang**	**0.68**	**334**	*e*P		**Pg**	**21 27 53.2**	**+0.1**
	baz=335							
TWG				*e*S		**Sg**	**21 28 02.6**	**+0.5**
	baz=335							
SCZT	**Fangliau**	**0.73**	**283**	*e*P		**Pb**	**21 27 54.0**	**-0.1**
	baz=283							
SCZT				*e*S		**Sg**	**21 28 03.6**	**-0.3**
	baz=283							
CHKT	**Chengkung**	**0.88**	**358**	*e*P		**Pb**	**21 27 56.9**	**+0.3**
	baz=359							
CHKT				*e*S		**Sb**	**21 28 08.7**	**+0.5**
	baz=359							
TWP	**Hsiaoliuchiu**	**0.96**	**278**	*e*P		**Pb**	**21 27 57.6**	**-0.4**
	baz=279							
TWP				*e*S		**Sb**	**21 28 10.3**	**-0.2**
	baz=279							
ELDTW	**Lidau**	**1.03**	**340**	*e*P		**Pb**	**21 27 58.8**	**-0.4**
	baz=341							
ELDTW				*e*S		**Sb**	**21 28 12.9**	**+0.4**
	baz=341							
TWM1	**Shoushan**	**1.08**	**304**	*e*P		**Pb**	**21 27 59.6**	**-0.5**
	baz=305							
TWM1				*e*S		**Sb**	**21 28 14.0**	**0.0**
	baz=305							
STYT	**Tauyuan**	**1.11**	**328**	*e*P		**Pn**	**21 27 59.5**	**-1.1**
	baz=329							
STYT				*e*S		**Sb**	**21 28 15.1**	**+0.3**
	baz=329							
TWF1	**Yuli**	**1.14**	**356**	*e*P		**Pn**	**21 28 01.0**	**+0.1**
	baz=356							
TWF1				*e*S		**Sb**	**21 28 16.2**	**+0.7**
	baz=356							
SGST	**Jiashian**	**1.15**	**319**	*e*P		**Pg**	**21 28 02.9**	**+0.9**
	baz=320							
SGST				*e*S		**Sb**	**21 28 16.1**	**+0.4**
	baz=320							
CHN1	**Nanshi**	**1.26**	**321**	*e*P		**Pn**	**21 28 02.4**	**-0.1**
	baz=321							
CHN1				*e*S		**Sb**	**21 28 18.5**	**-0.4**
	baz=321							
WTP	**Ta-pu**	**1.26**	**325**	*e*P		**Pn**	**21 28 03.1**	**+0.5**
	baz=326							
WTP				*e*S		**Sb**	**21 28 18.8**	**-0.2**
	baz=326							
CHN3	**Shinhua**	**1.28**	**312**	*e*P		**Pn**	**21 28 03.1**	**+0.3**
	baz=312							
CHN3				*e*S		**Sn**	**21 28 19.6**	**-0.1**
	baz=312							
EHY	**Hungye**	**1.29**	**357**	*e*P		**Pn**	**21 28 02.9**	**-0.1**
	baz=357							
EHY				*e*S		**Sb**	**21 28 20.1**	**+0.2**
	baz=357							
YUS	**Yu-Shan**	**1.33**	**342**	*e*P		**Pn**	**21 28 03.8**	**-0.2**
	baz=343							
YUS				*e*S		**Sb**	**21 28 21.2**	**-0.4**
	baz=343							
TWK	**Hsinying**	**1.34**	**322**	*e*P		**Pn**	**21 28 03.7**	**-0.1**
	baz=322							
TWK				*e*S		**Sn**	**21 28 20.2**	**-1.0**
	baz=322							
CHN4	**Tsaushan**	**1.35**	**327**	*e*P		**Pn**	**21 28 03.8**	**-0.1**
	baz=327							
CHN4				*e*S		**Sn**	**21 28 21.6**	**+0.2**
	baz=327							
ALS	**Alishan**	**1.40**	**337**	*e*P		**Pn**	**21 28 04.7**	**-0.1**
	baz=338							
ALS				*e*S		**Sn**	**21 28 22.6**	**-0.4**
	baz=338							
CHN5	**Tsauling**	**1.53**	**335**	*e*P		**Pn**	**21 28 06.9**	**+0.5**
	baz=335							
CHN5				*e*S		**Sn**	**21 28 25.7**	**-0.1**
	baz=335							
SMLT	**Sun Moon Lake**	**1.73**	**345**	*e*P		**Pn**	**21 28 10.0**	**+1.0**
	baz=345							
SMLT				*e*S		**Sn**	**21 28 31.4**	**+0.7**
	baz=345							
TYC	**Yuchr**	**1.76**	**344**	*e*P		**Pn**	**21 28 10.5**	**+1.1**
	baz=344							
TYC				*e*S		**Sn**	**21 28 32.4**	**+1.1**
	baz=344							
TWT	**Tachien**	**2.04**	**354**	*e*P		**Pn**	**21 28 14.3**	**+0.8**
	baz=354							
TWT				*e*S		**Sn**	**21 28 38.8**	**+0.1**
	baz=354							
NNS	**Nan Shan**	**2.22**	**360**	*e*P		**Pn**	**21 28 17.0**	**+1.1**
	baz=359							
NNS				*e*S		**Sn**	**21 28 43.2**	**+0.2**
	baz=359							
NSK	**Sanguang**	**2.45**	**359**	*e*P		**Pn**	**21 28 20.1**	**+1.1**
	baz=359							
NSK				*e*S		**Sn**	**21 28 49.7**	**+1.0**
	baz=359							
JYNG	**Yonagunijimaku**	**2.65**	**32**	S		**Sn**	**21 28 53.8**	**+0.5**
YOJ	**Yonaguni jima**	**2.69**	**33**	S		**Sn**	**21 28 54.5**	**+0.2**
HATJ	**Hateruma jima**	**2.88**	**50**	P		**Pn**	**21 28 25.2**	**+0.4**
HATJ				S		**Sn**	**21 28 57.5**	**-1.6**
IRIF	**Iriomote-Funau**	**3.01**	**45**	P		**Pn**	**21 28 27.4**	**+0.7**
IRIF				*e*S		**Sn**	**21 29 02.1**	**-0.3**
JKRS	**Kuro-shima**	**3.14**	**50**	P		**Pn**	**21 28 29.0**	**+0.6**
JKRS				*e*S		**Sn**	**21 29 03.7**	**-1.8**
JIJ	**Ishigaki jima**	**3.31**	**49**	P		**Pn**	**21 28 30.9**	**+0.1**
JIJ				S		**Sn**	**21 29 07.6**	**-2.2**
JISG	**Ishigakijimahi**	**3.57**	**48**	P		**Pn**	**21 28 34.5**	**+0.1**
JISG				*e*S		**Sn**	**21 29 14.1**	**-2.1**
JTJ	**Tarama**	**3.88**	**51**	P		**Pn**	**21 28 39.1**	**+0.5**
JTJ				S		**Sn**	**21 29 21.9**	**-1.9**
JIRB	**Irabujima**	**4.34**	**52**	P		**Pn**	**21 28 45.1**	**+0.2**
JIRB				*e*S		**Sn**	**21 29 33.0**	**-2.0**

*NIED **22** 21:33:00, 27°.00N×144°.10E, h5km, Mw4.0 Best double couple: M0 1.13000×10^15 NP1:φs=346.00000°, δ32.00000°, λ=-76.00000°. NP2:φs=149.00000°, δ59.00000°, λ=-99.00000°.*
*IDC **22** 21:33:23.2±1.0, 26°.55N×144°.11E, h0km, mb4.1/10, mb1 4.3/12, mb1mx4.0/39, mbtmp4.1/12, ML3.8/2, MS2.9/3, Ms1 2.9/3, ms1mx2.4/35, Error ellipse: s-maj=37.0km s-min=17.9km az=70.0*
*NEIC **22** 21:33:24.3±0.6, 26°.61N×144°.25E, h10km, mb4.6/6, Error ellipse: s-maj=18.1km s-min=9.3km az=64.0*
*JMA **22** 21:33:25.1, 26°.98N×144°.15E, h16km±3km, M4.5*

ISC 22 21:33:28.6±0.8, 26°.78N±0°.08×144°.15E±0°.09, h35km, n35, σ1°29/32, mb4.3/15, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHHJ	**Haha-jima-NKT**	**1.77**	**266**	*e*S		**Sn**	**21 34 18.6**	**+0.6**
CBIJ	**Chichi jima**	**1.78**	**281**	P		**Pn**	**21 33 55.5**	**-1.4**
CBIJ				*e*S		**Sn**	**21 34 17.7**	**-0.6**
CBIJ	**Chichi jima**	**1.78**	**281**	*e*Pn		**Pn**	**21 33 57.8**	**+0.9**
CBIJ				*e*Sn		**Sn**	**21 34 17.8**	**-0.6**
BSO1	**Boso 1**	**8.31**	**342**	P		**Pn**	**21 35 25.9**	**-0.1**
BSO1				*e*S		**Sn**	**21 36 57.2**	**-1.1**
JHU	**Hanno**	**9.95**	**336**	P		**Pn**	**21 35 47.3**	**-1.8**
JHU				*e*S		**Sn**	**21 37 36.9**	**-2.6**
JRY	**Ryogami san**	**10.24**	**335**	P		**Pn**	**21 35 52.1**	**-0.9**
JHO	**Hitachi**	**10.26**	**344**	P		**Pn**	**21 35 52.2**	**-1.1**
MJAR	**Matsushiro Arr**	**10.96**	**334**	Pn		**Pn**	**21 36 01.9**	**-1.1**
	1.2nm,0.3s,baz=149,slow=11,SNR=8.5							
KSRS	**Korea Array**	**17.36**	**312**	P		**P**	**21 37 29.2**	**0.0**
	0.2nm,0.3s,baz=121,slow=13,SNR=10.0							
KSRS				LR		LR	21 44 31.1	
	comp=Z,14nm,19.1s,baz=180,slow=38							
KSAR	**Wonju Array Be**	**17.38**	**312**	P		**P**	**21 37 29.2**	**-0.2**
USRK	**Ussuriysk Ar.**	**19.96**	**334**	P		**Pn**	**21 38 00.3**	**+0.8**
	2.5nm,0.8s,baz=157,slow=12,SNR=5.9							
H11N2	**WAKE ISLAND Hy**	**22.03**	**104**	T		T	22 00 54.9	
	baz=300,slow=74,SNR=3.5							
H11N1	**WAKE ISLAND Hy**	**22.03**	**104**	T		T	22 01 10.4	
	baz=300,slow=74,SNR=3.8							
H11N3	**WAKE ISLAND Hy**	**22.04**	**104**	T		T	22 01 01.9	
	baz=300,slow=74,SNR=5.2							
H11S3	**WAKE ISLAND Hy**	**22.35**	**107**	T		T	22 01 16.8	
	baz=294,slow=74,SNR=6.5							
H11S1	**WAKE ISLAND Hy**	**22.36**	**107**	T		T	22 01 18.1	
	baz=294,slow=74,SNR=5.1							
H11S2	**WAKE ISLAND Hy**	**22.37**	**107**	T		T	22 01 18.0	
	baz=294,slow=74,SNR=4.9							
ULN	**Ulaanbaatar**	**35.76**	**316**	*e*P		**P**	**21 40 26.2**	**+1.9**
	7.0nm,0.6s							
SONM	**Songino Array**	**36.16**	**316**	P		**P**	**21 40 29.6**	**+1.9**
	5.1nm,0.6s,baz=115,slow=7.0,SNR=58							
CMAR	**Chiang Mai Arr**	**42.37**	**268**	P		**P**	**21 41 19.6**	**-0.1**
	1.4nm,0.7s,baz=57,slow=8.1,SNR=11							
CMAR				LR		LR	21 57 12.3	
	comp=Z,17nm,21.4s,baz=80,slow=34							
WRAB	**Tennant Creek**	**47.40**	**193**	*e*P		**P**	**21 41 57.1**	**-2.5**
	3.4nm,0.8s							
WRA	**Warramunga Arr**	**47.41**	**193**	P		**P**	**21 41 57.4**	**-2.4**
	4.0nm,0.8s,baz=13,slow=8.3,SNR=23							
ZALV	**Zalesovo Beam**	**50.87**	**319**	P		**P**	**21 42 26.2**	**+0.3**
	1.1nm,0.5s,baz=110,slow=5.2,SNR=6.6							
ZALV				PcP		**PcP**	**21 43 42.4**	**+0.3**
	0.8nm,0.4s,baz=96,slow=6.6,SNR=4.9							
ASAR	**Alice Springs**	**51.12**	**192**	P		**P**	**21 42 25.6**	**-2.5**
	0.4nm,0.7s,baz=7.8,slow=6.7,SNR=4.9							
MKAR	**Makanchi Array**	**52.02**	**310**	P		**P**	**21 42 35.6**	**+0.9**
	2.1nm,0.7s,baz=92,slow=9.4,SNR=20							
KDAK	**Kodiak Island**	**53.57**	**36**	LR		LR	22 01 48.9	
	comp=Z,25nm,21.0s,baz=293,slow=32							
KURK	**Kurchatov**	**54.45**	**315**	*e*P		**P**	**21 42 52.7**	**+0.3**
	26nm,1.1s							
KKAR	**Karatay Array**	**60.69**	**306**	*e*P		**P**	**21 43 37.4**	**+0.9**
	3.4nm,0.6s							
ABKAR	**Akbulak array**	**66.56**	**315**	*e*P		**P**	**21 44 15.7**	**+0.6**
	1.4nm,0.6s							
FINES	**FINESS Array B**	**78.99**	**334**	P		**P**	**21 45 28.9**	**+0.4**
	2.1nm,0.9s,baz=74,slow=10,SNR=3.9							
KBZ	**Khabaz**	**79.50**	**314**	P		**P**	**21 45 32.1**	**+0.5**
	3.1nm,0.8s,baz=95,slow=3.6,SNR=9.3							
AKASG	**Malin Array Be**	**83.90**	**325**	P		**P**	**21 45 54.6**	**-0.1**
	0.7nm,0.5s,baz=50,slow=5.8,SNR=4.8							
PHWY	**Pilot Hill**	**86.56**	**45**	*e*P		P	21 46 03.3	-5.4
	1.8nm,0.5s							
PLCA	**Paso Flores**	**148.19**	**125**	PKPbc		**PKPbc**	**21 53 11.4**	**+0.4**
	1.9nm,1.0s,baz=264,slow=9.2,SNR=3.3							
LPAZ	**La Paz**	**148.29**	**77**	PKPbc		**PKPbc**	**21 53 13.4**	**+0.8**
	0.9nm,0.5s,baz=359,slow=5.8,SNR=4.5							

*TAP **22** 21:41:06.5, 24°.85N×122°.71E, h6km±1km, ML2.9, D*
*JMA **22** 21:41:07.3±0.2, 24°.94N×122°.74E, h33km, M1.8*

ISC 22 21:41:08.2±1.6, 24°.85N±0°.08×122°.72E±0°.04, h33km±5km, n20, σ1°10/29, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JYNG	**Yonagunijimaku**	**0.45**	**152**	P		**Pb**	**21 41 17.7**	**-0.2**
JYNG				S		**Sn**	**21 41 25.4**	**+0.3**
YOJ	**Yonaguni jima**	**0.47**	**145**	P		**Pb**	**21 41 18.1**	**-0.1**
YOJ				S		**Sn**	**21 41 25.7**	**0.0**
TWB1	**Santiao Chiao**	**0.68**	**284**	*e*P		**Pb**	**21 41 20.8**	**-1.0**
	baz=283							
TWB1				S		**Sn**	**21 41 31.2**	**+0.3**
	baz=283							
TWC	**Suao**	**0.83**	**254**	*e*P		**Pb**	**21 41 23.1**	**-1.0**
	baz=252							
TWC				*e*S		**Sn**	**21 41 36.4**	**+1.9**
	baz=252							
NWF	**Wu-fen Shan**	**0.88**	**285**	P		**Pn**	**21 41 24.3**	**0.0**
	baz=284							
TWE	**Neicheng**	**0.96**	**263**	*i* P		**Pb**	**21 41 25.7**	**-0.7**
	baz=261							
TWE				*e*S		**Sn**	**21 41 39.3**	**+1.3**
	baz=261							
ENA	**Nanau**	**0.98**	**245**	*i* P		**Pn**	**21 41 25.9**	**+0.3**
	baz=244							
ENA				*e*S		**Sb**	**21 41 40.0**	**+0.6**
	baz=244							
ENTT	**Nioudou**	**1.07**	**259**	*e*P		**Pn**	**21 41 26.7**	**-0.1**
	baz=258							
ENTT				*e*S		**Sn**	**21 41 40.4**	**-0.2**
	baz=258							
NSK	**Sanguang**	**1.25**	**262**	*e*P		**Pn**	**21 41 28.4**	**-1.0**
	baz=261							
NSK				*e*S		**Sb**	**21 41 49.0**	**+1.9**
	baz=261							
NNS	**Nan Shan**	**1.29**	**252**	*e*P		**Pn**	**21 41 29.0**	**-1.0**
	baz=251							
JKRS	**Kuro-shima**	**1.32**	**117**	P		**Pn**	**21 41 30.2**	**-0.1**
WHF	**Hehuan Shan**	**1.50**	**242**	*e*P		**Pb**	**21 41 35.2**	**-0.4**
	baz=241							
TWT	**Tachien**	**1.52**	**248**	*e*P		**Pb**	**21 41 37.0**	**+1.0**
	baz=246							
TWT				*e*S		**Sb**	**21 41 55.9**	**+0.9**
	baz=246							
NSTT	**Nanjuang**	**1.58**	**263**	*e*P		**Pb**	**21 41 35.4**	**-1.3**
	baz=261							
SMLT	**Sun Moon Lake**	**1.92**	**240**	*e*P		**Pb**	**21 41 43.0**	**+0.4**
	baz=239							
TYC	**Yuchr**	**1.94**	**241**	*e*P		**Pb**	**21 41 42.0**	**-0.8**
	baz=240							
ALS	**Alishan**	**2.20**	**233**	*e*P		**Pb**	**21 41 46.6**	**-0.9**
	baz=232							
CHN5	**Tsauling**	**2.24**	**237**	*e*P		**Pb**	**21 41 47.0**	**-1.1**
	baz=236							
CHN4	**Tsaushan**	**2.45**	**233**	*e*P		**Pb**	**21 41 49.8**	**-1.8**
	baz=232							
STYT	**Tauyuan**	**2.46**	**227**	*e*P		**Pb**	**21 41 49.1**	**-2.6**
	baz=226							

*DJA **22** 22:18:58.4±0.5, 4°.S±3°×

CTAO	**Charters Tower**	**22.59**	**136**	*e*P		**P**	**22 23 56.1**	**-1.3**
	31nm,0.6s							
HNR	**Honiara**	**30.51**	**101**	*e*P		**P**	**22 25 08.8**	**-1.2**
	29nm,0.6s							
CMAR	**Chiang Mai Arr**	**37.73**	**308**	P		**P**	**22 26 13.8**	**+1.2**
	1.2nm,0.4s,baz=138,slow=8.7,SNR=6.9							
CHTO	**Chiang Mai**	**37.93**	**308**	*e*P		**P**	**22 26 15.1**	**+0.9**
	3.7nm,0.9s							
LSA	**Lhasa**	**49.98**	**315**	*e*P		**P**	**22 27 52.0**	**+0.6**
	4.6nm,0.6s							
ODAN	**Odare**	**51.20**	**310**	*e*P		**P**	**22 27 59.4**	**-1.0**
	6.8nm,0.7s							
TAPN	**Taplejung**	**51.21**	**310**	*e*P		**P**	**22 27 59.7**	**-0.8**
	8.0nm,0.4s							
RAMN	**Ramite**	**51.86**	**309**	*e*P		**P**	**22 28 05.0**	**-0.3**
	22nm,0.6s							
KOLN	**Koldanda**	**54.59**	**308**	*e*P		**P**	**22 28 24.4**	**-1.0**
	10nm,0.7s							
PYUN	**Piuthan**	**55.22**	**309**	*e*P		**P**	**22 28 29.9**	**0.0**
ULN	**Ulaanbaatar**	**55.53**	**342**	*e*P		**P**	**22 28 31.9**	**+0.1**
	1.3nm,0.5s							
SONM	**Songino Array**	**55.72**	**341**	P		**P**	**22 28 33.2**	**+0.2**
	0.6nm,0.6s,baz=134,slow=6.4,SNR=4.4							
MKAR	**Makanchi Array**	**65.73**	**326**	P		**P**	**22 29 41.0**	**-0.2**
	2.0nm,0.5s,baz=113,slow=8.0,SNR=22							
ZALV	**Zalesovo Beam**	**68.96**	**333**	P		**P**	**22 30 01.0**	**-0.4**
	0.8nm,0.6s,baz=124,slow=7.7,SNR=3.9							
KURBB	**Kurchatov Arra**	**69.98**	**328**	P		**P**	**22 30 07.6**	**-0.2**
	2.9nm,0.7s,baz=127,slow=5.4,SNR=22							
KURK	**Kurchatov**	**69.98**	**328**	*e*P		**P**	**22 30 08.0**	**+0.2**
BVAR	**Borovoye Array**	**75.55**	**328**	P		**P**	**22 30 40.9**	**0.0**
	2.3nm,0.9s,baz=110,slow=8.1,SNR=10							
ABKAR	**Akbulak array**	**80.13**	**321**	*e*P		**P**	**22 31 06.0**	**-0.5**
	2.8nm,0.8s							

IDC ***22*** *22:28:13.8±0.8, 31°.33N×69°.76E, h0km, mb3.9/15, mb1 4.1/18, mb1mx3.9/45, mbtmp4.0/18, ML4.0/3, MS3.4/13, Ms1 3.4/13, ms1mx3.1/59, Error ellipse: s-maj=17.8km s-min=16.0km az=35.0*

ISCJB ***22*** *22:28:14.0±0.4, 31°.21N±0°.04×69°.90E±0°.04, h23km, mb4.1/23, MS3.3/10, Error ellipse: s-maj=5.6km s-min=4.7km az=36.5*

BJI ***22*** *22:28:14.2, 31°.30N×69°.90E, h10km, mb4.4/19, mB4.6/16, Ms3.9/10, Ms7 3.8/7*

NEIC ***22*** *22:28:15.3±0.5, 31°.34N×69°.78E, h10km, mb4.1/8, Error ellipse: s-maj=9.1km s-min=7.5km az=137.0*

MOS ***22*** *22:28:18.0±1.2, 31°.48N×69°.89E, h33km, mb4.2/15, Error ellipse: s-maj=13.4km s-min=7.0km az=86.2*

ISC 22 22:28:16.9±0.5, 31°.23N±0°.06×69°.82E±0°.05, h23km, n80, σ29°.07/78, mb4.1/23, MS3.2/10, 2C, Pakistan

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
THW	**Thamme Wali**	**2.25**	**46**	⇑P		**Pn**	**22 28 53.5**	**+0.7**
SARP	**Sargodha**	**2.53**	**74**	P		**Pn**	**22 28 57.7**	**+1.2**
CEP	**Cherat**	**3.13**	**34**	⇑P		**Pn**	**22 29 05.4**	**+0.5**
KBL	**Kabul**	**3.36**	**349**	*e*P		**Pn**	**22 29 08.4**	**+0.2**
KBL	**Kabul**	**3.36**	**349**	*e*Pn		**Pn**	**22 29 08.4**	**+0.2**
CHCP	**Chirah Chowk**	**3.78**	**49**	P		**Pn**	**22 29 14.6**	**+0.8**
BHK	**Bhakra**	**5.65**	**86**	*e*P		**Pn**	**22 29 38.8**	**-0.6**
BHK				*e*S		**Sn**	**22 30 45.8**	**+2.2**
SDNR	**Sundarnagar**	**6.12**	**86**	*e*P		**Pn**	**22 29 46.6**	**+0.6**
SDNR				*e*S		Sn	22 30 29.6	-26
KSH	**Kashi**	**9.67**	**30**	P		**Pn**	**22 30 30.8**	**-3.9**
KSH				pP			22 30 34.8	
KSH				S		Sn	22 32 02.4	-20
KSH				pmax		pmax		
	comp=Z,93nm,0.8s							
GEYT	**Alibeck**	**11.73**	**308**	LR		LR	22 36 20.8	
	comp=Z,152nm,19.0s,baz=145,slow=42							
KKAR	**Karatay Array**	**11.86**	**2**	*e*P		**Pn**	**22 31 02.7**	**-1.9**
KKAR				*e*			22 33 04.6	
KKAR	**Karatay Array**	**11.86**	**2**	*e*Pn		**Pn**	**22 31 02.7**	**-1.9**
KKAR				*e*Sn		Sn	22 33 04.6	-12
PYUN	**Piuthan**	**11.87**	**102**	*e*P		**Pn**	**22 31 03.9**	**-1.1**
	34nm,0.3s							
AAK	**Ala-Archa**	**11.98**	**17**	Pn		**Pn**	**22 31 04.9**	**-1.4**
	2.6nm,0.3s,baz=191,slow=9.2,SNR=69							
AAK				LR		LR	22 36 18.1	
	comp=Z,236nm,21.3s,baz=196,slow=41							
AAK	**Ala-Archa**	**11.98**	**17**	*e*Pn		**Pn**	**22 31 04.9**	**-1.4**
AAK				*e*Sn		**Sn**	**22 33 19.5**	**+0.3**
FRU	**Bishkek**	**12.19**	**17**	*e*P		**Pn**	**22 31 09.5**	**+0.4**
FRU				*e*S		**Sn**	**22 33 26.0**	**+1.7**
FRU				smax		smax		
	comp=N,40nm,1.7s							
KOLN	**Koldanda**	**12.49**	**103**	*e*P		**Pn**	**22 31 12.2**	**-1.2**
	comp=N,24nm,0.4s							
WSAR	**Wadi Sarin**	**12.74**	**234**	Pn		**Pn**	**22 31 15.6**	**-1.1**
	comp=N,0.3nm,0.3s,baz=68,slow=5.2,SNR=5.7							
GKN	**Gorkha**	**13.29**	**100**	*e*P		**Pn**	**22 31 22.3**	**-2.0**
	comp=N,29nm,0.3s							
UOSS	**Minazif**	**13.55**	**246**	*e*Pn		**Pn**	**22 31 27.8**	**+0.1**
DMN	**Daman**	**13.80**	**101**	*e*P		**Pn**	**22 31 29.0**	**-2.4**
	comp=N,14nm,0.3s							
KKN	**Kakani**	**13.89**	**100**	*e*P		**Pn**	**22 31 30.1**	**-2.5**
	comp=N,61nm,0.6s							
PKIN	**Phulchoki**	**14.06**	**101**	*e*P		**Pn**	**22 31 32.4**	**-2.5**
	comp=N,66nm,0.6s							
PKI	**Pulchoki**	**14.07**	**101**	*e*P		**Pn**	**22 31 32.2**	**-2.9**
	comp=N,42nm,0.6s							
GUN	**Gumba**	**14.36**	**99**	*e*P		**Pn**	**22 31 37.0**	**-2.2**
	comp=N,114nm,0.7s							
JIRN	**Jiri**	**14.70**	**100**	*e*P		**Pn**	**22 31 40.9**	**-2.9**
	comp=N,323nm,0.5s							
RAMN	**Ramite**	**15.28**	**102**	*e*P		**Pn**	**22 31 47.6**	**-3.8**
	comp=N,40nm,0.6s							
HYB	**Hyderabad**	**15.88**	**148**	*i* P		**P**	**22 32 04.0**	**+1.4**
ODAN	**Odare**	**15.97**	**101**	*e*P		**Pn**	**22 31 56.8**	**-3.6**
	comp=N,9.6nm,0.5s							
TAPN	**Taplejung**	**16.08**	**99**	*e*P		**Pn**	**22 31 58.0**	**-3.8**
	comp=N,15nm,0.5s							
MAKZ	**Makanchi**	**18.16**	**28**	*e*P		**Pn**	**22 32 24.5**	**-3.0**
MAKZ				pmax		pmax		
	comp=Z,7.0nm,0.6s							
MAKZ	**Makanchi**	**18.16**	**28**	*e*Pn		**Pn**	**22 32 24.4**	**-3.0**
	comp=Z,7.1nm,0.6s							
MK01	**Makanchi Array**	**18.26**	**28**	*e*Pn		**Pn**	**22 32 26.4**	**-2.3**
MK31	**Makanchi Array**	**18.27**	**28**	*e*P		**Pn**	**22 32 27.1**	**-1.8**
MK31	**Makanchi Array**	**18.27**	**28**	*e*Pn		**Pn**	**22 32 27.1**	**-1.8**
MKAR	**Makanchi Array**	**18.27**	**28**	P		**Pn**	**22 32 26.7**	**-2.1**
	comp=Z,0.5nm,0.3s,baz=203,slow=9.0,SNR=17							
MKAR				LR		LR	22 40 19.5	
	comp=Z,190nm,21.6s,baz=222,slow=40							
MKAR	**Makanchi Array**	**18.27**	**28**	*e*P		**Pn**	**22 32 27.1**	**-1.8**
MKAR				pmax		pmax		
	comp=Z,35nm,0.7s							
MKAR	**Makanchi Array**	**18.27**	**28**	*e*Pn		**Pn**	**22 32 27.1**	**-1.8**
	comp=Z,35nm,0.7s							
LSA	**Lhasa**	**18.45**	**89**	*e*P		**Pn**	**22 32 33.0**	**+1.4**
LSA				pmax		pmax		
	comp=Z,4.0nm,0.4s							
LSA	**Lhasa**	**18.45**	**89**	*e*P		**Pn**	**22 32 33.0**	**+1.4**
	comp=Z,4.5nm,0.4s							
WMQ	**Urumqi**	**18.89**	**43**	P		**P**	**22 32 35.8**	**0.0**
WMQ				sP		pP	22 32 42.8	+0.7
WMQ				S		**Sn**	**22 36 01.1**	**-6.2**
WMQ				SS		**SnSn**	**22 36 27.3**	**+6.0**
WMQ				pmax		pmax		
	comp=Z,12nm,0.7s							
WMQ				pmax		pmax		
	comp=Z,45nm,5.5s							
WMQ				LR		LR		
	comp=Z,140nm,19.9s							
WMQ				LR		LR		
	comp=Z,95nm,20.7s							
ABKAR	**Akbulak array**	**19.48**	**340**	*e*P		**P**	**22 32 41.3**	**-0.8**
	comp=Z,35nm,0.4s							
KURBB	**Kurchatov Arra**	**20.43**	**16**	P		**P**	**22 32 51.4**	**-1.0**
	comp=Z,1.1nm,0.5s,baz=206,slow=10,SNR=5.8							
KURK	**Kurchatov**	**20.54**	**16**	*e*P		**P**	**22 32 54.6**	**+1.0**
KURK				pmax		pmax		
	comp=Z,4.0nm,0.8s							
KURK	**Kurchatov**	**20.54**	**16**	*e*P		**P**	**22 32 54.6**	**+1.0**
	comp=Z,3.6nm,0.8s							
AKTO	**Aktyubinsk**	**21.11**	**339**	P		**P**	**22 32 58.0**	**-1.8**
	comp=Z,7.5nm,0.9s,baz=155,slow=11,SNR=13							
AKTO	**Aktyubinsk**	**21.11**	**339**	P		**P**	**22 32 58.0**	**-1.8**
AKTO				pmax		pmax		
	comp=Z,8.0nm,0.9s							
BVAR	**Borovoye Array**	**21.78**	**1**	P		**P**	**22 33 05.2**	**-1.7**
	comp=Z,2.1nm,0.7s,baz=170,slow=9.0,SNR=9.5							
BRVK	**Borovoye**	**21.81**	**1**	*e*P		**P**	**22 33 05.2**	**-2.1**
BRVK				pmax		pmax		
	comp=Z,12nm,1.1s							
BRVK	**Borovoye**	**21.81**	**1**	*e*P		**P**	**22 33 05.2**	**-2.1**
	comp=Z,12nm,1.1s							
GNI	**Garni**	**22.17**	**301**	*e*P		**P**	**22 33 11.1**	**-0.4**
GNI				pmax		pmax		
	comp=Z,13nm,1.0s							
GNI	**Garni**	**22.17**	**301**	*e*P		**P**	**22 33 11.1**	**-0.4**
	comp=Z,12nm,1.0s							
KBZ	**Khabaz**	**24.62**	**308**	P		**P**	**22 33 37.9**	**+2.5**
	comp=Z,2.1nm,0.9s,baz=116,slow=4.5,SNR=4.2							
KBZ				LR		LR	22 45 46.3	
	comp=Z,66nm,18.8s,baz=60,slow=43							
KVAR	**Kislovodsk Arr**	**24.84**	**308**	LR		LR	22 45 41.2	
	comp=Z,65nm,18.0s,baz=239,slow=42							
ZAA0	**Zalesovo Array**	**25.14**	**21**	*e*P		**P**	**22 33 38.6**	**-1.4**
ZALV	**Zalesovo Beam**	**25.14**	**21**	P		**P**	**22 33 38.6**	**-1.4**
	comp=Z,2.5nm,0.3s,baz=217,slow=9.5,SNR=16							
ZALV				LR		LR	22 44 40.8	
	comp=Z,81nm,20.7s,baz=250,slow=39							
NVS	**Novosibirsk**	**25.46**	**18**	*e*P		**P**	**22 33 43.6**	**+0.7**
NVS				pmax		pmax		
	comp=Z,13nm,1.4s							
NVS				pmax		pmax		
	comp=N,8.0nm,1.1s							
NVS				pmax		pmax		
	comp=E,3.0nm,1.4s							
ARU	**Arti**	**26.39**	**346**	P		**P**	**22 33 56.0**	**+4.6**
ARU	**Arti**	**26.39**	**346**	*e*P		**P**	**22 33 51.5**	**+0.2**
	comp=E,4.7nm,0.9s							
LZH	**Lanzhou**	**28.64**	**71**	*e*P		P	22 34 18.3	+6.4
LZH				pP		sP	22 34 22.4	+0.7
LZH				sP		pP	22 34 24.9	+6.1
LZH				pmax		pmax		
	comp=Z,17nm,1.0s							
MMAI	**Mount Meron Ar**	**29.13**	**283**	LR		LR	22 48 04.0	
	comp=Z,49nm,19.8s,baz=125,slow=41							
CMAR	**Chiang Mai Arr**	**29.23**	**109**	P		**P**	**22 34 19.3**	**+2.2**
	comp=Z,1.0nm,0.6s,baz=292,slow=10,SNR=6.3							
CMAR				LR		LR	22 47 09.8	
	comp=Z,34nm,18.6s,baz=235,slow=39							
KMI	**Kunming**	**29.58**	**94**	P		**P**	**22 34 18.8**	**-1.6**
KMI				pmax		pmax		
	comp=Z,6.0nm,1.1s							
BRTR	**Keskin Array B**	**30.49**	**296**	P		**P**	**22 34 29.2**	**+0.8**
	comp=Z,0.5nm,0.6s,baz=119,slow=10.0,SNR=4.9							
SONM	**Songino Array**	**32.35**	**49**	P		**P**	**22 34 45.7**	**+1.2**
	comp=Z,0.7nm,0.5s,baz=241,slow=8.8,SNR=7.2							
SONM				LR		LR	22 50 35.7	
	comp=Z,71nm,18.3s,baz=258,slow=42							
SONA1	**Songino Array**	**32.36**	**49**	*e*P		**P**	**22 34 46.6**	**+2.0**
HHC	**Hu-ho-hao-te**	**34.81**	**62**	*e*P		**P**	**22 35 05.1**	**-0.9**
HHC				pmax		pmax		
	comp=Z,19nm,0.7s							
HHC				pmax		pmax		
	comp=Z,140nm,8.3s							
AKASG	**Malin Array Be**	**35.72**	**315**	LR		LR	22 53 13.9	
	comp=Z,39nm,18.9s,baz=115,slow=42							
NRIK	**Noril'sk**	**39.47**	**10**	P		**P**	**22 35 45.6**	**+0.5**
	comp=Z,2.2nm,0.6s,baz=192,slow=4.3,SNR=2.9							
FINES	**FINESS Array B**	**41.42**	**330**	P		**P**	**22 36 02.4**	**+1.1**
	comp=Z,1.8nm,0.6s,baz=116,slow=13,SNR=5.6							
FINES				LR		LR	22 55 39.1	
	comp=Z,48nm,18.6s,baz=130,slow=40							
GERES	**GERESS Array B**	**45.34**	**310**	P		**P**	**22 36 32.9**	**-0.4**
	comp=Z,0.2nm,0.3s,baz=73,slow=3.4,SNR=3.7							
ARA0	**ARCESS Array S**	**45.69**	**340**	*e*P		**P**	**22 36 34.5**	**-1.0**
ARCES	**ARCESS Array B**	**45.69**	**340**	P		**P**	**22 36 35.5**	**0.0**
	comp=Z,2.2nm,0.6s,baz=116,slow=5.5,SNR=5.5							
HFS	**Hagfors**	**46.71**	**325**	LR		LR	22 58 25.9	
	comp=Z,74nm,19.3s,baz=100,slow=39							
NOA	**NORSAR Array B**	**48.09**	**326**	LR		LR	22 59 09.0	
	comp=Z,45nm,20.5s,baz=100,slow=39							
ESDC	**Sonseca Array**	**59.15**	**300**	P		**P**	**22 38 15.8**	**-0.1**
	comp=Z,0.7nm,0.5s,baz=75,slow=7.0,SNR=6.2							
TORD	**Torodi Ar. Bea**	**64.69**	**270**	P		**P**	**22 38 52.8**	**-0.6**
	comp=Z,0.6nm,0.6s,baz=61,slow=6.2,SNR=10							
SOEI	**Soe**	**66.17**	**119**	*e*P		**P**	**22 39 02.7**	**-0.4**
	comp=Z,42nm,0.6s							
WRA	**Warramunga Arr**	**80.11**	**120**	P		**P**	**22 40 26.4**	**+1.1**
	comp=Z,1.8nm,0.8s,baz=322,slow=5.0,SNR=14							
ASAR	**Alice Springs**	**82.11**	**124**	P		**P**	**22 40 36.6**	**+0.8**
	comp=Z,0.9nm,0.6s,baz=322,slow=6.0,SNR=12							

JMA ***22*** *22:37:34.9±0.2, 24°.91N×122°.62E, h0km, M2.3*

TAP ***22*** *22:37:34.8, 24°.90N×122°.58E, h3km±1km, ML2.9, D*

ISC 22 22:37:35.3±1.5, 24°.90N±0°.07×122°.59E±0°.03, h4km±12km, n22, σ8°67/30, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
JYNG	**Yonagunijimaku**	**0.55**	**144**	P		**Pg**	**22 37 45.9**	**0.0**
JYNG				*e*S		**Sg**	**22 37 54.0**	**+1.0**
TWB1	**Santiao Chiao**	**0.56**	**281**	P		**Pg**	**22 37 45.6**	**-0.5**
	baz=281							
TWB1				S		**Sb**	**22 37 55.0**	**-1.2**
	baz=281							
YOJ	**Yonaguni jima**	**0.58**	**139**	P		**Pg**	**22 37 46.3**	**-0.1**
YOJ				*e*S		**Sg**	**22 37 53.9**	**0.0**
TWC	**Suao**	**0.74**	**247**	P		**Pb**	**22 37 50.3**	**-0.4**
	baz=246							
TWC				S		**Sb**	**22 38 01.3**	**+0.1**
	baz=246							
NWF	**Wu-fen Shan**	**0.76**	**283**	*e*P		**Pb**	**22 37 51.3**	**+0.1**
	baz=283							
TWE	**Neicheng**	**0.86**	**258**	P		**Pb**	**22 37 52.5**	**-0.4**
	baz=257							
ENA	**Nanau**	**0.91**	**239**	P		**Pb**	**22 37 53.1**	**-0.6**
	baz=238							
ENA				*e*S		**Sb**	**22 38 05.6**	**-0.5**
	baz=238							
TWA	**Mucha**	**0.92**	**275**	*e*P		**Pn**	**22 37 56.3**	**+1.2**
	baz=275							
ENTT	**Nioudou**	**0.97**	**255**	*e*P		**Pn**	**22 37 55.5**	**-0.3**
	baz=254							
ENTT				*e*S		**Sn**	**22 38 10.0**	**-0.1**
	baz=254							
NSK	**Sanguang**	**1.15**	**259**	*e*P		**Pg**	**22 37 57.2**	**-0.1**
	baz=258							
NSK				*e*S		**Sn**	**22 38 14.5**	**0.0**
	baz=258							
IRIF	**Iriomote-Funau**	**1.18**	**118**	P		**Pb**	**22 37 57.8**	**-0.5**
NNS	**Nan Shan**	**1.20**	**248**	*e*P		**Pg**	**22 37 58.2**	**-0.2**
	baz=247							
NNS				*e*S		**Sn**	**22 38 16.2**	**+0.3**
	baz=247							
WHF	**Hehuan Shan**	**1.43**	**238**	*e*P		**Pb**	**22 38 02.7**	**-0.1**
	baz=237							
TWT	**Tachien**	**1.44**	**244**	*e*P		**Pb**	**22 38 03.4**	**+0.5**
	baz=243							
NSTT	**Nanjuang**	**1.47**	**260**	*e*P		**Pg**	**22 38 03.9**	**+0.3**
	baz=259							
JIJ	**Ishigaki jima**	**1.51**	**110**	*e*S		**Sb**	**22 38 22.7**	**-0.7**
TWQ1	**Liyutan**	**1.75**	**252**	*e*P		**Pg**	**22 38 08.8**	**0.0**
	baz=251							
SMLT	**Sun Moon Lake**	**1.85**	**237**	*e*P		**Pn**	**22 38 08.5**	**+0.5**
	baz=236							
TYC	**Yuchr**	**1.87**	**238**	*e*P		**Pn**	**22 38 08.7**	**+0.5**
	baz=237							
CHN5	**Tsauling**	**2.18**	**234**	*e*P		**Pn**	**22 38 12.8**	**+0.3**
	baz=233							
STYT	**Tauyuan**	**2.41**	**225**	*e*P		**Pn**	**22 38 17.2**	**+1.6**
	baz=223							
WTP	**Ta-pu**	**2.45**	**228**	*e*P		**Pb**	**22 38 18.4**	**-1.6**
	baz=227							

KRSC ***22*** *22:43:06.6±1.7, 52°.51N×159°.59E, h36km±16km, ML4.9, FELT [II-III] at Petropavlovsk.*

MOS ***22*** *22:43:08.7±1.1, 52°.52N×159°.28E, h44km, mb4.8/74, Error ellipse: s-maj=6.2km s-min=3.3km az=84.5*

MOS Felt (III) at Petropavlovsk-Kamchatskiy.

ISCJB ***22*** *22:43:09.3±0.3, 52°.56N±0°.03×159°.31E±0°.03, h51km±2km, mb4.7/188, MS3.9/13, Error ellipse: s-maj=4.7km s-min=2.5km az=156.6*

BJI ***22*** *22:43:09.1, 52°.89N×159°.43E, h65km, mb4.7/41, mB4.9/33, Ms4.5/28, Ms7 4.2/25*

NEIC ***22*** *22:43:11.6±0.5, 52°.68N×159°.17E, h52km±4km, mb4.9/104, Error ellipse: s-maj=5.7km s-min=2.9km az=165.0*

NEIC Felt at Petropavlovsk-Kamchatskiy.

IDC ***22*** *22:43:12.3±1.2, 52°.65N×159°.21E, h60km±9km, mb4.1/36, mb1 4.3/40, mb1mx4.2/62, mbtmp4.5/40, MS3.8/10, Ms1 3.8/10, ms1mx3.5/59, Error ellipse: s-maj=13.3km s-min=8.9km az=155.0*

ISC 22 22:43:10.7±0.6, 52°.57N±0°.04×159°.33E±0°.04, h51km±4km, n644, σ1°28/665, mb4.7/188, MS4.0/13, 17C-11D, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
RUS	**Russkaya**	**0.52**	**255**	PN		**Pn**	**22 43 19.7**	**-2.5**
RUS				S		**Sn**	**22 43 27.8**	**-2.7**
RUS	**Russkaya**	**0.52**	**255**	*e*P		**Pn**	**22 43 19.7**	**-2.5**
RUS				*e*S		**Sn**	**22 43 27.8**	**-2.7**
NLC	**Nalytchevo**	**0.60**	**1**	PN		**Pn**	**22 43 20.6**	**-2.7**
NLC				S		**Sn**	**22 43 29.2**	**-3.1**
NLC	**Nalytchevo**	**0.60**	**1**	*e*P		**Pn**	**22 43 20.6**	**-2.7**
NLC				*e*S		**Sn**	**22 43 29.2**	**-3.1**
PET	**Petropavlovsk**	**0.61**	**318**	*i* PN		**Pn**	**22 43 21.6**	**-1.8**
PET				*i* S		**Sn**	**22 43 30.5**	**-2.0**
PET				pmax		pmax		
	comp=Z,2μm,0.7s							
PET				pmax		pmax		
	comp=Z,200nm,0.8s							
PET				pmax		pmax		
	comp=Z,3μm,0.7s							
PET				smax		smax		
	comp=E,15μm,0.9s							
PET				smax		smax		
	comp=N,14μm,0.5s							
PET				smax		smax		
	comp=N,15μm,0.4s							
PET				smax		smax		
	comp=E,13μm,0.9s							
PET	**Petropavlovsk**	**0.61**	**318**	*e*Pn		**Pn**	**22 43 21.6**	**-1.8**
PET				*e*Sn		**Sn**	**22 43 30.8**	**-1.8**
MTVR	**Mutnovka**	**0.71**	**263**	PN		**Pn**	**22 43 22.7**	**-2.0**
MTVR	**Mutnovka**	**0.71**	**263**	*i* P		**Pn**	**22 43 22.7**	**-2.0**
UGLR	**Uglovaya**	**0.71**	**335**	PN		**Pn**	**22 43 23.1**	**-1.6**
UGLR	**Uglovaya**	**0.71**	**335**	*e*P		**Pn**	**22 43 23.1**	**-1.6**
SDLR	**Sedlovina**	**0.76**	**339**	PN		**Pn**	**22 43 23.4**	**-2.0**
SDLR	**Sedlovina**	**0.76**	**339**	*i* P		**Pn**	**22 43 23.4**	**-2.0**
GRL	**Gorelyy**	**0.77**	**269**	PN		**Pn**	**22 43 24.4**	**-1.1**
GRL	**Gorelyy**	**0.77**	**269**	*e*P		**Pn**	**22 43 24.4**	**-1.1**
AVH	**Avacha**	**0.78**	**333**	PN		**Pn**	**22 43 24.3**	**-1.4**
AVH	**Avacha**	**0.78**	**333**	*e*P		**Pn**	**22 43 24.3**	**-1.4**
KRER	**Koryakskii**	**0.82**	**335**	PN		**Pn**	**22 43 24.7**	**-1.5**
KRER	**Koryakskii**	**0.82**	**335**	*e*P		**Pn**	**22 43 24.7**	**-1.5**
KOK	**Koryaka**	**0.84**	**330**	PN		**Pn**	**22 43 25.7**	**-0.7**
KOK	**Koryaka**	**0.84**	**330**	*e*P		**Pn**	**22 43 25.7**	**-0.7**
KRX	**Arik**	**0.89**	**333**	PN		**Pn**	**22 43 25.4**	**-1.8**
KRX	**Arik**	**0.89**	**333**	*e*P		**Pn**	**22 43 25.4**	**-1.8**
ASAK	**Asacha**	**0.89**	**259**	PN		**Pn**	**22 43 26.0**	**-1.1**
ASAK	**Asacha**	**0.89**	**259**	*i* P		**Pn**	**22 43 26.0**	**-1.1**
PEA0	**Petropavlovsk-**	**1.13**	**299**	*e*Pn		**Pn**	**22 43 29.1**	**-1.0**
PEA0B	**Petropavlovsk-**	**1.13**	**299**	*e*Pn		**Pn**	**22 43 29.5**	**-0.7**
PETK	**Petropavlovsk-**	**1.13**	**299**	P		**Pn**	**22 43 29.4**	**-0.8**
	comp=E,249nm,0.3s,baz=107,slow=18,SNR=1025							
PETK				S		**Sn**	**22 43 44.8**	**+0.2**
	comp=E,647nm,0.3s,baz=58,slow=42,SNR=26							
PETK				LR		LR	22 44 14.6	
	comp=E,2μm,19.4s,baz=89,slow=61							
GNL	**Ganaly**	**1.40**	**324**	PN		**Pn**	**22 43 33.8**	**-0.2**
GNL	**Ganaly**	**1.40**	**324**	*e*P		**Pn**	**22 43 33.8**	**-0.2**
KII	**Karymskiy**	**1.47**	**3**	PN		**Pn**	**22 43 34.9**	**0.0**
KII	**Karymskiy**	**1.47**	**3**	*e*P		**Pn**	**22 43 34.9**	**0.0**
MKZ	**Mys Kozlova**	**2.45**	**35**	PN		**Pn**	**22 43 45.8**	**-2.4**
MKZ				S		**Sn**	**22 44 14.0**	**-2.9**
MKZ	**Mys Kozlova**	**2.45**	**35**	*e*P		**Pn**	**22 43 45.8**	**-2.4**
MKZ				*e*S		**Sn**	**22 44 14.0**	**-2.9**
KZV	**Kizimen**	**2.61**	**12**	PN		**Pn**	**22 43 49.6**	**-1.0**
KZV	**Kizimen**	**2.61**	**12**	*e*P		**Pn**	**22 43 49.6**	**-1.0**
SKR	**Severo-Kuril's**	**2.75**	**228**	*e*PN		**Pn**	**22 43 52.9**	**+0.6**
SKR				*e*S		**Sn**	**22 44 23.5**	**-0.8**
SKR				pmax		pmax		
	comp=Z,142nm,0.5s							
SKR				pmax		pmax		
	comp=Z,700nm,2.3s							
SKR				smax		smax		
	comp=E,3μm,0.8s							
SKR				smax		smax		
	comp=N,3μm,0.8s							
SKR				MLR		MLR		
	comp=Z,2μm,15.0s							
TUMR	**Tumrok**	**2.76**	**10**	PN		**Pn**	**22 43 53.5**	**+0.9**
TUMR	**Tumrok**	**2.76**	**10**	*e*P		**Pn**	**22 43 53.5**	**+0.9**
KMNR	**Kamenistaya**	**3.24**	**9**	PN		**Pn**	**22 44 00.4**	**+1.3**
KMNR	**Kamenistaya**	**3.24**	**9**	*e*P		**Pn**	**22 44 00.4**	**+1.3**
ESO	**Esso**	**3.38**	**354**	PN		**Pn**	**22 44 02.2**	**+1.2**
ESO	**Esso**	**3.38**	**354**	*e*P		**Pn**	**22 44 02.2**	**+1.2**
BZMR	**Bezymyannaya**	**3.44**	**11**	PN		**Pn**	**22 44 03.2**	**+1.3**
BZMR	**Bezymyannaya**	**3.44**	**11**	*e*P		**Pn**	**22 44 03.2**	**+1.3**
KIRR	**

comp=N,13nm,1.0s
MDJ Mudanjiang 21.10 260 P **P** **22 47 50.6 -0.1**
MDJ pP pP 22 48 03.6 +1.2
MDJ sP sP 22 48 11.3 +2.5
MDJ S **S** **22 51 38.8 -3.7**
MDJ pmax pmax
comp=N,12nm,0.7s
MDJ pmax pmax
comp=N,89nm,4.8s
MDJ LR LR
comp=N,260nm,11.6s
MDJ LR LR
comp=N,250nm,9.2s
MDJ LR LR
comp=N,450nm,13.0s
MJA0 Matsu Arr-Jizo 21.84 231 *e*P **P** **22 47 59.5 +0.8**
MJA0 pmax pmax
comp=Z,26nm,0.9s
MJB9 Matsu-Tunnel 21.86 231 *e*P **P** **22 47 59.5 +0.6**
comp=Z,12nm,0.8s
MAJO Matsushiro 21.86 231 *e*P **P** **22 47 59.5 +0.6**
MAJO pmax pmax
comp=Z,48nm,0.8s
MAJO Matsushiro 21.86 231 *e*P **P** **22 47 59.5 +0.6**
comp=Z,48nm,0.8s
MAT Matsushiro 21.86 231 P **P** **22 47 58.8 -0.1**
MAT *e*S **S** **22 52 01.3 +3.8**
MJAR Matsushiro Arr 21.86 231 P **P** **22 47 59.4 +0.4**
comp=Z,23nm,0.9s,baz=24,slow=12,SNR=57
MJAR LR LR 22 56 36.2
comp=Z,190nm,21.4s,baz=60,slow=37
TIXI Tiksi 23.37 336 P **P** **22 48 15.2 +0.9**
comp=Z,4.2nm,0.6s,baz=119,slow=8.9,SNR=4.1
TIXI LR LR 22 58 34.1
comp=Z,154nm,18.5s,baz=124,slow=40
TIXI Tiksi 23.37 336 *i*P **P** **22 48 14.2 -0.1**
TIXI pmax pmax
comp=Z,6.0nm,1.0s
INU Inuyama 23.39 231 *e*P **P** **22 48 14.9 +0.1**
comp=Z,46nm,1.1s
JHJ Hachijo jima 2 24.01 224 LR LR 22 57 09.9
comp=Z,86nm,21.5s,baz=76,slow=35
HIA Hailar 24.96 278 *e*P **P** **22 48 28.6 -0.5**
HIA pmax pmax
comp=Z,31nm,0.9s
HIA Hailar 24.96 278 *e*P **P** **22 48 28.6 -0.5**
comp=Z,31nm,0.9s
TT01 Tatalina 25.44 49 *e*P **P** **22 48 33.4 0.0**
TTA Tatalina 25.45 48 *e*P **P** **22 48 33.9 +0.4**
TTA Tatalina 25.45 48 *e*P **P** **22 48 33.9 +0.4**
SVW2 Sparrevohn 25.62 53 *e*P **P** **22 48 36.4 +1.4**
comp=Z,8.8nm,1.0s
BOD Bodaibo 26.00 300 *e*P **P** **22 48 40.1 +1.7**
BOD pmax pmax
comp=Z,7.0nm,1.3s
KSRS Korea Array 26.59 248 P **P** **22 48 44.6 +0.7**
comp=Z,5.5nm,0.8s,baz=44,slow=9.1,SNR=18
KS01 Wonju Array Si 26.59 248 *e*P **P** **22 48 44.0 0.0**
KSAR Wonju Array Be 26.62 248 P **P** **22 48 44.6 +0.4**
KSAR Wonju Array Be 26.62 248 P **P** **22 48 44.6 +0.4**
RSO Redoubt South 27.03 54 *e*P **P** **22 48 52.5 +4.6**
PPLA Purkeypile 27.20 49 *e*P **P** **22 48 51.2 +1.9**
comp=Z,86nm,1.8s
CAST Castle Rocks 27.24 47 *e*P **P** **22 48 50.2 +0.6**
comp=Z,6.6nm,0.7s
SPU Mount Spurr 27.32 52 *e*P **P** **22 48 52.1 +1.7**
KDAK Kodiak Island 27.46 60 P **P** **22 48 50.9 -0.7**
comp=Z,4.4nm,0.6s,baz=284,slow=5.0,SNR=8.5
KTH Kantishna Hill 27.77 47 *e*P **P** **22 48 55.3 +0.9**
comp=Z,54nm,1.7s
TRF Thorofare Moun 28.05 47 *e*P **P** **22 48 57.2 +0.2**
comp=Z,15nm,1.1s
JNU Nakatsue 28.22 238 P **P** **22 49 00.5 +1.9**
comp=Z,14nm,0.8s,baz=63,slow=8.7,SNR=10
JNU Nakatsue 28.22 238 *e*P **P** **22 49 00.8 +2.2**
comp=Z,19nm,0.9s
MCK McKinley 28.65 47 *e*P **P** **22 49 02.6 +0.5**
MCK pmax pmax
comp=Z,41nm,1.6s
MCK McKinley 28.65 47 *e*P **P** **22 49 02.6 +0.5**
comp=Z,42nm,1.6s
TOLK Toolik Lake Re 28.66 36 P **P** **22 49 01.9 -0.3**
baz=262
RND Reindeer 28.70 47 *e*P **P** **22 49 02.2 -0.4**
RND pmax pmax
comp=Z,57nm,1.8s
RND Reindeer 28.70 47 *e*P **P** **22 49 02.2 -0.4**
comp=Z,57nm,1.8s
MDM Murphy Dome 28.94 44 *e*P **P** **22 49 06.1 +1.4**
comp=Z,13nm,1.2s
WRH Wood River Hil 29.00 45 *e*P **P** **22 49 05.6 +0.4**
comp=Z,794nm,0.4s
SML Sawmill 29.05 51 *e*P **P** **22 49 05.8 +0.1**
SML pmax pmax
comp=Z,15nm,0.8s
SML Sawmill 29.05 51 *e*P **P** **22 49 05.8 +0.1**
comp=Z,15nm,0.8s
CCB Clear Creek Bu 29.12 45 *e*P **P** **22 49 06.0 -0.3**
comp=Z,32nm,0.3s
HDA Harding Lake 29.50 45 *e*P **P** **22 49 09.1 -0.6**
comp=Z,42nm,0.4s
IL1 Eielson Array 29.51 45 *e*P **P** **22 49 08.4 -1.3**
ILAR Eielson Array 29.51 45 P **P** **22 49 09.0 -0.8**
comp=Z,6.6nm,0.7s,baz=262,slow=7.9,SNR=72
ILAR LR LR 23 02 14.6
comp=Z,84nm,18.9s,baz=278,slow=39
ILAR Eielson Array 29.51 45 P **P** **22 49 09.0 -0.8**
ILAR pmax pmax
comp=Z,7.0nm,0.7s
ILAR MLR MLR
comp=Z,84nm,18.9s
ILB Eielson Array 29.51 45 *e*P **P** **22 49 09.5 -0.3**
DOT Dot Lake 30.82 47 *e*P **P** **22 49 20.4 -0.9**
comp=Z,8.9nm,0.7s
BJI Beijing 31.85 264 P **P** **22 49 29.6 -1.0**
BJI S **S** **22 54 34.3 -3.1**
BJI pmax pmax
comp=Z,5.0nm,0.6s
BJI LR LR
comp=Z,320nm,14.8s
BJI LR LR
comp=Z,460nm,17.2s
BJI LR LR
comp=Z,310nm,17.2s
EGAK Eagle 31.96 44 *e*P **P** **22 49 30.8 -0.5**
comp=Z,16nm,0.8s
DAWY Dawson 32.82 45 *e*P **P** **22 49 39.2 +0.4**
comp=Z,4.9nm,0.8s
ULN Ulaanbaatar 33.17 283 *c i*P **P** **22 49 41.8 -0.4**
ULN pmax pmax
comp=Z,2.0nm,1.0s
H11N2 WAKE ISLAND Hy 33.30 167 T T 23 25 31.4
baz=352,slow=76,SNR=5165
H11N3 WAKE ISLAND Hy 33.31 167 T T 23 25 31.3
baz=352,slow=76,SNR=3243
H11N1 WAKE ISLAND Hy 33.32 167 T T 23 25 32.8
baz=352,slow=76,SNR=4878
SONA1 Songino Array 33.56 284 *e*PcP **PcP** **22 52 25.4 +0.4**
SONM Songino Array 33.57 284 P **P** **22 49 46.2 +0.5**
comp=Z,0.6nm,0.5s,baz=67,slow=7.2,SNR=5.4
SONM PcP **PcP** **22 52 25.7 +0.6**
comp=Z,1.7nm,0.6s,baz=89,slow=2.4,SNR=11
SONM LR LR 23 04 49.6
comp=Z,329nm,19.6s,baz=62,slow=39
HHC Hu-ho-hao-te 34.17 269 *e*P **P** **22 49 51.5 +0.5**
HHC pP pP 22 50 06.6 +2.4
HHC sP sP 22 50 13.4 +3.2
HHC S **S** **22 55 11.3 -2.4**
HHC pmax pmax
comp=Z,18nm,0.8s
HHC pmax pmax
comp=Z,130nm,8.4s
HHC LR LR
comp=Z,200nm,14.8s
HHC LR LR
comp=Z,200nm,14.8s
HHC LR LR
comp=Z,190nm,14.8s
ZAK Zakamensk 34.23 289 *e*P **P** **22 49 51.4 0.0**
ZAK pmax pmax
comp=Z,3.0nm,1.3s
H11S1 WAKE ISLAND Hy 34.48 168 T T 23 27 02.1
baz=352,slow=76,SNR=408
H11S3 WAKE ISLAND Hy 34.49 168 T T 23 27 00.5
baz=352,slow=76,SNR=745
H11S2 WAKE ISLAND Hy 34.50 168 T T 23 27 03.5
baz=352,slow=76,SNR=251

INK Inuvik 34.57 37 P **P** **22 49 54.6 +0.7**
comp=Z,6.6nm,0.7s,baz=297,slow=6.5,SNR=8.0
INK Inuvik 34.57 37 *e*P **P** **22 49 54.8 +0.8**
INK pmax pmax
comp=Z,8.0nm,0.8s
INK Inuvik 34.57 37 *e*P **P** **22 49 54.8 +0.8**
comp=Z,7.8nm,0.8s
NJ2 Nanjing 35.65 251 *e*P **P** **22 50 04.3 +0.7**
NJ2 pmax pmax
comp=Z,10.0nm,0.5s
NRIK Noril'sk 36.07 325 LR LR 23 06 24.0
comp=Z,232nm,18.0s,baz=108,slow=39
DLBC Dease Lake 38.73 52 P **P** **22 50 31.4 +1.8**
comp=Z,9.1nm,0.9s,baz=283,slow=10,SNR=12
DLBC Dease Lake 38.73 52 *e*P **P** **22 50 31.6 +2.0**
comp=Z,59nm,1.9s
WHN Wuhan 39.37 254 P **P** **22 50 36.6 +1.5**
LZH Lanzhou 41.87 270 *e*P **P** **22 50 57.3 +1.4**
LZH pP sP 22 51 13.8 -1.5
LZH sP pP 22 51 21.1 +12
LZH pmax pmax
comp=Z,15nm,1.0s
LZH pmax pmax
comp=Z,80nm,4.5s
GTA Gaotai 42.20 276 *e*P **P** **22 50 58.0 -0.5**
GTA pmax pmax
comp=Z,2.0nm,0.7s
ZALV Zalesovo Beam 42.67 303 P **P** **22 51 02.9 +0.9**
comp=Z,0.4nm,0.4s,baz=74,slow=6.8,SNR=3.0
ZALV PcP **PcP** **22 52 52.9 -0.1**
comp=Z,3.6nm,0.9s,baz=50,slow=4.6,SNR=8.9
ZALV LR LR 23 09 58.7
comp=Z,137nm,18.5s,baz=70,slow=38
NVS Novosibirsk 43.03 305 *e*P **P** **22 51 03.3 -1.6**
YKA Yellowknife Ar 43.86 42 P **P** **22 51 11.9 +0.4**
comp=Z,4.0nm,0.7s,baz=292,slow=7.3,SNR=3.4
CD2 Chengdu 45.45 264 *e*P **P** **22 51 24.0 -0.6**
CD2 pP pP 22 51 37.6 -0.6
CD2 sP sP 22 51 45.3 +1.2
CD2 S **S** **22 57 57.8 -4.6**
CD2 pmax pmax
comp=Z,20nm,0.7s
LLLB Lillooet 46.68 59 *e*P **P** **22 51 35.5 +1.5**
comp=Z,14nm,1.0s
WMQ Urumqi 46.71 289 P **P** **22 51 35.4 +1.1**
WMQ pP sP 22 51 54.3 +0.5
WMQ PcP **PcP** **22 53 06.8 -0.3**
WMQ S **S** **22 58 15.8 -4.3**
WMQ ScS **ScS** **23 01 18.8 -5.4**
WMQ pmax pmax
comp=Z,15nm,0.6s
WMQ pmax pmax
comp=Z,120nm,4.7s
WMQ LR LR
comp=Z,69nm,17.7s
WMQ LR LR
comp=Z,90nm,17.7s
GYA Guiyang 46.93 257 *e*P **P** **22 51 37.0 +0.7**
GYA pmax pmax
comp=Z,10.0nm,1.0s
SPITS Spitsbergen Ar 47.58 350 P **P** **22 51 39.8 -0.7**
comp=Z,1.6nm,0.5s,baz=65,slow=6.7,SNR=10
KURK Kurchatov 47.62 302 *e*P **P** **22 51 39.7 -1.5**
KURK 22 53 11.2
KURK pmax pmax
comp=Z,6.0nm,1.1s
KURK Kurchatov 47.62 302 *e*P **P** **22 51 39.7 -1.5**
comp=Z,6.1nm,1.1s
KURK PcP **PcP** **22 53 11.2 +1.1**
KURBB Kurchatov Arra 47.72 302 P **P** **22 51 40.3 -1.7**
KURBB PcP **PcP** **22 53 11.2 +0.7**
comp=Z,1.6nm,0.7s,baz=49,slow=4.2,SNR=4.7
B05A Bryant 47.92 62 P **P** **22 51 44.1 +0.5**
baz=307
MK31 Makanchi Array 47.96 296 *e*P **P** **22 51 42.2 -1.8**
MK31 Makanchi Array 47.96 296 *e*P **P** **22 51 42.2 -1.8**
MKAR Makanchi Array 47.96 296 P **P** **22 51 42.1 -1.9**
comp=Z,1.8nm,0.5s,baz=55,slow=6.1,SNR=27
MKAR Makanchi Array 47.96 296 *e*P **P** **22 51 42.2 -1.9**
MKAR pmax pmax
comp=Z,22nm,0.5s
MKAR Makanchi Array 47.96 296 *e*P **P** **22 51 42.2 -1.9**
comp=Z,22nm,0.5s
B06A Marblemount 48.10 61 *e*P **P** **22 51 45.9 +0.9**
comp=Z,23nm,1.2s
MAKZ Makanchi 48.13 296 *e*P **P** **22 51 44.5 -0.8**
MAKZ pmax pmax
comp=Z,3.0nm,0.6s
MAKZ Makanchi 48.13 296 *e*P **P** **22 51 44.5 -0.8**
comp=Z,3.0nm,0.6s
B08A Colville Reser 49.34 60 *e*P **P** **22 51 55.2 +0.6**
comp=Z,18nm,0.9s
EDM Edmonton 49.45 52 *e*P **P** **22 51 56.3 +1.0**
EDM pmax pmax
comp=Z,27nm,0.6s
EDM Edmonton 49.45 52 *e*P **P** **22 51 56.3 +1.0**
comp=Z,27nm,0.6s
I03D Drain, OR 50.02 67 P **P** **22 52 00.6 +0.9**
baz=309
G05D Wamic, OR 50.19 65 P **P** **22 52 01.7 +0.6**
baz=309
KMI Kunming 50.27 260 P **P** **22 52 01.3 -0.9**
KMI pmax pmax
comp=Z,6.0nm,0.8s
KMI LR LR
comp=Z,190nm,19.6s
KMI LR LR
comp=Z,200nm,20.6s
KMI LR LR
comp=Z,240nm,19.6s
BVAR Borovoye Array 50.35 308 P **P** **22 52 00.5 -1.7**
comp=Z,1.9nm,0.5s,baz=54,slow=7.7,SNR=12
BVAR PcP **PcP** **22 53 20.3 +0.3**
comp=Z,2.6nm,0.6s,baz=71,slow=3.0,SNR=7.8
D08A Wollman Farm, 50.36 61 *e*P **P** **22 52 02.5 +0.3**
comp=Z,16nm,1.4s
BRVK Borovoye 50.38 308 *c i*P **P** **22 52 00.6 -1.7**
BRVK pmax pmax
comp=Z,6.0nm,0.7s
HAWA Hanford 50.45 62 *e*P **P** **22 52 04.0 +1.0**
comp=Z,12nm,1.1s
I04A Tendick Farm, 50.49 67 P **P** **22 52 03.6 +0.3**
baz=310
NEW Newport 50.57 59 P **P** **22 52 04.2 +0.4**
baz=308,SNR=6.3
NEW Newport 50.57 59 *e*P **P** **22 52 04.3 +0.4**
NEW pmax pmax
comp=Z,11nm,1.0s
NEW Newport 50.57 59 *e*P **P** **22 52 04.2 +0.4**
comp=Z,11nm,1.0s
DAG Danmarks Havn 50.92 359 *i*P **P** **22 52 08.4 +2.3**
comp=Z,6.6nm,0.8s
DAG Danmarks Havn 50.92 359 *i*P **P** **22 52 08.4 +2.3**
DAG pmax pmax
comp=Z,3.0nm,0.8s
J04D Umpqua Nationa 51.01 67 P **P** **22 52 08.2 +0.7**
baz=310
E09A Wood Farm, Sta 51.12 62 *e*P **P** **22 52 08.6 +0.6**
comp=Z,21nm,0.8s
J05D Fort Rock, OR 51.47 67 P **P** **22 52 11.9 +1.0**
baz=310,SNR=11
WALA Waterton Lakes 51.73 57 *e*P **P** **22 52 13.3 +0.6**
comp=Z,19nm,1.0s
M02C Callahan 51.78 69 P **P** **22 52 14.6 +1.5**
baz=311
F10A Beach Ranch, E 51.95 62 *e*P **P** **22 52 15.1 +0.8**
comp=Z,5.8nm,0.9s
K05A Summer Lake 52.02 67 *e*P **P** **22 52 17.0 +1.9**
comp=Z,18nm,1.2s
BSMT Bassoo Peak 52.05 58 *e*P **P** **22 52 16.1 +0.9**
N02D Trinity Center 52.14 70 P **P** **22 52 17.0 +1.3**
baz=311
BLMT Blacktail Moun 52.17 58 *e*P **P** **22 52 17.1 +1.0**
JTMT Jette 52.38 58 *e*P **P** **22 52 18.5 +1.0**
YBMT Yellow Bay 52.44 58 *e*P **P** **22 52 18.8 +0.8**
BMO Blue Mountains 52.63 63 *e*P **P** **22 52 20.3 +0.9**
BMO pmax pmax
comp=Z,11nm,1.1s
BMO Blue Mountains 52.63 63 *e*P **P** **22 52 20.2 +0.9**
comp=Z,11nm,1.1s
SWMT Swartz Lake 52.67 58 *e*P **P** **22 52 20.4 +0.7**
MOD Modoc Plateau 52.89 67 *e*P **P** **22 52 22.8 +1.4**
comp=Z,5.6nm,0.8s
O03D Paynes Creek 53.10 70 P **P** **22 52 22.9 0.0**
baz=312

SLMT Seeley Lake 53.11 58 *e*P **P** **22 52 23.9 +0.9**
MSO Missoula 53.15 59 P **P** **22 52 23.1 0.0**
baz=311,SNR=7.5
MSO Missoula 53.15 59 *e*P **P** **22 52 24.0 +0.8**
comp=Z,13nm,1.1s
CHMT Chamberlain Mo 53.45 58 *e*P **P** **22 52 26.1 +0.6**
ARU Arti 53.47 317 P **P** **22 52 24.6 -0.6**
comp=Z,1.2nm,0.3s,baz=100,slow=8.1,SNR=4.1
ARU Arti 53.47 317 *c i*P **P** **22 52 24.5 -0.7**
ARU 22 53 29.9
ARU 22 54 24.4
ARU S **S** **22 59 55.6 +1.9**
ARU SS **SS** **23 03 31.6 -2.0**
ARU pmax pmax
comp=Z,1.0nm,0.3s
WVOR Wild Horse Val 53.48 66 *e*P **P** **22 52 26.9 +1.2**
WVOR pmax pmax
comp=Z,9.0nm,1.2s
WVOR Wild Horse Val 53.48 66 *e*P **P** **22 52 26.9 +1.2**
comp=Z,9.4nm,1.2s
FFC Flin Flon 53.72 45 *e*P **P** **22 52 28.4 +1.3**
ORV Oroville 53.77 70 *e*P **P** **22 52 28.4 +0.7**
ORV pmax pmax
comp=Z,5.0nm,0.9s
ORV Oroville 53.77 70 *e*P **P** **22 52 28.4 +0.7**
comp=Z,5.0nm,0.9s
BEKR Beckworth 54.21 69 *e*P **P** **22 52 27.9 -3.2**
comp=Z,24nm,0.4s
HRY Holter Researc 54.32 58 *e*P **P** **22 52 33.0 +1.2**
MFID Camas Ranch 54.38 63 *e*P **P** **22 52 33.5 +1.2**
comp=Z,4.7nm,0.8s
AFDM Forest Hills D 54.48 71 *e*P **P** **22 52 34.3 +1.4**
comp=Z,3.3nm,0.8s
EGMT Eagleton 54.51 56 P **P** **22 52 32.8 -0.3**
baz=312
EGMT Eagleton 54.51 56 *e*P **P** **22 52 34.2 +1.1**
comp=Z,12nm,1.2s
SUMG Summit 54.53 6 *i*P **P** **22 52 33.8 +0.5**
comp=Z,26nm,0.9s
SUMG Summit 54.53 6 *i*P **P** **22 52 33.8 +0.5**
SUMG pmax pmax
comp=Z,26nm,0.9s
SUMG Summit 54.53 6 *e*P **P** **22 52 33.7 +0.5**
comp=Z,31nm,1.0s
LRM Limekiln Ridge 54.59 59 *e*P **P** **22 52 34.8 +1.0**
DLMT Dillon 54.81 60 *e*P **P** **22 52 36.5 +1.1**
comp=Z,6.5nm,1.0s
PAHR Pah Rah Range 54.87 69 *e*P **P** **22 52 37.6 +1.7**
comp=Z,13nm,1.0s
AAK Ala-Archa 54.89 296 P **P** **22 52 34.7 -1.3**
comp=Z,3.0nm,0.7s,baz=47,slow=2.8,SNR=8.8
AAK Ala-Archa 54.89 296 *e*P **P** **22 52 34.9 -1.1**
AAK pmax pmax
comp=Z,2.0nm,0.6s
AAK Ala-Archa 54.89 296 *e*P **P** **22 52 34.9 -1.1**
comp=Z,2.3nm,0.6s
MCMT McKenzie Canyo 55.04 60 *e*P **P** **22 52 37.9 +0.7**
HLID Hailey 55.05 62 P **P** **22 52 38.0 +0.8**
baz=312,SNR=5.8
HLID Hailey 55.05 62 *e*P **P** **22 52 38.1 +1.0**
comp=Z,5.3nm,1.1s
BOZ Bozeman (W) 55.16 59 P **P** **22 52 38.8 +0.9**
baz=312,SNR=16
BOZ Bozeman (W) 55.16 59 *e*P **P** **22 52 38.8 +0.9**
BOZ pmax pmax
comp=Z,9.0nm,0.8s
BOZ Bozeman (W) 55.16 59 *e*P **P** **22 52 38.8 +0.9**
comp=Z,8.5nm,0.8s
PNTR Pine Nut 55.17 69 *e*P **P** **22 52 40.1 +2.0**
comp=Z,17nm,0.8s
CMB Columbia Colle 55.43 71 *e*P **P** **22 52 41.5 +1.7**
CMB pmax pmax
comp=Z,8.0nm,1.1s
CMB Columbia Colle 55.43 71 *e*P **P** **22 52 41.5 +1.7**
comp=Z,8.2nm,1.1s
YERR Yerington 55.45 69 *e*P **P** **22 52 42.0 +1.9**
comp=Z,12nm,0.9s
BMN Battle Mountai 55.61 67 *e*P **P** **22 52 43.2 +2.0**
BMN pmax pmax
comp=Z,17nm,0.9s
BMN Battle Mountai 55.61 67 *e*P **P** **22 52 43.2 +2.0**
comp=Z,17nm,0.9s
WAKR Walker 55.66 70 *e*P **P** **22 52 43.5 +1.8**
comp=Z,13nm,0.9s
QLMT Earthquake Lak 55.78 59 *e*P **P** **22 52 44.0 +1.5**
TVH1 TV Hill, Hawth 56.08 70 *e*P **P** **22 52 46.6 +1.8**
comp=Z,11nm,1.0s
MNAS Manas 56.08 297 P **P** **22 52 44.2 -0.3**
MNAS pmax pmax
comp=Z,3.0nm,0.8s
YHH Holmes Hill 56.12 59 *e*P **P** **22 52 46.4 +1.5**
comp=Z,8.7nm,0.8s
KSH Kashi 56.18 292 *e*P **P** **22 52 49.1 +3.9**
KSH pP sP 22 53 05.1 +0.1
KSH PP **PP** **22 54 56.1 +5.6**
KSH S **S** **23 00 31.3 +0.5**
KSH sS sS 23 00 59.1 +4.9
KSH SS **SS** **23 04 19.5 +2.3**
KSH pmax pmax
comp=Z,62nm,5.1s
KSH LR LR
comp=Z,92nm,5.4s
KSH LR LR
comp=Z,78nm,4.2s
KSH LR LR
comp=Z,67nm,8.6s
YNR Norris Junctio 56.26 59 *e*P **P** **22 52 48.5 +2.6**
comp=Z,7.2nm,0.8s
YFT Old Faithful 56.35 59 *e*P **P** **22 52 49.5 +2.9**
comp=Z,14nm,0.9s
YPP Pitchstone Pla 56.49 59 *e*P **P** **22 52 50.2 +2.5**
comp=Z,8.1nm,1.2s
IMW Indian Meadow 56.68 60 *e*P **P** **22 52 50.7 +1.8**
comp=Z,17nm,1.3s
RLMT Red Lodge 56.71 58 P **P** **22 52 50.4 +1.3**
baz=313,SNR=15
RLMT Red Lodge 56.71 58 *e*P **P** **22 52 50.7 +1.6**
comp=Z,16nm,0.8s
MOOW Moose Ponds 56.88 60 *e*P **P** **22 52 51.8 +1.4**
comp=Z,8.5nm,1.1s
TPAW Teton Pass 56.95 60 *e*P **P** **22 52 52.6 +1.8**
comp=Z,31nm,1.6s
LOHW Long Hollow 57.05 60 *e*P **P** **22 52 53.3 +1.8**
comp=Z,14nm,1.1s
REDW Red Top Meadow 57.09 60 *e*P **P** **22 52 53.9 +2.1**
comp=Z,8.3nm,0.9s
HVU Hansel Valley 57.14 63 *e*P **P** **22 52 53.8 +1.7**
HVU pmax pmax
comp=Z,13nm,1.1s
HVU Hansel Valley 57.14 63 *e*P **P** **22 52 53.8 +1.7**
comp=Z,13nm,1.1s
KLMR Klimovskoe 57.17 330 *e*P **P** **22 52 51.7 -0.1**
KLMR pmax pmax
comp=Z,13nm,1.4s
LAO LASA Array 57.18 55 P **P** **22 52 53.5 +1.3**
baz=314,SNR=7.6
LAO LASA Array 57.18 55 *e*P **P** **22 52 53.8 +1.6**
comp=Z,17nm,0.9s
CHTO Chiang Mai 57.34 258 *e*P **P** **22 52 53.9 +0.3**
CHTO pmax pmax
comp=Z,5.0nm,0.8s
CHTO Chiang Mai 57.34 258 *e*P **P** **22 52 53.9 +0.3**
comp=Z,5.1nm,0.8s
SMMC Simmler 57.54 73 P **P** **22 52 55.8 +0.9**
baz=315
BGU Big Grassy Mou 57.59 64 *e*P **P** **22 52 57.0 +1.7**
CMAR Chiang Mai Arr 57.62 258 P **P** **22 52 56.1 +0.6**
comp=Z,3.2nm,0.8s,baz=28,slow=7.0,SNR=15
SPUT South Promonto 57.64 63 *e*P **P** **22 52 57.6 +2.0**
comp=Z,18nm,1.2s
VES Vestal, Richgr 57.70 72 P **P** **22 52 56.5 +0.6**
baz=315
ABKAR Akbulak array 57.78 310 *e*P **P** **22 52 54.8 -1.4**
comp=Z,1.1nm,0.7s
CWC Cottonwood Cre 57.86 71 P **P** **22 52 58.5 +1.2**
baz=315
GRAC Grapevine Rang 57.89 70 P **P** **22 52 58.8 +1.6**
baz=315,SNR=5.1
HWUT Hardware Ranch 57.92 62 *e*P **P** **22 52 59.0 +1.5**
comp=Z,16nm,1.0s
R11A Troy Canyon, C 57.96 68 P **P** **22 52 59.0 +1.1**
baz=314,SNR=12
R11A Troy Canyon, C 57.96 68 *e*P **P** **22 52 58.9 +0.9**
comp=Z,6.6nm,0.9s
BW06 Boulder Array 58.18 60 P **P** **22 53 00.6 +1.1**
baz=314,SNR=13
BW06 Boulder Array 58.18 60 *e*P **P** **22 53 00.3 +0.8**

PD31 **Pinedale Array** 58.19 60 *e*P P 22 53 00.4 +0.9
PDAR **Pinedale Array** 58.19 60 P P 22 53 00.7 +1.1
comp=Z,15nm,0.8s,baz=309,slow=2.8,SNR=74
DUG **Dugway, Tooele** 58.22 64 P P 22 53 01.1 +1.4
baz=314,SNR=11
DUG **Dugway, Tooele** 58.22 64 *e*P P 22 53 01.3 +1.6
DUG pmax pmax
comp=Z,12nm,1.0s
DUG **Dugway, Tooele** 58.22 64 *e*P P 22 53 01.3 +1.6
comp=Z,12nm,1.0s
MPMC **Manual Prospec** 58.47 71 P P 22 53 02.3 +0.8
baz=315,SNR=9.0
FURC **Furnace Creek,** 58.55 70 P P 22 53 02.8 +1.1
baz=315,SNR=9.8
TPNV **Topopah Spring** 58.56 69 P P 22 53 03.2 +1.2
baz=315,SNR=14
TPNV **Topopah Spring** 58.56 69 *e*P P 22 53 03.3 +1.2
TPNV pmax pmax
comp=Z,12nm,0.9s
TPNV **Topopah Spring** 58.56 69 *e*P P 22 53 03.2 +1.2
comp=Z,12nm,0.9s
JLU **Jordanelle** 58.68 63 *e*P P 22 53 05.2 +2.2
comp=Z,19nm,1.5s
RAMN **Ramite** 58.75 274 *e*P P 22 53 02.2 -1.4
comp=Z,17nm,0.5s
LRMC **Laurel Mtn Rad** 58.77 71 P P 22 53 04.0 +0.5
baz=315,SNR=5.2
NLU **North Lily Min** 58.79 64 *e*P P 22 53 05.5 +1.8
comp=Z,9.3nm,0.9s
BLG **Laguna Peak, P** 58.93 73 P P 22 53 04.9 +0.3
baz=316
KKN **Kakani** 58.94 276 *e*P P 22 53 04.2 -0.7
comp=Z,8.7nm,0.5s
EDW2 **Edwards Air Fo** 59.01 72 P P 22 53 05.9 +0.7
baz=315,SNR=8.7
PKIN **Phulchoki** 59.02 276 *e*P P 22 53 04.6 -1.0
comp=Z,14nm,0.8s
GKN **Gorkha** 59.17 277 *e*P P 22 53 06.4 -0.1
comp=Z,4.7nm,0.5s
DMN **Daman** 59.17 276 *e*P P 22 53 06.1 -0.5
comp=Z,9.2nm,0.6s
DECC **Green Verdugo** 59.26 73 P P 22 53 07.7 +0.9
baz=316
GSC **Goldstone, Bar** 59.40 71 P P 22 53 08.9 +1.0
baz=315,SNR=7.5
SHPR **Sheep Range** 59.49 69 *e*P P 22 53 10.6 +2.0
comp=Z,5.7nm,1.1s
ULM **Lac du Bonnet** 59.52 46 P P 22 53 08.9 +0.6
comp=Z,4.9nm,0.6s,baz=323,slow=7.6,SNR=12
BFSC **Mount Baldy Ra** 59.66 72 P P 22 53 10.4 +0.7
baz=316
TMUT **Trail Mountain** 59.73 64 *e*P P 22 53 12.1 +1.7
comp=Z,11nm,0.8s
MSU **Marysvale** 59.75 65 *e*P P 22 53 12.1 +1.7
MSU **Marysvale** 59.75 65 *e*P P 22 53 11.2 +1.7
CCUT **Cedar City** 59.77 67 *e*P P 22 53 11.3 +0.8
comp=Z,6.6nm,0.9s
TUQ **Turquoise Moun** 59.81 70 P P 22 53 11.7 +1.0
baz=316,SNR=8.5
K22A **Casper** 59.86 58 P P 22 53 11.7 +0.7
baz=316
KOLN **Koldanda** 59.97 277 *e*P P 22 53 10.5 -1.5
comp=Z,4.5nm,0.5s
HEC **Hector,Ludlow** 60.01 71 P P 22 53 13.0 +0.9
baz=316
RSSD **Black Hills** 60.08 56 P P 22 53 13.3 +0.7
baz=316
RSSD **Black Hills** 60.08 56 *e*P P 22 53 13.6 +1.0
RSSD pmax pmax
comp=Z,35nm,0.8s
RSSD **Black Hills** 60.08 56 *e*P P 22 53 13.6 +1.0
comp=Z,34nm,0.8s
RWWY **Rawlins** 60.18 60 *e*P P 22 53 14.2 +0.8
comp=Z,11nm,0.9s
LCMT **Little Creek M** 60.22 67 *e*P P 22 53 15.4 +1.9
comp=Z,11nm,1.0s
SRU **San Rafael Swe** 60.23 64 *e*P P 22 53 15.1 +1.4
SRU pmax pmax
comp=Z,17nm,0.8s
SRU **San Rafael Swe** 60.23 64 *e*P P 22 53 15.1 +1.4
comp=Z,17nm,0.8s
MURC **Murrieta** 60.38 73 P P 22 53 15.6 +1.0
baz=316
FINES **FINESS Array B** 60.41 336 P P 22 53 13.6 -0.6
comp=Z,5.0nm,1.0s,baz=53,slow=7.6,SNR=11
FINES **FINESS Array B** 60.41 336 *e*P P 22 53 14.0 -0.3
FINES pmax pmax
comp=Z,5.0nm,1.0s
GMRC **Granite Mounta** 60.43 71 P P 22 53 15.8 +0.9
baz=316,SNR=8.7
KNB **Kanab** 60.45 67 *e*P P 22 53 17.2 +2.0
KNB pmax pmax
comp=Z,12nm,1.1s
KNB **Kanab** 60.45 67 *e*P P 22 53 17.2 +2.0
comp=Z,12nm,1.1s
C31A **Landman Farms,** 60.47 49 P P 22 53 15.4 +0.5
baz=317
O20A **White River Ci** 60.74 61 P P 22 53 17.9 +0.8
baz=316,SNR=7.2
O20A **White River Ci** 60.74 61 *e*P P 22 53 18.2 +1.0
comp=Z,10.0nm,0.9s
BELC **Belle Mtn. Jos** 60.79 71 P P 22 53 18.1 +0.6
baz=316
PFO **Pinyon Flats O** 60.80 72 P P 22 53 17.9 +0.4
comp=Z,1.9nm,0.7s,baz=332,slow=11,SNR=3.9
PFO **Pinyon Flats O** 60.80 72 P P 22 53 18.2 +0.7
baz=316
AGMN **Agassiz Nation** 60.96 48 P P 22 53 18.4 +0.2
baz=318
AGMN **Agassiz Nation** 60.96 48 *e*P P 22 53 18.7 +0.5
comp=Z,6.1nm,0.8s
D31A **Mcclaflin, Tow** 61.02 50 P P 22 53 18.9 +0.2
baz=317
U15A **North Rim** 61.17 67 *e*P P 22 53 21.9 +1.7
IRM **Iron Mountain** 61.17 71 P P 22 53 20.9 +1.0
baz=316,SNR=9.7
MONP **Monument Peak,** 61.34 73 P P 22 53 22.2 +1.0
baz=316
BC3 **Big Chuckawall** 61.35 71 P P 22 53 21.8 +0.5
baz=316,SNR=5.2
B34A **Aery, Baudette** 61.36 47 P P 22 53 21.0 +0.1
baz=318
PHWY **Pilot Hill** 61.38 59 *e*P P 22 53 21.7 +0.1
comp=Z,13nm,0.8s
N23A **Red Feather La** 61.41 59 P P 22 53 23.0 +1.2
baz=316,SNR=6.8
N23A **Red Feather La** 61.41 59 *e*P P 22 53 23.4 +1.7
comp=Z,14nm,0.8s
PV10 **Paradox Valley** 61.57 63 *e*P P 22 53 24.6 +1.8
PV04 **Paradox Valley** 61.63 63 *e*P P 22 53 24.2 +1.1
PDMCI **Parker Dam,Lak** 61.64 70 P P 22 53 23.8 +0.8
baz=316,SNR=7.5
SWSC **Sam W. Stewart** 61.66 72 P P 22 53 24.4 +1.2
baz=317
IKP **In-Ko-Pah, Jac** 61.70 73 P P 22 53 24.4 +0.9
baz=317
PV05 **Paradox Valley** 61.75 64 *e*P P 22 53 25.4 +1.3
Y12C **Blythe** 61.82 71 P P 22 53 25.2 +0.9
baz=317
Y12C **Blythe** 61.82 71 *e*P P 22 53 25.8 +1.6
comp=Z,7.6nm,0.8s
B35A **Bob, Littlefor** 61.86 46 P P 22 53 24.4 0.0
baz=319
PV01 **Paradox Valley** 62.00 63 *e*P P 22 53 26.7 +1.0
GLA **Glamis** 62.15 71 P P 22 53 27.5 +1.0
baz=317,SNR=5.1
D34A **Park Rapids** 62.16 48 P P 22 53 26.7 +0.3
baz=319
C35A **Jirik Farms, M** 62.25 47 P P 22 53 26.8 -0.1
baz=319
WUAZ **Wupatki** 62.34 67 P P 22 53 29.4 +1.5
baz=317,SNR=7.2
WUAZ **Wupatki** 62.34 67 *e*P P 22 53 29.8 +1.9
comp=Z,12nm,0.8s
ISCO **Idaho Springs** 62.38 60 P P 22 53 29.7 +1.3
baz=317,SNR=18
ISCO **Idaho Springs** 62.38 60 *e*P P 22 53 29.9 +1.6
ISCO pmax pmax
comp=Z,13nm,0.9s
ISCO **Idaho Springs** 62.38 60 *e*P P 22 53 29.9 +1.6
comp=Z,13nm,0.9s
G32A **Webster** 62.45 51 P P 22 53 29.2 +0.9
baz=318
F33A **5 Mile Ranch,** 62.58 50 P P 22 53 30.0 +0.9
baz=318
D35A **Remer** 62.68 47 P P 22 53 29.9 +0.1
baz=319
OBN **Obninsk** 62.70 327 *i* P P 22 53 30.8 +1.0
OBN pmax pmax
comp=Z,4.0nm,0.9s
MVCO **Mesa Verde** 62.71 64 P P 22 53 31.2 +0.8
baz=317
MVCO **Mesa Verde** 62.71 64 *e*P P 22 53 31.9 +1.4
comp=Z,6.4nm,0.8s
C36A **Pine Crest Far** 62.71 46 P P 22 53 30.0 0.0
baz=319
G33A **Ortonville** 63.00 50 P P 22 53 32.3 +0.4
baz=319
D36A **Goodland** 63.01 47 P P 22 53 31.8 -0.2
baz=320
BORG **Borgarnes** 63.02 0 *e*P P 22 53 30.1 -1.6
C37A **Embarrass** 63.02 46 P P 22 53 32.1 0.0
baz=320
H32A **Carlson Farm,** 63.04 51 P P 22 53 32.8 +0.5
baz=318
EYMN **Ely** 63.15 45 P P 22 53 32.8 -0.1
baz=320,SNR=6.1
EYMN **Ely** 63.15 45 *e*P P 22 53 33.3 +0.3
comp=Z,8.2nm,0.8s
S22A **4UR Ranch, Cre** 63.23 62 P P 22 53 35.5 +1.6
baz=317,SNR=15
S22A **4UR Ranch, Cre** 63.23 62 *e*P P 22 53 35.6 +1.6
comp=Z,14nm,1.1s
C38A **Sawbill Land.** 63.42 45 P P 22 53 34.9 +0.1
baz=320
E36A **McGregor** 63.46 47 P P 22 53 35.2 +0.2
baz=320
W18A **Petrified Fore** 63.55 66 P P 22 53 37.3 +1.3
baz=317
F36A **Milaca** 63.84 48 P P 22 53 37.5 0.0
baz=320
G35A **Watkins** 63.89 49 P P 22 53 38.3 +0.5
baz=320
NB2 **NORSAR Subarra** 63.91 343 P P 22 53 37.7 -0.1
comp=Z,1.1nm,0.4s,baz=29,slow=6.5
NOA **NORSAR Array B** 63.91 343 P P 22 53 37.8 0.0
comp=Z,0.7nm,0.4s,baz=28,slow=6.0,SNR=7.0
SDCO **Great Sand Dun** 63.94 62 P P 22 53 39.6 +0.9
baz=318,SNR=10
SDCO **Great Sand Dun** 63.94 62 *e*P P 22 53 40.3 +1.6
comp=Z,7.2nm,1.0s
ECSD **EROS Data Cent** 64.01 51 P P 22 53 38.8 +0.1
baz=319,SNR=6.7
ECSD **EROS Data Cent** 64.01 51 *e*P P 22 53 39.0 +0.4
comp=Z,9.6nm,1.1s
214A **Organ Pipe Nat** 64.11 71 P P 22 53 40.4 +0.9
baz=318,SNR=6.7
214A **Organ Pipe Nat** 64.11 71 *e*P P 22 53 40.6 +1.1
comp=Z,33nm,1.0s
H35A **Sunnyside Ranc** 64.12 50 P P 22 53 39.9 +0.5
baz=320
I34A **Hadley** 64.14 51 P P 22 53 40.0 +0.5
baz=319
E38A **The Farm, Brul** 64.15 46 P P 22 53 39.5 -0.1
baz=320
HFS **Hagfors** 64.30 342 P P 22 53 40.3 +0.1
comp=Z,1.7nm,0.5s,baz=67,slow=5.2,SNR=14
F38A **Pierce - Schro** 64.51 47 P P 22 53 42.2 +0.3
baz=320,SNR=9.0
H36A **Jessenland, He** 64.63 49 P P 22 53 43.4 +0.7
baz=320,SNR=6.2
J34A **George** 64.66 51 P P 22 53 43.8 +0.9
baz=320
I35A **Creekview Farm** 64.69 50 P P 22 53 43.6 +0.5
baz=320
E39A **Mellen** 64.77 46 P P 22 53 43.6 0.0
baz=321
F39A **Loretta** 64.97 46 P P 22 53 44.9 0.0
baz=321
T25A **Trinidad** 64.97 61 P P 22 53 46.2 +0.9
baz=318,SNR=6.1
T25A **Trinidad** 64.97 61 *e*P P 22 53 46.6 +1.3
E40A **Wakefield** 65.00 46 P P 22 53 45.2 +0.1
baz=321,SNR=9.1
TUC **Tucson** 65.02 69 P P 22 53 46.5 +1.0
baz=318
TUC **Tucson** 65.02 69 *e*P P 22 53 46.9 +1.4
TUC pmax pmax
comp=Z,25nm,1.5s
TUC **Tucson** 65.02 69 *e*P P 22 53 46.9 +1.4
comp=Z,25nm,1.5s
H37A **Dierke Farm, C** 65.09 49 P P 22 53 46.3 +0.6
baz=320
G38A **Ridgeland** 65.13 48 P P 22 53 46.0 +0.1
baz=321
I37A **Lemond, Waseca** 65.31 49 P P 22 53 47.7 +0.6
baz=320
H38A **Maiden Rock** 65.31 48 P P 22 53 47.5 +0.3
baz=321
F40A **Park Falls** 65.32 46 P P 22 53 47.2 0.0
baz=321
G39A **Holcombe** 65.34 47 P P 22 53 47.2 -0.1
baz=321
L34A **Svendsen Farm,** 65.46 53 P P 22 53 48.6 +0.4
baz=320
ANMO **Albuquerque** 65.49 64 P P 22 53 49.8 +1.1
comp=Z,5.0nm,0.9s,baz=320,slow=6.7,SNR=13
ANMO **Albuquerque** 65.49 64 P P 22 53 49.9 +1.2
baz=318
ANMO **Albuquerque** 65.49 64 *c i*P P 22 53 49.9 +1.2
ANMO pmax pmax
comp=Z,7.0nm,1.1s
ANMO **Albuquerque** 65.49 64 *e*P P 22 53 49.8 +1.1
comp=Z,5.7nm,0.9s
LAZ **Ladron** 65.52 65 *e*P P 22 53 50.9 +2.1
M34A **Aspy Farms, Fr** 65.71 53 P P 22 53 50.2 +0.4
baz=320
L35A **Bielow Farm, R** 65.75 52 P P 22 53 49.7 -0.3
baz=320
H39A **Augusta** 65.76 48 P P 22 53 49.6 -0.4
baz=321
J37A **Redenius Farm,** 65.78 50 P P 22 53 50.0 -0.1
baz=320,SNR=5.2
I38A **Scanlan Farm,** 65.78 49 P P 22 53 50.1 0.0
baz=321
G40A **Rib Lake** 65.79 47 P P 22 53 50.0 -0.2
baz=321
E42A **Champion** 65.87 44 P P 22 53 50.6 -0.1
baz=322
BNM **Barren Site** 65.99 65 *e*P P 22 53 53.8 +1.9
K37A **Belmond** 66.16 50 P P 22 53 52.7 +0.1
baz=321
H40A **Chili** 66.21 47 P P 22 53 52.8 -0.1
baz=322
J38A **Wedel Dairy, R** 66.27 49 P P 22 53 53.3 0.0
baz=321
I39A **Houston** 66.29 48 P P 22 53 53.4 0.0
baz=321
H41A **Junction City** 66.54 47 P P 22 53 54.9 -0.1
baz=322
121A **Cookes Peak, D** 66.55 67 P P 22 53 57.2 +1.7
baz=319
121A **Cookes Peak, D** 66.55 67 *e*P P 22 53 57.0 +1.5
comp=Z,4.9nm,1.0s
L37A **Phoenix Point,** 66.59 51 P P 22 53 55.5 +0.2
baz=321
J39A **Decorah** 66.61 49 P P 22 53 55.2 -0.3
baz=321
O34A **Beatrice** 66.66 54 P P 22 53 55.8 0.0
baz=320
I40A **Norwalk** 66.67 48 P P 22 53 55.7 -0.2
baz=322
G43A **Wallace** 66.90 45 P P 22 53 57.2 0.0
baz=323
L38A **Oak Wood Farm,** 66.96 50 P P 22 53 57.5 -0.2
baz=321
GEYT **Allbeck** 66.98 303 P P 22 53 57.7 -0.2
comp=Z,2.3nm,0.7s,baz=48,slow=2.2,SNR=5.6
SCIA **State Center** 67.02 51 *e*P P 22 53 58.9 +0.8
K39A **Oelwein** 67.02 49 P P 22 53 57.3 -0.8
baz=321
J41A **Loganville** 67.36 48 P P 22 54 00.2 0.0
baz=322
K40A **Colesburg** 67.37 49 P P 22 53 59.8 -0.5
baz=322
M38A **Pleasantville** 67.41 51 P P 22 54 00.8 +0.3
baz=321
L39A **Vinton** 67.42 50 P P 22 54 00.8 +0.1
baz=322
N37A **Lee Faris, Mou** 67.43 52 P P 22 54 01.0 +0.3
baz=321
K41A **Shullsburg** 67.82 48 P P 22 54 02.8 -0.4
baz=322
R34A **Isabella, Hill** 67.83 56 P P 22 54 03.2 -0.1
baz=320
L40A **Anamosa** 67.83 49 P P 22 54 02.7 -0.5
baz=322
M39A **Webster** 67.84 50 P P 22 54 03.3 0.0
baz=322,SNR=7.1
O37A **Wolven Farm, M** 67.92 52 P P 22 54 04.0 +0.2
baz=321
L41A **Preston** 68.15 49 P P 22 54 05.0 -0.2
baz=322
N39A **Derby Farms, D** 68.16 51 P P 22 54 05.3 0.0
baz=322
M40A **Post Highland** 68.21 50 P P 22 54 05.7 +0.2
baz=322
MSTX **Muleshoe** 68.23 62 P P 22 54 06.4 +0.4
baz=320
MSTX **Muleshoe** 68.23 62 *e*P P 22 54 06.9 +0.9
P37A **Lathrop** 68.27 53 P P 22 54 06.1 +0.1
baz=321
R35A **Emporia Munici** 68.33 55 P P 22 54 06.3 -0.1
baz=321
MNTX **Cornudas Mount** 68.52 66 P P 22 54 08.9 +1.2
baz=320,SNR=10
MNTX **Cornudas Mount** 68.52 66 *e*P P 22 54 09.3 +1.6
comp=Z,11nm,1.1s
N40A **Mertquake, Sal** 68.58 50 P P 22 54 07.4 -0.6
baz=322,SNR=5.7
P38A **Dawn** 68.64 52 P P 22 54 08.4 +0.1
baz=322
VLDQ **Val d'Or** 68.66 37 *e*P P 22 54 07.2 -1.0
R36A **Gordon, Harris** 68.68 55 P P 22 54 08.7 +0.1
baz=321
M41A **Milan** 68.68 49 P P 22 54 08.7 +0.1
baz=322
S35A **Otter Creek Ra** 68.77 56 P P 22 54 08.9 -0.2
baz=321
AKASG **Malin Array Be** 68.82 329 P P 22 54 08.5 -0.7
comp=Z,2.1nm,0.5s,baz=31,slow=6.1,SNR=6.0
AKASG **Malin Array Be** 68.82 329 *e*P P 22 54 08.8 -0.4
AKASG pmax pmax
comp=Z,2.0nm,0.5s
KIEV **Kiev** 68.83 329 *i*P P 22 54 08.4 -0.9
KIEV pmax pmax
comp=Z,2.0nm,0.6s
T34A **McClaskey Farm** 68.84 57 P P 22 54 09.2 -0.4
baz=321
L43A **Garden Prairie** 68.87 48 P P 22 54 09.0 -0.6
baz=323
O40A **La Belle** 69.05 51 P P 22 54 10.4 -0.4
baz=322,SNR=5.8
N41A **Harden Midland** 69.06 50 P P 22 54 10.2 -0.7
baz=322
S36A **Lake Cedric, C** 69.10 55 P P 22 54 10.9 -0.4
baz=321
Q38A **Cooks Store, C** 69.11 53 P P 22 54 11.0 -0.3
baz=322
P39B **Salisbury** 69.12 52 P P 22 54 11.1 -0.2
baz=322
T35A **Sooner Cattle** 69.26 56 P P 22 54 12.4 +0.2
baz=321
Q39A **Willow Grove F** 69.36 52 P P 22 54 12.9 +0.1
baz=322
P40A **Paris** 69.43 52 P P 22 54 13.0 -0.2
baz=322,SNR=5.4
KIV **Kislovodsk** 69.50 316 *e*P P 22 54 13.7 0.0
KIV pmax pmax
comp=Z,9.0nm,1.0s
O41A **Passleys Farm,** 69.52 50 P P 22 54 13.4 -0.3
baz=322
MTN **Manton Dam** 69.53 209 *e*P P 22 54 14.2 +0.2
U35A **Pawnee** 69.57 57 P P 22 54 14.5 +0.3
baz=321
R38A **Fenwick Farm,** 69.58 54 P P 22 54 13.0 -1.1
baz=322
WMOK **Wichita Mounta** 69.77 59 P P 22 54 15.7 +0.2
baz=321,SNR=18
WMOK **Wichita Mounta** 69.77 59 *e*P P 22 54 15.9 +0.5
WMOK **Wichita Mounta** 69.77 59 *e*P P 22 54 15.9 +0.5
P41A **Barry, Barry** 69.78 51 P P 22 54 15.3 -0.1
baz=322,SNR=6.7
Q40A **Laux Farm, Aux** 69.83 52 P P 22 54 15.8 +0.1
baz=322
R39A **Chumby, Stover** 69.90 53 P P 22 54 15.4 -0.8
baz=322,SNR=5.8
T37A **Cheneyville 18** 69.91 55 P P 22 54 15.8 -0.3
baz=322
HDIL **Hopedale** 69.91 49 P P 22 54 16.3 +0.1
baz=323
HDIL **Hopedale** 69.91 49 *e*P P 22 54 16.7 +0.6
S38A **Stockton** 70.01 54 P P 22 54 16.3 -0.5
baz=322
U36A **Oologah** 70.06 56 P P 22 54 17.3 +0.2
baz=321
P42A **Winchester** 70.19 50 P P 22 54 17.6 -0.3
baz=323
S39A **Bolivar** 70.25 54 P P 22 54 17.8 -0.5
baz=322
Q41A **Truxton** 70.27 51 P P 22 54 18.6 +0.2
baz=323,SNR=9.0
T38A **Diamond** 70.28 55 P P 22 54 18.0 -0.5
baz=322,SNR=8.6
R40A **Maddies Statio** 70.29 52 P P 22 54 17.9 -0.6
baz=322,SNR=6.0
U37A **Salina** 70.36 56 P P 22 54 18.8 -0.2
baz=322,SNR=6.6
TUL1 **Leonard** 70.41 56 P P 22 54 19.0 -0.3
baz=322
TUL1 **Leonard** 70.41 56 *e*P P 22 54 19.8 +0.5
V36A **Jenks** 70.43 57 P P 22 54 19.3 0.0
baz=322
W35A **Tecumseh** 70.44 58 P P 22 54 19.8 +0.3
baz=321
P43A **Skaggs, Pawnee** 70.53 50 P P 22 54 19.8 -0.1
baz=323
Q42A **Golden Eagle** 70.64 51 P P 22 54 20.8 +0.2
baz=323
U38A **Gravette** 70.70 55 P P 22 54 20.7 -0.4
baz=322,SNR=5.5
R41A **Rosebud** 70.72 52 P P 22 54 20.7 -0.4
baz=323,SNR=5.4
S40A **Lebanon** 70.73 53 P P 22 54 20.7 -0.5
baz=322,SNR=5.1
T39A **Clever** 70.75 54 P P 22 54 21.1 -0.3
baz=322
V37A **Hulbert** 70.76 56 P P 22 54 21.2 -0.2
baz=322
W36A **Wetumka** 70.79 57 P P 22 54 21.8 +0.2
baz=322
X35A **Drake** 70.98 58 P P 22 54 23.3 +0.6
baz=321,SNR=9.9
Q43A **New Douglas** 71.00 50 P P 22 54 22.9 +0.1
baz=323
R42A **Luebbering** 71.01 52 P P 22 54 22.4 -0.5
baz=323,SNR=6.4
HHAR **Hobbs** 71.05 55 *e*P P 22 54 23.1 -0.1
T40A **Mansfield** 71.07 53 P P 22 54 22.5 -0.8
baz=322
P44A **Sand Creek, Wi** 71.09 49 P P 22 54 23.2 -0.1
baz=324,SNR=6.1
S41A **Jillco Farms,** 71.10 53 P P 22 54 22.8 -0.7
baz=323
V38A **Canehill** 71.14 55 P P 22 54 23.7 -0.1
baz=322,SNR=16
W37B **Quinton** 71.19 57 P P 22 54 24.3 +0.2
baz=322
U39A **Green Forest** 71.20 55 P P 22 54 23.7 -0.4
baz=322,SNR=21
TXAR **Lajitas Array** 71.27 66 P P 22 54 25.6 +0.9
comp=Z,5.9nm,0.9s,baz=144,slow=11,SNR=6.0
S42A **Caledonia** 71.42 52 P P 22 54 25.4 +0.1
baz=323
R43A **Red Bud** 71.43 51 P P 22 54 25.3 -0.1
baz=323
T41A **Mountain View** 71.52 53 P P 22 54 25.3 -0.8
baz=323,SNR=5.3
U40A **Yellville** 71.53 54 P P 22 54 25.6 -0.5
baz=322,SNR=13
V39A **Pettigrew** 71.55 55 P P 22 54 25.5 -0.8
baz=322,SNR=7.7
X37A **Clayton** 71.65 57 P P 22 54 26.0 -0.8
baz=322
W38A **Poteau** 71.71 56 P P 22 54 27.2 +0.1
baz=322
R44A **Waltonville** 71.85 50 P P 22 54 27.9 -0.1
baz=324,SNR=7.6
V40A **Witts Springs** 71.98 54 P P 22 54 28.3 -0.5
baz=323,SNR=6.8
W39A **Magazine** 71.98 55 P P 22 54 28.6 -0.2
baz=322
U41A **Viola** 72.00 54 P P 22 54 28.4 -0.5
baz=323,SNR=5.0

Y37A	**Hugo**	**72.00**	**58**	P		**P**	**22 54 28.1**	**-0.9**
	baz=322								
Z36A	**Blue Ridge**	**72.14**	**59**	P		**P**	**22 54 28.9**	**-0.8**
	baz=322								
T43A	**Greenville**	**72.21**	**52**	P		**P**	**22 54 29.7**	**-0.4**
	baz=323								
S44A	**Carbondale**	**72.21**	**51**	P		**P**	**22 54 30.6**	**+0.5**
	baz=324								
V41A	**Mountainview**	**72.33**	**54**	P		**P**	**22 54 30.3**	**-0.6**
	baz=323,SNR=6.9								
U42A	**Revenden**	**72.33**	**53**	P		**P**	**22 54 30.2**	**-0.6**
	baz=323								
W40A	**Ferguson Farm,**	**72.34**	**55**	P		**P**	**22 54 30.4**	**-0.5**
	baz=323								
STHS	**Stebnicka Huta**	**72.35**	**333**	*e*P		**P**	**22 54 32.1**	**+1.3**
STHS				pmax	pmax				
	comp=Z,3.0nm,0.8s								
STHS	**Stebnicka Huta**	**72.35**	**333**	*e*P		**P**	**22 54 32.1**	**+1.3**
X39A	**Fountain Ranch**	**72.36**	**56**	P		**P**	**22 54 31.2**	**+0.2**
	baz=322								
PBMO	**Poplar Bluff**	**72.38**	**52**	*e*P		**P**	**22 54 31.5**	**+0.3**
T44A	**Benton**	**72.54**	**51**	P		**P**	**22 54 32.3**	**+0.2**
	baz=324								
S45A	**Carrier Mills**	**72.54**	**50**	P		**P**	**22 54 32.0**	**0.0**
	baz=324,SNR=6.5								
WHAR	**Wooly Hollow**	**72.66**	**54**	*e*P		**P**	**22 54 32.8**	**0.0**
CLL	**Collm**	**72.67**	**339**	*e*P		**P**	**22 54 34.0**	**+1.4**
CLL				pmax	pmax				
	comp=Z,14nm,1.0s								
CLL	**Collm**	**72.67**	**339**	*e*P		**P**	**22 54 34.0**	**+1.4**
	comp=Z,5.0nm,1.0s								
CLL				*e*			22 54 41.0		
CLL				*e*(sP)		**sP**	**22 54 56.0**	**+3.2**
V42A	**Cord**	**72.69**	**53**	P		**P**	**22 54 32.6**	**-0.4**
	baz=323								
334A	**Lometa**	**72.70**	**61**	P		**P**	**22 54 32.7**	**-0.4**
	baz=322								
W41B	**Gary Mavity, V**	**72.77**	**54**	P		**P**	**22 54 31.0**	**-2.5**
	baz=323,SNR=5.1								
BUR08	**Bucovina Ar. S**	**72.77**	**329**	*e*P		**P**	**22 54 33.5**	**+0.1**
DPC	**Dobruska-Polom**	**72.79**	**336**	*e*P		**P**	**22 54 35.6**	**+2.2**
DPC	**Dobruska-Polom**	**72.79**	**336**	*e*P		**P**	**22 54 35.6**	**+2.2**
BURAR	**Bucovina Array**	**72.79**	**329**	⇓*i*P		**P**	**22 54 33.1**	**-0.5**
BURAR	**Bucovina Array**	**72.79**	**329**	⇓P		**P**	**22 54 33.1**	**-0.5**
ACSO	**Alum Creek Sta**	**72.99**	**45**	*e*P		**P**	**22 54 35.0**	**+0.3**
MORC	**Moravsky Berou**	**73.01**	**335**	⇑*i*P		**P**	**22 54 35.6**	**+0.9**
MORC	**Moravsky Berou**	**73.01**	**335**	⇑P		**P**	**22 54 35.6**	**+0.9**
LANS	**Liptovska Anna**	**73.08**	**334**	*e*P		**P**	**22 54 36.3**	**+1.1**
LANS	**Liptovska Anna**	**73.08**	**334**	*e*P		**P**	**22 54 36.2**	**+1.1**
WCI	**Wyandotte Cave**	**73.16**	**49**	*e*P		**P**	**22 54 36.2**	**+0.4**
WCI	**Wyandotte Cave**	**73.16**	**49**	*e*P		**P**	**22 54 36.2**	**+0.4**
M54A	**Oil Creek Stat**	**73.33**	**42**	P		**P**	**22 54 36.6**	**-0.2**
	baz=327								
N54A	**Moraine State**	**73.66**	**43**	P		**P**	**22 54 38.6**	**0.0**
	baz=327								
WVT	**Waverly**	**74.15**	**51**	*e*P		**P**	**22 54 42.1**	**+0.6**
WVT	**Waverly**	**74.15**	**51**	*e*P		**P**	**22 54 42.1**	**+0.6**
DRGR		**74.29**	**331**	⇑*i*P		**P**	**22 54 41.5**	**-0.8**
DRGR		**74.29**	**331**	⇑P		**P**	**22 54 41.5**	**-0.8**
KHC	**Kasperske Hory**	**74.58**	**337**	*e*P		**P**	**22 54 44.6**	**+0.7**
KHC				*ex*		x	22 54 49.0		
KHC				*ex*		x	22 54 53.9		
KHC	**Kasperske Hory**	**74.58**	**337**	*e*P		**P**	**22 54 44.6**	**+0.7**
KHC				*e*			22 54 53.9		
KHC	**Kasperske Hory**	**74.58**	**337**	*e*P		**P**	**22 54 46.0**	**+2.1**
MEM	**Membach**	**74.75**	**343**	P		**P**	**22 54 45.4**	**+0.6**
	comp=Z,9.6nm,1.1s								
VOIR		**74.78**	**329**	⇓*i*P		**P**	**22 54 42.0**	**-3.2**
VOIR		**74.78**	**329**	⇓P		**P**	**22 54 42.0**	**-3.2**
GERES	**GERESS Array B**	**74.82**	**337**	P		**P**	**22 54 45.4**	**0.0**
	comp=Z,0.8nm,0.5s,baz=40,slow=6.1,SNR=11								
GERES	**GERESS Array B**	**74.82**	**337**	*e*P		**P**	**22 54 46.0**	**+0.6**
GERES				pmax	pmax				
	comp=Z,1.0nm,0.5s								
O56A	**Blue Knob Stat**	**74.82**	**42**	P		**P**	**22 54 45.4**	**-0.1**
	baz=328								
ARR	**Arges**	**74.98**	**329**	⇓*i*P		**P**	**22 54 47.5**	**+1.2**
BCLA	**Clavier**	**75.06**	**343**	P		**P**	**22 54 47.1**	**+0.5**
	comp=Z,20nm,2.4s								
CONA	**Conrad Observa**	**75.14**	**336**	*i* P		**P**	**22 54 48.9**	**+1.6**
	comp=Z,2.0nm,0.7s								
N59A	**State Game Lan**	**75.39**	**40**	P		**P**	**22 54 48.2**	**-0.6**
	baz=329								
WRAB	**Tennant Creek**	**75.40**	**204**	*ce*P		**P**	**22 54 49.1**	**+0.3**
WRAB				pmax	pmax				
	comp=Z,22nm,0.8s								
WRA	**Warramunga Arr**	**75.41**	**204**	P		**P**	**22 54 49.1**	**+0.3**
	comp=Z,7.8nm,0.7s,baz=18,slow=5.9,SNR=50								
Y46A	**Houston**	**75.47**	**53**	P		**P**	**22 54 49.3**	**0.0**
	baz=324								
DOU	**Dourbes**	**75.50**	**344**	P		**P**	**22 54 50.0**	**+0.9**
GZR	**Gura Zlata**	**75.53**	**330**	⇓*i*P		**P**	**22 54 49.4**	**-0.1**
GZR	**Gura Zlata**	**75.53**	**330**	⇓P		**P**	**22 54 49.4**	**-0.1**
WLF	**Walferdange**	**75.63**	**342**	P		**P**	**22 54 50.1**	**+0.2**
	comp=Z,17nm,2.4s								
BZS	**Buzias**	**75.68**	**331**	⇑*i*P		**P**	**22 54 49.8**	**-0.5**
BZS	**Buzias**	**75.68**	**331**	⇑P		**P**	**22 54 49.9**	**-0.3**
034A	**Hebbronville**	**75.79**	**64**	P		**P**	**22 54 52.4**	**+1.2**
	baz=322,SNR=5.6								
ARSA	**Arzberg**	**75.86**	**335**	*i* P		**P**	**22 54 53.1**	**+1.8**
	comp=Z,3.8nm,1.1s								
Z47A	**Carrollton**	**76.41**	**53**	P		**P**	**22 54 54.7**	**+0.2**
	baz=325								
SOKA	**Soboth**	**76.52**	**336**	*i* P		**P**	**22 54 55.7**	**+0.6**
	comp=Z,2.5nm,0.6s								
KBA	**Koelnbreinsper**	**76.56**	**337**	*i* P		**P**	**22 54 56.7**	**+1.2**
	comp=Z,13nm,0.7s								
WATA	**Walderalm**	**76.73**	**338**	*i* P		**P**	**22 54 56.1**	**-0.2**
	comp=Z,0.1nm,0.3s								
147A	**Livingston**	**76.74**	**53**	P		**P**	**22 54 56.8**	**+0.3**
	baz=325								
MOTA	**Moosalm**	**76.83**	**338**	*i* P		**P**	**22 54 57.6**	**+0.7**
	comp=Z,1.7nm,0.6s								
ABTA	**Abfaltersbach**	**77.07**	**337**	*i* P		**P**	**22 54 59.3**	**+1.1**
	comp=Z,3.2nm,0.6s								
FETA	**Feichten**	**77.22**	**339**	*i* P		**P**	**22 55 00.1**	**+0.9**
	comp=Z,3.0nm,0.7s								
DAVOX	**Davos/Dischmat**	**77.63**	**339**	P		**P**	**22 55 02.3**	**+0.8**
	comp=Z,4.1nm,0.6s,baz=331,slow=6.4,SNR=12								
VTS	**Vitosha**	**77.92**	**328**	⇓*i*P		**P**	**22 55 03.3**	**+0.2**
VTS	**Vitosha**	**77.92**	**328**	⇓P		**P**	**22 55 03.3**	**+0.2**
KMSC	**Kings Mountain**	**77.95**	**47**	P		**P**	**22 55 01.7**	**-1.5**
	baz=327								
GRR	**Gorron**	**78.01**	**347**	*e*P		**P**	**22 55 05.3**	**+2.0**
GRR				pmax	pmax				
	comp=Z,15nm,1.4s								
TUE	**Stuetta**	**78.04**	**339**	*e*P		**P**	**22 55 04.3**	**+0.5**
	comp=Z,7.1nm,0.6s								
WSAR	**Wadi Sarin**	**78.08**	**293**	LR		LR	23 34 56.0		
	comp=Z,177nm,19.9s,baz=25,slow=40								
LOR	**Lormes**	**78.35**	**343**	*e*P		**P**	**22 55 05.5**	**+0.2**
LOR				pmax	pmax				
	comp=Z,5.0nm,0.6s								
SGMF	**Saint Gilles**	**78.37**	**348**	*e*P		**P**	**22 55 08.6**	**+3.3**
SGMF				pmax	pmax				
	comp=Z,51nm,1.8s								
CABF	**La Chapelle**	**78.58**	**342**	*e*P		**P**	**22 55 07.2**	**+0.6**
CABF				pmax	pmax				
	comp=Z,14nm,1.1s								
SSF	**Saint Saulge**	**78.61**	**343**	*e*P		**P**	**22 55 07.0**	**+0.3**
SSF				pmax	pmax				
	comp=Z,5.0nm,0.8s								
AVF	**Avril sur Loir**	**78.90**	**343**	*e*P		**P**	**22 55 08.7**	**+0.4**
AVF				pmax	pmax				
	comp=Z,4.0nm,0.7s								
ASAR	**Alice Springs**	**79.09**	**204**	P		**P**	**22 55 10.4**	**+1.0**
	comp=Z,5.0nm,0.6s,baz=13,slow=5.5,SNR=60								
PDG	**Podgorica**	**79.28**	**331**	⇑*i*P		**P**	**22 55 09.4**	**-1.0**
LPL	**La Plagne**	**79.50**	**341**	*e*P		**P**	**22 55 12.9**	**+1.1**
LPL				pmax	pmax				
	comp=Z,5.0nm,0.6s								
LPG	**La Plagne**	**79.51**	**341**	*e*P		**P**	**22 55 13.1**	**+1.1**
LPG				pmax	pmax				
	comp=Z,7.0nm,0.6s								
TCF	**Toulx Ste Croi**	**79.59**	**344**	*e*P		**P**	**22 55 13.5**	**+1.4**
TCF				pmax	pmax				
	comp=Z,6.0nm,1.0s								
MFF	**Saint Martin d**	**79.65**	**346**	*e*P		**P**	**22 55 15.8**	**+3.4**
MFF				pmax	pmax				
	comp=Z,5.0nm,0.9s								
SSB	**Saint Sauveur**	**80.15**	**342**	P		**P**	**22 55 12.1**	**-3.0**
ORIF	**Oris-en-Rattie**	**80.24**	**341**	*e*P		**P**	**22 55 16.8**	**+1.1**
ORIF				pmax	pmax				
	comp=Z,4.0nm,0.7s								
MBDF	**Montbardon**	**80.25**	**341**	*e*P		**P**	**22 55 18.4**	**+2.6**
MBDF				pmax	pmax				
	comp=Z,4.0nm,0.7s								
VIVF	**Saint-Julien-l**	**80.53**	**342**	*e*P		**P**	**22 55 18.2**	**+1.0**
VIVF				pmax	pmax				
	comp=Z,6.0nm,0.8s								
RJF	**Les Rejaudoux**	**80.66**	**344**	*e*P		**P**	**22 55 19.6**	**+1.8**
RJF				pmax	pmax				
	comp=Z,1.0nm,0.2s								
CAF	**Calviac**	**80.93**	**344**	*e*P		**P**	**22 55 20.6**	**+1.3**
CAF				pmax	pmax				
	comp=Z,7.0nm,0.9s								
LFF	**La Frestale**	**81.14**	**345**	*e*P		**P**	**22 55 23.1**	**+2.8**
LFF				pmax	pmax				
	comp=Z,38nm,1.7s								
LMR	**La Mourre**	**81.64**	**340**	*e*P		**P**	**22 55 25.0**	**+2.0**
LMR				pmax	pmax				
	comp=Z,6.0nm,1.0s								
MMAI	**Mount Meron Ar**	**81.76**	**315**	P		**P**	**22 55 23.6**	**-0.3**
	comp=Z,1.6nm,0.5s,baz=34,slow=6.1,SNR=4.9								
MTLF	**Montolieu**	**82.44**	**343**	*e*P		**P**	**22 55 28.5**	**+1.2**
MTLF				pmax	pmax				
	comp=Z,3.0nm,1.0s								
EPF	**Esparros**	**83.06**	**345**	*e*P		**P**	**22 55 32.8**	**+2.2**
EPF				pmax	pmax				
	comp=Z,5.0nm,1.0s								
ETSF	**Etsaut**	**83.33**	**345**	*e*P		**P**	**22 55 32.5**	**+0.5**
ETSF				pmax	pmax				
	comp=Z,4.0nm,0.8s								
EIL	**Elat**	**84.83**	**314**	P		**P**	**22 55 39.6**	**0.0**
	comp=Z,4.3nm,0.8s,baz=30,slow=8.0,SNR=4.3								
ESDC	**Sonseca Array**	**86.99**	**347**	P		**P**	**22 55 50.5**	**+0.2**
	comp=Z,2.0nm,0.7s,baz=2.7,slow=4.6,SNR=13								
KEST	**Kesra**	**88.25**	**336**	P		**P**	**22 55 56.6**	**+0.2**
	comp=Z,3.1nm,0.6s,baz=296,slow=4.3,SNR=7.9								
TORD	**Torodi Ar. Bea**	**111.77**	**336**	PKiKP		**PKiKP**	**23 01 39.6**	**-0.3**
	comp=Z,0.1nm,0.4s,baz=20,slow=2.7,SNR=4.3								
DBIC	**Dimbokro**	**119.47**	**342**	PKP		**PKPdf**	**23 01 54.3**	**-0.4**
	comp=Z,2.2nm,0.7s,baz=33,slow=2.8,SNR=4.8								
PLCA	**Paso Flores**	**144.47**	**91**	PKP		**PKPdf**	**23 02 40.1**	**-0.5**
	comp=Z,3.7nm,0.7s,baz=311,slow=4.5,SNR=11								
SYO	**Syowa Base**	**148.00**	**216**	‖*e*P		**PKPbc**	**23 02 47.6**	**-1.2**
SYO	**Syowa Base**	**148.00**	**216**	‖*e*P		PKPab	23 03 05.3	+14

ISK ***22*** *22:45:38.2,39˚.50N×38˚.88E,h12km,MD2.7*
ISCJB ***22*** *22:45:42.0±0.5,39˚.65N±0˚.03×38˚.67E±0˚.05,h17km±10km, Error ellipse: s-maj=6.8km s-min=5.0km az=19.9*
CSEM ***22*** *22:45:41.1±0.2,39˚.65N×38˚.70E,h15km,MD2.6, Error ellipse: s-maj=6.4km s-min=5.3km az=120.0*
DDA ***22*** *22:45:41.7,39˚.65N×38˚.69E,h7km,Md2.6*

ISC 22 22:45:41.3±1.0, 39˚.65N±0˚.02×38˚.69E±0˚.03, h16km±9km, n26, σ0°87/37, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
REFA	**Refahiye_ERZ˜**	**0.26**	**167**	*i* P	**Pb**	**22 45 47.5**	**-0.2**
REFA				*i* S	**Sb**	**22 45 51.6**	**-0.4**
REFA	**Refahiye_ERZ˜**	**0.26**	**167**	P	**Pb**	**22 45 47.5**	**-0.2**
REFA				S	**Sb**	**22 45 51.6**	**-0.4**
KEMA	**Kemaliye**	**0.41**	**202**	*i* P	**Pg**	**22 45 49.5**	**-0.1**
KEMA				*i* S	**Sb**	**22 45 56.4**	**+0.1**
KEMA	**Kemaliye**	**0.41**	**202**	P	**Pg**	**22 45 49.5**	**-0.1**
KEMA				S	**Sb**	**22 45 56.4**	**+0.1**
EZC	**Erzincan**	**0.52**	**78**	*e*Pg	**Pg**	**22 45 51.6**	**-0.1**
KELT	**Kelkit**	**0.66**	**41**	*i* P	**Pg**	**22 45 54.1**	**-0.3**
KELT				*i* S	**Sg**	**22 46 03.2**	**0.0**
KELT	**Kelkit**	**0.66**	**41**	P	**Pg**	**22 45 54.1**	**-0.3**
KELT				S	**Sg**	**22 46 03.2**	**0.0**
SUSE	**Susehri**	**0.67**	**326**	*i* P	**Pb**	**22 45 55.0**	**+0.2**
SUSE				*i* S	**Sb**	**22 46 04.4**	**+0.4**
SUSE	**Susehri**	**0.67**	**326**	P	**Pb**	**22 45 55.0**	**+0.2**
SUSE				S	**Sb**	**22 46 04.4**	**+0.4**
CUZAR	**Zara_SIVAS**	**0.75**	**289**	*i* P	**Pb**	**22 45 56.3**	**+0.2**
CUZAR	**Zara_SIVAS**	**0.75**	**289**	P	**Pb**	**22 45 56.3**	**+0.2**
EUZM	**Uzumlu**	**0.78**	**85**	*i* P	**Pb**	**22 45 57.2**	**+0.6**
EUZM				*i* S	**Sn**	**22 46 09.5**	**+0.3**
EUZM	**Uzumlu**	**0.78**	**85**	P	**Pb**	**22 45 57.2**	**+0.6**
EUZM				S	**Sn**	**22 46 09.5**	**+0.3**
ERZN	**Erzincan**	**0.80**	**94**	*e*PG	Pg	22 45 51.5	-5.3
PTK	**Pertek**	**0.93**	**144**	*e*PG	Pg	22 45 52.8	-6.6
PTK	**Pertek**	**0.93**	**144**	*e*Pg	Pg	22 45 52.8	-6.6
GUMT	**Gumushane**	**1.01**	**37**	*e*PG	**Pg**	**22 45 59.3**	**-1.6**
GUMT	**Gumushane**	**1.01**	**37**	*e*Pg	**Pg**	**22 45 59.3**	**-1.6**
ELZG	**Elazig**	**1.17**	**169**	*i* P	**Pg**	**22 46 04.2**	**+0.3**
ELZG				*i* S	**Sn**	**22 46 20.7**	**+1.8**
ELZG	**Elazig**	**1.17**	**169**	P	**Pg**	**22 46 04.2**	**+0.3**
ELZG				S	**Sn**	**22 46 20.7**	**+1.8**
ESPY	**Espiye-Giresun**	**1.27**	**1**	*e*PN	**Pn**	**22 46 04.1**	**-0.3**
ESPY				*e*SN	**Sg**	**22 46 23.6**	**+1.3**
ESPY	**Espiye-Giresun**	**1.27**	**1**	*e*Pn	**Pn**	**22 46 04.1**	**-0.3**
ESPY				*e*Sn	**Sg**	**22 46 23.6**	**+1.3**
SVSK	**Karacayir**	**1.33**	**282**	*e*PN	**Pb**	**22 46 05.9**	**0.0**
SVSK	**Karacayir**	**1.33**	**282**	*e*Pn	**Pb**	**22 46 05.9**	**0.0**
DARE	**Darende-Malaty**	**1.43**	**222**	*e*PN	**Pn**	**22 46 04.7**	**-2.0**
DARE	**Darende-Malaty**	**1.43**	**222**	*e*Pn	**Pn**	**22 46 04.7**	**-2.0**

JMA 22 22:46:59.5±0.2, 37˚.90N×143˚.89E, h46km, M3.5, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JIO	**Ouri**	**2.08**	**286**	P	Pn	22 47 33.1	+1.3
JIO				S	Sn	22 47 58.0	+1.5
OFUJ	**Ofunato**	**2.10**	**305**	P	Pn	22 47 33.4	+1.2
OFUJ				S	Sn	22 47 58.2	+1.0
JMK	**Ichinoseki**	**2.34**	**297**	P	Pn	22 47 36.9	+1.4
JMK				S	Sn	22 48 04.7	+1.6
JOM	**Ohasama**	**2.57**	**308**	P	Pn	22 47 40.5	+1.9
JOM				*e*S	Sn	22 48 10.5	+1.9
JFT	**Otama**	**2.84**	**263**	*e*S	Sn	22 48 17.7	+2.3
JYK	**Kaneyama**	**2.95**	**291**	P	Pn	22 47 46.2	+2.3
JYK				S	Sn	22 48 21.0	+2.9
JANG	**Nango**	**3.08**	**324**	*e*S	Sn	22 48 22.0	+0.7
JAG	**Ashikaga**	**3.84**	**249**	P	Pn	22 47 57.8	+1.8
JCH	**Churui**	**4.73**	**355**	P	Pn	22 48 08.5	+0.3
JCH				*e*S	Sn	22 48 59.2	-2.5

IDC ***22*** *22:49:53.0±0.8, 14˚.92N×94˚.11W, h0km, mb4.1/15, mb1 4.4/16, mb1mx4.2/43, mbtmp4.1/16, ML3.9/1, MS3.6/7, Ms1 3.6/7, ms1mx3.4/50, Error ellipse: s-maj=34.2km s-min=14.8km az=60.0*
NEIC ***22*** *22:49:55.1±0.0, 14˚.62N×94˚.50W, h16km, mb4.5/56, MD4.4(MEX), After MEX.*
MEX ***22*** *22:49:55.1±0.7, 14˚.62N×94˚.50W, h16km±10km, MD4.4*

ISC 22 22:49:56.5±0.5, 14˚.77N±0˚.06×94˚.48W±0˚.04, h28km, n292, σ1°58/294, mb4.5/63, MS3.7/5, Off coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HUIG	**Huatulco**	**1.86**	**302**	*e*P	**Pn**	**22 50 24.3**	**-2.2**
HUIG				*i* S	**Sn**	**22 50 45.4**	**-3.8**
HUIG	**Huatulco**	**1.86**	**302**	*e*P	**Pn**	**22 50 24.3**	**-2.2**
HUIG				*i* S	**Sn**	**22 50 45.4**	**-3.8**
TGIG		**2.38**	**33**	*e*P	**Pn**	**22 50 32.8**	**-1.0**
TGIG				*e*S	**Sn**	**22 51 01.0**	**-1.2**
TGIG		**2.38**	**33**	*e*P	**Pn**	**22 50 32.8**	**-1.0**
TGIG				*e*S	**Sn**	**22 51 01.0**	**-1.2**
CCIG	**Comitan**	**2.71**	**56**	*e*Pn	**Pn**	**22 50 38.0**	**-0.4**
CCIG				*e*S	**Sn**	**22 51 09.2**	**-1.2**
CCIG	**Comitan**	**2.71**	**56**	*e*P	**Pn**	**22 50 36.5**	**-1.9**
CCIG				*e*S	**Sn**	**22 51 09.2**	**-1.2**
VHO	**Vista Hermosa**	**3.15**	**317**	*i* P	**Pn**	**22 50 43.1**	**-1.4**
VHO				*i* S	**Sn**	**22 51 21.0**	**-0.4**
VHO	**Vista Hermosa**	**3.15**	**317**	*i* P	**Pn**	**22 50 43.1**	**-1.4**
VHO				*i* S	**Sn**	**22 51 21.0**	**-0.4**
PNIG	**Pinotepa**	**3.87**	**295**	*e*P	**Pn**	**22 50 52.4**	**-1.8**
PNIG				*i* S	**Sn**	**22 51 36.6**	**-2.2**
PNIG	**Pinotepa**	**3.87**	**295**	*e*P	**Pn**	**22 50 52.4**	**-1.8**
PNIG				*i* S	**Sn**	**22 51 36.6**	**-2.2**
TLIG	**Tlapa**	**4.81**	**306**	*e*Pn	**Pn**	**22 51 09.1**	**+1.9**
035A	**Encino**	**12.57**	**345**	P	**Pn**	**22 52 56.6**	**+3.1**
	baz=164						
034A	**Hebbronville**	**12.85**	**343**	P	**Pn**	**22 53 01.1**	**+3.8**
	baz=162,SNR=5.3						
934A	**Benavides**	**13.31**	**344**	P	**Pn**	**22 53 06.8**	**+3.1**
	baz=163						
835A	**Beeville**	**13.81**	**348**	P	**Pn**	**22 53 14.0**	**+3.6**
	baz=167						
832A	**Faith Ranch, C**	**14.38**	**340**	P	**Pn**	**22 53 19.4**	**+1.1**
	baz=158,SNR=5.6						
733A	**Divot King Ran**	**14.58**	**343**	P	**Pn**	**22 53 21.6**	**+0.6**
	baz=162						
633A	**Saathoff Ranch**	**15.25**	**344**	P	**Pn**	**22 53 30.1**	**+0.1**
	baz=163						
534A	**Blanco**	**15.63**	**347**	P	**Pn**	**22 53 35.1**	**+0.2**
	baz=166,SNR=10.0						
533A	**Kerrville**	**15.80**	**345**	P	**Pn**	**22 53 37.8**	**+0.7**
	baz=164						
434A	**Burnet**	**16.34**	**348**	P	**Pn**	**22 53 44.0**	**-0.1**
	baz=167,SNR=11						
JCT	**Junction City**	**16.38**	**344**	*e*Pn	**Pn**	**22 53 45.4**	**+0.8**
	16nm,1.0s						
433A	**Art**	**16.46**	**346**	P	**Pn**	**22 53 46.1**	**+0.5**
	baz=164						
340A	**Bronson**	**16.58**	**2**	P	**Pn**	**22 53 46.4**	**-0.7**
	baz=182						
TXAR	**Lajitas Array**	**16.80**	**331**	Pn	**P**	**22 53 51.3**	**-0.6**
	0.1nm,0.3s,baz=156,slow=14,SNR=25						
TXAR				LR	LR	22 59 37.6	
	comp=Z,62nm,20.4s,baz=0.0,slow=35						
TX31	**Lajitas Ar. Si**	**16.80**	**331**	*e*Pn	**P**	**22 53 51.3**	**-0.6**
334A	**Lometa**	**16.84**	**349**	P	**Pn**	**22 53 50.3**	**0.0**
	baz=168,SNR=9.4						
333A	**Richland Sprin**	**16.99**	**347**	P	**Pn**	**22 53 52.8**	**+0.6**
	baz=165						
236A	**Katherine and**	**17.25**	**354**	P	**Pn**	**22 53 56.1**	**+0.7**
	baz=173						
WHTX	**Lake Whitney,**	**17.36**	**351**	P	**P**	**22 53 57.8**	**-0.2**
	baz=170						
234A	**Clairette**	**17.48**	**350**	P	**Pn**	**22 53 58.8**	**+0.5**
	baz=168,SNR=7.1						
LPIG	**La Paz**	**17.57**	**304**	LR	LR	23 01 21.2	
	comp=Z,269nm,18.9s,baz=99,slow=39						
233A	**Rising Star**	**17.64**	**348**	P	**Pn**	**22 53 59.8**	**-0.5**
	baz=166,SNR=5.0						
ABTX	**Abilene, Hawle**	**18.39**	**346**	P	**Pn**	**22 54 09.6**	**+0.2**
	baz=164,SNR=7.4						
ABTX	**Abilene, Hawle**	**18.39**	**346**	*e*P	**Pn**	**22 54 10.7**	**+1.2**
	24nm,1.0s						
WLAR	**White Oak Lake**	**18.88**	**4**	*e*P	**P**	**22 54 14.4**	**-0.3**
	28nm,0.6s						
Y39A	**Lockesburg**	**19.09**	**1**	P	**P**	**22 54 16.5**	**-0.4**
	baz=181						
Z47A	**Carrollton**	**19.25**	**16**	P	**P**	**22 54 17.8**	**-0.9**
	baz=199						
LRAL	**Lakeview Retre**	**19.41**	**19**	*e*P	**P**	**22 54 20.1**	**-0.5**
	37nm,1.8s						
SJCC	**San Jacinto, C**	**19.46**	**102**	*e*P	Pn	22 54 36.1	+14
Z48A	**Northport**	**19.56**	**18**	P	**P**	**22 54 20.7**	**-1.5**
	baz=200						
MNTX	**Cornudas Mount**	**19.58**	**331**	*e*P	**P**	**22 54 22.2**	**-0.3**
	23nm,1.8s						
X40A	**Basin Creek Fa**	**19.69**	**4**	P	**P**	**22 54 23.4**	**-0.1**
	baz=185						
MIAR	**Mount Ida**	**19.71**	**2**	P	**P**	**22 54 23.2**	**-0.5**
	baz=183						
MIAR	**Mount Ida**	**19.71**	**2**	*e*P	**P**	**22 54 22.9**	**-0.9**
	19nm,1.0s						
X36A	**Centrahoma**	**19.79**	**355**	P	**P**	**22 54 25.2**	**+0.6**
	baz=175						
X38A	**Whitesboro**	**19.82**	**359**	P	**P**	**22 54 25.1**	**+0.2**
	baz=179						
UALR	**University of**	**20.01**	**5**	*e*P	**P**	**22 54 26.5**	**-0.6**
	15nm,0.6s						
TUMC	**Tumaco**	**20.18**	**128**	*e*P	Pn	22 54 44.9	+14
W36A	**Wetumka**	**20.34**	**356**	P	**P**	**22 54 30.4**	**-0.3**
	baz=175						
W35A	**Tecumseh**	**20.41**	**354**	P	**P**	**22 54 31.4**	**0.0**
	baz=174						
X301	**Greenbrier Sit**	**20.47**	**5**	*e*P	**P**	**22 54 32.1**	**+0.1**
	70nm,2.0s						
HELC	**Santa Helena**	**20.48**	**113**	*e*P	**P**	**22 54 32.9**	**+0.2**
	121nm,1.9s						
MSTX	**Muleshoe**	**20.54**	**340**	P	**P**	**22 54

S35A	Otter Creek Ra	22.88	356	P		P	22 54 57.4	-0.5	
	baz=176,SNR=16								
S36A	Lake Cedric, C	22.88	358	P		P	22 54 57.9	-0.1	
	baz=177,SNR=16								
S37A	Fort Scott	22.90	359	P		P	22 54 56.7	-1.4	
	baz=179								
TKL	Tuckaleechee C	22.91	23	P		P	22 54 54.6	-3.6	
	9.7nm,1.0s,baz=184,slow=12,SNR=7.7								
TKL				LR		LR	23 04 46.4		
	comp=Z,88nm,21.1s,baz=188,slow=40								
TKL	Tuckaleechee C	22.91	23	eP		P	22 54 54.9	-3.3	
TKL	Tuckaleechee C	22.91	23	eP		P	22 54 54.9	-3.3	
TKL	Tuckaleechee C	22.91	23	eP		P	22 54 55.6	-2.6	
	19nm,1.0s								
TUC	Tucson	22.93	322	P		P	22 55 01.5	+2.9	
	baz=136								
TUC	Tucson	22.93	322	eP		P	22 55 02.2	+3.6	
	25nm,1.5s								
S34A	Willow Spring	22.96	355	P		P	22 54 56.4	-2.3	
	baz=174								
S42A	Caledonia	23.14	7	P		P	22 54 58.9	-1.6	
	baz=189								
R38A	Fenwick Farm,	23.33	1	P		P	22 55 01.1	-1.3	
	baz=181,SNR=13								
R37A	Teagarden Farm	23.45	359	P		P	22 55 02.8	-0.8	
	baz=179								
R36A	Gordon, Harris	23.48	358	P		P	22 55 02.7	-1.2	
	baz=178								
R39A	Chumby, Stover	23.48	3	P		P	22 55 02.9	-1.1	
	baz=184,SNR=16								
R35A	Emporia Munici	23.51	357	P		P	22 55 03.4	-0.9	
	baz=176								
R40A	Maddies Statio	23.51	4	P		P	22 55 03.2	-1.0	
	baz=185,SNR=8.1								
R34A	Isabella, Hill	23.57	355	P		P	22 55 04.1	-0.7	
	baz=173								
R41A	Rosebud	23.59	6	P		P	22 55 04.0	-1.1	
	baz=188								
R42A	Luebbering	23.64	7	P		P	22 55 03.8	-1.6	
	baz=189,SNR=5.7								
R43A	Red Bud	23.76	9	P		P	22 55 04.7	-1.9	
	baz=191,SNR=5.9								
R44A	Waltonville	23.87	11	P		P	22 55 06.1	-1.5	
	baz=193,SNR=5.1								
T25A	Trinidad	23.97	340	P		P	22 55 10.9	+2.0	
	baz=156,SNR=13								
T25A	Trinidad	23.97	340	eP		P	22 55 11.2	+2.3	
	48nm,1.4s								
Q35A	Mercer Eighty,	24.03	357	P		P	22 55 08.8	-0.4	
	baz=176,SNR=7.2								
Q38A	Cooks Store, C	24.11	2	P		P	22 55 08.8	-1.1	
	baz=182,SNR=6.8								
X18A	Snowflake	24.12	327	eP		P	22 55 13.9	+3.6	
	10nm,0.8s								
Q40A	Laux Farm, Aux	24.22	5	P		P	22 55 09.2	-1.7	
	baz=186,SNR=5.9								
Q41A	Truxton	24.26	6	P		P	22 55 09.5	-1.7	
	baz=188,SNR=6.9								
Q42A	Golden Eagle	24.30	7	P		P	22 55 10.0	-1.6	
	baz=189								
CBKS	Cedar Bluff	24.40	350	P		P	22 55 12.8	+0.3	
	baz=168								
CBKS	Cedar Bluff	24.40	350	eP		P	22 55 12.8	+0.3	
	51nm,1.1s								
Q43A	New Douglas	24.44	9	P		P	22 55 10.9	-2.0	
	baz=191								
WCI	Wyandotte Cave	24.46	16	eP		P	22 55 11.3	-1.8	
	12nm,0.7s								
Q44A	Meyer Farm, Va	24.52	10	P		P	22 55 11.8	-1.8	
	baz=193								
P39B	Salisbury	24.67	3	P		P	22 55 14.0	-1.0	
	baz=184,SNR=10								
P37A	Lathrop	24.72	0	P		P	22 55 14.1	-1.4	
	baz=180								
P40A	Paris	24.76	4	P		P	22 55 14.3	-1.5	
	baz=186,SNR=7.7								
P36A	Good Intent, A	24.76	359	P		P	22 55 15.1	-0.8	
	baz=178								
P38A	Dawn	24.77	2	P		P	22 55 14.6	-1.3	
	baz=182								
SDCO	Great Sand Dun	24.89	339	P		P	22 55 18.8	+1.5	
	baz=154,SNR=11								
SDCO	Great Sand Dun	24.89	339	eP		P	22 55 19.1	+1.7	
	7.2nm,1.0s								
P42A	Winchester	24.99	8	P		P	22 55 16.5	-1.4	
	baz=190,SNR=5.8								
P41A	Barry, Barry	24.99	6	P		P	22 55 16.6	-1.3	
	baz=188								
P44A	Sand Creek, Wi	25.14	11	P		P	22 55 17.9	-1.3	
	baz=193								
O40A	La Belle	25.36	5	P		P	22 55 19.8	-1.4	
	baz=186								
O34A	Beatrice	25.39	356	P		P	22 55 21.9	+0.4	
	baz=175,SNR=5.2								
Y14A	Wickenburg	25.40	322	eP		P	22 55 24.2	+2.5	
	56nm,1.4s								
O39A	Kirksville	25.45	3	P		P	22 55 20.7	-1.2	
	baz=184								
O41A	Passleys Farm,	25.45	6	P		P	22 55 20.6	-1.4	
	baz=188								
MVCO	Mesa Verde	25.59	333	eP		P	22 55 24.0	+0.3	
	10nm,1.1s								
WUAZ	Wupatki	25.63	327	P		P	22 55 25.8	+1.9	
	baz=140,SNR=8.3								
WUAZ	Wupatki	25.63	327	eP		P	22 55 27.0	+3.1	
	12nm,0.8s								
N38A	Joes South For	25.95	2	P		P	22 55 25.9	-0.7	
	baz=183,SNR=22								
N39A	Derby Farms, D	26.07	3	P		P	22 55 26.4	-1.2	
	baz=184,SNR=13								
N40A	Mertquake, Sal	26.14	5	P		P	22 55 27.2	-1.1	
	baz=186								
SFIN	Lafayette	26.32	13	P		P	22 55 28.1	-1.7	
	baz=196								
PDMCI	Parker Dam,Lak	26.33	321	P		P	22 55 31.7	+1.6	
	baz=133								
PV01	Paradox Valley	26.40	334	eP		P	22 55 33.6	+2.6	
M37A	Trindle Farm,	26.54	1	P		P	22 55 31.2	-0.7	
	baz=181,SNR=5.9								
M38A	Pleasantville	26.57	2	P		P	22 55 30.9	-1.3	
	baz=183,SNR=16								
M35A	Neola	26.62	358	P		P	22 55 32.1	-0.6	
	baz=177								
M40A	Post Highland	26.66	5	P		P	22 55 31.8	-1.2	
	baz=186,SNR=11								
M39A	Webster	26.69	4	P		P	22 55 31.6	-1.6	
	baz=185,SNR=6.8								
M34A	Aspy Farms, Fr	26.70	356	P		P	22 55 33.2	-0.1	
	baz=176								
BC3	Big Chuckawall	26.73	318	P		P	22 55 36.3	+2.5	
	baz=130,SNR=8.1								
M41A	Milan	26.73	7	P		P	22 55 32.2	-1.4	
	baz=188,SNR=5.3								
PV04	Paradox Valley	26.76	334	eP		P	22 55 35.9	+1.7	
ISCO	Idaho Springs	26.78	341	P		P	22 55 35.9	+1.4	
	baz=156								
ISCO	Idaho Springs	26.78	341	eP		P	22 55 36.3	+1.8	
	4.8nm,0.9s								
IRM	Iron Mountain	26.85	320	P		P	22 55 37.3	+2.4	
	baz=131								
MONP	Monument Peak,	26.89	316	P		P	22 55 37.3	+1.9	
	baz=127								
SCIA	State Center	27.06	2	eP		P	22 55 35.6	-1.0	
	46nm,0.6s								
L37A	Phoenix Point,	27.26	1	P		P	22 55 37.7	-0.7	
	baz=182								
L38A	Oak Wood Farm,	27.30	2	P		P	22 55 37.4	-1.4	
	baz=183,SNR=6.2								
L40A	Anamosa	27.34	5	P		P	22 55 37.3	-1.8	
	baz=187,SNR=6.3								
PFO	Pinyon Flats O	27.35	317	LR		LR	23 07 01.0		
	comp=Z,234nm,20.9s,baz=136,slow=37								
L41A	Preston	27.43	6	P		P	22 55 38.7	-1.1	
	baz=188								
GMRC	Granite Mounta	27.59	320	P		P	22 55 43.8	+2.2	
	baz=131								
K36A	Gilmore City	27.77	0	P		P	22 55 42.0	-0.9	
	baz=180								
K38A	Parkersburg	27.82	3	P		P	22 55 42.1	-1.3	
	baz=184								
K37A	Belmond	27.91	1	P		P	22 55 42.3	-1.9	
	baz=182,SNR=8.0								
K39A	Oelwein	27.93	4	P		P	22 55 42.6	-1.8	
	baz=185,SNR=5.8								
K41A	Shullsburg	27.97	7	P		P	22 55 42.5	-2.3	
	baz=189								
K40A	Colesburg	27.98	5	P		P	22 55 43.3	-1.6	
	baz=187,SNR=9.5								
JFWS	Jewell Farm	28.28	7	eP		P	22 55 46.0	-1.5	
	13nm,0.8s								
J37A	Redenius Farm,	28.45	1	P		P	22 55 47.2	-1.9	
	baz=182								
J38A	Wedel Dairy, R	28.50	3	P		P	22 55 47.5	-1.9	
	baz=184								
J35A	Milford	28.50	359	P		P	22 55 48.2	-1.3	
	baz=179								
TMUT	Trail Mountain	28.52	332	eP		P	22 55 51.0	+1.0	
	4.8nm,1.1s								
J39A	Decorah	28.57	4	P		P	22 55 48.4	-1.6	
	baz=186								
J41A	Loganville	28.75	7	P		P	22 55 49.8	-1.9	
	baz=189								
ECSD	EROS Data Cent	28.92	357	P		P	22 55 52.6	-0.6	
	baz=176								
ECSD	EROS Data Cent	28.92	357	eP		P	22 55 53.1	-0.1	
	14nm,1.4s								
I35A	Creekview Farm	28.99	359	P		P	22 55 52.6	-1.2	
	baz=179,SNR=5.1								
RWWY	Rawlins	29.00	340	eP		P	22 55 55.6	+1.3	
	12nm,0.9s								
I39A	Houston	29.10	4	P		P	22 55 53.5	-1.3	
	baz=186,SNR=7.5								
EDW2	Edwards Air Fo	29.13	318	P		P	22 55 57.3	+2.0	
	baz=128								
I38A	Seanlan Farm,	29.23	3	P		P	22 55 54.2	-1.7	
	baz=184								
PCRV	Puerto La Cruz	29.48	95	LR		LR	23 08 49.8		
	comp=Z,170nm,20.4s,baz=288,slow=39								
MPMC	Manual Prospec	29.55	320	P		P	22 56 00.6	+1.5	
	baz=130,SNR=5.6								
H36A	Jessenland, He	29.71	1	P		P	22 56 00.4	+0.2	
	baz=181								
H32A	Carlson Farm,	29.74	356	P		P	22 55 59.7	-0.8	
	baz=174								
H38A	Maiden Rock	29.86	3	P		P	22 56 00.4	-1.2	
	baz=184,SNR=6.5								
H39A	Augusta	29.93	5	P		P	22 56 00.8	-1.4	
	baz=186,SNR=8.1								
H40A	Chili	29.96	6	P		P	22 56 00.6	-1.7	
	baz=188								
R11A	Troy Canyon, C	29.99	325	P		P	22 56 04.7	+1.7	
	baz=136								
G36A	St. Michael	30.37	1	P		P	22 56 04.8	-1.2	
	baz=181								
G38A	Ridgeland	30.38	4	P		P	22 56 04.8	-1.3	
	baz=185								
SPMN	Marine on St.	30.39	2	P		P	22 56 04.9	-1.2	
	baz=183,SNR=8.7								
SPMN	Marine on St.	30.39	2	eP		P	22 56 04.9	-1.2	
	27nm,0.6s								
G39A	Holcombe	30.55	5	P		P	22 56 05.8	-1.8	
	baz=186,SNR=7.9								
HWUT	Hardware Ranch	30.57	334	eP		P	22 56 10.1	+2.0	
	4.6nm,0.9s								
N59A	State Game Lan	30.72	28	P		P	22 56 07.4	-1.8	
	baz=217								
BW06	Boulder Array	30.77	338	P		P	22 56 10.9	+1.0	
	baz=151								
BW06	Boulder Array	30.77	338	eP		P	22 56 10.7	+0.9	
PDAR	Pinedale Array	30.77	338	P		P	22 56 11.1	+1.2	
	1.2nm,0.8s,baz=141,slow=9.6,SNR=6.7								
F37A	Hinhs Farm,	30.89	3	P		P	22 56 09.5	-1.1	
	baz=184								
G43A	Wallace	30.93	9	P		P	22 56 09.4	-1.5	
	baz=193								
F36A	Milaca	31.00	1	P		P	22 56 10.0	-1.6	
	baz=182,SNR=5.5								
F38A	Pierce - Schro	31.17	4	P		P	22 56 11.1	-1.9	
	baz=185,SNR=8.0								
F39A	Loretta	31.19	5	P		P	22 56 11.7	-1.5	
	baz=187								
HVU	Hansel Valley	31.23	333	eP		P	22 56 16.3	+2.5	
	8.6nm,0.8s								
F40A	Park Falls	31.27	6	P		P	22 56 12.5	-1.5	
	baz=188								
F43A	Flat Rock, Esc	31.57	10	P		P	22 56 14.3	-2.3	
	baz=194								
E34A	Wadena	31.65	359	P		P	22 56 16.8	-0.5	
	baz=179								
E36A	McGregor	31.67	2	P		P	22 56 16.2	-1.2	
	baz=182,SNR=10								
E35A	Pequot Lakes	31.69	0	P		P	22 56 16.9	-0.8	
	baz=180								
REDW	Red Top Meadow	31.76	337	eP		P	22 56 20.6	+2.1	
	7.8nm,0.8s								
E40A	Wakefield	31.81	6	P		P	22 56 16.7	-2.0	
	baz=188								
SNOW	Snow King Moun	31.81	337	eP		P	22 56 21.4	+2.4	
	16nm,0.8s								
E38A	The Farm, Brul	31.83	4	P		P	22 56 17.0	-1.8	
	baz=185								
LOHW	Long Hollow	31.88	338	eP		P	22 56 21.6	+2.0	
	5.4nm,0.8s								
TPAW	Teton Pass	31.91	337	eP		P	22 56 21.4	+1.5	
	5.4nm,0.9s								
MOOW	Moose Ponds	32.05	338	eP		P	22 56 23.0	+1.9	
	3.3nm,0.9s								
D35A	Remer	32.22	1	P		P	22 56 21.1	-1.2	
	baz=181,SNR=8.8								
IMW	Indian Meadow	32.25	337	eP		P	22 56 25.8	+2.8	
	3.0nm,0.9s								
D36A	Goodland	32.33	2	P		P	22 56 21.9	-1.4	
	baz=182								
RLMT	Red Lodge	32.74	340	P		P	22 56 28.1	+1.0	
	baz=153								
C35A	Jirik Farms, M	32.84	1	P		P	22 56 26.6	-1.1	
	baz=181,SNR=14								
C37A	Embarrass	32.92	3	P		P	22 56 26.8	-1.6	
	baz=184								
C36A	Pine Crest Far	32.92	2	P		P	22 56 27.8	-0.6	
	baz=183,SNR=6.8								
C38A	Sawbill Land.	32.96	4	P		P	22 56 26.7	-2.0	
	baz=186								
C31A	Landman Farms,	33.04	356	P		P	22 56 28.9	-0.6	
	baz=174,SNR=5.6								
HLID	Hailey	33.38	333	P		P	22 56 34.0	+1.3	
	baz=143,SNR=5.7								
HLID	Hailey	33.38	333	eP		P	22 56 34.9	+2.2	
	3.0nm,0.8s								
AGMN	Agassiz Nation	33.45	358	P		P	22 56 32.2	-0.8	
	baz=178,SNR=6.1								
AGMN	Agassiz Nation	33.45	358	eP		P	22 56 32.6	-0.4	
	7.7nm,0.9s								
B35A	Bob, Littlefor	33.50	1	P		P	22 56 32.2	-1.2	
	baz=181,SNR=6.2								
B34A	Aery, Baudette	33.62	360	P		P	22 56 33.3	-1.1	
	baz=180								
MCMT	McKenzie Canyo	33.77	336	eP		P	22 56 38.8	+2.7	
A33A	Warroad	34.08	359	P		P	22 56 38.0	-0.5	
	baz=178								
DLMT	Dillon	34.12	337	eP		P	22 56 41.6	+2.6	
	11nm,1.1s								
WVOR	Wild Horse Val	34.54	328	eP		P	22 56 45.1	+2.4	
	15nm,1.4s								
ULM	Lac du Bonnet	35.40	358	P		P	22 56 48.6	-1.3	
	4.0nm,0.7s,baz=174,slow=10,SNR=5.9								
F10A	Beach Ranch, E	36.51	333	eP		P	22 57 01.1	+1.5	
	6.0nm,0.8s								
PTGA	Pitinga	37.45	111	P		P	22 57 07.0	-0.8	
	3.1nm,0.7s,baz=303,slow=10,SNR=7.6								
PTGA	Pitinga	37.45	111	eP		P	22 57 07.1	-0.8	
	6.7nm,1.2s								
I03D	Drain, OR	37.92	325	P		P	22 57 13.8	+2.4	
	baz=131								
SAML	Samuel	38.96	125	eP		P	22 57 19.1	-1.5	
	3.8nm,0.8s								
LPAZ	La Paz	40.37	139	P		P	22 57 33.3	+0.4	
	0.8nm,0.8s,baz=0.1,slow=15,SNR=3.7								
SCHQ	Schefferville	45.38	22	LR		LR	23 19 00.7		
	comp=Z,186nm,18.9s,baz=5.5,slow=39								
YKA	Yellowknife Ar	49.75	348	P		P	22 58 46.2	0.0	
	3.1nm,0.7s,baz=157,slow=6.8,SNR=4.5								
CPUP	Villa Florida	54.53	138	P		P	22 59 21.0	-1.2	
	1.6nm,0.8s,baz=320,slow=7.2,SNR=3.2								
CPUP	Villa Florida	54.53	138	P		P	22 59 21.0	-1.2	
INK	Inuvik	59.03	344	P		P	22 59 54.3	+0.8	
	2.9nm,0.7s,baz=138,slow=5.9,SNR=3.7								
PLCA	Paso Flores	59.52	159	P		P	22 59 58.3	+1.0	
	2.1nm,1.1s,baz=301,slow=9.2,SNR=3.1								
DOT	Dot Lake	59.56	337	eP		P	22 59 59.0	+1.7	
	16nm,1.0s								
IL1	Eielson Array	61.20	337	eP		P	23 00 08.8	+0.4	
ILAR	Eielson Array	61.20	337	P		P	23 00 09.4	+0.9	
	3.0nm,0.9s,baz=147,slow=4.4,SNR=23								
ILB	Eielson Array	61.20	337	eP		P	23 00 09.9	+1.4	
RND	Reindeer	61.33	335	eP		P	23 00 11.1	+1.7	
	9.7nm,0.9s								
TRF	Thorofare Moun	61.93	335	eP		P	23 00 15.3	+1.7	
	13nm,1.0s								
TOLK	Toolik Lake Re	63.99	340	P		P	23 00 27.9	+0.8	
	baz=118								
SUMG	Summit	66.14	16	iP		P	23 00 41.0	-0.5	
DAG	Danmarks Havn	72.48	14	iP		P	23 01 19.1	-1.0	
	5.5nm,0.8s								
ESDC	Sonseca Array	81.12	51	P		P	23 02 07.8	-1.9	
	2.2nm,0.9s,baz=291,slow=5.1,SNR=10								
DOU	Dourbes	84.52	40	P		P	23 02 26.7	-0.3	
NB2	NORSAR Subarra	84.61	28	P		P	23 02 29.2	+1.9	
	comp=Z,4.0nm,0.8s,baz=291,slow=5.3								
NOA	NORSAR Array B	84.61	28	P		P	23 02 28.2	+0.9	
	comp=Z,2.8nm,0.7s,baz=290,slow=5.1,SNR=9.6								
BCLA	Clavier	84.86	39	P		P	23 02 28.9	+0.2	
	comp=Z,19nm,2.3s								
MEM	Membach	85.23	39	P		P	23 02 31.0	+0.4	
	comp=Z,5.2nm,0.9s								
WLF	Walferdange	85.61	40	P		P	23 02 33.2	+0.8	
	comp=Z,10nm,1.5s								
GERES	GERESS Array B	90.53	39	P		P	23 02 56.0	-0.1	
	comp=Z,0.7nm,0.8s,baz=308,slow=4.4,SNR=6.6								
TORD	Torodi Ar. Bea	92.53	76	P		P	23 03 04.6	-1.3	
	comp=Z,0.3nm,0.6s,baz=280,slow=5.4,SNR=4.5								
MKAR	Makanchi Array	118.65	3	PKP		PKPdf	23 08 42.1	-0.1	
	comp=Z,0.2nm,0.7s,baz=69,slow=4.8,SNR=2.6								
WRA	Warramunga Arr	133.25	256	PKP		PKPdf	23 09 11.5	+0.8	
	comp=Z,0.9nm,0.7s,baz=88,slow=2.4,SNR=17								
ASAR	Alice Springs	133.65	251	PKP		PKPdf	23 09 12.6	+1.2	
	comp=Z,0.3nm,0.5s,baz=114,slow=2.4,SNR=4.6								
CMAR	Chiang Mai Arr	144.43	338	PKP		PKPbc	23 09 29.9	+0.3	
	comp=Z,1.2nm,0.5s,baz=347,slow=4.7,SNR=7.3								

ISN **22** *22:49:54.1±1.1,39.43N×38.90E,h0km±69km, ML4.0*
DDA **22** *22:50:05.0,39.66N×38.70E,h18km, Ml4.3*
ISK **22** *22:50:05.3,39.73N×38.71E,h5km, ML3.7*
CSEM **22** *22:50:06.7±0.2,39.69N×38.71E,h2km, ML4.3, Error ellipse: s-maj=4.5km s-min=3.7km az=4.0*
NSSC **22** *22:50:35.7±1.5,37.69N×37.61E,h99km±44km, ML2.7*

ISC 22 22:50:06.0±1.1,**39.66N**±0.01×**38.67E**±0.01,**h4**km±10km,
n156,σ1s80/201,**12C-6D,Turkey**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
REFA	Refahiye_ERZ	0.27	164	⇓iP		P	Pg	22 50 11.0	-0.3
REFA				iS		S	Sb	22 50 18.6	0.0
REFA	Refahiye_ERZ	0.27	164	P		P	Pg	22 50 11.0	-0.3
REFA				S		S	Sb	22 50 18.6	0.0
KEMA	Kemaliye	0.41	199	⇓iP		P	Pg	22 50 13.3	-0.6
KEMA				iS		S	Sg	22 50 20.2	+0.9
KEMA	Kemaliye	0.41	199	P		P	Pg	22 50 13.3	-0.6
KEMA				S		S	Sg	22 50 20.2	+0.9
EZC	Erzincan	0.54	80	ePg		P	Pn	22 50 21.4	+0.8
EZC				eSg		S	Sn	22 50 33.7	+3.6
SUSE	Susehri	0.66	327	⇑iP		P	Pg	22 50 18.6	0.0
SUSE				iS		S	Sb	22 50 28.5	-1.2
SUSE	Susehri	0.66	327	P		P	Pg	22 50 18.6	0.0
SUSE				S		S	Sb	22 50 28.5	-1.2
KELT	Kelkit	0.67	43	⇓iP		P	Pg	22 50 18.0	-0.8
KELT				iS		S	Sg	22 50 27.3	-0.2
KELT	Kelkit	0.67	43	P		P	Pg	22 50 18.0	-0.8
KELT				S		S	Sg	22 50 27.3	-0.2
CUZAR	Zara_SIVAS	0.73	289	⇑iP		P	Pg	22 50 19.4	-0.6
CUZAR				iS		S	Sb	22 50 30.9	-0.8
CUZAR	Zara_SIVAS	0.73	289	P		P	Pg	22 50 19.4	-0.6
CUZAR				S		S	Sb	22 50 31.0	-0.8
EUZM	Uzumlu	0.80	86	⇑iP		P	Pg	22 50 20.6	-0.7
EUZM				iS		S	Sb	22 50 33.8	+0.2
EUZM	Uzumlu	0.80	86	P		P	Pg	22 50 20.5	-0.7
EUZM				S		S	Sb	22 50 33.8	+0.2
ERZN	Erzincan	0.82	95	ePG		P	Pg	22 50 21.4	-0.2
ERZN				eSG		S	Sb	22 50 33.7	-0.6
TNCL	Tunceli-Merkez	0.87	129	⇑iP		P	Pg	22 50 21.2	-1.4
TNCL				iS		S	Sg	22 50 33.8	-0.1
TNCL	Tunceli-Merkez	0.87	129	P		P	Pg	22 50 21.2	-1.4
TNCL				S		S	Sg	22 50 33.8	-0.1
PTK	Pertek	0.95	144	ePG		P	Pn	22 50 25.2	-1.1
PTK	Pertek	0.95	144	ePg		P	Pn	22 50 25.2	-1.1
CUKAN	kangal_SIVAS	0.99	250	⇑iP		P	Pg	22 50 23.6	-1.4
CUKAN				iS		S	Sn	22 50 39.6	-1.8
CUKAN	kangal_SIVAS	0.99	250	P		P	Pg	22 50 23.6	-1.4
CUKAN				S		S	Sn	22 50 39.6	-1.8
GUMT	Gumushane	1.01	38	ePG		P	Pg	22 50 24.3	-1.1
GUMT				eSG		S	Sb	22 50 38.9	-1.0
GUMT	Gumushane	1.01	38	ePg		P	Pg	22 50 24.3	-1.1
GUMT				eSg		S	Sb	22 50 38.9	-1.0
ELZG	Elazig	1.19	168	⇓iP		P	Pb	22 50 27.1	-2.0
ELZG				iS		S	Sb	22 50 43.9	-1.0
ELZG	Elazig	1.19	168	P		P	Pb	22 50 27.1	-2.0
ELZG				S		S	Sb	22 50 43.9	-1.0
SCER	sogukcermik	1.20	280	⇑iP		P	Pb	22 50 27.4	-2.0
SCER				iS		S	Sg	22 50 45.0	+0.3
SCER	sogukcermik	1.20	280	P		P	Pb	22 50 27.4	-2.0
SCER				S		S	Sg	22 50 45.0	+0.3
ESPY	Espiye-Giresun	1.26	2	ePN		P	Pn	22 50 28.9	-1.4
ESPY	Espiye-Giresun	1.26	2	ePn		P	Pn	22 50 28.9	-1.4
RSDY	Resadiye-TOKAT	1.27	306	ePN		P	Pn	22 50 29.6	-0.9
RSDY	Resadiye-TOKAT	1.27	306	ePn		P	Pn	22 50 29.6	-0.9
GRSN	GIRESUNGRSN	1.30	346	⇑iP		P	Pn	22 50 29.4	-1.6
GRSN				iS		S	Sg	22 50 48.1	+0.3
GRSN	GIRESUNGRSN	1.30	346	P		P

URFA	**Urfa**	**2.22 177**	*e*Pn		**Pb**	**22 50 45.8**	**-0.9**	
BNN	**Bunyan**	**2.33 251**	*e*PN		**Pb**	**22 50 46.7**	**-2.0**	
BNN	**Bunyan**	**2.33 251**	*e*PN		**Pb**	**22 50 46.7**	**-2.0**	
KVT	**Kavak**	**2.46 306**	*e*PN		**Pn**	**22 50 48.0**	**+1.2**	
KVT	**Kavak**	**2.46 306**	*e*Pn		**Pn**	**22 50 48.0**	**+1.2**	
GZT	**Gaziantep**	**2.46 201**	*i* P		**Pn**	**22 50 47.1**	**+0.1**	
GZT			*i* S		**Sg**	**22 51 26.9**	**+2.0**	
SVAN	**Silvan-Diyarba**	**2.48 127**	*e*PN		**Pb**	**22 50 48.5**	**-2.6**	
SVAN	**Silvan-Diyarba**	**2.48 127**	*e*Pn		**Pb**	**22 50 48.5**	**-2.6**	
KMRS	**Kahramanmaras**	**2.56 213**	*e*PN		**Pb**	**22 50 50.3**	**-2.2**	
KMRS	**Kahramanmaras**	**2.56 213**	*e*Pn		**Pb**	**22 50 50.3**	**-2.2**	
YOZ	**Yozgat**	**2.58 271**	*e*PN		**Pn**	**22 50 50.3**	**+1.6**	
YOZ	**Yozgat**	**2.58 271**	*e*Pn		**Pn**	**22 50 50.3**	**+1.6**	
MAZI	**Mazidag**	**2.60 147**	*e*PN		**Pb**	**22 50 51.0**	**-2.3**	
MAZI	**Mazidag**	**2.60 147**	*e*Pn		**Pb**	**22 50 51.0**	**-2.3**	
SENK	**Senkaya-Erzuru**	**2.96 71**	*e*PN		**Pn**	**22 50 55.1**	**+1.1**	
SENK	**Senkaya-Erzuru**	**2.96 71**	*e*Pn		**Pn**	**22 50 55.1**	**+1.1**	
KOZT	**Kozan**	**3.11 227**	*e*PN		**Pn**	**22 50 57.9**	**+2.0**	
KOZT	**Kozan**	**3.11 227**	*e*Pn		**Pn**	**22 50 57.9**	**+2.0**	
CORM	**Corum**	**3.15 281**	*e*PN		**Pn**	**22 50 58.6**	**+2.1**	
CORM	**Corum**	**3.15 281**	*e*Pn		**Pn**	**22 50 58.6**	**+2.1**	
DIKM	**Dikmen**	**3.27 309**	*e*PN		**Pn**	**22 50 59.2**	**+1.3**	
DIKM	**Dikmen**	**3.27 309**	*e*Pn		**Pn**	**22 50 59.3**	**+1.3**	
AGRB	**Hanur-Agry**	**3.34 90**	*e*PN		**Pn**	**22 51 00.3**	**+1.1**	
AGRB	**Hanur-Agry**	**3.34 90**	*e*Pn		**Pn**	**22 51 00.3**	**+1.1**	
DRWC	**Darouich**	**3.42 208**	*e*P		**Pn**	**22 51 00.3**	**+0.2**	
DRWC			*e*S		Sn	22 51 17.2	-24	
DRWC				AML	AML	22 52 03.8		
	comp=N,193nm,0.6s							
DRWC				AML	AML	22 52 04.1		
	comp=Z,86nm,0.5s							
DRWC	**Darouich**	**3.42 208**	*e*P		**Pn**	**22 51 00.3**	**+0.2**	
	SNR=120							
DRWC			*e*S		Sn	22 51 17.2	-24	
	comp=Z,86nm,0.5s,SNR=120							
BYBT	**Boyabat**	**3.48 303**	*e*PN		**Pn**	**22 51 02.7**	**+1.9**	
BYBT	**Boyabat**	**3.48 303**	*e*Pn		**Pn**	**22 51 02.7**	**+1.9**	
CEYT	**Ceyhan**	**3.50 222**	*e*PN		**Pn**	**22 51 04.1**	**+2.9**	
CEYT	**Ceyhan**	**3.50 222**	*e*Pn		**Pn**	**22 51 04.1**	**+2.9**	
SNOP	**Sinop**	**3.53 313**	*e*PN		**Pn**	**22 51 03.8**	**+2.2**	
SNOP	**Sinop**	**3.53 313**	*e*Pn		**Pn**	**22 51 03.8**	**+2.2**	
TOS	**Tosya**	**3.81 293**	*e*PN		**Pn**	**22 51 07.2**	**+1.7**	
TOS	**Tosya**	**3.81 293**	*e*Pn		**Pn**	**22 51 07.2**	**+1.7**	
TAHT	**Tahtakopru-Hat**	**3.82 212**	*e*PN		**Pn**	**22 51 08.2**	**+2.7**	
TAHT	**Tahtakopru-Hat**	**3.82 212**	*e*Pn		**Pn**	**22 51 08.2**	**+2.7**	
VANB	**Van**	**3.82 105**	*e*PN		**Pn**	**22 51 08.2**	**+2.5**	
VANB	**Van**	**3.82 105**	*e*Pn		**Pn**	**22 51 08.2**	**+2.5**	
CANT	**Cankiri**	**3.98 285**	*e*PN		**Pn**	**22 51 10.0**	**+2.1**	
BTCH	**Batrach**	**4.02 206**	*e*P		**Pn**	**22 51 07.1**	**-1.2**	
BTCH			*e*S		Sn	22 51 29.9	-26	
BTCH				AML	AML	22 51 56.4		
	comp=Z,106nm,0.5s							
BTCH				AML	AML	22 52 26.3		
	comp=N,185nm,0.8s							
BTCH	**Batrach**	**4.02 206**	*e*P		**Pn**	**22 51 07.1**	**-1.2**	
	SNR=110							
BTCH			*e*S		Sn	22 51 29.9	-26	
	comp=N,185nm,0.8s,SNR=110							
SERE	**Sereflikochisa**	**4.02 261**	*e*PN		**Pn**	**22 51 11.0**	**+2.5**	
SERE	**Sereflikochisa**	**4.02 261**	*e*Pn		**Pn**	**22 51 11.0**	**+2.5**	
AKH	**Akhalkalaki**	**4.07 63**	*e*PN		**Pn**	**22 51 10.8**	**+1.6**	
AKH	**Akhalkalaki**	**4.07 63**	P		**Pg**	**22 51 22.7**	**-1.2**	
AKH	**Akhalkalaki**	**4.07 63**	*e*Pn		**Pn**	**22 51 10.8**	**+1.6**	
CLDR	**Caldiran**	**4.10 96**	*e*PN		**Pn**	**22 51 12.0**	**+2.4**	
CLDR	**Caldiran**	**4.10 96**	*e*Pn		**Pn**	**22 51 12.0**	**+2.4**	
YAYL	**Yayladag**	**4.15 210**	*e*PN		**Pn**	**22 51 13.2**	**+3.0**	
YAYL	**Yayladag**	**4.15 210**	*e*Pn		**Pn**	**22 51 13.2**	**+3.0**	
BZK	**Bozkurt**	**4.22 304**	*e*PN		**Pn**	**22 51 13.4**	**+2.4**	
BZK	**Bozkurt**	**4.22 304**	*e*Pn		**Pn**	**22 51 13.4**	**+2.4**	
SULT	**Sultanhani-AKS**	**4.28 252**	*e*PN		**Pn**	**22 51 14.8**	**+2.9**	
SULT	**Sultanhani-AKS**	**4.28 252**	*e*Pn		**Pn**	**22 51 14.8**	**+2.9**	
AFSR	**Af˙ar-Bala (A**	**4.33 269**	*e*PN		**Pn**	**22 51 15.5**	**+2.8**	
AFSR	**Af˙ar-Bala (A**	**4.33 269**	*e*Pn		**Pn**	**22 51 15.5**	**+2.8**	
ARNB	**Al Arnab**	**4.35 210**	*e*P		**Pn**	**22 51 11.3**	**-1.7**	
ARNB	**Al Arnab**	**4.35 210**	*e*P		**Pn**	**22 51 11.3**	**-1.7**	
	SNR=107							
LOD	**Lodumlu**	**4.56 275**	*e*PN		**Pn**	**22 51 19.0**	**+3.2**	
LOD	**Lodumlu**	**4.56 275**	*e*Pn		**Pn**	**22 51 19.0**	**+3.2**	
CUKT	**Cukurca**	**4.56 120**	*e*PN		**Pn**	**22 51 18.6**	**+2.7**	
CUKT	**Cukurca**	**4.56 120**	*e*Pn		**Pn**	**22 51 18.6**	**+2.7**	
CHBY	**Cihanbeyli**	**4.62 258**	*e*PN		**Pn**	**22 51 20.0**	**+3.3**	
CHBY	**Cihanbeyli**	**4.62 258**	*e*Pn		**Pn**	**22 51 20.0**	**+3.3**	
ONI	**Oni**	**4.65 49**	P		**Pn**	**22 51 18.7**	**+1.7**	
SAFT	**Safranbolu**	**4.83 291**	*e*PN		**Pn**	**22 51 22.1**	**+2.6**	
SAFT	**Safranbolu**	**4.83 291**	*e*Pn		**Pn**	**22 51 22.1**	**+2.6**	
TBLG	**Delisi**	**5.06 64**	P		**Pb**	**22 51 37.9**	**+2.9**	
KEBE	**Keben-Mersin**	**5.06 232**	*e*PN		**Pn**	**22 51 26.6**	**+4.0**	
KEBE	**Keben-Mersin**	**5.06 232**	*e*Pn		**Pn**	**22 51 26.6**	**+4.0**	
IKL	**Isikli**	**5.21 231**	*e*PN		**Pn**	**22 51 28.6**	**+3.9**	
IKL	**Isikli**	**5.21 231**	*e*Pn		**Pn**	**22 51 28.6**	**+3.9**	
KONT	**Konya--Tatoy**	**5.22 253**	*e*PN		**Pn**	**22 51 28.3**	**+3.5**	
KONT	**Konya--Tatoy**	**5.22 253**	*e*Pn		**Pn**	**22 51 28.3**	**+3.5**	
KIZT	**Kizilcal**	**5.33 264**	*e*PN		**Pn**	**22 51 29.7**	**+3.3**	
KIZT	**Kizilcal**	**5.33 264**	*e*Pn		**Pn**	**22 51 29.7**	**+3.3**	
DGRG	**David-gareji**	**5.41 69**	P		**Pg**	**22 51 48.4**	**-1.3**	
BERE	**Bereket-Mersin**	**5.42 234**	*e*PN		**Pn**	**22 51 31.1**	**+3.3**	
BERE	**Bereket-Mersin**	**5.42 234**	*e*Pn		**Pn**	**22 51 31.1**	**+3.3**	
ROOS	**tl˙alroos**	**5.59 192**	*e*P		**Pn**	**22 51 28.7**	**-1.2**	
ROOS	**tl˙alroos**	**5.59 192**	*e*P		**Pn**	**22 51 28.7**	**-1.2**	
	SNR=100							
TEKE	**Tekeli-Mersin**	**5.62 233**	*e*PN		Pn	22 51 34.5	+4.2	
TEKE	**Tekeli-Mersin**	**5.62 233**	*e*Pn		Pn	22 51 34.5	+4.2	
MARH	**Ras Al Marh**	**5.89 198**	*e*P		**Pn**	**22 51 34.1**	**-0.2**	
MARH	**Ras Al Marh**	**5.89 198**	*e*P		**Pn**	**22 51 34.1**	**-0.2**	
	SNR=100							
RTB	**Rutbah**	**6.75 168**	*e*Pn		**Pn**	**22 51 44.0**	**-1.8**	
	SNR=2.0							
RTB			*i* Sn		**Sn**	**22 53 02.0**	**-1.1**	
	SNR=2.0							

CSEM ***22*** *22:52:52.5, 38˚.12N×22˚.67E, h18km, ML1.2/2*
ATH 22 22:52:52.5, 38˚.12N×22˚.67E, h18km±4km, ML1.2/2, Error ellipse: s-maj=4.3km s-min=1.3km az=217.0, Greece

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
THAL	**Thalero**	**0.09**	**182**	P	Pg	22 52 56.1	+0.1
THAL				S	Sg	22 52 58.4	0.0
THAL	**Thalero**	**0.09**	**182**	P	Pg	22 52 56.1	+0.1
THAL				S	Sg	22 52 58.4	+0.1
THAL				AML	AML	22 52 58.7	
	comp=N,419μm,0.1s						
THAL				AML	AML	22 52 59.4	
	comp=E,315μm,0.2s						
PROD	**Prodromos**	**0.23**	**53**	P	Pg	22 52 57.6	-0.3
PROD				S	Sb	22 53 01.9	+0.1
PROD	**Prodromos**	**0.23**	**53**	P	Pg	22 52 57.6	-0.3
PROD				S	Sb	22 53 01.9	+0.1
PROD				AML	AML	22 53 01.9	
	comp=E,147μm,0.2s						
PROD				AML	AML	22 53 02.1	
	comp=N,98μm,0.2s						
LTK	**Loutraki**	**0.26**	**113**	P	Pb	22 52 58.5	-0.1
LTK	**Loutraki**	**0.26**	**113**	P	Pg	22 52 58.5	+0.1
DSF	**Desfina**	**0.31**	**339**	P	Pg	22 52 59.0	-0.3
DSF				S	Sb	22 53 04.1	-0.2
DSF	**Desfina**	**0.31**	**339**	P	Pg	22 52 59.0	-0.2
DSF				S	Sg	22 53 04.0	+0.2

IDC ***22*** *23:07:01.0±0.4, 15˚.50S×174˚.95W, h0km, mb5.0/28, mb1 5.1/30, mb1mx5.1/41, mbtmp5.0/30, ML4.0/2, MS6.3/19, Ms1 6.3/19, ms1mx6.2/23, Error ellipse: s-maj=16.0km s-min=12.7km az=125.0*

ISCJB ***22*** *23:07:02.6±1.9, 15˚.54S±0˚.03×175˚.05W±0˚.02, h15km±11km, mb5.5/151, MS6.4/549, Error ellipse: s-maj=5.2km s-min=3.0km az=157.1*

NEIC ***22*** *23:07:03.0±0.0, 15˚.05S×175˚.29W, h11km, Moment Tensor Solution. s40 Moment tensor: Scale 10¹⁸Nm; Mrr-0.33; Mθθ2.67; Mφφ-2.34; Mrθ0.48; Mrφ3.69; Mθφ-0.33; Best double couple: M₀4.50000×10¹⁸ NP1:ϕs287.00000°, δ87.00000°, λ-7.00000°. NP2:ϕs17.00000°, δ83.00000°, λ-177.00000°. Principal axes: T 4.6400, Plg3.0000°, Azm332.0000°; N -0.2800, Plg82.0000°, Azm85.0000°; P -4.3700, Plg7.0000°, Azm241.0000°;*

NEIC ***22*** *23:07:03.6±0.1, 15˚.44S×175˚.31W, h10km, mb5.9/31, ME7.2, MS6.3/298, MW6.3, MW6.4 Error ellipse: s-maj=5.6km s-min=3.4km az=140.0, Moment Tensor Solution. s56 Moment tensor: Scale 10¹⁸Nm; Mrr-0.93; Mθθ2.52; Mφφ-1.60; Mrθ-0.06; Mrφ2.62; Mθφ0.34; Best double couple: M₀3.50000×10¹⁸ NP1:ϕs200.00000°, δ84.00000°, λ-173.00000°. NP2:ϕs109.00000°, δ83.00000°, λ-6.00000°. Principal axes: T 3.8000, Plg1.0000°, Azm334.0000°; N -0.8700, Plg81.0000°, Azm237.0000°; P -2.9200, Plg9.0000°, Azm64.0000°; Depth from synthetics of broadband displacement seismograms. Energy computed from CMT mechanism.*

GCMT ***22*** *23:07:03.6±0.0, 15˚.20S×175˚.02W, h12km, MW6.4/141, Moment Tensor Solution. s138,c333; s141,c585; Duration: 3s7 Moment tensor: Scale 10¹⁸Nm; Mrr-0.37±.01; Mθθ2.57±.02; Mφφ-2.20±.01; Mrθ0.68±.04; Mθφ3.58±.01; Mrφ-0.53±.04; Best double couple: M₀4.39500×10¹⁸ NP1:ϕs286.00000°, δ85.00000°, λ-11.00000°. NP2:ϕs17.00000°, δ79.00000°, λ-175.00000°. Principal axes: T 4.5120, Plg4.0000°, Azm332.0000°; N -0.2330, Plg78.0000°, Azm82.0000°; P -4.2770, Plg11.0000°, Azm241.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*

BJI ***22*** *23:07:03.7, 15˚.40S×175˚.30W, h10km, mb5.6/41, mB6.2/77, Ms6.4/90, Ms7 6.4/79*

MOS ***22*** *23:07:05.6±1.4, 15˚.21S×175˚.40W, h26km, mb5.7/33, MS6.5/62, Error ellipse: s-maj=8.0km s-min=6.2km az=63.4*

ISC 22 23:07:03.9±0.5, 15˚.45S±0˚.04×175˚.08W±0˚.04, h13km±2km, h13km:pP-P, n1904, σ2s15/1690, mb5.7/150, MS6.4/570, 66C-39D, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**3.54**	**65**	Pn	Pn	23 07 52.1	-6.7
	91nm,0.3s,baz=243,slow=9.1,SNR=43						
AFI				Sn	**Sn**	**23 08 33.3**	**-7.3**
	136nm,0.3s,baz=12,slow=21,SNR=3.2						
AFI				LR	LR	23 08 57.7	
	comp=Z,369μm,19.2s,baz=189,slow=34						
NIUE	**Niue**	**6.10**	**127**	P	**Pn**	**23 08 30.1**	**-3.8**
	baz=6.0,SNR=24						
MSVF	**Nonsavu**	**6.97**	**250**	*e*P	**Pn**	**23 08 46.4**	**+0.5**
MSVF	**Nonsavu**	**6.97**	**250**	*e*Pn	**Pn**	**23 08 46.4**	**+0.5**
FUNA	**Funafuti**	**8.87**	**320**	*e*Pn	Pn	23 09 06.8	-5.1
RAO	**Raoul Island**	**13.99**	**190**	LR	LR	23 15 01.0	
	comp=Z,125μm,19.4s,baz=14,slow=34						
RAO	**Raoul Island**	**13.99**	**190**	*e*P	**Pn**	**23 10 18.4**	**-3.5**
RAO	**Raoul Island**	**13.99**	**190**	*e*Pn	**Pn**	**23 10 18.4**	**-3.5**
RAR	**Rarotonga**	**15.62**	**114**	Pn	**Pn**	**23 10 41.7**	**-2.2**
	1.7nm,0.3s,baz=282,slow=9.4,SNR=5.8						
RAR	**Rarotonga**	**15.62**	**114**	*e*P	**Pn**	**23 10 45.8**	**+1.9**
RAR	**Rarotonga**	**15.62**	**114**	*e*Pn	**Pn**	**23 10 45.8**	**+1.9**
DZM	**Mont Dzumac**	**18.69**	**247**	P	**P**	**23 11 22.0**	**-0.2**
	1.6nm,0.3s,baz=79,slow=15,SNR=62						
DZM				LR	LR	23 17 25.6	
	comp=Z,175μm,20.2s,baz=84,slow=33						
DZM	**Mont Dzumac**	**18.69**	**247**	*e*P	**P**	**23 11 22.0**	**-0.2**
	2μm,1.7s						
DZM				*e*S	**Sn**	**23 14 45.2**	**-6.4**
	25μm,30.4s						
DZM				*e*LR	LR	23 15 46.9	
	350μm,25.3s						
DZM	**Mont Dzumac**	**18.69**	**247**	*e*P	**P**	**23 11 21.0**	**-1.2**
TARA	**Tarawa**	**20.48**	**324**	*e*P	**P**	**23 11 37.9**	**-3.8**
TARA				LR	LR		
	comp=Z,154μm,20.0s						
OUZ	**Omahuta**	**22.16**	**205**	*e*P	**P**	**23 11 59.0**	**-0.6**
OUZ				LR	LR		
	comp=Z,112μm,18.0s						
MXZ	**Matakaoa Point**	**22.79**	**194**	PFAKE		23 12 20.0	+14
MXZ				LR	LR		
	comp=Z,166μm,21.0s						
URZ	**Urewera**	**23.75**	**195**	P	**P**	**23 12 14.3**	**-1.6**
	comp=Z,18nm,0.8s,baz=14,slow=6.8,SNR=12						
URZ	**Urewera**	**23.75**	**195**	*e*P	**P**	**23 12 14.8**	**-1.2**
URZ				LR	LR		
	comp=Z,122μm,21.0s						
PAE	**Paea**	**24.54**	**99**	*e*P	**P**	**23 12 23.7**	**+0.1**
	comp=Z,30nm,1.2s						
PAE	**Paea**	**24.54**	**99**	*e*T	T	23 37 41.8	
	comp=Z,20nm,0.2s						
PPT	**Papeete**	**24.54**	**99**	LR	LR	23 19 25.9	
	comp=Z,29μm,20.8s,baz=270,slow=30						
PPT	**Papeete**	**24.54**	**99**	*e*P	**P**	**23 12 23.0**	**-0.6**
PPT	**Papeete**	**24.54**	**99**	*e*P	**P**	**23 12 23.0**	**-0.6**
PPT2	**Papeete2**	**24.54**	**99**	*e*P	**P**	**23 12 23.6**	**-0.1**
	comp=Z,182nm,1.3s						
PPT2				*e*S	**S**	**23 16 39.8**	**-4.5**
	comp=Z,11μm,25.0s						
PPT2				*e*LQ	LQ	23 17 19.3	
	comp=Z,353μm,25.8s						
PPT2				*e*LR	LR	23 18 22.2	
	comp=Z,106μm,25.5s,baz=266						
PPT2	**Papeete2**	**24.54**	**99**	*e*T	T	23 37 41.0	
	comp=Z,33nm,0.3s						
XMAS	**Kiritimati**	**24.62**	**47**	*e*P	**P**	**23 12 24.8**	**+0.4**
XMAS				LR	LR		
	comp=Z,106nm,20.0s						
HIZ	**Hauiti**	**24.63**	**199**	*e*P	**P**	**23 12 24.1**	**-0.1**
HIZ				LR	LR		
	comp=Z,100μm,22.0s						
TIAR	**Tiarei**	**24.76**	**98**	*e*P	**P**	**23 12 25.5**	**-0.1**
	comp=Z,18nm,0.8s						
TIAR	**Tiarei**	**24.76**	**98**	*e*T	T	23 37 58.1	
	comp=Z,21nm,0.3s						
BKZ	**Black Stump Fm**	**24.76**	**196**	*e*P	**P**	**23 12 24.8**	**-0.7**
BKZ				LR	LR		
	comp=Z,80μm,20.0s						
TVO	**Taravao**	**24.85**	**99**	*e*P	**P**	**23 12 26.8**	**+0.3**
	comp=Z,53nm,1.2s						
HNR	**Honiara**	**25.09**	**281**	P	**P**	**23 12 28.7**	**+0.1**
	comp=Z,71nm,0.3s,baz=119,slow=8.8,SNR=4.6						
HNR				LR	LR	23 20 48.7	
	comp=Z,143μm,19.2s,baz=120,slow=33						
HNR	**Honiara**	**25.09**	**281**	*e*P	**P**	**23 12 35.0**	**+6.4**
HNR	**Honiara**	**25.09**	**281**	*e*P	**P**	**23 12 24.6**	**-4.1**
HNR	**Honiara**	**25.09**	**281**	*e*P	**P**	**23 12 24.6**	**-4.1**
PMOR	**Pomariorio Ree**	**26.23**	**93**	*e*P	**P**	**23 12 39.4**	**+0.5**
	comp=Z,1μm,1.5s						
PMOR	**Pomariorio Ree**	**26.23**	**93**	*e*T	T	23 39 45.5	
	comp=Z,51nm,0.3s						
BFZ	**Birch Farm**	**26.25**	**195**	*e*P	**P**	**23 12 36.3**	**-2.6**
BFZ				LR	LR		
	comp=Z,70μm,21.0s						
VAH	**Vaihoa**	**26.47**	**93**	*e*P	**P**	**23 12 41.2**	**+0.1**
	comp=Z,445nm,1.4s						
VAH	**Vaihoa**	**26.47**	**93**	*e*T	T	23 40 03.6	
	comp=Z,61nm,0.3s						
SNZO	**South Karori**	**27.25**	**197**	*e*P	**P**	**23 12 47.4**	**-0.4**
	comp=Z,697nm,1.5s						
SNZO				LR	LR		
	comp=Z,41μm,20.0s						
THZ	**Tophouse**	**28.20**	**199**	*e*P	**P**	**23 12 53.9**	**-2.6**
THZ				LR	LR		
	comp=Z,80μm,20.0s						
LHI	**Lord Howe Isla**	**28.50**	**231**	*e*P	**P**	**23 12 58.0**	**-1.2**
KHZ	**Kahutara**	**28.60**	**198**	*e*P	**P**	**23 12 57.8**	**-2.1**
KHZ				LR	LR		
	comp=Z,39μm,21.0s						
LTZ	**Lake Taylor**	**29.32**	**199**	*e*P	**P**	**23 13 03.6**	**-2.8**
LTZ				LR	LR		
	comp=Z,59μm,22.0s						
KWAJ	**Kwajalein Atol**	**29.57**	**323**	*e*P	**P**	**23 13 07.0**	**-1.8**
KWAJ				MLR	MLR		
	comp=Z,138μm,21.0s						
KWAJ	**Kwajalein Atol**	**29.57**	**323**	*e*P	**P**	**23 13 07.0**	**-1.8**
KWAJ				LR	LR		
	comp=Z,138μm,21.0s						
OXZ	**Oxford**	**29.89**	**199**	*e*P	**P**	**23 13 08.8**	**-2.5**
OXZ				LR	LR		
	comp=Z,45μm,21.0s						
CRLZ	**Canterbury Las**	**29.93**	**198**	PFAKE		23 13 20.0	+8.3
CRLZ				LR	LR		
	comp=Z,36μm,18.0s						
MQZ	**McQueen's Vall**	**30.05**	**198**	PFAKE		23 13 20.0	+7.3
MQZ				LR	LR		
	comp=Z,33μm,21.0s						
RPZ	**Rata Peaks**	**30.55**	**200**	P	**P**	**23 13 16.3**	**-1.0**
	comp=Z,5.3nm,0.7s,baz=118,slow=3.0,SNR=3.9						
RPZ	**Rata Peaks**	**30.55**	**200**	*e*P	**P**	**23 13 14.5**	**-2.7**
RPZ				LR	LR		
	comp=Z,58μm,20.0s						
FOZ	**Fox Glacier**	**30.82**	**202**	PFAKE		23 13 30.0	+10
FOZ				LR	LR		
	comp=Z,104μm,18.0s						
LBZ	**Lake Benmore**	**31.44**	**200**	PFAKE		23 13 40.0	+15
LBZ				LR	LR		
	comp=Z,89μm,20.0s						
ODZ	**Otahua Downs**	**31.87**	**199**	PFAKE		23 13 40.0	+11
ODZ				LR	LR		
	comp=Z,43μm,18.0s						
WKZ	**Wanaka**	**32.23**	**201**	PFAKE		23 13 40.0	+8.0
WKZ				LR	LR		
	comp=Z,59μm,20.0s						
JOHN	**Johnston Islan**	**32.44**	**10**	PFAKE		23 13 50.0	+16
JOHN				LR	LR		
	comp=Z,39μm,21.0s						
MLZ	**Mavora Lakes**	**33.02**	**202**	*e*P	**P**	**23 13 38.4**	**-0.5**
MLZ				LR	LR		
	comp=Z,66μm,22.0s						
EIDS	**Eidsvold**	**33.13**	**247**	P	**P**	**23 13 40.1**	**0.0**
	baz=33,SNR=5.4						
EIDS	**Eidsvold**	**33.13**	**247**	*e*P	**P**	**23 13 37.7**	**-2.5**
EIDS				LR	LR		
	comp=Z,78μm,22.0s						
DCZ	**Deep Cove**	**33.45**	**203**	*e*P	**P**	**23 13 41.9**	**-0.7**
DCZ				LR	LR		
	comp=Z,42μm,20.0s						
WHZ	**Wether Hill Ro**	**33.53**	**202**	*e*P	**P**	**23 13 42.4**	**-1.0**
WHZ				LR	LR		
	comp=Z,50μm,19.0s						
ARMA	**Armidale**	**33.94**	**238**	P	**P**	**23 13 45.8**	**-1.4**
	baz=34,SNR=7.3						
ARMA	**Armidale**	**33.94**	**238**	*e*P	**P**	**23 13 44.8**	**-2.4**
ARMA				LR	LR		
	comp=Z,54μm,20.0s						
RABL	**Rabaul**	**34.10**	**286**	PFAKE		23 14 00.0	+11
RABL				LR	LR		
	comp=Z,36μm,19.0s						
PYZ	**Puysegur Point**	**34.22**	**203**	PFAKE		23 14 00.0	+11
PYZ				LR	LR		
	comp=Z,38μm,20.0s						
PATS	**Pohnpei**	**34.43**	**308**	P	**P**	**23 13 50.0**	**-1.4**
	baz=35,SNR=3.9						
PATS	**Pohnpei**	**34.43**	**308**	*e*P	**P**	**23 13 48.7**	**-2.8**
PATS				LR	LR		
	comp=Z,89μm,20.0s						
MGCD	**Mangrove Creek**	**35.31**	**234**	P	**P**	**23 13 58.4**	**-0.5**
	baz=36,SNR=4.5						
RMQ	**Roma**	**35.39**	**246**	P	**P**	**23 14 00.1**	**+0.3**
	baz=36,SNR=25						
CTA	**Charters Tower**	**37.05**	**257**	LR	LR	23 27 49.8	
	comp=Z,32μm,18.3s,slow=34						
CTA	**Charters Tower**	**37.05**	**257**	P	**P**	**23 14 13.6**	**-0.4**
CTA				pmax	pmax		
	comp=Z,93nm,1.6s						
CTAO	**Charters Tower**	**37.05**	**257**	*e*P	**P**	**23 14 12.2**	**-1.9**
CTAO	**Charters Tower**	**37.05**	**257**	*e*P	**P**	**23 14 12.2**	**-1.9**
	comp=Z,306nm,1.1s						
CTAO				LR	LR		
	comp=Z,36μm,19.0s						
PMG	**Port Moresby**	**37.32**	**275**	*d* i P	**P**	**23 14 16.5**	**+0.1**
PMG				pmax	pmax		
	comp=Z,1μm,1.7s						
PMG				MLR	MLR		
	comp=Z,128μm,16.0s						
PMG	**Port Moresby**	**37.32**	**275**	*e*P	**P**	**23 14 16.3**	**0.0**
PMG				LR	LR		
	comp=Z,62μm,20.0s						
CNB	**Canberra Magne**	**37.45**	**231**	P	**P**	**23 14 16.6**	**-0.7**
	baz=38,SNR=5.2						
CAN	**Canberra**	**37.72**	**232**	*e*P	**P**	**23 14 16.5**	**-3.1**
CAN	**Canberra**	**37.72**	**232**	*e*P	**P**	**23 14 16.5**	**-3.1**
CAN				LR	LR		
	comp=Z,51μm,19.0s						
H11S2	**WAKE ISLAND Hy**	**38.20**	**331**	T	T	23 54 42.8	
	baz=148,slow=77,SNR=43						
H11S3	**WAKE ISLAND Hy**	**38.21**	**331**	T	T	23 54 46.3	
	baz=148,slow=77,SNR=75						
H11S1	**WAKE ISLAND Hy**	**38.22**	**331**	T	T	23 54 45.3	
	baz=148,slow=77,SNR=61						
RKT	**Rikitea**	**38.52**	**108**	*e*P	**P**	**23 14 26.9**	**+0.5**
	comp=Z,147nm,1.4s						
RKT				*e*S	**S**	**23 20 21.4**	**-0.7**
	comp=Z,8μm,28.0s						
RKT				*e*LQ	LQ	23 23 09.3	
	comp=Z,51μm,26.2s						
RKT				*e*LR	LR	23 24 53.5	
	comp=Z,27μm,27.5s						
RKT	**Rikitea**	**38.52**	**108**	*e*T	T	23 55 14.9	
	comp=Z,26nm,0.3s						
MTSU	**Mount Surprise**	**38.91**	**260**	P	**P**	**23 14 29.1**	**-0.6**
	baz=39,SNR=40						
WAKE	**Wake Island**	**38.91**	**332**	*e*P	**P**	**23 14 28.8**	**-0.8**
WAKE				LR	L

comp=Z,28µm,20.0s
OPA Opana 40.52 25 PFAKE 23 15 00.0 +17
OPA LR LR
comp=Z,20µm,20.0s
TOO Toolangi 41.19 230 P **P** **23 14 48.3 -0.2**
baz=41,SNR=9.2
TOO Toolangi 41.19 230 P **P** **23 14 48.6 +0.1**
TOO pmax pmax
comp=Z,169nm,1.1s
TAU Tasmania Unive 42.19 222 PFAKE 23 15 10.0 +13
TAU LR LR
comp=Z,47µm,19.0s
STKA Stephens Creek 42.61 240 P **P** **23 14 58.8 -1.3**
comp=Z,59nm,1.0s,baz=66,slow=7.3,SNR=38
STKA LR LR 23 31 53.5
comp=Z,42µm,19.2s,baz=78,slow=35
STKA PKKP **PKKPdf** **23 38 39.1 +3.3**
comp=Z,2.3nm,0.8s,baz=33,slow=7.6,SNR=2.9
STKA Stephens Creek 42.61 240 P **P** **23 14 59.0 -1.2**
baz=43,SNR=27
STKA Stephens Creek 42.61 240 *eP* **P** **23 14 59.4 -0.8**
STKA Stephens Creek 42.61 240 *eP* **P** **23 14 59.4 -0.8**
STKA PKKP **PKKPdf** **23 38 39.1 +3.3**
PTCN Pitcairn Islan 43.11 110 PFAKE 23 15 20.0 +16
PTCN LR LR
comp=Z,16µm,18.0s
QIS Mount Isa 43.29 256 P **P** **23 15 04.4 -1.4**
baz=44,SNR=6.0
MIDW Midway 43.46 357 *eP* **P** **23 15 06.5 -0.4**
comp=Z,158nm,1.1s
MIDW LR LR
comp=Z,38µm,22.0s
ARPS Mount Arapiles 43.67 233 P **P** **23 15 07.0 -1.7**
baz=44,SNR=8.1
MCQ Macquarie Isla 43.88 202 PFAKE 23 15 20.0 +10
MCQ LR LR
comp=Z,23µm,20.0s
HTT Hallett 45.14 238 P **P** **23 15 19.9 -0.6**
baz=45,SNR=8.1
JAY Jayapura 45.41 282 LR LR 23 32 45.3
comp=Z,629nm,20.1s,baz=75,slow=34
JAY Jayapura 45.41 282 P **P** **23 15 25.6 +2.7**
comp=Z,31nm,1.7s,comp=Z,2µm
GENI Genyem 45.89 282 P **P** **23 15 30.7 +4.1**
comp=Z,162nm,1.5s,comp=Z,9µm
BBOO Buckleboo 47.39 240 *eP* **P** **23 15 37.4 -0.8**
BBOO LR LR
comp=Z,47µm,21.0s
SMPI Sarmi 47.46 282 P **P** **23 15 40.8 +1.8**
comp=Z,100nm,1.5s,comp=Z,4µm
WB2 Warramunga Arr 48.24 257 *eP* **P** **23 15 43.0 -2.0**
WRAB Tennant Creek 48.24 257 *d iP* **P** **23 15 42.9 -2.1**
WRAB pmax pmax
comp=Z,718nm,2.5s
WRAB MLR MLR
comp=Z,43µm,19.0s
WRAB Tennant Creek 48.24 257 *eP* **P** **23 15 43.0 -2.1**
WRAB LR LR
comp=Z,30µm,21.0s
WRA Warramunga Arr 48.26 257 P **P** **23 15 43.0 -2.1**
comp=Z,44nm,1.0s,baz=90,slow=7.5,SNR=148
WRA LR LR 23 34 44.9
comp=Z,18µm,19.0s,baz=95,slow=34
AS01 Alice Springs 48.51 252 *eP* **P** **23 15 44.5 -2.6**
AS31 Alice Springs 48.55 252 *eP* **P** **23 15 45.5 -1.9**
AS31 LR LR
comp=Z,900nm,21.0s
ASAR Alice Springs 48.55 252 P **P** **23 15 45.7 -1.7**
comp=Z,87nm,0.9s,baz=84,slow=8.3,SNR=360
ASAR LR LR 23 34 16.2
comp=Z,73µm,21.9s,baz=82,slow=34
GUMO Guam 49.01 304 LR LR 23 33 21.7
comp=Z,26µm,20.0s,baz=133,slow=32
KDU Kakadu 50.85 266 P **P** **23 16 04.5 -0.4**
baz=51,SNR=4.5
MTN Manton Dam 52.11 266 P **P** **23 16 13.2 -1.2**
baz=52,SNR=13
MTN Manton Dam 52.11 266 *eP* **P** **23 16 13.1 -1.2**
MTN LR LR
comp=Z,19µm,19.0s
FAKI Fak Fak 53.32 278 PFAKE 23 16 30.0 +6.7
FAKI LR LR
comp=Z,21µm,19.0s
WRKA Warakurna 53.66 250 P **P** **23 16 24.0 -1.7**
baz=54,SNR=54
FORT Forrest 53.95 243 P **P** **23 16 27.0 -0.7**
baz=54,SNR=8.2
FORT Forrest 53.95 243 *eP* **P** **23 16 26.8 -1.0**
FORT LR LR
comp=Z,238µm,21.0s
AAI Ambon 56.98 276 P **P** **23 16 52.6 +2.8**
comp=Z,180nm,1.3s,comp=Z,6µm
NLAI Namlea 58.16 276 P **P** **23 17 00.8 +2.7**
comp=Z,88nm,1.7s,comp=Z,4µm
LBMI Labuha 58.52 279 P **P** **23 17 03.3 +2.7**
comp=Z,187nm,1.3s,comp=Z,5µm
KMBL Kambalda 59.26 243 P **P** **23 17 04.5 -1.0**
baz=59,SNR=6.0
SOEI Soe 59.31 268 P **P** **23 17 09.0 +2.8**
comp=Z,481nm,1.2s,comp=Z,14µm
SOEI Soe 59.31 268 *eP* **P** **23 17 06.2 0.0**
SOEI LR LR
comp=Z,28µm,22.0s
SANI Sanana 59.55 277 P **P** **23 17 10.1 +2.3**
comp=Z,93nm,1.5s,comp=Z,3µm
BATI Baumata 59.80 267 P **P** **23 17 12.2 +2.7**
comp=Z,73nm,1.6s,comp=Z,3µm
MMRI Maumere 61.51 268 P **P** **23 17 23.5 +2.4**
comp=Z,162nm,1.5s,comp=Z,6µm
MMRI Maumere 61.51 268 *eP* **P** **23 17 19.9 -1.2**
MBWA Marble Bar 61.79 254 *eP* **P** **23 17 21.3 -1.7**
MBWA LR LR
comp=Z,48µm,19.0s
MBWA Marble Bar 61.79 254 P **P** **23 17 25.4 +2.4**
SNR=12
BBSI Bau Bau 61.92 272 P **P** **23 17 28.3 +4.3**
comp=Z,30nm,1.7s,comp=Z,986nm
KDI Kendari 62.27 274 P **P** **23 17 29.2 +2.9**
comp=Z,71nm,1.4s,comp=Z,2µm
BASI Baing, Sumba 62.76 266 P **P** **23 17 31.1 +1.5**
comp=Z,506nm,1.5s,comp=Z,7µm
KLBR Kellerberrin 62.78 242 P **P** **23 17 29.6 +0.1**
baz=63,SNR=11
DAV Davao City (W) 62.89 286 ⇓ *eP* **P** **23 17 28.9 -1.6**
DAV Davao City (W) 62.89 286 PFAKE 23 17 40.0 +10
DAV LR LR
comp=Z,19µm,19.0s
LUWI Luwuk 62.92 277 *eP* **P** **23 17 29.9 -0.7**
comp=Z,486nm,1.4s
SBA Scott Base 63.08 184 *eP* **P** **23 17 32.6 +2.0**
SBA Scott Base 63.08 184 *eP* **P** **23 17 32.6 +2.0**
SBA LR LR
comp=Z,12µm,19.0s
VNDA Vanda 63.17 185 P **P** **23 17 32.8 +1.5**
comp=Z,13nm,0.9s,baz=7.7,slow=6.7,SNR=60
VNDA PKP2ab 23 46 43.7
comp=Z,5.9nm,1.4s,baz=237,slow=6.6,SNR=8.7
VNDA Vanda 63.17 185 *eP* **P** **23 17 32.4 +1.1**
VNDA Vanda 63.17 185 *eP* **P** **23 17 32.4 +1.1**
VNDA P'P'ab **P'P'ab** **23 46 43.7 -3.8**
NWAO Narrogin (SRO) 63.18 241 *eP* **P** **23 17 31.9 -0.2**
NWAO pmax pmax
comp=Z,324nm,1.4s
NWAO MLR MLR
comp=Z,48µm,21.0s
NWAO Narrogin (SRO) 63.18 241 *eP* **P** **23 17 31.9 -0.2**
comp=Z,324nm,1.4s
NWAO LR LR
comp=Z,48µm,21.0s
BSSI Bau Bau, Buton 63.77 271 P **P** **23 17 39.6 +3.3**
comp=Z,127nm,1.6s,comp=Z,3µm
MRSI Marisa 64.16 278 P **P** **23 17 41.9 +3.1**
comp=Z,35nm,0.5s,comp=Z,4µm
MORW Morawa 64.40 245 P **P** **23 17 38.2 -2.0**
baz=64,SNR=4.4
JHJ2 Mitsune 64.70 319 PFAKE 23 17 50.0 +8.1
JHJ2 LR LR
comp=Z,21µm,18.0s
JHJ Hachijo jima 2 64.73 319 LR LR 23 40 50.8
comp=Z,6µm,21.0s,baz=156,slow=31
KAPI Kappang 64.76 272 *eP* **P** **23 17 42.1 -0.7**
comp=Z,148nm,1.4s
KAPI LR LR
comp=Z,7µm,20.0s
SPSI Sidrap Palu 65.01 273 P **P** **23 17 46.6 +2.2**
comp=Z,41nm,1.1s,comp=Z,2µm
TTSI Tana Toraja 65.20 274 P **P** **23 17 47.5 +1.9**
comp=Z,59nm,1.6s,comp=Z,2µm
PLAI Plampang 65.76 267 P **P** **23 17 51.6 +2.3**
comp=Z,218nm,1.4s,comp=Z,4µm
PCI Palu 65.77 276 P **P** **23 17 52.9 +3.5**
comp=Z,236nm,1.3s,comp=Z,6µm
TWSI Taliwang, Sumb 66.64 267 P **P** **23 17 53.5 -1.4**
ADK Adak 67.06 359 *eP* **P** **23 17 55.8 -0.9**
ADK Adak 67.06 359 *eP* **P** **23 17 55.8 -0.9**
ADK LR LR
comp=Z,27µm,21.0s
ATKA Atka Island 67.37 1 *eP* **P** **23 18 03.2 +4.6**
ATKA LR LR
comp=Z,20µm,22.0s
INU Inuyama 67.91 319 PFAKE 23 18 10.0 +7.5
INU LR LR
comp=Z,12µm,19.0s
MJAR Matsushiro Arr 67.94 321 P **P** **23 18 00.7 -2.0**
comp=Z,3.7nm,0.9s,baz=140,slow=6.8,SNR=6.7
MJAR LR LR 23 42 07.4
comp=Z,24µm,21.9s,baz=125,slow=31
MAJO Matsushiro 67.94 321 *eP* **P** **23 18 01.5 -1.2**
MAJO pmax pmax
comp=Z,60nm,1.3s
MAJO MLR MLR
comp=Z,38µm,22.0s
MAJO Matsushiro 67.94 321 *eP* **P** **23 18 01.5 -1.2**
comp=Z,60nm,1.3s
MAJO LR LR
comp=Z,38µm,22.0s
MAT Matsushiro 67.94 321 P **P** **23 18 06.0 +3.3**
MAT S **S** **23 27 03.8 +2.3**
MJB9 Matsu-Tunnel 67.95 321 PFAKE 23 18 10.0 +7.3
MJB9 LR LR
comp=Z,10µm,22.0s
DNP Denpasar 68.27 267 P **P** **23 18 08.7 +3.5**
comp=Z,234nm,0.8s
IGBI Denpasar 68.30 267 P **P** **23 18 07.8 +2.4**
comp=Z,213nm,1.4s,comp=Z,4µm
NIKH Nikolski High 68.35 4 PFAKE 23 18 20.0 +15
NIKH LR LR
comp=Z,13µm,21.0s
SRBI Singaraja 68.40 267 P **P** **23 18 09.3 +3.3**
comp=Z,178nm,1.2s,comp=Z,4µm
SMY Shemya 68.54 353 *eP* **P** **23 18 10.2 +4.2**
SMY Shemya 68.54 353 *eP* **P** **23 18 10.2 +4.2**
SMY LR LR
comp=Z,31µm,20.0s
MYLDM Lahad Datu 68.87 282 ⇑ P **P** **23 18 13.5 +4.6**
ERM Erimo 68.93 328 *i P* **P** **23 18 07.1 -1.6**
ERM pmax pmax
comp=Z,89nm,2.4s
ERM MLR MLR
comp=Z,22µm,19.0s
ERM Erimo 68.93 328 PFAKE 23 18 20.0 +11
ERM LR LR
comp=Z,37µm,20.0s
YUK Yuzh-Kuril'sk 69.10 331 *c iP* **P** **23 18 10.0 +0.3**
YUK *i* S **S** **23 27 13.1 -1.7**
YUK pmax pmax
comp=Z,4µm,4.1s
YUK pmax pmax
comp=N,538nm,1.3s
YUK pmax pmax
comp=Z,595nm,1.3s
YUK pmax pmax
comp=E,132nm,0.8s
KUR Kuril'sk 69.11 333 *eP* **P** **23 18 10.4 +0.6**
TSM Tawau 69.19 281 ⇓ P **P** **23 18 14.6 +3.7**
JOW Kunigami 69.21 307 *eP* **P** **23 18 10.1 -0.7**
comp=E,71nm,1.6s
JOW LR LR
comp=Z,34µm,21.0s
JAGI Jajag, Banyuwa 69.33 267 P **P** **23 18 10.8 -1.1**
comp=Z,120nm,1.4s,comp=Z,3µm
JAGI Jajag, Banyuwa 69.33 267 *eP* **P** **23 18 08.8 -3.1**
UNV Unalaska Valle 69.40 5 PFAKE 23 18 20.0 +8.6
UNV LR LR
comp=Z,11µm,20.0s
AKUT Akutan 69.76 6 PFAKE 23 18 30.0 +16
AKUT LR LR
comp=Z,15µm,22.0s
GMJI Gumukmas 70.06 267 P **P** **23 18 20.4 +4.1**
comp=Z,65nm,1.1s,comp=Z,3µm
MTKI Muara Teweh, K 70.51 275 P **P** **23 18 23.2 +4.1**
comp=Z,63nm,1.3s
SKR Severo-Kuril's 70.53 341 *eP* **P** **23 18 19.0 +0.7**
SKR *e* 23 18 46.3
SKR *e* 23 20 54.1
SKR *eS* **S** **23 27 34.7 +3.4**
SKR *eP S* **PnS** **23 28 09.2 +10**
SKR pmax pmax
comp=Z,2µm,5.9s
SKR MLR MLR
comp=Z,18µm,18.0s
JNU Nakatsue 70.66 314 P **P** **23 18 18.6 -1.0**
comp=Z,6.4nm,0.8s,baz=182,slow=3.6,SNR=3.6
JNU Nakatsue 70.66 314 P **P** **23 18 18.6 -1.0**
JNU LR LR
comp=Z,100nm,19.0s
ASAJ Asahikawa 70.74 329 P **P** **23 18 21.6 +1.8**
comp=Z,37nm,1.1s,baz=112,slow=14,SNR=4.7
KDM Kudat 71.00 283 ⇑ P **P** **23 18 24.5 +2.5**
KKM Kota Kinabalu 71.30 282 *eP* **P** **23 18 22.4 -1.7**
comp=Z,46nm,1.1s
KKM LR LR
comp=Z,9µm,22.0s
KKM Kota Kinabalu 71.30 282 ⇑ P **P** **23 18 24.3 +0.3**
SZP Santa 71.50 295 PFAKE 23 18 40.0 +15
SZP LR LR
comp=Z,30µm,22.0s
SDPT Sand Point 71.60 9 PFAKE 23 18 40.0 +15
SDPT LR LR
comp=Z,9µm,20.0s
PWJI Pagerwojo 71.70 267 P **P** **23 18 28.3 +2.0**
comp=Z,82nm,1.3s,comp=Z,3µm
SNCC San Nicolas Is 71.78 47 P **P** **23 18 27.3 +0.9**
baz=237
PET Petropavlovsk 71.86 344 *ceP* **P** **23 18 25.3 -1.0**
PET *eS* **S** **23 27 38.8 -7.8**
PET pmax pmax
comp=Z,2µm,9.7s
PET pmax pmax
comp=Z,3µm,9.7s
PET pmax pmax
comp=Z,116nm,1.4s
PET MLR MLR
comp=Z,19µm,19.0s
PET Petropavlovsk 71.86 344 PFAKE 23 18 40.0 +14
PET LR LR
comp=Z,25µm,22.0s
BSC Santa Cruz Isl 72.12 46 P **P** **23 18 29.3 +0.8**
baz=237,SNR=8.8
NGJI Ngawi 72.18 267 P **P** **23 18 33.0 +3.8**
comp=Z,135nm,1.2s,comp=Z,5µm
PEA0 Petropavlovsk- 72.19 343 *eP* **P** **23 18 27.1 -1.3**
PEA0B Petropavlovsk- 72.19 343 *eP* **P** **23 18 27.3 -1.1**
PEA0B LR LR
comp=Z,32µm,22.0s
PETK Petropavlovsk- 72.19 343 P **P** **23 18 27.5 -0.9**
comp=Z,49nm,0.9s,baz=108,slow=9.5,SNR=16
PETK LR LR 23 44 01.2
comp=Z,24µm,21.8s,baz=160,slow=31
PCJI Pacitan 72.26 266 P **P** **23 18 28.9 -0.8**
SBC Santa Barbara 72.31 46 P **P** **23 18 30.4 +0.9**
baz=236
SBC S **S** **23 27 58.4 +5.7**
baz=236
SCI San Clemente I 72.33 47 P **P** **23 18 29.5 -0.2**
baz=238,SNR=7.5
MCCM Marconi Confer 72.35 41 PFAKE 23 18 40.0 +10
MCCM LR LR
comp=Z,12µm,20.0s
SAO San Andreas Ge 72.46 43 *eP* **P** **23 18 31.5 +1.1**
SAO San Andreas Ge 72.46 43 *eP* **P** **23 18 31.5 +1.1**
SAO LR LR
comp=Z,17µm,20.0s
SPIA Saint Paul Isl 72.46 3 PFAKE 23 18 40.0 +10
SPIA LR LR
comp=Z,19µm,22.0s
PKM Mcpherson Peak 72.48 45 P **P** **23 18 29.5 -1.3**
baz=236,SNR=26
PMPB Monarch Peak 72.57 43 *eP* **P** **23 18 33.1 +2.0**
PMPB LR LR
comp=Z,21µm,19.0s
BLG Laguna Peak, P 72.57 46 P **P** **23 18 30.5 -0.6**
baz=237,SNR=5.5
WOJI Wonogiri, Jawa 72.59 266 P **P** **23 18 31.8 +0.2**
SMMC Simmler 72.60 45 P **P** **23 18 32.0 +0.7**
baz=236,SNR=28
CIS Catalina Islan 72.65 47 P **P** **23 18 29.2 -2.5**
baz=238,SNR=5.9
PAGB Antelope Grade 72.66 44 *eP* **P** **23 18 33.2 +1.6**
PAGB LR LR
comp=Z,21µm,20.0s
YSS Yuzh-Sakhalins 72.73 331 *α iP* **P** **23 18 31.5 -0.3**
YSS *e* *SP **pP** **23 18 34.8 -1.1**
YSS *e* 23 18 48.9
YSS *e* 23 21 11.4
YSS *e* PPP PPP 23 22 51.0
YSS *eS* **S** **23 27 53.2 -3.8**
YSS *e* 23 28 32.7
YSS pmax pmax
comp=Z,60nm,1.0s
YSS MLR MLR
comp=Z,8µm,16.0s
YSS MLR MLR
comp=N,9µm,19.0s
YSS Yuzh-Sakhalins 72.73 331 *eP* **P** **23 18 31.5 -0.3**
YSS LR LR
comp=Z,5µm,20.0s
HOPS Hopland Field 72.74 40 *eP* **P** **23 18 32.0 0.0**
HOPS LR LR
comp=Z,16µm,19.0s
GDXM Geysers 72.80 40 *eP* **P** **23 18 33.7 +1.2**
CHGN Chignik 72.83 10 *eP* **P** **23 18 31.3 -0.8**
KCPM Cahto Peak 72.85 39 *eP* **P** **23 18 31.5 -1.3**
KCPM LR LR
comp=Z,16µm,22.0s
FMP Fort Macarthur 72.90 47 P **P** **23 18 33.5 +0.5**
baz=238
UGM Wanagama 72.95 266 P **P** **23 18 37.1 +3.2**
comp=Z,278nm,1.7s,comp=Z,7µm
UGM Wanagama 72.95 266 PFAKE 23 18 40.0 +6.1
UGM LR LR
comp=Z,8µm,21.0s
OSI Osito Audit: C 73.08 46 P **P** **23 18 34.0 -0.3**
baz=237
KMRM Mail Ridge 73.10 39 *eP* **P** **23 18 35.8 +1.6**
KMRM LR LR
comp=Z,18µm,22.0s
TWG Pinlang 73.14 300 PFAKE 23 18 50.0 +15
TWG LR LR
comp=Z,41µm,21.0s
PBKI Pangkalan Bun 73.14 272 P **P** **23 18 39.0 +4.1**
comp=Z,230nm,1.2s,comp=Z,3µm
DECC Green Verdugo 73.16 46 P **P** **23 18 33.5 -1.1**
baz=238
PASC Pasadena Art C 73.22 47 *eP* **P** **23 18 35.2 +0.2**
PASC LR LR
comp=Z,23µm,21.0s
SMRI Semarang 73.24 267 P **P** **23 18 39.3 +3.8**
comp=Z,160nm,1.2s,comp=Z,8µm
SMRI Semarang 73.24 267 *eP* **P** **23 18 34.9 -0.6**
comp=Z,133nm,1.0s
JCC Jacoby Creek, 73.28 38 PFAKE 23 18 50.0 +15
JCC LR LR
comp=Z,10µm,22.0s
NACB Ninganchiao 73.29 302 *eP* **P** **23 18 34.1 -1.4**
comp=Z,252nm,1.5s
NACB LR LR
comp=Z,23µm,18.0s
ARVC Arvin 73.29 45 P **P** **23 18 33.4 -1.9**
baz=237
109C Camp Elliot, M 73.31 48 P **P** **23 18 35.7 +0.2**
baz=239
BTM Bintulu 73.41 278 ⇓ P **P** **23 18 37.8 +1.2**
KHMM Horse Mountain 73.49 38 *eP* **P** **23 18 37.2 +0.6**
KHMM LR LR
comp=Z,13µm,22.0s
VES Vestal, Richgr 73.51 45 P **P** **23 18 35.6 -1.0**
baz=236,SNR=29
MURC Murrieta 73.61 47 P **P** **23 18 37.1 -0.3**
baz=238,SNR=20
BFSC Mount Baldy Ra 73.62 47 P **P** **23 18 37.3 -0.2**
baz=238,SNR=31
SSLB Suanglung 73.65 301 *eP* **P** **23 18 36.5 -1.2**
comp=Z,82nm,1.4s
SSLB LR LR
comp=Z,11µm,20.0s
RCTC Rector, Farmer 73.66 44 P **P** **23 18 35.6 -1.9**
baz=236
YHNB Yeheng 73.68 302 *eP* **P** **23 18 36.5 -1.5**
comp=Z,363nm,1.8s
YHNB LR LR
comp=Z,18µm,20.0s
TPUB Ta-pu 73.71 300 *eP* **P** **23 18 36.0 -2.1**
comp=Z,75nm,1.3s
TPUB LR LR
comp=Z,9µm,20.0s
EDW2 Edwards Air Fo 73.73 46 P **P** **23 18 38.4 +0.4**
baz=238,SNR=38
KRMB Red Mountain 73.79 38 *eP* **P** **23 18 40.5 +2.2**
KRMB LR LR
comp=Z,9µm,18.0s
MONP Monument Peak, 73.80 48 P **P** **23 18 38.2 -0.5**
baz=239,SNR=28
ISA Isabella, Lake 73.83 45 P **P** **23 18 39.0 +0.4**
baz=237,SNR=24
CMB Columbia Colle 73.88 42 *eP* **P** **23 18 39.1 +0.3**
CMB Columbia Colle 73.88 42 *eP* **P** **23 18 39.1 +0.3**
CMB LR LR
comp=Z,13µm,18.0s
IKP In-Ko-Pah, Jac 73.91 49 P **P** **23 18 39.5 +0.4**
baz=239,SNR=27
SBUM Sibu 74.02 277 *eP* **P** **23 18 37.3 -2.8**
SBUM LR LR
comp=Z,6µm,22.0s
SBUM Sibu 74.02 277 ⇓ P **P** **23 18 40.9 +0.8**
WDC Whiskeytown Da 74.03 39 *eP* **P** **23 18 40.7 +1.1**
WDC Whiskeytown Da 74.03 39 *eP* **P** **23 18 40.7 +1.1**
WDC LR LR
comp=Z,16µm,22.0s
AFDM Forest Hills D 74.03 41 *eP* **P** **23 18 40.3 +0.7**
AFDM LR LR
comp=Z,12µm,18.0s
KBO Bosley Butte 74.03 37 PFAKE 23 18 50.0 +10
KBO LR LR
comp=Z,16µm,19.0s
ORV Oroville 74.05 40 *eP* **P** **23 18 40.0 +0.3**
ORV Oroville 74.05 40 *eP* **P** **23 18 40.0 +0.3**
ORV LR LR
comp=Z,9µm,20.0s
PFO Pinyon Flats O 74.15 48 P **P** **23 18 40.6 0.0**
baz=239,SNR=29
PFO Pinyon Flats O 74.15 48 *eP* **P** **23 18 40.9 +0.3**
PFO Pinyon Flats O 74.15 48 *eP* **P** **23 18 40.9 +0.3**
PFO LR LR
comp=Z,30µm,18.0s
TPFO Pinon Flats 74.15 48 P **P** **23 18 40.2 -0.4**
baz=239,SNR=32
BBRC Big Bear Solar 74.16 47 P **P** **23 18 41.1 +0.4**
baz=238
N02D Trinity Center 74.17 39 P **P** **23 18 41.0 +0.6**
baz=233,SNR=36
LRMC Laurel Mtn Rad 74.27 46 P **P** **23 18 41.6 +0.3**
baz=238,SNR=83
SWSC Sam W. Stewart 74.28 49 P **P** **23 18 40.0 -1.1**
baz=240,SNR=19
SRIG Santa Rosalia 74.29 55 *eP* **P** **23 18 41.0 -0.3**
SRIG LR LR
comp=Z,28µm,18.0s
O03D Paynes Creek 74.31 40 P **P** **23 18 41.8 +0.5**
baz=234,SNR=38
M02C Callahan 74.33 38 P **P** **23 18 40.4 -1.0**
baz=232,SNR=46
L02D Cave Junction, 74.36 37 P **P** **23 18 41.5 0.0**
baz=232,SNR=9.4
KEBM Edson Butte 74.39 36 PFAKE 23 18 50.0 +8.3
KEBM LR LR
comp=Z,15µm,18.0s
RRX Edison Barstow 74.42 46 P **P** **23 18 42.6 +0.6**
baz=238
CWC Cottonwood Cre 74.52 45 P **P** **23 18 43.2 +0.5**
baz=237
QSPA South Pole Qui 74.59 180 *eP* **P** **23 18 42.9 +0.2**
QSPA LR LR
comp=Z,10µm,21.0s
KPJI Karang Pucung 74.62 267 P **P** **23 18 42.9 -0.7**
YBH Yreka Blue Hor 74.62 38 *eP* **P** **23 18 43.9 +0.8**
YBH Yreka Blue Hor 74.62 38 *eP* **P** **23 18 43.9 +0.8**
YBH LR LR
comp=Z,6µm,18.0s

OHAK Old Harbor 74.64 12 *e*P P 23 18 45.5 +2.8
OHAK LR LR
comp=Z,13µm,19.0s
MLAC Mammoth, Mammo 74.66 43 P P 23 18 41.9 -1.8
baz=236
BELC Belle Mtn. Jos 74.67 48 P P 23 18 43.2 -0.4
baz=239,SNR=36
MPMC Manual Prospec 74.71 45 P P 23 18 43.5 -0.4
baz=238,SNR=66
TIN Tinemaha, Big 74.75 44 P P 23 18 44.1 +0.1
baz=237
DAC Darwin (Calif) 74.76 45 *e*P P 23 18 44.9 +0.8
DAC pmax pmax
comp=Z,296nm,1.8s
DAC MLR MLR
comp=Z,32µm,20.0s
DAC Darwin (Calif) 74.76 45 *e*P P 23 18 44.9 +0.8
comp=Z,296nm,1.8s
DAC LR LR
comp=Z,32µm,20.0s
WAKR Walker 74.76 42 *e*P P 23 18 45.2 +1.1
WAKR LR LR
comp=Z,15µm,18.0s
GSC Goldstone, Bar 74.78 46 P P 23 18 43.4 -0.8
baz=238,SNR=31
HEC Hector,Ludlow 74.86 47 P P 23 18 43.9 -0.8
baz=239,SNR=113
BC3 Big Chuckawall 74.89 48 P P 23 18 45.1 +0.3
baz=240,SNR=34
BEKR Beckworth 74.95 41 *e*P P 23 18 43.7 -1.5
BEKR LR LR
comp=Z,12µm,22.0s
PNTR Pine Nut 74.99 42 *e*P P 23 18 46.5 +1.1
PNTR LR LR
comp=Z,16µm,21.0s
HUMO Hull Mountain 75.02 37 *e*P P 23 18 46.9 +1.7
HUMO LR LR
comp=Z,10µm,19.0s
GLA Glamis 75.04 49 P P 23 18 45.8 +0.1
baz=240,SNR=34
KSRS Korea Array 75.07 316 P P 23 18 45.3 -0.3
comp=Z,1.9nm,0.8s,baz=129,slow=9.5,SNR=5.6
KSRS LR LR 23 48 36.7
comp=Z,18µm,19.5s,baz=133,slow=33
TVH3 East Aurora ar 75.08 43 *e*P P 23 18 47.2 +1.2
TVH3 LR LR
comp=Z,8µm,19.0s
KSAR Wonju Array Be 75.08 316 P P 23 18 45.3 -0.5
KSAR Wonju Array Be 75.08 316 P P 23 18 45.3 -0.5
KS01 Wonju Array Si 75.10 316 *e*P P 23 18 45.3 -0.5
TVH2 Borealis Mine 75.13 43 *e*P P 23 18 47.3 +1.0
TVH2 LR LR
comp=Z,8µm,19.0s
YERR Yerington 75.16 42 *e*P P 23 18 46.5 +0.1
YERR LR LR
comp=Z,16µm,18.0s
TVH1 TV Hill, Hawth 75.17 43 *e*P P 23 18 47.5 +0.8
TVH1 LR LR
comp=Z,12µm,19.0s
M04C Macdoel 75.17 38 P P 23 18 48.2 +1.8
baz=233,SNR=24
GRAC Grapevine Rang 75.30 44 P P 23 18 46.8 -0.2
baz=238,SNR=6.7
KDAK Kodiak Island 75.30 12 P P 23 18 47.1 +0.6
comp=Z,87nm,1.2s,baz=172,slow=6.6,SNR=7.2
KDAK Kodiak Island 75.30 12 *e*P P 23 18 47.4 +0.9
KDAK Kodiak Island 75.30 12 *e*P P 23 18 47.4 +0.9
GMRC Granite Mounta 75.32 47 P P 23 18 47.7 +0.4
baz=239,SNR=36
FURC Furnace Creek, 75.36 45 P P 23 18 46.7 -0.6
baz=238,SNR=39
IRM Iron Mountain 75.36 48 P P 23 18 45.4 -2.1
baz=240,SNR=44
SHOC Shoshone, Teco 75.46 46 P P 23 18 46.4 -1.6
baz=238,SNR=23
I03D Drain, OR 75.47 36 P P 23 18 47.4 -0.4
baz=232,SNR=7.5
TUQ Turquoise Moun 75.47 46 P P 23 18 46.9 -1.3
baz=239,SNR=58
PAHR Pah Rah Range 75.47 41 *e*P P 23 18 49.2 +1.0
PAHR LR LR
comp=Z,11µm,19.0s
KSM Kuching 75.58 276 *e*P P 23 18 49.5 +0.3
KSM LR LR
comp=Z,5µm,21.0s
KSM Kuching 75.58 276 ⇓P P 23 18 50.4 +1.2
Y12C Blythe 75.61 49 P P 23 18 47.7 -1.2
baz=240,SNR=29
Y12C Blythe 75.61 49 *e*P P 23 18 49.9 +1.0
Y12C LR LR
comp=Z,28µm,20.0s
CISI Cisompet, Garu 75.64 266 P P 23 18 52.3 +2.7
comp=Z,212nm,1.8s,comp=Z,5µm
CISI Cisompet, Garu 75.64 266 *e*P P 23 18 51.9 +2.3
CISI LR LR
comp=Z,13µm,22.0s
TYV Tymovskoe 75.67 334 *e*P P 23 18 47.7 -1.1
TYV *e*S S 23 28 30.8 +1.0
113A Mohawk Valley, 75.68 50 *e*P P 23 18 49.9 +0.6
113A LR LR
comp=Z,26µm,19.0s
K04D Chiloquin, OR 75.73 38 P P 23 18 48.0 -1.5
baz=233
J04D Umpqua Nationa 75.89 37 P P 23 18 51.9 +1.4
baz=233,SNR=30
INCN Inchon 75.94 316 PFAKE 23 19 00.0 +9.3
INCN LR LR
comp=Z,21µm,20.0s
214A Organ Pipe Nat 75.99 51 P P 23 18 50.3 -0.9
baz=242,SNR=24
214A Organ Pipe Nat 75.99 51 *e*P P 23 18 51.8 +0.7
comp=Z,955nm,1.6s
TPNV Topopah Spring 76.03 45 P P 23 18 50.1 -1.3
baz=238,SNR=37
TPNV Topopah Spring 76.03 45 *e*P P 23 18 51.9 +0.5
TPNV Topopah Spring 76.03 45 *e*P P 23 18 51.9 +0.5
TPNV LR LR
comp=Z,24µm,20.0s
COR Corvallis 76.05 35 *e*P P 23 18 54.3 +3.2
COR pmax pmax
comp=Z,342nm,1.6s
COR MLR MLR
comp=Z,18µm,20.0s
COR Corvallis 76.05 35 *e*P P 23 18 54.3 +3.2
comp=Z,342nm,1.6s
COR LR LR
comp=Z,18µm,20.0s
NEE2 Needles Airpor 76.05 48 P P 23 18 52.4 +1.0
baz=240,SNR=6.5
I04A Tendick Farm, 76.06 36 P P 23 18 52.5 +1.3
baz=232,SNR=11
HSIG 76.07 54 *e*P P 23 18 51.2 -0.4
HSIG LR LR
comp=Z,26µm,20.0s
QZH Quanzhou 76.09 301 ⇑*i*P P 23 18 53.8 +2.0
QZH PP PP 23 21 42.4 -0.4
QZH S S 23 28 36.1 +0.7
QZH pmax pmax
comp=Z,4µm,4.8s
QZH LR LR
comp=Z,6µm,13.2s
QZH LR LR
comp=Z,11µm,15.7s
QZH LR LR
comp=Z,54µm,29.9s
PDMCI Parker Dam,Lak 76.16 48 P P 23 18 51.7 -0.3
baz=240,SNR=54
MOD Modoc Plateau 76.17 39 *e*P P 23 18 53.0 +0.9
MOD LR LR
comp=Z,11µm,21.0s
K05A Summer Lake 76.30 38 *e*P P 23 18 54.0 +1.1
K05A LR LR
comp=Z,9µm,18.0s
J05D Fort Rock, OR 76.43 37 P P 23 18 55.1 +1.5
baz=233,SNR=54
USRK Ussuriysk Ar. 76.46 324 P P 23 18 53.1 -0.4
comp=Z,1.5nm,0.7s,baz=80,slow=11,SNR=4.4
USRK LR LR 23 46 00.6
comp=Z,58µm,22.0s,baz=118,slow=31
G03D McMinnville, O 76.46 35 P P 23 18 53.9 +0.5
baz=231
SHPR Sheep Range 76.55 46 *e*P P 23 18 55.0 +0.6
SHPR LR LR
comp=Z,20µm,19.0s
SSE Sheshan 76.70 308 P P 23 18 54.0 -1.1
SSE pP pP 23 19 00.3 +1.0
SSE S S 23 28 43.5 +1.6
SSE pmax pmax
comp=Z,28nm,0.6s
SSE pmax pmax
comp=Z,860nm,7.3s
SSE LR LR
comp=Z,7µm,25.1s
SSE LR LR
comp=Z,17µm,25.1s
SSE LR LR
comp=Z,22µm,27.2s
MIR Mirnyy 76.72 204 ⇑*i*P P 23 18 56.0 +1.4
MIR *i*S S 23 28 42.0 +1.0
MIR pmax pmax
comp=Z,2µm,6.0s
MIR smax smax
comp=N,4µm,12.0s
MIR MLR MLR
comp=Z,11µm,15.0s
W13A Hualapai Mount 76.73 48 *e*P P 23 18 56.2 +0.6
W13A LR LR
comp=Z,25µm,20.0s
Y14A Wickenburg 76.80 49 *e*P P 23 18 56.3 +0.6
Y14A LR LR
comp=Z,119µm,20.0s
I05D Terrebonne, OR 77.00 36 P P 23 18 56.5 -0.1
baz=233,SNR=23
XMIS Christmas Isla 77.03 263 PFAKE 23 19 10.0 +13
XMIS LR LR
comp=Z,11µm,20.0s
E03A Lebam 77.14 34 *e*P P 23 18 58.1 +0.9
E03A LR LR
comp=Z,10µm,18.0s
F04D Rainier, OR 77.14 34 P P 23 18 56.9 -0.4
baz=231
CNPM China Poot 77.18 12 *e*P P 23 18 55.6 -1.6
CNPM LR LR
comp=Z,17µm,22.0s
R11A Troy Canyon, C 77.21 44 P P 23 18 56.8 -1.3
baz=238,SNR=42
R11A Troy Canyon, C 77.21 44 *e*P P 23 18 58.7 +0.6
R11A LR LR
comp=Z,22µm,20.0s
HOM Homer 77.22 12 PFAKE 23 19 10.0 +13
HOM LR LR
comp=Z,12µm,22.0s
BMN Battle Mountai 77.25 42 *e*P P 23 18 58.5 +0.2
BMN Battle Mountai 77.25 42 *e*P P 23 18 58.5 +0.2
BMN LR LR
comp=Z,13µm,18.0s
TDH Tom, Dick, Har 77.33 35 P P 23 18 58.6 +0.1
F04A Amboy 77.37 35 *e*P P 23 18 60.0 +1.4
F04A LR LR
comp=Z,7µm,21.0s
BRLK Bradley Lake 77.47 12 *e*P P 23 18 59.7 +0.8
BRLK LR LR
comp=Z,16µm,22.0s
WVOR Wild Horse Val 77.49 39 *e*P P 23 19 00.2 +0.7
WVOR Wild Horse Val 77.49 39 *e*P P 23 19 00.1 +0.7
WVOR LR LR
comp=Z,16µm,22.0s
NLWA Neilton Lookou 77.51 33 *e*P P 23 19 00.4 +1.0
NLWA LR LR
comp=Z,11µm,18.0s
HABR Khabarovsk 77.52 329 *ce*P P 23 18 57.4 -1.9
HABR *e**SP pP 23 19 02.0 -1.5
HABR *e* 23 19 07.7
HABR *e*S S 23 28 48.1 -2.1
HABR *e* 23 29 14.9
HABR *e*SS SS 23 33 47.0 -2.9
HABR pmax pmax
comp=Z,3µm,5.4s
HABR MLR MLR
comp=Z,11µm,16.0s
VFP Flag Point 77.52 36 P P 23 19 00.1 +0.4
DIB Dawson Inlet, 77.55 25 PFAKE 23 19 10.0 +11
DIB LR LR
comp=Z,7µm,19.0s
H02S1 DAWSON INLET T 77.55 25 T T 00 43 52.8
SNR=12
G05D Wamic, OR 77.56 36 P P 23 18 58.8 -1.0
baz=233
TUC Tucson 77.68 51 P P 23 18 58.9 -1.8
baz=243
TUC Tucson 77.68 51 *e*P P 23 19 01.5 +0.8
TUC Tucson 77.68 51 *e*P P 23 19 01.5 +0.8
TUC LR LR
comp=Z,36µm,20.0s
B201 Coldwater, Mou 77.69 34 P P 23 19 04.2 +3.8
RSO Redoubt South 77.75 11 *e*P P 23 19 00.4 -0.3
TUM Tumwater 77.78 34 PFAKE 23 19 10.0 +9.2
TUM LR LR
comp=Z,16µm,20.0s
SVW2 Sparrevohn 77.86 10 *e*P P 23 19 00.8 -0.2
CGJI Cibinong 77.92 266 P P 23 19 04.0 +1.7
comp=Z,125nm,1.6s,comp=Z,4µm
G06A Carlson Farm, 77.94 36 *e*P P 23 19 02.2 +0.4
G06A LR LR
comp=Z,16µm,21.0s
MDJ Mudanjiang 78.08 323 P P 23 19 02.3 -0.3
MDJ S S 23 29 00.0 +3.6
MDJ ScS ScS 23 29 21.8 -0.3
MDJ SS SS 23 33 56.4 -2.1
MDJ pmax pmax
comp=Z,2µm,8.6s
MDJ LR LR
comp=Z,16µm,24.3s
MDJ LR LR
comp=Z,30µm,26.1s
MDJ LR LR
comp=Z,44µm,30.7s
MDJ Mudanjiang 78.08 323 *e*P P 23 19 02.4 -0.1
comp=Z,145nm,1.8s
MDJ LR LR
comp=Z,49µm,22.0s
HDW Hoodsport 78.10 33 P P 23 19 04.0 +1.3
LCMT Little Creek M 78.13 46 *e*P P 23 19 04.0 +0.8
LCMT LR LR
comp=Z,20µm,20.0s
LON Longmire 78.21 34 *e*P P 23 19 04.1 +0.8
LON Longmire 78.21 34 *e*P P 23 19 04.1 +0.8
CCUT Cedar City 78.32 46 *e*P P 23 19 04.6 +0.3
CCUT LR LR
comp=Z,16µm,20.0s
BLN Blyn Mountain 78.37 33 P P 23 19 05.3 +1.1
D05A Enumclaw 78.38 34 *e*P P 23 19 06.2 +2.0
D05A LR LR
comp=Z,7µm,19.0s
319A Douglas 78.41 53 *e*P P 23 19 05.7 +0.8
319A LR LR
comp=Z,46µm,20.0s
KNB Kanab 78.43 46 *e*P P 23 19 06.1 +1.2
KNB Kanab 78.43 46 *e*P P 23 19 06.1 +1.2
KNB LR LR
comp=Z,20µm,20.0s
U15A North Rim 78.51 47 *e*P P 23 19 06.5 +0.9
U15A LR LR
comp=Z,20µm,20.0s
SZCU Shurtz Canyon 78.53 46 *e*P P 23 19 06.8 +1.2
SZCU LR LR
comp=Z,16µm,20.0s
PGC Sidney 78.53 32 *e*P P 23 19 05.8 +0.9
PGC LR LR
comp=Z,10µm,20.0s
SPU Mount Spurr 78.55 11 *e*P P 23 19 04.2 -0.6
BBB Bella Bella 78.66 27 *e*P P 23 19 09.3 +3.7
WUAZ Wupatki 78.73 48 P P 23 19 06.0 -0.6
baz=242
WUAZ Wupatki 78.73 48 *e*P P 23 19 07.6 +1.0
WUAZ LR LR
comp=Z,22µm,19.0s
NJ2 Nanjing 78.91 308 *e*P P 23 19 10.8 +3.4
NJ2 S S 23 29 11.5 +5.7
NJ2 SS SS 23 34 06.3 -5.1
NJ2 pmax pmax
comp=Z,47nm,1.5s
NJ2 pmax pmax
comp=Z,2µm,6.8s
NJ2 LR LR
comp=Z,9µm,24.9s
NJ2 LR LR
comp=Z,14µm,24.1s
NJ2 LR LR
comp=Z,27µm,23.6s
RC01 Rabbit Creek A 78.92 12 *e*P P 23 19 07.0 +0.1
A04D Lummi Island 78.96 32 P P 23 19 07.8 +0.5
baz=231,SNR=18
B05A Bryant 78.99 33 P P 23 19 08.8 +1.3
baz=232,SNR=8.9
PKCU Pink Cliffs 78.99 46 *e*P P 23 19 10.8 +2.6
GAMB Gambell 79.02 2 PFAKE 23 19 20.0 +13
GAMB LR LR
comp=Z,14µm,19.0s
SUA Susitna One 79.06 12 *e*P P 23 19 06.9 -0.9
SUA LR LR
comp=Z,21µm,22.0s
LTY Liberty 79.14 34 *e*P P 23 19 09.3 +0.9
LTY LR LR
comp=Z,6µm,20.0s
E07A Sunnyside 79.17 35 *e*P P 23 19 09.9 +1.4
E07A LR LR
comp=Z,14µm,20.0s
HAWA Hanford 79.25 36 *e*P P 23 19 09.8 +0.8
HAWA LR LR
comp=Z,16µm,20.0s
GLI Glacier Island 79.30 14 *e*P P 23 19 13.8 +4.8
GLI LR LR
comp=Z,13µm,20.0s
X18A Snowflake 79.31 50 *e*P P 23 19 10.7 +0.8
X18A LR LR
comp=Z,21µm,20.0s
EYAK Cordova Ski Ar 79.32 14 PFAKE 23 19 20.0 +11
EYAK LR LR
comp=Z,17µm,21.0s
FID Port Fidalgo 79.33 14 *e*P P 23 19 13.7 +4.6
FID LR LR
comp=Z,16µm,20.0s
KASI Kota Agung 79.34 267 P P 23 19 11.5 +1.3
comp=Z,116nm,1.2s,comp=Z,2µm
MTPU Mount Pierson 79.37 46 *e*P P 23 19 12.9 +2.6
C06D Leavenworth 79.42 34 P P 23 19 09.4 -0.5
baz=233
HPIG 79.43 58 *e*P P 23 19 10.8 +0.2
HPIG LR LR
comp=Z,22µm,20.0s
RAGM Ragged Mountai 79.44 15 PFAKE 23 19 20.0 +10
RAGM LR LR
comp=Z,16µm,20.0s
B06A Marblemount 79.47 33 *e*P P 23 19 08.8 -1.2
B06A LR LR
comp=Z,12µm,18.0s
PMR Palmer 79.50 12 *e*P P 23 19 09.2 -0.7
PMR Palmer 79.50 12 *e*P P 23 19 09.2 -0.7
TT01 Tatalina 79.51 9 *e*P P 23 19 09.7 -0.3
TTA Tatalina 79.54 9 *e*P P 23 19 09.9 -0.4
TTA Tatalina 79.54 9 *e*P P 23 19 09.9 -0.4
MSU Marysvale 79.60 45 *e*P P 23 19 12.3 +0.9
MSU Marysvale 79.60 45 *e*P P 23 19 12.3 +0.9
BMO Blue Mountains 79.65 38 *e*P P 23 19 11.5 +0.2
BMO Blue Mountains 79.65 38 *e*P P 23 19 11.5 +0.2
BMO LR LR
comp=Z,8µm,18.0s
KLR Kul'dur 79.69 328 *ci*P P 23 19 10.5 -0.8
MA2 Magadan 79.73 343 P P 23 19 09.9 -1.3
comp=Z,15nm,0.8s,baz=164,slow=6.0,SNR=9.7
MA2 LR LR 23 48 24.4
comp=Z,26µm,21.8s,baz=164,slow=31
W18A Petrified Fore 79.73 49 P P 23 19 13.1 +1.0
baz=243
W18A Petrified Fore 79.73 49 *e*P P 23 19 14.0 +1.9
W18A LR LR
comp=Z,23µm,20.0s
MFID Camas Ranch 79.75 40 *e*P P 23 19 12.4 +0.5
comp=Z,90nm,1.3s
MFID LR LR
comp=Z,10µm,22.0s
GZH Guangzhou 79.78 297 P P 23 19 15.0 +2.7
GZH S S 23 29 19.5 +4.1
GZH ScS ScS 23 29 37.1 +0.3
GZH pmax pmax
comp=Z,2µm,4.6s
WTV Waterville 79.79 34 P P 23 19 12.7 +0.8
DIV Divide 79.82 14 *e*P P 23 19 10.9 -1.0
SML Sawmill 79.86 13 *e*P P 23 19 13.1 +1.1
SML Sawmill 79.86 13 *e*P P 23 19 13.1 +1.1
LWLI Liwa 79.89 268 P P 23 19 16.6 +3.3
comp=Z,71nm,0.8s,comp=Z,4µm
BMRM Bremner River 79.96 15 *e*P P 23 19 12.2 -0.4
BMRM LR LR
comp=Z,12µm,20.0s
D08A Wollman Farm, 79.98 35 *e*P P 23 19 13.6 +0.6
D08A LR LR
comp=Z,16µm,20.0s
DUG Dugway, Tooele 80.00 44 P P 23 19 13.4 0.0
baz=240
DUG Dugway, Tooele 80.00 44 *e*P P 23 19 13.9 +0.5
DUG Dugway, Tooele 80.00 44 *e*P P 23 19 13.9 +0.5
DUG LR LR
comp=Z,16µm,19.0s
WRAK Wrangell Islan 80.01 23 *e*P P 23 19 14.8 +2.0
121A Cookes Peak, D 80.05 52 P P 23 19 14.5 +0.6
baz=245,SNR=21
121A Cookes Peak, D 80.05 52 *e*P P 23 19 14.8 +0.9
comp=Z,129nm,1.3s
DL2 Dalian 80.06 315 ⇑*i*P P 23 19 12.9 -0.6
DL2 S S 23 29 19.3 +1.6
DL2 pmax pmax
comp=Z,81nm,1.4s
DL2 pmax pmax
comp=Z,2µm,7.1s
DL2 LR LR
comp=Z,10µm,18.6s
DL2 LR LR
comp=Z,11µm,22.6s
DL2 LR LR
comp=Z,18µm,23.7s
CN2 Changchun 80.09 321 *e*P P 23 19 18.3 +4.7
CN2 *es*P PcP 23 19 25.3 +4.4
CN2 *e*S S 23 29 21.5 +3.6
CN2 pmax pmax
comp=Z,30nm,1.0s
CN2 pmax pmax
comp=Z,200nm,5.0s
CN2 LR LR
comp=Z,3µm,19.0s
CN2 LR LR
comp=Z,15µm,19.0s
CN2 LR LR
comp=Z,13µm,23.0s
SCM Sheep Creek Mo 80.10 13 *e*P P 23 19 12.8 -0.5
SCM Sheep Creek Mo 80.10 13 *e*P P 23 19 12.8 -0.5
E09A Wood Farm, Sta 80.10 36 *e*P P 23 19 13.8 +0.2
E09A LR LR
comp=Z,13µm,18.0s
KLU Klutina 80.11 14 *e*P P 23 19 13.9 +0.5
KLU LR LR
comp=Z,14µm,22.0s
PPLA Purkeypile 80.12 10 *e*P P 23 19 16.8 +3.2
DHAK Deception Hill 80.12 18 PFAKE 23 19 30.0 +17
DHAK LR LR
comp=Z,16µm,18.0s
SNY Shenyang 80.22 318 ⇑P P 23 19 20.0 +5.7
SNY S S 23 29 23.8 +4.5
SNY pmax pmax
comp=Z,76nm,1.8s
SNY pmax pmax
comp=Z,3µm,7.9s
SNY LR LR
comp=Z,10µm,17.5s
SNY LR LR
comp=Z,7µm,16.9s
SNY LR LR
comp=Z,18µm,20.8s
BGU Big Grassy Mou 80.23 43 *e*P P 23 19 15.9 +1.3
F10A Beach Ranch, E 80.32 37 *e*P P 23 19 14.9 0.0
PCA Pinnacle 80.35 17 PFAKE 23 19 30.0 +15
PCA LR LR
comp=Z,21µm,21.0s
NLU North Lily Min 80.38 44 *e*P P 23 19 19.6 +4.1
NLU LR LR
comp=Z,23µm,20.0s
ZAIG Zacatecas 80.47 63 *e*P P 23 19 16.9 +0.4
ZAIG LR LR
comp=Z,33µm,22.0s
B08A Colville Reser 80.52 34 *e*P P 23 19 15.9 0.0
B08A LR LR
comp=Z,6µm,18.0s
LLLB Lillooet 80.56 31 *e*P P 23 19 17.0 +1.0
LLLB LR LR
comp=Z,13µm,18.0s

MOIG Morelia 80.59 67 PFAKE 23 19 30.0 +13
MOIG LR LR
comp=Z,30µm,18.0s
CAST Castle Rocks 80.62 10 eP P 23 19 14.0 -2.0
TMUT Trail Mountain 80.64 45 eP P 23 19 18.4 +1.4
TMUT LR LR
comp=Z,19µm,19.0s
HLID Hailey 80.70 40 P P 23 19 17.1 0.0
baz=238,SNR=98
HLID Hailey 80.70 40 eP P 23 19 18.0 +0.9
BESE Bessie Mountai 80.78 20 eP P 23 19 18.7 +1.7
BESE LR LR
comp=Z,12µm,20.0s
SPUT South Promonto 80.80 43 eP P 23 19 18.7 +1.0
HVU Hansel Valley 80.82 42 eP P 23 19 18.6 +0.8
HVU Hansel Valley 80.82 42 eP P 23 19 18.6 +0.8
KTH Kantishna Hill 80.95 11 eP P 23 19 17.4 -0.4
TRF Thorofare Moun 80.97 11 eP P 23 19 16.9 -1.2
TRF LR LR
comp=Z,16µm,22.0s
TPRI Tanjung Pinang 80.98 273 P P 23 19 22.0 +2.9
comp=Z,47nm,1.2s,comp=Z,33µm
SRU San Rafael Swe 81.02 45 eP P 23 19 19.9 +0.9
SRU San Rafael Swe 81.02 45 eP P 23 19 19.9 +0.9
SRU LR LR
comp=Z,24µm,20.0s
HARP HAARP 81.09 14 eP P 23 19 21.8 +3.2
JLU Jordanelle 81.11 44 eP P 23 19 20.1 +0.6
JLU LR LR
comp=Z,20µm,20.0s
RND Reindeer 81.20 12 eP P 23 19 18.7 -0.5
RND Reindeer 81.20 12 eP P 23 19 18.7 -0.5
RND LR LR
comp=Z,19µm,22.0s
LAZ Ladron 81.34 51 eP P 23 19 22.2 +1.5
Y22D IRIS PASSCAL I 81.36 51 P P 23 19 19.7 -1.1
baz=245
Y22D IRIS PASSCAL I 81.36 51 PFAKE 23 19 30.0 +9.2
Y22D LR LR
comp=Z,22µm,20.0s
QIZ Qiongzhong 81.42 292 P P 23 19 21.1 -0.2
QIZ S S 23 29 33.6 +0.8
QIZ SS SS 23 34 51.1 +1.6
QIZ pmax pmax
comp=Z,1µm,7.8s
QIZ LR LR
comp=Z,10µm,20.8s
QIZ LR LR
comp=Z,19µm,20.4s
QIZ Qiongzhong 81.42 292 PFAKE 23 19 30.0 +8.7
QIZ LR LR
comp=Z,21µm,22.0s
P18A Preston Nutter 81.46 45 PFAKE 23 19 30.0 +8.6
P18A LR LR
comp=Z,28µm,18.0s
MCK McKinley 81.48 11 eP P 23 19 19.9 -0.7
MCK McKinley 81.48 11 eP P 23 19 19.9 -0.7
MCK LR LR
comp=Z,19µm,22.0s
PAX Paxson 81.51 13 eP P 23 19 21.4 +0.5
PAX pmax pmax
comp=Z,117nm,1.4s
PAX Paxson 81.51 13 eP P 23 19 21.4 +0.5
comp=Z,117nm,1.4s
HWUT Hardware Ranch 81.52 43 eP P 23 19 21.9 +0.4
HWUT LR LR
comp=Z,14µm,20.0s
PV05 Paradox Valley 81.53 47 eP P 23 19 23.2 +1.4
MNTX Cornudas Mount 81.56 54 P P 23 19 22.3 +0.5
baz=246,SNR=49
MNTX Cornudas Mount 81.56 54 eP P 23 19 22.2 +0.4
MNTX LR LR
comp=Z,23µm,20.0s
MVCO Mesa Verde 81.57 48 P P 23 19 20.8 -1.2
baz=244
MVCO Mesa Verde 81.57 48 eP P 23 19 26.1 +4.1
MVCO LR LR
comp=Z,22µm,20.0s
JRQG Juriquilla Cam 81.59 66 PFAKE 23 20 20.0 +58
JRQG LR LR
comp=Z,40µm,22.0s
BNM Barren Site 81.61 51 eP P 23 19 23.0 +0.7
NEW Newport 81.67 35 P P 23 19 21.6 -0.4
comp=Z,36nm,1.1s,baz=207,slow=5.1,SNR=13
NEW Newport 81.67 35 P P 23 19 22.0 0.0
baz=236,SNR=12
NEW Newport 81.67 35 eP P 23 19 22.5 +0.5
NEW Newport 81.67 35 eP P 23 19 22.5 +0.5
NEW LR LR
comp=Z,13µm,20.0s
LPM Los Pinos Moun 81.68 51 eP P 23 19 23.9 +1.4
PV09 Paradox Valley 81.70 46 eP P 23 19 24.5 +1.8
PV10 Paradox Valley 81.71 47 eP P 23 19 24.2 +1.5
comp=Z,662nm,1.0s
WHN Wuhan 81.78 305⇑iP P 23 19 23.3 +0.4
WHN S S 23 29 39.8 +3.7
WHN pmax pmax
comp=Z,270nm,1.6s
WHN pmax pmax
comp=Z,2µm,5.9s
WHN LR LR
comp=Z,15µm,16.8s
WHN LR LR
comp=Z,17µm,15.9s
WHN LR LR
comp=Z,37µm,21.2s
PV04 Paradox Valley 81.81 47 eP P 23 19 24.0 +0.8
MYKOM Kota Tinggi 81.87 274 eP P 23 19 26.3 +2.5
MYKOM LR LR
comp=Z,6µm,21.0s
MYKOM Kota Tinggi 81.87 274⇑P P 23 19 24.9 +1.1
MENT Mentasta 81.88 14 eP P 23 19 22.8 0.0
PV01 Paradox Valley 81.93 47 eP P 23 19 24.2 +0.4
TX31 Lajitas Ar. Si 81.99 57 eP P 23 19 24.8 +0.6
TXAR Lajitas Array 81.99 57 P P 23 19 23.9 -0.3
comp=Z,12nm,1.1s,baz=224,slow=5.2,SNR=47
TIA Tai'an 82.01 311⇑P P 23 19 23.8 -0.2
TIA pmax pmax
comp=Z,2µm,7.0s
TIA LR LR
comp=Z,11µm,21.0s
TIA LR LR
comp=Z,13µm,22.0s
TIA LR LR
comp=Z,20µm,24.0s
ANMO Albuquerque 82.08 51 P P 23 19 24.9 +0.3
baz=245
ANMO Albuquerque 82.08 51d iP P 23 19 25.3 +0.6
ANMO pmax pmax
comp=Z,112nm,1.7s
ANMO MLR MLR
comp=Z,7µm,16.0s
ANMO Albuquerque 82.08 51 eP P 23 19 25.2 +0.6
ANMO LR LR
comp=Z,25µm,20.0s
MASI Maura Aman, Be 82.12 269 P P 23 19 28.0 +2.8
comp=Z,144nm,1.6s,comp=Z,4µm
SEY Seymchan 82.15 346 P P 23 19 22.7 -1.4
comp=Z,36nm,1.0s,baz=139,slow=5.2,SNR=37
SEY LR LR 23 53 07.1
comp=Z,16µm,19.2s,baz=162,slow=34
SEY Seymchan 82.15 346c iP P 23 19 23.1 -1.0
TLIG Tlapa 82.23 69 PFAKE 23 19 40.0 +14
TLIG LR LR
comp=Z,12µm,22.0s
UNM Universidad Na 82.26 68 PFAKE 23 19 40.0 +14
UNM LR LR
comp=Z,36µm,20.0s
WRH Wood River Hil 82.31 11 eP P 23 19 23.7 -1.2
WRH LR LR
comp=Z,17µm,22.0s
MCMT McKenzie Canyo 82.31 39 eP P 23 19 26.6 +0.8
DLBC Dease Lake 82.34 22 P P 23 19 27.5 +2.1
comp=Z,32nm,1.1s,baz=227,slow=7.1,SNR=12
DLBC Dease Lake 82.34 22 eP P 23 19 27.6 +2.2
WHY Whitehorse 82.39 19 eP P 23 19 25.9 +0.3
WHY LR LR
comp=Z,14µm,20.0s
DOT Dot Lake 82.42 13 eP P 23 19 24.6 -0.9
KGM Kluang 82.44 274⇑P P 23 19 26.2 -0.6
HDA Harding Lake 82.48 12 eP P 23 19 24.7 -1.2
HDA LR LR
comp=Z,10µm,22.0s
CCB Clear Creek Bu 82.52 11 eP P 23 19 24.3 -1.7
CCB LR LR
comp=Z,16µm,22.0s
MSO Missoula 82.69 37 P P 23 19 28.5 +1.0
baz=238,SNR=28
MSO Missoula 82.69 37 eP P 23 19 27.4 -0.1
MSO LR LR
comp=Z,12µm,20.0s
COLA College 82.72 11 eP P 23 19 28.6 +1.6
COLA College 82.72 11 eP P 23 19 28.6 +1.6
COLA LR LR
comp=Z,18µm,22.0s
MDM Murphy Dome 82.72 11 eP P 23 19 25.6 -1.5
MDM LR LR
comp=Z,16µm,22.0s
DLMT Dillon 82.74 39 eP P 23 19 28.7 +0.9
DLMT LR LR
comp=Z,12µm,22.0s
BSMT Bassoo Peak 82.75 36 eP P 23 19 28.0 +0.2
IL1 Eielson Array 82.81 12 eP P 23 19 25.6 -1.9
ILAR Eielson Array 82.81 12 P P 23 19 26.0 -1.5
comp=Z,42nm,1.2s,baz=224,slow=6.3,SNR=26
ILB Eielson Array 82.81 12 eP P 23 19 26.7 -0.9
TPAW Teton Pass 82.84 41 eP P 23 19 29.4 +0.8
REDW Red Top Meadow 82.84 41 eP P 23 19 28.3 -0.2
REDW LR LR
comp=Z,7µm,20.0s
SNOW Snow King Moun 82.95 41 eP P 23 19 30.2 +1.2
SNOW LR LR
comp=Z,9µm,19.0s
JTMT Jette 82.98 36 eP P 23 19 28.7 -0.3
S22A 4UR Ranch, Cre 83.00 48 P P 23 19 28.2 -1.3
baz=244,SNR=57
S22A 4UR Ranch, Cre 83.00 48 eP P 23 19 30.4 +0.8
S22A LR LR
comp=Z,26µm,20.0s
SWMT Swartz Lake 83.02 37 eP P 23 19 30.3 +1.1
IMW Indian Meadow 83.04 41 eP P 23 19 30.4 +0.8
IMW LR LR
comp=Z,6µm,18.0s
O20A White River Ci 83.06 45 P P 23 19 29.0 -0.7
baz=243,SNR=26
O20A White River Ci 83.06 45 eP P 23 19 30.4 +0.7
O20A LR LR
comp=Z,20µm,20.0s
LRM Limekiln Ridge 83.06 39 eP P 23 19 30.1 +0.5
BLMT Blacktail Moun 83.08 36 eP P 23 19 32.5 +3.0
MOOW Moose Ponds 83.09 41 eP P 23 19 30.5 +0.7
LOHW Long Hollow 83.12 41 eP P 23 19 30.5 +0.6
CHMT Chamberlain Mo 83.14 37 eP P 23 19 30.0 0.0
SLMT Seeley Lake 83.17 37 eP P 23 19 31.6 +1.6
QLMT Earthquake Lak 83.19 40 eP P 23 19 31.7 +1.4
YBMT Yellow Bay 83.20 36 eP P 23 19 32.9 +2.8
YHB Horse Butte 83.30 40 eP P 23 19 33.0 +2.2
YPP Pitchstone Pla 83.31 41 eP P 23 19 33.3 +2.3
YFT Old Faithful 83.38 40 eP P 23 19 35.7 +4.4
BW06 Boulder Array 83.39 42 P P 23 19 31.6 +0.2
baz=242,SNR=44
BW06 Boulder Array 83.39 42 eP P 23 19 31.5 +0.2
BW06 LR LR
comp=Z,13µm,20.0s
PD31 Pinedale Array 83.39 42 eP P 23 19 31.4 +0.1
PDAR Pinedale Array 83.39 42 P P 23 19 30.1 -1.3
comp=Z,10nm,0.8s,baz=228,slow=1.9,SNR=41
YMR Madison River 83.40 40 eP P 23 19 33.1 +1.8
YMR LR LR
comp=Z,9µm,19.0s
BOZ Bozeman (W) 83.45 39 P P 23 19 32.3 +0.8
baz=240,SNR=75
BOZ Bozeman (W) 83.45 39 eP P 23 19 32.1 +0.6
BOZ Bozeman (W) 83.45 39 eP P 23 19 32.1 +0.6
BOZ LR LR
comp=Z,13µm,22.0s
H17A Grant Village 83.51 41 P P 23 19 32.6 +0.6
baz=241,SNR=5.1
H17A Grant Village 83.51 41 eP P 23 19 34.4 +2.5
comp=Z,226nm,1.6s
SMCO Snowmass 83.51 47 eP P 23 19 36.3 +4.0
SMCO LR LR
comp=Z,18µm,18.0s
KTGM Kuala Trenggan 83.53 277⇑P P 23 19 32.1 -0.3
YHH Holmes Hill 83.53 40 eP P 23 19 33.4 +1.3
YHH LR LR
comp=Z,9µm,20.0s
YNR Norris Junctio 83.60 40 eP P 23 19 35.3 +2.9
YNR LR LR
comp=Z,10µm,20.0s
LKWY Lake 83.70 41 eP P 23 19 37.5 +4.5
LKWY Lake 83.70 41 eP P 23 19 37.5 +4.5
LNIG Linares 83.87 62 eP P 23 19 33.4 -0.5
LNIG LR LR
comp=Z,26µm,22.0s
DAWY Dawson 83.88 15 eP P 23 19 32.8 -0.4
DAWY LR LR
comp=Z,11µm,21.0s
HRY Holter Researc 83.88 38 eP P 23 19 34.2 +0.6
WALA Waterton Lakes 83.89 35 eP P 23 19 34.3 +0.7
WALA LR LR
comp=Z,11µm,18.0s
SDCO Great Sand Dun 83.95 48 P P 23 19 34.4 0.0
baz=245,SNR=42
SDCO Great Sand Dun 83.95 48 eP P 23 19 35.0 +0.5
SDCO LR LR
comp=Z,18µm,20.0s
EGAK Eagle 84.05 14 eP P 23 19 33.7 -0.2
EGAK LR LR
comp=Z,15µm,22.0s
BKNI Bangkinang 84.19 272 P P 23 19 39.3 +3.5
comp=Z,110nm,1.5s,comp=Z,4µm
BKNI Bangkinang 84.19 272 PFAKE 23 19 50.0 +14
BKNI LR LR
comp=Z,8µm,21.0s
BJT Baijiatuau 84.33 314 eP P 23 19 38.8 +2.9
BJT MLR MLR
comp=Z,18µm,21.0s
BJT Baijiatuau 84.33 314 eP P 23 19 38.8 +2.9
BJT LR LR
comp=Z,18µm,21.0s
BJI Beijing 84.33 314 P P 23 19 35.4 -0.5
BJI PP PP 23 22 51.5 +0.5
BJI S S 23 30 05.6 +4.0
BJI pmax pmax
comp=Z,87nm,1.9s
BJI pmax pmax
comp=Z,3µm,7.8s
BJI LR LR
comp=Z,8µm,22.1s
BJI LR LR
comp=Z,13µm,20.7s
BJI LR LR
comp=Z,20µm,25.6s
BILL Bilibino 84.35 353c iP P 23 19 33.8 -1.6
BILL i 23 19 37.8
BILL i 23 22 55.4
BILL iS S 23 29 48.5 -12
BILL iSS SS 23 35 35.6 +4.5
BILL pmax pmax
comp=Z,21nm,1.1s
BILL MLR MLR
comp=Z,11µm,19.0s
COLD Coldfoot 84.45 9 eP P 23 19 36.5 +0.6
COLD LR LR
comp=Z,9µm,20.0s
RWWY Rawlins 84.45 44 eP P 23 19 37.0 +0.2
RWWY LR LR
comp=Z,30µm,20.0s
MSTX Muleshoe 84.47 53 P P 23 19 36.6 -0.4
baz=247,SNR=13
MSTX Muleshoe 84.47 53 eP P 23 19 37.4 +0.4
MSTX LR LR
comp=Z,41µm,20.0s
T25A Trinidad 84.49 49 P P 23 19 37.4 +0.3
baz=246,SNR=16
T25A Trinidad 84.49 49 eP P 23 19 38.1 +1.0
T25A LR LR
comp=Z,11µm,22.0s
PPI Padang Panjang 84.60 271 P P 23 19 40.6 +2.7
comp=Z,45nm,1.4s,comp=Z,2µm
832A Faith Ranch, C 84.62 59 P P 23 19 36.4 -1.3
baz=249
RLMT Red Lodge 84.68 40 P P 23 19 37.6 -0.2
baz=242,SNR=51
RLMT Red Lodge 84.68 40 eP P 23 19 38.8 +0.9
RLMT LR LR
comp=Z,8µm,22.0s
Q24A Divide 84.71 47 P P 23 19 38.5 +0.7
baz=246,SNR=20
Q24A Divide 84.71 47 eP P 23 19 39.0 +0.7
Q24A LR LR
comp=Z,24µm,19.0s
FYU Fort Yukon 84.73 12 PFAKE 23 19 50.0 +13
FYU LR LR
comp=Z,10µm,21.0s
ISCO Idaho Springs 84.73 46 P P 23 19 38.3 0.0
baz=245,SNR=18
ISCO Idaho Springs 84.73 46 eP P 23 19 39.6 +1.3
ISCO Idaho Springs 84.73 46 eP P 23 19 39.6 +1.3
ISCO LR LR
comp=Z,15µm,18.0s
GCMT Greycliff 84.74 40 eP P 23 19 39.8 +1.7
PMSA Palmer Station 84.79 156 P P 23 19 38.4 +0.6
comp=Z,15nm,1.1s,baz=207,slow=8.2,SNR=4.1
PMSA Palmer Station 84.79 156 eP P 23 19 39.0 +1.2
PMSA LR LR
comp=Z,18µm,21.0s
PAYG Puerto Ayora 84.80 89 PFAKE 23 19 50.0 +11
PAYG LR LR
comp=Z,8µm,21.0s
933A Laredo 84.96 60 P P 23 19 38.1 -1.3
baz=250
N23A Red Feather La 84.97 45 P P 23 19 38.2 -1.3
baz=245,SNR=13
N23A Red Feather La 84.97 45 eP P 23 19 40.1 +0.6
N23A LR LR
comp=Z,16µm,20.0s
COCO West Island 85.01 259 PFAKE 23 19 50.0 +10
COCO LR LR
comp=Z,14µm,22.0s
034A Hebbronville 85.27 60 P P 23 19 41.7 +0.8
baz=250
IPM Ipoh 85.31 276 eP P 23 19 41.5 0.0
IPM LR LR
comp=Z,7µm,21.0s
733A Divot King Ran 85.33 59 P P 23 19 41.0 -0.2
baz=250
K22A Casper 85.33 44 P P 23 19 40.4 -0.7
baz=244,SNR=14
K22A Casper 85.33 44 eP P 23 19 43.9 +2.8
K22A LR LR
comp=Z,7µm,21.0s
PHWY Pilot Hill 85.47 45 eP P 23 19 44.3 +2.3
PHWY LR LR
comp=Z,14µm,20.0s
JCT Junction City 85.53 57 P P 23 19 41.4 -0.9
baz=249
JCT Junction City 85.53 57 eP P 23 19 42.8 +0.6
JCT Junction City 85.53 57 eP P 23 19 42.8 +0.6
JCT LR LR
comp=Z,17µm,21.0s
ENH Enshi 85.58 303 eP P 23 19 43.2 +0.8
ENH LR LR
comp=Z,10µm,20.0s
035Z Hargill 85.59 61 P P 23 19 42.5 0.0
baz=250
934A Benavides 85.59 60 P P 23 19 43.7 +1.2
baz=250
AMTX Amarillo 85.65 52 P P 23 19 42.7 -0.1
baz=248
AMTX Amarillo 85.65 52 eP P 23 19 46.5 +3.6
AMTX LR LR
comp=Z,36µm,20.0s
633A Saathoff Ranch 85.68 58 P P 23 19 43.3 +0.3
baz=250,SNR=12
035A Encino 85.72 61 P P 23 19 42.7 -0.4
baz=250
834A Tilden 85.74 59 P P 23 19 43.9 +0.7
baz=250
EGMT Eagleton 85.75 38 P P 23 19 44.2 +1.2
baz=242
EGMT Eagleton 85.75 38 eP P 23 19 45.2 +2.2
EGMT LR LR
comp=Z,10µm,19.0s
TOLK Toolik Lake Re 85.84 9 P P 23 19 42.7 -0.2
baz=205
GO09 Cerro Castillo 85.85 142 PFAKE 23 20 00.0 +17
GO09 LR LR
comp=Z,12µm,22.0s
KULM Kulim 85.89 277 eP P 23 19 45.9 +1.5
KULM LR LR
comp=Z,9µm,21.0s
GO10 Punta Arenas 85.96 144 eP P 23 19 46.5 +2.5
GO10 LR LR
comp=Z,16µm,22.0s
734A La Parita Cree 85.98 59 P P 23 19 44.0 -0.4
baz=250
533A Kerrville 86.01 57 P P 23 19 44.2 -0.4
baz=250,SNR=6.4
TIY Taiyuan 86.05 311 eP P 23 19 49.1 +4.4
TIY PP 23 23 04.8 -0.3
TIY S S 23 30 14.3 -4.6
TIY pmax pmax
comp=Z,53nm,0.6s
TIY pmax pmax
comp=Z,1µm,7.1s
TIY LR LR
comp=Z,7µm,17.0s
TIY LR LR
comp=Z,12µm,19.4s
TIY LR LR
comp=Z,17µm,20.7s
SKNT Sakolnakorn 86.07 289 P P 23 19 47.6 +2.5
comp=Z,131nm,2.0s,comp=Z,4µm
KVTX Kingsville 86.09 60 PFAKE 23 20 00.0 +15
KVTX LR LR
comp=Z,12µm,19.0s
433A Art 86.20 57 P P 23 19 43.8 -1.7
baz=250,SNR=18
HIA Hailar 86.26 323 eP P 23 19 45.1 -0.3
HIA pmax pmax
comp=Z,58nm,1.3s
HIA MLR MLR
comp=Z,48µm,21.0s
HIA Hailar 86.26 323 eP P 23 19 45.1 -0.3
comp=Z,58nm,1.3s
HIA LR LR
comp=Z,48µm,21.0s
634A China Grove, S 86.33 58 P P 23 19 46.1 -0.1
baz=250
CHBT CHBT 86.37 284 P P 23 19 54.8 +8.2
comp=Z,170nm,0.7s
EDM Edmonton 86.38 32 eP P 23 19 45.5 -0.4
EDM Edmonton 86.38 32 eP P 23 19 45.5 -0.4
EDM LR LR
comp=Z,9µm,20.0s
835A Beeville 86.39 60 P P 23 19 47.6 +1.2
baz=250
ABTX Abilene, Hawle 86.41 55 P P 23 19 45.7 -0.8
baz=249
ABTX Abilene, Hawle 86.41 55 eP P 23 19 46.8 +0.3
ABTX LR LR
comp=Z,34µm,20.0s
SKLT Songkhla 86.43 278 P P 23 19 50.3 +3.3
comp=Z,75nm,1.5s,comp=Z,3µm
534A Blanco 86.45 58 P P 23 19 47.0 +0.3
baz=250,SNR=15
333A Richland Sprin 86.48 56 P P 23 19 46.1 -0.9
baz=250,SNR=12
KSCO Kaye Shedlock' 86.53 48 P P 23 19 46.5 -0.6
baz=247
936A North Padre Is 86.54 60 P P 23 19 46.3 -0.9
baz=251
735A Kenedy 86.60 59 P P 23 19 48.3 +0.8
baz=250
GYA Guiyang 86.64 298⇑iP P 23 19 47.6 -0.3
GYA SKS SKSac 23 30 12.3 -2.6
GYA S S 23 30 24.0 -1.2
GYA SS SS 23 36 07.9 +1.2
GYA pmax pmax
comp=Z,30nm,1.0s
GYA pmax pmax
comp=Z,850nm,6.8s
GYA LR LR
comp=Z,6µm,22.7s
GYA LR LR
comp=Z,6µm,21.1s
GYA LR LR
comp=Z,8µm,19.3s
233A Rising Star 86.79 56 P P 23 19 48.1 -0.3
baz=250
635A Leesville 86.81 59 P P 23 19 48.3 -0.2
baz=250
PSI Prapat 86.88 274 P P 23 19 50.0 +0.6
comp=Z,22nm,1.1s,baz=158,slow=4.1,SNR=17
PSI Prapat 86.88 274 eP P 23 19 48.8 -0.6

PSI	**Prapat**	**86.88**	**274**	*e*P		**P**		**23 19 48.8**	**-0.6**
PSI				LR		LR				
	comp=Z,8µm,20.0s									
434A	**Burnet**	**86.88**	**57**	P		**P**		**23 19 48.4**	**-0.4**
	baz=250,SNR=17									
SRAK	**Srakaew**	**87.00**	**285**	P		**P**		**23 19 52.9**	**+3.2**
	comp=Z,86nm,1.3s,comp=Z,1µm									
334A	**Lometa**	**87.08**	**57**	P		**P**		**23 19 49.6**	**-0.2**
	baz=250,SNR=13									
535A	**Dale**	**87.19**	**58**	P		**P**		**23 19 49.0**	**-1.3**
	baz=250									
MAW	**Mawson**	**87.23**	**199**	P		**P**		**23 19 49.6**	**-0.2**
	comp=Z,13nm,0.9s,baz=125,slow=5.2,SNR=16									
MAW				PKKP		**PKKPdf**		**23 37 30.3**	**-5.5**
	comp=Z,1.9nm,0.9s,baz=283,slow=10,SNR=5.2									
MAW				LR		LR		23 56 38.3		
	comp=Z,14µm,19.6s,baz=116,slow=34									
MAW	**Mawson**	**87.23**	**199**	P		**P**		**23 19 50.0**	**+0.2**
	baz=87,SNR=22									
MAW	**Mawson**	**87.23**	**199**	*e*P		**P**		**23 19 49.8**	**0.0**
736A	**Circle Diamond**	**87.25**	**59**	P		**P**		**23 19 49.7**	**-0.9**
	baz=251									
LAO	**LASA Array**	**87.28**	**40**	P		**P**		**23 19 51.1**	**+0.6**
	baz=244									
LAO	**LASA Array**	**87.28**	**40**	*e*P		**P**		**23 19 51.8**	**+1.3**
LAO				LR		LR				
	comp=Z,7µm,18.0s									
XAN	**Xi'an**	**87.35**	**306**	P		**P**		**23 19 50.8**	**-0.3**
XAN				sP		pP		23 19 56.0	+0.7
XAN				PP		**PP**		**23 23 15.5**	**-0.2**
XAN				SKS		**SKSac**		**23 30 15.8**	**-3.0**
XAN				SS		**SS**		**23 36 15.4**	**-1.3**
XAN				pmax		pmax				
	comp=Z,1µm,7.2s									
XAN				LR		LR				
	comp=Z,3µm,24.7s									
XAN				LR		LR				
	comp=Z,10µm,21.9s									
XAN				LR		LR				
	comp=Z,15µm,20.4s									
234A	**Clairette**	**87.39**	**56**	P		**P**		**23 19 51.6**	**+0.3**
	baz=250									
435B	**Jarrell**	**87.43**	**57**	P		**P**		**23 19 49.7**	**-1.8**
	baz=250									
636A	**Smothers Creek**	**87.43**	**59**	P		**P**		**23 19 49.7**	**-1.8**
	baz=251									
SLVN	**Son La**	**87.44**	**293**	*e*P		**P**		**23 19 52.3**	**+0.5**
SLVN				LR		LR				
	comp=Z,20µm,22.0s									
CLNS	**Chul'man**	**87.50**	**332**	*e*P		**P**		**23 19 53.8**	**+2.5**
CLNS				*e**PP		sP		23 20 08.8	+12
CLNS				*e*				23 23 14.2		
CLNS				*e*S		S		23 30 16.8	-15
CLNS				pmax		pmax				
	comp=Z,39nm,1.7s									
CLNS				pmax		pmax				
	comp=E,13nm,1.4s									
CLNS				pmax		pmax				
	comp=N,25nm,1.5s									
CLNS				pmax		pmax				
	comp=Z,6.0nm,0.9s									
CLNS				pmax		pmax				
	comp=E,8.0nm,0.9s									
CLNS				pmax		pmax				
	comp=N,7.0nm,1.1s									
CLNS				smax		smax				
	comp=N,1µm,13.1s									
CLNS				smax		smax				
	comp=E,1µm,15.5s									
TRTT	**Trang**	**87.50**	**279**	P		**P**		**23 19 55.5**	**+3.3**
	comp=E,150nm,1.1s,comp=E,3µm									
CHAI	**Chaiyaphum**	**87.59**	**287**	P		**P**		**23 19 55.6**	**+3.0**
	comp=E,6.5nm,1.8s,comp=E,132nm									
RSSD	**Black Hills**	**87.59**	**43**	P		**P**		**23 19 51.4**	**-0.8**
	baz=246									
RSSD	**Black Hills**	**87.59**	**43**	*e*P		**P**		**23 19 53.2**	**+0.9**
RSSD				pmax		pmax				
	comp=Z,16nm,0.6s									
RSSD				MLR		MLR				
	comp=Z,11µm,18.0s									
RSSD	**Black Hills**	**87.59**	**43**	*e*P		**P**		**23 19 53.2**	**+0.9**
	comp=Z,16nm,0.6s									
RSSD				LR		LR				
	comp=Z,11µm,18.0s									
536A	**Bastrop**	**87.62**	**58**	P		**P**		**23 19 51.9**	**-0.5**
	baz=251									
OGNE	**Ogallala**	**87.70**	**46**	P		**P**		**23 19 52.5**	**-0.2**
	baz=248									
OGNE	**Ogallala**	**87.70**	**46**	PFAKE				23 20 00.0	+7.3
OGNE				LR		LR				
	comp=Z,14µm,21.0s									
737A	**Port Lavaca**	**87.70**	**59**	P		**P**		**23 19 51.5**	**-1.4**
	baz=251									
CCIG	**Comitan**	**87.71**	**73**	*e*P		**P**		**23 19 54.8**	**+1.5**
CCIG				LR		LR				
	comp=Z,23µm,21.0s									
335A	**Moody**	**87.72**	**57**	P		**P**		**23 19 53.0**	**+0.2**
	baz=251									
NAYO	**Nakonayok**	**87.75**	**285**	P		P		23 20 02.3	+8.9
	comp=Z,55nm,0.8s									
WMOK	**Wichita Mounta**	**87.83**	**53**	P		**P**		**23 19 52.5**	**-0.8**
	baz=250									
WMOK	**Wichita Mounta**	**87.83**	**53**	*e*P		**P**		**23 19 57.2**	**+3.8**
WMOK	**Wichita Mounta**	**87.83**	**53**	*e*P		**P**		**23 19 57.2**	**+3.8**
WMOK				LR		LR				
	comp=Z,25µm,19.0s									
HHC	**Hu-ho-hao-te**	**87.88**	**313**	*e*P		**P**		**23 19 54.0**	**+0.4**
HHC				sP		sP		23 20 00.6	+1.3
HHC				SKS		**SKSac**		**23 30 17.1**	**-4.8**
HHC				S		**S**		**23 30 34.3**	**-2.2**
HHC				sS		ScS		23 30 43.0	0.0
HHC				SS		**SS**		**23 36 24.6**	**+0.4**
HHC				pmax		pmax				
	comp=Z,23nm,0.8s									
HHC				pmax		pmax				
	comp=Z,2µm,5.2s									
HHC				LR		LR				
	comp=Z,9µm,17.3s									
HHC				LR		LR				
	comp=Z,8µm,18.5s									
HHC				LR		LR				
	comp=Z,14µm,18.5s									
WHTX	**Lake Whitney,**	**87.93**	**56**	P		**P**		**23 19 53.0**	**-0.9**
	baz=250									
WHTX	**Lake Whitney,**	**87.93**	**56**	*e*P		**P**		**23 19 54.3**	**+0.4**
	comp=Z,181nm,1.7s									
WHTX				LR		LR				
	comp=Z,30µm,20.0s									
637A	**Eagle Lake**	**88.01**	**59**	P		**P**		**23 19 55.0**	**+0.7**
	baz=251									
436A	**Wall Ranch, Ga**	**88.06**	**57**	P		**P**		**23 19 54.8**	**+0.3**
	baz=251									
KRAB	**Krabi**	**88.08**	**279**	P		P		23 20 03.3	+8.4
	comp=Z,3µm,0.6s,comp=Z,246µm									
336A	**Riesel**	**88.23**	**57**	P		**P**		**23 19 55.2**	**-0.1**
	baz=251									
U32A	**Winter Ranch,**	**88.23**	**52**	P		**P**		**23 19 54.0**	**-1.3**
	baz=250									
537A	**Green Hill Far**	**88.23**	**58**	P		**P**		**23 19 55.7**	**+0.4**
	baz=251,SNR=5.5									
738A	**Farr-Stevens R**	**88.39**	**60**	P		**P**		**23 19 55.9**	**-0.2**
	baz=252									
YAK	**Yakutsk**	**88.52**	**337**	*i* P		**P**		**23 19 54.4**	**-1.5**
YAK				pmax		pmax				
	comp=Z,15nm,0.9s									
YAK	**Yakutsk**	**88.52**	**337**	PFAKE				23 20 10.0	+14
YAK				LR		LR				
	comp=Z,10µm,20.0s									
CBKS	**Cedar Bluff**	**88.55**	**49**	P		**P**		**23 19 55.9**	**-0.8**
	baz=249									
CBKS	**Cedar Bluff**	**88.55**	**49**	*e*P		**P**		**23 19 57.6**	**+0.9**
CBKS				pmax		pmax				
	comp=Z,93nm,1.4s									
CBKS				MLR		MLR				
	comp=Z,17µm,19.0s									
CBKS	**Cedar Bluff**	**88.55**	**49**	*e*P		**P**		**23 19 57.6**	**+0.9**
	comp=Z,93nm,1.4s									
CBKS				LR		LR				
	comp=Z,17µm,19.0s									
437A	**Phantom Ranch,**	**88.62**	**58**	P		**P**		**23 19 56.7**	**-0.5**
	baz=251									
236A	**Katherine and**	**88.68**	**56**	P		**P**		**23 19 56.5**	**-0.9**
	baz=251									
TPTI		**88.68**	**274**	P		**P**		**23 20 01.7**	**+3.9**
	comp=Z,107nm,1.7s,comp=Z,4µm									
INK	**Inuvik**	**88.71**	**14**	P		**P**		**23 19 56.7**	**0.0**
	comp=Z,24nm,1.1s,baz=208,slow=5.7,SNR=12									
INK	**Inuvik**	**88.71**	**14**	*e*P		**P**		**23 19 58.3**	**+1.7**
INK	**Inuvik**	**88.71**	**14**	*e*P		**P**		**23 19 58.3**	**+1.7**
INK				LR		LR				
	comp=Z,8µm,19.0s									
PBKT	**Sadao Pong**	**88.71**	**287**	P		**P**		**23 20 01.5**	**+3.6**
	comp=Z,32nm,2.3s,comp=Z,3µm									
638A	**Rosharon**	**88.74**	**59**	P		**P**		**23 19 58.1**	**+0.3**
	baz=252									
136A	**Ennis**	**88.83**	**56**	P		**P**		**23 19 58.4**	**+0.3**
	baz=251									
BTO	**Baotou**	**88.87**	**313**	*e*P		P		23 20 03.5	+5.2
Y35A	**Marietta**	**88.90**	**54**	P		**P**		**23 19 58.4**	**-0.1**
	baz=251									
538A	**Harpers Horsep**	**88.95**	**58**	P		**P**		**23 19 58.7**	**-0.1**
	baz=252									
X35A	**Drake**	**89.11**	**54**	P		**P**		**23 19 57.9**	**-1.6**
	baz=251									
438A	**Sam Houston St**	**89.13**	**58**	P		**P**		**23 19 58.2**	**-1.4**
	baz=252									
Z36A	**Blue Ridge**	**89.17**	**55**	P		**P**		**23 20 00.1**	**+0.4**
	baz=251									
237A	**Washetta, Mont**	**89.26**	**57**	P		**P**		**23 19 58.8**	**-1.3**
	baz=251									
DGMT	**Dagmar**	**89.28**	**39**	P		**P**		**23 19 58.9**	**-1.0**
	baz=246									
DGMT	**Dagmar**	**89.28**	**39**	*e*P		**P**		**23 20 04.2**	**+4.3**
DGMT				LR		LR				
	comp=Z,10µm,18.0s									
SCIG	**Sabancuy**	**89.34**	**70**	PFAKE				23 20 10.0	+9.2
SCIG				LR		LR				
	comp=Z,7µm,22.0s									
UTTA	**Uttaradit**	**89.42**	**288**	P		P		23 20 07.5	+6.3
	comp=Z,5.3nm,1.5s,comp=Z,86nm									
LHMI	**Lhok Sumawe**	**89.43**	**276**	P		**P**		**23 20 00.7**	**-0.6**
	comp=Z,320nm,2.0s									
W35A	**Tecumseh**	**89.44**	**53**	P		**P**		**23 19 58.7**	**-2.2**
	baz=251									
338A	**Crockett**	**89.46**	**57**	P		**P**		**23 20 00.2**	**-0.9**
	baz=252									
Y36A	**Durant**	**89.49**	**55**	P		**P**		**23 19 59.0**	**-2.2**
	baz=251									
137A	**Heron Place, G**	**89.49**	**56**	P		**P**		**23 20 00.3**	**-0.9**
	baz=251									
539A	**Cross D Ranch,**	**89.55**	**59**	P		**P**		**23 20 02.0**	**+0.5**
	baz=252									
KMI	**Kunming**	**89.59**	**296**	P		**P**		**23 20 02.5**	**+0.4**
KMI				pP		pP		23 20 07.3	+0.9
KMI				sP		sP		23 20 09.1	+1.2
KMI				PP		**PP**		**23 23 35.1**	**+1.0**
KMI				SKS		**SKSac**		**23 30 32.6**	**-0.4**
KMI				S		**S**		**23 30 55.3**	**+1.7**
KMI				SS		**SS**		**23 36 50.9**	**+0.9**
KMI				pmax		pmax				
	comp=Z,890nm,4.6s									
KMI				LR		LR				
	comp=Z,4µm,24.5s									
KMI				LR		LR				
	comp=Z,12µm,23.0s									
KMI				LR		LR				
	comp=Z,20µm,24.1s									
X36A	**Centrahoma**	**89.65**	**54**	P		**P**		**23 20 00.6**	**-1.3**
	baz=251									
V35A	**Meyer Ranch, C**	**89.67**	**53**	P		**P**		**23 20 00.3**	**-1.7**
	baz=251									
439A	**Center Grove,**	**89.73**	**58**	P		**P**		**23 20 02.4**	**+0.1**
	baz=252									
Z37A	**Pogue Cattle C**	**89.79**	**56**	P		**P**		**23 20 02.9**	**+0.3**
	baz=252									
SRDT	**SRDT**	**89.81**	**285**	P		P		23 20 12.2	+9.1
	comp=Z,119nm,1.7s,comp=Z,5µm									
238A	**Jacksonville**	**89.81**	**57**	P		**P**		**23 20 02.9**	**+0.1**
	baz=252									
T34A	**McClaskey Farm**	**89.82**	**51**	P		**P**		**23 20 02.0**	**-0.6**
	baz=251									
UTHA	**Uthaitani**	**89.84**	**286**	P		P		23 20 13.6	+10
	comp=Z,5.9nm,1.5s									
W36A	**Wetumka**	**89.94**	**54**	P		**P**		**23 20 02.7**	**-0.6**
	baz=251									
U35A	**Pawnee**	**89.95**	**52**	P		**P**		**23 19 59.4**	**-3.9**
	baz=251									
Y37A	**Hugo**	**90.04**	**55**	P		**P**		**23 20 03.7**	**-0.1**
	baz=252									
138A	**Matatall Enter**	**90.05**	**56**	P		**P**		**23 20 04.7**	**+0.9**
	baz=252									
339A	**Huntington**	**90.06**	**58**	P		**P**		**23 20 04.3**	**+0.4**
	baz=252									
S34A	**Willow Spring**	**90.10**	**51**	P		**P**		**23 20 02.7**	**-1.3**
	baz=251									
NATX	**Nacogdoches**	**90.11**	**57**	P		**P**		**23 20 04.1**	**0.0**
	baz=252									
NATX	**Nacogdoches**	**90.11**	**57**	PFAKE				23 20 20.0	+16
NATX				LR		LR				
	comp=Z,12µm,19.0s									
540A	**Vidor**	**90.19**	**59**	P		**P**		**23 20 03.6**	**-1.0**
	baz=252									
SUKH	**Sukhothai**	**90.20**	**288**	P		**P**		**23 20 08.7**	**+3.9**
	comp=Z,7.3nm,1.4s,comp=Z,112nm									
R34A	**Isabella, Hill**	**90.20**	**50**	P		**P**		**23 20 04.3**	**-0.1**
	baz=251									
T35A	**Sooner Cattle**	**90.29**	**52**	P		**P**		**23 20 04.6**	**-0.3**
	baz=251									
Z38A	**Mt. Pleasant**	**90.31**	**56**	P		**P**		**23 20 04.1**	**-0.9**
	baz=252									
239A	**Gary**	**90.34**	**57**	P		**P**		**23 20 04.7**	**-0.5**
	baz=252									
V36A	**Jenks**	**90.36**	**53**	P		**P**		**23 20 05.7**	**+0.5**
	baz=251									
440A	**Kirbyville**	**90.37**	**58**	P		**P**		**23 20 06.2**	**+0.8**
	baz=252									
X37A	**Clayton**	**90.43**	**54**	P		**P**		**23 20 03.8**	**-1.8**
	baz=252									
CD2	**Chengdu**	**90.46**	**302**	P		**P**		**23 20 06.5**	**+0.7**
CD2				PP		**PP**		**23 23 38.1**	**-2.6**
CD2				SKS		**SKSac**		**23 30 37.0**	**-0.4**
CD2				S		**S**		**23 30 59.8**	**-1.2**
CD2				SS		**SS**		**23 37 02.8**	**+0.8**
CD2				pmax		pmax				
	comp=Z,50nm,1.8s									
CD2				pmax		pmax				
	comp=Z,900nm,6.2s									
CD2				LR		LR				
	comp=Z,9µm,19.9s									
CD2				LR		LR				
	comp=Z,16µm,19.9s									
CD2				LR		LR				
	comp=Z,19µm,20.9s									
LAMP	**Lampang**	**90.48**	**289**	P		**P**		**23 20 09.0**	**+2.8**
	comp=Z,8.6nm,1.3s									
TUL1	**Leonard**	**90.52**	**53**	P		**P**		**23 20 05.9**	**-0.1**
	baz=251									
TUL1	**Leonard**	**90.52**	**53**	*e*P		**P**		**23 20 07.1**	**+1.1**
	comp=Z,64nm,1.6s									
TUL1				LR		LR				
	comp=Z,25µm,20.0s									
O33A	**Hebron**	**90.55**	**49**	P		**P**		**23 20 05.5**	**-0.5**
	baz=250									
W37B	**Quinton**	**90.55**	**54**	P		**P**		**23 20 03.9**	**-2.2**
	baz=252									
UMPA	**Umpang Tak**	**90.56**	**287**	P		**P**		**23 20 11.1**	**+4.5**
	comp=Z,7.2nm,1.2s,comp=Z,1µm									
K31A	**O'Neill**	**90.59**	**46**	P		**P**		**23 20 05.9**	**-0.3**
	baz=250									
BGNE	**Belgrade**	**90.59**	**47**	P		**P**		**23 20 07.1**	**+0.9**
	baz=250									
BGNE	**Belgrade**	**90.59**	**47**	PFAKE				23 20 20.0	+14
BGNE				LR		LR				
	comp=Z,26µm,19.0s									
139A	**Bunkhouse Ranc**	**90.61**	**56**	P		**P**		**23 20 05.5**	**-0.9**
	baz=252									
Q34A	**Chapman**	**90.63**	**50**	P		**P**		**23 20 06.5**	**+0.1**
	baz=251									
340A	**Bronson**	**90.63**	**58**	P		**P**		**23 20 05.2**	**-1.4**
	baz=252									
PLCA	**Paso Flores**	**90.67**	**133**	P		**P**		**23 20 07.4**	**+0.6**
	comp=Z,3.2nm,1.1s,baz=4.4,slow=2.6,SNR=2.9									
PLCA	**Paso Flores**	**90.67**	**133**	*e*P		**P**		**23 20 08.5**	**+1.7**
PLCA	**Paso Flores**	**90.67**	**133**	*e*P		**P**		**23 20 08.5**	**+1.7**
S35A	**Otter Creek Ra**	**90.69**	**51**	P		**P**		**23 20 05.9**	**-0.8**
	baz=251									
U36A	**Oologah**	**90.72**	**52**	P		**P**		**23 20 06.5**	**-0.4**
	baz=252									
Y38A	**Idabel**	**90.72**	**55**	P		**P**		**23 20 05.2**	**-1.8**
	baz=252									
YKA	**Yellowknife Ar**	**90.79**	**24**	P		**P**		**23 20 06.6**	**+0.1**
	comp=Z,7.6nm,0.9s,baz=244,slow=4.6,SNR=5.6									
541A	**Lake Charles**	**90.80**	**59**	P		**P**		**23 20 05.9**	**-1.4**
	baz=253									
T36A	**Boggs Farm, Ca**	**90.82**	**52**	P		**P**		**23 20 07.4**	**+0.1**
	baz=251									
J31A	**Geddes**	**90.83**	**45**	P		**P**		**23 20 06.6**	**-0.7**
	baz=250									
X38A	**Whitesboro**	**90.88**	**54**	P		**P**		**23 20 06.3**	**-1.3**
	baz=252,SNR=5.8									
L32A	**Elgin**	**90.90**	**47**	P		**P**		**23 20 06.4**	**-1.2**
	baz=250									
P34A	**Walnut Farm, R**	**90.92**	**49**	P		**P**		**23 20 07.8**	**+0.1**
	baz=251									
240A	**Hunter Patters**	**90.92**	**57**	P		**P**		**23 20 06.1**	**-1.8**
	baz=252									
KSU1	**Kansas State U**	**90.93**	**50**	P		**P**		**23 20 07.5**	**-0.3**
	baz=251									
Z39A	**Irene McRaven,**	**90.95**	**56**	P		**P**		**23 20 06.6**	**-1.4**
	baz=252									
R35A	**Emporia Munici**	**90.98**	**51**	P		**P**		**23 20 05.5**	**-2.6**
	baz=251									
441A	**DeRidder**	**91.01**	**58**	P		**P**		**23 20 07.3**	**-1.0**
	baz=253									
V37A	**Hulbert**	**91.01**	**53**	P		**P**		**23 20 09.1**	**+0.9**
	baz=252									
CIT	**Chita**	**91.02**	**324**	*e*P		P		23 20 13.9	+6.0
CIT				*e*				23 20 21.7		
CIT				*e*				23 20 26.3		
CIT				pmax		pmax				
	comp=Z,163nm,1.8s									
CM01	**Chiang Mai Arr**	**91.07**	**289**	*e*P		**P**		**23 20 09.4**	**+0.5**
SUSD	**Miller**	**91.09**	**44**	P		**P**		**23 20 08.2**	**-0.2**
	baz=250									
CMAR	**Chiang Mai Arr**	**91.09**	**289**	P		**P**		**23 20 09.4**	**+0.4**
	comp=Z,9.2nm,1.0s,baz=117,slow=11,SNR=4.1									
CMAR				PP		**PP**		**23 23 46.5**	**+0.6**
	comp=Z,0.8nm,0.3s,baz=119,slow=7.0,SNR=4.8									
CMAR				LR		LR		23 56 15.7		
	comp=Z,10µm,21.9s,baz=102,slow=32									
K32A	**Verdigre**	**91.15**	**46**	P		**P**		**23 20 09.8**	**+1.0**
	baz=250									
CMMT	**Chiang Mai**	**91.19**	**289**	P		**P**		**23 20 11.7**	**+2.3**
	comp=Z,36nm,0.9s,comp=Z,1µm									
CHTO	**Chiang Mai**	**91.19**	**289**	P		**P**		**23 20 11.7**	**+2.3**
	comp=Z,160nm,1.7s,comp=Z,6µm									
CHTO	**Chiang Mai**	**91.19**	**289**	*e*P		**P**		**23 20 10.1**	**+0.7**
CHTO	**Chiang Mai**	**91.19**	**289**	*e*P		**P**		**23 20 10.1**	**+0.7**
CHTO				LR		LR				
	comp=Z,15µm,22.0s									
CHTO	**Chiang Mai**	**91.19**	**289**	P		**P**		**23 20 10.7**	**+1.2**
	SNR=16									
U37A	**Salina**	**91.19**	**53**	P		**P**		**23 20 08.2**	**-0.9**
	baz=252									
341A	**Kurthwood**	**91.20**	**58**	P		**P**		**23 20 08.7**	**-0.5**
	baz=253									
O34A	**Beatrice**	**91.23**	**49**	P		**P**		**23 20 09.3**	**+0.1**
	baz=251									
I31A	**Royce, Wessing**	**91.23**	**45**	P		**P**		**23 20 08.0**	**-1.1**
	baz=250									
Y39A	**Locksburg**	**91.23**	**55**	P		**P**		**23 20 06.2**	**-3.1**
	baz=252									
W38A	**Poteau**	**91.24**	**54**	P		**P**		**23 20 08.4**	**-0.9**
	baz=252									
S36A	**Lake Cedric, C**	**91.25**	**51**	P		**P**		**23 20 08.9**	**-0.4**
	baz=252									
140A	**Cam and Jess,**	**91.26**	**57**	P		**P**		**23 20 08.9**	**-0.5**
	baz=253									
Q35A	**Mercer Eighty,**	**91.28**	**50**	P		**P**		**23 20 07.7**	**-1.7**
	baz=251									
M33A	**Taylor Creek F**	**91.33**	**47**	P		**P**		**23 20 07.5**	**-2.1**
	baz=251									
542A	**Morse**	**91.35**	**59**	P		**P**		**23 20 09.8**	**-0.1**
	baz=253									
X39A	**Fountain Ranch**	**91.39**	**55**	P		**P**		**23 20 09.6**	**-0.5**
	baz=252,SNR=6.5									
H31A	**Wolsey**	**91.43**	**44**	P		**P**		**23 20 07.5**	**-2.5**
	baz=250									
L33A	**Hoskins**	**91.47**	**47**	P		**P**		**23 20 08.6**	**-1.6**
	baz=251									
J32A	**Parkston**	**91.47**	**45**	P		**P**		**23 20 08.2**	**-2.0**
	baz=250									
R36A	**Gordon, Harris**	**91.50**	**51**	P		**P**		**23 20 09.6**	**-0.8**
	baz=252									
P35A	**Duane Minner,**	**91.50**	**49**	P		**P**		**23 20 09.7**	**-0.8**
	baz=251									
T37A	**Cheneyville 18**	**91.57**	**52**	P		**P**		**23 20 08.6**	**-2.2**
	baz=252									
V38A	**Canehill**	**91.57**	**53**	P		**P**		**23 20 08.6**	**-2.2**
	baz=252,SNR=7.7									
N34A	**Lincoln**	**91.58**	**48**	P		**P**		**23 20 08.7**	**-2.1**
	baz=251									
Z40A	**Long Farm, Mag**	**91.58**	**56**	P		**P**		**23 20 07.3**	**-3.6**
	baz=253									
241A	**Mo Tay, Goldon**	**91.60**	**57**	P		**P**		**23 20 09.6**	**-1.4**
	baz=253									
TGUH	**Tegucigalpa,Un**	**91.61**	**76**	PFAKE				23 20 20.0	+8.6
TGUH				LR		LR				
	comp=Z,20µm,21.0s									
442A	**Mamou**	**91.62**	**59**	P		**P**		**23 20 08.8**	**-2.3**
	baz=253									
GO05	**HualaæØ**	**91.66**	**127**	*e*P		**P**		**23 20 10.6**	**-0.9**
GO05				LR		LR				
	comp=Z,12µm,21.0s									
M34A	**Aspy Farms, Fr**	**91.74**	**47**	P		**P**		**23 20 10.3**	**-1.2**
	baz=251									
Q36A	**Arnold C. Orve**	**91.74**	**50**	P		**P**		**23 20 09.0**	**-2.6**
	baz=252									
U38A	**Gravette**	**91.77**	**53**	P		**P**		**23 20 10.0**	**-1.8**
	baz=252,SNR=7.9									
141A	**Papa Simpson,**	**91.78**	**57**	P		**P**		**23 20 12.3**	**+0.4**
	baz=253									
K33A	**Hardington**	**91.80**	**46**	P		**P**		**23 20 10.6**	**-1.2**
	baz=251									
O35A	**Humboldt**	**91.82**	**49**	P		**P**		**23 20 11.6**	**-0.3**
	baz=252									
MIAR	**Mount Ida**	**91.82**	**55**	P		**P**		**23 20 10.7**	**-1.4**
	baz=253									
MIAR	**Mount Ida**	**91.82**	**55**	*e*P		**P**		**23 20 16.4**	**+4.4**
MIAR				MLR		MLR				
	comp=Z,22µm,22.0s									
MIAR	**Mount Ida**	**91.82**	**55**	*e*P		**P**		**23 20 16.4**	**+4.4**
MIAR				LR		LR		

baz=250
Z41A Richland Creek 92.06 56 P P 23 20 11.3 -1.8
baz=253
HHAR Hobbs 92.06 53 PFAKE 23 20 30.0 +17
HHAR LR LR
comp=Z,19µm,20.0s
J33A Davis 92.06 46 P P 23 20 11.8 -1.2
baz=251
P36A Good Intent, A 92.13 50 P P 23 20 11.7 -1.7
baz=252
H32A Carlson Farm, 92.14 44 P P 23 20 13.0 -0.3
baz=251
V39A Pettigrew 92.16 54 P P 23 20 11.3 -2.3
baz=253,SNR=6.3
443A Delano Plantat 92.17 59 P P 23 20 14.0 +0.3
baz=254
N35A Tabor 92.20 48 P P 23 20 10.7 -3.0
baz=252
SYO Syowa Base 92.23 192⇑ *e*P P 23 20 10.4 -2.9
242A Grayson 92.24 57 P P 23 20 12.6 -1.4
baz=253
G32A Webster 92.34 44 P P 23 20 10.4 -3.8
baz=251
M35A Neola 92.36 48 P P 23 20 12.2 -2.1
baz=252
X40A Basin Creek Fa 92.39 55 P P 23 20 12.0 -2.7
baz=253
Y41A Eaglette Beard 92.39 56 P P 23 20 14.2 -0.5
baz=253
W40A Ferguson Farm, 92.41 54 P P 23 20 13.8 -0.9
baz=253
I33A Coleman 92.42 45 P P 23 20 13.0 -1.6
baz=251
ECSD EROS Data Cent 92.44 45 P P 23 20 14.0 -0.7
baz=251
ECSD EROS Data Cent 92.44 45 *e*P P 23 20 17.3 +2.6
ECSD LR LR
comp=Z,22µm,20.0s
U39A Green Forest 92.44 53 P P 23 20 14.0 -0.9
baz=253,SNR=14
343A Vidalia 92.45 58 P P 23 20 14.9 -0.1
baz=254
Q37A Longview Farm, 92.46 50 P P 23 20 13.6 -1.3
baz=252
K34A Le Mars 92.46 46 P P 23 20 13.2 -1.6
baz=251
O36A Bolckow 92.47 49 P P 23 20 12.8 -2.1
baz=252
S38A Stockton 92.49 52 P P 23 20 13.7 -1.3
baz=253
544A White Castle 92.50 60 P P 23 20 14.2 -1.0
baz=254
E31A Nome 92.53 42 P P 23 20 12.1 -2.9
baz=250
142A Monroe 92.54 57 P P 23 20 14.0 -1.4
baz=254
X41A Kaden, Bauxite 92.65 55 P P 23 20 14.5 -1.4
baz=253
R38A Fenwick Farm, 92.66 51 P P 23 20 15.8 0.0
baz=253,SNR=13
H33A Prehn Over Nor 92.66 44 P P 23 20 15.4 -0.3
baz=251
L35A Bielow Farm, R 92.67 47 P P 23 20 12.8 -3.0
baz=252
N36A Muff Farm, Cla 92.68 48 P P 23 20 13.3 -2.6
baz=252
T39A Clever 92.71 52 P P 23 20 16.1 0.0
baz=253,SNR=8.7
243A Waterproof 92.73 58 P P 23 20 16.2 -0.1
baz=254
J34A George 92.75 46 P P 23 20 14.5 -1.6
baz=252
Z42A Norrel Spur, H 92.75 56 P P 23 20 14.5 -1.8
baz=254
P37A Lathrop 92.75 50 P P 23 20 12.3 -3.9
baz=252
V40A Witts Springs 92.78 54 P P 23 20 15.5 -1.0
baz=253,SNR=6.6
645A Chauvin 92.79 60 P P 23 20 13.3 -3.3
baz=254
F32A Veblen 92.80 43 P P 23 20 14.2 -2.0
baz=251
D31A Mcclaflin, Tow 92.80 42 P P 23 20 15.1 -1.1
baz=250
UALR University of 92.86 55 PFAKE 23 20 30.0 +13
UALR LR LR
comp=Z,19µm,21.0s
U40A Yellville 92.92 53 P P 23 20 13.9 -3.1
baz=253,SNR=7.7
SNAA Sanae 92.94 178 P P 23 20 20.3 +3.7
SNAA Sanae 92.94 178 P P 23 20 16.7 +0.1
comp=Z,8.8nm,1.2s,baz=188,slow=5.5,SNR=11
SNAA Sanae 92.94 178 *e*P P 23 20 16.6 0.0
SNAA Sanae 92.94 178 *e*P P 23 20 16.6 0.0
SNAA LR LR
comp=Z,24µm,21.0s
VNA3 Neumayer Olymp 92.95 175 P P 23 20 16.2 -0.4
X301 Greenbrier Sit 92.95 54 *e*P P 23 20 20.1 +2.9
X301 LR LR
comp=Z,40µm,20.0s
S39A Bolivar 92.95 52 P P 23 20 16.3 -0.9
baz=253,SNR=9.4
M36A Felix, Anita 92.99 48 P P 23 20 14.3 -3.0
baz=252
444A Pine Grove 93.01 59 P P 23 20 16.6 -1.0
baz=254
143A Socs Landing, 93.03 57 P P 23 20 18.0 +0.4
baz=254
G33A Ortonville 93.03 44 P P 23 20 16.2 -1.1
baz=251
Y42A Garnett, Star 93.04 56 P P 23 20 16.2 -1.4
baz=254
FFC Flin Flon 93.04 34 *e*P P 23 20 20.6 +3.4
FFC Flin Flon 93.04 34 *e*P P 23 20 20.6 +3.4
FFC LR LR
comp=Z,10µm,20.0s
545A Edgard 93.04 60 P P 23 20 16.7 -1.0
baz=254
C31A Landman Farms, 93.04 41 P P 23 20 14.5 -2.9
baz=251
W41B Gary Mavity, V 93.05 54 P P 23 20 15.4 -2.2
baz=253,SNR=7.8
WHAR Wooly Hollow 93.05 54 *e*P P 23 20 19.3 +1.6
WHAR LR LR
comp=Z,38µm,20.0s
I34A Hadley 93.06 45 P P 23 20 16.8 -0.8
baz=252
E32A Braaten, Kindr 93.07 42 P P 23 20 15.9 -1.6
baz=251
CCAR Cane Creek 93.07 56 PFAKE 23 20 30.0 +12
CCAR LR LR
comp=Z,37µm,20.0s
O37A Wolven Farm, M 93.07 49 P P 23 20 14.2 -3.5
baz=253
K35A Storm Lake 93.08 47 P P 23 20 15.5 -2.1
baz=252
Q38A Cooks Store, C 93.10 51 P P 23 20 15.7 -2.2
baz=253
BOD Bodaibo 93.15 330 *e*P P 23 20 15.2 -2.4
BOD pmax pmax
comp=Z,25nm,1.3s
N37A Lee Faris, Mou 93.21 49 P P 23 20 15.3 -3.0
baz=253
344A Westbrook Farm 93.23 58 P P 23 20 16.7 -1.9
baz=254
D32A Dogwood Acres, 93.28 42 P P 23 20 16.9 -1.5
baz=251
L36A Harm Buss Farm 93.28 47 P P 23 20 16.1 -2.6
baz=252
J35A Milford 93.29 46 P P 23 20 16.5 -2.1
baz=252
Z43A Armstrong Fami 93.30 57 P P 23 20 13.9 -5.0
baz=254
V41A Mountainview 93.30 54 P P 23 20 15.7 -3.2
baz=254,SNR=9.4
B31A Greenbush Farm 93.30 41 P P 23 20 16.1 -2.4
baz=251
H34A Spellman Lake, 93.31 45 P P 23 20 14.8 -3.8
baz=252
F33A 5 Mile Ranch, 93.34 43 P P 23 20 17.6 -1.1
baz=252
R39A Chumby, Stover 93.35 51 P P 23 20 17.2 -1.8
baz=253,SNR=17
445A Amite 93.35 59 P P 23 20 16.8 -2.4
baz=254
P38A Dawn 93.36 50 P P 23 20 17.7 -1.3
baz=253
X42A Stuttgart 93.37 55 P P 23 20 18.2 -0.9
baz=254
ULN Ulaanbaatar 93.39 319 *e*P P 23 20 18.2 -1.0
ULN Ulaanbaatar 93.39 319 *e*P P 23 20 18.2 -1.0
ULN LR LR
comp=Z,13µm,22.0s
ULN Ulaanbaatar 93.39 319 P P 23 20 24.2 +5.0
SNR=17
T40A Mansfield 93.41 53 P P 23 20 17.5 -1.8
baz=253
244A Avery, Jackson 93.43 58 P P 23 20 17.6 -1.9
baz=254
VNA2 Neumayer--Watz 93.43 176 P P 23 20 18.9 +0.1
baz=168,slow=2.5
646A Port Sulphur 93.47 60 P P 23 20 17.8 -2.0
baz=254
M37A Trindle Farm, 93.51 48 P P 23 20 17.5 -2.1
baz=253
HDC Heredia 93.54 81 PFAKE 23 20 30.0 +9.4
HDC LR LR
comp=Z,15µm,20.0s
S40A Lebanon 93.55 52 P P 23 20 15.5 -4.5
baz=253,SNR=16
O38A Galt 93.55 49 P P 23 20 17.3 -2.6
baz=253
G34A Benson 93.58 44 P P 23 20 16.1 -3.8
baz=252
I35A Creekview Farm 93.60 46 P P 23 20 18.8 -1.2
baz=252
Q39A Willow Grove F 93.61 51 P P 23 20 18.4 -1.7
baz=253
VBMS Vicksburg 93.61 58 P P 23 20 18.0 -2.3
baz=254
VBMS Vicksburg 93.61 58 PFAKE 23 20 30.0 +10
VBMS LR LR
comp=Z,14µm,21.0s
PAF Port-aux-Franc 93.63 217 PFAKE 23 20 30.0 +10
PAF LR LR
comp=Z,21µm,22.0s
VNA1 Neumayer--Stat 93.64 176 P P 23 20 19.9 +0.2
U41A Viola 93.64 53 P P 23 20 16.8 -3.6
baz=254
W42A Bald Knob 93.65 55 P P 23 20 19.5 -0.9
baz=254
546A Slidell 93.73 60 P P 23 20 19.0 -1.9
baz=254
E33A Westby DABS, E 93.74 43 P P 23 20 19.4 -1.2
baz=252
Y43A Makayla and Ka 93.74 56 P P 23 20 18.1 -2.7
baz=254
A31A Linda, St. Vin 93.76 40 P P 23 20 18.2 -2.4
baz=251
EFI East Falkland 93.76 146 PFAKE 23 20 30.0 +9.3
EFI LR LR
comp=Z,12µm,22.0s
345A Thompson Farm, 93.76 59 P P 23 20 20.0 -1.1
baz=254
144A Alexander Plac 93.80 57 P P 23 20 19.7 -1.5
baz=254
SONA1 Songino Array 93.80 319 *e*P P 23 20 19.8 -1.2
SONM Songino Array 93.80 319 P P 23 20 20.2 -0.9
comp=Z,1.1nm,1.0s,baz=100,slow=3.7,SNR=5.7
SONM PP PP 23 24 06.4 -0.3
comp=Z,2.6nm,1.0s,baz=116,slow=8.3,SNR=4.2
C32A Crookston 93.82 41 P P 23 20 18.9 -2.0
baz=251
NVL N'lazarevskaya 93.87 182 *e*P P 23 20 24.4 +3.6
NVL *e* 23 24 13.4
NVL *e*S **SKSac** 23 30 57.1 +2.0
NVL *e*'SS **ScS** 23 31 33.0 +1.4
NVL *e*SP **SP** 23 32 51.2 +8.2
NVL *e*PS **PS** 23 32 55.6 +10
NVL *e*SS SS 23 38 02.6 +15
NVL MLR MLR
comp=Z,14µm,22.0s
J36A Seneca 1, Swea 93.89 46 P P 23 20 17.0 -4.3
baz=253
P39B Salisbury 93.90 50 P P 23 20 18.0 -3.5
baz=253
V42A Cord 93.90 54 P P 23 20 20.6 -0.9
baz=254
R40A Maddies Statio 93.92 51 P P 23 20 19.9 -1.8
baz=254,SNR=16
N38A Joes South For 93.92 49 P P 23 20 19.9 -1.7
baz=253
L37A Phoenix Point, 93.94 47 P P 23 20 20.4 -1.3
baz=253
X43A Marvell 93.95 55 P P 23 20 20.0 -1.9
baz=254
T41A Mountain View 93.95 53 P P 23 20 20.9 -1.0
baz=254
H35A Sunnyside Ranc 93.96 45 P P 23 20 19.1 -2.5
baz=252
Z44A Pea Ridge, Bel 93.97 57 P P 23 20 17.0 -5.0
baz=254
B32A Ashes, Strandq 94.00 41 P P 23 20 18.4 -3.3
baz=252
F34A Alexandria 94.01 44 P P 23 20 19.8 -2.1
baz=252
D33A AnnSam, Waubun 94.04 42 P P 23 20 20.4 -1.6
baz=252
245A Little AP, Sta 94.07 58 P P 23 20 20.5 -1.9
baz=254
S41A Jillco Farms, 94.12 52 P P 23 20 19.4 -3.2
baz=254
M38A Pleasantville 94.13 48 P P 23 20 22.6 +0.1
baz=253,SNR=17
U42A Revenden 94.17 54 P P 23 20 21.9 -0.9
baz=254
446A Poplarville 94.18 59 P P 23 20 22.3 -0.6
baz=255
A32A Rocking H Ranc 94.19 40 P P 23 20 21.5 -1.1
baz=252
145A Houston Renfro 94.19 57 P P 23 20 22.4 -0.6
baz=254
K37A Belmond 94.21 47 P P 23 20 20.3 -2.6
baz=253
W43A Forest City 94.24 55 P P 23 20 21.7 -1.4
baz=254
346A Big Creek Wild 94.25 59 P P 23 20 22.7 -0.6
baz=255
SCIA State Center 94.26 48 *e*P P 23 20 26.9 +3.8
SCIA LR LR
comp=Z,19µm,20.0s
Q40A Laux Farm, Aux 94.27 51 P P 23 20 22.7 -0.5
baz=254
O39A Kirksville 94.27 50 P P 23 20 21.9 -1.3
baz=254
C33A Trail 94.28 42 P P 23 20 21.9 -1.2
baz=252
E34A Wadena 94.29 43 P P 23 20 22.4 -0.7
baz=252
I36A Fitzsimmons Fa 94.32 46 P P 23 20 22.5 -0.8
baz=253
Y44A Strider, Charl 94.33 56 P P 23 20 20.4 -3.2
baz=254
G35A Watkins 94.35 44 P P 23 20 20.5 -3.0
baz=253
AGMN Agassiz Nation 94.39 41 P P 23 20 20.6 -2.9
baz=252,SNR=14
AGMN Agassiz Nation 94.39 41 *e*P P 23 20 25.9 +2.3
AGMN LR LR
comp=Z,12µm,18.0s
J37A Redenius Farm, 94.43 46 P P 23 20 22.2 -1.7
baz=253,SNR=20
P40A Paris 94.44 50 P P 23 20 22.6 -1.3
baz=254
D34A Park Rapids 94.45 42 P P 23 20 22.7 -1.2
baz=252
N39A Derby Farms, D 94.48 49 P P 23 20 23.7 -0.4
baz=254
F35A Swanville 94.48 44 P P 23 20 22.8 -1.2
baz=253
L38A Oak Wood Farm, 94.51 48 P P 23 20 23.0 -1.3
baz=254,SNR=18
X44A Crenshaw 94.53 56 P P 23 20 21.7 -2.8
baz=255
H36A Jessenland, He 94.54 45 P P 23 20 24.4 +0.1
baz=253
V43A Jonesboro 94.56 54 P P 23 20 22.7 -1.8
baz=254
B33A Robert and Kas 94.56 41 P P 23 20 22.3 -2.0
baz=252
Z45A Winona 94.59 57 P P 23 20 23.3 -1.5
baz=255
R41A Rosebud 94.59 52 P P 23 20 23.8 -0.9
baz=254
TIXI Tiksi 94.62 345 P P 23 20 23.5 -0.5
comp=Z,2.5nm,0.3s,baz=68,slow=5.2,SNR=3.3
TIXI Tiksi 94.62 345⇑ *i*P P 23 20 23.9 -0.1
TIXI pmax pmax
comp=Z,25nm,2.1s
TIXI MLR MLR
comp=Z,9µm,19.0s
TIXI Tiksi 94.62 345 *e*P P 23 20 26.0 +2.0
TIXI LR LR
comp=Z,18µm,22.0s
NNA Nana 94.62 104 *e*P P 23 20 27.3 +1.8
NNA pmax pmax
comp=Z,87nm,1.4s
NNA MLR MLR
comp=Z,6µm,19.0s
NNA Nana 94.62 104 *e*P P 23 20 27.3 +1.8
comp=Z,87nm,1.4s
NNA LR LR
comp=Z,6µm,19.0s
LCO Las Campanas 94.71 122 PFAKE 23 20 40.0 +14
LCO LR LR
comp=Z,9µm,19.0s
O40A La Belle 94.73 50 P P 23 20 23.1 -2.2
baz=254
I37A Lemond, Waseca 94.74 46 P P 23 20 18.7 -6.6
baz=253
447A Lucedale 94.77 60 P P 23 20 22.4 -3.3
baz=255
K38A Parkersburg 94.79 47 P P 23 20 22.0 -3.5
baz=254
C34A RKJ Ranch, Bem 94.80 42 P P 23 20 22.1 -3.4
baz=253
E35A Pequot Lakes 94.81 43 P P 23 20 22.5 -3.0
baz=253
U43A Rector 94.82 54 P P 23 20 23.5 -2.3
baz=255
Y45A Yeager Farm, C 94.84 56 P P 23 20 23.6 -2.4
baz=255
G36A St. Michael 94.85 45 P P 23 20 22.7 -3.0
baz=253
MET Memphis--Engin 94.86 55 PFAKE 23 20 40.0 +14
MET LR LR
comp=Z,21µm,20.0s
Q41A Truxton 94.89 51 P P 23 20 23.8 -2.2
baz=254
A33A Warroad 94.89 41 P P 23 20 25.1 -0.7
baz=252
M39A Webster 94.89 48 P P 23 20 25.6 -0.4
baz=252
S42A Caledonia 94.90 52 P P 23 20 27.8 +1.7
baz=254,SNR=5.3
PBMO Poplar Bluff 94.91 53 *e*P P 23 20 28.9 +2.7
PBMO LR LR
comp=Z,19µm,22.0s
146A Union 94.91 58 P P 23 20 24.8 -1.5
baz=255
W44A Shelby Farms P 94.96 55 P P 23 20 25.4 -1.0
baz=255
ULM Lac du Bonnet 94.99 39 P P 23 20 25.9 -0.3
comp=Z,15nm,1.1s,baz=255,slow=5.2,SNR=13
ULM PP PP 23 24 17.4 +1.6
comp=Z,14nm,1.2s,baz=247,slow=5.6,SNR=4.6
ULM Lac du Bonnet 94.99 39 *e*P P 23 20 28.3 +2.0
ULM Lac du Bonnet 94.99 39 *e*P P 23 20 28.2 +2.0
ULM PP PP 23 24 17.4 +1.6
347A Saraland 95.02 59 P P 23 20 26.6 -0.2
baz=255
R42A Luebbering 95.03 52 P P 23 20 26.2 -0.5
baz=254
V44A Blytheville 95.08 54 P P 23 20 25.1 -1.9
baz=255
T43A Greenville 95.10 53 P P 23 20 26.5 -0.5
baz=255
X45A UM Field Stati 95.11 56 P P 23 20 25.7 -1.5
baz=255
OXF Oxford 95.12 56 *e*P P 23 20 30.4 +3.2
OXF Oxford 95.12 56 *e*P P 23 20 30.4 +3.2
OXF LR LR
comp=Z,29µm,18.0s
247A Quitman 95.13 58 P P 23 20 26.2 -1.1
baz=255
N40A Mertquake, Sal 95.15 49 P P 23 20 25.4 -1.8
baz=254
Z46A Louisville 95.15 57 P P 23 20 25.9 -1.5
baz=255
J38A Wedel Dairy, R 95.18 47 P P 23 20 25.6 -1.7
baz=254
F36A Milaca 95.19 44 P P 23 20 25.1 -2.1
baz=253,SNR=8.4
L39A Vinton 95.19 48 P P 23 20 25.6 -1.7
baz=254
D35A Remer 95.19 43 P P 23 20 26.5 -0.8
baz=253
P41A Barry, Barry 95.21 50 P P 23 20 24.8 -2.7
baz=254
B34A Aery, Baudette 95.22 41 P P 23 20 23.9 -3.4
baz=253
H37A Dierke Farm, C 95.23 45 P P 23 20 25.8 -1.7
baz=254
M40A Post Highland 95.34 49 P P 23 20 25.4 -2.7
baz=254
PVMO Portageville 95.38 54 PFAKE 23 20 40.0 +12
PVMO LR LR
comp=Z,29µm,20.0s
S43A Fulton Ridge, 95.39 53 P P 23 20 29.6 +1.2
baz=255
Y46A Houston 95.40 56 P P 23 20 29.6 +1.2
baz=255
Q42A Golden Eagle 95.40 51 P P 23 20 26.1 -2.3
baz=255
U44A Portageville 95.42 54 P P 23 20 28.4 -0.1
baz=255
C35A Jirik Farms, M 95.42 42 P P 23 20 26.2 -2.1
baz=253
K39A Oelwein 95.43 47 P P 23 20 28.0 -0.4
baz=254
O41A Passleys Farm, 95.46 50 P P 23 20 26.4 -2.2
baz=255
W45A Hickory Valley 95.46 55 P P 23 20 28.6 -0.2
baz=255
448A Bay Minette 95.46 60 P P 23 20 26.8 -2.0
baz=255
I38A Scanlan Farm, 95.49 46 P P 23 20 26.5 -2.2
baz=254
SPMN Marine on St. 95.49 45 P P 23 20 28.7 +0.1
baz=254
SPMN Marine on St. 95.49 45 *e*P P 23 20 29.1 +0.4
SPMN LR LR
comp=Z,20µm,20.0s
HALT Halls 95.53 54 PFAKE 23 20 40.0 +11
HALT LR LR
comp=Z,34609µm,20.0s
348A Jackson 95.55 59 P P 23 20 28.6 -0.7
baz=255
SLM Saint Louis 95.55 52 PFAKE 23 20 40.0 +11
SLM LR LR
comp=Z,28µm,20.0s
E36A McGregor 95.55 43 P P 23 20 26.8 -2.1
baz=254
147A Livingston 95.56 58 P P 23 20 27.3 -2.0
baz=255
U44B Burton Farm, H 95.64 54 P P 23 20 28.1 -1.4
baz=255
N41A Harden Midland 95.64 49 P P 23 20 24.1 -5.3
baz=255
T44A Benton 95.64 53 P P 23 20 25.4 -4.1
baz=255
R43A Red Bud 95.69 52 P P 23 20 27.9 -1.9
baz=255
H38A Maiden Rock 95.69 45 P P 23 20 27.4 -2.2
baz=254
P42A Winchester 95.72 51 P P 23 20 28.0 -1.8
baz=255
J39A Decorah 95.73 47 P P 23 20 27.2 -2.6
baz=254
L40A Anamosa 95.73 48 P P 23 20 27.2 -2.7
baz=255
F37A Hinrichs Farm, 95.75 44 P P 23 20 27.2 -2.6
baz=254
B35A Bob, Littlefor 95.77 42 P P 23 20 27.3 -2.5
baz=254
V45A Humboldt 95.79 55 P P 23 20 27.0 -3.2
baz=255
D36A Goodland 95.80 43 P P 23 20 29.7 -0.4
baz=254,SNR=10
248A Dixon Mills 95.85 58 P P 23 20 26.8 -3.8
baz=256
Z47A Carrollton 95.86 57 P P 23 20 27.8 -2.9
baz=256
GTA Gaotai 95.95 309 *e*P P 23 20 30.3 -0.8

GTA pP pP 23 20 33.8 -1.5
GTA sP sP 23 20 36.6 -0.2
GTA PP **PP** **23 24 22.0 -1.7**
GTA SKS **SKSac** **23 31 04.4 -3.1**
GTA S **S** **23 31 44.3 -5.3**
GTA SS **SS** **23 38 17.4 -3.2**
GTA pmax pmax
comp=Z,410nm,7.6s
GTA LR LR
comp=Z,8µm,19.7s
GTA LR LR
comp=Z,16µm,24.0s
GTA LR LR
comp=Z,25µm,23.8s
K40A Colesburg **95.96 47** P **P** **23 20 27.3 -3.5**
baz=255
I39A Houston **96.00 46** P **P** **23 20 28.4 -2.7**
baz=255
Q43A New Douglas **96.03 51** P **P** **23 20 27.2 -4.1**
baz=255
M41A Milan **96.04 49** P **P** **23 20 28.1 -3.1**
baz=255
S44A Carbondale **96.05 53** P **P** **23 20 30.8 -0.6**
baz=255
O42A Bath **96.07 50** P **P** **23 20 27.4 -4.0**
baz=255
U45A Rockin P Farm, **96.09 54** P **P** **23 20 31.5 -0.1**
baz=256
G38A Ridgeland **96.12 45** P **P** **23 20 30.2 -1.3**
baz=254
E37A Wrenshall **96.13 43** P **P** **23 20 30.3 -1.3**
baz=254
C36A Pine Crest Far **96.17 42** P **P** **23 20 30.0 -1.7**
baz=254
BRAL Brewton **96.19 60** PFAKE 23 20 40.0 +7.8
BRAL LR LR
comp=Z,8µm,19.0s
Y47A UCPARC, Winfie **96.21 57** P **P** **23 20 31.1 -1.1**
baz=256
L41A Preston **96.25 48** P **P** **23 20 30.8 -1.4**
baz=255
N42A Yates City **96.27 50** P **P** **23 20 30.9 -1.4**
baz=255
F38A Pierce - Schro **96.32 44** P **P** **23 20 30.7 -1.7**
baz=255,SNR=11
Z48A Northport **96.32 57** P **P** **23 20 31.2 -1.6**
baz=256
R44A Waltonville **96.33 52** P **P** **23 20 30.7 -1.9**
baz=256
P43A Skaggs, Pawnee **96.35 51** P **P** **23 20 31.3 -1.4**
baz=255
H39A Augusta **96.38 46** P **P** **23 20 31.4 -1.3**
baz=255
J40A Soldiers Grove **96.42 47** P **P** **23 20 30.3 -2.7**
baz=255
IRK Irkutsk **96.45 322** *e*P **P** **23 20 37.0 +4.1**
OTAV Otavalo **96.45 92** PFAKE 23 20 50.0 +16
OTAV LR LR
comp=Z,10µm,22.0s
ZAK Zakamensk **96.52 320** *e*P **P** **23 20 33.8 +0.4**
ZAK pmax pmax
comp=Z,7.0nm,1.4s
K41A Shullsburg **96.53 48** P **P** **23 20 32.1 -1.4**
baz=255
Q44A Meyer Farm, Va **96.54 52** P **P** **23 20 31.7 -1.9**
baz=256
S45A Carrier Mills **96.57 53** P **P** **23 20 29.6 -4.1**
baz=256
C37A Embarrass **96.59 42** P **P** **23 20 30.1 -3.5**
baz=255
G39A Holcombe **96.62 45** P **P** **23 20 32.0 -1.8**
baz=255
M42A Sheffield **96.63 49** P **P** **23 20 32.1 -1.8**
baz=256
I40A Norwalk **96.64 46** P **P** **23 20 33.0 -0.9**
baz=255
JFWS Jewell Farm **96.65 47** *e*P **P** **23 20 36.4 +2.4**
JFWS Jewell Farm **96.65 47** *e*P **P** **23 20 36.4 +2.4**
JFWS LR LR
comp=Z,23µm,20.0s
O43A Sugar Creek Fa **96.66 50** P **P** **23 20 31.4 -2.7**
baz=256
TLY Talaya **96.67 322** *e*P **P** **23 20 35.1 +1.2**
TLY *e*S **SKSac** **23 31 04.0 -6.5**
TLY pmax pmax
comp=Z,9.0nm,0.8s
LRAL Lakeview Retre **96.69 58** PFAKE 23 20 50.0 +16
LRAL LR LR
comp=Z,10µm,20.0s
E38A The Farm, Brul **96.70 44** P **P** **23 20 31.1 -3.1**
baz=255
PB10 IPOC Station P **96.72 117** PFAKE 23 20 50.0 +15
PB10 LR LR
comp=Z,9µm,22.0s
HDIL Hopedale **96.75 50** P **P** **23 20 32.2 -2.3**
baz=256
HDIL Hopedale **96.75 50** *e*P **P** **23 20 37.1 +2.7**
comp=Z,150nm,1.6s
HDIL LR LR
comp=Z,12µm,20.0s
WVT Waverly **96.77 55** PFAKE 23 20 50.0 +15
WVT LR LR
comp=Z,28µm,20.0s
J41A Loganville **96.93 47** P **P** **23 20 33.4 -1.8**
baz=256
F39A Loretta **96.95 44** P **P** **23 20 34.0 -1.3**
baz=255
P44A Sand Creek, Wi **96.98 51** P **P** **23 20 33.2 -2.3**
baz=256
H40A Chili **96.98 46** P **P** **23 20 34.1 -1.4**
baz=255
EYMN Ely **97.09 42** P **P** **23 20 32.8 -3.1**
baz=255
EYMN Ely **97.09 42** *e*P Pdif 23 20 39.0 +2.9
EYMN LR LR
comp=Z,12µm,22.0s
C38A Sawbill Land. **97.18 43** P **P** **23 20 34.1 -2.2**
baz=255
OLIL Olney **97.19 52** PFAKE 23 20 50.0 +13
OLIL LR LR
comp=Z,33µm,20.0s
I41A Arkdale **97.20 46** P **P** **23 20 34.2 -2.3**
baz=256
G40A Rib Lake **97.28 45** P **P** **23 20 34.5 -2.3**
baz=256
E39A Mellen **97.31 44** P **P** **23 20 33.4 -3.6**
baz=256
USIN University of **97.34 53** PFAKE 23 20 50.0 +13
USIN LR LR
comp=Z,21µm,21.0s
PB04 IPOC Station P **97.47 116** PFAKE 23 20 50.0 +11
PB04 LR LR
comp=Z,8µm,21.0s
F40A Park Falls **97.49 45** P **P** **23 20 34.6 -3.2**
baz=256
H41A Junction City **97.49 46** P **P** **23 20 34.6 -3.2**
baz=256
L43A Garden Prairie **97.55 48** P P 23 20 33.1 -5.0
baz=256
E40A Wakefield **97.77 44** P **P** **23 20 36.7 -2.3**
baz=256
TRQA Tornquist **97.83 133** PFAKE 23 20 50.0 +10
TRQA LR LR
comp=Z,14µm,20.0s
C39A Grand Marais **97.95 43** P **P** **23 20 36.2 -3.6**
baz=256
G41A Antigo **97.96 45** P **P** **23 20 36.2 -3.6**
baz=256
SWET Sewanee **98.06 56** PFAKE 23 20 50.0 +9.3
SWET LR LR
comp=Z,4µm,20.0s
F41A Three Lakes **98.14 45** P P 23 20 34.4 -6.2
baz=256
COWI Conover **98.20 45** *e*P Pdif 23 20 41.4 +0.4
comp=Z,166nm,1.8s
SFIN Lafayette **98.33 50** Pdiff **P** **23 20 37.9 -3.7**
baz=257
SFIN Lafayette **98.33 50** PFAKE 23 20 50.0 +8.3
SFIN LR LR
comp=Z,30µm,20.0s
LVC Limon Verde **98.45 116** PFAKE 23 21 00.0 +17
LVC LR LR
comp=Z,10µm,22.0s
WCI Wyandotte Cave **98.45 53** PFAKE 23 20 50.0 +7.7
WCI LR LR
comp=Z,23µm,20.0s
FCC Fort Churchill **98.47 31** PFAKE 23 20 50.0 +8.2
FCC LR LR
comp=Z,12µm,18.0s
BLO Bloomington **98.49 52** PFAKE 23 20 50.0 +7.6
BLO LR LR
comp=Z,34µm,19.0s
PB11 IPOC Station P **98.78 113** PFAKE 23 21 00.0 +16
PB11 LR LR
comp=Z,9µm,22.0s
F42A Maple Grove Fa **98.80 45** Pdiff P 23 20 37.3 -6.3
baz=257
D41A Chassel **98.81 44** Pdiff P 23 20 34.2 -9.4
baz=257
G43A Wallace **99.00 46** Pdiff P 23 20 37.3 -7.2
baz=257
E42A Champion **99.10 44** Pdiff **Pdif** **23 20 38.6 -6.3**
baz=257
TIGA Tifton **99.14 60** Pdiff **Pdif** **23 20 39.7 -5.8**
baz=258
TIGA Tifton **99.14 60** PFAKE 23 21 00.0 +15
TIGA LR LR
comp=Z,8µm,20.0s
CPCT Cooper Cave **99.24 56** PFAKE 23 21 00.0 +14
CPCT LR LR
comp=Z,12µm,22.0s
F43A Flat Rock, Esc **99.48 45** Pdiff **Pdif** **23 20 40.7 -5.9**
baz=258
GOGA Godfrey **99.66 58** PFAKE 23 21 00.0 +12
GOGA LR LR
comp=Z,14µm,22.0s
E43A Lone Tree Farm **99.71 45** Pdiff **Pdif** **23 20 41.8 -5.9**
baz=258
TKL Tuckaleechee C **99.88 56** PFAKE 23 21 00.0 +11
TKL LR LR
comp=Z,18µm,20.0s
F44A Big Bay de Noc **100.02 45** Pdiff **Pdif** **23 20 42.2 -6.8**
baz=258
TZTN Tazewell **100.23 55** PFAKE 23 21 00.0 +10
TZTN LR LR
comp=Z,27µm,20.0s
DWPF Disney Wildern **100.27 64** PFAKE 23 21 00.0 +9.5
DWPF LR LR
comp=Z,5µm,21.0s
LSA Lhasa **100.70 298** PFAKE 23 21 00.0 +6.9
LSA LR LR
comp=Z,8µm,20.0s
HELC Santa Helena **100.80 87** PFAKE 23 21 10.0 +16
HELC LR LR
comp=Z,8µm,20.0s
AAM Ann Arbor **101.26 49** PFAKE 23 21 10.0 +15
AAM LR LR
comp=Z,12µm,21.0s
ACSO Alum Creek Sta **101.38 51** PFAKE 23 21 10.0 +15
ACSO LR LR
comp=Z,32µm,20.0s
ROSC El Rosal **101.63 88** PFAKE 23 21 10.0 +13
ROSC LR LR
comp=Z,6µm,20.0s
JSC Jenkinsville **101.63 58** PFAKE 23 21 10.0 +14
JSC LR LR
comp=Z,22µm,21.0s
MTDJ Mount Denham **101.69 74** PFAKE 23 21 10.0 +13
MTDJ LR LR
comp=Z,8µm,21.0s
KMSC Kings Mountain **101.73 57** Pdiff **Pdif** **23 20 50.8 -6.2**
baz=259
KMSC Kings Mountain **101.73 57** PFAKE 23 21 10.0 +13
KMSC LR LR
comp=Z,14µm,20.0s
HOPE Hope Point **102.10 157** PFAKE 23 21 10.0 +12
HOPE LR LR
comp=Z,17µm,20.0s
RES Resolute Bay **102.21 16** PFAKE 23 21 10.0 +12
RES LR LR
comp=Z,10µm,18.0s
NHSC New Hope **102.30 59** PFAKE 23 21 10.0 +11
NHSC LR LR
comp=Z,15µm,18.0s
BLA Blacksburg **102.82 55** PFAKE 23 21 10.0 +8.2
BLA LR LR
comp=Z,23µm,20.0s
RUSC La Rusia **103.08 87** PFAKE 23 21 20.0 +16
RUSC LR LR
comp=Z,2µm,20.0s
MCWV Mont Chateau **103.66 52** PFAKE 23 21 20.0 +15
MCWV LR LR
comp=Z,11µm,20.0s
ALLY Alegheny Colle **103.73 50** PFAKE 23 21 20.0 +14
ALLY LR LR
comp=Z,32µm,20.0s
N54A Moraine State **103.75 51** Pdiff **Pdif** **23 20 59.2 -6.5**
baz=262
ERPA Erie **103.92 50** PFAKE 23 21 20.0 +14
ERPA LR LR
comp=Z,16µm,20.0s
M54A Oil Creek Stat **104.07 50** Pdiff **Pdif** **23 20 59.3 -7.9**
baz=262
GTBY Guantanamo Bay **104.28 73** PFAKE 23 21 20.0 +11
GTBY LR LR
comp=Z,9µm,20.0s
CNNC Cliffs of the **104.53 57** PFAKE 23 21 20.0 +11
CNNC LR LR
comp=Z,14µm,20.0s
O56A Blue Knob Stat **104.72 52** Pdiff **Pdif** **23 21 02.2 -8.0**
baz=262
SADO Sadowa **104.88 47** PFAKE 23 25 40.0
SADO LR LR
comp=Z,22µm,18.0s
SSPA Standing Stone **105.28 52** PFAKE 23 25 40.0
SSPA LR LR
comp=Z,23µm,20.0s
CRZF Crozet Islands **105.32 212** PFAKE 23 25 40.0
CRZF LR LR
comp=Z,6µm,20.0s
CBN Corbin Frederi **105.36 54** PFAKE 23 25 40.0
CBN LR LR
comp=Z,29µm,20.0s
PALK Pallekele **105.56 273** PFAKE 23 25 40.0
PALK LR LR
comp=Z,6µm,20.0s
WMQ Urumqi **105.69 312** Pdif **Pdif** **23 21 14.4 0.0**
WMQ PP **PP** **23 25 37.0 -0.2**
WMQ S **Sdif** **23 33 11.9 +0.7**
WMQ SS **SS** **23 40 33.9 -1.8**
WMQ AMB AMB
comp=Z,440nm,5.3s
WMQ LR LR
comp=Z,8µm,20.3s
WMQ LR LR
comp=Z,7µm,22.5s
WMQ LR LR
comp=Z,10µm,24.5s
SDMD Soldier's Deli **105.93 53** PFAKE 23 25 40.0
SDMD LR LR
comp=Z,17µm,20.0s
PLVO Plevna **106.37 47** PFAKE 23 25 40.0
PLVO LR LR
comp=Z,17µm,19.0s
MVL Millersville **106.37 52** PFAKE 23 25 40.0
MVL LR LR
comp=Z,21µm,21.0s
VLDQ Val d'Or **106.39 44** PFAKE 23 25 40.0
VLDQ LR LR
comp=Z,20µm,18.0s
BINY Binghamton **106.88 50** PFAKE 23 25 40.0
BINY LR LR
comp=Z,26µm,18.0s
N59A State Game Lan **106.91 51** PKiKP **PKiKP** **23 25 23.9 -5.8**
baz=264
NRIK Noril'sk **106.94 338** PKiKP **PKiKP** **23 25 26.9 -2.0**
comp=Z,0.8nm,0.4s,baz=90,slow=7.1,SNR=2.4
KSPA Keystone Colle **106.98 51** PFAKE 23 25 40.0
KSPA LR LR
comp=Z,27µm,20.0s
PSUB Penn St. - Bra **107.05 52** PFAKE 23 25 40.0
PSUB LR LR
comp=Z,34µm,21.0s
SDDR Presa de Saban **107.65 75** PFAKE 23 25 40.0
SDDR LR LR
comp=Z,28µm,20.0s
BRNJ Basking Ridge **107.80 52** PFAKE 23 25 40.0
BRNJ LR LR
comp=Z,27µm,20.0s
ODNJ Ogdensburg **107.81 51** PFAKE 23 25 40.0
ODNJ LR LR
comp=Z,22µm,20.0s
ZSN Zaisan **107.98 315** *e*PP PP 23 25 51.6 -2.2
ZSN LR LR
comp=Z,924nm,17.4s
LONY Lake Ozonia **108.11 48** PFAKE 23 25 40.0
LONY LR LR
comp=Z,14µm,20.0s
GRTK Grand Turk **108.24 72** PFAKE 23 25 40.0
GRTK LR LR
comp=Z,7µm,22.0s
CPNY Central Park **108.27 52** PFAKE 23 25 40.0
CPNY LR LR
comp=Z,26µm,20.0s
ZALV Zalesovo Beam **108.27 322** Pdiff **Pdif** **23 21 23.7 -1.8**
comp=Z,0.4nm,0.4s,baz=108,slow=3.6,SNR=3.0
ZALV PKiKP **PKiKP** **23 25 33.4 +1.6**
comp=Z,2.2nm,0.8s,baz=318,slow=2.0,SNR=6.5
NCB Newcomb **108.32 48** PFAKE 23 25 40.0
NCB LR LR
comp=Z,100nm,21.0s
PAL Palisades **108.33 51** PFAKE 23 25 40.0
PAL LR LR
comp=Z,25µm,20.0s
TRY Troy **108.64 50** PFAKE 23 25 40.0
TRY LR LR
comp=Z,32µm,20.0s
ACCN Adirondack Com **108.68 49** PFAKE 23 25 40.0
ACCN LR LR
comp=Z,20µm,20.0s
FRNY Flat Rock **108.83 47** PFAKE 23 25 50.0
FRNY LR LR
comp=Z,19µm,20.0s
YLE Yale **109.08 51** PFAKE 23 25 50.0
YLE LR LR
comp=Z,25µm,18.0s
DGAR Diego Garcia **109.36 256** PFAKE 23 25 50.0
DGAR LR LR
comp=Z,16µm,20.0s
QUA2 Belchertown **109.58 50** PFAKE 23 25 50.0
QUA2 LR LR
comp=Z,26µm,19.0s
HNH Hanover **109.70 49** PFAKE 23 25 50.0
HNH LR LR
comp=Z,30µm,21.0s
MKAR Makanchi Array **109.71 315** PKiKP **PKiKP** **23 25 36.3 +1.5**
comp=Z,2.9nm,0.8s,baz=92,slow=4.3,SNR=11
MKAR PKKPbc **PKKPbc** **23 36 38.6 -1.3**
comp=Z,0.2nm,0.5s,baz=130,slow=26,SNR=2.9
MKAR PKKP **PKKPdf** **23 36 55.1 -1.3**
comp=Z,1.5nm,1.0s,baz=285,slow=4.6,SNR=5.3
MKAR Makanchi Array **109.71 315** PKiKP **PKiKP** **23 25 36.3 +1.5**
MKAR PKKPbc **PKKPbc** **23 36 38.6 -1.3**
MKAR PKKP **PKKPdf** **23 36 55.1 -1.3**
MKAR LR LR
comp=Z,2µm,20.0s
HYB Hyderabad **109.77 283** *i* P **PP** **23 26 10.0 +2.4**
HYB *e* 23 34 52.0
MAKZ Makanchi **109.92 315** PFAKE 23 25 50.0
MAKZ LR LR
comp=Z,13µm,22.0s
LBNH Lisbon **109.98 48** PFAKE 23 25 50.0
LBNH LR LR
comp=Z,12µm,20.0s
FFD Franklin Falls **110.15 49** PFAKE 23 25 50.0
FFD LR LR
comp=Z,46µm,20.0s
BRYW Bryant College **110.16 51** PFAKE 23 25 50.0
BRYW LR LR
comp=Z,39µm,19.0s
HRV Adam Dziewonsk **110.18 50** PFAKE 23 25 50.0
HRV LR LR
comp=Z,25µm,18.0s
WES Weston **110.35 50** PFAKE 23 25 50.0
WES LR LR
comp=Z,45µm,18.0s
BCX Boston College **110.46 50** PFAKE 23 25 50.0
BCX LR LR
comp=Z,76µm,19.0s
SEM Semipalatinsk **111.08 318** *i* PP PP 23 26 12.0 -4.4
SEM *e*PS **PS** **23 35 42.8 -5.2**
SEM *e*SS SS 23 41 40.9 -7.5
LMQ La Malbaie **111.17 45** PFAKE 23 25 50.0
LMQ LR LR
comp=Z,24µm,20.0s
MPR Mayaguez **111.38 76** PFAKE 23 25 50.0
MPR LR LR
comp=Z,144µm,20.0s
AGP Aguadilla **111.41 76** PFAKE 23 25 50.0
AGP LR LR
comp=Z,13µm,22.0s
WVL Waterville **111.62 48** PFAKE 23 25 50.0
WVL LR LR
comp=Z,25µm,18.0s
PKME Peaks-Kenny Pk **111.88 47** PFAKE 23 25 50.0
PKME LR LR
comp=Z,14µm,18.0s
KURK Kurchatov **112.11 319** *e*PKiKP **PKiKP** **23 25 39.5 +0.4**
KURK MLR MLR
comp=Z,22µm,20.0s
KURK Kurchatov **112.11 319** *e*PKP **PKiKP** **23 25 39.5 +0.4**
KURK PKKPbc **PKKPbc** **23 36 29.0 -3.1**
KURK LR LR
comp=Z,22µm,20.0s
KURK Kurchatov **112.11 319** PKiKP **PKiKP** **23 25 44.2 +5.1**
SNR=7.1
KURBB Kurchatov Arra **112.17 319** PKiKP **PKiKP** **23 25 38.0 -1.3**
comp=Z,1.1nm,0.3s,baz=98,slow=1.9,SNR=14
KURBB PKKPbc **PKKPbc** **23 36 29.0 -2.9**
comp=Z,0.9nm,0.2s,baz=275,slow=3.4,SNR=3.2
SJG San Juan **112.29 76** PFAKE 23 25 50.0
SJG LR LR
comp=Z,7µm,20.0s
ZHN Zhinishke **112.37 311** *e*PP PP 23 26 21.0 -4.8
ZHN *e*PS **PS** **23 35 54.7 -5.4**
ZHN LR LR 00 15 08.0
comp=Z,2µm,17.7s
TDK Taldyqorghan **112.40 313** *e*PP PP 23 26 21.6 -4.2
TDK *e*PS **PS** **23 35 55.1 -4.9**
TDK LRM MLR 00 14 25.1
comp=Z,2µm,20.3s
CBYP Canovanas **112.59 76** PFAKE 23 25 50.0
CBYP LR LR
comp=Z,10µm,20.0s
PQI Presque Isle **112.75 46** PFAKE 23 25 50.0
PQI LR LR
comp=Z,42µm,20.0s
SCHQ Schefferville **112.99 37** PFAKE 23 25 50.0
SCHQ LR LR
comp=Z,7µm,20.0s
EMMW East Machias **113.19 48** PFAKE 23 25 50.0
EMMW LR LR
comp=Z,17µm,18.0s
MDOK Medeo **113.39 311** *i* PP PP 23 26 29.0 -4.1
MDOK *e*Sdif Sdif 23 34 07.1 -8.5
MDOK *i* PS **PS** **23 36 03.6 -5.9**
MDOK *i* SS **SS** **23 42 11.4 -8.0**
MDOK LR LR 00 15 27.8
comp=Z,3µm,17.9s
STVI Saint Thomas **113.45 76** PFAKE 23 25 50.0
STVI LR LR
comp=Z,12µm,21.0s
AAA Alma-Ata **113.49 311** *e*P **Pdif** **23 22 03.7 +15**
AAA Alma-Ata **113.49 311** *e*PP PP 23 26 29.0 -4.7
AAA LR LR 00 15 58.2
comp=Z,2µm,18.5s
GGN Saint George **113.62 47** PFAKE 23 25 50.0
GGN LR LR
comp=Z,13µm,20.0s
PTGA Pitinga **113.95 98** PFAKE 23 26 00.0
PTGA LR LR
comp=Z,8µm,19.0s
KSH Kashi **114.20 307** PKP PKPdf 23 25 46.1 +2.4
KSH PP PP 23 26 47.3 +8.3
KSH PKS **PKSdf** **23 29 21.3 +0.8**
KSH SKS **SKSdf** **23 32 57.0 +1.1**
KSH SS **SS** **23 42 36.3 +6.0**
KSH AMB AMB
comp=Z,740nm,6.9s
KSH LR LR
comp=Z,4µm,16.2s
KSH LR LR
comp=Z,4µm,16.3s
KSH LR LR
comp=Z,7µm,18.3s
SABA Saba **114.94 78** PFAKE 23 26 00.0 +14
SABA LR LR
comp=Z,10µm,21.0s

LMN	**Caledonia Moun**	**115.02**	**46**	PFAKE			23 26 00.0	+15	
LMN				LR	LR				
	comp=Z,18µm,21.0s								
BBSR	**BB Station**	**115.17**	**61**	PFAKE			23 26 00.0	+14	
BBSR				LR	LR				
	comp=Z,8µm,20.0s								
SEUS	**St. Eustatius**	**115.17**	**78**	PFAKE			23 26 00.0	+14	
SEUS				LR	LR				
	comp=Z,9µm,21.0s								
SMRT	**St. Maarten**	**115.17**	**77**	PFAKE			23 26 00.0	+14	
SMRT				LR	LR				
	comp=Z,7µm,20.0s								
FRU	**Bishkek**	**115.18**	**310**	*e*PKIKP	**PKPdf**		**23 25 50.0**	**+4.6**	
FRU				*e*			23 26 48.0		
FRU				*e*PS	**PKKPbc**		**23 36 16.0**	**-5.5**	
FRU				*e*SS	SS		23 42 58.0	+15	
FRU				pmax	pmax				
	comp=Z,40nm,2.1s								
FRU				MLR	MLR				
	comp=E,10µm,21.0s								
AAK	**Ala-Archa**	**115.28**	**310**	⇑*i*PKIKP	**PKPdf**		**23 25 45.5**	**-0.2**	
AAK	**Ala-Archa**	**115.28**	**310**	PFAKE			23 26 00.0	+14	
AAK				LR	LR				
	comp=Z,14µm,20.0s								
GRGR	**Grenville**	**115.48**	**84**	PFAKE			23 26 00.0	+13	
GRGR				LR	LR				
	comp=Z,4µm,22.0s								
SPB	**Sao Paulo**	**115.79**	**126**	PFAKE			23 26 00.0	+13	
SPB				LR	LR				
	comp=Z,10µm,22.0s								
BRZS	**Berezniki**	**115.96**	**318**	*e*PP	PP		23 26 46.7	-4.2	
GDHS	**Morne Mazeau,**	**116.12**	**79**	PFAKE			23 26 00.0	+12	
GDHS				LR	LR				
	comp=Z,7µm,21.0s								
ANWB	**Willy Bob**	**116.32**	**78**	PFAKE			23 26 00.0	+12	
ANWB				LR	LR				
	comp=Z,7µm,22.0s								
KBS	**Kingsbay**	**116.41**	**358**	*e*PP	PP		23 26 52.9	-0.1	
KBS				*e*SP	SP		23 36 34.7	+2.2	
KBS				*e*SS	**SS**		**23 43 00.4**	**+3.9**	
KBS	**Kingsbay**	**116.41**	**358**	PFAKE			23 26 00.0	+13	
KBS				LR	LR				
	comp=Z,6µm,20.0s								
FDF	**Fort de France**	**116.44**	**81**	PFAKE			23 26 00.0	+11	
FDF				LR	LR				
	comp=Z,7µm,21.0s								
BVAR	**Borovoye Array**	**116.92**	**322**	PKP	**PKPdf**		**23 25 46.5**	**-1.8**	
	comp=Z,3.5nm,0.8s,baz=61,slow=7.0,SNR=13								
BRVK	**Borovoye**	**116.98**	**322**	⇑*i*PKIKP	**PKPdf**		**23 25 47.1**	**-1.3**	
BRVK				pmax	pmax				
	comp=Z,24nm,1.2s								
BRVK				MLR	MLR				
	comp=Z,22µm,19.0s								
BRVK	**Borovoye**	**116.98**	**322**	*e*PKPdf	**PKPdf**		**23 25 51.2**	**+2.7**	
BRVK				LR	LR				
	comp=Z,20µm,20.0s								
BRVK	**Borovoye**	**116.98**	**322**	PKPdf	**PKPdf**		**23 25 53.8**	**+5.3**	
	SNR=11								
SPA0	**Spitsbergen Ar**	**116.99**	**357**	*e*PP	PP		23 26 53.9	-3.2	
SPA0				*e*SS	SS		23 43 04.0	-0.3	
SPITS	**Spitsbergen Ar**	**116.99**	**357**	PP	PP		23 26 55.8	-1.3	
	comp=Z,30nm,1.2s,baz=94,slow=12,SNR=4.6								
SFJD	**Kangerlussuaq**	**117.25**	**21**	*e*PKIKP	**PKPdf**		**23 25 50.4**	**+1.9**	
SFJD				MLR	MLR				
	comp=Z,8µm,19.0s								
SFJD	**Kangerlussuaq**	**117.25**	**21**	*e*PKPdf	**PKPdf**		**23 25 50.4**	**+1.9**	
SFJD				LR	LR				
	comp=Z,8µm,19.0s								
SUMG	**Summit**	**117.62**	**14**	PFAKE			23 26 00.0	+10	
SUMG				LR	LR				
	comp=Z,7µm,18.0s								
BBGH	**Gun Hill**	**117.68**	**83**	PFAKE			23 26 00.0	+9.1	
BBGH				LR	LR				
	comp=Z,14µm,21.0s								
HOPEN	**Hopen**	**118.03**	**355**	*e*PP	PP		23 27 03.4	-0.9	
HOPEN				*e*PS	**PS**		**23 36 49.8**	**-0.3**	
HOPEN				*e*SS	SS		23 43 20.2	+2.5	
HSPB	**Hornsund (broa**	**118.19**	**357**	*e*PP	PP		23 27 06.6	+1.2	
HSPB				*e*SP	SP		23 36 50.9	+2.3	
HSPB				IAMs_20	IAMs_20		00 10 08.0		
	comp=Z,14µm,21.7s								
RER	**Riviere de l'E**	**118.27**	**235**	PFAKE			23 26 00.0	+8.0	
RER				LR	LR				
	comp=Z,13µm,20.0s								
IUG	**Iuzhnay**	**118.61**	**310**	*e*PKiKP	**PKPdf**		**23 25 49.9**	**-2.2**	
IUG				*i* PP	**PP**		**23 27 05.0**	**-4.7**	
IUG				*e*SKS	**SKSdf**		**23 32 59.0**	**-5.1**	
IUG				*i* PS	**PS**		**23 36 51.4**	**-5.5**	
IUG				*i* LR	LR		00 18 17.2		
	comp=Z,1µm,19.0s								
DRLN	**Deer Lake**	**119.50**	**42**	PFAKE			23 26 10.0	+17	
DRLN				LR	LR				
	comp=Z,17µm,20.0s								
KBL	**Kabul**	**119.79**	**301**	*e*PKIKP	**PKPdf**		**23 25 54.0**	**-0.7**	
KBL				MLR	MLR				
	comp=Z,6µm,20.0s								
KBL	**Kabul**	**119.79**	**301**	*e*PKPdf	**PKPdf**		**23 25 54.0**	**-0.7**	
KBL				LR	LR				
	comp=Z,6µm,20.0s								
SVE	**Sverdlovsk**	**121.31**	**328**	*i* PKIKP	**PKPdf**		**23 25 58.8**	**+2.2**	
SVE				*e*			23 29 59.7		
SVE				*e*			23 43 56.1		
SVE				pmax	pmax				
	comp=Z,35nm,1.7s								
SVE				MLR	MLR				
	comp=E,21µm,21.0s								
SVE				MLR	MLR				
	comp=Z,24µm,21.0s								
SOKR	**Solikamsk**	**122.06**	**332**	*c i*PKIKP	**PKPdf**		**23 26 00.6**	**+2.7**	
SOKR							23 27 31.2		
SOKR				SS	SS		23 44 07.9	-2.2	
SOKR				pmax	pmax				
	comp=Z,37nm,1.4s								
ARU	**Arti**	**122.53**	**328**	PKP	**PKPdf**		**23 25 58.8**	**-0.2**	
	comp=Z,8.1nm,0.7s,baz=95,slow=3.3,SNR=7.4								
ARU	**Arti**	**122.53**	**328**	*i* PKIKP	**PKPdf**		**23 25 57.8**	**-1.2**	
ARU							23 27 35.0		
ARU							23 33 09.4		
ARU				SP	SP		23 37 33.9	+5.5	
ARU				SS	**SS**		**23 44 19.7**	**+3.2**	
ARU				MLR	MLR				
	comp=Z,30µm,21.0s								
ARU	**Arti**	**122.53**	**328**	*e*PKPdf	**PKPdf**		**23 25 58.1**	**-0.9**	
ARU				LR	LR				
	comp=Z,30µm,21.0s								
HAMF	**Hammerfest**	**123.64**	**353**	*e*PP	PP		23 27 42.1	-0.5	
HAMF				*e*SS	SS		23 44 32.3	+2.8	
HAMF				IAMs_20	IAMs_20		00 11 57.0		
	comp=Z,14µm,22.1s								
JMIC	**Jan Mayen**	**123.88**	**5**	*e*PP	PP		23 27 44.7	+0.5	
JMIC				*e*SS	SS		23 44 36.4	+3.8	
JMIC				IAMs_20	IAMs_20		00 26 47.8		
	comp=Z,6µm,19.3s								
KEV	**Kevo**	**124.00**	**351**	PFAKE			23 26 10.0	+8.6	
KEV				LR	LR				
	comp=Z,15µm,22.0s								
LVZ	**Lovozero**	**124.19**	**347**	*i* PKIKP	**PKPdf**		**23 25 59.4**	**-2.5**	
LVZ	**Lovozero**	**124.19**	**347**	PFAKE			23 26 10.0	+8.1	
LVZ				LR	LR				
	comp=Z,13µm,20.0s								
ABKAR	**Akbulak array**	**124.21**	**320**	*e*PKPdf	**PKPdf**		**23 26 02.0**	**-0.4**	
ABKAR				LR	LR				
	comp=Z,5µm,20.0s								
ARA0	**ARCESS Array S**	**124.42**	**351**	*e*PKPdf	**PKPdf**		**23 26 04.5**	**+2.2**	
ARCES	**ARCESS Array B**	**124.42**	**351**	PKP	**PKPdf**		**23 26 01.0**	**-1.3**	
	comp=Z,10nm,0.8s,baz=347,slow=4.2,SNR=12								
ARCES	**ARCESS Array B**	**124.42**	**351**	PKIKP	**PKPdf**		**23 26 01.0**	**-1.3**	
ARE0	**ARCESS Array S**	**124.42**	**351**	*e*PP	PP		23 27 48.5	+0.6	
ARE0				*e*SS	SS		23 44 42.4	+2.9	
ARE0	**ARCESS Array S**	**124.42**	**351**	PFAKE			23 26 10.0	+7.7	
ARE0				LR	LR				
	comp=Z,16µm,22.0s								
APA	**Apatity**	**124.73**	**347**	⇓*i*PKIKP	**PKPdf**		**23 26 00.8**	**-2.1**	
APA				pmax	pmax				
	comp=Z,6.0nm,0.8s								
TRO	**Tromso**	**125.14**	**354**	*e*PP	PP		23 27 53.2	+0.6	
TRO				*e*SS	SS		23 44 52.4	+4.1	
TRIS	**Tristan da Cun**	**125.30**	**163**	PFAKE			23 26 20.0	+15	
TRIS				LR	LR				
	comp=Z,10µm,22.0s								
ABPO	**Ambohimpanom**	**126.08**	**232**	PFAKE			23 26 20.0	+13	
ABPO				LR	LR				
	comp=Z,15µm,20.0s								
MSEY	**Mahe Island**	**126.10**	**252**	PFAKE			23 26 20.0	+13	
MSEY				LR	LR				
	comp=Z,13µm,20.0s								
LOF	**Lofoten**	**127.06**	**356**	*e*PKSdf	PKSdf		23 29 43.9	+0.5	
LOF				*e*SS	SS		23 45 17.1	+4.8	
LOF				IAMs_20	IAMs_20		00 14 28.2		
	comp=Z,8µm,22.0s								
MSF	**Maaselka**	**127.06**	**348**	PKIKP	**PKPdf**		**23 26 12.5**	**+5.1**	
BORG	**Borgarnes**	**127.60**	**14**	PFAKE			23 26 20.0	+12	
BORG				LR	LR				
	comp=Z,8µm,21.0s								
GEYT	**Alibeck**	**128.23**	**306**	PKP	**PKPdf**		**23 26 08.9**	**-1.7**	
	comp=Z,6.6nm,0.9s,baz=321,slow=2.1,SNR=9.8								
KLMR	**Klimovskoe**	**128.27**	**339**	*e*PKIKP	**PKPdf**		**23 26 10.6**	**+0.8**	
KLMR				*e*			23 28 11.4		
KLMR				*e*PS	**PS**		**23 38 11.1**	**-10**	
KLMR				*e*SS	SS		23 45 22.2	-5.7	
KLMR				pmax	pmax				
	comp=Z,92nm,1.5s								
OUL	**Oulu**	**128.40**	**349**	PKIKP	**PKPdf**		**23 26 14.4**	**+4.4**	
WSAR	**Wadi Sarin**	**128.97**	**288**	PKP	**PKPdf**		**23 26 12.4**	**+0.1**	
	comp=Z,25nm,1.4s,baz=128,slow=1.0,SNR=4.9								
BIDO	**Bidbid**	**129.43**	**288**	P	**PKPdf**		**23 26 20.0**	**+6.8**	
	SNR=7.6								
BIDO	**Bidbid**	**129.43**	**288**	PKPdf	**PKPdf**		**23 26 20.0**	**+6.8**	
	SNR=7.6								
SUR	**Sutherland**	**130.07**	**198**	PFAKE			23 26 30.0	+15	
SUR				LR	LR				
	comp=Z,10µm,21.0s								
UOSS	**Minazif**	**131.19**	**290**	PFAKE			23 26 30.0	+13	
UOSS				LR	LR				
	comp=Z,3µm,20.0s								
HATD	**Hatta, Dubai**	**131.26**	**290**	*i* P	**PKPdf**		**23 26 18.6**	**+2.0**	
	SNR=11								
HATD	**Hatta, Dubai**	**131.26**	**290**	P	**PKPdf**		**23 26 23.0**	**+6.3**	
	SNR=13								
HATD	**Hatta, Dubai**	**131.26**	**290**	PKPdf	**PKPdf**		**23 26 23.0**	**+6.3**	
	SNR=13								
ASHO	**Ashiyiah**	**131.33**	**289**	*i* P	**PKPdf**		**23 26 16.3**	**-0.5**	
	SNR=8.6								
ASHO	**Ashiyiah**	**131.33**	**289**	P	**PKPdf**		**23 26 20.7**	**+3.9**	
	SNR=11								
ASHO	**Ashiyiah**	**131.33**	**289**	PKPdf	**PKPdf**		**23 26 20.7**	**+3.9**	
	SNR=11								
FINES	**FINESS Array B**	**131.63**	**347**	PKP	**PKPdf**		**23 26 15.8**	**-0.4**	
	comp=Z,5.3nm,1.0s,baz=116,slow=26,SNR=3.2								
NAZ	**Nazwa, Dubai**	**131.68**	**290**	P	**PKPdf**		**23 26 18.9**	**+1.5**	
FAQ	**Al Faqa, Dubai**	**131.75**	**289**	P	**PKPdf**		**23 26 18.6**	**+1.0**	
PUL	**Pulkovo**	**132.00**	**343**	*i* PKIKP	**PKPdf**		**23 26 18.0**	**+1.1**	
TBLU	**Trondheim**	**132.11**	**357**	*e*SKPdf	**SKPdf**		**23 29 50.0**	**-2.2**	
TBLU				IAMs_20	IAMs_20		00 23 27.8		
	comp=Z,8µm,21.3s								
AKN	**Aaknes**	**133.31**	**359**	*e*PKSdf	PKSdf		23 29 55.7	+0.2	
AKN				*e*SS	SS		23 46 31.6	+2.5	
AKN				IVmB_BB			23 51 31.8		
	comp=Z,2µm,5.5s								
DOMB	**Dombas**	**133.37**	**357**	*e*SKPdf	**SKPdf**		**23 29 54.1**	**-0.5**	
DOMB				IAMs_20	IAMs_20		00 26 19.6		
	comp=Z,12µm,21.7s								
OBN	**Obninsk**	**133.50**	**335**	⇑*i*PKIKP	**PKPdf**		**23 26 20.4**	**+0.5**	
OBN				*i*			23 28 45.8		
OBN				pmax	pmax				
	comp=Z,26nm,1.5s								
OBN	**Obninsk**	**133.50**	**335**	PFAKE			23 26 30.0	+10	
OBN				LR	LR				
	comp=Z,8µm,19.0s								
FOO	**Floro**	**133.91**	**360**	*e*			23 57 03.6		
FOO				IAMs_20	IAMs_20		00 23 52.1		
	comp=Z,8µm,22.0s								
LPSR	**Galich'ya Gora**	**134.21**	**332**	*e*PKIKP	**PKPdf**		**23 26 28.0**	**+6.7**	
LPSR				pmax	pmax				
	comp=Z,40nm,1.5s								
LPSR				MLR	MLR				
	comp=Z,18µm,22.0s								
NB2	**NORSAR Subarra**	**134.25**	**356**	PKPdf	**PKPdf**		**23 26 26.3**	**+5.1**	
	baz=14,slow=1.8								
NB2	**NORSAR Subarra**	**134.25**	**356**	PKPdf	**PKPdf**		**23 26 26.3**	**+5.1**	
	comp=Z,53nm,1.7s,baz=14,slow=1.8								
RCBR	**Riachuelo**	**134.37**	**115**	PFAKE			23 26 30.0	+7.1	
RCBR				LR	LR				
	comp=Z,11µm,20.0s								
SUE	**Sulen**	**134.46**	**0**	*e*PP	PP		23 28 51.9	-1.3	
SUE				*e*SS	SS		23 46 49.1	+6.2	
NC602	**NORSAR Array S**	**134.52**	**355**	*e*SKPdf	**SKPdf**		**23 29 56.6**	**-0.1**	
NC602				*e*SS	**SS**		**23 46 46.8**	**+3.0**	
NC602				IAMs_20	IAMs_20		00 27 17.4		
	comp=Z,10µm,20.2s								
VSR	**Storozhevoye**	**135.00**	**330**	*e*PKIKP	**PKPdf**		**23 26 24.4**	**+1.5**	
VSR				pmax	pmax				
	comp=Z,20nm,1.5s								
BER	**Bergen**	**135.13**	**360**	*e*PP	PP		23 28 58.3	+0.8	
BER				*e*SS	SS		23 46 54.2	+3.2	
OSL	**Oslo**	**135.38**	**356**	*e*SKPdf	**SKPdf**		**23 29 57.9**	**-0.4**	
GROC	**Groznyy**	**135.54**	**317**	*e*PKIKP	**PKPdf**		**23 26 26.2**	**+2.1**	
GROC				*e*			23 29 01.6		
GROC				pmax	pmax				
	comp=Z,47nm,1.3s								
KONO	**Kongsberg**	**135.73**	**357**	*e*SS	SS		23 47 01.6	+3.3	
KONO				IAMs_20	IAMs_20		00 29 24.3		
	comp=Z,8µm,18.5s								
KONO	**Kongsberg**	**135.73**	**357**	PFAKE			23 26 40.0	+16	
KONO				LR	LR				
	comp=Z,8µm,20.0s								
BLS5	**Blasjo**	**136.08**	**359**	*e*SS	SS		23 47 05.8	+3.4	
BLS5				IAMs_20	IAMs_20		00 27 38.8		
	comp=Z,14µm,20.6s								
KMY	**Karmoy**	**136.31**	**360**	*e*SS	SS		23 47 09.3	+4.2	
GOF	**Gofitskoye**	**136.42**	**321**	⇑*e*PKIKP	**PKPdf**		**23 26 24.6**	**-1.1**	
GOF				pmax	pmax				
	comp=Z,44nm,1.5s								
STAV	**Stavanger**	**136.58**	**359**	*e*SS	SS		23 47 11.8	+3.5	
STAV				IAMs_20	IAMs_20		00 31 16.0		
	comp=Z,11µm,19.7s								
GUDG	**Gudauri**	**136.74**	**317**	P	**PKPdf**		**23 26 32.6**	**+5.9**	
NCK	**Nalchik**	**136.84**	**318**	⇑*i*PKIKP	**PKPdf**		**23 26 27.8**	**+1.2**	
TBLG	**Delisi**	**136.88**	**315**	P	**PKPdf**		**23 26 28.5**	**+1.8**	
TBLG	**Delisi**	**136.88**	**315**	*e*PKIKP	**PKPdf**		**23 26 28.5**	**+1.8**	
ZEI	**Tsey**	**136.97**	**317**	*i* PKIKP	**PKPdf**		**23 26 29.6**	**+2.5**	
ZEI				pmax	pmax				
	comp=Z,32nm,1.4s								
MICGM	**Minsk**	**137.13**	**340**	*e*PKP	**PKPdf**		**23 26 25.0**	**-1.7**	
MICGM				PKPM			23 26 29.0		
	comp=Z,0.0nm,1.0s								
MICGM				*e*PP	**PP**		**23 29 04.0**	**-6.3**	
MICGM				*e*SKP			23 30 05.0		
MICGM				*e*PKS	**PKSdf**		**23 30 10.0**	**+7.3**	
MICGM				*e*PPP	PPP		23 31 28.0		
MICGM				*e*SKS	SKSdf		23 33 16.0	-21	
MICGM				*e*SKKS			23 35 04.0		
MICGM				*e*SKKKS			23 36 03.0		
MICGM				*e*LR	LR		00 16 04.0		
MICGM				LRM	MLR		00 25 00.0		
	comp=N,3.1nm,20.0s								
MICGM				LRM	MLR		00 25 00.0		
	comp=N,8.1nm,20.0s								
MICGM				LRM	MLR		00 25 10.0		
	comp=Z,21nm,20.0s								
MICGM				LRM	MLR		00 25 10.0		
	comp=Z,41nm,20.0s								
MICGM				LRM	MLR		00 25 20.0		
	comp=E,5.1nm,20.0s								
MICGM				LRM	MLR		00 25 20.0		
	comp=E,7.0nm,20.0s								
MNK	**Minsk**	**137.13**	**340**	*e*PKIKP	**PKPdf**		**23 26 25.0**	**-1.7**	
MNK				pmax	pmax				
	comp=Z,40nm,1.0s								
MNK				MLR	MLR				
	comp=N,8µm,20.0s								
MNK				MLR	MLR				
	comp=N,3µm,20.0s								
MNK				MLR	MLR				
	comp=Z,41µm,20.0s								
MNK				MLR	MLR				
	comp=Z,22µm,20.0s								
MNK				MLR	MLR				
	comp=E,8µm,20.0s								
MNK				MLR	MLR				
	comp=E,5µm,20.0s								
NACGM	**Naroch**	**137.14**	**342**	*e*PKHKP	PKPpre		23 26 35.0		
NACGM				*e*PP	PP		23 28 57.0	-13	
NACGM				*e*PPP	PPP		23 32 05.0		
NACGM				*e*SKKS			23 35 43.0		
NACGM				*e*SKKKS			23 36 07.0		
NACGM				*e*PS	PS		23 39 03.0	-34	
NACGM				*e*SS	**SS**		**23 47 19.0**	**+3.6**	
NACGM				*e*SSS	SSS		23 52 16.0		
NACGM				*e*LQ	LQ		00 11 57.0		
NACGM				*e*LR	LR		00 14 56.0		
NACGM				LRM	MLR		00 21 39.0		
	comp=Z,39nm,24.0s								
HOMB	**Homborsund**	**137.17**	**357**	IAMs_20	IAMs_20		00 29 37.0		
	comp=Z,9µm,20.1s								
KIV	**Kislovodsk**	**137.19**	**319**	P	**PKPdf**		**23 26 28.1**	**+0.8**	
KIV	**Kislovodsk**	**137.19**	**319**	*e*PKIKP	**PKPdf**		**23 26 23.7**	**-3.6**	
KIV				*i*			23 26 26.3		
KIV				*e*			23 29 08.1		
KIV				*e*PS	**PS**		**23 39 33.4**	**-5.4**	
KIV				*e*SS	SS		23 47 15.6	-2.0	
KIV				*e*SSS	SSS		23 52 22.0		
KIV				MLR	MLR				
	comp=Z,14µm,22.0s								
KIV	**Kislovodsk**	**137.19**	**319**	PFAKE			23 26 40.0	+13	
KIV				LR	LR				
	comp=Z,15µm,22.0s								
ONI	**Oni**	**137.35**	**317**	*e*PKIKP	**PKPdf**		**23 26 28.6**	**+1.0**	
NEY	**Neytrino**	**137.51**	**318**	*e*PKIKP	**PKPdf**		**23 26 26.4**	**-1.7**	
NEY				*i*			23 26 28.9		
GNI	**Garni**	**137.54**	**313**	P	**PKPdf**		**23 26 32.0**	**+3.8**	
GNI	**Garni**	**137.54**	**313**	*e*PKIKP	**PKPdf**		**23 26 28.1**	**-0.1**	
GNI				*i*			23 26 31.5		
GNI	**Garni**	**137.54**	**313**	*e*PKPdf	**PKPdf**		**23 26 27.7**	**-0.5**	
GNI				LR	LR				
	comp=Z,9µm,21.0s								
GNI	**Garni**	**137.54**	**313**	P	**PKPdf**		**23 26 35.4**	**+7.2**	
	SNR=10.0								
GNI	**Garni**	**137.54**	**313**	PKPdf	**PKPdf**		**23 26 35.4**	**+7.2**	
	SNR=10.0								
AKH	**Akhalkalaki**	**137.86**	**316**	P	**PKPdf**		**23 26 35.0**	**+6.2**	
AKH	**Akhalkalaki**	**137.86**	**316**	⇓*i*P	**PKPdf**		**23 26 36.1**	**+7.3**	
AKH	**Akhalkalaki**	**137.86**	**316**	*e*PKIKP	**PKPdf**		**23 26 34.9**	**+6.2**	
SUW	**Suwalki**	**138.95**	**344**	*e*PKP	**PKPdf**		**23 26 28.6**	**-1.5**	
SUW				*e*SKSdf	**SKSdf**		**23 33 31.1**	**-9.2**	
SUW				LMZ	LR		00 22 32.1		
	comp=Z,26µm,24.5s								
SUW	**Suwalki**	**138.95**	**344**	*e*PKIKP	**PKPdf**		**23 26 28.6**	**-1.5**	
SUW				*e*			23 33 31.1		
ARTV	**Artvin**	**139.01**	**316**	*e*PKPdf	**PKPdf**		**23 26 33.2**	**+2.2**	
ARTV				LR	LR				
	comp=Z,4µm,21.0s								
ESK	**Eskdalemuir**	**139.72**	**7**	PFAKE			23 26 40.0	+8.5	
ESK				LR	LR				
	comp=Z,10µm,18.0s								
AKASG	**Malin Array Be**	**139.74**	**336**	PKP	**PKPdf**		**23 26 29.5**	**-2.1**	
	comp=Z,1.7nm,0.7s,baz=39,slow=4.0,SNR=6.9								
AKASG				PP	**PP**		**23 29 31.1**	**+4.5**	
	comp=Z,0.3nm,0.3s,baz=35,slow=6.3,SNR=5.2								
AKBB	**Malin Array Si**	**139.74**	**336**	PFAKE			23 26 40.0	+8.4	
AKBB				LR	LR				
	comp=Z,12µm,21.0s								
KIEV	**Kiev**	**139.76**	**336**	*i* PKIKP	**PKPdf**		**23 26 30.7**	**-0.9**	
KIEV				*i*			23 26 33.9		
KIEV	**Kiev**	**139.76**	**336**	*e*PKP	**PKPdf**		**23 26 31.4**	**-0.2**	
KIEV				LR	LR				
	comp=Z,12µm,21.0s								
AK11	**Malin Array Si**	**139.78**	**336**	*e*PKPdf	**PKPdf**		**23 26 30.3**	**-1.4**	
ANN	**Anapa**	**139.89**	**324**	*i* PKIKP	**PKPdf**		**23 26 30.9**	**-1.2**	
ANN				*e*			23 29 24.2		
ANN				*e*SS	SS		23 47 49.2	+0.3	
ANN				*e*SSS	SSS		23 52 56.4		
ANN				pmax	pmax				
	comp=Z,100nm,1.8s								
RGN	**Rugen**	**140.44**	**352**	PFAKE			23 26 40.0	+7.3	
RGN				LR	LR				
	comp=Z,11µm,22.0s								
KOPT	**Kop Dagi**	**140.52**	**315**	PFAKE			23 26 50.0	+16	
KOPT				LR	LR				
	comp=Z,9µm,21.0s								
GKP	**Gorka Klasztor**	**141.03**	**348**	*e*PKP	**PKPdf**		**23 26 36.3**	**+2.4**	
GKP				LMZ	LR		00 24 40.4		
	comp=Z,19µm,23.2s								
GKP	**Gorka Klasztor**	**141.03**	**348**	*e*PKIKP	**PKPdf**		**23 26 36.3**	**+2.4**	
DSB	**Dublin**	**141.25**	**11**	PFAKE			23 26 50.0	+16	
DSB				LR	LR				
	comp=Z,9µm,21.0s								
BEL	**Belsk**	**141.55**	**344**	*e*PKP	**PKPdf**		**23 26 33.8**	**-1.1**	
BEL				LMZ	LR		00 23 26.9		
	comp=Z,26µm,25.3s								
BEL	**Belsk**	**141.55**	**344**	*e*PKIKP	**PKPdf**		**23 26 33.8**	**-1.1**	
SIM	**Simferopol'**	**141.64**	**326**	*i* PKIKP	**PKPdf**		**23 26 38.9**	**+3.6**	
SIM				pmax	pmax				
	comp=Z,15nm,1.3s								
SIM				MLR	MLR				
	comp=N,12µm,21.0s								
LSZ	**Lusaka**	**141.78**	**218**	*e*PKIKP	**PKPdf**		**23 26 35.6**	**-1.0**	
LSZ				MLR	MLR				
	comp=Z,9µm,18.0s								
LSZ	**Lusaka**	**141.78**	**218**	*e*PKPdf	**PKPdf**		**23 26 35.6**	**-1.0**	
LSZ				LR	LR				
	comp=Z,9µm,18.0s								
DAMY	**Dhamar**	**141.90**	**274**	*e*PKPdf	**PKPdf**		**23 26 39.3**	**+2.3**	
DAMY				LR	LR				
	comp=

KSP	**Ksiaz**	**143.52**	**348**	*e*PKP	**PKPdf**	**23 26 41.1**	**+2.7**	
KSP				*e*PP	**PP**	**23 29 55.1**	**+5.7**	
KSP				*e*SS	SS	23 48 32.2	+2.3	
KSP				LMZ	LR	00 20 56.6		
	comp=Z,13µm,27.3s							
KSP	**Ksiaz**	**143.52**	**348**	*e*PKIKP	**PKPdf**	**23 26 41.1**	**+2.7**	
KSP				*e*		23 29 55.1		
KSP				*e*SS	SS	23 48 32.2	+2.3	
WTSB	**Winterswijk**	**143.54**	**358**	*e*PKPdf	**PKPdf**	**23 26 40.5**	**+2.1**	
STHS	**Stebnicka Huta**	**143.60**	**342**	*e*PKIKP	PKPbc	23 26 37.2	+1.2	
STHS	**Stebnicka Huta**	**143.60**	**342**	*e*PKP	PKPbc	23 26 37.2	+1.2	
CLL	**Collm**	**143.64**	**351**	*e*PKIKP	PKPab	23 26 35.0	-0.2	
CLL				*i*		23 26 41.1		
CLL				*i*		23 26 47.9		
CLL				MLR	MLR			
	comp=Z,11µm,18.2s							
CLL	**Collm**	**143.64**	**351**	*e*PKPpre	PKPpre	23 26 35.0		
CLL				*e*PKPdf	**PKPdf**	**23 26 38.0**	**-0.6**	
	comp=Z,14nm,1.3s							
CLL				*i* PKiKP	**PKiKP**	**23 26 41.1**	**-0.9**	
	comp=Z,26nm,1.1s							
CLL				*i*		23 26 51.9		
	comp=Z,83nm,1.7s							
CLL				*e*		23 27 13.0		
CLL				*e*		23 29 00.0		
CLL				*e*PP	PP	23 29 58.0	+8.0	
CLL				*e*PPP	PPP	23 32 54.0		
CLL				*e*		23 34 45.0		
CLL				*e*SKKSac	SKKSac	23 36 44.0	+0.6	
CLL				*e*PSKS		23 40 00.0		
CLL				*e*PPS	PPS	23 42 18.0		
CLL				*e*		23 43 36.0		
CLL				*e*SS	**SS**	**23 48 32.0**	**+0.8**	
CLL				*e*		23 49 48.0		
CLL				*e*SSS	SSS	23 54 00.0		
CLL				*e*SSSS		23 57 42.0		
CLL				LmV		00 40 00.0		
	comp=Z,11µm,18.2s							
CLL	**Collm**	**143.64**	**351**	*e*PKPpre	PKPpre	23 26 35.0		
CLL				LR	LR			
	comp=Z,11µm,18.0s							
BUR08	**Bucovina Ar. S**	**143.77**	**337**	*e*PKPdf	PKPbc	23 26 37.8	+1.1	
BURAR	**Bucovina Array**	**143.79**	**337**⇑	*i*P	**PKPdf**	**23 26 41.4**	**+2.3**	
BURAR	**Bucovina Array**	**143.79**	**337**	⇑PKIKP	**PKPdf**	**23 26 41.4**	**+2.3**	
RAC	**Raciborz**	**143.81**	**345**	*e*PKIKP	PKPab	23 26 35.3	-0.6	
RAC				MLR	MLR			
	comp=Z,24µm,21.7s							
UPC	**Upice**	**143.90**	**348**	*e*PKP	PKPbc	23 26 36.8	0.0	
UPC				*ep*PKP	**PKPdf**	**23 26 40.1**	**+1.0**	
UPC				*e*SS	SS	23 48 33.8	-0.5	
UPC				AMS	AMS	00 28 00.0		
	comp=Z,15µm,24.0s							
UPC	**Upice**	**143.90**	**348**	*e*PKIKP	PKPbc	23 26 36.8	0.0	
UPC				*e*		23 26 40.1		
UPC				*e*SS	SS	23 48 33.8	-0.5	
UPC				MLR	MLR			
	comp=Z,15µm,24.0s							
BRG	**Berggiesshubel**	**143.92**	**350**	*e*PKP	**PKPdf**	**23 26 38.9**	**-0.2**	
	comp=Z,50nm,1.6s							
BRG				*e*		23 26 50.5		
	comp=Z,127nm,2.0s							
BRG				SKKS		23 36 43.0		
BRG				SS	**SS**	**23 48 27.0**	**-7.5**	
	comp=Z,16µm,24.7s							
	comp=N,16µm,23.8s							
	comp=E,6µm,23.8s							
BRG	**Berggiesshubel**	**143.92**	**350**	*e*PKIKP	**PKPdf**	**23 26 38.9**	**-0.2**	
BRG				*e*		23 26 50.5		
BRG				SS	SS	23 48 27.0	-7.5	
BRG				MLR	MLR			
	comp=Z,16µm,24.7s							
BRG				MLR	MLR			
	comp=N,16µm,23.8s							
BRG				MLR	MLR			
	comp=E,6µm,23.8s							
UZH	**Uzhgorod**	**143.96**	**340**c	*i*PKIKP	PKPab	23 26 36.1	-0.4	
UZH				*e*		23 26 42.7		
UZH				*e*		23 26 48.5		
UZH				MLR	MLR			
	comp=N,5µm,19.0s							
UZH				MLR	MLR			
	comp=E,4µm,19.0s							
UZH				MLR	MLR			
	comp=Z,1µm,19.0s							
DPC	**Dobruska-Polom**	**143.98**	**348**	*e*PKP	PKPab	23 26 36.7	+0.1	
DPC				*ep*PKP	**PKPdf**	**23 26 40.6**	**+1.3**	
DPC				*e*SS	SS	23 48 35.9	+0.6	
DPC				AMS	AMS	00 28 00.0		
	comp=Z,20µm,23.0s							
DPC	**Dobruska-Polom**	**143.98**	**348**	*e*PKIKP	PKPab	23 26 36.7	+0.1	
DPC				*e*		23 26 40.6		
DPC				*e*SS	SS	23 48 35.9	+0.6	
DPC				MLR	MLR			
	comp=Z,20µm,23.0s							
KMBO	**Kilima Mbogo**	**144.05**	**246**	PKP	PKPbc	23 26 39.2	+0.5	
	comp=Z,14nm,1.2s,baz=97,slow=3.4,SNR=31							
KMBO	**Kilima Mbogo**	**144.05**	**246**c	*i*PKIKP	**PKPdf**	**23 26 41.9**	**+1.1**	
KMBO	**Kilima Mbogo**	**144.05**	**246**	*e*PKPdf	**PKPdf**	**23 26 41.9**	**+1.1**	
OKC	**Ostrava-Krasne**	**144.05**	**345**	*e*PKP	PKPbc	23 26 37.3	0.0	
OKC				*ep*PKP	**PKPdf**	**23 26 40.3**	**+0.9**	
OKC				*e*SS	SS	23 48 35.3	-0.8	
OKC				AMS	AMS	00 29 50.0		
	comp=Z,16µm,21.6s							
OKC	**Ostrava-Krasne**	**144.05**	**345**	*e*PKIKP	PKPbc	23 26 37.3	0.0	
OKC				*e*		23 26 40.3		
OKC				*e*SS	SS	23 48 35.3	-0.8	
OKC				MLR	MLR			
	comp=Z,16µm,21.6s							
TESR	**Tescani**	**144.11**	**334**⇑	*i*P	**PKPdf**	**23 26 40.6**	**+1.0**	
PVCC	**Panska Ves**	**144.15**	**349**	*e*PKP	**PKPab**	**23 26 37.2**	**+0.1**	
PVCC				*ep*PKP	**PKPdf**	**23 26 40.6**	**+1.1**	
PVCC				*e*SS	SS	23 48 38.8	+1.7	
PVCC				AMS	AMS	00 29 20.0		
	comp=Z,14µm,22.0s							
PVCC	**Panska Ves**	**144.15**	**349**	*e*PKIKP	**PKPab**	**23 26 37.2**	**+0.1**	
PVCC				*e*		23 26 40.6		
PVCC				*e*SS	SS	23 48 38.8	+1.7	
PVCC				MLR	MLR			
	comp=Z,14µm,22.0s							
MORC	**Moravsky Berou**	**144.25**	**346**⇓	*i*P	**PKPab**	**23 26 37.5**	**-0.1**	
MORC	**Moravsky Berou**	**144.25**	**346**	*e*PKIKP	**PKPab**	**23 26 37.0**	**-0.6**	
MORC	**Moravsky Berou**	**144.25**	**346**	*e*PKPdf	**PKPab**	**23 26 37.0**	**-0.6**	
TRPA	**Tarpa**	**144.32**	**340**	*e*PKPdf	**PKPab**	**23 26 36.9**	**-0.9**	
ILGA	**Ilgaz**	**144.32**	**321**	*e*PKPdf	PKPbc	23 26 39.0	+0.3	
ILGA				LR	LR			
	comp=Z,7µm,20.0s							
LANS	**Liptovska Anna**	**144.34**	**344**	*e*PKIKP	PKPbc	23 26 39.1	+0.8	
LANS				*e*		23 26 44.2		
BMR	**Baia Mare**	**144.38**	**338**⇑	*i*P	PKPbc	23 26 38.3	-0.1	
BMR	**Baia Mare**	**144.38**	**338**	⇑PKIKP	PKPbc	23 26 38.4	0.0	
MOX	**Moxa**	**144.48**	**353**	PKIKP	**PKPdf**	**23 26 41.6**	**+1.5**	
CFR	**Carcaliu**	**144.48**	**331**⇓	*i*P	**PKPdf**	**23 26 41.0**	**+0.8**	
CFR	**Carcaliu**	**144.48**	**331**	⇓PKIKP	**PKPdf**	**23 26 41.0**	**+0.8**	
ARCR	**ARCALIA**	**144.56**	**337**⇑	*i*P	**PKPdf**	**23 26 43.4**	**+3.0**	
VRI	**Vrincioaia**	**144.58**	**333**⇑	*i*P	**PKPdf**	**23 26 40.8**	**+0.3**	
VRI	**Vrincioaia**	**144.58**	**333**	⇑PKIKP	**PKPdf**	**23 26 40.8**	**+0.3**	
PRA	**Prague**	**144.61**	**349**	*e*PKP	**PKPab**	**23 26 38.8**	**-0.1**	
PRA				*ep*PKP	**PKiKP**	**23 26 44.7**	**+0.7**	
PRA				*e*SS	SS	23 48 41.3	-1.1	
PRA				AMS	AMS	00 30 10.0		
	comp=Z,15µm,21.5s							
PRA	**Prague**	**144.61**	**349**	*e*PKIKP	**PKPab**	**23 26 38.8**	**-0.1**	
PRA				*e*		23 26 44.7		
PRA				*e*SS	SS	23 48 41.3	-1.1	
PRA				MLR	MLR			
	comp=Z,15µm,21.5s							
PLOR	**Plostina**	**144.63**	**333**⇑	*i*P	**PKPdf**	**23 26 44.3**	**+3.7**	
PLOR	**Plostina**	**144.63**	**333**	⇑PKIKP	**PKPdf**	**23 26 44.3**	**+3.7**	
KECS	**Kecovo**	**144.66**	**342**	*e*PKIKP	**PKPab**	**23 26 38.5**	**-0.6**	
KECS				*e*		23 26 44.6		
KECS	**Kecovo**	**144.66**	**342**	*e*PKP	**PKPab**	**23 26 38.5**	**-0.6**	
KECS				*e*		23 26 44.6		
PRU	**Pruhonice**	**144.67**	**349**	*e*PKP	**PKPab**	**23 26 38.6**	**-0.5**	
PRU				*ep*PKP	**PKiKP**	**23 26 42.5**	**-1.7**	
PRU				*es*PKP		23 26 44.7		
PRU				*e*SS	SS	23 48 39.9	-3.2	
PRU				AMS	AMS	00 30 10.0		
	comp=Z,16µm,22.0s							
PRU	**Pruhonice**	**144.67**	**349**	*e*PKIKP	**PKPab**	**23 26 38.6**	**-0.5**	
PRU				*e*		23 26 44.7		
PRU				*e*SS	SS	23 48 39.9	-3.2	
PRU				MLR	MLR			
	comp=Z,16µm,22.0s							
GOPC	**GO Pecny, Ondr**	**144.70**	**349**	*e*PKP	**PKPab**	**23 26 37.9**	**-1.3**	
GOPC				*ep*PKP	**PKPdf**	**23 26 42.2**	**+1.6**	
GOPC				*es*PKP		23 26 45.0		
GOPC				*e*SS	SS	23 48 43.7	+0.2	
GOPC				AMS	AMS	00 30 10.0		
	comp=Z,15µm,21.3s							
GOPC	**GO Pecny, Ondr**	**144.70**	**349**	*e*PKIKP	**PKPab**	**23 26 37.9**	**-1.3**	
GOPC				*e*		23 26 45.0		
GOPC				*e*SS	SS	23 48 43.7	+0.2	
GOPC				MLR	MLR			
	comp=Z,15µm,21.3s							
BEBN	**Eben Emael**	**144.74**	**359**	PKP	**PKPdf**	**23 26 41.9**	**+1.4**	
UCC	**Uccle**	**144.74**	**1**	PKP	**PKPdf**	**23 26 42.5**	**+2.0**	
HGN	**Heimansgroeve**	**144.76**	**359**	*e*PKPdf	**PKPab**	**23 26 38.8**	**-0.6**	
NKC	**Novy Kostel**	**144.77**	**352**	*e*PKP	**PKPab**	**23 26 38.4**	**-1.1**	
NKC				*ep*PKP	**PKiKP**	**23 26 42.8**	**-1.6**	
NKC				*ex*	x	23 26 45.2		
NKC				*e*SS	SS	23 48 40.4	-3.8	
NKC				AMS	AMS	00 28 50.0		
	comp=Z,12µm,21.1s							
NKC	**Novy Kostel**	**144.77**	**352**	*e*PKIKP	**PKPab**	**23 26 38.4**	**-1.1**	
NKC				*e*		23 26 45.2		
NKC				*e*SS	SS	23 48 40.4	-3.8	
NKC				MLR	MLR			
	comp=Z,12µm,21.1s							
GRER		**144.85**	**333**⇓	*i*P	**PKPab**	**23 26 38.7**	**-1.2**	
TIRR	**Tirgusor**	**144.89**	**330**⇓	*i*P	**PKPab**	**23 26 38.9**	**-1.2**	
TIRR	**Tirgusor**	**144.89**	**330**	*e*PKIKP	**PKPab**	**23 26 39.9**	**-0.1**	
TIRR				MLR	MLR			
	comp=Z,19µm,20.0s							
TIRR	**Tirgusor**	**144.89**	**330**	*e*PKPdf	**PKPab**	**23 26 39.9**	**-0.1**	
TIRR				LR	LR			
	comp=Z,19µm,20.0s							
VRAC	**Vranov**	**144.91**	**347**	PKP	**PKPab**	**23 26 39.5**	**-0.5**	
	comp=Z,25nm,1.0s,baz=22,slow=3.9,SNR=19							
MEM	**Membach**	**144.92**	**359**	PKP	**PKPab**	**23 26 39.2**	**-0.7**	
HARR	**Harsova**	**144.95**	**331**⇑	*i*P	**PKPdf**	**23 26 45.8**	**+4.7**	
HARR	**Harsova**	**144.95**	**331**	⇑PKIKP	**PKPdf**	**23 26 45.8**	**+4.7**	
PSET	**Sete Cidades**	**144.95**	**45**	*e*PKPdf	**PKPdf**	**23 26 43.2**	**+1.8**	
PSET	**Sete Cidades**	**144.95**	**45**	*e*PKPdf	**PKPdf**	**23 26 43.2**	**+1.8**	
PSET	**Sete Cidades**	**144.95**	**45**	*e*PKIKP	**PKPdf**	**23 26 43.2**	**+1.8**	
TLB	**Topalu**	**144.97**	**331**⇑	*i*P	PKPbc	23 26 40.6	+0.2	
TLB	**Topalu**	**144.97**	**331**	⇑PKIKP	PKPbc	23 26 40.6	+0.2	
SNF	**Seneffe**	**145.03**	**1**	PKP	**PKPbc**	**23 26 39.8**	**-0.5**	
DOPR	**Dopca**	**145.07**	**335**⇑	*i*P	**PKPbc**	**23 26 40.3**	**-0.4**	
VYHS	**Vyhne**	**145.11**	**344**	*e*PKIKP	**PKPbc**	**23 26 39.5**	**-1.2**	
VYHS				*e*		23 26 46.5		
CMLA	**Cha da Macela**	**145.12**	**45**	*e*PKIKP	**PKPdf**	**23 26 44.7**	**+3.1**	
CMLA				MLR	MLR			
	comp=Z,7µm,20.0s							
CMLA	**Cha da Macela**	**145.12**	**45**	*e*PKPdf	**PKPdf**	**23 26 43.0**	**+1.4**	
CMLA	**Cha da Macela**	**145.12**	**45**	*e*PKPdf	**PKPdf**	**23 26 43.0**	**+1.4**	
CMLA	**Cha da Macela**	**145.12**	**45**	*e*PKIKP	**PKPdf**	**23 26 43.0**	**+1.4**	
CMLA	**Cha da Macela**	**145.12**	**45**	*e*PKPbc	**PKPdf**	**23 26 44.7**	**+3.1**	
CMLA				LR	LR			
	comp=Z,7µm,20.0s							
BCLA	**Clavier**	**145.12**	**360**	PKP	**PKPbc**	**23 26 39.2**	**-1.5**	
PCALD	**Caldeiras da R**	**145.12**	**45**	*e*PKPdf	**PKPdf**	**23 26 45.7**	**+4.1**	
PCALD	**Caldeiras da R**	**145.12**	**45**	*e*PKIKP	**PKPdf**	**23 26 45.7**	**+4.1**	
CJR	**Cluj-Napoca**	**145.15**	**337**⇑	*i*P	**PKPbc**	**23 26 40.4**	**-0.6**	
CJR	**Cluj-Napoca**	**145.15**	**337**	⇑PKIKP	**PKPbc**	**23 26 40.4**	**-0.6**	
TREC	**Trest**	**145.16**	**348**	*e*PKP	**PKPbc**	**23 26 39.8**	**-1.1**	
TREC				*ex*	x	23 26 46.3		
TREC				*e*SS	SS	23 48 45.9	-2.8	
TREC				AMS	AMS	00 29 20.0		
	comp=Z,15µm,22.5s							
TREC	**Trest**	**145.16**	**348**	*e*PKIKP	**PKPbc**	**23 26 39.8**	**-1.1**	
TREC				*e*		23 26 46.3		
TREC				*e*SS	SS	23 48 45.9	-2.8	
TREC				MLR	MLR			
	comp=Z,15µm,22.5s							
BR131	**Keskin Array S**	**145.16**	**320**	*e*PKPbc	**PKPbc**	**23 26 40.2**	**-1.2**	
BRTR	**Keskin Array B**	**145.16**	**320**	PKPbc	**PKPbc**	**23 26 40.1**	**-1.2**	
	comp=Z,45nm,0.9s,baz=104,slow=2.5,SNR=66							
MLR	**Muntele Rosu**	**145.22**	**334**⇓	*i*P	**PKPbc**	**23 26 40.8**	**-0.6**	
MLR	**Muntele Rosu**	**145.22**	**334**	*e*PKIKP	**PKPbc**	**23 26 40.7**	**-0.6**	
MLR				MLR	MLR			
	comp=Z,20µm,22.0s							
MLR	**Muntele Rosu**	**145.22**	**334**	*e*PKPbc	**PKPbc**	**23 26 40.7**	**-0.6**	
MLR				LR	LR			
	comp=Z,20µm,22.0s							
ISR	**Istrita**	**145.25**	**333**⇑	*i*P	**PKPdf**	**23 26 44.0**	**+2.3**	
ISR	**Istrita**	**145.25**	**333**	⇑PKIKP	**PKPdf**	**23 26 44.0**	**+2.3**	
AMRR	**Amara**	**145.28**	**331**⇑	*i*P	**PKPbc**	**23 26 41.3**	**-0.1**	
AMRR	**Amara**	**145.28**	**331**	⇑PKIKP	**PKPbc**	**23 26 41.3**	**-0.1**	
PSZ	**Piszkesteto**	**145.34**	**342**⇑	*i*P	**PKPbc**	**23 26 40.6**	**-1.0**	
PSZ	**Piszkesteto**	**145.34**	**342**	*e*PKIKP	**PKPbc**	**23 26 40.8**	**-0.8**	
PSZ				MLR	MLR			
	comp=Z,22µm,22.0s							
PSZ	**Piszkesteto**	**145.34**	**342**	*e*PKPbc	**PKPbc**	**23 26 40.8**	**-0.8**	
PSZ	**Piszkesteto**	**145.34**	**342**	*e*PKPbc	**PKPbc**	**23 26 40.8**	**-0.8**	
PSZ				LR	LR			
	comp=Z,22µm,22.0s							
DRGR		**145.41**	**338**⇑	*i*P	**PKPbc**	**23 26 40.7**	**-1.1**	
DRGR		**145.41**	**338**	⇑PKIKP	**PKPbc**	**23 26 40.7**	**-1.1**	
DOU	**Dourbes**	**145.44**	**0**	PKP	**PKPbc**	**23 26 41.0**	**-0.7**	
SMOL	**Smolenice**	**145.46**	**345**	*e*PKIKP	**PKPbc**	**23 26 41.8**	**0.0**	
SMOL				*e*		23 26 47.9		
SMOL	**Smolenice**	**145.46**	**345**	*e*PKP	**PKPbc**	**23 26 41.8**	**0.0**	
SMOL				*e*		23 26 47.9		
SECR		**145.52**	**333**⇓	*i*P	**PKPdf**	**23 26 42.0**	**-0.1**	
ANTO	**Ankara**	**145.60**	**320**	*e*PKIKP	**PKPbc**	**23 26 42.8**	**+0.2**	
ANTO				MLR	MLR			
	comp=Z,7µm,21.0s							
ANTO	**Ankara**	**145.60**	**320**	*e*PKPdf	**PKPbc**	**23 26 42.8**	**+0.2**	
ANTO				LR	LR			
	comp=Z,7µm,21.0s							
ANTO	**Ankara**	**145.60**	**320**	P	**PKPab**	**23 26 42.9**	**0.0**	
	SNR=86							
ANTO	**Ankara**	**145.60**	**320**	PKPbc	**PKPab**	**23 26 42.9**	**0.0**	
	SNR=86							
BR231	**Keskin MP Arra**	**145.62**	**320**	*e*PKPdf	**PKPdf**	**23 26 40.3**	**-2.3**	
BR231				*e*PKPdf	**PKPab**	**23 26 43.5**	**+0.4**	
VOIR		**145.63**	**335**⇑	*i*P	**PKPdf**	**23 26 41.5**	**-0.9**	
VOIR		**145.63**	**335**	⇑PKIKP	**PKPdf**	**23 26 41.5**	**-0.9**	
KHC	**Kasperske Hory**	**145.67**	**350**	*e*PKP	**PKPdf**	**23 26 41.2**	**-1.0**	
KHC				*ep*PKP	**PKiKP**	**23 26 45.8**	**-0.5**	
KHC				*e*SS	SS	23 48 54.1	-0.5	
KHC				AMS	AMS	00 27 10.0		
	comp=Z,19µm,24.4s							
KHC	**Kasperske Hory**	**145.67**	**350**	*e*PKP2	**PKPdf**	**23 26 41.2**	**-1.0**	
KHC				*e*SS	SS	23 48 54.1	-0.5	
KHC				MLR	MLR			
	comp=Z,19µm,24.4s							
KHC	**Kasperske Hory**	**145.67**	**350**	*e*PKPdf	**PKPdf**	**23 26 41.3**	**-1.0**	
KHC				LR	LR			
	comp=Z,6µm,19.0s							
SULR		**145.72**	**333**⇓	*i*P	**PKPab**	**23 26 47.5**	**+4.4**	
PSMA	**Santa Maria**	**145.78**	**45**	*e*PKPdf	**PKPab**	**23 26 43.5**	**-0.1**	
PSMA	**Santa Maria**	**145.78**	**45**	*e*PKPdf	**PKPab**	**23 26 43.5**	**-0.1**	
PSMN	**Pico do Norte,**	**145.82**	**45**	*e*PKPdf	**PKPbc**	**23 26 43.4**	**0.0**	
PSMN	**Pico do Norte,**	**145.82**	**45**	*e*PKPdf	**PKPbc**	**23 26 43.4**	**0.0**	
PSMN	**Pico do Norte,**	**145.82**	**45**	*e*PKIKP	**PKPbc**	**23 26 43.4**	**0.0**	
WLF	**Walferdange**	**145.86**	**359**	PKP	**PKPdf**	**23 26 42.6**	**+0.1**	
WLF	**Walferdange**	**145.86**	**359**	*e*PKP2	**PKPdf**	**23 26 42.5**	**0.0**	
WLF				MLR	MLR			
	comp=Z,21µm,22.0s							
WLF	**Walferdange**	**145.86**	**359**	*e*PKPdf	**PKPdf**	**23 26 42.5**	**0.0**	
WLF				LR	LR			
	comp=Z,21µm,22.0s							
ARR	**Arges**	**145.86**	**335**⇑	*i*P	**PKPbc**	**23 26 43.5**	**+0.2**	
GEC2	**GERESS Array S**	**145.92**	**350**	*e*PKP2	**PKPdf**	**23 26 42.3**	**-0.5**	
GEC2				MLR	MLR			
	comp=Z,14µm,21.0s							
GEC2	**GERESS Array S**	**145.92**	**350**	*e*PKPdf	**PKPdf**	**23 26 42.3**	**-0.5**	
GEC2				LR	LR			
	comp=Z,14µm,21.0s							
GERES	**GERESS Array B**	**145.92**	**350**	PKPbc	**PKPdf**	**23 26 42.5**	**-0.3**	
	comp=Z,19nm,0.9s,baz=31,slow=3.1,SNR=50							
GEA0	**GERESS Array S**	**145.93**	**350**	*e*PKPdf	**PKPdf**	**23 26 41.8**	**-1.0**	
BUD	**Budapest**	**145.98**	**343**⇓	*e*PKPdf	**PKPdf**	**23 26 42.5**	**-0.3**	
FKH	**Fakeheh**	**146.04**	**309**	*e*P	**PKPdf**	**23 26 43.3**	**-0.2**	
DEV	**Deva**	**146.11**	**337**⇓	*i*P	**PKPbc**	**23 26 43.7**	**-0.2**	
DEV	**Deva**	**146.11**	**337**	⇓PKP2	**PKPbc**	**23 26 43.7**	**-0.2**	
LOT	**Lotru**	**146.14**	**336**⇑	*i*P	**PKPdf**	**23 26 42.6**	**-0.7**	
SIRR	**Siria**	**146.23**	**339**⇓	*i*P	**PKPdf**	**23 26 43.0**	**-0.3**	
PRD	**Provadia**	**146.32**	**330**	*e*P	**PKPdf**	**23 26 44.0**	**+0.5**	
CONA	**Conrad Observa**	**146.37**	**347**	*e*PKPbc	**PKPdf**	**23 26 43.4**	**-0.2**	
	comp=Z,354nm,1.8s,SNR=36							
CONA				*i* pPKiKP	**sPKPdf**	**23 26 50.6**	**+1.2**	
	comp=Z,374nm,1.5s							
HWQ	**Hawqa**	**146.38**	**310**	*e*P	**PKPdf**	**23 26 44.5**	**+0.5**	
HUMR	**Humele**	**146.40**	**334**⇑	*i*P	**PKPdf**	**23 26 43.8**	**+0.2**	
SOP	**Sopron**	**146.44**	**346**	*e*PKPdf	**PKPbc**	**23 26 44.9**	**0.0**	
LANF	**Langenberg**	**146.48**	**357**	PKP	**PKPbc**	**23 26 45.3**	**+0.3**	
ASF	**Jabal al Asfar**	**146.51**	**306**	PKPbc	**PKPbc**	**23 26 45.5**	**-0.2**	
	comp=Z,11nm,0.8s,baz=51,slow=1.4,SNR=13							
GZR	**Gura Zlata**	**146.57**	**337**⇓	*i*P	**PKPdf**	**23 26 44.3**	**+0.3**	
GZR	**Gura Zlata**	**146.57**	**337**	⇓PKIKP	**PKPdf**	**23 26 44.3**	**+0.3**	
STU	**Stuttgart**	**146.58**	**355**	*e*PKP2	**PKPbc**	**23 26 45.4**	**+0.2**	
STU				MLR	MLR			
	comp=Z,7µm,20.0s							
STU	**Stuttgart**	**146.58**	**355**	*e*PKPdf	**PKPbc**	**23 26 45.4**	**+0.2**	
STU				LR	LR			
	comp=Z,7µm,20.0s							
BHL	**Bhannes**	**146.76**	**309**	*e*P	**PKPbc**	**23 26 45.7**	**-0.6**	
MOA	**Molln**	**146.78**	**348**	*e*PKPbc	**PKPdf**	**23 26 45.0**	**+0.8**	
	SNR=32							
RCY	**Rachaya**	**146.80**	**308**	*e*P	**PKPbc**	**23 26 46.4**	**-0.2**	
BZS	**Buzias**	**146.81**	**338**⇑	*i*P	**PKPbc**	**23 26 45.3**	**-0.7**	
BZS	**Buzias**	**146.81**	**338**	⇑PKP2	**PKPbc**	**23 26 45.3**	**-0.7**	
BEYL	**Beirut**	**146.89**	**309**	*e*P	**PKPbc**	**23 26 46.7**	**+0.1**	
DQRL	**Deir Qamar**	**146.91**	**309**	*e*P	**PKPbc**	**23 26 46.0**	**-0.8**	
SHEL	**Horse Pasture**	**147.06**	**161**	PFAKE		23 27 00.0	+11	
SHEL				LR	LR			
	comp=Z,5µm,20.0s							
ARSA	**Arzberg**	**147.09**	**347**	*i* PKPab	**PKPbc**	**23 26 46.6**	**-0.2**	
	SNR=44							
BFO	**Black Forest**	**147.09**	**356**	*e*PKP2	**PKPdf**	**23 26 45.4**	**+0.7**	
BFO				MLR	MLR			
	comp=Z,7µm,19.0s							
BFO	**Black Forest**	**147.09**	**356**	*e*PKPdf	**PKPdf**	**23 26 45.4**	**+0.7**	
BFO				LR	LR			
	comp=Z,7µm,19.0s							
BANR	**Banloc**	**147.18**	**339**⇓	*i*P	**PKPbc**	**23 26 46.6**	**-0.4**	
ECH	**Echery**	**147.27**	**357**	PKP	**PKPbc**	**23 26 46.7**	**-0.6**	
THEF	**They Montfort**	**147.30**	**359**	PKP	**PKPbc**	**23 26 46.6**	**-0.7**	
MMAI	**Mount Meron Ar**	**147.33**	**308**	PKPbc	**PKPbc**	**23 26 47.3**	**-0.7**	
	comp=Z,21nm,0.8s,baz=60,slow=4.2,SNR=32							
BOLV	**Bolvadin**	**147.43**	**320**	PFAKE		23 27 00.0	+10	
BOLV				LR	LR			
	comp=Z,9µm,21.0s							
MDVR	**Moldovita**	**147.49**	**337**⇓	*i*P	**PKPbc**	**23 26 47.6**	**-0.4**	
BEHE	**Becsehely**	**147.52**	**345**⇓	*e*PKPdf	**PKPab**	**23 26 49.8**	**-0.2**	
MOF	**Molkenrain**	**147.64**	**357**	PKP	**PKPbc**	**23 26 48.8**	**+0.4**	
EDRB	**Edirne**	**147.65**	**329**	P	**PKPab**	**23 26 51.1**	**+0.4**	
EDRB	**Edirne**	**147.65**	**329**	P	**PKPab**	**23 26 51.1**	**+0.4**	
RETA	**Reutte**	**147.69**	**353**	*i* pPKPdf	**PKPbc**	**23 26 47.9**	**-0.6**	
	SNR=21							
KBA	**Koelnbreinsper**	**147.69**	**349**	*i* PKiKP	**PKiKP**	**23 26 50.2**	**-0.5**	
	SNR=19							
WATA	**Walderalm**	**147.73**	**352**	*i* pPKPdf	**PKPbc**	**23 26 48.4**	**-0.3**	
	SNR=5.6							
SOKA	**Soboth**	**147.74**	**347**	*i* PKPbc	**PKPbc**	**23 26 47.5**	**-1.2**	
	SNR=25							

	comp=Z,6μm,22.0s							
SKO	**Skopje**	**149.97**	**335**	*i* P	**PKPbc**	**23 26 53.5**	**-1.0**
KNT	**Kendrikon**	**150.01**	**332**	P	**PKPbc**	**23 26 53.1**	**-1.5**
KNT	**Kendrikon**	**150.01**	**332**	P	**PKPbc**	**23 26 53.1**	**-1.5**
PVY	**Plav**	**150.02**	**337**	*e*PKP	**PKPbc**	**23 26 54.1**	**-0.6**
VAY	**Valandovo**	**150.03**	**333**	*i* P	**PKPbc**	**23 26 55.0**	**+0.4**
OUR	**Ouranopolis**	**150.16**	**330**	P	**PKPbc**	**23 26 56.4**	**+1.5**
OUR	**Ouranopolis**	**150.16**	**330**	PKP2	**PKPbc**	**23 26 56.4**	**+1.5**
OUR	**Ouranopolis**	**150.16**	**330**	P	**PKPbc**	**23 26 56.4**	**+1.5**
NKY	**Niksic**	**150.17**	**339**	ǁ *i*PKP	**PKPbc**	**23 26 54.5**	**-0.5**
NKME	**Niksic**	**150.23**	**339**	ǁ *i*PKP	**PKPbc**	**23 26 54.4**	**-0.7**
BRY	**Bratogost**	**150.25**	**340**	*e*PKP	**PKPbc**	**23 26 54.6**	**-0.7**
SSB	**Saint Sauveur**	**150.26**	**1**	*e*PKIKP	**PKPbc**	**23 26 52.8**	**-2.3**
SSB				MLR	MLR		
	comp=Z,12μm,21.0s						
SSB	**Saint Sauveur**	**150.26**	**1**	*e*PKPdf	**PKPdf**	**23 26 52.8**	**-2.3**
SSB				LR	LR		
	comp=Z,12μm,21.0s						
LBL	**Lubilhac**	**150.28**	**2**	PKP	**PKPbc**	**23 26 54.8**	**-0.4**
GRG	**Griva**	**150.40**	**333**	P	**PKPdf**	**23 26 52.1**	**+1.8**
GRG	**Griva**	**150.40**	**333**	PKIKP	**PKPdf**	**23 26 52.1**	**+1.8**
GRG	**Griva**	**150.40**	**333**	P	**PKPdf**	**23 26 52.1**	**+1.8**
PDG	**Podgorica**	**150.42**	**338**	P	**PKPbc**	**23 26 54.9**	**-0.5**
PDG	**Podgorica**	**150.42**	**338**	ǁ *i*P	**PKPbc**	**23 26 54.8**	**-0.7**
TTG	**Podgorica**	**150.42**	**338**	PKIKP	**PKPbc**	**23 26 54.9**	**-0.5**
TTG	**Podgorica**	**150.42**	**338**	ǁ *i*PKP	**PKPbc**	**23 26 55.0**	**-0.5**
TTG	**Podgorica**	**150.42**	**338**	P	**PKPbc**	**23 26 54.9**	**-0.5**
CEME	**Cevo**	**150.44**	**339**	ǁ *i*PKP	**PKPbc**	**23 26 54.8**	**-0.8**
BNI	**Bardonecchia**	**150.45**	**357**	*e*PKIKP	**PKPdf**	**23 26 51.6**	**+1.2**
BNI				*e*		23 26 56.0	
BNI				MLR	MLR		
	comp=Z,11μm,20.0s						
BNI	**Bardonecchia**	**150.45**	**357**	*e*PKPdf	**PKPdf**	**23 26 51.6**	**+1.2**
BNI				*e*PKPbc	**PKPbc**	**23 26 56.0**	**+0.3**
BNI				LR	LR		
	comp=Z,11μm,20.0s						
CHOS	**Chios island**	**150.52**	**325**	P	**PKPab**	**23 27 00.3**	**-2.2**
CHOS	**Chios island**	**150.52**	**325**	P	**PKPab**	**23 27 00.3**	**-2.2**
SMG	**Samos**	**150.55**	**323**	P	**PKPbc**	**23 26 56.5**	**+0.5**
SMG	**Samos**	**150.55**	**323**	P	**PKPbc**	**23 26 56.5**	**+0.5**
STON	**Ston**	**150.55**	**341**	P	**PKPbc**	**23 26 54.2**	**-1.6**
DRME	**Dracevica, Mon**	**150.66**	**338**	ǁ *i*PKP	**PKPbc**	**23 26 55.3**	**-0.8**
BUM	**Brajici-Budva**	**150.66**	**339**	ǁ *i*PKP	**PKPbc**	**23 26 55.6**	**-0.6**
HCY	**Herceg Novi**	**150.67**	**339**	ǁ *i*PKP	**PKPbc**	**23 26 56.3**	**+0.2**
BODT	**Bodrum**	**150.70**	**321**	P	**PKPbc**	**23 26 58.7**	**+2.3**
BODT	**Bodrum**	**150.70**	**321**	P	**PKPbc**	**23 26 58.7**	**+2.3**
BIA	**Bitola**	**150.81**	**334**	*i* P	**PKPbc**	**23 26 58.9**	**+2.4**
ULC	**Ulcinj**	**150.83**	**338**	ǁ *i*PKP	**PKPbc**	**23 26 56.0**	**-0.5**
OHR	**Ohrid**	**150.96**	**335**	*i* P	**PKPbc**	**23 26 56.8**	**-0.1**
FNA	**Florina**	**150.99**	**334**	P	**PKPbc**	**23 26 54.9**	**-2.1**
FNA	**Florina**	**150.99**	**334**	PKIKP	**PKPbc**	**23 26 54.9**	**-2.1**
FNA	**Florina**	**150.99**	**334**	P	**PKPbc**	**23 26 54.9**	**-2.1**
VLC	**Villacollemand**	**151.01**	**352**	*e*PKPbc	**PKPbc**	**23 26 58.3**	**+1.4**
VLC				LR	LR		
	comp=Z,17μm,21.0s						
TIR	**Tirane**	**151.13**	**336**	ǁ *i*P	**PKPbc**	**23 26 56.8**	**-0.4**
TIR	**Tirane**	**151.13**	**336**	ǁ PKIKP	**PKPbc**	**23 26 56.8**	**-0.4**
TIR	**Tirane**	**151.13**	**336**	*e*PKPab	**PKPab**	**23 27 02.8**	**-2.0**
TIR				LR	LR		
	comp=Z,26μm,21.0s						
KZN	**Kozani**	**151.21**	**333**	P	**PKPbc**	**23 26 59.2**	**+1.7**
KZN	**Kozani**	**151.21**	**333**	PKIKP	**PKPbc**	**23 26 59.2**	**+1.7**
KZN	**Kozani**	**151.21**	**333**	P	**PKPbc**	**23 26 59.2**	**+1.7**
PGAV	**Gavieira, Arco**	**151.23**	**21**	*e*PKPab	**PKPab**	**23 27 04.7**	**-0.6**
PGAV	**Gavieira, Arco**	**151.23**	**21**	*e*SS	SS	23 50 07.4	+10
PGAV	**Gavieira, Arco**	**151.23**	**21**	*e*LQ	LQ	00 09 43.9	
PGAV	**Gavieira, Arco**	**151.23**	**21**	*e*LR	LR	00 25 12.0	
	comp=Z,13μm,20.0s						
XOR	**Xorichti**	**151.29**	**330**	P	**PKPbc**	**23 26 58.7**	**+1.0**
XOR	**Xorichti**	**151.29**	**330**	P	**PKPbc**	**23 26 58.7**	**+1.0**
NEO	**Neokhori**	**151.32**	**329**	P	**PKPbc**	**23 26 58.7**	**+0.9**
NEO	**Neokhori**	**151.32**	**329**	P	**PKPbc**	**23 26 58.7**	**+0.9**
FYTO	**Fytoko, Volos**	**151.38**	**330**	P	**PKPbc**	**23 27 00.9**	**+3.1**
FYTO	**Fytoko, Volos**	**151.38**	**330**	P	**PKPbc**	**23 27 00.9**	**+3.1**
PCAB	**Cabril**	**151.54**	**21**	*e*PKPab	**PKPab**	**23 27 05.8**	**-0.7**
PENT	**Pentalofos**	**151.57**	**333**	P	**PKPbc**	**23 26 55.4**	**-3.0**
KPRO	**Kipourio**	**151.67**	**333**	P	**PKPbc**	**23 27 00.3**	**+1.7**
THL	**Klokotos Trika**	**151.69**	**331**	P	**PKPbc**	**23 26 59.5**	**+1.0**
KARP	**Karpathos**	**151.77**	**319**	PFAKE		23 27 00.0	+1.1
KARP				LR	LR		
	comp=Z,3μm,21.0s						
OSSF	**Osses**	**151.78**	**10**	PKP	**PKPbc**	**23 26 55.8**	**-2.8**
PBRG	**Braganca**	**151.87**	**19**	*e*SS	SS	23 50 11.6	+7.2
POLO	**Lamas de Olo**	**151.92**	**21**	*e*PKPab	**PKPab**	**23 27 07.3**	**-0.9**
POLO	**Lamas de Olo**	**151.92**	**21**	*e*SS	SS	23 50 13.7	+8.6
LKR	**Lokris**	**151.94**	**329**	P	**PKPbc**	**23 27 00.3**	**+1.2**
LKR	**Lokris**	**151.94**	**329**	P	**PKPbc**	**23 27 00.3**	**+1.2**
AGG	**Agios Georgios**	**151.98**	**330**	P	**PKPbc**	**23 27 00.9**	**+1.6**
AGG	**Agios Georgios**	**151.98**	**330**	PKIKP	**PKPbc**	**23 27 00.9**	**+1.6**
AGG	**Agios Georgios**	**151.98**	**330**	P	**PKPbc**	**23 27 00.9**	**+1.6**
PVRL	**Vila Real**	**152.03**	**21**	*e*PKPbc	**PKPbc**	**23 27 02.6**	**+3.3**
PVRL	**Vila Real**	**152.03**	**21**	*e*PKPab	**PKPab**	**23 27 07.5**	**-1.1**
ATE	**Arette**	**152.04**	**9**	PKP	**PKPbc**	**23 26 57.6**	**-1.7**
ATHU	**Athens Univers**	**152.06**	**327**	P	**PKPbc**	**23 26 59.8**	**+0.3**
ATHU	**Athens Univers**	**152.06**	**327**	P	**PKPbc**	**23 26 59.8**	**+0.3**
ATH	**Athens Observa**	**152.09**	**327**	P	**PKPbc**	**23 26 59.2**	**-0.3**
ATH	**Athens Observa**	**152.09**	**327**	PKIKP	**PKPbc**	**23 26 59.2**	**-0.3**
ATH	**Athens Observa**	**152.09**	**327**	P	**PKPbc**	**23 26 59.2**	**-0.3**
REYF	**Montagne du Re**	**152.10**	**8**	PKP	**PKPbc**	**23 26 59.4**	**-0.1**
AQU	**L'Aquila**	**152.21**	**346**	*e*PKIKP	**PKPbc**	**23 27 01.3**	**+1.6**
AQU				MLR	MLR		
	comp=Z,21μm,20.0s						
AQU	**L'Aquila**	**152.21**	**346**	*e*PKPbc	**PKPbc**	**23 27 01.3**	**+1.6**
AQU				LR	LR		
	comp=Z,21μm,20.0s						
SANT	**Santorini**	**152.27**	**323**	*e*PKPdf	**PKPdf**	**23 26 52.4**	**-0.9**
SANT				*e*PKPbc	**PKiKP**	**23 27 00.6**	**+0.2**
SANT				LR	LR		
	comp=Z,5μm,21.0s						
EVR	**Evrytania**	**152.31**	**331**	P	**PKPbc**	**23 26 59.8**	**-0.3**
EVR	**Evrytania**	**152.31**	**331**	P	**PKPbc**	**23 26 59.8**	**-0.3**
VIEF	**Viey**	**152.34**	**8**	PKP	**PKPbc**	**23 26 58.9**	**-1.1**
DSF	**Desfina**	**152.36**	**329**	P	**PKPbc**	**23 26 59.0**	**-1.2**
DSF	**Desfina**	**152.36**	**329**	P	**PKPbc**	**23 26 59.0**	**-1.2**
MVO	**Moncorvo**	**152.36**	**20**	*e*PKPbc	**PKPbc**	**23 27 04.4**	**+4.3**
MVO	**Moncorvo**	**152.36**	**20**	*e*PKPab	**PKPab**	**23 27 10.3**	**+0.3**
MVO	**Moncorvo**	**152.36**	**20**	*e*SS	SS	23 50 19.5	+10
MVO	**Moncorvo**	**152.36**	**20**	*e*LQ	LQ	00 10 05.1	
MVO	**Moncorvo**	**152.36**	**20**	*e*LR	LR	00 22 18.5	
	comp=Z,11μm,18.0s						
LTK	**Loutraki**	**152.44**	**328**	P	**PKPbc**	**23 26 59.8**	**-0.5**
LTK	**Loutraki**	**152.44**	**328**	P	**PKPbc**	**23 26 59.8**	**-0.5**
RESF	**Ens**	**152.45**	**7**	PKP	**PKPdf**	**23 26 55.7**	**+2.2**
PVIS	**Viseu**	**152.47**	**21**	*e*PKPab	**PKPab**	**23 27 10.5**	**0.0**
SACV	**Santiago Islan**	**152.47**	**87**	PFAKE		23 27 10.0	-1.3
SACV				LR	LR		
	comp=Z,3μm,20.0s						
LRDF	**Laroque-de-Fa**	**152.53**	**4**	PKP	**PKPbc**	**23 26 58.8**	**-1.6**
KALE	**Kalithea**	**152.56**	**330**	P	**PKPbc**	**23 27 02.0**	**+1.3**
KALE	**Kalithea**	**152.56**	**330**	P	**PKPbc**	**23 27 02.0**	**+1.3**
SERG	**Sergoula**	**152.59**	**330**	P	**PKPbc**	**23 27 01.4**	**+0.7**
DID	**Didima**	**152.69**	**327**	P	**PKPbc**	**23 27 00.3**	**-0.6**
DID	**Didima**	**152.69**	**327**	P	**PKPbc**	**23 27 00.3**	**-0.6**
CARF	**Carcanieres**	**152.72**	**5**	PKP	**PKPdf**	**23 26 57.1**	**+3.2**
LAKA	**Lakka**	**152.76**	**330**	P	**PKPbc**	**23 26 58.7**	**-2.4**
LAKA	**Lakka**	**152.76**	**330**	P	**PKPbc**	**23 26 58.7**	**-2.4**
KLV	**Kalavryta, Ach**	**152.83**	**329**	P	**PKPdf**	**23 26 57.6**	**+3.5**
KLV	**Kalavryta, Ach**	**152.83**	**329**	P	**PKPdf**	**23 26 57.6**	**+3.5**
PCAS	**Casmilo, Conde**	**152.83**	**23**	*e*PKPab	**PKPab**	**23 27 09.3**	**-2.7**
PCAS	**Casmilo, Conde**	**152.83**	**23**	*e*SS	SS	23 50 24.4	+9.3
MTE	**Manteigas**	**152.87**	**21**	*e*PKPab	**PKPab**	**23 27 12.2**	**0.0**
MTE	**Manteigas**	**152.87**	**21**	*e*SS	SS	23 50 24.8	+9.3
MTE	**Manteigas**	**152.87**	**21**	*e*LQ	LQ	00 10 15.3	
MTE	**Manteigas**	**152.87**	**21**	*e*LR	LR	00 25 13.1	
	comp=Z,6μm,20.0s						
MTE	**Manteigas**	**152.87**	**21**	*e*PKPbc	**PKPbc**	**23 27 00.8**	**-0.5**
MTE				LR	LR		
	comp=Z,8μm,21.0s						
FILF	**Fillols**	**152.90**	**4**	PKP	**PKPbc**	**23 26 57.8**	**-3.5**
DRO	**Drossia**	**153.12**	**330**	P	**PKPdf**	**23 26 56.5**	**+2.0**
PTOM	**Tomar**	**153.24**	**23**	*e*PKPbc	**PKPbc**	**23 27 05.0**	**+3.0**
PTOM	**Tomar**	**153.24**	**23**	*e*PKPab	**PKPab**	**23 27 15.0**	**+1.3**
IDI	**Anoyia**	**153.34**	**321**	*e*PKPbc	**PKPbc**	**23 27 00.7**	**-1.8**
	comp=Z,29nm,1.0s,baz=175,slow=1.8,SNR=4.0						
IDI	**Anoyia**	**153.34**	**321**	*e*PKPbc	**PKPbc**	**23 27 00.9**	**-1.5**
IDI				LR	LR		
	comp=Z,5μm,21.0s						
PCBR	**Castelo Branco**	**153.39**	**22**	*e*PKPab	**PKPab**	**23 27 11.6**	**-2.7**
AMT	**Artemida-Makis**	**153.45**	**329**	P	**PKPbc**	**23 27 02.1**	**-0.5**
PMAFR	**Mafra**	**153.46**	**25**	*e*PKPab	**PKPab**	**23 27 14.1**	**-0.6**
PMAFR	**Mafra**	**153.46**	**25**	*e*SS	SS	23 50 28.3	+6.2
PMOZ	**Porto Moniz, M**	**153.51**	**45**	*e*PKPab	**PKPab**	**23 27 14.1**	**-1.2**
PMOZ	**Porto Moniz, M**	**153.51**	**45**	*e*SS	SS	23 50 58.2	+34
PMOZ	**Porto Moniz, M**	**153.51**	**45**	*e*LR	LR	00 19 25.2	
	comp=Z,4μm,20.0s						
ITM	**Ithomi**	**153.61**	**328**	P	**PKPbc**	**23 27 02.0**	**-0.9**
ITM	**Ithomi**	**153.61**	**328**	P	**PKPbc**	**23 27 02.0**	**-0.9**
PMST	**Lisbon--Monsan**	**153.69**	**25**	*e*PKPbc	**PKPbc**	**23 27 07.2**	**+4.2**
PMST	**Lisbon--Monsan**	**153.69**	**25**	*e*PKPab	**PKPab**	**23 27 15.0**	**-0.6**
LIS	**Lisbon**	**153.72**	**25**	*e*P	**PKPdf**	**23 26 54.6**	**-0.6**
LIS				AMS	AMS	00 30 16.4	
	comp=Z,14μm,17.2s						
LIS	**Lisbon**	**153.72**	**25**	*e*PKIKP	**PKPdf**	**23 26 54.6**	**-0.6**
PMAR	**Madeira**	**153.76**	**45**	*e*PKPab	**PKPab**	**23 27 15.3**	**-1.1**
PMRV	**Marv??o**	**153.78**	**22**	*e*PKPbc	**PKPbc**	**23 27 08.7**	**+5.5**
PMRV	**Marv??o**	**153.78**	**22**	*e*PKPbc	**PKPab**	**23 27 14.7**	**-1.3**
PMRV	**Marv??o**	**153.78**	**22**	*e*SS	SS	23 50 40.3	+15
PMRV	**Marv??o**	**153.78**	**22**	*e*LQ	LQ	00 10 35.1	
PMRV	**Marv??o**	**153.78**	**22**	*e*LR	LR	00 25 36.8	
	comp=Z,11μm,20.0s						
FUL	**Funchal**	**153.82**	**45**	*e*PKPab	**PKPab**	**23 27 15.5**	**-0.9**
PMPS	**Porto Santo**	**153.96**	**44**	*e*PKPab	**PKPab**	**23 27 17.4**	**+0.4**
PESTR	**Estremoz**	**154.21**	**23**	*e*PKPab	**PKPab**	**23 27 20.5**	**+2.7**
PESTR	**Estremoz**	**154.21**	**23**	*e*SS	SS	23 50 37.3	+7.2
EVO	**Evora**	**154.34**	**24**	*e*PKPab	**PKPab**	**23 27 16.2**	**-2.2**
PNCL	**Nicolau / Gran**	**154.49**	**25**	*e*PKPab	**PKPab**	**23 27 17.5**	**-1.5**
PNCL	**Nicolau / Gran**	**154.49**	**25**	*e*SS	SS	23 50 42.2	+8.9
ES19	**SONSECA Array**	**154.63**	**16**	*e*PKPdf	**PKPdf**	**23 26 59.0**	**+2.4**
ESDC	**Sonseca Array**	**154.64**	**16**	PKP	**PKPdf**	**23 26 56.7**	**0.0**
	comp=Z,0.6nm,0.7s,baz=248,slow=32,SNR=5.9						
ESDC				PKPbc	**sPKPdf**	**23 27 03.5**	**+1.0**
	comp=Z,3.0nm,1.0s,baz=345,slow=3.1,SNR=10						
ESDC				PKPab	**PKPab**	**23 27 19.6**	**-0.1**
	comp=Z,3.0nm,0.9s,baz=350,slow=3.0,SNR=6.8						
ESDC				PP	**PP**	**23 30 57.0**	**+2.9**
	comp=Z,1.2nm,0.8s,baz=322,slow=4.3,SNR=4.6						
ESLA	**Sonseca Array**	**154.64**	**16**	*e*PKPbc	**PKPbc**	**23 27 05.3**	**+0.2**
ESLA				LR	LR		
	comp=Z,9μm,20.0s						
PAB	**San Pablo**	**154.66**	**17**	*e*PKIKP	**PKPdf**	**23 26 58.6**	**+1.9**
PAB				MLR	MLR		
	comp=Z,12μm,20.0s						
PAB	**San Pablo**	**154.66**	**17**	*e*PKPdf	**PKPdf**	**23 26 58.6**	**+1.9**
PAB				LR	LR		
	comp=Z,12μm,20.0s						
MESJ	**Messejana**	**154.85**	**25**	*e*P	**PKPdf**	**23 26 55.2**	**-1.7**
MESJ				*e*SS	SS	23 50 40.5	+3.3
MESJ				AMS	AMS	00 31 28.2	
	comp=Z,13μm,20.5s						
MESJ	**Messejana**	**154.85**	**25**	*e*PKPbc	**PKPbc**	**23 27 04.8**	**-0.7**
MESJ	**Messejana**	**154.85**	**25**	*e*PKPab	**PKPab**	**23 27 17.4**	**-3.2**
MESJ	**Messejana**	**154.85**	**25**	*e*PKIKP	**PKPdf**	**23 26 55.2**	**-1.7**
MESJ				*e*SS	SS	23 50 40.4	+3.2
PBAR	**Barrancos**	**155.02**	**23**	*e*PKPbc	PKPab	23 27 10.5	-11
PBAR	**Barrancos**	**155.02**	**23**	*e*PKPab	**PKPab**	**23 27 18.1**	**-3.2**
PBAR	**Barrancos**	**155.02**	**23**	*e*SS	SS	23 50 51.0	+12
PCVE	**Castro Verde**	**155.10**	**25**	*e*PKPbc	PKPdf	23 27 08.4	+11
PCVE	**Castro Verde**	**155.10**	**25**	*e*PKPab	**PKPab**	**23 27 18.6**	**-3.0**
PCVE	**Castro Verde**	**155.10**	**25**	*e*SS	SS	23 50 50.2	+10
MORF	**Marmelete**	**155.12**	**26**	*e*P	**PKPdf**	**23 26 55.7**	**-1.7**
MORF				*e*SS	SS	23 50 43.5	+3.2
MORF				AMS	AMS	00 31 54.5	
	comp=Z,13μm,23.4s						
MORF	**Marmelete**	**155.12**	**26**	*e*PKPbc	PKPdf	23 27 08.6	+11
MORF	**Marmelete**	**155.12**	**26**	*e*PKPab	**PKPab**	**23 27 21.0**	**-0.8**
MORF	**Marmelete**	**155.12**	**26**	*e*SS	SS	23 50 45.6	+5.3
MORF	**Marmelete**	**155.12**	**26**	*e*PKIKP	**PKPdf**	**23 26 55.6**	**-1.7**
MORF				*e*SS	SS	23 50 43.5	+3.2
PFVI	**Vila Bisbo**	**155.19**	**27**	*e*PKPbc	PKPdf	23 27 05.3	+7.9
PFVI	**Vila Bisbo**	**155.19**	**27**	*e*PKPab	**PKPab**	**23 27 21.1**	**-0.9**
PFVI	**Vila Bisbo**	**155.19**	**27**	*e*SS	SS	23 50 47.4	+6.4
PFVI	**Vila Bisbo**	**155.19**	**27**	PFAKE		23 27 10.0	-12
PFVI				LR	LR		
	comp=Z,17μm,19.0s						
PVAQ	**Vaqueiros**	**155.43**	**25**	*e*PKPab	**PKPab**	**23 27 21.2**	**-1.8**
PVAQ	**Vaqueiros**	**155.43**	**25**	*e*SS	SS	23 50 55.2	+12
PVAQ	**Vaqueiros**	**155.43**	**25**	*e*LR	LR	00 24 21.1	
	comp=Z,12μm,20.0s						
PBDV	**Barranco-do-Ve**	**155.48**	**25**	*e*P	PKPab	23 27 10.7	-13
PBDV	**Barranco-do-Ve**	**155.48**	**25**	*e*PKPab	**PKPab**	**23 27 22.6**	**-0.7**
PBDV	**Barranco-do-Ve**	**155.48**	**25**	*e*SS	SS	23 50 53.7	+10
VSL	**Villasalto**	**155.72**	**352**	*e*PKPdf	**PKPdf**	**23 27 02.6**	**+4.6**
VSL				LR	LR		
	comp=Z,19μm,22.0s						
WDD	**Wied Dalam**	**157.95**	**339**	PFAKE		23 27 10.0	+9.0
WDD				LR	LR		
	comp=Z,10μm,22.0s						
RTC	**Rabat Centre**	**158.70**	**28**	PFAKE		23 27 10.0	+8.1
RTC				LR	LR		
	comp=Z,33μm,21.0s						
CMAH	**Djebel Manchou**	**158.79**	**354**	P	**PKPdf**	**23 27 07.9**	**+5.8**
DFRA	**Djebel Bou Aff**	**158.97**	**358**	P	**PKPdf**	**23 27 08.8**	**+6.4**
CKFL	**Kef-Lekhel**	**159.07**	**356**	P	**PKPdf**	**23 27 08.8**	**+6.3**
KEST	**Kesra**	**159.41**	**350**	*e*PKPab	**PKPab**	**23 27 39.6**	**-0.7**
KEST				LR	LR		
	comp=Z,18μm,21.0s						
MDT	**Midelt**	**160.66**	**25**	PKPab	**PKPab**	**23 27 47.3**	**+1.3**
	comp=Z,12nm,1.1s,baz=321,slow=7.6,SNR=4.0						
DBIC	**Dimbokro**	**167.04**	**131**	PKP	**PKPdf**	**23 27 09.7**	**-0.9**
	comp=Z,8.9nm,1.2s,baz=165,slow=3.2,SNR=5.0						
DBIC				PKPab	**PKPab**	**23 28 14.3**	**0.0**
	comp=Z,12nm,1.2s,baz=239,slow=3.3,SNR=1.8						
DBIC	**Dimbokro**	**167.04**	**131**	*e*PKIKP	**PKPdf**	**23 27 13.1**	**+2.5**
DBIC						23 28 14.3	
DBIC	**Dimbokro**	**167.04**	**131**	*e*PKPdf	**PKPdf**	**23 27 13.1**	**+2.5**
DBIC				PKPab	**PKPab**	**23 28 14.3**	**0.0**
TAM	**Tamanrasset**	**172.67**	**356**	*e*PKIKP	**PKPdf**	**23 27 14.7**	**+0.8**
TAM				*e*		23 28 39.0	
TAM	**Tamanrasset**	**172.67**	**356**	*e*PKPdf	**PKPdf**	**23 27 14.7**	**+0.8**
TAM				*e*PKPab	**PKPab**	**23 28 39.0**	**0.0**
TOA0	**Torodi Ar. Sit**	**176.13**	**126**	*e*PKPdf	**PKPdf**	**23 27 13.3**	**-1.7**
TOA0				*e*PKPdf	**pPKPdf**	**23 27 13.9**	**-5.5**
TORD	**Torodi Ar. Bea**	**176.13**	**126**	PKP	**PKPdf**	**23 27 13.8**	**-1.2**
	comp=Z,11nm,1.1s,baz=238,slow=1.6,SNR=15						
TORD				PKPab	**PKPab**	**23 28 54.6**	**-0.1**
	comp=Z,2.5nm,0.9s,baz=220,slow=3.4,SNR=3.2						
TORD				PP	**PP**	**23 32 46.3**	**-0.9**
	comp=Z,1.7nm,1.2s,baz=233,slow=1.4,SNR=3.3						

IDC 22 23:08:49.6±2.9, 16°12S×174°48W, h0km, mb4.7/3, mb1 4.9/4, mb1mx4.2/45, mbtmp4.8/4, ML4.7/1, Error ellipse: s-maj=166.5km s-min=27.9km az=145.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**3.41**	**50**	Pn	Pn	23 09 43.5	-0.7
	75nm,0.3s,baz=64,slow=1.8,SNR=1.6						
AFI				Sn	Sn	23 10 21.3	-4.2
	271nm,0.3s,baz=60,slow=22,SNR=6.2						
H11S2	**WAKE ISLAND Hy 39.06**	**331**		T	T	23 56 37.3	
	baz=150,slow=76,SNR=6.0						
H11S3	**WAKE ISLAND Hy 39.07**	**331**		T	T	23 56 26.1	
	baz=150,slow=76,SNR=6.4						
H11S1	**WAKE ISLAND Hy 39.08**	**331**		T	T	23 56 30.3	
	baz=150,slow=76,SNR=6.1						
H11N3	**WAKE ISLAND Hy 40.04**	**332**		T	T	23 57 34.7	
	baz=151,slow=76,SNR=15						
H11N1	**WAKE ISLAND Hy 40.04**	**332**		T	T	23 57 35.0	
	baz=151,slow=76,SNR=74						
H11N2	**WAKE ISLAND Hy 40.05**	**332**		T	T	23 57 37.0	
	baz=151,slow=76,SNR=20						
STKA	**Stephens Creek**	**42.78**	**240**	P	P	23 16 49.3	+0.1
	7.8nm,1.0s,baz=79,slow=15,SNR=1.9						
WRA	**Warramunga Ar**	**48.67**	**257**	P	P	23 17 35.8	-0.2
	17nm,1.2s,baz=88,slow=5.8,SNR=3.2						
ASAR	**Alice Springs**	**48.90**	**253**	P	P	23 17 37.0	-0.8
	12nm,0.8s,baz=85,slow=7.9,SNR=5.8						
BRTR	**Keskin Array B**	**146.04**	**319**	PKPbc	PKPbc	23 28 31.8	-0.2
	11nm,1.0s,baz=104,slow=1.5,SNR=5.8						
KHC	**Kasperske Hory**	**146.42**	**350**	*e*P	PKPab	23 28 35.6	+2.1

ISCJB 22 23:10:31.9±0.9, 35°69S±0°04×73°56W±0°08, h33km, mb4.0/3, MS4.2/2, Error ellipse: s-maj=9.8km s-min=5.8km az=172.8
GUC 22 23:10:31.3±0.6, 35°64S×73°57W, h21km±11km, ML4.0
IDC 22 23:10:38.6±7.1, 35°79S×72°34W, h33km±45km, mb3.8/3, mb1 3.8/5, mb1mx3.7/30, mbtmp3.9/5, ML3.8/2, MS4.2/2, Ms1 4.2/2, ms1mx3.7/30, Error ellipse: s-maj=114.7km s-min=20.3km az=91.0
ISC 22 23:10:34.3±1.2, 35°75S±0°05×73°5W±0°1, h35km, n30, σ1§57/32, mb4.1/3, 2C-2D, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
COCH	**Cobquecura**	**0.68**	**124**	⇑ *i*P	**Pn**	**23 10 45.4**	**-2.1**
COCH				*i* S	**Sn**	**23 10 55.3**	**-1.5**
COCH				IAML		23 10 58.1	
	comp=N,6μm,0.4s						
CCSP	**San Pedro de C**	**1.13**	**165**	IAML		23 11 14.0	
	comp=N,4μm,0.6s						
CCHI	**Chillan**	**1.42**	**127**	*e*P	**Pn**	**23 10 56.9**	**-0.8**
CCHI				*i* S	**Sn**	**23 11 16.9**	**+1.7**
CCHI				IAML		23 11 28.3	
	comp=N,3μm,0.3s						
GO05	**HualaæØ**	**1.47**	**60**	⇑ *i*P	**Pn**	**23 10 55.8**	**-2.5**
GO05				IAML		23 11 24.1	
	comp=N,3μm,1.1s						
GO05	**HualaæØ**	**1.47**	**60**	*e*S	**Sn**	**23 11 20.1**	**+3.7**
TALC	**Talca**	**1.55**	**77**	ǁ *i*P	**Pn**	**23 10 58.1**	**-1.3**
TALC				*e*S	**Sn**	**23 11 18.0**	**-0.3**
NICH	**Los Niches**	**1.99**	**69**	*e*P	**Pn**	**23 11 04.8**	**-0.6**
NICH				*i* S	**Sn**	**23 11 29.7**	**+0.5**
ROC1	**El Roble**	**3.44**	**37**	*e*P	**Pn**	**23 11 24.2**	**-1.4**
ROC1				*e*S	**Sn**	**23 12 04.9**	**-0.4**
ROCH	**El Roble**	**3.44**	**37**	ǁ *i*P	**Pn**	**23 11 23.9**	**-1.8**
ROCH				IAML		23 12 35.6	
	comp=N,482nm,1.1s						
PEL	**Peldehue**	**3.48**	**42**	*e*P	**Pn**	**23 11 24.5**	**-1.5**
PEL				IAML		23 12 30.9	
	comp=N,578nm,0.9s						
**

ESPY	**Espiye-Giresun**	**1.27**	**2**	*e*Pn	**Pg**	**23 15 55.1**	**-0.2**
RSDY	**Resadiye-TOKAT**	**1.27**	**306**	*e*PN	**Pb**	**23 15 55.1**	**-0.4**
RSDY	**Resadiye-TOKAT**	**1.27**	**306**	*e*PN	**Pb**	**23 15 55.1**	**-0.4**
SVSK	**Karacayir**	**1.31**	**282**	*e*PN	**Pn**	**23 15 55.7**	**-0.4**
SVSK	**Karacayir**	**1.31**	**282**	*e*PN	**Pn**	**23 15 55.7**	**-0.4**
DARE	**Darende-Malaty**	**1.42**	**221**	*e*PN	**Pb**	**23 15 57.5**	**-0.5**
DARE	**Darende-Malaty**	**1.42**	**221**	*e*PN	**Pb**	**23 15 57.5**	**-0.5**
CUALT	**Altinyayla-SIV**	**1.52**	**256**	*i* P	**Pg**	**23 16 00.5**	**+0.3**
CUALT				*i* S	**Sg**	**23 16 22.3**	**+2.3**
CUALT	**Altinyayla-SIV**	**1.52**	**256**	P	**Pg**	**23 16 00.5**	**+0.3**
CUALT				S	**Sg**	**23 16 22.3**	**+2.3**
SARI	**SarD1z-Kayseri**	**2.15**	**235**	*e*PN	**Pn**	**23 16 08.8**	**+1.1**

ISN ***22*** *23:20:14.8±1.0, 39.˚56N×38.˚61E, h10km±195km, ML3.8*
ISK ***22*** *23:20:26.6, 39.˚70N×38.˚70E, h5km, ML3.6*
DDA ***22*** *23:20:27.1, 39.˚66N×38.˚70E, h7km, Ml4.0*
CSEM ***22*** *23:20:28.1±0.1, 39.˚68N×38.˚69E, h2km, ML4.0, Error ellipse: s-maj=3.4km s-min=2.7km az=13.0*

ISC 22 23:20:27.7±1.0**, 39˚67N**±0˚01×**38˚68E**±0˚01**, h5**km±9km**, n130**, σ1§64**/179, 10C-6D, Turkey**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
REFA	**Refahiye_ERZ˜**	**0.28**	**167**	⇓*i*P		**Pg**	**23 20 32.8**	**-0.3**
REFA				*i* S		**Sg**	**23 20 37.1**	**+0.3**
REFA	**Refahiye_ERZ˜**	**0.28**	**167**	P		**Pg**	**23 20 32.8**	**-0.3**
REFA				S		**Sg**	**23 20 37.1**	**+0.3**
KEMA	**Kemaliye**	**0.42**	**200**	⇓*i*P		**Pg**	**23 20 35.2**	**-0.7**
KEMA				*i* S		**Sg**	**23 20 41.8**	**+0.4**
KEMA	**Kemaliye**	**0.42**	**200**	P		**Pg**	**23 20 35.2**	**-0.7**
KEMA				S		**Sg**	**23 20 41.8**	**+0.4**
EZC	**Erzincan**	**0.52**	**80**	*e*Pg		**Pn**	**23 20 42.8**	**+0.8**
EZC				*e*Sg		**Sn**	**23 20 54.9**	**+3.5**
KELT	**Kelkit**	**0.65**	**42**	⇓*i*P		**Pg**	**23 20 39.7**	**-0.5**
KELT				*i* S		**Sg**	**23 20 48.9**	**+0.2**
KELT	**Kelkit**	**0.65**	**42**	P		**Pg**	**23 20 39.7**	**-0.5**
KELT				S		**Sg**	**23 20 48.9**	**+0.2**
SUSE	**Susehri**	**0.66**	**326**	⇑*i*P		**Pg**	**23 20 40.5**	**+0.2**
SUSE				*i* S		**Sb**	**23 20 50.1**	**-1.2**
SUSE	**Susehri**	**0.66**	**326**	P		**Pg**	**23 20 40.5**	**+0.2**
SUSE				S		**Sb**	**23 20 50.1**	**-1.2**
CUZAR	**Zara_SIVAS**	**0.74**	**288**	⇑*i*P		**Pg**	**23 20 41.3**	**-0.5**
CUZAR				*i* S		**Sb**	**23 20 54.2**	**+0.6**
CUZAR	**Zara_SIVAS**	**0.74**	**288**	P		**Pg**	**23 20 41.3**	**-0.5**
CUZAR				S		**Sb**	**23 20 54.2**	**+0.6**
EUZM	**Uzumlu**	**0.78**	**87**	⇑*i*P		**Pg**	**23 20 42.2**	**-0.5**
EUZM				*i* S		**Sn**	**23 20 55.6**	**-2.1**
EUZM	**Uzumlu**	**0.78**	**87**	P		**Pg**	**23 20 42.2**	**-0.5**
EUZM				S		**Sn**	**23 20 55.6**	**-2.1**
ERZN	**Erzincan**	**0.81**	**95**	*e*PG		**Pg**	**23 20 42.8**	**-0.4**
ERZN				*e*SG		**Sb**	**23 20 54.9**	**-0.6**
TNCL	**Tunceli-Merkez**	**0.86**	**129**	⇑*i*P		**Pg**	**23 20 43.0**	**-1.2**
TNCL				*i* S		**Sb**	**23 20 56.6**	**-0.6**
TNCL	**Tunceli-Merkez**	**0.86**	**129**	P		**Pg**	**23 20 43.0**	**-1.2**
TNCL				S		**Sb**	**23 20 56.6**	**-0.6**
PTK	**Pertek**	**0.95**	**144**	*e*PG		**Pn**	**23 20 46.5**	**-1.4**
PTK				*e*SG		**Sn**	**23 21 00.7**	**-1.2**
PTK	**Pertek**	**0.95**	**144**	*e*Pg		**Pn**	**23 20 46.5**	**-1.4**
PTK				*e*Sg		**Sn**	**23 21 00.7**	**-1.2**
GUMT	**Gumushane**	**1.00**	**37**	*e*PG		**Pg**	**23 20 45.9**	**-1.0**
GUMT	**Gumushane**	**1.00**	**37**	*e*Pg		**Pg**	**23 20 45.9**	**-1.0**
CUKAN	**kangal_SIVAS**	**1.00**	**250**	⇑*i*P		**Pg**	**23 20 45.4**	**-1.5**
CUKAN				*i* S		**Sb**	**23 21 01.6**	**+0.4**
CUKAN	**kangal_SIVAS**	**1.00**	**250**	P		**Pg**	**23 20 45.4**	**-1.5**
CUKAN				S		**Sb**	**23 21 01.6**	**+0.4**
ELZG	**Elazig**	**1.19**	**169**	*i* P		**Pg**	**23 20 49.3**	**-1.2**
ELZG				*i* S		**Sb**	**23 21 05.8**	**-0.8**
ELZG	**Elazig**	**1.19**	**169**	P		**Pg**	**23 20 49.3**	**-1.2**
ELZG				S		**Sb**	**23 21 05.8**	**-0.8**
SCER	**sogukcermik**	**1.21**	**280**	*i* P		**Pg**	**23 20 50.0**	**-1.0**
SCER				*i* S		**Sb**	**23 21 07.1**	**-0.1**
SCER	**sogukcermik**	**1.21**	**280**	P		**Pg**	**23 20 50.0**	**-1.0**
SCER				S		**Sb**	**23 21 07.1**	**-0.1**
ESPY	**Espiye-Giresun**	**1.25**	**2**	*e*PN		**Pn**	**23 20 50.7**	**-1.1**
ESPY	**Espiye-Giresun**	**1.25**	**2**	*e*Pn		**Pn**	**23 20 50.7**	**-1.1**
RSDY	**Resadiye-TOKAT**	**1.27**	**305**	*e*PN		**Pn**	**23 20 51.5**	**-0.7**
RSDY	**Resadiye-TOKAT**	**1.27**	**305**	*e*Pn		**Pn**	**23 20 51.5**	**-0.7**
GRSN	**GIRESUNGRSN**	**1.30**	**346**	⇓*i*P		**Pn**	**23 20 51.7**	**-0.8**
GRSN				*i* S		**Sg**	**23 21 09.2**	**-0.1**
GRSN	**GIRESUNGRSN**	**1.30**	**346**	P		**Pn**	**23 20 51.7**	**-0.8**
GRSN				S		**Sg**	**23 21 09.2**	**-0.1**
SVSK	**Karacayir**	**1.32**	**281**	*e*PN		**Pg**	**23 20 52.9**	**-0.1**
SVSK	**Karacayir**	**1.32**	**281**	*e*Pn		**Pg**	**23 20 52.9**	**-0.1**
SVRC	**Sivrice-ELAZID**	**1.38**	**159**	*e*PN		**Pg**	**23 20 54.0**	**0.0**
SVRC	**Sivrice-ELAZID**	**1.38**	**159**	*e*Pn		**Pg**	**23 20 54.0**	**0.0**
DARE	**Darende-Malaty**	**1.44**	**221**	*e*PN		**Pg**	**23 20 54.6**	**-0.6**
DARE	**Darende-Malaty**	**1.44**	**221**	*e*Pn		**Pg**	**23 20 54.6**	**-0.6**
KOPT	**Kop Dagi**	**1.44**	**75**	*i* P		**Pg**	**23 20 54.9**	**-0.4**
KOPT				*i* S		**Sg**	**23 21 18.9**	**+5.0**
KOPT	**Kop Dagi**	**1.44**	**75**	P		**Pg**	**23 20 54.9**	**-0.4**
KOPT				S		**Sg**	**23 21 19.0**	**+5.0**
CUGUR	**Gurin_S˜VAS**	**1.45**	**230**	⇑*i*P		**Pb**	**23 20 54.6**	**-0.6**
CUGUR				*i* S		**Sg**	**23 21 14.9**	**+0.8**
CUGUR	**Gurin_S˜VAS**	**1.45**	**230**	P		**Pb**	**23 20 54.6**	**-0.6**
CUGUR				S		**Sg**	**23 21 14.9**	**+0.8**
YEDI	**Yedisu-Bingol**	**1.46**	**98**	*e*PN		**Pg**	**23 20 55.1**	**-0.5**
YEDI	**Yedisu-Bingol**	**1.46**	**98**	*e*Pn		**Pg**	**23 20 55.1**	**-0.5**
ORDU	**Ordu-Boztepe**	**1.47**	**335**	*i* P		**Pb**	**23 20 54.9**	**-0.6**
ORDU				*i* S		**Sg**	**23 21 14.5**	**-0.3**
ORDU	**Ordu-Boztepe**	**1.47**	**335**	P		**Pb**	**23 20 54.9**	**-0.6**
ORDU				S		**Sg**	**23 21 14.5**	**-0.3**
MACK	**Trabzon**	**1.52**	**33**	⇓*i*P		**Pb**	**23 20 55.2**	**-1.2**
MACK				*i* S		**Sg**	**23 21 15.9**	**-0.7**
MACK	**Trabzon**	**1.52**	**33**	P		**Pb**	**23 20 55.2**	**-1.2**
MACK				S		**Sg**	**23 21 15.9**	**-0.7**
CUALT	**Altinyayla-SIV**	**1.54**	**256**	*i* P		**Pn**	**23 20 55.7**	**-0.3**
CUALT				*i* S		**Sg**	**23 21 19.3**	**+2.1**
CUALT	**Altinyayla-SIV**	**1.54**	**256**	P		**Pn**	**23 20 55.7**	**-0.3**
CUALT				S		**Sg**	**23 21 19.3**	**+2.1**
KTUT	**Trabzon**	**1.56**	**32**	*e*PN		**Pb**	**23 20 56.2**	**-0.8**
KTUT	**Trabzon**	**1.56**	**32**	*e*Pn		**Pb**	**23 20 56.2**	**-0.8**
BINT	**Bingol**	**1.61**	**119**	*e*Pn		**Pg**	**23 20 58.4**	**-0.1**
BNGB	**Bing¶l**	**1.69**	**113**	*e*PN		**Pb**	**23 20 58.4**	**-0.9**
TOKT	**Tokat**	**1.77**	**292**	*e*PN		**Pb**	**23 20 59.5**	**-1.1**
TOKT	**Tokat**	**1.77**	**292**	*e*Pn		**Pb**	**23 20 59.5**	**-1.1**
ECAT	**Cat-ERZURUM**	**1.77**	**91**	⇑*i*P		**Pb**	**23 20 59.1**	**-1.7**
ECAT				*i* S		**Sg**	**23 21 24.9**	**+0.3**
ECAT	**Cat-ERZURUM**	**1.77**	**91**	P		**Pb**	**23 20 59.1**	**-1.7**
ECAT				S		**Sg**	**23 21 24.9**	**+0.3**
TOKA	**Tokat**	**1.82**	**292**	⇑*i*P		**Pn**	**23 20 59.9**	**+0.3**
TOKA				*i* S		**Sg**	**23 21 26.4**	**+0.4**
TOKA	**Tokat**	**1.82**	**292**	P		**Pn**	**23 20 59.9**	**+0.3**
TOKA				S		**Sg**	**23 21 26.4**	**+0.4**
CUSAR	**Sarkisla-SIVAS**	**1.90**	**263**	⇑*i*P		**Pb**	**23 21 01.4**	**-1.5**
CUSAR				*i* S		**Sg**	**23 21 31.4**	**+2.6**
CUSAR	**Sarkisla-SIVAS**	**1.90**	**263**	P		**Pb**	**23 21 01.4**	**-1.5**
CUSAR				S		**Sg**	**23 21 31.4**	**+2.6**
BNGL	**BINGOL**	**2.04**	**110**	⇓*i*P		**Pg**	**23 21 05.6**	**-1.2**
BNGL				*i* S		**Sg**	**23 21 33.9**	**+0.6**
DYBB	**Diyarbakir**	**2.06**	**146**	*e*PN		**Pb**	**23 21 04.3**	**-1.2**
DIYA	**Diyarbakir**	**2.07**	**147**	*i* P		**Pb**	**23 21 04.2**	**-1.6**
DIYA				*i* S		**Sg**	**23 21 33.9**	**-0.3**
DIYA	**Diyarbakir**	**2.07**	**147**	P		**Pb**	**23 21 04.2**	**-1.6**
DIYA				S		**Sg**	**23 21 33.9**	**-0.3**
EZM	**Erzurum**	**2.08**	**83**	*e*PN		**Pn**	**23 21 03.5**	**0.0**
ERZM	**Erzurum**	**2.08**	**83**	⇑*i*P		**Pb**	**23 21 05.9**	**-0.2**
ERZM				*i* S		**Sg**	**23 21 38.9**	**+4.3**
ERZM	**Erzurum**	**2.08**	**83**	P		**Pb**	**23 21 05.9**	**-0.2**
ERZM				S		**Sg**	**23 21 38.9**	**+4.3**
DIY	**Diyarbakir**	**2.14**	**145**	*e*Pn		**Pn**	**23 21 04.3**	**+0.2**
SARI	**SarD1z-Kayseri**	**2.17**	**235**	*e*PN		**Pb**	**23 21 05.7**	**-1.8**
VRTB	**Varto-Mus**	**2.21**	**102**	*e*PN		**Pb**	**23 21 06.3**	**-1.8**
VRTB	**Varto-Mus**	**2.21**	**102**	*i* P		**Pg**	**23 21 08.3**	**-1.6**
VRTB				*i* S		**Sg**	**23 21 44.3**	**+5.7**
VRTB	**Varto-Mus**	**2.21**	**102**	*e*Pn		**Pb**	**23 21 06.3**	**-1.8**
VRTB	**Varto-Mus**	**2.21**	**102**	P		**Pg**	**23 21 08.3**	**-1.6**
VRTB				S		**Sg**	**23 21 44.3**	**+5.7**
URFA	**Urfa**	**2.23**	**177**	*e*PN		**Pb**	**23 21 06.5**	**-1.9**
URFA	**Urfa**	**2.23**	**177**	*e*Pn		**Pb**	**23 21 06.5**	**-1.9**
BNN	**Bunyan**	**2.35**	**251**	*e*PN		**Pn**	**23 21 07.9**	**+0.9**
BNN	**Bunyan**	**2.35**	**251**	*e*Pn		**Pn**	**23 21 07.9**	**+0.9**
KVT	**Kavak**	**2.46**	**306**	*e*PN		**Pn**	**23 21 09.9**	**+1.4**
KVT	**Kavak**	**2.46**	**306**	*e*Pn		**Pn**	**23 21 09.9**	**+1.4**
SVAN	**Silvan-Diyarba**	**2.48**	**127**	*e*PN		**Pb**	**23 21 09.7**	**-3.0**
SVAN	**Silvan-Diyarba**	**2.48**	**127**	*e*Pn		**Pb**	**23 21 09.7**	**-3.0**
KMRS	**Kahramanmaras**	**2.57**	**213**	*e*PN		**Pn**	**23 21 11.2**	**+1.3**
KMRS	**Kahramanmaras**	**2.57**	**213**	*e*Pn		**Pn**	**23 21 11.3**	**+1.3**
YOZ	**Yozgat**	**2.60**	**270**	*e*PN		**Pn**	**23 21 11.6**	**+1.1**
YOZ	**Yozgat**	**2.60**	**270**	*e*Pn		**Pn**	**23 21 11.6**	**+1.1**
MAZI	**Mazidag**	**2.60**	**147**	*e*PN		**Pn**	**23 21 11.6**	**+1.1**
MAZI	**Mazidag**	**2.60**	**147**	*e*Pn		**Pn**	**23 21 11.6**	**+1.1**
SENK	**Senkaya-Erzuru**	**2.95**	**71**	*e*PN		**Pn**	**23 21 16.9**	**+1.5**
SENK	**Senkaya-Erzuru**	**2.95**	**71**	*e*Pn		**Pn**	**23 21 16.9**	**+1.5**
KOZT	**Kozan**	**3.13**	**227**	*e*PN		**Pn**	**23 21 19.6**	**+2.0**
KOZT	**Kozan**	**3.13**	**227**	*e*Pn		**Pn**	**23 21 19.6**	**+2.0**
CORM	**Corum**	**3.16**	**281**	*e*PN		**Pn**	**23 21 19.2**	**+1.0**
CORM	**Corum**	**3.16**	**281**	*e*Pn		**Pn**	**23 21 19.2**	**+1.0**
DIKM	**Dikmen**	**3.27**	**308**	*e*PN		**Pn**	**23 21 21.5**	**+1.9**
DIKM	**Dikmen**	**3.27**	**308**	*e*Pn		**Pn**	**23 21 21.5**	**+1.9**
AGRB	**Hanur-Agry**	**3.33**	**90**	*e*PN		**Pn**	**23 21 21.8**	**+1.2**
AGRB	**Hanur-Agry**	**3.33**	**90**	*e*Pn		**Pn**	**23 21 21.8**	**+1.2**
BYBT	**Boyabat**	**3.48**	**302**	*e*PN		**Pn**	**23 21 23.7**	**+1.2**
BYBT	**Boyabat**	**3.48**	**302**	*e*Pn		**Pn**	**23 21 23.7**	**+1.2**
CEYT	**Ceyhan**	**3.52**	**222**	*e*PN		**Pn**	**23 21 25.2**	**+2.3**
CEYT	**Ceyhan**	**3.52**	**222**	*e*Pn		**Pn**	**23 21 25.3**	**+2.3**
SNOP	**Sinop**	**3.53**	**313**	*e*PN		**Pn**	**23 21 24.9**	**+1.7**
SNOP	**Sinop**	**3.53**	**313**	*e*Pn		**Pn**	**23 21 24.9**	**+1.7**
NIG	**Nigde**	**3.54**	**245**	*e*PN		**Pn**	**23 21 25.2**	**+1.8**
NIG	**Nigde**	**3.54**	**245**	*e*Pn		**Pn**	**23 21 25.3**	**+1.8**
TOS	**Tosya**	**3.81**	**293**	*e*PN		**Pn**	**23 21 28.8**	**+1.6**
TOS	**Tosya**	**3.81**	**293**	*e*Pn		**Pn**	**23 21 28.8**	**+1.6**
TAHT	**Tahtakopru-Hat**	**3.83**	**212**	*e*PN		**Pn**	**23 21 29.8**	**+2.5**
TAHT	**Tahtakopru-Hat**	**3.83**	**212**	*e*Pn		**Pn**	**23 21 29.8**	**+2.5**
CANT	**Cankiri**	**3.99**	**285**	*e*PN		**Pn**	**23 21 31.2**	**+1.6**
SERE	**Sereflikochisa**	**4.04**	**261**	*e*PN		**Pn**	**23 21 32.1**	**+1.8**
SERE	**Sereflikochisa**	**4.04**	**261**	*e*Pn		**Pn**	**23 21 32.1**	**+1.8**
AKH	**Akhalkalaki**	**4.06**	**63**	P		**Pg**	**23 21 43.1**	**-2.3**
CLDR	**Caldiran**	**4.09**	**96**	*e*PN		**Pn**	**23 21 32.7**	**+1.6**
CLDR	**Caldiran**	**4.09**	**96**	*e*Pn		**Pn**	**23 21 32.7**	**+1.6**
YAYL	**Yayladag**	**4.16**	**210**	*e*PN		**Pn**	**23 21 34.3**	**+2.4**
YAYL	**Yayladag**	**4.16**	**210**	*e*Pn		**Pn**	**23 21 34.3**	**+2.4**
SULT	**Sultanhani-AKS**	**4.29**	**252**	*e*PN		**Pn**	**23 21 36.2**	**+2.5**
SULT	**Sultanhani-AKS**	**4.29**	**252**	*e*Pn		**Pn**	**23 21 36.2**	**+2.5**
AFSR	**Af˜ar-Bala (A**	**4.34**	**269**	*e*PN		**Pn**	**23 21 36.4**	**+2.0**
AFSR	**Af˜ar-Bala (A**	**4.34**	**269**	*e*Pn		**Pn**	**23 21 36.4**	**+2.0**
CUKT	**Cukurca**	**4.56**	**120**	*e*PN		**Pn**	**23 21 39.4**	**+2.0**
CUKT	**Cukurca**	**4.56**	**120**	*e*Pn		**Pn**	**23 21 39.4**	**+2.0**
LOD	**Lodumlu**	**4.57**	**275**	*e*PN		**Pn**	**23 21 39.8**	**+2.3**
LOD	**Lodumlu**	**4.57**	**275**	*e*Pn		**Pn**	**23 21 39.8**	**+2.3**
CHBY	**Cihanbeyli**	**4.63**	**258**	*e*PN		**Pn**	**23 21 40.5**	**+2.1**
CHBY	**Cihanbeyli**	**4.63**	**258**	*e*Pn		**Pn**	**23 21 40.6**	**+2.1**
ONI	**Oni**	**4.64**	**49**	P		**Pn**	**23 21 40.1**	**+1.6**

IDC ***22*** *23:23:20.4±3.1, 32.˚63S×179.˚95W, h0km, mb4.0/2, mb1 4.2/3, mb1mx3.7/38, mbtmp4.0/3, ML3.6/1, Error ellipse: s-maj=64.6km s-min=46.1km az=102.0*
NEIC ***22*** *23:23:21.8±0.7, 32.˚63S×179.˚97W, h10km, mb4.3/1, Error ellipse: s-maj=21.6km s-min=11.3km az=113.0*

ISC 22 23:23:25.1±0.9**, 32˚7S**±0˚1×**180˚0W**±0˚2**, h35**km**, n10, σ1§47/11, mb3.9/3, South of Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**3.84**	**28**	*e*Pn		**Pn**	**23 24 20.2**	**-1.6**
URZ	**Urewera**	**6.06**	**202**	Pn		**Pn**	**23 24 51.2**	**-1.0**
	1.4nm,0.3s,baz=71,slow=2.5,SNR=8.0							
URZ				Sn		**Sn**	**23 25 58.2**	**-2.1**
	0.7nm,0.3s,baz=250,slow=22,SNR=2.2							
ASAR	**Alice Springs**	**41.37**	**270**	P		**P**	**23 31 08.8**	**+0.8**
	1.1nm,0.6s,baz=108,slow=7.6,SNR=15							
WRA	**Warramunga Arr**	**42.56**	**276**	P		**P**	**23 31 18.0**	**+0.2**
	1.6nm,0.6s,baz=114,slow=7.9,SNR=17							
QSPA	**South Pole Qui**	**57.44**	**180**	*e*P		**P**	**23 33 11.5**	**+1.3**
	1.7nm,0.6s							
SNAA	**Sanae**	**75.92**	**179**	P		**P**	**23 35 09.2**	**+1.3**
SNAA	**Sanae**	**75.92**	**179**	*e*P		**P**	**23 35 08.9**	**+1.0**
VNA3	**Neumayer Olymp**	**76.15**	**177**	P		**P**	**23 35 09.0**	**0.0**
VNA2	**Neumayer--Watz**	**76.56**	**178**	P		**P**	**23 35 13.5**	**+2.1**
	baz=177,slow=3.1							
FINES	**FINESS Array B**	**146.64**	**337**	PKPbc		**PKPbc**	**23 43 02.4**	**+0.1**
	6.0nm,1.1s,baz=18,slow=6.8,SNR=3.9							

IDC 22 23:25:04.2±3.3**, 5˚44S×151˚00E, h0**km**, mb3.4/3, mb1 3.7/3, mb1mx3.4/41, mbtmp3.5/3, Error ellipse: s-maj=121.1km s-min=46.8km az=122.0, New Britain region**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**21.68**	**227**	P		P	23 29 56.7	-0.2
	0.8nm,0.7s,baz=52,slow=10,SNR=5.2							
ASAR	**Alice Springs**	**24.48**	**221**	P		P	23 30 25.2	-0.1
	0.2nm,0.4s,baz=58,slow=8.6,SNR=4.2							
FITZ	**Fitzroy Crossi**	**27.78**	**241**	P		P	23 30 55.2	+0.1
	0.7nm,0.5s,baz=37,slow=10,SNR=4.8							
TORD	**Torodi Ar. Bea**	**148.78**	**286**	PKPbc		PKPbc	23 44 54.2	-0.6
	0.7nm,0.4s,baz=89,slow=2.1,SNR=14							

ISCJB ***22*** *23:32:08.2±0.4, 36.˚874N±0.˚010×90.˚80W±0.˚01, h10km±3km, Error ellipse: s-maj=1.8km s-min=1.6km az=142.9*
NEIC ***22*** *23:32:09.0±0.0, 36.˚82N×90.˚75W, h12km, MN3.6, After CERI.*
NEIC Felt [IV] at Bismarck and Harviell; [III] at Alton, Annapolis, Arcadia, Doe Run, Doniphan, Ellington, Ellsinore, Fairdealing, Farmington, Fisk, Fremont, Greenville, Ironton, Mountain View, Naylor, Park Hills, Patterson, Piedmont, Poplar Bluff, Potosi, Puxico, Saint Louis and Van Buren; [II] as far as Eminence, Jackson and Saint Charles. Felt [III] at Corning and Maynard; [II] at Biggers and Pocahontas, Arkansas. Felt in much of southeastern Missouri and northeastern Arkansas and in parts of Illinois and Kentucky. Also felt at Princeton, Indiana and at Dyersburg, Tennessee.

ISC 22 23:32:08.4±1.0**, 36.˚85N**±0.˚02×**90.˚77W**±0.˚02**, h11**km±9km**, n246, σ1§14/291, New Madrid region, Missouri**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
PBMO	**Poplar Bluff**	**0.29**	**104**	*e*Pg		**Pb**	**23 32 15.7**	**+0.2**
PBMO				*e*Sg		**Sb**	**23 32 19.7**	**-0.7**
T42A	**Van Buren**	**0.31**	**305**	P		**Pb**	**23 32 16.2**	**+0.3**
	baz=128							
T42A				S		**Sb**	**23 32 20.8**	**-0.3**
	baz=128							
T43A	**Greenville**	**0.45**	**59**	P		**Pb**	**23 32 18.7**	**+0.3**
	baz=234							
T43A				S		**Sb**	**23 32 24.8**	**-0.3**
	baz=234							
U43A	**Rector**	**0.56**	**148**	P		**Pb**	**23 32 20.5**	**+0.2**
	baz=328							
U43A				S		**Sb**	**23 32 28.1**	**-0.2**
	baz=328							
U42A	**Revenden**	**0.62**	**217**	P		**Pb**	**23 32 21.4**	**+0.1**
	baz=40							
U42A				S		**Sb**	**23 32 29.6**	**-0.4**
	baz=40							
T41A	**Mountain View**	**0.82**	**284**	P		**Pb**	**23 32 25.0**	**+0.4**
	baz=105							
T41A				S		**Sb**	**23 32 35.9**	**+0.3**
	baz=105							
PARMO	**Parma**	**0.84**	**102**	*e*Pg		**Pb**	**23 32 25.3**	**+0.3**
PARMO				*e*Sg		**Sb**	**23 32 36.1**	**-0.2**
S43A	**Fulton Ridge,**	**0.91**	**38**	P		**Pg**	**23 32 26.4**	**+0.4**
	baz=216,SNR=7.7							
S43A				S		**Sb**	**23 32 38.7**	**+0.3**
	baz=216							
S42A	**Caledonia**	**0.92**	**359**	P		**Pg**	**23 32 26.4**	**+0.3**
	baz=178							
S42A				S		**Sb**	**23 32 39.1**	**+0.5**
	baz=178							
U44A	**Portageville**	**0.94**	**111**	P		**Pg**	**23 32 26.6**	**0.0**
	baz=290,SNR=41							
U44A				S		**Sn**	**23 32 40.1**	**-0.8**
	baz=290							
PVMO	**Portageville**	**0.97**	**116**	*e*Pg		**Pb**	**23 32 27.2**	**+0.1**
PVMO				*e*Sn		**Sb**	**23 32 40.5**	**+0.5**
T44A	**Benton**	**0.98**	**76**	P		**Pb**	**23 32 27.1**	**-0.2**
	baz=254,SNR=42							
U41A	**Viola**	**1.05**	**242**	P		**Pg**	**23 32 29.1**	**+0.5**
	baz=63							
U41A				S		**Sg**	**23 32 43.3**	**+1.0**
	baz=63							
S41A	**Jillco Farms,**	**1.07**	**314**	P		**Pb**	**23 32 29.2**	**+0.3**
	baz=134,SNR=216							
S41A				S		**Sg**	**23 32 43.6**	**+0.7**
	baz=134							
V43A	**Jonesboro**	**1.08**	**170**	P		**Pg**	**23 32 29.2**	**+0.1**
	baz=351,SNR=66							
V43A				S		**Sn**	**23 32 44.3**	**0.0**
	baz=351							
V42A	**Cord**	**1.16**	**206**	P		**Pn**	**23 32 30.5**	**+0.1**
	baz=27,SNR=62							
V42A				S		**Sg**	**23 32 45.7**	**+0.1**
	baz=27							
V44A	**Blytheville**	**1.24**	**145**	P		**Pg**	**23 32 32.1**	**-0.2**
	baz=326,SNR=43							
V44A				S		**Sg**	**23 32 49.8**	**+1.4**
	baz=326							
U44B	**Burton Farm, H**	**1.25**	**114**	P		**Pb**	**23 32 32.2**	**+0.1**
	baz=294,SNR=126							
U44B				S		**Sg**	**23 32 50.0**	**+1.2**
	baz=294							
HBAR	**Harrisburg**	**1.30**	**176**	*e*Pn		**Pg**	**23 32 33.3**	**0.0**
HBAR				*e*Sn		**Sb**	**23 32 49.2**	**-0.1**
GLAT	**Glass**	**1.33**	**115**	*e*Pn		**Pg**	**23 32 34.0**	**0.0**
GLAT				*e*Sn		**Sg**	**23 32 51.3**	**+0.1**
R42A	**Luebbering**	**1.43**	**359**	P		**Pn**	**23 32 34.9**	**+0.7**
	baz=179,SNR=71							
R42A				S		**Sg**	**23 32 54.5**	**+0.2**
	baz=179							
T40A	**Mansfield**	**1.43**	**283**	P		**Pb**	**23 32 35.6**	**+0.5**
	baz=103,SNR=47							
T40A				S		**Sb**	**23 32 54.4**	**+1.2**
	baz=103							
S44A	**Carbondale**	**1.48**	**55**	P		**Pn**	**23 32 35.4**	**+0.5**
	baz=234,SNR=170							
S44A				S		**Sg**	**23 32 55.8**	**-0.1**
	baz=234							
HALT	**Halls**	**1.49**	**129**	*e*Pn		**Pn**	**23 32 35.5**	**+0.4**
HALT				*e*Sn		**Sg**	**23 32 55.6**	**-0.7**
R41A	**Rosebud**	**1.52**	**342**	P		**Pb**	**23 32 36.7**	**0.0**
	baz=161,SNR=95							
R41A				S		**Sb**	**23 32 57.1**	**+1.1**
	baz=161							
V41A	**Mountainview**	**1.54**	**227**	P		**Pb**	**23 32 37.0**	**0.0**
	baz=47,SNR=150							
V41A				S		**Sb**	**23 32 57.4**	**+0.9**
	baz=47							
S40A	**Lebanon**	**1.57**	**299**	P		**Pb**	**23 32 37.7**	**+0.3**
	baz=119,SNR=96							
R43A	**Red Bud**	**1.57**	**25**	P		**Pb**

T37A	**Cheneyville 18** baz=94,SNR=50	3.33 276	P	Pn	23 33 01.8	+1.4
Y46A	**Houston** baz=333,SNR=72	3.35 152	P	Pn	23 33 01.3	+0.6
S37A	**Fort Scott** baz=105,SNR=14	3.36 287	P	Pn	23 33 02.2	+1.4
O40A	**La Belle** baz=165,SNR=7.5	3.38 346	P	Pn	23 33 02.5	+1.5
O42A	**Bath** baz=189	3.38 9	P	Pn	23 33 03.0	+1.9
Y40A	**Okolona** baz=36,SNR=19	3.49 217	P	Pn	23 33 04.0	+1.3
W38A	**Poteau** baz=59,SNR=109	3.52 241	P	Pn	23 33 04.6	+1.6
P38A	**Dawn** baz=141,SNR=32	3.52 323	P	Pn	23 33 04.0	+0.9
U37A	**Salina** baz=82,SNR=63	3.52 264	P	Pn	23 33 04.4	+1.4
R37A	**Teagarden Farm** baz=114	3.54 296	P	Pn	23 33 04.4	+1.2
Q37A	**Longview Farm,** baz=124,SNR=14	3.54 306	P	Pn	23 33 04.7	+1.4
Z44A	**Pea Ridge, Bel** baz=356	3.58 175	P	Pn	23 33 05.1	+1.3
X39A	**Fountain Ranch** baz=49,SNR=39	3.58 230	P	Pn	23 33 05.5	+1.6
Z45A	**Winona** baz=346,SNR=24	3.58 165	P	Pn	23 33 04.7	+0.8
O43A	**Sugar Creek Fa** baz=198	3.62 18	P	Pn	23 33 05.7	+1.3
Z43A	**Armstrong Fami** baz=6.3	3.65 186	P	Pn	23 33 06.0	+1.2
V37A	**Hulbert** baz=74,SNR=74	3.65 256	P	Pn	23 33 06.1	+1.2
O39A	**Kirksville** baz=157,SNR=7.2	3.67 338	P	Pn	23 33 06.3	+1.2
WLAR	**White Oak Lake**	3.69 212	*e*Pn	Pn	23 33 07.0	+1.7
Y47A	**UCPARC, Winfie** baz=322	3.79 140	P	Pn	23 33 07.6	+0.9
WCI	**Wyandotte Cave**	3.82 68	*e*Pn	Pn	23 33 08.4	+1.3
HDIL	**Hopedale** baz=197,SNR=11	3.88 17	P	Pn	23 33 09.4	+1.5
HDIL	**Hopedale**	3.88 17	*e*Pn	Pn	23 33 10.3	+2.4
O38A	**Galt** baz=146,SNR=11	3.89 328	P	Pn	23 33 09.1	+0.9
P37A	**Lathrop** baz=133,SNR=12	3.92 315	P	Pn	23 33 09.7	+1.1
S36A	**Lake Cedric, C** baz=102,SNR=30	3.94 284	P	Pn	23 33 10.2	+1.4
Z46A	**Louisville** baz=338,SNR=8.3	3.95 157	P	Pn	23 33 10.4	+1.5
X38A	**Whitesboro** baz=56,SNR=23	3.95 238	P	Pn	23 33 10.4	+1.5
Z41A	**Richland Creek** baz=25	3.95 205	P	Pn	23 33 10.5	+1.6
Y39A	**Lockesburg** baz=42,SNR=9.8	3.97 224	P	Pn	23 33 10.5	+1.3
U36A	**Oologah** baz=82,SNR=11	4.01 265	P	Pn	23 33 10.8	+1.0
R36A	**Gordon, Harris** baz=110,SNR=15	4.03 293	P	Pn	23 33 11.2	+1.1
N40A	**Mertquake, Sal** baz=171	4.08 351	P	Pn	23 33 11.7	+1.0
BLO	**Bloomington**	4.08 54	*e*Pn	Pn	23 33 11.7	+1.0
BLO			*e*Pb	Pb	23 33 19.9	-0.3
T36A	**Boggs Farm, Ca** baz=92,SNR=11	4.09 274	P	Pn	23 33 11.9	+1.0
W37B	**Quinton** baz=65,SNR=18	4.14 247	P	Pn	23 33 12.9	+1.3
TUL1	**Leonard** baz=76,SNR=33	4.16 258	P	Pn	23 33 12.9	+1.1
TUL1	**Leonard**	4.16 258	*e*Pn	Pn	23 33 13.3	+1.5
143A	**Socs Landing,** baz=7.3	4.17 187	P	Pn	23 33 13.1	+1.2
Z40A	**Long Farm, Mag** baz=31	4.18 212	P	Pn	23 33 13.4	+1.4
O37A	**Wolven Farm, M** baz=140,SNR=34	4.24 322	P	Pn	23 33 14.0	+1.1
N39A	**Derby Farms, D** baz=161,SNR=19	4.24 342	P	Pn	23 33 13.8	+0.9
SWET	**Sewanee**	4.25 111	*e*Pn	Pn	23 33 14.7	+1.7
Q36A	**Arnold C. Orve** baz=118,SNR=11	4.26 301	P	Pn	23 33 14.2	+1.0
Z47A	**Carrollton** baz=330	4.27 148	P	Pn	23 33 14.6	+1.4
V36A	**Jenks** baz=75,SNR=42	4.31 257	P	Pn	23 33 14.7	+0.9
Z48A	**Northport** baz=324,SNR=73	4.36 142	P	Pn	23 33 15.2	+0.7
X37A	**Clayton** baz=58,SNR=32	4.37 240	P	Pn	23 33 15.9	+1.3
N38A	**Joes South For** baz=153,SNR=16	4.38 335	P	Pn	23 33 15.6	+0.8
P36A	**Good Intent, A** baz=127	4.45 310	P	Pn	23 33 17.3	+1.5
S35A	**Otter Creek Ra** baz=99,SNR=12	4.50 282	P	Pn	23 33 16.7	+0.2
M41A	**Milan** baz=182	4.52 2	P	Pn	23 33 17.4	+0.7
SFIN	**Lafayette** baz=220	4.55 38	P	Pn	23 33 18.7	+1.5
SFIN	**Lafayette**	4.55 38	*e*Pn	Pn	23 33 20.3	+3.1
SFIN			*e*Pb	Pb	23 33 26.7	-1.6
R35A	**Emporia Munici** baz=108,SNR=9.3	4.55 290	P	Pn	23 33 18.7	+1.5
Z39A	**Irene McRaven,** baz=37	4.56 219	P	Pn	23 33 18.5	+1.3
M40A	**Post Highland** baz=172	4.58 353	P	Pn	23 33 18.4	+0.7
T35A	**Sooner Cattle** baz=90	4.60 273	P	Pn	23 33 19.0	+1.1
Q35A	**Mercer Eighty,** baz=114	4.62 297	P	Pn	23 33 19.2	+1.0
O36A	**Bolckow** baz=134	4.64 316	P	Pn	23 33 19.4	+1.0
147A	**Livingston** baz=334	4.65 153	P	Pn	23 33 19.3	+0.8
M42A	**Sheffield** baz=190	4.67 9	P	Pn	23 33 20.1	+1.4
N37A	**Lee Faris, Mou** baz=144,SNR=8.9	4.74 327	P	Pn	23 33 20.6	+0.9
W36A	**Wetumka** baz=68,SNR=24	4.74 250	P	Pn	23 33 20.3	+0.6
M39A	**Webster** baz=166	4.75 347	P	Pn	23 33 20.7	+0.9
244A	**Avery, Jackson** baz=359	4.80 179	P	Pn	23 33 21.4	+0.8
U35A	**Pawnee** baz=83,SNR=23	4.82 266	P	Pn	23 33 22.0	+1.1
Y37A	**Hugo** baz=53,SNR=9.4	4.89 236	P	Pn	23 33 23.2	+1.4
LRAL	**Lakeview Retre**	4.91 140	*e*Pn	Pn	23 33 22.2	+0.1
M38A	**Pleasantville** baz=157	4.93 338	P	Pn	23 33 23.2	+0.8
X36A	**Centrahoma** baz=62,SNR=6.7	5.08 245	P	Pn	23 33 25.3	+0.9
S34A	**Willow Spring** baz=98	5.12 281	P	Pn	23 33 25.7	+0.6
KSU1	**Kansas State U** baz=114,SNR=5.5	5.13 298	P	Pn	23 33 26.2	+1.0
KSU1	**Kansas State U**	5.13 298	*e*Pn	Pn	23 33 27.4	+2.3
KSU1			*e*Sg	Sg	23 34 49.6	-3.4
N36A	**Muff Farm, Cla** baz=139	5.13 322	P	Pn	23 33 26.3	+1.1
T34A	**McClaskey Farm** baz=90	5.14 274	P	Pn	23 33 26.1	+0.8
M37A	**Trindle Farm,** baz=150	5.21 332	P	Pn	23 33 27.3	+1.0
L40A	**Anamosa** baz=176	5.22 356	P	Pn	23 33 26.8	+0.5
W35A	**Tecumseh** baz=70,SNR=13	5.23 253	P	Pn	23 33 27.3	+0.8
CPCT	**Cooper Cave**	5.25 104	*e*Pn	Pn	23 33 29.5	+2.7
O35A	**Humboldt** baz=129,SNR=28	5.28 312	P	Pn	23 33 27.9	+0.8
R34A	**Isabella, Hill** baz=104,SNR=14	5.34 288	P	Pn	23 33 28.8	+0.8
L39A	**Vinton** baz=169,SNR=11	5.35 350	P	Pn	23 33 28.4	+0.2
248A	**Dixon Mills** baz=333	5.37 151	P	Pn	23 33 29.1	+0.7
Y36A	**Durant** baz=56	5.38 238	P	Pn	23 33 29.5	+0.9
SCIA	**State Center**	5.39 340	*e*Pn	Pn	23 33 30.0	+1.2
P34A	**Walnut Farm, R** baz=118,SNR=14	5.47 301	P	Pn	23 33 30.8	+0.9
138A	**Matatall Enter** baz=39	5.48 222	P	Pn	23 33 31.0	+0.9
N35A	**Tabor** baz=135	5.52 318	P	Pn	23 33 31.3	+0.8
L38A	**Oak Wood Farm,** baz=162,SNR=18	5.55 343	P	Pn	23 33 31.6	+0.7
L43A	**Garden Prairie** baz=197	5.55 16	P	Pn	23 33 31.9	+1.0
X35A	**Drake** baz=63,SNR=18	5.61 246	P	Pn	23 33 32.2	+0.5
239A	**Gary** baz=32	5.71 213	P	Pn	23 33 34.1	+1.0
O34A	**Beatrice** baz=124,SNR=19	5.71 307	P	Pn	23 33 33.7	+0.6
L37A	**Phoenix Point,** baz=155,SNR=15	5.75 337	P	Pn	23 33 34.3	+0.7
K41A	**Shullsburg** baz=184	5.76 3	P	Pn	23 33 34.1	+0.3
TKL	**Tuckaleechee C**	5.78 100	*e*Pn	Pn	23 33 35.7	+1.6
TZTN	**Tazewell**	5.81 91	*e*Pn	Pn	23 33 37.1	+2.6
TZTN			*e*Pb	Pb	23 33 47.9	-1.9
Z36A	**Blue Ridge** baz=51	5.86 234	P	Pn	23 33 36.1	+1.0
Y35A	**Marietta** baz=59,SNR=8.5	5.90 242	P	Pn	23 33 36.6	+0.9
K39A	**Oelwein** baz=171	5.91 352	P	Pn	23 33 36.0	+0.1
N34A	**Lincoln** baz=130,SNR=7.6	5.99 313	P	Pn	23 33 37.5	+0.6
M35A	**Neola** baz=139	5.99 322	P	Pn	23 33 37.3	+0.4
K38A	**Parkersburg** baz=164	5.99 346	P	Pn	23 33 36.5	-0.4
238A	**Jacksonville** baz=36	6.02 218	P	Pn	23 33 38.3	+0.9
JFWS	**Jewell Farm**	6.07 4	*e*Pn	Pn	23 33 41.3	+3.2
JFWS			*e*Pb	Pb	23 33 52.1	-2.0
O33A	**Hebron** baz=119,SNR=12	6.24 303	P	Pn	23 33 41.2	+0.8
K37A	**Belmond** baz=159,SNR=12	6.31 340	P	Pn	23 33 42.0	+0.7
L35A	**Bielow Farm, R** baz=144	6.42 326	P	Pn	23 33 43.6	+0.7
M34A	**Aspy Farms, Fr** baz=134,SNR=7.6	6.47 318	P	Pn	23 33 44.2	+0.6
J39A	**Decorah** baz=173,SNR=20	6.52 354	P	Pn	23 33 44.6	+0.4
J41A	**Loganville** baz=185	6.53 5	P	Pn	23 33 45.4	+1.0
L34A	**Svendsen Farm,** baz=138	6.70 321	P	Pn	23 33 47.3	+0.6
J37A	**Redenius Farm,** baz=161	6.79 343	P	Pn	23 33 48.9	+0.9
WMOK	**Wichita Mounta** baz=70	6.84 254	P	Pn	23 33 48.6	0.0
WMOK	**Wichita Mounta**	6.84 254	*e*Pn	Pn	23 33 48.8	+0.1
M33A	**Taylor Creek F** baz=132	6.86 315	P	Pn	23 33 49.7	+0.8
GOGA	**Godfrey**	6.90 118	*e*Pn	Pn	23 33 51.2	+1.8
GOGA			*e*Sb	Sb	23 35 34.3	+3.6
ACSO	**Alum Creek Sta**	6.98 59	*e*Pb	Pb	23 34 10.3	+0.7
I39A	**Houston** baz=175	7.02 356	P	Pn	23 33 51.5	+0.4
J36A	**Seneca 1, Swea** baz=156	7.02 338	P	Pn	23 33 51.9	+0.8
I40A	**Norwalk** baz=181	7.03 1	P	Pn	23 33 52.0	+0.7
K34A	**Le Mars** baz=143	7.12 327	P	Pn	23 33 53.3	+0.8
BGNE	**Belgrade**	7.32 311	*e*Pn	Pn	23 33 56.5	+1.3
J35A	**Milford** baz=151,SNR=6.6	7.34 334	P	Pn	23 33 55.9	+0.4
WHTX	**Lake Whitney,** baz=47,SNR=6.3	7.34 231	P	Pn	23 33 56.1	+0.5
WHTX	**Lake Whitney,**	7.34 231	*e*Pn	Pn	23 33 55.8	+0.2
CBKS	**Cedar Bluff**	7.36 288	*e*Pn	Pn	23 33 57.0	+1.2
336A	**Riesel** baz=41	7.42 224	P	Pn	23 33 57.1	+0.5
J34A	**George** baz=147,SNR=5.4	7.55 330	P	Pn	23 33 59.2	+0.8
234A	**Clairette** baz=50	7.77 234	P	Pn	23 34 01.7	+0.3
KMSC	**Kings Mountain**	7.84 100	*e*Pn	Pn	23 34 02.9	+0.5
I34A	**Hadley** baz=150	8.16 333	P	Pn	23 34 06.8	0.0
JSC	**Jenkinsville**	8.16 105	*e*Pn	Pn	23 34 06.7	-0.2
ECSD	**EROS Data Cent** baz=145,SNR=19	8.19 329	P	Pn	23 34 07.4	+0.2
ECSD	**EROS Data Cent**	8.19 329	*e*Pn	Pn	23 34 07.5	+0.2
233A	**Rising Star** baz=52,SNR=6.6	8.26 237	P	Pn	23 34 08.0	-0.2
334A	**Lometa** baz=46	8.28 231	P	Pn	23 34 08.4	0.0
BLA	**Blacksburg**	8.29 84	*e*Pn	Pn	23 34 09.2	+0.6
H35A	**Sunnyside Ranc** baz=157	8.42 340	P	Pn	23 34 09.8	-0.5
ABTX	**Abilene, Hawle** baz=58,SNR=5.3	8.43 243	P	Pn	23 34 10.3	-0.2
ABTX	**Abilene, Hawle**	8.43 243	*e*Pn	Pn	23 34 10.5	0.0
434A	**Burnet** baz=44,SNR=7.1	8.66 228	P	Pn	23 34 13.3	-0.4
H34A	**Spellman Lake,** baz=152	8.68 336	P	Pn	23 34 13.5	-0.3
333A	**Richland Sprin** baz=49	8.76 233	P	Pn	23 34 14.8	-0.1
I32A	**Karley and Nic** baz=142	8.79 327	P	Pn	23 34 15.5	+0.1
F37A	**Hinrichs Farm,** baz=170,SNR=5.5	8.97 352	P	Pn	23 34 18.5	+0.6
AMTX	**Amarillo**	9.07 261	*e*Pn	Pn	23 34 20.2	+0.9
433A	**Art** baz=47	9.21 231	P	Pn	23 34 21.2	0.0
F36A	**Milaca** baz=166,SNR=7.4	9.24 348	P	Pn	23 34 21.7	+0.2
COWI	**Conover**	9.32 7	*e*Pn	Pn	23 34 24.6	+1.9
534A	**Blanco** baz=42	9.36 226	P	Pn	23 34 22.6	-0.6
M54A	**Oil Creek Stat** baz=245	9.80 58	P	Pn	23 34 28.2	-1.0
JCT	**Junction City** baz=48	9.84 232	P	Pn	23 34 28.7	-1.2
JCT	**Junction City**	9.84 232	*e*Pn	Pn	23 34 29.4	-0.5
F33A	**5 Mile Ranch,** baz=153	9.89 337	P	Pn	23 34 29.7	-0.7
E43A	**Lone Tree Farm** baz=198	9.93 15	P	Pn	23 34 30.0	-0.9
D35A	**Remer** baz=165	10.51 348	P	Pn	23 34 38.1	-0.8
T25A	**Trinidad** baz=88	10.91 276	P	Pn	23 34 43.9	-0.8
D33A	**AnnSam, Waubun** baz=158	10.95 341	P	Pn	23 34 43.3	-1.6
EYMN	**Ely** baz=177	11.10 357	P	Pn	23 34 45.6	-1.5

*ISK **22** 23:34:06.3, 39.67N×38.63E, h18km, MD2.7*
*ISCJB **22** 23:34:07.5±0.5, 39.68N±0.03×38.74E±0.04, h6km±5km, Error ellipse: s-maj=4.9km s-min=4.2km az=164.9*
*CSEM **22** 23:34:07.2±0.2, 39.67N×38.69E, h15km, ML2.2, Error ellipse: s-maj=4.9km s-min=3.9km az=71.0*
*DDA **22** 23:34:07.7, 39.68N×38.71E, h7km, Ml2.2*
ISC 22 23:34:07.2±1.1, **39.65N**±0.02×**38.70E**±0.03, **h11**km±9km, **n28**,σ**0**°**70**/**44**, **Turkey**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
REFA	**Refahiye_ERZ**	**0.26**	**168**	*i* P	**Pg**	**23 34 12.2**	**-0.4**
REFA				*i* S	**Sb**	**23 34 18.6**	**+0.1**
REFA	**Refahiye_ERZ**	**0.26**	**168**	P	**Pg**	**23 34 12.2**	**-0.4**
REFA				S	**Sb**	**23 34 18.6**	**+0.1**
KEMA	**Kemaliye**	**0.41**	**202**	*i* P	**Pg**	**23 34 15.7**	**+0.3**
KEMA				*i* S	**Sb**	**23 34 22.5**	**-0.4**
KEMA	**Kemaliye**	**0.41**	**202**	P	**Pg**	**23 34 15.7**	**+0.3**
KEMA				S	**Sb**	**23 34 22.5**	**-0.4**
EZC	**Erzincan**	**0.52**	**79**	*e*Pg	**Pn**	**23 34 23.2**	**+2.6**
KELT	**Kelkit**	**0.66**	**41**	*i* P	**Pg**	**23 34 20.2**	**+0.2**
KELT				*i* S	**Sg**	**23 34 28.9**	**+0.3**
KELT	**Kelkit**	**0.66**	**41**	P	**Pg**	**23 34 20.2**	**+0.2**
KELT				S	**Sg**	**23 34 28.9**	**+0.3**
SUSE	**Susehri**	**0.67**	**326**	*i* P	**Pb**	**23 34 20.9**	**-0.1**
SUSE				*i* S	**Sb**	**23 34 30.2**	**-0.2**
SUSE	**Susehri**	**0.67**	**326**	P	**Pb**	**23 34 20.9**	**-0.1**
SUSE				S	**Sb**	**23 34 30.2**	**-0.2**
CUZAR	**Zara_SIVAS**	**0.75**	**289**	*i* P	**Pb**	**23 34 22.4**	**+0.1**
CUZAR				*i* S	**Sn**	**23 34 35.4**	**+0.1**
CUZAR	**Zara_SIVAS**	**0.75**	**289**	P	**Pb**	**23 34 22.4**	**+0.1**
CUZAR				S	**Sn**	**23 34 35.4**	**+0.1**
ERZN	**Erzincan**	**0.80**	**94**	*e*PG	**Pb**	**23 34 23.2**	**+0.2**
TNCL	**Tunceli-Merkez**	**0.85**	**129**	*i* P	**Pn**	**23 34 25.3**	**+0.2**
TNCL				*i* S	**Sn**	**23 34 36.6**	**-1.0**
TNCL	**Tunceli-Merkez**	**0.85**	**129**	P	**Pn**	**23 34 25.3**	**+0.2**
TNCL				S	**Sn**	**23 34 36.7**	**-1.0**
PTK	**Pertek**	**0.93**	**144**	*e*PG	**Pb**	**23 34 25.7**	**+0.3**
PTK				*e*SG	**Sn**	**23 34 39.3**	**-0.5**
PTK	**Pertek**	**0.93**	**144**	*e*Pg	**Pb**	**23 34 25.7**	**+0.3**
PTK				*e*Sg	**Sn**	**23 34 39.3**	**-0.5**
GUMT	**Gumushane**	**1.01**	**37**	*e*PG	**Pb**	**23 34 26.5**	**-0.2**
GUMT	**Gumushane**	**1.01**	**37**	*e*Pg	**Pb**	**23 34 26.5**	**-0.2**
CUKAN	**kangal_SIVAS**	**1.01**	**251**	*i* P	**Pg**	**23 34 26.6**	**0.0**
CUKAN				*i* S	**Sn**	**23 34 43.1**	**+1.5**
CUKAN	**kangal_SIVAS**	**1.01**	**251**	P	**Pg**	**23 34 26.6**	**0.0**
CUKAN				S	**Sn**	**23 34 43.1**	**+1.5**
ESPY	**Espiye-Giresun**	**1.26**	**1**	*e*PN	**Pn**	**23 34 29.4**	**-1.3**
ESPY	**Espiye-Giresun**	**1.26**	**1**	*e*Pn	**Pn**	**23 34 29.4**	**-1.3**
SVRC	**Sivrice-ELAZID**	**1.36**	**159**	*e*PN	**Pn**	**23 34 31.5**	**-0.7**
SVRC	**Sivrice-ELAZID**	**1.36**	**159**	*e*Pn	**Pn**	**23 34 31.5**	**-0.7**
YEDI	**Yedisu-Bingol**	**1.45**	**98**	*e*PN	**Pn**	**23 34 33.2**	**-0.2**
YEDI	**Yedisu-Bingol**	**1.45**	**98**	*e*Pn	**Pn**	**23 34 33.2**	**-0.2**
ECAT	**Cat-ERZURUM**	**1.76**	**91**	*i* P	**Sg**	**23 35 04.1**	**+0.3**
ECAT	**Cat-ERZURUM**	**1.76**	**91**	P	**Sg**	**23 35 04.1**	**+0.3**

*DDA **22** 23:43:52.9, 39.65N×38.76E, h7km, Ml1.8*
*ISCJB **22** 23:43:53.4±0.6, 39.67N±0.03×38.73E±0.05, h3km±9km, Error ellipse: s-maj=6.1km s-min=5.0km az=14.0*
*ISK **22** 23:43:53.2, 39.76N×38.75E, h2km, MD2.7*
*CSEM **22** 23:43:53.3±0.4, 39.68N×38.72E, h2km, ML1.8, Error ellipse: s-maj=10.3km s-min=7.7km az=104.0*
ISC 22 23:43:53.3±1.3, **39.67N**±0.03×**38.72E**±0.03, **h3**km±14km, **n26**,σ**18**°**78**/**34**, **Turkey**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
REFA	**Refahiye_ERZ**	**0.27**	**172**	*i* P	**Pg**	**23 43 57.2**	**-1.4**
REFA	**Refahiye_ERZ**	**0.27**	**172**	P	**Pg**	**23 43 57.2**	**-1.4**
KEMA	**Kemaliye**	**0.43**	**204**	*i* P	**Pg**	**23 44 00.9**	**-0.8**
KEMA				*i* S	**Sg**	**23 44 08.4**	**+1.1**
KEMA	**Kemaliye**	**0.43**	**204**	P	**Pg**	**23 44 00.9**	**-0.8**
KEMA				S	**Sg**	**23 44 08.4**	**+1.1**
EZC	**Erzincan**	**0.50**	**80**	*e*Pg	**Pn**	**23 44 09.1**	**+1.6**
EZC				*e*Sg	**Sb**	**23 44 20.3**	**+7.7**
KELT	**Kelkit**	**0.63**	**41**	*i* P	**Pg**	**23 44 05.4**	**-0.1**
KELT				*i* S	**Sb**	**23 44 14.8**	**-1.8**
KELT	**Kelkit**	**0.63**	**41**	P	**Pg**	**23 44 05.4**	**-0.1**
KELT				S	**Sb**	**23 44 14.8**	**-1.8**
SUSE	**Susehri**	**0.67**	**324**	*i* P	**Pg**	**23 44 06.4**	**+0.2**
SUSE				*i* S	**Sb**	**23 44 17.4**	**-0.2**
SUSE	**Susehri**	**0.67**	**324**	P	**Pg**	**23 44 06.4**	**+0.2**
SUSE				S	**Sb**	**23 44 17.4**	**-0.2**
EUZM	**Uzumlu**	**0.76**	**87**	*i* P	**Pb**	**23 44 09.3**	**0.0**
EUZM	**Uzumlu**	**0.76**	**87**	P	**Pb**	**23 44 09.3**	**0.0**
ERZN	**Erzincan**	**0.78**	**96**	*e*PG	**Pb**	**23 44 09.1**	**-0.6**
ERZN				*e*SG	**Sb**	**23 44 20.3**	**-0.4**
PTK	**Pertek**	**0.94**	**146**	*e*PG	**Pn**	**23 44 13.0**	**-0.6**
PTK	**Pertek**	**0.94**	**146**	*e*Pg	**Pn**	**23 44 13.0**	**-0.6**
GUMT	**Gumushane**	**0.98**	**36**	*e*PG	**Pg**	**23 44 11.8**	**-0.5**
GUMT	**Gumushane**	**0.98**	**36**	*e*Pg	**Pg**	**23 44 11.8**	**-0.5**
ELZG	**Elazig**	**1.19**	**170**	*i* P	**Pb**	**23 44 15.3**	**-1.3**
ELZG	**Elazig**	**1.19**	**170**	P	**Pb**	**23 44 15.3**	**-1.3**
ESPY	**Espiye-Giresun**	**1.25**	**0**	*e*PN	**Pn**	**23 44 15.8**	**-1.9**
ESPY	**Espiye-Giresun**	**1.25**	**0**	*e*Pn	**Pn**	**23 44 15.8**	**-1.9**
RSDY	**Resadiye-TOKAT**	**1.29**	**305**	*e*PN	**Pb**	**23 44 18.2**	**-0.1**
RSDY	**Resadiye-TOKAT**	**1.29**	**305**	*e*Pn	**Pb**	**23 44 18.2**	**-0.1**
SVSK	**Karacayir**	**1.35**	**281**	*e*PN	**Pg**	**23 44 20.3**	**+1.1**
SVSK	**Karacayir**	**1.35**	**281**	*e*Pn	**Pg**	**23 44 20.3**	**+1.1**
DARE	**Darende-Malaty**	**1.46**	**222**	*e*PN	**Pg**	**23 44 22.6**	**+1.4**
DARE	**Darende-Malaty**	**1.46**	**222**	*e*Pn	**Pg**	**23 44 22.6**	**+1.4**

*ISCJB **22** 23:57:09.9±0.5, 37.35N±0.04×140.70E±0.06, h94km±4km, mb3.6/4, Error ellipse: s-maj=8.0km s-min=5.0km az=29.6*
*IDC **22** 23:57:09.3±5.0, 37.37N×140.92E, h84km±40km, mb3.3/4, mb1 3.4/6, mb1mx3.1/51, mbtmp3.7/6, Error ellipse: s-maj=44.7km s-min=14.9km az=56.0*
*JMA **22** 23:57:11.2, 37.38N×140.63E, h85km±1km, M3.4 Broadband fault plane solution: P waves. NP1: ϕs172.00000°, δ75.00000°, λ67.00000°. NP2:ϕs51.00000°, δ27.00000°, λ146.00000°. Principal axes: T Plg54.0000°, Azm54.0000°; N Plg22.0000°, Azm178.0000°; P Plg27.0000°, Azm280.0000°;*
JMA Felt I J1.
ISC 22 23:57:10.6±0.9, **37.36N**±0.04×**140.69E**±0.05, **h86**km±5km, **n21**,σ**0**°**96**/**38**, **mb3.6**/**4**, **7C-4D**, **Eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JFK	**Kawauchi**	**0.15**	**88**	⇓P	**Pn**	**23 57 23.7**	**+0.7**
JFK				S	**Sn**	**23 57 32.8**	**+0.6**
ONAJ	**Iwakimizuishiy**	**0.27**	**162**	⇑P	**Pn**	**23 57 24.3**	**+0.8**
ONAJ				S	**Sn**	**23 57 34.2**	**+1.1**
JFT	**Otama**	**0.32**	**299**	⇑P	**Pn**	**23 57 23.9**	**+0.2**
JFT				S	**Sn**	**23 57 34.2**	**+0.7**
JMM	**Marumori**	**0.51**	**9**	⇓P	**Pn**	**23 57 25.6**	**+0.6**
JMM				S	**Sn**	**23 57 36.1**	**+0.4**
JFY	**Yanaizu**	**0.79**	**274**	⇑P	**Pn**	**23 57 27.7**	**0.0**
JFY				eS	**Sn**	**23 57 40.0**	**-0.4**
JYS	**Shirataka**	**0.99**	**330**	⇑P	**Sn**	**23 57 30.4**	**+0.5**
JYS				eS	**Sn**	**23 57 44.9**	**+0.5**
JOU	**Okura**	**1.00**	**359**	P	**Pn**	**23 57 30.9**	**+0.8**
JOU				S	**Sn**	**23 57 46.1**	**+1.5**
JNS	**Sasagawa**	**1.18**	**293**	⇑P	**Pn**	**23 57 32.0**	**-0.2**
JNS				eS	**Sn**	**23 57 47.6**	**-0.8**
JIO	**Ouri**	**1.21**	**25**	⇓P	**Pn**	**23 57 32.9**	**+0.4**
JIO				S	**Sn**	**23 57 48.9**	**0.0**
JKT	**Katashina**	**1.30**	**243**	P	**Pn**	**23 57 34.7**	**+1.0**
JHK	**Hiroka**	**1.34**	**266**	⇑P	**Pn**	**23 57 34.5**	**+0.4**
JHK				eS	**Sn**	**23 57 52.0**	**+0.1**
JAG	**Ashikaga**	**1.36**	**227**	⇑P	**Pn**	**23 57 35.3**	**+0.9**
JAG				eS	**Sn**	**23 57 53.0**	**+0.6**
JYK	**Kaneyama**	**1.57**	**351**	⇓P	**Pn**	**23 57 37.9**	**+0.8**
JMK	**Ichinoseki**	**1.64**	**15**	P	**Pn**	**23 57 38.8**	**+0.9**
JMK				S	**Sn**	**23 57 59.7**	**+1.0**
MJAR	**Matsushiro Arr** 4.6nm,0.3s,baz=53,slow=11,SNR=27	**2.15**	**248**	P	**Pn**	**23 57 45.6**	**+1.0**
MJAR				S	**Sn**	**23 58 13.9**	**+3.2**
MAT	**Matsushiro** 2.6nm,0.3s,baz=46,slow=43,SNR=6.0	**2.15**	**248**	P	**Pn**	**23 57 45.8**	**+1.1**
MAT				eS	**Sn**	**23 58 11.9**	**+1.2**
JHJ	**Hachijo jima 2** 13nm,0.3s,baz=34,slow=24,SNR=2.8	**4.30**	**190**	P	**Pn**	**23 58 14.4**	**+0.8**
JHJ				S	**Sn**	**23 59 01.4**	**-1.2**
ZALV	**Zalesovo Beam** 14nm,0.3s,baz=139,slow=23,SNR=4.1	**41.27**	**312**	P	**P**

*ISCJB **23** 00:01:00.9±0.6, 18°.30S±0°.06×66°.89W×0°.08, h266km, mb3.2/4, Error ellipse: s-maj=11.0km s-min=7.8km az=33.0*

*IDC **23** 00:01:01.0±0.8, 18°.31S×66°.89W, h258km±7km, mb3.0/4, mb1 3.5/8, mb1mx3.3/32, mbtmp3.8/8, Error ellipse: s-maj=15.1km s-min=10.5km az=101.0*

ISC 23 00:01:01.5±0.8, **18°.31S**±0°.07×**66°.89W**±0°.08, **h266**km, **n9,** σ1§**19**/**12**, **mb3.3**/**4**, **Central Bolivia**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**2.33**	**329**	P	**Pn**	**00 01 49.7**	**+0.6**
LPAZ	48nm,0.3s,baz=108,slow=4.7,SNR=1158			S	**S**	**00 02 25.0**	**-1.7**
LVC	**Limon Verde**	**4.68**	**204**	P	**Pn**	**00 02 14.9**	**+0.5**
LVC	4.6nm,0.3s,baz=44,slow=12,SNR=5.2 318nm,0.3s,baz=333,slow=6.1,SNR=83			S	**S**	**00 03 10.4**	**-2.2**
SIV	**San Ignacio**	**6.02**	**68**	P	**Pn**	**00 02 31.1**	**+0.7**
SIV	552nm,0.3s,baz=249,slow=21,SNR=21 0.7nm,0.3s,baz=266,slow=14,SNR=1			S	**S**	**00 03 40.2**	**-1.4**
PTGA	**Pitinga**	**18.74**	**22**	P	**P**	**00 05 01.1**	**-0.2**
PLCA	**Paso Flores**	**22.57**	**187**	P	**P**	**00 05 40.2**	**+0.7**
TXAR	**Lajitas Array**	**59.18**	**323**	P	**P**	**00 10 35.2**	**+0.1**
PDAR	**Pinedale Array**	**72.35**	**328**	P	**P**	**00 11 59.2**	**+0.4**
TORD	**Torodi Ar. Bea**	**74.50**	**70**	P	**P**	**00 12 11.1**	**-0.5**
WRA	**Warramunga Arr**	**136.66**	**210**	PKP	**PKPdf**	**00 19 54.0**	**+1.0**

1.2nm,0.3s,baz=205,slow=16,SNR=13 1.6nm,0.7s,baz=34,slow=9.9,SNR=4.3 0.4nm,0.6s,baz=145,slow=7.5,SNR=6.3 0.4nm,0.4s,baz=116,slow=10,SNR=7.7 0.2nm,0.7s,baz=247,slow=6.8,SNR=5.3 0.1nm,0.4s,baz=155,slow=1.6,SNR=4.6

*IDC **23** 00:04:33.4±1.7, 18°.73S×167°.67E, h0km, mb4.2/6, mb1 4.4/7, mb1mx4.0/41, mbtmp4.1/7, ML3.0/1, Error ellipse: s-maj=46.1km s-min=25.1km az=122.0*

*NEIC **23** 00:04:35.0±0.4, 18°.69S×167°.66E, h10km, mb4.6/4, Error ellipse: s-maj=16.0km s-min=8.4km az=137.0*

*ISCJB **23** 00:04:35.6±0.6, 18°.72S±0°.08×167°.6E±0°.1, h25km, mb4.7/11, Error ellipse: s-maj=18.2km s-min=8.4km az=26.5*

ISC 23 00:04:37.3±0.7, **18°.7S**±0°.1×**167°.7E**±0°.2, **h25**km, **n22,** σ0§**74**/**23**, **mb4.4**/**11**, **Vanuatu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**3.51**	**199**	Pn	**Pn**	**00 05 30.4**	**0.0**
DZM	1.3nm,0.3s,baz=90,slow=11,SNR=26 8.8nm,0.3s,baz=142,slow=22,SNR=12			Sn	**Sn**	**00 06 11.2**	**-0.1**
FUNA	**Funafuti**	**15.10**	**49**	*e*Pn	**Pn**	**00 08 08.0**	**-1.1**
WRA	**Warramunga Arr**	**31.46**	**262**	P	**P**	**00 10 55.6**	**-1.5**
ASAR	**Alice Springs**	**31.83**	**255**	P	**P**	**00 10 59.9**	**-0.4**
FITZ	**Fitzroy Crossi**	**39.84**	**264**	P	**P**	**00 12 09.0**	**0.0**
COCO	**West Island**	**68.23**	**264**	P	**P**	**00 15 35.9**	**-0.5**
CMAR	**Chiang Mai Arr**	**76.97**	**295**	P	**P**	**00 16 29.3**	**+1.1**
SONM	**Songino Array**	**85.95**	**324**	P	**P**	**00 17 15.5**	**+0.1**
CMB	**Columbia Colle**	**87.92**	**49**	*e*P	**P**	**00 17 25.5**	**+0.4**
MCK	**McKinley**	**88.83**	**18**	*e*P	**P**	**00 17 28.9**	**+0.2**
SNAA	**Sanae**	**89.58**	**183**	*e*P	**P**	**00 17 33.0**	**+0.5**
ILAR	**Eielson Array**	**90.20**	**18**	P	**P**	**00 17 34.7**	**-0.4**
NEW	**Newport**	**94.34**	**40**	*e*P	**P**	**00 17 54.5**	**-0.2**
GERES	**GERESS Array B**	**143.36**	**331**	PKP	**PKPdf**	**00 24 09.9**	**+0.3**
MYKA	**Terra Mystica**	**144.95**	**328**	*i* PKPdf	**PKPdf**	**00 24 12.0**	**-0.4**
ABTA	**Abfaltersbach**	**145.42**	**329**	*e*PKPdf	**PKPab**	**00 24 13.5**	**+0.1**
WTTA	**Wattenberg**	**145.46**	**331**	*i* pPKPbc	**PKPab**	**00 24 15.2**	**+1.5**
MOTA	**Moosalm**	**145.64**	**331**	*e*pPKPbc	**PKPab**	**00 24 14.9**	**+0.7**
SQTA	**Sankt Quirin**	**145.69**	**331**	*e*pPKPbc	**PKPab**	**00 24 15.1**	**+0.7**
RETA	**Reutte**	**145.69**	**332**	*e*pPKPbc	**PKPab**	**00 24 15.2**	**+0.9**
FETA	**Feichten**	**146.05**	**331**	*e*pPKPdf	**PKPab**	**00 24 16.8**	**+0.9**
DAVA	**Damuels**	**146.23**	**332**	*e*pPKPdf	**PKPab**	**00 24 16.6**	**+0.1**

1nm,1.2s 4.7nm,1.1s 11nm,1.1s 8.6nm,1.3s

*IDC **23** 00:04:52.9±0.7, 33°.64N×87°.60E, h0km, mb3.9/13, mb1 4.1/16, mb1mx3.9/63, mbtmp3.9/16, ML3.7/3, Error ellipse: s-maj=25.1km s-min=14.8km az=48.0*

*NEIC **23** 00:04:55.0±0.6, 33°.72N×87°.48E, h10km, mb4.4/1, Error ellipse: s-maj=21.6km s-min=10.2km az=57.0*

*BJI **23** 00:04:56.8, 33°.70N×87°.99E, h6km, mb4.2/5*

*ISCJB **23** 00:04:57.0±0.3, 33°.78N±0°.03×87°.60E±0°.07, h33km, mb4.0/14, Error ellipse: s-maj=9.0km s-min=4.5km az=176.3*

*MOS **23** 00:04:57.5±1.6, 33°.81N×87°.64E, h33km, mb4.1/9, Error ellipse: s-maj=18.3km s-min=8.2km az=112.0*

ISC 23 00:04:59.0±0.6, **33°.73N**±0°.07×**87°.54E**±0°.07, **h35**km, **n50,** σ1§**58**/**52**, **mb4.1**/**14**, **2C-1D**, **Xizang**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LSA	**Lhasa**	**5.06**	**142**	*e*P	**Pn**	**00 06 14.8**	**+1.9**
LSA	comp=Z,40nm,0.7s			pmax	pmax		
LSA	**Lhasa**	**5.06**	**142**	*e*Pn	**Pn**	**00 06 14.8**	**+1.9**
GUN	**Gumba**	**5.98**	**194**	*e*P	**Pn**	**00 06 26.9**	**+1.5**
JIRN	**Jiri**	**6.17**	**191**	*e*P	**Pn**	**00 06 29.8**	**+1.8**
GKN	**Gorkha**	**6.23**	**204**	*e*P	**Pn**	**00 06 29.3**	**+0.6**
KKN	**Kakani**	**6.24**	**199**	*e*P	**Pn**	**00 06 30.0**	**+1.2**
TAPN	**Taplejung**	**6.37**	**179**	*e*P	**Pn**	**00 06 31.8**	**+1.2**
PKIN	**Phulchoki**	**6.41**	**197**	*e*P	**Pn**	**00 06 32.1**	**+0.9**
PKI	**Pulchoki**	**6.41**	**197**	*e*P	**Pn**	**00 06 32.0**	**+0.7**
DMN	**Daman**	**6.46**	**200**	*e*P	**Pn**	**00 06 32.5**	**+0.7**
RAMN	**Ramite**	**6.81**	**187**	*e*P	**Pn**	**00 06 36.9**	**+0.2**
PYUN	**Piuthan**	**6.84**	**216**	*e*P	**Pn**	**00 06 37.3**	**+0.2**
KOLN	**Koldanda**	**6.84**	**211**	*e*P	**Pn**	**00 06 38.5**	**+1.4**
ODAN	**Odare**	**6.85**	**181**	*e*P	**Pn**	**00 06 37.8**	**+0.5**
WMQ	**Urumqi**	**10.07**	**1**	P	**Pn**	**00 07 25.5**	**+4.3**
AAK	**Ala-Archa**	**13.56**	**315**	⇑*i*P	**Pn**	**00 08 11.6**	**+2.6**
MKAR	**Makanchi Array**	**13.64**	**345**	Pn	**Pn**	**00 08 08.0**	**-1.9**
MKAR	**Makanchi Array**	**13.64**	**345**	P	**Pn**	**00 08 08.0**	**-1.9**
KURBB	**Kurchatov Arra**	**18.12**	**341**	P	**Pn**	**00 09 06.0**	**-1.8**
KURK	**Kurchatov**	**18.19**	**342**	⇑P	**P**	**00 09 06.8**	**-1.8**
KURK	**Kurchatov**	**18.19**	**342**	P	**P**	**00 09 06.0**	**-2.6**
CMAR	**Chiang Mai Arr**	**18.32**	**143**	P	**P**	**00 09 08.8**	**-1.4**
SONM	**Songino Array**	**19.98**	**40**	P	**P**	**00 09 28.3**	**-0.1**
SONM	**Songino Array**	**19.98**	**40**	*e*P	**Pn**	**00 09 31.0**	**+0.7**
SONM	comp=Z,2.0nm,0.7s			pmax	pmax		
ZAK	**Zakamensk**	**20.26**	**30**	*e*P	**P**	**00 09 30.8**	**-0.6**
ZAK	comp=Z,3.0nm,1.1s			pmax	pmax		
ZALV	**Zalesovo Beam**	**20.30**	**355**	P	Pn	00 09 33.1	-0.7

comp=Z,0.6nm,0.4s,baz=176,slow=9.9,SNR=7.5

ULN	**Ulaanbaatar**	**20.35**	**40**	⇓*i*P	**P**	**00 09 31.6**	**-0.9**
ULN	comp=Z,11nm,2.0s			pmax	pmax		
BVAR	**Borovoye Array**	**22.85**	**333**	P	**P**	**00 09 59.6**	**+0.5**
BRVK	**Borovoye**	**22.92**	**333**	*e*P	**P**	**00 09 59.8**	**+0.1**
GEYT	**Alibeck**	**24.17**	**288**	P	**P**	**00 10 13.4**	**+1.4**
ABKAR	**Akbulak array**	**25.65**	**315**	*e*P	**P**	**00 10 25.4**	**+0.1**
ARU	**Arti**	**30.16**	**328**	*e*P	**P**	**00 11 06.7**	**+1.2**
ARU						00 12 01.1	
ARU				S	**S**	**00 16 06.0**	**+3.9**
ARU				SS	**SnSn**	**00 17 35.2**	**-1.7**
VSR	**Storozhevoye**	**38.93**	**312**	*e*P	**P**	**00 12 20.6**	**-0.7**
VSR	comp=Z,10.0nm,0.8s			pmax	pmax		
LPSR	**Galich'ya Gora**	**39.28**	**314**	*e*P	**P**	**00 12 24.0**	**-0.2**
LPSR	comp=Z,10.0nm,0.7s			pmax	pmax		
BRTR	**Keskin Array B**	**43.07**	**294**	P	**P**	**00 12 56.4**	**+0.7**
BRTR	**Keskin Array B**	**43.07**	**294**	*e*P	**P**	**00 12 57.3**	**+1.6**
BRTR	comp=Z,1.0nm,0.9s			pmax	pmax		
AKASG	**Malin Array Be**	**45.18**	**310**	P	**P**	**00 13 11.3**	**-0.9**
AKASG	comp=Z,1.8nm,0.6s,baz=79,slow=7.4,SNR=7.2 comp=Z,1.0nm,0.6s			pmax	pmax		
AKASG	**Malin Array Be**	**45.18**	**310**	P	**P**	**00 13 11.3**	**-0.9**
FINES	**FINESS Array B**	**47.46**	**325**	P	**P**	**00 13 29.1**	**-0.9**
FINES	**FINESS Array B**	**47.46**	**325**	*e*P	**P**	**00 13 30.2**	**+0.2**
FINES	comp=Z,2.0nm,0.7s			pmax	pmax		
GERES	**GERESS Array B**	**55.38**	**310**	P	**P**	**00 14 29.9**	**+0.3**
GERES	**GERESS Array B**	**55.38**	**310**	*e*P	**P**	**00 14 32.6**	**+3.0**
GERES	comp=Z,1.0nm,0.6s			pmax	pmax		
WRA	**Warramunga Arr**	**69.56**	**133**	P	**P**	**00 16 03.3**	**-1.2**
ESDC	**Sonseca Array**	**70.45**	**305**	P	**P**	**00 16 09.2**	**-0.7**
ASAR	**Alice Springs**	**72.14**	**136**	P	**P**	**00 16 19.0**	**-1.2**
ASAR	**Alice Springs**	**72.14**	**136**	*e*P	**P**	**00 16 21.8**	**+1.6**
ASAR	comp=Z,2.0nm,0.8s			pmax	pmax		
ILAR	**Eielson Array**	**73.04**	**21**	P	**P**	**00 16 23.6**	**-1.4**
ILAR	**Eielson Array**	**73.04**	**21**	*e*P	**P**	**00 16 26.4**	**+1.4**
ILAR	comp=Z,1.0nm,0.9s			pmax	pmax		
TORD	**Torodi Ar. Bea**	**79.41**	**279**	P	**P**	**00 17 00.9**	**-1.1**
CPUP	**Villa Florida**	**148.82**	**274**	PKP	**PKPdf**	**00 24 37.3**	**-1.9**
CPUP	comp=Z,3.0nm,0.9s,baz=68,slow=5.4,SNR=4.2 comp=Z,3.1nm,0.8s,baz=96,slow=5.6,SNR=5.2			PKPbc	**PKPbc**	**00 24 42.1**	**-1.0**

*IDC **23** 00:07:29.9±1.8, 2°.74N×96°.27E, h0km, mb3.9/7, mb1 4.0/9, mb1mx3.6/59, mbtmp3.9/9, ML3.9/2, Error ellipse: s-maj=60.1km s-min=22.2km az=43.0*

*ISCJB **23** 00:07:32.8±0.7, 2°.77N±0°.08×96°.34E±0°.10, h33km, mb4.1/9, Error ellipse: s-maj=14.6km s-min=11.0km az=158.8*

*NEIC **23** 00:07:34.8±0.8, 2°.75N×96°.43E, h35km, mb4.3/3, Error ellipse: s-maj=16.3km s-min=11.9km az=64.0*

ISC 23 00:07:34.3±0.9, **2°.82N**±0°.10×**96°.4E**±0°.1, **h33**km, **n22,** σ1§**36**/**15**, **mb4.0**/**8**, **Northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LHMI	**Lhok Sumawe**	**2.45**	**12**	*e*Pn	**Pn**	**00 08 12.1**	**+0.1**
PSI	**Prapat**	**2.50**	**90**	Pn	**Pn**	**00 08 14.7**	**+1.8**
	2.9nm,0.3s,baz=290,slow=11,SNR=13						
KULM	**Kulim**	**4.88**	**60**	*e*Pn	**Pn**	**00 08 46.5**	**+1.0**
COCO	**West Island**	**14.92**	**178**	*e*Pn	**Pn**	**00 11 02.5**	**-0.4**
CMAR	**Chiang Mai Arr**	**15.73**	**9**	Pn	**P**	**00 11 16.4**	**-0.9**
	0.7nm,0.3s,baz=210,slow=10,SNR=5.1						
KKM	**Kota Kinabalu**	**19.99**	**80**	*e*P	**P**	**00 12 03.1**	**-1.3**
	7.1nm,0.9s						
H08S2	**Diego Garcia H**	**26.04**	**246**	T	T	00 39 43.5	
	baz=68,slow=76,SNR=6.7						
H08S3	**Diego Garcia H**	**26.04**	**246**	T	T	00 39 40.8	
	baz=68,slow=76,SNR=6.0						
H08S1	**Diego Carcia H**	**26.05**	**246**	T	T	00 39 45.7	
	baz=68,slow=76,SNR=7.1						
H01W3	**Cape Leeuwin H**	**41.03**	**158**	T	T	00 58 38.4	
	baz=333,slow=76,SNR=5.1						
H01W2	**Cape Leeuwin H**	**41.04**	**158**	T	T	00 58 38.5	
	baz=333,slow=76,SNR=4.8						
H01W1	**Cape Leeuwin H**	**41.05**	**158**	T	T	00 58 43.2	
	baz=333,slow=76,SNR=5.3						
WRA	**Warramunga Arr**	**43.56**	**123**	P	**P**	**00 15 36.0**	**+0.5**
	1.0nm,0.6s,baz=301,slow=9.2,SNR=6.3						
MKAR	**Makanchi Array**	**45.49**	**346**	P	**P**	**00 15 50.4**	**-0.2**
	0.7nm,0.3s,baz=156,slow=8.9,SNR=11						
KURBB	**Kurchatov Arra**	**49.97**	**345**	P	**P**	**00 16 25.7**	**+0.5**
	0.9nm,0.6s,baz=164,slow=6.8,SNR=3.4						
KURK	**Kurchatov**	**50.04**	**345**	P	**P**	**00 16 25.7**	**+0.1**
ZALV	**Zalesovo Beam**	**51.85**	**351**	P	**P**	**00 16 39.1**	**-0.2**
	1.3nm,0.6s,baz=175,slow=7.5,SNR=7.3						
PMG	**Port Moresby**	**51.99**	**104**	*e*P	**P**	**00 16 38.4**	**-2.6**
	1.8nm,0.4s						
BVAR	**Borovoye Array**	**54.47**	**341**	P	**P**	**00 16 58.7**	**+0.1**
	0.4nm,0.4s,baz=146,slow=8.0,SNR=3.8						
FINES	**FINESS Array B**	**78.21**	**332**	P	**P**	**00 19 31.5**	**+1.1**
	2.6nm,0.8s,baz=152,slow=8.6,SNR=3.4						
ARCES	**ARCESS Array B**	**80.76**	**340**	P	**P**	**00 19 46.7**	**+2.5**
	4.3nm,0.9s,baz=22,slow=5.1,SNR=3.0						
PMR	**Palmer**	**98.90**	**26**	*e*P	Pdif	00 21 12.1	+1.0
	0.6nm,0.4s						

IDC 23 00:07:58.0±3.5, **3°.47N×63°.60E, h0km, mb3.7**/3, **mb1 3.9**/3, **mb1mx3.3**/51, **mbtmp3.7**/3, **Error ellipse: s-maj=169.0km s-min=34.3km az=54.0, Carlsberg Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H08N2	**Diego Garcia H**	**12.21**	**143**	T	T	00 23 45.0	
	baz=324,slow=76,SNR=75						
H08N3	**Diego Garcia H**	**12.23**	**143**	T	T	00 23 51.0	
	baz=324,slow=76,SNR=78						
H08N1	**Diego Carcia H**	**12.24**	**143**	T	T	00 23 46.7	
	baz=324,slow=76,SNR=97						
AKTO	**Aktyubinsk**	**47.04**	**355**	P	P	00 16 31.2	0.0
	0.6nm,0.5s,baz=193,slow=6.9,SNR=3.5						
WRA	**Warramunga Arr**	**73.18**	**112**	P	P	00 19 31.1	-0.2
	0.6nm,0.8s,baz=288,slow=5.0,SNR=4.8						
ASAR	**Alice Springs**	**73.47**	**116**	P	P	00 19 33.2	+0.3
	0.2nm,0.4s,baz=296,slow=7.1,SNR=4.2						
TXAR	**Lajitas Array**	**145.17**	**340**	PKPbc	PKPbc	00 27 37.0	-1.0
	0.3nm,0.7s,baz=23,slow=4.1,SNR=4.1						

*IDC **23** 00:07:59.8±7.5, 24°.20S×179°.29E, h528km±67km, mb2.9/5, mb1 3.1/6, mb1mx2.9/35, mbtmp4.0/6, Error ellipse: s-maj=73.7km s-min=28.3km az=45.0*

ISC 23 00:08:00.1±2.9, **24°.2S**±0°.3×**179°.4E**±0°.4, **h537**km, **n7,** σ1§**03**/**7**, **mb3.3**/**5**, **South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**14.14**	**187**	P	**P**	**00 11 00.3**	**-0.3**
	1.2nm,0.3s,baz=21,slow=6.3,SNR=5.7						
CTA	**Charters Tower**	**30.92**	**271**	P	**P**	**00 13 33.7**	**+0.4**
	2.3nm,0.4s,baz=92,slow=12,SNR=4.2						
ASAR	**Alice Springs**	**41.43**	**261**	P	**P**	**00 15 00.1**	**0.0**
	0.3nm,0.4s,baz=95,slow=7.1,SNR=4.0						
WRA	**Warramunga Arr**	**41.83**	**267**	P	**P**	**00 15 01.3**	**-2.0**
	0.8nm,0.5s,baz=102,slow=8.4,SNR=20						
FITZ	**Fitzroy Crossi**	**50.25**	**266**	P	**P**	**00 16 07.2**	**0.0**
	0.6nm,0.6s,baz=129,slow=8.0,SNR=3.8						
MAW	**Mawson**	**77.27**	**201**	P	**P**	**00 18 58.9**	**+0.3**
	0.4nm,0.5s,baz=102,slow=9.3,SNR=3.8						
BRTR	**Keskin Array B**	**147.31**	**307**	PKPbc	**PKPbc**	**00 26 43.5**	**-0.2**
	0.5nm,0.7s,baz=56,slow=3.5,SNR=3.2						

*KRSC **23** 00:11:47.7±0.7, 53°.90N×159°.97E, h121km±8km, ML4.4*

*ISCJB **23** 00:11:48.1±0.3, 53°.96N±0°.03×159°.74E±0°.07, h131km±2km, mb4.0/16, Error ellipse: s-maj=8.0km s-min=3.2km az=31.9*

*MOS **23** 00:11:48.4±1.1, 54°.01N×159°.50E, h131km, mb4.1/11, Error ellipse: s-maj=11.3km s-min=4.7km az=74.2*

*IDC **23** 00:11:50.7±1.7, 54°.14N×159°.27E, h131km±14km, mb3.5/8, mb1 3.7/8, mb1mx3.3/54, mbtmp3.9/8, Error ellipse: s-maj=25.0km s-min=23.8km az=83.0*

ISC 23 00:11:48.5±0.6, **53°.96N**±0°.03×**159°.79E**±0°.04, **h123**km±5km, **n99,** σ1§**45**/137, **mb4.1**/16, **3C-1D**, **Near east coast of Kamchatka Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KII	**Karymskiy**	**0.21**	**292**	PN	**Pn**	**00 12 05.7**	**+0.2**
KII				S	**Sn**	**00 12 19.3**	**+0.9**
KII	**Karymskiy**	**0.21**	**292**	*e*P	**Pn**	**00 12 05.7**	**+0.2**
KII				*e*S	**Sn**	**00 12 19.3**	**+0.9**
NLC	**Nalytchevo**	**0.83**	**199**	PN	**Pn**	**00 12 09.4**	**+0.3**
NLC				S	**Sn**	**00 12 24.8**	**+0.2**
NLC	**Nalytchevo**	**0.83**	**199**	*e*P	**Pn**	**00 12 09.4**	**+0.3**
NLC				*e*S	**Sn**	**00 12 24.8**	**+0.2**
SPN	**Mys Shipunski**	**0.87**	**171**	PN	**Pn**	**00 12 09.6**	**+0.1**
SPN				S	**Sn**	**00 12 24.6**	**-0.7**
SPN	**Mys Shipunski**	**0.87**	**171**	*e*P	**Pn**	**00 12 09.6**	**+0.1**
SPN				*e*S	**Sn**	**00 12 24.6**	**-0.7**
KRER	**Koryakskii**	**0.90**	**224**	PN	**Pn**	**00 12 10.8**	**+0.8**
KRER				S	**Sn**	**00 12 26.9**	**+0.7**
KRER	**Koryakskii**	**0.90**	**224**	*e*P	**Pn**	**00 12 10.8**	**+0.8**
KRER				*e*S	**Sn**	**00 12 26.9**	**+0.7**
KRX	**Arik**	**0.90**	**229**	PN	**Pn**	**00 12 10.8**	**+0.9**
KRX	**Arik**	**0.90**	**229**	*e*P	**Pn**	**00 12 10.8**	**+0.9**
AVH	**Avacha**	**0.93**	**223**	PN	**Pn**	**00 12 11.1**	**+1.0**
AVH				S	**Sn**	**00 12 27.9**	**+1.4**
AVH	**Avacha**	**0.93**	**223**	*e*P	**Pn**	**00 12 11.1**	**+1.0**
AVH				*e*S	**Sn**	**00 12 27.9**	**+1.4**
UGLR	**Uglovaya**	**0.94**	**218**	PN	**Pn**	**00 12 11.0**	**+0.7**
UGLR				S	**Sn**	**00 12 27.0**	**+0.3**
UGLR	**Uglovaya**	**0.94**	**218**	*e*P	**Pn**	**00 12 11.0**	**+0.7**
UGLR				*e*S	**Sn**	**00 12 27.0**	**+0.3**
KOK	**Koryaka**	**0.95**	**226**	PN	**Pn**	**00 12 11.5**	**+1.1**
KOK	**Koryaka**	**0.95**	**226**	*e*P	**Pn**	**00 12 11.5**	**+1.1**
DALK	**Dalny**	**1.11**	**214**	PN	**Pn**	**00 12 12.3**	**+0.5**
DALK				S	**Sn**	**00 12 30.3**	**+0.9**
DALK	**Dalny**	**1.11**	**214**	*e*P	**Pn**	**00 12 12.3**	**+0.5**
DALK				*e*S	**Sn**	**00 12 30.3**	**+0.9**
GNL	**Ganaly**	**1.12**	**257**	PN	**Pn**	**00 12 12.6**	**+0.6**
GNL				S	**Sn**	**00 12 30.5**	**+0.6**
GNL	**Ganaly**	**1.12**	**257**	*i* P	**Pn**	**00 12 12.6**	**+0.6**
GNL				*e*S	**Sn**	**00 12 30.5**	**+0.6**
PET	**Petropavlovsk**	**1.15**	**216**	*e*PN	**Pn**	**00 12 12.9**	**+0.7**
PET				*e*S	**Sn**	**00 12 30.3**	**+0.1**
PET	comp=Z,352nm,0.5s			pmax	pmax		
PET	comp=E,1μm,0.4s			smax	smax		
PET	comp=N,1μm,0.6s			smax	smax		
MKZ	**Mys Kozlova**	**1.29**	**61**	PN	**Pn**	**00 12 14.1**	**+0.5**
MKZ				S	**Sn**	**00 12 32.4**	**-0.3**
MKZ	**Mys Kozlova**	**1.29**	**61**	*i* P	**Pn**	**00 12 14.1**	**+0.5**
MKZ				*e*S	**Sn**	**00 12 32.4**	**-0.3**
TUMR	**Tumrok**	**1.35**	**9**	PN	**Pn**	**00 12 15.7**	**+1.3**
TUMR				S	**Sn**	**00 12 35.7**	**+1.6**
TUMR	**Tumrok**	**1.35**	**9**	*e*P	**Pn**	**00 12 15.7**	**+1.3**
TUMR				*e*S	**Sn**	**00 12 35.7**	**+1.6**
KRMR	**Karymshinskiy**	**1.50**	**222**	PN	**Pn**	**00 12 16.9**	**+0.9**
KRMR				S	**Sn**	**00 12 38.2**	**+1.2**
KRMR	**Karymshinskiy**	**1.50**	**222**	*e*P	**Pn**	**00 12 16.9**	**+0.9**
KRMR				*e*S	**Sn**	**00 12 38.2**	**+1.2**
PETK	**Petropavlovsk-**	**1.51**	**237**	P	**Pn**	**00 12 16.9**	**+0.7**
PETK	comp=N,25nm,0.3s,baz=66,slow=16,SNR=123			S	**Sn**	**00 12 38.4**	**+1.2**
	comp=N,6.8nm,0.3s,baz=77,slow=20,SNR=6.3						
RUS	**Russkaya**	**1.71**	**207**	PN	**Pn**	**00 12 18.9**	**+0.5**
RUS				S	**Sn**	**00 12 41.3**	**0.0**
RUS	**Russkaya**	**1.71**	**207**	*e*P	**Pn**	**00 12 18.9**	**+0.5**
RUS				*e*S	**Sn**	**00 12 41.3**	**0.0**
GRL	**Gorelyy**	**1.74**	**217**	PN	**Pn**	**00 12 19.6**	**+0.6**
GRL	**Gorelyy**	**1.74**	**217**	*e*P	**Pn**	**00 12 19.6**	**+0.6**
MTVR	**Mutnovka**	**1.76**	**214**	PN	**Pn**	**00 12 21.0**	**+1.7**
MTVR				S	**Sn**	**00 12 44.9**	**+2.2**
MTVR	**Mutnovka**	**1.76**	**214**	*e*P	**Pn**	**00 12 21.0**	**+1.7**
MTVR				*e*S	**Sn**	**00 12 44.9**	**+2.2**
KMNR	**Kamenistaya**	**1.82**	**8**	PN	**Pn**	**00 12 21.4**	**+1.5**
KMNR	**Kamenistaya**	**1.82**	**8**	*e*P	**Pn**	**00 12 21.4**	**+1.5**
APC	**Apacha**	**1.88**	**238**	PN	**Pn**	**00 12 21.8**	**+1.3**
APC				S	**Sn**	**00 12 46.1**	**+1.1**
APC	**Apacha**	**1.88**	**238**	*e*P	**Pn**	**00 12 21.8**	**+1.3**
APC				*e*S	**Sn**	**00 12 46.1**	**+1.1**
ASAK	**Asacha**	**1.94**	**217**	PN	**Pn**	**00 12 22.7**	**+1.3**
ASAK				S	**Sn**	**00 12 47.2**	**+0.7**
ASAK	**Asacha**	**1.94**	**217**	*e*P	**Pn**	**00 12 22.7**	**+1.3**
ASAK				*e*S	**Sn**	**00 12 47.2**	**+0.7**
BZMR	**Bezymyannaya**	**2.02**	**11**	PN	**Pn**	**00 12 23.5**	**+1.1**
BZMR				S	**Sn**	**00 12 48.3**	**-0.1**
BZMR	**Bezymyannaya**	**2.02**	**11**	*e*P	**Pn**	**00 12 23.5**	**+1.1**
BZMR				*e*S	**Sn**	**00 12 48.3**	**-0.1**
KIRR	**Kirishev**	**2.03**	**9**	PN	**Pn**	**00 12 23.3**	**+0.8**
KIRR	**Kirishev**	**2.03**	**9**	*e*P	**Pn**	**00 12 23.3**	**+0.8**
KPT	**Kopyto**	**2.03**	**7**	PN	**Pn**	**00 12 23.3**	**+0.9**
KPT	**Kopyto**	**2.03**	**7**	*e*P	**Pn**	**00 12 23.3**	**+0.9**
ESO	**Esso**	**2.07**	**343**	PN	**Pn**	**00 12 23.3**	**+0.4**
ESO	**Esso**	**2.07**	**343**	*i* P	**Pn**	**00 12 23.3**	**+0.4**
ZLN	**Zelenaya**	**2.15**	**15**	PN	**Pn**	**00 12 25.7**	**+1.8**
ZLN	**Zelenaya**	**2.15**	**15**	*e*P	**Pn**	**00 12 25.7**	**+1.8**
LGNR	**Loginova**	**2.19**	**13**	PN	**Pn**	**00 12 26.5**	**+1.8**
LGNR	**Loginova**	**2.19**	**13**	*e*P	**Pn**	**00 12 26.5**	**+1.8**
CIRR	**Tsirk**	**2.23**	**14**	PN	**Pn**	**00 12 26.5**	**+1.5**
CIRR	**Tsirk**	**2.23**	**14**	*e*P	**Pn**	**00 12 26.5**	**+1.5**
KDTR	**Khodutka, Kamc**	**2.39**	**206**	*e*P	**Pn**	**00 12 27.1**	**+0.3**
KDTR				*e*S	**Sn**	**00 12 55.3**	**-1.0**
KLY	**Klyuchi**	**2.41**	**12**	PN	**Pn**	**00 12 29.2**	**+2.1**
KLY	**Klyuchi**	**2.41**	**12**	*e*P	**Pn**	**00 12 29.2**	**+2.1**
SMKR	**Semkarok**	**2.80**	**19**	PN	**Pn**	**00 12 34.8**	**+2.6**
SMKR	**Semkarok**	**2.80**	**19**	*e*P	**Pn

COLA					pmax	pmax			
	comp=Z,3.0nm,0.4s								
HHC	**Hu-ho-hao-te**	**34.48**	**268**	*eP*	**P**		**00**	**18**	**23.8 -0.7**
HHC					pmax	pmax			
	comp=Z,20nm,1.6s								
H11N2	**WAKE ISLAND Hy**	**34.60**	**168**	T	T		00	54	36.7
	baz=352,slow=76,SNR=15								
H11N3	**WAKE ISLAND Hy**	**34.61**	**168**	T	T		00	54	38.1
	baz=352,slow=76,SNR=12								
H11N1	**WAKE ISLAND Hy**	**34.61**	**168**	T	T		00	54	42.2
	baz=352,slow=76,SNR=15								
KURK	**Kurchatov**	**47.13**	**301** ⇑	*iP*	**P**		**00**	**20**	**06.0 -1.8**
KURK					pmax	pmax			
	comp=Z,9.0nm,0.6s								
KURBB	**Kurchatov Arra**	**47.23**	**301**	P	**P**		**00**	**20**	**06.9 -1.7**
	comp=Z,1.2nm,0.5s,baz=58,slow=7.6,SNR=17								
MKAR	**Makanchi Array**	**47.62**	**295**	P	**P**		**00**	**20**	**10.2 -1.6**
	comp=Z,1.3nm,0.6s,baz=55,slow=7.3,SNR=18								
BVAR	**Borovoye Array**	**49.71**	**308**	P	**P**		**00**	**20**	**26.0 -1.6**
	comp=Z,1.1nm,0.4s,baz=56,slow=9.1,SNR=10								
BVAR	**Borovoye Array**	**49.71**	**308**	P	**P**		**00**	**20**	**26.0 -1.6**
BVAR					pmax	pmax			
	comp=Z,1.0nm,0.4s								
BRVK	**Borovoye**	**49.74**	**308**	*eP*	**P**		**00**	**20**	**26.6 -1.2**
BRVK					pmax	pmax			
	comp=Z,6.0nm,0.7s								
ARU	**Arti**	**52.64**	**317**	*d iP*	**P**		**00**	**20**	**47.7 -1.7**
ARU					S	**S**	**00**	**28**	**04.4 -2.5**
ARU					pmax	pmax			
	comp=Z,8.0nm,2.5s								
AAK	**Ala-Archa**	**54.53**	**295** ⇑	*iP*	**P**		**00**	**21**	**02.0 -1.6**
AAK					pmax	pmax			
	comp=Z,3.0nm,1.2s								
FINES	**FINESS Array B**	**59.26**	**336**	P	**P**		**00**	**21**	**35.8 -0.5**
	comp=Z,6.0nm,1.1s,baz=59,slow=1.1,SNR=5.5								
FINES	**FINESS Array B**	**59.26**	**336**	*eP*	**P**		**00**	**21**	**36.4 +0.1**
FINES					pmax	pmax			
	comp=Z,5.0nm,1.0s								
BORG	**Borgarnes**	**61.63**	**1**	*i P*	**P**		**00**	**21**	**54.3 +1.9**
TXAR	**Lajitas Array**	**70.47**	**67**	P	**P**		**00**	**22**	**52.0 +2.5**
	comp=Z,0.1nm,0.4s,baz=295,slow=5.2,SNR=4.4								
WRA	**Warramunga Arr**	**76.79**	**205**	P	**P**		**00**	**23**	**27.7 +1.4**
	comp=Z,0.6nm,0.7s,baz=20,slow=6.1,SNR=4.8								
ESDC	**Sonseca Array**	**85.70**	**347**	P	**P**		**00**	**24**	**14.2 +0.8**
	comp=Z,0.6nm,0.5s,baz=358,slow=5.0,SNR=10.0								

IDC 23 00:17:08.8±1.9, 15°.07S×175°.11W, h0km, mb3.9/2, mb1 4.1/3, mb1mx3.6/27, mbtmp4.0/3, ML3.9/1, Error ellipse: s-maj=268.6km s-min=29.5km az=161.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**3.42**	**71**	Pn	Pn	00 18 02.2	-1.4
	12nm,0.3s,baz=67,slow=3.0,SNR=7.5						
AFI				Sn	Sn	00 18 41.9	-3.1
	10nm,0.3s,baz=307,slow=18,SNR=4.5						
WRA	**Warramunga Arr**	**48.32**	**257**	P	P	00 25 51.7	-0.8
	0.6nm,0.8s,baz=91,slow=7.0,SNR=5.1						
ASAR	**Alice Springs**	**48.65**	**252**	P	P	00 25 54.6	-0.4
	3.4nm,0.8s,baz=83,slow=8.4,SNR=31						
BRTR	**Keskin Array B**	**144.85**	**320**	PKP	PKPdf	00 36 50.1	+1.7
	1.4nm,0.8s,baz=75,slow=1.6,SNR=7.4						

IDC 23 00:41:55.8±1.5, 5°.26S×145°.60E, h0km, mb3.8/2, mb1 4.1/4, mb1mx3.6/29, mbtmp3.8/4, ML2.7/2, MS4.1/1, Ms1 4.1/1, ms1mx3.5/32, Error ellipse: s-maj=62.4km s-min=27.1km az=110.0
NEIC 23 00:42:00.7±0.5, 5°.37S×145°.68E, h35km, mb4.2/5, Error ellipse: s-maj=17.9km s-min=10.4km az=99.0
ISCJB 23 00:42:04.3±0.7, 5°.62S±0°.07×145°.8E±0°.1, h86km, mb4.2/7, Error ellipse: s-maj=16.5km s-min=9.2km az=170.4

ISC 23 00:42:05.2±0.8, 5°.58S±0°.09×145°.7E±0°.2, h86km, n13, σ1§40/14, mb4.1/7, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**4.06**	**160**	Pn	**Pn**	**00 43 03.9**	**-1.1**
	5.9nm,0.3s,baz=32,slow=2.5,SNR=7.1						
PMG				Sn	**Sn**	**00 43 49.8**	**-1.5**
	14nm,0.3s,baz=164,slow=19,SNR=7.4						
WRAB	**Tennant Creek**	**18.07**	**217**	*e*Pn	**P**	**00 46 12.0**	**+2.1**
	2.4nm,1.1s						
WRA	**Warramunga Arr**	**18.08**	**217**	P	**P**	**00 46 11.0**	**+0.8**
	0.1nm,0.3s,baz=41,slow=12,SNR=9.2						
WRA				LR	LR	00 52 55.9	
	comp=Z,615nm,19.5s,baz=215,slow=36						
GUMO	**Guam**	**19.06**	**357**	*eP*	**P**	**00 46 18.8**	**-2.0**
	11nm,0.5s						
ASAR	**Alice Springs**	**21.29**	**211**	P	**P**	**00 46 46.4**	**+1.4**
	1.2nm,0.9s,baz=36,slow=13,SNR=4.0						
RAO	**Raoul Island**	**41.62**	**129**	P	**P**	**00 49 46.6**	**+1.5**
	37nm,0.7s						
MAJO	**Matsushiro**	**42.49**	**351**	P	**P**	**00 49 52.5**	**+0.5**
	0.5nm,0.3s						
KULM	**Kulim**	**46.30**	**283**	P	**P**	**00 50 21.2**	**-1.5**
	1.4nm,0.7s						
MCK	**McKinley**	**84.35**	**24**	*eP*	**P**	**00 54 28.6**	**+1.0**
	1.8nm,0.8s						
COLA	**College**	**85.25**	**23**	*eP*	**P**	**00 54 31.9**	**-0.1**
	5.1nm,0.3s						
ILAR	**Eielson Array**	**85.59**	**23**	P	**P**	**00 54 34.8**	**+1.0**
	2.6nm,0.7s,baz=250,slow=5.1,SNR=25						
LSZ	**Lusaka**	**114.77**	**250**	*e*PKP	**PKPdf**	**01 00 37.2**	**+0.3**
TORD	**Torodi Ar. Bea**	**143.77**	**285**	PKP	**PKPdf**	**01 01 31.6**	**+0.1**
	0.3nm,0.8s,baz=63,slow=4.3,SNR=7.0						

JMA 23 01:02:01.9±0.2, 40°.21N×143°.41E, h10km±2km, M4.3
NEIC 23 01:02:05.7±0.6, 40°.16N×143°.44E, h35km±5km, mb4.3/8, Error ellipse: s-maj=8.6km s-min=4.8km az=99.0
MOS 23 01:02:06.0±1.4, 40°.23N×143°.22E, h49km, mb4.4/23, Error ellipse: s-maj=11.0km s-min=6.3km az=88.9
IDC 23 01:02:06.0±3.6, 40°.15N×143°.45E, h36km±29km, mb3.8/16, mb1 4.0/20, mb1mx3.8/49, mbtmp4.0/20, ML3.4/3, Error ellipse: s-maj=21.2km s-min=16.3km az=98.0

ISC 23 01:02:01.4±2.1, 40°.20N±0°.04×143°.50E±0°.05, h8km±13km, n79, σ1§03/86, mb4.2/29, 3C-2D, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTH	**Tanohata**	**1.28**	**259**	P	**Pn**	**01 02 24.6**	**-1.0**
JTH				*e*S	**Sb**	**01 02 40.9**	**-1.5**
MIYJ	**Miyakonagasawa**	**1.44**	**245**	P	**Pn**	**01 02 27.1**	**-0.6**
JANG	**Nango**	**1.53**	**277**	P	**Pn**	**01 02 28.4**	**-0.6**
ERM	**Erimo**	**1.83**	**352**	*d iP*	**Pb**	**01 02 34.4**	**-0.7**
ERM	**Erimo**	**1.83**	**352**	*e*Pn	**Pn**	**01 02 34.2**	**+1.1**
JEM	**Erimo**	**1.83**	**352**	P	**Pn**	**01 02 33.9**	**+0.8**
JOM	**Ohasama**	**1.85**	**248**	P	**Pn**	**01 02 33.6**	**+0.2**
JOM				*e*S	**Sn**	**01 02 56.8**	**-0.1**
JTM	**Tenmabayashi**	**1.94**	**288**	P	**Pn**	**01 02 35.0**	**+0.3**
JTM				*e*S	**Sn**	**01 02 59.3**	**0.0**
JMK	**Ichinoseki**	**2.16**	**235**	P	**Pn**	**01 02 37.8**	**+0.1**
JMK				*e*S	**Sn**	**01 03 04.3**	**-0.3**
JAH	**Hinai**	**2.19**	**271**	P	**Pn**	**01 02 38.8**	**+0.7**
JAH				*e*S	**Sn**	**01 03 05.7**	**+0.3**
JOT	**Ohata**	**2.20**	**303**	*e*S	**Sn**	**01 03 05.7**	**0.0**
JRG	**Rokugo**	**2.35**	**251**	P	**Pn**	**01 02 41.0**	**+0.7**
JCH	**Churui**	**2.41**	**358**	P	**Pn**	**01 02 42.0**	**+0.8**
JCH				*e*S	**Sn**	**01 03 10.9**	**0.0**
JKB	**Kayabe**	**2.51**	**313**	*e*S	**Sn**	**01 03 13.7**	**+0.4**
JYK	**Kaneyama**	**2.75**	**243**	P	**Pn**	**01 02 46.4**	**+0.7**
ASAJ	**Asahikawa**	**3.97**	**351**	Pn	**Pn**	**01 03 04.7**	**+2.2**
	2.4nm,0.3s,baz=215,slow=9.5,SNR=8.4						
YUK	**Yuzh-Kuril'sk**	**4.21**	**24**	P	**Pb**	**01 03 14.5**	**-1.2**
YUK				*i* S	**Sn**	**01 03 55.1**	**-0.2**
YUK				pmax	pmax		
	comp=N,142nm,0.2s						
YUK				pmax	pmax		
	comp=Z,166nm,0.2s						
YUK				pmax	pmax		
	comp=E,38nm,0.3s						
YUK				smax	smax		
	comp=E,224nm,0.5s						
YUK				smax	smax		
	comp=N,379nm,0.6s						
SHO	**Shikotan**	**4.43**	**33**	*e*P	**Pb**	**01 03 16.2**	**-3.2**
SHO				*i* S	**Sn**	**01 03 57.6**	**-2.9**
SHO				pmax	pmax		
	comp=Z,51nm,0.4s						
SHO				pmax	pmax		
	comp=N,23nm,0.2s						
SHO				pmax	pmax		
	comp=Z,16nm,0.2s						
SHO				smax	smax		
	comp=E,294nm,0.6s						
SHO				smax	smax		
	comp=N,105nm,0.4s						
MJA0	**Matsu Arr-Jizo**	**5.51**	**230**	*eP*	**Pn**	**01 03 25.7**	**+1.9**
MJA0				pmax	pmax		
	comp=Z,4.0nm,0.3s						
MAJO	**Matsushiro**	**5.53**	**230**	*c iP*	**Pn**	**01 03 25.6**	**+1.5**
MAJO	**Matsushiro**	**5.53**	**230**	*e*Pn	**Pn**	**01 03 25.1**	**+1.0**
	comp=Z,40nm,0.6s						
MAT	**Matsushiro**	**5.53**	**230**	P	**Pn**	**01 03 25.2**	**+1.1**
MAT				*e*S	**Sn**	**01 04 28.6**	**+0.7**
MJAR	**Matsushiro Arr**	**5.53**	**230**	Pn	**Pn**	**01 03 25.4**	**+1.3**
	comp=Z,4.0nm,0.3s,baz=41,slow=12,SNR=64						
KUR	**Kuril'sk**	**5.97**	**31**	P	**Pn**	**01 03 31.4**	**+1.4**
KUR				*e*S	**Sn**	**01 04 37.4**	**-1.1**
KUR				smax	smax		
	comp=N,54nm,0.5s						
KUR				smax	smax		
	comp=E,78nm,0.5s						
USRK	**Ussuriysk Ar.**	**9.43**	**299**	Pn	**Pn**	**01 04 20.1**	**+2.6**
	comp=E,0.6nm,0.3s,baz=103,slow=11,SNR=9.8						
KLR	**Kul'dur**	**12.29**	**321**	*eP*	**Pn**	**01 04 55.9**	**-0.7**
CBIJ	**Chichi jima**	**13.12**	**185**	*e*Pn	**Pn**	**01 05 08.5**	**+0.4**
MA2	**Magadan**	**19.93**	**11**	P	**Pn**	**01 06 35.9**	**+0.9**
	comp=E,0.5nm,0.3s,baz=177,slow=11,SNR=3.7						
SEY	**Seymchan**	**23.38**	**10**	P	**P**	**01 07 10.6**	**+0.4**
	comp=E,4.4nm,0.7s,baz=196,slow=8.4,SNR=9.8						
YAK	**Yakutsk**	**23.41**	**344**	*eP*	**P**	**01 07 10.2**	**-0.3**
YAK				pmax	pmax		
	comp=Z,13nm,0.5s						
BOD	**Bodaibo**	**25.86**	**323**	*eP*	**P**	**01 07 32.3**	**-0.9**
BOD				pmax	pmax		
	comp=Z,6.0nm,1.3s						
ULN	**Ulaanbaatar**	**27.10**	**299**	*i* P	**P**	**01 07 45.5**	**+0.8**
ULN				pmax	pmax		
	comp=Z,5.0nm,1.2s						
ULN	**Ulaanbaatar**	**27.10**	**299**	*eP*	**P**	**01 07 45.1**	**+0.3**
	comp=Z,1.8nm,0.5s						
SONM	**Songino Array**	**27.54**	**298**	P	**P**	**01 07 49.4**	**+0.7**
	comp=Z,1.6nm,0.6s,baz=101,slow=8.7,SNR=14						
H11N2	**WAKE ISLAND Hy**	**28.61**	**129**	T	T	01 38 00.2	
	baz=321,slow=75,SNR=116						
H11N1	**WAKE ISLAND Hy**	**28.62**	**129**	T	T	01 37 59.3	
	baz=321,slow=75,SNR=75						
H11N3	**WAKE ISLAND Hy**	**28.62**	**129**	T	T	01 38 01.6	
	baz=321,slow=75,SNR=80						
H11S1	**WAKE ISLAND Hy**	**29.44**	**130**	T	T	01 39 04.5	
	baz=322,slow=76,SNR=27						
H11S3	**WAKE ISLAND Hy**	**29.44**	**131**	T	T	01 39 06.7	
	baz=322,slow=76,SNR=22						
H11S2	**WAKE ISLAND Hy**	**29.46**	**130**	T	T	01 39 06.2	
	baz=322,slow=76,SNR=22						
DGZ	**Jazzator, Alta**	**39.95**	**303**	*i* P	**P**	**01 09 35.6**	**-0.6**
ZALV	**Zalesovo Beam**	**41.07**	**310**	P	**P**	**01 09 45.2**	**0.0**
	comp=Z,2.8nm,0.5s,baz=95,slow=7.9,SNR=13						
ZALV				PcP	**PcP**	**01 11 45.3**	**+0.6**
	comp=Z,1.4nm,0.6s,baz=68,slow=3.1,SNR=4.6						
MKAR	**Makanchi Array**	**43.90**	**300**	P	**P**	**01 10 08.4**	**+0.1**
	comp=Z,1.2nm,0.7s,baz=84,slow=10,SNR=9.7						
KURK	**Kurchatov**	**45.33**	**306**	*eP*	**P**	**01 10 19.4**	**-0.3**
KURK				pmax	pmax		
	comp=Z,66nm,0.8s						
KURK	**Kurchatov**	**45.33**	**306**	*eP*	**P**	**01 10 19.4**	**-0.3**
	comp=Z,66nm,0.8s						
COLA	**College**	**45.54**	**34**	*i* P	**P**	**01 10 20.4**	**-0.7**
COLA				pmax	pmax		
	comp=Z,2.0nm,0.6s						
ILAR	**Eielson Array**	**45.95**	**34**	P	**P**	**01 10 25.3**	**+0.9**
	comp=Z,0.7nm,0.7s,baz=263,slow=7.0,SNR=8.3						
BVAR	**Borovoye Array**	**49.70**	**311**	P	**P**	**01 10 54.1**	**+0.5**
	comp=Z,1.4nm,0.4s,baz=79,slow=8.0,SNR=17						
BRVK	**Borovoye**	**49.75**	**311**	*c iP*	**P**	**01 10 54.7**	**+0.6**
BRVK				pmax	pmax		
	comp=Z,6.0nm,0.9s						
BRVK	**Borovoye**	**49.75**	**311**	*eP*	**P**	**01 10 54.6**	**+0.6**
	comp=Z,2.1nm,0.4s						
AAK	**Ala-Archa**	**50.48**	**297**	*c iP*	**P**	**01 11 00.0**	**+0.1**
AAK				pmax	pmax		
	comp=Z,3.0nm,0.9s						
AAK	**Ala-Archa**	**50.48**	**297**	*eP*	**P**	**01 10 59.7**	**-0.2**
	comp=Z,1.7nm,0.6s						
KKAR	**Karatay Array**	**52.99**	**299**	*eP*	**P**	**01 11 18.3**	**-0.2**
KKAR				pmax	pmax		
	comp=Z,1.0nm,0.4s						
KKAR	**Karatay Array**	**52.99**	**299**	*eP*	**P**	**01 11 18.3**	**-0.2**
	comp=Z,0.8nm,0.4s						
ARU	**Arti**	**55.10**	**318**	P	**P**	**01 11 33.9**	**+0.3**
	comp=Z,1.6nm,0.4s,baz=78,slow=1.6,SNR=4.6						
ARU	**Arti**	**55.10**	**318**	*d iP*	**P**	**01 11 33.8**	**+0.2**
ARU						01 13 40.2	
ARU				S	**S**	**01 19 15.7**	**-0.5**
ARU				SS	**SS**	**01 22 56.3**	**-3.2**
ARU				pmax	pmax		
	comp=Z,7.0nm,1.2s						
ABKAR	**Akbulak array**	**57.18**	**309**	*eP*	**P**	**01 11 48.5**	**-0.1**
	comp=Z,2.0nm,0.5s						
AKTO	**Aktyubinsk**	**57.80**	**311**	P	**P**	**01 11 53.4**	**+0.4**
	comp=Z,0.9nm,0.5s,baz=69,slow=13,SNR=4.1						
WRAB	**Tennant Creek**	**60.43**	**190**	*eP*	**P**	**01 12 11.3**	**-0.1**
WRAB				pmax	pmax		
	comp=Z,2.0nm,0.8s						
WRAB	**Tennant Creek**	**60.43**	**190**	*eP*	**P**	**01 12 11.3**	**-0.1**
	comp=Z,2.2nm,0.8s						
WRA	**Warramunga Arr**	**60.44**	**190**	P	**P**	**01 12 11.0**	**-0.5**
	comp=Z,0.6nm,0.6s,baz=8.0,slow=6.9,SNR=11						
WRA	**Warramunga Arr**	**60.44**	**190**	P	**P**	**01 12 11.0**	**-0.5**
WRA				pmax	pmax		
	comp=Z,1.0nm,0.6s						
ASAR	**Alice Springs**	**64.16**	**190**	P	**P**	**01 12 36.3**	**-0.1**
	comp=Z,0.4nm,0.7s,baz=8.5,slow=4.6,SNR=4.2						
ASAR	**Alice Springs**	**64.16**	**190**	*eP*	**P**	**01 12 38.5**	**+2.1**
OBN	**Obninsk**	**66.54**	**323**	*eP*	**P**	**01 12 49.4**	**-2.1**
OBN				pmax	pmax		
	comp=Z,2.0nm,0.7s						
FINES	**FINESS Array B**	**66.77**	**332**	P	**P**	**01 12 53.5**	**+0.6**
	comp=Z,2.8nm,0.7s,baz=66,slow=6.4,SNR=10						
KBZ	**Knabaz**	**70.08**	**311**	P	**P**	**01 13 14.7**	**+0.9**
	comp=Z,2.6nm,0.8s,baz=88,slow=5.7,SNR=6.8						
NB2	**NORSAR Subarra**	**71.89**	**338**	P	**P**	**01 13 25.0**	**+0.3**
	comp=Z,1.1nm,0.7s,baz=37,slow=6.2						
NOA	**NORSAR Array B**	**71.89**	**338**	P	**P**	**01 13 24.9**	**+0.3**
	comp=Z,3.1nm,0.9s,baz=38,slow=5.9,SNR=4.7						
NOA	**NORSAR Array B**	**71.89**	**338**	P	**P**	**01 13 25.0**	**+0.3**
NOA				pmax	pmax		
	comp=Z,3.0nm,0.9s						
AKASG	**Malin Array Be**	**72.78**	**323**	P	**P**	**01 13 30.5**	**+0.4**
	comp=Z,0.3nm,0.2s,baz=40,slow=5.8,SNR=4.8						
AKASG	**Malin Array Be**	**72.78**	**323**	*eP*	**P**	**01 13 30.9**	**+0.8**
PSZ	**Piszkesteto**	**79.01**	**325**	*eP*	**P**	**01 14 05.3**	**-0.5**
PSZ				pmax	pmax		
	comp=Z,3.0nm,0.8s						
PSZ	**Piszkesteto**	**79.01**	**325**	*eP*	**P**	**01 14 05.3**	**-0.5**
	comp=Z,3.5nm,0.8s						
CLL	**Collm**	**79.15**	**331**	*i* P	**P**	**01 14 06.9**	**+0.5**
CLL				pmax	pmax		
	comp=Z,26nm,0.8s						
CLL	**Collm**	**79.15**	**331**	*i* P	**P**	**01 14 06.9**	**+0.5**
	comp=Z,4.0nm,0.8s						
GERES	**GERESS Array B**	**80.86**	**329**	P	**P**	**01 14 16.5**	**+0.7**
	comp=Z,0.7nm,0.7s,baz=51,slow=7.0,SNR=6.1						
GERES	**GERESS Array B**	**80.86**	**329**	*eP*	**P**	**01 14 15.3**	**-0.6**
GERES				pmax	pmax		
	comp=Z,1.0nm,0.7s						
TXAR	**Lajitas Array**	**86.91**	**54**	P	**P**	**01 14 48.5**	**+1.3**
	comp=Z,0.3nm,0.8s,baz=356,slow=2.7,SNR=2.9						

NIED 23 01:16:00, 35°.50N×141°.10E, h35km, Mw4.3 Best double couple: M0 3.15000×10^15 NP1:ϕ=139.00000°, δ21.00000°, λ=-11.00000°. NP2:ϕ=239.00000°, δ86.00000°, λ=-11.00000°.
IDC 23 01:16:41.6±0.7, 35°.40N×141°.01E, h0km, mb4.0/14, mb1 4.2/18, mb1mx4.1/40, mbtmp4.0/18, ML3.9/2, MS3.7/1, Ms1 3.7/1, ms1mx3.0/49, Error ellipse: s-maj=20.6km s-min=13.9km az=94.0
MOS 23 01:16:43.1±0.7, 35°.48N×141°.35E, h35km, mb4.4/21, Error ellipse: s-maj=11.1km s-min=6.6km az=102.1
NEIC 23 01:16:44.5±2.6, 35°.42N×141°.04E, h20km±16km, mb4.5/7, Error ellipse: s-maj=8.9km s-min=6.3km az=89.0
NEIC Recorded [1 JMA] in Chiba.

JMA 23 01:16:46.2, 35°.51N×140°.97E, h39km±1km, M3.8
JMA Felt I J1.

ISC 23 01:16:41.7±1.5, 35°.43N±0°.03×141°.02E±0°.05, h6km±9km, n81, σ1§55/82, mb4.1/31, 3C-4D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHOJ	**Chosi**	**0.30**	**334**	⇓P	**Pn**	**01 16 53.4**	**+0.9**
CHOJ				S	**Sb**	**01 16 58.7**	**+4.1**
KTR	**Katsuura**	**0.64**	**244**	P	**Pn**	**01 16 58.9**	**+1.7**
KTR				*e*S	**Sn**	**01 17 08.3**	**+0.6**
JCN	**Nagara**	**0.67**	**269**	⇓P	**Pn**	**01 16 58.8**	**+1.2**
JCN				*e*S	**Sn**	**01 17 07.7**	**-0.6**
BSO4	**Boso 4**	**0.71**	**232**	⇓P	**Pn**	**01 17 00.3**	**+2.2**
BSO4				*e*X		01 17 09.8	
BSO3	**Boso 3**	**0.76**	**214**	⇑P	**Pn**	**01 17 00.8**	**+2.2**
BSO3				*e*X		01 17 11.6	
BSO1	**Boso 1**	**0.78**	**182**	P	**Pn**	**01 17 01.1**	**+2.4**
BSO1				*e*X		01 17 13.3	
JYT	**Yasato**	**1.04**	**320**	P	**Pn**	**01 17 03.7**	**+1.0**
JIM2	**Oshima 3**	**1.48**	**242**	P	**Pg**	**01 17 09.5**	**-0.6**
JIM2				S	**Sg**	**01 17 29.5**	**+0.1**
JOD2	**Odawara 2**	**1.59**	**264**	P	**Pg**	**01 17 12.0**	**-0.1**
JAG	**Ashikaga**	**1.61**	**308**	P	**Pg**	**01 17 11.7**	**-0.8**
JHJ2	**Mitsune**	**2.52**	**204**	*e*Pn	**Pb**	**01 17 25.3**	**-2.0**
JHJ2				*e*Sn	**Sb**	**01 17 57.1**	**-1.4**
JHJ	**Hachijo jima 2**	**2.52**	**204**	Pn	**Pn**	**01 17 24.8**	**+1.7**
	106nm,0.3s,baz=320,slow=22,SNR=23						
JHJ				Sn	**Sb**	**01 17 56.6**	**-2.1**
	256nm,0.3s,baz=31,slow=23,SNR=11						
MJAR	**Matsushiro Arr**	**2.53**	**297**	Pn	**Pb**	**01 17 25.8**	**-1.7**
	17nm,0.3s,baz=100,slow=7.7,SNR=59						
MAJO	**Matsushiro**	**2.53**	**297**	*eP*	**Pb**	**01 17 26.0**	**-1.6**
MAJO	**Matsushiro**	**2.53**	**297**	*e*Pn	**Pb**	**01 17 26.0**	**-1.6**
MAT	**Matsushiro**	**2.53**	**297**	P	**Pb**	**01 17 25.9**	**-1.6**
MAT				*e*S	**Sb**	**01 17 58.0**	**-1.0**
ERM	**Erimo**	**6.78**	**14**	*eP*	**Pn**	**01 18 21.7**	**+0.1**
ERM				*e*		01 19 34.8	
ERM	**Erimo**	**6.78**	**14**	*e*Pn	**Pn**	**01 18 21.7**	**+0.1**
ERM				*e*Sn	**Sn**	**01 19 34.8**	**-4.3**
CBIJ	**Chichi jima**	**8.37**	**173**	*e*Pn	**Pn**	**01 18 43.9**	**+0.4**
ASAJ	**Asahikawa**	**8.76**	**7**	Pn	**Pn**	**01 18 49.0**	**+0.2**
ASAJ	**Asahikawa**	**8.76**	**7**	P	**Pn**	**01 18 49.0**	**+0.2**
YUK	**Yuzh-Kuril'sk**	**9.36**	**22**	*eP*	**Pn**	**01 18 56.5**	**-0.5**
KSRS	**Korea Array**	**10.74**	**285**	Pn	Pn	01 19 21.4	+5.5
	baz=99,slow=14,SNR=4.8						
KSRS				LR	LR	01 23 07.6	
	comp=Z,382nm,20.6s,baz=335,slow=36						
KSAR	**Wonju Array Be**	**10.77**	**285**	P	Pn	01 19 21.4	+5.1
KSAR	**Wonju Array Be**	**10.77**	**285**	Pn	Pn	01 19 21.4	+5.1
KUR	**Kuril'sk**	**11.09**	**26**	*eP*	**Pn**	**01 19 20.3**	**-0.4**
USRK	**Ussuriysk Ar.**	**11.17**	**324**	Pn	**Pn**	**01 19 24.3**	**+2.5**
	0.2nm,0.3s,baz=135,slow=12,SNR=4.4						
YSS	**Yuzh-Sakhalins**	**11.58**	**6**	*eP*	**Pn**	**01 19 26.6**	**-0.8**
YSS				pmax	pmax		
	comp=Z,15nm,1.1s						
KLR	**Kul'dur**	**15.38**	**337**	*eP*	**Pn**	**01 20 20.1**	**+1.0**
PET	**Petropavlovsk**	**21.55**	**30**	*eP*	**P**	**01 21 29.2**	**-2.3**
PET				pmax	pmax		
	comp=Z,5.0nm,1.0s						
MA2	**Magadan**	**24.98**	**12**	P	**P**	**01 22 07.9**	**+2.2**
	comp=Z,5.4nm,0.4s,baz=200,slow=12,SNR=6.2						
MA2	**Magadan**	**24.98**	**12**	*eP*	**P**	**01 22 03.3**	**-2.5**
YAK	**Yakutsk**	**27.56**	**348**	*i* P	**P**	**01 22 28.9**	**-0.1**
YAK				pmax	pmax		
	comp=Z,8.0nm,0.7s						
H11N2	**WAKE ISLAND Hy**	**27.65**	**118**	T	T	01 51 37.8	
	baz=310,slow=75,SNR=121						
H11N1	**WAKE ISLAND Hy**	**27.66**	**118**	T	T	01 51 39.8	
	baz=310,slow=75,SNR=125						
H11N3	**WAKE ISLAND Hy**	**27.67**	**118**	T	T	01 51 41.7	
	baz=310,slow=75,SNR=89						
ULN	**Ulaanbaatar**	**28.02**	**307**	*eP*	**P**	**01 22 34.6**	**+1.1**
ULN				pmax	pmax		
	comp=Z,2.0nm,0.5s						
ULN	**Ulaanbaatar**	**28.02**	**307**	*eP*	**P**	**01 22 34.6**	**+1.1**
	comp=Z,1.8nm,0.5s						
H11S1	**WAKE ISLAND Hy**	**28.30**	**120**	T	T	01 52 23.3	
	baz=312,slow=75,SNR=212						
H11S3	**WAKE ISLAND Hy**	**28.30**	**120**	T	T	01 52 28.3	
	baz=312,slow=75,SNR=182						
H11S2	**WAKE ISLAND Hy**	**28.32**	**120**	T	T	01 52 24.5	
	baz=312,slow=75,SNR=162						
SEY	**Seymchan**	**28.42**	**11**	P	**P**	**01 22 39.0**	**+2.3**
	comp=Z,1.0nm,0.2s,baz=151,slow=7.7,SNR=4.7						
**S

comp=Z,2.6nm,0.9s,baz=39,slow=5.7,SNR=4.9
PDAR Pinedale Array 79.02 45 P **P 01 28 47.6 +0.8**
comp=Z,0.4nm,0.6s,baz=290,slow=1.7,SNR=4.0
BRTR Keskin Array B 79.67 312 P **P 01 28 51.6 +1.3**
comp=Z,0.6nm,0.8s,baz=100,slow=6.8,SNR=3.7
BRTR Keskin Array B 79.67 312 *eP* **P 01 28 52.4 +2.1**
TXAR Lajitas Array 91.35 52 P **P 01 29 50.4 +1.7**
comp=Z,0.3nm,0.8s,baz=326,slow=4.7,SNR=2.8
SAML Samuel 145.60 46 *e*PKPbc **PKPbc 01 36 22.0 +0.4**
LPAZ La Paz 147.76 61 PKPbc **PKPbc 01 36 29.8 +1.2**
comp=Z,0.7nm,0.5s,baz=356,slow=8.3,SNR=4.3

JMA 23 01:32:25.0±0.1, 37.69N×142.34E, h38km±4km, M3.5, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
JIO	**Ouri**	**1.09**	**315**	P		Pn	01 32 44.5	+0.8
JIO				S		Sn	01 32 58.2	+0.6
JFK	**Kawauchi**	**1.21**	**255**	P		Pn	01 32 45.9	+0.5
JFK				*e*S		Sn	01 33 01.7	+1.2
JMM	**Marumori**	**1.24**	**279**	P		Pn	01 32 46.5	+0.8
JMM				*e*S		Sn	01 33 02.0	+0.8
JOU	**Okura**	**1.48**	**298**	P		Pn	01 32 50.5	+1.3
JOU				*e*S		Sn	01 33 09.2	+1.9
JMK	**Ichinoseki**	**1.54**	**325**	P		Pn	01 32 51.1	+1.2
JMK				*e*S		Sn	01 33 09.9	+1.3
JFT	**Otama**	**1.60**	**264**	*e*S		Sn	01 33 11.4	+1.2
JOM	**Ohasama**	**1.96**	**336**	P		Pn	01 32 57.0	+1.3
JOM				*e*S		Sn	01 33 19.4	+0.4
JAG	**Ashikaga**	**2.63**	**242**	P		Pn	01 33 06.7	+1.8
JAG				*e*S		Sn	01 33 37.7	+2.1

JMA 23 01:36:51.1±0.1, 38.67N×142.15E, h40km±1km, M3.5, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
OFUJ	**Ofunato**	**0.56**	**318**	P		Pn	01 37 02.6	0.0
OFUJ				*e*S		Sn	01 37 10.5	-0.2
JIO	**Ouri**	**0.66**	**251**	P		Pn	01 37 03.7	-0.3
JIO				*e*S		Sn	01 37 12.6	-0.7
JMK	**Ichinoseki**	**0.78**	**291**	P		Pn	01 37 05.7	+0.1
JMK				*e*S		Sn	01 37 15.6	-0.5
JOM	**Ohasama**	**1.04**	**320**	P		Pn	01 37 09.7	+0.4
JOM				*e*S		Sn	01 37 23.2	+0.6
JOU	**Okura**	**1.21**	**256**	P		Pn	01 37 11.8	+0.3
JOU				S		Sn	01 37 27.1	+0.5
JTH	**Tanohata**	**1.29**	**350**	P		Pn	01 37 13.0	+0.4
JTH				*e*S		Sn	01 37 29.0	+0.4
JMM	**Marumori**	**1.34**	**233**	P		Pn	01 37 13.0	-0.2
JMM				*e*S		Sn	01 37 29.2	-0.6
JRG	**Rokugo**	**1.39**	**302**	P		Pn	01 37 14.6	+0.7
JYK	**Kaneyama**	**1.42**	**281**	P		Pn	01 37 15.0	+0.6

IDC 23 01:40:32.1±12.0, 15.82S×174.91W, h0km, mb3.9/2, mb1 4.1/2, mb1mx3.6/31, mbtmp3.9/2, Error ellipse: s-maj=528.8km s-min=66.2km az=140.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**48.34**	**257**	P		P	01 49 15.4	-0.5
	1.5nm,1.2s,baz=88,slow=6.7,SNR=4.9							
ASAR	**Alice Springs**	**48.60**	**252**	P		P	01 49 18.1	+0.1
	1.0nm,0.6s,baz=87,slow=8.1,SNR=11							
BRTR	**Keskin Array B**	**145.55**	**319**	PKPbc		PKPdf	02 00 12.2	-0.7
	0.3nm,0.6s,baz=130,slow=4.8,SNR=4.1							

DDA 23 01:47:36.7, 39.64N×38.67E, h7km, Md2.8
ISK 23 01:47:37.2, 39.66N×38.71E, h6km, MD2.7
CSEM 23 01:47:37.1±0.1, 39.65N×38.69E, h2km, MD2.8, Error ellipse: s-maj=3.4km s-min=2.4km az=93.0
ISC 23 01:47:37.3±1.0, 39.65N±0.03×38.70E±0.03, h10km±13km, n19, σ0s48/28, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
REFA	**Refahiye_ERZ˜**	**0.26**	**169**	*i* P		**Pg**	**01 47 42.7**	**0.0**
REFA				*i* S		**Sg**	**01 47 46.7**	**+0.4**
REFA	**Refahiye_ERZ˜**	**0.26**	**169**	P		**Pg**	**01 47 42.7**	**0.0**
REFA				S		**Sg**	**01 47 46.7**	**+0.4**
KEMA	**Kemaliye**	**0.41**	**203**	*i* P		**Pg**	**01 47 44.7**	**-0.8**
KEMA				*i* S		**Sg**	**01 47 50.9**	**-0.1**
KEMA	**Kemaliye**	**0.41**	**203**	P		**Pg**	**01 47 44.7**	**-0.8**
KEMA				S		**Sg**	**01 47 50.9**	**-0.1**
KELT	**Kelkit**	**0.66**	**41**	*i* P		**Pg**	**01 47 50.0**	**-0.1**
KELT				*i* S		**Sb**	**01 47 59.6**	**-0.7**
KELT	**Kelkit**	**0.66**	**41**	P		**Pg**	**01 47 50.0**	**-0.1**
KELT				S		**Sb**	**01 47 59.6**	**-0.7**
SUSE	**Susehri**	**0.67**	**326**	*i* P		**Pg**	**01 47 49.7**	**-0.7**
SUSE				*i* S		**Sg**	**01 47 59.7**	**+0.4**
SUSE	**Susehri**	**0.67**	**326**	P		**Pg**	**01 47 49.7**	**-0.7**
SUSE				S		**Sg**	**01 47 59.7**	**+0.4**
ERZN	**Erzincan**	**0.79**	**94**	*e*PG		**Pb**	**01 47 53.0**	**-0.3**
PTK	**Pertek**	**0.93**	**144**	*e*PG		**Pg**	**01 47 55.4**	**+0.1**
PTK				*e*SG		**Sb**	**01 48 08.7**	**+0.6**
PTK	**Pertek**	**0.93**	**144**	*e*Pg		**Pg**	**01 47 55.4**	**+0.1**
GUMT	**Gumushane**	**1.00**	**36**	*e*PG		**Pg**	**01 47 56.3**	**-0.4**
GUMT	**Gumushane**	**1.00**	**36**	*e*Pg		**Pg**	**01 47 56.3**	**-0.4**
ESPY	**Espiye-Giresun**	**1.26**	**1**	*e*PN		**Pb**	**01 48 01.8**	**+0.5**
ESPY	**Espiye-Giresun**	**1.26**	**1**	*e*Pn		**Pb**	**01 48 01.8**	**+0.5**
RSDY	**Resadiye-TOKAT**	**1.29**	**306**	*e*PN		**Pg**	**01 48 02.4**	**+0.3**
RSDY	**Resadiye-TOKAT**	**1.29**	**306**	*e*Pn		**Pg**	**01 48 02.4**	**+0.3**
SVSK	**Karacayir**	**1.34**	**282**	*e*PN		**Pg**	**01 48 03.0**	**0.0**
SVSK	**Karacayir**	**1.34**	**282**	*e*Pn		**Pg**	**01 48 03.0**	**0.0**

ISCJB 23 01:55:28.3±0.5, 16.45S±0.04×69.61W±0.06, h189km, mb3.7/8, Error ellipse: s-maj=8.1km s-min=5.7km az=165.9
GUC 23 01:55:29.9±0.5, 16.91S×69.85W, h233km±5km, ML4.2
IDC 23 01:55:30.4±1.0, 16.24S×69.36W, h202km±7km, mb3.4/8, mb1 3.6/11, mb1mx3.4/39, mbtmp4.0/11, Error ellipse: s-maj=25.7km s-min=15.4km az=32.0
ISC 23 01:55:28.8±0.6, 16.48S±0.05×69.57W±0.07, h189km, n20, σ1s88/28, mb3.7/8, Peru-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**1.39**	**82**	P		**Pn**	**01 56 03.0**	**+1.7**
	85nm,0.3s,baz=300,slow=5.1,SNR=2777							
LPAZ				S		**Sn**	**01 56 27.0**	**+0.7**
	10nm,0.3s,baz=60,slow=24,SNR=3.5							
LPAZ	**La Paz**	**1.39**	**82**	*i* P		**Pn**	**01 56 03.0**	**+1.7**
PB13	**IPOC Station P**	**1.84**	**178**	*e*P		**Pn**	**01 56 08.5**	**+3.0**
PB13				*e*S		**Sn**	**01 56 38.4**	**+4.2**
PB12	**IPOC Station P**	**2.24**	**199**	*e*P		**Pn**	**01 56 10.2**	**+1.0**
PB12				*e*S		**Sn**	**01 56 40.8**	**0.0**
PB12				IAML			01 56 44.0	
	comp=N,638nm,0.5s							
MNMC	**Minye Minye**	**2.63**	**181**	*e*P		**Pn**	**01 56 15.2**	**+1.3**
MNMC				*e*S		**Sn**	**01 56 49.4**	**+0.3**
MNMC				IAML			01 56 52.5	
	comp=E,414nm,0.6s							
PB11	**IPOC Station P**	**3.26**	**181**	*e*P		**Pn**	**01 56 22.0**	**+0.8**
PB11				*e*S		**Sn**	**01 57 01.2**	**-1.1**
HMBC	**Humberstone**	**3.79**	**185**	*e*P		**Pn**	**01 56 27.8**	**+0.2**
HMBC				*e*S		**Sn**	**01 57 11.5**	**-2.4**
HMBC				IAML			01 57 13.5	
	comp=N,282nm,0.2s							
LVC	**Limon Verde**	**6.13**	**174**	P		**Pn**	**01 56 58.6**	**+0.7**
	comp=N,321nm,0.3s,baz=18,slow=11,SNR=76							
LVC				S		**Sn**	**01 58 04.2**	**-4.0**
	comp=N,494nm,0.3s,baz=217,slow=21,SNR=15							
SIV	**San Ignacio**	**8.18**	**88**	P		**Pn**	**01 57 23.8**	**-0.6**
	comp=N,0.6nm,0.3s,baz=275,slow=12,SNR=6.7							
NNA	**Nana**	**8.35**	**301**	P		**Pn**	**01 57 28.4**	**+1.6**
	comp=N,4.0nm,0.3s,baz=128,slow=11,SNR=8.8							
NNA				S		**Sn**	**01 58 58.4**	**-2.1**
	comp=N,2.8nm,0.3s,baz=22,slow=8.1,SNR=4.3							
CPUP	**Villa Florida**	**15.02**	**133**	P		**P**	**01 58 53.2**	**+0.6**
	comp=N,0.2nm,0.3s,baz=319,slow=11,SNR=7.2							
PLCA	**Paso Flores**	**24.18**	**182**	P		**P**	**02 00 30.4**	**+2.6**
	comp=N,1.9nm,0.8s,baz=26,slow=12,SNR=3.7							
TXAR	**Lajitas Array**	**56.20**	**324**	P		**P**	**02 04 50.0**	**+0.6**
	comp=N,0.1nm,0.4s,baz=138,slow=6.8,SNR=3.6							
PFO	**Pinyon Flats O**	**66.94**	**319**	P		**P**	**02 05 59.9**	**-1.3**
	comp=N,3.8nm,0.5s,baz=123,slow=11,SNR=9.9							
DBIC	**Dimbokro**	**68.00**	**76**	P		**P**	**02 06 06.5**	**-1.7**
	comp=N,2.3nm,0.7s,baz=235,slow=6.6,SNR=4.6							
PDAR	**Pinedale Array**	**69.48**	**330**	P		**P**	**02 06 17.6**	**+0.6**
	comp=N,0.2nm,0.4s,baz=116,slow=6.2,SNR=3.0							
ULM	**Lac du Bonnet**	**70.37**	**342**	P		**P**	**02 06 20.5**	**-1.4**
	comp=N,1.2nm,0.5s,baz=166,slow=9.4,SNR=3.0							
TORD	**Torodi Ar. Bea**	**76.32**	**72**	P		**P**	**02 06 55.2**	**-2.2**
	comp=N,0.9nm,0.8s,baz=258,slow=5.0,SNR=7.6							
YKA	**Yellowknife Ar**	**86.27**	**341**	P		**P**	**02 07 49.5**	**+0.7**
	comp=N,0.5nm,0.5s,baz=135,slow=5.3,SNR=3.3							
SONM	**Songino Array**	**148.56**	**5**	PKPbc		**PKPbc**	**02 14 54.2**	**+0.7**
	comp=N,1.1nm,0.5s,baz=350,slow=1.8,SNR=7.2							

IDC 23 02:09:16.2±3.2, 16.27S×173.37W, h0km, mb3.6/4, mb1 3.9/5, mb1mx3.7/22, mbtmp3.6/5, ML3.6/1, Error ellipse: s-maj=159.3km s-min=23.8km az=143.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**2.81**	**33**	Pn		Pn	02 10 02.0	-0.5
	8.4nm,0.3s,baz=225,slow=10.0,SNR=5.4							
AFI				Sn		Sn	02 10 26.5	-11
	7.2nm,0.3s,baz=180,slow=19,SNR=3.7							
WRA	**Warramunga Arr**	**49.68**	**257**	P		P	02 18 09.4	-0.9
	0.2nm,0.4s,baz=91,slow=8.2,SNR=7.9							
ASAR	**Alice Springs**	**49.88**	**253**	P		P	02 18 11.6	-0.2
	1.2nm,0.7s,baz=88,slow=8.8,SNR=15							
PDAR	**Pinedale Array**	**82.89**	**42**	P		P	02 21 42.6	-0.6
	0.5nm,0.7s,baz=226,slow=3.6,SNR=3.8							
ILAR	**Eielson Array**	**83.29**	**11**	P		P	02 21 43.9	-0.6
	0.2nm,0.8s,baz=231,slow=6.4,SNR=4.8							
BRTR	**Keskin Array B**	**146.85**	**320**	PKPbc		PKPab	02 29 01.8	-0.5
	1.0nm,0.7s,baz=110,slow=1.7,SNR=6.7							
GERES	**GERESS Array B**	**147.00**	**351**	PKPbc		PKPbc	02 29 01.2	+0.1
	0.1nm,0.3s,baz=46,slow=5.6,SNR=4.6							

ISK 23 02:09:59.9, 39.70N×38.76E, h6km, MD2.7
DDA 23 02:09:59.7, 39.67N×38.68E, h7km, Ml2.5
CSEM 23 02:09:59.9±0.2, 39.69N×38.72E, h2km, ML2.5, Error ellipse: s-maj=4.9km s-min=4.0km az=62.0
ISC 23 02:10:00.0±1.1, 39.68N±0.03×38.72E±0.03, h7km±11km, n31, σ0s48/38, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
KEMA	**Kemaliye**	**0.45**	**203**	*i* P		**Pg**	**02 10 08.8**	**+0.1**
KEMA				*i* S		**Sg**	**02 10 14.7**	**+0.1**
KEMA	**Kemaliye**	**0.45**	**203**	P		**Pg**	**02 10 08.8**	**+0.1**
KEMA				S		**Sg**	**02 10 14.7**	**+0.1**
KELT	**Kelkit**	**0.62**	**41**	*i* P		**Pg**	**02 10 12.0**	**-0.1**
KELT				*i* S		**Sb**	**02 10 22.5**	**+0.1**
KELT	**Kelkit**	**0.62**	**41**	P		**Pg**	**02 10 12.0**	**-0.1**
SUSE	**Susehri**	**0.66**	**323**	*i* P		**Pg**	**02 10 13.1**	**+0.3**
SUSE	**Susehri**	**0.66**	**323**	P		**Pg**	**02 10 13.1**	**+0.3**
CUZAR	**Zara_SIVAS**	**0.76**	**286**	*i* P		**Pg**	**02 10 13.4**	**-1.3**
CUZAR				*i* S		**Sn**	**02 10 29.0**	**-0.2**
CUZAR	**Zara_SIVAS**	**0.76**	**286**	P		**Pg**	**02 10 13.4**	**-1.3**
ERZN	**Erzincan**	**0.78**	**97**	*e*PG		**Pg**	**02 10 14.7**	**-0.3**
ERZN				*e*SG		**Sg**	**02 10 25.9**	**+0.8**
TNCL	**Tunceli-Merkez**	**0.85**	**131**	*i* P		**Pg**	**02 10 15.9**	**-0.5**
TNCL				*i* S		**Sb**	**02 10 29.0**	**+0.2**
TNCL	**Tunceli-Merkez**	**0.85**	**131**	P		**Pg**	**02 10 15.9**	**-0.5**
TNCL				S		**Sb**	**02 10 29.0**	**+0.2**
PTK	**Pertek**	**0.94**	**146**	*e*PG		**Pg**	**02 10 18.3**	**+0.1**
PTK	**Pertek**	**0.94**	**146**	*e*Pg		**Pg**	**02 10 18.3**	**+0.1**
GUMT	**Gumushane**	**0.97**	**36**	*e*PG		**Pg**	**02 10 18.4**	**-0.3**
GUMT	**Gumushane**	**0.97**	**36**	*e*Pg		**Pg**	**02 10 18.4**	**-0.3**
ELZG	**Elazig**	**1.20**	**170**	*i* P		**Pg**	**02 10 22.3**	**-0.7**
ELZG	**Elazig**	**1.20**	**170**	P		**Pg**	**02 10 22.3**	**-0.7**
ESPY	**Espiye-Giresun**	**1.23**	**0**	*e*PN		**Pb**	**02 10 23.4**	**-0.2**
ESPY	**Espiye-Giresun**	**1.23**	**0**	*e*Pn		**Pb**	**02 10 23.5**	**-0.2**
RSDY	**Resadiye-TOKAT**	**1.29**	**304**	*e*PN		**Pg**	**02 10 25.4**	**+0.6**
RSDY	**Resadiye-TOKAT**	**1.29**	**304**	*e*Pn		**Pg**	**02 10 25.4**	**+0.6**
SVSK	**Karacayir**	**1.35**	**281**	*e*PN		**Pg**	**02 10 25.9**	**0.0**
SVSK	**Karacayir**	**1.35**	**281**	*e*Pn		**Pg**	**02 10 25.9**	**0.0**
SVRC	**Sivrice-ELAZID**	**1.38**	**161**	*e*PN		**Pg**	**02 10 26.7**	**+0.3**
SVRC	**Sivrice-ELAZID**	**1.38**	**161**	*e*Pn		**Pg**	**02 10 26.7**	**+0.3**
YEDI	**Yedisu-Bingol**	**1.43**	**99**	*e*PN		**Pn**	**02 10 26.7**	**+0.2**
YEDI	**Yedisu-Bingol**	**1.43**	**99**	*e*Pn		**Pn**	**02 10 26.7**	**+0.2**
DARE	**Darende-Malaty**	**1.47**	**221**	*e*PN		**Pg**	**02 10 28.6**	**+0.4**
DARE	**Darende-Malaty**	**1.47**	**221**	*e*Pn		**Pg**	**02 10 28.6**	**+0.4**
BINT	**Bingol**	**1.59**	**120**	*e*Pn		**Pg**	**02 10 30.6**	**+0.1**
BNGB	**Bing ¶‖**	**1.67**	**114**	*e*PN		**Pb**	**02 10 30.6**	**-0.5**

MEX 23 02:40:55.3±0.8, 16.98N×100.11W, h5km, MD3.8, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
CAIG	**El Cayaco**	**0.17**	**294**	*e*P		Pg	02 40 58.0	-0.6
CAIG				*i* S		Sg	02 41 00.6	-0.2
ACP2	**Acapulco**	**0.24**	**116**	*e*P		Pg	02 40 59.4	-0.5
ACP2				*i* S		Sg	02 41 03.2	+0.1
ACX	**Acapulco**	**0.26**	**115**	*e*P		Pb	02 41 03.6	+1.0
ACX				*i* S		Sb	02 41 07.1	-0.3
MEIG	**Mezcala**	**1.05**	**26**	*e*P		Pg	02 41 12.2	-3.3
MEIG				*i* S		Sg	02 41 26.3	-2.8
ARIG	**Puente Sto Nin**	**1.31**	**350**	*e*P		Pn	02 41 16.5	-3.9
ARIG				*i* S		Sg	02 41 32.9	-4.7
ZIIG	**Zihuatanejo**	**1.44**	**296**	*e*P		Pn	02 41 19.0	-3.1
ZIIG				*e*S		Sb	02 41 37.3	-3.9
PLIG	**Platanillo**	**1.52**	**22**	*e*P		Pn	02 41 20.2	-3.0
PLIG				*e*S		Sn	02 41 38.7	-4.8
TLIG	**Tlapa**	**1.58**	**68**	*e*P		Pn	02 41 21.5	-2.7
TLIG				*e*S		Sn	02 41 40.9	-4.2
PNIG	**Pinotepa**	**1.99**	**107**	*e*P		Pn	02 41 26.8	-2.8
PNIG				*i* S		Sn	02 41 50.3	-4.6
YAIG	**Yautepec**	**2.12**	**28**	*e*P		Pn	02 41 28.5	-3.0
YAIG				*i* S		Sn	02 41 54.7	-3.7
VHO	**Vista Hermosa**	**3.23**	**88**	*i* P		Pn	02 41 44.0	-2.9
VHO				*i* S		Sn	02 42 23.0	-2.9

JMA 23 02:43:47.9±0.4, 42.39N×137.86E, h257km±4km, M3.0
ISCJB 23 02:43:48.5±0.5, 42.19N±0.07×138.54E±0.07, h306km, mb3.4/6, Error ellipse: s-maj=10.1km s-min=6.0km az=151.3
IDC 23 02:43:48.1±0.9, 42.40N×137.92E, h248km±9km, mb3.2/6, mb1 3.4/11, mb1mx3.1/42, mbtmp3.9/11, Error ellipse: s-maj=13.8km s-min=10.6km az=163.0
ISC 23 02:43:50.0±0.8, 42.24N±0.08×138.54E±0.08, h306km, n25, σ1s94/29, mb3.2/6, Eastern Sea of Japan

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
JOSM	**Okushiri--Mats**	**0.71**	**102**	P		Pn	02 44 25.0	-4.9
JSH	**Shimam**	**1.19**	**69**	P		**Pn**	**02 44 28.0**	**-3.9**
JYM2	**Yakumo 2**	**1.37**	**94**	P		**Pn**	**02 44 30.3**	**-2.6**
JYM2				*e*S		**S**	**02 45 04.0**	**-3.1**
JKB	**Kayabe**	**1.89**	**100**	P		**Pn**	**02 44 34.8**	**-1.6**
JEW	**Eniwo**	**2.23**	**73**	P		**Pn**	**02 44 38.1**	**-1.1**
JHR	**Hokuryu**	**2.78**	**56**	P		**Pn**	**02 44 43.2**	**-0.8**
JNBK	**Urakawa-nobuka**	**3.13**	**88**	P		**Pn**	**02 44 47.0**	**-0.4**
JNBK				*e*S		**S**	**02 45 32.5**	**-0.8**
JFR	**Furan**	**3.13**	**71**	P		**Pn**	**02 44 46.8**	**-0.6**
JFR				*e*S		**S**	**02 45 31.7**	**-1.6**
JKK2	**Kamakawa 2**	**3.49**	**61**	P		**Pn**	**02 44 50.7**	**-0.4**
JKK2				*e*S		**S**	**02 45 38.0**	**-2.0**
ASAJ	**Asahikawa**	**3.51**	**56**	P		**Pn**	**02 44 50.6**	**-0.7**
	5.9nm,0.3s,baz=243,slow=5.7,SNR=20							
ASAJ				S		**S**	**02 45 38.2**	**-2.1**
	baz=254,slow=0.0							
JCH	**Churui**	**3.59**	**82**	P		**Pn**	**02 44 51.6**	**-0.5**
JCH				*e*S		**S**	**02 45 39.6**	**-2.3**
JYK	**Kaneyama**	**3.59**	**157**	P		**Pn**	**02 44 51.7**	**-0.6**
JAR	**Ashorobuto**	**3.99**	**73**	P		**Pn**	**02 44 55.9**	**-0.5**
JAR				*e*S		**S**	**02 45 47.3**	**-2.4**
JSD	**Sado**	**4.20**	**183**	P		**Pn**	**02 44 57.2**	**-1.6**
JTKR	**Abashiri--Toko**	**4.30**	**64**	P		**Pn**	**02 44 59.7**	**0.0**
USRK	**Ussuriysk Ar.**	**5.17**	**295**	P		Pn	02 45 00.7	-9.0
	1.7nm,0.3s,baz=104,slow=11,SNR=22							
USRK				S		S	02 45 56.9	-17
	0.9nm,0.3s,baz=134,slow=34,SNR=6.1							
MJAR	**Matsushiro Arr**	**5.69**	**183**	P		**Pn**	**02 45 15.7**	**-0.3**
	1.1nm,0.3s,baz=2.7,slow=11,SNR=7.6							
JNU	**Nakatsue**	**10.93**	**216**	P		**Pn**	**02 46 17.2**	**-2.4**
	0.6nm,0.3s,baz=42,slow=12,SNR=3.3							
MA2	**Magadan**	**18.94**	**19**	P		**P**	**02 47 50.8**	**+1.8**
	1.0nm,0.3s,baz=218,slow=9.5,SNR=3.7							
SEY	**Seymchan**	**22.27**	**17**	P		**P**	**02 48 23.8**	**+2.2**
	2.1nm,0.2s,baz=209,slow=8.5,SNR=9.5							
SONM	**Songino Array**	**23.29**	**295**	P		**P**	**02 48 29.4**	**-1.9**
	0.7nm,0.5s,baz=95,slow=9.7,SNR=4.2							
MKAR	**Makanchi Array**	**39.64**	**296**	P		**P**	**02 50 52.4**	**-0.3**
	0.4nm,0.5s,baz=83,slow=9.6,SNR=4.4							
ILAR	**Eielson Array**	**46.39**	**35**	P		P	02 51 51.1	+5.1
	0.7nm,0.7s,baz=279,slow=8.8,SNR=7.8							
WRA	**Warramunga Arr**	**61.98**	**184**	P		**P**	**02 53 42.2**	**+4.0**
	0.3nm,0.8s,baz=359,slow=6.9,SNR=4.5							
FINES	**FINESS Array B**	**63.19**	**330**	P		**P**	**02 53 47.0**	**+1.4**
	5.6nm,1.1s,baz=31,slow=8.4,SNR=3.7							

ISCJB 23 02:59:15.3±0.2, 17.01N±0.02×99.85W±0.02, h10km, mb4.6/133, MS3.9/9, Error ellipse: s-maj=3.6km s-min=3.0km az=157.8
IDC 23 02:59:16.0±0.7, 17.09N×99.90W, h0km, mb4.4/17, mb1 4.5/19, mb1mx4.4/42, mbtmp4.3/19, ML3.6/2, MS3.7/10, Ms1 3.7/10, ms1mx3.5/40, Error ellipse: s-maj=23.9km s-min=13.7km az=61.0
NEIC 23 02:59:18.1±0.0, 16.97N×100.13W, h5km, mb4.6/145, MD4.8(MEX), After MEX.
NEIC Felt [IV] at Acapulco and [II] at Mexico. Also felt at El Ocotito, Puebla, Yautepec and Zihuatanejo.
MEX 23 02:59:18.1±0.7, 16.97N×100.13W, h5km, MD4.8
ISC 23 02:59:17.5±0.8, 17.08N±0.03×100.10W±0.03, h11km±5km, n614, σ1s48/620, mb4.6/132, MS3.9/9, Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
CAIG	**El Cayaco**	**0.16**	**258**	*i* P		**Pg**	**02 59 20.7**	**-0.4**
CAIG				*i* S		**Sg**	**02 59 22.7**	**-0.8**
CAIG	**El Cayaco**	**0.16**	**258**	*i* P		**Pg**	**02 59 20.7**	**-0.4**
CAIG				*i* S		**Sg**	**02 59 22.7**	**-0.8**
ACP2	**Acapulco**	**0.29**	**135**	*e*P		**Pg**	**02 59 21.9**	**-1.5**
ACP2				*i* S		**Sg**	**02 59 25.9**	**-1.4**
ACX	**Acapulco**	**0.31**	**132**	*e*P		**Pb**	**02 59 26.4**	**+1.3**
ACX				*i* S		**Sb**	**02 59 30.2**	**-0.1**
ACX	**Acapulco**	**0.31**	**132**	*e*P		**Pb**	**02 59 26.4**	**+1.3**
ACX				*i* S		**Sb**	**02 59 30.2**	**-0.1**
MEIG	**Mezcala**	**0.96**	**29**	*i* P		**Pg**	**02 59 34.5**	**-1.5**
MEIG				*i* S		**Sg**	**02 59 47.9**	**-0.6**
MEIG	**Mezcala**	**0.96**	**29**	*i* P		**Pg**	**02 59 34.5**	**-1.5**
MEIG				*i* S		**Sg**	**02 59 47.9**	**-0.6**
ARIG	**Puente Sto Nin**	**1.22**	**349**	*i* P		**Pn**	**02 59 39.1**	**-1.4**
ARIG				*i* S		**Sb**	**02 59 55.5**	**-0.9**
ZIIG	**Zihuatanejo**	**1.40**	**292**	*i* P		**Pn**	**02 59 41.6**	**-1.5**
ZIIG				*i* S		**Sn**	**02 59 59.0**	**-2.6**
ZIIG	**Zihuatanejo**	**1.40**	**292**	*i* P		**Pn**	**02 59 41.6**	**-1.5**
ZIIG				*i* S		**Sn**	**02 59 59.0**	**-2.6**
PLIG	**Platanillo**	**1.43**	**24**	*i* P		**Pn**	**02 59 42.8**	**-0.7**
PLIG				*i* S		**Sn**	**03 00 01.8**	**-0.5**
PLIG	**Platanillo**	**1.43**	**24**	*i* P		**Pn**	**02 59 42.8**	**-0.7**
PLIG				*i* S		**Sn**	**03 00 01.8**	**-0.5**
TLIG	**Tlapa**	**1.54**	**72**	*e*Pn		**Pn**	**02 59 44.3**	**-0.8**
TLIG	**Tlapa**	**1.54**	**72**	*e*P		**Pn**	**02 59 44.2**	**-0.9**
TLIG				*i* S		**Sn**	**03 00 03.8**	**-1.5**
MAVM	**Malinalco, Edo**	**1.95**	**17**	*e*P		**Pn**	**02 59 50.2**	**-0.7**
MAVM				*e*S		**Sn**	**03 00 14.6**	**-1.0**
PNIG	**Pinotepa**	**2.01**	**110**	*e*P		**Pn**	**02 59 49.2**	**-2.3**
PNIG				*i* S		**Sn**	**03 00 14.2**	**-2.5**
PNIG	**Pinotepa**	**2.01**	**110**	*e*P		**Pn**	**02 59 49.2**	**-2.3**
PNIG				*i* S		**Sn**	**03 00 14.2**	**-2.5**
YAIG	**Yautepec**	**2.03**	**29**	*e*P		**Pn**	**02 59 51.9**	**+0.1**
YAIG				*i* S		**Sn**	**03 00 17.2**	**-0.1**
YAIG	**Yautepec**	**2.03**	**29**	*e*P		**

	baz=192								
337A	**Centerville**	14.68	14	P	Pn	03 02 46.6	+1.3		
	baz=196								
338A	**Crockett**	14.87	16	P	Pn	03 02 48.8	+1.0		
	baz=198								
233A	**Rising Star**	14.91	4	P	Pn	03 02 49.1	+0.7		
	baz=184,SNR=26								
234A	**Clairette**	14.96	6	P	Pn	03 02 49.8	+0.7		
	baz=187,SNR=17								
WHTX	**Lake Whitney,**	15.04	9	P	Pn	03 02 50.8	+0.7		
	baz=190,SNR=12								
WHTX	**Lake Whitney,**	15.04	9	*e*Pn	Pn	03 02 51.4	+1.4		
236A	**Katherine and**	15.20	12	P	Pn	03 02 53.6	+1.4		
	baz=193,SNR=15								
MNTX	**Cornudas Mount**	15.32	343	P	P	03 02 56.6	-2.0		
	baz=161,SNR=18								
MNTX	**Cornudas Mount**	15.32	343	*e*Pn	P	03 02 56.6	-2.0		
	18nm,1.3s								
340A	**Bronson**	15.35	20	P	Pn	03 02 54.1	0.0		
	baz=203								
237A	**Washetta, Mont**	15.36	14	P	Pn	03 02 54.7	+0.4		
	baz=196								
NATX	**Nacogdoches**	15.43	18	P	Pn	03 02 55.2	0.0		
	baz=200								
NATX	**Nacogdoches**	15.43	18	*e*Pn	Pn	03 02 56.1	+0.9		
	22nm,0.6s								
ABTX	**Abilene, Hawle**	15.48	1	P	Pn	03 02 57.1	+1.1		
	baz=182,SNR=25								
ABTX	**Abilene, Hawle**	15.48	1	*e*Pn	P	03 02 58.7	-1.8		
	40nm,0.9s								
HSIG		15.51	322	*e*Pn	P	03 03 02.2	+1.5		
341A	**Kurthwood**	15.53	23	P	Pn	03 02 56.7	+0.2		
	baz=205								
136A	**Ennis**	15.66	11	P	Pn	03 02 59.9	+1.6		
	baz=193								
342A	**Flagon Creek P**	15.89	25	P	Pn	03 03 01.2	0.0		
	baz=208,SNR=14								
137A	**Heron Place, G**	15.94	13	P	Pn	03 03 03.1	+1.3		
	baz=195								
444A	**Pine Grove**	16.03	30	P	Pn	03 03 02.6	-0.4		
	baz=214								
241A	**Mo Tay, Goldon**	16.24	22	P	Pn	03 03 06.8	+1.1		
	baz=205								
445A	**Amite**	16.25	31	P	Pn	03 03 06.4	+0.6		
	baz=215								
139A	**Bunkhouse Ranc**	16.37	17	P	Pn	03 03 08.3	+1.0		
	baz=200								
Z36A	**Blue Ridge**	16.46	11	P	Pn	03 03 08.7	+0.3		
	baz=192,SNR=11								
319A	**Douglas**	16.50	331	*e*Pn	P	03 03 12.9	+1.1		
	22nm,0.9s								
319A				*e*PcP	PcP	03 08 02.3	+1.6		
Z37A	**Pogue Cattle C**	16.55	13	P	P	03 03 11.0	-1.2		
	baz=195								
242A	**Grayson**	16.57	24	P	Pn	03 03 10.1	+0.2		
	baz=208								
140A	**Cam and Jess,**	16.58	20	P	Pn	03 03 10.7	+0.7		
	baz=202								
344A	**Westbrook Farm**	16.65	29	P	Pn	03 03 11.2	+0.3		
	baz=213								
243A	**Waterproof**	16.68	26	P	Pn	03 03 11.6	+0.3		
	baz=210								
Z38A	**Mt. Pleasant**	16.75	15	P	P	03 03 13.9	-0.5		
	baz=197								
141A	**Papa Simpson,**	16.77	22	P	Pn	03 03 13.1	+0.6		
	baz=204								
446A	**Poplarville**	16.80	34	P	Pn	03 03 12.8	+0.1		
	baz=218								
345A	**Thompson Farm,**	16.87	31	P	Pn	03 03 13.9	+0.2		
	baz=215								
121A	**Cookes Peak, D**	16.88	337	P	P	03 03 16.1	0.0		
	baz=154,SNR=7.2								
121A	**Cookes Peak, D**	16.88	337	*e*Pn	P	03 03 17.5	+1.4		
	19nm,1.1s								
Z39A	**Irene McRaven,**	16.95	17	P	Pn	03 03 15.3	+0.5		
	baz=200								
Y35A	**Marietta**	16.98	9	P	Pn	03 03 15.0	-0.1		
	baz=190,SNR=5.0								
MSTX	**Muleshoe**	16.99	352	P	Pn	03 03 15.2	-0.2		
	baz=171,SNR=26								
MSTX	**Muleshoe**	16.99	352	*e*Pn	Pn	03 03 14.1	-1.2		
	28nm,0.8s								
Y36A	**Durant**	17.10	11	P	Pn	03 03 16.4	-0.2		
	baz=192								
244A	**Avery, Jackson**	17.17	28	P	Pn	03 03 16.1	-1.3		
	baz=212								
Y37A	**Hugo**	17.30	13	P	Pn	03 03 18.1	-1.0		
	baz=194,SNR=9.2								
VBMS	**Vicksburg**	17.39	28	P	Pn	03 03 19.0	-1.2		
	baz=212								
Z41A	**Richland Creek**	17.40	21	P	Pn	03 03 19.0	-1.3		
	baz=204,SNR=7.6								
143A	**Socs Landing,**	17.43	25	P	Pn	03 03 20.0	-0.6		
	baz=209								
Y38A	**Idabel**	17.46	15	P	Pn	03 03 20.1	-1.0		
	baz=197								
X35A	**Drake**	17.47	9	P	Pn	03 03 21.2	0.0		
	baz=190,SNR=31								
WMOK	**Wichita Mounta**	17.62	4	P	Pn	03 03 21.6	-1.6		
	baz=184,SNR=18								
WMOK	**Wichita Mounta**	17.62	4	*e*Pn	Pn	03 03 22.0	-1.2		
	18nm,1.2s								
WLAR	**White Oak Lake**	17.69	20	*e*Pn	P	03 03 24.6	-0.2		
	68nm,1.2s								
X36A	**Centrahoma**	17.74	10	P	Pn	03 03 24.8	+0.2		
	baz=192								
AMTX	**Amarillo**	17.79	356	P	Pn	03 03 25.6	+0.3		
	baz=175								
AMTX	**Amarillo**	17.79	356	*e*Pn	Pn	03 03 25.5	+0.3		
	30nm,0.9s								
Y40A	**Okolona**	17.94	19	P	Pn	03 03 26.4	-0.6		
	baz=202,SNR=7.2								
X37A	**Clayton**	17.94	13	P	Pn	03 03 26.7	-0.3		
	baz=195,SNR=6.9								
BNM	**Barren Site**	17.98	342	*e*Pn	P	03 03 30.3	+2.0		
TUC	**Tucson**	17.98	329	P	P	03 03 30.1	+1.9		
	baz=145								
TUC	**Tucson**	17.98	329	*e*Pn	P	03 03 29.6	+1.4		
	15nm,1.1s								
145A	**Houston Renfro**	17.98	29	P	Pn	03 03 25.8	-1.8		
	baz=213								
Y22D	**IRIS PASSCAL I**	18.00	341	P	P	03 03 29.3	+0.9		
	baz=159								
Y41A	**Eaglette Beard**	18.03	21	P	Pn	03 03 27.2	-1.0		
	baz=204,SNR=5.1								
LPM	**Los Pinos Moun**	18.13	342	*e*Pn	P	03 03 33.0	+3.0		
X38A	**Whitesboro**	18.14	14	P	Pn	03 03 29.3	-0.2		
	baz=196,SNR=7.1								
X39A	**Fountain Ranch**	18.17	16	P	P	03 03 30.1	0.0		
	baz=193,SNR=6.9								
W35A	**Tecumseh**	18.23	8	P	P	03 03 30.8	0.0		
	baz=190,SNR=11								
Y42A	**Garnett, Star**	18.28	23	P	Pn	03 03 30.9	-0.3		
	baz=206								
W36A	**Wetumka**	18.32	10	P	P	03 03 31.9	+0.2		
	baz=192,SNR=10								
MIAR	**Mount Ida**	18.35	17	*e*P	Pn	03 03 30.9	-1.2		
	18nm,1.0s								
CCAR	**Cane Creek**	18.36	22	*e*P	P	03 03 32.9	+0.7		
	58nm,1.2s								
LAZ	**Ladron**	18.37	341	*e*P	P	03 03 34.9	+2.4		
146A	**Union**	18.43	31	P	P	03 03 32.0	-0.9		
	baz=215								
W37B	**Quinton**	18.46	12	P	Pn	03 03 34.3	+0.9		
	baz=194,SNR=7.4								
X40A	**Basin Creek Fa**	18.52	19	P	P	03 03 33.9	-0.1		
	baz=202								
W38A	**Poteau**	18.60	14	P	P	03 03 34.7	-0.2		
	baz=197,SNR=5.3								
X41A	**Kaden, Bauxite**	18.63	20	P	P	03 03 35.1	0.0		
	baz=203								
ANMO	**Albuquerque**	18.68	344	P	Pn	03 03 37.7	+1.4		
	0.2nm,0.3s,baz=151,slow=12,SNR=20								
ANMO	**Albuquerque**	18.68	344	P	Pn	03 03 37.7	+1.4		
	baz=161								
ANMO	**Albuquerque**	18.68	344	*e*P	Pn	03 03 37.5	+1.2		
	6.7nm,0.8s								
Y43A	**Makayla and Ka**	18.68	24	P	P	03 03 35.4	-0.3		
	baz=208								
248A	**Dixon Mills**	18.68	35	P	P	03 03 34.5	-1.3		
	baz=220								
Z45A	**Winona**	18.73	28	P	P	03 03 35.7	-0.6		
	baz=212								
214A	**Organ Pipe Nat**	18.76	324	P	Pn	03 03 39.2	+2.0		
	baz=140,SNR=6.2								
214A	**Organ Pipe Nat**	18.76	324	*e*P	Pn	03 03 38.8	+1.6		
	79nm,1.3s								
V35A	**Meyer Ranch, C**	18.83	8	P	P	03 03 36.9	-0.5		
	baz=190,SNR=7.0								
147A	**Livingston**	18.85	32	P	P	03 03 35.7	-1.9		
	baz=217								
W39A	**Magazine**	18.90	16	P	P	03 03 37.9	-0.3		
	baz=199,SNR=13								
Z46A	**Louisville**	18.94	30	P	P	03 03 38.1	-0.5		
	baz=215								
UALR	**University of**	18.94	20	*e*P	P	03 03 38.1	-0.5		
	14nm,0.8s								
X42A	**Stuttgart**	18.98	22	P	P	03 03 37.7	-1.4		
	baz=206								
V36A	**Jenks**	19.00	10	P	P	03 03 38.5	-0.7		
	baz=192,SNR=20								
Y44A	**Strider, Charl**	19.01	26	P	P	03 03 37.8	-1.6		
	baz=210								
W40A	**Ferguson Farm,**	19.10	18	P	P	03 03 38.7	-1.6		
	baz=201								
TUL1	**Leonard**	19.14	11	P	P	03 03 39.8	-1.1		
	baz=193,SNR=22								
TUL1	**Leonard**	19.14	11	*e*P	P	03 03 40.8	-0.1		
	75nm,0.9s								
Y45A	**Yeager Farm, C**	19.22	28	P	P	03 03 40.3	-1.3		
	baz=212,SNR=5.0								
X43A	**Marvell**	19.23	24	P	P	03 03 40.2	-1.6		
	baz=208								
V37A	**Hulbert**	19.24	12	P	P	03 03 41.0	-0.9		
	baz=194,SNR=14								
U32A	**Winter Ranch,**	19.25	3	P	P	03 03 41.6	-0.4		
	baz=183								
W41B	**Gary Mavity, V**	19.34	20	P	P	03 03 42.2	-0.7		
	baz=203								
X301	**Greenbrier Sit**	19.35	19	*e*P	P	03 03 43.4	+0.4		
	13nm,0.8s								
Z47A	**Carrollton**	19.37	32	P	P	03 03 40.9	-2.5		
	baz=217								
V38A	**Canehill**	19.38	14	P	P	03 03 42.9	-0.5		
	baz=197,SNR=7.8								
WHAR	**Wooly Hollow**	19.43	20	*e*P	P	03 03 44.0	+0.1		
	17nm,0.9s								
U35A	**Pawnee**	19.45	8	P	P	03 03 44.1	0.0		
	baz=190,SNR=14								
X18A	**Snowflake**	19.49	335	*e*P	Pn	03 03 47.5	+1.5		
	20nm,1.1s								
Y46A	**Houston**	19.54	29	P	P	03 03 43.9	-1.3		
	baz=214,SNR=18								
V39A	**Pettigrew**	19.55	16	P	P	03 03 44.6	-0.7		
	baz=199,SNR=23								
U36A	**Oologah**	19.62	11	P	P	03 03 45.4	-0.7		
	baz=192								
W42A	**Bald Knob**	19.67	21	P	P	03 03 45.5	-1.1		
	baz=205,SNR=5.9								
V40A	**Witts Springs**	19.74	18	P	P	03 03 46.1	-1.3		
	baz=201,SNR=26								
U37A	**Salina**	19.75	12	P	P	03 03 46.7	-0.8		
	baz=194								
X45A	**UM Field Stati**	19.76	27	P	P	03 03 46.4	-1.2		
	baz=212								
Z48A	**Northport**	19.77	33	P	P	03 03 46.1	-1.6		
	baz=218								
LRAL	**Lakeview Retre**	19.80	34	*e*P	P	03 03 46.7	-1.3		
	21nm,1.0s								
OXF	**Oxford**	19.82	27	*e*P	P	03 03 48.5	+0.2		
	42nm,1.1s								
HHAR	**Hobbs**	19.89	15	*e*P	P	03 03 48.8	-0.2		
	11nm,1.0s								
113A	**Mohawk Valley,**	19.91	324	*e*P	Pn	03 03 51.5	+0.7		
	70nm,1.8s								
W18A	**Petrified Fore**	19.92	336	P	P	03 03 50.1	+0.6		
	baz=152								
W18A	**Petrified Fore**	19.92	336	*e*P	Pn	03 03 51.7	+0.5		
	40nm,1.3s								
V41A	**Mountainview**	19.93	19	P	P	03 03 48.0	-1.4		
	baz=203,SNR=41								
U38A	**Gravette**	19.94	14	P	P	03 03 47.9	-1.6		
	baz=196,SNR=12								
T35A	**Sooner Cattle**	20.01	8	P	P	03 03 48.9	-1.4		
	baz=190,SNR=11								
T34A	**McClaskey Farm**	20.03	7	P	P	03 03 49.4	-1.1		
	baz=188								
Y47A	**UCPARC, Winfie**	20.04	31	P	P	03 03 48.0	-2.7		
	baz=216								
U39A	**Green Forest**	20.10	16	P	P	03 03 50.3	-1.0		
	baz=199,SNR=33								
V42A	**Cord**	20.20	21	P	P	03 03 51.0	-1.3		
	baz=205,SNR=29								
U40A	**Yellville**	20.25	17	P	P	03 03 51.6	-1.4		
	baz=200,SNR=21								
T36A	**Boggs Farm, Ca**	20.25	10	P	P	03 03 51.4	-1.5		
	baz=192,SNR=6.4								
T25A	**Trinidad**	20.34	350	P	P	03 03 54.8	+0.6		
	baz=188,SNR=6.3								
T25A	**Trinidad**	20.34	350	*e*P	Pn	03 03 55.5	-0.7		
	13nm,0.8s								
Y14A	**Wickenburg**	20.40	328	*e*P	Pn	03 03 57.0	+0.3		
W45A	**Hickory Valley**	20.47	26	P	P	03 03 53.2	-2.1		
	baz=211,SNR=5.6								
T37A	**Cheneyville 18**	20.48	12	P	P	03 03 54.4	-1.0		
	baz=194								
U41A	**Viola**	20.51	19	P	P	03 03 54.8	-1.0		
	baz=203,SNR=21								
T38A	**Diamond**	20.53	13	P	P	03 03 55.8	-0.1		
	baz=196,SNR=10								
S34A	**Willow Spring**	20.71	7	P	P	03 03 56.7	-1.2		
	baz=188								
GLA	**Glamis**	20.72	323	P	Pn	03 03 59.8	-0.6		
	baz=137,SNR=11								
GLA	**Glamis**	20.72	323	*e*P	Pn	03 04 00.8	+0.4		
	43nm,0.9s								
T39A	**Clever**	20.74	15	P	P	03 03 56.6	-1.6		
	baz=198,SNR=10								
U42A	**Revenden**	20.74	21	P	P	03 03 57.1	-1.2		
	baz=204,SNR=52								
S35A	**Otter Creek Ra**	20.79	8	P	P	03 03 57.2	-1.6		
	baz=190,SNR=5.6								
WUAZ	**Wupatki**	20.93	333	P	P	03 04 01.7	+1.2		
	baz=149,SNR=24								
WUAZ	**Wupatki**	20.93	333	*e*P	Pn	03 04 03.4	+0.4		
	30nm,1.0s								
S36A	**Lake Cedric, C**	20.95	10	P	P	03 03 58.8	-1.6		
	baz=192,SNR=22								
U43A	**Rector**	21.05	22	P	P	03 04 00.3	-1.3		
	baz=206,SNR=5.8								
Y12C	**Blythe**	21.06	325	P	P	03 04 03.0	+1.3		
	baz=139,SNR=17								
Y12C	**Blythe**	21.06	325	*e*P	P	03 04 04.0	+2.3		
	29nm,0.9s								
V45A	**Humboldt**	21.06	26	P	P	03 03 59.5	-2.2		
	baz=211								
T40A	**Mansfield**	21.08	17	P	P	03 03 59.4	-2.6		
	baz=200								
S37A	**Fort Scott**	21.12	12	P	P	03 04 01.2	-1.1		
	baz=194,SNR=12								
SDCO	**Great Sand Dun**	21.13	348	P	P	03 04 03.1	+0.4		
	baz=166,SNR=38								
SDCO	**Great Sand Dun**	21.13	348	*e*P	P	03 04 03.5	+0.7		
	16nm,0.9s								
S38A	**Stocton**	21.19	14	P	P	03 04 01.9	-1.1		
	baz=196,SNR=34								
IKP	**In-Ko-Pah, Jac**	21.20	320	P	P	03 04 05.0	+1.7		
	baz=134								
T41A	**Mountain View**	21.21	19	P	P	03 04 01.5	-1.8		
	baz=202,SNR=17								
SWSC	**Sam W. Stewart**	21.21	321	P	P	03 04 05.4	+2.0		
	baz=135,SNR=14								
BCIP	**Isla Barro Col**	21.23	109	*e*P	P	03 04 01.6	-2.1		
PDMCI	**Parker Dam,Lak**	21.27	326	P	P	03 04 05.9	+2.0		
R34A	**Isabella, Hill**	21.29	6	P	P	03 04 02.9	-1.3		
	baz=188,SNR=14								
MVCO	**Mesa Verde**	21.38	341	P	P	03 04 05.2	-0.2		
	baz=158,SNR=13								
MVCO	**Mesa Verde**	21.38	341	*e*P	P	03 04 06.7	+1.3		
	15nm,0.8s								
S39A	**Bolivar**	21.38	15	P	P	03 04 03.3	-1.8		
	baz=198								
PBMO	**Poplar Bluff**	21.41	22	*e*P	P	03 04 04.4	-1.0		
	54nm,0.8s								
T42A	**Van Buren**	21.41	20	P	P	03 04 03.9	-1.5		
	baz=204								
S22A	**4UR Ranch, Cre**	21.42	345	P	P	03 04 06.2	+0.3		
	baz=162								
S22A	**4UR Ranch, Cre**	21.42	345	*e*P	P	03 04 07.2	+1.2		
	15nm,1.0s								
R35A	**Emporia Munici**	21.44	8	P	P	03 04 05.1	-0.7		
	baz=190								
S40A	**Lebanon**	21.51	17	P	P	03 04 05.1	-1.4		
	baz=200,SNR=8.0								
BC3	**Big Chuckawall**	21.51	323	P	P	03 04 08.3	+1.6		
	baz=137,SNR=27								
R36A	**Gordon, Harris**	21.55	10	P	P	03 04 05.0	-1.9		
	baz=192,SNR=16								
PARMO	**Parma**	21.55	23	*e*P	P	03 04 06.0	-0.9		
MONP	**Monument Peak,**	21.56	320	P	P	03 04 09.2	+1.9		
	baz=133,SNR=13								
R37A	**Teagarden Farm**	21.65	11	P	P	03 04 06.8	-1.2		
	baz=194,SNR=8.4								
CBKS	**Cedar Bluff**	21.66	1	P	P	03 04 07.5	-0.6		
	baz=181								
CBKS	**Cedar Bluff**	21.66	1	*e*P	P	03 04 07.8	-0.3		
	22nm,0.8s								
U45A	**Rockin P Farm,**	21.67	25	P	P	03 04 06.9	-1.3		
	baz=210								
IRM	**Iron Mountain**	21.71	324	P	P	03 04 10.8	+2.1		
	baz=138,SNR=19								
S41A	**Jillco Farms,**	21.71	18	P	P	03 04 07.7	-1.0		
	baz=202								
R38A	**Fenwick Farm,**	21.72	13	P	P	03 04 08.0	-0.7		
	baz=196,SNR=29								
T43A	**Greenville**	21.73	22	P	P	03 04 06.9	-2.0		
	baz=206,SNR=33								
W13A	**Hualapai Mount**	21.76	328	*e*P	P	03 04 12.0	+2.6		
	12nm,0.9s								
NEE2	**Needles Airpor**	21.88	326	P	P	03 04 12.2	+1.7		
	baz=140								
WVT	**Waverly**	21.88	28	*e*P	P	03 04 08.3	-2.2		
	23nm,0.9s								
Q34A	**Chapman**	21.94	7	P	P	03 04 10.6	-0.5		
	baz=188								
KSCO	**Kaye Shedlock'**	21.96	355	P	P	03 04 10.7	-0.8		
	baz=174,SNR=9.1								
109C	**Camp Elliot, M**	21.98	319	P	P	03 04 12.5	+0.9		
	baz=132								
T44A	**Benton**	21.98	23	P	P	03 04 09.6	-2.1		
	baz=208								
Q35A	**Mercer Eighty,**	21.99	9	P	P	03 04 10.8	-0.8		
	baz=190								
R39A	**Chumby, Stover**	22.04	15	P	P	03 04 10.0	-2.2		
	baz=198								
SWET	**Sewanee**	22.05	32	*e*P	P	03 04 10.7	-1.6		
	5.0nm,0.8s								
TPFO	**Pinon Flats**	22.07	321	P	P	03 04 13.3	+0.6		
	baz=135,SNR=10								
PFO	**Pinyon Flats O**	22.07	321	P	P	03 04 14.8	+2.0		
	10nm,0.9s,baz=139,slow=7.9,SNR=11								
PFO	**Pinyon Flats O**	22.07	321	P	P	03 04 13.9	+1.2		
	baz=135,SNR=12								
PFO	**Pinyon Flats O**	22.07	321	*e*P	P	03 04 14.6	+1.8		
	18nm,1.0s								
BELC	**Belle Mtn. Jos**	22.08	323	P	P	03 04 14.7	+1.9		
	baz=136,SNR=23								
U15A	**North Rim**	22.09	333	*e*P	P	03 04 15.4	+2.3		
	23nm,1.4s								
GOGA	**Godfrey**	22.10	40	*e*P	P	03 04 11.9	-1.0		
	37nm,1.0s								
S42A	**Caledonia**	22.18	20	P	P	03 04 12.6	-1.2		
	baz=204								
R40A	**Maddies Statio**	22.22	16	P	P	03 04 12.5	-1.7		
	baz=200,SNR=8.9								
S43A	**Fulton Ridge,**	22.24	21	P	P	03 04 14.1	-0.3		
	baz=206								
PV01	**Paradox Valley**	22.25	342	*e*P	P	03 04 15.7	+0.9		
Q37A	**Longview Farm,**	22.27	12	P	P	03 04 13.5	-1.2		
	baz=194								
PV05	**Paradox Valley**	22.36	341	*e*P	P	03 04 16.6	+0.6		
LDFC	**Landfair**	22.38	326	*e*P	P	03 04 19.2	+3.2		
	47nm,0.9s								
GMRC	**Granite Mounta**	22.45	325	P	P	03 04 18.4	+1.5		
	baz=138,SNR=12								
R41A	**Rosebud**	22.48	18	P	P	03 04 15.2	-1.7		
	baz=202,SNR=7.0								
MURC	**Murrieta**	22.51	320	P	P	03 04 19.1	+1.8		
	baz=133,SNR=7.3								
Q38A	**Cooks Store, C**	22.52	13	P	P	03 04 17.1	-0.3		
	baz=196,SNR=11								
P34A	**Walnut Farm, R**	22.57	7	P	P	03 04 16.4	-1.5		
	baz=188								
PV10	**Paradox Valley**	22.62	341	*e*P	P	03 04 20.8	+2.1		
R42A	**Luebbering**	22.64	19	P	P	03 04 16.2	-2.5		
	baz=204								
S44A	**Carbondale**	22.65	23	P	P	03 04 16.3	-2.3		
	baz=208,SNR=7.5								
P35A	**Duane Minner,**	22.65	8	P	P	03 04 17.0	-1.7		
	baz=190								
Q39A	**Willow Grove F**	22.75	14	P	P	03 04 17.9	-2.0		
	baz=198								
BBRC	**Big Bear Solar**	22.80	322	P	P	03 04 21.6	+1.0		
	baz=135								
KNB	**Kanab**	22.82	333	*e*P	P	03 04 22.9	+2.1		
	16nm,1.1s								
SMCO	**Snowmass**	22.82	346	*e*P	P	03 04 21.1	+0.1		
	7.8nm,0.9s								
P36A	**Good Intent, A**	22.86	10	P	P	03 04 19.6	-1.3		
	baz=192								
HEC	**Hector,Ludlow**	22.86	324	P	P	03 04 22.5	+1.3		
	baz=137,SNR=9.3								
S45A	**Carrier Mills**	22.89	24	P	P	03 04 19.0	-2.3		
	baz=209								
R43A	**Red Bud**	22.92	21	P	P	03 04 20.0	-1.6		
	baz=206								
Q40A	**Laux Farm, Aux**	22.93	16	P	P	03 04 20.1	-1.6		
	baz=200,SNR=6.3								
SCI	**San Clemente I**	22.96	317	P	P	03 04 23.4	+1.3		
	baz=130								
CPCT	**Cooper Cave**	22.96	34	*e*P	P	03 04 20.4	-1.6		
	19nm,1.2s								
P37A	**Lathrop**	22.98	11	P	P	03 04 21.0	-1.1		
	baz=194								
LCMT	**Little Creek M**	23.00	332	*e*P	P	03 04 24.4	+1.8		
	5.3nm,1.1s								
O33A	**Hebron**	23.02	5	P	P	03 04 21.6	-1.0		
	baz=186								
TUQ	**Turquoise Moun**	23.08	325	P	P	03 04 25.4	+2.0		
	baz=139,SNR=56								
Q41A	**Truxton**	23.13	18	P	P	03 04 21.9	-1.8		

	7.3nm,0.8s								
Q44A	**Meyer Farm, Va**	23.80	22	P	P	03 04 28.4	-2.0		
	baz=207,SNR=18								
MSU	**Marysvale**	23.83	336	eP	P	03 04 32.8	+1.8		
P41A	**Barry, Barry**	23.85	17	P	P	03 04 28.6	-2.3		
	baz=202								
GTBY	**Guantanamo Bay**	23.86	79	eP	P	03 04 32.1	+0.9		
	34nm,1.0s								
EDW2	**Edwards Air Fo**	23.87	321	P	P	03 04 31.8	+0.6		
	baz=134,SNR=6.0								
N34A	**Lincoln**	23.88	7	P	P	03 04 29.5	-1.6		
	baz=188								
P42A	**Winchester**	23.98	19	P	P	03 04 29.7	-2.4		
	baz=203								
OLIL	**Olney**	23.99	24	eP	P	03 04 33.0	+0.8		
	20nm,0.6s								
O39A	**Kirksville**	24.00	14	P	P	03 04 30.4	-1.9		
	baz=198								
N35A	**Tabor**	24.01	8	P	P	03 04 30.5	-1.9		
	baz=190								
BLG	**Laguna Peak, P**	24.01	319	P	P	03 04 33.6	+1.1		
	baz=131								
NHSC	**New Hope**	24.02	45	eP	P	03 04 32.3	-0.2		
	132nm,1.1s								
O20A	**White River Ci**	24.03	345	P	P	03 04 32.4	-0.5		
	baz=161,SNR=17								
O20A	**White River Ci**	24.03	345	eP	P	03 04 33.8	+1.0		
	26nm,0.9s								
O40A	**La Belle**	24.04	16	P	P	03 04 31.0	-1.7		
	baz=200,SNR=11								
JSC	**Jenkinsville**	24.05	41	eP	P	03 04 33.1	+0.3		
	16nm,0.8s								
N36A	**Muff Farm, Cla**	24.07	10	P	P	03 04 30.9	-2.1		
	baz=192								
LRMC	**Laurel Mtn Rad**	24.10	323	P	P	03 04 34.0	+0.6		
	baz=135								
OSI	**Osito Audit: C**	24.13	320	P	P	03 04 34.4	+0.7		
	baz=132								
N37A	**Lee Faris, Mou**	24.14	11	P	P	03 04 31.4	-2.1		
	baz=194								
TMUT	**Trail Mountain**	24.16	339	eP	P	03 04 36.2	+2.1		
	8.2nm,0.9s								
N23A	**Red Feather La**	24.26	349	P	P	03 04 34.4	-0.7		
	baz=166,SNR=11								
N23A	**Red Feather La**	24.26	349	eP	P	03 04 35.6	+0.6		
	12nm,0.8s								
P43A	**Skaggs, Pawnee**	24.29	20	P	P	03 04 32.6	-2.4		
	baz=205,SNR=5.1								
BGNE	**Belgrade**	24.30	4	P	P	03 04 34.2	-0.9		
	baz=185								
BGNE	**Belgrade**	24.30	4	eP	P	03 04 35.9	+0.7		
	44nm,0.8s								
TZTN	**Tazewell**	24.30	34	eP	P	03 04 33.9	-1.3		
	27nm,1.0s								
WCI	**Wyandotte Cave**	24.30	27	eP	P	03 04 33.4	-1.7		
	22nm,0.7s								
O41A	**Passleys Farm,**	24.31	17	P	P	03 04 33.5	-1.6		
	baz=202								
FURC	**Furnace Creek,**	24.36	326	P	P	03 04 36.6	+1.0		
	baz=138,SNR=9.6								
N38A	**Joes South For**	24.36	13	P	P	03 04 34.3	-1.4		
	baz=196								
TPNV	**Topopah Spring**	24.40	327	P	P	03 04 37.2	+1.0		
	baz=140,SNR=19								
TPNV	**Topopah Spring**	24.40	327	eP	P	03 04 38.8	+2.6		
	14nm,0.9s								
MPMC	**Manual Prospec**	24.40	324	P	P	03 04 36.9	+0.6		
	baz=137,SNR=16								
P44A	**Sand Creek, Wi**	24.45	22	P	P	03 04 34.7	-1.7		
	baz=207								
M34A	**Aspy Farms, Fr**	24.53	6	P	P	03 04 36.3	-0.8		
	baz=188								
ARVC	**Arvin**	24.54	321	P	P	03 04 38.4	+1.1		
	baz=133								
M33A	**Taylor Creek F**	24.54	5	P	P	03 04 36.2	-1.0		
	baz=187								
KMSC	**Kings Mountain**	24.57	39	P	P	03 04 34.8	-2.8		
	baz=228,SNR=12								
KMSC	**Kings Mountain**	24.57	39	eP	P	03 04 37.1	-0.5		
	20nm,0.8s								
PHWY	**Pilot Hill**	24.57	350	eP	P	03 04 37.7	-0.2		
	6.8nm,0.8s								
M35A	**Neola**	24.60	8	P	P	03 04 36.6	-1.1		
	baz=190								
N39A	**Derby Farms, D**	24.61	14	P	P	03 04 36.3	-1.5		
	baz=198,SNR=6.3								
DAC	**Darwin (Calif)**	24.62	324	eP	P	03 04 39.8	+1.6		
	9.2nm,0.9s								
O42A	**Bath**	24.62	19	P	P	03 04 36.5	-1.4		
	baz=203								
ISA	**Isabella, Lake**	24.69	322	P	P	03 04 40.6	+1.9		
	baz=134								
M36A	**Felix, Anita**	24.71	10	P	P	03 04 37.9	-1.0		
	baz=192								
M37A	**Trindle Farm,**	24.79	11	P	P	03 04 38.6	-0.9		
	baz=194,SNR=19								
N40A	**Mertquake, Sal**	24.84	16	P	P	03 04 39.5	-0.4		
	baz=200								
L32A	**Elgin**	24.91	4	P	P	03 04 40.9	+0.3		
	baz=185								
O43A	**Sugar Creek Fa**	24.94	20	P	P	03 04 40.8	-0.1		
	baz=205								
M38A	**Pleasantville**	24.97	12	P	P	03 04 41.1	-0.1		
	baz=196								
PKM	**Mcpherson Peak**	24.99	319	P	P	03 04 43.7	+2.1		
	baz=131								
L34A	**Svendsen Farm,**	25.01	7	P	P	03 04 41.2	-0.3		
	baz=188								
CWC	**Cottonwood Cre**	25.01	324	P	P	03 04 43.6	+1.9		
	baz=136								
GRAC	**Grapevine Rang**	25.02	326	P	P	03 04 43.8	+2.1		
	baz=138								
NLU	**North Lily Min**	25.05	338	eP	P	03 04 43.8	+1.7		
	7.1nm,1.1s								
L33A	**Hoskins**	25.12	5	P	P	03 04 42.5	+0.1		
	baz=186								
R11A	**Troy Canyon, C**	25.16	330	P	P	03 04 44.4	+1.3		
	baz=143,SNR=9.4								
R11A	**Troy Canyon, C**	25.16	330	eP	P	03 04 45.2	+2.1		
	17nm,1.6s								
VES	**Vestal, Richgr**	25.17	322	P	P	03 04 45.0	+2.0		
	baz=133,SNR=22								
MOTC	**Monteria, Cord**	25.18	106	eP	P	03 04 43.9	+0.6		
HDIL	**Hopedale**	25.19	20	P	P	03 04 42.5	-0.7		
	baz=205								
HDIL	**Hopedale**	25.19	20	eP	P	03 04 42.1	-1.0		
	36nm,1.1s								
N42A	**Yates City**	25.21	18	P	P	03 04 42.7	-0.6		
	baz=203								
SJCC	**San Jacinto, C**	25.25	103	eP	P	03 04 41.0	-2.9		
L35A	**Bielow Farm, R**	25.25	8	P	P	03 04 43.5	-0.2		
	baz=190								
M39A	**Webster**	25.25	14	P	P	03 04 42.7	-1.0		
	baz=198,SNR=6.2								
RWWY	**Rawlins**	25.27	347	eP	P	03 04 44.6	+0.5		
	17nm,1.0s								
M40A	**Post Highland**	25.34	15	P	P	03 04 43.7	-0.8		
	baz=199								
L36A	**Harm Buss Farm**	25.37	9	P	P	03 04 44.6	-0.1		
	baz=192								
SMMC	**Simmler**	25.38	320	P	P	03 04 47.1	+2.2		
	baz=131								
K31A	**O'Neill**	25.48	2	P	P	03 04 46.4	+0.6		
	baz=183								
DUG	**Dugway, Tooele**	25.53	337	P	P	03 04 47.4	+1.0		
	baz=151,SNR=8.0								
DUG	**Dugway, Tooele**	25.53	337	eP	P	03 04 47.6	+1.2		
	5.3nm,0.9s								
TIN	**Tinemaha, Big**	25.53	325	P	P	03 04 48.0	+1.6		
	baz=137								
L37A	**Phoenix Point,**	25.55	11	P	P	03 04 45.7	-0.6		
	baz=194								
K32A	**Verdigre**	25.56	4	P	P	03 04 47.0	+0.5		
	baz=185,SNR=18								
M41A	**Milan**	25.57	17	P	P	03 04 45.9	-0.6		
	baz=202								
K33A	**Hardington**	25.58	5	P	P	03 04 46.7	0.0		
	baz=187								
RCTC	**Rector, Farmer**	25.58	322	P	P	03 04 48.1	+1.4		
	baz=134,SNR=6.8								
K34A	**Le Mars**	25.75	7	P	P	03 04 47.9	-0.3		
	baz=189								
SFIN	**Lafayette**	25.80	23	P	P	03 04 48.1	-0.6		
	baz=210,SNR=5.8								
SFIN	**Lafayette**	25.80	23	eP	P	03 04 48.4	-0.3		
	25nm,1.0s								
M42A	**Sheffield**	25.87	18	P	P	03 04 48.4	-0.8		
	baz=203								
K35A	**Storm Lake**	25.89	8	P	P	03 04 48.4	-1.1		
	baz=191								
L40A	**Anamosa**	26.04	15	P	P	03 04 49.3	-1.4		
	baz=200								
K22A	**Casper**	26.07	349	P	P	03 04 50.5	-0.8		
	baz=166								
K22A	**Casper**	26.07	349	eP	P	03 04 52.0	+0.7		
	18nm,1.3s								
J31A	**Geddes**	26.15	2	P	P	03 04 50.8	-1.0		
	baz=183								
K37A	**Belmond**	26.19	11	P	P	03 04 50.8	-1.3		
	baz=194								
L41A	**Preston**	26.24	16	P	P	03 04 51.1	-1.5		
	baz=201,SNR=5.8								
K38A	**Parkersburg**	26.24	12	P	P	03 04 51.0	-1.7		
	baz=196								
BGU	**Big Grassy Mou**	26.25	337	eP	P	03 04 54.5	+1.6		
	7.1nm,1.2s								
J32A	**Parkston**	26.28	4	P	P	03 04 51.9	-1.1		
	baz=185,SNR=5.2								
MLAC	**Mammoth, Mammo**	26.28	325	P	P	03 04 54.2	+0.9		
	baz=136								
J33A	**Davis**	26.29	5	P	P	03 04 52.9	-0.2		
	baz=187								
HWUT	**Hardware Ranch**	26.35	340	eP	P	03 04 54.8	+0.8		
	8.7nm,0.8s								
J34A	**Gerge**	26.36	7	P	P	03 04 53.2	-0.5		
	baz=189								
PMPB	**Monarch Peak**	26.46	320	eP	P	03 04 54.8	0.0		
	81nm,1.4s								
K39A	**Oelwein**	26.49	14	P	P	03 04 54.0	-0.9		
	baz=198								
BLA	**Blacksburg**	26.52	37	eP	P	03 04 54.5	-0.8		
	25nm,0.8s								
J35A	**Milford**	26.53	8	P	P	03 04 54.5	-0.7		
	baz=190								
J36A	**Seneca 1, Swea**	26.62	9	P	P	03 04 55.0	-1.0		
	baz=192								
K40A	**Colesburg**	26.66	15	P	P	03 04 55.2	-1.2		
	baz=199								
J37A	**Redenius Farm,**	26.73	11	P	P	03 04 55.6	-1.5		
	baz=194								
ECSD	**EROS Data Cent**	26.73	6	P	P	03 04 55.9	-1.2		
	baz=187,SNR=17								
ECSD	**EROS Data Cent**	26.73	6	eP	P	03 04 56.5	-0.6		
	17nm,1.0s								
TVH3	**East Aurora ar**	26.80	326	eP	P	03 05 00.9	+2.9		
	11nm,1.0s								
BW06	**Boulder Array**	26.84	344	P	P	03 04 59.3	+1.0		
	baz=160								
BW06	**Boulder Array**	26.84	344	eP	P	03 04 58.8	+0.4		
	5.0nm,0.8s								
PD31	**Pinedale Array**	26.84	344	eP	P	03 04 58.8	+0.4		
PDAR	**Pinedale Array**	26.84	344	P	P	03 04 58.6	+0.2		
	2.0nm,0.7s,baz=140,slow=11,SNR=14								
PDAR					PcP	PcP	03 08 20.8	-0.1	
	0.4nm,0.5s,baz=141,slow=5.8,SNR=3.7								
PDAR					LR	LR	03 17 05.4		
	comp=Z,224nm,19.7s,baz=188,slow=40								
L43A	**Garden Prairie**	26.84	19	P	P	03 04 58.3	+0.2		
	baz=205								
I31A	**Royce, Wessing**	26.90	2	P	P	03 04 58.9	+0.3		
	baz=183								
HVU	**Hazel Valley**	26.91	339	eP	P	03 05 00.8	+1.9		
	5.0nm,0.9s								
J38A	**Wedel Dairy, R**	26.95	12	P	P	03 04 59.4	+0.4		
	baz=196								
I32A	**Karley and Nic**	26.95	4	P	P	03 04 59.6	+0.5		
	baz=186								
I33A	**Coleman**	27.03	5	P	P	03 04 59.4	-0.3		
	baz=187								
I35A	**Creekview Farm**	27.04	8	P	P	03 04 59.4	-0.5		
	baz=191								
OTAV	**Otavalo**	27.11	126	eP	P	03 05 02.6	+1.3		
	31nm,1.9s								
I34A	**Hadley**	27.11	7	P	P	03 05 00.5	0.0		
	baz=189								
J39A	**Decorah**	27.13	14	P	P	03 04 60.0	-0.6		
	baz=198								
RSSD	**Black Hills**	27.16	354	P	P	03 05 01.4	+0.2		
	baz=172								
WAKR	**Water**	27.24	325	eP	P	03 05 05.0	+3.0		
	12nm,1.1s								
SUSD	**Miller**	27.30	2	P	P	03 05 02.6	+0.5		
	baz=182								
I36A	**Fitzsimmons Fa**	27.34	10	P	P	03 05 02.8	+0.2		
	baz=193								
H31A	**Wolsey**	27.35	3	P	P	03 05 03.7	+1.1		
	baz=183								
ACSO	**Alum Creek Sta**	27.43	29	eP	P	03 05 03.0	-0.4		
	15nm,0.8s								
H32A	**Carlson Farm,**	27.43	4	P	P	03 05 03.7	+0.3		
	baz=186								
CMB	**Columbia Colle**	27.44	324	eP	P	03 05 05.4	+1.8		
	6.6nm,1.0s								
I37A	**Lemond, Waseca**	27.44	11	P	P	03 05 03.6	+0.2		
	baz=194								
YERR	**Yerington**	27.48	326	eP	P	03 05 06.7	+2.6		
	10nm,1.1s								
J41A	**Loganville**	27.57	16	P	P	03 05 03.9	-0.6		
	baz=201								
H33A	**Prehn Over Nor**	27.66	5	P	P	03 05 05.7	+0.3		
	baz=187								
I39A	**Houston**	27.66	13	P	P	03 05 05.3	-0.1		
	baz=198								
I38A	**Scanlan Farm,**	27.67	12	P	P	03 05 05.7	+0.2		
	baz=196								
H34A	**Spellman Lake,**	27.74	7	P	P	03 05 06.2	+0.1		
	baz=189								
REDW	**Red Top Meadow**	27.74	343	eP	P	03 05 06.1	-0.3		
	14nm,1.4s								
PNTR	**Pine Nut**	27.75	326	eP	P	03 05 09.4	+2.9		
	19nm,1.0s								
SNOW	**Snow King Moun**	27.81	343	eP	P	03 05 06.9	-0.1		
	4.7nm,0.8s								
H35A	**Sunnyside Ranc**	27.89	8	P	P	03 05 07.4	-0.1		
	baz=191								
TPAW	**Teton Pass**	27.89	343	eP	P	03 05 08.8	+1.0		
	6.3nm,0.8s								
H36A	**Jessenland, He**	27.90	9	P	P	03 05 07.6	+0.1		
	baz=193								
LOHW	**Long Hollow**	27.91	344	eP	P	03 05 08.6	+0.7		
	5.7nm,0.8s								
PAHR	**Pah Rah Range**	28.09	327	eP	P	03 05 12.0	+2.5		
	22nm,1.6s								
G31A	**Conde**	28.11	3	P	P	03 05 09.5	+0.2		
	baz=184								
G32A	**Webster**	28.18	4	P	P	03 05 10.4	+0.3		
	baz=185								
G33A	**Ortonville**	28.20	5	P	P	03 05 10.0	-0.2		
	baz=187								
IMW	**Indian Meadow**	28.26	343	eP	P	03 05 11.8	+0.7		
	2.9nm,0.8s								
H38A	**Maiden Rock**	28.29	12	P	P	03 05 11.5	+0.5		
	baz=196								
BARC	**Barichara**	28.29	108	eP	P	03 05 14.5	+2.8		
AFDM	**Forest Hills D**	28.40	324	eP	P	03 05 14.4	+2.2		
	6.3nm,1.2s								
CHIC	**Chingaza**	28.65	113	eP	P	03 05 17.2	+2.2		
RUSC	**La Rusia**	28.67	110	eP	P	03 05 16.2	+0.9		
RUSC	**La Rusia**	28.67	110	eP	P	03 05 16.5	+1.2		
	5.6nm,1.1s								
BEKR	**Beckworth**	28.72	326	eP	P	03 05 17.8	+2.6		
	13nm,1.1s								
F31A	**Hecla**	28.74	3	P	P	03 05 15.5	+0.6		
	baz=184								
F33A	**5 Mile Ranch,**	28.85	6	P	P	03 05 16.9	+0.9		
	baz=188								
RLMT	**Red Lodge**	29.00	347	P	P	03 05 18.4	+0.9		
	baz=162								
RLMT	**Red Lodge**	29.00	347	eP	P	03 05 18.1	+0.5		
	8.3nm,1.1s								
HLID	**Hailey**	29.05	338	P	P	03 05 19.4	+1.4		
	baz=151								
HLID	**Hailey**	29.05	338	eP	P	03 05 19.6	+1.5		
	4.7nm,1.2s								
G39A	**Holcombe**	29.10	13	P	P	03 05 18.1	-0.1		
	baz=198								
ORV	**Oroville**	29.12	325	eP	P	03 05 21.2	+2.7		
	10nm,1.3s								
F36A	**Milaca**	29.22	9	P	P	03 05 19.8	+0.6		
	baz=193								
G40A	**Rib Lake**	29.30	14	P	P	03 05 20.9	+0.8		
	baz=200								
N54A	**Moraine State**	29.45	32	P	P	03 05 20.9	-0.5		
	baz=222								
MFID	**Camas Ranch**	29.45	336	eP	P	03 05 23.1	+1.6		
	15nm,1.3s								
E31A	**Nome**	29.45	3	P	P	03 05 21.2	-0.1		
	baz=184								
G41A	**Antigo**	29.50	16	P	P	03 05 21.6	-0.3		
	baz=202								
E33A	**Westby DABS, E**	29.54	6	P	P	03 05 22.0	-0.1		
	baz=188								
F38A	**Pierce - Schro**	29.60	12	P	P	03 05 23.0	+0.4		
	baz=196								
E34A	**Wadena**	29.63	7	P	P	03 05 23.8	+0.8		
	baz=190								
O56A	**Blue Knob Stat**	29.69	35	P	P	03 05 22.9	-0.7		
	baz=225								
E35A	**Pequot Lakes**	29.77	8	P	P	03 05 24.4	+0.3		
	baz=191								
O03D	**Paynes Creek**	29.80	325	P	P	03 05 25.8	+1.2		
	baz=135								
WVOR	**Wild Horse Val**	29.82	332	eP	P	03 05 27.8	+3.0		
	13nm,1.2s								
M54A	**Oil Creek Stat**	30.02	32	P	P	03 05 25.3	-1.1		
	baz=222								
DLMT	**Dillon**	30.08	342	eP	P	03 05 28.6	+1.6		
	4.7nm,0.8s								
D33A	**AnnSam, Waubun**	30.18	6	P	P	03 05 27.4	-0.4		
	baz=188								
MOD	**Modoc Plateau**	30.20	329	eP	P	03 05 30.1	+2.0		
	15nm,1.3s								
SSPA	**Standing Stone**	30.32	35	eP	P	03 05 27.3	-1.8		
	9.4nm,0.9s								
D35A	**Remer**	30.33	8	P	P	03 05 28.8	-0.4		
	baz=192								
D37A	**Cotton**	30.66	10	P	P	03 05 30.5	-1.5		
	baz=194								
MDND	**Maddock**	30.69	1	P	P	03 05 32.6	+0.4		
	baz=181								
MDND	**Maddock**	30.69	1	eP	P	03 05 32.5	+0.2		
	35nm,1.0s								
C31A	**Landman Farms,**	30.69	3	P	P	03 05 31.2	-1.1		
	baz=184,SNR=9.5								
M04C	**Macdoel**	30.88	327	P	P	03 05 35.3	+1.1		
	baz=137,SNR=6.3								
C35A	**Jirik Farms, M**	30.95	8	P	P	03 05 34.3	-0.2		
	baz=191								
F44A	**Big Bay de Noc**	30.98	19	P	P	03 05 34.8	0.0		
	baz=206								
E43A	**Lone Tree Farm**	31.18	18	P	P	03 05 36.1	-0.5		
	baz=205								
BMO	**Blue Mountains**	31.23	336	eP	P	03 05 37.9	+0.6		
	5.0nm,1.0s								
KHMM	**Horse Mountain**	31.27	324	eP	P	03 05 40.0	+2.4		
	31nm,1.2s								
B31A	**Greenbush Farm**	31.32	3	P	P	03 05 37.7	-0.1		
	baz=184								
AGMN	**Agassiz Nation**	31.33	5	P	P	03 05 37.8	-0.1		
	baz=188								
AGMN	**Agassiz Nation**	31.33	5	eP	P	03 05 37.2	-0.7		
	14nm,1.0s								
B32A	**Ashes, Strandq**	31.37	5	P	P	03 05 38.4	+0.2		
	baz=187								
B35A	**Bob, Littlefor**	31.63	8	P	P	03 05 40.3	-0.2		
	baz=192								
B34A	**Aery, Baudette**	31.64	7	P	P	03 05 40.6	0.0		
	baz=190								
MSO	**Missoula**	31.80	342	P	P	03 05 42.6	+0.4		
	baz=154								
EGMT	**Eagleton**	31.86	348	P	P	03 05 43.0	+0.3		
	baz=162								
A32A	**Rocking H Ranc**	31.89	5	P	P	03 05 42.6	-0.2		
	baz=187								
A33A	**Warroad**	32.01	6	P	P	03 05 43.8	0.0		
	baz=188								
J04D	**Umpqua Nationa**	32.08	329	P	P	03 05 46.1	+1.3		
	baz=138								
F10A	**Beach Ranch, E**	32.15	337	eP	P	03 05 45.9	+0.7		
	20nm,0.9s								
SJG	**San Juan**	32.35	83	P	P	03 05 46.9	-0.4		
	8.2nm,0.8s,baz=315,slow=10.0,SNR=2.6								
BINY	**Binghamton**	32.43	34	eP	P	03 05 47.0	-0.7		
	12nm,1.0s								
I05D	**Terrebonne, OR**	32.54	331	P	P	03 05 49.6	+0.9		
	baz=140								
SADO	**Sadowa**	32.74	28	P	P	03 05 49.2	-1.2		
	2.9nm,0.5s,baz=256,slow=12,SNR=4.0								
E09A	**Wood Farm, Sta**	32.95	337	eP	P	03 05 52.2	+0.1		
	7.1nm,0.9s								
KEBM	**Edson Butte**	32.96	326	eP	P	03 05 55.6	+3.3		
	89nm,1.1s								
I03D	**Drain, OR**	33.03	328	P	P	03 05 54.6	+1.7		
	baz=136								
ULM	**Lac du Bonnet**	33.26	5	P	P	03 05 53.6	-1.3		
	11nm,0.8s,baz=203,slow=9.0,SNR=8.7								
ULM	**Lac du Bonnet**	33.26	5	eP	P	03 05 53.5	-1.3		
	12nm,0.8s								
NEW	**Newport**	34.08	340	P	P	03 06 03.1	+1.1		
	baz=150								
G03D	**McMinnville, O**	34.10	330	P	P	03 06 03.7	+1.6		
	baz=138								
LTY	**Liberty**	34.55	335	eP	P	03 06 07.6	+1.5		
	28nm,1.6s								
B08A	**Colville Reser**	34.93	337	eP	P	03 06 10.4	+1.0		
	22nm,1.8s								
E03A	**Lebam**	35.23	332	eP	P	03 06 15.1	+3.1		
	25nm,0.8s								
A04D	**Lummi Island**	36.54	335	P	P	03 06 24.7	+1.6		
	baz=142								
EDM	**Edmonton**	37.53	347	eP	P	03 06 31.3	-0.3		
	15nm,0.9s								
LMQ	**La Malbaie**	39.00	32	eP	P	03 06 45.8	+1.8		
	14nm,1.1s								
PTGA	**Pitinga**	43.33	110	P	P	03 07 18.8	-1.2		
	0.7nm,0.3s,baz=304,slow=14,SNR=5.6								
SAML	**Samuel**	44.74	123	eP	P	03 07 29.1	-2.2		
	16nm,1.8s								
SCHQ	**Schefferville**	45.51	26	P	P	03 07 35.8	-1.2		
	8.1nm,0.6s,baz=229,slow=10,SNR=3.9								
LPAZ	**La Paz**	45.75	135	P	P	03 07 39.9	0.0		
	1.3nm,0.7s,baz=325,slow=9.2,SNR=6.4								
LPAZ	**La Paz**	45.75	135	eP	P	03 07 40.3	+0.3		
	4.3nm,0.9s								
YKA	**Yellowknife Ar**	46.49	351	P	P	03 07 44.1	-0.4		
	6.4nm,0.8s,baz=160,slow=7.4,SNR=7.1								
YKA					LR	LR	03 28 15.6		
	comp=Z,26nm,20.4s,baz=180,slow=37								
DLBC	**Dease Lake**	46.82	339	eP	P	03 07 49.8	+2.5		
	17nm,0.8s								
PB11	**IPOC Station P**	47.27	139	eP	P	03 07 54.1	+2.7		
	20nm,1.1s								
WHY	**Whitehorse**	50.14	339	eP	P	03 08 14.7	+1.9		
	7.1nm,1.0s								

KTH	**Kantishna Hill**	**57.89**	**336**	*e*P		**P**	**03 09 09.4**	**0.0**
	9.3nm,0.9s								
PPLA	**Purkeypile**	**58.08**	**335**	*e*P		**P**	**03 09 12.5**	**+1.7**
	15nm,1.0s								
CAST	**Castle Rocks**	**58.28**	**335**	*e*P		**P**	**03 09 12.3**	**+0.2**
	15nm,0.9s								
SVW2	**Sparrevohn**	**58.77**	**332**	*e*P		**P**	**03 09 15.6**	**+0.1**
	9.7nm,0.9s								
COLD	**Coldfoot**	**59.49**	**340**	*e*P		**P**	**03 09 21.2**	**+0.8**
	16nm,1.5s								
TT01	**Tatalina**	**59.67**	**334**	*e*P		**P**	**03 09 21.7**	**0.0**
TTA	**Tatalina**	**59.68**	**334**	*e*P		**P**	**03 09 21.6**	**-0.2**
	9.3nm,1.0s								
CPUP	**Villa Florida**	**59.91**	**135**	P		**P**	**03 09 21.9**	**-1.9**
	0.9nm,0.5s,baz=322,slow=9.9,SNR=4.5								
TOLK	**Toolik Lake Re**	**60.05**	**341**	P		**P**	**03 09 25.0**	**+0.8**
	baz=123								
PLCA	**Paso Flores**	**63.73**	**155**	P		**P**	**03 09 49.0**	**-0.4**
	2.9nm,0.9s,baz=309,slow=9.3,SNR=3.2								
PLCA				LR		LR	03 32 16.3		
	comp=Z,43nm,18.1s,baz=193,slow=31								
PLCA	**Paso Flores**	**63.73**	**155**	P		**P**	**03 09 49.0**	**-0.4**
SUMG	**Summit**	**65.47**	**17**	*i* P		**P**	**03 10 00.0**	**-0.7**
	11nm,1.0s								
SUMG	**Summit**	**65.47**	**17**	*e*P		**P**	**03 10 00.1**	**-0.7**
	16nm,1.2s								
DAG	**Danmarks Havn**	**71.53**	**14**	*i* P		**P**	**03 10 37.1**	**-1.0**
	5.0nm,0.9s								
ESDC	**Sonseca Array**	**83.88**	**51**	P		**P**	**03 11 47.3**	**-0.4**
	0.2nm,0.4s,baz=296,slow=4.8,SNR=4.8								
NOA	**NORSAR Array B**	**85.08**	**27**	LR		LR	03 49 48.2		
	comp=Z,52nm,20.8s,baz=275,slow=36								
MDT	**Midelt**	**85.39**	**57**	P		**P**	**03 11 55.9**	**+0.3**
	5.2nm,1.1s,baz=305,slow=4.4,SNR=7.4								
ARCES	**ARCESS Array B**	**85.56**	**17**	P		**P**	**03 11 56.0**	**+0.4**
	2.5nm,0.7s,baz=301,slow=7.2,SNR=3.7								
ARCES				LR		LR	03 50 50.6		
	comp=Z,48nm,18.7s,baz=34,slow=36								
DBIC	**Dimbokro**	**93.05**	**82**	P		**P**	**03 12 30.7**	**-1.4**
	2.4nm,0.8s,baz=301,slow=4.8,SNR=3.2								
NRIK	**Noril'sk**	**93.64**	**357**	LR		LR	03 59 35.0		
	comp=Z,32nm,18.3s,baz=56,slow=39								
VNA3	**Neumayer Olymp**	**106.17**	**160**	PKiKP		**PKiKP**	**03 17 36.6**	**-4.7**
VNA2	**Neumayer--Watz**	**106.89**	**160**	PKiKP		**PKiKP**	**03 17 40.5**	**-2.2**
	baz=105,slow=3.4								
SNAA	**Sanae**	**108.37**	**161**	PKiKP		**PKiKP**	**03 17 44.0**	**-1.5**
KSH	**Kashi**	**123.58**	**4**	*e*PKP		**PKPdf**	**03 18 18.0**	**+2.3**
KSH				PP		PP	03 20 04.0	+8.0
KSH				PKS		**PKSdf**	**03 21 52.8**	**+0.3**
KSH				SKS		**SKSdf**	**03 25 25.3**	**-2.8**
KSH	**Kashi**	**123.58**	**4**	SS		SS	03 36 45.0	+2.4
KSH				AMB		AMB			
	comp=Z,61nm,4.9s								
KSH				LR		LR			
	comp=N,36nm,10.0s								
KSH				LR		LR			
	comp=E,69nm,9.6s								
KSH				LR		LR			
	comp=Z,75nm,11.6s								
MAW	**Mawson**	**128.32**	**172**	PKP		**PKPdf**	**03 18 24.1**	**+0.5**
	comp=Z,1.7nm,0.8s,baz=208,slow=3.5,SNR=4.8								
WRAB	**Tennant Creek**	**128.47**	**258**	*e*PKPdf		**PKPdf**	**03 18 24.6**	**-0.7**
WRA	**Warramunga Arr**	**128.48**	**258**	PKP		**PKPdf**	**03 18 25.6**	**+0.2**
	comp=Z,3.7nm,0.8s,baz=82,slow=2.5,SNR=30								
ASAR	**Alice Springs**	**129.19**	**253**	PKP		**PKPdf**	**03 18 26.6**	**0.0**
	comp=Z,2.1nm,0.9s,baz=116,slow=1.7,SNR=16								
MBWA	**Marble Bar**	**142.21**	**257**	*e*PKPdf		**PKPdf**	**03 18 52.9**	**+2.0**
HYB	**Hyderabad**	**145.69**	**2**	*i* PKP		**PKPdf**	**03 18 57.0**	**-0.2**

MEX 23 03:03:19.7±0.8, 16°.87N×100°.19W, h10km±3km, MD3.8,
Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
CAIG	**El Cayaco**	**0.19**	**336**	*e*P		Pg	03 03 23.2	-0.6
CAIG				*e*S		Sg	03 03 26.3	-0.3
ACP2	**Acapulco**	**0.29**	**90**	*e*P		Pg	03 03 25.3	-0.2
ACP2				*e*S		Sg	03 03 29.3	-0.1
ACX	**Acapulco**	**0.32**	**91**	*e*P		Pn	03 03 29.6	-0.8
ACX				*e*S		Sb	03 03 33.4	+0.8
MEIG	**Mezcala**	**1.18**	**27**	*e*P		Pb	03 03 37.7	-4.5
MEIG				*e*S		Sb	03 03 52.7	-5.0
ARIG	**Puente Sto Nin**	**1.41**	**354**	*e*P		Pn	03 03 42.3	-3.1
ARIG				*i* S		Sn	03 03 59.1	-5.0
PLIG	**Platanillo**	**1.65**	**23**	*e*P		Pn	03 03 45.6	-3.2
PLIG				*i* S		Sn	03 04 05.8	-4.3

*ISCJB **23** 03:07:38.3±0.2, 51°.54N±0°.01×16°.21E±0°.02, h0km, mb3.6/6, Error ellipse: s-maj=2.0km s-min=1.7km az=28.8*
*CSEM **23** 03:07:40.2±0.1, 51°.55N×16°.17E, h2km, ML3.9/17, Error ellipse: s-maj=2.2km s-min=1.9km az=32.0*
*WAR **23** 03:07:41.3, 51°.53N×16°.17E, h1km, Mw3.2*
*BGR **23** 03:07:41.4±0.5, 51°.52N×16°.20E, h1km, ML3.8/7, Error ellipse: s-maj=4.4km s-min=4.4km az=116.0*
*IDC **23** 03:07:41.0±0.6, 51°.52N×16°.03E, h0km, mb3.6/6, mb1 3.7/13, mb1mx3.6/39, mbtmp3.6/13, ML3.2/7, Error ellipse: s-maj=10.4km s-min=6.4km az=107.0*
*PRU **23** 03:07:43.5, 51°.44N×16°.19E, h0km*
*UPP **23** 03:07:45.2±3.3, 51°.88N×15°.68E, h0km, ML2.6, Suspected explosion*

ISC 23 03:07:39.5±0.5, 51°.54N±0°.02×16°.17E±0°.02, h0km, n171, σ1°48/274, mb3.6/6, 7C-7D, Poland

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.70**	**174**	*i* Pg		**Pb**	**03 07 54.3**	**-0.3**
KSP				*e*Sg		**Sg**	**03 08 03.1**	**+1.1**
KSP				*e*			03 08 06.7	
KSP	**Ksiaz**	**0.70**	**174**	*i* Pg		**Pb**	**03 07 54.3**	**-0.3**
KSP				*e*Sg		**Sg**	**03 08 03.1**	**+1.1**
KSP	**Ksiaz**	**0.70**	**174**	*i* Pg		**Pb**	**03 07 54.3**	**-0.3**
KSP				*e*Sg		**Sg**	**03 08 03.1**	**+1.1**
KSP				*e*			03 08 06.7	
UPC	**Upice**	**1.04**	**186**	*e*PG		**Pb**	**03 08 00.4**	**+0.1**
UPC				*e*SG		**Sb**	**03 08 14.1**	**-0.4**
	comp=Z,560nm,0.7s							
UPC	**Upice**	**1.04**	**186**	Pg		**Pb**	**03 08 00.4**	**+0.1**
UPC				Sg		**Sb**	**03 08 14.1**	**-0.4**
	560nm,0.7s							
DPC	**Dobruska-Polom**	**1.20**	**175**	*e*PG		**Pb**	**03 08 03.2**	**+0.2**
DPC				*e*SG		**Sg**	**03 08 18.2**	**+0.4**
	comp=Z,280nm,0.8s							
DPC	**Dobruska-Polom**	**1.20**	**175**	Pg		**Pb**	**03 08 03.2**	**+0.2**
DPC				Sg		**Sg**	**03 08 18.2**	**+0.4**
	280nm,0.8s							
PVCC	**Panska Ves**	**1.43**	**226**	*e*PG		**Pb**	**03 08 07.3**	**+0.3**
PVCC				*e*SG		**Sn**	**03 08 27.4**	**+1.2**
	comp=Z,298nm,0.3s							
PVCC	**Panska Ves**	**1.43**	**226**	Pg		**Pb**	**03 08 07.3**	**+0.3**
PVCC				Sg		**Sn**	**03 08 27.4**	**+1.2**
	298nm,0.3s							
KRLC	**Kraliky**	**1.52**	**165**	*e*PG		**Pn**	**03 08 08.2**	**+0.3**
KRLC				*e*SG		**Sg**	**03 08 27.6**	**-0.5**
KRLC	**Kraliky**	**1.52**	**165**	Sg		**Sg**	**03 08 27.6**	**-0.5**
BRG	**Berggiesshubel**	**1.55**	**245**	PN		**Pn**	**03 08 08.3**	**0.0**
BRG				PG		**Pg**	**03 08 10.1**	**+0.9**
BRG				SG		**Sg**	**03 08 31.0**	**+1.7**
	418nm,0.4s							
BRG	**Berggiesshubel**	**1.55**	**245**	*e*Pn		**Pn**	**03 08 08.3**	**0.0**
	SNR=66							
BRG				*e*Pg		**Pg**	**03 08 10.3**	**+1.1**
	SNR=2.0							
BRG				*e*Sg		**Sg**	**03 08 30.9**	**+1.5**
	SNR=11							
BRG	**Berggiesshubel**	**1.55**	**245**	Pn		**Pn**	**03 08 08.3**	**0.0**
	SNR=66							
RUE	**Ruedersdorf**	**1.75**	**303**	*e*Pn		**Pn**	**03 08 11.2**	**+0.2**
	SNR=11							
RUE				*e*Sg		**Sg**	**03 08 37.9**	**+2.2**
	SNR=4.0							
RUE	**Ruedersdorf**	**1.75**	**303**	Pn		**Pn**	**03 08 11.2**	**+0.2**
	SNR=11							
RUE				Sg		**Sg**	**03 08 37.9**	**+2.2**
	SNR=4.0							
PRA	**Prague**	**1.84**	**218**	*e*PN		**Pn**	**03 08 12.9**	**+0.6**
PRA				*e*PG		**Pg**	**03 08 14.8**	**+0.1**
PRA				*e*SG		**Sg**	**03 08 39.4**	**+0.9**
	comp=Z,158nm,0.7s							
PRA	**Prague**	**1.84**	**218**	Sg		**Sg**	**03 08 39.4**	**+0.9**
	158nm,0.7s							
GKP	**Gorka Klasztor**	**1.85**	**20**	*e*Pn		**Pb**	**03 08 14.0**	**-0.1**
GKP				*e*Pg		Pg	03 08 21.8	+6.9
GKP				*e*Sn		**Sg**	**03 08 42.9**	**+4.0**
GKP				*e*Sg		Sb	03 08 48.9	+11
GKP	**Gorka Klasztor**	**1.85**	**20**	*e*Pn		**Pb**	**03 08 14.0**	**-0.1**
GKP	**Gorka Klasztor**	**1.85**	**20**	*e*Pn		**Pb**	**03 08 14.0**	**-0.1**
GKP				*e*Pg		Pg	03 08 21.8	+6.9
GKP				*e*Sn		**Sg**	**03 08 42.9**	**+4.0**
GKP				*e*Sg		Sb	03 08 48.9	+11
GOPC	**GO Pecny, Ondr**	**1.85**	**209**	*e*PN		**Pn**	**03 08 13.1**	**+0.6**
GOPC				*e*PG		**Pb**	**03 08 14.7**	**+0.5**
GOPC				*e*SG		**Sg**	**03 08 39.7**	**+0.8**
	comp=Z,138nm,0.6s							
PRU	**Pruhonice**	**1.87**	**214**	*e*PN		**Pn**	**03 08 12.9**	**+0.2**
PRU				*e*PG		**Pb**	**03 08 15.0**	**+0.6**
PRU				*e*SG		**Sg**	**03 08 40.3**	**+0.9**
	comp=Z,172nm,0.5s							
PRU	**Pruhonice**	**1.87**	**214**	Sg		**Sg**	**03 08 40.3**	**+0.9**
	172nm,0.5s							
FBE	**Freiberg**	**1.88**	**252**	*e*Pn		**Pn**	**03 08 13.2**	**+0.4**
	SNR=20							
FBE				*e*Pg		**Pg**	**03 08 16.1**	**+0.7**
	SNR=1.7							
FBE				*e*Sg		**Sg**	**03 08 40.8**	**+1.1**
	SNR=4.3							
FBE	**Freiberg**	**1.88**	**252**	Pn		**Pn**	**03 08 13.2**	**+0.4**
	SNR=20							
RAC	**Raciborz**	**1.94**	**138**	*e*Pg		**Pg**	**03 08 17.2**	**+0.6**
RAC				*e*Sg		**Sg**	**03 08 42.6**	**+0.8**
MORC	**Moravsky Berou**	**1.97**	**153**	‖ *i*P		**Pn**	**03 08 14.4**	**+0.3**
MORC				S		**Sg**	**03 08 42.6**	**-0.1**
MORC	**Moravsky Berou**	**1.97**	**153**	‖ *i*P		**Pn**	**03 08 14.4**	**+0.3**
MORC				*e*Sg		**Sg**	**03 08 43.0**	**+0.3**
CLL	**Collm**	**2.00**	**265**	*e*Pn		**Pn**	**03 08 14.5**	**0.0**
	SNR=90							
CLL				*e*Pg		**Pg**	**03 08 18.4**	**+0.7**
	SNR=27							
CLL				*e*Sg		**Sg**	**03 08 45.0**	**+1.4**
	SNR=3.6							
CLL	**Collm**	**2.00**	**265**	Pn		**Pn**	**03 08 14.5**	**0.0**
	SNR=90							
CLL	**Collm**	**2.00**	**265**	*e*Pn		**Pn**	**03 08 14.0**	**-0.5**
CLL				*e*Pg		**Pg**	**03 08 18.0**	**+0.3**
CLL				*i*			03 08 20.4	
CLL				*i*			03 08 21.8	
CLL				*i* Sg		**Sg**	**03 08 44.5**	**+0.9**
	comp=Z,228nm,0.7s							
CLL				*e*			03 08 49.0	
VRAC	**Vranov**	**2.25**	**173**	Pn		**Pn**	**03 08 18.9**	**+0.9**
	comp=Z,6.0nm,0.3s,baz=346,slow=15,SNR=35							
VRAC				Sn		**Sb**	**03 08 49.7**	**+0.4**
	comp=Z,21nm,0.3s,baz=247,slow=23,SNR=9.6							
VRAC	**Vranov**	**2.25**	**173**	*e*Pn		**Pn**	**03 08 18.5**	**+0.6**
VRAC				*e*Sg		**Sg**	**03 08 51.1**	**-0.6**
TREC	**Trest**	**2.29**	**191**	*e*PN		**Pn**	**03 08 19.5**	**+1.0**
TREC				*e*PG		**Pg**	**03 08 22.9**	**-0.4**
TREC				*e*SG		**Sg**	**03 08 52.8**	**-0.2**
	comp=Z,107nm,0.5s							
TREC	**Trest**	**2.29**	**191**	Pn		**Pn**	**03 08 19.5**	**+1.0**
TREC	**Trest**	**2.29**	**191**	Pg		**Pg**	**03 08 22.9**	**-0.4**
TREC				Sg		**Sg**	**03 08 52.8**	**-0.2**
	comp=Z,107nm,0.5s							
OJC	**Ojcow**	**2.65**	**119**	*e*Pn		**Pn**	**03 08 23.7**	**+0.3**
OJC				*e*Pg		**Pg**	**03 08 31.4**	**+1.2**
OJC				*e*Sg		**Sg**	**03 09 05.7**	**+1.2**
OJC	**Ojcow**	**2.65**	**119**	*e*Pn		**Pn**	**03 08 23.7**	**+0.3**
OJC	**Ojcow**	**2.65**	**119**	*e*Pn		**Pn**	**03 08 23.7**	**+0.3**
OJC				*e*Pg		**Pg**	**03 08 31.4**	**+1.2**
OJC				*e*Sg		**Sg**	**03 09 05.7**	**+1.2**
WERD	**Werda**	**2.68**	**247**	*e*Pn		**Pn**	**03 08 24.5**	**+0.7**
	SNR=53							
WERD				*e*Pg		**Pg**	**03 08 31.6**	**+0.8**
	SNR=8.0							
WERD	**Werda**	**2.68**	**247**	Pn		**Pn**	**03 08 24.5**	**+0.7**
	SNR=53							
NKC	**Novy Kostel**	**2.70**	**242**	*e*PN		**Pn**	**03 08 24.8**	**+0.7**
NKC				*e*PG		**Pg**	**03 08 31.9**	**+0.8**
NKC				*e*SG		**Sg**	**03 09 08.5**	**+2.4**
NKC	**Novy Kostel**	**2.70**	**242**	Pg		**Pg**	**03 08 31.9**	**+0.8**
NKC				Sg		**Sg**	**03 09 08.5**	**+2.4**
GUNZ	**Gunzen**	**2.70**	**246**	*e*Pn		**Pn**	**03 08 25.0**	**+0.8**
	SNR=50							
WERN	**Wernitzgruen**	**2.71**	**244**	*e*Pn		**Pn**	**03 08 25.3**	**+1.0**
	SNR=51							
WERN				*e*Pg		**Pg**	**03 08 32.8**	**+1.4**
	SNR=8.5							
PLN	**Plauen**	**2.75**	**249**	*e*Pn		**Pn**	**03 08 25.4**	**+0.7**
	SNR=18							
PLN	**Plauen**	**2.75**	**249**	Pn		**Pn**	**03 08 25.4**	**+0.7**
	SNR=18							
NEUB	**Neuenburg**	**2.78**	**265**	*e*Sg		**Sg**	**03 09 10.4**	**+1.8**
	SNR=4.7							
NEUB	**Neuenburg**	**2.78**	**265**	Sg		**Sg**	**03 09 10.4**	**+1.8**
	SNR=4.7							
KHC	**Kasperske Hory**	**2.93**	**216**	*e*PN		**Pn**	**03 08 27.8**	**+0.5**
KHC				*e*PG		**Pb**	**03 08 34.2**	**+1.6**
KHC				*e*SN		**Sn**	**03 09 02.9**	**-0.3**
KHC				*e*SG		**Sg**	**03 09 13.0**	**-0.5**
	comp=Z,106nm,0.7s							
KHC	**Kasperske Hory**	**2.93**	**216**	Pn		**Pn**	**03 08 27.8**	**+0.5**
KHC	**Kasperske Hory**	**2.93**	**216**	Pg		**Pb**	**03 08 34.2**	**+1.6**
KHC				Sn		**Sn**	**03 09 02.9**	**-0.3**
KHC				Sg		**Sg**	**03 09 13.0**	**-0.5**
	comp=Z,106nm,0.7s							
MOX	**Moxa**	**3.01**	**254**	*e*Pn		**Pn**	**03 08 29.1**	**+0.7**
	SNR=16							
MOX				*e*Pg		**Pg**	**03 08 37.4**	**+0.3**
	SNR=4.6							
MOX				*e*Sg		**Sg**	**03 09 17.6**	**+1.5**
	SNR=4.3							
MOX	**Moxa**	**3.01**	**254**	Pn		**Pn**	**03 08 29.1**	**+0.7**
	SNR=16							
MANZ	**Manzenberg**	**3.01**	**240**	*e*Pn		**Pn**	**03 08 29.3**	**+0.9**
	SNR=12							
MANZ				*e*Pg		**Pg**	**03 08 38.3**	**+1.1**
	SNR=12							
MANZ				*e*Sg		**Sg**	**03 09 18.6**	**+2.4**
	SNR=6.3							
MANZ	**Manzenberg**	**3.01**	**240**	Pn		**Pn**	**03 08 29.3**	**+0.9**
	SNR=12							
ROTZ	**Rotzenmuhle**	**3.09**	**236**	*e*Pn		**Pn**	**03 08 30.1**	**+0.7**
	SNR=16							
ROTZ				*e*Pg		**Pg**	**03 08 39.6**	**+1.0**
	SNR=15							
ROTZ	**Rotzenmuhle**	**3.09**	**236**	Pn		**Pn**	**03 08 30.1**	**+0.7**
	SNR=16							
GEC2	**GERESS Array S**	**3.13**	**211**	*e*Pn		**Pn**	**03 08 31.9**	**+1.8**
	SNR=7.5							
GEC2				*e*Sg		**Sg**	**03 09 19.4**	**-0.6**
	SNR=2.9							
GEC2	**GERESS Array S**	**3.13**	**211**	Pn		**Pn**	**03 08 31.9**	**+1.8**
	SNR=7.5							
GEC2				Sg		**Sg**	**03 09 19.4**	**-0.6**
	SNR=2.9							
GERES	**GERESS Array B**	**3.13**	**211**	Pn		**Pn**	**03 08 30.9**	**+0.7**
	comp=Z,3.0nm,0.3s,baz=30,slow=13,SNR=57							
GERES				Sn		**Sn**	**03 09 08.2**	**-0.1**
	comp=Z,5.1nm,0.3s,baz=41,slow=25,SNR=5.5							
GERES				Lg		Lg	03 09 18.2	
	comp=Z,14nm,0.3s,baz=37,slow=27,SNR=6.0							
SMOL	**Smolenice**	**3.14**	**165**	*e*Pg		**Pg**	**03 08 39.9**	**+0.4**
SMOL				*e*Sg		**Sg**	**03 09 20.7**	**+0.6**
SMOL	**Smolenice**	**3.14**	**165**	*e*		**Pn**	**03 08 28.5**	**-1.6**
SMOL	**Smolenice**	**3.14**	**165**	*e*PG		**Pg**	**03 08 39.9**	**+0.4**
SMOL				*e*SG		**Sg**	**03 09 20.7**	**+0.6**
LANS	**Liptovska Anna**	**3.19**	**137**	*e*Pg		**Pg**	**03 08 41.0**	**+0.4**
LANS				*e*Sg		**Sg**	**03 09 23.3**	**+1.4**
LANS	**Liptovska Anna**	**3.19**	**137**	*e*PG		**Pg**	**03 08 41.0**	**+0.4**
LANS				*e*SG		**Sg**	**03 09 23.3**	**+1.4**
WET	**Wettzell**	**3.19**	**223**	*e*Pn		**Pn**	**03 08 31.7**	**+0.7**
	SNR=15							
WET	**Wettzell**	**3.19**	**223**	Pn		**Pn**	**03 08 31.7**	**+0.7**
	SNR=15							
NIE	**Niedzica**	**3.38**	**127**	*e*Pn		**Pn**	**03 08 34.4**	**+0.8**
NIE				*e*Pg		**Pg**	**03 08 45.1**	**+0.8**
NIE				*e*Sg		**Sg**	**03 09 29.0**	**+0.9**
NIE	**Niedzica**	**3.38**	**127**	*e*Pn		**Pn**	**03 08 34.4**	**+0.8**
NIE	**Niedzica**	**3.38**	**127**	*e*Pn		**Pn**	**03 08 34.4**	**+0.8**
NIE				*e*Pg		**Pg**	**03 08 45.1**	**+0.8**
NIE				*e*Sg		**Sg**	**03 09 29.0**	**+0.9**
VYHS	**Vyhne**	**3.50**	**150**	*e*Pg		**Pg**	**03 08 47.3**	**+0.8**
VYHS	**Vyhne**	**3.50**	**150**	*e*		**Pn**	**03 08 35.2**	**+0.1**
VYHS	**Vyhne**	**3.50**	**150**	*e*PG		**Pg**	**03 08 47.3**	**+0.8**
VYHS				*e*SG		**Sg**	**03 09 33.3**	**+1.5**
VYHS				*e*LG		Lg	03 09 49.8	
CLZ	**Clausthal**	**3.62**	**277**	*e*Pn		**Pn**	**03 08 38.2**	**+1.4**
	SNR=6.6							
CLZ	**Clausthal**	**3.62**	**277**	*i* Pn		**Pn**	**03 08 38.2**	**+1.4**
	SNR=6.6							
CONA	**Conrad Observa**	**3.62**	**183**	*i* Pn		**Pn**	**03 08 37.7**	**+0.8**
	comp=Z,2.7nm,0.3s,SNR=10							
CONA				*e*Sn		**Sn**	**03 09 23.2**	**+2.9**
	comp=Z,44nm,0.6s							
CONA				Sg		**Sg**	**03 09 36.1**	**+0.4**
	comp=Z,49nm,0.4s							
CONA	**Conrad Observa**	**3.62**	**183**	Pn		**Pn**	**03 08 37.7**	**+0.8**
	comp=Z,2.7nm,0.3s,SNR=10							
CONA				Sn		**Sn**	**03 09 23.2**	**+2.9**
	comp=Z,44nm,0.6s							
CONA				Sg		**Sg**	**03 09 36.1**	**+0.4**
	comp=Z,49nm,0.4s							
BSD	**Bornholm Skovb**	**3.66**	**349**	*i* P		**Pn**	**03 08 36.7**	**-0.5**
BSD				*i* S		**Sn**	**03 09 19.6**	**-1.5**
NRDL	**Niedersach Rie**	**3.87**	**287**	*e*Pn		**Pn**	**03 08 42.0**	**+1.9**
	SNR=4.6							
NRDL	**Niedersach Rie**	**3.87**	**287**	Pn		**Pn**	**03 08 42.0**	**+1.9**
	SNR=4.6							
SOP	**Sopron**	**3.87**	**176**	‖ *ex*		**Pn**	**03 08 41.2**	**+1.0**
SOP				*ex*		**Sb**	**03 09 39.9**	**+4.0**
STHS	**Stebnicka Huta**	**3.87**	**121**	*e*Pg		**Pg**	**03 08 54.2**	**+0.5**
STHS	**Stebnicka Huta**	**3.87**	**121**	*e*PG		**Pg**	**03 08 54.2**	**+0.5**
STHS				*e*SG		**Sg**	**03 09 48.5**	**+4.7**
STHS				*e*LG		Lg	03 10 06.2	
MOA	**Molln**	**3.90**	**199**	*i* Pn		**Pn**	**03 08 41.7**	**+1.1**
	comp=Z,21nm,0.6s,SNR=16							
MOA				Sg		**Sg**	**03 09 44.5**	**-0.1**
	comp=Z,67nm,0.7s							
MOA	**Molln**	**3.90**	**199**	Pn		**Pn**	**03 08 41.7**	**+1.1**
	comp=Z,21nm,0.6s,SNR=16							
MOA				Sg		**Sg**	**03 09 44.5**	**-0.1**
	comp=Z,67nm,0.7s							
KECS	**Kecovo**	**4.13**	**136**	*e*Pg		**Pg**	**03 08 59.8**	**+1.1**
KECS				*e*Sg		**Sg**	**03 09 53.1**	**+0.9**
KECS	**Kecovo**	**4.13**	**136**	*e*PG		**Pg**	**03 08 59.8**	**+1.1**
KECS				*e*SG		**Sg**	**03 09 53.1**	**+0.9**
KECS				*e*LG		Lg	03 10 06.4	
BSEG	**Bad Segeberg**	**4.29**	**306**	*e*Pn		**Pn**	**03 08 46.3**	**+0.4**
	SNR=4.0							
BSEG	**Bad Segeberg**	**4.29**	**306**	Pn		**Pn**	**03 08 46.3**	**+0.4**
	SNR=4.0							
ARSA	**Arzberg**	**4.32**	**186**	*i* Pn		**Pn**	**03 08 47.9**	**+1.6**
	comp=Z,3.2nm,0.4s							
ARSA				Sg		**Sg**	**03 09 57.4**	**-0.6**
	comp=Z,63nm,0.7s							
ARSA	**Arzberg**	**4.32**	**186**	Pn		**Pn**	**03 08 47.9**	**+1.6**
	comp=Z,3.2nm,0.4s							
ARSA				Sg		**Sg**	**03 09 57.4**	**-0.6**
	comp=Z,63nm,0.7s							
PSZ	**Piszkesteto**	**4.36**	**145**	‖ *i*P		**Pn**	**03 08 48.2**	**+1.3**
PSZ	**Piszkesteto**	**4.36**	**145**	*e*Pn		**Pn**	**03 08 48.1**	**+1.2**
PSZ	**Piszkesteto**	**4.36**	**145**	*e*Pg		**Pg**	**03 09 05.4**	**+2.5**
PSZ	**Piszkesteto**	**4.36**	**145**	*ex*		**Pn**	**03 08 48.1**	**+1.2**
PSZ				*ex*		x	03 09 05.4	
PSZ				*ex*		x	03 10 02.2	
KWP	**Kalwaria Pacla**	**4.58**	**112**	*e*Pn		**Pn**	**03 08 50.1**	**+0.1**
KWP				*e*Pg		**Pg**	**03 09 04.8**	**-2.4**
KWP				*e*Sg		Sg	03 10 17.1	+11
KWP	**Kalwaria Pacla**	**4.58**	**112**	*e*Pn		**Pn**	**03 08 50.1**	**+0.1**
KWP	**Kalwaria Pacla**	**4.58**	**112**	*e*Pn		**Pn**	**03 08 50.1**	**+0.1**
KWP				*e*Pg		**Pg**	**03 09 04.8**	**-2.4**
KWP				*e*Sg		Sg	03 10 17.1	+11
BLEU	**Blekinge**	**4.78**	**358**	P		**Pn**	**03 08 52.4**	**-0.2**
BLEU				S		**Sn**	**03 09 44.8**	**-3.8**
BLEU	**Blekinge**	**4.78**	**358**	P		**Pn**	**03 08 52.4**	**-0.2**
KBA	**Koelnbreinsper**	**4.83**	**204**	*i* Pn		**Pn**	**03 08 54.9**	**+1.3**
	comp=Z,11nm,0.4s,SNR=11							
KBA				Sg		**Sg**	**03 10 13.8**	**-0.9**
	comp=Z,48nm,0.6s							
KBA	**Koelnbreinsper**	**4.83**	**204**	Pn		**Pn**	**03 08 54.9**	**+1.3**
	comp=Z,11

DAVOX				Sn	Sn	03 10 25.6	-0.9		
	comp=Z,0.6nm,0.3s,baz=106,slow=23,SNR=2.2								
DAVOX				Lg	Lg	03 11 00.1			
	comp=Z,1.0nm,0.3s,baz=94,slow=18,SNR=6.0								
SIRR	**Siria**	**6.40**	**143**⇑	*i* P	**Pn**	03 09 15.4	+0.5		
SIRR	**Siria**	**6.40**	**143**⇑	*i* P	**Pn**	03 09 15.4	+0.5		
DRGR		**6.40**	**135**⇓	*i* P	**Pn**	03 09 16.0	+1.0		
DRGR		**6.40**	**135**⇓	*i* P	**Pn**	03 09 16.0	+1.0		
BZS	**Buzias**	**6.94**	**147**⇑	*i* P	**Pn**	03 09 22.8	+0.5		
BZS	**Buzias**	**6.94**	**147**⇑	*i* P	**Pn**	03 09 22.8	+0.5		
BURAR	**Bucovina Array**	**7.07**	**120**⇓	*i* P	**Pn**	03 09 25.0	+0.8		
BURAR	**Bucovina Array**	**7.07**	**120**⇓	*i* P	**Pn**	03 09 25.0	+0.8		
GZR	**Gura Zlata**	**7.55**	**142**⇑	*i* P	**Pn**	03 09 32.9	+2.1		
GZR	**Gura Zlata**	**7.55**	**142**⇑	*i* P	**Pn**	03 09 32.9	+2.1		
AKASG	**Malin Array Be**	**8.26**	**91**	Pn	**Pn**	03 09 39.2	-1.2		
	comp=Z,2.6nm,0.3s,baz=281,slow=12,SNR=12								
AKASG				Sn	**Sn**	03 11 10.7	-3.6		
	comp=Z,1.3nm,0.3s,baz=270,slow=24,SNR=4.8								
HFS	**Hagfors**	**8.72**	**352**	Pn	**Pn**	03 09 46.4	-0.3		
	comp=Z,0.1nm,0.3s,baz=162,slow=15,SNR=4.1								
HFS				Sn	**Sn**	03 11 21.4	-4.3		
	comp=Z,0.2nm,0.3s,baz=183,slow=23,SNR=2.8								
NOA	**NORSAR Array B**	**9.91**	**346**	Pn	**Pn**	03 10 01.2	-1.8		
	comp=Z,0.1nm,0.3s,baz=171,slow=12,SNR=2.8								
FINES	**FINESS Array B**	**11.32**	**25**	Pn	**Pn**	03 10 20.6	-1.6		
	comp=Z,0.2nm,0.3s,baz=204,slow=11,SNR=8.4								
FINES				Sn	**Sn**	03 12 22.8	-6.5		
	comp=Z,0.5nm,0.3s,baz=217,slow=20,SNR=6.5								
EKA	**Eskdalemuir Ar**	**12.13**	**296**	Pn	**Pn**	03 10 29.2	-4.1		
	baz=104,slow=14,SNR=5.2								
EKA				Sn	**Sn**	03 12 42.9	-6.3		
	baz=102,slow=25,SNR=3.7								
AKTO	**Aktyubinsk**	**26.11**	**76**	P	**P**	03 13 15.4	+0.7		
	comp=Z,1.2nm,0.7s,baz=290,slow=8.9,SNR=6.2								
TORD	**Torodi Ar. Bea**	**40.04**	**202**	P	**P**	03 15 17.6	+1.4		
	comp=Z,0.3nm,0.5s,baz=11,slow=9.3,SNR=3.4								
SONM	**Songino Array**	**54.87**	**55**	P	**P**	03 17 14.0	+2.5		
	comp=Z,0.4nm,0.6s,baz=302,slow=8.2,SNR=4.4								
YKA	**Yellowknife Ar**	**59.84**	**336**	P	**P**	03 17 47.8	+1.6		
	comp=Z,0.8nm,0.6s,baz=37,slow=6.9,SNR=2.5								
PDAR	**Pinedale Array**	**74.94**	**322**	P	**P**	03 19 23.0	+0.6		
	comp=Z,0.3nm,0.5s,baz=46,slow=5.9,SNR=3.6								
TXAR	**Lajitas Array**	**83.72**	**310**	P	**P**	03 20 12.0	+1.7		
	comp=Z,0.3nm,0.9s,baz=54,slow=4.9,SNR=4.3								

*ISN **23** 03:09:46.3±1.1,39°.20N×40°.40E,h8km±16km, ML3.9*
*DDA **23** 03:09:56.0,39°.39N×40°.89E,h15km, Ml3.9*
*CSEM **23** 03:09:56.5±0.2,39°.37N×40°.89E,h2km, ML3.9, Error ellipse: s-maj=4.8km s-min=4.3km az=74.0*
*NSSC **23** 03:10:08.7±2.1,38°.09N×40°.53E,h196km±22km, ML2.7*
ISC 23 03:09:56.0±0.9,39°.35N±0°.02×40°.86E±0°.02,h15km±7km, n58,σ2s11/83, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ECAT	**Cat-ERZURUM**	**0.27**	**19**	*i* P	**Pg**	**03 10 01.8**	**-0.2**
ECAT				*i* S	**Sg**	**03 10 05.1**	**-0.9**
ECAT	**Cat-ERZURUM**	**0.27**	**19**	P	**Pg**	**03 10 01.8**	**-0.2**
ECAT				S	**Sg**	**03 10 05.1**	**-0.9**
BNGL	**BINGOL**	**0.46**	**150**	*i* P	**Pg**	**03 10 05.6**	**+0.4**
BNGL				*i* S	**Sn**	**03 10 17.4**	**+1.1**
VRTB	**Varto-Mus**	**0.50**	**112**	*i* P	**Pg**	**03 10 05.5**	**-0.5**
VRTB	**Varto-Mus**	**0.50**	**112**	P	**Pg**	**03 10 05.5**	**-0.5**
ERZM	**Erzurum**	**0.68**	**35**	*i* P	**Pg**	**03 10 08.5**	**-0.9**
ERZM	**Erzurum**	**0.68**	**35**	P	**Pg**	**03 10 08.5**	**-0.9**
KOPT	**Kop Dagi**	**0.72**	**338**	*i* P	**Pg**	**03 10 09.9**	**-0.3**
KOPT				*i* S	**Sn**	**03 10 21.8**	**-1.3**
KOPT				*i* S	**Sn**	**03 10 21.8**	**-1.3**
KOPT	**Kop Dagi**	**0.72**	**338**	P	**Pg**	**03 10 09.9**	**-0.3**
KOPT				S	**Sn**	**03 10 21.8**	**-1.3**
EKAR	**Karacoban**	**0.94**	**95**	*i* P	**Pb**	**03 10 14.1**	**-0.1**
EKAR	**Karacoban**	**0.94**	**95**	P	**Pb**	**03 10 14.1**	**-0.1**
EUZM	**Uzumlu**	**0.97**	**292**	*i* P	**Pb**	**03 10 14.0**	**-0.6**
EUZM				*i* S	**Sn**	**03 10 28.5**	**-0.3**
EUZM	**Uzumlu**	**0.97**	**292**	P	**Pb**	**03 10 14.0**	**-0.6**
EUZM				S	**Sn**	**03 10 28.5**	**-0.3**
TNCL	**Tunceli-Merkez**	**1.05**	**258**	*i* P	**Pb**	**03 10 15.3**	**-0.7**
TNCL	**Tunceli-Merkez**	**1.05**	**258**	P	**Pb**	**03 10 15.3**	**-0.7**
HOMI	**Horasan**	**1.07**	**49**	*i* P	**Pb**	**03 10 15.0**	**-1.4**
HOMI				*i* S	**Sn**	**03 10 34.1**	**+2.6**
SVAN	**Silvan-Diyarba**	**1.22**	**167**	*i* P	**Pg**	**03 10 20.1**	**+0.5**
SVAN				*i* S	**Sg**	**03 10 37.4**	**+1.8**
SVAN	**Silvan-Diyarba**	**1.22**	**167**	P	**Pg**	**03 10 20.1**	**+0.5**
SVAN				S	**Sg**	**03 10 37.4**	**+1.8**
KELT	**Kelkit**	**1.47**	**303**	*i* P	**Pb**	**03 10 22.9**	**-0.3**
KELT				*i* S	**Sg**	**03 10 44.1**	**+0.6**
KELT	**Kelkit**	**1.47**	**303**	P	**Pb**	**03 10 22.9**	**-0.3**
KELT				S	**Sg**	**03 10 44.1**	**+0.6**
BTMN	**Batman**	**1.49**	**167**	*i* P	**Pg**	**03 10 25.2**	**+0.5**
BTMN	**Batman**	**1.49**	**167**	P	**Pg**	**03 10 25.2**	**+0.5**
DIYA	**Diyarbakir**	**1.54**	**202**	*i* P	**Pg**	**03 10 26.3**	**+0.8**
DIYA	**Diyarbakir**	**1.54**	**202**	P	**Pg**	**03 10 26.3**	**+0.8**
REFA	**Refahiye_ERZ**	**1.62**	**272**	*i* P	**Pg**	**03 10 28.5**	**+1.3**
REFA	**Refahiye_ERZ**	**1.62**	**272**	P	**Pg**	**03 10 28.5**	**+1.3**
DDEM	**Demirkent**	**1.69**	**24**	*i* P	**Pb**	**03 10 26.4**	**-0.5**
DDEM				*i* S	**Sg**	**03 10 49.6**	**-0.8**
DDEM				*i* S	**Sg**	**03 10 49.6**	**-0.8**
DDEM	**Demirkent**	**1.69**	**24**	P	**Pb**	**03 10 26.4**	**-0.5**
DDEM				S	**Sg**	**03 10 49.6**	**-0.8**
ELZG	**Elazig**	**1.69**	**240**	*i* P	**Pb**	**03 10 26.3**	**-0.7**
ELZG	**Elazig**	**1.69**	**240**	P	**Pb**	**03 10 26.3**	**-0.7**
MACK	**Trabzon**	**1.80**	**333**	*i* P	**Pb**	**03 10 29.2**	**+0.5**
MACK	**Trabzon**	**1.80**	**333**	P	**Pb**	**03 10 29.2**	**+0.5**
KEMA	**Kemaliye**	**1.84**	**268**	*i* P	**Pg**	**03 10 30.7**	**-0.6**
KEMA	**Kemaliye**	**1.84**	**268**	P	**Pg**	**03 10 30.7**	**-0.6**
DAGI	**Agillar**	**1.91**	**25**	*i* P	**Pb**	**03 10 29.7**	**-1.0**
GEVA	**Gevas**	**2.01**	**120**	*i* P	**Pb**	**03 10 31.8**	**-0.5**
GEVA	**Gevas**	**2.01**	**120**	P	**Pb**	**03 10 31.8**	**-0.5**
ARTV	**Artvin**	**2.01**	**24**	*i* P	**Pb**	**03 10 31.8**	**-0.6**
ARTV	**Artvin**	**2.01**	**24**	P	**Pb**	**03 10 31.8**	**-0.6**
DBOC	**Borcka**	**2.09**	**17**	*i* P	**Pb**	**03 10 33.0**	**-0.7**
DBOC	**Borcka**	**2.09**	**17**	P	**Pb**	**03 10 33.0**	**-0.7**
DIGO	**Kars**	**2.21**	**60**	*i* P	**Pb**	**03 10 34.1**	**-1.8**
DIGO	**Kars**	**2.21**	**60**	P	**Pb**	**03 10 34.1**	**-1.8**
SUSE	**Susehri**	**2.22**	**294**	*i* P	**Pb**	**03 10 35.2**	**-0.8**
SUSE	**Susehri**	**2.22**	**294**	P	**Pb**	**03 10 35.2**	**-0.8**
KBSD	**Kabsdagh**	**2.36**	**186**	*e*P	**Pb**	**03 10 37.9**	**-0.3**
KBSD				*e*S	**Sn**	**03 11 00.8**	**-2.2**
KBSD				AML	AML	03 11 27.9	
	comp=Z,165nm,0.6s						
KBSD	**Kabsdagh**	**2.36**	**186**	*e*P	**Pb**	**03 10 37.9**	**-0.3**
	SNR=147						
KBSD				*e*S	**Sn**	**03 11 00.8**	**-2.2**
	comp=Z,165nm,0.6s,SNR=147						
SFNV	**Sufian**	**2.98**	**192**	*e*P	**Pb**	**03 10 46.2**	**-2.7**
SFNV				*e*S	**Sn**	**03 11 11.0**	**-7.5**
SFNV				AML	AML	03 11 38.8	
	comp=Z,157nm,0.5s						
SFNV	**Sufian**	**2.98**	**192**	*e*P	**Pb**	**03 10 46.2**	**-2.7**
	SNR=134						
SFNV				*e*S	**Sn**	**03 11 11.0**	**-7.5**
	comp=Z,157nm,0.5s,SNR=134						
KSRV	**Kasrt alli**	**3.78**	**204**	*e*P	**Pb**	**03 10 59.4**	**-3.0**
KSRV				*e*S	**Sn**	**03 11 37.4**	**-0.6**
KSRV				AML	AML	03 12 00.9	
	comp=Z,82nm,0.4s						
KSRV	**Kasrt alli**	**3.78**	**204**	*e*P	**Pb**	**03 10 59.4**	**-3.0**
	SNR=117						
KSRV				*e*S	**Sn**	**03 11 37.4**	**-0.6**
	comp=Z,82nm,0.4s,SNR=117						
ONI	**Oni**	**3.79**	**30**	P	**Pg**	**03 11 06.1**	**-2.5**
GUDG	**Gudauri**	**4.15**	**40**	P	**Pn**	**03 11 03.2**	**+4.2**
DRWC	**Darouich**	**4.29**	**232**	*e*P	**Pn**	**03 11 04.1**	**+3.3**
DRWC				*e*S	**Sn**	**03 11 44.3**	**-6.3**
DRWC				AML	AML	03 12 22.6	
	comp=E,20nm,0.4s						
DRWC				AML	AML	03 12 38.9	
	comp=N,26nm,0.6s						
DRWC	**Darouich**	**4.29**	**232**	*e*P	**Pn**	**03 11 04.1**	**+3.3**
	SNR=115						
DRWC				*e*S	**Sn**	**03 11 44.3**	**-6.3**
	comp=N,26nm,0.6s,SNR=115						
BTCH	**Batrach**	**4.80**	**228**	*e*P	**Pn**	**03 11 11.0**	**+3.1**
BTCH	**Batrach**	**4.80**	**228**	*e*P	**Pn**	**03 11 11.0**	**+3.1**
	SNR=112						
RTB	**Rutbah**	**6.32**	**184**	*e*P	**Pn**	**03 11 30.1**	**+1.3**
	SNR=34						
RTB				*e*S	**Sn**	**03 12 41.5**	**+0.7**
	SNR=34						

IDC 23 03:41:15.3±2.8,7°.81S×147°.28E,h0km,mb3.2/1, mb1 3.7/2,mb1mx3.3/40,mbtmp3.4/2,ML3.2/1,Error ellipse: s-maj=64.4km s-min=29.0km az=86.0,Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**1.59**	**184**	Pn	Pn	03 41 44.5	-0.3
	35nm,0.3s,baz=8.5,slow=7.1,SNR=29						
PMG				Sn	Sg	03 42 06.6	+0.1
	18nm,0.3s,baz=6.0,slow=19,SNR=6.5						
WRA	**Warramunga Arr**	**17.39**	**225**	P	Pn	03 45 18.8	-0.9
	0.1nm,0.3s,baz=48,slow=12,SNR=5.8						
ASAR	**Alice Springs**	**20.32**	**218**	P	P	03 45 53.8	+0.5
	0.6nm,0.5s,baz=39,slow=11,SNR=9.2						
TORD	**Torodi Ar. Bea**	**145.77**	**282**	PKPbc	PKPdf	04 00 56.8	-0.3
	0.6nm,0.5s,baz=72,slow=4.5,SNR=13						

MEX 23 03:44:46.0±0.6,17°.01N×100°.10W,h5km,MD3.5, Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAIG	**El Cayaco**	**0.16**	**285**	*i* P	Pg	03 44 48.8	-0.5
CAIG				*i* S	Sg	03 44 51.4	-0.1
ACP2	**Acapulco**	**0.24**	**123**	*e*P	Pg	03 44 50.4	-0.3
ACP2				*e*S	Sg	03 44 54.2	+0.2
ACX	**Acapulco**	**0.27**	**120**	*e*P	Pb	03 44 54.5	+1.1
ACX				*e*S	Sb	03 44 58.2	0.0
MEIG	**Mezcala**	**1.02**	**27**	*e*P	Pg	03 45 02.8	-2.9
MEIG				*e*S	Sg	03 45 16.2	-2.8
ARIG	**Puente Sto Nin**	**1.29**	**350**	*e*P	Pn	03 45 07.3	-3.4
ARIG				*e*S	Sg	03 45 23.8	-3.7
ZIIG	**Zihuatanejo**	**1.43**	**295**	*e*P	Pn	03 45 09.7	-2.9
ZIIG				*e*S	Sb	03 45 26.9	-4.9
PLIG	**Platanillo**	**1.49**	**22**	*i* P	Pn	03 45 09.2	-4.4
PLIG				*e*S	Sn	03 45 29.3	-4.2
TLIG	**Tlapa**	**1.57**	**69**	*e*P	Pn	03 45 11.9	-2.8
TLIG				*e*S	Sn	03 45 31.1	-4.3
YAIG	**Yautepec**	**2.09**	**28**	*e*P	Pn	03 45 19.1	-2.7
YAIG				*e*S	Sn	03 45 44.5	-3.9

*SOME **23** 04:04:42.3,39°.75N×77°.15E,h10km*
*NNC **23** 04:04:42.2±5.8,39°.41N×77°.49E,h0km, mb4.5,mpv4.1, Error ellipse: s-maj=44.3km s-min=31.3km az=174.0*
*BJI **23** 04:04:44.8,39°.95N×77°.12E,h10km, ML3.7/5*
*KRNET **23** 04:04:47.1±0.1,39°.96N×77°.03E,mb3.6*
ISC 23 04:04:44.2±1.3,39°.80N±0°.06×77°.05E±0°.04,h10km,n45, σ3s02/77,40C-12D,Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSH	**Kashi**	**0.88**	**251**⇑	*i* Pg	Pn	04 05 12.1	+9.4
KSH				Sg	Sn	04 05 30.3	+15
KSH				smax	smax		
	comp=N,1μm,0.3s						
KSH				smax	smax		
	comp=E,940nm,0.4s						
NRN	**Naryn**	**1.81**	**334**⇑	*e*P	**Pb**	**04 05 17.3**	**-0.4**
	baz=332						
NRN			⇑	*i*S	**Sn**	**04 05 39.0**	**0.0**
	baz=332						
KDJ	**Kajisay**	**2.33**	**2**⇓	*i*P	**Pb**	**04 05 25.8**	**-0.6**
	baz=3.0						
KDJ			⇓	*i*S	**Sb**	**04 05 53.5**	**-1.7**
	baz=3.0						
ULHL	**Ulahol**	**2.52**	**346**⇑	*i*P	**Pb**	**04 05 29.2**	**-0.4**
	baz=345						
ULHL			⇑	*i*S	**Sb**	**04 05 59.8**	**-0.9**
	baz=345						
KZA	**Kyzart**	**2.65**	**330**⇑	*i*P	**Pb**	**04 05 31.6**	**-0.4**
	baz=328						
KZA			⇑	*i*S	**Sb**	**04 06 04.1**	**-0.6**
	baz=328						
BOOM	**Boomskoye usch**	**2.81**	**343**⇑	*e*P	**Pb**	**04 05 32.7**	**-1.9**
	baz=342						
BOOM			⇑	*i*S	**Sn**	**04 06 05.2**	**+1.8**
	baz=342						
PRZ	**Przheval'sk**	**2.87**	**20**⇑	*i*P	**Pb**	**04 05 33.8**	**-1.7**
	baz=22						
PRZ			⇑	*e*S	**Sb**	**04 06 07.2**	**-3.5**
	baz=22						
ANVS	**Anan'yevo**	**3.01**	**9**⇑	*e*P	**Pb**	**04 05 35.7**	**-2.4**
	baz=9.0						
ANVS			⇑	*e*S	**Sn**	**04 06 10.6**	**+2.2**
	baz=9.0						
TNSS	**Tian-Shan**	**3.23**	**359**	*e*P	**Pb**	**04 05 41.7**	**-0.2**
	119nm,0.3s						
TNSS				*e*S	**Sb**	**04 06 23.2**	**+1.8**
	198nm,0.6s						
IZV	**Izvestkoviy**	**3.25**	**354**	*e*P	**Pb**	**04 05 41.7**	**-0.3**
	74nm,0.5s						
IZV				*e*S	**Sb**	**04 06 22.9**	**+1.3**
	300nm,0.8s						
KBK	**Karagaybulak**	**3.26**	**332**⇑	*i*P	**Pb**	**04 05 40.2**	**-2.1**
	baz=330						
KBK			⇑	*i*S	**Sn**	**04 06 18.4**	**+3.9**
	baz=330						
TKM2	**Tokmak 2**	**3.30**	**341**⇓	*i*P	**Pb**	**04 05 40.3**	**-2.7**
	baz=340						
TKM2			⇓	*i*S	**Sn**	**04 06 19.2**	**+3.7**
	baz=340						
TKM2	**Tokmak 2**	**3.30**	**341**	⇑Pn	**Pb**	**04 05 40.6**	**-2.4**
	41nm,0.5s						
TKM2			⇑	Sn	**Sb**	**04 06 26.6**	**+3.3**
	85nm,0.7s						
KST	**Kastek**	**3.34**	**346**	*e*P	**Pb**	**04 05 44.8**	**+1.2**
	19nm,0.6s						
KST				*e*S	**Sb**	**04 06 27.5**	**+3.2**
	137nm,0.6s						
OHH	**Osh**	**3.34**	**284**⇑	*e*P	**Pb**	**04 05 41.8**	**-1.8**
	baz=281						
OHH			⇑	*i*S	**Sb**	**04 06 21.4**	**-3.0**
	baz=281						
MDOK	**Medeo**	**3.36**	**360**	*e*P	**Pb**	**04 05 44.2**	**+0.3**
	49nm,0.4s						
MDOK				*e*S	**Sb**	**04 06 26.5**	**+1.7**
	134nm,0.6s						
MTBS	**Maitube**	**3.36**	**352**	*e*P	**Pb**	**04 05 44.4**	**+0.5**
	55nm,0.3s						
MTBS				*e*S	**Sb**	**04 06 27.0**	**+2.2**
	227nm,0.5s						
AAA	**Alma-Ata**	**3.41**	**358**	*e*P	**Pg**	**04 05 46.4**	**-3.1**
	102nm,0.2s						
AAA				*e*S	**Sg**	**04 06 30.1**	**-3.4**
	786nm,0.6s						
SATY	**Saty**	**3.41**	**17**	*e*P	**Pb**	**04 05 45.5**	**+0.7**
	152nm,0.3s						
SATY				*e*S	**Sb**	**04 06 28.9**	**+2.6**
	345nm,0.5s						
KNDC	**Almaty**	**3.41**	**359**	⇓Pn	**Pb**	**04 05 45.5**	**+0.7**
	52nm,0.5s						
KNDC			⇑	Sn	**Sg**	**04 06 29.8**	**-3.9**
	683nm,0.8s						
AAK	**Ala-Archa**	**3.42**	**327**⇑	*i*P	**Pb**	**04 05 42.3**	**-2.8**
	baz=325						
AAK			⇑	*i*S	**Sn**	**04 06 22.6**	**+4.1**
	baz=325						
AAK	**Ala-Archa**	**3.42**	**327**	⇓Pn	**Pb**	**04 05 42.2**	**-2.9**
	24nm,0.4s						
AAK			⇑	Sn	**Sb**	**04 06 31.1**	**+4.3**
	218nm,0.8s						
AML	**Almayashu**	**3.44**	**314**⇑	*i*P	**Pb**	**04 05 42.8**	**-2.7**
	baz=312						
AML			⇑	*i*S	**Sb**	**04 06 24.7**	**-2.9**
	baz=312						
ARSB	**Arslanbob**	**3.45**	**297**⇑	*e*P	**Pb**	**04 05 42.5**	**-3.0**
	baz=295						
ARSB			⇑	*e*S	**Sn**	**04 06 22.7**	**+3.6**
	baz=295						
DGS	**Degeres**	**3.57**	**345**	*e*P	**Pb**	**04 05 47.9**	**+0.5**
	51nm,0.5s						
DGS				*e*S	**Sb**	**04 06 33.2**	**+2.4**
	111nm,0.6s						
EKS2	**Erkin-Say**	**3.77**	**320**⇑	*i*P	**Pb**	**04 05 47.3**	**-3.7**
	baz=319						
EKS2			⇑	*i*S	**Sn**	**04 06 31.3**	**+4.2**
	baz=319						
KURS	**Kuram**	**3.78**	**12**	*e*P	**Pb**	**04 05 51.9**	**+0.9**
	7.1nm,0.5s						
KURS				*e*S	**Sb**	**04 06 39.8**	**+3.0**
	80nm,0.6s						
TOKL	**Toktogul**	**3.82**	**305**⇑	*i*P	**Pn**	**04 05 47.0**	**+3.8**
	baz=303						
TOKL			⇑	*e*S	**Sn**	**04 06 30.4**	**+2.2**
	baz=303						
PDGK	**Podgornoye**	**3.97**	**27**⇓	*e*P	Pb	04 05 49.1	-5.2
	baz=28						
PDGK			⇓	*e*S	**Sn**	**04 06 34.3**	**+2.4**
	baz=28						
PDGK	**Podgornoye**	**3.97**	**27**	⇓Pn	**Pb**	**04 05 49.5**	**-4.8**
	20nm,0.4s						
PDGK			⇑	Lg	Lg	04 06 49.2	
	83nm,0.6s						
CHKK	**Chushkaly**	**4.05**	**359**	*e*P	**Pb**	**04 05 56.6**	**+1.0**
	36nm,0.3s						
CHKK				*e*S	**Sb**	**04 06 47.9**	**+3.3**
	147nm,0.4s						
MRKS	**Merke**	**4.12**	**317**	*e*P	**Pb**	**04 05 59.3**	**+2.5**
	52nm,0.4s						
MRKS				*e*S	**Sg**	**04 06 52.5**	**-3.8**
	92nm,0.6s						
ARK	**Arkit**	**4.34**	**299**⇑	*e*P	**Pn**	**04 05 54.5**	**+4.1**
	baz=297						
ARK			⇑	*e*S	**Sn**	**04 06 43.3**	**+2.2**
	baz=297						
MNAS	**Manas**	**4.35**	**309**⇑	*e*P	**Pn**	**04 05 54.6**	**+4.0**
	baz=308						
MNAS			⇑	*e*S	**Sn**	**04 06 43.4**	**+2.0**
	baz=308						
MNAS	**Manas**	**4.35**	**309**	⇓Pn	**Pn**	**04 05 54.5**	**+3.9**
	10nm,0.4s						
MNAS			⇑	Sn	**Sg**	**04 07 00.9**	**-3.1**
	38nm,0.7s						
ARXS	**Arharly**	**4.45**	**7**	*e*P	**Pb**	**04 06 03.3**	**+0.9**
	41nm,0.4s						
ARXS				*e*S	**Sb**	**04 06 59.9**	**+3.8**
	76nm,0.7s						
BTK	**Batken**	**4.80**	**275**⇑	*e*P	Pb	04 06 02.1	-6.3
	baz=273						
BTK			⇑	*e*S	**Sn**	**04 06 56.6**	**+4.3**
	baz=273						
DJR	**Jarkent**	**4.96**	**23**	*e*P	Pg	04 06 13.8	-5.5
	21nm,0.4s						
DJR				*e*S	**Sg**	**04 07 17.1**	**-6.4**
	61nm,0.4s						
TDK	**Taldyqorghan**	**5.29**	**10**	*e*P	**Pb**	**04 06 19.9**	**+3.1**
	30nm,0.2s						
TDK				*e*S	**Sg**	**04 07 27.1**	**-6.9**
	77nm,0.5s						
KAPS	**Kapalarasan**	**5.74**	**17**	*e*P	Pg	04 06 28.2	-5.8
	8.1nm,0.3s						
KAPS				*e*S	**Sg**	**04 07 41.9**	**-6.4**
	21nm,0.7s						
KK31	**Karatay Array**	**5.92**	**306**	Pg	Pg	04 06 32.2	-5.2
	9.5nm,0.7s,baz=128,slow=16,SNR=21						
KK31			⇑	Sn	**Sb**	**04 07 33.4**	**-4.9**
	13nm,0.8s,baz=120,slow=27,SNR=5.0						
CEP	**Cherat**	**7.25**	**216**	P	Pn	04 06 36.0	+5.6
CEP				S	**Sn**	**04 07 56.0**	**+3.2**
MK31	**Makanchi Array**	**7.96**	**27**	⇓Pn	**Pn**	**04 06 42.9**	**+2.9**
	0.6nm,0.5s,baz=200,slow=13,SNR=9.6						
MK31			⇓	Lg	Lg	04 08 58.5	
	4.6nm,0.7s						
WMQ	**Urumqi**	**8.90**	**60**	P	**Pn**	**04 06 53.1**	**+0.2**
HHC	**Hu-ho-hao-te**	**26.24**	**76**	*e*P	P	04 10 29.3	+10
HHC				pmax	pmax		
	comp=Z,18nm,1.3s						
HHC				pmax	pmax		
	comp=Z,50nm,4.8s						

IDC 23 04:13:12.3±411.0,52°.85N×108°.47E,h0km,Error ellipse: s-maj=178.5km s-min=106.4km az=2.0,Lake Baikal region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I34MN	**SONGINO INFRAS**	**5.22**	**195**	*i*		04 47 30.0	
	baz=13,slow=326,SNR=1.1						
I45RU	**USSURIYSK INFR**	**17.75**	**110**	*i*		06 01 10.0	
	baz=306,slow=321,SNR=1.8						
I44RU	**PETROPAVLOVSK**	**29.18**	**69**	*i*		07 11 20.0	
	baz=287,slow=328,SNR=1.0						

*ISCJB **23** 04:38:05.1±1.7,30°.70S±0°.03×71°.55W±0°.08, h14km±12km, Error ellipse: s-maj=12.2km s-min=5.3km az=9.8*
*SJA **23** 04:38:06.0±0.7,30°.69S×71°.44W,h31km±36km, ML3.6, MW3.6*
*GUC **23** 04:38:06.4±0.5,30°.74S×71°.35W,h30km±4km, ML3.3*
ISC 23 04:38:05.1±2.0,30°.69S±0°.04×71°.53W±0°.08,h10km±12km, n15,σ1s00/22,1D,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TLL	**Tololo Astrono**	**0.82**	**50**⇓	*i*P	**Pg**	**04 38 20.9**	**0.0**
TLL				*e*S	**Sg**	**04 38 31.4**	**-0.2**
TLL				IAML		04 38 32.7	
	comp=N,3μm,0.2s						
LCO	**Las Campanas**	**1.83**	**23**	*e*P	**Pn**	**04 38 35.6**	**-1.2**
LCO				*e*S	**Sn**	**04 38 57.2**	**-2.9**
LCO				IAML		04 39 01.2	
	comp=E,356nm,0.3s						
AROD	**Rodeo**	**1.85**	**74**	*i* P	**Pn**	**04 38 37.5**	**+0.2**
AROD				*i* S	**Sn**	**04 39 00.6**	**-0.4**
ACCO	**Cerro Coronel**	**2

MAT				eS		Sn	04 46 11.1	-2.1
USRK	Ussuriysk Ar.	9.55	298		Pn	Pn	04 45 59.8	+0.6
	0.7nm,0.3s,baz=94,slow=15,SNR=11							
KSRS	Korea Array	12.68	262	LR		LR	04 51 49.7	
	comp=Z,42nm,18.4s,baz=64,slow=38							
PETK	Petropavlovsk-	15.92	32	LR		LR	04 53 11.4	
	comp=Z,26nm,21.5s,baz=128,slow=36							
SEY	Seymchan	23.23	10	P		P	04 48 47.3	-1.1
	3.3nm,0.2s,baz=191,slow=13,SNR=8.8							
SONM	Songino Array	27.67	298	P		P	04 49 29.9	+0.4
	1.0nm,0.7s,baz=93,slow=9.4,SNR=5.2							
H11N2	WAKE ISLAND Hy	28.52	129	T		T	05 19 33.5	
	baz=322,slow=75,SNR=8.7							
H11N1	WAKE ISLAND Hy	28.53	129	T		T	05 19 42.0	
	baz=322,slow=75,SNR=8.1							
H11N3	WAKE ISLAND Hy	28.54	129	T		T	05 19 29.1	
	baz=322,slow=75,SNR=7.6							
H11S1	WAKE ISLAND Hy	29.36	131	T		T	05 20 38.2	
	baz=323,slow=76,SNR=7.0							
H11S3	WAKE ISLAND Hy	29.36	131	T		T	05 20 36.0	
	baz=323,slow=76,SNR=6.7							
H11S2	WAKE ISLAND Hy	29.38	131	T		T	05 20 33.3	
	baz=323,slow=76,SNR=5.8							
ZALV	Zalesovo Beam	41.15	310	P		P	04 51 26.4	+0.8
	1.6nm,0.6s,baz=89,slow=6.8,SNR=7.4							
MKAR	Makanchi Array	44.02	300	P		P	04 51 49.4	+0.4
	1.8nm,0.8s,baz=74,slow=8.9,SNR=10							
KURK	Kurchatov	45.43	306	P		P	04 52 00.8	+0.7
KURBB	Kurchatov Arra	45.51	306	P		P	04 52 00.8	+0.1
	2.9nm,0.6s,baz=78,slow=8.6,SNR=20							
ILAR	Eielson Array	45.74	34	P		P	04 52 01.4	-1.1
	0.5nm,0.8s,baz=262,slow=5.5,SNR=5.7							
ABKAR	Akbulak array	57.26	309	eP		P	04 53 29.4	+0.5
	1.6nm,0.6s							
AKTO	Aktyubinsk	57.88	311	P		P	04 53 33.5	+0.3
	1.5nm,0.7s,baz=67,slow=12,SNR=5.9							
AKTO				LR		LR	05 19 53.6	
	comp=Z,29nm,18.7s,baz=115,slow=38							
WRA	Warramunga Arr	60.59	190	P		P	04 53 50.9	-1.3
	0.3nm,0.6s,baz=7.5,slow=7.1,SNR=5.5							
ASAR	Alice Springs	64.32	190	P		P	04 54 18.0	+0.9
	0.2nm,0.3s,baz=16,slow=5.7,SNR=2.9							
FINES	FINESS Array B	66.76	332	P		P	04 54 33.3	+0.8
	2.4nm,0.7s,baz=19,slow=8.1,SNR=4.4							
NOA	NORSAR Array B	71.86	338	P		P	04 55 03.7	-0.4
	1.2nm,0.8s,baz=36,slow=6.0,SNR=3.8							
AKASG	Malin Array Be	72.81	323	P		P	04 55 10.2	+0.3
	1.6nm,0.7s,baz=46,slow=6.0,SNR=7.1							
ULM	Lac du Bonnet	75.75	35	LR		LR	05 28 36.2	
	comp=Z,69nm,20.6s,baz=325,slow=36							
VNA2	Neumayer--Watz	145.99	196	P		PKPdf	05 03 19.8	+0.6
	baz=120,slow=1.9							
VNA3	Neumayer Olymp	146.21	195	P		PKPdf	05 03 20.5	+0.9

IDC ***23*** *04:51:30.9±0.9, 9.°70N×125.°22E, h0km, mb3.9/8, mb1 4.0/8, mb1mx3.7/53, mbtmp3.9/8, MS3.4/2, Ms1 3.5/2, ms1mx2.7/37, Error ellipse: s-maj=61.8km s-min=16.0km az=71.0*

MAN ***23*** *04:51:33.9.°70N×125.°22E, h1km, mb4.9, ML3.8, MS3.8*

MAN INTENSITY III - SURIGAO CITY.

NEIC ***23*** *04:51:38.0±1.2, 9.°44N×124.°71E, h44km±13km, mb4.1/4, Error ellipse: s-maj=36.3km s-min=6.8km az=65.0*

NEIC Felt [III PIVS] at Surigao, Mindanao.

ISC 23 04:51:33.1±1.2, **9.°66N**±0.°03×**125.°29E**±0.°05, **h7**km±9km, **n26,** σ1º**85**/31, **mb4.1**/12, **3C-2D, Mindanao**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
SCPH	Surigao	0.23	57	⇑eP			Pg	04 51 37.4	-0.3
SCPH				eS			Sg	04 51 40.6	-0.2
CGP	Cagayan de Oro	1.33	206	⇑eP			Pg	04 51 58.7	-0.1
CGP				eS			Sn	04 52 18.3	+2.1
LLP	Lapu-Lapu	1.46	297	⇑eP			Pb	04 51 59.9	-0.8
LLP				eS			Sn	04 52 20.5	+1.1
PLP	Palo	1.53	348	⇓iP			Pg	04 52 01.3	-1.2
PLP				eS			Sn	04 52 21.8	+0.8
BIPH	Bislig	1.81	144	⇓eP			Pn	04 52 06.5	+1.9
BIPH				iS			Sn	04 52 24.2	-3.5
SNPH	Sibulan	2.06	261	iP			Pb	04 52 09.2	-1.6
GUIM	Jordan	2.83	290	eP			Pb	04 52 21.8	-2.2
GUIM				eS			Sn	04 52 51.9	-1.3
PVCP	Virac	4.07	344	eP			Pn	04 52 39.5	+3.7
PVCP				eS			Sb	04 53 36.0	+1.4
SZP	Santa	9.14	330	ePn			Pn	04 53 46.3	+0.8
	47nm,0.4s								
FAKI	Fak Fak	14.29	151	ePn			Pn	04 54 59.0	+3.0
SOEI	Soe	19.31	183	eP			P	04 55 57.7	-1.4
	6.8nm,0.7s								
FITZ	Fitzroy Crossi	27.59	179	P			P	04 57 18.7	-2.4
	1.7nm,0.8s,baz=16,slow=10.0,SNR=4.3								
COEN	Coen	29.42	143	eP			P	04 57 39.8	+2.4
	2.6nm,0.6s								
WRA	Warramunga Arr	30.73	163	P			P	04 57 49.3	+0.2
	0.5nm,0.9s,baz=345,slow=9.4,SNR=3.0								
ASAR	Alice Springs	34.17	166	P			P	04 58 19.7	+0.4
	0.3nm,0.5s,baz=348,slow=7.0,SNR=3.8								
USRK	Ussuriysk Ar.	34.90	8	P			P	04 58 23.7	-1.6
	2.6nm,0.6s,baz=196,slow=6.3,SNR=5.1								
SHL	Shillong	35.42	301	eP			P	04 58 31.0	+0.8
STKA	Stephens Creek	44.15	160	P			P	04 59 41.3	-1.2
	1.3nm,0.8s,baz=326,slow=11,SNR=2.7								
MKAR	Makanchi Array	51.94	323	P			P	05 00 41.9	-0.8
	1.0nm,0.6s,baz=120,slow=8.3,SNR=9.4								
AAK	Ala-Archa	55.09	316	LR			LR	05 24 29.3	
	comp=Z,36nm,20.4s,baz=90,slow=36								
KURK	Kurchatov	56.03	326	eP			P	05 01 11.2	-1.2
	13nm,0.3s								
KURBB	Kurchatov Arra	56.03	326	P			P	05 01 10.3	-2.2
	0.7nm,0.2s,baz=121,slow=6.6,SNR=3.6								
BRVK	Borovoye	61.70	326	eP			P	05 01 50.5	-1.3
	4.2nm,0.6s								
ABKAR	Akbulak array	66.71	320	eP			P	05 02 23.1	-1.7
	0.8nm,0.7s								
AKTO	Aktyubinsk	68.18	321	P			P	05 02 32.2	-2.0
	1.2nm,0.6s,baz=102,slow=7.7,SNR=3.7								
NOA	NORSAR Array B	92.88	334	LR			LR	05 50 46.2	
	comp=Z,19nm,18.0s,baz=10.0,slow=38								

OMAN ***23*** *04:53:35.8±99.0, 27.°01N×53.°21E, h10km, Error ellipse: s-maj=94.3km s-min=8.6km az=311.0*

DSN ***23*** *04:53:36.9±2.1, 27.°09N×53.°52E, h10km, ML3.5/6, Error ellipse: s-maj=30.2km s-min=12.9km az=0.0*

IDC ***23*** *04:53:37.9±1.3, 26.°88N×53.°56E, h0km, mb3.8/7, mb1 3.8/8, mb1mx3.5/57, mbtmp3.8/8, ML3.2/1, Error ellipse: s-maj=30.9km s-min=21.3km az=158.0*

ISCJB ***23*** *04:53:38.2±0.6, 26.°76N±0.°04×53.°46E±0.°07, h10km, mb3.8/6, Error ellipse: s-maj=10.1km s-min=4.4km az=149.3*

CSEM ***23*** *04:53:41.9±0.6, 26.°81N×53.°75E, h10km, ML3.2, Error ellipse: s-maj=29.7km s-min=6.3km az=62.0*

TEH ***23*** *04:53:43.3, 26.°85N×53.°66E, h10km, ML3.3*

ISC 23 04:53:39.0±0.8, **26.°76N**±0.°05×**53.°68E**±0.°06, **h10**km, **n40,** σ1º**90**/48, **mb3.6**/7, **Southern Iran**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
GHIR	Ghir-Karzin	1.64	338	ePg			Pb	04 54 09.2	-0.2
GHIR				eSg			Sg	04 54 33.8	+2.0
BNDS	Bandar-Abbas	2.31	73	ePg			Pn	04 54 19.2	+1.8
BANOM	Banah	2.50	109	eP			Pn	04 54 22.0	+2.2
	SNR=6.7								
BANOM				S			Sb	04 54 55.2	+0.3
BANOM	Banah	2.50	109	P			Pb	04 54 22.7	-1.4
	SNR=6.7								
BANOM				S			Sb	04 54 55.2	+0.3
BANOM	Banah	2.50	109	P			Pb	04 54 22.7	-1.4
	SNR=6.7								
BANOM	Banah	2.50	109	Pn			Pb	04 54 22.7	-1.4
	SNR=6.7								
NAZ	Nazwa, Dubai	2.51	134	P			Pb	04 54 23.0	-1.3
NAZ	Nazwa, Dubai	2.51	134	P			Pb	04 54 23.0	-1.3
FAQ	Al Faqa, Dubai	2.65	139	P			Pn	04 54 23.2	+1.4
FAQ	Al Faqa, Dubai	2.65	139	P			Pn	04 54 23.2	+1.4
ISRV	Sarvestan	2.66	349	ePn			Pb	04 54 25.6	-1.3
ISRV				eSg			Sg	04 55 03.3	-1.2
ISRV				eAMB			AMB	04 55 15.2	
	comp=Z,2μm,0.3s								
ISRV	Sarvestan	2.66	349	ePn			Pb	04 54 25.6	-1.3
ISRV				eSg			Sg	04 55 03.3	-1.2
UOSS	Minazif	2.91	128	P			Pn	04 54 28.1	+2.7
	SNR=7.1								
ASHO	Ashiyiah	2.98	133	iP			Pn	04 54 29.6	+3.2
	SNR=16								
ASHO	Ashiyiah	2.98	133	P			Pn	04 54 29.7	+3.2
	SNR=16								
ASHO	Ashiyiah	2.98	133	P			Pn	04 54 29.7	+3.2
	SNR=16								
ASHO	Ashiyiah	2.98	133	Pn			Pn	04 54 29.7	+3.2
	SNR=16								
IPAR	Pars	3.12	350	ePn			Pn	04 54 31.1	+2.5
IPAR				eAMB			AMB	04 55 32.5	
	comp=Z,605nm,0.4s								
IPAR	Pars	3.12	350	ePn			Pn	04 54 31.1	+2.5
IMEH	Mehriz	4.69	10	ePn			Pn	04 54 52.7	+2.6
IMEH				eSn			Sn	04 55 43.7	-0.9
IMEH				eAMB			AMB	04 55 50.0	
	comp=Z,357nm,0.2s								
IMEH	Mehriz	4.69	10	ePn			Pn	04 54 52.7	+2.6
IMEH				eSn			Sn	04 55 43.7	-0.9
IBAF	Bafgh	5.09	19	ePn			Pn	04 54 57.4	+1.9
IBAF				eAMB			AMB	04 55 56.6	
	comp=Z,144nm,0.1s								
IBAF	Bafgh	5.09	19	ePn			Pn	04 54 57.4	+1.9
ISAD	Sadrabad	5.13	0	ePn			Pn	04 54 59.3	+3.0
ISAD	Sadrabad	5.13	0	ePn			Pn	04 54 59.3	+3.0
IRAM	Ramesheh	5.16	348	ePn			Pn	04 54 58.5	+2.0
IRAM				eAMB			AMB	04 56 09.8	
	comp=Z,162nm,0.2s								
IRAM	Ramesheh	5.16	348	ePn			Pn	04 54 58.5	+2.0
ICHK	Chekchek	5.50	6	eAMB			AMB	04 55 28.8	
	comp=Z,201nm,0.2s								
ICHK				ePn			Pn	04 55 03.2	+1.9
WSAR	Wadi Sarin	5.70	127	Pn			Pn	04 55 06.3	+2.5
	comp=Z,0.7nm,0.3s,baz=314,slow=11,SNR=11								
WSAR				Sn			Sn	04 56 09.0	-0.3
	comp=Z,0.7nm,0.3s,baz=127,slow=17,SNR=5.6								
IGAR	Gharneh	5.80	346	ePn			Pn	04 55 07.2	+1.8
NASN	Na'in	6.07	353	ePn			Pn	04 55 09.9	+0.8
IKLH	Kolahrood	6.78	345	ePn			Pn	04 55 20.2	+1.3
IKLH				eAMB			AMB	04 56 46.4	
	comp=Z,80nm,0.3s								
IKLH	Kolahrood	6.78	345	ePn			Pn	04 55 20.2	+1.3
BRTR	Keskin Array B	21.11	313	P			P	04 58 22.7	-1.2
	comp=Z,1.4nm,0.7s,baz=135,slow=13,SNR=7.7								
BVAR	Borovoye Array	29.05	21	P			P	04 59 39.3	0.0
	comp=Z,1.1nm,0.5s,baz=201,slow=7.3,SNR=4.1								
MKAR	Makanchi Array	30.15	41	P			P	04 59 49.7	+0.5
	comp=Z,0.5nm,0.5s,baz=239,slow=7.6,SNR=4.4								
AKASG	Malin Array Be	30.32	329	P			P	04 59 49.8	-0.7
	comp=Z,0.4nm,0.4s,baz=139,slow=8.5,SNR=4.1								
ZALV	Zalesovo Beam	35.55	32	P			P	05 00 35.5	-0.7
	comp=Z,1.1nm,0.5s,baz=233,slow=9.4,SNR=5.4								
TORD	Torodi Ar. Bea	50.38	265	P			P	05 02 36.1	-0.7
	comp=Z,0.6nm,0.8s,baz=60,slow=8.5,SNR=4.4								
DBIC	Dimbokro	58.98	261	P			P	05 03 39.2	0.0
	comp=Z,2.4nm,0.8s,baz=33,slow=9.4,SNR=6.8								

IDC ***23*** *04:58:11.8±0.8, 51.°47N×175.°00W, h0km, mb4.1/17, mb1 4.2/20, mb1mx4.0/62, mbtmp4.1/20, ML4.0/3, MS3.5/18, Ms1 3.6/18, ms1mx3.3/44, Error ellipse: s-maj=24.6km s-min=14.0km az=168.0*

ISCJB ***23*** *04:58:15.7±0.3, 51.°21N±0.°05×175.°08W±0.°04, h40km, mb4.3/36, MS3.6/17, Error ellipse: s-maj=7.0km s-min=3.5km az=173.5*

NEIC ***23*** *04:58:15.8±0.0, 51.°26N×175.°17W, h13km, mb4.3/27, ML3.9(AEIC), After AEIC.*

ISC 23 04:58:17.7±0.5, **51.°30N**±0.°09×**175.°14W**±0.°04, **h40**km, **n93,** σ1º**90**/78, **mb4.2**/36, **MS3.5**/17, **Andreanof Islands**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
GSCK	Great Sitkin C	0.96	319	P			Pn	04 58 34.0	-0.6
ETKA	Kagalaska Isla	0.97	306	P			Pn	04 58 34.1	-0.7
GSTD	Great Sitkin T	0.98	321	P			Pn	04 58 34.5	-0.6
ATKA	Atka Island	1.08	33	P			Pn	04 58 35.3	-1.0
ATKA				S			Sn	04 58 50.9	+0.8
ADK	Adak	1.13	302	P			Pn	04 58 35.7	-1.3
ADK				S			Sn	04 58 52.1	+1.0
ADAG	Mount Adagdak	1.14	308	P			Pn	04 58 37.3	+0.2
KOFP	Korovin Flat P	1.18	33	P			Pn	04 58 38.0	+0.4
KOKL	Mount Kliuchef	1.18	29	P			Pn	04 58 37.9	+0.1
KOSE	Korovin Southe	1.25	32	P			Pn	04 58 39.3	+0.6
KIRH	Kanaga Island	1.36	297	P			Pn	04 58 39.8	-0.3
KIKV	Kanaga Island	1.39	296	P			Pn	04 58 40.1	-0.5
KICM	Kanaga Island	1.42	297	P			Pn	04 58 40.7	-0.3
TAPA	Tanaga Point A	1.75	288	P			Pn	04 58 45.2	-0.3
TAFL	Tanaga Flats	1.78	286	P			Pn	04 58 45.6	-0.3
TAFP	Tanaga Falls P	1.87	290	P			Pn	04 58 47.2	0.0
TAFP				S			Sn	04 59 11.8	+2.2
GAEA	Gareloi East	2.30	284	P			Pn	04 58 53.5	+0.4
GALAA	Gareloi Lava P	2.31	283	P			Pn	04 58 53.5	+0.3
NIKH	Nikolski High	4.22	64	P			Pn	04 59 19.9	+0.4
UNV	Unalaska Valle	5.86	61	ePn			Pn	04 59 41.9	+0.1
UNV				eSg			Sn	05 01 13.2	+26
KDAK	Kodiak Island	14.57	55	Pn			Pn	05 01 37.2	-3.6
	0.9nm,0.3s,baz=258,slow=4.9,SNR=13								
KDAK				Sn			Sn	05 04 23.1	+2.2
	0.2nm,0.3s,baz=135,slow=20,SNR=2.4								
PETK	Petropavlovsk-	16.71	287	Pn			Pn	05 02 07.6	-1.0
	0.6nm,0.3s,baz=99,slow=17,SNR=2.5								
PETK				LR			LR	05 07 57.3	
	comp=Z,272nm,21.9s,baz=99,slow=35								
KTH	Kantishna Hill	17.76	37	ePn			Pn	05 02 21.2	-0.4
	23nm,1.2s								
TRF	Thorofare Moun	17.95	38	ePn			P	05 02 25.1	+0.8
	34nm,1.5s								
MCK	McKinley	18.61	38	eP			P	05 02 30.6	-0.8
	7.0nm,0.7s								
BMRM	Bremner River	19.40	48	eP			Pn	05 02 41.0	-0.4
	15nm,1.0s								
COLA	College	19.60	36	eP			P	05 02 42.0	-0.1
	2nm,0.7s								
ILAR	Eielson Array	19.91	37	P			P	05 02 41.5	-3.9
	0.6nm,0.3s,baz=227,slow=9.3,SNR=38								
COLD	Coldfoot	20.19	28	eP			P	05 02 49.2	+0.7
	14nm,1.2s								
DOT	Dot Lake	20.53	41	eP			P	05 02 51.2	-1.1
	19nm,0.7s								
MA2	Magadan	20.83	307	LR			LR	05 10 54.6	
	comp=Z,165nm,18.9s,baz=109,slow=37								
SEY	Seymchan	20.86	316	P			P	05 02 54.6	-1.2
	3.3nm,0.2s,baz=85,slow=9.3,SNR=4.0								
EGAK	Eagle	22.13	39	eP			P	05 03 08.4	-0.9
	9.2nm,0.6s								
DAWY	Dawson	22.62	42	eP			P	05 03 14.5	-0.2
	4.8nm,0.8s								
INK	Inuvik	26.23	34	P			P	05 03 45.5	-2.9
	3.3nm,0.9s,baz=162,slow=25,SNR=5.2								
YAK	Yakutsk	31.19	312	LR			LR	05 17 27.0	
	comp=Z,170nm,19.1s,baz=270,slow=37								
H11N2	WAKE ISLAND Hy	34.53	211	T			T	05 41 50.9	
	baz=18,slow=76,SNR=56								
H11N3	WAKE ISLAND Hy	34.54	211	T			T	05 41 51.6	
	baz=18,slow=76,SNR=63								
H11N1	WAKE ISLAND Hy	34.55	211	T			T	05 41 52.1	
	baz=18,slow=76,SNR=62								
USRK	Ussuriysk Ar.	35.58	280	P			P	05 05 11.7	+0.8
	2.8nm,0.8s,baz=66,slow=7.0,SNR=4.0								
H11S1	WAKE ISLAND Hy	35.74	210	T			T	05 43 57.4	
	baz=17,slow=74								
H11S2	WAKE ISLAND Hy	35.75	210	T			T	05 44 45.9	
	baz=17								
H11S3	WAKE ISLAND Hy	35.76	210	T			T	05 43 29.1	
	baz=17,slow=74								
MJAR	Matsushiro Arr	36.05	264	P			P	05 05 14.8	-0.3
	1.8nm,0.7s,baz=38,slow=10.0,SNR=5.9								
MJAR				LR			LR	05 18 35.9	
	comp=Z,86nm,21.0s,baz=15,slow=34								
MAJO	Matsushiro	36.05	264	eP			P	05 05 14.8	-0.2
	9.0nm,0.9s								
NEW	Newport	36.75	71	eP			P	05 05 21.3	+0.3
	1.7nm,0.5s								
EDM	Edmonton	36.84	62	eP			P	05 05 22.3	+0.6
	6.9nm,0.5s								
WVOR	Wild Horse Val	38.76	80	eP			P	05 05 37.6	-0.5
	1.5nm,0.9s								
HLID	Hailey	40.74	76	eP			P	05 05 54.6	0.0
	3.7nm,1.2s								
BOZ	Bozeman (W)	41.34	72	eP			P	05 05 59.4	-0.1
	5.6nm,1.2s								
KSRS	Korea Array	41.93	274	P			P	05 06 05.6	+1.4
	4.1nm,0.9s,baz=58,slow=8.4,SNR=8.5								
KSRS				LR			LR	05 23 09.7	
	comp=Z,44nm,21.6s,baz=73,slow=36								
KSAR	Wonju Array Be	41.96	274	P			P	05 06 05.6	+1.1
JNU	Nakatsue	42.85	266	P			P	05 06 12.7	+0.9
	6.0nm,0.8s,baz=195,slow=0.1,SNR=4.3								
DUG	Dugway, Tooele	43.64	79	eP			P	05 06 18.5	+0.3
	5.7nm,1.3s								
BW06	Boulder Array	44.14	74	eP			P	05 06 22.5	+0.2
	4.4nm,1.0s								
PDAR	Pinedale Array	44.14	74	P			P	05 06 22.3	0.0
	0.9nm,0.5s,baz=304,slow=3.5,SNR=13								
PDAR				LR			LR	05 23 12.0	
	comp=Z,44nm,21.1s,baz=310,slow=34								
ULN	Ulaanbaatar	48.34	298	eP			P	05 06 54.8	-0.3
	4.5nm,1.0s								
SONM	Songino Array	48.72	299	P			P	05 06 57.9	-0.1
	2.2nm,0.9s,baz=56,slow=8.9,SNR=9.3								
SONM				PcP			PcP	05 08 23.1	+0.5
	0.3nm,0.4s,baz=64,slow=3.4,SNR=4.9								
SONM				LR			LR	05 30 54.9	
	comp=Z,118nm,18.3s,baz=72,slow=40								
SDCO	Great Sand Dun	49.64	77	eP			P	05 07 04.8	-0.6
	1.8nm,1.1s								
WMOK	Wichita Mounta	55.71	76	eP			P	05 07 49.5	-0.4
	1.0nm,0.5s								
ZALV	Zalesovo Beam	55.73	315	LR			LR	05 33 39.7	
	comp=Z,107nm,19.5s,baz=70,slow=38								
TXAR	Lajitas Array	56.39	84	P			P	05 07 55.0	0.0
	0.3nm,0.6s,baz=275,slow=4.5,SNR=3.7								
JMIC	Jan Mayen	57.65	5	LR			LR	05 34 20.3	
	comp=Z,39nm,18.1s,baz=30,slow=38								
ARCES	ARCESS Array B	58.53	352	LR			LR	05 35 17.6	
	comp=Z,23nm,19.3s,baz=78,slow=38								
WCI	Wyandotte Cave	60.69	65	eP			P	05 08 24.6	-0.1
	14nm,0.7s								
KURK	Kurchatov	60.71	316	eP			P	05 08 24.2	-0.4
KURBB	Kurchatov Arra	60.82	316	P			P	05 08 24.7	-0.6
	baz=42,slow=6.7,SNR=11								
MKAR	Makanchi Array	61.86	310	P			P	05 08 31.4	-1.1
	1.0nm,0.3s,baz=45,slow=6.7,SNR=22								
MKAR				LR			LR	05 37 43.6	
	comp=Z,71nm,18.6s,baz=28,slow=38								
BVAR	Borovoye Array	62.41	322	P			P	05 08 36.2	+0.2
	1.0nm,0.4s,baz=29,slow=6.8,SNR=6.6								
BRVK	Borovoye	62.42	322	eP			P	05 08 36.3	+0.2
	6.2nm,0.7s								
HNR	Honiara	64.21	207	LR			LR	05 31 57.4	
	comp=Z,46nm,20.1s,baz=43,slow=32								
FINES	FINESS Array B	66.33	349	LR			LR	05 39 23.3	
	comp=Z,35nm,20.6s,baz=16,slow=37								
NOA	NORSAR Array B	67.90	357	LR			LR	05 39 11.8	
	comp=Z,16nm,20.3s,baz=25,slow=36								
AAK	Ala-Archa	68.65	312	P			P	05 09 16.9	+0.2
	2.3nm,0.5s,baz=30,slow=4.0,SNR=5.3								
AAK	Ala-Archa	68.65	312	eP			P	05 09 16.8	+0.1
	1.4nm,0.6s								
AKTO	Aktyubinsk	69.04	327	P			P	05 09 17.8	-1.0
	2.0nm,0.3s,baz=37,slow=4.3,SNR=7.1								
ABKAR	Akbulak array	69.36	325	eP			P	05 09 20.8	0.0
	0.6nm,0.3s								
LSA	Lhasa	69.61	292	eP			P	05 09 24.8	+1.6
	10nm,0.8s								
PMOR	Pomariorio Ree	70.17	152	eT			T	06 26 33.8	
	1.6nm,0.2s								
KKM	Kota Kinabalu	72.01	257	eP			P	05 09 37.5	0.0
	31nm,1.1s								
PPT2	Papeete2	72.16	154	eLR			LR	05 31 34.8	
	73nm,22.2s								
PPT2	Papeete2	72.16	154	eT			T	06 29 02.7	
	2.0nm,0.3s								
CMAR	Chiang Mai Arr	73.30	279	P			P	05 09 45.9	+0.9
	0.6nm,0.3s,baz=23,slow=6.2,SNR=4.7								
CMAR				LR			LR	05 45 44.6	
	comp=Z,18nm,19.1s,baz=160,slow=39								
COEN	Coen	74.41	222	eP			P	05 09 50.6	-0.8
AKASG	Malin Array Be	76.29	344	LR			LR	05 47 05.0	
	comp=Z,43nm,20.5s,baz=40,slow=38								
MORC	Moravsky Berou	78.72	352	eP			P	05 10 15.8	+0.3
	9.8nm,0.8s								
GEYT	Alibeck	79.66	320	P			P	05 10 21.1	+0.2
	4.4nm,0.8s,baz=298,slow=7.7,SNR=5.5								
GEYT				LR			LR	05 49 38.6	
	comp=Z,56nm,19.2s,baz=90,slow=39								
PS

PB09				*i* S		**Sn**	05 23 38.4	-1.7
PB04	**IPOC Station P**	**5.03**	**175**	*e*Pn		**Pn**	05 22 52.2	+0.4
PB04				*e*Sn		**Sn**	05 23 46.7	-2.2
LVC	**Limon Verde**	**5.53**	**163**	P		**Pn**	05 22 59.8	+1.2
	comp=E,568nm,0.3s,baz=356,slow=9.6,SNR=198							
LVC				S		**Sn**	05 23 58.8	-2.4
	comp=E,722nm,0.3s,baz=358,slow=11,SNR=19							
LVC	**Limon Verde**	**5.53**	**163**	*e*Pn		**Pn**	05 22 59.8	+1.2
LVC				*e*Sn		**Sn**	05 23 58.8	-2.4
LVC				*e*Sn		Sn	05 23 59.2	-2.0
MOCB	**Mochara**	**6.15**	**131**	*e*Pn		**Pn**	05 23 09.4	+2.4
PB10	**IPOC Station P**	**6.19**	**179**	*e*Pn		**Pn**	05 23 06.7	-0.4
PB10				*e*Sn		**Sn**	05 24 11.4	-5.1
NNA	**Nana**	**7.99**	**310**	P		**Pn**	05 23 31.2	-0.4
	comp=E,4.2nm,0.3s,baz=136,slow=12,SNR=9.3							
NNA				S		**Sn**	05 24 58.7	-1.8
	comp=E,3.6nm,0.3s,baz=209,slow=22,SNR=8.3							
NNA	**Nana**	**7.99**	**310**	*e*Pn		**Pn**	05 23 31.7	0.0
NNA				*e*Sn		**Sn**	05 24 58.9	-1.6
SIV	**San Ignacio**	**9.26**	**83**	P		**Pn**	05 23 46.7	-2.1
	comp=E,4.8nm,0.3s,baz=277,slow=12,SNR=129							
SIV	**San Ignacio**	**9.26**	**83**	*e*P		**Pn**	05 23 45.4	-3.4
SAML	**Samuel**	**11.02**	**42**	*e*Pn		Pn	05 24 07.7	-5.0
LCO	**Las Campanas**	**11.66**	**180**	*e*Pn		**Pn**	05 24 21.2	-0.1
CPUP	**Villa Florida**	**15.27**	**128**	*e*Pn		**Pn**	05 25 07.6	-0.1
PTGA	**Pitinga**	**19.53**	**34**	P		**P**	05 25 54.5	-2.3
	comp=E,1.7nm,0.3s,baz=298,slow=23,SNR=10							
PTGA				LR		LR	05 33 01.6	
	comp=E,27nm,19.6s,baz=81,slow=35							
RUSC	**La Rusia**	**23.17**	**354**	*e*P		**P**	05 26 38.4	+3.0
	comp=E.5.1nm,1.7s							
STVI	**Saint Thomas**	**35.86**	**9**	*e*P		**P**	05 28 26.6	-0.4
	comp=E.69nm,1.4s							
RPN	**Rapa Nui**	**37.01**	**248**	*e*P		**P**	05 28 36.2	-0.7
	comp=E,492nm,1.5s							
LNIG	**Linares**	**50.48**	**325**	*e*P		**P**	05 30 25.6	+1.0
	comp=E,5.2nm,1.4s							
LRAL	**Lakeview Retre**	**52.43**	**343**	*e*P		**P**	05 30 40.1	+1.1
	comp=E,14nm,1.5s							
SWET	**Sewanee**	**54.20**	**345**	*e*P		**P**	05 30 51.4	-0.6
	comp=E.8.2nm,1.8s							
URVA	**University of**	**54.96**	**353**	*e*P		**P**	05 30 57.3	0.0
MIAR	**Mount Ida**	**55.98**	**337**	*e*P		**P**	05 31 05.1	+0.4
	comp=E,12nm,1.6s							
LTX	**Lajitas**	**56.26**	**325**	*e*P		**P**	05 31 07.2	+0.2
TX31	**Lajitas Ar. Si**	**56.26**	**325**	*e*P		**P**	05 31 08.1	+1.1
TXAR	**Lajitas Array**	**56.26**	**325**	P		**P**	05 31 07.2	+0.2
	comp=E,0.7nm,0.5s,baz=150,slow=9.3,SNR=14							
SACV	**Santiago Islan**	**56.39**	**58**	*e*P		**P**	05 31 07.5	-0.5
	comp=E,27nm,1.0s							
ABTX	**Abilene, Hawle**	**56.87**	**331**	*e*P		**P**	05 31 12.1	+1.0
	comp=E.4.9nm,0.6s							
PBMO	**Poplar Bluff**	**56.94**	**341**	*e*P		**P**	05 31 10.8	-0.6
	comp=E,21nm,1.9s							
WCI	**Wyandotte Cave**	**57.15**	**345**	*e*P		**P**	05 31 11.7	-1.3
	comp=E,6.1nm,0.8s							
WMOK	**Wichita Mounta**	**58.25**	**333**	*e*P		**P**	05 31 21.1	+0.4
	comp=E,7.4nm,1.8s							
MNTX	**Cornudas Mount**	**59.03**	**325**	*e*P		**P**	05 31 26.2	0.0
	comp=E,10nm,1.9s							
MSTX	**Muleshoe**	**59.47**	**329**	*e*P		**P**	05 31 30.1	+0.8
	comp=E.6.1nm,1.1s							
SRIG	**Santa Rosalia**	**59.95**	**317**	*e*P		**P**	05 31 31.4	-1.2
	comp=E,36nm,1.8s							
SADO	**Sadowa**	**62.25**	**353**	*e*P		**P**	05 31 47.2	-0.5
	comp=E,30nm,1.7s							
BGNE	**Belgrade**	**63.73**	**337**	*e*P		**P**	05 31 58.5	+0.8
	comp=E,16nm,0.5s							
SDCO	**Great Sand Dun**	**63.81**	**330**	*e*P		**P**	05 31 59.9	+1.2
	comp=E,1.9nm,0.8s							
ECSD	**EROS Data Cent**	**65.23**	**340**	*e*P		**P**	05 32 07.3	0.0
	comp=E,10.0nm,1.7s							
SPMN	**Marine on St.**	**65.40**	**343**	*e*P		**P**	05 32 08.3	-0.1
	comp=E,22nm,1.8s							
PV01	**Paradox Valley**	**65.64**	**328**	*e*P		**P**	05 32 12.2	+1.8
SMCO	**Snowmass**	**65.65**	**330**	*e*P		**P**	05 32 12.6	+1.9
	comp=E,2.1nm,0.6s							
U15A	**North Rim**	**66.36**	**324**	*e*P		**P**	05 32 17.7	+2.6
	comp=E,8.6nm,1.8s							
SNAA	**Sanae**	**66.77**	**161**	*e*P		**P**	05 32 18.5	+1.6
	comp=E,12nm,1.8s							
KNB	**Kanab**	**67.08**	**324**	*e*P		**P**	05 32 21.9	+2.3
	comp=E,7.4nm,1.4s							
LCMT	**Little Creek M**	**67.31**	**324**	*e*P		**P**	05 32 20.2	-0.7
	comp=E,10nm,1.9s							
EYMN	**Ely**	**67.58**	**345**	*e*P		**P**	05 32 22.1	-0.1
	comp=E,13nm,1.4s							
MSU	**Marysvale**	**67.81**	**326**	*e*P		**P**	05 32 26.5	+2.3
SHPR	**Sheep Range**	**68.05**	**322**	*e*P		**P**	05 32 28.2	+2.6
	comp=E.3.0nm,1.1s							
TPNV	**Topopah Spring**	**68.99**	**322**	*e*P		**P**	05 32 34.1	+2.6
	comp=E,15nm,1.9s							
DBIC	**Dimbokro**	**69.20**	**76**	P		**P**	05 32 31.7	-1.3
	comp=E,7.6nm,0.5s,baz=230,slow=6.2,SNR=26							
DUG	**Dugway, Tooele**	**69.37**	**327**	*e*P		**P**	05 32 35.5	+1.8
	comp=E.2.9nm,1.1s							
R11A	**Troy Canyon, C**	**69.57**	**324**	*e*P		**P**	05 32 37.7	+2.7
	comp=E.6.8nm,1.8s							
PD31	**Pinedale Array**	**69.67**	**330**	*e*P		**P**	05 32 35.7	+0.1
PDAR	**Pinedale Array**	**69.67**	**330**	P		**P**	05 32 36.3	+0.7
	comp=E.0.3nm,0.5s,baz=126,slow=7.3,SNR=5.9							
HVU	**Hansel Valley**	**70.50**	**328**	*e*P		**P**	05 32 42.8	+2.2
	comp=E,10nm,1.7s							
ULM	**Lac du Bonnet**	**70.84**	**343**	P		**P**	05 32 41.9	-0.4
	comp=E.2.0nm,0.6s,baz=158,slow=6.9,SNR=9.1							
ULM	**Lac du Bonnet**	**70.84**	**343**	*e*P		**P**	05 32 41.9	-0.4
	comp=E,19nm,1.5s							
TPAW	**Teton Pass**	**70.88**	**330**	*e*P		**P**	05 32 43.6	+0.6
	comp=E,15nm,1.9s							
IMW	**Indian Meadow**	**71.18**	**330**	*e*P		**P**	05 32 46.7	+1.8
	comp=E,12nm,1.9s							
PAHR	**Pah Rah Range**	**72.67**	**323**	*e*P		**P**	05 32 56.5	+2.8
	comp=E,3.6nm,0.8s							
BMO	**Blue Mountains**	**75.01**	**328**	*e*P		**P**	05 33 09.0	+1.9
	comp=E,12nm,2.0s							
K05A	**Summer Lake**	**75.50**	**324**	*e*P		**P**	05 33 12.9	+2.8
	comp=E,52nm,1.9s							
HUMO	**Hull Mountain**	**76.59**	**323**	*e*P		**P**	05 33 17.2	+1.1
	comp=E.39nm,1.9s							
TOA1	**Torodi Ar. Sit**	**77.55**	**72**	*e*P		**P**	05 33 20.6	-1.3
	comp=E.9.2nm,0.7s							
TOA0	**Torodi Ar. Sit**	**77.55**	**72**	*e*P		**P**	05 33 20.6	-1.4
TORD	**Torodi Ar. Bea**	**77.55**	**72**	P		**P**	05 33 20.6	-1.4
	comp=E,9.9nm,0.6s,baz=258,slow=5.4,SNR=88							
D05A	**Enumclaw**	**79.00**	**327**	*e*P		**P**	05 33 31.4	+2.1
	comp=E,46nm,1.5s							
ESDC	**Sonseca Array**	**84.03**	**45**	P		**P**	05 33 56.2	+0.1
	comp=E.0.2nm,0.3s,baz=280,slow=4.9,SNR=3.7							
YKA	**Yellowknife Ar**	**86.70**	**341**	P		**P**	05 34 08.2	-0.4
	comp=E,1.5nm,0.6s,baz=137,slow=4.5,SNR=4.5							
YKB5	**Yellowknife Ar**	**86.70**	**341**	*e*P		**P**	05 34 08.2	-0.4
MCQ	**Macquarie Isla**	**96.96**	**207**	*e*P		**P**	05 34 57.6	+0.9
	comp=E,1μm,1.9s							
WR1	**Warramunga Arr**	**135.60**	**215**	*e*PKPdf		**PKPdf**	05 40 47.0	+1.1
WRA	**Warramunga Arr**	**135.60**	**215**	PKP		**PKPdf**	05 40 46.9	+1.1
	comp=E.0.2nm,0.5s,baz=161,slow=1.7,SNR=3.4							
JHJ2	**Mitsune**	**148.41**	**306**	*e*PKPdf		**PKPdf**	05 41 08.4	+0.3

ISCJB ***23*** *05:24:37.5±0.4, 51.˚14N±0.˚05×175.˚15W±0.˚04, h33km, mb4.5/27, MS2.8/4, Error ellipse: s-maj=7.1km s-min=3.7km az=176.8*
IDC ***23*** *05:24:37.1±1.0, 51.˚97N×175.˚57W, h0km, mb3.9/8, mb1 4.0/11, mb1mx3.8/57, mbtmp3.9/11, ML3.6/3, MS2.9/6, Ms1 2.9/6, ms1mx2.7/41, Error ellipse: s-maj=31.5km s-min=15.8km az=169.0*
NEIC ***23*** *05:24:38.1±0.0, 51.˚26N×175.˚15W, h13km, mb4.4/37, ML3.7(AEIC), After AEIC.*

ISC 23 05:24:42.4±0.6, 51.˚54N±0.˚09×175.˚29W±0.˚04, h47km, n101, σ1°63/97, mb4.7/27, MS2.8/4, Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GSCK	**Great Sitkin C**	**0.72**	**312**	P	**Pn**	**05 24 56.4**	**+0.1**
GSTR	**Great Sitkin T**	**0.74**	**320**	*e*Pn	**Pn**	**05 24 57.1**	**+0.6**
GSTR				*e*Sn	**Sn**	**05 25 12.4**	**+5.6**
GSTD	**Great Sitkin T**	**0.74**	**315**	P	**Pn**	**05 24 56.9**	**+0.3**
ETKA	**Kagalaska Isla**	**0.77**	**296**	P	**Pn**	**05 24 56.5**	**-0.4**
ADAG	**Mount Adagdak**	**0.93**	**299**	P	**Pn**	**05 24 59.7**	**+0.6**
ADK	**Adak**	**0.94**	**292**	P	**Pn**	**05 24 58.4**	**-0.8**
ADK				S	**Sn**	**05 25 14.0**	**+2.6**
ATKA	**Atka Island**	**0.95**	**45**	P	**Pn**	**05 24 57.5**	**-1.8**
ATKA				S	**Sn**	**05 25 13.2**	**+1.3**
KOKL	**Mount Kliuchef**	**1.04**	**40**	P	**Pn**	**05 25 00.2**	**-0.4**
KOFP	**Korovin Flat P**	**1.05**	**44**	P	**Pn**	**05 25 00.1**	**-0.6**
KOSE	**Korovin Southe**	**1.12**	**43**	P	**Pn**	**05 25 01.5**	**-0.2**
KOSE				S	**Sn**	**05 25 19.3**	**+3.3**
KIRH	**Kanaga Island**	**1.18**	**289**	P	**Pn**	**05 25 02.2**	**-0.3**
KIKV	**Kanaga Island**	**1.22**	**287**	P	**Pn**	**05 25 02.5**	**-0.5**
KICM	**Kanaga Island**	**1.25**	**289**	P	**Pn**	**05 25 03.2**	**-0.2**
TAPA	**Tanaga Point A**	**1.60**	**281**	P	**Pn**	**05 25 07.6**	**-0.6**
TAFL	**Tanaga Flats**	**1.64**	**279**	P	**Pn**	**05 25 08.1**	**-0.7**
TAFP	**Tanaga Falls P**	**1.71**	**283**	P	**Pn**	**05 25 09.7**	**-0.1**
GAEA	**Gareloi East**	**2.17**	**278**	P	**Pn**	**05 25 16.0**	**0.0**
GALAA	**Gareloi Lava P**	**2.18**	**277**	P	**Pn**	**05 25 16.0**	**-0.2**
UNV	**Unalaska Valle**	**5.82**	**63**	*e*Pn	**Pn**	**05 26 07.1**	**+1.0**
OHAK	**Old Harbor**	**14.00**	**57**	*e*Pn	**Pn**	**05 27 56.8**	**-0.9**
KDAK	**Kodiak Island**	**14.51**	**56**	Pn	**Pn**	**05 28 01.6**	**-3.0**
	0.4nm,0.3s,baz=198,slow=2.4,SNR=9.8						
KDAK				S	**Sn**	**05 30 42.7**	**-1.2**
	0.0nm,0.3s,baz=188,slow=14,SNR=2.0						
KDAK				LR	LR	05 33 44.8	
	comp=Z,99nm,20.3s,baz=247,slow=38						
KDAK	**Kodiak Island**	**14.51**	**56**	*e*Pn	**Pn**	**05 28 04.4**	**-0.2**
KDAK				*e*Sn	**Sn**	**05 30 42.7**	**-1.2**
TT01	**Tatalina**	**15.37**	**35**	*e*Pn	**P**	**05 28 20.6**	**+0.9**
TTA	**Tatalina**	**15.39**	**35**	*e*Pn	**P**	**05 28 20.0**	**0.0**
	12nm,1.5s						
CNPM	**China Post**	**15.72**	**50**	*e*Pn	**P**	**05 28 22.0**	**-1.6**
	71nm,1.7s						
BRLK	**Bradley Lake**	**15.97**	**49**	*e*Pn	**P**	**05 28 27.9**	**+1.4**
	92nm,1.9s						
PEA0B	**Petropavlovsk-**	**16.55**	**286**	*e*Pn	**P**	**05 28 35.0**	**+2.1**
	47nm,1.5s						
PEA1	**Petropavlovsk-**	**16.55**	**286**	*e*Pn	**Pn**	**05 28 26.2**	**-4.8**
PETK	**Petropavlovsk-**	**16.55**	**286**	Pn	**Pn**	**05 28 26.2**	**-4.8**
	0.2nm,0.3s,baz=91,slow=14,SNR=2.3						
PETK				LR	LR	05 34 40.5	
	comp=Z,50nm,19.6s,baz=85,slow=37						
PPLA	**Purkeypile**	**16.79**	**38**	*e*Pn	**P**	**05 28 37.4**	**+1.7**
	19nm,1.2s						
KTH	**Kantishna Hill**	**17.63**	**38**	*e*Pn	**P**	**05 28 48.0**	**+3.2**
	16nm,1.2s						
TRF	**Thorofare Moun**	**17.82**	**38**	*e*Pn	**P**	**05 28 50.1**	**+3.1**
	18nm,1.4s						
RND	**Reindeer**	**18.36**	**40**	*e*P	**P**	**05 28 52.1**	**-0.8**
	33nm,1.8s						
DHY	**Denali Highway**	**18.81**	**41**	*e*P	**P**	**05 28 57.8**	**-0.1**
	9.0nm,1.2s						
KLU	**Klutina**	**18.85**	**47**	*e*P	**Pn**	**05 28 59.3**	**0.0**
	14nm,1.3s						
WRH	**Wood River Hil**	**19.17**	**37**	*e*P	**P**	**05 29 00.9**	**-0.8**
	26nm,1.8s						
BMRM	**Bremner River**	**19.31**	**49**	*e*P	**Pn**	**05 29 04.6**	**-0.1**
	69nm,2.0s						
CCB	**Clear Creek Bu**	**19.36**	**37**	*e*P	**Pn**	**05 29 04.7**	**-0.5**
	25nm,1.9s						
MDM	**Murphy Dome**	**19.37**	**36**	*e*P	**Pn**	**05 29 05.7**	**+0.4**
	7.4nm,1.3s						
PAX	**Paxson**	**19.57**	**43**	*e*P	**P**	**05 29 05.7**	**-0.4**
	5.8nm,0.8s						
HDA	**Harding Lake**	**19.57**	**38**	*e*P	**P**	**05 29 05.2**	**-0.9**
	5.5nm,0.7s						
IL1	**Eielson Array**	**19.77**	**37**	*e*P	**P**	**05 29 08.1**	**-0.1**
ILAR	**Eielson Array**	**19.77**	**37**	P	**P**	**05 29 06.3**	**-1.9**
	0.3nm,0.3s,baz=226,slow=9.4,SNR=18						
ILB	**Eielson Array**	**19.77**	**37**	*e*P	**P**	**05 29 07.2**	**-1.0**
COLD	**Coldfoot**	**20.02**	**29**	*e*P	**Pn**	**05 29 12.5**	**-0.5**
	5.1nm,1.0s						
DOT	**Dot Lake**	**20.41**	**42**	*e*P	**P**	**05 29 13.7**	**-1.5**
	13nm,0.6s						
MA2	**Magadan**	**20.62**	**306**	LR	LR	05 37 55.5	
	comp=Z,46nm,18.4s,baz=130,slow=40						
SEY	**Seymchan**	**20.63**	**316**	P	**P**	**05 29 13.5**	**-4.0**
	1.0nm,0.2s,baz=232,slow=19,SNR=2.8						
EGAK	**Eagle**	**22.00**	**40**	*e*P	**P**	**05 29 30.9**	**-1.3**
	6.6nm,0.7s						
DAWY	**Dawson**	**22.50**	**42**	*e*P	**P**	**05 29 37.6**	**0.0**
	26nm,2.0s						
WRAK	**Wrangell Islan**	**25.40**	**62**	*e*P	**P**	**05 30 06.8**	**+1.7**
	118nm,1.8s						
YAK	**Yakutsk**	**30.96**	**311**	LR	LR	05 43 49.3	
	comp=Z,54nm,19.2s,baz=271,slow=38						
YKA	**Yellowknife Ar**	**33.52**	**47**	LR	LR	05 45 04.1	
	comp=Z,6.6nm,19.1s,baz=0.0,slow=37						
H11N2	**WAKE ISLAND Hy**	**34.69**	**210**	T	T	06 08 13.4	
	baz=18,slow=76,SNR=7.6						
H11N3	**WAKE ISLAND Hy**	**34.70**	**210**	T	T	06 08 09.0	
	baz=18,slow=76,SNR=11						
H11N1	**WAKE ISLAND Hy**	**34.71**	**210**	T	T	06 08 10.8	
	baz=18,slow=76,SNR=13						
B08A	**Colville Reser**	**35.40**	**73**	*e*P	**P**	**05 31 34.1**	**+0.6**
	8.7nm,1.4s						
H11S1	**WAKE ISLAND Hy**	**35.90**	**210**	T	T	06 10 50.2	
	baz=20,slow=75,SNR=14						
H11S2	**WAKE ISLAND Hy**	**35.91**	**210**	T	T	06 10 44.7	
	baz=20,slow=75,SNR=10						
H11S3	**WAKE ISLAND Hy**	**35.91**	**210**	T	T	06 10 36.9	
	baz=20,slow=75,SNR=3.3						
MJAR	**Matsushiro Arr**	**35.98**	**264**	LR	LR	05 48 26.3	
	comp=Z,10nm,18.4s,baz=15,slow=40						
G06A	**Carlson Farm,**	**36.10**	**78**	*e*P	**P**	**05 31 40.2**	**+0.6**
	30nm,1.8s						
EDM	**Edmonton**	**36.81**	**62**	*e*P	**P**	**05 31 45.5**	**+0.1**
	42nm,2.0s						
MCMT	**McKenzie Canyo**	**41.03**	**74**	*e*P	**P**	**05 32 21.7**	**+0.6**
KSRS	**Korea Array**	**41.83**	**273**	P	**P**	**05 32 25.9**	**-1.5**
	0.6nm,0.3s,baz=66,slow=8.9,SNR=3.4						
KS15	**Wonju Array Si**	**41.86**	**273**	*e*P	**P**	**05 32 25.9**	**-1.7**
KSAR	**Wonju Array Be**	**41.86**	**273**	P	**P**	**05 32 25.9**	**-1.7**
YHH	**Holmes Hill**	**42.25**	**73**	*e*P	**P**	**05 32 31.7**	**+0.5**
	11nm,1.7s						
SPUT	**South Promonto**	**43.25**	**78**	*e*P	**P**	**05 32 38.8**	**-0.3**
	7.7nm,1.5s						
LAO	**LASA Array**	**43.94**	**68**	*e*P	**P**	**05 32 44.6**	**+0.1**
	5.7nm,1.1s						
PD31	**Pinedale Array**	**44.16**	**74**	*e*P	**P**	**05 32 46.0**	**-0.5**
PDAR	**Pinedale Array**	**44.16**	**74**	P	**P**	**05 32 46.0**	**-0.5**
	0.4nm,0.6s,baz=310,slow=2.9,SNR=5.2						
PKCU	**Pink Cliffs**	**45.68**	**82**	*e*P	**P**	**05 32 58.9**	**+0.1**
	30nm,1.9s						
SONA1	**Songino Array**	**48.51**	**298**	*e*P	**P**	**05 33 20.8**	**+0.3**
SONA0	**Songino Array**	**48.52**	**298**	*e*P	**P**	**05 33 19.2**	**-1.3**
	1.4nm,0.8s						
SONM	**Songino Array**	**48.52**	**298**	P	**P**	**05 33 19.2**	**-1.3**
	1.4nm,0.9s,baz=48,slow=9.4,SNR=6.1						
GUMO	**Guam**	**49.56**	**235**	P	**P**	**05 33 30.3**	**+1.7**
	25nm,0.3s,baz=132,slow=23,SNR=7.6						
FRB	**Frobisher Bay**	**51.72**	**33**	P	**P**	**05 33 43.4**	**-0.9**
	13nm,1.1s,baz=319,slow=11,SNR=4.0						
LTX	**Lajitas**	**56.46**	**84**	*e*P	**P**	**05 34 23.0**	**+3.6**
TXAR	**Lajitas Array**	**56.46**	**84**	P	**P**	**05 34 23.0**	**+3.6**
	0.3nm,0.7s,baz=311,slow=4.7,SNR=2.2						
KURK	**Kurchatov**	**60.48**	**315**	*e*P	**P**	**05 34 47.1**	**+0.1**
	3.7nm,0.6s						
PLVO	**Plevna**	**60.83**	**53**	*e*P	**P**	**05 34 49.4**	**-0.1**
	17nm,1.5s						
TRQ	**Mont Tremblant**	**61.23**	**51**	*e*P	**P**	**05 34 52.5**	**+0.2**
MK31	**Makanchi Array**	**61.63**	**310**	*e*P	**P**	**05 34 54.2**	**-0.7**
MK32	**Makanchi Array**	**61.63**	**310**	*e*P	**P**	**05 34 53.8**	**-1.1**
MKAR	**Makanchi Array**	**61.63**	**310**	P	**P**	**05 34 53.8**	**-1.1**
	0.8nm,0.3s,baz=48,slow=6.2,SNR=11						
MKAR	**Makanchi Array**	**61.63**	**310**	*e*P	**P**	**05 34 54.4**	**-0.5**
	14nm,1.0s						
MK01	**Makanchi Array**	**61.64**	**310**	*e*P	**P**	**05 34 53.9**	**-1.1**
SSPA	**Standing Stone**	**63.55**	**57**	*e*P	**P**	**05 35 06.8**	**-1.0**
	16nm,1.4s						
CPCT	**Cooper Cave**	**63.63**	**66**	*e*P	**P**	**05 35 08.2**	**-0.2**
	13nm,1.6s						
PQI	**Presque Isle**	**63.99**	**47**	*e*P	**P**	**05 35 08.8**	**-1.7**
	40nm,1.5s						
LMN	**Caledonia Moun**	**66.06**	**46**	*e*P	**P**	**05 35 22.9**	**-1.2**
	36nm,1.8s						
ABKAR	**Akbulak array**	**69.11**	**325**	*e*P	**P**	**05 35 43.7**	**+0.5**
	8.9nm,0.8s						
KKAR	**Karatay Array**	**69.87**	**315**	*e*P	**P**	**05 35 48.2**	**+0.2**
	28nm,0.5s						
AKASG	**Malin Array Be**	**76.03**	**344**	P	**P**	**05 36 22.8**	**-1.5**
	0.4nm,0.4s,baz=15,slow=5.8,SNR=8.4						
TOA1	**Torodi Ar. Sit**	**115.53**	**3**	*e*PKPdf	**PKPdf**	**05 43 21.0**	**+1.7**
TORD	**Torodi Ar. Bea**	**115.54**	**3**	PKP	**PKPdf**	**05 43 21.0**	**+1.7**
	0.4nm,0.9s,baz=338,slow=3.1,SNR=2.7						
LSZ	**Lusaka**	**139.23**	**324**	*e*PKPdf	**PKPdf**	**05 44 05.8**	**+1.5**
MAW	**Mawson**	**147.95**	**218**	*e*PKPdf	**PKPdf**	**05 44 19.1**	**+1.4**
LBTB	**Lobatse**	**149.08**	**321**	*e*PKPbc	**PKPbc**	**05 44 27.1**	**+1.8**
BOSA	**Boshof**	**152.41**	**318**	*e*PKPbc	**PKPbc**	**05 44 33.7**	**+0.6**

SJA 23 05:29:38.1±0.4, 32.˚84S×69.˚13W, h10km±5km, ML2.9, MW3.4, 5D, Mendoza Province

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ARCO	**CERRO ARCO**	**0.16**	**90**	*i* P	Pg	05 29 42.4	+0.6
ARCO				*i* S	Sg	05 29 45.6	+1.2
ARCO				IAML		05 29 45.7	
	comp=Z,3μm,0.2s						
AAGR	**Agrelo**	**0.35**	**134**	*i* P	Pg	05 29 45.7	+0.6
AAGR				*i* S	Sb	05 29 51.5	-0.6
ASAL	**Salagasta**	**0.35**	**44**	*i* P	Pg	05 29 45.5	+0.4
AUSP	**Uspallata**	**0.66**	**340**	*i* P	Pb	05 29 51.7	-0.1
RTCV	**Cerro Valdivia**	**1.09**	**27**	*i* P	Pb	05 29 59.2	0.0
ROC1	**El Roble**	**1.60**	**265**	⇓*i* P	Pg	05 30 08.4	-0.3
ROC1				*i* S	Sg	05 30 30.8	+1.3
ACAN	**Cantantal**	**1.73**	**71**	⇓*i* P	Pb	05 30 09.7	-0.3
AMOG	**MOGNA**	**1.97**	**16**	⇓*i* P	Pb	05 30 14.6	+0.4
ACCO	**Cerro Coronel**	**2.25**	**1**	⇓*i* P	Pb	05 30 19.5	+0.5
ACCO				*i* S	Sg	05 30 50.8	+0.4
ACCO				IAML		05 30 54.8	
	comp=Z,20nm,0.3s						
AVFE	**Valle Fertil**	**2.60**	**34**	⇓*i* P	Pb	05 30 23.4	-1.5

ISCJB ***23*** *05:29:58.5±0.5, 39.˚68N±0.˚03×38.˚71E±0.˚04, h1km±8km, Error ellipse: s-maj=5.1km s-min=4.2km az=39.8*
CSEM ***23*** *05:29:58.5±0.2, 39.˚69N×38.˚70E, h2km, MD2.8, Error ellipse: s-maj=5.6km s-min=4.4km az=62.0*
DDA ***23*** *05:29:58.2, 39.˚67N×38.˚71E, h7km, Md2.8*
ISK ***23*** *05:29:58.0, 39.˚72N×38.˚72E, h5km, ML2.4*

ISC 23 05:29:58.2±1.2, 39.˚68N±0.˚02×38.˚72E±0.˚03, h5km±12km, n23, σ0°71/37, Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KEMA	**Kemaliye**	**0.45**	**203**	*i* P	**Pg**	**05 30 06.6**	**-0.2**
KEMA				*i* S	**Sg**	**05 30 13.7**	**+1.0**
KEMA	**Kemaliye**	**0.45**	**203**	P	**Pg**	**05 30 06.6**	**-0.2**
KEMA				S	**Sg**	**05 30 13.7**	**+1.0**
SUSE	**Susehri**	**0.66**	**323**	*i* P	**Pg**	**05 30 11.2**	**+0.2**
SUSE				*i* S	**Sb**	**05 30 21.1**	**-0.9**
SUSE	**Susehri**	**0.66**	**323**	P	**Pg**	**05 30 11.2**	**+0.2**
SUSE				S	**Sb**	**05 30 21.1**	**-0.9**
CUZAR	**Zara_SIVAS**	**0.76**	**286**	*i* P	**Pg**	**05 30 12.5**	**-0.4**
CUZAR				*i* S	**Sb**	**05 30 24.6**	**-0.2**
CUZAR	**Zara_SIVAS**	**0.76**	**286**	P	**Pg**	**05 30 12.5**	**-0.4**
CUZAR				S	**Sb**	**05 30 24.6**	**-0.2**
ERZN	**Erzincan**	**0.78**	**96**	*e*PG	**Pb**	**05 30 14.5**	**+0.1**
ERZN				*e*SG	**Sb**	**05 30 26.1**	**+0.8**
TNCL	**Tunceli-Merkez**	**0.85**	**131**	*i* P	**Pg**	**05 30 14.6**	**+0.1**
TNCL				*i* S	**Sb**	**05 30 27.2**	**-0.2**
TNCL	**Tunceli-Merkez**

KEMA	**Kemaliye**	**0.45**	**209**	*i* P	**Pg**	**05 46 33.2**	**-0.2**
KEMA				*i* S	**Sg**	**05 46 39.9**	**+0.6**
KEMA	**Kemaliye**	**0.45**	**209**	P	**Pg**	**05 46 33.2**	**-0.2**
KEMA				S	**Sg**	**05 46 39.9**	**+0.6**
KELT	**Kelkit**	**0.61**	**37**	*i* P	**Pg**	**05 46 37.2**	**+0.6**
KELT				*i* S	**Sb**	**05 46 46.4**	**-0.2**
KELT	**Kelkit**	**0.61**	**37**	P	**Pg**	**05 46 37.2**	**+0.6**
KELT				S	**Sb**	**05 46 46.4**	**-0.2**
SUSE	**Susehri**	**0.70**	**322**	*i* P	**Pg**	**05 46 38.0**	**-0.2**
SUSE				*i* S	**Sg**	**05 46 47.7**	**+0.4**
SUSE	**Susehri**	**0.70**	**322**	P	**Pg**	**05 46 38.0**	**-0.2**
SUSE				S	**Sg**	**05 46 47.7**	**+0.4**
ERZN	**Erzincan**	**0.74**	**95**	*e*PG	**Pg**	**05 46 38.4**	**-0.5**
CUZAR	**Zara_SIVAS**	**0.80**	**287**	*i* P	**Pg**	**05 46 39.5**	**-0.6**
CUZAR	**Zara_SIVAS**	**0.80**	**287**	P	**Pg**	**05 46 39.5**	**-0.6**
TNCL	**Tunceli-Merkez**	**0.81**	**132**	*i* P	**Pb**	**05 46 40.8**	**-0.2**
TNCL				*i* S	**Sn**	**05 46 55.1**	**+0.6**
TNCL	**Tunceli-Merkez**	**0.81**	**132**	P	**Pb**	**05 46 40.8**	**-0.2**
TNCL				S	**Sn**	**05 46 55.2**	**+0.6**
GUMT	**Gumushane**	**0.97**	**34**	*e*PG	**Pg**	**05 46 43.0**	**-0.3**
GUMT				*e*SG	**Sb**	**05 46 56.5**	**-0.1**
GUMT	**Gumushane**	**0.97**	**34**	*e*Pg	**Pg**	**05 46 43.0**	**-0.3**
GUMT				*e*Sg	**Sb**	**05 46 56.6**	**-0.1**
CUKAN	**kangal_SIVAS**	**1.06**	**252**	*i* P	**Pg**	**05 46 44.3**	**-0.8**
CUKAN				*i* S	**Sn**	**05 47 01.3**	**+0.4**
CUKAN	**kangal_SIVAS**	**1.06**	**252**	P	**Pg**	**05 46 44.3**	**-0.8**
CUKAN				S	**Sn**	**05 47 01.3**	**+0.4**
ELZG	**Elazig**	**1.17**	**172**	*i* P	**Pg**	**05 46 47.1**	**-0.1**
ELZG				*i* S	**Sn**	**05 47 03.5**	**-0.1**
ELZG	**Elazig**	**1.17**	**172**	P	**Pg**	**05 46 47.1**	**-0.1**
ELZG				S	**Sn**	**05 47 03.5**	**-0.1**
ESPY	**Espiye-Giresun**	**1.25**	**359**	*e*PN	**Pn**	**05 46 47.9**	**-0.5**
ESPY	**Espiye-Giresun**	**1.25**	**359**	*e*Pn	**Pn**	**05 46 47.9**	**-0.5**
SCER	**sogukcermik**	**1.28**	**280**	*i* P	**Pn**	**05 46 47.7**	**-1.1**
SCER				*i* S	**Sb**	**05 47 05.8**	**+0.2**
SCER	**sogukcermik**	**1.28**	**280**	P	**Pn**	**05 46 47.7**	**-1.1**
SCER				S	**Sb**	**05 47 05.8**	**+0.2**
RSDY	**Resadiye-TOKAT**	**1.33**	**304**	*e*PN	**Pg**	**05 46 51.1**	**+0.9**
RSDY	**Resadiye-TOKAT**	**1.33**	**304**	*e*Pn	**Pg**	**05 46 51.1**	**+0.9**
SVRC	**Sivrice-ELAZID**	**1.35**	**162**	*e*PN	**Pn**	**05 46 50.1**	**+0.3**
SVRC				*e*SN	**Sg**	**05 47 08.0**	**0.0**
SVRC	**Sivrice-ELAZID**	**1.35**	**162**	*e*Pn	**Pn**	**05 46 50.1**	**+0.3**
SVRC				*e*Sn	**Sg**	**05 47 08.0**	**0.0**
SVSK	**Karacayir**	**1.39**	**281**	*e*PN	**Pg**	**05 46 52.2**	**+0.9**
SVSK	**Karacayir**	**1.39**	**281**	*e*Pn	**Pg**	**05 46 52.2**	**+0.9**
DARE	**Darende-Malaty**	**1.48**	**223**	*e*PN	**Pg**	**05 46 53.5**	**+0.5**
DARE	**Darende-Malaty**	**1.48**	**223**	*e*Pn	**Pg**	**05 46 53.5**	**+0.5**
BINT	**Bingol**	**1.55**	**120**	*e*Pn	**Pn**	**05 46 52.9**	**+0.4**
BNGB	**Bing¶ll**	**1.63**	**114**	*e*PN	**Pn**	**05 46 52.9**	**-0.7**

SJA 23 05:46:36.5±0.5, 27°18S×65°47W, h66km±8km, ML3.1, MW3.5, Tucuman Province

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AHML	**Horco Molle**	**0.41**	**17**	*i* P	Pn	05 46 49.1	+1.0
AHML				IAML		05 46 57.8	
	comp=Z,711nm,0.3s						
AHML				*i* S	Sn	05 46 57.8	+1.2
FSA	**Cafayete**	**1.16**	**336**	*i* P	Pn	05 46 58.2	+1.2
FSA				*i* S	Sn	05 47 14.8	+2.6
FSA				IAML		05 47 15.5	
	comp=Z,371nm,0.3s						
CYA	**Choya**	**1.30**	**193**	*i* P	Pn	05 46 60.0	+1.2
CYA				IAML		05 47 17.1	
	comp=Z,379nm,0.3s						
CYA				*i* S	Sn	05 47 17.3	+2.0

IDC 23 05:48:53.1±11.0, 17°43S×13°37W, h0km, mb4.0/5, mb1 3.9/5, mb1mx3.6/32, mbtmp4.0/5, MS3.4/5, Ms1 3.4/5, ms1mx3.0/27, Error ellipse: s-maj=246.5km s-min=34.0km az=61.0, Southern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
H10S2	**ASCENSION HYDR**	**8.51**	**351**	T	T	05 59 43.8	
	baz=175,slow=74,SNR=132						
H10S3	**ASCENSION HYDR**	**8.52**	**351**	T	T	05 59 44.4	
	baz=175,slow=74,SNR=78						
H10S1	**ASCENSION HYDR**	**8.53**	**351**	T	T	05 59 45.1	
	baz=175,slow=74,SNR=112						
RCBR	**Riachuelo**	**24.86**	**295**	LR	LR	06 02 20.6	
	comp=Z,47nm,18.1s,baz=88,slow=32						
DBIC	**Dimbokro**	**25.38**	**20**	P	P	05 54 21.7	-0.5
	2.6nm,0.8s,baz=194,slow=8.3,SNR=3.6						
TORD	**Torodi Ar. Bea**	**33.82**	**27**	P	P	05 55 37.3	0.0
	1.4nm,0.7s,baz=209,slow=8.9,SNR=8.3						
TORD				LR	LR	06 06 56.0	
	comp=Z,53nm,18.7s,baz=265,slow=32						
MATP	**Matopo**	**39.64**	**101**	P	P	05 56 26.4	-0.7
	2.2nm,0.8s,baz=245,slow=6.9,SNR=3.4						
LSZ	**Lusaka**	**39.88**	**93**	P	P	05 56 29.6	+0.5
	2.1nm,0.7s,baz=254,slow=5.5,SNR=6.1						
LPAZ	**La Paz**	**52.27**	**263**	LR	LR	06 18 11.0	
	comp=Z,38nm,20.9s,baz=111,slow=34						
VNA2	**Neumayer--Watz**	**53.61**	**178**	P	P	05 58 09.7	-6.1
	baz=347,slow=9.8						
PLCA	**Paso Flores**	**54.08**	**232**	LR	LR	06 17 49.6	
	comp=Z,33nm,20.4s,baz=166,slow=32						
SNAA	**Sanae**	**54.60**	**176**	P	P	05 58 15.9	-7.2
BRTR	**Keskin Array B**	**71.78**	**36**	P	P	06 00 18.1	+0.4
	0.8nm,0.6s,baz=226,slow=7.9,SNR=4.2						
GEYT	**Alibeck**	**86.70**	**49**	LR	LR	06 40 56.4	
	comp=Z,31nm,18.4s,baz=130,slow=36						

*ISCJB **23** 05:58:58.7±0.6, 6°84N±0.0°03×73°07W±0°04, h159km±5km, Error ellipse: s-maj=6.7km s-min=4.8km az=32.6*
*RSNC **23** 05:59:00.3±0.8, 6°81N×73°12W, h153km±4km, ML3.1*
*FUNV **23** 05:59:01.5, 7°01N×73°04W, h176km, MW2.6*
ISC 23 05:58:57.6±1.4, 6°84N±0°04×73°06W±0°04, h169km±8km, n24, σ1§70/42, 1C, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BTLC	**Betulia, Santa**	**0.22**	**290**	*i* P	**Pn**	**05 59 21.0**	**+0.5**
GIRC	**Giron, Santand**	**0.27**	**331**	*i* P	**Pn**	**05 59 20.7**	**+0.3**
GIRC				*e*S	**Sn**	**05 59 37.3**	**-0.7**
BARC	**Barichara**	**0.28**	**205**	*i* P	**Pn**	**05 59 20.7**	**+0.1**
BARC				*e*S	**Sn**	**05 59 36.7**	**-1.5**
BARC				*i*		05 59 37.5	
	comp=Z,343nm,0.3s						
PAMC	**Pamplona, Colo**	**0.61**	**36**	*i* P	**Pn**	**05 59 23.4**	**+1.3**
PAMC				*e*S	**Sn**	**05 59 40.1**	**-0.9**
BRRC	**Barranca, Sant**	**0.69**	**292**	⇑*e*P	**Pn**	**05 59 22.5**	**+0.5**
BRRC				*i*		05 59 22.8	
	comp=Z,648nm,0.2s						
BRRC				*e*S	**Sn**	**05 59 39.9**	**-0.9**
CBRI	**Barrientos, No**	**0.91**	**17**	*e*P	**Pn**	**05 59 25.1**	**+1.5**
RUSC	**La Rusia**	**0.95**	**181**	*e*P	**Pn**	**05 59 24.6**	**+0.3**
RUSC				*e*S	**Sn**	**05 59 43.4**	**-1.5**
RUSC				*i*		05 59 44.1	
	comp=Z,160nm,0.5s						
CAPV	**Capacho**	**1.26**	**36**	*e*P	**Pn**	**05 59 28.5**	**+1.9**
CAPV				*e*S	**Sn**	**05 59 49.5**	**+1.0**
OCAC	**Ocana**	**1.41**	**350**	*e*P	**Pn**	**05 59 29.3**	**+1.4**
OCAC				*e*S	**Sn**	**05 59 51.3**	**0.0**
YOPC	**Yopal, Colombi**	**1.61**	**157**	*e*P	**Pn**	**05 59 30.9**	**+1.0**
YOPC				*e*S	**Sn**	**05 59 54.6**	**-0.2**
ZARC	**Zaragoza, Cauc**	**1.89**	**290**	*e*P	**Pn**	**05 59 33.1**	**+0.4**
ZARC				*e*S	**Sn**	**05 59 58.9**	**-0.9**
ZARC				*i*		06 00 05.7	
	comp=Z,148nm,0.2s						
NORC	**Norcasia**	**2.20**	**235**	*e*P	**Pn**	**05 59 36.4**	**+0.2**
NORC				*e*S	**Sn**	**06 00 05.2**	**-0.9**
CHIC	**Chingaza**	**2.30**	**197**	*e*P	**Pn**	**05 59 38.6**	**+0.9**
CHIC				*i*		05 59 41.4	
	comp=Z,40nm,0.5s						
CHIC				*e*S	**Sn**	**06 00 09.0**	**+0.2**
HELC	**Santa Helena**	**2.53**	**255**	*e*P	**Pn**	**05 59 41.4**	**+1.0**
HELC				*i*		06 00 19.7	
	comp=Z,49nm,0.6s						
VIGV	**El Vigia**	**2.60**	**40**	*e*P	**Pn**	**05 59 43.0**	**+2.1**
VIGV				*e*S	**Sn**	**06 00 12.6**	**-1.9**
SOCV	**Socops**	**2.61**	**57**	*e*P	**Pn**	**05 59 42.7**	**+1.6**
SOCV				*e*S	**Sn**	**06 00 14.6**	**-0.2**
VILC	**Villavicencio,**	**2.79**	**193**	*e*P	**Pn**	**05 59 43.9**	**+0.7**
CODC	**Agust¨›n Codaz**	**3.09**	**353**	*e*P	**Pn**	**05 59 48.4**	**+1.5**
CODC				*e*S	**Sn**	**06 00 26.7**	**+1.3**
CODC				*i*		06 00 37.1	
	comp=Z,58nm,0.7s						
TOLC	**Tolima**	**3.17**	**225**	*e*P	**Pn**	**05 59 49.9**	**+1.7**
ELOV	**Elorza**	**3.56**	**87**	*e*P	**Pn**	**05 59 54.6**	**+1.9**
ELOV				*e*S	**Sn**	**06 00 35.5**	**-0.2**
VIRV	**Villa del Rosa**	**3.69**	**10**	*e*P	**Pn**	**05 59 55.6**	**+1.1**
VIRV				*e*S	**Sn**	**06 00 34.6**	**-4.2**
CURV	**Curarigua**	**4.40**	**44**	*e*P	**Pn**	**06 00 05.1**	**+1.5**
CURV				*e*S	**Sn**	**06 00 51.0**	**-4.1**
BAUV	**El Baul**	**5.39**	**67**	*e*P	**Pn**	**06 00 18.0**	**+1.5**
BAUV				*e*S	**Sn**	**06 01 13.4**	**-5.0**
MONV	**Montecano**	**5.92**	**31**	*e*P	**Pn**	**06 00 24.0**	**+0.5**

JMA 23 06:01:34.0±0.1, 27°.63N×141°.14E, h191km, M4.1, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CBIJ	**Chichi jima**	**1.07**	**120**	P	Pn	06 02 03.6	+0.2
CBIJ				S	Sn	06 02 26.2	+0.2
JHHJ	**Haha-jima-NKT**	**1.36**	**137**	P	Pn	06 02 05.7	0.0
JHHJ				S	Sn	06 02 30.4	+0.2
BSO4	**Boso 4**	**7.37**	**355**	P	Pn	06 03 19.4	+0.6

*ISK **23** 06:03:50.7, 39°.89N×39°.10E, h5km, ML2.2*
*ISCJB **23** 06:03:51.2±0.5, 39°.86N±0°.02×39°.02E±0°.04, h4km±8km, Error ellipse: s-maj=5.2km s-min=4.0km az=175.2*
*DDA **23** 06:03:51.4, 39°.83N×39°.00E, h7km, ML2.5*
*CSEM **23** 06:03:51.4±0.2, 39°.87N×39°.01E, h2km, ML2.2, Error ellipse: s-maj=5.1km s-min=4.1km az=78.0*
ISC 23 06:03:50.1±1.2, 39°.81N±0°.02×38°.95E±0°.03, h1km±11km, n20, σ1§38/38, Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KELT	**Kelkit**	**0.41**	**35**	*i* P	**Pg**	**06 03 58.5**	**+0.5**
KELT				*i* S	**Sg**	**06 04 03.4**	**+0.1**
KELT	**Kelkit**	**0.41**	**35**	P	**Pg**	**06 03 58.5**	**+0.5**
KELT				S	**Sg**	**06 04 03.4**	**+0.1**
REFA	**Refahiye_ERZ¨**	**0.44**	**199**	*i* P	**Pg**	**06 03 55.8**	**-2.8**
REFA				*i* S	**Sg**	**06 03 59.2**	**-5.1**
ERZN	**Erzincan**	**0.64**	**111**	*e*PG	**Pg**	**06 04 02.5**	**+0.2**
ERZN				*e*SG	**Sg**	**06 04 11.7**	**+1.1**
KEMA	**Kemaliye**	**0.65**	**213**	*i* P	**Pg**	**06 04 04.3**	**+1.7**
KEMA				*i* S	**Sb**	**06 04 14.6**	**+0.8**
KEMA	**Kemaliye**	**0.65**	**213**	P	**Pg**	**06 04 04.3**	**+1.7**
KEMA				S	**Sb**	**06 04 14.6**	**+0.8**
SUSE	**Susehri**	**0.70**	**305**	*i* P	**Pb**	**06 04 05.5**	**+0.3**
SUSE				*i* S	**Sb**	**06 04 15.9**	**+0.6**
SUSE	**Susehri**	**0.70**	**305**	P	**Pb**	**06 04 05.5**	**+0.3**
SUSE				S	**Sb**	**06 04 15.9**	**+0.6**
GUMT	**Gumushane**	**0.76**	**32**	*e*PG	**Pg**	**06 04 04.5**	**-0.3**
GUMT				*e*SG	**Sg**	**06 04 14.4**	**-0.3**
GUMT	**Gumushane**	**0.76**	**32**	*e*Pg	**Pg**	**06 04 04.5**	**-0.3**
GUMT				*e*Sg	**Sg**	**06 04 14.4**	**-0.3**
TNCL	**Tunceli-Merkez**	**0.83**	**146**	*i* P	**Pb**	**06 04 08.2**	**+0.7**
TNCL				*i* S	**Sb**	**06 04 19.5**	**+0.3**
TNCL	**Tunceli-Merkez**	**0.83**	**146**	P	**Pb**	**06 04 08.2**	**+0.7**
TNCL				S	**Sb**	**06 04 19.5**	**+0.3**
CUZAR	**Zara_SIVAS**	**0.91**	**275**	*i* P	**Pb**	**06 04 09.4**	**+0.6**
CUZAR				*i* S	**Sn**	**06 04 23.2**	**-0.8**
CUZAR	**Zara_SIVAS**	**0.91**	**275**	P	**Pb**	**06 04 09.4**	**+0.6**
CUZAR				S	**Sn**	**06 04 23.2**	**-0.8**
PTK	**Pertek**	**0.98**	**159**	*e*PG	**Pn**	**06 04 11.4**	**+0.2**
PTK				*e*SG	**Sn**	**06 04 26.3**	**+0.5**
PTK	**Pertek**	**0.98**	**159**	*e*Pg	**Pn**	**06 04 11.4**	**+0.2**
PTK				*e*Sg	**Sn**	**06 04 26.3**	**+0.5**
GRSN	**GIRESUNGRSN**	**1.23**	**335**	*i* P	**Pn**	**06 04 12.9**	**-1.5**
GRSN				*i* S	**Sb**	**06 04 29.7**	**-0.8**
GRSN	**GIRESUNGRSN**	**1.23**	**335**	P	**Pn**	**06 04 12.9**	**-1.5**
GRSN				S	**Sb**	**06 04 29.7**	**-0.8**
SVSK	**Karacayir**	**1.51**	**275**	*e*PN	**Pg**	**06 04 21.4**	**+2.4**
SVSK	**Karacayir**	**1.51**	**275**	*e*Pn	**Pg**	**06 04 21.4**	**+2.4**

*ISCJB **23** 06:05:33.5±0.6, 16°.55N±0°.07×145°.8E±0°.2, h550km, mb4.0/18, Error ellipse: s-maj=19.5km s-min=9.5km az=176.5*
*IDC **23** 06:05:33.6±0.7, 16°.61N×145°.77E, h526km±9km, mb3.5/18, mb1 3.6/19, mb1mx3.4/46, mbtmp4.4/19, Error ellipse: s-maj=15.4km s-min=9.5km az=78.0*
ISC 23 06:05:34.4±0.7, 16°.49N±0°.09×145°.8E±0°.2, h550km, n21, σ1§35/22, mb4.0/18, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GUMO	**Guam**	**3.04**	**198**	P	**P**	**06 06 49.1**	**-0.7**
	33nm,0.3s,baz=293,slow=7.8,SNR=19						
GUMO				S	**S**	**06 07 47.6**	**-3.4**
	59nm,0.3s,baz=357,slow=23,SNR=16						
MJAR	**Matsushiro Arr**	**21.09**	**343**	P	**P**	**06 09 38.1**	**-2.1**
	2.7nm,0.4s,baz=167,slow=11,SNR=8.2						
JNU	**Nakatsue**	**21.37**	**324**	P	**P**	**06 09 42.9**	**+0.1**
	3.3nm,0.3s,baz=112,slow=7.3,SNR=5.4						
KSRS	**Korea Array**	**26.19**	**326**	P	**P**	**06 10 25.1**	**-0.4**
	3.0nm,0.7s,baz=144,slow=9.1,SNR=11						
WRA	**Warramunga Arr**	**37.93**	**198**	P	**P**	**06 12 06.7**	**+1.2**
	2.8nm,0.7s,baz=23,slow=8.7,SNR=34						
ASAR	**Alice Springs**	**41.58**	**197**	P	**P**	**06 12 35.8**	**+1.0**
	0.7nm,0.5s,baz=18,slow=7.0,SNR=12						
MA2	**Magadan**	**43.17**	**4**	P	**P**	**06 12 45.6**	**-1.0**
	4.6nm,0.4s,baz=203,slow=22,SNR=4.0						
DZM	**Mont Dzumac**	**43.32**	**152**	P	**P**	**06 12 50.3**	**+1.8**
	3.9nm,0.8s,baz=277,slow=5.5,SNR=5.8						
CMAR	**Chiang Mai Arr**	**44.68**	**280**	P	**P**	**06 12 59.6**	**+0.7**
	5.0nm,0.4s,baz=76,slow=6.2,SNR=13						
SONM	**Songino Array**	**44.95**	**323**	P	**P**	**06 13 01.5**	**+0.7**
	2.2nm,0.4s,baz=139,slow=5.9,SNR=16						
SEY	**Seymchan**	**46.61**	**4**	P	**P**	**06 13 13.9**	**+0.9**
	1.6nm,0.4s,baz=189,slow=7.6,SNR=7.5						
ZALV	**Zalesovo Beam**	**59.84**	**323**	P	**P**	**06 14 46.9**	**-0.1**
	2.4nm,0.5s,baz=102,slow=7.8,SNR=4.9						
MKAR	**Makanchi Array**	**60.09**	**315**	P	**P**	**06 14 49.5**	**+0.7**
	3.5nm,0.4s,baz=90,slow=8.2,SNR=30						
KDAK	**Kodiak Island**	**61.13**	**33**	P	**P**	**06 14 56.7**	**+1.3**
	1.2nm,0.3s,baz=307,slow=2.5,SNR=11						
KURBB	**Kurchatov Arra**	**63.05**	**319**	P	**P**	**06 15 07.9**	**-0.1**
	13nm,0.7s,baz=97,slow=6.6,SNR=17						
NRIK	**Noril'sk**	**63.72**	**340**	P	**P**	**06 15 12.3**	**+0.4**
	2.2nm,0.4s,baz=108,slow=3.2,SNR=3.6						
ILAR	**Eielson Array**	**65.56**	**26**	P	**P**	**06 15 23.8**	**+0.1**
	0.5nm,0.4s,baz=252,slow=5.9,SNR=13						
ARU	**Arti**	**74.93**	**325**	P	**P**	**06 16 19.5**	**+0.2**
	2.8nm,0.5s,baz=96,slow=7.3,SNR=6.1						
FINES	**FINESS Array B**	**88.93**	**335**	P	**P**	**06 17 29.2**	**-1.1**
	1.5nm,0.5s,baz=85,slow=3.0,SNR=8.9						
LVC	**Limon Verde**	**146.75**	**106**	PKPbc	**PKPab**	**06 24 17.6**	**-1.6**
	8.4nm,0.6s,baz=18,slow=6.4,SNR=4.1						
LPAZ	**La Paz**	**147.44**	**95**	PKPbc	**PKPab**	**06 24 20.6**	**-1.8**
	0.9nm,0.5s,baz=39,slow=12,SNR=5.5						

*SOME **23** 06:10:32.1, 39°.32N×74°.57E, h20km*
*BJI **23** 06:10:34.7, 39°.31N×75°.05E, h8km, ML3.5/4*
*IDC **23** 06:10:35.3±2.4, 38°.99N×75°.23E, h0km, mb3.6/5, mb1 3.6/6, mb1mx3.5/40, mbtmp3.5/6, ML2.9/1, MS2.7/2, Ms1 2.7/2, ms1mx2.4/39, Error ellipse: s-maj=53.4km s-min=23.4km az=161.0*
*KRNET **23** 06:10:37.2±0.1, 39°.26N×75°.25E, mb3.2*
*ISCJB **23** 06:10:37.0±0.7, 39°.09N±0°.04×75°.20E±0°.05, h10km, mb3.5/5, Error ellipse: s-maj=6.3km s-min=4.6km az=136.2*
*NNC **23** 06:10:42.0±3.8, 39°.55N×75°.02E, h0km, mb4.2, mpv3.8, Error ellipse: s-maj=34.4km s-min=18.3km az=139.0*
ISC 23 06:10:38.0±1.1, 39°.13N±0°.07×75°.08E±0°.04, h10km, n41, σ2§16/70, mb3.7/5, 30C-16D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
NRN	**Naryn**	**2.41**	**17**	⇓*i* P	**Pn**	**06 11 17.8**	**0.0**
	baz=14						
NRN				⇓*i* S	**Sn**	**06 11 47.4**	**-0.1**
	baz=14						
ARSB	**Arslanbob**	**2.72**	**324**	⇑*e*P	**Pn**	**06 11 23.6**	**+1.7**
	baz=321						
ARSB				⇑*e*S	**Sn**	**06 11 57.7**	**+2.8**
	baz=321						
KZA	**Kyzart**	**2.95**	**2**	⇑*i* P	**Pn**	**06 11 26.2**	**+0.9**
	baz=360						
KZA				⇑*i* S	**Sn**	**06 12 02.2**	**+1.2**
	baz=360						
AML	**Almayashu**	**3.18**	**341**	⇑*i* P	**Pn**	**06 11 30.4**	**+2.0**
	baz=338						
AML				⇑*i* S	**Sn**	**06 12 09.0**	**+2.4**
	baz=338						
ULHL	**Ulahol**	**3.24**	**16**	⇑*i* P	**Pn**	**06 11 29.5**	**+0.4**
	baz=14						
ULHL				⇑*i* S	**Sn**	**06 12 07.5**	**-0.3**
	baz=14						
TOKL	**Toktogul**	**3.27**	**330**	⇓*e* P	**Pn**	**06 11 31.1**	**+1.6**
	baz=327						
TOKL				⇓*e* S	**Sn**	**06 12 10.4**	**+1.9**
	baz=327						
KDJ	**Kajisay**	**3.40**	**27**	⇑*e* P	**Pn**	**06 11 31.8**	**+0.5**
	baz=27						
KDJ				⇑*e* S	**Sn**	**06 12 11.7**	**0.0**
	baz=27						
BTK	**Batken**	**3.42**	**287**	⇑*i* P	**Pb**	**06 11 35.2**	**-3.5**
	baz=284						
BTK				⇑*i* S	**Sb**	**06 12 18.6**	**-1.8**
	baz=284						
BOOM	**Boomskoye usch**	**3.42**	**11**	⇑*e* P	**Pn**	**06 11 32.1**	**+0.5**
	baz=9.0						
BOOM				⇑*e* S	**Sn**	**06 12 12.1**	**-0.2**
	baz=9.0						
KBK	**Karagaybulak**	**3.52**	**358**	⇑*i* P	**Pn**	**06 11 34.3**	**+1.3**
	baz=356						
KBK				⇑*i* S	**Sn**	**06 12 15.8**	**+1.0**
	baz=356						
AAK	**Ala-Archa**	**3.53**	**353**	⇑*i* P	**Pn**	**06 11 34.5**	**+1.4**
	baz=351						
AAK				⇑*i* S	**Sn**	**06 12 16.4**	**+1.4**
	baz=351						
AAK	**Ala-Archa**	**3.53**	**353**	⇓Pn	**Pn**	**06 11 34.3**	**+1.2**
	17nm,0.8s						
AAK				⇑Lg	Lg	06 12 24.2	
	51nm,1.1s						
ARK	**Arkit**	**3.57**	**319**	⇑*e* P	**Pn**	**06 11 35.2**	**+1.6**
	baz=316						
ARK				⇑*e* S	**Sn**	**06 12 17.7**	**+1.8**
	baz=316						
EKS2	**Erkin-Say**	**3.66**	**345**	⇓*i* P	**Pn**	**06 11 36.7**	**+1.8**
	baz=342						
EKS2				⇓*i* S	**Sn**	**06 12 20.1**	**+1.9**
	baz=342						
TKM2	**Tokmak 2**	**3.81**	**6**	⇓*i* P	**Pn**	**06 11 37.9**	**+1.0**
	baz=4.0						
TKM2				⇓*i* S	**Sn**	**06 12 21.7**	**-0.2**
	baz=4.0						
TKM2	**Tokmak 2**	**3.81**	**6**	⇓Pn	**Pn**	**06 11 38.0**	**+1.0**
	18nm,0.5s						
TKM2				⇓Lg	Lg	06 12 22.7	
	46nm,0.6s						
MRKS	**Merke**	**3.88**	**339**	*e*P	**Pn**	**06 11 37.6**	**-0.1**
	6.8nm,0.5s						
MRKS				*e*S	**Sn**	**06 12 25.7**	**+2.3**
	28nm,0.5s						
MNAS	**Manas**	**3.88**	**331**	⇓*e* P	**Pn**	**06 11 39.7**	**+1.8**
	baz=328						
MNAS				⇓*i* S	**Sn**	**06 12 25.1**	**+1.5**
	baz=328						
MNAS	**Manas**	**3.88**	**331**	⇑Pg	**Pb**	**06 11 45.8**	**-0.9**
	10nm,0.5s						
MNAS				⇑Lg	Lg	06 12 32.6	
	22nm,0.6s						
KST	**Kastek**	**3.97**	**9**	*e*P	**Pn**	**06 11 39.7**	**+0.7**
	5.9nm,0.3s						
KST				*e*S	**Sn**	**06 12 29.0**	**+3.3**
	33nm,0.6s						
IZV	**Izvestkoviy**	**4.07**	**16**	*e*P	**Pb**	**06 11 46.0**	**-3.9**
	18nm,0.5s						
IZV				*e*S	**Sb**	**06 12 39.7**	**+0.4**
	27nm,0.7s						
MTBS	**Maitube**	**4.13**	**14**	*e*P	**Pn**	**06 11 42.2**	**+1.1**
	8.2nm,0.2s						
MTBS				*e*S	**Sn**	**06 12 33.5**	**+4.0**
	14nm,0.5s						
DGS	**Degeres**	**4.14**	**7**	*e*P	**Pn**	**06 11 41.8**	**+0.4**
	9.4nm,0.5s						
DGS				*e*S	**Sn**	**06 12 32.9**	**+2.9**
	30nm,0.3s						
TNSS	**Tian-Shan**	**4.15**	**19**	*e*P	**Pb**	**06 11 47.0**	**-4.4**
	15nm,0.7s						
TNSS				*e*S	**Sb**	**06 12 42.0**	**+0.3**
	27nm,0.7s						
USP	**Ospenovka**	**4.16**	**354**	⇑*i* P	**Pn**	**06 11 43.1**	**+1.5**
	baz=352						
USP				⇑*i* S	**Sn**	**06 12 31.0**	**+0.8**
	baz=352						
MDOK	**Medeo**	**4.30**	**20**	*e*P	**Pb**	**06 11 49.5**	**-4.2**
	6.0nm,0.3s						
MDOK				*e*S	**Sb**	**06 12 45.9**	**+0.2**
	30nm,0.6s						
SATY	**Saty**	**4.66**	**32**	*e*P	**Pb**	**06 12 00.1

CURV	**Curarigua**	**1.91**	**114**	*e*P	**Pn**	**06 14 58.4**	**+0.1**
CURV				*e*S	**Sn**	**06 15 22.0**	**-0.6**
VIGV	**El Vigia**	**1.97**	**169**⇓	*e*P	**Pb**	**06 15 00.8**	**-0.9**
VIGV				*e*S	**Sn**	**06 15 25.5**	**+1.3**
MONV	**Montecano**	**2.08**	**56**	*e*P	**Pn**	**06 15 00.2**	**-0.4**
MONV				*e*S	**Sn**	**06 15 26.6**	**-0.1**
SANV	**Sanarito**	**2.51**	**121**⇑	*e*P	**Pn**	**06 15 08.0**	**+1.3**
SANV				*e*S	**Sn**	**06 15 36.8**	**-0.9**
TEPV	**Terepaima**	**2.63**	**108**	*e*P	**Pn**	**06 15 08.8**	**+0.5**
SOCV	**Socops**	**2.64**	**161**	*e*P	**Pn**	**06 15 09.7**	**+1.3**
SOCV				*e*S	**Sn**	**06 15 40.6**	**0.0**
CAPV	**Capacho**	**2.97**	**191**	*e*P	**Pn**	**06 15 13.9**	**+0.8**
CAPV				*e*S	**Sn**	**06 15 49.9**	**+0.9**
OCAC	**Ocana**	**2.98**	**212**	*e*P	**Pb**	**06 15 17.9**	**-1.1**
OCAC				*e*S	**Sb**	**06 15 58.1**	**+2.4**
OCAC				*i*		06 16 01.2	
	comp=Z,41nm,0.3s						
MAPV	**Macapo**	**3.36**	**106**⇑	*e*P	**Pn**	**06 15 19.2**	**+0.8**
SJCC	**San Jacinto, C**	**3.51**	**256**	*e*P	**Pn**	**06 15 17.2**	**-3.2**
TURV	**Turiamo**	**3.84**	**95**	*e*P	**Pn**	**06 15 23.8**	**-1.1**
BAUV	**El Baul**	**4.07**	**116**	*e*P	**Pn**	**06 15 28.6**	**+0.5**
BAUV				*e*S	**Sn**	**06 16 13.4**	**-2.6**

ISC 23 06:15:39.9±1.4,**43˚90N**±0˚08×**15˚50E**±0˚08,**h10**km,**n7,**
σ**0**§**56/11,Adriatic Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
UDBI	**Udbina**	**0.66**	**17**	*e*Pg	**Pg**	**06 15 52.0**	**-0.6**
UDBI				Sg	**Sg**	**06 16 01.5**	**+0.2**
NVLJ	**Novalja**	**0.80**	**326**	*e*Pg	**Pg**	**06 15 54.6**	**-0.8**
NVLJ				Sg	**Sb**	**06 16 07.4**	**+0.6**
BOJS	**Bojanci**	**1.61**	**354**	*i* Pn	**Pb**	**06 16 10.3**	**+0.6**
OZLJ	**Ozalj**	**1.72**	**359**	*i* Pn	**Pb**	**06 16 11.3**	**-0.2**
OZLJ				Sn	**Sg**	**06 16 35.0**	**0.0**
STON	**Ston**	**1.91**	**122**	*e*Pn	**Pn**	**06 16 12.5**	**+0.1**
STON				Sn	**Sb**	**06 16 39.7**	**+0.4**
SKDS	**Skadanscina**	**1.96**	**328**	*i* Pn	**Pn**	**06 16 13.7**	**+0.6**
VISS	**Visnje**	**1.96**	**346**	*i* Pn	**Pb**	**06 16 15.2**	**-0.5**

DJA 23 06:32:36.4±0.6,**8˚S**±3˚×**10˚7E**±˚,**h11**km±4km,**M3.6**/8,
MLv3.6/8,**Jawa**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CISI	**Cisompet, Garu**	**0.83**	**37**	Pg	Pn	06 32 53.5	-0.6
CISI				Pn	Pn	06 32 53.5	-0.6
CISI				S	Sg	06 33 02.7	-0.6
CNJI	**Cibinong**	**0.92**	**349**	P	Pn	06 32 55.7	+0.4
CNJI				S	Sb	06 33 07.1	+0.4
CMJI	**Cimerak**	**1.21**	**69**	P	Pn	06 32 58.7	-0.5
CMJI				S	Sb	06 33 12.3	-2.6
LEM	**Lembang**	**1.42**	**12**	P	Pb	06 33 10.8	+7.8
LEM				Pg	Pg	06 33 10.0	+6.3
KPJI	**Karang Pucung**	**1.83**	**61**	P	Pn	06 33 08.7	+0.9
KPJI				S	Sb	06 33 32.7	-0.2
JCJI	**Jatiwangi**	**1.96**	**29**	S	Sn	06 33 31.7	-2.6
CGJI	**Cibinong**	**2.26**	**315**	P	Pn	06 33 14.8	+1.0
CGJI				S	Sn	06 33 40.1	-1.6
UGM	**Wanagama**	**3.20**	**85**	P	Pn	06 33 26.0	-0.7
PCJI	**Pacitan**	**3.83**	**90**	P	Pn	06 33 33.6	-1.7
KASI	**Kota Agung**	**3.87**	**314**	P	Pn	06 33 34.9	-1.0

*SJA **23** 06:37:56.2±0.5,22˚41S×66˚09W,h303km±4km,ML2.8,*
MW3.3
*ISCJB **23** 06:38:02.0±0.6,22˚85S±0˚06×66˚38W±0˚05,h250km,*
Error ellipse: s-maj=8.6km s-min=6.0km az=7.6
*GUC **23** 06:38:03.0±0.5,22˚68S×66˚90W,h288km±14km,ML4.2*
ISC 23 06:38:01.9±1.3,**22˚81S**±0˚07×**66˚37W**±0˚05,**h250**km,**n16,**
σ**1**§**36/26,2C,Jujuy Province**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HJA	**Humahuaca**	**0.97**	**115**	*i* P	**Pn**	**06 38 37.7**	**+0.4**
HJA				IAML		06 38 38.2	
	comp=Z,38nm,0.6s						
HJA				*i* S	**S**	**06 39 08.8**	**+3.9**
YJA	**Yavi**	**1.01**	**52**	*i* P	**Pn**	**06 38 36.4**	**-1.1**
YJA				*i* S	**S**	**06 39 06.1**	**+0.6**
YJA				IAML		06 39 06.2	
	comp=Z,26nm,0.6s						
ASTB	**Santa Barbara**	**2.09**	**123**	*i* P	**Pn**	**06 38 44.7**	**-0.7**
LVC	**Limon Verde**	**2.36**	**274**	*i* P	**Pn**	**06 38 49.1**	**+1.0**
ALOL	**LOMAS DE OLMED**	**2.41**	**115**	*i* P	**Pn**	**06 38 46.9**	**-1.4**
PB09	**IPOC Station P**	**2.85**	**290**⇑	*i* P	**Pn**	**06 38 54.4**	**+1.4**
PB09				*i* S	**S**	**06 39 33.0**	**-0.2**
PB09				IAML		06 39 37.8	
	comp=N,242nm,0.2s						
PB06	**IPOC Station P**	**2.96**	**271**	*e*P	**Pn**	**06 38 55.3**	**+1.1**
PB06				*i* S	**S**	**06 39 35.1**	**-0.3**
PB06				IAML		06 39 35.6	
	comp=N,286nm,0.2s						
PB07	**IPOC Station P**	**3.43**	**288**	*e*P	**Pn**	**06 39 00.2**	**+0.8**
PB07				*i* S	**S**	**06 39 43.4**	**-1.5**
PB07				IAML		06 39 43.7	
	comp=N,244nm,0.2s						
PB04	**IPOC Station P**	**3.53**	**277**⇑	*i* P	**Pn**	**06 39 01.3**	**+0.8**
PB04				*i* S	**S**	**06 39 45.8**	**-1.0**
PB04				IAML		06 39 49.9	
	comp=N,232nm,0.4s						
PB08	**IPOC Station P**	**3.71**	**315**	*e*P	**Pn**	**06 39 04.2**	**+1.4**
PB08				*i* S	**S**	**06 39 51.3**	**+0.3**
ANCH	**Antofagasta**	**3.82**	**256**	*e*P	**Pn**	**06 39 05.3**	**+1.7**
ANCH				*i* S	**S**	**06 39 51.5**	**-1.1**
PB10	**IPOC Station P**	**3.92**	**259**	*e*P	**Pn**	**06 39 05.2**	**+0.4**
PB14	**IPOC Station P**	**4.12**	**243**	*e*P	**Pn**	**06 39 07.8**	**+0.4**
PB14				*i* S	**S**	**06 39 57.3**	**-2.2**
HMBC	**Humberstone**	**4.13**	**307**	*e*P	**Pn**	**06 39 07.3**	**-0.1**
MNMC	**Minye Minye**	**4.74**	**320**	*e*P	**Pn**	**06 39 15.5**	**+0.6**
MNMC				*i* S	**S**	**06 40 11.4**	**-1.6**
PSGC	**Pisagua**	**4.74**	**312**	*e*P	**Pn**	**06 39 14.2**	**-0.5**

*IDC **23** 06:43:42.3±1.9,33˚07S×179˚08W,h0km,mb3.8/2,*
mb1 4.1/3,mb1mx3.7/27,mbtmp3.9/3,ML3.8/1,MS2.7/2,
Ms1 2.8/2,ms1mx2.5/27,Error ellipse: s-maj=45.3km
s-min=42.8km az=84.0
ISC 23 06:43:49.7±1.7,**33˚62S**±0˚10×**179˚1W**±0˚2,**h45**km,**n25,**
σ**3**§**54/28,South of Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**4.47**	**13**	LR	LR	06 45 54.8	
	comp=Z,15nm,18.4s,baz=42,slow=34						
MXZ	**Matakaoa Point**	**4.47**	**208**	*e*PN	**Pn**	**06 44 56.9**	**+2.0**
MXZ				*e*SN	**Sn**	**06 45 48.9**	**+3.3**
WMGZ	**Waiomatatini S**	**4.66**	**205**	*e*PN	**Pn**	**06 44 59.8**	**+2.3**
PKGZ	**Pakihiroa**	**4.84**	**208**	*e*PN	**Pn**	**06 45 03.6**	**+3.5**
HAZ	**Te Kaha**	**4.85**	**211**	*e*PN	**Pn**	**06 45 02.5**	**+2.4**
HAZ				SN	**Sn**	**06 46 00.5**	**+5.5**
PUZ	**Puketiti**	**4.94**	**205**	*e*PN	**Pn**	**06 45 02.5**	**+1.1**
PUZ				*e*SN	**Sn**	**06 46 02.5**	**+5.2**
RUGZ	**Raukumara Rang**	**5.07**	**210**	*e*PN	**Pn**	**06 45 05.0**	**+1.7**
MWZ	**Matawai**	**5.45**	**209**	*e*PN	**Pn**	**06 45 09.1**	**+0.7**
URZ	**Urewera**	**5.56**	**213**	Pn	**Pn**	**06 45 12.7**	**+2.8**
	2.3nm,0.3s,baz=268,slow=5.4,SNR=15						
URZ				Sn	**Sn**	**06 46 17.8**	**+5.2**
	2.3nm,0.3s,baz=274,slow=23,SNR=7.5						
RAGZ	**Rawiri**	**5.63**	**209**	*e*PN	**Pn**	**06 45 12.7**	**+1.8**
RIGZ	**Rimuhau**	**5.68**	**206**	*e*PN	**Pn**	**06 45 13.1**	**+1.6**
RTZ	**Ruatahuna**	**5.92**	**211**	*e*PN	**Pn**	**06 45 17.1**	**+2.3**
KNZ	**Kokohu**	**5.99**	**205**	*e*PN	**Pn**	**06 45 16.0**	**+0.2**
OUZ	**Omahuta**	**6.26**	**253**	PN	**Pn**	**06 45 21.9**	**+2.4**
BKZ	**Black Stump Fm**	**6.58**	**212**	*e*PN	**Pn**	**06 45 23.2**	**-0.8**
KWHZ	**Kaweka Forest**	**6.83**	**211**	*e*PN	**Pn**	**06 45 27.1**	**-0.3**
BFZ	**Birch Farm**	**7.97**	**207**	*e*PN	**Pn**	**06 45 41.5**	**-1.5**
MRZ	**Mangatainoka R**	**8.22**	**210**	*e*PN	**Pn**	**06 45 44.3**	**-2.0**
MRZ				*e*SN	**Sn**	**06 47 15.7**	**-2.1**
OXZ	**Oxford**	**11.92**	**213**	*e*SN	**Sn**	**06 48 39.8**	**-8.7**
MQZ	**McQueen's Vall**	**11.96**	**210**	*e*SN	**Sn**	**06 48 41.1**	**-8.2**
ASAR	**Alice Springs**	**42.13**	**271**	P	**P**	**06 51 36.5**	**-1.4**
	0.7nm,0.5s,baz=111,slow=7.7,SNR=15						
WRA	**Warramunga Arr**	**43.41**	**276**	P	**P**	**06 51 46.3**	**-1.9**
	0.8nm,0.5s,baz=116,slow=8.0,SNR=16						
CPUP	**Villa Florida**	**98.68**	**129**	LR	LR	07 32 37.9	
	comp=Z,21nm,19.7s,baz=108,slow=30						
FINES	**FINESS Array B**	**147.81**	**337**	PKPbc	**PKPdf**	**07 03 26.2**	**+0.3**
	3.6nm,0.8s,baz=49,slow=4.5,SNR=11						
TORD	**Torodi Ar. Bea**	**159.61**	**182**	PKPab	**PKPab**	**07 04 23.4**	**+1.1**
	0.2nm,0.6s,baz=177,slow=3.4,SNR=3.7						

*ISK **23** 06:55:05.8,38˚74N×25˚40E,h5km,ML3.5*
*DDA **23** 06:55:06.6,38˚75N×25˚42E,h29km,Ml3.3*
*ISCJB **23** 06:55:07.1±0.5,38˚74N±0˚02×25˚46E±0˚02,h5km±4km,*
Error ellipse: s-maj=2.8km s-min=2.4km az=44.2
*ATH **23** 06:55:07.5,38˚75N×25˚55E,h32km±1km,ML3.4/9,Error*
ellipse: s-maj=2.3km s-min=0.8km az=86.0
*CSEM **23** 06:55:07.7±0.1,38˚72N×25˚46E,h5km,ML3.4,Error*
ellipse: s-maj=2.5km s-min=2.1km az=147.0
*THE **23** 06:55:08.0,38˚76N×25˚52E,h6km±1km,ML3.6/6,Error*
ellipse: s-maj=1.4km s-min=0.5km az=94.0
ISC 23 06:55:07.5±1.1,**38.74N**±0˚02×**25.46E**±0˚02,**h6**km±9km,
n231,σ**0**§**91/269,10C-2D,Aegean Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIGR	**SIGRI**	**0.56**	**33**	PG	**Pg**	**06 55 18.1**	**-0.2**
SIGR				*e*SG	**Sb**	**06 55 27.9**	**0.0**
SIGR	**SIGRI**	**0.56**	**33**	P	**Pg**	**06 55 18.1**	**-0.2**
SIGR				S	**Sg**	**06 55 25.9**	**+0.4**
SIGR	**SIGRI**	**0.56**	**33**	P	**Pg**	**06 55 18.1**	**-0.2**
SIGR				S	**Sg**	**06 55 25.9**	**+0.4**
SIGR				*e*Sg	**Sb**	**06 55 27.9**	**0.0**
SIGR	**SIGRI**	**0.56**	**33**	P	**Pg**	**06 55 17.7**	**-0.5**
SIGR				S	**Sg**	**06 55 25.2**	**-0.4**
SIGR				AML	AML	06 55 26.6	
	comp=N,11208μm,0.2s						
SIGR				AML	AML	06 55 29.9	
	comp=E,7386μm,0.3s						
CHOS	**Chios island**	**0.58**	**127**	*e*PG	**Pg**	**06 55 19.2**	**+0.5**
CHOS				*e*SG	**Sb**	**06 55 29.4**	**+0.6**
CHOS	**Chios island**	**0.58**	**127**	P	**Pg**	**06 55 19.1**	**+0.3**
CHOS				S	**Sg**	**06 55 26.9**	**+0.5**
CHOS	**Chios island**	**0.58**	**127**	P	**Pg**	**06 55 19.1**	**+0.3**
CHOS				S	**Sg**	**06 55 26.9**	**+0.5**
CHOS				*e*Sg	**Sb**	**06 55 29.4**	**+0.6**
CHOS	**Chios island**	**0.58**	**127**	P	**Pb**	**06 55 19.6**	**-0.6**
CHOS				S	**Sb**	**06 55 27.8**	**-0.9**
CHOS				AML	AML	06 55 30.7	
	comp=N,16344μm,0.3s						
CHOS				AML	AML	06 55 31.1	
	comp=E,18902μm,0.3s						
SKY	**Skiros Island**	**0.73**	**281**	P	**Pn**	**06 55 24.2**	**-0.2**
CESE	**˜e˜me**	**0.78**	**122**	*e*PG	**Pg**	**06 55 22.6**	**+0.2**
CESE	**˜e˜me**	**0.78**	**122**	*e*Pg	**Pg**	**06 55 22.6**	**+0.2**
PRK	**Paraskevi**	**0.81**	**51**	P	**Pg**	**06 55 22.8**	**-0.2**
PRK				S	**Sg**	**06 55 33.3**	**-0.1**
PRK	**Paraskevi**	**0.81**	**51**	P	**Pg**	**06 55 23.2**	**+0.3**
PRK				S	**Sg**	**06 55 33.3**	**-0.1**
PRK	**Paraskevi**	**0.81**	**51**	P	**Pg**	**06 55 23.2**	**+0.3**
PRK				S	**Sg**	**06 55 32.7**	**-0.7**
PRK				AML	AML	06 55 36.6	
	comp=N,15549μm,0.4s						
PRK				AML	AML	06 55 36.9	
	comp=E,17107μm,0.4s						
KRBN	**Karaburun**	**0.87**	**100**	*e*PG	**Pg**	**06 55 24.3**	**+0.2**
KRBN	**Karaburun**	**0.87**	**100**	*e*Pg	**Pg**	**06 55 24.3**	**+0.2**
GPNR	**Gulpinar-Canak**	**0.88**	**36**	*e*PG	**Pg**	**06 55 24.7**	**+0.3**
GPNR				*e*SG	**Sn**	**06 55 38.4**	**-1.1**
GPNR	**Gulpinar-Canak**	**0.88**	**36**	*e*Pg	**Pg**	**06 55 24.7**	**+0.3**
GPNR				*e*Sg	**Sn**	**06 55 38.4**	**-1.1**
ZEY	**˜zmir**	**0.96**	**121**	*i* P	**Pg**	**06 55 25.8**	**-0.1**
ZEY				*i* Sb	**Sb**	**06 55 39.2**	**-0.2**
URLA	**Izmir**	**0.97**	**113**	*e*PG	**Pg**	**06 55 26.0**	**-0.1**
URLA	**Izmir**	**0.97**	**113**	*i* P	**Pg**	**06 55 25.9**	**-0.1**
URLA				*i* S	**Sn**	**06 55 41.0**	**-0.7**
URLA	**Izmir**	**0.97**	**113**	*e*Pg	**Pg**	**06 55 26.0**	**-0.1**
URLA				S	**Sn**	**06 55 41.0**	**-0.7**
FOCM	**Fo˜şa**	**0.99**	**91**	*e*PG	**Pg**	**06 55 26.4**	**-0.1**
FOCM	**Fo˜şa**	**0.99**	**91**	*e*Pg	**Pg**	**06 55 26.4**	**-0.1**
CAND	**Candarli**	**1.07**	**78**	*e*PN	**Pb**	**06 55 28.3**	**0.0**
KARY	**Karystos**	**1.07**	**229**	P	**Pb**	**06 55 28.7**	**+0.2**
KARY				S	**Sn**	**06 55 45.2**	**+0.9**
KARY	**Karystos**	**1.07**	**229**	P	**Pb**	**06 55 28.7**	**+0.2**
KARY				S	**Sn**	**06 55 45.2**	**+0.9**
KARY	**Karystos**	**1.07**	**229**	P	**Pn**	**06 55 28.9**	**-0.2**
AYVA	**Ayvalik**	**1.11**	**59**	*i* P	**Pg**	**06 55 28.1**	**-0.7**
AYVA				*i* S	**Sb**	**06 55 43.7**	**-0.1**
AYVA	**Ayvalik**	**1.11**	**59**	P	**Pg**	**06 55 28.1**	**-0.7**
AYVA				S	**Sb**	**06 55 43.7**	**-0.1**
CUND	**Cunda Adasi-Ba**	**1.11**	**57**	*e*PN	**Pn**	**06 55 29.5**	**-0.1**
CUND	**Cunda Adasi-Ba**	**1.11**	**57**	*e*Pn	**Pn**	**06 55 29.5**	**-0.1**
DKL	**Dikili**	**1.17**	**73**	*e*PN	**Pn**	**06 55 30.4**	**0.0**
DKL	**Dikili**	**1.17**	**73**	*e*Pn	**Pn**	**06 55 30.4**	**0.0**
LIA	**Limnos Island**	**1.17**	**349**	P	**Pg**	**06 55 29.9**	**-0.1**
LIA				S	**Sb**	**06 55 45.5**	**-0.1**
LIA	**Limnos Island**	**1.17**	**349**	P	**Pg**	**06 55 29.9**	**-0.1**
LIA				S	**Sb**	**06 55 45.5**	**-0.1**
LIA	**Limnos Island**	**1.17**	**349**	P	**Pn**	**06 55 30.4**	**0.0**
LIA				S	**Sg**	**06 55 44.3**	**-0.9**
LIA				AML	AML	06 55 48.5	
	comp=N,4096μm,0.3s						
LIA				AML	AML	06 55 49.8	
	comp=E,2874μm,0.6s						
BOZC	**Bozcaada**	**1.19**	**22**	*e*PN	**Pg**	**06 55 30.2**	**-0.1**
BOZC	**Bozcaada**	**1.19**	**22**	*i* P	**Pg**	**06 55 29.3**	**-1.0**
BOZC				*i* S	**Sg**	**06 55 45.3**	**-0.4**
BOZC	**Bozcaada**	**1.19**	**22**	*e*Pn	**Pg**	**06 55 30.2**	**-0.1**
EREA	**Eretria**	**1.24**	**255**	P	**Pn**	**06 55 31.5**	**+0.1**
EREA				S	**Sn**	**06 55 49.7**	**+1.2**
EREA	**Eretria**	**1.24**	**255**	P	**Pn**	**06 55 31.5**	**+0.1**
EREA				S	**Sg**	**06 55 47.4**	**-0.1**
EREA	**Eretria**	**1.24**	**255**	P	**Pn**	**06 55 31.6**	**+0.1**
EREA				S	**Sg**	**06 55 47.4**	**-0.1**
EREA				AML	AML	06 55 52.2	
	comp=E,1966μm,0.9s						
EREA				AML	AML	06 55 52.6	
	comp=N,3282μm,0.7s						
EZN	**Ezine**	**1.27**	**31**	*e*PN	**Pn**	**06 55 30.9**	**-0.9**
EZN	**Ezine**	**1.27**	**31**	P	**Pn**	**06 55 30.3**	**-1.5**
EZN				S	**Sb**	**06 55 48.6**	**+0.2**
EZN	**Ezine**	**1.27**	**31**	P	**Pn**	**06 55 30.3**	**-1.5**
EZN	**Ezine**	**1.27**	**31**	*e*Pn	**Pn**	**06 55 30.9**	**-0.9**
EZN				S	**Sb**	**06 55 48.6**	**+0.2**
DGB	**˜zmir**	**1.31**	**121**	*i* P	**Pn**	**06 55 31.2**	**-1.1**
DGB				*i* S	**Sn**	**06 55 52.8**	**+2.7**
GMLD	**Gumuldur**	**1.32**	**120**	*e*PN	**Pg**	**06 55 32.9**	**+0.1**
GMLD	**Gumuldur**	**1.32**	**120**	*e*Pn	**Pg**	**06 55 32.9**	**+0.1**
PTL	**Penteli**	**1.44**	**242**	P	**Pn**	**06 55 33.9**	**-0.2**
PTL	**Penteli**	**1.44**	**242**	P	**Pn**	**06 55 33.9**	**-0.2**
PTL				S	**Sg**	**06 55 54.6**	**+1.0**
PTL	**Penteli**	**1.44**	**242**	P	**Pn**	**06 55 33.5**	**-0.6**
PTL				S	**Sg**	**06 55 54.6**	**+1.0**
PTL				AML	AML	06 55 57.8	
	comp=N,1988μm,0.5s						
PTL				AML	AML	06 55 58.1	
	comp=E,1265μm,0.5s						
GADA	**Gvkgeada**	**1.48**	**13**	*e*PN	**Pb**	**06 55 35.3**	**-0.2**
GADA	**Gvkgeada**	**1.48**	**13**	P	**Pn**	**06 55 33.7**	**-1.0**
GADA	**Gvkgeada**	**1.48**	**13**	P	**Pn**	**06 55 33.7**	**-1.0**
GADA	**Gvkgeada**	**1.48**	**13**	*e*Pn	**Pb**	**06 55 35.3**	**-0.2**
GOKC	**Gokceada-Canak**	**1.50**	**13**	*e*PN	**Pb**	**06 55 35.4**	**-0.3**
GOKC	**Gokceada-Canak**	**1.50**	**13**	*e*Pn	**Pb**	**06 55 35.4**	**-0.3**
SMG	**Samos**	**1.50**	**133**	P	**Pn**	**06 55 33.6**	**-1.3**
SMG	**Samos**	**1.50**	**133**	P	**Pn**	**06 55 33.9**	**-1.0**
SMG	**Samos**	**1.50**	**133**	P	**Pn**	**06 55 33.9**	**-1.0**
SMG				AML	AML	06 55 57.0	
	comp=E,2048μm,0.5s						
SMG				AML	AML	06 55 57.6	
	comp=N,1376μm,0.3s						
ATHU	**Athens Univers**	**1.53**	**240**	P	**Pn**	**06 55 34.6**	**-0.8**
ATHU	**Athens Univers**	**1.53**	**240**	P	**Pn**	**06 55 34.6**	**-0.8**
ATHU	**Athens Univers**	**1.53**	**240**	P	**Pn**	**06 55 33.6**	**-1.8**
ATH	**Athens Observa**	**1.57**	**241**	P	**Pn**	**06 55 35.7**	**-0.3**
ATH	**Athens Observa**	**1.57**	**241**	P	**Pn**	**06 55 35.7**	**-0.3**
ATH	**Athens Observa**	**1.57**	**241**	P	**Pn**	**06 55 35.0**	**-0.9**
VLY	**Voula,Athens**	**1.59**	**236**	P	**Pn**	**06 55 36.0**	**-0.2**
VLY	**Voula,Athens**	**1.59**	**236**	P	**Pn**	**06 55 36.0**	**-0.2**
VLY	**Voula,Athens**	**1.59**	**236**	P	**Pn**	**06 55 35.9**	**-0.2**
SKIA	**Skiathos**	**1.61**	**286**	P	**Pn**	**06 55 37.0**	**+0.5**
SKIA	**Skiathos**	**1.61**	**286**	P	**Pn**	**06 55 37.0**	**+0.5**
SKIA	**Skiathos**	**1.61**	**286**	P	**Pb**	**06 55 37.2**	**-0.5**
APE	**Apeiranthos**	**1.67**	**178**	P	**Pn**	**06 55 36.3**	**-1.1**
APE	**Apeiranthos**	**1.67**	**178**	P	**Pn**	**06 55 36.3**	**-1.1**
APE				S	**Sn**	**06 55 57.7**	**-1.5**
APE	**Apeiranthos**	**1.67**	**178**	P	**Pn**	**06 55 36.1**	**-1.3**
APE				S	**Sn**	**06 55 57.7**	**-1.5**
APE				AML	AML	06 56 02.6	
	comp=N,2141μm,0.6s						
APE				AML	AML	06 56 02.9	
	comp=E,3132μm,0.5s						
KUSD	**Kusadasi-Aydin**	**1.68**	**121**	*e*PN	**Pn**	**06 55 38.0**	**+0.5**
KUSD	**Kusadasi-Aydin**	**1.68**	**121**	*e*Pn	**Pn**	**06 55 38.0**	**+0.5**
SMTH	**Samothraki Isl**	**1.73**	**2**	P	**Pn**	**06 55 37.2**	**-0.9**
SMTH	**Samothraki Isl**	**1.73**	**2**	P	**Pn**	**06 55 37.2**	**-0.9**
SMTH	**Samothraki Isl**	**1.73**	**2**	P	**Pn**	**06 55 37.2**	**-0.9**
GCAM	**G?zelcaml?**	**1.74**	**126**	*i* P	**Pn**	**06 55 37.3**	**-0.9**
GCAM				*i* S	**Sg**	**06 56 04.9**	**+1.5**
GCAM	**G?zelcaml?**	**1.74**	**126**	P	**Pn**	**06 55 37.3**	**-0.9**
GCAM				S	**Sg**	**06 56 04.9**	**+1.5**
SERI	**Serifos**	**1.76**	**206**	P	**Pn**	**06 55 37.9**	**-0.6**
SERI	**Serifos**	**1.76**	**206**	P	**Pn**	**06 55 37.9**	**-0.6**
VILL	**Villia**	**1.79**	**252**	P	**Pn**	**06 55 39.2**	**+0.3**
VILL	**Villia**	**1.79**	**252**	P	**Pn**	**06 55 39.2**	**+0.3**
VIL2	**Platees**	**1.80**	**254**	P	**Pn**	**06 55 39.5**	**+0.3**
NEO	**Neokhori**	**1.83**	**289**	P	**Pn**	**06 55 39.6**	**0.0**
NEO	**Neokhori**	**1.83**	**289**	P	**Pn**	**06 55 39.6**	**0.0**
AKS	**Akhisar**	**1.84**	**85**	*e*PN	**Pb**	**06 55 40.7**	**-0.8**
AKS	**Akhisar**	**1.84**	**85**	*e*Pn	**Pb**	**06 55 40.7**	**-0.8**
XOR	**Xorichti**	**1.88**	**290**	P	**Pn**	**06 55 40.3**	**+0.2**
XOR	**Xorichti**	**1.88**	**290**	P	**Pn**	**06 55 40.3**	**+0.2**
XOR	**Xorichti**	**1.88**	**290**	P	**Pn**	**06 55 40.0**	**-0.2**
LPK	**Lapseki**	**1.91**	**31**	*e*PN	**Pn**	**06 55 41.2**	**+0.6**
LPK	**Lapseki**	**1.91**	**31**	*e*Pn	**Pn**	**06 55 41.2**	**+0.6**
LKR	**Lokris**	**1.93**	**268**	P	**Pn**	**06 55 41.2**	**+0.3**
LKR	**Lokris**	**1.93**	**268**	P	**Pn**	**06 55 41.2**	**+0.3**
LKR	**Lokris**	**1.93**	**268**	P	**Pn**	**06 55 41.2**	**+0.3**
BALY	**Balya**	**1.95**	**59**	*i* P	**Pn**	**06 55 41.9**	**+0.7**
BALY	**Balya**	**1.95**	**59**	P	**Pn**	**06 55 41.9**	**+0.7**
OUR	**Ouranopolis**	**1.96**	**325**	*e*PN	**Pn**	**06 55 41.3**	**0.0**
OUR	**Ouranopolis**	**1.96**	**325**	P	**Pn**	**06 55 39.6**	**-1.7**
OUR	**Ouranopolis**	**1.96**	**325**	*e*Pn	**Pn**	**06 55 41.3**	**0.0**
OUR	**Ouranopolis**	**1.96**	**325**	P	**Pn**	**06 55 39.6**	**-1.7**
ENEZ	**Enez**	**2.06**	**15**	*e*PN	**Pn**	**06 55 42.9**	**+0.3**
ENEZ	**Enez**	**2.06**	**15**	P	**Pn**	**06 55 42.1**	**-0.5**
ENEZ	**Enez**	**2.06**	**15**	P	**Pn**	**06 55 42.1**	**-0.5**
ENEZ	**Enez**	**2.06**	**15**	*e*Pn	**Pn**	**06 55 42.9**	**+0.3**
AYDB	**Zeytinkoy-Aydi**	**2.07**	**112**	*e*PN	**Pn**	**06 55 43.5**	**+0.7**
AYDB	**Zeytinkoy-Aydi**	**2.07**	**112**	*e*Pn	**Pn**	**06 55 43.6**	**+0.7**
BALB	**Balikesir**	**2.08**	**64**	*e*PN	**Pn**	**06 55 43.8**	**+0.9**
BALB	**Balikesir**	**2.08**	**64**	*e*Pn	**Pn**	**06 55 43.8**	**+0.9**
ERIK	**Erikli-Kesan**	**2.09**	**22**	*e*PN	**Pn**	**06 55 43.4**	**+0.4**
ERIK	**Erikli-Kesan**	**2.09**	**22**	*e*Pn	**Pn**	**06 55 43.4**	**+0.4**
LTK	**Loutraki**	**2.09**	**251**	P	**Pn**	**06 55 43.9**	**+0.8**
LTK	**Loutraki**	**2.09**	**251**	P	**Pn**	**06 55 43.9**	**+0.8**
LTK	**Loutraki**	**2.09**	**251**	P	**Pb**	**06 55 44.6**	**-1.2**
DID	**Didima**	**2.15**	**236**	P	**Pn**	**06 55 43.7**	**-0.2**
DID	**Didima**	**2.15**	**236**	P	**Pn**	**06 55 43.7**	**-0.2**
DID	**Didima**	**2.15**	**236**	P	**Pn**	**06 55 43.3

LOT	Lotru	6.82 350	⇓*i*P	Pn	06 56 48.3 +0.2
LOT	Lotru	6.82 350	⇓*i*P	Pn	06 56 48.3 +0.2
GZR	Gura Zlata	6.94 344	⇑*i*P	Pn	06 56 49.9 +0.2
GZR	Gura Zlata	6.94 344	⇑*i*P	Pn	06 56 49.9 +0.2

IDC 23 07:09:01.9±61.0, 18°89S×179°98W, h0km, mb3.9/3, mb1 4.1/3, mb1mx3.6/37, mbtmp3.9/3, Error ellipse: s-maj=1105.0km s-min=155.8km az=80.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	Stephens Creek	36.86	242	P	P	07 16 12.5	+0.3
	2.1nm,0.9s,baz=61,slow=10,SNR=3.2						
WRA	Warramunga Arr	43.00	261	P	P	07 17 03.2	-0.2
	0.7nm,0.4s,baz=97,slow=7.7,SNR=18						
ASAR	Alice Springs	43.10	255	P	P	07 17 03.9	-0.3
	0.7nm,0.4s,baz=90,slow=7.6,SNR=12						

IDC 23 07:09:53.9±0.9, 51°57N×175°12W, h0km, mb4.0/13, mb1 4.1/15, mb1mx3.9/58, mbtmp4.0/15, ML4.2/2, MS3.0/5, Ms1 3.1/5, ms1mx2.7/36, Error ellipse: s-maj=30.3km s-min=13.9km az=176.0
ISCJB 23 07:09:56.0±0.3, 51°10N±0°04×175°05W±0°04, h33km, mb4.5/37, MS3.0/4, Error ellipse: s-maj=6.1km s-min=3.2km az=176.5
NEIC 23 07:09:57.9±0.0, 51°25N×175°16W, h21km, mb4.5/44, ML3.8(AEIC), After AEIC.

ISC 23 07:09:57.6±1.8, 51°25N±0°09×175°16W±0°04, h27km±11km, n119, σ1§19/116, mb4.6/36, MS2.9/4, 1C, Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GSCK	Great Sitkin C	0.99	321	P	Pb	07 10 15.7	-0.3
ETKA	Kagalaska Isla	0.99	309	P	Pb	07 10 15.8	-0.4
GSTD	Great Sitkin T	1.02	323	P	Pb	07 10 16.2	-0.4
GSTR	Great Sitkin T	1.02	327	*e*Pn	Pb	07 10 16.4	-0.2
GSTR				*e*Sn	Sn	07 10 31.1	+1.6
ATKA	Atka Island	1.13	32	P	Pn	07 10 16.8	-0.8
ATKA				S	Sb	07 10 32.1	-0.6
ADK	Adak	1.14	304	P	Pn	07 10 17.5	-0.3
ADK				S	Sn	07 10 33.8	+1.2
ADAG	Mount Adagdak	1.16	310	P	Pb	07 10 19.1	+0.1
KOFP	Korovin Flat P	1.22	32	P	Pn	07 10 19.4	+0.5
KOKL	Mount Kliuchef	1.23	29	P	Pn	07 10 19.4	+0.3
KOSE	Korovin Southe	1.30	32	P	Pn	07 10 20.9	+0.9
KOSE				S	Sb	07 10 38.3	+0.6
KONE	Korovin Northe	1.32	29	P	Pb	07 10 21.5	-0.1
KIRH	Kanaga Island	1.37	299	P	Pn	07 10 21.5	+0.5
KIKV	Kanaga Island	1.40	298	P	Pn	07 10 21.9	+0.4
KICM	Kanaga Island	1.44	299	P	Pn	07 10 22.4	+0.5
TAPA	Tanaga Point A	1.75	290	P	Pn	07 10 26.9	+0.7
TAFL	Tanaga Flats	1.79	288	P	Pn	07 10 27.3	+0.7
TAFP	Tanaga Falls P	1.88	291	P	Pn	07 10 28.9	+1.0
TAFP				S	Sb	07 10 53.9	-0.4
GAEA	Gareloi East	2.30	285	P	Pn	07 10 35.1	+1.3
GALAA	Gareloi Lava P	2.31	284	P	Pn	07 10 35.1	+1.3
NIKH	Nikolski High	4.26	64	P	Pn	07 11 00.8	+0.3
UNV	Unalaska Valle	5.89	60	*e*Pn	Pn	07 11 24.7	+1.8
SPIA	Saint Paul Isl	6.60	24	*e*Pn	Pn	07 11 35.4	+2.7
SDPT	Sand Point	9.70	59	*e*Pn	Pn	07 12 18.3	+3.1
CHGN	Chignik	11.12	56	*e*Pn	Pn	07 12 36.3	+1.8
OHAK	Old Harbor	14.09	56	*e*Pn	Pn	07 13 15.7	+0.6
KDAK	Kodiak Island	14.61	55	Pn	Pn	07 13 18.6	-3.6
	0.7nm,0.3s,baz=158,slow=3.0,SNR=15						
KDAK				Sn	Sn	07 16 03.7	+0.7
	0.1nm,0.3s,baz=307,slow=20,SNR=1.8						
KDAK	Kodiak Island	14.61	55	*e*Pn	Pn	07 13 18.6	-3.6
KDAK				*e*sP	sP	07 13 21.5	
KDAK				*e*Sn	Sn	07 16 03.7	+0.7
SVW2	Sparrevohn	14.64	40	*e*Pn	P	07 13 29.2	+0.5
TT01	Tatalina	15.56	34	*e*Pn	P	07 13 39.0	+0.1
TTA	Tatalina	15.58	34	*e*Pn	P	07 13 39.8	+0.6
	6.0nm,1.1s						
CNPM	China Poot	15.85	49	*e*Pn	Pn	07 13 40.2	+1.6
	59nm,1.5s						
PETK	Petropavlovsk-	16.71	287	LR	LR	07 19 27.3	
	comp=Z,61nm,21.6s,baz=86,slow=34						
SEW	Seward	16.89	48	*e*Pn	Pn	07 13 50.9	-0.9
	98nm,1.7s						
PPLA	Purkeypile	16.97	38	*e*P	P	07 13 56.0	+1.3
	65nm,2.0s						
RC01	Rabbit Creek A	17.13	45	*e*Pn	Pn	07 13 55.3	+0.5
	19nm,1.4s						
CAST	Castle Rocks	17.30	36	*e*P	P	07 13 58.7	+0.5
	17nm,1.6s						
KTH	Kantishna Hill	17.81	37	*e*Pn	Pn	07 14 03.0	-0.3
	16nm,1.2s						
TRF	Thorofare Moun	18.00	38	*e*Pn	P	07 14 07.2	+1.1
	25nm,1.6s						
SML	Sawmill	18.04	44	*e*Pn	P	07 14 07.7	+1.4
	77nm,2.0s						
FID	Port Fidalgo	18.50	48	*e*P	P	07 14 09.1	-2.2
	60nm,1.4s						
RND	Reindeer	18.53	39	*e*P	P	07 14 10.9	-0.9
	31nm,2.0s						
MCK	McKinley	18.66	38	*e*P	P	07 14 13.0	-0.1
	29nm,1.8s						
DHY	Denali Highway	18.98	41	*e*P	P	07 14 16.6	-0.2
	22nm,1.7s						
WRH	Wood River Hil	19.35	37	*e*P	P	07 14 19.1	-1.6
	3.7nm,0.8s						
CCB	Clear Creek Bu	19.55	36	*e*P	P	07 14 22.5	-0.3
	3.6nm,0.9s						
MDM	Murphy Dome	19.55	35	*e*P	P	07 14 23.5	+0.6
	4.7nm,1.0s						
PAX	Paxson	19.73	42	*e*P	P	07 14 26.5	+1.7
	18nm,1.8s						
HDA	Harding Lake	19.75	37	*e*P	P	07 14 24.5	-0.6
	10nm,0.5s						
IL1	Eielson Array	19.95	37	*e*P	P	07 14 27.1	-0.1
ILAR	Eielson Array	19.95	37	P	P	07 14 24.2	-3.1
	0.5nm,0.3s,baz=224,slow=9.5,SNR=38						
ILB	Eielson Array	19.95	37	*e*P	P	07 14 27.2	-0.1
COLD	Coldfoot	20.24	28	*e*P	P	07 14 31.6	+1.3
	5.7nm,0.8s						
DOT	Dot Lake	20.57	41	*e*P	P	07 14 32.9	-1.1
	20nm,0.9s						
MA2	Magadan	20.85	307	LR	LR	07 22 45.7	
	comp=Z,49nm,18.1s,baz=114,slow=37						
SEY	Seymchan	20.89	316	P	P	07 14 36.8	-0.6
	1.5nm,0.7s,baz=108,slow=12,SNR=3.8						
EGAK	Eagle	22.18	39	*e*P	P	07 14 50.2	-1.0
	6.4nm,0.7s						
DAWY	Dawson	22.66	42	*e*P	P	07 14 56.2	-0.2
	32nm,1.9s						
YKA	Yellowknife Ar	33.66	47	LR	LR	07 30 35.1	
	comp=Z,6.1nm,20.1s,baz=180,slow=37						
H11N2	WAKE ISLAND Hy	34.48	211	T	T	07 53 34.8	
	baz=18,slow=76,SNR=48						
H11N3	WAKE ISLAND Hy	34.49	211	T	T	07 53 42.4	
	baz=18,slow=76,SNR=32						
H11N1	WAKE ISLAND Hy	34.50	211	T	T	07 53 35.8	
	baz=18,slow=76,SNR=32						
B08A	Colville Reser	35.41	72	*e*P	P	07 16 51.8	+0.8
	22nm,1.8s						
H11S1	WAKE ISLAND Hy	35.69	210	T	T	07 56 07.7	
	baz=19,slow=75						
H11S2	WAKE ISLAND Hy	35.70	210	T	T	07 56 08.7	
	baz=19,slow=75						
H11S3	WAKE ISLAND Hy	35.71	210	T	T	07 56 03.4	
	baz=19,slow=75						
MJAR	Matsushiro Arr	36.03	264	P	P	07 16 57.2	+0.8
	0.8nm,0.5s,baz=54,slow=11,SNR=4.0						
MJAR				LR	LR	07 31 07.6	
	comp=Z,24nm,20.5s,baz=250,slow=35						
NEW	Newport	36.78	71	P	P	07 17 03.0	+0.3
	0.8nm,0.5s,baz=294,slow=10.0,SNR=2.9						
NEW	Newport	36.78	71	*e*P	P	07 17 03.2	+0.5
	5.7nm,1.2s						
GCRM	Castle Rock Sp	38.32	88	*e*P	P	07 17 19.6	+3.8
MCMT	McKenzie Canyo	41.04	74	*e*P	P	07 17 38.8	+0.1
KSRS	Korea Array	41.92	274	P	P	07 17 46.5	+0.9
	2.5nm,0.9s,baz=62,slow=7.3,SNR=6.8						
KS15	Wonju Array Si	41.95	274	*e*P	P	07 17 46.5	+0.7
KSAR	Wonju Array Be	41.95	274	P	P	07 17 46.5	+0.7
YHH	Holmes Hill	42.26	73	*e*P	P	07 17 48.7	0.0
	15nm,2.0s						
FFC	Flin Flon	42.35	56	*e*P	P	07 17 48.9	-0.1
	43nm,1.8s						
SYP	Santa Ynez Pea	42.68	91	*e*P	P	07 17 48.5	-3.6

BW06	Boulder Array	44.16	74	*e*P	P	07 18 04.3	+0.3
	8.1nm,1.6s						
PD31	Pinedale Array	44.16	74	*e*P	P	07 18 04.3	+0.4
PDAR	Pinedale Array	44.16	74	P	P	07 18 04.3	+0.4
	1.3nm,0.8s,baz=311,slow=3.4,SNR=9.1						
ULM	Lac du Bonnet	47.83	58	P	P	07 18 30.9	-1.5
	1.4nm,0.6s,baz=310,slow=7.9,SNR=2.7						
SONA0	Songino Array	48.73	299	*e*P	P	07 18 38.3	-1.4
SONM	Songino Array	48.73	299	P	P	07 18 38.3	-1.4
	1.3nm,0.6s,baz=51,slow=9.1,SNR=7.8						
SPA0	Spitsbergen Ar	50.65	357	*e*P	P	07 18 53.2	-0.5
SPITS	Spitsbergen Ar	50.65	357	P	P	07 18 52.4	-1.3
	1.8nm,0.5s,baz=40,slow=6.6,SNR=7.1						
LTX	Lajitas	56.41	84	*e*P	P	07 19 36.2	-0.4
TXAR	Lajitas Array	56.41	84	P	P	07 19 36.2	-0.4
	0.3nm,0.7s,baz=308,slow=6.2,SNR=3.6						
VLDQ	Val d'Or	58.61	51	*e*P	P	07 19 50.3	-1.5
	30nm,1.8s						
KURBB	Kurchatov Arra	60.84	316	P	P	07 20 06.8	-0.3
	3.3nm,0.5s,baz=42,slow=6.8,SNR=25						
PLVO	Plevna	60.93	53	*e*P	P	07 20 07.8	0.0
	19nm,1.6s						
TRQ	Mont Tremblant	61.35	51	*e*P	P	07 20 10.4	-0.3
MK31	Makanchi Array	61.88	310	*e*P	P	07 20 13.6	-0.7
MK32	Makanchi Array	61.88	310	*e*P	P	07 20 13.2	-1.0
MKAR	Makanchi Array	61.88	310	P	P	07 20 13.2	-1.0
	1.3nm,0.3s,baz=46,slow=6.6,SNR=24						
MKAR	Makanchi Array	61.88	310	*e*P	P	07 20 13.6	-0.7
	19nm,0.8s						
MK01	Makanchi Array	61.89	310	*e*P	P	07 20 13.4	-0.9
MAKZ	Makanchi	62.02	311	*e*P	P	07 20 15.0	-0.1
	6.8nm,1.3s						
MMNY	Mt. Morris Dam	62.13	56	*e*P	P	07 20 16.5	+0.6
LMQ	La Malbaie	62.41	48	*e*P	P	07 20 16.7	-1.0
	13nm,1.3s						
BVAR	Borovoye Array	62.44	322	P	P	07 20 16.2	-1.6
	2.0nm,0.4s,baz=50,slow=6.5,SNR=6.4						
LONY	Lake Ozonia	62.48	52	*e*P	P	07 20 17.6	-0.6
	18nm,1.6s						
SSPA	Standing Stone	63.64	57	*e*P	P	07 20 26.2	+0.2
	18nm,1.4s						
PQI	Presque Isle	64.13	47	*e*P	P	07 20 28.1	-0.9
	60nm,1.9s						
GGN	Saint George	65.83	47	*e*P	P	07 20 39.7	-0.5
	42nm,1.9s						
EMMW	East Machias	65.86	48	*e*P	P	07 20 39.8	-0.5
	32nm,1.5s						
LMN	Caledonia Moun	66.20	46	*e*P	P	07 20 42.1	-0.5
	9.2nm,0.9s						
AAK	Ala-Archa	68.67	312	*e*P	P	07 20 59.2	+0.7
	2.9nm,0.8s						
ABKAR	Akbulak array	69.39	325	*e*P	P	07 21 02.9	+0.3
	9.7nm,0.6s						
KKAR	Karatay Array	70.13	315	*e*P	P	07 21 07.2	-0.1
	48nm,0.4s						
CMAR	Chiang Mai Arr	73.29	279	LR	LR	07 57 31.0	
	comp=Z,41nm,18.0s,baz=190,slow=39						
AKASG	Malin Array Be	76.33	344	P	P	07 21 41.9	-1.8
	0.8nm,0.4s,baz=17,slow=6.0,SNR=2.6						
AKBB	Malin Array Si	76.33	344	*e*P	P	07 21 43.1	-0.6
	11nm,1.5s						
KIEV	Kiev	76.34	344	*e*P	P	07 21 43.3	-0.5
	11nm,1.6s						
CLL	Collm	77.59	355	⇑*i*P	P	07 21 50.7	0.0
	comp=Z,4.0nm,0.6s						
HDC	Heredia	82.94	83	*e*P	P	07 22 21.1	+0.8
	comp=Z,15nm,0.6s						
WB2	Warramunga Arr	83.54	227	*e*P	P	07 22 24.9	+1.9
PSI	Prapat	85.27	269	*e*P	P	07 22 32.6	+0.5
	comp=Z,4.4nm,0.9s						
MAW	Mawson	147.77	218	PKPbc	PKPbc	07 29 38.5	+0.2
	comp=Z,1.0nm,0.6s,baz=192,slow=0.3,SNR=4.9						
LBTB	Lobatse	149.35	321	*e*PKPbc	PKPbc	07 29 44.3	+0.4
BOSA	Boshof	152.68	318	PKPbc	PKPbc	07 29 51.9	+0.3
	comp=Z,2.5nm,0.5s,baz=33,slow=1.9,SNR=7.7						

ISK 23 07:15:59.9, 36°95N×27°68E, h5km, MD2.3
DDA 23 07:15:60.0, 36°91N×27°66E, h7km, Ml2.9
CSEM 23 07:16:00.4±0.1, 36°94N×27°69E, h2km, ML2.9, Error ellipse: s-maj=3.4km s-min=3.0km az=38.0

ISC 23 07:16:00.0±0.9, 36°94N±0°02×27°70E±0°02, h8km±10km, n28, σ1§24/41, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAT	Datca	0.23	205	*e*PG	Pg	07 16 04.7	+0.1
DAT				*e*SG	Sg	07 16 08.3	+0.6
DAT	Datca	0.23	205	*i* P	Pg	07 16 04.4	-0.2
DAT				*i* S	Sg	07 16 07.7	-0.1
DAT	Datca	0.23	205	P	Pg	07 16 04.4	-0.2
DAT	Datca	0.23	205	*e*Pg	Pg	07 16 04.7	+0.1
DAT				S	Sg	07 16 07.7	-0.1
DAT				*e*Sg	Sg	07 16 08.3	+0.5
BDRM	Kayabasi	0.24	302	*i* P	Pg	07 16 04.5	-0.2
BDRM				*i* S	Sg	07 16 08.7	+0.6
BDRM	Kayabasi	0.24	302	P	Pg	07 16 04.6	-0.2
BDRM				S	Sg	07 16 08.7	+0.6
BODT	Bodrum	0.33	292	*e*PG	Pg	07 16 06.7	+0.1
BODT				*e*SG	Sb	07 16 12.0	-1.8
BODT	Bodrum	0.33	292	*e*Pg	Pg	07 16 06.7	+0.1
BODT				*e*Sg	Sb	07 16 12.0	-1.8
MLSB	Milas	0.36	10	*e*PG	Pg	07 16 07.1	0.0
MLSB				*e*SG	Sg	07 16 12.7	+0.8
MLSB	Milas	0.36	10	*e*Pg	Pg	07 16 07.1	0.0
MLSB				*e*Sg	Sg	07 16 12.7	+0.8
MRSB	Marmaris-Mugla	0.46	119	*e*PG	Pg	07 16 09.7	+0.8
MRSB	Marmaris-Mugla	0.46	119	*e*Pg	Pg	07 16 09.7	+0.8
NIS1	Nisyros Isl.	0.54	231	*e*PG	Pb	07 16 10.9	-0.7
NIS1	Nisyros Isl.	0.54	231	*e*Pg	Pb	07 16 10.9	-0.7
TURN	Turunc	0.73	95	*i* P	Pg	07 16 09.2	-4.9
TURN				*i* S	Sg	07 16 17.2	-6.3
DALY	Dalyan (Mu¨la	0.78	99	*e*PG	Pb	07 16 15.9	-0.2
DALY	Dalyan (Mu¨la	0.78	99	*i* P	Pg	07 16 14.8	-0.1
DALY				*i* S	Sb	07 16 27.1	+0.7
DALY	Dalyan (Mu¨la	0.78	99	P	Pg	07 16 14.8	-0.1
DALY	Dalyan (Mu¨la	0.78	99	*e*Pg	Pb	07 16 16.0	+0.2
DALY				S	Sb	07 16 27.1	+0.7
GCAM	G?zelcaml?	0.85	334	*i* P	Pb	07 16 16.7	-0.3
GCAM				*i* S	Sb	07 16 29.4	+0.9
GCAM	G?zelcaml?	0.85	334	P	Pb	07 16 16.7	-0.3
GCAM				S	Sb	07 16 29.4	+0.9
AYDB	Zeytinkoy-Aydi	1.02	9	*e*PG	Pg	07 16 19.0	-0.6
AYDB	Zeytinkoy-Aydi	1.02	9	*e*Pg	Pg	07 16 19.0	-0.6
FETY	Fethiye	1.15	105	*e*PN	Pn	07 16 23.3	+0.8
FETY	Fethiye	1.15	105	*e*Pn	Pn	07 16 23.3	+0.8
FETY	Fethiye	1.15	105	P	Pn	07 16 23.6	+1.1
KARP	Karpathos	1.45	198	*e*PN	Pg	07 16 28.1	+0.2
KARP	Karpathos	1.45	198	*e*Pn	Pg	07 16 28.1	+0.2

IDC 23 07:17:30.2±11.0, 44°32N×131°51E, h0km, Error ellipse: s-maj=84.5km s-min=6.9km az=109.0, Priamurye-Northeastern China border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I45RU	USSURIYSK INFR	0.36	109	*i*		07 19 27.8	
	baz=290,slow=330,SNR=62						
USRK	Ussuriysk Ar.	0.37	109	Pg	Pg	07 17 37.2	0.0
	0.1nm,0.3s,baz=288,slow=20,SNR=3.2						
USRK				*i*		07 19 25.0	
	0.4nm,0.3s,baz=250,slow=32,SNR=5.7						
I44RU	PETROPAVLOVSK	19.31	54	*i*		09 16 20.0	
	baz=258,slow=324,SNR=0.7						

IDC 23 07:32:27.8±1.1, 2°05N×127°08E, h0km, mb4.0/7, mb1 4.2/7, mb1mx3.9/34, mbtmp4.1/7, Error ellipse: s-maj=69.4km s-min=16.3km az=67.0
NEIC 23 07:32:33.8±1.7, 2°11N×127°15E, h42km±16km, mb4.6/15, Error ellipse: s-maj=19.2km s-min=5.2km az=59.0
ISCJB 23 07:32:34.3±0.5, 2°02N±0°09×127°0E±0°1, h63km, mb4.6/21, Error ellipse: s-maj=21.8km s-min=6.7km az=150.4

ISC 23 07:32:35.9±0.6, 2°1N±0°1×127°1E±0°1, h63km, n31, σ0§83/35, mb4.5/21, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MYLDM	Lahad Datu	9.12	290	*e*Pn	Pn	07 34 43.9	-1.0
MTN	Manton Dam	15.36	165	*e*Pn	Pn	07 36 08.5	-0.5
	21nm,1.5s						

FITZ	Fitzroy Crossi	20.11	184	P	P	07 37 03.8	-0.9
	2.0nm,0.6s,baz=23,slow=7.7,SNR=12						
WR1	Warramunga Arr	23.01	162	*e*P	P	07 37 34.3	-1.5
	8.0nm,0.8s						
WR1				*e*PcP	PcP	07 41 24.0	+0.3
WRA	Warramunga Arr	23.01	162	P	P	07 37 34.3	-1.5
	6.5nm,0.7s,baz=341,slow=12,SNR=57						
WRA				PcP	PcP	07 41 24.0	+0.3
	0.6nm,0.6s,baz=346,slow=2.5,SNR=4.5						
WB2	Warramunga Arr	23.02	162	*e*P	P	07 37 34.7	-1.2
	6.9nm,0.8s						
AS31	Alice Springs	26.44	166	*e*P	P	07 38 07.8	+0.8
	1.5nm,0.9s						
AS31				*e*PcP	PcP	07 41 31.3	+0.1
ASAR	Alice Springs	26.44	166	P	P	07 38 06.3	-0.8
	1.3nm,0.5s,baz=353,slow=15,SNR=23						
ASAR				PcP	PcP	07 41 31.3	+0.1
	0.6nm,0.7s,baz=347,slow=2.2,SNR=5.9						
AS01	Alice Springs	26.45	166	*e*P	P	07 38 07.2	0.0
CM31	Chiang Mai Arr	32.04	302	*e*P	P	07 38 56.2	-0.6
CMAR	Chiang Mai Arr	32.04	302	P	P	07 38 56.2	-0.6
	1.4nm,0.3s,baz=104,slow=6.0,SNR=5.4						
FORT	Forrest	32.69	178	*e*P	P	07 39 03.3	+0.9
	444nm,1.6s						
BBOO	Buckleboo	35.72	167	*e*P	P	07 39 29.2	+0.5
	49nm,1.6s						
EIDS	Eidsvold	35.84	141	*e*P	P	07 39 30.7	+1.0
	20nm,1.5s						
STKA	Stephens Creek	36.47	159	P	P	07 39 34.5	-0.5
	1.8nm,0.6s,baz=335,slow=8.6,SNR=7.7						
STKA	Stephens Creek	36.47	159	*e*P	P	07 39 34.5	-0.5
	5.4nm,1.8s						
ARMA	Armidale	39.90	146	*e*P	P	07 40 05.2	+1.2
	21nm,1.4s						
SONA0	Songino Array	48.97	342	*e*P	P	07 41 17.0	+0.8
	5.6nm,1.5s						
SONM	Songino Array	48.97	342	P	P	07 41 17.0	+0.8
	0.5nm,0.4s,baz=142,slow=7.3,SNR=3.8						
FUNA	Funafuti	52.99	102	*e*P	P	07 41 44.5	-2.2
	165nm,1.4s						
MK01	Makanchi Array	59.09	326	*e*P	P	07 42 29.8	0.0
MK31	Makanchi Array	59.11	326	*e*P	P	07 42 30.3	+0.3
MK32	Makanchi Array	59.11	326	*e*P	P	07 42 30.0	0.0
MKAR	Makanchi Array	59.11	326	P	P	07 42 30.0	0.0
	1.1nm,0.5s,baz=123,slow=8.8,SNR=9.0						
MKAR	Makanchi Array	59.11	326	*e*P	P	07 42 29.9	0.0
	8.1nm,0.7s						
BKZ	Black Stump Fm	61.12	138	*e*P	P	07 42 44.2	+0.3
	59nm,1.9s						
MQZ	McQueen's Vall	61.14	144	*e*P	P	07 42 44.6	+0.8
	111nm,1.9s						
KURK	Kurchatov	63.32	328	*e*P	P	07 42 58.4	+0.1
	3.6nm,0.6s						
ABKAR	Akbulak array	73.65	321	*e*P	P	07 44 03.3	+0.5
	21nm,0.7s						
VNDA	Vanda	81.76	173	*e*P	P	07 44 47.9	+0.5
	11nm,2.0s						
MAW	Mawson	82.35	200	*e*P	P	07 44 51.3	+0.7
	2.0nm,1.5s						

TAP 23 07:42:51.2, 24°86N×122°61E, h7km±1km, ML3.0, D
ISCJB 23 07:42:53.0±0.6, 24°84N±0°06×122°59E±0°04, h16km, Error ellipse: s-maj=9.3km s-min=3.9km az=22.3
JMA 23 07:42:54.2±0.2, 24°69N×122°58E, h5km±5km, M2.3

ISC 23 07:42:52.4±1.0, 24°86N±0°05×122°59E±0°03, h16km, n29, σ1§04/32, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JYNG	Yonagunijimaku	0.52	141	P	Pg	07 43 02.4	-0.4
JYNG				*e*S	Sg	07 43 07.7	-2.1
YOJ	Yonaguni jima	0.56	136	*i* P	Pg	07 43 02.6	-0.8
	baz=137						
YOJ				S	Sb	07 43 10.6	-0.8
	baz=137						
YOJ	Yonaguni jima	0.56	136	P	Pg	07 43 03.1	-0.3
YOJ				*e*S	Sg	07 43 09.5	-1.3
TWB1	Santiao Chiao	0.56	285	*e*P	Pg	07 43 03.6	+0.1
	baz=284						
EGS		0.59	269	*e*P	Pg	07 43 04.2	+0.1
	baz=268						
TWC	Suao	0.71	250	*e*P	Pg	07 43 05.7	-0.7
	baz=250						
NWF	Wu-fen Shan	0.76	286	*e*P	Pb	07 43 07.4	+0.2
	baz=285						
TWE	Neicheng	0.84	261	*e*P	Pb	07 43 08.7	0.0
	baz=260						
ENA	Nanau	0.88	241	*e*P	Pb	07 43 09.1	-0.1
	baz=241						
PCYT	Pengchaiyu	0.90	329	*e*P	Pb	07 43 08.4	-1.1
	baz=327						
ENTT	Nioudou	0.95	257	*e*P	Pb	07 43 10.8	+0.3
	baz=256						
TWY	Chenhua	0.98	295	*e*P	Pb	07 43 12.0	+0.9
	baz=294						
NSK	Sanguang	1.13	261	P	Pb	07 43 13.4	-0.1
	baz=260						
IRIF	Iriomote-Funau	1.17	116	P	Pb	07 43 14.6	+0.4
NNS	Nan Shan	1.18	249	*e*P	Pn	07 43 14.6	+0.3
	baz=249						
HATJ	Hateruma jima	1.37	125	P	Pb	07 43 18.1	+0.5
WHF	Hehuan Shan	1.40	240	*e*P	Pn	07 43 18.4	+0.8
	baz=239						
TWT	Tachien	1.42	245	*e*P	Pb	07 43 19.4	+0.9
	baz=245						
JKRS	Kuro-shima	1.44	115	P	Pg	07 43 20.6	+0.5
NSTT	Nanjuang	1.46	261	*e*P	Pn	07 43 17.3	-0.8
	baz=261

RSA	**Sarsar**	**0.70**	**326**	*i* P	**Pb**	**07 46 46.0**	**-1.1**
RSA				S	**Sn**	**07 47 00.0**	**+3.5**
TSY	**Tnine Yamani**	**1.19**	**335**	P	**Pb**	**07 46 55.0**	**-0.2**
TSY				S	**Sn**	**07 47 13.0**	**+4.5**
TSY	**Tnine Yamani**	**1.19**	**335**	P	**Pb**	**07 46 55.0**	**-0.2**
TSY				*i* S	**Sn**	**07 47 13.0**	**+4.5**
RTC	**Rabat Centre**	**1.29**	**257**	P	**Pn**	**07 46 56.0**	**+1.2**
RTC				S	**Sb**	**07 47 15.0**	**+2.0**
RTC	**Rabat Centre**	**1.29**	**257**	P	**Pn**	**07 46 56.0**	**+1.2**
RTC				*i* S	**Sb**	**07 47 15.0**	**+2.0**
CZD	**Col de Zad**	**1.29**	**168**	P	**Pn**	**07 46 54.0**	**-1.1**
CZD				S	**Sn**	**07 47 10.0**	**-1.4**
CZD	**Col de Zad**	**1.29**	**168**	*i* P	**Pn**	**07 46 54.0**	**-1.1**
ECEU	**Ceuta**	**1.60**	**359**	P	**Pb**	**07 47 01.8**	**-0.3**
	2.1nm,0.2s,SNR=7.9						
KIB	**El Ksiba**	**1.81**	**199**	P	**Pn**	**07 47 03.0**	**+0.8**
KIB				S	**Sb**	**07 47 28.0**	**-0.1**
KIB	**El Ksiba**	**1.81**	**199**	P	**Pn**	**07 47 03.0**	**+0.8**
KIB				S	**Sb**	**07 47 28.0**	**-0.1**
EJIF	**Jimena Fronter**	**2.15**	**357**	P	**Pn**	**07 47 07.8**	**+1.0**
	8.3nm,0.5s,SNR=4.0						
EJIF	**Jimena Fronter**	**2.15**	**357**	P	**Pn**	**07 47 07.8**	**+1.0**
	8.3nm,0.5s,SNR=4.0						
EMIJ	**Mijas**	**2.31**	**12**	P	**Pn**	**07 47 07.9**	**-1.1**
	2.0nm,0.3s,SNR=7.9						
EMIJ				S	**Sn**	**07 47 37.1**	**+0.8**
	7.4nm,0.3s,SNR=7.9						
EMIJ	**Mijas**	**2.31**	**12**	P	**Pn**	**07 47 07.9**	**-1.1**
	2.0nm,0.3s,SNR=7.9						
EMIJ				S	**Sn**	**07 47 37.1**	**+0.8**
	7.4nm,0.3s,SNR=7.9						
TZC	**Tazercounte**	**2.35**	**204**	P	**Pn**	**07 47 11.0**	**+1.4**
TZC				S	**Sn**	**07 47 39.0**	**+1.6**
TZC	**Tazercounte**	**2.35**	**204**	P	**Pn**	**07 47 11.0**	**+1.4**
TZC				S	**Sn**	**07 47 39.0**	**+1.6**
ZFT	**Errachidia**	**2.41**	**159**	P	**Pn**	**07 47 10.0**	**-0.5**
ZFT				S	**Sn**	**07 47 36.0**	**-2.9**
ZFT	**Errachidia**	**2.41**	**159**	P	**Pn**	**07 47 10.0**	**-0.5**
EGOR	**Sierra Gorda,**	**2.98**	**19**	P	**Pn**	**07 47 19.2**	**+0.9**
	7.6nm,0.6s,SNR=7.9						
EGOR	**Sierra Gorda,**	**2.98**	**19**	P	**Pn**	**07 47 19.2**	**+0.9**
	7.6nm,0.6s,SNR=7.9						
EBER	**Berja**	**3.28**	**37**	P	**Pn**	**07 47 24.4**	**+2.0**
	1.2nm,0.4s,SNR=7.9						
EBER				S	**Sn**	**07 48 03.4**	**+3.0**
	8.4nm,0.4s,SNR=7.9						
EBER	**Berja**	**3.28**	**37**	P	**Pn**	**07 47 24.4**	**+2.0**
	1.2nm,0.4s,SNR=7.9						
PBDV	**Barranco-do-Ve**	**3.61**	**325**	*e*Pn	**Pn**	**07 47 26.4**	**-0.4**
PBDV				*e*Sn	**Sn**	**07 48 07.1**	**-1.2**
PBDV				A	A	07 48 09.5	
	5.0nm,0.9s						
PBDV	**Barranco-do-Ve**	**3.61**	**325**	P	**Pn**	**07 47 26.4**	**-0.4**
PBDV				S	**Sn**	**07 48 07.1**	**-1.2**
	5.0nm,0.9s						
PBDV	**Barranco-do-Ve**	**3.61**	**325**	P	**Pn**	**07 47 26.4**	**-0.4**
PBDV				S	**Sn**	**07 48 07.1**	**-1.2**
	5.0nm,0.9s						
EMIN	**Mina Concepcio**	**3.62**	**343**	P	**Pn**	**07 47 26.9**	**-0.1**
	0.2nm,0.2s,SNR=7.9						
EMIN				S	**Sn**	**07 48 07.6**	**-1.1**
	3.2nm,0.3s,SNR=7.9						
EMIN	**Mina Concepcio**	**3.62**	**343**	P	**Pn**	**07 47 26.9**	**-0.1**
	0.2nm,0.2s,SNR=7.9						
EMIN				S	**Sn**	**07 48 07.6**	**-1.1**
	3.2nm,0.3s,SNR=7.9						
PVAQ	**Vaqueiros**	**3.65**	**329**	*e*Pn	**Pn**	**07 47 25.1**	**-2.2**
PVAQ				*e*Sn	**Sn**	**07 48 07.3**	**-1.9**
PVAQ				A	A	07 48 18.2	
	7.1nm,0.6s						
PVAQ	**Vaqueiros**	**3.65**	**329**	P	**Pn**	**07 47 25.1**	**-2.2**
PVAQ				S	**Sn**	**07 48 07.3**	**-1.9**
	7.1nm,0.6s						
PVAQ	**Vaqueiros**	**3.65**	**329**	*e*Pn	**Pn**	**07 47 25.1**	**-2.2**
PVAQ				S	**Sn**	**07 48 07.3**	**-1.9**
	7.1nm,0.6s						
EGRO	**El Granado**	**3.66**	**332**	P	**Pn**	**07 47 26.5**	**-1.0**
	0.8nm,0.2s,SNR=7.9						
EGRO				S	**Sn**	**07 48 08.6**	**-1.0**
	6.5nm,0.2s,SNR=7.9						
EGRO	**El Granado**	**3.66**	**332**	P	**Pn**	**07 47 26.5**	**-1.0**
	0.8nm,0.2s,SNR=7.9						
EGRO				S	**Sn**	**07 48 08.6**	**-1.0**
	6.5nm,0.2s,SNR=7.9						
OUK	**Oukaimeden**	**3.74**	**215**	P	**Pn**	**07 47 30.0**	**+1.1**
OUK				S	**Sn**	**07 48 11.0**	**-1.0**
OUK	**Oukaimeden**	**3.74**	**215**	P	**Pn**	**07 47 30.0**	**+1.1**
OUK				S	**Sn**	**07 48 11.0**	**-1.0**
ECAB	**El Cabril**	**3.77**	**359**	P	**Pn**	**07 47 28.2**	**-0.8**
	0.5nm,0.2s,SNR=7.9						
ECAB				S	**Sn**	**07 48 11.1**	**-1.2**
	1.3nm,0.2s,SNR=7.9						
ECAB	**El Cabril**	**3.77**	**359**	P	**Pn**	**07 47 28.2**	**-0.8**
	0.5nm,0.2s,SNR=7.9						
ECAB				S	**Sn**	**07 48 11.1**	**-1.2**
	1.3nm,0.2s,SNR=7.9						
CIA	**Chichaoua**	**3.95**	**227**	P	**Pn**	**07 47 33.0**	**+1.4**
CIA				S	**Sn**	**07 48 17.0**	**+0.1**
CIA	**Chichaoua**	**3.95**	**227**	P	**Pn**	**07 47 33.0**	**+1.4**
CIA				S	**Sn**	**07 48 17.0**	**+0.1**
EQES	**Quesada**	**3.96**	**27**	P	**Pn**	**07 47 32.9**	**+1.3**
	0.1nm,0.3s,SNR=4.9						
EQES				S	**Sn**	**07 48 19.8**	**+2.8**
	3.2nm,0.4s,SNR=7.9						
EQES	**Quesada**	**3.96**	**27**	P	**Pn**	**07 47 32.9**	**+1.3**
	0.1nm,0.3s,SNR=4.9						
PCVE	**Castro Verde**	**3.98**	**328**	*e*Sn	**Sn**	**07 48 16.5**	**-0.9**
PCVE				A	A	07 48 18.8	
	5.3nm,0.5s						
PCVE	**Castro Verde**	**3.98**	**328**	S	**Sn**	**07 48 16.5**	**-0.9**
	5.3nm,0.5s						
PCVE	**Castro Verde**	**3.98**	**328**	S	**Sn**	**07 48 16.5**	**-0.9**
	5.3nm,0.5s						
PFVI	**Vila Bisbo**	**4.00**	**316**	*e*Sn	**Sn**	**07 48 18.7**	**+0.8**
PFVI	**Vila Bisbo**	**4.00**	**316**	*e*Sn	**Sn**	**07 48 18.7**	**+0.8**
PBAR	**Barrancos**	**4.10**	**341**	*e*Pn	**Pn**	**07 47 32.4**	**-1.2**
PBAR				*e*Sn	**Sn**	**07 48 18.6**	**-1.8**
PBAR				A	A	07 48 38.6	
	7.8nm,0.7s						
PBAR	**Barrancos**	**4.10**	**341**	P	**Pn**	**07 47 32.4**	**-1.2**
PBAR				S	**Sn**	**07 48 18.6**	**-1.8**
	7.8nm,0.7s						
PBAR	**Barrancos**	**4.10**	**341**	P	**Pn**	**07 47 32.4**	**-1.2**
PBAR				S	**Sn**	**07 48 18.6**	**-1.8**
	7.8nm,0.7s						
MESJ	**Messejana**	**4.23**	**328**	*e*P	**Pn**	**07 47 33.2**	**-2.1**
MESJ				*e*S	**Sn**	**07 48 19.0**	**-4.6**
MESJ				AML	AML	07 48 22.7	
	comp=N,5.7nm,0.6s						
MESJ	**Messejana**	**4.23**	**328**	*e*Pn	**Pn**	**07 47 34.9**	**-0.4**
MESJ				*e*Sn	**Sn**	**07 48 21.8**	**-1.8**
MESJ				A	A	07 48 34.0	
	comp=N,4.7nm,0.4s						
MESJ	**Messejana**	**4.23**	**328**	P	**Pn**	**07 47 33.2**	**-2.1**
MESJ				P	**Pn**	**07 47 34.9**	**-0.4**
MESJ				S	**Sn**	**07 48 19.0**	**-4.6**
	comp=N,5.7nm,0.6s						
MESJ				S	**Sn**	**07 48 21.8**	**-1.8**
	comp=N,4.7nm,0.4s						
MESJ	**Messejana**	**4.23**	**328**	P	**Pn**	**07 47 34.9**	**-0.4**
MESJ				S	**Sn**	**07 48 21.8**	**-1.8**
	comp=N,4.7nm,0.4s						
PTEO	**Sao Teotonio**	**4.24**	**321**	*e*Sn	**Sn**	**07 48 22.6**	**-1.2**
PTEO	**Sao Teotonio**	**4.24**	**321**	S	**Sn**	**07 48 22.6**	**-1.2**
PTEO	**Sao Teotonio**	**4.24**	**321**	S	**Sn**	**07 48 22.6**	**-1.2**
PNCL	**Nicolau / Gran**	**4.59**	**327**	*e*Pn	**Pn**	**07 47 39.6**	**-0.7**
PNCL				*e*Sn	**Sn**	**07 48 30.5**	**-2.0**
PNCL				A	A	07 48 41.9	
	comp=N,3.3nm,0.8s						
PNCL	**Nicolau / Gran**	**4.59**	**327**	*e*Pn	**Pn**	**07 47 39.6**	**-0.7**
PNCL				*e*Sn	**Sn**	**07 48 30.5**	**-2.0**
	comp=N,3.3nm,0.8s						
EBAD	**Badajoz**	**4.65**	**344**	P	**Pn**	**07 47 40.2**	**-0.8**
	comp=N,0.7nm,0.1s,SNR=7.9						
EBAD				S	**Sn**	**07 48 30.9**	**-2.9**
	comp=N,1.5nm,0.2s,SNR=7.9						
EBAD	**Badajoz**	**4.65**	**344**	P	**Pn**	**07 47 40.2**	**-0.8**
	comp=N,0.7nm,0.1s,SNR=7.9						
EBAD				S	**Sn**	**07 48 30.9**	**-2.9**
	comp=N,1.5nm,0.2s,SNR=7.9						

IDC 23 08:10:57.6±1.8, 3°.04N×126°.01E, h0km, mb3.5/4, mb1 3.6/4, mb1mx3.4/41, mbtmp3.5/4, Error ellipse:

s-maj=189.3km s-min=21.4km az=66.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**24.26**	**161**	P	P	08 16 17.1	+0.5
	1.2nm,0.9s,baz=339,slow=11,SNR=13						
ASAR	**Alice Springs**	**27.64**	**164**	P	P	08 16 47.0	-0.1
	0.1nm,0.4s,baz=349,slow=8.9,SNR=3.3						
MKAR	**Makanchi Array**	**57.71**	**326**	P	P	08 20 51.2	+1.1
	0.4nm,0.6s,baz=114,slow=10,SNR=3.0						
KURBB	**Kurchatov Arra**	**61.93**	**328**	P	P	08 21 17.5	-1.6
	0.4nm,0.5s,baz=133,slow=6.4,SNR=5.1						

NIED ***23*** *08:15:00.36°.70N×140°.60E, h5km, Mw4.7 Best double couple: M0 1.22000×10^16 NP1:φs337.00000°, δ31.00000°, λ-76.00000°. NP2:φs141.00000°, δ60.00000°, λ-98.00000°.*

ISCJB ***23*** *08:15:55.3±0.4, 36°.74N±0°.02×140°.50E±0°.02, h6km±2km, mb5.0/311, MS4.0/40, Error ellipse: s-maj=3.2km s-min=2.5km az=148.2*

IDC ***23*** *08:15:55.4±0.4, 36°.75N×140°.50E, h0km, mb4.9/35, mb1 5.0/37, mb1mx5.0/47, mbtmp4.9/37, ML4.1/3, MS3.8/24, Ms1 3.8/24, ms1mx3.7/43, Error ellipse: s-maj=10.1km s-min=8.7km az=109.0*

BJI ***23*** *08:15:56.2, 36°.67N×140°.89E, h33km, mb4.8/57, mB4.9/44, Ms4.5/55, Ms7 4.2/48*

JMA ***23*** *08:15:56.0, 36°.69N×140°.62E, h4km±1km, M5.1 Broadband fault plane solution: P waves. NP1: φs151.00000°, δ48.00000°, λ-91.00000°. NP2: φs333.00000°, δ42.00000°, λ-89.00000°. Principal axes: T Plg3.0000°, Azm242.0000°; N Plg1.0000°, Azm152.0000°; P Plg87.0000°, Azm44.0000°;*

JMA Felt IV J1.

MOS ***23*** *08:15:57.6±0.9, 36°.84N×140°.44E, h20km, mb5.2/128 Error ellipse: s-maj=6.2km s-min=3.9km az=97.8*

NEIC ***23*** *08:16:00.4±0.8, 36°.76N×140°.44E, h28km±6km, mb5.0/229, Error ellipse: s-maj=2.7km s-min=2.0km az=131.0*

NEIC Felt at Atsugi, Chiba and Yachimata. Recorded [4 JMA] in Ibaraki.

ISC 23 08:15:57.4±0.5, 36°.73N±0°.02×140°.55E±0°.03, h11km±3km, n940, σ1§19/983, mb5.0/312, MS4.0/40, 30C-19D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JHO	**Hitachi**	**0.12**	**174**	⇑P	**Pg**	**08 15 58.0**	**-2.5**
JHO				*e*S	**Sg**	**08 15 59.1**	**-3.5**
ONAJ	**Iwakimizuishiy**	**0.42**	**28**	P	**Pg**	**08 16 04.4**	**-1.3**
ONAJ				S	**Sg**	**08 16 11.1**	**-0.2**
JSB	**Shiboa**	**0.56**	**295**	⇑P	**Pg**	**08 16 08.5**	**+0.2**
JSB				S	**Sb**	**08 16 17.9**	**+0.7**
JYT	**Yasato**	**0.58**	**210**	⇑P	**Pg**	**08 16 07.0**	**-1.7**
JFK	**Kawauchi**	**0.68**	**22**	⇑P	**Pg**	**08 16 09.2**	**-1.5**
JFK				S	**Sg**	**08 16 18.8**	**-0.9**
JFT	**Otama**	**0.80**	**348**	⇓P	**Pg**	**08 16 12.2**	**-0.7**
JFT				S	**Sg**	**08 16 23.5**	**0.0**
JAG	**Ashikaga**	**0.94**	**251**	P	**Pg**	**08 16 13.7**	**-1.8**
JAG				S	**Sb**	**08 16 27.8**	**-0.2**
I30JP	**ISUMI INFRASON**	**1.43**	**188**	Pg	**Pg**	**08 16 23.1**	**-1.8**
	baz=15,slow=15,SNR=0.8						
MJAR	**Matsushiro Arr**	**1.90**	**265**	Pg	**Pn**	**08 16 29.1**	**-0.5**
	195nm,0.3s,baz=84,slow=13,SNR=1482						
MJAR				Lg	Lg	08 16 54.4	
	342nm,0.3s,baz=82,slow=29,SNR=18						
MJAR				LR	LR	08 17 20.8	
	comp=Z,4μm,18.8s,baz=105,slow=47						
MAJO	**Matsushiro**	**1.90**	**265**	*e*P	**Pb**	**08 16 31.0**	**-1.0**
MAJO				*e*		08 16 56.4	
MAJO	**Matsushiro**	**1.90**	**265**	*e*Pn	**Pb**	**08 16 31.0**	**-1.0**
MAJO				*e*Sn	**Sb**	**08 16 56.4**	**+0.7**
MAT	**Matsushiro**	**1.90**	**265**	P	**Pn**	**08 16 29.6**	**-0.1**
MAT				S	**Sb**	**08 16 55.8**	**+0.1**
MJB9	**Matsu-Tunnel**	**1.90**	**265**	*e*Pn	**Pb**	**08 16 31.1**	**-0.9**
MJB9				*e*Sn	**Sb**	**08 16 56.7**	**+0.9**
INU	**Inuyama**	**3.18**	**245**	*e*Pn	**Pn**	**08 16 49.2**	**+1.9**
JHJ	**Hachijo jima 2**	**3.66**	**190**	Pn	**Pn**	**08 16 53.6**	**-0.3**
	84nm,0.3s,baz=103,slow=17,SNR=15						
JHJ				Sn	**Sn**	**08 17 38.0**	**+1.0**
	140nm,0.3s,baz=63,slow=20,SNR=6.1						
JHJ2	**Mitsune**	**3.66**	**190**	*e*Pn	**Pn**	**08 16 54.3**	**+0.4**
ERM	**Erimo**	**5.65**	**20**	*e*P	**Pn**	**08 17 21.1**	**-0.1**
ERM				*e*		08 18 29.5	
ERM	**Erimo**	**5.65**	**20**	*e*Pn	**Pn**	**08 17 21.1**	**-0.1**
ERM				*e*Sn	**Sn**	**08 18 29.5**	**+3.5**
ASAJ	**Asahikawa**	**7.54**	**11**	Pn	**Pn**	**08 17 47.3**	**+0.2**
	5.1nm,0.3s,baz=243,slow=11,SNR=12						
ASAJ	**Asahikawa**	**7.54**	**11**	*e*Pn	**Pn**	**08 17 48.1**	**+0.9**
YUK	**Yuzh-Kuril'sk**	**8.34**	**27**	P	**Pn**	**08 17 58.8**	**+0.7**
YUK				S	**Sn**	**08 19 29.9**	**-2.3**
YUK				pmax	pmax		
	comp=Z,70nm,0.4s						
YUK				pmax	pmax		
	comp=E,53nm,0.2s						
YUK				MLR	MLR		
	comp=Z,2μm,13.0s						
YUK				MLR	MLR		
	comp=E,2μm,12.0s						
SHO	**Shikotan**	**8.59**	**32**	⇓*i*P	**Pn**	**08 17 58.7**	**-2.8**
SHO				*i* S	**Sn**	**08 19 30.6**	**-7.7**
SHO				pmax	pmax		
	comp=Z,71nm,0.8s						
SHO				pmax	pmax		
	comp=N,17nm,0.4s						
SHO				pmax	pmax		
	comp=E,28nm,0.4s						
JNU	**Nakatsue**	**8.72**	**248**	Pn	**Pn**	**08 18 04.8**	**+1.3**
	comp=E,0.2nm,0.3s,baz=46,slow=12,SNR=4.0						
MSHR	**Mys Shultsa**	**9.30**	**312**	⇓*i*P	**Pn**	**08 18 15.7**	**+4.4**
USRK	**Ussuriysk Ar.**	**9.91**	**321**	Pn	**Pn**	**08 18 18.8**	**-0.8**
	comp=E,0.1nm,0.3s,baz=140,slow=13,SNR=2.1						
USRK				LR	LR	08 21 37.1	
	comp=E,160nm,20.2s,baz=114,slow=35						
KSRS	**Korea Array**	**10.12**	**278**	Pn	**Pn**	**08 18 22.6**	**+0.1**
	comp=E,0.2nm,0.3s,baz=87,slow=14,SNR=3.3						
KSRS				LR	LR	08 22 03.1	
	comp=E,784nm,20.1s,baz=85,slow=36						
KUR	**Kuril'sk**	**10.13**	**31**	⇑*i*P	**Pn**	**08 18 21.6**	**-1.0**
KUR				*i* S	**Sn**	**08 20 10.7**	**-5.4**
KUR				pmax	pmax		
	comp=Z,62nm,0.7s						
KUR				pmax	pmax		
	comp=Z,31nm,0.1s						
KUR				pmax	pmax		
	comp=N,45nm,0.5s						
KS01	**Wonju Array Si**	**10.14**	**278**	*e*Pn	**Pn**	**08 18 22.1**	**-0.8**
KSAR	**Wonju Array Be**	**10.15**	**278**	P	**Pn**	**08 18 22.6**	**-0.3**
KSAR	**Wonju Array Be**	**10.15**	**278**	Pn	**Pn**	**08 18 22.6**	**-0.3**
YSS	**Yuzh-Sakhalins**	**10.35**	**8**	*i* P	**Pn**	**08 18 24.8**	**-0.8**
YSS				pmax	pmax		
	comp=Z,75nm,1.0s						
YSS	**Yuzh-Sakhalins**	**10.35**	**8**	*e*Pn	**Pn**	**08 18 25.8**	**+0.2**
MDJ	**Mudanjiang**	**11.45**	**317**	P	Pn	08 18 46.3	+5.6
MDJ				S	**Sn**	**08 20 56.1**	**+7.5**
MDJ				PcP	**PcP**	**08 24 34.4**	**+1.2**
MDJ				ScP	**ScP**	**08 28 04.8**	**-0.9**
MDJ				PcS	**PcS**	**08 28 08.8**	**+1.8**
MDJ				ScS	**ScS**	**08 31 39.9**	**-1.2**
MDJ				pmax	pmax		
	comp=Z,57nm,1.1s						
MDJ				pmax	pmax		
	comp=Z,240nm,3.5s						
MDJ				LR	LR		
	comp=Z,210nm,7.4s						
MDJ				LR	LR		
	comp=Z,520nm,10.6s						
MDJ				LR	LR		
	comp=Z,440nm,11.6s						
MDJ	**Mudanjiang**	**11.45**	**317**	*e*Pn	Pn	08 18 46.4	+5.6
HABR	**Khabarovsk**	**12.41**	**343**	*e*P	**Pn**	**08 18 52.2**	**-1.6**
HABR				*e*S	**Sn**	**08 21 09.2**	**-2.8**
HABR				pmax	pmax		
	comp=Z,11nm,1.5s						
HABR				MLR	MLR		
	comp=Z,444nm,13.0s						
CN2	**Changchun**	**13.51**	**306**	*e*P	**Pn**	**08 19 12.5**	**+3.6**
KLR	**Kul'dur**	**14.04**	**336**	⇑*i*P	**Pn**	**08 19 16.1**	**0.0**
SNY	**Shenyang**	**14.09**	**296**	⇑P	**Pn**	**08 19 19.8**	**+2.9**
SNY				S	**Sn**	**08 21 51.9**	**-1.3**
SNY				pmax	pmax		
	comp=Z,16nm,0.3s						
SNY				pmax	pmax		
	comp=Z,380nm,4.7s						
SNY				LR	LR		
	comp=Z,1μm,14.2s						
SNY				LR	LR		
	comp=Z,530nm,16.7s						
SNY				LR	LR		
	comp=Z,580nm,19.1s						
TYV	**Tymovskoe**	**14.21**	**5**	*e*P	**Pn**	**08 19 16.6**	**-1.8**
TYV				*e*S	Sn	08 21 45.9	-10
TYV				pmax	pmax		
	comp=Z,39nm,0.9s						
TYV				MLR	MLR		
	comp=Z,877nm,16.0s						
JOW	**Kunigami**	**14.36**	**230**	*e*Pn	**P**	**08 19 23.3**	**-4.3**
DL2	**Dalian**	**15.12**	**284**	P	**P**	**08 19 37.5**	**+1.5**
DL2				S	**S**	**08 22 29.8**	**-5.6**
DL2				pmax	pmax		
	comp=Z,38nm,0.8s						
DL2				pmax	pmax		
	comp=Z,200nm,4.7s						
DL2				LR	LR		
	comp=Z,1μm,16.8s						
DL2				LR	LR		
	comp=Z,410nm,18.9s						
DL2				LR	LR		
	comp=Z,790nm,12.8s						
NJ2	**Nanjing**	**18.50**	**262**	*e*P	**Pn**	**08 20 16.1**	**+2.5**
NJ2				pmax	pmax		
	comp=Z,42nm,0.5s						
NJ2				LR	LR		
	comp=Z,340nm,11.9s						
NJ2				LR	LR		
	comp=Z,930nm,17.4s						
NJ2				LR	LR		
	comp=Z,1μm,15.2s						
TIA	**Tai'an**	**18.85**	**275**	⇑P	**P**	**08 20 16.9**	**-0.4**
TIA				pmax	pmax		
	comp=Z,20nm,1.1s						
TIA				LR	LR		
	comp=Z,390nm,13.0s						
TIA				LR	LR		
	comp=Z,780nm,14.0s						
TIA				LR	LR		
	comp=Z,1μm,14.0s						
BJI	**Beijing**	**19.38**	**287**	P	**P**	**08 20 22.9**	**-0.2**
BJI				pP	**sP**	**08 20 32.0**	**+4.2**
BJI				S	**Sn**	**08 23 58.9**	**-2.5**
BJI				sS	**pS**	**08 24 14.3**	**-1.6**
BJI				pmax	pmax		
	comp=Z,20nm,0.8s						
BJI				LR	LR		
	comp=Z,410nm,10.0s						
BJI				LR	LR		
	comp=Z,440nm,10.3s						
BJT	**Baijiatuan**	**19.38**	**287**	*e*P	**Pn**	**08 20 23.7**	**-0.6**
BJT				pmax	pmax		
	comp=Z,27nm,0.8s						
BJT	**Baijiatuan**	**19.38**	**287**	*e*P	**Pn**	**08 20 23.7**	**-0.6**
	comp=Z,27nm,0.8s						
PEA0	**Petropavlovsk-**	**20.30**	**31**	*e*P	Pn	08 20 33.2	-1.8
PEA0B	**Petropavlovsk-**	**20.30**	**31**	*e*P	Pn	08 20 33.4	-1.6
	comp=Z,47nm,1.2s						
PEA0B				*e*PcP	**PcP**	**08 24 49.2**	**+3.1**
PETK	**Petropavlovsk-**	**20.30**	**31**	P	Pn	08 20 33.2	-1.7
	comp=Z,16nm,1.0s,baz=210,slow=8.6,SNR=8.0						
PETK				LR	LR	08 27 58.1	
	comp=Z,363nm,21.7s,baz=225,slow=36						
NACB	**Ninganchiao**	**20.54**	**238**	*e*P	Pn	08 20 36.3	-1.8
	comp=Z,126nm,1.9s						
PET	**Petropavlovsk**	**20.64**	**32**	*e*P	**P**	**08 20 35.6**	**-1.0**
PET				pmax	pmax		
	comp=Z,65nm,1.3s						
PET	**Petropavlovsk**	**20.64**	**32**	*e*P	**P**	**08 20 35.6**	**-1.0**
	comp=Z,64nm,1.3s						
TPUB	**Ta-pu**	**21.78**	**238**	*e*P	**P**	**08 20 49.2**	**0.0**
	comp=Z,160nm,1.9s						
WHN	**Wuhan**	**22.64**	**262**	P	**P**	**08 20 59.8**	**+1.5**
WHN				S	**S**	**08 25 02.3**	**-3.8**
WHN				LR	LR		
	comp=Z,1μm,12.8s						
WHN				LR	LR		
	comp=Z,2μm,11.3s						
WHN				LR	LR		
	comp=Z,2μm,13.8s						
CLNS	**Chul'man**	**22.69**	**337**	*e*P	**P**	**08 20 55.8**	**-2.9**
CLNS				pmax	pmax		
	comp=Z,32nm,0.9s						
CLNS				pmax	pmax		
	comp=N,17nm,1.0s						
CLNS				pmax	pmax		
	comp=E,6.0nm,0.8s						
CLNS				MLR	MLR		
	comp=N,257nm,12.0s						
CLNS				MLR	MLR		
	comp=E,324nm,12.0s						
CLNS				MLR	MLR		
	comp=Z,377nm,15.0s						
HHC	**Hu-ho-hao-te**	**22.92**	**289**	*e*P	**P**	**08 21 01.8**	**+0.4**
HHC				S	**S**	**08 25 07.1**	**-4.1**
HHC				pmax	pmax		
	comp=Z,12nm,1.0s						
HHC				pmax	pmax		
	comp=Z,85nm,5.5s						
HHC				LR	LR		
	comp=Z,400nm,12.8s						
HHC				LR	LR		
	comp=Z,370nm,11.9s						
HHC				LR	LR		
	comp=Z,280nm,11.6s						
GUMO	**Guam**	**23.37**	**169**	P	**P**	**08 21 05.6**	**-0.3**
	comp=Z,114nm,0.8s,baz=199,slow=6.5,SNR=6.6						
GUMO	**Guam**	**23.37**	**169**	*e*P	**P**	**08 21 06.3**	**+0.4**
GUMO				pmax	pmax		
	comp=Z,178nm,1.0s						
GUMO	**Guam**	**23.37**	**169**	*e*P	**P**	**08 21 06.3**	**+0.4**
	comp=Z,178nm,1.0s						
MA2	**Magadan**	**23.80**	**13**	P	**P**	**08 21 08.9**	**-1.0**
	comp=Z,66nm,0.8s,baz=199,slow=9.0,SNR=47						
MA2				LR	LR	08 31 10.8	
	comp=Z,206nm,18.1s,baz=201,slow=38						
XAN	**Xi'an**	**25.87**	**273**	P	**P**	**08 21 30.3**	**+1.2**
XAN				PP	**PnPn**	**08 22 09.8**	**+3.6**
XAN				PcP	**PcP**	**08 25 01.4**	**+3.3**
XAN				S	**S**	**08 25 55.1**	**-3.7**
XAN				pmax	pmax		
	comp=Z,10.0nm,0.5s						
XAN				pmax	pmax		

comp=Z,22nm,0.8s,baz=108,slow=8.7,SNR=76
SONM PcP **PcP** **08 25 00.9 -0.6**
comp=Z,1.3nm,0.9s,baz=141,slow=4.2,SNR=3.7
SONM LR LR 08 32 16.2
comp=Z,108nm,21.9s,baz=99,slow=36
H11N2 WAKE ISLAND Hy 28.59 119 T T 08 51 37.1
baz=313,slow=75
H11N1 WAKE ISLAND Hy 28.60 119 T T 08 51 37.5
baz=313,slow=75
H11N3 WAKE ISLAND Hy 28.61 119 T T 08 51 38.3
baz=313,slow=75,SNR=8438
WAKE Wake Island 28.72 120 *eP* P 08 21 58.0 +3.3
comp=Z,398nm,1.4s
H11S1 WAKE ISLAND Hy 29.28 121 T T 08 52 28.9
baz=314,slow=75
H11S3 WAKE ISLAND Hy 29.28 121 T T 08 52 29.4
baz=314,slow=75
H11S2 WAKE ISLAND Hy 29.30 121 T T 08 52 29.2
baz=314,slow=75,SNR=9174
LZH Lanzhou 29.44 280 *eP* **P** **08 22 04.3 +3.1**
LZH pP sP 08 22 14.8 +8.7
LZH sP pP 08 22 18.1 +13
LZH PP **PnPn** **08 22 57.0 +2.0**
LZH *eS* **S** **08 26 56.4 +1.1**
LZH sS sS 08 27 13.0 +12
LZH pmax pmax
comp=Z,21nm,1.0s
LZH pmax pmax
comp=Z,120nm,5.4s
LZH LR LR
comp=Z,890nm,15.9s
LZH LR LR
comp=Z,550nm,14.0s
LZH LR LR
comp=Z,870nm,15.7s
ZAK Zakamensk 29.92 309 *eP* **P** **08 22 03.3 -1.9**
ZAK *e* 08 25 05.3
ZAK pmax pmax
comp=Z,5.0nm,1.0s
ZAK pmax pmax
comp=Z,3.0nm,1.1s
TLY Talaya 30.01 312 *eP* **P** **08 22 06.9 +1.0**
TLY pmax pmax
comp=Z,20nm,1.1s
TLY MLR MLR
comp=Z,140nm,14.0s
TLY Talaya 30.01 312 *eP* **P** **08 22 06.9 +1.0**
comp=Z,14nm,0.8s
GYA Guiyang 30.49 260 P **P** **08 22 12.8 +2.3**
GYA pP sP 08 22 22.6 +7.1
GYA PP **PnPn** **08 23 13.0 +3.8**
GYA S **S** **08 27 09.9 -1.9**
GYA sS sS 08 27 26.8 +9.2
GYA SS **SnSn** **08 28 49.3 +1.6**
GYA ScP **ScP** **08 28 50.3 -1.7**
GYA pmax pmax
comp=Z,20nm,0.8s
GYA pmax pmax
comp=Z,120nm,5.0s
GYA LR LR
comp=Z,550nm,17.2s
GYA LR LR
comp=Z,550nm,17.6s
GYA LR LR
comp=Z,540nm,17.4s
CD2 Chengdu 30.98 270 P **P** **08 22 15.8 +1.0**
CD2 pP sP 08 22 25.8 +6.1
CD2 PP **PP** **08 23 21.0 -3.7**
CD2 S **S** **08 27 13.4 -6.0**
CD2 sS sS 08 27 36.3 +11
CD2 SS **SnSn** **08 29 10.1 +11**
CD2 pmax pmax
comp=Z,20nm,0.6s
CD2 pmax pmax
comp=Z,90nm,6.6s
CD2 LR LR
comp=Z,740nm,14.2s
CD2 LR LR
comp=Z,570nm,15.2s
CD2 LR LR
comp=Z,670nm,15.2s
GTA Gaotai 31.99 287 *eP* **P** **08 22 19.0 -4.7**
GTA pP pP 08 22 23.3 -3.9
GTA sP sP 08 22 26.5 -2.1
GTA S S 08 27 25.9 -9.3
GTA sS sS 08 27 41.6 +0.7
GTA SS **SnSn** **08 29 17.0 -7.0**
GTA pmax pmax
comp=Z,4.0nm,0.6s
GTA pmax pmax
comp=Z,71nm,5.2s
GTA LR LR
comp=N,280nm,13.1s
GTA LR LR
comp=E,230nm,15.2s
GTA LR LR
comp=Z,130nm,14.7s
QIZ Qiongzhong 32.18 245 P **P** **08 22 27.6 +2.3**
QIZ S **S** **08 27 39.3 +1.3**
QIZ LR LR
comp=Z,480nm,8.6s
QIZ LR LR
comp=Z,170nm,19.7s
KMI Kunming 34.23 261 P **P** **08 22 45.5 +2.0**
KMI pmax pmax
comp=Z,10.0nm,0.6s
KMI LR LR
comp=Z,480nm,15.2s
KMI LR LR
comp=Z,400nm,13.8s
KMI LR LR
comp=Z,540nm,17.1s
BILL Bilibino 34.51 17⇑ *iP* **P** **08 22 43.9 -1.2**
BILL *e* 08 24 01.3
BILL pmax pmax
comp=Z,14nm,0.5s
BILL MLR MLR
comp=Z,151nm,17.0s
TIXI Tiksi 35.51 354 *ceP* **P** **08 22 54.8 +1.1**
TIXI pmax pmax
comp=Z,28nm,1.7s
TIXI Tiksi 35.51 354 *eP* **P** **08 22 53.3 -0.4**
comp=Z,18nm,0.9s
NIKH Nikolski High 38.49 49 *eP* **P** **08 23 20.0 +0.7**
comp=Z,298nm,1.5s
JAY Jayapura 39.05 180 P **P** **08 23 24.3 0.0**
comp=Z,1.2nm,0.7s,baz=312,slow=23,SNR=4.4
DGZ Jazzator, Alta 40.01 306 *i* P **P** **08 23 33.6 +1.4**
DGZ pmax pmax
comp=Z,27nm,0.9s
FAKI Fak Fak 40.20 193 *eP* **P** **08 23 35.1 +1.3**
comp=Z,36nm,0.8s
WMQ Urumqi 40.36 297 P **P** **08 23 35.6 +0.5**
WMQ pP sP 08 23 46.0 +5.9
WMQ sP pP 08 23 50.8 +12
WMQ PP **PnPn** **08 25 15.5 +3.9**
WMQ S **S** **08 29 41.5 -1.4**
WMQ pmax pmax
comp=Z,28nm,0.9s
WMQ pmax pmax
comp=Z,150nm,3.9s
WMQ LR LR
comp=Z,550nm,15.3s
WMQ LR LR
comp=Z,370nm,18.9s
WMQ LR LR
comp=Z,340nm,18.9s
CMAR Chiang Mai Arr 40.75 255 P **P** **08 23 37.8 -0.8**
comp=Z,1.0nm,0.3s,baz=43,slow=7.8,SNR=5.9
CMAR PcP **PcP** **08 25 39.1 -0.7**
comp=Z,0.6nm,0.3s,baz=48,slow=1.3,SNR=4.0
CMAR LR LR 08 42 47.5
comp=Z,357nm,18.4s,baz=61,slow=40
ZAA0 Zalesovo Array 41.61 313 *eP* **P** **08 23 45.0 -0.2**
ZAA0 *ePcP* **PcP** **08 25 41.9 -0.1**
ZALV Zalesovo Beam 41.61 313 P **P** **08 23 44.5 -0.6**
comp=Z,37nm,0.6s,baz=94,slow=6.8,SNR=98
ZALV PcP **PcP** **08 25 41.3 -0.7**
comp=Z,5.4nm,0.6s,baz=84,slow=2.0,SNR=5.5
ZALV LR LR 08 41 24.7
comp=Z,40nm,18.8s,baz=68,slow=37
NVS Novosibirsk 42.55 314⇓ *iP* **P** **08 23 52.6 -0.2**
NRIK Noril'sk 43.25 336 P **P** **08 23 57.5 -0.8**
comp=Z,3.5nm,0.5s,baz=115,slow=9.1,SNR=9.0
NRIK PcP **PcP** **08 25 47.9 +0.7**
comp=Z,11nm,0.8s,baz=124,slow=2.5,SNR=5.8
NRIK LR LR 08 43 29.5
comp=Z,187nm,20.0s,baz=108,slow=38
MK01 Makanchi Array 43.69 302 *eP* **P** **08 24 02.9 +0.7**
MK31 Makanchi Array 43.70 302 *eP* **P** **08 24 02.2 0.0**
MK31 Makanchi Array 43.70 302 *eP* **P** **08 24 02.2 0.0**
MKAR Makanchi Array 43.70 302 P **P** **08 24 01.4 -0.8**
comp=Z,11nm,0.8s,baz=90,slow=9.3,SNR=34
MKAR PcP **PcP** **08 25 49.4 +0.3**
comp=Z,2.5nm,0.9s,baz=92,slow=4.8,SNR=2.9
MKAR LR LR 08 42 10.9
comp=Z,125nm,20.5s,baz=84,slow=36
MKAR Makanchi Array 43.70 302 *eP* **P** **08 24 02.1 -0.2**
MKAR 08 25 49.4
MKAR pmax pmax
comp=Z,72nm,0.8s
MKAR Makanchi Array 43.70 302 *eP* **P** **08 24 02.1 -0.2**
comp=Z,72nm,0.8s
MKAR PcP **PcP** **08 25 49.4 +0.3**
MAKZ Makanchi 43.91 302 *eP* **P** **08 24 03.9 0.0**
MAKZ pmax pmax
comp=Z,14nm,0.9s
MAKZ Makanchi 43.91 302 *eP* **P** **08 24 03.9 0.0**
comp=Z,14nm,0.9s
KURK Kurchatov 45.58 308 *eP* **P** **08 24 17.1 0.0**
KURK pmax pmax
comp=Z,65nm,0.8s
KURK Kurchatov 45.58 308 *eP* **P** **08 24 17.1 0.0**
comp=Z,65nm,0.8s
KURBB Kurchatov Arra 45.64 308 P **P** **08 24 16.5 -1.2**
comp=Z,40nm,0.7s,baz=85,slow=8.0,SNR=278
KAPI Kappang 45.86 210 *eP* **P** **08 24 20.2 +0.6**
comp=Z,27nm,1.0s
TT01 Tatalina 46.06 35 *eP* **P** **08 24 22.0 +1.2**
TTA Tatalina 46.06 35 *eP* **P** **08 24 22.3 +1.4**
TTA pmax pmax
comp=Z,7.0nm,1.0s
TTA Tatalina 46.06 35 *eP* **P** **08 24 22.3 +1.4**
comp=Z,6.9nm,1.0s
SVW2 Sparrevohn 46.18 37 *eP* **P** **08 24 23.5 +1.7**
comp=Z,26nm,1.1s
PDGK Podgornoye 46.31 298 P **P** **08 24 22.5 -0.7**
PDGK pmax pmax
comp=Z,36nm,1.0s
PMG Port Moresby 46.31 171 *eP* **P** **08 24 24.1 +0.9**
PMG pmax pmax
comp=Z,32nm,1.1s
PMG Port Moresby 46.31 171 *eP* **P** **08 24 24.1 +0.9**
comp=Z,32nm,1.1s
OHAK Old Harbor 47.44 42 *eP* **P** **08 24 31.9 +0.2**
comp=Z,42nm,1.2s
OHAK *ePcP* **PcP** **08 26 02.5 +0.6**
RSO Redoubt South 47.56 38 *eP* **P** **08 24 34.0 +1.1**
KDAK Kodiak Island 47.78 42 P **P** **08 24 34.3 0.0**
comp=Z,21nm,0.8s,baz=251,slow=2.2,SNR=13
KDAK Kodiak Island 47.78 42 *eP* **P** **08 24 34.7 +0.4**
KDAK pmax pmax
comp=Z,33nm,1.1s
KDAK Kodiak Island 47.78 42 *eP* **P** **08 24 34.7 +0.4**
comp=Z,33nm,1.1s
PPLA Purkeypile 47.81 35 *eP* **P** **08 24 36.4 +1.8**
comp=Z,31nm,1.5s
CAST Castle Rocks 47.86 34 *eP* **P** **08 24 35.1 +0.2**
comp=Z,6.7nm,0.9s
SPU Mount Spurr 47.89 37 *eP* **P** **08 24 34.5 -0.6**
KTH Kantishna Hill 48.38 34 *eP* **P** **08 24 40.0 +1.0**
comp=Z,17nm,1.0s
TRF Thorofare Moun 48.67 34 *eP* **P** **08 24 42.1 +0.8**
comp=Z,48nm,2.0s
SOEI Soe 48.71 202 *eP* **P** **08 24 41.6 -0.4**
comp=Z,76nm,0.9s
COLD Coldfoot 48.75 29 *eP* **P** **08 24 43.3 +1.6**
comp=Z,17nm,1.6s
TOLK Toolik Lake Re 49.05 27 P **P** **08 24 44.8 +0.8**
baz=267
MCK McKinley 49.27 34 *eP* **P** **08 24 46.4 +0.7**
MCK pmax pmax
comp=Z,10.0nm,0.9s
MCK McKinley 49.27 34 *eP* **P** **08 24 46.4 +0.7**
comp=Z,9.9nm,0.9s
PMR Palmer 49.28 36 *eP* **P** **08 24 46.1 +0.4**
PMR pmax pmax
comp=Z,14nm,1.0s
PMR Palmer 49.28 36 *eP* **P** **08 24 46.1 +0.4**
comp=Z,14nm,1.0s
RND Reindeer 49.31 34 *eP* **P** **08 24 46.7 +0.6**
RND pmax pmax
comp=Z,15nm,1.0s
RND Reindeer 49.31 34 *eP* **P** **08 24 46.7 +0.6**
comp=Z,15nm,1.0s
HNR Honiara 49.40 154 *eP* **P** **08 24 48.0 +0.8**
HNR pmax pmax
comp=Z,160nm,1.3s
HNR Honiara 49.40 154 *eP* **P** **08 24 48.0 +0.8**
comp=Z,160nm,1.3s
MDM Murphy Dome 49.54 32 *eP* **P** **08 24 48.7 +0.9**
comp=Z,20nm,1.0s
WRH Wood River Hil 49.61 33 *eP* **P** **08 24 49.0 +0.7**
WRH *ePcP* **PcP** **08 26 10.0 +0.4**
SML Sawmill 49.64 36 *eP* **P** **08 24 49.4 +0.8**
SML pmax pmax
comp=Z,18nm,1.0s
SML Sawmill 49.64 36 *eP* **P** **08 24 49.4 +0.8**
comp=Z,18nm,1.0s
COLA College 49.70 32 *eP* **P** **08 24 49.8 +0.9**
COLA pmax pmax
comp=Z,5.0nm,0.8s
COLA College 49.70 32 *eP* **P** **08 24 49.8 +0.9**
comp=Z,4.7nm,0.8s
CCB Clear Creek Bu 49.73 32 *eP* **P** **08 24 51.4 +2.2**
comp=Z,6.0nm,1.1s
FRU Bishkek 49.88 299 *eP* **P** **08 24 51.0 +0.3**
FRU *e* 08 24 58.0
FRU pmax pmax
comp=Z,60nm,2.0s
KSH Kashi 49.90 294 *eP* **P** **08 24 54.6 +3.6**
KSH pP sP 08 25 04.5 +8.5
KSH PP **PP** **08 26 50.8 +5.1**
KSH S **S** **08 32 01.3 +0.2**
KSH sS sS 08 32 18.3 +11
KSH SS **SS** **08 35 31.4 -2.1**
KSH pmax pmax
comp=Z,7.0nm,0.8s
KSH pmax pmax
comp=Z,120nm,6.2s
KSH LR LR
comp=Z,72nm,5.3s
KSH LR LR
comp=Z,120nm,6.7s
KSH LR LR
comp=Z,130nm,19.1s
DHY Denali Highway 50.00 34 *eP* **P** **08 24 52.1 +0.6**
DHY *ePcP* **PcP** **08 26 11.3 0.0**
AAK Ala-Archa 50.02 298 P **P** **08 24 52.1 +0.1**
comp=Z,4.4nm,0.6s,baz=115,slow=5.0,SNR=14
AAK Ala-Archa 50.02 298 *eP* **P** **08 24 51.9 -0.1**
AAK *e* 08 26 09.8
AAK pmax pmax
comp=Z,8.0nm,1.0s
AAK Ala-Archa 50.02 298 *eP* **P** **08 24 51.9 -0.1**
comp=Z,8.1nm,1.0s
AAK *ePcP* **PcP** **08 26 09.8 -1.9**
HDA Harding Lake 50.11 33 *eP* **P** **08 24 52.4 +0.3**
comp=Z,13nm,0.9s
SCM Sheep Creek Mo 50.12 36 *eP* **P** **08 24 53.3 +1.0**
SCM pmax pmax
comp=Z,35nm,1.3s
SCM Sheep Creek Mo 50.12 36 *eP* **P** **08 24 53.3 +1.0**
comp=Z,35nm,1.3s
IL1 Eielson Array 50.12 32 *eP* **P** **08 24 52.6 +0.5**
ILAR Eielson Array 50.12 32 P **P** **08 24 51.9 -0.2**
comp=Z,7.7nm,0.8s,baz=272,slow=6.2,SNR=79
ILAR LR LR 08 47 23.2
comp=Z,96nm,20.6s,baz=270,slow=38
ILB Eielson Array 50.12 32 *eP* **P** **08 24 52.7 +0.5**
BRVK Borovoye 50.32 312 *diP* **P** **08 24 53.3 -0.6**
BRVK pmax pmax
comp=Z,61nm,0.8s
BRVK Borovoye 50.32 312 *eP* **P** **08 24 54.3 +0.4**
comp=Z,26nm,0.9s
COEN Coen 50.48 177 *eP* **P** **08 24 55.7 +0.4**
comp=Z,36nm,0.8s
KLU Klutina 50.82 36 *eP* **P** **08 24 58.3 +0.7**
comp=Z,16nm,1.2s
PAX Paxson 50.88 34 *eP* **P** **08 24 59.4 +1.4**
PAX *e* 08 26 15.7
PAX pmax pmax
comp=Z,20nm,1.4s
PAX Paxson 50.88 34 *eP* **P** **08 24 59.4 +1.4**
comp=Z,20nm,1.4s
PAX *ePcP* **PcP** **08 26 15.7 +1.2**
HARP HAARP 51.08 35 *eP* **P** **08 25 00.1 +0.7**
comp=Z,63nm,1.6s
DOT Dot Lake 51.44 34 *eP* **P** **08 25 02.5 +0.3**
comp=Z,97nm,1.8s
MNAS Manas 51.48 299 P **P** **08 25 02.7 -0.2**
MNAS pmax pmax
comp=Z,22nm,0.8s
BMRM Bremner River 51.52 37 *eP* **P** **08 25 04.1 +1.3**
comp=Z,17nm,1.0s
MENT Mentasta 51.67 34 *eP* **P** **08 25 05.1 +1.2**
comp=Z,12nm,0.8s
CRQM Cirque 52.26 37 *eP* **P** **08 25 10.0 +1.5**
EGAK Eagle 52.56 32 *eP* **P** **08 25 10.9 +0.5**
comp=Z,5.8nm,0.6s
UGM Wanagama 52.59 219 *eP* **P** **08 25 11.2 0.0**
comp=Z,280nm,1.4s
KKAR Karatay Array 52.68 300 *eP* **P** **08 25 11.7 0.0**
KKAR pmax pmax
comp=Z,89nm,0.9s
KKAR Karatay Array 52.68 300 *eP* **P** **08 25 11.7 0.0**
comp=Z,89nm,0.9s
KEKH Kekaha 53.31 89 *eP* **P** **08 25 17.2 +0.6**
comp=Z,194nm,1.3s
DAWY Dawson 53.43 33 *eP* **P** **08 25 17.7 +0.8**
comp=Z,8.8nm,1.3s
SVE Sverdlovsk 54.92 319⇑ *eP* **P** **08 25 27.6 -0.2**
SVE pmax pmax
comp=Z,46nm,0.9s
INK Inuvik 54.97 27 P **P** **08 25 28.6 +0.7**
comp=Z,12nm,0.8s,baz=302,slow=3.5,SNR=12
INK Inuvik 54.97 27 *eP* **P** **08 25 29.0 +1.0**
INK pmax pmax
comp=Z,12nm,0.8s
INK Inuvik 54.97 27 *eP* **P** **08 25 28.9 +1.0**
comp=Z,12nm,0.8s
DHAK Deception Hill 55.02 39 *eP* **P** **08 25 30.0 +1.4**
comp=Z,130nm,0.6s
ARU Arti 56.13 319 *diP* **P** **08 25 35.9 -0.6**
ARU 08 26 33.0
ARU 08 27 36.3
ARU S **S** **08 33 24.4 -0.8**
ARU SS **SS** **08 37 09.0 -2.0**
ARU pmax pmax
comp=Z,43nm,0.8s
ARU Arti 56.13 319 *eP* **P** **08 25 36.3 -0.3**
comp=Z,44nm,0.9s
SOKR Solikamsk 56.15 322⇑ *iP* **P** **08 25 34.8 -1.7**
SOKR pmax pmax
comp=Z,15nm,1.0s
WHY Whitehorse 56.24 36 *eP* **P** **08 25 39.3 +1.9**
comp=Z,8.2nm,0.8s
FITZ Fitzroy Crossi 56.33 197 P **P** **08 25 38.5 +0.3**
comp=Z,13nm,0.8s,baz=24,slow=7.1,SNR=32
FITZ Fitzroy Crossi 56.33 197 *eP* **P** **08 25 39.0 +0.8**
WRAB Tennant Creek 56.66 187 *eP* **P** **08 25 41.0 +0.4**
WRAB pmax pmax
comp=Z,40nm,0.8s
WRAB Tennant Creek 56.66 187 *eP* **P** **08 25 41.0 +0.4**
comp=Z,40nm,0.8s
WB2 Warramunga Arr 56.67 187 *eP* **P** **08 25 39.9 -0.8**
comp=Z,42nm,0.8s
WRA Warramunga Arr 56.67 187 P **P** **08 25 40.2 -0.5**
comp=Z,39nm,0.8s,baz=6.1,slow=7.5,SNR=158
WRA LR LR 08 50 32.2
comp=Z,52nm,18.4s,baz=255,slow=37
WRA Warramunga Arr 56.67 187 P **P** **08 25 40.2 -0.5**
WRA pmax pmax
comp=Z,40nm,0.8s
WRA MLR MLR
comp=Z,52nm,18.4s
CTA Charters Tower 56.77 174 P **P** **08 25 40.9 -0.5**
comp=Z,3.9nm,0.6s,baz=3.4,slow=7.7,SNR=7.7
CTAO Charters Tower 56.77 174 *eP* **P** **08 25 42.1 +0.7**
CTAO pmax pmax
comp=Z,18nm,1.3s
CTAO Charters Tower 56.77 174 *eP* **P** **08 25 42.1 +0.7**
comp=Z,18nm,1.3s
HYB Hyderabad 57.51 268 *i* P **P** **08 25 47.0 +0.1**
ABKAR Akbulak array 57.61 310 *eP* **P** **08 25 46.6 -0.5**
comp=Z,164nm,0.7s
DLBC Dease Lake 59.29 38 *eP* **P** **08 25 59.5 +0.7**
comp=Z,20nm,1.3s
AS01 Alice Springs 60.39 187 *eP* **P** **08 26 06.9 +0.3**
AS31 Alice Springs 60.40 187 *eP* **P** **08 26 07.1 +0.4**
comp=Z,7.6nm,0.8s
ASAR Alice Springs 60.40 187 P **P** **08 26 06.0 -0.7**
comp=Z,21nm,0.8s,baz=11,slow=7.0,SNR=131
ASAR LR LR 08 51 16.3
comp=Z,75nm,19.4s,baz=358,slow=35
ASAR PKP2bc 08 55 38.9
comp=Z,1.3nm,0.8s,baz=185,slow=2.6,SNR=12
SPA0 Spitsbergen Ar 60.68 349 Pn **P** **08 26 07.1 -0.9**
baz=148,slow=22
SPA0 Spitsbergen Ar 60.68 349 P **P** **08 26 07.1 -0.9**
baz=148,slow=22
SPA0 Spitsbergen Ar 60.68 349 *eP* **P** **08 26 09.1 +1.0**
KBS Kingsbay 60.83 350 *eP* **P** **08 26 09.8 +0.8**
KBS pmax pmax
comp=Z,31nm,0.9s
KBS Kingsbay 60.83 350 *eP* **P** **08 26 09.8 +0.8**
comp=Z,31nm,0.9s
MBWA Marble Bar 60.84 202 *eP* **P** **08 26 10.6 +0.9**
comp=Z,14nm,0.9s
HSPB Hornsund (broa 61.60 348 *eP* **P** **08 26 14.7 +0.5**
LVZ Lovozero 62.10 336 *iP* **P** **08 26 17.4 -0.4**
LVZ pmax pmax
comp=Z,53nm,2.5s
LVZ Lovozero 62.10 336 *eP* **P** **08 26 17.7 -0.1**
comp=Z,38nm,1.2s
EIDS Eidsvold 62.56 169 *eP* **P** **08 26 21.5 +0.3**
comp=Z,20nm,0.8s
APA Apatity 62.68 336⇓ *iP* **P** **08 26 20.2 -1.4**
APA pmax pmax
comp=Z,20nm,0.7s
APA MLR MLR
comp=Z,500nm,19.0s
TMCR Tamitsa 62.68 331 *eP* **P** **08 26 21.0 -0.6**
TMCR pmax pmax
comp=Z,36nm,1.1s
RES Resolute Bay 63.06 14 *eP* **P** **08 26 24.2 +0.2**
RES pmax pmax
comp=Z,66nm,1.0s
RES Resolute Bay 63.06 14 *eP* **P** **08 26 24.2 +0.2**
comp=Z,66nm,1.0s
GEYT Alibeck 63.38 299 P **P** **08 26 26.1 -0.7**
comp=Z,2.2nm,0.5s,baz=45,slow=2.5,SNR=5.5
GEYT LR LR 08 54 01.9
comp=Z,67nm,20.1s,baz=110,slow=36
DZM Mont Dzumac 63.39 153 *eP* **P** **08 26 26.9 0.0**
comp=Z,24nm,1.1s
KEV Kevo 63.48 339 *eP* **P** **08 26 27.2 +0.3**
KEV pmax pmax
comp=Z,18nm,0.8s
KEV Kevo 63.48 339 *eP* **P** **08 26 27.2 +0.3**
comp=Z,18nm,0.8s
KLMR Klimovskoe 63.64 328 *eP* **P** **08 26 25.8 -2.3**
KLMR pmax pmax
comp=Z,28nm,0.8s
ARA0 ARCESS Array S 64.03 339 *eP* **P** **08 26 30.6 +0.1**
ARCES ARCESS Array B 64.03 339 P **P** **08 26 30.6 0.0**
comp=Z,12nm,0.8s,baz=52,slow=7.9,SNR=14
ARCES LR LR 08 57 32.7
comp=Z,61nm,20.0s,baz=46,slow=39
ARE0 ARCESS Array S 64.03 339 *eP* **P** **08 26 31.0 +0.4**
comp=Z,19nm,0.9s
YKA Yellowknife Ar 64.41 30 P **P** **08 26 32.3 -0.8**
comp=Z,5.3nm,0.7s,baz=302,slow=6.6,SNR=7.4
YKA LR LR 08 56 25.1
comp=Z,5.6nm,21.4s,baz=0.0,slow=38
YKA Yellowknife Ar 64.41 30 *iP* **P** **08 26 33.2 +0.1**
YKA pmax pmax
comp=Z,5.0nm,0.7s
MSVF Nonsavu 64.71 140 *eP* **P** **08 26 37.0 +1.3**
MSVF pmax pmax
comp=Z,17nm,1.0s
MSVF Nonsavu 64.71 140 *eP* **P** **08 26 37.0 +1.3**
comp=Z,17nm,1.0s
DAG Danmarks Havn 66.01 355 *i* P **P** **08 26 42.9 -0.4**
comp=Z,16nm,0.7s
DAG Danmarks Havn 66.01 355 *i* P **P** **08 26 42.9 -0.4**
DAG pmax pmax
comp=Z,11nm,0.7s
LLLB Lillooet 66.95 43 *eP* **P** **08 26 50.9 +1.2**

MOS **Moscow** 67.08 323 *e*P P 08 26 47.5 -2.9
MOS pmax pmax
comp=Z,51nm,0.9s
NLWA **Neilton Lookou** 67.43 47 *e*P P 08 26 54.6 +1.7
comp=Z,55nm,1.5s
ARMA **Armidale** 67.60 170 *e*P P 08 26 54.5 +0.5
comp=Z,15nm,0.9s
OBN **Obninsk** 67.92 323 ⇓*i*P P 08 26 54.0 -1.7
OBN pmax pmax
comp=Z,70nm,2.2s
E03A **Lebam** 68.03 48 *e*P P 08 26 58.3 +1.7
comp=Z,42nm,1.1s
LPSR **Galich'ya Gora** 68.09 320 *e*P P 08 26 56.0 -0.9
LPSR pmax pmax
comp=Z,50nm,0.9s
FORT **Forrest** 68.17 192 *e*P P 08 26 58.0 +0.5
comp=Z,604nm,0.7s
STKA **Stephens Creek** 68.26 179 P P 08 26 58.0 0.0
comp=Z,16nm,0.8s,baz=331,slow=7.8,SNR=29
STKA LR LR 08 57 06.6
comp=Z,60nm,19.4s,baz=17,slow=36
STKA **Stephens Creek** 68.26 179 P P 08 26 58.0 0.0
STKA pmax pmax
comp=Z,17nm,0.8s
STKA MLR MLR
comp=Z,60nm,19.4s
STKA **Stephens Creek** 68.26 179 *e*P P 08 26 58.0 0.0
comp=Z,3.6nm,0.8s
VSR **Storozhevoye** 68.70 319 *e*P P 08 26 59.6 -1.1
VSR pmax pmax
comp=Z,30nm,0.7s
FIA1 **FINESS Array S** 68.76 332 *e*P P 08 27 00.8 -0.1
comp=Z,39nm,0.8s
FINES **FINESS Array B** 68.76 332 P P 08 27 00.6 -0.3
comp=Z,28nm,0.8s,baz=60,slow=7.5,SNR=41
FINES LR LR 09 02 32.3
comp=Z,81nm,20.2s,baz=24,slow=41
F04A **Amboy** 69.03 48 *e*P P 08 27 03.5 +0.6
comp=Z,25nm,1.0s
BBOO **Buckleboo** 69.31 184 *e*P P 08 27 04.8 +0.2
comp=Z,24nm,0.8s
KEBM **Edson Butte** 69.45 51 *e*P P 08 27 07.6 +2.0
comp=Z,56nm,1.2s
B08A **Colville Reser** 69.54 44 *e*P P 08 27 06.3 +0.3
comp=Z,17nm,1.3s
I03D **Drain, OR** 69.63 50 P P 08 27 07.4 +0.8
baz=302
EDM **Edmonton** 70.01 38 *e*P P 08 27 09.5 +0.6
EDM pmax pmax
comp=Z,22nm,1.0s
EDM **Edmonton** 70.01 38 *e*P P 08 27 09.5 +0.6
comp=Z,22nm,1.0s
G05D **Wamic, OR** 70.05 48 P P 08 27 10.2 +0.9
baz=302
I04A **Tendick Farm,** 70.16 50 P P 08 27 11.0 +1.1
baz=302,SNR=6.1
E07A **Sunnyside** 70.21 46 *e*P P 08 27 10.6 +0.4
comp=Z,13nm,1.0s
L02D **Cave Junction,** 70.28 52 P P 08 27 11.5 +0.8
baz=302
HUMO **Hull Mountain** 70.45 51 *e*P P 08 27 12.9 +1.1
comp=Z,12nm,1.4s
ZEI **Tsey** 70.46 309 *e*P P 08 27 08.5 -3.5
ZEI pmax pmax
comp=Z,9.0nm,0.4s
G06A **Carlson Farm,** 70.46 48 *e*P P 08 27 13.2 +1.5
comp=Z,64nm,1.9s
D08A **Wollman Farm,** 70.47 45 *e*P P 08 27 12.4 +0.6
comp=Z,19nm,1.3s
HAWA **Hanford** 70.48 46 *e*P P 08 27 13.2 +1.3
comp=Z,10nm,1.1s
I05D **Terrebonne, OR** 70.52 49 P P 08 27 13.2 +1.0
baz=303
KBZ **Khabaz** 70.57 310 P P 08 27 12.1 -0.3
comp=Z,9.0nm,0.8s,baz=74,slow=1.2,SNR=19
KIV **Kislovodsk** 70.58 311 ⇑*i*P P 08 27 12.2 -0.4
KIV *e* 08 27 27.3
KIV pmax pmax
comp=Z,27nm,0.9s
KIV MLR MLR
comp=Z,67nm,16.0s
KIV **Kislovodsk** 70.58 311 *e*P P 08 27 12.6 0.0
comp=Z,20nm,0.7s
J04D **Umpqua Nationa** 70.64 50 P P 08 27 14.2 +1.1
baz=303
NEW **Newport** 70.82 44 P P 08 27 14.7 +0.8
baz=304,SNR=6.4
NEW **Newport** 70.82 44 *e*P P 08 27 14.8 +0.8
NEW pmax pmax
comp=Z,11nm,1.0s
NEW **Newport** 70.82 44 *e*P P 08 27 14.8 +0.8
comp=Z,10nm,1.0s
KHMM **Horse Mountain** 70.88 53 *e*P P 08 27 16.4 +1.9
comp=Z,78nm,1.8s
NEY **Neytrino** 70.94 310 ⇑*e*P P 08 27 15.2 +0.3
NEY pmax pmax
comp=Z,1.0nm,0.6s
SUMG **Summit** 70.98 360 *i*P P 08 27 15.7 +0.8
comp=Z,23nm,0.8s
SUMG **Summit** 70.98 360 *e*P P 08 27 15.8 +0.8
SUMG pmax pmax
comp=Z,26nm,0.9s
SUMG **Summit** 70.98 360 *e*P P 08 27 15.8 +0.9
comp=Z,26nm,0.9s
YBH **Yreka Blue Hor** 71.07 52 *e*P P 08 27 17.5 +1.9
YBH pmax pmax
comp=Z,9.0nm,1.1s
YBH **Yreka Blue Hor** 71.07 52 *e*P P 08 27 17.5 +1.9
comp=Z,8.5nm,1.1s
J05D **Fort Rock, OR** 71.15 50 P P 08 27 17.6 +1.4
baz=303,SNR=7.4
M02C **Callahan** 71.16 52 P P 08 27 17.6 +1.4
baz=303,SNR=5.8
K04D **Chiloquin, OR** 71.19 51 P P 08 27 17.3 +0.9
baz=303
E09A **Wood Farm, Sta** 71.22 46 *e*P P 08 27 17.4 +1.1
comp=Z,26nm,1.2s
UOSS **Minazif** 71.24 287 *e*P P 08 27 16.7 -0.1
comp=Z,9.8nm,1.0s
GNI **Garni** 71.33 306 ⇑*e*P P 08 27 18.1 +0.8
GNI pmax pmax
comp=Z,35nm,1.6s
AKH **Akhalkalaki** 71.45 308 ⇑*i*P P 08 27 18.8 +0.8
N02D **Trinity Center** 71.48 52 P P 08 27 19.5 +1.3
baz=303,SNR=5.3
M04C **Macdoel** 71.59 51 P P 08 27 20.1 +1.3
baz=303,SNR=9.4
KCPM **Cahto Peak** 71.61 54 *e*P P 08 27 20.5 +1.5
comp=Z,113nm,1.8s
K05A **Summer Lake** 71.67 50 *e*P P 08 27 20.9 +1.6
comp=Z,35nm,1.2s
WDC **Whiskeytown Da** 71.80 53 *e*P P 08 27 20.9 +1.0
WDC pmax pmax
comp=Z,10.0nm,1.1s
WDC **Whiskeytown Da** 71.80 53 *e*P P 08 27 20.9 +1.0
comp=Z,9.8nm,1.1s
F10A **Beach Ranch, E** 72.05 46 *e*P P 08 27 22.6 +1.1
comp=Z,14nm,1.1s
WALA **Waterton Lakes** 72.12 42 *e*P P 08 27 22.9 +1.1
comp=Z,28nm,1.4s
SCO **Scoresbysund** 72.34 354 *i*P P 08 27 23.1 +0.5
comp=Z,33nm,1.1s
SCO **Scoresbysund** 72.34 354 *i*P P 08 27 23.1 +0.5
SCO pmax pmax
comp=Z,33nm,1.1s
O03D **Paynes Creek** 72.43 53 P P 08 27 24.2 +0.4
baz=304,SNR=6.6
MOD **Modoc Plateau** 72.49 51 *e*P P 08 27 25.1 +0.9
comp=Z,27nm,1.8s
NACGM **Naroch** 72.59 326 *e* P 08 27 24.0 -0.4
BMO **Blue Mountains** 72.64 47 *e*P P 08 27 25.9 +0.9
BMO pmax pmax
comp=Z,20nm,1.3s
BMO **Blue Mountains** 72.64 47 *e*P P 08 27 25.9 +0.9
comp=Z,20nm,1.3s
NWAO **Narrogin (SRO)** 72.64 200 P P 08 27 25.4 +0.6
comp=Z,9.4nm,0.8s,baz=278,slow=6.7,SNR=5.3
NWAO **Narrogin (SRO)** 72.64 200 *e*P P 08 27 25.5 +0.7
NWAO pmax pmax
comp=Z,33nm,0.3s
NWAO **Narrogin (SRO)** 72.64 200 *e*P P 08 27 25.5 +0.7
comp=Z,33nm,0.3s
JTMT **Jette** 72.69 43 *e*P P 08 27 26.6 +1.4
YBMT **Yellow Bay** 72.77 43 *e*P P 08 27 27.0 +1.3
SWMT **Swartz Lake** 72.98 43 *e*P P 08 27 27.3 +0.3
ORV **Oroville** 73.03 53 *e*P P 08 27 27.6 +0.3
ORV pmax pmax
comp=Z,8.0nm,0.9s
ORV **Oroville** 73.03 53 *e*P P 08 27 27.6 +0.3
comp=Z,8.1nm,0.9s
WVOR **Wild Horse Val** 73.21 49 *e*P P 08 27 28.9 +0.4
WVOR pmax pmax
comp=Z,43nm,1.9s
WVOR **Wild Horse Val** 73.21 49 *e*P P 08 27 28.9 +0.4
comp=Z,43nm,1.9s
MSO **Missoula** 73.41 44 P P 08 27 29.5 0.0
baz=306
MSO **Missoula** 73.41 44 *e*P P 08 27 29.9 +0.4
comp=Z,12nm,1.2s
SLMT **Seeley Lake** 73.42 43 *e*P P 08 27 30.2 +0.5
BEKR **Beckworth** 73.59 52 *e*P P 08 27 31.6 +0.8
comp=Z,18nm,1.0s
AFDM **Forest Hills D** 73.71 53 *e*P P 08 27 31.2 -0.2
comp=Z,11nm,1.3s
CHMT **Chamberlain Mo** 73.74 43 *e*P P 08 27 32.1 +0.5
NC405 **NORSAR Array S** 73.98 337 *e*P P 08 27 32.6 +0.1
NC303 **NORSAR Array S** 74.00 337 *e*P P 08 27 32.8 +0.2
ILULI **Ilulissat** 74.02 4 *i*P P 08 27 32.3 -0.2
comp=Z,20nm,0.9s
ILULI **Ilulissat** 74.02 4 *i*P P 08 27 32.3 -0.2
ILULI pmax pmax
comp=Z,20nm,0.9s
HFS **Hagfors** 74.08 335 LR LR 09 05 33.4
comp=Z,124nm,18.1s,baz=27,slow=40
AKASG **Malin Array Be** 74.11 322 P P 08 27 32.6 -0.8
comp=Z,18nm,0.8s,baz=48,slow=6.1,SNR=45
AKBB **Malin Array Si** 74.11 322 *e*P P 08 27 33.1 -0.3
AKBB pmax pmax
comp=Z,22nm,0.8s
AKBB **Malin Array Si** 74.11 322 *e*P P 08 27 33.0 -0.3
comp=Z,22nm,0.8s
KIEV **Kiev** 74.12 322 *e*P P 08 27 33.0 -0.5
KIEV pmax pmax
comp=Z,22nm,0.8s
KIEV **Kiev** 74.12 322 *e*P P 08 27 33.0 -0.5
comp=Z,22nm,0.8s
AK11 **Malin Array Si** 74.15 322 *e*P P 08 27 32.7 -0.9
NC204 **NORSAR Array S** 74.16 337 *e*P P 08 27 33.4 -0.2
NB201 **NORSAR Array S** 74.16 337 *e*P P 08 27 33.6 +0.1
NB2 **NORSAR Subarra** 74.20 337 P P 08 27 33.2 -0.6
baz=39,slow=6.2
NB2 **NORSAR Subarra** 74.20 337 P P 08 27 33.2 -0.6
comp=Z,21nm,0.9s,baz=39,slow=6.2
NOA **NORSAR Array B** 74.20 337 P P 08 27 33.4 -0.4
comp=Z,16nm,0.9s,baz=39,slow=5.8,SNR=32
NOA LR LR 09 03 13.7
comp=Z,90nm,20.5s,baz=30,slow=38
PAHR **Pah Rah Range** 74.30 52 *e*P P 08 27 35.8 +0.9
comp=Z,16nm,1.1s
NBO02 **NORSAR Array S** 74.30 337 *e*P P 08 27 34.1 -0.2
FFC **Flin Flon** 74.33 32 *e*P P 08 27 35.5 +0.9
FFC pmax pmax
comp=Z,22nm,1.0s
FFC **Flin Flon** 74.33 32 *e*P P 08 27 35.5 +0.9
comp=Z,22nm,1.0s
MFID **Camas Ranch** 74.34 47 *e*P P 08 27 36.1 +1.0
comp=Z,15nm,1.2s
NBO00 **NORSAR Array S** 74.34 337 *e*P P 08 27 34.7 +0.1
NAO01 **NORSAR Array S** 74.45 337 *e*P P 08 27 35.2 0.0
PNTR **Pine Nut** 74.51 53 *e*P P 08 27 37.4 +1.1
comp=Z,10.0nm,0.9s
CMB **Columbia Colle** 74.60 54 *e*P P 08 27 38.0 +1.4
CMB pmax pmax
comp=Z,23nm,1.3s
CMB **Columbia Colle** 74.60 54 *e*P P 08 27 38.0 +1.4
comp=Z,23nm,1.3s
SAO **San Andreas Ge** 74.63 56 *e*P P 08 27 38.9 +2.2
SAO pmax pmax
comp=Z,10.0nm,1.0s
SAO **San Andreas Ge** 74.63 56 *e*P P 08 27 38.9 +2.2
comp=Z,10nm,1.0s
HRY **Holter Researc** 74.64 43 *e*P P 08 27 38.0 +1.3
YERR **Yerington** 74.80 53 *e*P P 08 27 39.1 +1.1
comp=Z,20nm,1.0s
LRM **Limekiln Ridge** 74.84 44 *e*P P 08 27 38.8 +0.7
WAKR **Walker** 74.95 53 *e*P P 08 27 39.2 +0.5
comp=Z,8.9nm,0.9s
EGMT **Eagleton** 74.95 41 P P 08 27 38.7 +0.3
baz=309,SNR=9.5
EGMT **Eagleton** 74.95 41 *e*P P 08 27 38.9 +0.4
comp=Z,32nm,1.0s
DLMT **Dillon** 75.04 44 *e*P P 08 27 39.6 +0.5
comp=Z,21nm,0.8s
SIM **Simferopol'** 75.06 315 P P 08 27 38.8 -0.2
SIM pmax pmax
comp=Z,23nm,0.8s
HLID **Hailey** 75.08 47 P P 08 27 40.2 +0.8
baz=307,SNR=15
HLID **Hailey** 75.08 47 *e*P P 08 27 40.5 +1.0
comp=Z,7.7nm,0.9s
MCMT **McKenzie Canyo** 75.22 45 *e*P P 08 27 41.5 +1.2
BMN **Battle Mountai** 75.23 50 *e*P P 08 27 41.6 +1.3
BMN pmax pmax
comp=Z,23nm,1.2s
BMN **Battle Mountai** 75.23 50 *e*P P 08 27 41.6 +1.3
comp=Z,23nm,1.2s
TVH3 **East Aurora ar** 75.43 53 *e*P P 08 27 42.4 +0.8
comp=Z,19nm,1.1s
BOZ **Bozeman (W)** 75.44 44 P P 08 27 42.2 +0.8
baz=308,SNR=18
BOZ **Bozeman (W)** 75.44 44 *e*P P 08 27 42.1 +0.7
BOZ pmax pmax
comp=Z,14nm,0.9s
BOZ **Bozeman (W)** 75.44 44 *e*P P 08 27 42.1 +0.7
comp=Z,14nm,0.9s
TVH2 **Borealis Mine** 75.46 53 *e*P P 08 27 42.9 +1.1
comp=Z,8.2nm,1.0s
MARD **Mardin** 75.48 306 *e*P P 08 27 42.0 +0.2
comp=Z,15nm,0.7s
MLAC **Mammoth, Mammo** 75.84 54 P P 08 27 45.3 +1.4
baz=306
PAGB **Antelope Grade** 76.01 56 *e*P P 08 27 46.3 +1.6
comp=Z,22nm,1.0s
QLMT **Earthquake Lak** 76.02 44 *e*P P 08 27 46.2 +1.4
YHB **Horse Butte** 76.20 44 *e*P P 08 27 47.2 +1.4
comp=Z,14nm,0.9s
SFJD **Kangerlussuaq** 76.24 4 *i*P P 08 27 45.4 0.0
comp=Z,15nm,0.9s
SFJD **Kangerlussuaq** 76.24 4 *e*P P 08 27 45.8 +0.4
SFJD pmax pmax
comp=Z,17nm,0.9s
SFJD **Kangerlussuaq** 76.24 4 *e*P P 08 27 45.8 +0.4
comp=Z,17nm,0.9s
YHH **Holmes Hill** 76.37 44 *e*P P 08 27 48.0 +1.1
comp=Z,5.7nm,0.9s
YMR **Madison River** 76.38 44 *e*P P 08 27 48.6 +1.7
comp=Z,8.8nm,0.7s
GCMT **Greycliff** 76.39 43 *e*P P 08 27 48.3 +1.4
YFT **Old Faithful** 76.59 44 *e*P P 08 27 49.4 +1.3
comp=Z,13nm,1.0s
YPP **Pitchstone Pla** 76.72 44 *e*P P 08 27 50.9 +2.0
comp=Z,24nm,1.6s
VES **Vestal, Richgr** 76.72 55 P P 08 27 48.6 0.0
baz=306,SNR=6.9
LKWY **Lake** 76.76 44 *e*P P 08 27 49.4 +0.3
LKWY pmax pmax
comp=Z,13nm,1.0s
LKWY **Lake** 76.76 44 *e*P P 08 27 49.4 +0.3
comp=Z,13nm,1.0s
H17A **Grant Village** 76.77 44 P P 08 27 51.4 +2.4
baz=309,SNR=18
H17A **Grant Village** 76.77 44 *e*P P 08 27 51.5 +2.4
comp=Z,28nm,1.0s
PKM **Mcpherson Peak** 76.79 56 P P 08 27 50.6 +1.3
baz=306,SNR=5.4
IMW **Indian Meadow** 76.87 45 *e*P P 08 27 51.4 +1.6
comp=Z,17nm,0.9s
CWC **Cottonwood Cre** 77.03 54 P P 08 27 50.9 +0.3
baz=306
RLMT **Red Lodge** 77.03 43 P P 08 27 51.6 +1.1
baz=310,SNR=6.8
RLMT **Red Lodge** 77.03 43 *e*P P 08 27 51.1 +0.5
comp=Z,20nm,1.4s
MOOW **Moose Ponds** 77.08 45 *e*P P 08 27 52.1 +1.3
comp=Z,12nm,1.2s
TPAW **Teton Pass** 77.12 45 *e*P P 08 27 52.8 +1.7
comp=Z,9.3nm,0.8s
HVU **Hansel Valley** 77.12 47 *e*P P 08 27 52.2 +1.1
HVU pmax pmax
comp=Z,16nm,1.0s
HVU **Hansel Valley** 77.12 47 *e*P P 08 27 52.2 +1.1
comp=Z,16nm,1.0s
GRAC **Grapevine Rang** 77.16 53 P P 08 27 52.5 +1.3
baz=306,SNR=14
LVV **L'vov** 77.21 324 *e*P P 08 27 52.4 +1.2
FRB **Frobisher Bay** 77.22 13 LR LR 09 05 13.8
comp=Z,81nm,19.7s,baz=2.0,slow=38
ISA **Isabella, Lake** 77.22 55 P P 08 27 51.8 +0.2
baz=306
LOHW **Long Hollow** 77.24 45 *e*P P 08 27 52.9 +1.2
comp=Z,6.0nm,1.0s
SNOW **Snow King Moun** 77.25 45 *e*P P 08 27 53.2 +1.4
comp=Z,11nm,0.9s
REDW **Red Top Meadow** 77.26 45 *e*P P 08 27 51.3 -0.6
comp=Z,16nm,1.1s
BEL **Belsk** 77.32 326 *e*P P 08 27 52.1 +0.4
BEL **Belsk** 77.32 326 *e*P P 08 27 52.1 +0.4
DAC **Darwin (Calif)** 77.44 54 *e*P P 08 27 53.5 +0.5
DAC pmax pmax
comp=Z,7.0nm,1.1s
DAC **Darwin (Calif)** 77.44 54 *e*P P 08 27 53.5 +0.5
comp=Z,7.4nm,1.1s
R11A **Troy Canyon, C** 77.49 51 P P 08 27 54.2 +1.0
baz=307,SNR=25
R11A **Troy Canyon, C** 77.49 51 *e*P P 08 27 53.7 +0.5
comp=Z,15nm,1.0s
BGU **Big Grassy Mou** 77.49 48 *e*P P 08 27 54.3 +1.2
comp=Z,9.7nm,1.0s
DGMT **Dagmar** 77.50 38 P P 08 27 53.2 +0.3
baz=312,SNR=7.0
DGMT **Dagmar** 77.50 38 *e*P P 08 27 53.6 +0.7
comp=Z,29nm,1.1s
SPUT **South Promonto** 77.60 48 *e*P P 08 27 55.3 +1.5
comp=Z,9.2nm,1.2s
MPMC **Manual Prospec** 77.64 54 P P 08 27 54.7 +0.7
baz=307,SNR=8.7
LAO **LASA Array** 77.65 40 P P 08 27 54.4 +0.6
baz=311,SNR=6.3
LAO **LASA Array** 77.65 40 *e*P P 08 27 55.1 +1.3
comp=Z,22nm,1.1s
ILGA **Ilgaz** 77.67 312 *e*P P 08 27 55.1 +0.9
comp=Z,26nm,0.9s
FURC **Furnace Creek,** 77.80 54 P P 08 27 55.6 +1.0
baz=307,SNR=14
TLCR 77.84 318 ⇑*i*P P 08 27 54.8 0.0
LRMC **Laurel Mtn Rad** 77.85 55 P P 08 27 55.8 +0.6
baz=307,SNR=6.7
BORG **Borgarnes** 77.85 352 *e*P P 08 27 56.7 +2.3
BORG pmax pmax
comp=Z,42nm,1.0s
BORG **Borgarnes** 77.85 352 *e*P P 08 27 56.7 +2.3
comp=Z,42nm,1.0s
TPNV **Topopah Spring** 77.91 53 P P 08 27 56.2 +0.7
baz=307,SNR=22
TPNV **Topopah Spring** 77.91 53 *e*P P 08 27 56.6 +1.0
TPNV pmax pmax
comp=Z,18nm,1.0s
TPNV **Topopah Spring** 77.91 53 *e*P P 08 27 56.5 +1.0
comp=Z,18nm,1.0s
HWUT **Hardware Ranch** 77.94 47 *e*P P 08 27 56.9 +1.2
comp=Z,21nm,1.1s
KWP **Kalwaria Pacla** 77.97 324 *e*P P 08 27 56.0 +0.5
KWP **Kalwaria Pacla** 77.97 324 *e*P P 08 27 56.0 +0.5
EDW2 **Edwards Air Fo** 78.00 55 P P 08 27 56.7 +0.8
baz=307,SNR=7.0
DUG **Dugway, Tooele** 78.07 49 P P 08 27 57.5 +1.1
baz=308,SNR=23
DUG **Dugway, Tooele** 78.07 49 *e*P P 08 27 57.1 +0.7
DUG pmax pmax
comp=Z,27nm,1.2s
DUG **Dugway, Tooele** 78.07 49 *e*P P 08 27 57.1 +0.7
comp=Z,27nm,1.2s
BUR08 **Bucovina Ar. S** 78.11 321 *e*P P 08 27 56.6 +0.2
BURAR **Bucovina Array** 78.12 321 ⇑*i*P P 08 27 56.6 +0.1
BURAR **Bucovina Array** 78.12 321 P P 08 27 56.5 +0.1
TESR **Tescani** 78.12 320 ⇑*i*P P 08 27 56.5 +0.2
PETR **Petresti** 78.34 319 ⇑*i*P P 08 27 58.6 +1.1
BW06 **Boulder Array** 78.37 45 P P 08 27 58.2 +0.1
baz=310,SNR=11
BW06 **Boulder Array** 78.37 45 *e*P P 08 27 58.4 +0.3
comp=Z,5.7nm,0.7s
PD31 **Pinedale Array** 78.37 45 *e*P P 08 27 58.5 +0.4
PDAR **Pinedale Array** 78.37 45 P P 08 27 58.3 +0.2
comp=Z,5.8nm,0.8s,baz=276,slow=2.0,SNR=48
VRI **Vrincioaia** 78.51 319 ⇓*i*P P 08 27 59.5 +1.0
SHOC **Shoshone, Teco** 78.52 54 P P 08 27 59.2 +0.4
baz=307
TIRR **Tirgusor** 78.53 317 ⇑*i*P P 08 27 59.3 +0.7
BR131 **Keskin Array S** 78.53 311 *e*P P 08 27 58.7 -0.3
BRTR **Keskin Array B** 78.53 311 P P 08 27 59.0 0.0
comp=Z,5.6nm,0.9s,baz=101,slow=4.4,SNR=19
BRTR **Keskin Array B** 78.53 311 P P 08 27 59.0 0.0
BRTR pmax pmax
comp=Z,6.0nm,0.9s
GSC **Goldstone, Bar** 78.53 55 P P 08 27 59.4 +0.5
baz=307,SNR=5.6
GSC **Goldstone, Bar** 78.53 55 *e*P P 08 27 59.7 +0.7
GSC pmax pmax
comp=Z,13nm,1.3s
GSC **Goldstone, Bar** 78.53 55 *e*P P 08 27 59.7 +0.7
comp=Z,13nm,1.3s
PLOR **Plostina** 78.56 319 ⇓*i*P P 08 27 58.7 -0.1
CIS **Catalina Islan** 78.60 57 P P 08 27 59.6 +0.3
baz=307
BFSC **Mount Baldy Ra** 78.61 56 P P 08 27 59.6 +0.2
baz=307
JLU **Jordanelle** 78.64 48 *e*P P 08 28 00.6 +1.0
comp=Z,11nm,1.0s
HARR **Harsova** 78.64 318 ⇑*i*P P 08 27 59.3 +0.1
TLB **Topalu** 78.65 318 ⇓*i*P P 08 27 58.9 -0.3
STHS **Stebnicka Huta** 78.81 325 *e*P P 08 28 00.7 +0.6
STHS pmax pmax
comp=Z,9.0nm,0.9s
STHS **Stebnicka Huta** 78.81 325 *e*P P 08 28 00.7 +0.6
SHPR **Sheep Range** 78.87 53 *e*P P 08 28 01.5 +0.6
comp=Z,12nm,1.0s
OJC **Ojcow** 78.90 326 *e*P P 08 28 00.5 -0.1
OJC **Ojcow** 78.90 326 *e*P P 08 28 00.6 0.0
OJC pmax pmax
comp=Z,31nm,1.0s
OJC **Ojcow** 78.90 326 *e*P P 08 28 00.6 0.0
comp=Z,31nm,1.0s
BR231 **Keskin MP Arra** 78.98 312 *e*P P 08 28 00.0 -1.4
TUQ **Turquoise Moun** 79.03 54 P P 08 28 02.4 +0.7
baz=308,SNR=13
BBRC **Big Bear Solar** 79.08 55 P P 08 28 02.4 +0.2
baz=307
ISR **Istrita** 79.10 319 ⇓*i*P P 08 28 03.1 +1.2
ISR **Istrita** 79.10 319 P P 08 28 03.0 +1.2
HEC **Hector,Ludlow** 79.13 55 P P 08 28 02.9 +0.7
baz=307,SNR=6.1
DOPR **Dopca** 79.14 320 ⇑*i*P P 08 28 03.1 +1.1
MLR **Muntele Rosu** 79.17 319 ⇑*i*P P 08 28 02.5 +0.2
MLR **Muntele Rosu** 79.17 319 P P 08 28 02.5 +0.2
NIE **Niedzica** 79.24 325 *e*P P 08 28 03.0 +0.5
NIE **Niedzica** 79.24 325 *e*P P 08 28 03.0 +0.5
TCRU **Three Creeks R** 79.28 50 *e*P P 08 28 05.0 +1.8
comp=Z,9.3nm,0.9s
MURC **Murrieta** 79.30 56 P P 08 28 02.9 -0.2
baz=307
CCUT **Cedar City** 79.37 51 *e*P P 08 28 03.8 +0.2
comp=Z,13nm,1.2s
MSU **Marysvale** 79.50 50 *e*P P 08 28 06.0 +1.6
MSU **Marysvale** 79.50 50 *e*P P 08 28 06.0 +1.6
SZCU **Shurtz Canyon** 79.51 51 *e*P P 08 28 05.8 +1.3
comp=Z,4.4nm,1.0s
GMRC **Granite Mounta** 79.59 54 P P 08 28 05.3 +0.5
baz=308,SNR=11
TMUT **Trail Mountain** 79.60 49 *e*P P 08 28 06.1 +1.1
comp=Z,16nm,1.3s
VOIR 79.67 320 ⇓*i*P P 08 28 05.6 +0.6
VOIR 79.67 320 P P 08 28 05.5 +0.6
LDFC **Landfair** 79.77 54 *e*P P 08 28 06.8 +1.0
comp=Z,17nm,1.0s
LCMT **Little Creek M** 79.78 51 *e*P P 08 28 06.9 +1.2
comp=Z,17nm,1.1s
PFO **Pinyon Flats O** 79.78 56 P P 08 28 06.1 +0.3
baz=308,SNR=5.8
PFO **Pinyon Flats O** 79.78 56 *e*P P 08 28 06.7 +0.9
PFO pmax pmax
comp=Z,9.0nm,1.0s
PFO **Pinyon Flats O** 79.78 56 *e*P P 08 28 06.7 +0.9
comp=Z,9.2nm,1.0s
109C **Camp Elliot, M** 79.78 57 P P 08 28 06.0 +0.4
baz=307
TPFO **Pinon Flats** 79.79 56 P P 08 28 06.0 +0.2
baz=308,SNR=6.8
MTPU **Mount Pierson** 79.79 50 *e*P P 08 28 08.2 +2.1
comp=Z,16nm,1.0s

LANS **Liptovska Anna** 79.82 325 *e*P P 08 28 06.5 +0.9
LANS **Liptovska Anna** 79.82 325 *e*P P 08 28 06.5 +0.9
KECS **Kecovo** 79.82 324 *e*P P 08 28 05.9 +0.3
KECS pmax pmax
comp=Z,3.0nm,0.8s
KECS **Kecovo** 79.82 324 *e*P P 08 28 05.9 +0.3
BELC **Belle Mtn. Jos** 79.85 55 P P 08 28 06.3 +0.1
baz=308,SNR=5.8
DRGR 79.93 322 ⇓ *i*P P 08 28 06.5 +0.2
DRGR 79.93 322 P P 08 28 06.5 +0.2
ARR **Arges** 79.93 320 ⇑ *i*P P 08 28 07.4 +1.0
KSP **Ksiaz** 79.99 328 *e*P P 08 28 06.6 +0.1
KSP **Ksiaz** 79.99 328 *e*P P 08 28 06.6 +0.1
KNB **Kanab** 80.04 51 *e*P P 08 28 08.7 +1.5
KNB pmax pmax
comp=Z,25nm,1.2s
KNB **Kanab** 80.04 51 *e*P P 08 28 08.7 +1.5
comp=Z,25nm,1.2s
SRU **San Rafael Swe** 80.13 48 *e*P P 08 28 08.4 +0.7
SRU pmax pmax
comp=Z,22nm,0.7s
SRU **San Rafael Swe** 80.13 48 *e*P P 08 28 08.4 +0.7
comp=Z,22nm,0.7s
ULM **Lac du Bonnet** 80.13 33 P P 08 28 07.2 -0.1
comp=Z,11nm,0.8s,baz=310,slow=7.4,SNR=11
ULM LR LR 09 05 47.9
comp=Z,41nm,19.6s,baz=314,slow=37
ULM **Lac du Bonnet** 80.13 33 *e*P P 08 28 07.3 +0.1
ULM pmax pmax
comp=Z,14nm,0.8s
ULM **Lac du Bonnet** 80.13 33 *e*P P 08 28 07.3 +0.1
comp=Z,14nm,0.8s
K22A **Casper** 80.14 44 P P 08 28 08.1 +0.3
baz=312,SNR=7.1
K22A **Casper** 80.14 44 *e*P P 08 28 08.3 +0.6
comp=Z,12nm,0.9s
MDND **Maddock** 80.16 36 P P 08 28 07.4 -0.1
baz=315
BAR **Barrett** 80.20 57 *e*P P 08 28 08.8 +0.8
comp=Z,13nm,1.1s
MORC **Moravsky Berou** 80.23 327 ⇑ *i*P P 08 28 08.2 +0.3
MORC **Moravsky Berou** 80.23 327 *e*P P 08 28 07.8 -0.1
MORC pmax pmax
comp=Z,52nm,0.9s
MORC **Moravsky Berou** 80.23 327 *e*P P 08 28 07.8 -0.1
comp=Z,52nm,0.9s
MONP **Monument Peak,** 80.24 56 P P 08 28 08.6 +0.1
baz=308,SNR=6.4
MMU **Miners Mountai** 80.24 49 *e*P P 08 28 09.3 +0.9
IRM **Iron Mountain** 80.31 55 P P 08 28 09.3 +0.7
baz=308,SNR=8.2
DPC **Dobruska-Polom** 80.34 328 *e*P P 08 28 08.8 +0.3
DPC **Dobruska-Polom** 80.34 328 *e*P P 08 28 08.8 +0.3
KRLC **Kraliky** 80.35 327 *e*P P 08 28 08.7 +0.2
KRLC **Kraliky** 80.35 327 *e*P P 08 28 08.7 +0.2
UPC **Upice** 80.36 328 *e*P P 08 28 08.8 +0.3
UPC **Upice** 80.36 328 *e*P P 08 28 08.8 +0.3
RWWY **Rawlins** 80.39 45 *e*P P 08 28 09.6 +0.4
comp=Z,14nm,1.0s
BC3 **Big Chuckawall** 80.42 55 P P 08 28 09.6 +0.4
baz=308,SNR=6.4
PSZ **Piszkesteto** 80.50 324 ⇑ *i*P P 08 28 09.9 +0.5
PSZ **Piszkesteto** 80.50 324 *e*P P 08 28 09.6 +0.2
PSZ pmax pmax
comp=Z,19nm,1.0s
PSZ **Piszkesteto** 80.50 324 ⇓ *e*PKKPbc P 08 28 09.6 +0.2
PSZ **Piszkesteto** 80.50 324 *e*P P 08 28 09.6 +0.2
comp=Z,19nm,1.0s
RSSD **Black Hills** 80.51 41 P P 08 28 09.4 -0.4
baz=313
RSSD **Black Hills** 80.51 41 *e*P P 08 28 09.8 +0.1
RSSD pmax pmax
comp=Z,8.0nm,1.1s
RSSD **Black Hills** 80.51 41 *e*P P 08 28 09.8 +0.1
comp=Z,8.0nm,1.1s
W13A **Hualapai Mount** 80.55 53 *e*P P 08 28 10.8 +0.7
comp=Z,5.3nm,1.0s
VYHS **Vyhne** 80.58 325 *e*P P 08 28 09.5 -0.2
VYHS pmax pmax
comp=Z,6.0nm,1.0s
VYHS **Vyhne** 80.58 325 *e*P P 08 28 09.5 -0.2
IKP **In-Ko-Pah, Jac** 80.59 56 P P 08 28 10.6 +0.4
baz=308,SNR=5.2
SWSC **Sam W. Stewart** 80.62 56 P P 08 28 10.5 +0.3
baz=308
B31A **Greenbush Farm** 80.67 35 P P 08 28 10.0 -0.2
baz=316,SNR=8.6
U15A **North Rim** 80.74 51 *e*P P 08 28 11.8 +0.7
comp=Z,10nm,0.9s
SIRR **Siria** 80.81 322 ⇓ *i*P P 08 28 11.0 0.0
O20A **White River Ci** 80.82 46 P P 08 28 11.8 +0.5
baz=311,SNR=6.0
O20A **White River Ci** 80.82 46 *e*P P 08 28 11.9 +0.5
comp=Z,12nm,1.0s
A32A **Rocking H Ranc** 80.83 34 P P 08 28 10.5 -0.5
baz=317,SNR=13
GZR **Gura Zlata** 80.87 321 ⇑ *i*P P 08 28 11.5 +0.1
PDMCI **Parker Dam,Lak** 80.88 54 P P 08 28 12.0 +0.4
baz=308,SNR=9.4
BRG **Berggiesshubel** 80.96 329 *i* P P 08 28 11.6 -0.1
comp=Z,13nm,0.8s
BRG **Berggiesshubel** 80.96 329 *i* P P 08 28 11.6 -0.1
BRG pmax pmax
comp=Z,13nm,0.8s
PVCC **Panska Ves** 80.96 328 *e*P P 08 28 12.1 +0.4
PVCC **Panska Ves** 80.96 328 *e*P P 08 28 12.1 +0.4
Y12C **Blythe** 80.97 55 P P 08 28 12.8 +0.7
baz=308,SNR=7.1
Y12C **Blythe** 80.97 55 *e*P P 08 28 13.0 +0.9
comp=Z,12nm,1.0s
CLL **Collm** 81.01 330 *e*P P 08 28 11.7 -0.2
CLL pmax pmax
comp=Z,26nm,0.8s
CLL **Collm** 81.01 330 ⇓ *i*P P 08 28 11.5 -0.4
comp=Z,29nm,0.9s
CLL LmV 09 08 00.0
comp=Z,100nm,18.0s
CLL **Collm** 81.01 330 *e*P P 08 28 11.7 -0.2
comp=Z,26nm,0.8s
C31A **Landman Farms,** 81.08 35 P P 08 28 12.2 -0.2
baz=316,SNR=7.6
B32A **Ashes, Strandq** 81.20 34 P P 08 28 12.3 -0.7
baz=317,SNR=18
GLA **Glamis** 81.20 55 P P 08 28 13.6 +0.2
baz=308
BZS **Buzias** 81.29 322 ⇓ *i*P P 08 28 13.3 -0.3
A33A **Warroad** 81.31 34 P P 08 28 13.0 -0.6
baz=318,SNR=7.7
GOPC **GO Pecny, Ondr** 81.33 328 *e*P P 08 28 14.0 +0.3
GOPC **GO Pecny, Ondr** 81.33 328 *e*P P 08 28 14.0 +0.3
PV09 **Paradox Valley** 81.35 48 *e*P P 08 28 15.5 +1.1
PRU **Pruhonice** 81.38 328 *e*P P 08 28 14.3 +0.4
PRU AMS AMS 09 08 10.0
comp=Z,200nm,15.2s
PRU **Pruhonice** 81.38 328 *e*P P 08 28 14.3 +0.4
PRU MLR MLR
comp=Z,200nm,15.2s
PV10 **Paradox Valley** 81.49 48 *e*P P 08 28 16.0 +0.9
PV04 **Paradox Valley** 81.56 48 *e*P P 08 28 16.1 +0.8
AGMN **Agassiz Nation** 81.57 34 P P 08 28 14.3 -0.7
baz=318,SNR=6.9
AGMN **Agassiz Nation** 81.57 34 *e*P P 08 28 14.8 -0.2
comp=Z,11nm,0.7s
N23A **Red Feather La** 81.63 45 P P 08 28 16.7 +0.9
baz=312,SNR=8.5
N23A **Red Feather La** 81.63 45 *e*P P 08 28 17.0 +1.1
comp=Z,26nm,1.4s
PHWY **Pilot Hill** 81.64 44 *e*P P 08 28 15.9 0.0
comp=Z,5.0nm,0.9s
PV05 **Paradox Valley** 81.65 48 *e*P P 08 28 16.9 +1.0
B33A **Robert and Kas** 81.72 34 P P 08 28 15.4 -0.4
baz=318
MDVR **Moldovita** 81.83 321 ⇓ *i*P P 08 28 16.3 -0.2
Y14A **Wickenburg** 81.84 54 *e*P P 08 28 17.1 +0.4
comp=Z,25nm,0.9s
WUAZ **Wupatki** 81.89 52 P P 08 28 17.9 +0.8
baz=310,SNR=9.5
WUAZ **Wupatki** 81.89 52 *e*P P 08 28 18.3 +1.2
comp=Z,14nm,1.0s
D32A **Dogwood Acres,** 81.89 36 P P 08 28 16.6 -0.1
baz=317
E31A **Nome** 81.90 36 P P 08 28 16.4 -0.4
baz=316,SNR=5.5
PV01 **Paradox Valley** 81.93 48 *e*P P 08 28 17.9 +0.5
B34A **Aery, Baudette** 81.98 33 P P 08 28 16.6 -0.5
baz=318,SNR=6.4

C33A **Trail** 82.01 35 P P 08 28 16.8 -0.5
baz=318
NKC **Novy Kostel** 82.06 329 *e*P P 08 28 17.8 +0.2
NKC **Novy Kostel** 82.06 329 *e*P P 08 28 17.8 +0.2
113A **Mohawk Valley,** 82.08 55 *e*P P 08 28 18.4 +0.5
comp=Z,3.8nm,0.9s
SMCO **Snowmass** 82.18 46 *e*P P 08 28 19.6 +0.7
comp=Z,10.0nm,1.1s
F31A **Hecla** 82.23 37 P P 08 28 18.3 -0.2
baz=316,SNR=5.0
CONA **Conrad Observa** 82.35 326 *i* P P 08 28 19.0 -0.2
comp=Z,9.4nm,0.8s
D33A **AnnSam, Waubun** 82.44 35 P P 08 28 19.1 -0.5
baz=318,SNR=5.3
KHC **Kasperske Hory** 82.44 328 *e*P P 08 28 19.6 0.0
KHC **Kasperske Hory** 82.44 328 *e*P P 08 28 20.0 +0.4
KHC pmax pmax
comp=Z,6.0nm,0.9s
KHC **Kasperske Hory** 82.44 328 *e*P P 08 28 20.0 +0.4
comp=Z,6.3nm,0.9s
B35A **Bob, Littlefor** 82.48 33 P P 08 28 19.3 -0.5
baz=319,SNR=8.2
C34A **RKJ Ranch, Bem** 82.48 34 P P 08 28 19.1 -0.7
baz=318,SNR=6.0
X16A **Lo Mia Camp, P** 82.54 52 *e*P P 08 28 21.4 +0.8
comp=Z,9.2nm,1.1s
ISCO **Idaho Springs** 82.55 45 P P 08 28 21.3 +0.6
baz=312,SNR=9.4
ISCO **Idaho Springs** 82.55 45 *e*P P 08 28 22.0 +1.3
ISCO pmax pmax
comp=Z,6.0nm,0.9s
ISCO **Idaho Springs** 82.55 45 *e*P P 08 28 22.0 +1.3
comp=Z,5.7nm,0.9s
MVCO **Mesa Verde** 82.57 49 P P 08 28 21.4 +0.6
baz=311,SNR=9.4
MVCO **Mesa Verde** 82.57 49 *e*P P 08 28 21.2 +0.4
comp=Z,17nm,1.3s
VTS **Vitosha** 82.59 319 ⇑ *i*P P 08 28 21.1 +0.5
VTS **Vitosha** 82.59 319 *e*P P 08 28 20.1 -0.6
VTS pmax pmax
comp=Z,11nm,0.9s
VTS **Vitosha** 82.59 319 *e*P P 08 28 20.1 -0.6
comp=Z,11nm,0.9s
GEC2 **GERESS Array S** 82.60 328 *e*P P 08 28 20.5 0.0
GEC2 pmax pmax
comp=Z,10.0nm,1.0s
GEC2 **GERESS Array S** 82.60 328 *e*P P 08 28 20.5 0.0
comp=Z,10.0nm,1.0s
GERES **GERESS Array B** 82.60 328 P P 08 28 20.2 -0.3
comp=Z,4.8nm,0.6s,baz=35,slow=4.9,SNR=25
GERES LR LR 09 09 16.1
comp=Z,75nm,18.4s,baz=35,slow=39
GEA0 **GERESS Array S** 82.61 328 *e*P P 08 28 20.4 -0.1
F32A **Veblen** 82.77 37 P P 08 28 20.9 -0.4
baz=317
D34A **Park Rapids** 82.77 35 P P 08 28 21.2 -0.2
baz=318
E33A **Westby DABS, E** 82.83 36 P P 08 28 21.2 -0.4
baz=318,SNR=7.1
C35A **Jirik Farms, M** 82.86 34 P P 08 28 21.0 -0.8
baz=319,SNR=21
ARSA **Arzberg** 83.00 326 *i* P P 08 28 22.8 +0.2
comp=Z,3.2nm,0.6s
G32A **Webster** 83.03 37 P P 08 28 21.7 -1.1
baz=317,SNR=6.8
MOA **Molln** 83.11 327 *e*P P 08 28 23.5 +0.4
comp=Z,9.1nm,1.2s
H31A **Wisey** 83.11 38 P P 08 28 22.9 -0.2
baz=316
W18A **Petrified Fore** 83.17 51 P P 08 28 23.7 -0.1
baz=311
F33A **5 Mile Ranch,** 83.18 36 P P 08 28 23.3 -0.2
baz=318,SNR=8.1
ESK **Eskdalemuir** 83.21 340 *e*P P 08 28 23.7 +0.3
ESK pmax pmax
comp=Z,61nm,1.5s
ESK **Eskdalemuir** 83.21 340 *e*P P 08 28 23.7 +0.3
comp=Z,61nm,1.5s
E34A **Wadena** 83.21 35 P P 08 28 23.1 -0.6
baz=318
214A **Organ Pipe Nat** 83.21 55 P P 08 28 24.4 +0.5
baz=309,SNR=6.1
S22A **4UR Ranch, Cre** 83.22 47 P P 08 28 24.3 +0.1
baz=312,SNR=14
S22A **4UR Ranch, Cre** 83.22 47 *e*P P 08 28 26.2 +2.0
comp=Z,12nm,1.0s
D35A **Remer** 83.30 34 P P 08 28 23.2 -0.8
baz=319,SNR=5.5
C36A **Pine Crest Far** 83.32 33 P P 08 28 23.8 -0.4
baz=320,SNR=11
Q24A **Divide** 83.38 46 P P 08 28 25.0 0.0
baz=313
Q24A **Divide** 83.38 46 *e*P P 08 28 26.1 +1.0
comp=Z,5.9nm,0.9s
X18A **Snowflake** 83.42 52 *e*P P 08 28 26.1 +0.9
comp=Z,8.2nm,1.0s
THZ **Tophouse** 83.53 156 *e*P P 08 28 25.5 +0.4
comp=Z,97nm,1.9s
G33A **Ortonville** 83.59 37 P P 08 28 25.4 -0.2
baz=318,SNR=10
H32A **Carlson Farm,** 83.61 38 P P 08 28 25.0 -0.7
baz=317,SNR=5.4
D36A **Goodland** 83.62 34 P P 08 28 24.8 -0.9
baz=320
C37A **Emarrass** 83.63 33 P P 08 28 25.2 -0.5
baz=320,SNR=14
SOKA **Soboth** 83.66 326 *i* P P 08 28 25.8 -0.2
comp=Z,18nm,0.8s,SNR=11
F34A **Alexandria** 83.70 36 P P 08 28 26.0 -0.2
baz=318,SNR=6.3
EYMN **Ely** 83.76 32 P P 08 28 26.1 -0.3
baz=321,SNR=16
EYMN **Ely** 83.76 32 *e*P P 08 28 26.5 +0.1
comp=Z,22nm,0.8s
OGNE **Ogallala** 83.77 43 P P 08 28 26.3 -0.4
baz=314
H33A **Prehn Over Nor** 83.82 37 P P 08 28 26.8 -0.1
baz=317,SNR=18
J31A **Geddes** 83.84 39 P P 08 28 26.6 -0.3
baz=316
G34A **Benson** 83.94 36 P P 08 28 27.0 -0.4
baz=318,SNR=14
I32A **Karley and Nic** 83.94 38 P P 08 28 27.0 -0.5
baz=317
D37A **Cotton** 83.96 33 P P 08 28 26.7 -0.7
baz=320
F35A **Swanville** 83.98 35 P P 08 28 27.0 -0.6
baz=319
SDCO **Great Sand Dun** 84.00 47 P P 08 28 29.0 +0.8
baz=313,SNR=16
SDCO **Great Sand Dun** 84.00 47 *e*P P 08 28 28.2 0.0
comp=Z,8.4nm,1.0s
OBKA **Obir** 84.00 326 *e*P P 08 28 26.8 -1.0
comp=Z,8.0nm,1.0s
C38A **Sawbill Land.** 84.03 32 P P 08 28 27.4 -0.4
baz=321,SNR=16
E36A **McGregor** 84.08 34 P P 08 28 27.7 -0.4
baz=320,SNR=6.4
KBA **Koelnbreinsper** 84.11 327 *i* PcP P 08 28 29.2 +0.7
comp=Z,9.9nm,0.9s
J32A **Parkston** 84.23 39 P P 08 28 28.7 -0.2
baz=317
I33A **Coleman** 84.26 38 P P 08 28 28.9 -0.2
baz=317
MEM **Membach** 84.27 333 P P 08 28 28.3 -0.6
comp=Z,8.6nm,1.1s
H34A **Spellman Lake,** 84.30 37 P P 08 28 29.2 0.0
baz=318
K31A **O'Neill** 84.31 40 P P 08 28 29.4 0.0
baz=316
TUC **Tucson** 84.31 54 P P 08 28 30.0 +0.3
baz=310
TUC **Tucson** 84.31 54 *e*P P 08 28 30.1 +0.5
TUC pmax pmax
comp=Z,5.0nm,0.9s
TUC **Tucson** 84.31 54 *e*P P 08 28 30.1 +0.5
comp=Z,5.2nm,0.9s
C39A **Grand Marais** 84.44 32 P P 08 28 29.5 -0.4
baz=322
G35A **Watkins** 84.50 36 P P 08 28 29.6 -0.6
baz=319
ECSD **EROS Data Cent** 84.58 38 P P 08 28 30.3 -0.3
baz=318,SNR=16
ECSD **EROS Data Cent** 84.58 38 *e*P P 08 28 30.9 +0.2
comp=Z,9.8nm,0.8s
BCLA **Clavier** 84.68 333 P P 08 28 30.9 -0.1
comp=Z,11nm,2.3s
K32A **Verdigre** 84.68 39 P P 08 28 30.1 -1.1
baz=317
PMOR **Pomariorio Ree** 84.69 113 *e*T T 10 01 33.0
comp=Z,53nm,0.2s
J33A **Davis** 84.71 38 P P 08 28 30.8 -0.5
baz=317
I34A **Hadley** 84.72 37 P P 08 28 31.3 -0.1
baz=318,SNR=6.0
H35A **Sunnyside Ranc** 84.72 36 P P 08 28 30.9 -0.4
baz=319,SNR=26
ABTA **Abfaltersbach** 84.73 327 *i* P P 08 28 30.7 -0.8
comp=Z,4.2nm,0.6s
PDG **Podgorica** 84.76 321 ⇑ *i*P P 08 28 31.6 0.0
E38A **The Farm, Brul** 84.77 33 P P 08 28 31.0 -0.5
baz=321,SNR=14
KSCO **Kaye Shedlock'** 84.78 44 P P 08 28 31.6 -0.3
baz=314
G36A **St. Michael** 84.83 35 P P 08 28 31.5 -0.3
baz=319
RETA **Reutte** 84.90 328 *i* P P 08 28 32.1 -0.2
comp=Z,14nm,0.7s,SNR=8.7
F37A **Hinrichs Farm,** 84.97 34 P P 08 28 32.1 -0.5
baz=320
WLF **Walferdange** 84.99 332 P P 08 28 33.2 +0.7
T25A **Trinidad** 85.05 47 P P 08 28 33.7 +0.3
baz=313,SNR=18
T25A **Trinidad** 85.05 47 *e*P P 08 28 33.8 +0.4
comp=Z,15nm,0.8s
F38A **Pierce - Schro** 85.12 34 P P 08 28 33.2 -0.1
baz=320,SNR=20
PPT2 **Papeete2** 85.13 116 *e*LR LR 08 55 05.4
comp=Z,71nm,23.2s
PPT2 **Papeete2** 85.13 116 *e*T T 10 02 06.8
comp=Z,9.6nm,0.3s
L32A **Elgin** 85.14 40 P P 08 28 33.2 -0.3
baz=317
PAE **Paea** 85.18 116 *e*T T 10 02 09.3
comp=Z,1.2nm,0.3s
DOU **Dourbes** 85.20 333 P P 08 28 34.1 +0.4
K33A **Hardington** 85.21 39 P P 08 28 33.8 -0.1
baz=317
BFO **Black Forest** 85.23 330 *e*P P 08 28 33.9 +0.1
BFO pmax pmax
comp=Z,25nm,0.9s
BFO **Black Forest** 85.23 330 *e*P P 08 28 33.9 +0.1
comp=Z,25nm,0.9s
H36A **Jessenland, He** 85.24 36 P P 08 28 34.5 +0.6
baz=319,SNR=10
LAZ **Ladron** 85.25 50 *e*P P 08 28 35.8 +1.3
SPMN **Marine on St.** 85.27 35 P P 08 28 33.7 -0.4
baz=320
SPMN **Marine on St.** 85.27 35 *e*P P 08 28 34.2 +0.1
TIAR **Tiarei** 85.28 116 *e*T T 10 02 17.0
comp=Z,5.6nm,0.2s
FETA **Feichten** 85.28 328 *i* P P 08 28 34.0 -0.3
comp=Z,8.8nm,0.7s
I35A **Creekview Farm** 85.28 37 P P 08 28 33.6 -0.6
baz=318,SNR=5.7
ANMO **Albuquerque** 85.31 49 P P 08 28 35.4 +0.6
baz=312
ANMO **Albuquerque** 85.31 49 *e*P P 08 28 35.7 +0.9
ANMO pmax pmax
comp=Z,13nm,1.2s
ANMO **Albuquerque** 85.31 49 *e*P P 08 28 35.7 +0.9
comp=Z,13nm,1.2s
E39A **Mellen** 85.38 33 P P 08 28 34.0 -0.6
baz=321,SNR=7.4
DAVA **Damuels** 85.43 329 *i* PcP P 08 28 35.1 0.0
comp=Z,19nm,0.8s,SNR=8.5
BGNE **Belgrade** 85.50 40 P P 08 28 34.8 -0.6
baz=317
BGNE **Belgrade** 85.50 40 *e*P P 08 28 35.5 +0.1
comp=Z,30nm,0.8s
J35A **Milford** 85.54 37 P P 08 28 34.8 -0.7
baz=318,SNR=11
F39A **Loretta** 85.58 33 P P 08 28 34.9 -0.8
baz=321
K34A **Le Mars** 85.61 38 P P 08 28 35.3 -0.5
baz=318,SNR=5.1
E40A **Wakefield** 85.61 32 P P 08 28 35.2 -0.6
baz=322,SNR=8.2
I36A **Fitzsimmons Fa** 85.62 36 P P 08 28 35.6 -0.3
baz=319
H37A **Dierke Farm, C** 85.71 35 P P 08 28 35.7 -0.6
baz=320
BNM **Barren Site** 85.73 50 *e*P P 08 28 37.5 +0.6
G38A **Ridgeland** 85.74 34 P P 08 28 35.8 -0.7
baz=320,SNR=6.0
ECH **Echery** 85.78 331 *e*P P 08 28 36.0 -0.6
FUORN **Ofenpass-Fuorn** 85.79 328 *e*P P 08 28 37.2 +0.2
comp=Z,19nm,0.8s
SCHQ **Schefferville** 85.81 15 P P 08 28 36.1 -0.5
comp=Z,7.0nm,0.8s,baz=265,slow=3.6,SNR=3.5
SCHQ LR LR 09 11 39.2
comp=Z,54nm,18.3s,baz=10,slow=39
M33A **Taylor Creek F** 85.87 40 P P 08 28 36.8 -0.4
baz=317
DSB **Dublin** 85.91 341 *e*P P 08 28 37.8 +0.7
comp=Z,96nm,1.8s
I37A **Lemond, Waseca** 85.91 36 P P 08 28 37.3 0.0
baz=320,SNR=11
H38A **Maiden Rock** 85.93 35 P P 08 28 36.7 -0.7
baz=320
F40A **Park Falls** 85.93 33 P P 08 28 36.6 -0.8
baz=322
G39A **Holcombe** 85.96 34 P P 08 28 36.8 -0.8
baz=321
J36A **Seneca 1, Swea** 85.98 37 P P 08 28 37.3 -0.4
baz=319,SNR=8.8
L34A **Svendsen Farm,** 86.00 39 P P 08 28 37.3 -0.5
baz=318
K35A **Storm Lake** 86.00 38 P P 08 28 37.0 -0.8
baz=318
MOF **Molkenrain** 86.09 331 *e*P P 08 28 36.9 -1.3
121A **Cookes Peak, D** 86.09 52 P P 08 28 39.2 +0.5
baz=312
121A **Cookes Peak, D** 86.09 52 *e*P P 08 28 39.1 +0.5
comp=Z,7.6nm,1.1s
THEF **They Montfort** 86.23 331 *e*P P 08 28 38.2 -0.6
M34A **Aspy Farms, Fr** 86.23 39 P P 08 28 38.6 -0.3
baz=318
TUE **Stuetta** 86.30 329 *e*P P 08 28 39.2 -0.3
comp=Z,6.1nm,0.7s
L35A **Bielow Farm, R** 86.31 38 P P 08 28 38.8 -0.5
baz=318
J37A **Redenius Farm,** 86.38 36 P P 08 28 39.5 -0.1
baz=320,SNR=7.9
H39A **Augusta** 86.38 34 P P 08 28 39.5 -0.2
baz=321,SNR=6.2
I38A **Scanlan Farm,** 86.39 35 P P 08 28 39.3 -0.4
baz=320
G40A **Rib Lake** 86.40 33 P P 08 28 39.6 -0.2
baz=322,SNR=11
K36A **Gilmore City** 86.45 37 P P 08 28 39.6 -0.4
baz=319,SNR=7.4
E42A **Champion** 86.47 31 P P 08 28 39.7 -0.3
baz=323
F41A **Three Lakes** 86.51 32 P P 08 28 40.1 -0.1
baz=322
CBKS **Cedar Bluff** 86.52 43 P P 08 28 40.0 -0.5
baz=316
M35A **Neola** 86.71 39 P P 08 28 41.0 -0.3
baz=318,SNR=6.2
K37A **Belmond** 86.75 37 P P 08 28 41.0 -0.4
baz=320,SNR=10
L36A **Harm Buss Farm** 86.75 38 P P 08 28 41.0 -0.4
baz=319
O33A **Hebron** 86.76 41 P P 08 28 41.2 -0.4
baz=317
N34A **Lincoln** 86.77 40 P P 08 28 40.7 -0.9
baz=318,SNR=5.2
H40A **Chili** 86.82 34 P P 08 28 41.8 0.0
baz=322,SNR=7.5
J38A **Wedel Dairy, R** 86.88 36 P P 08 28 41.7 -0.4
baz=320
E43A **Lone Tree Farm** 86.89 31 P P 08 28 41.5 -0.6
baz=324
G41A **Antigo** 86.89 33 P P 08 28 41.7 -0.4
baz=322
I39A **Houston** 86.91 35 P P 08 28 41.8 -0.5
baz=321,SNR=10
O34A **Beatrice** 87.15 40 P P 08 28 42.8 -0.7
baz=318
H41A **Junction City** 87.16 33 P P 08 28 42.9 -0.5
baz=322
M36A **Felix, Anita** 87.17 38 P P 08 28 43.5 -0.1
baz=319,SNR=11
N35A **Tabor** 87.19 39 P P 08 28 43.7 0.0

baz=318,SNR=10
J39A Decorah 87.22 35 P **P** 08 28 43.1 -0.7
baz=321,SNR=8.8
F43A Flat Rock, Esc 87.25 31 P **P** 08 28 43.4 -0.4
baz=324
I40A Norwalk 87.29 34 P **P** 08 28 44.0 -0.1
baz=321,SNR=5.3
F44A Big Bay de Noc 87.45 31 P **P** 08 28 45.0 +0.2
baz=324,SNR=5.8
O35A Humboldt 87.49 40 P **P** 08 28 44.9 -0.3
baz=318
I41A Arkdale 87.50 34 P **P** 08 28 45.1 0.0
baz=322,SNR=5.2
G43A Wallace 87.50 32 P **P** 08 28 45.2 +0.2
baz=323,SNR=7.1
CABF La Chapelle 87.51 330 *e*P **P** 08 28 44.9 -0.3
CABF pmax pmax
comp=Z,61µm,2.0s
P34A Walnut Farm, R 87.55 41 P **P** 08 28 44.8 -0.6
baz=318,SNR=5.7
L38A Oak Wood Farm, 87.55 37 P **P** 08 28 45.2 -0.1
baz=320
N36A Muff Farm, Cla 87.56 39 P **P** 08 28 45.6 +0.2
baz=319,SNR=9.7
M37A Trindle Farm, 87.57 38 P **P** 08 28 45.5 0.0
baz=319
SCIA State Center 87.60 37 *e*P **P** 08 28 46.5 +0.9
comp=Z,18nm,1.0s
J40A Soldiers Grove 87.62 35 P **P** 08 28 44.8 -0.8
baz=321
K39A Oelwein 87.62 36 P **P** 08 28 45.1 -0.6
baz=321,SNR=7.0
AQU L'Aquila 87.70 324 *e*P **P** 08 28 46.4 +0.2
AQU pmax pmax
comp=Z,41nm,1.2s
AQU L'Aquila 87.70 324 *e*P **P** 08 28 46.4 +0.2
comp=Z,41nm,1.2s
LOR Lormes 87.83 332 *e*P **P** 08 28 46.5 -0.1
LOR pmax pmax
comp=Z,13nm,1.1s
Q34A Chapman 87.95 41 P **P** 08 28 46.9 -0.4
baz=318
J41A Loganville 87.98 34 P **P** 08 28 46.9 -0.5
baz=322
K40A Colesburg 87.98 35 P **P** 08 28 47.1 -0.3
baz=321,SNR=9.9
P35A Duane Minner, 87.98 40 P **P** 08 28 47.2 -0.3
baz=318
M38A Pleasantville 87.98 37 P **P** 08 28 47.2 -0.2
baz=320,SNR=6.6
N37A Lee Faris, Mou 87.98 38 P **P** 08 28 47.6 +0.1
baz=319
L39A Vinton 88.02 36 P **P** 08 28 47.3 -0.3
baz=320,SNR=7.9
O36A Bolckow 88.07 39 P **P** 08 28 47.7 -0.2
baz=319,SNR=11
LDF La Druitiere 88.12 335 *e*P **P** 08 28 46.9 -1.1
LDF pmax pmax
comp=Z,17nm,1.2s
SSF Saint Saulge 88.13 332 *e*P **P** 08 28 48.1 +0.1
SSF pmax pmax
comp=Z,13nm,1.0s
LPL La Plagne 88.15 329 *e*P **P** 08 28 47.3 -1.1
LPL pmax pmax
comp=Z,3.0nm,0.6s
LPG La Plagne 88.15 329 *e*P **P** 08 28 47.4 -1.1
LPG pmax pmax
comp=Z,5.0nm,0.8s
MNTX Cornudas Mount 88.16 51 P **P** 08 28 48.4 -0.1
baz=313
MNTX Cornudas Mount 88.16 51 *e*P **P** 08 28 48.9 +0.4
comp=Z,6.1nm,1.3s
MSTX Muleshoe 88.20 48 P **P** 08 28 49.3 +0.5
baz=314
AMTX Amarillo 88.20 47 P **P** 08 28 48.7 -0.1
baz=315
AMTX Amarillo 88.20 47 *e*P **P** 08 28 48.1 -0.6
comp=Z,18nm,1.4s
JFWS Jewell Farm 88.22 35 *e*P **P** 08 28 48.5 -0.1
JFWS pmax pmax
comp=Z,10.0nm,0.8s
JFWS Jewell Farm 88.22 35 *e*P **P** 08 28 48.5 -0.1
comp=Z,10nm,0.8s
R34A Isabella, Hill 88.24 42 P **P** 08 28 48.9 +0.2
baz=317
CUC Castrocucco 88.31 321 *e*P **P** 08 28 48.3 -0.8
comp=Z,12nm,0.4s
P36A Good Intent, A 88.33 40 P **P** 08 28 48.7 -0.5
baz=319,SNR=5.5
SMF Signal de Mont 88.35 332 *e*P **P** 08 28 49.2 +0.1
SMF pmax pmax
comp=Z,4.0nm,0.7s
AVF Avril sur Loir 88.42 332 *e*P **P** 08 28 48.6 -0.8
AVF pmax pmax
comp=Z,31nm,1.4s
M39A Webster 88.43 37 P **P** 08 28 49.4 -0.2
baz=320,SNR=5.1
L40A Anamosa 88.43 36 P **P** 08 28 49.1 -0.5
baz=321,SNR=5.1
K41A Shullsburg 88.44 35 P **P** 08 28 49.3 -0.2
baz=322,SNR=7.6
N38A Joes South For 88.44 38 P **P** 08 28 49.6 0.0
baz=320
O37A Wolven Farm, M 88.46 39 P **P** 08 28 49.9 +0.2
baz=319
Q35A Mercer Eighty, 88.47 41 P **P** 08 28 49.9 +0.1
baz=318
N39A Derby Farms, D 88.73 37 P **P** 08 28 50.6 -0.4
baz=320
S34A Willow Spring 88.75 42 P **P** 08 28 50.6 -0.6
baz=317
L41A Preston 88.76 35 P **P** 08 28 50.6 -0.5
baz=322,SNR=5.7
R35A Emporia Munici 88.78 41 P **P** 08 28 51.4 +0.1
baz=318
P37A Lathrop 88.79 39 P **P** 08 28 51.2 -0.1
baz=319
M40A Post Highland 88.81 36 P **P** 08 28 51.1 -0.2
baz=321
O38A Galt 88.83 38 P **P** 08 28 51.6 +0.1
baz=320
VLDQ Val d'Or 88.98 24 *e*P **P** 08 28 51.4 -0.6
comp=Z,24nm,0.7s
R36A Gordon, Harris 89.14 41 P **P** 08 28 53.0 0.0
baz=318
N40A Mertquake, Sal 89.17 37 P **P** 08 28 53.1 +0.1
baz=321
P38A Dawn 89.18 39 P **P** 08 28 53.2 +0.1
baz=320
S35A Otter Creek Ra 89.19 42 P **P** 08 28 53.2 0.0
baz=316
T34A McCluskey Farm 89.21 43 P **P** 08 28 53.1 -0.2
baz=317
TCF Toulx Ste Croi 89.27 333 *e*P **P** 08 28 52.9 -0.5
TCF pmax pmax
comp=Z,7.0nm,1.0s
M41A Milan 89.29 36 P **P** 08 28 53.3 -0.3
baz=322
VIVF Saint-Julien-l 89.52 330 *e*P **P** 08 28 54.4 -0.3
VIVF pmax pmax
comp=Z,10.0nm,1.0s
S36A Lake Cedric, C 89.54 41 P **P** 08 28 54.5 -0.3
baz=318
M42A Sheffield 89.59 35 P **P** 08 28 54.8 -0.2
baz=322
O40A La Belle 89.62 37 P **P** 08 28 55.0 -0.2
baz=321
Q38A Cooks Store, C 89.64 39 P **P** 08 28 54.8 -0.5
baz=320
T35A Sooner Cattle 89.65 42 P **P** 08 28 55.4 0.0
baz=318
P39B Salisbury 89.67 38 P **P** 08 28 55.1 -0.3
baz=320
MFF Saint Martin d 89.85 334 *e*P **P** 08 28 56.4 +0.3
MFF pmax pmax
comp=Z,10.0nm,0.8s
T36A Boggs Farm, Ca 89.88 42 P **P** 08 28 56.4 -0.1
baz=318
Q39A Willow Grove F 89.90 39 P **P** 08 28 56.3 -0.2
baz=320,SNR=6.9
S37A Fort Scott 89.92 41 P **P** 08 28 56.1 -0.6
baz=319,SNR=5.8
U35A Pawnee 89.93 43 P **P** 08 28 56.7 0.0
baz=318
N42A Yates City 89.95 36 P **P** 08 28 56.5 -0.2
baz=322
WMOK Wichita Mounta 89.98 45 P **P** 08 28 57.1 +0.1
baz=316,SNR=5.8

WMOK Wichita Mounta 89.98 45 *e*P **P** 08 28 57.1 +0.1
WMOK pmax pmax
comp=Z,6.0nm,1.0s
WMOK Wichita Mounta 89.98 45 *e*P **P** 08 28 57.1 +0.1
comp=Z,5.6nm,1.0s
P40A Paris 89.99 38 P **P** 08 28 56.8 -0.1
baz=321,SNR=5.2
LMR La Mourre 90.02 328 *e*P **P** 08 28 55.7 -1.3
LMR pmax pmax
comp=Z,22nm,1.3s
R38A Fenwick Farm, 90.08 40 P **P** 08 28 56.2 -1.2
baz=319
O41A Passleys Farm, 90.11 37 P **P** 08 28 56.8 -0.6
baz=321
V35A Meyer Ranch, C 90.32 43 P **P** 08 28 58.2 -0.4
baz=318
T37A Cheneyville 18 90.35 41 P **P** 08 28 58.5 -0.2
baz=319,SNR=6.5
P41A Barry, Barry 90.36 37 P **P** 08 28 58.5 -0.2
baz=321,SNR=5.2
R39A Chumby, Stover 90.43 39 P **P** 08 28 58.5 -0.5
baz=320,SNR=5.7
U36A Oologah 90.46 42 P **P** 08 28 58.9 -0.2
baz=318
CAF Calviac 90.47 332 *e*P **P** 08 28 59.0 -0.1
CAF pmax pmax
comp=Z,10.0nm,1.0s
S38A Stockton 90.50 40 P **P** 08 28 58.4 -0.9
baz=319
HDIL Hopedale 90.52 36 P **P** 08 28 58.9 -0.4
baz=322
T38A Diamond 90.75 41 P **P** 08 29 00.1 -0.4
baz=319,SNR=13
W35A Tecumseh 90.75 44 P **P** 08 29 00.5 0.0
baz=318,SNR=5.1
S39A Bolivar 90.75 40 P **P** 08 28 59.7 -0.8
baz=320,SNR=9.8
P42A Winchester 90.78 37 P **P** 08 29 00.4 -0.2
baz=322
U37A Salina 90.78 42 P **P** 08 29 00.6 0.0
baz=319,SNR=8.6
TUL1 Leonard 90.78 43 P **P** 08 29 00.4 -0.3
baz=318
TUL1 Leonard 90.78 43 *e*P **P** 08 29 00.8 +0.1
comp=Z,10nm,0.7s
V36A Jenks 90.80 43 P **P** 08 29 00.7 0.0
baz=318
R40A Maddies Statio 90.83 39 P **P** 08 29 00.8 -0.1
baz=320
Q41A Truxton 90.84 38 P **P** 08 29 00.8 -0.1
baz=321
TX31 Lajitas Ar. Si 90.85 52 *e*P **P** 08 29 01.5 +0.3
TXAR Lajitas Array 90.85 52 P **P** 08 29 01.7 +0.5
comp=Z,3.5nm,0.8s,baz=296,slow=3.1,SNR=35
LFF La Frestale 90.95 333 *e*P **P** 08 29 01.0 -0.3
LFF pmax pmax
comp=Z,14nm,0.9s
ABTX Abilene, Hawle 91.00 47 P **P** 08 29 01.9 +0.1
baz=316
ABTX Abilene, Hawle 91.00 47 *e*P **P** 08 29 02.3 +0.5
comp=Z,12nm,1.1s
W36A Wetumka 91.12 43 P **P** 08 29 01.9 -0.4
baz=318
P43A Skaggs, Pawnee 91.13 36 P **P** 08 29 02.1 -0.1
baz=322
U38A Grette 91.14 41 P **P** 08 29 01.8 -0.5
baz=319,SNR=5.8
V37A Hulbert 91.16 42 P **P** 08 29 02.2 -0.3
baz=319,SNR=8.0
Q42A Golden Eagle 91.21 37 P **P** 08 29 02.0 -0.6
baz=322
T39A Clever 91.23 40 P **P** 08 29 02.4 -0.4
baz=320
S40A Lebanon 91.25 39 P **P** 08 29 02.1 -0.7
baz=320
X35A Drake 91.25 44 P **P** 08 29 02.5 -0.4
baz=318,SNR=5.4
R41A Rosebud 91.27 38 P **P** 08 29 02.2 -0.7
baz=321
X36A Centrahoma 91.47 44 P **P** 08 29 03.9 +0.1
baz=318,SNR=10
HHAR Hobbs 91.50 41 *e*P **P** 08 29 03.9 -0.1
comp=Z,7.1nm,0.8s
W37B Quinn 91.55 43 P **P** 08 29 04.1 -0.2
baz=318,SNR=6.9
V38A Canehill 91.57 42 P **P** 08 29 04.0 -0.4
baz=319,SNR=9.9
Y35A Marietta 91.57 45 P **P** 08 29 04.2 -0.2
baz=318
R42A Luebbering 91.58 38 P **P** 08 29 04.4 +0.1
baz=321
TRQ Mont Tremblant 91.59 24 *e*P **P** 08 29 04.5 +0.2
S41A Jillco Farms, 91.64 39 P **P** 08 29 04.2 -0.4
baz=321
LMQ La Malbaie 91.66 20 *e*P **P** 08 29 04.1 -0.4
U39A Green Forest 91.67 41 P **P** 08 29 04.2 -0.5
baz=320,SNR=14
PLVO Plevna 91.78 26 *e*P **P** 08 29 05.8 +0.7
233A Rising Star 91.87 47 P **P** 08 29 05.1 -0.7
baz=316,SNR=7.1
S42A Caledonia 91.97 38 P **P** 08 29 05.8 -0.4
baz=321,SNR=6.7
V39A Pettigrew 91.99 41 P **P** 08 29 06.0 -0.4
baz=320
X37A Clayton 92.00 43 P **P** 08 29 05.9 -0.4
baz=318
Y36A Durant 92.00 44 P **P** 08 29 06.2 -0.2
baz=318,SNR=5.9
R43A Red Bud 92.00 37 P **P** 08 29 06.2 -0.1
baz=322
U40A Yellville 92.01 40 P **P** 08 29 06.1 -0.3
baz=320,SNR=17
T41A Mountain View 92.05 39 P **P** 08 29 05.7 -0.8
baz=321
W38A Poteau 92.10 42 P **P** 08 29 06.6 -0.2
baz=319
X38A Whitesboro 92.23 43 P **P** 08 29 07.4 0.0
baz=319
333A Richland Sprin 92.32 48 P **P** 08 29 07.8 -0.1
baz=316,SNR=8.2
234A Clairette 92.33 47 P **P** 08 29 08.2 +0.3
baz=317
Z36A Blue Ridge 92.38 45 P **P** 08 29 08.0 -0.2
baz=318
T42A Van Buren 92.40 39 P **P** 08 29 07.7 -0.4
baz=321
W39A Magazine 92.40 42 P **P** 08 29 07.9 -0.3
baz=319
JCT Junction City 92.44 49 P **P** 08 29 08.0 -0.5
baz=316
JCT Junction City 92.44 49 *e*P **P** 08 29 08.9 +0.4
JCT pmax pmax
comp=Z,31nm,2.0s
JCT Junction City 92.44 49 *e*P **P** 08 29 08.9 +0.4
comp=Z,31nm,2.0s
V40A Witts Springs 92.45 41 P **P** 08 29 08.0 -0.4
baz=320
S43A Fulton Ridge, 92.48 38 P **P** 08 29 08.4 -0.1
baz=322
U41A Viola 92.50 40 P **P** 08 29 08.1 -0.6
baz=321
433A 92.67 48 P **P** 08 29 09.1 -0.4
baz=316
WHTX Lake Whitney, 92.73 46 P **P** 08 29 09.9 +0.1
baz=317
X39A Fountain Ranch 92.74 42 P **P** 08 29 09.9 +0.1
baz=319,SNR=5.1
334A Lometa 92.75 47 P **P** 08 29 09.7 -0.2
baz=317,SNR=5.7
T43A Greenville 92.76 38 P **P** 08 29 09.3 -0.5
baz=322
W40A Ferguson Farm, 92.78 41 P **P** 08 29 09.9 -0.1
baz=320,SNR=6.0
V41A Mountainview 92.81 40 P **P** 08 29 09.6 -0.5
baz=320,SNR=7.3
MIAR Mount Ida 93.00 42 P **P** 08 29 10.9 -0.1
baz=320,SNR=6.7
MIAR Mount Ida 93.00 42 *e*P **P** 08 29 11.4 +0.4
MIAR pmax pmax
comp=Z,7.0nm,0.8s
MIAR Mount Ida 93.00 42 *e*P **P** 08 29 11.4 +0.4
comp=Z,7.3nm,0.8s
WHAR Wooly Hollow 93.12 41 *e*P **P** 08 29 11.6 +0.1
comp=Z,7.6nm,0.8s
Y39A Lockesburg 93.18 43 P **P** 08 29 11.8 0.0
baz=319
Z38A Mt. Pleasant 93.21 44 P **P** 08 29 12.2 +0.2
baz=319

X40A Basin Creek Fa 93.45 42 P **P** 08 29 13.2 +0.2
baz=320
633A Saathoff Ranch 93.54 49 P **P** 08 29 13.6 0.0
baz=316
534A Blanco 93.56 48 P **P** 08 29 13.5 -0.1
baz=317
ACSO Alum Creek Sta 93.60 32 *e*P **P** 08 29 14.4 +0.8
comp=Z,15nm,0.9s
X41A Kaden, Bauxite 93.61 41 P **P** 08 29 14.0 +0.2
baz=320
NCB Newcomb 93.69 24 *e*P **P** 08 29 15.0 +1.0
WCI Wyandotte Cave 93.77 35 *e*P **P** 08 29 14.7 +0.2
WCI pmax pmax
comp=Z,6.0nm,0.8s
WCI Wyandotte Cave 93.77 35 *e*P **P** 08 29 14.7 +0.2
comp=Z,6.3nm,0.8s
N54A Moraine State 94.21 30 P **P** 08 29 16.3 -0.2
baz=329
LMN Caledonia Moun 94.67 17 *e*P **P** 08 29 19.2 +0.7
comp=Z,46nm,1.9s
WVT Waverly 94.72 37 *e*P **P** 08 29 19.7 +0.8
WVT pmax pmax
comp=Z,20nm,1.9s
WVT Waverly 94.72 37 *e*P **P** 08 29 19.6 +0.8
comp=Z,20nm,1.9s
KEST Kesra 94.84 322 LR LR 09 15 38.7
comp=Z,78nm,18.1s,baz=267,slow=38
KEST Kesra 94.84 322 *e*P **P** 08 29 19.6 +0.1
comp=Z,23nm,1.8s
O56A Blue Knob Stat 95.36 29 P **P** 08 29 20.9 -0.8
baz=330
034A Hebbronville 95.56 50 P **P** 08 29 23.5 +0.7
baz=316
ES19 SONSECA Array 97.20 333 *e*P Pdif 08 29 29.7 -0.5
ESDC Sonseca Array 97.25 333 P Pdif 08 29 29.6 -0.8
comp=Z,1.3nm,0.6s,baz=22,slow=4.3,SNR=7.7
TOA0 Torodi Ar. Sit 117.05 314 *e*PKPdf **PKPdf** 08 34 42.3 -0.6
TORD Torodi Ar. Bea 117.05 314 PKP **PKPdf** 08 34 41.9 -1.0
comp=Z,1.1nm,0.6s,baz=19,slow=2.9,SNR=7.8
TORD PP **PP** 08 35 45.1 -6.6
comp=Z,0.9nm,0.8s,baz=28,slow=7.1,SNR=4.8
TORD PKKPbc **PKKPbc** 08 45 07.0 +0.4
comp=Z,0.9nm,0.8s,baz=233,slow=2.4,SNR=5.8
MAW Mawson 118.97 205 PKP **PKPdf** 08 34 44.9 0.0
comp=Z,3.3nm,0.8s,baz=349,slow=3.2,SNR=12
MAW Mawson 118.97 205 *e*PKPdf **PKPdf** 08 34 45.6 +0.7
BOSA Boshof 125.84 259 PKP **PKPdf** 08 34 57.8 -1.7
comp=Z,4.3nm,0.8s,baz=32,slow=3.9,SNR=3.9
SDV Santo Domingo 126.00 39 *e*PKPdf **PKPdf** 08 35 00.3 -0.1
DBIC Dimbokro 126.03 316 PKP **PKPdf** 08 34 59.6 -0.5
comp=Z,3.1nm,0.9s,baz=44,slow=4.7,SNR=4.2
QSPA South Pole Qui 126.47 180 *e*PKPdf **PKPdf** 08 35 01.5 +2.0
PTGA Pitinga 139.45 33 *e*PKPdf **PKPdf** 08 35 25.9 +0.4
SNAA Sanae 140.26 197 *e*PKHKP PKPpre 08 35 18.5
SNAA Sanae 140.26 197 *e*PKPpre PKPpre 08 35 18.5
SAML Samuel 144.94 44 *e*PKPbc PKPbc 08 35 33.4 -0.9
LPAZ La Paz 147.44 59 PKPbc **PKPab** 08 35 42.9 -1.6
comp=Z,10nm,0.8s,baz=355,slow=4.3,SNR=40
LPAZ La Paz 147.44 59 *e*PKPbc **PKPab** 08 35 42.6 -1.8
PMSA Palmer Station 148.33 160 *e*PKPbc **PKPab** 08 35 45.3 -0.6
PB11 IPOC Station P 148.65 66 *e*PKPdf **PKPdf** 08 35 40.5 -0.9
PB11 *e*PKPbc **PKiKP** 08 35 45.7 -0.9
RCBR Riachuelo 149.07 353 *e*PKPbc **PKPab** 08 35 47.4 -2.9
LVC Limon Verde 150.92 69 *e*PKPbc **PKPbc** 08 35 51.8 +0.9
GO09 Cerro Castillo 152.51 132 *e*PKPdf **PKPdf** 08 35 47.6 +1.4
GO09 *e*PKPbc **pPKPbc** 08 35 54.1 -2.9
GO10 Punta Arenas 152.56 137 *e*PKPdf **PKPdf** 08 35 47.2 +0.9
LCO Las Campanas 152.73 83 *e*PKPbc **PKPbc** 08 35 55.0 +0.3
PLCA Paso Flores 155.48 109 *e*PKP2 **PKPab** 08 36 18.0 +1.4
PLCA Paso Flores 155.48 109 *e*PKPab **PKPab** 08 36 18.0 +1.4

DDA ***23*** *08:19:48.8, 36˙40N×41˙03E, h3km, Ml3.2*
CSEM ***23*** *08:19:50.3±0.4, 36˙39N×40˙88E, h5km, ML2.5, Error ellipse: s-maj=10.0km s-min=7.0km az=146.0*
ISK ***23*** *08:19:50.3, 36˙57N×40˙98E, h5km, MD3.2*
ISN ***23*** *08:19:51.1±5.7, 36˙38N×41˙42E, h0km±166km, ML3.2*
NSSC ***23*** *08:19:53.6±9.0, 36˙73N×39˙98E, h38km±54km, ML2.5*
ISC 23 08:19:48.9±1.3**, 36˙38N**±0˙03×**40˙96E**±0˙03**, h5**km±11km**,**
n47,σ1**°04**/57**, Jordan-Syria region**

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
SFNV	**Sufian**	**0.69**	**273**	*e*P		**Pg**	**08 20 02.8**	**+0.8**
SFNV				*e*S		**Sg**	**08 20 07.7**	**-3.2**
SFNV					AML	AML	08 20 19.2	
	comp=Z,426nm,0.8s							
SFNV	**Sufian**	**0.69**	**273**	*e*P		**Pg**	**08 20 02.8**	**+0.8**
	SNR=133							
SFNV				*e*S		**Sg**	**08 20 07.7**	**-3.2**
	comp=Z,426nm,0.8s,SNR=132							
KBSD	**Kabsdagh**	**0.70**	**332**	*e*P		**Pg**	**08 20 02.6**	**+0.2**
KBSD				*e*S		**Sg**	**08 20 12.7**	**+1.2**
KBSD					AML	AML	08 20 33.7	
	comp=Z,543nm,0.5s							
KBSD	**Kabsdagh**	**0.70**	**332**	*e*P		**Pg**	**08 20 02.6**	**+0.2**
	SNR=118							
KBSD				*e*S		**Sg**	**08 20 12.7**	**+1.2**
	comp=Z,543nm,0.5s,SNR=117							
MARD	**Mardin**	**0.94**	**351**	*i* P		**Pg**	**08 20 07.1**	**+0.2**
MARD				*i* S		**Sb**	**08 20 20.7**	**0.0**
MAZI	**Mazidag**	**1.15**	**339**	*e*PG		**Pg**	**08 20 10.4**	**-0.6**
MAZI				*e*SG		**Sg**	**08 20 25.1**	**-0.8**
MAZI	**Mazidag**	**1.15**	**339**	*e*Pg		**Pg**	**08 20 10.4**	**-0.6**
MAZI				*e*Sg		**Sg**	**08 20 25.1**	**-0.8**
BTMN	**Batman**	**1.53**	**9**	*i* P		**Pb**	**08 20 17.5**	**-0.3**
BTMN				*i* S		**Sg**	**08 20 38.6**	**+0.6**
BTMN	**Batman**	**1.53**	**9**	P		**Pb**	**08 20 17.5**	**-0.3**
BTMN				S		**Sg**	**08 20 38.6**	**+0.6**
SIRN	**S¯¯rnak**	**1.61**	**46**	*i* P		**Pb**	**08 20 18.1**	**-1.1**
SIRN				*i* S		**Sg**	**08 20 41.0**	**+0.4**
SIRN	**S¯¯rnak**	**1.61**	**46**	P		**Pb**	**08 20 18.1**	**-1.1**
SIRN				S		**Sg**	**08 20 41.0**	**+0.4**
DIY	**Diyarbakir**	**1.62**	**339**	*e*Pn		**Pg**	**08 20 20.2**	**+0.2**
KSRV	**Kasrt alli**	**1.67**	**253**	*e*P		**Pn**	**08 20 19.7**	**+0.9**
KSRV				*e*S		**Sn**	**08 20 39.2**	**-1.4**
KSRV					AML	AML	08 20 48.3	
	comp=Z,90nm,0.6s							
KSRV	**Kasrt alli**	**1.67**	**253**	*e*P		**Pn**	**08 20 19.7**	**+0.9**
	SNR=57							
KSRV				*e*S		**Sn**	**08 20 39.2**	**-1.4**
	comp=Z,90nm,0.6s,SNR=58							
DIYA	**Diyarbakir**	**1.68**	**337**	*i* S		**Sg**	**08 20 43.3**	**+0.4**
DIYA	**Diyarbakir**	**1.68**	**337**	S		**Sg**	**08 20 43.3**	**+0.4**
DYBB	**Diyarbakir**	**1.70**	**338**	*e*PN		**Pn**	**08 20 20.1**	**+0.8**
SVAN	**Silvan-Diyarba**	**1.78**	**6**	*e*PN		**Pn**	**08 20 20.6**	**+0.2**
SVAN	**Silvan-Diyarba**	**1.78**	**6**	*e*Pn		**Pn**	**08 20 20.6**	**+0.2**
SURC	**SANLIURFA_SURC**	**1.95**	**285**	*i* P		**Pn**	**08 20 23.4**	**+0.6**
SURC	**SANLIURFA_SURC**	**1.95**	**285**	P		**Pn**	**08 20 23.4**	**+0.6**
URFA	**Urfa**	**2.01**	**302**	*e*PN		**Pb**	**08 20 25.5**	**-0.5**
URFA	**Urfa**	**2.01**	**302**	*e*Pn		**Pb**	**08 20 25.5**	**-0.5**
JHLN	**Al Jahlan**	**2.16**	**252**	*e*P		Pn	08 20 19.7	-5.9
JHLN				*e*S		Sn	08 20 41.8	-11
JHLN					AML	AML	08 21 27.1	
	comp=Z,46nm,0.3s							
JHLN	**Al Jahlan**	**2.16**	**252**	*e*P		Pn	08 20 19.7	-5.9
	SNR=57							
JHLN				*e*S		Sn	08 20 41.8	-11
	comp=Z,46nm,0.3s,SNR=58							
CUKT	**Cukurca**	**2.29**	**67**	*e*PN		**Pb**	**08 20 29.7**	**-1.2**
CUKT	**Cukurca**	**2.29**	**67**	*e*Pn		**Pb**	**08 20 29.7**	**-1.2**
SVRC	**Sivrice-ELAZID**	**2.39**	**327**	*e*PN		**Pn**	**08 20 30.1**	**+1.2**
SVRC	**Sivrice-ELAZID**	**2.39**	**327**	*e*Pn		**Pn**	**08 20 30.1**	**+1.2**
HAKT	**HAKKARI**	**2.50**	**61**	*i* P		**Pb**	**08 20 33.7**	**-0.6**
HAKT	**HAKKARI**	**2.50**	**61**	P		**Pb**	**08 20 33.7**	**-0.6**
GEVA	**Gevas**	**2.55**	**40**	*i* P		**Pb**	**08 20 35.4**	**+0.1**
GEVA				*i* S		**Sg**	**08 21 10.4**	**-0.5**
GEVA	**Gevas**	**2.55**	**40**	P		**Pb**	**08 20 35.4**	**+0.1**
GEVA				S		**Sg**	**08 21 10.4**	**-0.5**
BNGL	**BINGOL**	**2.57**	**3**	*i* S		**Sg**	**08 21 12.7**	**+1.1**
ELZG	**Elazig**	**2.63**	**324**	*i* P		**Pg**	**08 20 38.8**	**-0.6**
ELZG	**Elazig**	**2.63**	**324**	P		**Pg**	**08 20 38.8**	**-0.6**
GZT	**Gaziantep**	**2.89**	**291**	*i* P		**Pb**	**08 20 42.5**	**+1.5**
RTB	**Rutbah**	**3.39**	**189**	*e*Pn		**Pb**	**08 20 51.4**	**+2.0**
	SNR=39							
RTB				*e*Sn		**Sn**	**08 21 24.1**	**+1.1**
	SNR=3.0							
HCB	**Kahramanmara¯**	**3.39**	**288**	*i* P		**Pg**	**08 20 54.6**	**+0.8**
DRWC	**Darouich**	**3.47**	**275**	*e*P		Pn	08 20 35.1	-8.5
DRWC				*e*S		Sn	08 21 06.2	-19
DRWC					AML	AML	08 21 56.2	
	comp=E,41nm,0.5s							
DRWC					AML	AML	08 21 58.4	

comp=N,37nm,0.5s
DRWC Darouich 3.47 275 *e*P Pn 08 20 35.1 -8.5
SNR=57
DRWC *e*S Sn 08 21 06.2 -19
comp=N,37nm,0.5s,SNR=58
BTCH Batrach 3.66 266 *e*P Pn 08 20 36.8 -9.4
BTCH AML AML 08 21 34.4
comp=E,20nm,0.7s
BTCH AML AML 08 21 57.4
comp=N,65nm,0.6s
BTCH Batrach 3.66 266 *e*P Pn 08 20 36.8 -9.4
SNR=57
ROOS tl_alroos 3.73 235 *e*P **Pn 08 20 46.0 -1.1**
ROOS *e*S Sn 08 21 21.7 -10
ROOS AML AML 08 21 54.9
comp=E,18nm,0.6s
ROOS AML AML 08 22 00.8
comp=N,21nm,0.8s
ROOS tl_alroos 3.73 235 *e*P **Pn 08 20 46.0 -1.1**
SNR=57
ROOS *e*S Sn 08 21 21.7 -10
comp=N,21nm,0.8s,SNR=58
SLNF Slenfeh 3.92 260 *e*P **Pn 08 20 49.9 0.0**
SLNF *e*S Sn 08 21 08.6 -28
SLNF AML AML 08 21 15.2
comp=N,69nm,0.4s
SLNF AML AML 08 21 23.0
comp=E,23nm,0.5s
SLNF Slenfeh 3.92 260 *e*P **Pn 08 20 49.9 0.0**
SNR=57
SLNF *e*S Sn 08 21 08.6 -28
comp=E,23nm,0.5s,SNR=58

NAO ***23*** *08:23:25.0±1.2, 67°.74N×33°.86E, ML3.0*
HEL ***23*** *08:23:26.2±0.4, 67°.63N×33°.88E, h0km, ML1.4, Explosion*
ISCJB ***23*** *08:23:27.4±0.8, 67°.58N±0°.03×33°.1E±0°.1, h0km, Error ellipse: s-maj=6.5km s-min=4.9km az=177.3*
CSEM ***23*** *08:23:28.2±0.5, 67°.51N×33°.13E, h1km, ML1.8, Error ellipse: s-maj=9.6km s-min=7.1km az=121.0, Mining explosion.*

ISC 23 08:23:28.5±1.3, 67°.69N±0°.04×33°.40E±0°.06, h0km, n33, σ1§32/51, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
APZ9	**Apatity**	**0.12**	**179**		**Pg**	**Pg**	**08 23 30.2**	**-0.7**
APZ9					Lg	Lg	08 23 32.7	
APZ9	**Apatity**	**0.12**	**179**		**Pg**	**Pg**	**08 23 30.2**	**-0.7**
APZ9					Lg	Lg	08 23 32.7	
APZ9	**Apatity**	**0.12**	**179**		**Pg**	**Pg**	**08 23 30.2**	**-0.7**
APZ9					Lg	Lg	08 23 32.7	
APA0	**Apatity Array**	**0.18**	**241**		**Pg**	**Pg**	**08 23 32.4**	**+0.5**
	baz=63,slow=16							
APA0					Lg	Lg	08 23 36.7	
	baz=68,slow=37							
APA0					Rg	Rg	08 23 38.1	
	baz=76,slow=37							
APA0	**Apatity Array**	**0.18**	**241**		**Pg**	**Pg**	**08 23 32.4**	**+0.5**
	baz=63,slow=16							
APA0					Lg	Lg	08 23 36.7	
	baz=68,slow=37							
APA0					Rg	Rg	08 23 38.1	
	baz=76,slow=37							
APA0	**Apatity Array**	**0.18**	**241**		**Pg**	**Pg**	**08 23 32.3**	**+0.5**
	SNR=150							
APA0					Lg	Lg	08 23 36.7	
	SNR=3.7							
KU6	**Riekki**	**2.17**	**221**		PG	**Pn**	**08 24 05.9**	**0.0**
KU6					MSG		08 24 33.1	
	comp=Z,1.6nm,0.2s							
KU6					SG	**Sb**	**08 24 36.2**	**+0.1**
KU6	**Riekki**	**2.17**	**221**		Pg	**Pn**	**08 24 05.9**	**0.0**
KU6					Sg	**Sb**	**08 24 36.2**	**+0.1**
MSF	**Maaselka**	**2.49**	**226**		PG	**Pn**	**08 24 12.4**	**+2.3**
	baz=45							
MSF					SG	**Sb**	**08 24 45.5**	**+0.5**
MSF	**Maaselka**	**2.49**	**226**		Pg	**Pn**	**08 24 12.4**	**+2.3**
MSF					Sg	**Sb**	**08 24 45.5**	**+0.5**
RNF	**Rovaniemi**	**3.08**	**253**		PB	**Pn**	**08 24 19.8**	**+1.5**
	baz=69							
RNF	**Rovaniemi**	**3.08**	**253**		Pb	**Pn**	**08 24 19.8**	**+1.5**
KEV	**Kevo**	**3.12**	**315**		*e*P	**Pn**	**08 24 19.7**	**+0.9**
KEV					*e*S	**Sn**	**08 24 57.2**	**+0.5**
KEV	**Kevo**	**3.12**	**315**		PN	**Pn**	**08 24 19.3**	**+0.5**
	baz=128							
KEV					SB	**Sb**	**08 25 04.8**	**+1.6**
KEV	**Kevo**	**3.12**	**315**		Pn	**Pn**	**08 24 19.3**	**+0.5**
KEV	**Kevo**	**3.12**	**315**		*e*P	**Pn**	**08 24 19.7**	**+0.9**
	SNR=50							
KEV					*e*S	**Sn**	**08 24 57.2**	**+0.5**
	SNR=50							
KEV					Sb	**Sb**	**08 25 04.8**	**+1.6**
ARA0	**ARCESS Array S**	**3.43**	**306**		Pn	**Pn**	**08 24 21.0**	**-2.1**
	baz=122,slow=14							
ARA0					Sn	**Sn**	**08 25 04.4**	**0.0**
	baz=118,slow=28							
ARA0					Lg	Lg	08 25 15.1	
	baz=113,slow=37							
ARA0	**ARCESS Array S**	**3.43**	**306**		Pn	**Pn**	**08 24 21.0**	**-2.1**
	baz=122,slow=14							
ARA0					Sn	**Sn**	**08 25 04.4**	**0.0**
	baz=118,slow=28							
ARA0					Lg	Lg	08 25 15.1	
	baz=113,slow=37							
ARA0	**ARCESS Array S**	**3.43**	**306**		Pn	**Pn**	**08 24 21.0**	**-2.1**
	SNR=6.7							
ARA0					Sn	**Sn**	**08 25 04.4**	**0.0**
	SNR=7.3							
ARA0					Lg	Lg	08 25 15.1	
	SNR=1.7							
ARE0	**ARCESS Array S**	**3.43**	**306**		PN	**Pn**	**08 24 22.9**	**-0.2**
	baz=117							
ARE0					SN	**Sn**	**08 25 04.4**	**-0.1**
ARE0	**ARCESS Array S**	**3.43**	**306**		Pn	**Pn**	**08 24 22.9**	**-0.2**
ARE0					Sn	**Sn**	**08 25 04.4**	**-0.1**
HEF	**Hetta**	**3.73**	**286**		*e*P	**Pn**	**08 24 27.4**	**+0.2**
HEF					*e*S	**Sn**	**08 25 10.4**	**-1.3**
HEF	**Hetta**	**3.73**	**286**		PN	**Pn**	**08 24 27.3**	**+0.1**
HEF					SG	**Sg**	**08 25 26.6**	**-1.4**
HEF	**Hetta**	**3.73**	**286**		*e*P	**Pn**	**08 24 27.4**	**+0.2**
	SNR=50							
HEF					*e*S	**Sn**	**08 25 10.4**	**-1.3**
	SNR=50							
HEF					Sg	**Sg**	**08 25 26.6**	**-1.4**
TOF	**Tornio**	**3.93**	**250**		PG	**Pb**	**08 24 40.0**	**+1.5**
TOF	**Tornio**	**3.93**	**250**		Pg	**Pb**	**08 24 40.0**	**+1.5**
KTK1	**Kautokeino**	**3.99**	**294**		IAML		08 25 41.0	
	comp=Z,4.4nm,0.5s							
OUL	**Oulu**	**4.00**	**233**		PG	**Pb**	**08 24 40.6**	**+1.0**
OUL	**Oulu**	**4.00**	**233**		Pg	**Pb**	**08 24 40.6**	**+1.0**
LANU	**Lannavaara**	**4.33**	**280**		SG	**Sg**	**08 25 43.8**	**-3.7**
LANU	**Lannavaara**	**4.33**	**280**		Sg	**Sg**	**08 25 43.7**	**-3.7**
ERTU	**Ertsjaerv**	**4.52**	**261**		PN	**Pn**	**08 24 38.3**	**+0.2**
ERTU					SN	**Sn**	**08 25 30.2**	**-1.2**
ERTU	**Ertsjaerv**	**4.52**	**261**		Pn	**Pn**	**08 24 38.3**	**+0.2**
ERTU					Sn	**Sn**	**08 25 30.1**	**-1.2**

KRNET ***23*** *08:25:13.0±0.1, 39°.68N×75°.52E, mb2.5*
ISCJB ***23*** *08:25:14.6±1.7, 39°.50N±0°.09×75°.58E±0°.10, h60km±16km, Error ellipse: s-maj=15.1km s-min=11.9km az=153.3*

ISC 23 08:25:17.0±4.8, 39°.6N±0°.1×75°.59E±0°.08, h36km±4km, n10, σ0§98/20, 13C-6D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
KSH	**Kashi**	**0.30**	**100**	⇑*i*	*i*Pg	**Pn**	**08 25 24.4**	**-0.8**
KSH					Sg	**Sn**	**08 25 32.5**	**+0.6**
KSH					smax	smax		
	comp=N,110nm,0.3s							
KSH					smax	smax		
	comp=E,64nm,0.2s							
NRN	**Naryn**	**1.89**	**9**	⇓*i*	*i*P	**Pn**	**08 25 46.1**	**-0.9**
	baz=11							
NRN				⇓*i*	S	**Sn**	**08 26 10.2**	**+0.5**
	baz=11							
KZA	**Kyzart**	**2.52**	**354**	⇓*i*	*i*P	**Pn**	**08 25 54.5**	**-1.2**
	baz=355							
KZA				⇓*i*	S	**Sn**	**08 26 25.8**	**+0.4**
	baz=355							
ARSB	**Arslanbob**	**2.65**	**312**	⇑*e*	*e*P	**Pn**	**08 25 57.8**	**+0.5**
	baz=311							
ARSB				⇑*e*	S	**Sn**	**08 26 30.4**	**+2.1**
	baz=311							
ULHL	**Ulahol**	**2.72**	**10**	⇑*i*	*i*P	**Pn**	**08 25 57.9**	**-0.4**
	baz=12							
ULHL				⇑*i*	S	**Sn**	**08 26 30.6**	**+0.6**
	baz=12							
KDJ	**Kajisay**	**2.83**	**25**	⇑*e*	*e*P	**Pn**	**08 25 59.8**	**0.0**
	baz=27							
KDJ				⇑*i*	S	**Sn**	**08 26 34.2**	**+1.5**
	baz=27							
BOOM	**Boomskoye usch**	**2.93**	**5**	⇓*e*	*e*P	**Pn**	**08 26 01.2**	**0.0**
	baz=6.0							
BOOM				⇓*e*	S	**Sn**	**08 26 36.3**	**+1.1**
	baz=6.0							
AML	**Almayashu**	**2.94**	**331**	⇑*i*	*i*P	**Pn**	**08 26 00.4**	**-1.1**
	baz=331							
AML				⇑*i*	S	**Sn**	**08 26 35.0**	**-0.7**
	baz=331							
KBK	**Karagaybulak**	**3.12**	**351**	⇑*i*	*i*P	**Pn**	**08 26 03.1**	**-0.7**
	baz=352							
KBK				⇑*i*	S	**Sn**	**08 26 39.8**	**-0.1**
	baz=352							
AAK	**Ala-Archa**	**3.18**	**345**	⇑*i*	*i*P	**Pn**	**08 26 03.6**	**-0.9**
	baz=346							
AAK				⇑*i*	S	**Sn**	**08 26 40.6**	**-0.6**
	baz=346							

ISCJB ***23*** *09:01:00.1±0.7, 15°.5S±0°.2×174°.9W±0°.1, h10km, mb3.7/6, MS3.8/12, Error ellipse: s-maj=32.4km s-min=8.3km az=151.1*
IDC ***23*** *09:01:00.3±0.9, 15°.57S×175°.01W, h0km, mb3.7/6, mb1 4.0/8, mb1mx3.8/33, mbtmp3.8/8, ML3.6/2, MS3.8/13, Ms1 3.7/13, ms1mx3.7/23, Error ellipse: s-maj=43.6km s-min=18.9km az=144.0*
GCMT ***23*** *09:01:04.0±0.3, 15°.14S×175°.21W, h30km±1km, MW5.0/67, Moment Tensor Solution. s23,c27; s67,c89; Duration: 0 Moment tensor: Scale 10^16 Nm; Mrr-0.51±.17; Mθθ 1.97±.14; Mφφ-1.46±.13; Mrθ 0.90±.22; Mrφ 2.66±.10; Mθφ 0.39±.17; Best double couple: Mo 3.28200×10^16 NP1:φs 107.00000°, δ 82.00000°, λ 11.00000°. NP2: φs 16.00000°, δ 79.00000°, λ 172.00000°. Principal axes: T 3.6490, Plg 13.0000°, Azm 332.0000°; N -0.7390, Plg 77.0000°, Azm 141.0000°; P -2.9140, Plg 2.0000°, Azm 241.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

ISC 23 09:01:01.6±0.8, 15°.6S±0°.3×174°.9W±0°.2, h10km, n26, σ1§10/16, mb3.8/6, MS3.9/12, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**3.45**	**61**		Pn	**Pn**	**09 01 55.2**	**-0.2**
	6.0nm,0.3s,baz=60,slow=4.0,SNR=9.1							
AFI					Sn	**Sn**	**09 02 35.0**	**-1.5**
	10nm,0.3s,baz=288,slow=20,SNR=3.1							
AFI					LR	LR	09 03 12.0	
	comp=Z,1μm,21.9s,baz=208,slow=37							
DZM	**Mont Dzumac**	**18.79**	**247**		Pn	**Pn**	**09 05 21.4**	**-0.4**
	0.1nm,0.3s,baz=70,slow=18,SNR=3.8							
DZM	**Mont Dzumac**	**18.79**	**247**		*e*LR	LR	09 09 56.7	
	1μm,25.5s							
URZ	**Urewera**	**23.66**	**196**		P	**P**	**09 06 13.7**	**+0.6**
	3.9nm,0.8s,baz=39,slow=14,SNR=2.7							
PAE	**Paea**	**24.34**	**98**		*e*T	T	09 31 26.1	
	3.2nm,0.4s							
PPT	**Papeete**	**24.34**	**98**		LR	LR	09 13 25.8	
	comp=Z,62nm,20.4s,baz=258,slow=30							
PPT2	**Papeete2**	**24.34**	**98**		*e*LQ	LQ	09 11 16.0	
	1μm,25.5s							
PPT2					*e*LR	LR	09 12 20.6	
	277nm,25.0s,baz=259							
PPT2	**Papeete2**	**24.34**	**98**		*e*T	T	09 31 27.0	
	4.2nm,0.4s							
TVO	**Taravao**	**24.66**	**99**		*e*T	T	09 31 49.7	
	1.5nm,0.4s							
HNR	**Honiara**	**25.30**	**281**		LR	LR	09 14 37.4	
	comp=Z,388nm,20.6s,baz=109,slow=32							
VAH	**Vaihoa**	**26.29**	**93**		*e*T	T	09 33 48.6	
	5.6nm,0.3s							
RKT	**Rikitea**	**38.31**	**108**		*e*LQ	LQ	09 17 09.7	
	178nm,25.8s							
RKT	**Rikitea**	**38.31**	**108**		*e*T	T	09 48 58.3	
	3.5nm,0.3s							
STKA	**Stephens Creek**	**42.69**	**240**		LR	LR	09 24 52.7	
	comp=Z,147nm,19.5s,baz=34,slow=34							
WRA	**Warramunga Arr**	**48.40**	**257**		P	**P**	**09 09 43.2**	**-1.0**
	1.1nm,1.0s,baz=86,slow=6.8,SNR=3.7							
WRA					LR	LR	09 27 25.5	
	comp=Z,126nm,21.3s,baz=255,slow=33							
ASAR	**Alice Springs**	**48.68**	**252**		P	**P**	**09 09 45.5**	**-1.0**
	2.9nm,0.8s,baz=86,slow=7.9,SNR=19							
ASAR					LR	LR	09 28 11.0	
	comp=Z,273nm,22.0s,baz=91,slow=34							
VNDA	**Vanda**	**63.04**	**186**		LR	LR	09 38 13.3	
	comp=Z,28nm,18.4s,baz=30,slow=35							
TXAR	**Lajitas Array**	**81.92**	**57**		P	**P**	**09 13 22.3**	**+0.4**
	0.3nm,1.0s,baz=243,slow=5.9,SNR=2.2							
ANMO	**Albuquerque**	**82.03**	**50**		LR	LR	09 41 35.3	
	comp=Z,86nm,20.8s,baz=217,slow=30							
ILAR	**Eilson Array**	**82.92**	**12**		P	**P**	**09 13 27.2**	**+1.0**
	0.4nm,0.7s,baz=215,slow=5.7,SNR=5.1							
PDAR	**Pinedale Array**	**83.37**	**42**		P	**P**	**09 13 30.7**	**+1.4**
	0.2nm,0.6s,baz=222,slow=2.4,SNR=2.2							
PDAR					LR	LR	09 46 05.7	
	comp=Z,56nm,19.2s,baz=239,slow=32							
MAW	**Mawson**	**87.15**	**199**		LR	LR	09 52 30.9	
	comp=Z,43nm,18.4s,baz=62,slow=36							
PLCA	**Paso Flores**	**90.45**	**133**		LR	LR	09 48 21.8	
	comp=Z,49nm,18.7s,baz=342,slow=31							
YKA	**Yellowknife Ar**	**90.85**	**24**		LR	LR	09 53 26.7	
	comp=Z,5.1nm,18.1s,baz=180,slow=35							
TKL	**Tuckaleechee C**	**99.81**	**56**		LR	LR	09 53 37.9	
	comp=Z,64nm,20.0s,slow=32							
BRTR	**Keskin Array B**	**145.38**	**320**		PKPbc	**PKPdf**	**09 20 39.5**	**-0.9**
	1.4nm,0.7s,baz=57,slow=2.8,SNR=4.7							

BUC 23 09:31:44.2±1.0, 47°.10N×22°.41E, h4km±6km, MD2.0/2, 4C-2D, Error ellipse: s-maj=10.9km s-min=4.7km az=27.0, Romania

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
DRGR		**0.37**	**146**	⇓*i*	*i*P	Pg	09 31 51.9	+0.5
DRGR					S	Sg	09 31 56.9	+0.6
DRGR		**0.37**	**146**	⇓*i*	*i*P	Pg	09 31 51.9	+0.5
DRGR					*i* S	Sg	09 31 56.9	+0.6
SIRR	**Siria**	**0.98**	**212**	⇑*i*	*i*P	Pb	09 32 03.9	+0.2
SIRR	**Siria**	**0.98**	**212**	⇑*i*	*i*P	Pb	09 32 03.9	+0.2
SIRR					*i* S	Sb	09 32 16.7	-0.3
GZR	**Gura Zlata**	**1.73**	**171**	⇑*i*	*i*P	Pn	09 32 15.3	+0.3
GZR	**Gura Zlata**	**1.73**	**171**	⇑*i*	*i*P	Pn	09 32 15.3	+0.3
GZR					*i* S	Sb	09 32 38.8	+0.3

IDC ***23*** *09:39:04.6±1.4, 16°.13N×95°.52W, h0km, mb3.8/8, mb1 4.1/9, mb1mx3.9/46, mbtmp3.8/9, ML3.9/1, MS3.4/5, Ms1 3.4/5, ms1mx3.0/38, Error ellipse: s-maj=47.2km s-min=21.9km az=57.0*
NEIC ***23*** *09:39:05.6±0.0, 15°.65N×96°.01W, h6km, mb4.3/71, MD4.5(MEX), After MEX.*
NEIC Felt [III] at Huatulco. Also felt at Acapulco.
MEX ***23*** *09:39:05.6±0.4, 15°.65N×96°.01W, h6km±2km, MD4.5*

ISC 23 09:39:04.7±0.9, 15°.74N±0°.05×95°.97W±0°.04, h15km±6km, n349, σ1§33/364, mb4.4/56, MS3.2/5, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
HUIG	**Huatulco**	**0.14**	**280**		*e*P	**Pg**	**09 39 08.6**	**+0.1**
HUIG					*e*		09 39 10.8	
HUIG	**Huatulco**	**0.14**	**280**		*i* P	**Pg**	**09 39 08.6**	**+0.1**
HUIG					*i* S	**Sg**	**09 39 10.8**	**-0.2**
PANG	**Puerto Angel**	**0.50**	**261**		*e*P	**Pg**	**09 39 14.1**	**-0.5**
PANG					*i* S	**Sg**	**09 39 20.4**	**-0.8**
OXBJ	**Oaxaca**	**1.50**	**331**		*e*P	**Pn**	**09 39 30.9**	**-0.5**
OXBJ					*e*S	**Sn**	**09 39 49.5**	**-1.3**
VHO	**Vista Hermosa**	**1.51**	**331**		*e*Pn	**Pn**	**09 39 30.8**	**-0.6**
VHO					*e*Sn	**Sn**	**09 39 50.2**	**-0.8**
VHO	**Vista Hermosa**	**1.51**	**331**		*i* P	**Pn**	**09 39 30.8**	**-0.6**
VHO					*i* S	**Sn**	**09 39 50.2**	**-0.8**
PNIG	**Pinotepa**	**2.18**	**288**		*e*Pn	**Pn**	**09 39 38.5**	**-1.9**
PNIG					*e*Sn	**Sn**	**09 40 05.9**	**-1.2**
PNIG	**Pinotepa**	**2.18**	**288**		*e*P	**Pn**	**09 39 38.5**	**-1.9**
PNIG					*i* S	**Sn**	**09 40 05.9**	**-1.2**
TUIG	**Tuzandepetl**	**2.71**	**33**		*e*Pn	**Pn**	**09 39 48.2**	**+0.4**
TUIG					*e*Sn	**Sn**	**09 40 20.9**	**+0.5**
TUIG	**Tuzandepetl**	**2.71**	**33**		*e*P	**Pn**	**09 39 48.2**	**+0.4**
TUIG					*i* S	**Sn**	**09 40 20.9**	**+0.5**
TGIG		**2.92**	**69**		*e*Pn	**Pn**	**09 39 50.7**	**+0.1**
TGIG					*e*Sn	**Sn**	**09 40 26.0**	**+0.6**
TGIG		**2.92**	**69**		*e*P	**Pn**	**09 39 50.7**	**+0.1**
TGIG					*i* S	**Sn**	**09 40 26.0**	**+0.6**
TPIG	**Tehuac#an**	**2.98**	**334**		*e*Pn	**Pn**	**09 39 52.3**	**+0.8**
TPIG					*e*Sn	**Sn**	**09 40 28.6**	**+1.5**
TPIG	**Tehuac#an**	**2.98**	**334**		*e*P	**Pn**	**09 39 52.3**	**+0.8**
TPIG					*i* S	**Sn**	**09 40 28.6**	**+1.5**
TLIG	**Tlapa**	**3.08**	**306**		*e*Pn	**Pn**	**09 39 55.4**	**+2.4**
TLIG					*e*Sn	**Sb**	**09 40 37.3**	**+0.5**
TLIG	**Tlapa**	**3.08**	**306**		*e*P	**Pn**	**09 39 53.2**	**+0.2**
TLIG					*i* S	**Sn**	**09 40 29.8**	**+0.2**
CCIG	**Comitan**	**3.72**	**81**		*e*Pn	**Pn**	**09 40 01.4**	**-0.4**
CCIG					*e*Sn	**Sn**	**09 40 45.2**	**-0.2**
CCIG	**Comitan**	**3.72**	**81**		*e*P	**Pn**	**09 40 01.4**	**-0.4**
CCIG					*i* S	**Sn**	**09 40 45.2**	**-0.2**
MEIG	**Mezcala**	**4.12**	**302**		*e*Pn	**Pn**	**09 40 10.0**	**+2.8**
MEIG	**Mezcala**	**4.12**	**302**		*e*P	**Pn**	**09 40 10.0**	**+2.8**
PLIG	**Platanillo**	**4.29**	**308**		*e*Pn	**Pn**	**09 40 11.0**	**+1.5**
PLIG	**Platanillo**	**4.29**	**308**		*e*P	**Pn**	**09 40 11.0**	**+1.5**
CAIG	**El Cayaco**	**4.33**	**288**		*e*Pn	**Pn**	**09 40 09.0**	**-1.0**
CAIG	**El Cayaco**	**4.33**	**288**		*e*P	**Pn**	**09 40 09.0**	**-1.0**
UNM	**Universidad Na**	**4.70**	**320**		*e*Pn	**Pn**	**09 40 15.8**	**+0.5**
ARIG	**Puente Sto Nin**	**4.89**	**302**		*e*P	**Pn**	**09 40 21.2**	**+3.4**
SCIG	**Sabancuy**	**5.58**	**54**		*e*Pn	**Pn**	**09 40 25.8**	**-1.4**
SCIG					*e*Sn	**Sn**	**09 41 27.4**	**-3.6**
MOIG	**Morelia**	**6.33**	**309**		*e*Pn	**Pn**	**09 40 40.1**	**+2.4**
TGUH	**Tegucigalpa,Un**	**8.57**	**100**		*e*Pn	**Pn**	**09 41 08.0**	**-0.2**
TGUH					*e*Sn	**Sn**	**09 42 44.0**	**-0.7**
ZAIG	**Zacatecas**	**9.36**	**319**		*e*Pn	**Pn**	**09 41 19.1**	**-0.3**
LNIG	**Linares**	**9.68**	**341**		*e*Pn	**Pn**	**09 41 23.4**	**-0.1**
HDC	**Heredia**	**12.88**	**115**		*e*Pn	**Pn**	**09 42 07.6**	**+0.1**
537A	**Green Hill Far**	**14.27**	**359**		P	**Pn**	**09 42 28.4**	**+2.1**
	baz=179							
HPIG		**14.33**	**323**		*e*Pn	**P**	**09 42 31.8**	**-2.6**
JCT	**Junction City**	**15.08**	**347**		P	**Pn**	**09 42 38.2**	**+0.8**
	baz=166							
JCT	**Junction City**	**15.08**	**347**		*e*Pn	**Pn**	**09 42 39.0**	**+1.6**
	7.1nm,0.7s							
433A	**Art**	**15.21**	**350**		P	**Pn**	**09 42 39.6**	**+0.5**
	baz=169							
TXAR	**Lajitas Array**	**15.27**	**334**		Pn	**Pn**	**09 42 41.8**	**+1.8**
	0.1nm,0.3s,baz=150,slow=15,SNR=23							
TXAR					Lg	Lg	09 47 16.5	
	0.0nm,0.3s,baz=155,slow=30,SNR=2.8							
TX31	**Lajitas Ar. Si**	**15.28**	**334**		*e*Pn	**Pn**	**09 42 41.9**	**+1.9**
334A	**Lometa**	**15.66**	**353**		P	**Pn**	**09 42 44.2**	**-0.7**
	baz=172							
341A	**Kurthwood**	**15.73**	**9**		P	**Pn**	**09 42 45.1**	**-0.7**
	baz=190							
NATX	**Nacogdoches**	**15.99**	**4**		*e*Pn	**Pn**	**09 42 49.7**	**+0.6**
	16nm,0.9s							
WHTX	**Lake Whitney,**	**16.23**	**355**		*e*Pn	**Pn**	**09 42 52.3**	**+0.1**
	18nm,0.8s							
234A	**Clairette**	**16.31**	**353**		P	**Pn**	**09 42 53.4**	**+0.2**
	baz=173							
233A	**Rising Star**	**16.42**	**351**		P	**Pn**	**09 42 54.6**	**-0.1**
	baz=170,SNR=5.5							
ABTX	**Abilene, Hawle**	**17.14**	**349**		P	**Pn**	**09 43 03.9**	**+0.2**
	baz=168							
ABTX	**Abilene, Hawle**	**17.14**	**349**		*e*Pn	**P**	**09 43 05.8**	**+0.4**
	18nm,1.0s							
PAYG	**Puerto Ayora**	**17.25**	**161**		*e*Pn	**P**	**09 43 08.0**	**+1.3**
	69nm,1.1s							
Z36A	**Blue Ridge**	**17.46**	**359**		P	**Pn**	**09 43 07.3**	**-0.3**
	baz=179							
Z40A	**Long Farm, Mag**	**17.59**	**7**		P	**Pn**	**09 43 08.5**	**-0.8**
	baz=188							
MNTX	**Cornudas Mount**	**18.05**	**333**		P	**P**	**09 43 16.4**	**+0.9**
	baz=150							
MNTX	**Cornudas Mount**	**18.05**	**333**		*e*Pn	**Pn**	**09 43 14.9**	**-0.2**
	10nm,1.6s							
Y36A	**Durant**	**18.08**	**359**		P	**Pn**	**09 43 15.4**	**0.0**
	baz=179							
Y38A	**Idabel**	**18.14**	**3**		P	**Pn**	**09 43 15.3**	**-0.8**
	baz=184							
Y39A	**Lockesburg**	**18.20**	**5**		P	**Pn**	**09 43 15.4**	**-1.4**
	baz=186							
Y41A	**Eaglette Beard**	**18.31**	**9**		P	**Pn**	**09 43 17.5**	**-0.7**
	baz=190							
Y40A	**Okolona**	**18.35**	**7**		P	**Pn**	**09 43 17.8**	**-0.9**
	baz=188							
X35A	**Drake**	**18.60**	**357**		P	**Pn**	**09 43 21.7**	**-0.1**
	baz=177,SNR=6.2							
X36A	**Centrahoma**	**18.75**	**359**		P	**P**	**09 43 23.2**	**+0.1**
	baz=179							
X39A	**Fountain Ranch**	**18.76**	**5**		P	**P**	**09 43 22.6**	**-0.6**
	baz=186							
X37A	**Clayton**	**18.77**	**2**		P	**Pn**	**09 43 23.8**	**0.0**
	baz=182,SNR=7.2							
MIAR	**Mount Ida**	**18.84**	**6**		P	**P**	**09 43 23.4**	**-0.7**
	baz=187							
MIAR	**Mount Ida**	**18.84**	**6**		*e*P	**P**	**09 43 23.2**	**-0.9**
	12nm,1.0s							
X38A	**Whitesboro**	**18.87**	**3**		P	**P**	**09 43 24.6**	**+0.1**
	baz=184,SNR=5.9							
X40A	**Basin Creek Fa**	**18.88**	**8**		P	**P**	**09 43 23.5**	**-1.0**
	baz=189							
X41A	**Kaden, Bauxite**	**18.93**	**9**		P	**P**	**09 43 23.9**	**-1.1**
	baz=190,SNR=5.7							
Y45A	**Yeager Farm, C**	**18.95**	**17**		P	**P**	**09 43 23.4**	**-1.9**
	baz=199							
SRIG	**Santa Rosalia**	**19.00**	**310**		*e*P	**P**	**09 43 22.2**	**-3.7**
	13nm,1.1s							
WMOK	**Wichita Mounta**	**19.08**	**353**		P	**P**	**09 43 26.3**	**-0.5**
	baz=172,SNR=5.4							
WMOK

V42A	Cord	20.39	11	P	P	09 43 39.6	-1.5	
	baz=193,SNR=11							
HHAR	Hobbs	20.53	5	eP	P	09 43 41.9	-0.7	
	8.9nm,0.8s							
U35A	Pawnee	20.55	358	P	P	09 43 41.7	-1.1	
	baz=178							
U36A	Oologah	20.57	1	P	P	09 43 41.5	-1.4	
	baz=181							
U37A	Salina	20.59	2	P	P	09 43 42.6	-0.6	
	baz=182,SNR=7.1							
U38A	Gravette	20.66	4	P	P	09 43 43.1	-0.9	
	baz=184,SNR=22							
U39A	Green Forest	20.67	6	P	P	09 43 43.3	-0.8	
	baz=187,SNR=12							
BNM	Barren Site	20.69	334	eP	Pn	09 43 46.3	-0.7	
U40A	Yellville	20.72	7	P	P	09 43 43.8	-0.7	
	baz=188,SNR=23							
U32A	Winter Ranch,	20.73	353	P	P	09 43 44.6	-0.1	
	baz=172							
U41A	Viola	20.83	9	P	P	09 43 44.4	-1.4	
	baz=191,SNR=12							
U42A	Revenden	20.95	11	P	P	09 43 45.3	-1.8	
	baz=193,SNR=6.6							
T35A	Sooner Cattle	21.09	359	P	P	09 43 47.5	-1.2	
	baz=179,SNR=13							
LAZ	Ladron	21.13	334	eP	P	09 43 48.3	-0.9	
U43A	Rector	21.13	13	P	P	09 43 47.1	-1.9	
	baz=195,SNR=7.6							
T34A	McClaskey Farm	21.22	357	P	P	09 43 48.7	-1.3	
	baz=177							
T36A	Boggs Farm, Ca	21.23	0	P	P	09 43 49.0	-1.1	
	baz=180,SNR=10							
T38A	Diamond	21.26	4	P	P	09 43 49.0	-1.4	
	baz=184,SNR=9.5							
TUC	Tucson	21.29	323	P	P	09 43 52.6	+1.7	
	baz=138							
TUC	Tucson	21.29	323	eP	P	09 43 52.9	+2.0	
	9.3nm,0.9s							
ANMO	Albuquerque	21.32	336	P	P	09 43 52.1	+0.9	
	1.7nm,0.8s,baz=160,slow=14,SNR=8.6							
ANMO				LR	LR	09 52 59.0		
	comp=Z,76nm,21.0s,baz=157,slow=40							
ANMO	Albuquerque	21.32	336	P	P	09 43 51.8	+0.6	
	baz=152							
ANMO	Albuquerque	21.32	336	eP	P	09 43 52.4	+1.1	
	3.4nm,0.8s							
T37A	Cheneyville 18	21.32	2	P	P	09 43 49.2	-1.8	
	baz=183							
T39A	Clever	21.32	6	P	P	09 43 49.6	-1.5	
	baz=187,SNR=8.7							
SWET	Sewanee	21.38	23	eP	P	09 43 50.1	-1.6	
	6.6nm,0.7s							
U45A	Rockin P Farm,	21.50	16	P	P	09 43 51.2	-1.8	
	baz=199							
PBMO	Poplar Bluff	21.52	12	eP	P	09 43 51.9	-1.3	
	26nm,1.2s							
T40A	Mansfield	21.54	8	P	P	09 43 52.4	-1.0	
	baz=189							
T41A	Mountain View	21.54	9	P	P	09 43 52.1	-1.4	
	baz=191							
PARMO	Parma	21.56	14	eP	P	09 43 52.0	-1.6	
	29nm,0.7s							
WVT	Waverly	21.56	18	eP	P	09 43 52.4	-1.3	
	6.1nm,0.7s							
T42A	Van Buren	21.64	11	P	P	09 43 53.2	-1.3	
	baz=193							
T43A	Greenville	21.84	12	P	P	09 43 55.1	-1.5	
	baz=195,SNR=22							
S35A	Otter Creek Ra	21.86	359	P	P	09 43 55.2	-1.5	
	baz=179,SNR=7.2							
S38A	Stockton	21.88	4	P	P	09 43 55.9	-1.1	
	baz=185,SNR=12							
S34A	Willow Spring	21.89	358	P	P	09 43 55.0	-2.2	
	baz=177							
S36A	Lake Cedric, C	21.90	1	P	P	09 43 56.1	-1.1	
	baz=181,SNR=7.0							
S37A	Fort Scott	21.95	2	P	P	09 43 56.6	-1.3	
	baz=183,SNR=5.7							
S40A	Lebanon	21.98	7	P	P	09 43 56.1	-2.1	
	baz=189,SNR=8.4							
S39A	Bolivar	21.99	6	P	P	09 43 56.2	-2.0	
	baz=187,SNR=6.1							
T44A	Benton	22.00	14	P	P	09 43 55.3	-3.0	
	baz=197							
S41A	Jillco Farms,	22.08	9	P	P	09 43 57.0	-2.2	
	baz=191							
214A	Organ Pipe Nat	22.26	319	P	P	09 44 02.5	+1.2	
	baz=133,SNR=5.2							
S43A	Fulton Ridge,	22.36	12	P	P	09 43 59.6	-2.6	
	baz=195							
S42A	Caledonia	22.41	11	P	P	09 44 00.1	-2.7	
	baz=193,SNR=6.2							
R38A	Fenwick Farm,	22.43	4	P	P	09 44 01.3	-1.6	
	baz=185,SNR=9.6							
R35A	Emporia Munici	22.49	360	P	P	09 44 01.9	-1.7	
	baz=180							
R36A	Gordon, Harris	22.50	1	P	P	09 44 01.7	-1.9	
	baz=181,SNR=5.9							
R34A	Isabella, Hill	22.50	357	P	P	09 44 02.4	-1.4	
	baz=177,SNR=6.1							
R37A	Teagarden Farm	22.50	2	P	P	09 44 02.0	-1.8	
	baz=183							
X18A	Snowflake	22.54	329	eP	P	09 44 06.3	+1.9	
	6.1nm,0.9s							
T25A	Trinidad	22.59	342	P	P	09 44 05.1	+0.2	
	baz=159,SNR=7.7							
T25A	Trinidad	22.59	342	eP	P	09 44 06.1	+1.2	
	23nm,1.4s							
R39A	Chumby, Stover	22.63	6	P	P	09 44 03.3	-1.8	
	baz=187,SNR=6.8							
TKL	Tuckaleechee C	22.63	27	P	P	09 44 02.7	-2.4	
	2.9nm,0.9s,baz=195,slow=16,SNR=3.3							
TKL	Tuckaleechee C	22.63	27	eP	P	09 44 04.0	-1.1	
	10nm,1.1s							
S44A	Carbondale	22.66	14	P	P	09 44 02.9	-2.4	
	baz=197							
MHTCO	State Highway	22.66	342	eP	P	09 44 08.1	+2.4	
	12nm,1.0s							
R40A	Maddies Statio	22.70	8	P	P	09 44 04.4	-1.4	
	baz=189,SNR=12							
R41A	Rosebud	22.83	9	P	P	09 44 05.6	-1.6	
	baz=192,SNR=5.1							
R42A	Luebbering	22.91	10	P	P	09 44 06.5	-1.5	
	baz=193							
Q35A	Mercer Eighty,	23.03	360	P	P	09 44 08.6	-0.7	
	baz=180							
R43A	Red Bud	23.07	12	P	P	09 44 07.9	-1.7	
	baz=195,SNR=5.9							
Q37A	Longview Farm,	23.08	3	P	P	09 44 08.2	-1.6	
	baz=184							
Q36A	Arnold C. Orve	23.13	1	P	P	09 44 09.4	-1.0	
	baz=181							
CBKS	Cedar Bluff	23.22	353	P	P	09 44 10.1	-1.2	
	baz=171							
CBKS	Cedar Bluff	23.22	353	eP	P	09 44 11.6	+0.3	
	21nm,0.9s							
Q38A	Cooks Store, C	23.22	5	P	P	09 44 09.8	-1.4	
	baz=186							
R44A	Waltonville	23.23	14	P	P	09 44 09.3	-1.9	
	baz=197							
X16A	Lo Mia Camp, P	23.23	326	eP	P	09 44 13.5	+1.9	
	8.5nm,0.8s							
KSU1	Kansas State U	23.28	359	P	P	09 44 10.6	-1.1	
	baz=178							
USIN	University of	23.32	17	eP	P	09 44 10.0	-2.2	
	10nm,0.8s							
Q39A	Willow Grove F	23.36	6	P	P	09 44 11.2	-1.4	
	baz=187							
113A	Mohawk Valley,	23.41	320	eP	P	09 44 15.2	+2.1	
	3.6nm,0.8s							
Q40A	Laux Farm, Aux	23.41	8	P	P	09 44 11.6	-1.5	
	baz=190							
SDCO	Great Sand Dun	23.48	341	P	P	09 44 14.7	+0.5	
	baz=157,SNR=12							
SDCO	Great Sand Dun	23.48	341	eP	P	09 44 14.7	+0.5	
	7.9nm,1.1s							
Q41A	Truxton	23.49	9	P	P	09 44 12.3	-1.6	
	baz=192							
Q42A	Golden Eagle	23.57	11	P	P	09 44 12.8	-1.9	
	baz=193							
P35A	Duane Minner,	23.70	360	P	P	09 44 15.7	-0.2	
	baz=180,SNR=6.8							
P34A	Walnut Farm, R	23.73	358	P	P	09 44 15.2	-1.0	
	baz=178							
Y14A	Wickenburg	23.75	323	eP	P	09 44 18.2	+1.6	
	28nm,1.1s							
Q43A	New Douglas	23.76	12	P	P	09 44 14.8	-1.7	
	baz=195,SNR=5.7							
P36A	Good Intent, A	23.80	1	P	P	09 44 16.2	-0.7	
	baz=182							
P37A	Lathrop	23.80	3	P	P	09 44 15.7	-1.2	
	baz=184							
P39B	Salisbury	23.82	6	P	P	09 44 16.0	-1.1	
	baz=188,SNR=6.1							
Q44A	Meyer Farm, Va	23.87	13	P	P	09 44 15.5	-2.1	
	baz=197							
P38A	Dawn	23.89	5	P	P	09 44 16.1	-1.7	
	baz=186							
KSCO	Kaye Shedlock'	23.91	347	P	P	09 44 18.2	+0.1	
	baz=164							
KSCO	Kaye Shedlock'	23.91	347	eP	P	09 44 19.2	+1.1	
	26nm,1.1s							
S22A	4UR Ranch, Cre	23.93	338	P	P	09 44 19.3	+0.8	
	baz=154							
P40A	Paris	23.94	7	P	P	09 44 17.0	-1.2	
	baz=189,SNR=7.3							
WCI	Wyandotte Cave	23.97	19	eP	P	09 44 15.6	-3.0	
	8.2nm,0.7s							
WUAZ	Wupatki	24.04	328	P	P	09 44 20.7	+1.3	
	baz=141,SNR=14							
WUAZ	Wupatki	24.04	328	eP	P	09 44 21.7	+2.3	
	16nm,0.9s							
MVCO	Mesa Verde	24.10	335	P	P	09 44 20.7	+0.7	
	baz=150,SNR=7.0							
MVCO	Mesa Verde	24.10	335	eP	P	09 44 21.5	+1.4	
	6.7nm,0.8s							
GRTK	Grand Turk	24.20	73	eP	P	09 44 18.8	-2.1	
	314nm,1.4s							
P41A	Barry, Barry	24.23	9	P	P	09 44 19.4	-1.5	
	baz=192,SNR=5.5							
P42A	Winchester	24.26	11	P	P	09 44 19.7	-1.5	
	baz=193							
GLA	Glamis	24.26	319	P	P	09 44 22.6	+1.3	
	baz=131,SNR=6.6							
GLA	Glamis	24.26	319	eP	P	09 44 23.2	+1.8	
	9.8nm,0.8s							
O33A	Hebron	24.28	357	P	P	09 44 20.7	-0.7	
	baz=176							
O36A	Bolckow	24.31	2	P	P	09 44 20.5	-1.2	
	baz=182							
O34A	Beatrice	24.36	359	P	P	09 44 21.3	-0.8	
	baz=178,SNR=6.9							
O37A	Wolven Farm, M	24.39	3	P	P	09 44 21.1	-1.3	
	baz=184							
O38A	Galt	24.39	5	P	P	09 44 21.1	-1.3	
	baz=186							
P43A	Skaggs, Pawnee	24.47	12	P	P	09 44 21.7	-1.4	
	baz=195							
P44A	Sand Creek, Wi	24.50	14	P	P	09 44 21.8	-1.5	
	baz=197							
Q24A	Divide	24.50	343	P	P	09 44 23.7	-0.1	
	baz=158							
Q24A	Divide	24.50	343	eP	P	09 44 23.4	-0.4	
	3.0nm,0.8s							
Y12C	Blythe	24.53	320	P	P	09 44 24.7	+0.9	
	baz=133							
O40A	La Belle	24.55	8	P	P	09 44 23.3	-0.5	
	baz=190							
O39A	Kirksville	24.60	6	P	P	09 44 23.2	-1.1	
	baz=188							
PDMCI	Parker Dam,Lak	24.68	322	P	P	09 44 26.3	+1.2	
	baz=134							
O41A	Passleys Farm,	24.68	9	P	P	09 44 23.3	-1.8	
	baz=192							
O42A	Bath	24.90	11	P	P	09 44 25.4	-1.6	
	baz=194							
PV01	Paradox Valley	24.92	336	eP	P	09 44 28.8	+1.2	
N37A	Lee Faris, Mou	24.97	3	P	P	09 44 27.0	-0.6	
	baz=184							
N36A	Muff Farm, Cla	25.00	2	P	P	09 44 27.3	-0.6	
	baz=182							
N34A	Lincoln	25.01	359	P	P	09 44 27.6	-0.4	
	baz=179							
N35A	Tabor	25.03	1	P	P	09 44 27.7	-0.5	
	baz=181							
BC3	Big Chuckawall	25.05	319	P	P	09 44 30.2	+1.6	
	baz=131,SNR=5.7							
N38A	Joes South For	25.07	5	P	P	09 44 28.0	-0.6	
	baz=186,SNR=14							
PV05	Paradox Valley	25.09	335	eP	P	09 44 30.2	+1.2	
W13A	Hualapai Mount	25.09	323	eP	P	09 44 31.9	+2.9	
	5.8nm,1.2s							
O43A	Sugar Creek Fa	25.13	12	P	P	09 44 27.8	-1.2	
	baz=195							
IRM	Iron Mountain	25.19	320	P	P	09 44 30.5	+0.8	
	baz=132							
U15A	North Rim	25.21	328	eP	P	09 44 33.6	+3.3	
	8.0nm,1.2s							
N39A	Derby Farms, D	25.22	6	P	P	09 44 29.0	-0.9	
	baz=186							
SMCO	Snowmass	25.26	340	eP	P	09 44 32.2	+1.4	
	5.1nm,1.0s							
N41A	Harden Midland	25.27	9	P	P	09 44 29.1	-1.2	
	baz=192							
PV10	Paradox Valley	25.32	335	eP	P	09 44 33.3	+2.1	
N40A	Mertquake, Sal	25.34	8	P	P	09 44 29.7	-1.2	
	baz=190							
HDIL	Hopedale	25.39	12	P	P	09 44 29.9	-1.6	
	baz=195							
ISCO	Idaho Springs	25.41	342	P	P	09 44 32.4	+0.5	
	baz=158							
ISCO	Idaho Springs	25.41	342	eP	P	09 44 33.0	+1.0	
	5.2nm,0.8s							
PV09	Paradox Valley	25.46	335	eP	P	09 44 33.7	+1.2	
BELC	Belle Mtn. Jos	25.62	319	P	P	09 44 34.4	+0.6	
	baz=131							
M37A	Trindle Farm,	25.62	3	P	P	09 44 32.4	-1.1	
	baz=184							
M35A	Neola	25.63	0	P	P	09 44 33.2	-0.5	
	baz=181,SNR=8.9							
M36A	Felix, Anita	25.64	2	P	P	09 44 32.7	-1.1	
	baz=183							
OGNE	Ogallala	25.66	349	eP	P	09 44 35.3	+1.3	
	29nm,0.8s							
PFO	Pinyon Flats O	25.67	318	P	P	09 44 38.0	+3.8	
	0.6nm,0.4s,baz=142,slow=5.8,SNR=2.7							
PFO	Pinyon Flats O	25.67	318	eP	P	09 44 35.5	+1.3	
	4.3nm,1.0s							
M34A	Aspy Farms, Fr	25.67	359	P	P	09 44 33.4	-0.6	
	baz=179							
M38A	Pleasantville	25.70	5	P	P	09 44 32.9	-1.3	
	baz=186,SNR=6.6							
SFIN	Lafayette	25.73	16	eP	P	09 44 33.4	-1.1	
	9.9nm,1.0s							
LDFC	Landfair	25.79	322	eP	P	09 44 36.1	+0.8	
	15nm,1.0s							
M39A	Webster	25.85	7	P	P	09 44 34.0	-1.7	
	baz=188,SNR=10							
M40A	Post Highland	25.86	8	P	P	09 44 34.1	-1.6	
	baz=190,SNR=9.4							
KNB	Kanab	25.94	328	eP	P	09 44 37.4	+0.7	
	3.6nm,0.9s							
M41A	Milan	25.97	9	P	P	09 44 35.4	-1.3	
	baz=192,SNR=5.1							
L34A	Svendsen Farm,	26.13	359	P	P	09 44 37.7	-0.5	
	baz=179							
SCIA	State Center	26.18	5	eP	P	09 44 37.6	-1.0	
	36nm,0.8s							
L32A	Elgin	26.23	357	P	P	09 44 38.7	-0.4	
	baz=176							
L35A	Bielow Farm, R	26.28	1	P	P	09 44 39.2	-0.4	
	baz=181							
L33A	Hoskins	26.36	358	P	P	09 44 39.8	-0.5	
	baz=177							
L37A	Phoenix Point,	26.36	4	P	P	09 44 39.5	-0.8	
	baz=185							
HEC	Hector,Ludlow	26.37	320	P	P	09 44 41.6	+1.1	
	baz=131							
L38A	Oak Wood Farm,	26.43	5	P	P	09 44 40.1	-0.8	
	baz=187							
L39A	Vinton	26.51	7	P	P	09 44 40.8	-0.8	
	baz=189							
TUQ	Turquoise Moun	26.52	321	P	P	09 44 43.3	+1.3	
	baz=133,SNR=5.5							
L40A	Anamosa	26.55	8	P	P	09 44 40.9	-1.0	
	baz=190							
O20A	White River Ci	26.55	339	P	P	09 44 42.8	+0.5	
	baz=153							
O20A	White River Ci	26.55	339	eP	P	09 44 44.1	+1.8	
	6.9nm,1.1s							
L41A	Preston	26.66	9	P	P	09 44 41.8	-1.2	
	baz=192							
K33A	Hardington	26.79	358	P	P	09 44 43.6	-0.5	
	baz=178							
K36A	Gilmore City	26.84	2	P	P	09 44 43.8	-0.7	
	baz=183							
K35A	Storm Lake	26.89	1	P	P	09 44 43.8	-1.3	
	baz=182							
K38A	Parkersburg	26.95	5	P	P	09 44 44.1	-1.5	
	baz=187							
K37A	Belmond	27.01	4	P	P	09 44 44.9	-1.1	
	baz=185							
L43A	Garden Prairie	27.07	12	P	P	09 44 45.1	-1.6	
	baz=195							
K39A	Oelwein	27.10	7	P	P	09 44 45.2	-1.7	
	baz=189,SNR=5.3							
K40A	Colesburg	27.18	8	P	P	09 44 46.2	-1.5	
	baz=190,SNR=5.4							
K41A	Shullsburg	27.21	9	P	P	09 44 46.6	-1.3	
	baz=192,SNR=5.5							
J34A	George	27.45	0	P	P	09 44 49.1	-0.9	
	baz=180							
J33A	Davis	27.50	358	P	P	09 44 49.6	-0.8	
	baz=178							
JFWS	Jewell Farm	27.52	9	eP	P	09 44 49.7	-1.0	
	17nm,0.6s							
J36A	Seneca 1, Swea	27.53	3	P	P	09 44 49.4	-1.3	
	baz=183							
J35A	Milford	27.54	1	P	P	09 44 49.8	-1.0	
	baz=182							
RWWY	Rawlins	27.62	342	eP	P	09 44 53.5	+1.6	
	9.4nm,0.8s							
LRMC	Laurel Mtn Rad	27.63	319	P	P	09 44 52.7	+0.8	
	baz=130							
ECSD	EROS Data Cent	27.90	359	P	P	09 44 53.1	-1.0	
	baz=179							
ECSD	EROS Data Cent	27.90	359	eP	P	09 44 51.8	-2.3	
	3.6nm,0.8s							
NLU	North Lily Min	27.92	333	eP	P	09 44 55.2	+0.6	
	11nm,1.7s							
J40A	Soldiers Grove	27.92	8	P	P	09 44 52.9	-1.4	
	baz=191							
J41A	Loganville	28.00	9	P	P	09 44 53.6	-1.3	
	baz=192							
I35A	Creekview Farm	28.03	2	P	P	09 44 54.4	-0.9	
	baz=182							
DAC	Darwin (Calif)	28.09	321	eP	P	09 44 58.0	+1.8	
	3.8nm,0.9s							
ARVC	Arvin	28.14	318	eP	P	09 44 57.4	+1.0	
I34A	Hadley	28.20	0	P	P	09 44 56.0	-0.8	
	baz=180							
I33A	Coleman	28.22	359	P	P	09 44 56.0	-1.0	
	baz=178							
I39A	Houston	28.27	7	P	P	09 44 56.0	-1.4	
	baz=189							
I38A	Scanlan Farm,	28.37	6	P	P	09 44 57.7	-0.6	
	baz=187							
I40A	Norwalk	28.42	8	P	P	09 44 57.7	-1.0	
	baz=191							
SJG	San Juan	28.61	81	LR	LR	09 55 28.7		
	comp=Z,33nm,21.1s,baz=260,slow=35							
I41A	Arkdale	28.70	9	P	P	09 45 00.2	-0.9	
	baz=192							
H36A	Jessenland, He	28.79	3	P	P	09 45 02.3	+0.3	
	baz=184							
H39A	Augusta	29.11	7	P	P	09 45 03.6	-1.3	
	baz=189,SNR=14							
BW06	Boulder Array	29.34	339	eP	P	09 45 07.5	+0.2	
PD31	Pinedale Array	29.34	339	eP	P	09 45 08.2	+1.0	
PDAR	Pinedale Array	29.34	339	P	P	09 45 07.6	+0.4	
	0.9nm,0.8s,baz=144,slow=8.5,SNR=7.2							
PDAR				LR	LR	09 59 06.2		
	comp=Z,56nm,18.8s,baz=222,slow=41							
G34A	Benson	29.41	0	P	P	09 45 06.2	-1.3	
	baz=181							
G35A	Watkins	29.41	2	P	P	09 45 05.6	-1.9	
	baz=183							
G32A	Webster	29.45	358	P	P	09 45 06.5	-1.3	
	baz=177							
SPMN	Marine on St.	29.51	5	P	P	09 45 07.1	-1.3	
	baz=186							
SPMN	Marine on St.	29.51	5	eP	P	09 45 07.4	-1.0	
	12nm,0.8s							
G38A	Ridgeland	29.54	6	P	P	09 45 07.4	-1.2	
	baz=188							
HVU	Hansel Valley	29.72	334	eP	P	09 45 11.8	+1.2	
G39A	Holcombe	29.73	7	P	P	09 45 09.3	-1.0	
	baz=189,SNR=7.6							
F34A	Alexandria	29.97	1	P	P	09 45 11.0	-1.5	
	baz=181							
F33A	5 Mile Ranch,	30.00	360	P	P	09 45 11.5	-1.2	
	baz=179							
F37A	Hinrichs Farm,	30.02	5	P	P	09 45 11.5	-1.4	
	baz=186							
F38A	Pierce - Schro	30.32	6	P	P	09 45 14.4	-1.1	
	baz=188							
REDW	Red Top Meadow	30.32	338	eP	P	09 45 16.9	+1.1	
	7.6nm,0.9s							
SNOW	Snow King Moun	30.37	338	eP	P	09 45 17.5	+1.2	
	12nm,0.8s							
F39A	Loretta	30.38	7	P	P	09 45 15.0	-1.0	
	baz=190							
LOHW	Long Hollow	30.45	339	eP	P	09 45 17.8	+0.8	
	4.8nm,0.8s							
TPAW	Teton Pass	30.47	338	eP	P	09 45 19.1	+1.9	
	5.3nm,0.9s							
MOOW	Moose Ponds	30.62	339	eP	P	09 45 19.6	+1.1	
	2.9nm,0.8s							
F42A	Maple Grove Fa	30.64	11	P	P	09 45 17.0	-1.4	
	baz=195							
E33A	Westby DABS, E	30.67	360	P	P	09 45 18.0	-0.7	
	baz=180							
E35A	Pequot Lakes	30.75	2	P	P	09 45 18.7	-0.6	
	baz=183							
E36A	McGregor	30.77	4	P	P	09 45 18.6	-0.9	
	baz=185							
F43A	Flat Rock, Esc	30.89	12	P	P	09 45 18.6	-1.9	
	baz=197,SNR=6.0							
E38A	The Farm, Brul	30.99	6	P	P	09 45 20.2	-1.2	
	baz=188,SNR=7.2							
E40A	Wakefield	31.03	8	P	P	09 45 20.7	-1.1	
	baz=191							
F44A	Big Bay de Noc	31.18	13	P	P	09 45 22.0	-1.1	
	baz=198							
D35A	Remer	31.29	3	P	P	09 45 22.5	-1.5	
	baz=184							
D33A	AnnSam, Waubun	31.30	0	P	P	09 45 22.8	-1.4	
	baz=180							
HLID	Hailey	31.88	334	eP	P	09 45 30.9	+1.4	
	6.3nm,1.1s							
MCMT	McKenzie Canyo	32.31	337	eP	P	09 45 35.6	+2.2	
AGMN	Agassiz Nation	32.46	0	P	P	09 45 33.3	-1.0	
	baz=180,SNR=8.7							
AGMN	Agassiz Nation	32.46	0	eP	P	09 45 33.8	-0.6	
	19nm,0.6s							
BOZ	Bozeman (W)	32.54	339	P	P	09 45 35.7	+0.4	
	baz=151							
BOZ	Bozeman (W)	32.54	339	eP	P	09 45 34.5	-0.8	
	2.3nm,0.7s							
B32A	Ashes, Strandq	32.56	359	P	P	09 45 34.4	-0.9	
	baz=179,SNR=6.2							
B31A	Greenbush Farm	32.62	358	P	P	09 45 35.1	-0.7	
	baz=177							
DLMT	Dillon	32.68	338	eP	P	09 45 37.9	+1.4	
	9.3nm,0.9s							
WVOR	Wild Horse Val	32.96	328	eP	P	09 45 40.4	+1.4	
	4.7nm,1.0s							
MOD	Modoc Plateau	33.45	326	eP	P	09 45 44.6	+1.3	
	3.2nm,0.8s							
ULM	Lac du Bonnet	34.42	0	P	P	09 45 49.9	-1.5	
	4.1nm,0.7s,baz=184,slow=7.2,SNR=4.7							
LPAZ	La Paz	42.04	138	P	P	09 46 59.0	+2.3	
	0.3nm,0.7s,baz=315,slow=10.0,SNR=2.1							
LPAZ	La Paz	42.04	138	eP	P	09 46 58.2	+1.6	
INK	Inuvik	57.72	344	P	P	09 48 54.0	-0.4	
	2.9nm,0.6s,baz=121,slow=7.1,SNR=5.9							
INK	Inuvik	57.72	344	eP	P	09 48 54.5	0.0	
	22nm

Moment Tensor Solution. s55,c76; s97,c150; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}=4.00±.14; $M_{\theta\theta}$1.21±.10; $M_{\phi\phi}$2.79±.09; $M_{r\theta}$0.17±.22; $M_{\theta\phi}$1.89±.06; $M_{\phi r}$-0.34±.18; Best double couple: M_o4.04300×10^{16} NP1:ϕ_{s}29.00000°,δ47.00000°,λ-97.00000°. NP2: ϕ_{s}218.00000°,δ44.00000°,λ-83.00000°. Principal axes: T 4.0530, Plg1.0000°, Azm124.0000°; N -0.0210, Plg5.0000°, Azm33.0000°; P -4.0320, Plg85.0000°, Azm229.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.

IDC ***23*** *09:44:10.9±4.5, 19°.20S×175°.75E, h65km±39km, mb4.2/16, mb1 4.4/18, mb1mx4.2/34, mbtmp4.5/18, ML4.2/2, MS3.8/24, Ms1 3.8/24, ms1mx3.8/26 Error ellipse: s-maj=21.9km s-min=16.6km az=82.0*

NEIC ***23*** *09:44:10.9±1.1, 19°.20S×175°.64E, h63km±9km, mb5.0/111, Error ellipse: s-maj=6.4km s-min=4.3km az=138.0*

BJI ***23*** *09:44:12.3, 18°.96S×175°.11E, h60km, mb4.8/30, mB5.2/22, Ms4.9/9, Ms7 4.5/8*

ISC 23 09:44:08.1±0.3, 19°.05S±0°.06×175°.65E±0°.05, h35km, n375, σ1°33/369, mb5.0/136, MS3.9/26, 7C-4D, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time h m s	Res ISC
DZM	**Mont Dzumac**	**9.14**	**249**	P		**Pn**	**09 46 21.0**	**+3.5**
	1.5nm,0.3s,baz=76,slow=15,SNR=31							
DZM				LR		LR	09 49 19.0	
	comp=Z,959nm,21.1s,baz=59,slow=34							
DZM	**Mont Dzumac**	**9.14**	**249**	*e*LQ		LQ	09 48 08.1	
	3μm,26.5s							
DZM				*e*LR		LR	09 48 35.9	
	2μm,26.7s							
DZM	**Mont Dzumac**	**9.14**	**249**	*e*Pn		**Pn**	**09 46 19.7**	**+2.1**
DZM				*e*Sn		**Sn**	**09 47 57.6**	**-1.7**
RAO	**Raoul Island**	**11.73**	**151**	LR		LR	09 50 23.4	
	comp=Z,2μm,19.3s,baz=338,slow=32							
AFI	**Afiamalu**	**13.09**	**69**	*e*P		**Pn**	**09 47 14.1**	**+2.4**
AFI				*e*			09 49 37.4	
AFI	**Afiamalu**	**13.09**	**69**	*e*Pn		**Pn**	**09 47 14.1**	**+2.4**
AFI				*e*Sn		**Sn**	**09 49 37.4**	**+1.2**
HNR	**Honiara**	**17.96**	**300**	LR		LR	09 54 15.2	
	comp=Z,414nm,19.9s,baz=155,slow=33							
MXZ	**Matakaoa Point**	**18.59**	**173**	*e*P		P	09 48 19.7	-2.6
	66nm,1.3s							
MXZ				*e*S		**Sn**	**09 51 52.4**	**+2.9**
URZ	**Urewera**	**19.18**	**177**	P		**P**	**09 48 28.4**	**-0.4**
	1.1nm,0.3s,baz=26,slow=3.8,SNR=18							
URZ				LR		LR	09 55 12.5	
	comp=Z,162nm,19.3s,baz=20,slow=35							
URZ	**Urewera**	**19.18**	**177**	*e*P		**P**	**09 48 29.7**	**+1.0**
URZ				*e*S		S	09 52 00.8	-3.5
HIZ	**Hauiti**	**19.41**	**182**	*e*P		**P**	**09 48 34.2**	**+3.0**
	57nm,1.0s							
BKZ	**Black Stump Fm**	**20.06**	**178**	*e*P		**P**	**09 48 39.6**	**+1.2**
	32nm,1.1s							
BFZ	**Birch Farm**	**21.57**	**179**	*e*P		**P**	**09 48 56.6**	**+2.1**
	67nm,1.2s							
SNZO	**South Karori**	**22.20**	**182**	*e*P		**P**	**09 49 02.0**	**+0.6**
	70nm,1.1s							
THZ	**Tophouse**	**22.76**	**185**	*e*P		**P**	**09 49 06.8**	**-0.6**
	24nm,0.9s							
RAR	**Rarotonga**	**23.17**	**100**	LR		LR	09 56 54.3	
	comp=Z,193nm,21.7s,baz=258,slow=33							
RAR	**Rarotonga**	**23.17**	**100**	*e*P		**P**	**09 49 11.9**	**+0.2**
RAR				pmax		pmax		
	comp=Z,346nm,2.0s							
RAR	**Rarotonga**	**23.17**	**100**	*e*P		**P**	**09 49 11.9**	**+0.2**
	comp=Z,346nm,2.0s							
KHZ	**Kahutara**	**23.36**	**184**	*e*P		**P**	**09 49 12.2**	**-1.1**
	comp=Z,93nm,1.3s							
EIDS	**Eidsvold**	**23.58**	**250**	*e*P		**P**	**09 49 12.8**	**-2.9**
	comp=Z,36nm,1.1s							
LTZ	**Lake Taylor**	**23.83**	**186**	*e*P		P	09 49 14.2	-3.8
	comp=Z,22nm,0.8s							
OXZ	**Oxford**	**24.39**	**186**	*e*P		**P**	**09 49 21.7**	**-1.4**
	comp=Z,42nm,0.9s							
ARMA	**Armidale**	**24.53**	**238**	*e*P		**P**	**09 49 22.8**	**-1.8**
	comp=Z,16nm,1.1s							
CRLZ	**Canterbury Las**	**24.59**	**185**	*e*P		P	09 49 19.3	-5.5
	comp=Z,105nm,1.4s							
MQZ	**McQueen's Vall**	**24.71**	**185**	*e*P		**P**	**09 49 24.6**	**-1.3**
	comp=Z,56nm,1.4s							
RPZ	**Rata Peaks**	**24.89**	**188**	P		**P**	**09 49 26.2**	**-1.4**
	comp=Z,11nm,0.8s,baz=68,slow=1.4,SNR=4.8							
RPZ				LR		LR	09 57 56.2	
	comp=Z,265nm,20.1s,baz=30,slow=33							
RPZ	**Rata Peaks**	**24.89**	**188**	*e*P		**P**	**09 49 25.5**	**-2.2**
	comp=Z,39nm,1.1s							
LBZ	**Lake Benmore**	**25.67**	**189**	*e*P		P	09 49 31.6	-3.1
	comp=Z,34nm,1.2s							
MLZ	**Mavora Lakes**	**26.98**	**192**	*e*P		**P**	**09 49 45.7**	**-0.8**
	comp=Z,105nm,1.6s							
DCZ	**Deep Cove**	**27.27**	**193**	*e*P		**P**	**09 49 46.2**	**-2.8**
	comp=Z,40nm,1.2s							
RABL	**Rabaul**	**27.28**	**300**	*e*P		**P**	**09 49 46.4**	**-3.1**
	comp=Z,121nm,1.1s							
WHZ	**Wether Hill Ro**	**27.52**	**192**	*e*P		**P**	**09 49 51.5**	**+0.2**
	comp=Z,47nm,1.2s							
CTAO	**Charters Tower**	**27.71**	**263**	*e*P		**P**	**09 49 57.2**	**+3.9**
CTAO				pmax		pmax		
	comp=Z,23nm,1.4s							
CTAO	**Charters Tower**	**27.71**	**263**	*e*P		**P**	**09 49 57.1**	**+3.9**
	comp=Z,23nm,1.4s							
CAN	**Canberra**	**28.59**	**230**	*e*P		**P**	**09 50 01.3**	**+0.2**
CAN				pmax		pmax		
	comp=Z,61nm,1.5s							
CAN	**Canberra**	**28.59**	**230**	*e*P		**P**	**09 50 01.3**	**+0.2**
	comp=Z,61nm,1.5s							
PMG	**Port Moresby**	**29.19**	**285**	LR		LR	10 00 13.6	
	comp=Z,365nm,19.6s,baz=118,slow=33							
PMG	**Port Moresby**	**29.19**	**285**	∩P		**P**	**09 50 06.4**	**-0.1**
PMG				pmax		pmax		
	comp=Z,110nm,1.1s							
PMG	**Port Moresby**	**29.19**	**285**	*e*P		**P**	**09 50 05.6**	**-0.9**
	comp=Z,50nm,1.3s							
PPT2	**Papeete2**	**33.01**	**93**	*e*S		**S**	**09 55 57.3**	**+0.6**
	comp=Z,204nm,26.0s							
PPT2				*e*LQ		LQ	09 57 45.7	
	comp=Z,672nm,31.0s							
PPT2				*e*LR		LR	09 59 20.4	
	comp=Z,1μm,29.8s,baz=261							
PPT	**Papeete**	**33.01**	**93**	LR		LR	10 00 30.5	
	comp=Z,252nm,21.3s,baz=200,slow=30							
STKA	**Stephens Creek**	**33.15**	**241**	P		**P**	**09 50 42.1**	**+0.9**
	comp=Z,13nm,1.0s,baz=61,slow=8.9,SNR=13							
STKA				LR		LR	10 03 21.1	
	comp=Z,93nm,18.6s,baz=49,slow=35							
STKA	**Stephens Creek**	**33.15**	**241**	*e*P		**P**	**09 50 42.6**	**+1.3**
STKA				pmax		pmax		
	comp=Z,13nm,1.0s							
STKA	**Stephens Creek**	**33.15**	**241**	*e*P		**P**	**09 50 42.2**	**+0.9**
	comp=Z,5.5nm,1.0s							
BBOO	**Buckleboo**	**37.93**	**241**	*e*P		**P**	**09 51 22.5**	**+0.2**
	comp=Z,51nm,1.3s							
WB2	**Warramunga Arr**	**38.88**	**262**	*e*P		**P**	**09 51 29.5**	**-0.9**
WRAB	**Tennant Creek**	**38.88**	**262**	∩*e*P		**P**	**09 51 30.6**	**+0.2**
WRAB				*e**SP		**sP**	**09 51 51.0**	**+6.1**
WRAB				pmax		pmax		
	comp=Z,15nm,1.1s							
WR1	**Warramunga Arr**	**38.89**	**262**	*e*P		**P**	**09 51 29.7**	**-0.8**
	comp=Z,9.3nm,1.2s							
WRA	**Warramunga Arr**	**38.89**	**262**	P		**P**	**09 51 29.7**	**-0.8**
	comp=Z,2.3nm,0.8s,baz=94,slow=8.3,SNR=15							
WRA				LR		LR	10 06 35.0	
	comp=Z,148nm,18.5s,baz=95,slow=34							
WRA	**Warramunga Arr**	**38.89**	**262**	*e*P		**P**	**09 51 33.4**	**+2.9**
WRA				pmax		pmax		
	comp=Z,2.0nm,0.7s							
AS01	**Alice Springs**	**39.01**	**256**	*e*P		**P**	**09 51 31.4**	**-0.2**
AS01				*e*PcP		**PcP**	**09 53 40.6**	**-0.8**
AS31	**Alice Springs**	**39.05**	**256**	*e*P		**P**	**09 51 32.2**	**+0.3**
	comp=Z,4.7nm,0.9s							
AS31				*e*PcP		**PcP**	**09 53 40.8**	**-0.9**
ASAR	**Alice Springs**	**39.05**	**256**	P		**P**	**09 51 31.8**	**-0.2**
	comp=Z,13nm,0.9s,baz=84,slow=8.5,SNR=34							
ASAR				PcP		**PcP**	**09 53 40.8**	**-0.9**
	comp=Z,3.3nm,1.0s,baz=100,slow=4.1,SNR=6.8							
ASAR				LR		LR	10 06 38.0	
	comp=Z,185nm,22.0s,baz=92,slow=34							
ASAR	**Alice Springs**	**39.05**	**256**	*e*P		**P**	**09 51 31.9**	**0.0**
ASAR				pmax		pmax		
	comp=Z,13nm,0.9s							
FORT	**Forrest**	**44.42**	**245**	*e*P		**P**	**09 52 15.4**	**-0.3**
	comp=Z,403nm,0.8s							
RKT	**Rikitea**	**46.08**	**104**	*e*S		**S**	**09 59 10.7**	**-1.7**
	comp=Z,208nm,27.4s							
RKT				*e*LR		LR	10 05 21.4	
	comp=Z,834nm,30.5s,baz=268							
FITZ	**Fitzroy Crossi**	**47.29**	**263**	*e*P		**P**	**09 52 38.4**	**0.0**
MBWA	**Marble Bar**	**52.33**	**258**	*e*P		**P**	**09 53 16.2**	**-0.6**
	comp=Z,28nm,0.9s							
NWAO	**Narrogin (SRO)**	**53.69**	**243**	*e*P		**P**	**09 53 26.0**	**-0.7**
NWAO				pmax		pmax		
	comp=Z,22nm,0.9s							
NWAO	**Narrogin (SRO)**	**53.69**	**243**	*e*P		**P**	**09 53 26.0**	**-0.7**
	comp=Z,22nm,0.9s							
VNDA	**Vanda**	**58.90**	**183**	P		P	09 54 00.5	-2.6
	comp=Z,1.1nm,0.8s,baz=3.0,slow=8.8,SNR=6.7							
VNDA				LR		LR	10 13 34.2	
	comp=Z,63nm,21.8s,baz=18,slow=30							
VNDA	**Vanda**	**58.90**	**183**	*e*P		P	09 54 01.0	-2.1
VNDA	**Vanda**	**58.90**	**183**	*e*P		P	09 54 00.9	-2.2
SBA	**Scott Base**	**59.00**	**182**	*e*P		**P**	**09 54 03.1**	**-0.7**
SBA				pmax		pmax		
	comp=Z,17nm,1.0s							
SBA	**Scott Base**	**59.00**	**182**	*e*P		**P**	**09 54 03.1**	**-0.7**
	comp=Z,17nm,1.0s							
JHJ	**Hachijo jima 2**	**62.17**	**326**	LR		LR	10 15 46.0	
	comp=Z,95nm,22.0s,baz=121,slow=30							
MJA0	**Matsu Arr-Jizo**	**65.62**	**328**	*e*P		**P**	**09 54 50.3**	**+1.6**
MJA0				pmax		pmax		
	comp=Z,6.0nm,1.1s							
MJAR	**Matsushiro Arr**	**65.64**	**327**	P		**P**	**09 54 48.9**	**+0.1**
	comp=Z,5.9nm,1.1s,baz=140,slow=6.0,SNR=7.5							
MJAR				LR		LR	10 17 17.6	
	comp=Z,47nm,21.3s,baz=200,slow=30							
MJAR	**Matsushiro Arr**	**65.64**	**327**	*e*P		**P**	**09 54 50.3**	**+1.5**
MJAR				pmax		pmax		
	comp=Z,6.0nm,1.1s							
JNU	**Nakatsue**	**67.23**	**320**	P		**P**	**09 55 00.0**	**+1.0**
	comp=Z,4.5nm,0.8s,baz=100,slow=8.4,SNR=3.7							
ERM	**Erimo**	**67.78**	**334**	∩*e*P		**P**	**09 55 02.7**	**+0.5**
ERM				*e**PP		**sP**	**09 55 16.3**	**-0.8**
ERM				pmax		pmax		
	comp=Z,19nm,1.0s							
QSPA	**South Pole Qui**	**71.01**	**180**	*e*P		P	09 55 20.1	-2.0
	comp=Z,32nm,0.9s							
KSRS	**Korea Array**	**71.95**	**322**	P		**P**	**09 55 29.3**	**+1.3**
	comp=Z,1.6nm,0.9s,baz=124,slow=7.6,SNR=8.7							
KSRS				LR		LR	10 21 28.4	
	comp=Z,54nm,20.7s,baz=132,slow=31							
KSRS	**Korea Array**	**71.95**	**322**	*e*P		**P**	**09 55 30.0**	**+2.0**
KSRS				pmax		pmax		
	comp=Z,2.0nm,0.9s							
KS15	**Wonju Array Si**	**71.96**	**322**	*e*P		**P**	**09 55 29.2**	**+1.1**
KS01	**Wonju Array Si**	**71.98**	**322**	*e*P		**P**	**09 55 29.9**	**+1.7**
PETK	**Petropavlovsk-**	**73.52**	**349**	LR		LR	10 21 34.9	
	comp=Z,60nm,21.2s,baz=154,slow=30							
NJ2	**Nanjing**	**74.42**	**312**	*e*P		**P**	**09 55 42.3**	**-0.5**
NJ2				pmax		pmax		
	comp=Z,17nm,0.5s							
USRK	**Ussuriysk Ar.**	**74.53**	**329**	LR		LR	10 22 22.8	
	comp=Z,47nm,20.2s,baz=144,slow=31							
QIZ	**Qiongzhong**	**74.84**	**297**	P		**P**	**09 55 43.1**	**-2.4**
QIZ				S		**S**	**10 05 18.5**	**-1.8**
HABR	**Khabarovsk**	**76.36**	**334**	*e*P		**P**	**09 55 52.7**	**-0.8**
HABR				*e*			09 56 03.9	
HABR				*e**PP		**sP**	**09 56 09.5**	**+1.0**
HABR				*e**SP		PcP	09 56 16.4	+11
HABR				*e*			09 58 45.4	
HABR				*e*PPP		PPP	10 00 32.5	
HABR				*e*S		**S**	**10 05 34.8**	**-1.2**
HABR				*e*			10 06 03.5	
HABR				*e*SS		**SS**	**10 10 32.4**	**+1.1**
HABR				*e*SSS		SSS	10 13 55.7	
HABR				pmax		pmax		
	comp=Z,24nm,1.9s							
HABR				pmax		pmax		
	comp=N,15nm,1.9s							
HABR				pmax		pmax		
	comp=E,14nm,1.9s							
HABR				MLR		MLR		
	comp=Z,61nm,21.0s							
WHN	**Wuhan**	**76.83**	**309**	P		P	09 55 59.9	+3.3
CN2	**Changchun**	**77.61**	**325**	*e*P		**P**	**09 56 02.3**	**+1.7**
CN2				pmax		pmax		
	comp=Z,20nm,1.2s							
KLR	**Kul'dur**	**78.36**	**332**	∩*e*P		**P**	**09 56 07.0**	**+2.3**
KLR				*e**PP		**sP**	**09 56 17.5**	**-2.2**
BJI	**Beijing**	**80.74**	**318**	P		**P**	**09 56 19.5**	**+1.7**
BJI				S		**S**	**10 06 24.6**	**+1.4**
BJI				pmax		pmax		
	comp=Z,7.0nm,0.8s							
BJI				pmax		pmax		
	comp=Z,110nm,3.7s							
GYA	**Guiyang**	**80.78**	**302**	*e*P		**P**	**09 56 19.0**	**+0.5**
GYA				pP		sP	09 56 35.3	+1.7
GYA				PP		**PP**	**09 59 26.8**	**+3.6**
GYA				S		**S**	**10 06 22.0**	**-2.5**
GYA				SKS		**SKSac**	**10 06 28.4**	**-6.4**
GYA				pmax		pmax		
	comp=Z,10.0nm,1.0s							
MAW	**Mawson**	**80.83**	**201**	P		**P**	**09 56 16.7**	**-1.3**
	comp=Z,13nm,1.1s,baz=83,slow=6.8,SNR=16							
MAW	**Mawson**	**80.83**	**201**	*e*P		**P**	**09 56 17.3**	**-0.7**
MAW				pmax		pmax		
	comp=Z,4.0nm,1.1s							
MAW	**Mawson**	**80.83**	**201**	*e*P		**P**	**09 56 17.3**	**-0.7**
	comp=Z,3.8nm,1.1s							
MA2	**Magadan**	**80.94**	**347**	∫∫*i*P		**P**	**09 56 19.3**	**+0.8**
PKM	**Mcpherson Peak**	**81.39**	**49**	P		**P**	**09 56 21.6**	**-0.1**
	baz=240							
MWC	**Mount Wilson**	**82.33**	**50**	*e*P		**P**	**09 56 27.3**	**+0.7**
MWC				pmax		pmax		
	comp=Z,12nm,1.1s							
MWC	**Mount Wilson**	**82.33**	**50**	*e*P		**P**	**09 56 27.3**	**+0.7**
	comp=Z,12nm,1.1s							
VES	**Vestal, Richgr**	**82.39**	**48**	P		**P**	**09 56 25.9**	**-0.8**
	baz=240							
WDC	**Whiskeytown Da**	**82.52**	**43**	*e*P		**P**	**09 56 25.5**	**-1.7**
WDC				pmax		pmax		
	comp=Z,14nm,1.4s							
WDC	**Whiskeytown Da**	**82.52**	**43**	*e*P		**P**	**09 56 25.5**	**-1.7**
	comp=Z,14nm,1.4s							
CMB	**Columbia Colle**	**82.60**	**46**	*e*P		**P**	**09 56 27.7**	**-0.1**
CMB				pmax		pmax		
	comp=Z,19nm,1.4s							
CMB	**Columbia Colle**	**82.60**	**46**	*e*P		**P**	**09 56 27.7**	**-0.1**
	comp=Z,19nm,1.4s							
BFSC	**Mount Baldy Ra**	**82.62**	**50**	P		**P**	**09 56 27.6**	**-0.5**
	baz=241							
N02D	**Trinity Center**	**82.63**	**42**	P		**P**	**09 56 27.4**	**-0.5**
	baz=237							
ORV	**Oroville**	**82.65**	**44**	*e*P		**P**	**09 56 28.0**	**0.0**
ORV				pmax		pmax		
	comp=Z,20nm,1.6s							
ORV	**Oroville**	**82.65**	**44**	*e*P		**P**	**09 56 27.9**	**0.0**
	comp=Z,20nm,1.6s							
MURC	**Murrieta**	**82.65**	**51**	P		**P**	**09 56 27.1**	**-1.1**
	baz=241							
AFDM	**Forest Hills D**	**82.68**	**45**	*e*P		**P**	**09 56 28.1**	**-0.1**
	comp=Z,12nm,1.3s							
EDW2	**Edwards Air Fo**	**82.69**	**49**	P		**P**	**09 56 27.9**	**-0.4**
	baz=241,SNR=7.4							
L02D	**Cave Junction,**	**82.72**	**41**	P		**P**	**09 56 27.9**	**-0.4**
	baz=236							
ISA	**Isabella, Lake**	**82.73**	**49**	P		**P**	**09 56 27.8**	**-0.8**
	baz=240							
ISA	**Isabella, Lake**	**82.73**	**49**	*e*P		**P**	**09 56 28.9**	**+0.3**
ISA				pmax		pmax		
	comp=Z,26nm,1.4s							
ISA	**Isabella, Lake**	**82.73**	**49**	*e*P		**P**	**09 56 28.9**	**+0.3**
	comp=Z,26nm,1.4s							
M02C	**Callahan**	**82.76**	**42**	P		**P**	**09 56 29.1**	**+0.5**
	baz=237,SNR=5.5							
PLM	**Palomar**	**82.78**	**51**	*e*P		**P**	**09 56 29.2**	**+0.2**
PLM	**Palomar**	**82.78**	**51**	*e*P		**P**	**09 56 29.2**	**+0.2**
DGR	**Domenigoni Val**	**82.81**	**51**	*e*P		**P**	**09 56 27.2**	**-1.8**
O03D	**Paynes Creek**	**82.84**	**43**	P		**P**	**09 56 29.0**	**-0.1**
	baz=238,SNR=5.2							
MONP	**Monument Peak,**	**82.89**	**52**	P		**P**	**09 56 29.1**	**-0.6**
	baz=242							
IKP	**In-Ko-Pah, Jac**	**83.01**	**52**	P		**P**	**09 56 29.7**	**-0.5**
	baz=242							
PFO	**Pinyon Flats O**	**83.20**	**51**	P		**P**	**09 56 30.9**	**-0.2**
	baz=242							
PFO	**Pinyon Flats O**	**83.20**	**51**	*e*P		**P**	**09 56 31.4**	**+0.3**
PFO				pmax		pmax		
	comp=Z,19nm,1.8s							
PFO	**Pinyon Flats O**	**83.20**	**51**	*e*P		**P**	**09 56 31.4**	**+0.3**
	comp=Z,19nm,1.8s							
TPFO	**Pinon Flats**	**83.20**	**51**	P		**P**	**09 56 30.5**	**-0.6**
	baz=242							
XPFO	**Piæon Flat**	**83.20**	**51**	*e*P		**P**	**09 56 31.3**	**+0.1**
	comp=Z,20nm,1.8s							
LRMC	**Laurel Mtn Rad**	**83.20**	**49**	P		**P**	**09 56 30.8**	**-0.3**
	baz=241,SNR=10							
HUMO	**Hull Mountain**	**83.36**	**41**	*e*P		**P**	**09 56 32.6**	**+1.0**
	comp=Z,11nm,1.3s							
SWSC	**Sam W. Stewart**	**83.38**	**52**	P		**P**	**09 56 31.4**	**-0.5**
	baz=242							
CWC	**Cottonwood Cre**	**83.39**	**48**	P		**P**	**09 56 31.9**	**-0.1**
	baz=241							
KMI	**Kunming**	**83.40**	**299**	P		**P**	**09 56 34.1**	**+1.6**
KMI				pmax		pmax		
	comp=Z,10.0nm,0.7s							
MLAC	**Mammoth, Mammo**	**83.45**	**47**	P		**P**	**09 56 32.3**	**-0.2**
	baz=240							
WAKR	**Walker**	**83.48**	**46**	*e*P		**P**	**09 56 33.2**	**+0.6**
	comp=Z,28nm,1.3s							
BEKR	**Beckworth**	**83.56**	**44**	*e*P		**P**	**09 56 33.2**	**+0.3**
	comp=Z,39nm,1.8s							
M04C	**Macdoel**	**83.61**	**42**	P		**P**	**09 56 33.2**	**+0.1**
	baz=238							
MPMC	**Manual Prospec**	**83.62**	**49**	P		**P**	**09 56 33.7**	**+0.4**
	baz=241,SNR=6.6							
DAC	**Darwin (Calif)**	**83.65**	**48**	*e*P		**P**	**09 56 33.9**	**+0.4**
DAC				pmax		pmax		
	comp=Z,17nm,1.8s							
DAC	**Darwin (Calif)**	**83.65**	**48**	*e*P		**P**	**09 56 33.9**	**+0.4**
	comp=Z,17nm,1.8s							
PNTR	**Pine Nut**	**83.67**	**45**	*e*P		**P**	**09 56 34.1**	**+0.6**
	comp=Z,38nm,1.4s							
BELC	**Belle Mtn. Jos**	**83.72**	**51**	P		**P**	**09 56 33.7**	**-0.1**
	baz=242,SNR=9.4							
I03D	**Drain, OR**	**83.72**	**40**	P		**P**	**09 56 33.8**	**+0.4**
	baz=236							
SEY	**Seymchan**	**83.74**	**350**	P		**P**	**09 56 33.0**	**0.0**
	comp=Z,4.1nm,0.7s,baz=147,slow=5.8,SNR=16							
SEY	**Seymchan**	**83.74**	**350**	∩*i*P		**P**	**09 56 33.6**	**+0.6**
GSC	**Goldstone, Bar**	**83.75**	**50**	P		**P**	**09 56 33.2**	**-0.6**
	baz=242,SNR=5.2							
GSC	**Goldstone, Bar**	**83.75**	**50**	*e*P		**P**	**09 56 34.8**	**+0.9**
GSC				pmax		pmax		
	comp=Z,19nm,1.5s							
GSC	**Goldstone, Bar**	**83.75**	**50**	*e*P		**P**	**09 56 34.8**	**+0.9**
	comp=Z,19nm,1.5s							
TVH3	**East Aurora ar**	**83.82**	**46**	*e*P		**P**	**09 56 34.7**	**+0.3**
	comp=Z,16nm,1.4s							
YERR	**Yerington**	**83.86**	**45**	*e*P		**P**	**09 56 34.8**	**+0.3**
	comp=Z,35nm,1.5s							
HEC	**Hector,Ludlow**	**83.86**	**50**	P		**P**	**09 56 34.2**	**-0.3**
	baz=242,SNR=8.0							
TVH2	**Borealis Mine**	**83.88**	**46**	*e*P		**P**	**09 56 35.1**	**+0.5**
	comp=Z,15nm,1.4s							
TVH1	**TV Hill, Hawth**	**83.91**	**46**	*e*P		**P**	**09 56 35.5**	**+0.5**
	comp=Z,31nm,1.5s							
BC3	**Big Chuckawall**	**83.96**	**51**	P		**P**	**09 56 34.9**	**-0.1**
	baz=242							
CM01	**Chiang Mai Arr**	**83.98**	**292**	*e*P		**P**	**09 56 36.7**	**+1.4**
CMAR	**Chiang Mai Arr**	**84.01**	**292**	P		**P**	**09 56 36.3**	**+0.8**
	comp=Z,1.3nm,0.4s,baz=110,slow=3.5,SNR=13							
CMAR				LR		LR	10 36 34.0	
	comp=Z,38nm,18.0s,baz=174,slow=37							
CMAR	**Chiang Mai Arr**	**84.01**	**292**	*e*P		**P**	**09 56 36.9**	**+1.4**
CMAR				pmax		pmax		
	comp=Z,1.0nm,0.4s							
PAHR	**Pah Rah Range**	**84.12**	**45**	*e*P		**P**	**09 56 36.2**	**+0.4**
	comp=Z,24nm,1.4s							
HHC	**Hu-ho-hao-te**	**84.14**	**317**	*e*P		**P**	**09 56 37.1**	**+1.4**
HHC				pmax		pmax		
	comp=Z,16nm,1.1s							
HHC				pmax		pmax		
	comp=Z,74nm,7.4s							
GLA	**Glamis**	**84.15**	**52**	P		**P**	**09 56 35.8**	**-0.1**
	baz=243							
GLA	**Glamis**	**84.15**	**52**	*e*P		**P**	**09 56 36.4**	**+0.5**
GLA				pmax		pmax		
	comp=Z,20nm,1.4s							
GLA	**Glamis**	**84.15**	**52**	*e*P		**P**	**09 56 36.4**	**+0.5**
	comp=Z,20nm,1.4s							
GRAC	**Grapevine Rang**	**84.16**	**48**	P		**P**	**09 56 35.7**	**-0.1**
	baz=241							
FURC	**Furnace Creek,**	**84.26**	**48**	P		**P**	**09 56 36.3**	**+0.1**
	baz=241							
GMRC	**Granite Mounta**	**84.33**	**50**	P		**P**	**09 56 36.4**	**-0.5**
	baz=242,SNR=6.3							
I04A	**Tendick Farm,**	**84.35**	**40**	P		**P**	**09 56 36.8**	**+0.2**
	baz=237							
SHOC	**Shoshone, Teco**	**84.41**	**49**	P		**P**	**09 56 37.2**	**+0.1**
	baz=242							
IRM	**Iron Mountain**	**84.42**	**51**	P		**P**	**09 56 37.5**	**+0.2**
	baz=243,SNR=9.9							
TUQ	**Turquoise Moun**	**84.44**	**50**	P		**P**	**09 56 37.5**	**0.0**
	baz=242,SNR=7.4							
MOD	**Modoc Plateau**

	comp=Z,86nm,20.0s								
LZH	**Lanzhou**	**87.19**	**310**	*e*P		**P**	**09 56 53.8**	**+2.7**
LZH				pP		sP	09 57 11.1	+4.9
LZH				sP		pP	09 57 19.3	+17
LZH				pmax		pmax		
	comp=Z,43nm,1.2s							
LZH				pmax		pmax		
	comp=Z,110nm,4.9s							
LZH				LR		LR		
	comp=Z,180nm,15.9s							
LZH				LR		LR		
	comp=Z,180nm,15.4s							
LZH				LR		LR		
	comp=Z,290nm,17.0s							
CCUT	**Cedar City**	**87.25**	**49**	*e*P		**P**	**09 56 51.2**	**-0.2**
	comp=Z,24nm,2.0s							
X16A	**Lo Mia Camp, P**	**87.29**	**52**	*e*P		**P**	**09 56 52.5**	**+0.9**
	comp=Z,8.2nm,1.3s							
E07A	**Sunnyside**	**87.35**	**39**	*e*P		**P**	**09 56 52.0**	**+0.5**
	comp=Z,23nm,1.5s							
KNB	**Kanab**	**87.40**	**49**	*e*P		**P**	**09 56 52.3**	**+0.2**
KNB	**Kanab**	**87.40**	**49**	*e*P		**P**	**09 56 52.3**	**+0.2**
HAWA	**Hanford**	**87.45**	**39**	*e*P		**P**	**09 56 52.6**	**+0.7**
	comp=Z,20nm,1.3s							
U15A	**North Rim**	**87.52**	**50**	*e*P		**P**	**09 56 53.7**	**+0.8**
	comp=Z,11nm,1.4s							
WUAZ	**Wupatki**	**87.80**	**51**	P		**P**	**09 56 53.7**	**-0.4**
	baz=245							
WUAZ	**Wupatki**	**87.80**	**51**	*e*P		**P**	**09 56 53.7**	**-0.4**
	comp=Z,6.1nm,1.1s							
BMO	**Blue Mountains**	**88.03**	**41**	*e*P		**P**	**09 56 54.9**	**+0.1**
BMO				pmax		pmax		
	comp=Z,19nm,1.6s							
BMO	**Blue Mountains**	**88.03**	**41**	*e*P		**P**	**09 56 54.9**	**+0.1**
	comp=Z,19nm,1.6s							
D08A	**Wollman Farm,**	**88.15**	**38**	*e*P		**P**	**09 56 54.6**	**-0.6**
	comp=Z,26nm,1.5s							
MDM	**Murphy Dome**	**88.19**	**15**	*e*P		**P**	**09 56 53.3**	**-1.7**
	comp=Z,25nm,1.9s							
COLA	**College**	**88.21**	**15**	*i* P		**P**	**09 56 54.1**	**-0.9**
COLA				pmax		pmax		
	comp=Z,5.0nm,1.0s							
MFID	**Camas Ranch**	**88.27**	**43**	*e*P		**P**	**09 56 56.5**	**+0.5**
	comp=Z,14nm,1.4s							
E09A	**Wood Farm, Sta**	**88.34**	**39**	*e*P		**P**	**09 56 56.3**	**+0.2**
	comp=Z,24nm,1.4s							
ILAR	**Eielson Array**	**88.36**	**15**	P		**P**	**09 56 54.2**	**-1.6**
	comp=Z,2.1nm,0.9s,baz=226,slow=4.8,SNR=14							
ILAR				LR		LR	10 28 30.6	
	comp=Z,65nm,21.7s,baz=228,slow=30							
ILAR	**Eielson Array**	**88.36**	**15**	*e*P		**P**	**09 56 54.0**	**-1.8**
ILAR				pmax		pmax		
	comp=Z,2.0nm,0.9s							
ILB	**Eielson Array**	**88.36**	**15**	*e*P		**P**	**09 56 54.4**	**-1.4**
IL1	**Eielson Array**	**88.36**	**15**	*e*P		**P**	**09 56 54.0**	**-1.8**
MSU	**Marysvale**	**88.51**	**48**	*e*P		**P**	**09 56 56.6**	**-0.8**
MSU	**Marysvale**	**88.51**	**48**	*e*P		**P**	**09 56 56.6**	**-0.8**
B08A	**Colville Reser**	**88.58**	**37**	*e*P		**P**	**09 56 57.0**	**-0.3**
	comp=Z,21nm,1.5s							
F10A	**Beach Ranch, E**	**88.62**	**40**	*e*P		**P**	**09 56 57.6**	**0.0**
	comp=Z,22nm,1.3s							
YAK	**Yakutsk**	**88.63**	**340**	LR		LR	10 30 42.2	
	comp=Z,96nm,20.0s,baz=3.0,slow=31							
YAK	**Yakutsk**	**88.63**	**340**	*i* P		**P**	**09 56 57.8**	**+0.7**
YAK				pmax		pmax		
	comp=Z,15nm,1.0s							
YAK	**Yakutsk**	**88.63**	**340**	*e*P		**P**	**09 56 58.3**	**+1.2**
	comp=Z,18nm,0.6s							
DUG	**Dugway, Tooele**	**88.80**	**47**	P		**P**	**09 56 58.1**	**-0.5**
	baz=244							
DUG	**Dugway, Tooele**	**88.80**	**47**	*e*P		**P**	**09 56 58.9**	**+0.2**
DUG				pmax		pmax		
	comp=Z,6.0nm,1.3s							
DUG	**Dugway, Tooele**	**88.80**	**47**	*e*P		**P**	**09 56 58.9**	**+0.2**
	comp=Z,6.0nm,1.3s							
W18A	**Petrified Fore**	**88.86**	**52**	P		**P**	**09 56 59.3**	**+0.2**
	baz=246							
HPIG		**88.88**	**61**	*e*P		**P**	**09 56 59.9**	**+0.5**
	comp=Z,9.7nm,1.3s							
BGU	**Big Grassy Mou**	**88.97**	**46**	*e*P		**P**	**09 56 59.9**	**+0.4**
	comp=Z,8.8nm,1.4s							
NLU	**North Lily Min**	**89.20**	**47**	*e*P		**P**	**09 57 01.2**	**+0.6**
	comp=Z,8.3nm,1.4s							
HLID	**Hailey**	**89.25**	**43**	P		**P**	**09 57 00.8**	**+0.1**
	baz=243							
HLID	**Hailey**	**89.25**	**43**	*e*P		**P**	**09 57 00.9**	**+0.2**
	comp=Z,4.1nm,1.0s							
121A	**Cookes Peak, D**	**89.31**	**55**	P		**P**	**09 57 00.8**	**-0.4**
	baz=247							
SNAA	**Sanae**	**89.51**	**180**	PKiKP		P	09 56 58.5	-2.9
SNAA	**Sanae**	**89.51**	**180**	⇑*i*P		P	09 56 58.2	-3.2
SNAA	**Sanae**	**89.51**	**180**	*e*P		P	09 56 58.6	-2.8
	comp=Z,7.9nm,1.1s							
HVU	**Hansel Valley**	**89.52**	**45**	*e*P		**P**	**09 57 02.6**	**+0.6**
HVU				pmax		pmax		
	comp=Z,16nm,1.2s							
HVU	**Hansel Valley**	**89.52**	**45**	*e*P		**P**	**09 57 02.6**	**+0.6**
	comp=Z,16nm,1.2s							
TMUT	**Trail Mountain**	**89.53**	**48**	*e*P		**P**	**09 57 03.4**	**+1.1**
	comp=Z,14nm,1.2s							
SPUT	**South Promonto**	**89.54**	**46**	*e*P		**P**	**09 57 02.2**	**+0.1**
	comp=Z,12nm,1.2s							
NVL	**N'lazarevskaya**	**89.71**	**185**	*e*P		**P**	**09 57 00.8**	**-1.4**
NEW	**Newport**	**89.81**	**38**	P		**P**	**09 57 02.5**	**-0.6**
	comp=Z,3.6nm,1.0s,baz=219,slow=6.5,SNR=3.6							
NEW	**Newport**	**89.81**	**38**	P		**P**	**09 57 03.1**	**+0.1**
	baz=241							
VNA3	**Neumayer Olymp**	**89.87**	**178**	PKiKP		P	09 57 00.1	-3.0
JLU	**Jordanelle**	**89.91**	**47**	*e*P		**P**	**09 57 04.5**	**+0.5**
	comp=Z,15nm,1.3s							
SRU	**San Rafael Swe**	**89.93**	**48**	*e*P		**P**	**09 57 04.3**	**+0.3**
SRU				pmax		pmax		
	comp=Z,18nm,1.3s							
SRU	**San Rafael Swe**	**89.93**	**48**	*e*P		**P**	**09 57 04.3**	**+0.3**
	comp=Z,18nm,1.3s							
VNA2	**Neumayer--Watz**	**90.24**	**179**	PKiKP		P	09 56 56.7	-8.1
	baz=324,slow=37							
HWUT	**Hardware Ranch**	**90.27**	**46**	*e*P		**P**	**09 57 05.9**	**+0.4**
	comp=Z,11nm,1.4s							
ULN	**Ulaanbaatar**	**90.43**	**321**	*i* P		**P**	**09 57 07.3**	**+1.2**
ULN				pmax		pmax		
	comp=Z,5.0nm,1.1s							
ULN	**Ulaanbaatar**	**90.43**	**321**	*e*P		**P**	**09 57 07.2**	**+1.2**
	comp=Z,9.8nm,1.3s							
VNA1	**Neumayer--Stat**	**90.50**	**179**	PKiKP		P	09 57 03.4	-2.5
PV05	**Paradox Valley**	**90.53**	**50**	*e*P		**P**	**09 57 07.3**	**+0.4**
MVCO	**Mesa Verde**	**90.61**	**51**	P		**P**	**09 57 06.7**	**-0.6**
	baz=246							
PV09	**Paradox Valley**	**90.67**	**49**	*e*P		**P**	**09 57 08.2**	**+0.6**
PV10	**Paradox Valley**	**90.69**	**49**	*e*P		**P**	**09 57 08.1**	**+0.4**
SONA0	**Songino Array**	**90.80**	**321**	*e*P		**P**	**09 57 07.5**	**-0.3**
	comp=Z,8.6nm,1.3s							
SONM	**Songino Array**	**90.80**	**321**	P		**P**	**09 57 07.5**	**-0.3**
	comp=Z,2.4nm,1.0s,baz=136,slow=4.9,SNR=12							
SONM				LR		LR	10 34 39.3	
	comp=Z,73nm,21.9s,baz=97,slow=33							
SONM	**Songino Array**	**90.80**	**321**	*e*P		**P**	**09 57 08.7**	**+0.9**
SONM				pmax		pmax		
	comp=Z,2.0nm,1.0s							
SONA1	**Songino Array**	**90.80**	**321**	*e*P		**P**	**09 57 08.2**	**+0.4**
MCMT	**McKenzie Canyo**	**90.82**	**42**	*e*P		**P**	**09 57 09.0**	**+0.9**
BNM	**Barren Site**	**90.83**	**54**	*e*P		**P**	**09 57 08.3**	**0.0**
MNTX	**Cornudas Mount**	**90.88**	**57**	P		**P**	**09 57 07.8**	**-0.6**
	baz=248							
MNTX	**Cornudas Mount**	**90.88**	**57**	*e*P		**P**	**09 57 08.8**	**+0.4**
	comp=Z,13nm,1.4s							
PV01	**Paradox Valley**	**90.93**	**50**	*e*P		**P**	**09 57 09.0**	**+0.2**
TOLK	**Toolik Lake Re**	**90.99**	**12**	P		**P**	**09 57 08.7**	**+0.6**
	baz=213							
MSO	**Missoula**	**91.03**	**40**	P		**P**	**09 57 08.7**	**-0.1**
	baz=243							
DLMT	**Dillon**	**91.22**	**42**	*e*P		**P**	**09 57 09.9**	**+0.1**
	comp=Z,9.1nm,1.4s							
ANMO	**Albuquerque**	**91.26**	**53**	P		**P**	**09 57 09.8**	**-0.5**
	baz=248							
ANMO	**Albuquerque**	**91.26**	**53**	*e*P		**P**	**09 57 10.6**	**+0.3**
ANMO				pmax		pmax		
	comp=Z,10.0nm,1.4s							
ANMO	**Albuquerque**	**91.26**	**53**	*e*P		**P**	**09 57 10.6**	**+0.3**
	comp=Z,10.0nm,1.4s							
LTX	**Lajitas**	**91.40**	**60**	*e*P		**P**	**09 57 11.4**	**+0.4**
LTX	**Lajitas**	**91.40**	**60**	*e*P		**P**	**09 57 11.4**	**+0.4**
TX31	**Lajitas Ar. Si**	**91.40**	**60**	*e*P		**P**	**09 57 11.3**	**+0.3**
TXAR	**Lajitas Array**	**91.40**	**60**	P		**P**	**09 57 11.4**	**+0.4**
	comp=Z,3.3nm,1.0s,baz=235,slow=4.4,SNR=23							
TXAR				LR		LR	10 30 27.8	
	comp=Z,33nm,20.8s,baz=0.0,slow=30							

TPAW	**Teton Pass**	**91.48**	**44**	*e*P		**P**	**09 57 11.2**	**0.0**
	comp=Z,13nm,1.5s							
GTA	**Gaotai**	**91.48**	**311**	*e*P		**P**	**09 57 11.5**	**+0.3**
GTA				pmax		pmax		
	comp=Z,4.0nm,0.9s							
REDW	**Red Top Meadow**	**91.49**	**44**	*e*P		**P**	**09 57 10.7**	**-0.6**
	comp=Z,22nm,1.6s							
SNOW	**Snow King Moun**	**91.59**	**44**	*e*P		**P**	**09 57 10.8**	**-0.9**
	comp=Z,15nm,1.5s							
IMW	**Indian Meadow**	**91.66**	**44**	*e*P		**P**	**09 57 11.3**	**-0.8**
	comp=Z,7.7nm,1.2s							
LOHW	**Long Hollow**	**91.76**	**44**	*e*P		**P**	**09 57 12.1**	**-0.4**
	comp=Z,7.1nm,1.4s							
BOZ	**Bozeman (W)**	**91.93**	**42**	P		**P**	**09 57 13.7**	**+0.6**
	baz=245							
BOZ	**Bozeman (W)**	**91.93**	**42**	*e*P		**P**	**09 57 13.3**	**+0.2**
BOZ				pmax		pmax		
	comp=Z,14nm,1.8s							
BOZ	**Bozeman (W)**	**91.93**	**42**	*e*P		**P**	**09 57 13.3**	**+0.2**
	comp=Z,14nm,1.8s							
O20A	**White River Ci**	**91.96**	**48**	P		**P**	**09 57 13.6**	**+0.1**
	baz=247							
O20A	**White River Ci**	**91.96**	**48**	*e*P		**P**	**09 57 13.5**	**+0.1**
	comp=Z,32nm,1.8s							
S22A	**4UR Ranch, Cre**	**92.05**	**51**	P		**P**	**09 57 14.0**	**-0.1**
	baz=248							
S22A	**4UR Ranch, Cre**	**92.05**	**51**	*e*P		**P**	**09 57 14.3**	**+0.3**
	comp=Z,19nm,1.4s							
BW06	**Boulder Array**	**92.11**	**45**	P		**P**	**09 57 14.2**	**+0.1**
	baz=246							
BW06	**Boulder Array**	**92.11**	**45**	*e*P		**P**	**09 57 13.6**	**-0.5**
PD31	**Pinedale Array**	**92.11**	**45**	*e*P		**P**	**09 57 14.4**	**+0.3**
PDAR	**Pinedale Array**	**92.11**	**45**	P		**P**	**09 57 13.3**	**-0.8**
	comp=Z,0.2nm,0.6s,baz=216,slow=4.6,SNR=5.8							
PDAR				LR		LR	10 33 02.2	
	comp=Z,25nm,20.0s,baz=237,slow=32							
SMCO	**Snowmass**	**92.49**	**49**	*e*P		**P**	**09 57 16.4**	**+0.3**
	comp=Z,5.8nm,1.0s							
SDCO	**Great Sand Dun**	**93.02**	**51**	P		**P**	**09 57 18.8**	**+0.3**
	baz=248							
SDCO	**Great Sand Dun**	**93.02**	**51**	*e*P		**P**	**09 57 18.7**	**+0.1**
	comp=Z,8.0nm,1.4s							
LNIG	**Linares**	**93.39**	**65**	*e*P		**P**	**09 57 19.7**	**-0.5**
	comp=Z,7.4nm,1.2s							
Q24A	**Divide**	**93.72**	**50**	P		**P**	**09 57 21.2**	**-0.6**
	baz=249							
MSTX	**Muleshoe**	**93.74**	**55**	P		**P**	**09 57 21.2**	**-0.6**
	baz=250							
MSTX	**Muleshoe**	**93.74**	**55**	*e*P		**P**	**09 57 21.7**	**0.0**
	comp=Z,19nm,1.4s							
PLCA	**Paso Flores**	**94.54**	**136**	LR		LR	10 29 58.4	
	comp=Z,76nm,21.0s,baz=330,slow=29							
WMQ	**Urumqi**	**101.50**	**312**	*e*P		**Pdif**	**09 57 54.8**	**-1.6**
WMQ				sP		sPdif	09 58 10.8	-0.8
WMQ	**Urumqi**	**101.50**	**312**	P		**Pdif**	**09 57 55.8**	**-0.6**
WMQ				PP		**PP**	**10 02 09.3**	**+2.4**
WMQ				SKS			10 08 23.4	
WMQ				S		**Sdif**	**10 09 23.3**	**-11**
WMQ				pmax		pmax		
	comp=Z,95nm,5.3s							
WMQ				LR		LR		
	comp=Z,200nm,28.1s							
WMQ				LR		LR		
	comp=Z,290nm,25.1s							
WMQ				LR		LR		
	comp=Z,210nm,29.9s							
KSH	**Kashi**	**109.19**	**306**	*e*Pdif		**Pdif**	**09 58 35.0**	**+4.2**
KSH				PP		PP	10 03 13.1	+9.2
KSH				S		**Sdif**	**10 10 41.8**	**+2.9**
KSH				AMB		AMB		
	comp=Z,54nm,7.1s							
KSH				LR		LR		
	comp=Z,61nm,5.2s							
KSH				LR		LR		
	comp=Z,43nm,4.5s							
KSH				LR		LR		
	comp=Z,49nm,11.2s							
OBN	**Obninsk**	**132.55**	**329**	*i* PKIKP		**PKPdf**	**10 03 17.9**	**-0.7**
OBN				pmax		pmax		
	comp=Z,5.0nm,0.9s							
OBN				MLR		MLR		
	comp=Z,67nm,19.0s							
STHS	**Stebnicka Huta**	**143.40**	**332**	*e*PKIKP		**PKPdf**	**10 03 36.4**	**-2.4**
STHS	**Stebnicka Huta**	**143.40**	**332**	*e*PKP		**PKPdf**	**10 03 36.4**	**-2.4**
MLR	**Muntele Rosu**	**143.62**	**323**	PKIKP		PKPbc	10 03 37.2	+0.3
NIE	**Niedzica**	**143.82**	**333**	*e*PKP		PKPbc	10 03 37.8	+0.5
NIE	**Niedzica**	**143.82**	**333**	*e*PKIKP		PKPbc	10 03 37.7	+0.4
KSP	**Ksiaz**	**144.30**	**337**	*e*PKP		**PKPdf**	**10 03 39.0**	**-1.3**
KSP	**Ksiaz**	**144.30**	**337**	*e*PKIKP		**PKPdf**	**10 03 39.0**	**-1.3**
LANS	**Liptovska Anna**	**144.38**	**333**	*e*PKIKP		**PKPdf**	**10 03 40.1**	**-0.5**
LANS	**Liptovska Anna**	**144.38**	**333**	*e*PKP		**PKPdf**	**10 03 40.1**	**-0.5**
OKC	**Ostrava-Krasne**	**144.40**	**335**	*e*PKP		**PKPdf**	**10 03 40.0**	**-0.5**
OKC				*ex*		x	10 03 47.3	
OKC	**Ostrava-Krasne**	**144.40**	**335**	*e*PKIKP		**PKPdf**	**10 03 40.0**	**-0.5**
KECS	**Kecovo**	**144.42**	**331**	*e*PKIKP		**PKPdf**	**10 03 40.2**	**-0.4**
KECS	**Kecovo**	**144.42**	**331**	*e*PKP		**PKPdf**	**10 03 40.2**	**-0.4**
KECS				*e*			10 03 48.2	
UPC	**Upice**	**144.68**	**337**	*e*PKP		**PKPdf**	**10 03 40.2**	**-0.8**
UPC				*ex*		x	10 03 48.5	
UPC	**Upice**	**144.68**	**337**	*e*PKIKP		**PKPdf**	**10 03 40.2**	**-0.8**
DPC	**Dobruska-Polom**	**144.69**	**337**	*e*PKP		**PKPdf**	**10 03 40.8**	**-0.3**
DPC				*ex*		x	10 03 48.8	
DPC	**Dobruska-Polom**	**144.69**	**337**	*e*PKIKP		**PKPdf**	**10 03 40.8**	**-0.3**
KRLC	**Kraliky**	**144.75**	**336**	*e*PKP		**PKPdf**	**10 03 40.6**	**-0.6**
KRLC				*ex*		x	10 03 48.7	
KRLC	**Kraliky**	**144.75**	**336**	*e*PKIKP		**PKPdf**	**10 03 40.6**	**-0.6**
CLL	**Collm**	**145.01**	**341**	⇓*i* PKIKP		**PKPdf**	**10 03 41.3**	**-0.2**
CLL				pmax		pmax		
	comp=Z,29nm,1.1s							
CLL	**Collm**	**145.01**	**341**	⇓*i* PKPbc		**PKPdf**	**10 03 41.3**	**-0.2**
	comp=Z,66nm,1.1s							
CLL				*i* PKiKP		**PKiKP**	**10 03 43.7**	**-1.6**
	comp=Z,57nm,1.0s							
CLL				*i*			10 03 49.1	
	comp=Z,48nm,1.0s							
BRG	**Berggiesshubel**	**145.09**	**340**	*i* PKP		**PKPdf**	**10 03 42.0**	**+0.3**
	comp=Z,63nm,1.2s							
BRG				*i*			10 03 49.4	
	comp=Z,45nm,1.0s							
BRG	**Berggiesshubel**	**145.09**	**340**	*i* PKIKP		**PKPdf**	**10 03 42.0**	**+0.3**
BRG				pmax		pmax		
	comp=Z,63nm,1.2s							
BRG				pmax		pmax		
	comp=Z,45nm,1.0s							
VYHS	**Vyhne**	**145.15**	**333**	*e*PKIKP		**PKPdf**	**10 03 42.3**	**+0.4**
VYHS	**Vyhne**	**145.15**	**333**	*e*PKP		**PKPdf**	**10 03 42.3**	**+0.4**
VYHS				*e*			10 03 49.0	
PVCC	**Panska Ves**	**145.17**	**339**	*e*PKP		**PKPdf**	**10 03 42.6**	**+0.8**
PVCC				*ex*		x	10 03 50.1	
PVCC	**Panska Ves**	**145.17**	**339**	*e*PKIKP		**PKPdf**	**10 03 42.6**	**+0.8**
GOPC	**GO Pecny, Ondr**	**145.61**	**338**	*e*PKP		**PKPdf**	**10 03 43.0**	**+0.4**
GOPC	**GO Pecny, Ondr**	**145.61**	**338**	*e*PKP2		**PKPdf**	**10 03 43.0**	**+0.4**
PRU	**Pruhonice**	**145.64**	**338**	*e*PKP		**PKPdf**	**10 03 43.0**	**+0.4**
PRU	**Pruhonice**	**145.64**	**338**	*e*PKP2		**PKPdf**	**10 03 43.0**	**+0.4**
NKC	**Novy Kostel**	**146.12**	**341**	*e*PKP		**PKPab**	**10 03 45.2**	**+0.1**
NKC	**Novy Kostel**	**146.12**	**341**	*e*PKP2		**PKPab**	**10 03 45.2**	**+0.1**
KHC	**Kasperske Hory**	**146.70**	**338**	*e*PKP		**PKPab**	**10 03 46.1**	**-1.3**
KHC	**Kasperske Hory**	**146.70**	**338**	*e*PKP2		**PKPab**	**10 03 46.1**	**-1.3**
KHC	**Kasperske Hory**	**146.70**	**338**	*e*PKPbc		**PKPab**	**10 03 46.0**	**-1.4**
CONA	**Conrad Observa**	**146.83**	**335**	*i* PKPab		**PKPab**	**10 03 46.6**	**-1.4**
	comp=Z,25nm,1.2s,SNR=12							
GEC2	**GERESS Array S**	**146.90**	**338**	*e*PKP2		**PKPab**	**10 03 46.9**	**-1.3**
GEC2	**GERESS Array S**	**146.90**	**338**	*e*PKPbc		**PKPab**	**10 03 46.9**	**-1.3**
GERES	**GERESS Array B**	**146.90**	**338**	PKPbc		**PKPab**	**10 03 46.6**	**-1.6**
	comp=Z,5.3nm,1.0s,baz=49,slow=2.5,SNR=20							
GERES	**GERESS Array B**	**146.90**	**338**	*e*PKP2		**PKPab**	**10 03 47.0**	**-1.3**
GERES				pmax		pmax		
	comp=Z,5.0nm,1.0s							
GEA0	**GERESS Array S**	**146.90**	**338**	*e*PKPdf		**PKPbc**	**10 03 46.0**	**-0.8**
MEM	**Membach**	**147.45**	**348**	PKPbc		**PKPab**	**10 03 48.5**	**-1.7**
ARSA	**Arzberg**	**147.51**	**334**	*e*PKPbc		**PKPbc**	**10 03 48.5**	**0.0**
	comp=Z,3.9nm,1.1s							
MOA	**Molln**	**147.52**	**336**	*i* PKPab		**PKPab**	**10 03 49.4**	**-1.3**
	comp=Z,16nm,1.2s							
BCLA	**Clavier**	**147.77**	**348**	PKPab		**PKPab**	**10 03 52.0**	**+0.5**
SNF	**Seneffe**	**147.87**	**350**	PKPbc		**PKPbc**	**10 03 48.8**	**-0.5**
SNF				PKPab		**PKiKP**	**10 03 52.5**	**+1.3**
SOKA	**Soboth**	**148.17**	**334**	*i* PKiKP		**PKPbc**	**10 03 50.3**	**-0.1**
	comp=Z,0.1nm,0.2s							
DOU	**Dourbes**	**148.21**	**349**	PKPbc		**PKPbc**	**10 03 50.3**	**+0.1**
WLF	**Walferdange**	**148.31**	**347**	PKPbc		**PKPab**	**10 03 51.6**	**-2.1**
WLF	**Walferdange**	**148.31**	**347**	*e*PKP2		**PKPab**	**10 03 51.5**	**-2.1**
WLF	**Walferdange**	**148.31**	**347**	*e*PKPbc		**PKPab**	**10 03 51.5**	**-2.1**
SKO	**Skopje**	**148.35**	**322**	*i* P		**PKPbc**	**10 03 51.1**	**+0.2**

OBKA	**Obir**	**148.51**	**335**	*i* PKPbc		**PKPbc**	**10 03 50.1**	**-1.2**
	comp=Z,10nm,1.4s								
KBA	**Koelnbreinsper**	**148.51**	**337**	*i* PKPbc		**PKPbc**	**10 03 50.3**	**-1.1**
	comp=Z,6.8nm,1.3s								
WATA	**Walderalm**	**148.93**	**339**	*e*PKPbc		**PKPbc**	**10 03 51.8**	**-0.6**
	comp=Z,3.6nm,0.6s								
WTTA	**Wattenberg**	**148.97**	**339**	*i* PKPbc		**PKPbc**	**10 03 52.2**	**-0.4**
	comp=Z,16nm,1.7s								
BIA	**Bitola**	**149.00**	**320**	*i* P		**PKPbc**	**10 03 53.8**	**+1.1**
BFO	**Black Forest**	**149.03**	**343**	*i* PKP2		**PKPbc**	**10 03 52.6**	**+0.1**
BFO	**Black Forest**	**149.03**	**343**	*e*PKPbc		**PKPbc**	**10 03 52.4**	**-0.1**
RETA	**Reutte**	**149.07**	**340**	*i* PKiKP		**PKPbc**	**10 03 52.6**	**-0.1**
	comp=Z,18nm,1.2s								
MOTA	**Moosalm**	**149.08**	**339**	*e*PKPbc		**PKPbc**	**10 03 52.3**	**-0.5**
	comp=Z,3.8nm,0.7s								
ABTA	**Abfaltersbach**	**149.10**	**337**	*i* PKPbc		**PKPbc**	**10 03 51.7**	**-1.0**
	comp=Z,12nm,1.6s								
OHR	**Ohrid**	**149.26**	**321**	*i* P		**PKPbc**	**10 03 53.1**	**-0.3**
FETA	**Feichten**	**149.49**	**339**	*i* PKiKP		**PKPbc**	**10 03 53.5**	**-0.3**
	comp=Z,15nm,1.3s,SNR=6.8								
DAVA	**Damuels**	**149.52**	**341**	*i* PKiKP		**PKPbc**	**10 03 53.7**	**-0.2**
	comp=Z,13nm,1.3s								
FUORN	**Ofenpass-Fuorn**	**149.99**	**340**	*e*PKPbc		**PKPbc**	**10 03 55.0**	**-0.2**
KEST	**Kesra**	**159.45**	**327**	PKP		**PKPdf**	**10 04 01.4**	**-2.0**
	comp=Z,3.0nm,0.5s,baz=76,slow=3.8,SNR=4.5								
KEST	**Kesra**	**159.45**	**327**	*e*PKPdf		**PKPdf**	**10 04 01.8**	**-1.6**
TORD	**Torodi Ar. Bea**	**171.75**	**226**	PKP		**PKPdf**	**10 04 12.3**	**-1.6**
	comp=Z,3.2nm,1.0s,baz=121,slow=0.8,SNR=11								
TORD				PKPab		**PKPab**	**10 05 35.3**	**-0.5**	
	comp=Z,1.1nm,0.9s,baz=131,slow=5.9,SNR=3.3								
TOA1	**Torodi Ar. Sit**	**171.75**	**226**	*e*PKPdf		**PKPdf**	**10 04 12.3**	**-1.6**	
TOA1				*e*PKPab		**PKPab**	**10 05 35.3**	**-0.5**	

NEIC ***23*** *09:45:12.2±0.0, 15.°65N×96.°00W, h6km, MD4.0(MEX), After MEX.*

MEX 23 09:45:12.2±0.3, 15.°65N×96.°00W, h6km±2km, MD4.0, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
								h m s	ISC
HUIG	**Huatulco**	**0.16**	**320**	*i* P		P	Pg	09 45 15.2	-0.2
HUIG				*e*S		S	Sg	09 45 17.4	-0.2
HUIG	**Huatulco**	**0.16**	**320**	*i* P		P	Pg	09 45 15.2	-0.2
HUIG				*e*S		S	Sg	09 45 17.4	-0.2
PANG	**Puerto Angel**	**0.46**	**273**	*e*P		P	Pg	09 45 20.7	-0.4
PANG				*e*S		S	Sg	09 45 27.1	+0.1
VHO	**Vista Hermosa**	**1.58**	**334**	*e*P		P	Pn	09 45 37.5	-3.5
VHO				*e*S		S	Sn	09 45 56.9	-5.0
VHO	**Vista Hermosa**	**1.58**	**334**	*e*P		P	Pn	09 45 37.5	-3.5
VHO				*e*S		S	Sn	09 45 56.9	-5.0
PNIG	**Pinotepa**	**2.17**	**290**	*e*P		P	Pn	09 45 45.3	-3.7
PNIG				*i* S		S	Sn	09 46 11.8	-4.5
PNIG	**Pinotepa**	**2.17**	**290**	*e*P		P	Pn	09 45 45.3	-3.7
PNIG				*i* S		S	Sn	09 46 11.8	-4.5

APZ9	**Apatity**	**0.20**	**254**	Pg	**Pg**	**09 50 28.2**	**+1.0**
	SNR=91							
APZ9				Lg	Lg	09 50 31.0		
	SNR=95							
APA0	**Apatity Array**	**0.35**	**267**	Pg	**Pg**	**09 50 31.1**	**+1.0**
	baz=83,slow=14							
APA0	**Apatity Array**	**0.35**	**267**	Pg	**Pg**	**09 50 31.1**	**+1.0**
	baz=83,slow=14							
APA0	**Apatity Array**	**0.35**	**267**	Pg	**Pg**	**09 50 31.1**	**+1.0**
	SNR=90							
KU6	**Riekki**	**2.26**	**227**	*e*P	**Pn**	**09 51 04.0**	**+2.1**
KU6				*e*SG	**Sg**	**09 51 35.8**	**0.0**
KU6				MSG		09 51 38.1		
	comp=Z,17nm,0.2s							
KU6	**Riekki**	**2.26**	**227**	P	**Pn**	**09 51 04.0**	**+2.1**
KU6				Sg	**Sg**	**09 51 35.8**	**0.0**
MSF	**Maaselka**	**2.58**	**231**	*e*P	**Pn**	**09 51 09.3**	**+2.8**
MSF	**Maaselka**	**2.58**	**231**	P	**Pn**	**09 51 09.2**	**+2.8**
RNF	**Rovaniemi**	**3.25**	**255**	*e*P	**Pn**	**09 51 18.1**	**+2.5**
RNF	**Rovaniemi**	**3.25**	**255**	P	**Pn**	**09 51 18.0**	**+2.5**
KEV	**Kevo**	**3.31**	**314**	*e*P	**Pn**	**09 51 18.0**	**+1.6**
KEV	**Kevo**	**3.31**	**314**	*e*P	**Pn**	**09 51 17.9**	**+1.6**
KEV				*e*SG	**Sg**	**09 52 06.5**	**-3.0**
KEV	**Kevo**	**3.31**	**314**	P	**Pn**	**09 51 17.9**	**+1.6**
KEV				Sg	**Sg**	**09 52 06.4**	**-3.0**
ARA0	**ARCESS Array S**	**3.63**	**306**	Pn	**Pn**	**09 51 21.7**	**+0.9**
	baz=123,slow=16							
ARA0				Sn	**Sn**	**09 52 05.8**	**+1.5**
	baz=128,slow=28							
ARA0				Lg	Lg	09 52 15.7		
	baz=123,slow=37							
ARA0	**ARCESS Array S**	**3.63**	**306**	Pn	**Pn**	**09 51 21.7**	**+0.9**
	baz=123,slow=16							
ARA0				Sn	**Sn**	**09 52 05.8**	**+1.5**
	baz=128,slow=28							
ARA0				Lg	Lg	09 52 15.7		
	baz=123,slow=37							
ARA0	**ARCESS Array S**	**3.63**	**306**	Pn	**Pn**	**09 51 21.7**	**+0.9**
	SNR=50							
ARA0				Sn	**Sn**	**09 52 05.8**	**+1.5**
	SNR=50							
ARA0				Lg	Lg	09 52 15.7		
	SNR=55							
ARCES	**ARCESS Array B**	**3.63**	**306**	Pn	**Pn**	**09 51 21.8**	**+1.0**
	comp=Z,7.5nm,0.3s,baz=122,slow=15,SNR=94							
ARCES				Sn	**Sn**	**09 52 04.6**	**+0.4**
	comp=Z,3.2nm,0.3s,baz=120,slow=26,SNR=9.5							
ARCES				Lg	Lg	09 52 15.1		
	comp=Z,2.6nm,0.3s,baz=120,slow=30,SNR=4.4							
ARE0	**ARCESS Array S**	**3.63**	**306**	*e*P	**Pn**	**09 51 21.9**	**+1.1**
ARE0				IAML		09 52 21.4		
	comp=Z,16nm,0.2s							
ARE0	**ARCESS Array S**	**3.63**	**306**	*e*P	**Pn**	**09 51 21.5**	**+0.7**
ARE0	**ARCESS Array S**	**3.63**	**306**	*e*P	**Pn**	**09 51 21.9**	**+1.1**
	SNR=50							
HEF	**Hetta**	**3.93**	**286**	*e*P	**Pn**	**09 51 26.0**	**+1.1**
HEF				*e*SG	**Sg**	**09 52 24.8**	**-4.7**
HEF				MSG		09 52 32.5		
	comp=Z,12nm,0.2s							
HEF	**Hetta**	**3.93**	**286**	P	**Pn**	**09 51 26.0**	**+1.1**
TOF	**Tornio**	**4.09**	**252**	*e*P	**Pn**	**09 51 28.7**	**+1.6**
TOF				*e*S	**Sn**	**09 52 15.8**	**+0.3**
TOF	**Tornio**	**4.09**	**252**	P	**Pn**	**09 51 28.6**	**+1.6**
TOF				S	**Sn**	**09 52 15.7**	**+0.3**
OUL	**Oulu**	**4.11**	**235**	*e*SB	**Sb**	**09 52 26.8**	**+0.1**
OUL	**Oulu**	**4.11**	**235**	Sb	**Sb**	**09 52 26.7**	**+0.1**
KTK1	**Kautokeino**	**4.20**	**294**	*e*P	**Pn**	**09 51 30.8**	**+2.3**
KTK1				IAML		09 52 36.4		
	comp=Z,14nm,0.3s							
KTK1	**Kautokeino**	**4.20**	**294**	*e*P	**Pn**	**09 51 30.8**	**+2.3**
	SNR=49							
KJN	**Kajaani**	**4.37**	**218**	*e*SG	**Sg**	**09 52 40.5**	**-3.1**
KJN				MSG		09 52 43.2		
	comp=Z,11nm,0.3s							
KJN	**Kajaani**	**4.37**	**218**	Sg	**Sg**	**09 52 40.5**	**-3.1**
JOF	**Joensuu**	**4.85**	**194**	*e*SG	**Sg**	**09 52 56.5**	**-2.5**
JOF				MSG		09 53 01.6		
	comp=Z,6.0nm,0.3s							
JOF	**Joensuu**	**4.85**	**194**	Sg	**Sg**	**09 52 56.5**	**-2.5**
OUFX	**Oulainen**	**4.98**	**233**	*e*P	**Pn**	**09 51 42.0**	**+2.7**
OUFX	**Oulainen**	**4.98**	**233**	P	**Pn**	**09 51 42.0**	**+2.7**
FIA0	**FINESS Array S**	**7.06**	**212**	Pn	**Pn**	**09 52 09.7**	**+1.9**
	baz=32,slow=16							
FIA0				Sn	**Sn**	**09 53 24.7**	**-3.9**
	baz=38,slow=22							
FIA0				Lg	Lg	09 54 01.3		
	baz=20,slow=22							
FIA0	**FINESS Array S**	**7.06**	**212**	Pn	**Pn**	**09 52 09.7**	**+1.9**
	baz=32,slow=16							
FIA0				Sn	**Sn**	**09 53 24.7**	**-3.9**
	baz=38,slow=22							
FIA0				Lg	Lg	09 54 01.3		
	baz=20,slow=22							
FIA0	**FINESS Array S**	**7.06**	**212**	Pn	**Pn**	**09 52 09.7**	**+1.9**
	SNR=50							
FIA0				Lg	Lg	09 54 01.3		
	SNR=47							
FINES	**FINESS Array B**	**7.06**	**212**	Pn	**Pn**	**09 52 09.8**	**+1.9**
	comp=Z,0.2nm,0.3s,baz=32,slow=12,SNR=6.7							
FINES				Sn	**Sn**	**09 53 28.2**	**-0.4**
	comp=Z,0.2nm,0.3s,baz=32,slow=21,SNR=3.4							
SPA0	**Spitsbergen Ar**	**11.70**	**342**	Pn	**Pn**	**09 53 09.8**	**-1.4**
	baz=153,slow=14							
SPA0	**Spitsbergen Ar**	**11.70**	**342**	P	**Pn**	**09 53 09.8**	**-1.4**
	baz=153,slow=14							
NOA	**NORSAR Array B**	**11.78**	**247**	Pn	**Pn**	**09 53 13.3**	**+0.7**
	comp=Z,0.2nm,0.3s,baz=50,slow=11,SNR=3.2							

*SJA **23** 10:00:46.8±0.7,31.10°S×72.20°W,h0^km±8^km,ML4.3, MW3.9*
*IDC **23** 10:00:49.6±0.9,31.29°S×71.70°W,h0^km,mb4.0/5, mb1 4.0/10,mb1mx3.9/23,mbtmp3.9/10,ML3.8/5,MS3.4/4, Ms1 3.3/4,ms1mx3.0/21,Error ellipse: s-maj=31.9km s-min=22.7km az=93.0*
*NEIC **23** 10:00:53.0±0.0,31.26°S×71.50°W,h13^km,mb3.9/1, ML3.9(GUC),After GUC.*
NEIC Felt [II] at Punitaqui.
*GUC **23** 10:00:53.7±0.7,31.25°S×71.50°W,h15^km±5^km,ML4.0*

ISC 23 10:00:52.3±1.0,31°24'S±0.03×71°72'W±0.05,h15^km±6^km, n35,σ1§41/47,mb4.1/8,1C,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TLL	**Tololo Astrono**	**1.33**	**36**	*e*P	**Pg**	**10 01 17.4**	**-0.5**
TLL				*e*S	**Sg**	**10 01 35.5**	**+0.3**
ROCH	**El Roble**	**1.82**	**161**	*e*P	**Pb**	**10 01 25.2**	**-0.3**
ROCH				*e*S	**Sg**	**10 01 50.2**	**-0.8**
ROCH				IAML		10 02 00.0	
	comp=E,2μm,0.5s						
ROC1	**El Roble**	**1.83**	**161**	*i* P	**Pb**	**10 01 26.2**	**+0.6**
PEL	**Peldehue**	**2.09**	**156**	*e*P	**Pb**	**10 01 29.2**	**-0.7**
PEL				*e*S	**Sb**	**10 01 56.4**	**+0.8**
PEL				IAML		10 02 08.2	
	comp=E,1μm,1.1s						
AROD	**Rodeo**	**2.21**	**62**	*i* P	**Pg**	**10 01 32.5**	**-2.2**
AUSP	**Uspallata**	**2.21**	**117**	*i* P	**Pg**	**10 01 34.0**	**-0.7**
CLCH	**Cerro Calan**	**2.37**	**155**	*e*P	**Pb**	**10 01 33.5**	**-1.2**
CLCH				*e*S	**Sb**	**10 02 03.3**	**-0.5**
CLCH				IAML		10 02 16.1	
	comp=N,1μm,0.8s						
ACCO	**Cerro Coronel**	**2.37**	**75**	*i* P	**Pg**	**10 01 35.9**	**-1.8**
ACCO				IAML		10 01 45.5	
	comp=Z,1μm,0.6s						
ACCO				*i* S	**Sg**	**10 02 11.5**	**+3.0**
LCO	**Las Campanas**	**2.39**	**22**	*i* P	**Pn**	**10 01 31.7**	**+0.5**
LCO				*i* S	**Sb**	**10 02 02.5**	**-2.2**
LCO				IAML		10 02 10.4	
	comp=E,2μm,0.8s						
LCO	**Las Campanas**	**2.39**	**22**	*i* P	**Pn**	**10 01 31.3**	**+0.1**
LCO	**Las Campanas**	**2.39**	**22**	*e*Pn	**Pn**	**10 01 31.6**	**+0.3**
LCO				*e*Sn	**Sb**	**10 02 03.0**	**-1.7**
SJA	**San Juan**	**2.71**	**97**	*i* P	**Pb**	**10 01 40.4**	**-0.2**
SJA				*i* S	**Sg**	**10 02 21.0**	**+1.6**
RTCV	**Cerro Valdivia**	**2.78**	**104**	*i* P	**Pg**	**10 01 41.5**	**-3.8**
AMOG	**MOGNA**	**2.78**	**85**	*i* P	**Pb**	**10 01 41.5**	**-0.3**
VACH	**Vallenar**	**2.79**	**18**	*e*P	**Pn**	**10 01 39.8**	**+3.4**
VACH				*e*S	**Sb**	**10 02 15.0**	**-0.8**
ARCO	**CERRO ARCO**	**2.85**	**125**	*i* P	**Pb**	**10 01 42.7**	**-0.3**
ARCO				*i* S	**Sg**	**10 02 24.1**	**+0.2**
ARCO				IAML		10 02 35.5	
	comp=Z,641nm,0.9s						
AAGR	**Agrelo**	**3.06**	**128**	*i* P	**Pb**	**10 01 45.6**	**-0.9**
LVC	**Limon Verde**	**8.96**	**17**	Pn	**Pn**	**10 03 00.9**	**-0.6**
	comp=Z,8.2nm,0.3s,baz=185,slow=11,SNR=3.7						
LVC				LR	LR	10 06 26.2	
	comp=Z,561nm,20.9s,baz=214,slow=37						
LVC	**Limon Verde**	**8.96**	**17**	Pn	**Pn**	**10 03 00.9**	**-0.6**
LVC				*e*Sn	**Sn**	**10 04 43.4**	**+1.0**
PLCA	**Paso Flores**	**9.52**	**175**	Pn	**Pn**	**10 03 08.6**	**-0.3**
	comp=Z,0.2nm,0.3s,baz=1.6,slow=13,SNR=5.9						
PLCA				LR	LR	10 07 23.1	
	comp=Z,112nm,20.0s,baz=354,slow=42						
TRQA	**Tornquist**	**10.51**	**133**	*e*Pn	**Pn**	**10 03 23.4**	**+1.1**
TRQA				*e*Sn	**Sn**	**10 05 23.6**	**+3.7**
CPUP	**Villa Florida**	**13.53**	**72**	Pn	**Pn**	**10 04 03.2**	**-0.6**
	comp=Z,0.1nm,0.3s,baz=260,slow=17,SNR=2.7						
CPUP				Sn	**Sn**	**10 06 32.5**	**-1.3**
	comp=Z,0.1nm,0.3s,baz=216,slow=10,SNR=3.0						
LPAZ	**La Paz**	**15.24**	**13**	Pn	**Pn**	**10 04 28.1**	**+0.4**
	comp=Z,0.2nm,0.3s,baz=209,slow=10,SNR=12						
SIV	**San Ignacio**	**18.02**	**35**	P	**Pn**	**10 05 02.6**	**+0.2**
	comp=Z,0.1nm,0.3s,baz=235,slow=13,SNR=6.3						
SIV				LR	LR	10 13 13.3	
	comp=Z,91nm,18.8s,baz=269,slow=41						
SAML	**Samuel**	**23.56**	**22**	*e*P	**P**	**10 06 03.0**	**+0.6**
	comp=Z,3.9nm,1.0s						
PTGA	**Pitinga**	**32.32**	**22**	LR	LR	10 21 25.9	
	comp=Z,50nm,19.2s,baz=178,slow=38						
QSPA	**South Pole Qui**	**58.98**	**180**	*e*P	**P**	**10 10 51.6**	**+0.5**
	comp=Z,8.7nm,0.8s						
DWPF	**Disney Wildern**	**59.75**	**350**	*e*P	P	10 10 53.3	-3.2
	comp=Z,60nm,0.7s						
TXAR	**Lajitas Array**	**67.48**	**330**	P	**P**	**10 11 47.7**	**0.0**
	comp=Z,0.4nm,0.6s,baz=150,slow=8.6,SNR=5.6						
DBIC	**Dimbokro**	**74.05**	**72**	P	**P**	**10 12 27.6**	**-0.4**
	comp=Z,1.9nm,0.7s,baz=225,slow=5.7,SNR=5.0						
MAW	**Mawson**	**75.74**	**164**	P	**P**	**10 12 36.7**	**-0.2**
	comp=Z,1.0nm,0.8s,baz=206,slow=6.5,SNR=4.1						
PDAR	**Pinedale Array**	**81.44**	**333**	P	**P**	**10 13 09.6**	**+0.7**
	comp=Z,0.5nm,0.9s,baz=141,slow=3.0,SNR=3.7						
TORD	**Torodi Ar. Bea**	**83.02**	**70**	P	**P**	**10 13 17.0**	**-0.4**
	comp=Z,3.3nm,0.8s,baz=254,slow=4.5,SNR=18						
WRA	**Warramunga Arr**	**123.29**	**210**	PKP	**PKPdf**	**10 19 47.9**	**-1.4**
	comp=Z,0.5nm,0.7s,baz=157,slow=1.8,SNR=4.4						
ZALV	**Zalesovo Beam**	**151.73**	**30**	PKPbc	**PKPbc**	**10 20 45.3**	**-0.5**
	comp=Z,4.3nm,0.7s,baz=313,slow=3.4,SNR=15						
ZALV				PKPab	**sPKPbc**	**10 20 54.2**	**+1.8**
	comp=Z,2.8nm,0.7s,baz=290,slow=3.4,SNR=7.6						

*BER **23** 10:00:51.8±0.7,64.66°N×31.68°E,h0^km,ML1.9,Suspected explosion*
*CSEM **23** 10:00:51.4±0.5,64.65°N×30.34°E,h2^km,ML1.9,Error ellipse: s-maj=11.4km s-min=7.3km az=81.0,Mining explosion.*
*KOLA **23** 10:00:53.8,64.73°N×30.62°E,h0^km*

HEL 23 10:00:52.6±0.2,64°68'N×30°56'E,h0^km,ML1.9, Explosion,Finland-Karelia border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KU6	**Riekki**	**1.38**	**349**	PG	Pg	10 01 17.0	-2.1
KU6				MSG		10 01 34.3	
	comp=Z,9.3nm,0.2s						
KU6				SN	Sg	10 01 37.1	+0.2
KU6	**Riekki**	**1.38**	**349**	Pg	Pg	10 01 17.0	-2.1
KU6				Sn	Sg	10 01 37.1	+0.1
MSF	**Maaselka**	**1.40**	**333**	PG	Pg	10 01 17.6	-1.7
MSF				SN	Sg	10 01 36.9	-0.4
MSF	**Maaselka**	**1.40**	**333**	Pg	Pg	10 01 17.6	-1.7
MSF				Sn	Sg	10 01 36.9	-0.4
JOF	**Joensuu**	**1.80**	**169**	PG	Pn	10 01 24.4	-0.4
JOF				SG	Sb	10 01 49.5	+0.2
JOF	**Joensuu**	**1.80**	**169**	Pg	Pn	10 01 24.4	-0.4
JOF				Sg	Sb	10 01 49.5	+0.1
OUL	**Oulu**	**2.03**	**284**	PG	Pn	10 01 28.3	+0.3
	baz=99						
OUL				SG	Sn	10 01 54.5	+0.5
OUL	**Oulu**	**2.03**	**284**	Pg	Pn	10 01 28.3	+0.3
OUL				Sg	Sn	10 01 54.5	+0.5
OUFX	**Oulainen**	**2.55**	**266**	PB	Pb	10 01 37.1	+1.9
OUFX				SG	Sb	10 02 11.2	+0.1
OUFX	**Oulainen**	**2.55**	**266**	Pb	Pn	10 01 37.1	+1.9
OUFX				Sg	Sb	10 02 11.1	0.0
RNF	**Rovaniemi**	**2.71**	**318**	PB	Pb	10 01 39.7	-2.1
RNF	**Rovaniemi**	**2.71**	**318**	Pb	Pb	10 01 39.7	-2.1
SUF	**Sumiainen**	**2.78**	**227**	PB	Pb	10 01 40.9	-2.2
	baz=41						
SUF				MSG		10 02 14.5	
	comp=Z,4.3nm,0.2s						
SUF	**Sumiainen**	**2.78**	**227**	Pb	Pb	10 01 40.8	-2.2
TOF	**Tornio**	**2.97**	**301**	PG	Pb	10 01 45.9	-0.3
TOF	**Tornio**	**2.97**	**301**	Pg	Pb	10 01 45.9	-0.3
APA0	**Apatity Array**	**3.10**	**17**	P	Pn	10 01 42.5	-0.2
APA0				S	Sn	10 02 18.9	-1.6
APA	**Apatity**	**3.13**	**20**	P	Pn	10 01 42.8	-0.3
APA				S	Sn	10 02 19.5	-1.5
KAF	**Kangasniemi**	**3.21**	**219**	PG	Pg	10 01 53.2	-0.8
	baz=34						
KAF				MSG		10 02 26.9	
	comp=Z,2.7nm,0.2s						
KEF	**Keuruu**	**3.59**	**228**	PN	Pn	10 01 51.6	+2.1
	baz=41						
FIA0	**FINESS Array S**	**3.83**	**214**	PB	Pb	10 01 58.1	-2.9
	baz=28						
VAF	**Ylistaro**	**3.86**	**248**	PB	Pb	10 01 58.8	-2.6
ERTU	**Ertsjaerv**	**3.95**	**302**	PG	Pb	10 02 03.9	+0.9
	baz=112						
ERTU	**Ertsjaerv**	**3.95**	**302**	Pg	Pb	10 02 03.9	+0.9
HEF	**Hetta**	**4.65**	**327**	*e*P	Pn	10 02 04.4	+0.4
HEF	**Hetta**	**4.65**	**327**	*e*P	Pn	10 02 04.4	+0.4
	SNR=49						
KTK1	**Kautokeino**	**5.22**	**330**	*e*P	Pn	10 02 12.7	+0.9
KTK1				IAML		10 03 42.0	
	comp=Z,4.5nm,0.8s						
KTK1	**Kautokeino**	**5.22**	**330**	*e*P	Pn	10 02 12.7	+0.9
	SNR=49						
ARE0	**ARCESS Array S**	**5.26**	**340**	*e*P	Pn	10 02 11.7	-0.7
ARE0				*e*S	Sn	10 03 11.2	-2.5
ARE0				IAML		10 03 38.8	
	comp=Z,2.2nm,0.6s						
ARE0	**ARCESS Array S**	**5.26**	**340**	*e*P	Pn	10 02 11.6	-0.8
	SNR=49						
ARE0				*e*S	Sn	10 03 11.2	-2.4
	SNR=49						
KEV	**Kevo**	**5.28**	**346**	*e*P	Pn	10 02 11.8	-0.9
KEV	**Kevo**	**5.28**	**346**	*e*P	Pn	10 02 11.8	-0.8
	SNR=49						
KIF	**Kilpisjarvi**	**5.80**	**323**	*e*P	Pn	10 02 21.0	+1.3
KIF				*e*S	Sn	10 03 26.9	+0.1
KIF	**Kilpisjarvi**	**5.80**	**323**	*e*P	Pn	10 02 21.0	+1.3
	SNR=49						

*CSEM **23** 10:01:48.3±0.2,67.20°N×20.62°E,h2^km,ML1.7,Error ellipse: s-maj=4.9km s-min=3.5km az=31.0,Suspected Mining explosion.*

UPP 23 10:01:48.4±0.1,67°19'N×20°64'E,h0^km,ML1.7, Suspected explosion,Sweden

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DUNU	**Dundret**	**0.08**	**203**	P	Pg	10 01 50.1	+0.3
DUNU				S	Sg	10 01 51.4	+0.6
DUNU	**Dundret**	**0.08**	**203**	P	Pg	10 01 50.2	+0.4
DUNU				S	Sg	10 01 51.4	+0.6
MASU	**Masugnsbyn**	**0.59**	**62**	P	Pg	10 01 59.6	-0.1
MASU	**Masugnsbyn**	**0.59**	**62**	P	Pg	10 01 59.6	-0.1
RATU	**Laukkuluspa**	**0.75**	**328**	P	Pg	10 02 02.5	-0.3
KUA	**Kurravaara**	**0.78**	**351**	P	Pg	10 02 03.1	-0.1
KUA	**Kurravaara**	**0.78**	**351**	P	Pg	10 02 03.1	-0.1
NIKU	**Nikkaluokta**	**0.92**	**318**	P	Pg	10 02 05.6	-0.3
NIKU	**Nikkaluokta**	**0.92**	**318**	P	Pg	10 02 05.6	-0.4

MEX 23 10:09:00.4±0.6,16°74'N×99°73'W,h11^km±3^km,MD3.7, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ACX	**Acapulco**	**0.18**	**316**	*e*P	Pb	10 09 07.0	+1.2
ACX				*e*S	Sg	10 09 10.2	+3.0
ACP2	**Acapulco**	**0.20**	**311**	*e*P	Pg	10 09 04.0	-0.8
ACP2				*e*S	Sg	10 09 07.7	-0.1
CAIG	**El Cayaco**	**0.60**	**301**	*e*P	Pg	10 09 10.4	-1.7
CAIG				*e*S	Sg	10 09 18.7	-1.4
MEIG	**Mezcala**	**1.19**	**5**	*e*P	Pb	10 09 18.9	-4.0
MEIG				*e*S	Sb	10 09 33.5	-4.8
TLIG	**Tlapa**	**1.38**	**53**	*e*P	Pn	10 09 22.0	-3.7
TLIG				*i* S	Sb	10 09 39.5	-4.4
PNIG	**Pinotepa**	**1.57**	**102**	*e*P	Pn	10 09 24.5	-3.7
PNIG				*e*S	Sn	10 09 43.6	-5.0
ARIG	**Puente Sto Nin**	**1.64**	**339**	*e*P	Pn	10 09 26.5	-2.7
ARIG				*e*S	Sn	10 09 45.4	-5.0
PLIG	**Platanillo**	**1.66**	**7**	*e*P	Pn	10 09 26.4	-3.0
PLIG				*i* S	Sn	10 09 46.1	-4.7
ZIIG	**Zihuatanejo**	**1.87**	**298**	*e*P	Pn	10 09 29.3	-3.0
ZIIG				*i* S	Sn	10 09 52.0	-3.9
YAIG	**Yautepec**	**2.20**	**16**	*e*P	Pn	10 09 33.3	-3.7
YAIG				*i* S	Sn	10 10 00.9	-3.5

MEX 23 10:12:32.5±0.3,16°73'N×99°72'W,h14^km±2^km,MD3.6, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ACX	**Acapulco**	**0.19**	**317**	*e*P	Pb	10 12 39.1	+1.3
ACX				*e*S	Sb	10 12 42.4	+1.1
ACP2	**Acapulco**	**0.21**	**312**	*e*P	Pg	10 12 36.2	-1.0
ACP2				*e*S	Sg	10 12 40.1	-0.4
CAIG	**El Cayaco**	**0.61**	**301**	*e*P	Pg	10 12 42.7	-1.8
CAIG				*e*S	Sg	10 12 50.3	-2.2
MEIG	**Mezcala**	**1.19**	**5**	*e*P	Pn	10 12 51.1	-3.7
MEIG				*e*S	Sb	10 13 05.6	-4.6
TLIG	**Tlapa**	**1.38**	**53**	*e*P	Pn	10 12 54.1	-3.3
TLIG				*i* S	Sn	10 13 10.0	-5.5
HMTT	**Tlapaneco**	**1.54**	**46**	*i* P	Pn	10 12 56.6	-3.0
HMTT				*i* S	Sn	10 13 13.5	-5.9
PNIG	**Pinotepa**	**1.57**	**102**	*e*P	Pn	10 12 56.7	-3.2
PNIG				*i* S	Sn	10 13 14.3	-5.8
ARIG	**Puente Sto Nin**	**1.65**	**339**	*e*P	Pn	10 12 57.8	-3.3
ARIG				*e*S	Sn	10 13 17.2	-4.9
PLIG	**Platanillo**	**1.67**	**7**	*e*P	Pn	10 12 57.9	-3.4
PLIG				*e*S	Sn	10 13 18.0	-4.5
YAIG	**Yautepec**	**2.21**	**16**	*i* P	Pn	10 13 05.3	-3.6
YAIG				*i* S	Sn	10 13 31.7	-4.4

*ISCJB **23** 10:15:08.4±0.3,11.92°S±0.04×75.91°W±0.05,h100^km, mb4.3/39,Error ellipse: s-maj=6.7km s-min=4.6km az=152.9*
*NEIC **23** 10:15:09.5±0.6,11.88°S×75.92°W,h90^km±6^km,mb4.5/32, Error ellipse: s-maj=8.2km s-min=4.7km az=66.0*
NEIC Felt [III] at Imperial and [II] at Lima. Also felt at Barranca and Huacho.
*IDC **23** 10:15:10.0±0.5,12.08°S×76.16°W,h113^km±5^km,mb3.7/9, mb1 3.9/15,mb1mx3.8/33,mbtmp4.1/15,MS2.6/1, Ms1 2.6/1,ms1mx2.4/19,Error ellipse: s-maj=19.1km s-min=11.3km az=38.0*

ISC 23 10:15:09.7±0.4,11°94'S±0.06×75°89'W±0.06,h100^km,n79, σ1§46/91,mb4.5/39,Central Peru

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
NNA	**Nana**	**0.93**	**267**	P	**Pn**	**10 15 29.0**	**-0.4**
	681nm,0.3s,baz=132,slow=8.4,SNR=1025						
NNA				S	**Sn**	**10 15 43.3**	**-1.0**
	baz=180,slow=20						
NNA	**Nana**	**0.93**	**267**	*e*Pn	**Pn**	**10 15 29.0**	**-0.4**
NNA				*e*Sn	**Sn**	**10 15 43.7**	**-0.6**
ATAH	**Atahualpa**	**5.38**	**332**	P	**Pn**	**10 16 27.9**	**0.0**
	7.8nm,0.3s,baz=167,slow=4.8,SNR=31						
ATAH				S	**Sn**	**10 17 30.2**	**+1.4**
	11nm,0.3s,baz=6.8,slow=18,SNR=3.7						
ATAH				LR	LR	10 18 59.1	
	comp=Z,64nm,20.8s,baz=134,slow=42						
LPAZ	**La Paz**	**8.68**	**121**	P	**Pn**	**10 17 14.3**	**+1.2**
	0.4nm,0.3s,baz=318,slow=9.6,SNR=10						
LPAZ	**La Paz**	**8.68**	**121**	*e*Pn	**Pn**	**10 17 15.1**	**+2.0**
MNMC	**Minye Minye**	**9.38**	**140**	*e*Pn	**Pn**	**10 17 22.2**	**0.0**
PB11	**IPOC Station P**	**9.82**	**143**	*e*Pn	**Pn**	**10 17 25.2**	**-2.9**
OTAV	**Otavalo**	**12.36**	**348**	*e*Pn	**Pn**	**10 17 59.8**	**-2.9**
OTAV				*e*Sn	S	10 20 29.6	-10
LVC	**Limon Verde**	**12.53**	**149**	P	**Pn**	**10 18 04.3**	**-0.4**
	5.2nm,0.3s,baz=343,slow=11,SNR=3.1						
LVC				S	Sn	10 20 14.4	-8.3
	baz=271,slow=13,SNR=1.7						
LVC	**Limon Verde**	**12.53**	**149**	*e*Pn	**Pn**	**10 18 06.1**	**+1.3**
SAML	**Samuel**	**12.85**	**78**	*e*Pn	**Pn**	**10 18 07.0**	**-1.7**
TUMC	**Tumaco**	**13.96**	**348**	*e*Pn	**Pn**	**10 18 22.7**	**-0.5**
SIV	**San Ignacio**	**14.94**	**107**	P	**P**	**10 18 38.2**	**-0.7**
	0.2nm,0.3s,baz=297,slow=6.8,SNR=2.5						
VILC	**Villavicencio,**	**16.10**	**8**	*e*P	**P**	**10 18 52.1**	**+0.3**
CHIC	**Chingaza**	**16.60**	**8**	*e*P	**P**	**10 18 57.8**	**+0.1**
ROSC	**El Rosal**	**16.75**	**5**	P	**P**	**10 19 00.8**	**+1.6**
	1.4nm,0.3s,baz=125,slow=8.4,SNR=5.0						
ROSC	**El Rosal**	**16.75**	**5**	*e*Pn	**P**

0.4nm,0.7s,baz=124,slow=7.7,SNR=2.9
HWUT Hardware Ranch 62.60 330 *e*P **P 10 25 23.4 -0.2**
4.1nm,0.8s
HVU Hansel Valley 63.32 330 *e*P **P 10 25 28.4 +0.1**
3.7nm,1.0s
ULM Lac du Bonnet 64.35 346 P **P 10 25 33.4 -1.3**
3.7nm,0.6s,baz=157,slow=6.7,SNR=5.7
YHH Holmes Hill 64.74 333 *e*P **P 10 25 38.7 +1.0**
2.7nm,0.8s
HLID Hailey 65.45 330 *e*P **P 10 25 43.1 +0.8**
16nm,1.9s
MFID Camas Ranch 66.05 329 *e*P **P 10 25 46.9 +0.9**
7.6nm,1.0s
ORV Oroville 66.49 323 *e*P **P 10 25 50.1 +1.4**
7.4nm,0.9s
SCHQ Schefferville 66.95 6 P **P 10 25 50.7 -0.6**
2.5nm,0.5s,baz=209,slow=10,SNR=3.0
MOD Modoc Plateau 67.35 326 *e*P **P 10 25 55.1 +0.7**
3.4nm,0.8s
MSO Missoula 67.69 333 *e*P **P 10 25 57.2 +0.9**
28nm,1.8s
F10A Beach Ranch, E 68.58 330 *e*P **P 10 26 02.5 +0.6**
36nm,2.0s
VNA2 Neumayer--Watz 71.82 161 P **P 10 26 21.3 +0.1**
baz=315,slow=42
EDM Edmonton 72.37 337 *e*P **P 10 26 24.3 -0.4**
22nm,0.9s
SNAA Sanae 73.42 162 P **P 10 26 30.2 -0.6**
YKA Yellowknife Ar 80.07 343 P **P 10 27 06.5 -1.5**
1.6nm,0.7s,baz=136,slow=5.7,SNR=4.6
TORD Torodi Ar. Bea 80.88 74 P **P 10 27 13.6 +0.2**
2.3nm,0.7s,baz=242,slow=4.3,SNR=20
TORD pP **pP 10 27 44.1 +4.8**
2.0nm,0.9s,baz=267,slow=4.7,SNR=6.0
MDT Midelt 81.16 54 P **P 10 27 15.9 +1.2**
1.2nm,0.7s,baz=281,slow=4.4,SNR=4.1
SUMG Summit 87.82 11 *i* P **P 10 27 48.2 +0.5**
7.3nm,0.8s
ILAR Eielson Array 92.82 336 P **P 10 28 09.1 -1.6**
0.3nm,0.8s,baz=90,slow=1.8,SNR=3.6
ASAR Alice Springs 134.16 219 PKP **PKPdf 10 34 15.8 -0.7**
0.3nm,0.9s,baz=118,slow=2.3,SNR=3.4
ASAR pPKP **pPKPdf 10 34 45.2 +1.2**
0.3nm,0.8s,baz=131,slow=2.6,SNR=2.2
ASAR sPKP 10 34 55.6
0.5nm,0.6s,baz=131,slow=1.8,SNR=2.4
ZALV Zalesovo Beam 135.38 16 PKP **PKPdf 10 34 17.6 -0.2**
0.7nm,0.4s,baz=276,slow=2.8,SNR=1.7
WRA Warramunga Arr 136.53 224 PKP **PKPdf 10 34 18.6 -2.3**
0.3nm,0.8s,baz=130,slow=1.9,SNR=2.8
WRA pPKP **pPKPdf 10 34 50.5 +2.0**
0.5nm,0.8s,baz=130,slow=2.2,SNR=3.6
WRA sPKP 10 35 02.6
0.7nm,0.7s,baz=135,slow=1.9,SNR=6.4
KSH Kashi 142.93 37 *e*PKP **PKPdf 10 34 31.8 -0.4**
KSH sPKP 10 35 08.9
KSH PP **PP 10 37 45.9 +4.0**
KSH PKS **PKSdf 10 38 06.1 -1.9**
KSH SKS **SKSdf 10 41 30.3 -2.8**
SONM Songino Array 144.17 357 PKP PKPbc 10 34 32.7 +0.3
1.1nm,0.7s,baz=50,slow=2.3,SNR=5.6
SONM pPKP pPKPdf 10 35 04.0 +2.3
0.3nm,0.4s,baz=5.7,slow=1.4,SNR=1.5
SONM sPKP 10 35 17.4
0.7nm,0.5s,baz=21,slow=1.6,SNR=2.9
KSRS Korea Array 146.82 324 PKPbc **PKPdf 10 34 37.5 -1.3**
0.5nm,0.5s,baz=30,slow=2.1,SNR=3.6

MEX 23 10:24:52.1±0.5, 16.74N×99.71W, h14km±3km, MD3.5, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
ACX	**Acapulco**	**0.19**	**313**		*e*P		Pb	10 24 59.1	+1.7
ACX					*e*S		Sb	10 25 01.9	+0.8
ACP2	**Acapulco**	**0.22**	**309**		*e*P		Pg	10 24 56.3	-0.6
ACP2					*i* S		Sg	10 24 60.0	-0.2
CAIG	**El Cayaco**	**0.61**	**300**		*e*P		Pg	10 25 02.7	-1.4
CAIG					*e*S		Sg	10 25 10.2	-2.1
MEIG	**Mezcala**	**1.18**	**4**		*e*P		Pn	10 25 10.3	-4.0
MEIG					*e*S		Sb	10 25 25.3	-4.4
TLIG	**Tlapa**	**1.37**	**53**		*i* P		Pn	10 25 13.2	-3.7
TLIG					*i* S		Sn	10 25 30.1	-4.8
PNIG	**Pinotepa**	**1.56**	**103**		*i* S		Sn	10 25 34.2	-5.3
ARIG	**Puente Sto Nin**	**1.65**	**338**		*e*S		Sn	10 25 37.0	-4.8
PLIG	**Platanillo**	**1.66**	**7**		*e*P		Pn	10 25 17.5	-3.3
PLIG					*e*S		Sn	10 25 37.7	-4.3
ZIIG	**Zihuatanejo**	**1.89**	**298**		*i* P		Pn	10 25 21.7	-2.2
ZIIG					*i* S		Sn	10 25 42.6	-5.0
YAIG	**Yautepec**	**2.20**	**16**		*i* P		Pn	10 25 28.2	-0.2
YAIG					*i* S		Sn	10 25 51.6	-3.9

*ISCJB **23** 10:29:01.0±1.1, 35.46N×140.07E±0.1, h75km±7km, mb3.0/1, Error ellipse: s-maj=16.2km s-min=7.9km az=145.6*
*JMA **23** 10:29:01.7±0.1, 35.59N×140.12E, h63km±1km, M1.8*
*IDC **23** 10:29:03.0±2.2, 35.37N×139.93E, h90km±21km, mb2.8/1, mb1 3.1/2, mb1mx2.8/36, mbtmp3.3/2, Error ellipse: s-maj=45.1km s-min=7.8km az=69.0*
ISC 23 10:29:02.1±1.2, 35.47N±0.07×140.12E±0.09, h66km±8km, n8, σ0°94/13, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
JCN	**Nagara**	**0.08**	**130**		P		**Pn**	**10 29 11.6**	**-0.3**
JCN					*e*S		**Sn**	**10 29 19.0**	**0.0**
BSO3	**Boso 3**	**0.74**	**155**		P		**Pn**	**10 29 17.6**	**+0.7**
JOD2	**Odawara 2**	**0.87**	**256**		P		**Pn**	**10 29 18.7**	**-0.1**
JOD2					S		**Sn**	**10 29 31.2**	**0.0**
MJAR	**Matsushiro Arr**	**1.88**	**305**		P		**Pn**	**10 29 31.5**	**-0.6**
1.8nm,0.3s,baz=139,slow=15,SNR=15									
MJAR					S		**Sn**	**10 29 55.2**	**+0.3**
1.2nm,0.3s,baz=140,slow=15,SNR=4.2									
MAT	**Matsushiro**	**1.89**	**305**		P		**Pn**	**10 29 32.1**	**0.0**
MAT					*e*S		**Sn**	**10 29 57.2**	**+2.2**
JHJ	**Hachijo jima 2**	**2.36**	**187**		P		**Pn**	**10 29 39.5**	**+0.9**
6.3nm,0.3s,baz=114,slow=20,SNR=3.1									
JHJ					S		**Sn**	**10 30 06.0**	**-0.5**
4.4nm,0.3s,baz=107,slow=19,SNR=2.0									
WRA	**Warramunga Arr**	**55.38**	**187**		P		**P**	**10 38 28.5**	**-0.9**
0.1nm,0.6s,baz=7.6,slow=7.6,SNR=4.6									
LPAZ	**La Paz**	**148.38**	**60**		PKPbc		**PKPdf**	**10 48 39.0**	**+0.3**
1.8nm,0.3s,baz=264,slow=5.8,SNR=17									

*CSEM **23** 10:37:36.8±0.2, 45.50N×17.90E, h12km, ML1.6, Error ellipse: s-maj=6.3km s-min=3.3km az=27.0*
BEO 23 10:37:40.5±0.8, 45.31N×17.90E, h0km, M1.6/5, 2D, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
BLY	**Banja Luka**	**0.76**	**222**		*e*Pg		Pg	10 37 54.0	-1.0
BLY	**Banja Luka**	**0.76**	**222**		*e*Pg		Pg	10 37 54.0	-1.0
FGSL	**Fruska Gora**	**1.36**	**96**		*e*Pg		Pg	10 38 03.5	-3.0
FGSL					*e*Sg		Sg	10 38 23.5	-0.6
FRGS	**Fruska Gora**	**1.36**	**96**		*e*Pg		Pg	10 38 03.5	-3.0
FRGS					*e*Sg		Sg	10 38 23.5	-0.6
TEKS	**Tekeris**	**1.39**	**123**		*e*Pg		Pg	10 38 05.6	-1.4
TEKS					*e*Sg		Sg	10 38 24.5	-0.5
TEKS	**Tekeris**	**1.39**	**123**		*e*Pg		Pg	10 38 05.6	-1.4
TEKS					*e*Sg		Sg	10 38 24.5	-0.5
BEHE	**Becsehely**	**1.40**	**326**	⇓	*e*Pn		Pn	10 37 59.6	-7.7
BEHE	**Becsehely**	**1.40**	**326**		*e*Pg		Pn	10 38 01.6	-5.7
BEHE					*e*Sg		Sg	10 38 15.2	-10
BEHE	**Becsehely**	**1.40**	**326**	⇓	*ex*		Pn	10 37 59.6	-7.7
BEHE					*ex*		x	10 38 01.6	
BEHE					*ex*		Sg	10 38 15.2	-10
UDBI	**Udbina**	**1.71**	**243**		*e*Pn		Pn	10 38 07.6	-4.0
UDBI					Sn		Sn	10 38 30.0	-4.1
UDBI	**Udbina**	**1.71**	**243**		*e*Pn		Pn	10 38 07.5	-4.1
UDBI					Sn		Sn	10 38 30.0	-4.1
OZLJ	**Ozalj**	**1.74**	**281**		*e*Pn		Pn	10 38 07.1	-4.8
OZLJ					Sn		Sn	10 38 29.9	-4.9
OZLJ	**Ozalj**	**1.74**	**281**		*e*Pn		Pn	10 38 07.0	-4.9
OZLJ					Sn		Sn	10 38 29.8	-5.0
BBLS	**Lazići**	**1.80**	**143**		*e*Pg		Pn	10 38 11.3	-1.6
BBLS					*e*Sg		Sn	10 38 36.2	-0.2
DIVS	**Divibare**	**1.92**	**128**		*e*Pg		Pb	10 38 16.8	+0.3
DIVS					*e*Sg		Sg	10 38 43.0	+0.8
DIVS	**Divibare**	**1.92**	**128**		*e*Pg		Pb	10 38 16.8	+0.3
DIVS					*e*Sg		Sg	10 38 43.0	+0.8
TRUS	**Trudelj**	**2.09**	**120**		*e*Pg		Pb	10 38 18.4	-0.9
TRUS	**Trudelj**	**2.09**	**120**		*e*Pg		Pb	10 38 18.4	-0.9

BUC 23 10:38:36.3±0.5, 45.81N×21.38E, h6km±2km, MD2.3/2, 4C-4D, Error ellipse: s-maj=5.6km s-min=1.1km az=87.0, Romania

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
BZS	**Buzias**	**0.25**	**139**	⇑	*i*P		Pg	10 38 41.6	+0.3
BZS	**Buzias**	**0.25**	**139**	⇑	*i*P		Pg	10 38 41.6	+0.3
BZS					*i* S		Sg	10 38 45.6	+1.0
SIRR	**Siria**	**0.50**	**23**	⇑	*i*P		Pg	10 38 46.4	+0.5
SIRR	**Siria**	**0.50**	**23**	⇑	*i*P		Pg	10 38 46.4	+0.5
SIRR					*i* S		Sg	10 38 52.0	-0.4
MDVR	**Moldovita**	**1.05**	**167**	⇓	*i*P		Pb	10 38 57.2	+0.2
MDVR	**Moldovita**	**1.05**	**167**	⇓	*i*P		Pb	10 38 57.2	+0.2
MDVR					*i* S		Sn	10 39 12.3	-0.5
DRGR		**1.35**	**43**	⇓	*i*P		Pb	10 39 01.9	-0.1
DRGR		**1.35**	**43**	⇓	*i*P		Pb	10 39 01.9	-0.1

GUC 23 10:39:39.6±0.3, 22.72S×66.95W, h229km±12km, ML3.6, 5C, Jujuy Province

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PB09	**IPOC Station P**	**2.32**	**293**		*e*P		Pn	10 40 25.3	+1.6
PB09					*e*S		S	10 41 00.0	+1.9
PB09					IAML			10 41 06.9	
comp=E,151nm,0.2s									
PB06	**IPOC Station P**	**2.43**	**270**	⇑	*i*P		Pn	10 40 26.6	+1.8
PB06					*i* S		S	10 41 02.2	+2.1
PB06					IAML			10 41 05.3	
comp=E,79nm,0.2s									
PB01	**IPOC Station P**	**2.89**	**305**		*e*P		Pn	10 40 31.8	+2.0
PB01					*e*S		S	10 41 11.2	+2.2
PB01					IAML			10 41 14.9	
comp=E,88nm,0.2s									
PB07	**IPOC Station P**	**2.90**	**289**	⇑	*i*P		Pn	10 40 32.3	+2.4
PB07					*i* S		S	10 41 12.0	+2.7
PB07					IAML			10 41 12.5	
comp=N,122nm,0.3s									
PB04	**IPOC Station P**	**2.99**	**277**	⇑	*i*P		Pn	10 40 32.9	+2.0
PB04					*i* S		S	10 41 13.5	+2.4
PB04					IAML			10 41 16.6	
comp=N,70nm,0.1s									
PB08	**IPOC Station P**	**3.29**	**321**	⇑	*i*P		Pn	10 40 38.0	+3.4
PB08					*e*S		S	10 41 21.9	+4.3
PB10	**IPOC Station P**	**3.42**	**256**	⇑	*i*P		Pn	10 40 36.9	+1.3
PB10					*i* S		S	10 41 20.0	+0.4
HMBC	**Humberstone**	**3.66**	**311**		*e*P		Pn	10 40 40.6	+1.9
HMBC					*i* S		S	10 41 27.7	+2.7
MNMC	**Minye Minye**	**4.34**	**325**		*e*P		Pn	10 40 50.0	+3.0
MNMC					*i* S		S	10 41 43.3	+3.1

*JMA **23** 11:02:00.4±0.1, 23.23N×121.56E, h0km, M2.8*
*ISCJB **23** 11:02:02.1±0.4, 23.21N±0.02×121.49E±0.03, h18km±5km, Error ellipse: s-maj=3.9km s-min=3.7km az=28.6*
*TAP **23** 11:02:03.2, 23.26N×121.37E, h18km, ML3.2, C*
ISC 23 11:02:02.6±0.9, 23.22N±0.02×121.45E±0.03, h23km±6km, n50, σ0°90/77, 10C-2D, Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CHKT	**Chengkung**	**0.14**	**214**	⇑	*i*P		**Pb**	**11 02 07.9**	**+0.6**
baz=171									
CHKT					*i* S		**Sb**	**11 02 11.5**	**+1.0**
baz=171									
TWF1	**Yuli**	**0.20**	**314**	⇑	*i*P		**Pb**	**11 02 07.5**	**-0.5**
TWF1					S		**Sb**	**11 02 10.7**	**-0.9**
baz=319									
EHY	**Hungye**	**0.31**	**338**	⇑	*i*P		**Pb**	**11 02 09.3**	**-0.3**
baz=338									
EHY					*i* S		**Sb**	**11 02 13.8**	**-0.6**
baz=338									
ELDTW	**Lidau**	**0.40**	**266**	⇑	*i*P		**Pb**	**11 02 10.3**	**-0.8**
baz=257									
ELDTW					S		**Sb**	**11 02 15.1**	**-1.7**
baz=257									
TWG	**Pinlang**	**0.52**	**222**	⇓	*i*P		**Pb**	**11 02 12.9**	**-0.3**
baz=211									
TWG					*i* S		**Sb**	**11 02 20.6**	**+0.2**
baz=211									
YUS	**Yu-Shan**	**0.53**	**301**	⇑	*i*P		**Pb**	**11 02 13.0**	**-0.6**
baz=293									
YUS					*i* S		**Sb**	**11 02 19.5**	**-1.5**
baz=293									
TTN	**Taitung**	**0.54**	**211**		*e*P		**Pb**	**11 02 13.8**	**+0.4**
baz=205									
ESL	**Shilin**	**0.60**	**359**		*e*P		**Pb**	**11 02 14.6**	**+0.2**
baz=356									
WDT	**Danda**	**0.61**	**332**		P		**Pb**	**11 02 14.0**	**-0.8**
baz=337									
WDT					S		**Sb**	**11 02 21.8**	**-1.4**
baz=337									
STYT	**Tauyuan**	**0.64**	**265**	⇑	*i*P		**Pb**	**11 02 14.6**	**-0.5**
baz=259									
STYT					S		**Sb**	**11 02 22.7**	**-1.0**
baz=259									
ALS	**Alishan**	**0.66**	**297**	⇑	*i*P		**Pb**	**11 02 15.3**	**-0.4**
baz=287									
ALS					*e*S		**Sb**	**11 02 23.4**	**-1.2**
baz=287									
ECL	**Taimali**	**0.77**	**217**		*e*P		**Pb**	**11 02 16.0**	**-1.3**
baz=211									
WTP	**Ta-pu**	**0.77**	**272**	⇑	*i*P		**Pb**	**11 02 17.5**	**+0.2**
baz=267									
WTP					S		**Sb**	**11 02 27.4**	**0.0**
baz=267									
CHN4	**Tsaushan**	**0.80**	**280**	⇑	P		**Pb**	**11 02 18.0**	**+0.2**
baz=276									
CHN4					S		**Sb**	**11 02 28.6**	**+0.4**
baz=276									
CHN5	**Tsauling**	**0.80**	**298**	⇑	*i*P		**Pb**	**11 02 18.2**	**+0.2**
baz=297									
CHN5					*e*S		**Sb**	**11 02 28.3**	**-0.2**
baz=297									
SGST	**Jiashian**	**0.81**	**261**		*e*P		**Pb**	**11 02 17.6**	**-0.4**
baz=257									
SMLT	**Sun Moon Lake**	**0.83**	**323**		P		**Pb**	**11 02 17.8**	**-0.7**
baz=332									
SMLT					*e*S		**Sb**	**11 02 27.7**	**-1.6**
baz=332									
CHN1	**Nanshi**	**0.85**	**268**	⇓	*i*P		**Pn**	**11 02 19.2**	**0.0**
baz=263									
CHN1					S		**Sn**	**11 02 30.9**	**-0.1**
baz=263									
TWD	**Chiawan**	**0.87**	**9**		P		**Pn**	**11 02 19.3**	**-0.2**
baz=359									
TYC	**Yuchr**	**0.88**	**322**		*e*P		**Pn**	**11 02 19.6**	**+0.1**
baz=330									
TWK	**Hsinying**	**0.89**	**273**		*e*P		**Pb**	**11 02 19.2**	**-0.1**
baz=269									
TWK					*e*S		**Sn**	**11 02 31.6**	**-0.3**
baz=269									
WHF	**Hehuan Shan**	**0.94**	**350**		*e*P		**Pb**	**11 02 19.5**	**-1.0**
baz=4.0									
WNT	**Mingjian**	**0.96**	**313**		*e*P		**Pn**	**11 02 20.9**	**+0.1**
baz=313									
WNT					*e*S		**Sn**	**11 02 34.7**	**+1.0**
baz=313									
CHY	**Chiayi**	**0.98**	**287**		*e*P		**Pn**	**11 02 21.3**	**+0.3**
baz=274									
CHY					*e*S		**Sn**	**11 02 35.3**	**+1.0**
baz=274									
EAST	**Anshuo**	**1.00**	**214**		*e*P		**Pb**	**11 02 20.0**	**-1.2**
baz=211									
CHN3	**Shinhua**	**1.01**	**262**		*e*P		**Pn**	**11 02 21.7**	**+0.4**
baz=267									
CHN3					*e*S		**Sn**	**11 02 38.2**	**+3.3**
baz=267									
TWM1	**Shoushan**	**1.02**	**248**		*e*P		**Pb**	**11 02 23.2**	**+1.5**
baz=245									
TWT	**Tachien**	**1.06**	**346**		*e*P		**Pn**	**11 02 20.5**	**-1.8**
baz=347									
SCZT	**Fangliau**	**1.14**	**222**		*e*P		**Pn**	**11 02 21.9**	**-1.3**
baz=214									
SCLT	**Jiali**	**1.16**	**268**		*e*P		**Pb**	**11 02 24.8**	**+0.9**
baz=266									
TCU	**Taichung**	**1.17**	**323**		*e*P		**Pb**	**11 02 25.9**	**+1.8**
baz=323									
LAY	**Lan-yu**	**1.18**	**175**		*e*P		**Pn**	**11 02 22.6**	**-1.1**
baz=163									
NNS	**Nan Shan**	**1.22**	**357**		*e*P		**Pb**	**11 02 25.5**	**+0.4**
baz=11									
ENA	**Nanau**	**1.24**	**12**		*e*P		**Pn**	**11 02 24.0**	**-0.5**
baz=3.0									
TWQ1	**Liyutan**	**1.29**	**331**		*e*P		**Pb**	**11 02 27.0**	**+0.8**
baz=333									
TWQ1					*e*S		**Sb**	**11 02 43.6**	**+1.3**
baz=333									
NSY	**Sanyi**	**1.35**	**332**		*e*P		**Pb**	**11 02 27.7**	**+0.5**
baz=334									
ENTT	**Nioudou**	**1.42**	**4**		*e*P		**Pn**	**11 02 27.0**	**-0.1**
baz=5.0									
TWC	**Suao**	**1.44**	**15**		*e*P		**Pn**	**11 02 27.2**	**0.0**
baz=3.0									
NSK	**Sanguang**	**1.46**	**357**		*e*P		**Pn**	**11 02 28.2**	**+0.6**
baz=14									
NSK					*e*S		**Sn**	**11 02 45.4**	**-0.6**
baz=14									
NSTT	**Nanjuang**	**1.47**	**344**		*e*P		**Pb**	**11 02 29.4**	**+0.1**
baz=344									
TWE	**Neicheng**	**1.51**	**8**		*e*P		**Pn**	**11 02 28.6**	**+0.3**
baz=8.0									
PNG	**Penghu**	**1.77**	**282**		*e*P		**Pn**	**11 02 32.1**	**+0.2**
baz=281									
JYNG	**Yonagunijimaku**	**1.84**	**48**		P		**Pn**	**11 02 32.8**	**0.0**
JYNG					*e*S		**Sn**	**11 02 55.7**	**+0.3**
YOJ	**Yonaguni jima**	**1.89**	**49**		P		**Pn**	**11 02 34.3**	**+0.8**
YOJ					S		**Sn**	**11 02 57.2**	**+0.5**
HATJ	**Hateruma jima**	**2.32**	**68**		*e*S		**Sn**	**11 03 07.4**	**+0.2**
IRIF	**Iriomote-Funau**	**2.37**	**61**		P		**Pn**	**11 02 41.2**	**+1.1**
IRIF					S		**Sn**	**11 03 09.1**	**+0.7**
JKRS	**Kuro-shima**	**2.56**	**66**		P		**Pn**	**11 02 43.5**	**+0.8**
JKRS					*e*S		**Sn**	**11 03 13.8**	**+0.7**
JIJ	**Ishigaki jima**	**2.72**	**65**		P		**Pn**	**11 02 44.8**	**-0.1**
JIJ					*e*S		**Sn**	**11 03 16.2**	**-0.9**
JISG	**Ishigakijimahi**	**2.95**	**62**		P		**Pn**	**11 02 48.4**	**+0.3**
JISG					*e*S		**Sn**	**11 03 22.0**	**-0.9**
JTJ	**Tarama**	**3.30**	**64**		P		**Pn**	**11 02 53.7**	**+0.8**
JTJ					*e*S		**Sn**	**11 03 31.7**	**+0.3**

*JMA **23** 11:03:24.2±0.4, 23.22N×121.48E, h0km*
*ISCJB **23** 11:03:25.0±0.4, 23.22N±0.03×121.47E±0.03, h20km±6km, Error ellipse: s-maj=5.1km s-min=4.5km az=36.8*
*TAP **23** 11:03:25.8, 23.26N×121.37E, h18km, ML2.7, C*
ISC 23 11:03:25.1±1.0, 23.21N±0.03×121.43E±0.03, h17km±7km, n30, σ0°83/45, 6C-1D, Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CHKT	**Chengkung**	**0.13**	**207**	⇑	*i*P		**Pb**	**11 03 30.6**	**+1.5**
baz=171									
CHKT					*i* S		**Sb**	**11 03 34.1**	**+2.5**
baz=171									
TWF1	**Yuli**	**0.18**	**319**	⇑	*i*P		**Pb**	**11 03 30.1**	**+0.1**
baz=319									
TWF1					S		**Sg**	**11 03 32.8**	**-0.2**
baz=319									
EHY	**Hungye**	**0.31**	**341**	⇑	*i*P		**Pg**	**11 03 32.0**	**+0.3**
baz=338									
EHY					*i* S		**Sg**	**11 03 36.5**	**+0.2**
baz=338									
ELDTW	**Lidau**	**0.38**	**266**	⇑	*i*P		**Pg**	**11 03 32.9**	**-0.1**
baz=257									
ELDTW					*e*S		**Sg**	**11 03 37.7**	**-0.7**
baz=257									
TWG	**Pinlang**	**0.51**	**220**	⇓	*i*P		**Pb**	**11 03 35.6**	**0.0**
baz=211									
TWG					S		**Sb**	**11 03 43.3**	**+0.5**
baz=211									
YUS	**Yu-Shan**	**0.52**	**302**	⇑	*i*P		**Pg**	**11 03 35.6**	**-0.1**
baz=293									
YUS					*i* S		**Sg**	**11 03 42.3**	**-0.4**
baz=293									
ESL	**Shilin**	**0.60**	**0**		*e*P		**Pb**	**11 03 37.6**	**+0.5**
baz=356									
WDT	**Danda**	**0.60**	**333**		*i*P		**Pg**	**11 03 36.9**	**-0.3**
baz=337									
WDT					*i* S		**Sg**	**11 03 44.6**	**-0.7**
baz=337									
STYT	**Tauyuan**	**0.62**	**265**		P		**Pg**	**11 03 37.2**	**-0.2**
baz=259									
STYT					S		**Sg**	**11 03 45.2**	**-0.5**
baz=259									
ALS	**Alishan**	**0.65**	**297**		*i*P		**Pg**	**11 03 37.9**	**0.0**
baz=287									
ALS					S		**Sg**	**11 03 46.0**	**-0.7**
baz=287									
WTP	**Ta-pu**	**0.75**	**273**		P		**Pb**	**11 03 40.0**	**+0.2**
baz=267									
WTP					S		**Sb**	**11 03 50.1**	**+0.5**
baz=267									
ECL	**Taimali**	**0.76**	**216**		*e*P		**Pg**	**11 03 38.6**	**-1.2**
baz=211									
CHN4	**Tsaushan**	**0.78**	**280**		*e*P		**Pb**	**11 03 40.4**	**+0.2**
baz=276									
CHN4					*e*S		**Sb**	**11 03 51.1**	**+0.6**
baz=276									
CHN5	**Tsauling**	**0.79**	**299**	⇑	*i*P		**Pb**	**11 03 40.8**	**+0.4**
baz=297									
CHN5					S		**Sb**	**11 03 51.1**	**+0.3**
baz=297									
SGST	**Jiashian**	**0.79**	**261**		*e*P		**Pg**	**11 03 40.4**	**-0.1**
baz=257									
SMLT	**Sun Moon Lake**	**0.82**	**324**		*e*P		**Pg**	**11 03 40.3**	**-0.9**
baz=333									
CHN1	**Nanshi**	**0.83**	**268**		*i* P		**Pn**	**11 03 41.8**	**-0.2**
baz=263									
CHN1					*i* S		**Sn**	**11 03 53.8**	**0.0**
baz=263									
TYC	**Yuchr**	**0.86**	**323**		*e*P		**Pg**	**11 03 42.0**	**+0.1**
baz=330									
TWK	**Hsinying**	**0.87**	**274**		*e*P		**Pg**	**11 03 41.5**	**-0.5**
baz=269									
TWK					*e*S		**Sn**	**11 03 54.6**	**-0.2**
baz=269									
WHF	**Hehuan Shan**	**0.94**	**351**		*e*P		**Pg**	**11 03 43.0**	**-0.5**
baz=4.0									
EAST	**Anshuo**	**0.99**	**213**		*e*P		**Pb**	**11 03 43.4**	**-0.3**
baz=200									
SCZT	**Fangliau**	**1.12**	**222**		*e*P		**Pb**	**11 03 45.5**	**-0.5**
baz=214									
TWQ1	**Liyutan**	**1.28**	**332**		*e*P		**Pg**	**11 03 49.8**	**-0.1**
baz=331									
ENTT	**Nioudou**	**1.43**	**5**		*e*P		**Pn**	**11 03 50.3**	**+0.1**

comp=Z,54nm,19.9s,baz=76,slow=47
WRA Warramunga Arr 18.36 219 P Pn 11 43 47.9 -1.3
0.1nm,0.3s,baz=40,slow=11,SNR=8.1
WRA PcP PcP 11 48 22.6 +1.5
0.0nm,0.3s,baz=27,slow=1.9,SNR=4.2
ASAR Alice Springs 21.51 213 P P 11 44 23.4 -0.3
0.3nm,0.6s,baz=56,slow=9.0,SNR=8.6
ASAR LR LR 11 53 16.9
comp=Z,80nm,20.6s,baz=4.0,slow=38
FITZ Fitzroy Crossi 23.71 237 P P 11 44 46.2 -0.6
0.9nm,0.4s,baz=58,slow=11,SNR=9.1
ILAR Eielson Array 85.48 23 P P 11 52 11.7 -0.7
0.4nm,0.7s,baz=258,slow=5.4,SNR=5.2

*BYKL **23** 11:51:58.9±0.2, 53.96N×108.48E*
*MOS **23** 11:51:59.3±1.6, 53.93N×108.49E, h9km, mb4.2/1, Error ellipse: s-maj=33.6km s-min=14.3km az=54.0*
ISC 23 11:51:58.6±0.7, 53.95N±0.03×108.53E±0.02, h10km, n39, σ2.948/79, 6C-3D, Lake Baykal region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
OGRR	**Ongureny**	**0.63**	**241**	⇓*i*	*P*	**Pg**		**11 52 11.2**	**+0.3**
OGRR					*eSg*	**Sg**		**11 52 19.4**	**+0.2**
OGRR					*eSb*	**Sn**		**11 52 22.2**	**-1.6**
OGRR					Pmax				
	84nm,0.1s								
OGRR					max				
	873nm,0.2s								
OGRR	**Ongureny**	**0.63**	**241**	⇓*i*	*PG*	**Pb**		**11 52 11.5**	**-0.3**
OGRR					*e*			11 52 20.5	
OGRR					pmax	pmax			
	comp=Z,83nm,0.3s								
OGRR					smax	smax			
	comp=N,876nm,0.2s								
MXMB	**Maximikha**	**0.70**	**169**	⇑*i*	*PG*	**Pg**		**11 52 12.4**	**+0.2**
MXMB					*eSg*	**Sg**		**11 52 21.9**	**+0.5**
SYVR	**Suvo**	**0.92**	**108**	⇑*i*	*PG*	**Pg**		**11 52 16.1**	**-0.3**
SYVR					*eSg*	**Sg**		**11 52 28.1**	**-0.3**
SYVR					*eSb*	**Sn**		**11 52 32.1**	**+1.1**
SYVR					Pmax				
	comp=N,62nm,0.4s								
SYVR					Smax				
	comp=N,261nm,0.3s								
SYVR	**Suvo**	**0.92**	**108**	*e*	*PG*	**Pg**		**11 52 16.1**	**-0.3**
SYVR					*e*			11 52 28.6	
SYVR					pmax	pmax			
	comp=Z,125nm,0.4s								
SYVR					smax	smax			
	comp=E,294nm,0.5s								
KELR	**Kotokel**	**1.22**	**193**	*e*	*Pg*	**Pn**		**11 52 21.4**	**-0.4**
KELR					*eSg*	**Sb**		**11 52 37.9**	**+0.2**
ZRHB	**Zarechye**	**1.62**	**211**	*e*	*Pg*	**Pb**		**11 52 28.3**	**-0.4**
ZRHB					*e*			11 52 32.2	
ZRHB					*i*	*Sg*	**Sg**	**11 52 50.6**	**-0.2**
ZRHB					Pmax				
	comp=E,223nm,0.2s								
ZRHB					Smax				
	comp=E,683nm,0.6s								
TRG	**Tyrgan**	**1.77**	**228**	*e*	*Pn*	**Pb**		**11 52 30.4**	**-0.8**
TRG				⇑⇑	*iPg*	**Pn**		**11 52 30.9**	**+1.6**
TRG					*eSg*	**Sg**		**11 52 54.5**	**-0.9**
TRG					*e*			11 52 56.2	
TRG					Pmax				
	comp=E,131nm,0.3s								
TRG					max				
	comp=E,428nm,0.2s								
TRG	**Tyrgan**	**1.77**	**228**	*e*	*PN*	**Pb**		**11 52 30.4**	**-0.8**
TRG					*e*			11 52 31.0	
TRG					*eS*	**Sb**		**11 52 53.8**	**+0.4**
TRG					*e*			11 52 54.5	
TRG					pmax	pmax			
	comp=Z,131nm,0.2s								
TRG					smax	smax			
	comp=E,424nm,0.2s								
YLYR	**Ulyunkhan**	**1.80**	**58**	⇓*i*	*Pn*	**Pn**		**11 52 30.4**	**+0.7**
YLYR				⇑⇑	*iPg*	**Pb**		**11 52 31.4**	**-0.3**
YLYR					*eSg*	**Sb**		**11 52 55.9**	**+1.6**
YLYR					Pmax				
	comp=E,30nm,0.2s								
YLYR					Smax				
	comp=E,189nm,0.3s								
YLYR	**Ulyunkhan**	**1.80**	**58**	*e*	*PN*	**Pb**		**11 52 31.4**	**-0.3**
YLYR					*e*			11 52 55.2	
YLYR					pmax	pmax			
	comp=Z,50nm,0.3s								
YLYR					smax	smax			
	comp=N,189nm,0.2s								
NIZ	**Nizh Angarsk**	**1.92**	**17**	*e*	*Pg*	**Pn**		**11 52 32.5**	**+1.1**
NIZ					*e*			11 52 38.0	
NIZ					*e*			11 52 49.3	
NIZ					*eSg*	**Sb**		**11 52 59.1**	**+1.4**
NIZ					max				
	comp=N,42nm,0.3s								
NIZ					Smax				
	comp=N,413nm,0.4s								
NIZ	**Nizh Angarsk**	**1.92**	**17**	*e*	*PN*	**Pn**		**11 52 32.7**	**+1.3**
NIZ					*e*			11 52 33.7	
NIZ					pmax	pmax			
	comp=Z,24nm,0.2s								
UUDB	**Ulan-Yde**	**2.15**	**194**	*e*	*Pn*	**Pn**		**11 52 34.8**	**+0.2**
UUDB					*eSg*	**Pb**		**11 52 37.4**	**-0.3**
UUDB					*eSg*	**Sb**		**11 53 05.3**	**+0.9**
UUDB					*e*			11 53 07.9	
UUDB					Pmax				
	comp=Z,63nm,0.3s								
UUDB					Smax				
	comp=Z,192nm,0.6s								
STDB	**Stepnoy Dvoret**	**2.21**	**217**	*e*	*Pn*	**Pn**		**11 52 35.4**	**0.0**
STDB					*eSg*	**Pb**		**11 52 39.4**	**+0.7**
STDB					*eSg*	**Sg**		**11 53 09.6**	**0.0**
KAB	**Kabansk**	**2.21**	**211**	*e*	*Pg*	**Pb**		**11 52 38.5**	**-0.3**
KAB					*eSg*	**Sb**		**11 53 07.2**	**+1.0**
KAB					*e*			11 53 11.9	
KAB					Pmax				
	comp=Z,128nm,0.4s								
KAB					max				
	comp=Z,500nm,0.7s								
KMO	**Kumora**	**2.48**	**37**	*e*	*Pn*	**Pn**		**11 52 38.5**	**-0.6**
KMO					*eSg*	**Pb**		**11 52 43.5**	**+0.2**
KMO					*eSg*	**Sg**		**11 53 16.6**	**-1.6**
KMO					Pmax				
	comp=Z,53nm,0.5s								
KMO					Smax				
	comp=Z,168nm,1.1s								
HRMR	**Khuramsha**	**2.52**	**203**	⇑*i*	*Pn*	**Pn**		**11 52 40.3**	**+0.7**
HRMR					*eSg*	**Pb**		**11 52 43.9**	**0.0**
HRMR					*eSg*	**Sb**		**11 53 16.5**	**+1.6**
HRMR					*e*			11 53 19.5	
HRMR					Pmax				
	comp=Z,120nm,0.4s								
HRMR					Smax				
	comp=Z,756nm,0.5s								
BGT	**Bolshoye Golou**	**2.68**	**226**	*e*	*Pn*	**Pn**		**11 52 42.1**	**+0.2**
BGT					*eSg*	**Pb**		**11 52 47.1**	**+0.4**
BGT					*eSg*	**Sb**		**11 53 21.4**	**+1.7**
BGT					Pmax				
	comp=Z,22nm,0.5s								
BGT					Smax				
	comp=Z,101nm,0.6s								
YOA	**Uoyan**	**2.86**	**39**	*e*	*Sg*	**Sg**		**11 53 28.8**	**-1.6**
YOA					Smax				
	comp=Z,356nm,1.6s								
LSTR	**Listvyanka**	**3.06**	**228**	*e*	*Pn*	**Pn**		**11 52 47.3**	**+0.3**
LSTR					*eSg*	**Sb**		**11 53 31.6**	**+1.1**
LSTR					Smax				
	comp=Z,64nm,1.0s								
IRK	**Irkutsk**	**3.08**	**238**	*e*	*Sg*	**Sb**		**11 53 33.6**	**+2.4**
IRK					Smax				
	comp=Z,374nm,0.4s								
IRK	**Irkutsk**	**3.08**	**238**	*e*	*PN*	**Pb**		**11 52 52.9**	**-0.6**
IRK					*e*			11 53 32.1	
IRK					pmax	pmax			
	comp=Z,106nm,0.1s								
IRK					smax	smax			
	comp=N,474nm,0.5s								
IVK	**Ivanovka**	**3.29**	**231**	*e*	*Pg*	**Pb**		**11 52 57.4**	**+0.3**
IVK					*eSg*	**Sb**		**11 53 38.9**	**+1.7**
IVK					Pmax				
	comp=N,9.0nm,0.2s								
IVK					Smax				
	comp=N,91nm,0.7s								
IVK	**Ivanovka**	**3.29**	**231**	*e*	*PN*	**Pn**		**11 52 51.1**	**+0.9**
IVK					*e*			11 52 56.3	
IVK					*e*			11 53 38.8	
IVK					pmax	pmax			
	comp=Z,9.0nm,0.2s								
IVK					smax	smax			
	comp=E,91nm,0.7s								
UKT	**Uakit**	**3.34**	**60**	*e*	*Pn*	**Pn**		**11 52 52.3**	**+1.4**
UKT					*ePg*	**Pb**		**11 52 58.9**	**+1.0**
UKT					*eSg*	**Sb**		**11 53 42.0**	**+3.5**
UKT					Pmax				
	comp=E,13nm,0.8s								
UKT					Smax				
	comp=E,40nm,0.8s								
SVKR	**Severomuysk**	**3.62**	**51**	*e*	*Sg*	**Sg**		**11 53 52.5**	**-2.3**
SVKR					Smax				
	comp=E,197nm,0.5s								
TLY	**Talaya**	**3.73**	**234**	*e*	*Pn*	**Pn**		**11 52 56.1**	**-0.2**
TLY					*ePg*	**Pb**		**11 53 05.0**	**+0.4**
TLY					*eSg*	**Sb**		**11 53 53.7**	**+3.8**
TLY					Pmax				
	comp=E,16nm,0.5s								
TLY					Smax				
	comp=E,80nm,0.5s								
ARS	**Arshan**	**4.21**	**244**	*e*	*Pn*	**Pn**		**11 53 02.9**	**-0.1**
ARS					*ePg*	**Pb**		**11 53 13.8**	**+0.9**
ARS					*eSg*	**Sb**		**11 54 08.2**	**+4.4**
ARS					Pmax				
	comp=E,33nm,0.6s								
ARS					Smax				
	comp=E,244nm,0.6s								
ARS	**Arshan**	**4.21**	**244**	*e*	*PN*	**Pb**		**11 53 15.2**	**+2.3**
ARS					*e*			11 54 08.2	
ARS					pmax	pmax			
	comp=Z,30nm,0.3s								
ARS					smax	smax			
	comp=N,170nm,0.5s								
ZAK	**Zakamensk**	**4.82**	**224**	*e*	*Pg*	**Pb**		**11 53 24.0**	**+0.9**
ZAK					*eSg*	**Sg**		**11 54 27.1**	**-6.1**
ZAK					Pmax				
	comp=N,3.0nm,0.3s								
ZAK					Smax				
	comp=N,37nm,1.4s								
NLYR	**Nelyaty**	**4.83**	**55**	*e*	*Sg*	**Sg**		**11 54 28.8**	**-4.9**
NLYR					Smax				
	comp=N,60nm,1.0s								
KPC	**Khapcheranga**	**4.88**	**149**	*e*	*Sg*	**Sb**		**11 54 28.3**	**+5.4**
KPC					Smax				
	comp=N,52nm,1.0s								
BOD	**Bodaibo**	**4.95**	**36**	*e*	*Pg*	**Pb**		**11 53 28.3**	**+2.9**
BOD					*eSg*	**Sg**		**11 54 32.6**	**-4.9**
BOD					Pmax				
	comp=N,3.0nm,0.3s								
BOD					Smax				
	comp=N,26nm,0.1s								
MOY	**Mondy**	**5.11**	**246**	*e*	*Pn*	**Pn**		**11 53 17.2**	**+1.9**
MOY					*ePg*	**Pb**		**11 53 29.8**	**+1.7**
MOY					*eSn*	**Sn**		**11 54 14.4**	**0.0**
MOY					*eSg*	**Sg**		**11 54 35.8**	**-6.8**
MOY					Pmax				
	comp=N,15nm,0.1s								
MOY					Smax				
	comp=N,65nm,1.1s								
ORL	**Orlik**	**5.42**	**258**	⇑*i*	*Pn*	**Pn**		**11 53 20.8**	**+1.2**
ORL					*eSn*	**Sn**		**11 54 21.3**	**-0.7**
ORL					*eSg*	**Sg**		**11 54 45.2**	**-7.4**
ORL					max				
	comp=N,3.0nm,0.5s								
ORL					Smax				
	comp=N,50nm,0.8s								
ULN	**Ulaanbaatar**	**6.17**	**189**	*e*	*Sg*	**Sg**		**11 55 10.6**	**-5.8**
CRS	**Chara**	**6.28**	**58**	*e*	*Sg*	**Sg**		**11 55 13.2**	**-7.0**
TUP	**Tupik**	**6.73**	**81**	*e*	*Pn*	**Pn**		**11 53 37.6**	**+0.2**
TUP					*eSn*	Sn		11 55 05.0	+11
TUP					*eSg*	**Sg**		**11 55 27.5**	**-6.9**
TUP					Smax				
	comp=N,35nm,1.4s								

IDC 23 11:52:39.5±999.0, 44.72N×43.75E, h0km, Error ellipse: s-maj=5293.0km s-min=210.4km az=55.0, Western Caucasus

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
I31KZ	**AKTYUBINSK INF**	**11.20**	**54**	*i*				13 04 55.0	
	baz=245,slow=381,SNR=6.1								
I46RU	**ZALESOVO INFRA**	**27.96**	**56**	*i*				14 41 15.0	
	baz=267,slow=368,SNR=8.7								
I34MN	**SONGINO INFRAS**	**42.39**	**63**	*i*				16 14 30.0	
	baz=290,slow=375,SNR=0.5								

MEX 23 11:55:29.1±0.6, 16.74N×99.74W, h12km±3km, MD3.7, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
ACX	**Acapulco**	**0.18**	**319**	*i*	*P*		Pb	11 55 35.4	+1.0
ACX					*eS*		Sg	11 55 37.9	+2.0
ACP2	**Acapulco**	**0.20**	**314**	*e*	*P*		Pg	11 55 32.9	-0.6
ACP2					*eS*		Sg	11 55 36.5	-0.1
CAIG	**El Cayaco**	**0.59**	**302**	*e*	*P*		Pg	11 55 39.1	-1.6
CAIG					*eS*		Sg	11 55 47.3	-1.3
MEIG	**Mezcala**	**1.19**	**5**	*e*	*P*		Pn	11 55 47.5	-4.2
MEIG					*eS*		Sb	11 56 01.9	-5.2
TLIG	**Tlapa**	**1.39**	**53**	*e*	*P*		Pn	11 55 50.6	-3.8
TLIG					*eS*		Sn	11 56 07.8	-5.0
PNIG	**Pinotepa**	**1.58**	**102**	*e*	*P*		Pn	11 55 53.1	-3.8
PNIG					*i*	*S*	Sn	11 56 13.0	-4.3
ARIG	**Puente Sto Nin**	**1.64**	**339**	*e*	*P*		Pn	11 55 55.0	-2.9
ARIG					*eS*		Sn	11 56 13.9	-5.0
PLIG	**Platanillo**	**1.66**	**8**	*e*	*P*		Pn	11 55 55.2	-2.9
PLIG					*eS*		Sn	11 56 14.8	-4.7
YAIG	**Yautepec**	**2.21**	**17**	*e*	*P*		Pn	11 56 01.9	-3.8
YAIG					*i*	*S*	Sn	11 56 28.9	-4.2

*IDC **23** 12:01:06.4±3.5, 12.12N×125.84E, h0km, mb3.1/3, mb1 3.3/3, mb1mx3.1/39, mbtmp3.1/3, Error ellipse: s-maj=268.4km s-min=26.4km az=65.0*
*ISCJB **23** 12:01:09.4±1.3, 12.21N±0.1×125.6E±0.2, h28km, mb3.2/3, Error ellipse: s-maj=25.2km s-min=14.4km az=24.8*
ISC 23 12:01:10.7±1.6, 12.0N±0.1×125.6E±0.1, h28km, n6, σ1s11/7, mb3.2/3, 3C, Samar

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PLP	**Palo**	**1.01**	**219**	⇑	*eP*		**Pb**	**12 01 30.8**	**+1.2**
PLP					*eS*		**Sn**	**12 01 41.4**	**-0.9**
SCPH	**Surigao**	**2.16**	**183**	⇑	*eP*		**Pb**	**12 01 48.2**	**-1.1**
RCP	**Roxas**	**2.84**	**262**	⇑	*eP*		**Pb**	**12 02 00.2**	**-0.6**
WRA	**Warramunga Arr**	**32.84**	**165**	P			**P**	**12 07 42.6**	**+0.4**
	0.1nm,0.5s,baz=346,slow=9.3,SNR=4.6								
ASAR	**Alice Springs**	**36.32**	**167**	P			**P**	**12 08 13.2**	**+1.0**
	0.3nm,0.7s,baz=349,slow=7.8,SNR=5.8								
MKAR	**Makanchi Array**	**50.31**	**322**	P			**P**	**12 10 04.8**	**-0.2**
	0.1nm,0.3s,baz=111,slow=6.8,SNR=2.3								

*ISCJB **23** 12:06:17.7±0.7, 17.00S±0.08×172.7W±0.1, h17km, mb4.3/11, MS3.4/4, Error ellipse: s-maj=21.3km s-min=8.1km az=25.4*
*IDC **23** 12:06:17.8±0.9, 17.03S×172.74W, h0km, mb3.8/5, mb1 4.0/6, mb1mx3.8/28, mbtmp3.8/6, ML3.9/1, MS3.4/5, Ms1 3.4/5, ms1mx3.0/27, Error ellipse: s-maj=40.5km s-min=20.2km az=129.0*
*NEIC **23** 12:06:22.4±0.7, 17.05S×172.69W, h35km, mb4.5/4, Error ellipse: s-maj=23.7km s-min=13.6km az=122.0*
ISC 23 12:06:19.4±0.8, 16.98S±0.10×172.7W±0.2, h17km, n24, σ1s04/20, mb4.3/11, MS3.4/4, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**3.17**	**16**	Pn			**Pn**	**12 07 07.9**	**-0.7**
	15nm,0.3s,baz=139,slow=4.9,SNR=24								
AFI						Sn	**Sn**	**12 07 45.9**	**-0.2**
	24nm,0.3s,baz=173,slow=23,SNR=8.6								
AFI	**Afiamalu**	**3.17**	**16**	*e*	*Pn*		**Pn**	**12 07 07.9**	**-0.7**
AFI					*eSn*		**Sn**	**12 07 44.5**	**-1.6**
RAR	**Rarotonga**	**12.89**	**111**	LR			LR	12 13 14.6	
	comp=Z,97nm,21.8s,baz=310,slow=32								
DZM	**Mont Dzumac**	**20.33**	**252**	LR			LR	12 17 32.7	
	comp=Z,146nm,20.0s,baz=8.0,slow=33								
DZM	**Mont Dzumac**	**20.33**	**252**	*e*LR			LR	12 16 36.5	
	218nm,28.4s								
PPT2	**Papeete2**	**22.05**	**95**	*e*LR			LR	12 16 08.3	
	192nm,24.5s								
PPT	**Papeete**	**22.05**	**95**	LR			LR	12 17 38.6	
	comp=Z,83nm,18.2s,baz=210,slow=31								
URZ	**Urewera**	**23.02**	**201**	P			**P**	**12 11 21.2**	**-2.4**
	16nm,0.7s,baz=310,slow=4.0,SNR=14								
HNR	**Honiara**	**27.68**	**282**	LR			LR	12 22 13.7	
	comp=Z,131nm,18.4s,baz=152,slow=35								
HNR	**Honiara**	**27.68**	**282**	*e*P			**P**	**12 12 07.6**	**+0.8**
	19nm,0.3s								
CTAO	**Charters Tower**	**39.01**	**259**	*e*P			**P**	**12 13 45.0**	**-0.4**
	7.7nm,0.6s								
STKA	**Stephens Creek**	**43.89**	**242**	P			**P**	**12 14 25.2**	**0.0**
	2.0nm,0.8s,baz=60,slow=8.1,SNR=3.0								
STKA				LR			LR	12 30 11.2	
	comp=Z,49nm,19.2s,baz=24,slow=33								
BBOO	**Buckleboo**	**48.65**	**241**	*e*P			**P**	**12 15 03.0**	**+0.3**
	2.3nm,0.8s								
WRAB	**Tennant Creek**	**50.18**	**258**	*e*P			**P**	**12 15 14.7**	**0.0**
	2.4nm,0.7s								
WRA	**Warramunga Arr**	**50.19**	**258**	P			**P**	**12 15 14.3**	**-0.4**
	1.6nm,0.6s,baz=95,slow=7.1,SNR=25								
ASAR	**Alice Springs**	**50.32**	**253**	P			**P**	**12 15 15.9**	**+0.3**
	16nm,0.8s,baz=89,slow=8.6,SNR=157								
VNDA	**Vanda**	**61.89**	**186**	P			**P**	**12 16 37.5**	**+0.1**
	0.4nm,0.8s,baz=45,slow=4.3,SNR=2.7								
QSPA	**South Pole Qui**	**73.07**	**180**	*e*P			**P**	**12 17 48.0**	**-0.6**
PDAR	**Pinedale Array**	**82.97**	**41**	P			**P**	**12 18 45.6**	**+1.7**
	0.2nm,0.6s,baz=191,slow=4.4,SNR=3.4								
ILAR	**Eielson Array**	**83.85**	**11**	P			**P**	**12 18 48.7**	**+1.0**
	0.7nm,0.8s,baz=229,slow=6.3,SNR=14								
KMBO	**Kilima Mbogo**	**145.45**	**242**	PKPbc			**PKPab**	**12 25 59.9**	**+1.8**
	11nm,1.2s,baz=52,slow=2.6,SNR=6.6								
GERES	**GERESS Array B**	**147.80**	**352**	PKPbc			**PKPab**	**12 26 05.9**	**+0.1**
	0.6nm,0.7s,baz=14,slow=5.4,SNR=3.7								
BRTR	**Keskin Array B**	**147.82**	**320**	PKPbc			**PKPab**	**12 26 05.7**	**-0.7**
	0.8nm,0.8s,baz=48,slow=2.3,SNR=3.5								
TORD	**Torodi Ar. Bea**	**173.35**	**124**	PKP			**PKPdf**	**12 26 28.8**	**0.0**
	0.4nm,0.7s,baz=298,slow=1.7,SNR=2.9								

WEL 23 12:14:24.9±0.5, 37.61S×176.30E, h181km±3km, ML3.5/14, 11C-2D, Error ellipse: s-maj=3.8km s-min=3.4km az=90.0, North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**0.91**	**136**	⇑	*PN*		**Pn**	**12 14 52.2**	**+0.1**
URZ						SN	Sn	12 15 12.6	-0.5
URZ						AML	AML	12 15 13.6	
MUGZ	**Murupara**	**0.94**	**157**	⇓	*PN*		**Pn**	**12 14 52.7**	**+0.3**
RTZ	**Ruatahuna**	**1.14**	**152**	⇑	*PN*		**Pn**	**12 14 53.9**	**0.0**
RUGZ	**Raukumara Rang**	**1.15**	**109**		*PN*		**Pn**	**12 14 53.4**	**-0.6**
HAZ	**Te Kaha**	**1.19**	**98**	⇑	*PN*		**Pn**	**12 14 54.0**	**-0.1**
HAZ						AML	AML	12 15 16.8	
HAZ						AML	AML	12 15 17.3	
MWZ	**Matawai**	**1.21**	**127**	⇓	*PN*		**Pn**	**12 14 54.5**	**+0.1**
MWZ						AML	AML	12 15 18.6	
MWZ						AML	AML	12 15 19.3	
MRHZ	**Matea Rd**	**1.23**	**176**		*PN*		**Pn**	**12 14 54.7**	**+0.1**
MRHZ						SN	Sn	12 15 17.7	0.0
MRHZ						AML	AML	12 15 18.6	
RAGZ	**Rawiri**	**1.25**	**136**		*PN*		**Pn**	**12 14 54.8**	**0.0**
RAGZ						AML	AML	12 15 19.7	
RAGZ						AML	AML	12 15 19.8	
SNGZ	**Shannon Statio**	**1.43**	**145**		*PN*		**Pn**	**12 14 56.5**	**+0.1**
SNGZ						AML	AML	12 15 19.9	
SNGZ						AML	AML	12 15 21.2	
PKGZ	**Pakihiroa**	**1.44**	**102**		*PN*		**Pn**	**12 14 56.6**	**+0.2**
TWGZ	**Tauwhareparae**	**1.45**	**114**		*PN*		**Pn**	**12 14 56.8**	**+0.3**
TWGZ						AML	AML	12 15 23.6	
TWGZ						AML	AML	12 15 24.6	
TKGZ	**Te Karaka**	**1.48**	**125**	⇑	*PN*		**Pn**	**12 14 56.7**	**0.0**
TKGZ						AML	AML	12 15 22.1	
TKGZ						AML	AML	12 15 24.0	
NMHZ	**Naumai**	**1.54**	**165**		*PN*		**Pn**	**12 14 57.9**	**+0.5**
NMHZ						AML	AML	12 15 24.7	
BKZ	**Black Stump Fm**	**1.56**	**175**	⇑	*PN*		**Pn**	**12 14 57.2**	**-0.5**
RIGZ	**Rimuhau**	**1.59**	**134**	⇑	*PN*		**Pn**	**12 14 57.9**	**0.0**
RIGZ						AML	AML	12 15 24.2	
RIGZ						AML	AML	12 15 25.1	
PUZ	**Puketiti**	**1.62**	**107**		*PN*		**Pn**	**12 14 57.9**	**-0.2**
WHHZ	**Waihua**	**1.64**	**154**		*PN*		**Pn**	**12 14 58.3**	**0.0**
WHHZ						AML	AML	12 15 25.9	
WHHZ						AML	AML	12 15 26.0	
WMGZ	**Waiomatatini S**	**1.69**	**98**	⇑	*PN*		**Pn**	**12 14 59.0**	**+0.2**
WMGZ						AML	AML	12 15 26.0	
WMGZ						AML	AML	12 15 26.0	
ARHZ	**Aropaoanui**	**1.74**	**162**		*PN*		**Pn**	**12 14 59.3**	**0.0**
ARHZ						AML	AML	12 15 25.8	
ARHZ						AML	AML	12 15 27.3	
CNGZ	**Carnagh Statio**	**1.74**	**121**		*PN*		**Pn**	**12 14 59.8**	**+0.4**
FWVZ	**Far West T-bar**	**1.75**	**199**		*PN*		**Pn**	**12 14 59.8**	**+0.2**
WHVZ	**Whangaehu Hut**	**1.77**	**198**		*PN*		**Pn**	**12 14 59.9**	**+0.1**
KNZ	**Kokohu**	**1.78**	**143**	⇑	*PN*		**Pn**	**12 14 59.2**	**-0.5**
WNVZ	**Wahianoa**	**1.81**	**198**		*PN*		**Pn**	**12 15 00.0**	**-0.1**
PRGZ	**Paritu Road**	**1.81**	**137**		*PN*		**Pn**	**12 14 59.6**	**-0.5**
KWHZ	**Kaweka Forest**	**1.82**	**177**		*PN*		**Pn**	**12 14 59.9**	**-0.3**
KWHZ						AML	AML	12 15 29.5	
PKVZ	**Pokaka**	**1.84**	**204**		*PN*		**Pn**	**12 15 00.4**	**0.0**
MCHZ	**McNeill Hill**	**1.86**	**171**		*PN*		**Pn**	**12 15 00.5**	**-0.1**
MHGZ	**Mahia Peninsul**	**1.99**	**141**		*PN*		**Pn**	**12 15 01.4**	**-0.6**
KRHZ	**Kereru**	**2.04**	**178**		*PN*		**Pn**	**12 15 01.6**	**-0.9**
KAHZ	**Kahuranaki**	**2.23**	**169**		*PN*		**Pn**	**12 15 03.7**	**-0.9**
PNHZ	**Pukenui**	**2.31**	**182**		*PN*		**Pn**	**12 15 04.2**	**-1.3**
WAZ	**Wanganui**	**2.38**	**205**		*PN*		**Pn**	**12 15 05.9**	**-0.4**
WPHZ	**Waipukurau**	**2.46**	**178**		*PN*		**Pn**	**12 15 05.7**	**-1.4**
PXZ	**Pawanui**	**2.46**	**170**		*PN*		**Pn**	**12 15 05.6**	**-1.6**
PXZ						SN	Sn	12 15 36.1	-4.1
TSZ	**Takapari Road**	**2.46**	**186**	⇑	*PN*		**Pn**	**12 15 05.7**	**-1.5**
PRHZ	**Porangahau**	**2.67**	**175**		*PN*		**Pn**	**12 15 07.6**	**

PVCC					Sg	Sg	12 19 38.2	+0.3	
	97nm,0.9s								
KRLC	**Kraliky**	**1.32**	**163**	*e*PG	Pg	Pg	12 19 20.0	-1.6	
KRLC				*e*SG	Sg	Sg	12 19 37.8	-0.9	
KRLC	**Kraliky**	**1.32**	**163**	Pg	Pg	Pg	12 19 20.0	-1.6	
KRLC				Sg	Sg	Sg	12 19 37.8	-0.9	
BRG	**Berggiesshubel**	**1.48**	**252**	PG	Pn	Pn	12 19 22.4	-1.7	
BRG				SG	Sg	Sg	12 19 42.9	-0.8	
	15nm,0.4s								
GOPC	**GO Pecny, Ondr**	**1.68**	**212**	*e*PG	Pn	Pn	12 19 26.4	-0.4	
GOPC				*e*SG	Sn	Sn	12 19 49.3	+0.3	
	comp=Z,11nm,0.9s								
GOPC	**GO Pecny, Ondr**	**1.68**	**212**	Pg	Sn	Pn	12 19 26.4	-0.4	
GOPC				Sg	Sn	Sn	12 19 49.3	+0.3	
	11nm,0.9s								
PRU	**Pruhonice**	**1.71**	**218**	*e*SG	Sb	Sb	12 19 50.0	-0.3	
	comp=Z,10nm,0.4s								
PRU	**Pruhonice**	**1.71**	**218**	Sg	Sb	Sb	12 19 50.0	-0.3	
	10nm,0.4s								
MORC	**Moravsky Berou**	**1.79**	**150**	*e*Pn	Pn	Pn	12 19 25.7	-2.7	
MORC				*e*Sg	Sn	Sn	12 19 52.4	+0.5	
VRAC	**Vranov**	**2.05**	**172**	*e*Sg	Sb	Sb	12 20 00.7	+0.3	
NKC	**Novy Kostel**	**2.61**	**246**	*e*SG	Sg	Sg	12 20 19.6	-0.4	
	comp=Z,12nm,0.3s								
NKC	**Novy Kostel**	**2.61**	**246**	Sg	Sg	Sg	12 20 19.6	-0.4	
	12nm,0.3s								
KHC	**Kasperske Hory**	**2.77**	**218**	*e*PG	Pb	Pb	12 19 45.4	-1.1	
KHC				*e*SG	Sb	Sb	12 20 22.6	+1.6	
	comp=Z,3.2nm,0.5s								
KHC	**Kasperske Hory**	**2.77**	**218**	Pg	Pb	Pb	12 19 45.4	-1.1	
KHC				Sg	Sb	Sb	12 20 22.6	+1.6	
	3.2nm,0.5s								

IDC 23 12:34:38.8±393.0, 52°13N×112°96E, h0km, Error ellipse: s-maj=151.6km s-min=131.1km az=30.0, Lake Baykal region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I34MN	**SONGINO INFRAS**	**6.05**	**227**	*i*		13 13 50.0	
	baz=41,slow=314,SNR=0.4						
I45RU	**USSURIYSK INFR**	**14.93**	**115**	*i*		14 07 10.0	
	baz=306,slow=323,SNR=1.6						
I44RU	**PETROPAVLOVSK**	**26.86**	**70**	*i*		15 18 30.0	
	baz=288,slow=326,SNR=0.5						

*NIED **23** 13:08:00, 38.60N×141.90E, h56km, Mw3.7 Best double couple: M0 3.90000×10^14 NP1:φs160.00000°, δ28.00000°, λ42.00000°. NP2:φs32.00000°, δ72.00000°, λ112.00000°.*
*ISCJB **23** 13:08:57.7±1.0, 38.61N±0.04×142.0E±0.1, h53km±7km, mb3.8/5, Error ellipse: s-maj=15.4km s-min=5.3km az=18.3*
*JMA **23** 13:08:59.3±0.1, 38.64N×141.91E, h48km±1km, M3.8*
JMA Felt II J1.
*IDC **23** 13:09:00.2±2.8, 38.62N×142.13E, h67km±22km, mb3.5/5, mb1 3.5/9, mb1mx3.3/47, mbtmp3.7/9, Error ellipse: s-maj=36.6km s-min=17.0km az=104.0*

ISC 23 13:08:58.8±1.6, 38.61N±0.05×142.0E±0.1, h44km±14km, n27, σ1§70/31, mb3.7/5, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OFUJ	**Ofunato**	**0.55**	**330**	P	**Pn**	**13 09 10.3**	**-0.1**
OFUJ				S	Sn	13 09 17.9	-0.7
JIO	**Ouri**	**0.55**	**254**	P	**Pn**	**13 09 10.1**	**-0.3**
JIO				S	Sn	13 09 17.4	-1.2
JMK	**Ichinoseki**	**0.72**	**299**	P	**Pn**	**13 09 12.1**	**-0.5**
JMK				S	Sn	13 09 21.1	-1.4
JOM	**Ohasama**	**1.04**	**327**	P	**Pn**	**13 09 16.7**	**-0.2**
JOM				*e*S	Sn	13 09 29.6	-0.7
JOU	**Okura**	**1.09**	**258**	P	**Pn**	**13 09 17.2**	**-0.5**
JOU				S	Sn	13 09 30.5	-1.2
JMM	**Marumori**	**1.22**	**233**	P	**Pn**	**13 09 18.7**	**-0.7**
JMM				S	Sn	13 09 33.3	-1.4
JYK	**Kaneyama**	**1.34**	**284**	P	**Pn**	**13 09 20.5**	**-0.6**
JRG	**Rokugo**	**1.34**	**307**	P	**Pn**	**13 09 20.4**	**-0.7**
JFK	**Kawauchi**	**1.54**	**217**	P	**Pn**	**13 09 23.7**	**-0.1**
JFK				S	Sn	13 09 41.4	-1.1
JYS	**Shirataka**	**1.59**	**257**	P	**Pn**	**13 09 24.2**	**-0.3**
MJAR	**Matsushiro Arr**	**3.66**	**237**	P	**Pn**	**13 09 54.7**	**+1.7**
	1.8nm,0.3s,baz=43,slow=12,SNR=24						
MJAR				S	**Sn**	**13 10 40.5**	**+5.5**
	0.9nm,0.3s,baz=169,slow=38,SNR=4.0						
MAT	**Matsushiro**	**3.67**	**237**	P	**Pn**	**13 09 54.6**	**+1.6**
MAT				*e*S	**Sn**	**13 10 35.9**	**+0.9**
ASAJ	**Asahikawa**	**5.52**	**4**	P	**Pn**	**13 10 18.4**	**0.0**
	baz=189,slow=9.1						
ASAJ				S	**Sn**	**13 11 22.5**	**+1.8**
	0.2nm,0.3s,baz=98,slow=28,SNR=2.5						
USRK	**Ussuriysk Ar.**	**9.38**	**310**	P	**Pn**	**13 11 14.4**	**+3.1**
	0.2nm,0.3s,baz=109,slow=16,SNR=4.2						
KSRS	**Korea Array**	**11.18**	**268**	P	**Pn**	**13 11 39.3**	**+3.3**
	0.1nm,0.3s,baz=82,slow=14,SNR=3.6						
SGCP	**Mt. Cagua**	**26.73**	**226**	*e*P	**P**	**13 14 32.5**	**-1.7**
H11N2	**WAKE ISLAND Hy**	**28.58**	**124**	T	T	13 45 08.4	
	baz=316,slow=75,SNR=114						
H11N1	**WAKE ISLAND Hy**	**28.59**	**124**	T	T	13 45 09.0	
	baz=316,slow=75,SNR=147						
H11N3	**WAKE ISLAND Hy**	**28.60**	**124**	T	T	13 45 09.8	
	baz=316,slow=75,SNR=141						
H11S1	**WAKE ISLAND Hy**	**29.35**	**126**	T	T	13 46 16.0	
	baz=318,slow=76,SNR=73						
H11S3	**WAKE ISLAND Hy**	**29.35**	**126**	T	T	13 46 20.9	
	baz=318,slow=76,SNR=84						
H11S2	**WAKE ISLAND Hy**	**29.37**	**126**	T	T	13 46 17.4	
	baz=318,slow=76,SNR=74						
ZALV	**Zalesovo Beam**	**41.23**	**311**	P	**P**	**13 16 38.5**	**-0.6**
	1.0nm,0.5s,baz=78,slow=9.4,SNR=5.2						
MKAR	**Makanchi Array**	**43.71**	**301**	P	**P**	**13 16 58.7**	**-0.8**
	0.9nm,0.8s,baz=80,slow=10,SNR=4.9						
KURBB	**Kurchatov Arra**	**45.43**	**307**	P	**P**	**13 17 12.2**	**-0.9**
	3.1nm,0.4s,baz=81,slow=8.1,SNR=26						
BVAR	**Borovoye Array**	**49.88**	**311**	P	**P**	**13 17 47.0**	**-0.6**
	0.4nm,0.5s,baz=52,slow=9.3,SNR=3.0						
WRA	**Warramunga Arr**	**58.68**	**188**	P	**P**	**13 18 51.2**	**-0.6**
	0.5nm,0.9s,baz=5.7,slow=7.3,SNR=4.5						

IDC 23 13:09:06.0±875.0, 52°56N×33°20E, h0km, Error ellipse: s-maj=354.2km s-min=102.9km az=33.0, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I43RU	**DUBNA INFRASON**	**4.78**	**28**	*i*		13 37 20.0	
	baz=211,slow=316,SNR=1.7						
I31KZ	**AKTYUBINSK INF**	**15.60**	**88**	*i*		14 42 10.0	
	baz=289,slow=316,SNR=2.8						
I46RU	**ZALESOVO INFRA**	**30.36**	**66**	*i*		16 18 10.0	
	baz=285,slow=326,SNR=0.8						

MAN 23 13:12:21, 17°10N×119°90E, h41km, mb4.3, ML3.1, MS2.9, 1D, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BOLP	**Bolinao**	**0.71**	**179**	*e*P	Pn	13 12 35.0	+0.4
BOLP				*e*S	Sn	13 12 46.7	+2.3
ABRA	**Dolores**	**0.95**	**55**	*e*P	Pn	13 12 38.4	+0.4
ABRA				*e*S	Sn	13 12 52.1	+1.7
SCZP	**Santa Cruz**	**1.31**	**179**	*e*P	Pn	13 12 43.2	+0.3
SCZP				*e*S	Sn	13 13 00.9	+1.7
CAUP	**Cauayan**	**1.85**	**94**	*e*P	Pn	13 12 52.8	+2.5
PCPH	**Palayan**	**1.91**	**143**	⇓*e*P	Pn	13 12 51.8	+0.7
PCPH				*e*S	Sn	13 13 14.6	+0.6
CVP	**Callao Caves**	**1.94**	**72**	*e*P	Pn	13 12 51.5	+0.1
CVP				*e*S	Sn	13 13 13.8	-0.8
SGCP	**Mt. Cagua**	**2.35**	**61**	*e*P	Pn	13 12 58.1	+1.0
SGCP				*e*S	Sn	13 13 26.0	+1.3
LUBP	**Lubang**	**3.36**	**174**	*e*P	Pn	13 13 16.3	+5.3
BUSP	**Coron**	**5.07**	**177**	*e*P	Pn	13 13 36.9	+2.3
ENPP	**El Nido**	**5.87**	**185**	*e*P	Pn	13 13 45.7	+0.1
ENPP				*e*S	Sn	13 14 19.7	-32

*NIED **23** 13:12:00, 39.30N×142.00E, h50km, Mw5.2 Best double couple: M0 6.22000×10^16 NP1:φs177.00000°, δ21.00000°, λ62.00000°. NP2:φs26.00000°, δ72.00000°, λ100.00000°.*
*BJI **23** 13:12:21.8, 39.25N×142.25E, h50km, mb4.8/74, mB5.0/57, Ms4.7/78, Ms7 4.5/76*
*JMA **23** 13:12:25.5±0.1, 39.34N×142.06E, h48km±1km, M5.0 Broadband fault plane solution: P waves. NP1: φs35.00000°, δ72.00000°, λ97.00000°. NP2:φs192.00000°, δ19.00000°, λ68.00000°. Principal axes: T Plg62.0000°, Azm316.0000°; N Plg7.0000°, Azm213.0000°; P Plg27.0000°, Azm119.0000°;*
JMA Felt III J1.
*MOS **23** 13:12:25.7±1.0, 39.48N×141.89E, h56km, mb5.4/108, MS4.7/24 Error ellipse: s-maj=6.5km s-min=3.9km az=103.5*
*ISCJB **23** 13:12:25.5±0.2, 39.34N±0.02×141.94E±0.02, h58km±1km, mb5.1/254, MS4.6/56, Error ellipse: s-maj=3.5km s-min=2.4km az=152.2*
*GCMT **23** 13:12:27.3±0.2, 39.42N×142.13E, h50km, MW5.2/100, Moment Tensor Solution. s82,c130; s100,c186; Duration: 1§0 Moment tensor: Scale 10^16Nm; Mrr6.48±.17; Mθθ-1.08±.12; Mφφ-5.40±.12; Mrθ2.43±.11; Mθφ-1.49±.10; Mφr4.21±.12; Best double couple: M07.85000×10^16 NP1:φs25.00000°, δ64.00000°, λ96.00000°. NP2:φs192.00000°, δ26.00000°, λ78.00000°. Principal axes: T 8.2070, Plg70.0000°, Azm307.0000°; N -0.7150, Plg5.0000°, Azm202.0000°; P -7.4930, Plg19.0000°, Azm110.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*NEIC **23** 13:12:27.3±0.6, 39.35N×141.85E, h62km±5km, mb5.1/132 Error ellipse: s-maj=5.3km s-min=3.4km az=141.0*
NEIC Felt at Misawa. Recorded [3 JMA] in Iwate.
*IDC **23** 13:12:28.3±2.2, 39.35N×141.93E, h72km±19km, mb4.6/35, mb1 4.7/38, mb1mx4.7/45, mbtmp4.9/38, MS4.4/27, Ms1 4.4/27, ms1mx4.3/36, Error ellipse: s-maj=11.9km s-min=10.5km az=119.0*

ISC 23 13:12:25.3±0.4, 39.35N±0.03×142.03E±0.03, h48km±2km, h47km:pP-P, n904, σ1§48/971, mb5.1/257, MS4.7/60, 25C-27D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MIYJ	**Miyakonagasawa**	**0.28**	**325**	⇓P	**Pn**	**13 12 34.5**	**+0.5**
MIYJ				S	**Sn**	**13 12 40.6**	**+0.4**
OFUJ	**Ofunato**	**0.38**	**226**	⇓P	**Pn**	**13 12 35.5**	**+0.4**
OFUJ				S	**Sn**	**13 12 42.4**	**+0.4**
JOM	**Ohasama**	**0.58**	**283**	⇓P	**Pn**	**13 12 38.0**	**+0.6**
JOM				S	**Sn**	**13 12 47.7**	**+1.6**
JTH	**Tanohata**	**0.60**	**348**	⇓P	**Pn**	**13 12 38.0**	**+0.3**
JTH				S	**Sn**	**13 12 46.8**	**+0.1**
JMK	**Ichinoseki**	**0.74**	**238**	⇓P	**Pn**	**13 12 39.9**	**+0.4**
JMK				S	**Sn**	**13 12 50.1**	**+0.4**
JKZ	**Kuzumaki**	**0.83**	**320**	⇓P	**Pn**	**13 12 41.6**	**+0.8**
JKZ				S	**Sn**	**13 12 52.9**	**+0.8**
JIO	**Ouri**	**1.03**	**211**	⇓P	**Pn**	**13 12 43.5**	**+0.1**
JIO				S	**Sn**	**13 12 56.4**	**-0.4**
JRG	**Rokugo**	**1.08**	**273**	⇓P	**Pn**	**13 12 44.6**	**+0.6**
JANG	**Nango**	**1.10**	**339**	⇓P	**Pn**	**13 12 44.6**	**+0.3**
JAH	**Hinai**	**1.36**	**309**	⇓P	**Pn**	**13 12 48.7**	**+0.8**
JYK	**Kaneyama**	**1.36**	**252**	⇓P	**Pn**	**13 12 48.7**	**+0.8**
JYW	**Yuwa**	**1.42**	**278**	P	**Pn**	**13 12 49.8**	**+1.1**
JOU	**Okura**	**1.45**	**228**	⇓P	**Pn**	**13 12 49.5**	**+0.5**
JTM	**Tenmabayashi**	**1.62**	**333**	⇓P	**Pn**	**13 12 52.0**	**+0.6**
JOG2	**Oga 2**	**1.82**	**289**	P	**Pn**	**13 12 54.5**	**+0.4**
JYS	**Shirataka**	**1.90**	**234**	P	**Pn**	**13 12 56.3**	**+1.0**
JTB	**Tobi-shima**	**1.92**	**266**	⇓P	**Pn**	**13 12 55.8**	**+0.3**
JYA	**Atsumi**	**1.95**	**248**	⇓P	**Pn**	**13 12 56.9**	**+0.9**
JIW	**Iwasaki**	**1.99**	**309**	⇓P	**Pn**	**13 12 57.6**	**+1.1**
JSI2	**Shiura 2**	**2.11**	**325**	⇓P	**Pn**	**13 12 59.4**	**+1.3**
JFK	**Kawauchi**	**2.17**	**205**	P	**Pn**	**13 12 58.9**	**-0.1**
ERM	**Erimo**	**2.80**	**18**	*c*eP	**Pn**	**13 13 07.9**	**+0.3**
ERM				pmax	pmax		
	comp=Z,279nm,0.6s						
ERM	**Erimo**	**2.80**	**18**	*e*Pn	**Pn**	**13 13 07.9**	**+0.3**
ERM				*e*Sn	**Sn**	**13 13 42.7**	**+2.6**
JSD	**Sado**	**3.22**	**247**	⇓P	**Pn**	**13 13 14.3**	**+0.9**
MJAR	**Matsushiro Arr**	**4.12**	**228**	P	**Pn**	**13 13 28.6**	**+2.9**
	comp=Z,19nm,0.3s,baz=40,slow=12,SNR=216						
MJAR				LR	LR	13 15 13.9	
	comp=Z,4μm,21.3s,baz=60,slow=41						
MJB9	**Matsu-Tunnel**	**4.12**	**228**	*e*Pn	**Pn**	**13 13 28.7**	**+3.0**
MAJO	**Matsushiro**	**4.12**	**228**	*i* P	**Pn**	**13 13 27.7**	**+2.0**
MAJO	**Matsushiro**	**4.12**	**228**	Pn	**Pn**	**13 13 27.1**	**+1.4**
ASAJ	**Asahikawa**	**4.79**	**5**	P	**Pn**	**13 13 35.2**	**+0.4**
	comp=Z,9.9nm,0.3s,baz=205,slow=13,SNR=49						
ASAJ				S	**Sn**	**13 14 34.8**	**+5.9**
	baz=139,slow=20						
ASAJ	**Asahikawa**	**4.79**	**5**	*e*Pn	**Pn**	**13 13 36.0**	**+1.2**
ASAJ				S	**Sn**	**13 14 34.8**	**+5.9**
JGN	**Niukaw**	**4.86**	**232**	P	**Pn**	**13 13 39.7**	**+3.7**
YUK	**Yuzh-Kuril'sk**	**5.49**	**30**	*e*P	**Pn**	**13 13 44.1**	**-0.4**
YUK				*e*S	**Sn**	**13 14 43.5**	**-2.8**
YUK				pmax	pmax		
	comp=Z,861nm,0.4s						
YUK				pmax	pmax		
	comp=Z,246nm,0.5s						
YUK				pmax	pmax		
	comp=E,314nm,0.3s						
YUK				smax	smax		
	comp=E,6μm,0.6s						
YUK				smax	smax		
	comp=N,5μm,0.7s						
INU	**Inuyama**	**5.64**	**227**	*e*Pn	**Pn**	**13 13 50.0**	**+3.4**
JHJ	**Hachijo jima 2**	**6.47**	**197**	P	**Pn**	**13 13 57.8**	**-0.2**
	comp=N,24nm,0.3s,baz=321,slow=22,SNR=14						
JHJ				S	**Sn**	**13 15 06.9**	**-3.6**
	comp=N,77nm,0.3s,baz=49,slow=23,SNR=8.0						
JHJ2	**Mitsune**	**6.47**	**197**	*e*Pn	**Pn**	**13 13 57.7**	**-0.3**
KUR	**Kuril'sk**	**7.30**	**34**	*e*P	**Pn**	**13 14 09.0**	**-0.3**
KUR				*e*S	**Sn**	**13 15 27.6**	**-3.2**
KUR				pmax	pmax		
	comp=Z,164nm,0.4s						
KUR				pmax	pmax		
	comp=E,40nm,0.3s						
KUR				pmax	pmax		
	comp=N,142nm,0.5s						
KUR				smax	smax		
	comp=E,723nm,0.4s						
KUR				smax	smax		
	comp=N,734nm,0.5s						
YSS	**Yuzh-Sakhalins**	**7.62**	**4**	*e*P	**Pn**	**13 14 14.9**	**+1.2**
YSS				pmax	pmax		
	comp=Z,73nm,0.7s						
YSS	**Yuzh-Sakhalins**	**7.62**	**4**	*e*Pn	**Pn**	**13 14 10.0**	**-3.7**
MSHR	**Mys Shultsa**	**8.83**	**295**	*c* P	**Pn**	**13 14 33.9**	**+3.6**
USRK	**Ussuriysk Ar.**	**8.93**	**306**	P	**Pn**	**13 14 35.5**	**+3.9**
	comp=Z,3.4nm,0.3s,baz=115,slow=14,SNR=121						
USRK				LR	LR	13 17 55.0	
	comp=Z,5μm,19.2s,baz=111,slow=37						
HABR	**Khabarovsk**	**10.41**	**333**	*e*P	**Pn**	**13 14 50.8**	**-1.1**
HABR				*e*S	**Sn**	**13 16 45.5**	**-1.5**
HABR				pmax	pmax		
	comp=Z,29nm,1.3s						
HABR				MLR	MLR		
	comp=Z,1μm,13.0s						
MDJ	**Mudanjiang**	**10.64**	**304**	P	Pn	13 15 00.5	+5.4
MDJ				S	**Sn**	**13 16 59.6**	**+6.8**
MDJ				PcP	**PcP**	**13 20 55.6**	**+0.7**
MDJ				ScP	**ScP**	**13 24 24.0**	**+0.7**
MDJ				PcS	**PcS**	**13 24 28.1**	**-0.3**
MDJ				LR	LR		
	comp=Z,2μm,18.1s						
MDJ				LR	LR		
	comp=Z,3μm,19.1s						
MDJ				LR	LR		
	comp=Z,4μm,18.1s						
MDJ	**Mudanjiang**	**10.64**	**304**	Pn	**Pn**	**13 14 58.4**	**+3.3**
JNU	**Nakatsue**	**10.93**	**239**	P	**Pn**	**13 15 02.4**	**+3.2**
	comp=Z,1.0nm,0.3s,baz=45,slow=6.9,SNR=17						
JNU				LR	LR	13 19 20.2	
	comp=Z,6.3nm,21.3s,baz=48,slow=38						
JNU	**Nakatsue**	**10.93**	**239**	P	**Pn**	**13 15 02.0**	**+2.9**
JNU	**Nakatsue**	**10.93**	**239**	Pn	**Pn**	**13 14 59.1**	**0.0**
KSRS	**Korea Array**	**11.23**	**265**	P	Pn	13 15 08.2	+5.1
	comp=Z,1.3nm,0.3s,baz=66,slow=14,SNR=30						
KSRS				LR	LR	13 19 03.4	
	comp=Z,2μm,20.3s,baz=78,slow=35						
KSRS				PcP	**PcP**	**13 20 56.6**	**+1.1**
	baz=54,slow=2.4,SNR=4.5						
KS01	**Wonju Array Si**	**11.24**	**265**	*e*Pn	**Pn**	**13 15 07.9**	**+4.6**
KS15	**Wonju Array Si**	**11.26**	**265**	*e*Pn	Pn	13 15 08.8	+5.2
KSAR	**Wonju Array Be**	**11.26**	**265**	P	**Pn**	**13 15 08.2**	**+4.7**
KSAR	**Wonju Array Be**	**11.26**	**265**	P	**Pn**	**13 15 08.2**	**+4.7**
KSAR				PcP	**PcP**	**13 20 56.6**	**+1.0**

TYV	**Tymovskoe**	**11.53**	**2**	*e*P	**Pn**	**13 15 07.4**	**+0.3**
TYV				*e*S	**Sn**	**13 17 12.8**	**-1.4**
TYV				pmax	pmax		
	comp=Z,12nm,0.8s						
TYV				MLR	MLR		
	comp=Z,2μm,20.0s						
TYV				MLR	MLR		
	comp=N,2μm,21.0s						
KLR	**Kul'dur**	**12.31**	**327**	⇑*e*P	**Pn**	**13 15 18.4**	**+0.6**
CN2	**Changchun**	**13.18**	**295**	*e*P	**Pn**	**13 15 33.1**	**+3.4**
CN2				*ep*P	P	13 15 41.5	+3.0
CN2				*es*P		13 15 48.3	
CN2				*e*S	**Sn**	**13 17 59.3**	**+4.5**
CN2				pmax	pmax		
	comp=N,10.0nm,0.7s						
CN2				pmax	pmax		
	comp=N,200nm,4.0s						
CN2				LR	LR		
	comp=N,2μm,19.0s						
CN2				LR	LR		
	comp=N,2μm,19.0s						
CN2				LR	LR		
	comp=N,2μm,20.0s						
SNY	**Shenyang**	**14.24**	**286**	⇓P	**Pn**	**13 15 46.0**	**+2.0**
SNY				S	**Sn**	**13 18 28.1**	**+7.7**
SNY				pmax	pmax		
	comp=N,9.0nm,0.8s						
SNY				pmax	pmax		
	comp=N,260nm,5.1s						
SNY				LR	LR		
	comp=N,690nm,16.7s						
SNY				LR	LR		
	comp=N,1μm,23.5s						
SNY				LR	LR		
	comp=N,3μm,28.5s						
DL2	**Dalian**	**15.84**	**275**	P	**P**	**13 16 06.8**	**-1.2**
DL2				sP	**pP**	**13 16 21.3**	**+2.3**
DL2				S	**Sn**	**13 19 04.0**	**+4.6**
DL2				pmax	pmax		
	comp=N,170nm,1.2s						
DL2				pmax	pmax		
	comp=N,370nm,9.3s						
DL2				LR	LR		
	comp=N,570nm,19.0s						
DL2				LR	LR		
	comp=N,1μm,21.5s						
DL2				LR	LR		
	comp=N,2μm,25.5s						
PEA0	**Petropavlovsk-**	**17.47**	**33**	*e*Pn	**Pn**	**13 16 22.3**	**-2.9**
PETK	**Petropavlovsk-**	**17.47**	**33**	P	**Pn**	**13 16 23.3**	**-2.0**
	comp=N,0.3nm,0.3s,baz=199,slow=9.9,SNR=9.2						
PETK				LR	LR	13 24 03.7	
	comp=N,554nm,18.5s,baz=218,slow=40						
PET	**Petropavlovsk**	**17.82**	**34**	*e*P	P	13 16 41.9	+12
PET				pmax	pmax		
	comp=Z,100nm,13.0s						
PET				MLR	MLR		
	comp=Z,700nm,20.0s						
PET				MLR	MLR		
	comp=Z,700nm,20.0s						
HIA	**Hailar**	**18.72**	**309**	*e*P	**P**	**13 16 36.3**	**-3.5**
HIA				pmax	pmax		
	comp=Z,39nm,0.9s						
HIA	**Hailar**	**18.72**	**309**	*e*Pn	**P**	**13 16 36.2**	**-3.5**
	comp=Z,39nm,0.9s						
SSE	**Sheshan**	**18.88**	**251**	P	**Pn**	**13 16 42.8**	**+0.2**
SSE				pP	**pP**	**13 16 53.1**	**+0.4**
SSE				sP	**sP**	**13 17 00.9**	**+2.2**
SSE				S	**Sn**	**13 20 10.0**	**-3.1**
SSE				pmax	pmax		
	comp=Z,73nm,0.7s						
SSE				pmax	pmax		
	comp=Z,200nm,4.0s						
SSE				LR	LR		
	comp=Z,810nm,21.3s						
SSE				LR	LR		
	comp=Z,270nm,21.2s						
SSE				LR	LR		
	comp=Z,820nm,28.6s						
BJI	**Beijing**	**19.89**	**280**	P	**P**	**13 16 51.0**	**-1.6**
BJI				sP	**sP**	**13 17 07.3**	**-2.4**
BJI				S	**S**	**13 20 33.0**	**-0.8**
BJI				sS	**sS**	**13 20 51.8**	**+0.1**
BJI				pmax	pmax		
	comp=Z,41nm,0.9s						
BJI				pmax	pmax		
	comp=Z,310nm,5.2s						
BJI				LR	LR		
	comp=Z,670nm,16.8s						
BJI				LR	LR		
	comp=Z,670nm,28.3s						
BJI				LR	LR		
	comp=Z,2μm,29.0s						
BJT	**Baijiatuau**	**19.90**	**280**	*e*P	**P**	**13 16 50.1**	**-2.6**
BJT				pmax	pmax		
	comp=Z,65nm,0.9s						
BJT	**Baijiatuau**	**19.90**	**280**	*e*Pn	**P**	**13 16 50.1**	**-2.6**
	comp=Z,65nm,0.9s						
TIA	**Tai'an**	**19.91**	**269**	⇓P	**P**	**13 16 52.3**	**-0.6**
TIA				S	**S**	**13 20 27.0**	**-7.4**
TIA				pmax	pmax		
	comp=Z,100nm,1.2s						
TIA				LR	LR		
	comp=Z,340nm,13.0s						
TIA				LR	LR		
	comp=Z,1μm,16.0s						
TIA				LR	LR		
	comp=Z,2μm,25.0s						
NJ2	**Nanjing**	**20.14**	**256**	*e*P	**P**	**13 16 55.3**	**-0.1**
NJ2				pP	**pP**	**13 17 07.5**	**+0.9**
NJ2				sP	**sP**	**13 17 11.6**	**-1.0**
NJ2				S	Sn	13 20 44.8	+1.3
NJ2				pmax	pmax		
	comp=Z,68nm,1.0s						
NJ2				pmax	pmax		
	comp=Z,560nm,6.5s						
NJ2				LR	LR		
	comp=Z,1μm,14.1s						
NJ2				LR	LR		
	comp=Z,1μm,13.6s						
NJ2				LR	LR		
	comp=Z,2μm,18.4s						
CLNS	**Chul'man**	**20.81**	**333**	*e*P	**P**	**13 17 01.2**	**-1.2**
CLNS				*e*		13 17 17.6	
CLNS				*e*S	**S**	**13 20 46.8**	**-5.0**
CLNS				*e*		13 21 12.7	
CLNS				*e*SS	SnSn	13 21 31.8	+17
CLNS				pmax	pmax		
	comp=Z,40nm,0.9s						
CLNS				pmax	pmax		
	comp=N,21nm,1.0s						
CLNS				pmax	pmax		
	comp=E,17nm,0.8s						
CLNS				smax	smax		
	comp=N,248nm,10.4s						
CLNS				smax	smax		
	comp=E,231nm,10.4s						
CLNS				MLR	MLR		
	comp=E,214nm,12.0s						
CLNS				MLR	MLR		
	comp=N,901nm,18.0s						
CLNS				MLR	MLR		
	comp=Z,1μm,16.0s						
MA2	**Magadan**	**21.00**	**12**

YAK **Yakutsk** 23.94 346 P **P** 13 17 33.5 -1.1
comp=Z,165nm,0.7s,baz=175,slow=1.9,SNR=59
YAK **Yakutsk** 23.94 346 *e*P **P** 13 17 33.9 -0.7
YAK *e* 13 17 49.7
YAK *e*S **S** 13 21 44.6 -3.0
YAK *e**SS **sS** 13 22 05.5 -2.7
YAK *e*SS **SnSn** 13 22 34.4 +3.7
YAK *e* 13 28 35.2
YAK pmax pmax
comp=Z,191nm,0.9s
YAK pmax pmax
comp=N,48nm,1.1s
YAK smax smax
comp=N,448nm,2.9s
YAK MLR MLR
comp=Z,788nm,16.0s
YAK MLR MLR
comp=N,1µm,17.0s
YAK **Yakutsk** 23.94 346 *e*P **P** 13 17 32.5 -2.1
comp=N,195nm,0.7s
TPUB **Ta-pu** 24.20 235 *e*P **P** 13 17 37.8 +0.4
comp=N,51nm,0.9s
WHN **Wuhan** 24.25 257 ⇓P **P** 13 17 37.8 0.0
WHN sP **pP** 13 17 52.6 +2.4
WHN S **S** 13 21 46.6 -6.6
WHN pmax pmax
comp=N,180nm,1.1s
WHN LR LR
comp=N,2µm,12.0s
WHN LR LR
comp=N,5µm,21.2s
WHN LR LR
comp=N,3µm,22.0s
TWG **Pinlang** 24.27 233 *e*P **P** 13 17 34.3 -3.7
comp=N,206nm,0.7s
SEY **Seymchan** 24.43 11 P **P** 13 17 40.4 +1.2
comp=N,20nm,0.7s,baz=204,slow=9.4,SNR=57
BOD **Bodaibo** 25.88 325 *e*P **P** 13 17 50.8 -1.5
BOD pmax pmax
comp=Z,58nm,1.6s
ULN **Ulaanbaatar** 26.53 300 *c i*P **P** 13 17 58.5 0.0
ULN pmax pmax
comp=Z,12nm,1.7s
ULN **Ulaanbaatar** 26.53 300 *e*P **P** 13 17 57.9 -0.7
comp=Z,11nm,0.7s
SONA1 **Songino Array** 26.96 300 *e*P **P** 13 18 02.7 +0.3
SONM **Songino Array** 26.97 300 P **P** 13 18 01.9 -0.6
comp=Z,3.0nm,0.6s,baz=88,slow=8.8,SNR=14
SONM LR LR 13 29 16.5
comp=Z,2µm,18.6s,baz=90,slow=38
XAN **Xi'an** 26.97 269 P **P** 13 18 02.6 +0.1
XAN sP sP 13 18 20.6 0.0
XAN PP **PnPn** 13 18 47.6 +1.1
XAN PcP **PcP** 13 21 27.1 +3.9
XAN S **S** 13 22 30.3 -6.2
XAN pmax pmax
comp=Z,34nm,0.8s
XAN pmax pmax
comp=Z,180nm,5.6s
XAN LR LR
comp=Z,220nm,20.0s
XAN LR LR
comp=Z,640nm,30.7s
XAN LR LR
comp=Z,1µm,25.6s
ENH **Enshi** 28.09 261 *e*P **P** 13 18 10.9 -1.5
comp=Z,61nm,0.8s
IRK **Irkutsk** 28.96 309 *e*P **P** 13 18 18.4 -1.6
IRK *e* 13 18 37.0
IRK pmax pmax
comp=Z,50nm,1.4s
H11N2 **WAKE ISLAND Hy** 29.00 125 T T 13 48 46.7
baz=318,slow=75,SNR=3813
H11N1 **WAKE ISLAND Hy** 29.01 125 T T 13 48 47.2
baz=318,slow=75,SNR=1311
H11N3 **WAKE ISLAND Hy** 29.02 125 T T 13 48 47.8
baz=318,slow=75,SNR=5425
TLY **Talaya** 29.24 308 *e*P **P** 13 18 23.4 +0.9
TLY *e*S **S** 13 23 07.9 -3.9
TLY pmax pmax
comp=Z,41nm,1.4s
TLY MLR MLR
comp=Z,2µm,19.0s
ZAK **Zakamensk** 29.28 305 *e*P **P** 13 18 22.0 -1.0
ZAK pmax pmax
comp=Z,17nm,1.2s
H11S1 **WAKE ISLAND Hy** 29.79 127 T T 13 49 43.1
baz=319,slow=76,SNR=416
H11S3 **WAKE ISLAND Hy** 29.79 127 T T 13 49 45.9
baz=319,slow=76,SNR=464
H11S2 **WAKE ISLAND Hy** 29.81 127 T T 13 49 46.4
baz=319,slow=76,SNR=376
LZH **Lanzhou** 30.23 276 *e*P **P** 13 18 34.6 +3.0
LZH pP pP 13 18 45.1 +1.0
LZH sP sP 13 18 50.0 +0.3
LZH PP **PnPn** 13 19 32.3 +1.7
LZH *e*S **S** 13 23 27.3 -0.7
LZH sS sS 13 23 47.1 -1.8
LZH SS **SnSn** 13 25 06.0 +1.1
LZH pmax pmax
comp=Z,51nm,1.0s
LZH pmax pmax
comp=Z,170nm,4.0s
LZH LR LR
comp=Z,650nm,14.1s
LZH LR LR
comp=Z,1µm,13.2s
LZH LR LR
comp=Z,1µm,13.9s
MOY **Mondy** 30.87 307 *e*P **P** 13 18 38.1 +1.1
MOY pmax pmax
comp=Z,34nm,1.6s
BILL **Bilibino** 31.68 17 *e*P **P** 13 18 44.4 +0.6
BILL *i* 13 19 01.7
BILL *e* 13 19 49.3
BILL *i* SS SS 13 25 58.3 -8.1
BILL pmax pmax
comp=Z,13nm,1.0s
BILL MLR MLR
comp=Z,254nm,19.0s
GYA **Guiyang** 32.14 257 ⇑*i*P **P** 13 18 47.3 -1.2
GYA pP pP 13 19 01.8 +0.8
GYA PP **PnPn** 13 19 57.0 +1.5
GYA S **S** 13 23 55.6 -2.3
GYA sS sS 13 24 19.3 +0.4
GYA ScP **ScP** 13 25 17.0 +0.8
GYA SS **SnSn** 13 25 51.5 -0.1
GYA ScS **ScS** 13 29 14.4 -0.9
GYA pmax pmax
comp=Z,20nm,0.9s
GYA pmax pmax
comp=Z,130nm,5.4s
GYA LR LR
comp=Z,520nm,17.2s
GYA LR LR
comp=Z,500nm,17.6s
GYA LR LR
comp=Z,530nm,17.4s
CD2 **Chengdu** 32.22 267 *e*P **P** 13 18 48.6 -0.4
CD2 pP pP 13 18 59.1 -2.4
CD2 sP sP 13 19 07.9 +0.7
CD2 PP **PnPn** 13 19 54.3 -2.0
CD2 S **S** 13 23 54.3 -4.6
CD2 pmax pmax
comp=Z,30nm,0.9s
CD2 pmax pmax
comp=Z,290nm,4.8s
CD2 LR LR
comp=Z,700nm,11.4s
CD2 LR LR
comp=Z,770nm,14.2s
CD2 LR LR
comp=Z,1µm,14.2s
GTA **Gaotai** 32.41 284 *e*P **P** 13 18 51.1 +0.4
GTA pP pP 13 19 02.3 -0.9
GTA sP sP 13 19 08.8 -0.1
GTA PcP **PcP** 13 21 38.9 +1.7
GTA S **S** 13 23 59.0 -2.9
GTA sS sS 13 24 20.3 -2.6
GTA SS **SnSn** 13 25 56.6 -1.2
GTA pmax pmax
comp=Z,7.0nm,1.0s
GTA pmax pmax
comp=Z,120nm,6.7s
GTA LR LR
comp=Z,750nm,20.2s
GTA LR LR
comp=Z,1µm,19.0s
GTA LR LR
comp=Z,2µm,18.5s
QIZ **Qiongzhong** 34.36 243 P **P** 13 19 08.3 +0.6
QIZ S **S** 13 24 33.1 +1.0
QIZ LR LR
comp=Z,490nm,5.8s
QIZ LR LR
comp=Z,640nm,18.7s
KMI **Kunming** 35.84 259 P **P** 13 19 20.9 +0.2
KMI pP pP 13 19 34.8 +1.5
KMI sP sP 13 19 38.1 -0.8
KMI PP **PP** 13 20 44.1 +1.4
KMI S **S** 13 24 55.3 0.0
KMI pmax pmax
comp=Z,71nm,1.1s
KMI pmax pmax
comp=Z,330nm,3.4s
KMI LR LR
comp=Z,260nm,14.2s
KMI LR LR
comp=Z,720nm,17.8s
KMI LR LR
comp=Z,810nm,18.7s
SLVN **Son La** 37.14 252 *e*P **P** 13 19 29.8 -1.9
comp=Z,24nm,1.1s
DGZ **Jazzator, Alta** 39.47 304 *i* P **P** 13 19 52.1 +1.1
SKNT **Sakolnakorn** 39.86 247 P **P** 13 19 56.4 +2.0
comp=Z,40nm,1.0s
MYLDM **Lahad Datu** 40.12 218 *e*P **P** 13 19 55.4 -1.1
comp=Z,59nm,1.4s
WMQ **Urumqi** 40.27 295 P **P** 13 19 58.8 +1.1
WMQ pP pP 13 20 10.6 +0.2
WMQ sP sP 13 20 16.3 +0.3
WMQ PP **PnPn** 13 21 34.8 0.0
WMQ PcP **PcP** 13 22 01.6 +1.0
WMQ S **S** 13 26 01.1 -0.6
WMQ SS **SS** 13 28 54.6 -6.5
WMQ pmax pmax
comp=Z,100nm,0.9s
WMQ pmax pmax
comp=Z,340nm,3.7s
WMQ LR LR
comp=Z,320nm,12.5s
WMQ LR LR
comp=Z,470nm,16.9s
WMQ LR LR
comp=Z,620nm,29.9s
ZAA0 **Zalesovo Array** 40.75 310 *e*P **P** 13 20 00.9 -0.4
ZALV **Zalesovo Beam** 40.75 310 P **P** 13 20 01.3 0.0
comp=Z,23nm,0.6s,baz=89,slow=7.7,SNR=84
ZALV PcP **PcP** 13 22 01.5 -0.3
comp=Z,8.8nm,0.7s,baz=72,slow=2.9,SNR=3.7
ZALV LR LR 13 37 44.8
comp=Z,2µm,18.3s,baz=70,slow=37
SMPI **Sarmi** 41.25 185 P **P** 13 20 09.1 +3.3
comp=Z,22nm,1.3s,comp=Z,2µm
NRIK **Noril'sk** 41.39 334 P **P** 13 20 06.3 0.0
comp=Z,8.9nm,0.6s,baz=102,slow=10,SNR=12
NRIK LR LR 13 38 18.6
comp=Z,1µm,20.1s,baz=108,slow=38
NVS **Novosibirsk** 41.62 312 *e*P **P** 13 20 08.6 +0.1
NVS *e* 13 20 26.7
NVS pmax pmax
comp=Z,48nm,1.8s
NVS pmax pmax
comp=E,30nm,1.7s
UTTA **Uttaradit** 41.84 251 P **P** 13 20 11.4 +0.7
comp=E,8.1nm,0.9s
LAMP **Lampang** 42.03 253 P **P** 13 20 13.5 +1.2
comp=E,12nm,0.9s
PBKT **Sadao Pong** 42.29 249 P **P** 13 20 15.5 +1.1
comp=E,22nm,1.0s
CMMT **Chiang Mai** 42.36 254 P **P** 13 20 15.6 +0.6
comp=E,29nm,1.0s
CHTO **Chiang Mai** 42.36 254 P **P** 13 20 15.7 +0.7
comp=E,129nm,1.0s
CHTO **Chiang Mai** 42.36 254 P **P** 13 20 14.2 -0.8
CHTO pmax pmax
comp=Z,32nm,1.1s
CHTO **Chiang Mai** 42.36 254 P **P** 13 20 14.2 -0.8
comp=Z,32nm,1.1s
LSA **Lhasa** 42.52 273 P **P** 13 20 18.8 +2.1
LSA pmax pmax
comp=Z,18nm,0.9s
LSA **Lhasa** 42.52 273 *e*P **P** 13 20 14.1 -2.6
LSA pmax pmax
comp=Z,36nm,1.1s
LSA **Lhasa** 42.52 273 *e*P **P** 13 20 14.1 -2.6
comp=Z,36nm,1.1s
CM31 **Chiang Mai Arr** 42.59 253 *e*P **P** 13 20 14.3 -2.5
CMAR **Chiang Mai Arr** 42.59 253 P **P** 13 20 16.9 +0.1
comp=Z,7.4nm,0.8s,baz=47,slow=6.4,SNR=41
CMAR LR LR 13 37 33.8
comp=Z,156nm,21.8s,baz=53,slow=35
CM01 **Chiang Mai Arr** 42.60 253 *e*P **P** 13 20 16.6 -0.3
SUKH **Sukhothai** 42.69 252 P **P** 13 20 18.5 +0.9
comp=Z,16nm,0.9s,comp=Z,127nm
MRSI **Marisa** 42.82 210 P **P** 13 20 19.2 +0.6
SRAK **Srakaew** 43.23 246 P **P** 13 20 19.6 -2.4
MK01 **Makanchi Array** 43.34 300 *e*P **P** 13 20 22.6 0.0
MK31 **Makanchi Array** 43.34 300 *i* P **P** 13 20 21.9 -0.7
MK31 pmax pmax
comp=Z,107nm,1.2s
MK31 **Makanchi Array** 43.34 300 *e*P **P** 13 20 22.7 +0.1
MKAR **Makanchi Array** 43.34 300 P **P** 13 20 22.6 0.0
comp=Z,18nm,0.8s,baz=83,slow=7.4,SNR=82
MKAR LR LR 13 39 05.3
comp=Z,1µm,20.9s,baz=64,slow=37
MKAR **Makanchi Array** 43.34 300 *e*P **P** 13 20 22.7 +0.1
MKAR pmax pmax
comp=Z,386nm,1.1s
MKAR **Makanchi Array** 43.34 300 *e*P **P** 13 20 22.7 +0.1
comp=Z,386nm,1.1s
SVW2 **Sparrevohn** 43.41 39 *e*P **P** 13 20 24.3 +1.4
comp=Z,12nm,0.8s
MAKZ **Makanchi** 43.55 300 *e*P **P** 13 20 24.4 +0.1
MAKZ pmax pmax
comp=Z,46nm,0.9s
MAKZ **Makanchi** 43.55 300 *e*P **P** 13 20 24.4 +0.1
comp=Z,46nm,0.9s
SEM **Semipalatinsk** 43.95 306 *i* P **P** 13 20 27.2 -0.5
comp=Z,306nm,1.1s
SEM *i* sP **sP** 13 20 44.6 -1.6
SEM LR LR 13 39 04.3
comp=Z,139nm,12.5s
UMPA **Umpang Tak** 44.07 251 P **P** 13 20 31.5 +2.7
comp=Z,18nm,1.0s
AAI **Ambon** 44.68 200 P **P** 13 20 34.7 +1.2
OHAK **Old Harbor** 44.75 44 *e*P **P** 13 20 32.8 -0.9
comp=Z,46nm,1.2s
PATY **Pattaya** 44.80 246 P **P** 13 20 36.9 +2.3
comp=Z,15nm,0.9s,comp=Z,2µm
RSO **Redoubt South** 44.80 40 *e*P **P** 13 20 34.3 -0.1
KURK **Kurchatov** 44.92 306 *c i*P **P** 13 20 34.8 -0.3
KURK pmax pmax
comp=Z,266nm,0.8s
KURK **Kurchatov** 44.92 306 *e*P **P** 13 20 34.8 -0.3
KURK **Kurchatov** 44.92 306 P **P** 13 20 35.2 +0.1
SNR=36
KURK **Kurchatov** 44.92 306 P **P** 13 20 35.2 +0.1
SNR=36
KURK P P 13 20 35.2 +0.1
SNR=36
KURBB **Kurchatov Arra** 44.99 306 P **P** 13 20 35.4 -0.3
comp=Z,61nm,0.9s,baz=82,slow=8.2,SNR=246
PPLA **Purkeypile** 45.01 36 *e*P **P** 13 20 36.1 +0.2
comp=Z,47nm,1.3s
CAST **Castle Rocks** 45.05 35 *e*P **P** 13 20 37.7 +1.6
comp=Z,18nm,0.9s
KDAK **Kodiak Island** 45.08 43 P **P** 13 20 36.8 +0.6
comp=Z,16nm,0.4s,baz=282,slow=4.2,SNR=58
KDAK **Kodiak Island** 45.08 43 *e*P **P** 13 20 34.7 -1.5
comp=Z,97nm,1.5s
SPU **Mount Spurr** 45.12 39 *e*P **P** 13 20 37.9 +1.2
KTH **Kantishna Hill** 45.57 35 *e*P **P** 13 20 40.9 +0.7
comp=Z,72nm,1.2s
SBUM **Sibu** 45.65 224 *e*P **P** 13 20 41.9 +0.6
PHET **Kaeng Krachan** 45.69 247 P **P** 13 20 43.3 +1.7
comp=Z,33nm,0.8s,comp=Z,314nm
SUA **Susitna One** 45.73 38 *e*P **P** 13 20 43.4 +1.8
comp=Z,23nm,0.9s
TRF **Thorofare Moun** 45.86 35 *e*P **P** 13 20 39.4 -3.3
comp=Z,13nm,0.9s
COLD **Coldfoot** 45.91 30 P **P** 13 20 41.1 -1.7
comp=Z,48nm,1.3s
PDGK **Podgornoye** 46.15 296 P **P** 13 20 43.7 -1.5
PDGK pmax pmax
comp=Z,94nm,0.9s
TOLK **Toolik Lake Re** 46.20 28 P **P** 13 20 45.3 +0.2
baz=267,SNR=6.8
RC01 **Rabbit Creek A** 46.24 39 *e*P **P** 13 20 43.4 -2.1
comp=Z,30nm,1.0s
TAPN **Taplejung** 46.30 272 *e*P **P** 13 20 47.2 +0.5
comp=Z,74nm,1.0s
MCK **McKinley** 46.45 35 P **P** 13 20 46.4 -0.7
MCK pmax pmax
comp=Z,19nm,1.0s
MCK **McKinley** 46.45 35 P **P** 13 20 46.4 -0.7
comp=Z,19nm,1.0s
PMR **Palmer** 46.50 38 *e*P **P** 13 20 47.0 -0.4
PMR pmax pmax
comp=Z,34nm,1.3s
PMR **Palmer** 46.50 38 *e*P **P** 13 20 47.0 -0.4
comp=Z,34nm,1.3s
RND **Reindeer** 46.51 35 *e*P **P** 13 20 48.6 +1.0
RND pmax pmax
comp=Z,50nm,1.2s
RND **Reindeer** 46.51 35 *e*P **P** 13 20 48.6 +1.0
comp=Z,50nm,1.2s
KPKS **Kokpek** 46.67 297 *i* P **P** 13 20 48.7 -0.5
comp=Z,423nm,1.1s
KPKS *i* sP **sP** 13 21 06.4 -1.3
KPKS *e*S **S** 13 27 35.0 -0.3
KPKS LR LR 13 40 35.6
comp=Z,136nm,14.1s
MDM **Murphy Dome** 46.71 33 *e*P **P** 13 20 51.0 +1.9
comp=Z,85nm,1.6s
ODAN **Odare** 46.79 272 *e*P **P** 13 20 51.1 +0.6
comp=Z,94nm,0.9s
WRH **Wood River Hil** 46.79 34 *e*P **P** 13 20 51.4 +1.7
comp=Z,19nm,1.2s
SML **Sawmill** 46.86 38 *e*P **P** 13 20 50.4 +0.1
SML pmax pmax
comp=Z,68nm,1.4s
SML **Sawmill** 46.86 38 *e*P **P** 13 20 50.4 +0.1
comp=Z,68nm,1.4s
COLA **College** 46.88 33 *e*P **P** 13 20 50.8 +0.5
COLA pmax pmax
comp=Z,17nm,0.8s
COLA **College** 46.88 33 *e*P **P** 13 20 50.8 +0.5
comp=Z,17nm,0.8s
CCB **Clear Creek Bu** 46.91 34 *e*P **P** 13 20 51.2 +0.7
comp=Z,15nm,1.2s
SATY **Saty** 46.99 296 *i* P **P** 13 20 50.9 -0.8
comp=Z,84nm,11.4s
SATY *i* sP **sP** 13 21 08.8 -1.4
SATY *e*S **S** 13 27 39.2 -0.7
SATY LR LR 13 41 07.0
MTKI **Muara Teweh, K** 47.18 218 P **P** 13 20 54.4 +1.1
comp=Z,60nm,0.9s
DHY **Denali Highway** 47.20 36 *e*P **P** 13 20 53.5 +0.4
comp=Z,28nm,1.0s
HDA **Harding Lake** 47.29 34 *e*P **P** 13 20 54.3 +0.7
comp=Z,53nm,1.5s
ILAR **Eielson Array** 47.29 33 P **P** 13 20 54.4 +0.7
comp=Z,12nm,0.7s,baz=268,slow=6.3,SNR=110
ILAR LR LR 13 42 57.5
comp=Z,152nm,18.8s,baz=292,slow=39
ILB **Eielson Array** 47.29 33 *e*P **P** 13 20 54.3 +0.7
IL1 **Eielson Array** 47.30 33 *e*P **P** 13 20 54.0 +0.4
JIRN **Jiri** 47.33 273 *e*P **P** 13 20 55.2 +0.4
comp=Z,682nm,1.0s
SCM **Sheep Creek Mo** 47.33 38 *e*P **P** 13 20 55.9 +1.9
SCM pmax pmax
comp=Z,38nm,1.0s
SCM **Sheep Creek Mo** 47.33 38 *e*P **P** 13 20 55.9 +1.9
comp=Z,38nm,1.0s
RAMN **Ramite** 47.36 272 *e*P **P** 13 20 54.8 -0.1
comp=Z,224nm,1.0s
GUN **Gumba** 47.44 274 *e*P **P** 13 20 55.9 +0.2
comp=Z,226nm,0.9s
KSM **Kuching** 47.51 225 *e*P **P** 13 20 55.1 -0.8
comp=Z,33nm,1.3s
SPSI **Sidrap Palu** 47.73 211 P **P** 13 20 58.3 +0.8
comp=Z,14nm,2.1s,comp=Z,584nm
FYU **Fort Yukon** 47.88 31 *e*P **P** 13 20 59.5 +1.4
comp=Z,51nm,1.2s
MDOK **Medeo** 47.90 297 *i* P **P** 13 20 58.9 +0.1
comp=Z,138nm,15.3s
MDOK *e*S **S** 13 27 52.7 -0.1
MDOK LR LR 13 40 52.6
KKN **Kakani** 47.97 274 *e*P **P** 13 20 59.8 +0.2
comp=Z,115nm,0.8s
PKI **Pulchoki** 47.97 274 *e*P **P** 13 20 59.6 -0.2
comp=Z,53nm,0.8s
AAA **Alma-Ata** 47.98 297 *e*P **P** 13 20 59.6 +0.3
AAA pmax pmax
comp=Z,400nm,2.8s
AAA MLR MLR
comp=Z,700nm,18.0s
PKIN **Phulchoki** 47.98 274 *e*P **P** 13 20 59.5 -0.3
KLU **Klutina** 48.04 38 *e*P **P** 13 21 01.1 +1.6
comp=Z,24nm,0.9s
DIV **Divide** 48.16 38 *e*P **P** 13 21 00.9 +0.5
comp=Z,34nm,0.9s
DMN **Daman** 48.19 274 *e*P **P** 13 21 01.5 +0.1
comp=Z,77nm,1.0s
GKN **Gorkha** 48.36 275 *e*P **P** 13 21 02.5 -0.1
comp=Z,64nm,0.8s
DOT **Dot Lake** 48.63 35 *e*P **P** 13 21 04.4 +0.4
comp=Z,16nm,0.7s
KAPI **Kappang** 48.70 210 P **P** 13 21 04.7 -0.2
comp=Z,21nm,1.2s
BRZS **Berezniki** 48.79 307 *i* P **P** 13 21 04.7 -0.7
comp=Z,56nm,0.8s
BRZS *i* sP **sP** 13 21 22.8 -1.2
BRZS *e*S **S** 13 28 04.8 -0.1
MENT **Mentasta** 48.87 36 *e*P **P** 13 21 08.0 +2.1
comp=Z,29nm,1.0s
KOLN **Koldanda** 49.27 275 *e*P **P** 13 21 09.9 +0.3
comp=Z,95nm,0.9s
BVAR **Borovoye Array** 49.40 311 P **P** 13 21 10.0 0.0
comp=Z,15nm,0.7s,baz=78,slow=8.2,SNR=64
BVAR PcP **PcP** 13 22 32.5 +0.7
comp=Z,16nm,0.7s,baz=70,slow=4.9,SNR=8.2
BVAR LR LR 13 43 03.3
comp=Z,819nm,19.3s,baz=76,slow=37
BRVK **Borovoye** 49.45 311 *c i*P **P** 13 21 10.2 -0.2
BRVK pmax pmax
comp=Z,81nm,1.0s
BRVK **Borovoye** 49.45 311 *e*P **P** 13 21 09.7 -0.7
comp=Z,35nm,1.0s
BRVK **Borovoye** 49.45 311 P **P** 13 21 10.8 +0.4
SNR=10
BRVK **Borovoye** 49.45 311 P **P** 13 21 10.8 +0.4
SNR=10
BRVK P P 13 21 10.8 +0.4
SNR=10
PYUN **Piuthan** 49.59 276 *e*P **P** 13 21 12.3 +0.3
comp=Z,214nm,0.9s
FRU **Bishkek** 49.69 297 *e*P **P** 13 21 12.0 -0.5
FRU *i* 13 21 30.0
FRU pmax pmax
comp=Z,100nm,1.4s
FRU MLR MLR
comp=E,500nm,16.0s
EGAK **Eagle** 49.73 33 *e*P **P** 13 21 12.8 +0.4
comp=E,20nm,1.0s
AAK **Ala-Archa** 49.85 297 LR LR 13 43 08.7
comp=E,446nm,20.1s,baz=63,slow=37
KSH **Kashi** 49.94 293 P **P** 13 21 18.8 +4.4
KSH pP sP 13 21 31.8 -1.2
KSH sP pP 13 21 36.8 +9.3
KSH PP **PP** 13 23 15.8 +6.4
KSH S **S** 13 28 25.1 +3.6
KSH sS sS 13 28 46.3 +3.0
KSH SS **SS** 13 31 55.1 +0.7
KSH pmax pmax
comp=E,22nm,1.1s
KSH pmax pmax
comp=E,180nm,6.5s
KSH LR LR
comp=E,310nm,15.1s
KSH LR LR
comp=E,410nm,17.7s
KSH LR LR
comp=E,440nm,16.3s
KULM **Kulim** 50.41 239 *e*P **P** 13 21 17.8 -0.4
comp=E,18nm,0.7s
DAWY **Dawson** 50.61 34 *e*P **P** 13 21 19.8 +0.7

comp=E,21nm,1.5s
IPM Ipoh 50.77 238 P **P** **13 21 19.9 -0.9**
comp=E,50nm,1.3s
MNAS Manas 51.27 297 P **P** **13 21 24.4 -0.1**
MNAS pmax pmax
comp=Z,86nm,0.9s
SOEI Soe 51.56 203 P **P** **13 21 27.5 +0.7**
comp=Z,46nm,0.9s
SOEI Soe 51.56 203 *e*P **P** **13 21 25.5 -1.3**
comp=Z,61nm,1.1s
INK Inuvik 52.12 28 P **P** **13 21 31.4 +1.2**
comp=Z,14nm,0.7s,baz=290,slow=7.2,SNR=17
INK Inuvik 52.12 28 *e*P **P** **13 21 31.1 +0.9**
INK pmax pmax
comp=Z,25nm,0.9s
INK Inuvik 52.12 28 *e*P **P** **13 21 31.1 +0.9**
comp=Z,24nm,0.9s
KK31 Karatay Array 52.41 299 *i* P **P** **13 21 31.6 -1.2**
KK31 pmax pmax
comp=Z,59nm,1.3s
KKAR Karatay Array 52.41 299 *e*P **P** **13 21 31.3 -1.5**
KKAR pmax pmax
comp=Z,196nm,0.8s
KKAR Karatay Array 52.41 299 *e*P **P** **13 21 31.3 -1.5**
comp=Z,196nm,0.8s
BWJI Bawean 52.53 218 P **P** **13 21 31.1 -2.8**
MTN Manton Dam 52.90 193 *e*P **P** **13 21 36.5 0.0**
comp=Z,24nm,1.0s
IUG luzhnay 53.10 298 *i* P **P** **13 21 37.5 -0.5**
comp=Z,545nm,1.3s
IUG *i* sP **sP** **13 21 55.5 -1.2**
PSI Prapat 53.41 238 *e*P **P** **13 21 40.7 +0.1**
PSI pmax pmax
comp=Z,13nm,0.7s
PSI Prapat 53.41 238 *e*P **P** **13 21 40.7 +0.1**
comp=Z,13nm,0.7s
SVE Sverdlovsk 53.75 318↓ *e*P **P** **13 21 42.9 +0.5**
SVE pmax pmax
comp=Z,105nm,0.9s
SVE MLR MLR
comp=Z,1µm,17.0s
SOKR Solikamsk 54.80 322*c i*P **P** **13 21 48.5 -1.4**
SOKR pmax pmax
comp=Z,29nm,1.1s
SOKR MLR MLR
comp=Z,288nm,16.0s
ARU Arti 54.97 318 P **P** **13 21 51.3 +0.1**
comp=Z,54nm,0.8s,baz=72,slow=3.2,SNR=67
ARU LR LR 13 47 50.7
comp=Z,1µm,19.1s,baz=66,slow=39
ARU Arti 54.97 318*c i*P **P** **13 21 51.3 +0.1**
ARU *PP **sP** **13 22 07.4 -2.5**
ARU 13 22 50.7
ARU 13 23 53.8
ARU S **S** **13 29 29.9 +0.5**
ARU 13 31 26.7
ARU SS **SS** **13 33 13.3 +0.4**
ARU pmax pmax
comp=Z,93nm,1.0s
ARU MLR MLR
comp=Z,1µm,17.0s
ARU Arti 54.97 318 *e*P **P** **13 21 49.4 -1.8**
comp=Z,93nm,1.0s
KPJI Karang Pucung 55.65 221 P **P** **13 21 56.4 -0.2**
AB31 Akbulak array 56.84 309 *i* P **P** **13 22 03.9 -0.8**
AB31 pmax pmax
comp=Z,24nm,0.6s
ABKAR Akbulak array 56.84 309 *e*P **P** **13 22 04.4 -0.3**
comp=Z,325nm,0.6s
KBL Kabul 57.06 290 *e*P **P** **13 22 06.7 -0.1**
KBL pmax pmax
comp=Z,31nm,0.8s
KBL Kabul 57.06 290 *e*P **P** **13 22 06.7 -0.1**
comp=Z,31nm,0.8s
AKTO Aktyubinsk 57.51 311 P **P** **13 22 09.4 0.0**
comp=Z,26nm,0.8s,baz=58,slow=8.8,SNR=33
AKTO LR LR 13 48 20.1
comp=Z,655nm,18.9s,baz=64,slow=38
KBS Kingsbay 58.47 350 *e*P **P** **13 22 17.2 +1.5**
KBS pmax pmax
comp=Z,28nm,0.8s
KBS Kingsbay 58.47 350 *e*P **P** **13 22 17.2 +1.5**
comp=Z,28nm,0.8s
HYB Hyderabad 58.77 267 *i* P **P** **13 22 18.0 -0.8**
WRAB Tennant Creek 59.40 188*ce*P **P** **13 22 22.1 -0.8**
WRAB pmax pmax
comp=Z,40nm,1.0s
WRAB Tennant Creek 59.40 188 *e*P **P** **13 22 21.9 -1.0**
comp=Z,17nm,0.8s
WB2 Warramunga Arr 59.41 188 *e*P **P** **13 22 21.3 -1.7**
WRA Warramunga Arr 59.41 188 P **P** **13 22 21.8 -1.2**
comp=Z,14nm,0.8s,baz=5.4,slow=7.1,SNR=88
WRA Warramunga Arr 59.41 188 *i*P **P** **13 22 22.0 -1.0**
WRA pmax pmax
comp=Z,14nm,0.7s
RES Resolute Bay 60.24 15 LR LR 13 47 48.9
comp=Z,118nm,21.0s,baz=278,slow=35
TMCR Tamitsa 60.96 331 *e*P **P** **13 22 33.3 +0.3**
TMCR pmax pmax
comp=Z,37nm,0.9s
YKA Yellowknife Ar 61.57 31 P **P** **13 22 37.8 +0.6**
comp=Z,3.0nm,0.7s,baz=302,slow=6.3,SNR=6.2
YKA LR LR 13 50 02.9
comp=Z,8.2nm,21.4s,baz=0.0,slow=37
ARA0 ARCESS Array S 62.01 339 *e*P **P** **13 22 39.9 -0.2**
ARCES ARCESS Array B 62.01 339 P **P** **13 22 39.7 -0.4**
comp=Z,7.0nm,0.8s,baz=52,slow=7.9,SNR=11
ARCES LR LR 13 54 06.0
comp=Z,230nm,19.9s,baz=48,slow=40
KLMR Klimovskoe 62.07 327 *e*P **P** **13 22 39.9 -0.7**
KLMR *e* 13 24 55.9
KLMR pmax pmax
comp=Z,33nm,1.2s
AS01 Alice Springs 63.13 188 *e*P **P** **13 22 46.8 -1.3**
ASAR Alice Springs 63.14 188 P **P** **13 22 47.7 -0.5**
comp=Z,8.1nm,0.8s,baz=11,slow=6.5,SNR=53
GEYT Alibeck 63.15 298 P **P** **13 22 47.9 -0.4**
comp=Z,25nm,0.9s,baz=29,slow=3.4,SNR=31
GEYT LR LR 13 52 04.3
comp=Z,389nm,18.6s,baz=110,slow=38
PALK Pallekele 63.35 257 LR LR 13 52 45.2
comp=Z,206nm,19.9s,baz=116,slow=38
DAG Danmarks Havn 63.52 355 *i* P **P** **13 22 49.5 -0.5**
comp=Z,19nm,0.9s
DAG Danmarks Havn 63.52 355 *e*P **P** **13 22 49.5 -0.5**
DAG pmax pmax
comp=Z,16nm,0.9s
MBWA Marble Bar 63.70 203 *e*P **P** **13 22 52.1 +0.2**
comp=Z,16nm,1.0s
DZM Mont Dzumac 65.23 155 LR LR 13 48 17.9
comp=Z,379nm,21.8s,baz=25,slow=33
DZM Mont Dzumac 65.23 155 *e*LR LR 13 42 38.7
comp=Z,761nm,22.6s
B05A Bryant 65.37 47 P **P** **13 23 04.3 +1.8**
baz=302
MOS Moscow 65.69 323 *e*P **P** **13 23 05.0 +0.5**
MOS pmax pmax
comp=Z,65nm,0.8s
C06D Leavenworth 66.23 47 P **P** **13 23 10.1 +1.9**
baz=303
LON Longmire 66.34 48 *e*P **P** **13 23 10.4 +1.4**
LON pmax pmax
comp=Z,10.0nm,1.0s
LON Longmire 66.34 48 *e*P **P** **13 23 10.3 +1.4**
comp=Z,9.9nm,1.0s
F04A Amboy 66.43 49 *e*P **P** **13 23 11.3 +1.9**
comp=Z,59nm,1.6s
OBN Obninsk 66.54 323*c i*P **P** **13 23 10.5 +0.6**
OBN *i* 13 23 26.5
OBN *e*S **S** **13 31 56.8 -0.2**
OBN pmax pmax
comp=Z,93nm,1.7s
OBN MLR MLR
comp=Z,685nm,16.0s
LTY Liberty 66.72 47 *e*P **P** **13 23 12.8 +1.4**
comp=Z,33nm,1.4s
LPSR Galich'ya Gora 66.84 320 *e*P **P** **13 23 11.9 0.0**
LPSR pmax pmax
comp=Z,30nm,0.7s
FIA1 FINESS Array S 67.00 332 *e*P **P** **13 23 12.8 +0.1**
FINES FINESS Array B 67.00 332 P **P** **13 23 12.5 -0.3**
comp=Z,30nm,0.8s,baz=53,slow=7.1,SNR=46
FINES LR LR 13 54 44.8
comp=Z,598nm,18.8s,baz=54,slow=38
I03D Drain, OR 67.09 52 P **P** **13 23 16.0 +2.4**
baz=303

G05D Wamic, OR 67.46 49 P **P** **13 23 17.7 +1.7**
baz=304
VSR Storozhevoye 67.52 318 *e*P **P** **13 23 16.0 -0.2**
VSR pmax pmax
comp=Z,30nm,1.0s
I04A Tendick Farm, 67.60 51 P **P** **13 23 18.6 +1.7**
baz=304
L02D Cave Junction, 67.77 53 P **P** **13 23 19.9 +1.8**
baz=304
I05D Terrebonne, OR 67.94 50 P **P** **13 23 20.7 +1.5**
baz=304
J04D Umpqua Nationa 68.09 52 P **P** **13 23 21.7 +1.5**
baz=304
NEW Newport 68.15 45 P **P** **13 23 21.3 +1.0**
baz=305
NEW Newport 68.15 45 *e*P **P** **13 23 21.6 +1.3**
NEW pmax pmax
comp=Z,34nm,1.5s
NEW Newport 68.15 45 *e*P **P** **13 23 21.6 +1.3**
comp=Z,34nm,1.5s
SUMG Summit 68.38 0 *i* P **P** **13 23 22.6 +0.8**
comp=Z,22nm,0.9s
SUMG Summit 68.38 0 *i* P **P** **13 23 22.6 +0.8**
SUMG pmax pmax
comp=Z,22nm,0.9s
SUMG Summit 68.38 0 *e*P **P** **13 23 22.6 +0.8**
comp=Z,28nm,1.0s
YBH Yreka Blue Hor 68.56 53 *e*P **P** **13 23 25.5 +2.4**
YBH pmax pmax
comp=Z,25nm,1.5s
YBH Yreka Blue Hor 68.56 53 *e*P **P** **13 23 25.5 +2.4**
comp=Z,24nm,1.5s
E09A Wood Farm, Sta 68.58 47 *e*P **P** **13 23 24.6 +1.6**
comp=Z,46nm,1.5s
J05D Fort Rock, OR 68.60 51 P **P** **13 23 25.9 +2.5**
baz=304,SNR=6.7
K04D Chiloquin, OR 68.65 52 P **P** **13 23 23.0 -0.7**
baz=304
M02C Callahan 68.66 54 P **P** **13 23 25.5 +1.8**
baz=304
GOF Gofitskoye 68.92 311↑ *e*P **P** **13 23 26.2 +1.1**
GOF pmax pmax
comp=Z,79nm,0.6s
N02D Trinity Center 68.99 54 P **P** **13 23 27.5 +1.8**
baz=304
M04C Macdoel 69.07 53 P **P** **13 23 27.8 +1.4**
baz=305
WALA Werton Lakes 69.41 43 *e*P **P** **13 23 29.7 +1.4**
comp=Z,52nm,1.8s
NCK Nalchik 69.49 310↑ *e*P **P** **13 23 28.4 -0.3**
NCK pmax pmax
comp=Z,17nm,1.1s
ZEI Tsey 69.71 309 *e*P **P** **13 23 29.2 -1.1**
ZEI pmax pmax
comp=Z,49nm,1.0s
KVAR Kislovodsk Arr 69.76 311 P **P** **13 23 30.8 +0.3**
comp=Z,58nm,1.0s,baz=316,slow=1.6,SNR=19
KIV Kislovodsk 69.76 311 *i* P **P** **13 23 31.2 +0.7**
SNR=12
KIV Kislovodsk 69.76 311*c i*P **P** **13 23 31.0 +0.5**
KIV *e* 13 26 04.8
KIV *e*S **S** **13 32 42.3 +6.2**
KIV pmax pmax
comp=Z,122nm,1.0s
KIV MLR MLR
comp=Z,335nm,18.0s
KIV Kislovodsk 69.76 311 *e*P **P** **13 23 32.0 +1.5**
comp=Z,113nm,1.0s
KIV Kislovodsk 69.76 311 P **P** **13 23 31.9 +1.4**
SNR=17
KIV Kislovodsk 69.76 311 P **P** **13 23 31.9 +1.4**
SNR=17
KIV P **P** **13 23 31.9 +1.4**
SNR=17
KBZ Khabaz 69.77 310 P **P** **13 23 30.7 +0.4**
comp=Z,26nm,0.8s,baz=47,slow=3.4,SNR=40
KBZ LR LR 13 59 12.5
comp=Z,298nm,18.1s,baz=46,slow=40
TBLG Delisi 69.81 308 P **P** **13 23 29.8 -0.9**
TBLG Delisi 69.81 308 *e*P **P** **13 23 29.8 -0.9**
SCO Scoresbysund 69.86 354 *i* P P 13 23 25.0 -5.5
comp=Z,35nm,1.1s
SCO Scoresbysund 69.86 354 *i* P P 13 23 25.0 -5.5
SCO pmax pmax
comp=Z,35nm,1.1s
O03D Paynes Creek 69.94 54 P **P** **13 23 32.9 +1.2**
baz=305
MOD Modoc Plateau 69.95 52 *e*P **P** **13 23 32.5 +0.8**
comp=Z,18nm,1.3s
JTMT Jette 70.00 44 *e*P **P** **13 23 34.0 +2.0**
BMO Blue Mountains 70.02 48 *e*P **P** **13 23 33.9 +1.8**
BMO pmax pmax
comp=Z,27nm,1.5s
BMO Blue Mountains 70.02 48 *e*P **P** **13 23 33.9 +1.8**
comp=Z,27nm,1.5s
ONI Oni 70.10 309 P **P** **13 23 33.3 +0.8**
ONI Oni 70.10 309 *e*P **P** **13 23 33.3 +0.8**
NEY Neytrino 70.15 310↓ *i*P **P** **13 23 33.7 +0.7**
NEY pmax pmax
comp=Z,5.0nm,0.8s
SWMT Swartz Lake 70.29 44 *e*P **P** **13 23 35.8 +2.1**
ORV Oroville 70.55 55 *e*P **P** **13 23 36.5 +1.2**
ORV pmax pmax
comp=Z,31nm,1.5s
ORV Oroville 70.55 55 *e*P **P** **13 23 36.5 +1.2**
comp=Z,31nm,1.5s
WVOR Wild Horse Val 70.65 51 P **P** **13 23 38.2 +2.2**
WVOR pmax pmax
comp=Z,31nm,1.4s
WVOR Wild Horse Val 70.65 51 P **P** **13 23 38.2 +2.2**
comp=Z,31nm,1.4s
GNI Garni 70.72 306 P **P** **13 23 37.5 +1.0**
comp=Z,10nm,0.8s,baz=168,slow=5.2,SNR=8.3
GNI Garni 70.72 306↓ *e*P **P** **13 23 37.7 +1.2**
GNI pmax pmax
comp=Z,97nm,1.6s
GNI Garni 70.72 306 P **P** **13 23 39.5 +3.0**
SNR=6.2
GNI Garni 70.72 306 P **P** **13 23 39.5 +3.0**
SNR=6.2
GNI P **P** **13 23 39.5 +3.0**
SNR=6.2
SLMT Seeley Lake 70.73 44 *e*P **P** **13 23 38.2 +1.8**
MSO Missoula 70.73 45 P **P** **13 23 37.2 +0.8**
baz=307
WSAR Wadi Sarin 70.74 285 P **P** **13 23 37.1 +0.4**
comp=Z,6.1nm,0.9s,baz=80,slow=8.0,SNR=6.0
AKH Akhalkalaki 70.76 308 P **P** **13 23 36.9 +0.1**
AKH Akhalkalaki 70.76 308 *e*P **P** **13 23 36.8 +0.1**
MICGM Minsk 70.86 326 *e* **P** **13 23 37.0 +0.2**
MNK Minsk 70.86 326 *e*P **P** **13 23 37.0 +0.2**
STKA Stephens Creek 70.86 180 P **P** **13 23 37.1 +0.2**
comp=Z,1.8nm,0.7s,baz=316,slow=8.1,SNR=4.3
BANOM Banah 70.94 288 P **P** **13 23 38.1 +0.2**
FORT Forrest 70.97 193 *e*P **P** **13 23 37.8 +0.2**
comp=Z,214nm,0.8s
BEKR Beckworth 71.09 54 *e*P **P** **13 23 40.5 +1.7**
comp=Z,32nm,1.3s
FFC Flin Flon 71.51 33 *e*P **P** **13 23 40.4 -0.4**
FFC pmax pmax
comp=Z,14nm,0.8s
FFC Flin Flon 71.51 33 *e*P **P** **13 23 40.4 -0.4**
comp=Z,14nm,0.8s
HATD Hatta, Dubai 71.69 287 *i* P **P** **13 23 43.1 +0.6**
SNR=7.3
PAHR Pah Rah Range 71.79 53 *e*P **P** **13 23 44.8 +1.8**
comp=Z,27nm,1.2s
ASHO Ashiyiah 71.83 287 P **P** **13 23 42.2 -1.1**
NAZ Nazwa, Dubai 71.95 288 P **P** **13 23 44.4 +0.5**
HRY Holter Researc 71.95 44 *e*P **P** **13 23 45.3 +1.6**
PNTR Pine Nut 72.02 54 *e*P **P** **13 23 46.2 +1.7**
comp=Z,19nm,1.2s
NC405 NORSAR Array S 72.03 337 *e*P **P** **13 23 43.9 0.0**
NC303 NORSAR Array S 72.05 337 *e*P **P** **13 23 44.7 +0.8**
FAQ Al Faqa, Dubai 72.14 288 *i* P **P** **13 23 46.0 +1.0**
SNR=9.8
CMB Columbia Colle 72.15 55 *e*P **P** **13 23 46.5 +1.5**
CMB pmax pmax
comp=Z,24nm,1.3s
CMB Columbia Colle 72.15 55 *e*P **P** **13 23 46.5 +1.5**
comp=Z,24nm,1.3s
NC204 NORSAR Array S 72.19 338 *e*P **P** **13 23 44.4 -0.4**
NB201 NORSAR Array S 72.21 337 *e*P **P** **13 23 44.1 -0.9**
EGMT Eagleton 72.23 42 P **P** **13 23 46.4 +1.0**
baz=310
EGMT Eagleton 72.23 42 *e*P **P** **13 23 45.9 +0.6**

comp=Z,43nm,1.4s
NB2 NORSAR Subarra 72.24 337 P **P** **13 23 44.7 -0.5**
baz=39,slow=6.2
NB2 NORSAR Subarra 72.24 337 P **P** **13 23 44.7 -0.5**
comp=Z,29nm,1.0s,baz=39,slow=6.2
NOA NORSAR Array B 72.24 337 P **P** **13 23 45.0 -0.2**
comp=Z,16nm,0.8s,baz=39,slow=6.0,SNR=34
NOA NORSAR Array B 72.24 337 P **P** **13 23 45.0 -0.2**
NOA pmax pmax
comp=Z,16nm,0.8s
ANN Anapa 72.28 314 *e*P **P** **13 23 46.0 +0.4**
ANN pmax pmax
comp=Z,42nm,0.9s
ANN MLR MLR
comp=N,318nm,19.0s
ANN MLR MLR
comp=Z,349nm,19.0s
ANN MLR MLR
comp=E,296nm,19.0s
YERR Yerington 72.31 54 *e*P **P** **13 23 48.2 +2.0**
comp=E,43nm,1.4s
NBO02 NORSAR Array S 72.34 337 *e*P **P** **13 23 46.0 +0.3**
DLMT Dillon 72.37 46 *e*P **P** **13 23 47.9 +1.6**
comp=E,22nm,1.3s
HLID Hailey 72.45 48 P **P** **13 23 48.2 +1.3**
baz=308
HLID Hailey 72.45 48 *e*P **P** **13 23 49.0 +2.1**
comp=E,8.8nm,1.2s
BOZ Bozeman (W) 72.76 45 P **P** **13 23 49.4 +0.8**
baz=309
BOZ Bozeman (W) 72.76 45 *e*P **P** **13 23 50.0 +1.4**
BOZ pmax pmax
comp=Z,45nm,1.5s
BOZ Bozeman (W) 72.76 45 *e*P **P** **13 23 50.0 +1.4**
comp=Z,45nm,1.5s
AKASG Malin Array Be 72.77 322 P **P** **13 23 48.0 -0.4**
comp=Z,25nm,0.8s,baz=45,slow=6.4,SNR=62
AKASG LR LR 13 59 13.1
comp=Z,303nm,18.1s,baz=35,slow=39
AKASG Malin Array Be 72.77 322 P **P** **13 23 48.0 -0.4**
AKASG pmax pmax
comp=Z,25nm,0.8s
AKASG MLR MLR
comp=Z,303nm,18.1s
AKBB Malin Array Si 72.77 322 *e*P **P** **13 23 48.1 -0.3**
AKBB pmax pmax
comp=Z,33nm,0.9s
AKBB Malin Array Si 72.77 322 *e*P **P** **13 23 48.1 -0.3**
comp=Z,32nm,0.9s
KIEV Kiev 72.78 322↑ *i*P **P** **13 23 48.1 -0.3**
KIEV pmax pmax
comp=Z,27nm,0.8s
KIEV Kiev 72.78 322 *e*P **P** **13 23 48.1 -0.3**
comp=Z,32nm,0.9s
AK11 Malin Array Si 72.81 322 *e*P **P** **13 23 48.5 -0.1**
TVH3 East Aurora ar 72.95 54 *e*P **P** **13 23 52.1 +2.2**
comp=Z,22nm,1.2s
TVH2 Borealis Mine 72.97 54 *e*P **P** **13 23 52.2 +2.1**
comp=Z,15nm,1.2s
YHB Horse Butte 73.53 45 *e*P **P** **13 23 55.3 +2.0**
comp=Z,9.0nm,0.8s
SFJD Kangerlussuaq 73.54 5 *i* P **P** **13 23 52.5 -0.1**
comp=Z,21nm,1.0s
SFJD Kangerlussuaq 73.54 5 *i* P **P** **13 23 52.5 -0.1**
SFJD pmax pmax
comp=Z,21nm,1.0s
YHH Holmes Hill 73.69 45 *e*P **P** **13 23 56.3 +1.9**
comp=Z,21nm,1.5s
GCMT Greycliff 73.70 44 *e*P **P** **13 23 55.7 +1.5**
SIM Simferopol' 74.02 315 P **P** **13 23 51.2 -4.7**
SIM S **SKSac** **13 33 49.3 -10**
SIM pmax pmax
comp=Z,25nm,0.9s
SIM MLR MLR
comp=Z,330nm,16.0s
YPP Pitchstone Pla 74.05 46 *e*P **P** **13 23 59.5 +3.0**
comp=Z,5.8nm,0.9s
H17A Grant Village 74.10 45 P **P** **13 23 58.8 +2.2**
baz=310
H17A Grant Village 74.10 45 *e*P **P** **13 24 00.0 +3.4**
comp=Z,41nm,1.5s
IMW Indian Meadow 74.21 46 *e*P **P** **13 23 59.6 +2.2**
comp=Z,58nm,1.8s
RLMT Red Lodge 74.34 44 P **P** **13 23 58.8 +0.7**
baz=310
RLMT Red Lodge 74.34 44 *e*P **P** **13 23 59.6 +1.6**
comp=Z,57nm,1.9s
MOOW Moose Ponds 74.42 46 *e*P **P** **13 24 00.6 +2.1**
comp=Z,25nm,1.5s
TPAW Teton Pass 74.47 46 *e*P **P** **13 24 01.3 +2.5**
comp=Z,51nm,1.8s
HVU Hansel Valley 74.51 49 *e*P **P** **13 24 01.1 +2.1**
HVU pmax pmax
comp=Z,26nm,1.5s
HVU Hansel Valley 74.51 49 *e*P **P** **13 24 01.1 +2.1**
comp=Z,26nm,1.5s
CWC Cottonwood Cre 74.57 55 P **P** **13 24 00.5 +1.0**
baz=308
REDW Red Top Meadow 74.60 46 *e*P **P** **13 24 02.2 +2.6**
comp=Z,30nm,1.7s
GRAC Grapevine Rang 74.69 55 P **P** **13 24 01.4 +1.4**
baz=308
DGMT Dagmar 74.74 39 P **P** **13 24 01.1 +1.1**
baz=313
MARD Mardin 74.90 306 *e*P **P** **13 24 02.3 +1.0**
comp=Z,278nm,0.4s
LAO LASA Array 74.92 41 P **P** **13 24 02.6 +1.4**
baz=312
R11A Troy Canyon, C 74.97 53 P **P** **13 24 03.2 +1.4**
baz=309,SNR=10.0
R11A Troy Canyon, C 74.97 53 *e*P **P** **13 24 03.0 +1.3**
comp=Z,36nm,1.4s
MPMC Manual Prospec 75.19 56 P **P** **13 24 04.6 +1.6**
baz=308,SNR=5.2
HWUT Hardware Ranch 75.32 48 *e*P **P** **13 24 06.4 +2.7**
comp=Z,26nm,1.3s
FURC Furnace Creek, 75.33 55 P **P** **13 24 05.1 +1.5**
baz=308
LRMC Laurel Mtn Rad 75.42 56 P **P** **13 24 05.5 +1.2**
baz=308
TPNV Topopah Spring 75.42 54 P **P** **13 24 06.0 +1.6**
baz=308,SNR=10
TPNV Topopah Spring 75.42 54 *e*P **P** **13 24 05.8 +1.5**
TPNV pmax pmax
comp=Z,39nm,1.3s
TPNV Topopah Spring 75.42 54 *e*P **P** **13 24 05.8 +1.5**
comp=Z,39nm,1.3s
DUG Dugway, Tooele 75.49 50 P **P** **13 24 05.9 +1.2**
baz=310,SNR=8.0
DUG Dugway, Tooele 75.49 50 *e*P **P** **13 24 06.5 +1.8**
DUG pmax pmax
comp=Z,32nm,1.4s
DUG Dugway, Tooele 75.49 50 *e*P **P** **13 24 06.5 +1.8**
comp=Z,32nm,1.4s
EDW2 Edwards Air Fo 75.58 57 P **P** **13 24 06.1 +0.9**
baz=308
BW06 Boulder Array 75.71 46 P **P** **13 24 06.6 +0.6**
baz=311
BW06 Boulder Array 75.71 46 *e*P **P** **13 24 06.9 +0.9**
PD31 Pinedale Array 75.71 46 *e*P **P** **13 24 06.9 +0.9**
PDAR Pinedale Array 75.71 46 P **P** **13 24 06.5 +0.5**
comp=Z,3.3nm,0.7s,baz=259,slow=1.8,SNR=27
PDAR LR LR 13 54 02.1
comp=Z,68nm,21.8s,baz=330,slow=33
LVV L'vov 75.80 324 *e*P **P** **13 24 09.2 +3.2**
NLU North Lily Min 76.08 50 *e*P **P** **13 24 10.1 +2.0**
comp=Z,13nm,1.1s
GSC Goldstone, Bar 76.09 56 P **P** **13 24 08.8 +0.7**
baz=309
BFSC Mount Baldy Ra 76.19 57 P **P** **13 24 09.3 +0.6**
baz=308
KWP Kalwaria Pacla 76.53 324 *e*P **P** **13 24 11.2 +0.9**
KWP Kalwaria Pacla 76.53 324 *e*P **P** **13 24 11.2 +0.9**
TUQ Turquoise Moun 76.57 55 P **P** **13 24 11.9 +1.0**
baz=309
HEC Hector,Ludlow 76.68 56 P **P** **13 24 12.6 +1.1**
baz=309
BUR08 Bucovina Ar. S 76.79 322 *e*P **P** **13 24 12.5 +0.6**
BURAR Bucovina Array 76.80 322↓ *i*P **P** **13 24 12.1 +0.2**
BURAR Bucovina Array 76.80 322 P **P** **13 24 12.1 +0.2**
CCUT Cedar City 76.83 52 *e*P **P** **13 24 13.9 +1.5**
comp=Z,15nm,1.0s
TESR Tescani 76.87 320↑ *i*P **P** **13 24 12.5 +0.3**
MSU Marysvale 76.94 51 *e*P **P** **13 24 15.5 +2.5**
MSU Marysvale 76.94 51 *e*P **P** **13 24 15.5 +2.5**
SZCU Shurtz Canyon 76.97 52 *e*P **P** **13 24 15.4 +2.2**
comp=Z,16nm,1.3s

TMUT **Trail Mountain** 77.01 50 *e*P P 13 24 14.8 +1.3
comp=Z,28nm,1.5s
GMRC **Granite Mounta** 77.14 56 P P 13 24 15.9 +1.8
baz=309
LCMT **Little Creek M** 77.25 53 *e*P P 13 24 16.6 +1.9
comp=Z,30nm,1.2s
ULM **Lac du Bonnet** 77.31 34 P P 13 24 14.8 +0.2
comp=Z,9.9nm,0.7s,baz=328,slow=5.0,SNR=9.8
ULM LR LR 14 02 14.5
comp=Z,68nm,18.0s,baz=321,slow=39
ULM **Lac du Bonnet** 77.31 34 *e*P P 13 24 14.9 +0.3
ULM pmax pmax
comp=Z,12nm,0.8s
ULM **Lac du Bonnet** 77.31 34 *e*P P 13 24 14.9 +0.3
comp=Z,12nm,0.8s
STHS **Stebnicka Huta** 77.35 325 *e*P P 13 24 16.3 +1.4
STHS pmax pmax
comp=Z,13nm,0.8s
STHS **Stebnicka Huta** 77.35 325 *e*P P 13 24 16.2 +1.4
PFO **Pinyon Flats O** 77.36 57 P P 13 24 14.3 -1.1
baz=309
PFO **Pinyon Flats O** 77.36 57 *i* P P 13 24 15.2 -0.2
TPFO **Pinon Flats** 77.37 57 P P 13 24 14.5 -0.9
baz=309
MDND **Maddock** 77.38 37 P P 13 24 16.6 +1.6
baz=316
TIRR **Tirgusor** 77.39 318⇑ *i*P P 13 24 15.3 +0.2
OJC **Ojcow** 77.39 326 *e*P P 13 24 15.8 +0.7
OJC **Ojcow** 77.39 326 *e*P P 13 24 15.7 +0.7
109C **Camp Elliot, M** 77.39 58 P P 13 24 15.9 +0.5
baz=309
BELC **Belle Mtn. Jos** 77.42 56 P P 13 24 16.7 +1.0
baz=309
UZH **Uzhgorod** 77.44 324 *e*P P 13 24 21.0 +5.7
UZH *e*S S 13 34 04.0 +1.7
UZH MLR MLR
comp=E,250nm,16.0s
K22A **Casper** 77.46 45 P P 13 24 16.8 +1.0
baz=312
K22A **Casper** 77.46 45 *e*P P 13 24 17.5 +1.6
comp=E,34nm,1.4s
TLB **Topalu** 77.49 318⇑ *i*P P 13 24 16.0 +0.3
SRU **San Rafael Swe** 77.54 49 *e*P P 13 24 17.9 +1.6
SRU pmax pmax
comp=Z,23nm,1.0s
SRU **San Rafael Swe** 77.54 49 *e*P P 13 24 17.9 +1.6
comp=Z,23nm,1.0s
BR131 **Keskin Array S** 77.68 311 *e*P P 13 24 17.4 +0.4
BRTR **Keskin Array B** 77.68 311 P P 13 24 16.9 -0.1
comp=Z,4.2nm,0.8s,baz=58,slow=4.7,SNR=17
BRTR **Keskin Array B** 77.68 311 *i* P P 13 24 17.3 +0.2
BRTR pmax pmax
comp=Z,4.0nm,0.8s
TRPA **Tarpa** 77.69 323 *e*P P 13 24 17.7 +1.0
RWWY **Rawlins** 77.73 46 *e*P P 13 24 18.6 +1.1
comp=Z,36nm,1.3s
NIE **Niedzica** 77.77 325 *e*P P 13 24 18.0 +0.8
NIE **Niedzica** 77.77 325 *e*P P 13 24 18.0 +0.8
RSSD **Black Hills** 77.79 42 P P 13 24 18.4 +0.7
baz=314
RSSD **Black Hills** 77.79 42 *e*P P 13 24 17.0 -0.7
RSSD pmax pmax
comp=Z,6.0nm,0.6s
RSSD **Black Hills** 77.79 42 *e*P P 13 24 17.0 -0.7
comp=Z,6.3nm,0.6s
B31A **Greenbush Farm** 77.87 36 P P 13 24 18.7 +1.0
baz=317
IRM **Iron Mountain** 77.87 56 P P 13 24 19.5 +1.4
baz=310
ISR **Istrita** 77.89 319⇓ *i*P P 13 24 19.2 +1.2
MLR **Muntele Rosu** 77.93 320 P P 13 24 21.1 +2.8
BC3 **Big Chuckawall** 77.99 56 P P 13 24 19.9 +1.1
baz=310
A32A **Rocking H Ranc** 78.03 35 P P 13 24 19.5 +0.9
baz=318
ANTO **Ankara** 78.08 312 *e*P P 13 24 20.4 +1.3
ANTO pmax pmax
comp=Z,26nm,0.8s
ANTO **Ankara** 78.08 312 *e*P P 13 24 20.4 +1.3
comp=Z,26nm,0.8s
BR231 **Keskin MP Arra** 78.11 312 *e*P P 13 24 17.9 -1.4
O20A **White River Ci** 78.19 47 P P 13 24 21.3 +1.4
baz=312
O20A **White River Ci** 78.19 47 *e*P P 13 24 20.5 +0.6
comp=Z,13nm,1.1s
IKP **In-Ko-Pah, Jac** 78.20 58 P P 13 24 21.3 +1.4
baz=309
U15A **North Rim** 78.21 52 *e*P P 13 24 22.1 +1.9
comp=Z,53nm,1.4s
C31A **Landman Farms,** 78.29 37 P P 13 24 20.4 +0.3
baz=317
LANS **Liptovska Anna** 78.33 326 *e*P P 13 24 22.2 +1.9
LANS **Liptovska Anna** 78.33 326 *e*P P 13 24 22.2 +1.9
KECS **Kecovo** 78.37 325 *e*P P 13 24 18.9 -1.6
KECS pmax pmax
comp=Z,4.0nm,1.0s
KECS **Kecovo** 78.37 325 *e*P P 13 24 18.9 -1.6
OKC **Ostrava-Krasne** 78.38 327 *e*P P 13 24 21.1 +0.6
OKC AMS AMS 14 01 30.0
comp=Z,500nm,19.4s
OKC **Ostrava-Krasne** 78.38 327 *e*P P 13 24 21.1 +0.6
OKC MLR MLR
comp=Z,500nm,19.4s
B32A **Ashes, Strandq** 78.39 35 P P 13 24 20.9 +0.3
baz=318
KSP **Ksiaz** 78.39 328 *e*P P 13 24 21.2 +0.6
KSP **Ksiaz** 78.39 328 *e*P P 13 24 21.2 +0.6
PDMCI **Parker Dam,Lak** 78.42 55 P P 13 24 22.2 +1.2
baz=310
VOIR 78.42 320⇑ *i*P P 13 24 22.0 +1.1
VOIR 78.42 320 P P 13 24 21.8 +0.9
A33A **Warroad** 78.50 35 P P 13 24 22.0 +0.8
baz=318
Y12C **Blythe** 78.53 56 P P 13 24 23.0 +1.3
baz=310
DRGR 78.58 322⇑ *i*P P 13 24 22.7 +0.9
DRGR 78.58 322 P P 13 24 22.9 +1.1
MORC **Moravsky Berou** 78.69 327⇑ *i*P P 13 24 22.0 -0.3
MORC **Moravsky Berou** 78.69 327 *e*P P 13 24 23.2 +0.9
MORC pmax pmax
comp=Z,101nm,1.0s
MORC **Moravsky Berou** 78.69 327 *e*P P 13 24 23.2 +0.9
comp=Z,101nm,1.0s
DPC **Dobruska-Polom** 78.76 328 *e*P P 13 24 23.3 +0.6
DPC *e*pP sP 13 24 39.6 -2.3
DPC AMS AMS 14 01 30.0
comp=Z,500nm,17.4s
DPC **Dobruska-Polom** 78.76 328 *e*P P 13 24 23.3 +0.6
DPC *e* 13 24 39.6
DPC MLR MLR
comp=Z,500nm,17.4s
UPC **Upice** 78.76 328 AMS AMS 14 01 50.0
comp=Z,600nm,16.7s
AGMN **Agassiz Nation** 78.77 35 P P 13 24 23.3 +0.6
baz=318
GLA **Glamis** 78.78 56 P P 13 24 24.4 +1.3
baz=310
GLA **Glamis** 78.78 56 *e*P P 13 24 24.8 +1.7
GLA **Glamis** 78.78 56 *e*P P 13 24 24.8 +1.7
KRLC **Kraliky** 78.78 328 *e*P P 13 24 23.9 +1.1
KRLC **Kraliky** 78.78 328 *e*P P 13 24 23.9 +1.1
C32A **Crookston** 78.82 36 P P 13 24 23.9 +0.9
baz=318
D31A **Mcclaflin, Tow** 78.84 37 P P 13 24 24.2 +1.1
baz=317
PV10 **Paradox Valley** 78.89 49 *e*P P 13 24 25.8 +1.9
B33A **Robert and Kas** 78.91 35 P P 13 24 24.5 +1.0
baz=318
PV04 **Paradox Valley** 78.96 49 P P 13 24 24.2 0.0
N23A **Red Feather La** 78.97 46 P P 13 24 25.3 +1.0
baz=313
PSZ **Piszkesteto** 79.06 325 *e*P P 13 24 25.5 +1.1
PSZ pmax pmax
comp=Z,20nm,1.0s
PSZ **Piszkesteto** 79.06 325 *e*P P 13 24 25.3 +0.9
PSZ **Piszkesteto** 79.06 325 *e*P P 13 24 25.5 +1.1
comp=Z,20nm,1.0s
VYHS **Vyhne** 79.10 325 *e*P P 13 24 25.0 +0.5
VYHS pmax pmax
comp=Z,7.0nm,1.0s
VYHS **Vyhne** 79.10 325 *e*P P 13 24 25.0 +0.5
VYHS *e*PP PP 13 27 22.8 -0.7
E31A **Nome** 79.12 37 P P 13 24 26.0 +1.3
baz=317
B34A **Aery, Baudette** 79.16 34 P P 13 24 25.4 +0.5
baz=319
C33A **Trail** 79.21 36 P P 13 24 25.8 +0.7
baz=318
BRG **Berggiesshubel** 79.31 330 *e*P P 13 24 25.7 +0.1
comp=Z,17nm,0.9s
BRG *e* 13 24 44.5
comp=Z,14nm,1.2s
comp=Z,610nm,17.2s
comp=N,554nm,16.6s
comp=E,171nm,16.6s
BRG **Berggiesshubel** 79.31 330 *e*P P 13 24 25.7 +0.1
BRG *e* 13 24 44.5
BRG pmax pmax
comp=Z,17nm,0.9s
BRG pmax pmax
comp=Z,14nm,1.2s
BRG MLR MLR
comp=Z,610nm,17.2s
BRG MLR MLR
comp=N,554nm,16.6s
BRG MLR MLR
comp=E,171nm,16.6s
PV01 **Paradox Valley** 79.33 49 *e*P P 13 24 27.8 +1.5
PVCC **Panska Ves** 79.33 329 *e*P P 13 24 26.8 +1.1
PVCC *e*PCP PcP 13 24 36.0 +2.2
PVCC AMS AMS 14 02 10.0
comp=E,700nm,17.9s
PVCC **Panska Ves** 79.33 329 *e*P P 13 24 26.8 +1.1
PVCC *e* 13 24 36.0
PVCC MLR MLR
comp=Z,700nm,17.9s
CLL **Collm** 79.33 330 *i* P P 13 24 25.7 0.0
CLL *e* 13 24 44.0
CLL pmax pmax
comp=Z,66nm,1.0s
CLL MLR MLR
comp=Z,300nm,19.5s
CLL **Collm** 79.33 330 *i* P P 13 24 25.7 0.0
comp=Z,35nm,1.0s
CLL *e*pP sP 13 24 44.0 -0.9
CLL *e*PP PP 13 27 24.0 -1.3
CLL *e*S S 13 34 18.0 -4.5
CLL *e*PS PnS 13 35 06.0 -4.3
CLL *e* 13 40 30.0
CLL *e*SSS SSS 13 43 06.0
CLL LmV 14 04 00.0
CLL comp=Z,300nm,19.5s LmV 15 08 00.0
comp=Z,100nm,18.8s
WUAZ **Wupatki** 79.37 53 P P 13 24 28.0 +1.6
baz=311,SNR=6.3
WUAZ **Wupatki** 79.37 53 *e*P P 13 24 28.6 +2.1
comp=Z,22nm,1.0s
F31A **Hecla** 79.45 38 P P 13 24 27.6 +1.0
baz=317
E32A **Braaten, Kindr** 79.48 37 P P 13 24 27.3 +0.7
baz=318
GZR **Gura Zlata** 79.57 321⇑ *i*P P 13 24 27.6 +0.4
D33A **AnnSam, Waubun** 79.64 36 P P 13 24 28.0 +0.5
baz=318
B35A **Bob, Littlefor** 79.66 34 P P 13 24 27.6 0.0
baz=320
C34A **RKJ Ranch, Bem** 79.68 35 P P 13 24 27.7 0.0
baz=319
GOPC **GO Pecny, Ondr** 79.72 328 *e*P P 13 24 29.0 +1.1
GOPC AMS AMS 14 02 10.0
comp=Z,600nm,19.3s
GOPC **GO Pecny, Ondr** 79.72 328 *e*P P 13 24 29.0 +1.1
GOPC MLR MLR
comp=Z,600nm,19.3s
PRU **Pruhonice** 79.76 329 *e*P P 13 24 29.0 +0.9
PRU AMS AMS 14 02 00.0
comp=Z,700nm,20.3s
PRU **Pruhonice** 79.76 329 *e*P P 13 24 29.0 +0.9
PRU MLR MLR
comp=Z,700nm,20.3s
ISCO **Idaho Springs** 79.90 46 P P 13 24 30.2 +0.7
baz=314,SNR=5.3
ISCO **Idaho Springs** 79.90 46 *e*P P 13 24 29.3 -0.2
ISCO pmax pmax
comp=Z,22nm,1.3s
ISCO **Idaho Springs** 79.90 46 *e*P P 13 24 29.2 -0.2
comp=Z,22nm,1.3s
TREC **Trest** 79.92 328 *e*P P 13 24 30.0 +1.0
TREC AMS AMS 14 02 20.0
comp=Z,600nm,17.7s
TREC **Trest** 79.92 328 *e*P P 13 24 30.0 +1.0
TREC MLR MLR
comp=Z,600nm,17.7s
G31A **Conde** 79.94 39 P P 13 24 29.9 +0.8
baz=317
D34A **Park Rapids** 79.97 36 P P 13 24 30.2 +0.9
baz=319
MVCO **Mesa Verde** 79.99 50 P P 13 24 30.4 +0.6
baz=312,SNR=5.9
MVCO **Mesa Verde** 79.99 50 P P 13 24 28.1 -1.7
comp=Z,31nm,1.2s
E33A **Westby DABS, E** 80.04 37 P P 13 24 30.1 +0.4
baz=318
C35A **Jirik Farms, M** 80.05 35 P P 13 24 30.1 +0.4
baz=320,SNR=6.3
SUSD **Miller** 80.14 39 P P 13 24 31.3 +1.0
baz=317
G32A **Webster** 80.26 38 P P 13 24 31.9 +1.0
baz=318
F33A **5 Mile Ranch,** 80.40 37 P P 13 24 32.0 +0.4
baz=318,SNR=5.5
NKC **Novy Kostel** 80.40 330 *e*P P 13 24 32.5 +0.9
NKC AMS AMS 14 03 10.0
comp=Z,500nm,15.4s
NKC **Novy Kostel** 80.40 330 *e*P P 13 24 32.5 +0.9
NKC MLR MLR
comp=Z,500nm,15.4s
D35A **Remer** 80.49 35 P P 13 24 32.5 +0.4
baz=320
C36A **Pine Crest Far** 80.51 34 P P 13 24 32.4 +0.3
baz=320,SNR=5.6
MDVR **Moldovita** 80.53 321⇓ *i*P P 13 24 32.5 +0.1
MPEP **Malo Peshtene** 80.56 319 *e*P P 13 24 32.5 0.0
S22A **4UR Ranch, Cre** 80.61 49 P P 13 24 35.0 +1.7
baz=313,SNR=5.9
W18A **Petrified Fore** 80.64 52 P P 13 24 34.1 +0.8
baz=312
SOP **Sopron** 80.71 326 *e*P P 13 24 34.1 +0.9
E35A **Pequot Lakes** 80.73 36 P P 13 24 33.6 +0.3
baz=319
Q24A **Divide** 80.74 47 P P 13 24 34.5 +0.6
baz=314
214A **Organ Pipe Nat** 80.78 56 P P 13 24 35.2 +1.3
baz=311
G33A **Ortonville** 80.81 38 P P 13 24 34.1 +0.3
baz=318
C37A **Embarrass** 80.81 34 P P 13 24 34.2 +0.4
baz=321
CONA **Conrad Observa** 80.82 327 *i* P P 13 24 34.2 +0.3
comp=Z,16nm,1.0s,SNR=8.7
KHC **Kasperske Hory** 80.83 329 *e*P P 13 24 34.6 +0.7
KHC *e*pP sP 13 24 54.7 +1.6
KHC AMS AMS 14 02 50.0
comp=Z,700nm,17.5s
KHC **Kasperske Hory** 80.83 329 *e*P P 13 24 34.7 +0.8
KHC pmax pmax
comp=Z,7.0nm,0.8s
KHC **Kasperske Hory** 80.83 329 *e*P P 13 24 34.6 +0.8
comp=Z,7.1nm,0.8s
H32A **Carlson Farm,** 80.84 39 P P 13 24 34.7 +0.6
baz=318
F34A **Alexandria** 80.91 37 P P 13 24 35.0 +0.6
baz=319
EYMN **Ely** 80.94 33 P P 13 24 34.5 0.0
baz=321,SNR=5.7
EYMN **Ely** 80.94 33 *e*P P 13 24 34.8 +0.4
comp=Z,12nm,0.9s
GEC2 **GERESS Array S** 81.00 328 *e*P P 13 24 35.3 +0.4
GEC2 pmax pmax
comp=Z,10.0nm,0.9s
GEC2 **GERESS Array S** 81.00 328 *e*P P 13 24 35.3 +0.4
comp=Z,9.9nm,0.9s
GERES **GERESS Array B** 81.00 328 P P 13 24 34.8 -0.1
comp=Z,6.9nm,0.8s,baz=35,slow=4.9,SNR=38
GEA0 **GERESS Array S** 81.01 328 *e*P P 13 24 34.8 -0.1
H33A **Prehn Over Nor** 81.04 38 P P 13 24 35.9 +0.7
baz=318
OGNE **Ogallala** 81.07 44 P P 13 24 36.1 +0.7
baz=315
J31A **Geddes** 81.09 40 P P 13 24 36.1 +0.8
baz=317
D37A **Cotton** 81.15 34 P P 13 24 36.2 +0.6
baz=320
G34A **Benson** 81.15 37 P P 13 24 36.3 +0.7
baz=319
I32A **Karley and Nic** 81.18 39 P P 13 24 36.2 +0.4
baz=318
F35A **Swanville** 81.18 36 P P 13 24 36.3 +0.5
baz=319
C38A **Sawbill Land.** 81.21 33 P P 13 24 35.7 -0.3
baz=321,SNR=7.4
E36A **McGregor** 81.27 35 P P 13 24 36.5 +0.3
baz=320
SDCO **Great Sand Dun** 81.38 48 P P 13 24 38.1 +0.7
baz=314
SDCO **Great Sand Dun** 81.38 48 *e*P P 13 24 36.9 -0.4
comp=Z,17nm,1.4s
VTS **Vitosha** 81.39 319⇑ *i*P P 13 24 37.3 +0.2
VTS **Vitosha** 81.39 319 *e*P P 13 24 38.0 +0.8
VTS pmax pmax
comp=Z,33nm,1.0s
VTS **Vitosha** 81.39 319 *e*P P 13 24 37.6 +0.5
VTS **Vitosha** 81.39 319 *e*P P 13 24 38.0 +0.8
comp=Z,32nm,1.0s
J32A **Parkston** 81.47 40 P P 13 24 38.4 +1.0
baz=318
I33A **Coleman** 81.49 39 P P 13 24 39.1 +1.6
baz=318
ARSA **Arzberg** 81.49 326 *i* P P 13 24 37.5 +0.1
comp=Z,4.3nm,0.7s
H34A **Spellman Lake,** 81.51 38 P P 13 24 38.3 +0.8
baz=319
MOA **Molln** 81.55 327 *i* P P 13 24 38.8 +1.0
SNR=5.6
K31A **O'Neill** 81.57 41 P P 13 24 38.9 +1.0
baz=317
C39A **Grand Marais** 81.61 33 P P 13 24 38.4 +0.4
baz=322
F36A **Milaca** 81.65 36 P P 13 24 37.6 -0.7
baz=320
ECSD **EROS Data Cent** 81.81 39 P P 13 24 39.2 0.0
baz=318,SNR=7.0
ECSD **EROS Data Cent** 81.81 39 *e*P P 13 24 39.6 +0.5
comp=Z,18nm,1.1s
TUC **Tucson** 81.85 55 P P 13 24 40.0 +0.3
baz=312
K32A **Verdigre** 81.93 40 P P 13 24 40.1 +0.3
baz=318
H35A **Sunnyside Ranc** 81.94 37 P P 13 24 40.2 +0.4
baz=319
I34A **Hadley** 81.94 38 P P 13 24 40.6 +0.7
baz=319
J33A **Davis** 81.94 39 P P 13 24 40.3 +0.4
baz=318
E38A **The Farm, Brul** 81.95 34 P P 13 24 39.9 0.0
baz=321
G36A **St. Michael** 82.03 36 P P 13 24 40.5 +0.3
baz=320
GROS **Grobnik** 82.11 326 *i* P P 13 24 40.6 -0.2
KSCO **Kaye Shedlock'** 82.11 45 P P 13 24 42.3 +1.3
baz=315
SOKA **Soboth** 82.14 326 *i* P P 13 24 41.2 +0.2
comp=Z,31nm,0.8s,SNR=18
F37A **Hinrichs Farm,** 82.16 35 P P 13 24 41.2 +0.3
baz=320
F38A **Pierce - Schro** 82.31 35 P P 13 24 42.1 +0.4
baz=321,SNR=8.7
L32A **Elgin** 82.40 41 P P 13 24 42.0 -0.3
baz=318
T25A **Trinidad** 82.42 48 P P 13 24 43.6 +0.8
baz=314,SNR=11
H36A **Jessenland, He** 82.45 37 P P 13 24 43.2 +0.8
baz=320
K33A **Hardington** 82.46 40 P P 13 24 43.2 +0.6
baz=318
J34A **George** 82.46 39 P P 13 24 43.6 +1.0
baz=319
MEM **Membach** 82.46 333 P P 13 24 42.7 +0.3
comp=Z,14nm,1.1s
SPMN **Marine on St.** 82.47 36 P P 13 24 43.2 +0.6
baz=320
OBKA **Obir** 82.48 326 *i* P P 13 24 43.3 +0.6
comp=Z,13nm,0.8s
I35A **Creekview Farm** 82.50 38 P P 13 24 43.3 +0.5
baz=319
KBA **Koelnbreinsper** 82.55 327 *i* PcP P 13 24 44.4 +1.2
comp=Z,21nm,0.8s
E39A **Mellen** 82.56 34 P P 13 24 43.5 +0.5
baz=322
VAY **Valandovo** 82.64 319 *i* P P 13 24 44.9 +1.4
SKO **Skopje** 82.73 320 *i* P P 13 24 46.0 +2.0
ANMO **Albuquerque** 82.74 50 P P 13 24 46.1 +1.7
baz=314
ANMO **Albuquerque** 82.74 50 *e*P P 13 24 44.0 -0.4
ANMO pmax pmax
comp=Z,17nm,1.1s
ANMO **Albuquerque** 82.74 50 *e*P P 13 24 44.0 -0.4
comp=Z,17nm,1.1s
BGNE **Belgrade** 82.76 41 P P 13 24 44.8 +0.6
baz=318
J35A **Milford** 82.76 38 P P 13 24 44.9 +0.7
baz=319
F39A **Loretta** 82.77 34 P P 13 24 44.7 +0.6
baz=322
MYKA **Terra Mystica** 82.78 327 *i* P P 13 24 43.9 -0.3
comp=Z,10nm,0.8s
E40A **Wakefield** 82.79 33 P P 13 24 44.6 +0.3
baz=322
K34A **Le Mars** 82.84 39 P P 13 24 45.0 +0.4
baz=319
BCLA **Clavier** 82.86 334 P P 13 24 45.4 +0.9
H37A **Dierke Farm, C** 82.91 36 P P 13 24 45.5 +0.6
baz=320
WATA **Walderalm** 83.07 329 *i* PcP P 13 24 46.7 +0.9
comp=Z,5.9nm,0.5s
WTTA **Wattenberg** 83.10 328 *i* PcP P 13 24 46.9 +0.9
comp=Z,10nm,0.9s
F40A **Park Falls** 83.11 34 P P 13 24 46.0 +0.1
baz=322
I37A **Lemond, Waseca** 83.12 37 P P 13 24 47.0 +1.0
baz=320
M33A **Taylor Creek F** 83.12 40 P P 13 24 46.6 +0.5
baz=318
H38A **Maiden Rock** 83.13 36 P P 13 24 46.7 +0.7
baz=321
SNF **Seneffe** 83.14 334 P P 13 24 46.5 +0.6
G39A **Holcombe** 83.15 35 P P 13 24 46.5 +0.4
baz=322
ABTA **Abfaltersbach** 83.15 328 *i* P P 13 24 46.3 0.0
SNR=7.6
JAVS **Javornik** 83.18 326 *i* P P 13 24 45.4 -0.9
J36A **Seneca 1, Swea** 83.20 38 P P 13 24 47.3 +0.9
baz=320
K35A **Storm Lake** 83.23 39 P P 13 24 47.1 +0.5
baz=319
L34A **Svendsen Farm,** 83.24 40 P P 13 24 46.2 -0.5
baz=318
MOTA **Moosalm** 83.25 329 *i* P P 13 24 46.6 -0.2
comp=Z,25nm,0.8s
RETA **Reutte** 83.27 329 *i* P P 13 24 47.2 +0.5
comp=Z,31nm,1.0s,SNR=11
DOU **Dourbes** 83.38 334 P P 13 24 48.0 +0.8
BFO **Black Forest** 83.52 331 *e*P P 13 24 48.0 0.0
BFO pmax pmax
comp=Z,14nm,0.9s
BFO **Black Forest** 83.52 331 *e*P P 13 24 48.0 0.0
comp=Z,14nm,0.9s
L35A **Bielow Farm, R** 83.54 39 P P 13 24 47.9 -0.3
baz=319
H39A **Augusta** 83.57 35 P P 13 24 47.9 -0.4
baz=322
121A **Cookes Peak, D** 83.58 53 P P 13 24 49.6 +0.9
baz=313
121A **Cookes Peak, D** 83.58 53 *e*P P 13 24 49.0 +0.2
comp=Z,36nm,1.3s
G40A **Rib Lake** 83.59 34 P P 13 24 48.0 -0.4
baz=322
J37A **Redenius Farm,** 83.59 37 P P 13 24 48.5 +0.1
baz=320
I38A **Scanlan Farm,** 83.59 36 P P 13 24 48.3 -0.1
baz=321
E42A **Champion** 83.64 32 P P 13 24 49.3 +0.7
baz=324
FETA **Feichten** 83.66 329 *i* PcP P 13 24 49.8 +0.9
comp=Z,19nm,0.8s
K36A **Gilmore City** 83.68 38 P P 13 24 49.4 +0.5
baz=320,SNR=5.0
URZ **Urewera** 83.68 153 LR LR 13 59 37.0
comp=Z,139nm,18.6s,baz=340,slow=34
F41A **Three Lakes** 83.69 33 P P 13 24 49.5 +0.6

baz=323
OHR Ohrid 83.69 319 *i* P P 13 24 50.0 +1.0
DAVA Damuels 83.78 329 *i* P P 13 24 49.6 +0.1
comp=Z,40nm,0.8s,SNR=15
CBKS Cedar Bluff 83.83 44 P P 13 24 49.6 -0.1
baz=317
M35A Neola 83.95 40 P P 13 24 50.9 +0.6
baz=319,SNR=6.4
K37A Belmond 83.97 38 P P 13 24 50.7 +0.4
baz=320,SNR=7.7
L36A Harm Buss Farm 83.98 39 P P 13 24 50.5 +0.1
baz=320
H40A Chili 84.01 35 P P 13 24 50.6 +0.1
baz=322
N34A Lincoln 84.02 41 P P 13 24 50.9 +0.2
baz=318
O33A Hebron 84.03 42 P P 13 24 51.0 +0.2
baz=318
ECH Echery 84.05 332⇑ *e*P P 13 24 50.6 -0.1
E43A Lone Tree Farm 84.06 32 P P 13 24 50.8 +0.1
baz=324
G41A Antigo 84.07 34 P P 13 24 51.2 +0.3
baz=323
F42A Maple Grove Fa 84.08 33 P P 13 24 51.1 +0.2
baz=323
J38A Wedel Dairy, R 84.09 37 P P 13 24 51.0 +0.1
baz=321
I39A Houston 84.11 36 P P 13 24 50.6 -0.4
baz=321
FUORN Ofenpass-Fuorn 84.17 329 *e*P P 13 24 52.4 +0.7
comp=Z,58nm,0.9s
H41A Junction City 84.34 34 P P 13 24 52.3 +0.1
baz=322
L37A Phoenix Point, 84.40 38 P P 13 24 52.7 +0.1
baz=320
M36A Felix, Anita 84.40 39 P P 13 24 53.0 +0.3
baz=320,SNR=6.8
O34A Beatrice 84.41 41 P P 13 24 52.4 -0.3
baz=318
F43A Flat Rock, Esc 84.42 32 P P 13 24 52.7 +0.1
baz=324
J39A Decorah 84.43 36 P P 13 24 52.5 -0.2
baz=321
N35A Tabor 84.44 40 P P 13 24 53.1 +0.4
baz=319
K38A Parkersburg 84.47 37 P P 13 24 52.6 -0.3
baz=321
THEF They Montfort 84.47 332 *e*P P 13 24 53.1 +0.3
I40A Norwalk 84.49 35 P P 13 24 52.6 -0.4
baz=322
F44A Big Bay de Noc 84.61 32 P P 13 24 52.9 -0.7
baz=325
TUE Stuetta 84.66 329 *e*P P 13 24 54.4 +0.3
comp=Z,18nm,0.9s
G43A Wallace 84.67 33 P P 13 24 53.7 -0.2
baz=324
PMOR Pomariorio Ree 84.67 114 *e*T T 14 58 20.2
comp=Z,45nm,0.2s
I41A Arkdale 84.69 35 P P 13 24 54.2 +0.2
baz=322
O35A Humboldt 84.75 41 P P 13 24 54.7 +0.4
baz=319
L38A Oak Wood Farm, 84.77 38 P P 13 24 54.6 +0.2
baz=321
M37A Trindle Farm, 84.81 39 P P 13 24 54.4 -0.3
baz=320
P34A Walnut Farm, R 84.82 42 P P 13 24 54.5 -0.3
baz=318
J40A Soldiers Grove 84.82 36 P P 13 24 55.5 +0.8
baz=322
K39A Oelwein 84.83 37 P P 13 24 54.1 -0.7
baz=321
LOMF Lomont 84.90 331⇑ *e*P P 13 24 54.7 -0.4
J41A Loganville 85.17 35 P P 13 24 56.2 -0.2
baz=322
K40A Colesburg 85.18 36 P P 13 24 56.3 -0.1
baz=322
M38A Pleasantville 85.21 38 P P 13 24 57.0 +0.4
baz=320,SNR=5.3
N37A Lee Faris, Mou 85.22 39 P P 13 24 56.3 -0.4
baz=320
L39A Vinton 85.23 37 P P 13 24 56.6 -0.1
baz=321
P35A Duane Minner, 85.25 41 P P 13 24 56.9 0.0
baz=319
PPT Papeete 85.25 117 LR LR 13 55 13.1
comp=Z,311nm,21.5s,baz=0.0,slow=30
PPT2 Papeete2 85.26 117 *e*S S 13 35 24.5 +0.4
comp=Z,120nm,27.0s
PPT2 Papeete2 85.26 117 *e*LR LR 13 51 35.3
comp=Z,643nm,22.2s,baz=306
PPT2 Papeete2 85.26 117 *e*T T 14 59 04.2
comp=Z,35nm,0.3s
PAE Paea 85.31 117 *e*T T 14 59 06.6
comp=Z,3.7nm,0.3s
TIAR Tiarei 85.40 117 *e*T T 14 59 13.3
comp=Z,9.6nm,0.3s
R34A Isabella, Hill 85.53 43 P P 13 24 58.0 -0.3
baz=318
SENIN Lac Senin/Sane 85.55 330 *e*P P 13 24 58.6 +0.1
comp=Z,17nm,0.8s
AMTX Amarillo 85.58 48 P P 13 24 58.9 +0.2
baz=316
P36A Good Intent, A 85.59 41 P P 13 24 58.9 +0.4
baz=319
MSTX Muleshoe 85.60 49 P P 13 24 59.1 +0.3
baz=316
MNTX Cornudas Mount 85.63 52 P P 13 24 58.9 -0.1
baz=314
MNTX Cornudas Mount 85.63 52 P P 13 24 57.8 -1.1
comp=Z,16nm,1.3s
K41A Shullsburg 85.64 36 P P 13 24 58.3 -0.4
baz=322
L40A Anamosa 85.64 37 P P 13 24 58.5 -0.3
baz=322
M39A Webster 85.65 38 P P 13 24 59.1 +0.2
baz=321,SNR=7.5
N38A Joes South For 85.67 39 P P 13 24 59.2 +0.2
baz=320
O37A Wolven Farm, M 85.70 40 P P 13 24 59.0 -0.1
baz=320
Q35A Mercer Eighty, 85.74 42 P P 13 24 59.4 +0.1
baz=319
Q36A Arnold C. Orve 85.96 41 P P 13 25 00.3 -0.1
baz=319
N39A Derby Farms, D 85.96 38 P P 13 25 00.3 0.0
baz=321
L41A Preston 85.97 36 P P 13 25 00.5 +0.1
baz=322
U32A Winter Ranch, 86.00 45 P P 13 25 00.9 +0.2
baz=317
M40A Post Highland 86.02 37 P P 13 25 01.0 +0.3
baz=322
S34A Willow Spring 86.04 43 P P 13 25 00.9 0.0
baz=318
P37A Lathrop 86.04 40 P P 13 25 00.8 0.0
baz=320
LOR Lormes 86.05 333 *e*P P 13 24 59.8 -0.9
LOR pmax pmax
comp=Z,28nm,0.9s
R35A Emporia Munici 86.06 42 P P 13 25 01.4 +0.5
baz=319,SNR=7.7
O38A Galt 86.07 39 P P 13 25 00.7 -0.3
baz=320
LDF La Druitiere 86.23 336 *e*P P 13 25 01.8 +0.2
LDF pmax pmax
comp=Z,9.0nm,0.8s
SSF Saint Saulge 86.35 333 *e*P P 13 25 02.2 0.0
SSF pmax pmax
comp=Z,22nm,0.9s
N40A Mertquake, Sal 86.39 38 P P 13 25 02.4 -0.1
baz=322
R36A Gordon, Harris 86.42 42 P P 13 25 03.0 +0.4
baz=319,SNR=5.8
O39A Kirksville 86.42 39 P P 13 25 02.6 0.0
baz=321
P38A Dawn 86.42 40 P P 13 25 02.8 +0.1
baz=320
LPL La Plagne 86.47 330 *e*P P 13 25 03.2 +0.1
LPL pmax pmax
comp=Z,17nm,0.8s
S35A Otter Creek Ra 86.47 43 P P 13 25 03.5 +0.5
baz=319,SNR=11
LPG La Plagne 86.48 330 *e*P P 13 25 03.3 +0.1
LPG pmax pmax
comp=Z,20nm,0.9s
M41A Milan 86.50 37 P P 13 25 02.8 -0.2
baz=322

T34A McClaskey Farm 86.51 44 P P 13 25 02.9 -0.3
baz=318
SMF Signal de Mont 86.59 333 *e*P P 13 25 03.4 0.0
SMF pmax pmax
comp=Z,11nm,0.9s
AVF Avril sur Loir 86.64 333 *e*P P 13 25 02.9 -0.7
AVF pmax pmax
comp=Z,39nm,0.9s
R37A Teagarden Farm 86.77 41 P P 13 25 04.4 0.0
baz=320,SNR=7.3
M42A Sheffield 86.80 36 P P 13 25 04.1 -0.4
baz=323
S36A Lake Cedric, C 86.82 42 P P 13 25 04.9 +0.2
baz=319
O40A La Belle 86.85 38 P P 13 25 05.1 +0.3
baz=321
Q38A Cooks Store, C 86.89 40 P P 13 25 05.1 +0.1
baz=320,SNR=7.8
P39B Salisbury 86.91 39 P P 13 25 04.8 -0.3
baz=321
T35A Sooner Cattle 86.94 43 P P 13 25 05.4 +0.1
baz=319
Q39A Willow Grove F 87.14 40 P P 13 25 06.8 +0.6
baz=321,SNR=16
N42A Yates City 87.16 37 P P 13 25 05.6 -0.7
baz=322
T36A Boggs Farm, Ca 87.17 43 P P 13 25 07.2 +0.9
baz=319,SNR=5.6
S37A Fort Scott 87.19 42 P P 13 25 06.8 +0.4
baz=320,SNR=6.1
P40A Paris 87.22 39 P P 13 25 06.8 +0.2
baz=321,SNR=5.7
U35A Pawnee 87.24 44 P P 13 25 06.1 -0.6
baz=319
PLDF La Plantade 87.24 332 *e*P P 13 25 07.5 +0.8
SGMF Saint Gilles 87.28 337 *e*P P 13 25 07.0 +0.3
SGMF pmax pmax
comp=Z,18nm,1.0s
ORIF Oris-en-Rattie 87.30 330 *e*P P 13 25 08.8 +1.8
ORIF pmax pmax
comp=Z,8.0nm,1.0s
WMOK Wichita Mounta 87.32 46 P P 13 25 07.9 +0.7
baz=318
WMOK Wichita Mounta 87.32 46 *e*P P 13 25 07.2 0.0
WMOK pmax pmax
comp=Z,15nm,1.3s
WMOK Wichita Mounta 87.32 46 *e*P P 13 25 07.2 0.0
comp=Z,15nm,1.3s
O41A Passleys Farm, 87.33 38 P P 13 25 07.3 +0.2
baz=322
R38A Fenwick Farm, 87.34 41 P P 13 25 07.1 0.0
baz=320
AGO Saint Agoulin 87.35 333 *e*P P 13 25 06.7 -0.4
ROSF Rostrenen 87.42 338 *e*P P 13 25 07.9 +0.5
ROSF pmax pmax
comp=Z,25nm,1.0s
TCF Toulx Ste Croi 87.47 333 *e*P P 13 25 08.0 +0.3
TCF pmax pmax
comp=Z,18nm,1.3s
SBF Sospel 87.58 329 *e*P P 13 25 07.9 -0.4
SBF pmax pmax
comp=Z,9.0nm,0.7s
P41A Barry, Barry 87.59 38 P P 13 25 08.5 +0.2
baz=322
T37A Cheneyville 18 87.63 42 P P 13 25 08.6 0.0
baz=320
V35A Meyer Ranch, C 87.63 44 P P 13 25 08.9 +0.2
baz=319
R39A Chumby, Stover 87.68 40 P P 13 25 08.6 -0.2
baz=321,SNR=12
HDIL Hopedale 87.72 37 P P 13 25 08.8 -0.2
baz=323
U36A Oologah 87.75 43 P P 13 25 09.3 +0.1
baz=319
S38A Stockton 87.76 41 P P 13 25 09.1 -0.2
baz=320
VIVF Saint-Julien-l 87.81 331 *e*P P 13 25 10.4 +1.1
VIVF pmax pmax
comp=Z,21nm,1.3s
O43A Sugar Creek Fa 87.93 37 P P 13 25 10.0 +0.1
baz=323
MFF Saint Martin d 87.99 335 *e*P P 13 25 10.7 +0.6
MFF pmax pmax
comp=Z,24nm,1.0s
P42A Winchester 88.00 38 P P 13 25 09.7 -0.5
baz=322
S39A Bolivar 88.01 41 P P 13 25 10.2 -0.2
baz=321,SNR=11
T38A Diamond 88.02 42 P P 13 25 10.7 +0.2
baz=320,SNR=7.7
U37A Salina 88.07 43 P P 13 25 10.8 +0.1
baz=320
W35A Tecumseh 88.07 45 P P 13 25 10.8 +0.1
baz=319
Q41A Truxton 88.07 39 P P 13 25 11.0 +0.3
baz=322,SNR=5.5
R40A Maddies Statio 88.08 40 P P 13 25 11.3 +0.6
baz=321,SNR=12
TUL1 Leonard 88.08 43 P P 13 25 10.9 +0.1
baz=319
V36A Jenks 88.10 44 P P 13 25 11.1 +0.2
baz=319
TX31 Lajitas Ar. Si 88.33 53 *e*P P 13 25 12.7 +0.5
TXAR Lajitas Array 88.33 53 P P 13 25 12.7 +0.5
comp=Z,1.1nm,0.5s,baz=298,slow=3.6,SNR=23
P43A Skaggs, Pawnee 88.34 37 P P 13 25 11.9 -0.1
baz=323
LMR La Mourre 88.39 329 *e*P P 13 25 11.3 -0.7
LMR pmax pmax
comp=Z,7.0nm,0.8s
U38A Gravette 88.42 42 P P 13 25 12.0 -0.4
baz=320
W36A Wetumka 88.43 44 P P 13 25 12.0 -0.4
baz=319
Q42A Golden Eagle 88.44 38 P P 13 25 12.8 +0.5
baz=322,SNR=5.2
V37A Hulbert 88.45 43 P P 13 25 12.0 -0.5
baz=320
S40A Lebanon 88.50 40 P P 13 25 12.6 -0.1
baz=321,SNR=6.9
T39A Clever 88.50 41 P P 13 25 12.5 -0.2
baz=321
R41A Rosebud 88.51 39 P P 13 25 13.1 +0.3
baz=322,SNR=11
X35A Drake 88.58 45 P P 13 25 13.1 0.0
baz=319
CAF Calviac 88.70 333 *e*P P 13 25 13.4 -0.2
CAF pmax pmax
comp=Z,2.0nm,0.2s
X36A Centrahoma 88.79 45 P P 13 25 14.4 +0.2
baz=319
R42A Luebbering 88.81 39 P P 13 25 14.0 -0.2
baz=322
LMQ La Malbaie 88.81 21 *e*P P 13 25 12.8 -1.2
T40A Mansfield 88.83 41 P P 13 25 13.7 -0.6
baz=321
V38A Canehill 88.85 43 P P 13 25 14.6 +0.2
baz=320,SNR=5.7
W37B Quinton 88.86 44 P P 13 25 14.9 +0.5
baz=319
SFIN Lafayette 88.86 35 P P 13 25 14.5 +0.2
baz=324,SNR=5.1
S41A Jillco Farms, 88.88 40 P P 13 25 14.3 -0.2
baz=321,SNR=7.0
P44A Sand Creek, Wi 88.90 37 P P 13 25 14.2 -0.3
baz=323
U39A Green Forest 88.94 42 P P 13 25 14.9 +0.1
baz=320,SNR=9.3
LFF La Frestale 89.15 334 *e*P P 13 25 16.2 +0.6
LFF pmax pmax
comp=Z,13nm,0.8s
Q44A Meyer Farm, Va 89.17 37 P P 13 25 15.7 -0.1
baz=323
S42A Caledonia 89.21 39 P P 13 25 16.1 +0.1
baz=322,SNR=7.5
R43A Red Bud 89.23 38 P P 13 25 15.4 -0.7
baz=323
233A Rising Star 89.25 48 P P 13 25 17.0 +0.6
baz=318
U40A Yellville 89.28 41 P P 13 25 16.6 +0.2
baz=321,SNR=14
T41A Mountain View 89.30 40 P P 13 25 17.0 +0.5
baz=322
Y36A Durant 89.33 45 P P 13 25 17.4 +0.7
baz=319
W38A Poteau 89.40 43 P P 13 25 16.8 -0.1
baz=320

X38A Whitesboro 89.53 44 P P 13 25 18.1 +0.5
baz=320
R44A Waltonville 89.66 38 P P 13 25 18.9 +0.8
baz=323
W39A Magazine 89.69 43 P P 13 25 18.4 +0.1
baz=320
234A Clairette 89.70 47 P P 13 25 18.7 +0.2
baz=318
333A Richland Sprin 89.71 48 P P 13 25 19.0 +0.5
baz=318
Z36A Blue Ridge 89.72 46 P P 13 25 18.8 +0.4
baz=319
S43A Fulton Ridge, 89.72 39 P P 13 25 17.8 -0.6
baz=322
V40A Witts Springs 89.72 42 P P 13 25 18.7 +0.1
baz=321
U41A Viola 89.76 41 P P 13 25 18.6 -0.1
baz=321
JCT Junction City 89.85 50 P P 13 25 18.8 -0.4
baz=317
T43A Greenville 90.00 39 P P 13 25 20.0 +0.3
baz=322
MTLF Montolieu 90.02 332 *e*P P 13 25 20.1 +0.4
MTLF pmax pmax
comp=Z,7.0nm,1.0s
S44A Carbondale 90.02 38 P P 13 25 20.4 +0.6
baz=323
X39A Fountain Ranch 90.04 43 P P 13 25 20.6 +0.6
baz=320
433A Art 90.06 49 P P 13 25 20.4 +0.2
baz=318
W40A Ferguson Farm, 90.06 42 P P 13 25 20.3 +0.2
baz=321
V41A Mountainview 90.08 41 P P 13 25 20.1 -0.1
baz=321
U42A Revenden 90.10 40 P P 13 25 19.8 -0.4
baz=322
334A Lometa 90.14 48 P P 13 25 20.9 +0.4
baz=318
MIAR Mount Ida 90.30 43 P P 13 25 21.4 +0.2
baz=320
MIAR Mount Ida 90.30 43 *e*P P 13 25 20.4 -0.8
MIAR pmax pmax
comp=Z,8.0nm,0.8s
MIAR Mount Ida 90.30 43 *e*P P 13 25 20.4 -0.8
comp=Z,8.2nm,0.8s
T44A Benton 90.34 39 P P 13 25 21.5 +0.2
baz=323
S45A Carrier Mills 90.35 38 P P 13 25 21.5 +0.2
baz=323
WHAR Wooly Hollow 90.39 42 *e*P P 13 25 22.5 +0.9
comp=Z,12nm,0.8s
V42A Cord 90.45 41 P P 13 25 21.8 -0.1
baz=322
Y39A Lockesburg 90.48 44 P P 13 25 21.9 -0.1
baz=320
U43A Rector 90.50 40 P P 13 25 22.0 -0.1
baz=322
W41B Gary Mavity, V 90.50 42 P P 13 25 22.3 +0.2
baz=321
533A Kerrville 90.60 49 P P 13 25 22.7 0.0
baz=318
H06N1 SOCORRO T-PHAS 90.67 65 T T 15 06 15.6
SNR=8
H06E1 SOCORRO T-PHAS 90.76 65 T T 15 06 20.1
SNR=31
Y40A Okolona 90.86 43 P P 13 25 23.9 +0.1
baz=321
534A Blanco 90.96 49 P P 13 25 25.0 +0.6
baz=318
633A Saathoff Ranch 90.96 50 P P 13 25 24.6 +0.2
baz=317
Z39A Irene McRaven, 90.97 44 P P 13 25 24.8 +0.5
baz=320
ETSF Etsaut 91.39 333 *e*P P 13 25 27.7 +1.5
ETSF pmax pmax
comp=Z,7.0nm,0.8s
Z42A Norrel Spur, H 92.14 43 P P 13 25 30.0 +0.3
baz=321
O56A Blue Knob Stat 92.52 30 P P 13 25 32.0 +0.6
baz=330
KEST Kesra 93.47 323 P P 13 25 34.8 -1.2
comp=Z,3.7nm,0.9s,baz=323,slow=6.8,SNR=4.7
KEST LR LR 14 11 02.2
comp=Z,157nm,20.7s,baz=294,slow=38
ESDC Sonseca Array 95.42 334 P P 13 25 44.1 -0.7
comp=Z,1.3nm,0.6s,baz=18,slow=4.3,SNR=8.6
RKT Rikitea 99.18 112 *e*LR LR 13 58 09.3
comp=Z,446nm,24.2s,baz=308
TORD Torodi Ar. Bea 116.02 316 PKP PKPdf 13 31 02.1 -1.3
comp=Z,1.3nm,0.9s,baz=26,slow=2.4,SNR=6.2
TORD PP PP 13 31 56.4 -11
comp=Z,0.9nm,0.8s,baz=24,slow=5.2,SNR=3.8
MAW Mawson 121.83 206 PKP PKPdf 13 31 13.3 +0.4
comp=Z,2.6nm,0.8s,baz=241,slow=0.7,SNR=7.6
DBIC Dimbokro 124.91 319 PKP PKPdf 13 31 20.1 -0.4
comp=Z,3.0nm,0.7s,baz=42,slow=5.8,SNR=5.2
LBTB Lobatse 125.36 265 PKP PKPdf 13 31 21.5 +0.3
comp=Z,4.3nm,0.7s,baz=26,slow=2.9,SNR=7.8
LBTB Lobatse 125.36 265 PKIKP PKPdf 13 31 21.5 +0.3
LBTB pmax pmax
comp=Z,5.0nm,0.7s
BOSA Boshof 127.44 261 PKP PKPdf 13 31 25.1 +0.1
comp=Z,2.3nm,0.9s,baz=166,slow=4.2,SNR=3.6
TSUM Tsumeb 128.38 276 PKP PKPdf 13 31 27.5 +0.3
comp=Z,3.7nm,0.8s,baz=23,slow=4.5,SNR=4.0
SAML Samuel 142.25 43 *e*PKPdf PKPdf 13 31 50.6 -2.3
SNAA Sanae 143.10 198 PKP PKPab 13 31 48.4 +0.2
SNAA Sanae 143.10 198 PKhKP PKPpre 13 31 48.1
comp=Z,4.3nm,0.7s,baz=176,slow=2.7,SNR=28
SNAA Sanae 143.10 198 *e*PKPdf PKPbc 13 31 51.1 +1.3
VNA2 Neumayer--Watz 144.67 197 PKP PKPab 13 31 53.9 -0.3
baz=107,slow=2.0
VNA3 Neumayer Olymp 144.92 195 PKP PKPab 13 31 54.5 -0.7
VNA1 Neumayer--Stat 145.07 197 PKP PKPab 13 31 55.9 +0.2
LPAZ La Paz 145.07 57 PKPbc PKPab 13 31 58.3 +0.2
comp=Z,2.1nm,0.5s,baz=51,slow=5.1,SNR=14
LPAZ La Paz 145.07 57 *e*PKPbc PKPdf 13 31 58.6 +0.1
PB11 IPOC Station P 146.48 64 *e*PKPdf PKPbc 13 32 01.4 -0.3
RCBR Riachuelo 146.58 356 PKPbc PKPbc 13 32 02.3 +0.3
comp=Z,12nm,0.7s,baz=22,slow=3.7,SNR=5.7
PB01 IPOC Station P 147.45 65 *e*PKPdf PKPbc 13 32 03.6 -0.7
SIV San Ignacio 149.19 47 PKP PKPdf 13 32 06.0 +1.3
comp=Z,8.3nm,0.7s,baz=30,slow=1.3,SNR=6.3
SIV PKPbc PKPbc 13 32 09.4 +0.4
comp=Z,11nm,0.8s,baz=325,slow=3.5,SNR=14
LCO Las Campanas 151.17 79 *e*PKPbc PKPbc 13 32 14.5 +0.8
CPUP Villa Florida 159.25 57 PKPab PKPab 13 32 56.5 +0.7
comp=Z,1.7nm,0.7s,baz=266,slow=4.6,SNR=4.8

MAN 23 13:13:27.17̈.10N×119°.84E,h43^{km},mb4.6,ML3.5,MS3.4, 1C,Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
BOLP	**Bolinao**	**0.72**	**174**	*e*P		Pn	13 13 42.2	+1.4
BOLP				*e*S		Sn	13 13 53.0	+2.3
ABRA	**Dolores**	**1.00**	**57**	*e*P		Pn	13 13 45.5	+0.9
ABRA				*e*S		Sn	13 13 59.1	+1.6
SCZP	**Santa Cruz**	**1.32**	**177**	*e*P		Pn	13 13 50.2	+1.3
SCZP				*e*S		Sn	13 14 05.9	+0.5
CAUP	**Cauayan**	**1.91**	**94**	*e*P		Pn	13 14 00.2	+3.1
PCPH	**Palayan**	**1.95**	**141⇑**	*e*P		Pn	13 13 59.3	+1.7
PCPH				*e*S		Sn	13 14 22.6	+1.6
CVP	**Callao Caves**	**1.99**	**72**	*e*P		Pn	13 13 58.5	+0.4
CVP				*e*S		Sn	13 14 20.4	-1.4
ENPP	**El Nido**	**5.87**	**184**	*e*P		Pn	13 14 52.9	+1.4

NEIC ***23*** *13:23:19.4±1.2,24˚.31N×93˚.99E,h56^{km}±12^{km},mb4.4/5, Error ellipse: s-maj=17.0km s-min=8.3km az=61.0*
IDC ***23*** *13:23:20.9±0.5,24˚.29N×94˚.06E,h66^{km}±3^{km}, mb3.9/17, mb1 4.1/18,mb1mx3.8/56,mbtmp4.2/18,Error ellipse: s-maj=21.3km s-min=10.1km az=56.0*
ISC 23 13:23:17.9±0.5,24˚.24N±0˚.06×93˚.84E±0˚.05,h45^{km}±3^{km}, h45^{km}:pP-P,n49,σ2^{s}35/80,mb4.3/21,Myanmar-India border region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
SHL	**Shillong**	**2.21**	**307**	*e*P		**Pn**	**13 23 54.6**	**+2.3**
SHL				*e*S		**Sn**	**13 24 20.2**	**+1.6**
SHL					IAML		13 24 20.7	
	comp=E,2μm,0.2s							
SHL					IAML		13 24 20.8	

	comp=N,2μm,0.4s						
GTK	**Tadong**	**5.63**	**304**	*e*P	**Pn**	13 24 41.0	**+1.7**
GTK				*e*S	**Sn**	13 25 42.0	**-0.8**
GTK				AML	AML	13 25 47.6	
	comp=E,464nm,0.6s						
GTK				AML	AML	13 25 48.6	
	comp=N,406nm,0.5s						
LSA	**Lhasa**	**5.94**	**337**	*e*Pn	**Pn**	**13 24 44.9**	**+1.1**
	comp=N,38nm,0.4s						
LSA				*e*Sn	**Sn**	**13 25 53.8**	**+3.0**
TAPN	**Taplejung**	**6.33**	**301**	*e*Pn	**Pn**	**13 24 51.1**	**+2.0**
TAPN				*e*Sn	**Sn**	**13 25 59.3**	**-1.0**
ODAN	**Odare**	**6.38**	**295**	*e*Pn	**Pn**	**13 24 51.4**	**+1.7**
ODAN				*e*Sn	**Sn**	**13 25 59.0**	**-2.4**
	comp=N,316nm,0.3s						
RAMN	**Ramite**	**7.07**	**294**	*e*Pn	**Pn**	**13 25 01.5**	**+2.4**
RAMN				*e*Sn	**Sn**	**13 26 14.3**	**-4.1**
	comp=N,316nm,0.5s						
CHTO	**Chiang Mai**	**7.19**	**138**	*e*Pn	**Pn**	**13 25 00.7**	**+0.1**
CHTO				*e*Sn	**Sn**	**13 26 17.0**	**-4.0**
BOK	**Bokaro**	**7.29**	**268**	*e*P	**Pn**	**13 25 03.9**	**+2.0**
BOK				*e*S	**Sn**	**13 26 22.2**	**-1.2**
CMAR	**Chiang Mai Arr**	**7.46**	**140**	P	**Pn**	**13 25 07.2**	**+2.9**
	comp=N,1.3nm,0.3s,baz=316,slow=13,SNR=39						
JIRN	**Jiri**	**7.68**	**298**	*e*Pn	**Pn**	**13 25 09.3**	**+1.7**
GUN	**Gumba**	**8.04**	**299**	*e*Pn	**Pn**	**13 25 13.7**	**+1.2**
GUN				*e*Sn	**Sn**	**13 26 40.0**	**-2.2**
	comp=N,328nm,0.5s						
PKI	**Pulchoki**	**8.29**	**295**	*e*Pn	**Pn**	**13 25 17.1**	**+1.3**
PKIN	**Phulchoki**	**8.30**	**295**	*e*Pn	**Pn**	**13 25 16.7**	**+0.7**
PKIN				*e*Sn	**Sn**	**13 26 44.3**	**-4.2**
	comp=N,149nm,0.4s						
KKN	**Kakani**	**8.47**	**296**	*e*Pn	**Pn**	**13 25 19.3**	**+1.0**
KKN				*e*Sn	**Sn**	**13 26 48.4**	**-4.4**
	comp=N,244nm,0.5s						
DMN	**Daman**	**8.55**	**295**	*e*Pn	**Pn**	**13 25 20.2**	**+0.8**
DMN				*e*Sn	**Sn**	**13 26 49.7**	**-5.0**
	comp=N,172nm,0.5s						
GKN	**Gorkha**	**9.08**	**296**	*e*Pn	**Pn**	**13 25 27.0**	**+0.4**
GKN				*e*Sn	**Sn**	**13 27 02.8**	**-4.8**
	comp=N,258nm,0.4s						
KOLN	**Koldanda**	**9.86**	**293**	*e*Pn	**Pn**	**13 25 37.1**	**-0.2**
KOLN				*e*Sn	**Sn**	**13 27 20.5**	**-6.3**
	comp=N,139nm,0.4s						
PYUN	**Piuthan**	**10.48**	**294**	*e*Pn	**Pn**	**13 25 45.4**	**-0.4**
PYUN				*e*Sn	**Sn**	**13 27 35.0**	**-6.9**
	comp=N,124nm,0.6s						
JBP	**Jabalpur**	**12.74**	**268**	*e*P	**Pn**	**13 26 19.2**	**+2.6**
JBP				*ex*	**Sn**	**13 28 38.3**	**+1.2**
NGP	**Nagpur**	**14.00**	**260**	*e*P	**Pn**	**13 26 33.6**	**-0.1**
NGP				*e*S	**Sn**	**13 29 01.7**	**-6.0**
ENH	**Enshi**	**15.15**	**63**	*e*Pn	**Pn**	**13 26 48.0**	**-1.0**
HYB	**Hyderabad**	**15.82**	**247**	*i* P	**P**	**13 27 05.0**	**+4.1**
SMLA	**Simla**	**16.28**	**299**	*e*P	**P**	**13 27 04.7**	**-1.2**
SMLA				*e*S	Sn	13 29 51.5	-12
DHRM	**DHARAMSHALA**	**17.38**	**301**	*ex*	**Pn**	**13 27 14.2**	**-3.2**
DHRM				*e*S	Sn	13 30 17.2	-13
IPM	**Ipoh**	**20.83**	**159**	*e*P	**P**	**13 27 53.3**	**-2.6**
	comp=N,10nm,0.7s						
MKAR	**Makanchi Array**	**24.33**	**340**	P	**P**	**13 28 32.4**	**+1.0**
	comp=N,2.7nm,0.5s,baz=148,slow=12,SNR=30						
MKAR				pP	**sP**	**13 28 48.5**	**-0.1**
	comp=N,2.3nm,0.4s,baz=153,slow=8.9,SNR=5.8						
AAK	**Ala-Archa**	**24.34**	**324**	P	**P**	**13 28 34.0**	**+2.3**
	comp=N,1.8nm,0.5s,baz=147,slow=8.1,SNR=4.4						
AAK	**Ala-Archa**	**24.34**	**324**	*e*P	**P**	**13 28 31.8**	**0.0**
	comp=N,5.2nm,0.8s						
SONM	**Songino Array**	**25.57**	**20**	P	**P**	**13 28 43.8**	**+1.0**
	comp=N,2.3nm,0.5s,baz=200,slow=11,SNR=15						
SONM				pP	**sP**	**13 28 59.0**	**-1.0**
	comp=N,3.6nm,0.7s,baz=197,slow=11,SNR=6.7						
ULN	**Ulaanbaatar**	**25.80**	**21**	*e*P	**P**	**13 28 41.9**	**-3.0**
	comp=N,6.5nm,0.6s						
KURBB	**Kurchatov Arra**	**28.89**	**340**	P	**P**	**13 29 13.4**	**+1.1**
	comp=N,0.9nm,0.7s,baz=157,slow=7.3,SNR=5.5						
KURBB				pP	**sP**	**13 29 29.7**	**+0.1**
	comp=N,1.0nm,0.6s,baz=148,slow=10.0,SNR=4.6						
KURBB				PcP	**PcP**	**13 32 21.9**	**+1.2**
	comp=N,0.4nm,0.6s,baz=166,slow=2.1,SNR=3.3						
KURK	**Kurchatov**	**28.94**	**340**	P	**P**	**13 29 13.4**	**+0.6**
KURK				pP	**sP**	**13 29 29.7**	**-0.3**
KURK				PcP	**PcP**	**13 32 21.9**	**+1.1**
ZALV	**Zalesovo Beam**	**30.43**	**349**	P	**P**	**13 29 27.1**	**+1.1**
	comp=N,0.9nm,0.4s,baz=169,slow=8.4,SNR=5.3						
ZALV				pP	**sP**	**13 29 43.3**	**+0.1**
	comp=N,1.8nm,0.6s,baz=170,slow=9.7,SNR=4.6						
ABKAR	**Akbulak array**	**36.40**	**322**	P	**P**	**13 30 16.0**	**-2.0**
	comp=N,6.5nm,0.6s						
AKASG	**Malin Array Be**	**55.67**	**316**	P	**P**	**13 32 49.8**	**+0.3**
	comp=N,1.0nm,0.4s,baz=80,slow=6.6,SNR=9.3						
AKASG				pP	**sP**	**13 33 08.2**	**+0.8**
	comp=N,1.4nm,0.4s,baz=81,slow=6.3,SNR=4.9						
MLR	**Muntele Rosu**	**57.87**	**310**	P	**P**	**13 33 07.2**	**+1.8**
	comp=N,1.2nm,0.8s,baz=117,slow=9.0,SNR=7.5						
MLR				pP	**sP**	**13 33 25.2**	**+1.9**
	comp=N,0.9nm,0.7s,baz=107,slow=0.8,SNR=3.9						
FINES	**FINESS Array B**	**58.40**	**329**	P	**P**	**13 33 09.0**	**+0.4**
	comp=N,5.0nm,1.0s,baz=98,slow=7.2,SNR=5.2						
FINES				pP	**sP**	**13 33 27.6**	**+1.2**
	comp=N,2.7nm,0.8s,baz=90,slow=5.9,SNR=1.9						
WRA	**Warramunga Arr**	**59.03**	**135**	P	**P**	**13 33 13.3**	**-0.3**
	comp=N,2.5nm,0.6s,baz=327,slow=7.3,SNR=87						
ARCES	**ARCESS Array B**	**59.95**	**338**	P	**P**	**13 33 20.3**	**+1.0**
	comp=N,7.7nm,1.1s,baz=96,slow=8.3,SNR=3.9						
ASAR	**Alice Springs**	**61.47**	**138**	P	**P**	**13 33 30.6**	**+0.3**
	comp=N,2.6nm,0.5s,baz=321,slow=7.1,SNR=41						
ASAR				pP	**sP**	**13 33 48.0**	**-0.2**
	comp=N,1.1nm,0.5s,baz=321,slow=6.9,SNR=3.9						
ASAR				sP	pP	13 33 54.3	+11
	comp=N,1.2nm,0.5s,baz=320,slow=6.9,SNR=4.1						
HFS	**Hagfors**	**64.43**	**327**	P	**P**	**13 33 49.3**	**-0.1**
	comp=N,2.9nm,0.8s,baz=113,slow=9.6,SNR=2.9						
HFS				pP	**sP**	**13 34 07.8**	**+0.5**
	comp=N,2.3nm,0.5s,baz=101,slow=7.7,SNR=2.6						
NB2	**NORSAR Subarra**	**65.56**	**328**	P	sP	13 34 14.9	+0.1
	comp=Z,0.8nm,0.4s,baz=93,slow=5.6						
GERES	**GERESS Array B**	**65.81**	**314**	P	**P**	**13 33 59.8**	**+1.1**
	comp=Z,2.4nm,0.6s,baz=72,slow=6.3,SNR=15						
GERES				pP	**sP**	**13 34 18.1**	**+1.4**
	comp=Z,0.8nm,0.5s,baz=72,slow=6.3,SNR=3.4						
STKA	**Stephens Creek**	**72.09**	**139**	P	**P**	**13 34 37.6**	**0.0**
	comp=Z,1.8nm,0.5s,baz=335,slow=7.9,SNR=6.4						
MCK	**McKinley**	**79.64**	**24**	*e*P	**P**	**13 35 16.5**	**-3.9**
	comp=Z,5.6nm,0.9s						
ILAR	**Eielson Array**	**79.77**	**22**	P	**P**	**13 35 20.6**	**-0.4**
	comp=Z,0.3nm,0.7s,baz=288,slow=4.4,SNR=6.6						
ILAR				pP	**sP**	**13 35 37.6**	**-1.6**
	comp=Z,2.9nm,0.9s,baz=308,slow=5.1,SNR=22						
BOSA	**Boshof**	**84.35**	**235**	P	**P**	**13 35 47.2**	**+1.5**
	comp=Z,3.9nm,0.5s,baz=58,slow=7.5,SNR=12						
TORD	**Torodi Ar. Bea**	**86.62**	**283**	P	**P**	**13 35 58.9**	**+1.7**
	comp=Z,1.7nm,0.8s,baz=52,slow=4.5,SNR=8.4						
TXAR	**Lajitas Array**	**124.13**	**19**	PKP	**PKPdf**	**13 42 11.8**	**-0.4**
	comp=Z,0.3nm,0.8s,baz=348,slow=3.9,SNR=2.8						
TXAR				pPKP	**sPKPdf**	**13 42 29.6**	**-1.4**
	comp=Z,0.4nm,0.6s,baz=90,slow=0.4,SNR=4.5						

*IDC **23** 13:27:12.1±5.8, 9.°32N×126.°00E, h0km, mb3.9/5, mb1 3.8/5, mb1mx3.6/46, mbtmp3.9/5, MS3.7/3, Ms1 3.7/3, ms1mx3.0/39, Error ellipse: s-maj=173.7km s-min=112.0km az=35.0*

*ISCJB **23** 13:27:20.3±0.8, 10.°12N±0.°05×126.°44E±0.°07, h42km, mb3.8/5, MS4.0/2, Error ellipse: s-maj=10.4km s-min=7.6km az=178.9*

*MAN **23** 13:27:24, 9.°82N×126.°05E, h4km, mb4.4, ML3.3, MS3.2*

ISC 23 13:27:22.0±1.0, 10.°07N±0.°07×126.°36E±0.°09, h42km, n22, σ1s66/15, mb3.9/5, 4C-1D, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SCPH	**Surigao**	**0.90**	**252**	*e*P	**Pn**	**13 27 35.7**	**-2.5**
BIPH	**Bislig**	**1.87**	**180**	*i*P	**Pn**	**13 27 53.4**	**+1.9**
BIPH				*i* S	**Sn**	**13 28 15.1**	**+1.2**
CGP	**Cagayan de Oro**	**2.29**	**226**	*e*P	**Pn**	**13 27 57.4**	**+0.1**
CGP				*e*S	**Sn**	**13 28 24.0**	**-0.3**
LLP	**Lapu-Lapu**	**2.37**	**276**	*e*P	**Pn**	**13 27 59.1**	**+0.7**
LLP				*i* S	**Sn**	**13 28 29.3**	**+3.1**
PAGZ	**Pagadian**	**3.67**	**233**	*e*P	**Pn**	**13 28 17.2**	**+0.8**
GUIM	**Jordan**	**3.75**	**279**	*e*P	**Pn**	**13 28 19.4**	**+2.1**
RCP	**Roxas**	**3.85**	**293**	*e*P	**Pn**	**13 28 20.2**	**+1.5**
PVCP	**Virac**	**4.12**	**329**	*e*P	Pn	13 28 31.4	+8.9
PVCP				*e*S	Sn	13 29 23.8	+14
TGY	**Tagaytay City**	**6.65**	**308**	LR	LR	13 31 20.8	
	comp=Z,283nm,19.7s,baz=212,slow=36						
H11S3	**WAKE ISLAND Hy 39.90**		**73**	T	T	14 17 46.3	
	baz=262,slow=75,SNR=16						
H11S1	**WAKE ISLAND Hy 39.91**		**73**	T	T	14 17 47.8	
	baz=262,slow=75,SNR=13						
H11S2	**WAKE ISLAND Hy 39.91**		**73**	T	T	14 17 47.1	
	baz=262,slow=75,SNR=14						
H11N1	**WAKE ISLAND Hy 40.24**		**71**	T	T	14 18 13.7	
	baz=265,slow=74,SNR=35						
H11N2	**WAKE ISLAND Hy 40.25**		**71**	T	T	14 18 12.9	
	baz=265,slow=74,SNR=36						
H11N3	**WAKE ISLAND Hy 40.26**		**71**	T	T	14 18 12.1	
	baz=265,slow=74,SNR=41						
SONM	**Songino Array**	**41.24**	**340**	P	**P**	**13 35 03.5**	**+0.4**
	0.4nm,0.5s,baz=151,slow=6.3,SNR=3.8						
MKAR	**Makanchi Array**	**52.24**	**323**	P	**P**	**13 36 28.0**	**-1.1**
	0.8nm,0.6s,baz=112,slow=8.2,SNR=5.8						
KURBB	**Kurchatov Arra**	**56.29**	**325**	P	**P**	**13 36 57.3**	**-1.1**
	0.7nm,0.5s,baz=123,slow=7.1,SNR=8.4						
RAR	**Rarotonga**	**78.88**	**114**	LR	LR	14 11 42.4	
	comp=Z,73nm,20.3s,baz=256,slow=34						
SPITS	**Spitsbergen Ar**	**84.23**	**349**	P	**P**	**13 39 48.6**	**-0.1**
	0.3nm,0.3s,baz=95,slow=9.5,SNR=4.6						
FINES	**FINESS Array B**	**86.11**	**332**	P	**P**	**13 39 57.0**	**-1.4**
	1.5nm,0.8s,baz=64,slow=4.4,SNR=5.1						
VNDA	**Vanda**	**89.72**	**173**	LR	LR	14 19 47.3	
	comp=Z,46nm,19.5s,baz=344,slow=35						

*ISK **23** 13:33:56.7, 40.°72N×34.°73E, h26km, MD2.4*

*CSEM **23** 13:33:58.3±0.3, 40.°56N×34.°96E, h10km, MD2.3, Error ellipse: s-maj=13.9km s-min=5.4km az=126.0*

DDA 23 13:33:58.3, 40.°54N×35.°00E, h7km, Md2.3, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CTAK	**Corum_Osmancik**	**0.19**	**306**	*i* P	Pg	13 34 02.1	-0.2
CTAK				*i* S	Sg	13 34 06.1	+1.1
CTAK	**Corum_Osmancik**	**0.19**	**306**	P	Pg	13 34 02.1	-0.2
CTAK				S	Sg	13 34 06.1	+1.1
COAL	**Corum-Alaca**	**0.28**	**182**	*i* P	Pg	13 34 03.8	0.0
COAL				*i* S	Sb	13 34 10.2	-0.5
COAL	**Corum-Alaca**	**0.28**	**182**	P	Pg	13 34 03.8	-0.1
COAL				S	Sb	13 34 10.2	-0.5
CORM	**Corum**	**0.45**	**218**	*e*PG	Pb	13 34 08.2	-0.5
CORM				*e*SG	Sb	13 34 16.7	+1.0
CORM	**Corum**	**0.45**	**218**	*e*Pg	Pb	13 34 08.2	-0.5
CORM				*e*Sg	Sb	13 34 16.7	+1.0
HAVZ	**Havza**	**0.77**	**45**	*i* P	Pg	13 34 12.9	-0.2
HAVZ				*i* S	Sb	13 34 24.8	0.0
HAVZ	**Havza**	**0.77**	**45**	P	Pg	13 34 12.9	-0.2
HAVZ				S	Sb	13 34 24.8	+0.1
KVT	**Kavak**	**0.96**	**55**	*e*PG	Pg	13 34 16.5	-0.4
KVT				*e*SG	Sb	13 34 30.6	+0.2
CDAG	**Cicekdag**	**1.03**	**208**	*i* P	Pb	13 34 18.3	-0.2
CDAG				*i* S	Sb	13 34 33.0	+0.8
CDAG	**Cicekdag**	**1.03**	**208**	P	Pb	13 34 18.3	-0.2
CDAG				S	Sb	13 34 33.0	+0.7
DIKM	**Dikmen**	**1.13**	**10**	*e*PG	Pg	13 34 15.7	-4.3
DIKM	**Dikmen**	**1.13**	**10**	*e*Pg	Pg	13 34 15.7	-4.3
SVSK	**Karacayir**	**1.65**	**111**	*e*PN	Pb	13 34 28.8	-0.3

IDC 23 13:36:52.3±2.7, 5.°15S×149.°67E, h0km, mb3.8/4, mb1 4.0/5, mb1mx3.6/32, mbtmp3.9/5, ML2.4/1, Error ellipse: s-maj=65.0km s-min=39.1km az=103.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**4.91**	**210**	Pn	Pn	13 38 06.4	-1.0
	11nm,0.3s,baz=10,slow=4.9,SNR=35						
PMG				Sn	Sn	13 38 52.3	-13
	21nm,0.3s,baz=295,slow=10,SNR=9.2						
WRA	**Warramunga Arr**	**20.95**	**224**	P	P	13 41 36.4	-0.7
	1.6nm,0.7s,baz=52,slow=11,SNR=23						
ASAR	**Alice Springs**	**23.87**	**218**	P	P	13 42 07.1	-0.7
	0.9nm,0.6s,baz=49,slow=8.9,SNR=20						
FITZ	**Fitzroy Crossi**	**26.78**	**239**	P	P	13 42 35.2	+1.0
	1.0nm,0.4s,baz=54,slow=8.6,SNR=23						
STKA	**Stephens Creek**	**27.64**	**195**	P	P	13 42 43.2	+1.3
	1.4nm,0.7s,baz=348,slow=12,SNR=2.4						
TORD	**Torodi Ar. Bea**	**147.44**	**286**	PKPbc	PKPdf	13 56 37.6	+0.7
	0.2nm,0.4s,baz=84,slow=4.2,SNR=4.1						

MEX 23 13:46:10.4±0.5, 14.°60N×94.°59W, h15km, MD3.8, Off coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HUIG	**Huatulco**	**1.87**	**309**	*i* P	Pn	13 46 38.9	-2.9
HUIG				*e*S	Sn	13 47 00.3	-4.9
TGIG		**2.58**	**33**	*e*P	Pn	13 46 49.1	-2.7
TGIG				*e*S	Sn	13 47 19.0	-4.0
CCIG	**Comitan**	**2.90**	**54**	*e*P	Pn	13 46 54.0	-2.1
CCIG				*e*S	Sn	13 47 27.2	-3.6
PNIG	**Pinotepa**	**3.84**	**298**	*e*P	Pn	13 47 06.9	-2.2
PNIG				*i* S	Sn	13 47 49.9	-4.2

*ISCJB **23** 13:51:38.8±0.5, 27.°42N±0.°05×140.°5E±0.°1, h479km, mb3.5/16, Error ellipse: s-maj=12.6km s-min=6.0km az=172.9*

*JMA **23** 13:51:39.5±0.1, 27.°39N×139.°36E, h411km, M3.8*

*IDC **23** 13:51:40.4±1.6, 27.°33N×140.°14E, h471km±16km, mb3.2/15, mb1 3.3/19, mb1mx3.2/37, mbtmp4.0/19, Error ellipse: s-maj=18.9km s-min=11.9km az=90.0*

ISC 23 13:51:40.4±0.6, 27.°41N±0.°07×140.°4E±0.°1, h479km, n29, σ1s70/41, mb3.6/16, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CBIJ	**Chichi jima**	**1.63**	**101**	P	**P**	**13 52 40.3**	**-1.6**
CBIJ				S	**S**	**13 53 28.0**	**-3.7**
JHHJ	**Haha-jima-NKT**	**1.78**	**116**	P	**P**	**13 52 41.1**	**-1.5**
JHHJ				*e*S	**S**	**13 53 29.3**	**-3.6**
JHJ	**Hachijo jima 2**	**5.71**	**355**	P	**P**	**13 53 12.1**	**-0.8**
	12nm,0.3s,baz=139,slow=23,SNR=8.2						
JHJ				S	**S**	**13 54 24.4**	**-4.1**
	10.0nm,0.3s,baz=229,slow=20,SNR=2.3						
BSO1	**Boso 1**	**7.24**	**4**	P	**P**	**13 53 28.5**	**+0.9**
BSO1				*e*S	**P**	**13 54 54.5**	**-1.2**
BSO3	**Boso 3**	**7.37**	**1**	P	**P**	**13 53 29.6**	**+0.4**
BSO3				*e*S	**S**	**13 54 55.5**	**-3.1**
JHU	**Hanno**	**8.46**	**354**	P	**P**	**13 53 39.9**	**-1.2**
JHU				*e*S	**S**	**13 55 16.5**	**-3.8**
JAG	**Ashikaga**	**9.02**	**355**	P	**P**	**13 53 46.7**	**-0.3**
JAG				*e*S	**S**	**13 55 28.5**	**-2.5**
MJAR	**Matsushiro Arr**	**9.29**	**349**	P	**P**	**13 53 49.3**	**-0.5**
	0.4nm,0.3s,baz=165,slow=10,SNR=4.7						
MJAR				S	**S**	**13 55 34.4**	**-1.9**
	0.3nm,0.3s,baz=353,slow=26,SNR=3.5						
JNU	**Nakatsue**	**9.99**	**307**	P	**P**	**13 53 57.8**	**+0.3**
	0.3nm,0.3s,baz=174,slow=9.2,SNR=5.2						
KSRS	**Korea Array**	**14.51**	**317**	P	P	13 54 50.1	+4.5
	0.2nm,0.3s,baz=134,slow=8.9,SNR=8.0						
USRK	**Ussuriysk Ar.**	**18.06**	**340**	P	**P**	**13 55 23.6**	**+1.4**
	0.4nm,0.3s,baz=175,slow=9.1,SNR=12						
SONM	**Songino Array**	**33.38**	**317**	P	**P**	**13 57 37.4**	**-0.6**
	0.6nm,0.6s,baz=119,slow=8.9,SNR=2.7						
SEY	**Seydi**	**36.39**	**9**	P	**P**	**13 58 04.8**	**+2.1**
	1.9nm,0.8s,baz=193,slow=7.9,SNR=7.9						
CMAR	**Chiang Mai Arr**	**39.04**	**266**	P	**P**	**13 58 23.9**	**-1.4**
	0.5nm,0.7s,baz=84,slow=8.3,SNR=3.6						
WRA	**Warramunga Arr**	**47.44**	**188**	P	**P**	**13 59 30.3**	**-0.5**
	0.2nm,0.2s,baz=6.7,slow=7.7,SNR=10						
WRA				PcP	**PcP**	**14 00 52.7**	**+0.6**
	0.2nm,0.5s,baz=3.7,slow=4.0,SNR=3.4						
WRA				ScP	**ScP**	**14 04 00.4**	**+0.4**
	0.2nm,0.5s,baz=0.5,slow=4.9,SNR=5.4						
ZALV	**Zalesovo Beam**	**48.20**	**319**	P	**P**	**13 59 35.8**	**-0.3**
	2.0nm,0.3s,baz=101,slow=7.1,SNR=11						
ZALV				PcP	**PcP**	**14 00 54.5**	**+0.1**
	1.3nm,0.3s,baz=123,slow=5.3,SNR=6.1						
MKAR	**Makanchi Array**	**49.04**	**309**	P	**P**	**13 59 42.5**	**-0.1**
	2.2nm,0.8s,baz=98,slow=8.9,SNR=10						
MKAR				PcP	**PcP**	**14 00 57.9**	**+0.2**
	0.8nm,0.7s,baz=68,slow=5.0,SNR=4.5						
ASAR	**Alice Springs**	**51.17**	**188**	P	**P**	**13 59 57.9**	**-0.6**
	0.2nm,0.6s,baz=359,slow=4.9,SNR=6.1						
ASAR				PcP	**PcP**	**14 01 06.6**	**+0.8**
	0.2nm,0.6s,baz=8.2,slow=3.6,SNR=3.0						
NRIK	**Noril'sk**	**51.77**	**339**	P	**P**	**14 00 02.2**	**0.0**
	3.5nm,0.6s,baz=107,slow=7.7,SNR=4.4						
ILAR	**Eielson Array**	**58.20**	**29**	P	**P**	**14 00 48.7**	**+1.3**
	0.3nm,0.3s,baz=253,slow=5.6,SNR=8.7						
YKA	**Yellowknife Ar**	**72.62**	**28**	P	**P**	**14 02 20.3**	**+2.2**
	1.5nm,0.5s,baz=298,slow=6.2,SNR=5.2						
ARCES	**ARCESS Array B**	**72.71**	**340**	P	**P**	**14 02 19.8**	**+1.2**
	2.7nm,0.6s,baz=69,slow=7.9,SNR=8.0						
KBZ	**Khabaz**	**76.61**	**312**	P	**P**	**14 02 41.7**	**+0.7**
	2.2nm,0.7s,baz=108,slow=9.6,SNR=3.7						
FINES	**FINESS Array B**	**76.95**	**333**	P	**P**	**14 02 42.9**	**+0.4**
	6.5nm,0.4s,baz=70,slow=5.1,SNR=70						
AKASG	**Malin Array Be**	**81.41**	**323**	P	**P**	**14 03 06.1**	**-0.3**
	0.4nm,0.3s,baz=49,slow=5.1,SNR=4.6						
NOA	**NORSAR Array B**	**82.72**	**338**	P	**P**	**14 03 12.8**	**-0.2**
	2.4nm,0.6s,baz=45,slow=4.9,SNR=6.0						
GERES	**GERESS Array B**	**90.40**	**328**	P	**P**	**14 03 49.7**	**-0.3**
	0.2nm,0.3s,baz=57,slow=4.9,SNR=3.8						
TORD	**Torodi Ar. Bea**	**123.16**	**310**	PKP	**PKPdf**	**14 09 43.0**	**+0.2**
	0.4nm,0.6s,baz=70,slow=2.0,SNR=4.0						
LPAZ	**La Paz**	**151.38**	**73**	PKPbc	**PKPbc**	**14 10 42.5**	**+1.7**
	0.7nm,0.4s,baz=180,slow=1.0,SNR=4.5						

*BJI **23** 14:02:08.2, 10.°50N×142.°06E, h29km, mb4.7/38, mB5.0/31, Ms4.5/19, Ms7 4.1/17*

*ISCJB **23** 14:02:12.3±0.2, 10.°81N±0.°03×141.°94E±0.°05, h44km, mb4.7/55, MS3.9/28, Error ellipse: s-maj=6.4km s-min=4.6km az=9.0*

*NEIC **23** 14:02:12.9±0.3, 10.°84N×141.°86E, h35km, mb4.9/22, Error ellipse: s-maj=9.9km s-min=6.3km az=92.0*

*MOS **23** 14:02:13.0±1.1, 10.°79N×141.°79E, h48km, mb5.0/17, Error ellipse: s-maj=13.0km s-min=7.5km az=101.6*

*IDC **23** 14:02:15.2±2.8, 10.°83N×141.°88E, h52km±26km, mb4.1/18, mb1 4.3/20, mb1mx4.1/40, mbtmp4.4/20, ML4.7/2, MS3.8/24, Ms1 3.8/24, ms1mx3.8/28, Error ellipse: s-maj=21.2km s-min=10.8km az=80.0*

*DJA **23** 14:02:17.8±0.7, 11.°1N±4.°4×14.°2E±.°, h84km±9km, M4.9/13, mb4.9/13, mB5.5/4, MLv5.0/1, Mw(mB)4.9/4*

ISC 23 14:02:14.4±0.3, 10.°85N±0.°05×141.°86E±0.°06, h44km, n128, σ1s79/130, mb4.7/55, MS3.8/29, 8C, Western Caroline Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GUMO	**Guam**	**4.00**	**47**	P	**Pn**	**14 03 14.8**	**+1.4**
	51nm,0.3s,baz=349,slow=20,SNR=60						
GUMO				S	**Sn**	**14 03 57.3**	**-1.6**
	68nm,0.3s,baz=81,slow=19,SNR=3.9						
GUMO				LR	LR	14 05 30.7	
	comp=Z,437nm,18.5s,baz=204,slow=49						
GUMO	**Guam**	**4.00**	**47**	*e*Pn	**Pn**	**14 03 12.7**	**-0.6**
GUMO				*e*Sn	**Sn**	**14 03 57.4**	**-1.6**
SMPI	**Sarmi**	**13.14**	**194**	P	**Pn**	**14 05 21.0**	**+2.5**
JAY	**Jayapura**	**13.33**	**185**	P	**Pn**	**14 05 22.5**	**+1.3**
	3.3nm,0.3s,baz=188,slow=23,SNR=160						
JAY				LR	LR	14 09 21.1	
	comp=Z,34nm,20.5s,baz=294,slow=32						
GENI	**Genyem**	**13.46**	**187**	P	**Pn**	**14 05 25.9**	**+2.9**
MANU	**Manus Island**	**13.93**	**157**	*e*Pn	**Pn**	**14 05 28.1**	**-1.3**
FAKI	**Fak Fak**	**16.69**	**216**	*e*Pn	**Pn**	**14 06 06.1**	**+0.8**
	79nm,1.3s						
MSAI	**Masohi**	**19.10**	**223**	P	**Pn**	**14 06 35.9**	**+1.1**
AAI	**Ambon**	**19.84**	**224**	P	**P**	**14 06 40.3**	**-1.5**
PMG	**Port Moresby**	**20.80**	**165**	P	**P**	**14 06 52.2**	**0.0**
	60nm,1.1s,baz=348,slow=9.9,SNR=7.3						
PMG				LR	LR	14 14 26.8	
	comp=Z,561nm,18.8s,baz=354,slow=35						
PMG	**Port Moresby**	**

CM01	**Chiang Mai Arr**	**42.11**	**285**	*e*P	**P**	**14 10 02.1 -0.6**		
CM31	**Chiang Mai Arr**	**42.13**	**285**	*e*P	**P**	**14 10 03.6 +0.8**		
CMAR	**Chiang Mai Arr**	**42.13**	**285**	P	**P**	**14 10 04.2 +1.4**		
	comp=Z,3.8nm,0.7s,baz=89,slow=6.5,SNR=26							
CMAR				LR	LR	14 26 05.3		
	comp=Z,82nm,22.0s,baz=128,slow=34							
CMAR	**Chiang Mai Arr**	**42.13**	**285**	*e*P	**P**	**14 10 04.1 +1.3**		
CMAR				pmax	pmax			
	comp=Z,5.0nm,0.8s							
STKA	**Stephens Creek**	**42.48**	**180**	P	**P**	**14 10 04.2 -1.3**		
	comp=Z,7.2nm,1.1s,baz=5.1,slow=7.9,SNR=12							
STKA				LR	LR	14 28 40.4		
	comp=Z,232nm,19.1s,baz=19,slow=37							
STKA	**Stephens Creek**	**42.48**	**180**	*e*P	**P**	**14 10 03.8 -1.6**		
	comp=Z,2.7nm,1.1s							
PSI	**Prapat**	**43.33**	**263**	*e*P	**P**	**14 10 10.4 -2.4**		
PSI				pmax	pmax			
	comp=Z,18nm,0.9s							
PSI	**Prapat**	**43.33**	**263**	*e*P	**P**	**14 10 10.4 -2.4**		
	comp=Z,18nm,0.9s							
FORT	**Forrest**	**43.46**	**197**	*e*P	**P**	**14 10 12.3 -1.1**		
	comp=Z,590nm,1.2s							
PETK	**Petropavlovsk-**	**44.03**	**14**	LR	LR	14 26 19.4		
	comp=Z,102nm,20.4s,baz=198,slow=33							
MSVF	**Nonsavu**	**45.65**	**128**	*e*P	**P**	**14 10 32.2 +1.0**		
MSVF				pmax	pmax			
	comp=Z,22nm,0.8s							
MSVF	**Nonsavu**	**45.65**	**128**	*e*P	**P**	**14 10 32.2 +1.0**		
	comp=Z,22nm,0.8s							
GTA	**Gaotai**	**46.89**	**315**	*e*P	**P**	**14 10 41.5 +0.7**		
GTA				pP	pP	14 10 50.6 -2.4		
GTA				sP	sP	14 10 55.3 -2.9		
GTA				S	**S**	**14 17 28.9 +0.1**		
GTA				sS	sS	14 17 45.6 -3.6		
GTA				SS	**SS**	**14 20 48.4 -7.4**		
GTA				pmax	pmax			
	comp=Z,6.0nm,1.0s							
GTA				pmax	pmax			
	comp=Z,72nm,7.6s							
GTA				LR	LR			
	comp=Z,97nm,16.2s							
GTA				LR	LR			
	comp=Z,140nm,16.6s							
ULN	**Ulaanbaatar**	**47.05**	**328**	*ce*P	**P**	**14 10 43.0 +1.1**		
ULN				pmax	pmax			
	comp=Z,6.0nm,1.7s							
SONM	**Songino Array**	**47.37**	**328**	P	**P**	**14 10 45.8 +1.4**		
	comp=Z,0.5nm,0.4s,baz=141,slow=8.0,SNR=7.2							
SONM				LR	LR	14 32 12.8		
	comp=Z,68nm,18.4s,baz=118,slow=38							
SONA1	**Songino Array**	**47.38**	**328**	*e*P	**P**	**14 10 44.5 +0.1**		
ZAK	**Zakamensk**	**50.56**	**329**	*e*P	**P**	**14 11 08.4 -0.3**		
ZAK				pmax	pmax			
	comp=Z,8.0nm,1.1s							
TLY	**Talaya**	**51.18**	**330**	*e*P	P	14 11 04.2 -9.0		
TLY				pmax	pmax			
	comp=Z,6.0nm,0.6s							
TLY				MLR	MLR			
	comp=Z,120nm,16.0s							
YAK	**Yakutsk**	**51.86**	**353**	*i* P	**P**	**14 11 17.6 -0.4**		
YAK				pmax	pmax			
	comp=Z,20nm,0.7s							
YAK	**Yakutsk**	**51.86**	**353**	P	**P**	**14 11 16.1 -2.0**		
	comp=Z,19nm,0.7s							
MOY	**Mondy**	**52.48**	**329**	*e*P	**P**	**14 11 24.0 +0.9**		
SEY	**Seymchan**	**52.54**	**6**	*i* P	**P**	**14 11 23.3 +0.2**		
WMQ	**Urumqi**	**56.95**	**316**	*e*P	**P**	**14 11 56.9 +1.3**		
WMQ				pP	pP	14 12 06.8 -1.3		
WMQ				sP	sP	14 12 11.8 -1.4		
WMQ				S	**S**	**14 19 41.9 -4.8**		
WMQ				pmax	pmax			
	comp=Z,11nm,0.6s							
WMQ				pmax	pmax			
	comp=Z,120nm,6.1s							
WMQ				LR	LR			
	comp=Z,300nm,20.5s							
WMQ				LR	LR			
	comp=Z,200nm,24.5s							
WMQ				LR	LR			
	comp=Z,260nm,25.7s							
DGZ	**Jazzator, Alta**	**59.12**	**322**	*i* P	**P**	**14 12 11.9 +1.2**		
DGZ				pmax	pmax			
	comp=Z,2.0nm,0.8s							
MK01	**Makanchi Array**	**61.45**	**318**	*e*P	**P**	**14 12 26.8 +0.2**		
MK31	**Makanchi Array**	**61.46**	**318**	*e*P	**P**	**14 12 27.5 +0.9**		
MK31	**Makanchi Array**	**61.46**	**318**	*e*P	**P**	**14 12 27.5 +0.9**		
MKAR	**Makanchi Array**	**61.46**	**318**	P	**P**	**14 12 27.2 +0.6**		
	comp=Z,1.2nm,0.5s,baz=103,slow=8.0,SNR=15							
MKAR				LR	LR	14 39 47.6		
	comp=Z,50nm,21.5s,baz=74,slow=37							
MKAR	**Makanchi Array**	**61.46**	**318**	*e*P	**P**	**14 12 27.5 +0.9**		
MKAR				pmax	pmax			
	comp=Z,23nm,1.1s							
MKAR	**Makanchi Array**	**61.46**	**318**	*e*P	**P**	**14 12 27.5 +0.9**		
	comp=Z,23nm,1.1s							
MAKZ	**Makanchi**	**61.68**	**318**	*e*P	**P**	**14 12 29.1 +1.0**		
MAKZ				pmax	pmax			
	comp=Z,6.0nm,1.1s							
MAKZ	**Makanchi**	**61.68**	**318**	*e*P	**P**	**14 12 29.1 +1.0**		
	comp=Z,6.0nm,1.1s							
ZAA0	**Zalesovo Array**	**62.18**	**326**	*e*P	**P**	**14 12 31.4 +0.2**		
ZALV	**Zalesovo Beam**	**62.18**	**326**	P	**P**	**14 12 31.3 0.0**		
	comp=Z,2.1nm,0.3s,baz=110,slow=7.8,SNR=8.1							
ZALV				LR	LR	14 42 19.4		
	comp=Z,61nm,18.1s,baz=70,slow=39							
PDGK	**Podgornoye**	**62.59**	**313**	P	**P**	**14 12 35.9 +1.5**		
NVS	**Novosibirsk**	**63.36**	**326**	*e*P	**P**	**14 12 40.4 +1.3**		
NVS				pmax	pmax			
	comp=Z,7.0nm,1.2s							
NVS				pmax	pmax			
	comp=E,5.0nm,1.0s							
KSH	**Kashi**	**64.60**	**309**	*e*P	**P**	**14 12 51.1 +3.4**		
KSH				pP	pP	14 13 01.3 +0.8		
KSH				PP	**PP**	**14 15 15.1 +4.9**		
KSH				S	**S**	**14 21 27.3 +2.7**		
KSH				sS	sS	14 21 44.5 -1.3		
KSH				SS	**SS**	**14 25 40.3 +4.6**		
KSH				pmax	pmax			
	comp=E,24nm,1.9s							
KSH				pmax	pmax			
	comp=E,78nm,6.4s							
KSH				LR	LR			
	comp=E,62nm,5.8s							
KSH				LR	LR			
	comp=E,76nm,5.2s							
KSH				LR	LR			
	comp=E,53nm,8.7s							
KURK	**Kurchatov**	**64.82**	**321**	*c i*P	**P**	**14 12 48.8 +0.1**		
KURK				pmax	pmax			
	comp=Z,75nm,1.2s							
KURK	**Kurchatov**	**64.82**	**321**	*e*P	**P**	**14 12 46.7 -2.0**		
NRIK	**Noril'sk**	**67.77**	**342**	LR	LR	14 44 34.9		
	comp=Z,67nm,18.1s,baz=110,slow=38							
KDAK	**Kodiak Island**	**67.93**	**32**	*i* P	**P**	**14 13 08.8 +0.3**		
CAST	**Castle Rocks**	**69.73**	**26**	*e*P	**P**	**14 13 20.3 +0.6**		
	comp=Z,4.6nm,1.0s							
KTH	**Kantishna Hill**	**70.27**	**26**	*e*P	**P**	**14 13 22.0 -1.1**		
	comp=Z,12nm,1.2s							
BVAR	**Borovoye Array**	**70.27**	**323**	P	**P**	**14 13 23.5 +0.4**		
	comp=Z,5.3nm,0.4s,baz=109,slow=7.1,SNR=55							
BRVK	**Borovoye**	**70.34**	**323**	*ce*P	**P**	**14 13 23.8 +0.2**		
BRVK				pmax	pmax			
	comp=Z,31nm,1.0s							
BRVK	**Borovoye**	**70.34**	**323**	*e*P	**P**	**14 13 22.3 -1.2**		
	comp=Z,17nm,1.1s							
IL1	**Eielson Array**	**72.28**	**25**	*e*P	**P**	**14 13 33.0 -2.1**		
ILAR	**Eielson Array**	**72.28**	**25**	P	**P**	**14 13 34.1 -0.9**		
	comp=Z,1.8nm,0.6s,baz=247,slow=6.0,SNR=29							
ILAR				LR	LR	14 42 07.5		
	comp=Z,54nm,21.6s,baz=291,slow=33							
ILB	**Eielson Array**	**72.28**	**25**	*e*P	**P**	**14 13 33.4 -1.7**		
DOT	**Dot Lake**	**73.28**	**27**	*e*P	**P**	**14 13 39.6 -1.5**		
	comp=Z,20nm,1.1s							
PPT	**Papeete**	**73.36**	**112**	LR	LR	14 40 06.1		
	comp=Z,94nm,18.4s,baz=354,slow=31							
PPT2	**Papeete2**	**73.36**	**112**	*e*LR	LR	14 36 09.3		
	comp=Z,180nm,22.2s							
SVE	**Sverdlovsk**	**76.20**	**326**	*e*P	**P**	**14 13 58.6 +0.6**		
ABKAR	**Akbulak array**	**76.60**	**318**	*e*P	**P**	**14 14 00.3 -0.1**		
	comp=Z,18nm,0.4s							
ARU	**Arti**	**77.34**	**326**	*c i*P	**P**	**14 14 04.1 -0.4**		
ARU				S	**S**	**14 23 54.6 +3.2**		
ARU				SS	**SS**	**14 28 49.1 -1.0**		
ARU				pmax	pmax			
	comp=Z,6.0nm,1.2s							
ARU				MLR	MLR			

	comp=Z,170nm,19.0s							
GEYT	**Alibeck**	**78.52**	**307**	LR	LR	14 52 11.3		
	comp=Z,50nm,21.7s,baz=120,slow=38							
KLMR	**Klimovskoe**	**86.55**	**331**	*e*P	P	14 14 57.8 +5.1		
KLMR				pmax	pmax			
	comp=Z,12nm,1.2s							
YKA	**Yellowknife Ar**	**86.62**	**27**	P	**P**	**14 14 53.5 +0.4**		
	comp=Z,2.9nm,0.7s,baz=288,slow=4.8,SNR=5.4							
B08A	**Colville Reser**	**87.76**	**41**	*e*P	**P**	**14 14 57.0 -2.0**		
	comp=Z,11nm,1.1s							
ARCES	**ARCESS Array B**	**88.76**	**342**	P	**P**	**14 15 02.7 -0.5**		
	comp=Z,1.7nm,0.6s,baz=74,slow=7.6,SNR=3.3							
ARCES				LR	LR	14 59 08.3		
	comp=Z,40nm,19.6s,baz=54,slow=38							
VNDA	**Vanda**	**88.95**	**176**	P	**P**	**14 15 03.3 -0.5**		
	comp=Z,2.4nm,1.0s,baz=329,slow=5.9,SNR=8.6							
VNDA				LR	LR	14 54 07.0		
	comp=Z,124nm,19.1s,baz=313,slow=35							
KBZ	**Khabaz**	**88.98**	**314**	LR	LR	15 00 00.7		
	comp=Z,35nm,18.0s,baz=66,slow=39							
BEKR	**Beckworth**	**89.02**	**50**	*e*P	**P**	**14 15 04.0 -1.3**		
	comp=Z,5.4nm,1.0s							
WVOR	**Wild Horse Val**	**89.67**	**47**	*e*P	**P**	**14 15 09.3 +1.1**		
WVOR				pmax	pmax			
	comp=Z,4.0nm,1.0s							
WVOR	**Wild Horse Val**	**89.67**	**47**	*e*P	**P**	**14 15 09.3 +1.1**		
	comp=Z,4.1nm,1.0s							
BMO	**Blue Mountains**	**89.99**	**44**	*e*P	**P**	**14 15 09.7 +0.1**		
BMO				pmax	pmax			
	comp=Z,4.0nm,1.0s							
BMO	**Blue Mountains**	**89.99**	**44**	*e*P	**P**	**14 15 09.7 +0.1**		
	comp=Z,3.7nm,1.0s							
YERR	**Yerington**	**90.07**	**50**	*e*P	**P**	**14 15 08.5 -1.7**		
	comp=Z,9.9nm,1.2s							
MFID	**Camas Ranch**	**91.40**	**45**	*e*P	**P**	**14 15 16.6 +0.4**		
	comp=Z,4.7nm,1.0s							
FINES	**FINESS Array B**	**92.37**	**334**	P	**P**	**14 15 18.4 -1.8**		
	comp=Z,1.3nm,0.3s,baz=62,slow=4.6,SNR=22							
FINES				LR	LR	15 01 26.1		
	comp=Z,49nm,18.0s,baz=64,slow=38							
AKASG	**Malin Array Be**	**95.52**	**324**	LR	LR	15 02 59.9		
	comp=Z,59nm,18.0s,baz=50,slow=38							
BRTR	**Keskin Array B**	**96.77**	**312**	LR	LR	15 06 43.9		
	comp=Z,12nm,18.4s,baz=51,slow=40							
NOA	**NORSAR Array B**	**98.52**	**338**	LR	LR	15 03 27.1		
	comp=Z,33nm,21.0s,baz=40,slow=37							
PLCA	**Paso Flores**	**138.74**	**142**	PKP	**PKPdf**	**14 21 36.9 +0.7**		
	comp=Z,0.9nm,0.4s,baz=241,slow=5.8,SNR=4.1							
AAGR	**Agrelo**	**144.18**	**133**	*e*P	**PKPab**	**14 21 44.7 +0.8**		
AUSP	**Uspallata**	**144.20**	**131**	*e*P	**PKPab**	**14 21 45.4 +1.1**		
ASAL	**Salagasta**	**144.42**	**132**	*e*P	**PKPab**	**14 21 45.8 +1.0**		
AROD	**Rodeo**	**145.10**	**128**	*e*P	**PKPbc**	**14 21 48.0 +0.3**		
ACCO	**Cerro Coronel**	**145.22**	**129**	*e*P	**PKPbc**	**14 21 48.8 +0.7**		
ACDV	**Cuesta del Vie**	**145.37**	**128**	*e*P	**PKPbc**	**14 21 48.7 +0.3**		
ACAN	**Cantantal**	**145.78**	**133**	*e*P	**PKPdf**	**14 21 49.7 +0.8**		
AGUA	**GUANDACOL**	**146.17**	**128**	*e*P	**PKPbc**	**14 21 51.7 +1.0**		
TCA	**Tanti**	**148.14**	**134**	*e*P	**PKPbc**	**14 21 56.1 -0.1**		
CYA	**Choya**	**148.74**	**128**	*e*P	**PKPdf**	**14 21 56.8 +2.8**		
LPAZ	**La Paz**	**150.37**	**104**	PKPbc	**PKPbc**	**14 22 03.9 +1.0**		
	comp=Z,11nm,0.6s,baz=69,slow=0.4,SNR=7.9							

*ISCJB **23** 14:03:19.8±0.4,36°.92N±0°.02×33°.93E±0°.03,h5km±3km, Error ellipse: s-maj=3.7km s-min=2.6km az=30.4*
*DDA **23** 14:03:19.4,36°.94N×33°.98E,h18km, Md3.5*
*ISK **23** 14:03:19.7,36°.92N×33°.94E,h9km, ML3.2*
*CSEM **23** 14:03:20.5±0.1,36°.93N×33°.94E,h8km, MD3.5, Error ellipse: s-maj=3.7km s-min=2.5km az=103.0*
*NIC **23** 14:03:21.4±0.3,37°.05N×33°.99E,h25km,mb4.2,ML3.9*
ISC 23 14:03:20.0±1.0,**36°.92N**±0°.02×**33°.92E**±0°.02,**h8**km±9km,
n88,σ0°93/121, Turkey

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
KIZK	**Mersin**	**0.47**	**158**	PG		**Pg**	**14 03 29.5**	**+0.4**
KIZK				*e*SG		**Sg**	**14 03 36.3**	**+1.0**
KIZK	**Mersin**	**0.47**	**158**	*i* P		**Pg**	**14 03 29.5**	**+0.4**
KIZK				*i* S		**Sg**	**14 03 36.0**	**+0.7**
KIZK	**Mersin**	**0.47**	**158**	P		**Pg**	**14 03 29.5**	**+0.4**
KIZK				S		**Sg**	**14 03 36.0**	**+0.7**
MERS	**Mersin**	**0.48**	**96**	PG		**Pg**	**14 03 29.0**	**-0.3**
MERS				*e*SG		**Sg**	**14 03 36.8**	**+1.1**
KEBE	**Keben-Mersin**	**0.50**	**200**	PG		**Pb**	**14 03 30.4**	**-0.6**
KEBE				*e*SG		**Sb**	**14 03 37.9**	**-0.6**
KEBE	**Keben-Mersin**	**0.50**	**200**	*i* Pg		**Pb**	**14 03 30.4**	**-0.6**
KEBE				*e*Sg		**Sb**	**14 03 37.9**	**-0.6**
KERG	**Konya-Eregli**	**0.52**	**18**	*i* P		**Pg**	**14 03 29.4**	**-0.7**
KERG				*i* S		**Sg**	**14 03 36.8**	**-0.2**
KERG	**Konya-Eregli**	**0.52**	**18**	P		**Pg**	**14 03 29.4**	**-0.7**
KERG				S		**Sg**	**14 03 36.8**	**-0.2**
SLFK	**Silifke-Mersin**	**0.53**	**178**	PG		**Pb**	**14 03 31.0**	**-0.4**
SLFK				*e*SG		**Sg**	**14 03 37.9**	**+0.9**
SLFK	**Silifke-Mersin**	**0.53**	**178**	*i* Pg		**Pb**	**14 03 31.0**	**-0.4**
SLFK				*e*Sg		**Sg**	**14 03 37.9**	**+0.9**
SILI	**Silifke-Mersin**	**0.55**	**180**	PG		**Pb**	**14 03 31.6**	**-0.3**
SILI				*e*SG		**Sb**	**14 03 39.0**	**-0.9**
SILI	**Silifke-Mersin**	**0.55**	**180**	*i* Pg		**Pb**	**14 03 31.6**	**-0.3**
SILI				*e*Sg		**Sb**	**14 03 39.0**	**-0.9**
TEVE	**Tevekalti-Mers**	**0.62**	**219**	PG		**Pb**	**14 03 32.8**	**-0.3**
DED	**Mersin**	**0.70**	**86**	*i* P		**Pg**	**14 03 32.4**	**-1.2**
DED				*i* S		**Sg**	**14 03 42.1**	**-0.6**
IKL	**Isikli**	**0.70**	**196**	*e*PG		**Pb**	**14 03 33.9**	**-0.6**
TEPE	**Tepekoy-Mersin**	**0.76**	**203**	*e*PG		**Pb**	**14 03 35.1**	**-0.2**
YESI	**Yesilovacik-Me**	**0.76**	**198**	*e*PG		**Pg**	**14 03 34.5**	**-0.1**
BERE	**Bereket-Mersin**	**0.80**	**225**	*e*PG		**Pb**	**14 03 35.6**	**-0.6**
OREN	**Orenkoy-Mersin**	**0.80**	**208**	*e*PG		**Pg**	**14 03 35.5**	**+0.1**
AKKU	**Akkuyu-Mersin**	**0.81**	**202**	*e*PG		**Pb**	**14 03 35.9**	**-0.5**
AKK1	**Akkuyu-Mersin**	**0.83**	**202**	*e*PG		**Pg**	**14 03 36.0**	**0.0**
AKK2	**Akkuyu-Mersin**	**0.84**	**201**	*e*PG		**Pg**	**14 03 36.1**	**0.0**
YORU	**Yoruktepe-Mers**	**0.87**	**209**	*e*PG		**Pg**	**14 03 36.7**	**0.0**
TEKE	**Tekeli-Mersin**	**1.01**	**220**	*e*PG		**Pg**	**14 03 38.8**	**-0.6**
TEKE	**Tekeli-Mersin**	**1.01**	**220**	*e*Pg		**Pg**	**14 03 38.8**	**-0.6**
BOZY	**Bozyazi-Mersin**	**1.11**	**224**	*e*PN		**Pb**	**14 03 41.3**	**-0.1**
BOZY	**Bozyazi-Mersin**	**1.11**	**224**	*e*Pn		**Pb**	**14 03 41.3**	**-0.1**
KRTS	**Karatas**	**1.22**	**106**	*e*PN		**Pg**	**14 03 43.1**	**-0.2**
KRTS	**Karatas**	**1.22**	**106**	*e*Pn		**Pg**	**14 03 43.1**	**-0.2**
NIG	**Nigde**	**1.31**	**24**	*e*PN		**Pn**	**14 03 44.4**	**-0.4**
NIG	**Nigde**	**1.31**	**24**	*e*Pn		**Pn**	**14 03 44.4**	**-0.4**
SULT	**Sultanhani-AKS**	**1.32**	**346**	*e*PN		**Pg**	**14 03 45.1**	**-0.2**
SULT	**Sultanhani-AKS**	**1.32**	**346**	*e*Pn		**Pg**	**14 03 45.1**	**-0.2**
AKO	**Adana**	**1.33**	**65**	*i* P		**Pn**	**14 03 43.4**	**-1.5**
AKO				*i* S		**Sb**	**14 04 01.5**	**-0.9**
YURE	**YUREGIR**	**1.37**	**93**	*i* P		**Pn**	**14 03 46.0**	**+0.6**
YURE				*i* S		**Sg**	**14 04 06.6**	**+2.4**
YURE	**YUREGIR**	**1.37**	**93**	P		**Pn**	**14 03 46.0**	**+0.6**
GULA	**Gulagac**	**1.45**	**10**	*e*PN		**Pn**	**14 03 46.6**	**0.0**
GULA	**Gulagac**	**1.45**	**10**	*e*Pn		**Pn**	**14 03 46.6**	**0.0**
CEYT	**Ceyhan**	**1.46**	**86**	*e*PN		**Pn**	**14 03 46.7**	**0.0**
CEYT	**Ceyhan**	**1.46**	**86**	*e*Pn		**Pn**	**14 03 46.7**	**0.0**
KONT	**Konya--Tatoy**	**1.61**	**310**	*e*PN		**Pb**	**14 03 49.8**	**-0.2**
KONT	**Konya--Tatoy**	**1.61**	**310**	*i* P		**Pb**	**14 03 49.9**	**-0.2**
KONT				*i* S		**Sg**	**14 04 14.6**	**+2.8**
KONT	**Konya--Tatoy**	**1.61**	**310**	*e*Pn		**Pb**	**14 03 49.8**	**-0.2**
KOZT	**Kozan**	**1.62**	**69**	*e*PN		**Pn**	**14 03 48.9**	**+0.1**
KOZT	**Kozan**	**1.62**	**69**	*e*Pn		**Pn**	**14 03 48.9**	**+0.1**
YAHY	**KAYSERI_Yahyal**	**1.64**	**44**	*i* P		**Pn**	**14 03 49.0**	**-0.2**
YAHY				*i* S		**Sn**	**14 04 11.3**	**+0.7**
YAHY	**KAYSERI_Yahyal**	**1.64**	**44**	P		**Pn**	**14 03 49.0**	**-0.2**
YAHY				S		**Sn**	**14 04 11.3**	**+0.7**
LFK	**Lefkose**	**1.67**	**191**	*e*PN		**Pn**	**14 03 50.2**	**+0.7**
LFK	**Lefkose**	**1.67**	**191**	*e*Pn		**Pn**	**14 03 50.2**	**+0.7**
AKSY	**AKSARAY - Alti**	**1.73**	**356**	*i* P		**Pn**	**14 03 51.0**	**+0.5**
AKSY				*i* S		**Sg**	**14 04 15.2**	**-0.6**
AKSY	**AKSARAY - Alti**	**1.73**	**356**	P		**Pn**	**14 03 51.0**	**+0.5**
AKSY				S		**Sg**	**14 04 15.2**	**-0.6**
CHBY	**Cihanbeyli**	**1.85**	**334**	*e*PN		**Pn**	**14 03 52.8**	**+0.7**
CHBY	**Cihanbeyli**	**1.85**	**334**	*e*Pn		**Pn**	**14 03 52.8**	**+0.7**
TAHT	**Tahtakopru-Hat**	**1.90**	**106**	*e*PN		**Pn**	**14 03 52.8**	**+0.2**
TAHT	**Tahtakopru-Hat**	**1.90**	**106**	*e*Pn		**Pn**	**14 03 52.8**	**+0.2**
PHNC	**Paralimni**	**1.91**	**177**	P		**Pn**	**14 03 52.4**	**-0.4**
PHNC				S		**Sn**	**14 04 16.8**	**-0.3**
PHNC	**Paralimni**	**1.91**	**177**	P		**Pn**	**14 03 52.4**	**-0.4**
	baz=359							
PHNC				S		**Sn**	**14 04 16.8**	**-0.3**
ARNB	**Al Arnab**	**1.96**	**122**	*e*P		**Pn**	**14 03 53.5**	**-0.1**
	SNR=124							
ARNB				*e*S		**Sb**	**14 04 20.5**	**-0.1**
	299nm,0.6s,SNR=124							
YAYL	**Yayladag**	**1.97**	**116**	*e*PN		**Pn**	**14 03 54.0**	**+0.3**
YAYL	**Yayladag**	**1.97**	**116**	*e*Pn		**Pn**	**14 03 54.0**	**+0.3**
LEF	**Lefka**	**1.98**	**205**	*e*PN		**Pn**	**14 03 54.4**	**+0.6**
LEF	**Lefka**	**1.98**	**205**	P		**Pn**	**14 03 53.8**	**0.0**

LEF	**Lefka**	**1.98**	**205**	*e*Pn		**Pn**	**14 03 54.4**	**+0.6**
LEF				S		**Sn**	**14 04 17.8**	**-1.0**
CSS	**Mathiatis**	**2.01**	**194**	P		**Pn**	**14 03 54.2**	**0.0**
CSS				S		**Sn**	**14 04 20.2**	**+0.7**
CSS	**Mathiatis**	**2.01**	**194**	P		**Pn**	**14 03 54.2**	**0.0**
	baz=14							
CSS				S		**Sn**	**14 04 20.2**	**+0.7**
SERE	**Sereflikochisa**	**2.04**	**352**	*e*PN		**Pn**	**14 03 55.1**	**+0.3**
SERE	**Sereflikochisa**	**2.04**	**352**	*e*Pn		**Pn**	**14 03 55.1**	**+0.3**
ALFC	**Alefka**	**2.06**	**212**	P		**Pn**	**14 03 54.9**	**0.0**
ALFC				S		**Sn**	**14 04 20.5**	**-0.3**
ALFC	**Alefka**	**2.06**	**212**	P		**Pn**	**14 03 54.9**	**0.0**
	baz=30							
ALFC				S		**Sn**	**14 04 20.5**	**-0.3**
KDHN	**Kadinhani**	**2.15**	**319**	*i* P		**Pn**	**14 03 57.3**	**+1.1**
KDHN				*i* S		**Sg**	**14 04 27.9**	**-1.1**
KDHN	**Kadinhani**	**2.15**	**319**	P		**Pn**	**14 03 57.3**	**+1.1**
BTCH	**Batrach**	**2.22**	**113**	*e*P		**Pn**	**14 03 58.4**	**+1.2**
	SNR=120							
BTCH				*e*S		**Sn**	**14 04 27.2**	**+2.3**
	510nm,0.5s,SNR=120							
AKMC	**Akamas**	**2.29**	**215**	P		**Pb**	**14 03 59.7**	**-1.8**
AKMC	**Akamas**	**2.29**	**215**	P		**Pb**	**14 03 59.7**	**-1.8**
	baz=33							
SZAC	**Souni**	**2.32**	**202**	P		**Pb**	**14 04 00.7**	**-1.3**
SZAC	**Souni**	**2.32**	**202**	P		**Pb**	**14 04 00.7**	**-1.3**
	baz=21							
KKUL	**Konya-Kulu**	**2.39**	**341**	*i* P		**Pn**	**14 04 01.1**	**+1.6**
KKUL				*i* S		**Sg**	**14 04 38.4**	**+1.8**
KKUL	**Konya-Kulu**	**2.39**	**341**	P		**Pn**	**14 04 01.1**	**+1.6**
PPCY	**Paphos**	**2.40**	**213**	P		**Pb**	**14 04 02.6**	**-0.8**
PPCY	**Paphos**	**2.40**	**213**	P		**Pb**	**14 04 02.6**	**-0.8**
	baz=31							
KMRS	**Kahramanmaras**	**2.45**	**75**	*e*PN		**Pn**	**14 04 01.0**	**+0.8**
KMRS	**Kahramanmaras**	**2.45**	**75**	*e*Pn		**Pn**	**14 04 01.0**	**+0.8**
BNN	**Bunyan**	**2.46**	**38**	*e*PN		**Pn**	**14 04 01.4**	**+0.9**
BNN	**Bunyan**	**2.46**	**38**	*e*Pn		**Pn**	**14 04 01.4**	**+0.9**
SARI	**SarD1z-Kayseri**	**2.48**	**52**	*e*PN		**Pn**	**14 04 01.4**	**+0.6**
KORT	**Korkueli**	**2.86**	**273**	*i* P		**Pn**	**14 04 07.0**	**+0.9**
KORT				*i* S		**Sg**	**14 04 49.3**	**-2.7**
KORT	**Korkueli**	**2.86**	**273**	P		**Pn**	**14 04 07.0**	**+0.9**
BOLV	**Bolvadin**	**2.96**	**308**	*i* P		**Pg**	**14 04 16.1**	**-0.6**
BOLV				*i* S		**Sg**	**14 04 59.4**	**+4.2**

*DDA **23** 14:17:23.7,38°.15N×39°.19E,h7km,Md2.5*
*ISK **23** 14:17:23.8,38°.17N×38°.93E,h5km,MD2.7*
*CSEM **23** 14:17:25.2±0.3,38°.15N×38°.99E,h2km,MD2.7, Error ellipse: s-maj=8.5km s-min=6.1km az=97.0*
ISC 23 14:17:24.2±1.4,**38°.18N**±0°.02×**38°.97E**±0°.03,**h1**km±12km,
n24,σ0°85/34, Turkey

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
ELZG	**Elazig**	**0.32**	**2**	*i* P		**Pb**	**14 17 32.5**	**-0.3**
ELZG				*i* S		**Sb**	**14 17 37.9**	**-0.6**
ELZG	**Elazig**	**0.32**	**2**	P		**Pb**	**14 17 32.5**	**-0.3**
ELZG	

SMLT				*e*S	**Sb**	**14 19 00.8**	**+0.5**
	baz=261							
NSTT	**Nanjuang**	**1.30**	**296**	P	**Pb**	**14 18 45.2**	**+0.5**
	baz=294							
NSTT				*e*S	**Sb**	**14 19 02.9**	**+1.9**
	baz=294							
TWS1	**Kuangyinshan**	**1.30**	**323**	*e*P	**Pb**	**14 18 44.5**	**-0.3**
	baz=333							
TWS1				*e*S	**Sb**	**14 19 02.9**	**+1.7**
	baz=333							
TYC	**Yuchr**	**1.31**	**264**	*e*P	**Pb**	**14 18 44.6**	**-0.3**
	baz=262							
TYC				*e*S	**Sb**	**14 19 01.5**	**+0.3**
	baz=262							
YUS	**Yu-Shan**	**1.34**	**245**	*e*P	**Pn**	**14 18 45.3**	**+0.6**
	baz=244							
YUS				S	**Sn**	**14 19 01.8**	**-0.3**
	baz=244							
IRIF	**Iriomote-Funau**	**1.35**	**78**	P	**Pn**	**14 18 45.0**	**+0.5**
HATJ	**Hateruma jima**	**1.40**	**90**	P	**Pn**	**14 18 45.5**	**+0.4**
TWQ1	**Liyutan**	**1.41**	**282**	*e*P	**Pb**	**14 18 46.4**	**-0.2**
	baz=268							
TWQ1				*e*S	**Sb**	**14 19 03.9**	**-0.2**
	baz=268							
ELDTW	**Lidau**	**1.44**	**234**	*e*P	**Pn**	**14 18 45.5**	**-0.3**
	baz=221							
ELDTW				*e*S	**Sn**	**14 19 03.7**	**-0.4**
	baz=221							
ALS	**Alishan**	**1.46**	**248**	*e*P	**Pb**	**14 18 47.1**	**-0.5**
	baz=247							
ALS				*e*S	**Sn**	**14 19 04.8**	**+0.1**
	baz=247							
CHN5	**Tsauling**	**1.54**	**253**	*e*P	**Pb**	**14 18 48.8**	**0.0**
	baz=242							
CHN5				*e*S	**Sb**	**14 19 08.1**	**+0.3**
	baz=242							
JKRS	**Kuro-shima**	**1.59**	**83**	P	**Pb**	**14 18 49.4**	**-0.3**
JKRS				*e*S	**Sb**	**14 19 09.8**	**+0.4**
STYT	**Tauyuan**	**1.65**	**238**	*e*P	**Pb**	**14 18 51.2**	**+0.4**
	baz=226							
STYT				*e*S	**Sn**	**14 19 10.2**	**+0.9**
	baz=226							
TWG	**Pinlang**	**1.65**	**222**	*e*P	**Pn**	**14 18 48.2**	**-0.4**
	baz=234							
TWG				*e*S	**Sn**	**14 19 07.9**	**-1.3**
	baz=234							
CHN4	**Tsaushan**	**1.70**	**246**	*e*P	**Pb**	**14 18 52.2**	**+0.7**
	baz=235							
CHN4				*e*S	**Sb**	**14 19 12.7**	**+0.2**
	baz=235							
WTP	**Ta-pu**	**1.73**	**243**	*e*P	**Pb**	**14 18 52.0**	**0.0**
	baz=242							
WTP				*e*S	**Sb**	**14 19 13.9**	**+0.5**
	baz=242							
JIJ	**Ishigaki jima**	**1.73**	**79**	P	**Pn**	**14 18 49.8**	**+0.1**
JIJ				*e*S	**Sn**	**14 19 11.5**	**+0.5**
TWK	**Hsinying**	**1.82**	**245**	*e*P	**Pb**	**14 18 54.0**	**+0.4**
	baz=244							
TWK				*e*S	**Sb**	**14 19 16.6**	**+0.6**
	baz=244							
CHN1	**Nanshi**	**1.82**	**242**	*e*P	**Pb**	**14 18 53.5**	**-0.2**
	baz=242							
CHN1				*e*S	**Sb**	**14 19 16.7**	**+0.6**
	baz=242							
SGST	**Jiashian**	**1.83**	**238**	*e*P	**Pb**	**14 18 54.0**	**+0.1**
	baz=238							
SGST				*e*S	**Sb**	**14 19 16.9**	**+0.5**
	baz=238							
JISG	**Ishigakijimahi**	**1.93**	**74**	P	**Pn**	**14 18 52.5**	**+0.1**
JISG				S	**Sn**	**14 19 15.9**	**0.0**
EAST	**Anshuo**	**2.12**	**219**	*e*P	**Pn**	**14 18 55.9**	**+0.8**
	baz=220							
EAST				*e*S	**Sn**	**14 19 21.7**	**+0.9**
	baz=220							
SCZT	**Fangliau**	**2.27**	**223**	*e*P	**Pb**	**14 18 59.5**	**-1.7**
	baz=218							
SCZT				*e*S	**Sn**	**14 19 25.3**	**+1.0**
	baz=218							

DDA ***23*** *14:37:17.9, 39.67N×33.18E, h8km, Md2.5*
ISK ***23*** *14:37:18.1, 39.62N×33.24E, h5km, MD2.8*
CSEM ***23*** *14:37:19.2±0.2, 39.59N×33.25E, h2km, MD2.5, Error ellipse: s-maj=5.9km s-min=4.4km az=139.0*

ISC 23 14:37:19.0±1.0, 39.59N±0.03×33.26E±0.02, h4km±10km, n32, σ1s21/45, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BBAL	**Bala**	**0.11**	**243**	*i* P	**Pg**	**14 37 21.0**	**-0.4**
BBAL				*i* S	**Sg**	**14 37 23.1**	**+0.1**
BBAL	**Bala**	**0.11**	**243**	P	**Pg**	**14 37 21.0**	**-0.4**
BBAL				S	**Sg**	**14 37 23.1**	**+0.1**
AFSR	**Afˇar-Bala (A**	**0.20**	**224**	*e*PG	**Pg**	**14 37 23.2**	**+0.2**
AFSR				*e*SG	**Sg**	**14 37 27.4**	**+1.7**
AFSR	**Afˇar-Bala (A**	**0.20**	**224**	*e*Pg	**Pg**	**14 37 23.2**	**+0.2**
AFSR				*e*Sg	**Sg**	**14 37 27.4**	**+1.7**
LOD	**Lodumlu**	**0.48**	**308**	*e*PG	**Pb**	**14 37 28.1**	**-2.0**
LOD	**Lodumlu**	**0.48**	**308**	*e*Pg	**Pb**	**14 37 28.1**	**-2.0**
KKUL	**Konya-Kulu**	**0.50**	**212**	*i* P	**Pg**	**14 37 28.7**	**+0.1**
KKUL				*i* S	**Sb**	**14 37 37.2**	**-0.9**
KKUL	**Konya-Kulu**	**0.50**	**212**	P	**Pg**	**14 37 28.7**	**+0.1**
KKUL				S	**Sb**	**14 37 37.2**	**-0.9**
SERE	**Sereflikochisa**	**0.69**	**160**	*e*PG	**Pb**	**14 37 32.8**	**-1.0**
SERE	**Sereflikochisa**	**0.69**	**160**	*e*Pg	**Pb**	**14 37 32.8**	**-1.0**
CDAG	**Cicekdag**	**0.86**	**88**	*i* P	**Pb**	**14 37 35.5**	**-1.2**
CDAG				*i* S	**Sb**	**14 37 48.7**	**+0.1**
CDAG	**Cicekdag**	**0.86**	**88**	P	**Pb**	**14 37 35.5**	**-1.2**
CDAG				S	**Sb**	**14 37 48.7**	**+0.1**
AKSY	**AKSARAY - Alti**	**1.02**	**157**	*i* P	**Pg**	**14 37 37.8**	**-0.9**
AKSY				*i* S	**Sn**	**14 37 56.0**	**+0.9**
AKSY	**AKSARAY - Alti**	**1.02**	**157**	P	**Pg**	**14 37 37.8**	**-0.9**
CHBY	**Cihanbeyli**	**1.05**	**196**	*e*PG	**Pn**	**14 37 39.8**	**-0.9**
CHBY	**Cihanbeyli**	**1.05**	**196**	*e*Pg	**Pn**	**14 37 39.8**	**-0.9**
CORM	**Corum**	**1.21**	**61**	*e*PN	**Pn**	**14 37 42.0**	**-0.9**
CORM	**Corum**	**1.21**	**61**	*e*Pn	**Pn**	**14 37 42.0**	**-0.9**
KIZT	**Kizilcal**	**1.28**	**237**	*e*PN	**Pb**	**14 37 44.1**	**+0.2**
KIZT	**Kizilcal**	**1.28**	**237**	*e*Pn	**Pb**	**14 37 44.1**	**+0.2**
KDHN	**Kadinhani**	**1.39**	**220**	*i* P	**Pn**	**14 37 44.4**	**-1.0**
KDHN				*i* S	**Sn**	**14 38 06.6**	**+2.3**
KDHN	**Kadinhani**	**1.39**	**220**	P	**Pn**	**14 37 44.4**	**-1.0**
GULA	**Gulagac**	**1.46**	**148**	*e*PN	**Pg**	**14 37 47.8**	**+0.7**
GULA	**Gulagac**	**1.46**	**148**	*e*Pn	**Pg**	**14 37 47.8**	**+0.7**
BCAM	**Yenicaga**	**1.52**	**324**	*i* P	**Pg**	**14 37 48.5**	**+0.2**
BCAM				*i* S	**Sg**	**14 38 11.5**	**+3.5**
BCAM	**Yenicaga**	**1.52**	**324**	P	**Pg**	**14 37 48.5**	**+0.2**
CTAK	**Corum_Osmancik**	**1.58**	**48**	*i* P	**Pg**	**14 37 48.7**	**-0.6**
CTAK				*i* S	**Sg**	**14 38 12.1**	**+2.3**
CTAK	**Corum_Osmancik**	**1.58**	**48**	P	**Pg**	**14 37 48.7**	**-0.6**
CTAK				S	**Sg**	**14 38 12.1**	**+2.3**
YOZ	**Yozgat**	**1.59**	**88**	*e*PN	**Pg**	**14 37 49.6**	**0.0**
YOZ	**Yozgat**	**1.59**	**88**	*e*Pn	**Pg**	**14 37 49.6**	**0.0**
KONT	**Konya--Tatoy**	**1.79**	**203**	*e*PN	**Pb**	**14 37 51.5**	**-0.9**
KONT	**Konya--Tatoy**	**1.79**	**203**	*e*Pn	**Pb**	**14 37 51.5**	**-0.9**

ISCJB ***23*** *15:01:31.8±0.5, 21.11S±0.03×68.57W±0.07, h152km±6km, mb3.8/2, Error ellipse: s-maj=10.2km s-min=4.8km az=172.7*
SJA ***23*** *15:01:32.9±0.9, 21.14S×68.35W, h130km±28km, ML2.8*
GUC ***23*** *15:01:32.6±0.7, 21.08S×68.55W, h140km±5km, ML4.1*
IDC ***23*** *15:01:35.0±6.0, 20.97S×68.23W, h156km±47km, mb3.8/2, mb1 3.7/3, mb1mx3.3/19, mbtmp4.1/3, Error ellipse: s-maj=53.2km s-min=44.6km az=23.0*

ISC 23 15:01:32.7±0.9, 21.12S±0.03×68.54W±0.06, h146km±7km, n26, σ0s91/42, 11C-1D, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB01	**IPOC Station P**	**0.89**	**275**	⇑*i* P	**Pn**	**15 01 55.9**	**-0.4**
PB01				*i* S	**Sn**	**15 02 13.6**	**-0.5**
PB01				IAML		15 02 16.5	
	comp=N,3μm,0.2s						
PB09	**IPOC Station P**	**0.93**	**224**	⇑*i* P	**Pn**	**15 01 57.0**	**+0.3**
PB09				*i* S	**Sn**	**15 02 15.6**	**+0.5**
PB09				IAML		15 02 16.3	
	comp=N,9μm,0.4s						
PB08	**IPOC Station P**	**1.13**	**330**	⇑*i* P	**Pn**	**15 01 58.8**	**0.0**
PB08				*i* S	**Sn**	**15 02 18.2**	**-0.4**
PB08				IAML		15 02 18.9	
	comp=E,2μm,0.4s						
PB02	**IPOC Station P**	**1.28**	**261**	⇑*i* P	**Pn**	**15 02 00.1**	**+0.3**
PB02				*i* S	**Sn**	**15 02 20.6**	**+0.2**
PB02				IAML		15 02 25.3	
	comp=E,3μm,0.3s						
PB07	**IPOC Station P**	**1.39**	**244**	⇑*i* P	**Pn**	**15 02 01.2**	**+0.2**
PB07				*i* S	**Sn**	**15 02 22.9**	**+0.3**
PB07				IAML		15 02 26.0	
	comp=N,2μm,0.2s						
HMBC	**Humberstone**	**1.51**	**303**	⇑*i* P	**Pn**	**15 02 01.9**	**-0.3**
HMBC				*i* S	**Sn**	**15 02 24.8**	**0.0**
HMBC				IAML		15 02 25.2	
	comp=N,4μm,0.4s						
LVC	**Limon Verde**	**1.52**	**193**	*e*P	**Pn**	**15 02 02.4**	**-0.1**
LVC				*i* S	**Sn**	**15 02 25.1**	**-0.3**
LVC	**Limon Verde**	**1.52**	**193**	*e*P	**Pn**	**15 02 02.3**	**-0.2**
LVC				*e*S	**Sn**	**15 02 25.4**	**0.0**
PB11	**IPOC Station P**	**1.71**	**322**	⇑*i* P	**Pn**	**15 02 04.1**	**-0.4**
PB11				*i* S	**Sn**	**15 02 28.0**	**-0.8**
PB06	**IPOC Station P**	**1.84**	**211**	⇑*i* P	**Pn**	**15 02 06.1**	**+0.2**
PB06				*i* S	**Sn**	**15 02 31.7**	**+0.3**
PB06				IAML		15 02 33.5	
	comp=E,1μm,0.2s						
PB04	**IPOC Station P**	**1.92**	**231**	*e*P	**Pn**	**15 02 06.7**	**-0.1**
PB04				*e*S	**Sn**	**15 02 33.0**	**0.0**
PB04				IAML		15 02 36.9	
	comp=E,688nm,0.3s						
PSGC	**Pisagua**	**2.12**	**315**	⇑*i* P	**Pn**	**15 02 08.3**	**-0.9**
PSGC				*i* S	**Sn**	**15 02 35.6**	**-1.5**
PSGC				IAML		15 02 38.2	
	comp=N,458nm,0.3s						
MNMC	**Minye Minye**	**2.21**	**333**	⇑*i* P	**Pn**	**15 02 10.6**	**+0.1**
MNMC				*i* S	**Sn**	**15 02 39.5**	**0.0**
MNMC				IAML		15 02 41.3	
	comp=N,2μm,0.2s						
YJA	**Yavi**	**3.01**	**111**	*e*P	**Pn**	**15 02 19.4**	**-1.0**
YJA				IAML		15 02 58.5	
	comp=Z,17nm,0.7s						
PB12	**IPOC Station P**	**3.01**	**326**	⇑*i* P	**Pn**	**15 02 18.6**	**-1.5**
PB12				*i* S	**Sn**	**15 02 54.8**	**-2.0**
PB12				IAML		15 02 58.7	
	comp=E,1μm,0.4s						
PB10	**IPOC Station P**	**3.02**	**218**	⇓*i* P	**Pn**	**15 02 19.8**	**-0.4**
PB10				*i* S	**Sn**	**15 02 53.5**	**-3.4**
PB10				IAML		15 02 56.3	
	comp=E,536nm,0.3s						
PB10	**IPOC Station P**	**3.02**	**218**	*e*P	**Pn**	**15 02 20.1**	**-0.1**
HJA	**Humahuaca**	**3.57**	**126**	*e*P	**Pn**	**15 02 26.7**	**-0.9**
HJA				IAML		15 02 29.7	
	comp=Z,23nm,0.4s						
PB14	**IPOC Station P**	**3.89**	**206**	*e*P	**Pn**	**15 02 30.9**	**-0.8**
SLA	**San Lorenzo**	**4.55**	**143**	*e*P	**Pn**	**15 02 40.2**	**0.0**
LPAZ	**La Paz**	**4.83**	**5**	P	**Pn**	**15 02 44.5**	**+0.1**
	comp=Z,1.4nm,0.3s,baz=209,slow=1.1,SNR=41						
LPAZ				S	**Sn**	**15 03 39.6**	**-0.5**
	comp=Z,0.4nm,0.3s,baz=56,slow=16,SNR=2.5						
LPAZ	**La Paz**	**4.83**	**5**	*e*P	**Pn**	**15 02 45.7**	**+1.3**
ULM	**Lac du Bonnet**	**75.06**	**342**	P	**P**	**15 12 58.9**	**+0.8**
	comp=Z,1.9nm,0.5s,baz=144,slow=6.6,SNR=4.4						
TORD	**Torodi Ar. Bea**	**76.91**	**70**	P	**P**	**15 13 08.7**	**-0.6**
	comp=Z,0.8nm,0.4s,baz=250,slow=5.1,SNR=8.7						
ASAR	**Alice Springs**	**130.40**	**207**	PKP	**PKPdf**	**15 20 28.0**	**+1.3**
	comp=Z,0.1nm,0.4s,baz=125,slow=1.6,SNR=3.9						
WRA	**Warramunga Arr**	**133.45**	**210**	PKP	**PKPdf**	**15 20 33.6**	**+1.2**
	comp=Z,0.1nm,0.4s,baz=150,slow=2.4,SNR=3.4						

IDC 23 15:10:38.7±57.0, 19.76S×179.83W, h0km, mb4.2/3, mb1 4.4/3, mb1mx3.7/27, mbtmp4.2/3, Error ellipse: s-maj=1022.0km s-min=143.8km az=81.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**36.57**	**243**	P	P	15 17 47.0	+0.4
	2.4nm,0.7s,baz=98,slow=9.4,SNR=7.3						
WRA	**Warramunga Arr**	**43.00**	**262**	P	P	15 18 40.0	-0.2
	0.9nm,0.4s,baz=97,slow=7.8,SNR=57						
ASAR	**Alice Springs**	**43.02**	**256**	P	P	15 18 39.8	-0.5
	3.7nm,0.7s,baz=100,slow=7.7,SNR=71						

MAN 23 15:20:05, 13.22N×120.89E, h43km, mb3.5, ML2.2, MS1.6, 1C, Mindoro

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PGP	**Puerto Galera**	**0.28**	**13**	⇑*e*P	Pn	15 20 15.2	+1.8
PGP				*i* S	Sn	15 20 22.7	+3.4
SJMP	**San Jose**	**0.79**	**163**	*e*P	Pn	15 20 21.5	+1.8
SJMP				*e*S	Sn	15 20 32.7	+2.3
LUBP	**Lubang**	**0.81**	**309**	*e*P	Pn	15 20 21.0	+1.0
LUBP				*e*S	Sn	15 20 33.3	+2.5

ISCJB ***23*** *15:20:48.7±0.9, 38.42N±0.07×28.51E±0.07, h13km±7km, Error ellipse: s-maj=12.0km s-min=7.8km az=152.6*
CSEM ***23*** *15:20:48.9±0.2, 38.43N×28.50E, h12km, MD2.5, Error ellipse: s-maj=3.5km s-min=2.7km az=170.0*
ISK ***23*** *15:20:48.7, 38.44N×28.48E, h12km, MD2.3*
DDA ***23*** *15:20:49.8, 38.50N×28.51E, h7km, Md2.5*

ISC 23 15:20:49.1±1.2, 38.43N±0.04×28.50E±0.03, h15km±8km, n19, σ0s49/24, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MANT	**Manisa**	**0.07**	**38**	*i* P	Pg	15 20 44.4	-8.0
MANT				*i* S	Sg	15 20 45.6	-8.9
KULA	**Kula-Manisa**	**0.15**	**57**	PG	**Pg**	**15 20 53.1**	**0.0**
KULA				*e*SG	**Sg**	**15 20 55.6**	**-0.1**
KULA	**Kula-Manisa**	**0.15**	**57**	*i* Pg	**Pg**	**15 20 53.1**	**0.0**
KULA				*e*Sg	**Sg**	**15 20 55.6**	**-0.1**
DEMI	**Demirci**	**0.63**	**15**	*i* P	**Pg**	**15 21 01.3**	**-0.2**
DEMI				*i* S	**Sg**	**15 21 09.1**	**-0.8**
DEMI	**Demirci**	**0.63**	**15**	P	**Pg**	**15 21 01.3**	**-0.2**
DEMI				S	**Sg**	**15 21 09.1**	**-0.8**
AYDB	**Zeytinkoy-Aydi**	**0.68**	**225**	*e*PG	**Pg**	**15 21 02.3**	**-0.2**
AYDB	**Zeytinkoy-Aydi**	**0.68**	**225**	*e*Pg	**Pg**	**15 21 02.3**	**-0.2**
AKHS	**Akhisar**	**0.70**	**310**	*i* P	**Pg**	**15 21 02.4**	**-0.4**
AKHS				*i* S	**Sg**	**15 21 12.6**	**+0.6**
AKHS	**Akhisar**	**0.70**	**310**	P	**Pg**	**15 21 02.4**	**-0.4**
AKHS				S	**Sg**	**15 21 12.6**	**+0.6**
AKS	**Akhisar**	**0.70**	**310**	*e*PG	**Pg**	**15 21 02.3**	**-0.5**
AKS	**Akhisar**	**0.70**	**310**	*e*Pg	**Pg**	**15 21 02.3**	**-0.5**
SIMA	**Simav-Kutahya**	**0.75**	**30**	*e*PG	**Pg**	**15 21 03.8**	**+0.1**
SIMA	**Simav-Kutahya**	**0.75**	**30**	*e*Pg	**Pg**	**15 21 03.8**	**+0.1**
KHL	**Karahalli**	**0.81**	**98**	*e*PG	**Pg**	**15 21 04.4**	**-0.5**
KHL	**Karahalli**	**0.81**	**98**	*e*Pg	**Pg**	**15 21 04.4**	**-0.5**
TVSB	**Tavsanli**	**1.26**	**36**	*e*PN	**Pn**	**15 21 13.1**	**+0.7**
TVSB	**Tavsanli**	**1.26**	**36**	*e*Pn	**Pn**	**15 21 13.1**	**+0.7**
BALB	**Balikesir**	**1.30**	**338**	*e*PN	**Pn**	**15 21 12.8**	**0.0**
BALB	**Balikesir**	**1.30**	**338**	*e*Pn	**Pn**	**15 21 12.8**	**0.0**

NIED ***23*** *15:22:00, 39.00N×142.40E, h29km, Mw3.4 Best double couple: M0 1.41000×10^14 NP1:φs88.00000°, δ18.00000°, λ-14.00000°. NP2:φs191.00000°, δ86.00000°, λ-107.00000°.*
IDC ***23*** *15:22:53.7±1.6, 38.70N×142.86E, h0km, mb3.4/2, mb1 3.6/3, mb1mx3.3/40, mbtmp3.2/3, ML3.0/1, MS2.3/1, Ms1 2.3/1, ms1mx2.1/25, Error ellipse: s-maj=75.3km s-min=28.9km az=125.0*
ISCJB ***23*** *15:22:55.2±1.4, 38.90N×142.47E±0.08, h21km±8km, mb3.4/2, Error ellipse: s-maj=11.4km s-min=8.8km az=36.1*
JMA ***23*** *15:22:56.8±0.1, 38.96N×142.40E, h31km±2km, M3.9*
JMA Felt I J1.

ISC 23 15:22:54.8±2.0, 38.94N±0.05×142.43E±0.08, h10km±11km, n18, σ0s87/18, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OFUJ	**Ofunato**	**0.61**	**283**	P	**Pb**	**15 23 08.4**	**+0.8**
OFUJ				S	**Sb**	**15 23 16.4**	**+0.1**
JMK	**Ichinoseki**	**0.95**	**271**	P	**Pb**	**15 23 13.5**	**+0.2**
JMK				S	**Sg**	**15 23 25.2**	**-0.1**
JIO	**Ouri**	**0.98**	**241**	P	**Pg**	**15 23 13.5**	**-0.1**
JIO				S	**Sg**	**15 23 25.0**	**-1.3**
JOM	**Ohasama**	**1.03**	**301**	P	**Pg**	**15 23 14.9**	**+0.2**
JOM				S	**Sg**	**15 23 27.9**	**-0.2**
JTH	**Tanohata**	**1.09**	**336**	P	**Pb**	**15 23 15.4**	**-0.4**
JRG	**Rokugo**	**1.47**	**289**	P	**Pb**	**15 23 22.2**	**-0.1**
JRG				*e*S	**Sn**	**15 23 40.3**	**-0.4**
JOU	**Okura**	**1.50**	**248**	P	**Pn**	**15 23 21.9**	**+0.1**
JOU				S	**Sn**	**15 23 40.2**	**-1.2**
JANG	**Nango**	**1.60**	**334**	P	**Pn**	**15 23 23.5**	**+0.4**
JYK	**Kaneyama**	**1.62**	**270**	P	**Pn**	**15 23 24.1**	**+0.7**
MJAR	**Matsushiro Arr**	**4.12**	**236**	Pn	**Pn**	**15 23 59.9**	**+2.1**
	0.9nm,0.3s,baz=44,slow=12,SNR=9.0						
MJAR				LR	LR	15 25 46.7	
	comp=Z,37nm,20.3s,baz=285,slow=41						
H11N2	**WAKE ISLAND Hy**	**28.51**	**125**	T	T	15 59 14.6	
	baz=318,slow=76,SNR=58						
H11N1	**WAKE ISLAND Hy**	**28.52**	**125**	T	T	15 59 13.7	
	baz=318,slow=76,SNR=53						
H11N3	**WAKE ISLAND Hy**	**28.52**	**125**	T	T	15 59 15.9	
	baz=318,slow=76,SNR=44						
H11S1	**WAKE ISLAND Hy**	**29.29**	**127**	T	T	16 00 11.9	
	baz=319,slow=76,SNR=17						
H11S3	**WAKE ISLAND Hy**	**29.29**	**127**	T	T	16 00 12.0	
	baz=319,slow=76,SNR=17						
H11S2	**WAKE ISLAND Hy**	**29.31**	**127**	T	T	16 00 14.2	
	baz=319,slow=76,SNR=18						
ILAR	**Eielson Array**	**47.46**	**33**	P	**P**	**15 31 29.8**	**+0.5**
	0.4nm,0.9s,baz=266,slow=7.0,SNR=5.5						
WRA	**Warramunga Arr**	**59.06**	**189**	P	**P**	**15 32 54.2**	**-0.9**
	0.3nm,0.6s,baz=6.3,slow=7.0,SNR=7.2						

IDC ***23*** *15:35:04.7±0.8, 38.40S×16.95W, h0km, mb4.2/9, mb1 4.2/9, mb1mx4.0/30, mbtmp4.2/9, MS4.4/21, Ms1 4.4/21, ms1mx4.3/24, Error ellipse: s-maj=32.9km s-min=19.9km az=103.0*
NEIC ***23*** *15:35:06.7±0.7, 38.50S×16.03W, h10km, mb4.9/3, Error ellipse: s-maj=22.5km s-min=15.0km az=118.0*
GCMT ***23*** *15:35:06.7±0.2, 38.55S×16.88W, h18km, MW5.2/110, Moment Tensor Solution. s53,c76; s110,c174; Duration: 1s0 Moment tensor: Scale 10^16Nm; Mrr-1.08±.16; Mθθ3.47±.17; Mφφ-2.39±.15; Mre2.24±.37; Mrθ-7.31±.14; Mrφ-1.79±.34; Best double couple: M0 8.27700×10^16 NP1:φs170.00000°, δ81.00000°, λ13.00000°. NP2:φs78.00000°, δ77.00000°, λ170.00000°. Principal axes: T 9.2100, Plg16.0000°, Azm34.0000°; N -1.8650, Plg74.0000°, Azm206.0000°; P -7.3440, Plg2.0000°, Azm304.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

ISC 23 15:35:06.8±0.6, 38.55S±0.1×16.8W±0.1, h10km, n49, σ2s18/26, mb4.5/14, MS4.5/21, Southern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TRIS	**Tristan da Cun**	**3.81**	**69**	*e*Pn	Pn	15 35 55.3	-10
H10S2	**ASCENSION HYDR**	**29.47**	**4**	T	T	16 12 04.7	
	baz=184,slow=74,SNR=342						
H10S3	**ASCENSION HYDR**	**29.47**	**4**	T	T	16 12 03.2	
	baz=184,slow=74,SNR=243						
H10S1	**ASCENSION HYDR**	**29.48**	**4**	T	T	16 12 06.0	
	baz=184,slow=74,SNR=280						
H10N1	**ASCENSION HYDR**	**30.58**	**4**	T	T	16 13 28.5	
	baz=190,slow=79,SNR=72						
H10N3	**ASCENSION HYDR**	**30.58**	**4**	T	T	16 13 25.6	
	baz=190,slow=79,SNR=372						
H10N2	**ASCENSION HYDR**	**30.60**	**4**	T	T	16 13 26.7	
	baz=190,slow=79,SNR=132						
VNA2	**Neumayer--Watz**	**32.87**	**174**	P	**P**	**15 41 41.2**	**+0.7**
	baz=345,slow=9.6						
VNA3	**Neumayer Olymp**	**33.03**	**176**	P	**P**	**15 41 42.1**	**+0.2**
SNAA	**Sanae**	**34.01**	**172**	P	**P**	**15 41 50.2**	**-0.3**
SNAA	**Sanae**	**34.01**	**172**	P	**P**	**15 41 50.5**	**+0.1**
	2.8nm,1.0s,baz=336,slow=7.9,SNR=6.2						
CPUP	**Villa Florida**	**36.05**	**277**	P	**P**	**15 42 11.8**	**+3.4**
	2.0nm,0.8s,baz=124,slow=13,SNR=3.2						
CPUP				LR	LR	15 54 51.0	
	comp=Z,594nm,18.6s,baz=130,slow=33						
BOSA	**Boshof**	**36.12**	**87**	LR	LR	15 53 46.2	
	comp=Z,242nm,20.3s,baz=237,slow=31						
PLCA	**Paso Flores**	**40.95**	**249**	LR	LR	15 58 38.9	
	comp=Z,695nm,18.5s,baz=132,slow=35						
SIV	**San Ignacio**	**44.77**	**288**	LR	LR	15 59 56.3	
	comp=Z,382nm,20.7s,baz=184,slow=33						
LSZ	**Lusaka**	**45.72**	**72**	P	**P**	**15 43 27.1**	**-1.3**
	5.3nm,1.0s,baz=219,slow=8.3,SNR=5.8						
LSZ				LR	LR	16 00 04.3	
	comp=Z,645nm,19.3s,baz=234,slow=33						
LSZ	**Lusaka**	**45.72**	**72**	*e*P	**P**	**15 43 26.0**	**-2.4**
	23nm,1.4s						
LIC	**Lamto**	**45.81**	**16**	*e*P	**P**	**15 43 31.3**	**+2.4**
	49nm,1.5s						
KIC	**Kosan Boka**	**46.00**	**17**	*e*P	**P**	**15 43 29.5**	**-0.9**
	55nm,1.3s						
TIC	**Toumodi**	**46.22**	**16**	*e*P	**P**	**15 43 31.0**	**-1.1**
DBIC	**Dimbokro**	**46.28**	**16**	P	**P**	**15 43 31.6**	**-0.9**
	4.5nm,1.0s,baz=209,slow=8.8,SNR=3.8						
DBIC				LR	LR	15 58 04.6	
	comp=Z,550nm,20.4s,baz=171,slow=30						
LVC	**Limon Verde**	**47.00**	**274**	LR	LR	16 00 51.0	
	comp=Z,911nm,21.9s,baz=130,slow=33						
LPAZ	**La Paz**	**49.95**	**282**	P	**P**	**15 43 59.0**	**-2.9**
	2.9nm,1.1s,baz=155,slow=3.2,SNR=5.5						
LPAZ				LR	LR	16 02 55.3	
	comp=Z,254nm,21.7s,baz=122,slow=34						
SAML	**Samuel**	**50.92**	**293**	*e*P	**P**	**15 44 06.5**	**-1.9**
	14nm,1.1s						
**MAW

*CSEM **23** 15:39:55.0±0.2, 37.00N×28.26E, h2km, MD2.6, Error ellipse: s-maj=6.2km s-min=3.4km az=20.0*
*DDA **23** 15:39:55.1, 36.96N×28.22E, h7km, Md2.6, Suspected Mining explosion.*

ISC 23 15:39:56.0±0.9, 36.99N±0.03×28.25E±0.02, h0km, n26, σ1§31/40, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MRSB	**Marmaris-Mugla**	**0.27**	**189**	*e*P	**Pg**	**15 40 00.5**	**-0.8**
MRSB				*e*SG	**Sg**	**15 40 05.4**	**+0.6**
MRSB	**Marmaris-Mugla**	**0.27**	**189**	*e*Pg	**Pg**	**15 40 00.5**	**-0.8**
MRSB				*e*Sg	**Sg**	**15 40 05.4**	**+0.6**
TURN	**Turunc**	**0.31**	**112**	*i* P	**Pg**	**15 39 59.5**	**-2.4**
TURN				*i* S	**Sg**	**15 40 03.2**	**-2.6**
TURN	**Turunc**	**0.31**	**112**	P	**Pg**	**15 39 59.5**	**-2.4**
TURN				S	**Sg**	**15 40 03.2**	**-2.6**
DALY	**Dalyan (Mu¨la**	**0.37**	**118**	*e*PG	**Pg**	**15 40 02.4**	**-0.6**
DALY				*e*SG	**Sg**	**15 40 08.3**	**+0.5**
DALY	**Dalyan (Mu¨la**	**0.37**	**118**	*i* P	**Pg**	**15 40 02.5**	**-0.6**
DALY				*i* S	**Sg**	**15 40 08.7**	**+0.9**
DALY	**Dalyan (Mu¨la**	**0.37**	**118**	*e*Pg	**Pg**	**15 40 02.4**	**-0.6**
DALY				*e*Sg	**Sg**	**15 40 08.3**	**+0.5**
MLSB	**Milas**	**0.49**	**309**	*e*PG	**Pg**	**15 40 04.8**	**-0.5**
MLSB	**Milas**	**0.49**	**309**	*e*Pg	**Pg**	**15 40 04.8**	**-0.5**
DAT	**Datca**	**0.60**	**245**	*e*PG	**Pg**	**15 40 07.0**	**-0.4**
DAT	**Datca**	**0.60**	**245**	*i* P	**Pg**	**15 40 05.9**	**-1.6**
DAT				*i* S	**Sb**	**15 40 16.6**	**-1.8**
DAT	**Datca**	**0.60**	**245**	P	**Pg**	**15 40 05.9**	**-1.6**
DAT	**Datca**	**0.60**	**245**	*e*Pg	**Pg**	**15 40 07.0**	**-0.4**
DAT				S	**Sb**	**15 40 16.6**	**-1.8**
BDRM	**Kayabasi**	**0.65**	**277**	*i* P	**Pg**	**15 40 07.1**	**-1.3**
BDRM				*i* S	**Sg**	**15 40 16.7**	**-0.1**
BDRM	**Kayabasi**	**0.65**	**277**	P	**Pg**	**15 40 07.1**	**-1.3**
BDRM				S	**Sg**	**15 40 16.7**	**-0.1**
BODT	**Bodrum**	**0.75**	**276**	*e*PG	**Pg**	**15 40 09.8**	**-0.6**
BODT	**Bodrum**	**0.75**	**276**	*e*Pg	**Pg**	**15 40 09.9**	**-0.6**
FETY	**Fethiye**	**0.76**	**117**	*e*PG	**Pg**	**15 40 09.5**	**-1.0**
FETY	**Fethiye**	**0.76**	**117**	*e*Pg	**Pg**	**15 40 09.5**	**-1.0**
FETY				S	**Sg**	**15 40 20.6**	**+0.3**
AYDB	**Zeytinkoy-Aydi**	**1.00**	**344**	*e*PG	**Pg**	**15 40 14.6**	**-0.6**
AYDB	**Zeytinkoy-Aydi**	**1.00**	**344**	*e*Pg	**Pg**	**15 40 14.6**	**-0.6**
GOLH	**Golhisar**	**1.08**	**76**	*i* P	**Pn**	**15 40 19.6**	**+1.1**
GOLH	**Golhisar**	**1.08**	**76**	P	**Pn**	**15 40 19.6**	**+1.1**
AKAS	**Kas**	**1.33**	**124**	*e*PN	**Pg**	**15 40 21.0**	**-0.5**
AKAS	**Kas**	**1.33**	**124**	*i* P	**Pg**	**15 40 20.9**	**-0.5**
AKAS				*i* S	**Sn**	**15 40 42.7**	**+2.3**
AKAS	**Kas**	**1.33**	**124**	*e*Pn	**Pg**	**15 40 21.0**	**-0.5**
AKAS				S	**Sn**	**15 40 42.7**	**+2.3**

*ISCJB **23** 16:01:06.9±0.4, 24.08S×67.01W±0.04, h181km, mb3.6/3, Error ellipse: s-maj=6.7km s-min=3.6km az=37.0*
*IDC **23** 16:01:06.3±1.4, 24.09S×66.81W, h183km±12km, mb3.4/3, mb1 3.6/7, mb1mx3.4/21, mbtmp3.8/7, MS3.1/1, Ms1 3.1/1, ms1mx2.6/11, Error ellipse: s-maj=20.9km s-min=17.8km az=18.0*
*SJA **23** 16:01:06.2±0.8, 24.14S×66.94W, h202km±9km, ML3.0, MW4.2*
*GUC **23** 16:01:08.3±0.5, 23.85S×67.39W, h232km±7km, ML4.6*

ISC 23 16:01:06.5±0.7, 24.03S±0.05×66.93W±0.05, h181km, n38, σ1§66/53, mb3.7/3, 11C, Salta Province

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SLA	**San Lorenzo**	**1.48**	**118**	*e*P	**Pn**	**16 01 40.6**	**+2.1**
SLA				*e*S	**Sn**	**16 02 05.5**	**+2.2**
SLA				IAML		16 02 07.6	
	comp=Z,123nm,0.6s						
HJA	**Humahuaca**	**1.62**	**60**	*e*P	**Pn**	**16 01 43.0**	**+2.8**
HJA				IAML		16 01 44.4	
	comp=Z,175nm,0.4s						
AZAP	**Zapla**	**1.72**	**97**	*e*P	**Pn**	**16 01 42.4**	**+1.4**
AZAP				IAML		16 01 44.3	
	comp=Z,114nm,0.2s						
FSA	**Cafayete**	**2.25**	**158**	*e*P	**Pn**	**16 01 47.0**	**+0.4**
FSA				IAML		16 01 49.5	
	comp=Z,13nm,0.3s						
YJA	**Yavi**	**2.26**	**36**	*e*P	**Pn**	**16 01 50.4**	**+3.4**
YJA				IAML		16 01 51.9	
	comp=Z,28nm,0.3s						
ASTB	**Santa Barbara**	**2.27**	**89**	*e*P	**Pn**	**16 01 48.6**	**+1.8**
LVC	**Limon Verde**	**2.30**	**307**	P	**Pn**	**16 01 49.8**	**+2.4**
	comp=Z,2µm,0.3s,baz=121,slow=7.6,SNR=256						
LVC				S	**Sn**	**16 02 21.4**	**+2.3**
	comp=Z,4µm,0.3s,baz=316,slow=18,SNR=41						
LVC	**Limon Verde**	**2.30**	**307**	*e*P	**Pn**	**16 01 49.8**	**+2.4**
LVC				*i* S	**Sn**	**16 02 21.3**	**+2.3**
LVC	**Limon Verde**	**2.30**	**307**	*e*P	**Pn**	**16 01 49.7**	**+2.4**
ALOL	**LOMAS DE OLMED**	**2.71**	**86**	*e*P	**Pn**	**16 01 53.5**	**+1.7**
PB06	**IPOC Station P**	**2.76**	**298**	⇑*i*P	**Pn**	**16 01 54.4**	**+1.9**
PB06				*i* S	**Sn**	**16 02 29.1**	**+0.8**
PB06				IAML		16 02 33.4	
	comp=N,790nm,0.3s						
PB09	**IPOC Station P**	**3.08**	**316**	⇑*i*P	**Pn**	**16 01 58.8**	**+2.4**
PB09				*e*S	**Sn**	**16 02 37.0**	**+1.8**
PB09				IAML		16 02 38.6	
	comp=N,1µm,0.6s						
AHML	**Horco Molle**	**3.10**	**153**	*e*P	**Pn**	**16 01 56.8**	**+0.2**
AHML				IAML		16 01 57.5	
	comp=Z,42nm,0.5s						
ANCH	**Antofagasta**	**3.20**	**275**	⇑*i*P	**Pn**	**16 01 59.8**	**+2.1**
ANCH				*i* S	**Sn**	**16 02 37.6**	**0.0**
PB10	**IPOC Station P**	**3.36**	**278**	⇑*i*P	**Pn**	**16 02 00.6**	**+1.0**
PB10				*i* S	**Sn**	**16 02 40.4**	**-0.7**
PB10				IAML		16 02 46.8	
	comp=N,1µm,0.3s						
PB04	**IPOC Station P**	**3.41**	**299**	⇑*i*P	**Pn**	**16 02 01.6**	**+1.1**
PB04				*i* S	**Sn**	**16 02 41.7**	**-0.7**
PB04				IAML		16 02 50.5	
	comp=E,577nm,0.5s						
PB07	**IPOC Station P**	**3.56**	**309**	⇑*i*P	**Pn**	**16 02 03.6**	**+1.3**
PB07				*i* S	**Sn**	**16 02 45.6**	**-0.3**
PB01	**IPOC Station P**	**3.79**	**321**	⇑*i*P	**Pn**	**16 02 06.3**	**+1.1**
PB01				*i* S	**Sn**	**16 02 51.1**	**0.0**
PB02	**IPOC Station P**	**3.84**	**314**	⇑*i*P	**Pn**	**16 02 06.7**	**+0.9**
PB02				*i* S	**Sn**	**16 02 51.1**	**-1.0**
PB02				IAML		16 03 02.5	
	comp=E,524nm,0.3s						
PB08	**IPOC Station P**	**4.38**	**332**	⇑*i*P	**Pn**	**16 02 14.9**	**+1.9**
HMBC	**Humberstone**	**4.63**	**323**	⇑*i*P	**Pn**	**16 02 15.6**	**-0.3**
HMBC				*e*S	**Sn**	**16 03 08.3**	**-1.9**
PB11	**IPOC Station P**	**4.94**	**329**	⇑*i*P	**Pn**	**16 02 20.1**	**+0.2**
PB11				*i* S	**Sn**	**16 03 16.0**	**-1.6**
PSGC	**Pisagua**	**5.31**	**325**	*i* P	**Pn**	**16 02 23.5**	**-1.2**
PSGC				*i* S	**Sn**	**16 03 22.1**	**-4.0**
MNMC	**Minye Minye**	**5.46**	**333**	*e*P	**Pn**	**16 02 27.6**	**+0.7**
MNMC				*i* S	**Sn**	**16 03 29.5**	**-0.5**
LPAZ	**La Paz**	**7.78**	**351**	P	**Pn**	**16 02 59.9**	**+2.3**
	comp=E,0.8nm,0.3s,baz=163,slow=11,SNR=22						
LPAZ				S	**Sn**	**16 04 26.8**	**+1.4**
	comp=E,0.4nm,0.3s,baz=63,slow=16,SNR=3.9						
CPUP	**Villa Florida**	**9.00**	**107**	P	**Pn**	**16 03 10.7**	**-2.2**
	comp=E,0.2nm,0.3s,baz=265,slow=14,SNR=3.2						
CPUP				LR	LR	16 06 40.0	
	comp=E,110nm,19.1s,baz=163,slow=38						
SIV	**San Ignacio**	**9.71**	**36**	P	**Pn**	**16 03 22.2**	**-0.1**
	comp=E,1.9nm,0.3s,baz=229,slow=12,SNR=14						
PLCA	**Paso Flores**	**16.93**	**189**	P	**P**	**16 04 51.8**	**-0.2**
	comp=E,0.3nm,0.3s,baz=19,slow=13,SNR=4.6						
VNA3	**Neumayer Olymp**	**57.11**	**161**	P	**P**	**16 10 33.1**	**-0.5**
VNA2	**Neumayer--Watz**	**57.67**	**160**	P	**P**	**16 10 37.2**	**-0.4**
	baz=281,slow=7.3						
SNAA	**Sanae**	**59.31**	**161**	P	**P**	**16 10 47.1**	**-1.8**
TXAR	**Lajitas Array**	**63.73**	**324**	P	**P**	**16 11 19.9**	**+0.7**
	comp=E,0.3nm,0.8s,baz=160,slow=7.7,SNR=3.5						
TORD	**Torodi Ar. Bea**	**76.52**	**69**	P	**P**	**16 12 35.8**	**-1.3**
	comp=E,0.7nm,0.4s,baz=256,slow=6.2,SNR=11						
YKA	**Yellowknife Ar**	**94.17**	**340**	P	**P**	**16 14 04.2**	**+0.1**
	comp=E,0.6nm,0.5s,baz=132,slow=4.9,SNR=3.9						
ASAR	**Alice Springs**	**128.46**	**205**	PKP	**PKPdf**	**16 19 51.6**	**-0.9**
	comp=E,0.4nm,0.5s,baz=143,slow=2.0,SNR=12						
WRA	**Warramunga Arr**	**131.63**	**207**	PKP	**PKPdf**	**16 19 57.9**	**-0.7**
	comp=E,0.5nm,0.4s,baz=155,slow=1.8,SNR=22						
ZALV	**Zalesovo Beam**	**143.39**	**28**	PKP	PKPbc	16 20 16.9	+0.1
	comp=E,0.7nm,0.4s,baz=311,slow=2.5,SNR=5.0						
MKAR	**Makanchi Array**	**146.50**	**40**	PKPbc	**PKPdf**	**16 20 24.7**	**0.0**
	comp=E,1.3nm,0.7s,baz=322,slow=2.8,SNR=10						

IDC 23 16:23:26.1±9.0, 18.13S×170.38E, h215km±55km, mb3.5/3, mb1 3.5/4, mb1mx3.1/37, mbtmp3.9/4, Error ellipse: s-maj=113.2km s-min=76.7km az=117.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**5.39**	**223**	P	Pn	16 24 45.9	0.0
	0.4nm,0.3s,baz=31,slow=19,SNR=4.2						
DZM				S	S	16 25 49.4	+0.5
	0.6nm,0.3s,baz=108,slow=19,SNR=2.5						
STKA	**Stephens Creek**	**29.35**	**237**	P	P	16 29 08.8	-0.2
	1.7nm,0.8s,baz=84,slow=9.2,SNR=5.4						
WRA	**Warramunga Arr**	**34.08**	**261**	P	P	16 29 50.3	-0.2
	0.3nm,0.3s,baz=95,slow=8.6,SNR=22						
ASAR	**Alice Springs**	**34.45**	**254**	P	P	16 29 53.8	+0.1
	3.0nm,0.4s,baz=78,slow=8.4,SNR=210						

IDC 23 16:27:08.9±1.4, 4.41S×139.47E, h0km, mb3.7/2, mb1 3.7/3, mb1mx3.4/32, mbtmp3.6/3, ML2.8/2, Error ellipse: s-maj=52.0km s-min=23.7km az=98.0, Irian Jaya

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JAY	**Jayapura**	**2.25**	**33**	P	Pn	16 27 47.1	-0.4
	0.5nm,0.3s,baz=224,slow=23,SNR=22						
JAY				S	Sn	16 28 15.5	-0.6
	0.3nm,0.3s,baz=62,slow=24,SNR=3.2						
WRA	**Warramunga Arr**	**16.23**	**198**	Pn	Pn	16 30 52.2	-6.3
	0.1nm,0.3s,baz=19,slow=13,SNR=4.3						
WRA				S	Sn	16 33 43.2	-16
	0.2nm,0.3s,baz=14,slow=24,SNR=4.8						
ASAR	**Alice Springs**	**19.88**	**195**	P	P	16 31 40.4	-1.7
	0.1nm,0.3s,baz=26,slow=9.3,SNR=23						
ASAR				S	S	16 35 12.1	-15
	0.1nm,0.3s,baz=5.6,slow=28,SNR=4.2						
STKA	**Stephens Creek**	**27.40**	**176**	P	P	16 32 57.4	+1.2
	1.2nm,0.8s,baz=336,slow=10.0,SNR=4.4						
MKAR	**Makanchi Array**	**71.59**	**323**	P	P	16 38 32.4	+0.1
	0.4nm,0.7s,baz=122,slow=7.6,SNR=3.5						

GUC 23 16:27:08.9±0.3, 23.88S×67.51W, h232km±11km, ML4.1, 4C, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PB06	**IPOC Station P**	**2.23**	**301**	⇑*i*P	Pn	16 27 54.1	+1.8
PB06				*e*S	S	16 28 28.1	+1.9
PB06				IAML		16 28 30.9	
	comp=E,363nm,0.2s						
PB09	**IPOC Station P**	**2.62**	**322**	⇑*i*P	Pn	16 27 58.8	+2.4
PB09				*e*S	S	16 28 36.2	+2.7
PB09				IAML		16 28 41.0	
	comp=E,395nm,0.4s						
ANCH	**Antofagasta**	**2.67**	**274**	⇑*i*P	Pn	16 27 59.3	+2.7
ANCH				*i* S	S	16 28 36.5	+2.5
PB10	**IPOC Station P**	**2.82**	**277**	*e*P	Pn	16 28 00.1	+1.8
PB10				*e*S	S	16 28 39.0	+2.0
PB10				IAML		16 28 43.4	
	comp=E,518nm,0.3s						
PB04	**IPOC Station P**	**2.88**	**302**	*e*P	Pn	16 28 01.3	+2.1
PB04				*e*S	S	16 28 41.1	+2.6
PB04				IAML		16 28 44.5	
	comp=N,210nm,0.4s						
PB07	**IPOC Station P**	**3.07**	**314**	⇑*i*P	Pn	16 28 03.4	+2.2
PB07				*e*S	S	16 28 44.9	+2.6
PB01	**IPOC Station P**	**3.37**	**327**	*e*P	Pn	16 28 06.3	+1.7
PB01				*e*S	S	16 28 50.9	+2.5
PB02	**IPOC Station P**	**3.37**	**319**	*i* P	Pn	16 28 06.6	+1.9
PB02				*e*S	S	16 28 51.1	+2.6
PB08	**IPOC Station P**	**4.02**	**337**	*e*P	Pn	16 28 15.2	+2.5
PB08				*e*S	S	16 29 06.5	+3.6
PB08				IAML		16 29 08.8	
	comp=E,45nm,0.2s						
PB11	**IPOC Station P**	**4.56**	**334**	*e*P	Pn	16 28 20.4	+1.4
PB11				*e*S	S	16 29 16.7	+2.4

*CSEM **23** 16:27:49.9±0.1, 42.52N×45.35E, h2km, ML2.5, Error ellipse: s-maj=3.4km s-min=2.3km az=12.0*
*MOS **23** 16:27:49.8±0.6, 42.52N×45.35E, h9km, mb4.0/1, Error ellipse: s-maj=6.2km s-min=4.7km az=130.7*
*TIF **23** 16:27:49.5, 42.53N×45.36E, h15km*

ISC 23 16:27:49.7±1.1, 42.52N±0.02×45.34E±0.01, h4km±9km, n90, σ0§98/167, 6C-11D, Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DUS	**Dusheti**	**0.64**	**228**	P	**Pb**	**16 28 03.2**	**-0.3**
DUS				S	**Sb**	**16 28 13.4**	**+0.6**
DUS	**Dusheti**	**0.64**	**228**	*e*PG	**Pb**	**16 28 02.9**	**-0.6**
DUS				*e*S	**Sb**	**16 28 13.0**	**+0.2**
DUS	**Dusheti**	**0.64**	**228**	*e*Pg	**Pb**	**16 28 02.9**	**-0.6**
DUS				S	**Sb**	**16 28 13.0**	**+0.2**
GUDG	**Gudauri**	**0.64**	**265**	P	**Pg**	**16 28 01.6**	**-0.5**
GUDG				S	**Sg**	**16 28 10.7**	**+0.4**
GUDG	**Gudauri**	**0.64**	**265**	P	**Pg**	**16 28 01.5**	**-0.5**
GUDG				S	**Sg**	**16 28 10.0**	**-0.3**
KMGR	**Komgaron**	**0.64**	**327**	*e*PG	**Pg**	**16 28 02.7**	**+0.7**
KMGR				*i* S	**Sb**	**16 28 12.1**	**-0.8**
KMGR	**Komgaron**	**0.64**	**327**	*e*Pg	**Pg**	**16 28 02.7**	**+0.7**
KMGR				*i* Sg	**Sb**	**16 28 12.1**	**-0.8**
VLKR	**Vladikavkaz**	**0.72**	**317**	⇓*i*PG	**Pg**	**16 28 03.9**	**+0.4**
VLKR				*i* S	**Sb**	**16 28 14.4**	**-0.7**
VLKR	**Vladikavkaz**	**0.72**	**317**	*i* Pg	**Pg**	**16 28 03.9**	**+0.4**
VLKR				*i* Sg	**Sb**	**16 28 14.4**	**-0.7**
DVE	**Vedeno**	**0.72**	**53**	*e*PG	**Pg**	**16 28 03.0**	**-0.6**
DVE				*i* S	**Sg**	**16 28 13.6**	**+0.6**
DVE	**Vedeno**	**0.72**	**53**	*e*Pg	**Pg**	**16 28 03.0**	**-0.6**
DVE				*i* Sg	**Sg**	**16 28 13.6**	**+0.6**
GROC	**Groznyy**	**0.76**	**26**	⇓*i*PG	**Pb**	**16 28 05.1**	**-0.4**
GROC				*i* S	**Sb**	**16 28 16.9**	**+0.7**
GROC	**Groznyy**	**0.76**	**26**	*i* Pg	**Pb**	**16 28 05.1**	**-0.4**
GROC				*i* Sg	**Sb**	**16 28 16.9**	**+0.7**
LACR	**Lac**	**0.83**	**292**	⇑*i*PG	**Pg**	**16 28 04.3**	**-1.3**
LACR				*e*S	**Sg**	**16 28 16.0**	**-0.4**
LACR	**Lac**	**0.83**	**292**	*i* Pg	**Pg**	**16 28 04.3**	**-1.3**
LACR				*e*Sg	**Sg**	**16 28 16.0**	**-0.4**
SEAG	**Tbilisi Sea**	**0.85**	**208**	P	**Pb**	**16 28 06.8**	**-0.3**
SEAG				S	**Sn**	**16 28 19.6**	**-2.0**
TBLG	**Delisi**	**0.91**	**210**	P	**Pg**	**16 28 07.3**	**+0.2**
TBLG				S	**Sn**	**16 28 21.4**	**-1.4**
TBLG	**Delisi**	**0.91**	**210**	*e*PG	**Pg**	**16 28 07.2**	**+0.2**
TBLG				*e*S	**Sb**	**16 28 20.7**	**+0.3**
TBLG	**Delisi**	**0.91**	**210**	P	**Pg**	**16 28 07.2**	**+0.2**
TBLG				*e*Sg	**Sb**	**16 28 20.7**	**+0.3**
XNZR	**Khunzakh**	**1.01**	**88**	⇓*i*PG	**Pg**	**16 28 08.6**	**-0.4**
XNZR				*e*		16 28 22.6	
XNZR	**Khunzakh**	**1.01**	**88**	*i* Pg	**Pg**	**16 28 08.6**	**-0.4**
XNZR				*e*Sg	**Sb**	**16 28 22.6**	**-0.9**
ARNR	**Ardon**	**1.02**	**311**	⇓*i*PG	**Pb**	**16 28 09.9**	**0.0**
ARNR				*e*S	**Sn**	**16 28 24.3**	**-1.3**
ARNR	**Ardon**	**1.02**	**311**	*i* Pg	**Pb**	**16 28 09.9**	**0.0**
ARNR				*e*Sg	**Sn**	**16 28 24.3**	**-1.3**
BTKR	**Batakoyurt**	**1.03**	**326**	*e*PG	**Pb**	**16 28 10.0**	**-0.2**
BTKR				*e*S	**Sn**	**16 28 24.8**	**-1.2**
BTKR	**Batakoyurt**	**1.03**	**326**	*e*Pg	**Pb**	**16 28 10.0**	**-0.2**
BTKR				*e*Sg	**Sn**	**16 28 24.8**	**-1.2**
DGRG	**David-gareji**	**1.07**	**179**	P	**Pn**	**16 28 11.5**	**0.0**
DGRG				S	**Sn**	**16 28 28.0**	**+1.2**
DGRG	**David-gareji**	**1.07**	**179**	*e*PG	**Pn**	**16 28 11.2**	**-0.3**
DGRG				*e*S	**Sn**	**16 28 28.2**	**+1.4**
DGRG	**David-gareji**	**1.07**	**179**	*e*Pg	**Pn**	**16 28 11.2**	**-0.3**
DGRG				S	**Sn**	**16 28 27.9**	**+1.1**
UNCR	**Uncukul**	**1.09**	**79**	⇑*i*PG	**Pg**	**16 28 10.0**	**-0.6**
UNCR				*e*S	**Sg**	**16 28 24.5**	**-0.2**
UNCR				pmax	pmax		
	comp=Z,121nm,0.2s						
UNCR	**Uncukul**	**1.09**	**79**	*i* Pg	**Pg**	**16 28 10.0**	**-0.6**
	comp=Z,121nm,0.2s						
UNCR				*e*Sg	**Sg**	**16 28 24.5**	**-0.2**
KORR	**Kora**	**1.09**	**302**	⇓*i*PG	**Pg**	**16 28 10.5**	**-0.2**
KORR				*e*S	**Sb**	**16 28 26.0**	**+0.1**
KORR	**Kora**	**1.09**	**302**	*i* Pg	**Pg**	**16 28 10.5**	**-0.2**
KORR				*e*Sg	**Sb**	**16 28 26.0**	**+0.1**
ZEI	**Tsey**	**1.10**	**285**	⇓*i*PG	**Pg**	**16 28 09.4**	**-1.3**
ZEI				*e*S	**Sg**	**16 28 24.0**	**-0.9**
ZEI	**Tsey**	**1.10**	**285**	*i* Pg	**Pg**	**16 28 09.4**	**-1.3**
ZEI				*e*Sg	**Sg**	**16 28 24.0**	**-0.9**
KRNR	**Karanay**	**1.20**	**75**	⇑*i*PG	**Pg**	**16 28 12.0**	**-1.0**
KRNR				*i* S	**Sg**	**16 28 27.2**	**-0.9**
KRNR				pmax	pmax		
	comp=Z,52nm,0.2s						
KRNR	**Karanay**	**1.20**	**75**	*i* Pg	**Pb**	**16 28 12.0**	**-1.0**
	comp=Z,52nm,0.2s						
KRNR				*i* Sg	**Sg**	**16 28 27.2**	**-0.9**
DBC	**Dubki**	**1.21**	**65**	⇓*i*PG	**Pg**	**16 28 13.9**	**+1.1**
DBC				*i* S	**Sn**	**16 28 30.1**	**-0.1**
DBC				pmax	pmax		
	comp=Z,40nm,0.2s						
DBC	**Dubki**	**1.21**	**65**	*i* Pg	**Pg**	**16 28 13.9**	**+1.1**
	comp=Z,40nm,0.2s						
DBC				*i* Sg	**Sn**	**16 28 30.1**	**-0.1**
GNBR	**Gunib**	**1.21**	**96**	⇑*i*PG	**Pb**	**16 28 12.4**	**-0.7**
GNBR				*i* S	**Sn**	**16 28 29.1**	**-1.2**
GNBR				pmax	pmax		
	comp=Z,39nm,0.1s						
GNBR	**Gunib**	**1.21**	**96**	*i* Pg	**Pb**	**16 28 12.4**	**-0.7**
	comp=Z,39nm,0.1s						
GNBR				*i* Sg	**Sn**	**16 28 29.1**	**-1.2**
ARKR	**Arakani**	**1.22**	**86**	*e*PG	**Pb**	**16 28 12.5**	**-0.9**
ARKR				*e*S	**Sn**	**16 28 29.5**	**-1.2**
ARKR				pmax	pmax		
	comp=Z,41nm,0.1s						
ARKR	**Arakani**	**1.22**	**86**	*e*Pg	**Pb**	**16 28 12.5**	**-0.9**
	comp=Z,41nm,0.1s						
ARKR				*e*Sg	**Sn**	**16 28 29.5**	**-1.2**
STDR	**Stavd-Durt**	**1.27**	**313**	⇓*i*PG	**Pg**	**16 28 14.4**	**+0.5**
STDR				*e*S	**Sn**	**16 28 32.5**	**+0.8**
STDR	**Stavd-Durt**	**1.27**	**313**	*i* Pg	**Pg**	**16 28 14.4**	**+0.5**
STDR				*e*Sg	**Sn**	**16 28 32.5**	**+0.8**
TRKR	**Terskaya**	**1.28**	**340**	*e*PG	**Pg**	**16 28 14.6**	**+0.3**
TRKR				*e*S	**Sn**	**16 28 32.9**	**+0.8**
TRKR	**Terskaya**	**1.28**	**340**	*e*Pg	**Pg**	**16 28 14.6**	**+0.3**
TRKR				*e*Sg	**Sn**	**16 28 32.9**	**+0.8**
KZR	**Kazreti**	**1.33**	**212**	P	**Pn**	**16 28 14.6**	**-0.5**
KZR				S	**Sb**	**16 28 31.8**	**-0.9**
KZR	**Kazreti**	**1.33**	**212**	P	**Pn**	**16 28 14.6**	**-0.5**
KZR				S	**Sb**	**16 28 31.8**	**-0.9**
BUJR	**Buynaksk**	**1.34**	**76**	*e*PG	Pg	16 28 20.8	+5.5
BUJR				*e*S	**Sg**	**16 28 34.0**	**+1.3**
BUJR	**Buynaksk**	**1.34**	**76**	*e*Sg	**Sg**	**16 28 34.0**	**+1.3**
LSNR	**Lesken**	**1.35**	**305**	⇓*i*PG	**Pb**	**16 28 15.4**	**-0.1**
LSNR				*e*S	**Sg**	**16 28 33.8**	**+0.8**
LSNR	**Lesken**	**1.35**	**305**	*i* Pg	**Pb**	**16 28 15.4**	**-0.1**
LSNR				*e*Sg	**Sg**	**16 28 33.8**	**+0.8**
DIGR	**Digorskoe uzhe**	**1.35**	**287**	*e*PG	**Pn**	**16 28 14.0**	**-1.6**
DIGR				*e*S	**Sb**	**16 28 32.4**	**-1.1**
DIGR	**Digorskoe uzhe**	**1.35**	**287**	*e*Pg	**Pn**	**16 28 14.0**	**-1.6**
DIGR				*e*Sg	**Sb**	**16 28 32.4**	**-1.1**
KMKR	**Kumukh**	**1.36**	**106**	*e*PG	**Pn**	**16 28 15.0**	**-0.7**
KMKR				*e*S	**Sb**	**16 28 32.5**	**-1.2**
KMKR				pmax	pmax		
	comp=Z,47nm,0.2s						
KMKR	**Kumukh**	**1.36**	**106**	*e*Pg	**Pn**	**16 28 15.0**	**-0.7**
	comp=Z,47nm,0.2s						
KMKR				*e*Sg	**Sb**	**16 28 32.5**	**-1.2**
ONI	**Oni**	**1.40**	**274**	P	**Pb**	**16 28 15.9**	**-0.5**
ONI				S	**Sg**	**16 28 36.2**	**+1.6**
ONI	**Oni**	**1.40**	**274**	*e*PG	**Pn**	**16 28 15.3**	**-0.7**
ONI				*e*S	**Sg**	**16 28 37.9**	**+3.3**
ONI	**Oni**	**1.40**	**274**	P	**Pn**	**16 28 15.3**	**-0.7**
PRTR	**Priterechnaya**	**1.46**	**328**	⇓*i*PG	**Pg**	**16 28 18.2**	**+0.6**
PRTR				*e*S	**Sg**	**16 28 38.6**	**+2.2**
PRTR	**Priterechnaya**	**1.46**	**328**	*i* Pg	**Pg**	**16 28 18.2**	**+0.6**
PRTR				*e*Sg	**Sg**	**16 28 38.6**	**+2.2**
NCK	**Nalchik**	**1.61**	**308**	*e*PG	**Pn**	**16 28 18.9**	**0.0**
NCK				*e*S	**Sg**	**16 28 41.0**	**-0.4**
NCK	**Nalchik**	**1.61**	**308**	*e*Pg	**Pn**	**16 28 18.9**	**0.0**
NCK				*e*Sg	**Sg**	**16 28 41.0**	**-0.4**

SUSE				*i* S		**Sb**	**16 38 44.9**	**-1.2**
SUSE	**Susehri**	**0.67**	**323**	P		**Pg**	**16 38 35.2**	**+0.1**
SUSE				S		**Sb**	**16 38 44.9**	**-1.2**
CUZAR	**Zara_SIVAS**	**0.77**	**287**	*i* P		**Pg**	**16 38 36.6**	**-0.3**
CUZAR				*i* S		**Sb**	**16 38 48.1**	**-0.7**
CUZAR	**Zara_SIVAS**	**0.77**	**287**	P		**Pg**	**16 38 36.6**	**-0.3**
CUZAR				S		**Sb**	**16 38 48.1**	**-0.7**
ERZN	**Erzincan**	**0.77**	**96**	*e*PG		**Pb**	**16 38 37.4**	**-0.8**
ERZN				*e*SG		**Sb**	**16 38 48.6**	**-0.4**
TNCL	**Tunceli-Merkez**	**0.84**	**131**	*i* P		**Pn**	**16 38 42.0**	**+1.3**
TNCL				*i* S		**Sb**	**16 38 50.8**	**-0.1**
PTK	**Pertek**	**0.93**	**146**	*e*PG		**Pb**	**16 38 40.9**	**0.0**
PTK	**Pertek**	**0.93**	**146**	*e*Pg		**Pb**	**16 38 40.9**	**0.0**
GUMT	**Gumushane**	**0.98**	**36**	*e*PG		**Pg**	**16 38 40.3**	**-0.6**
GUMT	**Gumushane**	**0.98**	**36**	*e*Pg		**Pg**	**16 38 40.3**	**-0.6**
ELZG	**Elazig**	**1.19**	**170**	*i* P		**Pg**	**16 38 44.0**	**-0.9**
ELZG				*i* S		**Sb**	**16 39 01.0**	**+0.1**
ELZG	**Elazig**	**1.19**	**170**	P		**Pg**	**16 38 44.0**	**-0.9**
ELZG				S		**Sb**	**16 39 01.0**	**+0.1**
ESPY	**Espiye-Giresun**	**1.25**	**0**	*e*PN		**Pb**	**16 38 45.7**	**-0.4**
ESPY	**Espiye-Giresun**	**1.25**	**0**	*e*Pn		**Pb**	**16 38 45.7**	**-0.4**
RSDY	**Resadiye-TOKAT**	**1.30**	**305**	*e*PN		**Pg**	**16 38 47.2**	**+0.2**
RSDY	**Resadiye-TOKAT**	**1.30**	**305**	*e*Pn		**Pg**	**16 38 47.2**	**+0.2**
SVSK	**Karacayir**	**1.35**	**281**	*e*PN		**Pg**	**16 38 48.5**	**+0.4**
SVSK	**Karacayir**	**1.35**	**281**	*e*Pn		**Pg**	**16 38 48.5**	**+0.4**
DARE	**Darende-Malaty**	**1.46**	**222**	*e*PN		**Pb**	**16 38 49.3**	**-0.5**
DARE	**Darende-Malaty**	**1.46**	**222**	*e*Pn		**Pb**	**16 38 49.3**	**-0.5**

DJA 23 16:41:16.7±0.5, 8°S±13′×11°8E±°, h114km±6km, M3.6/7, MLv3.6/7, Sumbawa region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLAI	**Plampang**	**0.47**	**159**	P	Pn	16 41 35.9	+2.1
PLAI				S	Sn	16 41 49.3	+2.7
TWSI	**Taliwang, Sumb**	**0.80**	**244**	P	Pn	16 41 38.1	+1.8
TWSI				S	Sn	16 41 53.0	+1.9
DNP	**Denpasar**	**2.39**	**263**	P	Pn	16 41 54.1	-0.7
IGBI	**Denpasar**	**2.47**	**260**	P	Pn	16 41 56.1	+0.2
WSI	**Waingapu**	**2.94**	**116**	P	Pn	16 42 01.3	-0.8
JAGI	**Jajag, Banyuwa**	**3.42**	**268**	P	Pn	16 42 07.4	-1.0

*ISCJB **23** 16:42:11.2±0.7, 32°.52S±0°.07×138°.66E±0°.06, h10km, Error ellipse: s-maj=9.8km s-min=7.3km az=14.9*
*AUST **23** 16:42:12.9±0.6, 32°.63S×138°.56E, h6km±3km, Error ellipse: s-maj=4.7km s-min=2.3km az=167.0*
*IDC **23** 16:42:22.9±5.8, 31°.23S×139°.49E, h0km, mb1 3.4/2, mb1mx3.2/19, mbtmp3.1/2, ML3.3/2, Error ellipse: s-maj=134.9km s-min=20.1km az=39.0*
ISC 23 16:42:13.0±1.0, 32°.61S±0°.08×138°.58E±0°.07, h10km, n11, σ1§49/12, Near coast of South Australia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HTT	**Hallett**	**0.87**	**161**	P	**Pg**	**16 42 28.9**	**-0.8**
	baz=0.9,SNR=114						
BBOO	**Buckleboo**	**2.14**	**264**	P	**Pn**	**16 42 49.4**	**+0.6**
	baz=2.1,SNR=155						
BBOO				S	**Sn**	**16 43 16.3**	**+0.9**
	baz=2.1						
STKA	**Stephens Creek**	**2.65**	**75**	Pg	**Pn**	**16 42 57.7**	**+1.9**
	3.8nm,0.3s,baz=277,slow=16,SNR=78						
STKA				Lg	Lg	16 43 33.4	
	35nm,0.3s,baz=337,slow=17,SNR=11						
STKA	**Stephens Creek**	**2.65**	**75**	P	**Pn**	**16 42 57.7**	**+1.9**
	baz=2.7,SNR=84						
ARPS	**Mount Arapiles**	**4.94**	**148**	P	**Pn**	**16 43 28.0**	**+0.7**
	baz=4.9,SNR=6.5						
CMSA	**Cobar Meteorol**	**6.13**	**82**	P	**Pn**	**16 43 43.9**	**+0.3**
	baz=6.1						
TOO	**Toolangi**	**7.52**	**133**	P	**Pn**	**16 44 03.4**	**+0.7**
	baz=7.5						
QLP	**Quilpie**	**7.76**	**41**	P	**Pn**	**16 44 06.8**	**+0.7**
	baz=7.8						
CAN	**Canberra**	**9.06**	**110**	P	**Pn**	**16 44 24.2**	**+0.3**
	baz=9.1						
ASAR	**Alice Springs**	**9.82**	**334**	Pn	**Pn**	**16 44 35.0**	**+0.7**
	0.2nm,0.3s,baz=164,slow=10,SNR=42						
ASAR				Sn	Sn	16 46 17.1	-7.6
	0.6nm,0.3s,baz=156,slow=22,SNR=5.1						
WRA	**Warramunga Arr**	**13.18**	**342**	Pn	**Pn**	**16 45 17.3**	**-2.9**
	0.2nm,0.3s,baz=156,slow=12,SNR=12						
WRA				Sn	Sn	16 47 35.9	-11
	0.1nm,0.3s,baz=160,slow=24,SNR=2.9						

*ISCJB **23** 16:56:39.7±0.7, 2°.85S±0°.08×101°.76E±0°.08, h10km, mb3.8/11, MS3.9/1, Error ellipse: s-maj=15.1km s-min=5.3km az=136.5*
*DJA **23** 16:56:40.6±0.3, 3°S±3′×10°2E±°, h10km, M4.4/8, MLv4.4/8*
*IDC **23** 16:56:50.9±3.6, 2°.71S×101°.90E, h110km±31km, mb3.4/11, mb1 3.6/12, mb1mx3.4/44, mbtmp3.8/12, MS3.4/2, Ms1 3.4/2, ms1mx2.9/19, Error ellipse: s-maj=49.0km s-min=12.0km az=53.0*
ISC 23 16:56:40.0±0.7, 2°.77S±0°.06×101°.84E±0°.07, h10km, n29, σ1§90/30, mb3.8/11, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MASI	**Maura Aman, Be**	**0.55**	**133**	P	**Pg**	**16 56 50.8**	**+0.1**
MASI				S	**Sg**	**16 56 58.7**	**+0.8**
SDSI	**Sungai Dareh**	**1.87**	**347**	P	**Pn**	**16 57 12.8**	**+0.7**
MNAI	**Manna**	**1.94**	**145**	P	**Pn**	**16 57 14.0**	**+1.0**
JMBI	**JAMBI**	**2.13**	**58**	P	**Pn**	**16 57 18.1**	**+2.5**
PDSI	**Padang**	**2.30**	**323**	P	**Pn**	**16 57 20.0**	**+1.9**
PPI	**Padang Panjang**	**2.71**	**328**	P	**Pn**	**16 57 26.8**	**+3.1**
PMBI	**Palembang**	**2.94**	**93**	P	**Pg**	**16 57 35.8**	**-0.5**
LWLI	**Liwa**	**3.15**	**135**	P	**Pn**	**16 57 33.2**	**+3.4**
BKNI	**Bangkinang**	**3.18**	**345**	P	**Pb**	**16 57 37.2**	**+0.6**
KLSI		**3.46**	**124**	P	**Pn**	**16 57 36.6**	**+2.6**
KASI	**Kota Agung**	**3.81**	**136**	P	**Pn**	**16 57 40.9**	**+2.1**
MNSI	**Mandailing Nat**	**4.20**	**327**	P	**Pn**	**16 57 47.9**	**+3.7**
PPBI	**Pangkal Pinang**	**4.34**	**82**	P	**Pg**	**16 58 03.6**	**+0.4**
TPRI	**Tanjung Pinang**	**4.54**	**36**	P	**Pn**	**16 57 49.8**	**+0.9**
PSI	**Prapat**	**6.25**	**332**	P	Pn	16 58 19.8	+7.2
	0.8nm,0.3s,baz=156,slow=24,SNR=4.2						
PSI				LR	LR	17 00 56.6	
	comp=Z,138nm,20.3s,baz=180,slow=40						
MRSI	**Marisa**	**20.35**	**81**	P	Pn	17 01 20.6	+1.7
CMAR	**Chiang Mai Arr**	**21.29**	**352**	P	**P**	**17 01 30.1**	**+3.2**
	0.7nm,0.7s,baz=184,slow=10,SNR=6.2						
FITZ	**Fitzroy Crossi**	**27.87**	**125**	P	**P**	**17 02 30.3**	**+0.2**
	1.4nm,0.7s,baz=307,slow=10,SNR=4.2						
WRA	**Warramunga Arr**	**36.02**	**121**	P	**P**	**17 03 40.9**	**-0.9**
	0.8nm,0.8s,baz=302,slow=9.1,SNR=9.5						
WRA				PcP	**PcP**	**17 06 06.8**	**-1.5**
	0.2nm,0.6s,baz=310,slow=2.3,SNR=4.6						
ASAR	**Alice Springs**	**37.32**	**127**	P	**P**	**17 03 51.8**	**-1.1**
	1.0nm,0.5s,baz=298,slow=7.7,SNR=32						
ASAR				PcP	**PcP**	**17 06 10.7**	**-1.5**
	0.3nm,0.7s,baz=305,slow=2.5,SNR=4.7						
STKA	**Stephens Creek**	**47.27**	**132**	P	**P**	**17 05 14.6**	**+0.8**
	1.0nm,0.5s,baz=310,slow=7.8,SNR=5.3						
STKA				LR	LR	17 27 38.4	
	comp=Z,110nm,18.1s,baz=207,slow=39						
SONM	**Songino Array**	**50.55**	**4**	P	**P**	**17 05 38.6**	**-0.2**
	1.2nm,0.7s,baz=186,slow=8.5,SNR=8.7						
MKAR	**Makanchi Array**	**52.28**	**343**	P	**P**	**17 05 50.2**	**-1.4**
	0.5nm,0.5s,baz=153,slow=7.4,SNR=4.8						
KURBB	**Kurchatov Arra**	**56.82**	**342**	P	**P**	**17 06 22.2**	**-2.3**
	0.5nm,0.6s,baz=162,slow=6.9,SNR=5.0						
ZALV	**Zalesovo Beam**	**58.27**	**348**	P	**P**	**17 06 31.9**	**-2.8**
	0.7nm,0.4s,baz=152,slow=6.5,SNR=5.9						
KBZ	**Khabaz**	**70.09**	**319**	P	**P**	**17 07 51.8**	**-0.7**
	1.2nm,0.7s,baz=119,slow=7.6,SNR=4.2						
BRTR	**Keskin Array B**	**75.19**	**312**	P	**P**	**17 08 21.4**	**-1.9**
	0.5nm,0.6s,baz=141,slow=6.1,SNR=3.8						
TXAR	**Lajitas Array**	**144.15**	**40**	PKP	**PKPab**	**17 16 14.8**	**+0.1**
	0.3nm,0.5s,baz=302,slow=1.7,SNR=6.8						
CPUP	**Villa Florida**	**144.75**	**214**	PKP	**PKPab**	**17 16 16.3**	**-0.5**
	3.4nm,1.0s,baz=113,slow=3.1,SNR=4.8						

*ISCJB **23** 17:14:00.2±0.2, 17°.30N±0°.03×95°.61W±0°.02, h115km±2km, mb4.4/25, Error ellipse: s-maj=5.0km s-min=3.5km az=13.6*
*IDC **23** 17:14:02.4±0.8, 17°.42N×95°.34W, h109km±10km, mb3.9/7, mb1 4.1/8, mb1mx3.8/33, mbtmp4.2/8, Error ellipse: s-maj=44.5km s-min=22.8km az=66.0*
*MEX **23** 17:14:03.0±0.4, 17°.30N×95°.64W, h104km±4km, MD4.9*

*NEIC **23** 17:14:03.0±0.0, 17°.30N×95°.64W, h105km, mb4.4/28, MD4.9(MEX), After MEX.*
ISC 23 17:14:01.4±0.7, 17°.28N±0°.04×95°.66W±0°.03, h105km±6km, n308, σ1§03/337, mb4.3/25, Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMIG	**Matias Romero**	**0.76**	**104**	P	**Pn**	**17 14 20.3**	**+0.4**
	513nm,0.3s,baz=285,slow=9.4						
CMIG				S	**Sn**	**17 14 33.9**	**+0.1**
	5μm,0.3s,baz=92,slow=18,SNR=319						
CMIG	**Matias Romero**	**0.76**	**104**	*i* P	**Pn**	**17 14 20.4**	**+0.5**
CMIG				*i* S	**Sn**	**17 14 33.4**	**-0.4**
CMIG				S	**Sn**	**17 14 33.9**	**+0.1**
CMIG	**Matias Romero**	**0.76**	**104**	*i* P	**Pn**	**17 14 20.4**	**+0.5**
CMIG				*i* S	**Sn**	**17 14 33.4**	**-0.4**
OXBJ	**Oaxaca**	**1.04**	**258**	*e*P	**Pn**	**17 14 23.5**	**+0.6**
OXBJ				*i* S	**Sn**	**17 14 39.3**	**+0.2**
VHO	**Vista Hermosa**	**1.05**	**259**	*i* P	**Pn**	**17 14 23.6**	**+0.6**
VHO				*e*S	**Sn**	**17 14 39.5**	**+0.2**
VHO	**Vista Hermosa**	**1.05**	**259**	*i* P	**Pn**	**17 14 23.6**	**+0.6**
VHO				*e*S	**Sn**	**17 14 39.5**	**+0.2**
TUIG	**Tuzandepetl**	**1.39**	**57**	*e*P	**Pn**	**17 14 26.8**	**+0.1**
TUIG				*i* S	**Sn**	**17 14 45.0**	**-0.8**
TUIG	**Tuzandepetl**	**1.39**	**57**	*e*P	**Pn**	**17 14 26.8**	**+0.1**
TUIG				*i* S	**Sn**	**17 14 45.0**	**-0.8**
HUIG	**Huatulco**	**1.57**	**196**	*i* P	**Pn**	**17 14 28.9**	**+0.1**
HUIG				*e*S	**Sn**	**17 14 50.0**	**+0.3**
HUIG	**Huatulco**	**1.57**	**196**	*i* P	**Pn**	**17 14 28.9**	**+0.1**
HUIG				*e*S	**Sn**	**17 14 50.0**	**+0.3**
PANG	**Puerto Angel**	**1.79**	**206**	*i* P	**Pn**	**17 14 30.9**	**-0.6**
PANG				*i* S	**Sn**	**17 14 54.0**	**-0.5**
TPIG	**Tehuac#an**	**1.98**	**305**	*e*P	**Pn**	**17 14 34.4**	**+0.3**
TPIG				*e*S	**Sn**	**17 14 58.5**	**-0.6**
TPIG	**Tehuac#an**	**1.98**	**305**	*e*P	**Pn**	**17 14 34.4**	**+0.3**
TPIG				*e*S	**Sn**	**17 14 58.5**	**-0.6**
TGIG		**2.48**	**101**	*e*P	**Pn**	**17 14 41.0**	**+0.6**
TGIG				*i* S	**Sn**	**17 15 10.5**	**+0.1**
TGIG		**2.48**	**101**	*e*P	**Pn**	**17 14 41.0**	**+0.6**
TGIG				*i* S	**Sn**	**17 15 10.5**	**+0.1**
TGBT	**Tuxtla Gutierr**	**2.51**	**101**	*e*P	**Pn**	**17 14 41.6**	**+0.8**
TGBT				*i* S	**Sn**	**17 15 10.5**	**-0.5**
PNIG	**Pinotepa**	**2.53**	**250**	*e*P	**Pn**	**17 14 39.5**	**-1.6**
PNIG				*e*S	**Sn**	**17 15 10.2**	**-1.3**
PNIG	**Pinotepa**	**2.53**	**250**	*e*P	**Pn**	**17 14 39.5**	**-1.6**
PNIG				*e*S	**Sn**	**17 15 10.2**	**-1.3**
HMTT	**Tlapaneco**	**2.82**	**281**	*e*P	**Pn**	**17 14 45.7**	**+0.7**
HMTT				*i* S	**Sn**	**17 15 18.6**	**+0.1**
PHPU	**Puebla**	**2.96**	**307**	*i* P	**Pn**	**17 14 48.3**	**+1.3**
PHPU				*i* S	**Sn**	**17 15 22.1**	**-0.1**
PPM	**Popocatepetl**	**3.33**	**303**	*e*P	**Pn**	**17 14 52.7**	**+0.4**
PPM				*i* S	**Sn**	**17 15 31.3**	**-0.2**
PPM	**Popocatepetl**	**3.33**	**303**	*e*P	**Pn**	**17 14 52.7**	**+0.4**
PPM				*i* S	**Sn**	**17 15 31.3**	**-0.2**
CCIG	**Comitan**	**3.52**	**106**	*e*P	**Pn**	**17 14 55.4**	**+1.0**
CCIG				*i* S	**Sn**	**17 15 35.9**	**+0.7**
CCIG	**Comitan**	**3.52**	**106**	*e*P	**Pn**	**17 14 55.4**	**+1.0**
CCIG				*i* S	**Sn**	**17 15 35.9**	**+0.7**
YAIG	**Yautepec**	**3.60**	**296**	*e*P	**Pn**	**17 14 56.7**	**+1.2**
YAIG				*i* S	**Sn**	**17 15 38.6**	**+1.2**
YAIG	**Yautepec**	**3.60**	**296**	*e*P	**Pn**	**17 14 56.7**	**+1.2**
YAIG				*i* S	**Sn**	**17 15 38.6**	**+1.2**
933A	**Laredo**	**10.81**	**343**	P	**Pn**	**17 16 33.4**	**+0.3**
	baz=161						
834A	**Tilden**	**11.12**	**347**	P	**Pn**	**17 16 37.8**	**+0.7**
	baz=166						
833A	**Chaparral WMA,**	**11.52**	**343**	P	**Pn**	**17 16 42.9**	**+0.4**
	baz=162						
832A	**Faith Ranch, C**	**11.65**	**341**	P	**Pn**	**17 16 44.7**	**+0.4**
	baz=159						
733A	**Divot King Ran**	**11.86**	**344**	P	**Pn**	**17 16 47.6**	**+0.4**
	baz=163						
636A	**Smothers Creek**	**12.21**	**354**	P	**Pn**	**17 16 51.9**	**+0.1**
	baz=174						
534A	**Blanco**	**12.95**	**349**	P	**Pn**	**17 17 01.9**	**+0.4**
	baz=168,SNR=12						
542A	**Morse**	**13.09**	**12**	P	**Pn**	**17 17 01.5**	**-1.8**
	baz=193						
533A	**Kerrville**	**13.10**	**347**	P	**Pn**	**17 17 03.3**	**-0.1**
	baz=166						
435B	**Jarrell**	**13.55**	**353**	P	**Pn**	**17 17 08.6**	**-0.7**
	baz=172						
JCT	**Junction City**	**13.67**	**345**	P	**Pn**	**17 17 11.7**	**+0.8**
	baz=163,SNR=7.8						
JCT	**Junction City**	**13.67**	**345**	*e*Pn	**Pn**	**17 17 10.8**	**-0.1**
	19nm,0.6s						
JCT				*e*Sn	**Sn**	**17 19 39.8**	**-1.7**
434A	**Burnet**	**13.68**	**350**	P	**Pn**	**17 17 10.7**	**-0.3**
	baz=169						
433A	**Art**	**13.77**	**347**	P	**Pn**	**17 17 11.8**	**-0.4**
	baz=166,SNR=12						
339A	**Huntington**	**14.02**	**4**	P	**Pn**	**17 17 14.7**	**-0.7**
	baz=184						
335A	**Moody**	**14.03**	**354**	P	**Pn**	**17 17 15.1**	**-0.4**
	baz=173						
TXAR	**Lajitas Array**	**14.06**	**330**	P	**Pn**	**17 17 17.2**	**+1.1**
	0.2nm,0.3s,baz=140,slow=11,SNR=15						
336A	**Riesel**	**14.08**	**356**	P	**Pn**	**17 17 16.0**	**-0.2**
	baz=175						
340A	**Bronson**	**14.16**	**6**	P	**Pn**	**17 17 16.1**	**-1.1**
	baz=187						
334A	**Lometa**	**14.18**	**351**	P	**Pn**	**17 17 16.4**	**-1.1**
	baz=170,SNR=7.4						
333A	**Richland Sprin**	**14.30**	**348**	P	**Pn**	**17 17 18.4**	**-0.6**
	baz=167,SNR=5.8						
237A	**Washeita, Mont**	**14.65**	**359**	P	**Pn**	**17 17 22.2**	**-1.3**
	baz=179						
236A	**Katherine and**	**14.67**	**357**	P	**Pn**	**17 17 22.5**	**-1.3**
	baz=177						
WHTX	**Lake Whitney,**	**14.73**	**354**	P	**Pn**	**17 17 23.3**	**-1.2**
	baz=173,SNR=8.2						
WHTX	**Lake Whitney,**	**14.73**	**354**	*e*Pn	**Pn**	**17 17 25.8**	**+1.2**
	39nm,0.9s						
WHTX				*e*Sn	**Sn**	**17 20 07.0**	**-0.1**
234A	**Clairette**	**14.83**	**352**	P	**Pn**	**17 17 25.4**	**-0.3**
	baz=171,SNR=9.2						
233A	**Rising Star**	**14.96**	**349**	P	**Pn**	**17 17 27.4**	**0.0**
	baz=168,SNR=7.1						
ABTX	**Abilene, Hawle**	**15.69**	**347**	P	**Pn**	**17 17 36.5**	**-0.1**
	baz=166,SNR=11						
ABTX	**Abilene, Hawle**	**15.69**	**347**	*e*Pn	**Pn**	**17 17 35.7**	**-0.9**
	32nm,0.7s						
Z38A	**Mt. Pleasant**	**15.91**	**2**	P	**Pn**	**17 17 39.2**	**-0.1**
	baz=2						
Z36A	**Blue Ridge**	**15.93**	**358**	P	**Pn**	**17 17 39.5**	**0.0**
	baz=177						
Y36A	**Durant**	**16.56**	**358**	P	**Pn**	**17 17 47.2**	**-0.1**
	baz=178						
Y35A	**Marietta**	**16.60**	**356**	P	**Pn**	**17 17 47.4**	**-0.4**
	baz=175,SNR=6.9						
Y37A	**Hugo**	**16.63**	**0**	P	**Pn**	**17 17 47.3**	**-0.8**
	baz=180						
MNTX	**Cornudas Mount**	**16.85**	**330**	P	**P**	**17 17 51.6**	**+0.4**
	baz=146,SNR=12						
MNTX	**Cornudas Mount**	**16.85**	**330**	*e*Pn	**Pn**	**17 17 51.0**	**+0.1**
	7.3nm,0.9s						
X35A	**Drake**	**17.09**	**356**	P	**Pn**	**17 17 52.8**	**-1.0**
	baz=176,SNR=6.0						
X39A	**Fountain Ranch**	**17.21**	**4**	P	**P**	**17 17 53.6**	**-1.6**
	baz=185						
X36A	**Centrahoma**	**17.23**	**358**	P	**P**	**17 17 53.9**	**-1.5**
	baz=178,SNR=5.7						
X37A	**Clayton**	**17.24**	**1**	P	**P**	**17 17 54.2**	**-1.2**
	baz=181,SNR=12						
MIAR	**Mount Ida**	**17.29**	**6**	P	**P**	**17 17 54.3**	**-1.8**
	baz=187,SNR=7.8						
MIAR	**Mount Ida**	**17.29**	**6**	*e*P	**P**	**17 17 53.9**	**-2.2**
	10nm,0.8s						
X40A	**Basin Creek Fa**	**17.32**	**8**	P	**P**	**17 17 54.7**	**-1.6**
	baz=189						
X38A	**Whitesboro**	**17.33**	**2**	P	**P**	**17 17 55.5**	**-1.0**
	baz=183,SNR=12						
Z48A	**Northport**	**17.61**	**23**	P	**P**	**17 17 58.0**	**-1.5**
	baz=206						
WMOK	**Wichita Mounta**	**17.61**	**351**	P	**P**	**17 17 58.9**	**-0.7**
	baz=170,SNR=10						
WMOK	**Wichita Mounta**	**17.61**	**351**	*e*P	**P**	**17 17 58.5**	**-1.1**
	4.1nm,0.6s						
W38A	**Poteau**	**17.74**	**3**	P	**P**	**17 17 59.9**	**-1.1**
	baz=184						
W37B	**Quinton**	**17.78**	**1**	P	**P**	**17 18 01.2**	**-0.4**
	baz=181,SNR=8.4						
W36A	**Wetumka**	**17.79**	**358**	P	**P**	**17 18 01.2**	**-0.4**
	baz=178,SNR=7.9						
MSTX	**Muleshoe**	**17.80**	**340**	P	**Pn**	**17 18 02.3**	**-0.2**
	baz=157,SNR=7.6						
MSTX	**Muleshoe**	**17.80**	**340**	*e*P	**P**	**17 17 57.1**	**-4.7**
	18nm,0.8s						
W35A	**Tecumseh**	**17.83**	**357**	P	**P**	**17 18 02.3**	**+0.3**
	baz=176,SNR=11						
W39A	**Magazine**	**17.92**	**5**	P	**P**	**17 18 02.7**	**-0.2**
	baz=186,SNR=8.3						
Y47A	**UCPARC, Winfie**	**17.97**	**21**	P	**P**	**17 18 02.4**	**-1.2**
	baz=205						
W40A	**Ferguson Farm,**	**17.98**	**7**	P	**P**	**17 18 03.0**	**-0.7**
	baz=188						
W43A	**Forest City**	**18.27**	**13**	P	**P**	**17 18 05.7**	**-1.1**
	baz=195						
AMTX	**Amarillo**	**18.34**	**344**	P	**P**	**17 18 07.5**	**-0.2**
	baz=161						
AMTX	**Amarillo**	**18.34**	**344**	*e*P	**P**	**17 18 08.3**	**+0.6**
	14nm,0.6s						
V36A	**Jenks**	**18.43**	**359**	P	**P**	**17 18 08.4**	**-0.2**
	baz=179,SNR=9.7						
V35A	**Meyer Ranch, C**	**18.43**	**357**	P	**P**	**17 18 08.8**	**+0.2**
	baz=176,SNR=7.3						
V37A	**Hulbert**	**18.53**	**1**	P	**P**	**17 18 09.5**	**-0.2**
	baz=182,SNR=12						
V38A	**Canehill**	**18.54**	**3**	P	**P**	**17 18 09.4**	**-0.4**
	baz=184,SNR=12						
TUL1	**Leonard**	**18.55**	**360**	P	**P**	**17 18 09.7**	**-0.2**
	baz=180						
V40A	**Witts Springs**	**18.62**	**7**	P	**P**	**17 18 10.9**	**+0.2**
	baz=188,SNR=13						
V41A	**Mountainview**	**18.69**	**9**	P	**P**	**17 18 11.8**	**+0.4**
	baz=190,SNR=28						
121A	**Cookes Peak, D**	**18.72**	**326**	P	**Pn**	**17 18 14.1**	**+0.4**
	baz=141,SNR=12						
121A	**Cookes Peak, D**	**18.72**	**326**	*e*P	**P**	**17 18 12.7**	**+0.7**
	14nm,0.6s						
V42A	**Cord**	**18.83**	**11**	P	**P**	**17 18 12.8**	**-0.2**
	baz=193,SNR=14						
U36A	**Oologah**	**19.03**	**360**	P	**P**	**17 18 14.8**	**-0.3**
	baz=180						
U35A	**Pawnee**	**19.04**	**357**	P	**P**	**17 18 15.1**	**-0.1**
	baz=177,SNR=6.9						
U37A	**Salina**	**19.05**	**1**	P	**P**	**17 18 14.7**	**-0.7**
	baz=182						
U38A	**Gravette**	**19.11**	**3**	P	**P**	**17 18 16.0**	**-0.1**
	baz=184,SNR=11						
U39A	**Green Forest**	**19.12**	**5**	P	**P**	**17 18 15.8**	**-0.3**
	baz=186,SNR=17						
U40A	**Yellville**	**19.16**	**7**	P	**P**	**17 18 16.6**	**+0.1**
	baz=188,SNR=24						
U32A	**Winter Ranch,**	**19.25**	**352**	P	**P**	**17 18 17.3**	**-0.3**
	baz=170						
U41A	**Viola**	**19.27**	**9**	P	**P**	**17 18 18.0**	**+0.3**
	baz=191,SNR=24						
V45A	**Humboldt**	**19.32**	**17**	P	**P**	**17 18 16.8**	**-1.5**
	baz=200						
U42A	**Reveneden**	**19.39**	**11**	P	**P**	**17 18 18.5**	**-0.6**
	baz=193,SNR=12						
T35A	**Sooner Cattle**	**19.57**	**358**	P	**P**	**17 18 20.7**	**-0.3**
	baz=178,SNR=9.8						
T36A	**Boggs Farm, Ca**	**19.70**	**359**	P	**P**	**17 18 22.0**	**-0.5**
	baz=179,SNR=8.8						
T34A	**McClaskey Farm**	**19.71**	**356**	P	**P**	**17 18 22.1**	**-0.4**
	baz=176,SNR=6.1						
T38A	**Diamond**	**19.71**	**3**	P	**P**	**17 18 22.4**	**-0.1**
	baz=184,SNR=21						
T39A	**Clever**	**19.77**	**5**	P	**P**	**17 18 22.5**	**-0.6**
	baz=186						
T37A	**Cheneyville 18**	**19.77**	**2**	P	**P**	**17 18 22.8**	**-0.5**
	baz=182,SNR=6.6						
T41A	**Mountain View**	**19.98**	**9**	P	**P**	**17 18 25.2**	**-0.2**
	baz=191,SNR=11						
T40A	**Mansfield**	**19.98**	**7**	P	**P**	**17 18 25.1**	**-0.4**
	baz=189,SNR=16						
ANMO	**Albuquerque**	**20.06**	**333**	P	**P**	**17 18 27.6**	**+1.0**
	4.2nm,0.6s,baz=153,slow=9.3,SNR=9.3						
ANMO	**Albuquerque**	**20.06**	**333**	P	**P**	**17 18 27.7**	**+1.1**
	baz=149						
TUC	**Tucson**	**20.27**	**320**	P	Pn	17 18 30.9	-0.8
	baz=134						
TUC	**Tucson**	**20.27**	**320**	*e*P	**P**	**17 18 29.6**	**+0.8**
	14nm,0.9s						
T43A	**Greenville**	**20.29**	**12**	P	**P**	**17 18 27.9**	**-0.8**
	baz=195,SNR=12						
S38A	**Stockton**	**20.33**	**4**	P	**P**	**17 18 29.3**	**+0.1**
	baz=185,SNR=15						
S35A	**Otter Creek Ra**	**20.33**	**358**	P	**P**	**17 18 28.2**	**-1.0**
	baz=178,SNR=11						
**S

P40A	Paris	22.39	7	P		P	17 18 50.2	-0.9		
	baz=189,SNR=11									
WCI	Wyandotte Cave	22.42	20	eP		P	17 18 50.7	-0.8		
	630nm,0.6s									
KSCO	Kaye Shedlock'	22.49	346	P		P	17 18 51.9	-0.3		
	baz=162									
S22A	4UR Ranch, Cre	22.63	336	P		P	17 18 55.4	+1.5		
	baz=151,SNR=6.8									
P41A	Barry, Barry	22.67	9	P		P	17 18 52.2	-1.7		
	baz=191									
P42A	Winchester	22.70	11	P		P	17 18 53.1	-1.1		
	baz=193,SNR=8.4									
O33A	Hebron	22.77	356	P		P	17 18 55.0	0.0		
	baz=175,SNR=5.8									
O36A	Bolckow	22.77	1	P		P	17 18 53.6	-1.4		
	baz=182									
O34A	Beatrice	22.84	358	P		P	17 18 54.5	-1.1		
	baz=177									
O38A	Galt	22.84	4	P		P	17 18 54.5	-1.1		
	baz=185									
O37A	Wolven Farm, M	22.84	3	P		P	17 18 54.2	-1.4		
	baz=184									
MVCO	Mesa Verde	22.85	333	P		P	17 18 56.4	+0.3		
	baz=147									
MVCO	Mesa Verde	22.85	333	eP		P	17 18 55.8	-0.2		
	6.7nm,0.6s									
P43A	Skaggs, Pawnee	22.91	12	P		P	17 18 54.4	-1.9		
	baz=195									
WUAZ	Wupatki	22.92	325	P		P	17 18 58.7	+2.0		
	baz=138,SNR=6.2									
WUAZ	Wupatki	22.92	325	eP		P	17 18 56.6	0.0		
	6.7nm,0.7s									
O40A	La Belle	22.99	7	P		P	17 18 55.3	-1.7		
	baz=189,SNR=7.9									
O39A	Kirksville	23.05	6	P		P	17 18 56.2	-1.4		
	baz=188,SNR=5.8									
O41A	Passleys Farm,	23.12	9	P		P	17 18 56.7	-1.7		
	baz=192									
Q24A	Divide	23.14	341	P		P	17 18 58.9	0.0		
	baz=156									
O42A	Bath	23.34	11	P		P	17 18 58.8	-1.5		
	baz=194									
GLA	Glamis	23.34	316	P		P	17 19 02.3	+1.9		
	baz=128									
N37A	Lee Faris, Mou	23.43	3	P		P	17 19 00.1	-1.1		
	baz=183									
N36A	Muff Farm, Cla	23.46	1	P		P	17 19 00.4	-1.0		
	baz=182									
N34A	Lincoln	23.48	358	P		P	17 19 00.8	-0.9		
	baz=178									
N38A	Joes South For	23.52	5	P		P	17 19 01.3	-0.7		
	baz=186,SNR=6.0									
N39A	Derby Farms, D	23.67	6	P		P	17 19 02.1	-1.2		
	baz=188,SNR=6.2									
N41A	Harden Midland	23.71	9	P		P	17 19 02.4	-1.3		
	baz=191									
N40A	Mertquake, Sal	23.78	8	P		P	17 19 03.1	-1.2		
	baz=190									
HDIL	Hopedale	23.84	12	P		P	17 19 03.4	-1.4		
	baz=195									
ISCO	Idaho Springs	24.05	341	P		P	17 19 08.4	+1.3		
	baz=156,SNR=9.0									
ISCO	Idaho Springs	24.05	341	eP		P	17 19 07.1	0.0		
	11nm,0.9s									
M36A	Felix, Anita	24.10	2	P		P	17 19 07.1	-0.1		
	baz=182									
M35A	Neola	24.10	360	P		P	17 19 07.2	0.0		
	baz=180									
BC3	Big Chuckawall	24.12	316	P		P	17 19 10.3	+2.7		
	baz=128									
M38A	Pleasantville	24.14	5	P		P	17 19 07.0	-0.6		
	baz=186,SNR=6.4									
M34A	Aspy Farms, Fr	24.15	358	P		P	17 19 07.7	+0.1		
	baz=178									
SFIN	Lafayette	24.18	16	P		P	17 19 07.2	-0.7		
	baz=200									
SFIN	Lafayette	24.18	16	P		P	17 19 06.8	-1.1		
	28nm,0.8s									
OGNE	Ogallala	24.21	348	P		P	17 19 09.9	+1.6		
	baz=165									
IRM	Iron Mountain	24.23	318	P		P	17 19 11.1	+2.6		
	baz=129									
M39A	Webster	24.30	6	P		P	17 19 08.2	-0.7		
	baz=188									
M40A	Post Highland	24.30	8	P		P	17 19 08.1	-1.0		
	baz=190,SNR=6.3									
MONP	Monument Peak,	24.33	314	P		P	17 19 12.6	+3.0		
	baz=125,SNR=5.4									
M41A	Milan	24.41	9	P		P	17 19 10.0	0.0		
	baz=192									
L34A	Svendsen Farm,	24.61	359	P		P	17 19 11.2	-0.6		
	baz=178									
SCIA	State Center	24.63	4	eP		P	17 19 11.6	-0.4		
	36nm,0.7s									
L32A	Elgin	24.72	356	P		P	17 19 13.2	+0.3		
	baz=175									
L36A	Harm Buss Farm	24.75	2	P		P	17 19 13.2	+0.1		
	baz=182									
TPFO	Pinon Flats	24.76	315	P		P	17 19 15.8	+2.4		
	baz=126									
PFO	Pinyon Flats O	24.77	315	P		P	17 19 15.8	+2.2		
	3.6nm,0.7s,baz=127,slow=7.8,SNR=5.9									
PFO	Pinyon Flats O	24.77	315	P		P	17 19 16.0	+2.5		
	baz=126									
L37A	Phoenix Point,	24.81	3	P		P	17 19 13.3	-0.4		
	baz=184									
L33A	Hoskins	24.84	357	P		P	17 19 13.8	-0.1		
	baz=176									
L38A	Oak Wood Farm,	24.88	5	P		P	17 19 13.5	-0.8		
	baz=186,SNR=13									
L39A	Vinton	24.95	6	P		P	17 19 14.2	-0.7		
	baz=188									
L40A	Anamosa	24.99	8	P		P	17 19 14.5	-0.7		
	baz=190,SNR=7.6									
L41A	Preston	25.10	9	P		P	17 19 15.1	-1.2		
	baz=192,SNR=5.4									
N23A	Red Feather La	25.15	341	P		P	17 19 17.0	0.0		
	baz=156									
O20A	White River Ci	25.25	337	P		P	17 19 18.4	+0.5		
	baz=151									
K33A	Hardington	25.27	358	P		P	17 19 18.2	+0.4		
	baz=177									
K36A	Gilmore City	25.29	2	P		P	17 19 17.8	-0.2		
	baz=183									
K34A	Le Mars	25.32	359	P		P	17 19 18.4	+0.1		
	baz=179									
K32A	Verdigre	25.37	356	P		P	17 19 19.2	+0.4		
	baz=175									
K31A	O'Neill	25.39	355	P		P	17 19 21.0	+2.1		
	baz=173,SNR=7.0									
K38A	Parkersburg	25.40	5	P		P	17 19 18.2	-0.8		
	baz=186,SNR=12									
K37A	Belmond	25.46	3	P		P	17 19 18.5	-1.0		
	baz=184									
K39A	Oelwein	25.54	6	P		P	17 19 19.7	-0.6		
	baz=188									
K40A	Colesburg	25.62	8	P		P	17 19 20.4	-0.6		
	baz=190									
K41A	Shullsburg	25.65	9	P		P	17 19 20.2	-1.1		
	baz=192,SNR=5.8									
J34A	George	25.92	359	P		P	17 19 22.8	-0.9		
	baz=179									
JFWS	Jewell Farm	25.96	9	eP		P	17 19 20.9	-3.1		
	23nm,0.6s									
J36A	Seneca 1, Swea	25.99	2	P		P	17 19 23.4	-0.9		
	baz=183,SNR=7.0									
J37A	Redenius Farm,	26.00	4	P		P	17 19 23.5	-1.0		
	baz=184									
J31A	Geddes	26.06	355	P		P	17 19 24.4	-0.5		
	baz=173									
J38A	Wedel Dairy, R	26.09	5	P		P	17 19 24.2	-1.0		
	baz=187									
J39A	Decorah	26.18	7	P		P	17 19 25.4	-0.7		
	baz=188									
RWWY	Rawlins	26.27	340	P		P	17 19 25.5	-1.6		
	18nm,1.3s									
J40A	Soldiers Grove	26.36	8	P		P	17 19 27.3	-0.4		
	baz=191									
ECSD	EROS Data Cent	26.38	358	P		P	17 19 27.6	-0.3		
	baz=178									
J41A	Loganville	26.44	9	P		P	17 19 27.3	-1.1		
	baz=192,SNR=6.6									
I35A	Creekview Farm	26.50	1	P		P	17 19 28.1	-0.8		
	baz=181									
I37A	Lemond, Waseca	26.72	4	P		P	17 19 30.0	-0.8		
	baz=185									
I39A	Houston	26.72	7	P		P	17 19 29.8	-1.1		
	baz=189									
I38A	Scanlan Farm,	26.82	5	P		P	17 19 30.8	-1.0		
	baz=187									
I40A	Norwalk	26.86	8	P		P	17 19 31.4	-0.8		
	baz=191									
K22A	Casper	26.93	342	P		P	17 19 33.6	+0.6		
	baz=157									
I41A	Arkdale	27.14	9	P		P	17 19 33.2	-1.4		
	baz=192									
H32A	Carlson Farm,	27.18	357	P		P	17 19 34.4	-0.6		
	baz=176									
H31A	Wolsey	27.22	356	P		P	17 19 35.4	+0.1		
	baz=174									
H35A	Sunnyside Ranc	27.34	1	P		P	17 19 35.8	-0.7		
	baz=182									
H38A	Maiden Rock	27.45	5	P		P	17 19 36.7	-0.7		
	baz=187									
H39A	Augusta	27.56	7	P		P	17 19 37.8	-0.6		
	baz=189,SNR=16									
H40A	Chili	27.61	8	P		P	17 19 38.2	-0.7		
	baz=191									
VES	Vestal, Richgr	27.82	316	P		P	17 19 43.3	+2.5		
	baz=126									
G36A	St. Michael	27.91	3	P		P	17 19 40.9	-0.6		
	baz=184									
SPMN	Marine on St.	27.96	4	P		P	17 19 41.0	-0.9		
	baz=186,SNR=5.5									
BW06	Boulder Array	28.03	338	P		P	17 19 42.9	0.0		
	baz=151									
PDAR	Pinedale Array	28.03	338	P		P	17 19 43.2	+0.3		
	2.2nm,0.9s,baz=132,slow=8.9,SNR=11									
G39A	Holcombe	28.17	7	P		P	17 19 43.0	-0.8		
	baz=189,SNR=9.4									
F36A	Milaca	28.55	3	P		P	17 19 46.3	-0.9		
	baz=184									
G43A	Wallace	28.68	12	P		P	17 19 46.7	-1.6		
	baz=196									
F38A	Pierce - Schro	28.77	5	P		P	17 19 48.0	-1.1		
	baz=188									
F39A	Loretta	28.82	7	P		P	17 19 48.1	-1.5		
	baz=189,SNR=5.8									
F41A	Three Lakes	28.89	10	P		P	17 19 47.1	-3.2		
	baz=193									
REDW	Red Top Meadow	29.02	337	eP		P	17 19 49.7	-2.0		
	7.6nm,0.7s									
LOHW	Long Hollow	29.14	337	eP		P	17 19 52.5	-0.2		
	11nm,1.1s									
TPAW	Teton Pass	29.16	337	eP		P	17 19 53.3	+0.3		
	3.5nm,0.6s									
E35A	Pequot Lakes	29.21	2	P		P	17 19 52.5	-0.5		
	baz=182									
E36A	McGregor	29.22	3	P		P	17 19 52.7	-0.4		
	baz=185									
MOOW	Moose Ponds	29.31	337	eP		P	17 19 53.4	-0.8		
	5.0nm,0.7s									
F43A	Flat Rock, Esc	29.33	12	P		P	17 19 52.7	-1.4		
	baz=197,SNR=8.8									
E38A	The Farm, Brul	29.44	6	P		P	17 19 53.9	-1.1		
	baz=188,SNR=6.3									
E40A	Wakefield	29.47	8	P		P	17 19 54.1	-1.2		
	baz=191									
F44A	Big Bay de Noc	29.62	13	P		P	17 19 55.4	-1.2		
	baz=198,SNR=5.1									
D34A	Park Rapids	29.72	1	P		P	17 19 56.6	-0.9		
	baz=181									
D35A	Remer	29.74	2	P		P	17 19 56.4	-1.4		
	baz=183									
E43A	Lone Tree Farm	29.89	12	P		P	17 19 57.7	-1.4		
	baz=197									
D37A	Cotton	29.91	4	P		P	17 19 58.5	-0.7		
	baz=186									
RLMT	Red Lodge	30.01	341	P		P	17 20 00.6	+0.3		
	baz=153									
C35A	Jirik Farms, M	30.37	2	P		P	17 20 02.5	-0.7		
	baz=183									
C31A	Landman Farms,	30.47	357	P		P	17 20 03.5	-0.6		
	baz=176									
C36A	Pine Crest Far	30.48	4	P		P	17 20 03.4	-0.8		
	baz=185									
C37A	Embarrass	30.50	5	P		P	17 20 03.3	-1.0		
	baz=186									
C38A	Sawbill Land.	30.56	6	P		P	17 20 04.0	-1.0		
	baz=188									
HLID	Hailey	30.64	333	P		P	17 20 07.2	+1.3		
	baz=143,SNR=8.1									
HLID	Hailey	30.64	333	eP		P	17 20 05.4	-0.5		
	4.4nm,0.8s									
EYMN	Ely	30.77	5	P		P	17 20 05.9	-0.9		
	baz=188									
AGMN	Agassiz Nation	30.93	360	P		P	17 20 07.6	-0.5		
	baz=180,SNR=6.5									
AGMN	Agassiz Nation	30.93	360	eP		P	17 20 05.5	-2.6		
	9.7nm,0.6s									
B35A	Bob, Littlefor	31.03	2	P		P	17 20 08.4	-0.7		
	baz=184									
B32A	Ashes, Strandq	31.04	359	P		P	17 20 08.8	-0.3		
	baz=178									
B34A	Aery, Baudette	31.13	1	P		P	17 20 08.6	-1.4		
	baz=182									
BOZ	Bozeman (W)	31.22	338	P		P	17 20 11.7	+0.7		
	baz=150									
DLMT	Dillon	31.38	337	eP		P	17 20 12.9	+0.6		
	16nm,1.1s									
A32A	Rocking H Ranc	31.56	359	P		P	17 20 13.1	-0.6		
	baz=178									
ULM	Lac du Bonnet	32.89	360	P		P	17 20 24.6	-0.7		
	3.5nm,0.4s,baz=180,slow=8.1,SNR=8.7									
MSO	Missoula	33.12	337	P		P	17 20 28.2	+0.7		
	baz=147									
NEW	Newport	35.53	335	P		P	17 20 48.9	+0.6		
	baz=143									
SAML	Samuel	41.35	127	eP		P	17 21 36.3	-1.0		
	2.6nm,0.8s									
YKA	Yellowknife Ar	47.07	348	P		P	17 22 21.9	-0.3		
	1.7nm,0.5s,baz=153,slow=7.6,SNR=6.5									
ILAR	Eielson Array	58.45	337	P		P	17 23 46.2	+0.2		
	1.6nm,1.0s,baz=118,slow=5.0,SNR=8.7									
ILAR				PcP		PcP	17 24 35.8	+0.3		
	0.5nm,0.6s,baz=150,slow=2.7,SNR=5.9									
TRF	Thorofare Moun	59.18	335	eP		P	17 23 51.4	+0.1		
	6.8nm,0.9s									
ARCES	ARCESS Array B	84.11	18	P		P	17 26 20.3	0.0		
	2.1nm,0.5s,baz=298,slow=5.2,SNR=7.1									
STKA	Stephens Creek	126.50	243	PKP		PKPdf	17 32 53.4	+0.7		
	0.9nm,0.5s,baz=22,slow=3.3,SNR=4.4									
WRA	Warramunga Arr	132.68	259	PKP		PKPdf	17 33 05.3	+0.6		
	0.5nm,0.4s,baz=84,slow=2.8,SNR=15									
ASAR	Alice Springs	133.32	254	PKP		PKPdf	17 33 06.5	+0.6		
	0.4nm,0.7s,baz=80,slow=2.0,SNR=9.1									

WEL 23 17:21:13.7±0.5, 39.18S×174.81E, h203km±3km, ML3.5/15, 8C-2D, Error ellipse: s-maj=3.0km s-min=2.5km az=90.0, North Island

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
VRZ	Vera Road	0.07	324	PN		Pn	17 21 39.1	-1.1
VRZ				*e*S		S	17 21 59.4	-1.5
LREZ	Lake Rotokare	0.42	229	*e*P		Pn	17 21 40.8	0.0
PKVZ	Pokaka	0.43	105	PN		Pn	17 21 40.6	-0.3
PREZ	Palmer Road	0.53	252	*e*P		Pn	17 21 41.0	-0.2
WAZ	Wanganui	0.59	167	↑P		Pn	17 21 41.8	+0.4
WAZ				*e*S		S	17 22 03.1	-0.1
WNVZ	Wahianoa	0.63	104	PN		Pn	17 21 41.7	-0.1
MOVZ	Moawhango	0.76	107	↓P		Pn	17 21 42.0	-0.4
OHWZ	Ohakea	1.09	159	PN		Pn	17 21 45.0	+0.7
TSZ	Takapari Road	1.25	135	↑P		Pn	17 21 45.6	+0.1
TSZ				SN		S	17 22 09.5	-0.6
KWHZ	Kaweka Forest	1.27	101	PN		Pn	17 21 45.8	+0.1
KWHZ				AML		AML	17 22 12.4	
KWHZ				AML		AML	17 22 13.4	
KRHZ	Kereru	1.29	111	PN		Pn	17 21 45.8	0.0
KRHZ				AML		AML	17 22 11.4	
KRHZ				AML		AML	17 22 12.3	
PNHZ	Pukenui	1.30	125	PN		Pn	17 21 45.9	0.0
BKZ	Black Stump Fm	1.31	90	PN		Pn	17 21 45.4	-0.7
BKZ				SN		S	17 22 09.1	-1.7
MCHZ	McNeill Hill	1.49	101	PN		Pn	17 21 47.9	+0.4
DVHZ	Dannevirke	1.53	137	PN		Pn	17 21 47.7	-0.1
DVHZ				AML		AML	17 22 15.4	
DVHZ				AML		AML	17 22 16.2	
WPHZ	Waipukurau	1.54	126	PN		Pn	17 21 48.0	+0.1
WPHZ				SN		S	17 22 14.1	-0.1
MRZ	Mangatainoka R	1.59	158	↑P		Pn	17 21 48.0	-0.3
MRZ				*e*SN		S	17 22 14.2	-1.0
PRWZ	Pori Road	1.64	147	PN		Pn	17 21 49.0	+0.2
PRWZ				AML		AML	17 22 17.3	
PRWZ				AML		AML	17 22 19.0	
OGWZ	Otaki Gorge	1.66	171	↑PN		Pn	17 21 48.9	-0.1
OGWZ				AML		AML	17 21 49.3	
OGWZ				AML		AML	17 22 17.0	
KIW	Kapiti Island	1.68	177	PN		Pn	17 21 48.8	-0.4
ARHZ	Aropaoanui	1.70	93	PN		Pn	17 21 49.2	-0.1
KAHZ	Kahuranaki	1.71	112	PN		Pn	17 21 49.8	+0.3
DUWZ	D'Urville Isla	1.76	203	↑PN		Pn	17 21 49.2	-0.7
PRHZ	Porangahau	1.78	128	PN		Pn	17 21 50.2	+0.1
PRHZ				AML		AML	17 22 18.7	
PRHZ				AML		AML	17 22 21.1	
RTZ	Ruatahuna	1.78	72	PN		Pn	17 21 49.0	-1.3
HOWZ	Holdsworth Sta	1.80	163	↑PN		Pn	17 21 49.8	-0.6
HOWZ				AML		AML	17 22 17.7	
PXZ	Pawanui	1.80	119	PN		Pn	17 21 50.3	0.0
PXZ				AML		AML	17 22 21.2	
BFZ	Birch Farm	1.86	144	PN		Pn	17 21 50.5	-0.5
CAW	Cannon Point	1.93	174	PN		Pn	17 21 51.1	-0.5
SNGZ	Shannon Statio	2.01	79	PN		Pn	17 21 51.5	-1.0
MTW	Mount Morrison	2.04	165	PN		Pn	17 21 51.9	-0.8
TCW	Tory Channel	2.07	191	PN		Pn	17 21 52.5	-0.5
TMWZ	Te Maipa	2.09	157	PN		Pn	17 21 52.7	-0.7
TMWZ				AML		AML	17 22 25.3	
TMWZ				AML		AML	17 22 25.9	
WEL	Wellington	2.10	181	PN		Pn	17 21 52.7	-0.6
WEL				AML		AML	17 22 25.6	
KNZ	Kokohu	2.23	87	PN		Pn	17 21 53.8	-1.0
PAWZ	Paruwai Farm	2.25	168	PN		Pn	17 21 54.0	-0.9
MSWZ	Moikau Station	2.26	172	PN		Pn	17 21 54.0	-1.0
MWZ	Matawai	2.29	69	PN		Pn	17 21 53.6	-1.8
NNZ	Nelson	2.31	208	↑PN		Pn	17 21 54.2	-1.3
NNZ				SN		S	17 22 25.6	-2.2
TRWZ	Traveller	2.31	163	↑PN		Pn	17 21 54.8	-0.8
TUWZ	Tuamarina	2.34	196	↓PN		Pn	17 21 55.0	-0.9
TUWZ				AML		AML	17 21 55.8	
TUWZ				AML		AML	17 21 55.8	
RIGZ	Rimuhau	2.35	79	PN		Pn	17 21 54.9	-1.1
RIGZ				AML		AML	17 22 29.1	
RIGZ				AML		AML	17 22 29.3	
QRZ	Quartz Range	2.40	226	PN		Pn	17 21 54.4	-2.2
MHGZ	Mahia Peninsul	2.41	90	PN		Pn	17 21 56.0	-0.7
PLWZ	Palliser	2.41	172	PN		Pn	17 21 55.6	-1.1
TKGZ	Te Karaka	2.48	74	*e*PN		Pn	17 21 56.1	-1.4
TKGZ				AML		AML	17 22 31.7	
TKGZ				AML		AML	17 22 32.6	
BSWZ	Blackbirch Sta	2.63	195	PN		Pn	17 21 58.5	-0.6
HAZ	Te Kaha	2.73	60	PN		Pn	17 21 57.2	-3.1
THZ	Tophouse	2.96	209	PN		Pn	17 22 00.9	-2.0
THZ				*e*SN		S	17 22 39.0	-2.1
KHZ	Kahutara	3.37	196	PN		Pn	17 22 06.2	-1.5
DSZ	Denniston Nort	3.44	221	PN		Pn	17 22 05.8	-2.8
LTZ	Lake Taylor	4.08	207	PN		Pn	17 22 14.1	-2.3
INZ	Inchbonnie	4.36	215	PN		Pn	17 22 16.3	-3.7
CRLZ	Canterbury Las	4.69	200	PN		Pn	17 22 20.5	-3.6
MQZ	McQueen's Vall	4.80	199	PN		Pn	17 22 21.8	-3.7
MQZ				SN		S	17 23 14.9	-6.9
WVZ	Waitaha Valley	4.96	217	PN		Pn	17 22 24.5	-3.0
ODZ	Otahua Downs	6.63	207	PN		Pn	17 22 46.0	-3.0

MEX 23 17:31:31.5±1.1, 16.05N×97.58W, h14km±12km, MD3.8, Oaxaca

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
PNIG	Pinotepa	0.63	303	*e*P		Pg	17 31 41.4	-2.5
PNIG				*e*S		Sg	17 31 50.0	-2.2
VHO	Vista Hermosa	1.30	38	*e*P		Pn	17 31 51.2	-4.2
VHO				*i* S		Sb	17 32 07.5	-4.9
HUIG	Huatulco	1.44	101	*e*P		Pn	17 31 54.0	-3.1
HUIG				*e*S		Sn	17 32 11.5	-4.3
TLIG	Tlapa	1.78	328	*e*P		Pn	17 31 59.4	-2.5
TLIG				*e*S		Sn	17 32 19.8	-4.6
CMIG	Matias Romero	2.78	68	*e*P		Pn	17 32 11.3	-4.3
CMIG				*i* S		Sn	17 32 44.5	-4.5

RSNC 23 17:39:57.2±1.2, 6.80N×73.08W, h140km±10km, ML2.0, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
BTLC	Betulia, Santa	0.22	302	*e*P		Pn	17 40 16.4	-0.2
BARC	Barichara	0.23	206	*e*P		Pn	17 40 16.1	-0.6
BARC				*e*S		Sn	17 40 30.9	-0.6
BARC				*i*			17 40 32.2	
	comp=Z,17nm,0.2s							
PAMC	Pamplona, Colo	0.65	35	*e*P		Pn	17 40 19.2	+0.3
BRRC	Barranca, Sant	0.69	296	*e*P		Pn	17 40 18.0	-0.6
BRRC				*e*S		Sn	17 40 35.0	+0.1
BRRC				*i*			17 40 36.1	
	comp=Z,27nm,0.2s							
RUSC	La Rusia	0.91	180	*e*P		Pn	17 40 19.9	-1.0
RUSC				*e*S		Sn	17 40 38.5	-0.3
OCAC	Ocana	1.45	351	*e*P		Pn	17 40 24.7	-1.0
OCAC				*e*S		Sn	17 40 47.1	-0.3
OCAC				*i*			17 40 50.0	
	comp=Z,15nm,0.4s							
OCAC	Ocana	1.45	351	*e*P		Pn	17 40 24.8	-0.8
OCAC				*e*S		Sn	17 40 46.7	-0.7
OCAC				*i*			17 40 50.1	
	comp=Z,15nm,0.4s							
ZARC	Zaragoza, Cauc	1.89	291	*e*P		Pn	17 40 29.4	-1.0
ZARC				*e*S		Sn	17 40 55.1	-0.9
ZARC				*i*			17 41 03.0	
	comp=Z,10nm,0.3s							
NORC	Norcasia	2.16	235	*e*P		Pn	17 40 34.4	+0.7
NORC				*e*S		Sn	17 41 00.8	-1.0
CODC	Agust^n Codaz	3.13	353	*e*S		Sn	17 41 24.1	+0.5
MOTC	Monteria, Cord	3.23	308	*e*P		Pn	17 40 43.6	-3.5
MOTC				*i*			17 40 44.2	
	comp=Z,1.6nm,0.2s							
MOTC				*e*S		Sn	17 41 18.

MAT	**Matsushiro**	**1.96**	**267**	P	**Pn**	17 49 14.3	**+1.1**
MAT				S	**Sb**	17 49 40.3	**+0.1**
JHJ	**Hachijo jima 2**	**3.60**	**191**	Pn	**Pn**	17 49 35.4	**-0.4**
	11nm,0.3s,baz=108,slow=17,SNR=3.0						
JHJ				Sn	**Sn**	17 50 19.8	**+1.4**
	13nm,0.3s,baz=80,slow=22,SNR=2.9						
ASAJ	**Asahikawa**	**7.60**	**11**	Pn	**Pn**	17 50 31.5	**+0.7**
	1.1nm,0.3s,baz=229,slow=11,SNR=11						
KSRS	**Korea Array**	**10.19**	**278**	LR	LR	17 54 57.3	
	comp=Z,166nm,19.6s,baz=220,slow=37						
SONM	**Songino Array**	**27.48**	**305**	P	**P**	17 54 26.6	**+0.2**
	0.2nm,0.4s,baz=109,slow=8.8,SNR=5.0						
H11N2	**WAKE ISLAND Hy**	**28.50**	**119**	T	T	18 24 20.0	
	baz=312,slow=75,SNR=402						
H11N1	**WAKE ISLAND Hy**	**28.51**	**119**	T	T	18 24 20.5	
	baz=312,slow=75,SNR=400						
H11N3	**WAKE ISLAND Hy**	**28.52**	**119**	T	T	18 24 20.2	
	baz=312,slow=75,SNR=342						
H11S1	**WAKE ISLAND Hy**	**29.19**	**121**	T	T	18 25 11.0	
	baz=314,slow=76,SNR=1146						
H11S3	**WAKE ISLAND Hy**	**29.19**	**121**	T	T	18 25 09.8	
	baz=314,slow=76,SNR=881						
H11S2	**WAKE ISLAND Hy**	**29.21**	**121**	T	T	18 25 12.1	
	baz=314,slow=76,SNR=745						
ZALV	**Zalesovo Beam**	**41.71**	**313**	P	**P**	17 56 28.6	**-0.1**
	1.7nm,0.5s,baz=93,slow=6.6,SNR=9.1						
MKAR	**Makanchi Array**	**43.79**	**302**	P	**P**	17 56 43.8	**-2.0**
	0.1nm,0.4s,baz=91,slow=8.5,SNR=2.7						
WRA	**Warramunga Arr**	**56.61**	**187**	P	**P**	17 58 22.8	**-0.3**
	0.6nm,0.5s,baz=3.6,slow=7.2,SNR=18						
ASAR	**Alice Springs**	**60.34**	**187**	P	**P**	17 58 49.1	**0.0**
	0.5nm,0.8s,baz=1.5,slow=7.6,SNR=9.7						
TXAR	**Lajitas Array**	**90.85**	**52**	P	**P**	18 01 45.4	**+1.4**
	0.1nm,0.6s,baz=290,slow=2.7,SNR=3.2						

*IDC **23** 17:56:18.6±1.4, 31°.04S×64°.20W, h0km, mb3.8/1, mb1 3.9/3, mb1mx3.5/39, mbtmp3.7/3, ML4.0/2, MS3.4/4, Ms1 3.3/4, ms1mx2.9/27, Error ellipse: s-maj=66.4km s-min=27.2km az=139.0*

*ISCJB **23** 17:56:23.7±0.6, 30°.42S±0°.05×64°.46W±0°.05, h63km±13km, mb3.6/1, Error ellipse: s-maj=8.4km s-min=6.6km az=41.6*

*SJA **23** 17:56:23.4±0.9, 30°.44S×64°.56W, h40km±4km, ML3.8, MW4.0*

*NEIC **23** 17:56:25.0±0.0, 30°.57S×64°.66W, h53km, MD4.0(SJA), After SJA.*

NEIC Felt [III] at Cordoba.

ISC 23 17:56:24.9±1.2, 30°.41S±0°.06×64°.44W±0°.06, h45km±16km, n33, σ1s20/34, MS3.9/3, Cordoba Province

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TCA	**Tanti**	**0.93**	**188**	*e*P	**Pn**	**17 56 41.0**	**-0.7**
TCA				*i* S	**Sn**	**17 56 52.8**	**-1.2**
TCA				IAML		17 56 55.1	
	comp=Z,5μm,0.8s						
PIL	**Pilar**	**1.34**	**159**	*e*P	**Pn**	**17 56 47.9**	**+0.7**
PIL				*e*S	**Sn**	**17 57 05.0**	**+1.2**
ACHE	**Chepes**	**2.05**	**248**	*e*P	**Pn**	**17 56 56.1**	**-1.0**
MRA	**San Martin**	**2.28**	**208**	*i* P	**Pn**	**17 56 59.5**	**-0.7**
MRA				*e*S	**Sn**	**17 57 31.9**	**+4.9**
CYA	**Choya**	**2.29**	**328**	*e*P	**Pn**	**17 57 00.3**	**0.0**
CYA				IAML		17 57 33.3	
	comp=Z,464nm,0.7s						
AVFE	**Valle Fertil**	**2.61**	**264**	*e*P	**Pn**	**17 57 04.0**	**-0.7**
AVFE				*i* S	**Sn**	**17 57 35.4**	**+0.1**
AVFE				IAML		17 57 37.0	
	comp=Z,305nm,0.5s						
SUCO	**SUCO**	**2.95**	**187**	*e*P	**Pn**	**17 57 08.8**	**-0.5**
ACAN	**Cantantal**	**3.00**	**231**	*e*P	**Pn**	**17 57 09.3**	**-0.6**
ACAN				*e*S	Sn	17 57 54.2	+10
RTLL	**Cerro Villicun**	**3.59**	**254**	*e*P	**Pn**	**17 57 18.0**	**-0.1**
AGUA	**GUANDACOL**	**3.63**	**284**	*e*P	**Pn**	**17 57 18.5**	**-0.2**
VCA	**Vinchina**	**3.68**	**296**	*e*P	**Pn**	**17 57 19.7**	**+0.3**
AHML	**Horco Molle**	**3.70**	**348**	*e*P	**Pn**	**17 57 20.8**	**+1.2**
ACCO	**Cerro Coronel**	**4.00**	**266**	*e*P	**Pn**	**17 57 23.9**	**-0.1**
ACDV	**Cuesta del Vie**	**4.05**	**272**	*e*P	**Pn**	**17 57 24.7**	**+0.1**
ASAL	**Salagasta**	**4.34**	**239**	*e*P	**Pn**	**17 57 28.6**	**+0.2**
AROD	**Rodeo**	**4.36**	**272**	*e*P	**Pn**	**17 57 29.3**	**+0.4**
RTLS	**Leoncito**	**4.39**	**260**	*e*P	**Pn**	**17 57 29.8**	**+0.6**
FSA	**Cafayete**	**4.49**	**342**	*e*P	**Pn**	**17 57 31.8**	**+1.2**
ARCO	**CERRO ARCO**	**4.53**	**237**	*e*P	**Pn**	**17 57 31.6**	**+0.4**
AAGR	**Agrelo**	**4.59**	**233**	*e*P	**Pn**	**17 57 32.4**	**+0.6**
AUSP	**Uspallata**	**4.60**	**246**	*e*P	**Pn**	**17 57 33.1**	**+0.9**
LCO	**Las Campanas**	**5.62**	**283**	*e*Pn	**Pn**	**17 57 45.6**	**-0.6**
LCO				*e*Sn	**Sn**	**17 58 47.9**	**-1.8**
CPUP	**Villa Florida**	**7.47**	**59**	Pn	**Pn**	**17 58 10.5**	**-0.8**
	comp=Z,1.1nm,0.3s,baz=230,slow=12,SNR=13						
CPUP				Lg	Lg	18 00 25.1	
	comp=Z,3.6nm,0.3s,baz=140,slow=16,SNR=4.8						
CPUP				LR	LR	18 01 31.8	
	comp=Z,42nm,20.6s,baz=244,slow=41						
TRQA	**Tornquist**	**7.89**	**166**	*e*Pn	**Pn**	**17 58 15.2**	**-1.9**
TRQA				*e*Sg	Sn	18 00 29.1	+44
LVC	**Limon Verde**	**8.74**	**332**	*e*Pn	**Pn**	**17 58 29.0**	**0.0**
PLCA	**Paso Flores**	**11.43**	**204**	Lg	Lg	18 02 21.9	
	comp=Z,0.4nm,0.3s,baz=145,slow=19,SNR=4.6						
LPAZ	**La Paz**	**14.46**	**346**	Pn	**P**	**17 59 53.9**	**+0.6**
	comp=Z,0.1nm,0.3s,baz=184,slow=13,SNR=4.2						
NNA	**Nana**	**21.64**	**325**	LR	LR	18 09 05.2	
	comp=Z,27nm,18.7s,baz=290,slow=34						
RPN	**Rapa Nui**	**39.30**	**263**	LR	LR	18 17 20.2	
	comp=Z,166nm,19.8s,baz=354,slow=32						
TORD	**Torodi Ar. Bea**	**76.90**	**66**	P	**P**	**18 08 12.3**	**-0.6**
	comp=Z,0.5nm,0.6s,baz=249,slow=4.0,SNR=3.8						
RPZ	**Rata Peaks**	**90.46**	**217**	LR	LR	18 44 12.1	
	comp=Z,101nm,18.2s,baz=248,slow=32						
ASAR	**Alice Springs**	**123.42**	**200**	PKP	**PKPdf**	**18 15 17.2**	**-0.6**
	comp=Z,0.2nm,0.5s,baz=147,slow=1.8,SNR=7.0						
WRA	**Warramunga Arr**	**126.78**	**202**	PKP	**PKPdf**	**18 15 24.4**	**+0.1**
	comp=Z,0.6nm,0.6s,baz=168,slow=1.7,SNR=14						

*IDC **23** 17:57:37.7±2.3, 39°.58N×143°.46E, h0km, mb3.5/3, mb1 3.5/5, mb1mx3.3/60, mbtmp3.4/5, ML3.0/1, MS2.7/1, Ms1 2.7/1, ms1mx2.2/30, Error ellipse: s-maj=55.5km s-min=27.0km az=80.0*

*ISCJB **23** 17:57:38.3±1.0, 39°.63N±0°.05×143°.43E±0°.08, h11km, mb3.4/3, Error ellipse: s-maj=9.2km s-min=7.4km az=23.2*

*JMA **23** 17:57:40.5±0.2, 39°.65N×143°.35E, h26km±4km, M3.2*

ISC 23 17:57:40.0±1.3, 39°.63N±0°.07×143°.30E±0°.09, h11km, n18, σ0s69/19, mb3.5/3, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MIYJ	**Miyakonagasawa**	**1.14**	**268**	P	**Pn**	**17 58 01.4**	**-0.6**
MIYJ				*e*S	**Sb**	**17 58 16.5**	**-0.1**
JTH	**Tanohata**	**1.15**	**286**	P	**Pn**	**17 58 01.6**	**-0.4**
JTH				*e*S	**Sb**	**17 58 17.2**	**+0.4**
OFUJ	**Ofunato**	**1.38**	**247**	P	**Pn**	**17 58 05.1**	**0.0**
JOM	**Ohasama**	**1.56**	**265**	P	**Pn**	**17 58 08.2**	**+0.5**
JANG	**Nango**	**1.58**	**299**	P	**Pn**	**17 58 07.4**	**-0.3**
JMK	**Ichinoseki**	**1.75**	**248**	P	**Pn**	**17 58 10.7**	**+0.5**
JIO	**Ouri**	**1.92**	**233**	P	**Pn**	**17 58 12.5**	**-0.1**
JTM	**Tenmabayashi**	**2.06**	**305**	*e*S	**Sn**	**17 58 40.4**	**+0.1**
JRG	**Rokugo**	**2.07**	**265**	P	**Pn**	**17 58 15.8**	**+1.1**
JAH	**Hinai**	**2.12**	**286**	P	**Pn**	**17 58 15.8**	**+0.4**
JYK	**Kaneyama**	**2.39**	**254**	P	**Pn**	**17 58 20.0**	**+0.9**
JEM	**Erimo**	**2.39**	**357**	*e*S	**Sn**	**17 58 47.6**	**-0.8**
ASAJ	**Asahikawa**	**4.52**	**354**	Pn	**Pn**	**17 58 49.5**	**+1.2**
	baz=185,slow=14						
MJAR	**Matsushiro Arr**	**5.06**	**234**	Pn	**Pn**	**17 58 57.0**	**+1.2**
	0.6nm,0.3s,baz=46,slow=12,SNR=12						
KSRS	**Korea Array**	**12.23**	**265**	LR	LR	18 04 59.7	
	comp=Z,34nm,18.1s,baz=45,slow=36						
SONM	**Songino Array**	**27.68**	**299**	P	**P**	**18 03 28.1**	**0.0**
	0.6nm,0.6s,baz=99,slow=7.6,SNR=3.9						
MKAR	**Makanchi Array**	**44.05**	**300**	P	**P**	**18 05 47.9**	**+0.2**
	0.5nm,0.7s,baz=85,slow=9.0,SNR=3.7						
WRA	**Warramunga Arr**	**59.84**	**190**	P	**P**	**18 07 44.7**	**-0.9**
	0.3nm,0.9s,baz=7.3,slow=7.1,SNR=2.6						

*ISCJB **23** 18:01:05.5±1.5, 58°.85S±0°.1×24°.8W±0°.8, h18km, mb4.1/3, Error ellipse: s-maj=60.0km s-min=17.4km az=168.8*

*IDC **23** 18:01:10.6±9.6, 58°.78S×25°.09W, h46km±85km, mb4.0/3, mb1 4.0/4, mb1mx3.6/37, mbtmp4.1/4, ML4.0/1, MS3.0/1, Ms1 3.0/1, ms1mx2.7/24, Error ellipse: s-maj=69.9km s-min=30.7km az=103.0*

ISC 23 18:01:06.4±1.0, 58°.7S±0°.2×25°.2W±0°.4, h18km, n16, σ0s57/13, mb4.1/3, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VNA1	**Neumayer--Stat**	**13.89**	**156**	P	**Pn**	**18 04 22.5**	**+0.5**
VNA3	**Neumayer Olymp**	**14.09**	**159**	P	**Pn**	**18 04 24.5**	**-0.3**
VNA2	**Neumayer--Watz**	**14.29**	**156**	P	**Pn**	**18 04 27.0**	**-0.4**
	baz=317,slow=15						
SNAA	**Sanae**	**15.84**	**154**	P	**Pn**	**18 04 47.9**	**-0.3**
SNAA	**Sanae**	**15.84**	**154**	P	**Pn**	**18 04 47.9**	**-0.3**
	0.6nm,0.3s,baz=316,slow=15,SNR=52						
SNAA				S	Sn	18 07 30.6	-12
	0.1nm,0.3s,baz=336,slow=18,SNR=5.5						
SNAA				LR	LR	18 10 08.8	
	comp=Z,55nm,18.5s,baz=88,slow=34						
VNDA	**Vanda**	**43.93**	**182**	P	**P**	**18 09 12.3**	**+1.0**
	2.2nm,0.7s,baz=176,slow=7.8,SNR=8.9						
H10S2	**ASCENSION HYDR**	**50.32**	**14**	T	T	19 04 34.9	
	baz=188,slow=75,SNR=25						
H10S3	**ASCENSION HYDR**	**50.32**	**14**	T	T	19 04 35.2	
	baz=188,slow=75,SNR=22						
H10S1	**ASCENSION HYDR**	**50.33**	**14**	T	T	19 04 36.2	
	baz=188,slow=75,SNR=24						
TORD	**Torodi Ar. Bea**	**74.91**	**27**	P	**P**	**18 12 46.7**	**+0.8**
	2.1nm,0.6s,baz=192,slow=6.4,SNR=14						
ASAR	**Alice Springs**	**96.09**	**161**	P	**P**	**18 14 32.0**	**-0.7**
	0.4nm,0.6s,baz=185,slow=4.2,SNR=12						
FINES	**FINESS Array B**	**126.26**	**28**	PKP	**PKPdf**	**18 20 05.8**	**-0.4**
	1.8nm,0.7s,baz=144,slow=2.6,SNR=7.2						
YKA	**Yellowknife Ar**	**138.87**	**315**	PKP	**PKPdf**	**18 20 29.7**	**-0.2**
	1.8nm,0.6s,baz=133,slow=2.0,SNR=8.6						
INK	**Inuvik**	**148.55**	**317**	PKPbc	**PKPbc**	**18 20 49.9**	**-0.4**
	6.1nm,0.8s,baz=118,slow=2.5,SNR=7.8						
SONM	**Songino Array**	**149.73**	**90**	PKPbc	**PKPbc**	**18 20 53.9**	**-0.2**
	0.7nm,0.6s,baz=222,slow=2.9,SNR=4.7						
ILAR	**Eielson Array**	**152.67**	**307**	PKPbc	**PKPbc**	**18 21 00.0**	**-0.2**
	3.7nm,0.8s,baz=148,slow=3.6,SNR=26						

GCMT 23 18:07:44.0±0.4, 9°.13S×109°.59W, h18km±2km, MW4.8/69, Moment Tensor Solution. s19,c21; s69,c81; Duration: 0 Moment tensor: Scale 10^16 Nm; M_{rr}0.72±.17; $M_{\theta\theta}$-1.46±.17; $M_{\phi\phi}$0.74±.15; $M_{r\theta}$0.49±.30; $M_{\theta\phi}$1.87±.10; $M_{\phi r}$-0.43±.30; **Best double couple:** $M_0$2.24100×10^16 **NP1:**ϕ_s345.00000°,δ88.00000°, λ-167.00000°. **NP2:**ϕ_s254.00000°,δ77.00000°, λ-3.00000°. **Principal axes:** T 1.8290, Plg7.0000°, Azm119.0000°; N 0.8240, Plg77.0000°, Azm355.0000°; P -2.6520, Plg11.0000°, Azm210.0000°; **nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Central East Pacific Rise**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RKT	**Rikitea**	**28.00**	**237**	*e*LR	LR	18 20 50.5	
	349nm,27.0s						
RKT	**Rikitea**	**28.00**	**237**	*e*T	T	18 42 09.0	
	2.3nm,0.3s						
PPT2	**Papeete2**	**39.73**	**254**	*e*LR	LR	18 26 06.6	
	94nm,22.8s						

*NNC **23** 18:11:31.1±11.0, 44°.19N×74°.03E, h0km, mb2.2, mpv2.0 Error ellipse: s-maj=88.3km s-min=53.3km az=176.0, Suspected Mining explosion.*

KRNET 23 18:11:28.2±0.1, 41°.11N×75°.07E, h20km, mb1.8, 21C-7D, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NRN	**Naryn**	**0.77**	**65**	↑*i*P	Pb	18 11 43.0	-0.2
	baz=65						
NRN				↑*i*S	Sb	18 11 53.4	0.0
	baz=65						
KZA	**Kyzart**	**0.98**	**8**	↑*i*P	Pb	18 11 46.8	0.0
	baz=8.0						
KZA				↑*i*S	Sb	18 11 59.4	0.0
	baz=8.0						
ULHL	**Ulahol**	**1.44**	**37**	↑*i*P	Pb	18 11 55.0	+0.6
	baz=37						
ULHL				↑*i*S	Sb	18 12 13.8	+1.4
	baz=37						
BOOM	**Boomskoye usch**	**1.53**	**25**	↑*e*P	Pb	18 11 56.4	+0.4
	baz=25						
BOOM				↑*i*S	Sb	18 12 16.8	+1.9
	baz=25						
KBK	**Karagaybulak**	**1.55**	**357**	↑*i*P	Pb	18 11 57.5	+1.1
	baz=357						
KBK				↑*i*S	Sb	18 12 18.1	+2.5
	baz=357						
AAK	**Ala-Archa**	**1.59**	**345**	↑*i*P	Pb	18 11 58.0	+1.0
	baz=344						
AAK				↑*i*S	Sb	18 12 19.0	+2.3
	baz=344						
AAK	**Ala-Archa**	**1.59**	**345**	↓Pn	Pb	18 11 57.8	+0.8
	0.8nm,0.6s						
AAK				↑Sn	Sb	18 12 22.5	+5.8
	1.5nm,0.3s						
ARSB	**Arslanbob**	**1.59**	**279**	↓*e*P	Pb	18 11 57.5	+0.5
	baz=279						
ARSB				↓*e*S	Sb	18 12 18.5	+1.8
	baz=279						
TKM2	**Tokmak 2**	**1.85**	**12**	↑*i*P	Pb	18 12 02.6	+1.1
	baz=12						
TKM2				↑*i*S	Sb	18 12 26.5	+2.1
	baz=12						
TKM2	**Tokmak 2**	**1.85**	**12**	↓Pn	Pb	18 12 03.8	+2.2
	0.5nm,0.3s						
TKM2				↑Sn	Sb	18 12 26.7	+2.3
	2.5nm,0.4s						
KDJ	**Kajisay**	**1.88**	**56**	↑*e*P	Pb	18 12 02.2	+0.2
	baz=56						
KDJ				↑*e*S	Sb	18 12 26.5	+1.3
	baz=56						
USP	**Ospenovka**	**2.20**	**349**	↑*i*P	Pb	18 12 07.5	+0.2
	baz=349						
USP				↑*i*S	Sb	18 12 36.0	+1.9
	baz=349						
MNAS	**Manas**	**2.36**	**307**	↓*e*P	Pb	18 12 09.0	-1.2
	baz=307						
MNAS				↓*e*S	Sb	18 12 38.8	-0.1
	baz=307						
MNAS	**Manas**	**2.36**	**307**	↑Pg	Pb	18 12 10.0	-0.2
	0.9nm,0.8s						
MNAS				↓Lg	Lg	18 12 39.3	
	1.3nm,0.6s						

*NIED **23** 18:22:00, 37°.40N×143°.50E, h35km, Mw3.4 Best double couple: $M_0$1.63000×10^14 NP1:ϕ_s332.00000°,δ61.00000°, λ-178.00000°. NP2:ϕ_s241.00000°,δ88.00000°, λ-29.00000°.*

*IDC **23** 18:22:26.0±2.0, 37°.23N×143°.86E, h0km, mb3.4/2, mb1 3.7/5, mb1mx3.4/40, mbtmp3.6/5, ML3.5/2, Error ellipse: s-maj=47.3km s-min=31.7km az=88.0*

*ISCJB **23** 18:22:28.7±0.7, 37°.38N±0°.03×143°.60E±0°.06, h33km, mb3.6/2, Error ellipse: s-maj=6.6km s-min=4.8km az=11.7*

*JMA **23** 18:22:30.3±0.2, 37°.39N×143°.52E, h52km, M3.8*

ISC 23 18:22:29.8±1.4, 37°.37N±0°.05×143°.64E±0°.10, h35km, n24, σ1s58/39, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JIO	**Ouri**	**2.11**	**302**	P	**Pn**	**18 23 03.1**	**+0.5**
JIO				*e*S	**Sn**	**18 23 27.4**	**-0.2**
JFK	**Kawauchi**	**2.20**	**271**	P	**Pn**	**18 23 04.2**	**+0.3**
JFK				*e*S	**Sn**	**18 23 28.7**	**-1.2**
ONAJ	**Iwakimizuishiy**	**2.28**	**264**	P	**Pn**	**18 23 05.4**	**+0.4**
ONAJ				*e*S	**Sn**	**18 23 30.4**	**-1.5**
OFUJ	**Ofunato**	**2.31**	**318**	P	**Pn**	**18 23 05.6**	**+0.3**
OFUJ				*e*S	**Sn**	**18 23 31.6**	**-0.9**
JMM	**Marumori**	**2.31**	**283**	P	**Pn**	**18 23 05.5**	**+0.1**
JMM				*e*S	**Sn**	**18 23 31.6**	**-1.0**
JMK	**Ichinoseki**	**2.48**	**310**	P	**Pn**	**18 23 08.3**	**+0.7**
JFT	**Otama**	**2.63**	**274**	P	**Pn**	**18 23 11.0**	**+1.2**
JFT				*e*S	**Sn**	**18 23 40.8**	**+0.3**
JOM	**Ohasama**	**2.79**	**320**	P	**Pn**	**18 23 12.7**	**+0.7**
JOM				*e*S	**Sn**	**18 23 44.0**	**-0.5**
JYK	**Kaneyama**	**3.01**	**302**	P	**Pn**	**18 23 16.2**	**+1.2**
JANG	**Nango**	**3.43**	**332**	P	**Pn**	**18 23 21.7**	**+1.0**
JANG				*e*S	**Sn**	**18 23 58.5**	**-1.6**
BSO1	**Boso 1**	**3.46**	**219**	P	**Pn**	**18 23 21.1**	**+0.4**
JAG	**Ashikaga**	**3.48**	**256**	P	**Pn**	**18 23 22.4**	**+0.9**
JAG				*e*S	**Sn**	**18 23 59.8**	**-1.7**
JRY	**Ryogami san**	**4.04**	**252**	P	**Pn**	**18 23 29.7**	**+0.6**
JRY				*e*S	**Sn**	**18 24 12.3**	**-2.9**
JOD2	**Odawara 2**	**4.23**	**242**	*e*S	**Sn**	**18 24 17.4**	**-2.6**
MJAR	**Matsushiro Arr**	**4.42**	**261**	Pn	**Pn**	**18 23 36.5**	**+2.0**
	1.3nm,0.3s,baz=90,slow=15,SNR=14						
MJAR				Sn	**Sn**	**18 24 24.6**	**-0.1**
	1.5nm,0.3s,baz=57,slow=20,SNR=5.6						
MAT	**Matsushiro**	**4.43**	**261**	P	**Pn**	**18 23 36.8**	**+2.3**
MAT				S	**Sn**	**18 24 26.3**	**+1.5**
JOT	**Ohata**	**4.48**	**334**	*e*S	**Sn**	**18 24 25.2**	**-0.9**
JKB	**Kayabe**	**4.94**	**337**	*e*S	**Sn**	**18 24 35.5**	**-1.9**
JCH	**Churui**	**5.25**	**358**	P	**Pn**	**18 23 45.5**	**-0.2**
JCH				*e*S	**Sn**	**18 24 41.6**	**-3.3**
JHJ2	**Mitsune**	**5.27**	**217**	P	**Pn**	**18 23 46.0**	**-0.1**
JHJ	**Hachijo jima 2**	**5.28**	**218**	Pn	**Pn**	**18 23 45.8**	**-0.5**
	7.0nm,0.3s,baz=272,slow=18,SNR=17						
JHJ				Sn	**Sn**	**18 24 41.2**	**-4.6**
	6.8nm,0.3s,baz=102,slow=20,SNR=2.3						
ASAJ	**Asahikawa**	**6.79**	**354**	Pn	**Pn**	**18 24 08.8**	**+1.9**
	baz=193,slow=17						
ASAJ				Sn	**Sn**	**18 25 21.0**	**-1.9**
	0.5nm,0.3s,baz=178,slow=21,SNR=4.4						
WRA	**Warramunga Arr**	**57.67**	**190**	P	**P**	**18 32 17.4**	**+0.7**
	0.3nm,0.5s,baz=8.2,slow=7.4,SNR=8.1						
ASAR	**Alice Springs**	**61.40**	**190**	P	**P**	**18 32 43.2**	**+0.8**
	0.3nm,0.6s,baz=3.8,slow=6.8,SNR=7.9						

*ISCJB **23** 18:25:46.2±0.4, 44°.93N±0°.02×18°.02E±0°.03, h3km±3km, Error ellipse: s-maj=4.1km s-min=2.2km az=37.2*

*CSEM **23** 18:25:47.0±0.1, 44°.94N×18°.02E, h2km, ML2.5/5, Error ellipse: s-maj=3.2km s-min=1.7km az=33.0*

*BEO **23** 18:25:48.5±0.4, 44°.86N×17°.98E, h9km±2km, M2.4/1*

*VIE **23** 18:25:49.0±1.1, 45°.11N×18°.02E, h8km, mb2.1/3, ML2.1/5, Error ellipse: s-maj=9.6km s-min=7.8km az=54.0*

ISC 23 18:25:47.4±1.1, 44°.93N±0°.02×18°.01E±0°.02, h5km±9km, n62, σ0s86/104, 4C-7D, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DOB	**Doboj**	**0.20**	**162**	↑*i*Pg	**Pg**	**18 25 50.7**	**-0.6**
DOB				*e*Sg	**Sg**	**18 25 53.8**	**-0.2**
BLY	**Banja Luka**	**0.61**	**254**	↑*i*Pg	**Pg**	**18 25 59.1**	**-0.1**
BLY	**Banja Luka**	**0.61**	**254**	↓*i*Pg	**Pg**	**18 25 59.1**	**-0.1**
BLY				*e*Sg	**Sg**	**18 26 06.7**	**-0.5**
TEKS	**Tekeris**	**1.14**	**109**	*i* Pg	**Pb**	**18 26 09.6**	**-0.1**
TEKS				*e*Sg	**Sg**	**18 26 24.2**	**+0.1**
TEKS	**Tekeris**	**1.14**	**109**	*e*Pg	**Pg**	**18 26 08.9**	**-0.4**
TEKS				*e*Sg	**Sg**	**18 26 24.2**	**+0.1**
SISC	**Sisak**	**1.28**	**296**	Sn	**Sg**	**18 26 28.9**	**+0.3**
SISC	**Sisak**	**1.28**	**296**	Sn	**Sg**	**18 26 28.8**	**+0.3**
FGSL	**Fruska Gora**	**1.30**	**79**	↑*i*Pg	**Pg**	**18 26 11.4**	**-0.8**
FGSL				*e*Sg	**Sg**	**18 26 30.9**	**+1.0**
FRGS	**Fruska Gora**	**1.30**	**79**	↑*i*Pg	**Pg**	**18 26 11.4**	**-0.8**
FRGS				*e*Sg	**Sg**	**18 26 30.9**	**+1.0**
FRGS	**Fruska Gora**	**1.30**	**79**	↑*i*Pg	**Pg**	**18 26 11.3**	**-0.9**
FRGS				*e*Sg	**Sg**	**18 26 30.8**	**+0.3**
BBLS	**Lazići**	**1.46**	**136**	*e*Pg	**Pg**	**18 26 15.9**	**+0.6**
BBLS				*e*Sg	**Sb**	**18 26 33.8**	**0.0**
BBLS	**Lazići**	**1.46**	**136**	*e*Pg	**Pg**	**18 26 15.9**	**+0.6**
BBLS				*e*Sg	**Sb**	**18 26 33.8**	**0.0**
DIVS	**Divibare**	**1.64**	**120**	*e*Pn	**Pn**	**18 26 17.6**	**+0.6**
DIVS				*e*Sg	**Sg**	**18 26 41.8**	**+1.8**
DIVS	**Divibare**	**1.64**	**120**	*e*Pn	**Pn**	**18 26 17.1**	**+0.1**
DIVS				*e*Sn	**Sb**	**18 26 39.3**	**+0.1**
DIVS				*e*Sg	**Sg**	**18 26 41.8**	**+1.8**
UDBI	**Udbina**	**1.65**	**257**	*e*Pn	**Pn**	**18 26 16.4**	**-0.7**
UDBI				Sn	**Sn**	**18 26 38.3**	**-0.5**
ZAG	**Zagreb**	**1.69**	**303**	*e*Sn	**Sn**	**18 26 39.9**	**+0.3**
BEHE	**Becsehely**	**1.77**	**331**	*e*Pn	**Pn**	**18 26 18.5**	**-0.2**
BEHE				*e*Sn	**Sn**	**18 26 42.1**	**+0.4**
BEHE				*e*Sg	**Sg**	**18 26 47.8**	**+3.5**
BEHE	**Becsehely**	**1.77**	**331**	*ex*	**Pn**	**18 26 21.6**	**+2.9**
BEHE				*ex*	**Sn**	**18 26 40.2**	**-1.5**
BEHE				*ex*	x	18 26 47.8	
UPM	**Unac-Piva**	**1.84**	**159**	*e*Pn	**Pn**	**18 26 19.2**	**-0.6**
UPM				*e*Sn	**Sn**	**18 26 43.6**	**+0.1**
TRUS	**Trudelj**	**1.85**	**111**	*e*Pg	**Pg**	**18 26 22.3**	**-0.5**
TRUS				*e*Sg	**Sg**	**18 26 46.9**	**+0.1**
TRUS	**Trudelj**	**1.85**	**111**	*e*Pg	**Pg**	**18 26 22.3**	**-0.5**
TRUS				*e*Sg

ISC 23 18:27:25.4±1.9, 23°40N±0°07×123°80E±0°05, h8km±11km, n20, σ0°74/32, mb3.5/7, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HATJ	**Hateruma jima**	**0.65**	**1**	P	**Pn**	**18 27 41.9**	**+0.9**
HATJ				S	**Sn**	**18 27 51.3**	**-0.2**
JKRS	**Kuro-shima**	**0.85**	**13**	P	**Pn**	**18 27 45.3**	**+1.5**
JKRS				S	**Sn**	**18 27 57.1**	**+0.6**
IRIF	**Iriomote-Funau**	**0.93**	**356**	P	**Pn**	**18 27 45.9**	**+1.1**
IRIF				*e*S	**Sn**	**18 27 58.2**	**-0.2**
JIJ	**Ishigaki jima**	**1.01**	**18**	P	**Pn**	**18 27 46.9**	**+1.0**
JIJ				S	**Sn**	**18 27 59.9**	**-0.4**
JISG	**Ishigakijimahi**	**1.27**	**22**	P	**Pg**	**18 27 50.2**	**+0.4**
JISG				*e*S	**Sn**	**18 28 06.6**	**-0.2**
YOJ	**Yonaguni jima**	**1.28**	**326**	P	**Pg**	**18 27 50.6**	**+0.7**
YOJ				*e*S	**Sb**	**18 28 06.2**	**-0.1**
JYNG	**Yonagunijimaku**	**1.30**	**323**	P	**Pg**	**18 27 50.7**	**+0.3**
JYNG				S	**Sb**	**18 28 06.7**	**-0.4**
JTJ	**Tarama**	**1.48**	**34**	P	**Pg**	**18 27 54.0**	**+0.1**
JTJ				*e*S	**Sg**	**18 28 12.8**	**-0.4**
JIRB	**Irabujima**	**1.90**	**41**	P	**Pb**	**18 27 59.4**	**-0.9**
JIRB				*e*S	**Sn**	**18 28 22.5**	**+0.3**
JMJ	**Miyako jima 2**	**1.96**	**44**	P	**Pb**	**18 28 00.6**	**-0.8**
JMJ				*e*S	**Sn**	**18 28 24.7**	**+0.9**
JOGS	**Gusukube**	**2.00**	**47**	P	**Pb**	**18 28 01.1**	**-0.9**
JOGS				*e*S	**Sn**	**18 28 25.7**	**+1.0**
JIKM	**Ikemajima**	**2.01**	**41**	P	**Pb**	**18 28 01.0**	**-1.3**
JIKM				*e*S	**Sn**	**18 28 25.9**	**+0.8**
JKE	**Kume jima 2**	**3.98**	**42**	P	**Pn**	**18 28 27.2**	**+0.4**
SONM	**Songino Array**	**28.06**	**335**	P	**P**	**18 33 18.0**	**+0.6**
	0.6nm,0.8s,baz=141,slow=9.3,SNR=3.7						
MKAR	**Makanchi Array**	**40.57**	**316**	P	**P**	**18 35 05.0**	**-0.4**
	0.5nm,0.4s,baz=101,slow=9.7,SNR=15						
ZALV	**Zalesovo Beam**	**42.21**	**326**	P	**P**	**18 35 17.9**	**-0.9**
	0.5nm,0.4s,baz=110,slow=6.4,SNR=4.4						
WRA	**Warramunga Arr**	**44.29**	**166**	P	**P**	**18 35 35.7**	**-0.1**
	0.6nm,0.8s,baz=346,slow=8.7,SNR=5.5						
ASAR	**Alice Springs**	**47.81**	**167**	P	**P**	**18 36 04.1**	**+0.6**
	0.3nm,0.8s,baz=358,slow=7.0,SNR=4.9						
AKASG	**Malin Array Be**	**75.04**	**319**	P	**P**	**18 39 07.3**	**-0.2**
	0.4nm,0.3s,baz=72,slow=5.8,SNR=4.3						
BRTR	**Keskin Array B**	**75.56**	**307**	P	**P**	**18 39 10.5**	**-0.5**
	0.5nm,0.8s,baz=132,slow=6.8,SNR=3.5						

*NIED **23** 18:35:00,39.°60N×143.°40E,h17km,Mw4.6 Best double couple: M0 9.94000×10^15 NP1:φs196.00000°,δ13.00000°, λ80.00000°. NP2:φs27.00000°,δ77.00000°,λ92.00000°.*

*IDC **23** 18:35:05.6±0.6,39.°60N×143.°21E,h0km,mb4.5/23, mb1 4.6/26,mb1mx4.4/49,mbtmp4.6/26,ML3.5/2,MS4.0/12, Ms1 4.0/12,ms1mx3.7/43,Error ellipse: s-maj=16.6km s-min=12.2km az=108.0*

*JMA **23** 18:35:06.5±0.1,39.°64N×143.°37E,h21km±3km,M4.7*

*BJI **23** 18:35:08.4,39.°64N×143.°18E,h35km,mb4.8/69,mB5.0/48, Ms4.5/67,Ms7 4.4/67*

*MOS **23** 18:35:08.6±1.2,39.°73N×143.°06E,h24km,mb5.1/58, MS4.4/18,Error ellipse: s-maj=6.9km s-min=4.3km az=103.5*

*ISCJB **23** 18:35:09.6±0.9,39.°66N±0.°03×143.°10E±0.°04,h33km±6km, mb4.8/104,MS4.4/37,Error ellipse: s-maj=5.6km s-min=3.7km az=44.3*

*NEIC **23** 18:35:11.5±0.3,39.°66N×143.°03E,h35km,mb4.9/22,Error ellipse: s-maj=7.3km s-min=4.6km az=129.0*

ISC 23 18:35:09.7±0.5, 39°62N±0°04×143°21E±0°04, h27km±3km, h27km:pP-P,n309,σ1s96/362,mb4.9/105,MS4.4/37, 22C-15D,Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MIYJ	**Miyakonagasawa**	**1.07**	**268**	P	**Pn**	**18 35 28.0**	**-0.9**
JTH	**Tanohata**	**1.08**	**288**	P	**Pn**	**18 35 28.3**	**-0.8**
JTH				*e*S	**Sb**	**18 35 44.4**	**+0.9**
JOM	**Ohasama**	**1.49**	**265**	P	**Pn**	**18 35 34.6**	**0.0**
JOM				*e*S	**Sb**	**18 35 55.0**	**-0.1**
JANG	**Nango**	**1.50**	**301**	P	**Pn**	**18 35 33.8**	**-1.1**
JMK	**Ichinoseki**	**1.68**	**247**	P	**Pn**	**18 35 37.4**	**+0.1**
JMK				*e*S	**Sb**	**18 35 59.7**	**-0.9**
JIO	**Ouri**	**1.86**	**232**	P	**Pn**	**18 35 39.3**	**-0.4**
JRG	**Rokugo**	**2.00**	**264**	P	**Pn**	**18 35 42.3**	**+0.6**
JTM	**Tenmabayashi**	**2.01**	**306**	P	**Pn**	**18 35 41.8**	**0.0**
JAH	**Hinai**	**2.06**	**287**	P	**Pn**	**18 35 43.1**	**+0.6**
JYK	**Kaneyama**	**2.32**	**253**	P	**Pn**	**18 35 46.8**	**+0.7**
ERM	**Erimo**	**2.39**	**359**	*e*P	**Pn**	**18 35 44.9**	**-2.2**
ERM				*e*		18 36 14.2	
ERM	**Erimo**	**2.39**	**359**	*e*Pn	**Pn**	**18 35 44.9**	**-2.2**
ERM				*e*Sn	**Sn**	**18 36 14.2**	**-1.3**
JOT	**Ohata**	**2.41**	**318**	P	**Pn**	**18 35 47.2**	**-0.1**
JNBK	**Urakawa-nobuka**	**2.68**	**353**	*e*S	**Sn**	**18 36 22.5**	**-0.1**
ASAJ	**Asahikawa**	**4.52**	**354**	Pn	**Pn**	**18 36 16.2**	**-0.1**
	baz=90,slow=20						
ASAJ				Sn	**Sn**	**18 37 06.6**	**-1.2**
	6.8nm,0.3s,baz=61,slow=5.9,SNR=3.9						
ASAJ	**Asahikawa**	**4.52**	**354**	*e*Pn	**Pn**	**18 36 16.4**	**+0.1**
ASAJ				Sn	**Sn**	**18 37 06.6**	**-1.2**
ASAJ				Sn	Sb	18 37 13.2	-8.9
YUK	**Yuzh-Kuril'sk**	**4.84**	**23**	*d i*P	**Pn**	**18 36 19.6**	**-1.0**
YUK				*i* S	**Sn**	**18 37 11.6**	**-4.1**
YUK				pmax	pmax		
	comp=Z,223nm,0.3s						
YUK				pmax	pmax		
	comp=E,37nm,0.2s						
YUK				pmax	pmax		
	comp=N,261nm,0.5s						
YUK				smax	smax		
	comp=N,1μm,0.5s						
YUK				smax	smax		
	comp=E,449nm,0.4s						
MAJO	**Matsushiro**	**5.00**	**234**	*e*P	**Pn**	**18 36 22.4**	**-0.6**
MAJO				*e*		18 37 19.0	
MAJO	**Matsushiro**	**5.00**	**234**	*e*Pn	**Pn**	**18 36 22.4**	**-0.6**
MAJO				*e*Sn	**Sn**	**18 37 19.0**	**-0.9**
MAT	**Matsushiro**	**5.00**	**234**	P	**Pn**	**18 36 24.5**	**+1.5**
MAT				*e*S	**Sn**	**18 37 25.2**	**+5.3**
MJAR	**Matsushiro Arr**	**5.00**	**234**	Pn	**Pn**	**18 36 24.5**	**+1.5**
	comp=E,7.6nm,0.3s,baz=41,slow=13,SNR=165						
MJB9	**Matsu-Tunnel**	**5.00**	**234**	*e*Pn	**Pn**	**18 36 24.3**	**+1.3**
SHO	**Shikotan**	**5.04**	**31**	*c i*P	**Pn**	**18 36 20.6**	**-2.8**
SHO				*i* S	**Sn**	**18 37 13.9**	**-6.8**
SHO				pmax	pmax		
	comp=Z,183nm,0.5s						
SHO				pmax	pmax		
	comp=N,155nm,0.6s						
SHO				pmax	pmax		
	comp=E,129nm,0.6s						
SHO				smax	smax		
	comp=N,10.0nm,0.6s						
SHO				smax	smax		
	comp=E,10.0nm,0.5s						
INU	**Inuyama**	**6.51**	**231**	*e*Pn	**Pn**	**18 36 43.8**	**+0.1**
KUR	**Kuril'sk**	**6.58**	**30**	*e*P	**Pn**	**18 36 43.4**	**-1.2**
KUR				*i* S	**Sn**	**18 37 54.1**	**-4.6**
KUR				pmax	pmax		
	comp=E,140nm,0.5s						
KUR				pmax	pmax		
	comp=Z,175nm,0.5s						
KUR				pmax	pmax		
	comp=N,97nm,0.6s						
KUR				smax	smax		
	comp=E,359nm,0.5s						
KUR				smax	smax		
	comp=N,187nm,0.4s						
JHJ	**Hachijo jima 2**	**7.05**	**204**	Pn	**Pn**	**18 36 49.4**	**-1.7**
	comp=N,8.7nm,0.3s,baz=158,slow=22,SNR=10.0						
JHJ				Sn	**Sn**	**18 38 03.9**	**-6.5**
	comp=N,13nm,0.3s,baz=72,slow=20,SNR=3.3						
JHJ				LR	LR	18 39 55.4	
	comp=N,652nm,18.1s,baz=83,slow=41						
YSS	**Yuzh-Sakhalins**	**7.34**	**358**	*e*P	**Pn**	**18 36 54.9**	**-0.1**
YSS				pmax	pmax		
	comp=Z,44nm,1.2s						
YSS	**Yuzh-Sakhalins**	**7.34**	**358**	*e*Pn	**Pn**	**18 36 55.5**	**+0.5**
USRK	**Ussuriysk Ar.**	**9.53**	**302**	Pn	**Pn**	**18 37 27.6**	**+2.5**
	comp=Z,0.7nm,0.3s,baz=114,slow=14,SNR=21						
USRK				LR	LR	18 40 58.2	
	comp=Z,1μm,19.9s,baz=106,slow=37						
HABR	**Khabarovsk**	**10.61**	**329**	*e*P	**Pn**	**18 37 37.7**	**-2.2**
HABR				*e*S	**Sn**	**18 39 34.5**	**-3.2**
HABR				pmax	pmax		
	comp=E,18nm,1.9s						
HABR				pmax	pmax		
	comp=Z,18nm,1.9s						
HABR				pmax	pmax		
	comp=N,23nm,1.9s						
HABR				MLR	MLR		
	comp=Z,638nm,12.0s						
MDJ	**Mudanjiang**	**11.28**	**301**	P	**Pn**	**18 37 50.8**	**+1.9**
MDJ				S	**Sn**	**18 39 53.1**	**-0.9**
MDJ				PcP	**PcP**	**18 43 43.9**	**+1.2**
MDJ				ScP	**ScP**	**18 47 14.9**	**+1.5**
MDJ				PcS	**PcS**	**18 47 17.9**	**+1.5**
MDJ				ScS	**ScS**	**18 50 50.0**	**+1.3**
MDJ				pmax	pmax		
	comp=Z,28nm,1.0s						
MDJ				pmax	pmax		
	comp=Z,190nm,5.2s						
MDJ				LR	LR		
	comp=Z,390nm,12.9s						
MDJ				LR	LR		
	comp=Z,1μm,13.6s						
MDJ				LR	LR		
	comp=Z,2μm,16.5s						
MDJ	**Mudanjiang**	**11.28**	**301**	*e*Pn	**Pn**	**18 37 47.0**	**-2.0**
	comp=Z,40nm,1.0s						
JNU	**Nakatsue**	**11.86**	**241**	Pn	**Pn**	**18 37 56.3**	**-0.7**
	comp=Z,0.2nm,0.3s,baz=43,slow=6.0,SNR=5.7						
JNU				LR	LR	18 42 53.3	
	comp=Z,6.7nm,19.9s,baz=46,slow=40						
KSRS	**Korea Array**	**12.17**	**265**	Pn	**Pn**	**18 38 04.5**	**+3.4**
	comp=Z,0.2nm,0.3s,baz=86,slow=13,SNR=28						
KSRS				LR	LR	18 42 26.4	
	comp=Z,880nm,18.4s,baz=78,slow=36						
KSAR	**Wonju Array Be**	**12.20**	**265**	P	**Pn**	**18 38 04.5**	**+2.9**
KSAR	**Wonju Array Be**	**12.20**	**265**	Pn	**Pn**	**18 38 04.5**	**+2.9**
KLR	**Kul'dur**	**12.61**	**323**	*i*P	**Pn**	**18 38 07.5**	**+0.3**
CN2	**Changchun**	**13.91**	**293**	*e*P	**Pn**	**18 38 25.8**	**+0.9**
CN2				*e*S	**Sn**	**18 40 51.9**	**-6.4**
CN2				LR	LR		
	comp=Z,200nm,17.0s						
CN2				LR	LR		
	comp=Z,900nm,17.0s						
CN2				LR	LR		
	comp=Z,900nm,15.0s						
SKR	**Severo-Kuril's**	**14.30**	**35**	*e*P	**Pn**	**18 38 32.7**	**+2.5**
SNY	**Shenyang**	**15.05**	**285**	P	**Pn**	**18 38 42.5**	**+2.1**
SNY				S	**Sn**	**18 41 28.8**	**+2.7**
SNY				pmax	pmax		
	comp=Z,8.0nm,0.4s						
SNY				pmax	pmax		
	comp=Z,170nm,10.6s						
SNY				LR	LR		
	comp=Z,560nm,13.7s						
SNY				LR	LR		
	comp=Z,1μm,15.7s						
SNY				LR	LR		
	comp=Z,2μm,15.2s						
DL2	**Dalian**	**16.73**	**274**	P	**Pn**	**18 39 01.5**	**-0.5**
DL2				*e*S	**Sn**	**18 42 03.9**	**-3.1**
DL2				pmax	pmax		
	comp=Z,39nm,0.9s						
DL2				pmax	pmax		
	comp=Z,200nm,6.3s						
DL2				LR	LR		
	comp=Z,580nm,14.3s						
DL2				LR	LR		
	comp=Z,430nm,15.2s						
DL2				LR	LR		
	comp=Z,790nm,15.9s						
PETK	**Petropavlovsk-**	**16.75**	**32**	Pn	**P**	**18 39 04.6**	**+0.4**
	comp=Z,0.1nm,0.3s,baz=288,slow=6.1,SNR=3.9						
PETK				LR	LR	18 44 57.5	
	comp=Z,203nm,21.3s,baz=213,slow=35						
PET	**Petropavlovsk**	**17.08**	**33**	*i* P	**P**	**18 39 08.2**	**+0.3**
PET				pmax	pmax		
	comp=Z,72nm,1.1s						
HIA	**Hailar**	**19.26**	**308**	*e*P	**P**	**18 39 28.3**	**-3.7**
HIA				pmax	pmax		
	comp=Z,31nm,0.8s						
HIA	**Hailar**	**19.26**	**308**	*e*P	**P**	**18 39 28.3**	**-3.7**
	comp=Z,31nm,0.8s						
MA2	**Magadan**	**20.54**	**11**	P	**P**	**18 39 45.8**	**0.0**
	comp=Z,37nm,0.8s,baz=202,slow=9.6,SNR=18						
MA2	**Magadan**	**20.54**	**11**	*c e*P	**P**	**18 39 46.5**	**+0.7**
MA2				*i* *PP	**sP**	**18 39 55.8**	**-0.8**
BJI	**Beijing**	**20.74**	**280**	P	**P**	**18 39 46.1**	**-2.0**
BJI				sP	**sP**	**18 40 00.4**	**+1.5**
BJI				S	**S**	**18 43 37.3**	**-1.0**
BJI				sS	**pS**	**18 43 51.8**	**-0.1**
BJI				pmax	pmax		
	comp=Z,26nm,0.9s						
BJI				pmax	pmax		
	comp=Z,140nm,3.6s						
BJI				LR	LR		
	comp=Z,290nm,12.2s						
BJI				LR	LR		
	comp=Z,900nm,15.8s						
BJI				LR	LR		
	comp=Z,550nm,16.1s						
BJT	**Baijiatuau**	**20.75**	**280**	*e*P	**P**	**18 39 45.9**	**-2.3**
BJT				pmax	pmax		
	comp=Z,14nm,0.8s						
BJT	**Baijiatuau**	**20.75**	**280**	*e*P	**P**	**18 39 45.9**	**-2.3**
	comp=Z,14nm,0.8s						
TIA	**Tai'an**	**20.83**	**269**	P	**P**	**18 39 47.8**	**-1.4**
TIA				S	**S**	**18 43 32.1**	**-8.1**
TIA				pmax	pmax		
	comp=Z,50nm,1.0s						
TIA				LR	LR		
	comp=Z,410nm,12.0s						
TIA				LR	LR		
	comp=Z,1μm,14.0s						
TIA				LR	LR		
	comp=Z,2μm,14.0s						
CLNS	**Chul'man**	**20.99**	**331**	*e*P	**P**	**18 39 46.7**	**-4.1**
CLNS				*e*PP	**pP**	**18 39 55.0**	**-3.1**
CLNS				*e*		18 40 09.2	
CLNS				*e*PPP	PPP	18 40 19.7	
CLNS				*e*		18 43 43.1	
CLNS				*e*S	Sn	18 43 47.9	-1.8
CLNS				*e*SS	**SnSn**	**18 44 18.7**	**+14**
CLNS				pmax	pmax		
	comp=Z,41nm,1.4s						
CLNS				pmax	pmax		
	comp=E,12nm,1.1s						
CLNS				pmax	pmax		
	comp=N,28nm,1.5s						
CLNS				pmax	pmax		
	comp=Z,25nm,0.9s						
CLNS				pmax	pmax		
	comp=N,35nm,1.1s						
CLNS				pmax	pmax		
	comp=E,16nm,0.8s						
CLNS				smax	smax		
	comp=N,11nm,1.3s						
CLNS				smax	smax		
	comp=E,7.0nm,1.0s						
CLNS				MLR	MLR		
	comp=E,249nm,17.0s						
CLNS				MLR	MLR		
	comp=Z,521nm,16.0s						
CLNS				MLR	MLR		
	comp=N,388nm,13.0s						
YAK	**Yakutsk**	**23.91**	**344**	P	**P**	**18 40 19.3**	**-1.7**
	comp=N,52nm,0.8s,baz=33,slow=2.8,SNR=29						
YAK	**Yakutsk**	**23.91**	**344**	*e*P	**P**	**18 40 18.3**	**-2.6**
YAK				*e*PP	**pP**	**18 40 27.0**	**-1.8**
YAK				*e*S	**S**	**18 44 31.2**	**-4.2**
YAK				pmax	pmax		
	comp=Z,64nm,1.0s						
YAK				pmax	pmax		
	comp=N,21nm,1.1s						
YAK				smax	smax		
	comp=N,53nm,1.8s						
YAK				MLR	MLR		
	comp=Z,432nm,14.0s						
YAK				MLR	MLR		
	comp=N,461nm,15.0s						
YAK	**Yakutsk**	**23.91**	**344**	*e*P	**P**	**18 40 18.5**	**-2.5**
	comp=N,77nm,0.7s						
CIT	**Chita**	**23.92**	**311**	*e*P	**P**	**18 40 18.6**	**-2.6**
CIT				*e*		18 40 25.9	
CIT				pmax	pmax		
	comp=Z,106nm,1.2s						
SEY	**Seymchan**	**23.99**	**10**	P	**P**	**18 40 21.5**	**-0.2**
	comp=Z,30nm,0.9s,baz=194,slow=7.3,SNR=42						
HHC	**Hu-ho-hao-te**	**24.13**	**283**	*e*P	**P**	**18 40 22.5**	**-0.8**
HHC				S	**S**	**18 44 33.5**	**-6.0**
HHC				pmax	pmax		
	comp=Z,17nm,0.7s						
HHC				pmax	pmax		
	comp=Z,81nm,7.4s						
HHC				LR	LR		
	comp=Z,330nm,13.9s						
HHC				LR	LR		
	comp=Z,930nm,17.1s						
HHC				LR	LR		
	comp=Z,1μm,17.3s						
SSLB	**Suanglung**	**24.55**	**237**	*e*P	**P**	**18 40 24.8**	**-2.5**
	comp=Z,40nm,1.1s						
YULB	**Yu-li**	**24.61**	**235**	P	**P**	**18 40 22.6**	**-5.2**
WHN	**Wuhan**	**25.21**	**258**	*i*P	**P**	**18 40 33.1**	**0.0**
WHN				S	**S**	**18 45 00.5**	**+3.7**
WHN				pmax	pmax		
	comp=Z,110nm,0.8s						
WHN				LR	LR		
	comp=Z,1μm,14.6s						
WHN				LR	LR		
	comp=Z,1μm,12.4s						
WHN				LR	LR		
	comp=Z,1μm,15.8s						
GUMO	**Guam**	**25.97**	**176**	LR	LR	18 49 46.5	
	comp=Z,149nm,20.8s,baz=7.0,slow=34						
BOD	**Bodaibo**	**26.19**	**324**	*e*P	**P**	**18 40 41.0**	**-0.7**
BOD				pmax	pmax		
	comp=Z,40nm,1.0s						
ULN	**Ulaanbaatar**	**27.19**	**300**	*c i*P	**P**	**18 40 51.3**	**+0.2**
ULN				pmax	pmax		
	comp=Z,23nm,1.0s						
ULN	**Ulaanbaatar**	**27.19**	**300**	*e*P	**P**	**18 40 50.5**	**-0.5**
	comp=Z,31nm,1.1s						
SONA1	**Songino Array**	**27.62**	**300**	*e*P	**P**	**18 40 54.7**	**-0.2**
SONM	**Songino Array**	**27.63**	**299**	P	**P**	**18 40 55.3**	**+0.3**
	comp=Z,13nm,0.8s,baz=103,slow=9.8,SNR=73						
SONM				LR	LR	18 52 31.8	
	comp=Z,1μm,18.3s,baz=102,slow=38						
XAN	**Xi'an**	**27.89**	**269**	P	**P**	**18 40 56.3**	**-1.1**
XAN				sP	sP	18 41 09.6	+1.0
XAN				PP	**PnPn**	**18 41 44.1**	**-0.3**
XAN				PcP	**PcP**	**18 44 14.6**	**+2.0**
XAN				S	**S**	**18 45 32.1**	**-7.2**
XAN				pmax	pmax		
	comp=Z,18nm,1.1s						
XAN				pmax	pmax		
	comp=Z,140nm,4.6s						
XAN				LR	LR		
	comp=Z,130nm,16.9s						
XAN				LR	LR		
	comp=Z,570nm,16.3s						
XAN				LR	LR		
	comp=Z,780nm,14.9s						
H11N2	**WAKE ISLAND Hy**	**28.42**	**127**	T	T	19 10 48.3	
	baz=316,slow=75,SNR=263						
H11N1	**WAKE ISLAND Hy**	**28.43**	**127**	T	T	19 10 46.9	
	baz=316,SNR=247						
H11N3	**WAKE ISLAND Hy**	**28.44**	**127**	T	T	19 10 49.4	
	baz=316,slow=75,SNR=188						
ENH	**Enshi**	**29.03**	**262**	*e*P	**P**	**18 41 05.8**	**-1.7**
	comp=Z,49nm,0.8s						
H11S1	**WAKE ISLAND Hy**	**29.24**	**129**	T	T	19 11 49.4	
	baz=321,slow=76,SNR=41						
H11S3	**WAKE ISLAND Hy**	**29.24**	**129**	T	T	19 12 03.4	
	baz=321,slow=76,SNR=50						
H11S2	**WAKE ISLAND Hy**	**29.25**	**129**	T	T	19 11 53.9	
	baz=321,slow=76,SNR=40						
TLY	**Talaya**	**29.80**	**307**	*e*P	**P**	**18 41 15.3**	**+1.2**
TLY				*e*		18 42 03.6	
TLY				*e*S	**S**	**18 46 11.6**	**+2.7**
TLY				*e*SS	**SnSn**	**18 47 45.7**	**+5.8**
TLY				pmax	pmax		
	comp=Z,12nm,1.3s						
TLY				MLR	MLR		
	comp=Z,346nm,17.0s						
ZAK	**Zakamensk**	**29.87**	**304**	*e*P	**P**	**18 41 14.5**	**-0.4**
ZAK				pmax	pmax		
	comp=Z,10.0nm,1.4s						
LZH	**Lanzhou**	**31.11**	**276**	*e*P	**P**	**18 41 26.5**	**+0.5**
LZH				pP	pP	18 41 35.0	+1.1
LZH				sP	sP	18 41 40.0	+2.8
LZH				PP	**PnPn**	**18 42 29.4**	**+1.6**
LZH				*e*S	**S**	**18 46 28.1**	**-1.9**
LZH				sS	sS	18 46 45.1	+2.0
LZH				SS	**SnSn**	**18 48 14.0**	**+1.7**
LZH				pmax	pmax		
	comp=Z,78nm,1.4s						
LZH				pmax	pmax		
	comp=Z,100nm,4.0s						
LZH				LR	LR		
	comp=Z,500nm,12.8s						
LZH				LR	LR		
	comp=Z,1μm,15.2s						
LZH				LR	LR		
	comp=Z,880nm,14.2s						
BILL	**Bilibino**	**31.15**	**17**	*e*P	**P**	**18 41 30.3**	**+4.5**
BILL				pmax	pmax		
	comp=Z,14nm,1.3s						
BILL				MLR	MLR		
	comp=Z,211nm,17.0s						
MOY	**Mondy**	**31.44**	**307**	*e*P	**P**	**18 41 29.3**	**+0.6**
MOY				pmax	pmax		
	comp=Z,22nm,1.6s						
GYA	**Guiyang**	**33.10**	**258**	*i*P	**P**	**18 41 43.0**	**-0.5**
GYA				pP	sP	18 41 55.3	+0.6
GYA				PP	**PnPn**	**18 42 54.5**	**+1.1**
GYA				S	**S**	**18 46 59.0**	**-2.1**
GYA				sS	sS	18 47 15.8	+1.6
GYA				SS	**SnSn**	**18 48 58.8**	**-1.9**
GYA				ScS	**ScS**	**18 52 07.0**	**-2.4**
GYA				pmax	pmax		
	comp=Z,50nm,0.9s						
GYA				pmax	pmax		
	comp=Z,130nm,5.3s						
GYA				LR	LR		
	comp=Z,550nm,17.6s						
GYA				LR	LR		
	comp=Z,530nm,17.2s						
GYA				LR	LR		
	comp=Z,510nm,17.0s						
CD2	**Chengdu**	**33.15**	**267**	*i*P	**P**	**18 41 43.4**	**-0.4**
CD2				pP	pP	18 41 52.8	+1.1
CD2				sP	sP	18 41 55.6	+0.6
CD2				S	**S**	**18 46 56.4**	**-5.2**
CD2				SS	**SnSn**	**18 49 03.5**	**+1.8**
CD2				pmax	pmax		
	comp=Z,30nm,0.9s						
CD2				pmax	pmax		
	comp=Z,190nm,4.7s						
CD2				LR	LR		
	comp=Z,760nm,12.3s						
CD2				LR	LR		
	comp=Z,770nm,16.1s						
CD2				LR	LR		
	comp=Z,870nm,15.2s						
GTA	**Gaotai**	**33.24**	**284**	*e*P	**P**	**18 41 45.3**	**+0.7**
GTA				pP	pP	18 41 54.5	+2.0
GTA				sP	sP	18 41 58.6	+2.8
GTA				PcP	**PcP**	**18 44 28.1**	**+1.5**
GTA				S	**S**	**18 46 59.8**	**-3.2**
GTA				sS	sS	18 47 17.1	+0.9
GTA				SS	**SnSn**	**18 49 03.0**	**-0.8**
GTA				pmax	pmax		
	comp=Z,13nm,1.0s						
GTA				pmax	pmax		
	comp=Z,56nm,7.1s						
GTA				LR	LR		
	comp=Z,340nm,16.9s						
GTA				LR	LR		
	comp=Z,1μm,17.1s						
GTA				LR	LR		
	comp=Z,1μm,17.3s						
QIZ	**Qiongzhong**	**35.30**	**244**	P	**P**	**18 42 03.4**	**+0.9**
QIZ				S	**S**	**18 47 30.4**	**-4.6**
QIZ				LR	LR		
	comp=Z,170nm,13.9s						
KMI	**Kunming**	**36.79**	**259**	P	**P**	**18 42 15.6**	**+0.1**
KMI				pP	pP	18 42 25.3	+1.8
KMI				sP	sP	18 42 32.0	+5.3
KMI				pmax	pmax		
	comp=Z,30nm,1.0s						
KMI				LR	LR		
	comp=Z,270nm,12.6s						
KMI				LR	LR		
	comp=Z,470nm,13.9s						
KMI				LR	LR		
	comp=Z,420nm,14.3s						

SLVN Son La 38.10 253 *e*P **P 18 42 26.8 +0.4**
comp=Z,10.0nm,1.0s
WMQ Urumqi 40.99 295 P **P 18 42 51.4 +1.1**
WMQ pP pP 18 42 59.6 +1.2
WMQ sP sP 18 43 04.3 +2.7
WMQ S **S 18 49 01.0 +0.2**
WMQ sS sS 18 49 17.8 +3.7
WMQ SS **SS 18 51 56.1 -6.9**
WMQ pmax pmax
comp=Z,51nm,1.0s
WMQ pmax pmax
comp=Z,150nm,3.7s
WMQ LR LR
comp=Z,220nm,14.1s
WMQ LR LR
comp=Z,270nm,15.1s
WMQ LR LR
comp=Z,210nm,19.3s
ZAA0 Zalesovo Array 41.27 310 *e*P **P 18 42 51.9 -0.4**
ZALV Zalesovo Beam 41.27 310 P **P 18 42 52.5 +0.2**
comp=Z,10nm,0.7s,baz=86,slow=7.5,SNR=49
ZALV PcP **PcP 18 44 50.8 +0.2**
comp=Z,3.9nm,0.8s,baz=88,slow=2.4,SNR=4.6
ZALV LR LR 19 00 46.0
comp=Z,290nm,19.3s,baz=70,slow=37
NRIK Noril'sk 41.54 334 P **P 18 42 54.2 -0.2**
comp=Z,4.0nm,0.7s,baz=109,slow=8.2,SNR=7.4
NRIK LR LR 19 01 27.8
comp=Z,484nm,18.3s,baz=108,slow=38
NVS Novosibirsk 42.13 312 *e*P **P 18 42 59.0 -0.3**
NVS pmax pmax
comp=Z,7.0nm,0.8s
NVS pmax pmax
comp=E,7.0nm,0.8s
CHTO Chiang Mai 43.32 255 *e*P **P 18 43 07.4 -2.0**
CHTO pmax pmax
comp=Z,9.0nm,0.8s
CHTO Chiang Mai 43.32 255 *e*P **P 18 43 07.4 -2.0**
comp=Z,9.2nm,0.8s
LSA Lhasa 43.42 273 *e*P **P 18 43 11.5 +0.7**
LSA pmax pmax
comp=Z,7.0nm,0.6s
LSA Lhasa 43.42 273 *e*P **P 18 43 11.4 +0.7**
comp=Z,6.9nm,0.6s
CM31 Chiang Mai Arr 43.54 254 *e*P **P 18 43 12.1 +0.9**
CMAR Chiang Mai Arr 43.54 254 P **P 18 43 11.4 +0.2**
comp=Z,4.0nm,0.8s,baz=48,slow=6.6,SNR=30
CMAR LR LR 19 02 24.6
comp=Z,147nm,18.5s,baz=62,slow=38
CM01 Chiang Mai Arr 43.55 254 *e*P **P 18 43 11.5 +0.2**
MK01 Makanchi Array 43.99 300 *e*P **P 18 43 14.6 0.0**
MK31 Makanchi Array 43.99 300 *e*P **P 18 43 13.0 -1.6**
MK31 Makanchi Array 43.99 300 *e*P **P 18 43 13.0 -1.6**
MKAR Makanchi Array 43.99 300 P **P 18 43 14.7 +0.1**
comp=Z,16nm,0.8s,baz=83,slow=9.3,SNR=97
MKAR LR LR 19 02 29.7
comp=Z,491nm,18.2s,baz=60,slow=37
MAKZ Makanchi 44.20 300 *e*P **P 18 43 16.3 +0.1**
MAKZ pmax pmax
comp=Z,25nm,1.0s
MAKZ Makanchi 44.20 300 *e*P **P 18 43 16.3 +0.1**
comp=Z,25nm,1.0s
KDAK Kodiak Island 44.24 44 P **P 18 43 16.7 +0.3**
comp=Z,9.1nm,1.0s,baz=288,slow=9.6,SNR=2.4
SHL Shillong 44.88 268 *e*P **P 18 43 25.0 +2.9**
KURK Kurchatov 45.49 306 P **P 18 43 27.0 +0.6**
KURK pmax pmax
comp=Z,27nm,0.9s
KURK Kurchatov 45.49 306 *e*P **P 18 43 25.7 -0.7**
KURBB Kurchatov Arra 45.57 306 P **P 18 43 27.0 0.0**
comp=Z,27nm,0.9s,baz=81,slow=8.2,SNR=152
MCK McKinley 45.70 35 *e*P **P 18 43 29.2 +1.2**
MCK McKinley 45.70 35 *e*P **P 18 43 29.2 +1.2**
COLA College 46.14 34 *e*P **P 18 43 34.2 +2.9**
COLA pmax pmax
comp=Z,2.0nm,0.7s
ILAR Eielson Array 46.56 34 P **P 18 43 35.1 +0.4**
comp=Z,1.2nm,0.8s,baz=264,slow=6.4,SNR=14
ILAR LR LR 19 04 27.3
comp=Z,68nm,19.8s,baz=342,slow=38
ILB Eielson Array 46.56 34 *e*P **P 18 43 38.3 +3.7**
PDGK Podgornoye 46.86 296 P **P 18 43 37.5 +0.1**
PDGK pmax pmax
comp=Z,15nm,1.0s
TAPN Taplejung 47.20 273 *e*P **P 18 43 41.1 +0.6**
comp=Z,40nm,1.0s
ODAN Odare 47.69 272 *e*P **P 18 43 44.8 +0.5**
comp=Z,28nm,0.7s
JIRN Jiri 48.22 274 *e*P **P 18 43 49.0 +0.5**
comp=Z,283nm,0.8s
RAMN Ramite 48.26 273 *e*P **P 18 43 49.1 +0.4**
comp=Z,137nm,0.9s
GUN Gumba 48.34 274 *e*P **P 18 43 49.9 +0.5**
comp=Z,90nm,0.7s
KKN Kakani 48.86 275 *e*P **P 18 43 53.7 +0.5**
comp=Z,90nm,0.7s
PKI Pulchoki 48.87 274 *e*P **P 18 43 53.5 +0.1**
comp=Z,42nm,0.9s
PKIN Phulchoki 48.88 274 *e*P **P 18 43 53.2 -0.2**
comp=Z,18nm,0.7s
DMN Daman 49.08 274 *e*P **P 18 43 55.4 +0.4**
comp=Z,44nm,1.0s
GKN Gorkha 49.25 275 *e*P **P 18 43 56.4 +0.2**
comp=Z,43nm,0.9s
BRVK Borovoye 49.96 311*c i*P **P 18 44 01.4 +0.4**
BRVK pmax pmax
comp=Z,50nm,0.8s
BRVK Borovoye 49.96 311 *e*P **P 18 44 01.5 +0.4**
comp=Z,20nm,0.9s
FRU Bishkek 50.38 297 *e*P **P 18 44 05.0 +0.5**
FRU *e* 18 44 16.0
FRU pmax pmax
comp=Z,40nm,1.2s
AAK Ala-Archa 50.54 297*c i*P **P 18 44 06.1 +0.3**
AAK pmax pmax
comp=Z,18nm,1.0s
AAK Ala-Archa 50.54 297 *e*P **P 18 44 06.0 +0.3**
comp=Z,14nm,1.1s
KSH Kashi 50.68 293⇓*i*P **P 18 44 11.3 +4.5**
KSH pP sP 18 44 21.3 +3.0
KSH sP pP 18 44 25.1 +10
KSH PP **PP 18 46 08.3 +5.6**
KSH S **S 18 51 23.4 +3.1**
KSH sS sS 18 51 40.5 +6.7
KSH SS **SS 18 54 56.4 +2.0**
KSH pmax pmax
comp=Z,15nm,1.1s
KSH pmax pmax
comp=Z,110nm,4.9s
KSH LR LR
comp=Z,490nm,19.2s
KSH LR LR
comp=Z,240nm,13.8s
KSH LR LR
comp=Z,530nm,16.2s
INK Inuvik 51.45 28 P **P 18 44 12.7 +0.7**
comp=Z,3.0nm,1.0s,baz=304,slow=7.3,SNR=2.7
MNAS Manas 51.96 298 P **P 18 44 16.9 +0.5**
MNAS pmax pmax
comp=Z,30nm,0.9s
KKAR Karatay Array 53.08 299 *e*P **P 18 44 24.5 -0.1**
KKAR pmax pmax
comp=Z,73nm,0.8s
KKAR Karatay Array 53.08 299 *e*P **P 18 44 24.5 -0.1**
comp=Z,73nm,0.8s
SVE Sverdlovsk 54.16 318⇓*e*P **P 18 44 32.9 +0.7**
SVE pmax pmax
comp=Z,29nm,1.0s
SVE MLR MLR
comp=Z,782nm,16.0s
SOKR Solikamsk 55.15 322*d i*P **P 18 44 38.2 -1.1**
SOKR pmax pmax
comp=Z,15nm,0.9s
SOKR MLR MLR
comp=Z,236nm,15.0s
ARU Arti 55.38 318*c i*P **P 18 44 41.2 +0.2**
ARU 18 45 44.0
ARU 18 46 46.6
ARU PPP PPP 18 47 53.8
ARU S **S 18 52 24.3 +0.8**
ARU SS **SS 18 56 07.0 -0.7**
ARU pmax pmax
comp=Z,42nm,1.2s
ARU MLR MLR
comp=Z,638nm,15.0s
ARU Arti 55.38 318 *e*P **P 18 44 41.1 0.0**
comp=Z,30nm,1.0s
ABKAR Akbulak array 57.37 309 *e*P **P 18 44 55.5 +0.1**
comp=Z,129nm,0.6s
KBL Kabul 57.83 290 *e*P **P 18 44 58.8 -0.3**
KBL pmax pmax
comp=Z,19nm,0.8s
KBL Kabul 57.83 290 *e*P **P 18 44 58.8 -0.3**
comp=Z,19nm,0.8s
FITZ Fitzroy Crossi 59.72 199 P **P 18 45 12.0 +0.1**
comp=Z,2.4nm,1.1s,baz=31,slow=8.0,SNR=6.0
WRAB Tennant Creek 59.82 190⇑P **P 18 45 13.4 +0.8**
WRAB pmax pmax
comp=Z,16nm,0.8s
WB2 Warramunga Arr 59.83 190 *e*P **P 18 45 11.9 -0.7**
WRA Warramunga Arr 59.83 190 P **P 18 45 12.0 -0.7**
comp=Z,2.3nm,0.7s,baz=7.6,slow=6.9,SNR=36
KLMR Klimovskoe 62.33 328 *e*P **P 18 45 27.5 -1.7**
KLMR *e* 18 47 45.5
KLMR pmax pmax
comp=Z,18nm,1.3s
DAG Danmarks Havn 63.32 355 *i*P **P 18 45 35.6 0.0**
DAG Danmarks Havn 63.32 355 *i*P **P 18 45 35.6 0.0**
AS01 Alice Springs 63.55 189 *e*P **P 18 45 37.2 -0.5**
ASAR Alice Springs 63.55 190 P **P 18 45 37.7 -0.1**
comp=Z,1.0nm,0.8s,baz=6.1,slow=5.4,SNR=22
GEYT Alibeck 63.83 299 P **P 18 45 39.9 +0.3**
comp=Z,7.9nm,0.9s,baz=58,slow=5.4,SNR=16
OBN Obninsk 66.87 323⇓*i*P **P 18 45 57.7 -1.2**
OBN *e* 18 46 05.3
OBN pmax pmax
comp=Z,12nm,0.8s
OBN MLR MLR
comp=Z,347nm,16.0s
FINES FINESS Array B 67.19 332 P **P 18 46 01.1 +0.2**
comp=Z,8.4nm,0.8s,baz=32,slow=7.5,SNR=12
LPSR Galich'ya Gora 67.22 320 *e*P **P 18 46 01.3 +0.1**
LPSR pmax pmax
comp=Z,10.0nm,0.7s
AFI Afiamalu 67.76 132 LR LR 19 12 16.4
comp=Z,69nm,19.4s,baz=270,slow=33
VSR Storozhevoye 67.92 319 *e*P **P 18 46 05.6 -0.1**
VSR pmax pmax
comp=Z,10.0nm,0.9s
SUMG Summit 68.10 1 *i*P **P 18 46 07.9 +1.0**
SUMG pmax pmax
comp=Z,10.0nm,0.8s
SUMG Summit 68.10 1 *e*P **P 18 46 06.6 -0.4**
comp=Z,11nm,0.9s
SEKA Sheki 69.16 307 P **P 18 46 11.4 -2.3**
ZKTA Zakatala 69.27 307 P **P 18 46 12.1 -2.2**
GOF Gofitskoye 69.42 312⇑*e*P **P 18 46 16.2 +1.0**
GOF pmax pmax
comp=Z,46nm,1.3s
MNGR Mingechevir, A 69.47 306 P **P 18 46 13.4 -2.1**
LKRN Lenkeran, Azer 69.58 304 P **P 18 46 14.1 -2.1**
GANJ Ganja 70.02 307 P **P 18 46 16.7 -2.3**
GUDG Gudauri 70.09 309 P **P 18 46 20.5 +0.9**
ZEI Tsey 70.25 309 *e*P **P 18 46 19.6 -1.0**
ZEI pmax pmax
comp=Z,30nm,0.9s
KIV Kislovodsk 70.28 311*c i*P **P 18 46 21.4 +0.8**
KIV *e* 18 46 27.7
KIV *e* 18 48 55.0
KIV *e*S **S 18 55 34.4 +3.6**
KIV *e*SS **SS 19 00 06.3 +5.7**
KIV pmax pmax
comp=Z,52nm,1.1s
KIV MLR MLR
comp=Z,210nm,17.0s
KIV Kislovodsk 70.28 311 *e*P **P 18 46 21.7 +1.1**
comp=Z,41nm,0.9s
KBZ Khabaz 70.29 311 P **P 18 46 21.6 +1.2**
comp=Z,14nm,0.9s,baz=54,slow=5.4,SNR=22
ONI Oni 70.63 310 P **P 18 46 23.9 +1.2**
ONI Oni 70.63 310 *e*P **P 18 46 23.8 +1.1**
STKA Stephens Creek 71.15 181 P **P 18 46 28.4 +2.8**
comp=Z,1.4nm,0.9s,baz=340,slow=10,SNR=4.5
AKH Akhalkalaki 71.31 308⇑*i*P **P 18 46 28.3 +1.3**
AKH Akhalkalaki 71.31 308 P **P 18 46 28.3 +1.3**
NACGM Naroch 71.34 327 *e* **P 18 46 25.0 -1.7**
NAX Nakhchivan 71.40 306 P P 18 46 33.2 +5.8
NC204 NORSAR Array S 72.28 338 *e*P **P 18 46 33.3 +0.9**
NB2 NORSAR Subarra 72.34 338 P **P 18 46 32.8 +0.1**
comp=Z,13nm,0.8s,baz=39,slow=6.2
NOA NORSAR Array B 72.34 338 P **P 18 46 32.9 +0.2**
comp=Z,9.7nm,0.8s,baz=39,slow=5.9,SNR=28
NBO02 NORSAR Array S 72.44 338 *e*P **P 18 46 33.2 0.0**
AKASG Malin Array Be 73.11 323 P **P 18 46 37.4 0.0**
comp=Z,4.3nm,0.6s,baz=44,slow=6.3,SNR=19
AKASG PP **PP 18 49 20.7 +1.0**
comp=Z,0.4nm,0.4s,baz=44,slow=8.8,SNR=4.3
KIEV Kiev 73.12 323*c i*P **P 18 46 37.4 0.0**
KIEV pmax pmax
comp=Z,9.0nm,1.0s
TPNV Topopah Spring 74.52 55 *e*P **P 18 46 48.4 +2.3**
TPNV pmax pmax
comp=Z,11nm,1.1s
TPNV Topopah Spring 74.52 55 *e*P **P 18 46 48.4 +2.3**
comp=Z,11nm,1.1s
BW06 Boulder Array 74.86 47 *e*P **P 18 46 48.6 +0.6**
PDAR Pinedale Array 74.86 47 P **P 18 46 48.5 +0.5**
comp=Z,0.5nm,0.5s,baz=273,slow=2.8,SNR=5.1
SORM Soroca 75.28 321⇑*i*P **P 18 46 49.5 -0.5**
LCMT Little Creek M 76.36 53 *e*P **P 18 46 58.0 +1.4**
comp=Z,6.1nm,0.9s
KNB Kanab 76.61 53 *e*P **P 18 47 00.4 +2.3**
KNB pmax pmax
comp=Z,4.0nm,0.8s
KNB Kanab 76.61 53 *e*P **P 18 47 00.4 +2.3**
comp=Z,4.1nm,0.8s
SRU San Rafael Swe 76.66 50 *e*P **P 18 46 59.0 +0.7**
SRU pmax pmax
comp=Z,7.0nm,0.9s
SRU San Rafael Swe 76.66 50 *e*P **P 18 46 59.0 +0.7**
comp=Z,6.8nm,0.9s
BUR08 Bucovina Ar. S 77.14 322 *e*P **P 18 47 01.0 +0.2**
BURAR Bucovina Array 77.15 322⇑*i*P **P 18 47 00.3 -0.5**
BURAR Bucovina Array 77.15 322 P **P 18 47 00.3 -0.5**
TESR Tescani 77.24 321⇓*i*P **P 18 47 01.9 +0.7**
CFR Carcaliu 77.44 319⇑*i*P **P 18 47 01.8 -0.5**
CFR Carcaliu 77.44 319 P **P 18 47 01.8 -0.5**
STHS Stebnicka Huta 77.65 325 *e*P **P 18 47 05.1 +1.6**
STHS *e* 18 47 15.0
STHS pmax pmax
comp=Z,7.0nm,1.2s
STHS Stebnicka Huta 77.65 325 *e*P **P 18 47 05.1 +1.6**
STHS *e* 18 47 15.0
VRI Vrincioaia 77.66 320⇓*i*P **P 18 47 03.1 -0.6**
VRI Vrincioaia 77.66 320 P **P 18 47 03.0 -0.6**
OJC Ojcow 77.67 327 *e*P **P 18 47 04.2 +0.7**
OJC Ojcow 77.67 327 *e*P **P 18 47 04.6 +1.0**
OJC pmax pmax
comp=Z,13nm,0.9s
OJC Ojcow 77.67 327 *e*P **P 18 47 04.6 +1.0**
comp=Z,13nm,0.9s
PV10 Paradox Valley 78.02 50 *e*P **P 18 47 07.5 +1.5**
NIE Niedzica 78.06 326 *e*P **P 18 47 06.9 +1.1**
NIE Niedzica 78.06 326 *e*P **P 18 47 06.9 +1.1**
BR131 Keskin Array S 78.18 312 *e*P **P 18 47 07.6 +0.8**
BRTR Keskin Array B 78.18 312 P **P 18 47 07.3 +0.5**
comp=Z,1.8nm,0.8s,baz=81,slow=3.9,SNR=13
BRTR Keskin Array B 78.18 312*cei*P **P 18 47 07.5 +0.8**
BRTR pmax pmax
comp=Z,2.0nm,0.8s
DOPR Dopca 78.25 321⇓*i*P **P 18 47 07.1 +0.2**
BR231 Keskin MP Arra 78.60 313 *e*P **P 18 47 08.2 -0.8**
LANS Liptovska Anna 78.62 326 *e*P **P 18 47 10.3 +1.4**
LANS Liptovska Anna 78.62 326 *e*P **P 18 47 10.3 +1.4**
KSP Ksiaz 78.64 329 *e*P **P 18 47 09.8 +0.9**
KSP Ksiaz 78.64 329 *e*P **P 18 47 09.8 +0.9**
OKC Ostrava-Krasne 78.65 327 *e*P **P 18 47 10.1 +1.1**
OKC AMS AMS 19 24 40.0
comp=Z,300nm,18.4s
OKC Ostrava-Krasne 78.65 327 *e*P **P 18 47 10.1 +1.1**
OKC MLR MLR
comp=Z,300nm,18.4s
VOIR 78.79 321⇓*i*P **P 18 47 10.4 +0.4**
VOIR 78.79 321 P **P 18 47 10.4 +0.4**
DRGR 78.92 323⇓*i*P **P 18 47 10.0 -0.6**
DRGR 78.92 323 P **P 18 47 10.0 -0.6**
MORC Moravsky Berou 78.95 328⇑*i*P **P 18 47 10.7 0.0**
MORC Moravsky Berou 78.95 328 *e*P **P 18 47 11.2 +0.5**
MORC Moravsky Berou 78.95 328 *e*P **P 18 47 11.2 +0.5**
DPC Dobruska-Polom 79.01 329 *e*P **P 18 47 11.7 +0.7**
DPC *e*pP **pP 18 47 19.9 +0.3**
DPC AMS AMS 19 25 20.0
comp=Z,200nm,17.4s
DPC Dobruska-Polom 79.01 329 *e*P **P 18 47 11.7 +0.7**
DPC *e* 18 47 19.9
DPC MLR MLR
comp=Z,200nm,17.4s
UPC Upice 79.01 329 *e*P **P 18 47 11.9 +0.9**
UPC AMS AMS 19 25 30.0
comp=Z,200nm,17.9s
UPC Upice 79.01 329 *e*P **P 18 47 11.9 +0.9**
UPC MLR MLR
comp=Z,200nm,17.9s
KRLC Kraliky 79.03 328 *e*P **P 18 47 12.2 +1.0**
KRLC Kraliky 79.03 328 *e*P **P 18 47 12.2 +1.0**
PSZ Piszkesteto 79.36 325 *e*P **P 18 47 13.6 +0.6**
PSZ Piszkesteto 79.36 325 *e*P **P 18 47 13.6 +0.6**
VYHS Vyhne 79.39 326 *e*P **P 18 47 13.6 +0.5**
VYHS pmax pmax
comp=Z,3.0nm,1.0s
VYHS Vyhne 79.39 326 *e*P **P 18 47 13.6 +0.5**
BRG Berggiesshubel 79.53 330 *e*P **P 18 47 14.2 +0.4**
comp=Z,6.4nm,0.9s
BRG *e* 18 47 28.9
comp=Z,5.5nm,1.1s
BRG Berggiesshubel 79.53 330 *e*P **P 18 47 14.2 +0.4**
BRG *e* 18 47 28.9
BRG pmax pmax
comp=Z,6.0nm,0.9s
BRG pmax pmax
comp=Z,6.0nm,1.1s
CLL Collm 79.55 331 *i*P **P 18 47 14.0 +0.2**
CLL *e* 18 47 22.0
CLL pmax pmax
comp=Z,35nm,1.0s
CLL Collm 79.55 331 *i*P **P 18 47 14.0 +0.2**
comp=Z,11nm,1.0s
CLL *e*(pP) **PcP 18 47 22.0 +0.3**
CLL *e*sP **sP 18 47 28.0 +2.4**
CLL LmV 19 25 00.0
comp=Z,200nm,20.5s
CLL Collm 79.55 331 *e*P **P 18 47 13.7 -0.2**
PVCC Panska Ves 79.56 330 *e*P **P 18 47 15.0 +1.0**
PVCC Panska Ves 79.56 330 *e*P **P 18 47 15.0 +1.0**
GOPC GO Pecny, Ondr 79.96 329 *e*P **P 18 47 17.0 +0.8**
GOPC *e*pP **PcP 18 47 24.3 +0.7**
GOPC AMS AMS 19 25 30.0
comp=Z,300nm,16.1s
GOPC GO Pecny, Ondr 79.96 329 *e*P **P 18 47 17.0 +0.8**
GOPC *e* 18 47 24.3
GOPC MLR MLR
comp=Z,300nm,16.1s
PRU Pruhonice 80.00 329 *e*P **P 18 47 17.1 +0.7**
PRU *e*pP **pP 18 47 24.9 -0.1**
PRU AMS AMS 19 25 30.0
comp=Z,200nm,20.3s
PRU Pruhonice 80.00 329 *e*P **P 18 47 17.1 +0.7**
PRU *e* 18 47 24.9
PRU MLR MLR
comp=Z,200nm,20.3s
TREC Trest 80.17 328 *e*P **P 18 47 18.2 +0.9**
TREC Trest 80.17 328 *e*P **P 18 47 18.2 +0.9**
BZS Buzias 80.30 323⇑*i*P **P 18 47 17.0 -1.1**
NKC Novy Kostel 80.62 330 *e*P **P 18 47 20.4 +0.7**
NKC Novy Kostel 80.62 330 *e*P **P 18 47 20.4 +0.7**
MDVR Moldovita 80.88 322⇑*i*P **P 18 47 21.0 -0.2**
KHC Kasperske Hory 81.06 329 *e*P **P 18 47 22.8 +0.7**
KHC *e*pP **pP 18 47 30.1 -0.7**
KHC AMS AMS 19 26 10.0
comp=Z,300nm,19.3s
KHC Kasperske Hory 81.06 329 *e*P **P 18 47 22.8 +0.7**
KHC *e* 18 47 30.1
KHC MLR MLR
comp=Z,300nm,19.3s
KHC Kasperske Hory 81.06 329 *e*P **P 18 47 22.8 +0.7**
CONA Conrad Observa 81.09 327 *i*P **P 18 47 23.1 +0.7**
comp=Z,8.8nm,1.1s,SNR=5.2
GEC2 GERESS Array S 81.24 329 *e*P **P 18 47 23.8 +0.6**
GEC2 GERESS Array S 81.24 329 *e*P **P 18 47 23.8 +0.6**
GERES GERESS Array B 81.24 329 P **P 18 47 23.5 +0.3**
comp=Z,2.1nm,0.8s,baz=38,slow=5.6,SNR=19
GEA0 GERESS Array S 81.25 329 *e*P **P 18 47 23.1 -0.1**
ARSA Arzberg 81.76 327 *e*P **P 18 47 26.7 +0.9**
comp=Z,4.7nm,1.3s
VTS Vitosha 81.77 320⇑*i*P **P 18 47 26.0 -0.2**
VTS Vitosha 81.77 320 *e*P **P 18 47 27.3 +1.1**
VTS Vitosha 81.77 320 *e*P **P 18 47 27.3 +1.1**
ANMO Albuquerque 81.86 51⇑*i*P **P 18 47 27.7 +0.9**
ANMO pmax pmax
comp=Z,4.0nm,1.6s
PERS Pernice 82.42 327 *i*P **P 18 47 29.7 +0.4**
SOKA Soboth 82.42 327 *i*P **P 18 47 29.9 +0.5**
comp=Z,14nm,0.9s,SNR=11
MEM Membach 82.62 334 P **P 18 47 31.0 +0.7**
OBKA Obir 82.76 327 *i*P **P 18 47 31.3 +0.1**
comp=Z,4.3nm,0.7s
KBA Koelnbreinsper 82.80 328 *i*PcP **P 18 47 32.9 +1.5**
comp=Z,7.1nm,1.0s
CRES Cresnjev 82.91 326 *e*P **P 18 47 31.9 0.0**
MYKA Terra Mystica 83.04 328 *i*P **P 18 47 32.5 -0.1**
comp=Z,2.2nm,0.5s
ABTA Abfaltersbach 83.41 328 *i*P **P 18 47 34.3 -0.2**
comp=Z,6.3nm,1.1s
JAVS Javornik 83.45 327 *i*P **P 18 47 34.0 -0.7**
MOTA Moosalm 83.48 329 *i*P **P 18 47 35.3 +0.3**
comp=Z,12nm,1.0s,SNR=7.2
RETA Reutte 83.50 330 *i*P **P 18 47 35.5 +0.6**
comp=Z,13nm,1.0s,SNR=6.7
BFO Black Forest 83.72 332 *i*P **P 18 47 36.6 +0.6**
PDG Podgorica 83.83 322⇑*i*P **P 18 47 36.6 0.0**
FETA Feichten 83.90 330 *i*P **P 18 47 36.8 -0.3**
comp=Z,9.4nm,1.0s
DAVA Damuels 84.01 330 *i*P **P 18 47 37.9 +0.3**
comp=Z,13nm,0.9s
FUORN Ofenpass-Fuorn 84.41 330 *e*P **P 18 47 40.9 +1.1**
TUE Stuetta 84.89 330 *e*P **P 18 47 42.9 +0.7**
SENIN Lac Senin/Sane 85.75 331 *e*P **P 18 47 47.1 +0.6**
LOR Lormes 86.22 334 *e*P **P 18 47 48.5 0.0**
LOR pmax pmax
comp=Z,15nm,1.0s
FLN La Foliniere 86.31 337 *e*P **P 18 47 48.8 -0.1**
FLN pmax pmax
comp=Z,12nm,1.0s
LDF La Druitiere 86.35 337 *e*P **P 18 47 48.8 -0.3**
LDF pmax pmax
comp=Z,24nm,1.4s
SSF Saint Saulge 86.52 334 *e*P **P 18 47 50.0 0.0**
SSF pmax pmax
comp=Z,8.0nm,0.8s
LPL La Plagne 86.68 331 *e*P **P 18 47 51.3 +0.2**
LPL pmax pmax
comp=Z,5.0nm,0.8s
LPG La Plagne 86.69 331 *e*P **P 18 47 51.4 +0.1**
LPG pmax pmax
comp=Z,10.0nm,1.0s
LPIG La Paz 86.69 61 LR LR 19 18 55.3
comp=Z,2μm,20.6s,baz=137,slow=30
GRR Gorron 86.76 337 *e*P **P 18 47 51.3 +0.2**
GRR pmax pmax
comp=Z,13nm,1.0s
SMF Signal de Mont 86.76 333 *e*P **P 18 47 51.2 0.0**
SMF pmax pmax
comp=Z,3.0nm,0.7s
AVF Avril sur Loir 86.80 334 *e*P **P 18 47 51.5 +0.1**
AVF pmax pmax
comp=Z,16nm,0.8s
TXAR Lajitas Array 87.44 53 P **P 18 47 55.4 +0.4**
comp=Z,0.4nm,0.8s,baz=290,slow=4.0,SNR=3.8
ROSF Rostrenen 87.51 338 *e*P **P 18 47 55.4 +0.6**
ROSF pmax pmax
comp=Z,57nm,0.8s
TCF Toulx Ste Croi 87.63 334 *e*P **P 18 47 55.7 +0.2**
TCF pmax pmax
comp=Z,10.0nm,1.0s
VIVF Saint-Julien-l 88.01 332 *e*P **P 18 47 57.5 +0.2**
VIVF pmax pmax
comp=Z,9.0nm,1.2s
MFF Saint Martin d 88.12 336 *e*P **P 18 47 57.4 -0.4**
MFF pmax pmax
comp=Z,16nm,1.4s
CAF Calviac 88.87 334 *e*P **P 18 48 02.0 +0.6**
CAF pmax pmax

comp=Z,3.0nm,0.8s
TORD Torodi Ar. Bea 116.45 317 PP PP 18 54 52.4 -4.8
comp=Z,2.6nm,1.1s,baz=27,slow=6.1,SNR=8.8
SNAA Sanae 143.63 197 PKP PKPbc 18 54 38.3 -0.1
SNAA Sanae 143.63 197 *e*PKIKP PKPbc 18 54 38.0 -0.4
SNAA Sanae 143.63 197 *e*PKPdf PKPbc 18 54 38.0 -0.4
VNA2 Neumayer--Watz 145.19 196 PKP **PKPbc 18 54 43.0 -0.2**
baz=110,slow=3.6
VNA3 Neumayer Olymp 145.43 195 PKP **PKPdf 18 54 43.5 -0.4**
VNA1 Neumayer--Stat 145.59 196 PKP **PKPab 18 54 44.9 +0.2**

*ISK **23** 18:38:38.9, 39.71N×38.82E, h5km, MD2.6*
*DDA **23** 18:38:38.6, 39.65N×38.78E, h7km, Md2.4*
*CSEM **23** 18:38:39.3±0.3, 39.68N×38.76E, h2km, MD2.4, Error ellipse: s-maj=9.5km s-min=6.1km az=99.0*
ISC 23 18:38:38.9±1.1, 39.68N±0.02×38.82E±0.05, h4km±13km, n15, σ0§70/26, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
REFA	**Refahiye_ERZ~**	**0.29**	**188**	*i* P	**Pg**	**18 38 43.9**	**-0.5**
REFA				*i* S	**Sg**	**18 38 48.1**	**-0.1**
REFA	**Refahiye_ERZ~**	**0.29**	**188**	P	**Pg**	**18 38 43.9**	**-0.5**
REFA				S	**Sg**	**18 38 48.1**	**-0.1**
KEMA	**Kemaliye**	**0.48**	**211**	*i* P	**Pg**	**18 38 47.3**	**-0.8**
KEMA				*i* S	**Sg**	**18 38 54.1**	**-0.2**
KEMA	**Kemaliye**	**0.48**	**211**	P	**Pg**	**18 38 47.3**	**-0.8**
KEMA				S	**Sg**	**18 38 54.1**	**-0.2**
KELT	**Kelkit**	**0.58**	**36**	*i* P	**Pb**	**18 38 51.2**	**-0.5**
KELT				*i* S	**Sb**	**18 38 59.9**	**-0.4**
KELT	**Kelkit**	**0.58**	**36**	P	**Pb**	**18 38 51.2**	**-0.5**
KELT				S	**Sb**	**18 38 59.9**	**-0.4**
ERZN	**Erzincan**	**0.71**	**97**	*e*PG	**Pb**	**18 38 53.7**	**-0.1**
ERZN				*e*SG	**Sb**	**18 39 05.4**	**+1.5**
SUSE	**Susehri**	**0.71**	**318**	*i* P	**Pg**	**18 38 52.4**	**-0.1**
SUSE				*i* S	**Sg**	**18 39 02.1**	**+0.4**
SUSE	**Susehri**	**0.71**	**318**	P	**Pg**	**18 38 52.4**	**-0.1**
SUSE				S	**Sg**	**18 39 02.1**	**+0.4**
PTK	**Pertek**	**0.91**	**150**	*e*PG	**Pb**	**18 38 58.1**	**+0.8**
PTK				*e*SG	**Sn**	**18 39 11.4**	**-0.8**
PTK	**Pertek**	**0.91**	**150**	*e*Pg	**Pb**	**18 38 58.1**	**+0.8**
PTK				*e*Sg	**Sn**	**18 39 11.4**	**-0.8**
GUMT	**Gumushane**	**0.93**	**33**	*e*PG	**Pg**	**18 38 57.1**	**+0.4**
GUMT	**Gumushane**	**0.93**	**33**	*e*Pg	**Pg**	**18 38 57.1**	**+0.4**
DARE	**Darende-Malaty**	**1.52**	**224**	*e*PN	**Pg**	**18 39 09.0**	**+1.1**
DARE	**Darende-Malaty**	**1.52**	**224**	*e*Pn	**Pg**	**18 39 09.0**	**+1.1**

IDC 23 18:40:20.3±5.8, 28.56S×177.95W, h0km, mb4.0/5, mb1 4.1/5, mb1mx3.8/35, mbtmp4.0/5, Error ellipse: s-maj=114.8km s-min=16.1km az=62.0, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**0.69**	**177**	Pn	Pn	18 40 37.8	+0.5
	1μm,0.3s,baz=76,slow=6.8,SNR=233						
RAO				Sn	Sn	18 40 48.4	-0.4
	4μm,0.3s,baz=60,slow=20,SNR=88						
RAO				LR	LR	18 40 51.6	
	comp=Z,73nm,20.1s,baz=114,slow=45						
CTA	**Charters Tower**	**33.59**	**276**	P	P	18 47 04.3	+1.9
	1.5nm,0.5s,baz=95,slow=8.1,SNR=4.6						
STKA	**Stephens Creek**	**34.97**	**254**	P	P	18 47 14.2	0.0
	0.9nm,0.5s,baz=108,slow=13,SNR=3.8						
ASAR	**Alice Springs**	**43.28**	**265**	P	P	18 48 23.1	-0.9
	1.4nm,0.5s,baz=100,slow=6.6,SNR=50						
WRA	**Warramunga Arr**	**44.10**	**270**	P	P	18 48 30.1	-0.4
	1.7nm,0.7s,baz=109,slow=8.0,SNR=12						
FITZ	**Fitzroy Crossi**	**52.42**	**268**	P	P	18 49 33.9	-1.0
	1.3nm,0.8s,baz=90,slow=8.8,SNR=4.2						

*DDA **23** 18:45:01.0, 39.64N×38.67E, h7km, Md2.4*
*ISCJB **23** 18:45:01.2±0.5, 39.65N±0.03×38.69E±0.04, h3km±10km, Error ellipse: s-maj=5.8km s-min=4.8km az=169.9*
*ISK **23** 18:45:01.1, 39.67N×38.72E, h14km, MD2.7*
*CSEM **23** 18:45:01.2±0.2, 39.65N×38.69E, h10km, MD2.4, Error ellipse: s-maj=4.5km s-min=3.1km az=79.0*
ISC 23 18:45:01.3±1.1, 39.65N±0.02×38.68E±0.03, h11km±9km, n21, σ0§37/32, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
REFA	**Refahiye_ERZ~**	**0.26**	**165**	*i* P	**Pg**	**18 45 06.6**	**-0.1**
REFA	**Refahiye_ERZ~**	**0.26**	**165**	P	**Pg**	**18 45 06.6**	**-0.1**
KEMA	**Kemaliye**	**0.41**	**200**	*i* P	**Pg**	**18 45 08.6**	**-0.7**
KEMA				*i* S	**Sg**	**18 45 14.9**	**+0.2**
KEMA	**Kemaliye**	**0.41**	**200**	P	**Pg**	**18 45 08.6**	**-0.7**
KEMA				S	**Sg**	**18 45 14.9**	**+0.2**
SUSE	**Susehri**	**0.67**	**327**	*i* P	**Pg**	**18 45 14.1**	**-0.1**
SUSE				*i* S	**Sb**	**18 45 24.2**	**-0.2**
SUSE	**Susehri**	**0.67**	**327**	P	**Pg**	**18 45 14.1**	**-0.1**
SUSE				S	**Sb**	**18 45 24.2**	**-0.2**
KELT	**Kelkit**	**0.67**	**42**	*i* P	**Pg**	**18 45 14.1**	**-0.2**
KELT				*i* S	**Sb**	**18 45 24.1**	**-0.4**
KELT	**Kelkit**	**0.67**	**42**	P	**Pg**	**18 45 14.1**	**-0.2**
KELT				S	**Sb**	**18 45 24.1**	**-0.4**
CUZAR	**Zara_SIVAS**	**0.74**	**289**	*i* P	**Pb**	**18 45 16.8**	**+0.6**
CUZAR	**Zara_SIVAS**	**0.74**	**289**	P	**Pb**	**18 45 16.8**	**+0.6**
ERZN	**Erzincan**	**0.81**	**94**	*e*PG	**Pg**	**18 45 16.7**	**-0.2**
ERZN				*e*SG	**Sg**	**18 45 27.9**	**+0.3**
TNCL	**Tunceli-Merkez**	**0.86**	**128**	*i* P	**Pg**	**18 45 17.9**	**+0.1**
TNCL	**Tunceli-Merkez**	**0.86**	**128**	P	**Pg**	**18 45 17.9**	**+0.1**
PTK	**Pertek**	**0.94**	**144**	*e*PG	**Pb**	**18 45 19.8**	**+0.1**
PTK				*e*SG	**Sb**	**18 45 32.9**	**+0.6**
PTK	**Pertek**	**0.94**	**144**	*e*Pg	**Pb**	**18 45 19.8**	**+0.1**
PTK				*e*Sg	**Sb**	**18 45 32.9**	**+0.6**
GUMT	**Gumushane**	**1.02**	**37**	*e*PG	**Pg**	**18 45 20.4**	**-0.5**
GUMT	**Gumushane**	**1.02**	**37**	*e*Pg	**Pg**	**18 45 20.4**	**-0.5**
ELZG	**Elazig**	**1.18**	**168**	*i* P	**Pb**	**18 45 23.4**	**-0.3**
ELZG				*i* S	**Sn**	**18 45 39.8**	**+0.1**
ELZG	**Elazig**	**1.18**	**168**	P	**Pb**	**18 45 23.4**	**-0.3**
ELZG				S	**Sn**	**18 45 39.8**	**-0.1**
SVRC	**Sivrice-ELAZID**	**1.36**	**159**	*e*PN	**Pn**	**18 45 26.4**	**0.0**
SVRC	**Sivrice-ELAZID**	**1.36**	**159**	*e*Pn	**Pn**	**18 45 26.4**	**0.0**

SOME 23 18:56:04.8, 41.12N×82.25E, h0km, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SATY	**Saty**	**3.46**	**305**	*e*P	Pg	18 57 10.3	-0.7
	5.0nm,0.3s						
SATY				*e*S	Sg	18 57 57.5	+1.6
	9.3nm,0.3s						
KPKS	**Kokpek**	**3.54**	**313**	*e*P	Pb	18 57 09.0	+0.7
	7.7nm,0.4s						
KPKS				*e*S	Sg	18 57 55.4	-3.0
	21nm,0.3s						
DJR	**Jarkent**	**3.69**	**331**	*e*P	Pb	18 57 13.1	+2.2
	2.0nm,0.4s						
DJR				*e*S	Sg	18 58 02.3	-1.0
	5.4nm,0.5s						
KURS	**Kuram**	**3.84**	**309**	*e*P	Pb	18 57 14.8	+1.3
	2.0nm,0.4s						
KURS				*e*S	Sg	18 58 05.4	-2.9
	2.4nm,0.5s						
MDOK	**Medeo**	**4.38**	**300**	*e*P	Pg	18 57 25.8	-2.9
	1.2nm,0.5s						
MDOK				*e*S	Sg	18 58 24.2	-1.1
	4.4nm,0.9s						
TNSS	**Tian-Shan**	**4.39**	**298**	*e*P	Pg	18 57 26.9	-2.0
	1.7nm,0.4s						
TNSS				*e*S	Sg	18 58 26.0	+0.2
	3.1nm,0.5s						
KAPS	**Kapalarasan**	**4.67**	**334**	*e*P	Pb	18 57 30.5	+2.9
	1.3nm,0.3s						
KAPS				*e*S	Sg	18 58 32.1	-2.7
	2.8nm,0.2s						

JSN 23 18:58:41.2±0.8, 18.07N×78.02W, h4km±21km, MD3.6, 1C-4D, Jamaica region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MCJ	**Malvern**	**0.34**	**114**	⇓*i*P	Pg	18 58 48.4	+0.5
MCJ				*i* S	Sg	18 58 52.2	-0.2
MBJ	**Montego Bay**	**0.37**	**24**	*i* P	Pg	18 58 47.9	-0.4
MBJ				*i* S	Sg	18 58 53.2	+0.1
BBJ	**Bamboo Saint A**	**0.78**	**66**	⇓*i*P	Pg	18 58 55.2	-1.0
BNJ	**Bonny Gate**	**1.04**	**76**	⇑*i*P	Pg	18 58 59.7	-1.5
STH	**Stony Hill**	**1.15**	**89**	⇓*i*P	Pg	18 59 01.3	-2.0
STH				*i* S	Sg	18 59 16.9	-1.3
HOJ	**Hope**	**1.21**	**93**	⇓*i*P	Pg	18 59 02.5	-1.9

*NNC **23** 18:59:18.0±4.2, 37.13N×70.89E, h0km, mb3.8, mpv3.5, Error ellipse: s-maj=39.2km s-min=30.6km az=107.0*
ISC 23 18:59:09.8±2.4, 36.4N±0.1×71.1E±0.2, h100km, n10, σ1§98/13, 4D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MNAS	**Manas**	**6.21**	**10**	⇓Pn	**Pn**	**19 00 41.7**	**+2.6**
	1.1nm,0.4s						
MNAS				⇓Sn	**Sn**	**19 01 46.7**	**-2.1**
	6.0nm,0.5s						
KK31	**Karatay Array**	**6.75**	**356**	Pn	**Pn**	**19 00 48.0**	**+1.8**
	1.5nm,0.3s,baz=182,slow=14,SNR=41						
KK31				Sn	**Sn**	**19 01 58.2**	**-3.3**
	1.5nm,0.3s,baz=184,slow=21,SNR=6.3						
AAK	**Ala-Archa**	**6.80**	**22**	⇓Pn	**Pn**	**19 00 49.7**	**+2.7**
	2.9nm,0.4s						
AAK				⇓Sn	**Sn**	**19 02 02.0**	**-1.0**
	12nm,1.1s						
PYUN	**Piuthan**	**13.01**	**126**	*e*P	**Pn**	**19 02 10.5**	**-0.4**
	22nm,0.4s						
KOLN	**Koldanda**	**13.62**	**125**	*e*P	**Pn**	**19 02 18.4**	**-0.6**
	8.4nm,0.5s						
GKN	**Gorkha**	**14.17**	**122**	*e*P	**Pn**	**19 02 25.5**	**-0.5**
	16nm,0.6s						
DMN	**Daman**	**14.74**	**122**	*e*P	**Pn**	**19 02 32.6**	**-0.9**
	6.9nm,0.5s						
KKN	**Kakani**	**14.74**	**121**	*e*P	**Pn**	**19 02 32.7**	**-0.8**
	3.8nm,0.4s						
PKIN	**Phulchoki**	**14.96**	**122**	*e*P	**Pn**	**19 02 35.0**	**-1.2**
	4.7nm,0.4s						
PKI	**Pulchoki**	**14.97**	**122**	*e*P	**Pn**	**19 02 35.1**	**-1.4**

*ISCJB **23** 19:00:18.9±1.1, 20.5S±0.2×178.6W±0.2, h587km, mb3.6/9, Error ellipse: s-maj=29.3km s-min=18.8km az=33.9*
*IDC **23** 19:00:20.4±3.0, 20.44S×178.75W, h585km±31km, mb3.2/9, mb1 3.4/10, mb1mx3.2/28, mbtmp4.1/10, Error ellipse: s-maj=27.6km s-min=19.1km az=101.0*
ISC 23 19:00:20.3±1.1, 20.4S±0.2×178.7W±0.2, h587km, n14, σ0§46/16, mb3.7/9, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**13.94**	**261**	P	**P**	**19 03 19.0**	**+0.1**
	0.3nm,0.3s,baz=93,slow=18,SNR=4.0						
STKA	**Stephens Creek**	**37.22**	**244**	P	**P**	**19 06 43.1**	**0.0**
	1.3nm,0.8s,baz=75,slow=10,SNR=4.5						
ASAR	**Alice Springs**	**43.89**	**257**	P	**P**	**19 07 36.0**	**-0.2**
	2.7nm,0.5s,baz=95,slow=7.5,SNR=87						
ASAR				PcP	**PcP**	**19 09 08.9**	**-0.3**
	0.2nm,0.6s,baz=98,slow=3.9,SNR=4.9						
ASAR				ScP	**ScP**	**19 12 05.5**	**-0.1**
	0.2nm,0.5s,baz=105,slow=4.4,SNR=6.8						
WRA	**Warramunga Arr**	**43.95**	**262**	P	**P**	**19 07 36.1**	**-0.7**
	1.6nm,0.3s,baz=97,slow=7.6,SNR=89						
VNDA	**Vanda**	**57.91**	**185**	P	**P**	**19 09 17.1**	**+0.4**
	0.5nm,0.5s,baz=4.0,slow=6.7,SNR=8.4						
MJAR	**Matsushiro Arr**	**69.77**	**324**	P	**P**	**19 10 32.8**	**+0.2**
	1.5nm,0.6s,baz=156,slow=5.8,SNR=7.0						
PETK	**Petropavlovsk-**	**76.05**	**346**	P	**P**	**19 11 08.5**	**+0.5**
	1.8nm,0.7s,baz=140,slow=3.6,SNR=5.9						
KSRS	**Korea Array**	**76.41**	**319**	P	**P**	**19 11 10.9**	**+0.6**
	1.2nm,0.8s,baz=124,slow=4.8,SNR=4.6						
ILAR	**Eielson Array**	**88.41**	**13**	P	**P**	**19 12 09.8**	**-0.3**
	1.0nm,0.7s,baz=222,slow=6.3,SNR=7.9						
CMAR	**Chiang Mai Arr**	**89.47**	**290**	P	**P**	**19 12 16.8**	**+0.6**
	0.5nm,0.6s,baz=141,slow=1.5,SNR=6.1						
AKASG	**Malin Array Be**	**142.64**	**331**	PKhKP	PKPpre	19 18 43.2	
	2.4nm,0.3s,baz=42,slow=4.4,SNR=15						
BRTR	**Keskin Array B**	**146.31**	**312**	PKPbc	**PKPbc**	**19 18 55.7**	**-0.7**
	0.9nm,0.5s,baz=153,slow=3.8,SNR=6.0						
CLL	**Collm**	**147.85**	**346**	*i* PKPbc	**PKPbc**	**19 18 59.8**	**-0.1**
	comp=Z,6.0nm,0.8s						
CLL				*i* PKPab	**PKPab**	**19 19 04.0**	**-0.6**
	comp=Z,3.0nm,0.7s						
GERES	**GERESS Array B**	**149.96**	**344**	PKPbc	**PKPbc**	**19 19 05.0**	**-0.3**
	comp=Z,0.5nm,0.6s,baz=5.0,slow=3.1,SNR=6.2						

*NEIC **23** 19:01:37.3±0.0, 43.58S×172.64E, h8km, ML4.0(WEL), After WEL.*
WEL 23 19:01:37.5±0.1, 43.58S×172.64E, h6km, ML3.9/26, Mw3.6, 3C-6D, Error ellipse: s-maj=0.7km s-min=0.5km az=90.0, South Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CRLZ	**Canterbury Las**	**0.01**	**308**	Pg	Pg	19 01 38.2	-0.3
CRLZ				Sg	Sg	19 01 38.9	-0.4
CRLZ	**Canterbury Las**	**0.01**	**308**	⇓PG	Pg	19 01 38.2	-0.3
CRLZ				SG	Sg	19 01 38.9	-0.4
CRLZ				AML	AML	19 01 38.9	
CRLZ				AML	AML	19 01 39.0	
CRLZ				AML	AML	19 01 39.0	
MQZ	**McQueen's Vall**	**0.12**	**175**	⇓Pg	Pg	19 01 40.3	+0.2
MQZ				Sg	Sg	19 01 42.4	+0.6
MQZ	**McQueen's Vall**	**0.12**	**175**	⇓PG	Pg	19 01 40.3	+0.2
MQZ				SG	Sg	19 01 42.4	+0.6
MQZ				AML	AML	19 01 42.4	
OXZ	**Oxford**	**0.51**	**300**	P*	Pg	19 01 47.3	0.0
OXZ	**Oxford**	**0.51**	**300**	PG	Pg	19 01 47.3	0.0
OXZ				AML	AML	19 01 55.1	
OXZ				AML	AML	19 01 55.4	
LTZ	**Lake Taylor**	**0.84**	**341**	P*	Pg	19 01 54.0	+0.3
LTZ	**Lake Taylor**	**0.84**	**341**	⇓P*	Pg	19 01 54.0	+0.3
LTZ				AML	AML	19 02 07.0	
RPZ	**Rata Peaks**	**1.16**	**263**	P*	Pg	19 01 58.7	-1.0
RPZ	**Rata Peaks**	**1.16**	**263**	⇓P*	Pg	19 01 58.7	-1.0
RPZ				AML	AML	19 02 19.9	
RPZ				AML	AML	19 02 20.8	
INZ	**Inchbonnie**	**1.23**	**314**	P*	Pg	19 01 59.4	-1.6
KHZ	**Kahutara**	**1.34**	**30**	Pn	Pn	19 02 00.9	-1.8
KHZ	**Kahutara**	**1.34**	**30**	PN	Pn	19 02 00.9	-1.8
KHZ				AML	AML	19 02 20.1	
KHZ				AML	AML	19 02 29.8	
WVZ	**Waitaha Valley**	**1.48**	**289**	Pn	Pn	19 02 03.6	-1.0
WVZ	**Waitaha Valley**	**1.48**	**289**	PN	Pn	19 02 03.6	-1.0
WVZ				AML	AML	19 02 29.4	
WVZ				AML	AML	19 02 37.2	
THZ	**Tophouse**	**1.83**	**6**	Pn	Pn	19 02 08.0	-1.6
THZ	**Tophouse**	**1.83**	**6**	⇑PN	Pn	19 02 08.0	-1.6
THZ				AML	AML	19 02 41.5	
THZ				AML	AML	19 02 44.6	
DSZ	**Denniston Nort**	**1.94**	**341**	Pn	Pn	19 02 09.7	-1.2
DSZ	**Denniston Nort**	**1.94**	**341**	⇓PN	Pn	19 02 09.7	-1.2
DSZ				AML	AML	19 02 38.6	
DSZ				AML	AML	19 02 38.9	
LBZ	**Lake Benmore**	**1.94**	**245**	Pn	Pn	19 02 10.1	-0.9
LBZ	**Lake Benmore**	**1.94**	**245**	PN	Pn	19 02 10.1	-0.9
LBZ				AML	AML	19 02 47.3	
LBZ				AML	AML	19 02 47.3	
LBZ				AML	AML	19 02 50.1	
LBZ				AML	AML	19 02 50.1	
ODZ	**Otahua Downs**	**2.04**	**224**	Pn	Pn	19 02 11.0	-1.4
ODZ	**Otahua Downs**	**2.04**	**224**	PN	Pn	19 02 11.0	-1.4
ODZ				AML	AML	19 02 43.2	
ODZ				AML	AML	19 02 53.9	
FOZ	**Fox Glacier**	**2.05**	**270**	Pn	Pn	19 02 12.5	0.0
FOZ	**Fox Glacier**	**2.05**	**270**	PN	Pn	19 02 12.5	0.0
FOZ				AML	AML	19 02 50.2	
FOZ				AML	AML	19 02 58.2	
BSWZ	**Blackbirch Sta**	**2.08**	**26**	Pn	Pn	19 02 11.4	-1.4
BSWZ	**Blackbirch Sta**	**2.08**	**26**	PN	Pn	19 02 11.4	-1.4
BSWZ				AML	AML	19 02 53.5	
BSWZ				AML	AML	19 03 04.3	
TUWZ	**Tuamarina**	**2.36**	**25**	Pn	Pn	19 02 15.1	-1.6
TUWZ	**Tuamarina**	**2.36**	**25**	AML	AML	19 02 56.4	
NNZ	**Nelson**	**2.43**	**13**	Pn	Pn	19 02 16.6	-1.0
NNZ	**Nelson**	**2.43**	**13**	⇑PN	Pn	19 02 16.6	-1.0
NNZ				AML	AML	19 03 05.6	
TCW	**Tory Channel**	**2.66**	**28**	Pn	Pn	19 02 18.9	-2.0
TCW	**Tory Channel**	**2.66**	**28**	PN	Pn	19 02 18.9	-2.0
TCW				AML	AML	19 02 53.5	
HHSZ	**Highcliff Hill**	**2.72**	**212**	Pn	Pn	19 02 20.4	-1.3
HHSZ	**Highcliff Hill**	**2.72**	**212**	*e*PN	Pn	19 02 20.2	-1.5
HHSZ				AML	AML	19 03 09.8	
HHSZ				AML	AML	19 03 10.1	
QRZ	**Quartze Range**	**2.76**	**358**	Pn	Pn	19 02 20.9	-1.3
QRZ	**Quartz Range**	**2.76**	**358**	PN	Pn	19 02 20.9	-1.3
QRZ				AML	AML	19 03 06.4	
QRZ				AML	AML	19 03 06.4	
QRZ				AML	AML	19 03 06.4	
QRZ				AML	AML	19 03 06.4	
JCZ	**Jackson Bay**	**2.83**	**259**	Pn	Pn	19 02 23.2	-0.1
JCZ	**Jackson Bay**	**2.83**	**259**	PN	Pn	19 02 23.2	-0.1
JCZ				AML	AML	19 03 17.9	
JCZ				AML	AML	19 03 21.4	
WKZ	**Wanaka**	**2.88**	**243**	Pn	Pn	19 02 24.3	+0.3
WKZ	**Wanaka**	**2.88**	**243**	PN	Pn	19 02 24.3	+0.3
WKZ				AML	AML	19 03 14.6	
WKZ				AML	AML	19 03 17.2	
EAZ	**Earnscleugh**	**2.90**	**234**	Pn	Pn	19 02 22.9	-1.2
EAZ	**Earnscleugh**	**2.90**	**234**	PN	Pn	19 02 22.9	-1.2
EAZ				AML	AML	19 03 11.6	
EAZ				AML	AML	19 03 13.0	
EAZ				AML	AML	19 03 13.3	
EAZ				AML	AML	19 03 18.9	
TUZ	**Tuapeka**	**3.19**	**221**	Pn	Pn	19 02 26.8	-1.4
TUZ	**Tuapeka**	**3.19**	**221**	⇑PN	Pn	19 02 26.8	-1.4
TUZ				AML	AML	19 03 26.6	
TUZ				AML	AML	19 03 26.6	
TUZ				AML	AML	19 03 29.4	
TUZ				AML	AML	19 03 29.5	
MTW	**Mount Morrison**	**3.22**	**42**	Pn	Pn	19 02 25.8	-2.7
MTW	**Mount Morrison**	**3.22**	**42**	PN	Pn	19 02 25.8	-2.7
MSZ	**Milford Sound**	**3.56**	**251**	AML	AML	19 03 39.8	
MSZ				AML	AML	19 03 41.5	
MRZ	**Mangatainoka R**	**3.65**	**38**	Pn	Pn	19 02 32.0	-2.5
MRZ	**Mangatainoka R**	**3.65**	**38**	PN	Pn	19 02 32.0	-2.5
MRZ				AML	AML	19 03 15.8	
MRZ				AML	AML	19 03 17.3	
MLZ	**Mavora Lakes**	**3.69**	**240**	Pn	Pn	19 02 33.9	-1.2
MLZ	**Mavora Lakes**	**3.69**	**240**	PN	Pn	19 02 33.9	-1.2
MLZ				AML	AML	19 03 42.9	
MLZ				AML	AML	19 03 45.2	
SYZ	**Scrubby Hill**	**3.86**	**219**	Pn	Pn	19 02 36.4	-0.9
SYZ	**Scrubby Hill**	**3.86**	**219**	PN	Pn	19 02 36.4	-0.9
SYZ				AML	AML	19 03 49.3	
SYZ				AML	AML	19 03 52.0	
BFZ	**Birch Farm**	**3.95**	**44**	Pn	Pn	19 02 36.0	-2.7
BFZ	**Birch Farm**	**3.95**	**44**	PN	Pn	19 02 35.9	-2.7
PREZ	**Palmer Road**	**4.39**	**16**	Pn	Pn	19 02 45.3	+0.6
PREZ	**Palmer Road**	**4.39**	**16**	PN	Pn	19 02 45.3	+0.6
KHEZ	**Kahui Hut**	**4.41**	**14**	Pn	Pn	19 02 45.9	+1.0
KHEZ	**Kahui Hut**	**4.41**	**14**	PN	Pn	19 02 45.9	+1.0

*IDC **23** 19:02:46.9±0.6, 9.00S×109.65W, h0km, mb4.7/16, mb1 4.8/16, mb1mx4.7/28, mbtmp4.7/16, MS5.3/28, Ms1 5.4/28, ms1mx5.3/33, Error ellipse: s-maj=21.4km s-min=13.7km az=63.0*
*ISCJB **23** 19:02:47.9±0.3, 9.02S±0.03×109.50W±0.04, h20km, mb5.3/168, MS5.5/217, Error ellipse: s-maj=6.1km s-min=4.4km az=146.8*
*MOS **23** 19:02:47.8±1.3, 8.95S×109.37W, h10km, mb5.4/53, MS5.3/15, Error ellipse: s-maj=17.0km s-min=6.1km az=90.0*
*NEIC **23** 19:02:48.2±0.3, 9.05S×109.44W, h10km, mb5.4/156, MS5.5/161, MW5.8, MW5.9, Error ellipse: s-maj=9.1km s-min=5.5km az=67.0, Moment Tensor Solution. s40 Moment tensor: Scale 10¹⁷Nm; Mrr=0.44; Mθθ=-2.33; Mϕϕ=1.88; Mrθ=-0.90; Mrϕ=6.44; Mθϕ=0.64; Best double couple: Mw6.9000×10¹⁷ NP1:ϕ±171.00000°, δ84.00000°, λ-174.00000°. NP2:ϕ±81.00000°, δ84.00000°, λ-6.00000°. Principal axes: T 6.5500, Plg0.0000°, Azm126.0000°; N 0.6000, Plg82.0000°, Azm217.0000°; P -7.1600, Plg8.0000°, Azm36.0000°;*
*GCMT **23** 19:02:48.2±0.1, 9.07S×109.66W, h16km, MW5.9/141, Moment Tensor Solution. s117, c231; s141, c416; Duration: 29s1 Moment tensor: Scale 10¹⁷Nm; Mrr=0.35±.06; Mθθ=-2.63±.06; Mϕϕ=2.28±.07; Mrθ=-1.40±.17; Mθϕ=6.88±.06; Mrϕ=0.78±.19; Best double couple: Mw7.46300×10¹⁷ NP1:ϕ±80.00000°, δ83.00000°, λ-9.00000°. NP2:ϕ±171.00000°, δ81.00000°, λ-173.00000°. Principal axes: T 7.1340, Plg1.0000°, Azm125.0000°; N 0.6610, Plg79.0000°, Azm223.0000°; P -7.7910, Plg11.0000°, Azm35.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*
*NEIC **23** 19:02:48.0±0.0, 9.15S×109.42W, h9km, Moment Tensor Solution. s47 Moment tensor: Scale 10¹⁷Nm; Mrr=1.39; Mθθ=-3.30; Mϕϕ 1.91; Mrθ=-0.61; Mθϕ=6.45; Mrϕ=4.07; Best double couple: Mw8.20000×10¹⁷ NP1:ϕ±346.00000°, δ83.00000°, λ148.00000°. NP2:ϕ±81.00000°, δ58.00000°, λ8.00000°. Principal axes: T 7.8100, Plg27.0000°, Azm298.0000°; N 0.6700, Plg57.0000°, Azm155.0000°; P -8.4800, Plg16.0000°, Azm37.0000°;*
*BJI **23** 19:02:48.9, 9.10S×109.50W, h10km, mB5.5/32, Ms5.9/31, Ms7 5.7/36*
ISC 23 19:02:49.8±0.3, 9.16S±0.06×109.55W±0.06, h20km, n1005, σ1§68/851, mb5.3/168, MS5.5/218, 3C-2D, Central East Pacific Rise

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RPN	**Rapa Nui**	**17.88**	**179**	LR	LR	19 11 55.8	
	comp=Z,9μm,18.7s,baz=358,slow=30						

comp=Z,2µm,19.4s,baz=252,slow=32
ROSC El Rosal 37.77 70 *e*P P 19 10 19.1 +14
933A Laredo 37.88 15 P **P** 19 10 05.9 +0.3
baz=196,SNR=5.3
HSIG 37.98 358 *e*P **P** 19 10 07.0 +0.6
comp=Z,147nm,1.6s
934A Benavides 38.07 16 P **P** 19 10 06.6 -0.6
baz=198
VILC Villavicencio, 38.10 71 *e*P **P** 19 10 10.1 +2.2
MOTC Monteria, Cord 38.16 63 *e*P **P** 19 10 09.5 +1.3
KVTX Kingsville 38.19 17 PFAKE 19 10 20.0 +12
KVTX LR LR
comp=Z,10µm,19.0s
CHIC Chingaza 38.24 70 *e*P **P** 19 10 09.5 +0.1
936A North Padre Is 38.25 18 P **P** 19 10 07.9 -0.8
baz=200
ZARC Zaragoza, Cauc 38.32 66 *e*P **P** 19 10 09.5 -0.1
832A Faith Ranch, C 38.35 14 P **P** 19 10 08.4 -1.2
baz=195
833A Chaparral WMA, 38.53 14 P **P** 19 10 10.9 -0.2
baz=196,SNR=8.0
834A Tilden 38.56 16 P **P** 19 10 11.0 -0.4
baz=197
GUVC San Jose del G 38.59 74 *e*P **P** 19 10 12.4 +0.5
TX31 Lajitas Ar. Si 38.68 8 *e*P **P** 19 10 11.8 -0.7
TX31 *e*P **pP** 19 10 12.3 -6.4
TXAR Lajitas Array 38.68 8 P **P** 19 10 11.7 -0.8
comp=Z,10nm,1.0s,baz=190,slow=11,SNR=28
TXAR PcP **PcP** 19 12 24.9 +0.5
comp=Z,4.1nm,1.0s,baz=178,slow=5.1,SNR=5.3
TXAR LR LR 19 23 18.7
comp=Z,3µm,18.2s,baz=0.0,slow=32
TXAR Lajitas Array 38.68 8 P **P** 19 10 11.7 -0.8
TXAR 19 12 24.9
TXAR pmax pmax
comp=Z,10.0nm,1.0s
TXAR MLR MLR
comp=Z,3µm,18.2s
835A Beeville 38.91 17 P **P** 19 10 14.2 -0.1
baz=198
733A Divot King Ran 38.94 14 P **P** 19 10 14.0 -0.4
baz=196
SJCC San Jacinto, C 39.10 62 *e*P **P** 19 10 19.1 +2.9
BRRC Barranca, Sant 39.20 67 *e*P **P** 19 10 17.4 +0.5
734A La Parita Cree 39.24 15 P **P** 19 10 16.6 -0.5
baz=197
RUSC La Rusia 39.30 69 *e*P **P** 19 10 19.1 +0.7
RUSC La Rusia 39.30 69 *e*P **P** 19 10 18.6 +0.2
comp=Z,26nm,1.3s
735A Kenedy 39.45 16 P **P** 19 10 19.1 +0.3
baz=198
BARC Barichara 39.48 68 *e*P **P** 19 10 22.0 +2.4
633A Saathoff Ranch 39.67 14 P **P** 19 10 20.0 -0.7
baz=196,SNR=5.4
YOPC Yopal, Colombi 39.72 70 *e*P **P** 19 10 25.9 +4.5
PPT Papeete 39.76 254 LR LR 19 22 33.7
comp=Z,3µm,18.7s,baz=83,slow=30
736A Circle Diamond 39.76 17 P **P** 19 10 21.3 -0.1
baz=199
PPT2 Papeete2 39.76 254 *e*S **S** 19 16 21.0 -4.0
comp=Z,4µm,27.0s
PPT2 *e*LQ LQ 19 19 28.6
comp=Z,31µm,29.0s
PPT2 *e*LR LR 19 21 22.0
comp=Z,6µm,24.0s,baz=77
737A Port Lavaca 39.77 18 P **P** 19 10 20.4 -1.0
baz=200
634A China Grove, S 39.81 15 P **P** 19 10 21.4 -0.3
baz=197
PB11 IPOC Station P 39.95 110 *e*P **P** 19 10 24.1 +0.7
comp=Z,55nm,1.1s
635A Leesville 39.97 16 P **P** 19 10 22.1 -0.9
baz=198
PB04 IPOC Station P 39.99 114 *e*P **P** 19 10 24.8 +1.1
comp=Z,151nm,1.2s
OCAC Ocana 40.02 65 *e*P **P** 19 10 24.2 +0.3
738A Farr-Stevens R 40.09 19 P **P** 19 10 23.1 -1.0
baz=201
636A Smothers Creek 40.26 17 P **P** 19 10 25.1 -0.3
baz=199,SNR=6.5
533A Kerrville 40.29 14 P **P** 19 10 25.4 -0.5
baz=196
PB01 IPOC Station P 40.33 112 *e*P **P** 19 10 27.1 +0.7
comp=Z,103nm,1.1s
534A Blanco 40.39 15 P **P** 19 10 26.2 -0.5
baz=197
637A Eagle Lake 40.43 18 P **P** 19 10 26.1 -0.8
baz=200
JCT Junction City 40.51 13 P **P** 19 10 26.8 -0.8
baz=195,SNR=7.1
JCT Junction City 40.51 13 *e*P **P** 19 10 28.3 +0.7
JCT pmax pmax
comp=Z,150nm,1.9s
JCT Junction City 40.51 13 *e*P **P** 19 10 26.8 -0.8
comp=Z,151nm,1.9s
JCT LR LR
comp=Z,9µm,21.0s
535A Dale 40.63 16 P **P** 19 10 27.8 -0.8
baz=198
638A Rosharon 40.69 19 P **P** 19 10 29.1 0.0
baz=201
536A Bastrop 40.81 17 P **P** 19 10 29.3 -0.8
baz=199
MNTX Cornudas Mount 40.82 5 P **P** 19 10 29.8 -0.3
baz=186,SNR=58
MNTX Cornudas Mount 40.82 5 *e*P **P** 19 10 27.7 -2.4
comp=Z,52nm,1.2s
MNTX LR LR
comp=Z,3µm,19.0s
433A Art 40.93 14 P **P** 19 10 29.9 -1.2
baz=196,SNR=12
LPAZ La Paz 40.96 104 P **P** 19 10 33.7 +1.4
comp=Z,10nm,0.7s,baz=293,slow=6.5,SNR=29
LPAZ LR LR 19 23 44.0
comp=Z,8µm,20.0s,baz=263,slow=31
LPAZ La Paz 40.96 104 *e*P **P** 19 10 33.6 +1.3
LPAZ pmax pmax
comp=Z,36nm,1.0s
LPAZ La Paz 40.96 104 *e*P **P** 19 10 33.6 +1.3
comp=Z,36nm,1.0s
214A Organ Pipe Nat 41.00 356 P **P** 19 10 31.7 +0.1
baz=175,SNR=20
214A Organ Pipe Nat 41.00 356 *e*P **P** 19 10 30.0 -1.6
comp=Z,137nm,1.3s
537A Green Hill Far 41.04 18 P **P** 19 10 30.8 -1.1
baz=200
LVC Limon Verde 41.17 114 P **P** 19 10 35.4 +1.7
comp=Z,21nm,0.7s,baz=265,slow=6.1,SNR=19
LVC LR LR 19 23 07.6
comp=Z,38µm,19.6s,baz=288,slow=30
LVC Limon Verde 41.17 114 *e*P **P** 19 10 31.3 -2.3
comp=Z,189nm,1.8s
434A Burnet 41.19 15 P **P** 19 10 31.9 -1.3
baz=197,SNR=8.6
TUC Tucson 41.25 358 P **P** 19 10 31.9 -1.8
baz=178
TUC Tucson 41.25 358 *e*P **P** 19 10 33.3 -0.5
TUC pmax pmax
comp=Z,37nm,1.7s
TUC Tucson 41.25 358 *e*P P 19 10 25.7 -8.1
comp=Z,37nm,1.8s
TUC LR LR
comp=Z,5µm,21.0s
435B Jarrell 41.34 16 P **P** 19 10 32.7 -1.7
baz=198
538A Harpers Horsep 41.42 19 P **P** 19 10 34.1 -0.9
baz=201
LCO Las Campanas 41.43 124 *e*P **P** 19 10 32.9 -2.7
comp=Z,90nm,1.2s
LCO LR LR
comp=Z,13µm,21.0s
121A Cookes Peak, D 41.49 2 P **P** 19 10 35.7 -0.1
baz=182
121A Cookes Peak, D 41.49 2 *e*P **P** 19 10 31.8 -4.0
comp=Z,25nm,0.9s
333A Richland Sprin 41.51 14 P **P** 19 10 34.8 -1.0
baz=196,SNR=72
436A Wall Ranch, Ga 41.54 17 P **P** 19 10 34.9 -1.2
baz=199
539A Cross D Ranch, 41.56 20 P **P** 19 10 34.6 -1.6
baz=202
334A Lometa 41.69 15 P **P** 19 10 36.4 -0.9
baz=197,SNR=40
MTDJ Mount Denham 41.70 49 *e*P **P** 19 10 34.2 -3.6
comp=Z,147nm,1.2s
MTDJ LR LR
comp=Z,6µm,21.0s

437A Phantom Ranch, 41.79 17 P **P** 19 10 37.7 -0.4
baz=200
335A Moody 41.85 16 P **P** 19 10 38.0 -0.7
baz=198,SNR=13
113A Mohawk Valley, 41.88 355 *e*P **P** 19 10 38.6 -0.2
comp=Z,108nm,1.8s
540A Vidor 41.91 20 P **P** 19 10 39.1 0.0
baz=203
438A Sam Houston St 41.92 18 P **P** 19 10 39.2 +0.1
baz=201,SNR=6.3
IKP In-Ko-Pah, Jac 42.04 352 P **P** 19 10 40.6 +0.4
baz=170,SNR=20
541A Lake Charles 42.05 21 P **P** 19 10 39.5 -0.7
baz=204
336A Riesel 42.11 16 P **P** 19 10 40.2 -0.5
baz=199
BAR Barrett 42.15 351 *e*P **P** 19 10 42.1 +1.0
comp=Z,44nm,1.3s
439A Center Grove, 42.18 19 P **P** 19 10 41.3 0.0
baz=202,SNR=5.2
233A Rising Star 42.19 14 P **P** 19 10 40.4 -1.0
baz=196,SNR=8.4
GLA Glamis 42.27 353 P **P** 19 10 41.9 -0.1
baz=172
GLA Glamis 42.27 353 *e*P **P** 19 10 42.9 +0.8
GLA pmax pmax
comp=Z,34nm,1.3s
GLA Glamis 42.27 353 *e*P **P** 19 10 42.9 +0.8
comp=Z,34nm,1.3s
SWSC Sam W. Stewart 42.29 352 P **P** 19 10 42.7 +0.5
baz=171,SNR=10
337A Centerville 42.32 17 P **P** 19 10 42.0 -0.4
baz=200,SNR=5.5
MONP Monument Peak, 42.32 351 P **P** 19 10 43.6 +0.9
baz=170,SNR=15
542A Morse 42.34 22 P **P** 19 10 41.8 -0.8
baz=205
234A Clairette 42.36 14 P **P** 19 10 41.9 -0.9
baz=197,SNR=13
440A Kirbyville 42.40 20 P **P** 19 10 42.5 -0.6
baz=203
109C Camp Elliot, M 42.42 351 P **P** 19 10 43.8 +0.5
baz=169
645A Chauvin 42.51 25 P **P** 19 10 43.4 -0.6
baz=208
WHTX Lake Whitney, 42.52 15 P **P** 19 10 43.2 -0.9
baz=198,SNR=7.6
WHTX Lake Whitney, 42.52 15 *e*P **P** 19 10 41.4 -2.6
comp=Z,66nm,1.2s
338A Crockett 42.53 18 P **P** 19 10 43.5 -0.7
baz=201
543A St. Martinvill 42.57 23 P **P** 19 10 43.5 -0.9
baz=206
ABTX Abilene, Hawle 42.61 12 P **P** 19 10 43.3 -1.5
baz=194,SNR=9.9
ABTX Abilene, Hawle 42.61 12 *e*P **P** 19 10 42.1 -2.7
comp=Z,56nm,1.1s
441A DeRidder 42.67 21 P **P** 19 10 44.2 -1.1
baz=204
SDV Santo Domingo 42.70 66 *e*P **P** 19 10 43.2 -2.9
comp=Z,141nm,1.8s
SDV LR LR
comp=Z,2µm,20.0s
ROC1 El Roble 42.70 129 *e*P **P** 19 10 45.4 -0.5
comp=Z,66nm,0.6s
339A Huntington 42.75 19 P **P** 19 10 44.7 -1.2
baz=202
236A Katherine and 42.78 16 P **P** 19 10 45.5 -0.6
baz=199,SNR=5.9
544A White Castle 42.86 24 P **P** 19 10 46.3 -0.5
baz=207
442A Mamou 42.91 22 P **P** 19 10 47.4 +0.1
baz=205
GO05 HualaæØ 42.92 133 *e*P **P** 19 10 48.6 +1.2
comp=Z,114nm,1.1s
Y12C Blythe 42.93 354 P **P** 19 10 47.4 +0.1
baz=173
BC3 Big Chuckawall 42.94 353 P **P** 19 10 46.9 -0.7
baz=171,SNR=16
646A Port Sulphur 42.95 26 P **P** 19 10 47.5 -0.1
baz=209
Y14A Wickenburg 42.98 356 *e*P **P** 19 10 48.0 +0.2
comp=Z,151nm,1.4s
237A Washetta, Mont 42.98 17 P **P** 19 10 47.5 -0.3
baz=200
TPFO Pinon Flats 43.03 352 P **P** 19 10 47.9 -0.4
baz=170,SNR=13
PFO Pinyon Flats O 43.03 352 P **P** 19 10 48.5 +0.1
comp=Z,10nm,1.0s,baz=177,slow=9.0,SNR=8.4
PFO Pinyon Flats O 43.03 352 P **P** 19 10 48.2 -0.1
baz=170
PFO Pinyon Flats O 43.03 352 *e*P **P** 19 10 49.4 +1.0
PFO pmax pmax
comp=Z,19nm,1.1s
PFO Pinyon Flats O 43.03 352 *e*P **P** 19 10 46.5 -1.8
comp=Z,19nm,1.1s
PFO LR LR
comp=Z,3µm,20.0s
340A Bronson 43.04 20 P **P** 19 10 47.0 -1.3
baz=203
Y22D IRIS PASSCAL I 43.06 3 P **P** 19 10 48.7 +0.1
baz=184
545A Edgard 43.07 25 P **P** 19 10 46.9 -1.7
baz=208
NATX Nacogdoches 43.11 19 P **P** 19 10 48.5 -0.3
baz=202
NATX Nacogdoches 43.11 19 PFAKE 19 11 00.0 +11
NATX LR LR
comp=Z,4µm,22.0s
MURC Murrieta 43.13 351 P **P** 19 10 49.7 +0.6
baz=165
CIS Catalina Islan 43.15 349 P **P** 19 10 49.8 +0.6
baz=167
BNM Barren Site 43.16 4 *e*P **P** 19 10 49.4 -0.1
238A Jacksonville 43.19 18 P **P** 19 10 48.9 -0.5
baz=201
443A Delano Plantat 43.20 23 P **P** 19 10 49.2 -0.4
baz=206
341A Kurthwood 43.21 21 P **P** 19 10 49.2 -0.5
baz=204,SNR=7.5
SNCC San Nicolas Is 43.22 348 P **P** 19 10 49.6 -0.1
baz=165
136A Ennis 43.22 16 P **P** 19 10 49.4 -0.4
baz=199
BELC Belle Mtn. Jos 43.35 352 P **P** 19 10 51.8 +0.9
baz=171,SNR=10
MSTX Muleshoe 43.37 8 P **P** 19 10 49.8 -1.3
baz=190,SNR=16
MSTX Muleshoe 43.37 8 *e*P **P** 19 10 47.2 -3.8
comp=Z,72nm,1.3s
X16A Lo Mia Camp, P 43.37 358 *e*P **P** 19 10 51.5 +0.4
comp=Z,26nm,1.1s
LAZ Ladron 43.38 3 *e*P **P** 19 10 51.3 +0.1
IRM Iron Mountain 43.40 353 P **P** 19 10 52.0 +0.8
baz=172,SNR=15
239A Gary 43.41 19 P **P** 19 10 50.7 -0.5
baz=202
FMP Fort Macarthur 43.43 349 P **P** 19 10 49.7 -1.7
baz=167
PDMCI Parker Dam,Lak 43.44 354 P **P** 19 10 52.4 +1.0
baz=173
X18A Snowflake 43.45 360 *e*P **P** 19 10 53.1 +1.4
comp=Z,24nm,1.0s
342A Flagon Creek P 43.55 22 P **P** 19 10 52.4 0.0
baz=205
137A Heron Place, G 43.56 17 P **P** 19 10 52.0 -0.4
baz=200
546A Slidell 43.56 25 P **P** 19 10 52.1 -0.4
baz=209
444A Pine Grove 43.56 24 P **P** 19 10 52.7 +0.2
baz=207
240A Hunter Patters 43.66 20 P **P** 19 10 53.2 -0.1
baz=203
343A Vidalia 43.73 22 P **P** 19 10 53.7 -0.1
baz=206
445A Amite 43.74 24 P **P** 19 10 53.7 -0.2
baz=208
BFSC Mount Baldy Ra 43.84 350 P **P** 19 10 55.8 +1.0
baz=168,SNR=6.1
MWC Mount Wilson 43.89 350 *e*P **P** 19 10 56.0 +0.7
MWC pmax pmax
comp=Z,30nm,1.0s
MWC Mount Wilson 43.89 350 *e*P **P** 19 10 56.0 +0.7
comp=Z,30nm,1.0s
241A Mo Tay, Goldon 43.93 21 P **P** 19 10 55.6 +0.2
baz=204
NEE2 Needles Airpor 43.95 354 P **P** 19 10 56.2 +0.7
baz=173

ANMO Albuquerque 43.96 4 P **P** 19 10 55.9 0.0
comp=Z,6.5nm,1.1s,baz=171,slow=9.5,SNR=13
ANMO Albuquerque 43.96 4 P **P** 19 10 56.1 +0.2
baz=184
ANMO Albuquerque 43.96 4 *e*P **P** 19 10 56.5 +0.6
ANMO pmax pmax
comp=Z,22nm,1.1s
ANMO Albuquerque 43.96 4 *e*P P 19 10 51.0 -4.9
comp=Z,22nm,1.1s
ANMO LR LR
comp=Z,4µm,20.0s
BLG Laguna Peak, P 43.96 349 P **P** 19 10 56.2 +0.5
baz=166
BSC Santa Cruz Isl 43.97 348 P **P** 19 10 56.4 +0.6
baz=166
DECC Green Verdugo 43.97 350 P **P** 19 10 56.8 +1.0
baz=167
Z36A Blue Ridge 44.00 16 P **P** 19 10 56.0 0.0
baz=199
W18A Petrified Fore 44.03 360 P **P** 19 10 57.4 +1.0
baz=180,SNR=6.1
W18A Petrified Fore 44.03 360 *e*P **P** 19 10 52.7 -3.8
comp=Z,62nm,1.3s
139A Bunkhouse Ranc 44.04 18 P **P** 19 10 56.2 -0.1
baz=202
GMRC Granite Mounta 44.08 353 P **P** 19 10 57.7 +0.9
baz=171,SNR=9.4
Z37A Pogue Cattle C 44.16 17 P **P** 19 10 57.3 0.0
baz=200
446A Poplarville 44.19 25 P **P** 19 10 55.4 -2.1
baz=209
W13A Hualapai Mount 44.20 355 *e*P **P** 19 10 58.1 +0.2
comp=Z,82nm,1.6s
HEC Hector,Ludlow 44.21 352 P **P** 19 10 58.1 +0.3
baz=170
344A Westbrook Farm 44.22 23 P **P** 19 10 55.7 -2.1
baz=207
242A Grayson 44.23 21 P **P** 19 10 57.8 -0.1
baz=205
140A Cam and Jess, 44.27 19 P **P** 19 10 57.7 -0.5
baz=203
LDFC Landfair 44.31 353 *e*P **P** 19 11 00.0 +1.5
comp=Z,45nm,1.1s
243A Waterproof 44.31 22 P **P** 19 10 58.4 -0.1
baz=206
RRX Edison Barstow 44.35 351 P **P** 19 10 58.4 -0.5
baz=169
345A Thompson Farm, 44.37 24 P **P** 19 10 59.0 0.0
baz=208
OSI Osito Audit: C 44.39 349 P **P** 19 10 59.8 +0.6
baz=167
Z38A Mt. Pleasant 44.39 18 P **P** 19 10 58.7 -0.4
baz=201
SBC Santa Barbara 44.42 348 P **P** 19 10 58.8 -0.4
baz=166
AMTX Amarillo 44.43 9 P **P** 19 10 59.2 -0.4
baz=191
Y35A Marietta 44.44 15 P **P** 19 10 59.3 -0.2
baz=198,SNR=12
141A Papa Simpson, 44.46 20 P **P** 19 10 59.1 -0.6
baz=204
WUAZ Wupatki 44.46 358 P **P** 19 11 00.9 +1.0
baz=177,SNR=5.6
WUAZ Wupatki 44.46 358 *e*P **P** 19 10 56.5 -3.4
comp=Z,97nm,1.9s
WUAZ LR LR
comp=Z,1µm,21.0s
447A Lucedale 44.50 26 P **P** 19 11 00.6 +0.6
baz=210,SNR=5.7
EDW2 Edwards Air Fo 44.52 350 P **P** 19 11 00.6 +0.4
baz=168,SNR=14
GTBY Guantanamo Bay 44.55 49 PFAKE 19 11 10.0 +9.4
GTBY LR LR
comp=Z,6µm,20.0s
Z39A Irene McRaven, 44.63 18 P **P** 19 11 00.3 -0.8
baz=202
Y36A Durant 44.63 16 P **P** 19 11 00.8 -0.2
baz=199,SNR=21
346A Big Creek Wild 44.67 25 P **P** 19 11 00.7 -0.7
baz=209
GSC Goldstone, Bar 44.74 352 P **P** 19 11 02.6 +0.6
baz=170,SNR=13
GSC Goldstone, Bar 44.74 352 *e*P **P** 19 11 01.9 -0.1
GSC pmax pmax
comp=Z,28nm,1.1s
GSC Goldstone, Bar 44.74 352 *e*P **P** 19 11 01.9 -0.1
comp=Z,28nm,1.1s
142A Monroe 44.75 21 P **P** 19 11 01.8 -0.2
baz=205
TUQ Turquoise Moun 44.76 353 P **P** 19 11 01.9 -0.3
baz=171
244A Avery, Jackson 44.76 23 P **P** 19 11 01.7 -0.4
baz=207
WMOK Wichita Mounta 44.83 13 P **P** 19 11 02.1 -0.6
baz=195,SNR=9.3
WMOK Wichita Mounta 44.83 13 *e*P **P** 19 11 02.1 -0.6
WMOK pmax pmax
comp=Z,34nm,1.4s
WMOK Wichita Mounta 44.83 13 *e*P **P** 19 10 57.9 -4.7
comp=Z,34nm,1.4s
WMOK LR LR
comp=Z,7µm,21.0s
PKM Mcpherson Peak 44.87 348 P **P** 19 11 02.6 -0.5
baz=165
Y37A Hugo 44.89 16 P **P** 19 11 03.0 -0.1
baz=200,SNR=10
Z40A Long Farm, Mag 44.90 19 P **P** 19 11 02.6 -0.5
baz=203,SNR=10
X35A Drake 44.93 15 P **P** 19 11 02.3 -1.1
baz=198,SNR=17
448A Bay Minette 44.96 27 P **P** 19 11 03.3 -0.5
baz=211
VBMS Vicksburg 44.98 23 P **P** 19 11 03.4 -0.5
baz=207
LRMC Laurel Mtn Rad 45.05 351 P **P** 19 11 05.2 +0.7
baz=168
245A Little AP, Sta 45.06 24 P **P** 19 11 04.2 -0.3
baz=208,SNR=7.5
347A Saraland 45.07 26 P **P** 19 11 03.3 -1.3
baz=210
143A Socs Landing, 45.08 22 P **P** 19 11 03.6 -1.1
baz=206
Z41A Richland Creek 45.09 20 P **P** 19 11 04.3 -0.4
baz=204,SNR=7.9
Y38A Idabel 45.10 17 P **P** 19 11 03.9 -0.9
baz=201
X36A Centrahoma 45.25 15 P **P** 19 11 04.9 -1.1
baz=198,SNR=9.1
SHOC Shoshone, Teco 45.26 352 P **P** 19 11 05.9 -0.2
baz=170
Y39A Lockesburg 45.30 18 P **P** 19 11 05.8 -0.6
baz=202,SNR=5.4
348A Jackson 45.36 26 P **P** 19 11 06.3 -0.6
baz=211
ISA Isabella, Lake 45.37 350 P **P** 19 11 05.9 -1.0
baz=167
ISA Isabella, Lake 45.37 350 *e*P **P** 19 11 09.1 +2.1
ISA pmax pmax
comp=Z,30nm,1.3s
ISA Isabella, Lake 45.37 350 *e*P **P** 19 11 09.1 +2.1
comp=Z,30nm,1.4s
WLAR White Oak Lake 45.38 19 *e*P **P** 19 11 07.2 +0.2
comp=Z,129nm,1.3s
144A Alexander Plac 45.38 23 P **P** 19 11 06.1 -1.0
baz=207
Z42A Norrel Spur, H 45.40 21 P **P** 19 11 06.4 -0.8
baz=205
U15A North Rim 45.41 357 *e*P **P** 19 11 07.9 +0.3
comp=Z,79nm,1.9s
BRAL Brewton 45.53 27 PFAKE 19 11 20.0 +12
BRAL LR LR
comp=Z,3µm,19.0s
X37A Clayton 45.53 16 P **P** 19 11 07.2 -1.0
baz=200,SNR=6.5
145A Houston Renfro 45.55 23 P **P** 19 11 07.6 -0.7
baz=208
MPMC Manual Prospec 45.59 351 P **P** 19 11 09.5 +0.6
baz=169
Z43A Armstrong Fami 45.60 22 P **P** 19 11 08.0 -0.7
baz=206
247A Quitman 45.61 25 P **P** 19 11 08.3 -0.5
baz=209,SNR=5.7
Y40A Okolona 45.63 19 P **P** 19 11 07.7 -1.2
baz=203,SNR=7.6
VES Vestal, Richgr 45.65 349 P **P** 19 11 09.3 +0.2
baz=167
W35A Tecumseh 45.67 15 P **P** 19 11 08.1 -1.2
baz=197,SNR=10

SHPR	Sheep Range	45.72	354	eP		P		19 11 10.4	+0.5	
	comp=Z,66nm,1.4s									
Y41A	Eaglette Beard	45.73	20	P		P		19 11 08.8	-0.9	
	baz=204									
X38A	Whitesboro	45.76	17	P		P		19 11 08.9	-1.1	
	baz=200,SNR=28									
SAML	Samuel	45.77	94	eP		P		19 11 09.8	-0.6	
SAML	comp=Z,71nm,0.9s				LR	LR				
	comp=Z,3µm,19.0s									
PAGB	Antelope Grade	45.77	348	eP		P		19 11 10.8	+0.6	
	comp=Z,136nm,1.7s									
W36A	Wetumka	45.82	15	P		P		19 11 09.5	-0.9	
	baz=198,SNR=8.0									
X39A	Fountain Ranch	45.83	18	P		P		19 11 09.2	-1.4	
	baz=201,SNR=23									
FURC	Furnace Creek,	45.90	352	P		P		19 11 10.9	-0.1	
	baz=170									
146A	Union	45.93	24	P		P		19 11 10.7	-0.6	
	baz=209									
Z44A	Pea Ridge, Bel	45.96	22	P		P		19 11 10.7	-0.8	
	baz=207									
DWPF	Disney Wildern	45.96	35	P		P		19 11 06.3	-5.3	
	comp=Z,674nm,1.4s									
Y42A	Garnett, Star	45.97	21	P		P		19 11 11.0	-0.7	
	baz=205									
248A	Dixon Mills	46.01	26	P		P		19 11 10.7	-1.3	
	baz=210,SNR=5.8									
MIAR	Mount Ida	46.02	18	P		P		19 11 12.0	-0.1	
	baz=202,SNR=19									
MIAR	Mount Ida	46.02	18	eP		P		19 11 11.1	-1.0	
MIAR					pmax	pmax				
	comp=Z,41nm,1.0s									
MIAR	Mount Ida	46.02	18	eP		P		19 11 09.7	-2.3	
MIAR	comp=Z,41nm,1.0s				LR	LR				
	comp=Z,5µm,19.0s									
KNB	Kanab	46.03	356	eP		P		19 11 13.2	+0.9	
KNB					pmax	pmax				
	comp=Z,54nm,1.3s									
KNB	Kanab	46.03	356	eP		P		19 11 13.2	+0.9	
	comp=Z,54nm,1.3s									
W37B	Quinton	46.03	16	P		P		19 11 11.5	-0.7	
	baz=199,SNR=8.3									
LCMT	Little Creek M	46.05	356	eP		P		19 11 13.6	+1.1	
	comp=Z,22nm,1.3s									
RCTC	Rector, Farmer	46.13	349	P		P		19 11 13.2	+0.4	
	baz=167									
MVCO	Mesa Verde	46.13	1	P		P		19 11 13.7	+0.6	
	baz=181,SNR=5.4									
MVCO	Mesa Verde	46.13	1	eP		P		19 11 11.5	-1.7	
MVCO	comp=Z,81nm,1.4s				LR	LR				
	comp=Z,3µm,21.0s									
X40A	Basin Creek Fa	46.21	19	P		P		19 11 12.9	-0.6	
	baz=203,SNR=7.0									
W38A	Poteau	46.23	17	P		P		19 11 13.2	-0.5	
	baz=201,SNR=6.6									
V35A	Meyer Ranch, C	46.26	14	P		P		19 11 12.5	-1.4	
	baz=197,SNR=5.1									
147A	Livingston	46.29	25	P		P		19 11 13.4	-0.8	
	baz=210,SNR=6.6									
TPNV	Topopah Spring	46.29	353	P		P		19 11 13.8	-0.6	
	baz=171,SNR=10									
TPNV	Topopah Spring	46.29	353	eP		P		19 11 14.9	+0.6	
TPNV					pmax	pmax				
	comp=Z,130nm,2.0s									
TPNV	Topopah Spring	46.29	353	eP		P		19 11 14.9	+0.6	
	comp=Z,134nm,2.0s									
T25A	Trinidad	46.30	6	P		P		19 11 14.6	+0.1	
	baz=187,SNR=7.4									
X41A	Kaden, Bauxite	46.32	20	P		P		19 11 13.9	-0.5	
	baz=203									
Z45A	Winona	46.32	23	P		P		19 11 13.8	-0.6	
	baz=207									
Y43A	Makayla and Ka	46.34	22	P		P		19 11 14.9	+0.3	
	baz=206,SNR=5.6									
U32A	Winter Ranch,	46.37	12	P		P		19 11 14.1	-0.7	
	baz=194									
Z46A	Louisville	46.46	24	P		P		19 11 15.1	-0.5	
	baz=208									
GRAC	Grapevine Rang	46.49	351	P		P		19 11 15.2	-0.6	
	baz=169,SNR=5.9									
V36A	Jenks	46.51	15	P		P		19 11 15.2	-0.7	
	baz=198,SNR=8.9									
W39A	Magazine	46.56	18	P		P		19 11 16.2	-0.1	
	baz=202,SNR=18									
CCUT	Cedar City	46.60	356	eP		P		19 11 15.9	-0.9	
	comp=Z,12nm,0.9s									
SZCU	Shurtz Canyon	46.62	356	eP		P		19 11 18.4	+1.4	
	comp=Z,43nm,1.6s									
UALR	University of	46.63	20	eP		P		19 11 18.0	+1.2	
	comp=Z,120nm,1.4s									
Y44A	Strider, Charl	46.65	22	P		P		19 11 16.2	-0.8	
	baz=206									
TUL1	Leonard	46.66	15	P		P		19 11 17.0	-0.1	
	baz=199,SNR=5.3									
TUL1	Leonard	46.66	15	eP		P		19 11 15.7	-1.4	
	comp=Z,77nm,1.3s									
X42A	Stuttgart	46.67	20	P		P		19 11 16.9	-0.3	
	baz=204									
TIN	Tinemaha, Big	46.68	350	P		P		19 11 17.2	-0.2	
	baz=168									
PLCA	Paso Flores	46.70	139	P		P		19 11 19.2	+1.8	
	comp=Z,13nm,0.9s,baz=326,slow=9.1,SNR=14									
PLCA					LR	LR		19 26 17.1		
	comp=Z,11µm,18.2s,baz=327,slow=30									
PLCA	Paso Flores	46.70	139	eP		P		19 11 19.3	+1.8	
PLCA					pmax	pmax				
	comp=Z,73nm,1.0s									
PLCA	Paso Flores	46.70	139	eP		P		19 11 19.2	+1.8	
	comp=Z,73nm,1.0s									
S22A	4UR Ranch, Cre	46.73	3	P		P		19 11 17.9	0.0	
	baz=184,SNR=14									
W40A	Ferguson Farm,	46.78	19	P		P		19 11 17.7	-0.3	
	baz=202,SNR=12									
SDCO	Great Sand Dun	46.81	4	P		P		19 11 18.7	+0.1	
	baz=185,SNR=24									
SDCO	Great Sand Dun	46.81	4	eP		P		19 11 18.6	0.0	
SDCO	comp=Z,73nm,1.7s				LR	LR				
	comp=Z,4µm,19.0s									
V37A	Hulbert	46.81	16	P		P		19 11 17.3	-0.9	
	baz=200,SNR=13									
Y45A	Yeager Farm, C	46.82	23	P		P		19 11 18.0	-0.3	
	baz=207,SNR=8.5									
Z47A	Carrollton	46.83	25	P		P		19 11 18.0	-0.4	
	baz=210,SNR=8.6									
U35A	Pawnee	46.86	14	P		P		19 11 17.8	-0.9	
	baz=197									
X43A	Marvell	46.90	21	P		P		19 11 17.3	-1.6	
	baz=206									
SDDR	Presa de Saban	46.96	53	PFAKE				19 11 30.0	+10	
SDDR					LR	LR				
	comp=Z,3µm,22.0s									
PV05	Paradox Valley	46.99	0	eP		P		19 11 19.7	-0.2	
V38A	Canehill	47.00	17	P		P		19 11 18.2	-1.6	
	baz=200,SNR=6.9									
SAO	San Andreas Ge	47.02	347	eP		P		19 11 20.0	+0.1	
SAO					pmax	pmax				
	comp=Z,37nm,1.2s									
SAO	San Andreas Ge	47.02	347	eP		P		19 11 20.0	+0.1	
	comp=Z,37nm,1.2s									
W41B	Gary Mavity, V	47.03	19	P		P		19 11 19.1	-0.9	
	baz=204,SNR=31									
X301	Greenbrier Sit	47.04	19	eP		P		19 11 19.5	-0.5	
	comp=Z,131nm,1.6s									
PV01	Paradox Valley	47.05	1	eP		P		19 11 19.1	-1.3	
Y46A	Houston	47.10	24	P		P		19 11 19.7	-0.8	
	baz=208,SNR=21									
WHAR	Wooly Hollow	47.12	19	eP		P		19 11 20.4	-0.3	
	comp=Z,125nm,1.4s									
U36A	Oologah	47.14	15	P		P		19 11 19.5	-1.3	
	baz=199									
LRAL	Lakeview Retre	47.14	26	eP		P		19 11 18.1	-2.7	
	comp=Z,76nm,0.9s									
X44A	Crenshaw	47.15	22	P		P		19 11 19.1	-1.8	
	baz=206									
Z48A	Northport	47.19	25	P		P		19 11 20.5	-0.8	
	baz=210,SNR=42									
PV04	Paradox Valley	47.31	1	eP		P		19 11 18.6	-3.7	
U37A	Salina	47.31	16	P		P		19 11 20.2	-1.9	
	baz=199,SNR=13									
MLAC	Mammoth, Mammo	47.34	350	P		P		19 11 20.9	-1.8	
	baz=167									
W42A	Bald Knob	47.36	20	P		P		19 11 20.9	-1.6	
	baz=204									
T34A	McClaskey Farm	47.38	13	P		P		19 11 21.2	-1.5	
	baz=196,SNR=9.9									
TIGA	Tifton	47.41	31	P		P		19 11 21.8	-1.2	
	baz=216									
TIGA	Tifton	47.41	31	eP		P		19 11 20.8	-2.2	
	comp=Z,178nm,1.3s									
V40A	Witts Springs	47.42	19	P		P		19 11 21.4	-1.6	
	baz=202,SNR=14									
T35A	Sooner Cattle	47.44	14	P		P		19 11 21.6	-1.5	
	baz=197,SNR=11									
OXF	Oxford	47.44	23	eP		P		19 11 24.2	+1.0	
OXF					pmax	pmax				
	comp=Z,220nm,1.2s									
OXF	Oxford	47.44	23	eP		P		19 11 22.0	-1.2	
	comp=Z,216nm,1.3s									
W43A	Forest City	47.48	21	P		P		19 11 22.2	-1.3	
	baz=205									
MSU	Marysvale	47.48	357	eP		P		19 11 25.6	+1.8	
MSU	Marysvale	47.48	357	eP		P		19 11 25.6	+1.8	
Y47A	UCPARC, Winfie	47.52	25	P		P		19 11 23.2	-0.6	
	baz=210,SNR=16									
U38A	Gravette	47.55	17	P		P		19 11 22.5	-1.4	
	baz=200,SNR=14									
R11A	Troy Canyon, C	47.59	354	P		P		19 11 23.5	-1.1	
	baz=172,SNR=10.0									
R11A	Troy Canyon, C	47.59	354	eP		P		19 11 23.2	-1.3	
	comp=Z,14nm,1.2s									
V41A	Mountainview	47.62	19	P		P		19 11 23.6	-1.0	
	baz=203,SNR=16									
SIV	San Ignacio	47.72	103	LR		LR		19 28 34.1		
	comp=Z,5µm,20.2s,baz=290,slow=32									
T36A	Boggs Farm, Ca	47.73	15	P		P		19 11 24.0	-1.4	
	baz=198,SNR=9.4									
U39A	Green Forest	47.75	18	P		P		19 11 24.5	-1.1	
	baz=202,SNR=18									
W44A	Shelby Farms P	47.84	22	P		P		19 11 25.0	-1.3	
	baz=206									
V42A	Cord	47.89	20	P		P		19 11 25.5	-1.1	
	baz=204,SNR=41									
U40A	Yellville	47.92	18	P		P		19 11 25.3	-1.6	
	baz=202,SNR=30									
CMB	Columbia Colle	48.02	348	eP		P		19 11 28.0	+0.3	
CMB					pmax	pmax				
	comp=Z,22nm,1.2s									
CMB	Columbia Colle	48.02	348	eP		P		19 11 28.0	+0.3	
	comp=Z,22nm,1.3s									
T37A	Cheneyville 18	48.04	16	P		P		19 11 26.6	-1.1	
	baz=199,SNR=10									
S34A	Willow Spring	48.04	13	P		P		19 11 27.1	-0.7	
	baz=196									
Q24A	Divide	48.05	5	P		P		19 11 27.8	-0.4	
	baz=186,SNR=8.9									
TVH3	East Aurora ar	48.05	350	eP		P		19 11 33.0	+4.9	
W45A	Hickory Valley	48.10	23	P		P		19 11 27.2	-1.0	
	baz=207									
T38A	Diamond	48.13	16	P		P		19 11 27.6	-0.9	
	baz=200,SNR=9.9									
V43A	Jonesboro	48.16	21	P		P		19 11 28.2	-0.5	
	baz=205									
U41A	Viola	48.20	19	P		P		19 11 27.6	-1.5	
	baz=204,SNR=15									
S35A	Otter Creek Ra	48.21	14	P		P		19 11 26.9	-2.2	
	baz=198,SNR=8.0									
TMUT	Trail Mountain	48.23	358	eP		P		19 11 29.2	-0.4	
	comp=Z,12nm,0.9s									
WAKR	Walker	48.30	350	eP		P		19 11 30.9	+0.9	
	comp=Z,59nm,1.5s									
KSCO	Kaye Shedlock'	48.35	7	P		P		19 11 28.4	-1.9	
	baz=189									
T39A	Clever	48.38	17	P		P		19 11 29.0	-1.4	
	baz=201,SNR=21									
S36A	Lake Cedric, C	48.43	15	P		P		19 11 29.3	-1.5	
	baz=198,SNR=13									
V44A	Blytheville	48.43	21	P		P		19 11 29.2	-1.6	
	baz=206									
U42A	Reynden	48.44	20	P		P		19 11 29.6	-1.2	
	baz=204,SNR=69									
GRTK	Grand Turk	48.49	51	PFAKE				19 11 40.0	+8.5	
GRTK					LR	LR				
	comp=Z,6µm,21.0s									
R34A	Isabella, Hill	48.59	13	P		P		19 11 31.2	-0.9	
	baz=196,SNR=18									
CBKS	Cedar Bluff	48.59	10	P		P		19 11 30.7	-1.4	
	baz=193,SNR=9.0									
CBKS	Cedar Bluff	48.59	10	eP		P		19 11 31.1	-1.0	
CBKS					pmax	pmax				
	comp=Z,69nm,1.1s									
CBKS	Cedar Bluff	48.59	10	P		P		19 11 26.9	-5.2	
	comp=Z,69nm,1.1s									
CBKS					LR	LR				
	comp=Z,3µm,19.0s									
PCRV	Puerto La Cruz	48.65	68	LR		LR		19 29 25.9		
	comp=Z,3µm,20.0s,baz=245,slow=33									
S37A	Fort Scott	48.66	16	P		P		19 11 31.3	-1.3	
	baz=195,SNR=9.8									
V45A	Humboldt	48.70	22	P		P		19 11 31.5	-1.4	
	baz=207									
YERR	Yerington	48.73	350	eP		P		19 11 33.8	+0.5	
	comp=Z,99nm,1.6s									
U43A	Rector	48.74	21	P		P		19 11 31.8	-1.3	
	baz=205									
T40A	Mansfield	48.76	18	P		P		19 11 32.1	-1.2	
	baz=202,SNR=15									
S38A	Stoco	48.79	17	P		P		19 11 31.9	-1.7	
	baz=201,SNR=10									
ISCO	Idaho Springs	48.84	4	P		P		19 11 33.8	-0.5	
	baz=185,SNR=13									
ISCO	Idaho Springs	48.84	4	eP		P		19 11 33.9	-0.5	
ISCO					pmax	pmax				
	comp=Z,24nm,1.0s									
ISCO	Idaho Springs	48.84	4	P		P		19 11 29.4	-4.9	
ISCO	comp=Z,24nm,1.0s				LR	LR				
	comp=Z,5µm,19.0s									
R35A	Emporia Munici	48.85	14	P		P		19 11 33.3	-0.7	
	baz=197,SNR=5.8									
T41A	Mountain View	48.89	19	P		P		19 11 33.1	-1.3	
	baz=203,SNR=28									
PNTR	Pine Nut	48.90	350	eP		P		19 11 34.9	+0.2	
	comp=Z,36nm,1.0s									
NLU	North Lily Min	48.92	357	eP		P		19 11 34.7	0.0	
	comp=Z,39nm,1.5s									
XMAS	Kiritimati	49.00	281	PFAKE				19 11 50.0	+14	
XMAS					LR	LR				
	comp=Z,6.0nm,19.0s									
S39A	Bolivar	49.02	17	P		P		19 11 33.8	-1.5	
	baz=201,SNR=33									
R36A	Gordon, Harris	49.02	15	P		P		19 11 33.7	-1.6	
	baz=198,SNR=10.0									
AFDM	Forest Hills D	49.02	348	eP		P		19 11 34.9	-0.4	
	comp=Z,40nm,1.4s									
O20A	White River Ci	49.06	1	P		P		19 11 34.1	-1.7	
	baz=182,SNR=7.6									
GOGA	Godfrey	49.07	29	eP		P		19 11 34.7	-1.1	
GOGA					pmax	pmax				
	comp=Z,70nm,1.0s									
GOGA	Godfrey	49.07	29	eP		P		19 11 30.9	-4.9	
GOGA	comp=Z,70nm,1.0s				LR	LR				
	comp=Z,3µm,20.0s									
U44B	Burton Farm, H	49.08	22	P		P		19 11 34.6	-1.2	
	baz=207									
PBMO	Poplar Bluff	49.10	20	eP		P		19 11 35.0	-0.9	
	comp=Z,50nm,0.9s									
U44A	Portageville	49.11	21	P		P		19 11 34.7	-1.4	
	baz=206									
S40A	Lebanon	49.17	18	P		P		19 11 35.3	-1.2	
	baz=202,SNR=34									
R37A	Teagarden Farm	49.18	15	P		P		19 11 35.0	-1.6	
	baz=199,SNR=12									
DUG	Dugway, Tooele	49.19	357	P		P		19 11 35.6	-1.2	
	baz=176,SNR=5.9									
DUG	Dugway, Tooele	49.19	357	eP		P		19 11 37.5	+0.7	
DUG					pmax	pmax				
	comp=Z,53nm,1.4s									
DUG	Dugway, Tooele	49.19	357	eP		P		19 11 37.5	+0.7	
DUG	comp=Z,53nm,1.4s				LR	LR				
	comp=Z,2µm,19.0s									
PARMO	Parma	49.23	21	eP		P		19 11 36.3	-0.6	
Q34A	Chapman	49.25	13	P		P		19 11 36.4	-0.7	
	baz=196,SNR=6.3									
U45A	Rockin P Farm,	49.31	22	P		P		19 11 36.0	-1.5	
	baz=207									
R38A	Fenwick Farm,	49.31	16	P		P		19 11 36.2	-1.4	
	baz=200,SNR=15									
Q35A	Mercer Eighty,	49.40	14	P		P		19 11 36.9	-1.4	
	baz=198,SNR=5.4									
S41A	Jillco Farms,	49.40	19	P		P		19 11 36.9	-1.3	
	baz=203,SNR=42									
T43A	Greenville	49.42	20	P		P		19 11 36.9	-1.5	
	baz=205,SNR=14									
SWET	Sewanee	49.46	26	eP		P		19 11 37.6	-1.2	
	comp=Z,19nm,0.9s									
PAHR	Pah Rah Range	49.46	350	eP		P		19 11 39.0	+0.1	
	comp=Z,50nm,1.5s									
WVT	Waverly	49.47	23	eP		P		19 11 37.1	-1.7	
WVT					pmax	pmax				
	comp=Z,27nm,0.9s									
WVT	Waverly	49.47	23	eP		P		19 11 37.1	-1.7	
	comp=Z,27nm,0.8s									
KSU1	Kansas State U	49.50	13	P		P		19 11 37.8	-1.2	
	baz=197									
KSU1	Kansas State U	49.50	13	PFAKE				19 11 50.0	+11	
KSU1					LR	LR				
	comp=Z,6µm,20.0s									
JLU	Jordanelle	49.54	358	eP		P		19 11 40.6	+1.0	
	comp=Z,77nm,1.7s									
Q36A	Arnold C. Orve	49.63	14	P		P		19 11 38.7	-1.3	
	baz=198									
T44A	Benton	49.67	21	P		P		19 11 39.0	-1.2	
	baz=206,SNR=9.9									
R39A	Chumby, Stover	49.68	17	P		P		19 11 38.9	-1.4	
	baz=201,SNR=34									
ORV	Oroville	49.72	348	eP		P		19 11 41.4	+0.8	
ORV					pmax	pmax				
	comp=Z,72nm,1.7s									
ORV	Oroville	49.72	348	eP		P		19 11 41.4	+0.8	
	comp=Z,72nm,1.7s									
Q37A	Longview Farm,	49.81	15	P		P		19 11 39.7	-1.6	
	baz=200									
BMN	Battle Mountai	49.84	352	eP		P		19 11 40.5	-1.3	
BMN					pmax	pmax				
	comp=Z,32nm,1.4s									
BMN	Battle Mountai	49.84	352	eP		P		19 11 40.5	-1.3	
	comp=Z,32nm,1.4s									
S42A	Caledonia	49.87	19	P		P		19 11 39.9	-2.0	
	baz=204,SNR=24									
P34A	Walnut Farm, R	49.88	13	P		P		19 11 40.5	-1.3	
	baz=196									
R40A	Maddies Statio	49.88	18	P		P		19 11 40.4	-1.5	
	baz=202,SNR=10									
N23A	Red Feather La	49.91	4	P		P		19 11 40.5	-1.9	
	baz=184									
S43A	Fulton Ridge,	49.93	20	P		P		19 11 41.1	-1.2	
	baz=205									
BGU	Big Grassy Mou	49.93	357	eP		P		19 11 42.8	+0.3	
	comp=Z,43nm,1.7s									
P35A	Duane Minner,	50.04	14	P		P		19 11 41.9	-1.2	
	baz=197									
PTGA	Pitinga	50.05	83	P		P		19 11 42.9	-0.8	
	comp=Z,4.5nm,0.5s,baz=245,slow=7.4,SNR=7.3									
PTGA					LR	LR		19 30 48.1		
	comp=Z,981nm,19.6s,baz=264,slow=34									
Q38A	Cooks Store, C	50.12	16	P		P		19 11 42.5	-1.1	
	baz=200,SNR=9.9									
R41A	Rosebud	50.16	19	P		P		19 11 41.8	-2.3	
	baz=204,SNR=14									
O33A	Hebron	50.22	12	P		P		19 11 43.4	-1.1	
	baz=195									
CPCT	Cooper Cave	50.27	27	eP		P		19 11 43.2	-1.7	
	comp=Z,47nm,1.1s									
CELP	Cerrillos	50.32	57	eP		P		19 11 46.0	+0.4	
P36A	Good Intent, A	50.32	14	P		P		19 11 43.6	-1.6	
	baz=198									
S44A	Carbondale	50.33	21	P		P		19 11 44.1	-1.2	
	baz=206,SNR=12									
OGNE	Ogallala	50.33	7	P		P		19 11 44.8	-0.6	
	baz=190									
OGNE	Ogallala	50.33	7	PFAKE				19 12 00.0	+15	
OGNE					LR	LR				
	comp=Z,2µm,20.0s									
R42A	Luebbering	50.34	19	P		P		19 11 43.0	-2.3	
	baz=204,SNR=14									
PHWY	Pilot Hill	50.35	4	eP		P		19 11 46.2	+0.5	
	comp=Z,34nm,1.3s									
Q39A	Willow Grove F	50.37	17	P		P		19 11 44.4	-1.2	
	baz=201,SNR=31									
NHSC	New Hope	50.49	32	eP		P		19 11 48.3	+1.8	
	comp=Z,246nm,1.4s									
NHSC					LR	LR				
	comp=Z,7µm,22.0s									
P37A	Lathrop	50.51	15	P		P		19 11 45.8	-0.9	
	baz=199									
O34A	Beatrice	50.51	13	P		P		19 11 45.7	-0.9	
	baz=196									
HWUT	Hardware Ranch	50.55	358	eP		P		19 11 46.8	-0.4	
	comp=Z,28nm,1.0s									
HWUT					LR	LR				
	comp=Z,2µm,20.0s									
S45A	Carrier Mills	50.55	22	P		P		19 11 45.2	-1.8	
	baz=216,SNR=6.1									
Q40A	Laux Farm, Aux	50.59	18	P		P		19 11 45.7	-1.5	
	baz=202,SNR=34									
R43A	Red Bud	50.62	20	P		P		19 11 46.2	-1.3	
	baz=205,SNR=17									
RWWY	Rawlins	50.64	2	eP		P		19 11 47.4	-0.5	
	comp=Z,27nm,1.1s									
SJG	San Juan	50.70	58	LR		LR		19 32 08.0		
	comp=Z,3µm,18.2s,baz=234,slow=35									
P38A	Dawn	50.76	16	P		P		19 11 47.3	-1.2	
	baz=200,SNR=7.4									
O35A	Humboldt	50.77	13	P		P		19 11 46.9	-1.7	
	baz=197									
HVU	Hansel Valley	50.77	357	eP		P		19 11 48.8	0.0	
HVU					pmax	pmax				
	comp=Z,20nm,1.2s									
HVU	Hansel Valley	50.77	357	eP		P		19 11 48.8	0.0	
	comp=Z,20nm,1.2s									
TKL	Tuckaleechee C	50.78	27	eP		P		19 11 47.8	-1.0	
TKL					pmax	pmax				
	comp=Z,59nm,1.0s									
TKL	Tuckaleechee C	50.78	27	eP		P		19 11 47.8	-1.0	
	comp=Z,58nm,1.0s									
Q41A	Truxton	50.81	18	P		P		19 11 47.9	-1.0	
	baz=203,SNR=17									
P39B	Salisbury	50.85	17	P		P		19 11 48.1	-1.1	
	baz=201,SNR=13									
O36A	Bolckow	50.87	14	P		P		19 11 47.9	-1.4	
	baz=198									
R44A	Waltonville	50.88	21	P		P		19 11 48.3	-1.2	
	baz=206,SNR=26									
Q42A	Golden Eagle	50.99	19	P		P		19 11 48.6	-1

baz=180
BW06 Boulder Array 51.67 360 *eP* **P 19 11 53.8 -1.9**
BW06 *eP* **pP 19 11 54.6 -7.3**
BW06 LR LR
comp=Z,2µm,20.0s
PD31 Pinedale Array 51.67 360 *eP* **P 19 11 54.7 -0.9**
PDAR Pinedale Array 51.67 360 P **P 19 11 54.2 -1.4**
comp=Z,1.2nm,0.6s,baz=180,slow=7.4,SNR=11
PDAR LR LR 19 30 53.1
comp=Z,1µm,18.4s,baz=188,slow=33
O40A La Belle 51.69 17 P **P 19 11 54.1 -1.4**
baz=202,SNR=7.1
M33A Taylor Creek F 51.74 12 P **P 19 11 54.7 -1.2**
baz=195
MOD Modoc Plateau 51.76 350 *eP* **P 19 11 55.8 -0.4**
comp=Z,202nm,1.9s
M02C Callahan 51.77 347 P **P 19 11 55.1 -1.0**
baz=163,SNR=5.2
M34A Aspy Farms, Fr 51.80 12 P **P 19 11 54.9 -1.4**
baz=196
WCI Wyandotte Cave 51.90 23 *eP* **P 19 11 52.7 -4.5**
WCI pmax pmax
comp=Z,847nm,1.7s
WCI Wyandotte Cave 51.90 23 *eP* **P 19 11 52.7 -4.5**
comp=Z,847nm,1.7s
N38A Joes South For 51.93 16 P **P 19 11 55.5 -1.8**
baz=200
M35A Neola 51.96 13 P **P 19 11 55.3 -2.2**
baz=197
O41A Passleys Farm, 51.98 18 P **P 19 11 55.9 -1.7**
baz=204,SNR=9.6
P43A Skaggs, Pawnee 51.98 20 P **P 19 11 55.8 -1.9**
baz=205
L32A Elgin 52.00 11 P **P 19 11 56.4 -1.4**
baz=194
WVOR Wild Horse Val 52.01 351 *eP* **P 19 11 53.9 -4.1**
WVOR pmax pmax
comp=Z,51nm,1.4s
WVOR MLR MLR
comp=Z,2µm,20.0s
WVOR Wild Horse Val 52.01 351 *eP* **P 19 11 53.9 -4.1**
comp=Z,51nm,1.4s
WVOR LR LR
comp=Z,2µm,20.0s
GRGR Grenville 52.09 67 PFAKE 19 12 10.0 +11
GRGR LR LR
comp=Z,2µm,22.0s
P44A Sand Creek, Wi 52.13 21 P **P 19 11 57.6 -1.2**
baz=206,SNR=7.0
M36A Felix, Anita 52.16 14 P **P 19 11 56.9 -2.1**
baz=198
N39A Derby Farms, D 52.21 16 P **P 19 11 57.9 -1.5**
baz=201,SNR=9.8
CPUP Villa Florida 52.23 116 P **P 19 12 00.2 +0.4**
comp=Z,11nm,1.1s,baz=263,slow=8.4,SNR=6.5
CPUP LR LR 19 30 04.2
comp=Z,7µm,21.5s,baz=288,slow=31
L34A Svendsen Farm, 52.29 12 P **P 19 11 58.5 -1.4**
baz=196
M37A Trindle Farm, 52.29 15 P **P 19 11 57.7 -2.3**
baz=199
L33A Hoskins 52.30 12 P **P 19 11 59.0 -1.0**
baz=195
O42A Bath 52.30 19 P **P 19 11 58.4 -1.6**
baz=204
TPAW Teton Pass 52.41 359 *eP* **P 19 11 57.3 -3.9**
comp=Z,30nm,1.2s
K31A O'Neill 52.47 10 P **P 19 12 00.4 -0.9**
baz=193
N40A Mertquake, Sal 52.48 17 P **P 19 11 60.0 -1.3**
baz=202
LOHW Long Hollow 52.52 359 *eP* **P 19 11 59.7 -2.2**
comp=Z,31nm,1.4s
M38A Pleasantville 52.53 15 P **P 19 12 00.0 -1.7**
baz=200,SNR=6.5
N41A Harden Midland 52.53 18 P **P 19 11 59.9 -1.9**
baz=203
L35A Bielow Farm, R 52.61 13 P **P 19 12 00.8 -1.5**
baz=197,SNR=5.6
MFID Camas Ranch 52.63 354 *eP* **P 19 12 02.5 -0.1**
comp=Z,53nm,1.3s
O43A Sugar Creek Fa 52.63 19 P **P 19 12 00.9 -1.6**
baz=205
K32A Verdigre 52.64 11 P **P 19 12 00.7 -1.9**
baz=194
HLID Hailey 52.65 356 P **P 19 12 01.6 -1.2**
baz=174,SNR=7.7
HLID Hailey 52.65 356 *eP* **P 19 12 02.4 -0.4**
comp=Z,94nm,1.9s
HLID LR LR
comp=Z,2µm,21.0s
K05A Summer Lake 52.66 350 *eP* **P 19 12 03.2 +0.3**
comp=Z,98nm,1.3s
L02D Cave Junction, 52.66 347 P **P 19 12 01.5 -1.2**
baz=162
MOOW Moose Ponds 52.66 359 *eP* **P 19 12 01.4 -1.6**
comp=Z,33nm,1.4s
K04D Chiloquin, OR 52.72 349 P **P 19 12 01.8 -1.5**
baz=165
K33A Hardington 52.77 12 P **P 19 12 02.6 -0.9**
baz=196
L36A Harm Buss Farm 52.80 14 P **P 19 12 01.9 -1.8**
baz=198
IMW Indian Meadow 52.81 359 *eP* **P 19 12 03.3 -0.8**
comp=Z,46nm,1.3s
M39A Webster 52.86 16 P **P 19 12 02.7 -1.4**
baz=202,SNR=6.1
HDIL Hopedale 52.88 19 P **P 19 12 02.2 -2.1**
baz=205
HDIL Hopedale 52.88 19 PFAKE 19 12 20.0 +16
HDIL LR LR
comp=Z,5µm,20.0s
N42A Yates City 52.90 19 P **P 19 12 02.7 -1.7**
baz=204,SNR=12
HUMO Hull Mountain 52.95 348 *eP* **P 19 12 05.0 +0.1**
comp=Z,66nm,1.7s
SCIA State Center 52.98 15 PFAKE 19 12 20.0 +15
SCIA LR LR
comp=Z,7µm,19.0s
M40A Post Highland 52.98 17 P **P 19 12 03.0 -2.1**
baz=202
K34A Le Mars 53.04 12 P **P 19 12 03.7 -1.8**
baz=197
L37A Phoenix Point, 53.05 15 P **P 19 12 04.0 -1.5**
baz=200,SNR=5.7
J31A Geddes 53.12 10 P **P 19 12 05.6 -0.5**
baz=193
M41A Milan 53.24 18 P **P 19 12 05.7 -1.2**
baz=204
K35A Storm Lake 53.26 13 P **P 19 12 06.6 -0.5**
baz=198
RSSD Black Hills 53.26 5 P **P 19 12 06.4 -0.9**
baz=187
RSSD Black Hills 53.26 5 *eP* P 19 12 02.2 -5.2
RSSD pmax pmax
comp=Z,25nm,1.1s
RSSD Black Hills 53.26 5 *eP* P 19 12 02.2 -5.2
comp=Z,25nm,1.1s
J05D Fort Rock, OR 53.26 349 P **P 19 12 05.7 -1.6**
baz=165,SNR=7.5
L38A Oak Wood Farm, 53.27 15 P **P 19 12 06.5 -0.7**
baz=200
CNNC Cliffs of the 53.33 32 PFAKE 19 12 20.0 +12
CNNC LR LR
comp=Z,8µm,21.0s
J32A Parkston 53.35 11 P **P 19 12 07.0 -0.7**
baz=194
K36A Gilmore City 53.36 14 P **P 19 12 06.3 -1.5**
baz=198
J33A Davis 53.47 11 P **P 19 12 07.4 -1.2**
baz=195
LKWY Lake 53.47 359 PFAKE 19 12 20.0 +11
LKWY LR LR
comp=Z,2µm,19.0s
SFIN Lafayette 53.48 21 P **P 19 12 07.2 -1.5**
baz=208,SNR=7.4
SFIN Lafayette 53.48 21 *eP* **P 19 12 04.2 -4.6**
comp=Z,75nm,1.3s
L39A Vinton 53.51 16 P **P 19 12 06.7 -2.2**
baz=202,SNR=7.4
FDF Fort de France 53.54 64 PFAKE 19 12 20.0 +10
FDF LR LR
comp=Z,2µm,22.0s
M42A Sheffield 53.55 18 P **P 19 12 06.4 -2.8**
baz=204
BLA Blacksburg 53.60 29 *eP* **P 19 12 07.0 -2.8**
BLA pmax pmax
comp=Z,136nm,1.5s
BLA MLR MLR
comp=Z,4µm,20.0s
BLA Blacksburg 53.60 29 *eP* **P 19 12 07.0 -2.8**
comp=Z,136nm,1.5s
BLA LR LR
comp=Z,4µm,20.0s
POHA Pohakuloa 53.62 303 PFAKE 19 12 20.0 +10
POHA LR LR
comp=Z,6µm,22.0s
J34A George 53.64 12 P **P 19 12 08.4 -1.5**
baz=197
L40A Anamosa 53.67 17 P **P 19 12 08.3 -1.8**
baz=202
K37A Belmond 53.68 15 P **P 19 12 08.5 -1.7**
baz=200,SNR=5.1
K38A Parkersburg 53.79 15 P **P 19 12 08.7 -2.3**
baz=200
MCMT McKenzie Canyo 53.81 357 *eP* **P 19 12 10.8 -0.6**
I31A Royce, Wessing 53.87 10 P **P 19 12 10.7 -0.9**
baz=193
J35A Milford 53.88 13 P **P 19 12 09.5 -2.2**
baz=198
L41A Preston 53.89 18 P **P 19 12 09.4 -2.3**
baz=203,SNR=9.7
ECSD EROS Data Cent 53.94 12 P **P 19 12 10.6 -1.5**
baz=196,SNR=5.3
ECSD EROS Data Cent 53.94 12 *eP* **P 19 12 12.3 +0.3**
comp=Z,16nm,0.9s
ECSD LR LR
comp=Z,4µm,19.0s
I04A Tendick Farm, 53.98 349 P **P 19 12 10.7 -1.7**
baz=164
RLMT Red Lodge 54.03 0 P **P 19 12 11.9 -1.0**
baz=180
RLMT Red Lodge 54.03 0 P **P 19 12 08.4 -4.5**
comp=Z,13nm,1.1s
RLMT LR LR
comp=Z,2µm,22.0s
J36A Seneca 1, Swea 54.04 14 P **P 19 12 10.9 -1.9**
baz=198,SNR=6.1
I32A Karley and Nic 54.06 11 P **P 19 12 11.6 -1.4**
baz=195
I03D Drain, OR 54.08 348 P **P 19 12 10.9 -2.1**
baz=163
K39A Oelwein 54.08 16 P **P 19 12 11.2 -1.9**
baz=202,SNR=9.4
ANWB Willy Bob 54.19 61 PFAKE 19 12 30.0 +16
ANWB LR LR
comp=Z,2µm,20.0s
I33A Coleman 54.20 11 P **P 19 12 12.1 -1.9**
baz=195
SUSD Miller 54.20 9 P **P 19 12 12.4 -1.6**
baz=193
BMO Blue Mountains 54.21 353 *eP* **P 19 12 14.4 +0.3**
BMO pmax pmax
comp=Z,19nm,1.3s
BMO Blue Mountains 54.21 353 *eP* **P 19 12 14.4 +0.3**
comp=Z,19nm,1.4s
BMO LR LR
comp=Z,1µm,19.0s
J37A Redenius Farm, 54.21 14 P **P 19 12 12.0 -2.0**
baz=199,SNR=9.4
K40A Colesburg 54.28 17 P **P 19 12 12.8 -1.8**
baz=202,SNR=12
I05D Terrebonne, OR 54.30 350 P **P 19 12 14.1 -0.7**
baz=196
H31A Wolsey 54.32 10 P **P 19 12 13.4 -1.5**
baz=193
BBGH Gun Hill 54.36 67 PFAKE 19 12 30.0 +14
BBGH LR LR
comp=Z,3µm,20.0s
I34A Hadley 54.38 12 P **P 19 12 13.8 -1.5**
baz=197
I35A Creekview Farm 54.40 13 P **P 19 12 13.5 -1.9**
baz=198
K41A Shullsburg 54.44 17 P **P 19 12 13.8 -2.0**
baz=203,SNR=23
J38A Wedel Dairy, R 54.49 15 P **P 19 12 14.4 -1.7**
baz=201
H32A Carlson Farm, 54.52 11 P **P 19 12 14.7 -1.6**
baz=195
BOZ Bozeman (W) 54.53 358 P **P 19 12 15.7 -0.8**
baz=177
BOZ Bozeman (W) 54.53 358 PFAKE 19 12 30.0 +13
BOZ LR LR
comp=Z,1µm,20.0s
L43A Garden Prairie 54.53 19 P **P 19 12 14.6 -1.9**
baz=205,SNR=7.8
J39A Decorah 54.71 16 P **P 19 12 15.8 -1.9**
baz=202,SNR=7.3
JFWS Jewell Farm 54.73 17 *eP* **P 19 12 15.8 -2.1**
JFWS pmax pmax
comp=Z,65nm,1.0s
JFWS Jewell Farm 54.73 17 *eP* **P 19 12 15.8 -2.1**
comp=Z,65nm,1.0s
JFWS LR LR
comp=Z,7µm,20.0s
I36A Fitzsimmons Fa 54.77 14 P **P 19 12 16.9 -1.3**
baz=199
H33A Prehn Over Nor 54.82 11 P **P 19 12 17.4 -1.1**
baz=195
I37A Lemond, Waseca 54.91 14 P **P 19 12 17.4 -1.8**
baz=199,SNR=6.8
ACSO Alum Creek Sta 54.94 25 PFAKE 19 12 30.0 +11
ACSO LR LR
comp=Z,2µm,19.0s
H34A Spellman Lake, 55.00 12 P **P 19 12 18.1 -1.7**
baz=196,SNR=7.5
J40A Soldiers Grove 55.03 17 P **P 19 12 18.6 -1.4**
baz=203,SNR=9.8
G31A Conde 55.09 10 P **P 19 12 19.1 -1.3**
baz=194
I38A Scanlan Farm, 55.20 15 P **P 19 12 19.3 -1.9**
baz=201,SNR=11
J41A Loganville 55.22 17 P **P 19 12 20.2 -1.2**
baz=204
JSRW J. Sargeant Re 55.23 30 *eP* **P 19 12 20.6 -0.9**
H35A Sunnyside Ranc 55.23 13 P **P 19 12 20.1 -1.4**
baz=198
G32A Webster 55.24 10 P **P 19 12 19.7 -1.9**
baz=194
I39A Houston 55.24 16 P **P 19 12 19.9 -1.7**
baz=202
H36A Jessenland, He 55.32 14 P **P 19 12 20.4 -1.6**
baz=199
G33A Ortonville 55.38 11 P **P 19 12 20.5 -2.0**
baz=196
G03D McMinnville, O 55.51 348 P **P 19 12 22.4 -1.0**
baz=163
I40A Norwalk 55.53 17 P **P 19 12 22.4 -1.2**
baz=203,SNR=6.2
H37A Dierke Farm, C 55.56 14 P **P 19 12 22.8 -1.0**
baz=200
G34A Benson 55.58 12 P **P 19 12 23.1 -0.8**
baz=197
LAO LASA Array 55.67 3 P **P 19 12 23.8 -0.8**
baz=184
LAO LASA Array 55.67 3 *eP* **P 19 12 23.6 -1.1**
LAO LR LR
comp=Z,2µm,20.0s
F31A Hecla 55.70 10 P **P 19 12 23.8 -0.9**
baz=193
G35A Watkins 55.80 13 P **P 19 12 23.0 -2.5**
baz=198
H38A Maiden Rock 55.81 15 P **P 19 12 25.1 -0.5**
baz=201,SNR=5.7
MCWV Mont Chateau 55.84 28 *eP* **P 19 12 25.3 -0.6**
comp=Z,36nm,1.0s
CBN Corbin Frederi 55.87 30 PFAKE 19 12 40.0 +14
CBN LR LR
comp=Z,4µm,19.0s
I41A Arkdale 55.89 17 P **P 19 12 24.9 -1.3**
baz=204
F32A Veblen 55.90 10 P **P 19 12 25.3 -0.9**
baz=195
CHMT Chamberlain Mo 55.92 357 *eP* **P 19 12 25.5 -1.1**
G36A St. Michael 55.98 13 P **P 19 12 25.8 -1.0**
baz=199
HAWA Hanford 56.01 352 PFAKE 19 12 40.0 +13
HAWA LR LR
comp=Z,3µm,20.0s
F33A 5 Mile Ranch, 56.02 11 P **P 19 12 25.5 -1.6**
baz=196
H39A Augusta 56.07 16 P **P 19 12 26.3 -1.2**
baz=202,SNR=12
F34A Alexandria 56.19 12 P **P 19 12 26.9 -1.3**
baz=197
SPMN Marine on St. 56.20 14 P **P 19 12 27.1 -1.2**
baz=200
SPMN Marine on St. 56.20 14 *eP* **P 19 12 26.7 -1.6**
comp=Z,25nm,1.0s
SLMT Seeley Lake 56.26 357 *eP* **P 19 12 27.3 -1.6**
H40A Chili 56.26 16 P **P 19 12 27.2 -1.7**
baz=203,SNR=8.4
F04D Rainier, OR 56.30 349 P **P 19 12 28.3 -0.7**
baz=164
G38A Ridgeland 56.38 15 P **P 19 12 28.4 -1.3**
baz=201
F35A Swanville 56.39 13 P **P 19 12 26.3 -3.4**
baz=198
AAM Ann Arbor 56.43 23 *eP* **P 19 12 28.7 -1.4**
AAM pmax pmax
comp=Z,43nm,0.8s
AAM MLR MLR
comp=Z,2µm,20.0s
AAM Ann Arbor 56.43 23 *eP* **P 19 12 28.7 -1.4**
comp=Z,43nm,0.8s
AAM LR LR
comp=Z,2µm,20.0s
E31A Nome 56.44 10 P **P 19 12 28.7 -1.3**
baz=194
KIP Kipapa 56.45 303 PFAKE 19 12 40.0 +9.4
KIP LR LR
comp=Z,13µm,21.0s
H41A Junction City 56.47 17 P **P 19 12 29.0 -1.3**
baz=204,SNR=5.2
SWMT Swartz Lake 56.55 356 *eP* **P 19 12 29.3 -1.7**
E32A Braaten, Kindr 56.61 10 P **P 19 12 30.1 -1.2**
baz=195
F36A Milaca 56.63 13 P **P 19 12 29.9 -1.5**
baz=199,SNR=20
G39A Holcombe 56.67 15 P **P 19 12 30.1 -1.6**
baz=202,SNR=14
E33A Westby DABS, E 56.72 11 P **P 19 12 30.5 -1.6**
baz=196
JTMT Jette 56.81 356 *eP* **P 19 12 31.2 -1.6**
N54A Moraine State 56.83 27 P **P 19 12 31.1 -1.8**
baz=215,SNR=7.0
E34A Wadena 56.89 12 P **P 19 12 32.0 -1.3**
baz=197
YBMT Yellow Bay 56.91 356 *eP* **P 19 12 32.5 -1.0**
G40A Rib Lake 56.91 16 P **P 19 12 32.5 -0.9**
baz=203,SNR=13
O56A Blue Knob Stat 56.91 28 P **P 19 12 31.8 -1.8**
baz=217,SNR=9.2
EGMT Eagleton 56.93 360 P **P 19 12 32.2 -1.4**
baz=180
EGMT Eagleton 56.93 360 *eP* **P 19 12 31.5 -2.1**
comp=Z,114nm,1.7s
EGMT LR LR
comp=Z,2µm,20.0s
D31A Mcclaflin, Tow 56.94 10 P **P 19 12 31.8 -1.8**
baz=194
BSMT Bassoo Peak 56.95 356 *eP* **P 19 12 32.8 -1.1**
E35A Pequot Lakes 57.09 12 P **P 19 12 32.9 -1.8**
baz=198
F38A Pierce - Schro 57.11 15 P **P 19 12 34.0 -0.9**
baz=201,SNR=9.8
G41A Antigo 57.15 17 P **P 19 12 33.1 -2.0**
baz=204
E36A McGregor 57.31 13 P **P 19 12 35.2 -1.0**
baz=199,SNR=9.0
F39A Loretta 57.31 15 P **P 19 12 35.2 -1.1**
baz=202,SNR=8.5
D33A AnnSam, Waubun 57.36 11 P **P 19 12 35.3 -1.3**
baz=196
M54A Oil Creek Stat 57.41 26 P **P 19 12 35.5 -1.6**
baz=216,SNR=10
D34A Park Rapids 57.43 12 P **P 19 12 36.2 -1.0**
baz=197
MDND Maddock 57.44 8 P **P 19 12 36.5 -0.7**
baz=192
SSPA Standing Stone 57.52 28 *eP* **P 19 12 37.1 -0.8**
comp=Z,105nm,1.4s
F40A Park Falls 57.53 16 P **P 19 12 36.7 -1.2**
baz=203,SNR=17
E37A Wrenshall 57.55 14 P **P 19 12 37.5 -0.5**
baz=200
NEW Newport 57.56 354 LR LR 19 32 58.8
comp=Z,2µm,21.9s,baz=148,slow=32
NEW Newport 57.56 354 P **P 19 12 37.1 -0.9**
baz=171
NEW Newport 57.56 354 *eP* **P 19 12 38.4 +0.4**
NEW pmax pmax
comp=Z,16nm,1.2s
NEW Newport 57.56 354 *eP* **P 19 12 38.4 +0.4**
comp=Z,16nm,1.2s
DGMT Dagmar 57.57 4 P **P 19 12 37.9 -0.1**
baz=186
DGMT Dagmar 57.57 4 *eP* **P 19 12 33.9 -4.2**
comp=Z,45nm,0.8s
DGMT LR LR
comp=Z,4µm,20.0s
G43A Wallace 57.63 18 P **P 19 12 36.9 -1.6**
baz=206,SNR=5.2
F41A Three Lakes 57.65 17 P **P 19 12 37.0 -1.7**
baz=204
C31A Landman Farms, 57.66 9 P **P 19 12 38.0 -0.7**
baz=194
D35A Remer 57.66 12 P **P 19 12 38.3 -0.5**
baz=198
NLWA Neilton Lookou 57.72 349 PFAKE 19 12 50.0 +11
NLWA LR LR
comp=Z,2µm,20.0s
E38A The Farm, Brul 57.80 15 P **P 19 12 38.7 -1.0**
baz=201
E39A Mellen 57.84 15 P **P 19 12 38.5 -1.5**
baz=202,SNR=14
C32A Crookston 57.90 10 P **P 19 12 39.8 -0.5**
baz=195
D36A Goodland 57.95 13 P **P 19 12 38.2 -2.6**
baz=199
F42A Maple Grove Fa 57.95 18 P **P 19 12 39.3 -1.4**
baz=205
C33A Trail 57.97 11 P **P 19 12 38.7 -2.2**
baz=196
COWI Conover 57.97 17 *eP* **P 19 12 37.6 -3.4**
comp=Z,55nm,1.0s
COWI LR LR
comp=Z,6µm,20.0s
C34A RKJ Ranch, Bem 58.03 12 P **P 19 12 39.4 -1.9**
baz=197
E40A Wakefield 58.08 16 P **P 19 12 40.1 -1.5**
baz=203,SNR=21
WALA Waterton Lakes 58.09 357 *eP* **P 19 12 40.2 -1.6**
comp=Z,29nm,1.2s
D37A Cotton 58.10 14 P **P 19 12 39.3 -2.5**
baz=200
C35A Jirik Farms, M 58.27 12 P **P 19 12 41.6 -1.3**
baz=198,SNR=7.1
B31A Greenbush Farm 58.29 9 P **P 19 12 41.2 -1.9**
baz=194
F43A Flat Rock, Esc 58.31 18 P **P 19 12 41.1 -2.2**
baz=206,SNR=14
B32A Ashes, Strandq 58.44 10 P **P 19 12 42.4 -1.8**
baz=195
AGMN Agassiz Nation 58.47 11 P **P 19 12 42.6 -1.8**
baz=196
AGMN Agassiz Nation 58.47 11 *eP* **P 19 12 41.2 -3.1**
comp=Z,20nm,1.0s
AGMN LR LR
comp=Z,2µm,20.0s
B33A Robert and Kas 58.50 11 P **P 19 12 42.5 -2.0**
baz=196
C36A Pine Crest Far 58.57 13 P **P 19 12 43.5 -1.6**
baz=199,SNR=5.7
E42A Champion 58.62 17 P **P 19 12 43.3 -2.2**
baz=205
F44A Big Bay de Noc 58.67 19 P **P 19 12 43.5 -2.3**
baz=207,SNR=23
C37A Embarrass 58.69 14 P **P 19 12 44.2 -1.7**
baz=200,SNR=17
N59A State Game Lan 58.75 30 P **P 19 12 44.7 -1.8**
baz=220,SNR=9.9
A04D Lummi Island 58.78 350 P **P 19 12 43.9 -2.6**
baz=165
E43A Lone Tree Farm 58.85 18 P **P 19 12 44.2 -2.8**
baz=206
A31A Linda, St. Vin 58.85 9 P **P 19 12 45.0 -2.0**
baz=194
B34A Aery, Baudette 58.88 12 P **P 19 12 46.7 -0.6**
baz=197,SNR=6.1
C38A Sawbill Land. 58.90 14 P **P 19 12 46.3 -1.1**
baz=201,SNR=8.4
B35A Bob, Littlefor 58.95 12 P **P 19 12 46.5 -1.2**
baz=198,SNR=8.1

A32A Rocking H Ranc 58.96 10 P P 19 12 46.7 -1.0
baz=195
D41A Chassel 59.01 17 P P 19 12 46.4 -1.8
baz=204,SNR=12
EYMN Ely 59.06 14 P P 19 12 46.8 -1.7
baz=201,SNR=18
EYMN Ely 59.06 14 *e*P P 19 12 46.3 -2.2
EYMN LR LR
comp=Z,8µm,20.0s
A33A Warroad 59.17 11 P P 19 12 47.3 -1.9
baz=196
C39A Grand Marais 59.28 15 P P 19 12 47.6 -2.4
baz=202,SNR=16
ODNJ Ogdensburg 59.45 30 *e*P P 19 12 50.7 -0.6
comp=Z,41nm,1.0s
BBSR BB Station 59.46 44 PFAKE 19 13 00.0 +8.5
BBSR LR LR
comp=Z,3µm,21.0s
EFI East Falkland 59.57 146 ⇑ *i*P P 19 12 53.3 +1.3
EFI pmax pmax
comp=Z,72nm,1.4s
EFI East Falkland 59.57 146 PFAKE 19 13 00.0 +8.0
EFI LR LR
comp=Z,6µm,20.0s
BINY Binghamton 59.63 28 *e*P P 19 12 50.1 -2.4
comp=Z,67nm,1.1s
BINY LR LR
comp=Z,3µm,22.0s
SADO Sadowa 60.29 25 LR LR 19 38 39.2
comp=Z,3µm,18.6s,baz=214,slow=36
SADO Sadowa 60.29 25 *e*P P 19 12 54.0 -3.0
comp=Z,74nm,1.1s
ULM Lac du Bonnet 60.35 10 P P 19 12 55.7 -1.6
comp=Z,31nm,1.0s,baz=190,slow=7.7,SNR=7.3
ULM LR LR 19 36 08.2
comp=Z,816nm,19.2s,baz=195,slow=33
ULM Lac du Bonnet 60.35 10 *e*P P 19 12 55.7 -1.6
ULM pmax pmax
comp=Z,53nm,1.1s
ULM Lac du Bonnet 60.35 10 *e*P P 19 12 55.6 -1.6
comp=Z,52nm,1.1s
SPB Sao Paulo 60.89 112 PFAKE 19 13 10.0 +8.4
SPB LR LR
comp=Z,3µm,20.0s
AFI Afiamalu 61.01 259 PFAKE 19 13 20.0 +17
AFI LR LR
comp=Z,2µm,19.0s
HRV Adam Dziewonsk 62.03 31 *e*P P 19 13 05.2 -3.6
HRV pmax pmax
comp=Z,61nm,1.4s
HRV Adam Dziewonsk 62.03 31 *e*P P 19 13 05.2 -3.6
comp=Z,61nm,1.4s
WES Weston 62.06 31 *e*P P 19 13 09.9 +0.9
WES pmax pmax
comp=Z,100nm,1.3s
WES Weston 62.06 31 *e*P P 19 13 09.9 +0.9
comp=Z,102nm,1.4s
LONY Lake Ozonia 62.15 28 *e*P P 19 13 06.8 -2.8
comp=Z,36nm,1.0s
LONY LR LR
comp=Z,3µm,22.0s
EDM Edmonton 62.22 357 *e*P P 19 13 08.6 -1.3
EDM pmax pmax
comp=Z,160nm,1.6s
EDM Edmonton 62.22 357 *e*P P 19 13 08.6 -1.3
comp=Z,164nm,1.6s
HNH Hanover 62.55 30 *e*P P 19 13 14.1 +1.8
comp=Z,46nm,1.0s
BBB Bella Bella 63.14 347 LR LR 19 35 30.3
comp=Z,787nm,19.8s,baz=161,slow=31
TRQ Mont Tremblant 63.40 26 *e*P P 19 13 17.1 -0.9
VLDQ Val d'Or 63.69 23 *e*P P 19 13 18.4 -1.3
comp=Z,31nm,1.0s
PMSA Palmer Station 63.94 160 PFAKE 19 13 30.0 +8.8
PMSA LR LR
comp=Z,1µm,19.0s
FFC Flin Flon 63.96 5 PFAKE 19 13 30.0 +8.6
FFC LR LR
comp=Z,4µm,20.0s
JOHN Johnston Islan 64.65 293 PFAKE 19 13 40.0 +13
JOHN LR LR
comp=Z,378nm,19.0s
PKME Peaks-Kenny Pk 65.15 30 *e*P P 19 13 26.7 -2.7
comp=Z,27nm,0.8s
PKME LR LR
comp=Z,5µm,21.0s
LMQ La Malbaie 66.30 28 *e*P P 19 13 36.1 -0.7
RAO Raoul Island 66.73 242 PFAKE 19 13 50.0 +10
RAO LR LR
comp=Z,2µm,20.0s
PQI Presque Isle 66.78 30 *e*P P 19 13 39.1 -0.7
comp=Z,219nm,1.5s
LMN Caledonia Moun 67.85 32 *e*P P 19 13 47.1 +0.4
comp=Z,79nm,1.3s
DLBC Dease Lake 69.38 349 *e*P P 19 13 56.5 +0.4
comp=Z,50nm,1.4s
FUNA Funafuti 70.29 264 PFAKE 19 14 20.0 +17
FUNA LR LR
comp=Z,2µm,21.0s
MSVF Nonsavu 70.58 254 PFAKE 19 14 20.0 +16
MSVF LR LR
comp=Z,2µm,20.0s
YKA Yellowknife Ar 71.54 358 P P 19 14 07.8 -1.2
comp=Z,5.5nm,0.9s,baz=170,slow=6.1,SNR=10
HOPE Hope Point 72.74 144 PFAKE 19 14 30.0 +13
HOPE LR LR
comp=Z,3µm,19.0s
RCBR Riachuelo 73.00 93 PFAKE 19 14 30.0 +11
RCBR LR LR
comp=Z,3µm,19.0s
SCHQ Schefferville 73.10 24 P P 19 14 19.1 +0.6
comp=Z,17nm,1.0s,baz=230,slow=6.1,SNR=7.2
SCHQ LR LR 19 45 34.5
comp=Z,6µm,19.8s,baz=226,slow=35
SNZO South Karori 73.31 230 PFAKE 19 14 30.0 +10
SNZO LR LR
comp=Z,4µm,22.0s
BMRM Bremner River 75.15 343 *e*P P 19 14 27.6 -2.9
comp=Z,22nm,1.0s
MIDW Midway 75.25 302 PFAKE 19 14 40.0 +8.4
MIDW LR LR
comp=Z,5µm,20.0s
KDAK Kodiak Island 75.33 338 *e*P P 19 14 31.6 +0.1
KDAK pmax pmax
comp=Z,35nm,1.1s
KDAK Kodiak Island 75.33 338 *e*P P 19 14 31.6 +0.1
comp=Z,35nm,1.1s
KDAK LR LR
comp=Z,2µm,19.0s
RPZ Rata Peaks 76.07 227 *e*P P 19 14 37.8 +1.6
comp=Z,52nm,1.2s
SML Sawmill 76.91 342 P P 19 14 36.9 -3.6
SML pmax pmax
comp=Z,6.0nm,1.1s
SML Sawmill 76.91 342 P P 19 14 36.9 -3.6
comp=Z,6.5nm,1.1s
PMR Palmer 76.99 342 P P 19 14 39.1 -1.7
PMR pmax pmax
comp=Z,55nm,1.2s
PMR Palmer 76.99 342 P P 19 14 39.1 -1.7
comp=Z,55nm,1.2s
DOT Dot Lake 77.19 345 *e*P P 19 14 40.9 -1.2
comp=Z,36nm,0.9s
EGAK Eagle 77.44 347 *e*P P 19 14 42.0 -1.3
comp=Z,53nm,1.5s
EGAK LR LR
comp=Z,2µm,21.0s
TARA Tarawa 77.90 273 PFAKE 19 15 00.0 +13
TARA LR LR
comp=Z,145nm,20.0s
MCK McKinley 78.58 343 *e*P P 19 14 45.5 -4.2
MCK pmax pmax
comp=Z,27nm,1.2s
MCK McKinley 78.58 343 *e*P P 19 14 45.5 -4.2
comp=Z,27nm,1.2s
TRF Thorofare Moun 78.75 343 P P 19 14 46.2 -4.7
comp=Z,56nm,1.3s
IL1 Eielson Array 78.83 345 *e*P P 19 14 48.0 -3.1
ILAR Eielson Array 78.83 345 P P 19 14 49.0 -2.0
comp=Z,1.9nm,0.8s,baz=155,slow=5.2,SNR=13
ILAR LR LR 19 42 30.6
comp=Z,975nm,20.1s,baz=156,slow=30
PPLA Purkeypile 78.92 342 *e*P P 19 14 51.0 -0.8
comp=Z,44nm,1.2s
WRH Wood River Hil 78.92 344 *e*P P 19 14 50.1 -1.4
comp=Z,33nm,1.1s
KTH Kantishna Hill 79.02 342 *e*P P 19 14 50.7 -1.5
comp=Z,43nm,0.9s
FRB Frobisher Bay 79.06 17 LR LR 19 48 07.7
comp=Z,3µm,18.6s,baz=226,slow=34
INK Inuvik 79.12 351 LR LR 19 45 48.1
comp=Z,2µm,20.5s,baz=150,slow=33
INK Inuvik 79.12 351 *e*P P 19 14 52.2 -0.3
INK pmax pmax
comp=Z,32nm,1.2s
INK Inuvik 79.12 351 *e*P P 19 14 52.2 -0.3
comp=Z,32nm,1.3s
COLA College 79.17 344 *i* P P 19 14 52.9 +0.1
COLA pmax pmax
comp=Z,5.0nm,1.0s
COLA College 79.17 344 PFAKE 19 15 00.0 +7.2
COLA LR LR
comp=Z,1µm,20.0s
SBA Scott Base 79.78 192 *e*P P 19 14 57.7 +1.6
SBA pmax pmax
comp=Z,40nm,1.5s
SBA Scott Base 79.78 192 *e*P P 19 14 57.7 +1.6
comp=Z,40nm,1.5s
SBA LR LR
comp=Z,1µm,20.0s
VNDA Vanda 80.82 193 P P 19 15 02.9 +1.2
comp=Z,1.6nm,1.0s,baz=69,slow=3.9,SNR=8.9
VNDA LR LR 19 43 14.0
comp=Z,2µm,21.1s,baz=92,slow=30
VNDA Vanda 80.82 193 P P 19 15 02.9 +1.2
VNDA pmax pmax
comp=Z,2.0nm,1.0s
VNDA MLR MLR
comp=Z,2µm,21.1s
VNDA Vanda 80.82 193 *e*P P 19 15 03.1 +1.4
comp=Z,34nm,1.8s
QSPA South Pole Qui 80.92 180 *e*P P 19 15 02.0 -0.6
QSPA LR LR
comp=Z,618nm,20.0s
DZM Mont Dzumac 81.10 249 *e*S S 19 25 11.8 -1.8
comp=Z,304nm,27.2s
DZM *e*SS SS 19 30 23.5 -5.1
comp=Z,2µm,27.2s
DZM *e*LQ LQ 19 36 45.7
comp=Z,6µm,29.5s
DZM *e*LR LR 19 40 12.9
comp=Z,1µm,27.9s
COLD Coldfoot 81.60 345 *e*P P 19 15 05.7 -0.3
comp=Z,34nm,1.2s
TOLK Toolik Lake Re 82.53 346 P P 19 15 08.2 -2.7
baz=140
ADK Adak 83.47 325 *e*P P 19 15 20.0 +4.1
ADK Adak 83.47 325 *e*P P 19 15 20.0 +4.1
ADK LR LR
comp=Z,2µm,20.0s
RES Resolute Bay 84.18 4 LR LR 19 49 06.8
comp=Z,1µm,21.5s,baz=195,slow=33
VNA3 Neumayer Olymp 84.56 161 P P 19 15 21.9 +0.6
VNA2 Neumayer--Watz 85.36 161 P P 19 15 18.4 -6.9
baz=342,slow=32
SNAA Sanae 86.55 162 P P 19 15 30.9 -0.4
SNAA Sanae 86.55 162 *e*P P 19 15 31.0 -0.3
SNAA pmax pmax
comp=Z,58nm,1.4s
SNAA Sanae 86.55 162 *e*P P 19 15 31.0 -0.3
comp=Z,58nm,1.4s
SFJD Kangerlussuaq 86.85 20 PFAKE 19 15 40.0 +7.4
SFJD LR LR
comp=Z,2µm,20.0s
H11S2 WAKE ISLAND Hy 87.00 289 T T 20 51 30.8
baz=100,slow=75,SNR=2083
H11S1 WAKE ISLAND Hy 87.01 289 T T 20 51 33.9
baz=100,slow=75,SNR=1500
H11S3 WAKE ISLAND Hy 87.02 289 T T 20 51 34.7
baz=100,slow=75,SNR=1531
H11N3 WAKE ISLAND Hy 87.04 290 T T 20 51 34.6
baz=101,slow=74,SNR=406
H11N2 WAKE ISLAND Hy 87.05 290 T T 20 51 36.3
baz=101,slow=74,SNR=355
H11N1 WAKE ISLAND Hy 87.05 290 T T 20 51 36.7
baz=101,slow=74,SNR=186
WAKE Wake Island 87.19 290 PFAKE 19 15 50.0 +15
WAKE LR LR
comp=Z,3µm,19.0s
SACV Santiago Islan 88.46 75 PFAKE 19 15 50.0 +8.5
SACV LR LR
comp=Z,501nm,21.0s
HNR Honiara 89.01 261 LR LR 19 46 19.9
comp=Z,1µm,20.6s,baz=94,slow=29
CMLA Cha da Macela 90.86 52 PFAKE 19 16 00.0 +7.7
CMLA LR LR
comp=Z,2µm,21.0s
NVL N'lazarevskaya 91.22 164 *e*P P 19 15 54.0 +0.7
NVL MLR MLR
comp=Z,1µm,17.0s
SUMG Summit 93.12 17 *i* P P 19 16 01.1 -1.3
comp=Z,23nm,0.8s
SUMG Summit 93.12 17 *i* P P 19 16 01.1 -1.3
SUMG pmax pmax
comp=Z,23nm,0.8s
SUMG Summit 93.12 17 *e*P P 19 16 00.2 -2.2
comp=Z,26nm,0.9s
TAU Tasmania Unive 93.30 226 PFAKE 19 16 20.0 +17
TAU LR LR
comp=Z,3µm,19.0s
ASCN Ascension 93.83 99 PFAKE 19 16 20.0 +13
ASCN LR LR
comp=Z,3µm,21.0s
CAN Canberra 93.97 233 PFAKE 19 16 20.0 +13
CAN LR LR
comp=Z,2µm,20.0s
BORG Borgarnes 97.45 26 *i* P Pdif 19 16 22.8 +0.9
BORG Borgarnes 97.45 26 PFAKE 19 16 30.0 +8.1
BORG LR LR
comp=Z,2µm,21.0s
PET Petropavlovsk 98.32 322 PFAKE 19 16 40.0 +14
PET LR LR
comp=Z,2µm,21.0s
PETK Petropavlovsk- 98.90 322 LR LR 19 52 07.2
comp=Z,3µm,21.6s,baz=107,slow=30
SYO Syowa Base 99.09 169 ‖ *e*P Pdif **Pdif** **19 16 32.0 +2.8**
CTAO Charters Tower 100.00 248 PFAKE 19 16 50.0 +16
CTAO LR LR
comp=Z,2µm,19.0s
SHEL Horse Pasture 100.57 108 PFAKE 19 16 50.0 +13
SHEL LR LR
comp=Z,2µm,22.0s
PMG Port Moresby 101.44 258 PFAKE 19 16 50.0 +9.2
PMG LR LR
comp=Z,2µm,20.0s
PMAFR Mafra 103.67 52 *e*SS SS 19 35 54.6 +2.6
PMAFR Mafra 103.67 52 *e*LQ LQ 19 46 30.4
PMAFR *e*LR LR 19 51 57.5
comp=Z,1µm,20.0s
PFVI Vila Bisbo 104.00 54 *e*LQ LQ 19 46 24.2
PFVI *e*LR LR 19 51 54.0
comp=Z,1µm,22.0s
MORF Marmelete 104.14 54 *e*LR LR 19 51 52.4
comp=Z,1µm,22.0s
PNCL Nicolau / Gran 104.25 53 *e*SS SS 19 36 05.1 +5.1
PNCL Nicolau / Gran 104.25 53 *e*LQ LQ 19 46 42.5
PNCL *e*LR LR 19 51 56.1
comp=Z,842nm,20.0s
PCAS Casmilo, Conde 104.28 51 *e*SS SS 19 36 03.3 +2.9
PCAS Casmilo, Conde 104.28 51 *e*LQ LQ 19 46 50.2
PCAS *e*LR LR 19 51 54.1
comp=Z,2µm,22.0s
PGAV Gavieira, Arco 104.44 49 *e*SS SS 19 36 05.5 +2.8
PGAV Gavieira, Arco 104.44 49 *e*LQ LQ 19 46 47.4
PGAV *e*LR LR 19 51 53.2
comp=Z,1µm,20.0s
PCVE Castro Verde 104.63 54 *e*SS SS 19 36 09.7 +4.3
PCVE Castro Verde 104.63 54 *e*LQ LQ 19 46 39.4
PCVE *e*LR LR 19 52 14.6
comp=Z,1µm,24.0s
PBDV Barranco-do-Ve 104.72 54 *e*SS SS 19 36 09.1 +2.5
PBDV Barranco-do-Ve 104.72 54 *e*LQ LQ 19 46 13.9
PBDV *e*LR LR 19 52 10.7
comp=Z,1µm,22.0s
KBS Kingsbay 104.76 10 PFAKE 19 17 10.0 +16
KBS LR LR
comp=Z,2µm,19.0s
POLO Lamas de Olo 104.81 50 *e*SS SS 19 36 13.4 +5.7
POLO Lamas de Olo 104.81 50 *e*LQ LQ 19 46 28.1
POLO *e*LR LR 19 51 53.3
comp=Z,530nm,20.0s
PVAQ Vaqueiros 104.89 54 *e*LQ LQ 19 46 44.7
PVAQ *e*LR LR 19 52 18.1
comp=Z,1µm,22.0s
PESTR Estremoz 104.99 52 *e*SS SS 19 36 14.4 +4.2
PESTR Estremoz 104.99 52 *e*LQ LQ 19 47 00.2
PESTR *e*LR LR 19 52 37.5
comp=Z,1µm,20.0s
MTE Manteigas 105.01 51 *e*LQ LQ 19 46 49.8
MTE *e*LR LR 19 51 48.3
comp=Z,1µm,24.0s
PMRV Marv??o 105.14 52 *e*SS SS 19 36 15.0 +2.8
PMRV Marv??o 105.14 52 *e*LQ LQ 19 46 54.9
PMRV *e*LR LR 19 52 26.1
comp=Z,1µm,20.0s
MVO Moncorvo 105.39 50 *e*SS SS 19 36 17.1 +1.5
MVO Moncorvo 105.39 50 *e*LQ LQ 19 47 14.1
MVO *e*LR LR 19 51 46.3
comp=Z,892nm,20.0s
PBAR Barrancos 105.42 53 *e*SS SS 19 36 18.4 +2.3
PBAR Barrancos 105.42 53 *e*LQ LQ 19 47 13.9
PBAR *e*LR LR 19 52 38.5
comp=Z,1µm,20.0s
RTC Rabat Centre 105.56 57 PFAKE 19 21 20.0
RTC LR LR
comp=Z,3µm,20.0s
PBRG Braganca 105.59 49 *e*LR LR 19 52 30.5
comp=Z,1µm,22.0s
ESK Eskdalemuir 106.77 35 PFAKE 19 21 30.0
ESK LR LR
comp=Z,2µm,22.0s
GUMO Guam 107.14 281 PFAKE 19 21 30.0
GUMO LR LR
comp=Z,2µm,20.0s
PAB San Pablo 107.49 51 PFAKE 19 21 30.0
PAB LR LR
comp=Z,2µm,21.0s
ESDC Sonseca Array 107.78 51 PP PP 19 21 34.9 -2.4
comp=Z,0.1nm,0.3s,baz=288,slow=7.0,SNR=3.0
TIXI Tiksi 108.28 343 PFAKE 19 21 30.0
TIXI LR LR
comp=Z,938nm,20.0s
YSS Yuzh-Sakhalins 108.71 316 PFAKE 19 21 30.0
YSS LR LR
comp=Z,786nm,21.0s
ERM Erimo 108.91 311 PFAKE 19 21 30.0
ERM LR LR
comp=Z,2µm,21.0s
WRAB Tennant Creek 110.80 245 PFAKE 19 21 30.0
WRAB LR LR
comp=Z,1µm,20.0s
YAK Yakutsk 112.18 334 PFAKE 19 21 40.0
YAK LR LR
comp=Z,1µm,22.0s
KONO Kongsberg 112.36 29 PFAKE 19 21 40.0
KONO LR LR
comp=Z,2µm,22.0s
TORD Torodi Ar. Bea 112.60 80 PKKPbc PKKPbc 19 32 13.9 -0.5
comp=Z,0.3nm,0.8s,baz=76,slow=3.7,SNR=2.9
MAJO Matsushiro 113.25 306 PFAKE 19 21 40.0
MAJO LR LR
comp=Z,1µm,20.0s
SSB Saint Sauveur 113.36 45 PFAKE 19 21 40.0
SSB LR LR
comp=Z,969nm,20.0s
KEV Kevo 113.44 15 PFAKE 19 21 40.0
KEV LR LR
comp=Z,2µm,21.0s
WLF Walferdange 113.48 40 PFAKE 19 21 40.0
WLF LR LR
comp=Z,2µm,20.0s
HABR Khabarovsk 113.57 319 *e*P **Pdif** **19 17 36.5 +2.6**
HABR *e* 19 22 18.1
HABR *e*PPP PPP 19 24 41.6
HABR *e*SP SP 19 31 53.1 +1.1
HABR *e*PS **PS** **19 31 54.5 -0.7**
HABR *e*SS **SS** **19 38 06.1 +1.4**
HABR *e*SSS SSS 19 42 19.3
HABR pmax pmax
comp=N,22nm,2.1s
HABR pmax pmax
comp=Z,24nm,2.1s
HABR pmax pmax
comp=E,15nm,2.1s
HABR MLR MLR
comp=Z,801nm,18.0s
BNI Bardonecchia 114.89 45 PFAKE 19 21 40.0 +10
BNI LR LR
comp=Z,1µm,20.0s
BFO Black Forest 115.21 41 PFAKE 19 21 40.0 +10
BFO LR LR
comp=Z,799nm,19.0s
TUE Stuetta 116.36 42 PFAKE 19 21 40.0 +7.5
TUE LR LR
comp=Z,2µm,19.0s
TAM Tamanrasset 116.56 69 PFAKE 19 21 40.0 +6.5
TAM LR LR
comp=Z,913nm,20.0s
LVZ Lovozero 116.71 14 PFAKE 19 21 40.0 +7.7
LVZ LR LR
comp=Z,2µm,22.0s
CLL Collm 117.17 36 *e*PP PP 19 22 43.0 -0.7
CLL *e* 19 22 52.0
comp=Z,53nm,2.4s
CLL *e*PPP PPP 19 25 12.0
CLL *e*PPPP 19 27 06.0
CLL *e*SKKSac SKKSac 19 29 45.0 +1.3
CLL *e*PS **PKKPdf** **19 32 27.0 0.0**
CLL *e*PPS PPS 19 33 40.0
CLL *e*SS **SS** **19 38 50.0 -1.7**
CLL *e*SSS SSS 19 43 14.0
SUR Sutherland 117.19 134 PFAKE 19 21 50.0 +15
SUR LR LR
comp=Z,4µm,20.0s
NKC Novy Kostel 117.21 38 *e*SP SP 19 32 26.0 +0.9
NKC AMS AMS 20 07 20.0
comp=Z,1µm,21.5s
VLC Villacollemand 117.67 45 PFAKE 19 21 50.0 +15
VLC LR LR
comp=Z,905nm,19.0s
VSL Villasalto 118.02 50 PFAKE 19 21 50.0 +14
VSL LR LR
comp=Z,1µm,22.0s
MDJ Mudanjiang 118.19 316 PKP **PKPdf** **19 21 36.1 +0.3**
MDJ sPKP 19 21 41.0
MDJ PKS **PKSdf** **19 25 10.6 -1.7**
MDJ SKS **SKSdf** **19 28 46.6 -0.3**
MDJ AMB AMB
comp=Z,74nm,5.4s
MDJ LR LR
comp=Z,520nm,23.6s
MDJ LR LR
comp=Z,1µm,22.7s
MDJ LR LR
comp=Z,2µm,20.9s
MDJ Mudanjiang 118.19 316 PFAKE 19 21 50.0 +14
MDJ LR LR
comp=Z,2µm,22.0s
KHC Kasperske Hory 118.28 39 *e*PKP **PKPdf** **19 21 36.0 +0.1**
KHC *e*SP SP 19 32 33.9 -0.9
KHC *e*SS **SS** **19 39 04.5 -1.8**
KHC AMS AMS 20 03 50.0
comp=Z,2µm,24.7s
KHC Kasperske Hory 118.28 39 *e*PKIKP **PKPdf** **19 21 36.0 +0.1**
KHC *e*SP SP 19 32 33.9 -0.9
KHC *e*SS **SS** **19 39 04.5 -1.8**
KHC MLR MLR
comp=Z,2µm,24.7s
PVCC Panska Ves 118.37 37 AMS AMS 20 05 20.0
comp=Z,1µm,20.3s
GERES GERESS Array B 118.45 39 PKP **PKPdf** **19 21 36.0 -0.3**
comp=Z,0.4nm,0.7s,baz=290,slow=4.0,SNR=5.1
GERES PP **PP** **19 22 53.5 +0.6**
comp=Z,1.1nm,1.0s,baz=294,slow=6.7,SNR=4.3
GERES PKKPbc **PKKPbc** **19 31 53.8 -1.3**
comp=Z,0.7nm,0.9s,baz=140,slow=6.8,SNR=4.7
PRA Prague 118.46 37 AMS AMS 20 08 00.0
comp=Z,1µm,20.3s
PRU Pruhonice 118.56 37 *e*SP SP 19 32 38.5 +1.3
PRU *e*SS **SS** **19 39 09.4 -0.4**
PRU AMS AMS 20 08 10.0
comp=Z,1µm,20.1s
GOPC GO Pecny, Ondr 118.73 37 *e*SP SP 19 32 43.3 +4.4
GOPC AMS AMS 20 04 50.0
comp=Z,1µm,21.0s
NWAO Narrogin (SRO) 118.89 224 PFAKE 19 21 50.0 +12
NWAO LR LR
comp=Z,2µm,20.0s

FITZ	**Fitzroy Crossi**	**119.16**	**243**	PKP	**PKPdf**	**19 21 40.1**	**+1.7**		
	comp=Z,1.8nm,0.8s,baz=118,slow=4.7,SNR=3.2								
UPC	**Upice**	**119.23**	**37**	*e*SP	SP	19 32 43.4	+0.1		
UPC				AMS	AMS	20 06 10.0			
	comp=Z,2μm,23.2s								
TREC	**Trest**	**119.38**	**38**	AMS	AMS	20 04 50.0			
	comp=Z,2μm,24.2s								
DPC	**Dobruska-Polom**	**119.48**	**37**	*e*SP	SP	19 32 45.3	-0.2		
DPC				AMS	AMS	20 06 10.0			
	comp=Z,1μm,22.4s								
AQU	**L'Aquila**	**120.28**	**46**	PFAKE		19 21 50.0	+10		
AQU				LR	LR				
	comp=Z,2μm,22.0s								
OKC	**Ostrava-Krasne**	**120.76**	**37**	*e*SP	SP	19 32 53.1	-3.8		
OKC				AMS	AMS	20 09 10.0			
	comp=Z,1μm,19.9s								
TSUM	**Tsumeb**	**120.78**	**119**	PFAKE		19 21 50.0	+8.3		
TSUM				LR	LR				
	comp=Z,2μm,22.0s								
INCN	**Inchon**	**122.20**	**309**	PFAKE		19 22 00.0	+16		
INCN				LR	LR				
	comp=Z,46nm,21.0s								
BOSA	**Boshof**	**122.45**	**132**	PKP	**PKPdf**	**19 21 46.5**	**+1.9**		
	comp=Z,8.8nm,1.0s,baz=279,slow=3.1,SNR=4.2								
PSZ	**Piszkesteto**	**122.62**	**38**	PFAKE		19 22 00.0	+16		
PSZ				LR	LR				
	comp=Z,630nm,20.0s								
CUC	**Castrocucco**	**122.70**	**48**	PFAKE		19 22 00.0	+15		
CUC				LR	LR				
	comp=Z,675nm,20.0s								
STHS	**Stebnicka Huta**	**122.76**	**36**	*e*PKIKP	**PKPdf**	**19 21 47.1**	**+2.7**		
STHS	**Stebnicka Huta**	**122.76**	**36**	*e*PKP	**PKPdf**	**19 21 47.1**	**+2.7**		
HIA	**Hailar**	**122.77**	**324**	PFAKE		19 22 00.0	+16		
HIA				LR	LR				
	comp=Z,2μm,21.0s								
WDD	**Wied Dalam**	**122.80**	**53**	PFAKE		19 22 00.0	+15		
WDD				LR	LR				
	comp=Z,574nm,20.0s								
MBWA	**Marble Bar**	**122.99**	**238**	PFAKE		19 22 00.0	+14		
MBWA				LR	LR				
	comp=Z,3μm,20.0s								
CEL	**Celeste**	**123.25**	**50**	PFAKE		19 22 00.0	+14		
CEL				LR	LR				
	comp=Z,1μm,22.0s								
KLMR	**Klimovskoe**	**123.54**	**18**	*e*PKIKP	**PKPdf**	**19 21 45.3**	**-0.2**		
KLMR				*e*		19 23 24.1			
KLMR				pmax	pmax				
	comp=Z,24nm,1.4s								
TIR	**Tirane**	**125.18**	**45**	PFAKE		19 22 00.0	+11		
TIR				LR	LR				
	comp=Z,834nm,22.0s								
DAV	**Davao City (W)**	**125.42**	**272**	PFAKE		19 22 00.0	+9.5		
DAV				LR	LR				
	comp=Z,864μm,22.0s								
KIEV	**Kiev**	**126.46**	**31**↓↓	*e*PKIKP	**PKPdf**	**19 21 52.3**	**+0.9**		
KIEV				*i*		19 21 55.3			
KIEV	**Kiev**	**126.46**	**31**	PFAKE		19 22 00.0	+8.6		
KIEV				LR	LR				
	comp=Z,1μm,22.0s								
AKASG	**Malin Array Be**	**126.46**	**31**	PKP	**PKPdf**	**19 21 51.7**	**+0.3**		
	comp=Z,1.3nm,0.5s,baz=293,slow=2.5,SNR=10								
AKASG				PP	**PP**	**19 23 43.5**	**-3.2**		
	comp=Z,0.2nm,0.2s,baz=317,slow=6.4,SNR=5.8								
OBN	**Obninsk**	**126.90**	**24**	PFAKE		19 22 00.0	+7.9		
OBN				LR	LR				
	comp=Z,1μm,21.0s								
SSE	**Sheshan**	**128.12**	**302**	PKP	**PKPdf**	**19 21 52.6**	**-2.6**		
SSE				AMB	AMB				
	comp=Z,98nm,3.8s								
SSE				LR	LR				
	comp=Z,510nm,22.9s								
SSE				LR	LR				
	comp=Z,690nm,22.9s								
SSE				LR	LR				
	comp=Z,1μm,22.8s								
KIS	**Kishinev**	**128.35**	**35**	LRM	MLR	19 23 30.0			
	comp=Z,300nm,16.0s								
SOKR	**Solikamsk**	**128.62**	**9**↑	*i*PKIKP	**PKPdf**	**19 21 53.5**	**-1.7**		
SOKR				SS	SS	19 41 22.2	+6.6		
SOKR				pmax	pmax				
	comp=Z,9.0nm,0.9s								
KAPI	**Kappang**	**128.88**	**256**	PFAKE		19 22 10.0	+13		
KAPI				LR	LR				
	comp=Z,656nm,20.0s								
TATO	**Taipei**	**129.04**	**295**	PFAKE		19 22 10.0	+13		
TATO				LR	LR				
	comp=Z,2μm,20.0s								
BJI	**Beijing**	**129.09**	**315**	PKP	**PKPdf**	**19 21 56.1**	**-0.7**		
BJI				PP	**PP**	**19 24 05.5**	**+1.0**		
BJI				SS	SS	19 41 25.3	+1.9		
BJI				AMB	AMB				
	comp=Z,220nm,8.8s								
BJI				LR	LR				
	comp=Z,880nm,19.8s								
BJI				LR	LR				
	comp=Z,1μm,19.4s								
BJI				LR	LR				
	comp=Z,1μm,19.0s								
BJT	**Baijiatuan**	**129.10**	**315**	PFAKE		19 22 10.0	+13		
BJT				LR	LR				
	comp=Z,2μm,19.0s								
YHNB	**Yeheng**	**129.19**	**294**	PFAKE		19 22 10.0	+12		
YHNB				LR	LR				
	comp=Z,2μm,20.0s								
TLY	**Talaya**	**129.65**	**334**	*i* PKIKP	**PKPdf**	**19 22 01.3**	**+3.7**		
TLY				*e*SS	SS	19 41 25.0	-4.2		
TLY				*e*SSS	SSS	19 46 16.5			
TLY				pmax	pmax				
	comp=Z,9.0nm,0.7s								
TLY	**Talaya**	**129.65**	**334**	PFAKE		19 22 10.0	+12		
TLY				LR	LR				
	comp=Z,2μm,22.0s								
ZAK	**Zakamensk**	**130.74**	**333**	*e*PKIKP	**PKPdf**	**19 21 58.2**	**-1.6**		
ZAK				pmax	pmax				
	comp=Z,5.0nm,1.5s								
MOY	**Mondy**	**130.79**	**335**	*e*PKIKP	**PKPdf**	**19 22 07.2**	**+7.3**		
SONM	**Songino Array**	**130.95**	**328**	PKP	**PKPdf**	**19 21 59.3**	**-0.9**		
	comp=Z,1.8nm,1.0s,baz=27,slow=1.6,SNR=5.6								
SONM				PP	**PP**	**19 24 18.0**	**+1.7**		
	comp=Z,0.3nm,0.6s,baz=55,slow=5.5,SNR=3.1								
SANT	**Santorini**	**131.07**	**49**	PFAKE		19 22 10.0	+9.3		
SANT				LR	LR				
	comp=Z,429nm,20.0s								
LSZ	**Lusaka**	**131.60**	**120**	PFAKE		19 22 10.0	+7.6		
LSZ				LR	LR				
	comp=Z,2μm,19.0s								
HHC	**Hu-ho-hao-te**	**131.86**	**318**	*e*PKP	**PKPdf**	**19 22 03.8**	**+1.6**		
HHC				PP	**PP**	**19 24 23.6**	**+1.0**		
HHC				SKS	**SKSdf**	**19 29 14.9**	**+2.0**		
HHC				SS	**SS**	**19 42 03.8**	**+6.3**		
HHC				AMB	AMB				
	comp=Z,82nm,8.0s								
HHC				LR	LR				
	comp=Z,1μm,20.1s								
HHC				LR	LR				
	comp=Z,1μm,23.1s								
HHC				LR	LR				
	comp=Z,2μm,23.7s								
ARU	**Arti**	**131.93**	**9**	*i* PKIKP	**PKPdf**	**19 22 02.3**	**+0.6**		
ARU						19 24 20.6			
ARU				MLR	MLR				
	comp=Z,1μm,22.0s								
ARU	**Arti**	**131.93**	**9**	*e*PKPdf	**PKPdf**	**19 22 00.7**	**-1.0**		
ARU				LR	LR				
	comp=Z,1μm,19.0s								
SIM	**Simferopol'**	**132.55**	**35**	PKHKP	PKPpre	19 21 40.7			
SIM				pmax	pmax				
	comp=Z,180nm,16.0s								
SIM				MLR	MLR				
	comp=Z,1μm,18.0s								
NVS	**Novosibirsk**	**133.31**	**350**	*e*PKIKP	**PKPdf**	**19 22 10.0**	**+5.7**		
NVS				pmax	pmax				
	comp=Z,18nm,2.2s								
NVS				pmax	pmax				
	comp=E,6.0nm,1.5s								
ZALV	**Zalesovo Beam**	**133.86**	**348**	PKP	**PKPdf**	**19 22 05.2**	**-0.2**		
	comp=E,1.1nm,0.6s,baz=17,slow=1.2,SNR=6.6								
ZALV				PP	**PP**	**19 24 35.5**	**+1.2**		
	comp=E,1.7nm,0.9s,baz=340,slow=3.9,SNR=4.1								
WHN	**Wuhan**	**133.93**	**304**	*e*PKP	**PKPdf**	**19 22 04.0**	**-2.2**		
WHN				SS	SS	19 42 29.1	+5.8		
WHN				LR	LR				
	comp=E,2μm,15.6s								
ANN	**Anapa**	**134.47**	**33**	*i* PKIKP	**PKPdf**	**19 22 12.1**	**+5.3**		
ANN				*e*		19 22 15.8			
ANN				*e*		19 24 37.5			
ANN				*e*SS	SS	19 42 19.0	-9.1		
ANN				*e*SSS	SSS	19 47 19.8			
ANN				pmax	pmax				
	comp=Z,110nm,1.5s								
ANN				MLR	MLR				
	comp=N,531nm,19.0s								
ANN				MLR	MLR				
	comp=Z,977nm,19.0s								
ANN				MLR	MLR				
	comp=E,497nm,19.0s								
KKM	**Kota Kinabalu**	**134.55**	**269**	PFAKE		19 22 20.0	+12		
KKM				LR	LR				
	comp=Z,712nm,21.0s								
ANTO	**Ankara**	**134.64**	**41**	PFAKE		19 22 20.0	+13		
ANTO				LR	LR				
	comp=Z,494nm,20.0s								
BRTR	**Keskin Array B**	**135.26**	**41**	PKP	**PKPdf**	**19 22 08.8**	**+0.1**		
	comp=Z,2.7nm,0.7s,baz=203,slow=1.5,SNR=15								
BRVK	**Borovoye**	**136.22**	**0**	*e*PKIKP	**PKPdf**	**19 22 09.4**	**-0.4**		
BRVK				MLR	MLR				
	comp=Z,688nm,21.0s								
BRVK	**Borovoye**	**136.22**	**0**	*e*PKPdf	**PKPdf**	**19 22 09.4**	**-0.4**		
BRVK				LR	LR				
	comp=Z,688nm,21.0s								
BVAR	**Borovoye Array**	**136.26**	**0**	PP	PP	19 24 48.6	-0.7		
	comp=Z,0.6nm,0.7s,baz=33,slow=3.4,SNR=3.0								
SOC	**Sochi**	**136.50**	**33**	*i* PKIKP	**PKPdf**	**19 22 10.8**	**+0.1**		
SOC				*e*		19 24 51.3			
SOC				*e*SS	SS	19 42 50.0	-2.6		
SOC				*e*SSS	SSS	19 47 59.9			
SOC				pmax	pmax				
	comp=Z,16nm,0.5s								
CSS	**Mathiatis**	**137.47**	**47**	PFAKE		19 22 20.0	+7.2		
CSS				LR	LR				
	comp=Z,102nm,20.0s								
AKTO	**Aktyubinsk**	**137.58**	**12**	PKP	**PKPdf**	**19 22 13.8**	**+1.3**		
	comp=Z,6.3nm,1.1s,baz=338,slow=1.3,SNR=2.9								
KIV	**Kislovodsk**	**137.76**	**30**	PFAKE		19 22 20.0	+6.9		
KIV				LR	LR				
	comp=Z,674nm,20.0s								
ENH	**Enshi**	**137.97**	**306**	PFAKE		19 22 30.0	+16		
ENH				LR	LR				
	comp=Z,1μm,19.0s								
KURK	**Kurchatov**	**138.02**	**352**	PFAKE		19 22 20.0	+6.8		
KURK				LR	LR				
	comp=Z,2μm,19.0s								
KBZ	**Khabaz**	**138.03**	**30**	PKP	**PKPdf**	**19 22 15.6**	**+2.2**		
	comp=Z,5.4nm,0.9s,baz=184,slow=4.9,SNR=9.3								
LZH	**Lanzhou**	**139.50**	**317**	*e*PKP	**PKPdf**	**19 22 12.5**	**-4.2**		
LZH				sPKP		19 22 17.8			
LZH				PP	**PP**	**19 25 12.4**	**+1.6**		
LZH				AMB	AMB				
	comp=Z,200nm,9.7s								
LZH				LR	LR				
	comp=Z,2μm,21.0s								
KSM	**Kuching**	**139.62**	**261**	PFAKE		19 22 30.0	+13		
KSM				LR	LR				
	comp=Z,750nm,19.0s								
GTA	**Gaotai**	**140.05**	**324**	*e*PKP	**PKPdf**	**19 22 17.3**	**-0.2**		
GTA				PP	**PP**	**19 25 16.9**	**+3.0**		
GTA				SKS	**SKSdf**	**19 29 25.8**	**-1.3**		
GTA				SKKS	**SKKSac**	**19 32 07.8**	**+0.3**		
GTA				SS	**SS**	**19 43 38.6**	**+3.5**		
GTA				AMB	AMB				
	comp=Z,100nm,7.6s								
GTA				LR	LR				
	comp=Z,840nm,22.3s								
GTA				LR	LR				
	comp=Z,670nm,22.1s								
GTA				LR	LR				
	comp=Z,1μm,21.6s								
QIZ	**Qiongzhong**	**140.63**	**289**	PKP	**PKPdf**	**19 22 17.6**	**-1.3**		
QIZ				PP	**PP**	**19 25 17.9**	**-0.7**		
QIZ				SS	SS	19 43 45.3	+1.3		
QIZ				LR	LR				
	comp=Z,1μm,14.3s								
QIZ				LR	LR				
	comp=Z,1μm,33.1s								
QIZ	**Qiongzhong**	**140.63**	**289**	PFAKE		19 22 30.0	+11		
QIZ				LR	LR				
	comp=Z,1μm,19.0s								
MAK	**Makhachkala**	**140.79**	**27**	*i* P	**Pdif**	**19 19 31.6**	**-3.6**		
MAK				*i*		19 22 20.6			
MAK				*e*SS	SS	19 43 40.0	-2.8		
MAK				*e*SSS	SSS	19 48 59.7			
MAK				pmax	pmax				
	comp=Z,308nm,1.6s								
MKAR	**Makanchi Array**	**141.16**	**347**	PKP	**PKPdf**	**19 22 19.6**	**+0.5**		
	comp=Z,2.5nm,0.8s,baz=41,slow=3.1,SNR=13								
GNI	**Garni**	**141.58**	**32**	PFAKE		19 22 30.0	+10		
GNI				LR	LR				
	comp=Z,811nm,20.0s								
GYA	**Guiyang**	**141.65**	**301**	PKP	**PKPdf**	**19 22 20.3**	**-0.4**		
GYA				PP	**PP**	**19 25 27.8**	**+3.3**		
GYA				PKS	**PKSdf**	**19 25 55.0**	**-1.9**		
GYA				SKKS		19 32 16.4			
GYA				SS	**SS**	**19 43 55.6**	**+0.2**		
GYA				AMB	AMB				
	comp=Z,150nm,7.9s								
GYA				LR	LR				
	comp=Z,150nm,24.6s								
GYA				LR	LR				
	comp=Z,130nm,23.2s								
CD2	**Chengdu**	**142.19**	**310**	*e*PKP	**PKPdf**	**19 22 20.5**	**-1.0**		
CD2				SKKS		19 32 20.1			
CD2				SS	**SS**	**19 44 00.9**	**0.0**		
CD2				AMB	AMB				
	comp=Z,240nm,7.6s								
CD2				LR	LR				
	comp=Z,740nm,18.0s								
CD2				LR	LR				
	comp=Z,1μm,26.6s								
CD2				LR	LR				
	comp=Z,1μm,21.8s								
WMQ	**Urumqi**	**142.34**	**339**	PKP	**PKPdf**	**19 22 19.3**	**-2.1**		
WMQ				pPKP	sPKPdf	19 22 30.0	-0.6		
WMQ				PP	**PP**	**19 25 31.3**	**+4.1**		
WMQ				SS	SS	19 44 06.9	+6.2		
WMQ				AMB	AMB				
	comp=Z,150nm,4.3s								
WMQ				LR	LR				
	comp=Z,1μm,25.9s								
WMQ				LR	LR				
	comp=Z,850nm,24.5s								
WMQ				LR	LR				
	comp=Z,2μm,25.9s								
ABPO	**Ambohimpanom**	**143.84**	**141**	*e*PKIKP	**PKPdf**	**19 22 24.4**	**-0.5**		
ABPO				MLR	MLR				
	comp=Z,679nm,21.0s								
ABPO	**Ambohimpanom**	**143.84**	**141**	*e*PKPdf	**PKPdf**	**19 22 24.4**	**-0.5**		
ABPO				LR	LR				
	comp=Z,679nm,21.0s								
KMBO	**Kilima Mbogo**	**145.39**	**105**	PKPbc	**PKPdf**	**19 22 27.9**	**0.0**		
	comp=Z,1.6nm,0.3s,baz=209,slow=3.7,SNR=14								
KMBO	**Kilima Mbogo**	**145.39**	**105**	PKPbc	**PKPdf**	**19 22 27.9**	**0.0**		
KMBO				LR	LR				
	comp=Z,1μm,21.0s								
KMI	**Kunming**	**145.43**	**301**	PKPbc	**PKPbc**	**19 22 26.8**	**-0.7**		
KMI				pPKP	PKiKP	19 22 31.4	-0.1		
KMI				PP	**PP**	**19 25 48.8**	**+1.4**		
KMI				SKS	**SKSdf**	**19 29 33.3**	**-2.9**		
KMI				LR	LR				
	comp=Z,690nm,20.8s								
KMI				LR	LR				
	comp=Z,2μm,24.1s								
KMI				LR	LR				
	comp=Z,2μm,23.3s								
SLVN	**Son La**	**145.61**	**294**	*e*PKPdf	**PKPdf**	**19 22 26.9**	**-0.8**		
KKAR	**Karatay Array**	**146.18**	**360**	*e*PKP2	**PKPbc**	**19 22 29.0**	**0.0**		
KKAR	**Karatay Array**	**146.18**	**360**	*e*PKPdf	**PKPbc**	**19 22 29.0**	**0.0**		
FRU	**Bishkek**	**146.25**	**354**	*e*PKP2	**PKPbc**	**19 22 29.0**	**-0.3**		
FRU				pmax	pmax				
	comp=Z,200nm,2.0s								
FRU				MLR	MLR				
	comp=E,1μm,18.0s								
COCO	**West Island**	**146.27**	**232**	PFAKE		19 22 40.0	+9.3		
COCO				LR	LR				
	comp=Z,2μm,19.0s								
AAK	**Ala-Archa**	**146.46**	**355**	PKPbc	**PKPbc**	**19 22 29.5**	**-0.5**		
	comp=Z,5.9nm,0.9s,baz=45,slow=2.3,SNR=9.4								
AAK	**Ala-Archa**	**146.46**	**355**	PKPbc	**PKPbc**	**19 22 29.5**	**-0.5**		
AAK				LR	LR				
	comp=Z,1μm,20.0s								
CHAI	**Chaiyaphum**	**148.52**	**285**	PKP	**PKPab**	**19 22 41.9**	**+2.3**		
GEYT	**Alibeck**	**149.27**	**19**	PKPbc	**PKPbc**	**19 22 36.7**	**-0.9**		
	comp=Z,16nm,0.7s,baz=270,slow=3.0,SNR=19								
IPM	**Ipoh**	**149.29**	**263**	*e*PKPdf	**PKPdf**	**19 22 33.1**	**-0.9**		
NAYO	**Nakonayok**	**149.36**	**283**	PKP	**PKPab**	**19 22 45.6**	**+2.5**		
KSH	**Kashi**	**149.37**	**352**	*e*PKPbc	**PKPbc**	**19 22 36.1**	**-1.8**		
KSH				PKS	**PP**	**19 26 09.4**	**+0.7**		
KSH				PP	PP	19 26 17.0	+8.3		
KSH				SKS	**SKSdf**	**19 29 42.1**	**+1.1**		
KSH				SS	**SS**	**19 45 30.1**	**+10**		
KSH				AMB	AMB				
	comp=Z,340nm,8.3s								
KSH				LR	LR				
	comp=Z,610nm,14.6s								
KSH				LR	LR				
	comp=Z,500nm,14.8s								
KSH				LR	LR				
	comp=Z,1μm,21.5s								
UTTA	**Uttaradit**	**149.54**	**289**	PKP	**PKPab**	**19 22 42.9**	**-0.8**		
KULM	**Kulim**	**149.80**	**265**	PFAKE		19 22 50.0	+5.0		
KULM				LR	LR				
	comp=Z,1μm,19.0s								
SKLT	**Songkhla**	**150.07**	**268**	PKP	**PKPab**	**19 22 47.2**	**+1.1**		
LAMP	**Lampang**	**150.21**	**291**	PKP	**PKPab**	**19 22 47.7**	**+1.2**		
SUKH	**Sukhothai**	**150.45**	**289**	PKP	**PKPab**	**19 22 47.0**	**-0.5**		
CHTO	**Chiang Mai**	**150.77**	**292**	PKP	**PKPbc**	**19 22 44.4**	**+2.6**		
CHTO	**Chiang Mai**	**150.77**	**292**	PFAKE		19 22 50.0	+1.2		
CHTO				LR	LR				
	comp=Z,800nm,20.0s								
CMAR	**Chiang Mai Arr**	**150.86**	**292**	PKPbc	**PKPbc**	**19 22 41.6**	**-0.4**		
	comp=Z,5.1nm,0.7s,baz=64,slow=0.9,SNR=18								
UTHA	**Uthaitani**	**150.99**	**286**	PKP	**PKPbc**	**19 22 45.8**	**+3.5**		
PSI	**Prapat**	**151.00**	**259**	PKPbc	**PKPbc**	**19 22 41.9**	**-0.7**		
	comp=Z,2.9nm,0.4s,baz=164,slow=4.5,SNR=8.6								
PHET	**Kaeng Krachan**	**151.12**	**280**	PKP	**PKPab**	**19 22 57.8**	**+7.4**		
UMPA	**Umpang Tak**	**151.43**	**287**	PKP	**PKPab**	**19 22 49.6**	**-2.0**		
LSA	**Lhasa**	**151.83**	**319**	PKPbc	**PKPbc**	**19 22 42.1**	**-2.4**		
LSA	**Lhasa**	**151.83**	**319**	PFAKE		19 22 50.0	-3.5		
LSA				LR	LR				
	comp=Z,1μm,22.0s								
SHL	**Shillong**	**153.90**	**311**	*e*P	**PKPbc**	**19 22 52.0**	**+3.2**		
MSEY	**Mahe Island**	**159.72**	**132**	PFAKE		19 23 00.0	+11		
MSEY				LR	LR				
	comp=Z,2μm,21.0s								
DGAR	**Diego Garcia**	**163.42**	**187**	PFAKE		19 23 00.0	+7.7		
DGAR				LR	LR				
	comp=Z,1μm,20.0s								

SJA 23 19:11:01.8±0.6, 33.68S×68.60W, h31km±3km, ML3.0, MW3.7, Mendoza Province

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AAGR	**Agrelo**	**0.63**	**342**	*e*P	Pn	19 11 15.0	+0.3
AAGR				*e*S	Sn	19 11 25.1	+1.3
ARCO	**CERRO ARCO**	**0.89**	**341**	*e*P	Pb	19 11 19.2	+0.5
ARCO				IAML		19 11 35.8	
	comp=Z,536nm,0.2s						
ASAL	**Salagasta**	**1.11**	**350**	*e*P	Pb	19 11 23.5	+1.0
AUSP	**Uspallata**	**1.60**	**335**	*e*P	Pb	19 11 30.4	-0.5
RTCV	**Cerro Valdivia**	**1.82**	**1**	*e*P	Pb	19 11 33.2	-1.2
ACAN	**Cantantal**	**1.84**	**40**	*e*P	Pb	19 11 33.6	-1.1
RTLS	**Leoncito**	**1.97**	**342**	*e*P	Pb	19 11 36.0	-1.2
RTLS				IAML		19 12 12.5	
	comp=Z,80nm,0.8s						
ROC1	**El Roble**	**2.15**	**289**	*e*P	Pn	19 11 37.1	+1.3
RTLL	**Cerro Villicun**	**2.35**	**3**	*e*P	Pn	19 11 40.9	+2.5
MRA	**San Martin**	**2.73**	**63**	*e*P	Pn	19 11 46.2	+2.6
AMOG	**MOGNA**	**2.74**	**2**	*e*P	Pn	19 11 46.2	+2.4
ACHE	**Chepes**	**3.00**	**34**	*e*P	Pn	19 11 49.9	+2.5
GO05	**HualaæØ**	**3.06**	**243**	*e*P	Pn	19 11 51.0	+2.9
AVFE	**Valle Fertil**	**3.17**	**18**	*e*P	Pn	19 11 53.0	+3.3
AVFE				IAML		19 12 49.9	
	comp=Z,38nm,0.3s						
TCA	**Tanti**	**4.11**	**56**	*e*P	Pn	19 12 05.1	+2.5
AGUA	**GUANDACOL**	**4.18**	**1**	*e*P	Pn	19 12 07.1	+3.4
VCA	**Vinchina**	**4.94**	**4**	*e*P	Pn	19 12 18.5	+4.3

*IDC **23** 19:16:05.8±2.0, 7.39S×151.10E, h0km, mb3.4/4, mb1 3.7/5, mb1mx3.5/36, mbtmp3.5/5, ML1.2/1, Error ellipse: s-maj=99.8km s-min=26.5km az=133.0*
*ISCJB **23** 19:16:09.7±1.5, 7.35S±0.4×150.8E±0.3, h31km, mb3.4/3, Error ellipse: s-maj=77.3km s-min=14.3km az=143.6*

ISC 23 19:16:11.2±1.8, 7.35S±0.5×150.9E±0.4, h31km, n6, σ0.94/7, mb3.7/3, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**4.24**	**240**	Pn	**Pn**	**19 17 15.0**	**+1.4**
	0.9nm,0.3s,baz=67,slow=13,SNR=3.9						
PMG				Sn	**Sn**	**19 18 01.1**	**-1.0**
	2.0nm,0.3s,baz=9.3,slow=21,SNR=6.4						
WRA	**Warramunga Arr**	**20.38**	**230**	P	**P**	**19 20 45.1**	**-0.4**
	0.5nm,0.4s,baz=57,slow=11,SNR=10.0						
ASAR	**Alice Springs**	**23.03**	**223**	P	**P**	**19 21 13.7**	**-0.2**
	0.3nm,0.6s,baz=57,slow=9.2,SNR=11						
FITZ	**Fitzroy Crossi**	**26.83**	**244**	P	**P**	**19 21 48.4**	**-0.6**
	1.4nm,0.6s,baz=85,slow=6.4,SNR=4.5						
ILAR	**Nielson Array**	**85.18**	**22**	P	**P**	**19 28 44.0**	**-0.2**
	0.4nm,0.8s,baz=253,slow=5.0,SNR=4.0						
TORD	**Torodi Ar. Bea**	**149.15**	**283**	PKPbc	**PKPbc**	**19 35 57.7**	**+0.2**
	0.5nm,0.5s,baz=57,slow=3.3,SNR=8.3						

*ISCJB **23** 19:21:39.6±0.6, 37.29N±0.04×36.40E±0.04, h9km±6km, Error ellipse: s-maj=6.5km s-min=4.9km az=24.2*
*CSEM **23** 19:21:39.4±0.3, 37.34N×36.39E, h20km, MD2.5, Error ellipse: s-maj=10.2km s-min=8.8km az=106.0*
*DDA **23** 19:21:39.1, 37.29N×36.37E, h7km, Md2.5*
*ISK **23** 19:21:39.1, 37.28N×36.44E, h13km, MD2.7*

ISC 23 19:21:39.4±0.9, 37.30N±0.03×36.40E±0.03, h13km±9km, n20, σ0.54/28, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KAMA	**Osmaniye**	**0.24**	**117**	*i* P	**Pg**	**19 21 45.0**	**+0.3**
KAMA				*i* S	**Sg**	**19 21 48.4**	**+0.2**
ANDN	**Andirin**	**0.28**	**352**	*i* P	**Pg**

MERS				*e*SG	**Sb**	**19 55 57.3**	**0.0**
MERS	**Mersin**	**0.45**	**99**	*e*Pg	**Pg**	**19 55 49.9**	**-0.3**
MERS				*e*Sg	**Sb**	**19 55 57.3**	**0.0**
KIZK	**Mersin**	**0.48**	**163**	*e*PG	**Pg**	**19 55 50.1**	**-0.7**
KIZK				*e*SG	**Sg**	**19 55 57.1**	**-0.1**
KIZK	**Mersin**	**0.48**	**163**	*i* P	**Pg**	**19 55 51.0**	**+0.2**
KIZK				*i* S	**Sg**	**19 55 57.4**	**+0.1**
KIZK	**Mersin**	**0.48**	**163**	P	**Pg**	**19 55 51.0**	**+0.2**
KIZK				S	**Sg**	**19 55 57.4**	**+0.1**
KERG	**Konya-Eregli**	**0.49**	**15**	*i* P	**Pg**	**19 55 50.6**	**-0.5**
KERG				*i* S	**Sg**	**19 55 58.0**	**+0.3**
KERG	**Konya-Eregli**	**0.49**	**15**	P	**Pg**	**19 55 50.6**	**-0.5**
KERG				S	**Sg**	**19 55 58.0**	**+0.3**
KEBE	**Keben-Mersin**	**0.53**	**203**	*e*PG	**Pg**	**19 55 51.5**	**-0.3**
KEBE	**Keben-Mersin**	**0.53**	**203**	*e*Pg	**Pg**	**19 55 51.5**	**-0.3**
SLFK	**Silifke-Mersin**	**0.55**	**182**	*e*PG	**Pg**	**19 55 51.9**	**-0.1**
SLFK	**Silifke-Mersin**	**0.55**	**182**	*e*Pg	**Pg**	**19 55 51.9**	**-0.1**
TEVE	**Tevekalti-Mers**	**0.66**	**220**	*e*PG	**Pg**	**19 55 53.7**	**-0.4**
TEVE	**Tevekalti-Mers**	**0.66**	**220**	*e*Pg	**Pg**	**19 55 53.7**	**-0.4**
DED	**Mersin**	**0.67**	**88**	*i* P	**Pg**	**19 55 53.6**	**-0.7**
DED				*i* S	**Sg**	**19 56 02.8**	**-0.3**
IKL	**Isikli**	**0.74**	**198**	*e*PG	**Pg**	**19 55 54.5**	**-1.1**
IKL	**Isikli**	**0.74**	**198**	*e*Pg	**Pg**	**19 55 54.5**	**-1.1**
BERE	**Bereket-Mersin**	**0.84**	**226**	*e*PG	**Pg**	**19 55 57.3**	**-0.3**
BERE	**Bereket-Mersin**	**0.84**	**226**	*e*Pg	**Pg**	**19 55 57.3**	**-0.3**
AKKU	**Akkuyu-Mersin**	**0.85**	**203**	*e*PG	**Pg**	**19 55 57.1**	**-0.6**
AKKU	**Akkuyu-Mersin**	**0.85**	**203**	*e*Pg	**Pg**	**19 55 57.1**	**-0.6**
TEKE	**Tekeli-Mersin**	**1.05**	**221**	*e*PG	**Pg**	**19 56 01.1**	**-0.5**
TEKE	**Tekeli-Mersin**	**1.05**	**221**	*e*Pg	**Pg**	**19 56 01.1**	**-0.5**
AKO	**Adana**	**1.29**	**66**	*i* P	**Pg**	**19 56 05.2**	**-0.9**
KOZT	**Kozan**	**1.58**	**69**	*e*PN	**Pb**	**19 56 10.7**	**+0.6**
KOZT	**Kozan**	**1.58**	**69**	*e*Pn	**Pb**	**19 56 10.7**	**+0.6**

*ISCJB **23** 20:19:34.6±0.8, 36°67N±0°.04×140°.69E±0°.07, h10km±4km, mb3.5/4, Error ellipse: s-maj=9.8km s-min=4.6km az=29.9*
*IDC **23** 20:19:34.8±1.8, 36°.78N×140°.63E, h0km, mb3.6/4, mb1 3.7/4, mb1mx3.5/33, mbtmp3.6/4, Error ellipse: s-maj=37.1km s-min=21.9km az=60.0*
*JMA **23** 20:19:35.6, 36°.70N×140°.61E, h5km±1km, M3.0*
JMA Felt I J1.

ISC 23 20:19:35.6±1.1, 36°.70N±0°.03×140°.62E±0°.06, h6km±8km, n15, σ0$53/20, mb3.6/4, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
JHO	**Hitachi**	**0.10**	**202**	P		**Pg**	**20 19 37.7**	**0.0**
JHO				S		**Sg**	**20 19 39.1**	**-0.1**
ONAJ	**Iwakimizuishiy**	**0.42**	**20**	P		**Pg**	**20 19 43.9**	**+0.1**
ONAJ				S		**Sg**	**20 19 49.8**	**+0.4**
JYT	**Yasato**	**0.58**	**216**	P		**Pg**	**20 19 46.7**	**-0.1**
JYT				*e*S		**Sg**	**20 19 54.7**	**+0.3**
JSB	**Shiboa**	**0.62**	**296**	P		**Pg**	**20 19 48.1**	**+0.6**
JSB				S		**Sb**	**20 19 56.8**	**-1.0**
JFK	**Kawauchi**	**0.69**	**17**	P		**Pg**	**20 19 48.7**	**-0.2**
JFK				S		**Sg**	**20 19 58.2**	**+0.2**
JFT	**Otama**	**0.84**	**345**	P		**Pg**	**20 19 51.7**	**-0.1**
JFT				S		**Sg**	**20 20 02.8**	**+0.1**
MJAR	**Matsushiro Arr**	**1.94**	**266**	Pn		**Pn**	**20 20 09.1**	**-0.1**
	7.8nm,0.3s,baz=84,slow=11,SNR=68							
MJAR				Sn		**Sn**	**20 20 34.6**	**+0.6**
	7.6nm,0.3s,baz=81,slow=32,SNR=13							
MAT	**Matsushiro**	**1.94**	**266**	P		**Pn**	**20 20 09.4**	**+0.2**
MAT				S		**Sb**	**20 20 35.1**	**-0.9**
SONM	**Songino Array**	**27.44**	**305**	P		**P**	**20 25 21.8**	**-0.5**
	0.4nm,0.6s,baz=104,slow=10,SNR=3.6							
H11N2	**WAKE ISLAND Hy**	**28.54**	**119**	T		T	20 55 16.6	
	baz=311							
H11N1	**WAKE ISLAND Hy**	**28.55**	**119**	T		T	20 55 16.7	
	baz=311,slow=74							
H11N3	**WAKE ISLAND Hy**	**28.55**	**119**	T		T	20 55 17.5	
	baz=311,slow=74							
ZALV	**Zalesovo Beam**	**41.66**	**313**	P		**P**	**20 27 24.4**	**-0.3**
	0.9nm,0.6s,baz=75,slow=7.8,SNR=4.3							
WRA	**Warramunga Arr**	**56.65**	**187**	P		**P**	**20 29 19.7**	**0.0**
	0.8nm,0.8s,baz=3.4,slow=7.2,SNR=7.9							
ASAR	**Alice Springs**	**60.38**	**187**	P		**P**	**20 29 46.7**	**+1.0**
	0.3nm,0.8s,baz=2.1,slow=5.9,SNR=4.0							

*SJA **23** 20:31:26.0±0.8, 32°.73S×70°.34W, h120km±7km, ML4.0, MW4.2*
*ISCJB **23** 20:31:27.2±0.3, 32°.70S±0°.03×70°.30W±0°.06, h114km±3km, mb4.4/7, Error ellipse: s-maj=8.1km s-min=4.6km az=20.6*
*IDC **23** 20:31:27.6±3.1, 32°.74S×70°.06W, h90km±27km, mb4.0/5, mb1 3.9/9, mb1mx3.7/25, mbtmp4.2/9, Error ellipse: s-maj=30.6km s-min=16.9km az=96.0*
*GUC **23** 20:31:28.4±0.6, 32°.65S×70°.36W, h106km±7km, ML4.2*

ISC 23 20:31:28.2±0.7, 32°.69S±0°.04×70°.34W±0°.05, h107km±6km, n38, σ1$06/51, mb4.3/7, 3C-6D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
PEL	**Peldehue**	**0.54**	**213**	⇑*i* P		**Pn**	**20 31 44.8**	**-0.3**
PEL				*i* S		**Sn**	**20 31 57.2**	**-0.6**
PEL				IAML			20 31 57.8	
	comp=E,5μm,0.6s							
ROCH	**El Roble**	**0.64**	**243**	⇑*i* P		**Pn**	**20 31 46.0**	**0.0**
ROCH				*i* S		**Sn**	**20 31 59.8**	**+0.4**
ROCH				IAML			20 32 00.0	
	comp=N,14μm,0.6s							
FCH	**Farellones**	**0.64**	**177**	⇓*i* P		**Pn**	**20 31 45.9**	**-0.3**
FCH				*i* S		**Sn**	**20 31 59.8**	**+0.1**
FCH				IAML			20 32 00.7	
	comp=N,12μm,0.2s							
ROC1	**El Roble**	**0.64**	**243**	*e*P		**Pn**	**20 31 46.1**	**0.0**
ROC1				*e*S		**Sn**	**20 32 00.1**	**+0.6**
CLCH	**Cerro Calan**	**0.73**	**193**	⇓*i* P		**Pn**	**20 31 46.5**	**-0.1**
CLCH				*i* S		**Sn**	**20 32 00.5**	**+0.1**
CLCH				IAML			20 32 01.1	
	comp=N,9μm,0.6s							
FSR	**Penalolen**	**0.81**	**191**	⇓*i* P		**Pn**	**20 31 47.6**	**+0.3**
FSR				*i* S		**Sn**	**20 32 02.2**	**+0.5**
ANTU	**Antumapu**	**0.91**	**196**	⇑*i* P		**Pn**	**20 31 48.5**	**+0.1**
ANTU				*i* S		**Sn**	**20 32 03.9**	**+0.4**
ANTU				IAML			20 32 04.1	
	comp=N,14μm,0.5s							
AUSP	**Uspallata**	**0.93**	**60**	*e*P		**Pn**	**20 31 48.5**	**-0.2**
ARCO	**CERRO ARCO**	**1.19**	**98**	*e*P		**Pn**	**20 31 51.2**	**-0.2**
ARCO				IAML			20 32 11.1	
	comp=Z,2μm,0.4s							
RTLS	**Leoncito**	**1.25**	**45**	*e*P		**Pn**	**20 31 52.5**	**+0.3**
RTLS				IAML			20 32 13.5	
	comp=Z,1μm,0.5s							
ASAL	**Salagasta**	**1.27**	**86**	*e*P		**Pn**	**20 31 52.0**	**-0.2**
AAGR	**Agrelo**	**1.33**	**108**	*e*P		**Pn**	**20 31 53.0**	**0.0**
RTCV	**Cerro Valdivia**	**1.73**	**62**	*e*P		**Pn**	**20 31 57.4**	**-0.3**
RTLL	**Cerro Villicun**	**2.08**	**50**	⇓*i* P		**Pn**	**20 32 02.0**	**-0.2**
RTLL				*i* S		**Sn**	**20 32 27.5**	**-0.6**
RTLL	**Cerro Villicun**	**2.08**	**50**	*e*P		**Pn**	**20 32 01.9**	**-0.2**
AMOG	**MOGNA**	**2.35**	**42**	*e*P		**Pn**	**20 32 05.6**	**0.0**
TLL	**Tololo Astrono**	**2.54**	**351**	*e*P		**Pn**	**20 32 08.5**	**+0.2**
TLL				*i* S		**Sn**	**20 32 39.9**	**+0.7**
TLL				IAML			20 32 43.8	
	comp=E,1μm,0.3s							
GO05	**Hualaæø**	**2.67**	**209**	*e*P		**Pn**	**20 32 08.3**	**-1.4**
ACAN	**Cantantal**	**2.69**	**82**	*e*P		**Pn**	**20 32 09.4**	**-0.7**
AVFE	**Valle Fertil**	**3.18**	**51**	*e*P		**Pn**	**20 32 15.9**	**-0.7**
AVFE				IAML			20 32 54.0	
	comp=Z,277nm,0.4s							
AGUA	**GUANDACOL**	**3.56**	**27**	*e*P		**Pn**	**20 32 22.1**	**+0.4**
LCO	**Las Campanas**	**3.68**	**355**	⇓*i* P		**Pn**	**20 32 23.0**	**-0.4**
LCO				*i* S		**Sn**	**20 33 05.5**	**-0.7**
LCO				IAML			20 33 11.9	
	comp=E,354nm,0.4s							
VCA	**Vinchina**	**4.34**	**26**	⇓*i* P		**Pn**	**20 32 31.9**	**-0.4**
VCA				*i* S		**Sn**	**20 33 22.4**	**+0.4**
PLCA	**Paso Flores**	**8.03**	**181**	P		**Pn**	**20 33 21.1**	**-1.0**
	comp=E,0.4nm,0.3s,baz=12,slow=15,SNR=6.8							
LVC	**Limon Verde**	**10.12**	**8**	P		**Pn**	**20 33 46.1**	**-4.7**
	comp=E,24nm,0.3s,baz=150,slow=7.2,SNR=8.0							
CPUP	**Villa Florida**	**12.97**	**64**	P		**Pn**	**20 34 26.2**	**-2.3**
	comp=E,0.2nm,0.3s,baz=235,slow=15,SNR=2.7							
CPUP				S		**Sn**	**20 36 54.8**	**+3.5**
	comp=E,0.2nm,0.3s,baz=168,slow=20,SNR=2.4							
LPAZ	**La Paz**	**16.45**	**8**	P		**P**	**20 35 13.9**	**-0.2**
	comp=E,0.8nm,0.3s,baz=179,slow=7.1,SNR=17							
SIV	**San Ignacio**	**18.62**	**29**	P		**P**	**20 35 37.2**	**-0.3**
	comp=E,0.5nm,0.3s,baz=220,slow=10,SNR=15							

PMSA	**Palmer Station**	**32.35**	**175**	P		**P**	**20 37 46.8**	**0.0**
	comp=E,13nm,0.6s,baz=345,slow=9.9,SNR=12							
SNAA	**Sanae**	**52.27**	**158**	P		**P**	**20 40 28.8**	**+0.7**
	comp=E,2.5nm,0.7s,baz=278,slow=9.4,SNR=13							
TXAR	**Lajitas Array**	**69.31**	**329**	P		**P**	**20 42 25.9**	**+1.8**
	comp=E,0.3nm,0.6s,baz=147,slow=7.5,SNR=5.0							
TXAR				PcP		**pP**	**20 42 51.2**	**+0.2**
	comp=E,0.4nm,0.8s,baz=159,slow=3.8,SNR=4.1							
LIC	**Lamto**	**73.00**	**71**	*e*P		**P**	**20 42 46.4**	**-0.2**
	comp=E,20nm,1.1s							
TIC	**Toumodi**	**73.26**	**70**	*e*P		**P**	**20 42 48.5**	**+0.3**
KIC	**Kosan Boka**	**73.31**	**71**	*e*P		**P**	**20 42 48.3**	**-0.1**
	comp=E,13nm,1.0s							
DBIC	**Dimbokro**	**73.41**	**71**	P		**P**	**20 42 49.2**	**+0.2**
	comp=E,2.5nm,0.5s,baz=220,slow=7.8,SNR=6.6							
TORD	**Torodi Ar. Bea**	**82.42**	**69**	P		**P**	**20 43 39.1**	**+0.2**
	comp=E,2.4nm,0.6s,baz=284,slow=7.0,SNR=30							
WRA	**Warramunga Arr**	**122.59**	**208**	PKP		**PKPdf**	**20 50 11.9**	**+0.1**
	comp=E,0.2nm,0.8s,baz=156,slow=1.9,SNR=4.4							
ZALV	**Zalesovo Beam**	**152.36**	**32**	PKPbc		**PKPbc**	**20 51 12.1**	**+1.1**
	comp=E,2.0nm,0.3s,baz=312,slow=2.6,SNR=10							

MEX 23 20:35:30.7±0.7, 15°.79N×94°.19W, h72km±12km, MD3.8, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
PCIG		**0.94**	**95**	*e*P		Pn	20 35 47.1	-1.4
PCIG				*i* S		Sn	20 36 00.7	-1.1
TGIG		**1.42**	**46**	*i* P		Pn	20 35 54.1	-0.7
TGIG				*e*S		Sn	20 36 10.4	-2.5
CMIG	**Matias Romero**	**1.46**	**333**	*e*P		Pn	20 35 52.9	-2.3
CMIG				*i* S		Sn	20 36 12.7	-1.0
HUIG	**Huatulco**	**1.85**	**270**	*e*P		Pn	20 35 59.3	-1.1
HUIG				*e*S		Sn	20 36 20.4	-2.6
CCIG	**Comitan**	**2.03**	**76**	*e*P		Pn	20 36 02.2	-0.7
CCIG				*i* S		Sn	20 36 25.4	-2.1
TUIG	**Tuzandepetl**	**2.25**	**354**	*i* P		Pn	20 36 05.2	-0.5
TUIG				*i* S		Sn	20 36 30.7	-1.8
VHO	**Vista Hermosa**	**2.76**	**298**	*i* P		Pn	20 36 11.3	-1.5
VHO				*i* S		Sn	20 36 43.7	-1.6

*PDG **23** 20:59:43.3±0.6, 40°.56N×21°.39E, h14km, MD3.9/1, ML3.8/13, Error ellipse: s-maj=0.5km s-min=0.7km az=0.0*
*NEIC **23** 20:59:43.9±0.0, 40°.52N×21°.41E, h0km, ML4.0(THE), After THE.*
*SKO **23** 20:59:43.5, 40°.48N×21°.34E, h3km, M3.1, ML3.9*
*ISCJB **23** 20:59:43.7±0.3, 40°.55N±0°.01×21°.37E±0°.02, h22km±2km, mb3.7/7, Error ellipse: s-maj=2.5km s-min=1.7km az=143.3*
*CSEM **23** 20:59:43.6±0.1, 40°.53N×21°.40E, h10km, ML3.8, Error ellipse: s-maj=2.1km s-min=1.4km az=55.0*
*THE **23** 20:59:43.8, 40°.51N×21°.43E, h0km±1km, ML3.9/10, Error ellipse: s-maj=1.8km s-min=0.6km az=2.0*
*ATH **23** 20:59:43.0, 40°.55N×21°.43E, h24km, ML3.8/17, Error ellipse: s-maj=1.0km s-min=0.7km az=302.0*
*BEO **23** 20:59:45.0±0.6, 40°.71N×21°.28E, h0km, M3.6/6*
*IDC **23** 20:59:48.6±1.6, 40°.56N×21°.40E, h68km±18km, mb3.5/8, mb1 3.6/17, mb1mx3.5/56, mbtmp3.8/17, Error ellipse: s-maj=15.2km s-min=13.7km az=134.0*

ISC 23 20:59:43.8±0.8, 40°.52N±0°.01×21°.39E±0°.01, h17km±5km, n304, σ1$26/425, mb3.7/7, 48C-21D, Greece

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
FNA	**Florina**	**0.26**	**357**	P		**Pg**	**20 59 49.1**	**-0.5**
FNA				S		**Sg**	**20 59 53.4**	**-0.2**
FNA	**Florina**	**0.26**	**357**	P		**Pg**	**20 59 49.2**	**-0.5**
FNA				S		**Sg**	**20 59 53.4**	**-0.2**
FNA	**Florina**	**0.26**	**357**	P		**Pg**	**20 59 49.1**	**-0.5**
FNA				S		**Sg**	**20 59 52.8**	**-0.9**
FNA				AML	AML		20 59 53.5	
FNA				AML	AML		20 59 53.6	
	comp=E,85759μm,0.3s							
FNA	**Florina**	**0.26**	**357**	P		**Pg**	**20 59 49.1**	**-0.5**
FNA				S		**Sg**	**20 59 53.4**	**-0.2**
KZN	**Kozani**	**0.36**	**127**	P		**Pg**	**20 59 51.1**	**-0.2**
KZN				S		**Sg**	**20 59 55.6**	**-0.8**
KZN	**Kozani**	**0.36**	**127**	P		**Pg**	**20 59 51.1**	**-0.2**
KZN				S		**Sg**	**20 59 55.6**	**-0.8**
KZN	**Kozani**	**0.36**	**127**	P		**Pg**	**20 59 51.3**	**-0.1**
KZN				S		**Sb**	**20 59 57.6**	**+0.4**
KZN				AML	AML		20 59 58.4	
	comp=N,85566μm,0.3s							
KZN				AML	AML		20 59 58.5	
	comp=E,60504μm,0.2s							
KZN	**Kozani**	**0.36**	**127**	P		**Pg**	**20 59 51.2**	**-0.1**
KZN				S		**Sb**	**20 59 57.3**	**+0.2**
PENT	**Pentalofos**	**0.38**	**211**	P		**Pg**	**20 59 50.9**	**-0.8**
PENT				S		**Sg**	**20 59 57.3**	**+0.3**
PENT	**Pentalofos**	**0.38**	**211**	P		**Pg**	**20 59 50.9**	**-0.8**
PENT				S		**Sg**	**20 59 57.3**	**+0.3**
BIA	**Bitola**	**0.50**	**354**	P		**Pg**	**20 59 53.2**	**-0.6**
BIA				S		**Sb**	**21 00 01.6**	**+0.4**
BIA	**Bitola**	**0.50**	**354**	⇑*i* Pg		**Pg**	**20 59 53.2**	**-0.6**
BIA				*i* Sg		**Sb**	**21 00 01.5**	**+0.4**
BIA				*e*Lg		Lg	21 00 02.3	
	comp=N,6μm,0.3s							
BIA				*e*Lg		Lg	21 00 02.4	
	comp=E,5μm,0.4s							
BIA	**Bitola**	**0.50**	**354**	P		**Pg**	**20 59 53.4**	**-0.4**
BIA				*i* Sg		**Sb**	**21 00 01.5**	**+0.4**
BIA				*e*Lg		Lg	21 00 02.3	
	comp=E,6μm,0.3s							
BIA	**Bitola**	**0.50**	**354**	P		**Pg**	**20 59 53.4**	**-0.4**
KTI	**Kastanea**	**0.57**	**103**	P		**Pg**	**20 59 54.7**	**-0.4**
KTI	**Kastanea**	**0.57**	**103**	P		**Pg**	**20 59 54.7**	**-0.4**
KPRO	**Kipourio**	**0.57**	**182**	P		**Pg**	**20 59 53.8**	**-1.3**
KPRO				S		**Sb**	**21 00 03.2**	**+0.1**
KPRO	**Kipourio**	**0.57**	**182**	P		**Pg**	**20 59 54.4**	**-0.7**
KPRO				S		**Sb**	**21 00 03.2**	**+0.1**
KPRO	**Kipourio**	**0.57**	**182**	P		**Pg**	**20 59 54.4**	**-0.7**
KPRO				S		**Sb**	**21 00 03.8**	**+0.6**
KPRO				AML	AML		21 00 07.1	
	comp=E,39723μm,0.4s							
KPRO				AML	AML		21 00 08.7	
	comp=N,34898μm,0.4s							
OHR	**Ohrid**	**0.74**	**323**	⇑*i* Pg		**Pb**	**20 59 56.4**	**-1.9**
OHR				*i* Sg		**Sb**	**21 00 07.9**	**-0.2**
OHR				*e*Lg		Lg	21 00 08.6	
	comp=E,4μm,0.5s							
OHR				*e*Lg		Lg	21 00 08.7	
	comp=N,3μm,0.5s							
OHR	**Ohrid**	**0.74**	**323**	⇑*i* Pg		**Pb**	**20 59 56.3**	**-1.9**
OHR				*i* Sg		**Sb**	**21 00 07.9**	**-0.2**
OHR				*e*Lg		Lg	21 00 08.6	
	comp=N,3μm,0.5s							
GRG	**Griva**	**0.88**	**60**	P		**Pb**	**21 00 00.1**	**-0.5**
GRG				S		**Sn**	**21 00 13.6**	**-0.2**
GRG	**Griva**	**0.88**	**60**	P		**Pb**	**21 00 00.1**	**-0.5**
GRG				S		**Sb**	**21 00 11.9**	**-0.2**
GRG	**Griva**	**0.88**	**60**	P		**Pb**	**21 00 00.2**	**-0.3**
GRG				S		**Sb**	**21 00 11.9**	**-0.2**
GRG				AML	AML		21 00 19.9	
	comp=N,25008μm,0.4s							
GRG				AML	AML		21 00 22.7	
	comp=E,15282μm,0.5s							
GRG	**Griva**	**0.88**	**60**	P		**Pb**	**21 00 00.3**	**-0.3**
GRG				S		**Sn**	**21 00 14.3**	**+0.5**
LIT	**Litokhoron**	**0.94**	**116**	P		**Pb**	**21 00 00.7**	**-0.9**
LIT				S		**Sn**	**21 00 15.1**	**-0.1**
LIT	**Litokhoron**	**0.94**	**116**	P		**Pb**	**21 00 01.0**	**-0.6**
LIT				S		**Sb**	**21 00 13.4**	**-0.3**
LIT	**Litokhoron**	**0.94**	**116**	P		**Pb**	**21 00 00.9**	**-0.7**
LIT				S		**Sb**	**21 00 13.4**	**-0.3**
LIT				AML	AML		21 00 19.6	
	comp=N,10590μm,0.3s							
LIT				AML	AML		21 00 20.5	
	comp=E,11046μm,0.4s							
LIT	**Litokhoron**	**0.94**	**116**	P		**Pb**	**21 00 01.0**	**-0.6**
JAN	**Janina**	**0.96**	**206**	P		**Pb**	**21 00 01.2**	**-0.8**
JAN				S		**Sn**	**21 00 15.7**	**-0.1**
JAN	**Janina**	**0.96**	**206**	P		**Pb**	**21 00 01.2**	**-0.8**
JAN				S		**Sn**	**21 00 15.7**	**-0.1**
JAN	**Janina**	**0.96**	**206**	P		**Pb**	**21 00 00.9**	**-1.1**
JAN				S		**Sn**	**21 00 16.6**	**+0.8**
JAN				AML	AML		21 00 24.3	
	comp=N,5634μm,0.3s							
JAN				AML	AML		21 00 25.4	
	comp=E,7995μm,0.4s							
JAN	**Janina**	**0.96**	**206**	P		**Pb**	**21 00 00.8**	**-1.2**
JAN				S		**Sn**	**21 00 15.7**	**-0.1**
THL	**Klokotos Trika**	**1.07**	**153**	P		**Pn**	**21 00 02.8**	**-1.0**
THL	**Klokotos Trika**	**1.07**	**153**	P		**Pb**	**21 00 02.8**	**-1.0**
THL				S		**Sg**	**21 00 18.9**	**+0.4**
THL	**Klokotos Trika**	**1.07**	**153**	P		**Pb**	**21 00 02.6**	**-1.2**
THL				S		**Sg**	**21 00 18.9**	**+0.4**
THL				AML	AML		21 00 22.3	
	comp=E,8468μm,0.4s							
THL				AML	AML		21 00 23.3	
	comp=N,10517μm,0.3s							
LRSO	**Larissa Observ**	**1.15**	**138**	P		**Pn**	**21 00 04.8**	**-0.2**
LRSO	**Larissa Observ**	**1.15**	**138**	P		**Pn**	**21 00 04.8**	**-0.2**
VAY	**Valandovo**	**1.20**	**48**	P		**Pn**	**21 00 05.8**	**+0.1**
VAY	**Valandovo**	**1.20**	**48**	*i* Pg		**Pb**	**21 00 06.4**	**+0.4**
VAY				*i* Sg		**Sg**	**21 00 23.7**	**+1.2**
VAY				*e*Lg		Lg	21 00 28.0	
	comp=E,1μm,0.6s							
VAY				*e*Lg		Lg	21 00 29.0	
	comp=N,1μm,0.5s							
VAY	**Valandovo**	**1.20**	**48**	*e*Pg		**Pn**	**21 00 05.9**	**+0.2**
VAY	**Valandovo**	**1.20**	**48**	P		**Pn**	**21 00 05.8**	**+0.1**
VAY				*i* Sg		**Sg**	**21 00 23.7**	**+1.2**
VAY				*e*Lg		Lg	21 00 28.0	
	comp=N,1μm,0.6s							
VAY	**Valandovo**	**1.20**	**48**	P		**Pn**	**21 00 05.8**	**+0.1**
THE	**Thessaloniki**	**1.20**	**84**	P		**Pn**	**21 00 06.0**	**+0.2**
THE	**Thessaloniki**	**1.20**	**84**	P		**Pn**	**21 00 06.0**	**+0.2**
THE				S		**Sn**	**21 00 21.7**	**0.0**
THE	**Thessaloniki**	**1.20**	**84**	P		**Pb**	**21 00 06.2**	**+0.1**
THE				S		**Sn**	**21 00 21.7**	**0.0**
THE				AML	AML		21 00 23.4	
	comp=E,1714μm,0.6s							
THE				AML	AML		21 00 23.4	
	comp=N,4245μm,0.5s							
THE	**Thessaloniki**	**1.20**	**84**	P		**Pn**	**21 00 06.0**	**+0.2**
HORT	**Hortiatis**	**1.30**	**86**	P		**Pn**	**21 00 07.3**	**+0.1**
HORT				S		**Sg**	**21 00 25.3**	**-0.6**
HORT	**Hortiatis**	**1.30**	**86**	P		**Pn**	**21 00 07.5**	**+0.2**
HORT				S		**Sg**	**21 00 25.3**	**-0.6**
HORT	**Hortiatis**	**1.30**	**86**	P		**Pn**	**21 00 07.5**	**+0.2**
HORT	**Hortiatis**	**1.30**	**86**	P		**Pn**	**21 00 07.3**	**+0.1**
HORT				S		**Sg**	**21 00 25.3**	**-0.6**
KNT	**Kendrikon**	**1.31**	**60**	P		**Pn**	**21 00 07.3**	**0.0**
KNT				S		**Sg**	**21 00 27.8**	**+1.7**
KNT	**Kendrikon**	**1.31**	**60**	P		**Pn**	**21 00 07.5**	**+0.2**
KNT				S		**Sg**	**21 00 27.8**	**+1.7**
KNT	**Kendrikon**	**1.31**	**60**	P		**Pn**	**21 00 07.5**	**+0.2**
KNT	**Kendrikon**	**1.31**	**60**	P		**Pn**	**21 00 07.4**	**+0.2**
KNT				S		**Sg**	**21 00 28.3**	**+2.2**
TIR	**Tirane**	**1.42**	**306**	⇓*i* P		**Pn**	**21 00 09.0**	**+0.2**
TIR	**Tirane**	**1.42**	**306**	S		**Sg**	**21 00 29.9**	**+0.2**
TIR	**Tirane**	**1.42**	**306**	*e*Pn		**Pn**	**21 00 09.2**	**+0.4**
TIR	**Tirane**	**1.42**	**306**	*e*Pn		**Pn**	**21 00 09.2**	**+0.4**
SKO	**Skopje**	**1.45**	**1**	P		**Pn**	**21 00 09.8**	**+0.6**
SKO	**Skopje**	**1.45**	**1**	*i* Pg		**Pb**	**21 00 10.2**	**-0.1**
SKO				*i* Sn		**Sg**	**21 00 31.4**	**+0.8**
SKO				*e*Lg		Lg	21 00 31.7	
	comp=E,222nm,0.8s							
SKO				*e*Lg		Lg	21 00 32.4	
	comp=N,162nm,0.7s							
SKO	**Skopje**	**1.45**	**1**	P		**Pn**	**21 00 09.8**	**+0.6**
SKO	**Skopje**	**1.45**	**1**	*i* Pg		**Pb**	**21 00 10.1**	**-0.1**
SKO				*i* Sn		**Sg**	**21 00 31.3**	**+0.8**
SKO				*e*Lg		Lg	21 00 31.7	
	comp=N,222nm,0.8s							
SKO	**Skopje**	**1.45**	**1**	P		**Pb**	**21 00 09.9**	**-0.4**
KEK	**Kerkira**	**1.47**	**237**	P		**Pn**	**21 00 10.9**	**+0.3**
KEK				S		**Sg**	**21 00 33.2**	**+2.1**
PLG	**Polygyros**	**1.57**	**95**	P		**Pn**	**21 00 11.4**	**+0.5**
PLG	**Polygyros**	**1.57**	**95**	P		**Pn**	**21 00 11.2**	**+0.3**
PLG				S		**Sb**	**21 00 32.5**	**

BARS	**Barje**	**2.31**	**8**⇑	*i*Pg	**Pn**	**21 00 21.6 +0.5**
BARS				*e*Sg	**Sb**	**21 00 53.9 +0.6**
PVY	**Plav**	**2.33**	**333**	*e*Pn	**Pn**	**21 00 22.1 +0.6**
PVY				*e*Sn	**Sn**	**21 00 51.9 +2.1**
DRME	**Dracevica, Mon**	**2.35**	**316**	*e*Pn	**Pn**	**21 00 22.8 +1.2**
DRME				*e*Sn	**Sb**	**21 00 52.4 -2.0**
DRME	**Dracevica, Mon**	**2.35**	**316**	*e*Pn	**Pn**	**21 00 22.8 +1.2**
DRME				*e*Sn	**Sb**	**21 00 52.4 -2.0**
KAVA	**Kavala**	**2.42**	**78**	P	**Pn**	**21 00 22.2 -0.3**
KAVA	**Kavala**	**2.42**	**78**	P	**Pn**	**21 00 22.2 -0.3**
VLS	**Valsamata**	**2.42**	**195**	P	**Pn**	**21 00 23.5 +0.9**
VLS	**Valsamata**	**2.42**	**195**	P	**Pn**	**21 00 23.5 +0.9**
KFL	**Anninata**	**2.46**	**191**	P	**Pn**	**21 00 24.7 +1.7**
KFL	**Anninata**	**2.46**	**191**	P	**Pn**	**21 00 24.7 +1.7**
RLS	**Riolos of Patr**	**2.46**	**179**	P	**Pb**	**21 00 26.5 -1.0**
RLS	**Riolos of Patr**	**2.46**	**179**	P	**Pb**	**21 00 26.5 -1.0**
VTS	**Vitosha**	**2.48**	**33**	⇓*i*Pn	**Pn**	**21 00 24.3 +0.9**
VTS				*e*Sn	**Sn**	**21 00 54.0 +0.7**
VTS	**Vitosha**	**2.48**	**33**	⇑*i*P	**Pn**	**21 00 24.6 +1.2**
VTS	**Vitosha**	**2.48**	**33**	S	**Sn**	**21 00 53.6 +0.3**
PDG	**Podgorica**	**2.49**	**321**	⇑*i*Pg	**Pn**	**21 00 24.8 +1.3**
PDG				*e*Sg	**Sb**	**21 00 58.4 0.0**
PDG	**Podgorica**	**2.49**	**321**	⇓*i*P	**Pn**	**21 00 25.1 +1.5**
PDG	**Podgorica**	**2.49**	**321**	S	**Sn**	**21 00 53.7 +0.2**
PDG	**Podgorica**	**2.49**	**321**	*e*Pn	**Pn**	**21 00 25.0 +1.5**
PDG				*e*Sn	**Sn**	**21 00 55.4 +1.9**
TTG	**Podgorica**	**2.49**	**321**	⇑*i*Pn	**Pn**	**21 00 24.8 +1.3**
TTG				*e*Sn	**Sn**	**21 00 55.4 +1.9**
KLV	**Kalavryta, Ach**	**2.54**	**166**	P	**Pn**	**21 00 25.8 +1.5**
KLV	**Kalavryta, Ach**	**2.54**	**166**	P	**Pn**	**21 00 25.8 +1.5**
DRO	**Drossia**	**2.58**	**174**	P	**Pn**	**21 00 26.4 +1.6**
DRO	**Drossia**	**2.58**	**174**	P	**Pn**	**21 00 26.4 +1.6**
BUM	**Brajici-Budva**	**2.59**	**314**	⇑*i*Pn	**Pn**	**21 00 25.9 +1.0**
BUM				*e*Sn	**Sn**	**21 00 58.4 +2.4**
BEY	**Berane**	**2.60**	**335**	⇓*i*Pn	**Pn**	**21 00 25.9 +0.8**
BEY				*e*Sn	**Sn**	**21 00 58.5 +2.1**
IVA	**Berane**	**2.60**	**335**	⇓*i*Pn	**Pn**	**21 00 25.9 +0.8**
IVA				*e*Sn	**Sn**	**21 00 58.5 +2.1**
THAL	**Thalero**	**2.67**	**158**	P	**Pn**	**21 00 28.1 +2.1**
THAL	**Thalero**	**2.67**	**158**	P	**Pn**	**21 00 28.1 +2.1**
SELS	**Selova**	**2.70**	**356**	*e*Pn	**Pn**	**21 00 27.1 +0.6**
VIL2	**Platees**	**2.73**	**147**	P	**Pn**	**21 00 27.9 +1.1**
CEME	**Cevo**	**2.75**	**318**	⇑*i*Pn	**Pn**	**21 00 27.9 +0.8**
CEME				*e*Sn	**Sn**	**21 01 02.1 +2.2**
CEME	**Cevo**	**2.75**	**318**	⇑*i*Pn	**Pn**	**21 00 27.9 +0.8**
CEME				*e*Sn	**Sn**	**21 01 02.1 +2.2**
LTK	**Loutraki**	**2.78**	**153**	P	**Pn**	**21 00 27.5 0.0**
LTK	**Loutraki**	**2.78**	**153**	P	**Pn**	**21 00 27.5 0.0**
VILL	**Villia**	**2.79**	**147**	P	**Pn**	**21 00 27.9 +0.3**
NKME	**Niksic**	**2.89**	**322**	⇑*i*Pn	**Pn**	**21 00 30.1 +1.0**
NKME				*e*Sn	**Sn**	**21 01 05.5 +2.0**
NKME	**Niksic**	**2.89**	**322**	⇑*i*Pn	**Pn**	**21 00 30.1 +1.0**
NKME				*e*Sn	**Sn**	**21 01 05.5 +2.0**
ZAPS	**Zavoj**	**2.90**	**18**	⇑*i*Pn	**Pn**	**21 00 30.7 +1.5**
HCY	**Herceg Novi**	**2.91**	**312**	⇓*i*Pn	**Pn**	**21 00 30.1 +0.9**
HCY				*e*Sn	**Sn**	**21 01 06.1 +2.4**
HCY	**Herceg Novi**	**2.91**	**312**	⇓*i*Pn	**Pn**	**21 00 30.1 +0.9**
HCY				*e*Sn	**Sn**	**21 01 06.1 +2.4**
NKY	**Niksic**	**2.91**	**323**	⇓*i*Pn	**Pn**	**21 00 30.5 +1.1**
NKY				*e*Sn	**Sn**	**21 01 05.9 +1.9**
NKY	**Niksic**	**2.91**	**323**	⇓*i*Pn	**Pn**	**21 00 30.5 +1.1**
NKY				*e*Sn	**Sn**	**21 01 05.9 +1.9**
SJES	**Sjenica**	**2.93**	**339**	*e*Pn	**Pn**	**21 00 30.7 +1.0**
SJES				*e*Sg	**Sb**	**21 01 11.0 -0.3**
SKY	**Skiros Island**	**2.94**	**123**	P	**Pn**	**21 00 29.8 +0.1**
SKY	**Skiros Island**	**2.94**	**123**	P	**Pn**	**21 00 29.8 +0.1**
LIA	**Limnos Island**	**2.97**	**101**	P	**Pn**	**21 00 30.0 0.0**
LIA	**Limnos Island**	**2.97**	**101**	P	**Pn**	**21 00 30.0 0.0**
FASA	**Fasano**	**3.09**	**277**	*e*Pn	**Pn**	**21 00 31.9 +0.2**
FASA				*e*Sn	**Sn**	**21 01 06.4 -1.8**
BOVS	**Bovan**	**3.12**	**4**	*e*Pn	**Pn**	**21 00 32.6 +0.5**
BOVS				*e*Sn	**Sn**	**21 01 09.0 0.0**
BOVS	**Bovan**	**3.12**	**4**	*e*Pn	**Pn**	**21 00 32.6 +0.5**
BOVS				*e*Sn	**Sn**	**21 01 09.0 0.0**
ATH	**Athens Observa**	**3.12**	**144**	P	**Pn**	**21 00 32.7 +0.5**
ATH				S	**Sn**	**21 01 10.6 +1.6**
ATH	**Athens Observa**	**3.12**	**144**	P	**Pn**	**21 00 32.7 +0.5**
ATH				S	**Sn**	**21 01 10.6 +1.6**
ATH				AML	AML	21 01 15.4
	comp=N,811µm,0.5s					
ATH				AML	AML	21 01 16.3
	comp=E,1350µm,0.5s					
PTL	**Penteli**	**3.13**	**141**	P	**Pn**	**21 00 33.2 +0.9**
PTL	**Penteli**	**3.13**	**141**	P	**Pn**	**21 00 33.1 +0.9**
TAR1	**Taranto**	**3.13**	**271**	*e*Pn	**Pn**	**21 00 32.4 +0.1**
TAR1					**Sn**	**21 01 08.0 -1.3**
SMTH	**Samothraki Isl**	**3.15**	**90**	P	**Pn**	**21 00 32.3 -0.4**
SMTH	**Samothraki Isl**	**3.15**	**90**	P	**Pn**	**21 00 32.3 -0.4**
TREB	**Trebinje**	**3.16**	**315**	*e*Pn	**Pn**	**21 00 33.0 +0.2**
TREB				*e*Sn	**Sn**	**21 01 11.1 +1.0**
TREB	**Trebinje**	**3.16**	**315**	*e*Pn	**Pn**	**21 00 33.0 +0.2**
TREB				*e*Sn	**Sn**	**21 01 11.1 +1.0**
PLE	**Pljevlja**	**3.18**	**333**	⇑*i*Pn	**Pn**	**21 00 34.1 +1.0**
PLE				*e*Sn	**Sn**	**21 01 12.3 +1.7**
PLE	**Pljevlja**	**3.18**	**333**	⇑*i*Pn	**Pn**	**21 00 34.1 +1.0**
PLE				*e*Sn	**Sn**	**21 01 12.3 +1.7**
BRY	**Bratogost**	**3.20**	**319**	⇑*i*Pn	**Pn**	**21 00 34.1 +0.8**
BRY				*e*Sn	**Sn**	**21 01 12.9 +1.8**
BRY	**Bratogost**	**3.20**	**319**	⇑*i*Pn	**Pn**	**21 00 34.1 +0.8**
BRY				*e*Sn	**Sn**	**21 01 12.9 +1.8**
MASS	**Massafra**	**3.24**	**273**	*e*Pn	**Pn**	**21 00 34.0 +0.2**
MASS				S	**Sn**	**21 01 09.7 -2.2**
UPM	**Unac-Piva**	**3.26**	**326**	⇑*i*Pn	**Pn**	**21 00 35.6 +1.3**
UPM				*e*Sn	**Sn**	**21 01 14.1 +1.4**
UPM	**Unac-Piva**	**3.26**	**326**	⇑*i*Pn	**Pn**	**21 00 35.6 +1.3**
UPM				*e*Sn	**Sn**	**21 01 14.1 +1.4**
DID	**Didima**	**3.34**	**154**	P	**Pn**	**21 00 35.8 +0.6**
DID	**Didima**	**3.34**	**154**	P	**Pn**	**21 00 35.8 +0.6**
GRUS	**Gruza**	**3.40**	**352**	⇑*i*Pn	**Pn**	**21 00 36.7 +0.7**
GRUS	**Gruza**	**3.40**	**352**	⇑*i*Pn	**Pn**	**21 00 36.7 +0.7**
BAI	**Bari**	**3.48**	**281**	Sn	**Sn**	**21 01 14.9 -2.8**
SG1	**Sgolgore (BA)**	**3.60**	**277**	Sn	**Sn**	**21 01 18.0 -2.9**
STON	**Ston**	**3.63**	**312**	*e*Pn	**Pn**	**21 00 40.3 +1.2**
STON				Sn	**Sn**	**21 01 21.6 +0.1**
STON	**Ston**	**3.63**	**312**	*e*Pn	**Pn**	**21 00 40.2 +1.2**
STON				Sn	**Sn**	**21 01 21.6 +0.1**
BBLS	**Lazići**	**3.65**	**337**	*e*Pn	**Pn**	**21 00 39.9 +0.3**
DIVS	**Divibare**	**3.72**	**344**	⇓*i*Pn	**Pn**	**21 00 40.5 0.0**
DIVS	**Divibare**	**3.72**	**344**	⇓*i*Pn	**Pn**	**21 00 40.5 0.0**
TRUS	**Trudelj**	**3.77**	**349**	*i*Pn	**Pn**	**21 00 41.1 0.0**
TRUS	**Trudelj**	**3.77**	**349**	*i*Pn	**Pn**	**21 00 41.1 0.0**
CDT	**Castel del Mon**	**3.93**	**280**	*e*Pn	**Pn**	**21 00 43.4 +0.1**
CDT					**Sn**	**21 01 28.1 -0.8**
PRK	**Paraskevi**	**3.96**	**107**	P	**Pn**	**21 00 45.6 +1.9**
PRK	**Paraskevi**	**3.96**	**107**	P	**Pn**	**21 00 45.6 +1.9**
TEKS	**Tekeris**	**4.25**	**342**	*i*Pn	**Pn**	**21 00 48.1 +0.3**
TEKS	**Tekeris**	**4.25**	**342**	*i*Pn	**Pn**	**21 00 48.1 +0.3**
MDVR	**Moldovita**	**4.26**	**3**	⇓*i*P	**Pn**	**21 00 49.0 +1.1**
MDVR	**Moldovita**	**4.26**	**3**	⇓*i*P	**Pn**	**21 00 49.0 +1.1**
MDVR				S	**Sn**	**21 01 35.4 -1.9**
MS1	**Monte Sant'Ang**	**4.28**	**288**	*e*Pn	**Pn**	**21 00 48.7 +0.5**
MS1				Sn	**Sn**	**21 01 37.7 -0.1**
CUC	**Castrocucco**	**4.30**	**265**	*e*Pn	**Pn**	**21 00 49.7 +1.2**
FGSL	**Fruska Gora**	**4.78**	**346**	*e*Pn	**Pn**	**21 00 55.1 +0.2**
FGSL				*e*Sn	**Sn**	**21 01 46.7 -3.2**
FRGS	**Fruska Gora**	**4.78**	**346**	*e*Pn	**Pn**	**21 00 55.1 +0.2**
FRGS				*e*Sn	**Sn**	**21 01 46.7 -3.2**
CEL	**Celeste**	**4.82**	**244**	*e*Pn	**Pn**	**21 00 56.5 +0.9**
CEL	**Celeste**	**4.82**	**244**	*e*Pn	**Pn**	**21 00 56.5 +0.9**
DOB	**Doboj**	**4.86**	**331**	*e*Pn	**Pn**	**21 00 57.9 +1.9**
GZR	**Gura Zlata**	**4.97**	**11**	⇑*i*P	**Pn**	**21 00 57.8 +0.1**
GZR	**Gura Zlata**	**4.97**	**11**	⇑*i*P	**Pn**	**21 00 57.8 +0.1**
GZR				S	**Sn**	**21 01 52.3 -2.5**
BZS	**Buzias**	**5.09**	**2**	⇑*i*P	**Pn**	**21 00 59.9 +0.6**
BZS	**Buzias**	**5.09**	**2**	⇑*i*P	**Pn**	**21 00 59.9 +0.6**
BZS				S	**Sn**	**21 01 54.6 -3.1**
LOT	**Lotru**	**5.22**	**19**	⇑*i*P	**Pn**	**21 01 01.0 -0.1**
LOT	**Lotru**	**5.22**	**19**	⇑*i*P	**Pn**	**21 01 01.0 -0.1**
LOT				S	**Sn**	**21 01 58.7 -2.3**
BLY	**Banja Luka**	**5.24**	**325**	⇑*i*Pn	**Pn**	**21 01 02.7 +1.4**
BLY	**Banja Luka**	**5.24**	**325**	⇑*i*Pn	**Pn**	**21 01 02.7 +1.4**
ARR	**Arges**	**5.39**	**25**	⇑*i*P	**Pn**	**21 01 04.0 +0.5**
ARR	**Arges**	**5.39**	**25**	⇑*i*P	**Pn**	**21 01 04.0 +0.5**
VOIR		**5.59**	**27**	⇑*i*P	**Pn**	**21 01 06.8 +0.6**
VOIR		**5.59**	**27**	⇑*i*P	**Pn**	**21 01 06.8 +0.6**
VOIR				S	**Sn**	**21 02 08.5 -1.6**
SIRR	**Siria**	**5.75**	**2**	⇑*i*P	**Pn**	**21 01 09.1 +0.9**
SIRR	**Siria**	**5.75**	**2**	S	**Sn**	**21 02 10.6 -3.1**
SIRR	**Siria**	**5.75**	**2**	⇑*i*P	**Pn**	**21 01 09.1 +0.9**
UDBI	**Udbina**	**5.77**	**316**	*e*Pn	**Pn**	**21 01 09.7 +1.1**
UDBI				Sn	**Sn**	**21 02 13.9 -0.6**
UDBI	**Udbina**	**5.77**	**316**	*e*Pn	**Pn**	**21 01 09.7 +1.1**
UDBI				Sn	**Sn**	**21 02 13.8 -0.6**
IDI	**Anoyia**	**5.91**	**151**	P	**Pn**	**21 01 12.1 +1.5**
	comp=E,1.1nm,0.3s,baz=337,slow=14,SNR=14					
IDI				S	**Sn**	**21 02 17.5 -0.5**
	comp=E,4.0nm,0.3s,baz=308,slow=16,SNR=6.4					
ISR	**Istrita**	**5.95**	**38**	⇑*i*P	**Pn**	**21 01 13.2 +2.1**
ISR	**Istrita**	**5.95**	**38**	⇑*i*P	**Pn**	**21 01 13.2 +2.1**
MLR	**Muntele Rosu**	**5.98**	**32**	⇑*i*P	**Pn**	**21 01 12.4 +0.8**
MLR	**Muntele Rosu**	**5.98**	**32**	⇑*i*P	**Pn**	**21 01 12.4 +0.8**
DOPR	**Dopca**	**6.17**	**27**	⇑*i*P	**Pn**	**21 01 15.4 +1.3**
DOPR	**Dopca**	**6.17**	**27**	⇑*i*P	**Pn**	**21 01 15.4 +1.3**
VAE	**Valguarnera**	**6.23**	**243**	P	**Pn**	21 01 20.8 +5.8
	comp=E,0.8nm,0.3s,baz=72,slow=16,SNR=3.9					
VAE				S	**Sn**	**21 02 29.1 +3.3**
	comp=E,4.2nm,0.3s,baz=223,slow=16,SNR=3.9					
AQU	**L'Aquila**	**6.28**	**290**	*e*Pn	**Pn**	**21 01 16.4 +0.8**
AQU	**L'Aquila**	**6.28**	**290**	*e*Pn	**Pn**	**21 01 16.4 +0.8**
NVLJ	**Novalja**	**6.29**	**312**	*e*Pn	**Pn**	**21 01 15.3 -0.3**
NVLJ				Sn	**Sn**	**21 02 23.9 -3.0**
NVLJ	**Novalja**	**6.29**	**312**	*e*Pn	**Pn**	**21 01 15.3 -0.3**
TLB	**Topalu**	**6.37**	**48**	⇓*i*P	**Pn**	**21 01 18.2 +1.4**
TLB	**Topalu**	**6.37**	**48**	⇓*i*P	**Pn**	**21 01 18.2 +1.4**
TIRR	**Tirgusor**	**6.51**	**51**	⇑*i*P	**Pn**	**21 01 20.4 +1.7**
TIRR	**Tirgusor**	**6.51**	**51**	⇑*i*P	**Pn**	**21 01 20.4 +1.7**
PLOR	**Plostina**	**6.56**	**34**	⇑*i*P	**Pn**	**21 01 21.3 +1.8**
PLOR	**Plostina**	**6.56**	**34**	⇑*i*P	**Pn**	**21 01 21.3 +1.8**
VRI	**Vrincioaia**	**6.61**	**34**	⇓*i*P	**Pn**	**21 01 22.0 +1.9**
VRI	**Vrincioaia**	**6.61**	**34**	⇓*i*P	**Pn**	**21 01 22.0 +1.9**
OZLJ	**Ozalj**	**6.69**	**322**	*i*Pn	**Pn**	**21 01 21.0 -0.2**
OZLJ				Sn	**Sn**	**21 02 34.2 -2.7**
OZLJ	**Ozalj**	**6.69**	**322**	*i*Pn	**Pn**	**21 01 20.9 -0.2**
BOJS	**Bojanci**	**6.71**	**320**	*i*Pn	**Pn**	**21 01 21.6 +0.1**
BOJS				*i*Sn	**Sn**	**21 02 35.0 -2.4**
BOJS	**Bojanci**	**6.71**	**320**	Pn	**Pn**	**21 01 21.6 +0.1**
CFR	**Carcaliu**	**6.79**	**45**	⇑*i*P	**Pn**	**21 01 24.2 +1.6**
CFR	**Carcaliu**	**6.79**	**45**	⇑*i*P	**Pn**	**21 01 24.2 +1.6**
BEHE	**Becsehely**	**6.83**	**332**	*e*pPn	Pn	21 01 30.9 +7.8
CRES	**Cresnjev**	**6.85**	**323**	*i*Pn	**Pn**	**21 01 23.5 +0.1**
CRES	**Cresnjev**	**6.85**	**323**	*e*Pn	**Pn**	**21 01 23.3 -0.1**
VISS	**Visnje**	**7.13**	**320**	*i*Pn	**Pn**	**21 01 27.6 +0.4**
VISS	**Visnje**	**7.13**	**320**	*i*Pn	**Pn**	**21 01 27.6 +0.4**
BUD	**Budapest**	**7.17**	**347**	*e*P	**Pn**	**21 01 28.4 +0.7**
BUD	**Budapest**	**7.17**	**347**	*e*Pn	**Pn**	**21 01 28.4 +0.7**
BUD				*e*Sn	**Sn**	**21 02 47.0 -1.6**
CSKK	**Cs˘tkako**	**7.20**	**343**	*e*pPn	Pn	21 01 33.6 +5.4
CEY	**Cerknica**	**7.29**	**318**	*e*Pn	**Pn**	**21 01 28.4 -1.0**
PSZ	**Piszkesteto**	**7.47**	**352**	⇑*i*P	**Pn**	**21 01 32.0 0.0**
PSZ	**Piszkesteto**	**7.47**	**352**	S	**Sn**	**21 02 53.8 -2.5**
PSZ	**Piszkesteto**	**7.47**	**352**	*e*Pn	**Pn**	**21 01 32.2 +0.2**
PSZ	**Piszkesteto**	**7.47**	**352**	*e*P	**Pn**	**21 01 33.1 +1.1**
PSZ				*e*S	**Sn**	**21 02 56.6 +0.3**
PSZ	**Piszkesteto**	**7.47**	**352**	*e*Pn	**Pn**	**21 01 33.1 +1.1**
PSZ				*e*Sn	**Sn**	**21 02 56.6 +0.3**
PSZ	**Piszkesteto**	**7.47**	**352**	*e*Pn	**Pn**	**21 01 32.2 +0.2**
JAVS	**Javornik**	**7.58**	**318**	*i*Pn	**Pn**	**21 01 33.0 -0.5**
JAVS				*i*Sn	**Sn**	**21 02 57.1 -1.9**
JAVS	**Javornik**	**7.58**	**318**	*i*Pn	**Pn**	**21 01 33.0 -0.5**
BURAR	**Bucovina Array**	**7.60**	**20**	⇓*i*P	**Pn**	**21 01 35.4 +1.6**
BURAR	**Bucovina Array**	**7.60**	**20**	⇓*i*P	**Pn**	**21 01 35.4 +1.6**
SOKA	**Soboth**	**7.69**	**325**	*i*Pn	**Pn**	**21 01 35.8 +0.8**
	comp=E,5.1nm,0.3s					
SOKA	**Soboth**	**7.69**	**325**	Pn	**Pn**	**21 01 35.8 +0.8**
	comp=E,5.1nm,0.3s					
OBKA	**Obir**	**7.78**	**323**	*e*Pn	**Pn**	**21 01 37.6 +1.4**
	comp=E,3.0nm,0.4s					
OBKA	**Obir**	**7.78**	**323**	Pn	**Pn**	**21 01 37.6 +1.4**
	comp=E,3.0nm,0.4s					
KECS	**Kecovo**	**7.99**	**356**	*e*Pn	**Pn**	**21 01 41.9 +2.9**
KECS	**Kecovo**	**7.99**	**356**	*e*Pn	**Pn**	**21 01 41.9 +2.9**
KECS				*e*		21 01 48.6
KECS	**Kecovo**	**7.99**	**356**	*e*SN	**Sn**	**21 03 04.9 -3.9**
VYHS	**Vyhne**	**8.18**	**348**	*e*Pn	**Pn**	**21 01 43.2 +1.6**
VYHS	**Vyhne**	**8.18**	**348**	*e*PN	**Pn**	**21 01 43.2 +1.6**
VYHS	**Vyhne**	**8.18**	**348**	*e*P	**Pb**	**21 02 07.2 +2.3**
VYHS	**Vyhne**	**8.18**	**348**	*e*SN	**Sn**	**21 03 08.4 -5.1**
LANS	**Liptovska Anna**	**8.73**	**352**	*e*Sn	**Sn**	**21 03 29.5 +2.2**
LANS	**Liptovska Anna**	**8.73**	**352**	*e*SN	**Sn**	**21 03 29.5 +2.2**
KBA	**Koelnbreinsper**	**8.76**	**321**	*i*Pn	**Pn**	**21 01 51.1 +1.4**
	comp=E,2.3nm,0.3s					
KBA	**Koelnbreinsper**	**8.76**	**321**	Pn	**Pn**	**21 01 51.1 +1.4**
	comp=E,2.3nm,0.3s					
STHS	**Stebnicka Huta**	**8.89**	**359**	*e*PN	Pn	21 01 57.0 +5.6
MOA	**Molln**	**8.93**	**327**	*e*Pn	**Pn**	**21 01 53.1 +1.1**
	comp=E,2.7nm,0.5s					
MOA	**Molln**	**8.93**	**327**	Pn	**Pn**	**21 01 53.1 +1.1**
	comp=E,2.7nm,0.5s					
ABTA	**Abfaltersbach**	**8.95**	**317**	*i*Pn	**Pn**	**21 01 53.3 +1.0**
	comp=E,2.1nm,0.3s					
ABTA	**Abfaltersbach**	**8.95**	**317**	Pn	**Pn**	**21 01 53.3 +1.0**
	comp=E,2.1nm,0.3s					
BRTR	**Keskin Array B**	**9.42**	**91**	P	**Pn**	**21 02 02.4 +3.7**
	comp=E,0.2nm,0.3s,baz=265,slow=12,SNR=6.7					
BRTR				S	**Sn**	**21 03 42.2 -2.1**
	comp=E,0.1nm,0.3s,baz=352,slow=20,SNR=2.6					
VRAC	**Vranov**	**9.42**	**340**	P	**Pn**	**21 02 02.1 +3.5**
	comp=E,0.3nm,0.3s,baz=168,slow=12,SNR=5.2					
GERES	**GERESS Array B**	**9.96**	**329**	P	**Pn**	**21 02 09.1 +3.1**
	comp=E,0.3nm,0.3s,baz=149,slow=14,SNR=16					
MOTA	**Moosalm**	**10.07**	**316**	*i*Pn	**Pn**	**21 02 08.5 +0.8**
	comp=E,1.8nm,0.4s					
MOTA	**Moosalm**	**10.07**	**316**	Pn	**Pn**	**21 02 08.5 +0.8**
	comp=E,1.8nm,0.4s					
KHC	**Kasperske Hory**	**10.23**	**330**	*e*P	**Pn**	**21 02 11.8 +2.0**
KHC				*e*x	x	21 02 25.0
KHC	**Kasperske Hory**	**10.23**	**330**	P	**Pn**	**21 02 11.8 +2.0**
KHC	**Kasperske Hory**	**10.23**	**330**	P	**Pn**	**21 02 07.8 -2.1**
DAVOX	**Davos/Dischmat**	**10.42**	**311**	P	**Pn**	**21 02 15.7 +3.2**
	comp=E,0.7nm,0.3s,baz=128,slow=17,SNR=6.5					
DAVOX				S	**Sn**	**21 04 06.2 -2.7**
	comp=E,0.5nm,0.3s,baz=323,slow=19,SNR=3.1					
DPC	**Dobruska-Polom**	**10.45**	**342**	*e*P	Pn	21 02 23.3 +11
PRU	**Pruhonice**	**10.62**	**335**	*e*P	Pn	21 02 22.2 +7.2
KEST	**Kesra**	**10.62**	**247**	P	**Pn**	**21 02 18.5 +3.3**
	comp=E,0.1nm,0.3s,baz=41,slow=5.6,SNR=4.6					
DAVA	**Damuels**	**10.70**	**313**	*i*Pn	**Pn**	**21 02 17.0 +0.7**
	comp=E,0.8nm,0.2s					
DAVA	**Damuels**	**10.70**	**313**	Pn	**Pn**	**21 02 17.0 +0.7**
	comp=E,0.8nm,0.2s					
MMAI	**Mount Meron Ar**	**13.49**	**119**	P	**Pn**	**21 02 57.4 +3.0**
	comp=E,0.2nm,0.3s,baz=309,slow=12,SNR=3.2					
ESDC	**Sonseca Array**	**19.40**	**276**	P	**P**	**21 04 08.6 -0.3**
	comp=E,0.1nm,0.3s,baz=72,slow=10,SNR=3.6					
HFS	**Hagfors**	**20.21**	**349**	P	**P**	**21 04 16.4 -1.2**
	comp=E,2.3nm,0.4s,baz=176,slow=11,SNR=22					
FINES	**FINESS Array B**	**21.14**	**6**	P	**P**	**21 04 26.1 -1.5**
	comp=E,3.4nm,0.8s,baz=181,slow=12,SNR=11					
NB2	**NORSAR Subarra**	**21.48**	**346**	P	**P**	**21 04 29.7 -1.5**
	comp=E,1.5nm,0.6s,SNR=8.6					
NB2	**NORSAR Subarra**	**21.48**	**346**	P	**P**	**21 04 29.7 -1.5**
	comp=E,1.5nm,0.6s,baz=154,slow=10					
NOA	**NORSAR Array B**	**21.48**	**346**	P	**P**	**21 04 30.1 -1.2**
	comp=E,2.9nm,0.8s,baz=164,slow=11,SNR=11					
EKA	**Eskdalemuir Ar**	**21.97**	**321**	P	**P**	**21 04 35.6 -1.0**
	comp=E,2.1nm,0.7s,baz=118,slow=10,SNR=5.1					
TORD	**Torodi Ar. Bea**	**32.28**	**218**	P	**P**	**21 06 11.4 -0.3**
	comp=E,1.5nm,0.5s,baz=35,slow=9.0,SNR=24					
MKAR	**Makanchi Array**	**43.53**	**61**	P	**P**	**21 07 45.2 -1.1**
	comp=E,0.3nm,0.4s,baz=287,slow=7.6,SNR=7.3					
ZALV	**Zalesovo Beam**	**43.65**	**50**	P	**P**	**21 07 46.0 -1.1**
	comp=E,2.5nm,0.3s,baz=265,slow=8.7,SNR=3.9					
ILAR	**Eielson Array**	**74.64**	**355**	P	**P**	**21 11 20.7 -0.9**
	comp=E,0.7nm,0.7s,baz=18,slow=4.0,SNR=6.8					
ASAR	**Alice Springs**	**121.73**	**95**	PKP	**PKPdf**	**21 18 34.7 -2.2**
	comp=E,0.2nm,0.4s,baz=320,slow=1.9,SNR=4.8					

DJA 23 21:16:57.0±0.7, 6˚S±4˚ × 107˚4E±˚, h10km, M3.8/6, MLv3.8/6, Southwest of Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KASI	**Kota Agung**	**1.14**	**46**	P	Pb	21 17 18.0	-0.8
KASI				S	Sb	21 17 33.2	-0.5
LWLI	**Liwa**	**1.35**	**17**	P	Pn	21 17 22.0	0.0
LWLI				S	Sn	21 17 40.3	+0.2
CGJI	**Cibinong**	**2.03**	**98**	P	Pn	21 17 31.0	-0.3
CGJI				S	Sb	21 17 59.0	-0.4
MNAI	**Manna**	**2.07**	**340**	P	Pn	21 17 32.9	+1.0
MASI	**Maura Aman, Be**	**3.46**	**336**	S	Sb	21 18 44.1	+3.4
CNJI	**Cibinong**	**3.57**	**106**	P	Pn	21 17 51.9	-0.6

IDC 23 21:26:14.1±6.1, 29˚96S × 137˚71E, h0km, mb1 2.9/3, mb1mx2.8/27, mbtmp2.6/3, ML2.3/3, Error ellipse: s-maj=181.9km s-min=22.0km az=46.0, South Australia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**3.84**	**121**	Pn	Pn	21 27 14.2	-0.4
	0.1nm,0.3s,baz=300,slow=15,SNR=2.3						
STKA				Pg	Pb	21 27 24.1	+1.2
	0.3nm,0.3s,baz=299,slow=19,SNR=8.9						
STKA				Sn	Sn	21 28 03.1	+2.6
	0.2nm,0.3s,baz=175,slow=12,SNR=2.3						
ASAR	**Alice Springs**	**7.13**	**331**	Pn	Pn	21 28 00.1	+0.2
	0.1nm,0.3s,baz=173,slow=7.9,SNR=5.8						
ASAR				Sn	Sn	21 29 17.6	-4.1
	0.1nm,0.3s,baz=157,slow=22,SNR=3.8						
WRA	**Warramunga Arr**	**10.43**	**342**	Pn	Pn	21 28 45.0	-0.1
	0.1nm,0.3s,baz=163,slow=13,SNR=4.5						

*IDC **23** 21:30:29.2±0.9, 7.˚85S × 146.˚94E, h0km, mb3.8/9, mb1 4.0/11, mb1mx3.9/27, mbtmp3.9/11, ML3.9/2, MS3.5/1, Ms1 3.5/1, ms1mx2.7/23, Error ellipse: s-maj=34.1km s-min=11.0km az=85.0*

*ISCJB **23** 21:30:31.8±0.5,

UTHA					Sg	Sg	21 43 10.0	-2.0
CHAI	**Chaiyaphum**	**8.90**	**158**		S	Sg	21 43 16.8	-3.2
CHAI					Sg	Sg	21 43 16.6	-3.4
SRDT	**SRDT**	**9.83**	**176**		S		21 43 48.3	
SRDT					Sg		21 43 48.3	
ENH	**Enshi**	**11.51**	**56**	*e*Pn	Pn		**21 41 22.4**	**+3.8**
WMQ	**Urumqi**	**21.46**	**338**	*e*P	P		**21 43 23.4**	**+0.7**
KSH	**Kashi**	**24.35**	**314**	*e*P	P		**21 43 51.8**	**-0.6**
KSH				pP	sP		21 43 55.8	-0.9
KSH				pmax	pmax			
	comp=Z,8.0nm,1.4s							
SONM	**Songino Array**	**24.40**	**13**	P	P		**21 43 52.1**	**-0.7**
	0.8nm,0.6s,baz=198,slow=10,SNR=5.8							
SONM				LR	LR		21 55 17.7	
	comp=Z,52nm,19.5s,baz=228,slow=41							
MKAR	**Makanchi Array**	**26.00**	**334**	P	P		**21 44 06.3**	**-0.8**
	1.1nm,0.8s,baz=149,slow=10,SNR=6.7							
ZALV	**Zalesovo Beam**	**31.41**	**344**	P	P		**21 44 54.7**	**-0.4**
	0.6nm,0.6s,baz=144,slow=10.0,SNR=3.3							
NRIK	**Noril'sk**	**45.62**	**355**	LR	LR		22 09 30.7	
	comp=Z,44nm,21.4s,baz=326,slow=41							
BRTR	**Keskin Array B**	**56.00**	**303**	LR	LR		22 17 19.5	
	comp=Z,26nm,18.7s,baz=299,slow=42							
WRA	**Warramunga Arr**	**56.10**	**138**	P	P		**21 48 14.9**	**+1.1**
	1.7nm,0.7s,baz=327,slow=7.5,SNR=15							
ASAR	**Alice Springs**	**58.72**	**142**	P	P		**21 48 33.4**	**+1.1**
	0.5nm,0.7s,baz=331,slow=6.4,SNR=6.7							
FINES	**FINESS Array B**	**60.63**	**328**	P	P		**21 48 43.2**	**-1.7**
	4.5nm,1.0s,baz=78,slow=7.3,SNR=4.4							
GERES	**GERESS Array B**	**68.82**	**315**	P	P		**21 49 37.0**	**-1.8**
	0.2nm,0.3s,baz=57,slow=3.8,SNR=3.5							
SEW	**Seward**	**79.57**	**28**	P	P		**21 50 40.3**	**-0.8**
	4.6nm,1.4s							
DIV	**Divide**	**80.56**	**26**	*e*P	P		**21 50 47.9**	**+1.3**
	1.4nm,0.5s							

IDC 23 21:49:10.3±10.0, 13°35S×66°32E, h0km, mb3.6/5, mb1 3.7/5, mb1mx3.4/28, mbtmp3.6/5, Error ellipse: s-maj=338.3km s-min=29.6km az=61.0, Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H08S1	**Diego Garcia H**	**8.29**	**47**	T	T	21 59 19.0	
	baz=226,slow=76,SNR=189						
H08S2	**Diego Garcia H**	**8.30**	**48**	T	T	21 59 20.0	
	baz=226,slow=76,SNR=183						
H08S3	**Diego Garcia H**	**8.31**	**47**	T	T	21 59 21.2	
	baz=226,slow=76,SNR=183						
H08N3	**Diego Garcia H**	**8.35**	**34**	T	T	22 00 03.2	
	baz=211,slow=76,SNR=181						
H08N1	**Diego Garcia H**	**8.36**	**34**	T	T	21 59 53.1	
	baz=211,slow=76,SNR=161						
H08N2	**Diego Garcia H**	**8.37**	**34**	T	T	21 59 52.4	
	baz=211,slow=76,SNR=142						
MKAR	**Makanchi Array**	**61.56**	**12**	P	P	21 59 29.2	-0.1
	0.1nm,0.3s,baz=200,slow=13,SNR=3.2						
ASAR	**Alice Springs**	**64.41**	**110**	P	P	21 59 49.1	+0.3
	0.5nm,0.7s,baz=272,slow=6.2,SNR=6.2						
WRA	**Warramunga AR**	**65.13**	**106**	P	P	21 59 53.2	-0.4
	0.6nm,0.7s,baz=273,slow=5.8,SNR=7.9						
ZALV	**Zalesovo Beam**	**68.87**	**12**	P	P	22 00 16.4	-0.1
	0.2nm,0.3s,baz=191,slow=5.9,SNR=2.2						
SONM	**Songino Array**	**70.60**	**27**	P	P	22 00 27.9	+0.4
	0.3nm,0.7s,baz=209,slow=8.3,SNR=3.2						

MEX 23 22:00:11.5±0.7, 16°71N×99°74W, h13km±3km, MD3.7, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ACX	**Acapulco**	**0.20**	**324**	*e*P	Pb	22 00 17.1	+0.1
ACX				*e*S	Sb	22 00 20.8	+0.1
ACP2	**Acapulco**	**0.22**	**319**	*e*P	Pg	22 00 15.4	-0.8
ACP2				*e*S	Sg	22 00 19.3	-0.3
CAIG	**El Cayaco**	**0.61**	**304**	*e*P	Pg	22 00 21.5	-1.9
CAIG				*e*S	Sg	22 00 29.8	-1.7
MEIG	**Mezcala**	**1.22**	**5**	*i* P	Pn	22 00 29.9	-4.4
MEIG				*e*S	Sb	22 00 44.6	-5.5
TLIG	**Tlapa**	**1.41**	**53**	*e*P	Pn	22 00 33.4	-3.5
TLIG				*e*S	Sn	22 00 50.5	-4.9
PNIG	**Pinotepa**	**1.58**	**101**	*e*P	Pn	22 00 35.4	-3.7
PNIG				*i* S	Sn	22 00 54.2	-5.2
ARIG	**Puente Sto Nin**	**1.67**	**340**	*e*P	Pn	22 00 37.7	-2.8
ARIG				*e*S	Sn	22 00 57.5	-4.3
PLIG	**Platanillo**	**1.69**	**8**	*e*P	Pn	22 00 37.9	-2.9
PLIG				*i* S	Sn	22 00 57.8	-4.6
ZIIG	**Zihuatanejo**	**1.88**	**299**	*i* P	Pn	22 00 39.3	-4.0
ZIIG				*e*S	Sn	22 01 02.4	-4.4
YAIG	**Yautepec**	**2.23**	**16**	*e*P	Pn	22 00 45.4	-3.0
YAIG				*i* S	Sn	22 01 11.8	-4.2

IDC 23 22:12:35.3±1.6, 26°76N×55°99E, h0km, mb4.0/5, mb1 4.0/6, mb1mx3.6/36, mbtmp3.9/6, ML3.1/1, Error ellipse: s-maj=39.2km s-min=26.9km az=113.0
THR 23 22:12:37.5±0.6, 26°85N×55°86E, h18km±7km, ML3.5
OMAN 23 22:12:38.1±0.9, 27°04N×55°92E, h22km, Error ellipse: s-maj=15.3km s-min=5.9km az=45.0
CSEM 23 22:12:39.3±0.3, 26°86N×55°76E, h10km, ML3.5, Error ellipse: s-maj=9.7km s-min=6.2km az=86.0
DSN 23 22:12:39.1±1.1, 26°95N×55°99E, h15km, ML3.7/9, Error ellipse: s-maj=24.6km s-min=6.1km az=71.0
NEIC 23 22:12:40.6±0.0, 26°74N×55°84E, h22km, mb4.0/5, MN3.6(TEH), After TEH.
TEH 23 22:12:40.6, 26°74N×55°84E, h22km, ML3.6

ISC 23 22:12:36.7±1.3, 26°82N±0°03×55°77E±0°04, h3km±9km, n63, σ1§44/71, mb4.1/8, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BNDS	**Bandar-Abbas**	**0.68**	**32**	*e*Pg	**Pg**	**22 12 49.6**	**-0.1**
BNDS				*e*Sg	**Sg**	**22 12 58.4**	**-0.2**
BNDS				AML	AML	22 13 11.1	
	comp=N,2μm,0.4s						
BNDS				AML	AML	22 13 11.1	
	comp=E,3μm,0.4s						
BNDS	**Bandar-Abbas**	**0.68**	**32**	*e*Pg	**Pg**	**22 12 49.2**	**-0.5**
IBND	**Bandar-abas**	**0.93**	**47**	*e*Pg	**Pn**	**22 12 58.5**	**+1.8**
IBND				*e*Sg	**Sn**	**22 13 10.1**	**-0.4**
IBND				*e*AMB	AMB	22 13 24.8	
	comp=Z,40μm,0.2s						
IBND	**Bandar-abas**	**0.93**	**47**	*e*Pg	**Pn**	**22 12 58.5**	**+1.8**
IBND				*e*Sg	**Sn**	**22 13 10.1**	**-0.4**
BANOM	**Banah**	**1.01**	**152**	*e*P	**Pn**	**22 12 58.7**	**+0.8**
	SNR=144						
BANOM				S	**Sn**	**22 13 15.0**	**+2.3**
BANOM	**Banah**	**1.01**	**152**	P	**Pn**	**22 12 58.6**	**+0.6**
	SNR=870						
BANOM				S	**Sn**	**22 13 13.7**	**+1.0**
BANOM	**Banah**	**1.01**	**152**	P	**Pn**	**22 12 58.6**	**+0.6**
	SNR=870						
BANOM				S	**Sn**	**22 13 13.7**	**+1.0**
NAZ	**Nazwa, Dubai**	**1.83**	**183**	*e*P	**Pg**	**22 13 12.5**	**+0.7**
	SNR=6.0						
NAZ	**Nazwa, Dubai**	**1.83**	**183**	P	**Pg**	**22 13 12.5**	**+0.7**
	SNR=6.0						
UOSS	**Minazif**	**1.91**	**168**	P	**Pg**	**22 13 12.8**	**-0.5**
UOSS	**Minazif**	**1.91**	**168**	P	**Pg**	**22 13 12.8**	**-0.5**
HATD	**Hatta, Dubai**	**2.02**	**171**	*e*P	**Pg**	**22 13 14.9**	**-0.5**
	SNR=53						
HATD	**Hatta, Dubai**	**2.02**	**171**	P	**Pg**	**22 13 14.9**	**-0.5**
	SNR=53						
FAQ	**Al Faqa, Dubai**	**2.08**	**185**	*e*P	**Pg**	**22 13 16.1**	**-0.5**
	SNR=24						
FAQ	**Al Faqa, Dubai**	**2.08**	**185**	P	**Pg**	**22 13 16.0**	**-0.5**
FAQ	**Al Faqa, Dubai**	**2.08**	**185**	P	**Pg**	**22 13 16.0**	**-0.5**
ASHO	**Ashiyiah**	**2.15**	**173**	*e*P	**Pg**	**22 13 16.5**	**-1.4**
	SNR=26						
ASHO	**Ashiyiah**	**2.15**	**173**	P	**Pg**	**22 13 16.5**	**-1.4**
	SNR=26						
ASHO	**Ashiyiah**	**2.15**	**173**	P	**Pg**	**22 13 16.5**	**-1.4**
	SNR=65						
GHIR	**Ghir-Karzin**	**2.87**	**301**	*e*Pn	**Pn**	**22 13 25.4**	**+1.8**
GHIR				*e*Sg	**Sg**	**22 14 09.0**	**-0.1**
GHIR				AML	AML	22 14 29.9	
	comp=E,156nm,0.6s						
GHIR	**Ghir-Karzin**	**2.87**	**301**	*e*Pn	**Pn**	**22 13 25.4**	**+1.8**
NGRK	**Negar Kerman**	**2.94**	**17**	*e*Pn	**Pn**	**22 13 26.9**	**+2.2**
NGRK	**Negar Kerman**	**2.94**	**17**	*e*Pn	**Pn**	**22 13 26.9**	**+2.2**
TVBK	**TV Kerman**	**3.27**	**15**	*e*Pn	**Pn**	**22 13 32.4**	**+3.1**
TVBK	**TV Kerman**	**3.27**	**15**	*e*Pn	**Pn**	**22 13 32.4**	**+3.1**
CHMN	**Cheshme madani**	**3.40**	**27**	*e*Pn	**Pn**	**22 13 32.6**	**+1.5**
CHMN	**Cheshme madani**	**3.40**	**27**	*e*Pn	**Pn**	**22 13 32.6**	**+1.5**
ISRV	**Sarvestan**	**3.47**	**318**	*e*Pn	**Pn**	**22 13 35.3**	**+3.3**
ISRV				*e*AMB	AMB	22 15 03.4	
	comp=Z,1μm,0.5s						
ISRV	**Sarvestan**	**3.47**	**318**	*e*Pn	**Pn**	**22 13 35.3**	**+3.3**
KHGB	**Koh Gabri**	**3.59**	**10**	*e*Pn	**Pn**	**22 13 36.0**	**+2.4**
KHGB	**Koh Gabri**	**3.59**	**10**	*e*Pn	**Pn**	**22 13 36.0**	**+2.4**
BIDO	**Bidbid**	**3.92**	**147**	P	**Pn**	**22 13 38.4**	**+0.5**
BIDO	**Bidbid**	**3.92**	**147**	P	**Pn**	**22 13 38.4**	**+0.5**
CHBR	**Chabahar**	**4.40**	**105**	*e*Pn	**Pn**	**22 13 44.6**	**+0.1**
IMEH	**Mehriz**	**4.66**	**348**	*e*Pn	**Pn**	**22 13 50.0**	**+1.7**
IMEH				*e*AMB	AMB	22 14 50.9	
	comp=Z,309nm,0.2s						
IMEH	**Mehriz**	**4.66**	**348**	*e*Pn	**Pn**	**22 13 50.0**	**+1.7**
IBAF	**Bafgh**	**4.75**	**358**	*e*Pn	**Pn**	**22 13 51.0**	**+1.5**
IBAF				*e*AMB	AMB	22 14 53.4	
	comp=Z,280nm,0.3s						
IBAF	**Bafgh**	**4.75**	**358**	*e*Pn	**Pn**	**22 13 51.0**	**+1.5**
ICHK	**Chekchek**	**5.53**	**348**	*e*Pn	**Pn**	**22 14 02.2**	**+1.9**
ICHK				*e*AMB	AMB	22 15 09.9	
	comp=Z,300nm,0.4s						
IRAM	**Ramesheh**	**5.78**	**330**	*e*Pn	**Pn**	**22 14 05.9**	**+2.2**
IRAM				*e*AMB	AMB	22 15 14.1	
	comp=Z,243nm,0.2s						
IGAR	**Gharneh**	**6.44**	**331**	*e*Pn	**Pn**	**22 14 14.7**	**+1.9**
IGAR				*e*AMB	AMB	22 15 33.6	
	comp=Z,214nm,0.3s						
NASN	**Na'in**	**6.49**	**337**	*e*Pn	**Pn**	**22 14 14.2**	**+0.7**
IPIR	**Pirpir**	**7.22**	**325**	*e*Pn	**Pn**	**22 14 24.9**	**+1.4**
IPIR				*e*Sn	**Sn**	**22 15 44.0**	**-2.2**
IPIR				*e*AMB	AMB	22 15 47.3	
	comp=Z,438nm,0.3s						
IKLH	**Kolahrood**	**7.42**	**332**	*e*Pn	**Pn**	**22 14 27.6**	**+1.3**
IKLH				*e*AMB	AMB	22 16 01.1	
	comp=Z,92nm,0.2s						
UMR	**Umm Al-Rimmam**	**7.61**	**293**	S	**Sn**	**22 15 54.5**	**-1.0**
UMR	**Umm Al-Rimmam**	**7.61**	**293**	S	**Sn**	**22 15 54.5**	**-1.0**
ASAO	**Ashtian**	**9.15**	**329**	*e*Pn	**Pn**	**22 14 51.4**	**+1.4**
GNI	**Garni**	**16.15**	**328**	*e*Pn	**Pn**	**22 16 25.3**	**+0.4**
	comp=Z,7.3nm,0.6s						
GNI	**Garni**	**16.15**	**328**	*e*Pn	**Pn**	**22 16 25.3**	**+0.4**
	comp=Z,7.3nm,0.6s						
KBZ	**Khabaz**	**19.83**	**332**	P	**Pn**	**22 17 10.6**	**+0.4**
	comp=Z,0.1nm,0.3s,baz=127,slow=10,SNR=2.9						
KIV	**Kislovodsk**	**20.11**	**332**	*e*P	**P**	**22 17 11.1**	**-0.7**
	comp=Z,4.5nm,0.6s						
KIV	**Kislovodsk**	**20.11**	**332**	*e*P	**P**	**22 17 11.1**	**-0.7**
	comp=Z,4.5nm,0.6s						
AAK	**Ala-Archa**	**21.96**	**39**	*e*P	**P**	**22 17 31.4**	**-0.5**
	comp=Z,10.0nm,1.8s						
AAK	**Ala-Archa**	**21.96**	**39**	*e*P	**P**	**22 17 31.4**	**-0.5**
	comp=Z,10.0nm,1.8s						
BRTR	**Keskin Array B**	**22.47**	**311**	P	**P**	**22 17 38.0**	**+0.7**
	comp=Z,0.4nm,0.5s,baz=120,slow=14,SNR=3.3						
ABKAR	**Akbulak array**	**22.63**	**7**	*e*P	**P**	**22 17 38.5**	**-0.2**
	comp=Z,1.1nm,0.6s						
ABKAR	**Akbulak array**	**22.63**	**7**	*e*P	**P**	**22 17 38.5**	**-0.2**
	comp=Z,1.2nm,0.6s						
ZALV	**Zalesovo Beam**	**34.53**	**30**	P	**P**	**22 19 24.4**	**-1.8**
	comp=Z,0.9nm,0.4s,baz=239,slow=9.2,SNR=4.8						
PSZ	**Piszkesteto**	**35.00**	**317**	*e*P	**P**	**22 19 31.1**	**+0.6**
	comp=Z,3.1nm,0.8s						
PSZ	**Piszkesteto**	**35.00**	**317**	*e*P	**P**	**22 19 31.1**	**+0.6**
	comp=Z,3.1nm,0.8s						
TORD	**Torodi Ar. Bea**	**52.26**	**266**	P	**P**	**22 21 49.8**	**0.0**
	comp=Z,3.1nm,0.5s,baz=66,slow=7.5,SNR=80						
DBIC	**Dimbokro**	**60.85**	**262**	P	**P**	**22 22 50.8**	**-0.2**
	comp=Z,2.1nm,0.7s,baz=51,slow=6.5,SNR=3.8						
BOSA	**Boshof**	**62.42**	**210**	P	**P**	**22 23 01.1**	**-0.3**
	comp=Z,1.9nm,1.0s,baz=50,slow=7.9,SNR=5.3						

IDC 23 22:38:19.8±0.7, 3°63N×126°70E, h0km, mb4.0/10, mb1 4.1/10, mb1mx3.9/41, mbtmp4.0/10, MS3.3/1, Ms1 3.3/1, ms1mx2.6/33, Error ellipse: s-maj=51.6km s-min=14.2km az=75.0
ISCJB 23 22:38:24.3±0.4, 3°64N±0°06×126°80E±0°09, h48km, mb4.3/21, MS3.1/1, Error ellipse: s-maj=13.5km s-min=8.0km az=167.1
NEIC 23 22:38:25.3±2.0, 3°62N×126°78E, h38km±21km, mb4.5/11, Error ellipse: s-maj=9.0km s-min=5.6km az=70.0

ISC 23 22:38:26.3±0.6, 3°62N±0°09×126°8E±0°1, h48km, n25, σ0§54/25, mb4.3/21, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSM	**Kuching**	**16.58**	**263**	*e*Pn	**Pn**	**22 42 15.1**	**-0.5**
	1.7nm,0.7s						
GUMO	**Guam**	**20.43**	**60**	LR	LR	22 49 26.8	
	comp=Z,83nm,19.9s,baz=268,slow=33						
GUMO	**Guam**	**20.43**	**60**	*e*P	**P**	**22 42 59.2**	**-0.7**
	19nm,0.6s						
FITZ	**Fitzroy Crossi**	**21.61**	**183**	P	**P**	**22 43 12.5**	**+0.1**
	2.7nm,0.6s,baz=29,slow=8.7,SNR=12						
WRAB	**Tennant Creek**	**24.56**	**163**	*e*P	**P**	**22 43 41.5**	**-0.4**
	18nm,0.8s						
WRA	**Warramunga Arr**	**24.57**	**163**	P	**P**	**22 43 41.9**	**-0.1**
	13nm,0.8s,baz=343,slow=10,SNR=66						
MBWA	**Marble Bar**	**25.57**	**195**	*e*P	**P**	**22 43 51.1**	**+0.1**
	4.5nm,0.6s						
ASAR	**Alice Springs**	**28.00**	**166**	P	**P**	**22 44 12.5**	**-0.4**
	0.4nm,0.3s,baz=348,slow=7.8,SNR=9.1						
ASAR				PcP	**PcP**	**22 47 27.7**	**+0.5**
	0.5nm,0.6s,baz=353,slow=2.4,SNR=4.4						
ENH	**Enshi**	**31.14**	**330**	*e*P	**P**	**22 44 40.4**	**-0.3**
	3.2nm,0.5s						
KSAR	**Wonju Array Be**	**33.68**	**2**	P	**P**	**22 45 02.3**	**-0.4**
KSRS	**Korea Array**	**33.69**	**2**	P	**P**	**22 45 02.3**	**-0.5**
	2.0nm,0.8s,baz=180,slow=10,SNR=8.2						
HNR	**Honiara**	**35.52**	**112**	*e*P	**P**	**22 45 19.3**	**+0.4**
	33nm,0.5s						
BJT	**Baijiatuan**	**37.48**	**347**	*e*P	**P**	**22 45 35.6**	**+0.3**
	5.8nm,0.6s						
STKA	**Stephens Creek**	**38.01**	**159**	P	**P**	**22 45 39.9**	**-0.1**
	2.2nm,0.6s,baz=356,slow=9.5,SNR=5.9						
MDJ	**Mudanjiang**	**40.90**	**3**	*e*P	**P**	**22 46 04.7**	**+0.8**
	3.4nm,0.4s						
LSA	**Lhasa**	**42.54**	**311**	*e*P	**P**	**22 46 18.4**	**+0.3**
	1.4nm,0.6s						
HIA	**Hailar**	**45.87**	**354**	*e*P	**P**	**22 46 43.9**	**0.0**
	6.9nm,0.5s						
SONM	**Songino Array**	**47.41**	**341**	P	**P**	**22 46 56.7**	**+0.6**
	0.6nm,0.6s,baz=165,slow=13,SNR=4.2						
PETK	**Petropavlovsk-**	**55.52**	**22**	P	**P**	**22 47 56.9**	**+0.4**
	3.8nm,0.7s,baz=186,slow=4.5,SNR=3.7						
MKAR	**Makanchi Array**	**57.67**	**325**	P	**P**	**22 48 12.0**	**+0.1**
	0.4nm,0.3s,baz=116,slow=7.7,SNR=10.0						
YAK	**Yakutsk**	**58.32**	**2**	*e*P	**P**	**22 48 15.3**	**-0.8**
	11nm,0.8s						
ZALV	**Zalesovo Beam**	**60.70**	**333**	P	**P**	**22 48 33.3**	**+0.6**
	0.5nm,0.5s,baz=99,slow=8.9,SNR=2.1						
KURK	**Kurchatov**	**61.85**	**328**	*e*P	**P**	**22 48 40.9**	**+0.3**
	11nm,0.6s						
BVAR	**Borovoye Array**	**67.43**	**327**	P	**P**	**22 49 15.5**	**-1.4**
	0.5nm,0.6s,baz=128,slow=11,SNR=4.3						
ABKAR	**Akbulak array**	**72.26**	**321**	*e*P	**P**	**22 49 47.0**	**+0.4**
	1.0nm,0.6s						

ISCJB 23 22:44:56.0±0.3, 9°14S±0°04×109°53W±0°05, h20km, mb4.9/136, MS4.6/25, Error ellipse: s-maj=7.3km s-min=5.7km az=142.7
BJI 23 22:44:56.9, 9°20S×109°60W, h10km, mB5.3/16, Ms5.4/18, Ms7 5.1/18
NEIC 23 22:44:56.7±0.3, 9°15S×109°57W, h10km, mb5.0/127, Error ellipse: s-maj=8.5km s-min=5.9km az=59.0
GCMT 23 22:44:56.7±0.1, 9°07S×109°73W, h21km, MW5.4/120, Moment Tensor Solution. s88,c133; s120,c213; Duration: 1§2 Moment tensor: Scale 10^17 Nm; Mrr-0.04±.02; Mθθ-0.45±.02; Mϕϕ0.48±.03; Mrθ-0.13±.04; Mθϕ1.25±.02; Mϕr0.12±.04; Best double couple: M=1.34600×10^17 NP1:ϕ=170.00000°, δ85.00000°, λ-174.00000°. NP2:ϕ=80.00000°, δ84.00000°, λ-5.00000°. Principal axes: T 1.3550, Plg1.0000°, Azm305.0000°; N -0.0170, Plg82.0000°, Azm207.0000°; P -1.3380, Plg8.0000°, Azm35.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.
IDC 23 22:44:56.8±0.7, 8°95S×109°33W, h0km, mb4.4/14, mb1 4.6/14, mb1mx4.5/29, mbtmp4.4/14, MS4.5/19, Ms1 4.5/19, ms1mx4.4/25 Error ellipse: s-maj=29.4km s-min=15.3km az=65.0

ISC 23 22:44:59.2±0.4, 9°15S±0°07×109°32W±0°09, h20km, n594, σ1§39/587, mb5.0/136, MS4.6/25, Central East Pacific Rise

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RPN	**Rapa Nui**	**17.88**	**180**	LR	LR	22 52 55.9	
	comp=Z,212nm,21.7s,baz=356,slow=26						
H06E1	**SOCORRO T-PHAS**	**27.80**	**357**	T	T	23 19 35.8	
	SNR=11						
RKT	**Rikitea**	**28.22**	**237**	*e*S	**S**	**22 55 38.9**	**+3.0**
	197nm,33.5s						
RKT				*e*LR	LR	22 58 03.9	
	3μm,27.5s,baz=60						
RKT	**Rikitea**	**28.22**	**237**	*e*T	T	23 19 47.8	
	2.7nm,0.3s						
CMIG	**Matias Romero**	**29.73**	**29**	P	**P**	**22 51 04.9**	**+0.6**
	17nm,0.9s,baz=231,slow=7.5,SNR=15						
CMIG				LR	LR	23 00 18.4	
	comp=Z,2μm,21.2s,baz=210,slow=31						
TAOE	**Nuku Hiva Isla**	**30.45**	**268**	*e*LR	LR	22 58 39.4	
	2μm,24.9s						
CCIG	**Comitan**	**30.46**	**34**	*e*P	**P**	**22 51 12.8**	**+1.8**
	58nm,1.3s						
TGUH	**Tegucigalpa,Un**	**31.78**	**44**	*e*P	**P**	**22 51 23.9**	**+1.5**
	74nm,1.1s						
OTAV	**Otavalo**	**32.12**	**75**	*e*P	**P**	**22 51 26.7**	**+0.6**
	21nm,1.4s						
LPIG	**La Paz**	**33.06**	**358**	LR	LR	23 00 21.3	
	comp=Z,331nm,18.1s,baz=118,slow=28						
LNIG	**Linares**	**35.18**	**16**	*e*P	**P**	**22 51 51.7**	**-0.3**
	27nm,1.8s						
HPIG		**36.05**	**6**	*e*P	**P**	**22 51 59.5**	**-0.1**
	10nm,1.0s						
034A	**Hebbronville**	**37.45**	**16**	P	**P**	**22 52 11.4**	**0.0**
	baz=198						
035A	**Encino**	**37.49**	**17**	P	**P**	**22 52 11.6**	**0.0**
	baz=199						
ROSC	**El Rosal**	**37.55**	**70**	LR	LR	23 04 57.7	
	comp=Z,326nm,19.8s,baz=250,slow=32						
933A	**Laredo**	**37.82**	**15**	P	**P**	**22 52 14.6**	**+0.1**
	baz=197						
HSIG		**37.98**	**358**	*e*P	**P**	**22 52 14.8**	**-1.1**
	94nm,1.8s						
934A	**Benavides**	**38.01**	**16**	P	**P**	**22 52 16.0**	**-0.1**
	baz=198						
832A	**Faith Ranch, C**	**38.30**	**13**	P	**P**	**22 52 18.1**	**-0.4**
	baz=195						
833A	**Chaparral WMA,**	**38.47**	**14**	P	**P**	**22 52 20.0**	**0.0**
	baz=196						
834A	**Tilden**	**38.49**	**15**	P	**P**	**22 52 20.5**	**+0.3**
	baz=198						
TX31	**Lajitas Ar. Si**	**38.65**	**8**	*e*P	**P**	**22 52 21.8**	**+0.2**
TXAR	**Lajitas Array**	**38.65**	**8**	P	**P**	**22 52 20.4**	**-1.1**
	4.4nm,1.0s,baz=191,slow=11,SNR=13						
TXAR				PcP	**PcP**	**22 54 35.8**	**+2.1**
	2.2nm,1.1s,baz=184,slow=5.9,SNR=5.0						
835A	**Beeville**	**38.84**	**16**	P	**P**	**22 52 23.5**	**+0.5**
	baz=199						
733A	**Divot King Ran**	**38.88**	**14**	P	**P**	**22 52 22.8**	**-0.6**
	baz=196						
RUSC	**La Rusia**	**39.09**	**69**	*e*P	**P**	**22 52 26.2**	**+0.3**
	14nm,1.2s						
734A	**La Parita Cree**	**39.18**	**15**	P	**P**	**22 52 25.7**	**-0.2**
	baz=197						
633A	**Saathoff Ranch**	**39.61**	**14**	P	**P**	**22 52 29.2**	**-0.4**
	baz=196						
736A	**Circle Diamond**	**39.69**	**17**	P	**P**	**22 52 29.7**	**-0.4**
	baz=199						
635A	**Leesville**	**39.90**	**16**	P	**P**	**22 52 31.5**	**-0.4**
	baz=198						
PPT	**Papeete**	**39.98**	**254**	LR	LR	23 04 48.5	
	comp=Z,430nm,19.4s,baz=108,slow=30						
PPT2	**Papeete2**	**39.98**	**254**	*e*LQ	LQ	23 01 33.6	
	5μm,28.5s						
PPT2				*e*LR	LR	23 03 29.4	
	696nm,23.8s						
PB01	**IPOC Station P**	**40.12**	**112**	*e*P	**P**	**22 52 34.5**	**+0.4**
	38nm,1.2s						
636A	**Smothers Creek**	**40.19**	**17**	P	**P**	**22 52 33.9**	**-0.4**
	baz=199						
533A	**Kerrville**	**40.23**	**14**	P	**P**	**22 52 34.4**	**-0.3**
	baz=196						
534A	**Blanco**	**40.33**	**15**	P	**P**	**22 52 34.5**	**-1.0**
	baz=197						
637A	**Eagle Lake**	**40.36**	**18**	P	**P**	**22 52 34.7**	**-1.0**
	baz=200						
JCT	**Junction City**	**40.45**	**13**	P	**P**	**22 52 35.5**	**-1.0**
	baz=195						
535A	**Dale**	**40.56**	**16**	P	**P**	**22 52 36.9**	**-0.4**
	baz=198						
LPAZ	**La Paz**	**40.74**	**104**	P	**P**	**22 52 41.5**	**+1.6**
	5.4nm,0.8s,baz=291,slow=7.3,SNR=20						
LPAZ				LR	LR	23 05 52.4	
	comp=Z,1μm,19.9s,baz=264,slow=31						
LPAZ	**La Paz**	**40.74**	**104**	*e*P	**P**	**22 52 39.9**	**+0.1**
	23nm,1.2s						
536A	**Bastrop**	**40.74**	**16**	P	**P**	**22 52 37.3**	**-1.5**
	baz=199						
MNTX	**Cornudas Mount**	**40.79**

	baz=198								
338A	**Crockett**	42.46	18	P		P	22 52 52.3	-0.6	
	baz=201								
SDV	**Santo Domingo**	42.49	66	*e*P		P	22 52 53.9	+0.2	
	66nm,1.8s								
ABTX	**Abilene, Hawle**	42.55	12	P		P	22 52 52.6	-1.2	
	baz=194								
ABTX	**Abilene, Hawle**	42.55	12	*e*P		P	22 52 53.6	-0.2	
	22nm,1.4s								
ABTX				*e*PcP		PcP	22 54 45.5	-0.6	
441A	**DeRidder**	42.59	21	P		P	22 52 54.0	0.0	
	baz=204								
236A	**Katherine and**	42.71	16	P		P	22 52 53.8	-1.2	
	baz=199								
SCI	**San Clemente I**	42.81	349	P		P	22 52 53.5	-2.3	
	baz=167								
237A	**Washetta, Mont**	42.91	17	P		P	22 52 56.2	-0.4	
	baz=200								
Y12C	**Blythe**	42.95	354	P		P	22 52 54.6	-2.3	
	baz=173								
Y12C	**Blythe**	42.95	354	*e*P		P	22 52 59.0	+2.1	
	25nm,1.4s								
BC3	**Big Chuckawall**	42.97	352	P		P	22 52 54.8	-2.3	
	baz=172								
Y14A	**Wickenburg**	43.00	356	*e*P		P	22 52 56.3	-1.0	
	124nm,1.5s								
NATX	**Nacogdoches**	43.03	18	P		P	22 52 56.8	-0.8	
	baz=202								
Y22D	**IRIS PASSCAL I**	43.05	3	P		P	22 52 57.2	-0.7	
	baz=184								
TPFO	**Pinon Flats**	43.06	351	P		P	22 52 55.8	-2.2	
	baz=170								
PFO	**Pinyon Flats O**	43.07	351	P		P	22 52 57.5	-0.5	
	1.5nm,0.4s,baz=187,slow=3.5,SNR=3.5								
PFO				LR		LR	23 06 18.3		
	comp=Z,767nm,19.4s,baz=176,slow=30								
PFO	**Pinyon Flats O**	43.07	351	P		P	22 52 55.9	-2.0	
	baz=170								
PFO	**Pinyon Flats O**	43.07	351	*e*P		P	22 52 56.4	-1.6	
	21nm,1.6s								
238A	**Jacksonville**	43.12	18	P		P	22 52 58.6	+0.4	
	baz=201								
341A	**Kurthwood**	43.13	20	P		P	22 52 58.4	0.0	
	baz=204								
BNM	**Barren Site**	43.14	3	*e*P		P	22 52 58.5	-0.2	
136A	**Ennis**	43.16	16	P		P	22 52 58.3	-0.3	
	baz=199								
MURC	**Murrieta**	43.17	350	P		P	22 52 56.7	-2.0	
	baz=169								
MSTX	**Muleshoe**	43.33	8	P		P	22 52 59.1	-1.0	
	baz=190								
LAZ	**Ladron**	43.36	3	*e*P		P	22 52 59.2	-1.2	
X16A	**Lo Mia Camp, P**	43.38	357	*e*P		P	22 52 60.0	-0.6	
	16nm,1.2s								
BELC	**Belle Mtn. Jos**	43.38	352	P		P	22 52 58.8	-1.8	
	baz=171								
IRM	**Iron Mountain**	43.42	353	P		P	22 52 59.6	-1.2	
	baz=172								
X18A	**Snowflake**	43.45	359	*e*P		P	22 53 02.5	+1.3	
	44nm,1.7s								
PDMCI	**Parker Dam,Lak**	43.46	354	P		P	22 53 00.1	-0.8	
	baz=173								
342A	**Flagon Creek P**	43.46	21	P		P	22 53 01.2	+0.2	
	baz=205								
444A	**Pine Grove**	43.47	23	P		P	22 53 00.1	-1.0	
	baz=207								
137A	**Heron Place, G**	43.49	17	P		P	22 53 01.0	-0.3	
	baz=200								
240A	**Hunter Patters**	43.58	19	P		P	22 53 01.8	-0.1	
	baz=203								
343A	**Vidalia**	43.64	22	P		P	22 53 02.0	-0.5	
	baz=206								
445A	**Amite**	43.64	24	P		P	22 53 02.0	-0.5	
	baz=208								
138A	**Matatall Enter**	43.74	17	P		P	22 53 02.9	-0.4	
	baz=201								
241A	**Mo Tay, Goldon**	43.84	20	P		P	22 53 03.4	-0.7	
	baz=204								
BFSC	**Mount Baldy Ra**	43.87	350	P		P	22 53 02.6	-1.9	
	baz=168								
MWC	**Mount Wilson**	43.93	350	*e*P		P	22 53 03.6	-1.4	
	22nm,1.1s								
ANMO	**Albuquerque**	43.94	3	P		P	22 53 04.4	-0.7	
	2.0nm,0.8s,baz=195,slow=6.8,SNR=5.6								
ANMO				LR		LR	23 08 36.3		
	comp=Z,259nm,19.4s,baz=184,slow=32								
ANMO	**Albuquerque**	43.94	3	P		P	22 53 04.8	-0.4	
	baz=184								
ANMO	**Albuquerque**	43.94	3	*e*P		P	22 53 04.2	-0.9	
	13nm,1.3s								
139A	**Bunkhouse Ranc**	43.97	18	P		P	22 53 04.5	-0.6	
	baz=202								
DECC	**Green Verdugo**	44.01	349	P		P	22 53 04.2	-1.3	
	baz=168								
W18A	**Petrified Fore**	44.03	360	P		P	22 53 05.0	-0.9	
	baz=180								
Z37A	**Pogue Cattle C**	44.09	17	P		P	22 53 05.7	-0.4	
	baz=200								
446A	**Poplarville**	44.09	25	P		P	22 53 05.8	-0.3	
	baz=209								
GMRC	**Granite Mounta**	44.11	352	P		P	22 53 05.0	-1.4	
	baz=171								
344A	**Westbrook Farm**	44.12	23	P		P	22 53 06.2	-0.2	
	baz=207								
242A	**Grayson**	44.15	21	P		P	22 53 06.2	-0.3	
	baz=205								
140A	**Cam and Jess,**	44.19	19	P		P	22 53 06.5	-0.4	
	baz=203								
W13A	**Hualapai Mount**	44.22	355	*e*P		P	22 53 05.8	-1.6	
	20nm,1.1s								
243A	**Waterproof**	44.22	22	P		P	22 53 06.6	-0.6	
	baz=206								
HEC	**Hector,Ludlow**	44.24	352	P		P	22 53 05.6	-1.8	
	baz=170								
345A	**Thompson Farm,**	44.27	24	P		P	22 53 07.9	+0.3	
	baz=208								
Z38A	**Mt. Pleasant**	44.32	17	P		P	22 53 08.0	+0.1	
	baz=201								
141A	**Papa Simpson,**	44.38	20	P		P	22 53 08.7	+0.3	
	baz=204								
Y35A	**Marietta**	44.38	15	P		P	22 53 07.8	-0.6	
	baz=198								
AMTX	**Amarillo**	44.39	9	P		P	22 53 08.4	-0.2	
	baz=191								
447A	**Lucedale**	44.40	26	P		P	22 53 08.5	-0.1	
	baz=210								
SBC	**Santa Barbara**	44.46	348	P		P	22 53 07.9	-1.2	
	baz=166								
WUAZ	**Wupatki**	44.47	358	P		P	22 53 08.4	-0.9	
	baz=178								
WUAZ	**Wupatki**	44.47	358	*e*P		P	22 53 08.3	-0.9	
	16nm,1.3s								
EDW2	**Edwards Air Fo**	44.56	350	P		P	22 53 08.6	-1.3	
	baz=168								
Y36A	**Durant**	44.57	16	P		P	22 53 09.9	0.0	
	baz=199								
346A	**Big Creek Wild**	44.57	24	P		P	22 53 09.5	-0.5	
	baz=209								
142A	**Monroe**	44.66	21	P		P	22 53 10.0	-0.6	
	baz=205								
244A	**Avery, Jackson**	44.67	23	P		P	22 53 11.0	+0.3	
	baz=207								
GSC	**Goldstone, Bar**	44.78	351	P		P	22 53 10.9	-0.7	
	baz=170								
GSC	**Goldstone, Bar**	44.78	351	*e*P		P	22 53 10.2	-1.4	
	44nm,1.8s								
WMOK	**Wichita Mounta**	44.78	12	P		P	22 53 11.3	-0.3	
	baz=195								
WMOK	**Wichita Mounta**	44.78	12	*e*P		P	22 53 10.8	-0.8	
	7.6nm,1.2s								
TUQ	**Turquoise Moun**	44.78	352	P		P	22 53 10.7	-1.1	
	baz=171								
Z40A	**Long Farm, Mag**	44.82	19	P		P	22 53 12.4	+0.5	
	baz=203								
Y37A	**Hugo**	44.82	16	P		P	22 53 12.3	+0.3	
	baz=200								
448A	**Bay Minette**	44.86	26	P		P	22 53 12.2	-0.1	
	baz=211								
X35A	**Drake**	44.87	15	P		P	22 53 12.3	0.0	
	baz=198								
VBMS	**Vicksburg**	44.89	23	P		P	22 53 12.1	-0.3	
	baz=207								
PKM	**Mcpherson Peak**	44.91	348	P		P	22 53 11.8	-1.0	
	baz=166								
245A	**Little AP, Sta**	44.97	24	P		P	22 53 12.4	-0.7	
	baz=208								
347A	**Saraland**	44.97	25	P		P	22 53 12.5	-0.6	
	baz=210								
143A	**Socs Landing,**	44.99	22	P		P	22 53 13.1	-0.2	
	baz=206								
Z41A	**Richland Creek**	45.01	20	P		P	22 53 13.2	-0.2	
	baz=204								
Y38A	**Idabel**	45.03	17	P		P	22 53 13.4	-0.1	
	baz=201								
LRMC	**Laurel Mtn Rad**	45.09	350	P		P	22 53 13.0	-1.2	
	baz=169								
X36A	**Centrahoma**	45.19	15	P		P	22 53 14.6	-0.2	
	baz=198								
Y39A	**Lockesburg**	45.23	18	P		P	22 53 15.1	0.0	
	baz=202								
348A	**Jackson**	45.25	26	P		P	22 53 15.3	-0.1	
	baz=211								
SHOC	**Shoshone, Teco**	45.29	352	P		P	22 53 15.2	-0.5	
	baz=171								
144A	**Alexander Plac**	45.29	23	P		P	22 53 16.1	+0.4	
	baz=207								
Z42A	**Norrel Spur, H**	45.32	21	P		P	22 53 15.4	-0.5	
	baz=205								
SMMC	**Simmler**	45.36	348	P		P	22 53 15.3	-1.0	
	baz=166								
ISA	**Isabella, Lake**	45.40	350	P		P	22 53 15.3	-1.3	
	baz=168								
U15A	**North Rim**	45.42	357	*e*P		P	22 53 17.2	+0.2	
	36nm,1.8s								
145A	**Houston Renfro**	45.46	23	P		P	22 53 17.0	0.0	
	baz=208								
X37A	**Clayton**	45.47	16	P		P	22 53 16.5	-0.5	
	baz=200								
247A	**Quitman**	45.50	25	P		P	22 53 16.8	-0.6	
	baz=210								
Z43A	**Armstrong Fami**	45.51	21	P		P	22 53 17.0	-0.3	
	baz=206								
SAML	**Samuel**	45.54	94	*e*P		P	22 53 17.8	-0.2	
	110nm,0.7s								
Y40A	**Okolona**	45.55	19	P		P	22 53 17.3	-0.4	
	baz=203								
W35A	**Tecumseh**	45.61	14	P		P	22 53 17.2	-1.0	
	baz=198								
Y41A	**Eaglette Beard**	45.64	20	P		P	22 53 17.8	-0.6	
	baz=204								
VES	**Vestal, Richgr**	45.69	349	P		P	22 53 17.1	-1.7	
	baz=167								
X38A	**Whitesboro**	45.69	17	P		P	22 53 18.1	-0.7	
	baz=200,SNR=15								
SHPR	**Sheep Range**	45.75	353	*e*P		P	22 53 17.9	-1.6	
	42nm,1.6s								
X39A	**Fountain Ranch**	45.75	18	P		P	22 53 18.4	-1.0	
	baz=201,SNR=7.6								
W36A	**Wetumka**	45.76	15	P		P	22 53 18.7	-0.7	
	baz=198								
PAGB	**Antelope Grade**	45.82	348	*e*P		P	22 53 18.1	-1.7	
	48nm,1.6s								
DWPF	**Disney Wildern**	45.82	35	*e*P		P	22 53 20.6	+0.6	
	222nm,1.3s								
146A	**Union**	45.83	24	P		P	22 53 19.5	-0.5	
	baz=209								
Y42A	**Garnett, Star**	45.88	20	P		P	22 53 20.1	-0.2	
	baz=205								
FURC	**Furnace Creek,**	45.93	352	P		P	22 53 18.8	-1.8	
	baz=170								
MIAR	**Mount Ida**	45.95	18	P		P	22 53 19.2	-1.6	
	baz=202,SNR=5.7								
MIAR	**Mount Ida**	45.95	18	*e*P		P	22 53 20.3	-0.5	
	13nm,0.9s								
KNB	**Kanab**	46.04	356	*e*P		P	22 53 22.8	+1.0	
	38nm,1.5s								
LCMT	**Little Creek M**	46.07	356	*e*P		P	22 53 21.0	-0.9	
	31nm,1.7s								
CWC	**Cottonwood Cre**	46.09	350	P		P	22 53 20.6	-1.6	
	baz=168								
MVCO	**Mesa Verde**	46.12	1	P		P	22 53 21.5	-1.0	
	baz=182								
MVCO	**Mesa Verde**	46.12	1	*e*P		P	22 53 22.0	-0.5	
	36nm,1.4s								
X40A	**Basin Creek Fa**	46.13	19	P		P	22 53 22.1	-0.1	
	baz=203								
147A	**Livingston**	46.18	25	P		P	22 53 22.8	0.0	
	baz=210								
V35A	**Meyer Ranch, C**	46.20	14	P		P	22 53 22.6	-0.2	
	baz=197								
Z45A	**Winona**	46.23	23	P		P	22 53 23.1	0.0	
	baz=208								
X41A	**Kaden, Bauxite**	46.24	19	P		P	22 53 23.1	0.0	
	baz=204								
Y43A	**Makayla and Ka**	46.25	21	P		P	22 53 23.0	-0.2	
	baz=206								
T25A	**Trinidad**	46.28	5	P		P	22 53 22.7	-0.9	
	baz=187								
T25A	**Trinidad**	46.28	5	*e*P		P	22 53 22.9	-0.8	
	17nm,1.4s								
TPNV	**Topopah Spring**	46.32	352	P		P	22 53 22.5	-1.4	
	baz=171								
TPNV	**Topopah Spring**	46.32	352	*e*P		P	22 53 25.7	+1.8	
	21nm,1.4s								
U32A	**Winter Ranch,**	46.32	12	P		P	22 53 23.5	-0.3	
	baz=194								
Z46A	**Louisville**	46.37	24	P		P	22 53 23.9	-0.2	
	baz=209								
PMPB	**Monarch Peak**	46.40	347	*e*P		P	22 53 23.1	-1.4	
	82nm,1.4s								
PKCU	**Pink Cliffs**	46.44	357	*e*P		P	22 53 27.4	+2.3	
	48nm,1.6s								
V36A	**Jenks**	46.44	15	P		P	22 53 24.3	-0.4	
	baz=199								
W39A	**Magazine**	46.49	18	P		P	22 53 23.8	-1.3	
	baz=202,SNR=6.5								
GRAC	**Grapevine Rang**	46.52	351	P		P	22 53 23.8	-1.5	
	baz=183								
PLCA	**Paso Flores**	46.55	139	P		P	22 53 26.1	+0.4	
	14nm,1.1s,baz=325,slow=11,SNR=8.5								
PLCA				LR		LR	23 08 24.8		
	comp=Z,2μm,18.2s,baz=340,slow=30								
PLCA	**Paso Flores**	46.55	139	*e*P		P	22 53 25.4	-0.2	
	29nm,1.2s								
UALR	**University of**	46.55	19	*e*P		P	22 53 24.9	-0.7	
	21nm,1.0s								
X42A	**Stuttgart**	46.59	20	P		P	22 53 25.6	-0.2	
	baz=205								
TUL1	**Leonard**	46.60	15	P		P	22 53 25.0	-0.9	
	baz=199								
TUL1	**Leonard**	46.60	15	*e*P		P	22 53 25.9	-0.1	
	9.7nm,0.8s								
CCUT	**Cedar City**	46.61	356	*e*P		P	22 53 24.6	-1.7	
	11nm,1.1s								
SZCU	**Shurtz Canyon**	46.64	356	*e*P		P	22 53 25.5	-1.0	
	13nm,1.3s								
W40A	**Ferguson Farm,**	46.70	18	P		P	22 53 25.6	-1.2	
	baz=202,SNR=5.8								
S22A	**4UR Ranch, Cre**	46.71	3	P		P	22 53 25.7	-1.5	
	baz=184								
S22A	**4UR Ranch, Cre**	46.71	3	*e*P		P	22 53 26.8	-0.4	
	12nm,1.2s								
TIN	**Tinemaha, Big**	46.72	350	P		P	22 53 25.2	-1.8	
	baz=168								
Z47A	**Carrollton**	46.72	25	P		P	22 53 26.4	-0.5	
	baz=210,SNR=6.0								
V37A	**Hulbert**	46.75	16	P		P	22 53 26.1	-1.0	
	baz=200,SNR=5.6								
SDCO	**Great Sand Dun**	46.79	4	P		P	22 53 26.6	-1.1	
	baz=186								
SDCO	**Great Sand Dun**	46.79	4	*e*P		P	22 53 26.6	-1.1	
	15nm,1.4s								
U35A	**Pawnee**	46.80	14	P		P	22 53 27.1	-0.5	
	baz=197								
V38A	**Canehill**	46.93	17	P		P	22 53 27.6	-0.9	
	baz=201								
W41B	**Gary Mavity, V**	46.95	19	P		P	22 53 27.8	-0.8	
	baz=204								
X301	**Greenbrier Sit**	46.96	19	*e*P		P	22 53 29.1	+0.3	
	49nm,1.6s								
Y46A	**Houston**	47.00	23	P		P	22 53 28.3	-0.8	
	baz=208,SNR=8.1								
LRAL	**Lakeview Retre**	47.03	26	*e*P		P	22 53 28.7	-0.7	
	24nm,0.9s								
WHAR	**Wooly Hollow**	47.04	19	*e*P		P	22 53 29.5	+0.1	
	26nm,1.2s								
PV01	**Paradox Valley**	47.05	1	*e*P		P	22 53 28.6	-1.1	
U36A	**Oologah**	47.07	15	P		P	22 53 29.0	-0.7	
	baz=199								
Z48A	**Northport**	47.09	25	P		P	22 53 28.9	-1.0	
	baz=210,SNR=8.6								
V39A	**Pettigrew**	47.13	17	P		P	22 53 29.2	-1.0	
	baz=202								
U37A	**Salina**	47.24	16	P		P	22 53 30.2	-0.8	
	baz=200								
TIGA	**Tifton**	47.29	30	P		P	22 53 30.3	-1.1	
	baz=216								
T34A	**McClaskey Farm**	47.32	13	P		P	22 53 30.5	-1.1	
	baz=197								
V40A	**Witts Springs**	47.34	18	P		P	22 53 30.8	-1.1	
	baz=203								
OXF	**Oxford**	47.35	22	*e*P		P	22 53 32.3	+0.4	
	54nm,0.9s								
T35A	**Sooner Cattle**	47.38	14	P		P	22 53 31.3	-0.7	
	baz=198								
PV09	**Paradox Valley**	47.40	0	*e*P		P	22 53 31.8	-0.7	
Y47A	**UCPARC, Winfie**	47.42	24	P		P	22 53 31.7	-0.7	
	baz=210								
HHAR	**Hobbs**	47.45	17	*e*P		P	22 53 32.4	-0.3	
	16nm,1.1s								
U38A	**Gravette**	47.48	16	P		P	22 53 31.2	-1.6	
	baz=200,SNR=5.1								
MSU	**Marysvale**	47.49	357	*e*P		P	22 53 30.9	-2.3	
V41A	**Mountainview**	47.54	19	P		P	22 53 32.9	-0.4	
	baz=204								
R11A	**Troy Canyon, C**	47.62	353	P		P	22 53 32.2	-1.8	
	baz=172								
R11A	**Troy Canyon, C**	47.62	353	*e*P		P	22 53 33.7	-0.4	
	11nm,1.4s								
T36A	**Boggs Farm, Ca**	47.67	15	P		P	22 53 33.8	-0.4	
	baz=198								
U39A	**Green Forest**	47.68	17	P		P	22 53 33.7	-0.7	
	baz=202								
V42A	**Cord**	47.81	20	P		P	22 53 35.1	-0.3	
	baz=204,SNR=6.6								
U40A	**Yellville**	47.84	18	P		P	22 53 34.1	-1.6	
	baz=202,SNR=7.4								
T37A	**Cheneyville 18**	47.97	16	P		P	22 53 35.8	-0.8	
	baz=200								
S34A	**Willow Spring**	47.99	13	P		P	22 53 35.8	-1.0	
	baz=197								
W45A	**Hickory Valley**	48.00	22	P		P	22 53 35.7	-1.2	
	baz=207								
Q24A	**Divide**	48.03	4	P		P	22 53 35.8	-1.6	
	baz=186								
SRU	**San Rafael Swe**	48.03	359	*e*P		P	22 53 36.1	-1.2	
	13nm,1.3s								
T38A	**Diamond**	48.06	16	P		P	22 53 36.0	-1.3	
	baz=200								
CMB	**Columbia Colle**	48.07	348	*e*P		P	22 53 35.9	-1.5	
	12nm,1.1s								
TVH3	**East Aurora ar**	48.09	350	*e*P		P	22 53 36.3	-1.5	
	19nm,1.2s								
U41A	**Viola**	48.12	19	P		P	22 53 36.6	-1.3	
	baz=204,SNR=5.5								
S35A	**Otter Creek Ra**	48.15	14	P		P	22 53 36.4	-1.7	
	baz=198,SNR=5.3								
TVH1	**TV Hill, Hawth**	48.18	350	*e*P		P	22 53 37.3	-1.3	
	20nm,1.1s								
TMUT	**Trail Mountain**	48.23	358	*e*P		P	22 53 38.0	-1.0	
	8.8nm,1.1s								
T39A	**Clever**	48.31	17	P		P	22 53 38.1	-1.2	
	baz=202,SNR=7.7								
WAKR	**Walker**	48.34	349	*e*P		P	22 53 37.4	-2.3	
WAKR				*es*P		pP	22 53 42.0	-4.0	
V44A	**Blytheville**	48.34	21	P		P	22 53 38.4	-1.1	
	baz=206								
U42A	**Revenden**	48.35	20	P		P	22 53 38.7	-0.9	
	baz=204,SNR=25								
S36A	**Lake Cedric, C**	48.37	15	P		P	22 53 38.8	-0.9	
	baz=196								
PCRV	**Puerto La Cruz**	48.44	68	LR		LR	23 11 35.0		
	comp=Z,466nm,21.7s,baz=247,slow=33								
R34A	**Isabella, Hill**	48.53	13	P		P	22 53 40.0	-1.0	
	baz=196								
CBKS	**Cedar Bluff**	48.55	10	P		P	22 53 40.1	-1.0	
	baz=193								
S37A	**Fort Scott**	48.60	15	P		P	22 53 40.5	-0.9	
	baz=200								
V45A	**Humboldt**	48.61	22	P		P	22 53 40.4	-1.1	
	baz=207								
U43A	**Rector**	48.65	20	P		P	22 53 41.3	-0.6	
	baz=205								
T40A	**Mansfield**	48.68	18	P		P	22 53 41.1	-1.0	
	baz=203								
S38A	**Stockton**	48.72	16	P		P	22 53 41.8	-0.7	
	baz=201								
YERR	**Yerington**	48.77	350	*e*P		P	22 53 41.4	-1.6	
	31nm,1.5s								
R35A	**Emporia Munici**	48.79	14	P		P	22 53 42.0	-1.0	
	baz=198								
T41A	**Mountain View**	48.82	19	P		P	22 53 41.7	-1.5	
	baz=204,SNR=6.1								
ISCO	**Idaho Springs**	48.82	4	P		P	22 53 42.2	-1.3	
	baz=185								
ISCO	**Idaho Springs**	48.82	4	*e*P		P	22 53 43.0	-0.5	
	15nm,1.4s								
PNTR	**Pine Nut**	48.94	349	*e*P		P	22 53 43.0	-1.4	
	14nm,0.9s								
S39A	**Bolivar**	48.94	17	P		P	22 53 42.6	-1.5	
	baz=201,SNR=8.0								
GOGA	**Godfrey**	48.95	29	*e*P		P	22 53 42.8	-1.5	
	33nm,1.0s								
R36A	**Gordon, Harris**	48.96	14	P		P	22 53 43.5	-0.7	
	baz=198								
U44B	**Burton Farm, H**	49.00	21	P		P	22 53 44.0	-0.5	
	baz=207								
PBMO	**Poplar Bluff**	49.01	20	*e*P		P	22 53 45.1	+0.5	
	17nm,0.9s								
O20A	**White River Ci**	49.05	1	P		P	22 53 44.1	-1.0	
	baz=182								
O20A	**White River Ci**	49.05	1	*e*P		P	22 53 43.3	-1.9	
	82nm,2.0s								
S40A	**Lebanon**	49.10	18	P		P	22 53 44.3	-1.1	
	baz=202,SNR=14								
R37A	**Teagarden Farm**	49.12	15	P		P	22 53 44.9	-0.6	
	baz=199								
Q34A	**Chapman**	49.20	13	P		P	22 53 45.4	-0.6	
	baz=196								
DUG	**Dugway, Tooele**	49.20	356	P		P	22 53 44.9	-1.4	
	baz=176								
DUG	**Dugway, Tooele**	49.20	356	*e*P		P	22 53 46.6	+0.4	
	15nm,1.3s								
U45A	**Rockin P Farm,**	49.22	22	P		P	22 53 45.0	-1.2	
	baz=207								
R38A	**Fenwick Farm,**	49.24	16	P		P	22 53 45.7	-0.7	
	baz=200								
S41A	**Jillco Farms,**	49.32	18	P		P	22 53 45.9	-1.1	
	baz=203,SNR=7.6								
T43A	**Greenville**	49.34	20	P		P	22 53 46.3	-0.9	
	baz=205								
Q35A	**Mercer Eighty,**	49.34	14	P		P	22 53 46.2	-1.0	
	baz=198								
SWET	**Sewanee**	49.35	25	*e*P		P	22 53 46.1	-1.2	
	8.4nm,0.9s								
WVT	**Waverly**	49.38	23	*e*P		P	22 53 49.5	+2.1	
	12nm,0.9s								
KSU1	**Kansas State U**	49.

	baz=190								
Q39A	**Willow Grove F**	50.30	17	P		P	22 53 53.4	-1.0	
	baz=201								
PHWY	**Pilot Hill**	50.33	4	eP		P	22 53 54.2	-0.8	
	13nm,1.2s								
P37A	**Lathrop**	50.44	15	P		P	22 53 54.0	-1.6	
	baz=200								
O34A	**Beatrice**	50.46	13	P		P	22 53 53.9	-1.7	
	baz=196								
S45A	**Carrier Mills**	50.47	21	P		P	22 53 54.0	-1.7	
	baz=207								
Q40A	**Laux Farm, Aux**	50.52	17	P		P	22 53 54.4	-1.7	
	baz=202,SNR=8.3								
R43A	**Red Bud**	50.53	20	P		P	22 53 54.7	-1.5	
	baz=205,SNR=6.0								
O03D	**Paynes Creek**	50.54	348	P		P	22 53 53.6	-2.7	
	baz=164								
TKL	**Tuckaleechee C**	50.67	27	eP		P	22 54 00.4	+3.1	
	27nm,1.0s								
P38A	**Dawn**	50.69	16	P		P	22 53 56.2	-1.2	
	baz=201								
O35A	**Humboldt**	50.71	13	P		P	22 53 55.9	-1.6	
	baz=197								
Q41A	**Truxton**	50.73	18	P		P	22 53 55.7	-2.0	
	baz=204								
P39B	**Salisbury**	50.78	17	P		P	22 53 56.0	-2.0	
	baz=202								
R44A	**Waltonville**	50.80	21	P		P	22 53 56.8	-1.4	
	baz=206,SNR=8.2								
Q42A	**Golden Eagle**	50.91	19	P		P	22 53 57.1	-2.0	
	baz=204								
WDC	**Whiskeytown Da**	50.97	347	eP		P	22 54 00.7	+1.3	
	16nm,1.3s								
P40A	**Paris**	51.02	17	P		P	22 53 58.1	-1.7	
	baz=202								
USIN	**University of**	51.05	22	eP		P	22 54 03.5	+3.3	
	52nm,0.8s								
O38A	**Galt**	51.17	16	P		P	22 53 59.7	-1.3	
	baz=200								
Q43A	**New Douglas**	51.21	20	P		P	22 54 00.1	-1.3	
	baz=205								
TRQA	**Tornquist**	51.30	132	eP		P	22 54 03.2	+1.1	
	20nm,1.3s								
KMSC	**Kings Mountain**	51.39	29	P		P	22 54 00.9	-1.8	
	baz=216								
KMSC	**Kings Mountain**	51.39	29	eP		P	22 54 06.2	+3.5	
	15nm,0.9s								
Q44A	**Meyer Farm, Va**	51.41	20	P		P	22 54 02.0	-0.8	
	baz=206,SNR=6.6								
P41A	**Barry, Barry**	51.45	18	P		P	22 54 01.8	-1.3	
	baz=204								
TZTN	**Tazewell**	51.51	27	eP		P	22 54 03.4	-0.2	
	35nm,0.9s								
O39A	**Kirksville**	51.55	16	P		P	22 54 02.3	-1.5	
	baz=202								
OLIL	**Olney**	51.58	21	eP		P	22 54 06.5	+2.5	
	42nm,0.8s								
N37A	**Lee Faris, Mou**	51.58	15	P		P	22 54 02.9	-1.2	
	baz=199								
P42A	**Winchester**	51.59	19	P		P	22 54 03.5	-0.6	
	baz=204								
K22A	**Casper**	51.62	3	P		P	22 54 03.2	-1.3	
	baz=184								
K22A	**Casper**	51.62	3	eP		P	22 54 04.5	0.0	
	16nm,1.2s								
O40A	**La Belle**	51.62	17	P		P	22 54 03.4	-0.9	
	baz=202								
BW06	**Boulder Array**	51.67	360	eP		P	22 54 04.2	-0.8	
PD31	**Pinedale Array**	51.67	360	eP		P	22 54 04.1	-0.9	
PDAR	**Pinedale Array**	51.67	360	P		P	22 54 03.6	-1.3	
	1.0nm,0.7s,baz=167,slow=7.3,SNR=6.4								
PDAR					LR	LR	23 12 34.1		
	comp=Z,374nm,19.5s,baz=194,slow=32								
M33A	**Taylor Creek F**	51.69	12	P		P	22 54 04.2	-0.6	
	baz=196								
M34A	**Aspy Farms, Fr**	51.75	12	P		P	22 54 04.5	-0.8	
	baz=196								
MOD	**Modoc Plateau**	51.80	350	eP		P	22 54 03.7	-2.2	
	49nm,1.8s								
WCI	**Wyandotte Cave**	51.80	23	eP		P	22 54 07.6	+1.7	
	18nm,0.8s								
M02C	**Callahan**	51.81	347	P		P	22 54 04.1	-1.8	
	baz=163								
N38A	**Joes South For**	51.87	16	P		P	22 54 05.4	-0.8	
	baz=201								
P43A	**Skaggs, Pawnee**	51.90	19	P		P	22 54 06.2	-0.3	
	baz=205								
O41A	**Passleys Farm,**	51.91	18	P		P	22 54 05.6	-0.9	
	baz=204								
L32A	**Elgin**	51.95	11	P		P	22 54 06.3	-0.6	
	baz=194								
M04C	**Macdoel**	51.97	348	P		P	22 54 05.5	-1.6	
	baz=165								
CPUP	**Villa Florida**	52.02	116	P		P	22 54 07.8	+0.1	
	2.7nm,0.8s,baz=307,slow=5.1,SNR=4.0								
CPUP					LR	LR	23 12 12.4		
	comp=Z,1µm,21.6s,baz=286,slow=31								
WVOR	**Wild Horse Val**	52.04	351	eP		P	22 54 05.7	-1.9	
	43nm,1.8s								
P44A	**Sand Creek, Wi**	52.05	20	P		P	22 54 07.3	-0.3	
	baz=206								
M36A	**Felix, Anita**	52.10	14	P		P	22 54 06.6	-1.3	
	baz=198								
YBH	**Yreka Blue Hor**	52.11	347	eP		P	22 54 10.7	+2.6	
	6.8nm,1.3s								
N39A	**Derby Farms, D**	52.14	16	P		P	22 54 07.7	-0.5	
	baz=201								
O42A	**Bath**	52.23	19	P		P	22 54 07.6	-1.3	
	baz=204								
M37A	**Trindle Farm,**	52.23	15	P		P	22 54 08.4	-0.5	
	baz=199								
L34A	**Svendsen Farm,**	52.24	12	P		P	22 54 08.4	-0.5	
	baz=196								
TPAW	**Teton Pass**	52.41	358	eP		P	22 54 11.8	+1.3	
	18nm,1.4s								
K31A	**O'Neill**	52.42	10	P		P	22 54 09.6	-0.7	
	baz=194								
M38A	**Pleasantville**	52.46	15	P		P	22 54 10.3	-0.3	
	baz=200								
LOHW	**Long Hollow**	52.53	359	eP		P	22 54 10.2	-1.1	
	18nm,1.5s								
BLO	**Bloomington**	52.54	22	eP		P	22 54 14.1	+2.9	
	20nm,0.9s								
L35A	**Bielow Farm, R**	52.55	13	P		P	22 54 11.4	+0.1	
	baz=198								
O43A	**Sugar Creek Fa**	52.55	19	P		P	22 54 10.7	-0.6	
	baz=205								
K32A	**Verdigre**	52.59	11	P		P	22 54 10.9	-0.7	
	baz=194								
MFID	**Camas Ranch**	52.65	354	eP		P	22 54 09.8	-2.3	
	36nm,1.5s								
MOOW	**Moose Ponds**	52.66	359	eP		P	22 54 11.3	-1.0	
	15nm,1.4s								
HLID	**Hailey**	52.67	355	P		P	22 54 11.1	-1.2	
	baz=174								
HLID	**Hailey**	52.67	355	eP		P	22 54 10.2	-2.2	
	36nm,2.0s								
K05A	**Summer Lake**	52.70	349	eP		P	22 54 10.5	-2.1	
	62nm,1.5s								
K33A	**Hardington**	52.72	11	P		P	22 54 12.1	-0.4	
	baz=196								
M39A	**Webster**	52.79	16	P		P	22 54 12.2	-0.8	
	baz=202								
HDIL	**Hopedale**	52.80	19	P		P	22 54 12.1	-1.0	
	baz=205								
IMW	**Indian Meadow**	52.82	359	eP		P	22 54 10.7	-2.8	
	15nm,1.2s								
N42A	**Yates City**	52.82	18	P		P	22 54 12.2	-1.0	
	baz=204								
L37A	**Phoenix Point,**	52.98	14	P		P	22 54 13.7	-0.7	
	baz=200								
K34A	**Le Mars**	52.98	12	P		P	22 54 13.1	-1.4	
	baz=197								
J31A	**Geddes**	53.08	10	P		P	22 54 13.8	-1.4	
	baz=193								
M41A	**Milan**	53.16	18	P		P	22 54 15.5	-0.2	
	baz=204								
SFIN	**Lafayette**	53.39	21	P		P	22 54 18.2	+0.7	
	baz=208								
J33A	**Davis**	53.42	11	P		P	22 54 16.2	-1.4	
	baz=196								
L39A	**Vinton**	53.44	16	P		P	22 54 17.0	-0.8	
	baz=202								
J34A	**George**	53.59	12	P		P	22 54 17.6	-1.3	
	baz=197								
YHH	**Holmes Hill**	53.71	359	eP		P	22 54 19.7	-0.4	
	6.0nm,0.5s								
L41A	**Preston**	53.82	17	P		P	22 54 19.4	-1.2	
	baz=204								
MCMT	**McKenzie Canyo**	53.82	357	eP		P	22 54 20.0	-0.8	
ECSD	**EROS Data Cent**	53.89	11	P		P	22 54 19.7	-1.4	
	baz=196								
J36A	**Seneca 1, Swea**	53.98	13	P		P	22 54 20.3	-1.5	
	baz=199								
K39A	**Oelwein**	54.01	16	P		P	22 54 21.4	-0.6	
	baz=202								
I04A	**Tendick Farm,**	54.02	348	P		P	22 54 19.7	-2.4	
	baz=164								
J37A	**Redenius Farm,**	54.15	14	P		P	22 54 21.9	-1.1	
	baz=200								
I33A	**Coleman**	54.15	11	P		P	22 54 21.2	-1.8	
	baz=196								
SUSD	**Miller**	54.16	9	P		P	22 54 21.8	-1.3	
	baz=193								
K40A	**Colesburg**	54.21	16	P		P	22 54 22.8	-0.7	
	baz=202								
I34A	**Hadley**	54.33	12	P		P	22 54 23.5	-0.8	
	baz=197								
I35A	**Creekview Farm**	54.34	13	P		P	22 54 23.1	-1.3	
	baz=198								
K41A	**Shullsburg**	54.36	17	P		P	22 54 23.0	-1.5	
	baz=204,SNR=7.3								
L43A	**Garden Prairie**	54.45	19	P		P	22 54 24.3	-0.9	
	baz=205								
H32A	**Carson Farm,**	54.48	10	P		P	22 54 24.1	-1.3	
	baz=195								
J39A	**Decorah**	54.65	16	P		P	22 54 26.0	-0.6	
	baz=202								
JFWS	**Jewell Farm**	54.66	17	eP		P	22 54 26.4	-0.4	
	31nm,1.1s								
I37A	**Lemond, Waseca**	54.85	14	P		P	22 54 27.6	-0.5	
	baz=200								
H34A	**Spellman Lake,**	54.95	12	P		P	22 54 28.5	-0.3	
	baz=197								
J40A	**Soldiers Grove**	54.97	16	P		P	22 54 28.5	-0.5	
	baz=203								
JSRW	**J. Sargeant Re**	55.10	30	eP		P	22 54 29.9	-0.1	
I38A	**Scanlan Farm,**	55.14	15	P		P	22 54 29.4	-0.7	
	baz=201								
J41A	**Loganville**	55.14	17	P		P	22 54 29.9	-0.3	
	baz=204								
H35A	**Sunnyside Ranc**	55.18	13	P		P	22 54 29.7	-0.8	
	baz=198								
I39A	**Houston**	55.18	16	P		P	22 54 28.8	-1.6	
	baz=202								
URVA	**University of**	55.18	31	eP		P	22 54 30.5	-0.1	
H36A	**Jessenland, He**	55.26	13	P		P	22 54 30.2	-0.9	
	baz=199								
G33A	**Ortonville**	55.33	11	P		P	22 54 30.6	-0.9	
	baz=196								
F10A	**Beach Ranch, E**	55.33	353	eP		P	22 54 32.8	+1.1	
	18nm,1.4s								
I40A	**Norwalk**	55.46	16	P		P	22 54 30.9	-1.6	
	baz=203								
H37A	**Dierke Farm, C**	55.50	14	P		P	22 54 31.0	-1.7	
	baz=200								
G34A	**Benson**	55.53	12	P		P	22 54 31.2	-1.8	
	baz=197								
F31A	**Hecla**	55.66	9	P		P	22 54 32.0	-1.8	
	baz=194								
LAO	**LASA Array**	55.66	3	P		P	22 54 32.1	-1.8	
	baz=184								
LAO	**LASA Array**	55.66	3	eP		P	22 54 31.7	-2.2	
	25nm,0.7s								
G35A	**Watkins**	55.75	13	P		P	22 54 32.6	-1.9	
	baz=198								
G36A	**St. Michael**	55.92	13	P		P	22 54 33.8	-2.0	
	baz=199								
SPMN	**Marine on St.**	56.13	14	P		P	22 54 34.9	-2.3	
	baz=200								
F34A	**Alexandria**	56.14	12	P		P	22 54 34.9	-2.4	
	baz=197								
H40A	**Chili**	56.19	16	P		P	22 54 35.6	-2.1	
	baz=203								
G38A	**Ridgeland**	56.32	15	P		P	22 54 36.7	-1.9	
	baz=201								
F35A	**Swanville**	56.34	12	P		P	22 54 37.1	-1.6	
	baz=198								
E31A	**Nome**	56.39	9	P		P	22 54 37.0	-2.1	
	baz=194								
SWMT	**Swartz Lake**	56.56	356	eP		P	22 54 36.9	-3.6	
F36A	**Milaca**	56.57	13	P		P	22 54 38.9	-1.5	
	baz=199,SNR=12								
G39A	**Holcombe**	56.60	15	P		P	22 54 39.8	-0.8	
	baz=202								
F37A	**Hinrichs Farm,**	56.65	14	P		P	22 54 39.7	-1.2	
	baz=200								
E33A	**Westby DABS, E**	56.67	11	P		P	22 54 39.8	-1.3	
	baz=196								
N54A	**Moraine State**	56.72	26	P		P	22 54 41.2	-0.3	
	baz=216								
LON	**Longmire**	56.76	350	eP		P	22 54 40.0	-1.7	
	8.4nm,1.1s								
O56A	**Blue Knob Stat**	56.80	28	P		P	22 54 41.0	-1.1	
	baz=217,SNR=5.2								
G40A	**Rib Lake**	56.84	16	P		P	22 54 41.6	-0.7	
	baz=203,SNR=7.6								
YBMT	**Yellow Bay**	56.92	356	eP		P	22 54 41.1	-1.9	
EGMT	**Eagleton**	56.93	360	P		P	22 54 41.7	-1.3	
	baz=180								
EGMT	**Eagleton**	56.93	360	eP		P	22 54 41.1	-1.9	
	36nm,1.4s								
SDMD	**Soldier's Deli**	56.95	30	eP		P	22 54 42.3	-0.9	
	10nm,0.9s								
BSMT	**Bassoo Peak**	56.96	356	eP		P	22 54 40.2	-3.2	
E35A	**Pequot Lakes**	57.04	12	P		P	22 54 42.3	-1.4	
	baz=198								
F38A	**Pierce - Schro**	57.05	14	P		P	22 54 42.5	-1.3	
	baz=201								
E36A	**McGregor**	57.25	13	P		P	22 54 43.9	-1.3	
	baz=199								
F39A	**Loretta**	57.25	15	P		P	22 54 44.5	-0.7	
	baz=202								
M54A	**Oil Creek Stat**	57.30	26	P		P	22 54 44.9	-0.8	
	baz=216								
D34A	**Park Rapids**	57.38	11	P		P	22 54 45.2	-0.9	
	baz=197								
SSPA	**Standing Stone**	57.41	28	eP		P	22 54 46.6	+0.2	
	26nm,1.3s								
F40A	**Park Falls**	57.46	16	P		P	22 54 45.4	-1.3	
	baz=203,SNR=6.8								
DGMT	**Dagmar**	57.55	4	P		P	22 54 46.7	-0.6	
	baz=186								
F41A	**Three Lakes**	57.58	17	P		P	22 54 45.3	-2.3	
	baz=204								
D35A	**Remer**	57.61	12	P		P	22 54 45.7	-2.0	
	baz=198								
C31A	**Landman Farms,**	57.62	9	P		P	22 54 45.9	-1.8	
	baz=194								
MVL	**Millersville**	57.64	30	eP		P	22 54 47.8	-0.3	
	26nm,1.1s								
E39A	**Mellen**	57.77	15	P		P	22 54 47.9	-1.0	
	baz=202,SNR=5.3								
F42A	**Maple Grove Fa**	57.88	17	P		P	22 54 49.3	-0.3	
	baz=205								
C33A	**Trail**	57.92	11	P		P	22 54 48.8	-1.1	
	baz=196								
C34A	**RKJ Ranch, Bem**	57.98	11	P		P	22 54 49.2	-1.2	
	baz=197								
E40A	**Wakefield**	58.01	16	P		P	22 54 49.4	-1.1	
	baz=203,SNR=6.7								
WALA	**Waterton Lakes**	58.10	356	eP		P	22 54 50.7	-0.6	
	12nm,1.1s								
C35A	**Jirik Farms, M**	58.22	12	P		P	22 54 51.1	-0.9	
	baz=198								
F43A	**Flat Rock, Esc**	58.23	18	P		P	22 54 51.6	-0.5	
	baz=206,SNR=6.2								
B31A	**Greenbush Farm**	58.24	9	P		P	22 54 50.3	-1.9	
	baz=194								
AGMN	**Agassiz Nation**	58.42	11	P		P	22 54 52.6	-0.8	
	baz=196								
AGMN	**Agassiz Nation**	58.42	11	eP		P	22 54 52.4	-1.0	
	27nm,1.5s								
C36A	**Pine Crest Far**	58.52	13	P		P	22 54 53.4	-0.7	
	baz=199								
E42A	**Champion**	58.55	17	P		P	22 54 54.0	-0.3	
	baz=205								
F44A	**Big Bay de Noc**	58.59	19	P		P	22 54 54.2	-0.4	
	baz=207,SNR=7.0								
C37A	**Embarrass**	58.64	13	P		P	22 54 53.8	-1.1	
	baz=200								
BUF	**Buffalo**	58.81	26	eP		P	22 54 54.9	-1.3	
B34A	**Aery, Baudette**	58.83	11	P		P	22 54 55.6	-0.7	
	baz=197								
C38A	**Sawbill Land.**	58.84	14	P		P	22 54 55.5	-0.9	
	baz=201								
B35A	**Bob, Littlefor**	58.90	12	P		P	22 54 56.3	-0.4	
	baz=198								
D41A	**Chassel**	58.94	16	P		P	22 54 56.2	-0.8	
	baz=204,SNR=5.1								
EYMN	**Ely**	59.00	14	P		P	22 54 56.2	-1.2	
	baz=201,SNR=6.0								
EYMN	**Ely**	59.00	14	eP		P	22 54 56.4	-1.1	
	16nm,0.9s								
BRNJ	**Basking Ridge**	59.04	30	eP		P	22 54 57.1	-0.7	
	24nm,1.0s								
MMNY	**Mt. Morris Dam**	59.06	27	eP		P	22 54 58.7	+0.8	
A33A	**Warroad**	59.12	11	P		P	22 54 57.6	-0.7	
	baz=196								
C39A	**Grand Marais**	59.22	15	P		P	22 54 58.0	-0.9	
	baz=202								
ODNJ	**Ogdensburg**	59.33	30	eP		P	22 54 59.5	-0.3	
	18nm,0.9s								
BINY	**Binghamton**	59.52	28	eP		P	22 54 59.5	-1.6	
	29nm,1.0s								
PAL	**Palisades**	59.62	31	eP		P	22 55 01.8	0.0	
	19nm,0.9s								
SADO	**Sadowa**	60.19	24	eP		P	22 55 06.4	+0.7	
	25nm,0.8s								
ULM	**Lac du Bonnet**	60.30	10	P		P	22 55 04.2	-2.1	
	10nm,0.9s,baz=220,slow=9.3,SNR=7.0								
ULM					LR	LR	23 18 23.7		
	comp=Z,110nm,20.8s,baz=218,slow=33								
ULM	**Lac du Bonnet**	60.30	10	eP		P	22 55 06.0	-0.3	
	13nm,1.0s								
PLVO	**Plevna**	61.27	26	eP		P	22 55 13.3	+0.3	
	32nm,1.3s								
ACCN	**Adirondack Com**	61.52	29	eP		P	22 55 14.8	0.0	
	31nm,1.0s								
NCB	**Newcomb**	61.70	28	eP		P	22 55 15.4	-0.7	
	0.2nm,0.9s								
BCX	**Boston College**	61.98	31	eP		P	22 55 17.9	0.0	
	54nm,1.2s								
LONY	**Lake Ozonia**	62.04	27	eP		P	22 55 19.8	+1.5	
	18nm,1.0s								
MDV	**Middlebury**	62.22	29	eP		P	22 55 21.5	+2.0	
EDM	**Edmonton**	62.23	357	eP		P	22 55 18.4	-1.0	
	41nm,1.2s								
HNH	**Hanover**	62.43	30	eP		P	22 55 19.9	-1.0	
	24nm,1.0s								
FRNY	**Flat Rock**	62.66	28	eP		P	22 55 21.2	-1.1	
	19nm,0.9s								
BBB	**Bella Bella**	63.19	347	LR		LR	23 16 02.7		
	comp=Z,211nm,18.9s,baz=162,slow=30								
TRQ	**Mont Tremblant**	63.29	26	eP		P	22 55 26.2	-0.5	
VLDQ	**Val d'Or**	63.59	23	eP		P	22 55 27.8	-0.7	
	11nm,0.9s								
WVL	**Waterville**	64.35	30	eP		P	22 55 33.1	-0.5	
	43nm,1.3s								
GGN	**Saint George**	66.17	32	eP		P	22 55 44.6	-0.7	
	29nm,1.4s								
LMQ	**La Malbaie**	66.19	28	eP		P	22 55 45.5	0.0	
PQI	**Presque Isle**	66.66	30	eP		P	22 55 48.1	-0.4	
	61nm,1.3s								
LMN	**Caledonia Moun**	67.72	32	eP		P	22 55 55.0	-0.2	
	19nm,1.1s								
YKA	**Yellowknife Ar**	71.55	357	P		P	22 56 16.6	-1.8	
	3.5nm,1.0s,baz=173,slow=5.2,SNR=4.7								
YKA					LR	LR	23 24 34.6		
	comp=Z,26nm,18.3s,baz=180,slow=33								
SCHQ	**Schefferville**	73.00	24	LR		LR	23 27 42.7		
	comp=Z,786nm,19.9s,baz=235,slow=35								
SCHQ	**Schefferville**	73.00	24	eP		P	22 56 29.1	+1.7	
OXZ	**Oxford**	75.53	228	eP		P	22 56 39.2	-3.2	
	30nm,0.5s								
KLU	**Klutina**	76.02	343	eP		P	22 56 43.0	-1.8	
	13nm,1.2s								
DAWY	**Dawson**	76.48	347	eP		P	22 56 44.5	-2.9	
SCM	**Sheep Creek Mo**	76.70	343	eP		P	22 56 48.2	-0.5	
RC01	**Rabbit Creek A**	76.87	341	eP		P	22 56 47.9	-1.6	
SML	**Sawmill**	76.98	342	eP		P	22 56 49.3	-1.0	
PAX	**Paxson**	77.07	344	eP		P	22 56 50.6	-0.2	
DOT	**Dot Lake**	77.25	345	eP		P	22 56 48.1	-3.6	
RSO	**Redoubt South**	77.41	340	eP		P	22 56 50.9	-1.9	
EGAK	**Eagle**	77.49	347	eP		P	22 56 51.8	-1.1	
DHY	**Denali Highway**	77.69	343	eP		P	22 56 51.8	-2.5	
RND	**Reindeer**	78.37	343	eP		P	22 56 55.2	-2.8	
MCK	**McKinley**	78.64	343	eP		P	22 56 57.6	-1.8	
TRF	**Thorofare Moun**	78.82	343	eP		P	22 56 58.8	-1.8	
SVW2	**Sparrevohn**	78.84	339	eP		P	22 56 59.0	-1.5	
	16nm,1.3s								
IL1	**Eielson Array**	78.89	345	eP		P	22 56 58.5	-2.2	
ILAR	**Eielson Array**	78.89	345	P		P	22 56 59.8	-1.0	
	2.4nm,1.0s,baz=145,slow=3.7,SNR=7.7								
ILAR					LR	LR	23 24 36.8		
	comp=Z,235nm,19.7s,baz=155,slow=30								
WRH	**Wood River Hil**	78.98	344	eP		P	22 56 57.6	-3.6	
PPLA	**Purkeypile**	78.99	341	eP		P	22 57 00.6	-1.0	
CCB	**Clear Creek Bu**	79.04	344	eP		P	22 57 00.1	-1.4	
INK	**Inuvik**	79.16	351	P		P	22 57 00.8	-1.3	
	8.3nm,1.1s,baz=149,slow=9.9,SNR=4.0								
INK	**Inuvik**	79.16	351	eP		P	22 57 00.6	-1.5	
CAST	**Castle Rocks**	79.34	342	eP		P	22 56 59.8	-3.4	
MDM	**Murphy Dome**	79.40	344	eP		P	22 57 02.4	-1.2	
VNDA	**Vanda**	80.87	193	P		P	22 57 12.7	+1.3	
	0.6nm,0.9s,baz=102,slow=4.4,SNR=3.9								
VNDA					LR	LR	23 25 29.7		
	comp=Z,251nm,20.1s,baz=95,slow=30								
QSPA	**South Pole Qui**	80.93	180	eP		P	22 57 11.0	-1.0	
COLD	**Coldfoot**	81.66	345	eP		P	22 57 13.3	-2.3	
TOLK	**Toolik Lake Re**	82.59	346	P		P	22 57 18.3	-2.3	
	baz=140								
VNA3	**Neumayer Olymp**	84.49	161	P		P	22 57 29.0	-1.4	
VNA1	**Neumayer--Stat**	85.07	161	P		P	22 57 38.1	+4.9	
VNA2	**Neumayer--Watz**	85.29	161	P		P	22 57 32.3	-2.1	
	baz=277,slow=4.2								
SNAA	**Sanae**	86.49	162	P		P	22 57 40.1	-0.3	
H11S2	**WAKE ISLAND Hy**	87.22	289	T		T	00 33 42.4		
	baz=100,slow=74,SNR=423								
H11S1	**WAKE ISLAND Hy**	87.23	289	T		T	00 33 42.9		
	baz=100,slow=74,SNR=399								
H11S3	**WAKE ISLAND Hy**	87.24	289	T		T	00 33 43.6		
	baz=100,slow=74,SNR=293								
H11N3	**WAKE ISLAND Hy**	87.25	290	T		T	00 33 40.6		

ABKAR	**Akbulak array**	**139.03**	**11**	*e*PKPdf	**PKPdf**	**23 04 25.2**	**+0.7**
GTA	**Gaotai**	**140.19**	**324**	*e*PKP	**PKPdf**	**23 04 29.9**	**+2.8**
GTA				PP	**PP**	**23 07 30.4**	**+6.3**
GTA				SKS	**SKSdf**	**23 11 37.9**	**+1.2**
GTA				SKKS	**SKKSac**	**23 14 20.8**	**+3.1**
GTA				AMB	AMB		
	comp=Z,50nm,7.1s						
GTA				LR	LR		
	comp=N,160nm,17.8s						
GTA				LR	LR		
	comp=E,180nm,20.7s						
GTA				LR	LR		
	comp=Z,240nm,19.5s						
MKAR	**Makanchi Array**	**141.20**	**347**	PKP	**PKPdf**	**23 04 30.8**	**+2.2**
	2.7nm,0.9s,baz=52,slow=2.2,SNR=10						
GYA	**Guiyang**	**141.84**	**302**	*e*PKP	**PKPdf**	**23 04 27.3**	**-3.2**
GYA				PP	**PP**	**23 07 35.8**	**+0.7**
GYA				AMB	AMB		
	comp=Z,120nm,7.9s						
WMQ	**Urumqi**	**142.42**	**340**	PKP	**PKPdf**	**23 04 27.6**	**-3.3**
WMQ				SS	SS	23 26 11.8	+0.9
WMQ				AMB	AMB		
	comp=Z,130nm,4.9s						
WMQ				LR	LR		
	comp=N,240nm,21.7s						
WMQ				LR	LR		
	comp=E,210nm,22.9s						
WMQ				LR	LR		
	comp=Z,390nm,24.9s						
KMBO	**Kilima Mbogo**	**145.17**	**105**	PKPbc	**PKPdf**	**23 04 39.0**	**+2.2**
	3.9nm,0.8s,baz=246,slow=5.6,SNR=7.9						
SLVN	**Son La**	**145.82**	**295**	*e*PKPdf	**PKPdf**	**23 04 35.3**	**-2.2**
AAK	**Ala-Archa**	**146.48**	**355**	*e*PKPdf	**PKPdf**	**23 04 37.3**	**-0.8**
GEYT	**Alibeck**	**149.19**	**20**	PKP	**PKPdf**	**23 04 44.0**	**+1.4**
	11nm,1.2s,baz=242,slow=3.2,SNR=5.2						
GEYT				PKPbc	**PKiKP**	**23 04 48.4**	**+0.4**
	9.7nm,1.0s,baz=300,slow=3.2,SNR=16						
KSH	**Kashi**	**149.40**	**352**	*e*PKPbc	**PKPdf**	**23 04 43.8**	**+0.8**
KSH				PKS	**PKSdf**	**23 08 16.8**	**-1.2**
KSH				PP	**PP**	**23 08 23.8**	**+5.6**
KSH				SKS	**SKSdf**	**23 11 49.8**	**-0.6**
KSH				SS	**SS**	**23 27 37.8**	**+7.8**
KSH				AMB	AMB		
	comp=Z,85nm,4.7s						
KSH				LR	LR		
	comp=N,200nm,15.3s						
KSH				LR	LR		
	comp=E,350nm,18.0s						
KSH				LR	LR		
	comp=Z,330nm,30.2s						
CHTO	**Chiang Mai**	**150.99**	**292**	*e*PKPdf	**PKPdf**	**23 04 46.9**	**+1.0**
CMAR	**Chiang Mai Arr**	**151.08**	**292**	PKP	**PKPdf**	**23 04 47.1**	**+1.1**
	2.7nm,1.1s,baz=243,slow=0.2,SNR=12						
CMAR				PKPbc	**pPKPdf**	**23 04 53.8**	**+0.8**
	5.4nm,0.8s,baz=56,slow=0.5,SNR=23						

*ISCJB **23** 22:58:20.7±0.8,52.°1N±0.°2×178.°41E±0.°08,h132km±8km, mb3.5/6, Error ellipse: s-maj=41.3km s-min=6.4km az=7.6*
*NEIC **23** 22:58:22.4±0.0,51.°95N×178.°34E,h125km,MG3.3(AEIC), After AEIC.*
*IDC **23** 22:58:22.6±6.2,51.°95N×178.°50E,h139km±56km,mb3.3/6, mb1 3.6/8,mb1mx3.2/51,mbtmp3.7/8, Error ellipse: s-maj=62.2km s-min=19.1km az=179.0*

ISC 23 22:58:21.8±1.2,**52.°0N**±0.°3×**178.°40E**±0.°06,**h129**km±11km, **n20,σ0s83/26,mb3.6/6,Rat Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GALAA	**Gareloi Lava P**	**1.77**	**97**	P	**Pn**	**22 58 52.8**	**0.0**
GALAA				S	**Sn**	**22 59 16.3**	**-0.3**
GAEA	**Gareloi East**	**1.78**	**97**	P	**Pn**	**22 58 52.6**	**-0.3**
GAEA				S	**Sn**	**22 59 17.1**	**+0.3**
TANO	**Tanaga North**	**2.15**	**91**	P	**Pn**	**22 58 57.5**	**0.0**
TANO				S	**Sn**	**22 59 25.1**	**+0.2**
TASE	**Tanaga Southea**	**2.21**	**93**	P	**Pn**	**22 58 58.0**	**-0.2**
TAFP	**Tanaga Falls P**	**2.24**	**92**	P	**Pn**	**22 58 58.5**	**-0.1**
TAFP				S	**Sn**	**22 59 26.5**	**-0.3**
KICM	**Kanaga Island**	**2.72**	**90**	P	**Pn**	**22 59 05.1**	**+0.4**
SMY	**Shemya**	**2.73**	**287**	P	**Pn**	**22 59 04.4**	**-0.3**
SMY				S	**Sn**	**22 59 36.5**	**-1.4**
ADK	**Adak**	**3.04**	**91**	P	**Pn**	**22 59 08.2**	**-0.6**
ADK				S	**Sn**	**22 59 44.4**	**-0.7**
GSCK	**Great Sitkin C**	**3.36**	**88**	P	**Pn**	**22 59 12.5**	**-0.4**
ATKA	**Atka Island**	**4.57**	**85**	P	**Pn**	**22 59 29.0**	**+0.1**
KOFP	**Korovin Flat P**	**4.63**	**84**	P	**Pn**	**22 59 31.0**	**+1.2**
NIKH	**Nikolski High**	**7.84**	**78**	P	**Pn**	**23 00 14.0**	**+1.1**
PETK	**Petropavlovsk-**	**12.64**	**283**	P	**Pn**	**23 01 18.9**	**+2.1**
	0.2nm,0.3s,baz=95,slow=17,SNR=7.0						
KDAK	**Kodiak Island**	**17.56**	**59**	P	**P**	**23 02 16.1**	**-1.3**
	0.6nm,0.3s,baz=232,slow=0.5,SNR=5.9						
ILAR	**Eielson Array**	**21.86**	**41**	P	**P**	**23 03 03.9**	**+0.1**
	0.7nm,0.6s,baz=245,slow=8.3,SNR=4.1						
YKA	**Yellowknife Ar**	**36.05**	**47**	P	**P**	**23 05 10.7**	**+0.5**
	1.6nm,0.8s,baz=287,slow=9.1,SNR=2.9						
NEW	**Newport**	**40.28**	**69**	P	**P**	**23 05 44.6**	**-1.4**
	1.3nm,0.5s,baz=311,slow=4.3,SNR=3.6						
PDAR	**Pinedale Array**	**47.76**	**71**	P	**P**	**23 06 45.5**	**-0.4**
	0.6nm,0.5s,baz=295,slow=3.6,SNR=5.2						
MKAR	**Makanchi Array**	**58.26**	**307**	P	**P**	**23 08 02.5**	**0.0**
	0.3nm,0.4s,baz=50,slow=5.1,SNR=3.6						
TXAR	**Lajitas Array**	**60.26**	**80**	P	**P**	**23 08 16.2**	**-0.4**
	0.4nm,0.6s,baz=305,slow=4.5,SNR=7.5						

*ISCJB **23** 23:24:11.0±0.4,40.°53N±0.°02×21.°36E±0.°03,h18km±4km, Error ellipse: s-maj=4.2km s-min=3.0km az=167.7*
*ATH **23** 23:24:10.0,40.°53N×21.°40E,h22km±1km,ML2.3/14, Error ellipse: s-maj=1.3km s-min=0.8km az=346.0*
*CSEM **23** 23:24:10.7±0.1,40.°52N×21.°39E,h10km,ML2.3, Error ellipse: s-maj=3.4km s-min=2.4km az=77.0*
*THE **23** 23:24:10.7,40.°51N×21.°35E,h13km±1km,ML2.5/6, Error ellipse: s-maj=1.2km s-min=0.4km az=273.0*
*SKO **23** 23:24:11.9,40.°52N×21.°39E,h5km,M1.9,ML2.3*

ISC 23 23:24:10.7±0.8,**40.°52N**±0.°02×**21.°39E**±0.°02,**h16**km±6km, **n57,σ0s85/98,Greece**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FNA	**Florina**	**0.26**	**358**	P	**Pg**	**23 24 16.3**	**-0.2**
FNA				S	**Sg**	**23 24 20.5**	**0.0**
FNA	**Florina**	**0.26**	**358**	P	**Pg**	**23 24 16.5**	**0.0**
FNA				S	**Sg**	**23 24 20.5**	**0.0**
FNA	**Florina**	**0.26**	**358**	P	**Pg**	**23 24 16.5**	**0.0**
FNA				S	**Sg**	**23 24 20.8**	**+0.3**
FNA				AMB	AMB	23 24 21.0	
	comp=N,4375μm,0.2s						
FNA				AMB	AMB	23 24 21.0	
	comp=E,4648μm,0.2s						
KZN	**Kozani**	**0.36**	**126**	P	**Pg**	**23 24 18.4**	**+0.3**
KZN				S	**Sb**	**23 24 24.2**	**0.0**
KZN	**Kozani**	**0.36**	**126**	P	**Pg**	**23 24 18.4**	**+0.3**
KZN				S	**Sb**	**23 24 24.2**	**0.0**
KZN	**Kozani**	**0.36**	**126**	P	**Pb**	**23 24 18.8**	**0.0**
KZN				S	**Sb**	**23 24 25.0**	**+0.9**
KZN				AMB	AMB	23 24 26.1	
	comp=N,1791μm,0.2s						
KZN				AMB	AMB	23 24 26.4	
	comp=E,2038μm,0.2s						
PENT	**Pentalofos**	**0.38**	**211**	P	**Pg**	**23 24 18.0**	**-0.5**
PENT				S	**Sg**	**23 24 23.2**	**-0.6**
PENT	**Pentalofos**	**0.38**	**211**	P	**Pg**	**23 24 18.0**	**-0.5**
PENT				S	**Sg**	**23 24 23.2**	**-0.6**
PENT	**Pentalofos**	**0.38**	**211**	P	**Pg**	**23 24 17.7**	**-0.8**
PENT				S	**Sb**	**23 24 24.7**	**0.0**
PENT				AMB	AMB	23 24 27.3	
	comp=E,1221μm,0.4s						
PENT				AMB	AMB	23 24 27.4	
	comp=N,856μm,0.2s						
BIA	**Bitola**	**0.50**	**354**	P	**Pg**	**23 24 20.5**	**-0.2**
BIA				S	**Sb**	**23 24 28.3**	**0.0**
BIA	**Bitola**	**0.50**	**354**	*i* Pg	**Pg**	**23 24 20.8**	**+0.1**
BIA				*i* Sg	**Sb**	**23 24 29.0**	**+0.7**
BIA	**Bitola**	**0.50**	**354**	P	**Pg**	**23 24 20.5**	**-0.2**
BIA				S	**Sb**	**23 24 28.3**	**0.0**
KPRO	**Kipourio**	**0.56**	**182**	P	**Pg**	**23 24 20.9**	**-1.0**
KPRO				S	**Sg**	**23 24 29.8**	**+0.3**
KPRO	**Kipourio**	**0.56**	**182**	P	**Pg**	**23 24 20.9**	**-1.0**
KPRO				S	**Sg**	**23 24 29.7**	**+0.3**
KPRO	**Kipourio**	**0.56**	**182**	P	**Pg**	**23 24 20.4**	**-1.4**
KPRO				S	**Sg**	**23 24 29.8**	**+0.3**
KPRO				AMB	AMB	23 24 35.6	
	comp=E,788μm,0.4s						
KPRO				AML	AML	23 24 36.1	
	comp=N,677μm,0.3s						
OHR	**Ohrid**	**0.74**	**323**	*i* Pg	**Pg**	**23 24 24.5**	**-0.7**
OHR				*i* Sg	**Sb**	**23 24 36.5**	**+1.3**
OHR				*e*Lg	Lg	23 24 36.6	
	comp=N,83nm,0.6s						
OHR				*e*Lg	Lg	23 24 36.9	
	comp=E,100nm,0.4s						
OHR	**Ohrid**	**0.74**	**323**	*i* Pg	**Pg**	**23 24 24.4**	**-0.7**
OHR				*i* Sg	**Sb**	**23 24 36.5**	**+1.3**
OHR				*e*Lg	Lg	23 24 36.6	
	comp=E,83nm,0.6s						
GRG	**Griva**	**0.88**	**60**	P	**Pg**	**23 24 27.7**	**-0.1**
GRG				S	**Sn**	**23 24 41.5**	**+0.5**
GRG	**Griva**	**0.88**	**60**	P	**Pg**	**23 24 27.7**	**-0.1**
GRG				S	**Sg**	**23 24 38.3**	**-1.1**
GRG	**Griva**	**0.88**	**60**	P	**Pg**	**23 24 27.4**	**-0.4**
GRG				S	**Sg**	**23 24 38.4**	**-1.1**
GRG				AML	AML	23 24 46.2	
	comp=N,353μm,0.4s						
GRG				AML	AML	23 24 46.3	
	comp=E,283μm,0.3s						
LIT	**Litokhoron**	**0.94**	**116**	P	**Pb**	**23 24 28.9**	**+0.3**
LIT				S	**Sn**	**23 24 42.5**	**+0.2**
LIT	**Litokhoron**	**0.94**	**116**	P	**Pb**	**23 24 28.9**	**+0.3**
LIT				S	**Sg**	**23 24 40.7**	**-0.5**
LIT	**Litokhoron**	**0.94**	**116**	P	**Pn**	**23 24 29.3**	**+0.1**
LIT				S	**Sg**	**23 24 40.7**	**-0.5**
LIT				AML	AML	23 24 47.3	
	comp=E,368μm,0.3s						
LIT				AML	AML	23 24 48.2	
	comp=N,374μm,0.3s						
THL	**Klokotos Trika**	**1.07**	**153**	P	**Pb**	**23 24 30.1**	**-0.7**
THL	**Klokotos Trika**	**1.07**	**153**	P	**Pb**	**23 24 30.1**	**-0.7**
THL				S	**Sb**	**23 24 44.0**	**-0.5**
THL	**Klokotos Trika**	**1.07**	**153**	P	**Pb**	**23 24 29.9**	**-0.8**
THL				S	**Sb**	**23 24 44.0**	**-0.5**
THL				AML	AML	23 24 49.5	
	comp=E,268μm,0.5s						
THL				AML	AML	23 24 51.8	
	comp=N,265μm,0.5s						
HORT	**Hortiatis**	**1.30**	**86**	P	**Pn**	**23 24 34.5**	**+0.2**
HORT				S	**Sb**	**23 24 51.5**	**+0.2**
HORT	**Hortiatis**	**1.30**	**86**	P	**Pn**	**23 24 34.5**	**+0.2**
HORT				S	**Sb**	**23 24 51.5**	**+0.2**
HORT				AML	AML	23 24 57.0	
	comp=E,59μm,0.5s						
HORT				AML	AML	23 24 57.3	
	comp=N,194μm,0.5s						
KNT	**Kendrikon**	**1.31**	**60**	P	**Pn**	**23 24 34.6**	**+0.3**
KNT				S	**Sg**	**23 24 52.7**	**-0.3**
KNT	**Kendrikon**	**1.31**	**60**	P	**Pn**	**23 24 34.6**	**+0.3**
KNT				S	**Sg**	**23 24 52.7**	**-0.3**
KNT				AML	AML	23 25 00.3	
	comp=N,37μm,0.3s						
KNT				AML	AML	23 25 01.3	
	comp=E,29μm,0.3s						
DSL	**Palaion Diasel**	**1.40**	**189**	P	**Pb**	**23 24 37.0**	**+0.5**
DSL				S	**Sg**	**23 24 56.7**	**+0.7**
DSL	**Palaion Diasel**	**1.40**	**189**	P	**Pb**	**23 24 37.0**	**+0.5**
DSL				S	**Sg**	**23 24 56.7**	**+0.7**
DSL				AML	AML	23 25 03.8	
	comp=N,246μm,0.4s						
DSL				AML	AML	23 25 04.5	
	comp=E,241μm,0.7s						
KEK	**Kerkira**	**1.46**	**237**	P	**Pb**	**23 24 37.4**	**-0.1**
KEK				S	**Sn**	**23 24 55.8**	**+0.6**
KEK	**Kerkira**	**1.46**	**237**	P	**Pb**	**23 24 37.4**	**-0.1**
KEK				S	**Sn**	**23 24 55.9**	**+0.6**
KEK				AML	AML	23 25 06.1	
	comp=E,93μm,0.5s						
KEK				AML	AML	23 25 09.2	
	comp=N,63μm,0.8s						
FYTO	**Fytoko, Volos**	**1.63**	**133**	P	**Pn**	**23 24 39.6**	**+1.0**
FYTO	**Fytoko, Volos**	**1.63**	**133**	P	**Pn**	**23 24 39.6**	**+1.0**
EVR	**Evrytania**	**1.63**	**168**	P	**Pb**	**23 24 40.2**	**-0.3**
EVR				S	**Sn**	**23 25 00.2**	**+0.6**
EVR	**Evrytania**	**1.63**	**168**	P	**Pb**	**23 24 40.2**	**-0.3**
EVR				S	**Sn**	**23 25 00.2**	**+0.6**
EVR				AML	AML	23 25 09.0	
	comp=N,150μm,0.3s						
EVR				AML	AML	23 25 10.2	
	comp=E,82μm,0.2s						
AGG	**Agios Georgios**	**1.66**	**154**	P	**Pb**	**23 24 41.0**	**+0.1**
AGG				S	**Sb**	**23 25 02.2**	**+0.6**
AGG	**Agios Georgios**	**1.66**	**154**	P	**Pb**	**23 24 41.0**	**+0.1**
AGG				S	**Sb**	**23 25 02.2**	**+0.6**
AGG				AML	AML	23 25 12.2	
	comp=N,268μm,0.3s						
AGG				AML	AML	23 25 14.0	
	comp=E,222μm,0.3s						
SRS	**Serrai**	**1.77**	**70**	P	**Pn**	**23 24 40.0**	**-0.7**
SRS	**Serrai**	**1.77**	**70**	P	**Pn**	**23 24 40.0**	**-0.7**
XOR	**Xorichti**	**1.80**	**129**	P	**Pn**	**23 24 42.5**	**+1.4**
XOR	**Xorichti**	**1.80**	**129**	P	**Pn**	**23 24 42.5**	**+1.4**
LKD2	**Lefkada island**	**1.82**	**198**	P	**Pn**	**23 24 41.0**	**-0.3**
LKD2	**Lefkada island**	**1.82**	**198**	P	**Pn**	**23 24 41.0**	**-0.3**
NEO	**Neokhori**	**1.86**	**130**	P	**Pn**	**23 24 43.0**	**+1.1**
NEO	**Neokhori**	**1.86**	**130**	P	**Pn**	**23 24 43.0**	**+1.1**
PVO	**Paravola**	**1.90**	**177**	P	**Pb**	**23 24 44.6**	**-0.4**
PVO				S	**Sn**	**23 25 06.3**	**+0.2**
PVO	**Paravola**	**1.90**	**177**	P	**Pb**	**23 24 44.6**	**-0.4**
PVO				S	**Sn**	**23 25 06.3**	**+0.2**
PVO				AML	AML	23 25 25.4	
	comp=N,53μm,0.6s						
PVO				AML	AML	23 25 26.4	
	comp=E,79μm,0.7s						
BARS	**Barje**	**2.32**	**8**	*e*Pn	**Pn**	**23 24 48.9**	**+0.7**
GRUS	**Gruza**	**3.40**	**352**	*e*Pn	**Pn**	**23 25 03.8**	**+0.7**
STON	**Ston**	**3.63**	**312**	*e*Pn	**Pn**	**23 25 09.0**	**+2.9**
STON				Sn	**Sn**	**23 25 48.0**	**-0.5**
TRUS	**Trudelj**	**3.77**	**349**	*e*Pn	**Pn**	**23 25 09.7**	**+1.5**
TEKS	**Tekeris**	**4.25**	**342**	*e*Pn	**Pn**	**23 25 14.6**	**-0.2**
UDBI	**Udbina**	**5.77**	**316**	*e*Pn	**Pn**	**23 25 36.0**	**+0.3**
UDBI				Sn	**Sn**	**23 26 36.8**	**-4.8**
UDBI	**Udbina**	**5.77**	**316**	*e*Pn	**Pn**	**23 25 36.0**	**+0.3**

MEX 23 23:30:56.4±0.8,**16.°28N**×**98.°02W,h3**km±8km**, MD3.5, Near coast of Guerrero**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PNIG	**Pinotepa**	**0.15**	**317**	*i* P	Pg	23 30 58.8	-0.5
PNIG				*i* S	Sg	23 31 02.0	+0.7
TLIG	**Tlapa**	**1.37**	**338**	*e*P	Pn	23 31 19.0	-3.7
TLIG				*e*S	Sg	23 31 36.1	-4.5
VHO	**Vista Hermosa**	**1.46**	**57**	*e*P	Pn	23 31 19.4	-4.5
VHO				*e*S	Sg	23 31 38.8	-4.7
ACX	**Acapulco**	**1.85**	**289**	*e*P	Pn	23 31 28.7	-0.5
ACX				*i* S	Sn	23 31 52.5	-0.7
HUIG	**Huatulco**	**1.91**	**105**	*e*P	Pn	23 31 27.1	-2.8
HUIG				*e*S	Sn	23 31 50.0	-4.5
CAIG	**El Cayaco**	**2.28**	**290**	*e*P	Pn	23 31 31.6	-3.4
CAIG				*e*S	Sn	23 31 59.1	-4.5

*ISCJB **23** 23:45:49.5±1.1,35.°00S±0.°10×15.°1W±0.°3,h10km, mb4.4/12,MS4.0/5, Error ellipse: s-maj=32.6km s-min=9.4km az=160.3*
*IDC **23** 23:45:49.6±2.4,35.°05S×15.°15W,h0km,mb4.3/7, mb1 4.3/7,mb1mx3.9/32,mbtmp4.3/7,MS4.0/5,Ms1 4.0/5, ms1mx3.6/21,Error ellipse: s-maj=83.5km s-min=20.8km az=74.0*
*NEIC **23** 23:45:51.4±0.9,35.°03S×15.°11W,h10km,mb4.5/3, Error ellipse: s-maj=32.7km s-min=11.6km az=79.0*

ISC 23 23:45:51.4±1.3,**35.°0S**±0.°1×**15.°0W**±0.°3,**h10**km,**n26, σ0s84/18,mb4.4/12,MS4.0/5,Tristan da Cunha region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
H09N1	**TRISTAN DA CUN**	**3.00**	**134**	Pn	**Pn**	**23 46 38.7**	**-0.3**
	SNR=29						
H09N1				T	T	23 49 50.3	
	SNR=20						
TRIS	**Tristan da Cun**	**3.00**	**134**	*e*Pn	**Pn**	**23 46 39.3**	**+0.2**
H09W1	**TRISTAN DA CUN**	**3.01**	**135**	Pn	**Pn**	**23 46 38.5**	**-0.6**
H09W1				T	T	23 49 54.8	
	SNR=50						
H10S2	**ASCENSION HYDR**	**25.93**	**1**	T	T	00 18 20.0	
	baz=181,slow=75,SNR=313						
H10S3	**ASCENSION HYDR**	**25.94**	**1**	T	T	00 18 20.5	
	baz=181,slow=75,SNR=258						
H10S1	**ASCENSION HYDR**	**25.95**	**1**	T	T	00 18 21.3	
	baz=181,slow=75,SNR=346						
H10N1	**ASCENSION HYDR**	**27.04**	**1**	T	T	00 19 40.2	
	baz=180,slow=73,SNR=82						
H10N3	**ASCENSION HYDR**	**27.05**	**1**	T	T	00 19 38.8	
	baz=180,slow=73,SNR=200						
H10N2	**ASCENSION HYDR**	**27.06**	**1**	T	T	00 19 43.8	
	baz=180,slow=73,SNR=48						
LIC	**Lamto**	**42.08**	**15**	*e*P	**P**	**23 53 42.7**	**-0.9**
	38nm,1.7s						
KIC	**Kosan Boka**	**42.28**	**15**	*e*P	**P**	**23 53 44.3**	**-0.9**
	87nm,1.7s						
TIC	**Toumodi**	**42.49**	**15**	*e*P	**P**	**23 53 45.9**	**-1.1**
DBIC	**Dimbokro**	**42.55**	**15**	P	**P**	**23 53 47.2**	**-0.2**
	2.2nm,0.8s,baz=177,slow=13,SNR=3.5						
DBIC				LR	LR	00 05 58.1	
	comp=Z,43nm,19.1s,baz=165,slow=28						
PLCA	**Paso Flores**	**43.59**	**245**	LR	LR	00 10 22.1	
	comp=Z,162nm,18.5s,baz=154,slow=34						
TORD	**Torodi Ar. Bea**	**50.45**	**21**	P	**P**	**23 54 49.2**	**-0.2**
	6.2nm,0.8s,baz=202,slow=7.4,SNR=47						
TORD				LR	LR	00 11 58.2	
	comp=Z,154nm,19.9s,baz=195,slow=31						
MAW	**Mawson**	**53.59**	**152**	P	**P**	**23 55 12.0**	**-0.2**
	2.7nm,0.8s,baz=260,slow=7.5,SNR=6.0						
QSPA	**South Pole Qui**	**55.24**	**180**	*e*P	**P**	**23 55 24.7**	**+0.2**
	4.5nm,0.9s						
KMBO	**Kilima Mbogo**	**59.11**	**67**	LR	LR	00 19 26.9	
	comp=Z,340nm,19.2s,baz=250,slow=34						
TAM	**Tamanrasset**	**60.70**	**22**	*e*P	**P**	**23 56 04.1**	**+0.9**
	3.3nm,1.4s						
KEST	**Kesra**	**73.96**	**20**	P	**P**	**23 57 25.9**	**-1.0**
	2.2nm,0.8s,baz=131,slow=9.8,SNR=4.2						
KEST				LR	LR	00 27 26.0	
	comp=Z,148nm,18.9s,baz=324,slow=34						
EIL	**Elat**	**79.73**	**43**	P	**P**	**23 58 00.9**	**+1.3**
	5.3nm,0.9s,baz=280,slow=5.4,SNR=5.3						
ASF	**Jabal al Asfar**	**82.72**	**42**	P	**P**	**23 58 17.2**	**+1.8**
	1.9nm,0.7s,baz=148,slow=8.8,SNR=3.6						
BRTR	**Keskin Array B**	**86.87**	**35**	P	**P**	**23 58 36.5**	**+0.2**
	0.8nm,0.9s,baz=165,slow=8.4,SNR=3.7						
GNI	**Garni**	**92.86**	**42**	*e*P	**P**	**23 59 04.5**	**+0.1**
	1.7nm,0.5s						
KSAR	**Wonju Array Be**	**150.10**	**74**	PKPbc	**PKPbc**	**00 05 42.2**	**-0.1**
KSRS	**Korea Array**	**150.13**	**74**	PKPbc	**PKPbc**	**00 05 42.2**	**-0.1**
	0.5nm,0.2s,baz=270,slow=2.3,SNR=5.3						

*ISCJB **23** 23:55:02.1±0.5,35.°09S±0.°08×15.°2W±0.°1,h10km, mb4.3/12,MS3.9/8, Error ellipse: s-maj=15.9km s-min=9.0km az=151.9*
*IDC **23** 23:55:02.5±3.0,35.°05S×15.°20W,h0km,mb4.0/6, mb1 4.0/6,mb1mx3.8/36,mbtmp4.0/6,MS3.9/8,Ms1 3.9/8, ms1mx3.7/21,Error ellipse: s-maj=147.9km s-min=27.6km az=84.0*
*NEIC **23** 23:55:04.0±0.4,35.°09S×15.°17W,h10km,mb4.1/5, Error ellipse: s-maj=14.0km s-min=9.1km az=66.0*

ISC 23 23:55:04.0±0.6,**35.°1S**±0.°1×**15.°2W**±0.°1,**h10**km,**n35, σ1s01/23,mb4.2/12,MS3.9/8,2C,Tristan da Cunha region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
H09N1	**TRISTAN DA CUN**	**3.03**	**131**	Pn	**Pn**	**23 55 51.6**	**-0.4**
	SNR=15						
TRIS	**Tristan da Cun**	**3.03**	**131**	*e*Pn	**Pn**	**23 55 51.4**	**-0.6**
H09W1	**TRISTAN DA CUN**	**3.04**	**132**	Pn	**Pn**	**23 55 51.7**	**-0.4**
	SNR=13						
H09W1				T	T	23 59 11.4	
	SNR=135						
H10S2	**ASCENSION HYDR**	**26.02**	**1**	T	T	00 27 30.0	
	baz=181						
H10S3	**ASCENSION HYDR**	**26.02**	**1**	T	T	00 27 30.5	
	baz=181						
H10S1	**ASCENSION HYDR**	**26.03**	**1**	T	T	00 27 31.4	
	baz=181						
H10N1	**ASCENSION HYDR**	**27.12**	**1**	T	T	00 28 55.0	
	baz=190						
H10N3	**ASCENSION HYDR**	**27.13**	**1**	T	T	00 28 54.3	
	baz=190						
H10N2	**ASCENSION HYDR**	**27.14**	**1**	T	T	00 28 55.5	
	baz=190						
BOSA	**Boshof**	**34.76**	**91**	LR	LR	00 13 00.5	
	comp=Z,283nm,20.5s,baz=224,slow=31						
VNA1	**Neumayer--Stat**	**35.81**	**176**	P	**P**	**00 02 05.5**	**+2.4**
VNA2	**Neumayer--Watz**	**36.13**	**176**	P	**P**	**00 02 06.6**	**+0.7**
	baz=350,slow=10						
VNA3	**Neumayer Olymp**	**36.33**	**177**	P	**P**	**00 02 06.1**	**-1.5**
CPUP	**Villa Florida**	**37.07**	**272**	LR	LR	00 14 40.9	
	comp=Z,203nm,20.8s,baz=140,slow=32						
SNAA	**Sanae**	**37.21**	**174**	P	**P**	**00 02 12.7**	**-2.4**
SNAA	**Sanae**	**37.21**	**174**	*e*P	**P**	**00 02 14.8**	**-0.3**
	233nm,1.3s						
DBIC	**Dimbokro**	**42.66**	**15**	P	**P**	**00 03 01.4**	**+0.5**
	1.4nm,0.8s,baz=178,slow=6.4,SNR=2.6						
DBIC				LR	LR	00 17 34.1	
	comp=Z,60nm,18.2s,baz=149,slow=32						
PLCA	**Paso Flores**	**43.45**	**245**	LR	LR	00 18 45.4	
	comp=Z,156nm,18.9s,baz=153,slow=33						
SYO	**Syowa Base**	**45.22**	**156**	*e*P	**P**	**00 03 20.8**	**0.0**
SYO	**Syowa Base**	**45.22**	**156**	*e*P	P	00 03 30.2	+9.4
TORD	**Torodi Ar. Bea**	**50.57**	**21**	P	**P**	**00 04 01.5**	**-1.4**
	4.2nm,0.8s,baz=200,slow=7.7,SNR=24						
TORD				LR	LR	00 21 20.9	
	comp=Z,116nm,21.1s,baz=190,slow=31						
LPAZ	**La Paz**	**50.67**	**278**	LR	LR	00 24 48.1	
	comp=Z,124nm,18.6s,baz=112,slow=35						
SAML	**Samuel**	**50.92**	**289**	*e*P	**P**	**00 04 05.3**	**

DBOC				*i* S	**Sb**	**00 00 54.1**	**+0.1**
DBOC	**Borcka**	**1.76**	**229**	P	**Pn**	**00 00 30.2**	**+0.2**
DBOC				S	**Sb**	**00 00 54.1**	**+0.1**
DGRG	**David-gareji**	**1.81**	**126**	P	**Pb**	**00 00 32.9**	**+0.4**
DGRG				S	**Sg**	**00 00 59.5**	**+2.3**
DAGI	**Agillar**	**1.83**	**218**	*i* P	**Pn**	**00 00 31.9**	**+0.9**
DAGI				*i* S	**Sb**	**00 00 56.5**	**+0.4**
DDEM	**Demirkent**	**2.06**	**218**	*i* P	**Pb**	**00 00 35.8**	**-0.9**
DDEM				*i* S	**Sb**	**00 01 03.4**	**+0.8**
DDEM	**Demirkent**	**2.06**	**218**	P	**Pb**	**00 00 35.8**	**-0.9**

NIED ***24*** *00:08:00,40.°10N×142.°80E,h35km,Mw4.2 Best double couple: M₀2.04000×10²⁵ NP1:φ=154.00000°,δ17.00000°, λ44.00000°. NP2:φ=21.00000°,δ78.00000°,λ102.00000°.*
JMA ***24*** *00:08:35.6±0.1,40.°12N×142.°76E,h25km±1km,M4.2*
JMA Felt I J1.
ISCJB ***24*** *00:08:35.8±0.6,40.°15N±0.°03×142.°82E±0.°05,h39km±5km, mb4.2/28,MS3.5/4, Error ellipse: s-maj=7.5km s-min=4.0km az=32.1*
MOS ***24*** *00:08:36.7±1.1,40.°22N×142.°79E,h44km,mb4.6/14, Error ellipse: s-maj=9.9km s-min=6.4km az=87.0*
IDC ***24*** *00:08:38.1±1.2,40.°11N×142.°69E,h42km±7km,mb3.9/16, mb1 4.1/19,mb1mx3.8/49,mbtmp4.2/19,ML4.0/3,MS3.3/8, Ms1 3.3/8,ms1mx3.1/38, Error ellipse: s-maj=24.1km s-min=16.8km az=102.0*
NEIC ***24*** *00:08:39.4±0.9,40.°21N×142.°69E,h50km±7km,mb4.4/5, Error ellipse: s-maj=13.3km s-min=7.2km az=118.0*
NEIC Recorded [1 JMA] in Aomori and Iwate.

ISC 24 00:08:35.5±0.6,40.°10N±0.°04×142.°87E±0.°05,h27km±3km, h27km:pP-P,n79,σ1ˢ80/90,mb4.4/28,MS3.5/4,3C-2D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
JTH	**Tanohata**	**0.79**	**259**	P		**Pb**	**00 08 49.4**	**-1.2**
JTH				S		**Sb**	**00 08 58.9**	**-2.0**
MIYJ	**Miyakonagasawa**	**0.96**	**238**	P		**Pb**	**00 08 52.1**	**-1.4**
MIYJ				*e*S		**Sb**	**00 09 03.9**	**-1.9**
JANG	**Nango**	**1.07**	**285**	P		**Pn**	**00 08 53.4**	**-1.3**
JANG				*e*S		**Sb**	**00 09 06.5**	**-2.5**
JKZ	**Kuzumaki**	**1.19**	**265**	P		**Pn**	**00 08 55.4**	**-1.0**
JOM	**Ohasama**	**1.37**	**243**	P		**Pn**	**00 08 58.5**	**-0.3**
JOM				*e*S		**Sb**	**00 09 16.3**	**-1.1**
OFUJ	**Ofunato**	**1.38**	**223**	P		**Pn**	**00 08 58.9**	**0.0**
OFUJ				*e*S		**Sb**	**00 09 16.5**	**-1.2**
JTM	**Tenmabayashi**	**1.54**	**297**	P		**Pn**	**00 09 00.9**	**-0.2**
JTM				*e*S		**Sn**	**00 09 19.1**	**-1.1**
JMK	**Ichinoseki**	**1.71**	**229**	P		**Pb**	**00 09 04.4**	**-1.9**
JMK				*e*S		**Sb**	**00 09 25.6**	**-1.8**
JAH	**Hinai**	**1.71**	**274**	P		**Pn**	**00 09 03.8**	**+0.3**
JAH				*e*S		**Sn**	**00 09 23.8**	**-0.8**
ERM	**Erimo**	**1.93**	**6**	*e*P		**Pn**	**00 09 07.9**	**+1.4**
ERM				*e*			00 09 32.1	
ERM	**Erimo**	**1.93**	**6**	*e*Pn		**Pn**	**00 09 07.9**	**+1.4**
ERM				*e*Sn		**Sb**	**00 09 32.1**	**-1.4**
ASAJ	**Asahikawa**	**4.02**	**357**	P		**Pn**	**00 09 36.7**	**+1.4**
	11nm,0.3s,baz=210,slow=10,SNR=16							
ASAJ				S		**Sn**	**00 10 22.8**	**+1.3**
	4.5nm,0.3s,baz=225,slow=20,SNR=3.4							
YUK	**Yuzh-Kuril'sk**	**4.52**	**29**	*e*P		**Pn**	**00 09 43.8**	**+1.7**
YUK				*i* S		**Sn**	**00 10 32.0**	**-1.7**
YUK				pmax	pmax			
	comp=N,97nm,0.3s							
YUK				pmax	pmax			
	comp=E,103nm,0.3s							
YUK				pmax	pmax			
	comp=Z,188nm,0.3s							
YUK				smax	smax			
	comp=N,673nm,0.4s							
YUK				smax	smax			
	comp=E,629nm,0.6s							
SHO	**Shikotan**	**4.79**	**37**	*e*P		**Pn**	**00 09 45.8**	**0.0**
SHO				*e*S		**Sn**	**00 10 35.8**	**-4.5**
SHO				pmax	pmax			
	comp=Z,90nm,0.5s							
SHO				pmax	pmax			
	comp=N,53nm,0.6s							
SHO				pmax	pmax			
	comp=E,41nm,0.6s							
SHO				smax	smax			
	comp=N,384nm,0.5s							
SHO				smax	smax			
	comp=E,403nm,0.5s							
MJA0	**Matsu Arr-Jizo**	**5.08**	**227**	*e*P		**Pn**	**00 09 53.0**	**+3.1**
MJA0				pmax	pmax			
	comp=Z,4.0nm,0.3s							
MJAR	**Matsushiro Arr**	**5.10**	**227**	P		**Pn**	**00 09 52.2**	**+2.1**
	comp=Z,3.5nm,0.3s,baz=32,slow=14,SNR=25							
MJAR				S		**Sn**	**00 10 49.8**	**+1.7**
	baz=26,slow=26,SNR=2.2							
MJAR				LR	LR		00 12 04.6	
	comp=Z,197nm,19.6s,baz=100,slow=41							
MAJO	**Matsushiro**	**5.10**	**227**	*c* P		**Pn**	**00 09 52.8**	**+2.7**
MAJO	**Matsushiro**	**5.10**	**227**	*e*Pn		**Pn**	**00 09 52.6**	**+2.4**
	comp=Z,36nm,0.6s							
MAT	**Matsushiro**	**5.10**	**227**	P		**Pn**	**00 09 52.9**	**+2.8**
MAT				*e*S		**Sn**	**00 10 51.7**	**+3.5**
KUR	**Kuril'sk**	**6.32**	**34**	*e*P		**Pn**	**00 10 07.6**	**+0.8**
KUR				*e*S		**Sn**	**00 11 16.6**	**-1.4**
KUR				pmax	pmax			
	comp=Z,66nm,0.5s							
KUR				pmax	pmax			
	comp=N,32nm,0.3s							
KUR				pmax	pmax			
	comp=E,25nm,0.2s							
KUR				smax	smax			
	comp=N,101nm,0.3s							
KUR				smax	smax			
	comp=E,52nm,0.4s							
YSS	**Yuzh-Sakhalins**	**6.86**	**359**	*e*P		**Pn**	**00 10 13.1**	**-1.0**
YSS				pmax	pmax			
	comp=Z,50nm,2.5s							
JHJ	**Hachijo jima 2**	**7.39**	**201**	P		**Pn**	**00 10 23.1**	**+1.6**
	comp=Z,4.3nm,0.3s,baz=72,slow=19,SNR=3.0							
JHJ				S		**Sn**	**00 11 37.2**	**-7.4**
	comp=Z,8.7nm,0.3s,baz=0.0,slow=20,SNR=1.9							
JHJ				LR	LR		00 13 42.4	
	comp=Z,135nm,18.6s,baz=98,slow=41							
USRK	**Ussuriysk Ar.**	**9.06**	**300**	P		**Pn**	**00 10 48.0**	**+3.6**
	comp=Z,1.0nm,0.3s,baz=93,slow=16,SNR=9.8							
USRK				LR	LR		00 13 59.5	
	comp=Z,175nm,21.1s,baz=139,slow=36							
KSRS	**Korea Array**	**11.96**	**262**	P		Pn	00 11 28.2	+4.1
	comp=Z,0.3nm,0.3s,baz=85,slow=14,SNR=6.4							
KSRS				LR	LR		00 15 34.7	
	comp=Z,132nm,21.2s,baz=76,slow=35							
KSAR	**Wonju Array Be**	**11.99**	**262**	P		**Pn**	**00 11 28.2**	**+3.6**
KSAR	**Wonju Array Be**	**11.99**	**262**	P		**Pn**	**00 11 28.2**	**+3.6**
KLR	**Kul'dur**	**12.07**	**323**	||P		**Pn**	**00 11 26.7**	**+1.1**
YAK	**Yakutsk**	**23.38**	**344**	*i* P		**P**	**00 13 41.2**	**-0.5**
YAK				pmax	pmax			
	comp=Z,27nm,0.6s							
SEY	**Seymchan**	**23.57**	**11**	P		**P**	**00 13 44.8**	**+1.3**
	comp=Z,1.4nm,0.3s,baz=222,slow=6.2,SNR=6.1							
BOD	**Bodaibo**	**25.65**	**323**	*e*P		**P**	**00 14 02.3**	**-0.3**
BOD				pmax	pmax			
	comp=Z,13nm,0.9s							
ULN	**Ulaanbaatar**	**26.73**	**299**	||*i* P		**P**	**00 14 13.2**	**+0.5**
ULN				pmax	pmax			
	comp=Z,2.0nm,1.2s							
SONM	**Songino Array**	**27.17**	**299**	P		**P**	**00 14 15.7**	**-0.9**
	comp=Z,1.1nm,0.5s,baz=92,slow=8.2,SNR=7.0							
SONM				LR	LR		00 26 16.2	
	comp=Z,79nm,18.2s,baz=122,slow=39							
H11N2	**WAKE ISLAND Hy 28.92**	**128**		T		T	00 45 19.6	
	baz=319,slow=75,SNR=573							
H11N1	**WAKE ISLAND Hy 28.93**	**128**		T		T	00 45 20.3	
	baz=319,slow=75,SNR=334							
H11N3	**WAKE ISLAND Hy 28.94**	**128**		T		T	00 45 21.0	
	baz=319,slow=75,SNR=407							
ZAK	**Zakamensk**	**29.39**	**304**	*e*P		**P**	**00 14 35.1**	**-1.3**
ZAK				pmax	pmax			
	comp=Z,3.0nm,1.2s							
H11S1	**WAKE ISLAND Hy 29.74**	**129**		T		T	00 46 18.5	
	baz=320,slow=76,SNR=45							
H11S3	**WAKE ISLAND Hy 29.75**	**129**		T		T	00 46 35.3	
	baz=320,slow=76,SNR=49							
H11S2	**WAKE ISLAND Hy 29.76**	**129**		T		T	00 46 20.8	
	baz=320,slow=76,SNR=49							
ZALV	**Zalesovo Beam**	**40.76**	**310**	P		**P**	**00 16 13.5**	**-0.4**
	comp=Z,5.2nm,0.4s,baz=93,slow=8.5,SNR=26							
NRIK	**Noril'sk**	**41.00**	**334**	LR		LR	00 33 46.2	
	comp=Z,108nm,19.8s,baz=130,slow=37							
MKAR	**Makanchi Array**	**43.53**	**300**	P		**P**	**00 16 36.4**	**-0.2**
	comp=Z,1.6nm,0.6s,baz=83,slow=10.0,SNR=15							
MKAR	**Makanchi Array**	**43.53**	**300**	P		**P**	**00 16 36.4**	**-0.2**
MKAR				pmax	pmax			
	comp=Z,1.0nm,0.5s							
KURK	**Kurchatov**	**45.00**	**306**	P		**P**	**00 16 48.4**	**+0.1**
KURK				*PP		**sP**	**00 17 00.2**	**+0.5**
KURK				pmax	pmax			
	comp=Z,8.0nm,0.5s							
KURK	**Kurchatov**	**45.00**	**306**	P		**P**	**00 16 48.4**	**+0.1**
	comp=Z,5.8nm,0.8s							
KURK				*e*			00 16 59.8	
KURBB	**Kurchatov Arra**	**45.08**	**306**	P		**P**	**00 16 48.4**	**-0.5**
	comp=Z,8.7nm,0.5s,baz=81,slow=8.4,SNR=31							
KURBB				pP		**sP**	**00 17 00.2**	**-0.1**
	comp=Z,12nm,0.7s,baz=81,slow=8.6,SNR=16							
ILAR	**Eielson Array**	**46.31**	**34**	P		**P**	**00 17 00.0**	**+1.6**
	comp=Z,0.3nm,0.6s,baz=262,slow=6.0,SNR=3.2							
BVAR	**Borovoye Array**	**49.40**	**311**	P		**P**	**00 17 22.8**	**+0.2**
	comp=Z,5.8nm,0.4s,baz=76,slow=8.8,SNR=43							
BVAR				pP		**sP**	**00 17 34.2**	**+0.2**
	comp=Z,3.0nm,0.5s,baz=71,slow=9.6,SNR=5.6							
BRVK	**Borovoye**	**49.45**	**311**	*c* *i* P		**P**	**00 17 23.1**	**+0.1**
BRVK				pmax	pmax			
	comp=Z,8.0nm,0.8s							
AAK	**Ala-Archa**	**50.09**	**297**	P		**P**	**00 17 28.1**	**-0.1**
	comp=Z,1.7nm,0.3s,baz=72,slow=5.5,SNR=4.5							
AAK	**Ala-Archa**	**50.09**	**297**	*e*P		**P**	**00 17 27.8**	**-0.4**
	comp=Z,1.3nm,0.4s							
KKAR	**Karatay Array**	**52.62**	**299**	*e*P		**P**	**00 17 46.7**	**-0.3**
KKAR				pmax	pmax			
	comp=Z,3.0nm,0.9s							
KKAR	**Karatay Array**	**52.62**	**299**	*e*P		**P**	**00 17 46.7**	**-0.3**
	comp=Z,2.5nm,0.9s							
SVE	**Sverdlovsk**	**53.64**	**317**	*e*P		**P**	**00 17 55.2**	**+1.0**
SVE				pmax	pmax			
	comp=Z,12nm,0.7s							
ARU	**Arti**	**54.85**	**317**	*d* *i* P		**P**	**00 18 02.9**	**-0.1**
ARU				*PP		**sP**	**00 18 14.6**	**0.0**
ARU							00 18 59.0	
ARU							00 20 02.0	
ARU				S		**S**	**00 25 42.1**	**-0.1**
ARU				SS		**SS**	**00 29 19.5**	**-5.6**
ARU				pmax	pmax			
	comp=Z,7.0nm,1.0s							
ABKAR	**Akbulak array**	**56.87**	**309**	*e*P		**P**	**00 18 17.2**	**-0.3**
	comp=Z,1.1nm,0.3s							
WRA	**Warramunga Arr**	**60.26**	**189**	P		**P**	**00 18 41.4**	**0.0**
	comp=Z,0.4nm,0.4s,baz=8.3,slow=7.0,SNR=9.1							
WRA	**Warramunga Arr**	**60.26**	**189**	*e*P		**P**	**00 18 42.3**	**+0.9**
GEYT	**Alibeck**	**63.37**	**298**	P		**P**	**00 19 01.7**	**-0.7**
	comp=Z,2.9nm,0.9s,baz=82,slow=11,SNR=5.7							
ASAR	**Alice Springs**	**63.98**	**189**	P		**P**	**00 19 09.8**	**+3.4**
	comp=Z,0.2nm,0.4s,baz=7.9,slow=6.3,SNR=3.1							
FINES	**FINESS Array B**	**66.64**	**332**	P		**P**	**00 19 23.2**	**0.0**
	comp=Z,3.5nm,0.7s,baz=54,slow=6.2,SNR=9.1							
KBZ	**Khabaz**	**69.78**	**310**	P		**P**	**00 19 43.6**	**+0.5**
	comp=Z,2.0nm,0.7s,baz=52,slow=2.1,SNR=5.9							
NB2	**NORSAR Subarra**	**71.80**	**337**	P		**P**	**00 19 55.2**	**0.0**
	comp=Z,2.2nm,0.7s,baz=38,slow=6.2							
NOA	**NORSAR Array B**	**71.80**	**337**	P		**P**	**00 19 55.2**	**0.0**
	comp=Z,1.9nm,0.6s,baz=40,slow=6.0,SNR=8.8							
NOA	**NORSAR Array B**	**71.80**	**337**	P		**P**	**00 19 55.2**	**0.0**
NOA				pmax	pmax			
	comp=Z,3.0nm,0.9s							
AKASG	**Malin Array Be**	**72.57**	**322**	P		**P**	**00 19 59.6**	**-0.3**
	comp=Z,1.0nm,0.5s,baz=44,slow=6.6,SNR=5.5							
AKASG				pP		**sP**	**00 20 12.5**	**+0.8**
	comp=Z,1.1nm,0.5s,baz=45,slow=6.7,SNR=2.9							
K22A	**Casper**	**76.47**	**45**	*e*P		**P**	**00 20 25.1**	**+2.1**
	comp=Z,2.8nm,0.2s							
BRTR	**Keskin Array B**	**77.67**	**312**	P		**P**	**00 20 29.8**	**+0.1**
	comp=Z,0.6nm,0.6s,baz=84,slow=3.8,SNR=3.9							
BRTR	**Keskin Array B**	**77.67**	**312**	*e*P		**P**	**00 20 30.0**	**+0.3**
BRTR				pmax	pmax			
	comp=Z,1.0nm,0.6s							
CLL	**Collm**	**79.00**	**331**	*e*P		**P**	**00 20 36.0**	**-0.7**
CLL	**Collm**	**79.00**	**331**	*e*P		**P**	**00 20 36.0**	**-0.7**
GERES	**GERESS Array B**	**80.70**	**329**	P		**P**	**00 20 46.0**	**0.0**
	comp=Z,0.5nm,0.7s,baz=43,slow=6.0,SNR=5.8							
GERES	**GERESS Array B**	**80.70**	**329**	*e*P		**P**	**00 20 46.2**	**+0.1**
GERES				pmax	pmax			
	comp=Z,1.0nm,0.7s							
PPT	**Papeete**	**85.01**	**118**	LR	LR		00 51 22.7	
	comp=Z,35nm,21.3s,baz=327,slow=30							
TXAR	**Lajitas Array**	**87.36**	**53**	LR	LR		00 56 20.1	
	comp=Z,15nm,21.8s,baz=0.0,slow=33							
SNAA	**Sanae**	**144.01**	**198**	P		**PKPab**	**00 28 04.7**	**0.0**
VNA2	**Neumayer--Watz**	**145.57**	**197**	P		**PKPab**	**00 28 10.9**	**+0.4**
	baz=112,slow=3.1							
VNA3	**Neumayer Olymp**	**145.82**	**195**	P		PKPpre	00 28 05.7	
VNA1	**Neumayer--Stat**	**145.97**	**197**	P		PKPab	00 28 21.1	+9.2

ISCJB ***24*** *00:35:29.2±0.6,8.°65S±0.°09×74.°52W±0.°06,h147km, mb3.4/4,Error ellipse: s-maj=13.1km s-min=6.8km az=23.5*
IDC ***24*** *00:35:30.3±2.1,8.°68S×74.°50W,h146km±27km,mb3.4/4, mb1 3.5/9,mb1mx3.4/33,mbtmp3.9/9,MS3.7/1,Ms1 3.7/1, ms1mx2.5/21,Error ellipse: s-maj=40.5km s-min=17.7km az=32.0*

ISC 24 00:35:29.6±0.7,8.°65S±0.°07×74.°42W±0.°07,h147km,n11, σ2ˢ74/16,mb3.5/4,Peru-Brazil border region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
NNA	**Nana**	**4.08**	**216**	P		**Pn**	**00 36 31.3**	**+0.3**
	1.9nm,0.3s,baz=24,slow=10.0,SNR=2.6							
NNA				S		**Sn**	**00 37 14.8**	**-3.9**
	18nm,0.3s,baz=144,slow=22,SNR=16							
ATAH	**Atahualpa**	**4.22**	**291**	P		**Pn**	**00 36 32.3**	**-0.8**
	19nm,0.3s,baz=112,slow=11,SNR=90							
ATAH				S		**Sn**	**00 37 20.0**	**-2.3**
	6.3nm,0.3s,baz=151,slow=19,SNR=6.9							
LPAZ	**La Paz**	**9.76**	**142**	P		**Pn**	**00 37 48.0**	**+0.9**
	0.1nm,0.3s,baz=315,slow=10.0,SNR=3.3							
SIV	**San Ignacio**	**14.93**	**121**	P		**P**	**00 38 54.9**	**-0.6**
	0.6nm,0.3s,baz=316,slow=14,SNR=10							
SIV				S		**Sn**	**00 41 38.3**	**-1.1**
	0.2nm,0.3s,baz=240,slow=20,SNR=2.4							
PTGA	**Pitinga**	**16.40**	**62**	P		**P**	**00 39 14.0**	**+2.4**
	0.7nm,0.3s,baz=270,slow=22,SNR=6.6							
PTGA				S		**S**	**00 42 06.4**	**-7.8**
	0.2nm,0.3s,baz=270,slow=20,SNR=3.2							
TXAR	**Lajitas Array**	**47.12**	**324**	P		**P**	**00 43 48.1**	**+0.9**
	0.3nm,0.6s,baz=143,slow=9.3,SNR=6.7							
PFO	**Pinyon Flats O**	**57.36**	**319**	LR		LR	01 06 21.7	
	comp=Z,78nm,21.6s,baz=182,slow=32							
DBIC	**Dimbokro**	**70.99**	**80**	P		**P**	**00 46 34.4**	**+2.4**
	1.1nm,0.6s,baz=237,slow=6.4,SNR=4.1							
YKA	**Yellowknife Ar**	**77.39**	**342**	P		**P**	**00 47 08.6**	**+0.7**
	0.6nm,0.5s,baz=141,slow=5.7,SNR=3.4							
TORD	**Torodi Ar. Bea**	**78.61**	**75**	P		**P**	**00 47 16.1**	**+0.4**
	0.5nm,0.6s,baz=268,slow=4.9,SNR=3.4							
TORD				pP		**pP**	**00 47 51.9**	**-0.3**
	0.3nm,0.7s,baz=256,slow=5.0,SNR=1.7							
WRA	**Warramunga Arr**	**139.89**	**225**	PKP		**PKPdf**	**00 54 41.9**	**+0.6**
	0.2nm,0.5s,baz=135,slow=2.0,SNR=3.8							
WRA				pPKP		**pPKPdf**	**00 55 20.9**	**+0.5**
	0.5nm,1.0s,baz=133,slow=2.1,SNR=1.9							

ISK ***24*** *00:35:57.8,39.°64N×27.°46E,h5km,MD2.5*
CSEM ***24*** *00:35:58.3±0.1,39.°63N×27.°47E,h5km,MD2.7,Error ellipse: s-maj=3.0km s-min=2.4km az=120.0*
DDA ***24*** *00:35:58.2,39.°59N×27.°49E,h7km,Md2.6*

ISC 24 00:35:58.3±1.0,39.°61N±0.°03×27.°50E±0.°03,h19km±3km, n34,σ1ˢ35/41,Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
BALY	**Balya**	**0.16**	**37**	*i* P		**Pg**	**00 36 02.2**	**-0.7**
BALY				*i* S		**Sg**	**00 36 05.2**	**-0.8**
BALY	**Balya**	**0.16**	**37**	P		**Pg**	**00 36 02.2**	**-0.7**
BALY				S		**Sg**	**00 36 05.2**	**-0.8**
BALB	**Balikesir**	**0.30**	**85**	*e*PG		**Pg**	**00 36 04.7**	**-0.2**
BALB				*e*SG		**Sg**	**00 36 09.2**	**-0.2**
BALB	**Balikesir**	**0.30**	**85**	*e*Pg		**Pg**	**00 36 04.7**	**-0.2**
AYVA	**Ayvalik**	**0.69**	**244**	*i* P		**Pg**	**00 36 11.3**	**-0.7**
AYVA				*i* S		**Sb**	**00 36 21.1**	**+0.3**
AYVA	**Ayvalik**	**0.69**	**244**	P		**Pg**	**00 36 11.3**	**-0.7**
AYVA				S		**Sb**	**00 36 21.1**	**+0.3**
DKL	**Dikili**	**0.71**	**220**	*e*PG		**Pg**	**00 36 11.6**	**-0.6**
DKL	**Dikili**	**0.71**	**220**	*e*Pg		**Pg**	**00 36 11.6**	**-0.6**
AKHS	**Akhisar**	**0.77**	**161**	*i* P		**Pg**	**00 36 13.2**	**-0.3**
AKHS				*i* S		**Sg**	**00 36 23.2**	**-0.5**
EDC	**Edincik**	**0.79**	**21**	*e*PG		**Pg**	**00 36 13.2**	**-0.5**
EDC	**Edincik**	**0.79**	**21**	*e*Pg		**Pg**	**00 36 13.2**	**-0.5**
KRBG	**Karabiga-Canak**	**0.79**	**349**	*e*PG		**Pg**	**00 36 13.2**	**-0.6**
KRBG	**Karabiga-Canak**	**0.79**	**349**	*e*Pg		**Pg**	**00 36 13.2**	**-0.6**
KCTX	**Karacabey (Bur**	**0.93**	**45**	*e*PG		**Pg**	**00 36 15.6**	**-0.8**
KCTX	**Karacabey (Bur**	**0.93**	**45**	*e*Pg		**Pg**	**00 36 15.6**	**-0.8**
MRMT	**Marmara Adasi**	**0.99**	**4**	*e*PG		**Pg**	**00 36 16.8**	**-0.8**
MRMT	**Marmara Adasi**	**0.99**	**4**	*e*Pg		**Pg**	**00 36 16.8**	**-0.8**
DEMI	**Demirci**	**1.10**	**121**	*i* P		**Pg**	**00 36 19.6**	**-0.1**
DEMI				*i* S		**Sg**	**00 36 20.7**	**+1.0**
DEMI	**Demirci**	**1.10**	**121**	P		**Pg**	**00 36 19.6**	**-0.1**
ERIK	**Erikli-Kesan**	**1.30**	**325**	*e*PN		**Pn**	**00 36 22.0**	**+0.7**
ERIK	**Erikli-Kesan**	**1.30**	**325**	*e*Pn		**Pn**	**00 36 22.0**	**+0.7**
MDNY	**Mudanya-Bursa**	**1.31**	**54**	*e*PN		**Pg**	**00 36 23.6**	**+0.1**
MDNY	**Mudanya-Bursa**	**1.31**	**54**	*e*Pn		**Pg**	**00 36 23.6**	**+0.1**
SIGR	**SIGRI**	**1.33**	**253**	*e*PN		**Pg**	**00 36 23.8**	**-0.2**
SIGR	**SIGRI**	**1.33**	**253**	*e*Pn		**Pg**	**00 36 23.8**	**-0.2**
MANT	**Manisa**	**1.39**	**143**	*i* P		Pn	00 36 17.4	-5.5
MANT				*i* S		**Sb**	**00 36 34.4**	**-6.8**
ARMT	**Armutlu**	**1.42**	**47**	*e*PN		**Pn**	**00 36 24.8**	**+1.9**
ARMT	**Armutlu**	**1.42**	**47**	*e*Pn		**Pn**	**00 36 24.8**	**+1.9**
KULA	**Kula-Manisa**	**1.42**	**140**	*e*PN		**Pg**	**00 36 25.8**	**+0.1**
KULA	**Kula-Manisa**	**1.42**	**140**	*e*Pn		**Pg**	**00 36 25.8**	**+0.1**
URLA	**Izmir**	**1.44**	**210**	*e*PN		**Pg**	**00 36 25.8**	**-0.2**
URLA	**Izmir**	**1.44**	**210**	*e*Pn		**Pg**	**00 36 25.8**	**-0.2**
TVSB	**Tavsanli**	**1.53**	**95**	*e*PN		**Pb**	**00 36 27.2**	**+1.2**
TVSB	**Tavsanli**	**1.53**	**95**	*e*Pn		**Pb**	**00 36 27.2**	**+1.2**

IDC ***24*** *00:41:39.7±2.4,36.°31N×142.°10E,h0km,mb3.6/4, mb1 3.7/6,mb1mx3.5/39,mbtmp3.7/6,ML3.7/2,MS2.7/2, Ms1 2.7/2,ms1mx2.4/34, Error ellipse: s-maj=58.3km s-min=24.9km az=71.0*
JMA ***24*** *00:41:44.4±0.1,36.°36N×141.°75E,h74km±2km,M3.4*

ISC 24 00:41:41.5±2.3,36.°35N±0.°04×141.°97E±0.°10,h11km±12km, n23,σ1ˢ20/25,mb3.5/4,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
CHOJ	**Chosi**	**1.11**	**235**	P		**Pg**	**00 42 03.1**	**+0.2**
CHOJ				*e*S		**Sg**	**00 42 16.8**	**-0.6**
JHO	**Hitachi**	**1.16**	**283**	P		**Pb**	**00 42 03.3**	**-0.2**
ONAJ	**Iwakimizuishiy**	**1.20**	**309**	P		**Pn**	**00 42 04.5**	**+0.2**
ONAJ				*e*S		**Sb**	**00 42 18.8**	**-1.1**
JFK	**Kawauchi**	**1.34**	**319**	P		**Pn**	**00 42 06.5**	**+0.3**
JFT	**Otama**	**1.75**	**312**	P		**Pn**	**00 42 11.6**	**-0.2**
JFT				*e*S		**Sn**	**00 42 31.9**	**-2.2**
JMM	**Marumori**	**1.78**	**328**	P		**Pn**	**00 42 12.7**	**+0.5**
JMM				*e*S		**Sn**	**00 42 33.5**	**-1.3**
BSO1	**Boso 1**	**1.88**	**206**	P		**Pn**	**00 42 14.3**	**+1.2**
BSO1				*e*S		**Sn**	**00 42 36.3**	**-0.2**
BSO3	**Boso 3**	**1.96**	**218**	P		**Pn**	**00 42 15.1**	**+0.8**
BSO3				S		**Sn**	**00 42 37.8**	**-0.9**
JAG	**Ashikaga**	**2.03**	**273**	P		**Pn**	**00 42 15.2**	**-0.5**
MJAR	**Matsushiro Arr**	**3.04**	**275**	Pn		**Pn**	**00 42 30.5**	**+0.9**
	8.4nm,0.3s,baz=91,slow=7.4,SNR=47							
MJAR				Sn		**Sn**	**00 43 07.8**	**+1.8**
	4.3nm,0.3s,baz=85,slow=29,SNR=5.9							
MJAR				LR	LR		00 43 54.1	
	comp=Z,87nm,18.4s,baz=90,slow=43							
MAT	**Matsushiro**	**3.04**	**275**	P		**Pn**	**00 42 30.4**	**+0.8**
MAT				S		**Sn**	**00 43 07.1**	**+1.1**
JHJ	**Hachijo jima 2**	**3.70**	**210**	Pn		**Pn**	**00 42 38.1**	**-0.4**
	15nm,0.3s,baz=72,slow=20,SNR=7.0							
JHJ				Sn		**Sn**	**00 43 18.9**	**-3.2**
	40nm,0.3s,baz=314,slow=23,SNR=10							
KSRS	**Korea Array**

SSFR	**Montelago di S**	**0.70**	**263**	Pg	**Pg**	**01 21 15.3**	**-0.6**
	32nm,0.2s							
FSSB	**Fossombrone**	**0.72**	**284**	Pg	**Pg**	**01 21 15.9**	**-0.3**
	28nm,0.3s							
FSSB	**Fossombrone**	**0.72**	**284**	Pg	**Pg**	**01 21 15.9**	**-0.3**
	28nm,0.3s							
MPAG	**Monte Paganucc**	**0.72**	**279**	Pg	**Pb**	**01 21 16.5**	**-0.6**
FRON	**Frontone**	**0.74**	**270**	Pg	**Pg**	**01 21 16.2**	**-0.4**
	11nm,0.4s							
FRON	**Frontone**	**0.74**	**270**	Pg	**Pg**	**01 21 16.2**	**-0.4**
	11nm,0.4s							
CESI	**CESI - Serrava**	**0.80**	**230**	Pg	**Pg**	**01 21 17.6**	**-0.1**
	9.0nm,0.3s							
CESI	**CESI - Serrava**	**0.80**	**230**	Pg	**Pg**	**01 21 17.6**	**-0.1**
	9.0nm,0.3s							
NRCA	**Norcia**	**0.82**	**214**	Pg	**Pg**	**01 21 17.3**	**-0.9**
NRCA				Sg	**Sb**	**01 21 31.0**	**+0.9**
	41nm,0.1s							
NRCA	**Norcia**	**0.82**	**214**	Pg	**Pg**	**01 21 17.3**	**-0.9**
NRCA				Sg	**Sb**	**01 21 31.0**	**+0.9**
	41nm,0.1s							
ATCC	**AVT- Casa Cast**	**0.87**	**248**	Pg	**Pg**	**01 21 19.0**	**-0.1**
	26nm,0.7s							
ATCC	**AVT- Casa Cast**	**0.87**	**248**	Pg	**Pg**	**01 21 19.0**	**-0.1**
	26nm,0.7s							
PIEI	**Pieia**	**0.87**	**271**	Pg	**Pg**	**01 21 18.6**	**-0.6**
	7.0nm,0.3s							
PIEI	**Pieia**	**0.87**	**271**	Pg	**Pg**	**01 21 18.6**	**-0.6**
	7.0nm,0.3s							
SMA1	**SAN MARTINO**	**0.94**	**198**	Pg	**Pg**	**01 21 19.3**	**-1.1**
	49nm,0.4s							
CAMP	**Campotosto**	**1.01**	**194**	Pg	**Pg**	**01 21 21.1**	**-0.8**
	17nm,0.5s							
CAMP	**Campotosto**	**1.01**	**194**	Pg	**Pg**	**01 21 21.1**	**-0.8**
	17nm,0.5s							
LNSS	**Leonessa**	**1.05**	**209**	Pg	**Pg**	**01 21 21.7**	**-0.8**
	38nm,0.3s							
LNSS	**Leonessa**	**1.05**	**209**	Pg	**Pg**	**01 21 21.7**	**-0.8**
	38nm,0.3s							
NVLJ	**Novalja**	**1.32**	**38**	*e*Pg	**Pb**	**01 21 27.3**	**0.0**
NVLJ				Sg	**Sn**	**01 21 45.5**	**+0.8**
UDBI	**Udbina**	**1.77**	**55**	*e*Pn	**Pg**	**01 21 35.1**	**-1.3**
UDBI				Sn	**Sg**	**01 21 59.7**	**+0.3**
UDBI	**Udbina**	**1.77**	**55**	*e*Pn	**Pg**	**01 21 35.1**	**-1.3**
UDBI				Sn	**Sg**	**01 21 59.7**	**+0.3**

SJA 24 01:21:30.1±0.8, 24°37S×64°99W, h23km±3km, ML2.5, MW3.5, Salta Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AZAP	**Zapla**	**0.16**	**334**	*e*P	Pb	01 21 35.6	+0.2
AZAP				IAML		01 21 40.7	
	comp=Z,1μm,0.2s						
SLA	**San Lorenzo**	**0.58**	**233**	*e*P	Pn	01 21 42.8	-0.4
SLA				*e*S	Sn	01 21 51.6	-0.5
ASTB	**Santa Barbara**	**0.65**	**49**	*e*P	Pn	01 21 43.4	-0.6
ALOL	**LOMAS DE OLMED**	**1.07**	**59**	*e*P	Pb	01 21 50.9	+0.8
HJA	**Humahuaca**	**1.22**	**342**	*e*P	Pb	01 21 53.8	+1.1
HJA				IAML		01 22 13.3	
	comp=Z,202nm,0.4s						
FSA	**Cafayete**	**1.95**	**207**	*e*P	Pb	01 22 04.0	-1.1
FSA				IAML		01 22 36.8	
	comp=Z,14nm,0.2s						
YJA	**Yavi**	**2.24**	**347**	*e*P	Pb	01 22 09.6	-0.5
YJA				IAML		01 22 42.5	
	comp=Z,18nm,0.6s						
AHML	**Horco Molle**	**2.42**	**187**	*e*P	Pb	01 22 10.7	-2.3
AHML				IAML		01 22 54.4	
	comp=Z,15nm,0.2s						

MOS ***24*** *01:25:45.4±0.9, 55°.14N×110°.92E, h10km, mb4.4/1, Error ellipse: s-maj=24.3km s-min=12.7km az=80.7*
BYKL ***24*** *01:25:45.3±0.2, 55°.15N×110°.88E, h19km±3km*
ISC 24 01:25:44.2±1.0, 55°.16N±0°.02×110°.66E±0°.02, h10km±9km, n34, σ2§12/72, 5C-1D, Lake Baykal region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YLYR	**Ulyunkhan**	**0.40**	**134**	*i*Pg	**Pg**	**01 25 52.3**	**+0.2**
YLYR				*e*Sg	**Sg**	**01 25 57.5**	**+0.1**
YLYR				Pmax			
	580nm,0.1s						
YLYR				Smax			
	3μm,0.1s						
YLYR	**Ulyunkhan**	**0.40**	**134**	*e*PG	**Pg**	**01 25 52.3**	**+0.2**
YLYR				*e*		01 25 57.6	
YLYR				pmax	pmax		
	comp=Z,580nm,0.1s						
YLYR				smax	smax		
	comp=N,4μm,0.2s						
KMO	**Kumora**	**0.79**	**23**	*i*Pg	**Pg**	**01 25 59.2**	**-0.3**
KMO				*e*Sg	**Sg**	**01 26 09.1**	**-0.8**
KMO				Pmax			
	comp=N,351nm,0.3s						
KMO				Smax			
	comp=N,2μm,0.4s						
KMO	**Kumora**	**0.79**	**23**	*e*PG	**Pg**	**01 25 59.1**	**-0.4**
KMO				*e*		01 26 09.2	
KMO				pmax	pmax		
	comp=Z,349nm,0.4s						
KMO				smax	smax		
	comp=N,2μm,0.5s						
NIZ	**Nizh Angarsk**	**0.89**	**315**	*i*Pg	**Pn**	**01 26 03.5**	**+0.8**
NIZ				*e*Sg	**Sn**	**01 26 16.7**	**+1.0**
NIZ				Pmax			
	comp=N,294nm,0.4s						
NIZ				Smax			
	comp=N,483nm,0.2s						
NIZ	**Nizh Angarsk**	**0.89**	**315**	*e*PG	**Pn**	**01 26 03.5**	**+0.8**
NIZ				*e*		01 26 17.0	
NIZ				pmax	pmax		
	comp=Z,291nm,0.4s						
NIZ				smax	smax		
	comp=N,650nm,0.5s						
YOA	**Uoyan**	**1.15**	**31**	*e*Pg	**Pn**	**01 26 05.9**	**-0.4**
YOA				*e*Sg	**Sb**	**01 26 21.0**	**-0.1**
YOA				Pmax			
	comp=N,312nm,0.2s						
YOA				Smax			
	comp=N,3μm,0.2s						
YOA	**Uoyan**	**1.15**	**31**	*e*PG	**Pg**	**01 26 05.4**	**-0.9**
YOA				*i*		01 26 21.0	
YOA				pmax	pmax		
	comp=Z,327nm,0.2s						
YOA				smax	smax		
	comp=N,3μm,0.2s						
SYVR	**Suvo**	**1.55**	**195**	*e*Pg	**Pg**	**01 26 13.9**	**0.0**
SYVR				*e*Sg	**Sg**	**01 26 35.3**	**+1.3**
SYVR				Pmax			
	comp=N,54nm,0.1s						
SYVR				Smax			
	comp=N,733nm,0.5s						
SYVR	**Suvo**	**1.55**	**195**	*e*PN	**Pg**	**01 26 13.6**	**-0.3**
SYVR				*e*		01 26 35.7	
SYVR				pmax	pmax		
	comp=Z,68nm,0.3s						
SYVR				smax	smax		
	comp=E,731nm,0.7s						
UKT	**Uakit**	**1.73**	**78**	*i*Pg	**Pn**	**01 26 13.8**	**-0.6**
UKT				*e*Sg	**Sn**	**01 26 34.8**	**-1.7**
UKT				Pmax			
	comp=E,75nm,0.4s						
UKT				Smax			
	comp=E,630nm,0.3s						
UKT	**Uakit**	**1.73**	**78**	*i*PN	**Pn**	**01 26 13.7**	**-0.6**
UKT				*e*		01 26 34.8	
UKT				pmax	pmax		
	comp=Z,58nm,0.2s						
UKT				smax	smax		
	comp=N,630nm,0.4s						
SVKR	**Severomuysk**	**1.91**	**58**	*e*Pg	**Pn**	**01 26 17.3**	**+0.6**
SVKR				*e*		01 26 24.6	
SVKR				*e*Sg	**Sn**	**01 26 40.9**	**+0.1**
SVKR				*e*		01 26 42.5	
SVKR				Pmax			
	comp=N,175nm,0.2s						
SVKR				max			
	comp=N,3μm,0.5s						
SVKR	**Severomuysk**	**1.91**	**58**	*e*PN	**Pn**	**01 26 16.7**	**0.0**
SVKR				*e*		01 26 17.4	
SVKR				*e*		01 26 42.4	
SVKR				pmax	pmax		
	comp=Z,174nm,0.3s						
SVKR				smax	smax		
	comp=E,3μm,0.6s						
MXMB	**Maximikha**	**2.21**	**211**	*e*Pg	**Pg**	**01 26 26.7**	**+0.3**
MXMB				*e*Sg	**Sg**	**01 26 56.9**	**+1.9**
OGRR	**Ongureny**	**2.35**	**231**	*i*Pn	**Pb**	**01 26 25.8**	**-0.7**
OGRR				*e*Pg	**Pg**	**01 26 29.6**	**+0.5**
OGRR				*e*		01 26 36.0	
OGRR				*e*Sn	**Sb**	**01 26 53.7**	**-1.8**
OGRR				*e*Sg	**Sg**	**01 27 00.9**	**+1.4**
OGRR				max			
	comp=E,31nm,0.4s						
OGRR				Smax			
	comp=E,119nm,0.5s						
NLYR	**Nelyaty**	**3.14**	**63**	*e*Pn	**Pn**	**01 26 33.6**	**-0.1**
NLYR				*e*Pg	**Pb**	**01 26 40.4**	**+0.3**
NLYR				*e*Sn	**Sn**	**01 27 08.3**	**-3.0**
NLYR				*e*Sg	**Sb**	**01 27 19.2**	**+0.7**
NLYR				Pmax			
	comp=E,39nm,0.5s						
NLYR				Smax			
	comp=E,308nm,1.2s						
BOD	**Bodaibo**	**3.25**	**33**	*e*Pn	**Pn**	**01 26 35.6**	**+0.5**
BOD				*e*Pg	**Pb**	**01 26 42.5**	**+0.6**
BOD				*e*Sn	**Sn**	**01 27 12.7**	**-1.1**
BOD				*e*Sg	**Sb**	**01 27 22.7**	**+1.2**
BOD				Pmax			
	comp=E,9.0nm,0.3s						
BOD				Smax			
	comp=E,91nm,0.3s						
TRG	**Tyrgan**	**3.50**	**228**	*e*Pn	**Pn**	**01 26 39.9**	**+1.3**
TRG				*e*Pg	**Pg**	**01 26 49.4**	**-1.8**
TRG				*e*Sn	**Sn**	**01 27 21.8**	**+1.7**
TRG				*e*Sg	**Sg**	**01 27 35.7**	**-0.8**
TRG				Pmax			
	comp=E,6.0nm,0.1s						
TRG				Smax			
	comp=E,45nm,0.2s						
UUDB	**Ulan-Yde**	**3.75**	**210**	*e*Pg	**Pg**	**01 26 54.0**	**-1.9**
UUDB				*e*Sg	**Sg**	**01 27 43.9**	**-0.6**
UUDB				Pmax			
	comp=E,21nm,0.6s						
UUDB				Smax			
	comp=E,108nm,0.9s						
HRMR	**Khuramsha**	**4.17**	**214**	*e*Pn	**Pn**	**01 26 50.4**	**+2.5**
HRMR				*e*Pg	**Pg**	**01 27 01.8**	**-2.2**
HRMR				*e*Sn	**Sn**	**01 27 37.2**	**+0.6**
HRMR				*e*Sg	**Sg**	**01 27 56.5**	**-1.5**
HRMR				Pmax			
	comp=E,20nm,0.6s						
HRMR				Smax			
	comp=E,174nm,0.5s						
BGT	**Bolshoye Golou**	**4.42**	**227**	*e*Sg	**Sg**	**01 28 05.3**	**-0.5**
BGT				Smax			
	comp=E,68nm,0.9s						
CRS	**Chara**	**4.61**	**65**	*e*Pn	**Pn**	**01 26 53.6**	**-0.3**
CRS				*e*		01 27 12.8	
CRS				*e*Sg	**Sb**	**01 28 04.4**	**+3.7**
CRS				Smax			
	comp=E,81nm,0.6s						
LSTR	**Listvyanka**	**4.79**	**229**	*e*Sn	**Sn**	**01 27 52.7**	**+0.9**
LSTR				*e*Sg	**Sg**	**01 28 15.3**	**-2.5**
LSTR				Smax			
	comp=E,49nm,1.1s						
TUP	**Tupik**	**5.43**	**94**	*e*Pn	**Pn**	**01 27 04.2**	**-0.9**
TUP				*e*		01 27 11.6	
TUP				*e*Pg	**Pb**	**01 27 21.4**	**+2.4**
TUP				*e*Sn	**Sn**	**01 28 00.9**	**-6.7**
TUP				*e*Sg	**Sb**	**01 28 29.4**	**+5.2**
TUP				Pmax			
	comp=E,6.0nm,0.4s						
TUP				Smax			
	comp=E,123nm,0.5s						
TUP	**Tupik**	**5.43**	**94**	*e*PN	**Pb**	**01 27 20.2**	**+1.2**
TUP				*e*		01 28 28.3	
TUP				pmax	pmax		
	comp=Z,7.0nm,0.5s						
TUP				smax	smax		
	comp=N,122nm,1.0s						
TLY	**Talaya**	**5.45**	**233**	*e*Pn	**Pn**	**01 27 07.8**	**+2.4**
TLY				*e*		01 27 27.9	
TLY				*e*Sn	**Sn**	**01 28 09.1**	**+1.0**
TLY				*e*Sg	**Sg**	**01 28 36.2**	**-2.8**
TLY				Smax			
	comp=N,35nm,0.6s						
KPC	**Khapcheranga**	**5.56**	**168**	*e*Pn	**Pn**	**01 27 06.3**	**-0.7**
KPC				*e*Pg	**Pb**	**01 27 24.9**	**+3.6**
KPC				*e*Sn	**Sn**	**01 28 07.7**	**-3.3**
KPC				*e*Sg	**Sg**	**01 28 36.1**	**-6.5**
KPC				Pmax			
	comp=N,8.0nm,0.4s						
KPC				Smax			
	comp=N,84nm,1.3s						
ARS	**Arshan**	**5.88**	**240**	*e*Pg	**Pg**	**01 27 33.1**	**-3.6**
ARS				*e*Sg	**Sg**	**01 28 51.2**	**-1.7**
ARS				Pmax			
	comp=N,10.0nm,0.4s						
ARS				Smax			
	comp=N,170nm,0.7s						
ARS	**Arshan**	**5.88**	**240**	*e*PG	**Pg**	**01 27 37.6**	**+0.9**
ARS				*e*		01 28 51.6	
ARS				pmax	pmax		
	comp=Z,10.0nm,0.3s						
ARS				smax	smax		
	comp=E,171nm,0.8s						
ZAK	**Zakamensk**	**6.55**	**226**	*e*Pn	**Pn**	**01 27 23.9**	**+3.3**
ZAK				*e*Sg	**Sg**	**01 29 12.1**	**-2.1**
ZAK				Smax			
	comp=E,19nm,0.5s						
MOY	**Mondy**	**6.75**	**243**	*e*	Pb	01 27 35.4	-6.2
MOY				*e*Sn	**Sn**	**01 28 39.8**	**-0.5**
MOY				*e*Sg	**Sg**	**01 29 17.7**	**-3.0**
MOY				Smax			
	comp=E,57nm,1.7s						
ORL	**Orlik**	**6.93**	**252**	*e*Pn	**Pn**	**01 27 28.6**	**+2.8**
ORL				*e*Sn	**Sn**	**01 28 46.3**	**+1.5**
ORL				*e*Sg	**Sg**	**01 29 23.1**	**-3.4**
ORL				Smax			
	comp=E,41nm,1.2s						
IENR	**Iengra**	**8.10**	**77**	*e*Sg	Sg	01 29 52.8	-11

ISCJB ***24*** *01:27:52.5±0.9, 38°.02N±0°.05×42°.62E±0°.07, h9km±10km, Error ellipse: s-maj=10.8km s-min=6.2km az=39.6*
CSEM ***24*** *01:27:52.1±0.3, 38°.00N×42°.63E, h8km, MD3.0, Error ellipse: s-maj=6.2km s-min=6.0km az=18.0*
ISK ***24*** *01:27:52.5, 38°.04N×42°.58E, h7km, MD2.8*
DDA ***24*** *01:27:53.7, 37°.97N×42°.49E, h7km, Md3.0*
ISN ***24*** *01:27:57.9±0.3, 35°.80N×41°.96E, h0km, ML1.7*
ISC 24 01:27:52.7±1.2, 38°.01N±0°.04×42°.58E±0°.05, h10km±11km, n26, σ0§69/36, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIRN	**S¯¯rnak**	**0.53**	**194**	*i*P	**Pg**	**01 28 02.5**	**-0.5**
SIRN				*i*S	**Sb**	**01 28 11.8**	**0.0**
SIRN	**S¯¯rnak**	**0.53**	**194**	P	**Pg**	**01 28 02.5**	**-0.5**
SIRN				S	**Sb**	**01 28 11.9**	**0.0**
VANB	**Van**	**0.86**	**47**	*e*PG	**Pg**	**01 28 08.5**	**-0.9**
VANB	**Van**	**0.86**	**47**	*e*Pg	**Pg**	**01 28 08.5**	**-0.9**
BTMN	**Batman**	**1.04**	**264**	*i*P	**Pb**	**01 28 13.2**	**+0.3**
BTMN				*i*S	**Sg**	**01 28 27.2**	**+0.9**
BTMN	**Batman**	**1.04**	**264**	P	**Pb**	**01 28 13.2**	**+0.3**
BTMN				S	**Sg**	**01 28 27.2**	**+0.9**
SVAN	**Silvan-Diyarba**	**1.10**	**278**	*e*PN	**Pb**	**01 28 13.7**	**-0.2**
SVAN				*e*SN	**Sn**	**01 28 29.7**	**+0.2**
SVAN	**Silvan-Diyarba**	**1.10**	**278**	*i*P	**Pb**	**01 28 13.5**	**-0.4**
SVAN				*i*S	**Sn**	**01 28 29.2**	**-0.3**
SVAN	**Silvan-Diyarba**	**1.10**	**278**	P	**Pb**	**01 28 13.5**	**-0.4**
SVAN				S	**Sn**	**01 28 29.2**	**-0.3**
CUKT	**Cukurca**	**1.12**	**133**	*e*PN	**Pg**	**01 28 14.5**	**+0.3**
CUKT	**Cukurca**	**1.12**	**133**	*e*Pn	**Pg**	**01 28 14.5**	**+0.3**
VRTB	**Varto-Mus**	**1.45**	**323**	*e*PN	**Pn**	**01 28 19.1**	**-0.1**
VRTB	**Varto-Mus**	**1.45**	**323**	*e*Pn	**Pn**	**01 28 19.1**	**-0.1**
MARD	**Mardin**	**1.59**	**245**	*i*P	**Pn**	**01 28 20.4**	**-0.7**
MARD				*i*S	**Sb**	**01 28 41.9**	**-0.6**
AGRB	**Hanur-Agry**	**1.60**	**12**	*e*PN	**Pn**	**01 28 21.2**	**0.0**
AGRB	**Hanur-Agry**	**1.60**	**12**	*e*Pn	**Pn**	**01 28 21.3**	**0.0**
MAZI	**Mazidag**	**1.78**	**253**	*e*PN	**Pb**	**01 28 25.3**	**-0.2**
MAZI	**Mazidag**	**1.78**	**253**	*e*Pn	**Pb**	**01 28 25.3**	**-0.2**
BNGB	**Bing¯¶l**	**1.78**	**304**	*e*PN	**Pn**	**01 28 24.4**	**+0.7**
BINT	**Bingol**	**1.85**	**298**	*e*Pn	**Pn**	**01 28 24.4**	**-0.3**
DIYA	**Diyarbakir**	**1.94**	**268**	*i*P	**Pn**	**01 28 24.6**	**-1.3**
DIYA				*i*S	**Sn**	**01 28 50.7**	**+0.2**
DIYA	**Diyarbakir**	**1.94**	**268**	P	**Pn**	**01 28 24.6**	**-1.3**
DIYA				S	**Sn**	**01 28 50.7**	**+0.2**
EZM	**Erzurum**	**2.12**	**334**	*e*PN	**Pn**	**01 28 29.7**	**+1.2**
YEDI	**Yedisu-Bingol**	**2.14**	**312**	*e*PN	**Pn**	**01 28 29.6**	**+0.9**
SVRC	**Sivrice-ELAZID**	**2.60**	**279**	*e*PN	**Pn**	**01 28 36.3**	**+1.2**
SVRC	**Sivrice-ELAZID**	**2.60**	**279**	*e*Pn	**Pn**	**01 28 36.3**	**+1.2**

IDC 24 01:43:50.0±3.8, 23°.96S×179°.77E, h475km±34km, mb3.2/5, mb1 3.4/5, mb1mx3.0/29, mbtmp4.0/5, Error ellipse: s-maj=97.2km s-min=30.3km az=163.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**31.26**	**270**	P	P	01 49 31.4	+1.5
	3.2nm,0.3s,baz=92,slow=11,SNR=12						
STKA	**Stephens Creek**	**34.50**	**248**	P	P	01 49 56.3	-1.1
	0.6nm,0.3s,baz=106,slow=11,SNR=4.4						
ASAR	**Alice Springs**	**41.81**	**261**	P	P	01 50 56.8	-0.6
	0.6nm,0.4s,baz=95,slow=8.4,SNR=11						
WRA	**Warramunga Arr**	**42.19**	**266**	P	P	01 50 59.8	-0.5
	1.8nm,0.5s,baz=98,slow=8.3,SNR=30						
WRA				ScP	ScP	01 55 48.6	-0.3
	0.6nm,0.8s,baz=94,slow=4.1,SNR=4.5						
TXAR	**Lajitas Array**	**90.64**	**58**	P	P	01 56 01.4	0.0
	0.2nm,0.7s,baz=227,slow=6.6,SNR=3.8						

SJA 24 01:47:44.9±0.9, 29°.03S×67°.40W, h127km±5km, ML3.0, MW3.5, La Rioja Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VCA	**Vinchina**	**0.77**	**293**	*e*P	Pn	01 48 06.3	+0.6
VCA				IAML		01 48 25.6	
	comp=Z,553nm,0.3s						
AGUA	**GUANDACOL**	**1.06**	**244**	*e*P	Pn	01 48 09.0	+0.8
CYA	**Choya**	**1.52**	**68**	*e*P	Pn	01 48 14.3	+1.2
CYA				IAML		01 48 14.4	
	comp=Z,110nm,0.1s						
AVFE	**Valle Fertil**	**1.62**	**182**	*e*P	Pn	01 48 15.4	+1.2
AVFE				IAML		01 48 39.5	
	comp=Z,116nm,0.2s						
AMOG	**MOGNA**	**2.12**	**206**	*e*P	Pn	01 48 21.1	+0.8
RTLL	**Cerro Villicun**	**2.47**	**202**	*e*P	Pn	01 48 25.8	+1.2
AHML	**Horco Molle**	**2.89**	**40**	*e*P	Pn	01 48 30.3	+0.3
RTCV	**Cerro Valdivia**	**2.99**	**199**	*e*P	Pn	01 48 32.4	+1.1
FSA	**Cafayete**	**3.17**	**24**	*e*P	Pn	01 48 35.6	+1.7
FSA				IAML		01 48 36.1	
	comp=Z,17nm,0.3s						
RTLS	**Leoncito**	**3.21**	**210**	*e*P	Pn	01 48 35.6	+1.2
TCA	**Tanti**	**3.34**	**134**	*e*P	Pn	01 48 37.0	+1.0
AUSP	**Uspallata**	**3.61**	**208**	*e*P	Pn	01 48 41.2	+1.5
ASAL	**Salagasta**	**3.75**	**199**	*e*P	Pn	01 48 42.4	+1.0

ISCJB ***24*** *01:58:25.0±0.7, 10°.04N±0°.04×73°.22W±0°.04, h121km±7km, Error ellipse: s-maj=7.3km s-min=4.8km az=42.5*
RSNC ***24*** *01:58:26.1±0.8, 10°.04N×73°.23W, h119km±5km, ML2.6*
FUNV ***24*** *01:58:27.4, 10°.04N×73°.22W, h115km, MW2.2*
ISC 24 01:58:25.0±1.5, 10°.06N±0°.05×73°.24W±0°.04, h125km±11km, n18, σ0§78/29, 5C, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CODC	**Agust¯›n Codaz**	**0.23**	**239**	*i*P	**Pn**	**01 58 42.8**	**+0.4**
CODC				*e*S	**Sn**	**01 58 54.7**	**-0.8**
CODC				*i*		01 58 55.5	
	comp=Z,138nm,0.1s						
VIRV	**Villa del Rosa**	**0.93**	**61**	*e*P	**Pn**	**01 58 48.0**	**+1.1**
VIRV				*e*S	**Sn**	**01 59 02.9**	**-0.6**
OCAC	**Ocana**	**1.81**	**183**	*e*P	**Pn**	**01 58 57.0**	**+0.4**
OCAC				*e*S	**Sn**	**01 59 20.4**	**-0.2**
OCAC				*i*		01 59 24.2	
	comp=Z,70nm,0.3s						
SJCC	**San Jacinto, C**	**1.92**	**265**	*e*P	**Pn**	**01 58 58.4**	**+0.6**
SJCC				*e*S	**Sn**	**01 59 22.8**	**0.0**
SJCC				*i*		01 59 24.4	
	comp=Z,23nm,0.4s						
URIC	**Uribia, Colomb**	**2.04**	**37**	*e*P	**Pn**	**01 58 59.3**	**+0.1**
URIC				*e*S	**Sn**	**01 59 25.2**	**-0.3**
URIC				*i*		01 59 37.4	
	comp=Z,41nm,0.4s						
VIGV	**El Vigia**	**2.21**	**123**	*e*P	**Pn**	**01 59 02.4**	**+1.0**
VIGV				*e*S	**Sn**	**01 59 27.8**	**-1.5**
CAPV	**Capacho**	**2.36**	**157**	*i*P	**Pn**	**01 59 04.2**	**+0.7**
CAPV				*e*S	**Sn**	**01 59 31.8**	**-1.2**
DABV	**Dabajuro**	**2.70**	**71**	*e*P	**Pn**	**01 59 08.8**	**+1.2**
DABV				*e*S	**Sn**	**01 59 39.2**	**-1.2**
MOTC	**Monteria, Cord**	**2.71**	**242**	*e*P	**Pn**	**01 59 07.5**	**-0.2**
MOTC				*i*		01 59 08.3	
	comp=Z,13nm,0.1s						
PAMC	**Pamplona, Colo**	**2.75**	**169**	*e*P	**Pn**	**01 59 09.0**	**+0.2**
PAMC				*e*S	**Sn**	**01 59 42.1**	**-0.2**
SOCV	**Socops**	**2.94**	**127**	*e*P	**Pn**	**01 59 11.5**	**+0.8**
BRRC	**Barranca, Sant**	**2.97**	**189**	*e*P	**Pn**	**01 59 11.7**	**+0.6**
BRRC				*i*		01 59 12.4	
	comp=Z,46nm,0.1s						
BRRC				*e*S	**Sn**	**01 59 46.1**	**-0.5**
ZARC	**Zaragoza, Cauc**	**3.01**	**212**	*e*P	**Pn**	**01 59 11.9**	**+0.3**
ZARC				*e*S	**Sn**	**01 59 48.1**	**+0.5**
ZARC				*i*		01 59 52.8	
	comp=Z,11nm,0.3s						
CURV	**Curarigua**	**3.23**	**90**	*e*P	**Pn**	**01 59 15.8**	**+1.3**
MONV	**Montecano**	**3.72**	**59**	*e*P	**Pn**	**01 59 21.0**	**0.0**
RUSC	**La Rusia**	**4.14**	**178**	*e*P	**Pn**	**01 59 27.2**	**+0.2**
MAPV	**Macapo**	**4.72**	**92**	*e*P	**Pn**	**01 59 35.1**	**+0.8**
BAUV	**El Baul**	**5.25**	**102**	*e*P	**Pn**	**01 59 41.2**	**-0.1**

MOS ***24*** *02:57:46.8±1.0, 6°.16S×151°.61E, h33km, mb5.3/25, MS4.7/7, Error ellipse: s-maj=9.2km s-min=7.1km az=83.3*
ISCJB ***24*** *02:57:46.2±0.2, 6°.27S±0°.03×151°.57E±0°.03, h30km, mb5.1/113, MS4.5/41, Error ellipse: s-maj=5.2km s-min=3.6km az=37.2*
BJI ***24*** *02:57:49.2, 6°.56S×151°.64E, h69km, mb4.8/40, mB5.0/31, Ms4.8/29, Ms7 4.5/31*
IDC ***24*** *02:57:50.1±2.5, 6°.30S×151°.74E, h59km±22km, mb4.6/19, mb1 4.7/22, mb1mx4.6/31, mbtmp4.9/22, ML3.6/2, MS4.4/24, Ms1 4.4/24, ms1mx4.3/32, Error ellipse: s-maj=18.0km s-min=12.5km az=91.0*
NEIC ***24*** *02:57:53.3±0.7, 6°.34S×151°.56E, h82km±6km, mb5.2/79, Error ellipse: s-maj=5.4km s-min=4.0km az=126.0*
GCMT ***24*** *02:57:53.3±0.2, 6°.33S×151°.84E, h32km, MW5.2/112, Moment Tensor Solution. s76,c120; s112,c189; Duration: 1§0 Moment tensor: Scale 10^{17}Nm; M_{rr}0.63±.02; $M_{\theta\theta}$-0.84±.01; $M_{\phi\phi}$0.20±.02; $M_{r\theta}$-0.30±.02; $M_{\theta\phi}$-0.32±.01; $M_{\phi r}$0.32±.02; Best double couple: $M_0$0.92800×10^{17} NP1,φ283.00000°, δ60.00000°, λ127.00000°. NP2:φ46.00000°, δ46.00000°, λ43.00000°. Principal axes: T 0.9020, Plg57.0000°, Azm244.0000°; N 0.0510, Plg32.0000°, Azm82.0000°; P -0.9530, Plg8.0

comp=Z,4μm,20.8s,baz=282,slow=34
COEN Coen 11.27 227 P **Pn 03 00 28.9 +2.2**
baz=11,SNR=7.2
COEN Coen 11.27 227 *e*Pn **Pn 03 00 29.4 +2.6**
MMPI Merauke 11.35 258 P Pn 03 00 37.2 +9.3
MTSU Mount Surprise 13.75 211 P **Pn 03 01 03.7 +3.0**
baz=14,SNR=10.0
PATS Pohnpei 14.66 27 *e*Pn **Pn 03 01 17.2 +4.1**
CTA Charters Tower 14.66 200 P **P 03 01 16.4 -2.6**
0.4nm,0.3s,baz=22,slow=15,SNR=3.6
CTA LR LR 03 06 52.3
comp=Z,3μm,18.2s,baz=25,slow=37
CTAO Charters Tower 14.66 200 *e*P **P 03 01 16.6 -2.4**
CTAO Charters Tower 14.66 200 *e*Pn **P 03 01 16.6 -2.4**
QIS Mount Isa 18.35 218 P **Pn 03 02 01.5 +1.5**
baz=18,SNR=14
EIDS Eidsvold 18.97 182 P **Pn 03 02 07.3 -0.1**
baz=19,SNR=4.5
EIDS Eidsvold 18.97 182 *e*P **Pn 03 02 07.3 -0.1**
25nm,0.9s
KDU Kakadu 19.92 250 P **Pn 03 02 18.4 -0.4**
baz=20,SNR=18
RMQ Roma 20.26 187 P Pn 03 02 21.9 -0.9
baz=20,SNR=39
GUMO Guam 20.87 341 P **P 03 02 28.0 +0.6**
52nm,0.8s,baz=117,slow=2.5,SNR=4.6
GUMO LR LR 03 11 05.6
comp=Z,398nm,18.9s,baz=150,slow=38
GUMO Guam 20.87 341 *e*P **P 03 02 27.9 +0.5**
GUMO pmax pmax
comp=Z,907nm,1.9s
GUMO Guam 20.87 341 *e*P **P 03 02 27.9 +0.5**
comp=Z,907nm,1.9s
MTN Manton Dam 21.22 251 P **P 03 02 32.2 +1.0**
baz=21,SNR=13
MTN Manton Dam 21.22 251 *e*P **P 03 02 32.1 +1.0**
comp=Z,187nm,1.1s
DZM Mont Dzumac 21.23 139 P **P 03 02 30.1 -1.3**
comp=Z,23nm,0.9s,baz=344,slow=8.8,SNR=10
DZM LR LR 03 09 12.0
comp=Z,3μm,21.8s,baz=314,slow=32
DZM Mont Dzumac 21.23 139 *e*P **P 03 02 30.5 -0.9**
comp=Z,62nm,1.0s
DZM *e*S **S 03 06 26.9 +0.9**
comp=Z,1μm,23.0s
DZM *e*LQ LQ 03 06 56.7
comp=Z,3μm,26.4s
DZM *e*LR LR 03 07 51.7
comp=Z,4μm,23.4s
DZM Mont Dzumac 21.23 139 *e*P **P 03 02 30.3 -1.0**
comp=Z,70nm,1.4s
QLP Quilpie 21.36 198 P **P 03 02 34.0 +1.4**
baz=21,SNR=12
WRAB Tennant Creek 21.57 229 *e*P **P 03 02 35.3 +0.4**
WRAB *e*S **S 03 06 29.2 -3.4**
WRAB pmax pmax
comp=Z,98nm,0.8s
WRAB Tennant Creek 21.57 229 *e*P **P 03 02 35.3 +0.4**
comp=Z,98nm,0.8s
WRAB *e*S **S 03 06 29.2 -3.4**
WB2 Warramunga Arr 21.57 229 *e*P **P 03 02 35.8 +0.8**
comp=Z,145nm,1.1s
WRA Warramunga Arr 21.58 229 P **P 03 02 35.5 +0.4**
comp=Z,119nm,0.9s,baz=52,slow=9.8,SNR=110
WRA S **S 03 06 31.2 -1.6**
comp=Z,10nm,1.1s,baz=52,slow=18,SNR=10
WRA LR LR 03 11 10.8
comp=Z,2μm,19.6s,baz=55,slow=37
KWAJ Kwajalein Atol 21.89 47 *e*P **P 03 02 39.7 +1.3**
KWAJ pmax pmax
comp=Z,672nm,1.2s
KWAJ Kwajalein Atol 21.89 47 *e*P **P 03 02 39.7 +1.3**
comp=Z,672nm,1.2s
AS01 Alice Springs 24.23 223 *e*P **P 03 03 01.9 -0.1**
AS31 Alice Springs 24.26 223 *e*P **P 03 03 02.9 +0.6**
comp=Z,36nm,0.7s
ASAR Alice Springs 24.26 223 P **P 03 03 02.9 +0.6**
comp=Z,180nm,0.9s,baz=55,slow=9.2,SNR=375
ASAR LR LR 03 12 21.2
comp=Z,1μm,20.4s,baz=54,slow=36
KNRA Kununurra 24.27 246 P **P 03 03 03.3 +0.8**
baz=24,SNR=14
CMSA Cobar Meteorol 25.71 192 P **P 03 03 15.0 -0.4**
baz=26,SNR=13
STKA Stephens Creek 27.12 199 P **P 03 03 26.9 -1.2**
comp=Z,26nm,1.0s,baz=11,slow=9.2,SNR=11
STKA LR LR 03 14 45.3
comp=Z,1μm,18.3s,baz=14,slow=37
STKA Stephens Creek 27.12 199 P **P 03 03 27.2 -0.9**
baz=27,SNR=22
STKA Stephens Creek 27.12 199 *e*P **P 03 03 27.1 -1.0**
STKA Stephens Creek 27.12 199 *e*P **P 03 03 27.1 -1.0**
comp=Z,5.7nm,0.9s
SOEI Soe 27.30 261 P **P 03 03 35.4 +5.3**
SOEI Soe 27.30 261 *e*P **P 03 03 31.8 +1.7**
comp=Z,109nm,0.9s
FITZ Fitzroy Crossi 27.93 243 P **P 03 03 35.9 +0.5**
comp=Z,67nm,0.6s,baz=53,slow=8.6
BATI Baumata 27.93 260 P **P 03 03 38.8 +3.2**
MSVF Nonsavu 28.19 116 *e*P **P 03 03 39.8 +1.9**
MSVF pmax pmax
comp=Z,32nm,1.3s
MSVF Nonsavu 28.19 116 *e*P **P 03 03 39.8 +1.9**
comp=Z,32nm,1.3s
WRKA Warakurna 29.09 228 P **P 03 03 45.2 -0.6**
baz=29,SNR=44
MMRI Maumere 29.23 264 *e*P **P 03 03 46.6 -0.5**
comp=Z,162nm,1.1s
HTT Hallett 29.46 202 P **P 03 03 49.1 +0.1**
baz=29,SNR=3.4
BBOO Buckleboo 30.09 207 P **P 03 03 54.6 0.0**
baz=30,SNR=9.8
BBOO Buckleboo 30.09 207 *e*P **P 03 03 54.3 -0.3**
comp=Z,18nm,0.8s
ARPS Mount Arapiles 31.62 195 P **P 03 04 08.0 +0.1**
baz=32,SNR=9.2
KAPI Kappang 31.74 271 *e*P **P 03 04 10.5 +1.1**
comp=Z,58nm,1.0s
FORT Forrest 32.89 219 P **P 03 04 19.2 0.0**
baz=33,SNR=49
FORT Forrest 32.89 219 *e*P **P 03 04 19.3 0.0**
comp=Z,2μm,0.9s
MBWA Marble Bar 34.22 241 *e*P **P 03 04 31.4 +0.4**
comp=Z,102nm,0.9s
MYLDM Lahad Datu 34.98 288 *e*P **P 03 04 38.2 +0.7**
comp=Z,19nm,0.9s
TGY Tagaytay City 36.58 304 LR LR 03 17 24.8
comp=Z,376nm,20.9s,baz=141,slow=32
JAGI Jajag, Banyuwa 37.21 264 *e*P **P 03 04 55.3 -1.4**
comp=Z,79nm,0.9s
KMBL Kambalda 37.37 224 P **P 03 04 57.8 0.0**
baz=37,SNR=12
GIRL Giralia 39.52 242 P **P 03 05 17.6 +1.5**
baz=40,SNR=7.8
SBUM Sibu 40.29 281 *e*P **P 03 05 23.3 +0.8**
comp=Z,9.0nm,0.9s
KLBR Kellerberrin 40.43 227 P **P 03 05 23.0 -0.4**
baz=40,SNR=9.1
MORW Morawa 40.50 232 P **P 03 05 24.0 -0.1**
baz=40,SNR=13
BLDU Ballidu 40.72 229 P **P 03 05 25.2 -0.6**
baz=41,SNR=7.2
NWAO Narrogin (SRO) 41.51 226 LR LR 03 23 19.3
comp=Z,1μm,18.4s,slow=37
KSM Kuching 41.96 279 *e*P **P 03 05 36.7 +0.3**
comp=Z,14nm,0.9s
RKGY Rocky Gully 42.59 224 P **P 03 05 41.7 +0.5**
baz=43,SNR=8.0
CISI Cisompet, Garu 43.49 266 *e*P **P 03 05 48.6 -0.2**
comp=Z,138nm,1.0s
MJAR Matsushiro Arr 44.44 345 P **P 03 05 54.8 -1.1**
comp=Z,0.4nm,0.4s,baz=176,slow=9.2,SNR=3.6
MJAR LR LR 03 23 28.1
comp=Z,341nm,21.0s,baz=175,slow=35
QIZ Qiongzhong 48.25 302 P **P 03 06 27.1 +0.9**
QIZ S **S 03 13 20.3 -3.9**
QIZ pmax pmax
comp=Z,52nm,2.8s
QIZ LR LR
comp=Z,1μm,20.4s
KSRS Korea Array 48.83 335 P **P 03 06 30.1 -0.2**
comp=Z,2.9nm,0.8s,baz=150,slow=8.5,SNR=9.4
KSRS PcP **PcP 03 07 54.4 -0.4**
comp=Z,1.5nm,0.7s,baz=173,slow=3.4,SNR=4.4
KSAR Wonju Array Be 48.84 335 P **P 03 06 30.1 -0.3**
KSAR 03 07 54.4
KSAR Wonju Array Be 48.84 335 P **P 03 06 30.1 -0.3**
KSAR PcP **PcP 03 07 54.4 -0.4**
NJ2 Nanjing 49.30 323 *e*P **P 03 06 35.8 +1.8**
NJ2 pmax pmax
comp=Z,13nm,0.7s
IPM Ipoh 51.64 281 *e*P **P 03 06 51.7 -0.4**
comp=Z,14nm,0.7s
KULM Kulim 52.17 282 *e*P **P 03 06 55.9 -0.2**
comp=Z,16nm,0.8s
USRK Ussuriysk Ar. 53.30 342 LR LR 03 26 40.0
comp=Z,229nm,21.8s,baz=152,slow=32
PSI Prapat 53.39 278 LR LR 03 32 54.3
comp=Z,110nm,20.1s,baz=115,slow=39
YSS Yuzh-Sakhalins 53.60 352 *i* P **P 03 07 04.5 -1.5**
YSS pmax pmax
comp=Z,14nm,1.3s
SLVN Son La 54.27 302 *e*P **P 03 07 11.3 -0.1**
comp=Z,4.8nm,0.4s
GYA Guiyang 54.39 309 P **P 03 07 14.3 +2.0**
GYA pP sP 03 07 32.0 +7.0
GYA PP **PP 03 09 19.4 +4.7**
GYA S **S 03 14 46.6 -2.5**
GYA sS sS 03 15 17.8 +14
GYA pmax pmax
comp=Z,20nm,1.0s
GYA pmax pmax
comp=Z,120nm,6.2s
BJI Beijing 56.51 328 P **P 03 07 29.1 +2.0**
BJI PP **PP 03 09 35.0 +1.8**
BJI S **S 03 15 14.6 -2.0**
BJI sS sS 03 15 46.0 +14
BJI SS **SS 03 19 07.5 +3.0**
BJI pmax pmax
comp=Z,5.0nm,0.5s
BJI LR LR
comp=Z,290nm,20.5s
BJI LR LR
comp=Z,170nm,18.8s
BJI LR LR
comp=Z,310nm,23.1s
KMI Kunming 56.87 305 P **P 03 07 31.3 +1.0**
KMI pmax pmax
comp=Z,9.0nm,0.5s
KMI LR LR
comp=Z,310nm,4.4s
KMI LR LR
comp=Z,140nm,4.0s
KMI LR LR
comp=Z,330nm,16.2s
XAN Xi'an 56.92 318 P **P 03 07 30.0 -0.2**
XAN pP sP 03 07 46.0 +3.0
XAN PP **PP 03 09 37.9 +0.8**
XAN S **S 03 15 22.3 -0.1**
XAN SS **SS 03 19 13.1 +1.8**
XAN pmax pmax
comp=Z,10.0nm,1.0s
XAN pmax pmax
comp=Z,110nm,4.1s
XAN LR LR
comp=Z,190nm,21.4s
XAN LR LR
comp=Z,160nm,20.9s
XAN LR LR
comp=Z,420nm,19.6s
CM01 Chiang Mai Arr 57.45 296 *e*P **P 03 07 34.4 +0.2**
CMAR Chiang Mai Arr 57.47 296 P **P 03 07 35.1 +0.7**
comp=Z,4.3nm,0.6s,baz=132,slow=5.9,SNR=14
CMAR LR LR 03 33 00.3
comp=Z,120nm,19.0s,baz=122,slow=37
CHTO Chiang Mai 57.60 297 P **P 03 07 38.9 +3.7**
comp=Z,81nm,2.2s
CHTO Chiang Mai 57.60 297 *e*P **P 03 07 34.8 -0.4**
CHTO pmax pmax
comp=Z,5.0nm,0.8s
CHTO Chiang Mai 57.60 297 *e*P **P 03 07 34.8 -0.4**
comp=Z,5.4nm,0.8s
KLR Kul'dur 57.96 345 *i* P **P 03 07 36.6 -0.6**
PPT Papeete 58.40 107 LR LR 03 29 51.1
comp=Z,101nm,18.6s,baz=264,slow=33
PPT2 Papeete2 58.40 107 *e*S **S 03 15 46.6 +4.1**
PPT2 *e*LQ LQ 03 22 24.2
comp=Z,329nm,25.0s
PPT2 *e*LR LR 03 24 49.0
comp=Z,619nm,30.0s
comp=Z,261nm,27.2s
CD2 Chengdu 58.84 312 ⇩ *i*P **P 03 07 44.1 +0.3**
CD2 PP **PP 03 09 52.9 -1.3**
CD2 S **S 03 15 45.3 -2.4**
CD2 SS **SS 03 19 42.0 +0.3**
CD2 pmax pmax
comp=Z,20nm,0.8s
CD2 pmax pmax
comp=Z,200nm,8.5s
CD2 LR LR
comp=Z,490nm,19.1s
CD2 LR LR
comp=Z,860nm,19.0s
CD2 LR LR
comp=Z,780nm,19.0s
PET Petropavlovsk 59.40 5 *e*P P 03 07 52.1 +5.0
PET *e*S **S 03 15 59.5 +5.5**
PET MLR MLR
comp=Z,500nm,17.0s
PETK Petropavlovsk- 59.41 4 P **P 03 07 46.7 -0.5**
comp=Z,3.6nm,0.7s,baz=162,slow=7.0,SNR=2.9
PETK LR LR 03 29 43.9
comp=Z,202nm,20.5s,baz=188,slow=32
HHC Hu-ho-hao-te 59.60 326 *e*P **P 03 07 52.0 +3.1**
HHC S **S 03 15 57.9 +0.6**
HHC pmax pmax
comp=Z,13nm,0.9s
HHC pmax pmax
comp=Z,100nm,8.6s
HHC LR LR
comp=Z,230nm,20.6s
HHC LR LR
comp=Z,240nm,18.7s
HHC LR LR
comp=Z,280nm,21.2s
LZH Lanzhou 61.50 317 *e*P **P 03 08 06.8 +4.7**
LZH pP sP 03 08 23.0 +8.1
LZH sP PcP 03 08 30.0 -14
LZH pmax pmax
comp=Z,35nm,1.4s
LZH pmax pmax
comp=Z,190nm,4.0s
LZH LR LR
comp=Z,300nm,15.6s
LZH LR LR
comp=Z,220nm,14.4s
LZH LR LR
comp=Z,260nm,19.0s
GTA Gaotai 65.97 318 *e*P **P 03 08 34.6 +3.1**
GTA pP sP 03 08 50.6 +6.3
GTA sP PcP 03 08 57.9 -4.1
GTA PcP pP 03 09 02.9 +22
GTA S **S 03 17 17.5 +0.1**
GTA sS sS 03 17 45.1 +12
GTA SS **SS 03 21 36.3 +3.1**
GTA pmax pmax
comp=Z,4.0nm,1.0s
GTA pmax pmax
comp=Z,130nm,9.5s
GTA LR LR
comp=Z,140nm,16.4s
GTA LR LR
comp=Z,150nm,20.0s
GTA LR LR
comp=Z,180nm,18.5s
ULN Ulaanbaatar 66.66 329 *ce*P **P 03 08 36.0 +0.3**
ULN pmax pmax
comp=Z,7.0nm,2.5s
ULN Ulaanbaatar 66.66 329 *e*P **P 03 08 35.6 -0.1**
SONM Songino Array 66.98 329 P **P 03 08 37.1 -0.6**
comp=Z,2.2nm,0.7s,baz=142,slow=6.4,SNR=10
SONM PKP2bc 03 37 06.9
comp=Z,0.8nm,0.7s,baz=322,slow=2.8,SNR=3.9
SONM LR LR 03 38 16.4
comp=Z,255nm,19.5s,baz=118,slow=36
SONA1 Songino Array 66.98 329 *e*P **P 03 08 37.6 -0.1**
SEY Seymchan 69.04 0 LR LR 03 36 22.1
comp=Z,349nm,20.6s,baz=150,slow=34
SEY Seymchan 69.04 0 *i* P **P 03 08 49.5 -0.6**
TAPN Taplejung 70.19 302 *e*P **P 03 08 58.0 -0.4**
comp=Z,28nm,0.9s
ODAN Odare 70.31 301 *e*P **P 03 08 58.7 -0.3**
comp=Z,34nm,0.9s
BOD Bodaibo 70.78 340 *e*P **P 03 09 01.4 +0.5**
BOD pmax pmax
comp=Z,6.0nm,1.8s
TLY Talaya 70.80 331 *e*P **P 03 09 02.7 +1.5**
TLY *e*S **S 03 18 07.7 -6.4**
TLY pmax pmax
comp=Z,4.0nm,0.5s
VNDA Vanda 71.38 178 P **P 03 09 04.0 -0.4**
comp=Z,5.0nm,0.8s,baz=322,slow=6.7,SNR=34
VNDA Vanda 71.38 178 *e*P **P 03 09 04.2 -0.2**
VNDA pmax pmax
comp=Z,7.0nm,0.9s
VNDA Vanda 71.38 178 *e*P **P 03 09 04.2 -0.2**
comp=Z,7.1nm,0.9s
JIRN Jiri 71.57 302 *e*P **P 03 09 06.5 -0.4**
GUN Gumba 71.91 302 *e*P **P 03 09 08.4 -0.5**
comp=Z,36nm,0.8s
PALK Pallekele 72.03 280 *e*P **P 03 09 08.1 -1.4**
PALK pmax pmax
comp=Z,13nm,0.8s
PALK Pallekele 72.03 280 *e*P **P 03 09 08.1 -1.4**
comp=Z,13nm,0.8s
MIR Mirnyy 72.11 201 *i* P **P 03 09 09.5 +0.6**
MIR pmax pmax
comp=Z,4.0nm,1.0s
PKI Pulchoki 72.20 301 *e*P **P 03 09 09.6 -1.0**
PKIN Phulchoki 72.21 301 *e*P **P 03 09 09.7 -0.9**
RKT Rikitea 72.30 112 *e*S **S 03 18 31.0 -1.6**
comp=Z,133nm,26.5s
RKT *e*LQ LQ 03 28 25.5
comp=Z,315nm,40.0s
RKT *e*LR LR 03 31 38.2
comp=Z,492nm,30.8s
KKN Kakani 72.38 302 *e*P **P 03 09 11.0 -0.5**
DMN Daman 72.47 301 *e*P **P 03 09 11.8 -0.3**
comp=Z,46nm,1.0s
GKN Gorkha 72.98 302 *e*P **P 03 09 14.4 -0.6**
comp=Z,50nm,1.1s
KOLN Koldanda 73.80 301 *e*P **P 03 09 19.0 -0.9**
comp=Z,24nm,0.7s
PYUN Piuthan 74.41 301 *e*P **P 03 09 22.6 -0.9**
comp=Z,76nm,1.0s
BILL Bilibino 74.89 6 *e*P **P 03 09 24.4 -0.7**
BILL *i* 03 09 31.2
BILL pmax pmax
comp=Z,17nm,0.9s
HYB Hyderabad 75.88 290 *i* P **P 03 09 32.0 +0.1**
WMQ Urumqi 76.06 318 P **P 03 09 32.6 +0.1**
WMQ PcP **PcP 03 09 45.4 +0.8**
WMQ sP sP 03 09 56.5 +11
WMQ S **S 03 19 10.1 -4.0**
WMQ SS **SS 03 24 12.0 +4.3**
WMQ pmax pmax
comp=Z,12nm,0.7s
WMQ pmax pmax
comp=Z,120nm,5.1s
WMQ LR LR
comp=Z,190nm,16.9s
WMQ LR LR
comp=Z,180nm,16.1s
WMQ LR LR
comp=Z,190nm,24.1s
OHAK Old Harbor 77.41 27 *e*P **P 03 09 40.3 +0.7**
comp=Z,120nm,1.8s
KDAK Kodiak Island 78.04 27 LR LR 03 38 54.8
comp=Z,354nm,21.7s,baz=260,slow=32
KDAK Kodiak Island 78.04 27 *i* P **P 03 09 46.2 +3.1**
DGAR Diego Garcia 78.51 264 *e*P **P 03 09 46.3 -0.4**
SVW2 Sparrevohn 78.66 23 *e*P **P 03 09 48.8 +2.2**
comp=Z,59nm,1.6s
RSO Redoubt South 79.43 25 *e*P **P 03 09 52.2 +1.2**
CNPM China Poot 79.57 26 *e*P **P 03 09 51.9 +0.3**
comp=Z,65nm,0.9s
TT01 Tatalina 79.57 22 *e*P **P 03 09 52.0 +0.5**
TTA Tatalina 79.59 22 *e*P **P 03 09 52.1 +0.4**
TTA pmax pmax
comp=Z,69nm,1.8s
TTA Tatalina 79.59 22 *e*P **P 03 09 52.1 +0.4**
comp=Z,69nm,1.8s
BRLK Bradley Lake 79.84 26 *e*P **P 03 09 53.4 +0.3**
comp=Z,108nm,1.9s
SEW Seward 80.64 26 *e*P **P 03 09 57.3 0.0**
comp=Z,290nm,1.6s
MK01 Makanchi Array 80.67 319 *e*P **P 03 09 56.9 -1.0**
MK31 Makanchi Array 80.69 319 *e*P **P 03 09 57.9 -0.1**
MK31 Makanchi Array 80.69 319 *e*P **P 03 09 57.9 -0.1**
MKAR Makanchi Array 80.69 319 P **P 03 09 57.9 -0.7**
comp=Z,3.0nm,0.8s,baz=108,slow=5.8,SNR=20
MKAR Makanchi Array 80.69 319 *ce*P **P 03 09 57.9 -0.1**
MKAR pmax pmax
comp=Z,3.0nm,0.8s
MKAR Makanchi Array 80.69 319 *e*P **P 03 09 57.9 -0.1**
comp=Z,25nm,1.0s
SUA Susitna One 80.80 24 *e*P **P 03 09 57.9 -0.4**
SUA *e*PcP **PcP 03 10 03.8 -1.1**
MAKZ Makanchi 80.90 319 *e*P **P 03 09 58.9 -0.2**
MAKZ pmax pmax
comp=Z,8.0nm,1.0s
MAKZ Makanchi 80.90 319 *e*P **P 03 09 58.9 -0.2**
comp=Z,8.0nm,1.0s
PPLA Purkeypile 81.00 23 *e*P **P 03 10 00.8 +1.4**
comp=Z,63nm,1.6s
RC01 Rabbit Creek A 81.02 25 *e*P **P 03 09 59.0 -0.3**
comp=Z,120nm,1.9s
CAST Castle Rocks 81.33 22 *e*P **P 03 10 00.4 -0.6**
comp=Z,93nm,1.9s
PMR Palmer 81.53 25 *e*P **P 03 10 01.4 -0.6**
PMR pmax pmax
comp=Z,22nm,1.3s
PMR Palmer 81.53 25 *e*P **P 03 10 01.4 -0.6**
comp=Z,22nm,1.3s
ZAA0 Zalesovo Array 81.75 327 *e*P **P 03 10 02.2 -1.1**
ZALV Zalesovo Beam 81.75 327 P **P 03 10 02.0 -1.3**
comp=Z,7.1nm,0.6s,baz=112,slow=5.1,SNR=31
ZALV LR LR 03 48 09.5
comp=Z,128nm,19.0s,baz=70,slow=37
KTH Kantishna Hill 81.84 22 *e*P **P 03 10 02.6 -1.1**
comp=Z,54nm,1.7s
SML Sawmill 81.97 25 *e*P **P 03 10 03.3 -1.1**
SML pmax pmax
comp=Z,168nm,2.0s
SML Sawmill 81.97 25 *e*P **P 03 10 03.3 -1.1**
comp=Z,168nm,2.0s
TRF Thorofare Moun 82.03 23 *e*P **P 03 10 04.8 -0.1**
comp=Z,37nm,1.7s
GLI Glacier Island 82.04 26 *e*P **P 03 10 04.7 0.0**
comp=Z,85nm,1.6s
FID Port Fidalgo 82.24 26 *e*P **P 03 10 05.7 -0.1**
comp=Z,54nm,1.3s
SCM Sheep Creek Mo 82.39 25 *e*P **P 03 10 08.6 +1.9**
SCM pmax pmax
comp=Z,120nm,1.8s
SCM Sheep Creek Mo 82.39 25 *e*P **P 03 10 08.6 +1.9**
comp=Z,120nm,1.8s
RND Reindeer 82.56 23 *e*P **P 03 10 06.6 -0.9**
RND pmax pmax
comp=Z,94nm,1.8s
RND Reindeer 82.56 23 *e*P **P 03 10 06.6 -0.9**
comp=Z,94nm,1.8s
MCK McKinley 82.69 23 *e*P **P 03 10 07.3 -0.8**
MCK pmax pmax
comp=Z,35nm,1.0s
MCK McKinley 82.69 23 *e*P **P 03 10 07.3 -0.8**
comp=Z,35nm,1.0s
DIV Divide 82.72 26 *e*P **P 03 10 08.7 +0.3**
comp=Z,77nm,1.6s
KLU Klutina 82.83 25 *e*P **P 03 10 09.0 +0.1**
comp=Z,93nm,1.7s
DHY Denali Highway 82.98 24 *e*P **P 03 10 10.1 +0.3**
comp=Z,42nm,1.4s
KSH Kashi 83.03 311 *e*P **P 03 10 12.0 +1.5**
KSH pP sP 03 10 29.1 +5.5
KSH PP **PP 03 13 26.1 +4.4**
KSH S **S 03 20 22.9 -5.3**
KSH SS **SS 03 25 52.3 -0.2**
KSH pmax pmax
comp=Z,13nm,1.2s
KSH pmax pmax
comp=Z,140nm,4.5s
KSH LR LR
comp=Z,98nm,5.3s
KSH LR LR
comp=Z,54nm,4.8s
KSH LR LR
comp=Z,96nm,5.5s
BMRM Bremner River 83.16 26 *e*P **P 03 10 10.5 -0.2**

	comp=Z,75nm,1.6s									
WRH	**Wood River Hil**	**83.38**	**22**	*e*P		**P**	**03 10 10.6**	**-1.1**		
	comp=Z,58nm,1.8s									
MDM	**Murphy Dome**	**83.57**	**22**	*e*P		**P**	**03 10 12.1**	**-0.6**		
	comp=Z,36nm,1.5s									
CCB	**Clear Creek Bu**	**83.58**	**22**	*e*P		**P**	**03 10 11.4**	**-1.2**		
	comp=Z,41nm,1.6s									
QSPA	**South Pole Qui**	**83.67**	**180**	*e*P		**P**	**03 10 12.8**	**-0.5**		
	comp=Z,34nm,0.8s									
COLA	**College**	**83.67**	**22**	*e*P		**P**	**03 10 11.8**	**-1.3**		
COLA				pmax		pmax				
	comp=Z,26nm,1.0s									
COLA	**College**	**83.67**	**22**	*e*P		**P**	**03 10 11.8**	**-1.3**		
	comp=Z,26nm,1.0s									
PAX	**Paxson**	**83.69**	**24**	*e*P		**P**	**03 10 13.0**	**-0.4**		
PAX				pmax		pmax				
	comp=Z,31nm,1.7s									
PAX	**Paxson**	**83.69**	**24**	*e*P		**P**	**03 10 13.0**	**-0.4**		
	comp=Z,31nm,1.7s									
MAW	**Mawson**	**83.74**	**203**	P		**P**	**03 10 12.6**	**-0.9**		
	comp=Z,3.1nm,0.5s,baz=91,slow=6.7,SNR=14									
MAW				LR		LR	03 44 10.1			
	comp=Z,291nm,21.7s,baz=64,slow=33									
MAW	**Mawson**	**83.74**	**203**	P		**P**	**03 10 12.5**	**-0.9**		
	baz=84,SNR=8.1									
ILAR	**Eielson Array**	**83.98**	**22**	P		**P**	**03 10 13.2**	**-1.6**		
	comp=Z,6.1nm,0.6s,baz=247,slow=4.9,SNR=78									
ILAR				pP		**sP**	**03 10 29.6**	**+1.8**		
	comp=Z,9.5nm,0.9s,baz=255,slow=5.2,SNR=9.7									
ILAR				LR		LR	03 44 55.0			
	comp=Z,395nm,20.2s,baz=253,slow=34									
ILB	**Eielson Array**	**83.98**	**22**	*e*P		**P**	**03 10 13.2**	**-1.6**		
COLD	**Coldfoot**	**84.05**	**19**	*e*P		**P**	**03 10 14.9**	**-0.2**		
	comp=Z,51nm,1.9s									
KURK	**Kurchatov**	**84.23**	**322**	*e*P		**P**	**03 10 16.0**	**-0.3**		
KURK				pmax		pmax				
	comp=Z,39nm,0.3s									
KURK	**Kurchatov**	**84.23**	**322**	*e*P		**P**	**03 10 16.0**	**-0.3**		
	comp=Z,38nm,0.3s									
DOT	**Dot Lake**	**84.57**	**24**	*e*P		**P**	**03 10 17.0**	**-0.7**		
	comp=Z,128nm,1.6s									
FRU	**Bishkek**	**84.81**	**314**	*e*P		**P**	**03 10 20.0**	**+0.5**		
FRU				*e*			03 20 44.0			
FRU				pmax		pmax				
	comp=Z,130nm,2.8s									
AAK	**Ala-Archa**	**84.85**	**314**	*c i*P		**P**	**03 10 19.9**	**+0.1**		
AAK				pmax		pmax				
	comp=Z,24nm,0.8s									
AAK	**Ala-Archa**	**84.85**	**314**	*e*P		**P**	**03 10 19.6**	**-0.2**		
	comp=Z,10nm,0.8s									
TOLK	**Toolik Lake Re**	**85.00**	**18**	P		**P**	**03 10 20.5**	**+0.6**		
	baz=239									
EGAK	**Eagle**	**86.19**	**23**	*e*P		**P**	**03 10 26.1**	**+0.3**		
	comp=Z,66nm,1.7s									
DAWY	**Dawson**	**86.63**	**24**	*e*P		**P**	**03 10 28.3**	**+0.3**		
	comp=Z,40nm,1.3s									
NRIK	**Norilʹsk**	**87.00**	**341**	P		**P**	**03 10 28.1**	**-1.5**		
	comp=Z,11nm,0.8s,baz=144,slow=5.2,SNR=5.4									
NRIK				LR		LR	03 49 57.5			
	comp=Z,170nm,20.4s,baz=112,slow=36									
KBL	**Kabul**	**87.45**	**305**	*e*P		**P**	**03 10 31.9**	**-1.0**		
KBL				pmax		pmax				
	comp=Z,8.0nm,0.8s									
KBL	**Kabul**	**87.45**	**305**	*e*P		**P**	**03 10 31.9**	**-1.0**		
	comp=Z,8.1nm,0.8s									
WHY	**Whitehorse**	**87.47**	**28**	*e*P		**P**	**03 10 32.3**	**0.0**		
	comp=Z,58nm,1.9s									
KKAR	**Karatay Array**	**87.81**	**314**	*e*P		**P**	**03 10 33.2**	**-1.0**		
KKAR				pmax		pmax				
	comp=Z,5.0nm,0.8s									
KKAR	**Karatay Array**	**87.81**	**314**	*e*P		**P**	**03 10 33.1**	**-1.0**		
	comp=Z,4.6nm,0.8s									
DLBC	**Dease Lake**	**89.26**	**31**	*e*P		**P**	**03 10 40.4**	**-0.3**		
	comp=Z,24nm,1.4s									
BVAR	**Borovoye Array**	**89.74**	**323**	P		**P**	**03 10 41.9**	**-1.1**		
	comp=Z,7.2nm,0.8s,baz=101,slow=6.0,SNR=9.6									
BRVK	**Borovoye**	**89.81**	**323**	*e i*P		**P**	**03 10 42.0**	**-1.3**		
BRVK				pmax		pmax				
	comp=Z,15nm,1.0s									
BRVK	**Borovoye**	**89.81**	**323**	*e*P		**P**	**03 10 42.1**	**-1.2**		
	comp=Z,5.4nm,0.9s									
INK	**Inuvik**	**90.27**	**21**	*e*P		**P**	**03 10 44.6**	**-0.5**		
INK	**Inuvik**	**90.27**	**21**	*e*P		**P**	**03 10 44.6**	**-0.5**		
M02C	**Callahan**	**90.77**	**49**	P		**P**	**03 10 49.1**	**+0.9**		
	baz=262									
N02D	**Trinity Center**	**90.83**	**49**	P		**P**	**03 10 49.1**	**+0.6**		
	baz=262									
HUMO	**Hull Mountain**	**90.86**	**47**	*e*P		**P**	**03 10 49.4**	**+0.9**		
	comp=Z,17nm,1.4s									
YBH	**Yreka Blue Hor**	**90.92**	**48**	*e*P		**P**	**03 10 48.4**	**-0.5**		
YBH				pmax		pmax				
	comp=Z,17nm,1.6s									
YBH	**Yreka Blue Hor**	**90.92**	**48**	*e*P		**P**	**03 10 48.4**	**-0.5**		
	comp=Z,17nm,1.6s									
I04A	**Tendick Farm,**	**91.41**	**46**	P		**P**	**03 10 50.9**	**-0.2**		
	baz=263									
SYO	**Syowa Base**	**91.87**	**200**	*e*P		**P**	**03 10 50.4**	**-2.2**		
AFDM	**Forest Hills D**	**91.90**	**51**	*e*P		**P**	**03 10 54.4**	**+0.9**		
	comp=Z,13nm,1.5s									
J05D	**Fort Rock, OR**	**92.19**	**47**	P		**P**	**03 10 55.4**	**+0.5**		
	baz=264									
I05D	**Terrebonne, OR**	**92.24**	**46**	P		**P**	**03 10 55.0**	**+0.1**		
	baz=263									
K05A	**Summer Lake**	**92.38**	**47**	*e*P		**P**	**03 10 56.6**	**+0.8**		
	comp=Z,40nm,1.7s									
BEKR	**Beckworth**	**92.47**	**50**	*e*P		**P**	**03 10 56.7**	**+0.4**		
	comp=Z,17nm,1.7s									
PNTR	**Pine Nut**	**92.98**	**51**	*e*P		**P**	**03 10 59.6**	**+1.0**		
	comp=Z,7.5nm,1.0s									
WAKR	**Walker**	**93.05**	**52**	*e*P		**P**	**03 11 00.2**	**+1.2**		
	comp=Z,7.2nm,1.2s									
PAHR	**Pah Rah Range**	**93.20**	**51**	*e*P		**P**	**03 11 00.2**	**+0.6**		
	comp=Z,4.0nm,1.0s									
CWC	**Cottonwood Cre**	**93.94**	**54**	P		**P**	**03 11 03.2**	**+0.1**		
	baz=265									
MPMC	**Manual Prospec**	**94.38**	**54**	P		**P**	**03 11 05.7**	**+0.5**		
	baz=265									
FURC	**Furnace Creek,**	**94.92**	**54**	P		**P**	**03 11 08.1**	**+0.8**		
	baz=266									
MONP	**Monument Peak,**	**95.02**	**58**	P		**P**	**03 11 09.1**	**+1.0**		
	baz=266									
BMO	**Blue Mountains**	**95.16**	**46**	*e*P		**P**	**03 11 07.8**	**-0.6**		
BMO				pmax		pmax				
	comp=Z,12nm,1.4s									
BMO	**Blue Mountains**	**95.16**	**46**	*e*P		**P**	**03 11 07.8**	**-0.6**		
	comp=Z,12nm,1.4s									
SHOC	**Shoshone, Teco**	**95.35**	**55**	P		**P**	**03 11 10.6**	**+1.2**		
	baz=266									
TPNV	**Topopah Spring**	**95.44**	**54**	P		**P**	**03 11 10.6**	**+0.6**		
	baz=266									
TPNV	**Topopah Spring**	**95.44**	**54**	*e*P		**P**	**03 11 10.8**	**+0.8**		
TPNV				pmax		pmax				
	comp=Z,20nm,1.9s									
TPNV	**Topopah Spring**	**95.44**	**54**	*e*P		**P**	**03 11 10.8**	**+0.8**		
	comp=Z,20nm,1.9s									
ABKAR	**Akbulak array**	**95.83**	**319**	*e*P		**P**	**03 11 08.4**	**-2.8**		
	comp=Z,2.2nm,0.8s									
R11A	**Troy Canyon, C**	**96.05**	**52**	P		**P**	**03 11 13.2**	**+0.4**		
	baz=267									
R11A	**Troy Canyon, C**	**96.05**	**52**	*e*P		**P**	**03 11 13.5**	**+0.8**		
IRM	**Iron Mountain**	**96.17**	**56**	P		**P**	**03 11 13.9**	**+0.8**		
	baz=267									
SHPR	**Sheep Range**	**96.29**	**54**	*e*P		**P**	**03 11 14.8**	**+0.9**		
	comp=Z,14nm,1.7s									
GEYT	**Alibeck**	**96.59**	**307**	P		**P**	**03 11 13.8**	**-1.3**		
	comp=Z,2.8nm,0.7s,baz=117,slow=4.1,SNR=8.3									
ARU	**Arti**	**96.90**	**326**	*d i*P		**P**	**03 11 13.6**	**-2.3**		
ARU							03 15 10.8			
ARU				S		**SKSac**	**03 21 45.3**	**-5.4**		
ARU				SP		**SP**	**03 23 53.6**	**-3.1**		
ARU				SS		**SS**	**03 29 04.8**	**-7.4**		
ARU				pmax		pmax				
	comp=Z,10.0nm,1.7s									
ARU				MLR		MLR				
	comp=Z,341nm,25.0s									
ARU	**Arti**	**96.90**	**326**	*e*P		**P**	**03 11 13.6**	**-2.3**		
	comp=Z,3.7nm,0.7s									
AKTO	**Aktyubinsk**	**97.11**	**320**	P		**P**	**03 11 14.6**	**-2.4**		
	comp=Z,0.6nm,0.4s,baz=108,slow=3.2,SNR=3.5									
YKA	**Yellowknife Ar**	**97.29**	**28**	LR		LR	03 49 22.1			
	comp=Z,44nm,21.8s,baz=180,slow=32									
LCMT	**Little Creek M**	**97.85**	**54**	*e*P		Pdif	03 11 22.2	+1.3		
U15A	**North Rim**	**98.59**	**54**	*e*P		Pdif	03 11 25.2	+0.8		
PDAR	**Pinedale Array**	**100.72**	**48**	P		**Pdif**	**03 11 32.1**	**-1.6**		
	comp=Z,0.8nm,0.8s,baz=186,slow=1.5,SNR=7.4									
TXAR	**Lajitas Array**	**105.88**	**61**	PKKPbc		PKKPbc	03 27 30.4	-2.3		
	comp=Z,0.3nm,0.8s,baz=117,slow=4.4,SNR=3.5									
TXAR				PKKPab		**PKKPab**	**03 27 48.3**	**-0.5**		
	comp=Z,0.5nm,0.8s,baz=100,slow=5.8,SNR=6.6									
APA	**Apatity**	**106.33**	**339**	*i*P		**Pdif**	**03 12 00.9**	**+3.2**		
APA				MLR		MLR				
	comp=Z,300nm,14.0s									
AKASG	**Malin Array Be**	**115.02**	**324**	PKKPbc		PKKPbc	03 27 00.4	-3.2		
	comp=Z,0.8nm,0.6s,baz=268,slow=3.4,SNR=4.7									
BOSA	**Boshof**	**117.79**	**233**	PKP		**PKPdf**	**03 16 31.1**	**-0.8**		
	comp=Z,2.8nm,0.9s,baz=314,slow=8.8,SNR=3.4									
NB2	**NORSAR Subarra**	**117.91**	**339**	PKPdf		**PKPdf**	**03 16 30.2**	**-0.9**		
	comp=Z,1.8nm,1.0s,baz=44,slow=1.9									
NOA	**NORSAR Array B**	**117.91**	**339**	PKP		**PKPdf**	**03 16 29.7**	**-1.4**		
	comp=Z,1.1nm,0.8s,baz=52,slow=1.6,SNR=4.6									
WCI	**Wyandotte Cave**	**118.88**	**50**	*e*PKIKP		**PKPdf**	**03 16 32.7**	**-1.0**		
WCI	**Wyandotte Cave**	**118.88**	**50**	*e*PKPdf		**PKPdf**	**03 16 32.7**	**-1.0**		
LSZ	**Lusaka**	**120.00**	**248**	*e*PKIKP		**PKPdf**	**03 16 36.0**	**-0.6**		
LSZ	**Lusaka**	**120.00**	**248**	*e*PKPdf		**PKPdf**	**03 16 36.0**	**-0.6**		
STHS	**Stebnicka Huta**	**120.21**	**325**	*e*PKIKP		**PKPdf**	**03 16 37.0**	**+1.1**		
STHS	**Stebnicka Huta**	**120.21**	**325**	*e*PKP		**PKPdf**	**03 16 37.0**	**+1.1**		
KECS	**Kecovo**	**121.10**	**324**	*e*PKIKP		**PKPdf**	**03 16 41.4**	**+3.8**		
KECS	**Kecovo**	**121.10**	**324**	*e*PKP		**PKPdf**	**03 16 41.4**	**+3.8**		
PSZ	**Piszkesteto**	**121.72**	**324**	*e*PKIKP		**PKPdf**	**03 16 38.9**	**0.0**		
PSZ	**Piszkesteto**	**121.72**	**324**	*e*PKPdf		**PKPdf**	**03 16 38.9**	**0.0**		
VYHS	**Vyhne**	**122.05**	**325**	*e*PKIKP		**PKPdf**	**03 16 39.0**	**-0.4**		
VYHS	**Vyhne**	**122.05**	**325**	*e*PKP		**PKPdf**	**03 16 39.0**	**-0.4**		
MORC	**Moravsky Berou**	**122.10**	**327**	*e*PKIKP		**PKPdf**	**03 16 38.2**	**-1.3**		
MORC	**Moravsky Berou**	**122.10**	**327**	*e*PKPdf		**PKPdf**	**03 16 38.2**	**-1.3**		
DPC	**Dobruska-Polom**	**122.44**	**328**	*e*PKPdf		**PKPdf**	**03 16 39.9**	**-0.2**		
DPC				AMS		AMS	04 10 40.0			
	comp=Z,200nm,21.9s									
DPC	**Dobruska-Polom**	**122.44**	**328**	*e*PKIKP		**PKPdf**	**03 16 39.9**	**-0.2**		
DPC				MLR		MLR				
	comp=Z,200nm,21.9s									
UPC	**Upice**	**122.51**	**328**	AMS		AMS	04 10 00.0			
	comp=Z,200nm,21.8s									
PVCC	**Panska Ves**	**123.25**	**329**	AMS		AMS	04 11 40.0			
	comp=Z,100nm,16.8s									
BRG	**Berggiesshubel**	**123.37**	**329**	*e*PKP		**PKPdf**	**03 16 41.1**	**-0.7**		
	comp=Z,4.3nm,0.8s									
BRG	**Berggiesshubel**	**123.37**	**329**	*e*PKIKP		**PKPdf**	**03 16 41.1**	**-0.7**		
BRG				pmax		pmax				
	comp=Z,4.0nm,0.8s									
TREC	**Trest**	**123.48**	**327**	*e*PKPdf		**PKPdf**	**03 16 41.6**	**-0.6**		
TREC				AMS		AMS	04 12 50.0			
	comp=Z,200nm,16.9s									
TREC	**Trest**	**123.48**	**327**	*e*PKIKP		**PKPdf**	**03 16 41.6**	**-0.6**		
TREC				MLR		MLR				
	comp=Z,200nm,16.9s									
GOPC	**GO Pecny, Ondr**	**123.50**	**328**	AMS		AMS	04 10 50.0			
	comp=Z,300nm,22.6s									
CLL	**Collm**	**123.58**	**330**	*i* PKIKP		**PKPdf**	**03 16 41.4**	**-0.8**		
CLL				pmax		pmax				
	comp=Z,3.0nm,0.8s									
CLL				MLR		MLR				
	comp=Z,200nm,21.3s									
CLL	**Collm**	**123.58**	**330**	*i* PKPdf		**PKPdf**	**03 16 41.4**	**-0.8**		
	comp=Z,6.0nm,0.8s									
CLL				*e*PP		**PP**	**03 18 27.0**	**+3.2**		
CLL				*e*SP		SP	03 28 14.0	-2.9		
CLL				*e*SS		**SS**	**03 35 13.0**	**+4.0**		
CLL				*e*SSS		SSS	03 39 42.0			
CLL				*e*SSSS			03 43 36.0			
CLL				LmV			04 12 00.0			
	comp=Z,200nm,21.3s									
PRU	**Pruhonice**	**123.59**	**328**	*e*PKPdf		**PKPdf**	**03 16 41.8**	**-0.5**		
PRU				AMS		AMS	04 11 30.0			
	comp=Z,200nm,15.7s									
PRU	**Pruhonice**	**123.59**	**328**	*e*PKIKP		**PKPdf**	**03 16 41.8**	**-0.5**		
PRU				MLR		MLR				
	comp=Z,200nm,15.7s									
CONA	**Conrad Observa**	**124.03**	**326**	*i* PKiKP		**PKPdf**	**03 16 42.5**	**-0.8**		
	comp=Z,2.4nm,0.9s									
KHC	**Kasperske Hory**	**124.60**	**328**	*e*PKPdf		**PKPdf**	**03 16 42.8**	**-1.5**		
KHC				AMS		AMS	04 09 20.0			
	comp=Z,200nm,16.8s									
KHC	**Kasperske Hory**	**124.60**	**328**	*e*PKIKP		**PKPdf**	**03 16 42.8**	**-1.5**		
KHC				MLR		MLR				
	comp=Z,200nm,16.8s									
KHC	**Kasperske Hory**	**124.60**	**328**	*e*PKPdf		**PKPdf**	**03 16 43.0**	**-1.3**		
GERES	**GERESS Array B**	**124.70**	**327**	PKP		**PKPdf**	**03 16 43.7**	**-0.9**		
	comp=Z,2.0nm,0.7s,baz=70,slow=1.6,SNR=28									
PERS	**Pernice**	**125.17**	**325**	*i* PKPdf		**PKPdf**	**03 16 44.6**	**-0.9**		
SOKA	**Soboth**	**125.19**	**325**	*i* PKiKP		**PKPdf**	**03 16 44.4**	**-1.2**		
	comp=Z,3.2nm,1.0s									
BOJS	**Bojanci**	**125.70**	**323**	*e*PKPdf		**PKPdf**	**03 16 46.3**	**-0.2**		
VISS	**Visnje**	**125.78**	**324**	*i* PKPdf		**PKPdf**	**03 16 46.2**	**-0.4**		
KBA	**Koelnbreinsper**	**125.92**	**326**	*i* PKiKP		**PKPdf**	**03 16 46.1**	**-1.0**		
	comp=Z,1.8nm,0.7s									
JAVS	**Javornik**	**126.19**	**324**	*i* PKPdf		**PKPdf**	**03 16 47.0**	**-0.6**		
LCO	**Las Campanas**	**126.23**	**133**	*e*PKPdf		**PKPdf**	**03 16 47.8**	**-0.6**		
ABTA	**Abfaltersbach**	**126.58**	**326**	*i* PKiKP		**PKPdf**	**03 16 47.0**	**-1.3**		
	comp=Z,6.1nm,1.0s									
WTTA	**Wattenberg**	**126.75**	**327**	*i* PKiKP		**PKPdf**	**03 16 48.1**	**-0.6**		
	comp=Z,5.8nm,1.1s									
MOTA	**Moosalm**	**126.99**	**327**	*i* PKiKP		**PKPdf**	**03 16 48.1**	**-1.0**		
	comp=Z,6.1nm,0.8s									
STU	**Stuttgart**	**127.09**	**330**	*e*PKIKP		**PKPdf**	**03 16 48.5**	**-0.6**		
STU	**Stuttgart**	**127.09**	**330**	*e*PKPdf		**PKPdf**	**03 16 48.5**	**-0.6**		
RETA	**Reutte**	**127.09**	**328**	*i* PKiKP		**PKPdf**	**03 16 48.4**	**-0.8**		
	comp=Z,3.2nm,1.0s									
MEM	**Membach**	**127.36**	**333**	PKP		**PKPdf**	**03 16 49.2**	**-0.2**		
BEBN	**Eben Emael**	**127.37**	**333**	PKP		**PKPdf**	**03 16 48.5**	**-0.9**		
FETA	**Feichten**	**127.39**	**327**	*i* PKiKP		**PKPdf**	**03 16 49.4**	**-0.5**		
	comp=Z,6.8nm,0.9s									
DAVA	**Damuels**	**127.68**	**328**	*i* PKiKP		**PKPdf**	**03 16 49.7**	**-0.7**		
	comp=Z,4.6nm,0.9s									
BCLA	**Clavier**	**127.81**	**333**	PKP		**PKPdf**	**03 16 50.5**	**+0.2**		
WLF	**Walferdange**	**127.95**	**332**	PKP		**PKPdf**	**03 16 50.9**	**+0.3**		
WLF	**Walferdange**	**127.95**	**332**	*e*PKIKP		**PKPdf**	**03 16 50.2**	**-0.5**		
WLF	**Walferdange**	**127.95**	**332**	*e*PKPdf		**PKPdf**	**03 16 50.2**	**-0.5**		
BNI	**Bardonecchia**	**130.82**	**327**	*e*PKIKP		**PKPdf**	**03 16 56.2**	**-0.3**		
BNI	**Bardonecchia**	**130.82**	**327**	*e*PKPdf		**PKPdf**	**03 16 56.2**	**-0.3**		
KEST	**Kesra**	**134.68**	**316**	PKP		**PKPdf**	**03 17 03.5**	**-0.4**		
	comp=Z,1.8nm,0.8s,baz=169,slow=5.2,SNR=3.4									
LPAZ	**La Paz**	**134.71**	**120**	PKP		**PKPdf**	**03 17 04.0**	**-1.2**		
	comp=Z,2.6nm,0.8s,baz=265,slow=4.6,SNR=6.9									
ESDC	**Sonseca Array**	**140.17**	**330**	PKhKP		PKPpre	03 17 06.3			
	comp=Z,0.4nm,0.8s,baz=24,slow=3.9,SNR=3.1									
SAML	**Samuel**	**142.14**	**113**	*e*PKPdf		**PKPdf**	**03 17 17.7**	**-0.4**		
TAM	**Tamanrasset**	**143.46**	**300**	*e*PKIKP		PKPbc	03 17 17.5	-0.1		
TAM	**Tamanrasset**	**143.46**	**300**	*e*PKPdf		PKPbc	03 17 17.5	-0.1		
SPB	**Sao Paulo**	**144.94**	**149**	*e*PKPdf		**PKPab**	**03 17 21.2**	**-0.7**		
TORD	**Torodi Ar. Bea**	**149.61**	**285**	PKPbc		**PKPbc**	**03 17 33.8**	**-1.5**		
	comp=Z,1.1nm,0.8s,baz=63,slow=1.6,SNR=50									
KIC	**Kosan Boka**	**156.51**	**271**	*e*P		**PKPab**	**03 18 08.7**	**-0.9**		
	comp=Z,17nm,0.8s									
DBIC	**Dimbokro**	**156.63**	**272**	PKPab		**PKPab**	**03 18 09.3**	**-0.8**		
	comp=Z,6.7nm,0.8s,baz=91,slow=5.3,SNR=8.7									
TIC	**Toumodi**	**156.79**	**272**	*e*P		**PKPab**	**03 18 10.1**	**-0.8**		
LIC	**Lamto**	**156.79**	**271**	*e*P		**PKPab**	**03 18 10.6**	**-0.2**		
	comp=Z,26nm,0.9s									

*ISCJB **24** 03:08:34.4±0.7, 38°.33N±0°.03×19°.58E±0°.03, h17^{km}±5^{km}, Error ellipse: s-maj=6.4km s-min=3.0km az=35.7*
*THE **24** 03:08:34.9, 38°.33N×19°.69E, h0^{km}±2^{km}, ML3.0/4, Error ellipse: s-maj=2.6km s-min=1.1km az=245.0*
*ATH **24** 03:08:34.9, 38°.40N×19°.71E, h21^{km}±1^{km}, ML2.7/19, Error ellipse: s-maj=2.2km s-min=1.1km az=239.0*
*CSEM **24** 03:08:35.1±0.2, 38°.35N×19°.71E, h5^{km}, ML2.7, Error ellipse: s-maj=5.3km s-min=2.2km az=36.0*

ISC 24 03:08:34.4±1.4, 38°.36N±0°.04×19°.66E±0°.04, h6^{km}±10^{km}, n122, σ1^{s}03/181, 1C-2D, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VLS	**Valsamata**	**0.75**	**104**	P	**Pg**	**03 08 48.0**	**-0.8**
VLS	**Valsamata**	**0.75**	**104**	P	**Pg**	**03 08 48.0**	**-0.8**
VLS				S	**Sg**	**03 08 57.6**	**-1.0**
VLS	**Valsamata**	**0.75**	**104**	P	**Pg**	**03 08 48.0**	**-0.8**
VLS				S	**Sg**	**03 08 57.6**	**-1.0**
VLS				AML	AML	03 09 02.6	
	comp=N,2763μm,0.3s						
VLS				AML	AML	03 09 05.0	
	comp=E,1822μm,0.3s						
LKD2	**Lefkada island**	**0.89**	**61**	P	**Pg**	**03 08 51.1**	**-0.4**
LKD2				S	**Sb**	**03 09 04.7**	**+0.3**
LKD2	**Lefkada island**	**0.89**	**61**	P	**Pg**	**03 08 51.7**	**+0.2**
LKD2				S	**Sg**	**03 09 03.5**	**+0.5**
LKD2	**Lefkada island**	**0.89**	**61**	P	**Pg**	**03 08 51.7**	**+0.2**
LKD2				S	**Sg**	**03 09 03.5**	**+0.5**
LKD2				AML	AML	03 09 05.1	
	comp=E,2079μm,0.3s						
LKD2				AML	AML	03 09 05.8	
	comp=N,1351μm,0.2s						
KFL	**Anninata**	**0.92**	**105**	P	**Pg**	**03 08 51.2**	**-0.8**
KFL				S	**Sb**	**03 09 05.5**	**+0.2**
KFL	**Anninata**	**0.92**	**105**	P	**Pg**	**03 08 51.5**	**-0.6**
KFL				S	**Sb**	**03 09 05.5**	**+0.2**
KFL	**Anninata**	**0.92**	**105**	P	**Pg**	**03 08 51.5**	**-0.6**
KFL				S	**Sb**	**03 09 06.1**	**+0.8**
VTN	**Vitineika**	**1.28**	**110**	P	**Pg**	**03 08 58.3**	**-0.6**
VTN				S	**Sn**	**03 09 16.9**	**+0.6**
VTN	**Vitineika**	**1.28**	**110**	P	**Pg**	**03 08 58.3**	**-0.6**
VTN				S	**Sn**	**03 09 16.9**	**+0.6**
KEK	**Kerkira**	**1.35**	**4**	P	**Pn**	**03 09 00.5**	**+0.7**
KEK	**Kerkira**	**1.35**	**4**	P	**Pn**	**03 09 00.6**	**+0.7**
KEK				S	**Sb**	**03 09 17.2**	**-0.6**
KEK	**Kerkira**	**1.35**	**4**	P	**Pn**	**03 08 59.3**	**-0.6**
KEK				S	**Sb**	**03 09 17.2**	**-0.6**
KEK				AML	AML	03 09 28.9	
	comp=N,350μm,0.4s						
KEK				AML	AML	03 09 29.8	
	comp=E,416μm,0.3s						
AXS	**Araxos**	**1.36**	**96**	P	**Pb**	**03 09 00.2**	**0.0**
AXS				S	**Sn**	**03 09 19.2**	**+1.0**
AXS	**Araxos**	**1.36**	**96**	P	**Pb**	**03 09 00.2**	**0.0**
AXS				S	**Sn**	**03 09 19.2**	**+1.0**
AXS	**Araxos**	**1.36**	**96**	P	**Pg**	**03 09 00.8**	**+0.4**
AXS				S	**Sn**	**03 09 19.4**	**+1.2**
RLS	**Riolos of Patr**	**1.45**	**101**	P	**Pb**	**03 09 01.8**	**0.0**
RLS				S	**Sg**	**03 09 21.9**	**+0.9**
RLS	**Riolos of Patr**	**1.45**	**101**	P	**Pb**	**03 09 01.8**	**0.0**
RLS				S	**Sb**	**03 09 20.0**	**-0.6**
RLS	**Riolos of Patr**	**1.45**	**101**	P	**Pg**	**03 09 02.0**	**-0.2**
RLS				S	**Sb**	**03 09 20.0**	**-0.6**
RLS				AML	AML	03 09 29.1	
	comp=E,374μm,0.6s						
RLS				AML	AML	03 09 30.2	
	comp=N,450μm,0.4s						
PVO	**Paravola**	**1.48**	**79**	P	**Pb**	**03 09 02.3**	**-0.1**
PVO				S	**Sg**	**03 09 22.8**	**+0.7**
PVO	**Paravola**	**1.48**	**79**	P	**Pb**	**03 09 02.3**	**-0.1**
PVO				S	**Sg**	**03 09 22.8**	**+0.7**
PVO	**Paravola**	**1.48**	**79**	P	**Pb**	**03 09 02.4**	**0.0**
PVO				S	**Sb**	**03 09 20.3**	**-1.1**
PVO			

VLX	Vlachokerasia	2.37	114	P		Pn	03 09 13.8	-0.1
PROD	Prodromos	2.55	91	P		Pn	03 09 16.1	-0.2
PROD				S		Sn	03 09 46.3	-1.3
PROD	Prodromos	2.55	91	P		Pn	03 09 16.1	-0.2
PROD				S		Sn	03 09 46.4	-1.3
PROD	comp=E,179μm,0.3s			AML	AML		03 09 56.7	
PROD	comp=N,104μm,0.3s			AML	AML		03 10 01.0	
LTK	Loutraki	2.62	96	P		Pn	03 09 17.0	-0.4
LTK	Loutraki	2.62	96	P		Pn	03 09 17.0	-0.4
LKR	Lokris	2.63	83	P		Pn	03 09 18.2	+0.8
LKR	Lokris	2.63	83	P		Pn	03 09 18.2	+0.8
LKR	Lokris	2.63	83	P		Pn	03 09 18.1	+0.6
FNA	Florina	2.76	28	P		Pn	03 09 20.1	+0.9
FNA	Florina	2.76	28	P		Pn	03 09 20.1	+0.9
LIT	Litokhoron	2.80	51	P		Pn	03 09 20.8	+1.0
LIT	Litokhoron	2.80	51	P		Pn	03 09 20.8	+1.0
VIL2	Platees	2.84	92	P		Pn	03 09 20.3	0.0
VIL2				S		Sn	03 09 54.4	-0.5
VIL2	comp=N,80μm,0.6s			AML	AML		03 10 10.2	
VIL2	comp=E,68μm,0.5s			AML	AML		03 10 11.5	
VILL	Villia	2.88	93	P		Pn	03 09 20.3	-0.6
VILL				S		Sn	03 09 54.4	-1.5
OHR	Ohrid	2.88	17	*i* Pn		Pn	03 09 22.8	+1.8
OHR				*e*Sn		Sn	03 09 57.6	+1.5
OHR	Ohrid	2.88	17	*i* Pn		Pn	03 09 22.7	+1.8
OHR				*e*Sn		Sn	03 09 57.5	+1.5
XOR	Xorichti	2.93	69	P		Pn	03 09 21.8	+0.2
XOR	Xorichti	2.93	69	P		Pn	03 09 21.8	+0.2
NEO	Neokhori	2.94	70	P		Pn	03 09 21.9	+0.2
NEO	Neokhori	2.94	70	P		Pn	03 09 21.9	+0.2
BIA	Bitola	2.95	25	*i* Pn		Pn	03 09 23.1	+1.2
BIA				*e*Sn		Sn	03 09 59.0	+1.4
BIA	Bitola	2.95	25	*i* Pn		Pn	03 09 23.0	+1.2
BIA				*e*Sn		Sn	03 09 59.0	+1.4
DID	Didima	2.95	106	P		Pn	03 09 22.0	+0.1
DID	Didima	2.95	106	P		Pn	03 09 22.0	+0.1
DID				S		Sn	03 09 56.8	-0.8
DID	Didima	2.95	106	P		Pn	03 09 21.5	-0.3
DID				S		Sn	03 09 56.9	-0.8
DID	comp=E,91μm,0.7s			AML	AML		03 10 05.7	
DID	comp=N,87μm,0.5s			AML	AML		03 10 06.1	
SG1	Sgolgore (BA)	3.38	318	*e*Pn		Pn	03 09 30.8	+3.0
BAI	Bari	3.48	323	*e*Pn		Pn	03 09 31.1	+2.0
CDT	Castel del Mon	3.77	317	*e*Pn		Pn	03 09 35.9	+2.8
BARS	Barje	4.74	20	⇓*i* Pn		Pn	03 09 46.0	-0.5
STON	Ston	4.75	342	*e*Pn		Pn	03 09 46.8	+0.2
STON				Sn		Sn	03 10 37.4	-4.4
STON	Ston	4.75	342	*e*Pn		Pn	03 09 46.7	+0.2
SJES	Sjenica	4.90	3	⇑*i* Pn		Pn	03 09 49.6	+0.9
IVAS	Ivanjica	5.22	4	*e*Pn		Pn	03 09 52.5	-0.6
GRUS	Gruza	5.58	8	*e*Pn		Pn	03 09 58.1	+0.2
DIVS	Divibare	5.74	2	⇓*i* Pn		Pn	03 10 00.3	+0.1
UDBI	Udbina	6.82	336	*e*Pn		Pn	03 10 17.1	+2.1
UDBI				Sn		Sn	03 11 30.7	-2.3
UDBI	Udbina	6.82	336	*e*Pn		Pn	03 10 17.1	+2.1
NVLJ	Novalja	7.17	331	*e*Pn		Pn	03 10 20.9	+1.1
NVLJ				Sn		Sn	03 11 36.7	-4.7
NVLJ	Novalja	7.17	331	*e*Pn		Pn	03 10 20.8	+1.1
BOJS	Bojanci	7.86	337	*i* Pn		Pn	03 10 30.4	+1.3
BOJS	Bojanci	7.86	337	*i* Pn		Pn	03 10 30.5	+1.3
OZLJ	Ozalj	7.89	338	*i* Pn		Pn	03 10 31.1	+1.5
SKDS	Skadanscina	8.32	331	*i* Pn		Pn	03 10 36.1	+0.6
SKDS	Skadanscina	8.32	331	*i* Pn		Pn	03 10 36.2	+0.6
OBKA	Obir	8.98	337	*i* Pn		Pn	03 10 45.1	+0.5
OBKA	comp=N,1.2nm,0.3s Obir	8.98	337	Pn		Pn	03 10 45.1	+0.5
SOKA	comp=N,1.2nm,0.3s Soboth	8.99	339	*i* Pn		Pn	03 10 45.0	+0.2
SOKA	comp=N,1.8nm,0.4s Soboth	8.99	339	Pn		Pn	03 10 45.0	+0.2
ARSA	comp=N,1.8nm,0.4s Arzberg	9.39	342	*i* Pn		Pn	03 10 51.7	+1.5
ARSA	comp=N,1.2nm,0.4s Arzberg	9.39	342	Pn		Pn	03 10 51.7	+1.5
MOA	comp=N,1.2nm,0.4s Molln	10.27	339	*i* Pn		Pn	03 11 04.2	+1.9
MOA	Molln	10.27	339	Pn		Pn	03 11 04.2	+1.9

*IDC **24** 03:13:53.7±1.0,0.°52N×125.°24E,h0km,mb3.9/8, mb1 4.0/8,mb1mx3.8/41,mbtmp3.9/8,Error ellipse: s-maj=162.7km s-min=15.9km az=66.0*
*NEIC **24** 03:13:58.9±0.5,0.°49N×125.°27E,h35km,mb4.1/3,Error ellipse: s-maj=45.7km s-min=9.3km az=63.0*
*ISCJB **24** 03:14:00.9±0.6,0.°5N±0.°2×125.°3E±0.°3,h73km,mb3.8/11, Error ellipse: s-maj=55.4km s-min=11.1km az=152.8*

ISC 24 03:14:02.8±0.8,0.°5N±0.°2×125.°3E±0.°4,h73km,n12, σ1§02/13,mb3.9/11,Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
WRAB	Tennant Creek	22.15	157	*e*P		P	P	03 18 51.6	-1.3
	5.0nm,0.8s								
WRA	Warramunga Arr	22.16	157	P		P	P	03 18 51.5	-1.5
	2.5nm,0.6s,baz=337,slow=11,SNR=24								
ASAR	Alice Springs	25.43	161	P		P	P	03 19 24.1	+0.2
	1.4nm,0.5s,baz=342,slow=8.1,SNR=37								
ASAR				PcP		PcP	PcP	03 22 55.1	+0.6
	0.3nm,0.6s,baz=343,slow=3.1,SNR=4.6								
STKA	Stephens Creek	35.70	156	P		P	P	03 20 54.1	-0.3
	1.2nm,0.6s,baz=316,slow=9.4,SNR=3.3								
DZM	Mont Dzumac	45.95	122	*e*P		P	P	03 22 19.3	+0.3
	3.3nm,0.3s								
SONM	Songino Array	49.93	343	P		P	P	03 22 49.2	-0.1
	0.4nm,0.5s,baz=160,slow=8.9,SNR=3.2								
MKAR	Makanchi Array	59.43	327	P		P	P	03 23 57.0	-1.0
	0.7nm,0.7s,baz=128,slow=8.2,SNR=5.5								
KURBB	Kurchatov Arra	63.71	329	P		P	P	03 24 26.1	-0.6
	1.5nm,0.8s,baz=126,slow=6.2,SNR=7.9								
KURK	Kurchatov	63.72	329	*e*P		P	P	03 24 26.4	-0.4
BVAR	Borovoye Array	69.27	328	P		P	P	03 25 03.9	+1.8
	0.6nm,0.5s,baz=126,slow=7.3,SNR=4.7								
ABKAR	Akbulak array	73.76	322	*e*P		P	P	03 25 29.1	-0.1
	0.5nm,0.5s								
VNDA	Vanda	80.42	172	P		P	P	03 26 07.2	+1.2
	0.6nm,0.7s,baz=333,slow=6.9,SNR=3.9								

*IDC **24** 03:15:48.9±6.3,38.°15N×74.°35E,h152km±51km,mb3.3/4, mb1 3.3/9,mb1mx3.0/51,mbtmp3.7/9, Error ellipse: s-maj=63.6km s-min=26.9km az=39.0*
*ISCJB **24** 03:15:49.4±1.0,38.°24N±0.°06×74.°20E±0.°08,h150km, mb3.4/4,Error ellipse: s-maj=9.5km s-min=7.7km az=145.7*
*KRNET **24** 03:15:49.5±0.1,38.°43N×74.°14E,mb3.5*
*NNC **24** 03:15:57.1±6.2,39.°04N×74.°12E,h271km±76km,mb1.9, mpv3.2,Error ellipse: s-maj=77.7km s-min=41.1km az=3.0*

ISC 24 03:15:49.3±1.3,38.°27N±0.°10×74.°13E±0.°07,h150km,n22, σ2§33/36,mb3.5/4,22C-4D,Tajikistan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
BTK	Batken	3.13	306	⇑*i*P			Pn	03 16 41.1	+2.6
BTK	baz=303			⇑*i*S			Sn	03 17 19.7	+3.2
ARSB	baz=303 Arslanbob	3.18	344	⇑*e*P			Pn	03 16 41.3	+2.2
ARSB	baz=343			⇑*i*S			Sn	03 17 18.8	+1.2
NRN	baz=343 Naryn	3.48	24	⇑*e*P			Pn	03 16 44.5	+1.4
NRN	baz=25			⇑*e*S			Sn	03 17 26.0	+1.3
AML	baz=25 Almayashu	3.88	355	⇓*i*P			Pn	03 16 50.7	+2.4
AML	baz=355			⇓*i*S			Sn	03 17 34.5	+0.4
ARK	baz=355 Arkit	3.90	335	⇑*e*P			Pn	03 16 50.6	+2.3
ARK	baz=334			⇑*e*S			Sn	03 17 34.9	+0.7
KZA	baz=334 Kyzart	3.90	12	⇑*i*P			Pn	03 16 50.6	+1.9
KZA	baz=13			⇑*i*S			Sn	03 17 34.0	-0.7
AAK	Ala-Archa	4.38	4	P			Pn	03 16 56.9	+2.3
AAK	1.0nm,0.3s,baz=156,slow=9.2,SNR=9.9			S			Sn	03 17 47.5	+2.1
AAK	1.3nm,0.3s,baz=150,slow=20,SNR=10 Ala-Archa	4.38	4	⇓P			Pn	03 16 56.6	+2.0
AAK	2.2nm,0.5s			⇑S			Sn	03 17 47.0	+1.5
MNAS	9.9nm,0.8s Manas	4.39	344	⇑*e*P			Pn	03 16 57.6	+2.8
MNAS	baz=343			⇑*e*S			Sn	03 17 47.1	+1.2
MNAS	baz=343 Manas	4.39	344	⇓P			Pn	03 16 57.4	+2.6
MNAS	2.6nm,0.4s			⇑S			Sn	03 17 46.5	+0.7
BOOM	48nm,0.6s Boomskoye usch	4.44	18	⇑*e*P			Pn	03 16 57.5	+2.0
BOOM	baz=18			⇑*i*S			Sn	03 17 48.0	+1.0
TKM2	baz=18 Tokmak 2	4.78	13	⇑P			Pn	03 17 01.9	+1.9
TKM2	8.8nm,0.5s			⇑S			Sn	03 17 56.3	+1.2
KK31	6.9nm,0.5s Karatay Array	5.56	332	⇑P			Pn	03 17 11.8	+1.7
KK31	0.9nm,0.3s,baz=138,slow=13,SNR=35			⇑S			Sn	03 18 11.2	-2.0
MKAR	16nm,0.4s,baz=134,slow=22,SNR=28 Makanchi Array	10.43	33	P			Pn	03 18 14.9	0.0
KURBB	0.1nm,0.3s,baz=214,slow=14,SNR=6.7 Kurchatov Arra	12.74	13	P			Pn	03 18 44.2	-0.8
BVAR	0.0nm,0.3s,baz=194,slow=10,SNR=2.5 Borovoye Array	14.99	351	P			Pn	03 19 13.5	+0.2
AB31	0.7nm,0.3s,baz=154,slow=11,SNR=8.7 Akbulak array	14.99	322	⇑P			Pn	03 19 11.5	-2.0
AB31	0.3nm,0.4s,baz=128,slow=14,SNR=11			⇑S			Sn	03 21 51.3	-8.6
ZALV	1.0nm,0.6s,baz=136,slow=22,SNR=3.0 Zalesovo Beam	17.32	22	P			Pn	03 19 42.0	+0.3
FINES	1.2nm,0.3s,baz=214,slow=10,SNR=20 FINESS Array B	37.47	324	P			P	03 22 48.7	+0.8
ARCES	3.9nm,1.1s,baz=116,slow=9.5,SNR=6.9 ARCESS Array B	40.51	336	P			P	03 23 14.3	+1.2
NOA	0.6nm,0.4s,baz=108,slow=7.8,SNR=3.3 NORSAR Array B	44.50	322	P			P	03 23 46.1	+0.6
WRA	0.6nm,0.6s,baz=96,slow=7.8,SNR=3.2 Warramunga Arr	80.86	124	P			P	03 27 44.5	-2.2
	0.2nm,0.8s,baz=323,slow=5.4,SNR=2.6								

*JMA **24** 03:29:34.5±0.1,39.°11N×142.°20E,h44km±1km,M3.6*
JMA Felt I J1.
*IDC **24** 03:29:38.2±3.2,39.°04N×142.°22E,h83km±29km,mb3.2/2, mb1 3.3/4,mb1mx3.0/33,mbtmp3.5/4,Error ellipse: s-maj=48.5km s-min=26.0km az=93.0*

ISC 24 03:29:33.1±2.0,39.°10N±0.°04×142.°23E±0.°09,h10km±11km, n21,σ1§80/23,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
OFUJ	Ofunato	0.44	268	P			Pb	03 29 44.4	+1.4
OFUJ				S			Sb	03 29 51.2	+1.6
MIYJ	Miyakonagasawa	0.58	326	P			Pb	03 29 46.1	+0.7
MIYJ				S			Sg	03 29 53.9	+2.0
JMK	Ichinoseki	0.80	260	P			Pg	03 29 49.2	+0.6
JMK				S			Sg	03 29 59.5	+0.4
JOM	Ohasama	0.82	298	P			Pg	03 29 49.5	+0.5
JOM				*e*S			Sg	03 30 00.0	+0.3
JTH	Tanohata	0.89	341	P			Pg	03 29 50.1	-0.2
JIO	Ouri	0.94	227	P			Pg	03 29 50.7	-0.6
JIO				S			Sg	03 30 01.9	-1.6
JKZ	Kuzumaki	1.13	322	P			Pg	03 29 54.3	-0.5
JKZ				*e*S			Sg	03 30 08.5	-1.0
JRG	Rokugo	1.28	284	P			Pg	03 29 56.1	-1.6
JANG	Nango	1.39	337	P			Pg	03 29 57.4	-1.2
JANG				*e*S			Sg	03 30 14.5	-3.4
JOU	Okura	1.43	240	P			Pn	03 29 57.8	-1.3
JYK	Kaneyama	1.47	264	P			Pn	03 29 58.8	-0.9
MJAR	Matsushiro Arr	4.08	233	P			Pn	03 30 37.6	+2.0
MJAR	1.3nm,0.3s,baz=40,slow=13,SNR=18			S			Sn	03 31 25.6	+2.1
ASAJ	baz=36,slow=24,SNR=2.8 Asahikawa	5.02	3	P			Pn	03 30 51.7	+3.2
ASAJ	0.9nm,0.3s,baz=190,slow=10,SNR=6.0			S			Sn	03 31 47.5	+0.9
H11N2	0.5nm,0.3s,baz=285,slow=20,SNR=3.0 WAKE ISLAND Hy	28.73	125	T		T		04 05 54.2	
H11N1	baz=318,slow=75,SNR=325 WAKE ISLAND Hy	28.73	125	T		T		04 05 53.5	
H11N3	baz=318,slow=75,SNR=250 WAKE ISLAND Hy	28.74	125	T		T		04 05 55.6	
H11S1	baz=318,slow=75,SNR=246 WAKE ISLAND Hy	29.51	127	T		T		04 06 49.4	
H11S3	baz=319,slow=76,SNR=46 WAKE ISLAND Hy	29.51	127	T		T		04 06 51.2	
H11S2	baz=319,slow=76,SNR=52 WAKE ISLAND Hy	29.53	127	T		T		04 06 50.2	
MKAR	baz=319,slow=76,SNR=43 Makanchi Array	43.60	300	P			P	03 37 34.3	-3.2
WRA	0.8nm,0.7s,baz=84,slow=9.7,SNR=7.0 Warramunga Arr	59.19	189	P			P	03 39 29.9	-4.5
	0.2nm,0.4s,baz=5.6,slow=7.0,SNR=6.4								

*HEL **24** 03:31:11.4±0.5,67.°60N×34.°02E,h0km,ML1.8,Explosion*
*NAO **24** 03:31:11.5±1.6,67.°55N×33.°91E,ML2.4*
*ISCJB **24** 03:31:13.0±0.9,67.°57N±0.°04×33.°2E±0.°1,h0km,Error ellipse: s-maj=6.8km s-min=5.1km az=9.2*
*CSEM **24** 03:31:13.8±0.4,67.°49N×33.°23E,h1km,ML1.9,Error ellipse: s-maj=7.3km s-min=4.4km az=117.0,Mining explosion.*

ISC 24 03:31:14.3±1.2,67.°65N±0.°04×33.°38E±0.°05,h0km,n36, σ1§31/56,Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
APZ9	Apatity	0.09	173	Pg		Pg	Pg	03 31 15.8	-0.1
APZ9				Lg		Lg	Lg	03 31 18.4	
APZ9	Apatity	0.09	173	Pg		Pg	Pg	03 31 15.8	-0.2
APZ9				Lg		Lg	Lg	03 31 18.4	
APZ9	Apatity	0.09	173	Pg		Pg	Pg	03 31 15.8	-0.1
APZ9	SNR=91			Lg		Lg	Lg	03 31 18.4	
APA0	Apatity Array	0.15	252	Pg		Pg	Pg	03 31 18.3	+1.1
APA0	baz=98,slow=16			Lg		Lg	Lg	03 31 22.8	
APA0	baz=72,slow=28			Rg		Rg	Rg	03 31 25.5	
APA0	baz=72,slow=37 Apatity Array	0.15	252	Pg		Pg	Pg	03 31 18.3	+1.1
APA0	baz=98,slow=16			Lg		Lg	Lg	03 31 22.8	
APA0	baz=72,slow=28			Rg		Rg	Rg	03 31 25.5	
APA0	baz=72,slow=37 Apatity Array	0.15	252	Pg		Pg	Pg	03 31 18.3	+1.1
APA0	SNR=90			Lg		Lg	Lg	03 31 22.8	
KU6	SNR=2.1 Riekki	2.14	222	PG		Pn	Pn	03 31 51.9	+0.7
KU6	baz=44			MSG				03 32 18.8	
KU6	comp=Z,4.1nm,0.2s			SG		Sg	Sg	03 32 21.2	-1.7
KU6	Riekki	2.14	222	Pg		Pn	Pn	03 31 51.9	+0.7
KU6				Sg		Sg	Sg	03 32 21.2	-1.7
MSF	Maaselka	2.45	226	PG		Pb	Pb	03 31 57.8	-1.5
MSF				SG		Sg	Sg	03 32 31.9	-1.1
MSF	Maaselka	2.45	226	Pg		Pb	Pb	03 31 57.7	-1.5
MSF				Sg		Sg	Sg	03 32 31.9	-1.1
RNF	Rovaniemi	3.06	253	PN		Pn	Pn	03 32 05.6	+1.8
RNF				SB		Sb	Sb	03 32 46.0	-1.4
KEV	Kevo	3.14	315	*e*P		Pn	Pn	03 32 05.4	+0.5
KEV				*e*S		Sn	Sn	03 32 42.9	-0.2
KEV	Kevo	3.14	315	PN		Pn	Pn	03 32 05.0	+0.1
KEV				SN		Sn	Sn	03 32 44.8	+1.7
KEV	Kevo	3.14	315	Pn		Pn	Pn	03 32 05.0	+0.1
KEV	Kevo	3.14	315	*e*P		Pn	Pn	03 32 05.4	+0.5
KEV	SNR=50			*e*S		Sn	Sn	03 32 42.9	-0.1
KEV	SNR=50			Sn		Sn	Sn	03 32 44.7	+1.7
ARA0	ARCESS Array S	3.45	307	Pn		Pn	Pn	03 32 09.0	-0.2
	baz=123,slow=16								
ARA0	baz=118,slow=18			Pg		Pb	Pb	03 32 17.6	+1.4
ARA0	baz=129,slow=28			Sn		Sn	Sn	03 32 50.0	-0.7
ARA0	baz=114,slow=37			Lg		Lg	Lg	03 33 02.0	
ARA0	ARCESS Array S baz=123,slow=16	3.45	307	Pn		Pn	Pn	03 32 09.0	-0.2
ARA0	baz=118,slow=18			Pg		Pb	Pb	03 32 17.6	+1.4
ARA0	baz=129,slow=28			Sn		Sn	Sn	03 32 50.0	-0.7
ARA0	baz=114,slow=37			Lg		Lg	Lg	03 33 02.0	
ARA0	ARCESS Array S SNR=50	3.45	307	Pn		Pn	Pn	03 32 09.0	-0.2
ARA0	ARCESS Array S SNR=6.6	3.45	307	Pg		Pb	Pb	03 32 17.6	+1.4
ARA0	SNR=50			Sn		Sn	Sn	03 32 50.0	-0.7
ARA0	SNR=50			Lg		Lg	Lg	03 33 02.0	
ARE0	ARCESS Array S baz=122	3.45	307	PN		Pn	Pn	03 32 08.8	-0.4
ARE0				SN		Sn	Sn	03 32 51.0	+0.3
ARE0	ARCESS Array S	3.45	307	Pn		Pn	Pn	03 32 08.8	-0.4
ARE0				Sn		Sn	Sn	03 32 51.0	+0.3
HEF	Hetta	3.73	286	*e*P		Pn	Pn	03 32 13.2	+0.2
HEF				*e*S		Sn	Sn	03 32 58.9	+1.2
HEF	Hetta baz=97	3.73	286	PN		Pn	Pn	03 32 13.5	+0.4
HEF				SN		Sn	Sn	03 32 58.9	+1.3
HEF	Hetta SNR=50	3.73	286	*e*P		Pn	Pn	03 32 13.2	+0.2
HEF	SNR=50			*e*S		Sn	Sn	03 32 58.8	+1.2
TOF	Tornio	3.91	250	PG		Pg	Pg	03 32 26.2	-2.9
TOF				SN		Sn	Sn	03 33 03.8	+1.8
TOF	Tornio	3.91	250	Pg		Pg	Pg	03 32 26.2	-2.9
OUL	Oulu	3.96	233	PG		Pb	Pb	03 32 26.8	+1.9
OUL				SG		Sb	Sb	03 33 15.6	+2.2
OUL	Oulu	3.96	233	Pg		Pb	Pb	03 32 26.8	+1.9
OUL				Sg		Sb	Sb	03 33 15.5	+2.2
KTK1	Kautokeino	4.00	295	*e*S		Sn	Sn	03 33 04.5	+0.2
KTK1	comp=Z,5.1nm,0.4s			IAML				03 33 21.5	
KTK1	Kautokeino SNR=49	4.00	295	*e*S		Sn	Sn	03 33 04.5	+0.2
LANU	Lannavaara	4.33	281	SG		Sg	Sg	03 33 30.7	-2.6
LANU	Lannavaara	4.33	281	Sg		Sg	Sg	03 33 30.6	-2.6
KIF	Kilpisjarvi	4.85	292	*e*P		Pn	Pn	03 32 28.2	-0.2
KIF	Kilpisjarvi SNR=49	4.85	292	*e*P		Pn	Pn	03 32 28.2	-0.2
FIA0	FINESS Array S baz=19,slow=28	6.98	210	Lg		Lg		03 34 46.8	
FIA0	FINESS Array S baz=19,slow=28	6.98	210	Lg		Lg		03 34 46.8	

*ISCJB **24** 03:53:33.3±0.5,33.°38N±0.°06×137.°57E±0.°06,h400km, mb3.4/8,Error ellipse: s-maj=8.9km s-min=6.6km az=152.2*
*JMA **24** 03:53:33.6±0.4,33.°25N×137.°56E,h392km±4km,M3.3*
*IDC **24** 03:53:34.4±1.0,33.°23N×137.°40E,h392km±11km,mb3.2/8, mb1 3.2/13,mb1mx3.1/38,mbtmp3.9/13,Error ellipse: s-maj=28.0km s-min=13.0km az=69.0*

ISC 24 03:53:34.5±0.8,33.°40N±0.°08×137.°52E±0.°07,h400km,n31, σ1§60/38,mb3.4/8,Near south coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
TTO2	TONANKAI O.B.S	0.53	309	P		P	Pn	03 54 23.6	-0.3
TTO1	TONANKAI O.B.S	0.65	290	P		Pn	Pn	03 54 23.6	-0.6
JIE	Ise	1.20	326	P		Pn	Pn	03 54 25.5	-0.7
JKN2	Miekihoku	1.33	309	P		Pn	Pn	03 54 25.7	-1.1
JHJ	Hachijo jima 2	1.92	98	P		Pn	Pn	03 54 30.3	+0.4
JHJ	6.5nm,0.3s,baz=288,slow=19,SNR=3.5			S			S	03 55 13.3	-1.5
JNY	14nm,0.3s,baz=15,slow=16,SNR=2.4 Yasuok	1.98	8	P		P	Pn	03 54 30.5	+0.2
JWT	Wachi	2.57	318	P		Pn	Pn	03 54 33.4	-0.9
JWT				*e*S			S	03 55 19.3	-3.4
BSO4	Boso 4	2.83	55	P		Pn	Pn	03 54 35.8	-0.3
JHU	Hanno	2.85	30	P		Pn	Pn	03 54 36.3	-0.1
JHU				*e*S			S	03 55 24.0	-2.5
BSO3	Boso 3	2.85	60	S		S	S	03 55 24.8	-1.3
JRY	Ryogami san	2.85	23	P		Pn	Pn	03 54 37.1	+0.7
JKG	Kaga	3.03	342	P		Pn	Pn	03 54 37.8	0.0
BSO1	Boso 1	3.13	65	P		Pn	Pn	03 54 37.0	-1.1
BSO1				*e*S			S	03 55 27.9	-1.8
MAT	Matsushiro	3.19	10	P		Pn	Pn	03 54 39.2	+0.1
MAT				S			S	03 55 30.3	-1.4
MAT	Matsushiro	3.19	10	P		Pn	Pn	03 54 39.3	+0.1
MJAR	Matsushiro Arr	3.19	10	P		Pn	Pn	03 54 39.2	0.0
MJAR	6.1nm,0.3s,baz=184,slow=8.9,SNR=63			S			S	03 55 30.3	-1.4
JAG	0.4nm,0.3s,baz=181,slow=13,SNR=6.2 Ashikaga	3.41	27	S			S	03 55 31.5	-3.7
JYT	Yasato	3.58	37	S			S	03 55 34.3	-3.5
JSZ	Suzu	4.04	358	P		Pn	Pn	03 54 47.1	+0.3
JHO	Hitachi	4.07	37	P		Pn	Pn	03 54 46.6	-0.5
JHO				S			S	03 55 42.1	-4.0
JNU	Nakatsue	5.57	269	P		Pn	Pn	03 55 00.8	-1.7
KSRS	0.6nm,0.3s,baz=41,slow=1.3,SNR=5.8 Korea Array	8.81	300	P		Pn	Pn	03 55 38.8	+0.1
USRK	0.2nm,0.3s,baz=119,slow=12,SNR=8.0 Ussuriysk Ar.	11.61	340	P		Pn	Pn	03 56 12.5	+1.5
SONM	0.2nm,0.3s,baz=146,slow=12,SNR=3.7 Songino Array	27.46	311	P		P	P	03 58 47.5	+1.6
MKAR	1.0nm,0.7s,baz=114,slow=8.3,SNR=4.5 Makanchi Array	43.46	305	P		P	P	04 01 00.2	+0.2
WRA	0.7nm,0.4s,baz=87,slow=10,SNR=6.6 Warramunga Arr	53.13	184	P		P	P	04 02 12.1	-0.9
ASAR	0.7nm,0.3s,baz=0.5,slow=7.7,SNR=20 Alice Springs	56.85	184	P		P	P	04 02 39.0	-0.2
FINES	0.4nm,0.3s,baz=1.3,slow=5.3,SNR=6.3 FINESS Array B	70.52	332	P		P	P	04 04 08.0	+1.1
KBZ	2.9nm,0.8s,baz=75,slow=5.9,SNR=10 Khabaz	70.82	310	P		P	P	04 04 10.1	+1.1
NOA	1.8nm,0.8s,baz=124,slow=3.6,SNR=3.8 NORSAR Array B	76.26	336	P		P	P	04 04 41.4	+1.3
BRTR	0.4nm,0.6s,baz=45,slow=5.2,SNR=2.6 Keskin Array B	78.81	310	P		P

SVKR	**Severomuysk**	**2.54**	**258**	*e*Pg	**Pg**	**04 02 00.4**	**+1.0**
SVKR				*e*Sn	**Sb**	**04 02 27.5**	**-1.1**
SVKR				*e*Sg	**Sg**	**04 02 34.7**	**+2.4**
SVKR				Pmax			
	comp=N,105nm,0.2s						
SVKR				Smax			
	comp=N,476nm,0.4s						
TUP	**Tupik**	**2.55**	**153**	*e*Pn	**Pn**	**04 01 53.8**	**+0.8**
TUP				*e*Pg	**Pb**	**04 01 57.6**	**+0.5**
TUP				*e*Sn	**Sn**	**04 02 22.5**	**-2.0**
TUP				*e*Sg	**Sb**	**04 02 31.1**	**+2.3**
TUP				Pmax			
	comp=N,18nm,0.3s						
TUP				Smax			
	comp=N,295nm,0.7s						
TUP	**Tupik**	**2.55**	**153**	*e*PN	**Pn**	**04 01 53.8**	**+0.8**
TUP				*e*		04 01 57.9	
TUP				*e*S	**Sn**	**04 02 25.3**	**+0.8**
TUP				*e*		04 02 31.0	
TUP				pmax	pmax		
	comp=Z,18nm,0.3s						
TUP				smax	smax		
	comp=E,258nm,0.5s						
UKT	**Uakit**	**2.74**	**245**	*e*Pn	**Pb**	**04 01 58.6**	**-1.8**
UKT				*e*Pg	**Pg**	**04 02 03.4**	**+0.2**
UKT				*e*Sg	**Sg**	**04 02 40.3**	**+1.6**
UKT				Pmax			
	comp=E,18nm,0.3s						
UKT				Smax			
	comp=E,136nm,0.3s						
UKT	**Uakit**	**2.74**	**245**	*e*PN	**Pg**	**04 02 03.3**	**+0.1**
UKT				*e*		04 02 39.0	
UKT				pmax	pmax		
	comp=Z,15nm,0.3s						
UKT				smax	smax		
	comp=N,135nm,0.3s						
YOA	**Uoyan**	**3.54**	**263**	*e*Pg	**Pg**	**04 02 18.4**	**0.0**
YOA				*e*Sg	**Sg**	**04 03 06.3**	**+2.1**
YOA				Pmax			
	comp=N,68nm,0.2s						
YOA				Smax			
	comp=N,475nm,0.4s						
CLNS	**Chul'man**	**3.79**	**85**	*e*Pn	**Pn**	**04 02 11.3**	**+1.2**
CLNS				*e*Pg	**Pb**	**04 02 18.5**	**+0.2**
CLNS				*e*Sg	**Sb**	**04 03 06.8**	**+2.2**
CLNS	**Chul'man**	**3.79**	**85**	*e*PN	**Pb**	**04 02 15.1**	**-3.2**
CLNS				*e*		04 02 55.4	
CLNS				pmax	pmax		
	comp=Z,5.0nm,0.3s						
CLNS				pmax	pmax		
	comp=N,3.0nm,0.3s						
CLNS				pmax	pmax		
	comp=E,3.0nm,0.3s						
CLNS				smax	smax		
	comp=N,34nm,0.3s						
CLNS				smax	smax		
	comp=E,30nm,0.3s						
CLNS				smax	smax		
	comp=Z,12nm,0.3s						
IENR	**Iengra**	**3.83**	**95**	*e*Pn	**Pn**	**04 02 10.8**	**+0.2**
IENR				*e*Pg	**Pb**	**04 02 18.5**	**-0.5**
IENR				*e*Sn	**Sn**	**04 02 51.7**	**-4.5**
IENR				*e*Sg	**Sb**	**04 03 06.8**	**+1.0**
KMO	**Kumora**	**3.88**	**260**	*e*Pn	**Pn**	**04 02 13.9**	**+2.7**
KMO				*e*Pg	**Pg**	**04 02 23.9**	**-1.1**
KMO				*e*Sg	**Sg**	**04 03 16.5**	**+1.3**
KMO				Pmax			
	comp=Z,25nm,0.5s						
KMO				Smax			
	comp=Z,150nm,0.8s						
KMO	**Kumora**	**3.88**	**260**	*e*PN	**Pn**	**04 02 13.4**	**+2.2**
KMO				*e*		04 02 23.2	
KMO				*e*S	**Sn**	**04 02 59.3**	**+2.1**
KMO				*e*		04 03 14.0	
KMO				pmax	pmax		
	comp=Z,19nm,0.7s						
KMO				smax	smax		
	comp=N,150nm,1.3s						
TNDR	**Tynda**	**4.09**	**110**	*e*Sn	**Sn**	**04 02 59.7**	**-2.8**
TNDR				*e*Sg	**Sb**	**04 03 16.1**	**+2.9**
YLYR	**Ulyunkhan**	**4.28**	**247**	*e*Pn	**Pn**	**04 02 19.3**	**+2.6**
YLYR				*e*Pg	**Pg**	**04 02 31.9**	**-0.7**
YLYR				*e*Sn	**Sn**	**04 03 08.0**	**+1.0**
YLYR				*e*Sg	**Sg**	**04 03 28.9**	**+0.9**
YLYR				Pmax			
	comp=N,4.0nm,0.3s						
YLYR				Smax			
	comp=N,55nm,0.3s						
NIZ	**Nizh Angarsk**	**4.81**	**262**	*e*Pg	**Pg**	**04 02 41.2**	**-1.7**
NIZ				*e*Sg	**Sg**	**04 03 44.5**	**-0.7**
NIZ				Pmax			
	comp=N,11nm,0.4s						
NIZ				Smax			
	comp=N,45nm,0.4s						
NIZ	**Nizh Angarsk**	**4.81**	**262**	*e*PN	**Pg**	**04 02 41.2**	**-1.7**
NIZ				*e*		04 03 48.0	
NIZ				pmax	pmax		
	comp=Z,11nm,0.8s						
NIZ				smax	smax		
	comp=N,56nm,0.9s						
SYVR	**Suvo**	**5.51**	**240**	*e*Pn	**Pn**	**04 02 36.7**	**+3.1**
SYVR				*e*Pg	**Pg**	**04 02 54.3**	**-2.0**
SYVR				*e*Sn	**Sn**	**04 03 37.9**	**+0.4**
SYVR				*e*Sg	**Sg**	**04 04 07.5**	**-0.2**
SYVR				Pmax			
	comp=N,5.0nm,0.7s						
SYVR				Smax			
	comp=N,41nm,0.8s						
OGRR	**Ongureny**	**6.71**	**247**	*e*Sn	**Sn**	**04 04 05.4**	**-1.4**
OGRR				*e*Sg	**Sg**	**04 04 43.8**	**-2.1**
OGRR				Smax			
	comp=N,19nm,0.7s						
UUDB	**Ulan-Yde**	**7.75**	**236**	*e*Sg	**Sg**	**04 05 16.4**	**-3.1**
UUDB				Smax			
	comp=N,61nm,1.6s						
KPC	**Khapcheranga**	**7.79**	**208**	*e*Sn	**Sn**	**04 04 31.6**	**-2.0**
KPC				*e*Sg	**Sg**	**04 05 17.9**	**-2.8**
KPC				Smax			
	comp=N,25nm,0.3s						
HRMR	**Khuramsha**	**8.24**	**236**	*e*Sg	**Sg**	**04 05 32.0**	**-3.1**
HRMR				Smax			
	comp=N,77nm,1.0s						
MOY	**Mondy**	**11.16**	**250**	*e*Sg		04 07 01.7	
MOY				Smax			
	comp=N,21nm,1.9s						

CSEM ***24*** *04:05:03.6±0.9, 51.51N×16.13E, h2km, ML2.7/5, Error ellipse: s-maj=13.5km s-min=7.2km az=13.0*
WAR ***24*** *04:05:04.1, 51.53N×16.14E, h1km*

PRU 24 04:05:06.4, 51.44N×16.15E, h0km, Poland

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res
KSP	**Ksiaz**	**0.60**	**171**	*e*Pg	Pg	Pg	04 05 17.1	-0.9
KSP				*e*Sg	Sg	Sg	04 05 26.6	+0.8
KSP	**Ksiaz**	**0.60**	**171**	*e*Pg	Pg	Pg	04 05 17.1	-0.9
KSP				*e*Sg	Sg	Sg	04 05 26.6	+0.8
KSP	**Ksiaz**	**0.60**	**171**	*e*Pg	Pg	Pg	04 05 17.1	-0.9
KSP				*e*Sg	Sg	Sg	04 05 26.6	+0.8
UPC	**Upice**	**0.94**	**185**	*e*PG	Pg	Pg	04 05 23.7	-0.6
UPC				*e*SG	Sg	Sg	04 05 36.8	+0.3
	comp=Z,13nm,0.6s							
UPC	**Upice**	**0.94**	**185**	Pg	Pg	Pg	04 05 23.7	-0.6
UPC				Sg	Sg	Sg	04 05 36.8	+0.3
	13nm,0.6s							
DPC	**Dobruska-Polom**	**1.10**	**174**	*e*PG	Pg	Pg	04 05 26.0	-1.4
DPC				*e*SG	Sg	Sg	04 05 41.8	+0.2
	comp=Z,3.8nm,0.4s							
DPC	**Dobruska-Polom**	**1.10**	**174**	Pg	Pg	Pg	04 05 26.0	-1.4
DPC				Sg	Sg	Sg	04 05 41.8	+0.2
	3.8nm,0.4s							
PVCC	**Panska Ves**	**1.35**	**228**	*e*PG	Pg	Pg	04 05 30.7	-1.6
PVCC				*e*SG	Sg	Sg	04 05 49.5	-0.3
	comp=Z,23nm,0.3s							
PVCC	**Panska Ves**	**1.35**	**228**	Pg	Pg	Pg	04 05 30.7	-1.6
PVCC				Sg	Sg	Sg	04 05 49.5	-0.3
	23nm,0.3s							
KRLC	**Kraliky**	**1.42**	**163**	*e*PG	Pg	Pn	04 05 31.9	-1.7
KRLC				*e*SG	Sg	Sg	04 05 51.1	-1.0
KRLC	**Kraliky**	**1.42**	**163**	Pg	Pg	Pn	04 05 31.9	-1.7
KRLC				Sg	Sg	Sg	04 05 51.1	-1.0
BRG	**Berggiesshubel**	**1.50**	**249**	PG	Pg	Pn	04 05 33.6	-0.9
BRG				SG	Sg	Sg	04 05 53.3	-1.3
	10nm,0.6s							
PRU	**Pruhonice**	**1.78**	**216**	*e*SG		Sn	04 06 01.9	+0.3
	comp=Z,6.1nm,0.3s							
PRU	**Pruhonice**	**1.78**	**216**	Sg		Sn	04 06 01.9	+0.3
	6.1nm,0.3s							
CLL	**Collm**	**1.98**	**267**	*e*Pn		Pn	04 05 38.0	-3.1
CLL				*e*Pg		Pb	04 05 41.0	-2.2
CLL				*e*Sg		Sn	04 06 07.0	+0.4
	comp=Z,3.0nm,0.5s							
OKC	**Ostrava-Krasne**	**2.05**	**141**	*e*SG		Sb	04 06 10.6	+0.2
OKC	**Ostrava-Krasne**	**2.05**	**141**	Sg		Sb	04 06 10.6	+0.2
VRAC	**Vranov**	**2.15**	**172**	*e*Pn		Pn	04 05 42.0	-1.5
VRAC				*e*Sg		Sb	04 06 13.5	0.0
NKC	**Novy Kostel**	**2.64**	**244**	*e*SG		Sg	04 06 30.5	-0.7
	comp=Z,7.2nm,0.3s							
NKC	**Novy Kostel**	**2.64**	**244**	Sg		Sg	04 06 30.5	-0.7
	comp=Z,7.2nm,0.3s							
KHC	**Kasperske Hory**	**2.84**	**217**	*e*PG		Pb	04 05 57.1	-0.9
KHC				*e*SG		Sb	04 06 35.4	+2.1
KHC	**Kasperske Hory**	**2.84**	**217**	Pg		Pb	04 05 57.1	-0.9
KHC				Sg		Sb	04 06 35.4	+2.1

IDC 24 04:08:13.8±3.4, 4.50S×151.50E, h0km, mb3.5/3, mb1 3.7/3, mb1mx3.4/36, mbtmp3.5/3, Error ellipse: s-maj=123.6km s-min=45.0km az=121.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res
WRA	**Warramunga Arr**	**22.70**	**226**	P		P	04 13 17.3	0.0
	0.4nm,0.4s,baz=51,slow=10,SNR=13							
ASAR	**Alice Springs**	**25.52**	**220**	P		P	04 13 44.2	-0.1
	0.5nm,0.5s,baz=59,slow=9.0,SNR=9.5							
FITZ	**Fitzroy Crossi**	**28.68**	**240**	P		P	04 14 12.9	+0.1
	0.3nm,0.3s,baz=63,slow=8.3,SNR=5.5							
TORD	**Torodi Ar. Bea**	**148.98**	**288**	PKPbc		PKPbc	04 28 04.4	-0.6
	0.1nm,0.4s,baz=99,slow=4.5,SNR=3.5							

IDC ***24*** *04:08:57.0±0.7, 36.29N×82.43E, h0km, mb3.9/12, mb1 4.1/16, mb1mx3.9/48, mbtmp4.0/16, ML4.1/4, MS3.2/12, Ms1 3.2/12, ms1mx3.0/42, Error ellipse: s-maj=25.8km s-min=13.9km az=43.0*
ISCJB ***24*** *04:08:57.0±0.5, 36.48N±0.05×82.50E±0.07, h10km, mb3.9/15, MS3.1/10, Error ellipse: s-maj=8.1km s-min=6.5km az=3.9*
NEIC ***24*** *04:08:58.8±0.6, 36.38N×82.53E, h10km, mb4.3/5, Error ellipse: s-maj=11.8km s-min=8.7km az=49.0*
BJI ***24*** *04:08:58.5, 36.50N×82.35E, h10km, ML4.3/7*
NNC ***24*** *04:09:04.9±7.3, 36.74N×82.19E, h12km±37km, mb4.4, mpv4.1, Error ellipse: s-maj=55.2km s-min=48.2km az=91.0*

ISC 24 04:08:58.8±0.7, 36.40N±0.07×82.44E±0.07, h10km, n44, σ2502/42, mb3.9/16, MS3.2/10, 4C-10D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res
PDGK	**Podgornoye**	**7.29**	**343**	⇓Pn		**Pn**	**04 10 46.6**	**+1.2**
	9.2nm,0.5s							
PDGK				⇓Sn		**Sn**	**04 12 08.4**	**+0.2**
	73nm,0.7s							
PDGK				⇑Lg		Lg	04 12 45.5	
	255nm,1.2s							
TKM2	**Tokmak 2**	**8.38**	**323**	⇓Pn		**Pn**	**04 11 02.7**	**+2.2**
	4.9nm,0.7s							
TKM2				⇓Pg		Pb	04 11 32.4	+8.2
	10.0nm,0.8s							
TKM2				⇓Lg		Lg	04 13 19.5	
	20nm,0.9s							
WMQ	**Urumqi**	**8.44**	**27**	P		**Pn**	**04 11 02.4**	**+1.3**
AAK	**Ala-Archa**	**8.74**	**318**	Pn		**Pn**	**04 11 07.8**	**+2.3**
	0.3nm,0.3s,baz=193,slow=6.2,SNR=6.7							
AAK				Pg		Pg	04 11 36.8	-9.4
	2.2nm,0.3s,baz=123,slow=9.8,SNR=12							
AAK				Lg		Lg	04 13 31.1	
	0.3nm,0.3s,baz=174,slow=18,SNR=2.8							
AAK				LR		LR	04 14 57.9	
	comp=Z,163nm,19.1s,baz=123,slow=41							
AAK	**Ala-Archa**	**8.74**	**318**	⇓Pn		**Pn**	**04 11 06.5**	**+1.1**
	4.7nm,1.0s							
AAK				⇑Pg		Pg	04 11 35.8	-10
	12nm,0.6s							
AAK				⇓Lg		Lg	04 13 29.3	
	45nm,1.2s							
CEP	**Cherat**	**9.00**	**257**	P		**Pn**	**04 11 09.5**	**+0.5**
CEP				S		**Sn**	**04 12 44.0**	**-6.5**
THW	**Thamme Wali**	**9.52**	**251**	P		**Pn**	**04 11 17.7**	**+1.7**
MK01	**Makanchi Array**	**10.37**	**359**	*e*Pn		**Pn**	**04 11 27.4**	**-0.2**
MK31	**Makanchi Array**	**10.39**	**359**	Pn		**Pn**	**04 11 27.2**	**-0.7**
	1.6nm,0.3s,baz=187,slow=12,SNR=84							
MK31				⇓Sn		**Sn**	**04 13 21.4**	**-2.9**
	3.5nm,0.5s,baz=189,slow=25,SNR=5.3							
MK31				⇑Lg		Lg	04 14 27.2	
	3.9nm,0.5s,baz=180,slow=28							
MK31	**Makanchi Array**	**10.39**	**359**	*e*Pn		**Pn**	**04 11 27.7**	**-0.1**
MKAR	**Makanchi Array**	**10.39**	**359**	Pn		**Pn**	**04 11 27.5**	**-0.4**
	3.1nm,0.3s,baz=187,slow=12,SNR=71							
MKAR				Sn		**Sn**	**04 13 21.7**	**-2.6**
	1.1nm,0.3s,baz=192,slow=26,SNR=4.9							
MKAR				Lg		Lg	04 14 27.4	
	0.7nm,0.3s,baz=189,slow=26,SNR=2.5							
MAKZ	**Makanchi**	**10.41**	**358**	⇓Pn		**Pn**	**04 11 27.0**	**-1.1**
	6.9nm,0.5s							
MAKZ				⇓Sn		**Sn**	**04 13 20.1**	**-4.7**
	5.2nm,0.6s							
MAKZ				⇑Lg		Lg	04 14 24.8	
	7.8nm,0.8s							
MAKZ	**Makanchi**	**10.41**	**358**	*e*Pn		**Pn**	**04 11 27.9**	**-0.2**
MAKZ				*e*Sn		**Sn**	**04 13 24.4**	**-0.4**
KURBB	**Kurchatov Arra**	**14.50**	**350**	Pn		Pn	04 12 19.4	-4.5
	0.0nm,0.3s,baz=173,slow=12,SNR=6.8							
KURBB				Lg		Lg	04 16 39.8	
	baz=170,slow=31,SNR=3.3							
KURK	**Kurchatov**	**14.57**	**350**	*e*Pn		**Pn**	**04 12 22.7**	**-2.3**
KURK				Lg		Lg	04 16 39.8	
ZAA0	**Zalesovo Array**	**17.63**	**5**	*e*Pn		**Pn**	**04 13 01.4**	**-3.0**
ZALV	**Zalesovo Beam**	**17.63**	**5**	P		**Pn**	**04 13 01.0**	**-3.3**
	0.8nm,0.3s,baz=194,slow=11,SNR=19							
BVAR	**Borovoye Array**	**18.66**	**337**	P		**P**	**04 13 17.3**	**+0.6**
	1.2nm,0.3s,baz=132,slow=11,SNR=28							
BRVK	**Borovoye**	**18.72**	**337**	*e*P		**Pn**	**04 13 19.6**	**+1.9**
	16nm,0.8s							
GEYT	**Alibeck**	**19.44**	**282**	P		**P**	**04 13 24.6**	**-0.8**
	0.7nm,0.3s,baz=96,slow=8.8,SNR=4.1							
GEYT				LR		LR	04 22 31.2	
	comp=Z,118nm,20.5s,baz=60,slow=42							
ABKAR	**Akbulak array**	**20.82**	**315**	*e*P		**P**	**04 13 40.5**	**+0.2**
	29nm,0.6s							
SONM	**Songino Array**	**21.04**	**50**	P		**P**	**04 13 43.8**	**+1.0**
	11nm,0.7s,baz=242,slow=12,SNR=54							
SONA1	**Songino Array**	**21.05**	**50**	*e*P		**P**	**04 13 42.8**	**-0.2**
ULN	**Ulaanbaatar**	**21.45**	**50**	*e*P		**P**	**04 13 48.0**	**+0.6**
	17nm,0.8s							
AKTO	**Aktyubinsk**	**22.48**	**316**	P		**P**	**04 13 58.5**	**+0.3**
	2.1nm,0.8s,baz=129,slow=10.0,SNR=5.6							
AKTO				LR		LR	04 23 40.8	
	comp=Z,38nm,18.7s,baz=97,slow=39							
CMAR	**Chiang Mai Arr**	**23.04**	**136**	P		**P**	**04 14 02.8**	**-1.5**
	0.8nm,0.3s,baz=316,slow=7.6,SNR=5.5							
CMAR				LR		LR	04 24 14.3	
	comp=Z,34nm,18.1s,baz=100,slow=40							
HHC	**Hu-ho-hao-te**	**23.13**	**70**	*e*P		P	04 14 15.1	+10
HHC				pmax		pmax		
	comp=Z,18nm,0.7s							
HHC				pmax		pmax		
	comp=Z,66nm,7.4s							
ARU	**Arti**	**25.70**	**329**	P		**P**	**04 14 30.6**	**+1.8**
	comp=Z,1.4nm,0.3s,baz=107,slow=17,SNR=2.5							
GNI	**Garni**	**29.69**	**289**	LR		LR	04 28 32.4	
	comp=Z,44nm,18.2s,baz=40,slow=40							
KBZ	**Khabaz**	**30.91**	**296**	LR		LR	04 31 36.9	
	comp=Z,51nm,18.1s,baz=52,slow=44							
KSRS	**Korea Array**	**36.11**	**74**	LR		LR	04 32 41.0	
	comp=Z,22nm,18.4s,baz=225,slow=39							
AKASG	**Malin Array Be**	**40.26**	**309**	LR		LR	04 37 26.7	
	comp=Z,34nm,18.8s,baz=40,slow=42							
MLR	**Muntele Rosu**	**42.84**	**300**	*e*P		**P**	**04 17 01.1**	**+4.0**
	comp=Z,5.7nm,1.1s							
FINES	**FINESS Array B**	**42.87**	**324**	P		**P**	**04 16 57.4**	**+0.5**
	comp=Z,2.8nm,0.7s,baz=108,slow=8.6,SNR=7.8							
FINES				LR		LR	04 36 03.2	
	comp=Z,49nm,20.8s,baz=70,slow=38							
ARCES	**ARCESS Array B**	**44.94**	**335**	LR		LR	04 37 15.1	
	comp=Z,36nm,19.0s,baz=93,slow=38							
MA2	**Magadan**	**48.68**	**39**	LR		LR	04 39 05.4	
	comp=Z,29nm,20.1s,baz=310,slow=37							
NOA	**NORSAR Array B**	**50.02**	**323**	P		**P**	**04 17 53.8**	**+0.6**
	comp=Z,1.0nm,0.7s,baz=86,slow=7.4,SNR=2.8							
NOA				LR		LR	04 41 24.1	
	comp=Z,22nm,19.8s,baz=5.0,slow=39							
GERES	**GERESS Array B**	**50.45**	**307**	P		**P**	**04 17 57.3**	**+0.7**
	comp=Z,0.7nm,0.7s,baz=74,slow=7.1,SNR=7.5							
KHC	**Kasperske Hory**	**50.46**	**307**	*e*P		**P**	**04 17 58.5**	**+1.9**
	comp=Z,0.3nm,0.6s							
ESDC	**Sonseca Array**	**65.50**	**302**	P		**P**	**04 19 42.4**	**+0.1**
	comp=Z,0.6nm,0.9s,baz=52,slow=7.1,SNR=4.0							
ILAR	**Eielson Array**	**72.03**	**20**	P		**P**	**04 20 21.9**	**-0.7**
	comp=Z,0.4nm,0.6s,baz=314,slow=5.2,SNR=5.6							
WRA	**Warramunga Arr**	**74.45**	**130**	P		**P**	**04 20 36.4**	**-1.0**
	comp=Z,1.2nm,0.8s,baz=326,slow=5.5,SNR=7.9							
TORD	**Torodi Ar. Bea**	**74.94**	**275**	P		**P**	**04 20 39.3**	**-1.1**
	comp=Z,0.7nm,0.7s,baz=53,slow=4.1,SNR=8.9							
ASAR	**Alice Springs**	**76.99**	**133**	P		**P**	**04 20 52.5**	**+0.5**
	comp=Z,0.7nm,0.6s,baz=321,slow=6.1,SNR=11							

IDC 24 04:09:33.6±20.0, 25.35S×180.00E, h519km±186km, mb3.3/5, mb1 3.5/5, mb1mx3.1/26, mbtmp4.3/5, Error ellipse: s-maj=144.3km s-min=81.6km az=106.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res
CTA	**Charters Tower**	**31.51**	**273**	P		P	04 15 13.3	+0.3
	3.6nm,0.3s,baz=95,slow=11,SNR=5.2							
STKA	**Stephens Creek**	**34.20**	**250**	P		P	04 15 36.0	+0.2
	1.2nm,0.5s,baz=55,slow=3.9,SNR=4.2							
ASAR	**Alice Springs**	**41.81**	**262**	P		P	04 16 37.9	-0.1
	1.1nm,0.4s,baz=93,slow=7.1,SNR=25							
ASAR				PcP		PcP	04 18 21.7	-0.3
	0.3nm,0.8s,baz=94,slow=3.8,SNR=3.4							
WRA	**Warramunga Arr**	**42.32**	**268**	P		P	04 16 41.1	-0.8
	2.6nm,0.5s,baz=103,slow=7.8,SNR=38							
FITZ	**Fitzroy Crossi**	**50.73**	**267**	P		P	04 17 45.7	+0.1
	2.6nm,0.7s,baz=95,slow=6.0,SNR=6.3							
NOA	**NORSAR Array B**	**143.50**	**351**	PKP		PKPab	04 28 06.6	-0.4
	1.2nm,0.8s,baz=20,slow=2.4,SNR=4.2							
AKASG	**Malin Array Be**	**146.17**	**326**	PKPbc		PKPbc	04 28 15.1	-0.3
	0.6nm,0.4s,baz=41,slow=4.1,SNR=4.7							
BRTR	**Keskin Array B**	**148.43**	**305**	PKPbc		PKPbc	04 28 21.6	-0.4
	0.4nm,0.5s,baz=108,slow=4.7,SNR=3.3							

IDC 24 04:24:47.8±19.0, 11.17S×166.93E, h187km±212km, mb3.3/3, mb1 3.5/4, mb1mx3.2/41, mbtmp3.9/4, ML4.2/1, MS3.2/1, Ms1 3.2/1, ms1mx2.4/19, Error ellipse: s-maj=173.6km s-min=52.4km az=154.0, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res
DZM	**Mont Dzumac**	**10.85**	**182**	P		Pn	04 27 18.3	0.0
	1.6nm,0.3s,baz=49,slow=4.7,SNR=20							
RAO	**Raoul Island**	**22.88**	**144**	LR		LR	04 36 05.6	
	comp=Z,60nm,21.8s,baz=162,slow=30							
WRA	**Warramunga Arr**	**32.54**	**250**	P		P	04 31 01.5	+0.1
	2.5nm,0.8s,baz=82,slow=9.0,SNR=17							
ASAR	**Alice Springs**	**33.78**	**244**	P		P	04 31 11.9	-0.3
	0.3nm,0.7s,baz=68,slow=10,SNR=4.9							
MKAR	**Makanchi Array**	**94.41**	**317**	P		P	04 37 46.4	-0.1
	0.2nm,0.4s,baz=106,slow=4.7,SNR=3.3							

ISCJB ***24*** *04:31:26.5±1.0, 39.56N±0.07×143.45E±0.08, h11km, mb3.4/3, Error ellipse: s-maj=9.7km s-min=8.6km az=153.0*
IDC ***24*** *04:31:26.2±2.3, 39.57N×143.48E, h0km, mb3.5/3, mb1 3.5/5, mb1mx3.4/40, mbtmp3.5/5, ML3.2/2, Error ellipse: s-maj=55.6km s-min=26.8km az=79.0*
JMA ***24*** *04:31:28.3±0.2, 39.60N×143.38E, h23km, M3.4*

ISC 24 04:31:28.3±1.4, 39.56N±0.07×143.31E±0.09, h11km, n18, σ0987/19, mb3.5/3, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res
MIYJ	**Miyakonagasawa**	**1.15**	**271**	P		**Pn**	**04 31 49.9**	**-0.4**
MIYJ				*e*S		**Sb**	**04 32 05.2**	**+0.1**
JTH	**Tanohata**	**1.18**	**289**	P		**Pn**	**04 31 50.2**	**-0.4**
JTH				*e*S		**Sb**	**04 32 06.5**	**+0.7**
OFUJ	**Ofunato**	**1.36**	**250**	P		**Pb**	**04 31 53.1**	**-0.6**
JOM	**Ohasama**	**1.56**	**267**	P		**Pn**	**04 31 56.4**	**+0.5**
JOM				S		**Sn**	**04 32 17.2**	**+1.0**
JANG	**Nango**	**1.60**	**301**	P		**Pn**	**04 31 55.5**	**-1.0**
JMK	**Ichinoseki**	**1.73**	**250**	P		**Pb**	**04 31 58.9**	**-1.1**
JIO	**Ouri**	**1.89**	**235**	P		**Pn**	**04 32 00.3**	**-0.1**
JIO				*e*S		**Sb**	**04 32 24.7**	**-1.5**
JRG	**Rokugo**	**2.08**	**266**	P		**Pn**	**04 32 03.8**	**+0.8**
JTM	**Tenmabayashi**	**2.11**	**306**	P		**Pn**	**04 32 03.9**	**+0.5**
JYK	**Kaneyama**	**2.38**	**255**	P		**Pn**	**04 32 08.3**	**+1.1**
ASAJ	**Asahikawa**	**4.58**	**354**	Pn		**Pn**	**04 32 38.0**	**+0.5**
	1.1nm,0.3s,baz=201,slow=24,SNR=4.5							
MJAR	**Matsushiro Arr**	**5.03**	**235**	Pn		**Pn**	**04 32 45.2**	**+1.6**
	0.7nm,0.3s,baz=38,slow=13,SNR=10							
SONM	**Songino Array**	**27.72**	**300**	P		**P**	**04 37 17.2**	**+0.5**
	0.5nm,0.7s,baz=88,slow=8.8,SNR=2.6							
H11N2	**WAKE ISLAND Hy**	**28.33**	**127**	T		T	05 07 04.8	
	baz=322							
H11N1	**WAKE ISLAND Hy**	**28.34**	**127**	T		T	05 07 04.7	
	baz=322,slow=74							
H11N3	**WAKE ISLAND Hy**	**28.35**	**127**	T		T	05 07 03.4	
	baz=322,slow=74							
MKAR	**Makanchi Array**	**44.09**	**300**	P		**P**	**04 39 36.2**	**-0.1**
	0.8nm,0.7s,baz=77,slow=6.2,SNR=5.3							
WRA	**Warramunga Arr**	**59.78**	**190**	P		**P**	**04 41 33.2**	**

TWS1				*e*S		**Sn**	04 51 43.1	0.0
	baz=327							
WHF	**Hehuan Shan**	**0.70**	**230**	*e*P		**Pn**	04 51 33.4	-0.6
	baz=223							
WHF				*e*S		**Sn**	04 51 44.0	-0.9
	baz=223							
TWT	**Tachien**	**0.70**	**241**	*e*P		**Pn**	04 51 33.8	0.0
	baz=236							
TWT				*e*S		**Sn**	04 51 44.6	0.0
	baz=236							
NCU	**National Centr**	**0.71**	**302**	*e*S		**Sn**	04 51 44.0	-0.5
	baz=304							
NSTT	**Nanjuang**	**0.78**	**273**	P		**Pn**	04 51 33.6	-0.9
	baz=271							
NSTT				S		**Sn**	04 51 44.6	-1.3
	baz=271							
ESL	**Shilin**	**0.86**	**206**	*e*P		**Pn**	04 51 35.9	+0.3
	baz=200							
NSY	**Sanyi**	**1.01**	**260**	*e*S		**Sn**	04 51 50.8	-0.3
	baz=257							
TWQ1	**Liyutan**	**1.01**	**256**	*e*P		**Pn**	04 51 38.5	+1.0
	baz=253							
WDT	**Danda**	**1.06**	**218**	*e*P		**Pn**	04 51 37.7	-0.7
	baz=213							
WDT				*e*S		**Sn**	04 51 52.3	-0.5
	baz=213							
YOJ	**Yonaguni jima**	**1.06**	**97**	P		**Pn**	04 51 37.8	-0.3
YOJ				*e*S		**Sn**	04 51 52.4	+0.1
SMLT	**Sun Moon Lake**	**1.12**	**231**	*e*P		**Pn**	04 51 39.0	0.0
	baz=226							
SMLT				*e*S		**Sn**	04 51 55.0	+1.2
	baz=226							
TWF1	**Yuli**	**1.34**	**202**	*e*P		**Pn**	04 51 41.3	-0.5
	baz=198							
YUS	**Yu-Shan**	**1.37**	**217**	*e*P		**Pn**	04 51 42.4	-0.3
	baz=213							
ALS	**Alishan**	**1.44**	**222**	*e*P		**Pn**	04 51 43.8	+0.3
	baz=218							
ALS				*e*S		**Sn**	04 52 02.9	+1.2
	baz=218							
CHN5	**Tsauling**	**1.46**	**227**	*e*P		**Pn**	04 51 43.4	-0.1
	baz=224							
CHN5				*e*S		**Sn**	04 52 01.7	-0.1
	baz=224							
CHKT	**Chengkung**	**1.55**	**197**	*e*S		**Sn**	04 52 02.2	-1.6
	baz=193							
ELDTW	**Lidau**	**1.59**	**209**	*e*P		**Pn**	04 51 45.9	+0.6
	baz=205							
CHN4	**Tsaushan**	**1.69**	**223**	*e*P		**Pn**	04 51 46.7	+0.2
	baz=220							
CHN4				*e*S		**Sn**	04 52 09.1	+1.9
	baz=220							
IRIF	**Iriomote-Funau**	**1.73**	**98**	P		**Pn**	04 51 46.4	-0.6
IRIF				*e*S		**Sn**	04 52 07.9	-0.2
STYT	**Tauyuan**	**1.74**	**215**	*e*P		**Pn**	04 51 47.4	+0.2
	baz=212							
STYT				*e*S		**Sn**	04 52 10.3	+1.8
	baz=212							
TWK	**Hsinying**	**1.82**	**224**	*e*P		**Pn**	04 51 48.3	0.0
	baz=220							
TWK				*e*S		**Sn**	04 52 11.6	+1.3
	baz=220							
CHN1	**Nanshi**	**1.85**	**221**	*e*P		**Pn**	04 51 49.3	+0.6
	baz=218							
CHN1				*e*S		**Sn**	04 52 11.6	+0.4
	baz=218							
HATJ	**Hateruma jima**	**1.86**	**106**	*e*S		**Sn**	04 52 12.6	+1.4
JKRS	**Kuro-shima**	**2.00**	**100**	P		**Pn**	04 51 50.6	0.0
JKRS				*e*S		**Sn**	04 52 15.0	+0.4
JIJ	**Ishigaki jima**	**2.10**	**96**	P		**Pn**	04 51 51.5	-0.5
JIJ				*e*S		**Sn**	04 52 16.4	-0.7
JISG	**Ishigakijimahi**	**2.24**	**90**	P		**Pn**	04 51 53.5	-0.4
JISG				*e*S		**Sn**	04 52 19.5	-0.9

WEL 24 04:58:25.7±0.6, 38°36S×175°96E, h162km±4km, ML3.5/14, 9C-2D, Error ellipse: s-maj=3.9km s-min=3.0km az=90.0, North Island

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
MUGZ	**Murupara**	**0.64**	**100**		PN	Pn	04 58 49.2	0.0
WTVZ	**West Tongariro**	**0.81**	**201**		PN	Pn	04 58 50.6	+0.2
WTVZ					SN	Sn	04 59 08.7	-0.6
RTZ	**Ruatahuna**	**0.84**	**108**		PN	Pn	04 58 50.6	+0.1
RTZ					SN	Sn	04 59 08.6	-1.0
BKZ	**Black Stump Fm**	**0.90**	**153**	⇑	PN	Pn	04 58 51.0	+0.1
BKZ					AML	AML	04 59 10.8	
BKZ					AML	AML	04 59 12.7	
URZ	**Urewera**	**0.91**	**84**		PN	Pn	04 58 50.9	-0.1
FWVZ	**Far West T-bar**	**0.95**	**200**		PN	Pn	04 58 51.6	+0.1
WHVZ	**Whangaehu Hut**	**0.96**	**198**	⇑	PN	Pn	04 58 51.8	+0.2
NMHZ	**Naumai**	**0.99**	**138**		PN	Pn	04 58 52.8	+1.2
NMHZ					SN	Sn	04 59 12.2	+0.6
NMHZ					AML	AML	04 59 13.1	
TRVZ	**Turoa**	**0.99**	**199**		PN	Pn	04 58 52.0	+0.2
WNVZ	**Wahianoa**	**1.00**	**196**		PN	Pn	04 58 52.0	+0.2
MOVZ	**Moawhango**	**1.05**	**189**		PN	Pn	04 58 51.9	-0.2
KWHZ	**Kaweka Forest**	**1.12**	**161**		PN	Pn	04 58 53.0	+0.3
KWHZ					AML	AML	04 59 14.8	
KWHZ					AML	AML	04 59 15.5	
MWZ	**Matawai**	**1.23**	**89**	⇓	PN	Pn	04 58 54.4	+0.7
KRHZ	**Kereru**	**1.32**	**166**	⇑	PN	Pn	04 58 54.5	+0.1
KRHZ					AML	AML	04 59 18.4	
KRHZ					AML	AML	04 59 19.1	
RUGZ	**Raukumara Rang**	**1.41**	**74**		PN	Pn	04 58 54.8	-0.7
KNZ	**Kokohu**	**1.49**	**117**		PN	Pn	04 58 56.0	-0.1
PNHZ	**Pukenui**	**1.56**	**173**		PN	Pn	04 58 56.5	-0.3
HAZ	**Te Kaha**	**1.56**	**68**		PN	Pn	04 58 56.2	-0.6
HAZ					AML	AML	04 59 20.6	
WAZ	**Wanganui**	**1.58**	**208**		PN	Pn	04 58 56.9	-0.1
KAHZ	**Kahuranaki**	**1.60**	**154**		PN	Pn	04 58 57.5	+0.3
TSZ	**Takapari Road**	**1.69**	**180**	⇑	PN	Pn	04 58 57.8	-0.4
MHGZ	**Mahia Peninsul**	**1.71**	**118**		PN	Pn	04 58 58.9	+0.5
WPHZ	**Waipukurau**	**1.74**	**168**	⇑	PN	Pn	04 58 58.4	-0.3
PXZ	**Pawanui**	**1.81**	**158**		PN	Pn	04 58 59.3	-0.1
DVHZ	**Dannevirke**	**1.94**	**175**	⇑	PN	Pn	04 59 00.1	-0.8
DVHZ					AML	AML	04 59 27.6	
PRHZ	**Porangahau**	**1.97**	**165**		PN	Pn	04 59 00.9	-0.4
PRHZ					AML	AML	04 59 29.6	
WMGZ	**Waiomatatini S**	**2.01**	**75**		PN	Pn	04 59 01.5	-0.2
WMGZ					AML	AML	04 59 28.3	
WMGZ					AML	AML	04 59 29.9	
ANWZ	**Angora Road**	**2.13**	**169**		PN	Pn	04 59 02.6	-0.4
ANWZ					AML	AML	04 59 32.6	
ANWZ					AML	AML	04 59 32.6	
PRWZ	**Pori Road**	**2.19**	**180**		PN	Pn	04 59 03.0	-0.7
PRWZ					AML	AML	04 59 36.1	
MRZ	**Mangatainoka R**	**2.31**	**187**	⇑	PN	Pn	04 59 03.8	-1.3
MRZ					SN	Sn	04 59 32.0	-3.8
MRZ					AML	AML	04 59 34.5	
OGWZ	**Otaki Gorge**	**2.52**	**194**	⇑	PN	Pn	04 59 06.3	-1.4
OGWZ					AML	AML	04 59 38.7	
OGWZ					AML	AML	04 59 39.2	
KIW	**Kapiti Island**	**2.62**	**198**		PN	Pn	04 59 07.0	-1.9
TMWZ	**Te Maipa**	**2.74**	**181**		PN	Pn	04 59 08.5	-1.8
TMWZ					AML	AML	04 59 43.5	
MTW	**Mount Morrison**	**2.81**	**187**	⇑	PN	Pn	04 59 09.1	-2.1
CAW	**Cannon Point**	**2.83**	**194**		PN	Pn	04 59 09.4	-1.9
MSWZ	**Moikau Station**	**3.10**	**190**	⇓	PN	Pn	04 59 12.4	-2.4
TCW	**Tory Channel**	**3.13**	**204**		PN	Pn	04 59 12.8	-2.2
TCW					AML	AML	04 59 50.5	
PLWZ	**Palliser**	**3.25**	**189**		PN	Pn	04 59 13.9	-2.8
TUWZ	**Tuamarina**	**3.43**	**206**		PN	Pn	04 59 16.5	-2.5
NNZ	**Nelson**	**3.48**	**214**		PN	Pn	04 59 16.9	-2.5
NNZ					SN	Sn	04 59 57.7	-3.7
QRZ	**Quartz Range**	**3.62**	**226**		PN	Pn	04 59 18.3	-3.0
THZ	**Tophouse**	**4.13**	**214**		PN	Pn	04 59 24.8	-3.1
KHZ	**Kahutara**	**4.45**	**204**		PN	Pn	04 59 29.0	-3.0

*NIED **24** 05:09:00, 38°80N×142°50E, h32km, Mw4.0 Best double couple: M₀1.11000×10¹⁵ NP1:φ₀147.00000°, δ54.00000°, λ-24.00000°. NP2:φ₀252.00000°, δ71.00000°, λ-141.00000°.*
*MOS **24** 05:09:28.2±1.4, 38°80N×142°55E, h38km, mb4.3/11, Error ellipse: s-maj=17.0km s-min=7.8km az=79.2*
*ISCJB **24** 05:09:28.1±0.7, 38°80N±0°03×142°53E±0°06, h36km±7km, mb4.0/18, MS3.3/4, Error ellipse: s-maj=7.9km s-min=4.7km az=27.1*
*JMA **24** 05:09:28.9±0.1, 38°83N×142°44E, h33km±2km, M4.0*
JMA Felt I J1.

*IDC **24** 05:09:29.8±0.7, 38°77N×142°37E, h32km±4km, mb3.7/14, mb1 3.9/17, mb1mx3.8/48, mbtmp4.0/17, ML4.0/2, MS3.2/6, Ms1 3.2/6, ms1mx2.9/39, Error ellipse: s-maj=23.3km s-min=11.7km az=87.0*
*NEIC **24** 05:09:31.6±0.9, 38°83N×142°38E, h48km±7km, mb4.5/4, Error ellipse: s-maj=12.7km s-min=6.3km az=114.0*
NEIC Recorded [1 JMA] in Iwate and Miyagi.
ISC 24 05:09:29.1±0.7, 38°80N±0°05×142°54E±0°05, h31km±4km, h31km:pP-P, n58, σ1s88/75, mb4.2/18, MS3.3/4, 2D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
OFUJ	**Ofunato**	**0.73**	**293**		P	**Pb**	**05 09 41.8**	**-1.7**
OFUJ					S	**Sb**	**05 09 50.4**	**-2.8**
JIO	**Ouri**	**0.99**	**250**		P	**Pn**	**05 09 45.4**	**-1.5**
JIO					*e*S	**Sn**	**05 09 56.9**	**-3.0**
JMK	**Ichinoseki**	**1.04**	**279**		P	**Pn**	**05 09 46.4**	**-1.2**
JMK					S	**Sn**	**05 09 58.6**	**-2.4**
JOM	**Ohasama**	**1.18**	**305**		P	**Pn**	**05 09 48.7**	**-0.8**
JOM					S	**Sn**	**05 10 02.8**	**-1.7**
JTH	**Tanohata**	**1.25**	**336**		P	**Pn**	**05 09 49.2**	**-1.3**
JTH					*e*S	**Sn**	**05 10 04.8**	**-1.5**
JOU	**Okura**	**1.53**	**254**		P	**Pn**	**05 09 53.8**	**-0.6**
JOU					*e*S	**Sn**	**05 10 12.5**	**-0.7**
JRG	**Rokugo**	**1.60**	**293**		P	**Pn**	**05 09 55.1**	**-0.1**
JRG					*e*S	**Sn**	**05 10 15.1**	**+0.3**
JMM	**Marumori**	**1.66**	**236**		P	**Pn**	**05 09 54.6**	**-1.5**
JMM					*e*S	**Sn**	**05 10 15.1**	**-1.2**
JYK	**Kaneyama**	**1.71**	**275**		P	**Pn**	**05 09 56.3**	**-0.4**
JYK					*e*S	**Sn**	**05 10 17.1**	**-0.4**
JANG	**Nango**	**1.76**	**334**		P	**Pn**	**05 09 56.8**	**-0.7**
JANG					*e*S	**Sn**	**05 10 18.0**	**-0.8**
ERM	**Erimo**	**3.25**	**8**	*e*	P	**Pn**	**05 10 18.9**	**+1.0**
ERM	**Erimo**	**3.25**	**8**	*e*	Pn	**Pn**	**05 10 18.9**	**+1.0**
MAJO	**Matsushiro**	**4.11**	**238**	*e*	P	**Pn**	**05 10 31.1**	**+1.3**
MAJO	**Matsushiro**	**4.11**	**238**	*e*	Pn	**Pn**	**05 10 31.1**	**+1.3**
MAT	**Matsushiro**	**4.11**	**238**		P	**Pn**	**05 10 31.5**	**+1.7**
MAT					*e*S	**Sn**	**05 11 20.9**	**+4.1**
MJAR	**Matsushiro Arr**	**4.11**	**238**		Pn	**Pn**	**05 10 31.4**	**+1.6**
	6.7nm,0.3s,baz=36,slow=13,SNR=49							
MJAR					LR	LR	05 12 20.5	
	comp=Z,104nm,19.2s,baz=40,slow=43							
ASAJ	**Asahikawa**	**5.31**	**0**		Pn	**Pn**	**05 10 47.1**	**+0.8**
	2.9nm,0.3s,baz=194,slow=14,SNR=15							
ASAJ					Sn	**Sn**	**05 11 47.4**	**+1.0**
	1.1nm,0.3s,baz=210,slow=8.1,SNR=2.2							
ASAJ	**Asahikawa**	**5.31**	**0**	*e*	Pn	**Pn**	**05 10 48.0**	**+1.6**
	33nm,1.4s							
ASAJ					Sn	**Sn**	**05 11 47.4**	**+1.0**
YUK	**Yuzh-Kuril'sk**	**5.80**	**24**	*d*	P	**Pn**	**05 10 52.7**	**-0.2**
YUK					*i* S	**Sn**	**05 11 55.4**	**-2.9**
YUK					pmax	pmax		
	comp=E,84nm,0.3s							
YUK					pmax	pmax		
	comp=Z,158nm,0.3s							
YUK					pmax	pmax		
	comp=N,41nm,0.2s							
YUK					smax	smax		
	comp=E,151nm,0.2s							
YUK					smax	smax		
	comp=N,227nm,0.3s							
YUK	**Yuzh-Kuril'sk**	**5.80**	**24**	*i*	P	**Pn**	**05 10 52.7**	**-0.2**
YUK					AMB	AMB	05 10 57.0	
	comp=N,10.0nm,0.3s							
YUK					*i* S	**Sn**	**05 11 55.7**	**-2.6**
YUK					A	A	05 12 03.1	
	comp=N,20nm,0.4s							
YUK					A	A	05 12 03.1	
	comp=N,30nm,0.4s							
SHO	**Shikotan**	**6.01**	**31**	*d*	P	**Pn**	**05 10 54.0**	**-1.8**
SHO					*i* S	**Sn**	**05 11 57.6**	**-5.9**
SHO					pmax	pmax		
	comp=Z,23nm,0.5s							
SHO					pmax	pmax		
	comp=E,11nm,0.3s							
SHO					pmax	pmax		
	comp=N,10.0nm,0.5s							
SHO					smax	smax		
	comp=N,124nm,0.4s							
SHO					smax	smax		
	comp=E,74nm,0.4s							
SHO	**Shikotan**	**6.01**	**31**	*e*	P	**Pn**	**05 10 54.0**	**-1.8**
SHO					AMB	AMB	05 10 56.2	
	comp=E,20nm,0.9s							
SHO					*i* S	**Sn**	**05 11 56.6**	**-6.9**
SHO					A	A	05 12 00.6	
	comp=E,20nm,0.6s							
SHO					A	A	05 12 00.6	
	comp=E,40nm,0.6s							
JHJ	**Hachijo jima 2**	**6.09**	**202**		Pn	**Pn**	**05 10 56.5**	**-0.5**
	comp=E,34nm,0.3s,baz=93,slow=15,SNR=4.0							
JHJ					Sn	**Sn**	**05 11 59.8**	**-5.9**
	comp=E,12nm,0.3s,baz=19,slow=18,SNR=3.3							
YSS	**Yuzh-Sakhalins**	**8.15**	**1**	*e*	P	**Pn**	**05 11 27.1**	**+1.9**
YSS					pmax	pmax		
	comp=Z,13nm,0.7s							
YSS	**Yuzh-Sakhalins**	**8.15**	**1**	*e*	Pn	**Pn**	**05 11 27.1**	**+1.9**
	comp=Z,13nm,0.7s							
USRK	**Ussuriysk Ar.**	**9.57**	**308**		Pn	**Pn**	**05 11 46.1**	**+1.3**
	comp=Z,0.3nm,0.3s,baz=122,slow=14,SNR=10.0							
USRK					LR	LR	05 15 08.1	
	comp=Z,109nm,19.9s,baz=90,slow=36							
MA2	**Magadan**	**21.45**	**11**		P	**P**	**05 14 14.9**	**+0.4**
	comp=Z,9.2nm,0.7s,baz=143,slow=20,SNR=3.7							
SEY	**Seymchan**	**24.89**	**11**		P	**P**	**05 14 49.5**	**+0.7**
	comp=Z,1.3nm,0.3s,baz=199,slow=10,SNR=5.7							
SONM	**Songino Array**	**27.59**	**301**		P	**P**	**05 15 13.2**	**-0.4**
	comp=Z,0.5nm,0.5s,baz=83,slow=8.0,SNR=3.7							
H11N2	**WAKE ISLAND Hy**	**28.36**	**125**		T	T	05 45 13.8	
	baz=314							
H11N1	**WAKE ISLAND Hy**	**28.37**	**125**		T	T	05 45 13.1	
	baz=314,slow=74,SNR=593							
H11N3	**WAKE ISLAND Hy**	**28.38**	**125**		T	T	05 45 13.1	
	baz=314,slow=74,SNR=656							
H11S1	**WAKE ISLAND Hy**	**29.14**	**127**		T	T	05 46 09.6	
	baz=318,slow=76,SNR=120							
H11S3	**WAKE ISLAND Hy**	**29.14**	**127**		T	T	05 46 08.5	
	baz=318,slow=76,SNR=136							
H11S2	**WAKE ISLAND Hy**	**29.16**	**127**		T	T	05 46 11.3	
	baz=318,slow=76,SNR=119							
ZALV	**Zalesovo Beam**	**41.41**	**311**		P	**P**	**05 17 12.5**	**+0.1**
	comp=Z,1.3nm,0.3s,baz=88,slow=12,SNR=4.3							
ZALV					LR	LR	05 35 07.0	
	comp=Z,40nm,18.8s,baz=248,slow=37							
NRIK	**Noril'sk**	**42.05**	**334**		LR	LR	05 35 33.5	
	comp=Z,47nm,21.5s,baz=104,slow=37							
MKAR	**Makanchi Array**	**43.96**	**301**		P	**P**	**05 17 33.3**	**0.0**
	comp=Z,2.2nm,0.9s,baz=84,slow=10,SNR=11							
MKAR					pP	**pP**	**05 17 41.8**	**-0.7**
	comp=Z,3.1nm,0.7s,baz=86,slow=8.9,SNR=15							
KURK	**Kurchatov**	**45.56**	**307**		*e*P	**P**	**05 17 45.4**	**-0.5**
KURK					pmax	pmax		
	comp=Z,29nm,0.8s							
KURK	**Kurchatov**	**45.56**	**307**		*e*P	**P**	**05 17 45.4**	**-0.5**
	comp=Z,29nm,0.8s							
ILAR	**Eielson Array**	**47.53**	**33**		P	**P**	**05 18 03.1**	**+1.9**
	comp=Z,0.6nm,0.8s,baz=260,slow=5.9,SNR=6.6							
INK	**Inuvik**	**52.41**	**28**		*e*P	**P**	**05 18 39.8**	**+1.7**
INK					pmax	pmax		
	comp=Z,6.0nm,1.3s							
INK	**Inuvik**	**52.41**	**28**		*e*P	**P**	**05 18 39.8**	**+1.7**
	comp=Z,5.8nm,1.3s							
ABKAR	**Akbulak array**	**57.49**	**310**		*e*P	**P**	**05 19 14.7**	**-0.4**
	comp=Z,3.3nm,0.6s							
FITZ	**Fitzroy Crossi**	**58.78**	**199**		P	**P**	**05 19 24.1**	**-0.2**
	comp=Z,0.8nm,0.7s,baz=30,slow=6.8,SNR=2.0							
WRAB	**Tennant Creek**	**58.92**	**189**		*e*P	**P**	**05 19 25.1**	**-0.2**
WRAB					pmax	pmax		
	comp=Z,3.0nm,0.9s							
WRAB	**Tennant Creek**	**58.92**	**189**		*e*P	**P**	**05 19 25.1**	**-0.2**
	comp=Z,3.3nm,0.9s							
WRA	**Warramunga Arr**	**58.94**	**189**		P	**P**	**05 19 25.1**	**-0.3**
	comp=Z,2.1nm,0.6s,baz=6.7,slow=7.0,SNR=38							
WRA					pP	**pP**	**05 19 35.0**	**+0.1**
	comp=Z,1.5nm,0.7s,baz=6.8,slow=7.1,SNR=9.1							
ASAR	**Alice Springs**	**62.66**	**189**		P	**P**	**05 19 50.8**	**0.0**
	comp=Z,1.1nm,0.8s,baz=3.2,slow=6.2,SNR=14							
ASAR					pP	**pP**	**05 20 01.5**	**+1.2**
	comp=Z,0.9nm,0.8s,baz=15,slow=6.6,SNR=6.8							
AFI	**Afiamalu**	**67.60**	**131**		LR	LR	05 42 47.0	
	comp=Z,26nm,21.6s,baz=202,slow=30							
FINES	**FINESS Array B**	**67.67**	**332**		P	**P**	**05 20 23.7**	**+0.9**
	comp=Z,3.8nm,1.1s,baz=46,slow=8.0,SNR=2.7							
FINES					pP	**pP**	**05 20 33.0**	**+0.6**
	comp=Z,2.8nm,0.7s,baz=31,slow=12,SNR=3.3							
NB2	**NORSAR Subarra**	**72.90**	**338**		P	pP	05 21 05.6	+1.0
	comp=Z,0.6nm,0.5s,baz=38,slow=6.5							
NOA	**NORSAR Array B**	**72.90**	**338**		P	**P**	**05 20 53.8**	**-1.1**
	comp=Z,0.8nm,0.9s,baz=23,slow=5.9,SNR=2.7							
NOA					pP	**pP**	**05 21 05.6**	**+1.0**
	comp=E,1.0nm,0.6s,baz=40,slow=6.1,SNR=3.1							
NOA					LR	LR	05 55 46.0	
	comp=Z,10nm,20.0s,baz=35,slow=38							
AKASG	**Malin Array Be**	**73.44**	**322**		P	**P**	**05 20 57.2**	**-1.0**
	comp=Z,0.5nm,0.4s,baz=42,slow=5.7,SNR=3.2							
AKASG					pP	**pP**	**05 21 08.4**	**+0.5**
	comp=Z,1.7nm,0.6s,baz=44,slow=6.3,SNR=4.6							
CLL	**Collm**	**80.00**	**331**		*e*P	**P**	**05 21 36.0**	**+0.8**
CLL					*i* pP	**pP**	**05 21 46.2**	**+1.2**
GERES	**GERESS Array B**	**81.67**	**329**		P	**P**	**05 21 44.5**	**+0.1**
	comp=Z,0.3nm,0.4s,baz=20,slow=8.8,SNR=2.1							
GERES					pP	**pP**	**05 21 54.8**	**+0.6**
	comp=Z,0.9nm,0.9s,baz=20,slow=4.7,SNR=3.9							
TXAR	**Lajitas Array**	**88.35**	**53**		P	**P**	**05 22 19.4**	**+1.2**
	comp=Z,0.1nm,0.6s,baz=316,slow=2.5,SNR=2.8							
LCO	**Las Campanas**	**150.87**	**81**	*e*	PKPbc	**PKPbc**	**05 29 21.6**	**+2.6**

*ISCJB **24** 05:11:00.0±0.8, 31°88N±0°03×114°95W±0°07, h28km±6km, Error ellipse: s-maj=9.9km s-min=5.7km az=170.6*
*NEIC **24** 05:11:00.3±0.0, 31°87N×114°93W, h10km, ML2.7(ECX), ML2.8(PAS), After ECX.*
*MEX **24** 05:11:01.8±0.3, 31°87N×114°94W, h7km±11km, MD3.8*
*ECX **24** 05:11:02.5±0.4, 31°88N×115°13W, h10km, MD2.7, ML2.9*
ISC 24 05:11:00.7±1.2, 31°84N±0°04×115°08W±0°04, h23km±15km, n22, σ1s17/35, 4C, Baja California

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
ECBX	**El Chinero**	**0.36**	**177**	⇑	*e*P	**Pn**	**05 11 08.9**	**-1.6**
ECBX					*e*S	**Sn**	**05 11 15.1**	**-1.9**
CPBX	**Cerro Prieto**	**0.61**	**342**		*e*P	**Pb**	**05 11 12.3**	**-0.5**
CPBX					*e*S	**Sb**	**05 11 20.2**	**-0.8**
CPBX					IAML		05 11 24.9	
	comp=N,2μm,0.1s							
CPBX				⇑	*e*		05 11 24.9	
CPBX	**Cerro Prieto**	**0.61**	**342**		*e*P	**Pb**	**05 11 12.3**	**-0.5**
CPBX					*i* S	**Sb**	**05 11 20.6**	**-0.4**
SPIG	**San Pedro Mart**	**0.85**	**203**		*e*P	**Pn**	**05 11 18.1**	**+0.4**
SPIG	**San Pedro Mart**	**0.85**	**203**		*e*P	**Pn**	**05 11 17.9**	**+0.2**
SPIG					*i* S	**Sn**	**05 11 29.8**	**+0.1**
SPIG	**San Pedro Mart**	**0.85**	**203**		*e*P	**Pn**	**05 11 17.9**	**+0.2**
SPIG					*i* S	**Sn**	**05 11 29.8**	**+0.1**
SPX	**San Pedro Mart**	**0.85**	**203**		*e*P	**Pn**	**05 11 17.7**	**+0.1**
SPX					*e*S	**Sn**	**05 11 30.6**	**+0.9**
SPX				⇑	*e*		05 11 32.3	
SPX					IAML		05 11 32.3	
	comp=N,322nm,0.2s							
SPX	**San Pedro Mart**	**0.85**	**203**		*e*P	**Pn**	**05 11 17.2**	**-0.4**
SPX					*i* S	**Sn**	**05 11 29.4**	**-0.2**
ZAX	**El Zacaton**	**1.07**	**253**		*e*P	**Pn**	**05 11 20.5**	**+0.1**
ZAX				⇑	*e*		05 11 37.5	
ZAX					IAML		05 11 37.5	
	comp=N,195nm,0.4s							
YUH	**Yuha Desert**	**1.08**	**319**		*e*P	**Pb**	**05 11 20.4**	**-0.4**
RMX	**La Rumorosa**	**1.14**	**312**		*e*P	**Pn**	**05 11 21.3**	**-0.2**
RMX					*e*S	**Sb**	**05 11 35.4**	**-1.0**
RMX	**La Rumorosa**	**1.14**	**312**		*e*P	**Pn**	**05 11 21.3**	**-0.2**
RMX					*e*S	**Sb**	**05 11 36.1**	**-0.3**
IKP	**In-Ko-Pah, Jac**	**1.20**	**313**		*e*P	**Pn**	**05 11 22.1**	**-0.1**
ECNX	**Esteban Cantu**	**1.31**	**263**		*e*P	**Pb**	**05 11 24.6**	**-0.1**
ECNX	**Esteban Cantu**	**1.31**	**263**		*e*P	**Pb**	**05 11 24.6**	**-0.1**
CBX	**Cerro Bola**	**1.43**	**290**		*e*P	**Pn**	**05 11 26.0**	**+0.6**
CBX					*e*S	**Sn**	**05 11 44.5**	**+0.9**
CBX					IAML		05 11 48.0	
	comp=N,284nm,0.5s							
CBX					*e*		05 11 48.0	
CBX	**Cerro Bola**	**1.43**	**290**		*e*P	**Pn**	**05 11 25.5**	**+0.1**
CBX	**Cerro Bola**	**1.43**	**290**		*e*P	**Pn**	**05 11 25.5**	**+0.1**
CBX					*e*S	**Sn**	**05 11 44.5**	**+0.9**
TJIG	**Tijuana**	**1.48**	**294**		*e*P	**Pn**	**05 11 26.6**	**+0.5**
TJIG					*e*S	**Sb**	**05 11 46.2**	**+0.2**
214A	**Organ Pipe Nat**	**1.93**	**86**		*e*Pn	**Pn**	**05 11 29.7**	**-2.5**
214A					*e*Sg	**Sb**	**05 12 03.0**	**+4.0**
PFO	**Pinyon Flats O**	**2.12**	**327**		*e*Pn	**Pb**	**05 11 39.9**	**+1.4**
TUC	**Tucson**	**3.67**	**81**		*e*Pg	Pb	05 12 08.2	+3.2
TUC					*e*Sg	**Sb**	**05 12 51.5**	**+2.4**

*IDC **

21nm,1.8s
MDM Murphy Dome 50.55 31 *e*P P 05 29 46.9 +0.6
17nm,1.9s
ILAR Eielson Array 51.13 32 P P 05 29 51.1 +0.4
0.4nm,0.7s,baz=273,slow=6.6,SNR=4.5
ILB Eielson Array 51.13 32 *e*P P 05 29 51.1 +0.4
FITZ Fitzroy Crossi 55.00 198 P P 05 30 19.6 0.0
2.2nm,0.9s,baz=356,slow=5.6,SNR=4.9
WB2 Warramunga Arr 55.17 188 *e*P P 05 30 20.3 -0.5
9.1nm,1.2s
WR1 Warramunga Arr 55.17 188 *e*P P 05 30 20.3 -0.5
10nm,1.4s
WRA Warramunga Arr 55.17 188 P P 05 30 20.3 -0.5
0.9nm,0.4s,baz=5.0,slow=7.4,SNR=24
AS01 Alice Springs 58.89 188 *e*P P 05 30 47.9 +0.8
AS31 Alice Springs 58.90 188 *e*P P 05 30 48.8 +1.5
1.9nm,1.5s
ASAR Alice Springs 58.90 188 P P 05 30 48.8 +1.5
0.4nm,0.6s,baz=16,slow=14,SNR=13
ABKAR Akbulak array 59.14 311 *e*P P 05 30 48.6 -0.1
9.6nm,0.4s
FIA0 FINESS Array S 70.48 333 *e*P P 05 32 02.4 +0.1
FINES FINESS Array B 70.48 333 P P 05 32 02.4 +0.1
2.5nm,1.0s,baz=76,slow=5.9,SNR=3.0
TVH1 TV Hill, Hawth 75.85 53 *e*P P 05 32 35.7 +0.7
4.4nm,0.7s
PAGB Antelope Grade 76.36 56 *e*P P 05 32 39.0 +1.5
29nm,1.5s
PD31 Pinedale Array 79.03 45 *e*P P 05 32 53.1 +0.6
PDAR Pinedale Array 79.03 45 P P 05 32 53.1 +0.6
0.3nm,0.5s,baz=325,slow=1.8,SNR=3.6
TMUT Trail Mountain 80.16 49 *e*P P 05 32 57.2 -1.6
12nm,1.8s
ESK Eskdalemuir 84.94 341 *e*P P 05 33 24.1 +1.1
81nm,1.6s
LSZ Lusaka 117.47 270 *e*PKPdf PKPdf 05 39 33.8 -0.6
RUSC La Rusia 127.88 45 *e*PKPdf PKPdf 05 39 54.0 -1.0

IDC ***24*** *05:27:47.5±1.1, 17°.31S×177°.70W, h380km±10km, mb4.5/26, mb1 4.6/28, mb1mx4.5/34, mbtmp5.2/28, Error ellipse: s-maj=10.4km s-min=7.9km az=118.0*

ISCJB ***24*** *05:27:47.9±0.1, 17°.32S±0°.03×177°.85W±0°.03, h392km, mb4.8/275, Error ellipse: s-maj=4.3km s-min=2.7km az=144.9*

BJI ***24*** *05:27:48.3, 17°.30S×177°.80W, h395km, mb5.0/42, mB5.1/28*

GCMT ***24*** *05:27:49.7±0.4, 17°.32S×177°.70W, h416km±2km, MW5.3/53, Moment Tensor Solution. s53,c66; Duration: 1s1 Moment tensor: Scale 10^17Nm; Mrr-0.12±.03; Mθθ-0.12±.05; Mϕϕ0.24±.05; Mrθ-0.42±.05; Mϕθ-0.86±.04; Mϕr-0.21±.05; Best double couple: M0 1.00200×10^17 NP1:ϕs99.00000°, δ76.00000°, λ-156.00000°. NP2: ϕs3.00000°, δ67.00000°, λ-15.00000°. Principal axes: T 0.9530, Plg6.0000°, Azm229.0000°; N 0.0970, Plg63.0000°, Azm128.0000°; P -1.0510, Plg27.0000°, Azm323.0000°; nsta1 refers to body waves, cutoff=40s.*

NEIC ***24*** *05:27:49.7±0.7, 17°.31S×177°.84W, h399km±7km, mb4.9/234 Error ellipse: s-maj=3.9km s-min=2.9km az=137.0*

MOS ***24*** *05:27:50.7±1.1, 17°.16S×177°.92W, h412km, mb4.7/50, Error ellipse: s-maj=8.2km s-min=6.7km az=63.7*

ISC 24 05:27:48.8±0.3, **17°.30S**±0°.05×**177°.65W**±0°.05, **h392**km, **n829**, σ**1**§**18**/862, **mb4.8**/275, **42C-18D, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time h m s	Res ISC
MSVF	**Nonsavu**	**4.12**	**263**	*e*P		**Pn** 05 29 05.4	**+3.7**
MSVF	**Nonsavu**	**4.12**	**263**	*e*Pn		**Pn** 05 29 05.4	**+3.7**
AFI	**Afiamalu**	**6.59**	**60**	P		**Pn** 05 29 26.0	**-1.8**
	60nm,0.3s,baz=180,slow=0.4,SNR=36						
AFI				S		**S** 05 30 43.7	**-4.8**
	16nm,0.3s,baz=163,slow=19,SNR=3.4						
AFI	**Afiamalu**	**6.59**	**60**	*e*P		**Pn** 05 29 26.9	**-0.9**
AFI				S		**S** 05 30 43.7	**-4.8**
AFI	**Afiamalu**	**6.59**	**60**	*e*Pn		**Pn** 05 29 26.9	**-0.9**
AFI				S		**S** 05 30 43.7	**-4.8**
FUNA	**Funafuti**	**9.25**	**340**	*e*P		**Pn** 05 29 57.0	**-1.1**
RAO	**Raoul Island**	**11.90**	**181**	S		**S** 05 32 36.5	**-2.2**
	30nm,0.3s,baz=73,slow=20,SNR=6.6						
DZM	**Mont Dzumac**	**15.71**	**250**	P		**P** 05 31 09.5	**+0.2**
	3.8nm,0.3s,baz=74,slow=16,SNR=39						
DZM	**Mont Dzumac**	**15.71**	**250**	*e*P		**P** 05 31 08.5	**-0.8**
	82nm,0.8s						
DZM	**Mont Dzumac**	**15.71**	**250**	*e*P		**P** 05 31 08.6	**-0.8**
	82nm,0.8s						
OUZ	**Omahuta**	**19.48**	**202**	*e*P		**P** 05 31 50.1	**+1.4**
	106nm,0.6s						
MXZ	**Matakaoa Point**	**20.50**	**189**	*e*P		**P** 05 31 58.7	**+0.5**
	199nm,1.5s						
TARA	**Tarawa**	**20.74**	**332**	*e*P		**P** 05 32 00.1	**-0.6**
	115nm,0.8s						
URZ	**Urewera**	**21.38**	**191**	P		**P** 05 32 04.0	**-2.2**
	84nm,0.6s,baz=35,slow=2.9,SNR=56						
URZ				S		**S** 05 35 38.0	**+2.0**
	22nm,0.9s,baz=84,slow=17,SNR=3.8						
URZ	**Urewera**	**21.38**	**191**	*e*P		**P** 05 32 04.2	**-2.0**
	80nm,0.7s						
URZ				S		**S** 05 35 38.0	**+2.0**
HIZ	**Hauiti**	**22.13**	**196**	*e*P		**P** 05 32 16.2	**+3.2**
BKZ	**Black Stump Fm**	**22.38**	**192**	*e*P		**P** 05 32 13.9	**-1.4**
	27nm,0.6s						
HNR	**Honiara**	**23.14**	**287**	*e*P		**P** 05 32 21.3	**-1.2**
HNR				pmax		pmax	
	comp=Z,257nm,0.8s						
HNR	**Honiara**	**23.14**	**287**	*e*P		**P** 05 32 21.3	**-1.2**
	comp=Z,257nm,0.8s						
BFZ	**Birch Farm**	**23.89**	**192**	*e*P		**P** 05 32 27.6	**-1.3**
	comp=Z,45nm,0.8s						
SNZO	**South Karori**	**24.82**	**194**	*e*P		**P** 05 32 36.3	**-0.9**
	comp=Z,91nm,0.8s						
THZ	**Tophouse**	**25.69**	**196**	*e*P		**P** 05 32 44.8	**-0.3**
	comp=Z,295nm,1.8s						
KHZ	**Kahutara**	**26.14**	**195**	*e*P		**P** 05 32 47.5	**-1.4**
	comp=Z,65nm,0.9s						
LTZ	**Lake Taylor**	**26.81**	**197**	*e*P		**P** 05 32 53.6	**-1.4**
	comp=Z,46nm,0.7s						
OXZ	**Oxford**	**27.38**	**197**	*e*P		**P** 05 32 58.7	**-1.2**
	comp=Z,66nm,0.9s						
MQZ	**McQueen's Vall**	**27.57**	**195**	*e*P		**P** 05 33 00.8	**-0.8**
	comp=Z,293nm,1.7s						
XMAS	**Kiritimati**	**27.69**	**48**	*e*P		**P** 05 33 03.6	**+0.6**
	comp=Z,98nm,0.9s						
RPZ	**Rata Peaks**	**28.01**	**198**	P		**P** 05 33 05.9	**+0.4**
	comp=Z,17nm,0.5s,baz=21,slow=3.1,SNR=9.9						
RPZ	**Rata Peaks**	**28.01**	**198**	*e*P		**P** 05 33 06.3	**+0.7**
	comp=Z,38nm,1.0s						
FOZ	**Fox Glacier**	**28.22**	**199**	*e*P		**P** 05 33 07.5	**+0.1**
	comp=Z,97nm,0.9s						
LBZ	**Lake Benmore**	**28.88**	**198**	*e*P		**P** 05 33 12.1	**-1.1**
	comp=Z,34nm,0.7s						
ODZ	**Otahua Downs**	**29.35**	**197**	*e*P		**P** 05 33 16.7	**-0.5**
	comp=Z,76nm,1.4s						
WKZ	**Wanaka**	**29.64**	**199**	*e*P		**P** 05 33 19.3	**-0.5**
	comp=Z,66nm,0.6s						
KWAJ	**Kwajalein Atol**	**29.75**	**330**	*e*P		**P** 05 33 21.4	**+0.3**
KWAJ				pmax		pmax	
	comp=Z,367nm,0.8s						
KWAJ	**Kwajalein Atol**	**29.75**	**330**	*e*P		**P** 05 33 21.4	**+0.3**
	comp=Z,367nm,0.8s						
EIDS	**Eidsvold**	**30.16**	**249**	*e*P		**P** 05 33 23.4	**-1.1**
	comp=Z,34nm,0.8s						
DCZ	**Deep Cove**	**30.82**	**201**	*e*P		**P** 05 33 29.8	**-0.2**
	comp=Z,50nm,1.0s						
ARMA	**Armidale**	**30.87**	**239**	*e*P		**P** 05 33 30.5	**-0.3**
	comp=Z,72nm,1.5s						
WHZ	**Wether Hill Ro**	**30.93**	**200**	*e*P		**P** 05 33 31.7	**+0.7**
	comp=Z,144nm,0.6s						
RABL	**Rabaul**	**32.32**	**290**	*e*P		**P** 05 33 42.8	**-0.7**
	comp=Z,98nm,0.6s						
PATS	**Pohnpei**	**33.76**	**313**	*e*P		**P** 05 33 55.8	**+0.1**
	comp=Z,140nm,1.0s						
CTA	**Charters Tower**	**34.26**	**260**	P		**P** 05 33 58.4	**-1.7**
	comp=Z,24nm,0.7s,baz=83,slow=12,SNR=21						
CTAO	**Charters Tower**	**34.26**	**260**	*e*P		**P** 05 33 59.3	**-0.8**
CTAO				pmax		pmax	
	comp=Z,30nm,0.9s						
CTAO	**Charters Tower**	**34.26**	**260**	*e*P		**P** 05 33 59.3	**-0.8**
	comp=Z,30nm,0.9s						
CAN	**Canberra**	**34.65**	**232**	*e*P		**P** 05 34 02.8	**-0.3**
CAN				pmax		pmax	
	comp=Z,34nm,1.2s						
CAN	**Canberra**	**34.65**	**232**	*e*P		**P** 05 34 02.8	**-0.3**
	comp=Z,34nm,1.2s						
PMG	**Port Moresby**	**35.08**	**278**	P		**P** 05 34 08.1	**+1.1**
	comp=Z,182nm,0.8s,baz=77,slow=7.2,SNR=34						
PMG	**Port Moresby**	**35.08**	**278**	*e*P		**P** 05 34 07.9	**+0.9**
PMG				*e*		05 36 27.3	
PMG				pmax		pmax	
	comp=Z,198nm,0.8s						
PMG	**Port Moresby**	**35.08**	**278**	*e*P		**P** 05 34 07.9	**+0.9**
	comp=Z,198nm,0.8s						
PMG				*e*PcP		**PcP** 05 36 27.3	**-1.4**
MANU	**Manus Island**	**37.56**	**290**	*e*P		**P** 05 34 28.7	**+0.9**
	comp=Z,213nm,0.8s						
COEN	**Coen**	**37.83**	**269**	*e*P		**P** 05 34 29.5	**-0.4**
	comp=Z,136nm,1.7s						
TOO	**Toolangi**	**38.11**	**231**	P		**P** 05 34 31.9	**-0.1**
TOO				pmax		pmax	
	comp=Z,73nm,1.0s						
TAU	**Tasmania Unive**	**39.17**	**222**	*e*P		**P** 05 34 39.6	**-1.0**
TAU				pmax		pmax	
	comp=Z,272nm,1.9s						
TAU	**Tasmania Unive**	**39.17**	**222**	*e*P		**P** 05 34 39.6	**-1.0**
	comp=Z,272nm,1.9s						
WAKE	**Wake Island**	**39.49**	**336**	*e*P		**P** 05 34 43.0	**-0.4**
	comp=Z,131nm,0.6s						
STKA	**Stephens Creek**	**39.55**	**241**	P		**P** 05 34 43.1	**-0.8**
	comp=Z,31nm,0.7s,baz=90,slow=9.6,SNR=38						
STKA				S		**S** 05 40 15.8	**-1.2**
	comp=Z,4.0nm,1.0s,baz=107,slow=14,SNR=3.7						
STKA	**Stephens Creek**	**39.55**	**241**	*e*P		**P** 05 34 43.1	**-0.8**
STKA				S		**S** 05 40 15.8	**-1.2**
STKA				pmax		pmax	
	comp=Z,7.0nm,0.6s						
STKA	**Stephens Creek**	**39.55**	**241**	*e*P		**P** 05 34 43.0	**-0.8**
	comp=Z,6.9nm,0.6s						
STKA				S		**S** 05 40 15.8	**-1.2**
SBLHI	**Steaming Bluff**	**42.61**	**32**	*e*P		**P** 05 35 09.1	**+0.4**
	comp=Z,931nm,1.2s						
JAY	**Jayapura**	**43.44**	**285**	P		**P** 05 35 15.5	**+0.2**
	comp=Z,5.1nm,0.6s,baz=99,slow=19,SNR=32						
JAY	**Jayapura**	**43.44**	**285**	P		**P** 05 35 15.5	**+0.2**
	comp=Z,84nm,0.9s,comp=Z,750nm						
GENI	**Genyem**	**43.91**	**285**	P		**P** 05 35 19.7	**+0.8**
	comp=Z,393nm,0.7s,comp=Z,4μm						
BBOO	**Buckleboo**	**44.33**	**241**	*e*P		**P** 05 35 21.0	**-1.1**
	comp=Z,64nm,0.8s						
WB2	**Warramunga Arr**	**45.44**	**259**	*e*P		**P** 05 35 29.3	**-1.6**
	comp=Z,37nm,0.8s						
WB2				*e*S		**S** 05 41 39.6	**-2.8**
WRAB	**Tennant Creek**	**45.45**	**259**	⇑P		**P** 05 35 28.7	**-2.2**
WRAB				pmax		pmax	
	comp=Z,67nm,0.9s						
WRAB	**Tennant Creek**	**45.45**	**259**	*e*P		**P** 05 35 29.2	**-1.7**
	comp=Z,29nm,0.8s						
WRA	**Warramunga Arr**	**45.46**	**259**	P		**P** 05 35 29.4	**-1.5**
	comp=Z,28nm,0.7s,baz=94,slow=7.2,SNR=105						
WRA				PcP		**PcP** 05 37 01.6	**-0.9**
	comp=Z,3.7nm,0.7s,baz=94,slow=3.2,SNR=4.3						
WRA				ScP		**ScP** 05 40 17.9	**+0.7**
	comp=Z,1.8nm,0.7s,baz=89,slow=4.5,SNR=6.0						
WRA				S		**S** 05 41 38.0	**-4.7**
	comp=Z,1.9nm,0.8s,baz=91,slow=14,SNR=8.1						
AS01	**Alice Springs**	**45.61**	**254**	*e*P		**P** 05 35 30.1	**-2.0**
AS01				*e*S		**S** 05 41 40.9	**-3.9**
AS31	**Alice Springs**	**45.65**	**254**	*e*P		**P** 05 35 30.9	**-1.6**
	comp=Z,38nm,0.8s						
AS31				*e*S		**S** 05 41 40.6	**-4.8**
ASAR	**Alice Springs**	**45.65**	**254**	P		**P** 05 35 30.9	**-1.6**
	comp=Z,129nm,0.8s,baz=88,slow=7.2,SNR=627						
ASAR				PcP		**PcP** 05 37 02.1	**-1.0**
	comp=Z,4.2nm,0.7s,baz=95,slow=5.4,SNR=4.9						
ASAR				ScP		**ScP** 05 40 19.5	**+1.5**
	comp=Z,2.1nm,0.7s,baz=104,slow=4.7,SNR=4.6						
ASAR				S		**S** 05 41 40.0	**-5.4**
	comp=Z,16nm,0.9s,baz=90,slow=16,SNR=23						
GUMO	**Guam**	**48.08**	**307**	P		**P** 05 35 50.2	**-0.7**
	comp=Z,269nm,0.8s,baz=156,slow=5.8,SNR=16						
GUMO	**Guam**	**48.08**	**307**	*e*P		**P** 05 35 50.8	**-0.2**
GUMO				pmax		pmax	
	comp=Z,267nm,0.8s						
GUMO	**Guam**	**48.08**	**307**	*e*P		**P** 05 35 50.8	**-0.2**
	comp=Z,267nm,0.8s						
MTN	**Manton Dam**	**49.54**	**268**	*e*P		**P** 05 36 00.8	**-1.2**
	comp=Z,47nm,0.8s						
SAUI	**Saumlaki**	**50.54**	**274**	P		**P** 05 36 11.0	**+1.6**
FORT	**Forrest**	**50.92**	**244**	*e*P		**P** 05 36 10.7	**-1.3**
	comp=Z,481nm,0.8s						
FORT				*e*S		**S** 05 42 56.2	**-1.9**
FAKI	**Fak Fak**	**51.17**	**280**	P		**P** 05 36 14.5	**+0.4**
FAKI	**Fak Fak**	**51.17**	**280**	*e*P		**P** 05 36 14.1	**-0.1**
	comp=Z,57nm,1.1s						
BNDI	**Banaaira**	**52.87**	**278**	P		**P** 05 36 26.7	**+0.2**
FITZ	**Fitzroy Crossi**	**53.84**	**260**	P		**P** 05 36 32.9	**-0.5**
	comp=Z,7.2nm,0.7s,baz=108,slow=6.4,SNR=19						
FITZ				S		**S** 05 43 38.4	**+0.7**
	comp=Z,2.0nm,0.9s,baz=114,slow=7.4,SNR=3.3						
MSAI	**Masohi**	**54.16**	**279**	P		**P** 05 36 36.2	**+0.4**
	comp=Z,14nm,0.7s,comp=Z,600nm						
AAI	**Ambon**	**54.75**	**278**	P		**P** 05 36 40.6	**+0.7**
	comp=Z,105nm,1.1s						
NLAI	**Namlea**	**55.93**	**278**	P		**P** 05 36 49.1	**+0.9**
SOEI	**Soe**	**56.80**	**270**	*e*P		**P** 05 36 55.5	**+1.1**
	comp=Z,99nm,0.8s						
MBWA	**Marble Bar**	**58.92**	**255**	*e*P		**P** 05 37 06.3	**-2.5**
	comp=Z,98nm,0.8s						
NWAO	**Narrogin (SRO)**	**60.13**	**242**	P		**P** 05 37 15.5	**-1.2**
	comp=Z,10nm,0.7s,baz=8.7,slow=13,SNR=9.1						
NWAO	**Narrogin (SRO)**	**60.13**	**242**	*e*P		**P** 05 37 15.6	**-1.2**
NWAO				pmax		pmax	
	comp=Z,66nm,1.8s						
NWAO	**Narrogin (SRO)**	**60.13**	**242**	*e*P		**P** 05 37 15.6	**-1.2**
	comp=Z,66nm,1.8s						
SBA	**Scott Base**	**61.07**	**184**	*e*P		**P** 05 37 24.6	**+2.4**
SBA				pmax		pmax	
	comp=Z,20nm,0.8s						
SBA	**Scott Base**	**61.07**	**184**	*e*P		**P** 05 37 24.6	**+2.4**
	comp=Z,20nm,0.8s						
VNDA	**Vanda**	**61.11**	**185**	P		**P** 05 37 23.4	**+0.9**
	comp=Z,6.4nm,0.7s,baz=0.7,slow=7.1,SNR=39						
VNDA	**Vanda**	**61.11**	**185**	*e*P		**P** 05 37 24.0	**+1.5**
VNDA				pmax		pmax	
	comp=Z,10.0nm,0.9s						
VNDA	**Vanda**	**61.11**	**185**	*e*P		**P** 05 37 24.0	**+1.5**
	comp=Z,10nm,0.9s						
KAPI	**Kappang**	**62.38**	**273**	*e*P		**P** 05 37 31.6	**-0.3**
	comp=Z,17nm,0.9s						
JHJ2	**Mitsune**	**64.53**	**321**	*e*P		**P** 05 37 44.7	**-0.7**
	comp=Z,402nm,0.9s						
JAGI	**Jajag, Banyuwa**	**66.78**	**268**	*e*P		**P** 05 37 58.9	**-1.2**
	comp=Z,29nm,0.7s						
MYLDM	**Lahad Datu**	**66.87**	**284**	*e*P		**P** 05 38 02.8	**+2.2**
INU	**Inuyama**	**67.75**	**321**	*e*P		**P** 05 38 05.1	**-0.5**
	comp=Z,26nm,0.8s						
MJAR	**Matsushiro Arr**	**67.86**	**323**	P		**P** 05 38 05.3	**-1.1**
	comp=Z,47nm,0.8s,baz=145,slow=6.2,SNR=122						
MAJO	**Matsushiro**	**67.86**	**323**	*e*P		**P** 05 38 05.8	**-0.5**
MAJO				pmax		pmax	
	comp=Z,61nm,0.7s						
MAJO	**Matsushiro**	**67.86**	**323**	*e*P		**P** 05 38 05.8	**-0.5**
	comp=Z,61nm,0.7s						
MAT	**Matsushiro**	**67.86**	**323**	P		**P** 05 38 04.4	**-1.9**
MJB9	**Matsu-Tunnel**	**67.87**	**323**	*e*P		**P** 05 38 06.1	**-0.2**
	comp=Z,16nm,0.7s						
ADK	**Adak**	**68.89**	**1**	*e*P		**P** 05 38 11.9	**-0.3**
ADK				pmax		pmax	
	comp=Z,174nm,1.5s						
ADK	**Adak**	**68.89**	**1**	*e*P		**P** 05 38 11.9	**-0.3**
	comp=Z,174nm,1.5s						
ERM	**Erimo**	**69.23**	**330**	⇑*i*P		**P** 05 38 17.2	**+2.7**
ERM				pmax		pmax	
	comp=Z,15nm,1.0s						
ATKA	**Atka Island**	**69.28**	**2**	*e*P		**P** 05 38 14.0	**-0.5**
	comp=Z,56nm,0.9s						
KKM	**Kota Kinabalu**	**69.30**	**284**	*e*P		**P** 05 38 14.7	**-1.0**
	comp=Z,20nm,0.8s						
KUR	**Kuril'sk**	**69.68**	**335**	*e*P		**P** 05 38 17.6	**+0.5**
JNU	**Nakatsue**	**70.21**	**316**	P		**P** 05 38 20.3	**-0.4**
	comp=Z,31nm,0.8s,baz=83,slow=2.3,SNR=26						
JNU	**Nakatsue**	**70.21**	**316**	*e*P		**P** 05 38 20.2	**-0.5**
	comp=Z,40nm,0.9s						
UGM	**Wanagama**	**70.39**	**268**	*e*P		**P** 05 38 21.6	**-0.7**
	comp=Z,483nm,1.6s						
ASAJ	**Asahikawa**	**71.10**	**331**	*e*P		**P** 05 38 26.4	**+0.7**
	comp=Z,67nm,0.9s						
UNV	**Unalaska Valle**	**71.50**	**7**	*e*P		**P** 05 38 26.8	**-1.1**
	comp=Z,69nm,1.1s						
SKR	**Severo-Kuril's**	**71.52**	**343**	*e*P		**P** 05 38 27.5	**-0.5**
SBUM	**Sibu**	**71.83**	**279**	*e*P		**P** 05 38 31.2	**+0.5**
	comp=Z,11nm,0.9s						
YULB	**Yu-li**	**72.05**	**302**	*e*P		**P** 05 38 31.0	**-0.8**
	comp=Z,68nm,1.7s						
NACB	**Ninganchiao**	**72.19**	**303**	*e*P		**P** 05 38 31.9	**-0.7**
	comp=Z,80nm,0.4s						
SSLB	**Suanglung**	**72.52**	**303**	*e*P		**P** 05 38 33.0	**-1.5**
	comp=Z,21nm,0.8s						
TPUB	**Ta-pu**	**72.55**	**302**	*e*P		**P** 05 38 33.3	**-1.4**
	comp=Z,90nm,0.8s						
QSPA	**South Pole Qui**	**72.75**	**180**	*e*P		**P** 05 38 36.1	**+0.8**
	comp=Z,14nm,0.8s						
PET	**Petropavlovsk**	**72.97**	**345**	*e*P		**P** 05 38 36.3	**-0.1**
PET				pmax		pmax	
	comp=Z,43nm,1.2s						
PET	**Petropavlovsk**	**72.97**	**345**	*e*P		**P** 05 38 36.3	**-0.1**
	comp=Z,43nm,1.2s						
CISI	**Cisompet, Garu**	**73.07**	**267**	*e*P		**P** 05 38 37.4	**-0.6**
	comp=Z,64nm,1.2s						
YSS	**Yuzh-Sakhalins**	**73.21**	**333**	*e*P		**P** 05 38 38.0	**+0.1**
YSS				pmax		pmax	
	comp=Z,50nm,1.0s						
YSS	**Yuzh-Sakhalins**	**73.21**	**333**	*e*P		**P** 05 38 38.7	**+0.8**
	comp=Z,61nm,1.0s						
PEA0	**Petropavlovsk-**	**73.28**	**345**	*e*P		**P** 05 38 37.9	**-0.4**
PEA0B	**Petropavlovsk-**	**73.28**	**345**	*e*P		**P** 05 38 38.0	**-0.3**
	comp=Z,73nm,1.0s						
PETK	**Petropavlovsk-**	**73.28**	**345**	P		**P** 05 38 37.9	**-0.4**
	comp=Z,41nm,0.7s,baz=125,slow=8.3,SNR=44						
KSM	**Kuching**	**73.33**	**277**	*e*P		**P** 05 38 39.9	**+0.5**
	comp=Z,28nm,0.8s						
SDPT	**Sand Point**	**73.82**	**10**	*e*P		**P** 05 38 40.9	**-0.4**
	comp=Z,80nm,1.0s						
KSRS	**Korea Array**	**74.74**	**318**	P		**P** 05 38 47.6	**+0.7**
	comp=Z,20nm,0.7s,baz=131,slow=6.2,SNR=71						
KS15	**Wonju Array Si**	**74.75**	**318**	*e*P		**P** 05 38 47.5	**+0.5**
KSAR	**Wonju Array Be**	**74.75**	**318**	P		**P** 05 38 47.6	**+0.5**
KSAR	**Wonju Array Be**	**74.75**	**318**	P		**P** 05 38 47.6	**+0.5**
KS01	**Wonju Array Si**	**74.77**	**318**	*e*P		**P** 05 38 47.4	**+0.3**
SCI	**San Clemente I**	**75.39**	**48**	P		**P** 05 38 52.3	**+1.5**
	baz=238						
SAO	**San Andreas Ge**	**75.49**	**44**	*e*P		**P** 05 38 52.6	**+1.4**
SAO				pmax		pmax	
	comp=Z,14nm,1.0s						
SAO	**San Andreas Ge**	**75.49**	**44**	*e*P		**P** 05 38 52.6	**+1.4**
	comp=Z,14nm,1.0s						
PMPB	**Monarch Peak**	**75.61**	**44**	*e*P		**P** 05 38 54.0	**+2.0**
	comp=Z,21nm,1.1s						
MSHR	**Mys Shultsa**	**75.94**	**324**	⇑*i*P		**P** 05 38 54.9	**+1.3**
KMRM	**Mail Ridge**	**76.09**	**40**	*e*P		**P** 05 38 56.7	**+2.0**
	comp=Z,50nm,0.8s						
JCC	**Jacoby Creek,**	**76.26**	**39**	*e*P		**P** 05 38 57.0	**+1.6**
	comp=Z,52nm,1.3s						
TYV	**Tymovskoe**	**76.28**	**335**	*e*P		**P** 05 38 55.1	**-0.2**
TYV				pmax		pmax	
	comp=Z,72nm,0.9s						
MWC	**Mount Wilson**	**76.40**	**47**	*e*P		**P** 05 38 57.5	**+0.9**
MWC				pmax		pmax	
	comp=Z,11nm,1.0s						
MWC	**Mount Wilson**	**76.40**	**47**	*e*P		**P** 05 38 57.5	**+0.9**
	comp=Z,10nm,1.0s						
KHMM	**Horse Mountain**	**76.47**	**39**	*e*P		**P** 05 38 58.0	**+1.2**
	comp=Z,22nm,1.1s						
USRK	**Ussuriysk Ar.**	**76.53**	**325**	P		**P** 05 38 57.6	**+0.8**
	comp=Z,6.7nm,0.7s,baz=93,slow=3.8,SNR=15						
BFSC	**Mount Baldy Ra**	**76.69**	**47**	P		**P** 05 38 59.0	**+0.8**
	baz=238						
KRMB	**Red Mountain**	**76.76**	**38**	*e*P		**P** 05 39 00.4	**+2.0**
	comp=Z,78nm,1.9s						
EDW2	**Edwards Air Fo**	**76.79**	**47**	P		**P** 05 38 59.9	**+1.2**
	baz=238,SNR=12						
MONP	**Monument Peak,**	**76.87**	**49**	P		**P** 05 39 00.5	**+1.2**
	baz=239,SNR=16						
ISA	**Isabella, Lake**	**76.88**	**46**	*e*P		**P** 05 39 00.7	**+1.6**
ISA				pmax		pmax	
	comp=Z,10.0nm,1.1s						
ISA	**Isabella, Lake**	**76.88**	**46**	*e*P		**P** 05 39 00.7	**+1.6**
	comp=Z,9.6nm,1.1s						
CMB	**Columbia Colle**	**76.91**	**43**	*e*P		**P** 05 39 00.4	**+1.2**
CMB				pmax		pmax	
	comp=Z,9.0nm,1.0s						
CMB	**Columbia Colle**	**76.91**	**43**	*e*P		**P** 05 39 00.4	**+1.2**
	comp=Z,9.0nm,1.0s						
IKP	**In-Ko-Pah, Jac**	**76.98**	**50**	P		**P** 05 39 01.5	**+1.8**
	baz=240,SNR=7.6						
OHAK	**Old Harbor**	**76.98**	**13**	*e*P		**P** 05 38 58.9	**-0.1**
	comp=Z,30nm,0.9s						
WDC	**Whiskeytown Da**	**77.02**	**40**	*e*P		**P** 05 39 01.1	**+1.5**
WDC				pmax		pmax	
	comp=Z,12nm,1.0s						
WDC	**Whiskeytown Da**	**77.02**	**40**	*e*P		**P** 05 39 01.1	**+1.5**
	comp=Z,12nm,1.0s						
AFDM	**Forest Hills D**	**77.05**	**42**	*e*P		**P** 05 39 01.0	**+1.1**
	comp=Z,10nm

HUMO **Hull Mountain** 77.98 38 *e*P P 05 39 06.3 +1.4
comp=Z,12nm,1.1s
PNTR **Pine Nut** 78.01 42 *e*P P 05 39 06.7 +1.3
comp=Z,19nm,0.8s
TVH3 **East Aurora ar** 78.11 43 *e*P P 05 39 07.2 +1.2
comp=Z,6.3nm,0.9s
GLA **Glamis** 78.11 50 P P 05 39 07.9 +2.1
baz=240,SNR=6.0
GLA **Glamis** 78.11 50 *e*P P 05 39 07.6 +1.7
GLA pmax pmax
comp=Z,20nm,1.0s
GLA **Glamis** 78.11 50 *e*P P 05 39 07.6 +1.7
comp=Z,20nm,1.0s
MDJ **Mudanjiang** 78.11 324 P P 05 39 06.5 +1.0
MDJ pmax pmax
comp=Z,43nm,0.8s
MDJ pmax pmax
comp=Z,88nm,5.4s
MDJ **Mudanjiang** 78.11 324 *e*P P 05 39 06.5 +1.0
comp=Z,40nm,0.9s
NJ2 **Nanjing** 78.12 309 *e*P P 05 39 05.8 0.0
NJ2 pmax pmax
comp=Z,26nm,0.5s
M04C **Macdoel** 78.16 39 P P 05 39 06.9 +0.9
baz=234
TVH2 **Borealis Mine** 78.16 43 *e*P P 05 39 07.7 +1.4
comp=Z,5.4nm,0.8s
YERR **Yerington** 78.18 43 *e*P P 05 39 07.4 +1.1
comp=Z,15nm,0.8s
GRAC **Grapevine Rang** 78.34 45 P P 05 39 08.5 +1.5
baz=238,SNR=7.6
GMRC **Granite Mounta** 78.38 48 P P 05 39 08.6 +1.2
baz=239,SNR=6.1
FURC **Furnace Creek,** 78.41 46 P P 05 39 08.7 +1.4
baz=238,SNR=8.3
I03D **Drain, OR** 78.41 37 P P 05 39 08.6 +1.4
baz=232
IRM **Iron Mountain** 78.43 49 P P 05 39 09.0 +1.4
baz=240,SNR=13
PAHR **Pah Rah Range** 78.49 42 *e*P P 05 39 09.0 +1.1
comp=Z,12nm,1.0s
TUQ **Turquoise Moun** 78.53 47 P P 05 39 09.3 +1.2
baz=239,SNR=8.0
MNAI **Manna** 78.60 269 *e*P P 05 39 09.7 +0.7
comp=Z,350nm,1.2s
Y12C **Blythe** 78.68 49 P P 05 39 10.5 +1.7
baz=240,SNR=7.6
Y12C **Blythe** 78.68 49 *e*P P 05 39 10.1 +1.2
comp=Z,13nm,0.8s
J04D **Umpqua Nationa** 78.86 38 P P 05 39 11.2 +1.3
baz=233,SNR=7.0
LDFC **Landfair** 78.92 48 *e*P P 05 39 12.0 +1.7
comp=Z,21nm,0.8s
214A **Organ Pipe Nat** 79.07 52 P P 05 39 12.7 +1.6
baz=242,SNR=9.9
214A **Organ Pipe Nat** 79.07 52 *e*P P 05 39 12.9 +1.8
comp=Z,66nm,1.1s
TPNV **Topopah Spring** 79.08 46 P P 05 39 12.2 +1.0
baz=239,SNR=25
TPNV **Topopah Spring** 79.08 46 *e*P P 05 39 12.4 +1.2
TPNV pmax pmax
comp=Z,14nm,0.7s
TPNV **Topopah Spring** 79.08 46 *e*P P 05 39 12.4 +1.2
comp=Z,14nm,0.7s
MOD **Modoc Plateau** 79.16 40 *e*P P 05 39 12.4 +0.9
comp=Z,9.6nm,0.8s
PDMCI **Parker Dam,Lak** 79.23 49 P P 05 39 13.0 +1.2
baz=240,SNR=12
K05A **Summer Lake** 79.28 39 *e*P P 05 39 13.5 +1.3
comp=Z,25nm,1.0s
J05D **Fort Rock, OR** 79.40 38 P P 05 39 14.2 +1.4
baz=234,SNR=21
CNPM **China Poot** 79.53 13 *e*P P 05 39 13.1 +0.2
comp=Z,34nm,1.0s
HOM **Homer** 79.56 13 *e*P P 05 39 13.8 +0.9
comp=Z,156nm,1.4s
SHPR **Sheep Range** 79.60 47 *e*P P 05 39 15.6 +1.7
comp=Z,5.2nm,0.9s
W13A **Hualapai Mount** 79.80 48 *e*P P 05 39 16.4 +1.3
comp=Z,5.3nm,1.0s
BRLK **Bradley Lake** 79.82 13 *e*P P 05 39 14.2 -0.2
comp=Z,42nm,1.0s
Y14A **Wickenburg** 79.87 50 *e*P P 05 39 16.9 +1.5
comp=Z,35nm,0.9s
I05D **Terrebonne, OR** 79.96 37 P P 05 39 16.6 +1.1
baz=234
KLR **Kul'dur** 79.96 329⇑ *i*P P 05 39 15.7 +0.3
CN2 **Changchun** 79.99 322 *e*P P 05 39 15.8 +0.2
CN2 pmax pmax
comp=Z,20nm,1.0s
E03A **Lebam** 80.05 35 *e*P P 05 39 17.3 +1.4
comp=Z,36nm,0.9s
RSO **Redoubt South** 80.06 12 *e*P P 05 39 15.2 -0.6
SVW2 **Sparrevohn** 80.11 11 *e*P P 05 39 15.5 -0.4
comp=Z,17nm,1.1s
R11A **Troy Canyon, C** 80.26 45 P P 05 39 18.3 +0.9
baz=239,SNR=9.8
R11A **Troy Canyon, C** 80.26 45 *e*P P 05 39 18.5 +1.0
comp=Z,3.3nm,0.8s
BMN **Battle Mountai** 80.28 42 *e*P P 05 39 18.5 +1.1
BMN pmax pmax
comp=Z,22nm,1.3s
BMN **Battle Mountai** 80.28 42 *e*P P 05 39 18.5 +1.1
comp=Z,22nm,1.3s
NLWA **Neilton Lookou** 80.41 34 *e*P P 05 39 18.6 +0.8
comp=Z,72nm,1.5s
SEW **Seward** 80.45 14 *e*P P 05 39 17.5 -0.2
comp=Z,23nm,0.9s
WVOR **Wild Horse Val** 80.48 40 *e*P P 05 39 19.5 +1.1
WVOR pmax pmax
comp=Z,17nm,0.9s
WVOR **Wild Horse Val** 80.48 40 *e*P P 05 39 19.5 +1.1
comp=Z,17nm,0.9s
G05D **Wamic, OR** 80.51 37 P P 05 39 19.5 +1.1
baz=234
TUC **Tucson** 80.76 52 P P 05 39 21.7 +1.6
baz=243
TUC **Tucson** 80.76 52 *e*P P 05 39 22.1 +2.1
TUC pmax pmax
comp=Z,16nm,0.8s
TUC **Tucson** 80.76 52 *e*P P 05 39 22.1 +2.1
comp=Z,16nm,0.8s
MA2 **Magadan** 80.81 344 *ce*P P 05 39 18.5 -1.1
WHN **Wuhan** 80.84 306 ⇑P P 05 39 21.4 +1.0
SPU **Mount Spurr** 80.86 12 *e*P P 05 39 18.9 -0.9
G06A **Carlson Farm,** 80.89 37 *e*P P 05 39 21.1 +0.7
comp=Z,11nm,1.1s
LON **Longmire** 81.13 35 *e*P P 05 39 21.9 +0.3
LON pmax pmax
comp=Z,5.0nm,0.8s
LON **Longmire** 81.13 35 *e*P P 05 39 21.9 +0.3
comp=Z,5.3nm,0.8s
LCMT **Little Creek M** 81.19 47 *e*P P 05 39 23.9 +1.7
comp=Z,8.9nm,1.1s
X16A **Lo Mia Camp, P** 81.24 50 *e*P P 05 39 24.6 +1.9
comp=Z,12nm,0.9s
RC01 **Rabbit Creek A** 81.27 13 *e*P P 05 39 22.6 +0.6
comp=Z,22nm,1.0s
D05A **Enumclaw** 81.29 35 *e*P P 05 39 23.9 +1.6
comp=Z,24nm,1.0s
CCUT **Cedar City** 81.37 46 *e*P P 05 39 24.0 +0.6
comp=Z,9.4nm,1.0s
SUA **Susitna One** 81.39 13 *e*P P 05 39 22.1 -0.6
comp=Z,37nm,0.8s
PGC **Sidney** 81.41 33 *e*P P 05 39 24.1 +1.2
comp=Z,61nm,1.4s
BBB **Bella Bella** 81.44 28 *e*P P 05 39 24.1 +1.1
comp=Z,220nm,1.6s
319A **Douglas** 81.49 54 *e*P P 05 39 26.2 +2.3
comp=Z,28nm,0.8s
KNB **Kanab** 81.49 47 *e*P P 05 39 25.5 +1.6
KNB pmax pmax
comp=Z,8.0nm,0.8s
KNB **Kanab** 81.49 47 *e*P P 05 39 25.5 +1.6
comp=Z,8.4nm,0.8s
U15A **North Rim** 81.58 48 *e*P P 05 39 26.0 +1.5
comp=Z,15nm,0.9s
SZCU **Shurtz Canyon** 81.58 46 *e*P P 05 39 26.3 +1.8
comp=Z,10nm,1.0s
GLI **Glacier Island** 81.69 15 *e*P P 05 39 23.9 -0.2
comp=Z,33nm,0.8s
TT01 **Tatalina** 81.73 10 *e*P P 05 39 24.4 +0.2
TTA **Tatalina** 81.75 10 *e*P P 05 39 24.8 +0.3
TTA pmax pmax
comp=Z,44nm,1.2s
TTA **Tatalina** 81.75 10 *e*P P 05 39 24.8 +0.3
comp=Z,44nm,1.2s

WUAZ **Wupatki** 81.80 49 P P 05 39 27.1 +1.5
baz=242
WUAZ **Wupatki** 81.80 49 *e*P P 05 39 26.1 +0.6
comp=Z,16nm,1.1s
A04D **Lummi Island** 81.84 33 P P 05 39 26.2 +1.1
baz=232,SNR=8.7
PMR **Palmer** 81.85 13 *e*P P 05 39 24.0 -0.8
PMR pmax pmax
comp=Z,29nm,1.3s
PMR **Palmer** 81.85 13 *e*P P 05 39 24.0 -0.8
comp=Z,28nm,1.3s
RAGM **Ragged Mountai** 81.87 16 *e*P P 05 39 25.8 +0.7
comp=Z,32nm,1.0s
B05A **Bryant** 81.89 34 P P 05 39 26.4 +1.0
baz=233,SNR=6.8
PKCU **Pink Cliffs** 82.05 47 *e*P P 05 39 28.8 +1.8
comp=Z,14nm,0.9s
LTY **Liberty** 82.06 35 *e*P P 05 39 26.9 +0.4
comp=Z,12nm,1.0s
E07A **Sunnyside** 82.10 36 *e*P P 05 39 27.4 +0.7
comp=Z,22nm,0.8s
HAWA **Hanford** 82.19 36 *e*P P 05 39 28.0 +1.0
comp=Z,25nm,0.8s
SML **Sawmill** 82.22 14 *e*P P 05 39 26.6 -0.3
SML pmax pmax
comp=Z,37nm,1.7s
SML **Sawmill** 82.22 14 *e*P P 05 39 26.6 -0.3
comp=Z,37nm,1.7s
DIV **Divide** 82.23 15 *e*P P 05 39 26.9 -0.1
comp=Z,20nm,0.8s
WRW **Wenatchee Ridg** 82.30 35 P P 05 39 28.2 +0.5
BMRM **Bremner River** 82.38 16 *e*P P 05 39 27.5 -0.2
comp=Z,58nm,1.4s
PPLA **Purkeypile** 82.40 11 *e*P P 05 39 27.2 -0.7
comp=Z,10.0nm,1.0s
MTPU **Mount Pierson** 82.43 46 *e*P P 05 39 30.3 +1.4
comp=Z,17nm,0.8s
ETW **Entiat** 82.45 35 P P 05 39 29.0 +0.5
SCM **Sheep Creek Mo** 82.47 14 *e*P P 05 39 27.9 -0.3
SCM pmax pmax
comp=Z,28nm,0.8s
SCM **Sheep Creek Mo** 82.47 14 *e*P P 05 39 27.9 -0.3
comp=Z,28nm,0.8s
HPIG 82.50 59 *e*P P 05 39 29.1 -0.2
comp=Z,4.4nm,1.0s
KLU **Klutina** 82.50 15 *e*P P 05 39 28.3 -0.1
comp=Z,9.7nm,1.0s
CRQM **Cirque** 82.59 16 *e*P P 05 39 29.2 +0.2
comp=Z,38nm,1.0s
BMO **Blue Mountains** 82.62 39 *e*P P 05 39 30.0 +0.6
BMO pmax pmax
comp=Z,12nm,0.9s
BMO **Blue Mountains** 82.62 39 *e*P P 05 39 30.0 +0.6
comp=Z,12nm,0.9s
MSU **Marysvale** 82.66 46 *e*P P 05 39 31.7 +1.8
MSU **Marysvale** 82.66 46 *e*P P 05 39 31.7 +1.8
WTV **Waterville** 82.71 35 P P 05 39 30.1 +0.4
MFID **Camas Ranch** 82.75 40 *e*P P 05 39 31.0 +0.9
comp=Z,16nm,0.9s
W18A **Petrified Fore** 82.81 50 P P 05 39 32.2 +1.5
baz=243
W18A **Petrified Fore** 82.81 50 *e*P P 05 39 31.0 +0.3
comp=Z,22nm,1.3s
CAST **Castle Rocks** 82.89 11 *e*P P 05 39 30.0 -0.3
comp=Z,26nm,0.8s
D08A **Wollman Farm,** 82.92 36 *e*P P 05 39 31.6 +0.9
comp=Z,18nm,0.9s
SAW **Saint Andrews** 83.02 35 P P 05 39 31.9 +0.7
DUG **Dugway, Tooele** 83.04 44 P P 05 39 32.5 +0.8
baz=241
DUG **Dugway, Tooele** 83.04 44 *e*P P 05 39 32.5 +0.8
DUG pmax pmax
comp=Z,7.0nm,0.9s
DUG **Dugway, Tooele** 83.04 44 *e*P P 05 39 32.5 +0.8
comp=Z,6.8nm,0.9s
E09A **Wood Farm, Sta** 83.05 37 *e*P P 05 39 31.9 +0.5
comp=Z,8.9nm,0.9s
IPM **Ipoh** 83.07 277 *e*P P 05 39 32.5 +0.3
comp=Z,20nm,0.7s
121A **Cookes Peak, D** 83.13 53 P P 05 39 33.9 +1.5
baz=245
121A **Cookes Peak, D** 83.13 53 *e*P P 05 39 34.2 +1.8
comp=Z,17nm,0.9s
KTH **Kantishna Hill** 83.24 12 *e*P P 05 39 31.1 -1.0
comp=Z,29nm,1.0s
BGU **Big Grassy Mou** 83.26 44 *e*P P 05 39 33.9 +1.1
comp=Z,3.9nm,0.9s
TRF **Thofare Moun** 83.27 12 *e*P P 05 39 32.0 -0.4
comp=Z,43nm,0.8s
F10A **Beach Ranch, E** 83.28 38 *e*P P 05 39 33.1 +0.4
comp=Z,29nm,0.9s
SEY **Seymchan** 83.35 347⇓ *i*P P 05 39 32.0 -0.5
BESE **Bessie Mountai** 83.37 21 *e*P P 05 39 34.0 +1.2
comp=Z,61nm,1.6s
LLLB **Lillooet** 83.42 32 *e*P P 05 39 33.6 +0.4
comp=Z,14nm,1.0s
NLU **North Lily Min** 83.42 45 *e*P P 05 39 33.7 0.0
comp=Z,4.4nm,0.9s
B08A **Colville Reser** 83.43 35 *e*P P 05 39 33.4 +0.1
comp=Z,13nm,0.8s
HARP **HAARP** 83.48 15 *e*P P 05 39 33.5 +0.2
comp=Z,34nm,1.0s
ZAIG **Zacatecas** 83.50 64 *e*P P 05 39 34.3 -0.3
comp=Z,7.7nm,1.0s
RND **Reindeer** 83.52 13 *e*P P 05 39 33.5 0.0
RND pmax pmax
comp=Z,64nm,0.8s
RND **Reindeer** 83.52 13 *e*P P 05 39 33.5 0.0
comp=Z,64nm,0.8s
DHY **Denali Highway** 83.55 13 *e*P P 05 39 33.2 -0.5
comp=Z,48nm,1.7s
TMUT **Trail Mountain** 83.69 46 *e*P P 05 39 37.0 +1.7
comp=Z,23nm,0.8s
HLID **Hailey** 83.70 41 P P 05 39 36.4 +1.4
baz=239
HLID **Hailey** 83.70 41 *e*P P 05 39 36.3 +1.4
comp=Z,17nm,0.8s
MPU **Maple Canyon** 83.75 45 *e*P P 05 39 36.8 +1.5
comp=Z,8.8nm,0.9s
MCK **McKinley** 83.80 12 *e*P P 05 39 34.2 -0.6
MCK pmax pmax
comp=Z,54nm,0.9s
MCK **McKinley** 83.80 12 *e*P P 05 39 34.2 -0.6
comp=Z,54nm,0.9s
SPUT **Sodu Promontо** 83.83 43 *e*P P 05 39 37.0 +1.3
comp=Z,11nm,0.9s
HVU **Hansel Valley** 83.85 43 *e*P P 05 39 36.8 +1.0
HVU pmax pmax
comp=Z,14nm,0.8s
HVU **Hansel Valley** 83.85 43 *e*P P 05 39 36.8 +1.0
comp=Z,14nm,0.8s
BJT **Baijiatuau** 83.86 315 *e*P P 05 39 35.9 +0.3
BJT pmax pmax
comp=Z,45nm,0.9s
BJT **Baijiatuau** 83.86 315 *e*P P 05 39 35.9 +0.3
comp=Z,45nm,0.9s
BJI **Beijing** 83.87 315 P P 05 39 35.3 -0.3
BJI pmax pmax
comp=Z,50nm,0.9s
PAX **Paxson** 83.89 14 *e*P P 05 39 34.0 -1.4
PAX pmax pmax
comp=Z,13nm,1.0s
PAX **Paxson** 83.89 14 *e*P P 05 39 34.0 -1.4
comp=Z,13nm,1.0s
SRU **San Rafael Swe** 84.08 46 *e*P P 05 39 38.1 +1.1
SRU pmax pmax
comp=Z,16nm,0.8s
SRU **San Rafael Swe** 84.08 46 *e*P P 05 39 38.1 +1.1
comp=Z,16nm,0.8s
JLU **Jordanelle** 84.15 44 *e*P P 05 39 38.4 +1.0
comp=Z,10nm,0.8s
SKLT **Songkhla** 84.28 279 P P 05 39 40.2 +1.9
comp=Z,26nm,0.8s
MENT **Mentasta** 84.28 15 *e*P P 05 39 37.3 +0.1
comp=Z,95nm,0.2s
LAZ **Ladron** 84.42 52 *e*P P 05 39 40.3 +1.5
ENH **Enshi** 84.53 304 *e*P P 05 39 40.0 +0.7
comp=Z,96nm,1.2s
HWUT **Hardware Ranch** 84.56 44 *e*P P 05 39 39.8 +0.5
comp=Z,5.1nm,1.0s
PSI **Prapat** 84.56 275 P P 05 39 38.5 -1.3
comp=Z,16nm,0.9s,baz=135,slow=3.2,SNR=14
PSI **Prapat** 84.56 275 *e*P P 05 39 39.2 -0.7
PSI pmax pmax
comp=Z,19nm,1.0s
PSI **Prapat** 84.56 275 *e*P P 05 39 39.2 -0.7
comp=Z,19nm,1.0s

NEW **Newport** 84.60 36 P P 05 39 39.1 -0.1
baz=237,SNR=6.3
NEW **Newport** 84.60 36 *e*P P 05 39 39.3 +0.1
NEW pmax pmax
comp=Z,6.0nm,0.8s
NEW **Newport** 84.60 36 *e*P P 05 39 39.2 +0.1
comp=Z,5.8nm,0.8s
PV05 **Paradox Valley** 84.60 48 *e*P P 05 39 41.5 +1.8
WRH **Wood River Hil** 84.62 12 *e*P P 05 39 38.0 -0.9
comp=Z,81nm,1.2s
MNTX **Cornudas Mount** 84.64 55 P P 05 39 41.3 +1.5
baz=246
MNTX **Cornudas Mount** 84.64 55 *e*P P 05 39 41.4 +1.7
comp=Z,12nm,0.9s
MVCO **Mesa Verde** 84.64 49 P P 05 39 40.1 +0.2
baz=244
MAW **Mawson** 84.67 200 P P 05 39 40.0 +0.8
comp=Z,9.0nm,1.0s,baz=88,slow=5.5,SNR=7.1
MAW **Mawson** 84.67 200 P P 05 39 40.0 +0.8
MAW pmax pmax
comp=Z,3.0nm,0.5s
MAW **Mawson** 84.67 200 *e*P P 05 39 40.3 +1.1
comp=Z,1.8nm,0.9s
BNM **Barren Site** 84.69 52 *e*P P 05 39 41.8 +1.6
PV09 **Paradox Valley** 84.76 47 *e*P P 05 39 42.0 +1.4
PV10 **Paradox Valley** 84.77 47 *e*P P 05 39 41.4 +0.8
DOT **Dot Lake** 84.80 14 *e*P P 05 39 39.3 -0.5
comp=Z,80nm,0.8s
HDA **Harding Lake** 84.81 13 *e*P P 05 39 39.0 -0.8
comp=Z,7.0nm,0.7s
CCB **Clear Creek Bu** 84.84 12 *e*P P 05 39 38.9 -1.0
comp=Z,36nm,0.8s
PV04 **Paradox Valley** 84.88 47 *e*P P 05 39 41.8 +0.9
WHY **Whitehorse** 84.94 20 *e*P P 05 39 41.1 +0.4
comp=Z,14nm,0.8s
DLBC **Dease Lake** 84.99 23 *e*P P 05 39 41.9 +1.0
comp=Z,14nm,0.9s
PV01 **Paradox Valley** 85.00 48 *e*P P 05 39 42.3 +0.7
MDM **Murphy Dome** 85.03 12 *e*P P 05 39 40.0 -0.9
comp=Z,46nm,1.0s
COLA **College** 85.03 12 *e*P P 05 39 41.0 +0.2
COLA pmax pmax
comp=Z,47nm,0.8s
COLA **College** 85.03 12 *e*P P 05 39 41.0 +0.2
comp=Z,47nm,0.8s
TX31 **Lajitas Ar. Si** 85.06 57 *e*P P 05 39 44.1 +2.1
TXAR **Lajitas Array** 85.06 57 P P 05 39 44.0 +2.0
comp=Z,10nm,0.8s,baz=222,slow=6.1,SNR=110
TXAR **Lajitas Array** 85.06 57 P P 05 39 44.0 +2.0
IL1 **Eielson Array** 85.14 13 *e*P P 05 39 40.8 -0.6
ILAR **Eielson Array** 85.14 13 P P 05 39 40.2 -1.2
comp=Z,19nm,0.9s,baz=228,slow=5.7,SNR=116
ILB **Eielson Array** 85.14 13 *e*P P 05 39 40.5 -0.9
ANMO **Albuquerque** 85.16 51 P P 05 39 43.3 +0.8
baz=245
ANMO **Albuquerque** 85.16 51⇑ *i*P P 05 39 44.1 +1.7
ANMO pmax pmax
comp=Z,5.0nm,1.0s
ANMO **Albuquerque** 85.16 51 *e*P P 05 39 43.8 +1.3
comp=Z,5.1nm,0.9s
MCMT **McKenzie Canyo** 85.31 40 *e*P P 05 39 44.2 +1.1
GYA **Guiyang** 85.37 299 *e*P P 05 39 44.3 +0.7
GYA pP pP 05 41 12.5 -0.9
GYA sP sP 05 41 51.0 -3.2
GYA PP **PP** 05 43 10.6 +2.2
GYA S **S** 05 49 41.3 +0.2
GYA pmax pmax
comp=Z,20nm,1.0s
GYA pmax pmax
comp=Z,130nm,6.8s
MSO **Missoula** 85.66 38 P P 05 39 44.7 +0.2
baz=239
MSO **Missoula** 85.66 38 *e*P P 05 39 44.7 +0.2
comp=Z,8.3nm,1.2s
BSMT **Bassoo Peak** 85.70 37 *e*P P 05 39 44.9 +0.1
DLMT **Dillon** 85.73 40 *e*P P 05 39 46.0 +1.1
comp=Z,17nm,0.9s
TPAW **Teton Pass** 85.85 42 *e*P P 05 39 46.5 +0.8
comp=Z,11nm,1.0s
REDW **Red Top Meadow** 85.86 42 *e*P P 05 39 46.5 +0.8
comp=Z,18nm,1.1s
BILL **Bilibino** 85.91 354 *d i*P P 05 39 44.6 -0.5
BILL *i* *PP **pP** 05 41 21.3 +6.3
BILL pmax pmax
comp=Z,58nm,1.0s
JTMT **Jette** 85.94 37 *e*P P 05 39 46.9 +1.0
SNOW **Snow King Moun** 85.97 42 *e*P P 05 39 47.4 +1.1
comp=Z,15nm,1.0s
LRM **Limekiln Ridge** 86.05 40 *e*P P 05 39 47.6 +1.0
IMW **Indian Meadow** 86.06 42 *e*P P 05 39 47.8 +1.0
comp=Z,16nm,0.9s
S22A **4UR Ranch, Cre** 86.07 49 P P 05 39 48.0 +1.0
baz=245
S22A **4UR Ranch, Cre** 86.07 49 *e*P P 05 39 48.1 +1.2
comp=Z,9.3nm,0.8s
MOOW **Moose Ponds** 86.11 42 *e*P P 05 39 47.7 +0.8
comp=Z,5.2nm,1.0s
O20A **White River Ci** 86.11 46 P P 05 39 47.5 +0.5
baz=244
O20A **White River Ci** 86.11 46 *e*P P 05 39 47.6 +0.6
comp=Z,5.7nm,0.6s
CHMT **Chamberlain Mo** 86.11 38 *e*P P 05 39 46.9 0.0
LOHW **Long Hollow** 86.13 42 *e*P P 05 39 47.9 +0.8
comp=Z,5.5nm,1.1s
SLMT **Seeley Lake** 86.14 38 *e*P P 05 39 46.8 -0.1
QLMT **Earthquake Lak** 86.19 41 *e*P P 05 39 49.0 +1.7
YHB **Horse Butte** 86.30 41 *e*P P 05 39 49.8 +2.0
comp=Z,24nm,1.0s
DAWY **Dawson** 86.31 16 *e*P P 05 39 47.2 0.0
comp=Z,14nm,0.9s
YFT **Old Faithful** 86.38 41 *e*P P 05 39 48.1 -0.2
comp=Z,11nm,0.8s
YMR **Madison River** 86.41 41 *e*P P 05 39 49.0 +0.7
comp=Z,20nm,0.9s
BW06 **Boulder Array** 86.42 43 P P 05 39 48.8 +0.3
baz=243
BW06 **Boulder Array** 86.42 43 *e*P P 05 39 48.8 +0.3
comp=Z,4.7nm,0.8s
PD31 **Pinedale Array** 86.42 43 *e*P P 05 39 48.7 +0.3
PDAR **Pinedale Array** 86.42 43 P P 05 39 48.6 +0.3
comp=Z,3.3nm,0.7s,baz=217,slow=3.3,SNR=30
BOZ **Bozeman (W)** 86.44 40 P P 05 39 49.2 +0.8
baz=241
BOZ **Bozeman (W)** 86.44 40 *e*P P 05 39 49.3 +0.9
BOZ pmax pmax
comp=Z,14nm,1.0s
BOZ **Bozeman (W)** 86.44 40 *e*P P 05 39 49.3 +0.9
comp=Z,14nm,1.0s
EGAK **Eagle** 86.45 15 *e*P P 05 39 47.8 +0.1
comp=Z,16nm,0.9s
XAN **Xi'an** 86.47 307 P P 05 39 49.6 +1.0
XAN pP pP 05 41 16.0 -2.7
XAN pmax pmax
comp=Z,61nm,0.9s
XAN pmax pmax
comp=Z,140nm,4.9s
H17A **Grant Village** 86.52 41 P P 05 39 50.3 +1.4
baz=242
H17A **Grant Village** 86.52 41 *e*P P 05 39 51.2 +2.3
comp=Z,28nm,0.5s
YHH **Holmes Hill** 86.53 41 *e*P P 05 39 50.8 +1.8
comp=Z,8.6nm,0.9s
SMCO **Snowmass** 86.58 47 *e*P P 05 39 50.2 +0.8
comp=Z,5.0nm,0.8s
YNR **Norris Junctio** 86.61 41 *e*P P 05 39 50.2 +0.9
comp=Z,364nm,1.0s
COLD **Coldfoot** 86.69 10 *e*P P 05 39 49.1 +0.2
comp=Z,13nm,0.8s
LKWY **Lake** 86.71 41 *e*P P 05 39 52.3 +2.5
LKWY pmax pmax
comp=Z,17nm,0.8s
LKWY **Lake** 86.71 41 *e*P P 05 39 52.3 +2.5
comp=Z,17nm,0.8s
WALA **Waterton Lakes** 86.82 36 *e*P P 05 39 50.9 +0.8
comp=Z,19nm,1.1s
HRY **Holter Researc** 86.86 39 *e*P P 05 39 51.3 +1.1
LNIG **Linares** 86.91 63 *e*P P 05 39 51.9 +1.0
comp=Z,13nm,0.9s
PHET **Kaeng Krachan** 87.00 284 P P 05 39 54.9 +3.4
comp=Z,8.9nm,0.9s
SDCO **Great Sand Dun** 87.02 49 P P 05 39 51.9 +0.4
baz=246
SDCO **Great Sand Dun** 87.02 49 *e*P P 05 39 52.0 +0.6
comp=Z,5.0nm,0.9s
HHC **Hu-ho-hao-te** 87.37 314 *e*P P 05 39 53.6 +0.8
HHC pmax pmax

comp=Z,49nm,0.9s
HHC pmax pmax
comp=Z,67nm,7.4s
MSTX Muleshoe 87.55 53 P **P** 05 39 54.3 +0.5
baz=247
MSTX Muleshoe 87.55 53 *e*P **P** 05 39 54.9 +1.0
comp=Z,10nm,0.8s
T25A Trinidad 87.57 50 P **P** 05 39 54.2 +0.3
baz=246
T25A Trinidad 87.57 50 *e*P **P** 05 39 54.8 +0.8
comp=Z,4.6nm,1.0s
832A Faith Ranch, C 87.68 60 P **P** 05 39 55.5 +1.1
baz=249
RLMT Red Lodge 87.68 41 P **P** 05 39 55.0 +0.6
baz=243
RLMT Red Lodge 87.68 41 *e*P **P** 05 39 55.5 +1.2
comp=Z,15nm,0.9s
GCMT Greycliff 87.74 40 *e*P **P** 05 39 56.0 +1.5
Q24A Divide 87.78 48 P **P** 05 39 55.6 +0.5
baz=246
ISCO Idaho Springs 87.79 47 P **P** 05 39 55.3 +0.2
baz=246
N23A Red Feather La 88.02 46 P **P** 05 39 56.7 +0.6
baz=245
N23A Red Feather La 88.02 46 *e*P **P** 05 39 57.2 +1.2
comp=Z,10nm,1.3s
933A Laredo 88.02 60 P **P** 05 39 56.9 +0.9
baz=249
TOLK Toolik Lake Re 88.07 10 P **P** 05 39 55.3 0.0
baz=207
KMI Kunming 88.20 297 P **P** 05 39 58.8 +1.6
KMI pmax pmax
comp=Z,13nm,0.6s
733A Divot King Ran 88.39 59 P **P** 05 39 59.8 +2.1
baz=249
JCT Junction City 88.60 58 *e*P **P** 05 40 00.0 +1.2
JCT pmax pmax
comp=Z,5.0nm,0.9s
JCT Junction City 88.60 58 *e*P **P** 05 39 60.0 +1.2
comp=Z,5.3nm,0.9s
AMTX Amarillo 88.73 53 P **P** 05 39 59.8 +0.5
baz=248
633A Saathoff Ranch 88.75 59 P **P** 05 40 01.3 +1.9
baz=249,SNR=11
734A La Parita Cree 89.04 59 P **P** 05 40 02.7 +1.9
baz=250
533A Kerrville 89.08 58 P **P** 05 40 02.2 +1.2
baz=250,SNR=8.0
EDM Edmonton 89.26 33 *e*P **P** 05 40 01.5 +0.2
EDM pmax pmax
comp=Z,13nm,1.1s
EDM Edmonton 89.26 33 *e*P **P** 05 40 01.5 +0.2
comp=Z,13nm,1.1s
433A Art 89.27 58 P **P** 05 40 02.6 +0.8
baz=249,SNR=17
YAK Yakutsk 89.29 338 *e*P **P** 05 39 59.9 -1.2
YAK pmax pmax
comp=Z,21nm,1.0s
CD2 Chengdu 89.35 303 P **P** 05 40 03.3 +1.0
CD2 S **S** 05 50 17.5 -0.8
CD2 pmax pmax
comp=Z,20nm,1.0s
CMAR Chiang Mai Arr 89.36 289 P **P** 05 40 03.5 +1.0
comp=Z,8.3nm,0.4s,baz=113,slow=2.9,SNR=18
CMAR PP **PP** 05 43 41.7 +1.5
comp=Z,0.8nm,0.3s,baz=115,slow=6.5,SNR=4.9
CMAR Chiang Mai Arr 89.36 289 *ce*P **P** 05 40 03.7 +1.2
CMAR pmax pmax
comp=Z,3.0nm,0.9s
ABTX Abilene, Hawle 89.49 56 P **P** 05 40 04.1 +1.2
baz=249
ABTX Abilene, Hawle 89.49 56 *e*P **P** 05 40 04.2 +1.3
comp=Z,13nm,0.8s
534A Blanco 89.52 58 P **P** 05 40 03.9 +0.8
baz=250,SNR=11
333A Richland Sprin 89.56 57 P **P** 05 40 04.0 +0.8
baz=250
233A Rising Star 89.86 56 P **P** 05 40 05.7 +1.1
baz=250,SNR=7.5
635A Leesville 89.87 59 P **P** 05 40 06.0 +1.4
baz=250
434A Burnet 89.95 58 P **P** 05 40 06.1 +1.1
baz=250,SNR=19
334A Lometa 90.16 57 P **P** 05 40 07.0 +1.1
baz=250,SNR=14
LAO LASA Array 90.28 41 P **P** 05 40 07.4 +1.2
baz=245,SNR=8.4
LAO LASA Array 90.28 41 *e*P **P** 05 40 07.9 +1.6
comp=Z,18nm,0.9s
736A Circle Diamond 90.31 60 P **P** 05 40 07.5 +0.9
baz=250
234A Clairette 90.47 57 P **P** 05 40 08.0 +0.7
baz=250,SNR=6.3
636A Smothers Creek 90.49 59 P **P** 05 40 09.3 +1.8
baz=250
RSSD Black Hills 90.63 44 P **P** 05 40 08.8 +0.7
baz=246
RSSD Black Hills 90.63 44 *e*P **P** 05 40 08.8 +0.7
RSSD pmax pmax
comp=Z,13nm,0.9s
RSSD Black Hills 90.63 44 *e*P **P** 05 40 08.8 +0.7
comp=Z,13nm,0.9s
WMOK Wichita Mounta 90.91 54 P **P** 05 40 10.1 +0.8
baz=250
WMOK Wichita Mounta 90.91 54 *e*P **P** 05 40 10.4 +1.0
WMOK pmax pmax
comp=Z,12nm,1.9s
WMOK Wichita Mounta 90.91 54 *e*P **P** 05 40 10.4 +1.0
comp=Z,12nm,1.9s
LZH Lanzhou 91.10 307 *e*P **P** 05 40 12.1 +1.7
LZH pP pP 05 41 42.6 +1.4
LZH sP sP 05 42 20.4 -1.3
LZH PP **PP** **05 43 58.1 +4.4**
LZH *e*S **S** **05 50 35.0 +0.9**
LZH sS sS 05 53 17.0 +0.9
LZH pmax pmax
comp=Z,36nm,1.0s
LZH pmax pmax
comp=Z,180nm,4.6s
INK Inuvik 91.12 15 P **P** 05 40 09.1 -0.3
baz=216,slow=4.8
INK Inuvik 91.12 15 *e*P **P** 05 40 09.0 -0.4
INK pmax pmax
comp=Z,16nm,1.1s
INK Inuvik 91.12 15 *e*P **P** 05 40 09.0 -0.4
comp=Z,16nm,1.1s
SNAA Sanae 91.18 178 P **P** 05 40 09.2 -0.8
SNAA Sanae 91.18 178 P **P** 05 40 09.4 -0.6
comp=Z,4.3nm,0.6s,baz=208,slow=8.2,SNR=39
SNAA Sanae 91.18 178 *e*P **P** 05 40 09.7 -0.3
SNAA pmax pmax
comp=Z,30nm,1.7s
SNAA Sanae 91.18 178 *e*P **P** 05 40 09.7 -0.3
comp=Z,30nm,1.7s
VNA3 Neumayer Olymp 91.29 176 P **P** 05 40 10.7 +0.2
336A Riesel 91.30 58 P **P** 05 40 12.0 +0.8
baz=251
537A Green Hill Far 91.30 59 P **P** 05 40 11.8 +0.5
baz=251
VNA2 Neumayer--Watz 91.74 177 P **P** 05 40 13.1 +0.6
baz=189,slow=3.8
136A Ennis 91.91 57 P **P** 05 40 14.8 +0.9
baz=251
VNA1 Neumayer--Stat 91.97 176 P **P** 05 40 14.2 +0.7
X35A Drake 92.19 55 P **P** 05 40 15.9 +0.6
baz=251
438A Sam Houston St 92.20 59 P **P** 05 40 17.5 +2.2
baz=251
Z36A Blue Ridge 92.25 56 P **P** 05 40 16.2 +0.7
baz=251
DGMT Dagmar 92.27 40 P **P** 05 40 16.2 +0.9
baz=246,SNR=15
DGMT Dagmar 92.27 40 *e*P **P** 05 40 16.4 +1.1
comp=Z,34nm,0.8s
W35A Tecumseh 92.52 54 P **P** 05 40 17.3 +0.6
baz=251,SNR=5.3
Y36A Durant 92.57 55 P **P** 05 40 17.8 +0.8
baz=251
X36A Centrahoma 92.73 55 P **P** 05 40 18.5 +0.8
baz=251
T34A McClaskey Farm 92.90 52 P **P** 05 40 19.2 +0.8
baz=251
W36A Wetumka 93.02 54 P **P** 05 40 19.8 +0.8
baz=251
Y37A Hugo 93.12 56 P **P** 05 40 20.4 +0.9
baz=251
ULN Ulaanbaatar 93.17 319 *e*P **P** 05 40 19.4 -0.2
ULN pmax pmax
comp=Z,18nm,1.1s
ULN Ulaanbaatar 93.17 319 *e*P **P** 05 40 19.4 -0.2
comp=Z,18nm,1.1s
S34A Willow Spring 93.18 52 P **P** 05 40 20.3 +0.6
baz=251
R34A Isabella, Hill 93.28 51 P **P** 05 40 21.0 +0.8
baz=251,SNR=5.9
T35A Sooner Cattle 93.37 52 P **P** 05 40 21.5 +0.9
baz=251,SNR=5.1
V36A Jenks 93.44 54 P **P** 05 40 21.7 +0.7
baz=251
YKA Yellowknife Ar 93.48 24 P **P** 05 40 19.3 -1.1
comp=Z,3.7nm,0.8s,baz=249,slow=4.7,SNR=7.2
BOD Bodaibo 93.50 330 *e*P **P** 05 40 19.5 -1.2
BOD pmax pmax
comp=Z,9.0nm,1.3s
X37A Clayton 93.51 55 P **P** 05 40 21.8 +0.5
baz=252
SONA1 Songino Array 93.57 319 *e*P **P** 05 40 21.1 -0.4
SONM Songino Array 93.57 319 P **P** 05 40 20.6 -0.8
comp=Z,4.9nm,1.0s,baz=129,slow=3.9,SNR=19
SONM PP **PP** 05 44 09.1 -3.5
comp=Z,1.0nm,0.7s,baz=114,slow=6.6,SNR=4.3
W37B Quinton 93.63 54 P **P** 05 40 22.3 +0.5
baz=252
K31A O'Neill 93.65 47 P **P** 05 40 22.5 +0.7
baz=250,SNR=5.9
S35A Otter Creek Ra 93.77 52 P **P** 05 40 23.0 +0.5
baz=251
X38A Whitesboro 93.96 55 P **P** 05 40 23.9 +0.5
baz=252
P34A Walnut Farm, R 93.99 50 P **P** 05 40 24.3 +0.9
baz=251,SNR=6.0
O34A Beatrice 94.30 49 P **P** 05 40 25.5 +0.7
baz=251
S36A Lake Cedric, C 94.33 52 P **P** 05 40 25.8 +0.8
baz=252
Q35A Mercer Eighty, 94.35 51 P **P** 05 40 25.5 +0.4
baz=251
M33A Taylor Creek F 94.39 48 P **P** 05 40 25.9 +0.7
baz=251
P35A Duane Minner, 94.58 50 P **P** 05 40 26.6 +0.5
baz=252
R36A Gordon, Harris 94.58 51 P **P** 05 40 26.7 +0.6
baz=252
N34A Lincoln 94.65 49 P **P** 05 40 27.0 +0.7
baz=251
T37A Cheneyville 18 94.65 53 P **P** 05 40 27.1 +0.7
baz=252
V38A Canehill 94.65 54 P **P** 05 40 27.1 +0.6
baz=252
M34A Aspy Farms, Fr 94.80 48 P **P** 05 40 28.0 +0.9
baz=251
O35A Humboldt 94.89 49 P **P** 05 40 28.4 +0.9
baz=252
S37A Fort Scott 94.91 52 P **P** 05 40 28.5 +0.8
baz=252
R37A Teagarden Farm 95.08 52 P **P** 05 40 29.2 +0.8
baz=252
F31A Hecla 95.08 44 P **P** 05 40 28.5 +0.3
baz=251
H32A Carlson Farm, 95.18 45 P **P** 05 40 29.3 +0.5
baz=251
P36A Good Intent, A 95.20 50 P **P** 05 40 29.7 +0.8
baz=252
GTA Gaotai 95.21 310 *e*P **P** 05 40 29.3 +0.2
GTA pmax pmax
comp=Z,4.0nm,0.8s
V39A Pettigrew 95.23 54 P **P** 05 40 29.9 +0.6
baz=253
N35A Tabor 95.27 49 P **P** 05 40 30.0 +0.8
baz=252
ECSD EROS Data Cent 95.49 46 P **P** 05 40 30.4 +0.3
baz=252
ECSD EROS Data Cent 95.49 46 *e*P **P** 05 40 30.5 +0.3
comp=Z,13nm,1.3s
O36A Bolckow 95.54 50 P **P** 05 40 31.2 +0.8
baz=252
H33A Prehn Over Nor 95.71 45 P **P** 05 40 31.7 +0.6
baz=252
L35A Bielow Farm, R 95.73 48 P **P** 05 40 31.8 +0.6
baz=252
R38A Fenwick Farm, 95.74 52 P **P** 05 40 32.2 +0.8
baz=253
N36A Muff Farm, Cla 95.75 49 P **P** 05 40 32.5 +1.2
baz=252
P37A Lathrop 95.83 50 P **P** 05 40 32.4 +0.6
baz=253
V40A Witts Springs 95.86 54 P **P** 05 40 32.7 +0.6
baz=253
S39A Bolivar 96.03 53 P **P** 05 40 33.5 +0.8
baz=253
G33A Ortonville 96.07 45 P **P** 05 40 32.9 +0.2
baz=252
W41B Gary Mavity, V 96.13 55 P **P** 05 40 33.7 +0.5
baz=253
K35A Storm Lake 96.14 47 P **P** 05 40 33.9 +0.8
baz=252
Q38A Cooks Store, C 96.18 51 P **P** 05 40 34.1 +0.8
baz=253
ZAK Zakamensk 96.38 321 *e*P **P** 05 40 32.5 -1.6
ZAK pmax pmax
comp=Z,2.0nm,1.4s
R39A Chumby, Stover 96.43 52 P **P** 05 40 35.0 +0.6
baz=253
T40A Mansfield 96.49 53 P **P** 05 40 35.2 +0.4
baz=253
M37A Trindle Farm, 96.58 49 P **P** 05 40 35.8 +0.7
baz=253
O38A Galt 96.63 50 P **P** 05 40 35.8 +0.5
baz=253
S40A Lebanon 96.63 53 P **P** 05 40 36.1 +0.7
baz=253
K36A Gilmore City 96.66 48 P **P** 05 40 36.1 +0.7
baz=253
U41A Viola 96.72 54 P **P** 05 40 36.5 +0.7
baz=254
P39B Salisbury 96.98 51 P **P** 05 40 37.4 +0.5
baz=254
T41A Mountain View 97.03 54 P Pdif 05 40 37.9 +0.6
baz=254
S41A Jillco Farms, 97.20 53 P Pdif 05 40 38.5 +0.5
baz=254
M38A Pleasantville 97.20 49 P Pdif 05 40 38.6 +0.7
baz=254
K37A Belmond 97.27 48 P Pdif 05 40 38.8 +0.6
baz=253
Q40A Laux Farm, Aux 97.34 52 P Pdif 05 40 39.1 +0.5
baz=254
P40A Paris 97.51 51 P Pdif 05 40 40.0 +0.7
baz=254
N39A Derby Farms, D 97.55 50 P Pdif 05 40 40.3 +0.8
baz=254
I37A Lemond, Waseca 97.79 46 P Pdif 05 40 40.8 +0.3
baz=254
O40A La Belle 97.80 51 P Pdif 05 40 41.2 +0.6
baz=254
N40A Mertquake, Sal 98.22 50 P **P** 05 40 43.2 +0.8
baz=254
P41A Barry, Barry 98.28 51 P **P** 05 40 43.8 +1.0
baz=255
O41A Passleys Farm, 98.53 51 P **P** 05 40 44.4 +0.5
baz=255
J39A Decorah 98.79 47 P **P** 05 40 45.6 +0.6
baz=255
WMQ Urumqi 105.08 312 P **Pdif** 05 41 13.6 +0.6
WMQ PP **PP** **05 45 43.6 +4.3**
ZALV Zalesovo Beam 108.21 322 PKiKP **PKiKP** **05 45 29.4 -1.3**
comp=Z,2.2nm,0.6s,baz=155,slow=1.8,SNR=8.3
MKAR Makanchi Array 109.23 314 Pdiff **Pdif** 05 41 31.1 -0.2
comp=Z,0.5nm,0.8s,baz=85,slow=4.4,SNR=5.3
MKAR PKiKP **PKiKP** **05 45 31.6 -1.3**
comp=Z,0.9nm,0.6s,baz=83,slow=4.2,SNR=7.4
KURK Kurchatov 111.86 318 *i* PKIKP **PKiKP** **05 45 37.1 -0.6**
KURK pmax pmax
comp=Z,14nm,1.2s
KSH Kashi 113.31 306 *e*PKP **PKiKP** **05 45 44.8 +3.8**
KSH PP PP 05 46 47.8 +9.2
KSH PKS **PKSdf** **05 49 19.8 +2.0**
KSH AMB AMB
comp=Z,69nm,5.0s
BRVK Borovoye 116.89 321 ⇑ *i* PKIKP **PKPdf** **05 45 46.3 -1.0**
BRVK pmax pmax
comp=Z,9.0nm,1.0s
BRVK Borovoye 116.89 321 *e*PKPdf **PKPdf** **05 45 46.7 -0.6**
KBS Kingsbay 118.17 358 *i* PKIKP **PKPdf** **05 45 48.7 -0.4**
KBS pmax pmax
comp=Z,30nm,0.6s
SVE Sverdlovsk 121.53 327 *e*PKIKP **PKPdf** **05 45 55.8 -0.3**
SVE pmax pmax
comp=Z,10.0nm,0.8s
SOKR Solikamsk 122.48 331 *c i* PKIKP **PKPdf** **05 45 55.2 -2.6**
SOKR pmax pmax
comp=Z,18nm,0.9s
ARU Arti 122.75 327 *i* PKIKP **PKPdf** **05 45 57.6 -0.8**
ARU 05 47 38.3
ARU 05 52 32.1
ARU PS **SP** **05 56 57.6 +0.3**
ARU Arti 122.75 327 *e*PKPdf **PKPdf** **05 45 57.8 -0.6**
ABKAR Akbulak array 123.97 318 *e*PKPdf **PKPdf** **05 46 00.4 -0.6**
KEV Kevo 125.40 350 *e*PKIKP **PKPdf** **05 46 02.9 -0.2**
KEV Kevo 125.40 350 *e*PKPdf **PKPdf** **05 46 02.9 -0.2**
ARA0 ARCESS Array S 125.85 350 *e*PKPdf **PKPdf** **05 46 03.6 -0.4**
ARCES ARCESS Array B 125.85 350 PKP **PKPdf** **05 46 03.5 -0.5**
comp=Z,9.8nm,0.7s,baz=70,slow=1.4,SNR=20
ARE0 ARCESS Array S 125.85 350 *e*PKPdf **PKPdf** **05 46 03.9 -0.1**
GEYT Alibeck 127.30 305 PKP **PKPdf** **05 46 07.0 -0.8**
comp=Z,3.6nm,0.6s,baz=177,slow=2.9,SNR=5.1
KLMR Klimovskoe 129.08 338 *e*PKIKP **PKPdf** **05 46 08.1 -2.3**
KLMR pmax pmax
comp=Z,18nm,1.5s
FIA1 FINESS Array S 132.80 345 *e*PKPdf **PKPdf** **05 46 17.4 0.0**
FINES FINESS Array B 132.80 345 PKP **PKPdf** **05 46 16.6 -0.8**
comp=Z,5.5nm,0.8s,baz=123,slow=7.0,SNR=8.8
FINES SKPbc **SKPbc** **05 49 08.2 +0.8**
comp=Z,7.4nm,0.9s,baz=46,slow=4.0,SNR=8.5
OBN Obninsk 134.09 333 *e*PKIKP **PKPdf** **05 46 19.2 -0.8**
OBN pmax pmax
comp=Z,10.0nm,1.3s
NB2 NORSAR Subarra 135.86 354 PKP PKPpre 05 46 16.2
comp=Z,2.0nm,0.7s,baz=17,slow=2.6
NOA NORSAR Array B 135.86 354 PKP **PKPdf** **05 46 22.9 -0.4**
comp=Z,1.9nm,0.8s,baz=15,slow=4.1,SNR=7.4
NOA SKPbc **SKPbc** **05 49 16.8 -0.5**
comp=Z,3.0nm,0.9s,baz=16,slow=4.6,SNR=6.7
NBO02 NORSAR Array S 135.88 354 *e*PKPdf **PKPdf** **05 46 24.5 +1.2**
KBZ Khabaz 136.87 316 PKP **PKPdf** **05 46 26.2 +0.7**
comp=Z,1.0nm,0.4s,baz=18,slow=3.2,SNR=4.3
KBZ PP **PP** **05 49 16.7 +3.0**
comp=Z,2.1nm,0.8s,baz=117,slow=6.0,SNR=4.4
KIV Kislovodsk 136.92 317 *e*PKIKP **PKPdf** **05 46 24.2 -1.6**
KIV pmax pmax
comp=Z,5.0nm,0.4s
AKASG Malin Array Be 140.35 333 PKhKP PKPpre 05 46 24.4
comp=Z,0.6nm,0.4s,baz=43,slow=4.2,SNR=5.2
AKASG PP **PP** **05 49 35.0 +0.6**
comp=Z,2.1nm,0.8s,baz=40,slow=4.0,SNR=4.9
AKASG Malin Array Be 140.35 333 *c i* PKIKP **PKPdf** **05 46 33.2 +1.5**
AKASG pmax pmax
comp=Z,5.0nm,0.7s
AKBB Malin Array Si 140.35 333 *e*PKIKP **PKPdf** **05 46 31.8 +0.1**
AKBB Malin Array Si 140.35 333 *e*PKPdf **PKPdf** **05 46 31.8 +0.1**
KIEV Kiev 140.37 333 *e*PKIKP **PKPdf** **05 46 30.4 -1.3**
AK11 Malin Array Si 140.40 333 *e*PKPpre PKPpre 05 46 25.2
AK11 *e*PKPdf **PKPdf** **05 46 31.0 -0.7**
SORM Soroca 142.62 331 ⇑ *i*P **PKPdf** **05 46 32.8 -3.0**
SORM Soroca 142.62 331 ⇑ PKIKP **PKPdf** **05 46 32.8 -3.0**
JHLN Al Jahlan 143.15 307 *e*P **PKPdf** **05 46 42.5 +5.3**
LVV L'vov 143.15 336 *e*PKIKP PKPbc 05 46 34.9 +0.5
KWP Kalwaria Pacla 143.80 337 *e*PKP PKPab 05 46 36.3 +0.1
KWP Kalwaria Pacla 143.80 337 *e*PKIKP PKPab 05 46 36.3 0.0
ILGA Ilgaz 144.12 318 *e*PKPbc PKPbc 05 46 37.3 -0.7
DRWC Darouich 144.13 309 *e*P PKPbc 05 46 37.6 -0.4
FOEL Foel Wylfa 144.22 6 *e*P PKPbc 05 46 35.9 -1.8
OJC Ojcow 144.29 341 *e*PKP PKPbc 05 46 37.6 -0.3
OJC Ojcow 144.29 341 *e*PKIKP PKPbc 05 46 37.7 -0.3
OJC Ojcow 144.29 341 *e*PKPbc PKPbc 05 46 37.5 -0.4
BUR08 Bucovina Ar. S 144.40 333 *e*PKPbc **PKPab** **05 46 38.9 +0.2**
BURAR Bucovina Array 144.41 333 ⇑ *i*P **PKPab** **05 46 38.8 +0.1**
BURAR Bucovina Array 144.41 333 ⇑ PKIKP **PKPab** **05 46 38.8 +0.1**
TLCR 144.47 327 ⇓ *i*P **PKPab** **05 46 38.8 0.0**
TLCR 144.47 327 ⇓ PKIKP **PKPab** **05 46 38.8 0.0**
STHS Stebnicka Huta 144.50 339 *e*PKIKP **PKPab** **05 46 39.0 +0.1**
STHS Stebnicka Huta 144.50 339 *e*PKP **PKPab** **05 46 39.0 +0.1**
BTCH Batrach 144.51 308 *e*P PKPbc 05 46 38.6 -0.7
RABH Abou Rabah 144.52 306 *e*P **PKPdf** **05 46 39.6 0.0**
ROOS tl_alroos 144.54 305 *e*P PKPbc 05 46 39.4 0.0
TESR Tescani 144.60 331 ⇓ *i*P PKPbc 05 46 39.1 0.0
HLM1 Long Mynd 144.62 6 *e*P PKPbc 05 46 38.1 -0.9
WACR West Acre 144.63 2 *e*P PKPbc 05 46 37.8 -1.1
KSP Ksiaz 144.73 345 *e*PKP **PKPdf** **05 46 39.5 0.0**
KSP Ksiaz 144.73 345 *e*PKIKP **PKPdf** **05 46 39.5 0.0**
UZH Uzhgorod 144.78 337 *e*PKHKP PKPpre 05 46 35.9
UZH *i* 05 46 39.8
CFR Carcaliu 144.82 328 ⇑ *i*P **PKPdf** **05 46 39.6 -0.1**
CFR Carcaliu 144.82 328 ⇑ PKIKP **PKPdf** **05 46 39.6 -0.1**
NIE Niedzica 144.82 340 *e*PKP **PKPab** **05 46 40.0 -0.1**
NIE Niedzica 144.82 340 *e*PKIKP **PKPab** **05 46 40.0 -0.1**
BR131 Keskin Array S 144.86 316 *e*PKPbc **PKPdf** **05 46 39.3 -0.9**
BRTR Keskin Array B 144.86 316 PKP **PKPdf** **05 46 40.0 -0.2**
comp=Z,20nm,0.8s,baz=128,slow=3.6,SNR=70
PETR Petresti 144.89 329 ⇑ *i*P **PKPab** **05 46 41.0 +0.6**
LPW Lampeter 144.90 7 *e*P **PKPdf** **05 46 38.9 -0.8**
ARNB Al Arnab 144.94 308 *e*P **PKPdf** **05 46 38.9 -1.5**
CLL Collm 145.03 348 ⇓ *i* PKIKP **PKPdf** **05 46 40.0 +0.1**
CLL pmax pmax
comp=Z,6.0nm,0.9s
CLL Collm 145.03 348 ⇓ *i* PKPbc **PKPdf** **05 46 40.0 +0.1**
comp=Z,111nm,0.9s
CLL *e*PKiKP **PKiKP** **05 46 43.0 -0.9**
CLL *e*SKPbc **SKiKP** **05 49 43.0 +0.8**
CLL Collm 145.03 348 *e*PKPdf **PKPdf** **05 46 39.0 -0.9**
VRI Vrincioaia 145.03 330 ⇑ *i*P **PKPab** **05 46 40.8 -0.2**
VRI Vrincioaia 145.03 330 ⇑ PKIKP **PKPab** **05 46 40.8 -0.2**
PLOR Plostina 145.08 330 ⇑ *i*P **PKPbc** **05 46 40.7 0.0**
PLOR Plostina 145.08 330 ⇑ PKIKP **PKPbc** **05 46 40.7 0.0**
UPC Upice 145.11 345 *e*PKP **PKPbc** **05 46 40.7 +0.1**
UPC Upice 145.11 345 *e*PKIKP **PKPbc** **05 46 40.7 +0.1**
MCH1 Michaelchurch 145.12 6 *e*P **PKPdf** **05 46 39.5 -0.6**
OKC Ostrava-Krasne 145.13 342 *e*PKP **PKPdf** **05 46 40.3 +0.1**
OKC Ostrava-Krasne 145.13 342 *e*PKIKP **PKPdf** **05 46 40.3 +0.1**
DPC Dobruska-Polom 145.17 344 *e*PKP **PKPbc** **05 46 41.1 +0.3**
DPC Dobruska-Polom 145.17 344 *e*PKIKP **PKPbc** **05 46 41.1 +0.3**
TIRR Tirgusor 145.17 327 ⇓ *i*P **PKPbc** **05 46 41.2 +0.3**
TIRR Tirgusor 145.17 327 ⇓ PKIKP **PKPbc** **05 46 41.2 +0.3**
TIRR Tirgusor 145.17 327 *e*PKPdf **PKPbc** **05 46 40.9 -0.1**
MARH Ras Al Marh 145.22 305 *e*P PKPdf 05 46 33.2 -8.1
WTSB Winterswijk 145.24 355 *e*PKPdf **PKPdf** **05 46 39.9 -0.3**
BRG Berggiesshubel 145.25 347 *i* PKP **PKPbc** **05 46 40.6 -0.3**
comp=Z,73nm,1.0s
BRG *e* 05 46 46.1
comp=Z,14nm,0.9s
BRG SKP 05 49 43.3
comp=Z,6.7nm,1.0s
BRG Berggiesshubel 145.25 347 *i* PKIKP **PKPbc** **05 46 40.7 -0.3**
BRG pmax pmax
comp=Z,73nm,1.0s
BRG pmax pmax
comp=Z,14nm,0.9s
BRG pmax pmax
comp=N,7.0nm,1.0s
HARR Harsova 145.26 327 ⇑ *i*P **PKPbc** **05 46 41.0 -0.2**
HARR Harsova 145.26 327 ⇑ PKP2 **PKPbc** **05 46 41.0 -0.2**
TLB Topalu 145.28 327 ⇑ *i*P **PKPab** **05 46 41.7 -0.2**
TLB Topalu 145.28 327 ⇑ PKP2 **PKPab** **05 46 41.7 -0.2**
MONM Monmouth 145.30 6 *e*P **PKPdf** **05 46 39.8 -0.6**
KRLC Kraliky 145.30 344 *e*PKP **PKPbc** **05 46 41.2 0.0**
KRLC Kraliky 145.30 344 *e*PKP2 **PKPbc** **05 46 41.2 0.0**
LANS Liptovska Anna 145.33 340 *e*PKP2 **PKPab** **05 46 41.9 -0.2**
LANS Liptovska Anna 145.33 340 *e*PKP **PKPab** **05 46 41.9 -0.2**
ANTO Ankara 145.35 317 *e*PKIKP **PKPdf** **05 46 40.4 -0.6**
ANTO Ankara 145.35 317 *e*PKPdf **PKPdf** **05 46 40.4 -0.6**
MORC Moravsky Berou 145.36 343 *e*PKP2 **PKPbc** **05 46 41.4 0.0**
MORC Moravsky Berou 145.36 343 *e*PKPdf **PKPbc** **05 46 41.4 0.0**
BR231 Keskin MP Arra 145.37 317 *e*PKPdf **PKPdf** **05 46 40.9 -0.1**
PVCC Panska Ves 145.43 346 *e*PKP **PKPbc** **05 46 41.6 +0.1**
PVCC Panska Ves 145.43 346 *e*PKP2 **PKPbc** **05 46 41.6 +0.1**
TOTH TOTAH 145.49 304 *e*P **PKPdf** **05 46 34.4 -7.0**
HGH Gray Hill 145.50 6 *e*P **PKPdf** **05 46 40.5 -0.2**
KECS Kecovo 145.56 339 *e*PKP2 **PKPbc** **05 46 42.3 +0.3**
KECS Kecovo 145.56 339 *e*PKP **PKPbc** **05 46 42.2 +0.3**
DOPR Dopca 145.59 331 ⇓ *i*P **PKPab** **05 46 42.7 -0.4**
ISR Istrita 145.66 329 ⇓ *i*P **PKPbc** **05 46 42.9 +0.4**
ISR Istrita 145.66 329 ⇓ PKP2 **PKPbc** **05 46 42.9 +0.4**
MLR Muntele Rosu 145.68 330 ⇑ *i*P **PKPbc** **05 46 42.5 -0.1**
MLR Muntele Rosu 145.68 330 ⇑ PKP2 **PKPbc** **05 46 42.5 -0.1**
MLR Muntele Rosu 145.68 330 *e*PKPdf **PKPbc** **05 46 42.3 -0.3**
PRA Prague 145.89 346 *e*PKP **PKPbc** **05 46 43.3 +0.4**
PRA Prague 145.89 346 *e*PKP2 **PKPbc** **05 46 43.3 +0.4**

PRU	Pruhonice	145.94	346	ePKP	PKPbc	05 46 43.0	0.0
PRU	Pruhonice	145.94	346	ePKP2	PKPbc	05 46 43.0	0.0
WOL	Wolverton	145.95	4	eP	PKPdf	05 46 41.2	-0.2
SECR		145.95	329	⇑iP	PKPbc	05 46 43.5	+0.2
GOPC	GO Pecny, Ondr	145.96	346	ePKP	PKPbc	05 46 42.8	-0.3
GOPC	GO Pecny, Ondr	145.96	346	ePKP2	PKPbc	05 46 42.8	-0.3
VYHS	Vyhne	146.10	340	ePKP2	PKPbc	05 46 43.5	-0.1
VYHS	Vyhne	146.10	340	ePKP	PKPbc	05 46 43.5	-0.1
DRGR		146.11	335	⇑iP	PKPbc	05 46 43.3	-0.4
DRGR		146.11	335	⇑PKP2	PKPbc	05 46 43.3	-0.4
VOIR		146.14	331	⇑iP	PKPbc	05 46 43.9	0.0
VOIR		146.14	331	⇑PKP2	PKPbc	05 46 43.9	0.0
NKC	Novy Kostel	146.16	348	ePKP	PKPbc	05 46 43.5	-0.2
NKC	Novy Kostel	146.16	348	ePKP2	PKPbc	05 46 43.5	-0.2
PSZ	Piszkesteto	146.25	339	ePKP2	PKPbc	05 46 43.7	-0.4
PSZ	Piszkesteto	146.25	339	⇓ex	PKPbc	05 46 43.9	-0.2
PSZ	Piszkesteto	146.25	339	ePKPdf	PKPbc	05 46 43.7	-0.4
TREC	Trest	146.36	344	ePKP	PKPbc	05 46 44.2	-0.1
TREC	Trest	146.36	344	ePKP2	PKPbc	05 46 44.2	-0.1
ARR	Arges	146.39	331	⇑iP	PKPdf	05 46 43.1	+0.6
HGN	Heimansgroeve	146.50	356	ePKPdf	PKPbc	05 46 44.3	-0.2
SMOL	Smolenice	146.53	342	ePKP2	PKPbc	05 46 45.6	+0.9
SMOL	Smolenice	146.53	342	ePKP	PKPbc	05 46 45.6	+0.9
DYA	Yadsworthy	146.56	7	ePKPdf	PKPbc	05 46 43.7	-1.1
MEM	Membach	146.64	356	PKPbc	PKPbc	05 46 44.7	-0.3
LOT	Lotru	146.72	332	⇑iP	PKPbc	05 46 45.0	-0.5
SNF	Seneffe	146.84	358	PKPbc	PKPbc	05 46 45.7	+0.2
SNF				PKPab	PKiKP	05 46 47.5	-0.1
BCLA	Clavier	146.88	357	PKPbc	PKPbc	05 46 45.5	-0.1
SIRR	Siria	146.97	335	⇑iP	PKPbc	05 46 46.4	+0.4
KHC	Kasperske Hory	146.97	346	ePKP	PKPdf	05 46 43.6	+0.2
KHC				ex	x	05 46 46.0	
KHC	Kasperske Hory	146.97	346	ePKIKP	PKPdf	05 46 43.6	+0.2
KHC				e		05 46 46.0	
KHC	Kasperske Hory	146.97	346	ePKPdf	PKPdf	05 46 43.3	-0.1
KHC				ePKPbc	PKPbc	05 46 46.1	+0.2
BOLV	Bolvadin	147.17	316	ePKPbc	PKPbc	05 46 46.6	-0.3
GZR	Gura Zlata	147.20	333	⇑iP	PKPbc	05 46 46.0	-0.8
GZR	Gura Zlata	147.20	333	⇑PKIKP	PKPbc	05 46 46.0	-0.8
GEC2	GERESS Array S	147.21	346	ePKIKP	PKPdf	05 46 43.8	0.0
GEC2				e		05 46 46.8	
GEC2	GERESS Array S	147.21	346	ePKPdf	PKPdf	05 46 43.8	0.0
GEC2				ePKPbc	PKPbc	05 46 46.8	0.0
GERES	GERESS Array B	147.21	346	PKP	PKPdf	05 46 43.6	-0.2
	comp=N,7.7nm,0.7s,baz=90,slow=1.0,SNR=53						
GERES				PKPbc	PKPbc	05 46 46.3	-0.4
	comp=N,7.7nm,0.7s,baz=29,slow=3.0,SNR=44						
GEA0	GERESS Array S	147.22	346	ePKPdf	PKPdf	05 46 43.2	-0.6
GEA0				ePKPbc	PKPbc	05 46 46.5	-0.3
DOU	Dourbes	147.24	357	PKPbc	PKPbc	05 46 46.5	-0.1
CSS	Mathiatis	147.28	309	ePKPbc	PKPbc	05 46 46.9	-0.4
ZIMR		147.30	328	⇓iP	PKPbc	05 46 47.9	+0.9
ZIMR		147.30	328	⇓PKP2	PKPbc	05 46 47.9	+0.9
CONA	Conrad Observa	147.51	343	iPKPbc	PKPbc	05 46 47.4	-0.1
	comp=N,27nm,0.8s,SNR=20						
BZS	Buzias	147.51	334	⇓iP	PKPbc	05 46 47.5	0.0
BZS	Buzias	147.51	334	⇓PKP2	PKPbc	05 46 47.5	0.0
SOP	Sopron	147.53	342	⇓ex	PKPbc	05 46 47.5	0.0
WLF	Walferdange	147.57	355	PKPbc	PKPbc	05 46 48.3	+0.8
WLF	Walferdange	147.57	355	ePKP2	PKPbc	05 46 48.2	+0.7
WLF	Walferdange	147.57	355	ePKPbc	PKPbc	05 46 48.2	+0.7
MOA	Molln	148.00	345	iPKPbc	PKPbc	05 46 48.6	-0.2
	comp=N,22nm,1.0s,SNR=16						
STU	Stuttgart	148.12	351	ePKP2	PKPbc	05 46 49.2	+0.2
STU	Stuttgart	148.12	351	ePKPbc	PKPbc	05 46 49.2	+0.2
MDVR	Moldovita	148.14	333	⇑iP	PKPbc	05 46 48.9	-0.3
ARSA	Arzberg	148.22	343	iPKPbc	PKPbc	05 46 48.9	-0.4
	comp=N,13nm,1.1s,SNR=7.1						
MPEP	Malo Peshtene	148.32	330	P	PKPbc	05 46 49.5	-0.2
BFO	Black Forest	148.67	352	ePKPdf	PKPdf	05 46 46.0	-0.2
BFO				ePKPbc	PKPbc	05 46 50.5	+0.1
BFO				ePKPab	PKPab	05 46 54.8	-0.6
MANT	Manisa	148.85	318	ePKPdf	PKPdf	05 46 44.3	-2.8
MANT				ePKPbc	PKPbc	05 46 50.0	-1.4
SOKA	Soboth	148.88	343	iPKPbc	PKPbc	05 46 50.3	-0.7
	comp=N,23nm,1.1s,SNR=16						
PERS	Pernice	148.90	343	iPKPbc	PKPbc	05 46 50.3	-0.7
ECH	Echery	148.92	354	PKP	PKPbc	05 46 51.0	0.0
KBA	Koelnbreinsper	148.95	345	iPKPbc	PKPbc	05 46 50.3	-1.0
	comp=N,25nm,0.9s,SNR=11						
THEF	They Montfort	149.01	355	PKP	PKPbc	05 46 51.4	+0.2
WATA	Walderalm	149.10	348	iPKPbc	PKPbc	05 46 51.2	-0.5
	comp=N,25nm,0.9s,SNR=8.6						
RETA	Reutte	149.11	349	iPKPbc	PKPbc	05 46 51.3	-0.3
	comp=N,21nm,1.0s,SNR=13						
VTS	Vitosha	149.15	329	⇑iP	PKPbc	05 46 51.6	-0.3
VTS	Vitosha	149.15	329	ePKP2	PKPbc	05 46 51.7	-0.2
VTS	Vitosha	149.15	329	P	PKPbc	05 46 51.0	-0.9
VTS	Vitosha	149.15	329	ePKPbc	PKPbc	05 46 51.7	-0.2
WTTA	Wattenberg	149.16	348	iPKPbc	PKPbc	05 46 51.1	-0.8
	comp=N,29nm,0.8s,SNR=11						
MOTA	Moosalm	149.18	348	iPKPbc	PKPbc	05 46 51.4	-0.5
	comp=N,18nm,0.8s,SNR=11						
MOF	Molkenrain	149.28	354	PKP	PKPbc	05 46 51.6	-0.4
MYKA	Terra Mystica	149.29	345	iPKPbc	PKPbc	05 46 51.0	-1.1
	SNR=8.6						
AKAS	Kas	149.38	313	ePKPbc	PKPbc	05 46 51.9	-0.8
ABTA	Abfaltersbach	149.46	346	iPKPbc	PKPbc	05 46 51.6	-0.8
	comp=N,58nm,0.9s,SNR=17						
DAVA	Damuels	149.46	350	iPKiKP	PKPbc	05 46 52.5	-0.1
	comp=N,51nm,1.0s,SNR=16						
FETA	Feichten	149.57	349	iPKiKP	PKPbc	05 46 52.7	-0.1
	comp=N,44nm,0.9s,SNR=27						
MMB	Musomiste	149.63	327	P	PKPbc	05 46 52.3	-0.7
CRNS	Crni Vrh	149.64	343	iPKPbc	PKPbc	05 46 52.2	-0.7
VISS	Visnje	149.73	343	iPKPbc	PKPbc	05 46 52.7	-0.4
KKB	Krupnik	149.75	328	P	PKPdf	05 46 50.3	+2.2
KKB				P	PKPbc	05 46 52.8	-0.4
LOMF	Lomont	149.81	354	PKP	PKPbc	05 46 53.6	+0.3
JAVS	Javornik	149.87	344	iPKPbc	PKPbc	05 46 52.7	-0.8
BOJS	Bojanci	149.88	342	iPKPbc	PKPbc	05 46 53.5	+0.1
FUORN	Ofenpass-Fuorn	150.04	349	ePKPdf	PKPdf	05 46 49.2	+0.5
FUORN				ePKPbc	PKiKP	05 46 54.5	-0.3
TRI	Trieste	150.12	344	ePKPbc	PKPbc	05 46 53.7	-0.2
TUE	Stuetta	150.34	350	ePKPdf	PKPdf	05 46 48.4	-0.7
TUE				ePKPbc	PKiKP	05 46 55.2	-0.1
SKO	Skopje	150.48	330	iP	PKPbc	05 46 55.0	+0.1
SENIN	Lac Senin/Sane	150.73	353	ePKPbc	PKPbc	05 46 55.8	+0.1
PDG	Podgorica	151.09	334	⇑iP	PKPbc	05 46 55.4	-0.9
BIA	Bitola	151.26	329	iP	PKPbc	05 46 56.6	-0.2
AGO	Saint Agoulin	151.33	359	PKP	PKPbc	05 46 57.0	+0.2
PLDF	La Plantade	151.40	358	PKP	PKPbc	05 46 57.2	+0.2
RSL	Roselend	151.47	354	PKP	PKPbc	05 46 57.4	+0.1
PYM	Petit Puy Mans	151.63	359	PKP	PKPbc	05 46 58.0	+0.5
SSB	Saint Sauveur	152.05	357	PKP	PKPbc	05 46 58.6	+0.2
SSB	Saint Sauveur	152.05	357	ePKIKP	PKPdf	05 46 52.4	+0.9
SSB				e		05 47 09.3	
SSB	Saint Sauveur	152.05	357	ePKPdf	PKPdf	05 46 52.4	+0.9
SSB				ePKPbc	PKiKP	05 46 59.0	+0.3
SSB				ePKPab	PKPab	05 47 09.3	-0.2
BNI	Bardonecchia	152.10	353	ePKIKP	PKPdf	05 46 52.3	+0.6
BNI				e		05 47 10.4	
BNI	Bardonecchia	152.10	353	ePKPdf	PKPdf	05 46 52.3	+0.6
BNI				ePKPbc	PKiKP	05 46 59.1	+0.2
BNI				ePKPab	PKPab	05 47 10.4	+0.5
LBL	Lubilhac	152.14	359	PKP	PKPbc	05 46 59.3	+0.6
AGG	Agios Georgios	152.22	325	ePKIKP	PKPbc	05 46 57.8	-1.2
AGG	Agios Georgios	152.22	325	ePKPbc	PKPbc	05 46 57.8	-1.2
AQU	L'Aquila	153.30	342	ePKIKP	PKPbc	05 47 00.9	-0.4
AQU				e		05 47 15.6	
AQU	L'Aquila	153.30	342	ePKPbc	PKPbc	05 47 00.9	-0.4
AQU				ePKPab	PKPab	05 47 15.6	+0.6
PBRG	Braganca	154.36	16	ePKPab	PKPab	05 47 19.6	+0.1
POLO	Lamas de Olo	154.47	18	ePKPab	PKPab	05 47 20.2	+0.2
PVRL	Vila Real	154.59	18	ePKPab	PKPab	05 47 20.9	+0.4
MVO	Moncorvo	154.88	17	ePKPab	PKPab	05 47 21.9	+0.1
PVIS	Viseu	155.05	19	ePKPab	PKPab	05 47 22.5	0.0
PCAS	Casmilo, Conde	155.46	20	ePKPab	PKPab	05 47 23.9	-0.3
PTOM	Tomar	155.88	21	ePKPab	PKPab	05 47 25.6	-0.4
PCBR	Castelo Branco	155.97	19	ePKPab	PKPab	05 47 26.1	-0.3
PMAFR	Mafra	156.16	23	ePKPab	PKPab	05 47 27.5	+0.3
PMRV	Marv??o	156.38	19	ePKPdf	PKPdf	05 46 58.0	+0.3
PMRV	Marv??o	156.38	19	ePKPab	PKPab	05 47 27.9	-0.3
EVO	Evora	156.99	21	ePKPab	PKPab	05 47 30.5	-0.3
ES19	SONSECA Array	157.03	12	ePKPdf	PKPdf	05 46 58.8	+0.3
ES19				ePKPab	PKPab	05 47 30.8	-0.2
ESDC	Sonseca Array	157.04	13	PKP	PKPdf	05 46 58.5	-0.1
	comp=N,0.3nm,0.4s,baz=347,slow=1.7,SNR=6.1						
ESDC				PKPab	PKPab	05 47 30.2	-0.9
	comp=N,1.6nm,0.8s,baz=351,slow=4.2,SNR=9.0						
PNCL	Nicolau / Gran	157.18	23	ePKPab	PKPab	05 47 31.5	-0.1
MESJ	Messejana	157.53	22	ePKPdf	PKPdf	05 47 00.4	+1.3
MESJ	Messejana	157.53	22	ePKPab	PKPab	05 47 33.0	-0.2
PBAR	Barrancos	157.63	20	ePKPab	PKPab	05 47 33.8	+0.2
PCVE	Castro Verde	157.78	22	ePKPab	PKPab	05 47 34.4	+0.1
PVAQ	Vaqueiros	158.10	22	ePKPab	PKPab	05 47 36.1	+0.4
KEST	Kesra	160.62	343	PKPab	PKPab	05 47 46.6	-0.2
	comp=N,10.0nm,0.8s,baz=253,slow=3.9,SNR=15						
KEST	Kesra	160.62	343	ePKPab	PKPab	05 47 46.8	0.0
DBIC	Dimbokro	167.30	145	PKP	PKPdf	05 47 08.7	-0.7
	comp=N,2.1nm,0.6s,baz=272,slow=8.2,SNR=5.4						
TAM	Tamanrasset	173.78	332	ePKP2	PKPab	05 48 45.5	+0.2
TAM	Tamanrasset	173.78	332	ePKPab	PKPab	05 48 45.5	+0.2
TOA0	Torodi Ar. Sit	175.82	171	ePKPdf	PKPdf	05 47 12.4	-1.0
TORD	Torodi Ar. Bea	175.82	171	PKP	PKPdf	05 47 12.0	-1.4
	comp=N,1.9nm,0.7s,baz=255,slow=5.7,SNR=13						
TORD				PKPab	PKPab	05 48 54.1	-0.1
	comp=N,0.9nm,0.8s,baz=197,slow=3.8,SNR=4.2						
TORD				PP	PP	05 52 47.7	+1.9
	comp=N,1.0nm,0.9s,baz=171,slow=5.8,SNR=4.2						

MEX 24 05:44:14.3±0.3, 16°.51N×99°.64W, h8km±2km, MD3.8, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ACX	Acapulco	0.41	329	eP	Pg	05 44 22.6	+0.2
ACX				eS	Sg	05 44 28.9	+1.0
ACP2	Acapulco	0.43	326	eP	Pg	05 44 22.4	-0.3
ACP2				eS	Sg	05 44 28.5	+0.1
CAIG	El Cayaco	0.81	311	eP	Pg	05 44 28.0	-1.8
CAIG				eS	Sg	05 44 38.5	-1.8
TLIG	Tlapa	1.46	44	eP	Pn	05 44 37.1	-4.0
TLIG				eS	Sn	05 44 55.9	-4.8
PLIG	Platanillo	1.87	4	iP	Pn	05 44 43.4	-3.4
PLIG				eS	Sn	05 45 05.9	-4.8
ARIG	Puente Sto Nin	1.89	339	eP	Pn	05 44 43.5	-3.4
ARIG				eS	Sn	05 45 06.6	-4.4

CSEM 24 05:53:17.9±0.9, 51°.43N×16°.16E, h1km, ML2.8/6, Error ellipse: s-maj=13.3km s-min=7.0km az=16.0
WAR 24 05:53:18.8, 51°.44N×16°.19E, h1km, Mw2.2

PRU 24 05:53:20.9, 51°.34N×16°.18E, h0km, Poland

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KSP	Ksiaz	0.50	172	ePg	Pg	05 53 30.0	-0.5
KSP				eSg	Sg	05 53 38.1	+1.1
KSP	Ksiaz	0.50	172	ePg	Pg	05 53 30.0	-0.5
KSP				eSg	Sg	05 53 38.1	+1.1
KSP	Ksiaz	0.50	172	ePg	Pg	05 53 30.0	-0.5
KSP				eSg	Sg	05 53 38.1	+1.1
UPC	Upice	0.84	187	ePG	Pg	05 53 36.3	-0.7
UPC				eSG	Sg	05 53 48.3	+0.5
	comp=Z,19nm,0.3s						
UPC	Upice	0.84	187	Pg	Pg	05 53 36.3	-0.7
UPC				Sg	Sg	05 53 48.3	+0.5
	19nm,0.3s						
DPC	Dobruska-Polom	0.99	175	ePG	Pg	05 53 38.8	-1.1
DPC				eSG	Sg	05 53 52.2	-0.6
	comp=Z,5.5nm,0.2s						
DPC	Dobruska-Polom	0.99	175	Pg	Pg	05 53 38.8	-1.1
DPC				Sg	Sg	05 53 52.2	-0.6
	5.5nm,0.2s						
PVCC	Panska Ves	1.30	232	ePG	Pg	05 53 44.7	-1.2
PVCC				eSG	Sb	05 54 03.2	-0.3
	comp=Z,36nm,0.3s						
PVCC	Panska Ves	1.30	232	Pg	Pg	05 53 44.7	-1.2
PVCC				Sg	Sb	05 54 03.2	-0.3
	36nm,0.3s						
KRLC	Kraliky	1.32	163	ePG	Pg	05 53 44.9	-1.3
KRLC				eSG	Sg	05 54 03.1	-0.2
KRLC	Kraliky	1.32	163	Pg	Pg	05 53 44.9	-1.3
KRLC				Sg	Sg	05 54 03.1	-0.2
BRG	Berggiesshubel	1.49	253	PG	Pn	05 53 47.2	-1.6
BRG				SG	Sg	05 54 07.6	-1.0
	7.5nm,0.3s						
GOPC	GO Pecny, Ondr	1.68	212	eSG	Sg	05 54 14.8	-0.1
GOPC	GO Pecny, Ondr	1.68	212	Sg	Sg	05 54 14.8	-0.1
PRU	Pruhonice	1.71	218	ePG	Pn	05 53 51.5	-0.4
PRU				eSG	Sb	05 54 14.9	-0.3
	comp=Z,4.6nm,0.5s						
PRU	Pruhonice	1.71	218	Pg	Pn	05 53 51.5	-0.4
PRU				Sg	Sb	05 54 14.9	-0.3
	4.6nm,0.5s						
VRAC	Vranov	2.05	172	eSg	Sb	05 54 25.1	+0.1
NKC	Novy Kostel	2.62	246	eSG	Sg	05 54 43.3	-1.6
	comp=Z,5.6nm,0.3s						
NKC	Novy Kostel	2.62	246	Sg	Sg	05 54 43.3	-1.6
	5.6nm,0.3s						
KHC	Kasperske Hory	2.77	218	ePG	Pb	05 54 10.6	-0.7
KHC				eSG	Sg	05 54 48.0	-1.9
	comp=Z,2.4nm,0.3s						
KHC	Kasperske Hory	2.77	218	Pg	Pb	05 54 10.6	-0.7
KHC				Sg	Sg	05 54 48.0	-1.9
	2.4nm,0.3s						

ISCJB 24 05:58:00.1±0.5, 6°.83N±0°.03×73°.07W±0°.03, h157km±5km, Error ellipse: s-maj=6.3km s-min=3.9km az=35.6
FUNV 24 05:58:00.5, 6°.74N×73°.14W, h166km, MW2.5
RSNC 24 05:58:01.9±0.7, 6°.80N×73°.11W, h149km±4km, ML3.1

ISC 24 05:58:00.2±1.4, 6°.82N±0°.04×73°.07W±0°.04, h158km±8km, n28, σ0°.66/46, 5C-1D, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BTLC	Betulia, Santa	0.22	297	eP	Pn	05 58 22.1	+0.3
BARC	Barichara	0.25	206	iP	Pn	05 58 21.9	0.0
BARC				eS	Sn	05 58 37.0	-1.4
BARC				i		05 58 39.8	
	comp=Z,379nm,0.4s						
GIRC	Giron, Santand	0.28	335	eP	Pn	05 58 22.0	+0.1
GIRC				eS	Sn	05 58 37.7	-0.7
PAMC	Pamplona, Colo	0.64	36	eP	Pn	05 58 24.7	+1.0
PAMC				eS	Sn	05 58 42.0	+0.2
BRRC	Barranca, Sant	0.70	294	eP	Pn	05 58 23.7	+0.2
BRRC				eS	Sn	05 58 41.0	-0.4
BRRC				i		05 58 44.5	
	comp=Z,178nm,0.3s						
RUSC	La Rusia	0.92	181	⇓iP	Pn	05 58 25.8	0.0
RUSC				eS	Sn	05 58 44.4	-0.8
RUSC				i		05 58 45.9	
	comp=Z,124nm,0.3s						
CAPV	Capacho	1.28	36	⇑iP	Pn	05 58 29.8	+1.3
CAPV				eS	Sn	05 58 51.0	+0.8
OCAC	Ocana	1.43	350	eP	Pn	05 58 30.5	+0.6
OCAC				eS	Sn	05 58 52.8	0.0
OCAC				i		05 58 57.0	
	comp=Z,106nm,0.3s						
YOPC	Yopal, Colombi	1.59	156	eP	Pn	05 58 32.4	+0.9
YOPC				eS	Sn	05 58 55.0	-0.6
YOPC				i		05 58 57.2	
	comp=Z,79nm,0.4s						
ZARC	Zaragoza, Cauc	1.89	291	eP	Pn	05 58 34.5	-0.2
ZARC				eS	Sn	05 59 00.4	-0.8
ZARC				i		05 59 06.0	
	comp=Z,116nm,0.3s						
NORC	Norcasia	2.18	235	eP	Pn	05 58 38.0	0.0
NORC				eS	Sn	05 59 07.0	-0.1
CHIC	Chingaza	2.27	197	eP	Pn	05 58 40.0	+0.6
CHIC				eS	Sn	05 59 09.4	-0.3
CHIC				i		05 59 19.5	
	comp=Z,54nm,0.5s						
HELC	Santa Helena	2.52	256	eP	Pn	05 58 43.0	+0.7
HELC				eS	Sn	05 59 15.4	+0.6
HELC				i		05 59 22.1	
	comp=Z,75nm,0.4s						
VIGV	El Vigia	2.63	40	⇑eP	Pn	05 58 44.1	+0.8
VIGV				eS	Sn	05 59 16.4	-0.3
SOCV	Socops	2.63	56	⇑eP	Pn	05 58 44.1	+0.7
SOCV				eS	Sn	05 59 16.6	-0.2
VILC	Villavicencio,	2.76	193	eP	Pn	05 58 45.4	+0.3
VILC				eS	Sn	05 59 19.4	-0.4
VILC				i		05 59 29.1	
	comp=Z,35nm,0.7s						
GUYC	Guyana, Colomb	2.80	236	eP	Pn	05 58 47.1	+1.2
GUYC				eS	Sn	05 59 20.7	-0.4
GUYC				i		05 59 29.5	
	comp=Z,125nm,0.4s						
CODC	Agust`>n Codaz	3.12	353	eP	Pn	05 58 49.8	+0.4
CODC				eS	Sn	05 59 27.9	+0.3
CODC				i		05 59 38.9	
	comp=Z,60nm,0.8s						
DBBC	Dabeiba	3.12	274	eP	Pn	05 58 49.9	+0.4
TOLC	Tolima	3.15	225	eP	Pn	05 58 50.6	+0.4
ELOV	Elorza	3.57	87	⇑eP	Pn	05 58 55.9	+0.7
VIRV	Villa del Rosa	3.72	10	eP	Pn	05 58 57.1	0.0
VIRV				eS	Sn	05 59 39.7	-1.6
SANV	Sanarito	4.40	52	eP	Pn	05 59 06.3	+0.2
CURV	Curarigua	4.42	44	eP	Pn	05 59 06.5	+0.3
TEPV	Terepaima	4.95	51	eP	Pn	05 59 13.5	+0.3
BAUV	El Baul	5.41	67	eP	Pn	05 59 18.2	-1.1
MAPV	Macapo	5.46	56	⇑eP	Pn	05 59 19.7	-0.2
MONV	Montecano	5.95	31	eP	Pn	05 59 26.1	-0.3

CSEM 24 06:02:17.7±0.4, 33°.84N×35°.78E, h2km, ML2.7, Error ellipse: s-maj=9.3km s-min=6.4km az=126.0
GRAL 24 06:02:17.7±0.3, 33°.88N×35°.84E, h0km±40km, MD2.7
NSSC 24 06:02:18.5±2.0, 33°.82N×35°.84E, h0km±10km, MD1.5, ML1.6

ISC 24 06:02:17.6±1.0, 33°.85N±0°.03×35°.80E±0°.04, h7km±11km, n17, σ0°.95/30, Jordan-Syria region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BHL	Bhannes	0.13	295	eP	Pg	06 02 20.5	0.0
BHL				eS	Sg	06 02 22.7	+0.2
BHL	Bhannes	0.13	295	eP	Pg	06 02 20.5	0.0
BHL				eS	Sg	06 02 22.7	+0.2
DQRL	Deir Qamar	0.24	233	eP	Pg	06 02 22.8	+0.5
DQRL				eS	Sg	06 02 26.6	+1.1
DQRL	Deir Qamar	0.24	233	eP	Pg	06 02 22.8	+0.5
DQRL				eS	Sg	06 02 26.6	+1.1
RCY	Rachaya	0.35	175	eP	Pg	06 02 24.5	0.0
RCY				eS	Sg	06 02 29.6	+0.4
HWQ	Hawqa	0.45	16	eP	Pg	06 02 25.1	-1.2
HWQ	Hawqa	0.45	16	eP	Pg	06 02 25.1	-1.2
BRBR	Barbar	0.45	164	eP	Pg	06 02 25.8	-0.6
BRBR				eS	Sb	06 02 34.2	-0.9
BRBR				AML	AML	06 02 36.1	
	comp=E,108nm,0.5s						
BRBR				AML	AML	06 02 37.1	
	comp=N,35nm,0.4s						
BRBR	Barbar	0.45	164	eP	Pg	06 02 25.8	-0.6
	SNR=92						
MARH	Ras Al Marh	0.59	72	eP	Pg	06 02 28.8	-0.3
MARH				eS	Sb	06 02 38.4	-0.8
MARH				AML	AML	06 02 42.6	
	comp=E,48nm,0.3s						
MARH				AML	AML	06 02 45.6	
	comp=N,34nm,0.4s						
MARH	Ras Al Marh	0.59	72	eP	Pg	06 02 28.8	-0.3
	SNR=92						
MARH				eS	Sb	06 02 38.4	-0.8
	comp=N,34nm,0.4s,SNR=59						
TOTH	TOTAH	0.71	133	eP	Pb	06 02 31.8	-0.6
TOTH				AML	AML	06 02 31.9	
	comp=E,22nm,0.3s						
TOTH				eS	Sb	06 02 41.6	-0.8
TOTH				AML	AML	06 02 51.6	
	comp=N,26nm,0.6s						
TOTH	TOTAH	0.71	133	eP	Pb	06 02 31.8	-0.6
	SNR=75						
ROOS	tl_alroos	1.28	75	eP	Pg	06 02 42.7	+0.6
ROOS				eS	Sn	06 02 59.3	-0.1
ROOS				AML	AML	06 03 09.8	
	comp=N,20nm,0.4s						
ROOS				AML	AML	06 03 14.6	
	comp=E,26nm,0.6s						
ROOS	tl_alroos	1.28	75	eP	Pg	06 02 42.7	+0.6
	SNR=57						
ROOS				eS	Sn	06 02 59.3	-0.1
	comp=E,26nm,0.6s,SNR=49						
RABH	Abou Rabah	1.30	63	eP	Pg	06 02 44.9	+2.3
RABH				AML	AML	06 02 48.9	
	comp=N,8.4nm,0.2s						
RABH				eS	Sn	06 03 01.1	+1.1
RABH				AML	AML	06 03 16.6	
	comp=E,10nm,0.6s						
RABH

JCJI	**Jatiwangi**	**2.46**	**68**	P		Pn	06 48 06.8	-0.8
CMJI	**Cimerak**	**2.47**	**98**	P		Pn	06 48 07.6	-0.1
KPJI	**Karang Pucung**	**2.93**	**88**	P		Pn	06 48 14.0	-0.1
KLSI		**3.00**	**335**	P		Pn	06 48 15.1	0.0
SMRI	**Semarang**	**4.44**	**85**	P		Pn	06 48 35.2	+0.3

*SJA **24** 07:16:58.7±0.4, 21.°04S×68.°94W, h106km±20km, ML2.7, MW3.3*
*ISCJB **24** 07:16:59.2±0.8, 21.°12S±0.°03×69.°00W±0.°08, h123km±9km, Error ellipse: s-maj=12.0km s-min=5.4km az=170.3*
*GUC **24** 07:16:59.5±0.5, 21.°12S×69.°02W, h116km±3km, ML3.7*
ISC 24 07:16:59.9±1.7**, 21.°12S**±0.°04×**69.°00W**±0.°07**, h118**km±14km**, n15, σ0s43/25, Northern Chile**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PB01	**IPOC Station P**	**0.46**	**279**	*e*P	**Pn**	**07 17 17.1**	**-0.3**
PB01				*e*S	**Sn**	**07 17 30.2**	**-0.5**
PB01				IAML		07 17 31.0	
	comp=E,3μm,0.5s						
PB09	**IPOC Station P**	**0.71**	**198**	*e*P	**Pn**	**07 17 19.2**	**-0.1**
PB09				*e*S	**Sn**	**07 17 34.0**	**0.0**
PB09				IAML		07 17 37.2	
	comp=E,4μm,0.4s						
PB08	**IPOC Station P**	**0.98**	**352**	*e*P	**Pn**	**07 17 22.0**	**+0.1**
PB08				*e*S	**Sn**	**07 17 38.9**	**+0.3**
PB08				IAML		07 17 39.8	
	comp=E,1μm,0.5s						
PB07	**IPOC Station P**	**1.02**	**233**	*e*P	**Pn**	**07 17 22.2**	**+0.1**
PB07				*e*S	**Sn**	**07 17 39.2**	**+0.2**
HMBC	**Humberstone**	**1.18**	**315**	*e*P	**Pn**	**07 17 23.6**	**0.0**
HMBC				*e*S	**Sn**	**07 17 42.0**	**+0.3**
HMBC				IAML		07 17 44.6	
	comp=N,2μm,0.3s						
LVC	**Limon Verde**	**1.49**	**177**	*e*P	**Pn**	**07 17 27.5**	**+0.1**
LVC				*e*S	**Sn**	**07 17 48.8**	**+0.4**
PB04	**IPOC Station P**	**1.61**	**221**	*e*P	**Pn**	**07 17 28.6**	**0.0**
PB04				*e*S	**Sn**	**07 17 50.7**	**+0.1**
PB06	**IPOC Station P**	**1.67**	**198**	*e*P	**Pn**	**07 17 29.5**	**+0.1**
PB06				*e*S	**Sn**	**07 17 51.7**	**-0.1**
PSGC	**Pisagua**	**1.84**	**325**	*e*P	**Pn**	**07 17 30.9**	**-0.5**
PSGC				*e*S	**Sn**	**07 17 55.2**	**-0.2**
MNMC	**Minye Minye**	**2.05**	**344**	*e*P	**Pn**	**07 17 34.3**	**+0.1**
MNMC				*e*S	**Sn**	**07 18 01.0**	**+0.6**
MNMC				IAML		07 18 06.5	
	comp=N,611nm,0.2s						
YJA	**Yavi**	**3.41**	**109**	*e*P	**Pn**	**07 17 52.0**	**0.0**
YJA				IAML		07 17 55.8	
	comp=Z,9.4nm,0.6s						
HJA	**Humahuaca**	**3.93**	**123**	*e*P	**Pn**	**07 17 59.4**	**+0.6**
HJA				IAML		07 18 00.4	
	comp=Z,13nm,0.3s						
AZAP	**Zapla**	**4.77**	**131**	*e*P	**Pn**	**07 18 09.5**	**-0.4**
SLA	**San Lorenzo**	**4.82**	**139**	*e*P	**Pn**	**07 18 10.9**	**+0.3**
ASTB	**Santa Barbara**	**5.06**	**125**	*e*P	**Pn**	**07 18 12.4**	**-1.3**

*ISCJB **24** 07:18:05.7±0.4, 27.°72N±0.°04×55.°73E±0.°06, h15km, Error ellipse: s-maj=8.2km s-min=3.9km az=152.3*
*CSEM **24** 07:18:06.3±0.2, 27.°72N×55.°80E, h10km, ML3.4, Error ellipse: s-maj=8.8km s-min=4.8km az=61.0*
*TEH **24** 07:18:07.2, 27.°83N×55.°80E, h5km, ML3.4*
*DSN **24** 07:18:08.1±1.4, 27.°56N×55.°49E, h15km, ML3.5/7, Error ellipse: s-maj=30.5km s-min=7.7km az=54.0*
ISC 24 07:18:05.6±0.9**, 27.°61N**±0.°04×**55.°75E**±0.°04**, h15**km**, n41, σ1s30/44, Southern Iran**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BNDS	**Bandar-Abbas**	**0.43**	**119**	*e*Pg	**Pb**	**07 18 15.4**	**+0.4**
BNDS				*e*Sg	**Sb**	**07 18 23.1**	**+1.7**
IBND	**Bandar-abas**	**0.72**	**103**	*e*Pg	Pn	07 18 27.5	+6.2
IBND				*e*AMB	AMB	07 18 48.7	
	comp=Z,34μm,0.2s						
NIAN	**Nian**	**0.96**	**93**	*e*Pg	**Pg**	**07 18 24.3**	**0.0**
NIAN	**Nian**	**0.96**	**93**	*e*Pg	**Pg**	**07 18 24.3**	**0.0**
KHSK	**Kohestak**	**1.44**	**126**	*e*Pn	**Pg**	**07 18 33.7**	**+0.4**
KHSK	**Kohestak**	**1.44**	**126**	*e*Pn	**Pg**	**07 18 33.7**	**+0.4**
BANOM	**Banah** SNR=23	**1.75**	**164**	*e*P	**Pb**	**07 18 38.0**	**+0.5**
BANOM				S	**Sg**	**07 19 01.4**	**-0.7**
BANOM	**Banah** SNR=23	**1.75**	**164**	P	**Pb**	**07 18 38.0**	**+0.5**
BANOM				S	**Sg**	**07 19 01.4**	**-0.7**
NGRK	**Negar Kerman**	**2.20**	**23**	*e*Pn	**Pn**	**07 18 41.0**	**-1.0**
NGRK	**Negar Kerman**	**2.20**	**23**	*e*Pn	**Pn**	**07 18 41.0**	**-1.0**
TVBK	**TV Kerman**	**2.53**	**20**	*e*Pn	**Pn**	**07 18 46.6**	**+0.1**
TVBK	**TV Kerman**	**2.53**	**20**	*e*Pn	**Pn**	**07 18 46.6**	**+0.1**
GHIR	**Ghir-Karzin**	**2.54**	**286**	*e*Pn	**Pb**	**07 18 50.1**	**-0.8**
UOSS	**Minazif** SNR=14	**2.69**	**171**	P	**Pb**	**07 18 51.1**	**-2.3**
CHMN	**Cheshme madani**	**2.74**	**35**	*e*Pn	**Pn**	**07 18 50.2**	**+0.8**
CHMN	**Cheshme madani**	**2.74**	**35**	*e*Pn	**Pn**	**07 18 50.2**	**+0.8**
HATD	**Hatta, Dubai**	**2.79**	**173**	P	**Pb**	**07 18 52.9**	**-2.4**
HATD	**Hatta, Dubai**	**2.79**	**173**	P	**Pb**	**07 18 52.9**	**-2.4**
KHGB	**Koh Gabri**	**2.83**	**13**	*e*Pn	**Pn**	**07 18 51.1**	**+0.6**
KHGB	**Koh Gabri**	**2.83**	**13**	*e*Pn	**Pn**	**07 18 51.1**	**+0.6**
FAQ	**Al Faqa, Dubai**	**2.86**	**183**	P	**Pn**	**07 18 51.8**	**+1.1**
FAQ	**Al Faqa, Dubai**	**2.86**	**183**	P	**Pn**	**07 18 51.8**	**+1.1**
ISRV	**Sarvestan**	**2.92**	**308**	*e*Pn	**Pn**	**07 18 52.7**	**+0.9**
ISRV				*e*AMB	AMB	07 20 11.6	
	comp=Z,2μm,0.5s						
ISRV	**Sarvestan**	**2.92**	**308**	*e*Pn	**Pn**	**07 18 52.7**	**+0.9**
ASHO	**Ashiyiah** SNR=26	**2.93**	**174**	*e*P	**Pb**	**07 18 54.9**	**-2.7**
ASHO	**Ashiyiah** SNR=26	**2.93**	**174**	P	**Pb**	**07 18 54.9**	**-2.7**
IPAR	**Pars**	**3.25**	**314**	*e*Pn	**Pn**	**07 18 59.1**	**+2.7**
IPAR				*e*Sg	**Sb**	**07 19 44.8**	**+2.0**
IPAR				*e*AMB	AMB	07 19 49.6	
	comp=Z,842nm,0.4s						
IPAR	**Pars**	**3.25**	**314**	*e*Pn	**Pn**	**07 18 59.1**	**+2.7**
IMEH	**Mehriz**	**3.90**	**346**	*e*AMB	AMB	07 19 20.6	
	comp=Z,342nm,0.2s						
IMEH				*e*Pn	**Pn**	**07 19 05.1**	**-0.1**
IBAF	**Bafgh**	**3.97**	**358**	*e*AMB	AMB	07 19 21.8	
	comp=Z,410nm,0.3s						
IBAF				*e*Sg	**Sb**	**07 20 03.6**	**+0.3**
CHBR	**Chabahar**	**4.69**	**114**	*e*Pn	**Pn**	**07 19 16.6**	**+0.7**
ICHK	**Chekchek**	**4.76**	**346**	*e*Pn	**Pn**	**07 19 17.2**	**+0.1**
ICHK				*e*AMB	AMB	07 19 33.9	
	comp=Z,405nm,0.3s						
ICHK	**Chekchek**	**4.76**	**346**	*e*Pn	**Pn**	**07 19 17.2**	**+0.1**
IRAM	**Ramesheh**	**5.11**	**326**	*e*Pn	**Pn**	**07 19 21.8**	**-0.1**
IRAM	**Ramesheh**	**5.11**	**326**	*e*Pn	**Pn**	**07 19 21.8**	**-0.1**
IGAR	**Gharneh**	**5.76**	**327**	*e*Pn	**Pn**	**07 19 30.5**	**-0.3**
IGAR				*e*AMB	AMB	07 19 31.5	
	comp=Z,144nm,0.2s						
NASN	**Na'in**	**5.76**	**335**	*e*Pn	**Pn**	**07 19 29.8**	**-1.2**
IZEF	**Zefreh**	**6.04**	**332**	*e*Pn	**Pn**	**07 19 33.7**	**-1.0**
IZEF	**Zefreh**	**6.04**	**332**	*e*Pn	**Pn**	**07 19 33.7**	**-1.0**
IPIR	**Pirpir**	**6.58**	**321**	*e*Pn	**Pn**	**07 19 41.2**	**-0.9**
IPIR				*e*AMB	AMB	07 20 56.0	
	comp=Z,163nm,0.3s						
IPIR	**Pirpir**	**6.58**	**321**	*e*Pn	**Pn**	**07 19 41.2**	**-0.9**

*ISCJB **24** 07:25:04.6±0.8, 0.°03N±0.°10×122.°1E±0.°2, h250km, mb3.7/5, Error ellipse: s-maj=21.8km s-min=12.3km az=17.8*
*IDC **24** 07:25:05.3±2.4, 0.°23S×122.°03E, h284km±20km, mb3.4/5, mb1 3.5/6, mb1mx3.1/38, mbtmp3.9/6, Error ellipse: s-maj=84.1km s-min=15.8km az=70.0*
*DJA **24** 07:25:11.6±0.3, 0.°3S±3.°1×12.°2E±.°, h170km±6km, M4.4/6, mB6.6/2, mb5.1/5, MLv4.0/6, Mw(mB)6.3/2*
ISC 24 07:25:02.6±0.8**, 0.°03S**±0.°08×**122.°3E**±0.°1**, h250**km**, n17, σ2s85/18, mb3.8/5, Minahassa Peninsula, Sulawesi**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MRSI	**Marisa**	**0.59**	**328**	P	**Pn**	**07 25 37.2**	**+1.4**
MRSI				S	**S**	**07 26 04.4**	**+2.5**
GTOI	**Gorontalo**	**1.01**	**49**	P	**Pn**	**07 25 41.3**	**+3.6**
PCI	**Palu**	**2.57**	**250**	P	**Pn**	**07 25 52.1**	**+1.5**
TTSI	**Tana Toraja**	**3.86**	**219**	P	**Pn**	**07 26 06.1**	**+1.3**
KDI	**Kendari**	**3.92**	**175**	P	**Pn**	**07 26 07.5**	**+2.0**
SPSI	**Sidrap Palu**	**4.63**	**212**	P	**Pn**	**07 26 15.4**	**+1.5**
LBMI	**Labuha** 59nm,1.2s,0.4nm	**5.28**	**97**	P	Pn	07 26 30.9	+9.0
NLAI	**Namlea**	**5.80**	**123**	P	Pn	07 26 36.0	+7.7
BSSI	**Bau Bau, Buton**	**6.32**	**196**	P	**Pn**	**07 26 38.4**	**+3.6**
MMRI	**Maumere**	**8.55**	**180**	P	Pn	07 27 10.7	+7.8
BASI	**Baing, Sumba** 747nm,0.5s	**10.26**	**189**	P	**P**	**07 27 32.9**	**+3.0**
FITZ	**Fitzroy Crossi** 0.3nm,0.3s,baz=0.2,slow=11,SNR=8.9	**18.27**	**170**	P	**P**	**07 28 57.0**	**-1.2**
WRA	**Warramunga Arr** 7.4nm,0.7s,baz=326,slow=11,SNR=31	**23.06**	**150**	P	**P**	**07 29 45.4**	**-1.1**
WRA				ScP	**ScP**	**07 36 36.9**	**-5.0**
	0.2nm,0.5s,baz=326,slow=2.8,SNR=3.7						
ASAR	**Alice Springs** 1.5nm,0.6s,baz=344,slow=14,SNR=58	**26.08**	**155**	P	**P**	**07 30 13.0**	**-0.6**
ASAR				PcP	**PcP**	**07 33 32.6**	**-1.9**
	0.3nm,0.4s,baz=351,slow=2.4,SNR=3.5						
ASAR				ScP	**ScP**	**07 36 44.5**	**-5.8**
	0.2nm,0.6s,baz=339,slow=2.3,SNR=3.3						
STKA	**Stephens Creek** 3.7nm,0.6s,baz=340,slow=7.0,SNR=8.7	**36.58**	**152**	P	**P**	**07 31 44.6**	**-0.4**
SONM	**Songino Array** 0.3nm,0.3s,baz=168,slow=8.4,SNR=3.1	**49.63**	**346**	P	**P**	**07 33 29.5**	**+0.4**
VNDA	**Vanda** 0.6nm,0.6s,baz=317,slow=4.7,SNR=3.9	**80.32**	**172**	P	**P**	**07 36 43.5**	**-1.9**

CASC 24 07:41:14.9±2.0**, 11.°45N×87.°37W, h23**km±16km**, MD4.1, ML2.4, Near coast of Nicaragua**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
COPN	**Copaltepe**	**1.05**	**46**	*e*P	Pn	07 41 33.8	-0.5
CNGN	**Cerro Negro**	**1.23**	**32**	*e*P	Pn	07 41 36.0	-0.8
CNGN				*e*S	Sb	07 41 54.4	+1.3
CNGN				AML	AML	07 41 54.6	
	comp=N,182nm,0.3s						
XAVN	**Gruta Xavier**	**1.24**	**56**	*e*P	Pn	07 41 36.2	-0.6
MOMN	**Momotombo**	**1.25**	**40**	*e*P	Pn	07 41 36.6	-0.5
TISN	**Laguna Tiscapa**	**1.28**	**57**	*e*P	Pn	07 41 37.2	-0.2
MGAN	**Managua**	**1.30**	**58**	*e*P	Pn	07 41 36.9	-0.8
MGAN				*e*S	Sb	07 41 55.7	+0.7
CRZ1	**La Cruz**	**1.74**	**102**	*e*S	Sn	07 42 05.9	+0.5
ESTN	**Estel**	**1.91**	**31**	*e*P	Pn	07 41 46.0	-0.3
BOAB	**BOACO BROADBAN**	**1.94**	**59**	*e*P	Pn	07 41 46.8	+0.2
ACON	**Acoyapa**	**2.21**	**76**	*e*P	Pn	07 41 49.1	-1.1
ACON				*e*S	Sn	07 42 17.3	+0.4
ACON				AML	AML	07 42 18.6	
	comp=N,8.0nm,0.5s						
TGUH	**Tegucigalpa,Un**	**2.59**	**2**	*e*P	Pn	07 41 55.4	-0.1
CGA2	**Cerro Gallo 2**	**3.19**	**116**	*e*P	Pn	07 42 04.8	+1.0
CGA2				*e*S	Sn	07 42 41.0	-0.2
URSC	**Urasca**	**3.88**	**114**	*e*P	Pn	07 42 16.0	+2.7
URSC				*e*S	Sn	07 43 00.1	+1.8

MAN 24 07:45:29, 9.°21N×124.°07E, h21km, mb4.3, ML3.2, MS3.0, 1C, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DCPH	**Dipolog City**	**0.94**	**229**	⇑*i*P	Pb	07 45 46.2	-0.5
PAGZ	**Pagadian**	**1.51**	**207**	*e*P	Pn	07 45 54.6	-0.2
PAGZ				*e*S	Sb	07 46 15.5	+0.4

*DDA **24** 07:54:48.4, 39.°99N×28.°10E, h7km, Ml2.5*
*ISK **24** 07:54:48.8, 40.°00N×28.°10E, h2km, MD2.3*
*CSEM **24** 07:54:49.4±0.2, 39.°98N×28.°09E, h2km, MD2.3, Error ellipse: s-maj=4.3km s-min=3.9km az=164.0*
ISC 24 07:54:48.9±1.6**, 39.°99N**±0.°03×**28.°11E**±0.°03**, h0**km±14km**, n31, σ0s51/43, Turkey**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KCTX	**Karacabey (Bur**	**0.34**	**35**	*e*PG	**Pg**	**07 54 55.4**	**+0.1**
KCTX	**Karacabey (Bur**	**0.34**	**35**	*e*Pg	**Pg**	**07 54 55.4**	**+0.1**
BALB	**Balikesir**	**0.39**	**207**	*e*PG	**Pg**	**07 54 56.7**	**+0.4**
BALB	**Balikesir**	**0.39**	**207**	*e*Pg	**Pg**	**07 54 56.7**	**+0.4**
EDC	**Edincik**	**0.40**	**332**	*e*PG	**Pg**	**07 54 56.8**	**+0.2**
EDC	**Edincik**	**0.40**	**332**	*e*Pg	**Pg**	**07 54 56.8**	**+0.2**
MDNY	**Mudanya-Bursa**	**0.70**	**57**	*e*PG	**Pb**	**07 55 03.9**	**-0.1**
MDNY				*e*SG	**Sb**	**07 55 14.2**	**0.0**
MDNY	**Mudanya-Bursa**	**0.70**	**57**	*e*Pg	**Pb**	**07 55 03.9**	**-0.1**
MDNY				*e*Sg	**Sb**	**07 55 14.3**	**0.0**
MRMT	**Marmara Adasi**	**0.73**	**328**	*e*PG	**Pb**	**07 55 03.6**	**-0.8**
MRMT	**Marmara Adasi**	**0.73**	**328**	*e*Pg	**Pb**	**07 55 03.6**	**-0.8**
KRBG	**Karabiga-Canak**	**0.74**	**303**	*e*PG	**Pb**	**07 55 03.6**	**-1.0**
KRBG	**Karabiga-Canak**	**0.74**	**303**	*e*Pg	**Pb**	**07 55 03.6**	**-1.0**
ARMT	**Armutlu**	**0.81**	**45**	*e*PG	**Pb**	**07 55 05.6**	**-0.3**
ARMT				*e*SG	**Sb**	**07 55 17.6**	**+0.1**
ARMT	**Armutlu**	**0.81**	**45**	*e*Pg	**Pb**	**07 55 05.6**	**-0.3**
ARMT				*e*Sg	**Sb**	**07 55 17.6**	**+0.1**
SBT5	**Esenkoy-Cinarc**	**0.87**	**42**	*e*PG	**Pb**	**07 55 07.1**	**+0.2**
SBT5				*e*SG	**Sb**	**07 55 19.4**	**+0.4**
SBT3	**Marmara-Eregli**	**0.90**	**354**	*e*PG	**Pb**	**07 55 06.8**	**-0.5**
SBT2	**Guzelce-Avcila**	**0.94**	**19**	*e*PG	**Pb**	**07 55 08.1**	**+0.1**
SBT2				*e*SG	**Sb**	**07 55 21.5**	**+0.6**
DEMI	**Demirci**	**1.06**	**153**	*i* P	**Pg**	**07 55 09.2**	**0.0**
DEMI				*i* S	**Sb**	**07 55 23.9**	**-0.6**
DEMI	**Demirci**	**1.06**	**153**	P	**Pg**	**07 55 09.1**	**0.0**
DEMI				S	**Sb**	**07 55 23.9**	**-0.6**
LPK	**Lapseki**	**1.10**	**291**	*e*PN	**Pb**	**07 55 10.5**	**-0.3**
LPK				*e*SN	**Sn**	**07 55 26.8**	**-0.6**
LPK	**Lapseki**	**1.10**	**291**	*e*Pn	**Pb**	**07 55 10.5**	**-0.3**
LPK				*e*Sn	**Sn**	**07 55 26.8**	**-0.6**
CTKS	**Kestanelik-??a**	**1.28**	**14**	*e*PN	**Pn**	**07 55 13.9**	**-0.1**
CTKS	**Kestanelik-??a**	**1.28**	**14**	*e*Pn	**Pn**	**07 55 13.9**	**-0.1**
EZN	**Ezine**	**1.38**	**264**	*e*PN	**Pb**	**07 55 16.0**	**+0.5**
EZN	**Ezine**	**1.38**	**264**	*e*Pn	**Pb**	**07 55 16.0**	**+0.5**
ERIK	**Erikli-Kesan**	**1.40**	**300**	*e*PN	**Pb**	**07 55 16.0**	**+0.2**
ERIK				*e*SN	**Sn**	**07 55 35.8**	**+1.1**
ERIK	**Erikli-Kesan**	**1.40**	**300**	*e*Pn	**Pb**	**07 55 16.0**	**+0.2**
ERIK				*e*Sn	**Sn**	**07 55 35.8**	**+1.1**
ENEZ	**Enez**	**1.67**	**297**	*e*PN	**Pb**	**07 55 20.2**	**-0.2**
ENEZ	**Enez**	**1.67**	**297**	*e*Pn	**Pb**	**07 55 20.2**	**-0.2**
ALN	**Alexandroupoli**	**1.82**	**301**	*e*PN	**Pb**	**07 55 22.5**	**-0.4**
ALN	**Alexandroupoli**	**1.82**	**301**	*e*Pn	**Pb**	**07 55 22.5**	**-0.4**

WEL 24 08:01:37.1±0.4**, 38.°31S×176.°22E, h154**km±3km**, ML3.5**/15**, 4C, Error ellipse: s-maj=2.6km s-min=2.6km az=0.0, North Island**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
URZ	**Urewera**	**0.71**	**86**	PN	Pn	08 01 59.8	-0.2
URZ				SN	Sn	08 02 17.3	-0.2
URZ				AML	AML	08 02 18.5	
BKZ	**Black Stump Fm**	**0.88**	**166**	⇑PN	Pn	08 02 01.5	+0.1
BKZ				SN	Sn	08 02 19.8	-0.2
MWZ	**Matawai**	**1.03**	**92**	PN	Pn	08 02 02.5	0.0
MWZ				SN	Sn	08 02 21.8	-0.2
MWZ				AML	AML	08 02 23.2	
FWVZ	**Far West T-bar**	**1.08**	**209**	PN	Pn	08 02 03.1	0.0
HIZ	**Hauiti**	**1.09**	**259**	PN	Pn	08 02 03.3	+0.3
WHVZ	**Whangaehu Hut**	**1.09**	**207**	⇑PN	Pn	08 02 03.2	-0.1
KWHZ	**Kaweka Forest**	**1.12**	**172**	PN	Pn	08 02 03.6	+0.2
KWHZ				SN	Sn	08 02 24.1	+0.5
WNVZ	**Wahianoa**	**1.12**	**205**	⇑PN	Pn	08 02 03.4	-0.1
ARHZ	**Aropaoanui**	**1.13**	**148**	PN	Pn	08 02 04.1	+0.8
ARHZ				AML	AML	08 02 24.9	
ARHZ				AML	AML	08 02 25.6	
MOWZ	**Moawhango**	**1.15**	**198**	PN	Pn	08 02 03.2	-0.5
MCHZ	**McNeill Hill**	**1.19**	**162**	PN	Pn	08 02 04.7	+0.8
KRHZ	**Kereru**	**1.34**	**175**	PN	Pn	08 02 05.4	0.0
MHGZ	**Mahia Peninsul**	**1.57**	**123**	PN	Pn	08 02 08.2	+0.5
KAHZ	**Kahuranaki**	**1.57**	**161**	PN	Pn	08 02 08.1	+0.4
PNHZ	**Pukenui**	**1.60**	**180**	PN	Pn	08 02 07.6	-0.5
WAZ	**Wanganui**	**1.73**	**213**	PN	Pn	08 02 08.8	-0.6
TSZ	**Takapari Road**	**1.76**	**186**	⇑PN	Pn	08 02 09.1	-0.7
WPHZ	**Waipukurau**	**1.76**	**174**	PN	Pn	08 02 09.7	-0.1
PRHZ	**Porangahau**	**1.98**	**171**	PN	Pn	08 02 11.9	-0.4
MRZ	**Mangatainoka R**	**2.40**	**192**	PN	Pn	08 02 15.5	-1.7
OGWZ	**Otaki Gorge**	**2.63**	**198**	PN	Pn	08 02 18.1	-1.9
OGWZ				AML	AML	08 02 18.9	
HOWZ	**Holdsworth Sta**	**2.64**	**192**	PN	Pn	08 02 18.0	-2.1
HOWZ				SN	Sn	08 02 50.4	-3.1
KIW	**Kapiti Island**	**2.74**	**201**	PN	Pn	08 02 19.1	-2.3
CAW	**Cannon Point**	**2.93**	**197**	PN	Pn	08 02 21.4	-2.4
MSWZ	**Moikau Station**	**3.19**	**193**	PN	Pn	08 02 24.1	-2.9
TCW	**Tory Channel**	**3.26**	**207**	PN	Pn	08 02 25.0	-2.8
NNZ	**Nelson**	**3.63**	**216**	PN	Pn	08 02 29.1	-3.5
THZ	**Tophouse**	**4.28**	**215**	PN	Pn	08 02 37.4	-3.7
KHZ	**Kahutara**	**4.58**	**206**	PN	Pn	08 02 41.4	-3.6

*IDC **24** 08:20:53.2±1.2, 55.°31N×111.°43E, h0km, mb3.3/6, mb1 3.6/8, mb1mx3.4/46, mbtmp3.4/8, ML3.2/2, MS2.9/4, Ms1 2.9/4, ms1mx2.6/31, Error ellipse: s-maj=27.2km s-min=23.8km az=176.0*
*MOS **24** 08:20:56.7±1.6, 55.°16N×110.°85E, h13km, mb4.0/4, Error ellipse: s-maj=9.8km s-min=6.7km az=74.7*
MOS Felt (II) at Ulyunkhan.
*BYKL **24** 08:20:58.8±0.2, 55.°15N×110.°88E, h18km±3km, FELT I=III-IV MSK at Ulyunkhan*
ISC 24 08:20:59.8±0.9**, 55.°20N**±0.°02×**110.°92E**±0.°02**, h29**km±7km**, n67, σ2s36/113, mb3.9/7, MS2.8/3, 7C-1D, Lake Baykal region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
YLYR	**Ulyunkhan**	**0.35**	**157**	⇑*i*Pg	**Pb**	**08 21 05.9**	**-2.0**
YLYR				*i*		08 21 11.0	
YLYR				*e*Sg	**Sb**	**08 21 11.2**	**-2.3**
YLYR				Pmax			
	2μm,0.2s						
YLYR				Smax			
	5μm,0.2s						
YLYR	**Ulyunkhan**	**0.35**	**157**	⇑*i*PG	**Pb**	**08 21 05.9**	**-2.0**
YLYR				*i*		08 21 11.0	
YLYR				pmax	pmax		
	comp=Z,2μm,0.2s						
YLYR				smax	smax		
	comp=N,5μm,0.2s						
KMO	**Kumora**	**0.70**	**13**	⇑*i*Pg	**Pb**	**08 21 12.6**	**-1.0**
KMO				*e*Sg	**Sb**	**08 21 22.8**	**-0.2**
KMO				Pmax			
	comp=N,1μm,0.3s						
KMO				Smax			
	comp=N,6μm,0.4s						
KMO	**Kumora**	**0.70**	**13**	*e*PG	**Pb**	**08 21 12.6**	**-1.0**
KMO				*e*		08 21 22.4	
KMO				pmax	pmax		
	comp=Z,1μm,0.3s						
KMO				smax	smax		
	comp=N,6μm,0.5s						
NIZ	**Nizh Angarsk**	**0.97**	**307**	⇑*i*Pg	**Pn**	**08 21 17.0**	**-0.6**
NIZ				*e*Sg	**Sn**	**08 21 30.7**	**+0.3**
NIZ				Pmax			
	comp=N,927nm,0.3s						
NIZ				Smax			
	comp=N,2μm,0.2s						
NIZ	**Nizh Angarsk**	**0.97**	**307**	*e*PG	**Pn**	**08 21 16.9**	**-0.6**
NIZ				*e*		08 21 30.6	
NIZ				pmax	pmax		
	comp=Z,924nm,0.3s						
NIZ				smax	smax		
	comp=E,2μm,0.2s						
YOA	**Uoyan**	**1.04**	**26**	*e*Pg	**Pb**	**08 21 19.1**	**-0.1**
YOA				*e*Sg	**Sb**	**08 21 34.4**	**+2.0**
YOA				Pmax			
	comp=E,809nm,0.2s						
YOA				Smax			
	comp=E,7μm,0.4s						
YOA	**Uoyan**	**1.04**	**26**	⇑*i*PG	**Pb**	**08 21 18.7**	**-0.5**
YOA				*i*		08 21 34.5	
YOA				pmax	pmax		
	comp=Z,261nm,0.2s						
YOA				smax	smax		
	comp=E,7μm,0.4s						
UKT	**Uakit**	**1.57**	**78**	⇑*i*Pg	**Pb**	**08 21 27.3**	**-1.0**
UKT				*e*Sg	**Sb**	**08 21 48.6**	**+0.9**
UKT				Pmax			
	comp=E,275nm,0.3s						
UKT				Smax			
	comp=E,991nm,0.6s						
UKT	**Uakit**	**1.57**	**78**	*e*PN	**Pb**	**08 21 27.2**	**-1.0**
UKT				*e*		08 21 47.5	
UKT				pmax	pmax		
	comp=Z,271nm,0.4s						
UKT				smax	smax		
	comp=N,956nm,0.4s						
SYVR	**Suvo**	**1.64**	**200**	*e*PN	**Pn**	**08 21 27.1**	**+0.4**
SYVR				*e*		08 21 49.0	
SYVR				pmax	pmax		
	comp=Z,336nm,0.3s						
SYVR				smax	smax		
	comp=E,3μm,0.7s						
SVKR	**Severomuysk**	**1.75**	**57**	*e*Pg	**Pb**	**08 21 31.1**	**-0.2**
SVKR				*e*		08 21 38.2	
SVKR				*e*Sg	**Sb**	**08 21 56.0**	**+3.1**
SVKR				max			
	comp=E,657nm,0.3s						
SVKR				Smax			
	comp=E,6μm,0.6s						
SVKR	**Severomuysk**	**1.75**	**57**	*e*PN	**Pb**	**08 21 30.6**	**-0.7**
SVKR				*e*		08 21 54.5	

TRG	**Tyrgan**	**3.64**	**230**	*e*Pn	**Pn**	**08 21 55.2**	**+0.9**
TRG				*e*Pg	**Pb**	**08 22 02.6**	**-0.9**
TRG				*e*		08 22 12.5	
TRG				*e*Sn	**Sn**	**08 22 35.9**	**-0.4**
TRG				*e*Sg	**Sb**	**08 22 49.3**	**+2.1**
TRG				max			
	comp=E,25nm,0.2s						
TRG				Smax			
	comp=E,192nm,0.3s						
TRG	**Tyrgan**	**3.64**	**230**	*e*PN	**Pn**	**08 21 55.2**	**+0.9**
TRG				*e*		08 22 03.5	
TRG				*e*S	**Sn**	**08 22 37.0**	**+0.7**
TRG				*e*		08 22 49.4	
TRG				pmax	pmax		
	comp=E,25nm,0.2s						
TRG				smax	smax		
	comp=E,193nm,0.2s						
UUDB	**Ulan-Yde**	**3.87**	**212**	*e*Pn	**Pn**	**08 21 56.8**	**-0.5**
UUDB				*e*Pg	**Pb**	**08 22 07.0**	**-0.2**
UUDB				*e*Sn	**Sn**	**08 22 38.1**	**-3.6**
UUDB				*e*Sg	**Sb**	**08 22 57.9**	**+4.3**
UUDB				Pmax			
	comp=E,59nm,0.5s						
UUDB				Smax			
	comp=E,334nm,0.8s						
KAB	**Kabansk**	**4.05**	**221**	*e*Sg	**Sb**	**08 23 03.9**	**+5.0**
KAB				Smax			
	comp=E,620nm,0.6s						
CRS	**Chara**	**4.46**	**65**	*e*Pn	**Pn**	**08 22 07.7**	**+2.3**
CRS				*e*Pg	**Pb**	**08 22 20.3**	**+3.0**
CRS				*e*		08 22 39.2	
CRS				*e*Sn	**Sn**	**08 22 56.4**	**+0.1**
CRS				*e*Sg	**Sb**	**08 23 17.9**	**+7.4**
CRS				Pmax			
	comp=E,67nm,1.1s						
CRS				Smax			
	comp=E,208nm,0.8s						
CRS	**Chara**	**4.46**	**65**	*e*PN	**Pb**	**08 22 21.6**	**+4.3**
CRS				*e*		08 23 18.3	
CRS				pmax	pmax		
	comp=E,66nm,0.7s						
CRS				smax	smax		
	comp=E,206nm,0.8s						
BGT	**Bolshoye Golou**	**4.56**	**228**	*e*Pn	**Pn**	**08 22 07.5**	**+0.7**
BGT				*e*Pg	**Pb**	**08 22 19.1**	**+0.1**
BGT				*e*Sg	**Sb**	**08 23 17.3**	**+3.9**
BGT				Pmax			
	comp=E,29nm,0.5s						
BGT				Smax			
	comp=E,157nm,0.6s						
LSTR	**Listvyanka**	**4.93**	**230**	*e*Pn	**Pn**	**08 22 12.3**	**+0.4**
LSTR				*e*Sg	**Sb**	**08 23 28.8**	**+4.6**
LSTR				Smax			
	comp=E,88nm,0.7s						
IRK	**Irkutsk**	**4.94**	**236**	*e*PN	**Pb**	**08 22 25.0**	**-0.5**
IRK				*e*SG	**Sb**	**08 23 29.1**	**+4.8**
IVK	**Ivanovka**	**5.17**	**231**	*e*Pn	**Pn**	**08 22 15.2**	**+0.1**
IVK				*e*Pg	**Pb**	**08 22 29.9**	**+0.5**
IVK				*e*Sn	**Sn**	**08 23 10.5**	**-3.2**
IVK				*e*Sg	**Sb**	**08 23 36.6**	**+5.7**
IVK				Pmax			
	comp=E,6.0nm,0.1s						
IVK				Smax			
	comp=E,119nm,0.7s						
TUP	**Tupik**	**5.28**	**95**	*e*Pn	**Pn**	**08 22 17.4**	**+0.7**
TUP				*e*		08 22 25.2	
TUP				*e*Pg	**Pb**	**08 22 34.1**	**+2.8**
TUP				*e*Sn	**Sn**	**08 23 14.4**	**-2.2**
TUP				*e*Sg	Sb	08 23 42.9	+8.7
TUP				Pmax			
	comp=E,18nm,0.4s						
TUP				Smax			
	comp=E,347nm,0.9s						
TUP	**Tupik**	**5.28**	**95**	*e*PN	**Pn**	**08 22 17.3**	**+0.6**
TUP				*e*		08 22 32.9	
TUP				*e*S	**Sn**	**08 23 16.4**	**-0.2**
TUP				*e*		08 23 41.7	
TUP				pmax	pmax		
	comp=Z,17nm,0.5s						
TUP				smax	smax		
	comp=N,347nm,1.0s						
KPC	**Khapcheranga**	**5.58**	**170**	*e*Pn	**Pn**	**08 22 19.7**	**-1.2**
KPC				*e*Pg	**Pb**	**08 22 38.5**	**+2.1**
KPC				*e*Sn	**Sn**	**08 23 19.9**	**-4.0**
KPC				*e*Sg	**Sb**	**08 23 49.9**	**+7.1**
KPC				Pmax			
	comp=N,19nm,0.8s						
KPC				Smax			
	comp=N,219nm,1.2s						
KPC	**Khapcheranga**	**5.58**	**170**	*e*PN	**Pn**	**08 22 20.0**	**-0.9**
KPC				*e*		08 22 37.4	
KPC				*e*S	**Sn**	**08 23 20.0**	**-4.0**
KPC				*e*		08 23 50.2	
KPC				pmax	pmax		
	comp=Z,19nm,0.5s						
KPC				smax	smax		
	comp=E,218nm,1.3s						
TLY	**Talaya**	**5.60**	**234**	*e*Pn	**Pn**	**08 22 20.2**	**-0.9**
TLY				*e*		08 22 45.9	
TLY				*e*Sg	**Sb**	**08 23 48.8**	**+5.4**
TLY				Smax			
	comp=E,100nm,0.4s						
ARS	**Arshan**	**6.04**	**241**	*e*Pn	**Pn**	**08 22 27.2**	**+0.1**
ARS				*e*Pg	**Pb**	**08 22 46.5**	**+2.3**
ARS				*e*Sg	**Sb**	**08 24 02.8**	**+6.8**
ARS				Pmax			
	comp=E,38nm,0.6s						
ARS				Smax			
	comp=E,437nm,0.7s						
ZAK	**Zakamensk**	**6.69**	**227**	*e*Sg	Sb	08 24 24.6	+10
ZAK				Smax			
	comp=E,54nm,1.4s						
ZAK	**Zakamensk**	**6.69**	**227**	*e*PN	Pn	08 22 42.8	+6.7
ZAK				*e*		08 24 28.7	
ZAK				pmax	pmax		
	comp=Z,6.0nm,0.4s						
ZAK				smax	smax		
	comp=E,54nm,1.4s						
MOY	**Mondy**	**6.91**	**243**	*e*Pn	**Pn**	**08 22 40.5**	**+1.4**
MOY				*e*		08 22 49.0	
MOY				*e*		08 22 57.1	
MOY				*e*Sn	**Sn**	**08 23 55.2**	**-1.5**
MOY				*e*Sg	Sb	08 24 32.1	+11
MOY				Smax			
	comp=E,112nm,1.8s						
MOY	**Mondy**	**6.91**	**243**	*e*PN	**Pn**	**08 22 40.1**	**+1.0**
MOY				*e*		08 23 02.4	
MOY				*e*		08 24 32.3	
MOY				pmax	pmax		
	comp=Z,16nm,0.4s						
MOY				smax	smax		
	comp=E,111nm,1.2s						
ORL	**Orlik**	**7.09**	**252**	*e*Pn	**Pn**	**08 22 42.4**	**+0.7**
ORL				*e*Sn	**Sn**	**08 23 59.4**	**-1.9**
ORL				*e*		08 24 11.6	
ORL				*e*Sg	Sb	08 24 36.6	+10
ORL				Smax			
	comp=E,91nm,1.4s						
ORL	**Orlik**	**7.09**	**252**	*e*PN	**Pn**	**08 22 42.3**	**+0.6**
ORL				*e*		08 23 05.5	
ORL				*e*S	**Sn**	**08 23 59.9**	**-1.4**
ORL				*e*		08 24 36.6	
ORL				pmax	pmax		
	comp=Z,20nm,0.6s						
ORL				smax	smax		
	comp=N,88nm,1.0s						
SONM	**Songino Array**	**7.90**	**203**	Pn	**Pn**	**08 22 54.0**	**+1.3**
	comp=N,0.5nm,0.3s,baz=14,slow=14,SNR=6.7						
SONM				Lg	Lg	08 25 06.1	
	comp=N,3.8nm,0.3s,baz=20,slow=27,SNR=12						
IENR	**Iengra**	**7.94**	**77**	*e*Sg	Sb	08 25 04.1	+14
YAK	**Yakutsk**	**11.90**	**47**	Lg	Lg	08 27 05.7	
	comp=N,0.0nm,0.3s,baz=217,slow=1.9,SNR=3.9						
KLR	**Kul'dur**	**14.07**	**107**	*i* P	**Pn**	**08 24 17.1**	**+0.1**
ZALV	**Zalesovo Beam**	**15.16**	**276**	Pn	**Pn**	**08 24 33.3**	**+1.7**
	comp=N,0.3nm,0.3s,baz=74,slow=11,SNR=8.2						
HABR	**Khabarovsk**	**16.31**	**104**	*e*P	**Pn**	**08 24 46.6**	**+0.1**
HABR				*e*S	**Sn**	**08 27 49.0**	**+2.6**
HABR				pmax	pmax		
	comp=N,6.0nm,0.8s						
HABR				pmax	pmax		
	comp=E,11nm,0.8s						
HABR				pmax	pmax		
	comp=Z,5.0nm,0.8s						
HABR				MLR	MLR		
	comp=Z,39nm,15.0s						
NRIK	**Noril'sk**	**17.68**	**332**	LR	LR	08 32 22.2	
	comp=Z,49nm,18.4s,baz=116,slow=39						
TIXI	**Tiksi**	**18.21**	**18**	*i* P	**Pn**	**08 25 08.7**	**-1.3**
TIXI				pmax	pmax		
	comp=Z,10.0nm,1.1s						
MKAR	**Makanchi Array**	**19.77**	**257**	P	**P**	**08 25 27.2**	**-0.2**
	comp=Z,0.4nm,0.6s,baz=58,slow=10,SNR=3.6						
KURK	**Kurchatov**	**19.86**	**270**	P	**P**	**08 25 29.1**	**+0.8**
KURK				pmax	pmax		
	comp=Z,1.0nm,0.7s						
KURBB	**Kurchatov Arra**	**19.95**	**270**	P	**P**	**08 25 29.1**	**-0.2**
	comp=Z,0.6nm,0.5s,baz=68,slow=12,SNR=6.5						
UGL	**Uglegorsk**	**19.96**	**95**	*e*P	**Pn**	**08 25 33.9**	**+2.8**
UGL				*e*S	**Sn**	**08 29 15.2**	**+0.7**
KSRS	**Korea Array**	**21.18**	**140**	LR	LR	08 33 46.3	
	comp=Z,8.1nm,19.1s,baz=295,slow=37						
BVAR	**Borovoye Array**	**23.63**	**282**	P	**P**	**08 26 08.3**	**+0.1**
	comp=Z,0.5nm,0.7s,baz=64,slow=12,SNR=2.4						
BRVK	**Borovoye**	**23.67**	**282**	*i* P	**P**	**08 26 08.5**	**-0.1**
BRVK				pmax	pmax		
	comp=Z,5.0nm,0.9s						
AAK	**Ala-Archa**	**26.70**	**257**	*i* P	**P**	**08 26 35.4**	**-1.1**
AAK				pmax	pmax		
	comp=Z,3.0nm,0.9s						
ARU	**Arti**	**28.86**	**294***c*	*i* P	**P**	**08 26 54.0**	**-1.4**
ARU				S	**S**	**08 31 44.1**	**+0.6**
ARU				pmax	pmax		
	comp=Z,3.0nm,1.2s						
AKTO	**Aktyubinsk**	**31.68**	**284**	LR	LR	08 42 24.5	
	comp=Z,18nm,19.0s,baz=72,slow=40						
FINES	**FINESS Array B**	**41.98**	**314**	P	**P**	**08 28 46.5**	**-1.2**
	comp=Z,2.0nm,0.8s,baz=66,slow=3.8,SNR=2.5						
ILAR	**Eielson Array**	**46.49**	**35**	P	**P**	**08 29 19.7**	**-4.1**
	comp=Z,0.1nm,0.8s,baz=311,slow=8.1,SNR=3.1						
HFS	**Hagfors**	**47.68**	**318**	LR	LR	08 52 11.2	
	comp=Z,42nm,20.2s,baz=163,slow=39						
WRA	**Warramunga Arr**	**77.46**	**157**	P	**P**	**08 32 49.8**	**-2.4**
	comp=Z,0.5nm,1.0s,baz=347,slow=5.8,SNR=3.4						

CSEM ***24*** *08:36:35.4,38.31N×21.77E,h9km,ML0.9/6*
ATH 24 08:36:35.4,38.30N×21.77E,h9km↓2km,ML0.9/6,Error ellipse: s-maj=2.2km s-min=0.9km az=115.0,Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
UPR	**University Cam**	**0.02**	**150**	P	Pg	08 36 36.6	-0.4
UPR				S	Sg	08 36 38.3	+0.1
UPR	**University Cam**	**0.02**	**150**	P	Pg	08 36 36.6	-0.4
UPR				S	Sg	08 36 38.3	+0.1
LAKA	**Lakka**	**0.17**	**111**	P	Pg	08 36 39.2	+0.1
LAKA				S	Sg	08 36 41.8	+0.2
LAKA	**Lakka**	**0.17**	**111**	P	Pg	08 36 39.2	0.0
LAKA				S	Sg	08 36 41.8	+0.2
LAKA				AML	AML	08 36 42.5	
	comp=E,108μm,0.1s						
LAKA				AML	AML	08 36 42.8	
	comp=N,60μm,0.2s						
TRIZ	**Trizonia**	**0.24**	**75**	P	Pg	08 36 40.2	-0.2
TRIZ				S	Sg	08 36 44.6	+0.9
TRIZ	**Trizonia**	**0.24**	**75**	P	Pg	08 36 40.2	-0.1
TRIZ				S	Sg	08 36 44.6	+0.9
KALE	**Kalithea**	**0.30**	**73**	P	Pg	08 36 41.5	0.0
KALE				S	Sg	08 36 46.6	+1.1
KALE	**Kalithea**	**0.30**	**73**	P	Pg	08 36 41.5	0.0
KALE				S	Sg	08 36 46.6	+1.0
KALE				AML	AML	08 36 48.1	
	comp=N,59μm,0.2s						
KALE				AML	AML	08 36 49.9	
	comp=E,52μm,0.2s						
AXS	**Araxos**	**0.33**	**251**	P	Pg	08 36 41.6	-0.3
AXS				S	Sg	08 36 47.4	+1.1
AXS	**Araxos**	**0.33**	**251**	P	Pg	08 36 41.6	-0.4
AXS				S	Sg	08 36 47.4	+1.1
RLS	**Riolos of Patr**	**0.34**	**224**	P	Pg	08 36 42.2	0.0
RLS				S	Sg	08 36 47.7	+0.9
RLS	**Riolos of Patr**	**0.34**	**224**	P	Pg	08 36 42.2	0.0
RLS				S	Sg	08 36 47.7	+0.9
RLS				AML	AML	08 36 50.2	
	comp=N,62μm,0.2s						
RLS				AML	AML	08 36 52.0	
	comp=E,32μm,0.1s						
DRO	**Drossia**	**0.35**	**188**	P	Pg	08 36 42.2	-0.2
DRO				S	Sg	08 36 48.3	+1.2
DRO	**Drossia**	**0.35**	**188**	P	Pg	08 36 42.2	-0.2
DRO				S	Sg	08 36 48.3	+1.2
DRO				AML	AML	08 36 52.1	
	comp=N,115μm,0.3s						
DRO				AML	AML	08 36 54.0	
	comp=E,162μm,0.3s						
PVO	**Paravola**	**0.37**	**328**	P	Pg	08 36 42.1	-0.6
PVO				S	Sb	08 36 48.8	-1.2
PVO	**Paravola**	**0.37**	**328**	P	Pg	08 36 42.0	-0.6
PVO				S	Sb	08 36 48.8	-1.2
PVO				AML	AML	08 36 49.0	
	comp=E,266μm,0.2s						
PVO				AML	AML	08 36 49.9	
	comp=N,131μm,0.3s						
KLV	**Kalavryta, Ach**	**0.40**	**131**	P	Pg	08 36 42.8	-0.4
KLV				S	Sg	08 36 48.3	-0.1
KLV	**Kalavryta, Ach**	**0.40**	**131**	P	Pg	08 36 42.8	-0.4
KLV				S	Sg	08 36 48.4	-0.1
KLV				AML	AML	08 36 53.5	
	comp=E,15μm,0.3s						
KLV				AML	AML	08 36 54.5	
	comp=N,15μm,0.2s						

ISCJB ***24*** *08:39:10.8±0.1,41.765N±0.009×21.90E±0.01,h10km, mb4.2/10,MS3.2/4,Error ellipse: s-maj=1.6km s-min=1.2km az=147.3*
TIR ***24*** *08:39:10.7,41.69N×21.87E,h12km,ML4.0*
ATH ***24*** *08:39:10.5,41.72N×21.90E,h16km±1km,ML3.4/18,Error ellipse: s-maj=2.2km s-min=0.9km az=155.0*
IDC ***24*** *08:39:10.3±0.9,41.75N×21.86E,h0km,mb3.7/5, mb1 3.8/13,mb1mx3.6/49,mbtmp3.7/13,ML3.6/8,MS3.0/10, Ms1 3.0/10,ms1mx2.8/45,Error ellipse: s-maj=19.9km s-min=11.5km az=50.0*
MOS ***24*** *08:39:10.5±0.9,41.75N×21.88E,h11km,mb4.3/5,Error ellipse: s-maj=6.0km s-min=3.7km az=99.4*
PDG ***24*** *08:39:10.9±0.5,41.74N×21.90E,h11km,MD4.0/4, ML3.9/10,Error ellipse: s-maj=0.4km s-min=0.5km az=0.0*
SKO ***24*** *08:39:10.3,41.72N×21.88E,h10km,M3.4,ML3.8*
CSEM ***24*** *08:39:11.1±0.1,41.73N×21.91E,h2km,mb4.2/6,Error ellipse: s-maj=2.0km s-min=1.5km az=48.0*
BEO ***24*** *08:39:11.0±0.4,41.70N×21.90E,h14km±3km,M3.7/1*
NEIC ***24*** *08:39:11.5±0.0,41.72N×21.92E,h1km,mb4.0/2, ML3.7(THE),ML3.8(SKO),After THE.*
NEIC Felt [III] at Skopje. Also felt at Studenicani, Sveti Nikole and Veles.
THE ***24*** *08:39:11.5,41.72N×21.92E,h1km±2km,ML3.7/4,Error ellipse: s-maj=2.4km s-min=0.7km az=279.0*
PRU ***24*** *08:39:14.3,41.85N×21.91E,h0km,M4.0*
ISC 24 08:39:12.1±0.4,41.73N±0.01×21.90E±0.01,h10km,n412, σ**1§14/520,mb4.1/10,MS3.2/4,42C-29D,Northwestern Balkan Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKO	**Skopje**	**0.42**	**305**	P	**Pg**	**08 39 18.8**	**-1.5**
SKO				S	**Sg**	**08 39 24.6**	**-1.2**
SKO	**Skopje**	**0.42**	**305**	*i* Pg	**Pg**	**08 39 18.8**	**-1.5**
SKO				*i* Sg	**Sg**	**08 39 24.4**	**-1.4**
SKO	**Skopje**	**0.42**	**305**	*i* P	**Pg**	**08 39 18.8**	**-1.5**
SKO				*i* SG	**Sg**	**08 39 24.4**	**-1.4**
SKO	**Skopje**	**0.42**	**305**	P	**Pg**	**08 39 18.8**	**-1.5**
SKO				S	**Sg**	**08 39 24.6**	**-1.2**
VAY	**Valandovo**	**0.65**	**129**	P	**Pg**	**08 39 23.2**	**-1.5**
VAY				S	**Sg**	**08 39 32.3**	**-1.0**
VAY	**Valandovo**	**0.65**	**129**	⇑*i* Pg	**Pg**	**08 39 23.1**	**-1.5**
VAY				*i* Sg	**Sg**	**08 39 32.3**	**-1.0**
VAY				*e*Lg	Lg	08 39 32.4	
	comp=E,2μm,0.5s						
VAY				*e*Lg	Lg	08 39 32.7	
	comp=N,3μm,0.5s						
VAY	**Valandovo**	**0.65**	**129**	⇑*i* Pg	**Pg**	**08 39 23.1**	**-1.6**
VAY	**Valandovo**	**0.65**	**129**	P	**Pg**	**08 39 22.9**	**-1.8**
VAY				*e*SG	**Sg**	**08 39 32.2**	**-1.0**
VAY	**Valandovo**	**0.65**	**129**	P	**Pg**	**08 39 23.2**	**-1.6**
VAY				*i* Sg	**Sg**	**08 39 32.2**	**-1.0**
VAY				*e*Lg	Lg	08 39 32.7	
	comp=N,3μm,0.5s						
BIA	**Bitola**	**0.83**	**211**	P	**Pg**	**08 39 27.1**	**-1.1**
BIA				S	**Sg**	**08 39 38.3**	**-0.8**
BIA	**Bitola**	**0.83**	**211**	*i* Pg	**Pg**	**08 39 26.9**	**-1.4**
BIA				*i* Sg	**Sg**	**08 39 38.5**	**-0.5**
BIA	**Bitola**	**0.83**	**211**	*i* Pg	**Pg**	**08 39 26.8**	**-1.4**
BIA	**Bitola**	**0.83**	**211**	P	**Pg**	**08 39 27.1**	**-1.1**
BIA				S	**Sg**	**08 39 38.3**	**-0.8**
GRG	**Griva**	**0.86**	**154**	P	**Pg**	**08 39 27.2**	**-1.6**
GRG	**Griva**	**0.86**	**154**	*i* P	**Pg**	**08 39 27.2**	**-1.6**
GRG				*i* SG	**Sg**	**08 39 39.6**	**-0.4**
GRG	**Griva**	**0.86**	**154**	P	**Pg**	**08 39 27.2**	**-1.6**
GRG				S	**Sg**	**08 39 38.2**	**-1.8**
GRG	**Griva**	**0.86**	**154**	P	**Pg**	**08 39 27.7**	**-1.0**
GRG				S	**Sg**	**08 39 38.3**	**-1.8**
GRG				AML	AML	08 39 44.3	
	comp=E,16161μm,0.4s						
GRG				AML	AML	08 39 44.4	
	comp=N,19328μm,0.5s						
KKB	**Krupnik**	**0.90**	**81**	P	**Pg**	**08 39 28.7**	**-0.7**
KKB	**Krupnik**	**0.90**	**81**	P	**Pg**	**08 39 28.7**	**-0.7**
KNT	**Kendrikon**	**0.94**	**127**	P	**Pg**	**08 39 28.4**	**-1.9**
KNT				S	**Sb**	**08 39 43.0**	**-0.2**
KNT	**Kendrikon**	**0.94**	**127**	P	**Pg**	**08 39 28.4**	**-1.9**
KNT				S	**Sb**	**08 39 43.0**	**-0.2**
KNT	**Kendrikon**	**0.94**	**127**	P	**Pg**	**08 39 28.4**	**-1.9**
KNT				S	**Sg**	**08 39 40.1**	**-2.4**
KNT	**Kendrikon**	**0.94**	**127**	P	**Pg**	**08 39 28.4**	**-1.9**
KNT				S	**Sg**	**08 39 40.2**	**-2.4**
KNT				AML	AML	08 39 46.5	
	comp=E,4738μm,1.0s						
KNT				AML	AML	08 39 46.5	
	comp=N,7257μm,1.0s						
FNA	**Florina**	**1.03**	**203**	P	**Pg**	**08 39 29.9**	**-1.9**
FNA				S	**Sb**	**08 39 45.3**	**-0.3**
FNA	**Florina**	**1.03**	**203**	P	**Pg**	**08 39 29.9**	**-1.9**
FNA				S	**Sb**	**08 39 45.3**	**-0.3**
FNA	**Florina**	**1.03**	**203**	P	**Pg**	**08 39 30.0**	**-1.9**
FNA				S	**Sg**	**08 39 44.6**	**-0.6**
FNA	**Florina**	**1.03**	**203**	P	**Pg**	**08 39 30.1**	**-1.8**
FNA				S	**Sg**	**08 39 44.7**	**-0.6**
FNA				AML	AML	08 39 46.9	
	comp=E,15750μm,0.6s						
FNA				AML	AML	08 39 47.2	
	comp=N,24604μm,0.5s						
OHR	**Ohrid**	**1.03**	**233**	⇓*i* Pg	**Pg**	**08 39 29.9**	**-2.2**
OHR				*i* Sg	**Sg**	**08 39 44.2**	**-1.3**
OHR				*e*Lg	Lg	08 39 45.1	
	comp=E,5μm,0.7s						
OHR				*e*Lg	Lg	08 39 45.7	
	comp=N,2μm,0.6s						
OHR	**Ohrid**	**1.03**	**233**	P	**Pg**	**08 39 29.3**	**-2.7**
OHR				*e*SG	**Sg**	**08 39 44.1**	**-1.3**
OHR	**Ohrid**	**1.03**	**233**	P	**Pg**	**08 39 29.3**	**-2.7**
OHR	**Ohrid**	**1.03**	**233**	⇓*i* Pg	**Pg**	**08 39 29.8**	**-2.2**
OHR				*i* Sg	**Sg**	**08 39 44.1**	**-1.3**
OHR				*e*Lg	Lg	08 39 45.6	
	comp=N,2μm,0.6s						
BARS	**Barje**	**1.08**	**357**	⇑*i* Pg	**Pg**	**08 39 30.4**	**-2.5**
BARS				*e*Sg	**Sb**	**08 39 47.0**	**-0.2**
BARS	**Barje**	**1.08**	**357**	⇑*i* Pg	**Pg**	**08 39 30.4**	**-2.5**
BARS				*e*Sg	**Sb**	**08 39 47.0**	**-0.2**
VTS	**Vitosha**	**1.30**	**48**	P	**Pn**	**08 39 35.9**	**-0.5**
VTS				S	**Sn**	**08 39 53.3**	**-0.3**
VTS	**Vitosha**	**1.30**	**48**	⇓*i* Pg	**Pn**	**08 39 35.9**	**-0.5**
VTS				*e*Sg	**Sb**	**08 39 53.4**	**-0.1**
VTS	**Vitosha**	**1.30**	**48**	⇓*i* P	**Pn**	**08 39 36.0**	**-0.5**
VTS	**Vitosha**	**1.30**	**48**	*e*P	**Pn**	**08 39 36.0**	**-0.5**
VTS				*e*		08 39 53.7	
VTS	**Vitosha**	**1.30**	**48**	*e*P	**Pn**	**08 39 36.0**	**-0.5**
VTS				*e*Sg	**Sb**	**08 39 53.4**	**-0.1**
VTS	**Vitosha**	**1.30**	**48**	*e*Pn	**Pn**	**08 39 36.0**	**-0.5**
VTS				*e*Sg	**Sn**	**08 39 53.7**	**-0.2**
KTI	**Kastanea**	**1.35**	**173**	P	**Pn**	**08 39 36.0**	**-1.1**
KTI	**Kastanea**	**1.35**	**173**	P	**Pn**	**08 39 36.0**	**-1.1**
THE	**Thessaloniki**	**1.36**	**143**	P	**Pn**	**08 39 36.0**	**-1.2**
THE	**Thessaloniki**	**1.36**	**143**	P	**Pn**	**08 39 36.3**	**-0.9**
THE				S	**Sg**	**08 39 56.1**	**+0.1**
THE	**Thessaloniki**	**1.36**	**143**	P	**Pn**	**08 39 36.3**	**-0.9**
THE				S	**Sg**	**08 39 55.9**	**0.0**
THE	**Thessaloniki**	**1.36**	**143**	P	**Pn**	**08 39 35.5**	**-1.6**
THE				S	**Sg**	**08 39 56.0**	**0.0**
THE				AML	AML	08 40 02.8	
	comp=N,1226μm,0.5s						
THE				AML	AML	08 40 03.9	
	comp=E,692μm,0.9s						
MMB	**Musomiste**	**1.38**	**95**	*i* P	**Pn**	**08 39 36.9**	**-0.5**
MMB	**Musomiste**	**1.38**	**95**	*i* P	**Pn**	**08 39 36.9**	**-0.5**
SRS	**Serrai**	**1.42**	**115**	P	**Pn**	**08 39 37.1**	**-0.8**
SRS				S	**Sb**	**08 39 56.6**	**-0.1**
SRS	**Serrai**	**1.42**	**115**	P	**Pn**	**08 39 37.2**	**-0.7**
SRS				S	**Sb**	**08 39 56.6**	**-0.1**
SRS	**Serrai**	**1.42**	**115**	P	**Pn**	**08 39 37.2**	**-0.7**
SRS				S	**Sb**	**08 39 56.6**	**-0.1**
SRS	**Serrai**	**1.42**	**115**	P	**Pn**	**08 39 36.7**	**-1.2**
SRS				S	**Sg**	**08 39 57.0**	**-0.6**
SRS				AML	AML	08 40 03.6	
	comp=E,1921μm,1.0s						
SRS				AML	AML	08 40 03.8	
	comp=N,2835μm,0.8s						
KZN	**Kozani**	**1.43**	**184**	P	**Pn**	**08 39 36.8**	**-1.4**
KZN	**Kozani**	**1.43**	**184**	P	**Pn**	**08 39 36.8**	**-1.4**
KZN				S	**Sn**	**08 39 55.1**	**-1.9**
KZN	**Kozani**	**1.43**	**184**	P	**Pn**	**08 39 36.1**	**-2.1**
KZN				S	**Sn**	**08 39 55.2**	**-1.9**
KZN				AML	AML	08 40 04.2	
	comp=E,2345μm,1.0s						
KZN				AML	AML	08 40 06.6	
	comp=N,1964μm,0.5s						
HORT	**Hortiatis**	**1.45**	**141**	P	**Pn**	**08 39 37.8**	**-0.7**
HORT	**Hortiatis**	**1.45**	**141**	P	**Pn**	**08 39 37.8**	**-0.7**
HORT				S	**Sg**	**08 39 58.8**	**0.0**
HORT	**Hortiatis**	**1.45**	**141**	P	**Pn**	**08 39 37.7**	**-0.7**
HORT				S	**Sg**	**08 39 58.9**	**0.0**
HORT				AML	AML	08 40 04.3	
	comp=N,910μm,1.3s						
HORT				AML	AML	08 40 10.1	
	comp=E,1224μm,0.9s						
NVR	**Nevrokopi**	**1.52**	**104**	P	**Pn**	**08 39 39.3**	**-0.1**
NVR				S	**Sg**	**08 40 00.9**	**-0.2**
NVR	**Nevrokopi**	**1.52**	**104**	P	**Pn**	**08 39 39.3**	**-0.1**
NVR				S	**Sg**	**08 40 00.9**	**-0.2**
NVR	**Nevrokopi**	**1.52**	**104**	P	**Pn**	**08 39 39.5**	**+0.1**
NVR				S	**Sg**	**08 40 01.4**	**+0.3**
NVR				AML	AML	08 40 06.1	
	comp=E,2602μm,0.7s						
NVR				AML	AML	08 40 06.4	
	comp=N,2767μm,0.7s						
TIR	**Tirane**	**1.57**	**256**	*i* PN	**Pn**	**08 39 40.2**	**+0.1**
TIR				*i* SN

LIT	**Litokhoron**	**1.69 164**	P	**Pb**	**08 39 42.1**	**-1.2**
LIT			S	**Sb**	**08 40 04.5**	**-0.1**
LIT			AML	AML	08 40 18.2	
	comp=N,713µm,0.4s					
LIT			AML	AML	08 40 18.4	
	comp=E,712µm,0.4s					
PLG	**Polygyros**	**1.79 139**	P	**Pn**	**08 39 42.8**	**-0.3**
PLG	**Polygyros**	**1.79 139**	P	**Pn**	**08 39 42.8**	**-0.3**
PLG			S	**Sb**	**08 40 07.0**	**-0.7**
PLG	**Polygyros**	**1.79 139**	P	**Pn**	**08 39 42.6**	**-0.5**
PLG			S	**Sb**	**08 40 06.9**	**-0.7**
PLG			AML	AML	08 40 19.6	
	comp=E,814µm,0.9s					
PLG			AML	AML	08 40 20.2	
	comp=N,716µm,0.6s					
KPRO	**Kipourio**	**1.82 193**	P	**Pn**	**08 39 43.6**	**0.0**
KPRO	**Kipourio**	**1.82 193**	P	**Pb**	**08 39 44.2**	**-1.4**
KPRO			S	**Sb**	**08 40 07.5**	**-1.0**
KPRO			AML	AML	08 40 17.0	
	comp=E,2673µm,0.9s					
KPRO			AML	AML	08 40 21.0	
	comp=N,3144µm,0.9s					
BEY	**Berane**	**1.87 308** ⇑	*i* Pn	**Pn**	**08 39 43.8**	**-0.5**
BEY			*e*Sn	**Sb**	**08 40 09.5**	**-0.4**
IVA	**Berane**	**1.87 308** ⇑	*i* Pn	**Pn**	**08 39 43.8**	**-0.5**
IVA			*e*Sn	**Sb**	**08 40 09.5**	**-0.4**
BOVS	**Bovan**	**1.91 356**	*i* Pn	**Pn**	**08 39 43.5**	**-1.1**
ULC	**Ulcinj**	**2.00 277** ⇓	*i* Pn	**Pn**	**08 39 46.1**	**+0.2**
ULC			*e*Sn	**Sb**	**08 40 12.9**	**-0.5**
ULC	**Ulcinj**	**2.00 277** ⇓	*i* Pn	**Pn**	**08 39 46.1**	**+0.2**
ULC			*e*Sn	**Sb**	**08 40 12.9**	**-0.5**
DRME	**Dracevica, Mon**	**2.07 283** ⇓	*i* Pn	**Pn**	**08 39 47.1**	**+0.1**
DRME			*e*Sn	**Sb**	**08 40 14.5**	**-1.1**
DRME	**Dracevica, Mon**	**2.07 283** ⇓	*i* Pn	**Pn**	**08 39 47.1**	**+0.1**
DRME			*e*Sn	**Sb**	**08 40 14.5**	**-1.1**
PDG	**Podgorica**	**2.09 290**	P	**Pn**	**08 39 47.7**	**+0.6**
PDG	**Podgorica**	**2.09 290** ⇑	*i* P	**Pn**	**08 39 47.6**	**+0.4**
PDG	**Podgorica**	**2.09 290**	S	**Sb**	**08 40 14.6**	**-1.4**
PDG	**Podgorica**	**2.09 290** ⇓	*i* Pn	**Pn**	**08 39 47.5**	**+0.4**
PDG			*e*Sn	**Sb**	**08 40 15.4**	**-0.6**
SJES	**Sjenica**	**2.09 318** ⇑	*i* Pn	**Pn**	**08 39 46.6**	**-0.7**
SJES			*e*Sg	**Sg**	**08 40 18.5**	**-0.7**
TTG	**Podgorica**	**2.09 290** ⇓	*i* Pn	**Pn**	**08 39 47.5**	**+0.4**
TTG			*e*Sn	**Sb**	**08 40 15.4**	**-0.6**
ZAGS	**Zajecar**	**2.09 7**	*e*Pn	**Pn**	**08 39 46.6**	**-0.6**
ZAGS	**Zajecar**	**2.09 7**	*e*Pn	**Pn**	**08 39 46.6**	**-0.6**
BOLS	**Boljevac**	**2.09 1** ⇓	*i* Pn	**Pn**	**08 39 45.3**	**-1.9**
BOLS			*e*Sg	**Sg**	**08 40 18.0**	**-1.4**
BOLS	**Boljevac**	**2.09 1** ⇓	*i* Pn	**Pn**	**08 39 45.3**	**-1.9**
BOLS			*e*Sg	**Sg**	**08 40 18.0**	**-1.4**
KAVA	**Kavala**	**2.10 110**	P	**Pn**	**08 39 47.4**	**+0.1**
KAVA	**Kavala**	**2.10 110**	P	**Pn**	**08 39 47.0**	**-0.3**
KAVA			S	**Sn**	**08 40 13.0**	**-0.6**
KAVA	**Kavala**	**2.10 110**	P	**Pn**	**08 39 47.0**	**-0.3**
KAVA			S	**Sn**	**08 40 12.9**	**-0.6**
KAVA			AML	AML	08 40 22.0	
	comp=N,1536µm,0.5s					
KAVA			AML	AML	08 40 26.7	
	comp=E,962µm,0.7s					
OUR	**Ouranopolis**	**2.11 131**	*e*PN	**Pn**	**08 39 46.6**	**-0.8**
OUR	**Ouranopolis**	**2.11 131**	P	**Pn**	**08 39 47.1**	**-0.3**
OUR	**Ouranopolis**	**2.11 131**	*e*Pn	**Pn**	**08 39 46.6**	**-0.8**
OUR	**Ouranopolis**	**2.11 131**	P	**Pn**	**08 39 47.1**	**-0.3**
OUR			S	**Sn**	**08 40 13.9**	**+0.3**
OUR	**Ouranopolis**	**2.11 131**	P	**Pn**	**08 39 47.0**	**-0.3**
OUR			S	**Sn**	**08 40 13.8**	**+0.1**
OUR			AML	AML	08 40 26.3	
	comp=N,1583µm,1.2s					
OUR			AML	AML	08 40 30.0	
	comp=E,986µm,0.4s					
THL	**Klokotos Trika**	**2.17 178**	P	**Pn**	**08 39 47.9**	**-0.4**
THL	**Klokotos Trika**	**2.17 178**	P	**Pn**	**08 39 47.9**	**-0.4**
THL			S	**Sb**	**08 40 17.0**	**-1.4**
THL	**Klokotos Trika**	**2.17 178**	P	**Pn**	**08 39 47.5**	**-0.7**
THL			S	**Sb**	**08 40 16.9**	**-1.4**
THL			AML	AML	08 40 30.2	
	comp=E,1027µm,0.8s					
THL			AML	AML	08 40 31.6	
	comp=N,1349µm,0.8s					
JAN	**Janina**	**2.22 201**	P	**Pn**	**08 39 49.7**	**+0.7**
JAN			S	**Sn**	**08 40 17.0**	**+0.4**
JAN	**Janina**	**2.22 201**	P	**Pn**	**08 39 49.7**	**+0.7**
JAN			S	**Sn**	**08 40 16.9**	**+0.3**
JAN			AML	AML	08 40 30.6	
	comp=N,1134µm,0.9s					
JAN			AML	AML	08 40 31.4	
	comp=E,1968µm,1.2s					
IVAS	**Ivanjica**	**2.25 326**	*i* Pn	**Pn**	**08 39 48.0**	**-1.4**
IVAS	**Ivanjica**	**2.25 326**	*i* Pn	**Pn**	**08 39 48.0**	**-1.4**
BUM	**Brajici-Budva**	**2.31 285** ⇑	*i* Pn	**Pn**	**08 39 50.6**	**+0.3**
BUM			*e*Sn	**Sn**	**08 40 20.0**	**+1.2**
BUM	**Brajici-Budva**	**2.31 285** ⇑	*i* Pn	**Pn**	**08 39 50.6**	**+0.3**
BUM			*e*Sn	**Sn**	**08 40 20.0**	**+1.2**
GRUS	**Gruza**	**2.32 338** ⇑	*i* Pn	**Pn**	**08 39 49.6**	**-0.8**
GRUS			*e*Sg	**Sg**	**08 40 26.9**	**+0.2**
GRUS	**Gruza**	**2.32 338** ⇑	*i* Pn	**Pn**	**08 39 49.6**	**-0.8**
GRUS			*e*Sg	**Sg**	**08 40 26.9**	**+0.2**
CEME	**Cevo**	**2.36 291** ⇓	*i* Pn	**Pn**	**08 39 50.9**	**-0.1**
CEME			*e*Sn	**Sn**	**08 40 21.5**	**+1.5**
CEME	**Cevo**	**2.36 291** ⇓	*i* Pn	**Pn**	**08 39 50.9**	**-0.1**
CEME			*e*Sn	**Sn**	**08 40 21.5**	**+1.5**
NKY	**Niksic**	**2.41 298** ⇓	*i* Pn	**Pn**	**08 39 52.1**	**+0.4**
NKY			*e*Sn	**Sn**	**08 40 22.6**	**+1.3**
NKY	**Niksic**	**2.41 298** ⇓	*i* Pn	**Pn**	**08 39 52.1**	**+0.4**
NKY			*e*Sn	**Sn**	**08 40 22.6**	**+1.3**
NKME	**Niksic**	**2.42 296** ⇓	*i* Pn	**Pn**	**08 39 51.5**	**-0.2**
NKME			*e*Sn	**Sn**	**08 40 22.8**	**+1.4**
NKME	**Niksic**	**2.42 296** ⇓	*i* Pn	**Pn**	**08 39 51.5**	**-0.2**
NKME			*e*Sn	**Sn**	**08 40 22.8**	**+1.4**
PLE	**Pljevlja**	**2.45 312** ⇓	*i* Pn	**Pn**	**08 39 52.5**	**+0.3**
PLE			*e*Sn	**Sn**	**08 40 23.5**	**+1.3**
PLE	**Pljevlja**	**2.45 312** ⇓	*i* Pn	**Pn**	**08 39 52.5**	**+0.3**
PLE			*e*Sn	**Sn**	**08 40 23.5**	**+1.3**
XOR	**Xorichti**	**2.56 157**	P	**Pn**	**08 39 52.9**	**-0.8**
XOR	**Xorichti**	**2.56 157**	P	**Pn**	**08 39 52.9**	**-0.8**
XOR	**Xorichti**	**2.56 157**	P	**Pn**	**08 39 52.1**	**-1.6**
KEK	**Kerkira**	**2.57 219**	P	**Pn**	**08 39 54.2**	**+0.4**
KEK	**Kerkira**	**2.57 219**	P	**Pn**	**08 39 54.0**	**+0.2**
KEK			S	**Sn**	**08 40 23.5**	**-1.7**
KEK	**Kerkira**	**2.57 219**	P	**Pn**	**08 39 54.0**	**+0.2**
KEK			S	**Sn**	**08 40 23.4**	**-1.7**
KEK			AML	AML	08 40 42.0	
	comp=E,1079µm,0.7s					
KEK			AML	AML	08 40 42.2	
	comp=N,1681µm,1.4s					
SVIS	**Svilajnac**	**2.58 349** ⇑	*i* Pn	**Pn**	**08 39 52.0**	**-1.9**
HCY	**Herceg Novi**	**2.63 287**	P	**Pb**	**08 39 56.7**	**-2.6**
HCY			S	**Sn**	**08 40 27.0**	**+0.4**
HCY	**Herceg Novi**	**2.63 287**	*e*Pn	**Pn**	**08 39 55.0**	**+0.4**
HCY			*e*Sn	**Sn**	**08 40 27.8**	**+1.2**
HCY	**Herceg Novi**	**2.63 287**	*e*Pn	**Pn**	**08 39 55.0**	**+0.4**
HCY	**Herceg Novi**	**2.63 287**	P	**Pb**	**08 39 56.7**	**-2.6**
HCY			S	**Sn**	**08 40 27.0**	**+0.4**
UPM	**Unac-Piva**	**2.66 305** ⇑	*i* Pn	**Pn**	**08 39 54.9**	**-0.3**
UPM			*e*Sn	**Sn**	**08 40 28.4**	**+0.9**
UPM	**Unac-Piva**	**2.66 305** ⇑	*i* Pn	**Pn**	**08 39 54.9**	**-0.3**
UPM			*e*Sn	**Sn**	**08 40 28.4**	**+0.9**
DSL	**Palaion Diasel**	**2.67 194**	P	**Pn**	**08 39 56.2**	**+1.0**
DSL	**Palaion Diasel**	**2.67 194**	P	**Pn**	**08 39 56.2**	**+1.0**
TRUS	**Trudelj**	**2.72 337** ⇑	*i* Pn	**Pn**	**08 39 54.9**	**-0.9**
TRUS	**Trudelj**	**2.72 337** ⇑	*i* Pn	**Pn**	**08 39 54.9**	**-0.9**
AGG	**Agios Georgios**	**2.73 173**	P	**Pn**	**08 39 55.4**	**-0.6**
AGG	**Agios Georgios**	**2.73 173**	*e*P	**Pn**	**08 39 55.7**	**-0.3**
AGG	**Agios Georgios**	**2.73 173**	*e*P	**Pn**	**08 39 55.7**	**-0.3**
AGG	**Agios Georgios**	**2.73 173**	*e*Pn	**Pn**	**08 39 55.6**	**-0.4**
DIVS	**Divibare**	**2.75 330**	P	**Pn**	**08 39 55.6**	**-0.7**
DIVS	**Divibare**	**2.75 330** ⇑	*i* Pn	**Pn**	**08 39 55.4**	**-0.9**
DIVS	**Divibare**	**2.75 330**	P	**Pn**	**08 39 55.6**	**-0.7**
BRY	**Bratogost**	**2.75 296**	P	**Pn**	**08 39 57.5**	**+1.1**
BRY			S	**Sn**	**08 40 30.0**	**+0.2**
BRY	**Bratogost**	**2.75 296**	*e*Pn	**Pn**	**08 39 56.6**	**+0.2**
BRY			*e*Sn	**Sn**	**08 40 30.5**	**+0.7**
BRY	**Bratogost**	**2.75 296**	*e*Pn	**Pn**	**08 39 56.6**	**+0.2**
BRY	**Bratogost**	**2.75 296**	P	**Pn**	**08 39 57.5**	**+1.1**
BRY			S	**Sn**	**08 40 30.0**	**+0.2**
RDO	**Rodhopi**	**2.80 101**	P	**Pn**	**08 39 56.9**	**0.0**
RDO	**Rodhopi**	**2.80 101**	P	**Pn**	**08 39 56.9**	**0.0**
BBLS	**Lazići**	**2.81 320**	*e*Pn	**Pn**	**08 39 56.3**	**-0.9**
BBLS	**Lazići**	**2.81 320**	*e*Pn	**Pn**	**08 39 56.3**	**-0.9**
TREB	**Trebinje**	**2.81 292**	*e*Pn	**Pb**	**08 39 59.9**	**-2.5**
SKIA	**Skiathos**	**2.83 154**	P	**Pn**	**08 39 55.7**	**-1.7**
SKIA	**Skiathos**	**2.83 154**	P	**Pn**	**08 39 55.7**	**-1.7**
MDVR	**Moldovita**	**3.05 358** ⇓	*i* P	**Pn**	**08 39 59.5**	**-0.9**
MDVR	**Moldovita**	**3.05 358** ⇓	*i* P	**Pn**	**08 39 59.5**	**-0.9**
MDVR			S	**Sn**	**08 40 38.3**	**+1.3**
SRE	**Strehaia**	**3.08 18** ⇑	*i* P	**Pn**	**08 40 00.6**	**-0.2**
SRE	**Strehaia**	**3.08 18**	S	**Sg**	**08 40 48.1**	**-2.9**
SRE	**Strehaia**	**3.08 18** ⇑	*i* P	**Pn**	**08 40 00.6**	**-0.2**
LKD2	**Lefkada island**	**3.09 198**	P	**Pn**	**08 40 01.2**	**+0.2**
LKD2	**Lefkada island**	**3.09 198**	P	**Pn**	**08 40 01.0**	**0.0**
LKD2	**Lefkada island**	**3.09 198**	P	**Pn**	**08 40 01.0**	**0.0**
LIA	**Limnos Island**	**3.10 125**	P	**Pn**	**08 40 00.8**	**-0.2**
LIA			S	**Sn**	**08 40 38.5**	**+0.4**
LIA	**Limnos Island**	**3.10 125**	P	**Pn**	**08 40 00.7**	**-0.2**
LIA			S	**Sn**	**08 40 38.4**	**+0.4**
LIA			AML	AML	08 40 59.3	
	comp=E,241µm,0.7s					
LIA			AML	AML	08 41 05.4	
	comp=N,237µm,0.8s					
PVO	**Paravola**	**3.13 185**	P	**Pn**	**08 40 01.8**	**+0.4**
PVO	**Paravola**	**3.13 185**	P	**Pn**	**08 40 01.8**	**+0.4**
ALN	**Alexandroupoli**	**3.23 104**	*e*PN	**Pn**	**08 40 03.3**	**+0.4**
ALN	**Alexandroupoli**	**3.23 104**	P	**Pn**	**08 40 02.8**	**-0.1**
ALN	**Alexandroupoli**	**3.23 104**	P	**Pn**	**08 40 02.8**	**-0.1**
ALN	**Alexandroupoli**	**3.23 104**	P	**Pn**	**08 40 02.8**	**-0.1**
ALN	**Alexandroupoli**	**3.23 104**	*e*Pn	**Pn**	**08 40 03.3**	**+0.4**
TEKS	**Tekeris**	**3.31 329**	*i* Pn	**Pn**	**08 40 03.3**	**-0.6**
TEKS	**Tekeris**	**3.31 329**	*i* Pn	**Pn**	**08 40 03.3**	**-0.6**
STON	**Ston**	**3.31 291**	*e*Pn	**Pn**	**08 40 04.9**	**+0.9**
STON			S	**Sn**	**08 40 42.6**	**-0.8**
STON	**Ston**	**3.31 291**	*e*Pn	**Pn**	**08 40 04.9**	**+0.9**
STON			S	**Sn**	**08 40 42.6**	**-0.8**
SERG	**Sergoula**	**3.32 178**	P	**Pn**	**08 40 03.8**	**-0.3**
SERG	**Sergoula**	**3.32 178**	P	**Pn**	**08 40 03.8**	**-0.3**
KALE	**Kalithea**	**3.34 177**	P	**Pn**	**08 40 04.5**	**0.0**
KALE	**Kalithea**	**3.34 177**	P	**Pn**	**08 40 04.5**	**0.0**
SZH	**Strazhica**	**3.35 61**	P	**Pn**	**08 40 05.3**	**+0.7**
SZH	**Strazhica**	**3.35 61**	P	**Pn**	**08 40 05.3**	**+0.7**
ENEZ	**Enez**	**3.36 106**	*e*PN	**Pn**	**08 40 04.7**	**+0.1**
ENEZ	**Enez**	**3.36 106**	*e*Pn	**Pn**	**08 40 04.7**	**+0.1**
GADA	**Gvkgeada**	**3.40 116**	*e*PN	**Pn**	**08 40 04.7**	**-0.5**
GADA	**Gvkgeada**	**3.40 116**	*e*Pn	**Pn**	**08 40 04.7**	**-0.5**
HUMR	**Humele**	**3.59 38**	*i* P	**Pg**	**08 40 19.6**	**-1.3**
EDRB	**Edirne**	**3.62 87**	*e*PN	**Pn**	**08 40 07.8**	**-0.5**
EDRB	**Edirne**	**3.62 87**	P	**Pn**	**08 40 08.3**	**0.0**
EDRB	**Edirne**	**3.62 87**	*e*Pn	**Pn**	**08 40 07.8**	**-0.5**
EDRB	**Edirne**	**3.62 87**	P	**Pn**	**08 40 08.3**	**0.0**
ERIK	**Erikli-Kesan**	**3.64 105**	*e*PN	**Pn**	**08 40 08.4**	**-0.1**
ERIK	**Erikli-Kesan**	**3.64 105**	*e*Pn	**Pn**	**08 40 08.4**	**-0.1**
BOZC	**Bozcaada**	**3.68 120**	*e*PN	**Pn**	**08 40 08.9**	**-0.1**
BOZC	**Bozcaada**	**3.68 120**	*e*Pn	**Pn**	**08 40 08.9**	**-0.1**
GZR	**Gura Zlata**	**3.71 10**	*i* P	**Pn**	**08 40 09.3**	**-0.3**
GZR	**Gura Zlata**	**3.71 10**	*i* P	**Pn**	**08 40 09.3**	**-0.3**
FGSL	**Fruska Gora**	**3.74 337** ⇑	*i* Pn	**Pn**	**08 40 08.4**	**-1.5**
FGSL			*e*Sn	**Sn**	**08 40 53.0**	**-1.1**
FRGS	**Fruska Gora**	**3.74 337** ⇑	*i* Pn	**Pn**	**08 40 08.4**	**-1.5**
FRGS			*e*Sn	**Sn**	**08 40 53.0**	**-1.1**
BAI	**Bari**	**3.83 262**	*e*Pn	**Pn**	**08 40 10.8**	**-0.2**
EZN	**Ezine**	**3.87 118**	*e*P	**Pn**	**08 40 11.8**	**+0.2**
EZN	**Ezine**	**3.87 118**	*e*P	**Pn**	**08 40 11.8**	**+0.2**
BZS	**Buzias**	**3.89 357** ⇑	*i* P	**Pn**	**08 40 10.1**	**-1.8**
BZS	**Buzias**	**3.89 357**	P	**Pn**	**08 40 10.1**	**-1.8**
BZS	**Buzias**	**3.89 357**	P	**Pn**	**08 40 10.1**	**-1.8**
LPK	**Lapseki**	**3.92 109**	*e*P	**Pn**	**08 40 12.3**	**0.0**
LPK	**Lapseki**	**3.92 109**	*e*P	**Pn**	**08 40 12.3**	**0.0**
SIGR	**SIGRI**	**3.93 129**	*e*P	**Pn**	**08 40 12.8**	**+0.3**
SIGR	**SIGRI**	**3.93 129**	P	**Pn**	**08 40 12.3**	**-0.2**
SIGR	**SIGRI**	**3.93 129**	P	**Pn**	**08 40 12.3**	**-0.2**
LOT	**Lotru**	**3.95 19** ⇑	*i* P	**Pn**	**08 40 12.7**	**-0.2**
LOT	**Lotru**	**3.95 19** ⇑	*i* P	**Pn**	**08 40 12.7**	**-0.2**
LOT			S	**Sn**	**08 40 56.3**	**-3.1**
SG1	**Sgolgore (BA)**	**4.03 259**	*e*Pn	**Pn**	**08 40 15.3**	**+1.4**
DOB	**Doboj**	**4.08 318**	*e*Pn	**Pn**	**08 40 14.3**	**-0.3**
ARR	**Arges**	**4.14 28** ⇑	*i* P	**Pn**	**08 40 15.2**	**-0.2**
ARR	**Arges**	**4.14 28** ⇑	*i* P	**Pn**	**08 40 15.2**	**-0.2**
CDT	**Castel del Mon**	**4.28 263**	*e*Pn	**Pn**	**08 40 16.3**	**-1.0**
KRBG	**Karabiga-Canak**	**4.30 106**	*e*P	**Pn**	**08 40 17.9**	**+0.4**
KRBG	**Karabiga-Canak**	**4.30 106**	*e*P	**Pn**	**08 40 17.9**	**+0.4**
VOIR		**4.35 31** ⇓	*i* P	**Pn**	**08 40 18.5**	**+0.1**
VOIR		**4.35 31**	P	**Pn**	**08 40 18.4**	**+0.1**
VOIR		**4.35 31**	P	**Pn**	**08 40 18.4**	**+0.1**
MRMT	**Marmara Adasi**	**4.45 103**	*e*P	**Pn**	**08 40 20.5**	**+0.9**
MRMT	**Marmara Adasi**	**4.45 103**	*e*P	**Pn**	**08 40 20.5**	**+0.9**
MS1	**Monte Sant'Ang**	**4.46 272**	*e*Pn	**Pn**	**08 40 19.2**	**-0.6**
SECR		**4.49 41** ⇑	*i* P	**Pn**	**08 40 20.5**	**+0.4**
SECR		**4.49 41** ⇑	*i* P	**Pn**	**08 40 20.5**	**+0.4**
BLY	**Banja Luka**	**4.58 313**	*e*Pn	**Pn**	**08 40 21.0**	**-0.3**
SBT3	**Marmara-Eregli**	**4.66 98**	*e*P	**Pn**	**08 40 23.4**	**+1.1**
MLR	**Muntele Rosu**	**4.77 37** ⇓	*i* P	**Pn**	**08 40 25.6**	**+1.5**
MLR	**Muntele Rosu**	**4.77 37**	*e*P	**Pn**	**08 40 26.0**	**+1.9**
MLR	**Muntele Rosu**	**4.77 37**	*e*P	**Pn**	**08 40 26.0**	**+1.9**
MLR			S	**Sn**	**08 41 21.4**	**+1.9**
MLR	**Muntele Rosu**	**4.77 37**	*e*Pn	**Pn**	**08 40 26.0**	**+1.9**
ISR	**Istrita**	**4.78 43** ⇑	*i* P	**Pn**	**08 40 25.3**	**+1.0**
ISR	**Istrita**	**4.78 43**	P	**Pn**	**08 40 25.3**	**+1.0**
ISR	**Istrita**	**4.78 43**	P	**Pn**	**08 40 25.3**	**+1.0**
DOPR	**Dopca**	**4.93 30** ⇑	*i* P	**Pn**	**08 40 26.1**	**-0.1**
DOPR	**Dopca**	**4.93 30** ⇑	*i* P	**Pn**	**08 40 26.1**	**-0.1**
CUC	**Castrocucco**	**4.93 251**	*e*Pn	**Pn**	**08 40 26.5**	**+0.3**
CUC			*e*Sn	**Sn**	**08 41 24.0**	**+0.7**
CUC	**Castrocucco**	**4.93 251**	*e*Pn	**Pn**	**08 40 26.5**	**+0.3**
CUC			*e*Sn	**Sn**	**08 41 24.0**	**+0.7**
DRGR		**5.09 6**	*i* P	**Pn**	**08 40 28.0**	**-0.5**
DRGR		**5.09 6**	P	**Pn**	**08 40 27.8**	**-0.7**
DRGR		**5.09 6**	P	**Pn**	**08 40 27.8**	**-0.7**
UDBI	**Udbina**	**5.29 304**	*e*Pn	**Pn**	**08 40 33.0**	**+1.8**
UDBI			*e*Sn	**Sn**	**08 41 34.4**	**+2.2**
UDBI	**Udbina**	**5.29 304**	*e*Pn	**Pn**	**08 40 33.0**	**+1.8**
UDBI			*e*Sn	**Sn**	**08 41 34.3**	**+2.2**
TLB	**Topalu**	**5.32 56** ⇓	*i* P	**Pn**	**08 40 32.4**	**+0.8**
TLB	**Topalu**	**5.32 56**	S	**Sg**	**08 42 04.8**	**+1.9**
TLB	**Topalu**	**5.32 56** ⇓	*i* P	**Pn**	**08 40 32.4**	**+0.8**
VRI	**Vrincioaia**	**5.41 39** ⇑	*i* P	**Pn**	**08 40 34.0**	**+1.1**
VRI	**Vrincioaia**	**5.41 39**	P	**Pn**	**08 40 33.9**	**+1.1**
VRI	**Vrincioaia**	**5.41 39**	P	**Pn**	**08 40 33.9**	**+1.1**
APE	**Apeiranthos**	**5.44 148**	*i* P	**Pn**	**08 40 33.3**	**0.0**
APE	**Apeiranthos**	**5.44 148**	*i* P	**Pn**	**08 40 33.3**	**0.0**
TIRR	**Tirgusor**	**5.49 58** ⇑	*i* P	**Pn**	**08 40 34.2**	**+0.4**
TIRR	**Tirgusor**	**5.49 58**	S	**Sg**	**08 42 03.1**	**-5.2**
TIRR	**Tirgusor**	**5.49 58**	*e*P	**Pn**	**08 40 34.3**	**+0.4**
TIRR	**Tirgusor**	**5.49 58**	*e*P	**Pn**	**08 40 34.3**	**+0.4**
TIRR	**Tirgusor**	**5.49 58**	*e*Pn	**Pn**	**08 40 34.3**	**+0.4**
CFR	**Carcaliu**	**5.70 51** ⇑	*i* P	**Pn**	**08 40 35.7**	**-1.0**
CFR	**Carcaliu**	**5.70 51**	P	**Pn**	**08 40 35.6**	**-1.1**
CFR	**Carcaliu**	**5.70 51**	P	**Pn**	**08 40 35.6**	**-1.1**
NVLJ	**Novalja**	**5.87 301**	*e*Pn	**Pn**	**08 40 38.4**	**-0.6**
NVLJ			S	**Sn**	**08 41 44.1**	**-2.2**
NVLJ	**Novalja**	**5.87 301**	*e*Pn	**Pn**	**08 40 38.4**	**-0.6**
MANT	**Manisa**	**6.05 120**	*e*Pn	Pn	08 40 36.8	-5.0
CRES	**Cresnjev**	**6.20 313**	*e*Pn	**Pn**	**08 40 43.6**	**-0.1**
BURAR	**Bucovina Array**	**6.34 21** ⇓	*i* P	**Pn**	**08 40 49.1**	**+3.5**
PSZ	**Piszkesteto**	**6.34 348**	S	**Pn**	**08 40 44.8**	**-0.9**
PSZ	**Piszkesteto**	**6.34 348**	P	**Pn**	**08 40 44.9**	**-0.8**
PSZ	**Piszkesteto**	**6.34 348**	P	**Pn**	**08 40 44.9**	**-0.8**
PSZ	**Piszkesteto**	**6.34 348**	*e*Pn	**Pn**	**08 40 44.9**	**-0.8**
AQU	**L'Aquila**	**6.36 278**	*e*P	**Pn**	**08 40 46.2**	**+0.3**
AQU	**L'Aquila**	**6.36 278**	*e*P	**Pn**	**08 40 46.2**	**+0.3**
AQU	**L'Aquila**	**6.36 278**	*e*Pn	**Pn**	**08 40 46.2**	**+0.3**
BUR08	**Bucovina Ar. S**	**6.36 21**	*e*Pn	**Pn**	**08 40 46.8**	**+0.8**
BUR08	**Bucovina Ar. S**	**6.36 21**	*e*Pn	**Pn**	**08 40 46.8**	**+0.8**
SRO2	**Moca**	**6.52 339**	*e*P	**Pn**	**08 40 47.1**	**-0.9**
SRO2	**Moca**	**6.52 339**	*e*P	**Pn**	**08 40 47.1**	**-0.9**
SRO2	**Moca**	**6.52 339**	*e*PN	**Pn**	**08 40 47.1**	**-0.9**
CEY	**Cerknica**	**6.73 309**	*e*Pn	**Pn**	**08 40 52.5**	**+1.5**
KECS	**Kecovo**	**6.82 352**	*e*P	**Pn**	**08 40 52.3**	**+0.1**
KECS	**Kecovo**	**6.82 352**	*e*P	**Pn**	**08 40 52.3**	**+0.1**
KECS	**Kecovo**	**6.82 352**	*e*PN	**Pn**	**08 40 52.3**	**+0.1**
IDI	**Anoyia**	**6.85 159**	Pn	**Pn**	**08 40 51.9**	**-0.8**
	comp=N,0.3nm,0.3s,baz=333,slow=18,SNR=2.4					
IDI	**Anoyia**	**6.85 159**	*e*Pn	**Pn**	**08 40 52.2**	**-0.5**
IDI	**Anoyia**	**6.85 159**	*e*Pn	**Pn**	**08 40 52.2**	**-0.5**
UZH	**Uzhgorod**	**6.90 2**	*e*P	**Pn**	**08 40 53.4**	**+0.1**
UZH			*e*S	**Sn**	**08 42 12.2**	**+0.4**
UZH	**Uzhgorod**	**6.90 2**	*e*P	**Pn**	**08 40 53.4**	**+0.1**
UZH			*e*S	**Sn**	**08 42 12.2**	**+0.4**
SOKA	**Soboth**	**6.98 317**	*i* Pn	**Pn**	**08 40 54.1**	**-0.3**
	comp=N,1.2nm,0.2s					
SOKA	**Soboth**	**6.98 317**	Pn	**Pn**	**08 40 54.1**	**-0.3**
	comp=N,1.2nm,0.2s					
VYHS	**Vyhne**	**7.10 343**	*e*P	**Pn**	**08 40 54.9**	**-1.1**
VYHS	**Vyhne**	**7.10 343**	*e*P	**Pn**	**08 40 54.9**	**-1.1**
VYHS	**Vyhne**	**7.10 343**	*e*PN	**Pn**	**08 40 54.9**	**-1.1**
TRI	**Trieste**	**7.11 307**	*e*P	**Pn**	**08 40 58.3**	**+2.2**
TRI	**Trieste**	**7.11 307**	*e*P	**Pn**	**08 40 58.3**	**+2.2**
TRI	**Trieste**	**7.11 307**	*e*Pn	**Pn**	**08 40 58.3**	**+2.2**
OBKA	**Obir**	**7.12 315**	*i* Pn	**Pn**	**08 40 55.8**	**-0.6**
	comp=N,3.1nm,0.3s					
OBKA	**Obir**	**7.12 315**	Pn	**Pn**	**08 40 55.8**	**-0.6**
	comp=N,3.1nm,0.3s					
ARSA	**Arzberg**	**7.15 323**	*i* Pn	**Pn**	**08 40 57.0**	**+0.2**
	comp=N,6.9nm,0.3s					
ARSA			*e*Sn	**Sn**	**08 42 16.6**	**-1.5**
	comp=N,20nm,0.6s					
ARSA	**Arzberg**	**7.15 323**	Pn	**Pn**	**08 40 57.0**	**+0.2**
	comp=N,6.9nm,0.3s					
KIS	**Kishinev**	**7.23 41**	*e*P	Pn	08 41 04.0	+6.3
KIS			LRM	MLR	08 44 40.0	
	comp=N,400nm,10.0s					
KIS	**Kishinev**	**7.23 41**	*e*P	Pn	08 41 04.0	+6.3
KIS			MLR	MLR		
	comp=Z,400nm,8.0s					
KIS			MLR	MLR		
	comp=Z,400nm,10.0s					
CONA	**Conrad Observa**	**7.53 327**	*i* Pn	**Pn**	**08 41 02.0**	**0.0**
	comp=Z,1.6nm,0.3s					
CONA			*e*Sn	**Sn**	**08 42 27.8**	**+0.4**
	comp=Z

KLMR	**Klimovskoe**	**21.95**	**23**	*e*P	**P**	**08 44 08.4**	**+2.8**
KLMR				pmax	pmax		
	comp=Z,8.0nm,1.1s						
KLMR	**Klimovskoe**	**21.95**	**23**	*e*P	**P**	**08 44 08.4**	**+2.8**
	comp=Z,8.0nm,1.1s						
AKTO	**Aktyubinsk**	**26.30**	**58**	LR	LR	08 56 49.3	
	comp=Z,34nm,20.3s,baz=263,slow=40						
ARU	**Arti**	**27.75**	**45***c*	*i*P	**P**	**08 45 03.1**	**+2.4**
ARU						08 45 47.1	
ARU				S	**S**	**08 49 47.7**	**+4.7**
ARU				SS	**SnSn**	**08 50 57.1**	**+2.1**
ARU				pmax	pmax		
	comp=Z,4.0nm,1.2s						
ARU	**Arti**	**27.75**	**45**	*i*P	**P**	**08 45 03.1**	**+2.4**
	comp=Z,4.0nm,1.2s						
ARCES	**ARCESS Array B**	**27.93**	**3**	LR	LR	08 56 49.1	
	comp=Z,37nm,19.2s,baz=173,slow=38						
TOA0	**Torodi Ar. Sit**	**33.48**	**218**	*e*P	**P**	**08 45 51.2**	**-0.3**
	comp=Z,3.7nm,0.9s						
TOA0	**Torodi Ar. Sit**	**33.48**	**218**	*e*P	**P**	**08 45 51.1**	**-0.3**
	comp=Z,3.7nm,0.9s						
TORD	**Torodi Ar. Bea**	**33.48**	**218**	P	**P**	**08 45 51.0**	**-0.5**
	comp=Z,2.6nm,0.8s,baz=30,slow=9.0,SNR=23						
KURK	**Kurchatov**	**39.38**	**57**	*e*P	**P**	**08 46 40.7**	**-0.9**
KURK				pmax	pmax		
	comp=Z,2.0nm,0.9s						
KURK	**Kurchatov**	**39.38**	**57**	*e*P	**P**	**08 46 40.7**	**-0.9**
	comp=Z,2.3nm,0.9s						
KURK	**Kurchatov**	**39.38**	**57**	*e*P	**P**	**08 46 40.7**	**-0.9**
	comp=Z,2.3nm,0.9s						
ZALV	**Zalesovo Beam**	**42.58**	**51**	LR	LR	09 06 33.1	
	comp=Z,48nm,18.1s,baz=250,slow=39						
SHEL	**Horse Pasture**	**62.83**	**210**	*e*P	**P**	**08 49 38.3**	**+0.2**
SHEL	**Horse Pasture**	**62.83**	**210**	*e*P	**P**	**08 49 38.3**	**+0.2**
SHEL	**Horse Pasture**	**62.83**	**210**	*e*P	**P**	**08 49 38.2**	**+0.2**
	comp=Z,218nm,1.3s						
MIV	**Mineville/With**	**65.88**	**308**	*e*P	**P**	**08 49 57.8**	**-0.1**
MIV	**Mineville/With**	**65.88**	**308**	*e*P	**P**	**08 49 57.8**	**-0.1**
BILL	**Bilibino**	**67.32**	**14**	*e*P	**P**	**08 50 05.3**	**-1.3**
BILL				pmax	pmax		
	comp=Z,5.0nm,1.1s						
BILL	**Bilibino**	**67.32**	**14**	*e*P	**P**	**08 50 05.3**	**-1.3**
	comp=Z,5.0nm,1.1s						
FFC	**Flin Flon**	**72.65**	**330**	*i*P	**P**	**08 50 43.1**	**+3.5**
ILAR	**Eielson Array**	**73.47**	**355**	P	**P**	**08 50 45.1**	**+0.8**
	comp=Z,0.2nm,0.6s,baz=354,slow=7.2,SNR=3.6						
KSRS	**Korea Array**	**76.28**	**52**	LR	LR	09 25 13.2	
	comp=Z,28nm,18.0s,baz=217,slow=36						
PDAR	**Pinedale Array**	**85.19**	**326**	P	**P**	**08 51 49.0**	**+0.1**
	comp=Z,0.3nm,0.7s,baz=96,slow=4.8,SNR=2.5						

NNC 24 09:08:07.8±7.8, 37°.93N×72°.23E, h0km, mb3.5, mpv3.1, 2C-4D, Error ellipse: s-maj=66.1km s-min=26.3km az=146.0, Tajikistan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZET	**Dzherino**	**2.81**	**289**	⇓Pn	Pn	09 08 54.1	-0.1
	15nm,0.4s						
DZET				⇓Sn	Sn	09 09 29.7	+0.9
	16nm,0.3s						
MNAS	**Manas**	**4.56**	**3**	⇑Pn	Pn	09 09 19.6	+1.5
	1.5nm,0.5s						
MNAS				⇓Sn	Sn	09 10 14.4	+2.5
	3.0nm,0.7s						
KK31	**Karatay Array**	**5.33**	**346**	⇑Pn	Pn	09 09 27.5	-1.1
	0.3nm,0.3s,baz=152,slow=11,SNR=4.9						
KK31				⇓Sn	Sn	09 10 30.5	-0.4
	1.7nm,0.3s,baz=159,slow=22,SNR=16						

DJA 24 09:13:58.9±0.5, 3°.5S×10°.1E, h70km±10km, M3.7/5, MLv3.7/5, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MASI	**Maura Aman, Be**	**1.06**	**89**	P	Pn	09 14 17.7	-0.5
MASI				S	Sn	09 14 29.6	-2.9
PPSI	**Pulau Pagai**	**1.23**	**289**	P	Pn	09 14 20.5	+0.1
KSI	**Kapahiang**	**1.49**	**109**	P	Pn	09 14 24.4	+0.6
KSI				S	Sn	09 14 39.1	-3.5
MNAI	**Manna**	**2.14**	**124**	P	Pn	09 14 32.5	+0.1
PDSI	**Padang**	**2.35**	**342**	P	Pn	09 14 34.7	-0.6
PPI	**Padang Panjang**	**2.80**	**344**	P	Pn	09 14 41.6	+0.2
LWLI	**Liwa**	**3.41**	**123**	P	Pn	09 14 49.4	-0.5

JMA 24 09:15:48.4±0.2, 37°.69N×143°.39E, h51km, M3.5, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JIO	**Ouri**	**1.78**	**296**	P	Pn	09 16 17.8	+1.1
JIO				S	Sn	09 16 39.2	+1.0
OFUJ	**Ofunato**	**1.94**	**316**	P	Pn	09 16 19.6	+0.7
OFUJ				S	Sn	09 16 42.1	0.0
JFK	**Kawauchi**	**2.03**	**262**	P	Pn	09 16 20.6	+0.5
JFK				S	Sn	09 16 44.8	+0.5
JMK	**Ichinoseki**	**2.12**	**307**	P	Pn	09 16 22.6	+1.2
JMK				S	Sn	09 16 48.3	+1.8
JOM	**Ohasama**	**2.42**	**318**	P	Pn	09 16 26.8	+1.3
JOM				S	Sn	09 16 54.9	+0.9
JFT	**Otama**	**2.43**	**267**	S	Sn	09 16 57.1	+2.9
JYK	**Kaneyama**	**2.68**	**298**	P	Pn	09 16 30.8	+1.7
JYK				*e*S	Sn	09 17 02.2	+1.9
JANG	**Nango**	**3.05**	**332**	P	Pn	09 16 35.1	+1.0
JANG				S	Sn	09 17 08.6	-0.8
JAG	**Ashikaga**	**3.39**	**249**	P	Pn	09 16 40.2	+1.4
JAG				S	Sn	09 17 18.1	+0.3
JRY	**Ryogami san**	**3.97**	**246**	P	Pn	09 16 47.9	+1.1
JRY				*e*S	Sn	09 17 31.4	-0.6
JCH	**Churui**	**4.92**	**360**	P	Pn	09 16 58.8	-0.9

MAN 24 09:28:45, 12°.56N×123°.60E, h10km, mb4.6, ML3.4, MS3.3, 2C, Luzon

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MMPH	**Masbate**	**0.21**	**172**	⇑*i*P	Pg	09 28 50.6	+1.3
MMPH				*i*S	Sg	09 28 54.6	+2.4
PVCP	**Virac**	**1.16**	**28**	*e*P	Pb	09 29 07.1	-0.1
PVCP				*e*S	Sn	09 29 23.6	+0.3
AUQP	**San Andres**	**1.17**	**310**	*e*P	Pg	09 29 08.3	+0.7
AUQP				*e*S	Sn	09 29 27.7	+4.2
OTRP	**Odiongan**	**1.55**	**263**	*e*P	Pn	09 29 12.9	+0.2
OTRP				*e*S	Sn	09 29 32.2	-0.7
BOAC	**Boac**	**1.93**	**298**	*e*P	Pb	09 29 19.7	-0.5
BOAC				*e*S	Sb	09 29 43.4	-0.9
PLP	**Palo**	**1.94**	**136**	⇑*e*P	Pn	09 29 18.5	+0.4
PLP				*e*S	Sn	09 29 43.6	+1.1
LLP	**Lapu-Lapu**	**2.26**	**171**	*e*P	Pn	09 29 23.5	+1.0
LLP				*i*S	Sg	09 29 60.0	+2.2
SJMP	**San Jose**	**2.42**	**268**	*e*P	Pn	09 29 25.9	+1.2
SJMP				*e*S	Sn	09 29 55.5	+1.1
ENPP	**El Nido**	**4.30**	**252**	*e*P	Pn	09 29 51.0	+0.5

*IDC **24** 09:41:07.7±0.7, 10°.64N×143°.09E, h0km, mb4.0/16, mb1 4.2/17, mb1mx4.1/34, mbtmp4.1/17, ML4.6/1, MS3.0/7, Ms1 3.0/7, ms1mx2.8/38, Error ellipse: s-maj=27.4km s-min=15.4km az=90.0*

*ISCJB **24** 09:41:10.5±0.4, 10°.65N±0°.04×143°.14E±0°.07, h33km, mb4.4/33, MS3.0/6, Error ellipse: s-maj=9.4km s-min=5.8km az=14.0*

*NEIC **24** 09:41:10.9±3.3, 10°.66N×143°.12E, h22km±24km, mb4.5/17, Error ellipse: s-maj=10.1km s-min=6.5km az=94.0*

ISC 24 09:41:12.9±0.5, 10°.70N±0°.07×143°.12E±0°.10, h35km, n61, σ1§29/54, mb4.4/33, MS3.0/6, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GUMO	**Guam**	**3.34**	**31**	Pn	**Pn**	**09 42 04.3**	**+1.6**
	62nm,0.3s,baz=194,slow=1.1,SNR=31						
GUMO				Sn	**Sn**	**09 42 39.7**	**-1.5**
	66nm,0.3s,baz=207,slow=23,SNR=9.0						
GUMO				LR	LR	09 43 11.8	
	comp=Z,73nm,20.8s,baz=214,slow=36						
GUMO	**Guam**	**3.34**	**31**	*e*Pn	**Pn**	**09 42 03.8**	**+1.1**
GUMO				*e*Sn	**Sn**	**09 42 39.7**	**-1.5**
GUMO				*e*Sn	Sn	09 42 43.5	+2.3
FAKI	**Fak Fak**	**17.32**	**219**	*e*Pn	**Pn**	**09 45 12.3**	**+0.2**
	64nm,1.3s						
PMG	**Port Moresby**	**20.37**	**168**	LR	LR	09 53 15.9	
	comp=Z,67nm,18.5s,baz=82,slow=36						
PMG	**Port Moresby**	**20.37**	**168**	*e*P	**P**	**09 45 47.4**	**+0.8**
	63nm,1.4s						
JOW	**Kunigami**	**21.30**	**321**	*e*P	**P**	**09 45 56.8**	**+0.1**
	53nm,1.4s						
SAUI	**Saumlaki**	**21.97**	**213**	*e*P	**P**	**09 46 00.8**	**-3.1**
	159nm,0.9s						
SZP	**Santa**	**23.00**	**290**	*e*P	**P**	**09 46 12.7**	**-2.1**
	545nm,1.6s						
H11S3	**WAKE ISLAND Hy**	**24.07**	**68**	T	T	10 11 15.2	
	baz=261						
H11S1	**WAKE ISLAND Hy**	**24.08**	**68**	T	T	10 11 48.5	
	baz=261						
H11S2	**WAKE ISLAND Hy**	**24.08**	**69**	T	T	10 11 25.1	
	baz=261						
KWAJ	**Kwajalein Atol**	**24.21**	**92**	*e*P	**P**	**09 46 26.1**	**-0.4**
	466nm,1.4s						
YULB	**Yu-li**	**24.34**	**304**	*e*P	**P**	**09 46 28.6**	**+1.0**
	78nm,1.9s						
COEN	**Coen**	**24.49**	**180**	*e*P	**P**	**09 46 28.3**	**-0.7**
	19nm,1.3s						
H11N1	**WAKE ISLAND Hy**	**24.60**	**66**	T	T	10 12 36.6	
	baz=244						
H11N2	**WAKE ISLAND Hy**	**24.61**	**66**	T	T	10 12 28.9	
	baz=244						
H11N3	**WAKE ISLAND Hy**	**24.62**	**66**	T	T	10 12 48.7	
	baz=244						
TPUB	**Ta-pu**	**24.85**	**303**	*e*P	**P**	**09 46 32.0**	**-0.2**
	179nm,1.9s						
MYLDM	**Lahad Datu**	**24.98**	**259**	*e*P	**P**	**09 46 34.5**	**+1.0**
	11nm,0.9s						
JNU	**Nakatsue**	**25.00**	**335**	P	**P**	**09 46 32.6**	**-0.9**
	3.8nm,0.7s,baz=28,slow=3.4,SNR=5.5						
JNU	**Nakatsue**	**25.00**	**335**	*e*P	**P**	**09 46 32.6**	**-0.9**
	6.0nm,0.7s						
MJAR	**Matsushiro Arr**	**26.11**	**351**	P	**P**	**09 46 43.2**	**-0.3**
	0.4nm,0.3s,baz=157,slow=11,SNR=4.9						
MJAR				LR	LR	09 55 57.3	
	comp=Z,23nm,18.7s,baz=100,slow=34						
MAJO	**Matsushiro**	**26.11**	**351**	*e*P	**P**	**09 46 41.1**	**-2.5**
	28nm,1.8s						
MJB9	**Matsu-Tunnel**	**26.12**	**351**	*e*P	**P**	**09 46 41.2**	**-2.4**
	7.2nm,1.8s						
MTN	**Manton Dam**	**26.24**	**207**	*e*P	**P**	**09 46 45.3**	**+0.4**
	18nm,1.4s						
KKM	**Kota Kinabalu**	**27.01**	**262**	*e*P	**P**	**09 46 51.5**	**-0.5**
	14nm,0.9s						
KSRS	**Korea Array**	**29.95**	**335**	P	**P**	**09 47 18.6**	**+0.8**
	0.3nm,0.3s,baz=156,slow=9.4,SNR=2.4						
KS15	**Wonju Array Si**	**29.96**	**335**	*e*P	**P**	**09 47 18.6**	**+0.8**
KSAR	**Wonju Array Be**	**29.96**	**335**	P	**P**	**09 47 18.6**	**+0.8**
WR1	**Warramunga Arr**	**31.65**	**196**	*e*P	**P**	**09 47 30.9**	**-2.0**
	5.3nm,1.0s						
WRA	**Warramunga Arr**	**31.65**	**196**	P	**P**	**09 47 30.9**	**-2.1**
	0.4nm,0.9s,baz=19,slow=9.1,SNR=2.8						
USRK	**Ussuriysk Ar.**	**34.74**	**346**	P	**P**	**09 48 00.2**	**+0.5**
	2.1nm,0.6s,baz=179,slow=9.2,SNR=6.5						
AS01	**Alice Springs**	**35.31**	**195**	*e*P	**P**	**09 48 08.8**	**+4.0**
AS31	**Alice Springs**	**35.32**	**195**	*e*P	**P**	**09 48 04.5**	**-0.4**
	4.1nm,1.9s						
ASAR	**Alice Springs**	**35.32**	**195**	P	**P**	**09 48 03.3**	**-1.7**
	0.3nm,1.0s,baz=16,slow=11,SNR=2.3						
STKA	**Stephens Creek**	**42.36**	**182**	P	**P**	**09 49 03.9**	**+0.2**
	0.3nm,0.3s,baz=328,slow=11,SNR=2.0						
STKA	**Stephens Creek**	**42.36**	**182**	*e*P	**P**	**09 49 03.4**	**-0.3**
	3.1nm,1.5s						
CM31	**Chiang Mai Arr**	**43.36**	**286**	*e*P	**P**	**09 49 12.9**	**+0.8**
CMAR	**Chiang Mai Arr**	**43.36**	**286**	P	**P**	**09 49 12.9**	**+0.8**
	1.1nm,0.4s,baz=89,slow=7.0,SNR=4.5						
PETK	**Petropavlovsk-**	**43.90**	**13**	P	**P**	**09 49 15.8**	**-0.1**
	6.1nm,1.0s,baz=212,slow=8.0,SNR=2.5						
PETK				LR	LR	10 03 51.5	
	comp=Z,32nm,21.9s,baz=174,slow=31						
PEA1	**Petropavlovsk-**	**43.90**	**13**	*e*P	**P**	**09 49 15.8**	**-0.1**
SONA0	**Songino Array**	**48.16**	**327**	*e*P	**P**	**09 49 49.7**	**-0.2**
	6.9nm,1.6s						
SONM	**Songino Array**	**48.16**	**327**	P	**P**	**09 49 49.7**	**-0.2**
	1.1nm,0.5s,baz=134,slow=6.2,SNR=6.0						
SONM				LR	LR	10 10 48.2	
	comp=Z,16nm,19.4s,baz=103,slow=37						
MA2	**Magadan**	**49.12**	**5**	LR	LR	10 10 41.6	
	comp=Z,15nm,18.7s,baz=156,slow=36						
MK32	**Makanchi Array**	**52.41**	**317**	*e*P	**P**	**09 51 33.7**	**+1.3**
MKAR	**Makanchi Array**	**52.41**	**317**	P	**P**	**09 51 33.7**	**+1.3**
	1.4nm,0.8s,baz=95,slow=9.0,SNR=7.7						
ZALV	**Zalesovo Beam**	**63.00**	**326**	P	**P**	**09 51 36.5**	**+0.4**
	1.7nm,0.4s,baz=96,slow=6.1,SNR=4.1						
ZAA1	**Zalesovo Array**	**63.00**	**326**	*e*P	**P**	**09 51 36.5**	**+0.4**
KURK	**Kurchatov**	**65.71**	**321**	*e*P	**P**	**09 51 54.5**	**+0.6**
	8.7nm,1.0s						
BRVK	**Borovoye**	**71.21**	**322**	*e*P	**P**	**09 52 28.5**	**+0.2**
	5.1nm,0.6s						
ILAR	**Eielson Array**	**71.90**	**25**	P	**P**	**09 52 33.0**	**+0.7**
	2.3nm,0.6s,baz=248,slow=5.9,SNR=42						
ILB	**Eielson Array**	**71.90**	**25**	*e*P	**P**	**09 52 32.9**	**+0.7**
GEYT	**Alibeck**	**79.60**	**307**	LR	LR	10 32 28.6	
	comp=Z,13nm,19.9s,baz=115,slow=39						
YKA	**Yellowknife Ar**	**86.20**	**27**	P	**P**	**09 53 49.4**	**-1.0**
	1.2nm,0.7s,baz=285,slow=5.3,SNR=2.9						
YKB5	**Yellowknife Ar**	**86.20**	**27**	*e*P	**P**	**09 53 49.4**	**-1.0**
ARCES	**ARCESS Array B**	**89.29**	**342**	P	**P**	**09 54 05.1**	**-0.1**
	2.4nm,0.8s,baz=22,slow=5.8,SNR=2.9						
FIA0	**FINESS Array S**	**93.04**	**335**	*e*P	**P**	**09 54 21.6**	**-1.0**
FINES	**FINESS Array B**	**93.04**	**335**	P	**P**	**09 54 21.6**	**-1.0**
	4.7nm,0.9s,baz=64,slow=3.2,SNR=6.4						
TOA1	**Torodi Ar. Sit**	**134.98**	**301**	*e*PKPdf	**PKPdf**	**10 00 30.8**	**+1.4**
TORD	**Torodi Ar. Bea**	**134.98**	**301**	PKP	**PKPdf**	**10 00 30.8**	**+1.4**
	0.4nm,0.8s,baz=48,slow=2.1,SNR=3.2						
LPAZ	**La Paz**	**149.13**	**104**	PKPbc	**PKPbc**	**10 01 00.4**	**+1.1**
	2.2nm,0.9s,baz=336,slow=2.9,SNR=8.4						

*KRNET **24** 09:43:29.3±0.1, 38°.31N×75°.58E, mb3.5*

*NNC **24** 09:43:29.8±7.0, 38°.43N×75°.07E, h293km±135km, mb2.1, mpv3.5, Error ellipse: s-maj=91.5km s-min=33.7km az=144.0*

ISC 24 09:43:27.6±3.2, 38°.1N±0°.2×75°.3E±0°.1, h10km, n9, σ2§39/18, 11C-7D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NRN	**Naryn**	**3.40**	**9**	⇑*e*P	**Pn**	**09 44 21.5**	**+0.5**
	baz=6.0						
NRN				⇑*i*S	**Sn**	**09 44 59.4**	**-2.1**
	baz=6.0						
KZA	**Kyzart**	**4.00**	**360**	⇑*i*P	**Pn**	**09 44 30.5**	**+1.2**
	baz=356						
KZA				⇑*i*S	**Sn**	**09 45 15.0**	**-1.4**
	baz=356						
ULHL	**Ulahol**	**4.23**	**10**	⇑*e*P	**Pn**	**09 44 32.1**	**-0.2**
	baz=7.0						
ULHL				⇑*e*S	**Sn**	**09 45 19.9**	**-1.9**
	baz=7.0						
KBK	**Karagaybulak**	**4.58**	**357**	⇓*e*P	**Pn**	**09 44 38.5**	**+1.4**
	baz=354						
KBK				⇓*i*S	**Sn**	**09 45 28.6**	**-1.9**
	baz=354						
AAK	**Ala-Archa**	**4.60**	**353**	⇑P	**Pn**	**09 44 38.2**	**+0.9**
	5.6nm,0.8s						
AAK				⇑S	**Sn**	**09 45 35.5**	**+4.7**
	6.9nm,1.1s						
TKM2	**Tokmak 2**	**4.84**	**3**	⇑P	**Pn**	**09 44 41.6**	**+0.8**
	4.8nm,0.5s						
TKM2				⇓S	**Sn**	**09 45 38.5**	**+1.4**
	2.6nm,0.7s						
MNAS	**Manas**	**4.89**	**335**	⇓P	**Pn**	**09 44 43.7**	**+2.3**
	6.4nm,0.5s						
MNAS				⇑S	**Sn**	**09 45 37.0**	**-1.1**
	5.5nm,0.7s						
DZET	**Dzherino**	**5.12**	**280**	⇑P	**Pn**	**09 44 42.3**	**-2.3**
	3.3nm,0.4s						
DZET				⇓S	**Sn**	**09 45 47.9**	**+4.1**
	28nm,0.8s						
KK31	**Karatay Array**	**6.20**	**326**	⇓P	**Pn**	**09 44 58.3**	**-0.9**
	0.9nm,0.3s,baz=133,slow=12,SNR=33						
KK31				⇓S	**Sn**	**09 46 06.4**	**-3.6**
	3.3nm,0.8s,baz=133,slow=24,SNR=5.0						

*CASC **24** 09:57:55.3±2.5, 14°.17N×90°.33W, h19km±14km, ML3.3, mb4.3(NEIC)*

*ISCJB **24** 09:57:57.7±0.6, 14°.10N±0°.06×90°.21W±0°.04, h32km±5km, mb4.2/16, MS3.3/8, Error ellipse: s-maj=10.8km s-min=4.2km az=33.4*

*NEIC **24** 09:58:00.8±1.1, 14°.24N×90°.12W, h42km±9km, mb4.3/17, MD3.8(SNET), Error ellipse: s-maj=12.1km s-min=8.6km az=211.0*

NEIC Felt [I] at Ahuachapan, El Salvador.

*IDC **24** 09:58:00.2±0.7, 14°.27N×90°.20W, h37km±5km, mb3.5/6, mb1 3.9/7, mb1mx3.6/49, mbtmp3.8/7, ML3.9/1, MS3.3/10, Ms1 3.3/10, ms1mx3.1/20, Error ellipse: s-maj=41.6km s-min=16.1km az=66.0*

ISC 24 09:57:58.2±0.5, 14°.17N±0°.06×90°.24W±0°.04, h25km±3km, h25km:pP-P, n174, σ1§56/168, mb4.1/20, MS3.4/8, Guatemala

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IXG	**Ixpaco**	**0.21**	**272**	*e*P	**Pb**	**09 57 59.4**	**-4.7**
CUS1	**Cusmapa**	**0.38**	**131**	*e*P	**Pb**	**09 58 04.1**	**-2.4**
RBDL	**Robledal**	**0.54**	**96**	*e*P	**Pb**	**09 58 06.6**	**-2.7**
RTR	**El Retiro**	**0.64**	**115**	*e*P	**Pb**	**09 58 08.9**	**-2.0**
MONT	**Ecomontaæa**	**0.65**	**118**	*e*P	**Pb**	**09 58 09.7**	**-1.4**
SBLS	**San Blas**	**0.68**	**118**	*e*P	**Pb**	**09 58 10.6**	**-1.1**
SBLS				AML	AML	09 58 25.8	
	comp=Z,1µm,0.6s						
SNJE	**San Jose**	**0.69**	**116**	*e*P	**Pb**	**09 58 09.8**	**-1.9**
MTO3	**Montecristo**	**0.89**	**75**	*e*P	**Pb**	**09 58 12.3**	**-2.8**
MTO3				*e*S	**Sb**	**09 58 25.9**	**-0.7**
MTO3				AML	AML	09 58 36.2	
	comp=Z,2µm,0.5s						
BOQS	**Boqueron**	**1.03**	**115**	*e*P	**Pn**	**09 58 15.8**	**-1.5**
BOQS				*e*S	**Sb**	**09 58 30.8**	**+0.1**
MRL	**Marmol**	**1.04**	**31**	*e*P	**Pn**	**09 58 15.6**	**-1.8**
SNET	**Serv Nac Est T**	**1.09**	**116**	*e*Pn	**Pn**	**09 58 16.8**	**-1.2**
SNET				*e*S	**Sn**	**09 58 32.1**	**-0.3**
OPAM	**San Salvador**	**1.10**	**114**	*i*P	**Pn**	**09 58 17.5**	**-0.8**
LFU	**La Fuente**	**1.17**	**111**	*e*P	**Pn**	**09 58 18.1**	**-1.0**
LFRS	**El Faro**	**1.27**	**115**	*e*P	**Pn**	**09 58 20.0**	**-0.5**
CAHU	**Cacacuatique**	**2.01**	**101**	*e*P	**Pn**	**09 58 27.8**	**-3.0**
VSM	**San Miguel**	**2.05**	**111**	*e*P	**Pn**	**09 58 28.6**	**-2.8**
CCIG	**Comitan**	**2.79**	**319**	*e*Pn	**Pn**	**09 58 42.7**	**+1.3**
TGUH	**Tegucigalpa,Un**	**2.88**	**92**	*e*Pn	**Pn**	**09 58 42.0**	**-0.6**
TGUH	**Tegucigalpa,Un**	**2.88**	**92**	*e*P	**Pn**	**09 58 41.6**	**-1.0**
COPN	**Copaltepe**	**4.07**	**119**	*e*P	**Pn**	**09 59 00.1**	**+1.2**
SCIG	**Sabancuy**	**4.86**	**349**	*e*Pn	**Pn**	**09 59 08.3**	**-1.5**
TUIG	**Tuzandepetl**	**5.56**	**314**	*e*Pn	**Pn**	**09 59 22.8**	**+3.4**
UNM	**Universidad Na**	**9.98**	**302**	*e*Pn	**Pn**	**10 00 23.0**	**+2.6**
BCIP	**Isla Barro Col**	**11.34**	**115**	*e*Pn	Pn	10 00 32.4	-6.4
MOIG	**Morelia**	**11.82**	**299**	*e*Pn	**Pn**	**10 00 49.0**	**+3.5**
LNIG	**Linares**	**13.76**	**322**	*e*Pn	**Pn**	**10 01 13.9**	**+2.0**
934A	**Benavides**	**15.43**	**331**	P	**P**	**10 01 39.3**	**+0.5**
	baz=148						
933A	**Laredo**	**15.81**	**329**	P	**P**	**10 01 42.8**	**-0.1**
	baz=146						
834A	**Tilden**	**15.89**	**332**	P	**P**	**10 01 44.6**	**+0.7**
	baz=149,SNR=6.0						
736A	**Circle Diamond**	**16.02**	**338**	P	**P**	**10 01 47.0**	**+1.7**
	baz=155						
636A	**Smothers Creek**	**16.49**	**339**	P	**P**	**10 01 51.8**	**+1.3**
	baz=156						
446A	**Poplarville**	**16.57**	**3**	P	**P**	**10 01 54.7**	**+3.4**
	baz=183						
535A	**Dale**	**17.18**	**338**	P	**P**	**10 01 59.9**	**+1.8**
	baz=155						
344A	**Westbrook Farm**	**17.21**	**359**	P	**P**	**10 02 01.7**	**+3.3**
	baz=178						
342A	**Flagon Creek P**	**17.23**	**354**	P	**P**	**10 02 01.5**	**+2.8**
	baz=173						
341A	**Kurthwood**	**17.30**	**352**	P	**P**	**10 02 02.1**	**+2.7**
	baz=170						
633A	**Saathoff Ranch**	**17.32**	**333**	P	**P**	**10 02 00.7**	**+1.0**
	baz=149,SNR=8.5						
340A	**Bronson**	**17.49**	**350**	P	**P**	**10 02 03.9**	**+2.4**
	baz=168						
339A	**Huntington**	**17.54**	**348**	P	**P**	**10 02 03.9**	**+1.9**
	baz=166						
533A	**Kerrville**	**17.79**	**334**	P	**P**	**10 02 06.8**	**+1.9**
	baz=151						
242A	**Grayson**	**17.90**	**355**	P	**P**	**10 02 08.5**	**+2.5**
	baz=174						
434A	**Burnet**	**18.14**	**337**	P	**P**	**10 02 09.7**	**+0.9**
	baz=154						
ROSC	**El Rosal**	**18.22**	**119**	LR	LR	10 10 14.1	
	comp=Z,50nm,18.7s,baz=258,slow=40						
335A	**Moody**	**18.27**	**340**	P	**P**	**10 02 12.1**	**+2.0**
	baz=157						
433A	**Art**	**18.41**	**335**	P	**Pn**	**10 02 13.1**	**+1.3**
	baz=152						
237A	**Washetta, Mont**	**18.47**	**345**	P	**Pn**	**10 02 15.1**	**+2.6**
	baz=162						
JCT	**Junction City**	**18.47**	**333**	*e*P	**Pn**	**10 02 14.8**	**+2.2**
	comp=Z,11nm,1.0s						
334A	**Lometa**	**18.59**	**338**	P	**Pn**	**10 02 16.0**	**+1.9**
	baz=155,SNR=6.4						
333A	**Richland Sprin**	**18.87**	**336**	P	**Pn**	**10 02 17.9**	**+0.4**
	baz=153						
WHTX	**Lake Witney,**	**18.93**	**341**	*e*P	**Pn**	**10 02 17.8**	**-0.4**
	comp=Z,45nm,1.8s						
138A	**Matatall Enter**	**18.93**	**347**	P	**Pn**	**10 02 21.0**	**+2.9**
	baz

comp=Z,4.3nm,0.9s
LPIG La Paz 21.35 301 LR LR 10 10 55.0
comp=Z,136nm,19.0s,baz=138,slow=36
W37B Quinton 21.40 348 P **P 10 02 47.1 +2.9**
baz=166,SNR=11
V40A Witts Springs 21.67 354 P **P 10 02 48.4 +1.3**
baz=173
W35A Tecumseh 21.73 345 P **P 10 02 49.4 +1.5**
baz=162,SNR=17
V39A Pettigrew 21.80 353 P **P 10 02 50.2 +1.6**
baz=171
CPCT Cooper Cave 21.81 13 *e*P **P 10 02 50.1 +1.5**
comp=Z,25nm,1.4s
WMOK Wichita Mounta 21.89 341 P **P 10 02 49.3 -0.2**
baz=157,SNR=5.4
WMOK Wichita Mounta 21.89 341 *e*P **P 10 02 47.1 -2.4**
comp=Z,8.2nm,0.9s
V38A Canehill 21.93 351 P **P 10 02 51.1 +1.2**
baz=169
WVT Waverly 21.98 5 *e*P **P 10 02 52.2 +1.8**
comp=Z,4.9nm,0.8s
V37A Hulbert 22.07 349 P **P 10 02 52.5 +1.2**
baz=167,SNR=14
U42A Revenden 22.11 358 P **P 10 02 52.0 +0.2**
baz=177
U41A Viola 22.14 356 P **P 10 02 52.3 +0.2**
baz=175
TKL Tuckaleechee C 22.18 14 P **P 10 02 52.3 -0.2**
comp=Z,3.9nm,1.1s,baz=220,slow=18,SNR=2.6
TKL LR LR 10 12 11.0
comp=Z,70nm,18.3s,baz=176,slow=39
TKL Tuckaleechee C 22.18 14 *e*P **P 10 02 52.3 -0.2**
comp=Z,12nm,1.2s
TUL1 Leonard 22.22 348 P **P 10 02 54.1 +1.1**
baz=165
TUL1 Leonard 22.22 348 *e*P **P 10 02 53.8 +0.8**
comp=Z,16nm,0.9s
U40A Yellville 22.22 354 P **P 10 02 54.3 +1.3**
baz=173
MNTX Cornudas Mount 22.29 324 P **P 10 02 51.7 -2.2**
baz=138
MNTX Cornudas Mount 22.29 324 *e*P **P 10 02 54.3 +0.4**
comp=Z,4.6nm,0.9s
V35A Meyer Ranch, C 22.31 346 P **P 10 02 54.5 +0.6**
baz=163
U39A Green Forest 22.31 353 P **P 10 02 54.9 +0.9**
baz=171
U38A Gravette 22.49 351 P **P 10 02 56.7 +0.8**
baz=169
PBMO Poplar Bluff 22.52 360 *e*P **P 10 02 57.0 +0.8**
comp=Z,12nm,0.8s
MPR Mayaguez 22.54 77 *e*P **P 10 02 55.6 -1.0**
comp=Z,4μm,1.7s
U37A Salina 22.57 350 P **P 10 02 57.0 +0.2**
baz=167,SNR=7.0
T41A Mountain View 22.82 357 P **P 10 02 59.8 +0.4**
baz=176
T43A Greenville 22.82 360 P **P 10 02 59.6 +0.2**
baz=180
T44A Benton 22.83 1 P **P 10 03 00.4 +0.9**
baz=181
U35A Pawnee 22.86 346 P **P 10 02 59.9 0.0**
baz=163
T39A Clever 22.93 354 P **P 10 03 01.3 +0.7**
baz=172
T40A Mansfield 22.98 355 P **P 10 03 01.2 +0.1**
baz=174
T38A Diamond 23.06 352 P **P 10 03 01.9 0.0**
baz=170
AMTX Amarillo 23.07 335 P **P 10 03 00.2 -1.8**
baz=150
T37A Chenevville 18 23.24 350 P **P 10 03 03.8 +0.2**
baz=168,SNR=12
S43A Fulton Ridge, 23.31 0 P **P 10 03 04.4 0.0**
baz=180
T35A Sooner Cattle 23.34 347 P **P 10 03 04.1 -0.5**
baz=164
T36A Boggs Farm, Ca 23.35 349 P **P 10 03 04.1 -0.6**
baz=166
S41A Jillco Farms, 23.36 357 P **P 10 03 04.7 -0.2**
baz=176
S40A Lebanon 23.42 355 P **P 10 03 05.6 +0.1**
baz=174
S44A Carbondale 23.45 2 P **P 10 03 06.1 +0.4**
baz=182,SNR=11
U32A Winter Ranch, 23.47 342 P **P 10 03 05.1 -0.9**
baz=158
S39A Bolivar 23.59 354 P **P 10 03 06.9 -0.2**
baz=172
T34A McCluskey Farm 23.59 346 P **P 10 03 06.5 -0.6**
baz=163
S38A Stockton 23.59 353 P **P 10 03 06.7 -0.5**
baz=171
S36A Lake Cedric, C 23.94 350 P **P 10 03 10.2 -0.2**
baz=167,SNR=5.5
R43A Red Bud 24.02 1 P **P 10 03 10.9 -0.2**
baz=180
S35A Otter Creek Ra 24.04 348 P **P 10 03 10.9 -0.5**
baz=165
R41A Rosebud 24.06 358 P **P 10 03 10.9 -0.7**
baz=177,SNR=11
R40A Maddies Statio 24.09 356 P **P 10 03 11.3 -0.6**
baz=175
R38A Fenwick Farm, 24.14 353 P **P 10 03 12.1 -0.2**
baz=171
R39A Chumby, Stover 24.18 355 P **P 10 03 12.0 -0.6**
baz=173
R34A Isabella, Hill 24.83 347 P **P 10 03 18.0 -0.6**
baz=163
P42A Winchester 25.32 360 P **P 10 03 22.6 -0.4**
baz=180
P43A Skaggs, Pawnee 25.38 1 P **P 10 03 23.2 -0.3**
baz=181
O40A La Belle 25.89 357 P **P 10 03 27.6 -0.7**
baz=176
CBKS Cedar Bluff 25.95 343 *e*P **P 10 03 28.5 -0.3**
comp=Z,37nm,1.2s
O39A Kirksville 26.07 356 P **P 10 03 29.5 -0.3**
baz=175
M41A Milan 27.11 360 P **P 10 03 39.4 +0.2**
baz=179
M40A Post Highland 27.16 358 P **P 10 03 39.6 0.0**
baz=177
L40A Anamosa 27.81 358 P **P 10 03 44.7 -0.8**
baz=178
L41A Preston 27.81 360 P **P 10 03 45.3 -0.1**
baz=179
PFO Pinyon Flats O 30.66 314 LR LR 10 18 06.1
comp=Z,108nm,19.5s,baz=144,slow=39
PD31 Pinedale Array 33.01 333 *e*P **P 10 04 31.3 -0.4**
PDAR Pinedale Array 33.01 333 P **P 10 04 31.3 -0.4**
comp=Z,0.1nm,0.5s,baz=179,slow=7.2,SNR=2.3
LPAZ La Paz 37.32 143 P **P 10 05 09.9 +0.4**
comp=Z,0.6nm,0.7s,baz=324,slow=9.9,SNR=2.7
LPAZ pP **sP 10 05 21.0 +1.0**
comp=Z,0.9nm,0.7s,baz=324,slow=9.5,SNR=4.4
SCHQ Schefferville 44.49 19 LR LR 10 25 41.8
comp=Z,44nm,19.0s,baz=6.5,slow=37
YKA Yellowknife Ar 51.27 346 P **P 10 06 58.7 -1.1**
comp=Z,0.9nm,0.7s,baz=150,slow=7.7,SNR=3.1
YKA pP **sP 10 07 10.4 0.0**
comp=Z,2.5nm,0.8s,baz=146,slow=7.6,SNR=6.0
YKB5 Yellowknife Ar 51.27 346 *e*P **P 10 06 58.7 -1.1**
YKB5 *e*pP **sP 10 07 10.4 0.0**
DLBC Dease Lake 53.21 335 P **P 10 07 12.7 -1.8**
comp=Z,4.7nm,1.0s,baz=163,slow=11,SNR=2.4
DLBC pP **sP 10 07 26.1 +1.1**
comp=Z,2.5nm,0.5s,baz=139,slow=9.4,SNR=4.4
DLBC Dease Lake 53.21 335 *e*P **P 10 07 12.7 -1.8**
comp=Z,17nm,1.3s
DLBC *e*pP **sP 10 07 26.1 +1.1**
INK Inuvik 60.77 343 pP pP 10 08 18.1 +2.6
comp=Z,4.2nm,0.9s,baz=88,slow=5.0,SNR=3.6
ILAR Eielson Array 63.37 336 P **P 10 08 24.0 -1.2**
comp=Z,1.3nm,1.0s,baz=126,slow=3.5,SNR=7.8
ILAR pP **sP 10 08 35.1 -0.8**
comp=Z,1.7nm,1.0s,baz=115,slow=5.3,SNR=8.9
ILAR PP **PP 10 10 42.5 -2.1**
comp=Z,0.5nm,1.0s,baz=113,slow=6.9,SNR=3.6
ILB Eielson Array 63.37 336 *e*P **P 10 08 24.0 -1.2**
ILB *e*pP **sP 10 08 35.1 -0.8**
ILB *e*PP **PP 10 10 42.5 -2.1**
RAR Rarotonga 76.76 244 LR LR 10 33 16.1
comp=Z,28nm,20.4s,baz=268,slow=28
ESDC Sonseca Array 78.27 52 pP pP 10 10 06.3 +1.9
comp=Z,0.3nm,0.5s,baz=292,slow=6.8,SNR=2.1
NOA NORSAR Array B 83.18 29 pP **pP 10 10 32.5 +2.3**
comp=Z,1.2nm,0.9s,baz=282,slow=8.5,SNR=3.5
NOA LR LR 10 45 42.4
comp=Z,7.9nm,20.8s,baz=330,slow=34
DBIC Dimbokro 83.94 85 LR LR 10 45 59.0
comp=Z,9.2nm,19.2s,baz=148,slow=34
GERES GERESS Array B 88.39 40 pP pP 10 10 58.2 +1.8
comp=Z,0.4nm,0.6s,baz=298,slow=2.1,SNR=2.7
TORD Torodi Ar. Bea 88.68 77 LR LR 10 50 15.0
comp=Z,15nm,18.6s,baz=205,slow=35
WR1 Warramunga Arr 137.09 256 *e*PKPdf **PKPdf 10 17 20.4 +0.3**
WR1 *ep*PKPdf **sPKPdf 10 17 31.2 +0.1**
WRA Warramunga Arr 137.09 256 PKP **PKPdf 10 17 20.4 +0.3**
comp=Z,1.3nm,1.1s,baz=90,slow=2.6,SNR=7.1
WRA pPKP **sPKPdf 10 17 31.3 +0.1**
comp=Z,1.5nm,0.9s,baz=84,slow=1.9,SNR=7.0
AS31 Alice Springs 137.33 250 *e*PKPdf **PKPdf 10 17 21.7 +1.3**
AS31 *ep*PKPdf **sPKPdf 10 17 32.8 +1.2**
ASAR Alice Springs 137.33 250 PKP **PKPdf 10 17 21.7 +1.3**
comp=Z,0.2nm,0.4s,baz=114,slow=4.5,SNR=3.3
ASAR pPKP **sPKPdf 10 17 32.8 +1.2**
comp=Z,0.3nm,0.6s,baz=136,slow=2.0,SNR=4.6
FITZ Fitzroy Crossi 145.35 259 PKPbc **PKPbc 10 17 33.9 -0.9**
comp=Z,2.2nm,1.0s,baz=82,slow=6.8,SNR=3.2
FITZ pPKPbc **sPKPdf 10 17 45.7 -0.3**
comp=Z,2.5nm,0.7s,baz=164,slow=1.8,SNR=4.7
CM31 Chiang Mai Arr 146.34 344 *e*PKPdf **PKPab 10 17 38.8 +0.2**
CM31 *e* 10 17 49.0
CMAR Chiang Mai Arr 146.34 344 PKPbc **PKPab 10 17 38.8 +0.2**
comp=Z,0.6nm,0.3s,baz=338,slow=2.6,SNR=3.0
CMAR pPKPbc sPKPab 10 17 49.0 -0.6
comp=Z,1.2nm,0.4s,baz=337,slow=2.9,SNR=2.6

*IDC **24** 10:03:16.7±1.0,5°.77S×151°.40E,h0km,mb4.1/7, mb1 4.3/7,mb1mx3.9/38,mbtmp4.1/7,MS3.1/2,Ms1 3.1/2, ms1mx2.6/31,Error ellipse: s-maj=49.8km s-min=23.0km az=122.0*
*ISCJB **24** 10:03:20.5±0.7,5°.75S±0°.08×151°.24E±0°.07,h35km, mb4.2/12,MS3.1/1,Error ellipse: s-maj=11.5km s-min=9.5km az=157.8*
*NEIC **24** 10:03:23.8±0.7,5°.75S×151°.21E,h48km±7km,mb4.2/8, Error ellipse: s-maj=8.4km s-min=6.8km az=127.0*
ISC 24 10:03:22.7±0.7,5°.72S±0°.07×151°.20E±0°.08,h35km,n27, σ1♀33/31,mb4.2/12,New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
RABL	**Rabaul**	**1.80**	**32**		*e*Pn		**Pn**	**10 03 53.7**	**+2.4**
MANU	**Manus Island**	**5.29**	**314**		*e*Pn		**Pn**	**10 04 39.8**	**+0.5**
PMG	**Port Moresby**	**5.43**	**227**		Pn		**Pn**	**10 04 43.4**	**+2.2**
	7.0nm,0.3s,baz=51,slow=5.9,SNR=16								
PMG					Sn		**Sn**	**10 05 42.2**	**-0.3**
	7.5nm,0.3s,baz=349,slow=13,SNR=9.3								
PMG					LR		LR	10 06 44.1	
	comp=Z,119nm,20.3s,baz=38,slow=37								
PMG	**Port Moresby**	**5.43**	**227**		*e*Pn		**Pn**	**10 04 42.2**	**+1.1**
PMG					*e*Sn		**Sn**	**10 05 43.3**	**+0.8**
HNR	**Honiara**	**9.42**	**114**		*e*Pn		**Pn**	**10 05 36.5**	**+0.5**
CTA	**Charters Tower**	**15.07**	**198**		Pn		**P**	**10 06 57.2**	**-0.8**
	0.4nm,0.3s,baz=26,slow=14,SNR=5.6								
FAKI	**Fak Fak**	**19.10**	**278**		*e*P		**P**	**10 07 43.5**	**+0.8**
	68nm,1.3s								
EIDS	**Eidsvold**	**19.54**	**180**		*e*P		**P**	**10 07 47.3**	**0.0**
	29nm,2.0s								
WRAB	**Tennant Creek**	**21.64**	**228**		*e*P		**P**	**10 08 07.0**	**-3.1**
	32nm,1.7s								
WB2	**Warramunga Arr**	**21.64**	**228**		*e*P		**P**	**10 08 09.1**	**-1.1**
	5.2nm,0.8s								
WR1	**Warramunga Arr**	**21.65**	**228**		*e*P		**P**	**10 08 09.9**	**-0.4**
	9.5nm,1.1s								
WR1					*e*S		**S**	**10 12 11.9**	**+3.6**
WRA	**Warramunga Arr**	**21.65**	**228**		P		**P**	**10 08 09.9**	**-0.4**
	4.0nm,0.5s,baz=53,slow=11,SNR=88								
WRA					PcP		**PcP**	**10 12 11.9**	**+0.8**
	0.7nm,0.7s,baz=48,slow=1.8,SNR=6.0								
AS01	**Alice Springs**	**24.38**	**221**		*e*P		**P**	**10 08 37.5**	**-0.3**
AS31	**Alice Springs**	**24.41**	**221**		*e*P		**P**	**10 08 38.2**	**+0.1**
	3.3nm,0.4s								
ASAR	**Alice Springs**	**24.41**	**221**		P		**P**	**10 08 37.9**	**-0.2**
	5.7nm,0.7s,baz=58,slow=8.8,SNR=97								
ASAR					LR		LR	10 18 25.7	
	comp=Z,55nm,18.3s,baz=15,slow=37								
LHI	**Lord Howe Isla**	**26.70**	**165**		*e*P		**P**	**10 08 57.7**	**-1.0**
	134nm,1.4s								
STKA	**Stephens Creek**	**27.53**	**198**		P		**P**	**10 09 04.7**	**-1.5**
	2.3nm,0.8s,baz=25,slow=13,SNR=4.7								
STKA	**Stephens Creek**	**27.53**	**198**		*e*P		**P**	**10 09 05.8**	**-0.4**
	3.1nm,1.7s								
FITZ	**Fitzroy Crossi**	**27.83**	**242**		P		**P**	**10 09 09.1**	**+0.1**
	7.3nm,0.6s,baz=65,slow=6.7,SNR=42								
VNDA	**Vanda**	**71.98**	**178**		P		**P**	**10 14 41.8**	**-0.5**
	0.4nm,0.7s,baz=343,slow=8.2,SNR=3.4								
ILAR	**Eielson Array**	**83.61**	**22**		P		**P**	**10 15 45.5**	**-1.7**
	0.5nm,0.6s,baz=261,slow=5.1,SNR=9.0								
ILB	**Eielson Array**	**83.61**	**22**		*e*P		**P**	**10 15 45.5**	**-1.7**
MAW	**Mawson**	**84.11**	**203**		P		**P**	**10 15 49.5**	**-0.2**
	1.2nm,0.6s,baz=62,slow=9.6,SNR=4.1								
MAW	**Mawson**	**84.11**	**203**		*e*P		**P**	**10 15 49.5**	**-0.2**
	3.8nm,1.8s								
GERES	**GERESS Array B**	**123.99**	**327**		PKP		**PKPdf**	**10 22 18.1**	**+0.5**
	0.7nm,0.5s,baz=96,slow=1.0,SNR=6.6								
TORD	**Torodi Ar. Bea**	**149.06**	**286**		PKPbc		**PKPbc**	**10 23 08.4**	**+0.1**
	1.5nm,0.6s,baz=80,slow=3.0,SNR=18								
TOA1	**Torodi Ar. Sit**	**149.06**	**286**		*e*PKPbc		**PKPbc**	**10 23 08.4**	**+0.1**

IDC 24 10:14:37.5±2.3,24°.60N×144°.37E,h0km,mb3.6/4, mb1 3.8/4,mb1mx3.4/29,mbtmp3.6/4,Error ellipse: s-maj=243.4km s-min=27.4km az=109.0,Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**45.34**	**193**		P		P	10 22 57.2	-0.3
	1.1nm,0.5s,baz=17,slow=8.5,SNR=21								
ASAR	**Alice Springs**	**49.04**	**193**		P		P	10 23 25.8	-0.7
	0.3nm,0.7s,baz=17,slow=11,SNR=8.3								
STKA	**Stephens Creek**	**56.22**	**183**		P		P	10 24 20.4	+1.0
	0.7nm,0.6s,baz=14,slow=4.2,SNR=1.8								
ILAR	**Eielson Array**	**58.97**	**28**		P		P	10 24 38.5	-0.1
	0.2nm,0.6s,baz=279,slow=9.5,SNR=4.7								

*ATH **24** 10:27:35.8,40°.55N×21°.33E,h25km±1km,ML2.2/7,Error ellipse: s-maj=2.4km s-min=1.4km az=287.0*
*CSEM **24** 10:27:36.7±0.2,40°.53N×21°.42E,h10km,ML2.2,Error ellipse: s-maj=4.9km s-min=3.0km az=67.0*
*SKO **24** 10:27:38.7,40°.60N×21°.39E,h10km,M1.6,ML2.0*
THE 24 10:27:36.8,40°.54N×21°.38E,h17km±1km,ML2.4/4,1C, Error ellipse: s-maj=1.1km s-min=0.5km az=312.0, Greece

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
FNA	**Florina**	**0.24**	**359**		P		Pg	10 27 42.3	-0.1
FNA					S		Sg	10 27 46.4	+0.1
FNA	**Florina**	**0.24**	**359**		P		Pb	10 27 42.7	-0.1
FNA					S		Sg	10 27 46.4	+0.1
FNA	**Florina**	**0.24**	**359**		P		Pb	10 27 42.7	-0.1
FNA					S		Sg	10 27 46.1	-0.2
FNA					AML		AML	10 27 46.8	
	comp=E,2471μm,0.2s								
FNA					AML		AML	10 27 46.8	
	comp=N,2890μm,0.2s								
KZN	**Kozani**	**0.38**	**128**		P		Pg	10 27 44.5	-0.1
KZN					S		Sb	10 27 50.6	0.0
KZN	**Kozani**	**0.38**	**128**		P		Pg	10 27 44.1	-0.5
KZN					S		Sg	10 27 49.2	-0.8
KZN	**Kozani**	**0.38**	**128**		P		Pg	10 27 44.0	-0.6
KZN					S		Sg	10 27 49.1	-0.8
KZN					AML		AML	10 27 51.9	
	comp=E,1219μm,0.3s								
KZN					AML		AML	10 27 52.4	
	comp=N,1107μm,0.2s								
PENT	**Pentalofos**	**0.39**	**209**		P		Pg	10 27 44.1	-0.8
PENT					S		Sb	10 27 51.3	+0.2
PENT	**Pentalofos**	**0.39**	**209**		P		Pg	10 27 44.1	-0.8
PENT					S		Sg	10 27 50.7	+0.3
PENT	**Pentalofos**	**0.39**	**209**		P		Pg	10 27 44.0	-0.9
PENT					S		Sg	10 27 50.7	+0.3
PENT					AML		AML	10 27 53.4	
	comp=E,697μm,0.4s								
PENT					AML		AML	10 27 53.5	
	comp=N,442μm,0.2s								
BIA	**Bitola**	**0.48**	**355**		P		Pg	10 27 46.6	+0.1
BIA					S		Sg	10 27 53.3	+0.2
BIA	**Bitola**	**0.48**	**355**	⇑	*i* Pg		Pg	10 27 46.7	+0.1
BIA					*i* Sg		Sb	10 27 54.4	+0.7
BIA					*e*Lg		Lg	10 27 55.1	
	comp=E,108nm,0.2s								
BIA					*e*Lg		Lg	10 27 55.2	
	comp=N,152nm,0.3s								
BIA	**Bitola**	**0.48**	**355**		P		Pg	10 27 46.6	+0.1
BIA					S		Sg	10 27 53.3	+0.2
BIA					*i* Sg		Sb	10 27 54.3	+0.7
BIA					*e*Lg		Lg	10 27 55.1	
	comp=N,152nm,0.3s								
KPRO	**Kipourio**	**0.58**	**182**		P		Pg	10 27 47.9	-0.5
KPRO					S		Sb	10 27 57.0	+0.4
KPRO	**Kipourio**	**0.58**	**182**		P		Pg	10 27 48.2	-0.2
KPRO					S		Sg	10 27 56.4	+0.2
KPRO					AML		AML	10 28 01.4	
	comp=E,356μm,0.4s								
KPRO					AML		AML	10 28 03.2	
	comp=N,317μm,0.6s								
OHR	**Ohrid**	**0.72**	**322**		*i* Pg		Pb	10 27 50.4	-0.5
OHR					*i* Sg		Sn	10 28 01.9	-1.1
OHR					*e*Lg		Lg	10 28 02.3	
	comp=N,49nm,0.5s								
OHR					*e*Lg		Lg	10 28 02.5	
	comp=E,50nm,0.4s								
OHR	**Ohrid**	**0.72**	**322**		*i* Pg		Pb	10 27 50.4	-0.6
OHR					*i* Sg		Sn	10 28 01.8	-1.2
OHR					*e*Lg		Lg	10 28 02.5	
	comp=E,50nm,0.4s								
GRG	**Griva**	**0.88**	**61**		P		Pb	10 27 53.2	-0.4
GRG	**Griva**	**0.88**	**61**		P		Pb	10 27 53.2	-0.4
GRG	**Griva**	**0.88**	**61**		P		Pn	10 27 54.2	-0.2
LIT	**Litokhoron**	**0.95**	**117**		P		Pb	10 27 54.3	-0.5
LIT	**Litokhoron**	**0.95**	**117**		P		Pb	10 27 54.3	-0.5
LIT					S		Sn	10 28 10.5	+1.9
LIT					AML		AML	10 28 13.7	
	comp=E,210μm,0.3s								
LIT					AML		AML	10 28 14.3	
	comp=N,225μm,0.4s								
THL	**Klokotos Trika**	**1.09**	**153**		P		Pb	10 27 56.4	-0.7
THL	**Klokotos Trika**	**1.09**	**153**		P		Pb	10 27 56.4	-0.7
THL					S		Sg	10 28 13.3	+1.2
THL	**Klokotos Trika**	**1.09**	**153**		P		Pb	10 27 55.6	-1.6
THL					S		Sg	10 28 13.2	+1.1
THL					AML		AML	10 28 15.7	
	comp=E,115μm,0.4s								
THL					AML		AML	10 28 17.1	
	comp=N,134μm,0.4s								
HORT	**Hortiatis**	**1.31**	**87**		P		Pn	10 27 59.9	-0.4
HORT	**Hortiatis**	**1.31**	**87**		P		Pn	10 27 59.9	-0.4
AGG	**Agios Georgios**	**1.68**	**154**		P		Pb	10 28 06.7	-0.6
AGG	**Agios Georgios**	**1.68**	**154**		P		Pb	10 28 06.7	-0.6
AGG					S		Sg	10 28 29.7	-1.3
AGG					AML		AML	10 28 36.9	
	comp=E,114μm,0.2s								
AGG					AML		AML	10 28 41.6	
	comp=N,130μm,0.4s								

*CSEM **24** 10:28:08.4,37°.82N×20°.88E,h24km,ML1.6/5*
ATH 24 10:28:08.3,37°.82N×20°.88E,h24km±5km,ML1.6/5,Error ellipse: s-maj=5.4km s-min=1.5km az=336.0,Ionian Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
VTN	**Vitineika**	**0.26**	**69**		P		Pb	10 28 14.6	-0.1
VTN	**Vitineika**	**0.26**	**69**		P		Pb	10 28 14.6	-0.1
KFL	**Anninata**	**0.30**	**346**		P		Pb	10 28 15.6	+0.3
KFL	**Anninata**	**0.30**	**346**		P		Pb	10 28 15.5	+0.2
KFL					S		Sb	10 28 20.6	+0.6
KFL	**Anninata**	**0.30**	**346**		P		Pb	10 28 15.5	+0.2
KFL					S		Sb	10 28 20.6	+0.6
VLS	**Valsamata**	**0.42**	**327**		P		Pb	10 28 17.1	-0.2
VLS	**Valsamata**	**0.42**	**327**		P		Pb	10 28 17.1	-0.1
RLS	**Riolos of Patr**	**0.52**	**63**		P		Pb	10 28 17.6	-1.3
RLS					S		Sb	10 28 26.5	+0.5
RLS	**Riolos of Patr**	**0.52**	**63**		P		Pb	10 28 17.6	-1.3
RLS					S		Sb	10 28 26.6	+0.5
RLS					AML		AML	10 28 29.0	
	comp=N,147μm,0.4s								
RLS					AML		AML	10 28 33.1	
	comp=E,126μm,0.4s								
AXS	**Araxos**	**0.54**	**46**		P		Pb	10 28 19.2	0.0
AXS					S		Sn	10 28 28.7	-0.2
AXS	**Araxos**	**0.54**	**46**		P		Pb	10 28 19.2	-0.1
AXS					S		Sn	10 28 28.7	-0.2
DRO	**Drossia**	**0.67**	**79**		P		Pb	10 28 20.1	-1.3
DRO					S		Sn	10 28 32.4	+0.3
DRO	**Drossia**	**0.67**	**79**		P		Pb	10 28 20.1	-1.3
DRO					S		Sn	10 28 32.4	+0.3
DRO					AML		AML	10 28 39.7	
	comp=E,164μm,0.4s								
DRO					AML		AML	10 28 39.9	
	comp=N,143μm,0.3s								
AMT	**Artemida-Makis**	**0.72**	**114**		P		Pn	10 28 23.3	+0.3
AMT					S		Sb	10 28 32.3	+0.6
AMT	**Artemida-Makis**	**0.72**	**114**		P		Pn	10 28 23.3	+0.3
AMT					S		Sb	10 28 32.4	+0.7
AMT					AML		AML	10 28 37.1	
	comp=N,151μm,0.4s								
AMT					AML		AML	10 28 38.1	
	comp=E,157μm,0.5s								
LAKA	**Lakka**	**0.96**	**64**		P		Pn	10 28 27.9	+1.5
LAKA	**Lakka**	**0.96**	**64**		P		Pn	10 28 27.9	+1.6
KLV	**Kalavryta, Ach**	**1.03**	**77**		P		Pb	10 28 29.3	+1.8
KLV					S		Sn	10 28 43.0	+2.0
KLV	**Kalavryta, Ach**	**1.03**	**77**		P		Pb	10 28 29.3	+1.8
KLV					S		Sn	10 28 42.9	+1.9
KLV					AML		AML	10 28 52.2	
	comp=N,32μm,0.9s								
KLV					AML		AML	10 28 54.6	
	comp=E,26μm,0.6s								
TRIZ	**Trizonia**	**1.09**	**60**		P		Pb	10 28 30.2	+1.8
TRIZ					S		Sn	10 28 43.6	+1.3
TRIZ	**Trizonia**	**1.09**	**60**		P		Pb	10 28 30.2	+1.8
TRIZ					S		Sn	10 28 43.6	+1.3
KALE	**Kalithea**	**1.14**	**60**		P		Pn	10 28 28.7	-0.2
KALE					S		Sb	10 28 45.3	+1.3
KALE	**Kalithea**	**1.14**	**60**		P		Pn	10 28 28.6	-0.3
KALE					S		Sb	10 28 45.2	+1.3
KALE					AML		AML	10 28 55.2	
	comp=E,57μm,0.3s								
KALE					AML		AML	10 28 58.4	
	comp=N,68μm,0.5s								

IDC 24 10:44:23.8±1.0,6°.37N×123°.49E,h520km±294km, mb2.9/6,mb1 3.1/6,mb1mx2.7/54,mbtmp3.9/6,Error ellipse: s-maj=138.4km s-min=38.4km az=55.0, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**24.41**	**175**		P		P	10 49 02.0	+1.1
	1.8nm,1.0s,baz=343,slow=11,SNR=1.6								
WRA	**Warramunga Arr**	**28.24**	**158**		P		P	10 49 33.8	-1.0
	0.8nm,0.4s,baz=332,slow=11,SNR=17								
ASAR	**Alice Springs**	**31.54**	**162**		P		P	10 50 03.6	+0.3
	1.1nm,0.4s,baz=343,slow=6.9,SNR=25								
STKA	**Stephens Creek**	**41.77**	**157**		P		P	10 51 27.2	-0.2
	1.2nm,0.7s,baz=336,slow=12,SNR=2.3								
MKAR	**Makanchi Array**	**53.57**	**326**		P		P	10 52 55.9	+0.2
	0.8nm,0.4s,baz=124,slow=8.2,SNR=9.0								
KURBB	**Kurchatov Arra**	**57.80**	**328**		P		P	10 53 24.6	-0.4
	0.8nm,0.6s,baz=131,slow=6.8,SNR=6.7								

*ISCJB **24** 10:52:52.7±0.7,63°.29N±0°.02×152°.58W±0°.05,h2km±4km, mb4.3/26,MS2.8/2,Error ellipse: s-maj=3.6km s-min=3.0km az=23.1*
*NEIC **24** 10:52:54.3±0.0,63°.23N×152°.51W,h5km,mb4.6/7,MW3.9, ML4.0(AEIC),Moment Tensor Solution. s24 Moment tensor: Scale 10^{14}Nm; M_{rr}6.77; $M_{\theta\theta}$-1.02; $M_{\phi\phi}$-5.75; $M_{r\theta}$3.78; $M_{r\phi}$-3.40; $M_{\theta\phi}$1.84; Best double couple: M_{θ}8.30000×10^{14} NP1:ϕ_s190.00000°,δ35.00000°, λ60.00000°. NP2:ϕ_s45.00000°,δ60.00000°,λ109.00000°. Principal axes: T 8.3200, Plg69.0000°, Azm355.0000°; N 0.0000, Plg17.0000°, Azm215.0000°; P -8.3200, Plg13.0000°, Azm121.

*IDC **24** 10:52:54.2±0.6,63°.33N×152°.62W,h0km,mb4.1/18, mb1 4.2/23,mb1mx4.0/58,mbtmp4.0/23,ML3.5/5,MS2.9/4, Ms1 2.9/4,ms1mx2.6/31 Error ellipse: s-maj=11.7km s-min=9.8km az=169.0*

ISC 24 10:52:54.1±1.2,63°23'N±0".03×152°52'W±0".03,h3km±7km, n128,σ1§07/152,mb4.4/26,Central Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAST	**Castle Rocks**	**0.27**	**46**	*e*Pg	**Pg**	**10 52 59.9**	**+0.6**
CAST				*e*Sg	**Sg**	**10 53 03.3**	**+0.5**
PPLA	**Purkeypile**	**0.37**	**156**	*e*Pg	**Pg**	**10 53 01.4**	**+0.2**
PPLA				*e*		10 53 01.6	
PPLA				*e*Sg	**Sg**	**10 53 05.8**	**-0.2**
KTH	**Kantishna Hill**	**0.79**	**65**	*e*Pg	**Pg**	**10 53 08.8**	**-0.3**
KTH				*e*Pn	Pn	10 53 19.0	+6.9
TRF	**Thorofare Moun**	**1.03**	**77**	*e*Pg	**Pg**	**10 53 13.1**	**-0.7**
TRF				*e*Sg	**Sg**	**10 53 27.4**	**+0.3**
CUT	**Chulitna**	**1.33**	**128**	*e*Pn	**Pn**	**10 53 19.3**	**-0.2**
SKT	**Skwentna**	**1.34**	**160**	*e*Pn	**Pn**	**10 53 19.1**	**-0.6**
SKT				*e*Sn	**Sg**	**10 53 37.1**	**+0.1**
TTA	**Tatalina**	**1.62**	**261**	P	**Pn**	**10 53 22.7**	**-0.9**
TTA				S	**Sg**	**10 53 46.7**	**+0.7**
TT01	**Tatalina**	**1.63**	**260**	*e*Pn	**Pn**	**10 53 23.3**	**-0.4**
TT01				*e*Sn	**Sb**	**10 53 45.7**	**0.0**
RND	**Reindeer**	**1.66**	**82**	*e*Pn	**Pn**	**10 53 23.5**	**-0.7**
RND				*e*Pg	**Pb**	**10 53 24.1**	**-1.3**
RND				*e*Sn	**Sn**	**10 53 45.2**	**-0.8**
MCK	**McKinley**	**1.68**	**71**	*e*Pn	**Pn**	**10 53 23.7**	**-0.7**
MCK				*e*Pg	**Pb**	**10 53 24.7**	**-1.0**
MCK				*e*Sn	**Sb**	**10 53 47.7**	**+0.4**
STLK	**Strandline Lak**	**1.77**	**169**	P	**Pn**	**10 53 25.6**	**-0.1**
SUA	**Susitna One**	**1.96**	**154**	*e*Pn	**Pn**	**10 53 28.8**	**+0.5**
SUA				*e*Pg	**Pb**	**10 53 29.1**	**-1.4**
SUA				*e*Sn	**Sn**	**10 53 55.4**	**+1.9**
SPWE	**Spurr West**	**1.97**	**181**	P	**Pn**	**10 53 28.7**	**+0.3**
SPCR	**Spurr Chakacha**	**2.05**	**176**	P	**Pn**	**10 53 30.6**	**+1.1**
SPCR				S	**Sn**	**10 53 57.8**	**+2.3**
CKL	**Chakachamna La**	**2.05**	**178**	P	**Pn**	**10 53 30.6**	**+1.1**
SPU	**Mount Spurr**	**2.07**	**174**	*e*Pn	**Pn**	**10 53 30.9**	**+1.1**
GHO	**Glory Hole Cre**	**2.22**	**130**	*e*Pn	**Pn**	**10 53 32.0**	**+0.1**
PMR	**Palmer**	**2.28**	**135**	*e*Pn	**Pn**	**10 53 32.6**	**0.0**
PMR				*e*Pg	**Pb**	**10 53 33.5**	**-2.4**
WRH	**Wood River Hil**	**2.32**	**56**	*e*Pn	**Pn**	**10 53 31.9**	**-1.2**
DHY	**Denali Highway**	**2.34**	**92**	*e*Pn	**Pn**	**10 53 35.3**	**+1.7**
SML	**Sawmill**	**2.41**	**125**	*e*Pn	**Pn**	**10 53 34.9**	**+0.4**
BGRM	**Barrier Glacie**	**2.49**	**179**	*e*Pn	**Pn**	**10 53 36.1**	**+0.6**
RC01	**Rabbit Creek A**	**2.52**	**148**	*e*Pn	**Pn**	**10 53 36.5**	**+0.6**
RC01				*e*Pg	**Pb**	**10 53 37.0**	**-2.9**
CCB	**Clear Creek Bu**	**2.52**	**54**	*e*Pn	**Pn**	**10 53 34.9**	**-1.0**
MDM	**Murphy Dome**	**2.56**	**45**	*e*Pn	**Pn**	**10 53 35.2**	**-1.3**
SVW2	**Sparrevohn**	**2.58**	**215**	*e*Pn	**Pn**	**10 53 36.0**	**-0.7**
COLA	**College**	**2.63**	**49**	*e*Pn	**Pn**	**10 53 37.2**	**-0.1**
KNK	**Knik Glacier**	**2.63**	**132**	*e*Pn	**Pn**	**10 53 38.6**	**+1.1**
RDJH	**Redoubt Jeurge**	**2.66**	**183**	P	**Pn**	**10 53 38.4**	**+0.5**
HDA	**Harding Lake**	**2.74**	**62**	P	**Pn**	**10 53 39.0**	**+0.1**
RDWB	**Redoubt West**	**2.76**	**183**	*e*Pn	**Pn**	**10 53 39.5**	**+0.2**
RSO	**Redoubt South**	**2.79**	**182**	*e*Pn	**Pn**	**10 53 40.9**	**+1.1**
SCM	**Sheep Creek Mo**	**2.79**	**118**	P	**Pn**	**10 53 39.5**	**-0.1**
IM3	**Indian Mountai**	**2.81**	**350**	P	**Pn**	**10 53 39.6**	**-0.3**
RED	**Redoubt Volcan**	**2.83**	**183**	P	**Pn**	**10 53 40.5**	**+0.3**
IL1	**Eielson Array**	**2.92**	**56**	*e*Pn	**Pn**	**10 53 42.1**	**+0.7**
ILAR	**Eielson Array**	**2.92**	**56**	Pn	**Pn**	**10 53 39.4**	**-2.0**
ILAR	1.8nm,0.3s,baz=242,slow=14,SNR=60			Pg	**Pb**	**10 53 46.5**	**-0.2**
ILAR	22nm,0.3s,baz=243,slow=18,SNR=153			LR	LR	10 54 19.1	
ILAR	comp=Z,73nm,21.8s,baz=96,slow=29			Lg	Lg	10 54 23.2	
ILB	**Eielson Array**	**2.92**	**56**	*e*Pn	**Pn**	**10 53 41.7**	**+0.2**
ILB	63nm,0.3s,baz=236,slow=31,SNR=19			*e*Pg	**Pb**	**10 53 46.5**	**-0.2**
ILB				*e*Lg	Lg	10 54 23.2	
SLKM	**Skilak Lake**	**2.94**	**157**	*e*Pn	**Pn**	**10 53 42.6**	**+0.8**
PWL	**Port Wells**	**3.09**	**139**	*e*Pn	**Pn**	**10 53 44.6**	**+0.8**
PAX	**Paxson**	**3.21**	**92**	*e*Pn	**Pn**	**10 53 46.2**	**+0.7**
SEW	**Seward**	**3.46**	**154**	*e*Pn	**Pn**	**10 53 50.9**	**+2.0**
GLI	**Glacier Island**	**3.48**	**130**	*e*Pn	**Pn**	**10 53 50.3**	**+1.2**
HARP	**HAARP**	**3.48**	**101**	*e*Pn	**Pn**	**10 53 50.3**	**+1.2**
JPK	**Jack Peak**	**3.54**	**126**	*e*Pn	**Pn**	**10 53 50.6**	**+0.7**
KLU	**Klutina**	**3.54**	**117**	*e*Pn	**Pn**	**10 53 50.7**	**+0.8**
BRLK	**Bradley Lake**	**3.57**	**167**	*e*Pn	**Pn**	**10 53 50.9**	**+0.5**
HOM	**Homer**	**3.61**	**173**	*e*Pn	**Pn**	**10 53 52.0**	**+1.1**
CNPM	**China Poot**	**3.77**	**170**	*e*Pn	**Pn**	**10 53 54.8**	**+1.6**
FID	**Port Fidalgo**	**3.79**	**128**	*e*Pn	**Pn**	**10 53 54.0**	**+0.8**
DIV	**Divide**	**3.80**	**121**	*e*Pn	**Pn**	**10 53 54.5**	**+0.9**
DOT	**Dot Lake**	**3.82**	**80**	*e*Pn	**Pn**	**10 53 56.8**	**+2.9**
AUL	**Augustine Lava**	**3.89**	**187**	P	**Pn**	**10 53 56.4**	**+1.6**
MENT	**Mentasta**	**4.01**	**90**	*e*Pn	**Pn**	**10 53 58.2**	**+1.7**
HIN	**Hinchinbrook I**	**4.03**	**132**	*e*Pn	**Pn**	**10 53 57.4**	**+0.7**
COLD	**Coldfoot**	**4.13**	**13**	*e*Pn	**Pn**	**10 53 58.2**	**+0.2**
EYAK	**Cordova Ski Ar**	**4.18**	**127**	*e*Pn	**Pn**	**10 54 00.9**	**+2.2**
CDD	**Cape Douglas**	**4.35**	**188**	P	**Pn**	**10 54 02.4**	**+1.2**
BMRM	**Bremner River**	**4.36**	**118**	*e*Pn	**Pn**	**10 54 02.3**	**+1.1**
FYU	**Fort Yukon**	**4.56**	**40**	*e*Pn	**Pn**	**10 54 03.7**	**-0.2**
RAGM	**Ragged Mountai**	**4.69**	**124**	*e*Pn	**Pn**	**10 54 06.0**	**+0.2**
KAHC	**Katmai Hardscr**	**4.76**	**196**	P	**Pn**	**10 54 06.7**	**0.0**
MID	**Middleton Isla**	**4.84**	**139**	*e*Pn	**Pn**	**10 54 08.6**	**+0.8**
KAWH	**Katmai**	**4.99**	**194**	P	**Pn**	**10 54 10.8**	**+0.8**
CRQM	**Cirque**	**5.07**	**115**	*e*Pn	**Pn**	**10 54 13.6**	**+2.5**
KAKN	**Katmai Knife C**	**5.11**	**195**	P	**Pn**	**10 54 12.4**	**+0.9**
TGL	**Tana Glacier**	**5.20**	**114**	*e*Pn	**Pn**	**10 54 14.5**	**+1.7**
KHIT	**Khitrov Hills**	**5.21**	**118**	*e*Pn	**Pn**	**10 54 14.0**	**+1.1**
EGAK	**Eagle**	**5.23**	**68**	*e*Pn	**Pn**	**10 54 13.9**	**+0.8**
BM3	**Burnt Mountain**	**5.35**	**35**	*e*Pn	**Pn**	**10 54 13.4**	**-1.4**
BVCY	**Beaver Creek**	**5.41**	**94**	P	**Pn**	**10 54 16.8**	**+1.2**
KDAK	**Kodiak Island**	**5.47**	**180**	Pn	**Pn**	**10 54 16.6**	**+0.2**
KDAK	2.6nm,0.3s,baz=20,slow=11,SNR=36			Sn	**Sn**	**10 55 16.9**	**-2.9**
KDAK	3.1nm,0.3s,baz=0.7,slow=7.6,SNR=4.6			Lg	Lg	10 55 46.8	
KDAK	2.0nm,0.3s,baz=283,slow=16,SNR=3.7 **Kodiak Island**	**5.47**	**180**	*e*Pn	**Pn**	**10 54 17.4**	**+1.0**
KDAK				*e*Sn	**Sn**	**10 55 16.9**	**-2.9**
KDAK				*e*Lg	Lg	10 55 46.8	
BARK	**Barkley Ridge**	**5.54**	**116**	*e*Pn	**Pn**	**10 54 17.9**	**+0.5**
BAGL	**Bagley Icefiel**	**5.65**	**114**	*e*Pn	**Pn**	**10 54 19.1**	**+0.2**
DAWY	**Dawson**	**5.91**	**76**	*e*Pn	**Pn**	**10 54 22.8**	**+0.4**
OHAK	**Old Harbor**	**6.04**	**184**	*e*Pn	**Pn**	**10 54 25.0**	**+0.7**
RKAV	**Rock Avalanche**	**6.06**	**114**	*e*Pn	**Pn**	**10 54 25.1**	**+0.4**
PCA	**Pinnacle**	**6.63**	**113**	*e*Pn	**Pn**	**10 54 33.8**	**+1.4**
GAMB	**Gambell**	**8.59**	**282**	*e*Pn	**Pn**	**10 55 00.0**	**+0.9**
WHY	**Whitehorse**	**8.70**	**99**	*e*Pn	**Pn**	**10 55 01.3**	**+0.5**
SKAG	**Skagway**	**9.07**	**107**	*e*Pn	**Pn**	**10 55 06.2**	**+0.5**
INK	**Inuvik**	**9.29**	**49**	Pn	**Pn**	**10 55 08.8**	**0.0**
INK	0.5nm,0.3s,baz=248,slow=13,SNR=10			Sn	**Sn**	**10 56 52.7**	**-0.9**
INK	0.2nm,0.3s,baz=127,slow=15,SNR=2.8			Lg	Lg	10 57 41.9	
INK	0.1nm,0.3s,baz=280,slow=17,SNR=2.5 **Inuvik**	**9.29**	**49**	*e*Pn	**Pn**	**10 55 11.1**	**+2.4**
INK				*e*Sn	**Sn**	**10 56 52.7**	**-0.9**
INK				*e*Lg	Lg	10 57 41.9	
BESE	**Bessie Mountai**	**9.77**	**110**	*e*Pn	**Pn**	**10 55 14.9**	**-0.5**
AKUT	**Akutan**	**11.41**	**223**	*e*Pn	**Pn**	**10 55 37.8**	**0.0**
UNV	**Unalaska Valle**	**11.88**	**224**	*e*Pn	**Pn**	**10 55 44.6**	**+0.4**
DLBC	**Dease Lake**	**11.94**	**103**	Pn	**Pn**	**10 55 47.2**	**+2.1**
DLBC	0.2nm,0.3s,baz=297,slow=16,SNR=3.0			Lg	Lg	10 59 12.8	
DLBC	0.1nm,0.3s,baz=161,slow=18,SNR=2.7			LR	LR	11 00 40.5	
YKA	comp=Z,138nm,19.0s,baz=346,slow=39 **Yellowknife Ar**	**17.15**	**75**	P	**P**	**10 56 56.8**	**+0.7**
YKB5	0.3nm,0.3s,baz=287,slow=8.9,SNR=5.6 **Yellowknife Ar**	**17.15**	**75**	*e*Pn	**P**	**10 56 56.8**	**+0.7**
EDM	**Edmonton**	**22.56**	**98**	*e*P	**P**	**10 57 55.1**	**+0.1**
SEY	10nm,0.6s **Seymchan**	**24.30**	**294**	P	**P**	**10 58 12.4**	**+0.1**
PETK	1.0nm,0.5s,baz=14,slow=19,SNR=5.9 **Petropavlovsk-**	**27.43**	**272**	LR	LR	11 10 34.9	
MOD	comp=Z,17nm,18.9s,baz=107,slow=39 **Modoc Plateau**	**28.45**	**123**	*e*P	**P**	**10 58 51.9**	**+1.8**
PD31	3.2nm,1.1s **Pinedale Array**	**32.09**	**109**	*e*P	**P**	**10 59 23.0**	**+0.7**
PD31				*e*PcP	**PcP**	**11 02 10.4**	**-1.0**
PDAR	**Pinedale Array**	**32.09**	**109**	P	**P**	**10 59 23.0**	**+0.7**
PDAR	0.3nm,0.4s,baz=327,slow=2.5,SNR=5.4			PcP	**PcP**	**11 02 10.4**	**-1.0**
LTX	0.5nm,0.5s,baz=137,slow=1.1,SNR=5.6 **Lajitas**	**45.99**	**114**	*e*P	**P**	**11 01 18.2**	**-0.3**
LTX				*e*PcP	**PcP**	**11 02 54.9**	**-0.2**
TXAR	**Lajitas Array**	**45.99**	**114**	P	**P**	**11 01 18.2**	**-0.3**
TXAR	0.5nm,0.6s,baz=326,slow=5.9,SNR=9.3			PcP	**PcP**	**11 02 54.9**	**-0.2**
TXAR	0.4nm,0.7s,baz=177,slow=2.5,SNR=4.2			LR	LR	11 22 27.2	
ARCES	comp=Z,16nm,20.2s,baz=0.0,slow=38 **ARCESS Array B**	**47.51**	**1**	P	**P**	**11 01 29.7**	**0.0**
OXF	4.1nm,1.0s,baz=7.0,slow=8.2,SNR=2.5 **Oxford**	**47.78**	**96**	*e*P	**P**	**11 01 32.4**	**+0.1**
SONA0	10nm,0.4s **Songino Array**	**53.11**	**304**	*e*P	**P**	**11 02 13.5**	**+0.9**
SONM	2.2nm,0.9s **Songino Array**	**53.11**	**304**	P	**P**	**11 02 13.5**	**+0.9**
ZAA1	1.6nm,0.9s,baz=33,slow=7.0,SNR=5.2 **Zalesovo Array**	**54.91**	**323**	*e*P	**P**	**11 02 25.4**	**-0.2**
ZALV	**Zalesovo Beam**	**54.92**	**323**	P	**P**	**11 02 25.4**	**-0.2**
NB2	1.7nm,0.3s,baz=34,slow=5.4,SNR=4.5 **NORSAR Subarra**	**55.43**	**10**	P	**P**	**11 02 28.9**	**-0.3**
NB200	comp=Z,1.2nm,0.8s,baz=352,slow=6.9 **NORSAR Array S**	**55.43**	**10**	*e*P	**P**	**11 02 28.6**	**-0.6**
NOA	**NORSAR Array B**	**55.43**	**10**	P	**P**	**11 02 28.6**	**-0.6**
FIA0	comp=Z,1.0nm,0.8s,baz=351,slow=7.6,SNR=3.4 **FINESS Array S**	**55.63**	**1**	*e*P	**P**	**11 02 29.7**	**-0.9**
FINES	**FINESS Array B**	**55.63**	**1**	P	**P**	**11 02 29.7**	**-0.9**
HHC	comp=Z,3.2nm,0.7s,baz=2.3,slow=9.5,SNR=9.9 **Hu-ho-hao-te**	**56.94**	**296**	*e*P	**P**	**11 02 41.8**	**+1.4**
HHC				pmax	pmax		
HHC	comp=Z,28nm,1.0s			pmax	pmax		
	comp=Z,99nm,8.6s						
ARU	**Arti**	**58.27**	**340**	P	**P**	**11 02 49.6**	**+0.3**
ARU	comp=Z,2.5nm,0.3s,baz=136,slow=21,SNR=7.0 **Arti**	**58.27**	**340**	*e*P	**P**	**11 02 47.5**	**-1.8**
BVAR	comp=Z,5.6nm,0.7s **Borovoye Array**	**59.32**	**331**	P	**P**	**11 02 56.3**	**-0.4**
EKA	comp=Z,1.3nm,0.6s,baz=39,slow=5.7,SNR=9.1 **Eskdalemuir Ar**	**59.39**	**20**	P	**P**	**11 02 57.4**	**+0.2**
KURK	comp=Z,1.0nm,0.4s,baz=335,slow=5.4,SNR=13 **Kurchatov**	**59.49**	**325**	*e*P	**P**	**11 02 58.2**	**+0.3**
KURBB	**Kurchatov Arra**	**59.60**	**325**	P	**P**	**11 02 58.2**	**-0.5**
MK32	comp=Z,1.1nm,0.9s,baz=22,slow=6.0,SNR=4.6 **Makanchi Array**	**62.06**	**321**	*e*P	**P**	**11 03 14.8**	**-0.7**
MKAR	**Makanchi Array**	**62.06**	**321**	P	**P**	**11 03 14.8**	**-0.7**
WMQ	comp=Z,0.3nm,0.4s,baz=27,slow=7.0,SNR=4.6 **Urumqi**	**63.10**	**315**	*e*P	**P**	**11 03 25.3**	**+2.7**
WMQ				sP	sP	11 03 31.9	+8.1
WMQ				pmax	pmax		
WMQ	comp=Z,10.0nm,0.6s			pmax	pmax		
	comp=Z,88nm,3.7s						
ABKAR	**Akbulak array**	**64.96**	**337**	*e*P	**P**	**11 03 34.1**	**-0.5**
AKASG	comp=Z,3.0nm,0.7s **Malin Array Be**	**66.40**	**359**	P	**P**	**11 03 43.4**	**-0.5**
AKBB	comp=Z,1.4nm,0.4s,baz=3.4,slow=6.4,SNR=8.8 **Malin Array Si**	**66.40**	**359**	*e*P	**P**	**11 03 43.4**	**-0.5**
KBZ	comp=Z,3.2nm,0.6s **Khabaz**	**72.68**	**348**	P	**P**	**11 04 22.7**	**0.0**
ESDC	comp=Z,2.6nm,0.8s,baz=352,slow=8.4,SNR=4.1 **Sonseca Array**	**74.40**	**25**	P	**P**	**11 04 32.8**	**-0.3**
GEYT	comp=Z,0.2nm,0.4s,baz=338,slow=5.6,SNR=3.7 **Alibeck**	**76.25**	**335**	P	**P**	**11 04 44.5**	**+0.8**
CM31	comp=Z,11nm,0.7s,baz=26,slow=7.0,SNR=4.0 **Chiang Mai Arr**	**81.72**	**295**	*e*P	**P**	**11 05 13.9**	**+0.1**
CMAR	**Chiang Mai Arr**	**81.72**	**295**	P	**P**	**11 05 13.9**	**+0.1**
BOSA	comp=Z,2.4nm,0.8s,baz=4.4,slow=6.7,SNR=10 **Boshof**	**145.34**	**3**	PKPbc	**PKPbc**	**11 12 31.6**	**-1.1**
	comp=Z,1.4nm,0.4s,baz=349,slow=4.3,SNR=7.1						

*IDC **24** 10:55:43.7±1.1,13°.78N×51°.63E,h0km,mb3.8/14, mb1 3.9/14,mb1mx3.7/59,mbtmp3.8/14,MS3.5/22, Ms1 3.5/22,ms1mx3.4/37,Error ellipse: s-maj=26.3km s-min=20.8km az=15.0*

*ISCJB **24** 10:55:44.9±0.4,13°.76N±0°.06×51°.66E±0°.05,h21km, mb4.1/25,MS3.5/20,Error ellipse: s-maj=8.8km s-min=6.4km az=178.3*

*NEIC **24** 10:55:45.2±0.4,13°.78N×51°.72E,h10km,mb4.4/9,Error ellipse: s-maj=8.3km s-min=7.6km az=160.0*

ISC 24 10:55:46.9±0.5,13°.87N±0°.08×51°.74E±0°.06,h21km,n51, σ1§69/39,mb4.1/25,MS3.4/20,Eastern Gulf of Aden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAMY	**Dhamar**	**7.16**	**277**	*e*Pn	**Pn**	**10 57 30.3**	**-0.5**
DAMY				*e*Sn	**Sn**	**10 58 50.7**	**-1.0**
ATD	**Arta Tunnel**	**8.98**	**256**	Pn	**Pn**	**10 57 56.7**	**+1.1**
ATD	6.0nm,0.3s,baz=200,slow=22,SNR=14 comp=Z,717nm,19.1s,baz=94,slow=32			LR	LR	11 00 30.2	
WSAR	**Wadi Sarin**	**11.38**	**34**	Pn	**Pn**	**10 58 26.9**	**-1.5**
WSAR	0.4nm,0.3s,baz=260,slow=14,SNR=4.5 1.1nm,0.3s,baz=127,slow=12,SNR=8.6			Sn	**Sn**	**11 00 28.6**	**-6.4**
WSAR	comp=Z,324nm,21.7s,baz=231,slow=35			LR	LR	11 02 29.9	
UOSS	**Minazif**	**11.79**	**20**	*e*Pn	**Pn**	**10 58 34.7**	**+0.6**
MSEY	**Mahe Island**	**18.79**	**168**	*e*P	**P**	**11 00 02.5**	**-2.6**
KMBO	46nm,1.1s **Kilima Mbogo**	**20.69**	**225**	LR	LR	11 08 20.0	
KMBO	comp=Z,170nm,21.4s,baz=98,slow=37 **Kilima Mbogo**	**20.69**	**225**	*e*P	**P**	**11 00 23.4**	**-2.7**
KMBO				*e*Pn	Pn	11 00 23.5	-5.0
MMAI	**Mount Meron Ar**	**24.19**	**325**	LR	LR	11 10 55.7	
GEYT	comp=Z,150nm,18.4s,baz=165,slow=38 **Alibeck**	**24.63**	**12**	P	**P**	**11 01 07.1**	**+1.1**
GEYT	2.6nm,0.5s,baz=243,slow=9.5,SNR=6.0			LR	LR	11 11 13.6	
CSS	comp=Z,119nm,18.4s,baz=195,slow=38 **Mathiatis**	**26.78**	**325**	*e*P	**P**	**11 01 24.6**	**-1.0**
GNI	2.6nm,0.9s **Garni**	**26.89**	**348**	LR	LR	11 14 46.3	
GNI	comp=Z,176nm,18.3s,baz=172,slow=42 **Garni**	**26.89**	**348**	*e*P	**P**	**11 01 29.6**	**+3.0**
ARTV	6.0nm,0.7s **Artvin**	**28.53**	**344**	*e*P	**P**	**11 01 41.5**	**+0.1**
PALK	7.4nm,1.3s **Pallekele**	**29.20**	**100**	*e*P	**P**	**11 01 47.5**	**+0.1**
DGAR	27nm,1.3s **Diego Garcia**	**29.49**	**135**	*e*P	**P**	**11 01 49.3**	**-0.6**
BRTR	573nm,1.6s **Keskin Array B**	**30.28**	**332**	LR	LR	11 14 42.9	
KBZ	comp=Z,58nm,19.5s,baz=144,slow=38 **Khabaz**	**30.71**	**347**	LR	LR	11 16 54.6	
ABKAR	comp=Z,278nm,18.9s,baz=142,slow=41 **Akbulak array**	**35.93**	**9**	*e*P	**P**	**11 02 46.9**	**+1.1**
AKASG	28nm,0.6s **Malin Array Be**	**41.03**	**338**	P	**P**	**11 03 27.9**	**-0.8**
AKASG	0.3nm,0.4s,baz=148,slow=6.8,SNR=6.1 comp=Z,40nm,20.0s,baz=205,slow=40			LR	LR	11 22 57.3	
AKBB	**Malin Array Si**	**41.03**	**338**	*e*P	**P**	**11 03 27.9**	**-0.8**
MK32	3.2nm,0.6s **Makanchi Array**	**41.61**	**32**	*e*P	**P**	**11 03 34.4**	**+0.9**
MKAR	**Makanchi Array**	**41.61**	**32**	P	**P**	**11 03 34.4**	**+0.9**
MKAR	0.8nm,0.5s,baz=218,slow=14,SNR=5.8 comp=Z,38nm,18.9s,baz=208,slow=40			LR	LR	11 23 12.4	
BVAR	**Borovoye Array**	**41.78**	**17**	P	**P**	**11 03 34.8**	**0.0**
KURBB	0.4nm,0.4s,baz=219,slow=6.7,SNR=4.1 **Kurchatov Arra**	**42.62**	**25**	P	**P**	**11 03 44.4**	**+2.7**
KURK	0.2nm,0.5s,baz=224,slow=7.8,SNR=3.5 **Kurchatov**	**42.73**	**25**	*e*P	**P**	**11 03 44.4**	**+1.9**
CM31	**Chiang Mai Arr**	**45.47**	**78**	*e*P	**P**	**11 04 04.9**	**-0.1**
CMAR	**Chiang Mai Arr**	**45.47**	**78**	P	**P**	**11 04 04.9**	**-0.1**
CMAR	2.2nm,0.7s,baz=277,slow=8.8,SNR=12 comp=Z,40nm,18.1s,baz=335,slow=36			LR	LR	11 23 13.1	
GERES	**GERESS Array B**	**46.83**	**326**	LR	LR	11 24 37.9	
ZALV	comp=Z,26nm,19.2s,baz=132,slow=37 **Zalesovo Beam**	**47.69**	**26**	P	**P**	**11 04 22.2**	**+0.4**
ZAA1	1.0nm,0.3s,baz=258,slow=7.2,SNR=1.6 **Zalesovo Array**	**47.69**	**26**	*e*P	**P**	**11 04 22.2**	**+0.4**
PSI	**Prapat**	**47.87**	**99**	LR	LR	11 21 07.0	
PSI	comp=Z,49nm,19.0s,baz=254,slow=32 **Prapat**	**47.87**	**99**	*e*P	**P**	**11 04 24.6**	**+0.6**
TORD	8.4nm,1.1s **Torodi Ar. Bea**	**48.59**	**275**	P	**P**	**11 04 29.8**	**+0.4**
TORD	0.3nm,0.4s,baz=91,slow=5.5,SNR=2.5 comp=Z,37nm,18.2s,baz=175,slow=35			LR	LR	11 23 58.4	
TOA1	**Torodi Ar. Sit**	**48.59**	**275**	*e*P	**P**	**11 04 29.8**	**+0.3**
BOSA	**Boshof**	**49.40**	**211**	LR	LR	11 25 21.9	
FIA0	comp=Z,40nm,18.6s,baz=26,slow=36 **FINESS Array S**	**50.99**	**344**	*e*P	**P**	**11 04 48.0**	**+1.0**
FINES	**FINESS Array B**	**50.99**	**344**	P	**P**	**11 04 48.0**	**+1.0**
FINES	5.7nm,1.1s,baz=144,slow=9.6,SNR=3.6			LR	LR	11 29 08.1	
ESDC	comp=Z,43nm,18.8s,baz=140,slow=39 **Sonseca Array**	**54.98**	**309**	P	**P**	**11 05 15.5**	**-1.4**
NOA	0.5nm,0.7s,baz=95,slow=7.5,SNR=4.6 **NORSAR Array B**	**55.43**	**337**	LR	LR	11 30 27.7	
DBIC	comp=Z,38nm,21.7s,baz=130,slow=38 **Dimbokro**	**56.04**	**269**	LR	LR	11 30 15.8	
SONA0	comp=Z,42nm,18.2s,baz=48,slow=37 **Songino Array**	**56.32**	**41**	*e*P	**P**	**11 05 27.8**	**+1.4**
SONM	5.8nm,1.6s **Songino Array**	**56.32**	**41**	P	**P**	**11 05 27.8**	**+1.4**
ARCES	0.3nm,0.4s,baz=235,slow=5.1,SNR=3.3 **ARCESS Array B**	**58.04**	**349**	LR	LR	11 31 35.6	
KSRS	comp=Z,36nm,21.9s,baz=153,slow=37 **Korea Array**	**70.80**	**55**	LR	LR	11 38 23.8	
MJAR	comp=Z,14nm,19.4s,baz=270,slow=36 **Matsushiro Arr**	**79.08**	**55**	P	**P**	**11 07 52.8**	**+2.6**
MAW	0.7nm,0.7s,baz=261,slow=6.2,SNR=2.8 **Mawson**	**81.65**	**176**	LR	LR	11 39 33.1	
WRA	comp=Z,26nm,18.5s,baz=55,slow=32 **Warramunga Arr**	**87.88**	**111**	P	**P**	**11 08 35.9**	**+0.3**
WR1	0.1nm,0.4s,baz=299,slow=4.0,SNR=2.8 **Warramunga Arr**	**87.88**	**111**	*e*P	**P**	**11 08 35.9**	**+0.3**
PETK	16nm,1.6s **Petropavlovsk-**	**88.34**	**35**	LR	LR	11 50 33.1	
ASAR	comp=Z,24nm,20.5s,baz=334,slow=37 **Alice Springs**	**88.49**	**115**	P	**P**	**11 08 38.6**	**+0.2**
AS31	0.2nm,0.7s,baz=286,slow=4.5,SNR=2.8 **Alice Springs**	**88.49**	**115**	*e*P	**P**	**11 08 38.4**	**-0.1**
	1.1nm,1.3s						

IDC 24 10:58:52.0±5.5,9°.32S×108°.92E,h326km±65km,mb3.1/4, mb1 3.2/5,mb1mx2.8/41,mbtmp3.8/5,Error ellipse: s-maj=89.6km s-min=16.1km az=43.0,South of Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**18.43**	**120**	P	P	11 02 44.2	-0.7
FITZ	0.2nm,0.3s,baz=303,slow=4.0,SNR=7.5			S	S	11 05 58.6	+0.4
WRA	0.0nm,0.3s,baz=226,slow=18,SNR=1.5 **Warramunga Arr**	**26.73**	**116**	P	P	11 04 03.0	+0.3
ASAR	0.8nm,0.8s,baz=287,slow=12,SNR=6.5 **Alice Springs**	**27.81**	**124**	P	P	11 04 13.6	+1.3
STKA	0.5nm,0.5s,baz=298,slow=9.2,SNR=8.2 **Stephens Creek**	**37.69**	**131**	P	P	11 05 36.0	-1.2
MKAR	1.1nm,0.4s,baz=295,slow=14,SNR=4.4 **Makanchi Array**	**60.71**	**339**	P	P	11 08 29.6	-0.2
	0.5nm,0.5s,baz=142,slow=7.8,SNR=6.6						

*KRNET **24** 11:04:24.5±0.1,39°.34N×73°.81E,mb3.2*
*SOME **24** 11:04:29.7,39°.85N×73°.18E,h0km*
*NNC **24** 11:04:29.7±4.6,39°.86N×74°.28E,h0km,mb3.6,mpv3.2, Error ellipse: s-maj=39.6km s-min=18.4km az=130.0*

ISC 24 11:04:24.4±1.5,39°09'N±0°.07×73°70'E±0°.03,h5km±13km, n30,σ1§82/58,18C-22D,Tajikistan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSH	**Kashi**	**1.82**	**76**	Pg	**Pn**	**11 04 56.3**	**-0.2**
KSH				Sg	**Sn**	**11 05 18.8**	**-1.2**
KSH	comp=N,180nm,0.7s			smax	smax		
KSH	comp=E,130nm,0.8s			smax	smax		
ARSB	**Arslanbob**	**2.30**	**346**	↑*e*P	**Pn**	**11 05 02.4**	**-0.7**
ARSB	ba

	comp=E,4.8nm,0.7s							
MDOK				*e*S		**Sb**	**11 06 50.6**	**+3.6**
	comp=E,13nm,1.3s							
KTBS	**Karatobe**	**5.13**	**25**	*e*P		**Pb**	**11 05 55.9**	**+1.1**
KTBS				*e*S		**Sb**	**11 06 57.6**	**+0.8**
SATY	**Saty**	**5.33**	**40**	*e*P		**Pg**	**11 06 04.6**	**-1.9**
	comp=E,8.8nm,0.5s							
SATY				*e*S		**Sg**	**11 07 12.3**	**-3.2**
	comp=E,13nm,0.7s							
CHKK	**Chushkaly**	**5.36**	**26**	*e*P		**Pb**	**11 05 59.7**	**+1.1**
	comp=E,5.0nm,0.4s							
CHKK				*e*S		**Sb**	**11 07 04.4**	**+1.1**
	comp=E,9.9nm,0.8s							
ARXS	**Arharly**	**5.98**	**30**	*e*P		**Pb**	**11 06 11.5**	**+2.3**
	comp=E,3.0nm,0.6s							
ARXS				*e*S		**Sb**	**11 07 24.5**	**+3.4**
	comp=E,11nm,0.7s							

*IDC **24** 11:13:46.6±3.5,36˚.94N×143˚.39E, h0km,mb3.5/2, mb1 3.8/4,mb1mx3.4/48,mbtmp3.7/4,ML3.4/2,Error ellipse: s-maj=62.5km s-min=35.1km az=9.0*
*ISCJB **24** 11:13:48.0±1.0,37˚.24N±0˚.04×143˚.37E±0˚.07, h35km, mb3.9/2,Error ellipse: s-maj=8.0km s-min=5.9km az=173.0*
*JMA **24** 11:13:49.9±0.1,37˚.29N×143˚.23E, h35km,M3.4*

ISC 24 11:13:49.4±1.6,37˚.24N±0˚.05×143˚.4E±0˚.1,h35km,n15, σ1§16/22,Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JFK	**Kawauchi**	**2.00**	**274**	*e*S	**Sn**	**11 14 43.7**	**-0.9**
JIO	**Ouri**	**2.01**	**308**	P	**Pn**	**11 14 20.9**	**0.0**
JIO				*e*S	**Sn**	**11 14 43.5**	**-1.3**
ONAJ	**Iwakimizuishiy**	**2.07**	**267**	*e*S	**Sn**	**11 14 45.4**	**-0.8**
JMM	**Marumori**	**2.15**	**288**	P	**Pn**	**11 14 22.8**	**+0.1**
JMM				S	**Sn**	**11 14 47.4**	**-0.8**
JMK	**Ichinoseki**	**2.41**	**316**	P	**Pn**	**11 14 26.8**	**+0.4**
JMK				S	**Sn**	**11 14 54.0**	**-0.7**
JFT	**Otama**	**2.44**	**277**	*e*S	**Sn**	**11 14 54.7**	**-0.7**
JOM	**Ohasama**	**2.77**	**324**	P	**Pn**	**11 14 32.1**	**+0.8**
JOM				*e*S	**Sn**	**11 15 02.3**	**-1.2**
JYK	**Kaneyama**	**2.91**	**306**	P	**Pn**	**11 14 33.6**	**+0.3**
JYK				*e*S	**Sn**	**11 15 06.6**	**-0.5**
BSO1	**Boso 1**	**3.23**	**218**	*e*S	**Sn**	**11 15 16.3**	**+2.1**
JAG	**Ashikaga**	**3.25**	**257**	S	**Sn**	**11 15 15.1**	**-0.3**
JRY	**Ryogami san**	**3.80**	**253**	*e*S	**Sn**	**11 15 29.4**	**+0.3**
MJAR	**Matsushiro Arr**	**4.20**	**262**	Pn	**Pn**	**11 14 51.5**	**+0.5**
	1.4nm,0.3s,baz=84,slow=16,SNR=12							
MJAR				Sn	**Sn**	**11 15 41.0**	**+2.1**
	0.5nm,0.3s,baz=98,slow=25,SNR=2.7							
JHJ	**Hachijo jima 2**	**5.06**	**217**	Pn	**Pn**	**11 15 01.6**	**-1.1**
	6.2nm,0.3s,baz=346,slow=4.2,SNR=2.0							
JHJ				Sn	**Sn**	**11 15 57.3**	**-2.7**
	4.6nm,0.3s,baz=66,slow=12,SNR=1.6							
WRA	**Warramunga Arr**	**57.51**	**190**	P	**P**	**11 23 35.3**	**0.0**
	1.1nm,0.3s,baz=10.0,slow=7.5,SNR=14							
ASAR	**Alice Springs**	**61.23**	**190**	P	**P**	**11 24 01.7**	**+0.8**
	0.4nm,0.9s,baz=0.7,slow=6.7,SNR=5.6							

*NIED **24** 11:17:00,35˚.80N×141˚.00E, h5km,Mw3.5 Best double couple: M₀2.17000×10¹⁴ NP1:φs163.00000°,δ28.00000°, λ-118.00000°. NP2:φs14.00000°,δ66.00000°, λ-76.00000°.*

JMA 24 11:17:40.4±0.1,35˚.75N×140˚.91E,h11km±1km,M3.7, 2C-3D,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHOJ	**Chosi**	**0.06**	**222**	⇑P	Pg	11 17 42.5	-0.2
CHOJ				S	Sg	11 17 44.0	-0.3
JCN	**Nagara**	**0.67**	**240**	⇑P	Pb	11 17 54.2	+0.2
JYT	**Yasato**	**0.75**	**310**	⇓P	Pg	11 17 54.5	-0.4
JYT				S	Sg	11 18 04.5	-0.3
BSO4	**Boso 4**	**0.89**	**212**	P	Pb	11 17 57.8	0.0
JHO	**Hitachi**	**0.90**	**342**	⇓P	Pg	11 17 56.8	-1.0
JHO				S	Sg	11 18 09.2	-0.4
BSO3	**Boso 3**	**1.00**	**199**	⇓P	Pb	11 17 59.2	-0.4
MAT	**Matsushiro**	**2.33**	**291**	P	Pn	11 18 17.8	-0.8
MAT				S	Sb	11 18 50.0	-1.1

IDC 24 11:26:06.5±395.0,52˚.39N×112˚.90E,h0km,Error ellipse: s-maj=154.1km s-min=130.3km az=26.0,Lake Baikal region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I34MN	**SONGINO INFRAS**	**6.20**	**225**	*i*		12 07 00.0	
	baz=39,slow=317,SNR=0.7						
I45RU	**USSURIYSK INFR**	**15.08**	**115**	*i*		12 56 20.0	
	baz=306,slow=324,SNR=1.3						
I44RU	**PETROPAVLOVSK**	**26.81**	**70**	*i*		14 10 00.0	
	baz=289,slow=322,SNR=1.0						

*ISCJB **24** 11:28:13.9±0.7,6˚.86N±0˚.05×73˚.12W±0˚.05,h152km±6km, Error ellipse: s-maj=10.4km s-min=4.8km az=139.9*
*FUNV **24** 11:28:15.7,6˚.92N×73˚.10W,h164km,MW2.3*
*RSNC **24** 11:28:16.0±0.7,6˚.80N×73˚.15W,h143km±4km,ML2.6*

ISC 24 11:28:13.4±1.5,6˚.86N±0˚.05×73˚.10W±0˚.05,h157km±8km, n19,σ1§11/32,2C-1D,Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BTLC	**Betulia, Santa**	**0.17**	**291**	*e*P	**Pn**	**11 28 35.2**	**+0.5**
GIRC	**Giron, Santand**	**0.24**	**338**	*e*P	**Pn**	**11 28 35.1**	**+0.2**
GIRC				*e*S	**Sn**	**11 28 50.0**	**-1.3**
BARC	**Barichara**	**0.27**	**197**	⇑*i*P	**Pn**	**11 28 35.1**	**+0.1**
BARC				*e*S	**Sn**	**11 28 50.2**	**-1.4**
BARC				*i*		11 28 51.1	
	comp=Z,87nm,0.3s						
PAMC	**Pamplona, Colo**	**0.63**	**40**	*e*P	**Pn**	**11 28 38.0**	**+1.2**
PAMC				*e*S	**Sn**	**11 28 54.9**	**+0.2**
BRRC	**Barranca, Sant**	**0.65**	**292**	⇑*i*P	**Pn**	**11 28 36.8**	**+0.5**
BRRC				*e*S	**Sn**	**11 28 53.7**	**-0.3**
BRRC				*i*		11 28 54.6	
	comp=Z,165nm,0.1s						
CBRI	**Barrientos, No**	**0.91**	**20**	*e*P	**Pn**	**11 28 39.6**	**+1.3**
RUSC	**La Rusia**	**0.96**	**179**	*e*P	**Pn**	**11 28 39.3**	**+0.2**
CAPV	**Capacho**	**1.27**	**38**	⇓*i*P	**Pn**	**11 28 43.0**	**+1.5**
CAPV				*e*S	**Sn**	**11 29 03.9**	**+0.8**
OCAC	**Ocana**	**1.39**	**351**	*e*P	**Pn**	**11 28 44.2**	**+1.7**
OCAC				*i*		11 29 10.4	
	comp=Z,50nm,0.3s						
ZARC	**Zaragoza, Cauc**	**1.85**	**290**	*e*P	**Pn**	**11 28 47.5**	**+0.2**
ZARC				*e*S	**Sn**	**11 29 13.0**	**-0.4**
NORC	**Norcasia**	**2.17**	**234**	*e*P	**Pn**	**11 28 51.1**	**+0.1**
NORC				*e*S	**Sn**	**11 29 18.7**	**-1.4**
CHIC	**Chingaza**	**2.30**	**196**	*e*P	**Pn**	**11 28 53.5**	**+0.6**
CHIC				*e*S	**Sn**	**11 29 23.3**	**0.0**
HELC	**Santa Helena**	**2.50**	**255**	*e*P	**Pn**	**11 28 56.0**	**+0.8**
HELC				*e*S	**Sn**	**11 29 27.0**	**-0.4**
HELC				*i*		11 29 32.8	
	comp=Z,18nm,0.4s						
VIGV	**El Vigia**	**2.62**	**41**	*e*P	**Pn**	**11 28 57.0**	**+0.6**
VIGV				*e*S	**Sn**	**11 29 27.6**	**-2.0**
SOCV	**Socops**	**2.64**	**57**	*e*P	**Pn**	**11 28 57.4**	**+0.8**
SOCV				*e*S	**Sn**	**11 29 29.4**	**-0.7**
GUYC	**Guyana, Colomb**	**2.79**	**235**	*e*P	**Pn**	**11 29 00.3**	**+1.4**
GUYC				*e*S	**Sn**	**11 29 33.9**	**-0.2**
GUYC				*i*		11 29 43.0	
	comp=Z,20nm,0.5s						
VIRV	**Villa del Rosa**	**3.69**	**11**	*e*P	**Pn**	**11 29 10.6**	**+0.8**
VIRV				*e*S	**Sn**	**11 29 50.7**	**-3.0**
CURV	**Curarigua**	**4.42**	**45**	*e*P	**Pn**	**11 29 20.2**	**+0.8**
BAUV	**El Baul**	**5.43**	**67**	*e*P	**Pn**	**11 29 32.9**	**+0.3**

NNC 24 11:37:51.3±1.5,38˚.34N×69˚.43E,h0km,mb4.0,mpv3.7, 5C-6D,Error ellipse: s-maj=13.3km s-min=4.6km az=17.0,Tajikistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZET	**Dzherino**	**0.66**	**315**	⇓P	Pg	11 38 04.3	+0.2
	545nm,0.5s						
DZET				⇓S	Sg	11 38 13.7	+1.1
	898nm,0.4s						
MNAS	**Manas**	**4.76**	**29**	⇓Pn	Pn	11 39 05.3	+0.8
	13nm,0.9s						
MNAS				⇑Sn	Sn	11 40 02.7	+2.2
	8.3nm,0.4s						
KK31	**Karatay Array**	**4.83**	**9**	⇓Pn	Pn	11 39 05.2	-0.1
	0.7nm,0.3s,baz=189,slow=12,SNR=32						
KK31				⇓Pg	Pb	11 39 18.0	+1.2
	6.1nm,0.5s,baz=194,slow=18,SNR=16						
KK31				⇑Lg	Lg	11 40 19.7	
	58nm,1.0s,baz=188,slow=28,SNR=6.0						
AAK	**Ala-Archa**	**5.78**	**40**	⇑Pn	Pn	11 39 19.4	+1.0
	2.8nm,0.4s						
AAK				⇓Lg	Lg	11 40 54.0	
	11nm,0.8s						
TKM2	**Tokmak 2**	**6.55**	**44**	⇑Pn	Pn	11 39 28.6	-0.5
	4.8nm,0.7s						
TKM2				⇑Sn	Sn	11 40 45.3	+0.7
	5.6nm,0.7s						

IDC 24 11:39:59.7±2.5,54˚.34N×86˚.30E,h0km,mb1 3.1/3, mb1mx3.0/39,mbtmp3.1/3,ML3.0/3,Error ellipse: s-maj=19.9km s-min=14.4km az=49.0,Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**0.95**	**247**	*i*		11 44 40.0	
	baz=68,slow=324,SNR=1.2						
ZALV	**Zalesovo Beam**	**0.95**	**247**	Pg	Pg	11 40 16.0	-1.8
	3.8nm,0.3s,baz=65,slow=18,SNR=29						
ZALV				Lg	Lg	11 40 32.3	
	12nm,0.3s,baz=74,slow=30,SNR=22						
KURBB	**Kurchatov Arra**	**6.03**	**235**	Pn	Pn	11 41 29.6	-0.4
	0.1nm,0.3s,baz=52,slow=13,SNR=3.2						
KURBB				Lg	Lg	11 43 11.3	
	0.1nm,0.3s,baz=56,slow=32,SNR=1.9						
MKAR	**Makanchi Array**	**7.97**	**200**	Pn	Pn	11 41 58.3	+1.6
	0.5nm,0.3s,baz=25,slow=14,SNR=9.0						
MKAR				Lg	Lg	11 44 15.4	
	0.1nm,0.3s,baz=16,slow=27,SNR=2.1						
BVAR	**Borovoye Array**	**9.53**	**269**	Pn	Pn	11 42 17.4	-0.6
	0.2nm,0.3s,baz=68,slow=16,SNR=2.0						

*TEH **24** 11:43:56.4,31˚.53N×60˚.76E, h15km, ML3.6*
*ISCJB **24** 11:43:59.0±0.7,31˚.52N±0˚.03×60˚.33E±0˚.09, h10km, Error ellipse: s-maj=10.5km s-min=4.9km az=179.2*
*CSEM **24** 11:44:01.8±0.4,31˚.54N×60˚.27E, h20km, ML3.6, Error ellipse: s-maj=11.9km s-min=6.1km az=100.0*

ISC 24 11:44:01.4±1.3,31˚.55N±0˚.04×60˚.25E±0˚.07,h10km,n33, σ1§03/32,Northern and central Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IDAH	**Dahanechah**	**1.23**	**345**	*e*Pn	Pb	11 44 21.9	-3.0
IDAH				*e*AMB	AMB	11 44 30.1	
	comp=Z,8μm,0.1s						
IDAH				*e*Sg	**Sb**	**11 44 41.6**	**+0.6**
ITEG	**Tejag**	**1.85**	**317**	*e*Pn	**Pn**	**11 44 32.1**	**-1.3**
ITEG				*e*AMB	AMB	11 45 06.9	
	comp=Z,6μm,0.2s						
ITEG	**Tejag**	**1.85**	**317**	*e*Pn	**Pn**	**11 44 32.1**	**-1.3**
ZHSF	**Zahedan**	**1.98**	**167**	*e*Pn	**Pn**	**11 44 33.8**	**-1.4**
ZHSF				*e*Sg	**Sn**	**11 45 01.4**	**+1.3**
SHRT	**Shahrakht**	**2.09**	**1**	*e*Pn	**Pn**	**11 44 35.0**	**-1.6**
SHRT				*e*Sg	**Sn**	**11 45 03.2**	**+0.5**
CHMN	**Cheshme madani**	**2.88**	**235**	*e*Pn	**Pn**	**11 44 46.6**	**-1.0**
CHMN	**Cheshme madani**	**2.88**	**235**	*e*Pn	**Pn**	**11 44 46.6**	**-1.0**
TABS	**Tabas**	**3.37**	**309**	*e*Pn	**Pn**	**11 44 54.4**	**+0.2**
TVBK	**TV Kerman**	**3.38**	**243**	*e*Pn	**Pn**	**11 44 54.8**	**+0.2**
TVBK	**TV Kerman**	**3.38**	**243**	*e*Pn	**Pn**	**11 44 54.8**	**+0.2**
KHGB	**Koh Gabri**	**3.45**	**251**	*e*Pn	**Pn**	**11 44 55.1**	**-0.2**
KHGB	**Koh Gabri**	**3.45**	**251**	*e*Pn	**Pn**	**11 44 55.1**	**-0.2**
NGRK	**Negar Kerman**	**3.58**	**239**	*e*Pn	**Pn**	**11 44 57.2**	**-0.1**
NGRK	**Negar Kerman**	**3.58**	**239**	*e*Pn	**Pn**	**11 44 57.2**	**-0.1**
IBAF	**Bafgh**	**4.00**	**272**	*e*Pn	**Pn**	**11 45 02.6**	**-0.3**
IBAF				*e*AMB	AMB	11 46 08.7	
	comp=Z,2μm,0.3s						
IBAF	**Bafgh**	**4.00**	**272**	*e*Pn	**Pn**	**11 45 02.6**	**-0.3**
IMOG	**Moghan**	**4.61**	**351**	*e*Pn	**Pn**	**11 45 10.9**	**-0.5**
IMOG				*e*AMB	AMB	11 46 47.9	
	comp=Z,221nm,0.5s						
IMOG	**Moghan**	**4.61**	**351**	*e*Pn	**Pn**	**11 45 10.9**	**-0.5**
IMYA	**Miami**	**4.78**	**359**	*e*Pn	**Pn**	**11 45 14.2**	**+0.5**
IMYA				*e*AMB	AMB	11 46 41.6	
	comp=Z,499nm,0.4s						
IMYA	**Miami**	**4.78**	**359**	*e*Pn	**Pn**	**11 45 14.2**	**+0.5**
ISRO	**Mashad**	**4.79**	**352**	*e*Pn	**Pn**	**11 45 14.3**	**+0.6**
ISRO	**Mashad**	**4.79**	**352**	*e*Pn	**Pn**	**11 45 14.3**	**+0.6**
IMEH	**Mehriz**	**4.82**	**270**	*e*Pn	**Pn**	**11 45 12.4**	**-1.8**
IMEH				*e*AMB	AMB	11 46 41.6	
	comp=Z,774nm,0.3s						
IMEH	**Mehriz**	**4.82**	**270**	*e*Pn	**Pn**	**11 45 12.4**	**-1.8**
IPAY	**Payeh**	**5.00**	**348**	*e*Pn	**Pn**	**11 45 16.2**	**-0.5**
IPAY				*e*AMB	AMB	11 45 24.0	
	comp=Z,142nm,0.1s						
IPAY	**Payeh**	**5.00**	**348**	*e*Pn	**Pn**	**11 45 16.2**	**-0.5**
IAKL	**Akhelmad**	**5.19**	**347**	*e*AMB	AMB	11 46 23.6	
	comp=N,310nm,0.4s						
IEMG	**Emamgholi**	**6.00**	**348**	*e*Pn	Pn	11 45 26.2	-4.3
ISRV	**Sarvestan**	**6.53**	**253**	*e*AMB	AMB	11 47 45.8	
	comp=Z,193nm,0.3s						
IANJ	**Anjilo**	**6.58**	**308**	*e*Pn	**Pn**	**11 45 36.4**	**-2.0**
IANJ				*e*AMB	AMB	11 47 56.0	
	comp=Z,270nm,0.5s						
IANJ	**Anjilo**	**6.58**	**308**	*e*Pn	**Pn**	**11 45 36.4**	**-2.0**
IZEF	**Zefreh**	**6.85**	**283**	*e*Pn	**Pn**	**11 45 43.0**	**+0.9**
IZEF				*e*AMB	AMB	11 47 43.4	
	comp=Z,117nm,0.3s						
IZEF	**Zefreh**	**6.85**	**283**	*e*Pn	**Pn**	**11 45 43.0**	**+0.9**

DJA 24 11:50:27.9±1.0,3˚.5±4˚×12˚.1E±˚, h10km,M3.5/4,MLv3.5/4, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TTSI	**Tana Toraja**	**1.21**	**244**	P	Pn	11 50 49.1	-1.8
TTSI				S	Sb	11 51 05.6	-1.0
SPSI	**Sidrap Palu**	**1.83**	**218**	P	Pn	11 50 59.5	0.0
SPSI				S	Sg	11 51 28.2	+1.3
PCI	**Palu**	**1.93**	**326**	P	Pn	11 51 00.9	+0.1
PCI				S	Sn	11 51 25.1	-0.1

*ISCJB **24** 13:14:01.9±0.8,32˚.47S±0˚.06×138˚.69E±0˚.07, h27km, Error ellipse: s-maj=9.9km s-min=7.3km az=42.3*
*AUST **24** 13:14:02.6±0.9,32˚.61S×138˚.56E, h4km±5km, Error ellipse: s-maj=6.0km s-min=3.1km az=1.0*
*IDC **24** 13:14:07.5±5.4,31˚.81S×138˚.81E, h0km, mb1 3.2/3, mb1mx3.2/26, mbtmp3.0/3, ML3.2/3, Error ellipse: s-maj=79.5km s-min=17.7km az=26.0*

ISC 24 13:14:01.7±0.9,32˚.46S±0˚.05×138˚.56E±0˚.05, h27km, n9, σ2§03/12,Near coast of South Australia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HTT	**Hallett**	**1.01**	**162**	P	**Pb**	**13 14 19.5**	**-1.2**
	baz=0.9,SNR=96						
HTT				S	**Sn**	**13 14 30.9**	**-2.7**
	baz=0.9						
BBOO	**Buckleboo**	**2.13**	**260**	P	**Pb**	**13 14 39.1**	**-0.6**
	baz=2.1,SNR=57						
BBOO				S	**Sb**	**13 15 06.0**	**+0.3**
	baz=2.1						
STKA	**Stephens Creek**	**2.64**	**78**	Pn	**Pb**	**13 14 47.0**	**-1.3**
	5.2nm,0.3s,baz=246,slow=14,SNR=54						
STKA				Lg	Lg	13 15 23.6	
	14nm,0.3s,baz=154,slow=24,SNR=6.9						
STKA	**Stephens Creek**	**2.64**	**78**	P	**Pb**	**13 14 46.9**	**-1.4**
	baz=2.7,SNR=69						
ARPS	**Mount Arapiles**	**5.08**	**149**	P	**Pn**	**13 15 17.7**	**+1.7**
	baz=5.0,SNR=6.6						
CMSA	**Cobar Meteorol**	**6.13**	**83**	P	**Pn**	**13 15 33.2**	**+2.7**
	baz=6.1						
TOO	**Toolangi**	**7.64**	**134**	P	**Pn**	**13 15 53.9**	**+2.7**
	baz=7.5						
ASAR	**Alice Springs**	**9.68**	**334**	Pn	Pn	13 16 22.9	+3.7
	0.2nm,0.3s,baz=153,slow=6.3,SNR=7.4						
ASAR				Sn	**Sn**	**13 18 06.2**	**-0.9**
	0.2nm,0.3s,baz=157,slow=22,SNR=4.5						
WRA	**Warramunga Arr**	**13.03**	**342**	Pn	**Pn**	**13 17 05.8**	**+0.7**
	0.1nm,0.3s,baz=159,slow=13,SNR=8.8						
WRA				Sn	**Sn**	**13 19 26.9**	**-2.3**
	0.0nm,0.3s,baz=156,slow=17,SNR=3.3						

*NEIC **24** 13:19:11.7±0.0,51˚.86N×171˚.53W, h13km, ML3.6(AEIC), After AEIC.*
*IDC **24** 13:19:11.9±1.4,52˚.72N×171˚.58W, h0km, mb3.7/4, mb1 3.9/6, mb1mx3.5/40, mbtmp3.6/6, ML3.1/2, MS3.1/3, Ms1 3.1/3, ms1mx2.5/56, Error ellipse: s-maj=80.0km s-min=22.3km az=149.0*

ISC 24 13:19:12.2±2.6,52˚.5N±0˚.2×171˚.66W±0˚.07, h3km±17km, n35,σ1§85/37,mb3.6/4,Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KOSE	**Korovin Southe**	**1.47**	**266**	P	**Pn**	**13 19 39.7**	**0.0**
KOFP	**Korovin Flat P**	**1.51**	**263**	P	**Pn**	**13 19 40.4**	**+0.2**
KONE	**Korovin Northe**	**1.51**	**268**	P	**Pn**	**13 19 40.2**	**0.0**
KOKV	**Korovin Volcan**	**1.54**	**267**	P	**Pn**	**13 19 40.4**	**-0.3**
KOKV				S	**Sb**	**13 20 02.2**	**+0.8**
KOKL	**Mount Kliuchef**	**1.57**	**265**	P	**Pn**	**13 19 41.1**	**+0.1**
ATKA	**Atka Island**	**1.58**	**261**	P	**Pn**	**13 19 40.2**	**-0.9**
ATKA				S	**Sn**	**13 20 02.3**	**+0.2**
NIKH	**Nikolski High**	**1.78**	**73**	P	**Pb**	**13 19 44.3**	**-1.1**
NIKH				S	**Sg**	**13 20 08.9**	**-0.3**
OKSO	**Okmok South**	**2.29**	**66**	P	**Pb**	**13 19 52.4**	**-1.8**
OKSO				S	**Sg**	**13 20 24.8**	**-1.0**
OKCE	**Okmok Cone E**	**2.32**	**64**	P	**Pb**	**13 19 53.3**	**-1.3**
OKCE				S	**Sg**	**13 20 26.8**	**+0.2**
OKTU	**Okmok Mt. Tuli**	**2.37**	**66**	P	**Pb**	**13 19 53.6**	**-2.0**
OKFG	**Magazine Ridge**	**2.45**	**66**	P	**Pb**	**13 19 55.0**	**-1.9**
OKFG				S	**Sb**	**13 20 28.2**	**+0.7**
GSCK	**Great Sitkin C**	**2.81**	**262**	P	**Pn**	**13 19 57.7**	**-0.4**
ADK	**Adak**	**3.15**	**261**	P	**Pn**	**13 20 02.2**	**-0.5**
ADK				S	**Sn**	**13 20 40.8**	**0.0**
MGOD	**Makushin Gods**	**3.17**	**63**	P	**Pn**	**13 20 05.2**	**+2.2**
MCIR	**Makushin Cirqu**	**3.22**	**61**	P	**Pn**	**13 20 06.0**	**+2.3**
MSW	**Makushin Switc**	**3.27**	**62**	P	**Pn**	**13 20 06.7**	**+2.4**
MTBL	**Makushin Table**	**3.34**	**61**	P	**Pn**	**13 20 07.8**	**+2.3**
UNV	**Unalaska Valle**	**3.39**	**64**	P	**Pn**	**13 20 08.1**	**+2.1**
UNV				S	**Sb**	**13 20 52.2**	**-2.3**
AKMO	**Akutan Morgan**	**3.75**	**62**	P	**Pn**	**13 20 13.8**	**+2.9**
AKMO				S	**Sb**	**13 21 02.9**	**-2.1**
AKGG	**Akutan Green G**	**3.81**	**61**	P	**Pn**	**13 20 15.0**	**+3.3**
AKUT	**Akutan**	**3.90**	**62**	*e*Pn	**Pn**	**13 20 15.2**	**+2.2**
AKUT				*e*Sg	**Sg**	**13 21 22.8**	**+5.3**
KDAK	**Kodiak Island**	**12.12**	**56**	Pn	**Pn**	**13 22 03.9**	**-1.7**
	0.2nm,0.3s,baz=270,slow=12,SNR=3.9						
KDAK				LR	LR	13 27 51.5	
	comp=Z,91nm,18.1s,baz=246,slow=44						
ILAR	**Eielson Array**	**17.67**	**36**	P	**Pn**	**13 23 18.3**	**-0.8**
	0.0nm,0.3s,baz=227,slow=9.6,SNR=2.9						
H11N2	**WAKE ISLAND Hy**	**36.70**	**215**	T	T	14 04 47.1	
	baz=21,slow=76,SNR=5.7						
H11N3	**WAKE ISLAND Hy**	**36.70**	**215**	T	T	14 04 47.5	
	baz=21,slow=76,SNR=7.4						
H11N1	**WAKE ISLAND Hy**	**36.72**	**215**	T	T	14 04 43.9	
	baz=21,slow=76,SNR=6.4						
H11S1	**WAKE ISLAND Hy**	**37.90**	**215**	T	T	14 06 16.7	
	baz=24						
H11S2	**WAKE ISLAND Hy**	**37.91**	**215**	T	T	14 06 03.2	
	baz=24						
H11S3	**WAKE ISLAND Hy**	**37.91**	**215**	T	T	14 06 20.4	
	baz=24						
PDAR	**Pinedale Array**	**41.75**	**78**	P	**P**	**13 27 02.2**	**-0.5**
	1.2nm,0.8s,baz=290,slow=5.7,SNR=3.8						
ULM	**Lac du Bonnet**	**45.33**	**61**	LR	LR	13 46 06.8	
	comp=Z,34nm,18.6s,baz=56,slow=36						
TXAR	**Lajitas Array**	**54.14**	**87**	P	**P**	**13 28 38.9**	**+0.3**
	1.4nm,0.9s,baz=289,slow=4.0,SNR=7.2						
NOA	**NORSAR Array B**	**66.81**	**358**	LR	LR	14 00 19.9	
	comp=Z,5.4nm,19.1s,baz=270,slow=37						
WRA	**Warramunga Arr**	**85.99**	**230**	P	**P**	**13 31 56.0**	**+2.2**
	0.2nm,0.9s,baz=37,slow=5.9,SNR=2.6						
ASAR	**Alice Springs**	**89.41**	**228**	P	**P**	**13 32 09.8**	**-0.3**
	0.2nm,0.6s,baz=39,slow=4.0,SNR=4.1						

*ISCJB **24** 13:26:39.0±0.4,42˚.84S±0˚.07×82˚.7W±0˚.1, h10km, mb4.6/25,MS3.9/13,Error ellipse: s-maj=12.6km s-min=10.0km az=179.7*
*IDC **24** 13:26:40.1±0.7,42˚.55S×83˚.72W, h0km, mb4.1/8, mb1 4.2/9, mb1mx4.1/26, mbtmp4.0/9, ML3.7/1, MS4.0/15, Ms1 4.0/15, ms1mx3.8/23, Error ellipse: s-maj=29.1km s-min=18.9km az=129.0*
*BJI **24** 13:26:40.5,42˚.80S×82˚.70W, h10km, mB4.9/4, Ms5.2/2*
*NEIC **24** 13:26:41.5±0.5,42˚.72S×83˚.55W, h10km, mb4.8/21, Error ellipse: s-maj=16.1km s-min=15.3km az=91.0*

ISC 24 13:26:41.0±0.4,42˚.74S±0˚.09×82˚.9W±0˚.1,h10km,n76, σ1§99/66,mb4.8/25,MS3.9/13,West Chile Rise

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLCA	**Paso Flores**	**9.44**	**82**	Pn	Pn	13 29 06.0	+9.0
	0.2nm,0.3s,baz=241,slow=11,SNR=3.2						
PLCA				LR	LR	13 32 12.5	
	comp=Z,2μm,18.6s,baz=338,slow=33						
USHA	**Ushuaia**	**15.36**	**147**	LR	LR	13 35 16.4	
	comp=Z,1μm,20.1s,baz=282,slow=33						
TRQA	**Tornquist**	**16.59**	**81**	*e*Pn	**Pn**	**13 30 31.2**	**-2.4**
	64nm,1.7s						
LCO	**Las Campanas**	**16.86**	**40**	*e*Pn	**Pn**	**13 30 35.1**	**-

ANMO	**Albuquerque**	**80.26**	**341**	*e*P	**P**	**13 38 50.3**	**-1.6**
	7.0nm,1.2s							
PFO	**Pinyon Flats O**	**81.97**	**332**	*e*P	**P**	**13 38 59.6**	**-1.3**
	14nm,1.8s							
LDFC	**Landfair**	**82.86**	**334**	*e*P	**P**	**13 39 07.5**	**+1.9**
	43nm,1.8s							
S22A	**4UR Ranch, Cre**	**83.02**	**341**	*e*P	**P**	**13 39 06.8**	**+0.2**
	14nm,1.8s							
BOSA	**Boshof**	**83.08**	**123**	LR	LR	14 08 50.3		
	comp=Z,97nm,21.0s,baz=226,slow=30							
Q24A	**Divide**	**83.80**	**343**	*e*P	**P**	**13 39 12.4**	**+1.9**
	4.3nm,0.6s							
SHPR	**Sheep Range**	**84.18**	**334**	*e*P	**P**	**13 39 13.4**	**+1.0**
	22nm,1.7s							
DBIC	**Dimbokro**	**85.77**	**77**	LR	LR	14 10 55.1		
	comp=Z,104nm,21.3s,baz=182,slow=31							
R11A	**Troy Canyon, C**	**86.01**	**335**	*e*P	**P**	**13 39 22.4**	**+0.9**
	15nm,1.8s							
DUG	**Dugway, Tooele**	**86.88**	**337**	*e*P	**P**	**13 39 26.9**	**+1.1**
	19nm,1.7s							
HWUT	**Hardware Ranch**	**87.86**	**339**	*e*P	**P**	**13 39 31.0**	**+0.6**
	7.6nm,1.2s							
HVU	**Hansel Valley**	**88.34**	**338**	*e*P	**P**	**13 39 32.3**	**-0.4**
PDAR	**Pinedale Array**	**88.44**	**341**	LR	LR	14 14 13.4		
	comp=Z,49nm,19.4s,baz=150,slow=32							
DZM	**Mont Dzumac**	**89.35**	**240**	*e*LR	LR	14 08 03.9		
	170nm,24.6s							
MOOW	**Moose Ponds**	**89.65**	**340**	*e*P	P	13 39 44.6	+5.7	
	11nm,2.0s							
IMW	**Indian Meadow**	**89.84**	**340**	*e*P	**P**	**13 39 39.1**	**-0.7**
	14nm,1.6s							
YHH	**Holmes Hill**	**90.65**	**340**	*e*P	**P**	**13 39 42.6**	**-1.0**
	6.2nm,1.1s							
TORD	**Torodi Ar. Bea**	**94.88**	**77**	P	**P**	**13 40 06.9**	**+3.4**
	1.1nm,1.1s,baz=211,slow=5.2,SNR=4.9							
TORD				LR	LR	14 20 22.0		
	comp=Z,59nm,18.6s,baz=225,slow=34							
H11S2	**WAKE ISLAND Hyl**	**17.19**	**271**	T	T	15 52 47.5		
	baz=130,slow=76,SNR=14							
H11S1	**WAKE ISLAND Hyl**	**17.21**	**271**	T	T	15 52 49.0		
	baz=130,slow=76,SNR=12							
H11S3	**WAKE ISLAND Hyl**	**17.21**	**271**	T	T	15 52 48.7		
	baz=130,slow=76,SNR=16							
H11N3	**WAKE ISLAND Hyl**	**17.81**	**272**	T	T	15 53 38.5		
	baz=131							
H11N1	**WAKE ISLAND Hyl**	**17.82**	**272**	T	T	15 53 37.7		
	baz=131							
H11N2	**WAKE ISLAND Hyl**	**17.83**	**272**	T	T	15 53 36.1		
	baz=131							
GERES	**GERESS Array B**	**124.29**	**53**	PKP	**PKPdf**	**13 45 38.9**	**-0.6**
	0.2nm,0.4s,baz=209,slow=34,SNR=3.9							
CLL	**Collm**	**125.02**	**50**	*e*(PKPdf)	**PKPdf**	**13 45 46.0**	**+5.3**
CLL				*e*		13 45 53.0		
VYHS	**Vyhne**	**127.19**	**55**	*e*PKP	**PKPdf**	**13 45 45.0**	**+0.1**
VYHS				*e*		13 45 50.6		
VYHS				*e*		13 45 54.2		
MJAR	**Matsushiro Arr**	**148.00**	**273**	PKPbc	**PKPdf**	**13 46 24.4**	**+1.1**
	6.0nm,0.9s,baz=142,slow=3.1,SNR=8.8							
MAT	**Matsushiro**	**148.00**	**273**	PKP	**PKPdf**	**13 46 24.2**	**+0.9**
AKTO	**Aktyubinsk**	**152.31**	**60**	PKPbc	**PKPbc**	**13 46 35.2**	**-1.2**
	3.7nm,1.0s,baz=85,slow=9.5,SNR=3.9							
CMAR	**Chiang Mai Arr**	**155.75**	**184**	PKP	**PKPdf**	**13 46 36.7**	**+1.3**
	0.9nm,1.0s,baz=227,slow=4.0,SNR=4.3							
KSRS	**Korea Array**	**155.93**	**268**	PKPab	**PKPab**	**13 46 59.9**	**-2.3**
	baz=130,slow=5.1							
KSAR	**Wonju Array Be**	**155.95**	**268**	PKPab	**PKPab**	**13 46 59.9**	**-2.4**
NJ2	**Nanjing**	**159.76**	**245**	*e*PKP	**PKPdf**	**13 46 40.8**	**+0.8**
KMI	**Kunming**	**161.83**	**197**	PKP	**PKPdf**	**13 46 42.3**	**-0.5**
GYA	**Guiyang**	**161.98**	**209**	*e*PKP	**PKPdf**	**13 46 42.0**	**-0.8**
GYA				PKPab	**PKPab**	**13 47 30.3**	**+1.5**
GYA				PKS	**PKSdf**	**13 50 14.8**	**-1.3**
GYA				PP	**PP**	**13 51 15.4**	**+3.4**
GYA				AMB	AMB			
	comp=Z,120nm,8.4s							
KSH	**Kashi**	**163.75**	**94**	*e*PKP	**PKPdf**	**13 46 44.4**	**+0.3**
KSH				PKS	**PKSdf**	**13 50 16.5**	**-0.6**
KSH				PP	**PP**	**13 51 22.4**	**-0.1**
KSH				SKS	**SKSdf**	**13 53 47.4**	**-1.2**
KSH				SS	**SS**	**14 11 46.5**	**-4.8**
KSH				AMB	AMB			
	comp=Z,75nm,7.8s							
KSH				LR	LR			
	comp=N,64nm,5.4s							
KSH				LR	LR			
	comp=E,62nm,4.5s							
KURBB	**Kurchatov Arra**	**165.03**	**52**	PKP	**PKPdf**	**13 46 43.7**	**-0.9**
	0.6nm,0.9s,baz=285,slow=1.2,SNR=7.1							
KURBB				PKPab	**sPKPab**	**13 47 45.8**	**-0.2**
	0.9nm,0.9s,baz=296,slow=5.1,SNR=5.2							
KURK	**Kurchatov**	**165.04**	**51**	PKP	**PKPdf**	**13 46 43.7**	**-0.9**
KURK				PKPab	**sPKPab**	**13 47 45.8**	**-0.3**
MKAR	**Makanchi Array**	**168.71**	**64**	PKPab	**PKPab**	**13 48 01.9**	**+3.9**
	0.8nm,0.8s,baz=269,slow=3.7,SNR=4.8							
HHC	**Hu-ho-hao-te**	**169.05**	**265**	*e*PKP	**PKPdf**	**13 46 48.8**	**+0.7**
SONM	**Songino Array**	**171.71**	**311**	PKPab	**PKPab**	**13 48 10.7**	**-0.6**
	1.0nm,0.9s,baz=100,slow=3.4,SNR=2.3							
WMQ	**Urumqi**	**173.04**	**78**	*e*PKP	**PKPdf**	**13 46 48.8**	**-1.2**

*ISCJB **24** 13:32:46.1±0.8, 32.1°S±0.04°×69.50°W±0.05, h116km±9km, Error ellipse: s-maj=7.5km s-min=5.0km az=35.9*
*GUC **24** 13:32:46.8±0.6, 32.02°S×69.65°W, h96km±7km, ML3.7*
*SJA **24** 13:32:46.0±0.8, 32.13°S×69.52°W, h107km±5km, ML3.8, MW4.0*

ISC 24 13:32:46.7±1.5, 32.11°S±0.04°×69.49°W±0.05, h112km±12km, n25, σ0.60/34, 3C-5D, Mendoza Province

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
AUSP	**Uspallata**	**0.14**	**143**	*e*P		**Pn**		**13 33 02.4**	**-0.2**
AUSP				*e*S		**Sn**		**13 33 13.9**	**-0.6**
ASAL	**Salagasta**	**0.73**	**131**	*e*P		**Pn**		**13 33 05.5**	**-0.1**
RTCV	**Cerro Valdivia**	**0.84**	**73**	*e*P		**Pn**		**13 33 06.6**	**0.0**
ARCO	**CERRO ARCO**	**0.87**	**147**	*e*P		**Pn**		**13 33 06.9**	**-0.1**
ARCO				IAML				13 33 24.6	
	comp=Z,3μm,0.3s								
SJA	**San Juan**	**0.98**	**54**	*e*P		**Pn**		**13 33 08.4**	**+0.4**
SJA				IAML				13 33 25.4	
	comp=Z,1μm,0.5s								
AAGR	**Agrelo**	**1.12**	**150**	*e*P		**Pn**		**13 33 09.4**	**0.0**
RTLL	**Cerro Villicun**	**1.16**	**48**	↑*i*P		**Pn**		**13 33 10.0**	**+0.1**
RTLL				*i*S		**Sn**		**13 33 27.7**	**+0.4**
RTLL	**Cerro Villicun**	**1.16**	**48**	*e*P		**Pn**		**13 33 10.0**	**+0.1**
FCH	**Farellones**	**1.39**	**209**	↓*i*P		**Pn**		**13 33 13.1**	**+0.4**
FCH				*i*S		**Sn**		**13 33 33.7**	**+1.4**
FCH				IAML				13 33 36.0	
	comp=N,760nm,0.4s								
AMOG	**MOGNA**	**1.44**	**36**	*e*P		**Pn**		**13 33 13.7**	**+0.6**
PEL	**Peldehue**	**1.44**	**224**	↑*i*P		**Pn**		**13 33 12.9**	**-0.2**
PEL				*i*S		**Sn**		**13 33 32.7**	**-0.3**
PEL				IAML				13 33 33.6	
	comp=E,1μm,0.5s								
ROCH	**El Roble**	**1.55**	**236**	↑*i*P		**Pn**		**13 33 13.9**	**-0.5**
ROCH				*e*S		**Sn**		**13 33 34.8**	**-0.7**
ROCH				IAML				13 33 37.0	
	comp=N,2μm,0.6s								
ROC1	**El Roble**	**1.55**	**236**	*e*P		**Pn**		**13 33 14.0**	**-0.6**
CLCH	**Cerro Calan**	**1.56**	**214**	↓*i*P		**Pn**		**13 33 14.6**	**+0.1**
CLCH				*i*S		**Sn**		**13 33 36.0**	**+0.5**
CLCH				IAML				13 33 37.6	
	comp=E,2μm,0.6s								
FSR	**Penalolen**	**1.62**	**212**	↓*i*P		**Pn**		**13 33 15.7**	**+0.5**
FSR				*i*S		**Sn**		**13 33 37.6**	**+0.8**
ANTU	**Antumapu**	**1.75**	**213**	*i*S		**Sn**		**13 33 39.8**	**+0.3**
ANTU				IAML				13 33 41.5	
	comp=E,993nm,0.8s								
ACAN	**Cantantal**	**1.96**	**95**	*e*P		**Pn**		**13 33 19.3**	**0.0**
TLL	**Tololo Astrono**	**2.24**	**329**	*e*P		**Pn**		**13 33 23.4**	**+0.2**
TLL				*e*S		**Sn**		**13 33 50.6**	**-0.3**
TLL				IAML				13 33 56.0	
	comp=E,621nm,0.4s								
AVFE	**Valle Fertil**	**2.26**	**51**	*e*P		**Pn**		**13 33 23.5**	**+0.3**
AVFE				IAML				13 33 52.6	
	comp=Z,354nm,0.8s								
ACHE	**Chepes**	**2.59**	**69**	*e*P		**Pn**		**13 33 27.3**	**-0.2**
AGUA	**GUANDACOL**	**2.75**	**18**	*e*P		**Pn**		**13 33 30.7**	**+1.1**
LCO	**Las Campanas**	**3.26**	**341**	↓*i*P		**Pn**		**13 33 36.5**	**-0.1**
LCO				*i*S		**Sn**		**13 34 13.7**	**-1.2**
LCO				IAML				13 34 14.6	
	comp=E,238nm,0.5s								
VCA	**Vinchina**	**3.54**	**19**	↓*i*P		**Pn**		**13 33 40.8**	**+0.7**
VCA	**Vinchina**	**3.54**	**19**	*e*P		**Pn**		**13 33 40.6**	**+0.5**
VCA				IAML				13 34 30.8	
	comp=Z,106nm,0.3s								
TCA	**Tanti**	**4.24**	**81**	*e*P		**Pn**		**13 33 48.2**	**-1.2**
TCA				IAML				13 35 15.0	
	comp=Z,89nm,0.5s								

*IDC **24** 13:42:53.6±1.2, 20.29°S×168.34°E, h0km, mb4.0/9, mb1 4.2/11, mb1mx4.0/29, mbtmp4.1/11, ML3.9/2, MS3.4/5, Ms1 3.4/5, ms1mx3.0/31, Error ellipse: s-maj=33.2km s-min=21.3km az=122.0*
*ISCJB **24** 13:42:55.9±0.9, 20.4°S±0.1°×168.3°E±0.1°, h26km, mb3.9/9, MS3.4/4, Error ellipse: s-maj=19.3km s-min=12.4km az=30.3*

ISC 24 13:42:57.4±1.0, 20.4°S±0.1°×168.3°E±0.2°, h26km, n15, σ1.34/14, mb4.0/9, MS3.5/4, Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**2.38**	**226**	*e*Pn		**Pn**		**13 43 34.0**	**-0.8**
	22nm,0.3s,baz=96,slow=8.6,SNR=516								
DZM						Sn		**13 44 02.7**	**-0.5**
	24nm,0.3s,baz=108,slow=20,SNR=7.7								
DZM				LR		LR		13 44 03.3	
	comp=Z,202nm,20.5s,baz=29,slow=28								
DZM	**Mont Dzumac**	**2.38**	**226**	*e*Pn		**Pn**		**13 43 32.5**	**-2.3**
	77nm,0.2s								
DZM				*e*Sn		Sn		13 43 54.9	-8.3
	197nm,0.2s								
URZ	**Urewera**	**19.35**	**159**	P		**Pn**		**13 47 23.4**	**+1.3**
	0.4nm,0.3s,baz=28,slow=8.6,SNR=5.5								
RPZ	**Rata Peaks**	**23.34**	**175**	LR		LR		13 55 54.2	
	comp=Z,71nm,21.4s,baz=338,slow=33								
STKA	**Stephens Creek**	**26.46**	**239**	P		**P**		**13 48 34.4**	**+1.9**
	1.9nm,0.7s,baz=90,slow=10,SNR=6.1								
STKA				LR		LR		13 58 09.6	
	comp=Z,121nm,19.3s,baz=24,slow=34								
WRA	**Warramunga Arr**	**31.83**	**265**	P		**P**		**13 49 21.5**	**+1.1**
	0.5nm,0.7s,baz=93,slow=8.3,SNR=8.7								
ASAR	**Alice Springs**	**31.99**	**258**	P		**P**		**13 49 22.1**	**+0.3**
	3.4nm,0.7s,baz=87,slow=8.9,SNR=25								
ASAR				LR		LR		14 01 51.4	
	comp=Z,96nm,18.4s,baz=110,slow=36								
PPT2	**Papeete2**	**39.87**	**93**	*e*LR		LR		14 01 37.0	
	91nm,28.5s								
FITZ	**Fitzroy Crossi**	**40.25**	**266**	P		**P**		**13 50 33.7**	**+1.3**
	1.7nm,0.7s,baz=169,slow=5.9,SNR=4.1								
FITZ				LR		LR		14 06 28.1	
	comp=Z,92nm,18.6s,slow=35								
NWAO	**Narrogin (SRO)**	**46.88**	**244**	P		**P**		**13 51 24.9**	**-0.8**
	3.7nm,0.7s,baz=78,slow=9.3,SNR=2.2								
MJAR	**Matsushiro Arr**	**63.38**	**333**	P		**P**		**13 53 24.6**	**-0.1**
	0.6nm,0.7s,baz=165,slow=7.3,SNR=3.2								
CMAR	**Chiang Mai Arr**	**78.18**	**295**	P		**P**		**13 54 56.1**	**+1.1**
	1.9nm,0.8s,baz=150,slow=5.2,SNR=11								
SONM	**Songino Array**	**87.63**	**324**	P		**P**		**13 55 42.3**	**-1.3**
	0.4nm,0.5s,baz=139,slow=6.8,SNR=3.6								
ILAR	**Eielson Array**	**91.62**	**18**	P		**P**		**13 56 00.5**	**-1.2**
	0.4nm,0.7s,baz=231,slow=4.4,SNR=7.1								
GERES	**GERESS Array B**	**145.09**	**330**	PKPbc		**PKPab**		**14 02 32.0**	**0.0**
	0.8nm,0.5s,baz=81,slow=8.6,SNR=6.9								

*SJA **24** 13:43:36.4±0.7, 32.86°S×69.20°W, h26km±2km, ML3.3, MW3.7*
*GUC **24** 13:43:36.8±0.5, 32.90°S×69.23°W, h16km±7km, ML2.7*
*ISCJB **24** 13:43:37.5±0.6, 32.95°S±0.06°×69.13°W±0.06°, h27km±6km, Error ellipse: s-maj=12.0km s-min=5.0km az=147.1*

ISC 24 13:43:37.0±1.0, 32.85°S±0.05°×69.20°W±0.04°, h30km±10km, n20, σ1.22/25, 1C-1D, Mendoza Province

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
ARCO	**CERRO ARCO**	**0.23**	**88**	*e*P		**Pb**		**13 43 43.4**	**-0.3**
ARCO				*e*S		**Sb**		**13 43 48.0**	**-0.2**
ARCO				IAML				13 43 49.8	
	comp=Z,4μm,0.3s								
AAGR	**Agrelo**	**0.39**	**127**	*e*P		**Pb**		**13 43 45.3**	**-0.5**
ASAL	**Salagasta**	**0.40**	**50**	*e*P		**Pn**		**13 43 45.9**	**-1.0**
AUSP	**Uspallata**	**0.64**	**346**	*e*P		**Pn**		**13 43 50.2**	**-0.1**
FCH	**Farellones**	**1.03**	**242**	↑*i*P		**Pn**		**13 43 55.7**	**-0.1**
FCH				*i*S		**Sb**		**13 44 09.9**	**+0.1**
FCH				IAML				13 44 10.7	
	comp=N,775nm,0.2s								
RTCV	**Cerro Valdivia**	**1.13**	**30**	*e*P		**Pb**		**13 43 58.1**	**+0.1**
CLCH	**Cerro Calan**	**1.25**	**244**	*e*P		**Pb**		**13 43 59.3**	**-0.7**
CLCH				*e*S		**Sb**		**13 44 16.1**	**+0.4**
CLCH				IAML				13 44 25.7	
	comp=E,297nm,0.6s								
PEL	**Peldehue**	**1.28**	**256**	↓*i*P		**Pb**		**13 43 59.7**	**-0.8**
PEL				*i*S		**Sb**		**13 44 17.1**	**+0.5**
PEL				IAML				13 44 17.5	
	comp=N,264nm,0.4s								
SJA	**San Juan**	**1.43**	**23**	*e*P		**Pb**		**13 44 02.8**	**-0.1**
SJA				IAML				13 44 24.7	
	comp=Z,649nm,0.2s								
ROCH	**El Roble**	**1.53**	**265**	*e*P		**Pb**		**13 44 04.3**	**-0.5**
ROCH				*i*S		**Sb**		**13 44 25.7**	**+1.8**
ROCH				IAML				13 44 29.4	
	comp=N,172nm,0.3s								
ROC1	**El Roble**	**1.53**	**265**	*e*P		**Pb**		**13 44 04.4**	**-0.5**
RTLL	**Cerro Villicun**	**1.64**	**22**	*e*P		**Pb**		**13 44 05.7**	**-0.8**
ACAN	**Cantantal**	**1.79**	**72**	*e*P		**Pb**		**13 44 08.2**	**-1.0**
AMOG	**MOGNA**	**2.00**	**18**	*e*P		**Pb**		**13 44 11.3**	**-1.4**
AVFE	**Valle Fertil**	**2.64**	**35**	*e*P		**Pn**		**13 44 19.5**	**+1.9**
AVFE				IAML				13 45 00.4	
	comp=Z,129nm,0.7s								
ACHE	**Chepes**	**2.73**	**53**	*e*P		**Pb**		**13 44 25.3**	**0.0**
TLL	**Tololo Astrono**	**3.00**	**332**	*e*P		**Pb**		**13 44 27.3**	**-2.7**
TLL				*e*S		**Sb**		**13 45 05.8**	**-0.4**
AGUA	**GUANDACOL**	**3.41**	**10**	*e*P		**Pn**		**13 44 31.4**	**+3.2**
VCA	**Vinchina**	**4.19**	**12**	IAML				13 46 15.0	
	comp=Z,54nm,0.6s								
TCA	**Tanti**	**4.19**	**70**	*e*P		**Pn**		**13 44 38.3**	**-0.7**
TCA				IAML				13 46 02.0	
	comp=Z,24nm,0.4s								

JMA 24 13:45:45.4, 26.58N×130.06E, h47km, M3.6, Southeast of Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
JMZ	**Minamidaito 2**	**1.29**	**126**	P		Pn		13 46 07.6	+0.6
JMZ				S		Sn		13 46 22.6	-0.5
JOKE	**Okinoerabujima**	**1.54**	**301**	P		Pn		13 46 11.4	+1.0
JOKE				*e*S		Sn		13 46 29.6	+0.3
JTK	**Tokunoshima**	**1.56**	**321**	P		Pn		13 46 11.5	+0.9
JTK				S		Sn		13 46 29.5	-0.1
JOW	**Kunigami**	**1.62**	**279**	P		Pn		13 46 12.4	+0.9
JOW				S		Sn		13 46 31.5	+0.3
JZK	**Kikaishima**	**1.73**	**357**	P		Pn		13 46 14.3	+1.3
JZK				S		Sn		13 46 35.1	+1.2
JNTH	**Nagotoyohara**	**1.83**	**269**	P		Pn		13 46 14.9	+0.6
JNTH				S		Sn		13 46 35.2	-1.1
JAMN	**Amaminishikomi**	**1.83**	**335**	P		Pn		13 46 15.0	+0.6
JAMN				S		Sn		13 46 36.0	-0.5
JAM	**Amami Oshima**	**1.87**	**348**	P		Pn		13 46 15.7	+0.8
JAM				S		Sn		13 46 36.9	-0.4
JIH	**Iheya**	**1.93**	**284**	P		Pn		13 46 16.9	+1.2
JIH				S		Sn		13 46 39.8	+1.1
JJT2	**Tamagusuku 2**	**2.12**	**259**	P		Pn		13 46 19.6	+1.2
JJT2				S		Sn		13 46 44.4	+0.9
JAGN	**Aguni-jima**	**2.52**	**271**	P		Pn		13 46 25.1	+1.2
JAGN				*e*S		Sn		13 46 53.3	-0.1
JTAJ	**Takarajima**	**2.67**	**344**	P		Pn		13 46 26.6	+0.6
JTAJ				S		Sn		13 46 55.8	-1.3
JKE	**Kume jima 2**	**2.95**	**266**	P		Pn		13 46 30.3	+0.6
JOGS	**Gusukube**	**4.57**	**248**	P		Pn		13 46 53.1	+1.0
JTJ	**Tarama**	**5.21**	**249**	P		Pn		13 47 01.2	+0.4
JISG	**Ishigakijimahi**	**5.56**	**250**	P		Pn		13 47 05.1	-0.5

*IDC **24** 14:03:11.9±0.7, 10.34°S×123.77°E, h0km, mb4.1/10, mb1 4.2/13, mb1mx3.9/45, mbtmp4.1/13, ML4.1/3, Error ellipse: s-maj=38.9km s-min=15.0km az=72.0*
*ISCJB **24** 14:03:13.0±0.5, 10.58°S±0.06°×123.86°E±0.09°, h27km, mb4.0/10, Error ellipse: s-maj=13.6km s-min=5.5km az=149.4*
*DJA **24** 14:03:15.3±0.5, 11°S±6°×12°4E±°, h10km, M4.4/8, mb4.7/5, MLv4.3/8*

ISC 24 14:03:15.5±0.6, 10.57°S±0.06°×123.82°E±0.08°, h27km, n21, σ2.11/25, mb4.2/10, Timor region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
BATI	**Baumata**	**0.39**	**337**	P		**Pb**		**14 03 22.2**	**-1.9**
SOEI	**Soe**	**0.92**	**29**	P		**Pb**		**14 03 34.5**	**+1.5**
MMRI	**Maumere**	**2.47**	**321**	P		**Pn**		**14 03 54.4**	**+0.3**
BASI	**Baing, Sumba**	**3.21**	**276**	P		**Pn**		**14 04 05.2**	**+1.0**
BBSI	**Bau Bau**	**5.20**	**346**	P		**Pn**		**14 04 32.6**	**+1.0**
PLAI	**Plampang**	**6.20**	**286**	P		**Pn**		**14 04 45.4**	**0.0**
TWSI	**Taliwang, Sumb**	**7.08**	**284**	P		**Pn**		**14 04 56.9**	**-0.5**
FITZ	**Fitzroy Crossi**	**7.69**	**167**	Pn		**Pn**		**14 05 06.8**	**+0.9**
	2.3nm,0.3s,baz=354,slow=9.7,SNR=62								
FITZ				Sn				**14 06 32.3**	**+0.1**
	11nm,0.3s,baz=114,slow=8.5,SNR=16								
WRA	**Warramunga Arr**	**13.77**	**134**	Pn		**Pn**		**14 06 29.0**	**-0.2**
	0.9nm,0.3s,baz=302,slow=14,SNR=41								
WRA				Sn		**Sn**		**14 08 55.5**	**-5.9**
	2.3nm,0.3s,baz=302,slow=23,SNR=11								
ASAR	**Alice Springs**	**16.19**	**145**	Pn		**Pn**		**14 07 02.5**	**+1.1**
	1.0nm,0.3s,baz=317,slow=12,SNR=85								
ASAR				Sn		**Sn**		**14 09 56.1**	**-4.1**
	1.3nm,0.3s,baz=318,slow=22,SNR=14								
NWAO	**Narrogin (SRO)**	**23.06**	**194**	P		**P**		**14 08 22.0**	**+3.1**
	4.3nm,1.0s,baz=47,slow=19,SNR=2.5								
STKA	**Stephens Creek**	**26.83**	**145**	P		**P**		**14 08 56.9**	**+3.1**
	1.6nm,0.8s,baz=296,slow=14,SNR=3.7								
CMAR	**Chiang Mai Arr**	**37.87**	**319**	P		**P**		**14 10 29.1**	**-1.4**
	1.3nm,0.7s,baz=138,slow=6.4,SNR=11								
CMAR				PcP		**PcP**		**14 12 48.6**	**+2.0**
	1.0nm,0.5s,baz=168,slow=2.8,SNR=5.2								
SONM	**Songino Array**	**60.17**	**347**	P		**P**		**14 13 19.4**	**-1.6**
	0.8nm,0.6s,baz=164,slow=4.2,SNR=3.2								
MKAR	**Makanchi Array**	**68.08**	**331**	P		**P**		**14 14 12.0**	**-0.9**
	3.5nm,0.7s,baz=140,slow=7.1,SNR=18								
MAW	**Mawson**	**69.43**	**201**	P		**P**		**14 14 21.9**	**+1.0**
	0.8nm,0.3s,baz=63,slow=5.9,SNR=4.1								
AAK	**Ala-Archa**	**69.52**	**323**	P		**P**		**14 14 21.3**	**-0.8**
	1.7nm,0.5s,baz=145,slow=3.0,SNR=4.6								
ZALV	**Zalesovo Beam**	**72.26**	**337**	P		**P**		**14 14 36.5**	**-1.8**
	3.5nm,0.6s,baz=141,slow=4.2,SNR=11								
KURBB	**Kurchatov Arra**	**72.53**	**332**	P		**P**		**14 14 39.0**	**-1.0**
	0.4nm,0.4s,baz=142,slow=5.6,SNR=3.8								
SEY	**Seymchan**	**76.53**	**13**	P		**P**		**14 15 03.3**	**+0.4**
	1.9nm,0.6s,baz=197,slow=20								
TORD	**Torodi Ar. Bea**	**123.40**	**279**	PKP		**PKPdf**		**14 22 12.8**	**+1.6**
	0.7nm,0.8s,baz=84,slow=2.2,SNR=4.1								

*AZER **24** 14:06:28.5±6.6, 42.97N×45.58E, h2km, Error ellipse: s-maj=5.8km s-min=4.7km az=336.0*
*IDC **24** 14:06:28.4±0.6, 43.04N×45.65E, h0km, mb3.6/8, mb1 3.8/17, mb1mx3.6/55, mbtmp3.7/17, ML3.4/8, MS2.5/4, Ms1 2.5/4, ms1mx2.2/42, Error ellipse: s-maj=7.8km s-min=7.5km az=1.0*
*ISCJB **24** 14:06:30.4±0.3, 43.12N±0.02×45.81E±0.02, h1km±2km, mb3.8/8, MS2.3/1, Error ellipse: s-maj=3.2km s-min=1.6km az=19.5*
*MOS **24** 14:06:31.6±1.2, 43.10N×45.83E, h16km, mb4.0/6, Error ellipse: s-maj=6.2km s-min=4.3km az=33.1*
*CSEM **24** 14:06:31.1±0.1, 43.11N×45.80E, h5km, mb3.8/5, Error ellipse: s-maj=4.7km s-min=2.6km az=20.0*
*TIF **24** 14:06:31.2, 42.98N×45.81E, h15km±1km*

ISC 24 14:06:31.5±0.8, 43.03N±0.02×45.80E±0.01, h13km±6km, n168, σ1.69/278, mb3.8/9, 34C-30D, Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
GROC	**Groznyy**	**0.17**	**0**	↓*i*Pg		**Pg**		**14 06 36.2**	**+0.6**
GROC				*e*S		**Sg**		**14 06 40.6**	**+2.2**
DVE	**Vedeno**	**0.25**	**106**	*i*Pg		**Pg**		**14 06 36.0**	**-0.9**
KMGR	**Komgaron**	**0.68**	**273**	*e*Pg		**Pb**		**14 06 45.6**	**+0.3**
KMGR				*e*S		**Sb**		**14 06 55.5**	**+0.8**
DBC	**Dubki**	**0.76**	**90**	↑*i*Pg		**Pb**		**14 06 47.5**	**+0.8**
DBC				*i*S		**Sb**		**14 06 57.5**	**+0.5**
DBC				pmax		pmax			
	comp=Z,254nm,0.3s			

comp=Z,331nm,0.3s
KMKR Kumukh 1.32 132 *i* Pg **Pn 14 06 55.5 -0.3**
comp=Z,331nm,0.3s
KMKR *e*Sg **Sb 14 07 14.0 +0.9**
PRTR Priterechnaya 1.32 304 ⇑*i*PG **Pg 14 06 57.5 +0.6**
PRTR *e*S **Sn 14 07 16.5 +3.4**
PRTR Priterechnaya 1.32 304 *i* Pg **Pg 14 06 57.5 +0.6**
PRTR *e*Sg **Sn 14 07 16.5 +3.4**
ZEI Tsey 1.41 261 *e*PG **Pn 14 06 56.5 -0.7**
ZEI *e*S **Sb 14 07 16.3 +0.4**
ZEI Tsey 1.41 261 *e*Pg **Pn 14 06 56.5 -0.7**
ZEI *e*Sg **Sb 14 07 16.3 +0.4**
SEAG Tbilisi Sea 1.46 211 P **Pn 14 06 58.5 +0.8**
SEAG S **Sb 14 07 18.2 +1.1**
LSNR Lesken 1.46 281 ⇓*i*PG **Pb 14 06 58.7 +0.1**
LSNR *e*S **Sg 14 07 19.0 +0.4**
LSNR Lesken 1.46 281 *i* Pg **Pb 14 06 58.7 +0.1**
LSNR *e*Sg **Sg 14 07 19.0 +0.4**
SGKR Sergokala 1.49 112 *e*PG **Pb 14 06 59.0 0.0**
SGKR *e*S **Sg 14 07 22.0 +2.6**
SGKR pmax pmax
comp=Z,544nm,0.2s
SGKR Sergokala 1.49 112 *e*Pg **Pb 14 06 59.0 0.0**
comp=Z,544nm,0.2s
SGKR *e*Sg **Sg 14 07 22.0 +2.6**
TBLG Delisi 1.51 211 P **Pn 14 06 58.9 +0.5**
TBLG S **Sn 14 07 19.1 +1.1**
TBLG Delisi 1.51 211 *e*PG **Pn 14 06 59.3 +0.9**
TBLG *e*S **Sg 14 07 20.2 0.0**
TBLG Delisi 1.51 211 P **Pn 14 06 59.3 +0.9**
TBLG S **Sg 14 07 20.3 0.0**
ZKTA Zakatala 1.52 156 ⇓P **Pn 14 06 59.0 +0.6**
SNR=109
ZKTA ⇓S **Sn 14 07 18.8 +0.7**
DGRG David-gareji 1.61 191 P **Pg 14 07 02.1 -0.3**
DGRG S **Sg 14 07 24.4 +1.2**
DGRG David-gareji 1.61 191 *e*PN **Pg 14 07 02.0 -0.4**
DGRG *e*S **Sg 14 07 25.0 +1.8**
DGRG David-gareji 1.61 191 *e*Pn **Pg 14 07 02.0 -0.4**
DGRG *e*Sg **Sg 14 07 25.0 +1.8**
DIGR Digorskoe uzhe 1.63 266 *e*PN **Pn 14 07 00.3 +0.1**
DIGR *e*S **Sn 14 07 22.4 +1.3**
DIGR Digorskoe uzhe 1.63 266 *e*Pn **Pn 14 07 00.3 +0.1**
DIGR *e*Sg **Sn 14 07 22.4 +1.3**
NCK Nalchik 1.67 287 *e*PN **Pn 14 07 01.1 +0.5**
NCK *e*S **Sg 14 07 24.9 -0.5**
NCK Nalchik 1.67 287 *e*Pn **Pn 14 07 01.1 +0.5**
NCK *e*Sg **Sg 14 07 24.9 -0.5**
ONI Oni 1.78 257 P **Pn 14 07 03.0 +0.9**
ONI S **Sb 14 07 27.4 +1.2**
ONI Oni 1.78 257 *e*PN **Pn 14 07 03.0 +0.9**
ONI Oni 1.78 257 *e*Pn **Pn 14 07 03.0 +0.9**
KBTC Kuba-Taba 1.91 295 *e*PN **Pb 14 07 06.7 +0.4**
KBTC *e*S **Sg 14 07 32.1 -0.8**
KZR Kazreti 1.94 212 P **Pb 14 07 07.3 +0.6**
KZR S **Sb 14 07 32.1 +1.3**
QZX Qazax, Azerbai 1.99 189 ⇓P **Pn 14 07 06.2 +1.2**
SNR=74
QZX ⇓S **Sb 14 07 34.5 +2.1**
QZX Qazax, Azerbai 1.99 189 P **Pn 14 07 06.2 +1.2**
SNR=74
QZX S **Sb 14 07 34.5 +2.1**
SEKA Sheki 2.10 150 ⇑P **Pn 14 07 07.8 +1.4**
SNR=129
SEKA ⇑S **Sg 14 07 38.1 -0.8**
SEKA Sheki 2.10 150 P **Pn 14 07 07.8 +1.4**
SNR=129
SEKA S **Sg 14 07 38.1 -0.8**
AKT Akhty 2.11 136 *e*PN **Pn 14 07 08.3 +1.6**
AKT *e* 14 07 36.9
AKT pmax pmax
comp=Z,172nm,0.6s
AKT smax smax
comp=N,752nm,0.4s
AKT smax smax
comp=E,1μm,0.3s
AKT smax smax
comp=E,882nm,0.3s
AKT Akhty 2.11 136 *e*Pn **Pn 14 07 08.3 +1.6**
comp=E,172nm,0.6s
AKT *e*Sb **Sb 14 07 36.9 +1.0**
comp=E,752nm,0.4s
DRN Derbent 2.12 117 *e*PN **Pb 14 07 09.8 0.0**
DRN *e* 14 07 37.6
DRN pmax pmax
comp=Z,153nm,0.4s
DRN smax smax
comp=N,728nm,0.6s
DRN smax smax
comp=N,627nm,0.7s
DRN smax smax
comp=E,623nm,0.5s
DRN Derbent 2.12 117 *e*Pn **Pb 14 07 09.8 0.0**
comp=E,153nm,0.4s
DRN *e*Sb **Sb 14 07 37.6 +1.5**
comp=E,627nm,0.7s
KBZ Khabaz 2.23 289 Pn **Pn 14 07 06.6 -1.5**
comp=E,3.0nm,0.3s,baz=163,slow=4.4,SNR=24
KBZ Pg **Pb 14 07 10.7 -1.0**
comp=E,9.7nm,0.3s,baz=88,slow=5.9,SNR=40
KBZ Lg Lg 14 07 37.7
comp=E,22nm,0.3s,baz=274,slow=22,SNR=12
KSMR Kasumkent 2.24 129 *e*PN **Pb 14 07 13.0 +1.1**
KSMR *e*S **Sg 14 07 43.0 -0.6**
KSMR pmax pmax
comp=Z,341nm,0.3s
KSMR Kasumkent 2.24 129 *e*Pn **Pb 14 07 13.0 +1.1**
comp=Z,341nm,0.3s
KSMR *e*Sb **Sg 14 07 43.0 -0.6**
NEY Neytrino 2.26 277 *e*PN **Pn 14 07 10.1 +1.3**
NEY *e*S **Sb 14 07 39.5 -0.8**
NEY Neytrino 2.26 277 *e*Pn **Pn 14 07 10.1 +1.3**
NEY *e*Sn **Sb 14 07 39.5 -0.8**
GDB GEDABAY 2.31 181 ⇑P **Pn 14 07 10.1 +0.7**
SNR=144
GDB ⇑S **Sn 14 07 40.6 +2.9**
GDB GEDABAY 2.31 181 P **Pn 14 07 10.1 +0.7**
SNR=144
GDB S **Sn 14 07 40.6 +2.9**
AKH Akhalkalaki 2.35 227 P **Pn 14 07 12.2 +2.1**
AKH S **Sb 14 07 44.5 +1.6**
AKH Akhalkalaki 2.35 227 *e*PN **Pb 14 07 12.6 -1.3**
AKH *e*S **Sb 14 07 43.7 +0.8**
AKH Akhalkalaki 2.35 227 *e*Pn **Pb 14 07 12.6 -1.3**
AKH *e*Sn **Sb 14 07 43.7 +0.8**
QSAR Qusar 2.38 129 ⇑P **Pb 14 07 13.8 -0.4**
SNR=27
QSAR ⇓S **Sg 14 07 46.9 -1.0**
BEYR Belyy Ugol+ 2.38 295 *e*PN **Pn 14 07 09.2 -1.1**
BEYR *e*S **Sn 14 07 39.4 0.0**
BEYR Belyy Ugol+ 2.38 295 *e*Pn **Pn 14 07 09.2 -1.1**
BEYR *e*Sn **Sn 14 07 39.4 0.0**
SHA1 Shidzhatmaz 2.40 288 *e*PN **Pn 14 07 11.5 +0.8**
SHA1 *e*S **Sn 14 07 42.5 +2.5**
BGD Bogdanovka 2.40 224 P **Pn 14 07 12.6 +1.8**
BGD S **Sb 14 07 45.9 +1.5**
GANJ Ganja 2.41 170 ⇑P **Pn 14 07 11.8 +1.0**
SNR=48
GANJ ⇓S **Sb 14 07 45.1 +0.6**
GANJ Ganja 2.41 170 P **Pn 14 07 11.8 +1.0**
SNR=48
GANJ S **Sb 14 07 45.1 +0.6**
KVAR Kislovodsk Arr 2.44 293 Pn **Pn 14 07 10.6 -0.6**
baz=106,slow=8.0,SNR=19
KVAR Sn **Sn 14 07 40.5 -0.4**
baz=58,slow=20,SNR=7.7
KVAR Lg Lg 14 07 46.8
baz=45,slow=20,SNR=9.4
KIV Kislovodsk 2.44 293*c* *i*PN **Pn 14 07 10.1 -1.2**
KIV *i* 14 07 18.8
KIV pmax pmax
comp=Z,358nm,0.7s
KIV MLR MLR
comp=Z,110nm,14.0s
KIV Kislovodsk 2.44 293 *i* Pn **Pn 14 07 10.1 -1.2**
comp=Z,358nm,0.7s
MNGR Mingechevir, A 2.45 156 ⇓P **Pn 14 07 13.8 +2.6**
SNR=7.5
MNGR ⇓S **Sb 14 07 47.7 +2.2**
MNGR Mingechevir, A 2.45 156 P **Pn 14 07 13.8 +2.6**
SNR=7.5
MNGR S **Sb 14 07 47.7 +2.2**
XNQ Khinaliq 2.55 136 ⇓P **Pn 14 07 15.2 +2.4**
SNR=33
XNQ ⇑S **Sg 14 07 51.8 -1.5**
XNQ Khinaliq 2.55 136 P **Pn 14 07 15.2 +2.4**
SNR=33
QBL Gabala 2.58 143 ⇑P **Pb 14 07 15.9 -1.8**
SNR=14
QBL ⇓S **Sb 14 07 50.0 +0.8**
QUBA Quba, Azerbaij 2.61 129 ⇓P **Pb 14 07 16.3 -1.9**
SNR=14
QUBA ⇑S **Sb 14 07 52.3 +2.1**
QUBA Quba, Azerbaij 2.61 129 P **Pb 14 07 16.3 -1.9**
SNR=14
GOF Gofitskoye 2.84 317 ⇓*i*PN **Pn 14 07 17.2 +0.6**
GOF *e*S **Sn 14 07 52.5 +1.9**
GOF pmax pmax
comp=Z,54nm,0.2s
GOF smax smax
comp=E,759nm,0.3s
GOF smax smax
comp=N,1μm,0.3s
GOF Gofitskoye 2.84 317 *i* Pn **Pn 14 07 17.2 +0.6**
comp=N,54nm,0.2s
GOF *e*Sn **Sn 14 07 52.5 +1.9**
comp=N,1μm,0.3s
IML Ismayilli 2.86 141 ⇓P **Pn 14 07 19.1 +2.2**
SNR=9.6
IML ⇓S **Sb 14 07 59.2 +1.9**
IML Ismayilli 2.86 141 P **Pn 14 07 19.1 +2.2**
SNR=9.6
BRDA Brd 2.95 159 ⇑P **Pn 14 07 19.8 +1.7**
SNR=8.3
BRDA ⇓S **Sb 14 08 00.1 +0.2**
BRDA Brd 2.95 159 P **Pn 14 07 19.8 +1.7**
SNR=8.3
BRDA S **Sb 14 08 00.1 +0.2**
GNI Garni 2.98 196 Pn **Pn 14 07 20.8 +2.2**
comp=N,10nm,0.3s,baz=13,slow=4.0,SNR=18
GNI Pg **Pb 14 07 24.4 -0.2**
comp=N,10nm,0.3s,baz=16,slow=9.0,SNR=24
GNI Lg Lg 14 08 03.5
comp=N,32nm,0.3s,baz=284,slow=19,SNR=8.9
GNI LR LR 14 08 48.5
comp=N,106nm,18.5s,baz=78,slow=47
GNI Garni 2.98 196*de*PN **Pn 14 07 20.9 +2.2**
GNI pmax pmax
comp=Z,616nm,0.6s
GNI Garni 2.98 196 *e*Pn **Pn 14 07 20.9 +2.2**
comp=Z,616nm,0.6s
SIZA Siyzn 3.02 129 ⇓P **Pb 14 07 23.1 -2.2**
SNR=6.4
SIZA Siyzn 3.02 129 P **Pb 14 07 23.1 -2.2**
SNR=6.4
PQL Pirkuli 3.06 136 ⇑P **Pn 14 07 22.1 +2.3**
SNR=19
PQL ⇑S **Sb 14 08 03.8 +0.6**
PQL Pirkuli 3.06 136 P **Pn 14 07 22.1 +2.3**
SNR=19
ZRD Zardab 3.09 152 ⇑P **Pn 14 07 21.7 +1.7**
ZRD ⇓S **Sb 14 08 03.6 -0.3**
ZRD Zardab 3.09 152 P **Pn 14 07 21.7 +1.7**
ZRD S **Sb 14 08 03.6 -0.3**
ATGJ Altiaghaj 3.19 132 ⇑P **Pn 14 07 23.7 +2.1**
SNR=10.0
ATGJ ⇓S **Sb 14 08 08.2 +1.2**
ATGJ Altiaghaj 3.19 132 P **Pn 14 07 23.7 +2.1**
SNR=10.0
GBS Qobustan 3.43 136 ⇑P **Pn 14 07 27.7 +3.0**
SNR=9.0
GBS ⇑S **Sb 14 08 10.6 -3.1**
GBS Qobustan 3.43 136 P **Pn 14 07 27.7 +3.0**
SNR=9.0
GBS S **Sb 14 08 10.6 -3.1**
NAX Nakhchivan 3.86 183 ⇑P **Pn 14 07 31.2 +0.6**
NAX ⇓S **Sn 14 08 18.8 +2.9**
NAX Nakhchivan 3.86 183 P **Pn 14 07 31.2 +0.6**
NAX S **Sn 14 08 18.8 +2.9**
ALIB Äli-Bayra 3.90 141 ⇑P **Pn 14 07 33.5 +2.3**
ALIB ⇓S **Sb 14 08 23.4 -3.9**
ALIB Äli-Bayra 3.90 141 P **Pn 14 07 33.5 +2.3**
ALIB S **Sb 14 08 23.4 -3.9**
LRK Lerik 4.79 155 ⇑P **Pn 14 07 45.4 +1.9**
SNR=24
LRK ⇓S **Sn 14 08 42.7 +3.8**
LRK Lerik 4.79 155 P **Pn 14 07 45.4 +1.9**
SNR=24
LRK S **Sn 14 08 42.7 +3.8**
ASTR Astara 5.01 152 ⇑P **Pn 14 07 48.2 +1.8**
SNR=9.7
ASTR ⇓S **Sn 14 08 48.0 +3.8**
ASTR Astara 5.01 152 P **Pn 14 07 48.2 +1.8**
SNR=9.7
ASTR S **Sn 14 08 48.0 +3.8**
ANN Anapa 6.29 289 *e*P **Pn 14 08 02.7 -1.3**
ANN *e*S **Sn 14 09 14.7 -1.1**
ANN pmax pmax
comp=Z,68nm,1.8s
ANN Anapa 6.29 289 *e*P **Pn 14 08 02.7 -1.3**
comp=Z,68nm,1.8s
ANN *e*S **Sn 14 09 14.7 -1.1**
BRTR Keskin Array B 9.71 254 Pn **Pn 14 08 50.5 -0.7**
comp=Z,0.0nm,0.3s,baz=39,slow=19,SNR=2.1
GEYT Alibeck 10.68 114 Pn **Pn 14 09 03.5 -0.7**
comp=Z,0.7nm,0.3s,baz=303,slow=15,SNR=5.2
AKTK Aktyubinsk 11.18 44 P **Pn 14 09 09.1 -1.9**
comp=Z,25nm,21.7s
AKTO Aktyubinsk 11.18 44 Pn **Pn 14 09 09.1 -1.9**
comp=Z,1.4nm,0.3s,baz=241,slow=10,SNR=16
AKTO Sn Sn 14 11 05.4 -10
comp=Z,1.3nm,0.3s,baz=53,slow=19,SNR=7.2
AKTO LR LR 14 14 46.5
comp=Z,25nm,21.7s,baz=235,slow=44
AKTO Aktyubinsk 11.18 44 ⇑Pn **Pn 14 09 08.9 -2.1**
comp=Z,2.3nm,0.5s
AKTO ⇑Sn Sn 14 11 01.0 -15
comp=Z,11nm,0.6s
AKTO Aktyubinsk 11.18 44 Pn **Pn 14 09 08.9 -2.1**
comp=Z,2.3nm,0.5s
AB31 Akbulak array 11.62 53 ⇑Pn **Pn 14 09 15.5 -1.4**
comp=Z,1.3nm,0.4s,baz=243,slow=12
AB31 ⇑Sn Sn 14 11 17.5 -8.9
comp=Z,16nm,0.7s,baz=246,slow=24
AB31 Akbulak array 11.62 53 Pn **Pn 14 09 15.5 -1.4**
comp=Z,1.3nm,0.4s
OBN Obninsk 13.51 337 *i* P **Pn 14 09 44.2 +1.5**
OBN pmax pmax
comp=Z,5.0nm,0.8s
OBN MLR MLR
comp=Z,18nm,14.0s
OBN Obninsk 13.51 337 *i* P **Pn 14 09 44.2 +1.5**
comp=Z,18nm,14.0s
AKASG Malin Array Be 13.67 310 Pn **Pn 14 09 39.6 -5.3**
comp=Z,0.7nm,0.3s,baz=100,slow=12,SNR=4.6
AKASG Malin Array Be 13.67 310 *i* P **Pn 14 09 41.7 -3.3**
AKASG Malin Array Be 13.67 310 *i* P **Pn 14 09 41.7 -3.3**
KIEV Kiev 13.68 310 *e*P **Pn 14 09 44.3 -0.7**
KIEV Kiev 13.68 310 *e*P **Pn 14 09 44.3 -0.7**
ARU Arti 15.71 27 Pn **Pn 14 10 06.6 -5.8**
comp=Z,0.0nm,0.3s,baz=221,slow=5.4,SNR=8.4
ARU Sn Sn 14 12 54.2 -12
comp=Z,0.0nm,0.3s,baz=270,slow=20,SNR=5.9
ARU Arti 15.71 27*c* *i*P **Pn 14 10 12.6 +0.2**
ARU S **Sn 14 13 08.1 +1.9**
ARU pmax pmax
comp=Z,3.0nm,0.8s
ARU Arti 15.71 27 *i* P **Pn 14 10 12.6 +0.2**
comp=Z,3.0nm,0.8s
ARU S **Sn 14 13 08.1 +1.9**
EIL Elat 15.92 217 LR LR 14 15 58.8
comp=Z,14nm,18.9s,baz=78,slow=36
SVE Sverdlovsk 16.74 29⇓*e*P **Pn 14 10 20.3 -5.3**
SVE pmax pmax
comp=Z,13nm,0.6s
SVE Sverdlovsk 16.74 29 *e*P **Pn 14 10 20.3 -5.3**
comp=Z,13nm,0.6s
KLMR Klimovskoe 18.25 350 *e*P **P 14 10 46.9 +2.5**
KLMR pmax pmax
comp=Z,13nm,1.0s
KLMR Klimovskoe 18.25 350 *e*P **P 14 10 46.9 +2.5**
comp=Z,13nm,1.0s
BRVK Borovoye 19.11 50*ce*P **P 14 10 53.4 -0.6**
BRVK pmax pmax
comp=Z,5.0nm,0.8s
BRVK Borovoye 19.11 50 *e*P **P 14 10 53.4 -0.6**
comp=Z,5.0nm,0.8s
BVAR Borovoye Array 19.16 50 P **P 14 10 52.8 -1.7**
comp=Z,0.5nm,0.3s,baz=254,slow=8.6,SNR=13
BVAR S Sn 14 14 16.6 -13
comp=Z,0.5nm,0.3s,baz=249,slow=24,SNR=7.9
BVAR Borovoye Array 19.16 50 P **P 14 10 52.8 -1.7**
BVAR S Sn 14 14 16.6 -13
BVAR pmax pmax
comp=Z,1.0nm,0.3s
BVAR smax smax
comp=N,1.0nm,0.3s
AAK Ala-Archa 21.01 81 P **P 14 11 14.2 -0.7**
comp=N,1.9nm,0.6s,baz=235,slow=6.9,SNR=5.0
AAK Ala-Archa 21.01 81*ce*P **P 14 11 16.7 +1.8**
AAK pmax pmax
comp=Z,5.0nm,1.2s
AAK Ala-Archa 21.01 81 *e*P **P 14 11 16.7 +1.8**
comp=Z,5.0nm,1.2s
FINES FINESS Array B 21.88 334 P **P 14 11 22.6 -1.2**
comp=Z,3.7nm,0.7s,baz=142,slow=9.6,SNR=8.6
GERES GERESS Array B 22.95 296 P **P 14 11 33.2 -2.3**
comp=Z,0.6nm,0.6s,baz=87,slow=9.5,SNR=5.5
KURBB Kurchatov Arra 23.50 60 P **P 14 11 40.9 -0.1**
comp=Z,0.9nm,0.4s,baz=271,slow=13,SNR=7.1
KURK Kurchatov 23.57 60 *e*P **P 14 11 43.5 +1.9**
KURK pmax pmax
comp=Z,9.0nm,0.9s
KURK Kurchatov 23.57 60 *e*P **P 14 11 43.5 +1.9**
comp=Z,9.0nm,0.9s
CLL Collm 23.62 302 *e*P **P 14 11 48.0 +5.9**
HFS Hagfors 25.91 322 P **P 14 12 00.4 -2.6**
comp=Z,1.8nm,0.5s,baz=108,slow=12,SNR=6.6
HFS LR LR 14 21 55.9
comp=Z,8.5nm,18.2s,baz=356,slow=36
MKAR Makanchi Array 25.97 69 P **P 14 12 02.9 -0.9**
comp=Z,0.9nm,0.6s,baz=267,slow=8.0,SNR=12
NOA NORSAR Array B 27.40 323 P **P 14 12 13.3 -3.3**
comp=Z,0.9nm,0.9s,baz=122,slow=9.0,SNR=2.4
TORD Torodi Ar. Bea 48.19 245 P **P 14 15 09.3 -2.5**
comp=Z,0.7nm,0.7s,baz=47,slow=7.1,SNR=6.0

*IDC **24** 14:14:59.2±0.9, 37.°08N×144.°13E, h0km, mb3.7/10, mb1 3.9/13, mb1mx3.8/44, mbtmp3.8/13, ML3.8/3, MS3.4/5, Ms1 3.4/5, ms1mx2.7/47, Error ellipse: s-maj=23.9km s-min=18.1km az=96.0*
*NIED **24** 14:15:00, 37.°20N×143.°90E, h8km, Mw3.7 Best double couple: M0×4.62000×10^14 NP1:φs 14.00000°, δ57.00000°, λ-165.00000°. NP2:φs 276.00000°, δ77.00000°, λ-34.00000°.*
*ISCJB **24** 14:15:03.1±0.6, 37.°14N±0.°05×143.°92E±0.°05, h33km, mb3.7/10, MS3.5/5, Error ellipse: s-maj=7.6km s-min=5.4km az=1.7*
*JMA **24** 14:15:04.6±0.1, 37.°22N×143.°85E, h48km, M3.9*
ISC 24 14:15:05.0±0.8, 37.°18N±0.°06×143.°91E±0.°08, h35km, n36, σ1s36/37, mb3.7/10, MS3.6/5, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JIO	**Ouri**	**2.40**	**303**	P	**Pn**	**14 15 41.7**	**-0.1**
JIO				S	**Sn**	**14 16 09.0**	**-0.9**
JFK	**Kawauchi**	**2.43**	**275**	P	**Pn**	**14 15 42.3**	**0.0**
JFK				*e*S	**Sn**	**14 16 10.5**	**-0.3**
ONAJ	**Iwakimizuishiy**	**2.49**	**269**	P	**Pn**	**14 15 42.9**	**-0.2**
ONAJ				S	**Sn**	**14 16 11.8**	**-0.5**
JMM	**Marumori**	**2.57**	**286**	P	**Pn**	**14 15 44.0**	**-0.2**
JMM				*e*S	**Sn**	**14 16 13.9**	**-0.4**
JMK	**Ichinoseki**	**2.77**	**311**	P	**Pn**	**14 15 46.7**	**-0.1**
JMK				*e*S	**Sn**	**14 16 18.3**	**-0.7**
JFT	**Otama**	**2.87**	**278**	P	**Pn**	**14 15 48.7**	**+0.4**
JFT				*e*S	**Sn**	**14 16 21.2**	**-0.4**
JOM	**Ohasama**	**3.08**	**319**	P	**Pn**	**14 15 50.9**	**-0.3**
JYK	**Kaneyama**	**3.30**	**303**	P	**Pn**	**14 15 54.4**	**+0.2**
JYK				S	**Sn**	**14 16 32.0**	**-0.2**
JAG	**Ashikaga**	**3.66**	**260**	P	**Pn**	**14 15 59.6**	**+0.5**
JAG				S	**Sn**	**14 16 41.0**	**0.0**
MJAR	**Matsushiro Arr**	**4.62**	**264**	Pn	**Pn**	**14 16 13.6**	**+1.3**
	2.5nm,0.3s,baz=72,slow=13,SNR=30						
MJAR				Sn	**Sn**	**14 17 04.8**	**+0.1**
	0.9nm,0.3s,baz=115,slow=8.2,SNR=2.9						
MAT	**Matsushiro**	**4.62**	**264**	P	**Pn**	**14 16 14.2**	**+1.9**
MAT				S	**Sn**	**14 17 05.2**	**+0.5**
JOT	**Ohata**	**4.75**	**333**	P	**Pn**	**14 16 14.6**	**+0.5**
JHJ	**Hachijo jima 2**	**5.27**	**221**	Pn	**Pn**	**14 16 18.9**	**-2.4**
	8.5nm,0.3s,baz=42,slow=21,SNR=12						
JHJ				Sn	**Sn**	**14 17 16.0**	**-4.9**
	34nm,0.3s,baz=285,slow=22,SNR=5.9						
ASAJ	**Asahikawa**	**7.00**	**352**	Pn	**Pn**	**14 16 43.6**	**-1.4**
	2.1nm,0.3s,baz=205,slow=14,SNR=35						
ASAJ				Sn	**Sn**	**14 17 59.6**	**-3.8**
	0.5nm,0.3s,baz=86,slow=16,SNR=2.1						
SEY	**Seymchan**	**26.31**	**9**	LR	LR	14 34 08.6	
	comp=Z,57nm,18.1s,baz=330,slow=44						
H11N2	**WAKE ISLAND Hy**	**26.54**	**125**	T	T	14 47 35.1	
	baz=317,slow=74,SNR=28						
H11N1	**WAKE ISLAND Hy**	**26.55**	**125**	T	T	14 47 37.6	
	baz=317,slow=74,SNR=7.7						
H11N3	**WAKE ISLAND Hy**	**26.56**	**125**	T	T	14 47 32.9	
	baz=317,slow=74,SNR=14						
H11S1	**WAKE ISLAND Hy**	**27.30**	**127**	T	T	14 48 33.7	
	baz=318,slow=76,SNR=6.4						
H11S3	**WAKE ISLAND Hy**	**27.30**	**127**	T	T	14 48 33.4	
	baz=318,slow=76,SNR=5.6						
H11S2	**WAKE ISLAND Hy**	**27.32**	**127**	T	T	14 48 35.3	
	baz=318,slow=76,SNR=5.0						
SONM	**Songino Array**	**29.37**	**303**	P	**P**	**14 21 06.8**	**+2.0**
	0.3nm,0.5s,baz=115,slow=7.6,SNR=2.8						
ZALV	**Zalesovo Beam**	**43.30**	**312**	PcP	**PcP**	**14 24 51.4**	**-0.2**
	0.7nm,0.5s,baz=99,slow=3.9,SNR=4.7						
CMAR	**Chiang Mai Arr**	**43.47**	**257**	P	**P**	**14 23 04.3**	**-0.6**
	0.3nm,0.4s,baz=104,slow=12,SNR=4.3						
MKAR	**Makanchi Array**	**45.73**	**302**	P	**P**	**14 23 23.2**	**+0.5**
	0.3nm,0.7s,baz=96,slow=10,SNR=3.0						
KURBB	**Kurchatov Arra**	**47.49**	**308**	P	**P**	**14 23 37.5**	**+1.1**
	0.3nm,0.3s,baz=83,slow=7.9,SNR=3.5						
ILAR	**Eielson Array**	**48.30**	**32**	P	**P**	**14 23 41.8**	**-0.7**
	0.5nm,0.8s,baz=265,slow=6.3,SNR=7.4						
WRA	**Warramunga Arr**	**57.52**	**191**	P	**P**	**14 24 49.9**	**-1.0**
	1.6nm,0.6s,baz=12,slow=7.4,SNR=23						
ARU	**Arti**	**57.57**	**319**	LR	LR	14 52 40.1	
	comp=Z,61nm,18.7s,baz=251,slow=39						
ASAR	**Alice Springs**	**61.25**	**190**	P	**P**	**14 25 16.0**	**-0.6**
	0.7nm,0.7s,baz=20,slow=11,SNR=7.9						
NOA	**NORSAR Array B**	**74.81**	**338**	LR	LR	15 03 57.9	
	comp=Z,4.4nm,20.1s,baz=260,slow=39						
RAO	**Raoul Island**	**75.15**	**146**	LR	LR	14 54 18.4	
	comp=Z,106nm,19.4s,baz=118,slow=32						
AKASG	**Malin Array Be**	**75.39**	**323**	P	**P**	**14 26 45.7**	**+0.9**
	0.5nm,0.4s,baz=40,slow=4.9,SNR=3.9						
PPT	**Papeete**	**82.92**	**118**	LR	LR	14 58 33.9	
	comp=Z,25nm,19.8s,baz=90,slow=32						
GERES	**GERESS Array B**	**83.62**	**329**	P	**P**	**14 27 29.8**	**0.0**
	0.3nm,0.5s,baz=0.0,slow=2.0,SNR=3.2						
TXAR	**Lajitas Array**	**88.44**	**54**	P	**P**	**14 27 53.6**	**-0.3**
	0.2nm,0.6s,baz=305,slow=4.3,SNR=4.4						

*IDC **24** 14:16:06.8±1.0, 20.°46S×168.°45E, h0km, mb4.1/11, mb1 4.2/12, mb1mx4.0/32, mbtmp4.1/12, ML3.9/1, MS3.3/7, Ms1 3.3/7, ms1mx2.9/28, Error ellipse: s-maj=30.1km s-min=18.1km az=151.0*
*ISCJB **24** 14:16:08.9±0.8, 20.°5S±0.°1×168.°4E±0.°1, h26km, mb4.0/10, MS3.3/6, Error ellipse: s-maj=23.8km s-min=9.2km az=136.5*
ISC 24 14:16:10.4±0.9, 20.°6S±0.°2×168.°4E±0.°1, h26km, n18, σ1s11/15, mb4.1/10, MS3.3/6, Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**2.37**	**231**	Pn	**Pn**	**14 16 46.8**	**-0.8**
	29nm,0.3s,baz=86,slow=5.8,SNR=1371						
DZM				Sn	**Sn**	**14 17 14.9**	**-1.1**
	34nm,0.3s,baz=82,slow=22,SNR=6.2						
DZM				LR	LR	14 17 36.4	
	comp=Z,338nm,21.3s,baz=36,slow=36						
CTA	**Charters Tower**	**20.81**	**267**	P	**P**	**14 20 51.5**	**+1.5**
	3.7nm,0.9s,baz=101,slow=17,SNR=2.5						
STKA	**Stephens Creek**	**26.50**	**239**	P	**P**	**14 21 47.9**	**+2.1**
	1.9nm,0.7s,baz=63,slow=9.3,SNR=5.4						
STKA				LR	LR	14 31 22.4	
	comp=Z,54nm,21.5s,baz=27,slow=34						
RAR	**Rarotonga**	**29.68**	**97**	LR	LR	14 31 43.9	
	comp=Z,24nm,21.9s,baz=254,slow=32						
WRA	**Warramunga Arr**	**31.96**	**265**	P	**P**	**14 22 33.8**	**-0.7**
	0.3nm,0.5s,baz=95,slow=8.3,SNR=11						
ASAR	**Alice Springs**	**32.09**	**258**	P	**P**	**14 22 35.9**	**+0.3**
	2.0nm,0.5s,baz=84,slow=8.7,SNR=34						
ASAR				LR	LR	14 35 16.5	

comp=Z,50nm,19.5s,baz=115,slow=36
PPT Papeete 39.72 93 P **P** **14 23 41.4 +0.4**
11nm,0.5s,baz=261,slow=19,SNR=3.9
FITZ Fitzroy Crossi 40.37 266 LR LR 14 39 06.3
comp=Z,60nm,19.0s,slow=34
NWAO Narrogin (SRO) 46.93 244 LR LR 14 44 02.1
comp=Z,94nm,18.1s,slow=36
MJAR Matsushiro Arr 63.60 333 P **P** **14 26 38.3 -0.8**
1.0nm,0.7s,baz=164,slow=6.8,SNR=3.8
USRK Ussuriysk Ar. 72.60 333 P **P** **14 27 34.4 -0.9**
2.7nm,0.8s,baz=115,slow=9.7,SNR=3.7
PETK Petropavlovsk- 73.98 353 P **P** **14 27 44.2 +0.9**
1.6nm,0.6s,baz=143,slow=6.1,SNR=6.6
CMAR Chiang Mai Arr 78.38 295 P **P** **14 28 10.3 +1.2**
1.2nm,0.6s,baz=136,slow=4.2,SNR=8.7
SONM Songino Array 87.85 323 P **P** **14 28 57.5 -0.1**
0.6nm,0.7s,baz=169,slow=2.9,SNR=3.4
ILAR Eielson Array 91.74 18 P **P** **14 29 13.9 -1.3**
0.4nm,0.8s,baz=239,slow=5.3,SNR=6.6
PDAR Pinedale Array 98.08 47 LR LR 15 05 41.7
comp=Z,21nm,19.4s,baz=232,slow=30
GERES GERESS Array B 145.31 330 PKPbc **PKPbc** **14 35 45.3 -0.4**
0.1nm,0.3s,baz=48,slow=2.0,SNR=5.4
TORD Torodi Ar. Bea 165.31 242 PKP **PKPdf** **14 36 13.3 -0.1**
0.5nm,0.9s,baz=343,slow=4.6,SNR=3.9

*ISCJB **24** 14:28:31.4±0.8, 15°.0S±0°.3×178°.0W±0°.1, h372km, mb3.3/6, Error ellipse: s-maj=48.7km s-min=10.2km az=166.2*
*IDC **24** 14:28:32.4±2.3, 15°.1S×177°.82W, h374km±35km, mb3.1/5, mb1 3.4/6, mb1mx3.1/33, mbtmp3.9/6, Error ellipse: s-maj=90.5km s-min=15.7km az=152.0*
ISC 24 14:28:33.0±0.8, 15°.1S±0°.4×177°.8W±0°.1, h372km, n9, σ1§70/9, mb3.4/6, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**5.94**	**79**	P		**Pn**	**14 30 04.1**	**+0.1**
	4.1nm,0.3s,baz=236,slow=1.5,SNR=7.7							
AFI				S		**S**	**14 31 18.5**	**+0.4**
	1.0nm,0.3s,baz=344,slow=20,SNR=2.2							
STKA	**Stephens Creek**	**40.55**	**238**	P		**P**	**14 35 36.7**	**-1.1**
	1.3nm,0.8s,baz=124,slow=14,SNR=2.8							
WRA	**Warramunga Arr**	**45.79**	**257**	P		**P**	**14 36 18.1**	**-1.3**
	0.2nm,0.3s,baz=90,slow=7.6,SNR=14							
ASAR	**Alice Springs**	**46.18**	**252**	P		**P**	**14 36 21.4**	**-1.0**
	1.9nm,0.5s,baz=86,slow=8.0,SNR=34							
FITZ	**Fitzroy Crossi**	**54.12**	**258**	P		**P**	**14 37 24.7**	**+3.4**
	1.1nm,0.6s,baz=141,slow=8.5,SNR=5.5							
ILAR	**Eielson Array**	**83.02**	**13**	P		**P**	**14 40 16.8**	**-0.3**
	0.6nm,0.7s,baz=229,slow=6.0,SNR=5.7							
TXAR	**Lajitas Array**	**83.99**	**58**	P		**P**	**14 40 22.9**	**-0.1**
	0.5nm,0.8s,baz=225,slow=6.7,SNR=6.3							
BRTR	**Keskin Array B**	**143.16**	**318**	PKP		PKPab	14 47 20.7	+0.1
	1.3nm,0.8s,baz=123,slow=4.6,SNR=5.6							
GERES	**GERESS Array B**	**145.03**	**347**	PKPbc		**PKPdf**	**14 47 25.4**	**-1.3**
	0.3nm,0.4s,baz=14,slow=2.0,SNR=2.8							

*SJA **24** 14:32:12.3±0.8, 31°.34S×67°.76W, h16km±5km, ML3.4, MW3.9*
*GUC **24** 14:32:12.5±0.7, 31°.56S×67°.78W, h22km±7km, ML3.6*
*ISCJB **24** 14:32:13.4±0.7, 31°.33S±0°.06×67°.78W±0°.06, h28km, Error ellipse: s-maj=8.7km s-min=6.9km az=157.5*
ISC 24 14:32:13.2±1.1, 31°.38S±0°.04×67°.78W±0°.04, h28km, n18, σ1§17/18, 1D, San Juan Province

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
RTLL	**Cerro Villicun**	**0.60**	**275**	↓*i*P		**Pb**	**14 32 24.5**	**-0.7**
RTLL				*i* S		**Sb**	**14 32 33.4**	**0.0**
RTLL	**Cerro Villicun**	**0.60**	**275**	*e*P		**Pb**	**14 32 24.5**	**-0.7**
RTLL				*e*S		**Sb**	**14 32 33.6**	**+0.2**
SJA	**San Juan**	**0.68**	**258**	*e*P		**Pb**	**14 32 26.7**	**0.0**
SJA				IAML			14 32 38.2	
	comp=Z,3μm,0.2s							
AMOG	**MOGNA**	**0.76**	**306**	*e*P		**Pb**	**14 32 27.1**	**-0.8**
AVFE	**Valle Fertil**	**0.77**	**21**	*e*P		**Pb**	**14 32 26.7**	**-1.4**
AVFE				IAML			14 32 36.9	
	comp=Z,658nm,0.3s							
RTCV	**Cerro Valdivia**	**0.81**	**233**	*e*P		**Pn**	**14 32 28.6**	**-0.3**
ACHE	**Chepes**	**0.98**	**77**	*e*P		**Pn**	**14 32 30.7**	**-0.6**
ACAN	**Cantantal**	**1.02**	**151**	*e*P		**Pb**	**14 32 32.5**	**+0.2**
ASAL	**Salagasta**	**1.50**	**216**	*e*P		**Pb**	**14 32 41.7**	**+1.1**
AUSP	**Uspallata**	**1.61**	**238**	*e*P		**Pb**	**14 32 42.7**	**+0.2**
ARCO	**CERRO ARCO**	**1.75**	**214**	IAML			14 33 17.2	
	comp=Z,341nm,0.2s							
AAGR	**Agrelo**	**1.92**	**207**	*e*P		**Pb**	**14 32 47.7**	**+0.1**
VCA	**Vinchina**	**2.66**	**352**	*e*P		**Pn**	**14 32 57.6**	**+3.1**
VCA				*e*S		**Sb**	**14 33 32.8**	**+0.2**
VCA	**Vinchina**	**2.66**	**352**	IAML			14 33 38.9	
	comp=Z,418nm,0.2s							
FCH	**Farellones**	**2.88**	**227**	*e*P		**Pn**	**14 32 57.9**	**+0.3**
FCH				IAML			14 33 44.9	
	comp=E,170nm,0.3s							
PEL	**Peldehue**	**3.02**	**234**	*e*P		**Pn**	**14 32 57.2**	**-2.1**
PEL				IAML			14 33 48.1	
	comp=N,154nm,0.3s							
CLCH	**Cerro Calan**	**3.08**	**229**	*e*P		**Pn**	**14 32 59.3**	**-0.8**
CLCH				IAML			14 33 53.1	
	comp=N,328nm,0.5s							
ROCH	**El Roble**	**3.17**	**239**	IAML			14 34 02.1	
	comp=N,166nm,0.5s							

*ISCJB **24** 14:35:18.0±0.7, 9°.89S±0°.05×107°.67E±0°.05, h23km, mb3.9/7, Error ellipse: s-maj=8.3km s-min=5.8km az=42.8*
*IDC **24** 14:35:17.0±1.9, 9°.76S×107°.81E, h0km, mb4.0/7, mb1 4.0/8, mb1mx3.8/45, mbtmp4.0/8, ML3.8/1, Error ellipse: s-maj=104.5km s-min=16.6km az=49.0*
*DJA **24** 14:35:18.5±0.4, 10°.S±4°×10°.8E±°, h10km, M4.5/13, mB5.3/1, mb4.5/4, MLv4.5/13, Mw(mB)4.7/1*
ISC 24 14:35:20.1±0.9, 9°.86S±0°.08×107°.68E±0°.07, h23km, n27, σ0§93/29, mb4.0/7, South of Jawa

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
CMJI	**Cimerak**	**2.20**	**20**	P		**Pn**	**14 35 54.8**	**-0.4**
CMJI				S		**Sn**	**14 36 21.3**	**-0.4**
CISI	**Cisompet, Garu**	**2.30**	**3**	P		**Pn**	**14 35 56.4**	**-0.2**
CISI				S		**Sn**	**14 36 24.1**	**-0.1**
CNJI	**Cibinong**	**2.60**	**348**	P		**Pn**	**14 36 00.4**	**-0.3**
KPJI	**Karang Pucung**	**2.80**	**26**	P		**Pn**	**14 36 04.8**	**+1.3**
LEM	**Lembang**	**3.02**	**359**	P		**Pb**	**14 36 13.8**	**+0.6**
UGM	**Wanagama**	**3.41**	**56**	P		**Pn**	**14 36 11.7**	**-0.2**
UGM				S		**Sn**	**14 36 49.9**	**-1.8**
CGJI	**Cibinong**	**3.78**	**328**	P		**Pn**	**14 36 17.4**	**+0.4**
CGJI				S		**Sn**	**14 36 59.4**	**-1.4**
WOJI	**Wonogiri, Jawa**	**3.78**	**58**	P		**Pn**	**14 36 16.9**	**-0.1**
PCJI	**Pacitan**	**3.83**	**65**	P		**Pn**	**14 36 17.0**	**-0.6**
PWJI	**Pagerwojo**	**4.46**	**66**	P		**Pn**	**14 36 26.4**	**0.0**
NGJI	**Ngawi**	**4.49**	**57**	P		**Pn**	**14 36 29.3**	**+2.7**
KASI	**Kota Agung**	**5.34**	**324**	P		**Pn**	**14 36 37.7**	**-0.8**
GMJI	**Gumukmas**	**5.91**	**75**	P		**Pn**	**14 36 46.9**	**+0.7**
KLSI		**5.92**	**330**	P		**Pn**	**14 36 46.7**	**+0.4**
JAGI	**Jajag, Banyuwa**	**6.54**	**78**	P		**Pn**	**14 36 54.2**	**-0.7**
FITZ	**Fitzroy Crossi**	**19.24**	**117**	P		**Pn**	**14 39 43.5**	**-0.5**
	0.2nm,0.3s,baz=300,slow=7.8,SNR=14							
FITZ				S		Sn	14 42 57.1	-22
	0.1nm,0.3s,baz=130,slow=16,SNR=3.0							
WRA	**Warramunga Arr**	**27.60**	**114**	P		**P**	**14 41 04.2**	**-1.7**
	0.8nm,1.0s,baz=295,slow=8.9,SNR=4.2							
WRA				PcP		**PcP**	**14 44 23.3**	**-0.1**
	0.3nm,1.0s,baz=311,slow=2.2,SNR=3.2							
ASAR	**Alice Springs**	**28.54**	**122**	P		**P**	**14 41 14.2**	**-0.2**
	0.4nm,0.7s,baz=301,slow=10,SNR=5.2							
H08S2	**Diego Garcia H**	**34.84**	**271**	T		T	15 20 02.1	
	baz=95							
H08S3	**Diego Garcia H**	**34.85**	**271**	T		T	15 20 02.1	
	baz=95							
H08S1	**Diego Garcia H**	**34.86**	**271**	T		T	15 20 02.1	
	baz=95							
STKA	**Stephens Creek**	**38.26**	**130**	P		**P**	**14 42 40.0**	**+1.2**
	3.2nm,0.7s,baz=315,slow=7.3,SNR=7.5							
SONM	**Songino Array**	**57.45**	**359**	P		**P**	**14 45 07.6**	**+0.4**
	0.7nm,0.6s,baz=169,slow=7.9,SNR=4.5							
MKAR	**Makanchi Array**	**60.79**	**340**	P		**P**	**14 45 30.4**	**+0.2**
	0.5nm,0.5s,baz=146,slow=8.3,SNR=5.8							
KURBB	**Kurchatov Arra**	**65.36**	**340**	P		**P**	**14 46 01.1**	**+0.7**
	3.3nm,0.2s,baz=160,slow=5.9,SNR=4.2							
BVAR	**Borovoye Array**	**70.25**	**337**	P		**P**	**14 46 31.1**	**-0.2**
	1.3nm,0.7s,baz=134,slow=8.5,SNR=8.9							
TXAR	**Lajitas Array**	**144.86**	**52**	PKP		**PKPdf**	**14 54 55.7**	**-0.4**
	0.3nm,0.7s,baz=263,slow=1.0,SNR=5.3							

IDC 24 14:54:21.5±6.8, 7°.24N×93°.89E, h0km, mb3.3/2, mb1 3.6/4, mb1mx3.3/36, mbtmp3.4/4, ML3.5/2, Error ellipse: s-maj=159.9km s-min=40.3km az=83.0, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
PSI	**Prapat**	**6.67**	**131**	Pn		Pn	14 56 02.5	+1.5
	0.6nm,0.3s,baz=336,slow=18,SNR=4.2							
CMAR	**Chiang Mai Arr**	**12.19**	**23**	Pn		Pn	14 57 16.8	+0.2
	0.1nm,0.3s,baz=212,slow=15,SNR=3.0							
H08S3	**Diego Garcia H**	**25.96**	**236**	T		T	15 26 33.1	
	baz=57,slow=76,SNR=13							
H08S2	**Diego Garcia H**	**25.96**	**236**	T		T	15 26 34.2	
	baz=57,slow=76,SNR=5.5							
H08S1	**Diego Garcia H**	**25.98**	**236**	T		T	15 26 35.7	
	baz=57,slow=76,SNR=12							
WRA	**Warramunga Arr**	**48.10**	**125**	P		P	15 03 03.3	-0.1
	0.3nm,0.5s,baz=306,slow=8.5,SNR=8.4							
ASAR	**Alice Springs**	**49.70**	**129**	P		P	15 03 15.4	-0.3
	0.3nm,0.5s,baz=303,slow=7.6,SNR=9.1							

*NIED **24** 15:06:00, 37°.20N×141°.70E, h8km, Mw3.7 Best double couple: M0 3.43000×10^14 NP1:φ=233.00000°, δ=39.00000°, λ=-84.00000°. NP2:φ=45.00000°, δ=51.00000°, λ=-95.00000°.*
*ISCJB **24** 15:06:04.4±1.0, 37°.21N±0°.03×141°.71E±0°.05, h16km±6km, mb3.7/9, Error ellipse: s-maj=7.4km s-min=4.5km az=21.4*
*JMA **24** 15:06:05.7±0.2, 37°.21N×141°.63E, h30km±2km, M4.0*
JMA Felt I J1.
*IDC **24** 15:06:09.8±2.9, 37°.21N×141°.50E, h38km±25km, mb3.5/9, mb1 3.7/13, mb1mx3.5/42, mbtmp3.8/13, ML3.5/3, MS2.7/1, Ms1 2.7/1, ms1mx2.3/33, Error ellipse: s-maj=25.0km s-min=15.1km az=90.0*
ISC 24 15:06:04.0±1.9, 37°.23N±0°.04×141°.65E±0°.06, h2km±11km, n31, σ1§07/38, mb3.8/9, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
JFK	**Kawauchi**	**0.63**	**283**	P		**Pb**	**15 06 17.7**	**-0.2**
JFK				*e*S		**Sb**	**15 06 26.0**	**-1.2**
ONAJ	**Iwakimizuishiy**	**0.69**	**260**	P		**Pb**	**15 06 18.7**	**-0.1**
ONAJ				*e*S		**Sb**	**15 06 27.3**	**-1.6**
JMM	**Marumori**	**0.93**	**313**	P		**Pg**	**15 06 22.5**	**+0.6**
JMM				S		**Sg**	**15 06 34.2**	**+0.2**
JHO	**Hitachi**	**1.06**	**235**	P		**Pg**	**15 06 23.7**	**-0.7**
JHO				*e*S		**Sb**	**15 06 37.9**	**-1.6**
JFT	**Otama**	**1.08**	**286**	P		**Pb**	**15 06 25.4**	**-0.1**
JFT				S		**Sb**	**15 06 39.1**	**-1.1**
JIO	**Ouri**	**1.25**	**349**	P		**Pn**	**15 06 27.6**	**-0.9**
JIO				S		**Sb**	**15 06 43.6**	**-1.2**
JOU	**Okura**	**1.38**	**326**	P		**Pn**	**15 06 30.3**	**0.0**
JOU				*e*S		**Sb**	**15 06 47.5**	**-1.1**
JFY	**Yanaizu**	**1.56**	**277**	P		**Pn**	**15 06 32.7**	**-0.1**
JFY				S		**Sb**	**15 06 52.3**	**-1.6**
JYS	**Shirataka**	**1.60**	**309**	P		**Pn**	**15 06 33.7**	**+0.3**
JYS				S		**Sb**	**15 06 54.1**	**-0.9**
JMK	**Ichinoseki**	**1.75**	**349**	P		**Pn**	**15 06 35.6**	**+0.1**
JMK				S		**Sn**	**15 06 56.9**	**-1.5**
MJAR	**Matsushiro Arr**	**2.84**	**257**	Pn		**Pn**	**15 06 51.3**	**+0.8**
	4.9nm,0.3s,baz=68,slow=13,SNR=47							
MJAR				Sn		**Sn**	**15 07 26.2**	**+1.0**
	7.3nm,0.3s,baz=49,slow=15,SNR=5.9							
MAT	**Matsushiro**	**2.84**	**257**	P		**Pn**	**15 06 51.3**	**+0.8**
MAT				S		**Sn**	**15 07 26.2**	**+0.9**
JHJ	**Hachijo jima 2**	**4.37**	**201**	Pn		**Pn**	**15 07 13.1**	**+1.6**
	13nm,0.3s,baz=116,slow=22,SNR=10							
JHJ				Sn		**Sn**	**15 08 01.3**	**-1.8**
	18nm,0.3s,baz=279,slow=19,SNR=4.5							
ASAJ	**Asahikawa**	**6.92**	**6**	Pn		**Pn**	**15 07 47.0**	**+0.5**
	0.7nm,0.3s,baz=207,slow=14,SNR=9.1							
ASAJ				Sn		**Sn**	**15 09 05.8**	**0.0**
	baz=108,slow=12,SNR=2.3							
USRK	**Ussuriysk Ar.**	**10.11**	**317**	Pn		**Pn**	**15 08 32.7**	**+2.5**
	0.2nm,0.3s,baz=136,slow=16,SNR=4.9							
KSRS	**Korea Array**	**10.93**	**275**	LR		LR	15 12 20.3	
	comp=Z,34nm,18.9s,baz=60,slow=34							
SONM	**Songino Array**	**27.83**	**304**	P		**P**	**15 11 54.9**	**0.0**
	0.8nm,0.6s,baz=107,slow=9.6,SNR=5.3							
H11N2	**WAKE ISLAND Hy**	**28.09**	**121**	T		T	15 41 22.0	
	baz=314,slow=75,SNR=279							
H11N1	**WAKE ISLAND Hy**	**28.09**	**121**	T		T	15 41 22.7	
	baz=314,slow=75,SNR=243							
H11N3	**WAKE ISLAND Hy**	**28.10**	**121**	T		T	15 41 23.5	
	baz=314,slow=75,SNR=248							
H11S1	**WAKE ISLAND Hy**	**28.81**	**124**	T		T	15 42 15.6	
	baz=316,slow=76,SNR=191							
H11S3	**WAKE ISLAND Hy**	**28.81**	**124**	T		T	15 42 15.5	
	baz=316,slow=76,SNR=104							
H11S2	**WAKE ISLAND Hy**	**28.82**	**124**	T		T	15 42 16.9	
	baz=316,slow=76,SNR=111							
ZALV	**Zalesovo Beam**	**41.92**	**312**	P		**P**	**15 13 55.5**	**-0.3**
	1.3nm,0.6s,baz=74,slow=5.4,SNR=6.3							
MKAR	**Makanchi Array**	**44.18**	**302**	P		**P**	**15 14 14.3**	**+0.1**
	1.3nm,0.7s,baz=87,slow=9.0,SNR=10.0							
ILAR	**Eielson Array**	**49.23**	**32**	P		**P**	**15 14 55.0**	**+1.5**
	0.4nm,0.7s,baz=261,slow=6.1,SNR=7.2							
WRA	**Warramunga Arr**	**57.28**	**188**	P		**P**	**15 15 52.8**	**-0.4**
	0.8nm,0.7s,baz=6.2,slow=7.5,SNR=12							
ASAR	**Alice Springs**	**61.01**	**188**	P		**P**	**15 16 18.8**	**-0.2**
	0.4nm,0.9s,baz=4.1,slow=5.6,SNR=6.9							
FINES	**FINESS Array B**	**68.73**	**332**	P		**P**	**15 17 08.1**	**-0.8**
	1.8nm,0.8s,baz=32,slow=11,SNR=4.3							
AKASG	**Malin Array Be**	**74.26**	**322**	P		**P**	**15 17 41.9**	**-0.6**
	0.4nm,0.2s,baz=47,slow=5.8,SNR=4.9							
TXAR	**Lajitas Array**	**89.85**	**53**	P		**P**	**15 19 06.3**	**+1.5**
	0.1nm,0.6s,baz=348,slow=4.0,SNR=2.5							

*MOS **24** 15:21:32.1±1.0, 34°.02N×75°.12E, h41km, mb4.2/24, Error ellipse: s-maj=10.1km s-min=5.5km az=94.6*
*ISCJB **24** 15:21:32.5±0.2, 34°.10N±0°.02×75°.30E±0°.04, h40km, mb4.0/25, MS3.0/6, Error ellipse: s-maj=4.4km s-min=2.3km az=156.7*
*BJI **24** 15:21:33.0, 34°.00N×75°.33E, h36km, mb4.4/24, mB4.6/15, ML3.9/4, Ms3.9/8, Ms7 3.5/7*
*NEIC **24** 15:21:34.7±1.1, 34°.04N×75°.25E, h61km±15km, mb4.2/4, Error ellipse: s-maj=11.9km s-min=9.6km az=57.0*
NEIC Felt at Pathankot and Srinagar, India.
*NDI **24** 15:21:34.2±2.4, 34°.20N×75°.16E, h30km, ML4.3*
*IDC **24** 15:21:36.9±2.6, 34°.06N×75°.07E, h70km±23km, mb3.7/18, mb1 3.9/21, mb1mx3.7/47, mbtmp4.0/21, MS3.1/9, Ms1 3.2/9, ms1mx2.9/34, Error ellipse: s-maj=15.5km s-min=10.1km az=54.0*
*NNC **24** 15:21:42.4±4.5, 34°.85N×75°.14E, h0km, mb4.4, mpv4.2, Error ellipse: s-maj=35.0km s-min=34.1km az=50.0*
ISC 24 15:21:34.1±0.4, 34°.08N±0°.04×75°.18E±0°.04, h40km, n115, σ2§53/151, mb4.0/26, MS3.1/6, 10C-5D, Eastern Kashmir

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
CHCP	**Chirah Chowk**	**1.65**	**256**	P		**Pn**	**15 22 03.7**	**+3.1**
DHRM	**DHARAMSHALA**	**2.05**	**152**	*e*P		**Pn**	**15 22 09.0**	**+2.7**
DHRM				*e*S		**Sn**	**15 22 33.5**	**+2.8**
DHRM				AML	AML		15 22 38.9	
	comp=N,7μm,0.4s							
DHRM				AML	AML		15 22 39.1	
	comp=E,5μm,0.5s							
PONG	**Pong**	**2.21**	**163**	*e*P		**Pn**	**15 22 12.0**	**+3.7**
PONG				*e*S		**Sn**	**15 22 38.0**	**+3.6**
CEP	**Cherat**	**2.73**	**266**	↓P		**Pn**	**15 22 17.8**	**+2.2**
CEP				S		**Sn**	**15 22 52.0**	**+4.5**
BHK	**Bhakra**	**2.85**	**158**	*e*P		**Pn**	**15 22 20.4**	**+3.3**
BHK				*ex*		**Sn**	**15 22 59.0**	**+8.8**
SDNR	**Sundarnagar**	**2.98**	**149**	*e*P		**Pn**	**15 22 21.0**	**+2.1**
SDNR				*ex*		Sn	15 23 06.0	+13
THW	**Thamme Wali**	**3.15**	**247**	P		**Pn**	**15 22 22.3**	**+1.1**
SMLA	**Simla**	**3.38**	**150**	*e*P		**Pn**	**15 22 27.0**	**+2.6**
SMLA				*e*S		**Sn**	**15 23 04.6**	**+1.3**
SMLA				IAML			15 23 18.9	
	comp=E,3μm,1.0s							
SMLA				IAML			15 23 19.7	
	comp=N,2μm,0.4s							
NHN	**Nahan**	**3.96**	**153**	*e*P		**Pn**	**15 22 34.4**	**+2.0**
NHN				*e*S		**Sn**	**15 23 18.6**	**+1.1**
NHN				AML	AML		15 23 37.9	
	comp=N,1μm,0.4s							
NHN				AML	AML		15 23 38.5	
	comp=E,2μm,0.3s							

KKR	**Kurukshetra**	**4.33**	**161**	*e*P		**Pn**	**15 22 41.0**	**+3.5**
KKR				*e*S		**Sn**	**15 23 29.1**	**+2.4**
DDI	**Dehra Dun**	**4.46**	**146**	*e*P		**Pn**	**15 22 41.4**	**+2.0**
DDI				*e*S		**Sn**	**15 23 29.9**	**-0.2**
DDI				AML	AML		15 23 34.9	
	comp=N,647nm,0.3s							
DDI				AML	AML		15 23 35.0	
	comp=E,408nm,0.1s							
GTU	**Guttu**	**4.65**	**139**	*e*P		**Pn**	**15 22 44.5**	**+2.4**
GTU				*e*S		**Sn**	**15 23 33.5**	**-1.4**
GTU				AML	AML		15 23 37.8	
	comp=N,954nm,0.6s							
GTU				AML	AML		15 23 38.0	
	comp=E,663nm,0.3s							
GKD	**Gaurikund**	**4.72**	**136**	*ex*		**Pn**	**15 22 45.5**	**+2.4**
GKD				*ex*		**Sn**	**15 23 36.0**	**-0.7**
DBND	**Deoband**	**4.86**	**153**	*e*P		Pn	15 22 51.2	+6.5
DBND				*e*S		**Sn**	**15 23 47.5**	**+7.8**
DBND				AML	AML		15 23 52.5	
	comp=N,282nm,0.2s							
DBND				AML	AML		15 23 53.2	
	comp=E,314nm,0.4s							
KBL	**Kabul**	**5.10**	**277**	*e*P		**Pn**	**15 22 49.7**	**+1.4**
KBL	**Kabul**	**5.10**	**277**	*e*Pn		**Pn**	**15 22 49.7**	**+1.4**
JOSI	**Joshimath**	**5.10**	**132**	*e*P		**Pn**	**15 22 50.3**	**+2.0**
JOSI				*e*S		**Sn**	**15 23 45.9**	**-0.2**
ABI	**ADIBADRI**	**5.19**	**138**	*e*P		**Pn**	**15 22 50.9**	**+1.4**
ABI				*e*S		**Sn**	**15 23 46.3**	**-1.9**
ABI				AML	AML		15 24 20.6	
	comp=N,527nm,0.2s							
ABI				AML	AML		15 24 21.4	
	comp=E,851nm,0.6s							
KSH	**Kashi**	**5.47**	**6**	P		**Pn**	**15 22 53.6**	**+0.4**
KSH				sP			15 22 57.3	
KSH				S		**Sn**	**15 23 50.8**	**-4.1**
KSH				pmax	pmax			
	comp=E,22nm,0.5s							
KSH				smax	smax			
	comp=E,67nm,0.3s							
KSH				smax	smax			
	comp=E,120nm,0.6s							
KALG	**Kalgarh**	**5.48**	**145**	*e*P		Pn	15 22 47.4	-5.8
KALG				*e*S		**Sn**	**15 23 46.3**	**-8.6**
NDI	**New Delhi**	**5.65**	**162**	*e*P		**Pn**	**15 22 57.0**	**+1.4**
NDI				*ex*		**Sn**	**15 23 55.0**	**-4.2**
AYAN	**Aya Nagar**	**5.82**	**163**	*e*S		**Sn**	**15 24 01.0**	**-2.4**
KHET	**Khetri**	**6.01**	**175**	*e*P		**Pn**	**15 22 59.2**	**-1.3**
KHET				*e*S		**Sn**	**15 24 03.8**	**-4.3**
SONA	**Sohna**	**6.03**	**164**	*e*P		**Pn**	**15 23 01.9**	**+1.1**
SONA				*e*S		**Sn**	**15 24 06.0**	**-2.6**
SONA				AML	AML		15 24 10.6	
	comp=N,165nm,0.2s							
SONA				AML	AML		15 24 10.9	
	comp=E,1μm,0.4s							
AAK	**Ala-Archa**	**8.57**	**357**	P		**Pn**	**15 23 38.3**	**+2.6**
	comp=E,1.1nm,0.3s,baz=175,slow=8.1,SNR=20							
AAK				S		**Sn**	**15 25 13.9**	**+2.8**
	comp=E,0.7nm,0.3s,baz=16,slow=19,SNR=3.1							
AAK				LR	LR		15 27 18.9	
	comp=E,158nm,20.6s,baz=174,slow=40							
AAK	**Ala-Archa**	**8.57**	**357**	⇑Pn		**Pn**	**15 23 38.3**	**+2.6**
	comp=E,19nm,1.3s							
AAK				Sn		**Sn**	**15 25 09.8**	**-1.3**
	comp=E,13nm,0.8s							
AAK	**Ala-Archa**	**8.57**	**357**	*e*P		**Pn**	**15 23 38.0**	**+2.3**
AAK				*e*			15 25 11.0	
AAK	**Ala-Archa**	**8.57**	**357**	*e*Pn		**Pn**	**15 23 38.0**	**+2.3**
AAK				*e*Sn		**Sn**	**15 25 11.0**	**-0.1**
MNAS	**Manas**	**8.66**	**347**	⇑Pn		**Pn**	**15 23 38.6**	**+1.7**
	comp=E,5.7nm,0.5s							
MNAS				⇑Sn		**Sn**	**15 25 09.3**	**-4.0**
	comp=E,15nm,0.6s							
MNAS	**Manas**	**8.66**	**347**	P		**Pn**	**15 23 38.6**	**+1.7**
MNAS							15 25 09.2	
MNAS				pmax	pmax			
	comp=Z,6.0nm,0.5s							
MNAS				pmax	pmax			
	comp=N,15nm,0.6s							
FRU	**Bishkek**	**8.76**	**357**	*e*P		**Pn**	**15 23 41.0**	**+2.8**
FRU				*e*S		**Sn**	**15 25 18.0**	**+2.4**
FRU				pmax	pmax			
	comp=Z,36nm,2.0s							
FRU				smax	smax			
	comp=E,67nm,2.0s							
TKM2	**Tokmak 2**	**8.84**	**2**	⇑Pn		**Pn**	**15 23 42.3**	**+2.8**
	comp=E,11nm,0.9s							
TKM2				⇓Sn		**Sn**	**15 25 15.1**	**-2.8**
	comp=E,18nm,0.9s							
TKM2	**Tokmak 2**	**8.84**	**2**	P		**Pn**	**15 23 42.2**	**+2.8**
TKM2							15 25 15.0	
TKM2				pmax	pmax			
	comp=Z,11nm,1.0s							
TKM2				pmax	pmax			
	comp=N,

MK31	**Makanchi Array**	**13.80**	**21**	*i* P		**Pn**	**15 24 46.7**	**-0.4**
MK31				pmax		pmax			
	comp=Z,2.0nm,0.5s								
MK31	**Makanchi Array**	**13.80**	**21**	*e*Pn		**Pn**	**15 24 46.5**	**-0.6**
MKAR	**Makanchi Array**	**13.80**	**21**	P		**Pn**	**15 24 47.0**	**-0.1**
	comp=Z,0.5nm,0.3s,baz=210,slow=12,SNR=22								
MKAR				S		**Sn**	**15 27 15.8**	**-3.1**
	comp=Z,0.2nm,0.3s,baz=232,slow=14,SNR=3.9								
MKAR				LR		LR	15 30 37.7		
	comp=Z,126nm,18.5s,baz=192,slow=39								
MKAR	**Makanchi Array**	**13.80**	**21**	*e*Pn		**Pn**	**15 24 47.2**	**0.0**
LSA	**Lhasa**	**14.25**	**103**	*e*P		**Pn**	**15 24 52.8**	**-0.9**
LSA	**Lhasa**	**14.25**	**103**	*e*Pn		**Pn**	**15 24 52.8**	**-0.9**
GEYT	**Alibeck**	**14.34**	**290**	P		**Pn**	**15 24 54.3**	**-0.1**
	comp=Z,0.5nm,0.3s,baz=116,slow=9.9,SNR=2.5								
GEYT				S		**Sn**	**15 27 27.7**	**-4.4**
	comp=Z,0.5nm,0.3s,baz=72,slow=23,SNR=2.2								
GEYT				LR		LR	15 31 13.2		
	comp=Z,41nm,18.8s,baz=155,slow=40								
KURBB	**Kurchatov Arra**	**16.72**	**7**	P		**Pn**	**15 25 23.6**	**-1.6**
	comp=Z,0.2nm,0.3s,baz=197,slow=11,SNR=32								
KURBB				S		**Sn**	**15 28 32.4**	**+2.7**
	baz=186,slow=16,SNR=3.1								
KURK	**Kurchatov**	**16.82**	**8**	P		**Pn**	**15 25 23.6**	**-2.9**
KURK				S		**Sn**	**15 28 32.4**	**+0.2**
KURK	**Kurchatov**	**16.82**	**8**	*e*Pn		**Pn**	**15 25 24.5**	**-2.0**
	comp=Z,15nm,0.8s								
HYB	**Hyderabad**	**16.86**	**169**	*i* P		**P**	**15 25 35.0**	**+6.0**
HYB				*e*			15 28 20.0		
HYB				*e*S		**Sn**	**15 28 36.0**	**+2.3**
ABKAR	**Akbulak array**	**18.91**	**328**	*e*P		**P**	**15 25 51.2**	**0.0**
	comp=Z,24nm,0.5s								
BVAR	**Borovoye Array**	**19.25**	**351**	P		**P**	**15 25 55.4**	**+0.4**
	comp=Z,0.7nm,0.3s,baz=160,slow=11,SNR=16								
BRVK	**Borovoye**	**19.30**	**351**	*e*P		**P**	**15 25 54.9**	**-0.6**
BRVK				pmax		pmax			
	comp=Z,10.0nm,1.0s								
BRVK	**Borovoye**	**19.30**	**351**	*e*P		**P**	**15 25 54.9**	**-0.6**
	comp=Z,10nm,1.0s								
GTA	**Gaotai**	**20.42**	**68**	*e*P		**P**	**15 26 08.8**	**+0.8**
GTA				pP		Pn	15 26 13.1	+2.8
GTA				pmax		pmax			
	comp=Z,9.0nm,1.2s								
AKTO	**Aktyubinsk**	**20.62**	**328**	P		**P**	**15 26 10.3**	**+0.4**
	comp=Z,3.6nm,0.6s,baz=129,slow=11,SNR=12								
AKTO				S		**S**	**15 29 55.1**	**-3.0**
	comp=Z,0.7nm,0.5s,baz=267,slow=17,SNR=2.4								
ZAA0	**Zalesovo Array**	**21.00**	**16**	*e*P		**P**	**15 26 13.2**	**-0.7**
ZALV	**Zalesovo Beam**	**21.00**	**16**	P		**P**	**15 26 13.6**	**-0.4**
	comp=Z,4.1nm,0.5s,baz=223,slow=8.8,SNR=15								
ZALV				S		**S**	**15 30 04.8**	**-0.8**
	comp=Z,0.8nm,0.4s,baz=201,slow=24,SNR=3.8								
ZALV				LR		LR	15 35 08.1		
	comp=Z,89nm,19.4s,baz=73,slow=39								
NVS	**Novosibirsk**	**21.51**	**13**	*e*P		**P**	**15 26 19.4**	**0.0**
NVS				*e*			15 26 34.1		
NVS				*e*			15 30 05.4		
NVS				pmax		pmax			
	comp=N,6.0nm,0.9s								
NVS				pmax		pmax			
	comp=E,5.0nm,0.9s								
NVS				pmax		pmax			
	comp=Z,9.0nm,0.9s								
ARU	**Arti**	**25.10**	**338**	*d* P		**P**	**15 26 55.0**	**+0.2**
ARU							15 27 28.5		
ARU				S		**S**	**15 31 18.7**	**+2.2**
ARU				SS		**SnSn**	**15 32 12.6**	**+4.2**
ARU				pmax		pmax			
	comp=Z,3.0nm,1.0s								
CHTO	**Chiang Mai**	**26.06**	**120**	*e*P		**P**	**15 27 02.5**	**-1.4**
CHTO				pmax		pmax			
	comp=Z,5.0nm,0.8s								
CHTO	**Chiang Mai**	**26.06**	**120**	*e*P		**P**	**15 27 02.5**	**-1.4**
	comp=Z,5.2nm,0.8s								
ZAK	**Zakamensk**	**26.21**	**43**	*e*P		**P**	**15 27 05.8**	**+0.7**
ZAK				pmax		pmax			
	comp=Z,3.0nm,0.9s								
CM31	**Chiang Mai Arr**	**26.29**	**120**	*e*P		**P**	**15 27 03.1**	**-2.8**
CMAR	**Chiang Mai Arr**	**26.29**	**120**	P		**P**	**15 27 05.6**	**-0.4**
	comp=Z,5.5nm,0.9s,baz=305,slow=9.3,SNR=22								
CMAR				LR		LR	15 39 45.7		
	comp=Z,17nm,18.5s,baz=155,slow=41								
CM01	**Chiang Mai Arr**	**26.32**	**120**	*e*P		**P**	**15 27 04.1**	**-2.2**
KIV	**Kislovodsk**	**26.95**	**301**	*i* P		**P**	**15 27 09.8**	**-2.1**
KIV				pmax		pmax			
	comp=Z,3.0nm,0.8s								
SONM	**Songino Array**	**27.08**	**50**	P		**P**	**15 27 14.1**	**+1.1**
	comp=Z,3.1nm,0.6s,baz=250,slow=9.5,SNR=21								
SONM				LR		LR	15 39 42.0		
	comp=Z,120nm,18.6s,baz=240,slow=40								
SONA1	**Songino Array**	**27.09**	**50**	*e*P		**P**	**15 27 12.2**	**-0.9**
ULN	**Ulaanbaatar**	**27.51**	**50**	*ce*P		**P**	**15 27 17.3**	**+0.4**
ULN				pmax		pmax			
	comp=Z,1.0nm,0.9s								
HHC	**Hu-ho-hao-te**	**29.51**	**66**	*e*P		**P**	**15 27 34.3**	**-0.4**
HHC				pmax		pmax			
	comp=Z,16nm,0.9s								
HHC				pmax		pmax			
	comp=Z,110nm,5.6s								
OBN	**Obninsk**	**33.99**	**320**	*i* P		**P**	**15 28 12.5**	**-1.2**
OBN				*i*			15 29 26.0		
OBN				pmax		pmax			
	comp=Z,6.0nm,0.8s								
NRIK	**Noril'sk**	**35.99**	**7**	P		**P**	**15 28 31.6**	**+0.8**
	comp=Z,2.7nm,0.8s,baz=164,slow=6.6,SNR=5.2								
NRIK				LR		LR	15 44 23.4		
	comp=Z,29nm,19.6s,baz=102,slow=38								
AKASG	**Malin Array Be**	**37.12**	**311**	P		**P**	**15 28 40.2**	**-0.4**
	comp=Z,0.6nm,0.4s,baz=4.6,slow=17,SNR=4.2								
KIEV	**Kiev**	**37.13**	**311**	*i* P		**P**	**15 28 40.3**	**-0.4**
KIEV				pmax		pmax			
	comp=Z,1.0nm,1.3s								
FINES	**FINESS Array B**	**41.39**	**327**	P		**P**	**15 29 16.4**	**+0.3**
	comp=Z,1.4nm,0.7s,baz=120,slow=11,SNR=4.4								
FINES	**FINESS Array B**	**41.39**	**327**	*ce*P		**P**	**15 29 17.2**	**+1.1**
FINES				pmax		pmax			
	comp=Z,1.0nm,0.7s								
KSRS	**Korea Array**	**42.47**	**70**	P		**P**	**15 29 24.9**	**-0.4**
	comp=Z,1.5nm,0.8s,baz=284,slow=8.8,SNR=5.7								
KSRS				LR		LR	15 49 33.4		
	comp=Z,16nm,20.6s,baz=320,slow=39								
KECS	**Kecovo**	**42.65**	**307**	*e*P		**P**	**15 29 24.9**	**-1.7**
KECS	**Kecovo**	**42.65**	**307**	*e*P		**P**	**15 29 24.9**	**-1.7**
KLR	**Kul'dur**	**43.87**	**52**	*i* P		**P**	**15 29 37.5**	**+1.1**
ARCES	**ARCESS Array B**	**44.69**	**338**	P		**P**	**15 29 43.5**	**+0.8**
	comp=Z,3.1nm,0.9s,baz=87,slow=14,SNR=4.0								
GERES	**GERESS Array B**	**47.12**	**308**	LR		LR	15 51 41.1		
	comp=Z,20nm,18.2s,baz=88,slow=38								
NB2	**NORSAR Subarra**	**48.36**	**324**	P		**P**	**15 30 11.1**	**-0.5**
	comp=Z,1.2nm,0.7s,baz=92,slow=7.9								
NOA	**NORSAR Array B**	**48.36**	**324**	P		**P**	**15 30 11.1**	**-0.5**
	comp=Z,0.3nm,0.5s,baz=95,slow=7.6,SNR=3.5								
NOA	**NORSAR Array B**	**48.36**	**324**	P		**P**	**15 30 11.1**	**-0.5**
NOA				pmax		pmax			
	comp=Z,1.0nm,0.7s								
MJAR	**Matsushiro Arr**	**50.67**	**68**	P		**P**	**15 30 29.3**	**-0.3**
	comp=Z,2.5nm,0.8s,baz=297,slow=7.3,SNR=6.4								
PETK	**Petropavlovsk-**	**59.33**	**44**	P		**P**	**15 31 33.6**	**+1.8**
	comp=Z,1.6nm,0.8s,baz=301,slow=11,SNR=3.4								
TORD	**Torodi Ar. Bea**	**69.15**	**272**	P		**P**	**15 32 34.9**	**-1.8**
	comp=Z,0.2nm,0.5s,baz=24,slow=4.5,SNR=2.8								
ILAR	**Eielson Array**	**76.12**	**17**	P		**P**	**15 33 17.2**	**-0.2**
	comp=Z,1.2nm,0.7s,baz=312,slow=4.4,SNR=16								
WRA	**Warramunga Arr**	**77.81**	**124**	P		**P**	**15 33 26.9**	**-0.6**
	comp=Z,0.7nm,0.7s,baz=324,slow=6.0,SNR=8.3								
WRA	**Warramunga Arr**	**77.81**	**124**	*i* P		**P**	**15 33 27.2**	**-0.3**
WRA				pmax		pmax			
	comp=Z,1.0nm,0.7s								
ASAR	**Alice Springs**	**80.07**	**127**	P		**P**	**15 33 39.3**	**-0.6**
	comp=Z,0.5nm,0.6s,baz=314,slow=5.1,SNR=12								
KDAK	**Kodiak Island**	**80.09**	**24**	*ce*P		**P**	**15 33 41.0**	**+1.5**
YKA	**Yellowknife Ar**	**83.44**	**5**	P		**P**	**15 33 57.5**	**+0.4**
	comp=Z,1.2nm,0.8s,baz=345,slow=5.4,SNR=4.4								
CTA	**Charters Tower**	**86.41**	**117**	P		**P**	**15 34 12.6**	**0.0**
	comp=Z,2.0nm,0.6s,baz=342,slow=9.6,SNR=5.2								

IDC 24 15:21:53.2±6.3, 4.42S×149.85E, h144km±50km, mb2.6/2, mb1 3.0/3, mb1mx2.8/22, mbtmpg3.3/3, Error ellipse: s-maj=129.8km s-min=48.3km az=119.0, Bismarck Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**5.63**	**208**	P	Pn	15 23 13.7	-1.2
	3.8nm,0.3s,baz=30,slow=7.4,SNR=14						
PMG				S	Sn	15 24 21.4	+2.6
	4.0nm,0.3s,baz=158,slow=20,SNR=6.2						
WRA	**Warramunga Arr**	**21.59**	**223**	P	P	15 26 31.8	-0.1
	0.2nm,0.3s,baz=48,slow=10,SNR=6.8						
ASAR	**Alice Springs**	**24.55**	**217**	P	P	15 26 59.0	-0.8
	0.4nm,0.8s,baz=52,slow=9.1,SNR=15						
TORD	**Torodi Ar. Bea**	**147.39**	**287**	PKPbc	PKPbc	15 41 21.1	0.0
	0.2nm,0.4s,baz=38,slow=2.6,SNR=2.6						

SJA 24 15:39:22.2±1.2, 24.81S×65.72W, h5km±8km, ML3.2, MW3.7, Salta Province

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SLA	**San Lorenzo**	**0.22**	**65**	*e*P	Pg	15 39 27.5	+1.0
SLA				*e*S	Sg	15 39 31.2	+1.8
SLA				IAML		15 39 31.8	
	comp=Z,4μm,0.6s						
AZAP	**Zapla**	**0.84**	**46**	*e*P	Pb	15 39 39.3	-0.1
AZAP				IAML		15 39 58.4	
	comp=Z,924nm,0.2s						
FSA	**Cafayete**	**1.31**	**190**	*e*P	Pb	15 39 48.0	+0.5
FSA				IAML		15 39 49.5	
	comp=Z,667nm,0.4s						
ASTB	**Santa Barbara**	**1.44**	**54**	*e*P	Pg	15 39 50.8	+1.0
HJA	**Humahuaca**	**1.62**	**10**	*e*P	Pg	15 39 53.2	-0.2
HJA				IAML		15 40 22.2	
	comp=Z,305nm,0.4s						
ALOL	**LOMAS DE OLMED**	**1.87**	**58**	*e*P	Pb	15 39 56.7	-0.2
AHML	**Horco Molle**	**1.99**	**170**	*e*P	Pb	15 39 58.9	-0.2
AHML				IAML		15 40 32.5	
	comp=Z,212nm,0.4s						
YJA	**Yavi**	**2.63**	**4**	*e*P	Pb	15 40 09.9	-0.2
YJA				IAML		15 40 51.0	
	comp=Z,36nm,0.3s						
CYA	**Choya**	**3.62**	**181**	IAML		15 41 20.8	
	comp=Z,54nm,0.3s						
VCA	**Vinchina**	**4.50**	**209**	IAML		15 41 53.9	
	comp=Z,36nm,0.5s						

JMA 24 15:48:56.8±0.1, 38.69N×142.31E, h34km±4km, M1.2, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
OFUJ	**Ofunato**	**0.63**	**308**	P	Pn	15 49 09.2	-0.1
OFUJ				S	Sn	15 49 18.0	-0.3
JMK	**Ichinoseki**	**0.89**	**287**	P	Pn	15 49 13.2	+0.3
JMK				S	Sn	15 49 24.1	-0.5
JOM	**Ohasama**	**1.11**	**315**	S	Sb	15 49 31.0	-0.8

*ISCJB **24** 15:58:20.0±0.6, 67.87N±0.10×165.7W±0.1, h10km, mb3.7/11, Error ellipse: s-maj=14.5km s-min=7.4km az=10.4*

*IDC **24** 15:58:21.3±0.8, 67.98N×166.32W, h0km, mb3.6/11, mb1 3.9/13, mb1mx3.7/41, mbtmp3.7/13, ML3.5/2, MS2.1/1, Ms1 2.1/1, ms1mx2.0/36, Error ellipse: s-maj=23.6km s-min=15.3km az=22.0*

ISC 24 15:58:22.2±0.7, 67.9N±0.1×165.96W±0.07, h10km, n14, σ1§40/16, mb3.7/11, Northern Alaska

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ILAR	**Eielson Array**	**8.27**	**103**	Pn	**Pn**	**16 00 22.1**	**+0.1**
	1.2nm,0.3s,baz=299,slow=14,SNR=70						
ILAR				Sn	**Sn**	**16 01 54.2**	**-1.1**
	baz=298,slow=38,SNR=2.1						
KDAK	**Kodiak Island**	**11.79**	**143**	Pn	**Pn**	**16 01 09.0**	**-1.2**
	0.1nm,0.3s,baz=354,slow=18,SNR=2.7						
INK	**Inuvik**	**12.04**	**73**	Pn	**Pn**	**16 01 12.7**	**-0.9**
	0.3nm,0.3s,baz=286,slow=19,SNR=6.9						
INK				Sn	**Sn**	**16 03 25.9**	**-1.8**
	0.1nm,0.3s,baz=79,slow=18,SNR=3.2						
INK				LR	LR	16 05 48.7	
	comp=Z,8.7nm,20.9s,baz=278,slow=37						
YKA	**Yellowknife Ar**	**21.64**	**80**	P	**P**	**16 03 12.2**	**0.0**
	0.7nm,0.6s,baz=303,slow=9.8,SNR=5.2						
PETK	**Petropavlovsk-**	**22.73**	**248**	P	**P**	**16 03 22.9**	**-1.0**
	2.7nm,0.7s,baz=45,slow=13,SNR=3.3						
PDAR	**Pinedale Array**	**38.70**	**101**	P	**P**	**16 05 48.4**	**+2.3**
	0.6nm,0.6s,baz=329,slow=5.5,SNR=5.6						
ZALV	**Zalesovo Beam**	**47.72**	**311**	P	**P**	**16 06 57.1**	**-1.4**
	1.1nm,0.7s,baz=13,slow=10,SNR=5.5						
FINES	**FINESS Array B**	**50.68**	**353**	P	**P**	**16 07 20.4**	**-0.7**
	3.6nm,0.8s,baz=182,slow=15,SNR=4.9						
TXAR	**Lajitas Array**	**52.78**	**104**	P	**P**	**16 07 38.7**	**+1.5**
	0.6nm,0.8s,baz=338,slow=7.2,SNR=8.1						
MKAR	**Makanchi Array**	**54.83**	**309**	P	**P**	**16 07 49.8**	**-2.2**
	0.4nm,0.8s,baz=29,slow=9.7,SNR=3.2						
AKASG	**Malin Array Be**	**61.20**	**349**	P	**P**	**16 08 37.0**	**+0.5**
	0.2nm,0.3s,baz=11,slow=6.9,SNR=4.3						
GERES	**GERESS Array B**	**63.61**	**0**	P	**P**	**16 08 53.7**	**+0.9**
	0.2nm,0.3s,baz=340,slow=3.1,SNR=4.3						
ESDC	**Sonseca Array**	**71.92**	**15**	P	**P**	**16 09 45.8**	**+0.6**
	0.2nm,0.4s,baz=350,slow=5.0,SNR=5.7						
CMAR	**Chiang Mai Arr**	**74.97**	**282**	P	**P**	**16 10 04.6**	**+1.2**
	0.5nm,0.6s,baz=1.8,slow=5.7,SNR=4.5						

MEX 24 16:00:14.5±0.5, 15.20N×93.82W, h15km±116km, MD3.6, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PCIG		**0.76**	**49**	*e*P	Pg	16 00 27.0	-2.4
PCIG				*e*S	Sg	16 00 36.3	-3.1
CCIG	**Comitan**	**1.94**	**56**	*i* P	Pn	16 00 43.5	-3.7
CCIG				*i* S	Sn	16 01 07.2	-4.2

IDC 24 16:15:54.4±1.2, 48.47N×155.99E, h0km, mb3.4/3, mb1 3.7/5, mb1mx3.4/40, mbtmpg3.5/5, ML3.9/1, Error ellipse: s-maj=57.4km s-min=24.9km az=128.0, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PETK	**Petropavlovsk-**	**4.77**	**12**	Pn	Pn	16 17 06.1	-1.3
	0.2nm,0.3s,baz=189,slow=13,SNR=5.3						
ASAJ	**Asahikawa**	**10.24**	**250**	Pn	Pn	16 18 23.8	+1.3
	1.1nm,0.3s,baz=67,slow=15,SNR=17						
H11S1	**WAKE ISLAND Hy**	**31.13**	**160**	T	T	16 55 35.4	
	baz=345,slow=76,SNR=11						
H11S3	**WAKE ISLAND Hy**	**31.14**	**160**	T	T	16 55 53.7	
	baz=345,slow=76,SNR=7.0						
H11S2	**WAKE ISLAND Hy**	**31.15**	**160**	T	T	16 55 36.7	
	baz=345,slow=76,SNR=9.3						
WRA	**Warramunga Arr**	**70.81**	**202**	P	P	16 27 12.0	-0.6
	0.5nm,0.9s,baz=19,slow=6.9,SNR=3.4						
ASAR	**Alice Springs**	**74.49**	**201**	P	P	16 27 34.8	+0.3
	0.2nm,0.6s,baz=11,slow=6.2,SNR=6.3						
TXAR	**Lajitas Array**	**74.96**	**63**	P	P	16 27 38.1	+0.5
	0.3nm,0.7s,baz=297,slow=4.0,SNR=3.6						

JMA 24 16:20:38.7, 36.23N×137.90E, h12km±1km, M0.6, Eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JNG	**Nsakai**	**0.24**	**42**	P	Pg	16 20 43.5	-0.3
JNG				S	Sg	16 20 46.9	-0.4
MAT	**Matsushiro**	**0.40**	**38**	P	Pg	16 20 46.0	-0.7
MAT				S	Sg	16 20 51.4	-0.6
MAT	**Matsushiro**	**0.40**	**38**	P	Pg	16 20 46.1	-0.6
MAT				S	Sg	16 20 51.4	-0.6

*ISCJB **24** 16:22:38.3±0.5, 48.30N±0.08×153.4E±0.1, h132km, mb3.6/15, Error ellipse: s-maj=15.6km s-min=4.3km az=44.1*

*SKHL **24** 16:22:39.8±1.3, 48.09N×153.73E, h141km±8km, mb5.1/3, msh5.2/4*

*MOS **24** 16:22:40.2±1.3, 48.25N×153.28E, h159km, mb4.0/8, Error ellipse: s-maj=18.5km s-min=9.2km az=70.6*

*IDC **24** 16:22:42.1±2.3, 48.28N×153.22E, h158km±20km, mb3.4/15, mb1 3.6/19, mb1mx3.4/42, mbtmpg3.9/19, Error ellipse: s-maj=17.8km s-min=12.3km az=143.0*

ISC 24 16:22:39.6±0.6, 48.27N±0.08×153.38E±0.09, h132km, n42, σ2§11/47, mb3.7/15, 1D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SKR	**Severo-Kuril's**	**3.00**	**35**	*e*PN	**Pn**		**16 23 28.0 +1.8**
SKR				*e*S	**Sn**		**16 24 03.7 +1.5**
SKR				pmax	pmax		
	comp=Z,142nm,0.7s						
SKR				smax	smax		
	comp=N,211nm,0.6s						
SKR				smax	smax		
	comp=E,343nm,0.5s						
SKR	**Severo-Kuril's**	**3.00**	**35**	*e*P	**Pn**		**16 23 27.8 +1.6**
SKR				AMB	AMB		16 23 29.7
	comp=E,90nm,0.3s						
SKR				*e*S	**Sn**		**16 24 03.3 +1.1**
SKR				A	A		16 24 11.6
	comp=E,130nm,0.4s						
SKR				A	A		16 24 11.6
	comp=E,190nm,0.4s						
PAU	**Pauzhetka**	**3.89**	**33**	*e*P	**Pn**		**16 23 37.2 -0.6**
PAU				AMB	AMB		16 23 38.7
	comp=E,90nm,0.8s						
PAU				*e*S	**Sn**		**16 24 21.4 -1.7**
PAU				A	A		16 24 29.4
	comp=E,150nm,0.3s						
PAU				A	A		16 24 29.4
	comp=E,190nm,0.3s						
KUR	**Kuril'sk**	**4.86**	**233**	||*i* PN	**Pn**		**16 23 53.6 +2.9**
KUR				*e*S	**Sn**		**16 24 51.0 +5.0**
KUR				pmax	pmax		
	comp=Z,66nm,0.7s						
KUR				pmax	pmax		
	comp=N,24nm,0.3s						
KUR				smax	smax		
	comp=N,53nm,0.5s						
KUR				smax	smax		
	comp=E,66nm,0.5s						
KUR	**Kuril'sk**	**4.86**	**233**	*i* P	**Pn**		**16 23 53.5 +2.9**
KUR				AMB	AMB		16 23 55.3
	comp=E,90nm,0.3s						
KUR				AMB	AMB		16 23 56.3
	comp=E,800nm,4.0s						
KUR				*e*S	**Sn**		**16 24 48.1 +2.1**
KUR				A	A		16 24 55.5
	comp=E,1μm,4.0s						
KUR				A	A		16 24 57.7
	comp=E,70nm,0.4s						
PETK	**Petropavlovsk-**	**5.57**	**28**	P	**Pn**		**16 24 02.0 +1.8**
	comp=E,1.5nm,0.3s,baz=188,slow=9.2,SNR=37						
PET	**Petropavlovsk**	**5.82**	**33**	*e*P	**Pn**		**16 24 03.5 0.0**
PET				AMB	AMB		16 24 04.9
	comp=E,90nm,0.5s						
PET				AMB	AMB		16 24 05.4
	comp=E,420nm,5.0s						
PET				*e*S	**Sn**		**16 25 06.8 -2.3**
PET				A	A		16 25 26.5
	comp=E,20nm,0.6s						
PET				A	A		16 25 28.4
	comp=E,300nm,4.0s						
PET				A	A		16 25 28.4
	comp=E,660nm,4.0s						
SHO	**Shikotan**	**6.33**	**228**	*e*PN	**Pn**		**16 24 08.7 -1.8**
SHO				*e*S	**Sn**		**16 25 16.9 -4.6**
SHO				pmax	pmax		
	comp=Z,50nm,0.4s						
SHO				pmax	pmax		
	comp=N,16nm,0.3s						
SHO				pmax	pmax		
	comp=E,23nm,0.3s						
SHO				smax	smax		
	comp=N,111nm,0.5s						
SHO				smax	smax		
	comp=E,91nm,0.3s						
SHO	**Shikotan**	**6.33**	**228**	*e*P	**Pn**		**16 24 09.4 -1.1**
SHO				AMB	AMB		16 24 10.1
	comp=E,30nm,0.4s						
SHO				AMB	AMB		16 24 18.4
	comp=E,600nm,5.0s						
SHO				*e*S	**Sn**		**16 25 16.9 -4.6**
SHO				A	A		16 25 19.9
	comp=E,50nm,0.4s						
SHO				A	A		16 25 19.9
	comp=E,70nm,0.4s						
SHO				A	A		16 25 22.1
	comp=E,800nm,5.0s						
SHO				A	A		16 25 22.1
	comp=E,700nm,5.0s						
YUK	**Yuzh-Kuril'sk**	**6.72**	**234**	*e*PN	**Pn**		**16 24 16.5 +0.8**
YUK				*e*S	**Sn**		**16 25 30.9 0.0**
YUK				pmax	pmax		
	comp=Z,93nm,0.5s						
YUK	**Yuzh-Kuril'sk**	**6.72**	**234**	*e*P	**Pn**		**16 24 17.7 +2.0**
YUK				AMB	AMB		16 24 18.7
	comp=Z,40nm,0.3s						
YUK				*e*S	**Sn**		**16 25 30.9 0.0**
YUK				A	A		16 25 35.0
	comp=Z,500nm,2.0s						
YUK				A	A		16 25 35.0
	comp=Z,1μm,2.0s						
YUK				A	A		16 25 40.7
	comp=Z,190nm,1.0s						
TYV	**Tymovskoe**	**7.44**	**294**	*e*P	**Pn**		**16 24 28.9 +3.5**
JKA	**Kamikawa-asahi**	**8.55**	**245**	*e*P	**Pn**		**16 24 43.1 +2.7**
ASAJ	**Asahikawa**	**8.55**	**245**	P	**Pn**		**16 24 43.0 +2.7**
	comp=Z,1.1nm,0.3s,baz=58,slow=15,SNR=16						
SEY	**Seymchan**	**14.71**	**358**	P	**P**		**16 26 03.2 -0.2**
	comp=Z,0.5nm,0.3s,baz=181,slow=9.3,SNR=16						
YAK	**Yakutsk**	**19.16**	**325**	P	**P**		**16 26 53.4 +1.0**
	comp=Z,0.0nm,0.3s,baz=128,slow=2.4,SNR=5.0						
H11N2	**WAKE ISLAND Hy**	**30.50**	**154**	T	T		17 00 45.7
	baz=342,slow=76,SNR=13						
H11N1	**WAKE ISLAND Hy**	**30.51**	**154**	T	T		17 01 05.6
	baz=342,slow=76,SNR=27						
H11N3	**WAKE ISLAND Hy**	**30.51**	**154**	T	T		17 01 04.9
	baz=342,slow=76,SNR=15						
H11S1	**WAKE ISLAND Hy**	**31.60**	**155**	T	T		17 02 18.6
	baz=343,slow=76,SNR=39						
H11S3	**WAKE ISLAND Hy**	**31.61**	**155**	T	T		17 02 08.9
	baz=343,slow=76,SNR=40						
H11S2	**WAKE ISLAND Hy**	**31.62**	**155**	T	T		17 02 10.7
	baz=343,slow=76,SNR=31						
ILAR	**Eielson Array**	**35.26**	**40**	P	**P**		**16 29 20.8 -0.2**
	com

GUMO	**Guam**	**0.65**	**44**	P	Pn	16 25 40.0	+1.3
	573nm,0.3s,baz=196,slow=11,SNR=411						
GUMO				S	Sn	16 25 52.9	+1.2
	553nm,0.3s,baz=319,slow=19,SNR=90						
GUMO				LR	LR	16 25 55.3	
	comp=Z,64nm,18.9s,baz=288,slow=52						
WRA	**Warramunga Arr**	**34.31**	**197**	P	P	16 31 57.0	-1.0
	1.7nm,0.8s,baz=22,slow=9.8,SNR=23						
FITZ	**Fitzroy Crossi**	**36.12**	**211**	P	P	16 32 13.6	0.0
	0.3nm,0.3s,baz=24,slow=8.7,SNR=6.2						
ASAR	**Alice Springs**	**37.97**	**196**	P	P	16 32 29.7	+0.5
	0.2nm,0.4s,baz=20,slow=12,SNR=19						
CMAR	**Chiang Mai Arr**	**43.98**	**283**	P	P	16 33 18.4	-0.2
	1.2nm,0.5s,baz=84,slow=6.3,SNR=10.0						
MKAR	**Makanchi Array**	**61.51**	**316**	P	P	16 35 26.9	-0.4
	0.6nm,0.9s,baz=104,slow=4.6,SNR=2.9						
LPAZ	**La Paz**	**148.40**	**100**	PKPbc	PKPbc	16 44 57.2	-0.2
	1.9nm,0.6s,baz=264,slow=5.2,SNR=8.7						

*NIED **24** 16:31:00.24˝00N×122˚60E,h35km,Mw4.0 Best double couple: M0 1.02000×10^15 NP1:φ=292.00000°,δ=21.00000°, λ=118.00000°. NP2:φ=82.00000°,δ=71.00000°,λ=80.00000°.*
*ISCJB **24** 16:31:35.4±0.7,23˚90N±0˝02×122˚72E±0˝02,h14km±5km, mb3.8/9,MS3.0/7, Error ellipse: s-maj=4.1km s-min=2.0km az=159.1*
*TAP **24** 16:31:36.7,23˚95N×122˚68E,h26km±1km,ML4.1,C*
*JMA **24** 16:31:36.4±0.2,23˚99N×122˚64E,h32km±5km,M3.9*
*IDC **24** 16:31:44.4±7.7,24˚24N×122˚99E,h108km±78km,mb3.5/9, mb1 3.6/10,mb1mx3.4/38,mbtmp3.9/10,ML4.1/1,MS3.0/9, Ms1 3.0/9,ms1mx2.8/35, Error ellipse: s-maj=50.8km s-min=15.5km az=66.0*

ISC 24 16:31:33.1±1.2,23˚94N±0˝03×122˚71E±0˝02,h5km±9km, n86,σ1°18/117,mb3.7/9,MS3.1/7,1C-1D,Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
JYNG	**Yonagunijimaku**	**0.56**	**23**	P		**Pn**	**16 31 47.3**	**-0.4**
JYNG				S		**Sb**	**16 31 53.9**	**+0.3**
YOJ	**Yonaguni jima**	**0.59**	**27**	P		**Pn**	**16 31 47.9**	**-0.3**
YOJ				*e*S		**Sb**	**16 31 55.6**	**+1.0**
HATJ	**Hateruma jima**	**1.01**	**83**	P		**Pn**	**16 31 55.4**	**+1.5**
HATJ				*e*S		**Sn**	**16 32 09.4**	**+1.0**
ENA	**Nanau**	**1.01**	**299**	P		**Pn**	**16 31 54.6**	**+0.6**
	baz=299							
HWA	**Hwalien**	**1.01**	**273**	*i* P		**Pn**	**16 31 54.4**	**+0.5**
	baz=272							
IRIF	**Iriomote-Funau**	**1.01**	**67**	P		**Pn**	**16 31 55.1**	**+1.1**
IRIF				S		**Sn**	**16 32 10.0**	**+1.4**
TWD	**Chiawan**	**1.03**	**278**	*i* P		**Pn**	**16 31 54.3**	**+0.1**
	baz=278							
TWC	**Suao**	**1.03**	**311**	⇑ *i* P		**Pn**	**16 31 54.8**	**+0.5**
	baz=311							
TWC				*i* S		**Sb**	**16 32 08.1**	**+0.7**
	baz=311							
EGS		**1.15**	**322**	*e*P		**Pn**	**16 31 56.8**	**+0.9**
	baz=322							
ESL	**Shilin**	**1.18**	**264**	P		**Pg**	**16 31 56.0**	**+0.3**
	baz=263							
ILA	**Ilan**	**1.21**	**313**	P		**Pn**	**16 31 58.7**	**+2.1**
	baz=314							
ILA				*e*S		**Sn**	**16 32 13.7**	**+0.3**
	baz=314							
JKRS	**Kuro-shima**	**1.22**	**75**	P		**Pn**	**16 31 58.3**	**+1.4**
JKRS				S		**Sn**	**16 32 15.9**	**+2.1**
TWE	**Neicheng**	**1.23**	**310**	P		**Pn**	**16 31 58.2**	**+1.2**
	baz=310							
TWE				*e*S		**Sn**	**16 32 13.9**	**-0.1**
	baz=310							
TWB1	**Santiao Chiao**	**1.26**	**329**	*e*P		**Pn**	**16 31 58.2**	**+0.9**
	baz=342							
ENTT	**Nioudou**	**1.26**	**304**	P		**Pn**	**16 31 58.4**	**+1.0**
	baz=304							
NNS	**Nan Shan**	**1.32**	**293**	P		**Pn**	**16 31 59.3**	**+0.9**
	baz=292							
WHF	**Hehuan Shan**	**1.34**	**279**	P		**Pn**	**16 31 59.4**	**+0.5**
	baz=279							
EHY	**Hungye**	**1.34**	**252**	P		**Pg**	**16 31 59.1**	**+0.2**
	baz=250							
EHY				S		**Sg**	**16 32 15.9**	**-0.4**
	baz=250							
JIJ	**Ishigaki jima**	**1.38**	**72**	P		**Pb**	**16 32 00.6**	**+1.3**
JIJ				*e*S		**Sn**	**16 32 17.8**	**+0.2**
NWF	**Wu-fen Shan**	**1.41**	**323**	*e*P		**Pb**	**16 32 00.7**	**+0.7**
	baz=324							
TWF1	**Yuli**	**1.42**	**246**	⇓ P		**Pn**	**16 32 00.4**	**+0.8**
	baz=233							
TWF1				S		**Sg**	**16 32 17.8**	**-1.0**
	baz=233							
NSK	**Sanguang**	**1.44**	**301**	P		**Pb**	**16 32 01.0**	**+0.5**
	baz=301							
TWT	**Tachien**	**1.44**	**283**	P		**Pb**	**16 32 01.5**	**+1.0**
	baz=282							
CHKT	**Chengkung**	**1.49**	**236**	P		**Pn**	**16 32 00.5**	**0.0**
	baz=223							
CHKT				S		**Sn**	**16 32 17.9**	**-2.4**
	baz=223							
TAP1	**Taipei**	**1.54**	**316**	*e*P		**Pg**	**16 32 02.6**	**-0.1**
	baz=331							
JISG	**Ishigakijimahi**	**1.60**	**66**	P		**Pg**	**16 32 03.3**	**-0.5**
JISG				S		**Sn**	**16 32 22.7**	**-0.3**
TWS1	**Kuangyinshan**	**1.65**	**315**	*e*P		**Pg**	**16 32 05.1**	**+0.3**
	baz=330							
SMLT	**Sun Moon Lake**	**1.66**	**269**	P		**Pb**	**16 32 04.4**	**+0.2**
	baz=268							
SMLT				*e*S		**Sn**	**16 32 24.2**	**-0.5**
	baz=268							
YUS	**Yu-Shan**	**1.67**	**255**	*e*P		**Pb**	**16 32 04.8**	**+0.1**
	baz=254							
YUS				*e*S		**Sn**	**16 32 24.4**	**-1.1**
	baz=254							
TWY	**Chenhua**	**1.68**	**323**	*e*P		**Pg**	**16 32 05.2**	**-0.1**
	baz=323							
NSTT	**Nanjuang**	**1.71**	**294**	*e*P		**Pg**	**16 32 05.6**	**-0.3**
	baz=309							
ELDTW	**Lidau**	**1.72**	**245**	P		**Pn**	**16 32 04.3**	**+0.5**
	baz=243							
ELDTW				S		**Sn**	**16 32 24.2**	**-2.0**
	baz=243							
PCYT	**Pengchaiyu**	**1.79**	**341**	*e*P		**Pg**	**16 32 06.5**	**-0.8**
	baz=341							
ALS	**Alishan**	**1.80**	**257**	*e*P		**Pb**	**16 32 06.9**	**+0.2**
	baz=256							
ALS				*e*S		**Sn**	**16 32 28.2**	**-0.2**
	baz=256							
TWQ1	**Liyutan**	**1.82**	**283**	*e*P		**Pg**	**16 32 07.5**	**-0.4**
	baz=283							
NSY	**Sanyi**	**1.84**	**285**	*e*P		**Pg**	**16 32 08.5**	**0.0**
	baz=274							
NSY				*e*S		**Sg**	**16 32 31.9**	**-0.5**
	baz=274							
WNT	**Mingjian**	**1.86**	**269**	*e*P		**Pb**	**16 32 08.3**	**+0.8**
	baz=268							
TTN	**Taitung**	**1.86**	**231**	*e*P		**Pn**	**16 32 06.0**	**+0.4**
	baz=219							
TWG	**Pinlang**	**1.87**	**234**	*e*P		**Pn**	**16 32 06.3**	**+0.5**
	baz=222							
TCU	**Taichung**	**1.87**	**277**	*e*P		**Pb**	**16 32 08.5**	**+0.7**
	baz=276							
TCU				*e*S		**Sb**	**16 32 32.4**	**+0.9**
	baz=276							
CHN5	**Tsauling**	**1.89**	**260**	*e*P		**Pb**	**16 32 08.5**	**+0.3**
	baz=259							
JTJ	**Tarama**	**1.95**	**68**	P		**Pb**	**16 32 08.1**	**-1.0**
JTJ				S		**Sn**	**16 32 32.7**	**+1.0**
STYT	**Tauyuan**	**1.95**	**247**	*e*P		**Pn**	**16 32 08.8**	**+1.9**
	baz=235							
STYT				*e*S		**Sn**	**16 32 31.8**	**-0.1**
	baz=235							
WGK	**Gukeng**	**1.98**	**263**	*e*P		**Pb**	**16 32 10.8**	**+1.1**
	baz=262							
CHN4	**Tsaushan**	**2.03**	**254**	*e*P		**Pb**	**16 32 10.7**	**+0.3**
	baz=252							
CHN4				*e*S		**Sn**	**16 32 35.1**	**+1.4**
	baz=252							
WTP	**Ta-pu**	**2.04**	**251**	*e*P		**Pb**	**16 32 10.9**	**+0.2**
	baz=249							
WTP				*e*S		**Sn**	**16 32 36.4**	**+2.3**
	baz=249							
CHN2	**Minshiung**	**2.09**	**259**	*e*P		**Pb**	**16 32 11.4**	**-0.1**
	baz=258							
CHN2				*e*S		**Sb**	**16 32 38.2**	**+0.5**
	baz=258							
ECL	**Taimali**	**2.09**	**231**	P		**Pn**	**16 32 09.1**	**+0.3**
	baz=229							
SGST	**Jiashian**	**2.13**	**247**	*e*P		**Pb**	**16 32 12.9**	**+0.7**
	baz=246							
SGST				*e*S		**Sn**	**16 32 38.5**	**+2.3**
	baz=246							
CHN1	**Nanshi**	**2.14**	**250**	*e*P		**Pb**	**16 32 12.8**	**+0.5**
	baz=249							
CHN1				*e*S		**Sn**	**16 32 39.0**	**+2.6**
	baz=249							
CHY	**Chiayi**	**2.14**	**259**	*e*S		**Sb**	**16 32 39.0**	**-0.2**
	baz=257							
TWK	**Hsinying**	**2.15**	**252**	*e*P		**Pb**	**16 32 12.7**	**+0.2**
	baz=251							
TWK				*e*S		**Sn**	**16 32 38.8**	**+2.2**
	baz=251							
LAY	**Lan-yu**	**2.17**	**210**	*e*P		**Pn**	**16 32 09.8**	**-0.1**
	baz=208							
WTCT	**Ta-ch'eng**	**2.23**	**269**	*e*S		**Sb**	**16 32 41.2**	**-0.5**
	baz=268							
TAW	**Tawu**	**2.29**	**227**	*e*P		**Pn**	**16 32 12.3**	**+0.7**
	baz=226							
WSF	**Szhu**	**2.30**	**263**	*e*P		**Pn**	**16 32 13.4**	**+1.8**
	baz=262							
WSF				*e*S		**Sn**	**16 32 42.2**	**+1.9**
	baz=262							
EAST	**Anshuo**	**2.31**	**228**	*e*P		**Pn**	**16 32 12.6**	**+0.8**
	baz=227							
CHN3	**Shinhua**	**2.32**	**249**	*e*P		**Pb**	**16 32 15.8**	**+0.4**
	baz=247							
CHN3				*e*S		**Sb**	**16 32 45.7**	**+1.4**
	baz=247							
TWM1	**Shoushan**	**2.38**	**243**	*e*P		**Pb**	**16 32 16.2**	**-0.2**
	baz=242							
TWM1				*e*S		**Sb**	**16 32 46.4**	**+0.3**
	baz=242							
JIRB	**Irabujima**	**2.42**	**68**	P		**Pn**	**16 32 14.7**	**+1.5**
JIRB				*e*S		**Sn**	**16 32 45.1**	**+1.9**
SCLT	**Jiali**	**2.43**	**252**	*e*S		**Sb**	**16 32 45.9**	**+2.3**
	baz=251							
TAI1	**Yung-k'ang**	**2.45**	**249**	*e*S		**Sb**	**16 32 48.0**	**-0.1**
	baz=248							
SCZT	**Fangliau**	**2.47**	**231**	*e*P		**Pn**	**16 32 15.7**	**+1.6**
	baz=230							
SCZT				*e*S		**Sn**	**16 32 45.3**	**+0.6**
	baz=230							
JIKM	**Ikemajima**	**2.51**	**66**	P		**Pn**	**16 32 15.9**	**+1.3**
JIKM				S		**Sn**	**16 32 46.5**	**+0.9**
JMJ	**Miyako jima 2**	**2.51**	**69**	P		**Pb**	**16 32 17.7**	**-1.0**
JMJ				*e*S		**Sn**	**16 32 47.5**	**+1.9**
JOGS	**Gusukube**	**2.59**	**71**	P		**Pb**	**16 32 18.3**	**-1.8**
JOGS				*e*S		**Sn**	**16 32 49.0**	**+1.4**
HEN	**Hengchun**	**2.64**	**224**	*e*S		**Sn**	**16 32 49.8**	**+0.9**
	baz=222							
TWK1	**Hengchun**	**2.65**	**222**	*e*P		**Pn**	**16 32 17.6**	**+1.1**
	baz=220							
TWK1				*e*S		**Sn**	**16 32 49.3**	**+0.3**
	baz=220							
PNG	**Penghu**	**2.92**	**263**	*e*P		**Pn**	**16 32 22.1**	**+1.9**
	baz=263							
PNG				*e*S		**Sn**	**16 32 56.2**	**+0.6**
	baz=263							
JKE	**Kume jima 2**	**4.39**	**56**	P		**Pn**	**16 32 42.0**	**+1.5**
KSRS	**Korea Array**	**14.20**	**17**	P		**Pn**	**16 34 57.5**	**+2.6**
	0.8nm,0.3s,baz=195,slow=11,SNR=24							
KSRS				LR		LR	16 41 24.2	
	comp=Z,47nm,18.1s,baz=204,slow=42							
MJAR	**Matsushiro Arr**	**18.33**	**43**	LR		LR	16 43 32.0	
	comp=Z,21nm,18.8s,baz=225,slow=39							
USRK	**Ussuriysk Ar.**	**21.60**	**18**	P		**P**	**16 36 21.6**	**-2.2**
	2.7nm,0.7s,baz=206,slow=11,SNR=5.2							
CMAR	**Chiang Mai Arr**	**22.81**	**261**	LR		LR	16 46 21.7	
	comp=Z,27nm,19.8s,baz=125,slow=38							
GUMO	**Guam**	**23.34**	**112**	LR		LR	16 44 43.9	
	comp=Z,24nm,19.5s,baz=268,slow=34							
SONM	**Songino Array**	**27.16**	**335**	P		**P**	**16 37 15.6**	**-1.8**
	1.3nm,0.7s,baz=154,slow=10,SNR=6.7							
SONM				LR		LR	16 49 30.5	
	comp=Z,70nm,18.6s,baz=78,slow=40							
PETK	**Petropavlovsk-**	**39.30**	**33**	LR		LR	16 55 22.4	
	comp=Z,12nm,20.1s,baz=143,slow=36							
MKAR	**Makanchi Array**	**39.49**	**316**	P		**P**	**16 39 03.9**	**-0.7**
	0.9nm,0.6s,baz=100,slow=10,SNR=9.4							
ZALV	**Zalesovo Beam**	**41.22**	**327**	P		**P**	**16 39 16.1**	**-2.6**
	0.6nm,0.3s,baz=108,slow=4.7,SNR=2.8							
WRA	**Warramunga Arr**	**45.06**	**164**	P		**P**	**16 39 50.9**	**+0.7**
	0.7nm,0.6s,baz=346,slow=8.6,SNR=7.4							
ASAR	**Alice Springs**	**48.55**	**166**	P		**P**	**16 40 18.9**	**+1.4**
	0.3nm,0.6s,baz=348,slow=8.8,SNR=10							
NRIK	**Noril'sk**	**50.01**	**345**	LR		LR	17 03 55.6	
	comp=Z,29nm,20.6s,baz=124,slow=39							
GEYT	**Alibeck**	**56.13**	**301**	P		**P**	**16 41 14.4**	**+0.7**
	2.6nm,0.7s,baz=73,slow=5.0,SNR=5.9							
FINES	**FINESS Array B**	**72.36**	**330**	P		**P**	**16 42 58.0**	**-1.8**
	1.6nm,0.8s,baz=31,slow=4.4,SNR=5.8							
MMAI	**Mount Meron Ar**	**75.23**	**300**	LR		LR	17 20 40.4	
	comp=Z,12nm,21.9s,baz=155,slow=39							
NOA	**NORSAR Array B**	**79.09**	**333**	P		**P**	**16 43 36.0**	**-2.4**
	0.6nm,0.7s,baz=58,slow=5.4,SNR=3.4							
NOA				LR		LR	17 22 08.3	
	comp=Z,15nm,20.5s,baz=255,slow=38							

MEX 24 16:53:01.6±0.6,17˚29N×101˚19W,h16km±9km,MD3.7, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
ZIIG	**Zihuatanejo**	**0.41**	**320**	*e*P		Pg	16 53 08.8	-1.1
ZIIG				*e*S		Sg	16 53 13.9	-1.7
CAIG	**El Cayaco**	**0.91**	**105**	*e*P		Pb	16 53 15.5	-3.6
CAIG				*e*S		Sb	16 53 26.8	-4.2
ARIG	**Puente Sto Nin**	**1.27**	**39**	*e*P		Pn	16 53 20.5	-4.2
ARIG				*i* S		Sb	16 53 36.1	-5.1
MEIG	**Mezcala**	**1.62**	**67**	*i* P		Pn	16 53 26.8	-2.9
MEIG				*e*S		Sn	16 53 45.2	-5.1
PLIG	**Platanillo**	**1.94**	**55**	*e*P		Pn	16 53 31.3	-2.7
PLIG				*i* S		Sn	16 53 52.8	-5.4
TLIG	**Tlapa**	**2.52**	**83**	*i* P		Pn	16 53 39.5	-2.5
TLIG				*i* S		Sn	16 54 08.4	-4.0

*ISCJB **24** 16:55:07.4±0.7,6˚83N±0˝04×73˚09W±0˝04,h152km±7km, Error ellipse: s-maj=7.6km s-min=4.8km az=35.2*
*FUNV **24** 16:55:07.8,6˚77N×73˚15W,h164km,MW2.6*
*RSNC **24** 16:55:09.4±1.0,6˚77N×73˚14W,h143km±6km,ML2.7*

ISC 24 16:55:07.1±1.5,6˚82N±0˝04×73˚09W±0˝05,h156km±9km, n18,σ0°94/31,1C,Northern Colombia

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
BARC	**Barichara**	**0.24**	**203**	*i* P		**Pn**	**16 55 28.8**	**+0.2**
BARC				*i*			16 55 28.9	
	comp=Z,110nm,0.4s							
BARC				*e*S		**Sn**	**16 55 43.4**	**-1.6**
PAMC	**Pamplona, Colo**	**0.65**	**37**	*e*P		**Pn**	**16 55 31.6**	**+1.1**
PAMC				*e*S		**Sn**	**16 55 48.6**	**+0.2**
BRRC	**Barranca, Sant**	**0.68**	**295**	⇑ *i* P		**Pn**	**16 55 30.6**	**+0.4**
BRRC				*i*			16 55 31.0	
	comp=Z,80nm,0.1s							
BRRC				*e*S		**Sn**	**16 55 46.8**	**-1.1**
RUSC	**La Rusia**	**0.92**	**180**	*e*P		**Pn**	**16 55 32.8**	**+0.3**
RUSC				*e*S		**Sn**	**16 55 50.5**	**-1.3**
CAPV	**Capacho**	**1.29**	**36**	*e*P		**Pn**	**16 55 36.6**	**+1.2**
CAPV				*e*S		**Sn**	**16 55 57.9**	**+0.8**
OCAC	**Ocana**	**1.43**	**351**	*e*P		**Pn**	**16 55 37.2**	**+0.6**
OCAC				*i*			16 56 02.4	
	comp=Z,68nm,0.2s							
YOPC	**Yopal, Colombi**	**1.60**	**155**	*e*P		**Pn**	**16 55 39.4**	**+1.0**
YOPC				*e*S		**Sn**	**16 56 02.4**	**+0.1**
ZARC	**Zaragoza, Cauc**	**1.88**	**291**	*e*P		**Pn**	**16 55 42.0**	**+0.7**
ZARC				*e*S		**Sn**	**16 56 07.2**	**-0.4**
NORC	**Norcasia**	**2.16**	**235**	*e*P		**Pn**	**16 55 45.2**	**+0.6**
CHIC	**Chingaza**	**2.26**	**196**	*e*P		**Pn**	**16 55 45.3**	**-0.9**
CHIC				*e*S		**Sn**	**16 56 15.6**	**-0.7**
CHIC				*i*			16 56 23.2	
	comp=Z,26nm,0.6s							
HELC	**Santa Helena**	**2.50**	**256**	*e*P		**Pn**	**16 55 49.5**	**+0.5**
HELC				*e*S		**Sn**	**16 56 21.7**	**+0.5**
HELC				*i*			16 56 27.9	
	comp=Z,26nm,0.3s							
VIGV	**El Vigia**	**2.64**	**40**	*e*P		**Pn**	**16 55 51.3**	**+1.0**
VIGV				*e*S		**Sn**	**16 56 23.2**	**-0.6**
SOCV	**Socops**	**2.65**	**56**	*e*P		**Pn**	**16 55 51.5**	**+1.0**
SOCV				*e*S		**Sn**	**16 56 23.6**	**-0.4**
VILC	**Villavicencio,**	**2.75**	**193**	*e*P		**Pn**	**16 55 52.9**	**+1.1**
VILC				*e*S		**Sn**	**16 56 25.8**	**-0.7**
GUYC	**Guyana, Colomb**	**2.78**	**235**	*e*P		**Pn**	**16 55 53.9**	**+1.4**
GUYC				*i*			16 56 37.6	
	comp=Z,36nm,0.4s							
VIRV	**Villa del Rosa**	**3.73**	**10**	*e*P		**Pn**	**16 56 04.0**	**0.0**
VIRV				*e*S		**Sn**	**16 56 46.1**	**-2.2**
CURV	**Curarigua**	**4.43**	**44**	*e*P		**Pn**	**16 56 13.7**	**+0.3**
BAUV	**El Baul**	**5.43**	**67**	*e*P		**Pn**	**16 56 26.0**	**-0.3**

IDC 24 17:04:07.3±9.8,28˚01S×176˚98W,h0km,mb3.8/3, mb1 4.0/3,mb1mx3.7/25,mbtmp3.8/3,Error ellipse: s-maj=181.0km s-min=32.4km az=97.0,Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**1.48**	**213**	Pn		Pn	17 04 34.9	-0.4
	142nm,0.3s,baz=97,slow=7.2,SNR=8.7							
RAO				Sn		Sn	17 04 56.1	+0.7
	344nm,0.3s,baz=66,slow=23,SNR=11							
STKA	**Stephens Creek**	**35.95**	**254**	P		P	17 11 10.7	+1.0
	0.5nm,0.4s,baz=103,slow=13,SNR=3.8							
ASAR	**Alice Springs**	**44.18**	**264**	P		P	17 12 17.9	-0.4
	0.9nm,0.6s,baz=105,slow=7.3,SNR=23							
WRA	**Warramunga Arr**	**44.96**	**269**	P		P	17 12 24.2	-0.3
	1.7nm,0.7s,baz=108,slow=7.9,SNR=24							

*ISCJB **24** 17:09:49.3±0.5,50˚27N±0˝04×18˚73E±0˝03,h0km, Error ellipse: s-maj=5.3km s-min=2.6km az=14.8*
*WAR **24** 17:09:50.8,50˚27N×18˚83E,h1km,Mw2.5*
*IPEC **24** 17:09:50.0±0.2,50˚31N×18˚79E,h0km±2km,ML1.9/2, Error ellipse: s-maj=2.5km s-min=1.1km az=168.0*
*CSEM **24** 17:09:50.4±0.3,50˚25N×18˚76E,h2km,ML2.6/6,Error ellipse: s-maj=7.5km s-min=3.7km az=11.0*
*PRU **24** 17:09:51.0,50˚31N×18˚75E,h0km*

ISC 24 17:09:50.2±0.8,50˚23N±0˝04×18˚77E±0˝02,h0km,n31, σ0°64/56,Poland

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
OKC	**Ostrava-Krasne**	**0.56**	**226**	*e*PG		**Pb**	**17 10 02.5**	**-0.4**
OKC				*e*SG		**Sb**	**17 10 11.0**	**-0.4**
	comp=Z,15nm,0.5s							
OKC	**Ostrava-Krasne**	**0.56**	**226**	Pg		**Pb**	**17 10 02.5**	**-0.4**
OKC				Sg		**Sb**	**17 10 11.0**	**-0.4**
	15nm,0.5s							
OJC	**Ojcow**	**0.66**	**90**	*e*Pg		**Pg**	**17 10 02.7**	**-0.1**
OJC				*e*Sg		**Sg**	**17 10 11.1**	**-0.2**
OJC	**Ojcow**	**0.66**	**90**	*e*Pg		**Pg**	**17 10 02.7**	**-0.1**
OJC				*e*Sg		**Sg**	**17 10 11.1**	**-0.2**
OJC	**Ojcow**	**0.66**	**90**	*e*Pg		**Pg**	**17 10 02.7**	**-0.1**
OJC				*e*Sg		**Sg**	**17 10 11.1**	**-0.2**
MORC	**Moravsky Berou**	**0.91**	**241**	*e*Pg		**Pg**	**17 10 08.5**	**+0.8**
MORC				*e*Sg		**Sg**	**17 10 20.3**	**+0.8**
	17nm,0.3s							
LANS	**Liptovska Anna**	**1.17**	**157**	*e*Pg		**Pb**	**17 10 13.6**	**+0.3**
LANS				*e*Sg		**Sb**	**17 10 29.3**	**+0.3**
LANS	**Liptovska Anna**	**1.17**	**157**	*e*PG		**Pb**	**17 10 13.5**	**+0.3**
LANS				*e*SG		**Sb**	**17 10 29.3**	**+0.3**
NIE	**Niedzica**	**1.28**	**129**	*e*Pg		**Pb**	**17 10 15.2**	**0.0**
NIE				*e*Sg		**Sn**	**17 10 33.7**	**+0.5**
NIE	**Niedzica**	**1.28**	**129**	*e*Pg		**Pb**	**17 10 15.2**	**0.0**
NIE				*e*Sg		**Sn**	**17 10 33.7**	**+0.5**
NIE	**Niedzica**	**1.28**	**129**	*e*Pg		**Pb**	**17 10 15.2**	**0.0**
NIE				*e*Sg		**Sn**	**17 10 33.7**	**+0.5**
KRLC	**Kraliky**	**1.29**	**264**	*e*PG		**Pg**	**17 10 14.5**	**-0.4**
KRLC				*e*SG		**Sg**	**17 10 31.8**	**+0.2**
KRLC	**Kraliky**	**1.29**	**264**	Pg		**Pg**	**17 10 14.5**	**-0.4**
KRLC				Sg		**Sg**	**17 10 31.8**	**+0.2**
DPC	**Dobruska-Polom**	**1.58**	**275**	*e*PG		**Pn**	**17 10 19.2**	**-0.3**
DPC				*e*SG		**Sb**	**17 10 40.7**	**0.0**
	comp=Z,8.3nm,0.4s							
DPC	**Dobruska-Polom**	**1.58**	**275**	Pg		**Pn**	**17 10 19.2**	**-0.3**
DPC				Sg		**Sb**	**17 10 40.7**	**0.0**
	8.3nm,0.4s							
VRAC	**Vranov**	**1.69**	**238**	*e*Pn		**Pn**	**17 10 21.5**	**+0.6**
VRAC				*e*Sg		**Sg**	**17 10 44.6**	**+0.3**
KSP	**Ksiaz**	**1.70**	**292**	*e*Pg		**Pg**	**17 10 22.6**	**-0.1**
KSP				*e*Sg		**Sg**	**17 10 45.0**	**+0.3**
KSP	**Ksiaz**	**1.70**	**292**	*e*Pg		**Pg**	**17 10 22.6**	**-0.1**
KSP				*e*Sg		**Sg**	**17 10 45.0**	**+0.3**
KSP	**Ksiaz**	**1.70**	**292**	*e*Pg		**Pg**	**17 10 22.6**	**-0.1**
KSP				*e*Sg		**Sg**	**17 10 45.0**	**+0.3**
VYHS	**Vyhne**	**1.73**	**179**	*e*Pg		**Pn**	**17 10 21.8**	**+0.2**
VYHS				*e*Sn		**Sn**	**17 10 42.9**	**-1.5**
VYHS	**Vyhne**	**1.73**	**179**	*e*PG		**Pn**	**17 10 21.8**	**+0.2**
VYHS				*e*SN		**Sn**	**17 10 42.8**	**-1.6**
VYHS				*e*LG		Lg	17 10 47.5	
UPC	**Upice**	**1.79**	**280**	*e*SG		**Sg**	**17 10 47.5**	**-0.2**
	comp=Z,6.5nm,0.3s							
UPC	**Upice**	**1.79**	**280**	Sg		**Sg**	**17 10 47.5**	**-0.2**
	6.5nm,0.3s							
STHS	**Stebnicka Huta**	**1.79**	**116**	*e*Pn		**Pg**	**17 10 24.3**	**-0.3**
STHS				*e*Sn		**Sg**	**17 10 47.7**	**-0.1**
STHS	**Stebnicka Huta**	**1.79**	**116**	*e*PN		**Pg**	**17 10 24.

AHML				IAML			17 12 01.6	
	comp=Z,78nm,0.8s							
ANCH	**Antofagasta**	**3.23**	**275**	⇑*i*	P	**Pn**	**17 12 04.4**	**+1.5**
ANCH				*i*	S	**Sn**	**17 12 43.0**	**-0.7**
PB14	**IPOC Station P**	**3.25**	**258**	IAML			17 12 46.0	
	comp=E,830nm,0.1s							
PB10	**IPOC Station P**	**3.38**	**278**	⇑*i*	P	**Pn**	**17 12 05.1**	**+0.4**
PB10				*eS*		**Sn**	**17 12 44.8**	**-2.4**
PB04	**IPOC Station P**	**3.42**	**299**	⇑*i*	P	**Pn**	**17 12 05.7**	**+0.2**
PB04				*i*	S	**Sn**	**17 12 46.8**	**-1.6**
PB07	**IPOC Station P**	**3.57**	**309**	⇑*i*	P	**Pn**	**17 12 07.5**	**+0.2**
PB07				*i*	S	**Sn**	**17 12 50.0**	**-1.6**
PB01	**IPOC Station P**	**3.80**	**321**	⇑*i*	P	**Pn**	**17 12 10.0**	**-0.1**
PB01				*i*	S	**Sn**	**17 12 55.0**	**-1.6**
PB02	**IPOC Station P**	**3.85**	**314**	⇑*i*	P	**Pn**	**17 12 10.4**	**-0.2**
PB02				*eS*		**Sn**	**17 12 55.4**	**-2.3**
PB08	**IPOC Station P**	**4.38**	**331**	⇑*i*	P	**Pn**	**17 12 18.2**	**+0.7**
PB08				*i*	S	**Sn**	**17 13 09.5**	**-0.6**
CYA	**Choya**	**4.52**	**168**	IAML			17 12 19.1	
	comp=Z,22nm,0.3s							
HMBC	**Humberstone**	**4.63**	**323**	*eP*		**Pn**	**17 12 19.1**	**-1.4**
HMBC				*i*	S	**Sn**	**17 13 12.4**	**-3.1**
VCA	**Vinchina**	**4.85**	**194**	*eP*		**Pn**	**17 12 23.0**	**-0.1**
PB11	**IPOC Station P**	**4.95**	**328**	⇑*i*	P	**Pn**	**17 12 23.4**	**-1.0**
PB11				*i*	S	**Sn**	**17 13 19.3**	**-3.4**
MNMC	**Minye Minye**	**5.47**	**332**	⇓*i*	P	**Pn**	**17 12 30.8**	**-0.5**
MNMC				*i*	S	**Sn**	**17 13 32.1**	**-2.8**
AGUA	**GUANDACOL**	**5.63**	**194**	⇓*eP*		**Pn**	**17 12 32.3**	**-0.9**
AVFE	**Valle Fertil**	**6.64**	**184**	*eP*		**Pn**	**17 12 43.9**	**-2.2**
BBOJ	**La Paz, Jacaqu**	**7.11**	**350**	⇑*i*Pn		**Pn**	**17 12 54.0**	**+1.2**
BBOE	**La Paz, Chanca**	**7.24**	**352**	⇑*i*Pn		**Pn**	**17 12 55.9**	**+1.4**
BBOD	**La Paz, Gloria**	**7.51**	**347**	⇑*i*Pn		**Pn**	**17 12 58.8**	**+0.8**
BBOD				⇑*i*Sn		**Sn**	**17 14 22.5**	**-0.8**
	comp=Z,11nm,0.7s							
LPAZ	**La Paz**	**7.77**	**351**	P		**Pn**	**17 13 01.3**	**-0.3**
	comp=Z,4.1nm,0.3s,baz=117,slow=4.7,SNR=55							
LPAZ				S		**Sn**	**17 14 29.1**	**-0.6**
	comp=Z,0.3nm,0.3s,baz=0.9,slow=19,SNR=4.5							
LPAZ	**La Paz**	**7.77**	**351**	⇑*i*Pn		**Pn**	**17 13 01.7**	**+0.2**
LPAZ				*e*Sn		**Sn**	**17 14 28.3**	**-1.4**
BBOB	**La Paz, Bander**	**7.92**	**351**	⇑*i*Pn		**Pn**	**17 13 03.2**	**-0.1**
BBOB				⇑*i*Sn		**Sn**	**17 14 32.5**	**-0.4**
	comp=Z,14nm,0.6s							
CPUP	**Villa Florida**	**8.97**	**107**	P		**Pn**	**17 13 14.6**	**-1.9**
	comp=Z,0.1nm,0.3s,baz=288,slow=9.6,SNR=4.4							
SIV	**San Ignacio**	**9.68**	**36**	P		**Pn**	**17 13 23.1**	**-2.7**
	comp=Z,1.0nm,0.3s,baz=239,slow=12,SNR=6.0							
SIV	**San Ignacio**	**9.68**	**36**	*eP*		**Pn**	**17 13 23.9**	**-1.9**
PLCA	**Paso Flores**	**16.95**	**190**	P		**Pn**	**17 14 57.8**	**+1.5**
	comp=Z,0.4nm,0.3s,baz=19,slow=11,SNR=7.2							
SNAA	**Sanae**	**59.31**	**161**	P		**P**	**17 20 51.3**	**+0.2**
	comp=Z,0.6nm,0.6s,baz=287,slow=14,SNR=3.5							
TXAR	**Lajitas Array**	**63.74**	**324**	P		**P**	**17 21 21.6**	**+0.3**
	comp=Z,0.4nm,0.7s,baz=152,slow=9.1,SNR=6.8							
TORD	**Torodi Ar. Bea**	**76.49**	**69**	P		**P**	**17 22 38.0**	**-1.0**
	comp=Z,1.1nm,0.4s,baz=256,slow=5.7,SNR=16							
TORD				pP		**pP**	**17 23 27.8**	**+1.0**
	comp=Z,0.6nm,0.9s,baz=252,slow=4.7,SNR=4.5							
PDAR	**Pinedale Array**	**77.21**	**329**	P		**P**	**17 22 43.6**	**+0.9**
	comp=Z,0.4nm,0.4s,baz=123,slow=3.3,SNR=3.2							
ULM	**Lac du Bonnet**	**78.27**	**341**	P		**P**	**17 22 48.6**	**+0.5**
	comp=Z,1.5nm,0.5s,baz=125,slow=12,SNR=3.4							
YKA	**Yellowknife Ar**	**94.17**	**340**	P		**P**	**17 24 06.8**	**+0.6**
	comp=Z,0.5nm,0.5s,baz=136,slow=4.3,SNR=6.7							
ASAR	**Alice Springs**	**128.48**	**205**	PKP		**PKPdf**	**17 29 53.7**	**-0.7**
	comp=Z,0.7nm,0.7s,baz=133,slow=1.7,SNR=13							
WRA	**Warramunga Arr**	**131.66**	**207**	PKP		**PKPdf**	**17 30 00.3**	**-0.2**
	comp=Z,0.5nm,0.4s,baz=156,slow=1.8,SNR=17							
ZALV	**Zalesovo Beam**	**143.36**	**28**	PKP	PKPab		17 30 18.8	+1.4
	comp=Z,0.9nm,0.5s,baz=280,slow=4.5,SNR=5.9							
MKAR	**Makanchi Array**	**146.48**	**40**	PKPbc		**PKPdf**	**17 30 27.4**	**+0.8**
	comp=Z,1.7nm,0.7s,baz=303,slow=2.7,SNR=13							

*KRSC **24** 17:29:18.8±2.6, 50.06N×157.20E, h16km±40km, ML4.5*
*ISCJB **24** 17:29:21.0±0.6, 50.16N±0.06×156.32E±0.09, h81km±5km, mb3.7/16, Error ellipse: s-maj=12.8km s-min=4.2km az=44.8*
*MOS **24** 17:29:20.7±1.1, 50.21N×156.18E, h78km, mb4.2/8, Error ellipse: s-maj=12.3km s-min=4.6km az=69.9*
*IDC **24** 17:29:21.6±0.7, 50.23N×156.31E, h68km±7km, mb3.4/12, mb1 3.7/14, mb1mx3.5/38, mbtmp3.7/14, MS2.8/5, Ms1 2.8/5, ms1mx2.5/29, Error ellipse: s-maj=25.4km s-min=11.6km az=139.0*

ISC 24 17:29:21.6±0.7, 50.14N±0.06×156.47E±0.06, h72km±5km, n78, σ1°75/104, mb3.8/16, 1D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**0.59**	**337**			PN	**Pn**	**17 29 35.5**	**0.0**
SKR						S	**Sn**	**17 29 46.0**	**+0.3**
SKR	**Severo-Kuril's**	**0.59**	**337**			*e*P	**Pn**	**17 29 35.5**	**0.0**
SKR						*e*S	**Sn**	**17 29 46.0**	**+0.3**
PAU	**Pauzhetka**	**1.35**	**9**	PN		P	**Pn**	**17 29 42.5**	**-2.1**
PAU						S	**Sn**	**17 30 00.2**	**-1.7**
PAU	**Pauzhetka**	**1.35**	**9**	*e*P		P	**Pn**	**17 29 42.5**	**-2.1**
PAU						*e*S	**Sn**	**17 30 00.2**	**-1.7**
ASAK	**Asacha**	**2.42**	**21**	PN		P	**Pn**	**17 30 00.2**	**+1.2**
ASAK	**Asacha**	**2.42**	**21**	*e*P		P	**Pn**	**17 30 00.2**	**+1.2**
MTVR	**Mutnovka**	**2.58**	**24**	PN		P	**Pn**	**17 30 02.1**	**+0.9**
MTVR						S	**Sn**	**17 30 32.8**	**+1.2**
MTVR	**Mutnovka**	**2.58**	**24**	*e*P		P	**Pn**	**17 30 02.1**	**+0.9**
MTVR						*e*S	**Sn**	**17 30 32.8**	**+1.2**
RUS	**Russkaya**	**2.63**	**28**	PN		P	**Pn**	**17 30 01.3**	**-0.4**
RUS						S	**Sn**	**17 30 31.8**	**-0.8**
RUS	**Russkaya**	**2.63**	**28**	*e*P		P	**Pn**	**17 30 01.3**	**-0.4**
RUS						*e*S	**Sn**	**17 30 31.8**	**-0.8**
APC	**Apacha**	**2.83**	**8**	PN		P	**Pn**	**17 30 06.1**	**+1.8**
APC	**Apacha**	**2.83**	**8**	*e*P		P	**Pn**	**17 30 06.1**	**+1.8**
KRMR	**Karymshinskiy**	**2.89**	**20**	PN		P	**Pn**	**17 30 06.4**	**+1.2**
KRMR						S	**Sn**	**17 30 41.1**	**+2.3**
KRMR	**Karymshinskiy**	**2.89**	**20**	*e*P		P	**Pn**	**17 30 06.4**	**+1.2**
KRMR						*e*S	**Sn**	**17 30 41.1**	**+2.3**
PETK	**Petropavlovsk-**	**3.07**	**14**	P		P	**Pn**	**17 30 08.6**	**+0.8**
	6.0nm,0.3s,baz=170,slow=12,SNR=209								
PET	**Petropavlovsk**	**3.19**	**24**	*e*PN		P	**Pn**	**17 30 10.2**	**+0.8**
PET						*e*S	**Sn**	**17 30 46.6**	**+0.3**
PET						pmax	pmax		
	comp=Z,42nm,0.4s								
PET						smax	smax		
	comp=E,226nm,0.5s								
PET						smax	smax		
	comp=N,339nm,0.5s								
PET	**Petropavlovsk**	**3.19**	**24**	*e*P		P	**Pn**	**17 30 10.0**	**+0.6**
PET						*e*S	**Sn**	**17 30 47.8**	**+1.5**
DALK	**Dalny**	**3.23**	**25**	PN		P	**Pn**	**17 30 10.4**	**+0.6**
DALK						S	**Sn**	**17 30 48.1**	**+1.0**
DALK	**Dalny**	**3.23**	**25**	*e*P		P	**Pn**	**17 30 10.4**	**+0.6**
DALK						*e*S	**Sn**	**17 30 48.1**	**+1.0**
UGLR	**Uglovaya**	**3.41**	**25**	PN		P	**Pn**	**17 30 14.7**	**+2.3**
UGLR	**Uglovaya**	**3.41**	**25**	*e*P		P	**Pn**	**17 30 14.7**	**+2.3**
KOK	**Koryaka**	**3.43**	**22**	PN		P	**Pn**	**17 30 14.8**	**+2.1**
KOK						S	**Sn**	**17 30 55.6**	**+3.3**
KOK	**Koryaka**	**3.43**	**22**	*e*P		P	**Pn**	**17 30 14.8**	**+2.1**
KOK						*e*S	**Sn**	**17 30 55.6**	**+3.3**
AVH	**Avacha**	**3.44**	**23**	PN		P	**Pn**	**17 30 14.5**	**+1.8**
AVH						S	**Sn**	**17 30 55.2**	**+2.9**
AVH	**Avacha**	**3.44**	**23**	*e*P		P	**Pn**	**17 30 14.5**	**+1.8**
AVH						*e*S	**Sn**	**17 30 55.2**	**+2.9**
KRER	**Koryakskii**	**3.47**	**23**	PN		P	**Pn**	**17 30 15.2**	**+1.8**
KRER						S	**Sn**	**17 30 56.3**	**+2.9**
KRER	**Koryakskii**	**3.47**	**23**	*e*P		P	**Pn**	**17 30 15.2**	**+1.8**
KRER						*e*S	**Sn**	**17 30 56.3**	**+2.9**
SDLR	**Sedlovina**	**3.48**	**25**	PN		P	**Pn**	**17 30 14.8**	**+1.4**
SDLR						S	**Sn**	**17 30 55.3**	**+1.8**
SDLR	**Sedlovina**	**3.48**	**25**	*e*P		P	**Pn**	**17 30 14.8**	**+1.4**
SDLR						*e*S	**Sn**	**17 30 55.3**	**+1.8**
KRX	**Arik**	**3.50**	**22**	PN		P	**Pn**	**17 30 15.5**	**+1.8**
KRX						S	**Sn**	**17 30 56.9**	**+3.0**
KRX	**Arik**	**3.50**	**22**	*e*P		P	**Pn**	**17 30 15.5**	**+1.8**
KRX						*e*S	**Sn**	**17 30 56.9**	**+3.0**
NLC	**Nalytchevo**	**3.53**	**29**	PN		P	**Pn**	**17 30 13.1**	**-0.8**
NLC						S	**Sn**	**17 30 52.5**	**-1.8**
NLC	**Nalytchevo**	**3.53**	**29**	*e*P		P	**Pn**	**17 30 13.1**	**-0.8**
NLC						*e*S	**Sn**	**17 30 52.5**	**-1.8**
GNL	**Ganaly**	**3.68**	**14**	PN		P	**Pn**	**17 30 18.0**	**+1.9**
GNL	**Ganaly**	**3.68**	**14**	*e*P		P	**Pn**	**17 30 18.0**	**+1.9**
SPN	**Mys Shipunski**	**3.70**	**35**	PN		P	**Pn**	**17 30 16.2**	**0.0**
SPN						S	**Sn**	**17 30 57.1**	**-1.5**
SPN	**Mys Shipunski**	**3.70**	**35**	*e*P		P	**Pn**	**17 30 16.2**	**0.0**
SPN						*e*S	**Sn**	**17 30 57.1**	**-1.5**
MKZ	**Mys Kozlova**	**5.47**	**34**	PN		P	**Pn**	**17 30 39.3**	**-1.1**
MKZ	**Mys Kozlova**	**5.47**	**34**	*e*P		P	**Pn**	**17 30 39.3**	**-1.1**
KUR	**Kuril'sk**	**7.60**	**233**	*i* PN		P	**Pn**	**17 31 11.8**	**+2.3**
KUR						*e*S	**Sn**	**17 32 37.3**	**+3.2**
SHO	**Shikotan**	**9.09**	**230**	*e*PN		P	**Pn**	**17 31 28.1**	**-1.8**
SHO						pmax	pmax		
	comp=Z,13nm,0.6s								
UGL	**Uglegorsk**	**9.42**	**269**	*e*PN		P	**Pn**	**17 31 31.1**	**-3.2**
MA2	**Magadan**	**10.01**	**343**	LR		LR	17 35 30.0	
	comp=Z,37nm,18.7s,baz=220,slow=37								
ASAJ	**Asahikawa**	**11.20**	**243**	P		P	**17 31 59.9**	**+1.2**
	baz=0.0,slow=20								
ERM	**Erimo**	**12.29**	**234**	*e*PN		P	**Pn**	**17 32 11.5**	**-2.0**
SEY	**Seymchan**	**13.02**	**352**	*e*PN		P	**Pn**	**17 32 22.0**	**-1.3**
HABR	**Khabarovsk**	**14.07**	**271**	*e*P		P	**Pn**	**17 32 34.2**	**-3.0**
HABR						*e*S	**Sn**	**17 35 08.0**	**-3.7**
HABR						pmax	pmax		
	comp=E,13nm,1.6s								
HABR						pmax	pmax		
	comp=Z,15nm,1.6s								
HABR						pmax	pmax		
	comp=N,15nm,1.6s								
HABR						MLR	MLR		
	comp=Z,40nm,18.0s								
KLR	**Kul'dur**	**16.01**	**276**	*e*P		**P**	**17 33 03.1**	**-1.2**
USRK	**Ussuriysk Ar.**	**17.64**	**260**	LR		LR	17 39 39.4	
	comp=Z,28nm,20.4s,baz=83,slow=35								
MJA0	**Matsu Arr-Jizo**	**18.91**	**231**	*e*P		**Pn**	**17 33 42.5**	**+4.8**
MAJO	**Matsushiro**	**18.93**	**231**	*e*P		**P**	**17 33 36.5**	**-0.1**
MJAR	**Matsushiro Arr**	**18.93**	**231**	P		**P**	**17 33 36.8**	**+0.2**
	comp=Z,0.2nm,0.3s,baz=30,slow=8.2,SNR=3.5								
KSRS	**Korea Array**	**24.03**	**249**	P		**P**	**17 34 29.2**	**-0.4**
	comp=Z,0.4nm,0.5s,baz=42,slow=9.4,SNR=3.0								
KSRS						LR	LR	17 44 11.4	
	comp=Z,11nm,18.7s,baz=215,slow=37								
JNU	**Nakatsue**	**25.40**	**238**	P		**P**	**17 34 42.1**	**0.0**
	comp=Z,2.2nm,0.7s,baz=314,slow=3.7,SNR=4.7								
H11N2	**WAKE ISLAND Hy**	**31.45**	**161**	T		T	18 09 20.6	
	baz=348,slow=76,SNR=56								
H11N3	**WAKE ISLAND Hy**	**31.47**	**161**	T		T	18 09 22.0	
	baz=348,slow=76,SNR=114								
H11N1	**WAKE ISLAND Hy**	**31.47**	**161**	T		T	18 09 22.1	
	baz=348,slow=76,SNR=35								
ILAR	**Eielson Array**	**32.52**	**42**	P		**P**	**17 35 43.9**	**-1.1**
	comp=Z,0.4nm,0.7s,baz=260,slow=5.4,SNR=4.2								
H11S1	**WAKE ISLAND Hy**	**32.60**	**162**	T		T	18 10 34.0	
	baz=348,slow=76,SNR=238								
H11S3	**WAKE ISLAND Hy**	**32.61**	**162**	T		T	18 10 34.8	
	baz=348,slow=76,SNR=260								
H11S2	**WAKE ISLAND Hy**	**32.62**	**162**	T		T	18 10 35.2	
	baz=348,slow=76,SNR=156								
INK	**Inuvik**	**37.59**	**35**	P		**P**	**17 36 28.2**	**-0.3**
	comp=Z,2.1nm,0.8s,baz=307,slow=4.6,SNR=3.6								
YKA	**Yellowknife Ar**	**46.88**	**39**	P		**P**	**17 37 44.8**	**+0.8**
	comp=Z,0.8nm,0.6s,baz=298,slow=7.9,SNR=3.9								
KURK	**Kurchatov**	**47.40**	**302**	*e*P		**P**	**17 37 45.8**	**-2.4**
KURK						pmax	pmax		
	comp=Z,8.0nm,0.9s								
MKAR	**Makanchi Array**	**47.42**	**296**	P		**P**	**17 37 47.1**	**-1.3**
	comp=Z,0.6nm,0.5s,baz=56,slow=6.2,SNR=8.3								
MKAR	**Makanchi Array**	**47.42**	**296**	*e*P		**P**	**17 37 47.7**	**-0.7**
MKAR						pmax	pmax		
	comp=Z,1.0nm,0.5s								
BRVK	**Borovoye**	**50.50**	**309**	*i* P		**P**	**17 38 11.9**	**0.0**
BRVK						pmax	pmax		
	comp=Z,2.0nm,0.9s								
ARU	**Arti**	**54.04**	**317**	*d* P		**P**	**17 38 39.0**	**+1.0**
ARU					*PP	**pP**	**17 38 55.6**	**-0.8**
ARU							17 39 40.8	
ARU							17 40 38.2	
ARU					S	**S**	**17 46 09.8**	**+1.5**
ARU					SS	**SS**	**17 49 47.5**	**-2.3**
ARU					pmax	pmax		
	comp=Z,4.0nm,1.7s								
AAK	**Ala-Archa**	**54.35**	**296**	*i* P		**P**	**17 38 40.3**	**-0.4**
AAK					pmax	pmax		
	comp=Z,4.0nm,1.1s								
CMAR	**Chiang Mai Arr**	**55.34**	**257**	P		**P**	**17 38 49.0**	**+1.2**
	comp=Z,1.3nm,0.6s,baz=35,slow=7.4,SNR=12								
PDAR	**Pinedale Array**	**60.98**	**57**	P		**P**	**17 39 28.9**	**+1.5**
	comp=Z,0.9nm,0.8s,baz=325,slow=2.3,SNR=4.4								
AKASG	**Malin Array Be**	**69.94**	**327**	LR		LR	18 12 35.1	
	comp=Z,15nm,21.6s,baz=35,slow=37								
KVAR	**Kislovodsk Arr**	**70.00**	**315**	LR		LR	18 13 31.4	
	comp=Z,9.9nm,18.6s,slow=38								
WRA	**Warramunga Arr**	**72.47**	**202**	P		**P**	**17 40 40.0**	**-0.1**
	comp=Z,0.4nm,0.8s,baz=17,slow=6.2,SNR=4.6								
WRA					pP	**PcP**	**17 40 58.0**	**+0.4**
	comp=Z,0.6nm,1.0s,baz=18,slow=6.5,SNR=2.9								
WRA	**Warramunga Arr**	**72.47**	**202**	*e*P		**P**	**17 40 40.9**	**+0.7**
TXAR	**Lajitas Array**	**73.93**	**64**	P		**P**	**17 40 50.2**	**+1.2**
	comp=Z,0.7nm,0.5s,baz=300,slow=4.5,SNR=14								
TXAR					pP	**pP**	**17 41 08.4**	**+0.1**
	comp=Z,0.8nm,0.8s,baz=307,slow=4.6,SNR=5.3								
ASAR	**Alice Springs**	**76.16**	**201**	P		**P**	**17 41 02.5**	**+1.0**
	comp=Z,0.4nm,0.7s,baz=12,slow=5.3,SNR=7.3								
ASAR					pP	**pP**	**17 41 20.9**	**0.0**
	comp=Z,0.3nm,0.8s,baz=18,slow=5.6,SNR=2.1								
GERES	**GERESS Array B**	**76.34**	**336**	P		**P**	**17 41 01.3**	**-1.2**
	comp=Z,0.3nm,0.5s,baz=42,slow=9.3,SNR=3.5								

CASC 24 17:53:28.3±1.0, 13.01N×89.31W, h31km±2km, ML3.7, El Salvador

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
LFRS	**El Faro**	**0.66**	**21**	*e*P		P	Pb	17 53 41.3	-0.1
SNET	**Serv Nac Est T**	**0.68**	**6**	*e*P		P	Pb	17 53 41.6	-0.2
SNET						*e*S	Sn	17 53 51.7	+0.2
SNET						AML	AML	17 53 53.7	
	comp=Z,5μm,0.3s								
OPAM	**San Salvador**	**0.71**	**8**	*e*P		P	Pn	17 53 42.1	-0.2
OPAM						*e*S	Sb	17 53 52.0	+0.1
BOQS	**Boqueron**	**0.72**	**2**	*e*P		P	Pn	17 53 42.5	-0.1
BOQS						*e*S	Sn	17 53 54.3	+1.5
UDBS	**Soyapango**	**0.73**	**11**	*e*P		P	Pn	17 53 42.4	-0.2
UDBS						*e*S	Sn	17 53 52.9	+0.3
SNVI	**San Vicente**	**0.76**	**37**	*e*P		P	Pn	17 53 42.6	-0.3
SNVI						*e*S	Sb	17 53 53.3	+0.1
LFU	**La Fuente**	**0.76**	**14**	*i* P		P	Pn	17 53 42.9	-0.1
LFU						*e*S	Sn	17 53 54.2	+0.7
LBRS	**Las Brisas**	**0.77**	**19**	*e*P		P	Pn	17 53 43.1	0.0
SBLS	**San Blas**	**0.88**	**340**	*e*P		P	Pn	17 53 44.8	0.0
SBLS						*e*S	Sb	17 53 58.7	+1.8
SNJE	**San Jose**	**0.91**	**341**	*e*P		P	Pn	17 53 45.0	-0.1
MONT	**Ecomontaæa**	**0.91**	**339**	*e*P		P	Pn	17 53 45.3	+0.1
RTR	**El Retiro**	**0.95**	**340**	*e*P		P	Pn	17 53 45.7	+0.1
PACA	**Pacayal**	**1.06**	**64**	*e*P		P	Pn	17 53 47.3	+0.2
PACA						*e*S	Sn	17 54 01.0	+0.1
LCY	**Lacayo**	**1.07**	**67**	*e*P		P	Pn	17 53 47.6	+0.4
LCY						*e*S	Sb	17 54 01.8	-0.2
VSM	**San Miguel**	**1.09**	**67**	*e*P		P	Pn	17 53 48.0	+0.3
CUS1	**Cusmapa**	**1.10**	**325**	*i* P		P	Pn	17 53 47.2	-0.4
CUS1						*e*S	Sn	17 54 01.9	+0.1
RBDL	**Robledal**	**1.16**	**341**	*e*P		P	Pn	17 53 48.9	+0.3
RBDL						*e*S	Sb	17 54 04.4	-0.4
CAHU	**Cacacuatique**	**1.31**	**54**	*e*P		P	Pn	17 53 51.1	+0.5
MTO3	**Montecristo**	**1.39**	**358**	*e*P		P	Pn	17 53 51.3	-0.4
MTO3						*e*S	Sb	17 54 10.3	-0.9
CNCH	**Conchagua**	**1.46**	**79**	*e*P		P	Pn	17 53 52.8	+0.2
CNCH						*e*S	Sn	17 54 11.7	+1.0
IXG	**Ixpaco**	**1.61**	**316**	*e*P		P	Pn	17 53 54.5	-0.2
CNGN	**Cerro Negro**	**2.59**	**101**	*e*P		P	Pn	17 54 07.9	-0.2
CNGN						*e*S	Sn	17 54 40.1	+1.4
CNGN						AML	AML	17 54 46.2	
	comp=E,219nm,0.3s								
MOMN	**Momotombo**	**2.76**	**102**	*e*P		P	Pn	17 54 10.1	-0.5
COPN	**Copaltepe**	**2.77**	**107**	*e*P		P	Pn	17 54 10.5	-0.1
ESTN	**Estel**	**2.86**	**88**	*e*P		P	Pn	17 54 12.4	+0.5
CONN	**Concepcion**	**3.87**	**111**	*e*P		P	Pn	17 54 26.2	+0.5

*ISCJB **24** 18:12:50.3±0.9, 37.09N±0.03×141.01E±0.06, h10km±4km, mb3.5/6, Error ellipse: s-maj=8.1km s-min=5.4km az=14.9*
*IDC **24** 18:12:50.3±1.1, 37.04N×140.96E, h0km, mb3.6/6, mb1 3.7/8, mb1mx3.5/42, mbtmp3.5/8, ML3.1/2, MS1.7/1, Ms1 1.7/1, ms1mx1.6/43, Error ellipse: s-maj=21.6km s-min=18.9km az=145.0*
*JMA **24** 18:12:52.4, 37.12N×140.86E, h6km±1km, M3.2 Broadband fault plane solution: P waves. NP1: ϕs215.00000°, δ81.00000°, λ-114.00000°. NP2: ϕs106.00000°, δ26.00000°, λ-20.00000°. Principal axes: T Plg32.0000°, Azm325.0000°; N Plg24.0000°, Azm219.0000°; P Plg48.0000°, Azm99.0000°;*
JMA Felt II J1.

ISC 24 18:12:51.0±1.7, 37.06N±0.06×140.94E±0.06, h5km±10km, n22, σ0°62/24, mb3.5/6, 6C, Eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
ONAJ	**Iwakimizuishiy**	**0.12**	**290**	⇑P		P	**Pg**	**18 12 53.6**	**+0.1**
ONAJ						*e*S	**Sg**	**18 12 54.9**	**-0.3**
JFK	**Kawauchi**	**0.31**	**350**	⇑P		P	**Pg**	**18 12 57.4**	**+0.3**
JFK						*e*S	**Sg**	**18 13 01.6**	**+0.5**
JHO	**Hitachi**	**0.54**	**214**	⇑P		P	**Pb**	**18 13 02.8**	**-0.2**
JHO						S	**Sb**	**18 13 10.5**	**-0.6**
JFT	**Otama**	**0.66**	**314**	⇑P		P	**Pg**	**18 13 03.8**	**0.0**
JFT						*e*S	**Sg**	**18 13 12.1**	**-0.3**
JMM	**Marumori**	**0.81**	**352**	⇑P		P	**Pg**	**18 13 06.4**	**-0.2**
JMM						S	**Sg**	**18 13 17.0**	**-0.2**
JSB	**Shiboa**	**0.82**	**264**	P		P	**Pb**	**18 13 07.8**	**0.0**
JSB						S	**Sb**	**18 13 18.8**	**-0.4**
JFY	**Yanaizu**	**1.04**	**290**	⇑P		P	**Pg**	**18 13 10.8**	**-0.3**
JFY						S	**Sg**	**18 13 23.6**	**-1.0**
MJAR	**Matsushiro Arr**	**2.25**	**258**	P		Pn	**Pn**	**18 13 30.4**	**+1.4**
	6.4nm,0.3s,baz=81,slow=16,SNR=82								
MJAR				Lg		Lg		18 14 00.6	
	8.9nm,0.3s,baz=86,slow=30,SNR=11								
MJAR				LR		LR		18 14 25.5	
	comp=Z,16nm,19.6s,baz=60,slow=43								
MAT	**Matsushiro**	**2.25**	**258**	P		Pn		**18 13 30.5**	**+1.5**
MAT				S		**Sb**		**18 14 00.4**	**-0.1**
ASAJ	**Asahikawa**	**7.16**	**10**	Pn		Pn		**18 14 36.4**	**0.0**
	0.3nm,0.3s,baz=206,slow=11,SNR=5.4								
H11N2	**WAKE ISLAND Hy**	**28.49**	**120**	T		T		18 48 34.1	
	baz=313,slow=75,SNR=131								
H11N1	**WAKE ISLAND Hy**	**28.50**	**120**	T		T		18 48 34.7	
	baz=313,slow=75,SNR=81								
H11N3	**WAKE ISLAND Hy**	**28.51**	**120**	T		T		18 48 35.1	
	baz=313,slow=75,SNR=88								
H11S1	**WAKE ISLAND Hy**	**29.19**	**122**	T		T		18 49 24.1	
	baz=314,slow=75,SNR=41								
H11S3	**WAKE ISLAND Hy**	**29.19**	**122**	T		T		18 49 27.3	
	baz=314,slow=75,SNR=34								
H11S2	**WAKE ISLAND Hy**	**29.21**	**122**	T		T		18 49 28.5	
	baz=314,slow=75,SNR=29								
ZALV	**Zalesovo Beam**	**41.62**	**312**	P		**P**		**18 20 39.5**	**-0.4**
	0.5nm,0.5s,baz=103,slow=6.4

mb3.6/2, Error ellipse: s-maj=6.4km s-min=3.7km az=42.5
*CSEM **24** 18:50:03.7±0.2, 35°.41N×31°.58E, h20km, ML3.8, Error ellipse: s-maj=6.2km s-min=2.6km az=33.0*
*ISK **24** 18:50:03.1, 35°.49N×31°.61E, h19km, ML3.2*
ISC 24 18:50:05.0±1.1, **35°.43N**±0°.04×**31°.57E**±0°.04, **h42**km±19km, **n87**, σ1§**14**/100, **Cyprus region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AKMC	**Akamas**	**0.74**	**123**	P	**Pn**	**18 50 17.5**	**-1.6**
AKMC	**Akamas** baz=306	**0.74**	**123**	P	**Pn**	**18 50 17.5**	**-1.6**
PPCY	**Paphos**	**0.84**	**130**	P	**Pn**	**18 50 19.4**	**-1.0**
PPCY	**Paphos** baz=311	**0.84**	**130**	P	**Pn**	**18 50 19.4**	**-1.0**
ALFC	**Alefka**	**0.89**	**108**	P	**Pn**	**18 50 19.1**	**-2.0**
ALFC	**Alefka** baz=295	**0.89**	**108**	P	**Pn**	**18 50 19.1**	**-2.0**
ALFC				S	**Sn**	**18 50 35.0**	**+2.2**
LEF	**Lefka**	**1.13**	**106**	*e*PG	**Pn**	**18 50 23.7**	**-0.6**
LEF				*e*SG	**Sn**	**18 50 38.9**	**+0.4**
LEF	**Lefka**	**1.13**	**106**	*e*Pg	**Pn**	**18 50 23.7**	**-0.6**
LEF				*e*Sg	**Sn**	**18 50 38.9**	**+0.4**
AKDN	**Akdeniz- K¯–br**	**1.15**	**96**	*e*PN	**Pn**	**18 50 24.5**	**-0.1**
AKDN	**Akdeniz- K¯–br**	**1.15**	**96**	*e*Pn	**Pn**	**18 50 24.5**	**-0.1**
SZAC	**Souni**	**1.27**	**122**	P	**Pn**	**18 50 26.9**	**+0.6**
SZAC	**Souni** baz=304	**1.27**	**122**	P	**Pn**	**18 50 26.9**	**+0.6**
SZAC				S	**Sn**	**18 50 46.6**	**+4.4**
BOZY	**Bozyazi-Mersin**	**1.33**	**59**	*e*PN	**Pn**	**18 50 27.0**	**0.0**
MAMC	**Mammari**	**1.38**	**101**	P	**Pn**	**18 50 27.6**	**-0.1**
MAMC	**Mammari** baz=287	**1.38**	**101**	P	**Pn**	**18 50 27.6**	**-0.1**
TEKE	**Tekeli-Mersin**	**1.44**	**60**	*e*PN	**Pn**	**18 50 28.1**	**-0.5**
CSS	**Mathiatis**	**1.52**	**108**	P	**Pn**	**18 50 28.3**	**-1.4**
CSS				S	**Sn**	**18 50 50.5**	**+2.3**
CSS	**Mathiatis** baz=292	**1.52**	**108**	P	**Pn**	**18 50 28.3**	**-1.4**
CSS				S	**Sn**	**18 50 50.5**	**+2.3**
LFK	**Lefkose**	**1.61**	**95**	*e*PN	**Pn**	**18 50 31.0**	**0.0**
LFK	**Lefkose**	**1.61**	**95**	*e*Pn	**Pn**	**18 50 31.0**	**0.0**
BERE	**Bereket-Mersin**	**1.62**	**55**	*e*PN	**Pn**	**18 50 29.9**	**-1.3**
BERE				*e*SN	**Sn**	**18 50 50.9**	**-0.1**
ANTB	**Antalya**	**1.64**	**333**	*e*PN	**Pn**	**18 50 30.6**	**-0.7**
ANTB				*e*SN	**Sn**	**18 50 51.6**	**+0.4**
ANTB	**Antalya**	**1.64**	**333**	*e*Pn	**Pn**	**18 50 30.6**	**-0.7**
ANTB				*e*Sn	**Sn**	**18 50 51.6**	**+0.4**
OREN	**Orenkoy-Mersin**	**1.72**	**63**	*e*PN	**Pn**	**18 50 32.6**	**+0.2**
AKK1	**Akkuyu-Mersin**	**1.75**	**66**	*e*PN	**Pn**	**18 50 32.7**	**-0.1**
AKK2	**Akkuyu-Mersin**	**1.76**	**66**	*e*PN	**Pn**	**18 50 33.0**	**+0.1**
AKKU	**Akkuyu-Mersin**	**1.77**	**65**	*e*PN	**Pn**	**18 50 32.6**	**-0.4**
AKAS	**Kas**	**1.78**	**297**	*e*PN	**Pn**	**18 50 33.8**	**+0.4**
AKAS	**Kas**	**1.78**	**297**	*e*Pn	**Pn**	**18 50 33.8**	**+0.4**
TEPE	**Tepekoy-Mersin**	**1.80**	**64**	*e*PN	**Pn**	**18 50 32.9**	**-0.7**
TEVE	**Tevekalti-Mers**	**1.82**	**56**	*e*PN	**Pn**	**18 50 33.7**	**-0.2**
KORT	**Korkueli**	**1.85**	**328**	*e*PN	**Pn**	**18 50 34.8**	**+0.5**
KORT	**Korkueli**	**1.85**	**328**	*e*Pn	**Pn**	**18 50 34.8**	**+0.5**
YESI	**Yesilovacik-Me**	**1.85**	**65**	*e*PN	**Pn**	**18 50 33.8**	**-0.4**
ELL	**Elmali**	**1.88**	**315**	*e*PN	**Pn**	**18 50 35.1**	**+0.4**
ELL	**Elmali**	**1.88**	**315**	*e*Pn	**Pn**	**18 50 35.1**	**+0.4**
IKL	**Isikli**	**1.90**	**64**	*e*PN	**Pn**	**18 50 34.2**	**-0.6**
IKL	**Isikli**	**1.90**	**64**	*e*Pn	**Pn**	**18 50 34.2**	**-0.6**
SUTC	**Sutluce-Ispart**	**2.09**	**348**	*e*PN	**Pn**	**18 50 38.3**	**+0.6**
SUTC	**Sutluce-Ispart**	**2.09**	**348**	*e*Pn	**Pn**	**18 50 38.3**	**+0.6**
SLFK	**Silifke-Mersin**	**2.15**	**63**	*e*PN	**Pn**	**18 50 38.6**	**+0.2**
BCK	**Bucak**	**2.17**	**339**	*e*PN	**Pn**	**18 50 38.9**	**+0.2**
BCK	**Bucak**	**2.17**	**339**	*e*Pn	**Pn**	**18 50 38.9**	**+0.2**
FETY	**Fethiye**	**2.34**	**302**	*e*PN	**Pn**	**18 50 41.2**	**+0.2**
FETY	**Fethiye**	**2.34**	**302**	*e*Pn	**Pn**	**18 50 41.2**	**+0.2**
GLHS	**Glhisar (BURDU**	**2.40**	**316**	*e*PN	**Pn**	**18 50 42.3**	**+0.5**
GLHS	**Glhisar (BURDU**	**2.40**	**316**	*e*Pn	**Pn**	**18 50 42.3**	**+0.5**
KONT	**Konya--Tatoy**	**2.59**	**14**	*e*PN	**Pn**	**18 50 45.0**	**+0.6**
KONT	**Konya--Tatoy**	**2.59**	**14**	*e*Pn	**Pn**	**18 50 45.0**	**+0.6**
DALY	**Dalyan (Mu¯la**	**2.73**	**301**	*e*PN	**Pn**	**18 50 47.5**	**+1.2**
DALY	**Dalyan (Mu¯la**	**2.73**	**301**	*e*Pn	**Pn**	**18 50 47.5**	**+1.2**
MERS	**Mersin**	**2.79**	**58**	*e*PN	**Pn**	**18 50 47.7**	**+0.5**
MERS	**Mersin**	**2.79**	**58**	*e*Pn	**Pn**	**18 50 47.7**	**+0.5**
DENT	**Denizli**	**3.09**	**319**	*e*PN	**Pn**	**18 50 52.7**	**+1.4**
DENT	**Denizli**	**3.09**	**319**	*e*Pn	**Pn**	**18 50 52.7**	**+1.4**
SULT	**Sultanhani-AKS**	**3.17**	**29**	*e*PN	**Pn**	**18 50 52.4**	**-0.1**
SULT	**Sultanhani-AKS**	**3.17**	**29**	*e*Pn	**Pn**	**18 50 52.4**	**-0.1**
SHUT	**Suhut-Afyon**	**3.22**	**346**	*e*PN	**Pn**	**18 50 54.3**	**+1.2**
SHUT	**Suhut-Afyon**	**3.22**	**346**	*e*Pn	**Pn**	**18 50 54.3**	**+1.2**
CHBY	**Cihanbeyli**	**3.32**	**18**	*e*PN	**Pn**	**18 50 54.9**	**+0.5**
CHBY	**Cihanbeyli**	**3.32**	**18**	*e*Pn	**Pn**	**18 50 54.9**	**+0.5**
KHL	**Karahalli**	**3.32**	**331**	*e*PN	**Pn**	**18 50 54.9**	**+0.5**
KHL	**Karahalli**	**3.32**	**331**	*e*Pn	**Pn**	**18 50 54.9**	**+0.5**
KRTD	**Karatas-Adana**	**3.33**	**69**	*e*PN	**Pn**	**18 50 54.8**	**+0.3**
KIZT	**Kizilcal**	**3.45**	**4**	*e*PN	**Pn**	**18 50 57.0**	**+0.7**
KIZT	**Kizilcal**	**3.45**	**4**	*e*Pn	**Pn**	**18 50 57.0**	**+0.7**
GULA	**Gulagac**	**3.61**	**36**	*e*PN	**Pn**	**18 50 58.5**	**+0.1**
GULA	**Gulagac**	**3.61**	**36**	*e*Pn	**Pn**	**18 50 58.5**	**+0.1**
YAYL	**Yayladag**	**3.74**	**79**	*e*PN	**Pn**	**18 51 00.4**	**+0.1**
YAYL	**Yayladag**	**3.74**	**79**	*e*Pn	**Pn**	**18 51 00.4**	**+0.1**
TAHT	**Tahtakopru-Hat**	**3.86**	**75**	*e*PN	**Pn**	**18 51 02.8**	**+0.9**
TAHT	**Tahtakopru-Hat**	**3.86**	**75**	*e*Pn	**Pn**	**18 51 02.8**	**+0.9**
MMAI	**Mount Meron Ar** 6.9nm,0.3s,baz=303,slow=12,SNR=61	**3.99**	**126**	Pn	**Pn**	**18 51 04.0**	**+0.3**
MMAI	13nm,0.3s,baz=307,slow=21,SNR=12			Sn	**Sn**	**18 51 48.7**	**-0.5**
KOZT	**Kozan**	**4.00**	**58**	*e*PN	**Pn**	**18 51 04.3**	**+0.6**
KOZT	**Kozan**	**4.00**	**58**	*e*Pn	**Pn**	**18 51 04.3**	**+0.6**
AFSR	**Af¯ar-Bala (A**	**4.18**	**16**	*e*PN	**Pn**	**18 51 06.7**	**+0.4**
AFSR	**Af¯ar-Bala (A**	**4.18**	**16**	*e*Pn	**Pn**	**18 51 06.7**	**+0.4**
BRTR	**Keskin Array B** 0.8nm,0.3s,baz=194,slow=16,SNR=17	**4.59**	**20**	Pn	**Pn**	**18 51 12.1**	**+0.1**
BRTR	0.2nm,0.3s,baz=206,slow=18,SNR=3.8			Sn	**Sn**	**18 52 04.6**	**+0.5**
KMRS	**Kahramanmaras**	**4.77**	**63**	*e*PN	**Pn**	**18 51 15.9**	**+1.6**
KMRS	**Kahramanmaras**	**4.77**	**63**	*e*Pn	**Pn**	**18 51 15.9**	**+1.6**
SARI	**SarD1z-Kayseri**	**4.89**	**51**	*e*PN	**Pn**	**18 51 17.4**	**+1.2**
IDI	**Anoyia** 0.6nm,0.3s,baz=287,slow=3.7,SNR=7.2	**5.46**	**270**	Pn	**Pn**	**18 51 21.8**	**-2.0**
IDI	2.5nm,0.3s,baz=339,slow=18,SNR=11			Sn	**Sn**	**18 52 20.3**	**-5.1**
ASF	**Jabal al Asfar** 0.3nm,0.3s,baz=304,slow=4.8,SNR=2.4	**5.50**	**125**	Pn	**Pn**	**18 51 25.1**	**+0.6**
ASF	1.0nm,0.3s,baz=284,slow=20,SNR=3.5			Sn	**Sn**	**18 52 29.0**	**+2.6**
EIL	**Elat** 0.8nm,0.3s,baz=12,slow=2.1,SNR=20	**6.42**	**153**	Pn	**Pn**	**18 51 37.3**	**+0.4**
EIL	3.7nm,0.3s,baz=96,slow=16,SNR=14			Sn	**Sn**	**18 52 48.5**	**-0.4**
OBN	**Obninsk** comp=Z,20nm,20.2s,baz=89,slow=42	**19.98**	**8**	LR	LR	19 03 52.3	
FINES	**FINESS Array B** 2.9nm,0.9s,baz=163,slow=12,SNR=4.9	**26.26**	**354**	P	**P**	**18 55 34.9**	**-1.1**
MKAR	**Makanchi Array** 0.7nm,0.7s,baz=271,slow=7.0,SNR=5.0	**39.23**	**57**	P	**P**	**18 57 28.1**	**-1.0**

*IDC **24** 19:11:22.9±2.4, 37°.56N×141°.58E, h0km, mb3.2/2, mb1 3.3/3, mb1mx3.2/41, mbtmp3.1/3, ML2.8/1, Error ellipse: s-maj=44.9km s-min=37.7km az=46.0*
*ISCJB **24** 19:11:26.2±1.1, 37°.33N±0°.04×141°.50E±0°.07, h21km±6km, mb3.2/2, Error ellipse: s-maj=9.9km s-min=5.7km az=19.4*
*JMA **24** 19:11:28.5±0.1, 37°.36N×141°.35E, h31km±1km, M3.4*
JMA Felt I J1.
ISC 24 19:11:26.9±1.9, **37°.37N**±0°.05×**141°.47E**±0°.08, **h24**km±12km, **n13**, σ1§**29**/**24**, **Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JFK	**Kawauchi**	**0.47**	**270**	P	**Pb**	**19 11 37.0**	**+0.4**
JFK				S	**Sb**	**19 11 42.6**	**-0.6**
ONAJ	**Iwakimizuishiy**	**0.59**	**244**	P	**Pb**	**19 11 38.7**	**0.0**
ONAJ				S	**Sb**	**19 11 46.0**	**-0.7**
JMM	**Marumori**	**0.73**	**313**	P	**Pn**	**19 11 41.1**	**-0.6**
JMM				*e*S	**Sn**	**19 11 50.0**	**-2.1**
JFT	**Otama**	**0.91**	**280**	P	**Pb**	**19 11 44.3**	**+0.3**
JFT				S	**Sb**	**19 11 55.2**	**-0.5**
JHO	**Hitachi**	**1.04**	**224**	P	**Pn**	**19 11 45.4**	**-0.6**
JHO				*e*S	**Sn**	**19 11 56.8**	**-3.0**
JIO	**Ouri**	**1.09**	**355**	P	**Pb**	**19 11 47.2**	**+0.2**
JIO				S	**Sn**	**19 12 00.4**	**-0.5**
JOU	**Okura**	**1.18**	**328**	P	**Pb**	**19 11 48.9**	**+0.3**
JOU				*e*S	**Sb**	**19 12 03.7**	**+0.2**
JYS	**Shirataka**	**1.40**	**308**	P	**Pb**	**19 11 52.1**	**-0.2**
JYS				S	**Sb**	**19 12 10.1**	**+0.4**
JFY	**Yanaizu**	**1.40**	**272**	P	**Pn**	**19 11 51.6**	**+0.6**
JFY				S	**Sb**	**19 12 09.5**	**-0.4**
MJAR	**Matsushiro Arr** 1.5nm,0.3s,baz=77,slow=17,SNR=24	**2.73**	**253**	Pn	**Pn**	**19 12 10.7**	**+1.4**
MJAR	2.2nm,0.3s,baz=166,slow=15,SNR=7.6			Sn	**Sn**	**19 12 44.6**	**+3.0**
MAT	**Matsushiro**	**2.74**	**253**	P	**Pn**	**19 12 11.0**	**+1.7**
MAT				S	**Sn**	**19 12 40.3**	**-1.3**
MKAR	**Makanchi Array** 0.2nm,0.5s,baz=78,slow=7.8,SNR=2.9	**43.98**	**302**	P	**P**	**19 19 31.4**	**-0.7**
WRA	**Warramunga Arr** 0.2nm,0.5s,baz=6.0,slow=7.4,SNR=4.5	**57.40**	**188**	P	**P**	**19 21 14.5**	**+1.1**

IDC 24 19:13:00.8±1.4, **52°.96S**×**139°.48E**, **h0**km, **mb3.6**/4, **mb1 3.8**/4, **mb1mx3.7**/21, **mbtmp3.6**/4, **MS3.4**/6, **Ms1 3.3**/6, **ms1mx3.1**/19, **Error ellipse: s-maj=101.6km s-min=25.0km az=85.0**, **West of Macquarie Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek** 2.7nm,0.9s,baz=180,slow=7.1,SNR=2.5	**21.13**	**5**	P	P	19 17 47.0	0.0
STKA	comp=Z,79nm,21.7s,baz=202,slow=32			LR	LR	19 24 14.8	
H01W1	**Cape Leeuwin H** baz=141,slow=75,SNR=16	**25.46**	**305**	T	T	19 45 25.8	
H01W2	**Cape Leeuwin H** baz=141,slow=75,SNR=24	**25.46**	**305**	T	T	19 45 25.7	
H01W3	**Cape Leeuwin H** baz=141,slow=75,SNR=15	**25.48**	**305**	T	T	19 45 30.6	
VNDA	**Vanda** 1.0nm,1.1s,baz=322,slow=11,SNR=3.1	**25.98**	**169**	P	P	19 18 35.2	+0.6
VNDA	comp=Z,68nm,18.3s,baz=348,slow=35			LR	LR	19 28 06.3	
ASAR	**Alice Springs** 0.5nm,0.7s,baz=165,slow=9.9,SNR=8.1	**29.56**	**350**	P	P	19 19 08.1	+0.9
ASAR	comp=Z,66nm,18.4s,baz=146,slow=34			LR	LR	19 29 36.4	
WRA	**Warramunga Arr** 0.9nm,0.9s,baz=172,slow=7.3,SNR=7.2	**33.20**	**351**	P	P	19 19 38.8	-0.5
DZM	**Mont Dzumac** comp=Z,60nm,20.9s,baz=196,slow=31	**37.10**	**44**	LR	LR	19 31 58.6	
MAW	**Mawson** comp=Z,50nm,18.9s,baz=59,slow=34	**37.89**	**217**	LR	LR	19 34 40.2	
PMG	**Port Moresby** comp=Z,43nm,20.4s,baz=314,slow=33	**43.88**	**11**	LR	LR	19 37 19.1	
GERES	**GERESS Array B** 1.0nm,0.9s,baz=111,slow=3.0,SNR=6.8	**146.25**	**285**	PKPbc	PKPdf	19 32 40.6	-0.6

*IDC **24** 19:44:06.1±3.8, 28°.71N×143°.13E, h0km, mb3.8/7, mb1 3.8/10, mb1mx3.6/56, mbtmp3.8/10, ML3.2/3, Error ellipse: s-maj=160.3km s-min=19.3km az=74.0*
*ISCJB **24** 19:44:09.1±1.8, 28°.7N±0°.2×143°.1E±0°.5, h34km, mb3.9/7, Error ellipse: s-maj=66.2km s-min=14.1km az=162.7*
ISC 24 19:44:10.8±2.0, **28°.8N**±0°.2×**143°.2E**±0°.5, **h34**km, **n10**, σ0§**65**/**10**, **mb4.1/7**, **Bonin Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MJAR	**Matsushiro Arr** 0.9nm,0.3s,baz=159,slow=12,SNR=16	**8.82**	**333**	Pn	**Pn**	**19 46 15.1**	**-0.8**
KSRS	**Korea Array** 0.1nm,0.3s,baz=112,slow=12,SNR=4.3	**15.45**	**308**	Pn	**Pn**	**19 47 45.8**	**-0.3**
USRK	**Ussuriysk Ar.** 0.2nm,0.3s,baz=99,slow=18,SNR=2.5	**17.82**	**333**	P	**P**	**19 48 17.1**	**+0.6**
ZALV	**Zalesovo Beam** 0.4nm,0.4s,baz=109,slow=8.1,SNR=2.5	**48.84**	**318**	P	**P**	**19 52 52.3**	**-0.4**
WRA	**Warramunga Arr** 1.5nm,0.5s,baz=13,slow=8.6,SNR=23	**49.18**	**191**	P	**P**	**19 52 56.1**	**+0.4**
KURBB	**Kurchatov Arra** 1.7nm,0.7s,baz=90,slow=7.6,SNR=13	**52.53**	**313**	P	**P**	**19 53 20.7**	**0.0**
ASAR	**Alice Springs** 0.4nm,0.8s,baz=7.7,slow=5.9,SNR=4.3	**52.90**	**191**	P	**P**	**19 53 22.6**	**-1.0**
BVAR	**Borovoye Array** 1.2nm,0.6s,baz=93,slow=7.6,SNR=11	**57.44**	**317**	P	**P**	**19 53 56.6**	**+0.5**
AKTO	**Aktyubinsk** 0.9nm,0.6s,baz=49,slow=3.9,SNR=2.7	**65.47**	**316**	P	**P**	**19 54 50.7**	**+0.3**
BRTR	**Keskin Array B** 0.5nm,0.7s,baz=72,slow=6.2,SNR=3.6	**85.53**	**313**	P	**P**	**19 56 46.2**	**+0.5**

*ISCJB **24** 19:52:34.8±1.2, 51°.55N±0°.05×16°.11E±0°.05, h0km, Error ellipse: s-maj=7.5km s-min=4.0km az=23.9*
*CSEM **24** 19:52:35.6±0.8, 51°.57N×16°.16E, h2km, ML2.6/7, Error ellipse: s-maj=11.9km s-min=6.6km az=4.0*
*WAR **24** 19:52:37.5, 51°.55N×16°.11E, h1km*
*PRU **24** 19:52:39.1, 51°.47N×16°.14E, h0km*
ISC 24 19:52:35.5±1.6, **51°.57N**±0°.07×**16°.21E**±0°.04, **h0**km, **n26**, σ0§**58**/**44**, **Poland**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.73**	**176**	*e*Pg	**Pb**	**19 52 50.9**	**-0.1**
KSP				*e*Sg	**Sb**	**19 53 00.4**	**-1.1**
KSP	**Ksiaz**	**0.73**	**176**	*e*Pg	**Pb**	**19 52 50.9**	**-0.1**
KSP				*e*Sg	**Sb**	**19 53 00.4**	**-1.1**
KSP	**Ksiaz**	**0.73**	**176**	*e*Pg	**Pb**	**19 52 50.9**	**-0.1**
KSP				*e*Sg	**Sb**	**19 53 00.4**	**-1.1**
UPC	**Upice**	**1.07**	**187**	*e*PG	**Pb**	**19 52 57.0**	**+0.2**
UPC	comp=Z,11nm,0.3s			*e*SG	**Sb**	**19 53 10.8**	**-0.5**
UPC	**Upice** 11nm,0.3s	**1.07**	**187**	Pg	**Pb**	**19 52 57.0**	**+0.2**
UPC				Sg	**Sb**	**19 53 10.8**	**-0.5**
DPC	**Dobruska-Polom**	**1.22**	**177**	*e*PG	**Pb**	**19 52 59.5**	**+0.1**
DPC	comp=Z,4.6nm,0.5s			*e*SG	**Sg**	**19 53 14.7**	**+0.1**
DPC	**Dobruska-Polom** 4.6nm,0.5s	**1.22**	**177**	Pg	**Pb**	**19 52 59.5**	**+0.1**
DPC				Sg	**Sg**	**19 53 14.7**	**+0.1**
PVCC	**Panska Ves**	**1.47**	**226**	*e*PG	**Pb**	**19 53 04.0**	**+0.3**
PVCC	comp=Z,22nm,0.2s			*e*SG	**Sb**	**19 53 22.8**	**-0.1**
PVCC	**Panska Ves** 22nm,0.2s	**1.47**	**226**	Pg	**Pb**	**19 53 04.0**	**+0.3**
PVCC				Sg	**Sb**	**19 53 22.8**	**-0.1**
KRLC	**Kraliky**	**1.54**	**166**	*e*PG	**Pg**	**19 53 05.2**	**+0.3**
KRLC				*e*SG	**Sn**	**19 53 25.4**	**+0.5**
KRLC	**Kraliky**	**1.54**	**166**	Pg	**Pg**	**19 53 05.2**	**+0.3**
KRLC				Sg	**Sn**	**19 53 25.4**	**+0.5**
BRG	**Berggiesshubel**	**1.59**	**245**	PG	**Pb**	**19 53 05.8**	**+0.1**
BRG	15nm,0.4s			SG	**Sb**	**19 53 26.3**	**0.0**
GOPC	**GO Pecny, Ondr**	**1.89**	**209**	*e*SG	**Sg**	**19 53 36.1**	**+0.1**
GOPC	**GO Pecny, Ondr**	**1.89**	**209**	Sg	**Sg**	**19 53 36.1**	**+0.1**
PRU	**Pruhonice**	**1.90**	**215**	*e*PG	**Pb**	**19 53 11.3**	**+0.2**
PRU				*e*SG	**Sb**	**19 53 35.4**	**0.0**
PRU	**Pruhonice** 4.5nm,0.4s	**1.90**	**215**	Pg	**Pb**	**19 53 11.3**	**+0.2**
PRU				Sg	**Sb**	**19 53 35.4**	**0.0**
CLL	**Collm**	**2.03**	**264**	*e*Pg	**Pb**	**19 53 13.0**	**-0.2**
CLL				*e*		19 53 17.0	
CLL	comp=Z,5.0nm,0.4s			*e*Sg	**Sg**	**19 53 40.0**	**-0.5**
OKC	**Ostrava-Krasne** comp=Z,3.3nm,0.4s	**2.12**	**144**	*e*SG	**Sg**	**19 53 43.8**	**+0.1**
OKC	**Ostrava-Krasne** comp=Z,3.3nm,0.4s	**2.12**	**144**	Sg	**Sg**	**19 53 43.8**	**+0.1**
VRAC	**Vranov**	**2.27**	**174**	*e*Pn	**Pn**	**19 53 15.4**	**+1.1**
NKC	**Novy Kostel** comp=Z,6.4nm,0.3s	**2.73**	**242**	*e*SG	**Sg**	**19 54 03.1**	**-0.1**
NKC	**Novy Kostel** comp=Z,6.4nm,0.3s	**2.73**	**242**	Sg	**Sg**	**19 54 03.1**	**-0.1**
KHC	**Kasperske Hory**	**2.96**	**216**	*e*PN	**Pn**	**19 53 24.1**	**+0.3**
KHC				*e*PG	**Pb**	**19 53 30.4**	**+1.2**
KHC				*e*SN	**Sn**	**19 53 59.0**	**-1.1**
KHC	comp=Z,2.7nm,0.5s			*e*SG	**Sg**	**19 54 08.9**	**-1.8**
KHC	**Kasperske Hory**	**2.96**	**216**	Pn	**Pn**	**19 53 24.1**	**+0.3**
LANS	**Liptovska Anna**	**3.19**	**138**	*e*Pg	**Pg**	**19 53 36.0**	**-0.6**
LANS	**Liptovska Anna**	**3.19**	**138**	*e*PG	**Pg**	**19 53 36.0**	**-0.6**

*TIF **24** 19:53:39.8, 41°.94N×42°.71E, h9km±2km*
*DDA **24** 19:53:40.2, 42°.10N×42°.21E, h6km, Md2.8*
ISC 24 19:53:38.9±2.6, **42°.1N**±0°.2×**42°.4E**±0°.2, **h4**km±16km, **n5**, σ0§**47**/**10**, **Western Caucasus**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DBOC	**Borcka**	**0.93**	**214**	*i* P	**Pn**	**19 53 58.2**	**-0.5**
DBOC				*i* S	**Sn**	**19 54 13.2**	**+0.7**
ONI	**Oni**	**0.94**	**60**	P	**Pg**	**19 53 57.2**	**+0.2**
ONI				S	**Sg**	**19 54 09.1**	**-0.2**
ARTV	**Artvin**	**0.98**	**199**	*i* P	**Pg**	**19 53 58.1**	**+0.3**
ARTV				*i* S	**Sb**	**19 54 11.5**	**-0.5**
DAGI	**Agillar**	**1.09**	**197**	*i* P	**Pb**	**19 54 00.6**	**+0.2**
DAGI				*i* S	**Sb**	**19 54 15.1**	**+0.2**
DDEM	**Demirkent**	**1.30**	**200**	*i* P	**Pg**	**19 54 03.7**	**-0.2**
DDEM				*i* S	**Sn**	**19 54 22.0**	**+0.1**

*ISCJB **24** 20:11:08.2±0.3, 6°.34S±0°.04×148°.86E±0°.06, h53km, mb4.5/25, MS3.8/19, Error ellipse: s-maj=9.7km s-min=4.5km az=24.9*
*NEIC **24** 20:11:10.1±0.6, 6°.37S×148°.88E, h57km±5km, mb4.5/17, Error ellipse: s-maj=6.5km s-min=3.9km az=113.0*
*IDC **24** 20:11:11.2±1.5, 6°.37S×148°.67E, h58km±13km, mb3.9/15, mb1 4.2/18, mb1mx4.1/29, mbtmp4.3/18, MS3.8/21, Ms1 3.8/21, ms1mx3.6/33, Error ellipse: s-maj=19.3km s-min=8.2km az=112.0*
*DJA **24** 20:11:15.1±1.6, 7°.S±9°.×14°.9E±1°.3, h72km±9km, M4.8/9, mb4.4/9, MLv5.0/1*
ISC 24 20:11:10.1±0.5, **6°.42S**±0°.06×**148°.88E**±0°.07, **h53**km, **n76**, σ1§**22**/**80**, **mb4.4**/25, **MS3.8**/19, **New Britain region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby** 83nm,0.3s,baz=352,slow=5.1,SNR=129	**3.43**	**210**	P	**Pn**	**20 12 01.8**	**+0.7**
PMG	162nm,0.3s,baz=44,slow=14,SNR=12			S	**Sn**	**20 12 40.9**	**+0.5**
PMG	comp=Z,1μm,19.3s,baz=355,slow=41			LR	LR	20 13 28.9	
PMG	**Port Moresby**	**3.43**	**210**	*e*Pn	**Pn**	**20 12 01.7**	**+0.7**
PMG				*e*Sn	**Sn**	**20 12 41.7**	**+1.3**
RABL	**Rabaul**	**3.95**	**56**	*e*Pn	**Pn**	**20 12 07.9**	**-0.3**
MANU	**Manus Island**	**4.60**	**341**	*e*Pn	**Pn**	**20 12 17.2**	**+0.1**
JAY	**Jayapura** 0.3nm,0.3s,baz=192,slow=23,SNR=13	**9.02**	**295**	P	**Pn**	**20 13 21.9**	**+4.0**
JAY	**Jayapura**	**9.02**	**295**	P	Pn	20 13 23.1	+5.2
COEN	**Coen**	**9.36**	**216**	*e*Pn	**Pn**	**20 13 22.2**	**-0.3**
COEN				*e*Sn	**Sn**	**20 15 03.8**	**-2.7**
HNR	**Honiara** comp=Z,153nm,21.6s,baz=286,slow=34	**11.36**	**106**	LR	LR	20 17 44.1	
CTA	**Charters Tower** 0.2nm,0.3s,baz=7.1,slow=16,SNR=3.3	**13.83**	**190**	P	**Pn**	**20 14 23.7**	**+0.2**
MTN	**Manton Dam** 13nm,0.8s	**18.62**	**249**	*e*P	**Pn**	**20 15 24.0**	**-0.2**
EIDS	**Eidsvold** 17nm,0.8s	**18.96**	**174**	*e*P	**P**	**20 15 27.5**	**+0.3**
WRAB	**Tennant Creek** 23nm,0.6s	**19.49**	**225**	*e*P	**P**	**20 15 32.0**	**-0.9**
WB2	**Warramunga Arr**	**19.49**	**225**	*e*P	**P**	**20 15 32.6**	**-0.3**
WB2				*e*S	**S**	**20 19 10.9**	**+0.4**
WR1	**Warramunga Arr** 26nm,0.8s	**19.50**	**225**	*e*P	**P**	**20 15 33.5**	**+0.4**
WR1				*e*S	**S**	**20 19 08.4**	**-2.3**
WR1				*e*ScP	**ScP**	**20 23 24.9**	**+0.8**
WRA	**Warramunga Arr** 2.9nm,0.3s,baz=51,slow=11,SNR=141	**19.50**	**225**	P	**P**	**20 15 33.5**	**+0.4**
WRA	baz=48,slow=22,SNR=12			S	**S**	**20 19 08.4**	**-2.3**
WRA	0.1nm,0.3s,baz=40,slow=2.2,SNR=12			ScP	**ScP**	**20 23 24.9**	**+0.8**
GUMO	**Guam** comp=Z,193nm,18.1s,baz=172,slow=34	**20.27**	**349**	LR	LR	20 22 44.5	
AS01	**Alice Springs**	**22.36**	**218**	*e*P	**P**	**20 16 03.6**	**-0.4**
AS31	**Alice Springs** 8.7nm,0.6s	**22.39**	**218**	*e*P	**P**	**20 16 04.6**	**+0.3**
AS31				*e*S	**S**	**20 20 07.7**	**+0.6**
AS31				*e*ScP	**ScP**	**20 23 32.3**	**+1.2**
AS31				*e*		20 25 08.7	
ASAR	**Alice Springs** 12nm,0.6s,baz=54,slow=9.1,SNR=146	**22.40**	**218**	P	**P**	**20 16 04.4**	**+0.1**
ASAR	6.8nm,0.8s,baz=32,slow=23,SNR=12			S	**S**	**20 20 05.7**	**-1.5**
ASAR	2.1nm,1.0s,baz=32,slow=3.5,SNR=6.4			ScP

	3.7nm,1.9s								
IMAR	**Indian Mountai**	**83.22**	**20**	*e*P		**P**	**20 23 29.6**	**-0.9**
QSPA	**South Pole Qui**	**83.56**	**180**	*e*P		**P**	**20 23 32.5**	**+0.1**
RND	**Reindeer**	**83.74**	**24**	*e*P		**P**	**20 23 32.3**	**-1.0**
	5.5nm,0.9s								
MCK	**McKinley**	**83.86**	**23**	*e*P		**P**	**20 23 33.4**	**-0.5**
	5.8nm,0.8s								
DHY	**Denali Highway**	**84.19**	**24**	*e*P		**P**	**20 23 35.4**	**-0.3**
	15nm,1.8s								
IL1	**Eielson Array**	**85.13**	**23**	*e*P		**P**	**20 23 39.0**	**-1.2**
ILAR	**Eielson Array**	**85.13**	**23**	P		**P**	**20 23 39.4**	**-0.8**
	2.5nm,0.8s,baz=253,slow=5.1,SNR=20								
ILAR					LR	LR	20 56 20.8		
	comp=Z,52nm,22.0s,baz=273,slow=32								
ILB	**Eielson Array**	**85.13**	**23**	*e*P		**P**	**20 23 38.7**	**-1.5**
YKA	**Yellowknife Ar**	**98.67**	**28**	LR		LR	21 06 21.3		
	comp=Z,6.1nm,18.7s,baz=0.0,slow=34								
STHS	**Stebnicka Huta**	**118.71**	**324**	*e*PKP		**PKPdf**	**20 29 50.9**	**-1.6**
CLL	**Collm**	**122.29**	**329**	*e*PKPdf		**PKPdf**	**20 29 58.0**	**-1.3**
GERES	**GERESS Array B**	**123.30**	**326**	PKP		**PKPdf**	**20 30 01.1**	**-0.4**
	1.2nm,0.6s,baz=66,slow=1.6,SNR=16								
LPAZ	**La Paz**	**136.99**	**122**	PKP		**PKPdf**	**20 30 29.4**	**+0.4**
	1.4nm,0.6s,baz=208,slow=4.9,SNR=6.4								
LPAZ	**La Paz**	**136.99**	**122**	*e*PKPdf		**PKPdf**	**20 30 28.0**	**-1.0**
TORD	**Torodi Ar. Bea**	**147.00**	**284**	PKPbc		**PKPbc**	**20 30 45.6**	**-0.4**
	5.0nm,0.5s,baz=54,slow=2.7,SNR=123								
TOA1	**Torodi Ar. Sit**	**147.00**	**284**	*e*PKPdf		**PKPdf**	**20 30 45.6**	**-0.4**
DBIC	**Dimbokro**	**153.91**	**272**	PKPbc		**PKPbc**	**20 31 05.0**	**+0.2**
	1.3nm,0.5s,baz=132,slow=3.6,SNR=4.2								
DBIC	**Dimbokro**	**153.91**	**272**	*e*PKPbc		**PKPbc**	**20 31 04.2**	**-0.5**

ISCJB ***24*** *20:22:30.9±0.6,39.°38N±0.°03×40.°75E±0.°05,h7km±7km, Error ellipse: s-maj=6.9km s-min=4.8km az=164.3*
CSEM ***24*** *20:22:30.1±0.3,39.°32N×40.°74E,h2km, MD2.6, Error ellipse: s-maj=7.3km s-min=5.7km az=131.0*
DDA ***24*** *20:22:30.6,39.°42N×40.°73E,h7km, Md2.6*
ISK ***24*** *20:22:31.2,39.°35N×40.°75E,h11km, MD2.6*

ISC 24 20:22:30.5±1.2,39.°34N±0.°03×40.°73E±0.°03,h4km±11km, n19,σ1°s00/31,Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BNGB	**Bing¯¶l**	**0.35**	**186**	*e*P	**Pg**	**20 22 38.6**	**+1.2**
BNGB				*e*SG	**Sb**	**20 22 44.4**	**-1.1**
BINT	**Bingol**	**0.50**	**202**	*e*Pg	**Pg**	**20 22 38.6**	**-1.6**
BINT				*e*Sg	**Sg**	**20 22 44.4**	**-2.3**
BNGL	**BINGOL**	**0.51**	**140**	*i* P	**Pb**	**20 22 42.1**	**-0.1**
BNGL				*i* S	**Sb**	**20 22 50.5**	**+0.4**
KOPT	**Kop Dagi**	**0.69**	**345**	*i* P	**Pg**	**20 22 43.4**	**-0.5**
KOPT				*i* S	**Sg**	**20 22 54.5**	**+1.6**
KOPT	**Kop Dagi**	**0.69**	**345**	P	**Pg**	**20 22 43.4**	**-0.5**
KOPT				S	**Sg**	**20 22 54.5**	**+1.6**
EZM	**Erzurum**	**0.74**	**41**	*e*PG	**Pg**	**20 22 45.2**	**+0.3**
ERZM	**Erzurum**	**0.75**	**41**	*i* P	**Pg**	**20 22 44.1**	**-0.8**
ERZM	**Erzurum**	**0.75**	**41**	P	**Pg**	**20 22 44.1**	**-0.8**
ERZN	**Erzincan**	**0.81**	**288**	*e*PG	**Pb**	**20 22 47.8**	**+0.4**
TNCL	**Tunceli-Merkez**	**0.95**	**256**	*i* P	**Pg**	**20 22 49.1**	**+0.4**
TNCL				*i* S	**Sb**	**20 23 02.9**	**+0.3**
TNCL	**Tunceli-Merkez**	**0.95**	**256**	P	**Pg**	**20 22 49.1**	**+0.4**
TNCL				S	**Sb**	**20 23 02.9**	**+0.3**
EKAR	**Karacoban**	**1.04**	**94**	*i* P	**Pg**	**20 22 50.1**	**-0.4**
EKAR				*i* S	**Sn**	**20 23 09.1**	**+1.8**
EKAR	**Karacoban**	**1.04**	**94**	P	**Pg**	**20 22 50.1**	**-0.4**
PTK	**Pertek**	**1.13**	**247**	*e*PN	**Pn**	**20 22 53.8**	**+0.4**
PTK				*e*SN	**Sn**	**20 23 10.0**	**+0.5**
PTK	**Pertek**	**1.13**	**247**	*e*Pn	**Pn**	**20 22 53.8**	**+0.4**
PTK				*e*Sn	**Sn**	**20 23 10.0**	**+0.5**
SVAN	**Silvan-Diyarba**	**1.25**	**163**	*e*PN	**Pg**	**20 22 55.0**	**+0.6**
SVAN	**Silvan-Diyarba**	**1.25**	**163**	*e*Pn	**Pg**	**20 22 55.0**	**+0.6**
KELT	**Kelkit**	**1.39**	**306**	*i* P	**Pn**	**20 22 55.7**	**-1.3**
KELT				*i* S	**Sn**	**20 23 15.4**	**-0.5**
KELT	**Kelkit**	**1.39**	**306**	P	**Pn**	**20 22 55.7**	**-1.3**
KELT				S	**Sn**	**20 23 15.4**	**-0.5**

IDC ***24*** *20:23:25.2±1.9,24.°27S×179.°89E,h487km±19km, mb3.5/6, mb1 3.8/8,mb1mx3.4/32,mbtmp4.4/8, Error ellipse: s-maj=30.0km s-min=16.0km az=155.0*
ISCJB ***24*** *20:23:27.3±0.3,24.°41S±0.°06×179.°75E±0.°07,h517km, mb4.2/29, Error ellipse: s-maj=9.2km s-min=6.8km az=136.1*
NEIC ***24*** *20:23:29.4±0.5,24.°38S×179.°74E,h533km±7km, mb4.3/24, Error ellipse: s-maj=9.0km s-min=6.3km az=155.0*

ISC 24 20:23:28.2±0.6,24.°40S±0.°08×179.°80E±0.°09,h517km,n54, σ1°s14/54,mb4.1/29,South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**5.24**	**158**	*e*P	**P**	**20 25 01.8**	**+3.7**
MSVF	**Nonsavu**	**6.83**	**346**	*e*P	**P**	**20 25 13.2**	**-0.3**
OUZ	**Omahuta**	**12.05**	**205**	*e*P	**P**	**20 26 08.8**	**+1.8**
DZM	**Mont Dzumac**	**12.50**	**278**	P	**P**	**20 26 13.2**	**+1.1**
	0.9nm,0.3s,baz=88,slow=17,SNR=14						
DZM	**Mont Dzumac**	**12.50**	**278**	*e*P	**P**	**20 26 13.4**	**+1.3**
AFI	**Afiamalu**	**13.12**	**39**	P	P	20 26 13.0	-5.6
	3.6nm,0.3s,baz=54,slow=18,SNR=5.9						
AFI	**Afiamalu**	**13.12**	**39**	*e*P	P	20 26 12.7	-6.0
URZ	**Urewera**	**14.00**	**189**	P	**P**	**20 26 26.4**	**-1.1**
	1.1nm,0.3s,baz=8.4,slow=2.4,SNR=8.8						
URZ				S	**S**	**20 28 51.5**	**-3.8**
	0.7nm,0.3s,baz=212,slow=23,SNR=7.9						
THZ	**Tophouse**	**18.24**	**197**	*e*P	**P**	**20 27 08.2**	**-1.5**
	62nm,1.5s						
LTZ	**Lake Taylor**	**19.36**	**197**	*e*P	**P**	**20 27 19.1**	**-0.9**
	48nm,1.5s						
EIDS	**Eidsvold**	**26.05**	**262**	*e*P	**P**	**20 28 20.7**	**+0.6**
	5.8nm,0.9s						
CAN	**Canberra**	**28.73**	**241**	*e*P	**P**	**20 28 44.0**	**+0.5**
	40nm,1.4s						
CTAO	**Charters Tower**	**31.30**	**271**	*e*P	**P**	**20 29 06.7**	**+0.8**
	20nm,1.0s						
STKA	**Stephens Creek**	**34.37**	**249**	P	**P**	**20 29 31.9**	**+0.2**
	2.4nm,0.5s,baz=95,slow=11,SNR=9.3						
STKA	**Stephens Creek**	**34.37**	**249**	*e*P	**P**	**20 29 32.4**	**+0.6**
	1.2nm,0.9s						
COEN	**Coen**	**36.02**	**280**	*e*P	**P**	**20 29 45.3**	**-0.4**
	31nm,1.4s						
BBOO	**Buckleboo**	**39.08**	**247**	*e*P	**P**	**20 30 10.3**	**-0.3**
	37nm,1.5s						
AS01	**Alice Springs**	**41.73**	**261**	*e*P	**P**	**20 30 31.9**	**-0.1**
AS31	**Alice Springs**	**41.78**	**261**	*e*P	**P**	**20 30 32.3**	**0.0**
	4.4nm,1.5s						
ASAR	**Alice Springs**	**41.78**	**261**	P	**P**	**20 30 32.2**	**-0.1**
	3.2nm,0.6s,baz=87,slow=6.9,SNR=67						
ASAR				ScP	**ScP**	**20 35 19.6**	**+2.0**
	1.5nm,0.9s,baz=109,slow=4.0,SNR=6.6						
WB2	**Warramunga Arr**	**42.18**	**267**	*e*P	**P**	**20 30 34.9**	**-0.7**
WRAB	**Tennant Creek**	**42.19**	**267**	*e*P	**P**	**20 30 34.9**	**-0.7**
	8.7nm,0.5s						
WRA	**Warramunga Arr**	**42.19**	**267**	P	**P**	**20 30 35.1**	**-0.5**
	4.6nm,0.3s,baz=97,slow=8.3,SNR=116						
WRA				ScP	**ScP**	**20 35 21.5**	**+2.3**
	4.0nm,1.0s,baz=100,slow=4.3,SNR=14						
JAY	**Jayapura**	**43.55**	**294**	P	**P**	**20 30 45.0**	**-1.3**
	0.5nm,0.5s,baz=68,slow=23,SNR=6.1						
FORT	**Forrest**	**45.97**	**250**	*e*P	**P**	**20 31 03.1**	**-1.5**
	222nm,1.1s						
MTN	**Manton Dam**	**47.31**	**275**	*e*P	**P**	**20 31 14.5**	**-0.5**
	6.5nm,1.0s						
FAKI	**Fak Fak**	**50.56**	**287**	*e*P	**P**	**20 31 38.7**	**-0.4**
	21nm,1.2s						
FITZ	**Fitzroy Crossi**	**50.61**	**266**	*e*P	**P**	**20 31 39.7**	**+0.2**
	8.6nm,0.8s						
MBWA	**Marble Bar**	**55.11**	**260**	*e*P	**P**	**20 32 11.0**	**-0.6**
	11nm,1.1s						
QSPA	**South Pole Qui**	**65.68**	**180**	*e*P	**P**	**20 33 21.2**	**+0.3**
CMB	**Columbia Colle**	**83.69**	**43**	*e*P	**P**	**20 35 02.1**	**-0.4**
	4.0nm,1.0s						
AFDM	**Forest Hills D**	**83.89**	**42**	*e*P	**P**	**20 35 03.3**	**0.0**
	6.0nm,1.2s						
ORV	**Oroville**	**83.94**	**42**	*e*P	**P**	**20 35 03.6**	**0.0**
	5.2nm,1.1s						
WDC	**Whiskeytown Da**	**83.96**	**40**	*e*P	**P**	**20 35 03.9**	**+0.2**
	4.0nm,1.0s						
GSC	**Goldstone, Bar**	**84.40**	**47**	*e*P	**P**	**20 35 06.1**	**+0.1**
	3.4nm,0.9s						
EMB	**Emerald Bay**	**84.44**	**43**	*e*P	**P**	**20 35 06.5**	**+0.2**
TUC	**Tucson**	**86.97**	**53**	*e*P	**P**	**20 35 18.1**	**-0.4**
	5.8nm,1.0s						
319A	**Douglas**	**87.59**	**54**	*e*P	**P**	**20 35 21.8**	**+0.3**
	6.8nm,0.8s						
U15A	**North Rim**	**88.07**	**48**	*e*P	**P**	**20 35 23.8**	**0.0**
	9.4nm,1.3s						
CMAR	**Chiang Mai Arr**	**89.53**	**290**	P	**P**	**20 35 32.0**	**+1.4**
	0.6nm,0.8s,baz=131,slow=4.0,SNR=4.3						
TMUT	**Trail Mountain**	**90.32**	**46**	*e*P	**P**	**20 35 34.4**	**+0.2**
	5.8nm,0.9s						
SRU	**San Rafael Swe**	**90.67**	**47**	*e*P	**P**	**20 35 35.5**	**-0.2**
	4.2nm,1.0s						
TX31	**Lajitas Ar. Si**	**90.85**	**58**	*e*P	**P**	**20 35 36.1**	**-0.5**
TXAR	**Lajitas Array**	**90.85**	**58**	P	**P**	**20 35 36.7**	**+0.1**
	1.8nm,0.8s,baz=211,slow=6.2,SNR=24						
PDAR	**Pinedale Array**	**93.18**	**44**	P	**P**	**20 35 46.5**	**-0.6**
	0.4nm,0.6s,baz=166,slow=6.9,SNR=4.7						
FINES	**FINESS Array B**	**138.86**	**341**	PKhKP	PKPpre	20 41 44.4	
	1.6nm,0.8s,baz=105,slow=25,SNR=5.4						
FINES				PKP	**PKPdf**	**20 41 55.1**	**+0.3**
	2.4nm,0.9s,baz=70,slow=1.6,SNR=4.8						
NOA	**NORSAR Array B**	**142.55**	**351**	PKhKP	PKPpre	20 41 57.0	
	0.7nm,0.8s,baz=12,slow=4.1,SNR=3.2						
AKASG	**Malin Array Be**	**145.29**	**327**	PKPbc	**PKPdf**	**20 42 06.3**	**-0.3**
	0.4nm,0.4s,baz=44,slow=4.3,SNR=4.3						
BRTR	**Keskin Array B**	**147.73**	**306**	PKPbc	**PKPbc**	**20 42 14.2**	**-0.6**
	0.9nm,0.9s,baz=56,slow=2.6,SNR=2.8						
CLL	**Collm**	**151.28**	**343**	*i* PKPbc	**PKPbc**	**20 42 22.1**	**-0.7**
	comp=Z,6.0nm,0.9s						
CLL	**Collm**	**151.28**	**343**	*e*PKPbc	**PKPbc**	**20 42 21.7**	**-1.1**
ES19	**SONSECA Array**	**164.43**	**11**	*e*PKPab	**PKPab**	**20 43 30.0**	**-0.6**
ESDC	**Sonseca Array**	**164.44**	**11**	PKPab	**PKPab**	**20 43 28.8**	**-1.8**
	comp=Z,0.4nm,0.7s,baz=316,slow=3.5,SNR=4.0						
TORD	**Torodi Ar. Bea**	**168.66**	**189**	PKPab	**PKPab**	**20 43 48.6**	**-1.0**
	comp=Z,0.3nm,0.6s,baz=166,slow=3.4,SNR=3.7						

IDC 24 20:24:53.3±2.7,18.°86S×173.°41W,h0km,mb3.9/3, mb1 4.2/3,mb1mx3.7/39,mbtmp3.9/3,Error ellipse: s-maj=287.7km s-min=30.6km az=158.0,Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ASAR	**Alice Springs**	**49.12**	**255**	P	P	20 33 43.1	0.0
	1.2nm,0.6s,baz=91,slow=8.3,SNR=10						
WRA	**Warramunga Arr**	**49.13**	**260**	P	P	20 33 43.0	-0.2
	0.8nm,0.3s,baz=98,slow=7.0,SNR=11						
TXAR	**Lajitas Array**	**82.54**	**56**	P	P	20 37 18.6	0.0
	0.6nm,1.1s,baz=233,slow=4.4,SNR=3.8						

IDC ***24*** *20:32:16.7±2.2,37.°38N×142.°13E,h0km, mb3.5/3, mb1 3.7/3,mb1mx3.3/39,mbtmp3.5/3,ML2.3/1, Error ellipse: s-maj=44.4km s-min=29.5km az=67.0*
ISCJB ***24*** *20:32:19.3±1.5,37.°35N±0.°05×141.°99E±0.°08,h17km±8km, mb3.6/3, Error ellipse: s-maj=11.3km s-min=7.7km az=34.8*
JMA ***24*** *20:32:21.6±0.2,37.°35N×141.°89E,h38km±4km,M3.4*

ISC 24 20:32:18.8±2.8,37.°39N±0.°06×141.°98E±0.°08,h10km±15km, n14,σ0°s90/23,mb3.5/3,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JFK	**Kawauchi**	**0.88**	**269**	P	**Pb**	**20 32 36.7**	**+0.4**
JFK				S	**Sg**	**20 32 47.1**	**-0.3**
ONAJ	**Iwakimizuishiy**	**0.99**	**254**	P	**Pb**	**20 32 37.9**	**-0.1**
ONAJ				S	**Sb**	**20 32 49.2**	**-1.9**
JMM	**Marumori**	**1.06**	**297**	P	**Pb**	**20 32 39.6**	**+0.4**
JMM				S	**Sb**	**20 32 52.4**	**-0.7**
JIO	**Ouri**	**1.18**	**335**	P	**Pn**	**20 32 41.7**	**+0.4**
JIO				S	**Sb**	**20 32 55.5**	**-1.0**
JFT	**Otama**	**1.32**	**276**	P	**Pb**	**20 32 43.9**	**+0.3**
JFT				S	**Sb**	**20 32 59.3**	**-1.3**
JOU	**Okura**	**1.43**	**313**	P	**Pb**	**20 32 45.7**	**+0.1**
JOU				S	**Sn**	**20 33 03.4**	**-0.3**
JMK	**Ichinoseki**	**1.67**	**339**	P	**Pb**	**20 32 49.5**	**-0.2**
JYS	**Shirataka**	**1.73**	**299**	P	**Pb**	**20 32 50.9**	**+0.2**
JYS				S	**Sn**	**20 33 12.0**	**+0.9**
JFY	**Yanaizu**	**1.81**	**271**	P	**Pn**	**20 32 51.3**	**+1.2**
JFY				S	**Sn**	**20 33 12.5**	**-0.7**
JYK	**Kaneyama**	**1.99**	**321**	P	**Pn**	**20 32 53.9**	**+1.3**
MJAR	**Matsushiro Arr**	**3.14**	**256**	Pn	**Pn**	**20 33 09.3**	**+1.0**
	0.3nm,0.3s,baz=78,slow=16,SNR=6.5						
MJAR				Sn	**Sn**	**20 33 47.0**	**+1.1**
	0.9nm,0.3s,baz=72,slow=29,SNR=4.5						
MKAR	**Makanchi Array**	**44.32**	**302**	P	**P**	**20 40 29.5**	**+0.7**
	0.3nm,0.7s,baz=78,slow=6.0,SNR=2.6						
KURBB	**Kurchatov Arra**	**46.14**	**308**	P	**P**	**20 40 42.7**	**-0.6**
	0.6nm,0.3s,baz=80,slow=7.9,SNR=2.5						
WRA	**Warramunga Arr**	**57.48**	**189**	P	**P**	**20 42 07.5**	**-0.6**
	0.2nm,0.4s,baz=7.1,slow=7.4,SNR=4.8						

IDC 24 20:35:24.9±8.9,5.°75S×151.°52E,h88km±62km,mb3.0/2, mb1 3.3/3,mb1mx3.0/27,mbtmp3.4/3,ML1.6/1,MS2.7/1, Ms1 2.7/1,ms1mx2.4/7,Error ellipse: s-maj=115.7km s-min=55.7km az=123.0,New Britain region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**5.65**	**230**	P	Pn	20 36 45.4	-0.9
	1.1nm,0.3s,baz=37,slow=5.1,SNR=5.0						
PMG				S	Sn	20 37 50.8	+1.0
	3.9nm,0.3s,baz=334,slow=21,SNR=6.4						
GUMO	**Guam**	**20.31**	**341**	LR	LR	20 45 31.9	
	comp=Z,26nm,21.9s,baz=156,slow=30						
WRA	**Warramunga Arr**	**21.86**	**228**	P	P	20 40 10.4	-0.2
	0.5nm,0.4s,baz=53,slow=9.3,SNR=8.9						
ASAR	**Alice Springs**	**24.59**	**222**	P	P	20 40 37.5	+0.5
	0.4nm,0.6s,baz=58,slow=8.8,SNR=9.5						
TORD	**Torodi Ar. Bea**	**149.36**	**286**	PKPbc	PKPbc	20 55 04.2	-0.6
	0.7nm,0.6s,baz=80,slow=2.3,SNR=11						

CSEM ***24*** *21:07:47.7±0.2,37.°20N×22.°01E,h2km,ML2.1, Error ellipse: s-maj=5.6km s-min=3.9km az=76.0*
ATH ***24*** *21:07:47.7,37.°19N×22.°00E,h7km±2km,ML2.1/3, Error ellipse: s-maj=3.0km s-min=1.0km az=276.0*

THE 24 21:07:47.9,37.°19N×22.°02E,h0km±2km,ML2.2/5,Error ellipse: s-maj=2.3km s-min=0.7km az=246.0,Southern Greece

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ITM	**Ithomi**	**0.07**	**261**	P	Pg	21 07 49.2	-0.1
ITM				S	Sg	21 07 50.5	+0.3
ITM	**Ithomi**	**0.07**	**261**	P	Pg	21 07 49.2	-0.1
ITM				S	Sg	21 07 50.5	+0.3
ITM	**Ithomi**	**0.07**	**261**	P	Pg	21 07 49.1	-0.2
ITM				S	Sg	21 07 50.9	+0.7
VLX	**Vlachokerasia**	**0.34**	**58**	P	Pg	21 07 54.5	+0.1
VLX				S	Sg	21 07 59.6	+0.7
VLX	**Vlachokerasia**	**0.34**	**58**	P	Pg	21 07 54.5	+0.1
VLX				S	Sg	21 07 59.6	+0.7
VLX	**Vlachokerasia**	**0.34**	**58**	P	Pg	21 07 54.4	-0.1
VLX				S	Sg	21 07 59.7	+0.8
VLX				AML	AML	21 08 00.7	
	comp=N,750μm,0.4s						
VLX				AML	AML	21 08 00.7	
	comp=E,863μm,0.3s						
PYL	**PYLOS**	**0.37**	**217**	P	Pg	21 07 54.6	-0.3
PYL				S	Sg	21 08 00.9	+1.2
PYL	**PYLOS**	**0.37**	**217**	P	Pg	21 07 54.4	-0.5
PYL				S	Sg	21 08 00.9	+1.2
PYL	**PYLOS**	**0.37**	**217**	P	Pg	21 07 54.4	-0.5
PYL				S	Sg	21 07 59.9	+0.2
PYL				AML	AML	21 08 03.5	
	comp=N,246μm,0.2s						
PYL				AML	AML	21 08 03.6	
	comp=E,351μm,0.2s						
AMT	**Artemida-Makis**	**0.42**	**324**	P	Pg	21 07 55.6	-0.4
AMT				S	Sg	21 08 02.7	+1.3
AMT	**Artemida-Makis**	**0.42**	**324**	P	Pg	21 07 55.6	-0.4
AMT				S	Sg	21 08 02.7	+1.3
AMT	**Artemida-Makis**	**0.42**	**324**	P	Pg	21 07 55.2	-0.7
AMT				S	Sg	21 08 02.4	+1.0
AMT				AML	AML	21 08 03.8	
	comp=N,1948μm,0.2s						
AMT				AML	AML	21 08 04.0	
	comp=E,1744μm,0.2s						
DRO	**Drossia**	**0.80**	**342**	P	Pg	21 08 02.6	-0.6
DRO	**Drossia**	**0.80**	**342**	P	Pg	21 08 02.6	-0.6
DRO	**Drossia**	**0.80**	**342**	P	Pg	21 08 02.9	-0.3
DRO				S	Sg	21 08 14.8	+1.2
DRO	**Drossia**	**0.80**	**342**	P	Pg	21 08 02.8	-0.4
DRO				S	Sg	21 08 14.8	+1.2
DRO				AML	AML	21 08 17.6	
	comp=E,229μm,0.3s						
DRO				AML	AML	21 08 19.5	
	comp=N,170μm,0.5s						
KLV	**Kalavryta, Ach**	**0.86**	**7**	P	Pg	21 08 03.2	-1.2
KLV				S	Sb	21 08 17.2	-0.6
KLV	**Kalavryta, Ach**	**0.86**	**7**	P	Pg	21 08 03.2	-1.2
KLV				S	Sb	21 08 17.2	-0.6
KLV	**Kalavryta, Ach**	**0.86**	**7**	P	Pg	21 08 03.6	-0.8
KLV				S	Sg	21 08 15.3	-0.2
KLV	**Kalavryta, Ach**	**0.86**	**7**	P	Pg	21 08 03.6	-0.7
KLV				S	Sg	21 08 15.3	-0.2
KLV				AML	AML	21 08 18.2	
	comp=N,53μm,0.3s						
KLV				AML	AML	21 08 18.4	
	comp=E,90μm,0.5s						
VLI	**Veliai**	**0.88**	**122**	P	Pg	21 08 04.6	-0.1
VLI	**Veliai**	**0.88**	**122**	P	Pg	21 08 04.6	-0.1
VLI	**Veliai**	**0.88**	**122**	P	Pg	21 08 04.8	+0.1
RLS	**Riolos of Patr**	**0.97**	**333**	P	Pg	21 08 03.1	-3.4
RLS	**Riolos of Patr**	**0.97**	**333**	P	Pg	21 08 03.1	-3.4
LAKA	**Lakka**	**1.05**	**358**	P	Pg	21 08 07.0	-1.0
LAKA	**Lakka**	**1.05**	**358**	P	Pg	21 08 07.0	-1.0
LTK	**Loutraki**	**1.12**	**42**	P	Pg	21 08 08.1	-1.3
LTK	**Loutraki**	**1.12**	**42**	P	Pg	21 08 08.1	-1.4
KYTH	**Kithira**	**1.24**	**138**	P	Pg	21 08 11.8	+0.1

IDC 24 21:19:15.2±3.5,2.°95S×100.°87E,h0km,mb3.5/5, mb1 3.6/5,mb1mx3.3/41,mbtmp3.5/5,MS2.9/1,Ms1 2.9/1, ms1mx2.3/29,Error ellipse: s-maj=153.4km s-min=22.2km az=56.0,Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PALK	**Pallekele**	**22.54**	**297**	LR	LR	21 32 11.5	
	comp=Z,31nm,18.1s,baz=116,slow=34						
H08S2	**Diego Garcia H**	**28.62**	**259**	T	T	21 54 38.6	
	baz=83,slow=76,SNR=9.6						
H08S3	**Diego Garcia H**	**28.63**	**260**	T	T	21 54 47.6	
	baz=83,slow=76,SNR=7.1						
H08S1	**Diego Carcia H**	**28.64**	**259**	T	T	21 54 41.0	
	baz=83,slow=76,SNR=6.9						
WRA	**Warramunga Arr**	**36.77**	**120**	P	P	21 26 23.1	-1.8
	0.3nm,0.6s,baz=304,slow=8.7,SNR=4.6						
ASAR	**Alice Springs**	**38.00**	**126**	P	P	21 26 36.8	+1.5
	0.2nm,0.6s,baz=303,slow=8.2,SNR=3.1						
SONM	**Songino Array**	**50.81**	**5**	P	P	21 28 17.7	+0.2
	0.4nm,0.6s,baz=188,slow=9.9,SNR=4.0						
MKAR	**Makanchi Array**	**52.17**	**344**	P	P	21 28 28.0	+0.4
	0.3nm,0.5s,baz=140,slow=8.5,SNR=5.1						
ZALV	**Zalesovo Beam**	**58.26**	**349**	P	P	21 29 10.9	-0.5
	0.8nm,0.6s,baz=177,slow=5.5,SNR=5.6						
TXAR	**Lajitas Array**	**144.91**	**39**	PKP	PKPab	21 38 53.3	-1.0
	0.2nm,0.6s,baz=318,slow=1.2,SNR=3.9						

CSEM ***24*** *21:53:41.6,28.°11N×53.°04E,h31km,ML2.7*

TEH 24 21:53:41.6,28.°11N×53.°04E,h31km,ML2.7,Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ISRV	**Sarvestan**	**1.27**	**3**	*e*AMB	AMB	21 54 04.9	
	comp=Z,4μm,0.1s						
ISRV				*e*Pn	Pn	21 54 03.3	-0.3
ISRV				*e*Sg	Sb	21 54 22.3	+1.0
IMEH	**Mehriz**	**3.54**	**22**	*e*Pn	Pn	21 54 35.0	+0.2
IMEH				*e*AMB	AMB	21 54 46.3	
	comp=Z,113nm,0.1s						
IMEH	**Mehriz**	**3.54**	**22**	*e*Pn	Pn	21 54 35.0	+0.2
IRAM	**Ramesheh**	**3.73**	**351**	*e*Pn	Pn	21 54 37.2	-0.1
IRAM				*e*AMB	AMB	21 54 55.1	
	comp=Z,71nm,0.2s						
IRAM	**Ramesheh**	**3.73**	**351**	*e*Pn	Pn	21 54 37.2	-0.1
SLWS		**3.94**	**214**	P	Pn	21 54 40.3	+0.4
IBAF	**Bafgh**	**4.11**	**32**	*e*Pn	Pn	21 54 41.5	-0.9
IBAF				*e*AMB	AMB	21 54 42.3	
	comp=Z,391nm,0.1s						
IBAF	**Bafgh**	**4.11**	**32**	*e*Pn	Pn	21 54 41.5	-0.9
BTHS		**4.50**	**206**	S	Sn	21 55 40.0	+1.0
BTHS				P	Pn	21 54 48.1	+0.4
IZEF	**Zefreh**	**4.81**	**353**	*e*Pn	Pn	21 54 51.1	-1.1
IZEF				*e*

0.5nm,0.2s,baz=142,slow=4.9,SNR=4.4
FINES FINESS Array B 85.74 342 P **P** **22 07 54.2 +1.0**
1.5nm,0.7s,baz=174,slow=3.8,SNR=4.3
ESDC Sonseca Array 86.77 314 P **P** **22 07 59.3 +0.4**
0.3nm,0.6s,baz=106,slow=3.9,SNR=4.0
TXAR Lajitas Array 165.38 319 PKPab **PKPab** **22 16 18.4 +0.8**
0.3nm,0.8s,baz=48,slow=4.0,SNR=3.5

BJI ***24*** *22:08:34.1, 19°.14S×65°.07E, h10km, mb4.5/30, mB5.1/18, Ms4.9/15, Ms7 4.5/16*
MOS ***24*** *22:08:38.5±1.2, 18°.57S×65°.50E, h10km, mb5.0/19, MS4.1/4, Error ellipse: s-maj=14.4km s-min=8.4km az=99.3*
IDC ***24*** *22:08:38.6±0.5, 18°.61S×65°.44E, h0km, mb4.1/21, mb1 4.2/22, mb1mx4.1/43, mbtmp4.1/22, ML3.3/1, MS4.2/27, Ms1 4.2/27, ms1mx4.1/37, Error ellipse: s-maj=16.9km s-min=15.4km az=43.0*
ISCJB ***24*** *22:08:39.2±0.3, 18°.62S±0°.06×65°.54E±0°.06, h15km, mb4.5/60, MS4.3/33, Error ellipse: s-maj=9.1km s-min=7.9km az=11.0*
NEIC ***24*** *22:08:40.1±0.2, 18°.61S×65°.47E, h10km, mb4.8/13, Error ellipse: s-maj=6.6km s-min=6.2km az=198.0*
GCMT ***24*** *22:08:40.1±0.2, 18°.43S×65°.32E, h12km, MW5.1/96, Moment Tensor Solution. s47,c64; s96,c149; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_r=-4.64±.10; $M_{\theta\theta}$0.39±..11; $M_{\phi\phi}$4.25±.10; $M_{r\theta}$1.42±.40; $M_{\theta\phi}$-1.59±.10; $M_{\phi r}$2.46±..32; Best double couple: M_o5.49500×10^{16} NP1:ϕ_s181.00000°,δ59.00000°,λ-67.00000°. NP2: ϕ_s322.00000°,δ38.00000°,λ-123.00000°. Principal axes: T 5.1960, Plg12.0000°, Azm255.0000°; N 0.5950, Plg20.0000°, Azm349.0000°; P -5.7950, Plg67.0000°, Azm136.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

ISC 24 22:08:40.9±0.4, 18°.61S±0°.08×65°.44E±0°.09, h15km, n158, σ1§18/145, mb4.6/60, MS4.3/33, 16C-5D,
Mauritius-Reunion region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
H08S1	**Diego Carcia H**	**12.87**	**33**	T	T	22 24 55.1	
	baz=212,slow=76,SNR=465						
H08S2	**Diego Garcia H**	**12.88**	**33**	T	T	22 25 00.3	
	baz=212,slow=76,SNR=475						
H08S3	**Diego Garcia H**	**12.89**	**33**	T	T	22 24 59.8	
	baz=212,slow=76,SNR=475						
H08N3	**Diego Garcia H**	**13.34**	**25**	T	T	22 25 50.6	
	baz=204,slow=75,SNR=363						
H08N1	**Diego Garcia H**	**13.35**	**25**	T	T	22 25 56.0	
	baz=204,slow=75,SNR=169						
H08N2	**Diego Garcia H**	**13.36**	**25**	T	T	22 25 52.2	
	baz=204,slow=75,SNR=256						
OPO	**Ambohidratompo**	**17.31**	**267**	P	**Pn**	**22 12 42.7 +0.4**	
	0.1nm,0.3s,baz=77,slow=18,SNR=2.5						
OPO				LR	LR	22 17 46.8	
	comp=Z,2μm,19.9s,baz=81,slow=32						
PALK	**Pallekele**	**29.80**	**32**	LR	LR	22 24 21.0	
	comp=Z,565nm,18.4s,baz=116,slow=32						
KMBO	**Kilima Mbogo**	**32.66**	**299**	LR	LR	22 26 11.1	
	comp=Z,683nm,19.2s,baz=114,slow=32						
LBTB	**Lobatse**	**37.44**	**253**	P	**P**	**22 15 54.1 +0.1**	
	2.7nm,0.7s,baz=91,slow=8.8,SNR=4.9						
BOSA	**Boshof**	**37.99**	**247**	LR	LR	22 28 36.6	
	comp=Z,532nm,21.8s,baz=60,slow=32						
PSI	**Prapat**	**39.22**	**61**	LR	LR	22 29 00.9	
	comp=Z,1μm,20.5s,baz=196,slow=31						
WSAR	**Wadi Sarin**	**42.12**	**351**	P	**P**	**22 16 33.3 +0.6**	
	3.1nm,0.9s,baz=158,slow=11,SNR=2.2						
H01W2	**Cape Leeuwin H**	**45.95**	**121**	T	T	23 06 15.4	
	baz=278,slow=75,SNR=8.7						
H01W3	**Cape Leeuwin H**	**45.95**	**121**	T	T	23 06 10.2	
	baz=278,slow=75,SNR=7.9						
H01W1	**Cape Leeuwin H**	**45.97**	**121**	T	T	23 06 10.7	
	baz=278,slow=75,SNR=9.8						
MAW	**Mawson**	**49.00**	**181**	P	**P**	**22 17 27.2 +0.5**	
	3.8nm,0.9s,baz=298,slow=8.6,SNR=6.4						
MAW				LR	LR	22 32 52.3	
	comp=Z,236nm,21.8s,baz=54,slow=30						
CM01	**Chiang Mai Arr**	**49.38**	**44**	*e*P	**P**	**22 17 29.4 -0.8**	
CM31	**Chiang Mai Arr**	**49.40**	**44**	*e*P	**P**	**22 17 29.6 -0.8**	
CMAR	**Chiang Mai Arr**	**49.40**	**44**	P	**P**	**22 17 31.3 +1.0**	
	0.9nm,0.4s,baz=234,slow=8.5,SNR=11						
CMAR				LR	LR	22 35 01.5	
	comp=Z,414nm,21.7s,baz=214,slow=32						
SHL	**Shillong**	**50.89**	**31**	*e*P	**P**	**22 17 45.0 +3.3**	
LSA	**Lhasa**	**54.05**	**28**	*e*P	**P**	**22 18 07.3 +1.8**	
LSA				pmax	pmax		
	comp=Z,4.0nm,0.8s						
LSA	**Lhasa**	**54.05**	**28**	*e*P	**P**	**22 18 07.3 +1.8**	
	comp=Z,4.5nm,0.8s						
KMI	**Kunming**	**56.64**	**41**	P	**P**	**22 18 25.0 +1.1**	
KMI				pmax	pmax		
	comp=Z,4.0nm,0.7s						
KMI				LR	LR		
	comp=Z,330nm,4.7s						
KMI				LR	LR		
	comp=Z,260nm,4.0s						
KMI				LR	LR		
	comp=Z,310nm,4.8s						
GEYT	**Alibeck**	**56.66**	**353**	LR	LR	22 41 03.2	
	comp=Z,78nm,18.2s,baz=160,slow=34						
KSH	**Kashi**	**58.65**	**10**	*e*P	**P**	**22 18 37.0 -0.7**	
KSH				pP	pP	22 18 41.1 -1.5	
KSH				PcP	**PcP**	**22 19 27.0 -0.7**	
KSH				S	**S**	**22 26 37.8 -4.0**	
KSH				SS	**SS**	**22 30 31.8 -3.4**	
KSH				pmax	pmax		
	comp=Z,7.0nm,0.6s						
KSH				pmax	pmax		
	comp=Z,53nm,5.0s						
KSH				LR	LR		
	comp=Z,480nm,19.0s						
KSH				LR	LR		
	comp=Z,150nm,14.1s						
KSH				LR	LR		
	comp=Z,410nm,19.3s						
GYA	**Guiyang**	**60.07**	**43**	*e*P	**P**	**22 18 50.3 +2.5**	
GYA				pmax	pmax		
	comp=Z,10.0nm,1.0s						
AAK	**Ala-Archa**	**61.51**	**8**	*e*P	**P**	**22 18 56.9 -0.4**	
AAK				pmax	pmax		
	comp=Z,10.0nm,1.1s						
GNI	**Garni**	**61.56**	**342**	*ce*P	**P**	**22 18 57.5 -0.2**	
GNI				pmax	pmax		
	comp=Z,53nm,1.7s						
GNI	**Garni**	**61.56**	**342**	*e*P	**P**	**22 18 56.6 -1.1**	
	comp=Z,22nm,1.1s						
ASAR	**Alice Springs**	**63.52**	**108**	P	**P**	**22 19 10.8 -0.3**	
	comp=Z,1.1nm,0.7s,baz=273,slow=5.6,SNR=14						
ASAR				LR	LR	22 42 46.8	
	comp=Z,1μm,21.3s,baz=270,slow=32						
AS01	**Alice Springs**	**63.56**	**108**	*e*P	**P**	**22 19 09.8 -1.7**	
WRA	**Warramunga Arr**	**64.61**	**104**	P	**P**	**22 19 18.0 -0.3**	
	comp=Z,1.9nm,0.8s,baz=261,slow=5.1,SNR=16						
WRA				LR	LR	22 45 09.4	
	comp=Z,479nm,19.0s,baz=265,slow=34						
WB2	**Warramunga Arr**	**64.62**	**104**	*e*P	**P**	**22 19 17.6 -0.8**	
WRAB	**Tennant Creek**	**64.62**	**104**	*e*P	**P**	**22 19 18.6 +0.2**	
WRAB				pmax	pmax		
	comp=Z,4.0nm,0.8s						
WRAB	**Tennant Creek**	**64.62**	**104**	*e*P	**P**	**22 19 18.6 +0.2**	
	comp=Z,4.0nm,0.8s						
BRTR	**Keskin Array B**	**65.19**	**333**	P	**P**	**22 19 22.0 +0.3**	
	comp=Z,1.1nm,1.0s,baz=113,slow=5.9,SNR=4.0						
BRTR				LR	LR	22 48 08.0	
	comp=Z,67nm,18.1s,baz=128,slow=36						
KBZ	**Khabaz**	**65.39**	**342**	P	**P**	**22 19 22.7 0.0**	
	comp=Z,2.1nm,0.9s,baz=100,slow=1.6,SNR=4.2						
KBZ				LR	LR	22 48 19.3	
	comp=Z,72nm,18.9s,baz=140,slow=36						
WMQ	**Urumqi**	**65.39**	**18**	P	**P**	**22 19 23.8 +1.0**	
WMQ				pP	pP	22 19 27.1 -0.6	
WMQ				sP	sP	22 19 31.4 +1.9	
WMQ				PP	**PP**	**22 21 46.6 -0.5**	
WMQ				S	**S**	**22 28 08.1 +1.5**	
WMQ				sS	sS	22 28 20.8 +6.2	
WMQ				pmax	pmax		
	comp=Z,15nm,1.0s						
WMQ				pmax	pmax		
	comp=Z,98nm,3.7s						
WMQ				LR	LR		
	comp=Z,310nm,14.5s						
WMQ				LR	LR		
	comp=Z,280nm,16.1s						
WMQ				LR	LR		
	comp=Z,240nm,23.1s						
LZH	**Lanzhou**	**65.42**	**34**	*e*P	**P**	**22 19 23.8 +0.5**	
LZH				pP	pP	22 19 27.8 -0.4	
LZH				sP	sP	22 19 29.8 -0.2	
LZH				pmax	pmax		
	comp=Z,7.0nm,1.0s						
LZH				pmax	pmax		
	comp=Z,160nm,4.5s						
LZH				LR	LR		
	comp=Z,260nm,18.9s						
LZH				LR	LR		
	comp=Z,230nm,19.0s						
LZH				LR	LR		
	comp=Z,280nm,20.0s						
BR231	**Keskin MP Arra**	**65.65**	**333**	*e*P	**P**	**22 19 23.7 -1.0**	
KIV	**Kislovodsk**	**65.66**	**342**	*i* P	**P**	**22 19 28.1 +3.5**	
KIV				pmax	pmax		
	comp=Z,3.0nm,0.8s						
KIV				MLR	MLR		
	comp=Z,83nm,18.0s						
SNAA	**Sanae**	**65.67**	**199**	P	P	22 19 18.8 -5.6	
SNAA	**Sanae**	**65.67**	**199**	P	**P**	**22 19 24.9 +0.5**	
	comp=Z,1.6nm,0.8s,baz=129,slow=11,SNR=7.3						
GTA	**Gaotai**	**66.06**	**29**	*e*P	**P**	**22 19 27.6 +0.3**	
GTA				pP	pP	22 19 31.9 -0.3	
GTA				sP	sP	22 19 35.6 +1.6	
GTA				S	**S**	**22 28 14.8 -0.3**	
GTA				SS	**SS**	**22 32 34.3 +3.2**	
GTA				pmax	pmax		
	comp=Z,4.0nm,1.5s						
GTA				pmax	pmax		
	comp=Z,99nm,5.2s						
GTA				LR	LR		
	comp=Z,180nm,15.0s						
GTA				LR	LR		
	comp=Z,160nm,13.3s						
GTA				LR	LR		
	comp=Z,210nm,17.8s						
XAN	**Xi'an**	**66.75**	**38**	P	**P**	**22 19 31.0 -0.8**	
XAN				pP	pP	22 19 35.5 -1.2	
XAN				pmax	pmax		
	comp=Z,8.0nm,0.9s						
XAN				pmax	pmax		
	comp=Z,180nm,5.5s						
MK01	**Makanchi Array**	**66.83**	**13**	*e*P	**P**	**22 19 31.4 -0.5**	
MK31	**Makanchi Array**	**66.85**	**13**	*e*P	**P**	**22 19 32.1 0.0**	
MK31	**Makanchi Array**	**66.85**	**13**	*e*P	**P**	**22 19 32.0 0.0**	
MKAR	**Makanchi Array**	**66.85**	**13**	P	**P**	**22 19 32.0 -0.1**	
	comp=Z,2.4nm,0.9s,baz=208,slow=6.6,SNR=10						
MKAR				LR	LR	22 46 57.0	
	comp=Z,188nm,20.3s,baz=186,slow=34						
MKAR	**Makanchi Array**	**66.85**	**13**	*e*P	**P**	**22 19 32.1 -0.1**	
MKAR				pmax	pmax		
	comp=Z,16nm,0.8s						
MKAR	**Makanchi Array**	**66.85**	**13**	*e*P	**P**	**22 19 32.0 -0.1**	
	comp=Z,16nm,0.8s						
VNA2	**Neumayer--Watz**	**66.95**	**200**	P	**P**	**22 19 31.7 -0.8**	
	baz=70,slow=6.0						
VNA3	**Neumayer Olymp**	**67.73**	**200**	P	**P**	**22 19 34.1 -3.3**	
ABKAR	**Akbulak array**	**67.74**	**356**	*e*P	**P**	**22 19 37.7 0.0**	
	comp=Z,19nm,0.9s						
WHN	**Wuhan**	**67.83**	**45**	⇓P	P	22 19 48.3 +10	
ANN	**Anapa**	**68.08**	**339**	*e*P	**P**	**22 19 40.0 +0.1**	
ANN				pmax	pmax		
	comp=Z,39nm,1.5s						
STKA	**Stephens Creek**	**68.91**	**118**	P	**P**	**22 19 45.5 -0.1**	
	comp=Z,1.1nm,0.7s,baz=278,slow=6.8,SNR=4.4						
STKA				LR	LR	22 45 22.4	
	comp=Z,222nm,21.5s,baz=224,slow=32						
KURK	**Kurchatov**	**69.99**	**9**	*ce*P	**P**	**22 19 50.5 -1.1**	
KURK				pmax	pmax		
	comp=Z,31nm,1.2s						
KURK	**Kurchatov**	**69.99**	**9**	*e*P	**P**	**22 19 51.9 +0.2**	
	comp=Z,5.8nm,0.8s						
TORD	**Torodi Ar. Bea**	**70.31**	**292**	P	**P**	**22 19 54.3 0.0**	
	comp=Z,0.7nm,0.9s,baz=96,slow=4.8,SNR=4.0						
TORD				LR	LR	22 49 48.7	
	comp=Z,186nm,18.9s,baz=130,slow=35						
BRVK	**Borovoye**	**71.49**	**3**	*ce*P	**P**	**22 19 59.0 -1.7**	
BRVK				pmax	pmax		
	comp=Z,24nm,1.7s						
BRVK	**Borovoye**	**71.49**	**3**	*e*P	**P**	**22 20 00.8 0.0**	
	comp=Z,5.5nm,0.9s						
QSPA	**South Pole Qui**	**71.49**	**180**	*e*P	**P**	**22 20 01.2 +0.3**	
	comp=Z,9.1nm,1.1s						
NJ2	**Nanjing**	**71.79**	**46**	*e*P	**P**	**22 20 00.6 -2.4**	
NJ2				pmax	pmax		
	comp=Z,7.0nm,0.8s						
CFR	**Carcaliu**	**71.98**	**333**	⇑*i* P	**P**	**22 20 03.6 -0.2**	
CFR	**Carcaliu**	**71.98**	**333**	P	**P**	**22 20 03.6 -0.2**	
HHC	**Hu-ho-hao-te**	**73.02**	**35**	*e*P	**P**	**22 20 11.3 +1.0**	
HHC				pmax	pmax		
	comp=Z,22nm,0.7s						
HHC				pmax	pmax		
	comp=Z,130nm,9.9s						
VRI	**Vrincioaia**	**73.14**	**333**	⇑*i* P	**P**	**22 20 11.8 +1.1**	
VRI	**Vrincioaia**	**73.14**	**333**	P	**P**	**22 20 13.0 +2.2**	
VRI				pmax	pmax		
	comp=Z,96nm,1.3s						
PLOR	**Plostina**	**73.16**	**333**	⇓*i* P	**P**	**22 20 12.1 +1.1**	
PLOR	**Plostina**	**73.16**	**333**	P	**P**	**22 20 12.0 +1.1**	
MLR	**Muntele Rosu**	**73.19**	**332**	⇑*i* P	**P**	**22 20 12.5 +1.3**	
MLR	**Muntele Rosu**	**73.19**	**332**	*e*P	**P**	**22 20 11.8 +0.6**	
MLR				pmax	pmax		
	comp=Z,25nm,1.6s						
MLR	**Muntele Rosu**	**73.19**	**332**	*e*P	**P**	**22 20 11.8 +0.6**	
	comp=Z,24nm,1.6s						
VNDA	**Vanda**	**73.35**	**167**	LR	LR	22 48 58.9	
	comp=Z,135nm,20.4s,baz=264,slow=33						
VOIR		**73.54**	**332**	⇑*i* P	**P**	**22 20 13.3 0.0**	
ARR	**Arges**	**73.68**	**331**	⇓*i* P	**P**	**22 20 14.2 +0.2**	
DBIC	**Dimbokro**	**73.68**	**283**	P	**P**	**22 20 14.5 -0.1**	
	comp=Z,3.4nm,1.0s,baz=314,slow=0.9,SNR=3.0						
DBIC				LR	LR	22 50 01.0	
	comp=Z,263nm,21.7s,baz=95,slow=34						
DOPR	**Dopca**	**73.80**	**332**	⇑*i* P	**P**	**22 20 14.9 +0.2**	
LOT	**Lotru**	**74.14**	**331**	⇑*i* P	**P**	**22 20 16.0 -0.8**	
ZAA0	**Zalesovo Array**	**74.16**	**12**	*e*P	**P**	**22 20 16.2 -0.4**	
ZALV	**Zalesovo Beam**	**74.16**	**12**	P	**P**	**22 20 16.3 -0.2**	
	comp=Z,4.8nm,0.6s,baz=204,slow=6.7,SNR=30						
ZALV				LR	LR	22 51 20.0	
	comp=Z,148nm,19.8s,baz=250,slow=34						
SORM	**Soroca**	**74.26**	**335**	⇑*i* P	**P**	**22 20 15.5 -1.8**	
SORM	**Soroca**	**74.26**	**335**	P	**P**	**22 20 15.5 -1.8**	
GZR	**Gura Zlata**	**74.56**	**330**	⇑*i* P	**P**	**22 20 20.1 +0.9**	
MDVR	**Moldovita**	**74.61**	**329**	⇑*i* P	**P**	**22 20 19.9 +0.4**	
NVS	**Novosibirsk**	**74.72**	**11**	*e*P	**P**	**22 20 18.0 -1.7**	
NVS				pmax	pmax		
	comp=N,12nm,1.7s						
NVS				pmax	pmax		
	comp=E,8.0nm,1.7s						
NVS				pmax	pmax		
	comp=Z,16nm,1.7s						
ARU	**Arti**	**74.97**	**356**	*c i* P	**P**	**22 20 19.4 -1.8**	
ARU				S	**S**	**22 29 58.2 +0.1**	
ARU				pmax	pmax		
	comp=Z,10.0nm,1.7s						
ARU				MLR	MLR		
	comp=Z,181nm,18.0s						
ARU	**Arti**	**74.97**	**356**	*e*P	**P**	**22 20 21.6 +0.4**	
	comp=Z,12nm,1.3s						
BURAR	**Bucovina Array**	**75.15**	**333**	⇓*i* P	P	22 20 14.9 -7.7	
SVE	**Sverdlovsk**	**75.25**	**357**	*e*P	**P**	**22 20 23.2 +0.4**	
SVE				pmax	pmax		
	comp=Z,18nm,1.7s						
BZS	**Buzias**	**75.27**	**330**	⇑*i* P	**P**	**22 20 23.3 +0.1**	
SONM	**Songino Array**	**75.63**	**27**	P	**P**	**22 20 25.9 +0.5**	
	comp=Z,1.2nm,0.9s,baz=222,slow=6.0,SNR=6.0						
SONM				LR	LR	22 52 31.1	
	comp=Z,300nm,20.5s,baz=236,slow=35						
DRGR		**75.63**	**331**	⇑*i* P	**P**	**22 20 26.3 +0.9**	
DRGR		**75.63**	**331**	P	**P**	**22 20 26.2 +0.9**	
SONA1	**Songino Array**	**75.64**	**27**	*e*P	**P**	**22 20 25.4 -0.1**	
KEST	**Kesra**	**75.76**	**316**	LR	LR	22 54 00.8	
	comp=Z,134nm,19.5s,baz=314,slow=36						
ULN	**Ulaanbaatar**	**75.94**	**27**	*e*P	**P**	**22 20 27.6 +0.4**	
ULN				pmax	pmax		
	comp=Z,2.0nm,0.8s						
ULN	**Ulaanbaatar**	**75.94**	**27**	*e*P	**P**	**22 20 27.6 +0.4**	
	comp=Z,1.7nm,0.8s						
AKASG	**Malin Array Be**	**76.01**	**337**	P	**P**	**22 20 27.1 -0.2**	
	comp=Z,3.3nm,0.7s,baz=139,slow=5.0,SNR=12						
AKASG	**Malin Array Be**	**76.01**	**337**	*ce*P	P	22 20 35.2 +7.9	
AKASG				pmax	pmax		
	comp=Z,2.0nm,0.7s						
AKBB	**Malin Array Si**	**76.01**	**337**	*e*P	**P**	**22 20 27.6 +0.3**	
AKBB				pmax	pmax		
	comp=Z,6.0nm,0.8s						
AKBB	**Malin Array Si**	**76.01**	**337**	*e*P	**P**	**22 20 27.6 +0.3**	
	comp=Z,5.5nm,0.8s						
KIEV	**Kiev**	**76.01**	**337**	*e*P	**P**	**22 20 27.2 -0.1**	
KIEV				pmax	pmax		
	comp=Z,5.0nm,0.7s						
KIEV	**Kiev**	**76.01**	**337**	*e*P	**P**	**22 20 27.2 -0.1**	
	comp=Z,5.4nm,0.7s						
OBN	**Obninsk**	**77.44**	**343**	*i* P	**P**	**22 20 34.3 -0.9**	
OBN				pmax	pmax		
	comp=Z,5.0nm,1.2s						
OBN				MLR	MLR		
	comp=Z,89nm,21.0s						
MOS	**Moscow**	**77.72**	**344**	*e*P	P	22 20 44.8 +8.0	
VYHS	**Vyhne**	**78.67**	**330**	*e*P	**P**	**22 20 43.1 +0.8**	
VYHS	**Vyhne**	**78.67**	**330**	*e*P	**P**	**22 20 43.1 +0.8**	
LANS	**Liptovska Anna**	**78.84**	**331**	*e*P	**P**	**22 20 44.1 +0.8**	
LANS	**Liptovska Anna**	**78.84**	**331**	*e*P	**P**	**22 20 44.1 +0.8**	
SOKA	**Soboth**	**79.28**	**327**	*i* P	**P**	**22 20 47.8 +2.0**	
	comp=Z,7.3nm,1.4s						
ARSA	**Arzberg**	**79.41**	**328**	*e*P	**P**	**22 20 47.2 +0.7**	
	comp=Z,5.3nm,1.1s						
CONA	**Conrad Observa**	**79.70**	**329**	*e*P	**P**	**22 20 48.3 +0.2**	
	comp=Z,6.7nm,1.0s						
MORC	**Moravsky Berou**	**80.17**	**331**	⇓*i* P	**P**	**22 20 50.3 -0.2**	
MORC	**Moravsky Berou**	**80.17**	**331**	P	**P**	**22 20 52.6 +2.1**	
MORC				pmax	pmax		
	comp=Z,48nm,1.5s						
MOA	**Molln**	**80.45**	**328**	*e*P	**P**	**22 20 53.5 +1.5**	
	comp=Z,9.8nm,1.4s						
ABTA	**Abfaltersbach**	**80.63**	**326**	*i* P	**P**	**22 20 54.7 +1.6**	
	comp=Z,8.6nm,1.2s						
TREC	**Trest**	**80.81**	**329**	*e*P	**P**	**22 20 54.9 +1.0**	
TREC	**Trest**	**80.81**	**329**	*e*P	**P**	**22 20 54.9 +1.0**	
KSAR	**Wonju Array Be**	**80.95**	**46**	P	**P**	**22 20 55.7 +0.8**	
KSAR	**Wonju Array Be**	**80.95**	**46**	P	**P**	**22 20 55.7 +0.8**	
KS01	**Wonju Array Si**	**80.98**	**46**	*e*P	**P**	**22 20 53.8 -1.2**	
KSRS	**Korea Array**	**80.99**	**46**	P	**P**	**22 20 55.7 +0.6**	
	comp=Z,0.7nm,0.5s,baz=236,slow=5.4,SNR=3.5						
KSRS				LR	LR	22 56 55.5	
	comp=Z,84nm,19.1s,baz=224,slow=36						
DPC	**Dobruska-Polom**	**81.14**	**331**	*e*P	**P**	**22 20 57.2 +1.5**	
DPC				*ep*P	**sP**	**22 21 02.3 -0.1**	
DPC	**Dobruska-Polom**	**81.14**	**331**	*e*P	**P**	**22 20 57.2 +1.5**	
DPC				*e*		22 21 02.3	
GERES	**GERESS Array B**	**81.39**	**328**	P	**P**	**22 20 56.7 -0.4**	
	comp=Z,0.1nm,0.4s,baz=145,slow=5.6,SNR=4.3						
GERES				LR	LR	22 58 36.3	
	comp=Z,25nm,19.3s,baz=138,slow=37						
GOPC	**GO Pecny, Ondr**	**81.57**	**330**	*e*P	**P**	**22 20 59.1 +1.2**	
GOPC	**GO Pecny, Ondr**	**81.57**	**330**	*e*P	**P**	**22 20 59.1 +1.2**	
KHC	**Kasperske Hory**	**81.64**	**329**	*e*P	**P**	**22 20 57.8 -0.5**	
KHC				*ep*P	**PcP**	**22 21 04.6 +0.5**	
KHC	**Kasperske Hory**	**81.64**	**329**	*e*P	**P**	**22 20 57.8 -0.5**	
KHC				*e*		22 21 04.6	
PRU	**Pruhonice**	**81.73**	**330**	*e*P	**P**	**22 21 00.0 +1.2**	
PRU	**Pruhonice**	**81.73**	**330**	*e*P	**P**	**22 21 00.0 +1.2**	
FETA	**Feichten**	**81.75**	**326**	*e*P	**P**	**22 21 00.9 +1.8**	
	comp=Z,3.1nm,1.0s						
MOTA	**Moosalm**	**81.75**	**326**	*i* P	**P**	**22 21 00.2 +1.0**	
	comp=Z,3.0nm,1.1s						
KLMR	**Klimovskoe**	**81.90**	**348**	*e*P	**P**	**22 20 57.3 -2.0**	
KLMR				*e*		22 24 03.2	
KLMR				pmax	pmax		
	comp=Z,25nm,1.5s						
RETA	**Reutte**	**82.03**	**326**	*i* P	**P**	**22 21 00.3 -0.1**	
	comp=Z,6.0nm,1.9s						
DAVA	**Damuels**	**82.37**	**325**	*i* P	**P**	**22 21 02.4 0.0**	
	comp=Z,7.8nm,1.1s						
CLL	**Collm**	**83.34**	**330**	*e*P	**P**	**22 21 09.0 +1.9**	
FINES	**FINESS Array B**	**85.75**	**342**	P	**P**	**22 21 19.4 +0.4**	
	comp=Z,2.0nm,0.6s,baz=120,slow=11,SNR=7.2						
FINES	**FINESS Array B**	**85.75**	**342**	*i* P	**P**	**22 21 19.3 +0.3**	
FINES				pmax	pmax		
	comp=Z,2.0nm,0.6s						
ES19	**SONSECA Array**	**86.77**	**314**	*e*P	**P**	**22 21 24.9 +0.2**	
ESDC	**Sonseca Array**	**86.81**	**314**	P	**P**	**22 21 25.0 +0.1**	
	comp=Z,0.6nm,0.7s,baz=114,slow=4.7,SNR=8.0						
ESDC				LR	LR	23 01 56.6	
	comp=Z,133nm,18.6s,baz=135,slow=37						
USRK	**Ussuriysk Ar.**	**87.07**	**41**	LR	LR	23 02 13.2	
	comp=Z,122nm,18.1s,baz=226,slow=37						
MJAR	**Matsushiro Arr**	**87.81**	**50**	P	**P**	**22 21 30.7 +0.9**	
	comp=Z,1.0nm,0.8s,baz=252,slow=2.4,SNR=3.3						
MJAR				LR	LR	22 57 28.2	
	comp=Z,89nm,22.0s,baz=225,slow=33						
NRIK	**Noril'sk**	**89.12**	**8**	LR	LR	23 01 22.8	
	comp=Z,66nm,18.2s,baz=148,slow=36						
KLR	**Kul'dur**	**89.41**	**37**	*i* P	**P**	**22 21 34.3 -2.7**	
ARCES	**ARCESS Array B**	**92.36**	**347**	LR	LR	23 04 07.7	
	comp=Z,29nm,18.8s,baz=130,slow=36						
ILAR	**Eielson Array**	**129.05**	**17**	PKP	**PKPdf**	**22 27 48.1 +0.3**	
	comp=Z,0.2nm,0.6s,baz=322,slow=2.8,SNR=3.2						
ULM	**Lac du Bonnet**	**145.08**	**339**	PKPbc	**PKPbc**	**22 28 16.2 -0.9**	
	comp=Z,4.9nm,0.8s,baz=340,slow=7.4,SNR=4.8						
EDM	**Edmonton**	**145.44**	**359**	*e*PKIKP	**PKPab**	**22 28 18.7 +0.3**	
EDM	**Edmonton**	**145.44**	**359**	*e*PKPdf	**PKPab**	**22 28 18.7 +0.3**	
COWI	**Conover**	**145.47**	**328**	*e*PKPdf	**PKPbc**	**22 28 18.2 -0.3**	
ECSD	**EROS Data Cent**	**150.75**	**333**	*e*PKPdf	**PKPdf**	**22 28 28.4 +1.1**	
ECSD				*e*PKPbc	**pPKPdf**	**22 28 32.6 +0.2**	
RSSD	**Black Hills**	**153.07**	**343**	*e*PKIKP	**PKPbc**	**22 28 38.9 +0.5**	
RSSD	**Black Hills**	**153.07**	**343**	*e*PKPbc	**PKPbc**	**22 28 38.9 +0.5**	
TXAR	**Lajitas Array**	**

WHZ	**Wether Hill Ro**	**1.17**	**130**	P*	Pg	22 24 18.9	-0.9
WHZ				S*	Sg	22 24 34.2	-0.8
WHZ				AML	AML	22 24 40.7	
WKZ	**Wanaka**	**1.71**	**80**	AML	AML	22 24 54.0	
WKZ				AML	AML	22 24 54.5	
JCZ	**Jackson Bay**	**1.87**	**55**	Pn	Pn	22 24 29.0	-1.0
JCZ	**Jackson Bay**	**1.87**	**55**	PN	Pn	22 24 28.6	-1.4
JCZ				AML	AML	22 24 59.2	
JCZ				AML	AML	22 25 02.1	
EAZ	**Earnscleugh**	**1.88**	**93**	Pn	Pn	22 24 30.7	+0.6
EAZ	**Earnscleugh**	**1.88**	**93**	PN	Pn	22 24 30.7	+0.6
EAZ				AML	AML	22 24 57.5	
EAZ				AML	AML	22 24 57.5	
EAZ				AML	AML	22 24 58.7	
EAZ				AML	AML	22 24 58.8	
APZ	**The Paps**	**1.92**	**152**	Pn	Pb	22 24 31.9	-1.0
APZ	**The Paps**	**1.92**	**152**	PN	Pb	22 24 31.9	-1.0
APZ				AML	AML	22 25 01.0	
APZ				AML	AML	22 25 04.7	
SYZ	**Scrubby Hill**	**2.22**	**129**	Pn	Pn	22 24 34.9	+0.1
SYZ	**Scrubby Hill**	**2.22**	**129**	⇑PN	Pn	22 24 34.9	+0.1
SYZ				AML	AML	22 25 05.9	
SYZ				AML	AML	22 25 05.9	
SYZ				AML	AML	22 25 13.8	
SYZ				AML	AML	22 25 13.8	
TUZ	**Tuapeka**	**2.24**	**112**	Pn	Pn	22 24 35.3	+0.2
TUZ	**Tuapeka**	**2.24**	**112**	PN	Pn	22 24 35.3	+0.2
TUZ				AML	AML	22 25 07.2	
TUZ				AML	AML	22 25 07.2	
TUZ				AML	AML	22 25 09.5	
TUZ				AML	AML	22 25 09.6	
LBZ	**Lake Benmore**	**2.63**	**74**	Pn	Pn	22 24 40.8	+0.4
LBZ	**Lake Benmore**	**2.63**	**74**	⇑PN	Pn	22 24 40.8	+0.3
LBZ				AML	AML	22 25 23.4	
LBZ				AML	AML	22 25 23.5	
FOZ	**Fox Glacier**	**2.79**	**56**	Pn	Pn	22 24 41.0	-1.6
FOZ	**Fox Glacier**	**2.79**	**56**	AML	AML	22 25 27.7	
FOZ				AML	AML	22 25 29.0	
ODZ	**Otahua Downs**	**2.83**	**89**	Pn	Pn	22 24 42.8	-0.3
ODZ	**Otahua Downs**	**2.83**	**89**	⇑PN	Pn	22 24 42.8	-0.3
ODZ				AML	AML	22 25 31.8	
ODZ				AML	AML	22 25 31.8	
ODZ				AML	AML	22 25 35.6	
ODZ				AML	AML	22 25 35.6	
HHSZ	**Highcliff Hill**	**2.87**	**106**	Pn	Pn	22 24 44.1	+0.4
HHSZ	**Highcliff Hill**	**2.87**	**106**	PN	Pn	22 24 44.1	+0.4
HHSZ				AML	AML	22 25 20.0	
HHSZ				AML	AML	22 25 23.3	
RPZ	**Rata Peaks**	**3.46**	**67**	Pn	Pn	22 24 51.4	-0.5
RPZ	**Rata Peaks**	**3.46**	**67**	PN	Pn	22 24 51.4	-0.5
RPZ				AML	AML	22 25 50.1	
RPZ				AML	AML	22 25 56.5	
INZ	**Inchbonnie**	**4.22**	**57**	PN	Pn	22 25 00.7	-1.7
MQZ	**McQueen's Vall**	**4.53**	**74**	Pn	Pn	22 25 06.1	-0.5
MQZ	**McQueen's Vall**	**4.53**	**74**	PN	Pn	22 25 06.1	-0.5
MQZ				AML	AML	22 27 37.9	
DSZ	**Denniston Nort**	**5.07**	**50**	Pn	Pn	22 25 12.3	-1.6
DSZ	**Denniston Nort**	**5.07**	**50**	PN	Pn	22 25 12.3	-1.6
DSZ				AML	AML	22 26 19.2	

*CSEM **24** 22:39:09.0, 38.78N×22.53E, h11km, ML1.2/6*
ATH 24 22:39:09.0, 38.78N×22.53E, h11km±3km**, ML1.2/6, Error ellipse: s-maj=4.0km s-min=0.9km az=56.0, Greece**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AXAR	**Agios Charalam**	**0.10**	**95**	P	Pg	22 39 11.0	-0.8
AXAR				S	Sg	22 39 14.1	+0.3
AXAR	**Agios Charalam**	**0.10**	**95**	P	Pg	22 39 11.0	-0.8
AXAR				S	Sg	22 39 14.1	+0.3
AXAR				AML	AML	22 39 14.3	
	comp=E,324μm,0.1s						
AXAR				AML	AML	22 39 14.4	
	comp=N,287μm,0.1s						
AGG	**Agios Georgios**	**0.29**	**328**	P	Pg	22 39 15.4	+0.4
AGG				S	Sg	22 39 19.4	+0.4
AGG	**Agios Georgios**	**0.29**	**328**	P	Pg	22 39 15.0	0.0
AGG				S	Sg	22 39 19.9	+0.9
AGG	**Agios Georgios**	**0.29**	**328**	P	Pg	22 39 15.0	0.0
AGG				S	Sg	22 39 19.8	+0.9
AGG				AML	AML	22 39 19.9	
	comp=E,198μm,0.3s						
AGG				AML	AML	22 39 20.4	
	comp=N,200μm,0.3s						
AGG	**Agios Georgios**	**0.29**	**328**	P	Pg	22 39 15.4	+0.4
AGG				S	Sg	22 39 19.4	+0.4
AGG				AML	AML	22 39 19.9	
	comp=E,198μm,0.3s						
AGG				AML	AML	22 39 20.4	
	comp=N,200μm,0.3s						
DSF	**Desfina**	**0.36**	**180**	P	Pg	22 39 16.5	+0.2
DSF				S	Sg	22 39 21.6	+0.5
DSF	**Desfina**	**0.36**	**180**	P	Pg	22 39 16.3	0.0
DSF				S	Sg	22 39 21.9	+0.8
DSF	**Desfina**	**0.36**	**180**	P	Pg	22 39 16.3	0.0
DSF				S	Sg	22 39 21.9	+0.8
DSF				AML	AML	22 39 24.4	
	comp=N,112μm,0.1s						
DSF				AML	AML	22 39 24.6	
	comp=E,111μm,0.2s						
DSF	**Desfina**	**0.36**	**180**	P	Pg	22 39 16.5	+0.2
DSF				S	Sg	22 39 21.6	+0.5
DSF				AML	AML	22 39 24.4	
	comp=N,112μm,0.1s						
DSF				AML	AML	22 39 24.6	
	comp=E,111μm,0.2s						
LKR	**Lokris**	**0.39**	**109**	P	Pg	22 39 16.8	+0.1
LKR				S	Sg	22 39 22.1	+0.3
LKR	**Lokris**	**0.39**	**109**	P	Pg	22 39 16.9	+0.2
LKR				S	Sb	22 39 23.8	0.0
LKR	**Lokris**	**0.39**	**109**	P	Pg	22 39 16.9	+0.2
LKR				S	Sb	22 39 23.8	0.0
LKR				AML	AML	22 39 24.4	
	comp=N,68μm,0.1s						
LKR				AML	AML	22 39 24.4	
	comp=E,102μm,0.1s						
LKR	**Lokris**	**0.39**	**109**	P	Pg	22 39 16.8	+0.2
LKR				S	Sg	22 39 22.1	+0.3
LKR				AML	AML	22 39 24.4	
	comp=N,68μm,0.1s						
LKR				AML	AML	22 39 24.4	
	comp=E,102μm,0.1s						
KALE	**Kalithea**	**0.49**	**219**	P	Pg	22 39 18.2	-0.4
KALE				S	Sg	22 39 25.0	-0.1
KALE	**Kalithea**	**0.49**	**219**	P	Pg	22 39 18.2	-0.4
KALE				S	Sg	22 39 25.0	-0.2
KALE				AML	AML	22 39 28.2	
	comp=E,68μm,0.2s						
KALE				AML	AML	22 39 28.8	
	comp=N,66μm,0.3s						
SERG	**Sergoula**	**0.52**	**226**	P	Pb	22 39 19.7	-0.4
SERG				S	Sb	22 39 27.1	-0.5
SERG	**Sergoula**	**0.52**	**226**	P	Pb	22 39 19.7	-0.5
SERG				S	Sb	22 39 27.0	-0.6
TRIZ	**Trizonia**	**0.54**	**221**	P	Pg	22 39 19.6	0.0
TRIZ				S	Sb	22 39 28.1	-0.2
TRIZ	**Trizonia**	**0.54**	**221**	P	Pg	22 39 19.6	0.0
TRIZ				S	Sb	22 39 28.1	-0.2
EVR	**Evrytania**	**0.58**	**284**	P	Pg	22 39 19.8	-0.5
EVR	**Evrytania**	**0.58**	**284**	P	Pg	22 39 19.8	-0.5
PROD	**Prodromos**	**0.59**	**151**	P	Pg	22 39 20.4	-0.1
PROD				S	Sb	22 39 29.2	-0.5
PROD	**Prodromos**	**0.59**	**151**	P	Pg	22 39 20.4	-0.1
PROD				S	Sb	22 39 29.2	-0.5
PROD				AML	AML	22 39 32.5	
	comp=N,36μm,0.2s						
PROD				AML	AML	22 39 36.1	
	comp=E,41μm,0.3s						
LAKA	**Lakka**	**0.69**	**219**	P	Pg	22 39 21.5	-0.8
LAKA				S	Sb	22 39 32.0	-0.5
LAKA	**Lakka**	**0.69**	**219**	P	Pg	22 39 21.6	-0.8
LAKA				S	Sb	22 39 32.0	-0.5
XOR	**Xorichti**	**0.78**	**41**	P	Pg	22 39 24.1	0.0
XOR	**Xorichti**	**0.78**	**41**	P	Pg	22 39 24.1	-0.1

*IDC **24** 22:54:51.6±0.9, 21.08S×68.40W, h118km±10km, mb3.6/7, mb1 3.8/12, mb1mx3.7/26, mbtmp4.1/12, Error ellipse: s-maj=19.3km s-min=13.1km az=103.0*
*GUC **24** 22:54:51.9±0.7, 21.10S×68.73W, h126km±5km, ML4.2*

*SJA **24** 22:54:52.0±0.9, 21.14S×68.57W, h118km±32km, ML3.6, MW4.2*
ISC 24 22:54:52.1±0.7, 21.10S±0.03×68.60W±0.06, h125km±7km, n46, σ1s04/56, mb4.0/7, 9C-2D, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB01	**IPOC Station P**	**0.83**	**273**	*i*P	**Pn**	**22 55 12.7**	**-0.4**
PB01				*i* S	**Sn**	**22 55 28.2**	**-0.8**
PB01				IAML		22 55 31.1	
	comp=N,6μm,0.2s						
PB09	**IPOC Station P**	**0.92**	**220**	⇓*i*P	**Pn**	**22 55 14.2**	**+0.2**
PB09				IAML		22 55 32.9	
	comp=E,14μm,0.4s						
PB08	**IPOC Station P**	**1.08**	**331**	⇑*i*P	**Pn**	**22 55 16.1**	**+0.3**
PB08				*i* S	**Sn**	**22 55 34.1**	**+0.4**
PB08				IAML		22 55 34.8	
	comp=E,4μm,0.5s						
PB02	**IPOC Station P**	**1.23**	**259**	*e*P	**Pn**	**22 55 16.8**	**-0.1**
PB02				*i* S	**Sn**	**22 55 35.2**	**-0.6**
PB02				IAML		22 55 36.5	
	comp=E,9μm,0.1s						
PB07	**IPOC Station P**	**1.35**	**242**	⇓*i*P	**Pn**	**22 55 18.1**	**-0.3**
PB07				*i* S	**Sn**	**22 55 37.7**	**-0.6**
PB07				IAML		22 55 39.2	
	comp=N,3μm,0.1s						
HMBC	**Humberstone**	**1.45**	**304**	⇑*i*P	**Pn**	**22 55 19.1**	**-0.4**
HMBC				*i* S	**Sn**	**22 55 39.7**	**-0.6**
HMBC				IAML		22 55 40.0	
	comp=N,7μm,0.3s						
LVC	**Limon Verde**	**1.53**	**191**	P	**Pn**	**22 55 20.7**	**+0.1**
	baz=13,slow=10.0						
LVC				S	**Sn**	**22 55 42.0**	**-0.3**
	comp=N,8μm,0.3s,baz=90,slow=20,SNR=121						
LVC	**Limon Verde**	**1.53**	**191**	*e*P	**Pn**	**22 55 20.8**	**+0.1**
LVC				*i* S	**Sn**	**22 55 42.1**	**-0.2**
LVC	**Limon Verde**	**1.53**	**191**	*e*P	**Pn**	**22 55 20.8**	**+0.1**
LVC				*e*S	**Sn**	**22 55 41.6**	**-0.7**
PB11	**IPOC Station P**	**1.66**	**323**	⇑*i*P	**Pn**	**22 55 21.5**	**-0.3**
PB11				*e*S	**Sn**	**22 55 44.0**	**-0.5**
PB06	**IPOC Station P**	**1.84**	**209**	⇑*i*P	**Pn**	**22 55 23.9**	**-0.1**
PB06				*i* S	**Sn**	**22 55 48.0**	**-0.4**
PB06				IAML		22 55 48.3	
	comp=E,4μm,0.4s						
PB04	**IPOC Station P**	**1.89**	**229**	⇑*i*P	**Pn**	**22 55 24.1**	**-0.5**
PB04				*e*S	**Sn**	**22 55 48.6**	**-0.9**
PB04				IAML		22 55 57.0	
	comp=N,2μm,0.1s						
PSGC	**Pisagua**	**2.06**	**316**	⇑*i*P	**Pn**	**22 55 25.7**	**-1.0**
PSGC				*i* S	**Sn**	**22 55 51.7**	**-1.5**
PSGC				IAML		22 55 53.3	
	comp=E,1μm,0.5s						
MNMC	**Minye Minye**	**2.17**	**334**	⇑*i*P	**Pn**	**22 55 28.3**	**+0.1**
MNMC				*i* S	**Sn**	**22 55 56.7**	**+1.0**
MNMC				IAML		22 55 58.9	
	comp=E,3μm,0.4s						
PB12	**IPOC Station P**	**2.96**	**326**	⇑*i*P	**Pn**	**22 55 36.5**	**-1.6**
PB12				*i* S	**Sn**	**22 56 11.6**	**-1.9**
PB10	**IPOC Station P**	**3.01**	**217**	*e*P	**Pn**	**22 55 37.7**	**-0.9**
YJA	**Yavi**	**3.07**	**111**	*e*P	**Pn**	**22 55 41.0**	**+1.2**
YJA				IAML		22 55 46.0	
	comp=Z,24nm,0.5s						
HJA	**Humahuaca**	**3.63**	**126**	*e*P	**Pn**	**22 55 48.4**	**+1.2**
HJA				IAML		22 55 49.6	
	comp=Z,104nm,0.4s						
PB14	**IPOC Station P**	**3.89**	**205**	*e*P	**Pn**	**22 55 49.2**	**-1.3**
AZAP	**Zapla**	**4.51**	**134**	*e*P	**Pn**	**22 55 58.9**	**+0.1**
AZAP				IAML		22 56 00.1	
	comp=Z,77nm,0.4s						
SLA	**San Lorenzo**	**4.60**	**142**	*e*P	**Pn**	**22 56 01.1**	**+1.2**
SLA				IAML		22 56 02.5	
	comp=Z,72nm,0.5s						
ASTB	**Santa Barbara**	**4.77**	**127**	*e*P	**Pn**	**22 56 02.4**	**+0.2**
LPAZ	**La Paz**	**4.80**	**5**	P	**Pn**	**22 56 04.1**	**+1.0**
	comp=Z,9.5nm,0.3s,baz=173,slow=7.8,SNR=173						
LPAZ	**La Paz**	**4.80**	**5**	*e*P	**Pn**	**22 56 04.6**	**+1.6**
ALOL	**LOMAS DE OLMED**	**5.06**	**123**	*e*P	**Pn**	**22 56 05.6**	**-0.3**
FSA	**Cafayete**	**5.54**	**155**	IAML		22 56 17.2	
	comp=Z,14nm,0.7s						
AHML	**Horco Molle**	**6.40**	**153**	IAML		22 56 26.3	
	comp=Z,15nm,0.4s						
VCA	**Vinchina**	**7.62**	**177**	IAML		22 56 42.6	
	comp=Z,17nm,0.3s						
CYA	**Choya**	**7.74**	**161**	IAML		22 56 44.0	
	comp=Z,5.3nm,0.5s						
SIV	**San Ignacio**	**8.76**	**56**	P	**Pn**	**22 56 52.4**	**-3.5**
	comp=Z,2.5nm,0.3s,baz=258,slow=12,SNR=18						
CPUP	**Villa Florida**	**11.57**	**119**	P	**Pn**	**22 57 31.2**	**-2.2**
	comp=Z,0.3nm,0.3s,baz=291,slow=13,SNR=5.7						
NNA	**Nana**	**12.01**	**318**	P	**Pn**	**22 57 41.3**	**+1.9**
	comp=Z,1.4nm,0.3s,baz=168,slow=14,SNR=2.8						
PLCA	**Paso Flores**	**19.64**	**184**	P	**P**	**22 59 11.7**	**+0.7**
	comp=Z,0.4nm,0.3s,baz=18,slow=12,SNR=10						
PTGA	**Pitinga**	**21.93**	**24**	P	**P**	**22 59 33.5**	**-2.1**
	comp=Z,1.2nm,0.3s,baz=195,slow=11,SNR=5.0						
TXAR	**Lajitas Array**	**60.46**	**325**	P	**P**	**23 04 49.5**	**+0.6**
	comp=Z,0.2nm,0.6s,baz=148,slow=7.5,SNR=3.4						
DBIC	**Dimbokro**	**68.35**	**73**	P	**P**	**23 05 39.4**	**-1.0**
	comp=Z,2.1nm,0.8s,baz=199,slow=5.1,SNR=4.3						
ULM	**Lac du Bonnet**	**75.02**	**342**	P	**P**	**23 06 19.2**	**-0.3**
	comp=Z,1.9nm,0.5s,baz=150,slow=14,SNR=2.9						
TORD	**Torodi Ar. Bea**	**76.95**	**70**	P	**P**	**23 06 30.5**	**-0.8**
	comp=Z,3.2nm,0.5s,baz=255,slow=5.3,SNR=37						
ESDC	**Sonseca Array**	**85.35**	**44**	P	**P**	**23 07 15.3**	**0.0**
	comp=Z,0.1nm,0.4s,baz=226,slow=6.0,SNR=4.1						
YKA	**Yellowknife Ar**	**90.90**	**340**	P	**P**	**23 07 41.5**	**+0.4**
	comp=Z,1.0nm,0.5s,baz=134,slow=4.4,SNR=9.0						
ASAR	**Alice Springs**	**130.40**	**207**	PKP	**PKPdf**	**23 13 48.3**	**-0.2**
	comp=Z,0.3nm,0.5s,baz=160,slow=2.0,SNR=4.5						
WRA	**Warramunga Arr**	**133.44**	**210**	PKP	**PKPdf**	**23 13 54.7**	**+0.3**
	comp=Z,0.7nm,0.6s,baz=149,slow=1.7,SNR=7.7						
KURBB	**Kurchatov Arra**	**140.84**	**33**	PKP	**PKPdf**	**23 14 08.2**	**+1.2**
	comp=Z,0.2nm,0.4s,baz=333,slow=3.2,SNR=3.1						
ZALV	**Zalesovo Beam**	**141.47**	**25**	PKP	**PKPdf**	**23 14 08.6**	**+0.7**
	comp=Z,1.2nm,0.6s,baz=290,slow=4.4,SNR=4.1						
MKAR	**Makanchi Array**	**145.14**	**36**	PKPbc	**PKPdf**	**23 14 15.3**	**+0.6**
	comp=Z,4.1nm,0.8s,baz=318,slow=3.0,SNR=26						
SONM	**Songino Array**	**153.02**	**7**	PKPbc	**PKPbc**	**23 14 35.8**	**+0.9**
	comp=Z,0.4nm,0.5s,baz=343,slow=4.5,SNR=2.7						

*CSEM **24** 22:55:32.8±0.1, 45.61N×15.32E, h2km, ML2.8/21, Error ellipse: s-maj=1.6km s-min=1.4km az=157.0*
*LJU **24** 22:55:32.5, 45.61N×15.31E, h8km, ML2.1*
*VIE **24** 22:55:33.1±0.5, 45.63N×15.30E, h4km, mb1.9/7, ML2.1/8, Error ellipse: s-maj=3.5km s-min=1.8km az=151.0*
*ROM **24** 22:55:33.0±0.5, 45.73N×15.43E, h5km, Ml2.1/4, Error ellipse: s-maj=17.5km s-min=4.5km az=27.0*
ISC 24 22:55:33.1±0.9, 45.61N±0.02×15.31E±0.01, h4km±8km**, n87, σ0s53/140, 2C-4D, Northwestern Balkan Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OZLJ	**Ozalj**	**0.11**	**89**	*i* Pg	**Pg**	**22 55 35.0**	**-0.2**
OZLJ				Sg	**Sg**	**22 55 36.5**	**-0.2**
BOJS	**Bojanci**	**0.12**	**202**	⇓*i*Pg	**Pg**	**22 55 35.3**	**-0.1**
BOJS				*i* Sg	**Sg**	**22 55 37.2**	**+0.2**
	comp=Z,1μm,0.1s						
BOJS	**Bojanci**	**0.12**	**202**	⇓*i*Pg	**Pg**	**22 55 35.3**	**-0.1**
BOJS				*i* Sg	**Sg**	**22 55 37.2**	**+0.2**
	comp=Z,1μm,0.1s						
CRES	**Cresnjev**	**0.23**	**25**	*i* Pg	**Pg**	**22 55 37.0**	**-0.6**
CRES				*e*Sg	**Sg**	**22 55 41.0**	**+0.2**
	comp=Z,171nm,0.1s						
CRES	**Cresnjev**	**0.23**	**25**	*i* Pg	**Pg**	**22 55 37.0**	**-0.6**
CRES				*e*Sg	**Sg**	**22 55 40.9**	**+0.2**
GCIS	**Gornji Cirnik**	**0.34**	**41**	*e*Pg	**Pg**	**22 55 39.4**	**-0.1**
GCIS				*i* Sg	**Sg**	**22 55 44.3**	**+0.4**
	comp=Z,52nm,0.1s						
GCIS	**Gornji Cirnik**	**0.34**	**41**	*e*Pg	**Pg**	**22 55 39.4**	**-0.1**
GCIS				*i* Sg	**Sg**	**22 55 44.3**	**+0.4**
	comp=Z,52nm,0.1s						
LEGS	**Legarje**	**0.34**	**0**	*i* Pg	**Pg**	**22 55 39.0**	**-0.5**
LEGS				*i* Sg	**Sg**	**22 55 44.1**	**+0.2**
LEGS	**Legarje**	**0.34**	**0**	*i* Pg	**Pg**	**22 55 39.0**	**-0.5**
LEGS				*i* Sg	**Sg**	**22 55 44.2**	**+0.2**
GBRS	**Gornja Briga**	**0.36**	**257**	⇓*i*Pg	**Pg**	**22 55 40.3**	**+0.2**
GBRS				*i* Sg	**Sg**	**22 55 45.1**	**+0.3**
	comp=Z,46nm,0.1s						
CESS	**Cesta pri Krsk**	**0.37**	**16**	*i* Pg	**Pg**	**22 55 40.1**	**-0.2**
	comp=Z,104nm,0.1s						
CESS	**Cesta pri Krsk**	**0.37**	**16**	*i* Pg	**Pg**	**22 55 40.1**	**-0.2**
	comp=Z,104nm,0.1s						

VISS	**Visnje**	**0.38**	**300**	*i* Pg	**Pg**	**22 55 40.4**	**0.0**
VISS				*i* Sg	**Sg**	**22 55 46.0**	**+0.5**
	comp=Z,40nm,0.1s						
VISS	**Visnje**	**0.38**	**300**	*i* Pg	**Pg**	**22 55 40.4**	**0.0**
VISS				*i* Sg	**Sg**	**22 55 46.0**	**+0.5**
	comp=Z,40nm,0.1s						
GOLS	**Golise**	**0.45**	**29**	*i* Pg	**Pg**	**22 55 41.7**	**-0.1**
GOLS				*e*Sg	**Sg**	**22 55 48.4**	**+0.7**
	comp=Z,62nm,0.2s						
GOLS	**Golise**	**0.45**	**29**	*i* Pg	**Pg**	**22 55 41.7**	**-0.1**
GOLS				*e*Sg	**Sg**	**22 55 48.4**	**+0.7**
	comp=Z,62nm,0.2s						
PDKS	**Podkum**	**0.50**	**334**	*i* Pg	**Pg**	**22 55 42.5**	**-0.1**
PDKS				*i* Sg	**Sg**	**22 55 49.6**	**+0.4**
	comp=Z,42nm,0.1s						
PDKS	**Podkum**	**0.50**	**334**	*i* Pg	**Pg**	**22 55 42.5**	**-0.1**
PDKS				*i* Sg	**Sg**	**22 55 49.6**	**+0.4**
	comp=Z,42nm,0.1s						
ZAG	**Zagreb**	**0.52**	**65**	*e*Pg	**Pg**	**22 55 43.0**	**0.0**
ZAG				*e*Sg	**Sg**	**22 55 50.5**	**+0.8**
DOBS	**Dobrina**	**0.55**	**11**	*i* Pg	**Pg**	**22 55 43.5**	**-0.1**
DOBS	**Dobrina**	**0.55**	**11**	*i* Pg	**Pg**	**22 55 43.5**	**-0.1**
CEY	**Cerknica**	**0.63**	**282**	*e*Pg	**Pg**	**22 55 45.1**	**-0.1**
CEY	**Cerknica**	**0.63**	**282**	*e*Pg	**Pg**	**22 55 45.2**	**-0.1**
CEY				*e*Sg	**Sg**	**22 55 54.2**	**+0.7**
VNDS	**Vrh nad Dolski**	**0.65**	**319**	*i* Pg	**Pg**	**22 55 45.5**	**0.0**
VNDS	**Vrh nad Dolski**	**0.65**	**319**	*i* Pg	**Pg**	**22 55 45.5**	**0.0**
KNDS	**Knezji Dol**	**0.66**	**263**	*e*Pg	**Pg**	**22 55 45.6**	**-0.2**
KNDS				*e*Sg	**Sg**	**22 55 54.5**	**+0.2**
	comp=Z,22nm,0.2s						
KNDS	**Knezji Dol**	**0.66**	**263**	*e*Pg	**Pg**	**22 55 45.6**	**-0.2**
KNDS				*e*Sg	**Sg**	**22 55 54.5**	**+0.2**
	comp=Z,22nm,0.2s						
GBAS	**Gorenja Brezov**	**0.69**	**298**	*i* Pg	**Pg**	**22 55 46.0**	**-0.3**
GBAS	**Gorenja Brezov**	**0.69**	**298**	*i* Pg	**Pg**	**22 55 46.0**	**-0.3**
LJU	**Ljubljana**	**0.70**	**308**	*i* Pg	**Pg**	**22 55 46.5**	**0.0**
	comp=Z,27nm,0.1s						
LJU	**Ljubljana**	**0.70**	**308**	⇓*i*Pg	**Pg**	**22 55 46.4**	**0.0**
LJU				*e*Sg	**Sg**	**22 55 55.4**	**-0.1**
SISC	**Sisak**	**0.76**	**101**	*e*Pg	**Pg**	**22 55 47.5**	**-0.1**
SISC				Sg	**Sg**	**22 55 57.8**	**+0.4**
SISC	**Sisak**	**0.76**	**101**	*e*Pg	**Pg**	**22 55 47.5**	**-0.1**
SISC				Sg	**Sg**	**22 55 57.8**	**+0.4**
GROS	**Grobnik**	**0.86**	**9**	*i* Pg	**Pg**	**22 55 49.2**	**-0.3**
GROS	**Grobnik**	**0.86**	**9**	*i* Pg	**Pg**	**22 55 49.2**	**-0.3**
CRNS	**Crni Vrh**	**0.87**	**303**	*i* Pg	**Pg**	**22 55 49.7**	**-0.1**
CRNS	**Crni Vrh**	**0.87**	**303**	*i* Pg	**Pg**	**22 55 49.7**	**-0.1**
MOZS	**Mozjanca**	**0.91**	**319**	*e*Pg	**Pg**	**22 55 50.4**	**-0.2**
	comp=Z,25nm,0.2s						
MOZS	**Mozjanca**	**0.91**	**319**	*e*Pg	**Pg**	**22 55 50.4**	**-0.2**
	comp=Z,25nm,0.2s						
SKDS	**Skadanscina**	**0.92**	**266**	*e*Pg	**Pg**	**22 55 49.9**	**-0.7**
SKDS				*e*Sg	**Sg**	**22 56 02.7**	**+0.3**
	comp=Z,18nm,0.2s						
SKDS	**Skadanscina**	**0.92**	**266**	*e*Pg	**Pg**	**22 55 49.9**	**-0.7**
SKDS				*e*Sg	**Sg**	**22 56 02.7**	**+0.3**
	comp=Z,18nm,0.2s						
JAVS	**Javornik**	**0.92**	**288**	*i* Pg	**Pg**	**22 55 50.8**	**+0.1**
JAVS	**Javornik**	**0.92**	**288**	*i* Pg	**Pg**	**22 55 50.8**	**+0.1**
PERS	**Pernice**	**1.03**	**352**	⇑*i*Pg	**Pg**	**22 55 52.6**	**-0.2**
PERS				*e*Sg	**Sb**	**22 56 07.2**	**-0.2**
	comp=Z,68nm,0.2s						
PERS	**Pernice**	**1.03**	**352**	⇑*i*Pg	**Pg**	**22 55 52.6**	**-0.2**
PERS				*e*Sg	**Sb**	**22 56 07.2**	**-0.2**
	comp=Z,68nm,0.2s						
OBKA	**Obir**	**1.04**	**330**	Pg	**Pb**	**22 55 53.6**	**-0.1**
	comp=Z,9.4nm,0.1s,SNR=46						
OBKA				Sg	**Sn**	**22 56 08.2**	**-1.4**
	comp=Z,23nm,0.2s						
KOGS	**Kog**	**1.06**	**38**	*i* Pg	**Pg**	**22 55 53.2**	**-0.2**
KOGS				*e*Sg	**Sb**	**22 56 08.2**	**0.0**
	comp=Z,56nm,0.3s						
KOGS	**Kog**	**1.06**	**38**	*i* Pg	**Pg**	**22 55 53.2**	**-0.2**
KOGS				*e*Sg	**Sb**	**22 56 08.1**	**0.0**
	comp=Z,56nm,0.3s						
SOKA	**Soboth**	**1.08**	**350**	Pg	**Pg**	**22 55 53.6**	**-0.2**
	comp=Z,6.5nm,0.3s,SNR=32						
SOKA				Sg	**Sb**	**22 56 08.2**	**-0.7**
	comp=Z,16nm,0.4s						
VOJS	**Vojsko**	**1.08**	**293**	*i* Pg	**Pg**	**22 55 53.6**	**-0.3**
VOJS	**Vojsko**	**1.08**	**293**	*i* Pg	**Pg**	**22 55 53.6**	**-0.3**
TRI	**Trieste**	**1.09**	**276**	*e*Pg	**Pg**	**22 55 54.0**	**0.0**
TRI	**Trieste**	**1.09**	**276**	*e*Pg	**P

s-maj=48.8km s-min=21.4km az=146.0
*ISCJB **24** 23:07:44.2±0.6, 36°.65N±0°.04×70°.25E±0°.07, h204km, mb3.5/4, Error ellipse: s-maj=8.4km s-min=5.5km az=162.3*
*NNC **24** 23:07:53.0±5.5, 37°.83N×70°.00E, h392km±203km, mb1.9, mpv3.4, Error ellipse: s-maj=150.6km s-min=41.2km az=176.0*

ISC 24 23:07:45.1±0.8, **36°.65N**±0°.08×**70°.28E**±0°.08, **h204**km, **n24,** σ1§**15**/28, **mb3.8**/4, **3C-3D**, **Hindu Kush region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MNAS	**Manas**	**6.08**	**16**	⇑P	**Pn**	**23 09 14.5**	**+1.1**
	1.7nm,0.5s						
MNAS				⇓S	**S**	**23 10 22.1**	**-1.2**
	10nm,0.4s						
KK31	**Karatay Array**	**6.45**	**2**	⇑P	**Pn**	**23 09 19.3**	**+1.2**
	0.8nm,0.3s,baz=178,slow=12,SNR=11						
KK31				⇑S	S	23 10 26.7	-5.0
	2.6nm,0.4s,baz=188,slow=26,SNR=7.1						
AAK	**Ala-Archa**	**6.81**	**27**	P	**Pn**	**23 09 23.5**	**+0.6**
	1.5nm,0.3s,baz=194,slow=3.7,SNR=11						
AAK				S	**S**	**23 10 39.4**	**-1.0**
	1.6nm,0.3s,baz=318,slow=20,SNR=26						
AAK	**Ala-Archa**	**6.81**	**27**	P	**Pn**	**23 09 23.3**	**+0.4**
	3.0nm,0.6s						
AAK				S	**S**	**23 10 38.4**	**-2.0**
	12nm,0.5s						
TKM2	**Tokmak 2**	**7.48**	**32**	⇓P	**Pn**	**23 09 32.1**	**+0.4**
	4.8nm,0.5s						
TKM2				⇓S	**S**	**23 10 54.3**	**-2.1**
	5.9nm,0.9s						
GEYT	**Alibeck**	**9.77**	**281**	P	**Pn**	**23 09 59.4**	**-1.9**
	0.2nm,0.3s,baz=110,slow=25,SNR=3.6						
MKAR	**Makanchi Array**	**13.52**	**38**	P	**Pn**	**23 10 48.6**	**-0.2**
	0.1nm,0.3s,baz=210,slow=9.3,SNR=5.4						
GKN	**Gorkha**	**14.88**	**121**	*e*P	**P**	**23 11 06.2**	**-0.3**
	9.9nm,0.4s						
KURBB	**Kurchatov Arra**	**15.18**	**20**	P	**Pn**	**23 11 08.9**	**-0.1**
	0.1nm,0.3s,baz=212,slow=10,SNR=3.8						
DMN	**Daman**	**15.45**	**121**	*e*P	**P**	**23 11 13.6**	**+0.7**
KKN	**Kakani**	**15.45**	**121**	*e*P	**P**	**23 11 13.6**	**+0.7**
	12nm,0.3s						
PKIN	**Phulchoki**	**15.67**	**121**	*e*P	**Pn**	**23 11 15.9**	**+0.4**
	11nm,0.3s						
PKI	**Pulchoki**	**15.68**	**121**	*e*P	**Pn**	**23 11 16.1**	**+0.4**
	24nm,0.5s						
GUN	**Gumba**	**15.80**	**119**	*e*P	**Pn**	**23 11 17.6**	**+0.5**
JIRN	**Jiri**	**16.17**	**119**	*e*P	**Pn**	**23 11 22.1**	**+0.5**
	233nm,0.5s						
AKTO	**Aktyubinsk**	**16.37**	**331**	P	**P**	**23 11 24.4**	**+1.9**
	0.3nm,0.3s,baz=139,slow=12,SNR=12						
BVAR	**Borovoye Array**	**16.38**	**0**	P	**P**	**23 11 24.0**	**+1.4**
	0.4nm,0.3s,baz=166,slow=18,SNR=5.8						
TAPN	**Taplejung**	**17.43**	**117**	*e*P	**Pn**	**23 11 34.8**	**-1.7**
	7.7nm,0.5s						
ODAN	**Odare**	**17.50**	**119**	*e*P	**Pn**	**23 11 36.5**	**-0.8**
ZALV	**Zalesovo Beam**	**20.03**	**26**	P	**P**	**23 12 03.2**	**+1.1**
	1.8nm,0.3s,baz=210,slow=11,SNR=12						
ARU	**Arti**	**21.31**	**342**	P	**P**	**23 12 16.2**	**+0.5**
	1.8nm,0.5s,baz=141,slow=4.9,SNR=4.3						
FINES	**FINESS Array B**	**37.04**	**326**	P	**P**	**23 14 36.0**	**+1.1**
	2.3nm,0.9s,baz=108,slow=8.9,SNR=4.4						
ARCES	**ARCESS Array B**	**40.79**	**338**	P	**P**	**23 15 07.0**	**+1.0**
	2.1nm,0.8s,baz=102,slow=8.4,SNR=3.5						
TORD	**Torodi Ar. Bea**	**65.14**	**268**	P	**P**	**23 18 03.8**	**-0.7**
	0.2nm,0.5s,baz=43,slow=5.1,SNR=4.1						

*ISCJB **24** 23:20:08.7±0.7, 67°.66N±0°.04×20°.4E±0°.1, h0km, Error ellipse: s-maj=6.4km s-min=4.5km az=36.2*
*IDC **24** 23:20:11.0±1.1, 67°.84N×20°.55E, h0km, mb1 3.0/4, mb1mx2.8/52, mbtmp3.0/4, ML2.4/4, Error ellipse: s-maj=17.2km s-min=6.7km az=123.0*
*HEL **24** 23:20:11.9±0.6, 67°.91N×20°.20E, h0km, ML1.8, Explosion*

ISC 24 23:20:09.8±1.0, **67°.79N**±0°.04×**20°.20E**±0°.06, **h0**km, **n12,** σ1§**39**/20, **Sweden**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LANU	**Lannavaara**	**0.73**	**68**	PG	**Pb**	**23 20 24.2**	**-1.0**
	baz=260						
LANU				SG	**Sg**	**23 20 33.4**	**+0.4**
KIF	**Kilpisjarvi**	**1.25**	**10**	PN	**Pn**	**23 20 35.2**	**+0.8**
KIF				SN	**Sg**	**23 20 49.6**	**-0.1**
HEF	**Hetta**	**1.44**	**63**	PG	**Pg**	**23 20 37.0**	**-0.3**
HEF				MSG		23 20 53.6	
	comp=Z,7.6nm,0.2s						
HEF				SG	**Sg**	**23 20 55.4**	**-0.6**
TOF	**Tornio**	**2.36**	**135**	PN	**Pb**	**23 20 52.5**	**-0.6**
TOF				SB	**Sg**	**23 21 24.3**	**-1.2**
RNF	**Rovaniemi**	**2.56**	**115**	PG	**Pb**	**23 20 57.1**	**+0.7**
	baz=302						
RNF				SG	**Sg**	**23 21 31.2**	**-0.5**
ARCES	**ARCESS Array B**	**2.62**	**45**	Pn	**Pn**	**23 20 54.3**	**+1.0**
	comp=Z,0.6nm,0.3s,baz=226,slow=16,SNR=4.0						
ARCES				Lg	Lg	23 21 28.1	
	comp=Z,2.6nm,0.3s,baz=228,slow=24,SNR=11						
KEV	**Kevo**	**3.17**	**48**	SN	**Sn**	**23 21 40.1**	**+0.9**
KEV				MSG		23 21 42.6	
	comp=Z,3.4nm,0.2s						
MSF	**Maaselka**	**3.97**	**114**	SG	**Sg**	**23 22 14.9**	**-2.1**
KU6	**Riekki**	**4.21**	**110**	PG	**Pb**	**23 21 26.5**	**+2.0**
KU6				SG	**Sg**	**23 22 22.6**	**-2.1**
FINES	**FINESS Array B**	**6.85**	**156**	Pn	**Pn**	**23 21 54.0**	**+2.8**
	comp=Z,0.1nm,0.3s,baz=348,slow=17,SNR=5.0						
FINES				Sn	**Sn**	**23 23 10.2**	**+0.4**
	comp=Z,0.1nm,0.3s,baz=350,slow=23,SNR=2.6						
FINES				Lg	Lg	23 23 44.3	
	comp=Z,0.2nm,0.3s,baz=342,slow=27,SNR=4.2						
NOA	**NORSAR Array B**	**7.80**	**214**	Pn	**Pn**	**23 22 06.4**	**+2.0**
	comp=Z,0.1nm,0.3s,baz=15,slow=13,SNR=3.2						
NOA				Lg	Lg	23 24 17.9	
	comp=Z,0.4nm,0.3s,baz=41,slow=17,SNR=4.6						
HFS	**Hagfors**	**8.19**	**203**	Pn	**Pn**	**23 22 09.0**	**-0.7**
	comp=Z,0.1nm,0.3s,baz=5.7,slow=16,SNR=3.6						
HFS				Sn	**Sn**	**23 23 42.0**	**-0.8**
	comp=Z,0.1nm,0.3s,baz=19,slow=27,SNR=4.2						
HFS				Lg	Lg	23 24 29.6	
	comp=Z,0.2nm,0.3s,baz=27,slow=29,SNR=4.0						

IDC 24 23:26:10.2±2.0, **8°.60S**×**119°.60E**, **h0**km, **mb3.5**/2, **mb1 3.6**/4, **mb1mx3.3**/40, **mbtmp3.4**/4, **ML3.2**/2, **Error ellipse: s-maj=184.1km s-min=24.1km az=54.0, Flores region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**11.13**	**149**	Pn	Pn	23 28 51.1	+0.4
	0.1nm,0.3s,baz=327,slow=6.6,SNR=3.0						
FITZ				Sn	Sn	23 30 43.3	-13
	0.2nm,0.3s,baz=189,slow=16,SNR=9.3						
WRA	**Warramunga Arr**	**18.18**	**130**	P	Pn	23 30 24.2	-0.2
	0.1nm,0.3s,baz=304,slow=13,SNR=3.3						
WRA				S	Sn	23 33 32.7	-15
	0.1nm,0.3s,baz=302,slow=24,SNR=3.4						
ASAR	**Alice Springs**	**20.30**	**139**	P	P	23 30 47.9	0.0
	2.2nm,0.3s,baz=314,slow=8.9,SNR=29						
MKAR	**Makanchi Array**	**64.37**	**332**	P	P	23 36 48.0	-0.1
	0.2nm,0.5s,baz=143,slow=5.2,SNR=2.9						

*IDC **24** 23:29:34.6±1.6, 2°.54S×127°.42E, h0km, mb3.9/4, mb1 4.2/6, mb1mx3.8/30, mbtmp4.1/6, ML4.0/1, Error ellipse: s-maj=152.3km s-min=14.4km az=70.0*
*ISCJB **24** 23:29:37.3±0.6, 2°.53S±0°.09×127°.3E±0°.2, h29km, mb4.2/7, Error ellipse: s-maj=23.0km s-min=10.6km az=159.1*
*NEIC **24** 23:29:40.0±0.4, 2°.54S×127°.24E, h35km, mb4.2/5, Error ellipse: s-maj=15.6km s-min=7.3km az=69.0*

ISC 24 23:29:39.2±0.8, **2°.5S**±0°.1×**127°.3E**±0°.2, **h29**km, **n12,** σ0§**41**/13, **mb4.3**/7, **Ceram Sea**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**15.57**	**186**	Pn	**Pn**	**23 33 16.6**	**-0.1**
	baz=10,slow=7.7						
KSM	**Kuching**	**17.40**	**283**	*e*Pn	**Pn**	**23 33 39.8**	**-0.3**
	23nm,1.7s						
WRAB	**Tennant Creek**	**18.64**	**159**	*e*P	**P**	**23 33 55.0**	**+0.1**
	8.7nm,1.2s						
WRA	**Warramunga Arr**	**18.65**	**159**	P	**P**	**23 33 54.9**	**-0.1**
	0.5nm,0.3s,baz=338,slow=12,SNR=15						
ASAR	**Alice Springs**	**21.99**	**164**	P	**P**	**23 34 30.7**	**-0.4**
	4.5nm,0.7s,baz=341,slow=12,SNR=58						
ASAR				S	**S**	**23 38 32.6**	**+0.1**
	1.1nm,1.0s,baz=347,slow=20,SNR=4.4						
ULN	**Ulaanbaatar**	**53.20**	**343**	P	**P**	**23 38 55.2**	**+0.2**
	7.2nm,1.7s						
MKAR	**Makanchi Array**	**63.00**	**327**	P	**P**	**23 40 04.2**	**+0.7**
	1.7nm,0.6s,baz=128,slow=8.2,SNR=18						
ZALV	**Zalesovo Beam**	**66.38**	**334**	P	**P**	**23 40 25.0**	**-0.3**
	0.4nm,0.3s,baz=120,slow=5.3,SNR=4.3						
VNDA	**Vanda**	**77.20**	**173**	P	**P**	**23 41 30.5**	**+0.5**
	0.5nm,0.8s,baz=299,slow=3.7,SNR=4.2						
MCK	**McKinley**	**89.50**	**26**	P	**P**	**23 42 32.9**	**-0.6**
	1.3nm,0.8s						
COLA	**College**	**90.09**	**25**	P	**P**	**23 42 36.1**	**0.0**
	16nm,1.8s						
TORD	**Torodi Ar. Bea**	**125.16**	**284**	PKP	**PKPdf**	**23 48 37.8**	**-0.2**
	0.4nm,0.9s,baz=94,slow=3.2,SNR=1.6						

*TEH **24** 23:34:24.4, 29°.55N×52°.15E, h2km, ML2.8*
*ISCJB **24** 23:34:25.8±0.5, 29°.60N±0°.04×52°.25E±0°.05, h25km, Error ellipse: s-maj=6.1km s-min=5.5km az=144.8*
*CSEM **24** 23:34:25.0±0.3, 29°.65N×52°.22E, h2km, ML2.8, Error ellipse: s-maj=7.6km s-min=5.3km az=57.0*

ISC 24 23:34:26.8±1.0, **29°.62N**±0°.04×**52°.28E**±0°.05, **h25**km, **n26,** σ1§**39**/33, **Southern Iran**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SHI	**Shiraz**	**0.21**	**83**	*e*Pg	**Pb**	**23 34 30.4**	**-2.4**
SHI				*e*Sg	**Sb**	**23 34 34.8**	**-2.0**
ISRV	**Sarvestan**	**0.77**	**108**	*e*Pg	**Pb**	**23 34 40.4**	**-1.4**
ISRV				*e*Sg	**Sb**	**23 34 50.4**	**-1.5**
ISRV				*e*AMB	AMB	23 35 04.3	
	comp=Z,4μm,0.1s						
ISRV	**Sarvestan**	**0.77**	**108**	*e*Pg	**Pb**	**23 34 40.4**	**-1.4**
ISRV				*e*Sg	**Sb**	**23 34 50.4**	**-1.5**
AHBU	**AHRAM**	**1.14**	**229**	*e*Pg	**Pn**	**23 34 47.1**	**-0.1**
GHIR	**Ghir-Karzin**	**1.47**	**155**	*e*Pg	**Pb**	**23 34 53.8**	**+0.3**
GHIR				*e*Sg	**Sb**	**23 35 15.0**	**+3.2**
IRAM	**Ramesheh**	**2.19**	**2**	*e*Pn	**Pn**	**23 35 02.3**	**+0.5**
IRAM				*e*Sg	**Sb**	**23 35 34.7**	**+2.1**
IRAM				*e*AMB	AMB	23 35 40.6	
	comp=Z,540nm,0.2s						
IRAM	**Ramesheh**	**2.19**	**2**	*e*Pn	**Pn**	**23 35 02.3**	**+0.5**
IRAM				*e*Sg	**Sb**	**23 35 34.7**	**+2.1**
IMEH	**Mehriz**	**2.68**	**48**	*e*Pn	**Pn**	**23 35 10.6**	**+2.0**
IMEH				*e*AMB	AMB	23 35 17.5	
	comp=Z,313nm,0.1s						
IMEH	**Mehriz**	**2.68**	**48**	*e*Pn	**Pn**	**23 35 10.6**	**+2.0**
IGAR	**Gharneh**	**2.78**	**356**	*e*Pn	**Pn**	**23 35 10.6**	**+0.6**
IGAR				*e*AMB	AMB	23 35 13.1	
	comp=Z,265nm,0.1s						
ICHK	**Chekchek**	**3.19**	**34**	*e*Pn	**Pn**	**23 35 17.0**	**+1.3**
ICHK				*e*AMB	AMB	23 35 34.1	
	comp=Z,156nm,0.2s						
ICHK	**Chekchek**	**3.19**	**34**	*e*Pn	**Pn**	**23 35 17.0**	**+1.3**
NASN	**Na'in**	**3.20**	**8**	*e*Pn	**Pn**	**23 35 15.3**	**-0.6**
IZEF	**Zefreh**	**3.27**	**1**	*e*Pn	**Pn**	**23 35 17.1**	**+0.4**
IZEF				*e*AMB	AMB	23 35 20.5	
	comp=Z,98nm,0.1s						
IZEF	**Zefreh**	**3.27**	**1**	*e*Pn	**Pn**	**23 35 17.1**	**+0.4**
IPIR	**Pirpir**	**3.28**	**339**	*e*Pn	**Pn**	**23 35 16.6**	**-0.3**
IPIR				*e*AMB	AMB	23 35 58.8	
	comp=Z,162nm,0.2s						
IPIR	**Pirpir**	**3.28**	**339**	*e*Pn	**Pn**	**23 35 16.6**	**-0.3**
IBAF	**Bafgh**	**3.45**	**54**	*e*Pn	**Pn**	**23 35 21.0**	**+1.8**
IBAF				*e*AMB	AMB	23 35 32.5	
	comp=Z,168nm,0.2s						
IBAF	**Bafgh**	**3.45**	**54**	*e*Pn	**Pn**	**23 35 21.0**	**+1.8**
IKLH	**Kolahrood**	**3.74**	**351**	*e*Pn	**Pn**	**23 35 23.3**	**+0.1**
IKLH				*e*AMB	AMB	23 35 26.0	
	comp=Z,158nm,0.1s						
IKLH	**Kolahrood**	**3.74**	**351**	*e*Pn	**Pn**	**23 35 23.3**	**+0.1**
KFJS		**4.06**	**250**	P	**Pn**	**23 35 27.7**	**+0.4**
QAM	**Ghamsar**	**4.19**	**350**	*e*Pn	**Pn**	**23 35 30.1**	**+0.7**
QAM				*e*AMB	AMB	23 35 33.4	
	comp=Z,423nm,0.1s						
KHMZ	**Khomeyn**	**4.56**	**335**	*e*Pn	**Pn**	**23 35 34.2**	**-0.2**
ASAO	**Ashtian**	**5.27**	**339**	*e*Pn	**Pn**	**23 35 43.6**	**-0.7**
BTHS		**5.70**	**193**	S	**Sn**	**23 36 54.8**	**+0.4**
BTHS				P	**Pn**	**23 35 50.0**	**+0.1**

*ISCJB **24** 23:38:39.2±0.2, 48°.33N±0°.01×6°.63E±0°.02, h15km±2km, Error ellipse: s-maj=2.4km s-min=1.8km az=172.1*
*CSEM **24** 23:38:40.6±0.1, 48°.32N×6°.63E, h10km, ML2.7/21, Error ellipse: s-maj=2.7km s-min=1.8km az=172.0*
*BGR **24** 23:38:41.8±0.5, 48°.34N×6°.69E, h5km±2km, ML2.3/10, Error ellipse: s-maj=6.7km s-min=4.4km az=70.0*
*STR **24** 23:38:41.3±0.1, 48°.35N×6°.68E, h5km, Ml2.4, Error ellipse: s-maj=0.0km s-min=0.0km az=0.0*
*LDG **24** 23:38:41.7±0.1, 48°.33N×6°.65E, h10km, Md3.0/7, Ml2.8/16, Error ellipse: s-maj=1.4km s-min=0.9km az=175.0*

ISC 24 23:38:41.3±1.0, **48°.35N**±0°.01×**6°.67E**±0°.01, **h17**km±2km, **n129,** σ2§**01**/215, **France**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ECH	**Echery**	**0.35**	**111**	Pg	**Pg**	**23 38 48.7**	**+0.1**
ECH				Sg	**Sg**	**23 38 53.4**	**-0.2**
ECH	**Echery**	**0.35**	**111**	Pg	**Pg**	**23 38 48.7**	**+0.1**
ECH				Sg	**Sg**	**23 38 53.4**	**-0.2**
HAU	**Haudompre**	**0.40**	**213**	*e*Pg	**Pg**	**23 38 49.2**	**-0.4**
	SNR=1.0						
HAU				*e*Sg	**Sg**	**23 38 54.2**	**-0.9**
	61nm,0.2s						
HAU	**Haudompre**	**0.40**	**213**	*e*Pg	**Pg**	**23 38 49.2**	**-0.4**
	SNR=1.0						
HAU				*e*Sg	**Sg**	**23 38 54.2**	**-0.9**
	30nm,0.2s						
CDF	**Champ du Feu**	**0.41**	**80**	*e*Pg	**Pg**	**23 38 49.7**	**0.0**
	SNR=1.0						
CDF				*e*Sg	**Sg**	**23 38 55.4**	**0.0**
	40nm,0.2s,SNR=1.0						
CDF	**Champ du Feu**	**0.41**	**80**	*e*Pg	**Pg**	**23 38 49.7**	**0.0**
	SNR=1.0						
CDF				*e*Sg	**Sg**	**23 38 55.4**	**0.0**
	20nm,0.2s,SNR=1.0						
THEF	**They Montfort**	**0.47**	**256**	Pg	**Pg**	**23 38 50.2**	**-0.6**
THEF				Sg	**Sg**	**23 38 57.0**	**-0.2**
HINF	**Hinteralfeld**	**0.54**	**167**	*e*Pg	**Pg**	**23 38 51.8**	**-0.3**
	SNR=1.0						
HINF				*e*Sg	**Sg**	**23 38 58.5**	**-0.9**
	83nm,0.2s,SNR=1.0						
HINF				*e*Sn	**Sb**	**23 39 01.7**	**+1.8**
	27nm,0.2s						
HINF	**Hinteralfeld**	**0.54**	**167**	*e*Pg	**Pg**	**23 38 51.8**	**-0.3**
	SNR=1.0						
HINF				*e*Sg	**Sg**	**23 38 58.5**	**-0.9**
	42nm,0.2s,SNR=1.0						
HINF				*e*Sn	**Sb**	**23 39 01.7**	**+1.8**
	14nm,0.2s						
MOF	**Molkenrain**	**0.58**	**148**	Pg	**Pg**	**23 38 52.5**	**-0.4**
MOF				Sg	**Sg**	**23 39 00.5**	**-0.2**
MOF	**Molkenrain**	**0.58**	**148**	Pg	**Pg**	**23 38 52.5**	**-0.4**
MOF				Sg	**Sg**	**23 39 00.5**	**-0.2**
PAGF	**Fort de Pagny**	**0.66**	**289**	*e*Pg	**Pg**	**23 38 54.7**	**+0.3**
	baz=114						
PAGF				*e*Sg	**Sg**	**23 39 03.5**	**+0.3**
	4.0nm,0.2s,baz=117						
PAGF	**Fort de Pagny**	**0.66**	**289**	*e*Pg	**Pg**	**23 38 54.7**	**+0.3**
PAGF				*e*Sg	**Sg**	**23 39 03.5**	**+0.3**
	2.0nm,0.2s						
LANF	**Langenberg**	**0.98**	**49**	Pg	**Pg**	**23 39 00.6**	**+0.2**
LANF				Sg	**Sg**	**23 39 13.1**	**-0.3**
LANF	**Langenberg**	**0.98**	**49**	Pg	**Pg**	**23 39 00.6**	**+0.2**
LANF				Sg	**Sg**	**23 39 13.1**	**-0.3**
LOMF	**Lomont**	**1.00**	**174**	Pg	**Pg**	**23 39 00.5**	**-0.2**
LOMF				Sg	**Sg**	**23 39 13.4**	**-0.4**
LOMF	**Lomont**	**1.00**	**174**	Pg	**Pg**	**23 39 00.5**	**-0.2**
LOMF				Sg	**Sg**	**23 39 13.4**	**-0.4**
FELD	**Feldberg im Sc**	**1.01**	**117**	Pg	**Pg**	**23 39 00.9**	**0.0**
FELD				Sg	**Sg**	**23 39 13.7**	**-0.4**
MEZF	**Maizieres J'vi**	**1.09**	**279**	*e*Pn	**Pg**	**23 39 00.9**	**-1.5**
	baz=106,SNR=1.0						
MEZF	**Maizieres J'vi**	**1.09**	**279**	*e*Pg	**Pg**	**23 39 02.0**	**-0.4**
MEZF				*e*Sg	**Sg**	**23 39 16.8**	**+0.2**
	34nm,0.3s,baz=95,SNR=1.0						
MEZF	**Maizieres J'vi**	**1.09**	**279**	*e*Pn	**Pg**	**23 39 00.9**	**-1.5**
	SNR=1.0						
MEZF	**Maizieres J'vi**	**1.09**	**279**	*e*Pg	**Pg**	**23 39 02.0**	**-0.4**
MEZF				*e*Sg	**Sg**	**23 39 16.8**	**+0.2**
	17nm,0.3s,SNR=1.0						
SFTF	**Sexfontaines**	**1.10**	**263**	*e*Pn	**Pg**	**23 39 01.7**	**-0.9**
	baz=93						
SFTF	**Sexfontaines**	**1.10**	**263**	*e*Pg	**Pg**	**23 39 02.4**	**-0.2**
SFTF				*e*Sg	**Sg**	**23 39 16.8**	**-0.2**
	24nm,0.2s,baz=99						
SFTF	**Sexfontaines**	**1.10**	**263**	*e*Pn	**Pg**	**23 39 01.7**	**-0.9**
SFTF	**Sexfontaines**	**1.10**	**263**	*e*Pg	**Pg**	**23 39 02.4**	**-0.2**
SFTF				*e*Sg	**Sg**	**23 39 16.8**	**-0.2**
	12nm,0.2s						
BFO	**Black Forest**	**1.11**	**90**	*e*Pn	**Pg**	**23 39 01.5**	**-1.2**
	SNR=2.9						
BFO				*e*Pg	**Pg**	**23 39 03.0**	**+0.3**
	SNR=14						
BFO				*e*Sn	**Sg**	**23 39 15.1**	**-2.1**
	SNR=0.8						
BFO				*e*Sg	**Sb**	**23 39 17.4**	**+1.2**
	SNR=3.3						
BFO	**Black Forest**	**1.11**	**90**	Pn	**Pg**	**23 39 01.5**	**-1.2**
	SNR=2.9						
BFO	**Black Forest**	**1.11**	**90**	Pg	**Pg**	**23 39 03.0**	**+0.3**
	SNR=14						
BFO				Sn	**Sg**	**23 39 15.1**	**-2.1**
	SNR=0.8						
BFO				Sg	**Sb**	**23 39 17.4**	**+1.2**
	SNR=3.3						
BALST	**Balsthal**	**1.22**	**145**	*e*Pn	**Pg**	**23 39 04.9**	**0.0**
	SNR=3.7						
BALST				*e*Sg	**Sg**	**23 39 20.4**	**-0.5**
	SNR=11						
BALST	**Balsthal**	**1.22**	**145**	Pn	**Pg**	**23 39 04.9**	**0.0**
	SNR=3.7						
BALST				Sg	**Sg**	**23 39 20.4**	**-0.5**
	SNR=11						
SULZ	**Cheisacher**	**1.27**	**130**	*e*Pn	**Pn**	**23 39 05.1**	**+0.8**
	SNR=1.4						
SULZ				*e*Sg	**Sb**	**23 39 22.0**	**+1.2**
	SNR=8.1						
SULZ	**Cheisacher**	**1.27**	**130**	Pn	**Pn**	**23 39 05.1**	**+0.8**
	SNR=1.4						
SULZ				Sg	**Sb**	**23 39 22.0**	**+1.2**
	SNR=8.1						
KTD	**Kalmit**	**1.35**	**43**	Pg	**Pn**	**23 39 06.8**	**+1.4**
KTD				Sg	**Sb**	**23 39 25.3**	**+2.1**
SLE	**Schleitheim**	**1.35**	**115**	*e*Pn	**Pn**	**23 39 05.1**	**-0.4**
	SNR=20						
SLE				*e*Pg	**Pb**	**23 39 07.3**	**+1.1**
	SNR=13						
SLE				*e*Sg	**Sb**	**23 39 24.2**	**+1.0**
	SNR=5.4						
SLE	**Schleitheim**	**1.35**	**115**	Pn	**Pn**	**23 39 05.1**	**-0.4**
	SNR=20						
WLF	**Walferdange**	**1.36**	**346**	*e*Pn	**Pb**	**23 39 07.7**	**+1.3**
	SNR=6.6						
WLF				*e*Sg	**Sb**	**23 39 25.4**	**+1.9**
	SNR=3.5						
WLF	**Walferdange**	**1.36**	**346**	Pn	**Pb**	**23 39 07.7**	**+1.3**
	SNR=6.6						
WLF				Sg	**Sb**	**23 39 25.4**	**+1.9**
	SNR=3.5						
RUP	**Ruppelstein**	**1.38**	**11**	Pg	**Pn**	**23 39 07.7**	**+1.8**
RUP				Sg	**Sb**	**23 39 26.0**	**+1.9**
SPAK	**Spaichingen-Ko**	**1.44**	**99**	Pg	**Pb**	**23 39 09.0**	**+1.4**
SPAK				Sg	**Sg**	**23 39 28.1**	**+0.4**
STU	**Stuttgart**	**1.73**	**75**	*e*Sg	**Sb**	**23 39 37.0**	**+2.9**
	SNR=4.0						
STU	**Stuttgart**	**1.73**	**75**	Sg	**Sb**	**23 39 37.0**	**+2.9**
	SNR=4.0						
WILA	**Wila**	**1.77**	**121**	*e*Pg	**Pg**	**23 39 15.5**	**+0.2**
	SNR=6.6						
WILA				*e*Sg	**Sg**	**23 39 38.3**	**0.0**
	SNR=6.8						
WILA	**Wila**	**1.77**	**121**	Pg	**Pg**	**23 39 15.5**	**+0.2**
	SNR=6.6						
WILA				Sg	**Sg**	**23 39 38.3**	**0.0**
	SNR=6.8						
CABF	**La Chapelle**	**1.78**	**193**	*e*Pn	**Pn**	**23 39 11.1**	**-0.3**
CABF	**La Chapelle**	**1.78**	**193**	*e*Pg	**Pb**	**23 39 14.9**	**+1.4**
	SNR=1.0						
CABF				*e*Sg	**Sb**	**23 39 37.6**	**+2.1**
	13nm,0.4s,SNR=1.0						
CABF	**La Chapelle**	**1.78**	**193**	*e*Pn	**Pn**	**23 39 11.1**	**-0.3**
CABF	**La Chapelle**	**1.78**	**193**	*e*Pg	**Pb**	**23 39 14.9**	**+1.4**
	SNR=1.0						
CABF				*e*Sg	**Sb**	**23 39 37.6**	**+2.1**
	6.6nm,0.4s,SNR=1.0						
GIVF	**Givet**	**2.13**	**326**	*e*Pg	**Pb**	**23 39 21.4**	**+1.9**
GIVF				*e*Sg	**Sb**	**23 39 47.7**	**+2.0**
	9.5nm,0.3s						
GIVF	**Givet**	**2.13**	**326**	*e*Pg	**Pb**	**23 39 21.4**	**+1.9**
GIVF				*e*Sg	**Sb**	**23 39 47.7**	**+2.0**
	4.8nm,0.3s						
LOR	**Lormes**	**2.18**	**241**	*e*Pn	**Pn**	**23 39 15.9**	**-0.9**
	baz=67						
LOR	**Lormes**	**2.18**	**241**	*e*P	**Pn**	**23 39 18.6**	**+1.8**
	baz=62						
LOR	**Lormes**	**2.18**	**241**	*e*Pg	**Pb**	**23 39 22.5**	**+2

HYF	**Humbligny**	**2.92**	**250**	*e*Pg	**Pb**	**23 39 35.2**	**+2.3**
HYF				*e*Sn	**Sn**	**23 39 59.9**	**-1.8**
HYF				*e*Sg	**Sb**	**23 40 12.5**	**+4.1**
HYF	**Humbligny**	**2.92**	**250**	*e*Pg	**Pb**	**23 39 35.2**	**+2.3**
HYF				*e*Sn	**Sn**	**23 39 59.9**	**-1.8**
HYF				*e*Sg	**Sb**	**23 40 12.5**	**+4.1**
FUR	**Furstenfeldbru**	**3.08**	**92**	*e*Sg	**Sg**	**23 40 21.0**	**+0.7**
	SNR=2.6						
FUR	**Furstenfeldbru**	**3.08**	**92**	Sg	**Sg**	**23 40 21.0**	**+0.7**
	SNR=2.6						
MOTA	**Moosalm**	**3.15**	**107**	*i* Pn	**Pn**	**23 39 32.5**	**+2.3**
	0.3nm,0.2s						
MOTA				*i* Pg	**Pg**	**23 39 40.9**	**-0.7**
	2.7nm,0.2s						
MOTA				*e*Sg	**Sg**	**23 40 21.4**	**-1.0**
	2.0nm,0.2s						
MOTA	**Moosalm**	**3.15**	**107**	Pn	**Pn**	**23 39 32.5**	**+2.3**
	0.3nm,0.2s						
BGF	**Bois d'Agland**	**3.15**	**237**	*e*Pn	**Pn**	**23 39 28.9**	**-1.2**
BGF	**Bois d'Agland**	**3.15**	**237**	*e*P	**Pn**	**23 39 31.8**	**+1.7**
BGF	**Bois d'Agland**	**3.15**	**237**	*e*Pg	**Pb**	**23 39 39.1**	**+2.3**
BGF				*e*Sn	**Sn**	**23 40 05.4**	**-1.9**
BGF				*e*Sg	**Sg**	**23 40 20.0**	**-2.5**
	10nm,0.5s						
WATA	**Walderalm**	**3.46**	**105**	*e*Pg	**Pg**	**23 39 46.5**	**-1.0**
	0.7nm,0.2s						
WATA	**Walderalm**	**3.46**	**105**	Pg	**Pg**	**23 39 46.5**	**-1.0**
	0.7nm,0.2s						
ORIF	**Oris-en-Rattie**	**3.47**	**189**	*e*Pg	**Pb**	**23 39 45.8**	**+3.5**
ORIF				*e*Sg	**Sg**	**23 40 31.5**	**-1.2**
	2.1nm,0.2s						
ORIF	**Oris-en-Rattie**	**3.47**	**189**	*e*Pg	**Pb**	**23 39 45.8**	**+3.5**
ORIF				*e*Sg	**Sg**	**23 40 31.5**	**-1.2**
	1.0nm,0.2s						
MBDF	**Montbardon**	**3.62**	**179**	*e*Pg	**Pb**	**23 39 48.6**	**+3.7**
MBDF	**Montbardon**	**3.62**	**179**	*e*Pg	**Pb**	**23 39 48.6**	**+3.7**
TCF	**Toulx Ste Croi**	**3.67**	**238**	*e*Pn	**Pn**	**23 39 36.0**	**-1.2**
TCF	**Toulx Ste Croi**	**3.67**	**238**	*e*Pg	**Pb**	**23 39 49.3**	**+3.7**
TCF				*e*Sg	**Sb**	**23 40 34.9**	**+5.1**
	4.4nm,0.3s						
TCF	**Toulx Ste Croi**	**3.67**	**238**	*e*Pn	**Pn**	**23 39 36.0**	**-1.2**
TCF	**Toulx Ste Croi**	**3.67**	**238**	*e*Pg	**Pb**	**23 39 49.3**	**+3.7**
TCF				*e*Sg	**Sb**	**23 40 34.9**	**+5.1**
	2.2nm,0.3s						
VIVF	**Saint-Julien-l**	**3.75**	**202**	*e*Pg	**Pb**	**23 39 50.7**	**+3.6**
VIVF				*e*Sg	**Sg**	**23 40 38.8**	**-2.9**
	3.3nm,0.2s						
VIVF	**Saint-Julien-l**	**3.75**	**202**	*e*Pg	**Pb**	**23 39 50.7**	**+3.6**
VIVF				*e*Sg	**Sg**	**23 40 38.8**	**-2.9**
	1.6nm,0.2s						
ROTZ	**Rotzenmuhle**	**3.91**	**67**	*e*Sn	**Sn**	**23 40 23.4**	**-2.6**
	SNR=2.1						
ROTZ	**Rotzenmuhle**	**3.91**	**67**	Sn	**Sn**	**23 40 23.4**	**-2.6**
	SNR=2.1						
WET	**Wettzell**	**4.18**	**77**	*ex*	**Sn**	**23 40 31.3**	**-1.5**
WET				*e*SG	**Sg**	**23 40 52.9**	**-2.7**
WET	**Wettzell**	**4.18**	**77**	*e*Sn	**Sn**	**23 40 31.7**	**-1.2**
	SNR=3.8						
WET				*e*Sg	**Sg**	**23 40 53.1**	**-2.5**
	SNR=3.9						
WET	**Wettzell**	**4.18**	**77**	Sn	**Sn**	**23 40 31.7**	**-1.2**
	SNR=3.8						
WET				Sg	**Sg**	**23 40 53.1**	**-2.5**
	SNR=3.9						
WERN	**Wernitzgruen**	**4.21**	**60**	*e*Sg	**Sg**	**23 40 53.8**	**-2.6**
	SNR=3.7						
WERN	**Wernitzgruen**	**4.21**	**60**	Sg	**Sg**	**23 40 53.8**	**-2.6**
	SNR=3.7						
NKC	**Novy Kostel**	**4.23**	**61**	*e*SG	**Sg**	**23 40 54.0**	**-2.9**
	comp=Z,4.6nm,0.5s						
NKC	**Novy Kostel**	**4.23**	**61**	Sg	**Sg**	**23 40 54.0**	**-2.9**
	4.6nm,0.5s						
LDF	**La Druitiere**	**4.53**	**276**	*e*Pg	**Pb**	**23 40 04.3**	**+4.1**
LDF				*e*Sg	**Sg**	**23 41 02.2**	**-4.3**
LDF	**La Druitiere**	**4.53**	**276**	*e*Pg	**Pb**	**23 40 04.3**	**+4.1**
LDF				*e*Sg	**Sg**	**23 41 02.2**	**-4.3**
KHC	**Kasperske Hory**	**4.64**	**78**	*e*PG	**Pg**	**23 40 09.0**	**-1.1**
KHC				*e*SN	**Sn**	**23 40 40.7**	**-3.3**
KHC				*e*SG	**Sg**	**23 41 07.4**	**-2.7**
	comp=Z,1.6nm,0.4s						
KHC	**Kasperske Hory**	**4.64**	**78**	Pg	**Pg**	**23 40 09.0**	**-1.1**
KHC				Sg	**Sg**	**23 41 07.4**	**-2.7**
	1.6nm,0.4s						
CAF	**Calviac**	**4.66**	**225**	*e*Sg	**Sg**	**23 41 07.8**	**-3.2**
	1.7nm,0.2s						
CAF	**Calviac**	**4.66**	**225**	*e*Sg	**Sg**	**23 41 07.8**	**-3.2**
	0.9nm,0.2s						
RJF	**Les Rejaudoux**	**4.67**	**231**	*e*Sg	**Sg**	**23 41 06.8**	**-4.2**
RJF	**Les Rejaudoux**	**4.67**	**231**	*e*Sg	**Sg**	**23 41 06.8**	**-4.2**
GEC2	**GERESS Array S**	**4.69**	**81**	*e*Sn	**Sn**	**23 40 44.9**	**-0.6**
	SNR=1.9						
GEC2				*e*Sg	**Sg**	**23 41 09.7**	**-2.2**
	SNR=2.7						
GEC2	**GERESS Array S**	**4.69**	**81**	Sn	**Sn**	**23 40 44.9**	**-0.6**
	SNR=1.9						
GEC2				Sg	**Sg**	**23 41 09.7**	**-2.2**
	SNR=2.7						
LFF	**La Frestale**	**5.32**	**232**	*e*Sg	**Sg**	**23 41 28.1**	**-3.8**
	5.4nm,0.4s						
LFF	**La Frestale**	**5.32**	**232**	*e*Sg	**Sg**	**23 41 28.1**	**-3.8**
	2.7nm,0.4s						
CRES	**Cresnjev**	**6.51**	**110**	*i* Pg	Pg	23 40 53.5	+7.8
BOJS	**Bojanci**	**6.53**	**113**	*i* Pg	Pg	23 40 51.2	+5.1
BOJS				*i* Sg	Sn	23 40 53.3	-37
	comp=Z,3.0nm,0.0s						

*ISCJB **24** 23:55:55.2±0.3,21.°65N±0.°03×66.°59W±0.°05,h10km, mb4.1/7,Error ellipse: s-maj=6.9km s-min=3.8km az=159.9*
*NEIC **24** 23:55:57.3±0.3,21.°62N×66.°59W,h10km, mb4.6/18,Error ellipse: s-maj=7.4km s-min=3.8km az=71.0*
*IDC **24** 23:55:57.0±1.3,21.°58N×66.°87W,h0km, mb3.5/4, mb1 3.7/4, mb1mx3.5/36, mbtmp3.5/4, ML4.4/2,Error ellipse: s-maj=31.8km s-min=22.9km az=84.0*
ISC 24 23:55:57.6±0.6,21.°59N±0.°06×66.°73W±0.°06,h10km,n51,
α2°38/57,mb3.9/7,1C,North Atlantic Ocean

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AGP	**Aguadilla**	**3.19**	**187**	*e*Pn	**Pn**	**23 56 47.1**	**-0.7**
AGP				*e*Sn	**Sn**	**23 57 24.4**	**-3.5**
IDE	**Isla Desecheo**	**3.26**	**193**	*e*Pn	**Pn**	**23 56 48.6**	**-0.2**
CBYP	**Canovanas**	**3.40**	**166**	*e*Pn	**Pn**	**23 56 50.3**	**-0.4**
CELP	**Cerrillos**	**3.50**	**178**	*e*Pn	**Pn**	**23 56 54.6**	**+2.5**
SJG	**San Juan**	**3.50**	**171**	Pn	**Pn**	**23 56 54.4**	**+2.3**
	90nm,0.3s,baz=4.3,slow=15,SNR=119						
SJG				Sn	**Sn**	**23 57 34.4**	**+0.9**
	148nm,0.3s,baz=254,slow=23,SNR=21						
SJG	**San Juan**	**3.50**	**171**	*e*Pn	**Pn**	**23 56 52.8**	**+0.7**
SJG				Sn	**Sn**	**23 57 34.4**	**+0.9**
STVI	**Saint Thomas**	**3.62**	**152**	*e*Pn	**Pn**	**23 56 53.4**	**-0.4**
GRTK	**Grand Turk**	**4.10**	**270**	*e*Pn	**Pn**	**23 57 01.2**	**+0.8**
GRTK				*e*Sn	**Sn**	**23 57 49.0**	**+0.5**
CDVI	**St. Croix**	**4.24**	**154**	*e*Pn	**Pn**	**23 57 00.1**	**-2.2**
SDD	**Santo Domingo**	**4.32**	**224**	*e*Pn	**Pn**	**23 57 03.3**	**-0.1**
BANI	**BANI**	**4.67**	**228**	*e*Pn	**Pn**	**23 57 09.9**	**+1.6**
SMRT	**St. Maarten**	**4.92**	**135**	*e*P	**Pn**	**23 57 09.6**	**-2.0**
SMRT	**St. Maarten**	**4.92**	**135**	*e*Pn	**Pn**	**23 57 09.4**	**-2.2**
SDDR	**Presa de Saban**	**5.00**	**240**	*e*Pn	**Pn**	**23 57 16.0**	**+3.1**
SABA	**Saba**	**5.13**	**140**	*e*Pn	**Pn**	**23 57 13.1**	**-1.5**
ANWB	**Willy Bob**	**6.07**	**129**	*i* P	Pn	23 57 22.6	-4.9
LGNH	**LØogne**	**6.32**	**242**	*e*Pn	**Pn**	**23 57 33.2**	**+2.4**
GDHS	**Morne Mazeau,**	**7.07**	**138**	*e*Pn	**Pn**	**23 57 37.7**	**-3.5**
GDHS				*e*Sn	**Sn**	**23 58 57.1**	**-4.6**
H05N1	**Guadeloupe/Mar**	**7.50**	**133**	Pn	**Pn**	**23 57 43.0**	**-4.1**
	SNR=8.3						
H05N1				Sn	Sn	23 59 03.2	-9.0
GTBY	**Guantanamo Bay**	**8.02**	**260**	*e*Pn	**Pn**	**23 57 56.4**	**+2.1**
PCRV	**Puerto La Cruz**	**11.52**	**170**	Pn	**Pn**	**23 58 43.8**	**+1.5**
	0.9nm,0.3s,baz=291,slow=1.3,SNR=7.1						
PCRV				Sn	**Sn**	**00 00 46.1**	**-5.1**
	0.5nm,0.3s,baz=3.5,slow=19,SNR=3.4						
DWPF	**Disney Wildern**	**14.84**	**299**	*e*Pn	**Pn**	**23 59 27.0**	**-0.6**
RGRS	**Roger Stewart**	**16.43**	**316**	*e*Pn	**Pn**	**23 59 48.6**	**+0.3**
	4μm,0.3s						
RGRS				*e*Sn	Sn	00 02 31.2	-20
NHSC	**New Hope**	**16.55**	**317**	*e*Pn	**Pn**	**23 59 50.6**	**+0.7**
	31nm,0.9s						
CNNC	**Cliffs of the**	**16.76**	**327**	*e*Pn	**Pn**	**23 59 53.3**	**+0.8**
	58nm,0.4s						
JSC	**Jenkinsville**	**18.00**	**318**	*e*Pn	**P**	**00 00 08.4**	**0.0**
	18nm,0.3s						
JSC				*e*Sn	**Sn**	**00 03 18.2**	**-11**
URVA	**University of**	**18.47**	**332**	*e*P	**P**	**00 00 13.3**	**-0.3**
JSRW	**J. Sargeant Re**	**18.73**	**331**	*e*P	**P**	**00 00 16.1**	**-0.4**
JSRW				*e*Sn	Sn	00 03 31.1	-15
GOGA	**Godfrey**	**18.93**	**312**	*e*P	**Pn**	**00 00 22.1**	**+2.8**
	9.9nm,0.6s						
GOGA				*e*Sn	Sn	00 03 29.8	-21
VWCC	**Virginia Weste**	**19.38**	**327**	*e*P	**P**	**00 00 23.6**	**0.0**
BLA	**Blacksburg**	**19.58**	**326**	*e*P	**P**	**00 00 26.4**	**+0.5**
	36nm,0.7s						
PSUB	**Penn St. - Bra**	**19.74**	**340**	*e*P	**P**	**00 00 27.8**	**+0.3**
	24nm,0.5s						
SDMD	**Soldier's Deli**	**19.76**	**336**	*e*P	**P**	**00 00 27.7**	**0.0**
	6.0nm,0.7s						
MVL	**Millersville**	**20.11**	**338**	*e*P	**P**	**00 00 31.5**	**+0.1**
	8.3nm,0.6s						
BRNJ	**Basking Ridge**	**20.17**	**342**	*e*P	**P**	**00 00 32.6**	**+0.5**
	26nm,0.4s						
PAL	**Palisades**	**20.29**	**344**	*e*P	**P**	**00 00 33.0**	**-0.5**
	16nm,0.5s						
YLE	**Yale**	**20.36**	**346**	*e*P	**P**	**00 00 34.5**	**+0.3**
	68nm,0.4s						
TKL	**Tuckaleechee C**	**20.46**	**317**	*e*P	**P**	**00 00 35.7**	**+0.3**
	19nm,0.9s						
ODNJ	**Ogdensburg**	**20.55**	**343**	*e*P	**P**	**00 00 36.3**	**0.0**
	14nm,0.4s						
BRYW	**Bryant College**	**20.67**	**350**	*e*P	**P**	**00 00 36.9**	**-0.8**
	26nm,0.7s						
CPCT	**Cooper Cave**	**20.82**	**315**	*e*P	**P**	**00 00 38.8**	**-0.5**
	8.2nm,0.6s						
WES	**Weston**	**21.09**	**351**	*e*P	**P**	**00 00 41.9**	**-0.3**
	32nm,0.4s						
SSPA	**Standing Stone**	**21.22**	**336**	*e*P	**P**	**00 00 41.9**	**-1.7**
	7.3nm,0.6s						
HRV	**Adam Dziewonsk**	**21.25**	**350**	*e*P	**P**	**00 00 44.0**	**+0.2**
	49nm,0.3s						
PTGA	**Pitinga**	**23.14**	**163**	P	**P**	**00 01 04.9**	**+0.6**
	2.2nm,0.6s,baz=339,slow=17,SNR=5.4						
TXAR	**Lajitas Array**	**34.13**	**291**	P	**P**	**00 02 42.8**	**-0.2**
	0.2nm,0.7s,baz=107,slow=12,SNR=3.8						
ESDC	**Sonseca Array**	**55.85**	**56**	P	**P**	**00 05 37.0**	**+1.5**
	0.5nm,0.7s,baz=282,slow=7.5,SNR=7.0						
TORD	**Torodi Ar. Bea**	**65.41**	**85**	P	**P**	**00 06 43.2**	**+2.2**
	0.2nm,0.7s,baz=299,slow=5.9,SNR=2.2						
KSH	**Kashi**	**109.93**	**30**	*e*Pdif	**Pdif**	**00 10 29.1**	**+1.4**
KSH				PP	**PP**	**00 15 06.0**	**+4.7**
KSH	**Kashi**	**109.93**	**30**	SKS	**SKSdf**	**00 21 41.1**	**-1.1**
KSH	**Kashi**	**109.93**	**30**	SS	SS	00 30 26.1	+0.5
KSH				AMB	AMB		
	comp=Z,49nm,7.0s						
KSH				LR	LR		
	comp=N,60nm,8.6s						
KSH				LR	LR		
	comp=E,56nm,5.6s						
KSH				LR	LR		
	comp=Z,83nm,7.4s						

*NEIC **24** 23:55:56.7±0.6,18.°71S×175.°35W,h35km, mb4.3/8,Error ellipse: s-maj=22.8km s-min=13.0km az=151.0*
*IDC **24** 23:55:57.9±2.0,19.°60S×176.°02W,h0km, mb4.3/4, mb1 4.5/4, mb1mx3.9/35, mbtmp4.3/4,Error ellipse: s-maj=71.1km s-min=38.2km az=4.0*
*ISCJB **24** 23:56:16.9±0.7,18.°8S±0.°2×175.°7W±0.°1, h231km, mb4.0/13,Error ellipse: s-maj=24.8km s-min=14.4km az=149.4*
ISC 24 23:56:19.3±0.8,18.°8S±0.°2×175.°7W±0.°2,h231km,n16,
α2°41/16,mb3.9/13,Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
EIDS	**Eidsvold**	**31.37**	**252**	*e*P	**P**	**00 02 17.8**	**-0.8**
	1.4nm,0.4s						
CTA	**Charters Tower**	**35.81**	**262**	P	**P**	**00 02 57.9**	**+0.8**
	11nm,0.4s,baz=91,slow=10.0,SNR=35						
CTAO	**Charters Tower**	**35.81**	**262**	*e*P	**P**	**00 02 57.5**	**+0.5**
	60nm,0.5s						
STKA	**Stephens Creek**	**40.44**	**243**	P	**P**	**00 03 33.0**	**-2.5**
	1.0nm,0.6s,baz=90,slow=15,SNR=3.4						
WRAB	**Tennant Creek**	**46.96**	**260**	*e*P	**P**	**00 04 27.5**	**+0.1**
	1.1nm,0.5s						
WRA	**Warramunga Arr**	**46.97**	**260**	P	**P**	**00 04 27.1**	**-0.4**
	1.4nm,0.3s,baz=96,slow=7.5,SNR=42						
ASAR	**Alice Springs**	**46.99**	**255**	P	**P**	**00 04 26.8**	**-0.9**
	1.7nm,0.6s,baz=88,slow=8.2,SNR=12						
SBA	**Scott Base**	**59.69**	**184**	P	**P**	**00 05 59.0**	**+0.1**
	2.1nm,0.9s						
MAJO	**Matsushiro**	**70.17**	**322**	*e*P	**P**	**00 07 07.6**	**+0.6**
	3.2nm,0.8s						
QSPA	**South Pole Qui**	**71.24**	**180**	*e*P	**P**	**00 07 13.4**	**+0.3**
	7.5nm,0.7s						
HWUT	**Hardware Ranch**	**84.42**	**43**	*e*P	**P**	**00 08 24.1**	**-2.0**
	1.4nm,0.6s						
PV01	**Paradox Valley**	**84.69**	**47**	P	**P**	**00 08 25.5**	**-2.1**
	50nm,0.6s						
ANMO	**Albuquerque**	**84.70**	**51**	*e*P	**P**	**00 08 24.9**	**-2.7**
	0.8nm,1.1s						
INK	**Inuvik**	**92.11**	**14**	P	**P**	**00 09 01.0**	**-0.7**
	2.8nm,0.9s						
BRTR	**Keskin Array B**	**147.21**	**316**	PKPbc	**PKPab**	**00 15 43.9**	**+5.9**
	0.5nm,0.8s,baz=128,slow=1.8,SNR=5.0						
TORD	**Torodi Ar. Bea**	**173.84**	**156**	PKPab	**PKPab**	**00 17 37.2**	**+3.9**
	0.3nm,0.7s,baz=173,slow=5.7,SNR=3.8						

*IDC **24** 23:56:16.7±2.7,18.°03S×167.°27E,h0km, mb4.0/5, mb1 4.1/6, mb1mx3.8/33, mbtmp3.9/6, ML3.1/1,Error ellipse: s-maj=57.5km s-min=29.8km az=96.0*
*ISCJB **24** 23:56:17.4±1.1,17.°98S±0.°07×167.°3E±0.°1, h23km, mb3.9/5,Error ellipse: s-maj=19.3km s-min=10.0km az=165.9*
*NEIC **24** 23:56:20.9±1.0,18.°04S×167.°34E, h35km, mb4.5/1,Error ellipse: s-maj=22.2km s-min=12.9km az=55.0*
ISC 24 23:56:19.4±1.2,18.°00S±0.°09×167.°4E±0.°2,h23km,n9,
σ0°89/10,mb3.9/5,Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**4.14**	**192**	Pn	**Pn**	**23 57 20.1**	**-1.2**
	1.2nm,0.3s,baz=76,slow=8.3,SNR=20						
DZM				Sn	**Sn**	**23 58 09.8**	**+0.8**
	2.3nm,0.3s,baz=331,slow=22,SNR=3.8						
HNR	**Honiara**	**11.15**	**319**	*e*Pn	**Pn**	**23 58 56.8**	**-0.7**
RAO	**Raoul Island**	**17.52**	**132**	Pn	**Pn**	**00 00 22.0**	**-0.2**
	9.9nm,0.3s						
STKA	**Stephens Creek**	**27.05**	**234**	P	**P**	**00 02 01.3**	**+1.2**
	2.7nm,0.9s,baz=73,slow=11,SNR=3.8						
WRA	**Warramunga Arr**	**31.25**	**261**	P	**P**	**00 02 37.0**	**-0.7**
	1.1nm,0.8s,baz=90,slow=8.1,SNR=6.4						
ASAR	**Alice Springs**	**31.71**	**254**	P	**P**	**00 02 41.8**	**0.0**
	1.3nm,0.7s,baz=81,slow=8.6,SNR=16						
FITZ	**Fitzroy Crossi**	**39.60**	**263**	P	**P**	**00 03 49.1**	**-0.3**
	3.5nm,0.9s,baz=115,slow=8.7,SNR=6.7						
SONM	**Songino Array**	**85.17**	**324**	P	**P**	**00 08 55.0**	**+1.1**
	0.4nm,0.5s,baz=111,slow=6.3,SNR=3.3						
GERES	**GERESS Array B**	**142.56**	**331**	PKP	**PKPdf**	**00 15 50.6**	**0.0**
	0.5nm,0.6s,baz=34,slow=3.7,SNR=6.7						

*ISCJB **25** 00:00:26.6±0.8,39.°64N±0.°03×38.°72E±0.°05,h11km±7km, Error ellipse: s-maj=7.8km s-min=4.9km az=146.5*
*CSEM **25** 00:00:26.3±0.3,39.°63N×38.°72E,h12km,ML2.9,Error ellipse: s-maj=6.5km s-min=5.6km az=117.0*
*ISK **25** 00:00:26.6,39.°65N×38.°73E,h10km, MD2.7*
*DDA **25** 00:00:26.0,39.°62N×38.°72E,h7km, Ml2.9*
ISC 25 00:00:26.5±1.0,39.°64N±0.°03×38.°70E±0.°03,h15km±10km,
n18,σ0°74/31,Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
REFA	**Refahiye_ERZ**	**0.25**	**169**	*i* P	**Pg**	**00 00 32.2**	**+0.1**
REFA				*i* S	**Sb**	**00 00 37.1**	**+0.2**
REFA	**Refahiye_ERZ**	**0.25**	**169**	P	**Pg**	**00 00 32.2**	**+0.1**
REFA				S	**Sb**	**00 00 37.1**	**+0.2**
KEMA	**Kemaliye**	**0.40**	**204**	*i* P	**Pg**	**00 00 34.1**	**-0.6**
KEMA				*i* S	**Sg**	**00 00 39.9**	**-0.4**
KEMA	**Kemaliye**	**0.40**	**204**	P	**Pg**	**00 00 34.1**	**-0.6**
KEMA				S	**Sg**	**00 00 39.9**	**-0.4**
KELT	**Kelkit**	**0.66**	**40**	*i* P	**Pg**	**00 00 39.0**	**-0.6**
KELT				*i* S	**Sb**	**00 00 48.4**	**-0.6**
KELT	**Kelkit**	**0.66**	**40**	P	**Pg**	**00 00 39.0**	**-0.6**
KELT				S	**Sb**	**00 00 48.4**	**-0.6**
ERZN	**Erzincan**	**0.79**	**94**	*e*PG	**Pg**	**00 00 41.7**	**-0.2**
ERZN				*e*SG	**Sb**	**00 00 53.0**	**+0.5**
PTK	**Pertek**	**0.92**	**144**	*e*PG	**Pb**	**00 00 44.6**	**+0.4**
PTK				*e*SG	**Sb**	**00 00 57.7**	**+1.4**
PTK	**Pertek**	**0.92**	**144**	*e*Pg	**Pb**	**00 00 44.6**	**+0.4**
PTK				*e*Sg	**Sb**	**00 00 57.7**	**+1.4**
CUKAN	**kangal_SIVAS**	**1.01**	**252**	*i* P	**Pg**	**00 00 45.0**	**-1.0**
CUKAN				*i* S	**Sg**	**00 00 59.8**	**+0.5**
CUKAN	**kangal_SIVAS**	**1.01**	**252**	P	**Pg**	**00 00 45.0**	**-1.0**
CUKAN				S	**Sg**	**00 00 59.8**	**+0.5**
ELZG	**Elazig**	**1.16**	**169**	*i* P	**Pb**	**00 00 47.8**	**-0.5**
ELZG				*i* S	**Sb**	**00 01 02.4**	**-0.9**
ELZG	**Elazig**	**1.16**	**169**	P	**Pb**	**00 00 47.8**	**-0.5**
ELZG				S	**Sb**	**00 01 02.4**	**-0.9**
SVSK	**Karacayir**	**1.34**	**282**	*e*PN	**Pb**	**00 00 52.4**	**+1.1**
SVSK	**Karacayir**	**1.34**	**282**	*e*Pn	**Pb**	**00 00 52.4**	**+1.1**
DARE	**Darende-Malaty**	**1.43**	**222**	*e*PN	**Pb**	**00 00 53.4**	**+0.6**
DARE	**Darende-Malaty**	**1.43**	**222**	*e*Pn	**Pb**	**00 00 53.4**	**+0.6**
YEDI	**Yedisu-Bingol**	**1.44**	**97**	*e*PN	**Pb**	**00 00 53.2**	**+0.1**

*ISCJB **25** 00:12:55.7±0.6,16.°67S±0.°04×72.°20W±0.°06,h66km, mb4.2/3,Error ellipse: s-maj=9.8km s-min=4.6km az=148.6*
*GUC **25** 00:13:00.1±0.6,16.°96S×72.°24W,h94km±29km,ML4.5*
*NEIC **25** 00:13:04.4±1.6,16.°18S×71.°96W,h122km±11km,mb4.2/3,Error ellipse: s-maj=28.1km s-min=11.1km az=202.0*
*IDC **25** 00:13:04.0±3.1,16.°11S×71.°90W,h115km±16km,mb3.9/2, mb1 3.6/5,mb1mx3.3/22,mbtmp4.1/5,Error ellipse: s-maj=61.9km s-min=12.2km az=22.0*
ISC 25 00:12:57.1±0.8,16.°77S±0.°06×72.°22W±0.°07,h66km,n20,
α2°33/31,mb4.3/3,1C-1D,Near coast of Peru

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PB12	**IPOC Station P**	**2.57**	**136**	*e*P	**Pn**	**00 13 39.0**	**+2.5**
PB12				*e*S	**Sn**	**00 14 08.5**	**+1.7**
PB12				IAML		00 14 12.8	
	comp=E,2μm,0.2s						
MNMC	**Minye Minye**	**3.43**	**134**	*e*P	**Pn**	**00 13 51.0**	**+2.6**
MNMC				*e*S	**Sn**	**00 14 29.4**	**+1.3**
MNMC				IAML		00 14 33.8	
	comp=N,450nm,0.5s						
PSGC	**Pisagua**	**3.45**	**145**	*e*P	**Pn**	**00 13 50.6**	**+2.1**
PSGC				*e*S	**Sn**	**00 14 28.1**	**-0.1**
PSGC				IAML		00 14 31.6	
	comp=E,102nm,0.5s						
PB11	**IPOC Station P**	**3.84**	**141**	*e*P	**Pn**	**00 13 55.9**	**+1.9**
PB11				*e*S	**Sn**	**00 14 38.9**	**+0.8**
LPAZ	**La Paz**	**3.96**	**84**	P	**Pn**	**00 14 00.5**	**+4.6**
	comp=E,7.6nm,0.3s,baz=282,slow=11,SNR=165						
LPAZ				S	**Sn**	**00 14 41.5**	**+0.1**
	baz=293,slow=15,SNR=1.3						
HMBC	**Humberstone**	**4.13**	**148**	*e*P	**Pn**	**00 13 60.0**	**+2.1**
HMBC				*e*S	**Sn**	**00 14 45.4**	**+0.4**
PB08	**IPOC Station P**	**4.44**	**139**	*e*P	**Pn**	**00 14 04.9**	**+2.6**
PB08				*e*S	**Sn**	**00 14 53.9**	**+0.9**
PB08				IAML		00 14 56.8	
	comp=E,139nm,0.2s						
PB01	**IPOC Station P**	**4.97**	**149**	*e*P	**Pn**	**00 14 11.2**	**+1.8**
PB01				*e*S	**Sn**	**00 15 04.4**	**-1.2**
PB07	**IPOC Station P**	**5.40**	**156**	*e*P	**Pn**	**00 14 17.1**	**+1.8**
PB09	**IPOC Station P**	**5.74**	**151**	*e*P	**Pn**	**00 14 22.4**	**+2.5**
PB04	**IPOC Station P**	**5.87**	**161**	*e*P	**Pn**	**00 14 23.1**	**+1.5**
PB06	**IPOC Station P**	**6.41**	**158**	*i* P	**Pn**	**00 14 30.5**	**+1.5**
PB06				*i* S	**Sn**	**00 15 39.9**	**-1.1**
PB06				IAML		00 15 43.1	
	comp=E,46nm,0.2s						
NNA	**Nana**	**6.53**	**316**	P	**Pn**	**00 14 35.4**	**+4.7**
	comp=E,5.0nm,0.3s,baz=138,slow=13,SNR=14						
NNA				S	**Sn**	**00 15 45.0**	**+1.1**
	comp=E,1.0nm,0.3s,baz=108,slow=20,SNR=2.2						
PB10	**IPOC Station P**	**6.89**	**167**	*i* P	**Pn**	**00 14 36.5**	**+1.0**
PB10				*i* S	**Sn**	**00 15 48.2**	**-4.3**
PB10				IAML		00 15 54.5	
	comp=E,116nm,0.2s						
SAML	**Samuel**	**11.75**	**50**	*e*Pn	**Pn**	**00 15 40.4**	**-1.6**
	comp=E,13nm,1.4s						
OTAV	**Otavalo**	**17.98**	**339**	P	**P**	**00 17 00.4**	**-2.6**
	comp=E,4.0nm,1.2s					

2.9nm,1.0s,baz=104,slow=4.2,SNR=3.4

IDC ***25*** *00:35:02.9±0.5,5.°94S×81.°97W, h0km, mb4.8/26, mb1 4.9/29, mb1mx4.8/41, mbtmp4.8/29, ML4.6/3, MS4.1/24, Ms1 4.1/24, ms1mx4.0/33, Error ellipse: s-maj=14.9km s-min=10.4km az=54.0*

IGQ ***25*** *00:35:04.3±2.5,6°S±25°×8°2W±1°8, h13km±15km, M4.4/9, mb4.4/9, mB5.0/1, mb4.4/9, mB5.0/1, Mw(mB)4.4/1, Mw(mB)4.4/1*

ISCJB ***25*** *00:35:05.2±1.5,5.°87S±0.°03×81.°72W±0.°04, h20km±11km, mb5.0/185, MS4.2/23, Error ellipse: s-maj=7.0km s-min=3.7km az=149.8*

MOS ***25*** *00:35:06.4±0.9,5.°90S×81.°77W, h31km, mb5.2/54, Error ellipse: s-maj=15.6km s-min=5.6km az=111.6*

NEIC ***25*** *00:35:08.7±0.7,5.°96S×81.°77W, h35km±6km, mb5.1/160, Error ellipse: s-maj=6.3km s-min=3.4km az=58.0*

NEIC Felt at Talara.

GCMT ***25*** *00:35:08.7±0.2,6.°17S×81.°97W, h12km, MW5.1/101, Moment Tensor Solution. s60,c78; s101,c155; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-4.90±.08; $M_{\theta\theta}$0.08±.07; $M_{\phi\phi}$4.82±.09; $M_{r\theta}$0.75±.26; $M_{\theta\phi}$-1.41±.07; $M_{\phi r}$-0.82±.24; Best double couple: M_o5.17800×10^{16} NP1:ϕ_s339.00000°,δ51.00000°,λ-98.00000°. NP2: ϕ_s171.00000°,δ40.00000°,λ-81.00000°. Principal axes: T 5.3050, Plg6.0000°, Azm74.0000°; N -0.2540, Plg6.0000°, Azm344.0000°; P -5.0500, Plg82.0000°, Azm207.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

BJI ***25*** *00:35:08.6,5.°90S×81.°70W, h33km, mB5.3/11, Ms5.3/9, Ms7 5.0/9*

ISC 25 00:35:08.0±0.5, 6.°01S±0.°05×81.°82W±0.°06, h32km±3km, h32km:pP-P,n772,σ1§08/799, mb5.0/187, MS4.2/23, 5C, Near coast of northern Peru

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time h m s	Res
ATAH	**Atahualpa**	**3.58**	**108**	Pn		**Pn**	**00 36 03.4**	**+1.6**
	42nm,0.3s,baz=345,slow=6.0,SNR=120							
ATAH				Sn		**Sn**	**00 36 43.9**	**+0.6**
	105nm,0.3s,baz=70,slow=13,SNR=12							
ATAH				LR		LR	00 37 36.2	
	comp=Z,7μm,21.4s,baz=317,slow=41							
OTAV	**Otavalo**	**7.06**	**29**	*e*Pn		**Pn**	**00 36 47.8**	**-1.8**
NNA	**Nana**	**7.71**	**141**	Pn		**Pn**	**00 36 58.5**	**+0.3**
	14nm,0.3s,baz=318,slow=10,SNR=21							
NNA				Sn		**Sn**	**00 38 19.1**	**-5.5**
	7.9nm,0.3s,baz=189,slow=19,SNR=3.9							
NNA				LR		LR	00 40 02.8	
	comp=Z,648nm,18.9s,baz=336,slow=38							
CMBC	**Cumbal**	**7.97**	**30**	*e*P		**Pn**	**00 37 00.6**	**-1.6**
CMBC	**Cumbal**	**7.97**	**30**	*e*P		**Pn**	**00 37 00.6**	**-1.6**
GCUF	**Volcan Galeras**	**8.46**	**32**	*e*P		**Pn**	**00 37 06.4**	**-2.5**
SOTA	**Rioblanco**	**9.62**	**33**	*e*P		**Pn**	**00 37 21.9**	**-2.9**
PCON	**Cinco Dias**	**9.90**	**33**	*e*P		**Pn**	**00 37 25.0**	**-3.6**
PAYG	**Puerto Ayora**	**9.97**	**302**	*e*Pn		**Pn**	**00 37 29.4**	**+0.2**
MARP	**Paez Belalcaza**	**10.57**	**34**	*e*P		**Pn**	**00 37 33.7**	**-3.9**
BETC	**Betania**	**10.73**	**37**	*e*P		**Pn**	**00 37 36.7**	**-3.0**
BETC	**Betania**	**10.73**	**37**	*e*P		**Pn**	**00 37 36.7**	**-3.0**
HORQ	**Saladito**	**10.76**	**29**	*e*P		Pn	00 37 35.1	-5.2
RREF	**El Recreo**	**12.62**	**31**	*e*P		**Pn**	**00 38 03.3**	**-2.7**
GUYC	**Guyana, Colomb**	**12.87**	**30**	*e*P		Pn	00 38 01.5	-7.9
GUYC	**Guyana, Colomb**	**12.87**	**30**	*e*P		Pn	00 38 01.5	-7.9
ROSC	**El Rosal**	**13.12**	**35**	LR		LR	00 44 04.1	
	comp=Z,1μm,19.1s,baz=226,slow=41							
ROSC	**El Rosal**	**13.12**	**35**	*e*Pn		**Pn**	**00 38 11.7**	**-1.0**
HELC	**Santa Helena**	**13.65**	**28**	*e*P		Pn	00 38 14.8	-5.1
HELC	**Santa Helena**	**13.65**	**28**	*e*Pn		**Pn**	**00 38 19.1**	**-0.8**
HELC	**Santa Helena**	**13.65**	**28**	*e*P		Pn	00 38 14.8	-5.1
RUSC	**La Rusia**	**14.69**	**37**	*e*P		**Pn**	**00 38 29.5**	**-4.7**
RUSC	**La Rusia**	**14.69**	**37**	*e*Pn		**Pn**	**00 38 34.2**	**0.0**
RUSC	**La Rusia**	**14.69**	**37**	*e*P		**Pn**	**00 38 29.5**	**-4.7**
ZARC	**Zaragoza, Cauc**	**15.11**	**27**	*e*P		**Pn**	**00 38 35.5**	**-3.7**
ZARC	**Zaragoza, Cauc**	**15.11**	**27**	*e*P		**Pn**	**00 38 35.5**	**-3.7**
BCIP	**Isla Barro Col**	**15.21**	**7**	*e*Pn		**Pn**	**00 38 39.7**	**-0.9**
	63nm,0.8s							
MOTC	**Monteria, Cord**	**15.92**	**23**	*e*P		**Pn**	**00 38 46.0**	**-3.9**
MOTC	**Monteria, Cord**	**15.92**	**23**	*e*P		**Pn**	**00 38 46.0**	**-3.9**
PAMC	**Pamplona, Colo**	**16.08**	**35**	*e*P		**Pn**	**00 38 48.4**	**-4.0**
PAMC	**Pamplona, Colo**	**16.08**	**35**	*e*P		**Pn**	**00 38 48.4**	**-4.0**
LPAZ	**La Paz**	**16.86**	**128**	Pn		**Pn**	**00 39 03.2**	**+0.8**
	1.0nm,0.3s,baz=300,slow=7.2,SNR=24							
LPAZ				LR		LR	00 46 20.2	
	comp=Z,598nm,19.5s,baz=315,slow=40							
LPAZ	**La Paz**	**16.86**	**128**	*e*P		**Pn**	**00 39 02.0**	**-0.4**
LPAZ					pmax	pmax		
	comp=Z,115nm,1.3s							
LPAZ	**La Paz**	**16.86**	**128**	*e*Pn		**Pn**	**00 39 02.0**	**-0.4**
	comp=Z,114nm,1.3s							
LPAZ	**La Paz**	**16.86**	**128**	P		**P**	**00 39 03.5**	**-0.7**
	comp=Z,68nm,1.4s,comp=Z,790nm							
SJCC	**San Jacinto, C**	**17.13**	**23**	*e*P		**Pn**	**00 39 03.4**	**-1.8**
SJCC	**San Jacinto, C**	**17.13**	**23**	*e*P		**Pn**	**00 39 03.4**	**-1.8**
MNMC	**Minye Minye**	**17.66**	**139**	P		**P**	**00 39 15.6**	**+2.9**
	comp=Z,19nm,1.4s							
PSGC	**Pisagua**	**17.66**	**141**	P		**P**	**00 39 14.6**	**+2.0**
	comp=Z,16nm,1.3s							
PB11	**IPOC Station P**	**18.08**	**140**	*e*Pn		**Pn**	**00 39 17.1**	**0.0**
	comp=Z,27nm,0.9s							
PB11	**IPOC Station P**	**18.08**	**140**	P		**P**	**00 39 18.9**	**+1.7**
HMBC	**Humberstone**	**18.32**	**142**	P		**Pn**	**00 39 20.5**	**+0.6**
	comp=Z,22nm,1.4s							
SDV	**Santo Domingo**	**18.53**	**37**	*e*P		**P**	**00 39 20.1**	**-2.1**
	comp=Z,81nm,0.9s							
PB08	**IPOC Station P**	**18.68**	**140**	P		**Pn**	**00 39 26.7**	**+2.1**
SAML	**Samuel**	**18.71**	**100**	*e*P		**P**	**00 39 21.6**	**-2.5**
	comp=Z,378nm,1.4s							
PB01	**IPOC Station P**	**19.14**	**143**	*e*P		**Pn**	**00 39 29.6**	**-0.2**
	comp=Z,25nm,1.1s							
PB01	**IPOC Station P**	**19.14**	**143**	P		**Pn**	**00 39 31.4**	**+1.5**
PB07	**IPOC Station P**	**19.43**	**145**	P		**P**	**00 39 32.5**	**+0.4**
PB09	**IPOC Station P**	**19.86**	**143**	P		**Pn**	**00 39 39.9**	**+1.4**
TGUH	**Tegucigalpa,Un**	**20.66**	**345**	*e*P		**P**	**00 39 46.0**	**+0.8**
	comp=Z,113nm,1.0s							
LVC	**Limon Verde**	**20.68**	**144**	P		Pn	00 39 48.2	-0.1
	comp=Z,96nm,1.1s,baz=305,slow=7.4,SNR=9.0							
LVC				LR		LR	00 47 51.1	
	comp=Z,1μm,19.8s,baz=312,slow=37							
LVC	**Limon Verde**	**20.68**	**144**	*e*P		**P**	**00 39 47.1**	**+1.2**
	comp=Z,57nm,1.4s							
LVC	**Limon Verde**	**20.68**	**144**	P		Pn	00 39 49.2	+0.9
	comp=Z,26nm,1.0s							
LVC				P		**P**	**00 39 49.4**	**+3.5**
	comp=Z,26nm,1.0s							
PTGA	**Pitinga**	**22.43**	**77**	P		**P**	**00 40 04.0**	**-0.5**
	comp=Z,150nm,0.9s,baz=258,slow=12,SNR=211							
PTGA				LR		LR	00 49 56.0	
	comp=Z,3μm,18.6s,baz=276,slow=40							
PTGA	**Pitinga**	**22.43**	**77**	*e*P		**P**	**00 40 03.8**	**-0.6**
	comp=Z,226nm,1.0s							
SIV	**San Ignacio**	**22.63**	**118**	P		**P**	**00 40 07.3**	**+0.7**
	comp=Z,13nm,0.8s,baz=299,slow=12,SNR=31							
SIV				LR		LR	00 49 08.8	
	comp=Z,2μm,21.6s,baz=308,slow=37							
PCRV	**Puerto La Cruz**	**23.49**	**47**	P		**P**	**00 40 15.4**	**+0.1**
	comp=Z,38nm,0.6s,baz=231,slow=3.8,SNR=22							
PCRV				S		**S**	**00 44 33.4**	**+6.4**
	comp=Z,20nm,1.1s,baz=343,slow=14,SNR=2.0							
PCRV				LR		LR	00 50 52.8	
	comp=Z,1μm,19.5s,baz=216,slow=40							
LGNH	**LOogne**	**26.00**	**20**	*e*P		**P**	**00 40 42.5**	**+4.3**
	comp=Z,109nm,1.0s							
CMIG	**Matias Romero**	**26.33**	**331**	P		**P**	**00 40 39.2**	**-2.1**
	comp=Z,12nm,1.1s,baz=157,slow=4.0,SNR=6.1							
TUIG	**Tuzandepetl**	**26.93**	**333**	*e*PcP		**PcP**	**00 44 09.5**	**+1.2**
CELP	**Cerrillos**	**28.27**	**32**	*e*P		**P**	**00 40 56.9**	**-1.7**
SJG	**San Juan**	**28.52**	**33**	P		**P**	**00 40 60.0**	**-0.9**
	comp=Z,31nm,0.8s,baz=206,slow=4.2,SNR=11							
SJG				LR		LR	00 53 12.8	
	comp=Z,585nm,21.4s,baz=198,slow=38							
SJG	**San Juan**	**28.52**	**33**	*e*P		**P**	**00 41 00.6**	**-0.3**
SJG					pmax	pmax		
	comp=Z,71nm,1.0s							
SJG	**San Juan**	**28.52**	**33**	*e*P		**P**	**00 41 00.6**	**-0.3**
	comp=Z,71nm,1.0s							
ROC1	**El Roble**	**28.66**	**161**	*e*P		**P**	**00 41 03.0**	**+0.7**
	comp=Z,28nm,0.6s							
TLIG	**Tlapa**	**28.67**	**325**	*e*P		**P**	**00 41 02.0**	**-0.4**
	comp=Z,24nm,1.3s							
CBYP	**Canovanas**	**28.81**	**33**	*e*P		**P**	**00 41 02.0**	**-1.6**
	comp=Z,110nm,0.8s							
CPUP	**Villa Florida**	**30.89**	**134**	P		**P**	**00 41 21.5**	**-0.4**
	comp=Z,18nm,1.3s,baz=317,slow=8.6,SNR=7.6							
CPUP				LR		LR	00 55 45.7	
	comp=Z,457nm,18.2s,baz=327,slow=40							
CPUP	**Villa Florida**	**30.89**	**134**	*e*P		**P**	**00 41 22.4**	**+0.6**
ZAIG	**Zacatecas**	**35.07**	**325**	*e*P		**P**	**00 41 59.4**	**+0.8**
	comp=Z,21nm,1.2s							
LNIG	**Linares**	**35.20**	**331**	*e*P		**P**	**00 41 59.2**	**-0.2**
	comp=Z,8.7nm,0.9s							
LNIG				*e*PcP		**PcP**	**00 44 29.6**	**-0.6**
PLCA	**Paso Flores**	**36.02**	**165**	P		**P**	**00 42 07.2**	**+0.8**
	comp=Z,25nm,0.9s,baz=350,slow=10,SNR=32							
PLCA				PcP		**PcP**	**00 44 33.1**	**+0.7**
	comp=Z,3.2nm,1.0s,baz=311,slow=5.4,SNR=3.6							
PLCA	**Paso Flores**	**36.02**	**165**	*e*P		**P**	**00 42 07.4**	**+1.0**
PLCA							00 44 33.2	
PLCA					pmax	pmax		
	comp=Z,61nm,1.1s							
PLCA	**Paso Flores**	**36.02**	**165**	*e*P		**P**	**00 42 07.4**	**+1.0**
	comp=Z,61nm,1.1s							
PLCA				PcP		**PcP**	**00 44 33.1**	**+0.7**
035A	**Encino**	**36.35**	**335**	P		**P**	**00 42 10.4**	**+1.2**
	baz=152,SNR=8.1							
TRQA	**Tornquist**	**36.65**	**153**	*e*P		**P**	**00 42 12.1**	**+0.4**
	comp=Z,21nm,1.1s							
034A	**Hebbronville**	**36.71**	**334**	P		**P**	**00 42 13.6**	**+1.3**
	baz=151,SNR=12							
934A	**Benavides**	**37.11**	**335**	P		**P**	**00 42 16.5**	**+0.8**
	baz=152,SNR=12							
TIGA	**Tifton**	**37.27**	**358**	P		**P**	**00 42 17.5**	**+0.4**
	baz=177							
446A	**Poplarville**	**37.30**	**349**	P		**P**	**00 42 17.6**	**+0.4**
	baz=168							
BRAL	**Brewton**	**37.30**	**353**	*e*P		**P**	**00 42 17.2**	**-0.1**
	comp=Z,88nm,1.4s							
445A	**Amite**	**37.43**	**348**	P		**P**	**00 42 19.2**	**+0.8**
	baz=166							
835A	**Beeville**	**37.43**	**336**	P		**P**	**00 42 19.4**	**+1.0**
	baz=153							
933A	**Laredo**	**37.44**	**334**	P		**P**	**00 42 19.3**	**+0.8**
	baz=151,SNR=19							
444A	**Pine Grove**	**37.50**	**347**	P		**P**	**00 42 19.8**	**+0.8**
	baz=165							
834A	**Tilden**	**37.58**	**335**	P		**P**	**00 42 20.5**	**+0.8**
	baz=152,SNR=5.6							
638A	**Rosharon**	**37.58**	**340**	P		**P**	**00 42 20.4**	**+0.7**
	baz=157							
348A	**Jackson**	**37.66**	**351**	P		**P**	**00 42 21.3**	**+1.0**
	baz=170							
736A	**Circle Diamond**	**37.73**	**338**	P		**P**	**00 42 21.9**	**+1.0**
	baz=155							
347A	**Saraland**	**37.75**	**351**	P		**P**	**00 42 22.1**	**+1.0**
	baz=169,SNR=11							
540A	**Vidor**	**37.85**	**343**	P		**P**	**00 42 22.8**	**+0.8**
	baz=160							
346A	**Big Creek Wild**	**37.90**	**349**	P		**P**	**00 42 23.1**	**+0.8**
	baz=168							
637A	**Eagle Lake**	**37.91**	**339**	P		**P**	**00 42 23.4**	**+1.0**
	baz=156							
735A	**Kenedy**	**37.93**	**337**	P		**P**	**00 42 23.1**	**+0.5**
	baz=154							
833A	**Chaparral WMA,**	**38.11**	**334**	P		**P**	**00 42 24.6**	**+0.5**
	baz=151							
636A	**Smothers Creek**	**38.20**	**338**	P		**P**	**00 42 26.0**	**+1.0**
	baz=155,SNR=13							
344A	**Westbrook Farm**	**38.21**	**348**	P		**P**	**00 42 25.9**	**+0.9**
	baz=166,SNR=7.4							
248A	**Dixon Mills**	**38.31**	**352**	P		**P**	**00 42 26.8**	**+1.1**
	baz=170,SNR=7.1							
832A	**Faith Ranch, C**	**38.33**	**334**	P		**P**	**00 42 26.5**	**+0.5**
	baz=150,SNR=9.7							
538A	**Harpers Horsep**	**38.34**	**341**	P		**P**	**00 42 27.0**	**+1.0**
	baz=158							
440A	**Kirbyville**	**38.35**	**343**	P		**P**	**00 42 26.7**	**+0.6**
	baz=160							
635A	**Leesville**	**38.39**	**337**	P		**P**	**00 42 26.9**	**+0.4**
	baz=154							
247A	**Quitman**	**38.40**	**351**	P		**P**	**00 42 27.3**	**+0.8**
	baz=169,SNR=6.9							
733A	**Divot King Ran**	**38.41**	**335**	P		**P**	**00 42 27.5**	**+0.8**
	baz=151							
537A	**Green Hill Far**	**38.48**	**340**	P		**P**	**00 42 28.3**	**+1.1**
	baz=156							
342A	**Flagon Creek P**	**38.50**	**345**	P		**P**	**00 42 28.6**	**+1.1**
	baz=163							
245A	**Little AP, Sta**	**38.60**	**349**	P		**P**	**00 42 29.3**	**+1.1**
	baz=167							
634A	**China Grove, S**	**38.61**	**337**	P		**P**	**00 42 28.9**	**+0.6**
	baz=153							
341A	**Kurthwood**	**38.68**	**344**	P		**P**	**00 42 29.2**	**+0.3**
	baz=162							
536A	**Bastrop**	**38.74**	**339**	P		**P**	**00 42 30.5**	**+1.0**
	baz=155							
244A	**Avery, Jackson**	**38.77**	**348**	P		**P**	**00 42 30.6**	**+0.9**
	baz=166							
243A	**Waterproof**	**38.79**	**347**	P		**P**	**00 42 30.9**	**+1.1**
	baz=164							
438A	**Sam Houston St**	**38.82**	**341**	P		**P**	**00 42 31.1**	**+1.0**
	baz=158,SNR=8.9							
535A	**Dale**	**38.89**	**338**	P		**P**	**00 42 31.4**	**+0.7**
	baz=154							
VBMS	**Vicksburg**	**38.91**	**348**	P		**P**	**00 42 31.4**	**+0.6**
	baz=166							
NHSC	**New Hope**	**38.93**	**2**	*e*P		**P**	**00 42 30.8**	**-0.1**
	comp=Z,92nm,1.3s							
147A	**Livingston**	**38.95**	**351**	P		**P**	**00 42 31.7**	**+0.5**
	baz=170							
340A	**Bronson**	**38.96**	**343**	P		**P**	**00 42 31.9**	**+0.6**
	baz=161							
633A	**Saathoff Ranch**	**39.01**	**336**	P		**P**	**00 42 32.0**	**+0.2**
	baz=152,SNR=25							
146A	**Union**	**39.04**	**350**	P		**P**	**00 42 32.6**	**+0.6**
	baz=168,SNR=7.0							
339A	**Huntington**	**39.08**	**343**	P		**P**	**00 42 32.8**	**+0.6**
	baz=160							
437A	**Phantom Ranch,**	**39.11**	**340**	P		**P**	**00 42 33.5**	**+1.0**
	baz=157							
242A	**Grayson**	**39.12**	**346**	P		**P**	**00 42 33.3**	**+0.7**
	baz=164							
LRAL	**Lakeview Retre**	**39.14**	**353**	*e*P		**P**	**00 42 32.4**	**-0.3**
	comp=Z,16nm,0.9s							
145A	**Houston Renfro**	**39.17**	**349**	P		**P**	**00 42 33.6**	**+0.7**
	baz=167							
534A	**Blanco**	**39.23**	**337**	P		**P**	**00 42 33.7**	**+0.1**
	baz=153,SNR=15							
GOGA	**Godfrey**	**39.23**	**358**	*e*P		**P**	**00 42 33.3**	**-0.2**
GOGA					pmax	pmax		
	comp=Z,18nm,1.3s							
GOGA	**Godfrey**	**39.23**	**358**	*e*P		**P**	**00 42 33.3**	**-0.2**
	comp=Z,18nm,1.3s							
241A	**Mo Tay, Goldon**	**39.27**	**345**	P		**P**	**00 42 34.3**	**+0.5**
	baz=162							
436A	**Wall Ranch, Ga**	**39.28**	**339**	P		**P**	**00 42 35.2**	**+1.3**
	baz=156							
338A	**Crockett**	**39.33**	**342**	P		**P**	**00 42 35.4**	**+1.0**
	baz=158,SNR=5.7							
Z47A	**Carrollton**	**39.44**	**352**	P		**P**	**00 42 35.2**	**0.0**
	baz=170,SNR=14							
337A	**Centerville**	**39.47**	**341**	P		**P**	**00 42 36.5**	**+0.9**
	baz=158							
533A	**Kerrville**	**39.49**	**336**	P		**P**	**00 42 36.1**	**+0.3**
	baz=152,SNR=15							
NATX	**Nacogdoches**	**39.51**	**343**	P		**P**	**00 42 36.9**	**+1.1**
	baz=160							
NATX	**Nacogdoches**	**39.51**	**343**	*e*P		**P**	**00 42 36.0**	**+0.2**
	comp=Z,74nm,1.2s							
Z48A	**Northport**	**39.55**	**352**	P		**P**	**00 42 36.4**	**+0.3**
	baz=171,SNR=9.9							
Z46A	**Louisville**	**39.57**	**351**	P		**P**	**00 42 37.2**	**+0.9**
	baz=169							
435B	**Jarrell**	**39.57**	**338**	P		**P**	**00 42 37.2**	**+0.7**
	baz=155,SNR=5.8							
239A	**Gary**	**39.69**	**343**	P		**P**	**00 42 38.0**	**+0.6**
	baz=160							
141A	**Papa Simpson,**	**39.82**	**345**	P		**P**	**00 42 38.8**	**+0.4**
	baz=163							
434A	**Burnet**	**39.86**	**338**	P		**P**	**00 42 38.9**	**+0.1**
	baz=154,SNR=27							
336A	**Riesel**	**39.86**	**340**	P		**P**	**00 42 39.0**	**+0.3**
	baz=156,SNR=6.6							
Z45A	**Winona**	**39.87**	**350**	P		**P**	**00 42 39.6**	**+0.8**
	baz=168							
238A	**Jacksonville**	**39.87**	**342**	P		**P**	**00 42 39.4**	**+0.6**
	baz=159							
Z44A	**Pea Ridge, Bel**	**39.92**	**349**	P		**P**	**00 42 39.9**	**+0.7**
	baz=167							
335A	**Moody**	**39.97**	**339**	P		**P**	**00 42 40.0**	**+0.4**
	baz=155,SNR=10							
HPIG		**40.07**	**326**	*e*P		**P**	**00 42 40.7**	**-0.2**
	comp=Z,36nm,1.5s							
JSC	**Jenkinsville**	**40.08**	**1**	*e*P		**P**	**00 42 40.8**	**+0.3**
JSC				*e*			00 44 45.0	
JSC					pmax	pmax		
	comp=Z,14nm,1.1s							
JSC	**Jenkinsville**	**40.08**	**1**	*e*P		**P**	**00 42 40.8**	**+0.3**
	comp=Z,14nm,1.1s							
JSC				*e*PcP		**PcP**	**00 44 45.0**	**+0.1**
237A	**Washetta, Mont**	**40.08**	**341**	P		**P**	**00 42 41.5**	**+0.9**
	baz=158,SNR=11							
Y47A	**UCPARC, Winfie**	**40.10**	**352**	P		**P**	**00 42 40.7**	**-0.1**
	baz=171,SNR=15							
433A	**Art**	**40.12**	**337**	P		**P**	**00 42 41.4**	**+0.4**
	baz=153,SNR=59							
JCT	**Junction City**	**40.16**	**336**	P		**P**	**00 42 41.9**	**+0.6**
	baz=152,SNR=6.2							
JCT	**Junction City**	**40.16**	**336**	*e*P		**P**	**00 42 41.1**	**-0.3**
JCT					pmax	pmax		
	comp=Z,84nm,1.5s							
JCT	**Junction City**	**40.16**	**336**	*e*P		**P**	**00 42 41.1**	**-0.3**
	comp=Z,84nm,1.5s							
Y46A	**Houston**	**40.23**	**351**	P		**P**	**00 42 42.1**	**+0.3**
	baz=169,SNR=23							
139A	**Bunkhouse Ranc**	**40.29**	**344**	P		**P**	**00 42 43.1**	**+0.8**
	baz=160							
334A	**Lometa**	**40.31**	**338**	P		**P**	**00 42 43.0**	**+0.4**
	baz=154,SNR=28							
236A	**Katherine and**	**40.31**	**341**	P		**P**	**00 42 43.2**	**+0.7**
	baz=157							
Y45A	**Yeager Farm, C**	**40.33**	**350**	P		**P**	**00 42 43.3**	**+0.7**
	baz=168,SNR=33							
Z41A	**Richland Creek**	**40.42**	**346**	P		**P**	**00 42 44.1**	**+0.8**
	baz=163							
138A	**Matatall Enter**	**40.47**	**343**	P		**P**	**00 42 44.6**	**+0.8**
	baz=159							
Y44A	**Strider, Charl**	**40.54**	**349**	P		**P**	**00 42 44.9**	**+0.6**
	baz=167,SNR=6.4							
Z40A	**Long Farm, Mag**	**40.57**	**345**	P		**P**	**00 42 45.6**	**+1.0**
	baz=162							
333A	**Richland Sprin**	**40.59**	**337**	P		**P**	**00 42 45.0**	**+0.2**
	baz=153,SNR=15							
137A	**Heron Place, G**	**40.62**	**342**	P		**P**	**00 42 45.3**	**+0.2**
	baz=158,SNR=6.9							
WHTX	**Lake Whitney,**	**40.62**	**339**	P		**P**	**00 42 45.4**	**+0.3**
	baz=156,SNR=7.2							
WHTX	**Lake Whitney,**	**40.62**	**339**	*e*P		**P**	**00 42 45.0**	**-0.1**
	comp=Z,15nm,0.9s							
Y42A	**Garnett, Star**	**40.74**	**347**	P		**P**	**00 42 46.6**	**+0.7**
	baz=165							
136A	**Ennis**	**40.75**	**341**	P		**P**	**00 42 46.8**	**+0.7**
	baz=157							
Z39A	**Irene McRaven,**	**40.76**	**344**	P		**P**	**00 42 47.0**	**+0.8**
	baz=161							
CCAR	**Cane Creek**	**40.81**	**347**	*e*P		**P**	**00 42 46.9**	**+0.3**
	comp=Z,53nm,1.1s							
X45A	**UM Field Stati**	**40.85**	**350**	P		**P**	**00 42 47.3**	**+0.4**
	baz=168,SNR=11							
234A	**Clairette**	**40.88**	**339**	P		**P**	**00 42 47.4**	**+0.2**
	baz=155,SNR=8.9							
WLAR	**White Oak Lake**	**40.90**	**346**	*e*P		**P**	**00 42 48.6**	**+1.3**
	comp=Z,76nm,1.1s							
KMSC	**Kings Mountain**	**40.93**	**1**	P		**P**	**00 42 47.7**	**+0.1**
	baz=181,SNR=8.7							
KMSC	**Kings Mountain**	**40.93**	**1**	*e*P		**P**	**00 42 47.2**	**-0.4**
	comp=Z,32nm,1.1s							
OXF	**Oxford**	**40.93**	**350**	*e*P		**P**	**00 42 47.1**	**-0.5**
OXF					pmax	pmax		
	comp=Z,71nm,1.2s							
OXF	**Oxford**	**40.93**	**350**	*e*P		**P**	**00 42 47.1**	**-0.5**
	comp=Z,71nm,1.2s							
TXAR	**Lajitas Array**	**40.94**	**330**	P		**P**	**00 42 47.4**	**-0.4**
	comp=Z,4.8nm,1.0s,baz=153,slow=9.7,SNR=31							
TXAR				PcP		**PcP**	**00 44 48.2**	**+0.3**
	comp=Z,2.3nm,0.8s,baz=152,slow=5.7,SNR=7.6							
TXAR				LR		LR	00 58 19.9	
	comp=Z,138nm,18.7s,baz=0.0,slow=34							
TX31	**Lajitas Ar. Si**	**40.94**	**330**	*e*P		**P**	**00 42 48.1**	**+0.2**
TX31				*e*PcP		**PcP**	**00 44 48.1**	**+0.1**
Y41A	**Eaglette Beard**	**40.97**	**346**	P		**P**	**00 42 48.8**	**+0.9**
	baz=164							
Z38A	**Mt. Pleasant**	**40.99**	**343**	P		**P**	**00 42 48.8**	**+0.7**
	baz=160							
Z37A	**Pogue Cattle C**	**41.13**	**342**	P		**P**	**00 42 49.8**	**+0.5**
	baz=159							
233A	**Rising Star**	**41.17**	**338**	P		**P**	**00 42 49.8**	**+0.1**
	baz=154,SNR=19							
SWET	**Sewanee**	**41.19**	**355**	*e*P		**P**	**00 42 49.0**	**-0.7**
	comp=Z,5.2nm,1.0s							
X43A	**Marvell**	**41.21**	**349**	P		**P**	**00 42

baz=165,SNR=19
U44B Burton Farm, H 42.71 351 P P 00 43 02.3 +0.2
baz=169
V40A Witts Springs 42.86 347 P P 00 43 03.4 0.0
baz=164,SNR=27
W37B Quinton 42.89 344 P P 00 43 04.0 +0.4
baz=160,SNR=32
U43A Rector 42.92 350 P P 00 43 04.2 +0.5
baz=167
U44A Portageville 42.93 351 P P 00 43 04.2 +0.3
baz=168
BLA Blacksburg 43.02 2 eP P 00 43 04.0 -0.7
BLA pmax pmax
comp=Z,27nm,1.3s
BLA Blacksburg 43.02 2 eP P 00 43 04.0 -0.7
comp=Z,27nm,1.3s
U42A Revenden 43.05 349 P P 00 43 04.8 -0.1
baz=166,SNR=30
V39A Pettigrew 43.08 346 P P 00 43 05.8 +0.5
baz=163
PARMO Parma 43.09 351 eP P 00 43 05.7 +0.5
W36A Wetumka 43.12 343 P P 00 43 05.3 -0.2
baz=159
U41A Viola 43.18 348 P P 00 43 05.9 -0.1
baz=165,SNR=24
V38A Canehill 43.30 345 P P 00 43 06.7 -0.2
baz=162,SNR=27
PBMO Poplar Bluff 43.32 350 eP P 00 43 06.8 -0.2
comp=Z,52nm,1.1s
W35A Tecumseh 43.33 342 P P 00 43 06.9 -0.3
baz=158,SNR=19
U40A Yellville 43.39 347 P P 00 43 07.6 0.0
baz=164,SNR=37
T44A Benton 43.48 351 P P 00 43 08.4 +0.1
baz=169
V37A Hulbert 43.51 344 P P 00 43 08.9 +0.3
baz=161,SNR=25
U39A Green Forest 43.56 346 P P 00 43 09.2 +0.1
baz=163,SNR=27
WMOK Wichita Mounta 43.57 340 P P 00 43 09.2 0.0
baz=155,SNR=28
WMOK Wichita Mounta 43.57 340 eP P 00 43 08.7 -0.5
WMOK pmax pmax
comp=Z,30nm,1.1s
WMOK Wichita Mounta 43.57 340 eP P 00 43 08.7 -0.5
comp=Z,30nm,1.1s
HHAR Hobbs 43.58 346 eP P 00 43 09.5 +0.3
comp=Z,59nm,1.2s
T43A Greenville 43.59 350 P P 00 43 09.0 -0.2
baz=168,SNR=25
V36A Jenks 43.64 343 P P 00 43 09.6 -0.1
baz=159,SNR=8.9
TUL1 Leonard 43.71 344 P P 00 43 10.3 0.0
baz=160,SNR=12
TUL1 Leonard 43.71 344 eP P 00 43 10.1 -0.1
comp=Z,84nm,1.4s
MNTX Cornudas Mount 43.72 330 P P 00 43 09.9 -0.5
baz=145,SNR=44
MNTX Cornudas Mount 43.72 330 eP P 00 43 09.9 -0.5
comp=Z,29nm,1.0s
T41A Mountain View 43.83 348 P P 00 43 11.3 +0.1
baz=166,SNR=27
U38A Gravette 43.84 345 P P 00 43 11.4 +0.1
baz=162,SNR=23
V35A Meyer Ranch, C 43.88 342 P P 00 43 11.3 -0.3
baz=158,SNR=15
S45A Carrier Mills 43.91 352 P P 00 43 11.2 -0.6
baz=170
U37A Salina 43.99 345 P P 00 43 12.7 +0.2
baz=161,SNR=12
S44A Carbondale 44.03 352 P P 00 43 12.3 -0.4
baz=169,SNR=12
S43A Fulton Ridge, 44.03 351 P P 00 43 12.3 -0.5
baz=168,SNR=19
T40A Mansfield 44.08 348 P P 00 43 13.2 0.0
baz=165,SNR=19
USIN University of 44.09 353 eP P 00 43 12.6 -0.6
comp=Z,48nm,1.1s
U36A Oologah 44.15 344 P P 00 43 13.8 +0.1
baz=160
T39A Clever 44.15 347 P P 00 43 13.9 +0.1
baz=163,SNR=26
WCI Wyandotte Cave 44.21 355 eP P 00 43 12.6 -1.6
WCI pmax pmax
comp=Z,14nm,0.9s
WCI Wyandotte Cave 44.21 355 eP P 00 43 12.6 -1.6
comp=Z,14nm,0.9s
S41A Jillco Farms, 44.35 349 P P 00 43 15.1 -0.2
baz=166,SNR=45
S42A Caledonia 44.35 350 P P 00 43 14.6 -0.7
baz=167,SNR=15
T38A Diamond 44.38 346 P P 00 43 15.8 +0.2
baz=162,SNR=14
MSTX Muleshoe 44.43 335 P P 00 43 16.5 +0.3
baz=150,SNR=15
MSTX Muleshoe 44.43 335 eP P 00 43 16.4 +0.3
comp=Z,54nm,1.0s
S40A Lebanon 44.51 348 P P 00 43 16.8 +0.2
baz=165,SNR=31
R44A Waltonville 44.55 352 P P 00 43 16.6 -0.2
baz=170
T37A Cheneyville 18 44.62 345 P P 00 43 17.6 +0.1
baz=161,SNR=11
R43A Red Bud 44.70 351 P P 00 43 18.0 -0.1
baz=168,SNR=18
S39A Bolivar 44.78 347 P P 00 43 18.7 -0.1
baz=164,SNR=42
AMTX Amarillo 44.78 337 P P 00 43 19.0 0.0
baz=151
AMTX Amarillo 44.78 337 eP P 00 43 18.8 -0.2
comp=Z,31nm,1.0s
T36A Boggs Farm, Ca 44.82 344 P P 00 43 19.0 0.0
baz=160,SNR=11
R42A Luebbering 44.85 350 P P 00 43 19.1 -0.2
baz=167,SNR=6.9
S38A Stockton 44.85 346 P P 00 43 19.3 0.0
baz=163,SNR=13
T35A Sooner Cattle 44.86 343 P P 00 43 19.7 +0.3
baz=159,SNR=13
OLIL Olney 44.90 353 eP P 00 43 18.9 -0.7
comp=Z,38nm,1.1s
OLIL ePcP PcP 00 45 01.2 +0.4
R41A Rosebud 44.97 349 P P 00 43 20.2 0.0
baz=166,SNR=33
SLM Saint Louis 45.10 351 eP P 00 43 21.7 +0.4
SLM pmax pmax
comp=Z,37nm,0.8s
SLM Saint Louis 45.10 351 eP P 00 43 21.6 +0.4
comp=Z,37nm,0.8s
R40A Maddies Statio 45.13 348 P P 00 43 21.4 -0.1
baz=165,SNR=13
U32A Winter Ranch, 45.14 340 P P 00 43 21.8 +0.1
baz=156
T34A McClaskey Farm 45.15 343 P P 00 43 21.5 -0.3
baz=158,SNR=14
Q44A Meyer Farm, Va 45.18 352 P P 00 43 21.3 -0.6
baz=170,SNR=8.8
S37A Fort Scott 45.20 345 P P 00 43 22.0 -0.1
baz=162,SNR=16
R39A Chumby, Stover 45.31 348 P P 00 43 22.8 -0.2
baz=164,SNR=16
Q43A New Douglas 45.31 351 P P 00 43 22.7 -0.3
baz=169,SNR=7.2
S36A Lake Cedric, C 45.36 345 P P 00 43 23.6 +0.2
baz=161,SNR=7.2
R38A Fenwick Farm, 45.38 347 P P 00 43 23.4 -0.2
baz=163,SNR=28
Q42A Golden Eagle 45.42 350 P P 00 43 23.6 -0.1
baz=168,SNR=11
319A Douglas 45.49 326 eP P 00 43 25.3 +0.6
comp=Z,36nm,0.9s
S35A Otter Creek Ra 45.52 344 P P 00 43 24.8 +0.2
baz=160,SNR=16
Q41A Truxton 45.58 350 P P 00 43 24.8 -0.3
baz=167,SNR=12
121A Cookes Peak, D 45.60 329 P P 00 43 26.0 +0.4
baz=142,SNR=8.4
121A Cookes Peak, D 45.60 329 eP P 00 43 26.0 +0.4
comp=Z,22nm,1.1s
R37A Teagarden Farm 45.73 346 P P 00 43 26.3 +0.1
baz=162,SNR=7.3
S34A Willow Spring 45.76 343 P P 00 43 26.7 +0.1
baz=158,SNR=7.7
Q40A Laux Farm, Aux 45.77 349 P P 00 43 26.4 -0.2
baz=166,SNR=25
R36A Gordon, Harris 45.90 345 P P 00 43 27.4 -0.2
baz=161
P43A Skaggs, Pawnee 45.98 352 P P 00 43 27.9 -0.3
baz=169
Q39A Willow Grove F 46.00 348 P P 00 43 28.0 -0.4
baz=164
ACSO Alum Creek Sta 46.02 359 eP P 00 43 27.8 -0.8
comp=Z,23nm,1.0s
MVL Millersville 46.06 6 eP P 00 43 29.2 +0.4
comp=Z,14nm,1.3s
Q38A Cooks Store, C 46.06 347 P P 00 43 29.1 +0.2
baz=164
Q37A Longview Farm, 46.17 346 P P 00 43 29.5 -0.2
baz=162,SNR=6.6
P40A Paris 46.29 349 P P 00 43 30.4 -0.3
baz=166,SNR=15
BNM Barren Site 46.32 331 eP P 00 43 31.8 +0.4
R34A Isabella, Hill 46.36 343 P P 00 43 31.5 +0.2
baz=159,SNR=5.8
P39B Salisbury 46.38 348 P P 00 43 31.1 -0.3
baz=165,SNR=15
SFIN Lafayette 46.41 354 eP P 00 43 30.8 -0.8
comp=Z,18nm,1.0s
Q36A Arnold C. Orve 46.49 345 P P 00 43 32.2 -0.1
baz=161
Q35A Mercer Eighty, 46.55 345 P P 00 43 32.2 -0.5
baz=160,SNR=9.6
SSPA Standing Stone 46.56 4 eP P 00 43 32.3 -0.5
comp=Z,20nm,1.4s
O42A Bath 46.60 351 P P 00 43 32.6 -0.5
baz=169,SNR=5.9
O41A Passleys Farm, 46.65 350 P P 00 43 33.1 -0.4
baz=168
P38A Dawn 46.68 348 P P 00 43 33.5 -0.3
baz=164,SNR=12
N54A Moraine State 46.77 2 P P 00 43 33.8 -0.6
baz=182
LAZ Ladron 46.77 331 eP P 00 43 34.6 -0.2
P37A Lathrop 46.82 347 P P 00 43 34.3 -0.6
baz=163,SNR=9.9
O40A La Belle 46.83 349 P P 00 43 34.7 -0.2
baz=166,SNR=9.6
HDIL Hopedale 46.84 352 P P 00 43 34.4 -0.6
baz=170
HDIL Hopedale 46.84 352 eP P 00 43 34.0 -1.0
comp=Z,27nm,0.8s
Q34A Chapman 46.85 344 P P 00 43 35.1 0.0
baz=159
ANMO Albuquerque 46.89 332 P P 00 43 36.0 +0.3
comp=Z,11nm,0.8s,baz=150,slow=10,SNR=49
ANMO Albuquerque 46.89 332 P P 00 43 35.8 +0.1
baz=145
ANMO Albuquerque 46.89 332 eP P 00 43 36.0 +0.3
comp=Z,20nm,0.9s
KSU1 Kansas State U 46.93 344 P P 00 43 36.2 +0.5
baz=160
KSU1 Kansas State U 46.93 344 eP P 00 43 36.5 +0.8
comp=Z,57nm,0.9s
N59A State Game Lan 47.03 6 P P 00 43 36.8 +0.4
baz=188
TUC Tucson 47.03 326 P P 00 43 36.9 +0.2
baz=139
TUC Tucson 47.03 326 eP P 00 43 37.0 +0.2
TUC pmax pmax
comp=Z,7.0nm,0.8s
TUC Tucson 47.03 326 eP P 00 43 37.0 +0.2
comp=Z,.3nm,0.8s
P36A Good Intent, A 47.06 346 P P 00 43 36.5 -0.2
baz=162
O39A Kirksville 47.08 349 P P 00 43 36.7 -0.1
baz=165
O38A Galt 47.14 348 P P 00 43 37.0 -0.3
baz=164
P35A Duane Minner, 47.17 345 P P 00 43 37.2 -0.4
baz=161,SNR=9.9
N42A Yates City 47.22 352 P P 00 43 37.3 -0.6
baz=158,SNR=8.2
M54A Oil Creek Stat 47.33 2 P P 00 43 38.0 -0.8
baz=183
O37A Wolven Farm, M 47.33 347 P P 00 43 38.4 -0.4
baz=163
P34A Walnut Farm, R 47.40 344 P P 00 43 39.3 -0.1
baz=160
N40A Mertquake, Sal 47.52 350 P P 00 43 39.7 -0.6
baz=167
CBKS Cedar Bluff 47.59 341 P P 00 43 41.0 0.0
baz=156,SNR=6.8
CBKS Cedar Bluff 47.59 341 eP P 00 43 41.1 +0.2
CBKS e*PP pP 00 43 51.2 +0.6
CBKS pmax pmax
comp=Z,38nm,0.9s
CBKS Cedar Bluff 47.59 341 eP P 00 43 41.1 +0.2
comp=Z,38nm,0.9s
CBKS epP pP 00 43 51.2 +0.6
N39A Derby Farms, D 47.68 349 P P 00 43 41.2 -0.3
baz=166,SNR=14
N38A Joes South For 47.74 348 P P 00 43 41.6 -0.4
baz=165,SNR=9.0
M42A Sheffield 47.79 352 P P 00 43 41.9 -0.4
baz=169
M41A Milan 47.83 351 P P 00 43 42.0 -0.6
baz=168,SNR=12
T25A Trinidad 47.83 336 P P 00 43 43.1 +0.1
baz=149,SNR=17
T25A Trinidad 47.83 336 eP P 00 43 43.5 +0.5
comp=Z,28nm,0.9s
N37A Lee Faris, Mou 47.91 347 P P 00 43 43.0 -0.3
baz=163
214A Organ Pipe Nat 47.93 324 P P 00 43 43.9 +0.2
baz=136,SNR=9.6
214A Organ Pipe Nat 47.93 324 eP P 00 43 43.9 +0.2
comp=Z,87nm,1.3s
O34A Beatrice 47.96 345 P P 00 43 43.4 -0.3
baz=160,SNR=21
M40A Post Highland 48.01 350 P P 00 43 43.5 -0.6
baz=167
O33A Hebron 48.10 344 P P 00 43 44.6 -0.2
baz=159,SNR=6.6
AAM Ann Arbor 48.11 358 eP P 00 43 44.1 -0.7
AAM pmax pmax
comp=Z,36nm,1.2s
AAM Ann Arbor 48.11 358 eP P 00 43 44.0 -0.7
comp=Z,36nm,1.2s
M39A Webster 48.20 350 P P 00 43 45.0 -0.5
baz=166,SNR=16
BINY Binghamton 48.27 6 eP P 00 43 45.6 -0.5
comp=Z,23nm,1.1s
X18A Snowflake 48.28 329 eP P 00 43 47.2 +0.7
comp=Z,18nm,1.1s
M38A Pleasantville 48.33 349 P P 00 43 46.1 -0.5
baz=165,SNR=11
N35A Tabor 48.34 346 P P 00 43 46.2 -0.4
baz=161,SNR=6.2
L43A Garden Prairie 48.38 353 P P 00 43 46.1 -0.8
baz=171
M37A Trindle Farm, 48.49 348 P P 00 43 47.6 -0.2
baz=164,SNR=6.0
L41A Preston 48.50 351 P P 00 43 47.1 -0.8
baz=168,SNR=8.4
N34A Lincoln 48.53 345 P P 00 43 47.4 -0.7
baz=160,SNR=6.7
L40A Anamosa 48.60 351 P P 00 43 48.0 -0.6
baz=168,SNR=12
W18A Petrified Fore 48.63 329 P P 00 43 49.3 +0.1
baz=142,SNR=9.7
W18A Petrified Fore 48.63 329 eP P 00 43 50.0 +0.8
comp=Z,51nm,1.1s
M36A Felix, Anita 48.70 347 P P 00 43 48.7 -0.8
baz=163,SNR=6.6
L39A Vinton 48.79 350 P P 00 43 49.3 -0.8
baz=166
SDCO Great Sand Dun 48.80 335 P P 00 43 50.9 +0.3
baz=148,SNR=32
SDCO Great Sand Dun 48.80 335 eP P 00 43 50.8 +0.2
comp=Z,20nm,1.0s
SCIA State Center 48.81 349 eP P 00 43 50.4 +0.2
comp=Z,54nm,0.8s
M35A Neola 48.92 346 P P 00 43 50.7 -0.4
baz=162
X16A Lo Mia Camp, P 48.98 327 eP P 00 43 52.4 +0.4
L38A Oak Wood Farm, 48.98 349 P P 00 43 51.0 -0.6
baz=165,SNR=8.9
K41A Shullsburg 49.00 352 P P 00 43 50.9 -0.7
baz=169
TRY Troy 49.07 8 eP P 00 43 52.2 +0.1
comp=Z,142nm,1.9s
L37A Phoenix Point, 49.12 348 P P 00 43 52.1 -0.5
baz=164,SNR=6.1
M34A Aspy Farms, Fr 49.17 345 P P 00 43 52.5 -0.6
baz=160,SNR=7.5
K40A Colesburg 49.21 351 P P 00 43 52.6 -0.7
baz=168,SNR=16
JFWS Jewell Farm 49.29 352 eP P 00 43 53.3 -0.6
JFWS pmax pmax
comp=Z,23nm,0.8s
JFWS Jewell Farm 49.29 352 eP P 00 43 53.2 -0.6
comp=Z,23nm,0.8s
L36A Harm Buss Farm 49.29 347 P P 00 43 53.5 -0.5
baz=169,SNR=9.6
K39A Oelwein 49.34 350 P P 00 43 53.4 -0.9
baz=167,SNR=7.5
S22A 4UR Ranch, Cre 49.37 334 P P 00 43 54.9 -0.1
baz=146,SNR=17
S22A 4UR Ranch, Cre 49.37 334 eP P 00 43 54.5 -0.5
comp=Z,13nm,1.1s
K38A Parkersburg 49.44 349 P P 00 43 54.4 -0.6
baz=166,SNR=7.8
BGNE Belgrade 49.50 344 P P 00 43 55.3 -0.3
baz=158
BGNE Belgrade 49.50 344 eP P 00 43 55.4 -0.3
comp=Z,87nm,1.3s
L35A Bielow Farm, R 49.50 347 P P 00 43 54.7 -0.8
baz=162,SNR=9.1
L34A Svendsen Farm, 49.56 346 P P 00 43 55.4 -0.6
baz=161
EFI East Falkland 49.59 161 eP P 00 43 54.0 -2.1
EFI pmax pmax
comp=Z,52nm,1.1s
MVCO Mesa Verde 49.69 332 P P 00 43 57.3 0.0
baz=144,SNR=12
MVCO Mesa Verde 49.69 332 eP P 00 43 57.3 0.0
comp=Z,13nm,0.9s
Q24A Divide 49.69 336 P P 00 43 57.4 0.0
baz=149,SNR=6.8
Q24A Divide 49.69 336 eP P 00 43 57.9 +0.4
comp=Z,42nm,1.6s
J41A Loganville 49.70 352 P P 00 43 56.3 -0.7
baz=169,SNR=8.5
ACCN Adirondack Com 49.71 8 eP P 00 43 56.7 -0.4
comp=Z,8.8nm,1.0s
K37A Belmond 49.72 349 P P 00 43 56.6 -0.5
baz=164,SNR=25
K36A Gilmore City 49.76 348 P P 00 43 57.0 -0.5
baz=163
WUAZ Wupatki 49.78 328 P P 00 43 58.3 +0.3
baz=140,SNR=15
WUAZ Wupatki 49.78 328 eP P 00 43 58.6 +0.6
comp=Z,26nm,1.0s
J40A Soldiers Grove 49.83 351 P P 00 43 57.0 -1.0
baz=168,SNR=13
GLA Glamis 49.91 323 eP P 00 43 59.4 +0.6
GLA pmax pmax
comp=Z,11nm,0.9s
GLA Glamis 49.91 323 eP P 00 43 59.4 +0.6
comp=Z,10nm,0.9s
J39A Decorah 49.92 351 P P 00 43 57.4 -1.3
baz=167,SNR=10
K34A Le Mars 50.17 346 P P 00 44 00.0 -0.6
baz=161
Y12C Blythe 50.22 324 P P 00 44 01.5 +0.4
baz=136,SNR=5.8
Y12C Blythe 50.22 324 eP P 00 44 01.5 +0.4
comp=Z,28nm,1.3s
J37A Redenius Farm, 50.23 349 P P 00 44 00.3 -0.8
baz=165,SNR=9.1
I40A Norwalk 50.30 352 P P 00 44 00.8 -0.8
baz=169,SNR=13
I41A Arkdale 50.36 352 P P 00 44 01.4 -0.6
baz=170
PDMCI Parker Dam,Lak 50.40 325 P P 00 44 02.3 -0.2
baz=136
I39A Houston 50.40 351 P P 00 44 01.6 -0.8
baz=167,SNR=15
IKP In-Ko-Sh, Jac 50.40 322 P P 00 44 02.9 +0.3
baz=133,SNR=5.4
J36A Seneca 1, Swea 50.40 348 P P 00 44 01.6 -0.7
baz=164,SNR=22
PV01 Paradox Valley 50.47 333 eP P 00 44 03.5 +0.3
ISCO Idaho Springs 50.59 336 P P 00 44 04.0 -0.2
baz=149,SNR=14
ISCO Idaho Springs 50.59 336 eP P 00 44 04.5 +0.2
ISCO pmax pmax
comp=Z,15nm,1.0s
ISCO Idaho Springs 50.59 336 eP P 00 44 04.5 +0.2
comp=Z,15nm,1.0s
SADO Sadowa 50.60 2 P P 00 44 01.9 -1.9
comp=Z,10nm,1.1s,baz=202,slow=7.5,SNR=5.1
SADO PcP PcP 00 45 20.3 -0.8
comp=Z,5.4nm,0.8s,baz=122,slow=3.3,SNR=5.1
SADO Sadowa 50.60 2 eP P 00 44 02.6 -1.2
comp=Z,30nm,1.4s
SADO PcP PcP 00 45 20.3 -0.8
K32A Verdigre 50.62 345 P P 00 44 03.4 -0.6
baz=159,SNR=5.2
J35A Milford 50.62 347 P P 00 44 03.2 -0.8
baz=163
SMCO Snowmass 50.63 335 eP P 00 44 04.8 +0.2
comp=Z,19nm,1.4s
PV05 Paradox Valley 50.67 332 eP P 00 44 05.0 +0.2
PV05 epP pP 00 44 13.2 -1.3
BC3 Big Chuckawall 50.70 323 P P 00 44 05.1 +0.2
baz=135,SNR=7.6
I38A Scanlan Farm, 50.71 350 P P 00 44 03.9 -0.8
baz=166,SNR=9.2
BAR Barrett 50.77 322 eP P 00 44 05.7 +0.4
comp=Z,11nm,1.1s
BAR epP pP 00 44 15.2 +0.1
K31A O'Neill 50.80 344 P P 00 44 05.6 +0.2
baz=158
PV04 Paradox Valley 50.84 333 eP P 00 44 06.2 +0.3
IRM Iron Mountain 50.87 324 P P 00 44 06.2 +0.1
baz=135,SNR=7.2
I37A Lemond, Waseca 50.88 349 P P 00 44 05.2 -0.8
baz=165
H41A Junction City 50.88 353 P P 00 44 05.3 -0.6
baz=170,SNR=7.0
PV10 Paradox Valley 50.89 332 eP P 00 44 06.0 -0.4
U15A North Rim 50.96 328 eP P 00 44 07.8 +0.8
J33A Davis 50.98 346 P P 00 44 05.7 -1.0
baz=160,SNR=5.9
H40A Chili 50.99 352 P P 00 44 06.2 -0.6
baz=169,SNR=16
I36A Fitzsimmons Fa 51.00 349 P P 00 44 06.2 -0.6
baz=164
PV09 Paradox Valley 51.03 332 eP P 00 44 07.4 -0.1
I35A Creekview Farm 51.04 348 P P 00 44 06.8 -0.4
baz=163
H39A Augusta 51.17 351 P P 00 44 07.8 -0.3
baz=168,SNR=18
BELC Belle Mtn. Jos 51.27 323 P P 00 44 09.4 +0.2
baz=134,SNR=5.3
TPFO Pinon Flats 51.27 323 P P 00 44 09.1 -0.1
baz=134
PFO Pinyon Flats O 51.27 323 P P 00 44 08.6 -0.7
comp=Z,6.5nm,1.0s,baz=137,slow=6.2,SNR=7.8
PFO PcP PcP 00 45 23.6 -0.5
comp=Z,0.5nm,0.4s,baz=162,slow=7.1,SNR=3.6
PFO Pinyon Flats O 51.27 323 P P 00 44 08.7 -0.5
baz=134
PFO Pinyon Flats O 51.27 323 eP P 00 44 09.3 +0.1
PFO 00 45 23.6
PFO pmax pmax
comp=Z,10.0nm,1.1s
PFO Pinyon Flats O 51.27 323 eP P 00 44 09.3 +0.1
comp=Z,10nm,1.1s
PFO PcP PcP 00 45 23.6 -0.5
ECSD EROS Data Cent 51.29 346 P P 00 44 08.1 -0.9
baz=161,SNR=19
ECSD EROS Data Cent 51.29 346 eP P 00 44 07.9 -1.1
comp=Z,22nm,0.9s
G43A Wallace 51.30 355 P P 00 44 08.6 -0.5
baz=172
H38A Maiden Rock 51.32 350 P P 00 44 08.6 -0.7
baz=167
H37A Dierke Farm, C 51.34 350 P P 00 44 08.9 -0.5
baz=166
I34A Hadley 51.40 347 P P 00 44 09.3 -0.5
baz=162
J31A Geddes 51.41 344 P P 00 44 09.3 -0.7
baz=158
G41A Antigo 51.41 353 P P 00 44 09.3 -0.7
baz=171
WVL Waterville 51.52 11 eP P 00 44 10.9 +0.2
comp=Z,33nm,1.0s
H36A Jessenland, He 51.52 349 P P 00 44 10.3 -0.5
baz=164,SNR=9.4
G40A Rib Lake 51.59 352 P P 00 44 11.2 -0.1
baz=169
GMRC Granite Mounta 51.62 324 P P 00 44 12.1 +0.3

baz=135,SNR=5.9
N23A Red Feather La 51.66 337 P P 00 44 11.5 -0.7
baz=149
N23A Red Feather La 51.66 337 eP P 00 44 12.4 +0.3
comp=Z,14nm,1.4s
KNB Kanab 51.68 328 eP P 00 44 13.3 +1.0
KNB pmax pmax
comp=Z,38nm,1.5s
KNB Kanab 51.68 328 eP P 00 44 13.2 +1.0
comp=Z,38nm,1.5s
G38A Ridgeland 51.73 351 P P 00 44 11.5 -0.8
baz=167,SNR=14
PKCU Pink Cliffs 51.74 329 eP P 00 44 14.1 +1.2
comp=Z,13nm,0.9s
G39A Holcombe 51.75 352 P P 00 44 11.9 -0.5
baz=168,SNR=16
H35A Sunnyside Ranc 51.81 348 P P 00 44 12.1 -0.8
baz=163,SNR=16
PHWY Pilot Hill 51.82 337 eP P 00 44 13.7 +0.3
comp=Z,6.3nm,0.8s
F43A Flat Rock, Esc 51.83 355 P P 00 44 12.3 -0.7
baz=173,SNR=5.3
F42A Maple Grove Fa 51.84 354 P P 00 44 12.5 -0.6
baz=172
F41A Three Lakes 51.93 354 P P 00 44 13.1 -0.6
baz=171
SPMN Marine on St. 51.94 350 P P 00 44 13.1 -0.7
baz=166,SNR=8.4
SPMN Marine on St. 51.94 350 eP P 00 44 12.9 -0.9
comp=Z,38nm,1.1s
SPMN epP pP 00 44 23.0 -0.6
O20A White River Ci 51.97 334 P P 00 44 14.7 +0.2
baz=146,SNR=12
O20A White River Ci 51.97 334 eP P 00 44 14.6 +0.2
comp=Z,34nm,1.2s
H34A Spellman Lake, 51.98 347 P P 00 44 13.9 -0.3
baz=162,SNR=20
HEC Hector,Ludlow 52.04 324 P P 00 44 15.5 +0.5
baz=134
G36A St. Michael 52.12 349 P P 00 44 14.8 -0.4
baz=165
SRU San Rafael Swe 52.17 332 eP P 00 44 16.2 +0.3
SRU pmax pmax
comp=Z,76nm,1.9s
SRU San Rafael Swe 52.17 332 eP P 00 44 16.2 +0.3
comp=Z,76nm,1.9s
H32A Carlson Farm, 52.21 346 P P 00 44 15.4 -0.6
baz=160,SNR=8.1
H33A Prehn Over Nor 52.21 347 P P 00 44 15.4 -0.5
baz=161,SNR=9.1
F40A Park Falls 52.23 353 P P 00 44 15.4 -0.6
baz=170,SNR=9.9
SZCU Shurtz Canyon 52.26 329 eP P 00 44 17.6 +1.0
comp=Z,56nm,1.8s
PKME Peaks-Kenny Pk 52.26 11 eP P 00 44 16.6 +0.4
comp=Z,22nm,1.3s
COWI Conover 52.29 354 eP P 00 44 15.8 -0.6
comp=Z,23nm,1.3s
F39A Loretta 52.33 352 P P 00 44 16.1 -0.7
baz=168,SNR=8.0
E43A Lone Tree Farm 52.36 355 P P 00 44 16.2 -0.7
baz=173
CCUT Cedar City 52.37 328 eP P 00 44 17.4 0.0
comp=Z,20nm,1.1s
F37A Hinrichs Farm, 52.40 350 P P 00 44 17.2 0.0
baz=166
BFSC Mount Baldy Ra 52.43 322 P P 00 44 17.8 -0.1
baz=133,SNR=5.3
H31A Wolsey 52.45 345 P P 00 44 16.9 -0.8
baz=159
E42A Champion 52.49 355 P P 00 44 17.7 -0.2
baz=172
MSU Marysvale 52.50 330 eP P 00 44 18.7 +0.3
MSU Marysvale 52.50 330 eP P 00 44 18.7 +0.3
F38A Pierce - Schro 52.51 351 P P 00 44 17.7 -0.4
baz=167,SNR=25
SHPR Sheep Range 52.56 326 eP P 00 44 19.6 +0.8
comp=Z,26nm,1.3s
G33A Ortonville 52.63 347 P P 00 44 18.2 -0.8
baz=162,SNR=8.3
TMUT Trail Mountain 52.64 331 eP P 00 44 19.8 +0.3
comp=Z,10nm,1.1s
GGN Saint George 52.64 13 eP P 00 44 19.2 +0.2
comp=Z,28nm,1.3s
GSC Goldstone, Bar 52.65 324 P P 00 44 19.7 +0.3
baz=134,SNR=8.0
GSC Goldstone, Bar 52.65 324 eP P 00 44 19.8 +0.3
GSC e*PP pP 00 44 29.5 +0.3
GSC pmax pmax
comp=Z,22nm,1.4s
GSC Goldstone, Bar 52.65 324 eP P 00 44 19.8 +0.4
comp=Z,22nm,1.4s
GSC epP pP 00 44 29.5 +0.3
MWC Mount Wilson 52.66 322 eP P 00 44 20.1 +0.4
MWC pmax pmax
comp=Z,13nm,1.0s
MWC Mount Wilson 52.66 322 eP P 00 44 20.1 +0.4
comp=Z,13nm,1.0s
F36A Milaca 52.69 350 P P 00 44 18.7 -0.7
baz=165,SNR=12
E40A Wakefield 52.71 353 P P 00 44 19.1 -0.5
baz=170,SNR=17
E39A Mellen 52.73 352 P P 00 44 19.3 -0.4
baz=169,SNR=24
SHOC Shoshone, Teco 52.76 325 P P 00 44 20.6 +0.4
baz=135
RWWY Rawlins 52.84 336 eP P 00 44 21.0 +0.1
comp=Z,62nm,1.5s
F35A Swanville 52.88 349 P P 00 44 20.3 -0.5
baz=164
F34A Alexandria 52.95 348 P P 00 44 20.8 -0.5
baz=163
EDW2 Edwards Air Fo 53.07 323 P P 00 44 22.2 -0.3
baz=133,SNR=6.8
E38A The Farm, Brul 53.09 352 P P 00 44 22.0 -0.4
baz=168,SNR=17
D41A Chassel 53.17 354 P P 00 44 23.1 +0.1
baz=172,SNR=8.7
F33A 5 Mile Ranch, 53.21 347 P P 00 44 22.5 -0.8
baz=162,SNR=8.4
E36A McGregor 53.27 350 P P 00 44 23.2 -0.5
baz=166,SNR=8.8
LRMC Laurel Mtn Rad 53.29 323 P P 00 44 24.4 +0.2
baz=133,SNR=7.7
K22A Casper 53.39 337 P P 00 44 24.8 0.0
baz=149,SNR=9.3
K22A Casper 53.39 337 eP P 00 44 24.8 0.0
comp=Z,17nm,0.8s
TPNV Topopah Spring 53.49 326 P P 00 44 26.2 +0.5
baz=136,SNR=12
TPNV Topopah Spring 53.49 326 eP P 00 44 26.6 +0.9
TPNV pmax pmax
comp=Z,16nm,1.3s
TPNV Topopah Spring 53.49 326 eP P 00 44 26.6 +0.9
comp=Z,16nm,1.3s
FURC Furnace Creek, 53.50 325 P P 00 44 25.5 0.0
baz=135,SNR=5.4
E35A Pequot Lakes 53.52 349 P P 00 44 25.3 -0.2
baz=164
NLU North Lily Min 53.57 331 eP P 00 44 26.5 +0.2
comp=Z,8.9nm,1.0s
MPMC Manual Prospec 53.57 324 P P 00 44 25.8 -0.6
baz=134,SNR=9.0
E34A Wadena 53.62 349 P P 00 44 26.0 -0.3
baz=163,SNR=5.8
F31A Hecla 53.68 346 P P 00 44 25.9 -0.8
baz=160
D37A Cotton 53.76 351 P P 00 44 27.1 -0.2
baz=167,SNR=11
RSSD Black Hills 53.77 340 P P 00 44 28.0 +0.4
baz=152
RSSD Black Hills 53.77 340 eP P 00 44 27.8 +0.1
RSSD pmax pmax
comp=Z,26nm,1.4s
RSSD Black Hills 53.77 340 eP P 00 44 27.8 +0.1
comp=Z,26nm,1.4s
E33A Westby DABS, E 53.78 348 P P 00 44 26.6 -0.9
baz=162
JLU Jordanelle 53.78 332 eP P 00 44 28.5 +0.6
comp=Z,32nm,1.2s
LMN Caledonia Moun 53.82 15 eP P 00 44 28.0 +0.3
comp=Z,21nm,1.1s
LMN epP pP 00 44 36.5 -1.0
RKT Rikitea 53.86 246 eLR LR 01 00 06.4
comp=Z,698nm,29.5s,baz=79
PQI Presque Isle 53.87 12 eP P 00 44 28.3 +0.3
comp=Z,36nm,1.3s
D36A Goodland 53.90 350 P P 00 44 27.8 -0.5
baz=166
D35A Remer 53.96 350 P P 00 44 27.9 -0.8
baz=165
C39A Grand Marais 54.09 353 P P 00 44 28.9 -0.8
baz=170,SNR=13
DUG Dugway, Tooele 54.11 331 P P 00 44 30.6 +0.4
baz=141,SNR=22
DUG Dugway, Tooele 54.11 331 eP P 00 44 30.6 +0.4
DUG pmax pmax
comp=Z,21nm,1.1s
DUG Dugway, Tooele 54.11 331 eP P 00 44 30.6 +0.4
comp=Z,21nm,1.1s
R11A Troy Canyon, C 54.14 327 P P 00 44 30.8 +0.4
baz=137,SNR=13
R11A Troy Canyon, C 54.14 327 eP P 00 44 30.2 -0.2
comp=Z,9.5nm,0.9s
C38A Sawbill Land, 54.14 352 P P 00 44 29.3 -0.8
baz=168,SNR=12
D34A Park Rapids 54.18 349 P P 00 44 29.6 -0.7
baz=164,SNR=10
CWC Cottonwood Cre 54.18 324 P P 00 44 30.9 +0.2
baz=134
C37A Embarrass 54.28 351 P P 00 44 30.8 -0.2
baz=167,SNR=41
VES Vestal, Richgr 54.37 323 P P 00 44 31.8 -0.2
baz=132,SNR=7.2
EYMN Ely 54.40 352 P P 00 44 31.1 -0.7
baz=168,SNR=22
EYMN Ely 54.40 352 eP P 00 44 31.0 -0.9
comp=Z,41nm,0.8s
C36A Pine Crest Far 54.41 351 P P 00 44 31.6 -0.4
baz=166,SNR=20
C35A Jirik Farms, M 54.55 350 P P 00 44 32.6 -0.4
baz=165,SNR=10
HWUT Hardware Ranch 54.63 333 eP P 00 44 33.7 -0.3
comp=Z,42nm,1.0s
C34A RKJ Ranch, Bem 54.66 349 P P 00 44 33.4 -0.5
baz=164
BW06 Boulder Array 54.70 335 P P 00 44 33.7 -0.8
baz=146,SNR=14
BW06 Boulder Array 54.70 335 eP P 00 44 33.8 -0.6
PD31 Pinedale Array 54.70 335 eP P 00 44 33.9 -0.6
PDAR Pinedale Array 54.70 335 P P 00 44 33.9 -0.6
comp=Z,6.5nm,0.8s,baz=126,slow=7.5,SNR=49
PDAR PcP PcP 00 45 36.4 -0.6
comp=Z,1.5nm,0.8s,baz=179,slow=7.2,SNR=2.0
PDAR LR LR 01 06 44.7
comp=Z,55nm,22.0s,baz=150,slow=35
BGU Big Grassy Mou 54.78 331 eP P 00 44 34.9 -0.1
comp=Z,15nm,1.1s
SPUT South Promonto 54.80 332 eP P 00 44 35.5 +0.4
comp=Z,20nm,1.1s
B35A Bob, Littlefor 55.14 350 P P 00 44 36.9 -0.4
baz=166,SNR=8.0
HVU Hansel Valley 55.33 332 eP P 00 44 38.9 0.0
HVU pmax pmax
comp=Z,14nm,1.1s
HVU Hansel Valley 55.33 332 eP P 00 44 38.9 0.0
comp=Z,14nm,1.1s
C31A Landman Farms, 55.38 347 P P 00 44 38.4 -0.6
baz=161
B34A Aery, Baudette 55.42 350 P P 00 44 39.0 -0.3
baz=164,SNR=20
AGMN Agassiz Nation 55.47 349 P P 00 44 39.3 -0.3
baz=163,SNR=11
AGMN Agassiz Nation 55.47 349 eP P 00 44 39.2 -0.4
comp=Z,37nm,0.9s
PMPB Monarch Peak 55.66 322 eP P 00 44 42.3 +1.0
comp=Z,33nm,1.2s
B32A Ashes, Strandq 55.70 348 P P 00 44 40.9 -0.3
baz=162,SNR=7.6
REDW Red Top Meadow 55.73 335 eP P 00 44 42.0 +0.1
comp=Z,39nm,1.3s
SNOW Snow King Moun 55.77 335 eP P 00 44 42.5 +0.3
comp=Z,14nm,1.1s
LOHW Long Hollow 55.83 335 eP P 00 44 42.2 -0.4
comp=Z,9.0nm,1.0s
MDND Maddock 55.87 346 P P 00 44 42.2 -0.3
baz=158,SNR=6.0
MDND Maddock 55.87 346 eP P 00 44 42.7 +0.1
comp=Z,170nm,1.4s
TPAW Teton Pass 55.88 335 eP P 00 44 42.7 -0.3
comp=Z,17nm,1.1s
TVH3 East Aurora ar 55.93 325 eP P 00 44 44.2 +0.8
comp=Z,15nm,1.4s
A33A Warroad 55.99 349 P P 00 44 43.0 -0.4
baz=164,SNR=12
MOOW Moose Ponds 56.00 335 eP P 00 44 43.6 -0.2
MOOW epP pP 00 44 53.0 -0.6
A32A Rocking H Ranc 56.18 348 P P 00 44 44.3 -0.5
baz=162
IMW Indian Meadow 56.20 335 eP P 00 44 45.0 -0.3
comp=Z,20nm,1.4s
WAKR Walker 56.38 325 eP P 00 44 47.4 +0.8
comp=Z,9.5nm,1.1s
YPP Pitchstone Pla 56.45 335 eP P 00 44 47.4 +0.3
comp=Z,17nm,1.5s
H17A Grant Village 56.46 336 eP P 00 44 50.0 +2.9
comp=Z,39nm,1.8s
BMN Battle Mountai 56.52 328 eP P 00 44 47.8 +0.3
BMN pmax pmax
comp=Z,10.0nm,1.1s
BMN Battle Mountai 56.52 328 eP P 00 44 47.8 +0.3
comp=Z,9.7nm,1.1s
LKWY Lake 56.52 336 eP P 00 44 47.8 +0.2
LKWY pmax pmax
comp=Z,16nm,1.4s
LKWY Lake 56.52 336 eP P 00 44 47.8 +0.2
comp=Z,16nm,1.4s
RLMT Red Lodge 56.53 337 P P 00 44 47.1 -0.4
baz=147,SNR=5.5
RLMT Red Lodge 56.53 337 eP P 00 44 47.2 -0.4
comp=Z,25nm,1.5s
YFT Old Faithful 56.61 335 eP P 00 44 48.4 +0.2
comp=Z,56nm,1.7s
LAO LASA Array 56.76 340 P P 00 44 48.7 -0.3
baz=151,SNR=5.6
LAO LASA Array 56.76 340 eP P 00 44 48.9 -0.2
comp=Z,30nm,1.4s
YHH Holmes Hill 56.89 336 eP P 00 44 51.0 +0.7
comp=Z,44nm,1.9s
YHB Hoo Butte 57.00 335 eP P 00 44 51.9 +1.0
comp=Z,13nm,0.9s
QLMT Earthquake Lak 57.16 335 eP P 00 44 53.3 +1.2
PAHR Pah Rah Range 57.18 326 eP P 00 44 53.0 +0.8
comp=Z,10nm,1.0s
GCMT Greycliff 57.25 337 eP P 00 44 52.4 -0.2
ULM Lac du Bonnet 57.34 349 P P 00 44 51.9 -1.0
comp=Z,20nm,0.9s,baz=162,slow=7.3,SNR=18
ULM Lac du Bonnet 57.34 349 eP P 00 44 51.8 -1.1
ULM pmax pmax
comp=Z,26nm,0.9s
ULM Lac du Bonnet 57.34 349 eP P 00 44 51.8 -1.1
comp=Z,26nm,0.9s
HLID Hailey 57.47 332 P P 00 44 54.3 +0.1
baz=141,SNR=33
HLID Hailey 57.47 332 eP P 00 44 54.5 +0.2
comp=Z,18nm,0.9s
AFDM Forest Hills D 57.57 324 eP P 00 44 54.8 0.0
comp=Z,6.0nm,1.1s
MCMT McKenzie Canyo 57.76 334 eP P 00 44 56.7 +0.4
TAOE Nuku Hiva Isla 57.86 263 eLR LR 01 01 41.9
comp=Z,582nm,26.1s
BOZ Bozeman (W) 57.87 336 P P 00 44 56.8 -0.2
baz=144,SNR=20
BOZ Bozeman (W) 57.87 336 eP P 00 44 57.0 0.0
BOZ pmax pmax
comp=Z,40nm,1.4s
BOZ Bozeman (W) 57.87 336 eP P 00 44 57.0 0.0
comp=Z,40nm,1.4s
MFID Camas Ranch 58.02 331 eP P 00 44 58.1 +0.1
comp=Z,26nm,1.0s
DLMT Dillon 58.08 335 eP P 00 44 58.9 +0.5
comp=Z,35nm,1.4s
ORV Oroville 58.27 325 eP P 00 45 00.4 +0.7
ORV pmax pmax
comp=Z,20nm,1.2s
ORV Oroville 58.27 325 eP P 00 45 00.4 +0.7
comp=Z,20nm,1.2s
LRM Limekiln Ridge 58.39 335 eP P 00 45 00.8 +0.1
HRY Holter Researc 58.86 336 eP P 00 45 03.9 +0.2
O03D Paynes Creek 58.94 325 P P 00 45 03.8 -0.6
baz=132
MOD Modoc Plateau 59.20 327 eP P 00 45 06.1 -0.2
comp=Z,33nm,1.1s
BMO Blue Mountains 59.80 331 eP P 00 45 09.8 -0.6
BMO pmax pmax
comp=Z,13nm,1.4s
BMO Blue Mountains 59.80 331 eP P 00 45 09.8 -0.6
comp=Z,13nm,1.4s
MSO Missoula 59.82 335 P P 00 45 10.5 +0.1
baz=142,SNR=16
MSO Missoula 59.82 335 eP P 00 45 10.8 +0.4
comp=Z,48nm,1.3s
M04C Macdoel 59.96 326 P P 00 45 11.3 -0.2
baz=132
SLMT Seeley Lake 59.96 336 eP P 00 45 11.6 +0.1
K05A Summer Lake 60.09 328 eP P 00 45 13.2 +0.8
comp=Z,31nm,1.0s
SWMT Swartz Lake 60.38 335 eP P 00 45 14.8 +0.5
F10A Beach Ranch, E 60.60 332 eP P 00 45 15.9 +0.1
comp=Z,35nm,1.2s
J05D Fort Rock, OR 60.65 328 P P 00 45 16.5 +0.2
baz=134,SNR=7.2
YBMT Yellow Bay 60.67 336 eP P 00 45 17.0 +0.8
JTMT Jette 60.69 335 eP P 00 45 17.1 +0.7
BLMT Blacktail Moun 60.93 336 eP P 00 45 19.0 +0.9
BSMT Bassoo Peak 60.98 335 eP P 00 45 18.8 +0.4
E09A Wood Farm, Sta 61.43 332 eP P 00 45 21.2 -0.1
comp=Z,20nm,1.1s
I05D Terrebonne, OR 61.44 329 P P 00 45 21.8 +0.3
baz=134
WALA Waterton Lakes 61.58 337 eP P 00 45 22.6 +0.2
SCHQ Schefferville 61.90 10 P P 00 45 23.6 -0.6
comp=Z,9.8nm,0.9s,baz=188,slow=6.2,SNR=4.4
SCHQ LR LR 01 14 07.8
comp=Z,63nm,18.3s,baz=315,slow=38
E07A Sunnyside 62.27 331 eP P 00 45 27.8 +0.8
comp=Z,35nm,1.3s
NEW Newport 62.29 334 P P 00 45 26.4 -0.7
comp=Z,3.6nm,0.9s,baz=152,slow=4.4,SNR=7.8
NEW Newport 62.29 334 P P 00 45 26.6 -0.5
baz=140,SNR=6.5
NEW Newport 62.29 334 eP P 00 45 26.8 -0.3
NEW pmax pmax
comp=Z,26nm,1.5s
NEW Newport 62.29 334 eP P 00 45 26.8 -0.3
comp=Z,26nm,1.5s
B08A Colville Reser 63.34 333 eP P 00 45 34.0 -0.1
comp=Z,35nm,1.8s
B05A Bryant 64.55 331 P P 00 45 41.7 -0.3
baz=135
EDM Edmonton 64.74 340 eP P 00 45 42.3 -0.9
EDM Edmonton 64.74 340 eP P 00 45 42.3 -0.9
A04D Lummi Island 65.16 331 P P 00 45 45.9 0.0
baz=134
LLLB Lillooet 66.12 333 eP P 00 45 52.9 +0.7
PPT Papeete 67.02 254 LR LR 01 07 29.8
comp=Z,232nm,19.3s,baz=24,slow=29
PPT2 Papeete2 67.02 254 eS S 00 54 52.8 +2.2
comp=Z,153nm,26.5s
PPT2 Papeete2 67.02 254 eLR LR 01 06 07.1
comp=Z,774nm,27.2s
YKA Yellowknife Ar 72.78 345 P P 00 46 31.6 -1.3
comp=Z,2.3nm,0.8s,baz=141,slow=6.0,SNR=5.9
DLBC Dease Lake 74.92 336 eP P 00 46 46.7 +1.0
BESE Bessie Mountai 77.01 335 eP P 00 46 58.9 +1.3
DBIC Dimbokro 77.83 82 P P 00 47 04.5 +1.5
comp=Z,14nm,0.9s,baz=217,slow=5.6,SNR=9.8
DBIC LR LR 01 19 34.6
comp=Z,545nm,20.7s,baz=238,slow=34
DBIC Dimbokro 77.83 82 eP P 00 47 04.9 +1.8
DBIC epP pP 00 47 14.0 +0.8
VNA3 Neumayer Olymp 78.64 162 P P 00 47 06.7 +0.3
VNA1 Neumayer--Stat 78.94 161 P P 00 47 08.9 +0.9
VNA2 Neumayer--Watz 79.28 161 P P 00 47 10.0 +0.1
baz=297,slow=5.8
MORF Marmelete 80.40 51 eP P 00 47 16.5 -0.2
MORF AMb AMB 00 47 23.6
comp=Z,23nm,1.3s
MORF Marmelete 80.40 51 eP P 00 47 20.7 +4.0
MORF epP pP 00 47 27.8 +0.9
MORF Marmelete 80.40 51 eP P 00 47 16.5 -0.2
PTEO Sao Teotonio 80.40 50 eP P 00 47 20.8 +4.1
PTEO epP pP 00 47 28.2 +1.4
PNCL Nicolau / Gran 80.70 50 eP P 00 47 21.7 +3.5
comp=Z,16nm,1.8s
PNCL epP pP 00 47 29.0 +0.6
SNAA Sanae 80.86 162 P P 00 47 18.7 0.0
SNAA Sanae 80.86 162 eP P 00 47 18.6 0.0
SNAA Sanae 80.86 162 eP P 00 47 18.6 0.0
PCAS Casmilo, Conde 81.23 48 eP P 00 47 22.3 +1.2
comp=Z,29nm,1.8s
PTO Porto 81.45 47 eP P 00 47 25.1 +3.0
comp=Z,30nm,1.5s
PTO epP pP 00 47 32.7 +0.4
PESTR Estremoz 81.61 49 eP P 00 47 26.1 +3.0
comp=Z,18nm,1.4s
PESTR i P pP 00 47 34.3 +1.0
PVIS Viseu 81.85 48 eP P 00 47 27.5 +3.1
comp=Z,38nm,1.6s
PVIS epP pP 00 47 34.7 +0.1
DAWY Dawson 81.89 338 eP P 00 47 23.5 -0.5
comp=Z,14nm,1.3s
PCBR Castelo Branco 81.94 48 eP P 00 47 27.7 +2.9
PCBR epP pP 00 47 35.0 0.0
POLO Lamas de Olo 82.10 47 eP P 00 47 28.8 +3.1
POLO epP pP 00 47 35.9 0.0
INK Inuvik 82.38 343 P P 00 47 25.6 -0.8
comp=Z,6.8nm,1.1s,baz=128,slow=4.4,SNR=5.3
MVO Moncorvo 82.60 47 eP P 00 47 31.3 +3.0
MVO epP pP 00 47 38.9 +0.4
EGAK Eagle 82.91 338 eP P 00 47 28.9 -0.4
PBRG Braganca 82.97 47 eP P 00 47 33.4 +3.2
comp=Z,27nm,1.5s
PBRG epP pP 00 47 40.9 +0.5
SUMG Summit 83.19 12 i P P 00 47 28.8 -2.3
comp=Z,61nm,1.4s
SUMG Summit 83.19 12 i P P 00 47 28.8 -2.3
SUMG pmax pmax
comp=Z,61nm,1.4s
SUMG Summit 83.19 12 eP P 00 47 31.4 +0.4
PAX Paxson 83.73 336 eP P 00 47 33.1 -0.6
PAX pmax pmax
comp=Z,21nm,1.6s
PAX Paxson 83.73 336 eP P 00 47 33.1 -0.6
comp=Z,21nm,1.6s
QSPA South Pole Qui 84.08 180 eP P 00 47 36.3 +0.7
comp=Z,277nm,0.9s
PAB San Pablo 84.21 49 eP P 00 47 39.2 +2.5
PAB San Pablo 84.21 49 eP P 00 47 39.2 +2.5
ESDC Sonseca Array 84.53 49 P P 00 47 39.0 +0.7
comp=Z,8.1nm,0.9s,baz=266,slow=4.7,SNR=37
ESDC LR LR 01 21 25.2
comp=Z,89nm,21.3s,baz=235,slow=33
ESLA Sonseca Array 84.53 49 eP P 00 47 39.5 +1.2
KDAK Kodiak Island 84.97 329 P P 00 47 38.8 -1.1
comp=Z,5.4nm,0.9s,baz=83,slow=14,SNR=2.8
TORD Torodi Ar. Bea 85.07 76 P P 00 47 41.8 +0.4
comp=Z,28nm,1.1s,baz=279,slow=5.6,SNR=88
TORD LR LR 01 25 25.1
comp=Z,413nm,19.3s,baz=260,slow=36
ILAR Eielson Array 85.08 337 P P 00 47 39.0 -1.4
comp=Z,1.6nm,0.9s,baz=154,slow=4.2,SNR=11
ILAR PP PP 00 50 56.6 -1.2
comp=Z,1.2nm,0.9s,baz=104,slow=7.5,SNR=7.0
ILAR LR LR 01 27 52.2
comp=Z,58nm,18.6s,baz=137,slow=37
RND Reindeer 85.31 335 eP P 00 47 41.7 +0.1
RND Reindeer 85.31 335 eP P 00 47 41.7 +0.1
COLA College 85.50 337 eP P 00 47 40.9 -1.5
COLA pmax pmax
comp=Z,2.0nm,0.9s
RSO Redoubt South 85.95 332 eP P 00 47 48.8 +3.8
KTH Kantishna Hill 86.22 335 eP P 00 47 45.4 -0.8
comp=Z,3.2nm,0.8s
TOLK Toolik Lake Re 87.64 340 P P 00 47 52.5 -0.4
baz=113
ESK Eskdalemuir 88.46 34 eP P 00 47 59.9 +2.9
ESK Eskdalemuir 88.46 34 eP P 00 47 59.9 +2.9
EKA Eskdalemuir Ar 88.49 34 P P 00 47 57.0 -0.2
comp=Z,11nm,1.0s,baz=260,slow=3.3,SNR=12
EKA Eskdalemuir Ar 88.49 34 P P 00 47 57.0 -0.2
EKA pmax pmax
comp=Z,11nm,1.0s
VNDA Vanda 89.68 191 P P 00 48 03.3 +0.8
comp=Z,3.9nm,0.9s,baz=127,slow=3.8,SNR=29
VNDA LR LR 01 24 59.9
comp=Z,48nm,18.1s,baz=118,slow=33
TAM Tamanrasset 89.86 67 eP P 00 48 06.2 +1.7
TAM pmax pmax
comp=Z,5.0nm,1.1s
TAM Tamanrasset 89.86 67 eP P 00 48 06.2 +1.7

	comp=Z,5.1nm,1.1s								
DAG	**Danmarks Havn**	**89.88**	**12**	*i* P		**P**	**00 48 02.5**	**-0.7**	
	comp=Z,17nm,1.2s								
DAG	**Danmarks Havn**	**89.88**	**12**	*i* P		**P**	**00 48 02.5**	**-0.7**	
DAG				pmax		pmax			
	comp=Z,27nm,1.2s								
JMIC	**Jan Mayen**	**90.27**	**18**	LR		LR	01 26 28.2		
	comp=Z,50nm,20.8s,baz=249,slow=34								
KEST	**Kesra**	**94.41**	**55**	LR		LR	01 28 41.6		
	comp=Z,65nm,19.7s,baz=280,slow=34								
SYO	**Syowa Base**	**95.15**	**162**	*e*P		**P**	**00 48 26.2**	**-1.6**	
SYO	**Syowa Base**	**95.15**	**162**	*e*sP		sP	00 48 41.4	-0.4	
DAVA	**Damuels**	**95.53**	**43**	PcP		**P**	**00 48 31.9**	**+1.7**	
	comp=Z,7.6nm,1.1s								
KONO	**Kongsberg**	**95.86**	**31**	*i* P		**P**	**00 48 29.4**	**-1.8**	
FETA	**Feichten**	**96.09**	**43**	*i* P		**P**	**00 48 31.6**	**-1.2**	
	comp=Z,6.8nm,1.1s								
RETA	**Reutte**	**96.13**	**43**	*e*PcP		**P**	**00 48 33.4**	**+0.5**	
	comp=Z,4.8nm,1.5s								
MOTA	**Moosalm**	**96.36**	**43**	*e*PcP		**P**	**00 48 35.6**	**+1.6**	
	comp=Z,2.8nm,1.0s								
NOA	**NORSAR Array B**	**96.69**	**29**	LR		LR	01 29 58.0		
	comp=Z,35nm,20.6s,baz=245,slow=34								
ABTA	**Abfaltersbach**	**97.31**	**44**	*e*P		**P**	**00 48 36.3**	**-1.9**	
	comp=Z,3.6nm,1.1s								
CLL	**Collm**	**97.67**	**39**	*i* P		Pdif	00 48 42.8	+3.2	
CLL				pmax		pmax			
	comp=Z,6.0nm,1.8s								
CLL	**Collm**	**97.67**	**39**	*e*P		Pdif	00 48 40.0	+0.4	
CLL				*i* Pmax			00 48 42.8		
	comp=Z,19nm,1.8s								
HFS	**Hagfors**	**97.93**	**30**	LR		LR	01 29 58.7		
	comp=Z,31nm,20.3s,baz=264,slow=34								
GERES	**GERESS Array B**	**98.12**	**42**	LR		LR	01 32 58.0		
	comp=Z,40nm,19.3s,baz=258,slow=35								
MOA	**Molln**	**98.51**	**43**	*e*Pdiff		**P**	**00 48 43.4**	**-0.1**	
	comp=Z,5.8nm,1.4s								
CONA	**Conrad Observa**	**99.58**	**43**	Pdiff		**Pdif**	**00 48 48.0**	**-0.4**	
	comp=Z,5.9nm,1.8s								
DZM	**Mont Dzumac**	**107.62**	**245**	*e*LR		LR	01 24 58.2		
	comp=Z,261nm,38.2s								
ARU	**Arti**	**120.80**	**24**	*i* PKIKP		**PKPdf**	**00 53 55.6**	**-1.2**	
ARU							00 55 20.9		
ARU							01 01 04.7		
ARU				SP		SP	01 05 07.7	-4.2	
ABKAR	**Akbulak array**	**126.19**	**30**	*e*PKPdf		**PKPdf**	**00 54 07.2**	**-0.1**	
BRVK	**Borovoye**	**127.84**	**21**	*c i* PKIKP		**PKPdf**	**00 54 11.0**	**+0.6**	
BRVK				pmax		pmax			
	comp=Z,16nm,1.7s								
BRVK	**Borovoye**	**127.84**	**21**	*e*PKPdf		**PKPdf**	**00 54 10.6**	**+0.1**	
NVS	**Novosibirsk**	**129.84**	**11**	*e*PKIKP		PKPpre	00 54 11.0		
ZALV	**Zalesovo Beam**	**130.99**	**10**	PKP		**PKPdf**	**00 54 15.6**	**-0.8**	
	comp=Z,6.8nm,0.8s,baz=318,slow=2.0,SNR=35								
GEYT	**Alibeck**	**131.73**	**43**	PKP		**PKPdf**	**00 54 17.7**	**-0.6**	
	comp=Z,2.1nm,0.9s,baz=253,slow=2.4,SNR=5.4								
USRK	**Ussuriysk Ar.**	**131.81**	**328**	PKP		**PKPdf**	**00 54 15.8**	**-2.5**	
	comp=Z,2.6nm,0.8s,baz=20,slow=6.1,SNR=4.7								
MJAR	**Matsushiro Arr**	**132.45**	**315**	PKP		**PKPdf**	**00 54 18.1**	**-1.6**	
	comp=Z,1.8nm,0.9s,baz=95,slow=2.8,SNR=4.9								
KURK	**Kurchatov**	**132.54**	**17**	*c i* PKIKP		**PKPdf**	**00 54 20.1**	**+0.7**	
KURK				pmax		pmax			
	comp=Z,66nm,1.7s								
KURK	**Kurchatov**	**132.54**	**17**	*e*PKPdf		PKPpre	00 54 15.2		
ASAR	**Alice Springs**	**134.33**	**228**	PKhKP		PKPpre	00 54 10.0		
	comp=Z,0.4nm,0.8s,baz=108,slow=3.0,SNR=3.0								
ASAR				PKP		**PKPdf**	**00 54 21.6**	**-2.1**	
	comp=Z,2.2nm,0.9s,baz=112,slow=1.6,SNR=16								
CN2	**Changchun**	**135.38**	**332**	*e*PKP		**PKPdf**	**00 54 25.4**	**+0.4**	
WRAB	**Tennant Creek**	**136.06**	**233**	*e*PKIKP		**PKPdf**	**00 54 26.5**	**-0.5**	
WRAB	**Tennant Creek**	**136.06**	**233**	*e*PKPdf		**PKPdf**	**00 54 26.5**	**-0.5**	
WRA	**Warramunga Arr**	**136.07**	**233**	PKP		**PKPdf**	**00 54 26.4**	**-0.6**	
	comp=Z,6.1nm,0.9s,baz=117,slow=1.5,SNR=21								
MKAR	**Makanchi Array**	**137.12**	**16**	PKP		**PKPdf**	**00 54 27.6**	**-0.6**	
	comp=Z,4.2nm,1.0s,baz=335,slow=1.7,SNR=13								
ULN	**Ulaanbaatar**	**137.61**	**351**	*c i* PKIKP		**PKPdf**	**00 54 29.6**	**+0.4**	
ULN				pmax		pmax			
	comp=Z,3.0nm,1.0s								
SONM	**Songino Array**	**137.74**	**352**	PKhKP		PKPpre	00 54 17.9		
	comp=Z,1.2nm,1.0s,baz=349,slow=0.8,SNR=6.2								
SONM				PKP		**PKPdf**	**00 54 28.8**	**-0.6**	
	comp=Z,2.2nm,0.8s,baz=281,slow=0.4,SNR=8.1								
SONM				PP		**PP**	**00 57 18.7**	**+3.5**	
	comp=Z,0.3nm,0.5s,baz=350,slow=6.0,SNR=3.8								
KSRS	**Korea Array**	**138.61**	**323**	PKhKP		PKPpre	00 54 26.2		
	comp=Z,2.5nm,0.8s,baz=354,slow=1.6,SNR=5.0								
KSRS				PKP		**PKPdf**	**00 54 30.8**	**-0.3**	
	comp=Z,4.6nm,0.8s,baz=354,slow=1.2,SNR=18								
KSRS	**Korea Array**	**138.61**	**323**	PKIKP		**PKPdf**	**00 54 30.8**	**-0.3**	
KSRS				pmax		pmax			
	comp=Z,4.0nm,0.7s								
KSAR	**Wonju Array Be**	**138.64**	**323**	PKPpre		PKPpre	00 54 26.2		
KSAR				PKP		**PKPdf**	**00 54 30.8**	**-0.4**	
KSH	**Kashi**	**141.10**	**28**	*e*PKP		**PKPdf**	**00 54 34.6**	**-1.2**	
KSH				sPKP			00 54 48.8		
KSH				PP		**PP**	**00 57 39.3**	**+2.9**	
KSH				PKS		**PKSdf**	**00 58 08.4**	**-3.4**	
KSH				SKS		**SKSdf**	**01 01 39.3**	**-4.6**	
KSH				SS		**SS**	**01 16 01.4**	**-0.6**	
KSH				AMB		AMB			
	comp=Z,91nm,5.9s								
KSH				LR		LR			
	comp=Z,80nm,5.1s								
KSH				LR		LR			
	comp=Z,78nm,4.4s								
KSH				LR		LR			
	comp=Z,120nm,14.0s								
WMQ	**Urumqi**	**141.23**	**12**	PKP		**PKPdf**	**00 54 35.8**	**0.0**	
WMQ				LR		LR			
	comp=Z,63nm,28.5s								
WMQ				LR		LR			
	comp=Z,26nm,26.9s								
HHC	**Hu-ho-hao-te**	**143.30**	**343**	*e*PKP		**PKPdf**	**00 54 38.3**	**-1.3**	
HHC				PP		**PP**	**00 57 53.5**	**+4.1**	
HHC				SS		SS	01 16 32.8	+5.9	
HHC				AMB		AMB			
	comp=Z,29nm,7.5s								
HHC				LR		LR			
	comp=Z,150nm,12.4s								
HHC				LR		LR			
	comp=Z,160nm,14.9s								
HHC				LR		LR			
	comp=Z,100nm,13.7s								
MBWA	**Marble Bar**	**145.70**	**217**	*e*PKPdf		**PKPdf**	**00 54 43.8**	**-0.5**	
MBWA				*e*pPKPdf		**pPKPdf**	**00 54 54.2**	**-0.6**	
GTA	**Gaotai**	**146.71**	**358**	*e*PKPbc		**PKPdf**	**00 54 45.6**	**0.0**	
NJ2	**Nanjing**	**147.68**	**326**	*e*PKPbc		**PKPbc**	**00 54 48.9**	**-1.1**	
LZH	**Lanzhou**	**149.62**	**351**	*e*PKPbc		**PKPbc**	**00 54 55.5**	**+0.4**	
LZH				pPKP		PKPab	00 55 00.5	+0.4	
LZH				sPKP			00 55 03.3		
SOEI	**Soe**	**149.65**	**239**	*e*PKPdf		**PKPdf**	**00 54 51.8**	**+0.7**	
SOEI				*e*PKPbc		**PKiKP**	**00 54 56.5**	**-0.3**	
SOEI				*e*PKPab		**pPKPdf**	**00 55 02.6**	**+0.9**	
XAN	**Xi'an**	**150.38**	**342**	PKPbc		**PKPbc**	**00 54 56.1**	**-0.8**	
XAN				pPKP		sPKPdf	00 55 05.9	0.0	
WHN	**Wuhan**	**151.25**	**330**	PKPbc		**PKPdf**	**00 54 51.8**	**-1.2**	
ENH	**Enshi**	**153.62**	**338**	*e*PKPbc		**PKPbc**	**00 55 03.8**	**-0.5**	
GYA	**Guiyang**	**158.11**	**339**	*e*PKP		**PKPdf**	**00 55 01.8**	**-0.9**	
GYA				PKPab		**PKPab**	**00 55 37.3**	**+1.1**	
GYA				PKS		**PKSdf**	**00 58 34.0**	**-2.7**	
GYA				PP		**PP**	**00 59 18.4**	**+3.7**	
GYA				AMB		AMB			
	comp=Z,120nm,8.2s								
KMI	**Kunming**	**160.50**	**348**	PKP		**PKPdf**	**00 55 04.8**	**-0.9**	
CMAR	**Chiang Mai Arr**	**167.60**	**357**	PKP		**PKPdf**	**00 55 12.0**	**0.0**	
	comp=Z,2.3nm,0.9s,baz=298,slow=2.2,SNR=13								
CMAR				PKPab		**PKPab**	**00 56 16.4**	**-1.3**	
	comp=Z,2.4nm,1.0s,baz=345,slow=5.0,SNR=7.6								

*DDA **25** 00:36:41.8, 39.66N×38.70E, h7km, Md2.7*
*ISK **25** 00:36:42.7, 39.68N×38.74E, h6km, MD2.7*
*CSEM **25** 00:36:42.9±0.9, 39.68N×38.72E, h2km, MD2.7, Error ellipse: s-maj=20.9km s-min=16.7km az=143.0*
ISC 25 00:36:42.4±1.3, 39.66N±0.03×38.72E±0.03, h0km±19km, n15, σ0 58/25, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
REFA	**Refahiye_ERZ**	**0.26**	**172**	*i* P		**Pg**	**00 36 47.0**	**-0.4**
REFA				*i* S		**Sg**	**00 36 51.2**	**+0.4**
REFA	**Refahiye_ERZ**	**0.26**	**172**	P		**Pg**	**00 36 47.0**	**-0.4**
REFA				S		**Sg**	**00 36 51.2**	**+0.4**
KEMA	**Kemaliye**	**0.43**	**204**	*i* P		**Pg**	**00 36 50.2**	**-0.3**
KEMA				*i* S		**Sg**	**00 36 56.7**	**+0.7**
KEMA	**Kemaliye**	**0.43**	**204**	P		**Pg**	**00 36 50.2**	**-0.3**
KEMA				S		**Sg**	**00 36 56.7**	**+0.7**
KELT	**Kelkit**	**0.64**	**40**	*i* P		**Pg**	**00 36 54.4**	**-0.3**
KELT				*i* S		**Sg**	**00 37 03.2**	**+0.2**
KELT	**Kelkit**	**0.64**	**40**	P		**Pg**	**00 36 54.4**	**-0.3**
KELT				S		**Sg**	**00 37 03.2**	**+0.2**
PTK	**Pertek**	**0.93**	**145**	*e*PG		**Pb**	**00 37 01.2**	**-0.2**
PTK				*e*SG		**Sb**	**00 37 14.5**	**+0.2**
PTK	**Pertek**	**0.93**	**145**	*e*Pg		**Pb**	**00 37 01.2**	**-0.2**
PTK				*e*Sg		**Sb**	**00 37 14.5**	**+0.2**
CUKAN	**kangal_SIVAS**	**1.03**	**251**	*i* P		**Pg**	**00 37 00.8**	**-1.3**
CUKAN				*i* S		**Sg**	**00 37 15.7**	**+0.3**
CUKAN	**kangal_SIVAS**	**1.03**	**251**	P		**Pg**	**00 37 00.8**	**-1.3**
CUKAN				S		**Sg**	**00 37 15.7**	**+0.3**
SVSK	**Karacayir**	**1.35**	**282**	*e*PN		**Pg**	**00 37 08.8**	**+0.5**
SVSK	**Karacayir**	**1.35**	**282**	*e*Pn		**Pg**	**00 37 08.8**	**+0.5**
DARE	**Darende-Malaty**	**1.45**	**222**	*e*PN		**Pb**	**00 37 10.6**	**+0.3**
BINT	**Bingol**	**1.58**	**119**	*e*Pn		**Pg**	**00 37 13.1**	**+0.5**
BNGB	**Bingˆ¶l**	**1.66**	**113**	*e*PN		**Pb**	**00 37 13.1**	**-0.8**

MAN 25 00:47:11, 16.82N×119.85E, h42km, mb4.5, ML3.3, MS3.4, 1C, Luzon

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
BOLP	**Bolinao**	**0.44**	**173**	*e*P		Pn	00 47 22.9	+1.9
BOLP				*e*S		Sn	00 47 31.4	+3.4
SCZP	**Santa Cruz**	**1.04**	**177**	*e*P		Pn	00 47 30.1	+1.0
SCZP				*e*S		Sn	00 47 44.5	+2.1
ABRA	**Dolores**	**1.17**	**45**	*e*P		Pn	00 47 31.3	+0.4
ABRA				*e*S		Sn	00 47 48.0	+2.5
PCPH	**Palayan**	**1.73**	**136**	*e*P		Pn	00 47 39.6	+1.0
PCPH				*e*S		Sn	00 48 00.7	+1.3

*CSEM **25** 01:37:33.1, 38.44N×27.27E, h22km, MD2.6*
*DDA **25** 01:37:33.7, 38.47N×27.25E, h7km, Md2.5*
*ISK **25** 01:37:33.1, 38.44N×27.27E, h22km, MD2.6*
ISC 25 01:37:33.3±1.2, 38.45N±0.04×27.26E±0.03, h28km±13km, n12, σ0 42/20, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
DGB	**ˆzmir**	**0.50**	**217**	*i* P		**Pb**	**01 37 43.9**	**+0.4**
DGB				*i* S		**Sn**	**01 37 51.4**	**-0.7**
URLA	**Izmir**	**0.53**	**260**	*e*PG		**Pb**	**01 37 44.4**	**+0.3**
URLA				*e*SG		**Sn**	**01 37 52.5**	**-0.5**
URLA	**Izmir**	**0.53**	**260**	*e*Pg		**Pb**	**01 37 44.4**	**+0.3**
URLA				*e*Sg		**Sn**	**01 37 52.5**	**-0.5**
AKS	**Akhisar**	**0.61**	**45**	*e*PG		**Pb**	**01 37 45.2**	**-0.3**
AKS				*e*SG		**Sn**	**01 37 55.5**	**+0.4**
AKS	**Akhisar**	**0.61**	**45**	*e*Pg		**Pb**	**01 37 45.2**	**-0.3**
AKS				*e*Sg		**Sn**	**01 37 55.5**	**+0.4**
ZEY	**ˆzmir**	**0.63**	**251**	*i* P		**Pb**	**01 37 45.8**	**0.0**
ZEY				*i* S		**Sb**	**01 37 53.9**	**-0.4**
DKL	**Dikili**	**0.68**	**336**	*e*PG		**Pn**	**01 37 47.3**	**+0.3**
DKL	**Dikili**	**0.68**	**336**	*e*Pg		**Pn**	**01 37 47.3**	**+0.3**
AYDB	**Zeytinkoy-Aydi**	**0.71**	**135**	*e*PG		**Pn**	**01 37 48.0**	**+0.4**
AYDB				*e*SG		**Sn**	**01 37 57.3**	**-0.3**
AYDB	**Zeytinkoy-Aydi**	**0.71**	**135**	*e*Pg		**Pn**	**01 37 48.0**	**+0.4**
AYDB				*e*Sg		**Sn**	**01 37 57.3**	**-0.3**
KULA	**Kula-Manisa**	**1.10**	**86**	*e*PN		**Pb**	**01 37 53.6**	**-0.2**
KULA	**Kula-Manisa**	**1.10**	**86**	*e*Pn		**Pb**	**01 37 53.6**	**-0.2**

*IDC **25** 01:47:31.4±1.5, 36.93N×144.83E, h0km, mb3.6/3, mb1 4.0/5, mb1mx3.5/49, mbtmp3.8/5, ML3.8/2, MS3.2/1, Ms1 3.2/1, ms1mx2.2/53, Error ellipse: s-maj=40.6km s-min=25.2km az=150.0*
*ISCJB **25** 01:47:34.7±0.9, 37.27N±0.06×144.60E±0.07, h33km, mb3.6/3, MS3.2/1, Error ellipse: s-maj=8.1km s-min=7.9km az=17.9*
*JMA **25** 01:47:36.4±0.2, 37.36N×144.55E, h57km, M4.0*
ISC 25 01:47:35.0±1.2, 37.28N±0.06×144.74E±0.08, h35km, n15, σ1 8/88/24, mb3.6/3, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
JIO	**Ouri**	**2.93**	**295**	P		**Pn**	**01 48 19.6**	**+0.6**
JIO				S		**Sn**	**01 48 51.9**	**-1.0**
OFUJ	**Ofunato**	**3.01**	**308**	P		**Pn**	**01 48 20.5**	**+0.3**
OFUJ				*e*S		**Sn**	**01 48 53.3**	**-1.8**
JFK	**Kawauchi**	**3.08**	**273**	P		**Pn**	**01 48 21.8**	**+0.6**
JFK				*e*S		**Sn**	**01 48 56.2**	**-0.6**
JMK	**Ichinoseki**	**3.24**	**302**	P		**Pn**	**01 48 24.0**	**+0.7**
JMK				*e*S		**Sn**	**01 48 59.6**	**-1.0**
JOM	**Ohasama**	**3.48**	**310**	P		**Pn**	**01 48 27.6**	**+1.0**
JOM				*e*S		**Sn**	**01 49 05.5**	**-1.1**
JRY	**Ryogami san**	**4.86**	**257**	P		**Pn**	**01 48 46.1**	**+0.5**
JRY				S		**Sn**	**01 49 38.2**	**-2.4**
MJAR	**Matsushiro Arr**	**5.28**	**264**	Pn		**Pn**	**01 48 52.7**	**+1.3**
	2.7nm,0.3s,baz=85,slow=16,SNR=31							
MJAR						Sn		
	0.5nm,0.3s,baz=80,slow=28,SNR=2.6							
MAT	**Matsushiro**	**5.28**	**264**	P		**Pn**	**01 48 53.5**	**+2.1**
MAT				*e*S		**Sn**	**01 49 49.6**	**-1.5**
JKB	**Kayabe**	**5.42**	**329**	P		**Pn**	**01 48 54.3**	**+1.1**
JCH	**Churui**	**5.43**	**349**	P		**Pn**	**01 48 53.2**	**-0.2**
JCH				*e*S		**Sn**	**01 49 50.7**	**-4.0**
JHJ	**Hachijo jima 2**	**5.80**	**226**	Pn		**Pn**	**01 48 56.7**	**-1.9**
	10nm,0.3s,baz=72,slow=20,SNR=2.8							
JHJ						Sn		
	33nm,0.3s,baz=60,slow=20,SNR=4.3							
DLBC	**Dease Lake**	**56.78**	**39**	LR		LR	02 19 58.8	
	comp=Z,24nm,21.9s,baz=290,slow=34							
WRA	**Warramunga Arr**	**57.75**	**192**	P		**P**	**01 57 23.2**	**+0.7**
	0.5nm,0.5s,baz=12,slow=7.2,SNR=8.2							
ASAR	**Alice Springs**	**61.47**	**191**	P		**P**	**01 57 45.7**	**-2.4**
	0.2nm,0.4s,baz=7.3,slow=7.9,SNR=4.9							
TXAR	**Lajitas Array**	**87.84**	**54**	P		**P**	**02 00 23.8**	**+2.7**
	0.3nm,0.9s,baz=306,slow=3.0,SNR=3.0							

*CSEM **25** 01:48:09.0±0.2, 37.18N×22.01E, h8km, ML2.0, Error ellipse: s-maj=4.3km s-min=3.2km az=74.0*
*THE **25** 01:48:09.4, 37.22N×21.99E, h7km±1km, ML2.0/3, Error ellipse: s-maj=1.7km s-min=0.4km az=236.0*
ATH 25 01:48:09.4, 37.19N×22.01E, h6km±3km, ML1.7/6, Error ellipse: s-maj=3.1km s-min=0.7km az=250.0, Southern Greece

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
ITM	**Ithomi**	**0.07**	**262**	P		Pg	01 48 11.0	-0.1
ITM				S		Sg	01 48 12.5	+0.2
ITM	**Ithomi**	**0.07**	**262**	P		Pg	01 48 11.0	-0.1
ITM				S		Sg	01 48 12.4	+0.1
ITM	**Ithomi**	**0.07**	**262**	P		Pg	01 48 11.0	-0.1
ITM				S		Sg	01 48 12.4	+0.1
ITM				AML		AML	01 48 12.6	
	comp=N,3171μm,0.1s							
ITM				AML		AML	01 48 13.0	
	comp=E,8202μm,0.2s							
VLX	**Vlachokerasia**	**0.35**	**58**	P		Pg	01 48 16.2	0.0
VLX				S		Sg	01 48 21.3	+0.5
VLX	**Vlachokerasia**	**0.35**	**58**	P		Pg	01 48 16.1	-0.1
VLX				S		Sg	01 48 21.4	+0.6
VLX	**Vlachokerasia**	**0.35**	**58**	P		Pg	01 48 16.6	+0.4
VLX				S		Sg	01 48 19.6	-1.2
VLX	**Vlachokerasia**	**0.35**	**58**	P		Pg	01 48 16.6	+0.4
VLX				S		Sg	01 48 19.6	-1.2
VLX				AML		AML	01 48 22.4	
	comp=N,560μm,0.3s							
VLX				AML		AML	01 48 22.4	
	comp=E,489μm,0.3s							
VLX	**Vlachokerasia**	**0.35**	**58**	P		Pg	01 48 16.1	0.0
VLX				S		Sg	01 48 21.4	+0.6
VLX				AML		AML	01 48 21.9	
	comp=E,604μm,0.3s							
VLX				AML		AML	01 48 22.4	
	comp=N,560μm,0.3s							
PYL	**PYLOS**	**0.36**	**216**	P		Pg	01 48 16.5	+0.1
PYL				S		Sb	01 48 22.7	-1.4
PYL	**PYLOS**	**0.36**	**216**	P		Pg	01 48 16.5	+0.1
PYL				S		Sg	01 48 21.8	+0.6
PYL	**PYLOS**	**0.36**	**216**	P		Pg	01 48 16.5	+0.1
PYL				S		Sg	01 48 21.8	+0.7
PYL				AML		AML	01 48 25.2	
	comp=N,248μm,0.2s							
PYL				AML		AML	01 48 25.6	
	comp=E,342μm,0.4s							

TRIP	**Tripoli**	**0.40**	**32**	P		Pg	01 48 17.2	0.0	
TRIP				S		Sg	01 48 22.5	+0.2	
TRIP				AML		AML	01 48 24.4		
	comp=N,164μm,0.5s								
TRIP				AML		AML	01 48 26.1		
	comp=E,191μm,0.3s								
TRIP	**Tripoli**	**0.40**	**32**	P		Pg	01 48 17.3	+0.2	
TRIP				S		Sg	01 48 22.7	+0.3	
AMT	**Artemida-Makis**	**0.42**	**325**	P		Pg	01 48 17.8	+0.3	
AMT				S		Sg	01 48 23.9	+0.9	
AMT	**Artemida-Makis**	**0.42**	**325**	P		Pb	01 48 18.4	-0.8	
AMT	**Artemida-Makis**	**0.42**	**325**	P		Pb	01 48 18.4	-0.8	
AMT	**Artemida-Makis**	**0.42**	**325**	P		Pg	01 48 17.8	+0.3	
AMT				S		Sg	01 48 23.9	+0.9	
DRO	**Drossia**	**0.80**	**343**	P		Pg	01 48 23.4	-1.3	
DRO				S		Sg	01 48 35.1	0.0	
DRO	**Drossia**	**0.80**	**343**	P		Pg	01 48 24.9	+0.2	
DRO				S		Sg	01 48 35.4	+0.3	
DRO	**Drossia**	**0.80**	**343**	P		Pg	01 48 24.0	-0.7	
DRO				S		Sg	01 48 35.3	+0.2	
DRO	**Drossia**	**0.80**	**343**	P		Pg	01 48 24.0	-0.7	
DRO				S		Sg	01 48 35.3	+0.1	
DRO				AML		AML	01 48 43.0		
	comp=N,130μm,0.2s								
DRO				AML		AML	01 48 44.0		
	comp=E,187μm,0.3s								
DRO	**Drossia**	**0.80**	**343**	P		Pg	01 48 24.9	+0.2	
DRO				S		Sg	01 48 35.4	+0.3	
DRO				AML		AML	01 48 40.0		
	comp=E,235μm,0.3s								
DRO				AML		AML	01 48 43.0		
	comp=N,130μm,0.2s								
KLV	**Kalavryta, Ach**	**0.86**	**7**	P		Pg	01 48 25.1	-0.8	
KLV	**Kalavryta, Ach**	**0.86**	**7**	P		Pg	01 48 25.5	-0.4	
KLV				S		Sb	01 48 38.1	-0.4	
KLV	**Kalavryta, Ach**	**0.86**	**7**	P		Pg	01 48 25.2	-0.7	
KLV				S		Sb	01 48 38.6	+0.1	
KLV	**Kalavryta, Ach**	**0.86**	**7**	P		Pg	01 48 25.2	-0.7	
KLV				S		Sb	01 48 38.6	+0.1	
KLV				AML		AML	01 48 40.3		
	comp=E,64μm,0.4s								
KLV				AML		AML	01 48 40.3		
	comp=N,39μm,0.2s								
KLV	**Kalavryta, Ach**	**0.86**	**7**	P		Pg	01 48 25.5	-0.4	
KLV				S		Sb	01 48 38.1	-0.4	
VLI	**Veliai**	**0.88**	**122**	P		Pg	01 48 26.4	+0.2	
VLI	**Veliai**	**0.88**	**122**	P		Pg	01 48 25.5	-0.7	
VLI				S		Sb	01 48 38.9	-0.1	
VLI	**Veliai**	**0.88**	**122**	P		Pg	01 48 25.5	-0.7	
VLI				S		Sb	01 48 38.9	-0.1	
VLI				AML		AML	01 48 43.6		
	comp=E,105μm,0.6s								
VLI				AML		AML	01 48 44.2		
	comp=N,53μm,0.5s								
RLS	**Riolos of Patr**	**0.97**	**334**	P		Pg	01 48 27.2	-0.8	
RLS				S		Sb	01 48 41.3	-0.3	
RLS	**Riolos of Patr**	**0.97**	**334**	P		Pg	01 48 27.3	-0.7	
RLS				S		Sb	01 48 41.1	-0.5	
RLS	**Riolos of Patr**	**0.97**	**334**	P		Pg	01 48 27.3	-0.6	
RLS				S		Sb	01 48 41.1	-0.4	
RLS	**Riolos of Patr**	**0.97**	**334**	P		Pg	01 48 27.2	-0.7	
RLS				S		Sb	01 48 41.3	-0.2	
RLS				AML		AML	01 48 46.1		
	comp=N,55μm,0.3s								
RLS				AML		AML	01 48 48.7		
	comp=E,49μm,0.4s								
TRAZ	**Trapeza**	**0.99**	**9**	P		Pg	01 48 26.9	-1.5	
TRAZ				S		Sg	01 48 41.1	-0.2	
TRAZ	**Trapeza**	**0.99**	**9**	P		Pg	01 48 26.9	-1.5	
TRAZ				S		Sg	01 48 41.1	-0.2	
TRAZ				AML		AML	01 48 43.4		
	comp=E,105μm,0.3s								
TRAZ				AML		AML	01 48 45.5		
	comp=N,164μm,0.4s								
THAL	**Thalero**	**0.99**	**31**	P		Pb	01 48 28.8	-0.2	
THAL	**Thalero**	**0.99**	**31**	P		Pb	01 48 28.8	-0.1	
LAKA	**Lakka**	**1.05**	**359**	P		Pg	01 48 28.0	-1.5	
LAKA				S		Sg	01 48 43.0

JHHJ Haha-jima-NKT 3.14 162 P **Pn** **02 02 16.3 +0.8**
JHJ2 Mitsune 3.64 343 P **Pn** **02 02 24.4 +2.0**
JHJ2 Mitsune 3.64 343 *e*Pn **Pn** **02 02 24.7 +2.3**
JHJ2 *e*Sn **Sn** **02 03 02.7 -1.4**
JHJ Hachijo jima 2 3.66 342 P **Pn** **02 02 23.9 +1.2**
26nm,0.3s,baz=216,slow=17,SNR=4.5
JHJ S **Sn** **02 03 02.2 -2.3**
146nm,0.3s,baz=106,slow=20,SNR=8.0
BSO1 Boso 1 5.01 359 P **Pn** **02 02 41.8 +1.2**
BSO1 S **Sn** **02 03 36.0 -0.9**
BSO3 Boso 3 5.18 354 P **Pn** **02 02 43.8 +0.6**
BSO4 Boso 4 5.38 353 P **Pn** **02 02 47.3 +1.2**
JOD2 Odawara 2 5.87 344 P **Pn** **02 02 55.0 +2.1**
JKN2 Miekihoku 6.16 319 P **Pn** **02 02 59.7 +2.7**
JHU Hanno 6.39 347 P **Pn** **02 03 01.3 +1.2**
JHU *e*S **Sn** **02 04 09.1 -2.5**
JYT Yasato 6.62 354 *e*S **Sn** **02 04 15.8 -1.5**
JRY Ryogami san 6.63 344 P **Pn** **02 03 04.9 +1.5**
INU Inuyama 6.67 330 *e*Pn Pn 02 03 08.3 +4.4
JHO Hitachi 6.97 356 P **Pn** **02 03 07.6 -0.4**
JHO S **Sn** **02 04 20.3 -5.6**
MJAR Matsushiro Arr 7.31 341 P **Pn** **02 03 14.7 +2.0**
3.5nm,0.3s,baz=348,slow=11,SNR=18
MJAR S **Sn** **02 04 40.0 +5.9**
0.8nm,0.3s,baz=155,slow=12,SNR=2.4
MAJO Matsushiro 7.31 341 *e*P **Pn** **02 03 16.4 +3.7**
MAJO Matsushiro 7.31 341 *e*Pn **Pn** **02 03 16.4 +3.7**
MAT Matsushiro 7.31 341 P **Pn** **02 03 15.7 +3.0**
MAT S **Sn** **02 04 35.6 +1.4**
MJB9 Matsu-Tunnel 7.31 341 *e*Pn **Pn** **02 03 16.4 +3.7**
JFK Kawauchi 7.71 359 *e*S **Sn** **02 04 36.7 -7.5**
JNU Nakatsue 9.41 294 P **Pn** **02 03 45.4 +3.8**
0.8nm,0.3s,baz=107,slow=6.7,SNR=9.3
JNU Nakatsue 9.41 294 *e*Pn **Pn** **02 03 43.6 +2.1**
JAMN Amaminishikomi 10.55 265 P Pn 02 04 02.8 +5.8
ERM Erimo 12.46 7 *e*P **Pn** **02 04 22.5 -0.6**
KSRS Korea Array 13.48 309 P **Pn** **02 04 39.5 +2.6**
0.1nm,0.3s,baz=121,slow=11,SNR=2.9
KSRS LR LR 02 09 26.9
comp=Z,51nm,20.7s,baz=113,slow=36
KSAR Wonju Array Be 13.50 309 P **Pn** **02 04 39.5 +2.4**
KSAR Wonju Array Be 13.50 309 P **Pn** **02 04 39.5 +2.4**
YUK Yuzh-Kuril'sk 14.86 13 P **Pn** **02 04 51.4 -3.7**
YUK pmax pmax
comp=Z,503nm,0.8s
YUK pmax pmax
comp=N,60nm,0.7s
SHO Shikotan 14.92 16 *e*P Pn 02 04 51.0 -4.9
SHO pmax pmax
comp=Z,24nm,0.6s
USRK Ussuriysk Ar. 16.25 336 P **Pn** **02 05 12.3 -0.6**
comp=Z,0.8nm,0.3s,baz=161,slow=10,SNR=11
USRK LR LR 02 11 26.8
comp=Z,47nm,19.1s,baz=118,slow=37
GUMO Guam 16.34 167 LR LR 02 09 49.1
comp=Z,26nm,20.4s,baz=62,slow=30
KUR Kuril'sk 16.46 17 P **Pn** **02 05 10.5 -5.0**
KUR pmax pmax
comp=Z,12nm,0.6s
KUR pmax pmax
comp=E,8.0nm,0.5s
KUR pmax pmax
comp=N,9.0nm,0.4s
MDJ Mudanjiang 17.52 332 P **P** **02 05 30.6 +1.5**
MDJ pmax pmax
comp=N,9.0nm,0.6s
MDJ pmax pmax
comp=N,28nm,3.8s
YULB Yu-li 18.78 255 *e*P **P** **02 05 44.9 +1.8**
comp=N,18nm,0.6s
CN2 Changchun 18.86 323 *e*P **Pn** **02 05 48.3 +3.3**
SSLB Suanglung 18.92 257 *e*P **P** **02 05 46.9 +2.2**
comp=N,17nm,0.7s
NJ2 Nanjing 19.26 283 *e*P **P** **02 05 48.5 +0.2**
KLR Kul'dur 20.83 343 *e*P **P** **02 06 06.1 +0.9**
WHN Wuhan 23.16 279 P **P** **02 06 30.3 +0.3**
H11N2 WAKE ISLAND Hy 25.37 107 T T 02 34 36.8
baz=299,slow=75,SNR=5.2
H11N1 WAKE ISLAND Hy 25.37 107 T T 02 34 37.4
baz=299,slow=75,SNR=27
H11N3 WAKE ISLAND Hy 25.38 107 T T 02 34 38.1
baz=299,slow=75,SNR=36
H11S3 WAKE ISLAND Hy 25.79 110 T T 02 35 29.0
baz=302,slow=75,SNR=4.1
H11S1 WAKE ISLAND Hy 25.80 110 T T 02 35 31.9
baz=302,slow=75,SNR=6.5
H11S2 WAKE ISLAND Hy 25.81 110 T T 02 35 32.7
baz=302,slow=75,SNR=4.1
PETK Petropavlovsk- 26.42 23 LR LR 02 20 36.3
comp=N,12nm,19.0s,baz=175,slow=43
HHC Hu-ho-hao-te 26.48 303 *e*P **P** **02 07 01.1 +0.7**
HHC S **S** **02 11 28.0 -2.2**
HHC pmax pmax
comp=N,10.0nm,1.3s
HHC pmax pmax
comp=N,130nm,5.1s
HHC LR LR
comp=N,100nm,14.9s
HHC LR LR
comp=N,130nm,14.9s
HHC LR LR
comp=N,150nm,14.9s
XAN Xi'an 27.64 287 P **P** **02 07 10.5 -0.2**
XAN pP sP 02 07 31.0 -1.2
XAN pmax pmax
comp=N,6.0nm,0.6s
QIZ Qiongzhong 30.30 257 P P 02 07 29.1 -5.3
QIZ S **S** **02 12 26.5 -3.9**
QIZ sS sS 02 13 03.0 +7.7
GYA Guiyang 30.50 273 *e*P **P** **02 07 37.3 +1.0**
GYA pmax pmax
comp=N,10.0nm,0.9s
MA2 Magadan 30.65 10 LR LR 02 21 21.7
comp=N,16nm,20.3s,baz=244,slow=39
LZH Lanzhou 31.82 292 *e*P **P** **02 07 49.3 +1.4**
LZH pP sP 02 08 09.5 0.0
LZH sP pP 02 08 20.3 +18
LZH pmax pmax
comp=N,17nm,1.0s
ULN Ulaanbaatar 31.86 314 *e*P **P** **02 07 47.4 -0.7**
ULN pmax pmax
comp=Z,2.0nm,0.6s
ULN Ulaanbaatar 31.86 314 *e*P **P** **02 07 47.4 -0.7**
comp=Z,2.0nm,0.6s
SONM Songino Array 32.26 314 P **P** **02 07 50.5 -1.0**
comp=Z,0.7nm,0.6s,baz=121,slow=7.9,SNR=4.8
SONM PcP **PcP** **02 10 39.5 +0.8**
comp=Z,0.9nm,0.4s,baz=129,slow=3.4,SNR=6.4
SONM LR LR 02 22 11.9
comp=Z,44nm,18.8s,baz=93,slow=39
KKM Kota Kinabalu 33.19 230 *e*P P 02 07 56.2 -3.8
comp=Z,37nm,1.3s
YAK Yakutsk 33.26 350 *i* P **P** **02 07 59.6 -0.3**
YAK pmax pmax
comp=Z,9.0nm,0.9s
BOD Bodaibo 33.87 334 *e*P **P** **02 08 04.1 -1.2**
BOD pmax pmax
comp=Z,7.0nm,2.2s
SEY Seymchan 34.10 9 P **P** **02 08 08.1 +0.9**
comp=Z,2.6nm,0.6s,baz=191,slow=12,SNR=4.3
KMI Kunming 34.27 272 P **P** **02 08 09.8 +0.4**
KMI pmax pmax
comp=Z,11nm,0.6s
KMI pmax pmax
comp=Z,180nm,5.0s
GTA Gaotai 35.14 297 *e*P **P** **02 08 16.4 -0.3**
GTA pP sP 02 08 39.0 +0.7
GTA sP pP 02 08 50.8 +19
GTA pmax pmax
comp=Z,6.0nm,0.9s
CHTO Chiang Mai 39.74 264 *e*P **P** **02 08 55.3 -0.4**
CHTO pmax pmax
comp=Z,15nm,0.7s
CHTO Chiang Mai 39.74 264 *e*P **P** **02 08 55.3 -0.4**
comp=Z,15nm,0.7s
CMAR Chiang Mai Arr 39.89 264 P **P** **02 08 56.9 0.0**
comp=Z,4.0nm,0.6s,baz=67,slow=5.9,SNR=13
CMAR LR LR 02 24 41.8
comp=Z,31nm,21.5s,baz=70,slow=35
BILL Bilibino 41.22 14⇓ *e*P **P** **02 09 08.4 +1.2**
BILL *e* 02 09 36.9
BILL pmax pmax
comp=Z,17nm,1.3s
TIXI Tiksi 42.60 354 *e*P **P** **02 09 17.7 -0.7**
TIXI pmax pmax
comp=Z,14nm,1.1s
MTN Manton Dam 43.31 194 *e*P **P** **02 09 24.1 -0.6**
comp=Z,26nm,0.6s
WMQ Urumqi 44.36 304 P **P** **02 09 34.0 +0.9**
WMQ pP sP 02 09 56.5 +1.4
WMQ sP pP 02 10 07.8 +20
WMQ pmax pmax
comp=Z,12nm,0.6s
WMQ pmax pmax
comp=Z,47nm,3.9s
WMQ LR LR
comp=Z,47nm,35.7s
WMQ LR LR
comp=Z,27nm,18.7s
WMQ LR LR
comp=Z,25nm,17.1s
KULM Kulim 45.20 246 *e*P **P** **02 09 39.9 -0.1**
comp=Z,9.9nm,0.7s
IPM Ipoh 45.39 244 *e*P **P** **02 09 39.5 -2.1**
comp=Z,8.7nm,0.7s
ZALV Zalesovo Beam 46.97 318 P **P** **02 09 52.1 -1.4**
comp=Z,1.1nm,0.4s,baz=88,slow=9.5,SNR=3.5
ZALV PcP **PcP** **02 11 25.1 +0.1**
comp=Z,2.7nm,0.5s,baz=123,slow=3.0,SNR=7.2
ZALV LR LR 02 28 53.2
comp=Z,27nm,19.5s,baz=250,slow=35
PSI Prapat 48.07 244 *e*P **P** **02 10 03.0 +0.4**
PSI pmax pmax
comp=Z,12nm,0.9s
PSI Prapat 48.07 244 *e*P **P** **02 10 03.0 +0.4**
comp=Z,12nm,0.9s
MK01 Makanchi Array 48.15 308 *e*P **P** **02 10 01.7 -1.0**
MK01 *e*PcP **PcP** **02 11 29.8 +0.3**
MK31 Makanchi Array 48.16 308 *e*P **P** **02 10 02.6 -0.2**
MK31 Makanchi Array 48.16 308 *e*P **P** **02 10 02.6 -0.2**
MKAR Makanchi Array 48.16 308 P **P** **02 10 01.4 -1.4**
comp=Z,1.7nm,0.7s,baz=88,slow=10,SNR=15
MKAR PcP **PcP** **02 11 29.8 +0.4**
comp=Z,1.8nm,0.6s,baz=77,slow=5.2,SNR=9.7
MKAR Makanchi Array 48.16 308 *e*P **P** **02 10 02.6 -0.2**
MKAR 02 11 29.8
MKAR pmax pmax
comp=Z,14nm,0.8s
MKAR Makanchi Array 48.16 308 *e*P **P** **02 10 02.6 -0.2**
comp=Z,14nm,0.8s
MKAR PcP **PcP** **02 11 29.8 +0.4**
WRAB Tennant Creek 49.71 188 *ce*P **P** **02 10 11.3 -3.5**
WRAB pmax pmax
comp=Z,154nm,1.2s
WRAB Tennant Creek 49.71 188 *e*P **P** **02 10 11.3 -3.5**
comp=Z,42nm,0.9s
WB2 Warramunga Arr 49.72 188 *e*P **P** **02 10 11.3 -3.6**
comp=Z,43nm,0.8s
NRIK Noril'sk 49.95 338 P **P** **02 10 13.2 -3.0**
comp=Z,3.4nm,0.5s,baz=124,slow=8.8,SNR=3.1
NRIK LR LR 02 32 26.8
comp=Z,34nm,19.0s,baz=24,slow=37
KDAK Kodiak Island 52.93 38 P **P** **02 10 39.4 +0.9**
comp=Z,3.8nm,0.5s,baz=244,slow=7.8,SNR=6.6
ASAR Alice Springs 53.45 188 P **P** **02 10 41.2 -1.5**
comp=Z,0.9nm,0.5s,baz=2.9,slow=5.3,SNR=4.8
KSH Kashi 53.49 299 *e*P **P** **02 10 45.8 +2.6**
KSH pP sP 02 11 09.9 +4.4
KSH PP **PP** **02 12 49.8 +5.8**
KSH S **S** **02 18 09.1 -2.7**
KSH sS sS 02 18 51.0 +13
KSH SS **SKiKP** **02 21 50.4 -3.0**
KSH pmax pmax
comp=Z,4.0nm,0.7s
KSH pmax pmax
comp=Z,67nm,4.8s
KSH LR LR
comp=Z,52nm,4.7s
KSH LR LR
comp=Z,63nm,5.6s
KSH LR LR
comp=Z,76nm,9.3s
AAK Ala-Archa 54.06 303 *i* P **P** **02 10 46.6 -0.7**
AAK pmax pmax
comp=Z,4.0nm,0.8s
MBWA Marble Bar 54.54 205 *e*P **P** **02 10 49.7 -1.0**
comp=Z,20nm,0.7s
BVAR Borovoye Array 55.55 316 P **P** **02 10 57.3 -0.5**
comp=Z,4.0nm,0.4s,baz=95,slow=7.3,SNR=24
BVAR pP **sP** **02 11 19.0 -1.0**
comp=Z,1.6nm,0.6s,baz=101,slow=6.2,SNR=2.7
BVAR PcP **PcP** **02 11 56.9 0.0**
comp=Z,1.3nm,0.5s,baz=95,slow=4.8,SNR=4.1
BRVK Borovoye 55.61 316 *ce*P **P** **02 10 56.7 -1.4**
BRVK pmax pmax
comp=Z,12nm,0.8s
BRVK Borovoye 55.61 316 *e*P **P** **02 10 57.9 -0.2**
comp=Z,4.9nm,0.8s
ILAR Eielson Array 55.96 29 P **P** **02 11 01.3 +0.9**
comp=Z,0.5nm,0.7s,baz=268,slow=6.3,SNR=6.1
KKAR Karatay Array 56.86 304 *e*P **P** **02 11 06.3 -0.9**
KKAR pmax pmax
comp=Z,41nm,0.6s
KKAR Karatay Array 56.86 304 *e*P **P** **02 11 06.3 -0.9**
comp=Z,41nm,0.6s
INK Inuvik 61.13 25 P **P** **02 11 37.3 +1.0**
comp=Z,0.8nm,0.3s,baz=263,slow=4.6,SNR=6.6
INK Inuvik 61.13 25 *e*P **P** **02 11 37.2 +0.9**
STKA Stephens Creek 61.17 180 P **P** **02 11 36.1 -0.9**
comp=Z,1.0nm,0.4s,baz=27,slow=6.5,SNR=2.9
ARU Arti 61.85 321 P **P** **02 11 41.1 -0.3**
comp=Z,19nm,0.5s,baz=79,slow=4.8,SNR=40
ARU Arti 61.85 321 *c i*P **P** **02 11 41.0 -0.4**
ARU *PP **sP** **02 12 03.3 -0.6**
ARU 02 12 18.3
ARU 02 13 55.6
ARU S **S** **02 19 59.3 -1.1**
ARU pmax pmax
comp=Z,20nm,0.6s
ARU Arti 61.85 321 *e*P **P** **02 11 41.0 -0.4**
comp=Z,24nm,0.6s
ABKAR Akbulak array 62.66 313 *e*P **P** **02 11 46.2 -0.7**
comp=Z,78nm,0.5s
AKTO Aktyubinsk 63.57 315 P **P** **02 11 52.3 -0.6**
comp=Z,6.2nm,0.8s,baz=97,slow=6.4,SNR=19
KLMR Klimovskoe 69.92 329 *e*P **P** **02 12 31.3 -1.8**
KLMR *e* 02 12 52.6
KLMR pmax pmax
comp=Z,5.0nm,0.7s
YKA Yellowknife Ar 70.37 29 P **P** **02 12 36.4 +0.6**
comp=Z,1.4nm,0.6s,baz=302,slow=6.3,SNR=4.2
ARCES ARCESS Array B 70.84 340 P **P** **02 12 38.6 0.0**
comp=Z,4.7nm,0.6s,baz=67,slow=9.3,SNR=12
LPSR Galich'ya Gora 73.87 322 *e*P **P** **02 12 56.9 -0.1**
LPSR pmax pmax
comp=Z,10.0nm,0.6s
OBN Obninsk 73.92 325⇓ *e*P **P** **02 12 57.6 +0.5**
OBN 02 13 12.0
OBN *e* 02 13 20.8
OBN 02 15 43.0
OBN pmax pmax
comp=Z,31nm,2.5s
OBN MLR MLR
comp=Z,20nm,15.0s
B08A Colville Reser 74.33 43 *e*P **P** **02 13 01.4 +1.7**
comp=Z,5.2nm,0.8s
VSR Storozhevoye 74.39 320 *e*P **P** **02 12 59.5 -0.5**
VSR pmax pmax
comp=Z,10.0nm,0.6s
FIA1 FINESS Array S 75.26 333 *e*P **P** **02 13 04.8 -0.1**
FINES FINESS Array B 75.26 333 P **P** **02 13 05.0 +0.1**
comp=Z,7.0nm,0.4s,baz=65,slow=5.4,SNR=123
FINES FINESS Array B 75.26 333 *ce*P **P** **02 13 05.0 +0.1**
FINES pmax pmax
comp=Z,7.0nm,0.4s
KBZ Khabaz 75.60 312 P **P** **02 13 07.5 +0.4**
comp=Z,5.9nm,0.8s,baz=83,slow=3.3,SNR=13
KVAR Kislovodsk Arr 75.63 312 LR LR 02 49 29.7
comp=Z,19nm,18.2s,baz=345,slow=38
KIV Kislovodsk 75.63 312 *e*P **P** **02 13 07.5 0.0**
KIV pmax pmax
comp=Z,7.0nm,0.9s
KIV MLR MLR
comp=Z,19nm,18.0s
KIV Kislovodsk 75.63 312 *e*P **P** **02 13 07.5 0.0**
comp=Z,6.1nm,0.8s
NEW Newport 75.68 42 P **P** **02 13 09.2 +1.6**
comp=Z,4.0nm,0.8s,baz=269,slow=3.0,SNR=8.8
NEW Newport 75.68 42 *e*P **P** **02 13 09.6 +2.0**
NEW *e*PP **sP** **02 13 31.4 +0.9**
NEW pmax pmax
comp=Z,4.0nm,0.7s
NEW Newport 75.68 42 *e*P **P** **02 13 09.6 +2.0**
comp=Z,4.4nm,0.7s
NEW *e*pP **sP** **02 13 31.4 +0.9**
E09A Wood Farm, Sta 75.89 44 *e*P **P** **02 13 11.1 +2.3**
comp=Z,5.9nm,0.8s
E09A *e*pP **sP** **02 13 32.5 +0.8**
WALA Waterton Lakes 77.14 41 *e*P **P** **02 13 17.9 +1.9**
comp=Z,5.5nm,0.6s
BMO Blue Mountains 77.20 46 *e*P **P** **02 13 18.2 +1.8**
BMO Blue Mountains 77.20 46 *e*P **P** **02 13 18.2 +1.8**
BEKR Beckworth 77.60 51 *e*P **P** **02 13 20.5 +1.8**
comp=Z,4.0nm,0.9s
CMB Columbia Colle 78.45 53 *e*P **P** **02 13 23.9 +0.6**
CMB *e*PP **sP** **02 13 48.2 +1.9**
CMB Columbia Colle 78.45 53 *e*P **P** **02 13 23.9 +0.6**
CMB *e*pP **sP** **02 13 48.2 +1.9**
ANN Anapa 78.53 315 *e*P P 02 13 16.7 -6.8
ANN *e*PP **PcP** **02 13 36.1 +3.6**
ANN *e*S S 02 23 02.4 -13
ANN pmax pmax
comp=Z,40nm,1.2s
MFID Camas Ranch 78.84 46 *e*P **P** **02 13 27.7 +2.2**
comp=Z,4.1nm,0.7s
HRY Holter Researc 79.56 42 *e*P **P** **02 13 31.3 +1.9**
HLID Hailey 79.65 46 *e*P **P** **02 13 32.1 +2.1**
comp=Z,4.1nm,1.1s
LRM Limekiln Ridge 79.67 43 *e*P **P** **02 13 31.4 +1.3**
LRM *e*pP **sP** **02 13 54.1 +1.1**
DLMT Dillon 79.82 43 *e*P **P** **02 13 31.4 +0.6**
DLMT *e*pP **sP** **02 13 55.0 +1.2**
AKASG Malin Array Be 80.02 323 P **P** **02 13 31.0 -0.6**
comp=Z,2.0nm,0.5s,baz=49,slow=6.0,SNR=10
AKASG pP **sP** **02 13 53.8 -0.8**
comp=Z,0.8nm,0.4s,baz=46,slow=6.1,SNR=2.4
KIEV Kiev 80.03 323 *e*P **P** **02 13 31.5 -0.1**
KIEV pmax pmax
comp=Z,6.0nm,0.7s
KIEV Kiev 80.03 323 *e*P **P** **02 13 31.5 -0.1**
comp=Z,5.7nm,0.7s
FFC Flin Flon 80.09 32 *e*P **P** **02 13 32.7 +0.8**
FFC Flin Flon 80.09 32 *e*P **P** **02 13 32.7 +0.8**
NC405 NORSAR Array S 80.69 338 *e*P **P** **02 13 35.5 +0.4**
NC204 NORSAR Array S 80.88 338 *e*P **P** **02 13 36.9 +0.8**
NB2 NORSAR Subarra 80.91 338 P **P** **02 13 35.7 -0.5**
comp=Z,3.6nm,0.7s,baz=43,slow=5.3
NOA NORSAR Array B 80.91 338 P P **02 13 36.3 +0.1**
comp=Z,4.1nm,0.8s,baz=43,slow=5.3,SNR=15
NOA pP **sP** **02 13 58.3 -0.9**
comp=Z,1.7nm,0.7s,baz=41,slow=5.3,SNR=3.5
NOA LR LR 02 52 15.8
comp=Z,15nm,20.2s,baz=10.0,slow=38
YHB Horse Butte 80.99 43 *e*P **P** **02 13 37.8 +0.6**
YHB *e*pP **sP** **02 14 01.4 +1.3**
NBO02 NORSAR Array S 81.02 338 *e*P **P** **02 13 36.0 -0.8**
IMW Indian Meadow 81.61 44 *e*P **P** **02 13 42.5 +2.0**
IMW *e*pP **sP** **02 14 05.3 +1.7**
TPNV Topopah Spring 81.84 52 *e*P **P** **02 13 43.3 +1.5**
TPNV pmax pmax
comp=Z,5.0nm,0.8s
TPNV Topopah Spring 81.84 52 *e*P **P** **02 13 43.3 +1.5**
comp=Z,4.7nm,0.8s
RLMT Red Lodge 81.92 42 *e*P **P** **02 13 43.8 +1.7**
comp=Z,2.4nm,0.5s
LOHW Long Hollow 81.97 44 *e*P **P** **02 13 43.8 +1.4**
comp=Z,0.8nm,0.7s
DUG Dugway, Tooele 82.44 48 *e*P **P** **02 13 46.8 +2.0**
DUG pmax pmax
comp=Z,3.0nm,0.8s
DUG Dugway, Tooele 82.44 48 *e*P **P** **02 13 46.8 +2.0**
comp=Z,3.0nm,0.8s
HWUT Hardware Ranch 82.47 46 *e*P **P** **02 13 46.9 +1.9**
HWUT *epP **sP** **02 14 08.9 +0.8**
TLCR 83.44 319⇑ *i*P **P** **02 13 50.2 +0.5**
PRAR RASCA 83.59 322⇑ *i*P **P** **02 13 49.4 -1.0**
BR131 Keskin Array S 83.60 312 *e*P **P** **02 13 51.1 +0.3**
BRTR Keskin Array B 83.60 312 P **P** **02 13 51.0 +0.3**
comp=Z,8.4nm,0.8s,baz=90,slow=3.7,SNR=41
BRTR pP **sP** **02 14 13.3 -0.6**
comp=Z,3.3nm,0.8s,baz=100,slow=4.2,SNR=3.8
BRTR Keskin Array B 83.60 312 P **P** **02 13 51.1 +0.3**
BRTR *PP **sP** **02 14 13.3 -0.6**
BRTR pmax pmax
comp=Z,9.0nm,0.8s
BRTR pmax pmax
comp=Z,3.0nm,0.8s
CFR Carcaliu 83.83 319⇓ *i*P **P** **02 13 51.7 0.0**
LCMT Little Creek M 83.86 51 *e*P **P** **02 13 53.2 +0.9**
LCMT *epP **sP** **02 14 16.8 +1.5**
TESR Tescani 83.87 321⇑ *i*P **P** **02 13 52.0 +0.1**
BUR08 Bucovina Ar. S 83.96 322 *e*P **P** **02 13 53.0 +0.5**
BURAR Bucovina Array 83.97 322⇑ *i*P **P** **02 13 52.8 +0.3**
KWP Kalwaria Pacla 84.00 325 *e*P **P** **02 13 53.0 +0.5**
KWP Kalwaria Pacla 84.00 325 *e*P **P** **02 13 53.0 +0.5**
PETR Petresti 84.02 320⇓ *i*P **P** **02 13 54.2 +1.6**
ANTO Ankara 84.06 313 *e*P **P** **02 13 53.7 +0.6**
ANTO pmax pmax
comp=Z,8.0nm,0.8s
ANTO Ankara 84.06 313 *e*P **P** **02 13 53.7 +0.6**
comp=Z,8.1nm,0.8s
BR231 Keskin MP Arra 84.09 313 *e*P **P** **02 13 51.0 -2.2**
TIRR Tirgusor 84.10 318⇑ *i*P **P** **02 13 53.4 +0.3**
VRI Vrincioaia 84.22 320⇓ *i*P **P** **02 13 55.2 +1.5**
TLB Topalu 84.24 319⇑ *i*P **P** **02 13 54.0 +0.2**
HARR Harsova 84.24 319⇑ *i*P **P** **02 13 54.6 +0.8**
PLOR Plostina 84.27 320⇑ *i*P **P** **02 13 55.1 +1.1**
SRU San Rafael Swe 84.51 48 *e*P **P** **02 13 57.1 +1.6**
SRU pmax pmax
comp=Z,5.0nm,0.8s
SRU San Rafael Swe 84.51 48 *e*P **P** **02 13 57.1 +1.6**
comp=Z,4.6nm,0.8s
U15A North Rim 84.82 51 *e*P **P** **02 13 59.1 +1.8**
comp=Z,2.7nm,0.8s
STHS Stebnicka Huta 84.87 325 *e*P **P** **02 13 57.8 +0.9**
STHS pmax pmax
comp=Z,2.0nm,0.8s
STHS Stebnicka Huta 84.87 325 *e*P **P** **02 13 57.8 +0.9**
MLR Muntele Rosu 84.88 320⇑ *i*P **P** **02 13 57.4 +0.2**
ASF Jabal al Asfar 85.45 304 P **P** **02 14 00.3 +0.1**
comp=Z,3.2nm,0.9s,baz=68,slow=4.8,SNR=5.7
ASF Jabal al Asfar 85.45 304 P **P** **02 14 00.3 +0.1**
ASF pmax pmax
comp=Z,2.0nm,0.8s
ARR Arges 85.68 321⇑ *i*P **P** **02 14 01.7 +0.6**
LANS Liptovska Anna 85.92 326 *e*P **P** **02 14 00.3 -1.9**
LANS Liptovska Anna 85.92 326 *e*P **P** **02 14 00.3 -1.9**
MMAI Mount Meron Ar 86.06 306 P **P** **02 14 03.2 -0.1**
comp=Z,1.8nm,0.7s,baz=354,slow=2.6,SNR=4.1
OKC Ostrava-Krasne 86.09 327 *e*P **P** **02 14 03.2 +0.3**
OKC Ostrava-Krasne 86.09 327 *e*P **P** **02 14 03.2 +0.3**
KSP Ksiaz 86.26 329 *e*P **P** **02 14 04.2 +0.5**
KSP Ksiaz 86.26 329 *e*P **P** **02 14 04.2 +0.5**
MORC Moravsky Berou 86.42 327 *e*P **P** **02 14 04.0 -0.6**
MORC pmax pmax
comp=Z,6.0nm,0.6s
MORC Moravsky Berou 86.42 327 *e*P **P** **02 14 04.0 -0.6**
comp=Z,5.7nm,0.6s
DPC Dobruska-Polom 86.59 328 *e*P **P** **02 14 06.0 +0.5**
DPC *epP **sP** **02 14 27.9 -0.7**
DPC Dobruska-Polom 86.59 328 *e*P **P** **02 14 06.0 +0.5**
DPC *e* 02 14 27.9
VYHS Vyhne 86.67 326 *e*P **P** **02 14 06.1 +0.2**
VYHS pmax pmax
comp=Z,1.0nm,1.0s
VYHS Vyhne 86.67 326 *e*P **P** **02 14 06.1 +0.2**
CLL Collm 87.38 330 *e*P **P** **02 14 09.0 -0.2**
CLL Collm 87.38 330 *e*P **P** **02 14 09.0 -0.2**
MDVR Moldovita 87.65 322⇓ *i*P **P** **02 14 10.1 -0.6**
TREC Trest 87.72 328 *e*P **P** **02 14 10.8 -0.1**
TREC ⇓CZJ 02 14 10.8
TREC Trest 87.72 328 *e*P **P** **02 14 10.8 -0.1**
CONA Conrad Observa 88.50 327 *i* P P 02 14 09.8 -4.9
comp=Z,1.7nm,0.7s
KHC Kasperske Hory 88.71 329 *e*P **P** **02 14 15.6 0.0**
KHC Kasperske Hory 88.71 329 *e*P **P** **02 14 15.6 0.0**
KHC Kasperske Hory 88.71 329 *e*P **P** **02 14 15.6 0.0**
comp=Z,0.9nm,1.0s
GEC2 GERESS Array S 88.86 328 *e*P **P** **02 14 16.4 0.0**
GEC2 pmax pmax
comp=Z,15nm,2.0s
GEC2 GERESS Array S 88.86 328 *e*P **P** **02 14 16.4 0.0**
comp=Z,15nm,2.0s
GERES GERESS Array B 88.86 328 P **P** **02 14 15.9 -0.5**
comp=Z,1.0nm,0.7s,baz=44,slow=4.1,SNR=16

GERES					LR		LR	02 55 19.3		
	comp=Z,12nm,22.0s,baz=11,slow=36									
GEA0	**GERESS Array S**	**88.86**	**328**	*e*P		**P**		**02 14 15.6**	**-0.9**	
MOA	**Molln**	**89.31**	**327**	*i* PcP		**P**		**02 14 17.9**	**-0.6**	
	comp=Z,2.1nm,0.9s									
SOKA	**Soboth**	**89.79**	**326**	*i* PcP		**P**		**02 14 20.4**	**-0.4**	
	comp=Z,2.5nm,0.8s									
KBA	**Koelnbreinsper**	**90.31**	**327**	*i* PcP		**P**		**02 14 22.4**	**-0.9**	
	comp=Z,1.5nm,0.6s									
MYKA	**Terra Mystica**	**90.49**	**327**	*e*P		**P**		**02 14 22.9**	**-1.1**	
	comp=Z,1.3nm,0.4s									
WATA	**Walderalm**	**90.94**	**328**	*i* PcP		**P**		**02 14 26.0**	**-0.2**	
	comp=Z,2.4nm,0.6s									
ABTA	**Abfaltersbach**	**90.94**	**327**	*i* P		**P**		**02 14 24.7**	**-1.4**	
	comp=Z,3.8nm,0.9s									
MOTA	**Moosalm**	**91.14**	**329**	*i* PcP		**P**		**02 14 26.6**	**-0.5**	
	comp=Z,1.3nm,0.6s									
RETA	**Reutte**	**91.19**	**329**	*i* P		**P**		**02 14 26.1**	**-1.2**	
	comp=Z,1.5nm,0.6s									
FETA	**Feichten**	**91.56**	**329**	*i* P		**P**		**02 14 25.1**	**-4.0**	
	comp=Z,2.0nm,0.7s									
BFO	**Black Forest**	**91.62**	**331**	*ce*P		**P**		**02 14 29.2**	**0.0**	
DAVA	**Damuels**	**91.74**	**329**	*i* PcP		**P**		**02 14 29.4**	**-0.5**	
	comp=Z,3.7nm,0.8s									
MNTX	**Cornudas Mount**	**92.22**	**51**	*e*P		**P**		**02 14 33.1**	**+0.8**	
	comp=Z,2.4nm,0.9s									
MNTX				*e*pP		**sP**		**02 14 51.5**	**-4.0**	
AMTX	**Amarillo**	**92.70**	**47**	*e*P		**P**		**02 14 35.6**	**+1.0**	
	comp=Z,2.9nm,0.5s									
TXAR	**Lajitas Array**	**94.83**	**52**	P		**P**		**02 14 46.1**	**+1.7**	
	comp=Z,0.5nm,0.5s,baz=319,slow=2.4,SNR=9.6									
TXAR				pP		**sP**		**02 15 08.4**	**+0.9**	
	comp=Z,0.5nm,0.5s,baz=284,slow=1.5,SNR=3.7									
TXAR	**Lajitas Array**	**94.83**	**52**	P		**P**		**02 14 46.1**	**+1.7**	
TXAR				*PP		**sP**		**02 15 08.5**	**+0.9**	
TXAR				pmax	pmax					
	comp=Z,1.0nm,0.5s									
TXAR				pmax	pmax					
	comp=Z,1.0nm,0.5s									
BNI	**Bardonecchia**	**94.88**	**329**	*e*P		**P**		**02 14 43.9**	**-0.5**	
BNI	**Bardonecchia**	**94.88**	**329**	*e*P		**P**		**02 14 43.9**	**-0.5**	
TORD	**Torodi Ar. Bea**	**122.20**	**312**	PKP		**PKPdf**		**02 20 17.2**	**-0.3**	
	comp=Z,0.8nm,0.6s,baz=60,slow=1.1,SNR=27									
TORD				pPKP		**sPKPdf**		**02 20 39.8**	**-1.3**	
	comp=Z,0.3nm,0.4s,baz=43,slow=1.2,SNR=2.8									
DBIC	**Dimbokro**	**131.29**	**312**	PKP		**PKPdf**		**02 20 35.6**	**+0.7**	
	comp=Z,2.5nm,0.9s,baz=88,slow=3.6,SNR=3.6									
SNAA	**Sanae**	**133.58**	**195**	*e*PKIKP		**PKPdf**		**02 20 36.7**	**-0.8**	
SNAA	**Sanae**	**133.58**	**195**	*e*PKPdf		**PKPdf**		**02 20 36.7**	**-0.8**	
SAML	**Samuel**	**149.32**	**53**	*e*PKPbc		**PKPbc**		**02 21 11.4**	**-0.1**	
LPAZ	**La Paz**	**150.07**	**70**	PKPbc		**PKPbc**		**02 21 13.8**	**-0.3**	
	comp=Z,1.0nm,0.8s,baz=328,slow=4.0,SNR=4.3									
PLCA	**Paso Flores**	**151.99**	**122**	PKPbc		**PKPbc**		**02 21 18.4**	**+1.2**	
	comp=Z,2.6nm,0.9s,baz=210,slow=3.8,SNR=5.4									

*IDC **25** 02:02:59.6±1.2,21°.55S×179°.24W,h574km±12km, mb3.7/21,mb1 3.9/23,mb1mx3.7/44,mbtmp4.7/23,Error ellipse: s-maj=12.3km s-min=11.5km az=60.0*
*ISCJB **25** 02:03:00.8±0.3,21°.67S±0°.05×179°.31W±0°.06,h604km, mb4.4/40,Error ellipse: s-maj=7.1km s-min=6.8km az=36.1*
*NEIC **25** 02:03:01.1±1.1,21°.67S×179°.28W,h593km±12km, mb4.7/19,Error ellipse: s-maj=14.4km s-min=11.6km az=67.0*

ISC 25 02:03:02.0±0.4,21°.72S±0°.07×179°.27W±0°.07,h604km, n107,σ1°.46/116,mb4.5/40,1C-1D,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h m s		ISC
MSVF	**Nonsavu**	**4.70**	**327**	*e*P	**P**	**02 04 31.1**		**-1.9**
RAO	**Raoul Island**	**7.60**	**171**	S	**S**	**02 06 30.4**		**-1.9**
	41nm,0.3s,baz=90,slow=24,SNR=14							
NIUE	**Niue**	**9.14**	**75**	P	**P**	**02 05 10.6**		**-1.9**
	baz=9.0,SNR=4.8							
AFI	**Afiamalu**	**10.54**	**44**	P	P	02 05 21.0		-5.4
	6.2nm,0.3s,baz=39,slow=0.3,SNR=6.4							
AFI				S	S	02 07 10.1		-15
	1.1nm,0.3s,baz=246,slow=20,SNR=5.3							
DZM	**Mont Dzumac**	**13.27**	**266**	P	**P**	**02 05 52.4**		**-1.3**
	2.8nm,0.3s,baz=87,slow=19,SNR=13							
OUZ	**Omahuta**	**14.84**	**203**	*e*P	**P**	**02 06 08.4**		**+0.1**
URZ	**Urewera**	**16.78**	**190**	P	**P**	**02 06 23.1**		**-3.0**
	4.5nm,0.3s,baz=284,slow=2.9,SNR=24							
URZ				S	**S**	**02 09 05.6**		**-6.6**
	0.6nm,0.3s,baz=15,slow=20,SNR=5.1							
URZ	**Urewera**	**16.78**	**190**	*e*P	**P**	**02 06 24.2**		**-1.9**
	40nm,0.8s							
THZ	**Tophouse**	**21.05**	**196**	*e*P	**P**	**02 07 03.8**		**-1.0**
	50nm,1.2s							
LTZ	**Lake Taylor**	**22.16**	**197**	*e*P	**P**	**02 07 13.4**		**-1.4**
	25nm,0.7s							
RPZ	**Rata Peaks**	**23.36**	**198**	P	**P**	**02 07 24.7**		**-0.7**
	8.4nm,0.5s,baz=358,slow=2.0,SNR=10							
WHZ	**Wether Hill Ro**	**26.28**	**200**	*e*P	**P**	**02 07 50.4**		**-0.6**
	52nm,0.8s							
EIDS	**Eidsvold**	**27.40**	**257**	P	**P**	**02 08 01.3**		**+0.1**
	baz=28,SNR=15							
EIDS	**Eidsvold**	**27.40**	**257**	*e*P	**P**	**02 08 01.3**		**+0.1**
	23nm,0.7s							
ARMA	**Armidale**	**27.48**	**246**	P	**P**	**02 08 03.1**		**+1.1**
	baz=28,SNR=14							
ARMA	**Armidale**	**27.48**	**246**	*e*P	**P**	**02 08 03.3**		**+1.4**
	31nm,0.8s							
MGCD	**Mangrove Creek**	**28.57**	**240**	P	**P**	**02 08 12.7**		**+1.5**
	baz=29,SNR=6.2							
RMQ	**Roma**	**29.53**	**254**	P	**P**	**02 08 20.8**		**+1.2**
	baz=30,SNR=21							
CNB	**Canberra Magne**	**30.57**	**237**	P	**P**	**02 08 29.8**		**+1.4**
	baz=31,SNR=10							
CTA	**Charters Tower**	**32.21**	**267**	P	**P**	**02 08 42.5**		**-0.1**
	33nm,0.6s,baz=94,slow=11,SNR=54							
CTA				ScP	**ScP**	**02 14 03.0**		**+3.4**
	3.7nm,1.0s,baz=50,slow=2.1,SNR=3.7							
CTAO	**Charters Tower**	**32.21**	**267**	*e*P	**P**	**02 08 42.6**		**+0.1**
	35nm,0.7s							
CMSA	**Cobar Meteorol**	**32.70**	**245**	P	**P**	**02 08 47.0**		**+0.5**
	baz=33,SNR=9.8							
QLP	**Quilpie**	**33.58**	**254**	P	**P**	**02 08 54.1**		**+0.2**
	baz=34,SNR=17							
TOO	**Toolangi**	**34.23**	**235**	P	**P**	**02 09 00.0**		**+0.8**
	baz=34							
MTSU	**Mount Surprise**	**34.37**	**269**	P	**P**	**02 09 00.8**		**+0.1**
	baz=34,SNR=54							
PMG	**Port Moresby**	**34.49**	**286**	P	**P**	**02 09 01.0**		**-0.7**
	50nm,0.7s,baz=120,slow=7.3,SNR=10							
PMG	**Port Moresby**	**34.49**	**286**	*e*P	**P**	**02 09 01.3**		**-0.4**
	49nm,0.8s							
STKA	**Stephens Creek**	**36.20**	**245**	P	**P**	**02 09 16.2**		**+0.6**
	13nm,0.6s,baz=88,slow=9.3,SNR=36							
STKA				ScP	**S**	**02 14 16.6**		**+2.5**
	2.2nm,0.7s,baz=68,slow=11,SNR=3.9							
STKA	**Stephens Creek**	**36.20**	**245**	P	**P**	**02 09 16.3**		**+0.7**
	baz=36,SNR=22							
STKA	**Stephens Creek**	**36.20**	**245**	*e*P	**P**	**02 09 16.4**		**+0.7**
	5.1nm,1.0s							
COEN	**Coen**	**36.50**	**276**	P	**P**	**02 09 18.6**		**+0.3**
	baz=37,SNR=25							
COEN	**Coen**	**36.50**	**276**	*e*P	**P**	**02 09 18.4**		**+0.2**
	36nm,0.8s							
COEN	**Coen**	**36.50**	**276**	*e*P	**P**	**02 09 18.3**		**0.0**
	44nm,0.8s							
QIS	**Mount Isa**	**38.30**	**264**	P	**P**	**02 09 32.3**		**-0.5**
	baz=38,SNR=6.7							
HTT	**Hallett**	**38.62**	**243**	P	**P**	**02 09 35.5**		**+0.2**
	baz=39,SNR=7.0							
BBOO	**Buckleboo**	**40.95**	**245**	P	**P**	**02 09 53.8**		**0.0**
	baz=41,SNR=22							
BBOO	**Buckleboo**	**40.95**	**245**	*e*P	**P**	**02 09 53.3**		**-0.5**
	22nm,0.8s							
AS01	**Alice Springs**	**43.06**	**258**	*e*P	**P**	**02 10 09.0**		**-1.4**
AS31	**Alice Springs**	**43.10**	**258**	*e*P	**P**	**02 10 10.5**		**-0.3**
	25nm,1.3s							
ASAR	**Alice Springs**	**43.10**	**258**	P	**P**	**02 10 10.3**		**-0.5**
	27nm,0.6s,baz=98,slow=7.8,SNR=341							
ASAR				ScP	**ScP**	**02 14 44.1**		**+3.1**
	1.8nm,0.8s,baz=98,slow=4.1,SNR=7.6							
ASAR				S	**S**	**02 15 52.9**		**-1.7**
	6.0nm,0.8s,baz=95,slow=16,SNR=28							
ASAR				ScS	**ScS**	**02 19 06.0**		**+1.9**
	1.6nm,0.9s,baz=97,slow=7.1,SNR=8.7							
WRA	**Warramunga Arr**	**43.28**	**264**	P	**P**	**02 10 10.9**		**-1.3**
	21nm,0.5s,baz=96,slow=7.8,SNR=314							
WRA				ScP	**ScP**	**02 14 44.4**		**+2.6**
	2.4nm,0.9s,baz=96,slow=3.8,SNR=7.2							
WRA				S	**S**	**02 15 52.5**		**-4.6**
	1.4nm,0.8s,baz=98,slow=15,SNR=6.9							
WC1	**Warramunga Arr**	**43.28**	**264**	P	**P**	**02 10 11.5**		**-0.7**
	baz=43							
JAY	**Jayapura**	**43.33**	**291**	P	**P**	**02 10 12.1**		**-0.6**
	3.9nm,0.6s,baz=90,slow=23,SNR=27							
KDU	**Kakadu**	**46.81**	**273**	P	**P**	**02 10 38.3**		**-0.8**
	baz=47,SNR=10							
WRKA	**Warakurna**	**48.01**	**255**	P	**P**	**02 10 47.8**		**-0.2**
	baz=48,SNR=76							
MTN	**Manton Dam**	**48.01**	**272**	P	**P**	**02 10 47.2**		**-0.8**
	baz=48,SNR=8.5							
MTN	**Manton Dam**	**48.01**	**272**	*e*P	**P**	**02 10 47.2**		**-0.8**
	26nm,0.6s							
KNRA	**Kununurra**	**49.41**	**268**	P	**P**	**02 10 58.0**		**-0.4**
	baz=50,SNR=13							
FITZ	**Fitzroy Crossi**	**51.71**	**264**	P	**P**	**02 11 14.6**		**-0.4**
	8.7nm,0.8s,baz=90,slow=20							
FITZ	**Fitzroy Crossi**	**51.71**	**264**	P	**P**	**02 11 15.1**		**0.0**
	baz=52							
FITZ	**Fitzroy Crossi**	**51.71**	**264**	*e*P	**P**	**02 11 15.0**		**0.0**
SOEI	**Soe**	**55.37**	**273**	*e*P	**P**	**02 11 42.1**		**+1.1**
	64nm,0.8s							
MBWA	**Marble Bar**	**56.44**	**258**	*e*P	**P**	**02 11 47.6**		**-0.5**
	19nm,0.7s							
KLBR	**Kellerberrin**	**56.48**	**246**	P	**P**	**02 11 48.1**		**-0.2**
	baz=57,SNR=9.0							
SBA	**Scott Base**	**56.59**	**184**	*e*P	**P**	**02 11 51.4**		**+3.2**
	18nm,1.0s							
VNDA	**Vanda**	**56.60**	**185**	P	**P**	**02 11 50.1**		**+1.8**
	4.2nm,0.8s,baz=355,slow=7.1,SNR=26							
VNDA	**Vanda**	**56.60**	**185**	*e*P	**P**	**02 11 50.4**		**+2.1**
	21nm,1.6s							
MMRI	**Maumere**	**57.63**	**273**	*e*P	**P**	**02 11 55.8**		**-0.6**
MORW	**Morawa**	**58.28**	**248**	P	**P**	**02 12 00.4**		**-0.1**
	baz=58							
QSPA	**South Pole Qui**	**68.36**	**180**	*e*P	**P**	**02 13 05.6**		**+1.4**
KKM	**Kota Kinabalu**	**68.94**	**286**	*e*P	**P**	**02 13 08.3**		**-0.3**
	8.4nm,0.5s							
MJAR	**Matsushiro Arr**	**70.50**	**325**	P	**P**	**02 13 16.6**		**-0.6**
	4.7nm,0.8s,baz=146,slow=6.1,SNR=10							
MAJO	**Matsushiro**	**70.50**	**325**	*e*P	**P**	**02 13 16.6**		**-0.7**
	5.6nm,0.7s							
KSM	**Kuching**	**72.42**	**279**	*e*P	**P**	**02 13 28.8**		**-0.1**
	18nm,0.8s							
KSRS	**Korea Array**	**77.03**	**319**	P	**P**	**02 13 54.2**		**+0.2**
	1.3nm,0.8s,baz=134,slow=7.2,SNR=5.4							
PETK	**Petropavlovsk-**	**77.15**	**346**	P	**P**	**02 13 53.7**		**-0.7**
	2.1nm,0.6s,baz=116,slow=8.4,SNR=3.6							
USRK	**Ussuriysk Ar.**	**79.31**	**327**	P	**P**	**02 14 06.2**		**+0.1**
	3.2nm,0.8s,baz=177,slow=3.4,SNR=4.7							
MAW	**Mawson**	**80.02**	**200**	P	**P**	**02 14 10.5**		**+1.1**
	3.6nm,0.6s,baz=127,slow=7.0,SNR=11							
MAW	**Mawson**	**80.02**	**200**	P	**P**	**02 14 10.6**		**+1.1**
	baz=80							
PMSA	**Palmer Station**	**80.64**	**157**	P	**P**	**02 14 13.6**		**+0.9**
	12nm,0.7s,baz=251,slow=3.7,SNR=3.8							
PFO	**Pinyon Flats O**	**81.26**	**49**	P	**P**	**02 14 13.7**		**-2.9**
	2.0nm,0.6s,baz=265,slow=3.8,SNR=3.1							
IPM	**Ipoh**	**82.12**	**278**	*e*P	**P**	**02 14 21.3**		**0.0**
	12nm,0.8s							
PSI	**Prapat**	**83.43**	**276**	P	**P**	**02 14 26.8**		**-1.1**
	5.5nm,0.7s,baz=133,slow=16,SNR=4.8							
SYO	**Syowa Base**	**85.28**	**193**	*e*P	**P**	**02 14 34.0**		**-1.7**
SYO	**Syowa Base**	**85.28**	**193**	*e*PcP	**PcP**	**02 14 39.0**		**+1.3**
319A	**Douglas**	**85.32**	**54**	*e*P	**P**	**02 14 37.2**		**+0.5**
SNAA	**Sanae**	**86.83**	**179**	P	**P**	**02 14 41.8**		**-1.4**
SNAA	**Sanae**	**86.83**	**179**	*e*P	**P**	**02 14 42.4**		**-0.7**
	80nm,0.6s							
VNA3	**Neumayer Olymp**	**87.00**	**177**	P	**P**	**02 14 43.6**		**-0.3**
VNA2	**Neumayer--Watz**	**87.43**	**177**	P	**P**	**02 14 45.9**		**0.0**
	baz=197,slow=3.7							
VNA1	**Neumayer--Stat**	**87.67**	**177**	P	**P**	**02 14 47.4**		**+0.4**
MNTX	**Cornudas Mount**	**88.42**	**55**	*e*P	**P**	**02 14 52.4**		**+1.2**
	2.9nm,0.9s							
TXAR	**Lajitas Array**	**88.70**	**58**	P	**P**	**02 14 53.4**		**+0.7**
	1.8nm,0.9s,baz=223,slow=5.1,SNR=15							
PLCA	**Paso Flores**	**89.29**	**134**	P	**P**	**02 14 56.5**		**+1.2**
	2.0nm,0.6s,baz=238,slow=5.4,SNR=6.0							
HHC	**Hu-ho-hao-te**	**89.36**	**315**	*e*P	**P**	**02 14 56.0**		**+0.5**
HHC				pmax	pmax			
	comp=Z,12nm,1.2s							
HHC				pmax	pmax			
	comp=Z,53nm,4.4s							
CMAR	**Chiang Mai Arr**	**89.41**	**290**	P	**P**	**02 14 57.7**		**+1.6**
	comp=Z,3.9nm,0.9s,baz=130,slow=3.1,SNR=10							
ILAR	**Eielson Array**	**89.76**	**13**	P	**P**	**02 14 55.5**		**-1.2**
	comp=Z,0.1nm,0.3s,baz=214,slow=5.4,SNR=4.0							
PDAR	**Pinedale Array**	**90.66**	**44**	P	**P**	**02 15 01.2**		**-0.4**
	comp=Z,0.6nm,0.8s,baz=177,slow=3.0,SNR=5.1							
SDV	**Santo Domingo**	**110.49**	**88**	*e*PKP	**PKiKP**	**02 20 28.2**		**+0.4**
KURBB	**Kurchatov Arra**	**114.13**	**317**	PP	PP	02 21 45.3		+4.9
	comp=Z,0.1nm,0.4s,baz=92,slow=6.9,SNR=4.8							
KSH	**Kashi**	**114.61**	**305**	*e*PKP	PKPdf	02 20 35.4		+0.4
KSH				PP	**PP**	**02 21 49.4**		**+5.1**
KSH				PKS	**PKSdf**	**02 24 11.5**		**-0.2**
KSH				SKS	**SKSdf**	**02 26 51.4**		**+0.7**
KSH	**Kashi**	**114.61**	**305**	SS	SS	02 36 56.4		+2.6
KSH				AMB	AMB			
	comp=Z,83nm,5.9s							
KSH				LR	LR			
	comp=N,56nm,4.7s							
KSH				LR	LR			
	comp=E,65nm,6.1s							
KSH				LR	LR			
	comp=Z,94nm,6.7s							
BVAR	**Borovoye Array**	**119.24**	**320**	PKP	**PKPdf**	**02 20 42.4**		**-0.9**
	comp=Z,0.4nm,0.3s,baz=117,slow=1.8,SNR=4.2							
ARCES	**ARCESS Array B**	**129.89**	**349**	PP	PP	02 23 31.2		+6.8
	comp=Z,5.5nm,1.0s,baz=12,slow=9.2,SNR=6.5							
FINES	**FINESS Array B**	**136.59**	**343**	PKP	**PKPdf**	**02 21 16.9**		**+1.0**
	comp=Z,1.5nm,0.9s,baz=288,slow=1.3,SNR=3.7							
FINES				SKPbc	**SKPbc**	**02 23 53.0**		**+0.4**
	comp=Z,2.5nm,1.0s,baz=256,slow=1.1,SNR=4.7							
AKASG	**Malin Array Be**	**143.48**	**329**	PKP	PKPab	02 21 26.5		-1.0
	comp=Z,3.1nm,0.6s,baz=43,slow=4.5,SNR=19							
KIEV	**Kiev**	**143.49**	**329**	*e*PKPdf	PKPab	02 21 26.1		-1.4
BRTR	**Keskin Array B**	**146.75**	**310**	PKPbc	**PKPbc**	**02 21 37.2**		**-0.4**
	comp=Z,0.8nm,0.5s,baz=110,slow=5.0,SNR=6.2							
ASCN	**Ascension**	**147.02**	**152**	*e*PKPbc	**PKPbc**	**02 21 38.8**		**-0.1**
DPC	**Dobruska-Polom**	**148.90**	**341**	*e*PKPAB	**PKPab**	**02 21 49.6**		**+0.4**
KHC	**Kasperske Hory**	**150.80**	**343**	*e*PKPAB	**PKPab**	**02 21 57.3**		**+0.2**
KHC				*ep*PKP	**pPKPab**	**02 24 09.9**		**0.0**
GERES	**GERESS Array B**	**151.02**	**342**	PKPbc	**PKPbc**	**02 21 47.3**		**-0.4**
	comp=Z,0.1nm,0.3s,baz=35,slow=3.6,SNR=2.9							
GERES				SKP		02 24 09.3		
	comp=Z,0.2nm,0.3s,baz=352,slow=1.4,SNR=5.8							
LIC	**Lamto**	**163.62**	**159**	*e*P	**PKPab**	**02 22 53.8**		**+0.4**
	comp=Z,13nm,0.6s							
KIC	**Kosan Boka**	**163.84**	**160**	*e*P	**PKPab**	**02 22 54.9**		**+0.5**
	comp=Z,20nm,0.8s							
TIC	**Toumodi**	**164.02**	**159**	*e*P	**PKPab**	**02 22 55.8**		**+0.6**
DBIC	**Dimbokro**	**164.09**	**159**	PKP	**PKPdf**	**02 21 57.8**		**-0.2**
	comp=Z,8.5nm,1.2s,baz=189,slow=7.7,SNR=3.0							
DBIC				PKPab	**PKPab**	**02 22 56.3**		**+0.8**
	comp=Z,3.5nm,0.7s,baz=175,slow=4.2,SNR=7.8							
TORD	**Torodi Ar. Bea**	**171.43**	**186**	PKP	**PKPdf**	**02 22 02.0**		**-1.0**
	comp=Z,0.9nm,0.9s,baz=329,slow=1.5,SNR=4.6							
TORD				PKPab	**PKPab**	**02 23 27.9**		**+0.1**
	comp=Z,1.4nm,0.7s,baz=170,slow=4.1,SNR=10							
TORD				PP	**PP**	**02 27 20.0**		**+1.7**
	comp=Z,0.7nm,0.9s,baz=180,slow=6.5,SNR=4.2							

NEIC 25 02:05:49.5±0.0,51°.47N×171°.34W,h41km,ML3.7(AEIC), After AEIC., Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h m s		ISC
KOFP	**Korovin Flat P**	**1.89**	**296**	P	Pn	02 06 20.0		+0.7
KOSE	**Korovin Southe**	**1.89**	**299**	P	Pn	02 06 20.5		+1.1
ATKA	**Atka Island**	**1.92**	**294**	P	Pn	02 06 19.6		-0.1
ATKA				S	Sn	02 06 39.3		-3.2
KONE	**Korovin Northe**	**1.95**	**299**	P	Pn	02 06 21.7		+1.5
KOKL	**Mount Kliuchef**	**1.97**	**297**	P	Pn	02 06 21.3		+0.9
NIKH	**Nikolski High**	**2.15**	**44**	P	Pn	02 06 22.2		-0.6
OKSO	**Okmok South**	**2.71**	**45**	P	Pn	02 06 31.8		+1.1
OKCE	**Okmok Cone E**	**2.76**	**43**	P	Pn	02 06 32.6		+1.4
OKTU	**Okmok Mt. Tuli**	**2.79**	**45**	P	Pn	02 06 31.7		+0.1
OKFG	**Magazine Ridge**	**2.86**	**46**	P	Pn	02 06 33.5		+0.8
GSTD	**Great Sitkin T**	**3.04**	**283**	P	Pn	02 06 36.4		+1.2
GSCK	**Great Sitkin C**	**3.05**	**282**	P	Pn	02 06 36.5		+1.3
ADK	**Adak**	**3.35**	**279**	P	Pn	02 06 40.6		+1.3
ADK				S	Sn	02 07 18.4		+0.5
MSW	**Makushin Switc**	**3.70**	**47**	P	Pn	02 06 45.0		+0.8
UNV	**Unalaska Valle**	**3.79**	**49**	P	Pn	02 06 46.4		+1.1
AKGG	**Akutan Green G**	**4.24**	**48**	P	Pn	02 06 53.5		+2.0
AKUT	**Akutan**	**4.31**	**50**	*e*Pn	Pn	02 06 55.3		+2.8

*CSEM **25** 02:11:40.0,41°.60N×14°.35E,h11km,MD1.9/4*
ROM 25 02:11:40.0±0.2,41°.60N×14°.35E,h11km±2km,Md1.9/4, Ml0.7/3,Error ellipse: s-maj=5.2km s-min=3.1km az=36.0,Southern Italy

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h m s		ISC
MIDA	**Miranda**	**0.09**	**302**	Pg	Pg	02 11 42.5		-0.1
MIDA				Sg	Sg	02 11 45.7		+1.1
MIDA	**Miranda**	**0.09**	**302**	Pg	Pg	02 11 42.5		-0.1
MIDA				Sg	Sg	02 11 45.7		+1.1
RNI2	**Rionero Sannit**	**0.18**	**305**	Pg	Pg	02 11 44.7		+0.6
	14nm,0.5s							
RNI2	**Rionero Sannit**	**0.18**	**305**	Pg	Pg	02 11 44.7		+0.6
	14nm,0.5s							
BSSO	**Busso**	**0.19**	**105**	Pg	Pg	02 11 44.8		+0.7
	17nm,0.7s							
BSSO	**Busso**	**0.19**	**105**	Pg	Pg	02 11 44.8		+0.7
	17nm,0.7s							
VAGA	**Valle Agricola**	**0.20**	**206**	Pg	Pg	02 11 45.0		+0.7
	17nm,0.4s							
VAGA	**Valle Agricola**	**0.20**	**206**	Pg	Pg	02 11 45.0		+0.7
	17nm,0.4s							
PTRJ	**Pietraroja**	**0.27**	**150**	Pg	Pg	02 11 46.1		+0.6
PTRJ				Sg	Sb	02 11 50.4		-1.1
PTRJ	**Pietraroja**	**0.27**	**150**	Pg	Pg	02 11 46.1		+0.6
PTRJ				Sg	Sb	02 11 50.4		-1.1

IDC 25 02:21:25.4±26.0,19°.02S×174°.18W,h0km,mb4.2/4, mb1 4.3/4,mb1mx3.8/32,mbtmp4.2/4,Error ellipse: s-maj=484.5km s-min=156.1km az=74.0,Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h m s		ISC
CTA	**Charters Tower**	**37.24**	**262**	P	P	02 28 39.9		+0.8
	2.5nm,0.3s,baz=92,slow=11,SNR=7.0							
STKA	**Stephens Creek**	**41.57**	**243**	P	P	02 29 16.2		+0.4
	1.8nm,0.8s,baz=93,slow=12,SNR=3.8							
ASAR	**Alice Springs**	**48.37**	**255**	P	P	02 30 08.9		-0.5
	2.5nm,0.5s,baz=96,slow=7.6,SNR=50							
WRA	**Warramunga Arr**	**48.39**	**260**	P	P	02 30 08.8		-0.8
	0.8nm,0.4s,baz=97,slow=7.8,SNR=27							

*PDG **25** 02:25:51.1±0.1,43°.40N×17°.37E,h4km,ML3.3/11,Error ellipse: s-maj=0.2km s-min=0.3km az=0.0*
*BEO **25** 02:25:51.0±0.2,43°.41N×17°.33E,h0km,M3.0/1*
*ROM **25** 02:25:51.5±0.2,43°.36N×17°.34E,h5km,Md3.1/8,Ml3.1/40, Error ellipse: s-maj=3.0km s-min=2.2km az=31.0*
*CSEM **25** 02:25:51.0±0.1,43°.40N×17°.41E,h2km,ML3.3,Error ellipse: s-maj=1.9km s-min=1.6km az=21.0*
*PRU **25** 02:25:52.4,43°.49N×17°.50E,h0km*
*VIE **25** 02:26:09.2±0.8,44°.59N×16°.55E,h5km±3km,mb2.6/16, ML2.7/18,Error ellipse: s-maj=5.6km s-min=4.0km az=3.0*
ISC 25 02:25:51.2±1.1,43°.44N±0°.02×17°.41E±0°.02,h9km±9km, n225,σ1°.11/299,37C-27D,Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res

SGRT				Sn		Sn	02 26 51.1	-1.4
	105nm,0.5s							
NVLJ	Novalja	2.15	302	ePn		Pn	02 26 28.1	+0.8
NVLJ				Sn		Sb	02 26 57.0	-0.2
NVLJ	Novalja	2.15	302	ePn		Pn	02 26 28.1	+0.8
NVLJ				Sn		Sb	02 26 56.9	-0.2
SISC	Sisak	2.17	340	*i* Pn		Pb	02 26 29.6	-1.0
SISC	Sisak	2.17	340	*i* Pn		Pb	02 26 29.6	-1.0
TRUS	Trudelj	2.30	69	⇑*i* Pn		Pn	02 26 29.8	+0.4
TRUS	Trudelj	2.30	69	⇑*i* Pn		Pn	02 26 29.8	+0.4
BAI	Bari	2.36	190	ePn		Pn	02 26 28.8	-1.3
FGSL	Fruska Gora	2.43	44	ePn		Pn	02 26 30.6	-0.6
FRGS	Fruska Gora	2.43	44	ePn		Pn	02 26 30.6	-0.6
GRUS	Gruza	2.44	78	ePn		Pn	02 26 32.1	+0.9
GRUS	Gruza	2.44	78	ePn		Pn	02 26 32.1	+0.9
CDT	Castel del Mon	2.50	200	ePn		Pn	02 26 31.3	-0.8
CIGN	Sant'Elia a Pi	2.57	227	Pn		Pn	02 26 33.0	0.0
	55nm,0.7s							
CIGN	Sant'Elia a Pi	2.57	227	Pn		Pn	02 26 33.0	0.0
	55nm,0.7s							
BOJS	Bojanci	2.58	324	*e*Pn		Pn	02 26 34.9	+1.7
BOJS				*e*Sn		Sb	02 27 08.3	-1.3
BOJS	Bojanci	2.58	324	*e*Pn		Pn	02 26 34.9	+1.7
BOJS				*e*Sn		Sb	02 27 08.3	-1.3
OZLJ	Ozalj	2.59	328	*i* Pn		Pn	02 26 35.0	+1.8
OZLJ				Sn		Sb	02 27 08.6	-1.0
ZAG	Zagreb	2.60	337	ePn		Pn	02 26 34.7	+1.3
ZAG				*e*Sn		Sn	02 27 07.1	+2.0
GATE	Gambatesa	2.67	225	Pn		Pn	02 26 35.3	+0.9
	69nm,0.6s							
GATE	Gambatesa	2.67	225	Pn		Pn	02 26 35.3	+0.9
	69nm,0.6s							
SELS	Selova	2.71	93	⇑*i* Pn		Pn	02 26 35.7	+0.7
SELS	Selova	2.71	93	⇑*i* Pn		Pn	02 26 35.7	+0.7
SGTA	Sant Agata di	2.76	214	Pn		Pn	02 26 36.2	+0.5
	64nm,0.4s							
SGTA	Sant Agata di	2.76	214	Pn		Pn	02 26 36.2	+0.5
	64nm,0.4s							
TIR	Tirane	2.77	138	⇑*i*P		Pb	02 26 42.0	+1.2
TIR	Tirane	2.77	138	S		Sb	02 27 16.9	+2.1
CRES	Cresnjev	2.77	330	*i* Pn		Pn	02 26 37.4	+1.6
CRES	Cresnjev	2.77	330	⇑*i* Pn		Pn	02 26 36.7	+0.9
CRES				*e*Sn		Sn	02 27 10.6	+1.3
OFFI	Offida	2.77	261	Pn		Pn	02 26 37.2	+1.4
OFFI	Offida	2.77	261	Pn		Pn	02 26 37.2	+1.4
AOI	Ancona	2.78	274	Pn		Pn	02 26 37.2	+1.3
	69nm,0.7s							
AOI	Ancona	2.78	274	Pn		Pn	02 26 37.2	+1.3
	69nm,0.7s							
VCEL	Villa Celiera	2.82	250	Pn		Pn	02 26 36.8	+0.2
	79nm,0.5s							
VCEL	Villa Celiera	2.82	250	Pn		Pn	02 26 36.8	+0.2
	79nm,0.5s							
MATE	Matera	2.83	191	Pn		Pn	02 26 36.1	-0.5
MATE				Sn		Sn	02 27 09.5	-1.4
	66nm,0.2s							
MATE	Matera	2.83	191	Pn		Pn	02 26 36.1	-0.5
MATE				Sn		Sn	02 27 09.5	-1.4
	66nm,0.2s							
ACER	Acerenza	2.86	203	Pn		Pn	02 26 36.4	-0.7
ACER	Acerenza	2.86	203	Pn		Pn	02 26 36.4	-0.7
CAFE	Carife	2.90	215	Pn		Pn	02 26 38.2	+0.6
CAFE	Carife	2.90	215	Pn		Pn	02 26 38.2	+0.6
TERO	Teramo	2.91	255	Pn		Pn	02 26 38.0	+0.3
TERO				Sn		Sn	02 27 12.6	-0.2
	142nm,1.4s							
TERO	Teramo	2.91	255	Pn		Pn	02 26 38.0	+0.3
TERO				Sn		Sn	02 27 12.6	-0.2
	142nm,1.4s							
MRB1	Monte Rocchett	2.93	219	Pn		Pn	02 26 38.8	+0.7
	97nm,0.7s							
MRB1	Monte Rocchett	2.93	219	Pn		Pn	02 26 38.8	+0.7
	97nm,0.7s							
PTRJ	Pietraroja	2.98	227	Pn		Pn	02 26 39.3	+0.6
	77nm,0.4s							
PTRJ	Pietraroja	2.98	227	Pn		Pn	02 26 39.3	+0.6
	77nm,0.4s							
FAGN	Fagnano	3.05	249	Pn		Pn	02 26 40.1	+0.4
	177nm,0.5s							
FAGN	Fagnano	3.05	249	Pn		Pn	02 26 40.1	+0.4
	177nm,0.5s							
BEHE	Becsehely	3.07	352	⇓*i* Pn		Pn	02 26 41.1	+1.2
BEHE				*e*Sn		Sn	02 27 17.5	+0.8
BEHE	Becsehely	3.07	352	⇓*ex*		Pn	02 26 41.2	+1.3
BEHE				*ex*		Sn	02 27 19.2	+2.5
CAMP	Campotosto	3.07	254	Pn		Pn	02 26 41.0	+0.9
CAMP				Sn		Sn	02 27 17.0	0.0
	43nm,0.7s							
CAMP	Campotosto	3.07	254	Pn		Pn	02 26 41.0	+0.9
CAMP				Sn		Sn	02 27 17.0	0.0
	43nm,0.7s							
SMA1	SAN MARTINO	3.10	256	Pn		Pn	02 26 41.3	+0.9
	55nm,0.4s							
BOVS	Bovan	3.13	85	*e*Pn		Pn	02 26 42.4	+1.7
CEY	Cerknica	3.14	318	⇑*i* Pn		Pn	02 26 41.4	+0.5
CEY				*e*Sn		Sn	02 27 19.3	+0.8
PDKS	Podkum	3.14	328	*i* Pn		Pn	02 26 42.5	+1.6
PDKS	Podkum	3.14	328	*i* Pn		Pn	02 26 42.5	+1.6
AQU	L'Aquila	3.14	251	Pn		Pn	02 26 41.2	+0.3
	51nm,0.8s							
AQU	L'Aquila	3.14	251	Pn		Pn	02 26 41.2	+0.3
	51nm,0.8s							
AQU				*e*Sn		Sn	02 27 18.9	+0.4
T0104	Madonna delle	3.18	252	Pn		Pn	02 26 41.9	+0.4
T0104				Sn		Sn	02 27 19.6	0.0
FDMO	Fiordimonte	3.19	264	Pn		Pn	02 26 42.2	+0.7
FDMO	Fiordimonte	3.19	264	Pn		Pn	02 26 42.2	+0.7
PAOL	Paolisi	3.20	222	Pn		Pn	02 26 41.9	+0.2
	28nm,0.5s							
PAOL	Paolisi	3.20	222	Pn		Pn	02 26 41.9	+0.2
	28nm,0.5s							
NRCA	Norcia	3.20	261	Pn		Pn	02 26 42.5	+0.7
NRCA				Sn		Sn	02 27 20.7	+0.5
	31nm,0.3s							
NRCA	Norcia	3.20	261	Pn		Pn	02 26 42.5	+0.7
NRCA				Sn		Sn	02 27 20.7	+0.5
	31nm,0.3s							
VVLD	Villa Vallelon	3.20	242	Pn		Pn	02 26 41.8	0.0
	23nm,0.4s							
VVLD	Villa Vallelon	3.20	242	Pn		Pn	02 26 41.8	0.0
	23nm,0.4s							
POFI	Posta Fibreno	3.23	239	Pn		Pn	02 26 41.8	-0.4
POFI	Posta Fibreno	3.23	239	Pn		Pn	02 26 41.8	-0.4
ARVD	Arcevia	3.26	273	Pn		Pn	02 26 43.2	+0.7
	30nm,0.9s							
ARVD	Arcevia	3.26	273	Pn		Pn	02 26 43.2	+0.7
	30nm,0.9s							
SNTG	Esanatoglia	3.27	268	Pn		Pn	02 26 43.1	+0.4
	28nm,0.6s							
SNTG	Esanatoglia	3.27	268	Pn		Pn	02 26 43.1	+0.4
	28nm,0.6s							
PTQR	Pietraquaria	3.28	246	Pn		Pn	02 26 44.0	+1.2
PTQR	Pietraquaria	3.28	246	Pn		Pn	02 26 44.0	+1.2
BARS	Barje	3.28	99	*e*Pn		Pn	02 26 44.5	+1.7
BARS	Barje	3.28	99	*e*Pn		Pn	02 26 44.5	+1.7
LNSS	Leonessa	3.31	257	Pn		Pn	02 26 43.6	+0.2
	63nm,0.6s							
LNSS	Leonessa	3.31	257	Pn		Pn	02 26 43.6	+0.2
	63nm,0.6s							
LJU	Ljubljana	3.32	323	⇑*i* Pn		Pn	02 26 44.4	+1.0
LJU				*e*Sn		Sn	02 27 23.5	+0.6
SLCN	Sala Consilina	3.32	204	Pn		Pn	02 26 43.3	-0.1
	45nm,0.3s							
SLCN	Sala Consilina	3.32	204	Pn		Pn	02 26 43.3	-0.1
	45nm,0.3s							
CESI	CESI - Serrava	3.32	264	Pn		Pn	02 26 43.7	+0.2
	14nm,0.5s							
CESI	CESI - Serrava	3.32	264	Pn		Pn	02 26 43.7	+0.2
	14nm,0.5s							
CDRU	Civita di Ruta	3.34	209	Pn		Pn	02 26 42.8	-0.9
	48nm,0.6s							
CDRU	Civita di Ruta	3.34	209	Pn		Pn	02 26 42.8	-0.9
	48nm,0.6s							
SSFR	Montelago di S	3.37	272	Pn		Pn	02 26 44.5	+0.4
	45nm,0.2s							
SSFR	Montelago di S	3.37	272	Pn		Pn	02 26 44.5	+0.4
	45nm,0.2s							
MDVR	Moldovita	3.38	65	⇑*i*P		Pn	02 26 44.9	+0.7
MDVR	Moldovita	3.38	65	⇑*i*P		Pn	02 26 44.9	+0.7
FSSB	Fossombrone	3.38	276	Pn		Pn	02 26 44.7	+0.5
	47nm,0.4s							
FSSB	Fossombrone	3.38	276	Pn		Pn	02 26 44.7	+0.5
	47nm,0.4s							
MPAG	Monte Paganucc	3.39	275	Pn		Pn	02 26 44.8	+0.4
	56µm,41.0s							
MTSN	Montesano sull	3.40	202	Pn		Pn	02 26 43.8	-0.8
	28nm,0.3s							
MTSN	Montesano sull	3.40	202	Pn		Pn	02 26 43.8	-0.8
	28nm,0.3s							
ORI	Oriolo Calabro	3.45	192	Pn		Pn	02 26 44.6	-0.5
	78nm,0.4s							
ORI	Oriolo Calabro	3.45	192	Pn		Pn	02 26 44.6	-0.5
	78nm,0.4s							
ATCC	AVT- Casa Cast	3.49	268	Pn		Pn	02 26 46.6	+0.8
	72nm,0.8s							
ATCC	AVT- Casa Cast	3.49	268	Pn		Pn	02 26 46.6	+0.8
	72nm,0.8s							
ZAGS	Zajecar	3.52	82	⇓*i* Pn		Pn	02 26 47.5	+1.4
ZAGS	Zajecar	3.52	82	⇓*i* Pn		Pn	02 26 47.5	+1.4
PIEI	Pieia	3.55	273	Pn		Pn	02 26 47.5	+0.9
	15nm,0.3s							
PIEI	Pieia	3.55	273	Pn		Pn	02 26 47.5	+0.9
	15nm,0.3s							
MGR	Morigerati	3.58	204	Pn		Pn	02 26 46.4	-0.5
	36nm,0.4s							
MGR	Morigerati	3.58	204	Pn		Pn	02 26 46.4	-0.5
	36nm,0.4s							
PERS	Pernice	3.59	334	*i* Pn		Pn	02 26 48.3	+1.2
PERS				*e*Sn		Sn	02 27 29.5	-0.2
PERS	Pernice	3.59	334	*i* Pn		Pn	02 26 48.3	+1.2
PERS				*e*Sn		Sn	02 27 29.5	-0.2
ATVO	AVT- Monte Val	3.65	271	Pn		Pn	02 26 48.9	+1.0
	31nm,0.8s							
ATVO	AVT- Monte Val	3.65	271	Pn		Pn	02 26 48.9	+1.0
	31nm,0.8s							
SOKA	Soboth	3.66	333	Pn		Pn	02 26 49.1	+1.1
	22nm,0.4s,SNR=79							
SOKA				Sg		Sn	02 27 28.0	-3.3
	0.6nm,0.2s							
BULG	Bulgheria - Ca	3.68	205	Pn		Pn	02 26 48.1	-0.3
	38nm,0.5s							
BULG	Bulgheria - Ca	3.68	205	Pn		Pn	02 26 48.1	-0.3
	38nm,0.5s							
OBKA	Obir	3.68	328	Pn		Pn	02 26 48.1	-0.3
	0.5nm,0.2s							
BZS	Buzias	3.71	53	⇓*i*P		Pn	02 26 49.9	+1.2
BZS	Buzias	3.71	53	⇓*i*P		Pn	02 26 49.9	+1.2
BZS				S		Sn	02 27 31.5	-1.1
PARC	Parchiule	3.77	275	Pn		Pn	02 26 50.5	+1.0
	18nm,0.3s							
PARC	Parchiule	3.77	275	Pn		Pn	02 26 50.5	+1.0
	18nm,0.3s							
ATMC	Monte Cedrone	3.80	272	Pn		Pn	02 26 51.7	+1.7
ATMC	Monte Cedrone	3.80	272	Pn		Pn	02 26 51.7	+1.7
ZAPS	Zavoj	3.81	91	⇑*i* Pn		Pn	02 26 53.4	+3.3
MGAB	Montegabbione	3.91	264	Pn		Pn	02 26 52.3	+0.8
	59nm,0.7s							
MGAB	Montegabbione	3.91	264	Pn		Pn	02 26 52.3	+0.8
	59nm,0.7s							
CAFI	Castiglion Fio	3.97	270	Pn		Pn	02 26 53.6	+1.3
CAFI	Castiglion Fio	3.97	270	Pn		Pn	02 26 53.6	+1.3
CSKK	Cs˘ákako	3.97	8	*e*S		Sg	02 27 58.7	-0.1
ARSA	Arzberg	4.04	341	Pn		Pn	02 26 54.5	+1.2
	9.0nm,0.4s							
ARSA				Sg		Sn	02 27 39.9	-0.8
	7.0nm,0.5s							
PTCC	Patocco-Chiusa	4.14	317	Pn		Pn	02 26 55.6	+1.0
	43nm,1.2s							
PTCC	Patocco-Chiusa	4.14	317	Pn		Pn	02 26 55.6	+1.0
	43nm,1.2s							
ACOM	Acomizza, Ital	4.16	320	Pn		Pn	02 26 56.4	+1.3
	37nm,0.7s							
ACOM	Acomizza, Ital	4.16	320	Pn		Pn	02 26 56.4	+1.3
	37nm,0.7s							
MYKA	Terra Mystica	4.17	321	Pn		Pn	02 26 56.7	+1.7
	1.3nm,0.2s							
MYKA				Sg		Sn	02 27 44.1	+0.3
	2.3nm,0.3s							
GZR	Gura Zlata	4.31	61	⇑*i*P		Pn	02 26 58.2	+1.2
GZR	Gura Zlata	4.31	61	⇑*i*P		Pn	02 26 58.2	+1.2
VTS	Vitosha	4.33	99	⇑*i*P		Pn	02 26 59.8	+2.4
VTS	Vitosha	4.33	99	⇑*i*P		Pn	02 26 59.8	+2.4
CONA	Conrad Observa	4.62	347	Pn		Pn	02 27 02.1	+0.8
	1.8nm,0.2s							
KBA	Koelnbreinsper	4.64	323	Pn		Pn	02 27 03.7	+2.1
	2.2nm,0.3s,SNR=6.8							
ABTA	Abfaltersbach	4.80	315	Pn		Pn	02 27 05.0	+1.3
	1.2nm,0.2s,SNR=15							
PSZ	Piszkesteto	4.81	20	⇓*e*Pn		Pn	02 27 03.9	0.0
PSZ				*e*Sn		Sn	02 27 57.1	-2.6
PSZ	Piszkesteto	4.81	20	⇓*ex*		Pn	02 27 03.9	0.0
PSZ				*e*S		Sn	02 27 57.1	-2.6
MOA	Molln	4.94	335	Pn		Pn	02 27 06.7	+1.1
	6.5nm,0.2s,SNR=48							
MOA				Sg		Sn	02 28 04.2	+1.5
	4.9nm,0.4s							
LOT	Lotru	4.98	64	⇓*i*P		Pn	02 27 06.7	+0.5
LOT	Lotru	4.98	64	⇓*i*P		Pn	02 27 06.7	+0.5
DRGR		5.03	46	S		Sn	02 28 03.1	-2.1
DRGR		5.03	46	S		Sn	02 28 03.1	-2.1
SMOL	Smolenice	5.08	0	*e*Pn		Pn	02 27 09.1	+1.6
SMOL				*e*Sn		Sn	02 28 07.1	+0.8
SMOL	Smolenice	5.08	0	*e*PN		Pn	02 27 09.1	+1.6
SMOL				*e*SN		Sn	02 28 07.1	+0.8
VYHS	Vyhne	5.16	11	*e*Pn		Pn	02 27 09.6	+1.0
VYHS				*e*Sn		Sn	02 28 07.1	-1.1
VYHS	Vyhne	5.16	11	*e*PN		Pn	02 27 09.6	+1.0
VYHS				*e*SN		Sn	02 28 07.1	-1.1
ARR	Arges	5.52	67	⇑*i*P		Pn	02 27 14.4	+0.7
ARR	Arges	5.52	67	S		Sn	02 28 14.8	-2.5
ARR	Arges	5.52	67	⇑*i*P		Pn	02 27 14.4	+0.7
WTTA	Wattenberg	5.59	315	Pn		Pn	02 27 16.3	+1.6
	0.6nm,0.1s,SNR=5.2							
WATA	Walderalm	5.67	316	Pn		Pn	02 27 17.5	+1.8
	2.6nm,0.2s,SNR=7.7							
VOIR		5.82	67	⇓*i*P		Pn	02 27 19.2	+1.4
VOIR		5.82	67	⇓*i*P		Pn	02 27 19.2	+1.4
VOIR				S		Sn	02 28 23.6	-1.1
TRPA	Tarpa	5.91	36	*e*S		Sn	02 28 24.4	-2.2
MOTA	Moosalm	5.92	314	Pn		Pn	02 27 21.2	+2.0
	2.7nm,0.5s,SNR=14							
FETA	Feichten	5.93	310	Pn		Pn	02 27 22.0	+2.7
RETA	Reutte	6.19	313	Pn		Pn	02 27 24.1	+1.3
	0.1nm,0.1s							
KHC	Kasperske Hory	6.29	336	*e*PN		Pn	02 27 25.6	+1.5
KHC				*e*SN		Sn	02 28 35.1	-0.9
KHC	Kasperske Hory	6.29	336	Pn		Pn	02 27 25.6	+1.5
KHC				Sn		Sn	02 28 35.1	-0.9
MORC	Moravsky Berou	6.34	1	⇑*i*P		Pn	02 27 26.2	+1.3
MORC	Moravsky Berou	6.34	1	S		Sn	02 28 37.3	-0.2
MORC	Moravsky Berou	6.34	1	⇑*i*P		Pn	02 27 26.2	+1.3
OKC	Ostrava-Krasne	6.42	4	*e*SN		Sn	02 28 38.0	-1.3
DAVA	Damuels	6.56	309	Pn		Pn	02 27 30.9	+3.0
	0.1nm,0.1s							
PRU	Pruhonice	6.84	344	*e*SN		Sn	02 28 48.1	-1.6
BRG	Berggiesshubel	7.81	344	SG		Sb	02 29 28.8	-11
	2.0nm,0.8s							

INMG ***25*** *02:40:22.0±1.7, 37°.65N×1′.42W, h9km±3km, ML3.0, Error ellipse: s-maj=3.9km s-min=2.3km az=127.0*
IGIL ***25*** *02:40:22.2, 37°.65N×1′.41W, h5km*
LDG ***25*** *02:40:22.8±0.1, 37°.64N×1′.42W, h5km, Ml2.9/5, Error ellipse: s-maj=3.1km s-min=2.0km az=145.0*

ISC 25 02:40:20.1±1.0, 37°.62N±0′.02×1′.40W±0′.02, h16km±8km, n191, σ1↑90/296, 8C-3D, Spain

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EMUR	La Murta	0.26	30	⇑Pg	Pg	02 40 26.4	+0.5
	320nm,0.3s,SNR=18						
EMUR				Lg	Lg	02 40 29.7	
	5µm,0.3s,SNR=7.9						
EMUR	La Murta	0.26	30	Pg	Pg	02 40 26.4	+0.5
	320nm,0.3s,SNR=18						
EMUR				Lg	Lg	02 40 29.7	
	5µm,0.3s,SNR=7.9						
CART	Cartagena	0.32	95	⇑Pg	Pb	02 40 28.8	+1.4
CART				Lg	Lg	02 40 33.5	
CART	Cartagena	0.32	95	*i* P	Pb	02 40 28.8	+1.4
CART				*e*S	Sb	02 40 33.5	+1.2
ENIJ	Nijar	0.91	225	⇑Pg	Pn	02 40 39.2	+1.0
	31nm,0.2s,SNR=18						
ENIJ				Lg	Lg	02 40 51.8	
	82nm,0.2s,SNR=7.9						
ENIJ	Nijar	0.91	225	Pg	Pn	02 40 39.2	+1.0
	31nm,0.2s,SNR=18						
ENIJ				Lg	Lg	02 40 51.8	
	82nm,0.2s,SNR=7.9						
ETOB	Tobarra	1.03	354	⇓Pg	Pb	02 40 40.3	+0.6
	261nm,0.2s,SNR=18						
ETOB				Lg	Lg	02 40 54.3	
	251nm,0.4s,SNR=9.0						
ETOB	Tobarra	1.03	354	Pg	Pb	02 40 40.3	+0.6
	261nm,0.2s,SNR=18						
ETOB				Lg	Lg	02 40 54.3	
	251nm,0.4s,SNR=9.0						
SESP	Santiago Espad	1.03	300	Pg	Pb	02 40 40.8	+1.1
	30nm,0.2s,SNR=7.9						
SESP				Lg	Lg	02 40 55.2	
	187nm,0.2s,SNR=7.9						
SESP	Santiago Espad	1.03	300	Pg	Pb	02 40 40.8	+1.1
	30nm,0.2s,SNR=7.9						
SESP				Lg	Lg	02 40 55.2	
	187nm,0.2s,SNR=7.9						
AFON	Font Roja	1.25	33	Pg	Pn	02 40 43.7	+0.7
	0.4nm,0.1s,SNR=30						
AFON				Lg	Lg	02 41 00.8	
	7.5nm,0.3s,SNR=4.0						
AFON	Font Roja	1.25	33	Pg	Pn	02 40 43.7	+0.7
	0.4nm,0.1s,SNR=30						
AFON				Lg	Lg	02 41 00.8	
	7.5nm,0.3s,SNR=4.0						
GORA	Gorafe	1.31	265	Pg	Pg	02 40 45.8	+0.4
	168nm,0.7s,SNR=7.9						
GORA				Lg	Lg	02 41 03.6	
	52nm,0.2s,SNR=7.9						
GORA	Gorafe	1.31	265	Pg	Pg	02 40 45.8	+0.4
	168nm,0.7s,SNR=7.9						
GORA				Lg	Lg	02 41 03.6	
	52nm,0.2s,SNR=7.9						
EQES	Quesada	1.34	279	Pg	Pg	02 40 46.8	+0.9
	79nm,0.3s,SNR=584						
EQES				Lg	Lg	02 41 05.1	
	902nm,0.8s,SNR=19						
EQES	Quesada	1.34	279	Pg	Pg	02 40 46.8	+0.9
	79nm,0.3s,SNR=584						
EQES				Lg	Lg	02 41 05.1	
	902nm,0.8s,SNR=19						
EVIA	Vianos	1.34	320	⇓Pg	Pn	02 40 45.8	+1.6
	97nm,0.2s,SNR=18						
EVIA				Lg	Lg	02 41 03.8	
	SNR=7.9						
EVIA	Vianos	1.34	320	Pg	Pn	02 40 45.8	+1.6
	97nm,0.2s,SNR=18						
EVIA				Lg	Lg	02 41 03.8	
	SNR=7.9						
EBER	Berja	1.39	239	⇑Pg	Pg	02 40 47.2	+0.4
	58nm,0.4s,SNR=18						
EBER				Lg	Lg	02 41 05.7	
	32nm,0.4s,SNR=5.2						
EBER	Berja	1.39	239	Pg	Pg	02 40 47.2	+0.4
	58nm,0.4s,SNR=18						
EBER				Lg	Lg	02 41 05.7	
	32nm,0.4s,SNR=5.2						
EQUE	Quentar	1.67	256	⇓Pg	Pg	02 40 52.9	+0.6
	38nm,0.4s,SNR=18						
EQUE				Lg	Lg	02 41 15.1	
	2.1nm,0.1s,SNR=7.9						
EQUE	Quentar	1.67	256	Pg	Pg	02 40 52.9	+0.6
	38nm,0.4s,SNR=18						
EQUE				Lg	Lg	02 41 15.1	
	2.1nm,0.1s,SNR=7.9						
SELV	Sierra Elvira	1.89	259	⇑Pg	Pg	02 40 55.6	-0.8
	43nm,0.5s,SNR=18						
SELV				Lg	Lg	02 41 23.4	
	47nm,0.4s,SNR=7.9						
SELV	Sierra Elvira	1.89	259	Pg	Pg	02 40 55.6	-0.8
	43nm,0.5s,SNR=18						
SELV				Lg	Lg	02 41 23.4	
	47nm,0.4s,SNR=7.9						
EALB	Alboran	2.12	219	Pn	Pg	02 40 58.4	-2.5
	6.0nm,0.4s,SNR=4.0						
EALB	Alboran	2.12	219	Pn	Pg	02 40 58.4	-2.5
	6.0nm,0.4s,SNR=4.0						
EGOR	Sierra Gorda,	2.21	258	Pn	Pb	02 40 58.3	-1.5
	10nm,0.3s,SNR=7.9						
EGOR				Lg	Lg	02 41 35.0	
	34nm,0.4s,SNR=4.0						
EGOR	Sierra Gorda,	2.21	258	Pn	Pb	02 40 58.3	-1.5
	10nm,0.3s,SNR=7.9						
EGOR				Lg	Lg	02 41 35.0	
	34nm,0.4s,SNR=4.0						
OKGL	Djebel Kef Gue	2.27	133	Pn	Pb	02 40 59.9	-0.9
	14nm,0.2s,SNR=7.9						
OKGL				Sn	Sb	02 41 28.4	-0.2
	93nm,0.4s,SNR=7.9						
OKGL	Djebel Kef Gue	2.27	133	Pn	Pb	02 40 59.9	-0.9
	14nm,0.2s,SNR=7.9						
EMAL	Malaga-Limoner	2.56	252	Pn	Pb	02 41 04.4	-1.2
EMAL				Sn	Sb	02 41 38.0	+1.1
EMAL	Malaga-Limoner	2.56	252	*e*P	Pb	02 41 04.4	-1.2
EMAL				*e*S	Sb	02 41 38.0	+1.1
EADA	Adamuz	2.57	283	⇑Pn	Pn	02 41 02.7	+1.6
	4.8nm,0.4s,SN

EMIJ	**Mijas**	**2.89**	**250**	Pn	**Pn**	**02 41 07.4**	**+2.0**		
	1.3nm,0.2s,SNR=18								
ECAB	**El Cabril**	**3.21**	**279**	Pn	**Pn**	**02 41 11.3**	**+1.4**		
	5.3nm,0.3s,SNR=35								
ECAB				Pg	**Pg**	**02 41 20.1**	**-1.6**		
	10.0nm,0.4s,SNR=7.9								
ECAB				Sn	**Sn**	**02 41 49.0**	**+1.2**		
	17nm,0.3s,SNR=16								
ECAB				Lg	Lg	02 42 04.4			
	24nm,0.3s,SNR=7.9								
ECAB	**El Cabril**	**3.21**	**279**	Pn	**Pn**	**02 41 11.3**	**+1.4**		
	5.3nm,0.3s,SNR=35								
ECAB	**El Cabril**	**3.21**	**279**	Pg	**Pg**	**02 41 20.1**	**-1.6**		
	10.0nm,0.4s,SNR=7.9								
ECAB				Sn	**Sn**	**02 41 49.0**	**+1.2**		
	17nm,0.3s,SNR=16								
ECAB				Lg	Lg	02 42 04.4			
	24nm,0.3s,SNR=7.9								
ERTA	**Horta de San J**	**3.60**	**21**	Pn	**Pn**	**02 41 16.8**	**+1.6**		
	6.1nm,0.6s,SNR=12								
ERTA	**Horta de San J**	**3.60**	**21**	Pn	**Pn**	**02 41 16.8**	**+1.6**		
	6.1nm,0.6s,SNR=12								
ESPR	**Espera**	**3.63**	**260**	Pn	**Pn**	**02 41 19.4**	**+3.8**		
	1.8nm,0.3s,SNR=7.5								
ESPR	**Espera**	**3.63**	**260**	Pn	**Pn**	**02 41 19.4**	**+3.8**		
	1.8nm,0.3s,SNR=7.5								
GUD	**Guadarrama**	**3.70**	**326**	Pn	**Pn**	**02 41 18.7**	**+1.9**		
	1.4nm,0.2s,SNR=7.9								
GUD				Pg	**Pg**	**02 41 30.1**	**-1.0**		
	23nm,0.4s,SNR=7.9								
GUD				Lg	Lg	02 42 16.7			
	45nm,0.4s,SNR=7.9								
GUD	**Guadarrama**	**3.70**	**326**	Pn	**Pn**	**02 41 18.7**	**+1.9**		
	1.4nm,0.2s,SNR=7.9								
ETOS	**Mallorca**	**3.94**	**56**	Pn	**Pn**	**02 41 21.8**	**+1.9**		
	7.3nm,0.4s,SNR=22								
ETOS				Sn	**Sn**	**02 42 02.4**	**-3.3**		
	6.0nm,0.4s,SNR=7.9								
ETOS	**Mallorca**	**3.94**	**56**	Pn	**Pn**	**02 41 21.8**	**+1.9**		
	7.3nm,0.4s,SNR=22								
ESAC	**San Caprasio**	**4.17**	**10**	Pn	**Pn**	**02 41 25.5**	**+2.5**		
	SNR=7.9								
ESAC				Pg	**Pg**	**02 41 39.3**	**-0.6**		
	SNR=7.9								
ESAC				Lg	Lg	02 42 33.1			
	SNR=7.9								
ESAC	**San Caprasio**	**4.17**	**10**	Pn	**Pn**	**02 41 25.5**	**+2.5**		
	SNR=7.9								
EMIN	**Mina Concepcio**	**4.18**	**274**	Pn	**Pn**	**02 41 25.0**	**+1.8**		
	1.6nm,0.5s,SNR=13								
EMIN				Sn	**Sn**	**02 42 11.6**	**-0.1**		
	SNR=7.9								
EMIN				Lg	Lg	02 42 33.1			
	34nm,0.8s,SNR=7.9								
EMIN	**Mina Concepcio**	**4.18**	**274**	Pn	**Pn**	**02 41 25.0**	**+1.8**		
	1.6nm,0.5s,SNR=13								
EMIN				Sn	**Sn**	**02 42 11.6**	**-0.1**		
	SNR=7.9								
EMIN				Lg	Lg	02 42 33.1			
	34nm,0.8s,SNR=7.9								
EPOB	**Poblet**	**4.20**	**26**	⇑Pn	**Pn**	**02 41 25.0**	**+1.5**		
	1.8nm,0.3s,SNR=18								
EPOB	**Poblet**	**4.20**	**26**	Pn	**Pn**	**02 41 25.0**	**+1.5**		
	1.8nm,0.3s,SNR=18								
EPLA	**Plasencia**	**4.39**	**305**	Pn	**Pn**	**02 41 27.5**	**+1.4**		
	1.1nm,0.4s,SNR=11								
EPLA				Pg	**Pg**	**02 41 44.7**	**+0.4**		
	6.1nm,0.5s,SNR=7.9								
EPLA				Sn	**Sn**	**02 42 16.5**	**-0.5**		
	SNR=7.9								
EPLA				Lg	Lg	02 42 35.6			
	50nm,0.6s,SNR=7.9								
EPLA	**Plasencia**	**4.39**	**305**	Pn	**Pn**	**02 41 27.5**	**+1.4**		
	1.1nm,0.4s,SNR=11								
PBAR	**Barrancos**	**4.49**	**279**	*e*Pn	**Pn**	**02 41 29.7**	**+2.2**		
PBAR				*e*Sn	**Sn**	**02 42 20.2**	**+0.8**		
PBAR				*e*Sg	**Sg**	**02 42 42.0**	**-2.4**		
PBAR				A	A	02 42 54.8			
	28nm,0.5s								
PBAR	**Barrancos**	**4.49**	**279**	Pn	**Pn**	**02 41 29.7**	**+2.2**		
PBAR				Sn	**Sn**	**02 42 20.2**	**+0.8**		
PBAR				Lg	Lg	02 42 42.0			
	28nm,0.5s								
PBAR	**Barrancos**	**4.49**	**279**	Pn	**Pn**	**02 41 29.7**	**+2.2**		
PBAR				Sn	**Sn**	**02 42 20.2**	**+0.8**		
PBAR				*e*Sg	**Sg**	**02 42 42.0**	**-2.4**		
	28nm,0.5s								
EBAD	**Badajoz**	**4.56**	**286**	Pn	**Pn**	**02 41 30.2**	**+1.8**		
	1.6nm,0.3s,SNR=13								
EBAD				Pg	**Pg**	**02 41 45.2**	**-2.3**		
	2.5nm,0.3s,SNR=7.9								
EBAD				Sn	**Sn**	**02 42 20.3**	**-0.8**		
	5.3nm,0.2s,SNR=7.9								
EBAD				Lg	Lg	02 42 46.1			
	22nm,0.2s,SNR=7.9								
EBAD	**Badajoz**	**4.56**	**286**	Pn	**Pn**	**02 41 30.2**	**+1.8**		
	1.6nm,0.3s,SNR=13								
EGRO	**El Granado**	**4.83**	**271**	Pn	**Pn**	**02 41 33.4**	**+1.3**		
	2.2nm,0.3s,SNR=48								
EGRO				Sn	**Sn**	**02 42 27.6**	**-0.1**		
	2.9nm,0.3s,SNR=7.9								
EGRO				Lg	Lg	02 42 53.6			
	14nm,0.6s,SNR=7.9								
EGRO	**El Granado**	**4.83**	**271**	Pn	**Pn**	**02 41 33.4**	**+1.3**		
	2.2nm,0.3s,SNR=48								
EGRO				Sn	**Sn**	**02 42 27.6**	**-0.1**		
	2.9nm,0.3s,SNR=7.9								
EGRO				Lg	Lg	02 42 53.6			
	14nm,0.6s,SNR=7.9								
YUND	**Undues**	**4.96**	**2**	Pn	**Pn**	**02 41 36.5**	**+2.5**		
	SNR=7.9								
YUND	**Undues**	**4.96**	**2**	Pn	**Pn**	**02 41 36.5**	**+2.5**		
	SNR=7.9								
YMUS	**Pe¯a Musera**	**4.97**	**3**	Pn	**Pn**	**02 41 37.2**	**+3.1**		
	SNR=7.9								
YMUS				Lg	Lg	02 43 00.5			
	SNR=7.9								
YMUS	**Pe¯a Musera**	**4.97**	**3**	Pn	**Pn**	**02 41 37.2**	**+3.1**		
	SNR=7.9								
YMUS				Lg	Lg	02 43 00.5			
	SNR=7.9								
YBER	**Berdun**	**4.97**	**4**	Pn	**Pn**	**02 41 36.9**	**+2.8**		
	SNR=7.9								
YBER				Lg	Lg	02 43 01.2			
	SNR=7.9								
YBER	**Berdun**	**4.97**	**4**	Pn	**Pn**	**02 41 36.9**	**+2.8**		
	SNR=7.9								
YBER				Lg	Lg	02 43 01.2			
	SNR=7.9								
PVAQ	**Vaqueiros**	**5.03**	**270**	*e*Pn	**Pn**	**02 41 36.0**	**+1.2**		
PVAQ				*e*Sn	**Sn**	**02 42 33.2**	**+0.7**		
PVAQ				*e*Sg	**Sg**	**02 43 01.2**	**-0.2**		
PVAQ				A	A	02 43 09.1			
	9.6nm,0.7s								
PVAQ	**Vaqueiros**	**5.03**	**270**	Pn	**Pn**	**02 41 36.0**	**+1.2**		
PVAQ				Sn	**Sn**	**02 42 33.2**	**+0.7**		
PVAQ				Lg	Lg	02 43 01.2			
	9.6nm,0.7s								
PVAQ	**Vaqueiros**	**5.03**	**270**	Pn	**Pn**	**02 41 36.0**	**+1.2**		
PVAQ				Sn	**Sn**	**02 42 33.2**	**+0.7**		
PVAQ				*e*Sg	**Sg**	**02 43 01.2**	**-0.2**		
	9.6nm,0.7s								
PESTR	**Estremoz**	**5.03**	**286**	*e*Pn	**Pn**	**02 41 37.0**	**+2.2**		
PESTR	**Estremoz**	**5.03**	**286**	*e*Pg	**Pg**	**02 41 55.5**	**-0.9**		
PESTR				*e*Sn	**Sn**	**02 42 32.2**	**-0.4**		
PESTR				*e*Sg	**Sg**	**02 43 01.3**	**-0.2**		
PESTR				A	A	02 43 10.4			
	24nm,0.5s								
PESTR	**Estremoz**	**5.03**	**286**	*e*Pn	**Pn**	**02 41 37.0**	**+2.2**		
PESTR	**Estremoz**	**5.03**	**286**	*e*Pg	**Pg**	**02 41 55.5**	**-0.9**		
PESTR				*e*Sn	**Sn**	**02 42 32.2**	**-0.4**		
PESTR				*e*Sg	**Sg**	**02 43 01.3**	**-0.2**		
	24nm,0.5s								
YSIG	**Sigues**	**5.03**	**3**	Pn	**Pn**	**02 41 37.1**	**+2.2**		
	SNR=7.9								
YSIG	**Sigues**	**5.03**	**3**	Pn	**Pn**	**02 41 37.1**	**+2.2**		
	SNR=7.9								
YARA	**Arangoiti**	**5.03**	**2**	Pn	**Pn**	**02 41 37.5**	**+2.5**		
	SNR=7.9								
YARA	**Arangoiti**	**5.03**	**2**	Pn	**Pn**	**02 41 37.5**	**+2.5**		
	SNR=7.9								
PMRV	**Marv??o**	**5.03**	**293**	*e*Pn	**Pn**	**02 41 37.3**	**+2.4**		
PMRV				*e*Sn	**Sn**	**02 42 32.2**	**-0.5**		
PMRV				*e*Sg	**Sg**	**02 43 01.2**	**-0.5**		
PMRV				A	A	02 43 08.6			
	20nm,0.4s								
PMRV	**Marv??o**	**5.03**	**293**	Pn	**Pn**	**02 41 37.3**	**+2.4**		
PMRV				Sn	**Sn**	**02 42 32.2**	**-0.5**		
PMRV				Lg	Lg	02 43 01.2			
	20nm,0.4s								
PMRV	**Marv??o**	**5.03**	**293**	Pn	**Pn**	**02 41 37.3**	**+2.4**		
PMRV				Sn	**Sn**	**02 42 32.2**	**-0.5**		
PMRV				*e*Sg	**Sg**	**02 43 01.2**	**-0.5**		
	20nm,0.4s								
YASP	**Aspurt**	**5.11**	**2**	Pn	**Pn**	**02 41 38.8**	**+2.8**		
	SNR=7.9								
YASP	**Aspurt**	**5.11**	**2**	Pn	**Pn**	**02 41 38.8**	**+2.8**		
	SNR=7.9								
PBEJ	**Beja**	**5.13**	**277**	*e*Sn	**Sn**	**02 42 34.8**	**-0.4**		
PBEJ				*e*Sg	**Sg**	**02 43 02.3**	**-2.6**		
PBEJ	**Beja**	**5.13**	**277**	Sn	**Sn**	**02 42 34.8**	**-0.4**		
PBEJ				Lg	Lg	02 43 02.3			
PBEJ	**Beja**	**5.13**	**277**	Sn	**Sn**	**02 42 34.8**	**-0.4**		
PBEJ				*e*Sg	**Sg**	**02 43 02.3**	**-2.6**		
EARA	**Aranguren**	**5.15**	**359**	Pn	**Pn**	**02 41 38.6**	**+2.0**		
	2.3nm,0.3s,SNR=7.9								
EARA	**Aranguren**	**5.15**	**359**	Pn	**Pn**	**02 41 38.6**	**+2.0**		
	2.3nm,0.3s,SNR=7.9								
IEPA	**Eparoz**	**5.16**	**1**	Pn	**Pn**	**02 41 40.5**	**+3.8**		
	SNR=7.9								
IEPA	**Eparoz**	**5.16**	**1**	Pn	**Pn**	**02 41 40.5**	**+3.8**		
	SNR=7.9								
PBDV	**Barranco-do-Ve**	**5.21**	**268**	*e*Pn	**Pn**	**02 41 38.8**	**+1.5**		
PBDV				*e*Sn	**Sn**	**02 42 38.5**	**+1.4**		
PBDV				*e*Sg	**Sg**	**02 43 10.4**	**+3.1**		
PBDV				A	A	02 43 17.7			
	11nm,0.6s								
PBDV	**Barranco-do-Ve**	**5.21**	**268**	Pn	**Pn**	**02 41 38.8**	**+1.5**		
PBDV				Sn	**Sn**	**02 42 38.5**	**+1.4**		
PBDV				Lg	Lg	02 43 10.4			
	11nm,0.6s								
PBDV	**Barranco-do-Ve**	**5.21**	**268**	Pn	**Pn**	**02 41 38.8**	**+1.5**		
PBDV				Sn	**Sn**	**02 42 38.5**	**+1.4**		
PBDV				*e*Sg	**Sg**	**02 43 10.4**	**+3.1**		
	11nm,0.6s								
IELO	**Elcoad**	**5.22**	**1**	⇑Pn	**Pn**	**02 41 40.3**	**+2.7**		
	5.8nm,0.4s,SNR=18								
IELO				Pg	Pb	02 41 56.5	+5.5		
	2.1nm,0.3s,SNR=4.0								
IELO	**Elcoad**	**5.22**	**1**	Pn	**Pn**	**02 41 40.3**	**+2.7**		
	5.8nm,0.4s,SNR=18								
PCBR	**Castelo Branco**	**5.24**	**297**	*e*Sn	**Sn**	**02 42 37.4**	**-0.4**		
PCBR				*e*Sg	**Sg**	**02 43 07.9**	**-0.5**		
PCBR				A	A	02 43 16.6			
	20nm,0.5s								
PCBR	**Castelo Branco**	**5.24**	**297**	Sn	**Sn**	**02 42 37.4**	**-0.4**		
PCBR				Lg	Lg	02 43 07.9			
	9.9nm,0.5s								
PCBR	**Castelo Branco**	**5.24**	**297**	Sn	**Sn**	**02 42 37.4**	**-0.4**		
PCBR				*e*Sg	**Sg**	**02 43 07.9**	**-0.5**		
	20nm,0.5s								
PCVE	**Castro Verde**	**5.27**	**272**	*e*Pn	**Pn**	**02 41 39.4**	**+1.3**		
PCVE				*e*Sn	**Sn**	**02 42 38.2**	**-0.3**		
PCVE				*e*Sg	**Sg**	**02 43 07.7**	**-1.5**		
PCVE				A	A	02 43 16.4			
	7.9nm,0.6s								
PCVE	**Castro Verde**	**5.27**	**272**	Pn	**Pn**	**02 41 39.4**	**+1.3**		
PCVE				Sn	**Sn**	**02 42 38.2**	**-0.3**		
PCVE				Lg	Lg	02 43 07.7			
	7.9nm,0.6s								
PCVE	**Castro Verde**	**5.27**	**272**	Pn	**Pn**	**02 41 39.4**	**+1.3**		
PCVE				Sn	**Sn**	**02 42 38.2**	**-0.3**		
PCVE				*e*Sg	**Sg**	**02 43 07.7**	**-1.5**		
	7.9nm,0.6s								
EORO	**Oroz-Betelu**	**5.27**	**1**	Pn	**Pn**	**02 41 41.2**	**+3.0**		
	6.2nm,0.4s,SNR=25								
EORO				Pg	**Pb**	**02 41 56.6**	**+4.7**		
	35nm,1.2s,SNR=4.0								
EORO				Lg	Lg	02 43 06.5			
	18nm,0.7s,SNR=7.9								
EORO	**Oroz-Betelu**	**5.27**	**1**	Pn	**Pn**	**02 41 41.2**	**+3.0**		
	6.2nm,0.4s,SNR=25								
EORO				Lg	Lg	02 43 06.5			
	18nm,0.7s,SNR=7.9								
ETSF	**Etsaut**	**5.32**	**7**	*e*Pn	**Pn**	**02 41 41.4**	**+2.5**		
ETSF				*e*Sn	**Sn**	**02 42 38.0**	**-1.8**		
ETSF				*e*Sg	**Sg**	**02 43 09.2**	**-1.6**		
	4.4nm,0.5s								
ETSF	**Etsaut**	**5.32**	**7**	Pn	**Pn**	**02 41 41.4**	**+2.5**		
ETSF				Sn	**Sn**	**02 42 38.0**	**-1.8**		
ETSF				Lg	Lg	02 43 09.2			
	2.2nm,0.5s								
ETSF	**Etsaut**	**5.32**	**7**	Pn	**Pn**	**02 41 41.4**	**+2.5**		
ETSF				*e*Sn	**Sn**	**02 42 38.0**	**-1.8**		
ETSF				*e*Sg	**Sg**	**02 43 09.2**	**-1.6**		
	2.2nm,0.5s								
MESJ	**Messejana**	**5.41**	**274**	*e*P	**Pn**	**02 41 41.3**	**+1.3**		
MESJ	**Messejana**	**5.41**	**274**	*e*Pn	**Pn**	**02 41 41.3**	**+1.3**		
MESJ				*e*Sn	**Sn**	**02 42 41.3**	**-0.6**		
MESJ				*e*Sg	**Sg**	**02 43 13.9**	**+0.2**		
MESJ				A	A	02 43 21.3			
	8.7nm,0.8s								
MESJ	**Messejana**	**5.41**	**274**	Pn	**Pn**	**02 41 41.3**	**+1.3**		
MESJ				Sn	**Sn**	**02 42 41.3**	**-0.6**		
MESJ				Lg	Lg	02 43 13.9			
	8.7nm,0.8s								
MESJ	**Messejana**	**5.41**	**274**	Pn	**Pn**	**02 41 41.3**	**+1.3**		
MESJ				Sn	**Sn**	**02 42 41.3**	**-0.6**		
MESJ				*e*Sg	**Sg**	**02 43 13.9**	**+0.2**		
	8.7nm,0.8s								
ATE	**Arette**	**5.49**	**5**	Pn	**Pn**	**02 41 43.8**	**+2.6**		
	SNR=7.9								
ATE	**Arette**	**5.49**	**5**	Pn	**Pn**	**02 41 43.8**	**+2.6**		
	SNR=7.9								
SJPF	**Ste Jean**	**5.49**	**1**	*e*Pn	**Pn**	**02 41 44.0**	**+2.8**		
SJPF				*e*Sn	**Sn**	**02 42 41.4**	**-2.6**		
SJPF				*e*Sg	**Sg**	**02 43 13.1**	**-3.3**		
	3.8nm,0.5s								
SJPF	**Ste Jean**	**5.49**	**1**	Pn	**Pn**	**02 41 44.0**	**+2.8**		
SJPF				Sn	**Sn**	**02 42 41.4**	**-2.6**		
SJPF				Lg	Lg	02 43 13.1			
	1.9nm,0.5s								
SJPF	**Ste Jean**	**5.49**	**1**	Pn	**Pn**	**02 41 44.0**	**+2.8**		
SJPF				Lg	Lg	02 43 13.1			
	1.9nm,0.5s								
EPF	**Esparros**	**5.57**	**13**	*e*Pn	**Pn**	**02 41 45.2**	**+2.9**		
EPF				*e*Sn	**Sn**	**02 42 44.8**	**-1.2**		
	6.5nm,0.5s								
EPF				*e*Sg	**Sg**	**02 43 16.5**	**-2.4**		
	6.1nm,0.4s								
EPF	**Esparros**	**5.57**	**13**	Pn	**Pn**	**02 41 45.2**	**+2.9**		
EPF				Sn	**Sn**	**02 42 44.8**	**-1.2**		
	3.2nm,0.5s								
EPF				Lg	Lg	02 43 16.5			
	3.1nm,0.4s								
EPF	**Esparros**	**5.57**	**13**	Pn	**Pn**	**02 41 45.2**	**+2.9**		
EPF				Lg	Lg	02 43 16.5			
	3.1nm,0.4s								
EALK	**Alkurruntz**	**5.60**	**359**	Pn	**Pn**	**02 41 45.7**	**+3.0**		
	SNR=4.0								
EALK	**Alkurruntz**	**5.60**	**359**	Pn	**Pn**	**02 41 45.7**	**+3.0**		
	SNR=4.0								
MVO	**Moncorvo**	**5.62**	**311**	*e*Pn	**Pn**	**02 41 44.2**	**+1.2**		
MVO				*e*Sn	**Sn**	**02 42 46.1**	**-1.1**		
MVO				*e*Sg	**Sg**	**02 43 18.3**	**-2.1**		
MVO				A	A	02 43 27.4			
	14nm,0.6s								
MVO	**Moncorvo**	**5.62**	**311**	Pn	**Pn**	**02 41 44.2**	**+1.2**		
	4.1nm,0.8s,SNR=7.3								
MVO				Sn	**Sn**	**02 42 45.5**	**-1.7**		
	1.5nm,0.2s,SNR=7.9								
MVO				Lg	Lg	02 43 15.0			
	33nm,0.8s,SNR=7.9								
MVO	**Moncorvo**	**5.62**	**311**	Pn	**Pn**	**02 41 44.2**	**+1.2**		
	4.1nm,0.8s,SNR=7.3								
MVO				*e*Sn	**Sn**	**02 42 46.1**	**-1.1**		
MVO				Lg	Lg	02 43 15.0			
	33nm,0.8s,SNR=7.9								
MVO				*e*Sg	**Sg**	**02 43 18.3**	**-2.1**		
	14nm,0.6s								
PNCL	**Nicolau / Gran**	**5.66**	**277**	*e*Pn	**Pn**	**02 41 45.8**	**+2.3**		
PNCL				*e*Sn	**Sn**	**02 42 48.4**	**+0.3**		
PNCL				A	A	02 43 36.8			
	6.8nm,0.7s								
PNCL	**Nicolau / Gran**	**5.66**	**277**	*e*Pn	**Pn**	**02 41 45.8**	**+2.3**		
PNCL				*e*Sn	**Sn**	**02 42 48.4**	**+0.3**		
	6.8nm,0.7s								
MORF	**Marmelete**	**5.77**	**269**	*e*P	**Pn**	**02 41 46.1**	**+1.0**		
MORF	**Marmelete**	**5.77**	**269**	*e*Pn	**Pn**	**02 41 46.3**	**+1.2**		
MORF				*e*Sn	**Sn**	**02 42 50.7**	**-0.3**		
MORF				A	A	02 43 36.4			
	5.7nm,0.6s								
MORF	**Marmelete**	**5.77**	**269**	Pn	**Pn**	**02 41 46.3**	**+1.2**		
MORF				Sn	**Sn**	**02 42 50.7**	**-0.3**		
	5.7nm,0.6s								
MORF	**Marmelete**	**5.77**	**269**	Pn	**Pn**	**02 41 46.3**	**+1.2**		
MORF				*e*Sn	**Sn**	**02 42 50.7**	**-0.3**		
	5.7nm,0.6s								
PTEO	**Sao Teotonio**	**5.81**	**272**	*e*Sg	**Sg**	**02 43 27.8**	**+1.1**		
PTEO				A	A	02 43 34.8			
	8.9nm,0.7s								
PTEO	**Sao Teotonio**	**5.81**	**272**	Lg	Lg	02 43 27.8			
	4.4nm,0.7s								
PTEO	**Sao Teotonio**	**5.81**	**272**	Lg	Lg	02 43 27.8			
	4.4nm,0.7s								
ELAN	**Lanestosa**	**5.82**	**345**	Pn	**Pn**	**02 41 47.8**	**+2.1**		
	SNR=7.9								
ELAN				Pg	Pg	02 42 08.3	-3.2		
	1.3nm,0.3s,SNR=7.9								
ELAN				Lg	Lg	02 43 25.7			
	19nm,0.8s,SNR=7.9								
ELAN	**Lanestosa**	**5.82**	**345**	Pn	**Pn**	**02 41 47.8**	**+2.1**		
	SNR=7.9								
ELAN				Lg	Lg	02 43 25.7			
	19nm,0.8s,SNR=7.9								
PTOM	**Tomar**	**5.84**	**292**	*e*Sn	**Sn**	**02 42 51.4**	**-1.2**		
PTOM				*e*Sg	**Sg**	**02 43 24.7**	**-2.8**		
PTOM				A	A	02 43 32.0			
	23nm,0.7s								
PTOM	**Tomar**	**5.84**	**292**	Sn	**Sn**	**02 42 51.4**	**-1.2**		
PTOM				Lg	Lg	02 43 24.7			
	12nm,0.7s								
PTOM	**Tomar**	**5.84**	**292**	Sn	**Sn**	**02 42 51.4**	**-1.2**		
PTOM				*e*Sg	**Sg**	**02 43 24.7**	**-2.8**		
	23nm,0.7s								
PBRG	**Braganca**	**5.87**	**317**	*e*Pn	**Pn**	**02 41 47.6**	**+1.2**		
PBRG				*e*Sg	**Sg**	**02 43 24.9**	**-3.5**		
PBRG				A	A	02 43 45.0			
	10.0nm,0.7s								
PBRG	**Braganca**	**5.87**	**317**	Pn	**Pn**	**02 41 47.6**	**+1.2**		
PBRG				Lg	Lg	02 43 24.9			
	5.0nm,0.7s								
PBRG	**Braganca**	**5.87**	**317**	Pn	**Pn**	**02 41 47.6**	**+1.2**		
PBRG				*e*Sg	**Sg**	**02 43 24.9**	**-3.5**		
	10.0nm,0.7s								
PVIS	**Viseu**	**5.92**	**304**	*e*Pn	**Pn**	**02 41 49.3**	**+2.2**		
PVIS				*e*Sg	**Sg**	**02 43 25.2**	**-4.8**		
PVIS				A	A	02 43 32.9			
	9.6nm,0.4s								
PVIS	**Viseu**	**5.92**	**304**	Pn	**Pn**	**02 41 49.3**	**+2.2**		
PVIS				Lg	Lg	02 43 25.2			
	4.8nm,0.4s								
PVIS	**Viseu**	**5.92**	**304**	Pn	**Pn**	**02 41 49.3**	**+2.2**		
PVIS				Lg	Lg	02 43 25.2			
	4.8nm,0.4s								
ECAL	**Calabor**	**5.96**	**318**	Pn	**Pn**	**02 41 48.9**	**+1.2**		
	2.2nm,0.3s,SNR=7.9								
ECAL				Lg	Lg	02 43 28.1			
	8.4nm,0.4s,SNR=7.9								
ECAL	**Calabor**	**5.96**	**318**	Pn	**Pn**	**02 41 48.9**	**+1.2**		
	2.2nm,0.3s,SNR=7.9								
ECAL				Lg	Lg	02 43 28.1			
	8.4nm,0.4s,SNR=7.9								
COI	**Coimbra**	**6.05**	**298**	Sn	**Sn**	**02 42 56.5**	**-1.2**		
	14nm,0.8s								
COI	**Coimbra**	**6.05**	**298**	*e*Sn	**Sn**	**02 42 56.5**	**-1.2**		
	27nm,0.8s								
PCAS	**Casmilo, Conde**	**6.05**	**296**	*e*Pn	**Pn**	**02 41 51.2**	**+2.3**		
PCAS				*e*Sn	**Sn**	**02 42 57.0**	**-0.7**		
PCAS				*e*Sg	**Sg**	**02 43 30.6**	**-3.6**		
PCAS				A	A	02 43 37.6			
	12nm,0.6s								
PCAS	**Casmilo, Conde**	**6.05**	**296**	*e*Pn	**Pn**	**02 41 51.2**	**+2.3**		
PCAS				*e*Sn	**Sn**	**02 42 57.0**	**-0.7**		
PCAS				*e*Sg	**Sg**	**02 43 30.6**	**-3.6**		
	12nm,0.6s								
PVRL	**Vila Real**	**6.10**	**309**	*e*Sn	**Sn**	**02 42 59.7**	**+0.6**		
PVRL				*e*Sg	**Sg**	**02 43 31.9**	**-4.0**		
PVRL	**Vila Real**	**6.10**	**309**	Sn	**Sn**	**02 42 59.7**	**+0.6**		
PVRL				Lg	Lg	02 43 31.9			
PVRL	**Vila Real**	**6.10**	**309**	Sn	**Sn**	**02 42 59.7**	**+0.6**		
PVRL				*e*Sg	**Sg**	**02 43 31.9**	**-4.0**		
POLO	**Lamas de Olo**	**6.21**	**309**	*e*Sg	**Sg**	**02 43 34.3**	**-4.9**		
POLO				A	A	02 43 49.8			
	6.7nm,0.6s								
PMAFR	**Mafra**	**6.34**	**285**	*e*Pn	**Pn**	**02 41 54.6**	**+1.7**		
PMAFR				*e*Sn

MFF	**Saint Martin d**	**9.03**	**6**	Pn		**Pn**	**02 42 30.8**	**+1.1**
PGF	**Pioggiola**	**9.37**	**55**	*e*Pn		**Pn**	**02 42 37.5**	**+3.0**
PGF	**Pioggiola**	**9.37**	**55**	Pn		**Pn**	**02 42 37.5**	**+3.0**
PGF	**Pioggiola**	**9.37**	**55**	Pn		**Pn**	**02 42 37.5**	**+3.0**

ISCJB ***25*** *02:41:47.7±0.5, 39°.47N×16°.33E±0°.05, h21km±6km, Error ellipse: s-maj=6.6km s-min=3.1km az=0.3*
CSEM ***25*** *02:41:47.7±0.2, 39°.46N×16°.20E, h20km, MJ3.5/9, Error ellipse: s-maj=7.4km s-min=3.8km az=87.0*
ROM ***25*** *02:41:47.2±0.2, 39°.47N×16°.32E, h18km±4km, Md3.0/32, Ml2.8/26, Error ellipse: s-maj=5.0km s-min=2.1km az=78.0*

ISC 25 02:41:47.6±1.0, 39°.47N±0°.02×16°.26E±0°.03, h17km±9km, n77, σ0.84/96, 2D, Southern Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MMN	**Mormanno**	**0.46**	**334**	Pg	**Pg**	**02 41 56.2**	**-0.8**
MMN				Sg	**Sb**	**02 42 04.3**	**+0.5**
	396nm,0.3s						
MMN	**Mormanno**	**0.46**	**334**	Pg	**Pg**	**02 41 56.2**	**-0.8**
MMN				Sg	**Sb**	**02 42 04.3**	**+0.5**
	396nm,0.3s						
ORI	**Oriolo Calabro**	**0.61**	**14**	Pg	**Pb**	**02 41 57.7**	**-2.1**
ORI				Sg	**Sb**	**02 42 07.3**	**-0.7**
	792nm,0.5s						
ORI	**Oriolo Calabro**	**0.61**	**14**	Pg	**Pb**	**02 41 57.7**	**-2.1**
ORI				Sg	**Sb**	**02 42 07.3**	**-0.7**
	792nm,0.5s						
CUC	**Castrocucco**	**0.62**	**327**	Pg	**Pb**	**02 41 59.0**	**-1.0**
CUC				Sg	**Sg**	**02 42 08.8**	**+0.6**
	253nm,0.4s						
CUC	**Castrocucco**	**0.62**	**327**	Pg	**Pb**	**02 41 59.0**	**-1.0**
CUC				Sg	**Sg**	**02 42 08.8**	**+0.6**
	253nm,0.4s						
GRI	**Girifalco**	**0.66**	**169**	Pg	**Pg**	**02 42 00.6**	**0.0**
GRI				Sg	**Sg**	**02 42 10.1**	**+0.6**
	418nm,0.3s						
GRI	**Girifalco**	**0.66**	**169**	Pg	**Pg**	**02 42 00.6**	**0.0**
GRI				Sg	**Sg**	**02 42 10.1**	**+0.6**
	418nm,0.3s						
MGR	**Morigerati**	**0.86**	**321**	Pg	**Pb**	**02 42 03.1**	**-0.9**
MGR				Sg	**Sn**	**02 42 16.7**	**-0.3**
	248nm,0.3s						
MGR	**Morigerati**	**0.86**	**321**	Pg	**Pb**	**02 42 03.1**	**-0.9**
MGR				Sg	**Sn**	**02 42 16.7**	**-0.3**
	248nm,0.3s						
MTSN	**Montesano sull**	**0.88**	**334**	Pg	**Pb**	**02 42 03.9**	**-0.6**
MTSN				Sg	**Sg**	**02 42 17.1**	**+0.7**
	242nm,0.5s						
MTSN	**Montesano sull**	**0.88**	**334**	Pg	**Pb**	**02 42 03.9**	**-0.6**
MTSN				Sg	**Sg**	**02 42 17.1**	**+0.7**
	242nm,0.5s						
BULG	**Bulgheria - Ca**	**0.91**	**312**	Pg	**Pb**	**02 42 04.7**	**-0.2**
BULG				Sg	**Sn**	**02 42 19.1**	**+0.8**
BULG	**Bulgheria - Ca**	**0.91**	**312**	Pg	**Pb**	**02 42 04.7**	**-0.2**
JOPP	**Joppolo**	**0.91**	**199**	Pg	**Pb**	**02 42 04.8**	**-0.1**
	329nm,0.2s						
JOPP	**Joppolo**	**0.91**	**199**	Pg	**Pb**	**02 42 04.8**	**-0.1**
	329nm,0.2s						
SLCN	**Sala Consilina**	**1.03**	**333**	Pg	**Pb**	**02 42 06.9**	**-0.2**
SLCN				Sg	**Sg**	**02 42 22.4**	**+1.2**
	341nm,0.7s						
SLCN	**Sala Consilina**	**1.03**	**333**	Pg	**Pb**	**02 42 06.9**	**-0.2**
SLCN				Sg	**Sg**	**02 42 22.4**	**+1.2**
	341nm,0.7s						
STR3	**STROMBOLI 3**	**1.04**	**230**	Pg	**Pg**	**02 42 08.5**	**+0.7**
CMPR	**Campora**	**1.12**	**319**	Pg	**Pn**	**02 42 07.3**	**-1.2**
	120nm,0.3s						
CMPR	**Campora**	**1.12**	**319**	Pg	**Pn**	**02 42 07.3**	**-1.2**
	120nm,0.3s						
PZUN	**Potenza**	**1.22**	**344**	Pg	**Pb**	**02 42 10.5**	**+0.3**
PZUN	**Potenza**	**1.22**	**344**	Pg	**Pb**	**02 42 10.5**	**+0.3**
MATE	**Matera**	**1.22**	**16**	Pg	**Pb**	**02 42 09.9**	**-0.3**
	80nm,0.6s						
MATE	**Matera**	**1.22**	**16**	Pg	**Pb**	**02 42 09.9**	**-0.3**
	80nm,0.6s						
CEL	**Celeste**	**1.25**	**193**	Pg	**Pg**	**02 42 11.2**	**-0.4**
	223nm,0.7s						
CEL	**Celeste**	**1.25**	**193**	Pg	**Pg**	**02 42 11.2**	**-0.4**
	223nm,0.7s						
CDRU	**Civita di Ruta**	**1.25**	**325**	Pg	**Pn**	**02 42 10.0**	**-0.4**
CDRU				Sg	**Sg**	**02 42 28.3**	**+0.2**
	78nm,0.6s						
CDRU	**Civita di Ruta**	**1.25**	**325**	Pg	**Pn**	**02 42 10.0**	**-0.4**
CDRU				Sg	**Sg**	**02 42 28.3**	**+0.2**
	78nm,0.6s						
MSCL	**Scilla**	**1.29**	**197**	Pg	**Pn**	**02 42 10.0**	**-0.9**
	485nm,0.8s						
MSCL	**Scilla**	**1.29**	**197**	Pg	**Pn**	**02 42 10.0**	**-0.9**
	485nm,0.8s						
ACER	**Acerenza**	**1.33**	**350**	Pg	**Pg**	**02 42 13.3**	**0.0**
	246nm,0.9s						
ACER	**Acerenza**	**1.33**	**350**	Pg	**Pg**	**02 42 13.3**	**0.0**
	246nm,0.9s						
MSRU	**Castanea**	**1.34**	**206**	Pg	**Pn**	**02 42 10.7**	**-0.8**
	361nm,0.3s						
MSRU	**Castanea**	**1.34**	**206**	Pg	**Pn**	**02 42 10.7**	**-0.8**
	361nm,0.3s						
GMB	**Gambarie**	**1.35**	**195**	Pg	**Pb**	**02 42 12.4**	**0.0**
	537nm,0.4s						
GMB	**Gambarie**	**1.35**	**195**	Pg	**Pb**	**02 42 12.4**	**0.0**
	537nm,0.4s						
SG1	**Sgolgore (BA)**	**1.40**	**13**	*e*Pn	**Pb**	**02 42 13.1**	**-0.2**
SOI	**Samo**	**1.41**	**186**	Pg	**Pb**	**02 42 13.5**	**+0.1**
SOI				Sg	**Sg**	**02 42 32.8**	**-0.3**
	111nm,0.6s						
SOI	**Samo**	**1.41**	**186**	Pg	**Pb**	**02 42 13.5**	**+0.1**
SOI				Sg	**Sg**	**02 42 32.8**	**-0.3**
	111nm,0.6s						
ATN	**Antennamare**	**1.45**	**205**	Pg	**Pn**	**02 42 12.4**	**-0.7**
	61nm,0.3s						
ATN	**Antennamare**	**1.45**	**205**	Pg	**Pn**	**02 42 12.4**	**-0.7**
	61nm,0.3s						
MPAZ	**Palizzi**	**1.53**	**187**	Pg	**Pn**	**02 42 14.2**	**+0.1**
	60nm,0.3s						
MPAZ	**Palizzi**	**1.53**	**187**	Pg	**Pn**	**02 42 14.2**	**+0.1**
	60nm,0.3s						
CDT	**Castel del Mon**	**1.61**	**0**	*e*Pn	**Pb**	**02 42 16.5**	**-0.3**
MCSR	**Castroreale**	**1.61**	**210**	Pg	**Pn**	**02 42 14.4**	**-0.9**
	244nm,0.3s						
MCSR	**Castroreale**	**1.61**	**210**	Pg	**Pn**	**02 42 14.4**	**-0.9**
	244nm,0.3s						
MESG	**Mesagne**	**1.66**	**47**	Pg	**Pn**	**02 42 15.7**	**-0.1**
MESG	**Mesagne**	**1.66**	**47**	Pg	**Pn**	**02 42 15.7**	**-0.1**
NOV	**Novara**	**1.69**	**212**	Pg	**Pb**	**02 42 17.1**	**-1.1**
	103nm,0.4s						
NOV	**Novara**	**1.69**	**212**	Pg	**Pb**	**02 42 17.1**	**-1.1**
	103nm,0.4s						
BAI	**Bari**	**1.70**	**16**	*e*Pn	**Pn**	**02 42 17.0**	**+0.6**
MMME	**Mongiuffi-Meli**	**1.73**	**207**	Pg	**Pn**	**02 42 16.5**	**-0.4**
	105nm,0.8s						
MMME	**Mongiuffi-Meli**	**1.73**	**207**	Pg	**Pn**	**02 42 16.5**	**-0.4**
	105nm,0.8s						
CAFE	**Carife**	**1.74**	**334**	Pg	**Pb**	**02 42 18.6**	**-0.5**
CAFE	**Carife**	**1.74**	**334**	Pg	**Pb**	**02 42 18.6**	**-0.5**
MUCR	**Ucria**	**1.79**	**218**	Pg	**Pn**	**02 42 18.3**	**+0.5**
	116nm,0.6s						
SGTA	**Sant Agata di**	**1.79**	**338**	Pg	**Pb**	**02 42 20.5**	**+0.5**
SGTA	**Sant Agata di**	**1.79**	**338**	Pg	**Pb**	**02 42 20.5**	**+0.5**
MNO	**Monte Soro**	**1.96**	**219**	Pg	**Pn**	**02 42 19.8**	**-0.5**
MNO	**Monte Soro**	**1.96**	**219**	Pg	**Pn**	**02 42 19.8**	**-0.5**
PAOL	**Paolisi**	**2.02**	**321**	Pg	**Pn**	**02 42 21.7**	**+0.8**
	32nm,0.8s						
PAOL	**Paolisi**	**2.02**	**321**	Pg	**Pn**	**02 42 21.7**	**+0.8**
	32nm,0.8s						
HAGA	**Augusta**	**2.35**	**202**	Pg	**Pn**	**02 42 26.0**	**+0.6**
	38nm,0.4s						
HAGA	**Augusta**	**2.35**	**202**	Pg	**Pn**	**02 42 26.0**	**+0.6**
	38nm,0.4s						
HLNI	**Lentini**	**2.38**	**208**	Pg	**Pn**	**02 42 26.5**	**+0.7**
	18nm,0.3s						
HLNI	**Lentini**	**2.38**	**208**	Pg	**Pn**	**02 42 26.5**	**+0.7**
	18nm,0.3s						
BBLS	**Lazići**	**4.98**	**27**	*e*Pn	**Pn**	**02 43 03.6**	**+2.0**
IVAS	**Ivanjica**	**5.04**	**34**	*e*Pn	**Pn**	**02 43 05.1**	**+2.8**
UDBI	**Udbina**	**5.06**	**356**	*e*Pn	**Pn**	**02 43 02.3**	**-0.4**
UDBI	**Udbina**	**5.06**	**356**	*e*Pn	**Pn**	**02 43 02.3**	**-0.4**
NVLJ	**Novalja**	**5.19**	**349**	*e*Pn	**Pn**	**02 43 05.5**	**+1.1**
NVLJ	**Novalja**	**5.19**	**349**	*e*Pn	**Pn**	**02 43 05.4**	**+1.1**
BARS	**Barje**	**5.36**	**50**	||*i*Pn	**Pn**	**02 43 08.9**	**+2.1**
DIVS	**Divíbare**	**5.40**	**30**	*e*Pn	**Pn**	**02 43 07.0**	**-0.3**
GRUS	**Gruza**	**5.53**	**36**	||*i*Pn	**Pn**	**02 43 06.9**	**-2.2**
TEKS	**Tekeris**	**5.63**	**25**	*e*Pn	**Pn**	**02 43 09.3**	**-1.1**

IDC 25 02:45:19.5±1.0, 2°.30N×126°.25E, h0km, mb3.7/8, mb1 3.8/8, mb1mx3.6/37, mbtmp3.8/8, Error ellipse: s-maj=68.1km s-min=16.5km az=73.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**20.28**	**182**	P	Pn	02 49 58.0	-0.9
	1.1nm,0.6s,baz=14,slow=12,SNR=2.4						
WRA	**Warramunga Arr**	**23.49**	**161**	P	P	02 50 30.8	-0.3
	0.9nm,0.3s,baz=340,slow=11,SNR=8.5						
ASAR	**Alice Springs**	**26.86**	**164**	P	P	02 51 02.1	-0.1
	0.6nm,0.2s,baz=342,slow=9.1,SNR=6.1						
KSRS	**Korea Array**	**35.02**	**2**	P	P	02 52 14.4	+0.6
	0.6nm,0.6s,baz=185,slow=8.2,SNR=2.9						
MKAR	**Makanchi Array**	**58.46**	**326**	P	P	02 55 17.1	-0.3
	0.5nm,0.3s,baz=118,slow=6.9,SNR=9.5						
ZALV	**Zalesovo Beam**	**61.64**	**334**	P	P	02 55 38.2	-0.8
	0.9nm,0.4s,baz=126,slow=7.4,SNR=3.0						
KURBB	**Kurchatov Arra**	**62.68**	**328**	P	P	02 55 45.7	-0.4
	0.7nm,0.4s,baz=129,slow=6.8,SNR=6.6						
BVAR	**Borovoye Array**	**68.25**	**327**	P	P	02 56 22.6	+0.5
	0.2nm,0.5s,baz=128,slow=9.3,SNR=2.8						

IDC ***25*** *03:25:04.3±0.8, 24°.74N×127°.85E, h0km, mb3.9/14, mb1 4.0/18, mb1mx3.8/46, mbtmp3.8/18, ML3.3/3, MS3.1/5, Ms1 3.1/5, ms1mx2.7/38, Error ellipse: s-maj=28.9km s-min=16.9km az=80.0*
JMA ***25*** *03:25:06.9±0.2, 24°.75N×127°.75E, h73km, M3.1*
NEIC ***25*** *03:25:09.4±0.4, 24°.78N×127°.91E, h35km, mb4.3/4, Error ellipse: s-maj=9.5km s-min=7.6km az=95.0*

ISC 25 03:25:04.0±2.5, 24°.71N±0°.05×127°.80E±0°.04, h1km±15km, n44, σ1.81/56, mb4.0/18, MS3.1/4, Southeast of Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JJT2	**Tamagusuku 2**	**1.42**	**358**	P	**Pb**	**03 25 31.0**	**-0.4**
JJT2				*e*S	**Sg**	**03 25 49.0**	**-0.8**
JNTH	**Nagotoyohara**	**1.81**	**6**	P	**Pn**	**03 25 36.0**	**-0.3**
JNTH				S	**Sn**	**03 25 57.6**	**-2.3**
JKE	**Kume jima 2**	**1.85**	**331**	P	**Pn**	**03 25 36.9**	**0.0**
JKE				*e*S	**Sn**	**03 25 58.0**	**-2.9**
JAGN	**Aguni-jima**	**1.93**	**345**	P	**Pn**	**03 25 38.2**	**+0.2**
JAGN				S	**Sn**	**03 26 00.5**	**-2.5**
JOW	**Kunigami**	**2.15**	**11**	P	**Pn**	**03 25 41.1**	**0.0**
JOW				*e*S	**Sn**	**03 26 05.6**	**-2.8**
JOW	**Kunigami**	**2.15**	**11**	*e*Pn	**Pn**	**03 25 41.0**	**-0.1**
JOW				*e*Sn	**Sn**	**03 26 05.1**	**-3.3**
JOGS	**Gusukube**	**2.17**	**272**	*e*S	**Sn**	**03 26 06.8**	**-2.1**
JIH	**Iheya**	**2.32**	**4**	*e*S	**Sn**	**03 26 10.1**	**-2.3**
JIKM	**Ikemajima**	**2.33**	**276**	P	**Pn**	**03 25 42.8**	**-0.6**
JIKM				*e*S	**Sn**	**03 26 15.6**	**-2.2**
JIRB	**Irabujima**	**2.39**	**273**	P	**Pn**	**03 25 43.7**	**-0.6**
JIRB				*e*S	**Sn**	**03 26 10.3**	**-3.9**
JOKE	**Okinoerabujima**	**2.73**	**15**	P	**Pn**	**03 25 49.9**	**+0.9**
JOKE				*e*S	**Sn**	**03 26 21.3**	**-1.3**
JTJ	**Tarama**	**2.82**	**269**	P	**Pn**	**03 25 50.0**	**-0.2**
JTJ				*e*S	**Sn**	**03 26 22.5**	**-2.3**
JTK	**Tokunoshima**	**3.23**	**18**	P	**Pn**	**03 25 55.9**	**0.0**
JTK				*e*S	**Sn**	**03 26 30.6**	**-4.4**
JMZ	**Minamidaito 2**	**3.29**	**70**	P	**Pn**	**03 25 54.8**	**-1.9**
JMZ				*e*S	**Sn**	**03 26 32.5**	**-3.9**
JIJ	**Ishigaki jima**	**3.35**	**265**	P	**Pn**	**03 25 56.1**	**-1.4**
JIJ				*e*S	**Sn**	**03 26 33.1**	**-4.8**
JAMN	**Amaminishikomi**	**3.73**	**19**	P	**Pn**	**03 26 03.4**	**+0.7**
JAM	**Amami Oshima**	**4.02**	**23**	P	**Pn**	**03 26 07.2**	**+0.4**
JAM				*e*S	**Sn**	**03 26 51.2**	**-3.3**
JNU	**Nakatsue**	**8.80**	**17**	Pn	**Pn**	**03 27 14.4**	**+1.9**
	1.0nm,0.3s,baz=315,slow=2.1,SNR=8.0						
KSAR	**Wonju Array Be**	**12.69**	**0**	Pn	**Pn**	**03 28 05.1**	**-0.5**
KSRS	**Korea Array**	**12.70**	**0**	Pn	**Pn**	**03 28 05.1**	**-0.7**
	0.1nm,0.3s,baz=181,slow=15,SNR=7.0						
KSRS				LR	LR	03 33 09.0	
	comp=Z,35nm,19.8s,baz=230,slow=38						
CBIJ	**Chichi jima**	**13.16**	**77**	*e*Pn	**Pn**	**03 28 12.5**	**+0.3**
MJAR	**Matsushiro Arr**	**14.79**	**35**	Pn	**Pn**	**03 28 34.7**	**+0.2**
	baz=221,slow=14,SNR=3.1						
USRK	**Usuriysk Ar.**	**19.74**	**9**	P	**Pn**	**03 29 36.0**	**-0.5**
	0.1nm,0.3s,baz=180,slow=10,SNR=4.8						
SONM	**Songino Array**	**28.63**	**329**	LR	LR	03 44 19.5	
	comp=Z,45nm,18.2s,baz=94,slow=40						
MKAR	**Makanchi Array**	**42.27**	**313**	P	**P**	**03 32 59.5**	**+0.4**
	0.7nm,0.6s,baz=104,slow=9.9,SNR=5.7						
ZALV	**Zalesovo Beam**	**43.23**	**324**	P	**P**	**03 33 07.1**	**+0.4**
	0.7nm,0.4s,baz=133,slow=8.1,SNR=3.5						
ZALV				LR	LR	03 51 26.9	
	comp=Z,19nm,18.1s,baz=250,slow=37						
WRAB	**Tennant Creek**	**44.83**	**171**	*e*P	**P**	**03 33 20.1**	**+0.3**
	2.3nm,0.7s						
WRA	**Warramunga Arr**	**44.84**	**171**	P	**P**	**03 33 20.3**	**+0.4**
	1.7nm,0.5s,baz=352,slow=8.7,SNR=16						
KURK	**Kurchatov**	**45.66**	**318**	P	**P**	**03 33 26.2**	**0.0**
KURBB	**Kurchatov Arra**	**45.69**	**318**	P	**P**	**03 33 26.2**	**-0.2**
	0.7nm,0.6s,baz=106,slow=7.9,SNR=5.7						
ASAR	**Alice Springs**	**48.46**	**173**	P	**P**	**03 33 49.3**	**+1.1**
	0.4nm,0.5s,baz=0.6,slow=14,SNR=8.2						
NRIK	**Noril'sk**	**50.57**	**343**	P	**P**	**03 34 04.6**	**+0.8**
	1.8nm,0.3s,baz=113,slow=7.0,SNR=4.7						
NRIK				LR	LR	03 58 04.5	
	comp=Z,17nm,18.2s,baz=108,slow=39						
BRVK	**Borovoye**	**51.22**	**319**	*e*P	**P**	**03 34 10.2**	**+1.2**
	22nm,1.5s						
ABKAR	**Akbulak array**	**57.40**	**314**	*e*P	**P**	**03 34 55.0**	**+0.9**
	1.0nm,0.6s						
ARU	**Arti**	**58.34**	**322**	*e*P	**P**	**03 35 01.3**	**+0.7**
	1.4nm,0.4s						
GEYT	**Alibeck**	**59.72**	**301**	P	**P**	**03 35 12.5**	**+2.0**
	0.6nm,0.4s,baz=86,slow=4.5,SNR=4.0						
ILAR	**Eielson Array**	**65.95**	**28**	P	**P**	**03 35 51.2**	**-0.3**
	0.2nm,0.7s,baz=250,slow=4.7,SNR=3.1						
KBZ	**Khabaz**	**69.82**	**310**	P	**P**	**03 36 17.9**	**+1.6**
	3.0nm,0.9s,baz=102,slow=8.9,SNR=3.7						
FINES	**FINESS Array B**	**73.99**	**331**	P	**P**	**03 36 42.2**	**+1.3**
	1.1nm,0.6s,baz=76,slow=8.0,SNR=4.1						
AKASG	**Malin Array Be**	**76.43**	**320**	P	**P**	**03 36 55.6**	**+0.4**
	0.4nm,0.4s,baz=67,slow=4.1,SNR=2.5						
BRTR	**Keskin Array B**	**77.66**	**308**	P	**P**	**03 37 02.8**	**+0.2**
	1.9nm,1.1s,baz=104,slow=3.0,SNR=4.7						
NOA	**NORSAR Array B**	**80.50**	**334**	P	**P**	**03 37 17.1**	**-0.5**
	0.9nm,0.9s,baz=54,slow=5.4,SNR=3.4						
VRAC	**Vranov**	**84.32**	**322**	LR	LR	04 17 18.8	
	comp=Z,18nm,22.0s,baz=335,slow=37						
GERES	**GERESS Array B**	**86.17**	**323**	P	**P**	**03 37 46.4**	**-0.7**
	0.2nm,0.6s,baz=65,slow=9.8,SNR=3.2						

NIED ***25*** *03:29:00, 35°.40N×141°.00E, h23km, Mw3.9 Best double couple: M0 8.48000×10^14 NP1:φs227.00000°, δ79.00000°, λ-11.00000°. NP2:φs320.00000°, δ79.00000°, λ-168.00000°.*
ISCJB ***25*** *03:29:40.0±0.9, 35°.36N±0°.04×141°.06E±0°.09, h32km±5km, mb3.6/5, MS2.7/1, Error ellipse: s-maj=12.8km s-min=6.2km az=171.9*
IDC ***25*** *03:29:41.8±1.1, 35°.23N×140°.84E, h24km±7km, mb3.4/5, mb1 3.6/7, mb1mx3.4/40, mbtmp3.5/7, ML3.2/2, MS2.8/1, Ms1 3.0/1, ms1mx2.3/24, Error ellipse: s-maj=28.1km s-min=19.4km az=85.0*
JMA ***25*** *03:29:41.0±0.1, 35°.43N×140°.97E, h28km±1km, M3.9*
JMA Felt II J1.

ISC 25 03:29:40.7±0.9, 35°.38N±0°.04×141°.02E±0°.07, h24km±6km, n18, σ1.25/23, mb3.7/6, 3D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHOJ	**Chosi**	**0.35**	**338**	||P	**Pb**	**03 29 48.0**	**-0.4**
CHOJ				S	**Sb**	**03 29 53.2**	**-0.4**
KTR	**Katsuura**	**0.62**	**248**	P	**Pb**	**03 29 53.1**	**+0.2**
JCN	**Nagara**	**0.67**	**273**	P	**Pb**	**03 29 53.6**	**-0.1**
BSO4	**Boso 4**	**0.68**	**235**	P	**Pn**	**03 29 54.8**	**+0.1**
BSO3	**Boso 3**	**0.71**	**216**	||P	**Pn**	**03 29 54.9**	**-0.1**
BSO1	**Boso 1**	**0.73**	**183**	||P	**Pb**	**03 29 54.5**	**+0.1**
JYT	**Yasato**	**1.08**	**322**	P	**Pn**	**03 29 59.3**	**-1.0**
JYT				S	**Sb**	**03 30 13.1**	**-1.3**
JHO	**Hitachi**	**1.28**	**344**	P	**Pn**	**03 30 02.2**	**-0.9**
JHJ	**Hachijo jima 2**	**2.48**	**205**	Pn	**Pn**	**03 30 17.9**	**-1.7**
	12nm,0.3s,baz=36,slow=12,SNR=4.2						
JHJ				Sn	**Sn**	**03 30 46.8**	**-2.2**
	48nm,0.3s,baz=247,slow=23,SNR=6.8						

MJAR	**Matsushiro Arr**	**2.56**	**298**	Pn		**Pn**	**03 30 22.2**	**+1.5**
	5.1nm,0.3s,baz=212,slow=26,SNR=38							
MJAR				Sn		**Sb**	**03 30 58.8**	**+1.9**
	7.2nm,0.3s,baz=175,slow=29,SNR=4.5							
MAT	**Matsushiro**	**2.56**	**298**	P		**Pb**	**03 30 23.4**	**-2.5**
MAT				*e*S		**Sn**	**03 30 51.4**	**+0.3**
CMAR	**Chiang Mai Arr**	**40.79**	**257**	LR		LR	03 54 53.2	
	comp=Z,12nm,20.4s,baz=285,slow=37							
ZALV	**Zalesovo Beam**	**42.81**	**314**	pP		pP	03 37 45.9	+2.2
	1.3nm,0.5s,baz=100,slow=8.8,SNR=2.9							
MKAR	**Makanchi Array**	**44.74**	**303**	P		**P**	**03 37 52.7**	**+0.6**
	0.3nm,0.5s,baz=88,slow=10,SNR=3.9							
KURBB	**Kurchatov Arra**	**46.78**	**309**	P		**P**	**03 38 08.5**	**+0.4**
	0.4nm,0.4s,baz=83,slow=7.6,SNR=2.5							
KURBB				pP		**pP**	**03 38 15.4**	**0.0**
	baz=83,slow=7.6							
ILAR	**Eielson Array**	**51.06**	**32**	P		**P**	**03 38 42.6**	**+1.9**
	0.3nm,0.7s,baz=275,slow=6.0,SNR=3.1							
ILAR				pP		**sP**	**03 38 51.7**	**+0.6**
	0.4nm,0.7s,baz=270,slow=6.2,SNR=3.4							
WRA	**Warramunga Arr**	**55.38**	**188**	P		**P**	**03 39 12.9**	**0.0**
	0.6nm,0.4s,baz=2.9,slow=7.4,SNR=9.7							
ASAR	**Alice Springs**	**59.11**	**188**	P		**P**	**03 39 38.3**	**-1.0**
	0.2nm,0.5s,baz=17,slow=10.0,SNR=4.4							

MEX 25 04:09:36.2±0.7, 17°.02N×100°.10W, h5km, MD3.5, Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAIG	**El Cayaco**	**0.17**	**281**	*e*P	Pg	04 09 38.8	-0.8
CAIG				*e*S	Sg	04 09 41.5	-0.2
ACP2	**Acapulco**	**0.24**	**125**	*e*P	Pg	04 09 40.1	-0.8
ACP2				*e*S	Sg	04 09 44.5	+0.3
ACX	**Acapulco**	**0.27**	**123**	*e*P	Pg	04 09 40.1	-1.4
ACX				*e*S	Sg	04 09 44.5	-0.5
MEIG	**Mezcala**	**1.01**	**27**	*e*P	Pg	04 09 52.8	-2.8
MEIG				*e*S	Sg	04 10 05.9	-2.9
ARIG	**Puente Sto Nin**	**1.28**	**349**	*e*P	Pg	04 09 57.6	-3.1
ARIG				*e*S	Sg	04 10 14.1	-3.3
ZIIG	**Zihuatanejo**	**1.43**	**294**	*e*P	Pn	04 09 59.9	-3.0
ZIIG				*e*S	Sb	04 10 17.9	-4.1
PLIG	**Platanillo**	**1.48**	**22**	*e*P	Pn	04 10 00.5	-3.1
PLIG				*i* S	Sn	04 10 18.5	-4.9
TLIG	**Tlapa**	**1.56**	**69**	*e*P	Pn	04 10 00.8	-3.9
TLIG				*i* S	Sn	04 10 21.3	-4.1
YAIG	**Yautepec**	**2.08**	**28**	*e*P	Pn	04 10 07.4	-4.5
YAIG				*i* S	Sn	04 10 34.3	-4.1

JMA ***25*** *04:16:42.1, 37°.80N×140°.01E, h9km±1km, M3.1*
JMA Felt I J1.
ISCJB ***25*** *04:16:44.7±0.9, 37°.66N±0°.08×139°.8E±0°.1, h33km, mb3.5/5, Error ellipse: s-maj=14.1km s-min=10.1km az=152.6*
IDC ***25*** *04:16:46.7±6.6, 37°.72N×139°.71E, h33km±49km, mb3.3/5, mb1 3.6/6, mb1mx3.3/41, mbtmp3.5/6, ML3.5/1, Error ellipse: s-maj=44.7km s-min=24.3km az=87.0*

ISC 25 04:16:45.2±0.9, 37°.73N±0°.07×139°.98E±0°.07, h35km, n11, σ3.86/11, mb3.5/5, Eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JFT	**Otama**	**0.36**	**127**	S	**Sn**	**04 16 55.0**	**-4.8**
JFY	**Yanaizu**	**0.39**	**214**	S	**Sn**	**04 16 57.4**	**-3.2**
JYS	**Shirataka**	**0.49**	**8**	S	**Sn**	**04 16 56.5**	**-6.5**
JNS	**Sasagawa**	**0.53**	**279**	S	**Sn**	**04 17 00.0**	**-4.0**
MJAR	**Matsushiro Arr**	**1.85**	**230**	Pn	**Pn**	**04 17 11.5**	**-2.9**
	8.2nm,0.3s,baz=68,slow=14,SNR=22						
MJAR				Lg	Lg	04 17 41.5	
	9.7nm,0.3s,baz=59,slow=34,SNR=8.7						
KSRS	**Korea Array**	**9.57**	**272**	Pn	**Pn**	**04 19 01.2**	**+0.8**
	0.5nm,0.3s,baz=80,slow=14,SNR=3.2						
KURBB	**Kurchatov Arra**	**44.67**	**307**	P	**P**	**04 24 54.7**	**+0.4**
	0.7nm,0.6s,baz=83,slow=7.8,SNR=3.6		

KUR smax smax
comp=N,1μm,1.5s
KUR smax smax
comp=E,1μm,1.5s
KUR smax smax
comp=E,429nm,0.6s
KUR smax smax
comp=N,259nm,0.3s
YSS Yuzh-Sakhalins 5.11 349⇑ *e*P **Pn 04 19 37.7 +3.2**
YSS *e*S **Sn 04 20 33.3 +0.9**
YSS pmax pmax
comp=Z,20nm,0.8s
YSS MLR MLR
comp=Z,2μm,14.0s
YSS MLR MLR
comp=N,2μm,13.0s
YSS Yuzh-Sakhalins 5.11 349 *e*Pn **Pn 04 19 35.6 +1.1**
MJAR Matsushiro Arr 7.13 223 Pn **Pn 04 20 02.5 +0.1**
comp=N,4.8nm,0.3s,baz=31,slow=14,SNR=16
MJAR Sn **Sn 04 21 22.7 +0.4**
comp=N,2.0nm,0.3s,baz=32,slow=28,SNR=2.9
MJB9 Matsu-Tunnel 7.13 223 *e*Pn **Pn 04 20 02.8 +0.5**
MAJO Matsushiro 7.13 223 *c i*P **Pn 04 20 01.9 -0.5**
MAJO Matsushiro 7.13 223 *e*Pn **Pn 04 20 01.8 -0.6**
MAT Matsushiro 7.13 223 P **Pn 04 20 02.5 +0.1**
MAT S **Sn 04 21 20.4 -1.9**
UGL Uglegorsk 7.28 349 *e*P **Pn 04 20 04.5 +0.2**
UGL *e*S **Sn 04 21 26.2 +0.3**
INU Inuyama 8.66 223 *e*Pn **Pn 04 20 24.6 +1.3**
TYV Tymovskoe 8.98 354 *e*P **Pn 04 20 29.6 +2.0**
TYV pmax pmax
comp=Z,17nm,3.7s
TYV MLR MLR
comp=Z,1μm,44.0s
HABR Khabarovsk 9.18 318 *e*P **Pn 04 20 30.4 +0.1**
HABR *e*S **Sn 04 22 12.7 +0.3**
HABR pmax pmax
comp=Z,80nm,2.1s
HABR pmax pmax
comp=N,28nm,2.1s
HABR pmax pmax
comp=E,31nm,2.1s
HABR MLR MLR
comp=Z,779nm,13.0s
USRK Ussuriysk Ar. 9.22 288 Pn **Pn 04 20 31.6 +0.7**
comp=Z,1.0nm,0.3s,baz=95,slow=15,SNR=20
USRK LR LR 04 24 16.2
comp=Z,2μm,19.4s,baz=132,slow=39
JHJ Hachijo jima 2 9.49 203 Pn **Pn 04 20 33.7 -1.0**
comp=Z,22nm,0.3s,baz=8.5,slow=8.9,SNR=2.9
JHJ Sn Sn 04 22 10.4 -10
comp=Z,100nm,0.3s,baz=106,slow=21,SNR=8.7
JHJ LR LR 04 24 40.5
comp=Z,570nm,19.7s,baz=77,slow=40
MSHR Mys Shultsa 9.70 278 *de*P **Pn 04 20 40.2 +2.7**
MDJ Mudanjiang 10.98 289 P **Pn 04 20 58.3 +3.2**
MDJ S **Sn 04 22 56.0 -0.9**
MDJ pmax pmax
comp=Z,7.0nm,0.6s
MDJ pmax pmax
comp=Z,100nm,4.3s
MDJ LR LR
comp=Z,750nm,15.4s
MDJ LR LR
comp=Z,1μm,18.5s
MDJ LR LR
comp=Z,1μm,17.4s
MDJ Mudanjiang 10.98 289 *e*Pn **Pn 04 20 53.6 -1.5**
comp=Z,16nm,0.8s
KLR Kul'dur 11.36 314 *d i*P **Pn 04 21 03.9 +3.8**
SKR Severo-Kuril's 11.99 39 *e*P **Pn 04 21 09.6 +0.9**
SKR pmax pmax
comp=Z,300nm,6.4s
SKR pmax pmax
comp=Z,100nm,6.0s
SKR pmax pmax
comp=Z,100nm,1.2s
SKR MLR MLR
comp=Z,1μm,15.0s
SKR MLR MLR
comp=Z,600nm,16.0s
KSRS Korea Array 13.32 256 Pn **Pn 04 21 27.6 +0.6**
comp=Z,0.3nm,0.3s,baz=69,slow=12,SNR=24
KSRS LR LR 04 26 35.4
comp=Z,717nm,18.4s,baz=70,slow=37
KS01 Wonju Array Si 13.33 256 *e*Pn **Pn 04 21 26.5 -0.6**
KS15 Wonju Array Si 13.35 256 *e*Pn **Pn 04 21 27.8 +0.3**
KSAR Wonju Array Be 13.35 256 P **Pn 04 21 27.6 +0.1**
KSAR Wonju Array Be 13.35 256 Pn **Pn 04 21 27.6 +0.1**
JNU Nakatsue 13.76 234 Pn **Pn 04 21 32.0 -1.0**
comp=Z,0.4nm,0.3s,baz=290,slow=6.2,SNR=3.5
JNU Nakatsue 13.76 234 *e*Pn **Pn 04 21 31.6 -1.5**
CN2 Changchun 13.88 284 *e*P **Pn 04 21 34.9 +0.2**
CN2 *es*P P 04 21 47.3 +4.7
CN2 pmax pmax
comp=Z,20nm,1.0s
CN2 LR LR
comp=Z,600nm,18.0s
CN2 LR LR
comp=Z,2μm,18.0s
CN2 LR LR
comp=Z,2μm,18.0s
PETK Petropavlovsk- 14.38 34 Pn **Pn 04 21 38.7 -2.7**
comp=Z,0.3nm,0.3s,baz=193,slow=10,SNR=6.5
PETK LR LR 04 27 22.9
comp=Z,455nm,18.4s,baz=215,slow=38
SNY Shenyang 15.37 276 ⇑P **Pn 04 21 54.5 -0.2**
SNY pmax pmax
comp=Z,16nm,0.7s
SNY pmax pmax
comp=Z,180nm,3.9s
SNY LR LR
comp=Z,370nm,17.2s
SNY LR LR
comp=Z,1μm,18.1s
SNY LR LR
comp=Z,1μm,17.3s
DL2 Dalian 17.45 267 P **P 04 22 22.9 +0.8**
DL2 *e*S **Sn 04 25 36.0 +1.6**
DL2 pmax pmax
comp=Z,53nm,1.0s
DL2 pmax pmax
comp=Z,200nm,3.9s
DL2 LR LR
comp=Z,540nm,14.1s
DL2 LR LR
comp=Z,540nm,16.3s
DL2 LR LR
comp=Z,650nm,19.4s
MA2 Magadan 18.11 11 P **Pn 04 22 26.7 -2.4**
comp=Z,0.6nm,0.3s,baz=182,slow=8.3,SNR=5.7
MA2 LR LR 04 29 42.0
comp=Z,291nm,18.5s,baz=202,slow=38
MA2 Magadan 18.11 11 *i*P **Pn 04 22 27.9 -1.2**
HIA Hailar 18.56 302 *e*P **P 04 22 33.3 -1.1**
HIA pmax pmax
comp=Z,51nm,0.8s
HIA Hailar 18.56 302 *e*P **P 04 22 33.3 -1.1**
comp=Z,51nm,0.8s
CLNS Chul'man 19.39 327 *e*P **P 04 22 41.8 -1.5**
CLNS pmax pmax
comp=N,23nm,0.9s
CLNS pmax pmax
comp=Z,57nm,0.8s
CLNS pmax pmax
comp=E,15nm,0.7s
CLNS MLR MLR
comp=E,718nm,15.0s
CLNS MLR MLR
comp=N,571nm,16.0s
CLNS MLR MLR
comp=Z,830nm,17.0s
BJI Beijing 21.21 274 P **P 04 23 01.3 -1.9**
BJI S **S 04 26 55.4 -1.9**
BJI pmax pmax
comp=Z,19nm,1.0s
BJI pmax pmax
comp=Z,40nm,3.5s
BJI LR LR
comp=Z,500nm,16.0s
BJI LR LR
comp=Z,1μm,16.3s
BJI LR LR
comp=Z,790nm,18.1s
BJT Baijiatuau 21.22 274 *e*P **P 04 23 01.5 -1.8**
BJT pmax pmax
comp=Z,16nm,0.8s
BJT Baijiatuau 21.22 274 *e*P **P 04 23 01.5 -1.8**
comp=Z,16nm,0.8s
SEY Seymchan 21.56 10 P **P 04 23 04.5 -2.2**
comp=Z,34nm,1.0s,baz=183,slow=8.8,SNR=26
TIA Tai'an 21.75 264 *e*P **P 04 23 06.9 -2.1**
TIA pmax pmax
comp=Z,30nm,0.9s
TIA LR LR
comp=Z,560nm,13.4s
TIA LR LR
comp=Z,440nm,19.6s
TIA LR LR
comp=Z,520nm,19.8s
YAK Yakutsk 21.91 342 P **P 04 23 08.3 -2.2**
comp=Z,27nm,0.4s,baz=184,slow=3.1,SNR=12
YAK Yakutsk 21.91 342 *e*P **P 04 23 06.6 -3.9**
YAK *e**PP **pP 04 23 16.5 -2.2**
YAK *e*S S 04 27 00.9 -10
YAK *e* 04 27 09.1
YAK *e**SS Sn 04 27 17.2 -4.2
YAK *e*SSS SSS 04 27 39.4
YAK *e* 04 34 26.9
YAK pmax pmax
comp=Z,61nm,0.9s
YAK pmax pmax
comp=N,19nm,1.1s
YAK pmax pmax
comp=Z,110nm,1.8s
YAK pmax pmax
comp=N,99nm,1.6s
YAK smax smax
comp=N,191nm,2.1s
YAK MLR MLR
comp=Z,252nm,13.0s
YAK Yakutsk 21.91 342 *e*P **P 04 23 06.0 -4.4**
comp=Z,58nm,0.6s
NJ2 Nanjing 22.46 252 *e*P **P 04 23 14.6 -2.1**
NJ2 LR LR
comp=Z,1μm,26.0s
NJ2 LR LR
comp=Z,640nm,16.8s
NJ2 LR LR
comp=Z,1μm,20.6s
CIT Chita 23.05 306 *e*P **P 04 23 23.4 +0.6**
CIT *e* 04 23 32.6
CIT *e* 04 23 53.4
HHC Hu-ho-hao-te 24.44 278 *e*P **P 04 23 35.5 -0.6**
HHC pP pP 04 23 44.8 -0.2
HHC sP sP 04 23 48.9 +0.1
HHC S **S 04 27 49.8 -4.4**
HHC sS sS 04 28 04.0 -4.7
HHC SS **SnSn 04 28 42.3 +3.1**
HHC pmax pmax
comp=Z,17nm,1.5s
HHC pmax pmax
comp=Z,97nm,5.5s
HHC LR LR
comp=Z,370nm,12.4s
HHC LR LR
comp=Z,690nm,16.2s
HHC LR LR
comp=Z,720nm,16.2s
BOD Bodaibo 24.82 320 *e*P **P 04 23 36.4 -2.9**
BOD pmax pmax
comp=Z,20nm,1.3s
YHNB Yeheng 25.59 235 *e*P **P 04 23 40.4 -6.2**
comp=Z,34nm,1.1s
WHN Wuhan 26.50 254 P **P 04 23 55.5 +0.7**
WHN pmax pmax
comp=Z,70nm,0.6s
WHN LR LR
comp=Z,2μm,13.4s
YULB Yu-li 26.59 233 *e*P **P 04 23 53.2 -2.5**
comp=Z,10nm,0.8s
ULN Ulaanbaatar 26.78 296 *ce*P **P 04 23 57.6 +0.2**
ULN pmax pmax
comp=Z,52nm,1.2s
ULN Ulaanbaatar 26.78 296 *e*P **P 04 23 57.3 -0.1**
comp=Z,28nm,0.8s
SONA1 Songino Array 27.22 295 *e*P **P 04 24 01.3 0.0**
SONM Songino Array 27.23 295 P **P 04 24 01.3 -0.1**
comp=Z,30nm,1.1s,baz=90,slow=6.6,SNR=73
SONM LR LR 04 35 60.0
comp=Z,679nm,18.5s,baz=86,slow=39
BILL Bilibino 28.70 17⇓ *e*P **P 04 24 13.5 -0.6**
BILL *e* 04 25 05.6
BILL pmax pmax
comp=Z,19nm,1.3s
BILL MLR MLR
comp=Z,224nm,16.0s
XAN Xi'an 28.75 266 P **P 04 24 15.0 0.0**
XAN pP sP 04 24 24.8 -2.8
XAN PP **PnPn 04 25 05.8 -0.4**
XAN S **S 04 29 01.3 -1.2**
XAN SS **SnSn 04 30 24.3 -0.4**
XAN pmax pmax
comp=Z,17nm,0.9s
XAN pmax pmax
comp=Z,200nm,5.0s
XAN LR LR
comp=Z,220nm,15.9s
XAN LR LR
comp=Z,470nm,15.9s
XAN LR LR
comp=Z,490nm,18.4s
TLY Talaya 29.07 304 *e*P **P 04 24 18.5 +0.9**
TLY *e*S **S 04 29 08.0 +0.8**
TLY pmax pmax
comp=Z,24nm,1.3s
TLY Talaya 29.07 304 *e*P **P 04 24 18.5 +0.9**
comp=Z,21nm,0.8s
ZAK Zakamensk 29.26 301 *e*P **P 04 24 19.5 +0.1**
ZAK pmax pmax
comp=Z,14nm,1.1s
H11N2 WAKE ISLAND Hy 29.33 132 T T 04 55 18.4
baz=325,slow=75,SNR=1052
H11N1 WAKE ISLAND Hy 29.34 132 T T 04 55 13.5
baz=325,slow=75,SNR=695
H11N3 WAKE ISLAND Hy 29.35 132 T T 04 55 11.7
baz=325,slow=75,SNR=718
ENH Enshi 30.18 259 *e*P **P 04 24 27.2 -0.5**
comp=Z,19nm,0.8s
H11S1 WAKE ISLAND Hy 30.21 134 T T 04 56 18.9
baz=326,slow=76,SNR=172
H11S3 WAKE ISLAND Hy 30.22 134 T T 04 56 17.6
baz=326,slow=76,SNR=762
H11S2 WAKE ISLAND Hy 30.23 134 T T 04 56 27.1
baz=326,slow=76,SNR=741
MOY Mondy 30.72 303 *e*P **P 04 24 33.0 +0.7**
MOY pmax pmax
comp=Z,42nm,2.2s
LZH Lanzhou 31.69 273 ⇑P **P 04 24 42.4 +1.4**
LZH pP sP 04 24 51.1 -2.6
LZH sP pP 04 24 54.1 +4.1
LZH PP **PnPn 04 25 47.4 +2.1**
LZH S **S 04 29 50.1 +1.4**
LZH sS sS 04 30 05.0 +1.6
LZH SS **SnSn 04 31 39.5 +3.3**
LZH pmax pmax
comp=Z,48nm,1.0s
LZH pmax pmax
comp=Z,200nm,4.2s
LZH LR LR
comp=Z,740nm,13.0s
LZH LR LR
comp=Z,840nm,13.8s
LZH LR LR
comp=Z,1μm,14.5s
GTA Gaotai 33.48 281 *e*P **P 04 24 57.3 +0.6**
GTA pP sP 04 25 06.5 -2.9
GTA sP pP 04 25 11.0 +5.4
GTA S **S 04 30 15.4 -1.1**
GTA sS sS 04 30 32.1 +0.9
GTA SS **SnSn 04 32 18.8 -0.9**
GTA pmax pmax
comp=Z,16nm,0.9s
GTA pmax pmax
comp=Z,90nm,5.7s
GTA LR LR
comp=Z,330nm,14.3s
GTA LR LR
comp=Z,550nm,16.2s
GTA LR LR
comp=Z,730nm,17.3s
CD2 Chengdu 34.08 264 P **P 04 25 03.1 +1.3**
CD2 pP sP 04 25 13.3 -1.2
CD2 sP pP 04 25 21.0 +10
CD2 pmax pmax
comp=Z,40nm,1.0s
CD2 LR LR
comp=Z,680nm,14.2s
CD2 LR LR
comp=Z,410nm,15.2s
GYA Guiyang 34.38 255 *e*P **P 04 25 04.8 +0.2**
GYA pmax pmax
comp=Z,10.0nm,1.0s
QIZ Qiongzhong 37.03 242 P **P 04 25 27.1 -0.1**
QIZ S **S 04 31 10.8 -0.2**
QIZ LR LR
comp=Z,150nm,23.6s
KMI Kunming 38.01 257 P **P 04 25 36.4 +0.6**
KMI pmax pmax
comp=Z,28nm,1.0s
KMI pmax pmax
comp=Z,98nm,4.1s
SLVN Son La 39.53 251 *e*P **P 04 25 49.0 +0.7**
comp=Z,12nm,1.1s
NRIK Noril'sk 39.81 332 P **P 04 25 49.4 -0.6**
comp=Z,6.0nm,0.9s,baz=129,slow=7.2,SNR=7.0
NRIK ScP **ScP 04 31 43.8 +1.8**
comp=Z,4.0nm,0.5s,baz=114,slow=3.5,SNR=4.9
NRIK LR LR 04 43 41.8
comp=Z,805nm,19.5s,baz=104,slow=38
TT01 Tatalina 40.18 38 *e*P **P 04 25 54.1 +0.9**
TT01 *eg*P **sP 04 26 04.9 -1.0**
TTA Tatalina 40.18 38 *e*P **P 04 25 54.8 +1.5**
TTA pmax pmax
comp=Z,11nm,1.1s
TTA Tatalina 40.18 38 *e*P **P 04 25 54.8 +1.5**
comp=Z,11nm,1.1s
SVW2 Sparrevohn 40.34 41 *e*P **P 04 25 56.8 +2.2**
comp=Z,28nm,1.4s
ZAA0 Zalesovo Array 40.38 308 *e*P **P 04 25 55.0 +0.1**
ZALV Zalesovo Beam 40.38 308 P **P 04 25 54.9 -0.1**
comp=Z,14nm,0.7s,baz=94,slow=7.7,SNR=49
ZALV PcP **PcP 04 27 58.5 +0.8**
comp=Z,10nm,0.8s,baz=98,slow=2.1,SNR=11
ZALV ScP **ScP 04 31 47.3 +2.7**
comp=Z,0.4nm,0.3s,baz=84,slow=4.5,SNR=3.5
ZALV LR LR 04 43 49.2
comp=Z,204nm,18.9s,baz=70,slow=38
WMQ Urumqi 40.76 292 P **P 04 25 58.6 +0.3**
WMQ pP sP 04 26 11.1 0.0
WMQ sP pP 04 26 14.0 +6.6
WMQ pmax pmax
comp=Z,12nm,0.7s
WMQ pmax pmax
comp=Z,72nm,3.6s
WMQ LR LR
comp=Z,780nm,15.5s
WMQ LR LR
comp=Z,660nm,18.3s
WMQ LR LR
comp=Z,560nm,21.1s
NVS Novosibirsk 41.18 310 *e*P **P 04 26 01.7 +0.2**
NVS *e* 04 27 37.7
NVS pmax pmax
comp=Z,28nm,1.8s
NVS pmax pmax
comp=N,4.0nm,0.8s
NVS pmax pmax
comp=E,4.0nm,1.8s
RSO Redoubt South 41.75 42 *e*P **P 04 26 08.1 +1.8**
PPLA Purkeypile 41.93 38 *e*P **P 04 26 09.9 +2.1**
comp=E,7nm,1.6s
CAST Castle Rocks 41.97 37 *e*P **P 04 26 10.0 +2.1**
comp=E,13nm,0.8s
SPU Mount Spurr 42.05 40 *e*P **P 04 26 10.6 +1.9**
KDAK Kodiak Island 42.05 46 P **P 04 26 07.2 -1.4**
comp=E,13nm,0.8s,baz=308,slow=7.0,SNR=9.3
KDAK Kodiak Island 42.05 46 *e*P **P 04 26 08.6 0.0**
KDAK pmax pmax
comp=Z,35nm,0.9s
KDAK Kodiak Island 42.05 46 *e*P **P 04 26 08.6 0.0**
comp=Z,35nm,0.9s
KTH Kantishna Hill 42.49 37 *e*P **P 04 26 13.4 +1.1**
comp=Z,38nm,1.2s
SUA Susitna One 42.67 40 *e*P **P 04 26 16.9 +3.2**
comp=Z,17nm,0.8s
BRLK Bradley Lake 42.73 42 *e*P **P 04 26 16.8 +2.6**
comp=Z,20nm,0.8s
TRF Thorofare Moun 42.78 37 *e*P **P 04 26 15.6 +0.9**
comp=Z,9.9nm,1.0s
COLD Coldfoot 42.82 31 *e*P **P 04 26 14.9 +0.1**
comp=Z,2.9nm,0.6s
DLV T Lat 43.15 237 *e*P **P 04 26 18.4 +0.2**
MCK McKinley 43.37 37 *e*P **P 04 26 20.5 +1.2**
MCK pmax pmax
comp=Z,15nm,1.0s
MCK McKinley 43.37 37 *e*P **P 04 26 20.5 +1.2**
comp=Z,15nm,1.0s
SEW Seward 43.42 42 *e*P **P 04 26 19.5 -0.1**
comp=Z,17nm,0.8s
RND Reindeer 43.43 37 *e*P **P 04 26 20.6 +0.8**
RND pmax pmax
comp=Z,42nm,1.6s
RND Reindeer 43.43 37 *e*P **P 04 26 20.6 +0.8**
comp=Z,42nm,1.6s
PMR Palmer 43.43 40 *e*P **P 04 26 20.5 +0.8**
PMR pmax pmax
comp=Z,12nm,1.0s
PMR Palmer 43.43 40 *e*P **P 04 26 20.5 +0.8**
comp=Z,12nm,1.0s
MK01 Makanchi Array 43.52 298 *e*P **P 04 26 20.1 -0.6**
MK31 Makanchi Array 43.52 298 *i*P **P 04 26 20.8 +0.1**
MK31 pmax pmax
comp=Z,29nm,0.9s
MK31 Makanchi Array 43.52 298 *e*P **P 04 26 20.7 +0.1**
MKAR Makanchi Array 43.52 298 P **P 04 26 20.4 -0.3**
comp=Z,14nm,1.0s,baz=78,slow=9.0,SNR=54
MKAR PcP **PcP 04 28 09.0 +0.8**
comp=Z,2.6nm,0.8s,baz=56,slow=2.6,SNR=2.7
MKAR ScP **ScP 04 31 59.0 +1.8**
comp=Z,0.4nm,0.8s,baz=64,slow=3.4,SNR=2.6
MKAR LR LR 04 45 53.0
comp=Z,356nm,18.0s,baz=88,slow=38
MKAR Makanchi Array 43.52 298 *e*P **P 04 26 20.7 0.0**
comp=Z,142nm,0.8s
MKAR PcP **PcP 04 28 09.0 +0.8**
MKAR ScP **ScP 04 31 59.0 +1.8**
KKM Kota Kinabalu 43.56 223 *e*P **P 04 26 21.2 -0.1**
comp=Z,28nm,1.3s
MDM Murphy Dome 43.62 35 *e*P **P 04 26 22.7 +1.4**
comp=Z,12nm,0.9s
WRH Wood River Hil 43.71 35 *e*P **P 04 26 23.2 +1.3**
comp=Z,25nm,1.6s
MAKZ Makanchi 43.72 298 *e*P **P 04 26 22.5 +0.2**
MAKZ pmax pmax
comp=Z,32nm,0.9s
MAKZ Makanchi 43.72 298 *e*P **P 04 26 22.5 +0.2**
comp=Z,32nm,0.9s
SML Sawmill 43.79 39 *e*P **P 04 26 23.2 +0.5**
SML pmax pmax
comp=Z,45nm,1.2s
SML Sawmill 43.79 39 *e*P **P 04 26 23.2 +0.5**
comp=Z,45nm,1.2s
COLA College 43.79 35 *e*P **P 04 26 23.6 +1.0**
COLA pmax pmax
comp=Z,24nm,1.0s
COLA College 43.79 35 *e*P **P 04 26 23.6 +1.0**
comp=Z,24nm,1.0s
CCB Clear Creek Bu 43.82 35 *e*P **P 04 26 24.0 +1.2**
comp=Z,13nm,1.4s
LSA Lhasa 44.08 272 P **P 04 26 27.1 +1.1**
LSA pmax pmax
comp=Z,14nm,1.2s
DHY Denali Highway 44.12 37 *e*P **P 04 26 26.5 +1.0**
comp=Z,12nm,0.8s
HDA Harding Lake 44.20 36 *e*P **P 04 26 25.0 -1.0**
comp=Z,23nm,1.2s
IL1 Eielson Array 44.21 35 *e*P **P 04 26 25.8 -0.2**
ILAR Eielson Array 44.21 35 P **P 04 26 26.4 +0.4**
comp=Z,5.9nm,0.9s,baz=257,slow=5.9,SNR=40
ILAR LR LR 04 47 48.7
comp=Z,105nm,18.4s,baz=303,slow=40
ILB Eielson Array 44.21 35 *e*P **P 04 26 26.9 +0.9**
UTTA Uttaradit 44.27 250 P **P 04 26 28.2 +1.2**
comp=Z,6.2nm,0.8s
CHAI Chaiyaphum 44.53 247 P **P 04 26 29.9 +0.8**
comp=Z,13nm,0.8s

CHTO Chiang Mai 44.70 253 P **P** 04 26 31.8 +1.3
comp=Z,70nm,1.1s
CHTO Chiang Mai 44.70 253 *e*P **P** 04 26 31.6 +1.1
CHTO pmax pmax
comp=Z,20nm,1.1s
CHTO Chiang Mai 44.70 253 *e*P **P** 04 26 31.6 +1.1
comp=Z,20nm,1.1s
KURK Kurchatov 44.76 305 P **P** 04 26 31.1 +0.6
KURK 04 28 13.1
KURK pmax pmax
comp=Z,20nm,0.7s
KURK pmax pmax
comp=Z,5.0nm,0.8s
KURK Kurchatov 44.76 305 *e*P **P** 04 26 29.8 -0.7
comp=Z,25nm,0.8s
KURK PcP **PcP** 04 28 13.1 +0.8
PBKT Sadao Pong 44.77 249 P **P** 04 26 32.5 +1.5
comp=Z,13nm,3.9s
FYU Fort Yukon 44.79 32 *e*P **P** 04 26 32.3 +1.8
comp=Z,22nm,0.7s
KURBB Kurchatov Arra 44.84 305 P **P** 04 26 31.1 -0.1
comp=Z,20nm,0.7s,baz=75,slow=8.8,SNR=79
KURBB PcP **PcP** 04 28 13.1 +0.5
comp=Z,5.0nm,0.8s,baz=77,slow=3.6,SNR=4.4
CMAR Chiang Mai Arr 44.93 253 P **P** 04 26 33.6 +1.3
comp=Z,2.1nm,0.5s,baz=51,slow=6.2,SNR=19
CMAR PcP **PcP** 04 28 15.2 +1.8
comp=Z,1.2nm,0.3s,baz=25,slow=4.5,SNR=3.2
CMAR LR LR 04 45 37.7
comp=Z,155nm,18.9s,baz=52,slow=36
KLU Klutina 44.97 40 *e*P **P** 04 26 33.5 +1.4
comp=Z,28nm,1.0s
DIV Divide 45.09 40 *e*P **P** 04 26 33.4 +0.3
comp=Z,33nm,1.0s
HARP HAARP 45.20 38 *e*P **P** 04 26 36.0 +2.1
comp=Z,26nm,0.8s
DOT Dot Lake 45.54 36 *e*P **P** 04 26 37.2 +0.6
comp=Z,18nm,0.6s
BMRM Bremner River 45.67 40 *e*P **P** 04 26 38.4 +0.7
comp=Z,24nm,1.0s
SHL Shillong 45.76 266 *e*P **P** 04 26 41.0 +2.0
UMPA Umpang Tak 46.50 250 P **P** 04 26 48.4 +3.7
comp=Z,8.1nm,1.0s,comp=Z,2µm
PDGK Podgornoye 46.54 295 P **P** 04 26 44.1 -0.8
PDGK pmax pmax
comp=Z,9.0nm,0.8s
EGAK Eagle 46.65 35 *e*P **P** 04 26 45.8 +0.5
comp=Z,22nm,1.4s
DAWY Dawson 47.52 35 *e*P **P** 04 26 52.5 +0.4
comp=Z,8.5nm,1.3s
TAPN Taplejung 47.89 271 *e*P **P** 04 26 56.9 +1.1
ODAN Odare 48.39 271 *e*P **P** 04 27 00.8 +1.2
JIRN Jiri 48.85 272 *e*P **P** 04 27 04.1 +0.8
comp=Z,230nm,0.8s
RAMN Ramite 48.93 271 *e*P **P** 04 27 04.3 +0.5
comp=Z,103nm,0.8s
GUN Gumba 48.95 273 *e*P **P** 04 27 04.8 +0.8
comp=Z,65nm,0.5s
BVAR Borovoye Array 48.98 310 P **P** 04 27 03.8 +0.3
comp=Z,8.2nm,0.4s,baz=78,slow=8.3,SNR=58
BVAR PcP **PcP** 04 28 28.0 +0.8
comp=Z,7.0nm,0.7s,baz=74,slow=5.3,SNR=6.6
BRVK Borovoye 49.03 310 *ce*P **P** 04 27 04.4 +0.5
BRVK pmax pmax
comp=Z,90nm,1.7s
BRVK Borovoye 49.03 310 *e*P **P** 04 27 04.3 +0.4
comp=Z,24nm,1.0s
INK Inuvik 49.04 29 P **P** 04 27 04.5 +0.9
comp=Z,6.7nm,0.5s,baz=288,slow=6.9,SNR=45
INK Inuvik 49.04 29 *e*P **P** 04 27 04.0 +0.3
INK pmax pmax
comp=Z,9.0nm,0.8s
INK Inuvik 49.04 29 *e*P **P** 04 27 04.0 +0.3
comp=Z,9.4nm,0.8s
TKM2 Tokmak 2 49.33 296 P **P** 04 27 06.9 +0.3
TKM2 pmax pmax
comp=Z,23nm,0.8s
KKN Kakani 49.46 273 *e*P **P** 04 27 08.4 +0.6
comp=Z,41nm,0.8s
PKI Pulchoki 49.48 273 *e*P **P** 04 27 08.3 +0.2
PKIN Phulchoki 49.49 273 *e*P **P** 04 27 08.3 +0.2
DMN Daman 49.69 273 *e*P **P** 04 27 10.1 +0.5
comp=Z,33nm,0.8s
GKN Gorkha 49.83 274 *e*P **P** 04 27 10.8 +0.3
comp=Z,10nm,0.5s
FRU Bishkek 50.02 296 *e*P **P** 04 27 13.0 +1.4
FRU *e* 04 29 11.0
FRU pmax pmax
comp=Z,23nm,2.0s
AAK Ala-Archa 50.18 296 *c* i*P **P** 04 27 12.8 -0.2
AAK pmax pmax
comp=Z,12nm,1.0s
AAK Ala-Archa 50.18 296 *e*P **P** 04 27 12.5 -0.5
comp=Z,4.8nm,0.8s
WHY Whitehorse 50.38 39 *e*P **P** 04 27 16.1 +2.0
comp=Z,13nm,0.8s
KSH Kashi 50.50 291 *e*P **P** 04 27 19.4 +4.0
KSH pP sP 04 27 29.5 +1.1
KSH sP pP 04 27 33.4 +8.7
KSH PP **PP** **04 29 15.4 +4.3**
KSH S **S** **04 34 30.4 +3.0**
KSH sS sS 04 34 46.5 +3.8
KSH SS **SS** **04 38 01.3 +0.1**
KSH pmax pmax
comp=Z,11nm,1.2s
KSH pmax pmax
comp=Z,39nm,3.6s
KSH LR LR
comp=Z,470nm,17.3s
KSH LR LR
comp=Z,390nm,14.0s
KSH LR LR
comp=Z,450nm,16.0s
SKAG Skagway 50.52 41 *e*P **P** 04 27 15.7 +0.6
comp=Z,15nm,1.1s
KOLN Koldanda 50.72 274 *e*P **P** 04 27 18.0 +0.7
comp=Z,24nm,0.6s
PYUN Piuthan 51.00 275 *e*P **P** 04 27 20.0 +0.6
comp=Z,61nm,1.0s
MNAS Manas 51.58 296 P **P** 04 27 22.9 -0.6
MNAS pmax pmax
comp=Z,21nm,0.7s
KK31 Karatay Array 52.64 298 *i* P **P** 04 27 30.9 -0.3
KK31 pmax pmax
comp=Z,12nm,0.8s
KKAR Karatay Array 52.64 298 *e*P **P** 04 27 31.2 0.0
KKAR pmax pmax
comp=Z,9.0nm,0.6s
KKAR Karatay Array 52.64 298 *e*P **P** 04 27 31.2 0.0
comp=Z,9.4nm,0.6s
SVE Sverdlovsk 52.97 317 *d* i*P **P** 04 27 33.7 +0.3
SVE pmax pmax
comp=Z,60nm,0.8s
KULM Kulim 53.18 239 *e*P **P** 04 27 35.1 -0.4
comp=Z,12nm,0.9s
DLBC Dease Lake 53.46 41 *e*P **P** 04 27 37.1 +0.1
comp=Z,4.8nm,0.5s
IPM Ipoh 53.56 238 *e*P **P** 04 27 38.4 0.0
SOKR Solikamsk 53.81 321 *c* i*P **P** 04 27 37.7 -1.8
SOKR pmax pmax
comp=Z,33nm,1.0s
SOKR MLR MLR
comp=Z,283nm,17.0s
ARU Arti 54.18 317 *c* i*P **P** 04 27 42.1 -0.2
ARU *PP sP 04 27 57.0 +1.7
ARU 04 28 45.6
ARU 04 29 43.6
ARU S **S** **04 35 16.9 -0.1**
ARU SS **SS** **04 38 56.4 -2.0**
ARU pmax pmax
comp=Z,52nm,1.0s
ARU MLR MLR
comp=Z,341nm,19.0s
ARU Arti 54.18 317 *e*P **P** 04 27 41.6 -0.7
comp=Z,37nm,0.7s
ARU *e*PcP **PcP** 04 28 46.5 +0.1
SOEI Soe 54.61 204 *e*P **P** 04 27 44.9 -1.1
MTN Manton Dam 55.84 195 *e*P **P** 04 27 53.0 -1.7
comp=Z,33nm,1.6s
AB31 Akbulak array 56.50 309 *i* P **P** 04 27 59.3 +0.2
AB31 pmax pmax
comp=Z,11nm,0.5s
ABKAR Akbulak array 56.50 309 *e*P **P** 04 27 59.2 +0.1
comp=Z,16nm,0.5s
RES Resolute Bay 57.30 16 P **P** 04 28 04.4 0.0
comp=Z,21nm,0.7s,baz=304,slow=7.0,SNR=7.8

YKA Yellowknife Ar 58.49 32 P **P** 04 28 13.4 +0.6
comp=Z,3.6nm,0.9s,baz=303,slow=7.6,SNR=5.8
YKA PcP **PcP** 04 29 03.8 +0.7
comp=Z,3.0nm,0.9s,baz=311,slow=5.6,SNR=3.0
YKA Yellowknife Ar 58.49 32 P **P** 04 28 13.4 +0.6
YKA 04 29 03.8
YKA pmax pmax
comp=Z,3.0nm,0.9s
YKA pmax pmax
comp=Z,3.0nm,0.9s
APA Apatity 59.11 335 ⇑ *i*P **P** 04 28 16.7 -0.4
APA MLR MLR
comp=Z,400nm,27.0s
ARCES ARCESS Array B 60.17 339 P **P** 04 28 22.7 -1.7
comp=Z,4.0nm,0.9s,baz=49,slow=11,SNR=5.3
ARCES LR LR 04 58 30.9
comp=Z,122nm,18.6s,baz=30,slow=40
HYB Hyderabad 60.55 267 *i* P **P** 04 28 28.0 +0.2
KLMR Klimovskoe 60.78 327 *e*P **P** 04 28 26.3 -2.4
KLMR pmax pmax
comp=Z,28nm,1.2s
KLMR MLR MLR
comp=Z,122nm,14.0s
DAG Danmarks Havn 61.06 356 *i* P **P** 04 28 29.6 -0.7
comp=Z,10nm,0.9s
DAG Danmarks Havn 61.06 356 *i* P **P** 04 28 29.6 -0.7
DAG pmax pmax
comp=Z,9.0nm,0.9s
WRAB Tennant Creek 62.24 190 *e*P **P** 04 28 37.7 -1.3
WRAB pmax pmax
comp=Z,4.0nm,0.8s
WRAB Tennant Creek 62.24 190 *e*P **P** 04 28 37.7 -1.3
comp=Z,4.0nm,0.8s
WRA Warramunga Arr 62.26 190 P **P** 04 28 38.1 -1.0
comp=Z,2.4nm,0.6s,baz=8.3,slow=6.7,SNR=24
GEYT Alibeck 63.39 298 P **P** 04 28 47.1 +0.4
comp=Z,16nm,0.7s,baz=29,slow=3.4,SNR=20
GEYT LR LR 04 58 38.6
comp=Z,406nm,18.9s,baz=35,slow=38
B08A Colville Reser 63.88 48 *e*P **P** 04 28 51.1 +1.5
comp=Z,38nm,1.6s
EDM Edmonton 64.18 41 *e*P **P** 04 28 52.7 +1.1
EDM Edmonton 64.18 41 *e*P **P** 04 28 52.7 +1.1
SUF Sumiainen 64.57 333 P **P** 04 28 54.1 +0.2
SUF pmax pmax
comp=Z,26nm,2.2s
MOS Moscow 64.61 323 *e*P **P** 04 28 53.4 -0.8
MOS pmax pmax
comp=Z,51nm,1.3s
D08A Wollman Farm, 64.85 49 *e*P **P** 04 28 57.0 +0.9
comp=Z,11nm,0.7s
NEW Newport 65.14 47 *e*P **P** 04 28 58.8 +0.8
NEW pmax pmax
comp=Z,12nm,1.0s
NEW Newport 65.14 47 *e*P **P** 04 28 58.8 +0.8
comp=Z,12nm,1.0s
OBN Obninsk 65.47 323 *ce*P **P** 04 28 59.5 -0.3
OBN 04 29 34.0
OBN *e*S **S** **04 37 35.9 -6.2**
OBN *e*SS **SS** **04 41 59.5 +4.5**
OBN pmax pmax
comp=Z,49nm,1.2s
OBN MLR MLR
comp=Z,441nm,18.0s
OBN Obninsk 65.47 323 *e*P **P** 04 28 59.9 +0.1
FIA1 FINESS Array S 65.47 332 *e*P **P** 04 28 59.7 -0.1
FINES FINESS Array B 65.47 332 P **P** 04 28 59.3 -0.5
comp=Z,17nm,0.8s,baz=47,slow=6.7,SNR=72
FINES LR LR 05 00 33.2
comp=Z,612nm,19.5s,baz=45,slow=39
PALK Pallekele 65.55 257 *e*P **P** 04 29 00.9 -0.1
PALK pmax pmax
comp=Z,21nm,1.1s
PALK Pallekele 65.55 257 *e*P **P** 04 29 00.9 -0.1
comp=Z,21nm,1.1s
E09A Wood Farm, Sta 65.60 49 *e*P **P** 04 29 02.4 +1.5
comp=Z,14nm,0.8s
SUMG Summit 65.76 1 *i* P **P** 04 29 02.6 +0.6
comp=Z,29nm,0.8s
SUMG Summit 65.76 1 *i* P **P** 04 29 02.6 +0.6
SUMG pmax pmax
comp=Z,29nm,0.8s
SUMG Summit 65.76 1 *e*P **P** 04 29 02.5 +0.5
comp=Z,39nm,0.9s
LPSR Galich'ya Gora 65.93 320 *e*P **P** 04 29 02.4 -0.5
LPSR pmax pmax
comp=Z,30nm,0.8s
AS01 Alice Springs 65.97 190 *e*P **P** 04 29 02.5 -0.9
ASAR Alice Springs 65.98 190 P **P** 04 29 03.1 -0.3
comp=Z,1.3nm,0.7s,baz=12,slow=5.5,SNR=15
ASAR LR LR 04 57 13.6
comp=Z,28nm,21.9s,baz=24,slow=35
K05A Summer Lake 66.21 53 *e*P P 04 29 10.2 +5.0
BSMT Bassoo Peak 66.65 46 *e*P **P** 04 29 09.7 +1.8
VSR Storozhevoye 66.67 319 *e*P **P** 04 29 07.4 -0.3
VSR pmax pmax
comp=Z,30nm,1.2s
MBWA Marble Bar 66.75 205 *e*P **P** 04 29 08.3 -0.1
comp=Z,65nm,1.3s
BLMT Blacktail Moun 66.78 46 *e*P **P** 04 29 10.8 +2.1
DZM Mont Dzumac 66.94 158 *e*LR LR 04 49 25.4
comp=Z,140nm,22.2s
JTMT Jette 66.98 46 *e*P **P** 04 29 11.4 +1.5
MOD Modoc Plateau 67.05 54 *e*P **P** 04 29 11.4 +0.9
comp=Z,10.0nm,1.0s
BMO Blue Mountains 67.05 50 *e*P **P** 04 29 11.5 +1.1
BMO pmax pmax
comp=Z,6.0nm,0.9s
BMO Blue Mountains 67.05 50 *e*P **P** 04 29 11.5 +1.1
comp=Z,6.1nm,0.9s
SWMT Swartz Lake 67.28 46 *e*P **P** 04 29 13.1 +1.4
EIDS Eidsvold 67.28 173 *e*P **P** 04 29 12.4 +0.7
comp=Z,16nm,1.1s
VSU Vasula 67.31 330 *ce*P **P** 04 29 12.2 +0.6
VSU pmax pmax
comp=Z,67nm,1.2s
ORV Oroville 67.71 56 *e*P **P** 04 29 15.8 +1.3
ORV Oroville 67.71 56 *e*P **P** 04 29 15.8 +1.3
SLMT Seeley Lake 67.71 46 *e*P **P** 04 29 16.0 +1.4
MSO Missoula 67.73 47 *e*P **P** 04 29 16.0 +1.4
comp=Z,10nm,1.0s
WVOR Wild Horse Val 67.73 53 *e*P **P** 04 29 15.3 +0.6
WVOR pmax pmax
comp=Z,10.0nm,1.0s
WVOR Wild Horse Val 67.73 53 *e*P **P** 04 29 15.3 +0.6
comp=Z,9.9nm,1.0s
BEKR Beckworth 68.23 56 *e*P **P** 04 29 19.4 +1.4
FFC Flin Flon 68.42 35 *e*P **P** 04 29 19.1 +0.4
FFC pmax pmax
comp=Z,6.0nm,0.6s
FFC Flin Flon 68.42 35 *e*P **P** 04 29 19.1 +0.4
comp=Z,6.0nm,0.6s
GOF Gofitskoye 68.44 312 ⇑ *e*P **P** 04 29 17.5 -1.5
GOF pmax pmax
comp=Z,61nm,1.2s
FCC Fort Churchill 68.65 28 *e*P **P** 04 29 20.2 +0.3
FCC pmax pmax
comp=Z,26nm,1.0s
FCC Fort Churchill 68.65 28 *e*P **P** 04 29 20.2 +0.3
comp=Z,26nm,1.0s
MFID Camas Ranch 68.77 50 *e*P **P** 04 29 22.5 +1.3
comp=Z,15nm,1.3s
AFI Afiamalu 68.79 134 LR LR 04 58 20.8
comp=Z,54nm,18.5s,baz=37,slow=35
PAHR Pah Rah Range 68.92 55 *e*P **P** 04 29 24.2 +1.9
HRY Holter Researc 68.93 46 *e*P **P** 04 29 23.9 +1.7
LRM Limekiln Ridge 69.16 47 *e*P **P** 04 29 25.0 +1.2
EGMT Eagleton 69.19 44 *e*P **P** 04 29 24.2 +0.5
comp=Z,14nm,0.9s
CMB Columbia Colle 69.32 57 *e*P **P** 04 29 26.4 +1.8
CMB pmax pmax
comp=Z,33nm,0.9s
CMB Columbia Colle 69.32 57 *e*P **P** 04 29 26.4 +1.8
comp=Z,33nm,0.9s
KIV Kislovodsk 69.33 311 *e*P **P** 04 29 25.2 +0.6
KIV pmax pmax
comp=Z,57nm,1.0s
KIV Kislovodsk 69.33 311 *e*P **P** 04 29 26.0 +1.4
comp=Z,59nm,1.0s
KBZ Khabaz 69.35 311 P **P** 04 29 25.6 +1.1
comp=Z,18nm,0.9s,baz=59,slow=2.8,SNR=29
KBZ LR LR 05 05 03.5
comp=Z,116nm,18.4s,baz=35,slow=40
ZEI Tsey 69.36 309 *e*P **P** 04 29 23.4 -1.6
ZEI pmax pmax
comp=Z,40nm,1.0s

DLMT Dillon 69.37 47 *e*P **P** 04 29 26.5 +1.5
comp=Z,20nm,1.0s
HLID Hailey 69.49 50 *e*P **P** 04 29 27.0 +1.3
comp=Z,15nm,1.5s
IDID Didziasalis 69.53 327 *e*P **P** 04 29 25.8 +0.3
ISAL Salakas 69.59 328 *e*P **P** 04 29 26.2 +0.4
IIGN Ignalina 69.71 327 *e*P **P** 04 29 26.9 +0.3
BOZ Bozeman (W) 69.75 47 *e*P **P** 04 29 28.3 +1.0
BOZ pmax pmax
comp=Z,17nm,0.7s
BOZ Bozeman (W) 69.75 47 *e*P **P** 04 29 28.3 +1.0
comp=Z,17nm,0.7s
NACGM Naroch 69.80 327 *e* **P** 04 29 28.0 +0.8
TVH3 East Aurora ar 70.10 56 *e*P **P** 04 29 31.9 +2.2
NB2 NORSAR Subarra 70.47 338 P **P** 04 29 30.7 -0.6
comp=Z,8.0nm,0.8s,baz=38,slow=6.2
NOA NORSAR Array B 70.47 338 P **P** 04 29 30.9 -0.4
comp=Z,6.7nm,0.9s,baz=36,slow=6.1,SNR=15
NOA LR LR 05 04 48.1
comp=Z,162nm,18.9s,baz=25,slow=40
GNI Garni 70.51 307 *e*P **P** 04 29 32.1 +0.1
GNI pmax pmax
comp=Z,112nm,1.1s
GNI Garni 70.51 307 *e*P **P** 04 29 32.1 +0.1
comp=Z,112nm,1.1s
YHB Horse Butte 70.53 47 *e*P **P** 04 29 34.0 +1.9
GCMT Greycliff 70.68 45 *e*P **P** 04 29 36.9 +4.0
YHH Holmes Hill 70.69 47 *e*P **P** 04 29 34.9 +1.7
YMR Madison River 70.70 47 *e*P **P** 04 29 35.3 +2.1
SFJD Kangerlussuaq 70.79 6 *i* P **P** 04 29 33.0 0.0
comp=Z,13nm,0.9s
SFJD Kangerlussuaq 70.79 6 *e*P **P** 04 29 33.0 0.0
SFJD pmax pmax
comp=Z,13nm,0.9s
YFT Old Faithful 70.92 47 *e*P **P** 04 29 38.6 +4.1
LKWY Lake 71.08 47 *e*P **P** 04 29 37.1 +1.5
LKWY pmax pmax
comp=Z,14nm,1.1s
LKWY Lake 71.08 47 *e*P **P** 04 29 37.1 +1.5
comp=Z,14nm,1.1s
H17A Grant Village 71.09 47 *e*P **P** 04 29 37.9 +2.2
comp=Z,21nm,1.1s
IMW Indian Meadow 71.22 48 *e*P **P** 04 29 38.4 +1.9
comp=Z,19nm,1.0s
MOOW Moose Ponds 71.42 48 *e*P **P** 04 29 38.8 +1.1
comp=Z,20nm,1.2s
TPAW Teton Pass 71.48 48 *e*P **P** 04 29 40.2 +2.3
comp=Z,18nm,1.3s
LOHW Long Hollow 71.59 48 *e*P **P** 04 29 39.5 +0.9
comp=Z,4.3nm,0.9s
SNOW Snow King Moun 71.60 48 *e*P **P** 04 29 41.1 +2.4
comp=Z,10nm,1.0s
REDW Red Top Meadow 71.61 48 *e*P **P** 04 29 38.8 0.0
comp=Z,7.4nm,0.9s
ANN Anapa 71.67 314 *e*P **P** 04 29 35.8 -3.0
ANN *e**PP **sP** 04 29 51.9 0.0
ANN *e*S **S** 04 38 50.3 -5.9
ANN pmax pmax
comp=Z,28nm,1.3s
AKASG Malin Array Be 71.72 323 P **P** 04 29 38.4 -0.6
comp=Z,13nm,0.7s,baz=43,slow=6.4,SNR=6.5
AKASG LR LR 05 04 26.0
comp=Z,444nm,18.1s,baz=25,slow=39
AKBB Malin Array Si 71.72 323 *e*P **P** 04 29 38.7 -0.3
AKBB Malin Array Si 71.72 323 *e*P **P** 04 29 38.7 -0.3
KIEV Kiev 71.73 323 *e*P **P** 04 29 38.7 -0.3
KIEV pmax pmax
comp=Z,31nm,1.0s
KIEV Kiev 71.73 323 *e*P **P** 04 29 38.7 -0.3
comp=Z,31nm,1.0s
AK11 Malin Array Si 71.76 323 *e*P **P** 04 29 39.0 -0.2
SUW Suwalki 71.90 328 *e*P **P** 04 29 40.0 0.0
SUW Suwalki 71.90 328 *e*P **P** 04 29 40.0 0.0
R11A Troy Canyon, C 72.08 54 *e*P **P** 04 29 43.1 +1.5
comp=Z,10nm,1.1s
HWUT Hardware Ranch 72.36 50 *e*P **P** 04 29 44.9 +1.7
comp=Z,9.5nm,1.2s
UOSS Minazif 72.37 288 *e*P **P** 04 29 43.4 +0.2
DUG Dugway, Tooele 72.55 51 *e*P **P** 04 29 46.3 +1.9
DUG pmax pmax
comp=Z,6.0nm,0.7s
DUG Dugway, Tooele 72.55 51 *e*P **P** 04 29 46.3 +1.9
comp=Z,6.1nm,0.7s
TPNV Topopah Spring 72.57 56 *e*P **P** 04 29 45.8 +1.3
TPNV Topopah Spring 72.57 56 *e*P **P** 04 29 45.8 +1.3
BW06 Boulder Array 72.72 48 *e*P **P** 04 29 46.2 +0.8
comp=Z,6.2nm,0.8s
PD31 Pinedale Array 72.72 48 *e*P **P** 04 29 46.3 +0.9
PDAR Pinedale Array 72.72 48 P **P** 04 29 45.8 +0.4
comp=Z,0.8nm,0.4s,baz=327,slow=0.2,SNR=24
SHPR Sheep Range 73.52 56 *e*P **P** 04 29 52.4 +2.2
CCUT Cedar City 73.94 54 *e*P **P** 04 29 53.8 +1.1
SORM Soroca 73.94 321 ⇑ *i*P **P** 04 29 51.9 -0.3
SZCU Shurtz Canyon 74.08 54 *e*P **P** 04 29 55.9 +2.4
BSD Bornholm Skovb 74.11 332 *i* P **P** 04 29 52.8 -0.2
comp=Z,26nm,1.0s
BSD Bornholm Skovb 74.11 332 *i* P **P** 04 29 52.8 -0.2
BSD pmax pmax
comp=Z,26nm,1.0s
ULM Lac du Bonnet 74.23 35 P **P** 04 29 54.5 +0.7
comp=Z,1.0nm,0.6s,baz=291,slow=6.2,SNR=2.3
LCMT Little Creek M 74.36 54 *e*P **P** 04 29 57.3 +2.3
K22A Casper 74.45 46 *e*P **P** 04 29 55.2 -0.3
comp=Z,5.7nm,0.8s
COP Copenhagen 74.48 334 *i* P **P** 04 29 55.6 +0.4
comp=Z,19nm,0.9s
COP Copenhagen 74.48 334 *e*P **P** 04 29 55.6 +0.4
COP pmax pmax
comp=Z,19nm,0.9s
BEL Belsk 74.49 327 *e*P **P** 04 29 56.1 +0.8
BEL Belsk 74.49 327 *e*P **P** 04 29 56.1 +0.8
KIS Kishinev 74.54 320 QP 04 30 14.0
KIS *e*LR LR 05 03 10.0
comp=Z,500nm,14.0s
PFO Pinyon Flats O 74.57 59 LR LR 04 56 37.5
comp=Z,78nm,21.9s,baz=310,slow=31
PFO Pinyon Flats O 74.57 59 *e*P **P** 04 29 57.1 +0.8
PFO pmax pmax
comp=Z,6.0nm,0.9s
PFO Pinyon Flats O 74.57 59 *e*P **P** 04 29 57.1 +0.8
comp=Z,5.8nm,0.9s
SRU San Rafael Swe 74.60 51 *e*P **P** 04 29 58.1 +1.7
SRU San Rafael Swe 74.60 51 *e*P **P** 04 29 58.1 +1.7
KNB Kanab 74.62 54 *e*P **P** 04 29 59.1 +2.5
KNB Kanab 74.62 54 *e*P **P** 04 29 59.1 +2.5
LVV L'vov 74.66 325 *i* P **P** 04 29 58.2 +1.9
LVV MLR MLR
comp=E,300nm,16.0s
LVV MLR MLR
comp=N,300nm,16.0s
LVV MLR MLR
comp=Z,300nm,17.0s
MARD Mardin 74.70 306 *e*P **P** 04 29 58.8 +1.8
RWWY Rawlins 74.73 47 *e*P **P** 04 29 58.9 +1.6
comp=Z,10nm,0.9s
BBOO Buckleboo 74.77 187 *e*P **P** 04 29 56.9 -0.1
comp=Z,13nm,1.1s
LLD Lille Linde 74.84 334 *i* P **P** 04 29 57.0 -0.3
comp=Z,20nm,0.9s
LLD Lille Linde 74.84 334 *e*P **P** 04 29 57.0 -0.3
LLD pmax pmax
comp=Z,20nm,0.9s
RGN Rugen 75.12 333 *e*P **P** 04 29 59.9 +1.1
KWP Kalwaria Pacla 75.37 325 *e*P **P** 04 30 01.3 +0.8
KWP Kalwaria Pacla 75.37 325 *e*P **P** 04 30 01.3 +0.8
BUR08 Bucovina Ar. S 75.76 322 *e*P **P** 04 30 03.3 +0.5
BURAR Bucovina Array 75.77 322 ‖ *i*P **P** 04 30 03.5 +0.6
TESR Tescani 75.92 321 ⇑ *i*P **P** 04 30 04.0 +0.3
PV10 Paradox Valley 75.95 51 *e*P **P** 04 30 06.2 +1.9
PV05 Paradox Valley 76.11 51 *e*P **P** 04 30 07.0 +1.8
OJC Ojcow 76.14 327 *e*P **P** 04 30 05.3 +0.5
OJC Ojcow 76.14 327 *e*P **P** 04 30 05.5 +0.7
OJC Ojcow 76.14 327 *e*P **P** 04 30 05.5 +0.7
STHS Stebnicka Huta 76.16 326 *e*P **P** 04 30 06.4 +1.4
STHS pmax pmax
comp=Z,7.0nm,1.0s
STHS Stebnicka Huta 76.16 326 *e*P **P** 04 30 06.4 +1.4
CFR Carcaliu 76.18 319 ⇑ *i*P **P** 04 30 05.0 -0.1
UZH Uzhgorod 76.31 325 *d* i*P **P** 04 30 05.4 -0.4
UZH *e* 04 30 13.2
VRI Vrincioaia 76.35 320 ⇑ *i*P **P** 04 30 08.1 +1.9
PV01 Paradox Valley 76.38 51 *e*P **P** 04 30 08.0 +1.3
PLOR Plostina 76.40 320 ⇑ *i*P **P** 04 30 07.6 +1.1
CRVS Cervenica-Dubn 76.46 325 *e*P **P** 04 30 07.0 +0.3
CRVS Cervenica-Dubn 76.46 325 *e*P **P** 04 30 07.0 +0.3

WUAZ	**Wupatki**		**76.48**	**54**	*e*P	**P**	**04 30 08.1**	**+0.9**
	comp=Z,14nm,1.0s								
NIE	**Niedzica**		**76.55**	**326**	*e*P	**P**	**04 30 08.2**	**+1.0**
NIE	**Niedzica**		**76.55**	**326**	*e*P	**P**	**04 30 08.2**	**+1.0**
SMCO	**Snowmass**		**76.58**	**49**	*e*P	**P**	**04 30 09.6**	**+1.5**
	comp=Z,4.2nm,0.7s								
DOPR	**Dopca**		**76.91**	**321**	⇑*i*P	**P**	**04 30 10.5**	**+1.2**
ISCO	**Idaho Springs**		**76.91**	**48**	*e*P	**P**	**04 30 10.7**	**+0.9**
ISCO				pmax	pmax				
	comp=Z,5.0nm,1.0s								
ISCO	**Idaho Springs**		**76.91**	**48**	*e*P	**P**	**04 30 10.7**	**+0.9**
	comp=Z,5.5nm,1.0s								
MLR	**Muntele Rosu**		**77.00**	**321**	⇓*i*P	**P**	**04 30 10.4**	**+0.4**
MLR	**Muntele Rosu**		**77.00**	**321**	P	**P**	**04 30 10.3**	**+0.3**
KSP	**Ksiaz**		**77.03**	**329**	*e*P	**P**	**04 30 10.5**	**+0.6**
KSP	**Ksiaz**		**77.03**	**329**	*e*P	**P**	**04 30 10.5**	**+0.6**
MVCO	**Mesa Verde**		**77.05**	**51**	*e*P	**P**	**04 30 11.7**	**+1.2**
	comp=Z,8.3nm,0.9s								
OKC	**Ostrava-Krasne**		**77.10**	**328**	⇑*i*P	**P**	**04 30 10.9**	**+0.6**
OKC	**Ostrava-Krasne**		**77.10**	**328**	⇑*i*P	**P**	**04 30 10.9**	**+0.6**
LANS	**Liptovska Anna**		**77.10**	**326**	*e*P	**P**	**04 30 11.6**	**+1.3**
LANS	**Liptovska Anna**		**77.10**	**326**	*e*P	**P**	**04 30 11.6**	**+1.3**
CJR	**Cluj-Napoca**		**77.18**	**323**	⇓*i*P	**P**	**04 30 11.9**	**+1.1**
BR131	**Keskin Array S**		**77.18**	**312**	*e*P	**P**	**04 30 11.9**	**+0.8**
BRTR	**Keskin Array B**		**77.18**	**312**	P	**P**	**04 30 11.9**	**+0.8**
	comp=Z,3.0nm,0.8s,baz=71,slow=4.0,SNR=13								
BRTR					PP	**PP**	**04 33 04.5**	**-0.1**
	comp=Z,1.4nm,0.9s,baz=63,slow=5.7,SNR=3.8								
BRTR					LR	LR	05 08 36.7		
	comp=Z,75nm,20.4s,baz=14,slow=39								
KECS	**Kecovo**		**77.19**	**325**	*e*P	**P**	**04 30 12.0**	**+1.2**
KECS					pmax	pmax			
	comp=Z,2.0nm,1.0s								
KECS	**Kecovo**		**77.19**	**325**	*e*P	**P**	**04 30 12.0**	**+1.2**
MORC	**Moravsky Berou**		**77.39**	**328**	⇑*i*P	**P**	**04 30 12.8**	**+0.8**
MORC	**Moravsky Berou**		**77.39**	**328**	*e*P	**P**	**04 30 12.6**	**+0.6**
MORC					pmax	pmax			
	comp=Z,69nm,0.9s								
MORC	**Moravsky Berou**		**77.39**	**328**	*e*P	**P**	**04 30 12.6**	**+0.6**
	comp=Z,70nm,0.9s								
UPC	**Upice**		**77.41**	**329**	⇑*i*P	**P**	**04 30 12.7**	**+0.7**
UPC					AMS	AMS	05 07 20.0		
	comp=Z,300nm,20.6s								
UPC	**Upice**		**77.41**	**329**	⇑*i*P	**P**	**04 30 12.7**	**+0.7**
UPC					MLR	MLR			
	comp=Z,300nm,20.6s								
DPC	**Dobruska-Polom**		**77.41**	**329**	⇑*i*P	**P**	**04 30 13.0**	**+0.9**
DPC					*es*P	**sP**	**04 30 29.6**	**+4.3**
DPC					AMS	AMS	05 06 50.0		
	comp=Z,300nm,21.7s								
DPC	**Dobruska-Polom**		**77.41**	**329**	⇑*i*P	**P**	**04 30 13.0**	**+0.9**
DPC					*e*		04 30 29.6		
DPC					MLR	MLR			
	comp=Z,300nm,21.7s								
KRLC	**Kraliky**		**77.45**	**328**	⇑*i*P	**P**	**04 30 12.9**	**+0.6**
KRLC	**Kraliky**		**77.45**	**328**	⇑*i*P	**P**	**04 30 12.9**	**+0.6**
VOIR			**77.46**	**321**	⇑*i*P	**P**	**04 30 13.9**	**+1.4**
VOIR			**77.46**	**321**	P	**P**	**04 30 13.9**	**+1.4**
DRGR			**77.52**	**323**	⇓*i*P	**P**	**04 30 12.6**	**-0.2**
DRGR			**77.52**	**323**	P	**P**	**04 30 12.5**	**-0.2**
ANTO	**Ankara**		**77.55**	**313**	*e*P	**P**	**04 30 14.4**	**+1.3**
ANTO	**Ankara**		**77.55**	**313**	*e*P	**P**	**04 30 14.4**	**+1.3**
BR231	**Keskin MP Arra**		**77.58**	**313**	*e*P	**P**	**04 30 11.8**	**-1.5**
S22A	**4UR Ranch, Cre**		**77.65**	**50**	*e*P	**P**	**04 30 16.1**	**+2.2**
ARR	**Arges**		**77.71**	**321**	⇑*i*P	**P**	**04 30 15.4**	**+1.5**
VYHS	**Vyhne**		**77.87**	**326**	*e*P	**P**	**04 30 15.3**	**+0.7**
VYHS					pmax	pmax			
	comp=Z,6.0nm,1.0s								
VYHS	**Vyhne**		**77.87**	**326**	*e*P	**P**	**04 30 15.3**	**+0.7**
CLL	**Collm**		**77.88**	**331**	⇑*i*P	**P**	**04 30 14.6**	**0.0**
CLL					pmax	pmax			
	comp=Z,19nm,0.9s								
CLL					MLR	MLR			
	comp=Z,500nm,19.7s								
CLL	**Collm**		**77.88**	**331**	⇑*i*P	**P**	**04 30 14.6**	**0.0**
	comp=Z,33nm,0.9s								
CLL					*e*S	**S**	**04 40 06.0**	**+0.8**
CLL					*e*		04 47 00.0		
CLL					Lm	MLR	05 09 00.0		
	comp=Z,500nm,19.7s								
CLL	**Collm**		**77.88**	**331**	*e*P	**P**	**04 30 14.1**	**-0.5**
PSZ	**Piszkesteto**		**77.88**	**325**	⇑*i*P	**P**	**04 30 14.8**	**0.0**
PSZ	**Piszkesteto**		**77.88**	**325**	*e*P	**P**	**04 30 14.8**	**0.0**
PSZ					pmax	pmax			
	comp=Z,16nm,1.0s								
PSZ	**Piszkesteto**		**77.88**	**325**	*e*P	**P**	**04 30 14.8**	**0.0**
	comp=Z,16nm,1.0s								
BRG	**Berggiesshubel**		**77.89**	**330**	⇑*i*P	**P**	**04 30 14.9**	**+0.2**
	comp=Z,12nm,1.1s								
BRG					*e*		04 30 23.8		
	comp=Z,7.4nm,1.3s								
	comp=Z,547nm,18.3s								
	comp=N,338nm,19.0s								
	comp=E,200nm,19.0s								
BRG	**Berggiesshubel**		**77.89**	**330**	⇑*i*P	**P**	**04 30 14.9**	**+0.2**
BRG					*e*		04 30 23.8		
BRG					pmax	pmax			
	comp=Z,12nm,1.1s								
BRG					pmax	pmax			
	comp=Z,7.0nm,1.3s								
BRG					MLR	MLR			
	comp=Z,547nm,18.3s								
BRG					MLR	MLR			
	comp=N,338nm,19.0s								
BRG					MLR	MLR			
	comp=E,200nm,19.0s								
PVCC	**Panska Ves**		**77.94**	**330**	⇑*e*P	**P**	**04 30 15.6**	**+0.7**
PVCC					AMS	AMS	05 07 50.0		
	comp=E,400nm,15.9s								
PVCC	**Panska Ves**		**77.94**	**330**	*e*P	**P**	**04 30 15.6**	**+0.7**
PVCC					MLR	MLR			
	comp=Z,400nm,15.9s								
OGNE	**Ogallala**		**78.05**	**45**	*e*P	**P**	**04 30 17.1**	**+1.3**
LOT	**Lotru**		**78.05**	**322**	⇑*i*P	**P**	**04 30 14.8**	**-1.0**
GOPC	**GO Pecny, Ondr**		**78.35**	**329**	⇑*i*P	**P**	**04 30 18.1**	**+0.8**
GOPC					AMS	AMS	05 09 00.0		
	comp=Z,300nm,15.4s								
GOPC	**GO Pecny, Ondr**		**78.35**	**329**	⇑*i*P	**P**	**04 30 18.1**	**+0.8**
GOPC					MLR	MLR			
	comp=Z,300nm,15.4s								
PRA	**Prague**		**78.36**	**330**	⇑*i*P	**P**	**04 30 18.3**	**+1.0**
PRA	**Prague**		**78.36**	**330**	⇑*i*P	**P**	**04 30 18.3**	**+1.0**
PRU	**Pruhonice**		**78.38**	**330**	⇑*i*P	**P**	**04 30 18.1**	**+0.7**
PRU					*es*P	**sP**	**04 30 34.4**	**+3.7**
PRU					AMS	AMS	05 08 00.0		
	comp=Z,300nm,19.4s								
PRU	**Pruhonice**		**78.38**	**330**	⇑*i*P	**P**	**04 30 18.1**	**+0.7**
PRU					*e*		04 30 34.4		
PRU					MLR	MLR			
	comp=Z,300nm,19.4s								
SMOL	**Smolenice**		**78.44**	**327**	*e*P	**P**	**04 30 19.0**	**+1.3**
SMOL	**Smolenice**		**78.44**	**327**	*e*P	**P**	**04 30 19.0**	**+1.3**
GZR	**Gura Zlata**		**78.55**	**322**	⇓*i*P	**P**	**04 30 19.0**	**+0.5**
TREC	**Trest**		**78.58**	**329**	⇑*i*P	**P**	**04 30 19.2**	**+0.6**
TREC					*es*P	**sP**	**04 30 35.4**	**+3.6**
TREC					AMS	AMS	05 09 00.0		
	comp=Z,300nm,16.2s								
TREC	**Trest**		**78.58**	**329**	⇑*i*P	**P**	**04 30 19.2**	**+0.6**
TREC					*e*		04 30 35.4		
TREC					MLR	MLR			
	comp=Z,300nm,16.2s								
ECSD	**EROS Data Cent**		**78.74**	**40**	*e*P	**P**	**04 30 19.9**	**+0.3**
BZS	**Buzias**		**78.91**	**323**	⇑*i*P	**P**	**04 30 20.5**	**+0.1**
NKC	**Novy Kostel**		**78.96**	**331**	⇑*i*P	**P**	**04 30 21.0**	**+0.4**
NKC					AMS	AMS	05 08 20.0		
	comp=Z,500nm,17.8s								
NKC	**Novy Kostel**		**78.96**	**331**	⇑*i*P	**P**	**04 30 21.0**	**+0.4**
NKC					MLR	MLR			
	comp=Z,500nm,17.8s								
ESK	**Eskdalemuir**		**79.21**	**342**	*e*P	**P**	**04 30 21.9**	**+0.1**
ESK					pmax	pmax			
	comp=Z,9.0nm,0.9s								
ESK	**Eskdalemuir**		**79.21**	**342**	*e*P	**P**	**04 30 21.9**	**+0.1**
	comp=Z,8.6nm,0.9s								
WTSB	**Winterswijk**		**79.43**	**335**	*e*P	**P**	**04 30 23.0**	**-0.1**
	comp=Z,22nm,0.8s								
KHC	**Kasperske Hory**		**79.45**	**330**	⇑*i*P	**P**	**04 30 24.0**	**+0.7**
KHC					*e*pP	**sP**	**04 30 35.6**	**-1.0**
KHC					AMS	AMS	05 08 30.0		
	comp=Z,400nm,20.5s								
KHC	**Kasperske Hory**		**79.45**	**330**	*e*P	**P**	**04 30 24.1**	**+0.7**
KHC					pmax	pmax			
	comp=Z,7.0nm,0.6s								
KHC	**Kasperske Hory**		**79.45**	**330**	*e*P	**P**	**04 30 24.1**	**+0.7**
	comp=Z,6.7nm,0.6s								
T25A	**Trinidad**		**79.45**	**49**	*e*P	**P**	**04 30 24.8**	**+1.0**
MDVR	**Moldovita**		**79.50**	**322**	⇓*i*P	**P**	**04 30 23.6**	**-0.1**
CONA	**Conrad Observa**		**79.53**	**328**	*i* P	**P**	**04 30 24.7**	**+0.8**
	comp=Z,17nm,1.3s,SNR=10								
GERES	**GERESS Array B**		**79.63**	**329**	P	**P**	**04 30 24.6**	**+0.2**
	comp=Z,5.5nm,0.7s,baz=36,slow=5.0,SNR=56								
GERES					LR	LR	05 08 46.4		
	comp=Z,251nm,19.7s,baz=29,slow=38								
ANMO	**Albuquerque**		**79.81**	**52**	*e*P	**P**	**04 30 27.3**	**+1.5**
ANMO	**Albuquerque**		**79.81**	**52**	*e*P	**P**	**04 30 27.3**	**+1.5**
SCHQ	**Schefferville**		**80.01**	**18**	P	**P**	**04 30 26.8**	**+0.5**
	comp=Z,4.9nm,0.5s,baz=352,slow=12,SNR=4.2								
SCHQ					LR	LR	05 07 00.5		
	comp=Z,84nm,21.8s,baz=277,slow=36								
ARSA	**Arzberg**		**80.22**	**327**	*i* P	**P**	**04 30 28.3**	**+0.8**
	comp=Z,6.1nm,0.8s,SNR=5.4								
MOA	**Molln**		**80.23**	**328**	*i* P	**P**	**04 30 28.2**	**+0.6**
	comp=Z,6.0nm,0.8s								
VTS	**Vitosha**		**80.48**	**320**	⇑*i*P	**P**	**04 30 30.0**	**+0.8**
VTS	**Vitosha**		**80.48**	**320**	*e*P	**P**	**04 30 29.9**	**+0.8**
VTS	**Vitosha**		**80.48**	**320**	*e*P	**P**	**04 30 29.9**	**+0.8**
121A	**Cookes Peak, D**		**80.69**	**54**	*e*P	**P**	**04 30 31.9**	**+1.4**
	comp=Z,9.2nm,1.0s								
CSS	**Mathiatis**		**80.70**	**309**	*e*P	**P**	**04 30 30.0**	**-0.3**
	comp=Z,3.4nm,0.9s								
HGN	**Heimansgroeve**		**80.74**	**335**	*e*P	**P**	**04 30 30.1**	**-0.1**
	comp=Z,12nm,0.8s								
BEBN	**Eben Emael**		**80.79**	**335**	P	**P**	**04 30 31.0**	**+0.5**
MEM	**Membach**		**80.85**	**335**	P	**P**	**04 30 30.7**	**-0.1**
	comp=Z,11nm,1.1s								
MEM					AP	**sP**	**04 30 41.4**	**-2.7**
GROS	**Grobnik**		**80.86**	**327**	*i* P	**P**	**04 30 31.2**	**+0.2**
SOKA	**Soboth**		**80.88**	**327**	*i* P	**P**	**04 30 31.6**	**+0.5**
	comp=Z,21nm,0.9s,SNR=18								
GOLS	**Golise**		**81.18**	**327**	*i* P	**P**	**04 30 32.9**	**+0.2**
OBKA	**Obir**		**81.21**	**327**	*i* P	**P**	**04 30 33.2**	**+0.2**
	comp=Z,8.6nm,0.7s,SNR=8.0								
KBA	**Koelnbreinsper**		**81.22**	**328**	*i* P	**P**	**04 30 33.9**	**+0.8**
	comp=Z,19nm,0.8s,SNR=17								
BCLA	**Clermont**		**81.24**	**335**	P	**P**	**04 30 32.7**	**-0.1**
STU	**Stuttgart**		**81.35**	**332**	*e*P	**P**	**04 30 33.1**	**-0.4**
STU					pmax	pmax			
	comp=Z,27nm,0.9s								
STU	**Stuttgart**		**81.35**	**332**	*e*P	**P**	**04 30 33.1**	**-0.4**
	comp=Z,27nm,0.9s								
MYKA	**Terra Mystica**		**81.47**	**328**	*i* P	**P**	**04 30 34.4**	**+0.1**
	comp=Z,8.8nm,0.7s,SNR=5.1								
SNF	**Seneffe**		**81.48**	**335**	P	**P**	**04 30 34.2**	**+0.1**
LJU	**Ljubljana**		**81.60**	**327**	*i* P	**P**	**04 30 34.6**	**-0.3**
WLF	**Walferdange**		**81.62**	**334**	P	**P**	**04 30 35.3**	**+0.4**
WLF	**Walferdange**		**81.62**	**334**	*e*P	**P**	**04 30 35.6**	**+0.7**
WLF	**Walferdange**		**81.62**	**334**	*e*P	**P**	**04 30 35.5**	**+0.7**
WATA	**Walderalm**		**81.69**	**330**	*i* P	**P**	**04 30 36.0**	**+0.5**
	comp=Z,21nm,0.9s,SNR=17								
WTTA	**Wattenberg**		**81.72**	**330**	*i* P	**P**	**04 30 36.1**	**+0.4**
	comp=Z,15nm,0.8s,SNR=7.1								
DOU	**Dourbes**		**81.75**	**335**	P	**P**	**04 30 35.7**	**+0.2**
ABTA	**Abfaltersbach**		**81.82**	**329**	*i* P	**P**	**04 30 36.1**	**0.0**
	comp=Z,8.5nm,0.9s,SNR=6.6								
MOTA	**Moosalm**		**81.86**	**330**	*i* P	**P**	**04 30 36.9**	**+0.5**
	comp=Z,40nm,0.9s,SNR=44								
RETA	**Reute**		**81.86**	**330**	*i* P	**P**	**04 30 36.9**	**+0.5**
	comp=Z,24nm,1.0s,SNR=15								
JAVS	**Javornik**		**81.91**	**327**	*i* P	**P**	**04 30 35.9**	**-0.7**
BFO	**Black Forest**		**82.03**	**332**	*e*P	**P**	**04 30 37.2**	**+0.1**
BFO					pmax	pmax			
	comp=Z,13nm,0.9s								
BFO	**Black Forest**		**82.03**	**332**	*e*P	**P**	**04 30 37.2**	**+0.1**
	comp=Z,13nm,0.9s								
FETA	**Feichten**		**82.27**	**330**	*i* P	**P**	**04 30 39.4**	**+0.9**
	comp=Z,20nm,1.1s,SNR=9.1								
CDF	**Champ du Feu**		**82.32**	**333**	*e*P	**P**	**04 30 38.1**	**-0.6**
CDF					pmax	pmax			
	comp=Z,16nm,1.0s								
DAVA	**Damuels**		**82.36**	**331**	*i* P	**P**	**04 30 39.4**	**+0.4**
	comp=Z,27nm,1.1s,SNR=12								
PDG	**Podgorica**		**82.45**	**322**	⇑*i*P	**P**	**04 30 39.7**	**+0.3**
ECH	**Echery**		**82.53**	**333**	⇑*e*P	**P**	**04 30 39.7**	**-0.1**
MOF	**Molkenrain**		**82.85**	**332**	⇑*e*P	**P**	**04 30 41.3**	**-0.2**
THEF	**They Montfort**		**82.92**	**333**	⇑*e*P	**P**	**04 30 41.7**	**-0.1**
TUE	**Stuetta**		**83.24**	**330**	*e*P	**P**	**04 30 44.0**	**+0.3**
	comp=Z,12nm,0.8s								
LOMF	**Lomont**		**83.39**	**332**	⇑*e*P	**P**	**04 30 44.5**	**+0.2**
AGG	**Agios Georgios**		**83.64**	**318**	*e*P	**P**	**04 30 45.4**	**-0.3**
AGG	**Agios Georgios**		**83.64**	**318**	*e*P	**P**	**04 30 45.4**	**-0.3**
SENIN	**Lac Senin/Sane**		**84.07**	**332**	*e*P	**P**	**04 30 48.0**	**0.0**
PMOR	**Pomariorio Ree**		**84.27**	**116**	*e*T	T	06 03 32.1		
	comp=Z,7.4nm,0.2s								
CABF	**La Chapelle**		**84.28**	**332**	*e*P	**P**	**04 30 48.3**	**-0.6**
CABF					pmax	pmax			
	comp=Z,7.0nm,0.9s								
WMOK	**Wichita Mounta**		**84.33**	**48**	*e*P	**P**	**04 30 50.6**	**+1.4**
WMOK	**Wichita Mounta**		**84.33**	**48**	*e*P	**P**	**04 30 50.6**	**+1.4**
LOR	**Lormes**		**84.46**	**334**	*e*P	**P**	**04 30 48.9**	**-0.8**
LOR					pmax	pmax			
	comp=Z,24nm,0.9s								
LDF	**La Druitiere**		**84.50**	**337**	*e*P	**P**	**04 30 49.6**	**-0.2**
LDF					pmax	pmax			
	comp=Z,7.0nm,0.7s								
SSF	**Saint Saulge**		**84.75**	**334**	*e*P	**P**	**04 30 50.5**	**-0.6**
SSF					pmax	pmax			
	comp=Z,14nm,0.8s								
VLC	**Villacollemand**		**84.80**	**329**	*e*P	**P**	**04 30 52.2**	**+0.8**
	comp=Z,14nm,0.9s								
PPT	**Papeete**		**85.00**	**119**	LR	LR	05 10 03.5		
	comp=Z,78nm,18.4s,baz=314,slow=36								
LPL	**La Plagne**		**85.00**	**332**	*e*P	**P**	**04 30 53.5**	**+0.8**
LPL					pmax	pmax			
	comp=Z,21nm,0.9s								
SMF	**Signal de Mont**		**85.01**	**334**	*e*P	**P**	**04 30 51.8**	**-0.7**
SMF					pmax	pmax			
	comp=Z,13nm,0.8s								
LPG	**La Plagne**		**85.01**	**331**	*e*P	**P**	**04 30 52.8**	**0.0**
LPG					pmax	pmax			
	comp=Z,22nm,0.9s								
PPT2	**Papeete2**		**85.01**	**119**	*e*LR	LR	04 57 45.6		
	comp=Z,171nm,24.0s								
AVF	**Avril sur Loir**		**85.04**	**334**	*e*P	**P**	**04 30 52.1**	**-0.5**
AVF					pmax	pmax			
	comp=Z,26nm,0.8s								
AQU	**L'Aquila**		**85.08**	**326**	*e*P	**P**	**04 30 53.8**	**+0.9**
AQU					pmax	pmax			
	comp=Z,13nm,0.9s								
AQU	**L'Aquila**		**85.08**	**326**	*e*P	**P**	**04 30 53.8**	**+0.9**
	comp=Z,13nm,0.9s								
TAOE	**Nuku Hiva Isla**		**85.36**	**106**	*e*LR	LR	04 57 56.8		
	comp=Z,346nm,26.3s								
BGF	**Bois d'Agland**		**85.41**	**334**	*e*P	**P**	**04 30 54.6**	**+0.1**
BGF					pmax	pmax			
	comp=Z,9.0nm,0.9s								
BNI	**Bardonecchia**		**85.42**	**331**	*e*P	**P**	**04 30 54.2**	**-0.5**
BNI					pmax	pmax			
	comp=Z,16nm,0.9s								
BNI	**Bardonecchia**		**85.42**	**331**	*e*P	**P**	**04 30 54.2**	**-0.5**
	comp=Z,16nm,0.9s								
TX31	**Lajitas Ar. Si**		**85.45**	**54**	*e*P	**P**	**04 30 56.0**	**+1.0**
TXAR	**Lajitas Array**		**85.45**	**54**	P	**P**	**04 30 55.9**	**+0.8**
	comp=Z,1.3nm,0.7s,baz=293,slow=3.5,SNR=19								
ROSF	**Rostrenen**		**85.62**	**339**	*e*P	**P**	**04 30 55.3**	**-0.1**
ROSF					pmax	pmax			
	comp=Z,12nm,1.0s								
MBDF	**Montbardon**		**85.67**	**331**	*e*P	**P**	**04 30 55.8**	**-0.2**
MBDF					pmax	pmax			
	comp=Z,12nm,0.7s								
PLDF	**La Plantade**		**85.68**	**334**	*e*P	**P**	**04 30 56.8**	**+0.9**
HHAR	**Hobbs**		**85.74**	**43**	*e*P	**P**	**04 30 56.5**	**+0.2**
AGO	**Saint Agoulin**		**85.77**	**334**	*e*P	**P**	**04 30 57.2**	**+1.0**
ORIF	**Oris-en-Rattie**		**85.82**	**332**	*e*P	**P**	**04 30 56.4**	**-0.2**
ORIF					pmax	pmax			
	comp=Z,16nm,0.7s								
TCF	**Toulx Ste Croi**		**85.86**	**335**	*e*P	**P**	**04 30 56.5**	**-0.2**
TCF					pmax	pmax			
	comp=Z,10.0nm,1.0s								
HPIG			**85.93**	**57**	*e*P	**P**	**04 30 58.8**	**+1.1**
QUIF	**Quistinic**		**85.97**	**339**	*e*P	**P**	**04 30 57.6**	**+0.4**
QUIF					pmax	pmax			
	comp=Z,11nm,0.9s								
SSB	**Saint Sauveur**		**85.97**	**333**	*e*P	**P**	**04 30 57.3**	**0.0**
SSB					pmax	pmax			
	comp=Z,9.0nm,0.8s								
SSB	**Saint Sauveur**		**85.97**	**333**	*e*P	**P**	**04 30 57.3**	**0.0**
	comp=Z,8.7nm,0.8s								
PYM	**Petit Puy Mans**		**86.07**	**334**	*e*P	**P**	**04 30 58.7**	**+0.9**
VIVF	**Saint-Julien-l**		**86.30**	**332**	*e*P	**P**	**04 30 58.8**	**-0.1**
VIVF					pmax	pmax			
	comp=Z,21nm,0.8s								
LBL	**Lubilhac**		**86.45**	**334**	*e*P	**P**	**04 31 00.6**	**+0.9**
FRF	**La Foret Royal**		**86.72**	**331**	*e*P	**P**	**04 31 00.1**	**-0.9**
FRF					pmax	pmax			
	comp=Z,14nm,1.0s								
PBMO	**Poplar Bluff**		**87.11**	**41**	*e*P	**P**	**04 31 03.6**	**+0.7**
CAF	**Calviac**		**87.11**	**334**	*e*P	**P**	**04 31 03.3**	**+0.4**
CAF					pmax	pmax			
	comp=Z,33nm,0.9s								
MIAR	**Mount Ida**		**87.27**	**44**	*e*P	**P**	**04 31 04.5**	**+0.8**
MIAR					pmax	pmax			
	comp=Z,19nm,1.0s								
MIAR	**Mount Ida**		**87.27**	**44**	*e*P	**P**	**04 31 04.5**	**+0.8**
	comp=Z,19nm,1.0s								
WHAR	**Wooly Hollow**		**87.35**	**43**	*e*P	**P**	**04 31 04.5**	**+0.4**
LFF	**La Frestale**		**87.53**	**335**	*e*P	**P**	**04 31 05.1**	**+0.3**
LFF					pmax	pmax			
	comp=Z,27nm,0.9s								
SSPA	**Standing Stone**		**89.38**	**31**	*e*P	**P**	**04 31 14.4**	**+0.7**
	comp=Z,39nm,1.0s								
LRAL	**Lakeview Retre**		**91.79**	**41**	*e*P	**P**	**04 31 25.6**	**+0.6**
KEST	**Kesra**		**92.34**	**325**	P	**P**	**04 31 27.5**	**-0.1**
	comp=Z,4.3nm,0.9s,baz=29,slow=10,SNR=3.4								
KEST					LR	LR	05 18 19.0		
	comp=Z,250nm,18.7s,baz=294,slow=39								
ESDC	**Sonseca Array**		**93.76**	**336**	P	**P**	**04 31 34.3**	**+0.2**
	comp=Z,0.9nm,0.8s,baz=9.6,slow=4.8,SNR=8.4								
ESDC					LR	LR	05 19 36.1		
	comp=Z,177nm,18.2s,baz=10.0,slow=39								
RKT	**Rikitea**		**98.65**	**113**	*e*LR	LR	05 03 15.0		
	comp=Z,260nm,38.0s								
TORD	**Torodi Ar. Bea**		**115.22**	**319**	PKP	**PKPdf**	**04 36 58.9**	**0.0**
	comp=Z,0.4nm,0.8s,baz=24,slow=3.9,SNR=2.9								
TORD					PP	**PP**	**04 37 56.1**	**-2.3**
	comp=Z,3.5nm,1.1s,baz=27,slow=7.6,SNR=12								
SAML	**Samuel**		**139.22**	**44**	*e*PKPdf	**PKPdf**	**04 37 42.0**	**-2.4**
LPAZ	**La Paz**		**142.27**	**57**	PKP	**PKPdf**	**04 37 48.2**	**-2.4**
	comp=Z,0.4nm,0.6s,baz=308,slow=3.2,SNR=3.3								
SNAA	**Sanae**		**146.08**	**198**	PKP	**PKPdf**	**04 37 55.6**	**+0.7**
SNAA	**Sanae**		**146.08**	**198**	*e*PKP2	**PKPdf**	**04 37 55.2**	**+0.3**
SNAA	**Sanae**		**146.08**	**198**	*e*PKPbc	**PKPdf**	**04 37 55.2**	**+0.3**
LVC	**Limon Verde**		**146.29**	**65**	*e*PKPbc	**PKPab**	**04 37 59.2**	**+0.1**
VNA2	**Neumayer--Watz**		**147.64**	**197**	PKP	**PKPbc**	**04 38 00.6**	**+0.3**
	baz=93,slow=1.7								
VNA3	**Neumayer Olymp**		**147.87**	**196**	PKP	**PKPdf**	**04 37 59.6**	**+1.8**
VNA1	**Neumayer--Stat**		**148.04**	**197**	PKP	**PKPbc**	**04 38 01.9**	**+0.6**

IDC 25 04:38:46.4±2.3, 6.70S×129.69E, h165km±26km, mb3.3/2, mb1 3.1/5, mb1mx3.0/32, mbtmp3.6/5, Error ellipse: s-maj=41.2km s-min=15.5km az=84.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SIJI	**Sorong**	**6.00**	**15**	P		Pn	04 40 13.0	-0.3
	8.4nm,0.3s,baz=37,slow=2.5,SNR=2.6							
SIJI				S		Sn	04 41 12.1	-9.5
	21nm,0.3s,baz=274,slow=23,SNR=4.4							
FITZ	**Fitzroy Crossi**	**12.00**	**199**	P		Pn	04 41 33.0	+0.7
	0.1nm,0.3s,baz=26,slow=13

FINES	**FINESS Array B**	**144.86**	**339**	PKP	PKPbc	05 08 48.7	-1.0
	2.2nm,0.8s,baz=20,slow=4.6,SNR=5.8						
AKASG	**Malin Array Be**	**150.68**	**322**	PKPbc	**PKPbc**	**05 09 04.8**	**-0.6**
	0.8nm,0.5s,baz=57,slow=2.7,SNR=4.4						
TORD	**Torodi Ar. Bea**	**162.66**	**183**	PKPab	**PKPab**	**05 10 06.1**	**0.0**
	1.4nm,0.8s,baz=176,slow=4.4,SNR=9.3						

JMA ***25*** *04:59:43.0±0.4, 36.°91N×141.°91E, h24km, M3.1*
ISCJB ***25*** *04:59:45.6±1.0, 37.°02N±0.°06×141.°73E±0.°09, h10km, mb3.3/3, Error ellipse: s-maj=10.0km s-min=8.8km az=10.9*
IDC ***25*** *04:59:48.0±2.7, 36.°95N×141.°41E, h0km, mb3.3/3, mb1 3.6/5, mb1mx3.4/42, mbtmp3.5/5, ML3.3/2, MS2.3/1, Ms1 2.3/1, ms1mx2.1/21, Error ellipse: s-maj=59.7km s-min=31.5km az=55.0*

ISC 25 04:59:46.6±1.2, 37.°00N±0.°05×141.°57E±0.°08, h10km, n15, σ2ˢ50/18, mb3.5/3, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ONAJ	**Iwakimizuishiy**	**0.62**	**280**	P	**Pb**	**04 59 59.8**	**+0.2**
JFK	**Kawauchi**	**0.66**	**304**	P	**Pb**	**05 00 00.8**	**+0.5**
JHO	**Hitachi**	**0.89**	**245**	P	**Pg**	**05 00 02.7**	**-0.9**
JMM	**Marumori**	**1.06**	**325**	P	**Pg**	**05 00 05.7**	**-1.3**
JFT	**Otama**	**1.11**	**298**	P	**Pg**	**05 00 07.8**	**-0.1**
JIO	**Ouri**	**1.47**	**353**	P	**Pn**	**05 00 10.4**	**-2.6**
JFY	**Yanaizu**	**1.54**	**286**	P	**Pb**	**05 00 14.8**	**-0.4**
JOU	**Okura**	**1.54**	**333**	P	**Pn**	**05 00 14.7**	**+0.6**
JYS	**Shirataka**	**1.71**	**316**	P	**Pb**	**05 00 18.1**	**+0.1**
MJAR	**Matsushiro Arr**	**2.73**	**261**	Pn	**Pn**	**05 00 31.5**	**+1.0**
	3.3nm,0.3s,baz=110,slow=10,SNR=48						
MJAR				Sn	**Sb**	**05 01 08.2**	**-0.9**
	0.3nm,0.3s,baz=83,slow=16,SNR=2.8						
MJAR				LR	LR	05 01 52.0	
	comp=Z,56nm,19.8s,baz=120,slow=48						
MAT	**Matsushiro**	**2.73**	**261**	P	**Pn**	**05 00 32.4**	**+1.9**
MAT				S	**Sb**	**05 01 07.5**	**-1.6**
JHJ	**Hachijo jima 2**	**4.13**	**201**	Pn	**Pn**	**05 00 50.3**	**+0.6**
	11nm,0.3s,baz=94,slow=22,SNR=2.5						
JHJ				Sn	**Sn**	**05 01 30.7**	**-7.5**
	13nm,0.3s,baz=64,slow=8.9,SNR=2.8						
MKAR	**Makanchi Array**	**44.24**	**302**	P	**P**	**05 07 58.0**	**+2.0**
	0.1nm,0.4s,baz=77,slow=9.0,SNR=3.0						
WRA	**Warramunga Arr**	**57.04**	**188**	P	**P**	**05 09 35.2**	**+2.5**
	0.4nm,0.8s,baz=3.9,slow=6.9,SNR=4.5						
ASAR	**Alice Springs**	**60.77**	**188**	P	**P**	**05 10 01.6**	**+3.0**
	0.3nm,0.8s,baz=16,slow=7.9,SNR=4.5						

JMA ***25*** *05:02:05.1±0.1, 35.°41N×140.°99E, h20km±1km, M2.3*
ISC 25 05:02:05.0±2.3, 35.°38N±0.°07×141.°0E±0.°3, h33km, n4, σ1ˢ76/6, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CHOJ	**Chosi**	**0.33**	**347**	P	**Pb**	**05 02 11.9**	**-1.3**
CHOJ				S	**Sb**	**05 02 17.2**	**-1.5**
BSO3	**Boso 3**	**0.68**	**212**	P	**Pn**	**05 02 18.8**	**+0.8**
JYT	**Yasato**	**1.04**	**324**	P	**Pn**	**05 02 23.8**	**+0.5**
JYT				S	**Sn**	**05 02 37.6**	**+0.8**
JHO	**Hitachi**	**1.27**	**346**	P	**Pn**	**05 02 28.4**	**+2.0**

JMA ***25*** *05:02:15.1±0.2, 36.°28N×142.°53E, h63km, M3.2*
IDC ***25*** *05:02:35.7±1.5, 34.°69N×138.°88E, h0km, mb3.5/4, mb1 3.8/4, mb1mx3.4/41, mbtmp3.5/4, Error ellipse: s-maj=49.2km s-min=25.5km az=88.0*

ISC 25 05:02:23.1±2.3, 36.°2N±0.°1×141.°9E±0.°1, h23km, n9, σ3ˢ35/11, mb3.6/3, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CHOJ	**Chosi**	**1.02**	**239**	*e*S	**Sn**	**05 02 59.3**	**+3.6**
JHO	**Hitachi**	**1.17**	**289**	P	**Pn**	**05 02 41.7**	**-2.4**
JHO				S	**Sb**	**05 03 01.9**	**+2.4**
BSO1	**Boso 1**	**1.76**	**207**	P	**Pn**	**05 02 47.9**	**-3.8**
JAG	**Ashikaga**	**2.02**	**276**	P	**Pn**	**05 02 54.4**	**-1.4**
JAG				S	**Sb**	**05 03 23.7**	**-0.2**
MJAR	**Matsushiro Arr**	**3.03**	**277**	Pn	**Pn**	**05 03 09.0**	**-0.7**
	1.2nm,0.3s,baz=107,slow=9.8,SNR=5.7						
MJAR				Sn	**Sn**	**05 03 39.2**	**-6.0**
	1.2nm,0.3s,baz=89,slow=16,SNR=4.3						
MAT	**Matsushiro**	**3.03**	**277**	P	**Pn**	**05 03 08.1**	**-1.6**
MAT				*e*S	**Sn**	**05 03 46.8**	**+1.5**
MKAR	**Makanchi Array**	**44.91**	**303**	P	P	05 10 41.3	+5.3
	0.2nm,0.4s,baz=76,slow=6.1,SNR=2.9						
WRA	**Warramunga Arr**	**56.33**	**189**	P	**P**	**05 12 04.9**	**+2.6**
	0.6nm,0.9s,baz=3.0,slow=7.6,SNR=6.6						
GERES	**GERESS Array B**	**83.62**	**329**	P	P	05 15 07.3	+18
	0.3nm,0.5s,baz=34,slow=7.2,SNR=4.1						

ISCJB ***25*** *05:11:42.8±0.6, 9.°43S±0.°06×34.°01E±0.°07, h10km, mb3.7/5, MS3.2/4, Error ellipse: s-maj=9.7km s-min=8.9km az=2.4*
IDC ***25*** *05:11:47.1±4.9, 9.°53S×34.°00E, h26km±32km, mb3.6/6, mb1 3.9/11, mb1mx3.6/38, mbtmp4.0/11, ML3.1/4, MS3.2/8, Ms1 3.2/8, ms1mx3.0/32, Error ellipse: s-maj=31.6km s-min=13.4km az=113.0*

ISC 25 05:11:44.1±0.7, 9.°48S±0.°06×33.°98E±0.°09, h10km, n15, σ2ˢ85/16, mb3.8/5, MS3.3/4, Tanzania

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LSZ	**Lusaka**	**8.08**	**224**	Pn	**Pn**	**05 13 43.8**	**+2.1**
	2.6nm,0.3s,baz=34,slow=11,SNR=25						
LSZ				Sn	**Sn**	**05 15 10.0**	**-3.1**
	9.5nm,0.3s,baz=344,slow=24,SNR=3.8						
LSZ				Lg	Lg	05 15 51.7	
	14nm,0.3s,baz=310,slow=9.9,SNR=6.3						
LSZ				LR	LR	05 16 49.7	
	comp=Z,393nm,18.5s,baz=64,slow=38						
KMBO	**Kilima Mbogo**	**8.91**	**22**	Pn	**Pn**	**05 13 52.8**	**-0.5**
	1.8nm,0.3s,baz=197,slow=16,SNR=22						
KMBO				Sn	**Sn**	**05 15 27.8**	**-6.1**
	5.5nm,0.3s,baz=63,slow=22,SNR=6.8						
KMBO				Lg	Lg	05 16 16.6	
	2.5nm,0.3s,baz=262,slow=23,SNR=11						
KMBO				LR	LR	05 17 30.1	
	comp=Z,145nm,18.6s,baz=55,slow=38						
OPO	**Ambohidratompo**	**15.67**	**127**	Pn	**Pn**	**05 15 24.1**	**-1.1**
	0.2nm,0.3s,baz=287,slow=19,SNR=2.4						
OPO				Sn	**Sn**	**05 18 20.3**	**+1.1**
	0.3nm,0.3s,baz=130,slow=13,SNR=2.7						
LBTB	**Lobatse**	**17.39**	**206**	P	**Pn**	**05 15 48.1**	**+1.0**
	0.6nm,0.3s,baz=16,slow=11,SNR=12						
LBTB				S	**Sn**	**05 18 54.3**	**-6.6**
	0.6nm,0.3s,baz=90,slow=20,SNR=3.3						
LBTB				Lg	Lg	05 20 40.9	
	0.3nm,0.3s,baz=133,slow=18,SNR=2.3						
LBTB				LR	LR	05 21 50.1	
	comp=Z,48nm,19.1s,baz=32,slow=35						
TSUM	**Tsumeb**	**18.58**	**237**	P	**P**	**05 16 02.6**	**+1.0**
	0.4nm,0.3s,baz=24,slow=16,SNR=7.1						
TSUM				S	Sn	05 19 16.6	-13
	0.4nm,0.3s,baz=144,slow=5.9,SNR=5.6						
TSUM				Lg	Lg	05 21 33.0	
	0.2nm,0.3s,baz=143,slow=21,SNR=3.9						
TSUM				LR	LR	05 22 26.7	
	comp=Z,84nm,21.8s,baz=330,slow=34						
BOSA	**Boshof**	**20.73**	**202**	P	**P**	**05 16 25.6**	**+0.6**
	3.4nm,0.8s,baz=16,slow=10,SNR=6.0						
BOSA				S	**S**	**05 20 16.0**	**-0.6**
	1.9nm,0.7s,baz=124,slow=16,SNR=2.9						
BOSA				Lg	Lg	05 22 33.9	
	8.6nm,0.7s,baz=290,slow=13,SNR=3.7						
SUR	**Sutherland**	**25.84**	**206**	LR	LR	05 27 25.9	
	comp=Z,7.5nm,19.0s,baz=34,slow=36						
TORD	**Torodi Ar. Bea**	**39.16**	**305**	P	**P**	**05 19 12.6**	**+0.2**
	0.6nm,0.8s,baz=116,slow=8.1,SNR=5.2						
GEYT	**Alibeck**	**52.28**	**24**	LR	LR	05 42 45.5	
	comp=Z,36nm,19.6s,baz=130,slow=36						
AKASG	**Malin Array Be**	**60.07**	**357**	P	**P**	**05 21 51.7**	**+0.5**
	0.2nm,0.3s,baz=164,slow=7.2,SNR=2.7						
GERES	**GERESS Array B**	**60.76**	**345**	P	**P**	**05 21 57.6**	**+1.5**
	0.4nm,0.7s,baz=189,slow=5.6,SNR=4.9						
CMAR	**Chiang Mai Arr**	**69.83**	**66**	LR	LR	05 50 34.4	
	comp=Z,12nm,19.7s,baz=225,slow=33						
MKAR	**Makanchi Array**	**70.61**	**33**	P	**P**	**05 23 00.7**	**+1.0**
	2.6nm,1.0s,baz=232,slow=5.9,SNR=11						
SONM	**Songino Array**	**85.42**	**40**	P	**P**	**05 24 23.6**	**+1.6**
	0.7nm,0.8s,baz=232,slow=4.7,SNR=3.0						
ASAR	**Alice Springs**	**95.19**	**115**	LR	LR	06 04 23.6	
	comp=Z,47nm,18.5s,baz=288,slow=33						

ISCJB ***25*** *05:13:54.6±0.5, 6.°84N±0.°03×73.°09W±0.°04, h154km±5km, Error ellipse: s-maj=6.5km s-min=4.1km az=30.8*
FUNV ***25*** *05:13:55.0, 6.°67N×73.°11W, h155km, MW3.4*
RSNC ***25*** *05:13:56.9±0.8, 6.°80N×73.°15W, h144km±4km, ML3.2*

ISC 25 05:13:54.6±1.4, 6.°82N±0.°04×73.°09W±0.°04, h157km±8km, n27, σ0ˢ85/44, 3C-1D, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BTLC	**Betulia, Santa**	**0.20**	**298**	*e*P	**Pn**	**05 14 16.5**	**+0.5**
BARC	**Barichara**	**0.25**	**203**	*i* P	**Pn**	**05 14 16.3**	**+0.2**
BARC				*i*		05 14 16.9	
	comp=Z,401nm,0.4s						
BARC				*e*S	**Sn**	**05 14 31.3**	**-1.2**
GIRC	**Giron, Santand**	**0.28**	**338**	*i* P	**Pn**	**05 14 16.3**	**+0.2**
GIRC				*e*S	**Sn**	**05 14 31.2**	**-1.4**
PAMC	**Pamplona, Colo**	**0.64**	**37**	*i* P	**Pn**	**05 14 19.1**	**+1.0**
PAMC				*e*S	**Sn**	**05 14 36.1**	**+0.1**
BRRC	**Barranca, Sant**	**0.68**	**295**	*i* P	**Pn**	**05 14 18.1**	**+0.4**
BRRC				*i*		05 14 18.4	
	comp=Z,359nm,0.2s						
BRRC				*e*S	**Sn**	**05 14 35.2**	**-0.2**
RUSC	**La Rusia**	**0.92**	**180**	*i* P	**Pn**	**05 14 20.3**	**+0.3**
RUSC				*i*		05 14 21.6	
	comp=Z,153nm,0.2s						
RUSC				*e*S	**Sn**	**05 14 38.4**	**-1.0**
CAPV	**Capacho**	**1.29**	**36**	*i* P	**Pn**	**05 14 24.4**	**+1.5**
CAPV				*e*S	**Sn**	**05 14 44.5**	**-0.1**
OCAC	**Ocana**	**1.43**	**351**	*e*P	**Pn**	**05 14 25.2**	**+1.1**
OCAC				*e*S	**Sn**	**05 14 46.6**	**-0.3**
OCAC				*i*		05 14 51.5	
	comp=Z,185nm,0.5s						
YOPC	**Yopal, Colombi**	**1.60**	**156**	*i* P	**Pn**	**05 14 27.1**	**+1.3**
YOPC				*e*S	**Sn**	**05 14 49.8**	**-0.1**
YOPC				*i*		05 14 51.9	
	comp=Z,89nm,0.2s						
ZARC	**Zaragoza, Cauc**	**1.88**	**291**	*e*P	**Pn**	**05 14 29.0**	**+0.2**
ZARC				*e*S	**Sn**	**05 14 54.4**	**-0.7**
ZARC				*i*		05 15 00.5	
	comp=Z,244nm,0.3s						
NORC	**Norcasia**	**2.17**	**235**	*e*P	**Pn**	**05 14 32.5**	**+0.3**
NORC				*e*S	**Sn**	**05 14 59.8**	**-1.3**
CHIC	**Chingaza**	**2.27**	**196**	*e*P	**Pn**	**05 14 34.6**	**+0.8**
CHIC				*e*S	**Sn**	**05 15 03.4**	**-0.5**
CHIC				*i*		05 15 09.2	
	comp=Z,72nm,0.2s						
HELC	**Santa Helena**	**2.51**	**256**	*e*P	**Pn**	**05 14 36.2**	**-0.3**
HELC				*e*S	**Sn**	**05 15 08.2**	**-0.6**
HELC				*i*		05 15 14.7	
	comp=Z,94nm,0.3s						
SOCV	**Socops**	**2.65**	**57**	*e*P	**Pn**	**05 14 38.6**	**+0.7**
SOCV				*e*S	**Sn**	**05 15 10.9**	**-0.4**
VILC	**Villavicencio,**	**2.76**	**193**	*e*P	**Pn**	**05 14 40.2**	**+0.9**
VILC				*e*S	**Sn**	**05 15 14.2**	**+0.2**
DBBC	**Dabeiba**	**3.11**	**274**	*e*P	**Pn**	**05 14 44.7**	**+1.0**
CODC	**Agust`›n Codaz**	**3.12**	**353**	*e*P	**Pn**	**05 14 44.7**	**+1.0**
CODC				*e*S	**Sn**	**05 15 22.2**	**+0.4**
CODC				*i*		05 15 29.1	
	comp=Z,44nm,0.5s						
TOLC	**Tolima**	**3.14**	**225**	*e*P	**Pn**	**05 14 45.9**	**+1.5**
VIRV	**Villa del Rosa**	**3.72**	**10**	*e*P	**Pn**	**05 14 51.6**	**+0.1**
VIRV				*e*S	**Sn**	**05 15 35.3**	**-0.4**
QARV	**Quebrada Arrib**	**4.21**	**37**	*e*P	**Pn**	**05 14 59.4**	**+1.6**
QARV				*e*S	**Sn**	**05 15 45.2**	**-2.0**
SANV	**Sanarito**	**4.41**	**53**	*e*P	**Pn**	**05 15 00.8**	**+0.3**
CURV	**Curarigua**	**4.43**	**44**	*e*P	**Pn**	**05 15 01.1**	**+0.4**
TEPV	**Terepaima**	**4.96**	**51**	*e*P	**Pn**	**05 15 07.8**	**+0.1**
BAUV	**El Baul**	**5.42**	**67**	*e*P	**Pn**	**05 15 12.7**	**-1.0**
MAPV	**Macapo**	**5.47**	**57**	*e*P	**Pn**	**05 15 14.4**	**0.0**
MONV	**Montecano**	**5.96**	**31**	*e*P	**Pn**	**05 15 20.8**	**0.0**
TURV	**Turiamo**	**6.32**	**55**	*e*P	**Pn**	**05 15 25.6**	**0.0**

MEX 25 05:16:04.9±0.5, 15.°03N×92.°98W, h76km±8km, MD3.7, Mexico-Guatemala border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PCIG		**0.71**	**341**	*e*P	Pn	05 16 19.3	-1.1
PCIG				*e*S	Sn	05 16 30.0	-1.8
CCIG	**Comitan**	**1.49**	**33**	*e*P	Pn	05 16 29.7	-0.4
CCIG				*e*S	Sn	05 16 47.2	-1.9

ISCJB ***25*** *05:34:56.4±0.4, 22.°64S±0.°08×179.°89W±0.°08, h600km, mb4.2/26, Error ellipse: s-maj=11.0km s-min=8.5km az=139.3*
NEIC ***25*** *05:34:56.6±0.8, 22.°53S×179.°89W, h585km±10km, mb4.2/11, Error ellipse: s-maj=12.2km s-min=7.9km az=134.0*
IDC ***25*** *05:34:59.8±2.0, 22.°57S×179.°89W, h629km±28km, mb3.3/10, mb1 3.6/11, mb1mx3.4/26, mbtmp4.3/11, Error ellipse: s-maj=21.6km s-min=14.6km az=171.0*

ISC 25 05:34:57.6±0.5, 22.°64S±0.°09×179.°78W±0.°09, h600km, n41, σ1ˢ49/43, mb4.2/26, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MSVF	**Nonsavu**	**5.29**	**337**	*e*P	**P**	**05 36 30.0**	**-3.0**
RAO	**Raoul Island**	**6.80**	**166**	P	P	05 36 50.7	+5.0
	69nm,0.3s,baz=342,slow=20,SNR=3.5						
DZM	**Mont Dzumac**	**12.76**	**270**	P	**P**	**05 37 46.1**	**+1.9**
	0.4nm,0.3s,baz=112,slow=13,SNR=5.9						
URZ	**Urewera**	**15.80**	**189**	P	**P**	**05 38 10.2**	**-2.7**
	1.2nm,0.3s,baz=3.9,slow=13,SNR=6.1						
DCZ	**Deep Cove**	**25.15**	**202**	*e*P	**P**	**05 39 37.4**	**+0.6**
	195nm,1.9s						
WHZ	**Wether Hill Ro**	**25.26**	**200**	*e*P	**P**	**05 39 37.4**	**-0.5**
	144nm,1.8s						
EIDS	**Eidsvold**	**26.73**	**258**	*e*P	**P**	**05 39 51.1**	**0.0**
	5.5nm,0.6s						
PPT	**Papeete**	**28.78**	**85**	P	**P**	**05 40 09.5**	**+0.5**
	41nm,1.0s,baz=252,slow=9.2,SNR=2.2						
CAN	**Canberra**	**29.96**	**238**	*e*P	**P**	**05 40 18.8**	**-0.2**
	82nm,1.6s						
CTAO	**Charters Tower**	**31.70**	**268**	*e*P	**P**	**05 40 32.9**	**-1.1**
	12nm,0.6s						
STKA	**Stephens Creek**	**35.40**	**246**	P	**P**	**05 41 04.8**	**0.0**
	7.3nm,0.6s,baz=96,slow=11,SNR=22						
STKA	**Stephens Creek**	**35.40**	**246**	*e*P	**P**	**05 41 04.5**	**-0.3**
	1.7nm,0.8s						
AS01	**Alice Springs**	**42.41**	**259**	*e*P	**P**	**05 42 00.5**	**-0.8**
AS31	**Alice Springs**	**42.45**	**259**	*e*P	**P**	**05 42 01.1**	**-0.6**
	2.2nm,0.8s						
ASAR	**Alice Springs**	**42.45**	**259**	P	**P**	**05 42 01.1**	**-0.5**
	7.6nm,0.7s,baz=96,slow=7.9,SNR=79						
WB2	**Warramunga Arr**	**42.70**	**265**	*e*P	**P**	**05 42 02.4**	**-1.2**
	7.6nm,0.8s						
WRAB	**Tennant Creek**	**42.70**	**265**	*e*P	**P**	**05 42 02.3**	**-1.2**
	8.2nm,0.9s						
WRA	**Warramunga Arr**	**42.71**	**265**	P	**P**	**05 42 02.6**	**-1.0**
	6.7nm,0.9s,baz=96,slow=8.4,SNR=97						
SBA	**Scott Base**	**55.65**	**183**	*e*P	**P**	**05 43 39.3**	**+1.7**
	6.2nm,1.1s						
VNDA	**Vanda**	**55.65**	**185**	P	**P**	**05 43 38.3**	**+0.7**
	1.3nm,0.7s,baz=4.6,slow=7.3,SNR=13						
VNDA	**Vanda**	**55.65**	**185**	*e*P	**P**	**05 43 38.5**	**+0.8**
	12nm,2.0s						
QSPA	**South Pole Qui**	**67.44**	**180**	*e*P	**P**	**05 44 54.8**	**+0.2**
MJAR	**Matsushiro Arr**	**70.97**	**325**	P	**P**	**05 45 15.4**	**-0.5**
	0.9nm,0.6s,baz=130,slow=5.8,SNR=2.8						
KSRS	**Korea Array**	**77.41**	**320**	P	**P**	**05 45 54.9**	**+2.9**
	0.4nm,0.3s,baz=122,slow=7.1,SNR=2.8						
PETK	**Petropavlovsk-**	**77.92**	**346**	P	**P**	**05 45 54.4**	**0.0**
	3.0nm,0.8s,baz=142,slow=5.6,SNR=3.9						
USRK	**Ussuriysk Ar.**	**79.82**	**327**	P	**P**	**05 46 07.3**	**+2.7**
	1.4nm,0.6s,baz=135,slow=43,SNR=3.9						
CN2	**Changchun**	**83.00**	**323**	*e*P	**P**	**05 46 17.5**	**-3.3**
PNTR	**Pine Nut**	**83.27**	**43**	*e*P	**P**	**05 46 22.9**	**+0.3**
	4.4nm,0.8s						
SNAA	**Sanae**	**85.92**	**179**	P	**P**	**05 46 34.8**	**-0.1**
GYA	**Guiyang**	**86.28**	**301**	*e*P	**P**	**05 46 37.5**	**+0.1**
GYA				pP	pP	05 48 45.3	-0.5
GYA				sP	sP	05 49 44.5	-1.4
GYA				PP	**PP**	**05 50 11.6**	**+1.4**
GYA				SKS	**SKSac**	**05 56 12.3**	**+4.9**
GYA				S	**S**	**05 56 23.0**	**-0.8**
GYA				pmax	pmax		
	comp=Z,10.0nm,1.0s						
VNA2	**Neumayer--Watz**	**86.54**	**177**	P	**P**	**05 46 37.0**	**-0.7**
	baz=186,slow=4.4						
U15A	**North Rim**	**86.61**	**48**	*e*P	**P**	**05 46 39.5**	**+0.6**
TMUT	**Trail Mountain**	**88.82**	**46**	*e*P	**P**	**05 46 49.7**	**+0.5**
	comp=Z,2.9nm,0.8s						
HVU	**Hansel Valley**	**89.09**	**44**	*e*P	**P**	**05 46 50.7**	**+0.5**
	comp=Z,2.2nm,0.8s						
TX31	**Lajitas Ar. Si**	**89.59**	**58**	*e*P	**P**	**05 46 52.8**	**+0.1**
TXAR	**Lajitas Array**	**89.59**	**58**	P	**P**	**05 46 53.2**	**+0.4**
	comp=Z,0.8nm,0.8s,baz=223,slow=6.2,SNR=9.9						
HHC	**Hu-ho-hao-te**	**89.67**	**315**	*e*P	**P**	**05 46 53.0**	**+0.2**
HHC				pmax	pmax		
	comp=Z,13nm,1.7s						
HHC				pmax	pmax		
	comp=Z,59nm,5.2s						
ILAR	**Eielson Array**	**90.76**	**13**	P	**P**	**05 46 56.1**	**-1.1**
	comp=Z,0.4nm,0.9s,baz=209,slow=7.2,SNR=3.5						
PDAR	**Pinedale Array**	**91.64**	**44**	P	**P**	**05 47 01.6**	**-0.5**
	comp=Z,0.6nm,0.8s,baz=188,slow=3.0,SNR=4.8						
AKASG	**Malin Array Be**	**144.01**	**328**	PKP	PKPbc	05 53 23.8	-1.3
	comp=Z,0.8nm,0.4s,baz=39,slow=3.9,SNR=6.3						
CLL	**Collm**	**149.70**	**344**	*i* PKPbc	**PKPbc**	**05 53 40.1**	**-0.3**
CLL				*i* PKPab	**PKPab**	**05 53 48.0**	**-0.3**

CSEM ***25*** *05:47:37.1±0.4, 45.°01N×23.°50E, h2km, ML1.9, Error ellipse: s-maj=9.0km s-min=4.8km az=108.0*
BUC ***25*** *05:47:38.3±1.0, 45.°13N×23.°47E, h2km±13km, MD2.7/3, Error ellipse: s-maj=8.9km s-min=7.7km az=109.0*
BEO ***25*** *05:47:38.2±0.6, 45.°07N×23.°51E, h14km±5km, M1.9/7*

ISC 25 05:47:38.3±1.0, 45.°08N±0.°02×23.°47E±0.°02, h9km±9km, n46, σ0ˢ68/73, 18C-16D, Romania

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LOT	**Lotru**	**0.42**	**30**	*i* P	**Pg**	**05 47 46.6**	**-0.1**
LOT	**Lotru**	**0.42**	**30**	S	**Sg**	**05 47 52.6**	**+0.3**
LOT	**Lotru**	**0.42**	**30**	*i* P	**Pg**	**05 47 46.6**	**-0.1**
LOT				*i* S	**Sg**	**05 47 52.6**	**+0.3**
LOT	**Lotru**	**0.42**	**30**	*i* P	**Pg**	**05 47 46.6**	**-0.1**
LOT				S	**Sg**	**05 47 52.6**	**+0.3**
SRE	**Strehaia**	**0.46**	**204**	*i* P	**Pb**	**05 47 48.7**	**+0.1**
SRE	**Strehaia**	**0.46**	**204**	*i* P	**Pb**	**05 47 48.7**	**+0.1**
SRE	**Strehaia**	**0.46**	**204**	*i* P	**Pb**	**05 47 48.7**	**+0.1**
GZR	**Gura Zlata**	**0.58**	**303**	*i* P	**Pg**	**05 47 49.6**	**0.0**
GZR	**Gura Zlata**	**0.58**	**303**	*i* P	**Pg**	**05 47 49.6**	**0.0**
GZR				*i* S	**Sg**	**05 47 57.8**	**+0.6**
GZR	**Gura Zlata**	**0.58**	**303**	*i* P	**Pg**	**05 47 49.6**	**0.0**
GZR				S	**Sg**	**05 47 57.8**	**+0.6**
ARR	**Arges**	**0.87**	**70**	*i* P	**Pg**	**05 47 54.8**	**-0.3**
ARR	**Arges**	**0.87**	**70**	*i* P	**Pg**	**05 47 54.8**	**-0.3**
ARR				*i* S	**Sg**	**05 48 06.9**	**+0.4**
DEV	**Deva**	**0.90**	**334**	*i* P	**Pg**	**05 47 54.8**	**-0.8**
DEV	**Deva**	**0.90**	**334**	*i* P	**Pg**	**05 47 54.8**	**-0.8**
DEV				*i* S	**Sb**	**05 48 08.1**	**-0.1**
DEV	**Deva**	**0.90**	**334**	*i* P	**Pg**	**05 47 54.8**	**-0.8**
DEV				S	**Sb**	**05 48 08.1**	**-0.1**
VOIR		**1.17**	**72**	*i* P	**Pg**	**05 48 00.6**	**-0.2**
VOIR		**1.17**	**72**	*i* P	**Pg**	**05 48 00.6**	**-0.2**
VOIR				*i* S	**Sn**	**05 48 17.4**	**+0.2**
MDVR	**Moldovita**	**1.28**	**257**	*i* P	**Pg**	**05 48 03.3**	**+0.4**
MDVR	**Moldovita**	**1.28**	**257**	*i* P	**Pg**	**05 48 03.3**	**+0.4**
MDVR				*i* S	**Sn**	**05 48 20.8**	**+0.9**
MDVR	**Moldovita**	**1.28**	**257**	*i* P	**Pg**	**05 48 03.3**	**+0.4**
MDVR				S	**Sn**	**05 48 20.8**	**+0.9**
BZS	**Buzias**	**1.41**	**293**	*i* Pg	**Pb**	**05 48 04.7**	**-0.1**
BZS				*e*Sg	**Sg**	**05 48 23.4**	**-0.2**
BZS	**Buzias**	**1.41**	**293**	*i* P	**Pb**	**05 48 04.8**	**-0.1**
BZS	**Buzias**	**1.41**	**293**	*i* P	**Pb**	**05 48 04.8**	**-0.1**
BZS				*i* S	**Sg**	**05 48 23.5**	**-0.2**
BZS	**Buzias**	**1.41**	**293**	*i* Pg	**Pb**	**05 48 04.7**	**-0.1**
BZS				S	**Sg**	**05 48 23.5**	**-0.2**
ZAGS	**Zajecar**	**1.55**	**215**	*e*Pg	**Pn**	**05 48 05.3**	**-0.8**
ZAGS				*e*Sg	**Sn**	**05 48 26.5**	**+0.2**
DOPR	**Dopca**	**1.62**	**56**	*i* P	**Pg**	**05 48 09.0**	**-0.3**
DOPR	**Dopca**	**1.62**	**56**	*i* P	**Pg**	**05 48 09.0**	**-0.3**
DOPR				*i* S	**Sg**	**05 48 29.8**	**-0.5**
CJR	**Cluj-Napoca**	**1.64**	**3**	S	**Sg**	**05 48 30.6**	**-0.3**

BOSA			S	**S**	**05 58 43.0 +0.5**
	3.3nm,0.8s,baz=312,slow=18,SNR=6.9				
BOSA			Lg	Lg	06 00 57.6
	12nm,0.9s,baz=317,slow=13,SNR=4.3				
SUR	**Sutherland**	**25.86 206**	P	**P**	**05 55 43.2 +1.7**
	0.4nm,1.0s,baz=66,slow=12,SNR=2.3				
TORD	**Torodi Ar. Bea**	**38.98 305**	P	**P**	**05 57 37.1 +1.0**
	0.9nm,0.8s,baz=109,slow=6.8,SNR=6.2				
TORD			LR	LR	06 14 21.5
	comp=Z,54nm,18.3s,baz=150,slow=37				
DBIC	**Dimbokro**	**41.72 291**	LR	LR	06 15 32.2
	comp=Z,32nm,19.1s,baz=118,slow=36				
AKASG	**Malin Array Be**	**59.97 357**	P	**P**	**06 00 17.2 +1.5**
	0.2nm,0.4s,baz=185,slow=6.5,SNR=3.9				
ABKAR	**Akbulak array**	**62.73 19**	*e*P	**P**	**06 00 36.0 +1.5**
	1.8nm,1.3s				
CMAR	**Chiang Mai Arr**	**69.93 66**	LR	LR	06 29 06.4
	comp=Z,13nm,18.6s,baz=215,slow=33				
MKAR	**Makanchi Array**	**70.62 33**	P	**P**	**06 01 26.2 +1.2**
	2.7nm,1.0s,baz=227,slow=6.2,SNR=13				
ZALV	**Zalesovo Beam**	**76.32 28**	P	**P**	**06 02 00.4 +2.1**
	0.4nm,0.4s,baz=225,slow=5.9,SNR=2.8				
SONM	**Songino Array**	**85.44 40**	P	**P**	**06 02 49.8 +2.4**
	0.7nm,0.8s,baz=251,slow=4.5,SNR=4.5				
ASAR	**Alice Springs**	**95.37 115**	P	**P**	**06 03 36.1 +1.4**
	0.2nm,0.6s,baz=249,slow=4.7,SNR=3.5				
ILAR	**Eielson Array**	**124.70 0**	PKP	**PKPdf**	**06 09 10.0 +1.1**
	0.6nm,1.0s,baz=324,slow=1.0,SNR=4.6				

NIED ***25*** *06:09:00, 36˚.10N×139˚.90E, h56km, Mw3.5 Best double couple: M₀1.85000×10¹⁴ NP1:φ₀245.00000°, δ18.00000°, λ111.00000°. NP2:φ₀43.00000°, δ73.00000°, λ83.00000°.*
IDC ***25*** *06:09:02.8±2.4, 36˚.39N×140˚.43E, h0km, mb3.6/3, mb1 3.8/4, mb1mx3.4/40, mbtmp3.7/4, ML4.1/1, MS2.4/1, Ms1 2.4/1, ms1mx2.0/45, Error ellipse: s-maj=57.2km s-min=24.1km az=63.0*
JMA ***25*** *06:09:11.6±0.1, 36˚.07N×139˚.85E, h46km±1km, M3.6 Broadband fault plane solution: P waves. NP1: φ₀41.00000°, δ80.00000°, λ85.00000°. NP2:φ₀246.00000°, δ11.00000°, λ115.00000°. Principal axes: T Plg55.0000°, Azm305.0000°; N Plg5.0000°, Azm42.0000°; P Plg35.0000°, Azm135.0000°;*
JMA Felt II J1.

ISC 25 06:09:07.7±2.1, 35˚.90N±0˚.05×139˚.85E±0˚.05, h12km±14km, n17, σ1°87/17, mb3.6/3, 3D, Near south coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
JYT	**Yasato**	**0.44**	**40**	P		**Pn**	**06 09 20.6**	**+0.8**
JYT				S		**Sb**	**06 09 26.8**	**+2.9**
JAG	**Ashikaga**	**0.62**	**329**	⇓P		**Pn**	**06 09 22.5**	**+0.1**
JAG				S		**Sb**	**06 09 30.0**	**+0.9**
JRY	**Ryogami san**	**0.78**	**279**	⇓P		**Pn**	**06 09 25.9**	**+1.4**
JRY				S		**Sb**	**06 09 35.7**	**+2.0**
JKT	**Katashina**	**0.99**	**331**	⇓P		**Pb**	**06 09 27.1**	**+0.1**
JKT				S		**Sg**	**06 09 38.6**	**-1.3**
MJAR	**Matsushiro Arr**	**1.47**	**296**	Pn		**Pn**	**06 09 35.1**	**+1.0**
	22nm,0.3s,baz=93,slow=11,SNR=206							
MJAR				Sn		**Sg**	**06 09 56.5**	**+1.4**
	12nm,0.3s,baz=109,slow=9.9,SNR=7.7							
MJAR				LR		LR	06 10 20.5	
	comp=Z,40nm,20.2s,baz=105,slow=44							
MAT	**Matsushiro**	**1.47**	**296**	P		**Pn**	**06 09 35.2**	**+1.1**
MAT				S		**Sn**	**06 09 52.8**	**-0.6**
JHJ	**Hachijo jima 2**	**2.77**	**181**	Pn		**Pb**	**06 09 55.6**	**-1.6**
	52nm,0.3s,baz=323,slow=22,SNR=14							
JHJ				Sn		**Sn**	**06 10 27.5**	**+2.2**
	23nm,0.3s,baz=59,slow=19,SNR=3.8							
KSRS	**Korea Array**	**9.70**	**283**	LR		LR	06 15 06.7	
	comp=Z,18nm,18.2s,baz=130,slow=36							
H11N2	**WAKE ISLAND Hy**	**28.71**	**117**	T		T	06 44 44.3	
	baz=309							
H11N1	**WAKE ISLAND Hy**	**28.71**	**117**	T		T	06 44 44.3	
	baz=309							
H11N3	**WAKE ISLAND Hy**	**28.73**	**117**	T		T	06 44 45.4	
	baz=309							
H11S3	**WAKE ISLAND Hy**	**29.36**	**119**	T		T	06 46 04.0	
	baz=313							
H11S1	**WAKE ISLAND Hy**	**29.38**	**119**	T		T	06 46 07.1	
	baz=313							
H11S2	**WAKE ISLAND Hy**	**29.38**	**119**	T		T	06 46 06.5	
	baz=313							
ZALV	**Zalesovo Beam**	**41.76**	**313**	P		**P**	**06 16 53.5**	**-3.2**
	0.5nm,0.4s,baz=106,slow=3.6,SNR=3.2							
MKAR	**Makanchi Array**	**43.66**	**303**	P		**P**	**06 17 09.8**	**-2.5**
	0.3nm,0.6s,baz=93,slow=9.9,SNR=4.4							
WRA	**Warramunga Arr**	**55.78**	**186**	P		**P**	**06 18 45.5**	**+0.8**
	0.5nm,0.5s,baz=2.1,slow=7.6,SNR=10							

MOS ***25*** *06:13:16.0±0.5, 53˚.70N×160˚.92E, h31km, mb4.2/1, Error ellipse: s-maj=10.0km s-min=5.2km az=76.6*

KRSC 25 06:13:14.4±0.8, 53˚.72N×160˚.90E, h49km±15km, ML4.0, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
SPN	**Mys Shipunski**	**0.81**	**221**	P		Pn	06 13 31.1	+1.6
SPN				S		Sn	06 13 41.7	+1.2
SPN	**Mys Shipunski**	**0.81**	**221**	*i* P		Pn	06 13 31.1	+1.6
SPN				*e*S		Sn	06 13 41.7	+1.2
KII	**Karymskiy**	**0.92**	**291**	PN		Pn	06 13 32.0	+1.0
KII				S		Sn	06 13 43.3	+0.1
KII	**Karymskiy**	**0.92**	**291**	*e*P		Pn	06 13 32.0	+1.0
KII				*e*S		Sn	06 13 43.3	+0.1
MKZ	**Mys Kozlova**	**0.97**	**30**	PN		Pn	06 13 33.7	+2.0
MKZ				S		Sn	06 13 45.9	+1.4
MKZ	**Mys Kozlova**	**0.97**	**30**	*e*P		Pn	06 13 33.7	+2.0
MKZ				*e*S		Sn	06 13 45.9	+1.4
NLC	**Nalytchevo**	**1.08**	**240**	PN		Pn	06 13 34.6	+1.5
NLC				S		Sn	06 13 48.0	+1.1
NLC	**Nalytchevo**	**1.08**	**240**	*e*P		Pn	06 13 34.6	+1.5
NLC				*e*S		Sn	06 13 48.0	+1.1
SDLR	**Sedlovina**	**1.28**	**251**	PN		Pn	06 13 38.0	+2.0
SDLR				S		Sn	06 13 53.6	+1.5
SDLR	**Sedlovina**	**1.28**	**251**	*e*P		Pn	06 13 38.0	+2.0
SDLR				*e*S		Sn	06 13 53.6	+1.5
UGLR	**Uglovaya**	**1.34**	**249**	PN		Pn	06 13 38.8	+2.0
UGLR				S		Sn	06 13 55.5	+2.0
UGLR	**Uglovaya**	**1.34**	**249**	*e*P		Pn	06 13 38.8	+2.0
UGLR				*e*S		Sn	06 13 55.5	+2.0
KRER	**Koryakskii**	**1.35**	**253**	PN		Pn	06 13 39.3	+2.3
KRER				S		Sn	06 13 55.9	+2.1
KRER	**Koryakskii**	**1.35**	**253**	*e*P		Pn	06 13 39.3	+2.3
KRER				*e*S		Sn	06 13 55.9	+2.1
AVH	**Avacha**	**1.37**	**252**	PN		Pn	06 13 39.4	+2.3
AVH				S		Sn	06 13 56.3	+2.2
AVH	**Avacha**	**1.37**	**252**	*e*P		Pn	06 13 39.4	+2.3
AVH				*e*S		Sn	06 13 56.3	+2.2
KRX	**Arik**	**1.39**	**256**	PN		Pn	06 13 39.5	+2.0
KRX				S		Sn	06 13 55.9	+1.2
KRX	**Arik**	**1.39**	**256**	*e*P		Pn	06 13 39.5	+2.0
KRX				*e*S		Sn	06 13 55.9	+1.2
KOK	**Koryaka**	**1.42**	**253**	PN		Pn	06 13 40.0	+2.2
KOK				S		Sn	06 13 56.6	+1.3
KOK	**Koryaka**	**1.42**	**253**	*e*P		Pn	06 13 40.0	+2.2
KOK				*e*S		Sn	06 13 56.6	+1.3
KZV	**Kizimen**	**1.44**	**346**	PN		Pn	06 13 40.1	+1.8
KZV				S		Sn	06 13 57.1	+1.0
KZV	**Kizimen**	**1.44**	**346**	*e*P		Pn	06 13 40.1	+1.8
KZV				*e*S		Sn	06 13 57.1	+1.0
DALK	**Dalny**	**1.46**	**243**	PN		Pn	06 13 40.3	+2.1
DALK				S		Sn	06 13 57.6	+1.5
DALK	**Dalny**	**1.46**	**243**	*e*P		Pn	06 13 40.3	+2.1
DALK				*e*S		Sn	06 13 57.6	+1.5
PET	**Petropavlovsk**	**1.51**	**244**	PN		Pn	06 13 41.0	+2.0
PET				S		Sn	06 13 58.6	+1.1
TUMR	**Tumrok**	**1.63**	**345**	PN		Pn	06 13 43.1	+2.3
TUMR				S		Sn	06 14 01.8	+1.2
TUMR	**Tumrok**	**1.63**	**345**	*e*P		Pn	06 13 43.1	+2.3
TUMR				*e*S		Sn	06 14 01.8	+1.2
GNL	**Ganaly**	**1.76**	**271**	PN		Pn	06 13 44.9	+2.4
GNL	**Ganaly**	**1.76**	**271**	*e*P		Pn	06 13 44.9	+2.4
KRMR	**Karymshinskiy**	**1.88**	**243**	PN		Pn	06 13 46.7	+2.6
KRMR				S		Sn	06 14 08.9	+2.3
KRMR	**Karymshinskiy**	**1.88**	**243**	*e*P		Pn	06 13 46.7	+2.6
KRMR				*e*S		Sn	06 14 08.9	+2.3
RUS	**Russkaya**	**1.93**	**229**	PN		Pn	06 13 46.6	+1.9
RUS				S		Sn	06 14 09.1	+1.4
RUS	**Russkaya**	**1.93**	**229**	*e*P		Pn	06 13 46.6	+1.9
RUS				*e*S		Sn	06 14 09.1	+1.4
MTVR	**Mutnovka**	**2.05**	**234**	PN		Pn	06 13 49.0	+2.5
MTVR				S		Sn	06 14 13.2	+2.3
MTVR	**Mutnovka**	**2.05**	**234**	*e*P		Pn	06 13 49.0	+2.5
MTVR				*e*S		Sn	06 14 13.2	+2.3
KMNR	**Kamenistaya**	**2.08**	**350**	PN		Pn	06 13 50.0	+3.1
KMNR	**Kamenistaya**	**2.08**	**350**	*e*P		Pn	06 13 50.0	+3.1
BZMR	**Bezymyannaya**	**2.24**	**354**	PN		Pn	06 13 52.1	+3.0
BZMR	**Bezymyannaya**	**2.24**	**354**	*e*P		Pn	06 13 52.1	+3.0
ASAK	**Asacha**	**2.25**	**235**	PN		Pn	06 13 52.4	+3.2
ASAK				S		Sn	06 14 18.8	+3.1
ASAK	**Asacha**	**2.25**	**235**	*e*P		Pn	06 13 52.4	+3.2
ASAK				*e*S		Sn	06 14 18.8	+3.1
KPT	**Kopyto**	**2.29**	**350**	PN		Pn	06 13 51.8	+2.1
KPT	**Kopyto**	**2.29**	**350**	*e*P		Pn	06 13 51.8	+2.1
ZLN	**Zelenaya**	**2.31**	**359**	PN		Pn	06 13 53.5	+3.5
ZLN				S		Sn	06 14 20.6	+3.4
ZLN	**Zelenaya**	**2.31**	**359**	*e*P		Pn	06 13 53.5	+3.5
ZLN				*e*S		Sn	06 14 20.6	+3.4
LGNR	**Loginova**	**2.38**	**357**	PN		Pn	06 13 55.0	+3.9
LGNR				S		Sn	06 14 23.5	+4.4
LGNR	**Loginova**	**2.38**	**357**	*e*P		Pn	06 13 55.0	+3.9
LGNR				*e*S		Sn	06 14 23.5	+4.4
APC	**Apacha**	**2.38**	**252**	PN		Pn	06 13 54.5	+3.7
APC				S		Sn	06 14 22.0	+3.2
APC	**Apacha**	**2.38**	**252**	*e*P		Pn	06 13 54.5	+3.7
APC				*e*S		Sn	06 14 22.0	+3.2
CIRR	**Tsirk**	**2.41**	**358**	PN		Pn	06 13 54.7	+3.3
CIRR	**Tsirk**	**2.41**	**358**	*e*P		Pn	06 13 54.7	+3.3
KRSR	**Krestovskiy**	**2.52**	**356**	PN		Pn	06 13 56.0	+3.2
KRSR				S		Sn	06 14 25.7	+3.4
KRSR	**Krestovskiy**	**2.52**	**356**	*e*P		Pn	06 13 56.0	+3.2
KRSR				*e*S		Sn	06 14 25.7	+3.4
ESO	**Esso**	**2.55**	**331**	PN		Pn	06 13 55.2	+1.9
ESO	**Esso**	**2.55**	**331**	*e*P		Pn	06 13 55.2	+1.9
KDTR	**Khodutka, Kamc**	**2.56**	**223**	*e*P		Pn	06 13 56.2	+2.8
KDTR				*e*S		Sn	06 14 26.1	+2.8
KLY	**Klyuchi**	**2.61**	**357**	PN		Pn	06 13 56.7	+2.7
KLY				S		Sn	06 14 27.4	+3.0
KLY	**Klyuchi**	**2.61**	**357**	*e*P		Pn	06 13 56.7	+2.7
KLY				*e*S		Sn	06 14 27.4	+3.0
KBG	**Krutoberegovo**	**2.75**	**22**	PN		Pn	06 13 58.8	+2.9
KBG	**Krutoberegovo**	**2.75**	**22**	*e*P		Pn	06 13 58.8	+2.9
SRKR	**Sorokina**	**2.95**	**3**	PN		Pn	06 14 02.2	+3.4
SRKR	**Sorokina**	**2.95**	**3**	*e*P		Pn	06 14 02.2	+3.4
BKI	**Bering**	**3.32**	**61**	PN		Pn	06 14 06.4	+2.7
BKI	**Bering**	**3.32**	**61**	*e*P		Pn	06 14 06.4	+2.7
BKI				*e*S		Sn	06 14 42.7	+0.9

IDC ***25*** *06:19:31.2±2.3, 6˚.86S×153˚.85E, h0km, mb3.7/5, mb1 3.9/6, mb1mx3.7/24, mbtmp3.8/6, ML1.8/1, MS2.8/1, Ms1 2.8/1, ms1mx2.2/31, Error ellipse: s-maj=62.1km s-min=30.1km az=125.0*

ISC 25 06:19:35.3±1.8, 7˚.1S±0˚.3×154˚.1E±0˚.2, h35km, n10, σ0°58/8, mb3.6/5, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**7.23**	**251**	Pn		**Pn**	**06 21 18.3**	**-0.2**
	0.9nm,0.3s,baz=61,slow=13,SNR=3.2							
PMG				Sn		**Sn**	**06 22 39.9**	**+0.5**
	0.9nm,0.3s,baz=60,slow=20,SNR=2.0							
PMG				LR		LR	06 23 22.7	
	comp=Z,61nm,18.1s,baz=138,slow=33							
WRA	**Warramunga Arr**	**23.03**	**234**	P		**P**	**06 24 36.9**	**-0.7**
	0.8nm,0.6s,baz=57,slow=10,SNR=6.7							
ASAR	**Alice Springs**	**25.45**	**227**	P		**P**	**06 25 00.3**	**+0.2**
	1.3nm,0.8s,baz=60,slow=8.5,SNR=7.3							
H11S3	**WAKE ISLAND Hy**	**28.28**	**26**	T		T	06 55 51.3	
	baz=195,slow=76,SNR=14							
H11S2	**WAKE ISLAND Hy**	**28.29**	**26**	T		T	06 55 51.3	
	baz=195,slow=76,SNR=14							
H11S1	**WAKE ISLAND Hy**	**28.30**	**26**	T		T	06 55 51.3	
	baz=195,slow=76,SNR=10.0							
FITZ	**Fitzroy Crossi**	**29.79**	**246**	P		**P**	**06 25 38.9**	**-0.2**
	2.4nm,1.0s,baz=74,slow=9.0,SNR=4.1							
CMAR	**Chiang Mai Arr**	**59.99**	**296**	P		**P**	**06 29 38.5**	**-0.3**
	0.6nm,0.3s,baz=123,slow=5.8,SNR=4.1							
MKAR	**Makanchi Array**	**82.85**	**319**	P		**P**	**06 31 56.3**	**0.0**
	0.1nm,0.4s,baz=100,slow=6.0,SNR=2.2							
TORD	**Torodi Ar. Bea**	**152.16**	**285**	PKPbc		**PKPbc**	**06 39 29.1**	**+0.9**
	0.7nm,0.7s,baz=53,slow=2.4,SNR=5.5							

MEX 25 06:30:33.3±0.8, 16˚.43N×98˚.53W, h20km, MD3.5, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.39**	**96**	*e*P		Pb	06 30 40.1	-1.5
PNIG				*e*S		Sb	06 30 45.8	-1.4
TLIG	**Tlapa**	**1.13**	**358**	*i* P		Pn	06 30 50.6	-3.5
TLIG				*e*S		Sb	06 31 04.0	-4.5
CAIG	**El Cayaco**	**1.77**	**291**	*i* P		Pn	06 31 00.9	-1.9
CAIG				*i* S		Sn	06 31 23.4	-1.4
MEIG	**Mezcala**	**1.81**	**325**	*i* P		Pn	06 31 01.5	-2.0
MEIG				*i* S		Sn	06 31 21.8	-4.2
PLIG	**Platanillo**	**2.16**	**335**	*e*P		Pn	06 31 09.0	+0.8

MEX 25 06:44:24.2±0.5, 14˚.86N×92˚.78W, h80km±5km, MD3.5, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
PCIG		**0.94**	**333**	*e*P		Pn	06 44 41.3	-1.2
PCIG				*e*S		Sn	06 44 54.5	-1.8
CCIG	**Comitan**	**1.54**	**24**	*e*P		Pn	06 44 49.3	-1.0
CCIG				*i* S		Sn	06 45 08.0	-1.9
CMIG	**Matias Romero**	**3.00**	**318**	*e*P		Pn	06 45 08.6	-1.0
CMIG				*e*S		Sn	06 45 43.2	-1.3

NNC 25 07:06:07.2±2.3, 37˚.25N×71˚.45E, h120km±39km, mb2.9, mpv3.6, 6C-2D, Error ellipse: s-maj=24.5km s-min=11.6km az=146.0, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
DZET	**Dzherino**	**2.59**	**308**	⇑P		Pn	07 06 47.5	-0.6
	16nm,0.4s							
DZET				⇓S		Sn	07 07 20.5	+0.8
	35nm,0.4s							
MNAS	**Manas**	**5.30**	**9**	⇓P		Pn	07 07 24.7	+0.5
	1.5nm,0.3s							
MNAS				⇑S		Sn	07 08 24.9	+0.7
	8.0nm,0.6s							
AAK	**Ala-Archa**	**5.87**	**23**	⇑P		Pn	07 07 32.2	+0.3
	3.8nm,0.4s							
AAK				⇑S		Sn	07 08 37.9	-0.1
	5.6nm,0.8s							
KK31	**Karatay Array**	**5.89**	**353**	P		Pn	07 07 33.1	+1.1
	1.7nm,0.2s,baz=176,slow=13,SNR=54							
KK31				⇑S		Sn	07 08 38.1	-0.2
	2.0nm,0.4s,baz=172,slow=23,SNR=4.2							
AB31	**Akbulak array**	**14.62**	**329**	⇑P		Pn	07 09 27.6	-0.3
	0.3nm,0.3s							

DDA ***25*** *07:20:58.5, 39˚.68N×38˚.75E, h7km, Md2.3*
CSEM ***25*** *07:20:59.1±0.3, 39˚.68N×38˚.77E, h2km, MD2.3, Error ellipse: s-maj=5.7km s-min=5.4km az=69.0*
ISK ***25*** *07:21:00.3, 39˚.76N×38˚.91E, h10km, MD3.0*

ISC 25 07:20:58.9±1.1, 39˚.68N±0˚.02×38˚.78E±0˚.02, h3km±11km, n30, σ0°97/50, 2D, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
REFA	**Refahiye_ERZ**	**0.28**	**182**	*i* Pg		**Pg**	**07 21 03.6**	**-0.7**
REFA				*i* Sg		**Sg**	**07 21 06.9**	**-1.0**
REFA	**Refahiye_ERZ**	**0.28**	**182**	Pg		**Pg**	**07 21 03.6**	**-0.7**
REFA				Sg		**Sg**	**07 21 06.9**	**-1.0**
KEMA	**Kemaliye**	**0.46**	**209**	*e*P		**Pg**	**07 21 07.0**	**-0.7**
KEMA				*e*S		**Sg**	**07 21 14.4**	**+0.6**
KEMA	**Kemaliye**	**0.46**	**209**	P		**Pg**	**07 21 07.0**	**-0.7**
KEMA				S		**Sg**	**07 21 14.4**	**+0.6**
KELT	**Kelkit**	**0.60**	**38**	⇓*i* P		**Pg**	**07 21 10.5**	**+0.1**
KELT				*i* S		**Sg**	**07 21 19.1**	**+0.9**
KELT	**Kelkit**	**0.60**	**38**	P		**Pg**	**07 21 10.5**	**+0.1**
KELT				S		**Sg**	**07 21 19.1**	**+0.9**
SUSE	**Susehri**	**0.69**	**320**	*e*P		**Pg**	**07 21 11.8**	**-0.4**
SUSE				*e*S		**Sg**	**07 21 21.5**	**+0.3**
SUSE	**Susehri**	**0.69**	**320**	P		**Pg**	**07 21 11.8**	**-0.4**
SUSE				S		**Sg**	**07 21 21.5**	**+0.3**
ERZN	**Erzincan**	**0.73**	**97**	*e*PG		**Pg**	**07 21 13.2**	**+0.2**
ERZN				*e*SG		**Sg**	**07 21 22.9**	**+0.4**
CUZAR	**Zara_SIVAS**	**0.81**	**286**	*e*P		**Pg**	**07 21 13.8**	**-0.5**
CUZAR				*e*S		**Sg**	**07 21 24.9**	**+0.1**
CUZAR	**Zara_SIVAS**	**0.81**	**286**	P		**Pg**	**07 21 13.9**	**-0.5**
CUZAR				S		**Sg**	**07 21 24.9**	**+0.1**
TNCL	**Tunceli-Merkez**	**0.81**	**133**	*e*P		**Pg**	**07 21 14.6**	**+0.1**
TNCL				*e*S		**Sb**	**07 21 27.4**	**+0.2**
TNCL	**Tunceli-Merkez**	**0.81**	**133**	P		**Pg**	**07 21 14.6**	**+0.1**
PTK	**Pertek**	**0.92**	**148**	*e*PG		**Pn**	**07 21 18.7**	**-0.1**
PTK				*e*SG		**Sn**	**07 21 32.2**	**-0.4**
PTK	**Pertek**	**0.92**	**148**	*e*Pg		**Pn**	**07 21 18.7**	**-0.1**
PTK				*e*Sg		**Sn**	**07 21 32.2**	**-0.4**
GUMT	**Gumushane**	**0.95**	**34**	*e*PG		**Pg**	**07 21 16.9**	**-0.3**
GUMT				*e*SG		**Sg**	**07 21 28.8**	**-0.7**
GUMT	**Gumushane**	**0.95**	**34**	*e*Pg		**Pg**	**07 21 16.9**	**-0.3**
GUMT				*e*Sg		**Sg**	**07 21 28.8**	**-0.7**
CUKAN	**kangal_SIVAS**	**1.08**	**251**	*e*P		**Pg**	**07 21 18.3**	**-1.2**
CUKAN				*e*S		**Sb**	**07 21 34.2**	**-0.6**
CUKAN	**kangal_SIVAS**	**1.08**	**251**	P		**Pg**	**07 21 18.3**	**-1.2**
CUKAN				S		**Sb**	**07 21 34.2**	**-0.6**
SCER	**sogukcermik**	**1.28**	**279**	*e*P		**Pg**	**07 21 23.7**	**+0.2**
SCER				*e*S		**Sg**	**07 21 40.0**	**-0.2**
SCER	**sogukcermik**	**1.28**	**279**	P		**Pg**	**07 21 23.7**	**+0.2**
SCER				S		**Sg**	**07 21 40.0**	**-0.2**
RSDY	**Resadiye-TOKAT**	**1.33**	**303**	*e*PN		**Pg**	**07 21 26.0**	**+1.7**
RSDY	**Resadiye-TOKAT**	**1.33**	**303**	*e*Pn		**Pg**	**07 21 26.0**	**+1.7**
SVRC	**Sivrice-ELAZID**	**1.36**	**162**	*e*PN		**Pg**	**07 21 26.8**	**+1.9**
SVRC	**Sivrice-ELAZID**	**1.36**	**162**	*e*Pn		**Pg**	**07 21 26.8**	**+1.9**
YEDI	**Yedisu-Bingol**	**1.39**	**99**	*e*PN		**Pg**	**07 21 24.8**	**-0.4**
SVSK	**Karacayir**	**1.39**	**281**	*e*PN		**Pg**	**07 21 27.5**	**+1.9**
SVSK	**Karacayir**	**1.39**	**281**	*e*Pn		**Pg**	**07 21 27.5**	**+1.9**
DARE	**Darende-Malaty**	**1.49**	**223**	*e*PN		**Pg**	**07 21 29.7**	**+2.2**
DARE	**Darende-Malaty**	**1.49**	**223**	*e*Pn		**Pg**	**07 21 29.7**	**+2.2**

MAN 25 07:55:44, 8˚.79N×121˚.95E, h35km, mb4.3, ML3.2, MS3.0, 1D, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
SNPH	**Sibulan**	**1.39**	**66**	*i* P		Pn	07 56 07.4	+0.5
SNPH				*i* S		Sn	07 56 25.2	+1.2
PAGZ	**Pagadian**	**1.70**	**123**	*e*P		Pn	07 56 12.4	+1.2
PAGZ				*e*S		Sn	07 56 32.5	+0.8
GUIM	**Jordan**	**1.93**	**19**	*e*P		Pn	07 56 15.5	+1.1
RCP	**Roxas**	**2.87**	**146**	⇓*e*P		Pn	07 56 29.8	+2.5
RCP				*e*S		Sn	07 57 01.7	+1.2
ENPP	**El Nido**	**3.46**	**314**	*e*P		Pn	07 56 37.6	+2.3
ENPP				*e*S		Sn	07 57 16.0	+0.9
BUSP	**Coron**	**3.63**	**332**	*e*P		Pn	07 57 20.2	+0.8
SJMP	**San Jose**	**3.74**	**347**	*e*P		Sn	07 57 22.4	+0.3

NIED ***25*** *08:05:00, 24˚.80N×122˚.00E, h5km, Mw4.2 Best double couple: M₀2.12000×10¹⁵ NP1:φ₀232.00000°, δ30.00000°, λ-111.00000°. NP2:φ₀76.00000°, δ62.00000°, λ-78.00000°.*
ISCJB ***25*** *08:05:03.8±0.5, 24˚.93N±0˚.03×122˚.14E±0˚.02, h5km±3km, mb3.9/15, MS3.3/8, Error ellipse: s-maj=4.2km s-min=3.5km az=0.9*
TAP ***25*** *08:05:04.5, 24˚.91N×122˚.04E, h14km, ML4.0, B*
JMA ***25*** *08:05:04.3±0.2, 24˚.82N×121˚.99E, h45km, M3.8*
IDC ***25*** *08:05:19.2±4.0, 24˚.90N×122˚.06E, h137km±38km, mb3.6/16, mb1 3.7/18, mb1mx3.6/52, mbtmp4.0/18, MS3.3/10, Ms1 3.3/10, ms1mx3.1/24, Error ellipse: s-maj=20.2km s-min=11.8km az=70.0*

ISC 25 08:05:04.3±1.0, 24˚.94N±0˚.03×122˚.10E±0˚.02, h9km±6km, n82, σ1°13/93, mb4.0/15, MS3.5/8, 1C-13D, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
TWB1	**Santiao Chiao**	**0.12**	**307**	⇓*i* P		**Pg**	**08 05 07.8**	**+0.8**
	baz=330							
EGS		**0.17**	**239**	⇓*i* P		**Pg**	**08 05 08.2**	**+0.3**
	baz=242							
EGS				*i* S		**Sg**	**08 05 10.7**	**+0.3**
	baz=242							
NWF	**Wu-fen Shan**	**0.32**	**295

EHY	**Hungye** baz=209	**1.59**	**207**	*e*P	**Pn**	**08 05 32.7**	**+0.1**
IRIF	**Iriomote-Funau**	**1.60**	**112**	P	**Pn**	**08 05 31.5**	**-1.3**
WNT	**Mingjian** baz=226	**1.66**	**231**	*e*P	**Pg**	**08 05 36.4**	**+0.3**
TWF1	**Yuli** baz=220	**1.74**	**205**	*e*P	**Pn**	**08 05 34.9**	**+0.3**
YUS	**Yu-Shan** baz=227	**1.78**	**216**⇑	*e*P	**Pb**	**08 05 37.1**	**-0.2**
HATJ	**Hateruma jima**	**1.79**	**119**	P	**Pn**	**08 05 34.6**	**-0.7**
ALS	**Alishan** baz=207	**1.84**	**220**	*e*P	**Pb**	**08 05 39.1**	**+0.8**
CHN5	**Tsauling** baz=238	**1.86**	**224**	*e*P	**Pb**	**08 05 38.6**	**+0.2**
WGK	**Gukeng** baz=248	**1.87**	**229**	*e*P	**Pg**	**08 05 39.7**	**-0.5**
JKRS	**Kuro-shima**	**1.88**	**111**	P	**Pn**	**08 05 35.9**	**-0.6**
CHKT	**Chengkung** baz=186	**1.95**	**200**	*e*P	**Pn**	**08 05 36.0**	**-1.4**
JIJ	**Ishigaki jima**	**1.95**	**107**	P	**Pn**	**08 05 36.9**	**-0.6**
ELDTW	**Lidau** baz=198	**2.00**	**210**	*e*P	**Pn**	**08 05 39.4**	**+1.1**
CHN2	**Minshiung** baz=245	**2.04**	**227**	*e*P	**Pb**	**08 05 42.0**	**+0.6**
JISG	**Ishigakijimahi**	**2.04**	**99**	P	**Pn**	**08 05 37.8**	**-1.0**
CHN4	**Tsaushan** baz=225	**2.09**	**221**	*e*P	**Pb**	**08 05 43.0**	**+0.6**
CHY	**Chiayi** baz=246	**2.09**	**227**	*e*P	**Pb**	**08 05 43.2**	**+0.8**
STYT	**Tauyuan** baz=205	**2.15**	**215**	*e*P	**Pb**	**08 05 42.4**	**-1.0**
WTP	**Ta-pu** baz=223	**2.16**	**219**	*e*P	**Pb**	**08 05 43.4**	**-0.2**
TWK	**Hsinying** baz=225	**2.22**	**222**	*e*P	**Pb**	**08 05 44.4**	**-0.2**
CHN1	**Nanshi** baz=224	**2.26**	**220**	*e*P	**Pb**	**08 05 44.6**	**-0.6**
TWG	**Pinlang** baz=194	**2.30**	**204**	*e*P	**Pn**	**08 05 43.0**	**+0.6**
SGST	**Jiashian** baz=207	**2.31**	**217**	*e*P	**Pb**	**08 05 45.5**	**-0.6**
ECL	**Taimali** baz=197	**2.55**	**204**	*e*P	**Pn**	**08 05 46.0**	**+0.2**
TWM1	**Shoushan** baz=220	**2.60**	**216**	*e*P	**Pn**	**08 05 48.1**	**+1.6**
EAST	**Anshuo** baz=197	**2.79**	**204**	*e*P	**Pn**	**08 05 50.3**	**+1.2**
SCZT	**Fangliau** baz=198	**2.89**	**208**	*e*P	**Pb**	**08 05 53.6**	**-2.4**
LAY	**Lan-yu** baz=183	**2.93**	**190**	*e*P	**Pn**	**08 05 49.2**	**-1.8**
KSRS	**Korea Array** 0.5nm,0.3s,baz=205,slow=14,SNR=4.3	**13.43**	**20**	P	**P**	**08 08 23.9**	**-0.7**
KSRS				LR	LR	08 13 14.1	
	comp=Z,45nm,19.8s,baz=206,slow=35						
MJAR	**Matsushiro Arr** 0.1nm,0.3s,baz=242,slow=10.0,SNR=8.1	**18.02**	**46**	P	**P**	**08 09 18.4**	**+3.0**
MJAR				LR	LR	08 17 44.8	
	comp=Z,45nm,18.1s,baz=210,slow=41						
USRK	**Ussuriysk Ar.** 3.5nm,0.7s,baz=198,slow=13,SNR=6.5	**20.84**	**20**	P	Pn	08 09 51.4	+2.7
CMAR	**Chiang Mai Arr** 0.8nm,0.4s,baz=61,slow=9.4,SNR=3.0	**22.44**	**258**	P	**P**	**08 10 08.0**	**+4.3**
CMAR				LR	LR	08 20 52.4	
	comp=Z,64nm,18.2s,baz=63,slow=42						
SONM	**Songino Array** 6.4nm,0.9s,baz=147,slow=9.3,SNR=19	**26.02**	**335**	P	**P**	**08 10 39.4**	**+1.7**
SONM				LR	LR	08 21 51.6	
	comp=Z,127nm,18.2s,baz=107,slow=38						
MKAR	**Makanchi Array** 1.4nm,0.8s,baz=105,slow=9.2,SNR=12	**38.39**	**315**	P	**P**	**08 12 26.1**	**+0.3**
MKAR				PcP	**PcP**	**08 14 36.0**	**-3.3**
	0.2nm,0.4s,baz=72,slow=4.7,SNR=3.0						
PETK	**Petropavlovsk-** comp=Z,14nm,21.2s,baz=15,slow=35	**38.78**	**34**	LR	LR	08 27 51.3	
ZALV	**Zalesovo Beam** 2.5nm,0.3s,baz=133,slow=6.5,SNR=4.0	**40.08**	**326**	P	**P**	**08 12 40.0**	**+0.2**
ZALV				LR	LR	08 30 19.4	
	comp=Z,66nm,18.9s,baz=70,slow=37						
KURBB	**Kurchatov Arra** 0.7nm,0.8s,baz=111,slow=8.3,SNR=5.0	**42.08**	**319**	P	**P**	**08 12 57.7**	**+1.4**
WRA	**Warramunga Arr** 4.8nm,0.5s,baz=347,slow=8.8,SNR=88	**46.17**	**164**	P	**P**	**08 13 29.5**	**0.0**
NRIK	**Noril'sk** comp=Z,24nm,18.2s,baz=114,slow=38	**48.90**	**345**	LR	LR	08 35 59.6	
ASAR	**Alice Springs** 1.6nm,0.7s,baz=346,slow=9.9,SNR=30	**49.65**	**166**	P	**P**	**08 13 57.5**	**+1.0**
STKA	**Stephens Creek** 1.5nm,0.6s,baz=342,slow=8.9,SNR=6.5	**59.49**	**161**	P	**P**	**08 15 07.7**	**0.0**
ILAR	**Eielson Array** 0.2nm,0.6s,baz=289,slow=5.6,SNR=3.2	**68.17**	**27**	P	**P**	**08 16 05.5**	**+0.9**
ARCES	**ARCESS Array B** comp=Z,20nm,18.2s,baz=7.5,slow=41	**69.16**	**338**	LR	LR	08 52 05.7	
FINES	**FINESS Array B** 2.1nm,0.9s,baz=75,slow=7.5,SNR=3.0	**71.22**	**330**	P	**P**	**08 16 22.6**	**-0.8**
FINES				LR	LR	08 50 40.9	
	comp=Z,43nm,18.4s,baz=38,slow=38						
BRTR	**Keskin Array B** 0.4nm,0.4s,baz=82,slow=7.4,SNR=3.3	**73.40**	**306**	P	**P**	**08 16 37.2**	**+0.2**
HFS	**Hagfors** 2.2nm,1.0s,baz=104,slow=6.1,SNR=2.4	**77.32**	**331**	P	**P**	**08 16 59.2**	**+0.2**
NOA	**NORSAR Array B** 0.8nm,0.8s,baz=59,slow=5.6,SNR=2.6	**77.95**	**332**	P	**P**	**08 17 02.3**	**-0.3**
NOA				LR	LR	08 54 56.0	
	comp=Z,22nm,18.6s,baz=220,slow=38						
YKA	**Yellowknife Ar** 0.9nm,0.6s,baz=311,slow=5.0,SNR=6.6	**81.96**	**23**	P	**P**	**08 17 24.2**	**+0.1**
GERES	**GERESS Array B** 0.3nm,0.6s,baz=139,slow=2.8,SNR=3.4	**82.79**	**321**	P	**P**	**08 17 29.1**	**+0.1**
USHA	**Ushuaia** 15nm,0.9s,baz=125,slow=12,SNR=3.6	**149.14**	**168**	PKPbc	**PKPdf**	**08 24 48.0**	**-0.5**

WEL 25 08:29:49.8±0.1, 40.90S×176.08E, h29km, ML3.7/55, 13C-10D, Error ellipse: s-maj=1.3km s-min=0.7km az=90.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CPWZ	**Castlepoint**	**0.09**	**99**	⇑P*	Pb	08 29 54.8	-0.1
CPWZ				AML	AML	08 29 59.8	
CPWZ				AML	AML	08 30 02.1	
TIWZ	**Tintock**	**0.19**	**309**	P*	Pb	08 29 55.1	-0.8
TIWZ				AML	AML	08 29 59.4	
TIWZ				AML	AML	08 30 01.0	
BFZ	**Birch Farm**	**0.25**	**30**	⇓P*	Pb	08 29 56.2	-0.3
BFZ				S*	Sb	08 30 00.9	-0.1
BFZ				AML	AML	08 30 01.6	
TMWZ	**Te Maipa**	**0.26**	**215**	⇑P*	Pb	08 29 56.9	+0.3
TMWZ				AML	AML	08 30 04.2	
TMWZ				AML	AML	08 30 04.8	
PRWZ	**Pori Road**	**0.35**	**346**	⇑P*	Pb	08 29 57.8	-0.1
PRWZ				S*	Sb	08 30 04.0	+0.6
PRWZ				AML	AML	08 30 04.1	
HOWZ	**Holdsworth Sta**	**0.43**	**270**	⇑P*	Pb	08 29 58.9	-0.2
HOWZ				AML	AML	08 30 06.6	
HOWZ				AML	AML	08 30 06.6	
MRZ	**Mangatainoka R**	**0.45**	**301**	⇑P*	Pb	08 29 58.9	-0.4
MRZ				S*	Sb	08 30 06.0	+0.1
MRZ				AML	AML	08 30 06.1	
MTW	**Mount Morrison**	**0.51**	**239**	⇑P*	Pb	08 30 00.6	+0.3
MTW				S*	Sn	08 30 09.0	+0.1
MTW				AML	AML	08 30 10.0	
ANWZ	**Angora Road**	**0.53**	**35**	⇓P*	Pb	08 30 00.8	+0.2
ANWZ				AML	AML	08 30 10.4	
ANWZ				AML	AML	08 30 11.3	
POWZ	**Post Office Ro**	**0.56**	**334**	⇑P*	Pb	08 30 01.0	-0.1
POWZ				AML	AML	08 30 11.5	
POWZ				AML	AML	08 30 11.9	
TRWZ	**Traveller**	**0.58**	**211**	⇓P*	Pb	08 30 01.7	+0.1
TRWZ				AML	AML	08 30 15.5	
TRWZ				AML	AML	08 30 16.9	
DVHZ	**Dannevirke**	**0.60**	**6**	⇑P*	Pb	08 30 01.6	-0.2
DVHZ				S*	Sn	08 30 10.7	-0.3
DVHZ				AML	AML	08 30 11.7	
PAWZ	**Paruwai Farm**	**0.69**	**225**	⇓P*	Pb	08 30 03.3	-0.1
PAWZ				S*	Sn	08 30 13.7	+0.2
PAWZ				AML	AML	08 30 16.4	
OGWZ	**Otaki Gorge**	**0.70**	**276**	⇑P*	Pb	08 30 03.4	0.0
OGWZ				S*	Sn	08 30 13.1	-0.3
OGWZ				AML	AML	08 30 13.7	
PRHZ	**Porangahau**	**0.76**	**34**	P*	Pb	08 30 03.9	-0.5
PRHZ				AML	AML	08 30 17.3	
PRHZ				AML	AML	08 30 19.7	
CAW	**Cannon Point**	**0.80**	**254**	⇑P*	Pn	08 30 04.8	-0.2
CAW				AML	AML	08 30 16.7	
CAW				AML	AML	08 30 17.1	
MSWZ	**Moikau Station**	**0.82**	**230**	⇓P*	Pn	08 30 04.7	-0.6
MSWZ				AML	AML	08 30 16.7	
MSWZ				AML	AML	08 30 21.4	
TSZ	**Takapari Road**	**0.84**	**354**	⇑P*	Pn	08 30 05.4	-0.2
TSZ				AML	AML	08 30 17.7	
TSZ				AML	AML	08 30 17.9	
WPHZ	**Waipukurau**	**0.87**	**18**	⇓P*	Pn	08 30 06.0	-0.1
WPHZ				AML	AML	08 30 20.9	
WPHZ				AML	AML	08 30 22.7	
KIW	**Kapiti Island**	**0.89**	**272**	⇑P*	Pn	08 30 06.4	+0.1
KIW				AML	AML	08 30 19.2	
KIW				AML	AML	08 30 19.4	
OHWZ	**Ohakea**	**0.90**	**319**	P*	Pb	08 30 07.3	+0.5
PLWZ	**Palliser**	**0.92**	**223**	P*	Pn	08 30 05.9	-0.8
PLWZ				AML	AML	08 30 22.0	
PLWZ				AML	AML	08 30 22.6	
PNHZ	**Pukenui**	**0.98**	**5**	⇓P*	Pn	08 30 07.5	-0.1
PNHZ				AML	AML	08 30 22.6	
PNHZ				AML	AML	08 30 23.9	
BHW	**Baring Head**	**1.05**	**240**	P*	Pn	08 30 07.9	-0.6
BHW				S*	Sn	08 30 21.7	-0.4
BHW				AML	AML	08 30 22.6	
PXZ	**Pawanui**	**1.05**	**35**	⇑P*	Pn	08 30 07.7	-0.7
PXZ				AML	AML	08 30 26.4	
PXZ				AML	AML	08 30 41.4	
WEL	**Wellington**	**1.07**	**248**	P*	Pn	08 30 08.9	+0.2
WEL				AML	AML	08 30 24.3	
WEL				AML	AML	08 30 24.4	
WEL				AML	AML	08 30 25.0	
WEL				AML	AML	08 30 25.0	
KAHZ	**Kahuranaki**	**1.26**	**29**	PN	Pn	08 30 10.7	-0.7
KAHZ				AML	AML	08 30 45.7	
KAHZ				AML	AML	08 30 48.4	
KRHZ	**Kereru**	**1.27**	**10**	⇓PN	Pn	08 30 11.5	-0.1
KRHZ				AML	AML	08 30 28.9	
KRHZ				AML	AML	08 30 41.3	
TCW	**Tory Channel**	**1.40**	**256**	PN	Pn	08 30 13.3	0.0
TCW				AML	AML	08 30 36.1	
TCW				AML	AML	08 30 36.5	
WAZ	**Wanganui**	**1.42**	**323**	PN	Pb	08 30 15.4	-0.1
WAZ				AML	AML	08 30 36.2	
WAZ				AML	AML	08 30 36.4	
MOVZ	**Moawhango**	**1.51**	**350**	PN	Pn	08 30 15.9	+1.0
MOVZ				AML	AML	08 30 36.7	
MOVZ				AML	AML	08 30 38.6	
MCHZ	**McNeill Hill**	**1.52**	**18**	PN	Pn	08 30 14.9	-0.1
MCHZ				AML	AML	08 30 54.4	
MCHZ				AML	AML	08 30 59.4	
MTVZ	**Mangateitei**	**1.58**	**343**	PN	Pb	08 30 17.6	-0.8
MTVZ				AML	AML	08 30 40.9	
MTVZ				AML	AML	08 30 41.0	
WNVZ	**Wahianoa**	**1.61**	**347**	PN	Pb	08 30 17.7	-1.2
WHVZ	**Whangaehu Hut**	**1.66**	**347**	PN	Pb	08 30 18.5	-1.3
WHVZ				AML	AML	08 30 39.5	
WHVZ				AML	AML	08 30 39.5	
TUVZ	**Tukino**	**1.66**	**348**	PN	Pn	08 30 18.3	+1.2
TUVZ				AML	AML	08 30 39.7	
TUVZ				AML	AML	08 30 45.9	
FWVZ	**Far West T-bar**	**1.69**	**346**	⇓PN	Pb	08 30 18.9	-1.4
FWVZ				AML	AML	08 30 40.3	
FWVZ				AML	AML	08 30 40.5	
PKVZ	**Pokaka**	**1.70**	**340**	PN	Pb	08 30 19.6	-0.8
PKVZ				AML	AML	08 30 45.1	
PKVZ				AML	AML	08 30 52.2	
TUWZ	**Tuamarina**	**1.70**	**251**	PN	Pn	08 30 16.7	-0.8
TUWZ				AML	AML	08 30 45.0	
TUWZ				AML	AML	08 30 45.3	
BKZ	**Black Stump Fm**	**1.76**	**10**	⇓PN	Pn	08 30 17.9	-0.4
BKZ				AML	AML	08 30 45.4	
BKZ				AML	AML	08 30 58.1	
NGZ	**Ngauruhoe**	**1.76**	**348**	PN	Pn	08 30 19.8	+1.5
NGZ				AML	AML	08 30 46.8	
NGZ				AML	AML	08 30 50.7	
ARHZ	**Aropaoanui**	**1.77**	**24**	PN	Pn	08 30 18.3	-0.2
ARHZ				AML	AML	08 30 47.5	
ARHZ				AML	AML	08 30 49.7	
WTVZ	**West Tongariro**	**1.82**	**348**	PN	Pb	08 30 21.0	-1.5
WTVZ				AML	AML	08 30 46.8	
WTVZ				AML	AML	08 30 50.6	
BSWZ	**Blackbirch Sta**	**1.85**	**243**	PN	Pn	08 30 18.9	-0.6
BSWZ				AML	AML	08 31 02.0	
NMHZ	**Naumai**	**1.88**	**17**	PN	Pn	08 30 20.0	0.0
NMHZ				AML	AML	08 30 44.6	
NMHZ				AML	AML	08 31 14.7	
TWVZ	**Taurewa**	**1.89**	**345**	PN	Pb	08 30 23.1	-0.5
TWVZ				AML	AML	08 30 53.7	
TWVZ				AML	AML	08 30 53.9	
VRZ	**Vera Road**	**2.04**	**330**	PN	Pb	08 30 24.9	-1.3
VRZ				AML	AML	08 31 04.6	
VRZ				AML	AML	08 31 05.4	
NNZ	**Nelson**	**2.07**	**260**	PN	Pn	08 30 22.6	+0.2
NNZ				AML	AML	08 30 56.7	
NNZ				AML	AML	08 31 03.1	
MRHZ	**Matea Rd**	**2.08**	**7**	PN	Pn	08 30 22.6	-0.1
MRHZ				AML	AML	08 30 59.2	
MRHZ				AML	AML	08 31 07.5	
PREZ	**Palmer Road**	**2.14**	**316**	AML	AML	08 31 00.3	
PREZ				AML	AML	08 31 07.1	
NEZ	**North Egmont**	**2.23**	**316**	PN	Pb	08 30 27.5	-1.9
KHEZ	**Kahui Hut**	**2.25**	**315**	PN	Pn	08 30 27.2	+2.1
MHEZ	**Mangahewa**	**2.27**	**323**	PN	Pb	08 30 28.5	-1.5
SNGZ	**Shannon Statio**	**2.32**	**25**	PN	Pn	08 30 25.1	-0.9
SNGZ				AML	AML	08 30 53.8	
SNGZ				AML	AML	08 31 05.9	
PKE	**Pukeiti**	**2.34**	**316**	PN	Pb	08 30 26.0	-0.7
PKE				AML	AML	08 31 07.2	
PKE				AML	AML	08 31 14.1	
KHZ	**Kahutara**	**2.44**	**231**	PN	Pn	08 30 26.0	-1.5
THZ	**Tophouse**	**2.54**	**249**	PN	Pn	08 30 28.4	-0.7
THZ				AML	AML	08 31 19.7	
THZ				AML	AML	08 31 28.8	
HIZ	**Hauiti**	**2.56**	**338**	PN	Pb	08 30 33.2	-1.8
HIZ				AML	AML	08 31 17.0	
HIZ				AML	AML	08 31 18.6	
TLZ	**Tolley Road**	**2.60**	**351**	PN	Pb	08 30 37.8	+2.1
TLZ				AML	AML	08 31 14.4	
TLZ				AML	AML	08 31 22.1	
RAGZ	**Rawiri**	**2.61**	**24**	PN	Pn	08 31 28.0	-1.4
RAGZ				AML	AML	08 31 01.4	
RAGZ				AML	AML	08 31 04.8	
QRZ	**Quartz Range**	**2.70**	**270**	PN	Pn	08 30 31.5	+0.4
QRZ				AML	AML	08 31 17.9	
QRZ				AML	AML	08 31 17.9	
QRZ				AML	AML	08 31 24.8	
QRZ				AML	AML	08 31 24.8	
URZ	**Urewera**	**2.75**	**17**	PN	Pn	08 30 30.4	-1.4
MWZ	**Matawai**	**2.79**	**24**	PN	Pn	08 30 30.8	-1.7
LTZ	**Lake Taylor**	**3.42**	**235**	PN	Pn	08 30 39.9	-1.2
MQZ	**McQueen's Vall**	**3.79**	**221**	PN	Pn	08 30 43.4	-2.7
OXZ	**Oxford**	**3.87**	**230**	PN	Pn	08 30 45.3	-1.9
INZ	**Inchbonnie**	**3.92**	**241**	PN	Pn	08 30 47.8	-0.1
ODZ	**Otahua Downs**	**5.75**	**222**	PN	Pn	08 31 11.4	-1.7
JCZ	**Jackson Bay**	**6.26**	**237**	PN	Pb	08 31 30.6	-7.4

IDC 25 08:30:05.7±52.0, 27.33S×178.07W, h0km, mb3.6/3, mb1 3.8/3, mb1mx3.5/16, mbtmp3.6/3, Error ellipse: s-maj=944.4km s-min=169.3km az=93.0, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek** 1.2nm,0.8s,baz=94,slow=16,SNR=2.5	**35.22**	**253**	P	P	08 37 01.5	-0.3
ASAR	**Alice Springs** 0.2nm,0.5s,baz=102,slow=8.4,SNR=4.6	**43.29**	**264**	P	P	08 38 09.2	-0.2
WRA	**Warramunga Arr** 0.3nm,0.3s,baz=109,slow=7.9,SNR=7.7	**44.00**	**269**	P	P	08 38 15.4	+0.2

*IDC **25** 09:02:18.5±1.3, 0.16S×125.13E, h0km, mb3.7/4, mb1 3.9/4, mb1mx3.6/28, mbtmp3.7/4, MS2.7/1, Ms1 2.7/1, ms1mx2.2/32, Error ellipse: s-maj=145.3km s-min=21.9km az=66.0*
*DJA **25** 09:02:22.5±0.3, 0.3S×6.2×12.5E±.1, h10km, M4.3/6, mB5.3/1, mb4.2/1, MLv4.3/6, Mw(mB)4.7/1*
*ISCJB **25** 09:02:24.0±0.6, 0.25S±0.06×125.23E±0.05, h53km, mb3.8/4, MS2.7/1, Error ellipse: s-maj=10.4km s-min=5.2km az=35.9*

ISC 25 09:02:25.3±0.9, 0.22S±0.07×125.24E±0.06, h53km, n13, σ1s47/16, mb3.8/4, Southern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMSI	**Cibinong**	**1.48**	**302**	P	**Pn**	**09 02 48.7**	**-0.9**
KMSI				S	**Sn**	**09 03 08.5**	**+0.6**
SANI	**Sanana**	**1.97**	**157**	P	**Pn**	**09 02 55.2**	**-1.0**
SANI				S	**Sn**	**09 03 17.7**	**-2.0**
LBMI	**Labuha**	**2.30**	**100**	P	**Pn**	**09 03 01.2**	**+0.4**
LBMI				S	**Sn**	**09 03 29.6**	**+1.6**
MRSI	**Marisa**	**3.37**	**282**	P	**Pn**	**09 03 13.9**	**-1.5**
NLAI	**Namlea**	**3.53**	**148**	P	**Pn**	**09 03 18.2**	**+0.6**
NLAI				S	**Sn**	**09 03 56.6**	**-1.6**
TTSI	**Tana Toraja**	**6.10**	**243**	P	**Pn**	**09 03 54.4**	**+1.5**
SPSI	**Sidrap Palu**	**6.61**	**236**	P	**Pn**	**09 04 02.4**	**+2.5**
FAKI	**Fak Fak**	**7.50**	**111**	P	**Pn**	**09 04 11.0**	**-1.2**
WRA	**Warramunga Arr** 1.1nm,0.5s,baz=336,slow=10,SNR=8.5	**21.53**	**156**	P	**P**	**09 07 09.8**	**-0.4**
ASAR	**Alice Springs** 3.1nm,1.3s,baz=343,slow=12,SNR=6.2	**24.78**	**161**	P	**P**	**09 07 43.7**	**+1.4**
KSRS	**Korea Array** comp=Z,12nm,20.3s,baz=125,slow=35	**37.57**	**4**	LR	LR	09 24 17.6	
SONM	**Songino Array** 1.2nm,1.1s,baz=161,slow=7.2,SNR=3.5	**50.59**	**344**	P	**P**	**09 11 19.8**	**+0.9**
MKAR	**Makanchi Array** 0.7nm,0.3s,baz=122,slow=8.5,SNR=12	**59.99**	**327**	P	**P**	**09 12 25.4**	**-1.1**

*CSEM **25** 09:08:23.6±0.2, 38.53N×39.84E, h10km, MD2.8, Error ellipse: s-maj=6.0km s-min=4.4km az=40.0*
*ISK **25** 09:08:23.3, 38.55N×39.84E, h14km, MD2.8*
*ISCJB **25** 09:08:27.0±0.7, 38.60N±0.03×39.64E±0.05, h5km±9km, Error ellipse: s-maj=6.1km s-min=5.2km az=163.5*
*DDA **25** 09:08:26.8, 38.61N×39.63E, h7km, Md2.8*

ISC 25 09:08:23.9±1.3, 38.58N±0.04×39.77E±0.04, h3km±12km, n22, σ1s97/30, 1C, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SVRC	**Sivrice-ELAZID**	**0.42**	**241**	*e*PG	**Pb**	**09 08 32.8**	**-1.2**
SVRC				*e*SG	**Sb**	**09 08 39.7**	**-1.1**
SVRC	**Sivrice-ELAZID**	**0.42**	**241**	*e*Pg	**Pb**	**09 08 32.8**	**-1.2**
SVRC				*e*Sg	**Sb**	**09 08 39.7**	**-1.1**
PTK	**Pertek**	**0.42**	**317**	*e*PG	**Pg**	**09 08 33.4**	**+1.3**
PTK				*e*SG	**Sb**	**09 08 40.8**	**-0.3**
PTK	**Pertek**	**0.42**	**317**	*e*Pg	**Pg**	**09 08 33.4**	**+1.3**
PTK				*e*Sg	**Sb**	**09 08 40.8**	**-0.3**
TNCL	**Tunceli-Merkez**	**0.56**	**342**	*e*P	**Pn**	**09 08 36.9**	**-2.0**
TNCL				*e*S	**Sb**	**09 08 44.6**	**-0.2**
TNCL	**Tunceli-Merkez**	**0.56**	**342**	P	**Pn**	**09 08 36.9**	**-2.0**
TNCL				S	**Sb**	**09 08 44.7**	**-0.2**
ELZG	**Elazig**	**0.62**	**262**	⇑*i*P	**Pb**	**09 08 36.9**	**-0.6**
ELZG				*i* S	**Sg**	**09 08 44.7**	**+0.9**
ELZG	**Elazig**	**0.62**	**262**	P	**Pb**	**09 08 36.9**	**-0.6**
ELZG				S	**Sg**	**09 08 44.7**	**+0.9**
ERZN	**Erzincan**	**1.00**	**358**	*e*PG	**Pn**	**09 08 43.7**	**-1.3**
BNGL	**BINGOL**	**1.14**	**71**	*e*P	Pg	09 08 51.3	+5.5
BNGL				*e*S	Sn	09 09 12.8	+10
SVAN	**Silvan-Diyarba**	**1.21**	**111**	*e*PN	**Pg**	**09 08 45.4**	**-1.6**
SVAN	**Silvan-Diyarba**	**1.21**	**111**	*e*P	Pg	09 08 51.7	+4.7
SVAN				*e*S	**Sn**	**09 09 08.5**	**+4.0**
SVAN	**Silvan-Diyarba**	**1.21**	**111**	*e*Pn	**Pg**	**09 08 45.4**	**-1.6**
SVAN	**Silvan-Diyarba**	**1.21**	**111**	P	Pg	09 08 51.7	+4.7
SVAN				S	**Sn**	**09 09 08.5**	**+4.0**
KEMA	**Kemaliye**	**1.21**	**305**	*e*P	**Pn**	**09 08 46.9**	**-0.8**
KEMA				*e*S	**Sb**	**09 09 03.2**	**-0.3**
KEMA	**Kemaliye**	**1.21**	**305**	P	**Pn**	**09 08 46.9**	**-0.8**
KEMA				S	**Sb**	**09 09 03.2**	**-0.3**
EZC	**Erzincan**	**1.21**	**345**	*e*Pg	**Pn**	**09 08 43.7**	**-4.2**
MAZI	**Mazidag**	**1.24**	**154**	*e*PN	**Pg**	**09 08 46.1**	**-1.6**
MAZI	**Mazidag**	**1.24**	**154**	*e*Pn	**Pg**	**09 08 46.1**	**-1.6**
BTMN	**Batman**	**1.37**	**120**	*e*P	Pg	09 08 54.3	+4.2
BTMN				*e*S	Sg	09 09 14.8	+6.9
BTMN	**Batman**	**1.37**	**120**	P	Pg	09 08 54.3	+4.1
BTMN				S	Sg	09 09 14.8	+6.9
MARD	**Mardin**	**1.50**	**147**	*e*P	**Pg**	**09 08 55.6**	**+3.0**
MARD				*e*S	**Sg**	**09 09 15.3**	**+3.2**

*ISCJB **25** 09:16:56.8±0.4, 40.54N±0.02×21.37E±0.04, h13km±5km, Error ellipse: s-maj=5.7km s-min=3.8km az=10.2*
*CSEM **25** 09:16:56.6±0.2, 40.53N×21.39E, h10km, ML2.3, Error ellipse: s-maj=4.0km s-min=2.9km az=75.0*
*ATH **25** 09:16:56.2, 40.53N×21.40E, h25km±1km, ML2.3/10, Error ellipse: s-maj=1.7km s-min=1.1km az=299.0*
*SKO **25** 09:16:56.9, 40.48N×21.29E, h0km*
*THE **25** 09:16:56.9, 40.52N×21.39E, h16km±1km, ML2.5/5, Error ellipse: s-maj=1.6km s-min=0.6km az=272.0*

ISC 25 09:16:56.7±0.8, 40.53N±0.02×21.37E±0.03, h17km±6km, n37, σ0s54/66, 2C-1D, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FNA	**Florina**	**0.25**	**1**	P	**Pg**	**09 17 02.5**	**0.0**
FNA				S	**Sg**	**09 17 06.6**	**+0.2**
FNA	**Florina**	**0.25**	**1**	P	**Pg**	**09 17 02.5**	**0.0**
FNA				S	**Sg**	**09 17 06.6**	**+0.2**
FNA	**Florina**	**0.25**	**1**	P	**Pg**	**09 17 02.5**	**0.0**
FNA				S	**Sg**	**09 17 06.3**	**-0.1**
FNA				AML	AML	09 17 06.7	
	comp=E,3132μm,0.3s						
FNA				AML	AML	09 17 07.2	
	comp=N,3800μm,0.2s						
KZN	**Kozani**	**0.38**	**126**	P	**Pg**	**09 17 04.4**	**-0.1**
KZN				S	**Sg**	**09 17 09.7**	**-0.2**
KZN	**Kozani**	**0.38**	**126**	P	**Pg**	**09 17 04.5**	**-0.1**
KZN				S	**Sg**	**09 17 09.7**	**-0.2**
KZN	**Kozani**	**0.38**	**126**	P	**Pg**	**09 17 04.5**	**-0.1**
KZN				S	**Sb**	**09 17 11.1**	**+0.4**
KZN				AML	AML	09 17 11.3	

LIT				AML	AML	09 17 34.0
	comp=N,271μm,0.5s					
LIT				AML	AML	09 17 36.6
	comp=E,269μm,0.5s					
THL	**Klokotos Trika**	**1.08**	**153**	P	**Pb**	**09 17 15.8 -1.2**
THL	**Klokotos Trika**	**1.08**	**153**	P	**Pb**	**09 17 15.8 -1.2**
THL				S	**Sg**	**09 17 31.5 -0.4**
THL	**Klokotos Trika**	**1.08**	**153**	P	**Pb**	**09 17 15.7 -1.2**
THL				S	**Sg**	**09 17 31.4 -0.4**
THL				AML	AML	09 17 38.0
	comp=N,263μm,0.5s					
THL				AML	AML	09 17 38.9
	comp=E,167μm,0.4s					
HORT	**Hortiatis**	**1.32**	**87**	P	**Pn**	**09 17 20.7 +0.3**
HORT				S	**Sn**	**09 17 38.0 +0.3**
HORT	**Hortiatis**	**1.32**	**87**	P	**Pn**	**09 17 20.7 +0.3**
HORT				S	**Sn**	**09 17 38.0 +0.3**
HORT				AML	AML	09 17 43.6
	comp=N,140μm,0.5s					
HORT				AML	AML	09 17 45.3
	comp=E,58μm,0.4s					
KNT	**Kendrikon**	**1.32**	**61**	P	**Pn**	**09 17 20.7 +0.3**
KNT	**Kendrikon**	**1.32**	**61**	P	**Pn**	**09 17 20.7 +0.3**
DSL	**Palaion Diasel**	**1.41**	**189**	P	**Pn**	**09 17 21.9 +0.2**
DSL				S	**Sg**	**09 17 42.5 +0.2**
DSL	**Palaion Diasel**	**1.41**	**189**	P	**Pn**	**09 17 21.9 +0.2**
DSL				S	**Sg**	**09 17 42.5 +0.2**
DSL				AML	AML	09 17 48.6
	comp=E,182μm,0.4s					
DSL				AML	AML	09 17 50.5
	comp=N,119μm,0.6s					
EVR	**Evrytania**	**1.65**	**168**	P	**Pb**	**09 17 27.2 +0.5**
EVR	**Evrytania**	**1.65**	**168**	P	**Pb**	**09 17 27.2 +0.5**
AGG	**Agios Georgios**	**1.68**	**154**	P	**Pn**	**09 17 25.7 +0.3**
AGG				S	**Sn**	**09 17 46.8 +0.3**
AGG	**Agios Georgios**	**1.68**	**154**	P	**Pn**	**09 17 25.7 +0.3**
AGG				S	**Sn**	**09 17 46.8 +0.3**
AGG				AML	AML	09 17 56.5
	comp=E,229μm,0.4s					
AGG				AML	AML	09 17 58.0
	comp=N,223μm,0.3s					

*ISCJB **25** 09:18:42.7±0.3, 18°.59S±0°.05×65°.50E±0°.06, h15km, mb4.4/32, MS3.9/17, Error ellipse: s-maj=8.0km s-min=7.5km az=21.6*
*IDC **25** 09:18:42.0±0.6, 18°.52S×65°.48E, h0km, mb4.2/18, mb1 4.3/18, mb1mx4.1/41, mbtmp4.2/18, MS3.8/18, Ms1 3.8/18, ms1mx3.6/36, Error ellipse: s-maj=18.8km s-min=15.8km az=47.0*
*NEIC **25** 09:18:43.8±0.2, 18°.58S×65°.51E, h10km, mb4.7/18, Error ellipse: s-maj=7.4km s-min=6.8km az=186.0*
ISC 25 09:18:44.6±0.4, **18°.55S**±0°.08×**65°.48E**±0°.09, **h15**km, **n100, s**0**.91/83, mb4.5/32, MS3.8/17, 1C, Mauritius-Reunion region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MRIV	**Mauritius Mete**	**7.74**	**256**	*e*Pn	**Pn**	**09 20 38.3**	**+1.5**
RER	**Riviere de l'E**	**9.53**	**253**	*e*Pn	**Pn**	**09 21 00.9**	**-0.5**
H08S1	**Diego Carcia H**	**12.79**	**33**	T	T	09 34 54.0	
	baz=211,slow=76,SNR=1077						
H08S2	**Diego Garcia H**	**12.80**	**33**	T	T	09 34 53.4	
	baz=211,slow=76,SNR=373						
H08S3	**Diego Garcia H**	**12.81**	**33**	T	T	09 34 54.0	
	baz=211,slow=76,SNR=930						
H08N3	**Diego Garcia H**	**13.26**	**25**	T	T	09 35 59.0	
	baz=204,slow=75,SNR=242						
H08N1	**Diego Garcia H**	**13.27**	**25**	T	T	09 36 00.1	
	baz=204,slow=75,SNR=156						
H08N2	**Diego Garcia H**	**13.28**	**25**	T	T	09 36 00.1	
	baz=204,slow=75,SNR=276						
MSEY	**Mahe Island**	**16.90**	**323**	*e*Pn	**P**	**09 22 43.0**	**+0.2**
	48nm,1.4s						
OPO	**Ambohidratompo**	**17.35**	**267**	LR	LR	09 27 39.0	
	comp=Z,681nm,21.4s,baz=92,slow=31						
PALK	**Pallekele**	**29.72**	**32**	LR	LR	09 34 34.3	
	comp=Z,215nm,18.2s,baz=296,slow=32						
CRZF	**Crozet Islands**	**30.00**	**199**	*e*P	**P**	**09 24 53.2**	**+0.6**
	212nm,1.3s						
KMBO	**Kilima Mbogo**	**32.66**	**299**	LR	LR	09 36 42.0	
	comp=Z,156nm,18.1s,baz=92,slow=33						
LBTB	**Lobatse**	**37.49**	**253**	P	**P**	**09 25 58.9**	**+0.7**
	5.4nm,0.8s,baz=83,slow=9.9,SNR=7.4						
LBTB	**Lobatse**	**37.49**	**253**	*e*P	**P**	**09 25 58.9**	**+0.7**
	36nm,1.8s						
BOSA	**Boshof**	**38.05**	**247**	LR	LR	09 39 35.0	
	comp=Z,144nm,18.6s,baz=40,slow=33						
H01W3	**Cape Leeuwin H**	**45.95**	**121**	T	T	10 16 05.9	
	baz=278,slow=75,SNR=6.1						
H01W2	**Cape Leeuwin H**	**45.95**	**121**	T	T	10 16 05.1	
	baz=278,slow=75,SNR=4.9						
H01W1	**Cape Leeuwin H**	**45.97**	**121**	T	T	10 16 06.3	
	baz=278,slow=75,SNR=5.0						
MAW	**Mawson**	**49.07**	**181**	P	**P**	**09 27 31.4**	**+0.6**
	5.7nm,0.8s,baz=19,slow=10,SNR=7.1						
MAW				LR	LR	09 44 10.9	
	comp=Z,101nm,19.3s,baz=54,slow=31						
MAW	**Mawson**	**49.07**	**181**	*e*P	**P**	**09 27 31.5**	**+0.6**
	3.0nm,1.2s						
CM31	**Chiang Mai Arr**	**49.32**	**44**	*e*P	**P**	**09 27 34.8**	**+1.3**
CMAR	**Chiang Mai Arr**	**49.32**	**44**	P	**P**	**09 27 34.8**	**+1.3**
	2.6nm,0.9s,baz=236,slow=7.9,SNR=15						
CMAR				LR	LR	09 46 23.4	
	comp=Z,112nm,19.9s,baz=210,slow=34						
SHL	**Shillong**	**50.81**	**31**	*e*P	P	09 27 50.0	+5.1
SYO	**Syowa Base**	**52.96**	**191**	↑*e*P	**P**	**09 28 02.2**	**+2.2**
FITZ	**Fitzroy Crossi**	**56.86**	**100**	P	**P**	**09 28 29.0**	**-0.2**
	2.3nm,0.9s,baz=225,slow=5.7,SNR=2.6						
AAK	**Ala-Archa**	**61.44**	**8**	*e*P	**P**	**09 29 02.3**	**+1.8**
	6.0nm,1.1s						
ASAR	**Alice Springs**	**63.51**	**108**	P	**P**	**09 29 13.9**	**-0.8**
	2.7nm,1.1s,baz=255,slow=6.5,SNR=11						
ASAR				LR	LR	09 52 48.3	
	comp=Z,228nm,21.4s,baz=282,slow=32						
AS31	**Alice Springs**	**63.51**	**108**	*e*P	**P**	**09 29 13.9**	**-0.8**
	3.2nm,1.7s						
AS01	**Alice Springs**	**63.55**	**108**	*e*P	**P**	**09 29 13.5**	**-1.5**
WRA	**Warramunga Arr**	**64.59**	**104**	P	**P**	**09 29 21.4**	**-0.5**
	4.8nm,1.1s,baz=258,slow=5.7,SNR=15						
WR1	**Warramunga Arr**	**64.59**	**104**	*e*P	**P**	**09 29 21.4**	**-0.5**
	8.7nm,1.2s						
WB2	**Warramunga Arr**	**64.60**	**104**	*e*P	**P**	**09 29 22.3**	**+0.4**
BR101	**Keskin Array S**	**65.15**	**333**	*e*P	**P**	**09 29 23.8**	**-1.3**
BRTR	**Keskin Array B**	**65.15**	**333**	P	**P**	**09 29 23.8**	**-1.3**
	1.1nm,0.9s,baz=124,slow=7.5,SNR=3.8						
BRTR				LR	LR	09 57 14.2	
	comp=Z,15nm,18.6s,baz=111,slow=36						
KBZ	**Khabaz**	**65.34**	**342**	LR	LR	09 58 33.2	
	comp=Z,24nm,18.8s,baz=74,slow=37						
SNAA	**Sanae**	**65.75**	**199**	P	**P**	**09 29 27.8**	**-0.8**
MAKZ	**Makanchi**	**66.73**	**12**	*e*P	**P**	**09 29 36.0**	**+1.0**
	7.4nm,1.3s						
MK01	**Makanchi Array**	**66.76**	**12**	*e*P	**P**	**09 29 35.6**	**+0.4**
MK31	**Makanchi Array**	**66.78**	**12**	*e*P	**P**	**09 29 35.5**	**+0.2**
MK32	**Makanchi Array**	**66.78**	**12**	*e*P	**P**	**09 29 34.4**	**-1.0**
MKAR	**Makanchi Array**	**66.78**	**12**	P	**P**	**09 29 34.4**	**-1.0**
	3.8nm,1.0s,baz=189,slow=7.0,SNR=17						
MKAR				LR	LR	09 57 00.5	
	comp=Z,71nm,19.1s,baz=191,slow=34						
MKAR	**Makanchi Array**	**66.78**	**12**	*e*P	**P**	**09 29 35.5**	**+0.2**
	24nm,1.2s						
VNA2	**Neumayer--Watz**	**67.02**	**200**	P	**P**	**09 29 36.2**	**-0.5**
	baz=61,slow=4.8						
VNA1	**Neumayer--Stat**	**67.26**	**200**	P	**P**	**09 29 39.4**	**+1.3**
VNA3	**Neumayer Olymp**	**67.80**	**200**	P	**P**	**09 29 39.9**	**-1.7**
STKA	**Stephens Creek**	**68.91**	**118**	P	**P**	**09 29 48.5**	**-0.8**
	2.9nm,1.0s,baz=289,slow=10,SNR=2.9						
STKA	**Stephens Creek**	**68.91**	**118**	*e*P	**P**	**09 29 48.5**	**-0.8**
	7.4nm,2.0s						
TORD	**Torodi Ar. Bea**	**70.32**	**292**	P	**P**	**09 29 56.9**	**-1.2**
	0.7nm,1.0s,baz=54,slow=2.8,SNR=3.5						
TORD				LR	LR	10 00 59.9	
	comp=Z,39nm,18.5s,baz=270,slow=36						
TOA1	**Torodi Ar. Sit**	**70.33**	**292**	*e*P	**P**	**09 29 56.9**	**-1.3**
BRVK	**Borovoye**	**71.42**	**3**	*e*P	**P**	**09 30 04.6**	**+0.6**
	5.9nm,1.0s						
QSPA	**South Pole Qui**	**71.56**	**180**	*e*P	**P**	**09 30 04.6**	**-0.4**
TIR	**Tirane**	**73.05**	**326**	*e*P	**P**	**09 30 14.6**	**+0.6**
	14nm,0.7s						
MLR	**Muntele Rosu**	**73.14**	**332**	*e*P	**P**	**09 30 15.2**	**+0.5**
	12nm,1.3s						
VNDA	**Vanda**	**73.40**	**167**	P	**P**	**09 30 15.5**	**-0.1**
	2.3nm,1.0s,baz=278,slow=6.8,SNR=10						
VNDA	**Vanda**	**73.40**	**167**	*e*P	**P**	**09 30 15.8**	**+0.2**
	3.0nm,1.0s						
DBIC	**Dimbokro**	**73.70**	**283**	LR	LR	10 00 04.6	
	comp=Z,75nm,20.4s,baz=108,slow=34						
ZAA0	**Zalesovo Array**	**74.09**	**12**	*e*P	**P**	**09 30 19.8**	**0.0**
ZALV	**Zalesovo Beam**	**74.09**	**12**	P	**P**	**09 30 19.3**	**-0.5**
	3.3nm,0.7s,baz=197,slow=4.6,SNR=12						
ZALV				LR	LR	10 01 33.7	
	comp=Z,52nm,19.7s,baz=250,slow=35						
ZAA1	**Zalesovo Array**	**74.09**	**12**	*e*P	**P**	**09 30 19.3**	**-0.6**
COEN	**Coen**	**74.21**	**100**	*e*P	**P**	**09 30 21.1**	**-0.4**
	15nm,1.2s						
ARU	**Arti**	**74.91**	**356**	*e*P	**P**	**09 30 25.3**	**+0.8**
	9.1nm,1.1s						
SONA0	**Songino Array**	**75.56**	**27**	*e*P	**P**	**09 30 29.1**	**+0.5**
	3.5nm,1.1s						
SONM	**Songino Array**	**75.56**	**27**	P	**P**	**09 30 29.1**	**+0.5**
	1.3nm,0.9s,baz=198,slow=7.5,SNR=7.3						
SONM				LR	LR	10 02 44.8	
	comp=Z,107nm,18.7s,baz=254,slow=35						
SONA1	**Songino Array**	**75.57**	**27**	*e*P	**P**	**09 30 29.7**	**+1.0**
KEST	**Kesra**	**75.74**	**316**	LR	LR	10 03 55.0	
	comp=Z,57nm,18.9s,baz=268,slow=36						
AKASG	**Malin Array Be**	**75.97**	**337**	P	**P**	**09 30 30.0**	**-0.7**
	3.3nm,0.8s,baz=140,slow=5.1,SNR=10						
AKBB	**Malin Array Si**	**75.97**	**337**	*e*P	**P**	**09 30 30.0**	**-0.7**
	5.0nm,0.9s						
KIEV	**Kiev**	**75.97**	**337**	*e*P	**P**	**09 30 30.3**	**-0.4**
	5.4nm,0.9s						
KS15	**Wonju Array Si**	**80.88**	**46**	*e*P	**P**	**09 30 58.3**	**+0.1**
KSAR	**Wonju Array Be**	**80.88**	**46**	P	**P**	**09 30 58.3**	**+0.1**
KS01	**Wonju Array Si**	**80.91**	**46**	*e*P	**P**	**09 30 58.7**	**+0.3**
KSRS	**Korea Array**	**80.92**	**46**	P	**P**	**09 30 58.3**	**-0.1**
	1.9nm,1.0s,baz=244,slow=4.9,SNR=6.6						
DPC	**Dobruska-Polom**	**81.10**	**331**	*e*P	**P**	**09 30 59.9**	**+0.7**
KHC	**Kasperske Hory**	**81.60**	**328**	*e*P	**P**	**09 31 01.6**	**-0.2**
CLL	**Collm**	**83.31**	**330**	*e*P	**P**	**09 31 11.0**	**+0.4**
	comp=Z,11nm,1.6s						
FIA0	**FINESS Array S**	**85.70**	**342**	*e*P	**P**	**09 31 22.0**	**-0.5**
FIA1	**FINESS Array S**	**85.70**	**342**	*e*P	**P**	**09 31 23.2**	**+0.8**
FINES	**FINESS Array B**	**85.70**	**342**	P	**P**	**09 31 22.0**	**-0.5**
	comp=Z,12nm,0.7s,baz=152,slow=22,SNR=4.1						
FINES	**FINESS Array B**	**85.70**	**342**	P	**P**	**09 31 22.0**	**-0.5**
ES19	**SONSECA Array**	**86.75**	**314**	*e*P	**P**	**09 31 28.9**	**+0.5**
ESDC	**Sonseca Array**	**86.79**	**314**	P	**P**	**09 31 28.5**	**+0.1**
	comp=Z,0.2nm,0.3s,baz=109,slow=5.1,SNR=7.4						
ESDC				LR	LR	10 12 00.7	
	comp=Z,37nm,18.9s,baz=120,slow=37						
MJAR	**Matsushiro Arr**	**87.74**	**50**	P	**P**	**09 31 34.2**	**+1.1**
	comp=Z,3.1nm,1.0s,baz=238,slow=5.7,SNR=7.3						
NRIK	**Norilʹsk**	**89.06**	**8**	LR	LR	10 10 15.3	
	comp=Z,33nm,20.3s,baz=110,slow=35						
NBO00	**NORSAR Array S**	**90.53**	**337**	*e*P	**P**	**09 31 44.9**	**-0.7**
USHA	**Ushuaia**	**97.06**	**205**	LR	LR	10 06 34.7	
	comp=Z,376nm,21.8s,baz=78,slow=30						
MTDJ	**Mount Denham**	**144.94**	**275**	*e*PKPbc	**PKPab**	**09 38 19.8**	**-1.6**
ULM	**Lac du Bonnet**	**145.03**	**339**	PKPbc	**PKPbc**	**09 38 19.4**	**-1.3**
	comp=Z,7.6nm,0.9s,baz=47,slow=3.6,SNR=8.6						
ULM	**Lac du Bonnet**	**145.03**	**339**	*e*PKPbc	**PKPbc**	**09 38 19.9**	**-0.7**
EYMN	**Ely**	**145.19**	**333**	*e*PKPbc	**PKPab**	**09 38 20.8**	**-0.5**
ACSO	**Alum Creek Sta**	**145.33**	**315**	*e*PKPbc	**PKPdf**	**09 38 21.8**	**-0.3**
EDM	**Edmonton**	**145.38**	**359**	*e*PKPbc	**PKPab**	**09 38 22.7**	**+0.8**
AGMN	**Agassiz Nation**	**146.67**	**337**	*e*PKPdf	**PKPab**	**09 38 23.9**	**-0.9**
SFIN	**Lafayette**	**147.92**	**319**	*e*PKPdf	**PKPdf**	**09 38 26.3**	**-0.1**
WVT	**Waverly**	**150.67**	**312**	*e*PKPdf	**PKPbc**	**09 38 33.3**	**-3.2**
ECSD	**EROS Data Cent**	**150.71**	**333**	*e*PKPbc	**PKPbc**	**09 38 36.4**	**0.0**
LAO	**LASA Array**	**151.11**	**348**	*e*PKPbc	**PKPbc**	**09 38 39.0**	**+1.6**
SLMT	**Seeley Lake**	**151.37**	**359**	*e*PKPbc	**PKPbc**	**09 38 38.7**	**+0.6**
LTX	**Lajitas**	**165.39**	**319**	*e*PKPdf	**PKPdf**	**09 38 49.8**	**+0.5**
LTX				*e*PKPab	**PKPab**	**09 39 47.3**	**+0.2**
TXAR	**Lajitas Array**	**165.39**	**319**	PKP	**PKPdf**	**09 38 49.8**	**+0.5**
	comp=Z,0.3nm,1.0s,baz=108,slow=5.8,SNR=3.8						
TXAR				PKPab	**PKPab**	**09 39 47.3**	**+0.2**
	comp=Z,1.0nm,0.9s,baz=68,slow=4.0,SNR=11						

*DJA **25** 09:18:50.8±0.5, 8°.S±4°×10°.8E±°, h37km±8km, M4.1/8, MLv4.1/8*
*ISCJB **25** 09:18:51.7±0.9, 8°.1S±0°.2×108°.20E±0°.06, h72km±10km, mb3.4/4, Error ellipse: s-maj=30.1km s-min=5.3km az=15.1*
*IDC **25** 09:18:56.0±5.5, 7°.52S×108°.82E, h75km±34km, mb3.3/4, mb1 3.4/4, mb1mx3.1/38, mbtmp3.6/4, Error ellipse: s-maj=169.8km s-min=25.3km az=51.0*
ISC 25 09:18:51.8±1.5, **8°.3S**±0°.2×**108°.13E**±0°.06, **h55**km±14km, **n20,** σ**19/16/21, mb3.5/4, Jawa**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CMJI	**Cimerak**	**0.56**	**34**	P	**Pn**	**09 19 03.7**	**-0.4**
CMJI				S	**Sn**	**09 19 12.3**	**-0.6**
CISI	**Cisompet, Garu**	**0.76**	**336**	P	**Pn**	**09 19 06.5**	**-0.1**
CISI				S	**Sn**	**09 19 17.7**	**+0.4**
KPJI	**Karang Pucung**	**1.21**	**41**	P	**Pn**	**09 19 13.8**	**+1.4**
CNJI	**Cibinong**	**1.36**	**313**	P	**Pn**	**09 19 14.7**	**+0.1**
CNJI				S	**Sn**	**09 19 30.7**	**-0.9**
LEM	**Lembang**	**1.50**	**340**	P	Pn	09 19 24.2	+7.6
UGM	**Wanagama**	**2.39**	**82**	P	**Pn**	**09 19 28.5**	**-0.1**
UGM				S	**Sn**	**09 19 55.2**	**-1.6**
SMRI	**Semarang**	**2.58**	**63**	P	**Pn**	**09 19 33.1**	**+1.9**
CGJI	**Cibinong**	**2.91**	**304**	P	**Pn**	**09 19 36.0**	**+0.3**
CGJI				S	**Sn**	**09 20 08.9**	**-0.6**
PCJI	**Pacitan**	**3.02**	**89**	P	**Pn**	**09 19 37.3**	**+0.2**
PCJI				S	**Sn**	**09 20 10.5**	**-1.5**
PWJI	**Pagerwojo**	**3.64**	**87**	P	**Pn**	**09 19 45.9**	**+0.2**
PWJI				S	**Sn**	**09 20 25.8**	**-1.7**
WRA	**Warramunga Arr**	**27.90**	**117**	P	**P**	**09 24 37.3**	**+0.4**
	0.4nm,0.8s,baz=291,slow=10,SNR=3.5						
WRA				ScP	**ScP**	**09 31 26.5**	**-1.6**
	0.3nm,0.7s,baz=315,slow=5.0,SNR=3.4						
ASAR	**Alice Springs**	**29.06**	**125**	P	**P**	**09 24 49.0**	**+1.8**
	0.5nm,1.0s,baz=308,slow=9.0,SNR=3.4						
H08S2	**Diego Garcia H**	**35.29**	**268**	T	T	10 02 54.0	
	baz=92,slow=76,SNR=24						
H08S3	**Diego Garcia H**	**35.30**	**268**	T	T	10 02 54.7	
	baz=92,slow=76,SNR=17						
H08S1	**Diego Garcia H**	**35.31**	**268**	T	T	10 02 55.3	
	baz=92,slow=76,SNR=24						
H08N1	**Diego Garcia H**	**36.86**	**270**	T	T	10 05 44.8	
	baz=134,slow=73,SNR=4.3						
H08N2	**Diego Garcia H**	**36.87**	**270**	T	T	10 05 42.1	
	baz=134,slow=73,SNR=3.7						
H08N3	**Diego Garcia H**	**36.88**	**270**	T	T	10 05 41.5	
	baz=134,slow=73,SNR=3.9						
STKA	**Stephens Creek**	**38.98**	**132**	P	**P**	**09 26 13.7**	**+0.8**
	1.3nm,0.5s,baz=297,slow=8.7,SNR=5.4						
MKAR	**Makanchi Array**	**59.44**	**340**	P	**P**	**09 28 47.9**	**-1.1**
	0.4nm,0.5s,baz=138,slow=7.4,SNR=4.3						

*ISCJB **25** 09:19:16.0±0.6, 37°.29N±0°.04×72°.11E±0°.07, h113km, Error ellipse: s-maj=9.0km s-min=4.8km az=155.1*
*NNC **25** 09:19:22.4±3.1, 37°.87N×71°.77E, h0km, mb4.0, mpv3.6, Error ellipse: s-maj=29.5km s-min=9.7km az=157.0*
ISC 25 09:19:18.2±0.9, **37°.37N**±0°.05×**72°.07E**±0°.08, **h113**km, **n17,** σ**2**°**70/23, 6C-4D, Tajikistan**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DZET	**Dzherino**	**2.94**	**300**	↑Pn	**Pn**	**09 20 03.7**	**+0.2**
	28nm,0.6s						
DZET				↓Sn	**Sn**	**09 20 37.2**	**-1.3**
	87nm,0.4s						
CEP	**Cherat**	**3.54**	**182**	P	**Pn**	**09 20 15.2**	**+3.6**
CEP				S	**Sn**	**09 20 56.0**	**+3.2**
CHCP	**Chirah Chowk**	**3.83**	**165**	P	**Pn**	**09 20 19.2**	**+3.9**
THW	**Thamme Wali**	**4.57**	**183**	P	**Pn**	**09 20 27.5**	**+2.2**
MNAS	**Manas**	**5.12**	**4**	↑Pn	**Pn**	**09 20 34.9**	**+2.1**
	2.8nm,0.3s						
MNAS				↓Sn	**Sn**	**09 21 30.2**	**-0.7**
	17nm,0.5s						
AAK	**Ala-Archa**	**5.58**	**19**	↑Pn	**Pn**	**09 20 41.8**	**+2.8**
	2.1nm,0.5s						
AAK				↑Sn	**Sn**	**09 21 42.7**	**+0.7**
	42nm,0.8s						
KK31	**Karatay Array**	**5.85**	**349**	Pn	**Pn**	**09 20 44.0**	**+1.5**
	5.1nm,0.3s,baz=166,slow=12,SNR=116						
KK31				↓Sn	**Sn**	**09 21 46.4**	**-1.9**
	9.4nm,0.4s,baz=173,slow=23,SNR=4.5						
TKM2	**Tokmak 2**	**6.17**	**25**	↑Pn	**Pn**	**09 20 50.9**	**+3.9**
TKM2				↓Sn	**Sn**	**09 21 58.0**	**+1.8**
	5.0nm,0.6s						
SDNR	**Sundarnagar**	**7.11**	**144**	*e*P	Pn	09 21 08.0	+8.3
SDNR				*e*S	**Sn**	**09 22 15.0**	**-4.0**
PYUN	**Piuthan**	**13.02**	**132**	*e*P	**Pn**	**09 22 16.3**	**-2.9**
	18nm,0.4s						
KOLN	**Koldanda**	**13.63**	**131**	*e*P	**Pn**	**09 22 24.8**	**-2.2**
	12nm,0.5s						
GKN	**Gorkha**	**14.10**	**128**	*e*P	**Pn**	**09 22 30.5**	**-2.5**
	11nm,0.3s						
KKN	**Kakani**	**14.65**	**127**	*e*P	**Pn**	**09 22 37.1**	**-3.1**
DMN	**Daman**	**14.67**	**128**	*e*P	**Pn**	**09 22 38.0**	**-2.4**
	12nm,0.4s						
AB31	**Akbulak array**	**14.78**	**327**	↑P	**Pn**	**09 22 40.9**	**-0.4**
	0.6nm,0.5s,baz=133,slow=13,SNR=11						
PKIN	**Phulchoki**	**14.88**	**127**	*e*P	**Pn**	**09 22 41.0**	**-2.0**
JIRN	**Jiri**	**15.33**	**125**	*e*P	**Pn**	**09 22 45.9**	**-2.9**
	117nm,0.4s						

*CSEM **25** 09:22:33.5±0.4, 38°.19N×38°.18E, h2km, MD2.6, Error ellipse: s-maj=10.0km s-min=8.6km az=127.0*
*DDA **25** 09:22:34.0, 38°.09N×38°.23E, h2km, Md2.6*
*ISK **25** 09:22:33.0, 38°.18N×38°.26E, h20km, MD2.6*
ISC 25 09:22:33.4±1.3, **38°.16N**±0°.03×**38°.24E**±0°.03, **h1**km±12km, **n18,** σ**0**°**56/30, 1D, Turkey**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ELZG	**Elazig**	**0.68**	**60**	↓*i*P	**Pb**	**09 22 47.8**	**-0.4**
ELZG				*i* S	**Sb**	**09 22 58.4**	**+0.3**
ELZG	**Elazig**	**0.68**	**60**	P	**Pb**	**09 22 47.8**	**-0.4**
ELZG				S	**Sb**	**09 22 58.4**	**+0.3**
DARE	**Darende-Malaty**	**0.73**	**305**	*e*PG	**Pg**	**09 22 47.8**	**+0.5**
DARE				*e*SG	**Sb**	**09 22 58.6**	**-0.9**
URFA	**Urfa**	**0.85**	**147**	*e*PG	**Pg**	**09 22 49.9**	**+0.2**
URFA				*e*SG	**Sb**	**09 23 02.8**	**-0.2**
URFA	**Urfa**	**0.85**	**147**	*e*Pg	**Pg**	**09 22 49.9**	**+0.2**
URFA				*e*Sg	**Sb**	**09 23 02.8**	**-0.2**
SVRC	**Sivrice-ELAZID**	**0.87**	**75**	*e*PG	**Pg**	**09 22 49.9**	**-0.1**
SVRC	**Sivrice-ELAZID**	**0.87**	**75**	*e*Pg	**Pg**	**09 22 49.9**	**-0.1**
GZT	**Gaziantep**	**0.96**	**214**	*e*P	**Pb**	**09 22 53.2**	**+0.2**
GZT				*e*S	**Sb**	**09 23 07.2**	**+0.9**
KEMA	**Kemaliye**	**1.13**	**10**	*e*P	**Pn**	**09 22 56.5**	**0.0**
KEMA	**Kemaliye**	**1.13**	**10**	P	**Pn**	**09 22 56.5**	**0.0**
KMRS	**Kahramanmaras**	**1.25**	**239**	*e*PN	**Pg**	**09 22 56.3**	**-1.0**
KMRS	**Kahramanmaras**	**1.25**	**239**	*e*Pn	**Pg**	**09 22 56.3**	**-1.0**
SURC	**SANLIURFA_SURC**	**1.31**	**167**	*e*P	**Pg**	**09 22 57.9**	**-0.6**
SURC				*e*S	**Sg**	**09 23 15.6**	**+0.2**
HCB	**Kahramanmara¯**	**1.33**	**233**	*e*P	**Pg**	**09 22 58.7**	**-0.2**
HCB				*e*S	**Sg**	**09 23 15.8**	**-0.4**
ANDN	**Andirin**	**1.61**	**250**	*e*P	**Pn**	**09 23 02.7**	**-0.4**
ANDN				*e*S	**Sg**	**09 23 26.2**	**+1.1**
ANDN	**Andirin**	**1.61**	**250**	P	**Pn**	**09 23 02.7**	**-0.4**
ANDN				S	**Sg**	**09 23 26.2**	**+1.1**
KUZU	**Kuzuini**	**1.66**	**214**	*e*P	**Pg**	**09 23 05.3**	**0.0**
KUZU				*e*S	**Sn**	**09 23 26.1**	**+0.3**
KUZU	**Kuzuini**	**1.66**	**214**	P	**Pg**	**09 23 05.3**	**0.0**
KUZU				S	**Sn**	**09 23 26.1**	**+0.3**

*ATH **25** 09:40:34.9, 40°.53N×21°.42E, h21km, ML2.7/18, Error ellipse: s-maj=1.2km s-min=0.8km az=320.0*
*ISCJB **25** 09:40:35.2±0.4, 40°.54N±0°.02×21°.33E±0°.03, h14km±3km, Error ellipse: s-maj=3.9km s-min=2.6km az=163.3*
*CSEM **25** 09:40:35.2±0.1, 40°.53N×21°.38E, h10km, ML2.7, Error ellipse: s-maj=3.4km s-min=2.3km az=63.0*
*THE **25** 09:40:35.7, 40°.50N×21°.40E, h4km±1km, ML2.9/5, Error ellipse: s-maj=1.5km s-min=0.6km az=271.0*
*SKO **25** 09:40:35.8, 40°.49N×21°.33E, h2km*
ISC 25 09:40:34.9±0.9, **40°.53N**±0°.01×**21°.42E**±0°.02, **h12**km±8km, **n79,** σ**0**°**80/130, 1C-3D, Greece**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FNA	**Florina**	**0.26**	**353**	P	**Pb**	**09 40 41.0**	**-0.6**
FNA				S	**Sb**	**09 40

KNT				S	**Sg**	**09 41 17.2**	**+0.8**		
KNT				AML	AML	09 41 23.6			
	comp=N,177µm,0.4s								
KNT				AML	AML	09 41 24.5			
	comp=E,138µm,0.6s								
DSL	**Palaion Diesel**	**1.42**	**190**	P	**Pb**	**09 41 01.5**	**+0.2**		
DSL	**Palaion Diesel**	**1.42**	**190**	P	**Pb**	**09 41 01.5**	**+0.2**		
DSL				S	**Sb**	**09 41 19.8**	**+0.5**		
DSL	**Palaion Diesel**	**1.42**	**190**	P	**Pg**	**09 41 02.8**	**+0.8**		
DSL				S	**Sb**	**09 41 19.8**	**+0.5**		
DSL				AML	AML	09 41 28.0			
	comp=N,705µm,0.5s								
DSL				AML	AML	09 41 28.9			
	comp=E,719µm,0.6s								
KEK	**Kerkira**	**1.48**	**237**	P	**Pb**	**09 41 02.8**	**+0.4**		
KEK	**Kerkira**	**1.48**	**237**	P	**Pb**	**09 41 02.8**	**+0.4**		
KEK	**Kerkira**	**1.48**	**237**	P	**Pg**	**09 41 03.6**	**+0.2**		
KEK				S	**Sg**	**09 41 24.1**	**+1.5**		
KEK				AML	AML	09 41 28.1			
	comp=N,364µm,0.8s								
KEK				AML	AML	09 41 30.9			
	comp=E,244µm,0.6s								
PLG	**Polygyros**	**1.56**	**95**	P	**Pn**	**09 41 02.5**	**+0.1**		
PLG	**Polygyros**	**1.56**	**95**	P	**Pb**	**09 41 03.7**	**0.0**		
PLG				S	**Sg**	**09 41 24.6**	**-0.3**		
PLG	**Polygyros**	**1.56**	**95**	P	**Pb**	**09 41 03.7**	**0.0**		
PLG				S	**Sg**	**09 41 24.6**	**-0.3**		
PLG				AML	AML	09 41 27.7			
	comp=E,147µm,0.5s								
PLG				AML	AML	09 41 30.2			
	comp=N,218µm,0.7s								
FYTO	**Fytoko, Volos**	**1.62**	**133**	P	**Pb**	**09 41 05.2**	**+0.5**		
FYTO	**Fytoko, Volos**	**1.62**	**133**	P	**Pb**	**09 41 05.2**	**+0.5**		
EVR	**Evrytania**	**1.64**	**169**	P	**Pn**	**09 41 04.2**	**+0.6**		
EVR	**Evrytania**	**1.64**	**169**	P	**Pn**	**09 41 04.2**	**+0.6**		
EVR				S	**Sn**	**09 41 25.1**	**+0.4**		
EVR	**Evrytania**	**1.64**	**169**	P	**Pn**	**09 41 03.3**	**-0.4**		
EVR				S	**Sn**	**09 41 25.1**	**+0.4**		
EVR				AML	AML	09 41 33.5			
	comp=E,265µm,0.3s								
EVR				AML	AML	09 41 33.6			
	comp=N,451µm,0.2s								
AGG	**Agios Georgios**	**1.66**	**155**	P	**Pb**	**09 41 04.7**	**-0.7**		
AGG	**Agios Georgios**	**1.66**	**155**	P	**Pb**	**09 41 04.7**	**-0.7**		
AGG				S	**Sb**	**09 41 25.9**	**-0.5**		
AGG	**Agios Georgios**	**1.66**	**155**	P	**Pn**	**09 41 04.1**	**+0.2**		
AGG				S	**Sb**	**09 41 25.9**	**-0.5**		
AGG				AML	AML	09 41 34.1			
	comp=N,752µm,0.4s								
AGG				AML	AML	09 41 35.0			
	comp=E,888µm,0.4s								
SRS	**Serrai**	**1.75**	**70**	P	**Pb**	**09 41 07.0**	**0.0**		
SRS	**Serrai**	**1.75**	**70**	P	**Pb**	**09 41 07.0**	**0.0**		
SRS				S	**Sb**	**09 41 29.6**	**+0.7**		
SRS	**Serrai**	**1.75**	**70**	P	**Pb**	**09 41 07.4**	**+0.4**		
SRS				S	**Sb**	**09 41 29.6**	**+0.7**		
SRS				AML	AML	09 41 41.7			
	comp=N,51µm,0.4s								
SRS				AML	AML	09 41 45.8			
	comp=E,70µm,0.4s								
XOR	**Xorichti**	**1.79**	**130**	P	**Pn**	**09 41 06.1**	**+0.4**		
XOR	**Xorichti**	**1.79**	**130**	P	**Pn**	**09 41 05.5**	**-0.2**		
XOR				S	**Sg**	**09 41 31.5**	**-1.0**		
XOR	**Xorichti**	**1.79**	**130**	P	**Pn**	**09 41 05.5**	**-0.2**		
XOR				S	**Sg**	**09 41 31.5**	**-1.0**		
XOR				AML	AML	09 41 39.9			
	comp=E,156µm,0.6s								
XOR				AML	AML	09 41 43.9			
	comp=N,248µm,0.4s								
SKIA	**Skiathos**	**2.08**	**130**	P	**Pn**	**09 41 10.5**	**+0.9**		
SKIA				S	**Sn**	**09 41 36.6**	**+1.1**		
SKIA	**Skiathos**	**2.08**	**130**	P	**Pn**	**09 41 10.5**	**+0.9**		
SKIA				S	**Sn**	**09 41 36.6**	**+1.1**		
KALE	**Kalithea**	**2.21**	**165**	P	**Pn**	**09 41 12.2**	**+0.8**		
KALE				S	**Sb**	**09 41 40.6**	**-1.5**		
KALE	**Kalithea**	**2.21**	**165**	P	**Pn**	**09 41 12.2**	**+0.8**		
KALE				S	**Sb**	**09 41 40.6**	**-1.5**		
KALE				AML	AML	09 41 50.1			
	comp=E,193µm,0.6s								
KALE				AML	AML	09 41 52.7			
	comp=N,201µm,0.5s								
TRIZ	**Trizonia**	**2.22**	**167**	P	**Pn**	**09 41 12.9**	**+1.4**		
TRIZ				S	**Sb**	**09 41 41.3**	**-1.1**		
TRIZ	**Trizonia**	**2.22**	**167**	P	**Pn**	**09 41 12.8**	**+1.4**		
TRIZ				S	**Sb**	**09 41 41.3**	**-1.1**		
DSF	**Desfina**	**2.28**	**158**	P	**Pn**	**09 41 12.9**	**+0.5**		
DSF				S	**Sb**	**09 41 43.0**	**-1.3**		
DSF	**Desfina**	**2.28**	**158**	P	**Pn**	**09 41 12.9**	**+0.5**		
DSF				S	**Sb**	**09 41 43.0**	**-1.3**		
DSF				AML	AML	09 41 48.7			
	comp=E,105µm,0.5s								
DSF				AML	AML	09 41 50.5			
	comp=N,68µm,0.3s								
BARS	**Barje**	**2.30**	**7**	*i* Pn	**Pn**	**09 41 13.4**	**+0.7**		
VIL2	**Platees**	**2.72**	**148**	P	**Pb**	**09 41 21.1**	**-2.5**		
VILL	**Villia**	**2.78**	**148**	P	**Pn**	**09 41 21.1**	**+1.8**		
ZAGS	**Zajecar**	**3.34**	**10**	*e*Pn	**Pn**	**09 41 26.5**	**-0.4**		
GRUS	**Gruza**	**3.40**	**351**	*i* Pn	**Pn**	**09 41 28.2**	**+0.5**		
STON	**Ston**	**3.64**	**311**	*e*Pn	**Pn**	**09 41 31.8**	**+0.8**		
STON				S	**Sn**	**09 42 12.7**	**-1.1**		
STN	**Ston**	**3.64**	**311**	*e*Pn	**Pn**	**09 41 31.8**	**+0.8**		
STON				Sn	**Sn**	**09 42 12.7**	**-1.1**		
DIVS	**Divibare**	**3.72**	**344**	*i* Pn	**Pn**	**09 41 32.3**	**+0.1**		
TRUS	**Trudelj**	**3.77**	**349**	*i* Pn	**Pn**	**09 41 34.1**	**+1.3**		
UDBI	**Udbina**	**5.78**	**316**	*e*Pn	**Pn**	**09 42 01.1**	**+0.6**		
UDBI				Sn	**Sn**	**09 43 06.8**	**0.0**		
UDBI	**Udbina**	**5.78**	**316**	*e*Pn	**Pn**	**09 42 01.1**	**+0.6**		
UDBI				Sn	**Sn**	**09 43 06.7**	**0.0**		
NVLJ	**Novalja**	**6.29**	**312**	*e*Pn	**Pn**	**09 42 06.2**	**-1.3**		
NVLJ				Sn	**Sn**	**09 43 17.0**	**-2.3**		
NVLJ	**Novalja**	**6.29**	**312**	*e*Pn	**Pn**	**09 42 06.1**	**-1.3**		

*IDC **25** 09:46:46.6±0.9, 22.°67S×172.°05E, h0km, mb4.2/11, mb1 4.4/13, mb1mx4.2/25, mbtmp4.2/13, ML3.7/2, MS3.7/16, Ms1 3.7/16, ms1mx3.6/30, Error ellipse: s-maj=30.2km s-min=19.1km az=161.0*

*NEIC **25** 09:46:48.4±0.2, 22.°88S×171.°97E, h10km, mb4.9/28, Error ellipse: s-maj=7.5km s-min=6.3km az=138.0*

*BJI **25** 09:46:50.3, 22.°90S×171.°90E, h34km, mb4.7/15, mB5.3/9, Ms4.9/4, Ms7 4.9/3*

*ISCJB **25** 09:46:51.8±0.3, 22.°95S±0.°05×171.°92E±0.°05, h47km, mb4.7/37, MS3.9/15, Error ellipse: s-maj=6.9km s-min=6.5km az=174.7*

ISC 25 09:46:53.7±0.4, 22.°95S±0.°07×171.°99E±0.°06, h47km, n92, σ1s59/88, mb4.8/37, MS3.8/15, 1C-1D, Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**5.20**	**279**	Pn	**Pn**	**09 48 07.1**	**-2.0**
	1.9nm,0.3s,baz=122,slow=14,SNR=45						
DZM				Sn	**Sn**	**09 49 08.0**	**+0.2**
	1.9nm,0.3s,baz=156,slow=20,SNR=3.6						
DZM				LR	LR	09 49 45.8	
	comp=Z,434nm,18.2s,baz=99,slow=34						
DZM	**Mont Dzumac**	**5.20**	**279**	*e*Pn	**Pn**	**09 48 07.5**	**-1.6**
	12nm,0.2s						
DZM				*e*Sn	**Sn**	**09 49 04.5**	**-3.3**
	26nm,0.3s						
DZM				*e*LR	LR	09 49 15.0	
	574nm,24.8s						
DZM	**Mont Dzumac**	**5.20**	**279**	*e*Pn	**Pn**	**09 48 07.5**	**-1.6**
DZM				Sn	**Sn**	**09 49 08.0**	**+0.2**
MSVF	**Nonsavu**	**7.70**	**49**	*e*Pn	**Pn**	**09 48 43.0**	**-0.3**
URZ	**Urewera**	**15.88**	**165**	Pn	**P**	**09 50 35.7**	**-1.3**
	0.5nm,0.3s,baz=313,slow=8.5,SNR=7.7						
URZ				LR	LR	09 55 45.9	
	comp=Z,545nm,18.1s,baz=353,slow=33						
URZ	**Urewera**	**15.88**	**165**	*e*Pn	**P**	**09 50 37.1**	**+0.1**
	74nm,1.5s						
AFI	**Afiamalu**	**17.82**	**63**	LR	LR	09 55 36.6	
	comp=Z,71nm,19.2s,baz=121,slow=30						
SNZO	**South Karori**	**18.45**	**174**	*e*P	**P**	**09 51 04.8**	**-0.5**
	98nm,1.1s						
THZ	**Tophouse**	**18.78**	**178**	*e*P	**P**	**09 51 09.1**	**+0.1**
	91nm,1.4s						
EIDS	**Eidsvold**	**19.23**	**259**	*e*P	**P**	**09 51 13.2**	**-0.9**
	42nm,1.7s						
LTZ	**Lake Taylor**	**19.78**	**179**	*e*P	**P**	**09 51 20.0**	**+0.1**
	120nm,1.7s						
OXZ	**Oxford**	**20.32**	**180**	*e*P	**P**	**09 51 24.6**	**-1.2**
	108nm,1.7s						
FOZ	**Fox Glacier**	**20.61**	**184**	*e*P	**P**	**09 51 28.6**	**-0.3**
	98nm,1.3s						
CAN	**Canberra**	**23.50**	**233**	*e*P	**P**	**09 51 59.4**	**-0.1**
	53nm,1.4s						
CTA	**Charters Tower**	**24.10**	**272**	P	**P**	**09 52 05.5**	**+0.3**
	12nm,1.2s,baz=87,slow=16,SNR=5.1						
CTAO	**Charters Tower**	**24.10**	**272**	*e*P	**P**	**09 52 05.7**	**+0.6**
	27nm,1.5s						
STKA	**Stephens Creek**	**28.33**	**245**	P	**P**	**09 52 44.6**	**+1.4**
	1.8nm,0.8s,baz=74,slow=5.0,SNR=3.0						
STKA				LR	LR	10 03 31.1	
	comp=Z,166nm,18.0s,baz=39,slow=35						
AS01	**Alice Springs**	**34.87**	**261**	*e*P	**P**	**09 53 39.8**	**-1.0**
AS31	**Alice Springs**	**34.91**	**261**	*e*P	**P**	**09 53 40.4**	**-0.8**
	3.6nm,0.8s						
ASAR	**Alice Springs**	**34.91**	**261**	P	**P**	**09 53 40.5**	**-0.8**
	7.3nm,0.8s,baz=88,slow=9.1,SNR=49						
ASAR				PcP	**PcP**	**09 56 12.2**	**-1.0**
	0.6nm,0.7s,baz=108,slow=3.0,SNR=3.7						
ASAR				LR	LR	10 07 37.2	
	comp=Z,93nm,18.5s,baz=100,slow=36						
WB2	**Warramunga Arr**	**35.10**	**268**	*e*P	**P**	**09 53 41.3**	**-1.4**
	22nm,1.7s						
WRAB	**Tennant Creek**	**35.10**	**268**	*e*P	**P**	**09 53 41.1**	**-1.7**
	4.6nm,0.8s						
WRA	**Warramunga Arr**	**35.11**	**268**	P	**P**	**09 53 41.1**	**-1.8**
	1.7nm,0.4s,baz=96,slow=8.6,SNR=78						
WRA				PcP	**PcP**	**09 56 13.7**	**-0.1**
	0.5nm,0.6s,baz=90,slow=2.7,SNR=4.1						
PPT2	**Papeete2**	**36.38**	**89**	*e*LR	LR	10 03 33.5	
	63nm,27.5s						
PPT	**Papeete**	**36.38**	**89**	LR	LR	10 08 04.5	
	comp=Z,66nm,18.6s,baz=330,slow=35						
H11S2	**WAKE ISLAND Hy**	**41.51**	**352**	T	T	10 38 53.3	
	baz=169						
H11S3	**WAKE ISLAND Hy**	**41.52**	**352**	T	T	10 38 53.2	
	baz=169						
H11S1	**WAKE ISLAND Hy**	**41.53**	**352**	T	T	10 38 52.6	
	baz=169						
WAKE	**Wake Island**	**42.30**	**353**	*e*P	**P**	**09 54 41.1**	**-1.8**
	300nm,1.4s						
H11N1	**WAKE ISLAND Hy**	**42.69**	**353**	T	T	10 40 21.6	
	baz=169						
H11N3	**WAKE ISLAND Hy**	**42.70**	**353**	T	T	10 40 26.0	
	baz=168						
H11N2	**WAKE ISLAND Hy**	**42.71**	**353**	T	T	10 40 22.8	
	baz=168						
MBWA	**Marble Bar**	**48.26**	**262**	*e*P	**P**	**09 55 30.5**	**+0.2**
	11nm,0.9s						
KEKH	**Kekaha**	**52.48**	**34**	*e*P	**P**	**09 56 01.4**	**-0.7**
	287nm,1.6s						
VNDA	**Vanda**	**54.84**	**183**	LR	LR	10 17 58.3	
	comp=Z,114nm,18.1s,baz=10.0,slow=34						
SBA	**Scott Base**	**55.02**	**181**	*e*P	**P**	**09 56 20.8**	**+0.9**
	7.7nm,0.9s						
JAGI	**Jajag, Banyuwa**	**57.17**	**275**	*e*P	**P**	**09 56 34.1**	**-2.2**
	29nm,1.0s						
KKM	**Kota Kinabalu**	**61.63**	**291**	*e*P	**P**	**09 57 07.5**	**+0.3**
	15nm,0.8s						
KSM	**Kuching**	**64.71**	**283**	*e*P	**P**	**09 57 27.2**	**-0.2**
	8.7nm,0.8s						
QSPA	**South Pole Qui**	**67.12**	**180**	*e*P	**P**	**09 57 42.9**	**+0.5**
MJAR	**Matsushiro Arr**	**67.22**	**331**	P	**P**	**09 57 40.7**	**-2.5**
	0.4nm,0.5s,baz=123,slow=8.9,SNR=3.8						
MJAR				LR	LR	10 22 13.5	
	comp=Z,16nm,20.6s,baz=140,slow=32						
MAJO	**Matsushiro**	**67.22**	**331**	*e*P	**P**	**09 57 42.3**	**-0.8**
	16nm,1.4s						
RPN	**Rapa Nui**	**70.30**	**112**	LR	LR	10 23 01.5	
	comp=Z,33nm,19.3s,baz=214,slow=31						
KSRS	**Korea Array**	**73.00**	**325**	P	**P**	**09 58 17.6**	**-0.8**
	1.3nm,0.9s,baz=149,slow=6.3,SNR=5.3						
KSRS				LR	LR	10 30 37.8	
	comp=Z,24nm,18.5s,baz=122,slow=36						
KSAR	**Wonju Array Be**	**73.01**	**325**	P	**P**	**09 58 17.6**	**-0.9**
KS01	**Wonju Array Si**	**73.03**	**325**	*e*P	**P**	**09 58 18.8**	**+0.1**
NJ2	**Nanjing**	**74.64**	**315**	*e*P	**P**	**09 58 27.8**	**-0.4**
MAW	**Mawson**	**75.97**	**202**	LR	LR	10 29 53.1	
	comp=Z,78nm,18.4s,baz=64,slow=34						
PEA0	**Petropavlovsk-**	**76.75**	**351**	*e*P	**P**	**09 58 39.2**	**-0.6**
PETK	**Petropavlovsk-**	**76.75**	**351**	P	**P**	**09 58 38.9**	**-0.9**
	5.3nm,0.9s,baz=261,slow=5.7,SNR=4.2						
PETK				LR	LR	10 29 50.7	
	comp=Z,97nm,18.6s,baz=145,slow=34						
CN2	**Changchun**	**78.95**	**328**	*e*P	**P**	**09 58 54.8**	**+2.5**
GYA	**Guiyang**	**80.03**	**304**	*e*P	**P**	**09 59 00.3**	**+1.6**
GYA				pmax	pmax		
	comp=Z,10.0nm,1.0s						
SYO	**Syowa Base**	**82.08**	**196**	*i*eP	**P**	**09 59 07.0**	**-1.8**
SYO	**Syowa Base**	**82.08**	**196**	*i*eP	**P**	**09 59 12.7**	**+3.9**
CM01	**Chiang Mai Arr**	**82.32**	**294**	*e*P	**P**	**09 59 10.2**	**-0.6**
CMAR	**Chiang Mai Arr**	**82.35**	**294**	P	**P**	**09 59 12.0**	**+1.0**
	1.8nm,0.5s,baz=143,slow=4.2,SNR=9.6						
KMI	**Kunming**	**82.39**	**301**	P	**P**	**09 59 12.8**	**+1.4**
KMI				pmax	pmax		
	comp=Z,6.0nm,0.5s						
KMI				pmax	pmax		
	comp=Z,480nm,4.5s						
XAN	**Xi'an**	**82.49**	**312**	P	**P**	**09 59 14.5**	**+3.0**
XAN				pP	pP	09 59 25.0	-0.3
XAN				pmax	pmax		
	comp=Z,5.0nm,0.5s						
XAN				pmax	pmax		
	comp=Z,210nm,5.0s						
CHTO	**Chiang Mai**	**82.51**	**294**	*e*P	**P**	**09 59 11.6**	**-0.2**
	15nm,1.6s						
HHC	**Hu-ho-hao-te**	**84.69**	**319**	*e*P	**P**	**09 59 22.8**	**+0.1**
HHC				sP	pP	09 59 38.3	+1.7
HHC				PP	**PP**	**10 02 38.3**	**-1.2**
HHC				S	**S**	**10 09 48.5**	**+1.7**
HHC				SS	**SS**	**10 15 21.3**	**+1.5**
HHC				pmax	pmax		
	comp=Z,24nm,1.3s						
HHC				pmax	pmax		
	comp=Z,130nm,5.3s						
HHC				LR	LR		
	comp=N,120nm,14.9s						
HHC				LR	LR		
	comp=E,250nm,16.2s						
HHC				LR	LR		
	comp=Z,60nm,16.2s						
SNAA	**Sanae**	**85.56**	**182**	LR	LR	10 36 36.7	
	comp=Z,94nm,18.4s,baz=214,slow=35						
SNAA	**Sanae**	**85.56**	**182**	*e*P	**P**	**09 59 25.7**	**-1.0**
	16nm,1.8s						
KDAK	**Kodiak Island**	**85.70**	**18**	LR	LR	10 39 04.4	
	comp=Z,26nm,18.3s,baz=286,slow=37						
VNA3	**Neumayer Olymp**	**86.06**	**179**	P	**P**	**09 59 28.2**	**-0.8**
VNA2	**Neumayer--Watz**	**86.38**	**180**	P	**P**	**09 59 30.4**	**-0.2**
	baz=191,slow=4.0						
LZH	**Lanzhou**	**87.10**	**311**	*e*P	**P**	**09 59 35.0**	**+0.2**
LZH				pP	pP	09 59 46.0	-2.7
LZH				sP	sP	09 59 50.0	-4.0
LZH				pmax	pmax		
	comp=Z,17nm,1.0s						
WAKR	**Walker**	**88.64**	**47**	*e*P	**P**	**09 59 41.7**	**-0.5**
	20nm,1.7s						
PAHR	**Pah Rah Range**	**89.29**	**46**	*e*P	**P**	**09 59 45.7**	**+0.6**
	6.6nm,1.4s						
TPNV	**Topopah Spring**	**90.06**	**50**	*e*P	**P**	**09 59 47.7**	**-1.1**
	20nm,1.8s						
BMN	**Battle Mountai**	**91.09**	**46**	*e*P	**P**	**09 59 54.6**	**+1.1**
	5.7nm,1.3s						
SONM	**Songino Array**	**91.71**	**322**	LR	LR	10 41 45.3	
	comp=Z,33nm,19.1s,baz=88,slow=36						
TUC	**Tucson**	**91.93**	**56**	*e*P	**P**	**09 59 58.3**	**+0.8**
	8.8nm,1.7s						
LCMT	**Little Creek M**	**92.21**	**51**	*e*P	**P**	**09 59 59.0**	**+0.2**
	3.9nm,1.3s						
U15A	**North Rim**	**92.63**	**51**	*e*P	**P**	**10 00 00.8**	**-0.1**
	4.4nm,0.6s						
ILAR	**Eielson Array**	**93.02**	**16**	P	**P**	**09 59 58.5**	**-3.2**
	0.5nm,0.9s,baz=243,slow=5.5,SNR=4.7						
ILAR				LR	LR	10 38 59.8	
	comp=Z,107nm,18.1s,baz=204,slow=34						
ILB	**Eielson Array**	**93.02**	**16**	*e*P	**P**	**10 00 02.7**	**+1.1**
TXAR	**Lajitas Array**	**96.30**	**61**	P	**P**	**10 00 16.7**	**-0.9**
	0.1nm,0.7s,baz=221,slow=4.8,SNR=2.8						
PDAR	**Pinedale Array**	**97.26**	**47**	P	**P**	**10 00 21.0**	**-0.9**
	0.2nm,0.7s,baz=236,slow=2.9,SNR=2.7						
WMQ	**Urumqi**	**101.60**	**313**	P	**Pdif**	**10 00 41.3**	**+0.3**
WMQ				LR	LR		
	comp=N,150nm,39.0s						
WMQ				LR	LR		
	comp=E,180nm,34.3s						
KSH	**Kashi**	**108.69**	**306**	*e*Pdif	**Pdif**	**10 01 15.0**	**+2.3**
KSH				PP	**PP**	**10 05 51.0**	**+6.3**
KSH				S	**Sdif**	**10 13 18.0**	**+0.2**
KSH				SS	**SS**	**10 21 04.0**	**+5.0**
KSH				AMB	AMB		
	comp=Z,44nm,4.7s						
KSH				LR	LR		
	comp=N,39nm,7.1s						
KSH				LR	LR		
	comp=E,41nm,6.6s						
KSH				LR	LR		
	comp=Z,98nm,5.3s						
BOSA	**Boshof**	**119.53**	**214**	PKP	**PKPdf**	**10 05 39.6**	**+0.6**
	4.3nm,1.0s,baz=102,slow=5.2,SNR=3.2						
SPB	**Sao Paulo**	**119.93**	**138**	*e*PKPdf	**PKPdf**	**10 05 39.4**	**-0.3**
PTGA	**Pitinga**	**124.27**	**108**	*e*PKPdf	**PKPdf**	**10 05 49.1**	**+0.8**
CRVS	**Cervenica-Dubn**	**145.17**	**325**	*e*PKP	**PKPdf**	**10 06 29.9**	**+3.9**
LANS	**Liptovska Anna**	**146.03**	**327**	*e*PKP	**PKPab**	**10 06 31.0**	**+2.0**
DPC	**Dobruska-Polom**	**146.69**	**331**	*e*PKP	**PKPab**	**10 06 32.0**	**+0.5**
VYHS	**Vyhne**	**146.78**	**327**	*e*PKP	**PKPab**	**10 06 31.5**	**-0.3**
KHC	**Kasperske Hory**	**148.79**	**332**	*e*PKP	**PKPab**	**10 06 39.6**	**-0.3**
KHC				*ex*	x	10 06 44.3	
GERES	**GERESS Array B**	**148.96**	**332**	PKPbc	**PKPbc**	**10 06 35.3**	**-1.1**
	0.5nm,0.7s,baz=35,slow=4.9,SNR=3.7						
MON	**Monaco**	**155.67**	**332**	*e*PKPdf	**PKPdf**	**10 06 41.7**	**-0.6**
TOA0	**Torodi Ar. Sit**	**166.58**	**225**	*e*PKPdf	**PKPdf**	**10 06 54.4**	**-0.4**
TORD	**Torodi Ar. Bea**	**166.58**	**225**	PKP	**PKPdf**	**10 06 54.2**	**-0.6**
	1.0nm,0.7s,baz=168,slow=0.4,SNR=7.5						

*IDC **25** 10:06:28.2±2.2, 32.°70N×76.°04E, h0km, mb3.7/7, mb1 3.8/9, mb1mx3.5/50, mbtmp3.7/9, ML3.6/2, MS2.8/2, Ms1 2.8/2, ms1mx2.3/52, Error ellipse: s-maj=42.5km s-min=27.1km az=143.0*

*ISCJB **25** 10:06:32.9±0.5, 33.°00N±0.°03×75.°82E±0.°10, h28km, mb3.6/6, MS2.9/1, Error ellipse: s-maj=12.1km s-min=3.7km az=164.2*

*NDI **25** 10:06:33.5±2.1, 33.°00N×75.°96E, h10km, ML3.3*

ISC 25 10:06:34.2±0.7, 32.°98N±0.°04×75.°99E±0.°09, h28km, n19, σ1s79/27, mb3.6/6, Kashmir-India border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DHRM	**DHARAMSHALA**	**0.77**	**160**	*e*P	**Pb**	**10 06 46.2**	**-3.0**
DHRM				*e*S	**Sb**	**10 06 59.7**	**+0.2**
DHRM				AML	AML	10 07 05.4	
	comp=E,515nm,0.8s						
DHRM				AML	AML	10 07 08.6	
	comp=N,755nm,0.8s						
BHK	**Bhakra**	**1.60**	**167**	*e*P	**Pb**	**10 07 02.3**	**-0.8**
BHK				*e*S	**Sb**	**10 07 23.1**	**+0.2**
SDNR	**Sundarnagar**	**1.69**	**150**	*e*P	**Pb**	**10 07 04.0**	**-0.7**
SDNR				*e*S	**Sb**	**10 07 26.0**	**+0.4**
SMLA	**Simla**	**2.10**	**151**	*e*P	**Pb**	**10 07 10.6**	**-1.0**
SMLA				*e*S	**Sb**	**10 07 37.3**	**+0.1**
SMLA				AML	AML	10 07 41.4	
	comp=E,490nm,0.3s						
SMLA				AML	AML	10 07 41.7	
	comp=N,955nm,0.5s						
JOSI	**Joshimath**	**3.88**	**128**	*e*P	**Pn**	**10 07 34.6**	**+2.4**
JOSI				*e*S	**Sn**	**10 08 17.2**	**+0.1**
JOSI				IAML		10 08 35.9	
	comp=E,230nm,0.8s						
JOSI				IAML		10 08 36.2	
	comp=N,231nm,1.2s						
NDI	**New Delhi**	**4.41**	**166**	*ex*	**Sn**	**10 08 30.0**	**+0.3**
SONA	**Sohna**	**4.81**	**168**	*e*P	**Pn**	**10 07 46.1**	**+1.4**
SONA				*e*S	**Sn**	**10 08 41.0**	**+1.6**
SONA				IAML		10 09 11.5	
	comp=E,35nm,0.7s						
SONA				IAML		10 09 13.8	
	comp=N,20nm,0.8s						
KHET	**Khetri**	**4.89**	**182**	*e*P	**Pn**	**10 07 45.7**	**-0.2**
KHET				*e*S	**Sn**	**10 08 41.7**	**+0.1**
KHET				AML	AML	10 09 07.7	
	comp=N,37nm,0.4s						
KHET				AML	AML	10 09 07.9	
	comp=E,31nm,0.5s						
AAK	**Ala-Archa**	**9.71**	**353**	Pn	**Pn**	**10 08 53.6**	**+1.4**
	comp=E,0.7nm,0.3s,baz=136,slow=8.4,SNR=4.3						
AAK				Sn	**Sn**	**10 10 43.3**	**+2.9**
	comp=E,0.4nm,0.3s,baz=186,slow=6.4,SNR=3.1						
AAK				LR	LR	10 13 17.4	
	comp=E,26nm,19.1s,baz=220,slow=41						
MKAR	**Makanchi Array**	**14.61**	**17**	Pn	**Pn**	**10 10 00.5**	**+1.5**
	comp=E,0.2nm,0.3s,baz=200,slow=13,SNR=5.4						
MKAR				Sn	**Sn**	**10 12 34.0**	**-6.0**
	comp=E,0.1nm,0.3s,baz=198,slow=22,SNR=4.2						
KURBB	**Kurchatov Arra**	**17.73**	**5**	P	**Pn**	**10 10 37.0**	**-1.8**
	comp=E,0.1nm,0.3s,baz=192,slow=11,SNR=4.0						
BVAR	**Borovoye Array**	**20.44**	**350**	P	**P**	**10 11 09.9**	**+0.7**
	comp=E,2.6nm,0.6s,baz=170,slow=9.0,SNR=14						
ZALV	**Zalesovo Beam**	**21.89**	**14**	P	**P**	**10 11 25.1**	**+0.4**
	comp=E,0.8nm,0.3s,baz=203,slow=7.2,SNR=4.3						
AKTO	**Aktyubinsk**	**21.91**	**328**	P	**P**	**10 11 25.8**	**+0.8**
	comp=E,1.1nm,0.4s,

15nm,1.6s
WRAB Tennant Creek 31.88 256 *e*P **P** **10 15 56.8 -1.5**
16nm,1.8s
WR1 Warramunga Arr 31.89 256 *e*P **P** **10 15 56.5 -1.8**
13nm,1.6s
WR1 *e*PcP **PcP** **10 18 45.4 -0.3**
WRA Warramunga Arr 31.89 256 P **P** **10 15 56.5 -1.9**
1.8nm,0.7s,baz=85,slow=9.0,SNR=22
WRA PcP **PcP** **10 18 45.4 -0.3**
0.6nm,0.7s,baz=83,slow=3.1,SNR=4.8
AS01 Alice Springs 32.68 249 *e*P **P** **10 16 04.1 -1.1**
AS31 Alice Springs 32.72 249 *e*P **P** **10 16 04.3 -1.3**
2.4nm,0.8s
AS31 *e*PcP **PcP** **10 18 47.6 -0.3**
ASAR Alice Springs 32.72 249 P **P** **10 16 04.2 -1.3**
5.5nm,0.7s,baz=78,slow=8.9,SNR=82
ASAR PcP **PcP** **10 18 47.6 -0.3**
0.7nm,0.8s,baz=104,slow=1.3,SNR=6.6
BBOO Buckleboo 33.56 232 *e*P **P** **10 16 13.2 +0.4**
11nm,0.8s
FORT Forrest 39.31 239 *e*P **P** **10 17 01.6 +0.1**
194nm,0.9s
FITZ Fitzroy Crossi 40.10 260 *e*P **P** **10 17 08.1 -0.1**
MBWA Marble Bar 45.61 255 *e*P **P** **10 17 52.6 0.0**
11nm,0.9s
MLH Mauna Loa 50.10 48 *e*P **P** **10 18 26.9 -0.5**
587nm,1.7s
OBL Observatory Le 50.12 48 *e*P **P** **10 18 27.8 +0.4**
4um,1.6s
VNDA Vanda 62.69 181 *e*P **P** **10 19 56.0 +0.6**
2.3nm,0.7s
SBA Scott Base 62.97 180 *e*P **P** **10 19 58.9 +1.7**
8.3nm,0.8s
LHMI Lhok Sumawe 72.59 280 *e*P **P** **10 20 58.5 -0.1**
92nm,1.0s
CM31 Chiang Mai Arr 75.12 294 *e*P **P** **10 21 13.7 +0.5**
CMAR Chiang Mai Arr 75.12 294 P **P** **10 21 14.5 +1.3**
0.8nm,0.4s,baz=118,slow=4.7,SNR=6.5
QSPA South Pole Qui 75.13 180 *e*P **P** **10 21 12.9 +0.3**
SONA0 Songino Array 82.70 324 *e*P **P** **10 21 53.9 -0.2**
9.5nm,1.8s
SONM Songino Array 82.70 324 P **P** **10 21 53.9 -0.2**
0.8nm,0.8s,baz=123,slow=5.3,SNR=3.6
TRF Thorofare Moun 84.67 18 *e*P **P** **10 22 03.6 -0.2**
30nm,1.8s
ILAR Eielson Array 86.66 18 P **P** **10 22 13.1 -0.3**
0.4nm,0.9s,baz=211,slow=8.2,SNR=4.1
ILAR pP **pP** **10 22 49.5 -0.2**
0.3nm,0.6s,baz=232,slow=4.6,SNR=2.5
ILB Eielson Array 86.66 18 *e*P **P** **10 22 13.1 -0.3**
SYO Syowa Base 88.57 197 *e*P **P** **10 22 23.0 +0.4**
LPIG La Paz 89.17 65 LR LR 10 55 56.3
comp=Z,50nm,21.3s,baz=216,slow=31
E07A Sunnyside 89.27 41 *e*P **P** **10 22 26.9 +0.7**
38nm,2.0s
TIXI Tiksi 90.16 349 *e*P **P** **10 22 29.0 -0.7**
14nm,1.1s
SNAA Sanae 93.38 183 P **P** **10 22 44.2 -0.8**
2.1nm,0.8s,baz=231,slow=6.3,SNR=12
SNAA Sanae 93.38 183 *e*P **P** **10 22 44.2 -0.8**
20nm,2.0s
LRM Limekiln Ridge 93.85 44 *e*P **P** **10 22 48.4 +0.6**
PDAR Pinedale Array 94.98 47 P **P** **10 22 55.3 +2.3**
0.5nm,1.0s,baz=202,slow=1.0,SNR=2.5
MK32 Makanchi Array 97.41 316 *e*P Pdif 10 23 04.5 +0.9
MKAR Makanchi Array 97.41 316 P Pdif 10 23 04.5 +0.9
0.6nm,0.8s,baz=101,slow=6.3,SNR=4.1
ZAA1 Zalesovo Array 97.60 324 *e*P **P** **10 23 03.9 -0.3**
ZALV Zalesovo Beam 97.60 324 P **P** **10 23 03.9 -0.3**
0.6nm,0.3s,baz=123,slow=7.1,SNR=2.7
FUORN Ofenpass-Fuorn 143.05 334 *e*PKPdf PKPbc 10 29 02.0 +1.2
DAVOX Davos/Dischmat 143.09 334 PKP PKPbc 10 29 01.0 +0.2
2.0nm,0.5s,baz=12,slow=10,SNR=5.9
TUE Stuetta 143.55 334 *e*PKPdf **PKPdf** **10 29 03.5 -0.9**
SENIN Lac Senin/Sane 144.47 336 *e*PKPdf PKPbc 10 29 05.4 +0.4
CUC Castrocucco 144.76 321 *e*PKPbc **PKPab** **10 29 05.1 -0.7**
BNI Bardonecchia 145.80 335 *e*PKPdf **PKPab** **10 29 10.1 +0.5**
SSB Saint Sauveur 146.43 338 *e*PKPdf **PKPab** **10 29 12.6 +0.7**
CMLA Cha da Macela 154.51 24 *e*PKPbc **PKPbc** **10 29 30.8 +0.4**
TORD Torodi Ar. Bea 166.01 265 PKP **PKPdf** **10 29 35.2 0.0**
0.3nm,0.6s,baz=48,slow=2.1,SNR=3.1
TORD PKPab **PKPab** **10 30 35.6 -0.6**
0.9nm,0.8s,baz=73,slow=4.0,SNR=5.5
TOA1 Torodi Ar. Sit 166.01 265 *e*PKPdf **PKPdf** **10 29 35.2 0.0**
TOA1 *e*PKPab **PKPab** **10 30 35.6 -0.6**

IDC 25 10:23:26.1±1.3, 12°.61N×141°.75E, h0km, mb3.5/4, mb1 3.8/5, mb1mx3.5/41, mbtmp3.5/5, ML4.1/1, Error ellipse: s-maj=61.2km s-min=22.2km az=116.0, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**3.19**	**72**	P		n	Pn	10 24 18.0	+0.5
	24nm,0.3s,baz=254,slow=7.4,SNR=18								
GUMO				S		n	Sn	10 24 47.7	-8.6
	28nm,0.3s,baz=330,slow=20,SNR=13								
WRA	**Warramunga Arr**	**33.16**	**193**	P			P	10 30 04.1	-0.4
	0.7nm,0.6s,baz=16,slow=9.7,SNR=11								
ASAR	**Alice Springs**	**36.86**	**192**	P			P	10 30 36.7	+0.3
	0.2nm,0.7s,baz=23,slow=12,SNR=7.2								
ILAR	**Eielson Array**	**70.75**	**25**	P			P	10 34 43.1	-0.8
	0.2nm,0.4s,baz=246,slow=6.2,SNR=4.3								
YKA	**Yellowknife Ar**	**85.11**	**27**	P			P	10 36 04.4	+0.6
	0.4nm,0.7s,baz=279,slow=4.9,SNR=3.7								

*ISCJB **25** 10:23:54.4±0.7, 34°.41N±0°.03×36°.63E±0°.04, h7km±5km, Error ellipse: s-maj=5.7km s-min=4.3km az=23.9*
*CSEM **25** 10:23:54.4±0.2, 34°.40N×36°.63E, h5km, ML2.9, Error ellipse: s-maj=3.8km s-min=2.7km az=109.0*
*NSSC **25** 10:23:54.0±1.6, 34°.40N×36°.63E, h2km±6km, MD1.5, ML2.0*
*GRAL **25** 10:23:57.0±0.3, 34°.34N×36°.58E, h0km±15km, MD2.9*
ISC 25 10:23:53.2±1.1, 34°.44N±0°.02×36°.66E±0°.04, h7km±12km, n23, σ0°.53/43, Jordan-Syria region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
FKH	**Fakeheh**	**0.29**	**227**	*e*P			**Pb**	**10 24 00.0**	**-0.7**
FKH				*e*S			**Sg**	**10 24 02.4**	**-0.3**
FKH	**Fakeheh**	**0.29**	**227**	*e*P			**Pb**	**10 24 00.0**	**-0.7**
FKH				*e*S			**Sg**	**10 24 02.4**	**-0.3**
MARH	**Ras Al Marh**	**0.44**	**200**	*e*P			**Pg**	**10 24 01.8**	**0.0**
MARH				*e*S			**Sg**	**10 24 08.8**	**+1.2**
MARH					AML	AML		10 24 16.1	
	comp=E,155nm,0.3s								
MARH					AML	AML		10 24 19.1	
	comp=N,104nm,0.4s								
MARH	**Ras Al Marh**	**0.44**	**200**	*e*P			**Pg**	**10 24 01.8**	**0.0**
	SNR=96								
MARH				*e*S			**Sg**	**10 24 08.8**	**+1.2**
	comp=N,104nm,0.4s,SNR=59								
ROOS	**tl_alroos**	**0.58**	**117**	*e*P			**Pb**	**10 24 05.5**	**-0.3**
ROOS				*e*S			**Sb**	**10 24 14.2**	**-0.1**
ROOS					AML	AML		10 24 21.6	
	comp=E,150nm,0.4s								
ROOS					AML	AML		10 24 22.6	
	comp=N,135nm,0.3s								
ROOS	**tl_alroos**	**0.58**	**117**	*e*P			**Pb**	**10 24 05.5**	**-0.3**
	SNR=75								
ROOS				*e*S			**Sb**	**10 24 14.2**	**-0.1**
	comp=N,135nm,0.3s,SNR=59								
HWQ	**Hawqa**	**0.61**	**255**	*e*P			**Pb**	**10 24 06.6**	**+0.2**
HWQ				*e*S			**Sg**	**10 24 13.6**	**+0.4**
HWQ	**Hawqa**	**0.61**	**255**	*e*P			**Pb**	**10 24 06.6**	**+0.2**
HWQ				*e*S			**Sg**	**10 24 13.6**	**+0.4**
BHL	**Bhannes**	**0.99**	**238**	*e*P			**Pb**	**10 24 12.8**	**0.0**
BHL				*e*S			**Sg**	**10 24 24.6**	**-0.6**
BHL	**Bhannes**	**0.99**	**238**	*e*P			**Pb**	**10 24 12.8**	**0.0**
BHL				*e*S			**Sg**	**10 24 24.6**	**-0.6**
TOTH	**TOTAH**	**1.09**	**190**	*e*P			**Pn**	**10 24 15.7**	**+0.7**
TOTH				*e*S			**Sg**	**10 24 28.6**	**+0.2**
TOTH					AML	AML		10 24 32.7	
	comp=E,25nm,0.5s								
TOTH					AML	AML		10 24 33.0	
	comp=N,30nm,0.5s								
TOTH	**TOTAH**	**1.09**	**190**	*e*P			**Pn**	**10 24 15.7**	**+0.7**
	SNR=67								
TOTH				*e*S			**Sg**	**10 24 28.6**	**+0.2**
	comp=N,30nm,0.5s,SNR=59								
DQRL	**Deir Qamar**	**1.17**	**231**	*e*P			**Pb**	**10 24 15.9**	**+0.2**
DQRL	**Deir Qamar**	**1.17**	**231**	*e*P			**Pb**	**10 24 15.9**	**+0.2**
RCY	**Rachaya**	**1.17**	**216**	*e*P			**Pb**	**10 24 15.8**	**0.0**
BRBR	**Barbar**	**1.19**	**210**	*e*P			**Pn**	**10 24 16.3**	**-0.1**
BRBR				*e*S			**Sg**	**10 24 30.5**	**-0.8**
BRBR					AML	AML		10 24 44.7	
	comp=E,26nm,0.3s								
BRBR					AML	AML		10 24 46.0	
	comp=N,21nm,0.6s								
BRBR	**Barbar**	**1.19**	**210**	*e*P			**Pn**	**10 24 16.3**	**-0.1**
	SNR=57								
BRBR				*e*S			**Sg**	**10 24 30.5**	**-0.8**
	comp=N,21nm,0.6s,SNR=49								
ARNB	**Al Arnab**	**1.53**	**338**	*e*P			**Pg**	**10 24 22.5**	**0.0**
ARNB				*e*S			**Sg**	**10 24 42.9**	**+0.6**
ARNB					AML	AML		10 24 45.9	
	comp=N,56nm,0.3s								
ARNB					AML	AML		10 24 47.5	
	comp=E,71nm,0.3s								
ARNB	**Al Arnab**	**1.53**	**338**	*e*P			**Pg**	**10 24 22.5**	**0.0**
	SNR=57								
ARNB				*e*S			**Sg**	**10 24 42.9**	**+0.6**
	comp=E,71nm,0.3s,SNR=49								
BTCH	**Batrach**	**1.60**	**354**	*e*P			**Pg**	**10 24 23.2**	**-0.8**
BTCH				*e*S			**Sg**	**10 24 45.4**	**+0.6**
BTCH					AML	AML		10 24 49.5	
	comp=N,50nm,0.3s								
BTCH					AML	AML		10 24 50.1	
	comp=E,62nm,0.5s								
BTCH	**Batrach**	**1.60**	**354**	*e*P			**Pg**	**10 24 23.2**	**-0.8**
	SNR=57								
BTCH				*e*S			**Sg**	**10 24 45.4**	**+0.6**
	comp=E,62nm,0.5s,SNR=49								
DRWC	**Darouich**	**2.18**	**0**	*e*P			**Pb**	**10 24 32.5**	**-0.4**
DRWC				*e*S			**Sb**	**10 25 00.1**	**0.0**
DRWC					AML	AML		10 25 12.0	
	comp=E,16nm,0.4s								
DRWC					AML	AML		10 25 12.7	
	comp=N,21nm,0.5s								
DRWC	**Darouich**	**2.18**	**0**	*e*P			**Pb**	**10 24 32.5**	**-0.4**
	SNR=45								
DRWC				*e*S			**Sb**	**10 25 00.2**	**0.0**
	comp=N,21nm,0.5s,SNR=40								

*FUNV **25** 10:29:46.4, 7°.72N×71°.25W, h5km, MW2.5*
*ISCJB **25** 10:29:47.7±0.9, 7°.82N±0°.04×71°.20W±0°.03, h17km±9km, Error ellipse: s-maj=6.9km s-min=4.0km az=146.6*
ISC 25 10:29:46.1±1.3, 7°.73N±0°.05×71°.24W±0°.03, h11km±10km, n20, σ0°73/30, 1C, Venezuela

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SOCV	**Socops**	**0.67**	**35**	⇑*e*P			**Pg**	**10 29 58.6**	**-0.5**
SOCV				*e*S			**Sg**	**10 30 08.8**	**+0.9**
CAPV	**Capacho**	**1.07**	**277**	*e*P			**Pg**	**10 30 06.1**	**-0.7**
CAPV				*e*S			**Sg**	**10 30 20.2**	**-0.6**
PAMC	**Pamplona, Colo**	**1.50**	**255**	*e*P			**Pn**	**10 30 14.2**	**+0.8**
PAMC				*e*S			**Sb**	**10 30 33.2**	**-0.3**
CBRI	**Barrientos, No**	**1.54**	**269**	*e*P			**Pg**	**10 30 15.7**	**0.0**
ELOV	**Elorza**	**1.89**	**113**	*e*P			**Pn**	**10 30 19.1**	**+0.7**
ELOV				*e*S			**Sn**	**10 30 42.8**	**+0.5**
GIRC	**Giron, Santand**	**2.04**	**252**	*e*P			**Pb**	**10 30 23.4**	**+0.1**
OCAC	**Ocana**	**2.12**	**284**	*e*P			**Pb**	**10 30 25.8**	**+1.2**
OCAC				*i*				10 30 57.5	
	comp=Z,54nm,0.4s								
BTLC	**Betulia, Santa**	**2.17**	**248**	*e*P			**Pb**	**10 30 25.6**	**+0.1**
BARC	**Barichara**	**2.23**	**240**	*e*P			**Pb**	**10 30 26.5**	**-0.2**
BARC				*i*				10 31 00.9	
	comp=Z,24nm,0.6s								
SANV	**Sanarito**	**2.44**	**44**	*e*P			**Pn**	**10 30 26.8**	**+0.8**
SANV				*e*S			**Sn**	**10 30 56.0**	**+0.1**
BRRC	**Barranca, Sant**	**2.53**	**256**	*e*P			**Pb**	**10 30 31.2**	**-0.4**
BRRC				*i*				10 31 12.7	
	comp=Z,10nm,0.6s								
QARV	**Quebrada Arrib**	**2.56**	**16**	*e*P			**Pn**	**10 30 27.8**	**+0.2**
QARV				*e*S			**Sn**	**10 30 59.5**	**+0.6**
RUSC	**La Rusia**	**2.59**	**225**	*e*P			**Pb**	**10 30 33.0**	**+0.1**
CURV	**Curarigua**	**2.59**	**29**	*e*P			**Pn**	**10 30 29.0**	**+0.9**
CURV				*e*S			**Sn**	**10 30 58.8**	**-1.0**
VIRV	**Villa del Rosa**	**2.98**	**337**	*e*P			**Pn**	**10 30 34.3**	**+0.8**
VIRV				*e*S			**Sn**	**10 31 09.0**	**-0.2**
TEPV	**Terepaima**	**3.00**	**42**	*e*P			**Pn**	**10 30 34.1**	**+0.4**
TEPV				*e*S			**Sn**	**10 31 08.4**	**-1.4**
DABV	**Dabajuro**	**3.23**	**11**	*e*P			**Pn**	**10 30 37.2**	**+0.4**
DABV				*e*S			**Sn**	**10 31 14.1**	**-1.1**
BAUV	**El Baul**	**3.39**	**69**	*e*S			**Sn**	**10 31 18.0**	**-1.3**
TURV	**Turiamo**	**4.31**	**51**	*e*P			**Pn**	**10 30 51.7**	**0.0**
MONV	**Montecano**	**4.38**	**17**	*e*P			**Pn**	**10 30 52.9**	**+0.2**

NNC 25 10:31:39.5±2.2, 36°.90N×71°.03E, h0km, mb3.8, mpv3.4, 4C-1D, Error ellipse: s-maj=19.4km s-min=9.2km az=175.0, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
DZET	**Dzherino**	**2.58**	**318**	⇑P			Pn	10 32 22.6	-0.1
	6.8nm,0.3s								
DZET				⇓S			Sn	10 32 56.3	+1.4
	26nm,0.4s								
KK31	**Karatay Array**	**6.21**	**356**	P			Pn	10 33 12.1	-0.4
	0.9nm,0.2s,baz=175,slow=12,SNR=62								
KK31				⇑S			Sn	10 34 24.3	+0.2
	0.5nm,0.4s,baz=185,slow=24,SNR=4.3								
AAK	**Ala-Archa**	**6.32**	**24**	⇑P			Pn	10 33 14.5	+0.4
	2.2nm,0.6s								
AAK				⇑S			Sn	10 34 28.3	+1.2
	3.9nm,0.7s								

MEX 25 10:35:41.2±1.0, 16°.01N×97°.58W, h14km±12km, MD3.8, Oaxaca

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.65**	**306**	*e*P			Pg	10 35 51.9	-2.0
PNIG				*e*S			Sg	10 36 00.1	-2.4
VHO	**Vista Hermosa**	**1.33**	**37**	*e*P			Pn	10 36 01.5	-4.1
VHO				*e*S			Sb	10 36 17.5	-5.6
HUIG	**Huatulco**	**1.44**	**100**	*e*P			Pn	10 36 03.8	-3.0
HUIG				*e*S			Sn	10 36 20.9	-4.7
TLIG	**Tlapa**	**1.81**	**329**	*e*P			Pn	10 36 09.0	-3.1
TLIG				*i* S			Sn	10 36 31.2	-3.7
MEIG	**Mezcala**	**2.73**	**315**	*i* P			Pn	10 36 22.9	-1.8

*NIED **25** 10:35:00, 38°.60N×142°.90E, h17km, Mw3.6 Best double couple: M0 3.12000×10^14 NP1: φs 355.00000°, δ 11.00000°, λ -133.00000°. NP2: φs 218.00000°, δ 82.00000°, λ -82.00000°.*
*IDC **25** 10:35:42.9±0.8, 38°.46N×143°.16E, h0km, mb3.6/9, mb1 3.8/12, mb1mx3.7/40, mbtmp3.6/12, ML3.3/3, MS2.8/2, Ms1 2.8/2, ms1mx2.3/40, Error ellipse: s-maj=25.4km s-min=18.3km az=98.0*
*JMA **25** 10:35:44.0±0.1, 38°.57N×142°.93E, h18km±2km, M3.9*
ISC 25 10:35:44.1±3.9, 38°.53N±0°.05×142°.87E±0°.07, h7km±24km, n32, σ1°45/33, mb3.6/9, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
OFUJ	**Ofunato**	**1.09**	**301**	P			**Pb**	**10 36 04.4**	**-0.8**
OFUJ				*e*S			**Sb**	**10 36 18.7**	**-0.9**
JIO	**Ouri**	**1.20**	**267**	P			**Pn**	**10 36 06.3**	**-0.9**
JIO				*e*S			**Sb**	**10 36 22.0**	**-0.8**
JMK	**Ichinoseki**	**1.36**	**289**	P			**Pn**	**10 36 08.6**	**-0.8**
JMK				*e*S			**Sn**	**10 36 26.3**	**-1.4**
JOM	**Ohasama**	**1.55**	**308**	P			**Pn**	**10 36 11.6**	**-0.5**
JOM				*e*S			**Sn**	**10 36 31.3**	**-1.1**
JOU	**Okura**	**1.74**	**265**	P			**Pn**	**10 36 15.0**	**+0.2**
JMM	**Marumori**	**1.77**	**249**	P			**Pn**	**10 36 14.6**	**-0.5**
JRG	**Rokugo**	**1.95**	**297**	P			**Pn**	**10 36 18.1**	**+0.5**
JFK	**Kawauchi**	**1.96**	**234**	P			**Pn**	**10 36 17.0**	**-0.8**
JFK				*e*S			**Sn**	**10 36 41.8**	**-0.9**
JANG	**Nango**	**2.12**	**331**	P			**Pn**	**10 36 20.2**	**+0.3**
JANG				*e*S			**Sn**	**10 36 46.3**	**-0.2**
JYS	**Shirataka**	**2.23**	**263**	P			**Pn**	**10 36 21.9**	**+0.5**
JFT	**Otama**	**2.24**	**244**	P			**Pn**	**10 36 22.1**	**+0.4**
JFT				*e*S			**Sn**	**10 36 49.7**	**+0.1**
MJAR	**Matsushiro Arr**	**4.20**	**243**	Pn			**Pn**	**10 36 51.7**	**+3.0**
	1.5nm,0.3s,baz=63,slow=14,SNR=8.7								
MAT	**Matsushiro**	**4.21**	**243**	P			**Pn**	**10 36 52.0**	**+3.4**
MAT				S			**Sn**	**10 37 39.5**	**+1.5**
ASAJ	**Asahikawa**	**5.58**	**358**	Pn			**Pn**	**10 37 08.0**	**+0.4**
	0.5nm,0.3s,baz=218,slow=13,SNR=5.3								
JHJ	**Hachijo jima 2**	**5.95**	**206**	Pn			**Pn**	**10 37 12.5**	**-0.1**
	5.6nm,0.3s,baz=322,slow=19,SNR=3.5								
JHJ				Sn			**Sn**	**10 38 17.6**	**-3.5**
	15nm,0.3s,baz=268,slow=23,SNR=4.2								
USRK	**Ussuriysk Ar.**	**9.94**	**308**	Pn			Pn	10 38 14.1	+6.7
	0.3nm,0.3s,baz=125,slow=16,SNR=5.1								
KSRS	**Korea Array**	**11.85**	**269**	LR			LR	10 42 56.9	
	comp=Z,40nm,20.2s,baz=146,slow=36								
SONM	**Songino Array**	**27.95**	**301**	P			**P**	**10 41 35.3**	**+0.1**
	0.5nm,0.5s,baz=95,slow=7.1,SNR=3.2								
H11N2	**WAKE ISLAND Hy**	**27.99**	**125**	T			T	11 10 43.4	
	baz=317,slow=76,SNR=71								
H11N1	**WAKE ISLAND Hy**	**28.00**	**125**	T			T	11 10 43.4	
	baz=317,slow=76,SNR=37								
H11N3	**WAKE ISLAND Hy**	**28.01**	**125**	T			T	11 10 43.4	
	baz=317,slow=76,SNR=67								
H11S1	**WAKE ISLAND Hy**	**28.77**	**127**	T			T	11 11 41.5	
	baz=319,slow=76,SNR=7.7								
H11S3	**WAKE ISLAND Hy**	**28.77**	**127**	T			T	11 11 41.5	
	baz=319,slow=76,SNR=9.7								
H11S2	**WAKE ISLAND Hy**	**28.79**	**127**	T			T	11 11 41.5	
	baz=319,slow=76,SNR=7.9								
ZALV	**Zalesovo Beam**	**41.78**	**311**	P			**P**	**10 43 37.1**	**+3.2**
	0.8nm,0.5s,baz=87,slow=7.4,SNR=3.2								
ZALV				LR			LR	11 01 20.4	
	comp=Z,13nm,18.4s,baz=68,slow=37								
MKAR	**Makanchi Array**	**44.32**	**301**	P			**P**	**10 43 56.3**	**+1.7**
	0.3nm,0.4s,baz=82,slow=8.5,SNR=5.3								
ILAR	**Eielson Array**	**47.61**	**33**	P			**P**	**10 44 19.8**	**-0.5**
	0.5nm,0.9s,baz=260,slow=5.2,SNR=3.2								
WRA	**Warramunga Arr**	**58.71**	**189**	P			**P**	**10 45 41.9**	**-0.6**
	1.5nm,0.6s,baz=7.9,slow=7.0,SNR=24								
ASAR	**Alice Springs**	**62.44**	**189**	P			**P**	**10 46 07.7**	**-0.2**
	0.8nm,0.8s,baz=11,slow=6.7,SNR=8.8								
AKASG	**Malin Array Be**	**73.81**	**323**	P			**P**	**10 47 19.7**	**+0.7**
	0.4nm,0.6s,baz=41,slow=5.6,SNR=3.5								
PDAR	**Pinedale Array**	**75.80**	**46**	P			**P**	**10 47 31.0**	**-0.1**
	0.2nm,0.5s,baz=291,slow=2.5,SNR=3.2								
TXAR	**Lajitas Array**	**88.30**	**53**	P			**P**	**10 48 35.4**	**-1.3**
	0.1nm,0.6s,baz=291,slow=2.5,SNR=2.6								

*NIED **25** 10:46:00, 38°.40N×142°.20E, h44km, Mw3.6 Best double couple: M0 2.46000×10^14 NP1: φs 110.00000°, δ 34.00000°, λ 19.00000°. NP2: φs 3.00000°, δ 79.00000°, λ 123.00000°.*
*IDC **25** 10:46:49.2±2.0, 38°.48N×142°.86E, h0km, mb3.7/4, mb1 3.7/5, mb1mx3.4/51, mbtmp3.6/5, ML3.2/1, MS2.7/3, Ms1 2.7/3, ms1mx2.4/40, Error ellipse: s-maj=45.9km s-min=27.1km az=75.0*
*ISCJB **25** 10:46:54.7±1.4, 38°.35N±0°.05×142°.24E±0°.08, h31km±8km, mb3.6/4, MS3.7/1, Error ellipse: s-maj=11.4km s-min=7.7km az=30.5*
*JMA **25** 10:46:55.7±0.1, 38°.41N×142°.21E, h37km±1km, M3.7*
ISC 25 10:46:54.7±3.0, 38°.38N±0°.05×142°.3E±0°.1, h24km±19km, n24, σ1°26/25, mb3.5/4, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
JIO	**Ouri**	**0.72**	**276**	P			**Pn**	**10 47 08.9**	**-0.4**
JIO				S			**Sb**	**10 47 17.8**	**-0.2**
OFUJ	**Ofunato**	**0.84**	**327**	P			**Pn**	**10 47 10.5**	**-0.5**
OFUJ				S			**Sb**	**10 47 20.8**	**-0.6**
JMK	**Ichinoseki**	**0.99**	**305**	P			**Pn**	**10 47 12.9**	**-0.2**
JOU	**Okura**	**1.25**	**270**	P			**Pn**	**10 47 16.9**	**+0.2**
JOU				*e*S			**Sn**	**10 47 32.3**	**-0.5**
JMM	**Marumori**	**1.27**	**246**	P			**Pn**	**10 47 16.3**	**-0.5**
JMM				*e*S			**Sn**	**10 47 31.3**	**-1.8**
JOM	**Ohasama**	**1.32**	**326**	P			**Pn**	**10 47 18.0**	**+0.3**
JFK	**Kawauchi**	**1.49**	**228**	P			**Pn**	**10 47 19.2**	**-0.8**
JFK				*e*S			**Sn**	**10 47 36.2**	**-2.6**
JYK	**Kaneyama**	**1.58**	**290**	P			**Pn**	**10 47 21.5**	**+0.3**
JYK				*e*S			**Sn**	**10 47 40.4**	**-0.5**
JRG	**Rokugo**	**1.62**	**309**	P			**Pn**	**10 47 22.5**	**+0.7**
JYS	**Shirataka**	**1.73**	**265**	P			**Pn**	**10 47 23.6**	**+0.3**
JYS				*e*S			**Sn**	**10 47 44.5**	**-0.2**
MJAR	**Matsushiro Arr**	**3.71**	**242**	Pn			**Pn**	**10 47 53.9**	**+3.4**
	1.4nm,0.3s,baz=58,slow=10,SNR=17								
MJAR				Sn			**Sb**	**10 48 44.0**	**0.0**
	0.6nm,0.3s,baz=85,slow=27,SNR=4.4								
MJAR				LR			LR	10 49 12.0	
	comp=Z,26nm,19.8s,baz=310,slow=34								
MAT	**Matsushiro**	**3.71**	**242**	P			**Pn**	**10 47 52.7**	**+2.2**
MAT				S			**Sn**	**10 48 33.0**	**-0.5**
KSRS	**Korea Array**	**11.36**	**270**	LR			LR	10 53 40.1	
	comp=Z,19nm,18.8s,baz=110,slow=35								
H11N2	**WAKE ISLAND Hy**	**28.30**	**124**	T			T	11 22 33.7	
	baz=316,slow=75,SNR=55								
H11N1	**WAKE ISLAND Hy**	**28.31**	**124**	T			T	11 22 33.7	
	baz=316,slow=75,SNR=42								
H11N3	**WAKE ISLAND Hy**	**28.32**	**124**	T			T	11 22 33.7	
	baz=316,slow=75,SNR=35								
H11S1	**WAKE ISLAND Hy**	**29.07**	**126**	T			T	11 23 31.7	
	baz=318,slow=76,SNR=9.3								
H11S3	**WAKE ISLAND Hy**	**29.07**	**126**	T			T	11 23 28.3	
	baz=318,slow=76,SNR=9.2								
H11S2	**WAKE ISLAND Hy**	**29.09**	**126**	T			T	11 23 31.1	
	baz=318,slow=76,SNR=13								
ZALV	**Zalesovo Beam**	**41.52**	**311**	P			**P**	**10 54 39.5**	**-0.3**
	0.5nm,0.5s,baz=75,slow=6.1,SNR=2.7								
MKAR	**Makanchi Array**	**43.98**	**301**	P			**P

EPOS	**Posof**	**0.97**	**21**	P	**Pb**	**10 56 05.4**	**-0.3**
ERZM	**Erzurum**	**0.97**	**225**	*e*P	**Pg**	**10 56 03.5**	**-1.7**
ERZM				*i* S	**Sg**	**10 56 18.0**	**+0.1**
ERZM	**Erzurum**	**0.97**	**225**	P	**Pg**	**10 56 03.5**	**-1.7**
ERZM				S	**Sg**	**10 56 18.0**	**+0.1**
EZM	**Erzurum**	**0.98**	**225**	*e*PG	**Pg**	**10 56 03.8**	**-1.5**
EZM				*e*SG	**Sg**	**10 56 18.9**	**+0.9**
AGRB	**Hanur-Agry**	**1.17**	**151**	*e*PN	**Pg**	**10 56 07.1**	**-1.9**
AGRB	**Hanur-Agry**	**1.17**	**151**	*e*Pn	**Pg**	**10 56 07.1**	**-1.9**
EKAR	**Karacoban**	**1.35**	**186**	*e*P	**Pn**	**10 56 12.8**	**+0.8**
EKAR				*e*S	**Sg**	**10 56 35.0**	**+4.9**

*ISCJB **25** 10:58:56.5±0.7, 31°.45S±0°.06×176°.6W±0°.1, h33km, mb4.7/16, MS3.0/2, Error ellipse: s-maj=15.0km s-min=7.8km az=18.9*
*NEIC **25** 10:58:56.9±0.6, 31°.28S×176°.89W, h10km, mb4.8/12, Error ellipse: s-maj=15.8km s-min=9.2km az=104.0*
*IDC **25** 10:58:56.5±1.6, 31°.45S×176°.90W, h0km, mb4.0/4, mb1 4.1/7, mb1mx3.8/28, mbtmp4.0/7, ML3.9/3, MS3.1/2, Ms1 3.0/2, ms1mx2.6/21, Error ellipse: s-maj=36.3km s-min=25.8km az=99.0*
ISC 25 10:58:59.4±0.7, 31°.33S±0°.06×176°.7W±0°.1, h35km, n35, σ1§64/38, mb4.6/16, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**2.31**	**333**	Pn	**Pn**	**10 59 37.4**	**+2.5**
	62nm,0.3s,baz=90,slow=20,SNR=4.4						
RAO				Sn	**Sn**	**10 59 58.0**	**-4.1**
	264nm,0.3s,baz=119,slow=23,SNR=12						
RAO	**Raoul Island**	**2.31**	**333**	*e*Pn	**Pn**	**10 59 34.0**	**-1.0**
RAO				*e*Sn	**Sn**	**11 00 01.5**	**-0.6**
URZ	**Urewera**	**8.56**	**215**	Pn	**Pn**	**11 00 59.4**	**-1.4**
	0.4nm,0.3s,baz=0.0,slow=20,SNR=8.5						
URZ				Sn	**Sn**	**11 02 34.1**	**-2.0**
	2.7nm,0.3s,baz=349,slow=21,SNR=13						
URZ	**Urewera**	**8.56**	**215**	*e*Pn	**Pn**	**11 01 00.5**	**-0.3**
BKZ	**Black Stump Fm**	**9.58**	**213**	*e*Pn	**Pn**	**11 01 16.2**	**+1.5**
RPZ	**Rata Peaks**	**15.68**	**215**	Pn	**Pn**	**11 02 35.4**	**-2.2**
	0.8nm,0.3s,baz=8.3,slow=1.3,SNR=3.5						
RPZ	**Rata Peaks**	**15.68**	**215**	*e*Pn	**Pn**	**11 02 35.6**	**-2.0**
	36nm,1.2s						
RAR	**Rarotonga**	**18.22**	**61**	P	**P**	**11 03 06.5**	**-3.0**
	2.2nm,0.3s,baz=225,slow=11,SNR=6.3						
PYZ	**Puysegur Point**	**19.61**	**216**	*e*P	**P**	**11 03 24.2**	**-0.4**
	150nm,1.2s						
PPT	**Papeete**	**28.17**	**67**	LR	LR	11 13 30.2	
	comp=Z,26nm,20.3s,baz=170,slow=31						
CTA	**Charters Tower**	**35.02**	**280**	P	**P**	**11 05 50.4**	**+1.6**
	2.3nm,0.5s,baz=104,slow=9.9,SNR=6.0						
STKA	**Stephens Creek**	**35.34**	**258**	P	**P**	**11 05 53.7**	**+2.3**
	1.5nm,0.8s,baz=117,slow=6.8,SNR=4.1						
STKA				LR	LR	11 19 16.6	
	comp=Z,33nm,18.4s,baz=24,slow=35						
STKA	**Stephens Creek**	**35.34**	**258**	*e*P	**P**	**11 05 50.1**	**-1.3**
	4.6nm,1.8s						
BBOO	**Buckleboo**	**39.77**	**255**	*e*P	**P**	**11 06 28.2**	**-0.7**
	64nm,1.9s						
RABL	**Rabaul**	**39.79**	**306**	*e*P	**P**	**11 06 28.7**	**-0.6**
	29nm,0.6s						
KWAJ	**Kwajalein Atol**	**42.63**	**337**	*e*P	**P**	**11 06 54.2**	**+1.8**
	157nm,0.9s						
AS31	**Alice Springs**	**44.15**	**267**	*e*P	**P**	**11 07 05.3**	**+0.5**
	0.8nm,1.0s						
ASAR	**Alice Springs**	**44.15**	**267**	P	**P**	**11 07 05.3**	**+0.5**
	0.8nm,0.7s,baz=104,slow=7.6,SNR=15						
ASAR				PcP	**PcP**	**11 08 51.3**	**+1.8**
	0.4nm,0.9s,baz=115,slow=3.6,SNR=2.8						
WB2	**Warramunga Arr**	**45.21**	**272**	*e*P	**P**	**11 07 14.2**	**+0.9**
	11nm,1.4s						
WRAB	**Tennant Creek**	**45.22**	**272**	*e*P	**P**	**11 07 13.9**	**+0.5**
	16nm,1.7s						
WR1	**Warramunga Arr**	**45.22**	**272**	*e*P	**P**	**11 07 13.7**	**+0.3**
	12nm,1.5s						
WRA	**Warramunga Arr**	**45.22**	**272**	P	**P**	**11 07 13.7**	**+0.3**
	1.3nm,0.7s,baz=112,slow=7.5,SNR=16						
SAUI	**Saumlaki**	**53.59**	**284**	*e*P	**P**	**11 08 15.9**	**-1.3**
	147nm,0.8s						
MMRI	**Maumere**	**60.85**	**278**	*e*P	**P**	**11 09 08.6**	**-0.1**
	52nm,1.2s						
MAJO	**Matsushiro**	**79.63**	**325**	*e*P	**P**	**11 11 02.4**	**-0.6**
	31nm,1.9s						
MJB9	**Matsu-Tunnel**	**79.63**	**325**	*e*P	**P**	**11 11 02.3**	**-0.7**
	8.2nm,1.9s						
AKUT	**Akutan**	**85.64**	**6**	*e*P	**P**	**11 11 34.1**	**+0.4**
	171nm,1.4s						
PEA0	**Petropavlovsk-**	**86.99**	**345**	*e*P	**P**	**11 11 41.3**	**+0.9**
IDE	**Isla Desecheo**	**115.48**	**83**	*e*PKPdf	**PKPdf**	**11 17 38.0**	**0.0**
FIA1	**FINESS Array S**	**146.38**	**340**	*e*PKPdf	**PKPab**	**11 18 37.2**	**+0.6**
FIA0	**FINESS Array S**	**146.39**	**340**	*e*PKPdf	**PKPab**	**11 18 37.4**	**+0.7**
FINES	**FINESS Array B**	**146.39**	**340**	PKPbc	**PKPab**	**11 18 37.4**	**+0.7**
	2.7nm,0.7s,baz=98,slow=2.8,SNR=11						
DBIC	**Dimbokro**	**154.32**	**161**	*e*PKPdf	**PKPdf**	**11 18 45.5**	**-2.8**
TORD	**Torodi Ar. Bea**	**161.85**	**175**	PKPab	**PKPab**	**11 19 45.4**	**+2.5**
	0.4nm,0.6s,baz=211,slow=1.7,SNR=3.2						
TOA1	**Torodi Ar. Sit**	**161.85**	**175**	*e*PKPab	**PKPab**	**11 19 45.4**	**+2.4**

*ISCJB **25** 11:04:25.0±2.2, 31°.79N±0°.04×114°.9W±0°.2, h27km±11km, Error ellipse: s-maj=27.0km s-min=7.0km az=2.1*
*ECX **25** 11:04:27.2±0.5, 31°.78N×115°.06W, h10km, MD2.1, ML2.3*
*MEX **25** 11:04:27.6±0.6, 31°.85N×114°.99W, h10km±18km, MD3.7*
ISC 25 11:04:24.8±1.6, 31°.83N±0°.05×115°.0W±0°.1, h17km±10km, n7, σ0§43/13, 2D, Baja California

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ECBX	**El Chinero**	**0.35**	**182**	*e*P	**Pg**	**11 04 32.2**	**+0.1**
ECBX				*e*S	**Sg**	**11 04 36.8**	**-0.4**
ECBX				⇓*e*		11 04 39.9	
ECBX				IAML		11 04 39.9	
	comp=E,209nm,0.1s						
CPBX	**Cerro Prieto**	**0.63**	**339**	*e*P	**Pn**	**11 04 39.2**	**+0.2**
CPBX				*e*S	**Sn**	**11 04 48.2**	**-0.4**
CPBX				⇓*e*		11 04 49.4	
CPBX				IAML		11 04 49.4	
	comp=N,670nm,0.1s						
SPIG	**San Pedro Mart**	**0.86**	**205**	*e*P	**Pb**	**11 04 41.6**	**+0.1**
SPIG	**San Pedro Mart**	**0.86**	**205**	*e*P	**Pg**	**11 04 42.1**	**+0.5**
SPIG				*e*S	**Sn**	**11 04 54.7**	**-0.2**
SPX	**San Pedro Mart**	**0.86**	**205**	*e*P	**Pb**	**11 04 41.2**	**-0.3**
SPX				*e*S	**Sb**	**11 04 53.1**	**+0.2**
SPX				IAML		11 04 54.3	
	comp=E,74nm,0.2s						
SPX				*e*		11 04 54.3	
CBX	**Cerro Bola**	**1.47**	**290**	*e*P	**Pb**	**11 04 52.2**	**+0.5**
CBX				*e*S	**Sg**	**11 05 11.8**	**-0.4**
CBX				*e*		11 05 14.8	
CBX				IAML		11 05 14.8	
	comp=N,44nm,0.5s						
TJIG	**Tijuana**	**1.52**	**294**	*e*P	**Pb**	**11 04 52.3**	**-0.1**
TJIG				*e*S	**Sn**	**11 05 09.8**	**-0.7**

*TAP **25** 11:07:50.8, 24°.97N×122°.72E, h9km±1km, ML3.1, C*
*ISCJB **25** 11:07:51.9±1.1, 24°.98N±0°.08×122°.74E±0°.06, h16km, Error ellipse: s-maj=12.6km s-min=4.6km az=30.1*
*JMA **25** 11:07:51.9±0.3, 24°.97N×122°.74E, h21km, M2.1*
ISC 25 11:07:49.5±1.3, 24°.96N±0°.08×122°.74E±0°.04, h16km, n27, σ1§93/30, 1D, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JYNG	**Yonagunijimaku**	**0.54**	**160**	P	**Pn**	**11 08 02.5**	**-0.1**
JYNG				*e*S	**Sn**	**11 08 10.2**	**-1.1**
YOJ	**Yonaguni jima**	**0.56**	**154**	⇓*i* P	**Pn**	**11 08 02.8**	**0.0**
	baz=152						
YOJ				S	**Sn**	**11 08 10.7**	**-0.9**
	baz=152						
YOJ	**Yonaguni jima**	**0.56**	**154**	P	**Pn**	**11 08 02.8**	**0.0**
YOJ				*e*S	**Sn**	**11 08 10.5**	**-1.2**
TWB1	**Santiao Chiao**	**0.69**	**274**	*e*P	**Pn**	**11 08 04.1**	**-0.4**
	baz=273						
NWF	**Wu-fen Shan**	**0.88**	**277**	*e*P	**Pn**	**11 08 08.8**	**+1.5**
	baz=277						
TWC	**Suao**	**0.89**	**247**	*e*P	**Pn**	**11 08 07.2**	**0.0**
	baz=246						
TWE	**Neicheng**	**1.01**	**256**	*e*P	**Pg**	**11 08 09.9**	**+0.9**
	baz=256						
ENA	**Nanau**	**1.05**	**240**	*e*P	**Pg**	**11 08 10.5**	**+0.6**
	baz=239						
TWY	**Chenhua**	**1.08**	**287**	*e*P	**Pg**	**11 08 10.7**	**+0.3**
	baz=287						
IRIF	**Iriomote-Funau**	**1.10**	**125**	P	**Pg**	**11 08 11.3**	**+0.6**
ENTT	**Nioudou**	**1.12**	**253**	*e*P	**Pg**	**11 08 12.2**	**+1.1**
	baz=253						
NSK	**Sanguang**	**1.29**	**257**	*e*P	**Pg**	**11 08 14.8**	**+0.5**
	baz=257						
NNS	**Nan Shan**	**1.35**	**248**	*e*P	**Pg**	**11 08 16.8**	**+1.2**
	baz=247						
TWD	**Chiawan**	**1.36**	**230**	*e*P	**Pg**	**11 08 18.2**	**+2.4**
	baz=229						
JIJ	**Ishigaki jima**	**1.41**	**115**	P	**Pg**	**11 08 18.0**	**+1.4**
WHF	**Hehuan Shan**	**1.57**	**239**	*e*P	**Pg**	**11 08 20.4**	**+0.6**
	baz=239						
TWT	**Tachien**	**1.59**	**244**	*e*P	**Pg**	**11 08 20.4**	**+0.3**
	baz=244						
NSTT	**Nanjuang**	**1.62**	**259**	*e*P	**Pg**	**11 08 20.1**	**-0.5**
	baz=258						
TWQ1	**Liyutan**	**1.89**	**251**	*e*P	**Pg**	**11 08 25.7**	**-0.1**
	baz=251						
TWF1	**Yuli**	**2.08**	**220**	*e*P	**Pn**	**11 08 24.0**	**+0.3**
	baz=206						
YUS	**Yu-Shan**	**2.20**	**228**	*e*P	**Pb**	**11 08 29.1**	**0.0**
	baz=228						
ALS	**Alishan**	**2.29**	**231**	*e*P	**Pb**	**11 08 30.9**	**+0.4**
	baz=215						
CHN5	**Tsauling**	**2.32**	**235**	*e*P	**Pb**	**11 08 31.3**	**+0.3**
	baz=217						
CHN4	**Tsushan**	**2.54**	**231**	*e*P	**Pn**	**11 08 33.2**	**-1.5**
	baz=214						
STYT	**Tauyuan**	**2.55**	**226**	*e*P	**Pn**	**11 08 31.9**	**+1.7**
	baz=210						
WTP	**Ta-pu**	**2.59**	**229**	*e*P	**Pb**	**11 08 34.1**	**-1.5**
	baz=228						
CHN1	**Nanshi**	**2.69**	**229**	*e*P	**Pb**	**11 08 35.7**	**-1.6**
	baz=228						

*IDC **25** 11:22:13.5±0.7, 12°.81N×92°.35E, h0km, mb3.8/11, mb1 3.9/11, mb1mx3.7/47, mbtmp3.8/11, MS2.7/2, Ms1 2.8/2, ms1mx2.4/41, Error ellipse: s-maj=38.2km s-min=15.8km az=57.0*
*ISCJB **25** 11:22:15.6±0.3, 12°.72N±0°.05×92°.31E±0°.04, h31km, mb4.7/27, MS2.9/1, Error ellipse: s-maj=8.6km s-min=4.6km az=35.5*
*NEIC **25** 11:22:18.6±1.2, 12°.75N×92°.42E, h37km±10km, mb5.1/17, Error ellipse: s-maj=12.4km s-min=6.2km az=65.0*
ISC 25 11:22:17.7±0.5, 12°.81N±0°.08×92°.39E±0°.08, h31km, n71, σ1§23/68, mb4.8/27, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CM31	**Chiang Mai Arr**	**8.45**	**47**	*e*Pn	**Pn**	**11 24 17.1**	**-0.9**
CMAR	**Chiang Mai Arr**	**8.45**	**47**	Pn	**Pn**	**11 24 21.8**	**+3.8**
	baz=240,slow=16,SNR=2.9						
CMAR				LR	LR	11 28 02.8	
	comp=Z,31nm,18.8s,baz=250,slow=41						
LHMI	**Lhok Sumawe**	**8.77**	**149**	*e*Pn	**Pn**	**11 24 20.7**	**-1.8**
CHLP	**Challavanipeta**	**9.83**	**306**	*e*Pn	**Pn**	**11 24 34.9**	**-2.0**
CHLP				Sn	Sn	11 26 13.8	-13
VIS	**Vishakhapatnam**	**10.02**	**300**	*i* P	**Pn**	**11 24 39.6**	**0.0**
VIS				*i* S	Sn	11 26 19.9	-11
PVM	**Polavaram**	**11.30**	**294**	*e*Pn	**Pn**	**11 24 57.7**	**+0.5**
PVM				Sn	Sn	11 26 49.3	-13
IPM	**Ipoh**	**11.88**	**133**	*e*Pn	**Pn**	**11 25 03.8**	**-1.4**
SKHT	**Srikalahasti**	**12.38**	**276**	*e*Pn	**Pn**	**11 25 12.4**	**+0.4**
SKHT				Sn	Sn	11 27 12.5	-16
ADKI	**Addanki**	**12.41**	**286**	*e*P	**Pn**	**11 25 11.1**	**-1.3**
NJS	**Nagarjunasagar**	**13.20**	**288**	*e*Pn	**Pn**	**11 25 20.2**	**-3.0**
NJS				Sn	Sn	11 27 33.8	-15
SRLM	**Srisailam**	**13.48**	**286**	Sn	Sn	11 27 43.5	-12
RPR	**Rampur**	**13.96**	**297**	*e*Pn	**Pn**	**11 25 33.6**	**+0.1**
RPR				Sn	Sn	11 27 53.6	-14
HYBB	**Hyderabad (bro**	**14.13**	**291**	*e*Pn	**Pn**	**11 25 35.9**	**0.0**
HYBB				Sn	Sn	11 27 58.5	-13
SRSP	**Sriramsagar**	**14.82**	**296**	*e*Pn	**Pn**	**11 25 45.4**	**+0.2**
SRSP				Sn	Sn	11 28 15.5	-13
URV	**Uravakonda**	**14.85**	**280**	*e*Pn	**Pn**	**11 25 47.1**	**+1.4**
URV				Sn	Sn	11 28 14.6	-15
DLV	**T Lat**	**15.74**	**91**	*e*Pn	**Pn**	**11 25 57.1**	**-0.4**
	118nm,1.9s						
MYKOM	**Kota Tinggi**	**15.76**	**133**	*e*Pn	**Pn**	**11 25 57.0**	**-0.6**
	41nm,1.6s						
PKI	**Pulchoki**	**16.08**	**337**	*e*P	**Pn**	**11 25 59.7**	**-2.2**
PKIN	**Phulchoki**	**16.09**	**337**	*e*P	**Pn**	**11 25 59.0**	**-3.0**
	6.0nm,0.3s						
KLRI	**Killari**	**16.10**	**291**	*e*Pn	**Pn**	**11 25 59.8**	**-2.2**
KLRI				Sn	Sn	11 28 42.9	-17
DMN	**Daman**	**16.23**	**336**	*e*P	**Pn**	**11 26 02.8**	**-1.0**
GKN	**Gorkha**	**16.77**	**336**	*e*P	**Pn**	**11 26 09.9**	**-0.6**
KOLN	**Kolanda**	**17.01**	**332**	*e*P	**P**	**11 26 14.4**	**-0.8**
	7.7nm,0.4s						
PYUN	**Piuthan**	**17.57**	**331**	*e*P	**P**	**11 26 21.9**	**+0.5**
H08S3	**Diego Garcia H**	**28.35**	**225**	T	T	11 57 44.4	
	baz=44,slow=76,SNR=15						
H08S2	**Diego Garcia H**	**28.35**	**225**	T	T	11 57 45.1	
	baz=44,slow=76,SNR=12						
H08S1	**Diego Garcia H**	**28.36**	**225**	T	T	11 57 44.7	
	baz=44,slow=76,SNR=14						
MK01	**Makanchi Array**	**34.91**	**348**	*e*P	**P**	**11 29 08.4**	**+1.9**
MK31	**Makanchi Array**	**34.93**	**348**	*e*P	**P**	**11 29 08.5**	**+1.8**
MK32	**Makanchi Array**	**34.93**	**348**	*e*P	**P**	**11 29 07.8**	**+1.0**
MKAR	**Makanchi Array**	**34.93**	**348**	P	**P**	**11 29 07.8**	**+1.0**
	0.7nm,0.8s,baz=172,slow=9.6,SNR=5.7						
MKAR	**Makanchi Array**	**34.93**	**348**	*e*P	**P**	**11 29 08.6**	**+1.8**
	4.9nm,0.8s						
JOW	**Kunigami**	**36.38**	**62**	*e*P	**P**	**11 29 18.1**	**-1.4**
	30nm,1.0s						
SONA0	**Songino Array**	**36.83**	**16**	*e*P	**P**	**11 29 23.0**	**-0.1**
	11nm,2.0s						
SONM	**Songino Array**	**36.83**	**16**	P	**P**	**11 29 23.0**	**-0.1**
	0.5nm,0.6s,baz=211,slow=6.4,SNR=2.9						
KSRS	**Korea Array**	**40.08**	**46**	LR	LR	11 48 50.0	
	comp=Z,16nm,19.4s,baz=150,slow=40						
ZALV	**Zalesovo Beam**	**41.48**	**353**	P	**P**	**11 30 02.6**	**+0.9**
	0.7nm,0.3s,baz=187,slow=8.7,SNR=6.2						
ZAA1	**Zalesovo Array**	**41.48**	**353**	*e*P	**P**	**11 30 02.6**	**+0.8**
MDJ	**Mudanjiang**	**44.84**	**38**	*e*P	**P**	**11 30 30.4**	**+1.3**
	46nm,1.9s						
NWAO	**Narrogin (SRO)**	**51.29**	**153**	P	**P**	**11 31 20.1**	**+1.1**
	9.7nm,1.0s,baz=347,slow=18,SNR=4.1						
NWAO	**Narrogin (SRO)**	**51.29**	**153**	*e*P	**P**	**11 31 20.3**	**+1.3**
	151nm,1.9s						
WR1	**Warramunga Arr**	**52.56**	**128**	*e*P	**P**	**11 31 29.1**	**+0.3**
WR1				*e*PcP	**PcP**	**11 32 40.1**	**+1.2**
WRA	**Warramunga Arr**	**52.56**	**128**	P	**P**	**11 31 29.1**	**+0.3**
	0.4nm,0.6s,baz=299,slow=9.8,SNR=7.3						
WRA				PcP	**PcP**	**11 32 40.1**	**+1.2**
	0.3nm,0.5s,baz=319,slow=2.9,SNR=8.3						
WRAB	**Tennant Creek**	**52.57**	**128**	*e*P	**P**	**11 31 29.1**	**+0.3**
	22nm,1.8s						
WB2	**Warramunga Arr**	**52.57**	**128**	*e*P	**P**	**11 31 29.6**	**+0.8**
	21nm,1.9s						
AS31	**Alice Springs**	**54.42**	**132**	*e*P	**P**	**11 31 42.4**	**0.0**
	1.9nm,1.6s						
ASAR	**Alice Springs**	**54.42**	**132**	P	**P**	**11 31 43.0**	**+0.6**
	0.3nm,0.5s,baz=309,slow=7.1,SNR=12						
AS01	**Alice Springs**	**54.45**	**132**	*e*P	**P**	**11 31 43.9**	**+1.3**
BR101	**Keskin Array S**	**57.97**	**309**	*e*P	**P**	**11 32 08.2**	**+0.6**
BRTR	**Keskin Array B**	**57.97**	**309**	P	**P**	**11 32 08.2**	**+0.6**
	0.4nm,0.5s,baz=54,slow=7.3,SNR=2.3						
FIA0	**FINESS Array S**	**67.58**	**332**	*e*P	**P**	**11 33 11.4**	**+0.3**
FIA1	**FINESS Array S**	**67.58**	**332**	*e*P	**P**	**11 33 11.7**	**+0.7**
FINES	**FINESS Array B**	**67.58**	**332**	P	**P**	**11 33 11.4**	**+0.3**
	1.3nm,0.8s,baz=79,slow=9.9,SNR=5.2						
GERES	**GERESS Array B**	**73.04**	**317**	P	**P**	**11 33 44.8**	**-0.1**
	0.4nm,0.6s,baz=64,slow=6.1,SNR=4.6						
KHC	**Kasperske Hory**	**73.12**	**318**	*e*P	**P**	**11 33 45.0**	**-0.3**
	6.0nm,2.0s						
CLL	**Collm**	**73.49**	**320**	*e*P	**P**	**11 33 49.0**	**+1.7**
NB200	**NORSAR Array S**	**74.62**	**330**	*e*P	**P**	**11 33 54.0**	**+0.2**
NOA	**NORSAR Array B**	**74.62**	**330**	P	**P**	**11 33 54.0**	**+0.2**
	0.6nm,0.6s,baz=94,slow=5.8,SNR=2.8						
UNV	**Unalaska Valle**	**86.21**	**36**	*e*P	**P**	**11 34 55.6**	**-0.5**
	159nm,1.5s						
TORD	**Torodi Ar. Bea**	**87.81**	**283**	P	**P**	**11 35 05.1**	**+0.4**
	0.6nm,0.8s,baz=90,slow=1.5,SNR=3.8						
TOA1	**Torodi Ar. Sit**	**87.81**	**283**	*e*P	**P**	**11 35 05.1**	**+0.4**
	8.9nm,1.4s						
CHGN	**Chignik**	**89.77**	**32**	*e*P	**P**	**11 35 12.2**	**-0.8**
	40nm,1.1s						
SNZO	**South Karori**	**92.67**	**132**	*e*P	**P**	**11 35 26.8**	**+0.1**
	152nm,1.4s						
INK	**Inuvik**	**92.74**	**16**	*e*P	**P**	**11 35 25.6**	**-1.0**
	15nm,1.6s						
FID	**Port Fidalgo**	**93.20**	**25**	*e*P	**P**	**11 35 28.1**	**-0.9**
	31nm,1.2s						
URZ	**Urewera**	**93.73**	**128**	*e*P	**P**	**11 35 30.5**	**-1.2**
	93nm,1.6s						
BMRM	**Bremner River**	**93.84**	**24**	*e*P	**P**	**11 35 31.5**	**-0.4**
	44nm,1.7s						
MXZ	**Matakaoa Point**	**94.50**	**127**	*e*P	**P**	**11 35 33.6**	**-1.7**
	107nm,1.2s						
YHB	**Horse Butte**	**118.84**	**19**	*e*PKPdf	**PKPdf**	**11 41 02.8**	**-0.8**
BW06	**Boulder Array**	**121.15**	**19**	*e*PKPdf	**PKPdf**	**11 41 08.7**	**+0.6**
WMOK	**Wichita Mounta**	**131.54**	**12**	*e*PKPdf	**PKPdf**	**11 41 27.4**	**-0.5**

*IDC **25** 11:49:29.9±1.9, 6°.55N×125°.78E, h0km, mb3.6/5, mb1 3.7/5, mb1mx3.5/41, mbtmp3.6/5, MS2.5/1, Ms1 2.5/1, ms1mx2.1/40, Error ellipse: s-maj=117.9km s-min=25.8km az=67.0*
*ISCJB **25** 11:49:32.8±1.1, 6°.6N±0°.1×125°.9E±0°.2, h35km, mb3.5/5, MS2.4/1, Error ellipse: s-maj=25.3km s-min=9.9km az=29.0*
*MAN **25** 11:49:38, 13°.73N×120°.52E, h87km, mb3.8, ML2.5, MS2.1*
ISC 25 11:49:34.5±1.2, 6°.6N±0°.1×126°.0E±0°.2, h35km, n7, σ0§49/7, mb3.6/5, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MATI	**Mati**	**0.41**	**38**	*e*P	**Pn**	**11 49 43.9**	**0.0**
MATI				*e*S	**Sn**	**11 49 50.3**	**-0.1**
FITZ	**Fitzroy Crossi**	**24.57**	**181**	P	**P**	**11 54 51.4**	**+0.1**
	1.5nm,0.8s,baz=344,slow=10,SNR=2.6						
WRA	**Warramunga Arr**	**27.64**	**163**	P	**P**	**11 55 20.1**	**+0.9**
	0.3nm,0.4s,baz=342,slow=10,SNR=5.3						
KSRS	**Korea Array**	**30.74**	**3**	LR	LR	12 09 52.7	
	comp=Z,7.4nm,18.9s,baz=226,slow=40						
ASAR	**Alice Springs**	**31.08**	**166**	P	**P**	**11 55 49.4**	**-0.2**
	0.3nm,0.6s,baz=339,slow=7.1,SNR=11						
STKA	**Stephens Creek**	**41.07**	**160**	P	**P**	**11 57 14.8**	**-0.1**
	0.7nm,0.4s,baz=326,slow=11,SNR=3.2						
MKAR	**Makanchi Array**	**54.79**	**324**	P	**P**	**11 59 01.0**	**+0.1**
	0.4nm,0.5s,baz=114,slow=8.9,SNR=4.3						

*ISCJB **25** 11:59:30.4±0.3, 59°.32N±0°.03×153°.52W±0°.06, h125km±3km, mb3.0/1, Error ellipse: s-maj=5.6km s-min=3.6km az=33.8*
*IDC **25** 11:59:30.5±3.7, 59°.36N×153°.75W, h97km±19km, mb2.6/1, mb1 3.4/5, mb1mx3.0/44, mbtmp3.4/5, Error ellipse: s-maj=61.6km s-min=17.6km az=88.0*
*NEIC **25** 11:59:32.1±0.0, 59°.32N×153°.60W, h120km, MG3.0(AEIC), After AEIC.*
ISC 25 11:59:31.6±1.0, 59°.32N±0°.03×153°.56W±0°.04, h124km±6km, n80, σ1§12/96, Southern Alaska

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AUI	**Augustine Isla**	**0.07**	**79**	P	**Pn**	**11 59 48.2**	**-0.2**
AUI				S	**Sn**	**12 00 00.4**	**-0.7**
AUNW	**Augustine NWes**	**0.07**	**37**	P	**Pn**	**11 59 48.2**	**-0.2**
AUL	**Augustine Lava**	**0.09**	**47**	P	**Pn**	**11 59 48.3**	**-0.2**
AUL				S	**Sn**	**12 00 00.6**	**-0.6**
AUE	**Augustine Isla**	**0.10**	**69**	P	**Pn**	**11 59 48.2**	**-0.2**
CDD	**Cape Douglas**	**0.40**	**186**	P	**Pn**	**11 59 48.9**	**-0.5**
FOSS	**Fourpeaked Sta**	**0.53**	**188**	P	**Pn**	**11 59 49.7**	**-0.5**
FOPK	**Fourpeaked Vol**	**0.57**	**175**	P	**Pn**	**11 59 49.6**	**-0.8**
IVE	**Iliamna Volcan**	**0.75**	**21**	P	**Pn**	**11 59 51.4**	**-0.4**
ILIM	**Iliamna**	**0.82**	**22**	P	**Pn**	**11 59 52.0**	**-0.4**
KAPH	**Katmai Pasha**	**0.83**	**210**	P	**Pn**	**11 59 52.0**	**-0.5**
KAPH				S	**Sn**	**12 00 07.4**	**-0.8**
KAHC	**Katmai Hardscr**	**1.01**	**229**	P	**Pn**	**11 59 53.4**	**-0.7**
HOM	**Homer**	**1.03**	**70**	P	**Pn**	**11 59 54.3**	**+0.1**
KAWH	**Katmai**	**1.14**	**215**	P	**Pn**	**11 59 54.7**	**-0.6**
RED	**Redoubt Volcan**	**1.17**	**20**	P	**Pn**	**11 59 55.3**	**-0.4**
CNPM	**China Poot**	**1.21**	**79**	P	**Pn**	**11 59 55.8**	**-0.2**
CNPM				S	**Sn**	**12 00 13.8**	**-0.7**
RDWB	**Redoubt West**	**1.23**	**17**	P	**Pn**	**11 59 55.9**	**-0.4**
RDWB				S	**Sn**	**12 00 14.3**	**-0.8**
KAKN	**Katmai Knife C**	**1.29**	**218**	P	**Pn**	**11 59 56.4**	**-0.6**
KAKN		

SKHL ***25*** *12:12:56.1±0.1, 43.°99N×148.°31E, h55km±4km, mb4.0/3*
ISC 25 12:12:53.0±3.3, 43.°9N±0.°1×148.°5E±0.°2, h34km±4km, n15, σ1§47/24, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SHO	**Shikotan**	**1.17**	**270**	*eP*	**Pb**	**12 13 14.0**	**-0.6**
SHO				AMB	AMB	12 13 16.1	
	50nm,0.3s						
SHO				*i* S	**Sn**	**12 13 27.4**	**-0.3**
SHO				A	A	12 13 29.6	
	360nm,0.3s						
SHO				A	A	12 13 29.6	
	290nm,0.3s						
KUR	**Kuril'sk**	**1.41**	**343**	*eP*	**Pn**	**12 13 16.7**	**+0.5**
KUR				AMB	AMB	12 13 18.2	
	20nm,0.2s						
KUR				*e*S	**Sn**	**12 13 32.2**	**-1.4**
KUR				A	A	12 13 36.3	
	160nm,0.2s						
KUR				A	A	12 13 36.3	
	100nm,0.2s						
YUK	**Yuzh-Kuril'sk**	**1.87**	**275**	*i* P	**Pn**	**12 13 23.4**	**+0.8**
YUK				AMB	AMB	12 13 25.3	
	170nm,0.2s						
YUK				AMB	AMB	12 13 25.3	
	300nm,0.2s						
YUK				AMB	AMB	12 13 25.3	
	40nm,0.2s						
YUK				*e*S	**Sn**	**12 13 43.9**	**-1.1**
YUK				A	A	12 13 46.7	
	230nm,0.2s						
YUK				A	A	12 13 46.7	
	80nm,0.2s						
NEM2	**Nemuro 2**	**2.03**	**256**	P	**Pn**	**12 13 25.6**	**+0.8**
NEM2				*e*S	**Sn**	**12 13 48.4**	**-0.5**
JRA	**Rausu**	**2.40**	**272**	P	**Pn**	**12 13 31.4**	**+1.5**
JNK	**Nakash**	**2.72**	**265**	P	**Pn**	**12 13 35.3**	**+1.1**
JNK				*e*S	**Sn**	**12 14 05.4**	**-0.5**
JAK	**Akkeshi**	**2.87**	**253**	P	**Pn**	**12 13 37.2**	**+0.9**
JAK				*e*S	**Sn**	**12 14 08.4**	**-1.3**
JTKR	**Abashiri--Toko**	**3.28**	**273**	P	**Pn**	**12 13 43.6**	**+1.7**
JAR	**Ashorobuto**	**3.45**	**262**	P	**Pn**	**12 13 46.0**	**+1.7**
JAR				*e*S	**Sn**	**12 14 24.4**	**+0.5**
JOB	**Onbets**	**3.50**	**255**	P	**Pn**	**12 13 46.4**	**+1.4**
JOB				*e*S	**Sn**	**12 14 24.7**	**-0.5**
JMP	**Maruseppu**	**3.68**	**274**	P	**Pn**	**12 13 49.3**	**+1.9**
JCH	**Churui**	**3.93**	**253**	P	**Pn**	**12 13 52.3**	**+1.5**
JNBK	**Urakawa-nobuka**	**4.47**	**251**	P	**Pn**	**12 13 59.3**	**+1.0**
YSS	**Yuzh-Sakhalins**	**5.05**	**309**	*eP*	**Pn**	**12 14 08.1**	**+1.9**
JKB	**Kayabe**	**5.80**	**252**	P	**Pn**	**12 14 17.6**	**+1.0**
JKB				*e*S	**Sn**	**12 15 18.5**	**-3.4**

NIED ***25*** *12:13:00, 37.°00N×142.°20E, h26km, Mw3.4 Best double couple: M0 1.65000×10^14 NP1:φs6.00000°, δ27.00000°, λ-131.00000°. NP2:φs230.00000°, δ70.00000°, λ-71.00000°.*
IDC ***25*** *12:13:08.9±1.6, 37.°01N×142.°51E, h0km, mb3.5/6, mb1 3.6/9, mb1mx3.5/49, mbtmp3.6/9, ML3.1/3, MS2.9/3, Ms1 3.0/3, ms1mx2.5/38, Error ellipse: s-maj=37.9km s-min=20.7km az=65.0*
JMA ***25*** *12:13:12.9±0.2, 37.°02N×142.°19E, h33km, M3.5*
ISC 25 12:13:12.0±1.1, 37.°00N±0.°05×142.°10E±0.°08, h10km, n29, σ1§42/27, mb3.4/6, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JFK	**Kawauchi**	**1.05**	**291**	P	**Pn**	**12 13 32.4**	**-0.4**
JFK				*e*S	**Sn**	**12 13 46.7**	**-0.8**
ONAJ	**Iwakimizuishiy**	**1.05**	**276**	P	**Pn**	**12 13 32.5**	**-0.3**
JHO	**Hitachi**	**1.29**	**253**	P	**Pb**	**12 13 36.0**	**-0.3**
JMM	**Marumori**	**1.35**	**310**	P	**Pn**	**12 13 36.6**	**-0.4**
JFT	**Otama**	**1.50**	**291**	P	**Pb**	**12 13 39.9**	**-0.1**
JIO	**Ouri**	**1.57**	**338**	P	**Pn**	**12 13 38.9**	**-1.0**
JIO				*e*S	**Sn**	**12 13 59.4**	**-0.9**
JOU	**Okura**	**1.78**	**321**	P	**Pn**	**12 13 43.5**	**+0.7**
JFY	**Yanaizu**	**1.96**	**283**	P	**Pb**	**12 13 47.1**	**-0.6**
JMK	**Ichinoseki**	**2.07**	**341**	P	**Pn**	**12 13 47.1**	**+0.3**
JAG	**Ashikaga**	**2.20**	**256**	P	**Pn**	**12 13 50.0**	**+1.4**
JYK	**Kaneyama**	**2.36**	**325**	P	**Pn**	**12 13 51.6**	**+0.8**
JOM	**Ohasama**	**2.55**	**346**	P	**Pn**	**12 13 53.4**	**0.0**
MJAR	**Matsushiro Arr**	**3.16**	**263**	Pn	**Pn**	**12 14 04.3**	**+2.5**
	2.5nm,0.3s,baz=88,slow=14,SNR=30						
MJAR				Sn	**Sb**	**12 14 45.6**	**-1.2**
	1.3nm,0.3s,baz=168,slow=6.7,SNR=5.1						
MJAR				LR	LR	12 15 37.2	
	comp=Z,36nm,18.0s,baz=95,slow=43						
MAT	**Matsushiro**	**3.16**	**263**	P	**Pb**	**12 14 05.2**	**-3.1**
MAT				S	**Sn**	**12 14 38.2**	**-1.4**
JHJ	**Hachijo jima 2**	**4.31**	**207**	Pn	**Pn**	**12 14 17.9**	**+0.3**
	9.0nm,0.3s,baz=17,slow=6.0,SNR=3.1						
JHJ				Sn	**Sn**	**12 15 07.5**	**-0.5**
	13nm,0.3s,baz=241,slow=19,SNR=2.8						
KSRS	**Korea Array**	**11.32**	**277**	Pn	**Pn**	**12 15 58.0**	**+4.3**
	0.0nm,0.3s,baz=86,slow=16,SNR=3.3						
KSRS				LR	LR	12 20 39.5	
	comp=Z,27nm,18.1s,baz=50,slow=39						
H11N2	**WAKE ISLAND Hy 27.66**	**122**		T	T	12 48 06.4	
	baz=314,slow=75,SNR=9.7						
H11N1	**WAKE ISLAND Hy 27.67**	**122**		T	T	12 47 50.9	
	baz=314,slow=75,SNR=7.1						
H11N3	**WAKE ISLAND Hy 27.68**	**122**		T	T	12 48 07.2	
	baz=314,slow=75,SNR=6.9						
SONM	**Songino Array**	**28.26**	**304**	P	**P**	**12 19 06.3**	**+0.9**
	0.3nm,0.5s,baz=124,slow=7.7,SNR=2.6						
H11S1	**WAKE ISLAND Hy 28.38**	**124**		T	T	12 49 07.7	
	baz=316,slow=76,SNR=5.3						
H11S3	**WAKE ISLAND Hy 28.38**	**124**		T	T	12 48 50.0	
	baz=316,slow=76,SNR=5.6						
H11S2	**WAKE ISLAND Hy 28.40**	**124**		T	T	12 49 21.5	
	baz=316,slow=76,SNR=4.6						
MKAR	**Makanchi Array**	**44.60**	**302**	P	**P**	**12 21 23.9**	**-0.5**
	0.2nm,0.5s,baz=93,slow=8.7,SNR=2.6						
KURBB	**Kurchatov Arra**	**46.46**	**308**	P	**P**	**12 21 39.3**	**+0.4**
	0.6nm,0.2s,baz=82,slow=8.5,SNR=4.2						
BVAR	**Borovoye Array**	**51.00**	**312**	P	**P**	**12 22 14.7**	**+0.8**
	0.2nm,0.4s,baz=64,slow=6.9,SNR=2.7						
WRA	**Warramunga Arr**	**57.11**	**189**	P	**P**	**12 22 57.5**	**-1.2**
	0.4nm,0.6s,baz=9.4,slow=7.5,SNR=4.4						
ASAR	**Alice Springs**	**60.83**	**189**	P	**P**	**12 23 23.4**	**-1.1**
	0.3nm,0.9s,baz=14,slow=10,SNR=4.8						
KBZ	**Khabaz**	**71.34**	**311**	LR	LR	12 59 12.1	
	comp=Z,79nm,18.9s,baz=46,slow=39						

IDC ***25*** *12:21:13.2±1.1, 34.°46N×69.°50E, h0km, mb3.7/10, mb1 3.9/16, mb1mx3.7/52, mbtmp3.8/16, ML3.7/6, MS4.0/2, Ms1 4.0/2, ms1mx2.6/48, Error ellipse: s-maj=26.3km s-min=19.3km az=51.0*
NNC ***25*** *12:21:13.2±3.5, 34.°27N×69.°84E, h0km, mb4.2, mpv4.2, Error ellipse: s-maj=29.6km s-min=26.9km az=106.0*
ISCJB ***25*** *12:21:15.2±0.4, 34.°43N±0.°04×69.°46E±0.°05, h24km, mb4.5/25, MS3.6/3, Error ellipse: s-maj=5.9km s-min=5.3km az=36.0*
NEIC ***25*** *12:21:15.2±1.5, 34.°44N×69.°45E, h12km±9km, mb4.8/17, Error ellipse: s-maj=7.7km s-min=6.9km az=142.0*
ISC 25 12:21:17.1±0.5, 34.°45N±0.°06×69.°41E±0.°06, h24km, n78, σ1§55/74, mb4.6/25, MS4.0/3, 7C-2D, Southeastern Afghanistan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KBL	**Kabul**	**0.32**	**287**	*eP*g	**Pb**	**12 21 22.8**	**-1.7**
KBL				*e*Sg	**Sb**	**12 21 30.4**	**+0.9**
DZET	**Dzherino**	**4.38**	**354**	⇓Pn	**Pn**	**12 22 24.8**	**+2.6**
	34nm,0.4s						
DZET				⇑Sn	**Sb**	**12 23 20.3**	**-5.4**
	67nm,0.5s						
MNAS	**Manas**	**8.38**	**16**	⇑Pn	**Pn**	**12 23 18.4**	**+1.2**
	2.9nm,0.5s						
MNAS				⇑Sn	**Sn**	**12 24 54.6**	**+3.4**
	10nm,0.6s						
KK31	**Karatay Array**	**8.69**	**5**	Pn	**Pn**	**12 23 21.7**	**+0.5**
	3.0nm,0.5s,baz=194,slow=14,SNR=58						
KK31				⇑Sn	**Sn**	**12 25 03.4**	**+5.0**
	3.2nm,0.5s,baz=192,slow=25,SNR=4.1						
KKAR	**Karatay Array**	**8.69**	**5**	*e*Pn	**Pn**	**12 23 21.6**	**+0.4**
AAK	**Ala-Archa**	**9.09**	**24**	Pn	**Pn**	**12 23 26.6**	**-0.3**
	1.2nm,0.3s,baz=232,slow=7.7,SNR=9.5						
AAK				Sn	**Sn**	**12 25 10.9**	**+2.3**
	0.2nm,0.3s,baz=322,slow=19,SNR=3.7						
AAK	**Ala-Archa**	**9.09**	**24**	⇑Pn	**Pn**	**12 23 26.8**	**-0.1**
	3.1nm,0.5s						
AAK				Sn	**Sn**	**12 25 11.3**	**+2.7**
	6.2nm,0.7s						
TKM2	**Tokmak 2**	**9.74**	**28**	⇓Pn	**Pn**	**12 23 37.1**	**+1.3**
	2.1nm,0.6s						
TKM2				⇑Sn	**Sn**	**12 25 22.6**	**-2.0**
	2.0nm,0.7s						
GEYT	**Alibeck**	**9.77**	**294**	Pn	**Pn**	**12 23 36.2**	**+0.2**
	0.5nm,0.3s,baz=120,slow=10,SNR=3.7						
GEYT				LR	LR	12 27 30.8	
	comp=Z,29nm,19.9s,baz=130,slow=38						
PYUN	**Piuthan**	**13.22**	**115**	*eP*	Pn	12 24 15.9	-7.6
	13nm,0.4s						
KOLN	**Koldanda**	**13.85**	**115**	*eP*	Pn	12 24 24.8	-7.3
	7.1nm,0.3s						
GKN	**Gorkha**	**14.52**	**112**	*eP*	Pn	12 24 33.2	-8.0
	12nm,0.3s						
DMN	**Daman**	**15.07**	**113**	*eP*	Pn	12 24 39.8	-9.0
	20nm,0.6s						
KKN	**Kakani**	**15.12**	**112**	*eP*	Pn	12 24 40.7	-8.6
	16nm,0.6s						
PKIN	**Phulchoki**	**15.31**	**112**	*eP*	Pn	12 24 43.5	-8.4
	9.4nm,0.4s						
PKI	**Pulchoki**	**15.32**	**112**	*eP*	Pn	12 24 43.1	-9.0
	20nm,0.5s						
MAKZ	**Makanchi**	**15.58**	**34**	*e*Pn	**Pn**	**12 24 54.6**	**-0.4**
	1.9nm,0.6s						
MK01	**Makanchi Array**	**15.70**	**35**	*e*Pn	**Pn**	**12 24 56.8**	**+0.2**
MK31	**Makanchi Array**	**15.71**	**34**	*e*Pn	**Pn**	**12 24 57.0**	**+0.2**
MK32	**Makanchi Array**	**15.71**	**34**	*e*Pn	**Pn**	**12 24 53.8**	**-3.0**
MKAR	**Makanchi Array**	**15.71**	**34**	Pn	**Pn**	**12 24 53.8**	**-3.0**
	0.2nm,0.3s,baz=210,slow=7.0,SNR=8.1						
MKAR	**Makanchi Array**	**15.71**	**34**	*e*Pn	**Pn**	**12 24 57.0**	**+0.2**
	8.8nm,0.6s						
JIRN	**Jiri**	**15.88**	**111**	*eP*	Pn	12 24 51.2	-8.2
	82nm,0.4s						
AB31	**Akbulak array**	**16.37**	**338**	P	**Pn**	**12 25 04.6**	**-0.6**
	1.2nm,0.5s,baz=151,slow=13,SNR=31						
ABKAR	**Akbulak array**	**16.37**	**338**	*e*Pn	**Pn**	**12 25 04.7**	**-0.5**
	28nm,0.8s						
KURBB	**Kurchatov Arra**	**17.48**	**20**	P	**Pn**	**12 25 18.1**	**-1.0**
	0.1nm,0.3s,baz=208,slow=9.7,SNR=10						
KURK	**Kurchatov**	**17.59**	**20**	*e*Pn	**Pn**	**12 25 18.1**	**-2.4**
AKTO	**Aktyubinsk**	**18.02**	**336**	P	**Pn**	**12 25 25.4**	**-0.3**
	0.5nm,0.3s,baz=149,slow=10,SNR=9.2						
AKTO	**Aktyubinsk**	**18.02**	**336**	⇑P	**P**	**12 25 26.6**	**+0.5**
	4.0nm,0.8s						
BVAR	**Borovoye Array**	**18.59**	**2**	P	**P**	**12 25 31.1**	**-1.2**
	0.5nm,0.3s,baz=172,slow=8.0,SNR=9.5						
BRVK	**Borovoye**	**18.62**	**2**	*e*P	**P**	**12 25 32.2**	**-0.4**
	2.6nm,0.6s						
ZAA0	**Zalesovo Array**	**22.32**	**24**	*e*P	**P**	**12 26 13.1**	**+0.4**
ZALV	**Zalesovo Beam**	**22.32**	**24**	P	**P**	**12 26 10.6**	**-2.1**
	1.5nm,0.4s,baz=221,slow=9.8,SNR=6.2						
ZAA1	**Zalesovo Array**	**22.32**	**24**	*e*P	**P**	**12 26 10.6**	**-2.1**
ARTV	**Artvin**	**22.67**	**295**	*e*P	**P**	**12 26 16.9**	**0.0**
	7.7nm,1.1s						
ARU	**Arti**	**23.21**	**345**	P	**P**	**12 26 22.0**	**0.0**
	1.9nm,0.4s,baz=186,slow=7.2,SNR=5.0						
ARU	**Arti**	**23.21**	**345**	*e*P	**P**	**12 26 22.6**	**+0.6**
	6.5nm,1.1s						
MMAI	**Mount Meron Ar**	**28.25**	**277**	LR	LR	12 39 33.2	
	comp=Z,15nm,20.2s,baz=150,slow=39						
AKASG	**Malin Array Be**	**33.28**	**312**	P	**P**	**12 27 50.6**	**-1.8**
	0.4nm,0.5s,baz=87,slow=6.7,SNR=4.1						
AKBB	**Malin Array Si**	**33.28**	**312**	*e*P	**P**	**12 27 50.6**	**-1.8**
	15nm,2.0s						
FIA1	**FINESS Array S**	**38.50**	**328**	*e*P	**P**	**12 28 37.4**	**+0.4**
FIA0	**FINESS Array S**	**38.50**	**328**	*e*P	**P**	**12 28 37.1**	**+0.1**
FINES	**FINESS Array B**	**38.50**	**328**	P	**P**	**12 28 37.1**	**+0.1**
	3.4nm,1.1s,baz=145,slow=12,SNR=4.0						
KEV	**Kevo**	**42.25**	**340**	*e*P	**P**	**12 29 07.9**	**0.0**
	70nm,2.0s						
ARA0	**ARCESS Array S**	**42.57**	**339**	*e*P	**P**	**12 29 10.8**	**+0.2**
ARCES	**ARCESS Array B**	**42.57**	**339**	P	**P**	**12 29 10.5**	**-0.1**
	1.3nm,0.3s,baz=124,slow=9.1,SNR=4.6						
ARE0	**ARCESS Array S**	**42.57**	**339**	*e*P	**P**	**12 29 10.8**	**+0.2**
	51nm,1.9s						
NC303	**NORSAR Array S**	**45.22**	**325**	*e*P	**P**	**12 29 32.3**	**+0.3**
NB201	**NORSAR Array S**	**45.23**	**324**	*e*P	**P**	**12 29 31.6**	**-0.5**
NB200	**NORSAR Array S**	**45.27**	**324**	*e*P	**P**	**12 29 32.5**	**+0.2**
NOA	**NORSAR Array B**	**45.27**	**324**	P	**P**	**12 29 32.5**	**+0.2**
	0.3nm,0.4s,baz=102,slow=7.9,SNR=2.6						
SSLB	**Suanglung**	**45.84**	**89**	*e*P	**P**	**12 29 37.1**	**-0.3**
	124nm,1.9s						
TUE	**Stuetta**	**46.22**	**304**	*e*P	**P**	**12 29 42.2**	**+1.9**
	17nm,2.0s						
YAK	**Yatsk**	**46.39**	**34**	*e*P	**P**	**12 29 43.2**	**+2.1**
	12nm,0.6s						
USRK	**Ussuriysk Ar.**	**48.32**	**59**	LR	LR	12 53 39.0	
	comp=Z,196nm,18.1s,baz=290,slow=40						
KAPI	**Kappang**	**61.54**	**119**	*e*P	**P**	**12 31 31.6**	**-0.8**
	362nm,0.9s						
TOA0	**Torodi Ar. Sit**	**64.37**	**269**	*e*P	**P**	**12 31 50.1**	**-1.3**
BOSA	**Boshof**	**75.34**	**219**	*e*P	**P**	**12 32 58.3**	**-0.3**
	54nm,1.9s						
INK	**Inuvik**	**76.13**	**9**	P	**P**	**12 33 03.6**	**+1.2**
	1.0nm,0.6s,baz=319,slow=9.3,SNR=3.6						
INK	**Inuvik**	**76.13**	**9**	*e*P	**P**	**12 33 03.6**	**+1.2**
	22nm,1.9s						
IL1	**Eielson Array**	**77.10**	**15**	*e*P	**P**	**12 33 09.3**	**+1.3**
ILAR	**Eielson Array**	**77.10**	**15**	P	**P**	**12 33 08.8**	**+0.8**
	0.4nm,0.8s,baz=297,slow=4.6,SNR=4.9						
ILB	**Eielson Array**	**77.10**	**15**	*e*P	**P**	**12 33 08.8**	**+0.8**
PPLA	**Purkeypile**	**77.44**	**18**	*e*P	**P**	**12 33 11.7**	**+1.5**
	28nm,1.5s						
KDAK	**Kodiak Island**	**81.58**	**21**	LR	LR	13 13 59.4	
	comp=Z,64nm,18.8s,baz=315,slow=39						
WRA	**Warramunga Arr**	**82.03**	**121**	P	**P**	**12 33 33.6**	**-1.9**
	0.2nm,0.7s,baz=323,slow=4.9,SNR=5.5						
WR1	**Warramunga Arr**	**82.04**	**121**	*e*P	**P**	**12 33 33.6**	**-1.8**
	11nm,1.5s						
WRAB	**Tennant Creek**	**82.04**	**121**	*e*P	**P**	**12 33 36.4**	**+0.9**
	14nm,1.6s						
WB2	**Warramunga Arr**	**82.04**	**121**	*e*P	**P**	**12 33 35.4**	**-0.1**
	22nm,1.9s						
AS31	**Alice Springs**	**84.17**	**124**	*e*P	**P**	**12 33 46.3**	**-0.2**
	1.1nm,1.3s						
ASAR	**Alice Springs**	**84.17**	**124**	P	**P**	**12 33 47.2**	**+0.7**
	0.3nm,0.4s,baz=90,slow=8.4,SNR=14						
AS01	**Alice Springs**	**84.20**	**124**	*e*P	**P**	**12 33 46.7**	**0.0**
SHEL	**Horse Pasture**	**87.15**	**249**	*e*P	**P**	**12 34 01.1**	**-0.4**
	318nm,1.5s						
BBOO	**Buckleboo**	**91.59**	**129**	*e*P	**P**	**12 34 22.6**	**+0.7**
CRLZ	**Canterbury Las**	**121.60**	**124**	*e*PKPdf	**PKPdf**	**12 40 07.5**	**-0.8**
QSPA	**South Pole Qui**	**124.25**	**180**	*e*PKPdf	**PKPdf**	**12 40 13.3**	**+0.4**
TRQA	**Torquist**	**140.99**	**250**	*e*PKPdf	**PKPdf**	**12 40 45.7**	**+0.6**
ROC1	**El Roble**	**147.19**	**261**	*e*PKPbc	**PKPab**	**12 41 01.2**	**+0.8**

OBM ***25*** *12:36:41.2±0.1, 51.°17N×93.°29E, h2km, Ml4.6/1, Error ellipse: s-maj=1.8km s-min=0.9km az=165.0*
MOS ***25*** *12:36:41.5±1.2, 51.°16N×93.°26E, h20km, mb4.8/45, Error ellipse: s-maj=6.2km s-min=4.5km az=44.0*
MOS Felt (III) at Kyzyl.
BJI ***25*** *12:36:41.1, 51.°49N×93.°13E, h27km, mb4.3/39, mB4.7/29, ML5.1/3, Ms4.5/28, Ms7 4.1/32*
IDC ***25*** *12:36:42.8±0.5, 51.°19N×93.°30E, h18km±3km, mb4.1/28, mb1 4.2/35, mb1mx4.1/58, mbtmp4.2/35, ML3.9/7, MS3.6/18, Ms1 3.6/18, ms1mx3.4/44, Error ellipse: s-maj=11.7km s-min=7.3km az=178.0*
NNC ***25*** *12:36:43.6±4.9, 51.°29N×93.°02E, h0km, mb4.7, mpv4.4, Error ellipse: s-maj=52.7km s-min=35.7km az=96.0*
ISCJB ***25*** *12:36:44.0±0.4, 51.°26N±0.°02×93.°20E±0.°03, h33km±4km, mb4.6/108, MS3.7/23, Error ellipse: s-maj=4.0km s-min=3.2km az=21.8*
NEIC ***25*** *12:36:44.4±1.1, 51.°18N×93.°21E, h28km±8km, mb4.8/48, Error ellipse: s-maj=5.1km s-min=3.1km az=176.0*
ASRS ***25*** *12:36:46.0±1.2, 51.°30N×92.°95E, h15km, Ms4.0/3*
ISC 25 12:36:42.7±0.3, 51.°22N±0.°03×93.°14E±0.°02, h15km±1km, h15km:pP-P, n358, σ1§70/388, mb4.6/108, MS3.7/23, 48C-23D, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KZLR	**Kyzyl**	**0.96**	**59**	*i* PG	**Pg**	**12 36 58.1**	**-3.1**
KZLR				*i*		12 37 10.6	
KZLR				pmax	pmax		
	comp=Z,679nm,0.5s						
ULG	**Ulaangom**	**1.44**	**209**	*e*Pg	**Pn**	**12 37 07.9**	**-0.4**
ULG				*e*Sg	**Sn**	**12 37 26.7**	**-0.2**
BLRR	**Bol'shaya Rech**	**1.87**	**347**	*d*iPN	**Pn**	**12 37 14.9**	**+0.7**
BLRR				*i*		12 37 39.8	
CERR	**Cheremushki**	**1.95**	**328**	*i* Pg	**Pb**	**12 37 18.0**	**+0.1**
CERR				*i*		12 37 44.8	
CERR	**Cheremushki**	**1.95**	**328**	*i* PN	**Pb**	**12 37 18.0**	**+0.1**
CERR				*i*		12 37 44.8	
TBTR	**Tabat**	**2.27**	**320**	*c i* PN	**Pn**	**12 37 22.0**	**+2.3**
TBTR				*i*		12 37 52.0	
BYO	**Bayan-Olgiy**	**3.05**	**223**	*e*Pn	**Pn**	**12 37 32.4**	**+1.8**
BYO	**Bayan-Olgiy**	**3.05**	**223**	*e*Pg	**Pb**	**12 37 37.3**	**+0.5**
BYO				*e*Sg	**Sb**	**12 38 15.6**	**+1.7**
HBD	**Hovd**	**3.35**	**197**	*e*Pn	**Pn**	**12 37 36.9**	**+2.2**
HBD				*e*Sg	**Sb**	**12 38 25.5**	**+2.9**
TASR	**Tashtagol**	**3.60**	**297**	*e*Pn	**Pn**	**12 37 40.9**	**+3.0**
TASR				*e*Pg	**Pg**	**12 37 51.8**	**+0.3**
TASR				*e*Sg	**Sg**	**12 38 35.9**	**-2.2**
TASR	**Tashtagol**	**3.60**	**297**	*e*PN	**Pn**	**12 37 40.9**	**+3.0**
TASR				*e*		12 37 51.8	
TASR				*e*		12 38 34.5	
AKAR	**Aktash**	**3.62**	**258**	*e*PN	**Pn**	**12 37 41.3**	**+3.0**
AKAR				*e*		12 37 49.3	
AKAR				*e*		12 38 25.3	
AKAR				*e*		12 38 35.9	
SHRR	**Shira**	**3.74**	**332**	*d i* PN	**Pn**	**12 37 42.1**	**+2.2**
SHRR				*i*		12 38 36.5	
DGZ	**Jazzator, Alta**	**3.95**	**250**	*i* PN	**Pn**	**12 37 45.7**	**+2.8**
ORY	**Orie**	**3.97**	**17**	*i* PN	**Pb**	**12 37 52.3**	**-0.1**
ORY				*i*		12 38 44.7	
ORY				pmax	pmax		
	comp=Z,505nm,1.5s						
HTG	**Hatgal**	**4.52**	**97**	*e*Pn	**Pn**	**12 37 53.3**	**+2.5**
HTG				*e*Sg	**Sb**	**12 38 59.2**	**+3.0**
ELT	**Eltsovka**	**4.71**	**298**	*e*Pn	**Pn**	**12 37 55.0**	**+1.9**
ELT				*e*Pg	**Pb**	**12 38 08.0**	**+3.2**
ELT				*e*Sg	**Sb**	**12 39 06.8**	**+5.5**
ELT	**Eltsovka**	**4.71**	**298**	*e*PN	**Pn**	**12 37 55.0**	**+1.9**
ELT				*e*		12 38 08.0	
ELT				*e*		12 39 06.8	
KRAR	**Krasnoyarsk**	**4.80**	**358**	*i* PN	**Pb**	**12 38 07.3**	**+0.8**
KRAR				*i*		12 39 11.1	
MOY	**Mondy**	**4.94**	**82**	*e*PN	**Pb**	**12 38 07.2**	**-1.6**
MOY				*i*		12 38 10.5	
MOY				*e*		12 39 11.6	
UKR	**Ust'-Kan**	**5.28**	**270**	*e*Pn	**Pn**	**12 38 03.7**	**+2.6**
UKR				*e*Pg	**Pb**	**12 38 18.2**	**+3.5**
UKR				*e*Sg	**Sg**	**12 39 28.7**	**-3.4**
UKR	**Ust'-Kan**	**5.28**	**270**	*e*PN	**Pn**	**12 38 03.7**	**+2.6**
UKR				*e*		12 38 18.2	
UKR				*e*		12 39 28.7	
ZAA0	**Zalesovo Array**	**5.76**	**302**	⇑Pn	**Pn**	**12 38 09.7**	**+2.1**
	comp=Z,2.7nm,0.4s						
ZAA0				⇑Lg	Lg	12 39 38.3	
	comp=Z,49nm,0.9s						
ZAA0	**Zalesovo Array**	**5.76**	**302**	*e*Pn	**Pn**	**12 38 08.4**	**+0.8**
ZALV	**Zalesovo Beam**	**5.76**	**302**	Pn	**Pn**	**12 38 08.1**	**+0.5**
	comp=Z,15nm,0.3s,baz=110,slow=14,SNR=136						
ZALV				Lg	Lg	12 39 35.8	
	comp=Z,26nm,0.3s,baz=99,slow=19,SNR=8.1						
ZALV				LR	LR	12 40 33.8	
	comp=Z,381nm,21.1s,baz=70,slow=39						
ZAK	**Zakamensk**	**6.49**	**93**	*e*PN	**Pb**	**12 38 34.4**	**-0.8**
ZAK				*e*		12 39 58.4	
ZAK				pmax	pmax		
	comp=Z,147nm,1.0s						
ZAK				smax	smax		
	comp=N,1μm,1.4s						
TLY	**Talaya**	**6.58**	**82**	Pn	**Pn**	**12 38 21.6**	**+2.7**
	comp=N,0.0nm,0.3s,baz=247,slow=18,SNR=2.1						
TLY				Pg	**Pb**	**12 38 34.7**	**-2.2**
	comp=N,0.1nm,0.3s,baz=276,slow=14,SNR=18						
TLY				Lg	Lg	12 40 02.1	
	comp=N,0.4nm,0.3s,baz=7.7,slow=6.3,SNR=9.0						
TLY	**Talaya**	**6.58**	**82**	*e*PN	**Pb**	**12 38 40.2**	**+3.3**
TLY				*e*		12 39 57.6	
TLY				pmax	pmax		
	comp=Z,36nm,0.6s						
TTS	**Tsetserleg**	**6.59**	**121**	*e*Pn	**Pn**	**12 38 19.7**	**+0.5**
TTS	**Tsetserleg**	**6.59**	**121**	*e*Pg	**Pb**	**12 38 37.6**	**+0.6**
TTS				*e*Sg	**Sb**	**12 40 03.5**	**+7.9**
NVS	**Novosibirsk**	**6.99**	**305**	*e*Pn	**Pn**	**12 38 25.4**	**+1.0**
NVS				*e*Pg	Pg	12 38 51.2	-5.1
NVS				*e*Sg	**Sb**	**12 40 06.6**	**-0.1**
NVS

comp=N,4.2nm,0.3s,baz=286,slow=27,SNR=6.8
SONM LR LR 12 42 41.3
comp=N,541nm,20.6s,baz=288,slow=39
SONA3 Songino Array 9.27 106 *e*Pg Pn 12 39 25.2 +29
SONA3 *e*Sg Sn 12 41 30.7 +51
comp=N,769nm,0.9s
SONA4 Songino Array 9.27 106 *e*Pg Pn 12 39 25.2 +29
SONA4 *e*Sg Sn 12 41 30.8 +51
comp=N,1µm,1.3s
SONB3 Songino Array 9.28 106 *e*Pg Pn 12 39 25.5 +30
SONB3 *e*Sg Sn 12 41 30.8 +51
comp=N,1µm,1.2s
ALFM 9.43 105 *e*Pg Pn 12 39 28.0 +30
ALFM *e*Sg Sn 12 41 33.5 +50
comp=N,543nm,0.7s
UB5M 9.50 106 *e*Sg Sn 12 41 34.2 +49
ULN Ulaanbaatar 9.65 105⇑ *e*P Pn 12 39 06.4 +5.3
ULN Ulaanbaatar 9.65 105 *e*P Pn 12 39 29.8 +29
SEMM 9.74 107 *e*Pg Pn 12 39 34.5 +32
SEMM *e*Sg Sn 12 41 44.9 +53
ARTM 9.75 104 *e*Pg Pn 12 39 36.3 +34
ARTM *e*Sg Sn 12 41 45.8 +54
UGDM 9.96 106 *e*Pg Pn 12 39 39.0 +34
UGDM *e*Sg Sn 12 41 50.8 +54
PDGK Podgornoye 12.16 235 ⇓Pn **Pn 12 39 33.7 -1.7**
comp=N,3.5nm,0.4s
PDGK ⇓Lg Lg 12 43 04.2
comp=N,144nm,1.2s
PDGK Podgornoye 12.16 235 P **Pn 12 39 35.2 -0.2**
PDGK pmax pmax
comp=Z,13nm,1.0s
GTA Gaotai 12.70 156 *e*P **Pn 12 39 41.3 -1.5**
GTA pP 12 39 48.8
GTA sP 12 39 53.5
GTA S Sn 12 41 51.0 -13
GTA sS 12 42 12.5
GTA SS **SnSn 12 42 17.0 +1.1**
GTA pmax pmax
comp=Z,4.0nm,0.9s
GTA pmax pmax
comp=Z,68nm,5.0s
GTA LR LR
comp=N,780nm,11.9s
GTA LR LR
comp=E,2µm,11.9s
GTA LR LR
comp=Z,760nm,12.4s
MDOK Medeo 13.57 240 Pn **P 12 40 00.6 -3.1**
MDOK ⇑Lg Lg 12 43 48.4
BOD Bodaibo 13.77 53 *e*P **Pn 12 39 59.9 +2.8**
BOD pmax pmax
comp=Z,10.0nm,1.0s
BVAR Borovoye Array 14.08 286 Pn **Pn 12 40 01.2 -0.3**
comp=Z,0.4nm,0.3s,baz=75,slow=13,SNR=8.3
BVAR Sn Sn 12 42 48.2 +11
comp=Z,0.8nm,0.3s,baz=72,slow=23,SNR=3.7
BRVK Borovoye 14.14 286⇓ *e*P **Pn 12 40 02.4 +0.1**
BRVK pmax pmax
comp=Z,22nm,1.7s
BRVK Borovoye 14.14 286 *e*Pn **Pn 12 40 01.3 -1.0**
TKM2 Tokmak 2 14.52 242 ⇓Pn **P 12 40 14.8 +0.4**
comp=Z,19nm,1.1s
TKM2 ⇑Lg Lg 12 44 23.5
comp=Z,106nm,1.5s
TKM2 Tokmak 2 14.52 242 P **P 12 40 14.8 +0.4**
FRU Bishkek 15.13 244 *e*P **P 12 40 23.0 +2.1**
FRU *e*S **S 12 43 14.0 -6.1**
FRU pmax pmax
comp=Z,60nm,2.0s
AAK Ala-Archa 15.32 243 Pn **Pn 12 40 17.6 -0.9**
comp=Z,0.3nm,0.3s,baz=59,slow=8.1,SNR=5.6
AAK Lg Lg 12 44 44.9
comp=Z,0.3nm,0.3s,baz=300,slow=23,SNR=9.5
AAK LR LR 12 46 31.3
comp=Z,531nm,18.9s,baz=30,slow=38
AAK Ala-Archa 15.32 243 ⇓P **P 12 40 22.7 -0.5**
comp=Z,11nm,1.0s
AAK Ala-Archa 15.32 243 *e*P **Pn 12 40 18.9 +0.4**
AAK pmax pmax
comp=Z,11nm,1.0s
AAK Ala-Archa 15.32 243 *e*Pn **Pn 12 40 18.9 +0.4**
comp=Z,11nm,1.0s
AAK Lg Lg 12 44 44.9
HHC Hu-ho-hao-te 16.42 122 *e*P **Pn 12 40 32.8 +0.2**
HHC pP sP 12 40 41.8 +0.4
HHC PP **PnPn 12 40 45.0 +3.5**
HHC S **Sn 12 43 33.0 -1.6**
HHC SS **SnSn 12 43 53.3 +5.9**
HHC pmax pmax
comp=Z,8.0nm,1.2s
HHC pmax pmax
comp=Z,79nm,4.7s
HHC LR LR
comp=Z,1µm,12.4s
HHC LR LR
comp=Z,990nm,12.4s
HHC LR LR
comp=Z,600nm,11.2s
MNAS Manas 16.55 246 ⇑Pn **Pn 12 40 33.6 -0.7**
comp=Z,24nm,1.3s
MNAS ⇑Lg Lg 12 45 26.4
MNAS Manas 16.55 246 P **Pn 12 40 33.6 -0.7**
KSH Kashi 16.75 232 *e*P **P 12 40 44.0 +4.9**
KSH pP sP 12 40 52.0 +6.9
KSH PP PnPn 12 40 59.0 +13
KSH S **S 12 43 51.5 -2.1**
KSH sS sS 12 44 03.5 +3.4
KSH SS SnSn 12 44 12.5 +17
KSH pmax pmax
comp=Z,9.0nm,1.1s
KSH pmax pmax
comp=Z,78nm,3.6s
KSH LR LR
comp=Z,290nm,6.3s
KSH LR LR
comp=Z,560nm,6.8s
KSH LR LR
comp=Z,340nm,11.1s
LZH Lanzhou 16.97 149 *e*P **P 12 40 42.8 +1.3**
LZH pP sP 12 40 50.0 +2.5
LZH sP pP 12 40 52.8 +7.2
LZH PP **PnPn 12 40 56.8 +7.7**
LZH *e*S **Sn 12 43 45.5 -2.4**
LZH sS S 12 43 57.5 -0.5
LZH SS **SnSn 12 44 07.8 +6.9**
LZH pmax pmax
comp=Z,35nm,1.0s
LZH pmax pmax
comp=Z,190nm,4.2s
LZH LR LR
comp=Z,670nm,11.0s
LZH LR LR
comp=Z,960nm,10.8s
LZH LR LR
comp=Z,1µm,11.3s
KK31 Karatay Array 17.34 251 P **Pn 12 40 42.6 -1.5**
comp=Z,4.8nm,0.8s,baz=53,slow=14,SNR=35
KK31 Karatay Array 17.34 251 P **Pn 12 40 42.6 -1.5**
KKAR Karatay Array 17.34 251 *e*P **Pn 12 40 43.4 -0.7**
KKAR pmax pmax
comp=Z,53nm,0.8s
KKAR Karatay Array 17.34 251 *e*Pn **Pn 12 40 43.4 -0.7**
comp=Z,53nm,0.8s
NRIK Noril'sk 18.37 354 P **Pn 12 40 54.9 -1.6**
comp=Z,2.7nm,0.3s,baz=148,slow=9.0,SNR=11
NRIK Lg Lg 12 46 16.9
baz=262,slow=14,SNR=3.6
NRIK LR LR 12 48 18.0
comp=Z,130nm,20.5s,baz=296,slow=38
CLNS Chul'man 19.36 61 *e*P **Pn 12 41 13.8 +5.1**
CLNS *e*S **Sn 12 44 45.1 -0.3**
CLNS pmax pmax
comp=Z,9.0nm,0.9s
CLNS pmax pmax
comp=E,6.0nm,1.1s
CLNS pmax pmax
comp=N,5.0nm,0.9s
CLNS smax smax
comp=E,4.0nm,0.8s
CLNS smax smax
comp=N,8.0nm,1.0s
CLNS MLR MLR
comp=E,351nm,14.0s
CLNS MLR MLR
comp=Z,452nm,13.0s
CLNS MLR MLR
comp=N,114nm,11.0s
BJI Beijing 19.52 116 P **P 12 41 08.5 -0.8**
BJI S **Sn 12 44 45.5 -3.8**
BJI pmax pmax
comp=N,10.0nm,1.5s
BJI pmax pmax
comp=N,59nm,3.8s
BJI LR LR
comp=N,600nm,10.9s
BJI LR LR
comp=N,560nm,19.6s
BJI LR LR
comp=N,180nm,17.8s
SVE Sverdlovsk 19.77 299⇑ *e*P **P 12 41 12.2 +0.2**
SVE pmax pmax
comp=Z,51nm,1.0s
XAN Xi'an 20.65 140 P Pn 12 41 27.0 +2.9
XAN pmax pmax
comp=Z,32nm,1.0s
XAN LR LR
comp=Z,300nm,6.2s
XAN LR LR
comp=Z,230nm,7.3s
XAN LR LR
comp=Z,380nm,5.7s
ARU Arti 20.91 298 P **P 12 41 23.7 -0.6**
comp=Z,36nm,0.7s,baz=98,slow=5.8,SNR=38
ARU LR LR 12 50 32.4
comp=Z,245nm,18.1s,baz=128,slow=40
ARU Arti 20.91 298*c i*P **P 12 41 24.2 -0.1**
ARU 12 41 43.1
ARU S **S 12 45 17.7 +1.0**
ARU SS **SnSn 12 45 38.6 +1.5**
ARU pmax pmax
comp=Z,68nm,1.2s
ARU MLR MLR
comp=Z,308nm,17.0s
ARU Arti 20.91 298 *e*P **P 12 41 24.0 -0.3**
comp=Z,37nm,0.6s
DZET Dzherino 21.08 243 P **P 12 41 26.6 +0.1**
DZET pmax pmax
comp=Z,28nm,1.3s
AB31 Akbulak array 21.22 278 ⇓P **P 12 41 27.7 -0.1**
comp=Z,15nm,0.9s,baz=75,slow=13,SNR=85
AB31 Akbulak array 21.22 278 P **P 12 41 27.7 -0.1**
ABKAR Akbulak array 21.22 278 *e*P **P 12 41 28.1 +0.3**
comp=Z,122nm,1.0s
LSA Lhasa 21.55 185 P **P 12 41 33.3 +1.4**
CD2 Chengdu 21.77 155 *e*P **P 12 41 34.5 +0.7**
CD2 pP sP 12 41 39.5 -0.4
CD2 S S 12 45 22.3 -12
CD2 pmax pmax
comp=Z,20nm,0.9s
CD2 LR LR
comp=Z,2µm,13.3s
CD2 LR LR
comp=Z,520nm,11.4s
SOKR Solikamsk 22.02 306*d i*P **P 12 41 34.5 -1.7**
SOKR S S 12 45 27.3 -11
SOKR pmax pmax
comp=Z,37nm,1.4s
SOKR MLR MLR
comp=Z,229nm,21.0s
AKTO Aktyubinsk 22.08 282 P **P 12 41 37.4 +0.5**
comp=Z,16nm,0.8s,baz=92,slow=10,SNR=32
AKTO LR LR 12 50 36.7
comp=Z,171nm,18.8s,baz=73,slow=38
AKTO Aktyubinsk 22.08 282 ⇓P **P 12 41 37.4 +0.5**
comp=Z,34nm,1.0s
YAK Yakutsk 22.50 47 P **P 12 41 40.3 -1.0**
comp=Z,17nm,0.6s,baz=288,slow=3.8,SNR=5.1
YAK Yakutsk 22.50 47 *e*P **P 12 41 40.7 -0.6**
YAK *e**PP **sP 12 41 48.8 +1.4**
YAK *e*PPP PPP 12 42 12.5
YAK *e*S **S 12 45 47.5 +0.1**
YAK *e**SS Sn 12 46 00.5 -0.1
YAK *e*SSS SSS 12 46 30.1
YAK pmax pmax
comp=Z,27nm,1.5s
YAK pmax pmax
comp=N,11nm,1.4s
YAK smax smax
comp=N,51nm,2.8s
YAK MLR MLR
comp=Z,504nm,16.0s
YAK Yakutsk 22.50 47 *e*P **P 12 41 41.7 +0.3**
comp=Z,30nm,0.8s
CN2 Changchun 22.91 96 *e*P **P 12 41 45.8 0.0**
GKN Gorkha 24.06 199 *e*P **P 12 41 58.2 +0.7**
comp=Z,88nm,1.0s
KBL Kabul 24.11 236 *e*P **P 12 41 58.2 +0.2**
KBL pmax pmax
comp=Z,11nm,1.0s
KBL Kabul 24.11 236 *e*P **P 12 41 58.2 +0.2**
comp=Z,11nm,1.0s
KKN Kakani 24.14 197 *e*P **P 12 41 57.5 -0.8**
comp=Z,36nm,0.8s
TAPN Taplejung 24.19 192 *e*P **P 12 41 58.4 -0.4**
comp=Z,46nm,0.8s
PKIN Phulchoki 24.33 197 *e*P **P 12 42 00.7 +0.6**
comp=Z,36nm,0.9s
PYUN Piuthan 24.33 202 *e*P **P 12 42 01.5 +1.5**
comp=Z,66nm,1.0s
KOLN Koldanda 24.51 201 *e*P **P 12 42 02.9 +1.3**
comp=Z,26nm,0.8s
KLR Kul'dur 24.60 79*c i*P **P 12 42 02.5 +0.5**
ODAN Odare 24.72 192 *e*P **P 12 42 04.9 +1.4**
comp=Z,144nm,0.9s
MDJ Mudanjiang 25.11 91 P **P 12 42 05.8 -0.9**
MDJ pP sP 12 42 14.0 +1.0
MDJ sP pP 12 42 18.3 +7.1
MDJ S **S 12 46 30.0 -0.8**
MDJ PcS **PcS 12 49 18.0 -2.7**
MDJ ScS **ScS 12 53 03.5 -3.7**
MDJ pmax pmax
comp=Z,5.0nm,0.7s
MDJ pmax pmax
comp=Z,57nm,5.1s
MDJ LR LR
comp=Z,220nm,9.9s
MDJ LR LR
comp=Z,200nm,11.8s
MDJ LR LR
comp=Z,350nm,12.1s
TIXI Tiksi 25.95 25 *e*P P 12 42 23.3 +9.2
TIXI pmax pmax
comp=Z,11nm,0.8s
TIXI Tiksi 25.95 25 *e*P P 12 42 23.3 +9.2
comp=Z,11nm,0.8s
GYA Guiyang 26.79 152 *e*P **P 12 42 22.8 +0.6**
GYA pmax pmax
comp=Z,10.0nm,0.8s
USRK Ussuriysk Ar. 26.82 90 P **P 12 42 21.6 -0.6**
comp=Z,1.2nm,0.5s,baz=89,slow=23,SNR=4.8
USRK pP **sP 12 42 27.6 -0.8**
comp=Z,1.7nm,0.5s,baz=301,slow=7.1,SNR=3.1
HABR Khabarovsk 26.90 79 *e*P **P 12 42 22.7 -0.2**
HABR *e**PP **pP 12 42 27.1 -0.2**
HABR *e* 12 43 04.4
HABR *e*PPP PPP 12 43 12.6
HABR *e*SS 12 48 05.6
HABR *e*SSS SSS 12 48 19.8
HABR pmax pmax
comp=Z,22nm,2.1s
HABR MLR MLR
comp=Z,113nm,18.0s
NJ2 Nanjing 26.91 125 *e*P **P 12 42 20.8 -2.2**
KMI Kunming 27.08 161 P **P 12 42 26.5 +1.6**
KMI pmax pmax
comp=Z,7.0nm,0.7s
KMI pmax pmax
comp=Z,450nm,4.3s
GEYT Alibeck 27.97 255 P **P 12 42 34.2 +1.6**
comp=Z,5.1nm,0.9s,baz=35,slow=5.4,SNR=8.8
GEYT LR LR 12 55 00.3
comp=Z,118nm,19.5s,baz=40,slow=39
KSAR Wonju Array Be 28.12 106 P **P 12 42 33.8 -0.1**
KSAR Wonju Array Be 28.12 106 P **P 12 42 33.8 -0.1**
KSRS Korea Array 28.13 106 P **P 12 42 33.8 -0.2**
comp=Z,1.3nm,0.6s,baz=316,slow=8.0,SNR=7.4
KSRS LR LR 12 54 34.8
comp=Z,113nm,19.1s,baz=303,slow=38
KLMR Klimovskoe 30.62 309 *e*P **P 12 42 54.4 -1.4**
KLMR *e* 12 43 53.4
KLMR pmax pmax
comp=Z,21nm,1.3s
YSS Yuzh-Sakhalins 32.27 78 *e*P **P 12 43 13.6 +3.1**
YSS pmax pmax
comp=Z,25nm,1.7s
APA Apatity 32.90 322⇑ *i*P P 12 43 28.0 +12
APA MLR MLR
comp=Z,500nm,14.0s
CMAR Chiang Mai Arr 33.01 170 P **P 12 43 17.9 +0.7**
comp=Z,0.4nm,0.7s,baz=355,slow=9.4,SNR=3.4
SEY Seymchan 33.02 46 P **P 12 43 16.8 0.0**
comp=Z,2.3nm,0.6s,baz=185,slow=12,SNR=4.0
VSR Storozhevoye 33.16 292 *e*P **P 12 43 18.2 0.0**
VSR pmax pmax
comp=Z,20nm,1.1s
OBN Obninsk 33.34 299*c i*P **P 12 43 19.6 -0.1**
OBN *e**PP **pP 12 43 23.3 -0.9**
OBN *e**SP **sP 12 43 25.8 -0.2**
OBN pmax pmax
comp=Z,24nm,1.7s
OBN MLR MLR
comp=Z,108nm,16.0s
OBN Obninsk 33.34 299 *e*P **P 12 43 20.3 +0.6**
comp=Z,26nm,0.5s
NCK Nalchik 33.88 277⇓ *e*P **P 12 43 24.7 +0.1**
NCK pmax pmax
comp=Z,8.0nm,0.4s
JOF Joensuu 34.19 314 P P 12 43 20.3 -6.7
JOF pmax pmax
comp=Z,12nm,1.2s
KIV Kislovodsk 34.21 278 *e*P **P 12 43 29.3 +1.7**
KIV pmax pmax
comp=Z,11nm,1.1s
KIV MLR MLR
comp=Z,58nm,16.0s
NEY Neytrino 34.55 277⇓ *e*P **P 12 43 31.8 +1.2**
NEY pmax pmax
comp=Z,3.0nm,0.9s
QIZ Qiongzhong 34.73 151 P **P 12 43 33.5 +1.4**
QIZ S **S 12 49 00.0 -1.8**
QIZ LR LR
comp=Z,73nm,18.1s
GNI Garni 34.97 271⇑ *e*P **P 12 43 35.1 +0.8**
GNI pmax pmax
comp=Z,72nm,1.7s
MJAR Matsushiro Arr 35.06 97 P **P 12 43 32.9 -2.0**
comp=Z,0.2nm,0.3s,baz=304,slow=12,SNR=3.2
ARA0 ARCESS Array S 35.71 326 *e*P **P 12 43 41.1 +1.0**
ARCES ARCESS Array B 35.71 326 P **P 12 43 41.0 +0.9**
comp=Z,2.9nm,0.7s,baz=76,slow=10,SNR=5.8
ARCES LR LR 13 00 26.0
comp=Z,63nm,18.1s,baz=84,slow=40
ARCES ARCESS Array B 35.71 326 P **P 12 43 41.0 +0.9**
ARCES pmax pmax
comp=Z,3.0nm,0.7s
ARCES MLR MLR
comp=Z,63nm,18.2s
ARE0 ARCESS Array S 35.71 326 *e*P **P 12 43 41.1 +1.0**
comp=Z,62nm,1.9s
FIA1 FINESS Array S 36.90 313 *e*P **P 12 43 51.1 +0.8**
comp=Z,13nm,0.7s
FINES FINESS Array B 36.90 313 P **P 12 43 50.9 +0.6**
comp=Z,10nm,0.6s,baz=73,slow=8.0,SNR=66
FINES PcP **PcP 12 46 09.8 -1.7**
comp=Z,0.9nm,0.7s,baz=90,slow=4.0,SNR=3.5
FINES LR LR 13 00 37.2
comp=Z,147nm,20.4s,baz=82,slow=39
ANN Anapa 37.03 282 *e*P **P 12 43 48.6 -3.0**
ANN *e**PP **pP 12 43 54.2 -2.0**
ANN *e* 12 46 10.1
ANN *e*S **S 12 49 32.3 -4.3**
ANN pmax pmax
comp=Z,31nm,0.9s
VSU Vasula 37.46 308*ce*P **P 12 43 55.4 +0.3**
VSU pmax pmax
comp=Z,51nm,1.2s
PETK Petropavlovsk- 38.45 61 P **P 12 44 03.3 -0.2**
comp=Z,2.2nm,0.8s,baz=343,slow=4.5,SNR=2.7
PETK pP **sP 12 44 09.7 -0.2**
comp=Z,3.9nm,0.7s,baz=274,slow=5.9,SNR=3.6
AKASG Malin Array Be 39.11 295 P **P 12 44 09.3 +0.2**
comp=Z,2.6nm,0.5s,baz=56,slow=8.6,SNR=19
AKASG pP **sP 12 44 15.3 -0.1**
comp=Z,1.4nm,0.3s,baz=58,slow=8.7,SNR=7.9
AKASG LR LR 13 01 11.6
comp=Z,153nm,18.3s,baz=70,slow=38
AKASG Malin Array Be 39.11 295 *i* P **P 12 44 09.3 +0.2**
AKASG pmax pmax
comp=Z,2.0nm,0.4s
AKBB Malin Array Si 39.11 295 *e*P **P 12 44 09.3 +0.2**
AKBB pmax pmax
comp=Z,7.0nm,0.8s
AKBB Malin Array Si 39.11 295 *e*P **P 12 44 09.2 +0.2**
comp=Z,7.2nm,0.8s
KIEV Kiev 39.12 295 *e*P **P 12 44 09.5 +0.3**
KIEV pmax pmax
comp=Z,7.0nm,0.7s
KIEV Kiev 39.12 295 *e*P **P 12 44 09.5 +0.3**
comp=Z,6.9nm,0.7s
AK11 Malin Array Si 39.16 295 *e*P **P 12 44 09.6 +0.2**
SORM Soroca 40.82 292⇑ *i*P **P 12 44 22.4 -0.9**
SORM Soroca 40.82 292 ⇑P **P 12 44 22.4 -0.9**
KIS Kishinev 41.12 290 *e*P P 12 44 20.0 -5.8
KIS LRM MLR 13 02 50.0
comp=Z,200nm,15.0s
KIS Kishinev 41.12 290 *e*P P 12 44 20.0 -5.8
KIS *e* 12 44 26.0
KIS MLR MLR
comp=Z,200nm,15.0s
42.06 288⇑ *i*P **P 12 44 35.3 +1.8**
TLCR 42.06 288 ⇑P **P 12 44 35.3 +1.8**
BR131 Keskin Array S 42.17 278 *e*P **P 12 44 34.8 +0.1**
BRTR Keskin Array B 42.17 278 P **P 12 44 36.0 +1.3**
comp=Z,5.9nm,0.9s,baz=76,slow=8.7,SNR=17
BRTR LR LR 13 04 53.2
comp=Z,36nm,18.6s,baz=86,slow=40
PRAR RASCA 42.45 292⇑ *i*P **P 12 44 37.5 +0.8**
LVV L'vov 42.47 296 *e*P **P 12 44 38.3 +1.5**
CFR Carcaliu 42.47 288⇓ *i*P **P 12 44 38.0 +1.2**
CFR Carcaliu 42.47 288 ⇓P **P 12 44 38.1 +1.2**
BR231 Keskin MP Arra 42.64 279 *e*P **P 12 44 37.7 -0.8**
TESR Tescani 42.65 291⇑ *i*P **P 12 44 38.4 +0.1**
TIRR Tirgusor 42.70 287 *e*P **P 12 44 39.6 +0.9**
TIRR pmax pmax
comp=Z,14nm,1.3s
TIRR Tirgusor 42.70 287 *e*P **P 12 44 39.6 +0.9**
comp=Z,14nm,1.3s
TLB Topalu 42.85 288⇑ *i*P **P 12 44 41.0 +1.1**
TLB Topalu 42.85 288 ⇑P **P 12 44 41.0 +1.1**
BUR08 Bucovina Ar. S 42.90 293 *e*P **P 12 44 41.6 +1.1**
BURAR Bucovina Array 42.91 293⇑ *i*P **P 12 44 41.3 +0.8**
BURAR Bucovina Array 42.91 293 ⇑P **P 12 44 41.3 +0.8**
VRI Vrincioaia 42.94 290⇓ *i*P **P 12 44 42.2 +1.5**
VRI Vrincioaia 42.94 290 ⇓P **P 12 44 42.2 +1.5**
PLOR Plostina 42.99 290⇑ *i*P **P 12 44 42.0 +0.8**
PLOR Plostina 42.99 290 ⇑P **P 12 44 42.0 +0.8**
HFS Hagfors 43.05 314 P **P 12 44 41.4 +0.1**
comp=Z,12nm,0.7s,baz=77,slow=6.5,SNR=24
TGY Tagaytay City 43.28 139 LR LR 13 02 39.8
comp=Z,76nm,21.2s,baz=354,slow=36
KWP Kalwaria Pacla 43.31 297 *e*P **P 12 44 44.7 +1.0**
KWP Kalwaria Pacla 43.31 297 *e*P **P 12 44 44.7 +1.0**
ISR Istrita 43.45 289⇑ *i*P **P 12 44 47.0 +2.1**
ISR Istrita 43.45 289 ⇑P **P 12 44 47.0 +2.1**
NC405 NORSAR Array S 43.51 316 *e*P **P 12 44 45.7 +0.6**
MLR Muntele Rosu 43.60 290⇑ *i*P **P 12 44 47.4 +1.2**
MLR Muntele Rosu 43.60 290 *e*P **P 12 44 48.0 +1.8**
MLR pmax pmax
comp=Z,15nm,1.6s
MLR Muntele Rosu 43.60 290 *e*P **P 12 44 48.0 +1.8**
comp=Z,15nm,1.6s
NC303 NORSAR Array S 43.62 316 *e*P **P 12 44 46.4 +0.4**
DOPR Dopca 43.68 291⇑ *i*P **P 12 44 48.4 +1.7**
ARCR ARCALIA 43.68 293⇑ *i*P **P 12 44 48.4 +1.7**
NB201 NORSAR Array S 43.72 316 *e*P **P 12 44 47.1 +0.3**
NC602 NORSAR Array S 43.75 315 *e*P **P 12 44 47.2 +0.2**
NC602 epP **sP 12 44 52.5 -1.0**
NB2 NORSAR Subarra 43.76 316 P **P 12 44 47.0 -0.2**
comp=Z,5.0nm,0.5s,baz=61,slow=7.9
NOA NORSAR Array B 43.76 316 P **P 12 44 47.0 -0.2**
comp=Z,5.9nm,0.6s,baz=64,slow=7.8,SNR=34
NOA pP **sP 12 44 53.2 -0.4**
comp=Z,4.2nm,0.6s,baz=64,slow=7.8,SNR=8.7
NOA LR LR 13 04 43.7
comp=Z,184nm,19.9s,baz=65,slow=38
NC204 NORSAR Array S 43.86 316 *e*P **P 12 44 47.5 -0.4**

NBO02 NORSAR Array S 43.92 316 *e*P **P** 12 44 48.1 -0.2
NBO00 NORSAR Array S 43.96 316 *e*P **P** 12 44 49.0 +0.2
NAO01 NORSAR Array S 43.99 316 *e*P **P** 12 44 49.3 +0.3
VOIR 44.16 290 ⇓*i*P **P** 12 44 52.0 +1.3
VOIR 44.16 290 ⇓P **P** 12 44 52.0 +1.3
STHS Stebnicka Huta 44.24 297 *e*P **P** 12 44 53.2 +2.1
STHS pmax pmax
comp=Z,4.0nm,0.7s
STHS Stebnicka Huta 44.24 297 *e*P **P** 12 44 53.2 +2.1
CRVS Cervenica-Dubn 44.38 296 *e*P **P** 12 44 52.8 +0.5
CRVS Cervenica-Dubn 44.38 296 *e*P **P** 12 44 52.8 +0.5
ARR Arges 44.45 290 ⇑*i*P **P** 12 44 54.5 +1.6
OJC Ojcow 44.63 299 *e*P **P** 12 44 55.1 +0.9
OJC Ojcow 44.63 299 *e*P **P** 12 44 55.0 +0.8
OJC pmax pmax
comp=Z,14nm,0.8s
OJC Ojcow 44.63 299 *e*P **P** 12 44 55.0 +0.8
comp=Z,14nm,0.8s
NIE Niedzica 44.77 298 *e*P **P** 12 44 56.7 +1.3
NIE Niedzica 44.77 298 *e*P **P** 12 44 56.7 +1.3
DRGR 44.79 293 ⇑*i*P **P** 12 44 56.9 +1.2
DRGR 44.79 293 ⇑P **P** 12 44 56.9 +1.2
KONO Kongsberg 45.11 315 *e*P **P** 12 44 59.2 +1.3
KONO pmax pmax
comp=Z,23nm,1.3s
KONO Kongsberg 45.11 315 *e*P **P** 12 44 59.2 +1.3
comp=Z,23nm,1.3s
KECS Kecovo 45.15 296 *e*P **P** 12 44 59.8 +1.4
KECS pmax pmax
comp=Z,7.0nm,0.6s
KECS Kecovo 45.15 296 *e*P **P** 12 44 59.8 +1.4
DAG Danmarks Havn 45.35 343 *i* P **P** 12 44 58.1 -1.5
DAG Danmarks Havn 45.35 343 *e*P **P** 12 44 58.1 -1.5
LANS Liptovska Anna 45.37 298 *e*P **P** 12 45 01.7 +1.5
LANS Liptovska Anna 45.37 298 *e*P **P** 12 45 01.7 +1.5
GZR Gura Zlata 45.52 292 ⇓*i*P **P** 12 45 02.9 +1.4
SIRR Siria 45.69 293 ⇑*i*P **P** 12 45 04.3 +1.6
OKC Ostrava-Krasne 45.73 299 *e*P **P** 12 45 04.0 +1.0
OKC Ostrava-Krasne 45.73 299 *e*P **P** 12 45 04.0 +1.0
BZS Buzias 46.07 292 ⇑*i*P **P** 12 45 06.6 +0.9
BZS Buzias 46.07 292 ⇑P **P** 12 45 06.6 +0.9
VYHS Vyhne 46.07 297 *e*P **P** 12 45 06.9 +1.2
VYHS pmax pmax
comp=Z,8.0nm,0.8s
VYHS Vyhne 46.07 297 *e*P **P** 12 45 06.9 +1.2
MORC Moravsky Berou 46.10 299 ⇓*i*P **P** 12 45 06.8 +0.9
MORC Moravsky Berou 46.10 299 *e*P **P** 12 45 07.0 +1.1
MORC pmax pmax
comp=Z,39nm,0.9s
MORC Moravsky Berou 46.10 299 *e*P **P** 12 45 07.0 +1.1
comp=Z,39nm,0.9s
KSP Ksiaz 46.21 301 *e*P **P** 12 45 07.7 +1.0
KSP Ksiaz 46.21 301 *e*P **P** 12 45 07.7 +1.0
KRLC Kraliky 46.35 300 *e*P **P** 12 45 08.7 +0.8
KRLC *e*pP **sP** 12 45 17.0 +2.6
KRLC Kraliky 46.35 300 *e*P **P** 12 45 08.7 +0.8
KRLC *e* 12 45 17.0
DPC Dobruska-Polom 46.46 301 *e*P **P** 12 45 10.0 +1.3
DPC *e*pP **sP** 12 45 18.2 +3.0
DPC Dobruska-Polom 46.46 301 *e*P **P** 12 45 10.0 +1.3
DPC *e* 12 45 18.2
UPC Upice 46.54 301 *e*P **P** 12 45 10.6 +1.3
UPC Upice 46.54 301 *e*P **P** 12 45 10.6 +1.3
SMOL Smolenice 46.85 298 P **P** 12 45 13.6 +1.8
SMOL pmax pmax
comp=Z,43nm,0.7s
VTS Vitosha 46.87 288 *e*P **P** 12 45 12.7 +0.5
VTS pmax pmax
comp=Z,6.0nm,0.9s
VTS Vitosha 46.87 288 *e*P **P** 12 45 12.7 +0.5
comp=Z,6.2nm,0.9s
BRG Berggiesshubel 47.45 302 *e*P **P** 12 45 17.2 +0.8
comp=Z,4.6nm,0.8s
BRG *e* 12 45 25.7
comp=Z,9.7nm,1.2s
BRG *e* 12 45 38.3
comp=Z,6.2nm,1.1s
BRG SCP ScP 12 50 03.8 -36
comp=Z,3.3nm,0.9s
BRG Berggiesshubel 47.45 302 *e*P **P** 12 45 17.2 +0.8
BRG *e* 12 45 25.7
BRG pmax pmax
comp=Z,5.0nm,0.8s
TREC Trest 47.49 300 *e*P **P** 12 45 18.0 +1.2
TREC *e*pP **sP** 12 45 24.0 +0.8
TREC Trest 47.49 300 *e*P **P** 12 45 18.0 +1.2
TREC *e* 12 45 24.0
GOPC GO Pecny, Ondr 47.52 301 *e*P **P** 12 45 18.2 +1.2
GOPC GO Pecny, Ondr 47.52 301 *e*P **P** 12 45 18.2 +1.2
PRU Pruhonice 47.62 301 *e*P **P** 12 45 18.8 +1.1
PRU *e*pP **sP** 12 45 26.9 +2.8
PRU Pruhonice 47.62 301 *e*P **P** 12 45 18.8 +1.1
PRU *e* 12 45 26.9
CLL Collm 47.71 303 ⇓*i*P **P** 12 45 19.3 +0.9
CLL *i* 12 45 25.2
CLL *i* 12 45 27.5
CLL pmax pmax
comp=Z,33nm,0.9s
CLL Collm 47.71 303 ⇓*i*P **P** 12 45 19.3 +0.9
comp=Z,18nm,0.9s
CLL *i* 12 45 25.2
CLL *i* pP **sP** 12 45 27.5 +2.7
CLL LmV 13 06 00.0
comp=Z,100nm,18.0s
CLL Collm 47.71 303 *e*P **P** 12 45 19.1 +0.7
comp=Z,14nm,0.8s
CONA Conrad Observa 48.04 298 *i* P **P** 12 45 22.8 +1.6
comp=Z,6.1nm,0.8s,SNR=6.4
NKC Novy Kostel 48.60 302 *e*P **P** 12 45 26.3 +0.9
NKC Novy Kostel 48.60 302 *e*P **P** 12 45 26.3 +0.9
KHC Kasperske Hory 48.62 301 *e*P **P** 12 45 26.5 +1.0
KHC *e*pP **sP** 12 45 32.5 +0.5
KHC *ex* x 12 45 35.1
KHC Kasperske Hory 48.62 301 *e*P **P** 12 45 26.8 +1.3
KHC pmax pmax
comp=Z,3.0nm,0.9s
KHC Kasperske Hory 48.62 301 *e*P **P** 12 45 26.8 +1.3
comp=Z,2.8nm,0.9s
ARSA Arzberg 48.62 298 *i* P **P** 12 45 27.0 +1.4
comp=Z,3.8nm,0.7s
GEC2 GERESS Array S 48.71 300 *e*P **P** 12 45 27.5 +1.2
GEC2 *e**PP **sP** 12 45 36.0 +3.3
GEC2 pmax pmax
comp=Z,5.0nm,0.9s
GEC2 GERESS Array S 48.71 300 *e*P **P** 12 45 27.5 +1.2
comp=Z,4.7nm,0.9s
GEC2 *e*pP **sP** 12 45 36.0 +3.3
GERES GERESS Array B 48.71 300 P **P** 12 45 27.2 +0.9
comp=Z,2.2nm,0.7s,baz=54,slow=6.8,SNR=24
GERES LR LR 13 07 43.9
comp=Z,72nm,20.1s,baz=89,slow=38
GEA0 GERESS Array S 48.72 300 *e*P **P** 12 45 27.3 +0.9
KARP Karpathos 48.79 278 *e*P **P** 12 45 28.1 +1.1
comp=Z,31nm,1.4s
MOX Moxa 48.81 303 P **P** 12 45 27.9 +1.0
MOX pmax pmax
comp=Z,12nm,1.6s
MOA Molln 48.97 299 *i* P **P** 12 45 29.4 +1.2
comp=Z,6.4nm,0.9s,SNR=5.6
SOKA Soboth 49.22 297 *i* P **P** 12 45 30.9 +0.6
comp=Z,3.1nm,0.6s
AGG Agios Georgios 49.56 285 *e*P **P** 12 45 33.2 +0.3
AGG pmax pmax
comp=Z,53nm,1.4s
AGG Agios Georgios 49.56 285 *e*P **P** 12 45 33.2 +0.3
comp=Z,53nm,1.4s
OBKA Obir 49.59 297 *i* P **P** 12 45 33.9 +0.8
comp=Z,8.6nm,0.7s,SNR=6.1
KBA Koelnbreinsper 49.93 298 *i* P **P** 12 45 37.3 +1.5
comp=Z,12nm,0.8s,SNR=11
MYKA Terra Mystica 50.03 298 *e*P **P** 12 45 37.2 +0.8
comp=Z,5.3nm,0.7s
KNDS Knezji Dol 50.27 296 *i* P **P** 12 45 38.2 -0.1
WATA Walderalm 50.75 300 *i* P **P** 12 45 43.5 +1.6
comp=Z,5.0nm,0.8s
WTTA Wattenberg 50.76 300 *i* P **P** 12 45 43.2 +1.1
comp=Z,8.6nm,0.9s
MOTA Moosalm 51.00 300 *i* P **P** 12 45 44.6 +0.7
comp=Z,7.7nm,1.0s,SNR=5.7
RETA Reutte 51.10 300 *i* P **P** 12 45 45.6 +1.2
comp=Z,6.5nm,0.8s
FETA Feichten 51.40 300 *i* P **P** 12 45 47.9 +1.1
comp=Z,11nm,0.9s,SNR=8.1
DAVA Damuels 51.70 301 *i* P **P** 12 45 50.0 +1.0
comp=Z,17nm,1.0s,SNR=7.1
MEM Membach 51.73 306 P **P** 12 45 50.2 +1.1
comp=Z,7.0nm,1.3s
FUORN Ofenpass-Fuorn 51.90 300 *e*P **P** 12 45 51.8 +1.1
comp=Z,16nm,0.8s
BFO Black Forest 51.90 302 *e*P **P** 12 45 51.1 +0.7
BFO pmax pmax
comp=Z,5.0nm,0.9s
BFO Black Forest 51.90 302 *e*P **P** 12 45 51.1 +0.7
comp=Z,5.4nm,0.9s
SUMG Summit 52.01 343 *i* P **P** 12 45 50.7 -0.6
SUMG Summit 52.01 343 *i* P **P** 12 45 50.7 -0.6
DAVOX Davos/Dischmat 52.01 300 P **P** 12 45 52.3 +0.9
comp=Z,6.5nm,0.7s,baz=73,slow=5.6,SNR=15
BCLA Clavier 52.21 306 P **P** 12 45 50.3 -2.3
comp=Z,12nm,2.2s
COLD Coldfoot 52.68 26 *e*P **P** 12 45 55.7 -0.2
comp=Z,5.4nm,0.8s
CUC Castrocucco 52.86 290 *e*P **P** 12 45 58.1 +0.5
comp=Z,8.7nm,1.1s
TT01 Tatalina 53.93 32 *e*P **P** 12 46 05.9 +0.8
BNI Bardonecchia 54.83 300 *e*P **P** 12 46 12.8 +0.7
BNI pmax pmax
comp=Z,13nm,0.9s
BNI Bardonecchia 54.83 300 *e*P **P** 12 46 12.8 +0.7
comp=Z,12nm,0.9s
CAST Castle Rocks 54.84 30 *e*P **P** 12 46 12.1 +0.3
comp=Z,6.9nm,0.8s
MDM Murphy Dome 54.88 27 *e*P **P** 12 46 12.2 +0.1
comp=Z,3.7nm,0.8s
KTH Kantishna Hill 55.11 29 *e*P **P** 12 46 14.0 +0.2
comp=Z,11nm,1.2s
PPLA Purkeypile 55.19 30 *e*P **P** 12 46 14.9 +0.5
comp=Z,35nm,1.8s
CCB Clear Creek Bu 55.23 27 *e*P **P** 12 46 14.3 -0.2
comp=Z,15nm,1.8s
WRH Wood River Hil 55.28 28 *e*P **P** 12 46 14.4 -0.5
comp=Z,4.6nm,0.6s
IL1 Eielson Array 55.40 27 *e*P **P** 12 46 15.5 -0.3
ILAR Eielson Array 55.40 27 P **P** 12 46 15.4 -0.3
comp=Z,3.0nm,0.7s,baz=319,slow=4.1,SNR=43
ILB Eielson Array 55.40 27 *e*P **P** 12 46 15.4 -0.3
INK Inuvik 55.86 19 P **P** 12 46 18.7 -0.2
comp=Z,7.1nm,0.7s,baz=343,slow=8.7,SNR=25
INK Inuvik 55.86 19 *e*P **P** 12 46 18.8 -0.2
INK pmax pmax
comp=Z,6.0nm,0.6s
INK Inuvik 55.86 19 *e*P **P** 12 46 18.8 -0.1
comp=Z,5.9nm,0.6s
DHY Denali Highway 56.54 28 *e*P **P** 12 46 23.5 -0.6
comp=Z,5.8nm,0.8s
SUA Susitna One 56.70 31 *e*P **P** 12 46 25.3 0.0
comp=Z,19nm,0.8s
PAX Paxson 57.19 28 *e*P **P** 12 46 27.9 -0.7
PAX pmax pmax
comp=Z,5.0nm,1.0s
PAX Paxson 57.19 28 *e*P **P** 12 46 27.9 -0.7
comp=Z,4.8nm,1.0s
SCM Sheep Creek Mo 57.50 29 *e*P **P** 12 46 30.7 -0.2
SCM pmax pmax
comp=Z,58nm,1.9s
SCM Sheep Creek Mo 57.50 29 *e*P **P** 12 46 30.7 -0.2
comp=Z,58nm,1.9s
DAWY Dawson 57.99 24 *e*P **P** 12 46 33.6 -0.6
comp=Z,6.0nm,1.3s
SEW Seward 58.14 32 *e*P **P** 12 46 34.4 -0.8
comp=Z,41nm,1.4s
KLU Klutina 58.19 29 *e*P **P** 12 46 36.0 +0.3
comp=Z,49nm,1.9s
FID Port Fidalgo 58.60 30 *e*P **P** 12 46 38.9 +0.4
comp=Z,20nm,1.1s
KEST Kesra 59.51 290 P **P** 12 46 45.6 +0.4
comp=Z,4.3nm,0.8s,baz=316,slow=2.3,SNR=3.9
ES19 SONSECA Array 64.20 302 *e*P **P** 12 47 17.0 +0.3
ESDC Sonseca Array 64.25 302 P **P** 12 47 17.4 +0.3
comp=Z,2.3nm,0.7s,baz=43,slow=6.9,SNR=27
ESLA Sonseca Array 64.25 302 *e*P **P** 12 47 17.4 +0.3
comp=Z,3.3nm,0.8s
YKA Yellowknife Ar 64.52 14 P **P** 12 47 17.0 -1.3
comp=Z,0.7nm,0.7s,baz=333,slow=7.3,SNR=3.8
NLWA Neilton Lookou 76.75 25 *e*P **P** 12 48 34.2 +1.1
comp=Z,68nm,1.4s
BSMT Bassoo Peak 78.44 19 *e*P **P** 12 48 42.6 -0.2
ULM Lac du Bonnet 78.62 6 P **P** 12 48 42.1 -1.4
comp=Z,1.8nm,0.7s,baz=338,slow=11,SNR=3.0
JTMT Jette 78.64 18 *e*P **P** 12 48 43.9 0.0
SWMT Swartz Lake 78.92 18 *e*P **P** 12 48 45.8 +0.4
WRAB Tennant Creek 79.54 141 ⇑*e*P **P** 12 48 53.5 +4.7
WRAB pmax pmax
comp=Z,16nm,2.5s
WRA Warramunga Arr 79.54 141 P **P** 12 48 47.6 -1.2
comp=Z,1.6nm,0.9s,baz=343,slow=6.1,SNR=13
WRA pP **pP** 12 48 52.3 -1.4
comp=Z,2.3nm,0.8s,baz=342,slow=6.1,SNR=10.0
CHMT Chamberlain Mo 79.64 18 *e*P **P** 12 48 48.6 -0.8
TOA0 Torodi Ar. Sit 80.78 279 *e*P **P** 12 48 55.2 -0.5
TORD Torodi Ar. Bea 80.78 279 P **P** 12 48 55.2 -0.5
comp=Z,2.1nm,0.6s,baz=34,slow=5.2,SNR=17
TORD pP **sP** 12 49 01.5 -0.8
comp=Z,1.2nm,0.5s,baz=37,slow=5.7,SNR=8.0
ASAR Alice Springs 82.74 143 P **P** 12 49 04.2 -1.6
comp=Z,0.7nm,0.6s,baz=346,slow=5.3,SNR=15
AS01 Alice Springs 82.76 143 *e*P **P** 12 49 04.2 -1.6
IMW Indian Meadow 82.99 17 *e*P **P** 12 49 07.5 +0.2
comp=Z,2.4nm,0.9s
PDAR Pinedale Array 84.33 17 P **P** 12 49 12.8 -1.4
comp=Z,0.1nm,0.3s,baz=15,slow=3.7,SNR=2.6
PDAR LR LR 13 31 38.4
comp=Z,9.4nm,18.4s,baz=68,slow=39
ECSD EROS Data Cent 85.05 7 *e*P **P** 12 49 16.2 -1.3
comp=Z,23nm,2.0s
HWUT Hardware Ranch 85.08 18 *e*P **P** 12 49 17.8 -0.1
comp=Z,8.9nm,1.7s
PV01 Paradox Valley 89.01 17 *e*P **P** 12 49 37.3 +0.2
ANMO Albuquerque 92.49 16⇑*e*P **P** 12 49 54.2 +0.9
TXAR Lajitas Array 98.44 15 LR LR 13 41 02.7
comp=Z,31nm,18.1s,baz=0.0,slow=39
MAW Mawson 120.66 193 *e*PKIKP **PKPdf** 12 55 31.9 -0.4
MAW Mawson 120.66 193 *e*PKPdf **PKPdf** 12 55 31.9 -0.4
PB11 IPOC Station P 145.80 330 *e*PKPdf **PKPdf** 12 56 19.9 -0.9
CPUP Villa Florida 146.52 307 PKPbc **PKPdf** 12 56 20.6 -1.1
comp=Z,0.8nm,0.6s,baz=56,slow=3.6,SNR=4.4
CPUP Villa Florida 146.52 307 *e*PKPdf **PKPdf** 12 56 20.9 -0.8
LVC Limon Verde 148.22 327 PKPbc **PKPdf** 12 56 25.1 0.0
comp=Z,7.6nm,0.5s,baz=45,slow=4.3,SNR=3.3
LVC Limon Verde 148.22 327 *e*PKPbc **PKPdf** 12 56 27.7 +2.6

*NEIC **25** 12:47:31.5±0.3, 10.61°S×27.04°E, h10km, mb4.9/10, Error ellipse: s-maj=9.8km s-min=7.3km az=87.0*
*ISCJB **25** 12:47:32.1±2.4, 10.71°S±0.08×26.93°E±0.07, h33km±23km, mb4.6/21, MS3.2/8, Error ellipse: s-maj=15.2km s-min=9.0km az=36.3*
*IDC **25** 12:47:36.2±0.6, 10.59°S×27.02°E, h41km±4km, mb3.6/10, mb1 3.7/10, mb1mx3.5/34, mbtmp3.9/10, ML5.5/1, MS3.4/12, Ms1 3.4/12, ms1mx3.1/39, Error ellipse: s-maj=20.0km s-min=13.6km az=51.0*

ISC 25 12:47:35.4±0.4, **10.85°S**±0.05×**26.85°E**±0.07, **h40**km±3km, **h41**km**:pP-P, n61**, σ1**78**/70, **mb4.7**/21, **MS3.4**/8, **2C, Zaire**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LSZ	**Lusaka**	**4.59**	**164**	P	**Pn**	**12 48 45.5**	**+3.0**
	44nm,0.3s,baz=356,slow=10,SNR=231						
LSZ				S	**Sn**	**12 49 34.8**	**+0.1**
	44nm,0.3s,baz=340,slow=17,SNR=4.3						
LSZ				LR	LR	12 50 47.3	
	comp=Z,186nm,18.8s,baz=134,slow=40						
TSUM	**Tsumeb**	**12.20**	**226**	P	**Pn**	**12 50 28.4**	**+1.5**
	26nm,0.3s,baz=29,slow=12,SNR=263						
TSUM				S	**Sn**	**12 52 38.6**	**-3.1**
	7.8nm,0.3s,baz=288,slow=20,SNR=5.1						
TSUM				LR	LR	12 55 42.6	
	comp=Z,358nm,18.1s,baz=331,slow=39						
TSUM	**Tsumeb**	**12.20**	**226**	*e*Pn	**Pn**	**12 50 28.2**	**+1.3**
LBTB	**Lobatse**	**14.14**	**185**	P	**Pn**	**12 50 53.1**	**-0.2**
	3.4nm,0.3s,baz=0.7,slow=13,SNR=20						
LBTB				S	**Sn**	**12 53 22.9**	**-6.1**
	1.9nm,0.3s,baz=64,slow=18,SNR=3.3						
LBTB				LR	LR	12 56 32.3	
	comp=Z,96nm,18.4s,baz=10.0,slow=37						
LBTB	**Lobatse**	**14.14**	**185**	*e*Pn	**Pn**	**12 50 54.0**	**+0.7**
LBTB				*e*Sn	**Sn**	**12 53 22.9**	**-6.1**
KMBO	**Kilima Mbogo**	**14.14**	**48**	P	Pn	12 50 45.5	-8.0
	3.9nm,0.3s,baz=211,slow=14,SNR=34						
KMBO				S	Sn	12 53 10.9	-18
	3.1nm,0.3s,baz=309,slow=23,SNR=12						
KMBO				LR	LR	12 56 12.7	
	comp=Z,176nm,20.9s,baz=90,slow=37						
KMBO	**Kilima Mbogo**	**14.14**	**48**	*e*Pn	Pn	12 50 46.0	-7.6
KMBO				*e*Sn	Sn	12 53 12.0	-17
KJAB	**KAMANJAB**	**14.49**	**232**	*i* P	**Pn**	**12 50 56.9**	**-1.1**
WIN	**Windhoek**	**14.92**	**217**	*i* P	**Pn**	**12 51 06.3**	**+2.4**
BOSA	**Boshof**	**17.74**	**185**	P	**Pn**	**12 51 40.0**	**+0.4**
	1.0nm,0.3s,baz=3.0,slow=11,SNR=21						
BOSA				S	Sn	12 54 46.7	-10
	1.6nm,0.3s,baz=118,slow=14,SNR=5.2						
BOSA				LR	LR	12 58 50.3	
	comp=Z,66nm,20.9s,baz=4.5,slow=37						
ARMS	**Ukamas**	**18.36**	**200**	*i* P	**Pn**	**12 51 49.5**	**+2.5**
OPO	**Ambohidratompo**	**21.11**	**114**	P	**P**	**12 52 16.5**	**-0.4**
	5.6nm,0.9s,baz=279,slow=19,SNR=6.5						
OPO				LR	LR	13 00 52.4	
	comp=Z,118nm,19.1s,baz=218,slow=38						
ABPO	**Ambohimpanom**	**21.29**	**115**	*e*P	**P**	**12 52 19.1**	**+0.3**
	12nm,0.8s						
SUR	**Sutherland**	**22.14**	**194**	P	**P**	**12 52 31.4**	**+3.4**
	0.6nm,0.9s,baz=15,slow=11,SNR=6.7						
SUR				LR	LR	13 01 16.7	
	comp=Z,5.7nm,18.9s,baz=32,slow=37						
SUR	**Sutherland**	**22.14**	**194**	*e*P	**P**	**12 52 32.2**	**+4.3**
	63nm,1.6s						
ATD	**Arta Tunnel**	**27.33**	**36**	LR	LR	13 04 03.5	
	comp=Z,44nm,20.5s,baz=158,slow=36						
TOA0	**Torodi Ar. Sit**	**34.52**	**313**	*e*P	**P**	**12 54 20.3**	**+0.2**
	8.4nm,0.7s						
TORD	**Torodi Ar. Bea**	**34.52**	**313**	P	**P**	**12 54 20.2**	**+0.1**
	1.5nm,0.3s,baz=124,slow=8.5,SNR=21						
TORD				pP	**pP**	**12 54 31.4**	**+0.1**
	8.3nm,0.6s,baz=125,slow=8.7,SNR=28						
TORD				sP	**sP**	**12 54 36.6**	**+0.5**
	7.1nm,0.6s,baz=129,slow=8.6,SNR=15						
TOA1	**Torodi Ar. Sit**	**34.52**	**313**	*e*P	**P**	**12 54 20.2**	**+0.1**
TOA1				*e*pP	**pP**	**12 54 31.4**	**+0.1**
TOA1				*e*sP	**sP**	**12 54 36.6**	**+0.5**
KIC	**Kosan Boka**	**35.79**	**297**	*e*P	**P**	**12 54 31.5**	**+0.4**
	24nm,1.0s						
LIC	**Lamto**	**35.98**	**297**	*e*P	**P**	**12 54 31.6**	**-1.1**
	22nm,1.0s						
DBIC	**Dimbokro**	**36.04**	**297**	P	**P**	**12 54 33.3**	**+0.1**
	2.0nm,0.5s,baz=74,slow=6.9,SNR=3.3						
DBIC				LR	LR	13 08 40.7	
	comp=Z,69nm,20.3s,baz=104,slow=35						
DBIC	**Dimbokro**	**36.04**	**297**	*e*P	**P**	**12 54 33.3**	**+0.1**
	43nm,1.9s						
TIC	**Toumodi**	**36.17**	**297**	*e*P	**P**	**12 54 34.5**	**+0.1**
CRZF	**Crozet Islands**	**41.34**	**154**	*e*P	**P**	**12 55 18.0**	**+0.7**
	282nm,1.4s						
WSAR	**Wadi Sarin**	**45.99**	**42**	LR	LR	13 14 30.4	
	comp=Z,62nm,21.9s,baz=214,slow=35						
BRTR	**Keskin Array B**	**50.71**	**7**	P	**P**	**12 56 30.1**	**-1.1**
	0.9nm,0.7s,baz=175,slow=17,SNR=3.9						
BR101	**Keskin Array S**	**50.71**	**7**	*e*P	**P**	**12 56 30.1**	**-1.1**
PALK	**Palleke**	**56.54**	**74**	LR	LR	13 16 52.9	
	comp=Z,45nm,22.0s,baz=296,slow=31						
ESDC	**Sonseca Array**	**57.84**	**332**	P	**P**	**12 57 23.4**	**+0.3**
	0.1nm,0.3s,baz=141,slow=9.6,SNR=5.1						
ESDC				pP	**pP**	**12 57 35.2**	**+0.3**
	1.3nm,0.7s,baz=149,slow=7.6,SNR=6.0						
SYO	**Syowa Base**	**58.69**	**175**⇑	*e*P	**P**	**12 57 30.6**	**+2.1**
SYO	**Syowa Base**	**58.69**	**175**⇑	*e*X	**PcP**	**12 58 15.1**	**-2.9**
FUORN	**Ofenpass-Fuorn**	**59.10**	**347**	*e*P	**P**	**12 57 32.1**	**+0.2**
	5.8nm,1.4s						
MTE	**Manteigas**	**60.11**	**330**	*e*P	**P**	**12 57 38.4**	**-0.4**
	22nm,1.5s						
GEA0	**GERESS Array S**	**60.55**	**350**	*e*P	**P**	**12 57 41.4**	**-0.2**
GERES	**GERESS Array B**	**60.55**	**350**	P	**P**	**12 57 42.0**	**+0.3**
	0.5nm,0.6s,baz=176,slow=5.2,SNR=6.1						
GERES				pP	**pP**	**12 57 53.5**	**-0.1**
	0.9nm,0.6s,baz=165,slow=5.5,SNR=6.7						
KHC	**Kasperske Hory**	**60.85**	**350**	*e*P	**P**	**12 57 44.3**	**+0.6**
KHC				*ex*	x	12 57 55.4	
KHC				*ex*	x	12 58 01.3	
AKASG	**Malin Array Be**	**61.32**	**2**	LR	LR	13 24 27.2	
	comp=Z,92nm,18.4s,baz=215,slow=36						
MAW	**Mawson**	**61.50**	**165**	P	**P**	**12 57 50.8**	**+3.0**
	4.2nm,0.6s,baz=327,slow=7.8,SNR=17						
MAW	**Mawson**	**61.50**	**165**	*e*P	**P**	**12 57 50.8**	**+3.0**
	8.3nm,2.0s						
DSB	**Dublin**	**69.85**	**339**	*e*P	**P**	**12 58 42.6**	**+0.9**
	90nm,1.6s						
MK01	**Makanchi Array**	**75.69**	**36**	*e*P	**P**	**12 59 15.2**	**-1.4**
MK31	**Makanchi Array**	**75.70**	**36**	*e*P	**P**	**12 59 16.2**	**-0.5**
MK32	**Makanchi Array**	**75.70**	**36**	*e*P	**P**	**12 59 15.1**	**-1.6**
MK32				*e*pP	**pP**	**12 59 27.4**	**-1.5**
MK32				*e*PcP	**sP**	**12 59 33.3**	**-0.2**
MKAR	**Makanchi Array**	**75.70**	**36**	P	**P**	**12 59 15.1**	**-1.6**
	0.7nm,0.8s,baz=240,slow=4.9,SNR=6.3						
MKAR				pP	**pP**	**12 59 27.4**	**-1.5**
	0.8nm,0.7s,baz=242,slow=5.0,SNR=6.3						
MKAR				sP	**sP**	**12 59 33.3**	**-0.2**
	0.6nm,0.6s,baz=240,slow=5.5,SNR=4.5						
CM31	**Chiang Mai Arr**	**76.83**	**68**	*e*P	**P**	**12 59 22.6**	**-1.0**
CMAR	**Chiang Mai Arr**	**76.83**	**68**	P	**P**	**12 59 22.6**	**-1.0**
	0.3nm,0.3s,baz=264,slow=7.7,SNR=5.9						
CMAR				pP	**pP**	**12 59 36.0**	**+0.1**
	1.1nm,0.5s,baz=261,slow=7.9,SNR=6.0						
CMAR				sP	**sP**	**12 59 40.5**	**0.0**
	1.7nm,0.8s,baz=261,slow=6.8,SNR=3.6						
CMAR				LR	LR	13 30 48.5	
	comp=Z,10nm,20.1s,baz=120,slow=34						
MYKOM	**Kota Tinggi**	**77.58**	**86**	*e*P	**P**	**12 59 28.0**	**0.0**
	47nm,1.7s						
ZAA0	**Zalesovo Array**	**80.96**	**30**	*e*P	**P**	**12 59 44.5**	**-1.1**
SABA	**Saba**	**93.31**	**287**	*e*P	**P**	**13 00 46.2**	**-0.5**
	237nm,1.7s						
TWG	**Pinlang**	**97.98**	**68**	*e*P	**P**	**13 01 06.2**	**-1.7**
	520nm,2.0s						
FOZ	**Fox Glacier**	**116.23**	**151**	*e*PKPdf	**PKPdf**	**13 06 14.7**	**0.0**
GUMO	**Guam**	**119.50**	**80**	*e*PKPdf	**PKPdf**	**13 06 21.3**	**-0.4**
PEA1	**Petropavlovsk**	**122.45**	**33**	*e*PKPdf	**PKPdf**	**13 06 25.3**	**-1.0**
PETK	**Petropavlovsk**	**122.45**	**33**	PKP	**PKPdf**	**13 06 25.3**	**-1.0**
	2.8nm,0.5s,baz=0.0,slow=1.4,SNR=3.7						
PCA	**Pinnacle**	**129.91**	**352**	*e*PKPdf	**PKPdf**	**13 06 41.3**	**+0.8**
YKU2	**Yakutat**	**130.38**	**351**	*e*PKPdf	**PKPdf**	**13 06 43.4**	**+2.2**
TXAR	**Lajitas Array**	**130.42**	**299**	pPKP	pPKPdf	13 06 56.4	+1.1
	0.4nm,0.9s,baz=98,slow=1.8,SNR=2.9						
YERR	**Yerington**	**138.81**	**319**	*e*PKPdf	**PKPdf**	**13 06 59.0**	**+1.1**
DAC	**Darwin (Calif)**	**139.10**	**314**	*e*PKPdf	**PKPdf**	**13 06 59.9**	**+1.3**
FUNA	**Funafuti**	**146.42**	**124**	*e*PKPdf	**PKPdf**	**13 07 11.1**	**-0.7**

WEL 25 12:58:02.8±0.1, **38.01°S×176.88°E, h94**km±1km, **ML3.8**/41, **21C-14D, Error ellipse: s-maj=0.8km s-min=0.7km az=0.0, North Island**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
EDRZ	**Edgecumbe**	**0.14**	**228**	⇑P*	Pn	12 58 16.3	0.0
MARZ	**Manawahe**	**0.16**	**279**	⇑P*	Pn	12 58 16.3	0.0
WHRZ	**Whale Island**	**0.17**	**27**	P*	Pn	12 58 17.1	+0.8
OPRZ	**Ohinepanea**	**0.30**	**303**	⇑P*	Pn	12 58 16.5	-0.3
OPRZ				S*	Sn	12 58 27.1	-0.1
URZ	**Urewera**	**0.31**	**143**	⇓P*	Pn	12 58 16.5	-0.3
URZ				S*	Sn	12 58 27.3	+0.1
URZ				AML	AML	12 58 28.0	
TARZ	**Mount Tarawera**	**0.37**	**232**	⇑P*	Pn	12 58 17.4	+0.2
OMRZ	**Omania**	**0.41**	**256**	⇑P*	Pn	12 58 17.4	0.0
RRRZ	**Republican Roa**	**0.43**	**221**	⇑P*	Pn	12 58 17.5	-0.1
MUGZ	**Murupara**	**0.47**	**190**	⇑P*	Pn

HAZ				AML	AML	12 58 36.4			
SNGZ	**Shannon Statio**	**0.85**	**155**	⇓PN	Pn	12 58 21.4	+0.1		
SNGZ				AML	AML	12 58 44.7			
SNGZ				AML	AML	12 58 45.5			
TKGZ	**Te Karaka**	**0.88**	**120**	⇓PN	Pn	12 58 21.6	+0.1		
TKGZ				AML	AML	12 58 43.5			
TKGZ				AML	AML	12 58 45.3			
TWGZ	**Tauwhareparae**	**0.89**	**101**	⇓PN	Pn	12 58 21.9	+0.3		
TWGZ				AML	AML	12 58 43.5			
TWGZ				AML	AML	12 58 44.7			
MRHZ	**Matea Rd**	**0.90**	**204**	⇑P*	Pn	12 58 21.6	-0.2		
MRHZ				AML	AML	12 58 37.6			
MRHZ				AML	AML	12 58 37.7			
KUTZ	**Kaahu Road**	**0.96**	**240**	⇑P*	Pn	12 58 22.5	+0.2		
PKGZ	**Pakihiroa**	**0.96**	**83**	⇓PN	Pn	12 58 22.4	0.0		
RIGZ	**Rimuhau**	**0.98**	**135**	⇓PN	Pn	12 58 22.8	+0.1		
RIGZ				AML	AML	12 58 44.6			
RIGZ				AML	AML	12 58 45.8			
NMHZ	**Naumai**	**1.09**	**183**	PN	Pn	12 58 24.2	+0.3		
NMHZ				AML	AML	12 58 47.3			
NMHZ				AML	AML	12 58 55.8			
PUZ	**Puketiti**	**1.09**	**94**	⇓PN	Pn	12 58 23.5	-0.4		
PUZ				AML	AML	12 58 48.6			
PUZ				AML	AML	12 58 49.2			
WHHZ	**Waihua**	**1.10**	**165**	PN	Pn	12 58 23.9	-0.1		
WHHZ				AML	AML	12 58 49.5			
WHHZ				AML	AML	12 58 52.2			
TLZ	**Tolley Road**	**1.10**	**253**	P*	Pn	12 58 24.0	0.0		
TOZ	**Tahuroa Road**	**1.12**	**284**	P*	Pn	12 58 24.2	0.0		
WATZ	**Wairara**	**1.14**	**232**	⇑P*	Pn	12 58 24.5	+0.1		
CNGZ	**Carnagh Statio**	**1.15**	**115**	PN	Pn	12 58 24.8	+0.3		
CNGZ				AML	AML	12 58 46.3			
CNGZ				AML	AML	12 58 46.3			
BKZ	**Black Stump Fm**	**1.19**	**194**	⇓P*	Pn	12 58 24.6	-0.5		
BKZ				AML	AML	12 58 45.5			
BKZ				AML	AML	12 58 46.5			
PRGZ	**Paritu Road**	**1.21**	**139**	PN	Pn	12 58 24.8	-0.5		
PRGZ				AML	AML	12 58 42.3			
PRGZ				AML	AML	12 58 44.5			
MXZ	**Matakaoa Point**	**1.22**	**69**	P*	Pn	12 58 26.2	+0.9		
MXZ				AML	AML	12 58 28.2			
MXZ				AML	AML	12 58 28.8			
WMGZ	**Waiomatatini S**	**1.23**	**82**	PN	Pn	12 58 25.5	0.0		
WMGZ				AML	AML	12 58 47.1			
WMGZ				AML	AML	12 58 52.3			
RITZ	**Rihia Road**	**1.25**	**219**	P*	Pn	12 58 26.1	+0.3		
ARHZ	**Aropaoanui**	**1.25**	**176**	⇑PN	Pn	12 58 25.6	-0.2		
ARHZ				AML	AML	12 58 44.9			
ARHZ				AML	AML	12 58 52.3			
MHGZ	**Mahia Peninsul**	**1.40**	**145**	PN	Pn	12 58 27.1	-0.4		
MHGZ				AML	AML	12 58 46.4			
MHGZ				AML	AML	12 58 46.6			
MCHZ	**McNeill Hill**	**1.44**	**186**	PN	Pn	12 58 27.7	-0.3		
MCHZ				AML	AML	12 58 57.4			
MCHZ				AML	AML	12 58 59.7			
KRVZ	**Karewarewa**	**1.45**	**221**	⇓P*	Pn	12 58 28.9	+0.6		
KWHZ	**Kaweka Forest**	**1.46**	**194**	P*	Pn	12 58 27.8	-0.5		
KWHZ				AML	AML	12 58 54.7			
KWHZ				AML	AML	12 58 55.1			
OTVZ	**Oturere**	**1.49**	**219**	P*	Pn	12 58 29.1	+0.3		
WTVZ	**West Tongariro**	**1.50**	**222**	P*	Pn	12 58 29.2	+0.3		
NGZ	**Ngauruhoe**	**1.53**	**220**	P*	Pn	12 58 29.8	+0.4		
TWVZ	**Taurewa**	**1.55**	**226**	P*	Pn	12 58 29.7	+0.2		
KUZ	**Kuaotunu**	**1.56**	**324**	⇑PN	Pn	12 58 29.2	-0.3		
TUVZ	**Tukino**	**1.58**	**217**	P*	Pn	12 58 29.9	0.0		
WHVZ	**Whangaehu Hut**	**1.62**	**218**	P*	Pn	12 58 30.3	-0.3		
MKAZ	**Moumakai**	**1.64**	**303**	PN	Pn	12 58 30.1	0.0		
MOVZ	**Moawhango**	**1.65**	**212**	P*	Pn	12 58 29.9	-0.8		
WNVZ	**Wahianoa**	**1.65**	**217**	P*	Pn	12 58 30.7	-0.2		
CKHZ	**Cape Kidnapper**	**1.65**	**175**	PN	Pn	12 58 29.7	-1.0		
CKHZ				AML	AML	12 58 51.9			
CKHZ				AML	AML	12 59 22.0			
TRVZ	**Turoa**	**1.65**	**219**	P*	Pn	12 58 31.1	+0.1		
HIZ	**Hauiti**	**1.67**	**252**	⇑PN	Pn	12 58 31.9	+1.0		
KRHZ	**Kereru**	**1.68**	**193**	PN	Pn	12 58 29.9	-1.2		
KRHZ				AML	AML	12 58 59.4			
KRHZ				AML	AML	12 59 00.0			
PKVZ	**Pokaka**	**1.75**	**223**	P*	Pn	12 58 32.3	+0.2		
MTVZ	**Mangateitei**	**1.76**	**218**	P*	Pn	12 58 31.9	-0.2		
KAHZ	**Kahuranaki**	**1.78**	**180**	PN	Pn	12 58 31.0	-1.4		
KAHZ				AML	AML	12 58 57.1			
ETAZ	**East Tamaki Re**	**1.88**	**304**	PN	Pn	12 58 33.9	+0.4		
VRZ	**Vera Road**	**2.00**	**236**	⇓PN	Pn	12 58 35.6	+0.4		
PXZ	**Pawanui**	**2.02**	**180**	PN	Pn	12 58 33.5	-1.9		
PXZ				AML	AML	12 59 02.8			
PXZ				AML	AML	12 59 04.4			
TSZ	**Takapari Road**	**2.17**	**199**	PN	Pn	12 58 35.5	-1.8		
TSZ				AML	AML	12 59 11.1			
TSZ				AML	AML	12 59 12.1			
PRHZ	**Porangahau**	**2.26**	**185**	PN	Pn	12 58 36.5	-2.1		
PRHZ				AML	AML	12 59 06.9			
PRHZ				AML	AML	12 59 32.7			
MHEZ	**Mangahewa**	**2.27**	**241**	PN	Pn	12 58 40.0	+1.3		
WAZ	**Wanganui**	**2.28**	**220**	PN	Pn	12 58 38.5	-0.4		
DVHZ	**Dannevirke**	**2.35**	**193**	PN	Pn	12 58 38.2	-1.6		
DVHZ				AML	AML	12 59 19.6			
DVHZ				AML	AML	12 59 23.1			
ANWZ	**Angora Road**	**2.47**	**187**	PN	Pn	12 58 39.3	-1.9		
ANWZ				AML	AML	12 59 14.4			
ANWZ				AML	AML	12 59 15.9			
OHWZ	**Ohakea**	**2.51**	**209**	PN	Pn	12 58 43.4	+1.6		
NEZ	**North Egmont**	**2.52**	**239**	PN	Pn	12 58 43.2	+1.2		
POWZ	**Post Office Ro**	**2.53**	**200**	PN	Pn	12 58 40.2	-2.2		
POWZ				AML	AML	12 59 22.8			
POWZ				AML	AML	12 59 26.9			
PRWZ	**Pori Road**	**2.64**	**195**	PN	Pn	12 58 41.9	-1.6		
PRWZ				AML	AML	12 59 40.8			
PRWZ				AML	AML	12 59 40.8			
BFZ	**Birch Farm**	**2.71**	**190**	PN	Pn	12 58 42.3	-2.3		
MRZ	**Mangatainoka R**	**2.83**	**200**	PN	Pn	12 58 43.0	-3.2		
MRZ				AML	AML	12 59 33.5			
MRZ				AML	AML	12 59 35.8			
TIWZ	**Tintock**	**2.87**	**195**	PN	Pn	12 58 44.0	-2.7		
TIWZ				AML	AML	12 59 20.8			
TIWZ				AML	AML	12 59 23.4			
HOWZ	**Holdsworth Sta**	**3.07**	**200**	PN	Pn	12 58 46.0	-3.3		
HOWZ				AML	AML	12 59 37.7			
HOWZ				AML	AML	12 59 38.1			
OGWZ	**Otaki Gorge**	**3.10**	**205**	PN	Pn	12 58 46.7	-3.0		
OGWZ				AML	AML	12 59 36.4			
OGWZ				AML	AML	12 59 37.4			
TMWZ	**Te Maipa**	**3.19**	**194**	PN	Pn	12 58 47.7	-3.2		
TMWZ				AML	AML	12 59 25.3			
KIW	**Kapiti Island**	**3.23**	**208**	PN	Pn	12 58 48.2	-3.3		
MTW	**Mount Morrison**	**3.32**	**198**	PN	Pn	12 58 49.2	-3.5		
MTW				AML	AML	12 59 29.7			
CAW	**Cannon Point**	**3.39**	**204**	PN	Pn	12 58 49.8	-4.0		
CAW				AML	AML	12 59 49.2			
CAW				AML	AML	12 59 50.7			
TRWZ	**Traveller**	**3.50**	**195**	PN	Pn	12 58 51.7	-3.6		
PAWZ	**Paruwai Farm**	**3.55**	**198**	PN	Pn	12 58 52.2	-3.6		
PAWZ				AML	AML	12 59 35.1			
PAWZ				AML	AML	12 59 35.9			
DUWZ	**D'Urville Isla**	**3.61**	**218**	PN	Pn	12 58 53.2	-3.4		
MSWZ	**Moikau Station**	**3.62**	**200**	PN	Pn	12 58 52.8	-4.1		
WEL	**Wellington**	**3.65**	**206**	PN	Pn	12 58 54.3	-2.9		
WEL				AML	AML	12 59 37.9			
WEL				AML	AML	12 59 54.9			
WEL				AML	AML	12 59 54.9			
PLWZ	**Palliser**	**3.77**	**199**	PN	Pn	12 58 54.9	-3.9		
TCW	**Tory Channel**	**3.77**	**211**	PN	Pn	12 58 55.3	-3.6		
TCW				AML	AML	12 59 52.3			
TCW				AML	AML	12 59 53.5			
TUWZ	**Tuamarina**	**4.10**	**213**	PN	Pn	12 58 58.9	-4.3		
NNZ	**Nelson**	**4.19**	**219**	PN	Pn	12 59 00.5	-3.9		
BSWZ	**Blackbirch Sta**	**4.36**	**211**	PN	Pn	12 59 03.7	-3.0		
QRZ	**Quartz Range**	**4.39**	**229**	PN	Pn	12 59 04.1	-3.0		
THZ	**Tophouse**	**4.83**	**218**	PN	Pn	12 59 09.6	-3.6		
KHZ	**Kahutara**	**5.09**	**209**	PN	Pn	12 59 11.9	-4.7		
LTZ	**Lake Taylor**	**5.92**	**215**	PN	Pn	12 59 23.1	-4.9		
INZ	**Inchbonnie**	**6.27**	**220**	PN	Pn	12 59 30.1	-2.7		
CRLZ	**Canterbury Las**	**6.43**	**209**	PN	Pn	12 59 29.6	-5.2		
OXZ	**Oxford**	**6.46**	**213**	PN	Pn	12 59 28.5	-6.7		
MQZ	**McQueen's Vall**	**6.53**	**208**	PN	Pn	12 59 29.7	-6.4		
CTZ	**Chatham Island**	**7.55**	**141**	PN	Pn	12 59 50.1	+0.1		
ODZ	**Otahua Downs**	**8.44**	**212**	PN	Pn	12 59 56.7	-5.4		

*IDC **25** 13:17:07.9±0.6, 42°.45N×18°.54E, h0km, mb4.2/16,*

mb1 4.2/31, mb1mx4.2/43, mbtmp4.2/31, ML4.0/14, MS3.0/17, Ms1 3.0/17, ms1mx2.9/46, Error ellipse: s-maj=9.8km s-min=8.9km az=55.0
*MOS **25** 13:17:08.2±1.1, 42°.49N×18°.49E, h11km, mb4.6/19, Error ellipse: s-maj=4.1km s-min=2.8km az=99.0*
*ISCJB **25** 13:17:09.4±0.2, 42°.534N±0°.000×18°.56E±0°.01, h14km±1km, mb4.4/31, MS3.1/10, Error ellipse: s-maj=1.5km s-min=1.3km az=177.4*
*CSEM **25** 13:17:09.7±0.1, 42°.51N×18°.56E, h2km, mb4.4/13, ML4.4/16, Ms4.2, Error ellipse: s-maj=1.9km s-min=1.6km az=7.0*
*LDG **25** 13:17:09.7±0.1, 42°.55N×18°.64E, h2km, Ml4.3/9, Error ellipse: s-maj=3.3km s-min=2.4km az=17.0*
*NEIC **25** 13:17:10.2±0.0, 42°.54N×18°.61E, h10km, mb4.6/8, ML4.1(PDG), ML4.3(BEO), After PDG.*
NEIC Felt at Cavtat and Dubrovnik, Croatia. Also felt at Skopje, Macedonia.
*PDG **25** 13:17:10.0±0.6, 42°.54N×18°.59E, h8km, MD4.1/10, ML4.1/10, Error ellipse: s-maj=0.5km s-min=0.7km az=0.0*
*THE **25** 13:17:10.2, 42°.48N×18°.54E, h0km±12km, Error ellipse: s-maj=12.4km s-min=2.5km az=295.0*
*BEO **25** 13:17:10.3±0.4, 42°.53N×18°.58E, h4km±1km, M4.2/1*
*ROM **25** 13:17:11.4±0.3, 42°.39N×18°.47E, h10km, Ml4.0/42, Error ellipse: s-maj=4.7km s-min=2.6km az=49.0*
*BJI **25** 13:17:11.3, 42°.72N×17°.98E, h55km, mb4.6/10, mB5.0/7, Ms4.3/3, Ms7 4.3/2*
*PRU **25** 13:17:13.0, 42°.38N×18°.72E, h33km, M4.5*

ISC 25 13:17:10.2±0.6, 42°.53N±0°.01×18°.55E±0°.02, h16km±3km, n751, σ2s22/973, mb4.4/31, MS3.2/11, 56C-92D, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HCY	**Herceg Novi**	**0.10**	**208**	P	**Pg**	**13 17 12.6**	**-1.1**
HCY				S	**Sg**	**13 17 15.5**	**-0.4**
HCY	**Herceg Novi**	**0.10**	**208**	⇑*i*Pg	**Pg**	**13 17 12.8**	**-0.8**
HCY				*e*Sg	**Sg**	**13 17 14.9**	**-1.0**
HCY	**Herceg Novi**	**0.10**	**208**	*e*Pg	**Pg**	**13 17 12.8**	**-0.8**
HCY				*e*Sg	**Sg**	**13 17 14.9**	**-1.0**
HCY				S	**Sg**	**13 17 15.5**	**-0.4**
HCY	**Herceg Novi**	**0.10**	**208**	P	**Pg**	**13 17 12.6**	**-1.1**
HCY				S	**Sg**	**13 17 15.5**	**-0.4**
TREB	**Trebinje**	**0.24**	**321**	⇓*i*Pg	**Pg**	**13 17 15.2**	**-0.4**
TREB				*e*Sg	**Sb**	**13 17 19.5**	**-0.6**
TREB	**Trebinje**	**0.24**	**321**	⇓*i*Pg	**Pg**	**13 17 15.1**	**-0.5**
TREB				*e*Sg	**Sg**	**13 17 19.2**	**-0.1**
TREB	**Trebinje**	**0.24**	**321**	*i*Pg	**Pg**	**13 17 15.2**	**-0.4**
TREB				Sg	**Sb**	**13 17 19.5**	**-0.6**
CEME	**Cevo**	**0.27**	**87**	⇓*i*Pg	**Pg**	**13 17 14.6**	**-1.6**
CEME				*e*Sg	**Sg**	**13 17 18.6**	**-1.6**
CEME	**Cevo**	**0.27**	**87**	⇓*i*Pg	**Pg**	**13 17 14.6**	**-1.6**
CEME				*e*Sg	**Sg**	**13 17 18.6**	**-1.6**
BUM	**Brajici-Budva**	**0.34**	**132**	⇓*i*Pg	**Pg**	**13 17 16.5**	**-0.9**
BUM				*e*Sg	**Sg**	**13 17 21.7**	**-0.6**
BUM	**Brajici-Budva**	**0.34**	**132**	⇓*i*Pg	**Pg**	**13 17 16.5**	**-0.9**
BUM				*e*Sg	**Sg**	**13 17 21.7**	**-0.6**
BRY	**Bratogost**	**0.37**	**358**	⇓P	**Pg**	**13 17 16.6**	**-1.3**
BRY				S	**Sg**	**13 17 22.6**	**-0.6**
BRY	**Bratogost**	**0.37**	**358**	⇓*i*Pg	**Pg**	**13 17 16.9**	**-1.0**
BRY				*e*Sg	**Sg**	**13 17 23.0**	**-0.2**
BRY	**Bratogost**	**0.37**	**358**	⇓P	**Pg**	**13 17 16.6**	**-1.3**
BRY				S	**Sg**	**13 17 22.6**	**-0.6**
NKME	**Niksic**	**0.38**	**51**	⇓*i*Pg	**Pg**	**13 17 16.4**	**-1.6**
NKME				*e*Sg	**Sg**	**13 17 22.4**	**-0.9**
NKME	**Niksic**	**0.38**	**51**	⇓*i*Pg	**Pg**	**13 17 16.4**	**-1.6**
NKME				*e*Sg	**Sg**	**13 17 22.4**	**-0.9**
NKY	**Niksic**	**0.43**	**49**	⇓P	**Pg**	**13 17 16.9**	**-2.1**
NKY				S	**Sg**	**13 17 24.1**	**-0.8**
NKY	**Niksic**	**0.43**	**49**	⇓*i*Pg	**Pg**	**13 17 17.3**	**-1.7**
NKY				*e*Sg	**Sg**	**13 17 23.9**	**-1.0**
NKY	**Niksic**	**0.43**	**49**	⇓P	**Pg**	**13 17 16.9**	**-2.1**
NKY	**Niksic**	**0.43**	**49**	⇓*i*Pg	**Pg**	**13 17 17.3**	**-1.7**
NKY				S	**Sg**	**13 17 24.1**	**-0.8**
NKY	**Niksic**	**0.43**	**49**	⇓P	**Pg**	**13 17 16.9**	**-2.1**
NKY				S	**Sg**	**13 17 24.1**	**-0.8**
PDG	**Podgorica**	**0.53**	**101**	P	**Pg**	**13 17 18.8**	**-1.9**
PDG				S	**Sg**	**13 17 27.1**	**-0.7**
PDG	**Podgorica**	**0.53**	**101**	⇓*i*Pg	**Pg**	**13 17 18.9**	**-1.8**
PDG				*e*Sg	**Sg**	**13 17 26.6**	**-1.2**
PDG	**Podgorica**	**0.53**	**101**	⇓*i*Pg	**Pg**	**13 17 18.9**	**-1.8**
PDG				*e*Sg	**Sg**	**13 17 26.1**	**-1.7**
PDG				S	**Sg**	**13 17 27.1**	**-0.7**
TTG	**Podgorica**	**0.53**	**101**	⇓P	**Pg**	**13 17 18.9**	**-1.8**
TTG				S	**Sg**	**13 17 27.1**	**-0.7**
TTG	**Podgorica**	**0.53**	**101**	⇓*i*Pg	**Pg**	**13 17 19.0**	**-1.8**
TTG				*e*Sg	**Sg**	**13 17 27.8**	**0.0**
TTG	**Podgorica**	**0.53**	**101**	⇓P	**Pg**	**13 17 18.9**	**-1.8**
TTG				S	**Sg**	**13 17 27.1**	**-0.7**
TTG	**Podgorica**	**0.53**	**101**	⇓P	**Pg**	**13 17 18.9**	**-1.8**
TTG				S	**Sg**	**13 17 27.1**	**-0.7**
DRME	**Dracevica, Mon**	**0.58**	**126**	⇑*i*Pg	**Pg**	**13 17 20.5**	**-1.2**
DRME				*e*Sg	**Sg**	**13 17 29.5**	**0.0**
DRME	**Dracevica, Mon**	**0.58**	**126**	⇑*i*Pg	**Pg**	**13 17 20.5**	**-1.2**
DRME				*e*Sg	**Sg**	**13 17 28.4**	**-1.1**
STON	**Ston**	**0.71**	**299**	*i*Pg	**Pg**	**13 17 23.5**	**-0.7**
STON				Sg	**Sn**	**13 17 35.4**	**-0.9**
STON	**Ston**	**0.71**	**299**	*i*Pg	**Pg**	**13 17 23.5**	**-0.7**
STON				Sg	**Sn**	**13 17 35.3**	**-0.9**
UPM	**Unac-Piva**	**0.72**	**21**	⇓*i*Pg	**Pg**	**13 17 22.5**	**-1.9**
UPM				*e*Sg	**Sb**	**13 17 34.5**	**+0.3**
UPM	**Unac-Piva**	**0.72**	**21**	P	**Pg**	**13 17 22.5**	**-1.9**
UPM				*e*Sg	**Sg**	**13 17 34.0**	**-0.9**
ULC	**Ulcinj**	**0.77**	**138**	⇓P	**Pg**	**13 17 23.6**	**-1.5**
ULC				S	**Sb**	**13 17 35.6**	**+0.3**
ULC	**Ulcinj**	**0.77**	**138**	⇓*i*Pg	**Pg**	**13 17 23.8**	**-1.3**
ULC				*e*Sg	**Sb**	**13 17 35.9**	**+0.6**
ULC	**Ulcinj**	**0.77**	**138**	⇓*i*Pg	**Pg**	**13 17 23.8**	**-1.3**
ULC				S	**Sb**	**13 17 35.6**	**+0.3**
ULC	**Ulcinj**	**0.77**	**138**	⇓P	**Pg**	**13 17 23.6**	**-1.5**
ULC				S	**Sb**	**13 17 35.6**	**+0.3**
PLE	**Pljevlja**	**1.01**	**37**	⇑P	**Pb**	**13 17 27.7**	**-1.6**
PLE				S	**Sn**	**13 17 43.5**	**-0.1**
PLE	**Pljevlja**	**1.01**	**37**	⇑*i*Pg	**Pb**	**13 17 27.7**	**-1.6**
PLE				*e*Sg	**Sn**	**13 17 43.9**	**+0.3**
PLE	**Pljevlja**	**1.01**	**37**	⇑*i*Pg	**Pb**	**13 17 27.7**	**-1.6**
PLE				S	**Sn**	**13 17 43.5**	**-0.1**
PLE	**Pljevlja**	**1.01**	**37**	⇑P	**Pb**	**13 17 27.7**	**-1.6**
PLE				S	**Sn**	**13 17 43.5**	**-0.1**
PVY	**Plav**	**1.04**	**86**	⇑*i*Pg	**Pb**	**13 17 28.7**	**-1.2**
PVY				*e*Sg	**Sn**	**13 17 45.0**	**+0.5**
PVY	**Plav**	**1.04**	**86**	⇑P	**Pb**	**13 17 28.2**	**-1.7**
PVY				S	**Sn**	**13 17 44.4**	**0.0**
BEY	**Berane**	**1.04**	**71**	P	**Pb**	**13 17 28.4**	**-1.5**
BEY				*e*Sg	**Sn**	**13 17 45.3**	**+0.8**
IVA	**Berane**	**1.04**	**71**	⇑*i*Pg	**Pb**	**13 17 28.3**	**-1.6**
IVA				*e*Sg	**Sn**	**13 17 45.3**	**+0.8**
SJES	**Sjenica**	**1.27**	**55**	⇓*i*Pg	**Pn**	**13 17 32.3**	**-1.1**
SJES				*e*Sg	**Sb**	**13 17 50.1**	**+0.1**
BBLS	**Lazi?i**	**1.47**	**25**	⇓*i*Pg	**Pn**	**13 17 36.2**	**+0.1**
BBLS				*e*Sg	**Sg**	**13 17 58.7**	**+0.9**
BBLS	**Lazi?i**	**1.47**	**25**	⇓*i*Pg	**Pn**	**13 17 36.1**	**0.0**
BBLS				*e*Sg	**Sb**	**13 17 56.0**	**+0.3**
BBLS	**Lazi?i**	**1.47**	**25**	*i*Pg	**Pn**	**13 17 36.2**	**+0.1**
BBLS				*e*Sg	**Sg**	**13 17 58.7**	**+0.9**
TIR	**Tirane**	**1.54**	**140**	⇑*i*Pn	**Pb**	**13 17 38.7**	**+0.5**
TIR	**Tirane**	**1.54**	**140**	⇓*i*P	**Pb**	**13 17 39.0**	**+0.7**
TIR	**Tirane**	**1.54**	**140**	S	**Sg**	**13 18 01.4**	**+1.7**
TIR	**Tirane**	**1.54**	**140**	Pn	**Pb**	**13 17 38.9**	**+0.7**
TIR	**Tirane**	**1.54**	**140**	P	**Pb**	**13 17 38.7**	**+0.5**
TIR				S	**Sg**	**13 18 01.4**	**+1.7**
TIR	**Tirane**	**1.54**	**140**	⇑*i*Pn	**Pb**	**13 17 38.7**	**+0.5**
TIR	**Tirane**	**1.54**	**140**	⇓*i*P	**Pb**	**13 17 39.0**	**+0.7**
TIR	**Tirane**	**1.54**	**140**	*e*Pn	**Pb**	**13 17 38.8**	**+0.5**
IVAS	**Ivanjica**	**1.57**	**48**	*i*Pg	**Pn**	**13 17 37.2**	**-0.2**
IVAS				*e*Sg	**Sg**	**13 18 00.6**	**-0.3**
IVAS	**Ivanjica**	**1.57**	**48**	*i*Pg	**Pn**	**13 17 37.2**	**-0.2**
IVAS				*e*Sg	**Sg**	**13 18 00.6**	**-0.3**
DIVS	**Divibare**	**1.89**	**33**	P	**Pb**	**13 17 43.0**	**-1.3**
DIVS	**Divibare**	**1.89**	**33**	⇑*i*Pn	**Pn**	**13 17 42.4**	**+0.6**
DIVS				*e*Sn	**Sb**	**13 18 07.0**	**-0.6**
DIVS	**Divibare**	**1.89**	**33**	⇑*i*Pn	**Pn**	**13 17 42.4**	**+0.6**
DIVS	**Divibare**	**1.89**	**33**	P	**Pb**	**13 17 43.0**	**-1.3**
DIVS				*e*Sn	**Sn**	**13 18 06.2**	**+0.9**

BAI	**Bari**	**1.90**	**222**	*i*Pn	**Pn**	**13 17 41.9**	**+0.1**		
SELS	**Selova**	**2.01**	**69**	⇓*i*Pn	**Pn**	**13 17 44.6**	**+1.2**		
SELS				*e*Sn	**Sn**	**13 18 09.2**	**+1.0**		
SELS	**Selova**	**2.01**	**69**	⇓*i*Pn	**Pn**	**13 17 44.6**	**+1.2**		
SELS				*e*Sn	**Sn**	**13 18 09.2**	**+1.0**		
SELS	**Selova**	**2.01**	**69**	*i*Pn	**Pn**	**13 17 44.6**	**+1.2**		
SELS				*e*Sn	**Sn**	**13 18 09.2**	**+1.0**		
MESG	**Mesagne** 1µm,0.8s	**2.01**	**195**	Pn	**Pn**	**13 17 43.2**	**-0.2**		
MESG	**Mesagne** 1µm,0.8s	**2.01**	**195**	Pn	**Pn**	**13 17 43.2**	**-0.2**		
GRUS	**Gruza**	**2.08**	**49**	⇓*i*Pn	**Pn**	**13 17 45.5**	**+1.1**		
GRUS				*e*Sn	**Sb**	**13 18 13.8**	**+0.6**		
GRUS	**Gruza**	**2.08**	**49**	⇓*i*Pn	**Pn**	**13 17 45.5**	**+1.1**		
GRUS				*e*Sn	**Sb**	**13 18 13.8**	**+0.6**		
MS1	**Monte Sant'Ang**	**2.11**	**248**	*i*Pn	**Pn**	**13 17 45.2**	**+0.3**		
MSAG	**Monte S. Angel** 3µm,0.5s	**2.13**	**248**	Pn	**Pn**	**13 17 45.6**	**+0.5**		
MSAG	**Monte S. Angel** 3µm,0.5s	**2.13**	**248**	Pn	**Pn**	**13 17 45.6**	**+0.5**		
TEKS	**Tekeris**	**2.14**	**19**	*i*Pn	**Pn**	**13 17 46.5**	**+1.2**		
TEKS				*e*Sn	**Sb**	**13 18 14.8**	**0.0**		
TEKS	**Tekeris**	**2.14**	**19**	*e*Pn	**Pn**	**13 17 46.4**	**+1.2**		
TEKS				*e*Sn	**Sb**	**13 18 13.2**	**-1.6**		
TRUS	**Trudelj**	**2.17**	**38**	⇓*i*Pn	**Pn**	**13 17 46.5**	**+0.9**		
TRUS				*e*Sn	**Sb**	**13 18 15.3**	**-0.3**		
TRUS	**Trudelj**	**2.17**	**38**	⇓*i*Pn	**Pn**	**13 17 46.5**	**+0.9**		
TRUS				*e*Sn	**Sb**	**13 18 15.3**	**-0.3**		
SG1	**Sgolgore (BA)**	**2.20**	**220**	*i*Pn	**Pn**	**13 17 46.1**	**+0.1**		
OHR	**Ohrid**	**2.20**	**129**	⇑*i*Pn	**Pb**	**13 17 48.7**	**-0.8**		
OHR				*i*Sn	**Sg**	**13 18 19.0**	**-1.9**		
OHR	**Ohrid**	**2.20**	**129**	P	**Pb**	**13 17 48.8**	**-0.8**		
OHR	**Ohrid**	**2.20**	**129**	⇑*i*Pn	**Pb**	**13 17 48.7**	**-0.8**		
OHR				*i*Sn	**Sg**	**13 18 19.0**	**-1.9**		
SKO	**Skopje**	**2.21**	**104**	P	**Pb**	**13 17 48.9**	**-0.9**		
SKO	**Skopje**	**2.21**	**104**	⇑*i*Pn	**Pb**	**13 17 49.1**	**-0.8**		
SKO				*i*Sn	**Sg**	**13 18 19.8**	**-1.7**		
SKO	**Skopje**	**2.21**	**104**	P	**Pb**	**13 17 48.5**	**-1.3**		
SKO	**Skopje**	**2.21**	**104**	P	**Pb**	**13 17 48.5**	**-1.3**		
SKO	**Skopje**	**2.21**	**104**	⇑*i*Pn	**Pb**	**13 17 49.0**	**-0.9**		
SKO				*i*Sn	**Sg**	**13 18 19.7**	**-1.7**		
TAR1	**Taranto**	**2.22**	**206**	*e*Pn	**Pn**	**13 17 46.0**	**-0.3**		
DOB	**Doboj**	**2.23**	**352**	⇓*i*Pn	**Pn**	**13 17 47.6**	**+1.2**		
DOB				*e*Sn	**Sb**	**13 18 15.8**	**-1.5**		
SGRT	**San Giovanni R** 1µm,0.8s	**2.23**	**251**	Pn	**Pn**	**13 17 46.8**	**+0.3**		
SGRT	**San Giovanni R** 1µm,0.8s	**2.23**	**251**	Pn	**Pn**	**13 17 46.8**	**+0.3**		
CDT	**Castel del Mon**

KZN	Kozani	3.29	131	P	Pn	13 18 03.4	+2.4
KZN	Kozani	3.29	131	P	Pn	13 18 03.4	+2.4
MGR	Morigerati	3.29	224	Pn	Pn	13 18 01.4	+0.4
	217nm,0.6s						
MGR	Morigerati	3.29	224	Pn	Pn	13 18 01.4	+0.4
	217nm,0.6s						
PIPA	Pietrapaola	3.31	204	Pn	Pn	13 18 01.5	+0.1
	199nm,0.4s						
PIPA	Pietrapaola	3.31	204	Pn	Pn	13 18 01.5	+0.1
	199nm,0.4s						
MIDA	Miranda	3.32	256	Pn	Pn	13 18 04.1	+2.6
	349nm,0.8s						
MIDA	Miranda	3.32	256	Pn	Pn	13 18 04.1	+2.6
	349nm,0.8s						
KPRO	Kipourio	3.33	140	P	Pn	13 18 04.3	+2.6
SISC	Sisak	3.33	333	*e*Pn	Pn	13 18 04.7	+3.1
SISC				Sn	Sb	13 18 45.6	-3.5
SISC	Sisak	3.33	333	*e*Pn	Pn	13 18 04.7	+3.1
SISC				Sn	Sb	13 18 45.6	-3.5
PAOL	Paolisi	3.34	245	Pn	Pn	13 18 03.3	+1.6
	418nm,0.8s						
PAOL	Paolisi	3.34	245	Pn	Pn	13 18 03.3	+1.6
	418nm,0.8s						
JAN	Janina	3.36	148	P	Pn	13 18 04.0	+2.0
JAN	Janina	3.36	148	P	Pn	13 18 04.0	+2.0
NVLJ	Novalja	3.36	308	*e*Pn	Pn	13 18 04.1	+2.1
NVLJ				Sn	Sb	13 18 45.7	-4.3
NVLJ	Novalja	3.36	308	*e*Pn	Pn	13 18 04.0	+2.1
NVLJ				Sn	Sb	13 18 45.6	-4.3
BANR	Banloc	3.41	32	⇓*i*P	Pn	13 18 04.0	+1.4
BANR	Banloc	3.41	32	⇓*i*P	Pn	13 18 04.0	+1.4
BANR				S	Sn	13 18 44.9	+2.3
BULG	Bulgheria - Ca	3.42	225	Pn	Pn	13 18 03.8	+0.9
	285nm,0.6s						
BULG	Bulgheria - Ca	3.42	225	Pn	Pn	13 18 03.8	+0.9
	285nm,0.6s						
VTS	Vitosha	3.44	87	P	Pn	13 18 05.4	+2.2
VTS	Vitosha	3.44	87	⇓*i*P	Pn	13 18 05.4	+2.2
VTS	Vitosha	3.44	87	S	Sn	13 18 47.6	+3.9
VTS	Vitosha	3.44	87	P	Pn	13 18 05.1	+1.9
VTS				S	Sn	13 18 47.5	+3.9
VTS	Vitosha	3.44	87	P	Pn	13 18 05.1	+1.9
VTS				S	Sn	13 18 47.5	+3.9
VTS	Vitosha	3.44	87	*e*Pn	Pn	13 18 05.2	+1.9
INTR	Introdacqua	3.49	263	Pn	Pn	13 18 05.5	+1.7
	3µm,1.5s						
INTR	Introdacqua	3.49	263	Pn	Pn	13 18 05.5	+1.7
	3µm,1.5s						
KNT	Kendrikon	3.52	111	P	Pn	13 18 06.2	+2.0
KNT	Kendrikon	3.52	111	P	Pn	13 18 06.2	+2.0
DJES	Djerdap	3.58	52	*e*Sn	Sn	13 18 49.4	+2.3
TERO	Teramo	3.66	273	Pn	Pn	13 18 08.1	+2.0
	249nm,0.4s						
TERO	Teramo	3.66	273	Pn	Pn	13 18 08.1	+2.0
	249nm,0.4s						
POFI	Posta Fibreno	3.69	259	Pn	Pn	13 18 08.7	+2.1
	207nm,0.7s						
POFI	Posta Fibreno	3.69	259	Pn	Pn	13 18 08.7	+2.1
	207nm,0.7s						
VVLD	Villa Vallelon	3.72	261	Pn	Pn	13 18 08.8	+1.8
	210nm,0.7s						
VVLD	Villa Vallelon	3.72	261	Pn	Pn	13 18 08.8	+1.8
	210nm,0.7s						
CAR1	CAROLEI	3.72	209	Pn	Pn	13 18 08.1	+1.1
	457nm,0.8s						
AOI	Ancona	3.77	287	Pn	Pn	13 18 09.6	+2.0
	501nm,0.8s						
AOI	Ancona	3.77	287	Pn	Pn	13 18 09.6	+2.0
	501nm,0.8s						
ZAG	Zagreb	3.78	332	*e*Pn	Pn	13 18 09.9	+2.2
ZAG				*e*Sn	Sn	13 18 53.9	+2.2
BZS	Buzias	3.79	35	⇓*i*Pn	Pn	13 18 08.5	+0.6
BZS				*e*Sn	Sn	13 18 52.6	+0.4
BZS	Buzias	3.79	35	⇓*i*P	Pn	13 18 08.8	+0.9
BZS	Buzias	3.79	35	S	Sn	13 18 52.5	+0.4
BZS	Buzias	3.79	35	⇓*i*Pn	Pn	13 18 08.5	+0.6
BZS	Buzias	3.79	35	⇓*i*P	Pn	13 18 08.8	+0.9
BZS				*e*Sn	Sn	13 18 52.6	+0.4
OZLJ	Ozalj	3.80	325	*i*Pn	Pn	13 18 11.0	+3.0
OZLJ				Sn	Sb	13 18 59.5	-3.1
CAMP	Campotosto	3.80	272	Pn	Pn	13 18 10.1	+1.9
	334nm,1.0s						
CAMP	Campotosto	3.80	272	Pn	Pn	13 18 10.1	+1.9
	334nm,1.0s						
BOJS	Bojanci	3.81	322	*i*Pn	Pn	13 18 10.6	+2.5
BOJS				*e*Sn	Sn	13 18 56.3	+3.8
	comp=Z,560nm,0.9s						
BOJS	Bojanci	3.81	322	Pn	Pn	13 18 10.6	+2.5
BOJS				*e*Sn	Sn	13 18 56.3	+3.8
	comp=Z,560nm,0.9s						
AQU	L'Aquila	3.82	269	*e*P	Pn	13 18 09.8	+1.5
AQU	L'Aquila	3.82	269	*e*Pn	Pn	13 18 09.8	+1.5
AQU				*e*Sn	Sn	13 18 56.2	+3.4
AQU	L'Aquila	3.82	269	*e*Pn	Pn	13 18 09.8	+1.5
LIT	Litokhoron	3.83	128	P	Pn	13 18 10.4	+1.9
LIT	Litokhoron	3.83	128	P	Pn	13 18 11.7	+3.2
LIT	Litokhoron	3.83	128	P	Pn	13 18 11.7	+3.2
PTQR	Pietraquaria	3.86	264	Pn	Pn	13 18 11.5	+2.6
PTQR	Pietraquaria	3.86	264	Pn	Pn	13 18 11.5	+2.6
DSL	Palaion Diasel	3.90	150	P	Pn	13 18 11.1	+1.6
DSL	Palaion Diasel	3.90	150	P	Pn	13 18 11.1	+1.6
HORT	Hortiatis	3.92	118	P	Pn	13 18 11.6	+1.8
HORT	Hortiatis	3.92	118	P	Pn	13 18 11.6	+1.8
THL	Klokotos Trika	3.95	137	P	Pn	13 18 11.5	+1.4
THL	Klokotos Trika	3.95	137	P	Pn	13 18 11.5	+1.4
CRES	Cresnjev	3.98	327	*e*Pn	Pn	13 18 12.9	+2.4
CRES				*e*Sn	Sn	13 18 59.4	+2.7
CRES	Cresnjev	3.98	327	*e*Pn	Pn	13 18 12.9	+2.4
CRES				*e*Sn	Sn	13 18 59.4	+2.7
SRE	Strehaia	3.99	56	⇓*i*P	Pn	13 18 13.4	+2.7
SRE	Strehaia	3.99	56	⇓*i*P	Pn	13 18 13.4	+2.7
NRCA	Norcia	4.02	276	Pn	Pn	13 18 13.2	+2.1
NRCA	Norcia	4.02	276	Pn	Pn	13 18 13.2	+2.1
SRS	Serrai	4.02	109	P	Pn	13 18 13.2	+2.1
SRS	Serrai	4.02	109	P	Pn	13 18 13.2	+2.1
FDMO	Fiordimonte	4.05	279	Pn	Pn	13 18 13.4	+1.8
	comp=Z,273nm,0.6s						
FDMO	Fiordimonte	4.05	279	Pn	Pn	13 18 13.4	+1.8
	comp=Z,273nm,0.6s						
GIUL	Giuliano Di Ro	4.06	258	Pn	Pn	13 18 13.1	+1.4
	comp=Z,190nm,1.0s						
GIUL	Giuliano Di Ro	4.06	258	Pn	Pn	13 18 13.1	+1.4
	comp=Z,190nm,1.0s						
LKD2	Lefkada island	4.07	156	P	Pn	13 18 11.9	+0.2
LKD2	Lefkada island	4.07	156	P	Pn	13 18 11.9	+0.2
LNSS	Leonessa	4.07	273	Pn	Pn	13 18 14.2	+2.3
	comp=Z,404nm,0.4s						
LNSS	Leonessa	4.07	273	Pn	Pn	13 18 14.2	+2.3
	comp=Z,404nm,0.4s						
BEHE	Becsehely	4.14	343	⇑*e*Pn	Pn	13 18 15.3	+2.6
BEHE				*e*Sn	Sn	13 19 03.4	+2.7
BEHE	Becsehely	4.14	343	⇑*e*Pn	Pn	13 18 15.3	+2.6
BEHE				*ex*	x	13 19 03.4	
CERT	Cerreto	4.18	264	Pn	Pn	13 18 15.4	+2.1
	comp=Z,161nm,0.5s						
CERT	Cerreto	4.18	264	Pn	Pn	13 18 15.4	+2.1
	comp=Z,161nm,0.5s						
GZR	Gura Zlata	4.18	45	⇓*i*P	Pn	13 18 14.4	+1.1
GZR	Gura Zlata	4.18	45	⇓*i*P	Pn	13 18 14.4	+1.1
SNTG	Esanatoglia	4.19	282	Pn	Pn	13 18 15.2	+1.8
	comp=Z,186nm,0.6s						
SNTG	Esanatoglia	4.19	282	Pn	Pn	13 18 15.2	+1.8
	comp=Z,186nm,0.6s						
ARVD	Arcevia	4.23	285	Pn	Pn	13 18 15.9	+2.0
	comp=Z,170nm,0.8s						
ARVD	Arcevia	4.23	285	Pn	Pn	13 18 15.9	+2.0
	comp=Z,170nm,0.8s						
PLG	Polygyros	4.26	119	P	Pn	13 18 16.6	+2.2
PLG	Polygyros	4.26	119	P	Pn	13 18 16.6	+2.2
SSFR	Montelago di S	4.33	284	Pn	Pn	13 18 17.3	+1.9
SSFR	Montelago di S	4.33	284	Pn	Pn	13 18 17.3	+1.9
SIRR	Siria	4.35	30	⇑*i*P	Pn	13 18 16.4	+0.8
SIRR	Siria	4.35	30	⇑*i*P	Pn	13 18 16.4	+0.8
SIRR				S	Sn	13 19 06.7	+0.8
PDKS	Podkum	4.36	325	*i*Pn	Pn	13 18 18.1	+2.4
	comp=Z,770nm,1.4s						
PDKS	Podkum	4.36	325	*i*Pn	Pn	13 18 18.1	+2.4
	comp=Z,770nm,1.4s						
CEY	Cerknica	4.37	319	⇑*i*Pn	Pn	13 18 17.5	+1.6
CEY				*e*Sn	Sn	13 19 08.3	+1.8
EVR	Evrytania	4.38	145	P	Pn	13 18 18.5	+2.5
EVR	Evrytania	4.38	145	P	Pn	13 18 18.5	+2.5
MPAG	Monte Paganucc	4.38	286	Pn	Pn	13 18 17.9	+1.8
	comp=Z,278nm,0.8s						
FRON	Frontone	4.38	285	Pn	Pn	13 18 18.0	+1.9
	comp=Z,463nm,1.2s						
FRON	Frontone	4.38	285	Pn	Pn	13 18 18.0	+1.9
	comp=Z,463nm,1.2s						
FSSB	Fossombrone	4.38	287	Pn	Pn	13 18 17.8	+1.7
	comp=Z,409nm,0.4s						
FSSB	Fossombrone	4.38	287	Pn	Pn	13 18 17.8	+1.7
	comp=Z,409nm,0.4s						
ATCC	AVT- Casa Cast	4.40	281	Pn	Pn	13 18 18.6	+2.4
ATCC	AVT- Casa Cast	4.40	281	Pn	Pn	13 18 18.6	+2.4
CESX	Cesi	4.41	273	Pn	Pn	13 18 18.6	+2.2
	comp=Z,226nm,0.5s						
CESX	Cesi	4.41	273	Pn	Pn	13 18 18.6	+2.2
	comp=Z,226nm,0.5s						
SKDS	Skadanscina	4.45	314	*i*Pn	Pn	13 18 18.6	+1.6
SKDS	Skadanscina	4.45	314	*i*Pn	Pn	13 18 18.6	+1.6
MURB	Monte Urbino	4.49	281	Pn	Pn	13 18 20.0	+2.4
	comp=Z,553nm,0.3s						
MURB	Monte Urbino	4.49	281	Pn	Pn	13 18 20.0	+2.4
	comp=Z,553nm,0.3s						
VNDS	Vrh nad Dolski	4.51	324	*i*Pn	Pn	13 18 20.2	+2.3
VNDS	Vrh nad Dolski	4.51	324	*i*Pn	Pn	13 18 20.2	+2.3
PVO	Paravola	4.52	149	P	Pn	13 18 18.9	+1.0
PVO	Paravola	4.52	149	P	Pn	13 18 18.9	+1.0
AGG	Agios Georgios	4.53	139	P	Pn	13 18 19.4	+1.3
AGG	Agios Georgios	4.53	139	*e*P	Pn	13 18 19.2	+1.1
AGG	Agios Georgios	4.53	139	*e*P	Pn	13 18 19.2	+1.1
AGG	Agios Georgios	4.53	139	*e*Pn	Pn	13 18 19.2	+1.1
LJU	Ljubljana	4.55	322	*e*Pn	Pn	13 18 21.5	+3.2
LJU				*e*Sn	Sn	13 19 15.0	+4.2
LJU	Ljubljana	4.55	322	*e*Pn	Pn	13 18 20.2	+1.9
LJU				*e*Sn	Sn	13 19 12.7	+1.9
DEV	Deva	4.58	42	⇓*i*P	Pn	13 18 20.6	+1.8
DEV	Deva	4.58	42	⇓*i*P	Pn	13 18 20.6	+1.8
DEV				S	Sn	13 19 13.1	+1.5
VLS	Valsamata	4.62	160	P	Pn	13 18 18.8	-0.5
VLS	Valsamata	4.62	160	P	Pn	13 18 18.8	-0.5
OUR	Ouranopolis	4.63	116	P	Pn	13 18 21.5	+2.0
OUR	Ouranopolis	4.63	116	P	Pn	13 18 19.2	-0.3
OUR	Ouranopolis	4.63	116	P	Pn	13 18 19.2	-0.3
TRI	Trieste	4.69	314	*e*P	Pn	13 18 21.6	+1.4
TRI	Trieste	4.69	314	*e*Pn	Pn	13 18 21.6	+1.4
TRI	Trieste	4.69	314	*e*Pn	Pn	13 18 21.6	+1.4
KAVA	Kavala	4.71	107	P	Pn	13 18 22.9	+2.3
KAVA	Kavala	4.71	107	P	Pn	13 18 22.9	+2.3
CEL	Celeste	4.72	206	*e*Pn	Pn	13 18 19.8	-1.0
CEL	Celeste	4.72	206	*e*Pn	Pn	13 18 19.8	-1.0
XOR	Xorichti	4.73	130	P	Pn	13 18 21.7	+0.9
XOR	Xorichti	4.73	130	P	Pn	13 18 21.7	+0.9
KFL	Anninata	4.74	158	P	Pn	13 18 20.5	-0.4
KFL	Anninata	4.74	158	P	Pn	13 18 20.5	-0.4
LOT	Lotru	4.76	50	⇑*i*P	Pn	13 18 23.6	+2.3
LOT	Lotru	4.76	50	⇑*i*P	Pn	13 18 23.6	+2.3
LOT				S	Sn	13 19 18.5	+2.3
PERS	Pernice	4.78	330	*e*Pn	Pn	13 18 23.7	+2.1
PERS				*e*Sn	Sn	13 19 19.6	+3.0
	comp=Z,82nm,0.3s						
PERS	Pernice	4.78	330	*e*Pn	Pn	13 18 23.7	+2.1
PERS				*e*Sn	Sn	13 19 19.6	+3.0
	comp=Z,82nm,0.3s						
CSKK	Cs^‡kako	4.84	358	⇓*e*Pn	Pn	13 18 24.1	+1.8
CSKK				*e*Sn	Sn	13 19 18.9	+1.0
CSKK	Cs^‡kako	4.84	358	⇓*e*Pn	Pn	13 18 24.1	+1.8
CSKK				*e*Sn	Sn	13 19 18.9	+1.0
SOKA	Soboth	4.85	330	*i*Pn	Pn	13 18 24.8	+2.3
	comp=Z,5.5nm,0.2s,SNR=110						
SOKA				*i*Sn	Sn	13 19 20.7	+2.4
	comp=Z,30nm,0.4s						
SOKA	Soboth	4.85	330	Pn	Pn	13 18 24.8	+2.3
	comp=Z,5.5nm,0.2s,SNR=110						
SOKA				Sn	Sn	13 19 20.7	+2.4
	comp=Z,30nm,0.4s						
OBKA	Obir	4.90	326	*i*Pn	Pn	13 18 25.3	+2.1
	comp=Z,5.3nm,0.2s,SNR=28						
OBKA				*i*Sn	Sn	13 19 22.7	+3.1
	comp=Z,113nm,0.3s						
OBKA	Obir	4.90	326	Pn	Pn	13 18 25.3	+2.1
	comp=Z,5.3nm,0.2s,SNR=28						
OBKA				Sn	Sn	13 19 22.7	+3.1
	comp=Z,113nm,0.3s						
BUD	Budapest	4.96	4	⇓*e*Pn	Pn	13 18 25.6	+1.6
BUD				*e*Sn	Sn	13 19 23.5	+2.5
BUD	Budapest	4.96	4	⇓*e*Pn	Pn	13 18 25.6	+1.6
BUD				*e*Sn	Sn	13 19 23.5	+2.5
HUMR	Humele	5.08	65	⇓*i*P	Pn	13 18 27.6	+2.0
HUMR	Humele	5.08	65	⇓*i*P	Pn	13 18 27.6	+2.0
DRO	Drossia	5.17	151	P	Pn	13 18 27.2	+0.3
DRO	Drossia	5.17	151	P	Pn	13 18 27.2	+0.3
ARSA	Arzberg	5.19	337	*i*Pn	Pn	13 18 29.7	+2.6
	comp=Z,61nm,0.6s,SNR=89						
ARSA				*i*Sn	Sn	13 19 28.7	+2.2
	comp=Z,33nm,0.5s						
ARSA	Arzberg	5.19	337	P	Pn	13 18 29.7	+2.6
	comp=Z,61nm,0.6s,SNR=89						
ARSA				Sn	Sn	13 19 28.7	+2.2
	comp=Z,33nm,0.5s						
DRGR		5.19	33	⇓*i*P	Pn	13 18 28.4	+1.3
DRGR		5.19	33	P	Pn	13 18 28.5	+1.3
DRGR		5.19	33	P	Pn	13 18 28.5	+1.3
DRGR				S	Sn	13 19 26.1	-0.6
ARR	Arges	5.22	55	⇑*i*P	Pn	13 18 30.1	+2.4
ARR	Arges	5.22	55	⇑*i*P	Pn	13 18 30.1	+2.4
ARR				S	Sn	13 19 30.2	+2.6
SRO2	Moca	5.23	359	*e*P	Pn	13 18 28.7	+1.0
SRO2				*e*		13 19 33.5	
SRO2	Moca	5.23	359	*e*P	Pn	13 18 28.7	+1.0
SRO2				*e*Sn	Sn	13 19 33.5	+5.9
SRO2	Moca	5.23	359	*e*PN	Pn	13 18 28.7	+1.0
SRO2				*e*SN	Sn	13 19 33.5	+5.9
MYKA	Terra Mystica	5.39	321	*i*Pn	Pn	13 18 31.7	+1.7
	comp=Z,12nm,0.4s,SNR=14						
MYKA				*i*Sn	Sn	13 19 33.9	+2.2
	comp=Z,32nm,0.4s						
MYKA	Terra Mystica	5.39	321	Pn	Pn	13 18 31.7	+1.7
	comp=Z,12nm,0.4s,SNR=14						
MYKA				Sn	Sn	13 19 33.9	+2.2
	comp=Z,32nm,0.4s						
RDO	Rodhopi	5.40	103	P	Pn	13 18 32.3	+2.3
MTUR	Matau	5.42	58	⇑*i*P	Pn	13 18 33.3	+2.9
PSZ	Piszkesteto	5.47	10	⇑*i*P	Pn	13 18 32.0	+1.0
PSZ	Piszkesteto	5.47	10	*e*P	Pn	13 18 31.8	+0.8
PSZ	Piszkesteto	5.47	10	⇑*e*Pn	Pn	13 18 32.0	+1.0
PSZ	Piszkesteto	5.47	10	⇑*e*Pn	Pn	13 18 32.0	+1.0
PSZ				*e*Sn	Sn	13 19 33.1	-0.5
PSZ	Piszkesteto	5.47	10	*e*Pn	Pn	13 18 31.8	+0.8
VOIR		5.51	56	⇑*i*P	Pn	13 18 34.3	+2.7
VOIR		5.51	56	S	Sn	13 19 37.2	+2.5
VOIR		5.51	56	P	Pn	13 18 34.4	+2.8
VOIR				S	Sn	13 19 37.2	+2.5
VOIR		5.51	56	P	Pn	13 18 34.4	+2.8
VOIR				S	Sn	13 19 37.2	+2.5
CJR	Cluj-Napoca	5.52	39	⇓*i*P	Pn	13 18 34.4	+2.7
CONA	Conrad Observa	5.72	342	*i*Pn	Pn	13 18 37.5	+3.0
	comp=Z,7.3nm,0.3s,SNR=29						
CONA				*e*Sn	Sn	13 19 42.4	+2.6
	comp=Z,49nm,0.6s						
CONA	Conrad Observa	5.72	342	Pn	Pn	13 18 37.5	+3.0
	comp=Z,7.3nm,0.3s,SNR=29						
CONA				Sn	Sn	13 19 42.4	+2.6
	comp=Z,49nm,0.6s						
ALN	Alexandroupoli	5.84	104	P	Pn	13 18 38.3	+2.3
KBA	Koelnbreinsper	5.86	323	*i*Pn	Pn	13 18 38.7	+2.2
	comp=Z,6.6nm,0.3s,SNR=24						
KBA				*i*Sn	Sn	13 19 45.3	+1.9
	comp=Z,19nm,0.3s						
KBA	Koelnbreinsper	5.86	323	P	Pn	13 18 38.9	+2.4
KBA				S	Sn	13 19 47.6	+4.1
KBA	Koelnbreinsper	5.86	323	Pn	Pn	13 18 38.7	+2.2
	comp=Z,6.6nm,0.3s,SNR=24						
KBA				Sn	Sn	13 19 45.3	+1.9
	comp=Z,19nm,0.3s						
KBA				S	Sn	13 19 47.6	+4.1
VAE	Valguarnera	5.96	214	Pn	Pn	13 18 37.5	-0.4
	comp=Z,1.8nm,0.3s,baz=328,slow=19,SNR=3.3						
VYHS	Vyhne	5.97	2	*e*P	Pn	13 18 39.6	+1.8
VYHS				*e*		13 19 47.0	
VYHS	Vyhne	5.97	2	*e*P	Pn	13 18 39.6	+1.8
VYHS				*e*S	Sn	13 19 47.0	+1.3
VYHS	Vyhne	5.97	2	*e*PN	Pn	13 18 39.6	+1.8
VYHS				*e*SN	Sn	13 19 47.0	+1.3
SECR		5.99	63	⇑*i*P	Pn	13 18 40.7	+2.6
DOPR	Dopca	5.99	53	⇑*i*P	Pn	13 18 40.8	+2.7
ABTA	Abfaltersbach	6.03	316	*i*Pn	Pn	13 18 40.6	+1.9
	comp=Z,2.4nm,0.1s,SNR=17						
ABTA				*i*Sn	Sn	13 19 49.4	+2.1
	comp=Z,30nm,0.4s						
ABTA	Abfaltersbach	6.03	316	Pn	Pn	13 18 40.6	+1.9
	comp=Z,2.4nm,0.1s,SNR=17						
ABTA				Sn	Sn	13 19 49.4	+2.1
	comp=Z,30nm,0.4s						
SMOL	Smolenice	6.04	353	*e*P	Pn	13 18 41.4	+2.7
SMOL				*e*		13 19 48.2	
SMOL	Smolenice	6.04	353	*e*P	Pn	13 18 41.4	+2.7
SMOL				*e*S	Sn	13 19 48.2	+0.8
SMOL	Smolenice	6.04	353	*e*PN	Pn	13 18 41.4	+2.7
SMOL				*e*SN	Sn	13 19 48.2	+0.8
MLR	Muntele Rosu	6.10	58	Pn	Pn	13 18 42.3	+2.7
	comp=Z,0.9nm,0.3s,baz=164,slow=6.0,SNR=34						
MLR				Sn	Sn	13 19 52.7	+3.6
	comp=Z,1.6nm,0.3s,baz=303,slow=20,SNR=5.7						
MLR	Muntele Rosu	6.10	58	⇓*i*P	Pn	13 18 42.7	+3.0
KECS	Kecovo	6.11	12	*e*P	Pn	13 18 41.9	+2.2
KECS				*e*		13 19 49.2	
KECS	Kecovo	6.11	12	*e*P	Pn	13 18 41.9	+2.2
KECS	Kecovo	6.11	12	*e*PN	Pn	13 18 41.9	+2.2
KECS				*e*SN	Sn	13 19 49.2	+0.1
MOA	Molln	6.12	332	*i*Pn	Pn	13 18 41.8	+1.9
	SNR=25						
MOA				*i*Sn	Sn	13 19 53.4	+3.9
	comp=Z,32nm,0.4s						
MOA	Molln	6.12	332	Pn	Pn	13 18 41.8	+1.9
	SNR=25						
MOA				Sn	Sn	13 19 53.4	+3.9
	comp=Z,32nm,0.4s						
ARCR	ARCALIA	6.14	40	⇓*i*P	Pn	13 18 41.8	+1.6
VLC	Villacollemand	6.17	288	*e*Pn	Pn	13 18 42.8	+2.2
BMR	Baia Mare	6.22	33	⇑*i*P	Pn	13 18 43.6	+2.4
TRPA	Tarpa	6.26	25	⇑*e*Pn	Pn	13 18 43.3	+1.5
TRPA				*e*Sn	Sn	13 19 53.2	+0.2
ISR	Istrita	6.33	63	⇓*i*P	Pn	13 18 45.5	+2.7
ISR	Istrita	6.33	63	P	Pn	13 18 46.3	+3.5
ISR	Istrita	6.33	63	P	Pn	13 18 46.3	+3.5
UZH	Uzhgorod	6.64	22	*e*P	Pn	13 18 47.0	0.0
UZH				*e*S	Sn	13 20 02.0	-0.2
UZH				MLR	MLR		
	comp=Z,300nm,9.0s						
UZH	Uzhgorod	6.64	22	*e*P	Pn	13 18 47.0	0.0
	comp=Z,300nm,9.0s						
LANS	Liptovska Anna	6.65	5	*e*P	Pn	13 18 50.0	+2.8
LANS				*e*		13 20 03.8	
LANS	Liptovska Anna	6.65	5	*e*P	Pn	13 18 50.0	+2.8
LANS				*e*S	Sn	13 20 03.8	+1.2
LANS	Liptovska Anna	6.65	5	*e*PN	Pn	13 18 50.0	+2.8
LANS				*e*SN	Sn	13 20 03.8	+1.2
CRVS	Cervenica-Dubn	6.69	17	*e*P	Pn	13 18 49.4	+1.7
CRVS				*e*		13 20 05.1	
CRVS	Cervenica-Dubn	6.69	17	*e*P	Pn	13 18 49.4	+1.7
CRVS				*e*S	Sn	13 20 05.1	+1.6
CRVS	Cervenica-Dubn	6.69	17	*e*PN	Pn	13 18 49.4	+1.7
CRVS				*e*SN	Sn	13 20 05.1	+1.6
PLOR	Plostina	6.70	58	⇑*i*P	Pn	13 18 50.1	+2.2
PLOR	Plostina	6.70	58	P	Pn	13 18 50.1	+2.2
PLOR	Plostina	6.70	58	P	Pn	13 18 50.1	+2.2
GRER		6.71	62	⇑*i*P	Pn	13 18 50.8	+2.8
VRI	Vrincioaia	6.75	58	⇑*i*P	Pn	13 18 50.5	+1.9
VRI	Vrincioaia	6.75	58	P	Pn	13 18 52.3	+3.7
VRI	Vrincioaia	6.75	58	P	Pn	13 18 52.3	+3.7
WTTA	Wattenberg	6.82	316	*i*Pn	Pn	13 18 52.1	+2.4
	comp=Z,7.2nm,0.2s						
WTTA				*i*Sn	Sn	13 20 09.5	+2.5
	comp=Z,85nm,0.6s						
WTTA	Wattenberg	6.82	316	Pn	Pn	13 18 52.1	+2.4
	comp=Z,7.2nm,0.2s						
WTTA				Sn	Sn	13

RETA *i* Sn **Sn** **13 20 23.7 +2.2**
comp=Z,29nm,0.4s
RETA **Reutte** **7.42 315** Pn **Pn** **13 18 59.6 +1.9**
comp=Z,12µm,0.0s
RETA Sn **Sn** **13 20 23.7 +2.2**
comp=Z,29nm,0.4s
TIRR **Tirgusor** **7.42 72**‖ *iP* **Pn** **13 19 00.2 +2.4**
TIRR **Tirgusor** **7.42 72** *eP* **Pn** **13 18 59.0 +1.2**
TIRR **Tirgusor** **7.42 72** *eP* **Pn** **13 18 59.0 +1.2**
TIRR **Tirgusor** **7.42 72** *ePn* **Pn** **13 18 59.0 +1.2**
KHC **Kasperske Hory** **7.46 334** *ePN* **Pn** **13 19 00.8 +2.5**
KHC *eSN* **Sn** **13 20 23.8 +1.3**
KHC AMS AMS 13 21 50.0
comp=Z,400nm,9.8s
KHC **Kasperske Hory** **7.46 334** *eP* **Pn** **13 19 00.8 +2.5**
KHC *e* 13 20 23.8
KHC MLR MLR
comp=Z,400nm,9.8s
KHC **Kasperske Hory** **7.46 334** Pn **Pn** **13 19 00.8 +2.5**
KHC Sn **Sn** **13 20 23.8 +1.3**
KHC **Kasperske Hory** **7.46 334** *ePn* **Pn** **13 18 59.8 +1.6**
DAVOX **Davos/Dischmat** **7.50 307** Pn **Pn** **13 19 01.8 +2.8**
comp=Z,2.4nm,0.3s,baz=114,slow=18,SNR=21
DAVOX Sn **Sn** **13 20 24.4 +0.6**
comp=Z,3.9nm,0.3s,baz=88,slow=19,SNR=3.0
VSL **Villasalto** **7.57 249** *ePn* **Pn** **13 19 01.7 +1.9**
KRLC **Kraliky** **7.64 351** *ePN* **Pn** **13 19 03.5 +2.7**
KRLC *eSN* **Sn** **13 20 26.6 -0.5**
KRLC **Kraliky** **7.64 351** *eP* **Pn** **13 19 03.5 +2.7**
KRLC *e* 13 20 26.6
KRLC **Kraliky** **7.64 351** Pn **Pn** **13 19 03.5 +2.7**
KRLC Sn **Sn** **13 20 26.6 -0.5**
APE **Apeiranthos** **7.65 133**‖ *eP* **Pn** **13 19 01.7 +0.7**
APE **Apeiranthos** **7.65 133** *eP* **Pn** **13 19 01.7 +0.7**
KWP **Kalwaria Pacla** **7.67 21** *ePn* **Pn** **13 19 05.1 +4.0**
KWP **Kalwaria Pacla** **7.67 21** *eP* **Pn** **13 19 05.1 +4.0**
KWP **Kalwaria Pacla** **7.67 21** *eP* **Pn** **13 19 05.1 +4.0**
TUE **Stuetta** **7.67 304** *ePn* **Pn** **13 19 04.1 +2.7**
OJC **Ojcow** **7.74 6** *ePn* **Pn** **13 19 04.8 +2.7**
OJC *eSn* **Sn** **13 20 29.1 -0.2**
OJC **Ojcow** **7.74 6** *eP* **Pn** **13 19 04.8 +2.7**
OJC *e* 13 20 29.1
OJC **Ojcow** **7.74 6** *eP* **Pn** **13 19 04.8 +2.7**
OJC **Ojcow** **7.74 6** *ePn* **Pn** **13 19 03.8 +1.7**
DAVA **Damuels** **7.78 311** *i* Pn **Pn** **13 19 03.2 +0.4**
comp=Z,0.5nm,0.2s
DAVA *i* Sn **Sn** **13 20 33.8 +3.3**
comp=Z,39nm,0.5s
DAVA **Damuels** **7.78 311** Pn **Pn** **13 19 03.2 +0.4**
comp=Z,0.5nm,0.2s
DAVA Sn **Sn** **13 20 33.8 +3.3**
comp=Z,39nm,0.5s
GOPC **GO Pecny, Ondr** **7.83 342** *ePN* **Pn** **13 19 06.7 +3.3**
GOPC **GO Pecny, Ondr** **7.83 342** *eP* **Pn** **13 19 06.7 +3.3**
GOPC **GO Pecny, Ondr** **7.83 342** Pn **Pn** **13 19 06.7 +3.3**
TLCR **7.88 67**‖ *iP* **Pn** **13 19 05.9 +1.9**
TLCR **7.88 67**‖ *iP* **Pn** **13 19 05.9 +1.9**
PRU **Pruhonice** **7.96 341** *ePN* **Pn** **13 19 08.5 +3.4**
PRU *eSN* **Sn** **13 20 34.0 -0.7**
PRU **Pruhonice** **7.96 341** *eP* **Pn** **13 19 08.5 +3.4**
PRU *e* 13 20 34.0
PRU **Pruhonice** **7.96 341** Pn **Pn** **13 19 08.5 +3.4**
PRU Sn **Sn** **13 20 34.0 -0.7**
DPC **Dobruska-Polom** **7.97 350** *ePN* **Pn** **13 19 08.2 +2.9**
DPC AMS AMS 13 22 40.0
comp=Z,400nm,7.9s
DPC **Dobruska-Polom** **7.97 350** *eP* **Pn** **13 19 08.2 +2.9**
DPC MLR MLR
comp=Z,400nm,7.9s
DPC **Dobruska-Polom** **7.97 350** Pn **Pn** **13 19 08.2 +2.9**
UPC **Upice** **8.17 349** *ePN* **Pn** **13 19 10.7 +2.7**
UPC AMS AMS 13 22 50.0
comp=Z,300nm,10.1s
UPC **Upice** **8.17 349** *eP* **Pn** **13 19 10.7 +2.7**
UPC MLR MLR
comp=Z,300nm,10.1s
UPC **Upice** **8.17 349** Pn **Pn** **13 19 10.7 +2.7**
LVV **L'vov** **8.22 26** *eP* Pn 13 19 18.0 +9.3
LVV *eS* Sn 13 20 54.7 +14
LVV MLR MLR
comp=E,100nm,9.0s
LVV MLR MLR
comp=N,200nm,10.0s
LVV MLR MLR
comp=Z,200nm,10.0s
SBF **Sospel** **8.23 283** *ePn* **Pn** **13 19 10.0 +1.1**
SNR=1.0
SBF *eSn* **Sn** **13 20 38.2 -3.4**
comp=Z,17nm,0.3s
SBF **Sospel** **8.23 283** *eP* **Pn** **13 19 10.0 +1.1**
SBF *e* 13 20 38.2
SBF **Sospel** **8.23 283** *ePn* **Pn** **13 19 10.0 +1.1**
SNR=1.0
SBF *eSn* **Sn** **13 20 38.2 -3.4**
comp=Z,8.5nm,0.3s
SBF **Sospel** **8.23 283** *ePn* **Pn** **13 19 10.0 +1.1**
SBF *eSn* **Sn** **13 20 38.2 -3.4**
KSP **Ksiaz** **8.46 350** *ePn* **Pn** **13 19 16.2 +4.3**
KSP **Ksiaz** **8.46 350** *eP* **Pn** **13 19 16.2 +4.3**
KSP **Ksiaz** **8.46 350** *eP* **Pn** **13 19 16.2 +4.3**
KIS **Kishinev** **8.56 55** *eP* **Pn** **13 19 18.0 +4.7**
KIS *eS* 13 21 57.0
KIS LRM MLR 13 23 05.0
comp=Z,400nm,10.0s
KIS **Kishinev** **8.56 55** *eP* **Pn** **13 19 18.0 +4.7**
KIS MLR MLR
comp=Z,400nm,10.0s
KIS MLR MLR
comp=Z,400nm,9.5s
IDI **Anoyia** **8.76 144** Pn **Pn** **13 19 16.6 +0.4**
comp=Z,1.3nm,0.3s,baz=336,slow=11,SNR=7.8
IDI Sn **Sn** **13 20 47.0 -7.5**
comp=Z,6.8nm,0.3s,baz=114,slow=20,SNR=11
IDI **Anoyia** **8.76 144** *ePn* **Pn** **13 19 15.4 -0.8**
IDI *eSn* **Sn** **13 20 48.1 -6.3**
NKC **Novy Kostel** **8.78 333** *ePN* **Pn** **13 19 19.6 +3.2**
NKC **Novy Kostel** **8.78 333** *eP* **Pn** **13 19 19.6 +3.2**
NKC **Novy Kostel** **8.78 333** Pn **Pn** **13 19 19.6 +3.2**
FRF **La Foret Royal** **8.78 281** *ePn* **Pn** **13 19 17.8 +1.4**
SNR=1.0
FRF **La Foret Royal** **8.78 281** *eP* **Pn** **13 19 17.8 +1.4**
FRF **La Foret Royal** **8.78 281** *ePn* **Pn** **13 19 17.8 +1.4**
SNR=1.0
FRF **La Foret Royal** **8.78 281** *ePn* **Pn** **13 19 17.8 +1.4**
MBDF **Montbardon** **8.82 288** *ePn* **Pn** **13 19 18.2 +1.1**
SNR=1.0
MBDF **Montbardon** **8.82 288** *eP* **Pn** **13 19 18.2 +1.1**
MBDF **Montbardon** **8.82 288** *ePn* **Pn** **13 19 18.2 +1.1**
SNR=1.0
MBDF **Montbardon** **8.82 288** *ePn* **Pn** **13 19 18.2 +1.1**
SPAK **Spaichingen-Ko** **8.85 312** P **Pn** **13 19 16.1 -1.3**
LMR **La Mourre** **8.87 279** *ePn* **Pn** **13 19 19.3 +1.6**
SNR=1.0
LMR *eSn* **Sn** **13 20 52.7 -4.5**
LMR **La Mourre** **8.87 279** *eP* **Pn** **13 19 19.3 +1.6**
LMR *e* 13 20 52.7
LMR **La Mourre** **8.87 279** *ePn* **Pn** **13 19 19.3 +1.6**
SNR=1.0
LMR *eSn* **Sn** **13 20 52.7 -4.5**
LMR **La Mourre** **8.87 279** *ePn* **Pn** **13 19 19.3 +1.6**
LMR *eSn* **Sn** **13 20 52.7 -4.5**
SORM **Soroca** **8.89 48**‖ *iP* **Pn** **13 19 21.6 +3.8**
SORM **Soroca** **8.89 48**‖ *iP* **Pn** **13 19 21.6 +3.8**
SENIN **Lac Senin/Sane** **8.91 299** *ePn* **Pn** **13 19 19.6 +1.2**
BRG **Berggiesshubel** **8.92 341** PN **Pn** **13 19 21.0 +2.7**
comp=Z,13nm,1.3s
BRG *e* 13 21 12.9
comp=Z,12nm,0.7s
comp=Z,256nm,15.5s
comp=N,148nm,16.2s
comp=E,319nm,16.2s
BRG **Berggiesshubel** **8.92 341** P **Pn** **13 19 21.0 +2.7**
BRG pmax pmax
comp=Z,13nm,1.3s
BRG pmax pmax
comp=Z,12nm,0.7s
BRG MLR MLR
comp=Z,256nm,15.5s
BRG MLR MLR
comp=N,148nm,16.2s
BRG MLR MLR
comp=E,319nm,16.2s
BRG **Berggiesshubel** **8.92 341** P **Pn** **13 19 21.0 +2.7**
comp=E,256nm,15.5s

BNI **Bardonecchia** **8.95 290** *eP* **Pn** **13 19 19.9 +1.0**
BNI **Bardonecchia** **8.95 290** *eP* **Pn** **13 19 19.9 +1.0**
BNI **Bardonecchia** **8.95 290** *ePn* **Pn** **13 19 19.9 +1.0**
LPG **La Plagne** **9.01 293** *ePn* **Pn** **13 19 20.9 +1.1**
SNR=1.0
LPG *eSn* **Sn** **13 20 56.8 -4.1**
comp=E,40nm,0.6s,SNR=1.0
LPG **La Plagne** **9.01 293** *eP* **Pn** **13 19 20.9 +1.1**
LPG *e* 13 20 56.8
LPG **La Plagne** **9.01 293** *ePn* **Pn** **13 19 20.9 +1.1**
SNR=1.0
LPG *eSn* **Sn** **13 20 56.8 -4.1**
comp=E,20nm,0.6s,SNR=1.0
LPG **La Plagne** **9.01 293** *ePn* **Pn** **13 19 20.9 +1.1**
LPG *eSn* **Sn** **13 20 56.8 -4.1**
LPL **La Plagne** **9.02 293** *ePn* **Pn** **13 19 20.4 +0.5**
SNR=1.0
LPL *eSn* **Sn** **13 20 55.9 -5.4**
comp=E,30nm,0.4s
LPL **La Plagne** **9.02 293** *eP* **Pn** **13 19 20.4 +0.5**
LPL *e* 13 20 55.9
LPL **La Plagne** **9.02 293** *ePn* **Pn** **13 19 20.4 +0.5**
SNR=1.0
LPL *eSn* **Sn** **13 20 55.9 -5.4**
comp=E,15nm,0.4s
LPL **La Plagne** **9.02 293** *ePn* **Pn** **13 19 20.4 +0.5**
LPL *eSn* **Sn** **13 20 55.9 -5.4**
STU **Stuttgart** **9.04 317** *eP* **Pn** **13 19 21.5 +1.5**
STU **Stuttgart** **9.04 317** *eP* **Pn** **13 19 21.5 +1.5**
STU **Stuttgart** **9.04 317** *ePn* **Pn** **13 19 21.5 +1.5**
FELD **Feldberg im Sc** **9.16 309** P **Pn** **13 19 20.7 -1.0**
FELD S **Sn** **13 21 10.8 +6.3**
BFO **Black Forest** **9.23 312** *eP* **Pn** **13 19 22.8 +0.2**
BFO **Black Forest** **9.23 312** *eP* **Pn** **13 19 22.8 +0.2**
BFO **Black Forest** **9.23 312** *ePn* **Pn** **13 19 22.8 +0.2**
MOX **Moxa** **9.41 332** P **Pn** **13 19 27.7 +2.7**
MOX **Moxa** **9.41 332** P **Pn** **13 19 27.7 +2.7**
ORIF **Oris-en-Rattie** **9.48 289** *ePn* **Pn** **13 19 28.9 +2.8**
SNR=1.0
ORIF **Oris-en-Rattie** **9.48 289** *eP* **Pn** **13 19 28.9 +2.8**
ORIF **Oris-en-Rattie** **9.48 289** *ePn* **Pn** **13 19 28.9 +2.8**
SNR=1.0
ORIF **Oris-en-Rattie** **9.48 289** *ePn* **Pn** **13 19 28.9 +2.8**
CLL **Collm** **9.56 339** *eP* **Pn** **13 19 31.0 +3.9**
CLL **Collm** **9.56 339** *eP* **Pn** **13 19 31.0 +3.9**
CLL **Collm** **9.56 339** *ePn* **Pn** **13 19 31.0 +3.9**
CLL *ePg* 13 20 07.0
CLL *e* 13 20 43.0
CLL *eSn* Sn 13 20 54.0 -20
CLL *eSb* 13 21 38.0
CLL *eSg* 13 22 22.0
comp=N,100nm,18.0s
CLL *eSg* 13 22 22.0
comp=E,300nm,17.1s
CLL **Collm** **9.56 339** *ePn* **Pn** **13 19 28.6 +1.6**
SMRF **Simiane la Rot** **9.58 283** *ePn* **Pn** **13 19 29.4 +2.0**
SNR=1.0
SMRF **Simiane la Rot** **9.58 283** *ePn* **Pn** **13 19 29.4 +2.0**
SNR=1.0
SMRF **Simiane la Rot** **9.58 283** *ePn* **Pn** **13 19 29.4 +2.0**
LOMF **Lomont** **9.61 304** P **Pn** **13 19 27.0 -0.8**
LOMF S **Sn** **13 21 22.3 +7.0**
LOMF **Lomont** **9.61 304** P **Pn** **13 19 27.0 -0.8**
LOMF S **Sn** **13 21 22.3 +7.0**
MOF **Molkenrain** **9.65 307** P **Pn** **13 19 26.8 -1.7**
MOF S **Sn** **13 21 23.0 +6.5**
MOF **Molkenrain** **9.65 307** P **Pn** **13 19 26.8 -1.7**
MOF S **Sn** **13 21 23.0 +6.5**
CABF **La Chapelle** **9.79 299** *ePn* **Pn** **13 19 30.8 +0.6**
SNR=1.0
CABF **La Chapelle** **9.79 299** *eP* **Pn** **13 19 30.8 +0.6**
CABF **La Chapelle** **9.79 299** *ePn* **Pn** **13 19 30.8 +0.6**
SNR=1.0
CABF **La Chapelle** **9.79 299** *ePn* **Pn** **13 19 30.8 +0.6**
HINF **Hinteralfeld** **9.80 307** *ePn* **Pn** **13 19 30.1 -0.3**
SNR=1.0
HINF *eSn* **Sn** **13 21 14.8 -5.3**
comp=E,21nm,0.5s,SNR=1.0
HINF **Hinteralfeld** **9.80 307** *eP* **Pn** **13 19 30.1 -0.3**
HINF *e* 13 21 14.8
HINF **Hinteralfeld** **9.80 307** *ePn* **Pn** **13 19 30.1 -0.3**
SNR=1.0
HINF *eSn* **Sn** **13 21 14.8 -5.3**
comp=E,11nm,0.5s,SNR=1.0
HINF **Hinteralfeld** **9.80 307** *ePn* **Pn** **13 19 30.1 -0.3**
HINF *eSn* **Sn** **13 21 14.8 -5.3**
ECH **Echery** **9.82 309** P **Pn** **13 19 30.1 -0.6**
ECH S **Sn** **13 21 27.2 +6.6**
ECH **Echery** **9.82 309** P **Pn** **13 19 30.1 -0.6**
ECH S **Sn** **13 21 27.2 +6.6**
KEST **Kesra** **9.86 230** Pn **Pn** **13 19 35.2 +4.0**
comp=E,0.5nm,0.3s,baz=7.2,slow=2.3,SNR=5.4
KEST LR LR 13 22 43.9
comp=E,54nm,21.0s,baz=16,slow=34
CDF **Champ du Feu** **9.86 310** *ePn* **Pn** **13 19 31.7 +0.4**
SNR=1.0
CDF *eSn* **Sn** **13 21 17.3 -4.3**
comp=E,15nm,0.8s,SNR=1.0
CDF **Champ du Feu** **9.86 310** *eP* **Pn** **13 19 31.7 +0.4**
CDF *e* 13 21 17.3
CDF **Champ du Feu** **9.86 310** *ePn* **Pn** **13 19 31.7 +0.4**
SNR=1.0
CDF *eSn* **Sn** **13 21 17.3 -4.3**
comp=E,7.7nm,0.8s,SNR=1.0
CDF **Champ du Feu** **9.86 310** *ePn* **Pn** **13 19 31.7 +0.4**
CDF *eSn* **Sn** **13 21 17.3 -4.3**
LANF **Langenberg** **9.89 314** P **Pn** **13 19 30.8 -0.8**
LANF **Langenberg** **9.89 314** P **Pn** **13 19 30.8 -0.8**
HAU **Haudompre** **10.19 307** *ePn* **Pn** **13 19 34.8 -0.9**
SNR=1.0
HAU **Haudompre** **10.19 307** *eP* **Pn** **13 19 34.8 -0.9**
HAU **Haudompre** **10.19 307** *ePn* **Pn** **13 19 34.8 -0.9**
SNR=1.0
HAU **Haudompre** **10.19 307** *ePn* **Pn** **13 19 34.8 -0.9**
ISP **Isparta** **10.29 113** *eP* **Pn** **13 19 36.4 -0.8**
ISP **Isparta** **10.29 113** *eP* **Pn** **13 19 36.4 -0.8**
ISP **Isparta** **10.29 113** *ePn* **Pn** **13 19 36.4 -0.8**
VIVF **Saint-Julien-l** **10.32 288** *ePn* **Pn** **13 19 37.9 +0.4**
SNR=1.0
VIVF *eSn* **Sn** **13 21 29.4 -3.4**
comp=E,6.0nm,0.5s,SNR=1.0
VIVF **Saint-Julien-l** **10.32 288** *eP* **Pn** **13 19 37.9 +0.4**
VIVF *e* 13 21 29.4
VIVF **Saint-Julien-l** **10.32 288** *ePn* **Pn** **13 19 37.9 +0.4**
SNR=1.0
VIVF *eSn* **Sn** **13 21 29.4 -3.4**
comp=E,3.0nm,0.5s,SNR=1.0
VIVF **Saint-Julien-l** **10.32 288** *ePn* **Pn** **13 19 37.9 +0.4**
VIVF *eSn* **Sn** **13 21 29.4 -3.4**
SSB **Saint Sauveur** **10.48 290** *eP* **Pn** **13 19 39.4 -0.3**
SSB **Saint Sauveur** **10.48 290** *eP* **Pn** **13 19 39.4 -0.3**
SSB **Saint Sauveur** **10.48 290** *ePn* **Pn** **13 19 39.4 -0.3**
THEF **They Montfort** **10.51 307** P **Pn** **13 19 39.0 -1.1**
THEF S **Sn** **13 21 44.4 +7.0**
THEF **They Montfort** **10.51 307** P **Pn** **13 19 39.0 -1.1**
RUP **Ruppelstein** **10.72 316** P **Pn** **13 19 41.3 -1.7**
RUP S **Sn** **13 21 48.3 +5.7**
LASF **Ste Croix** **10.82 283** *ePn* **Pn** **13 19 45.5 +1.1**
SNR=1.0
LASF **Ste Croix** **10.82 283** *ePn* **Pn** **13 19 45.5 +1.1**
SNR=1.0
LASF **Ste Croix** **10.82 283** *ePn* **Pn** **13 19 45.5 +1.1**
KIEV **Kiev** **10.96 38**‖ *eP* Pn 13 19 51.0 +4.8
KIEV **Kiev** **10.96 38** *ePn* **Pn** **13 19 46.8 +0.6**
AKASG **Malin Array Be** **10.97 38** *ePn* **Pn** **13 19 47.4 +1.1**
comp=E,0.7nm,0.3s,baz=228,slow=13,SNR=9.9
AKASG **Malin Array Be** **10.97 38** *i* P **Pn** **13 19 47.7 +1.3**
AKASG pmax pmax
comp=Z,1.0nm,0.6s
AKASG **Malin Array Be** **10.97 38** *i* P **Pn** **13 19 47.7 +1.3**
comp=Z,1.0nm,0.6s
AKBB **Malin Array Si** **10.97 38** *eP* **Pn** **13 19 46.9 +0.5**
AKBB **Malin Array Si** **10.97 38** *eP* **Pn** **13 19 46.9 +0.5**
AKBB **Malin Array Si** **10.97 38** *ePn* **Pn** **13 19 46.9 +0.5**
SMF **Signal de Mont** **11.27 296** *ePn* **Pn** **13 19 51.0 +0.6**
SNR=1.0
SMF *eSn* **Sn** **13 21 49.7 -6.2**
comp=Z,19nm,0.5s,SNR=1.0
SMF **Signal de Mont** **11.27 296** *eP* **Pn** **13 19 51.0 +0.6**
SMF *e* 13 21 49.7
SMF **Signal de Mont** **11.27 296** *ePn* **Pn** **13 19 51.0 +0.6**
SNR=1.0
SMF *eSn* **Sn** **13 21 49.7 -6.2**
comp=Z,9.6nm,0.5s,SNR=1.0

SMF **Signal de Mont** **11.27 296** *ePn* **Pn** **13 19 51.0 +0.6**
SMF *eSn* **Sn** **13 21 49.7 -6.2**
LOR **Lormes** **11.44 299** *ePn* **Pn** **13 19 53.5 +0.6**
baz=119,SNR=1.0
LOR **Lormes** **11.44 299** *eP* Pn 13 19 58.4 +5.5
LOR *eSn* **Sn** **13 21 56.0 -4.3**
comp=Z,19nm,0.3s,SNR=1.0
LOR **Lormes** **11.44 299** *eP* **Pn** **13 19 53.5 +0.6**
LOR *e* 13 21 56.0
LOR **Lormes** **11.44 299** *ePn* **Pn** **13 19 53.5 +0.6**
SNR=1.0
LOR **Lormes** **11.44 299** *eP* Pn 13 19 58.4 +5.5
LOR *eSn* **Sn** **13 21 56.0 -4.3**
comp=Z,9.4nm,0.3s,SNR=1.0
LOR **Lormes** **11.44 299** *ePn* **Pn** **13 19 53.5 +0.6**
LOR *eP* Pn 13 19 58.4 +5.5
LOR *eSn* **Sn** **13 21 56.0 -4.3**
DFRA **Djebel Bou Aff** **11.46 243** P Pn 13 20 05.7 +12
SSF **Saint Saulge** **11.61 298** *ePn* **Pn** **13 19 55.4 +0.3**
SNR=1.0
SSF *eSn* **Sn** **13 21 57.8 -6.5**
comp=Z,6.3nm,0.4s
SSF **Saint Saulge** **11.61 298** *eP* **Pn** **13 19 55.4 +0.3**
SSF *e* 13 21 57.8
SSF **Saint Saulge** **11.61 298** *ePn* **Pn** **13 19 55.4 +0.3**
SNR=1.0
SSF *eSn* **Sn** **13 21 57.8 -6.5**
comp=Z,3.2nm,0.4s
SSF **Saint Saulge** **11.61 298** *ePn* **Pn** **13 19 55.4 +0.3**
SSF *eSn* **Sn** **13 21 57.8 -6.5**
AVF **Avril sur Loir** **11.63 297** *ePn* **Pn** **13 19 55.2 -0.2**
SNR=1.0
AVF **Avril sur Loir** **11.63 297** *eP* **Pn** **13 19 55.2 -0.2**
AVF **Avril sur Loir** **11.63 297** *ePn* **Pn** **13 19 55.2 -0.2**
SNR=1.0
AVF **Avril sur Loir** **11.63 297** *ePn* **Pn** **13 19 55.2 -0.2**
BRTR **Keskin Array B** **11.72 99** Pn **Pn** **13 19 59.6 +2.9**
comp=Z,0.4nm,0.3s,baz=279,slow=14,SNR=7.0
BRTR **Keskin Array B** **11.72 99** *i* P **Pn** **13 20 00.0 +3.2**
BRTR pmax pmax
comp=Z,1.0nm,0.5s
BRTR **Keskin Array B** **11.72 99** *i* P **Pn** **13 20 00.0 +3.2**
comp=Z,1.0nm,0.5s
BGF **Bois d'Agland** **11.91 295** *ePn* **Pn** **13 20 00.0 +0.8**
SNR=1.0
BGF *eSn* **Sn** **13 22 05.0 -6.6**
BGF **Bois d'Agland** **11.91 295** *ePn* **Pn** **13 20 00.0 +0.8**
SNR=1.0
BGF *eSn* **Sn** **13 22 05.0 -6.6**
BGF **Bois d'Agland** **11.91 295** *ePn* **Pn** **13 20 00.0 +0.8**
BGF *eSn* **Sn** **13 22 05.0 -6.6**
SET **Setif** **11.98 242** P Pn 13 20 06.0 +5.7
MTLF **Montolieu** **12.01 279** *ePn* **Pn** **13 20 00.6 +0.1**
SNR=1.0
MTLF *eSn* **Sn** **13 22 07.2 -6.8**
MTLF **Montolieu** **12.01 279** *eP* **Pn** **13 20 00.6 +0.1**
MTLF *e* 13 22 07.2
MTLF **Montolieu** **12.01 279** *ePn* **Pn** **13 20 00.6 +0.1**
SNR=1.0
MTLF *eSn* **Sn** **13 22 07.2 -6.8**
MTLF **Montolieu** **12.01 279** *ePn* **Pn** **13 20 00.6 +0.1**
MTLF *eSn* **Sn** **13 22 07.2 -6.8**
CAF **Calviac** **12.17 287** *eP* **Pn** **13 20 04.5 +1.7**
CAF **Calviac** **12.17 287** *eP* **Pn** **13 20 04.5 +1.7**
HYF **Humbligny** **12.23 298** *eP* **Pn** **13 20 08.0 +4.4**
HYF **Humbligny** **12.23 298** *eP* **Pn** **13 20 08.0 +4.4**
HYF **Humbligny** **12.23 298** *eP* **Pn** **13 20 08.0 +4.4**
TCF **Toulx Ste Croi** **12.28 293** *ePn* **Pn** **13 20 04.4 +0.2**
TCF *eSn* **Sn** **13 22 14.5 -6.1**
TCF **Toulx Ste Croi** **12.28 293** *eP* **Pn** **13 20 04.4 +0.2**
TCF *e* 13 22 14.5
TCF **Toulx Ste Croi** **12.28 293** *ePn* **Pn** **13 20 04.4 +0.2**
TCF *eSn* **Sn** **13 22 14.5 -6.1**
TCF **Toulx Ste Croi** **12.28 293** *ePn* **Pn** **13 20 04.4 +0.2**
TCF *eSn* **Sn** **13 22 14.5 -6.1**
ANN **Anapa** **13.86 74** *eP* **Pn** **13 20 22.3 -3.4**
ANN *eS* **Sn** **13 22 56.6 -2.5**
ANN pmax pmax
comp=Z,24nm,0.9s
MMAI **Mount Meron Ar** **16.34 120** Pn **Pn** **13 20 58.9 0.0**
comp=Z,1.0nm,0.3s,baz=278,slow=12,SNR=4.2
VSU **Vasula** **16.75 15***de* P **P** **13 21 06.0 -0.1**
VSU pmax pmax
comp=Z,102nm,1.0s
ESDC **Sonseca Array** **17.20 268** P **P** **13 21 12.7 +1.5**
comp=Z,0.1nm,0.3s,baz=71,slow=12,SNR=10
OBN **Obninsk** **17.23 37** P **P** **13 21 10.8 -0.6**
comp=Z,2.3nm,0.3s,baz=226,slow=22,SNR=12
OBN LR LR 13 28 15.4
comp=Z,79nm,19.2s,baz=267,slow=39
OBN **Obninsk** **17.23 37**‖ *eP* **P** **13 21 11.1 -0.3**
OBN pmax pmax
comp=Z,56nm,1.2s
OBN MLR MLR
comp=Z,70nm,16.0s
OBN **Obninsk** **17.23 37** *ePn* **Pn** **13 21 10.1 +0.2**
comp=Z,57nm,1.2s
KIV **Kislovodsk** **17.63 77** *eP* **P** **13 21 16.6 +0.6**
KIV pmax pmax
comp=Z,9.0nm,1.1s
KIV MLR MLR
comp=Z,18nm,13.0s
KIV **Kislovodsk** **17.63 77** *eP* **P** **13 21 16.6 +0.6**
comp=Z,18nm,13.0s
KVAR **Kislovodsk Arr** **17.64 77** P **Pn** **13 21 13.6 -1.5**
baz=105,slow=10.0,SNR=3.5
KVAR LR LR 13 29 45.8
comp=Z,30nm,20.2s,baz=296,slow=43
KBZ **Khabaz** **17.80 78** LR LR 13 29 38.6
comp=Z,44nm,19.4s,baz=263,slow=42
HFS **Hagfors** **17.88 352** P **P** **13 21 18.5 0.0**
comp=Z,1.3nm,0.3s,baz=166,slow=14,SNR=26
HFS LR LR 13 28 42.1
comp=Z,54nm,19.0s,baz=172,slow=39
MOS **Moscow** **18.09 37** *eP* **P** **13 21 23.6 +2.7**
MOS pmax pmax
comp=Z,35nm,0.8s
MOS **Moscow** **18.09 37** *eP* **P** **13 21 23.6 +2.7**
comp=Z,35nm,0.8s
NCK **Nalchik** **18.32 78**‖ *eP* **Pn** **13 21 22.2 -1.4**
NCK pmax pmax
comp=Z,3.0nm,0.2s
EIL **Elat** **18.41 129** P **P** **13 21 24.4 -0.1**
comp=Z,0.2nm,0.3s,baz=45,slow=7.6,SNR=3.6
NAO01 **NORSAR Array S** **18.92 348** *eP* **P** **13 21 30.2 +0.2**
NB201 **NORSAR Array S** **19.06 349** *eP* **P** **13 21 31.7 +0.2**
NB2 **NORSAR Subarra** **19.06 349** P **P** **13 21 31.8 +0.2**
comp=Z,4.4nm,0.9s,SNR=1.8
NB2 **NORSAR Subarra** **19.06 349** P **P** **13 21 31.8 +0.2**
comp=Z,4.4nm,0.9s,baz=163,slow=11
NOA **NORSAR Array B** **19.06 349** P **P** **13 21 31.4 -0.2**
comp=Z,0.8nm,0.3s,baz=165,slow=10,SNR=7.7
NOA LR LR 13 29 37.6
comp=Z,22nm,20.0s,baz=175,slow=39
NC405 **NORSAR Array S** **19.06 350** *eP* **P** **13 21 31.4 -0.2**
EKA **Eskdalemuir Ar** **19.07 320** P **Pn** **13 21 32.8 +0.3**
baz=114,slow=8.6,SNR=3.8
NBO00 **NORSAR Array S** **19.11 348** *eP* **P** **13 21 31.9 -0.3**
NBO02 **NORSAR Array S** **19.12 349** *eP* **P** **13 21 32.5 +0.3**
NC303 **NORSAR Array S** **19.22 349** *eP* **P** **13 21 33.5 +0.2**
NC204 **NORSAR Array S** **19.35 349** *eP* **P** **13 21 35.2 +0.5**
FINES **FINESS Array B** **19.48 11** P **P** **13 21 36.1 +0.1**
comp=Z,0.6nm,0.3s,baz=176,slow=11,SNR=20
FIA1 **FINESS Array S** **19.48 11** *eP* **Pn** **13 21 36.9 -0.4**
GNI **Garni** **19.78 88** P **P** **13 21 39.9 +0.1**
comp=Z,3.9nm,0.3s,baz=237,slow=6.6,SNR=5.3
PMRV **Marv??o** **19.81 270** *eP* **Pn** **13 21 40.8 -0.7**
PMRV **Marv??o** **19.81 270** *eP* **Pn** **13 21 40.8 -0.7**
PBAR **Barrancos** **19.95 266** *eP* **Pn** **13 21 43.4 +0.2**
comp=Z,40nm,1.4s
PBAR **Barrancos** **19.95 266** *eP* **Pn** **13 21 43.4 +0.2**
comp=Z,40nm,1.4s
PESTR **Estremoz** **20.13 268** *eP* **P** **13 21 44.7 -0.5**
comp=Z,8.8nm,1.2s
PESTR **Estremoz** **20.13 268** *eP* **P** **13 21 44.7 -0.5**
comp=Z,8.8nm,1.2s
MDT **Midelt** **20.69 250** P **P** **13 21 48.5 -1.1**
comp=Z,1.4nm,0.9s,baz=80,slow=13,SNR=2.7
MDT LR LR 13 29 07.6
comp=Z,34nm,19.2s,baz=80,slow=35
VAF **Ylistaro** **20.69 5** P **P** **13 21 45.7 -3.5**
VAF pmax pmax
comp=Z,32nm,1.0s
PVAQ **Vaqueiros** **20.74 265** *eP* **P** **13 21 51.7 -0.7**
comp=Z,17nm,1.7s

PVAQ	**Vaqueiros**	**20.74**	**265**	*e*P		Pn	13 21 51.7	-0.7
	comp=Z,17nm,1.7s							
PCVE	**Castro Verde**	**20.89**	**265**	*e*P		Pn	13 21 53.0	-1.1
	comp=Z,20nm,1.6s							
PCVE	**Castro Verde**	**20.89**	**265**	*e*P		Pn	13 21 53.0	-1.1
	comp=Z,20nm,1.6s							
MESJ	**Messejana**	**20.95**	**266**	*e*P		Pn	13 21 56.3	+1.5
	comp=Z,20nm,1.5s							
MESJ	**Messejana**	**20.95**	**266**	*e*P		Pn	13 21 56.3	+1.5
	comp=Z,20nm,1.5s							
KLMR	**Klimovskoe**	**22.30**	**27**	*e*P		**P**	**13 22 05.2**	**-1.4**
KLMR				pmax	pmax			
	comp=Z,37nm,1.1s							
ARCES	**ARCESS Array B**	**27.31**	**5**	P		**P**	**13 22 52.8**	**-0.9**
	comp=Z,2.1nm,0.7s,baz=185,slow=10.0,SNR=6.2							
ARCES				LR	LR		13 33 06.2	
	comp=Z,18nm,20.1s,baz=168,slow=35							
AKTO	**Aktyubinsk**	**28.03**	**60**	P		**P**	**13 22 58.6**	**-1.7**
	comp=Z,0.5nm,0.3s,baz=329,slow=5.9,SNR=3.0							
AKTO				LR	LR		13 35 46.8	
	comp=Z,34nm,19.4s,baz=290,slow=40							
ARU	**Arti**	**29.01**	**47**	P		**P**	**13 23 09.0**	**0.0**
	comp=Z,2.1nm,0.3s,baz=230,slow=4.1,SNR=6.9							
ARU				LR	LR		13 35 55.8	
	comp=Z,53nm,18.3s,baz=180,slow=39							
ARU	**Arti**	**29.01**	**47**	*d* /P		**P**	**13 23 08.4**	**-0.5**
ARU							13 23 57.9	
ARU				S		**S**	**13 28 01.8**	**+2.6**
ARU				pmax	pmax			
	comp=Z,12nm,1.7s							
ABKAR	**Akbulak array**	**29.29**	**62**	*e*P		**P**	**13 23 11.2**	**-0.3**
	comp=Z,19nm,0.7s							
GEYT	**Alibeck**	**30.36**	**85**	P		**P**	**13 23 21.6**	**+0.4**
	comp=Z,4.4nm,0.6s,baz=269,slow=8.6,SNR=7.5							
TOA0	**Torodi Ar. Sit**	**32.72**	**212**	*e*P		**P**	**13 23 43.2**	**+1.2**
TORD	**Torodi Ar. Bea**	**32.72**	**212**	P		**P**	**13 23 43.5**	**+1.5**
	comp=Z,1.4nm,0.6s,baz=15,slow=8.7,SNR=9.8							
TORD				LR	LR		13 36 59.6	
	comp=Z,36nm,19.4s,baz=200,slow=36							
BRVK	**Borovoye**	**35.58**	**55**	*d* /P		**P**	**13 24 07.5**	**+1.0**
BRVK				pmax	pmax			
	comp=Z,34nm,0.6s							
BRVK	**Borovoye**	**35.58**	**55**	*i* P		**P**	**13 24 07.5**	**+1.0**
	comp=Z,34nm,0.6s							
BRVK	**Borovoye**	**35.58**	**55**	*e*P		**P**	**13 24 07.4**	**+1.0**
	comp=Z,18nm,0.6s							
KKAR	**Karatay Array**	**37.61**	**71**	*e*P		**P**	**13 24 24.6**	**+0.6**
KKAR				pmax	pmax			
	comp=Z,19nm,0.7s							
KKAR	**Karatay Array**	**37.61**	**71**	*e*P		**P**	**13 24 24.6**	**+0.6**
	comp=Z,19nm,0.7s							
KKAR	**Karatay Array**	**37.61**	**71**	*e*P		**P**	**13 24 24.6**	**+0.6**
	comp=Z,19nm,0.7s							
AAK	**Ala-Archa**	**40.53**	**70**	⇓*e*P		**P**	**13 24 50.5**	**+1.9**
AAK				pmax	pmax			
	comp=Z,6.0nm,0.8s							
AAK	**Ala-Archa**	**40.53**	**70**	*e*P		**P**	**13 24 50.5**	**+1.9**
	comp=Z,6.0nm,0.8s							
AAK	**Ala-Archa**	**40.53**	**70**	*e*P		**P**	**13 24 49.2**	**+0.6**
	comp=Z,11nm,1.5s							
FRU	**Bishkek**	**40.55**	**70**	*e*P		P	13 24 56.0	+7.4
KURK	**Kurchatov**	**41.03**	**57**	⇓*i* P		**P**	**13 24 52.3**	**-0.1**
KURK				pmax	pmax			
	comp=Z,16nm,1.7s							
KURK	**Kurchatov**	**41.03**	**57**	*i* P		**P**	**13 24 52.3**	**-0.1**
	comp=Z,16nm,1.7s							
KURK	**Kurchatov**	**41.03**	**57**	*e*P		**P**	**13 24 51.8**	**-0.5**
	comp=Z,9.6nm,1.8s							
DBIC	**Dimbokro**	**41.28**	**217**	P		**P**	**13 24 54.6**	**-0.2**
	comp=Z,4.6nm,0.8s,baz=3.2,slow=9.3,SNR=6.5							
DBIC	**Dimbokro**	**41.28**	**217**	P		**P**	**13 24 54.6**	**-0.2**
DBIC				pmax	pmax			
	comp=Z,3.0nm,0.6s							
DBIC	**Dimbokro**	**41.28**	**217**	P		**P**	**13 24 54.6**	**-0.2**
	comp=Z,3.0nm,0.6s							
KSH	**Kashi**	**42.72**	**74**	*e*P		**P**	**13 25 07.3**	**+0.8**
KSH				pP		sP	13 25 19.3	+5.6
KSH				PP		**PP**	**13 26 48.3**	**+2.8**
KSH				S		**S**	**13 31 26.5**	**-2.9**
KSH				SS		**SS**	**13 34 30.3**	**-9.5**
KSH				pmax	pmax			
	comp=Z,4.0nm,0.8s							
KSH				pmax	pmax			
	comp=Z,56nm,6.4s							
KSH				LR	LR			
	comp=Z,64nm,5.7s							
KSH				LR	LR			
	comp=Z,52nm,4.7s							
KSH				LR	LR			
	comp=Z,99nm,5.3s							
NVS	**Novosibirsk**	**42.92**	**50**	*e*P		**P**	**13 25 08.4**	**+0.6**
NVS	**Novosibirsk**	**42.92**	**50**	*e*P		**P**	**13 25 08.4**	**+0.6**
NRIK	**Noril'sk**	**43.64**	**29**	P		**P**	**13 25 13.2**	**-0.2**
	comp=Z,1.9nm,0.5s,baz=243,slow=2.3,SNR=3.3							
ZAA0	**Zalesovo Array**	**44.02**	**51**	*e*P		**P**	**13 25 16.3**	**-0.3**
ZALV	**Zalesovo Beam**	**44.02**	**51**	P		**P**	**13 25 16.7**	**+0.1**
	comp=Z,5.6nm,0.6s,baz=283,slow=8.3,SNR=26							
ZALV				LR	LR		13 45 07.4	
	comp=Z,34nm,18.3s,baz=250,slow=38							
MAKZ	**Makanchi**	**44.22**	**62**	*e*P		**P**	**13 25 18.6**	**+0.2**
MAKZ				pmax	pmax			
	comp=Z,3.0nm,0.6s							
MAKZ	**Makanchi**	**44.22**	**62**	*e*P		**P**	**13 25 18.6**	**+0.2**
	comp=Z,3.0nm,0.6s							
MAKZ	**Makanchi**	**44.22**	**62**	*e*P		**P**	**13 25 18.6**	**+0.2**
	comp=Z,2.8nm,0.6s							
MK31	**Makanchi Array**	**44.43**	**62**	*e*P		**P**	**13 25 19.4**	**-0.7**
MK31	**Makanchi Array**	**44.43**	**62**	*e*P		**P**	**13 25 19.4**	**-0.7**
MKAR	**Makanchi Array**	**44.43**	**62**	P		**P**	**13 25 21.0**	**+0.9**
	comp=Z,5.4nm,0.5s,baz=276,slow=8.0,SNR=89							
MKAR				LR	LR		13 45 02.7	
	comp=Z,26nm,18.4s,baz=252,slow=38							
MKAR	**Makanchi Array**	**44.43**	**62**	*e*P		**P**	**13 25 19.4**	**-0.7**
MKAR	**Makanchi Array**	**44.43**	**62**	*e*P		**P**	**13 25 19.4**	**-0.7**
	comp=Z,45nm,0.6s							
MK01	**Makanchi Array**	**44.45**	**62**	*e*P		**P**	**13 25 20.0**	**-0.2**
DGZ	**Jazzator, Alta**	**46.75**	**56**	*i* P		**P**	**13 25 39.3**	**+0.7**
DGZ				pmax	pmax			
	comp=Z,2.0nm,0.7s							
WMQ	**Urumqi**	**49.06**	**64**	P		**P**	**13 25 57.3**	**+0.8**
WMQ				pP		sP	13 26 10.0	+6.3
WMQ				sP		pP	13 26 14.8	+13
WMQ				pmax	pmax			
	comp=Z,12nm,0.7s							
WMQ				pmax	pmax			
	comp=Z,68nm,3.8s							
WMQ				LR	LR			
	comp=Z,32nm,18.9s							
WMQ				LR	LR			
	comp=Z,51nm,26.3s							
PYUN	**Piuthan**	**53.32**	**84**	*e*P		**P**	**13 26 28.9**	**+0.1**
	comp=Z,30nm,0.6s							
KOLN	**Koldanda**	**53.95**	**84**	*e*P		**P**	**13 26 33.2**	**-0.2**
	comp=Z,18nm,0.5s							
GKN	**Gorkha**	**54.58**	**83**	*e*P		**P**	**13 26 37.6**	**-0.3**
	comp=Z,27nm,0.7s							
DMN	**Daman**	**55.15**	**83**	*e*P		**P**	**13 26 42.0**	**-0.1**
	comp=Z,25nm,0.9s							
KKN	**Kakani**	**55.17**	**83**	*e*P		**P**	**13 26 41.9**	**-0.4**
	comp=Z,9.8nm,0.6s							
PKIN	**Phulchoki**	**55.38**	**83**	*e*P		**P**	**13 26 43.6**	**-0.2**
	comp=Z,7.0nm,0.5s							
PKI	**Pulchoki**	**55.39**	**83**	*e*P		**P**	**13 26 43.7**	**-0.3**
TLY	**Talaya**	**55.50**	**49**	*i* P		**P**	**13 26 45.8**	**+1.7**
TLY				pmax	pmax			
	comp=Z,6.0nm,0.7s							
TLY	**Talaya**	**55.50**	**49**	*i* P		**P**	**13 26 45.8**	**+1.7**
	comp=Z,6.0nm,0.7s							
GUN	**Gumba**	**55.54**	**82**	*e*P		**P**	**13 26 44.9**	**-0.2**
JIRN	**Jiri**	**55.91**	**82**	*e*P		**P**	**13 26 47.5**	**-0.3**
SONA1	**Songino Array**	**58.90**	**52**	*e*P		**P**	**13 27 07.9**	**-0.5**
SONM	**Songino Array**	**58.91**	**52**	P		**P**	**13 27 08.7**	**+0.3**
	comp=Z,4.9nm,0.8s,baz=291,slow=8.7,SNR=28							
ULN	**Ulaanbaatar**	**59.27**	**52**	⇓*i* P		**P**	**13 27 10.6**	**-0.3**
ULN				pmax	pmax			
	comp=Z,2.0nm,0.7s							
HHC	**Hu-ho-hao-te**	**65.83**	**56**	*e*P		**P**	**13 27 57.5**	**+2.7**
HHC				pmax	pmax			
	comp=Z,20nm,1.6s							
HHC				pmax	pmax			
	comp=Z,89nm,4.1s							
CHTO	**Chiang Mai**	**70.56**	**82**	*e*P		**P**	**13 28 23.4**	**-1.2**
CHTO				pmax	pmax			
	comp=Z,4.0nm,0.8s							
CHTO	**Chiang Mai**	**70.56**	**82**	*e*P		**P**	**13 28 23.4**	**-1.2**
	comp=Z,3.6nm,0.8s							
CMAR	**Chiang Mai Arr**	**70.79**	**82**	P		**P**	**13 28 25.7**	**-0.3**
	comp=Z,2.5nm,0.7s,baz=306,slow=7.5,SNR=14							
CMAR				LR	LR		14 05 47.5	
	comp=Z,9.0nm,18.9s,baz=145,slow=41							
ILAR	**Eielson Array**	**72.43**	**354**	P		**P**	**13 28 36.1**	**+1.0**
	comp=Z,0.3nm,0.6s,baz=2.7,slow=3.9,SNR=4.7							
KSAR	**Wonju Array Be**	**77.70**	**50**	P		**P**	**13 29 06.6**	**+0.6**
KSAR	**Wonju Array Be**	**77.70**	**50**	P		**P**	**13 29 06.6**	**+0.6**
KSAR	**Wonju Array Be**	**77.70**	**50**	P		**P**	**13 29 06.5**	**+0.6**
KSRS	**Korea Array**	**77.72**	**50**	P		**P**	**13 29 06.5**	**+0.5**
	comp=Z,1.6nm,0.8s,baz=328,slow=4.6,SNR=6.9							
KSRS				LR	LR		14 04 22.7	
	comp=Z,12nm,18.4s,baz=95,slow=36							
YSS	**Yuzh-Sakhalins**	**78.11**	**35**	⇑*e*P		**P**	**13 29 07.3**	**-0.8**
YSS				*e*			13 29 20.6	
YSS				pmax	pmax			
	comp=Z,10.0nm,0.8s							
YSS	**Yuzh-Sakhalins**	**78.11**	**35**	*e*PcP		**PcP**	**13 29 20.6**	**+2.9**
PDAR	**Pinedale Array**	**83.12**	**324**	P		**P**	**13 29 35.6**	**+0.2**
	comp=Z,0.7nm,0.6s,baz=68,slow=4.3,SNR=7.3							
MJAR	**Matsushiro Arr**	**83.99**	**45**	P		**P**	**13 29 39.5**	**-0.1**
	comp=Z,1.5nm,0.8s,baz=298,slow=7.9,SNR=4.6							
TXAR	**Lajitas Array**	**90.91**	**312**	P		**P**	**13 30 14.8**	**+1.5**
	comp=Z,0.9nm,0.8s,baz=57,slow=4.6,SNR=11							
CPUP	**Villa Florida**	**97.78**	**241**	LR		LR	14 14 05.6	
	comp=Z,35nm,19.1s,baz=130,slow=35							
ASAR	**Alice Springs**	**123.99**	**92**	PKP		**PKPdf**	**13 36 06.7**	**-1.1**
	comp=Z,0.2nm,0.5s,baz=324,slow=1.4,SNR=8.0							

IDC 25 13:20:31.6±6.7, 21°.07S×175°.60W, h47km±51km, mb3.8/4, mb1 4.0/5, mb1mx3.6/26, mbtmp4.1/5, ML3.7/1, Error ellipse: s-maj=124.1km s-min=29.8km az=137.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**8.00**	**28**	P	Pn	13 22 26.1	+0.7
	1.0nm,0.3s,baz=288,slow=20,SNR=3.6						
AFI				S	Sn	13 23 54.7	0.0
	0.4nm,0.3s,baz=255,slow=20,SNR=1.8						
STKA	**Stephens Creek**	**39.58**	**245**	P	P	13 27 57.6	-0.8
	0.7nm,0.5s,baz=98,slow=13,SNR=3.3						
ASAR	**Alice Springs**	**46.58**	**257**	P	P	13 28 54.8	-0.4
	2.0nm,0.7s,baz=100,slow=6.8,SNR=22						
WRA	**Warramunga Arr**	**46.75**	**262**	P	P	13 28 56.6	+0.1
	1.4nm,0.7s,baz=91,slow=8.4,SNR=29						
WRA				PcP	PcP	13 30 28.3	-1.1
	0.4nm,0.6s,baz=93,slow=3.3,SNR=3.2						
CMAR	**Chiang Mai Arr**	**92.42**	**289**	P	P	13 33 39.5	+1.6
	1.1nm,0.8s,baz=104,slow=2.8,SNR=7.1						
AKASG	**Malin Array Be**	**144.58**	**333**	PKP	PKPab	13 40 01.4	+0.1
	0.5nm,0.6s,baz=41,slow=3.8,SNR=6.6						
GERES	**GERESS Array B**	**151.31**	**347**	PKPbc	PKPab	13 40 24.3	-3.8
	0.3nm,0.4s,baz=64,slow=3.1,SNR=5.1						

*ISCJB **25** 13:39:51.7±0.9, 34°.95N±0°.07×33°.64E±0°.05, h29km±5km, Error ellipse: s-maj=11.7km s-min=6.2km az=168.6*
*CSEM **25** 13:39:51.9±0.7, 34°.93N×33°.67E, h20km, ML2.9, Error ellipse: s-maj=16.9km s-min=9.1km az=167.0*
*ISK **25** 13:39:51.0, 35°.16N×33°.98E, h11km, MD3.0*
*NIC **25** 13:39:52.6±0.1, 34°.83N×33°.66E, h30km, ML2.9*
*DDA **25** 13:39:54.2, 35°.59N×33°.16E, h7km, Md2.9*

ISC 25 13:39:51.7±1.1, 35°.01N±0°.05×33°.67E±0°.03, h32km±7km, n24, σ1s9.59/36, Cyprus region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CSS	**Mathiatis**	**0.28**	**261**	P	**Pb**	**13 39 58.8**	**-0.3**
CSS				S	**Sb**	**13 40 03.1**	**-1.0**
CSS	**Mathiatis**	**0.28**	**261**	P	**Pb**	**13 39 58.8**	**-0.3**
	baz=115						
CSS				S	**Sb**	**13 40 03.1**	**-1.0**
LFK	**Lefkose**	**0.29**	**338**	*e*PG	**Pb**	**13 39 59.0**	**-0.4**
LFK				*e*SG	**Sb**	**13 40 05.0**	**+0.5**
LFK	**Lefkose**	**0.29**	**338**	*e*Pg	**Pb**	**13 39 59.0**	**-0.4**
LFK				*e*Sg	**Sb**	**13 40 05.0**	**+0.5**
PHNC	**Paralimni**	**0.30**	**90**	P	**Pb**	**13 39 59.1**	**-0.2**
PHNC				S	**Sb**	**13 40 04.5**	**0.0**
PHNC	**Paralimni**	**0.30**	**90**	P	**Pb**	**13 39 59.1**	**-0.2**
	baz=240						
PHNC				S	**Sb**	**13 40 04.5**	**0.0**
MAMC	**Mammari**	**0.41**	**294**	P	**Pb**	**13 40 01.1**	**+0.3**
MAMC	**Mammari**	**0.41**	**294**	P	**Pb**	**13 40 01.1**	**+0.3**
	baz=132						
AKDN	**Akdeniz- K¯-br**	**0.64**	**297**	*e*PG	**Pn**	**13 40 07.6**	**+2.9**
AKDN	**Akdeniz- K¯-br**	**0.64**	**297**	*e*Pg	**Pn**	**13 40 07.6**	**+2.9**
LEF	**Lefka**	**0.65**	**280**	P	**Pb**	**13 40 04.9**	**+0.3**
LEF				S	**Sb**	**13 40 12.8**	**-0.7**
SZAC	**Souni**	**0.69**	**249**	S	**Sb**	**13 40 11.8**	**-3.0**
SZAC	**Souni**	**0.69**	**249**	S	**Sb**	**13 40 11.8**	**-3.0**
	baz=83						
AKKU	**Akkuyu-Mersin**	**1.15**	**355**	*e*PG	**Pn**	**13 40 11.7**	**0.0**
AKKU				*e*SG	**Sn**	**13 40 26.8**	**+0.3**
TEKE	**Tekeli-Mersin**	**1.22**	**338**	*e*PN	**Pb**	**13 40 14.7**	**+0.4**
IKL	**Isikli**	**1.23**	**1**	*e*PN	**Pn**	**13 40 12.8**	**0.0**
IKL	**Isikli**	**1.23**	**1**	*e*Pn	**Pn**	**13 40 12.8**	**0.0**
BOZY	**Bozyazi-Mersin**	**1.23**	**333**	*e*PN	**Pb**	**13 40 15.6**	**+1.1**
BERE	**Bereket-Mersin**	**1.39**	**345**	*e*PN	**Pb**	**13 40 16.2**	**-1.0**
TEVE	**Tevekalti-Mers**	**1.44**	**353**	*e*PN	**Pn**	**13 40 16.0**	**+0.3**
KIZK	**Mersin**	**1.52**	**15**	*e*P	**Pb**	**13 40 20.3**	**+1.0**
KIZK				*e*S	**Sn**	**13 40 33.8**	**-1.7**
KIZK	**Mersin**	**1.52**	**15**	P	**Pb**	**13 40 20.3**	**+1.0**
KIZK				S	**Sn**	**13 40 33.8**	**-1.7**
KERG	**Konya-Eregli**	**2.43**	**9**	*e*P	**Pn**	**13 40 32.1**	**+2.7**
KERG				*e*S	**Sb**	**13 41 01.5**	**-3.0**
KERG	**Konya-Eregli**	**2.43**	**9**	P	**Pn**	**13 40 32.1**	**+2.7**
KERG				S	**Sb**	**13 41 01.5**	**-3.0**

*IDC **25** 13:48:42.6±1.9, 18°.98S×168°.25E, h0km, mb3.9/7, mb1 4.1/8, mb1mx3.8/31, mbtmp3.9/8, ML4.1/1, MS3.1/7, Ms1 3.1/7, ms1mx2.9/28, Error ellipse: s-maj=51.7km s-min=21.5km az=124.0*
*ISCJB **25** 13:48:44.4±1.4, 19°.05S±0°.1×168°.1E±0°.2, h20km, mb3.9/6, MS3.2/5, Error ellipse: s-maj=34.2km s-min=10.5km az=18.2*

ISC 25 13:48:45.8±1.6, 19°.05S±0°.2×168°.2E±0°.3, h20km, n12, σ0s78/9, mb4.0/6, MS3.4/5, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**3.49**	**208**	Pn	**Pn**	**13 49 38.5**	**-0.5**
	19nm,0.3s,baz=82,slow=7.7,SNR=292						
DZM				Sn	**Sn**	**13 50 20.1**	**+0.3**
	33nm,0.3s,baz=298,slow=23,SNR=9.3						
DZM				LR	LR	13 51 01.5	
	comp=Z,213nm,18.4s,baz=24,slow=40						
AFI	**Afiamalu**	**19.86**	**78**	LR	LR	13 59 12.2	
	comp=Z,41nm,21.2s,baz=20,slow=32						
CTA	**Charters Tower**	**20.71**	**263**	P	Pn	13 53 26.6	-0.8
	1.9nm,0.8s,baz=91,slow=16,SNR=2.9						
STKA	**Stephens Creek**	**27.16**	**237**	P	**P**	**13 54 28.7**	**+0.8**
	1.1nm,0.5s,baz=70,slow=13,SNR=7.3						
STKA				LR	LR	14 03 34.1	
	comp=Z,26nm,20.3s,baz=32,slow=33						
WRA	**Warramunga Arr**	**31.91**	**263**	P	**P**	**13 55 09.4**	**-0.8**
	0.2nm,0.4s,baz=91,slow=8.7,SNR=6.8						
ASAR	**Alice Springs**	**32.23**	**256**	P	**P**	**13 55 13.2**	**+0.1**
	1.7nm,0.5s,baz=82,slow=8.3,SNR=57						
ASAR				LR	LR	14 07 35.1	
	comp=Z,22nm,18.0s,baz=110,slow=35						
MJAR	**Matsushiro Arr**	**62.07**	**333**	P	**P**	**13 59 04.5**	**-0.6**
	0.8nm,0.3s,baz=179,slow=7.1,SNR=4.6						
SONM	**Songino Array**	**86.42**	**323**	P	**P**	**14 01 28.0**	**+1.1**
	2.0nm,1.1s,baz=142,slow=7.3,SNR=7.1						
ILAR	**Eielson Array**	**90.28**	**18**	P	**P**	**14 01 44.8**	**+0.1**
	0.3nm,0.5s,baz=241,slow=4.5,SNR=7.4						
ILAR				LR	LR	14 36 12.0	
	comp=Z,15nm,19.4s,baz=275,slow=32						
INK	**Inuvik**	**96.61**	**19**	LR	LR	14 45 03.7	
	comp=Z,16nm,18.5s,baz=218,slow=35						
TXAR	**Lajitas Array**	**97.51**	**62**	LR	LR	14 38 03.6	
	comp=Z,16nm,20.2s,baz=0.0,slow=30						
GERES	**GERESS Array B**	**143.79**	**331**	PKP	**PKPdf**	**14 08 19.0**	**-0.7**
	0.2nm,0.4s,baz=37,slow=6.7,SNR=3.0						

*ISCJB **25** 13:59:05.0±0.3, 42°.57N±0°.02×18°.60E±0°.02, h7km±2km, Error ellipse: s-maj=2.8km s-min=2.3km az=21.4*
*CSEM **25** 13:59:05.6±0.1, 42°.56N×18°.63E, h2km, ML2.8/8, Error ellipse: s-maj=3.0km s-min=2.6km az=33.0*

*PDG **25** 13:59:05.7±0.5, 42°.56N×18°.65E, h6km±1km, MD2.9/7, ML2.9/12, Error ellipse: s-maj=0.6km s-min=0.8km az=0.0*
*BEO **25** 13:59:06.2±0.3, 42°.56N×18°.60E, h0km, M2.7/1*

ISC 25 13:59:05.5±1.1, 42°.56N±0°.02×18°.61E±0°.01, h0km±10km, n111, σ1s03/185, 26C-21D, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HCY	**Herceg Novi**	**0.14**	**216**	⇓*i*Pg	**Pg**	**13 59 08.0**	**-0.2**
HCY				*e*Sg	**Sg**	**13 59 10.7**	**+0.6**
HCY	**Herceg Novi**	**0.14**	**216**	⇑*i*Pg	**Pg**	**13 59 08.0**	**-0.2**
HCY				*e*Sg	**Sg**	**13 59 10.6**	**+0.5**
CEME	**Cevo**	**0.23**	**94**	⇓*i*Pg	**Pg**	**13 59 09.8**	**-0.1**
CEME				*e*Sg	**Sg**	**13 59 13.2**	**+0.4**
CEME	**Cevo**	**0.23**	**94**	⇓*i*Pg	**Pg**	**13 59 09.8**	**-0.1**
CEME				*e*Sg	**Sg**	**13 59 13.2**	**+0.4**
TREB	**Trebinje**	**0.24**	**309**	⇑*i*Pg	**Pg**	**13 59 10.5**	**+0.3**
TREB	**Trebinje**	**0.24**	**309**	⇑*i*Pg	**Pg**	**13 59 10.5**	**+0.3**
TREB				*e*Sg	**Sg**	**13 59 14.7**	**+1.4**
NKME	**Niksic**	**0.33**	**51**	⇑*i*Pg	**Pg**	**13 59 11.7**	**0.0**
NKME				*e*Sg	**Sg**	**13 59 16.2**	**+0.3**
NKME	**Niksic**	**0.33**	**51**	⇑*i*Pg	**Pg**	**13 59 11.7**	**0.0**
NKME				*e*Sg	**Sg**	**13 59 16.2**	**+0.3**
BUM	**Brajici-Budva**	**0.34**	**141**	⇓*i*Pg	**Pg**	**13 59 11.8**	**-0.1**
BUM				*e*Sg	**Sg**	**13 59 16.6**	**+0.3**
BUM	**Brajici-Budva**	**0.34**	**141**	⇓*i*Pg	**Pg**	**13 59 11.8**	**-0.1**
BUM				*e*Sg	**Sg**	**13 59 16.6**	**+0.3**
BRY	**Bratogost**	**0.34**	**351**	⇓*i*Pg	**Pg**	**13 59 12.1**	**+0.1**
BRY				*e*Sg	**Sg**	**13 59 17.8**	**+1.3**
BRY	**Bratogost**	**0.34**	**351**	⇓*i*Pg	**Pg**	**13 59 12.1**	**+0.1**
BRY				*e*Sg	**Sg**	**13 59 17.8**	**+1.3**
NKY	**Niksic**	**0.38**	**49**	⇓*i*Pg	**Pg**	**13 59 12.6**	**-0.1**
NKY				*e*Sg	**Sg**	**13 59 18.0**	**+0.4**
NKY	**Niksic**	**0.38**	**49**	⇓*i*Pg	**Pg**	**13 59 12.6**	**-0.1**
NKY				*e*Sg	**Sg**	**13 59 18.0**	**+0.4**
PDG	**Podgorica**	**0.50**	**105**	⇓*i*Pg	**Pg**	**13 59 14.2**	**-0.7**
PDG				*e*Sg	**Sg**	**13 59 21.0**	**-0.4**
PDG	**Podgorica**	**0.50**	**105**	⇑*i*P	**Pg**	**13 59 14.3**	**-0.7**
PDG				S	**Sg**	**13 59 23.0**	**+1.6**
PDG	**Podgorica**	**0.50**	**105**	⇑*i*Pg	**Pg**	**13 59 14.4**	**-0.6**
PDG				*e*Sg	**Sg**	**13 59 21.0**	**-0.4**
TTG	**Podgorica**	**0.50**	**105**	⇓*i*Pg	**Pg**	**13 59 14.4**	**-0.6**
TTG				*e*Sg	**Sg**	**13 59 22.2**	**+0.8**
DRME	**Dracevica, Mon**	**0.57**	**131**	⇓*i*Pg	**Pg**	**13 59 16.1**	**-0.3**
DRME				*e*Sg	**Sg**	**13 59 24.9**	**+1.1**
DRME	**Dracevica, Mon**	**0.57**	**131**	⇓*i*Pg	**Pg**	**13 59 16.1**	**-0.3**
DRME				*e*Sg	**Sg**	**13 59 23.9**	**+0.1**
UPM	**Unac-Piva**	**0.68**	**19**	⇓*i*Pg	**Pg**	**13 59 17.9**	**-0.5**
UPM				*e*Sg	**Sg**	**13 59 28.8**	**+1.6**
UPM	**Unac-Piva**	**0.68**	**19**	P	**Pg**	**13 59 18.1**	**-0.3**
UPM				*e*Sg	**Sg**	**13 59 28.3**	**+1.1**
STON	**Ston**	**0.74**	**295**	*i* Pg	**Pg**	**13 59 18.7**	**-0.9**
STON				Sg	**Sg**	**13 59 30.6**	**+1.4**
STON	**Ston**	**0.74**	**295**	*i* Pg	**Pg**	**13 59 18.7**	**-0.9**
STON				Sg	**Sg**	**13 59 30.5**	**+1.4**
ULC	**Ulcinj**	**0.76**	**142**	⇑*i*Pg	**Pg**	**13 59 19.3**	**-0.8**
ULC				*e*Sg	**Sg**	**13 59 30.6**	**+0.6**
ULC	**Ulcinj**	**0.76**	**142**	⇑*i*Pg	**Pg**	**13 59 19.3**	**-0.8**
ULC	**Ulcinj**	**0.76**	**142**	P	**Pg**	**13 59 19.7**	**-0.4**
ULC				*e*Sg	**Sg**	**13 59 30.6**	**+0.6**
PLE	**Pljevlja**	**0.96**	**37**	⇑*i*Pg	**Pg**	**13 59 23.7**	**-0.1**
PLE				*e*Sg	**Sg**	**13 59 37.6**	**-0.6**
PLE	**Pljevlja**	**0.96**	**37**	⇑*i*Pg	**Pg**	**13 59 23.7**	**-0.1**
PLE				*e*Sg	**Sb**	**13 59 37.6**	**-0.6**
BEY	**Berane**	**1.00**	**72**	⇑*i*Pg	**Pg**	**13 59 23.5**	**-1.1**
BEY	**Berane**	**1.00**	**72**	P	**Pg**	**13 59 25.0**	**+0.4**
BEY				*e*Sg	**Sg**	**13

	1.5nm,0.3s							
SOKA				Sn		**Sn**	**14 01 16.1**	**-0.3**
	0.7nm,0.3s							
OBKA	**Obir**	**4.90**	**325**	*e*Pn		**Pn**	**14 00 19.8**	**-0.6**
	0.1nm,0.1s							
OBKA				*e*Sn		**Sn**	**14 01 19.3**	**+1.5**
	5.0nm,0.4s							
OBKA	**Obir**	**4.90**	**325**	Pn		**Pn**	**14 00 19.8**	**-0.6**
	0.1nm,0.1s							
OBKA				Sn		**Sn**	**14 01 19.3**	**+1.5**
	5.0nm,0.4s							
DRGR		**5.14**	**33⇑**	*i*P		**Pn**	**14 00 24.0**	**+0.3**
DRGR		**5.14**	**33⇑**	*i*P		**Pn**	**14 00 24.0**	**+0.3**
DRGR				S		**Sn**	**14 01 22.7**	**-1.0**
ARSA	**Arzberg**	**5.17**	**336**	*e*Pn		**Pn**	**14 00 25.0**	**+0.9**
	0.1nm,0.1s							
ARSA				*e*Sn		**Sn**	**14 01 24.0**	**-0.5**
	0.3nm,0.1s							
ARSA	**Arzberg**	**5.17**	**336**	Pn		**Pn**	**14 00 25.0**	**+0.9**
	0.1nm,0.1s							
ARSA				Sn		**Sn**	**14 01 24.0**	**-0.5**
	0.3nm,0.1s							
VOIR		**5.46**	**56⇑**	*i*P		**Pn**	**14 00 28.1**	**0.0**
VOIR		**5.46**	**56⇑**	*i*P		**Pn**	**14 00 28.1**	**0.0**
KBA	**Koelnbreinsper**	**5.86**	**322**	*e*Pn		**Pn**	**14 00 33.8**	**+0.1**
	0.5nm,0.0s							
KBA				*i* Sn		**Sn**	**14 01 42.9**	**+1.2**
	0.2nm,0.1s							
KBA	**Koelnbreinsper**	**5.86**	**322**	Pn		**Pn**	**14 00 33.8**	**+0.1**
	0.5nm,0.0s							
KBA				Sn		**Sn**	**14 01 42.9**	**+1.2**
	0.2nm,0.1s							
VYHS	**Vyhne**	**5.93**	**1**	*e*Pn		**Pn**	**14 00 37.3**	**+2.8**
VYHS				*e*Sn		**Sn**	**14 01 43.0**	**-0.2**
VYHS	**Vyhne**	**5.93**	**1**	*e*PN		**Pn**	**14 00 37.3**	**+2.8**
VYHS				*e*SN		**Sn**	**14 01 43.0**	**-0.2**
KECS	**Kecovo**	**6.07**	**12**	*e*Sn		**Sn**	**14 01 44.8**	**-1.6**
KECS	**Kecovo**	**6.07**	**12**	*e*SN		**Sn**	**14 01 44.8**	**-1.6**
MOA	**Molln**	**6.11**	**331**	*e*Pn		**Pn**	**14 00 35.8**	**-1.2**
	0.1nm,0.1s							
MOA				*e*Sn		**Sn**	**14 01 49.3**	**+1.7**
	0.2nm,0.1s							
MOA	**Molln**	**6.11**	**331**	Pn		**Pn**	**14 00 35.8**	**-1.2**
	0.1nm,0.1s							
MOA				Sn		**Sn**	**14 01 49.3**	**+1.7**
	0.2nm,0.1s							
WATA	**Walderalm**	**6.90**	**316**	*i* Sn		**Sn**	**14 02 07.9**	**+0.7**
	0.4nm,0.2s							
WATA	**Walderalm**	**6.90**	**316**	Sn		**Sn**	**14 02 07.9**	**+0.7**
	0.4nm,0.2s							
MOTA	**Moosalm**	**7.15**	**314**	*i* Pn		**Pn**	**14 00 51.8**	**+0.4**
	0.4nm,0.2s							
MOTA				*i* Sn		**Sn**	**14 02 13.9**	**+0.5**
	2.4nm,0.5s							
MOTA	**Moosalm**	**7.15**	**314**	Pn		**Pn**	**14 00 51.8**	**+0.4**
	0.4nm,0.2s							
MOTA				Sn		**Sn**	**14 02 13.9**	**+0.5**
	2.4nm,0.5s							
FETA	**Feichten**	**7.16**	**311**	*e*Sn		**Sn**	**14 02 15.2**	**+1.6**
	0.7nm,0.4s							
FETA	**Feichten**	**7.16**	**311**	Sn		**Sn**	**14 02 15.2**	**+1.6**
	0.7nm,0.4s							

IDC 25 14:00:17.5±1.4, 10°08′N×145°17′E, h0km, mb3.4/4, mb1 3.7/4, mb1mx3.5/30, mbtmp3.4/4, Error ellipse: s-maj=61.2km s-min=24.2km az=99.0, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GUMO	**Guam**	**3.50**	**355**	Pn	Pb	14 01 16.9	-3.4
	0.9nm,0.3s,baz=204,slow=20,SNR=1.7						
GUMO				Sn	Sg	14 02 10.5	+0.6
	2.1nm,0.3s,baz=8.7,slow=19,SNR=3.5						
WRA	**Warramunga Arr**	**31.69**	**200**	P	P	14 06 42.9	-0.1
	0.5nm,0.8s,baz=16,slow=9.5,SNR=3.6						
ASAR	**Alice Springs**	**35.31**	**198**	P	P	14 07 14.3	-0.2
	0.2nm,0.5s,baz=20,slow=12,SNR=9.1						
MKAR	**Makanchi Array**	**64.22**	**317**	P	P	14 10 55.0	+0.6
	0.4nm,0.8s,baz=108,slow=4.7,SNR=2.3						
ILAR	**Eielson Array**	**71.60**	**25**	P	P	14 11 39.9	-0.6
	0.3nm,0.6s,baz=251,slow=5.2,SNR=5.9						

*IDC **25** 14:23:44.6±4.8, 51°.28N×93°.58E, h0km, mb3.8/2, mb1 3.7/4, mb1mx3.3/51, mbtmp3.6/4, ML2.9/2, MS2.6/2, Ms1 2.6/2, ms1mx2.1/41, Error ellipse: s-maj=79.4km s-min=23.3km az=120.0*

*ISCJB **25** 14:23:47.6±1.2, 51°.13N±0°.09×93°.4E±0°.1, h10km, mb3.8/2, MS2.5/2, Error ellipse: s-maj=16.0km s-min=7.6km az=138.5*

*MOS **25** 14:23:48.0±1.5, 51°.11N×93°.35E, h20km, mb4.1/2, Error ellipse: s-maj=12.3km s-min=8.8km az=118.7*

ISC 25 14:23:48.1±1.1, 51°.21N±0°.08×93°.31E±0°.07, h10km, n25, σ1s90/21, 2C, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KZLR	**Kyzyl**	**0.87**	**55**	*i* PG	**Pg**	**14 24 05.1**	**+0.2**
KZLR				*e*		14 24 17.0	
BLRR	**Bol'shaya Rech**	**1.91**	**344**	*c i*PN	**Pn**	**14 24 22.3**	**+1.5**
CERR	**Cheremushki**	**2.02**	**325**	*e*PN	**Pn**	**14 24 24.2**	**+1.9**
CERR				*e*		14 24 50.6	
TBTR	**Tabat**	**2.35**	**318**	*c i*PN	**Pn**	**14 24 28.3**	**+1.5**
TBTR				*i*		14 24 57.1	
VEH	**Verkhnyaya Baz**	**2.75**	**319**	*i* PN	**Pn**	**14 24 34.1**	**+1.7**
VEH				*e*		14 24 38.7	
VEH				*e*		14 25 13.4	
TASR	**Tashtagol**	**3.70**	**297**	*e*PN	**Pn**	**14 24 46.7**	**+1.4**
TASR				*e*		14 24 54.4	
TASR				*e*		14 25 42.2	
AKAR	**Aktash**	**3.72**	**258**	*e*PN	**Pn**	**14 24 47.2**	**+1.5**
AKAR				*e*		14 24 55.2	
AKAR				*e*		14 25 41.1	
MINR	**Mina**	**3.73**	**8**	*e*PN	**Pn**	**14 24 49.2**	**+3.4**
MINR				*e*		14 24 56.5	
MINR				*e*		14 25 45.5	
ARTR	**Artybash**	**3.81**	**281**	*i* PN	**Pn**	**14 24 47.0**	**+0.1**
ARTR				*e*		14 24 55.7	
ARTR				*e*		14 25 44.6	
ORY	**Orie**	**3.95**	**15**	*i* PN	**Pb**	**14 24 57.7**	**-0.1**
ORY				*i*		14 25 48.6	
ORY				pmax	pmax		
	comp=Z,20nm,1.4s						
ORY				smax	smax		
	comp=Z,24nm,1.4s						
DGZ	**Jazzator, Alta**	**4.05**	**250**	*i* PN	**Pn**	**14 24 51.6**	**+1.3**
ELDR	**Elanda**	**4.54**	**273**	*e*PN	**Pn**	**14 24 59.2**	**+2.3**
ELDR				*e*		14 25 11.3	
ELDR				*e*		14 26 11.8	
ELT	**Eltsovka**	**4.81**	**298**	*e*PN	**Pn**	**14 25 00.8**	**+0.3**
ELT				*e*		14 26 16.0	
KTNR	**Kaitanak**	**5.10**	**261**	*e*PN	**Pn**	**14 25 06.7**	**+2.1**
KTNR				*e*		14 25 21.3	
KTNR				*e*		14 26 26.0	
BRCR	**Berchikul'**	**5.35**	**328**	*i* PN	**Pn**	**14 25 09.6**	**+1.7**
BRCR				*e*		14 26 32.8	
UKR	**Ust'-Kan**	**5.39**	**270**	*e*PN	**Pn**	**14 25 12.2**	**+3.6**
UKR				*e*		14 25 24.3	
UKR				*e*		14 26 36.7	
ZALV	**Zalesovo Beam**	**5.86**	**301**	Pn	**Pn**	**14 25 14.7**	**-0.3**
	comp=Z,1.0nm,0.3s,baz=118,slow=13,SNR=12						
ZALV				Lg	Lg	14 26 46.5	
	comp=Z,1.7nm,0.3s,baz=115,slow=26,SNR=9.4						
TLY	**Talaya**	**6.48**	**82**	Pg	**Pb**	**14 25 40.2**	**-0.7**
	comp=Z,0.0nm,0.3s,baz=312,slow=12,SNR=2.0						
TLY				Lg	Lg	14 27 06.9	
	comp=Z,0.0nm,0.3s,baz=15,slow=15,SNR=5.4						
NVS	**Novosibirsk**	**7.08**	**305**	*e*P*	Pb	14 25 57.6	+6.5
NVS				*e*		14 27 25.3	
MKAR	**Makanchi Array**	**8.48**	**243**	Pn	**Pn**	**14 25 52.2**	**+1.1**
	comp=Z,0.3nm,0.3s,baz=56,slow=14,SNR=54						
MKAR				Lg	Lg	14 28 16.2	
	comp=Z,0.3nm,0.3s,baz=60,slow=29,SNR=6.0						
SONM	**Songino Array**	**9.15**	**107**	Lg	Lg	14 28 35.5	
	comp=Z,0.4nm,0.3s,baz=291,slow=29,SNR=10						
KURBB	**Kurchatov Arra**	**9.36**	**272**	Lg	Lg	14 28 42.2	
	comp=Z,0.1nm,0.3s,baz=85,slow=33,SNR=5.7						
ARU	**Arti**	**21.01**	**298**	LR	LR	14 37 39.1	
	comp=Z,18nm,18.4s,baz=179,slow=40						
FINES	**FINESS Array B**	**36.99**	**313**	P	**P**	**14 30 56.1**	**-1.1**
	comp=Z,2.6nm,1.0s,baz=70,slow=12,SNR=4.7						
NOA	**NORSAR Array B**	**43.85**	**316**	P	**P**	**14 31 51.2**	**-2.8**
	comp=Z,0.9nm,0.8s,baz=62,slow=8.2,SNR=3.3						
NOA				LR	LR	14 50 03.4	
	comp=Z,6.1nm,19.5s,baz=210,slow=36						

IDC 25 14:24:20.5±3.7, 11°.19S×119°.34E, h0km, mb3.6/1, mb1 3.3/3, mb1mx3.1/39, mbtmp3.2/3, ML2.7/2, Error ellipse: s-maj=270.0km s-min=31.1km az=48.0, South of Sumba

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**16.86**	**123**	Pn	Pn	14 28 16.7	-1.4
	0.0nm,0.3s,baz=292,slow=12,SNR=2.9						
WRA				Sn	Sn	14 31 13.4	-13
	0.1nm,0.3s,baz=304,slow=14,SNR=4.5						
ASAR	**Alice Springs**	**18.61**	**134**	P	Pn	14 28 40.5	+0.7
	0.0nm,0.3s,baz=312,slow=14,SNR=4.2						
ASAR				S	Sn	14 31 55.4	-13
	0.1nm,0.3s,baz=308,slow=23,SNR=4.4						
MKAR	**Makanchi Array**	**66.55**	**333**	P	P	14 35 12.3	0.0
	0.3nm,0.4s,baz=146,slow=6.7,SNR=5.4						

*IDC **25** 14:32:15.6±1.0, 4°.53S×132°.61E, h0km, mb3.9/6, mb1 4.0/9, mb1mx3.8/40, mbtmp3.9/9, ML4.0/3, Error ellipse: s-maj=55.0km s-min=16.3km az=67.0*

*NEIC **25** 14:32:16.5±0.8, 4°.45S×132°.70E, h10km, mb4.4/3, Error ellipse: s-maj=23.0km s-min=10.7km az=76.0*

ISC 25 14:32:18.8±0.7, 4°.59S±0°.06×132°.7E±0°.1, h35km, n21, σ3s05/24, mb3.8/6, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FAKI	**Fak Fak**	**1.72**	**344**	*e*Pn	**Pn**	**14 32 42.5**	**-3.7**
SIJI	**Sorong**	**3.96**	**339**	Pn	**Pn**	**14 33 14.4**	**-2.8**
	30nm,0.3s,baz=182,slow=6.3,SNR=2.7						
SIJI				Sn	Sn	14 33 51.4	-11
	22nm,0.3s,baz=263,slow=19,SNR=3.1						
MTN	**Manton Dam**	**8.35**	**191**	*e*Pn	**Pn**	**14 34 20.6**	**+3.2**
MTN				*e*Sn	**Sn**	**14 35 55.2**	**+4.7**
COEN	**Coen**	**13.90**	**133**	*e*Pn	**Pn**	**14 35 31.7**	**-1.7**
FITZ	**Fitzroy Crossi**	**15.11**	**207**	Pn	**Pn**	**14 35 50.1**	**+0.3**
	0.5nm,0.3s,baz=29,slow=10.0,SNR=17						
FITZ				Sn	**Sn**	**14 38 31.4**	**-4.6**
	0.5nm,0.3s,baz=173,slow=11,SNR=4.5						
FITZ	**Fitzroy Crossi**	**15.11**	**207**	*e*Pn	**P**	**14 35 51.1**	**-3.4**
	30nm,2.0s						
FITZ				*e*Sn	**Sn**	**14 38 32.0**	**-4.1**
WRAB	**Tennant Creek**	**15.34**	**174**	*e*Pn	**Pn**	**14 35 51.5**	**-1.2**
	4.2nm,0.6s						
WRAB				*e*Sn	**Sn**	**14 38 37.9**	**-3.7**
WRA	**Warramunga Arr**	**15.35**	**174**	Pn	**Pn**	**14 35 51.5**	**-1.4**
	0.3nm,0.3s,baz=355,slow=14,SNR=23						
WRA				Sn	**Sn**	**14 38 37.7**	**-4.1**
	0.6nm,0.3s,baz=360,slow=23,SNR=7.0						
WB2	**Warramunga Arr**	**15.35**	**174**	*e*Pn	**Pn**	**14 35 50.8**	**-2.1**
ASAR	**Alice Springs**	**19.00**	**177**	P	**Pn**	**14 36 38.1**	**-0.5**
	0.1nm,0.3s,baz=18,slow=14,SNR=8.8						
ASAR				Sn	**Sn**	**14 40 05.8**	**-4.7**
	0.2nm,0.3s,baz=360,slow=28,SNR=7.5						
AS01	**Alice Springs**	**19.00**	**177**	*e*P	**P**	**14 36 37.8**	**+0.1**
CTA	**Charters Tower**	**20.28**	**141**	P	Pn	14 36 53.5	-0.2
	7.9nm,0.6s,baz=316,slow=12,SNR=16						
CTAO	**Charters Tower**	**20.28**	**141**	*e*Pn	Pn	14 36 55.0	+1.3
	46nm,0.6s						
MBWA	**Marble Bar**	**20.74**	**216**	*e*Pn	Pn	14 36 59.3	+0.2
STKA	**Stephens Creek**	**28.40**	**164**	P	**P**	**14 38 12.9**	**+2.8**
	0.8nm,0.3s,baz=346,slow=6.6,SNR=8.1						
CMAR	**Chiang Mai Arr**	**40.40**	**306**	P	**P**	**14 39 55.2**	**+1.4**
	0.6nm,0.5s,baz=148,slow=7.8,SNR=4.8						
SONM	**Songino Array**	**57.09**	**339**	P	**P**	**14 42 04.0**	**+2.2**
	0.3nm,0.5s,baz=150,slow=6.0,SNR=2.7						
WMQ	**Urumqi**	**62.92**	**325**	P	**P**	**14 42 40.3**	**-1.5**
WMQ				pP	pP	14 42 52.5	0.0
WMQ				pmax	pmax		
	comp=Z,11nm,0.7s						
WMQ				pmax	pmax		
	comp=Z,78nm,3.9s						
WMQ				LR	LR		
	comp=N,25nm,16.3s						
WMQ				LR	LR		
	comp=E,33nm,24.5s						
WMQ				LR	LR		
	comp=Z,14nm,16.3s						
MKAR	**Makanchi Array**	**67.75**	**325**	P	**P**	**14 43 13.7**	**+0.7**
	comp=Z,0.8nm,0.6s,baz=111,slow=8.6,SNR=9.5						
VNDA	**Vanda**	**74.52**	**174**	P	**P**	**14 43 56.6**	**+3.3**
	comp=Z,0.7nm,0.8s,baz=320,slow=7.5,SNR=3.6						
CPUP	**Villa Florida**	**147.76**	**163**	PKPbc	**PKPab**	**14 52 03.5**	**+0.5**
	comp=Z,1.0nm,0.8s,baz=297,slow=4.5,SNR=4.2						

*CSEM **25** 14:33:37.5±0.2, 39°.71N×38°.65E, h5km, MD2.7, Error ellipse: s-maj=5.8km s-min=4.8km az=102.0*

*ISK **25** 14:33:37.3, 39°.71N×38°.66E, h9km, MD2.7*

*DDA **25** 14:33:38.2, 39°.67N×38°.73E, h7km, Md2.7*

ISC 25 14:33:37.6±1.2, 39°.71N±0°.03×38°.66E±0°.03, h7km±10km, n19, σ0s72/29, Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
REFA	**Refahiye_ERZ˜**	**0.33**	**165**	*i* P	**Pg**	**14 33 43.7**	**-0.4**
REFA	**Refahiye_ERZ˜**	**0.33**	**165**	P	**Pg**	**14 33 43.7**	**-0.4**
KEMA	**Kemaliye**	**0.46**	**196**	*i* P	**Pg**	**14 33 46.2**	**-0.3**
KEMA				*i* S	**Sg**	**14 33 53.6**	**+1.0**
KEMA	**Kemaliye**	**0.46**	**196**	P	**Pg**	**14 33 46.2**	**-0.3**
KEMA				S	**Sg**	**14 33 53.6**	**+1.0**
KELT	**Kelkit**	**0.63**	**46**	*i* P	**Pg**	**14 33 49.9**	**0.0**
KELT				*i* S	**Sb**	**14 33 50.0**	**-0.4**
KELT	**Kelkit**	**0.63**	**46**	P	**Pg**	**14 33 49.9**	**0.0**
KELT				S	**Sb**	**14 34 00.0**	**-0.4**
CUZAR	**Zara_SIVAS**	**0.70**	**285**	*i* P	**Pg**	**14 33 50.3**	**-0.9**
CUZAR	**Zara_SIVAS**	**0.70**	**285**	P	**Pg**	**14 33 50.3**	**-0.9**
ERZN	**Erzincan**	**0.83**	**98**	*e*PG	**Pb**	**14 33 53.9**	**-0.6**
ERZN				*e*SG	**Sb**	**14 34 05.7**	**-0.3**
GUMT	**Gumushane**	**0.98**	**40**	*e*PG	**Pg**	**14 33 56.5**	**+0.2**
GUMT	**Gumushane**	**0.98**	**40**	*e*Pg	**Pg**	**14 33 56.6**	**+0.2**
PTK	**Pertek**	**1.00**	**145**	*e*PG	**Pg**	**14 33 56.8**	**0.0**
PTK				*e*SG	**Sb**	**14 34 11.2**	**+0.3**
PTK	**Pertek**	**1.00**	**145**	*e*Pg	**Pg**	**14 33 56.8**	**0.0**
PTK				*e*Sg	**Sb**	**14 34 11.2**	**+0.3**
CUKAN	**kangal_SIVAS**	**1.00**	**247**	*i* P	**Pn**	**14 33 58.5**	**+0.2**
CUKAN				*i* S	**Sn**	**14 34 15.2**	**+2.4**
CUKAN	**kangal_SIVAS**	**1.00**	**247**	P	**Pn**	**14 33 58.5**	**+0.2**
RSDY	**Resadiye-TOKAT**	**1.23**	**304**	*e*PN	**Pn**	**14 34 01.3**	**0.0**
RSDY	**Resadiye-TOKAT**	**1.23**	**304**	*e*Pn	**Pn**	**14 34 01.3**	**0.0**
ELZG	**Elazig**	**1.24**	**168**	*i* P	**Pg**	**14 34 00.9**	**-0.5**
ELZG				*i* S	**Sn**	**14 34 17.9**	**-0.8**
ELZG	**Elazig**	**1.24**	**168**	P	**Pg**	**14 34 00.9**	**-0.5**
ELZG				S	**Sn**	**14 34 17.9**	**-0.8**

*ISCJB **25** 14:40:08.8±0.4, 39°.70N±0°.02×26°.09E±0°.04, h10km±4km, Error ellipse: s-maj=5.4km s-min=3.4km az=173.4*

*ATH **25** 14:40:08.2, 39°.69N×26°.09E, h28km±1km, ML1.9/3, Error ellipse: s-maj=3.2km s-min=0.9km az=254.0*

*CSEM **25** 14:40:08.9±0.1, 39°.70N×26°.10E, h15km, MD2.6, Error ellipse: s-maj=2.0km s-min=1.2km az=91.0*

*ISK **25** 14:40:08.2, 39°.69N×26°.11E, h16km, MD2.6*

*DDA **25** 14:40:09.5, 39°.74N×26°.19E, h8km, Md2.5*

ISC 25 14:40:08.8±0.8, 39°.70N±0°.02×26°.11E±0°.02, h16km±5km, n46, σ0s22/66, Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BOZC	**Bozcaada**	**0.15**	**344**	*e*PG	**Pg**	**14 40 12.9**	**+0.1**
BOZC				*e*SG	**Sg**	**14 40 15.6**	**+0.1**
BOZC	**Bozcaada**	**0.15**	**344**	*i* P	**Pg**	**14 40 12.9**	**+0.1**
BOZC				*i* S	**Sg**	**14 40 15.4**	**-0.1**
BOZC	**Bozcaada**	**0.15**	**344**	*e*Pg	**Pg**	**14 40 12.9**	**+0.1**
BOZC				*e*Sg	**Sg**	**14 40 15.6**	**+0.1**
EZN	**Ezine**	**0.21**	**53**	*e*PG	**Pg**	**14 40 13.5**	**-0.2**
EZN				*e*SG	**Sg**	**14 40 17.0**	**-0.1**
EZN	**Ezine**	**0.21**	**53**	*e*Pg	**Pg**	**14 40 13.5**	**-0.2**
EZN				*e*Sg	**Sg**	**14 40 17.0**	**-0.1**
PRK	**Paraskevi**	**0.47**	**164**	P	**Pb**	**14 40 18.8**	**+0.1**
PRK				S	**Sg**	**14 40 25.1**	**+0.5**
PRK	**Paraskevi**	**0.47**	**164**	P	**Pb**	**14 40 18.8**	**+0.1**
PRK				S	**Sg**	**14 40 25.1**	**+0.5**
PRK				AML	AML	14 40 26.1	
	comp=E,282μm,0.2s						
PRK				AML	AML	14 40 27.0	
	comp=N,183μm,0.3s						
GADA	**Gvkgeada**	**0.52**	**342**	*e*PG	**Pg**	**14 40 18.9**	**-0.2**
GADA	**Gvkgeada**	**0.52**	**342**	*e*Pg	**Pg**	**14 40 18.9**	**-0.2**
SIGR	**SIGRI**	**0.53**	**202**	*e*PG	**Pg**	**14 40 18.9**	**-0.3**
SIGR				*e*SG	**Sg**	**14 40 26.4**	**+0.1**
SIGR	**SIGRI**	**0.53**	**202**	*e*Pg	**Pg**	**14 40 18.9**	**-0.3**
SIGR	**SIGRI**	**0.53**	**202**	P	**Pg**	**14 40 19.2**	**0.0**
SIGR				S	**Sg**	**14 40 26.1**	**-0.2**
SIGR	**SIGRI**	**0.53**	**202**	P	**Pg**	**14 40 19.2**	**0.0**
SIGR				S	**Sg**	**14 40 26.1**	**-0.2**
SIGR				AML	AML	14 40 27.3	
	comp=N,1653μm,0.4s						
SIGR				AML	AML	14 40 29.2	
	comp=E,644μm,0.2s						
AYVA	**Ayvalik**	**0.60**	**131**	*i* P	**Pn**	**14 40 22.6**	**0.0**
AYVA				*i* S	**Sb**	**14 40 29.1**	**+0.1**
AYVA	**Ayvalik**	**0.60**	**131**	P	**Pn**	**14 40 22.6**	**0.0**
AYVA				S	**Sb**	**14 40 29.1**	**+0.1**
LIA	**Limnos Island**	**0.74**	**286**	P	**Pb**	**14 40 23.5**	**+0.2**
LIA	**Limnos Island**	**0.74**	**286**	P	**Pb**	**14 40 23.5**	**+0.2**
GELI	**Tayfur-Gelibol**	**0.75**	**22**	*e*PG	**Pg**	**14 40 23.3**	**-0.2**
GELI	**Tayfur-Gelibol**	**0.75**	**22**	*e*Pg	**Pg**	**14 40 23.3**	**-0.2**
LPK	**Lapseki**	**0.84**	**37**	*e*PG	**Pg**	**14 40 25.1**	**0.0**
LPK	**Lapseki**	**0.84**	**37**	*e*Pg	**Pg**	**14 40 25.1**	**0.0**
DKL	**Dikili**	**0.88**	**135**	*e*PG	**Pb**	**14 40 25.7**	**0.0**
DKL	**Dikili**	**0.88**	**135**	*e*Pg	**Pb**	**14 40 25.7**	**0.0**
SMTH	**Samothraki Isl**	**0.89**	**330**	P	**Pb**	**14 40 26.0**	**+0.2**
SMTH				S	**Sg**	**14 40 38.1**	**+0.3**
SMTH	**Samothraki Isl**	**0.89**	**330**	P	**Pb**	**14 40 26.0**	**+0.2**
SMTH				S	**Sg**	**14 40 38.1**	**+0.3**
SMTH				AML	AML	14 40 39.1	
	comp=N,141μm,0.2s						
SMTH				AML	AML	14 40 39.2	
	comp=E,115μm,0.2s						
ERIK	**Erikli-Kesan**	**1.02**	**18**	*e*PG	**Pb**	**14 40 28.2**	**+0.2**
ERIK	**Erikli-Kesan**	**1.02**	**18**	*e*Pg	**Pb**	**14 40 28.2**	**+0.2**
ENEZ	**Enez**	**1.04**	**2**	*e*PG	**Pg**	**14 40 29.1**	**+0.2**
ENEZ	**Enez**	**1.04**	**2**	*e*Pg	**Pg**	**14 40 29.1**	**+0.2**
KRBG	**Karabiga-Canak**	**1.15**	**53**	*e*PN	**Pb**	**14 40 30.2**	**0.0**
KRBG	**Karabiga-Canak**	**1.15**	**53**	*e*Pn	**Pb**	**14 40 30.2**	**0.0**
BALY	**Balya**	**1.17**	**88**	*i* P	**Pg**	**14 40 31.2**	**-0.2**
BALY				*i* S	**Sg**	**14 40 47.3**	**+0.6**
BALY	**Balya**	**1.17**	**88**	P	**Pg**	**14 40 31.2**	**-0.2**
BALY				S	**Sg**	**14 40 47.3**	**+0.6**
ALN	**Alexandroupoli**	**1.20**	**358**	*e*PN	**Pb**	**14 40 31.1**	**0.0**
ALN	**Alexandroupoli**	**1.20**	**358**	P	**Pn**	**14 40 30.7**	**-0.1**
ALN	**Alexandroupoli**	**1.20**	**358**	*e*Pn	**Pb**	**14 40 31.1**	**0.0**
ALN				S	**Sg**	**14 40 47.2**	**-0.3**
ALN	**Alexandroupoli**	**1.20**	**358**	P	**Pn**	**14 40 30.7**	**-0.1**
ALN				S	**Sg**	**14 40 47.2**	**-0.3**
KESN	**Edirne-Kesan**	**1.21**	**21**	*i* P	**Pg**	**14 40 31.9**	**-0.3**
KESN				*i* S	**Sb**	**14 40 47.0**	**0.0**
KESN	**Edirne-Kesan**	**1.21**	**21**	P	**Pg**	**14 40 31.9**	**-0.3**
KESN				S	**Sb**	**14 40 47.0**	**0.0**
CHOS	**Chios island**	**1.31**	**182**	*e*PN	**Pn**	**14 40 32.3**	**-0.2**
CHOS	**Chios island**	**1.31**	**182**	P	**Pn**	**14 40 32.4**	**-0.1**
CHOS	**Chios island**	**1.31**	**182**	P	**Pn**	**14 40 32.4**	**-0.1**
URLA	**Izmir**	**1.39**	**164**	*i* P	**Pb**	**14 40 34.4**	**0.0**
URLA	**Izmir**	**1.39**	**164**	P	**Pb**	**14 40 34.4**	**0.0**
MRMT	**Marmara Adasi**	**1.46**	**51**	*e*PN	**Pn**	**14 40 34.4**	**-0.1**
MRMT	**Marmara Adasi**	**1.46**	**51**	*e*Pn	**Pn**	**14 40 34.4**	**-0.1**

IDC 25 14:54:39.0±2.0, 4°.50N×123°.66E, h0km, mb3.6/4, mb1 3.7/4, mb1mx3.3/44, mbtmp3.6/4, Error ellipse: s-maj=290.0km s-min=20.8km az=64.0, Celebes Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**26.46**	**157**	P	P	15 00 18.2	+0.2
	0.2nm,0.3s,baz=336,slow=9.6,SNR=6.3						
ASAR	**Alice Springs**	**29.72**	**161**	P	P	15 00 47.0	-0.2
	0.1nm,0.4s,baz=336,slow=7.3,SNR=9.7						
MKAR	**Makanchi Array**	**55.20**	**326**	P	P	15 04 14.3	+0.5
	0.7nm,0.3s,baz=122,slow=7.6,SNR=17						
KURBB	**Kurchatov Arra**	**59.47**	**328**	P	P	15 04 43.0	-0.7
	0.5nm,0.5s,baz=137,slow=6.2,SNR=6.4						

*ISCJB **25** 14:58:25.7±1.2, 14°.5S±0°.4×175°.3W±0°.1, h16km, mb4.0/3, MS3.5/7, Error ellipse: s-maj=56.1km s-min=9.5km az=165.9*

*IDC **25** 14:58:25.6±1.7, 14°.56S×175°.35W, h0km, mb3.8/3, mb1 4.0/4, mb1mx3.7/32, mbtmp3.8

CTA	**Charters Tower**	**15.71**	**182**	P	P	15 03 40.4 +1.1
	0.2nm,0.3s,baz=23,slow=15,SNR=3.5					
WRA	**Warramunga Arr**	**19.74**	**217**	P	P	15 04 23.3 -0.3
	0.3nm,0.3s,baz=32,slow=10,SNR=16					
ASAR	**Alice Springs**	**22.94**	**212**	P	P	15 04 56.9 -0.4
	0.3nm,0.4s,baz=37,slow=7.9,SNR=17					
FITZ	**Fitzroy Crossi**	**24.85**	**235**	P	P	15 05 16.4 +1.7
	3.5nm,0.5s,baz=48,slow=10,SNR=21					
STKA	**Stephens Creek**	**27.87**	**190**	P	P	15 05 40.3 -1.5
	1.9nm,1.0s,baz=340,slow=12,SNR=2.7					

*DDA **25** 15:00:35.0,39.˚66N×38.˚69E,h9km,Md2.8*
*CSEM **25** 15:00:35.5±0.2,39.˚65N×38.˚70E,h2km,MD2.8,Error ellipse: s-maj=3.9km s-min=3.5km az=174.0*
*ISK **25** 15:00:35.6,39.˚66N×38.˚72E,h6km,MD2.7,ML2.6*
ISC 25 15:00:35.5±1.1,39.˚66N±0.˚02×38.˚70E±0.˚02,h6km±11km, n35,σ0ˢ59/52,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
REFA	**Refahiye_ERZ˜**	**0.27**	**169**	*i* P	**Pg**	**15 00 40.5**	**-0.3**
REFA				*i* S	**Sg**	**15 00 44.8**	**+0.5**
REFA	**Refahiye_ERZ˜**	**0.27**	**169**	P	**Pg**	**15 00 40.5**	**-0.3**
REFA				S	**Sg**	**15 00 44.8**	**+0.5**
KEMA	**Kemaliye**	**0.42**	**202**	*i* P	**Pg**	**15 00 43.4**	**-0.2**
KEMA				*i* S	**Sg**	**15 00 50.0**	**+0.9**
KEMA	**Kemaliye**	**0.42**	**202**	P	**Pg**	**15 00 43.4**	**-0.2**
KEMA				S	**Sg**	**15 00 50.0**	**+0.9**
KELT	**Kelkit**	**0.65**	**41**	*i* P	**Pg**	**15 00 47.5**	**-0.6**
KELT				*i* S	**Sg**	**15 00 56.2**	**-0.4**
KELT	**Kelkit**	**0.65**	**41**	P	**Pg**	**15 00 47.5**	**-0.6**
KELT				S	**Sg**	**15 00 56.2**	**-0.4**
CUZAR	**Zara_SIVAS**	**0.75**	**288**	*i* P	**Pg**	**15 00 50.1**	**+0.1**
CUZAR				*i* S	**Sb**	**15 01 01.0**	**-0.7**
CUZAR	**Zara_SIVAS**	**0.75**	**288**	P	**Pg**	**15 00 50.1**	**+0.1**
CUZAR				S	**Sb**	**15 01 01.0**	**-0.7**
EUZM	**Uzumlu**	**0.77**	**86**	*i* P	**Pg**	**15 00 50.0**	**-0.4**
EUZM	**Uzumlu**	**0.77**	**86**	P	**Pg**	**15 00 50.0**	**-0.4**
ERZN	**Erzincan**	**0.80**	**95**	*e*PG	**Sb**	**15 00 50.3**	**-0.5**
ERZN				*e*SG	**Sb**	**15 01 02.2**	**-0.7**
TNCL	**Tunceli-Merkez**	**0.85**	**129**	*i* P	**Pg**	**15 00 51.3**	**-0.5**
TNCL	**Tunceli-Merkez**	**0.85**	**129**	P	**Pg**	**15 00 51.3**	**-0.5**
PTK	**Pertek**	**0.93**	**145**	*e*PG	**Pb**	**15 00 54.0**	**-0.2**
PTK				*e*SG	**Sb**	**15 01 07.4**	**+0.4**
PTK	**Pertek**	**0.93**	**145**	*e*Pg	**Pb**	**15 00 54.0**	**-0.2**
PTK				*e*Sg	**Sb**	**15 01 07.4**	**+0.4**
CUKAN	**kangal_SIVAS**	**1.01**	**251**	*i* P	**Pg**	**15 00 53.4**	**-1.5**
CUKAN				*i* S	**Sb**	**15 01 08.9**	**-0.2**
CUKAN	**kangal_SIVAS**	**1.01**	**251**	P	**Pg**	**15 00 53.4**	**-1.5**
CUKAN				S	**Sb**	**15 01 08.9**	**-0.2**
ELZG	**Elazig**	**1.18**	**169**	*i* P	**Pg**	**15 00 57.3**	**-0.8**
ELZG				*i* S	**Sb**	**15 01 14.5**	**+0.6**
ELZG	**Elazig**	**1.18**	**169**	P	**Pg**	**15 00 57.3**	**-0.8**
ELZG				S	**Sb**	**15 01 14.5**	**+0.6**
RSDY	**Resadiye-TOKAT**	**1.29**	**306**	*e*PN	**Pg**	**15 01 01.2**	**+1.0**
RSDY	**Resadiye-TOKAT**	**1.29**	**306**	*e*Pn	**Pg**	**15 01 01.2**	**+1.0**
SVSK	**Karacayir**	**1.33**	**282**	*e*PN	**Pg**	**15 01 01.4**	**+0.3**
SVSK	**Karacayir**	**1.33**	**282**	*e*Pn	**Pg**	**15 01 01.4**	**+0.3**
SVRC	**Sivrice-ELAZID**	**1.36**	**159**	*e*PN	**Pg**	**15 01 02.0**	**+0.4**
SVRC	**Sivrice-ELAZID**	**1.36**	**159**	*e*Pn	**Pg**	**15 01 02.0**	**+0.4**
KOPT	**Kop Dagi**	**1.43**	**75**	*i* P	**Pg**	**15 01 03.7**	**+0.7**
KOPT	**Kop Dagi**	**1.43**	**75**	P	**Pg**	**15 01 03.7**	**+0.7**
DARE	**Darende-Malaty**	**1.44**	**221**	*e*PN	**Pn**	**15 01 02.2**	**0.0**
YEDI	**Yedisu-Bingol**	**1.45**	**98**	*e*PN	**Pb**	**15 01 02.8**	**-0.1**
CUGUR	**Gurin_S˜VAS**	**1.45**	**230**	*i* P	**Pb**	**15 01 02.9**	**0.0**
CUGUR				*i* S	**Sg**	**15 01 22.0**	**0.0**
CUGUR	**Gurin_S˜VAS**	**1.45**	**230**	P	**Pb**	**15 01 02.9**	**0.0**
CUGUR				S	**Sg**	**15 01 22.0**	**0.0**
KTUT	**Trabzon**	**1.56**	**31**	*e*PN	**Pb**	**15 01 04.8**	**0.0**
KTUT	**Trabzon**	**1.56**	**31**	*e*Pn	**Pb**	**15 01 04.8**	**0.0**
BINT	**Bingol**	**1.59**	**119**	*e*Pn	**Pb**	**15 01 05.6**	**+0.1**
BNGB	**Bing¶ll**	**1.67**	**113**	*e*PN	**Pn**	**15 01 05.6**	**+0.1**

*JMA **25** 15:15:24.7±0.3,24.˚64N×122.˚18E,h84km±4km,M2.4*
*ISCJB **25** 15:15:25.8±0.5,24.˚69N±0.˚03×122.˚24E±0.˚02,h74km±5km, Error ellipse: s-maj=5.6km s-min=2.8km az=165.7*
*TAP **25** 15:15:25.3,24.˚67N×122.˚18E,h82km,ML3.2,C*
ISC 25 15:15:26.3±1.4,24.˚68N±0.˚05×122.˚23E±0.˚03,h72km±9km, n46,σ0ˢ81/82,2C-3D,Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EGS		**0.32**	**300**	⇑*i*P	**Pn**	**15 15 37.9**	**+0.1**
	baz=303						
EGS				*e*S	**Sn**	**15 15 46.3**	**0.0**
	baz=303						
TWC	**Suao**	**0.36**	**258**	*i* P	**Pn**	**15 15 37.9**	**-0.2**
	baz=258						
TWC				S	**Sn**	**15 15 46.7**	**-0.1**
	baz=258						
TWB1	**Santiao Chiao**	**0.39**	**326**	*i* P	**Pn**	**15 15 38.3**	**-0.1**
	baz=332						
TWB1				*i* S	**Sn**	**15 15 47.5**	**+0.3**
	baz=332						
ILA	**Ilan**	**0.45**	**281**	*e*P	**Pn**	**15 15 38.9**	**+0.1**
	baz=290						
ENA	**Nanau**	**0.52**	**240**	P	**Pn**	**15 15 39.4**	**-0.1**
	baz=239						
ENA				*e*S	**Sn**	**15 15 49.8**	**+0.7**
	baz=239						
TWE	**Neicheng**	**0.52**	**274**	P	**Pn**	**15 15 39.4**	**0.0**
	baz=279						
TWE				*e*S	**Sn**	**15 15 49.4**	**+0.3**
	baz=279						
NWF	**Wu-fen Shan**	**0.56**	**313**	P	**Pn**	**15 15 39.9**	**-0.2**
	baz=310						
NWF				*e*S	**Sn**	**15 15 50.5**	**+0.3**
	baz=310						
ENTT	**Nioudou**	**0.61**	**266**	P	**Pn**	**15 15 40.6**	**+0.2**
	baz=270						
ENTT				*e*S	**Sn**	**15 15 52.8**	**+2.0**
	baz=270						
TWA	**Mucha**	**0.66**	**297**	*e*P	**Pn**	**15 15 40.6**	**-0.4**
	baz=293						
TWA				*e*S	**Sn**	**15 15 51.1**	**-0.6**
	baz=293						
JYNG	**Yonagunijimaku**	**0.69**	**110**	P	**Pn**	**15 15 41.2**	**0.0**
JYNG				*e*S	**Sn**	**15 15 52.9**	**+0.7**
YOJ	**Yonaguni jima**	**0.74**	**107**	P	**Pn**	**15 15 41.8**	**0.0**
NSK	**Sanguang**	**0.80**	**270**	⇓*i*P	**Pn**	**15 15 42.3**	**-0.2**
	baz=270						
NSK				*i* S	**Sn**	**15 15 54.3**	**-0.2**
	baz=270						
NNS	**Nan Shan**	**0.82**	**253**	⇓P	**Pn**	**15 15 42.6**	**-0.3**
	baz=247						
NNS				*i* S	**Sn**	**15 15 55.1**	**-0.1**
	baz=247						
TWY	**Chenhua**	**0.82**	**316**	⇓*i*P	**Pn**	**15 15 42.5**	**-0.3**
	baz=311						
TWD	**Chiawan**	**0.84**	**224**	*i* P	**Pn**	**15 15 42.3**	**-0.6**
	baz=217						
TWD				S	**Sn**	**15 15 54.8**	**-0.4**
	baz=217						
TWS1	**Kuangyinshan**	**0.85**	**299**	*i* P	**Pn**	**15 15 42.6**	**-0.5**
	baz=305						
TWS1				S	**Sn**	**15 15 55.2**	**-0.3**
	baz=305						
HWA	**Hwalien**	**0.91**	**219**	*e*S	**Sn**	**15 15 57.3**	**+0.6**
	baz=210						
NCU	**National Centr**	**0.99**	**287**	*e*P	**Pn**	**15 15 44.8**	**-0.1**
	baz=281						
NCU				*e*S	**Sn**	**15 15 59.4**	**+0.8**
	baz=281						
WHF	**Hehuan Shan**	**1.03**	**239**	⇑P	**Pn**	**15 15 45.1**	**-0.6**
	baz=239						
WHF				*e*S	**Sn**	**15 15 59.2**	**-1.0**
	baz=239						
TWT	**Tachien**	**1.05**	**246**	P	**Pn**	**15 15 45.8**	**0.0**
	baz=240						
TWT				*e*S	**Sn**	**15 16 00.1**	**-0.2**
	baz=240						
NSTT	**Nanjuang**	**1.12**	**268**	P	**Pn**	**15 15 45.9**	**-0.6**
	baz=268						
NSTT				S	**Sn**	**15 16 01.0**	**-0.5**
	baz=268						
ESL	**Shilin**	**1.13**	**220**	*e*P	**Pn**	**15 15 45.4**	**-1.2**
	baz=227						
ESL				*e*S	**Sn**	**15 15 59.6**	**-2.1**
	baz=227						
NSY	**Sanyi**	**1.37**	**259**	*e*P	**Pn**	**15 15 47.7**	**-1.9**
	baz=259						
NSY				*e*S	**Sn**	**15 16 07.0**	**-0.1**
	baz=259						
TWQ1	**Liyutan**	**1.37**	**256**	P	**Pn**	**15 15 49.8**	**+0.1**
	baz=256						
TWQ1				*e*S	**Sn**	**15 16 06.4**	**-0.9**
	baz=256						
IRIF	**Iriomote-Funau**	**1.41**	**104**	P	**Pn**	**15 15 49.4**	**-0.7**
IRIF				S	**Sn**	**15 16 07.8**	**-0.2**
EHY	**Hungye**	**1.44**	**216**	*e*P	**Pn**	**15 15 50.4**	**-0.2**
	baz=223						
EHY				*e*S	**Sn**	**15 16 07.1**	**-1.7**
	baz=223						
SMLT	**Sun Moon Lake**	**1.46**	**237**	P	**Pn**	**15 15 51.3**	**+0.4**
	baz=237						
SMLT				S	**Sn**	**15 16 08.7**	**-0.6**
	baz=237						
HATJ	**Hateruma jima**	**1.56**	**113**	S	**Sn**	**15 16 12.2**	**+0.5**
TWF1	**Yuli**	**1.58**	**213**	*e*P	**Pn**	**15 15 52.0**	**-0.4**
	baz=220						
TWF1				*e*S	**Sn**	**15 16 11.8**	**-0.3**
	baz=220						
WNT	**Mingjian**	**1.62**	**241**	*e*S	**Sn**	**15 16 13.4**	**+0.2**
	baz=251						
YUS	**Yu-Shan**	**1.67**	**225**	P	**Pn**	**15 15 53.7**	**-0.4**
	baz=216						
YUS				S	**Sn**	**15 16 13.8**	**-1.2**
	baz=216						
JKRS	**Kuro-shima**	**1.68**	**105**	P	**Pn**	**15 15 53.5**	**-0.2**
JKRS				S	**Sn**	**15 16 14.6**	**+0.2**
ALS	**Alishan**	**1.75**	**228**	*e*P	**Pn**	**15 15 55.4**	**+0.4**
	baz=221						
ALS				*e*S	**Sn**	**15 16 17.0**	**+0.4**
	baz=221						
JIJ	**Ishigaki jima**	**1.77**	**100**	P	**Pn**	**15 15 54.6**	**-0.3**
JIJ				S	**Sn**	**15 16 15.8**	**-0.8**
CHN5	**Tsauling**	**1.79**	**233**	P	**Pn**	**15 15 55.5**	**+0.3**
	baz=243						
CHN5				*e*S	**Sn**	**15 16 17.8**	**+0.7**
	baz=243						
WGK	**Gukeng**	**1.82**	**237**	*e*S	**Sn**	**15 16 17.7**	**-0.2**
	baz=246						
ELDTW	**Lidau**	**1.86**	**217**	*e*S	**Sn**	**15 16 17.3**	**-1.6**
	baz=217						
JISG	**Ishigakijimahi**	**1.89**	**92**	P	**Pn**	**15 15 56.2**	**-0.4**
JISG				S	**Sn**	**15 16 19.5**	**-0.1**
CHN4	**Tsaushan**	**2.00**	**229**	P	**Pn**	**15 15 58.8**	**+0.7**
	baz=229						
CHN4				*e*S	**Sn**	**15 16 23.6**	**+1.4**
	baz=229						
STYT	**Tauyuan**	**2.03**	**222**	*e*P	**Pn**	**15 15 59.1**	**+0.6**
	baz=222						
STYT				*e*S	**Sn**	**15 16 23.9**	**+0.9**
	baz=222						
WTP	**Ta-pu**	**2.06**	**226**	*e*P	**Pn**	**15 15 59.0**	**+0.2**
	baz=226						
WTP				*e*S	**Sn**	**15 16 25.5**	**+1.8**
	baz=226						
WSF	**Szhu**	**2.11**	**241**	*e*S	**Sn**	**15 16 23.9**	**-0.9**
	baz=241						
TWK	**Hsinying**	**2.13**	**229**	*e*P	**Pn**	**15 16 02.1**	**+2.3**
	baz=218						
TWK				*e*S	**Sn**	**15 16 26.2**	**+0.8**
	baz=218						
CHN1	**Nanshi**	**2.16**	**227**	*e*P	**Pn**	**15 16 02.2**	**+2.0**
	baz=227						
CHN1				S	**Sn**	**15 16 26.0**	**0.0**
	baz=227						
SGST	**Jiashian**	**2.20**	**224**	*e*S	**Sn**	**15 16 28.5**	**+1.6**
	baz=224						
JTJ	**Tarama**	**2.25**	**91**	P	**Pn**	**15 16 01.4**	**+0.1**
JTJ				S	**Sn**	**15 16 28.7**	**+0.6**

*ISCJB **25** 15:20:25.7±0.7,39.˚71N±0.˚03×38.˚66E±0.˚05,h7km±9km, Error ellipse: s-maj=7.3km s-min=4.9km az=26.5*
*CSEM **25** 15:20:25.8±0.2,39.˚71N×38.˚64E,h17km±2km,MD2.7, Error ellipse: s-maj=4.9km s-min=3.0km az=118.0*
*DDA **25** 15:20:25.4,39.˚70N×38.˚67E,h12km,Md2.7*
*ISK **25** 15:20:26.8,39.˚72N×38.˚74E,h5km,MD2.4*
ISC 25 15:20:25.5±1.1,39.72N±0.˚03×38.˚63E±0.˚04,h14km±9km, n15,σ0ˢ21/28,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KEMA	**Kemaliye**	**0.46**	**194**	*i* P	**Pg**	**15 20 34.6**	**0.0**
KEMA				*i* S	**Sg**	**15 20 40.9**	**+0.2**
KEMA	**Kemaliye**	**0.46**	**194**	P	**Pg**	**15 20 34.6**	**0.0**
KEMA				S	**Sg**	**15 20 40.9**	**+0.2**
KELT	**Kelkit**	**0.65**	**48**	*i* P	**Pb**	**15 20 38.6**	**-0.1**
KELT				*i* S	**Sg**	**15 20 46.6**	**-0.1**
KELT	**Kelkit**	**0.65**	**48**	P	**Pb**	**15 20 38.6**	**-0.1**
KELT				S	**Sg**	**15 20 46.6**	**-0.1**
ERZN	**Erzincan**	**0.85**	**98**	*e*PG	**Pb**	**15 20 42.1**	**+0.1**
ERZN				*e*SG	**Sb**	**15 20 53.2**	**-0.2**
TNCL	**Tunceli-Merkez**	**0.92**	**130**	*i* P	**Pb**	**15 20 43.3**	**-0.1**
TNCL	**Tunceli-Merkez**	**0.92**	**130**	P	**Pb**	**15 20 43.3**	**-0.1**
CUKAN	**kangal_SIVAS**	**0.99**	**247**	*i* P	**Pg**	**15 20 44.5**	**0.0**
CUKAN				*i* S	**Sn**	**15 20 59.1**	**+0.2**
CUKAN	**kangal_SIVAS**	**0.99**	**247**	P	**Pg**	**15 20 44.5**	**0.0**
CUKAN				S	**Sn**	**15 20 59.1**	**+0.2**
GUMT	**Gumushane**	**0.99**	**41**	*e*PG	**Pn**	**15 20 45.3**	**+0.2**
GUMT				*e*SG	**Sn**	**15 20 58.9**	**0.0**
GUMT	**Gumushane**	**0.99**	**41**	*e*Pg	**Pn**	**15 20 45.3**	**+0.2**
GUMT				*e*Sg	**Sn**	**15 20 58.9**	**0.0**
PTK	**Pertek**	**1.01**	**144**	*e*PG	**Pn**	**15 20 45.8**	**+0.4**
PTK				*e*SG	**Sn**	**15 20 59.7**	**+0.1**
PTK	**Pertek**	**1.01**	**144**	*e*Pg	**Pn**	**15 20 45.8**	**+0.4**
PTK				*e*Sg	**Sn**	**15 20 59.7**	**+0.1**
ELZG	**Elazig**	**1.25**	**167**	*i* P	**Pn**	**15 20 48.2**	**-0.4**
ELZG				*i* S	**Sb**	**15 21 04.7**	**-0.1**
ELZG	**Elazig**	**1.25**	**167**	P	**Pn**	**15 20 48.2**	**-0.4**
ELZG				S	**Sb**	**15 21 04.7**	**-0.1**

*IDC **25** 15:25:14.4±0.9,55.˚19N×160.˚62W,h0km,mb4.2/20, mb1 4.3/23,mb1mx4.1/51,mbtmp4.2/23,ML3.8/3,MS3.3/4, Ms1 3.3/4,ms1mx2.8/38,Error ellipse: s-maj=27.4km s-min=13.3km az=174.0*
*NEIC **25** 15:25:19.9±0.0,54.˚90N×160.˚33W,h26km,mb3.9/1, ML4.0(AEIC),After AEIC.*
ISC 25 15:25:19.3±0.6,54.˚97N±0.˚08×160.˚35W±0.˚05,h38km,n76, σ1ᵍ97/83,mb4.3/21,Alaska Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SDPT	**Sand Point**	**0.38**	**349**	P	**Pn**	**15 25 29.7**	**+1.5**
SDPT				S	**Sn**	**15 25 37.2**	**+2.3**
DOL	**Dolgoi Island**	**0.89**	**282**	P	**Pn**	**15 25 36.1**	**+0.9**
PVV	**Pavlof Volcano**	**0.92**	**296**	P	**Pn**	**15 25 37.0**	**+1.4**
PS4A	**Pavlof South-4**	**0.94**	**294**	P	**Pn**	**15 25 37.4**	**+1.4**
PN6	**Pavlof North-6**	**1.02**	**299**	P	**Pn**	**15 25 39.2**	**+2.1**
PN6				S	**Sn**	**15 25 54.7**	**+4.5**
DTNA	**Dutton South F**	**1.11**	**280**	P	**Pn**	**15 25 39.6**	**+1.4**
DT1	**Dutton Round H**	**1.12**	**278**	P	**Pn**	**15 25 39.5**	**+1.1**
VNWF	**Veniaminof 8**	**1.26**	**20**	P	**Pn**	**15 25 43.1**	**+2.6**
VNHG	**Veniaminof 1**	**1.42**	**28**	P	**Pn**	**15 25 45.2**	**+2.6**
VNNF	**Veniaminof 3**	**1.44**	**24**	P	**Pn**	**15 25 45.6**	**+2.8**
CHGN	**Chignik**	**1.73**	**39**	P	**Pn**	**15 25 48.5**	**+1.8**
CHGN				S	**Sn**	**15 26 11.0**	**+3.6**
SSLN	**Shishaldin Nor**	**2.11**	**267**	P	**Pn**	**15 25 54.8**	**+2.8**
ANPB	**Aniakchak Plen**	**2.17**	**32**	P	**Pn**	**15 25 55.1**	**+2.2**
SSLW	**Shishaldin Wes**	**2.19**	**266**	P	**Pn**	**15 25 55.8**	**+2.6**
ANPK	**Aniakchak Peak**	**2.25**	**33**	P	**Pn**	**15 25 56.3**	**+2.3**
ANPK				S	**Sn**	**15 26 25.6**	**+5.0**
ANNE	**Aniakchak Nort**	**2.33**	**33**	P	**Pn**	**15 25 57.1**	**+2.0**
WESN	**West Dahl Nort**	**2.49**	**262**	P	**Pn**	**15 25 59.9**	**+2.7**
WESE	**West Dahl East**	**2.51**	**260**	P	**Pn**	**15 25 59.9**	**+2.4**
WESP	**Westdahl Peak**	**2.58**	**261**	P	**Pn**	**15 26 01.3**	**+2.8**
AKSA	**Akutan Strait**	**3.23**	**257**	P	**Pn**	**15 26 09.7**	**+2.4**
AKUT	**Akutan**	**3.27**	**257**	*e*Pn	**Pn**	**15 26 09.7**	**+1.9**
PLK1	**Peulik 1**	**3.52**	**35**	P	**Pn**	**15 26 13.8**	**+2.6**
UNV	**Unalaska Valle**	**3.77**	**255**	P	**Pn**	**15 26 16.0**	**+1.3**
MSW	**Makushin Switc**	**3.90**	**257**	P	**Pn**	**15 26 18.1**	**+1.5**
KELA	**Mount Kelaz**	**4.30**	**34**	P	**Pn**	**15 26 24.3**	**+2.1**
KABR	**Katmai Barrier**	**4.34**	**41**	P	**Pn**	**15 26 24.6**	**+1.8**
KAKN	**Katmai Knife C**	**4.43**	**39**	P	**Pn**	**15 26 26.8**	**+2.8**
OHAK	**Old Harbor**	**4.55**	**57**	*e*Pn	**Pn**	**15 26 26.6**	**+1.1**
OKFG	**Magazine Ridge**	**4.71**	**254**	P	**Pn**	**15 26 29.1**	**+1.4**
KDAK	**Kodiak Island**	**5.15**	**54**	Pn	**Pn**	**15 26 33.8**	**+0.1**
	2.9nm,0.3s,baz=163,slow=4.9,SNR=53						
KDAK				Sn	**Sn**	**15 27 30.7**	**-1.2**
	6.0nm,0.3s,baz=331,slow=19,SNR=3.9						
KDAK				LR	LR	15 28 48.7	
	comp=Z,157nm,19.7s,baz=234,slow=42						
KDAK	**Kodiak Island**	**5.15**	**54**	P	**Pn**	**15 26 35.0**	**+1.2**
CDD	**Cape Douglas**	**5.40**	**40**	P	**Pn**	**15 26 39.5**	**+2.2**
SPIA	**Saint Paul Isl**	**5.96**	**296**	P	**Pn**	**15 26 46.7**	**+1.8**
PMR	**Palmer**	**8.88**	**37**	*e*Pn	**Pn**	**15 27 26.6**	**+1.8**
	8.7nm,0.8s						
PPLA	**Purkeypile**	**8.99**	**25**	*e*Pn	**Pn**	**15 27 29.5**	**+3.1**
	33nm,1.0s						
SML	**Sawmill**	**9.30**	**38**	*e*Pn	Pn	15 27 35.2	+4.5
	3.2nm,0.9s						
KTH	**Kantishna Hill**	**9.85**	**25**	*e*Pn	**Pn**	**15 27 41.8**	**+3.6**
	15nm,0.7s						
DIV	**Divide**	**9.87**	**45**	Pn	**Pn**	**15 27 40.7**	**+2.2**
	7.0nm,0.5s						
TRF	**Thorofare Moun**	**9.93**	**27**	*e*Pn	**Pn**	**15 27 41.3**	**+1.9**
	19nm,0.8s						
BMRM	**Bremner River**	**10.28**	**48**	*e*Pn	**Pn**	**15 27 45.2**	**+1.1**
	12nm,0.7s						
PAX	**Paxson**	**11.07**	**38**	*e*Pn	**Pn**	**15 27 54.8**	**-0.2**
	9.8nm,0.6s						
ILAR	**Eielson Array**	**11.89**	**29**	Pn	**Pn**	**15 28 03.7**	**-2.4**
	0.3nm,0.3s,baz=222,slow=13,SNR=18						
ILAR				Sn	**Sn**	**15 30 12.8**	**-4.5**
	0.2nm,0.3s,baz=190,slow=9.0,SNR=3.9						
ILAR				LR	LR	15 33 11.6	
	comp=Z,89nm,20.0s,baz=253,slow=40						
DOT	**Dot Lake**	**12.00**	**37**	*e*Pn	**Pn**	**15 28 08.5**	**+1.0**
	10nm,0.6s						
COLD	**Coldfoot**	**13.21**	**17**	*e*Pn	**Pn**	**15 28 26.1**	**+2.1**
	3.0nm,0.7s						
EGAK	**Eagle**	**13.69**	**37**	*e*Pn	**Pn**	**15 28 30.6**	**0.0**
	6.8nm,0.9s						
DAWY	**Dawson**	**13.93**	**41**	*e*Pn	**Pn**	**15 28 35.7**	**+1.8**
	9.7nm,0.6s						
DLBC	**Dease Lake**	**16.93**	**66**	Pn	**Pn**	**15 29 13.4**	**+0.4**
	0.1nm,0.3s,baz=263,slow=16,SNR=2.2						
INK	**Inuvik**	**18.24**	**32**	P	**P**	**15 29 26.9**	**-2.0**
	0.8nm,0.3s,baz=232,slow=16,SNR=15						
INK	**Inuvik**	**18.24**	**32**	*e*P	**Pn**	**15 29 28.6**	**-0.4**
	5.7nm,0.6s						
YKA	**Yellowknife Ar**	**24.43**	**54**	P	**P**	**15 30 34.3**	**+0.4**
	0.7nm,0.5s,baz=273,slow=8.5,SNR=4.4						
PETK	**Petropavlovsk-**	**24.44**	**283**	P	**P**	**15 30 32.9**	**-1.2**
	7.5nm,0.4s,baz=82,slow=14,SNR=30						
YAK	**Yakutsk**	**35.54**	**310**	P	**P**	**15 32 08.7**	**-3.5**
	4.1nm,0.4s,baz=104,slow=1.9,SNR=5.0						
ULM	**Lac du Bonnet**	**38.19**	**70**	P	**P**	**15 32 35.7**	**+0.8**
	1.5nm,0.7s,baz=333,slow=4.5,SNR=2.5						
NRIK	**Noril'sk**	**46.61**	**333**	P	**P**	**15 33 40.8**	**-2.2**
	2.2nm,0.5s,baz=37,slow=5.9,SNR=6.4						
NRIK				LR	LR	15 55 04.4	
	comp=Z,51nm,19.1s,baz=108,slow=39						
TXAR	**Lajitas Array**	**47.56**	**99**	P	**P**	**15 33 53.0**	**+1.9**
	0.1nm,0.6s,baz=324,slow=6.0,SNR=2.6						
TXAR				PcP	**PcP**	**15 35 20.8**	**+0.4**
	0.2nm,0.6s,baz=294,slow=0.9,SNR=2.8						
KSRS	**Korea Array**	**50.31**	**281**	P	**P**	**15 34 11.7**	**-0.1**
	2.0nm,0.8s,baz=52,slow=6.4,SNR=7.5						
KSAR	**Wonju Array Be**	**50.34**	**281**	P	**P**	**15 34 11.7**	**-0.4**
JNU	**Nakatsue**	**51.72**	**275**	P	**P**	**15 34 22.3**	**-0.2**
	4.1nm,1.1s,baz=83,slow=4.3,SNR=3.9						
SONM	**Songino Array**	**54.43**	**304**	P	**P**	**15 34 42.0**	**-0.4**
	1.9nm,0.6s,baz=39,slow=6.8,SNR=12						
SONM				PcP	**PcP**	**15 35 45.8**	**+0.2**
	0.9nm,0.5s,baz=79,slow=3.9,SNR=4.3						
ARCES	**ARCESS Array B**	**55.73**	**359**	P	**P**	**15 34 50.2**	**-1.1**
	2.0nm,0.7s,baz=8.2,slow=8.2,SNR=5.3						
ZALV	**Zalesovo Beam**	**58.94**	**321**	P	**P**	**15 35 13.3**	**-0.9**
	1.0nm,0.7s,baz=9.0,slow=4.8,SNR=4.1						
ZALV				LR	LR	16 01 53.0	
	comp=Z,37nm,19.0s,baz=70,slow=38						
FINES	**FINESS Array B**	**63.81**	**357**	P	**P**	**15 35 46.1**	**-0.8**
	3.9nm,0.6s,baz=20,slow=7.7,SNR=52						
NB2	**NORSAR Subarra**	**64.14**	**5**	P	**P**	**15 35 48.6**	**-0.5**
	comp=Z,4nm,0.8s,baz=354,slow=6.5						
NOA	**NORSAR Array B**	**64.14**	**5**	P	**P**	**15 35 48.6**	**-0.5**
	comp=Z,1.6nm,0.8s,baz=355,slow=6.4,SNR=6.9						
MKAR	**Makanchi Array**	**65.69**	**318**	P	**P**	**15 35 58.4**	**-1.1**
	comp=Z,0.5nm,0.5s,baz=46,slow=6.1,SNR=6.8						
AKASG	**Malin Array Be**	**74.39**	**354**	P	**P**	**15 36 51.6**	**-1.1**
	comp=Z,3.1nm,0.5s,baz=8.8,slow=6.2,SNR=17						
AKASG	**Malin Array Be**	**74.39**	**354**

comp=E,2μm,0.3s
YUK smax smax
comp=N,2μm,0.2s
YUK Yuzh-Kuril'sk 1.47 255 *i* P **Pn 15 26 02.8 -0.4**
YUK AMB AMB 15 26 05.3
comp=N,570nm,0.3s
YUK *i* S **Sn 15 26 21.1 -0.3**
YUK A A 15 26 24.7
comp=N,2μm,0.4s
YUK A A 15 26 24.7
comp=N,2μm,0.4s
NEM2 Nemuro 2 1.84 235 P **Pn 15 26 06.8 -1.4**
NEM2 *e*S **Sn 15 26 28.6 -1.9**
JRA Rausu 2.01 257 P **Pn 15 26 11.1 +0.7**
JRA *e*S **Sn 15 26 36.2 +1.7**
JNK Nakash 2.40 250 P **Pn 15 26 15.9 +0.2**
JNK *e*S **Sn 15 26 44.3 +0.3**
JAK Akkeshi 2.68 239 P **Pn 15 26 18.8 -0.8**
JAK *e*S **Sn 15 26 49.4 -1.5**
JTKR Abashiri--Toko 2.86 262 P **Pn 15 26 22.7 +0.8**
JAR Ashorobuto 3.15 250 P **Pn 15 26 26.9 +1.0**
JAR *e*S **Sn 15 27 04.0 +1.7**
JMP Maruseppu 3.24 264 P **Pn 15 26 28.6 +1.4**
JOB Onbets 3.27 244 P **Pn 15 26 28.0 +0.4**
JKK2 Kamakawa 2 3.70 263 P **Pn 15 26 36.0 +2.5**
JCH Churui 3.72 242 P **Pn 15 26 33.4 -0.3**
JCH *e*S **Sn 15 27 15.2 -1.1**
JKA Kamikawa-asahi 3.77 267 *e*P **Pn 15 26 36.5 +2.1**
ASAJ Asahikawa 3.77 267 ⇑*e*PN **Pn 15 26 36.5 +2.0**
baz=240,slow=0.0
JSE Soyaes 3.78 280 P **Pn 15 26 35.8 +1.3**
JFR Furan 4.00 253 P **Pn 15 26 39.5 +2.0**
ERM Erimo 4.18 236 *c* *i*PN **Pn 15 26 42.0 +2.0**
ERM Erimo 4.18 236 *e*P **Pn 15 26 42.0 +2.0**
JNBK Urakawa-nobuka 4.28 242 P **Pn 15 26 40.9 -0.5**
JNBK *e*S **Sn 15 27 28.5 -1.5**
YSS Yuzh-Sakhalins 4.36 307 ⇑*e*PN **Pn 15 26 44.3 +1.8**
YSS *e*S **Sn 15 27 30.7 -1.2**
YSS pmax pmax
comp=Z,20nm,0.4s
YSS smax smax
comp=N,50nm,0.8s
YSS smax smax
comp=E,50nm,0.7s
YSS Yuzh-Sakhalins 4.36 307 *e*P **Pn 15 26 43.3 +0.8**
YSS AMB AMB 15 26 45.8
comp=E,20nm,0.4s
YSS *e*S **Sn 15 27 30.7 -1.2**
YSS A A 15 27 37.2
comp=E,50nm,0.5s
JEW Eniwo 4.89 253 P **Pn 15 26 52.4 +2.6**
UGL Uglegorsk 6.11 322 *e*PN **Pn 15 27 03.6 -2.7**
UGL *e*S **Sn 15 28 10.5 -4.2**
HABR Khabarovsk 9.70 299 *e*PN **Pn 15 27 52.9 -2.6**
HABR pmax pmax
comp=Z,31nm,2.1s
HABR pmax pmax
comp=N,38nm,2.2s
HABR pmax pmax
comp=E,43nm,1.9s
HABR pmax pmax
comp=Z,39nm,2.2s
HABR MLR MLR
comp=Z,24nm,16.0s
HABR Khabarovsk 9.70 299 *e*P **Pn 15 27 52.9 -2.6**
PETK Petropavlovsk- 10.85 33 P **Pn 15 28 11.7 +0.6**
comp=Z,0.2nm,0.3s,baz=198,slow=14,SNR=3.8
USRK Ussuriysk Ar. 11.35 274 P **Pn 15 28 20.3 +2.2**
comp=Z,0.2nm,0.3s,baz=83,slow=13,SNR=4.7
SEY Seymchan 18.73 6 *i*P **P 15 29 52.0 +0.1**
SEY Seymchan 18.73 6 *e*P **P 15 29 52.0 +0.1**
TIXI Tiksi 28.80 348 *i*P **P 15 31 31.2 +1.1**
TIXI Tiksi 28.80 348 *e*P **P 15 31 31.2 +1.1**
H11N2 WAKE ISLAND Hy 29.31 141 T T 16 02 20.8
baz=332,slow=76,SNR=226
H11N1 WAKE ISLAND Hy 29.32 141 T T 16 02 24.9
baz=332,slow=76,SNR=168
H11N3 WAKE ISLAND Hy 29.33 141 T T 16 02 29.0
baz=332,slow=76,SNR=158
H11S1 WAKE ISLAND Hy 30.30 143 T T 16 03 38.3
baz=333,slow=76,SNR=451
H11S3 WAKE ISLAND Hy 30.30 143 T T 16 03 37.2
baz=333,slow=76,SNR=334
H11S2 WAKE ISLAND Hy 30.31 143 T T 16 03 39.6
baz=333,slow=76,SNR=212
ILAR Eielson Array 40.65 37 P **P 15 33 11.8 -0.3**
comp=Z,0.2nm,0.5s,baz=272,slow=8.9,SNR=4.7
MKAR Makanchi Array 44.70 297 P **P 15 33 44.6 -0.6**
comp=Z,0.4nm,0.6s,baz=77,slow=11,SNR=5.4
MKAR PcP **PcP 15 35 25.9 -0.6**
comp=Z,0.4nm,0.6s,baz=45,slow=2.4,SNR=4.1
MKAR Makanchi Array 44.70 297 *e*P **P 15 33 44.9 -0.3**
INK Inuvik 45.57 31 P **P 15 33 51.5 -0.3**
comp=Z,1.1nm,0.7s,baz=348,slow=9.3,SNR=4.4
CMAR Chiang Mai Arr 48.19 254 P **P 15 34 12.2 -0.6**
comp=Z,0.6nm,0.6s,baz=42,slow=8.4,SNR=6.0
CMAR Chiang Mai Arr 48.19 254 *e*P **P 15 34 13.8 +1.0**
CMAR pmax pmax
comp=Z,1.0nm,0.6s
CMAR Chiang Mai Arr 48.19 254 *e*P **P 15 34 13.8 +1.0**
KLMR Klimovskoe 60.12 328 *e*P **P 15 35 41.1 +2.1**
WRA Warramunga Arr 65.23 194 P **P 15 36 12.2 -1.2**
comp=Z,0.9nm,1.1s,baz=14,slow=6.9,SNR=3.8
ASAR Alice Springs 68.95 194 P **P 15 36 36.9 -0.1**
comp=Z,0.3nm,0.8s,baz=8.1,slow=6.4,SNR=3.7
NOA NORSAR Array B 69.14 339 P **P 15 36 36.3 -1.5**
comp=Z,0.4nm,0.5s,baz=29,slow=6.5,SNR=2.9
TXAR Lajitas Array 81.87 57 P **P 15 37 51.3 0.0**
comp=Z,0.2nm,0.6s,baz=275,slow=3.8,SNR=5.9

*IDC **25** 15:31:04.7±2.8, 38.°76N×142.°90E, h0km, mb3.2/2, mb1 3.7/4, mb1mx3.4/45, mbtmp3.7/4, ML3.6/2, Error ellipse: s-maj=62.5km s-min=33.2km az=73.0*
*ISCJB **25** 15:31:11.4±1.2, 38.°65N±0.°05×142.°2E±0.°1, h47km±14km, mb3.3/2, Error ellipse: s-maj=15.0km s-min=7.1km az=12.1*
*JMA **25** 15:31:12.1±0.1, 38.°71N×142.°21E, h39km±1km, M3.8*
JMA Felt I J1.

ISC 25 15:31:11.6±2.3, 38.°70N±0.°05×142.°24E±0.°09, h32km±14km, n20, σ1°13/22, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
OFUJ	**Ofunato**	**0.59**	**311**	P	**Pn**		**15 31 23.7**	**0.0**
OFUJ				S	**Sb**		**15 31 31.7**	**0.0**
JIO	**Ouri**	**0.74**	**251**	P	**Pn**		**15 31 25.6**	**-0.2**
JIO				S	**Sb**		**15 31 35.0**	**-0.9**
JMK	**Ichinoseki**	**0.83**	**288**	P	**Pn**		**15 31 27.2**	**+0.1**
JMK				S	**Sn**		**15 31 37.9**	**-0.4**
JOM	**Ohasama**	**1.07**	**317**	P	**Pn**		**15 31 30.8**	**+0.5**
JOM				S	**Sn**		**15 31 44.1**	**0.0**
JTH	**Tanohata**	**1.27**	**347**	P	**Pn**		**15 31 33.1**	**-0.1**
JOU	**Okura**	**1.28**	**255**	P	**Pn**		**15 31 33.6**	**+0.4**
JOU				*e*S	**Sn**		**15 31 49.6**	**+0.3**
JMM	**Marumori**	**1.41**	**234**	P	**Pn**		**15 31 35.0**	**0.0**
JMM				*e*S	**Sn**		**15 31 51.6**	**-0.8**
JRG	**Rokugo**	**1.43**	**300**	P	**Pn**		**15 31 35.9**	**+0.6**
JYK	**Kaneyama**	**1.48**	**279**	P	**Pn**		**15 31 36.6**	**+0.5**
MAT	**Matsushiro**	**3.86**	**237**	P	**Pn**		**15 32 11.1**	**+2.4**
MAT				*e*S	**Sn**		**15 32 50.9**	**-2.0**
MJAR	**Matsushiro Arr**	**3.86**	**237**	Pn	**Pn**		**15 32 11.0**	**+2.3**
	3.6nm,0.3s,baz=44,slow=12,SNR=38							
JHJ	**Hachijo jima 2**	**5.91**	**200**	Pn	**Pn**		**15 32 38.0**	**+1.1**
	4.2nm,0.3s,baz=221,slow=9.3,SNR=3.0							
JHJ				Sn	**Sn**		**15 33 42.7**	**-0.9**
	6.9nm,0.3s,baz=253,slow=19,SNR=2.6							
H11N2	**WAKE ISLAND Hy**	**28.49**	**125**	T	T		16 07 28.6	
	baz=317,slow=75,SNR=33							
H11N1	**WAKE ISLAND Hy**	**28.50**	**125**	T	T		16 07 29.3	
	baz=317,slow=75,SNR=57							
H11N3	**WAKE ISLAND Hy**	**28.51**	**125**	T	T		16 07 24.0	
	baz=317,slow=75,SNR=41							
H11S1	**WAKE ISLAND Hy**	**29.27**	**127**	T	T		16 08 26.4	
	baz=318,slow=76,SNR=10							
H11S3	**WAKE ISLAND Hy**	**29.27**	**127**	T	T		16 08 25.3	
	baz=318,slow=76,SNR=11							
H11S2	**WAKE ISLAND Hy**	**29.29**	**127**	T	T		16 08 27.6	
	baz=318,slow=76,SNR=11							
MKAR	**Makanchi Array**	**43.81**	**301**	P	**P**		**15 39 15.6**	**+1.2**
	0.3nm,0.7s,baz=87,slow=8.5,SNR=3.1							
WRA	**Warramunga Arr**	**58.80**	**189**	P	**P**		**15 41 05.5**	**-1.3**
	0.2nm,0.6s,baz=6.1,slow=6.9,SNR=3.7							

*ISCJB **25** 15:32:33.4±0.4, 36.°55S±0.°06×111.°0W±0.°1, h10km, mb4.7/21, MS4.6/16, Error ellipse: s-maj=14.6km s-min=9.3km az=3.8*
*IDC **25** 15:32:33.9±0.6, 36.°52S×111.°04W, h0km, mb4.3/9, mb1 4.4/9, mb1mx4.2/29, mbtmp4.2/9, MS4.6/16, Ms1 4.5/16, ms1mx4.5/19, Error ellipse: s-maj=27.4km s-min=18.7km az=113.0*
*NEIC **25** 15:32:35.2±0.3, 36.°52S×111.°03W, h10km, mb4.9/10, Error ellipse: s-maj=16.3km s-min=9.6km az=105.0*
*GCMT **25** 15:32:35.2±0.1, 36.°58S×110.°85W, h15km, MW5.3/120, Moment Tensor Solution. s90,c146; s120,c201; Duration: 1§1 Moment tensor: Scale 10^17 Nm; Mrr-0.09±.01; Mθθ-0.52±.01; Mϕϕ 0.61±.01; Mrθ-0.13±.04; Mθϕ-0.89±.01; Mϕr-0.33±.04; Best double couple: M0 1.11600×10^17 NP1:ϕs16.00000°, δ86.00000°, λ-19.00000°. NP2:ϕs107.00000°, δ71.00000°, λ-176.00000°. Principal axes: T 1.1450, Plg11.0000°, Azm63.0000°; N -0.0570, Plg71.0000°, Azm185.0000°; P -1.0880, Plg16.0000°, Azm330.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

ISC 25 15:32:35.2±0.5, 36.°5S±0.°1×111.°1W±0.°1, h10km, n79, σ1§04/57, mb4.8/21, MS4.7/17, 10C-1D, Southern East Pacific Rise

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
RKT	**Rikitea**	**24.55**	**296**	*e*LQ		LQ	15 42 49.7	
	1μm,26.5s							
RKT				*e*LR		LR	15 44 00.6	
	771nm,25.8s,baz=131							
RKT	**Rikitea**	**24.55**	**296**	*e*T		T	16 03 11.8	
	2.4nm,0.3s							
PLCA	**Paso Flores**	**31.76**	**110**	LR		LR	15 48 05.1	
	comp=Z,522nm,20.7s,baz=291,slow=29							
TVO	**Taravao**	**38.42**	**289**	*e*T		T	16 20 31.1	
	0.7nm,0.2s							
TIAR	**Tiarei**	**38.62**	**289**	*e*T		T	16 20 44.6	
	2.5nm,0.2s							
PPT2	**Papeete2**	**38.78**	**289**	*e*S		**S**	**15 45 58.6**	**+0.8**
	688nm,25.8s							
PPT2				*e*LQ		LQ	15 48 59.5	
	2μm,28.5s							
PPT2				*e*LR		LR	15 50 26.4	
	735nm,25.2s,baz=132							
PPT	**Papeete**	**38.79**	**289**	LR		LR	15 50 56.0	
	comp=Z,278nm,21.8s,baz=120,slow=28							
PMSA	**Palmer Station**	**39.62**	**151**	P		**P**	**15 40 07.9**	**+1.3**
	13nm,0.6s,baz=133,slow=18,SNR=6.4							
PMSA	**Palmer Station**	**39.62**	**151**	*e*P		**P**	**15 40 07.5**	**+1.0**
	12nm,0.6s							
ATAH	**Atahualpa**	**41.75**	**54**	P		**P**	**15 40 25.9**	**+0.7**
	5.6nm,0.7s,baz=240,slow=7.5,SNR=8.4							
LPAZ	**La Paz**	**42.99**	**74**	P		**P**	**15 40 34.0**	**-1.6**
	5.4nm,1.1s,baz=229,slow=7.3,SNR=14							
LPAZ				LR		LR	15 54 25.1	
	comp=Z,619nm,21.0s,baz=220,slow=30							
RAR	**Rarotonga**	**44.81**	**276**	LR		LR	15 54 23.7	
	comp=Z,568nm,18.9s,baz=124,slow=29							
CPUP	**Villa Florida**	**46.47**	**93**	LR		LR	15 57 23.4	
	comp=Z,823nm,19.0s,baz=254,slow=32							
OTAV	**Otavalo**	**47.45**	**47**	*e*P		**P**	**15 41 10.4**	**-0.4**
	11nm,1.3s							
SAML	**Samuel**	**51.30**	**70**	*e*P		**P**	**15 41 38.4**	**-1.3**
	26nm,1.8s							
SBA	**Scott Base**	**52.99**	**195**	*e*P		**P**	**15 41 50.1**	**-1.4**
ROSC	**El Rosal**	**53.58**	**48**	LR		LR	16 00 29.5	
	comp=Z,651nm,19.8s,baz=244,slow=31							
QSPA	**South Pole Qui**	**53.72**	**180**	*e*P		**P**	**15 41 58.5**	**+1.4**
	37nm,1.2s							
VNDA	**Vanda**	**54.06**	**196**	P		**P**	**15 41 58.2**	**-1.1**
	1.1nm,0.8s,baz=58,slow=8.1,SNR=6.9							
VNDA				LR		LR	15 59 49.8	
	comp=Z,912nm,21.0s,baz=92,slow=30							
RPZ	**Rata Peaks**	**57.95**	**237**	LR		LR	16 01 19.1	
	comp=Z,1μm,19.5s,baz=128,slow=30							
VNA3	**Neumayer Olymp**	**59.43**	**158**	P		**P**	**15 42 37.1**	**-0.4**
VNA1	**Neumayer--Stat**	**60.10**	**158**	P		**P**	**15 42 42.5**	**+0.4**
VNA2	**Neumayer--Watz**	**60.24**	**158**	P		**P**	**15 42 43.0**	**-0.1**
	baz=247,slow=5.5							
SNAA	**Sanae**	**61.20**	**160**	P		**P**	**15 42 49.1**	**-0.6**
SNAA	**Sanae**	**61.20**	**160**	*e*P		**P**	**15 42 48.7**	**-1.1**
	844nm,1.3s							
TXAR	**Lajitas Array**	**65.84**	**7**	P		**P**	**15 43 21.2**	**+0.4**
	0.9nm,0.9s,baz=182,slow=8.5,SNR=7.8							
TXAR				LR		LR	16 07 27.4	
	comp=Z,114nm,18.2s,baz=0.0,slow=32							
JCT	**Junction City**	**67.45**	**11**	*e*P		**P**	**15 43 30.4**	**-0.6**
	22nm,1.1s							
ABTX	**Abilene, Hawle**	**69.58**	**10**	*e*P		**P**	**15 43 46.9**	**+2.6**
	3.4nm,0.7s							
MSTX	**Muleshoe**	**70.52**	**7**	*e*P		**P**	**15 43 49.7**	**-0.5**
	16nm,1.0s							
DZM	**Mont Dzumac**	**71.38**	**256**	*e*S		**S**	**15 53 11.6**	**-2.6**
	369nm,24.8s							
DZM	**Mont Dzumac**	**71.38**	**256**	*e*LR		LR	16 05 32.0	
	2μm,23.4s							
SYO	**Syowa Base**	**72.60**	**169**	⇑*e*P		**P**	**15 44 01.0**	**-1.2**
SYO	**Syowa Base**	**72.60**	**169**	⇓*i*pP		**P**	**15 44 02.4**	**+0.2**
MVCO	**Mesa Verde**	**73.37**	**2**	*e*P		**P**	**15 44 07.4**	**+0.1**
	20nm,1.4s							
PV01	**Paradox Valley**	**74.29**	**2**	*e*P		**P**	**15 44 12.6**	**-0.1**
	613nm,1.3s							
MAW	**Mawson**	**76.13**	**178**	P		**P**	**15 44 22.9**	**+0.2**
	3.4nm,0.8s,baz=205,slow=5.0,SNR=7.6							
MAW				LR		LR	16 15 48.0	
	comp=Z,371nm,19.4s,baz=212,slow=34							
K22A	**Casper**	**78.87**	**3**	P		**P**	**15 44 40.5**	**+2.1**
	24nm,1.4s							
BW06	**Boulder Array**	**78.89**	**1**	*e*P		**P**	**15 44 38.2**	**-0.4**
	12nm,1.1s							
PDAR	**Pinedale Array**	**78.89**	**1**	P		**P**	**15 44 39.3**	**+0.7**
	2.5nm,0.9s,baz=161,slow=6.3,SNR=13							
PDAR				LR		LR	16 14 31.2	
	comp=Z,206nm,18.8s,baz=180,slow=32							
IMW	**Indian Meadow**	**80.01**	**0**	*e*P		**P**	**15 44 43.8**	**-1.0**
	7.5nm,1.2s							
STKA	**Stephens Creek**	**83.85**	**235**	LR		LR	16 16 10.9	
	comp=Z,762nm,20.1s,baz=158,slow=31							
ASAR	**Alice Springs**	**94.36**	**236**	P		**P**	**15 45 55.0**	**-0.5**
	0.8nm,1.0s,baz=132,slow=2.3,SNR=5.4							
ASAR				LR		LR	16 24 57.0	
	comp=Z,624nm,18.2s,baz=142,slow=33							
H11S2	**WAKE ISLAND Hy**	**94.75**	**289**	T		T	17 31 21.4	
	baz=127,slow=75,SNR=41							
H11S1	**WAKE ISLAND Hy**	**94.77**	**289**	T		T	17 31 22.5	
	baz=127,slow=75,SNR=47							
H11S3	**WAKE ISLAND Hy**	**94.77**	**289**	T		T	17 31 21.0	
	baz=127,slow=75,SNR=23							
H11N3	**WAKE ISLAND Hy**	**95.33**	**290**	T		T	17 32 06.1	
	baz=127,slow=76,SNR=5.3							
H11N1	**WAKE ISLAND Hy**	**95.34**	**290**	T		T	17 32 04.3	
	baz=127,slow=76,SNR=16							
H11N2	**WAKE ISLAND Hy**	**95.35**	**290**	T		T	17 32 09.0	
	baz=127,slow=76,SNR=6.7							
WRA	**Warramunga Arr**	**96.57**	**239**	P		**P**	**15 46 06.0**	**+0.4**
	0.5nm,0.9s,baz=156,slow=4.8,SNR=3.0							
WRA				LR		LR	16 26 16.5	
	comp=Z,605nm,18.0s,baz=130,slow=33							
WRA	**Warramunga Arr**	**96.57**	**239**	P		**P**	**15 46 06.0**	**+0.4**
H01W1	**Cape Leeuwin H**	**97.43**	**216**	T		T	17 35 26.9	
	baz=143,slow=75,SNR=6.1							
H01W2	**Cape Leeuwin H**	**97.43**	**216**	T		T	17 35 31.7	
	baz=143,slow=75,SNR=3.8							
H01W3	**Cape Leeuwin H**	**97.44**	**216**	T		T	17 35 28.2	
	baz=143,slow=75,SNR=5.6							
SCHQ	**Schefferville**	**98.57**	**24**	LR		LR	16 25 50.0	
	comp=Z,280nm,20.9s,baz=134,slow=32							
YKA	**Yellowknife Ar**	**98.68**	**358**	LR		LR	16 25 55.1	
	comp=Z,52nm,18.7s,baz=180,slow=32							
CLL	**Collm**	**138.11**	**51**	*e*PSKS		**PKKSdf**	**16 05 12.0**	**+2.9**
CLL				*e*PPS		PPS	16 07 06.0	
CLL				*e*			16 09 42.0	
CLL				*e*SS		SS	16 13 12.0	+12
CLL				*e*SSS		SSS	16 18 12.0	
CLL				*e*SSSS			16 22 18.0	
CLL				Lm		MLR	16 47 00.0	
	comp=Z,200nm,19.9s							
GERES	**GERESS Array B**	**138.44**	**55**	PKhKP		PKPpre	15 51 57.3	
	comp=Z,0.1nm,0.2s,baz=336,slow=2.2,SNR=3.6							
FINES	**FINESS Array B**	**143.44**	**33**	PKhKP		PKPpre	15 52 06.1	
	comp=Z,3.2nm,0.9s,baz=27,slow=4.7,SNR=6.0							
FINES				PKP		**PKPdf**	**15 52 10.3**	**+1.3**
	comp=Z,1.7nm,0.7s,baz=153,slow=1.6,SNR=5.5							
DRGR		**144.43**	**58**	⇑*i*P		**PKPdf**	**15 52 11.9**	**+0.5**
GZR	**Gura Zlata**	**144.45**	**61**	⇑*i*P		**PKPab**	**15 52 08.4**	**-1.3**
ISAL	**Salakas**	**145.41**	**43**	*e*P		**PKPbc**	**15 52 12.0**	**-0.6**
ISAL				IAmb		IAmb	15 52 13.9	
	comp=Z,4.4nm,1.0s							
IIGN	**Ignalina**	**145.52**	**43**	*e*P		**PKPdf**	**15 52 12.4**	**-0.4**
IIGN				IAmb		IAmb	15 52 14.9	
	comp=Z,13nm,1.3s							
NRIK	**Noril'sk**	**145.54**	**348**	PKPbc		**PKPab**	**15 52 12.8**	**-0.1**
	comp=Z,4.2nm,0.9s,baz=27,slow=3.0,SNR=9.7							
ENH	**Enshi**	**145.74**	**272**	*e*PKPbc		**PKPab**	**15 52 15.0**	**+0.1**
ARR	**Arges**	**145.76**	**61**	⇑*i*P		**PKPdf**	**15 52 13.3**	**-0.4**
IDID	**Didziasalis**	**145.81**	**43**	*e*P		**PKPdf**	**15 52 13.0**	**-0.3**
IDID				IAmb		IAmb	15 52 15.7	
	comp=Z,8.1nm,1.1s							
VOIR		**146.05**	**61**	⇑*i*P		**PKPab**	**15 52 15.9**	**+0.2**
BURAR	**Bucovina Array**	**146.12**	**57**	⇑*i*P		**PKPdf**	**15 52 14.7**	**+0.4**
DOPR	**Dopca**	**146.29**	**60**	⇑*i*P		**PKPbc**	**15 52 15.7**	**0.0**
MLR	**Muntele Rosu**	**146.69**	**61**	⇑*i*P		**PKPdf**	**15 52 15.6**	**+0.2**
PLOR	**Plostina**	**147.17**	**60**	⇑*i*P		**PKPab**	**15 52 21.6**	**+1.6**
CMAR	**Chiang Mai Arr**	**148.05**	**244**	PKPbc		**PKPbc**	**15 52 21.8**	**+0.3**
	comp=Z,2.3nm,0.8s,baz=180,slow=1.9,SNR=16							
CFR	**Carcaliu**	**148.24**	**61**	⇑*i*P		**PKPdf**	**15 52 17.1**	**-0.6**
CHTO	**Chiang Mai**	**148.28**	**244**	*e*PKPbc		**PKPbc**	**15 52 21.9**	**-0.1**
AKASG	**Malin Array Be**	**148.35**	**51**	PKPbc		**PKPbc**	**15 52 20.4**	**-0.8**
	comp=Z,0.8nm,0.5s,baz=274,slow=3.1,SNR=5.4							
KIS	**Kishinev**	**148.61**	**58**	*e*P		**PKPbc**	**15 52 22.0**	**0.0**
ULN	**Ulaanbaatar**	**149.82**	**304**	*e*PKPbc		**PKPbc**	**15 52 24.8**	**-0.5**
ULN				*e*PKPab		**PKPab**	**15 52 31.1**	**+0.3**
SONM	**Songino Array**	**150.27**	**304**	PKPbc		**PKPbc**	**15 52 26.2**	**-0.1**
	comp=Z,4.3nm,1.1s,baz=103,slow=3.8,SNR=6.9							
BRTR	**Keskin Array B**	**152.17**	**73**	PKP		**PKPdf**	**15 52 25.8**	**+1.5**
	comp=Z,0.8nm,0.9s,baz=158,slow=4.0,SNR=3.0							
BRTR				PKPab		**PKPab**	**15 52 40.0**	**-0.8**
	comp=Z,2.4nm,1.1s,baz=166,slow=0.6,SNR=5.3							

IDC 25 15:43:15.8±9.2, 17.°87S×170.°48E, h160km±62km, mb3.4/3, mb1 3.5/4, mb1mx3.1/25, mbtmp3.8/4, Error ellipse: s-maj=129.2km s-min=74.4km az=124.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**5.64**	**222**	P		Pn	15 44 38.0	+0.1
	0.5nm,0.3s,baz=68,slow=19,SNR=15							
DZM				S		Sn	15 45 42.5	+0.3
	0.0nm,0.3s,baz=143,slow=20,SNR=1.9							
STKA	**Stephens Creek**	**29.57**	**236**	P		P	15 49 05.6	-0.1
	1.1nm,0.6s,baz=68,slow=8.4,SNR=4.2							
WRA	**Warramunga Arr**	**34.21**	**261**	P		P	15 49 46.2	-0.1
	0.2nm,0.4s,baz=84,slow=6.7,SNR=9.4							
ASAR	**Alice Springs**	**34.61**	**254**	P		P	15 49 49.8	-0.1
	2.0nm,0.4s,baz=80,slow=8.8,SNR=105							

*ISK **25** 15:48:55.8, 37.°34N×30.°66E, h5km, MD2.6*
*CSEM **25** 15:48:56.9±0.4, 37.°38N×30.°65E, h2km, MD2.6, Error ellipse: s-maj=8.7km s-min=6.5km az=115.0*
*DDA **25** 15:48:58.9, 37.°69N×30.°15E, h7km, Md2.8*

ISC 25 15:48:57.5±1.0, 37.°38N±0.°03×30.°63E±0.°04, h5km±9km, n24, σ1§15/34, Turkey

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
BCK	**Bucak**	**0.09**	**339**	*e*PG		**Pg**	**15 48 58.6**	**-0.9**
BCK				*e*SG		**Sg**	**15 49 01.7**	**+0.8**
BCK	**Bucak**	**0.09**	**339**	*e*Pg		**Pg**	**15 48 58.6**	**-0.9**
BCK				*e*Sg		**Sg**	**15 49 01.7**	**+0.9**
SUTC	**Sutluce-Ispart**	**0.31**	**72**	*e*PG		**Pg**	**15 49 02.8**	**-0.8**
SUTC	**Sutluce-Ispart**	**0.31**	**72**	*e*Pg		**Pg**	**15 49 02.8**	**-0.8**
KORT	**Korkueli**	**0.44**	**211**	*e*PG		**Pg**	**15 49 05.1**	**-0.8**
KORT				*e*SG		**Sg**	**15 49 12.5**	**+0.8**
KORT	**Korkueli**	**0.44**	**211**	*e*Pg		**Pg**	**15 49 05.1**	**-0.8**
KORT				*e*Sg		**Sg**	**15 49 12.5**	**+0.8**
ANTB	**Antalya**	**0.48**	**178**	*e*PG		**Pg**	**15 49 05.8**	**-0.9**
ANTB	**Antalya**	**0.48**	**178**	*e*Pg		**Pg**	**15 49 05.8**	**-0.9**
BAGO	**Egridir - ISPA**	**0.62**	**12**	*i*P		**Pg**	**15 49 09.5**	**0.0**
BAGO				*i*S		**Sb**	**15 49 19.8**	**-0.2**
ELL	**Elmali**	**0.85**	**223**	*e*PG		**Pg**	**15 49 13.0**	**-0.8**
ELL				*e*SG		**Sb**	**15 49 25.8**	**-0.8**
ELL	**Elmali**	**0.85**	**223**	*e*Pg		**Pg**	**15 49 13.0**	**-0.8**
ELL				*e*Sg		**Sb**	**15 49 25.8**	**-0.8**
GOLH	**Golhisar**	**0.86**	**261**	*i*P		**Pg**	**15 49 12.2**	**-1.8**
GOLH	**Golhisar**	**0.86**	**261**	P		**Pg**	**15 49 12.2**	**-1.8**
AKAS	**Kas**	**1.41**	**216**	*e*PN		**Pn**	**15 49 23.4**	**-0.4**
AKAS	**Kas**	**1.41**	**216**	*i*P		**Pg**	**15 49 24.4**	**-0.1**
AKAS	**Kas**	**1.41**	**216**	*e*Pn		**Pn**	**15 49 23.5**	**-0.4**
AKAS	**Kas**	**1.41**	**216**	P		**Pg**	**15 49 24.4**	**-0.1**
FETY	**Fethiye**	**1.44**	**240**	*e*PN		**Pb**	**15 49 24.6**	**-0.2**
FETY	**Fethiye**	**1.44**	**240**	P		**Pn**	**15 49 24.0**	**-0.2**
FETY	**Fethiye**	**1.44**	**240**	*e*Pn		**Pb**	**15 49 24.6**	**-0.2**
FETY				S		**Sg**	**15 49 47.9**	**+4.1**
DALY	**Dalyan (Mu¨la**	**1.68**	**251**	*e*PN		**Pn**	**15 49 27.4**	**0.0**
DALY	**Dalyan (Mu¨la**	**1.68**	**251**	*i*P		**Pb**	**15 49 29.2**	**+0.4**
DALY				*i*S		**Sg**	**15 49 52.8**	**+1.5**
DALY	**Dalyan (Mu¨la**	**1.68**	**251**	*e*Pn		**Pn**	**15 49 27.4**	**0.0**
DALY	**Dalyan (Mu¨la**	**1.68**	**251**	P		**Pb**	**15 49 29.2**	**+0.4**
DALY				S		**Sg**	**15 49 52.8**	**+1.5**

MEX 25 16:02:46.6±0.5, 14.°13N×91.°99W, h20km±129km, MD3.6, Guatemala

| Code | Station Name | Δ° | AZ

IRAZ	**Razeghan**	**2.23**	**156**	*e*Pn	**Pg**	**16 18 39.9**	**0.0**
IRAZ				*e*AMB	AMB	16 19 13.0	
	comp=Z,2µm,0.2s						
IRAZ	**Razeghan**	**2.23**	**156**	*e*Pn	**Pg**	**16 18 39.9**	**0.0**
CHTH	**Charan**	**2.42**	**129**	*e*Pn	**Pb**	**16 18 42.6**	**+1.2**
ISHB	**Shabestar**	**2.65**	**289**	*e*Pn	**Pg**	**16 18 47.1**	**-0.8**
ISHB				*e*AMB	AMB	16 19 27.8	
	comp=Z,304nm,0.1s						
IPRN	**Peran**	**3.08**	**112**	*e*Pn	**Pb**	**16 18 50.8**	**-1.8**

ISCJB ***25*** *16:19:30.0±0.5, 27°.72N±0°.03×130°.08E±0°.04, h36km±7km, mb3.8/8, MS4.1/1, Error ellipse: s-maj=6.8km s-min=3.9km az=31.7*
JMA ***25*** *16:19:30.5±0.2, 27°.80N×130°.00E, h59km±4km, M3.4*
IDC ***25*** *16:19:32.5±0.8, 27°.80N×130°.09E, h40km±7km, mb3.6/8, mb1 3.7/11, mb1mx3.5/32, mbtmp3.8/11, ML3.3/3, MS4.1/1, Ms1 4.1/1, ms1mx2.7/39, Error ellipse: s-maj=31.4km s-min=14.0km az=81.0*
ISC 25 16:19:30.7±0.7, 27°.73N±0°.04×130°.05E±0°.04, h27km±4km, n28, σ0§83/44, mb3.9/8, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
JZK	**Kikaishima**	**0.58**	**353**	P			**Pb**	**16 19 42.5**	**+0.1**
JZK					*e*S		**Sn**	**16 19 52.3**	**+0.4**
JAM	**Amami Oshima**	**0.78**	**330**	P			**Pb**	**16 19 44.9**	**-0.8**
JAM					*e*S		**Sb**	**16 19 55.5**	**-0.5**
JAMN	**Amaminishikomi**	**0.93**	**303**	P			**Pn**	**16 19 46.7**	**-1.3**
JTK	**Tokunoshima**	**0.98**	**273**	P			**Pn**	**16 19 48.0**	**-0.7**
JTK					*e*S		**Sb**	**16 20 00.8**	**-0.8**
JOKE	**Okinoerabujima**	**1.37**	**255**	P			**Pn**	**16 19 53.7**	**-0.3**
JOKE					*e*S		**Sn**	**16 20 10.8**	**-0.5**
JTAJ	**Takarajima**	**1.60**	**332**	P			**Pn**	**16 19 56.6**	**-0.6**
JOW	**Kunigami**	**1.82**	**241**	P			**Pn**	**16 20 00.0**	**-0.3**
JOW					*e*S		**Sn**	**16 20 22.9**	**+0.5**
JIH	**Iheya**	**1.98**	**250**	P			**Pn**	**16 20 02.3**	**-0.2**
JIH					*e*S		**Sn**	**16 20 25.6**	**-0.8**
JMZ	**Minamidaito 2**	**2.17**	**151**	P			**Pn**	**16 20 04.5**	**-0.6**
JMZ					*e*S		**Sn**	**16 20 28.8**	**-2.4**
JNTH	**Nagotoyohara**	**2.18**	**237**	P			**Pn**	**16 20 04.9**	**-0.3**
JNTH					*e*S		**Sn**	**16 20 30.9**	**-0.3**
JYAK	**Yakushimahirau**	**2.53**	**9**	P			**Pn**	**16 20 10.3**	**+0.3**
JYAK					*e*S		**Sn**	**16 20 40.2**	**+0.3**
JJT2	**Tamagusuku 2**	**2.60**	**233**	P			**Pn**	**16 20 11.4**	**+0.4**
JJT2					*e*S		**Sn**	**16 20 41.8**	**+0.1**
JAGN	**Aguni-jima**	**2.75**	**246**	P			**Pn**	**16 20 12.8**	**-0.3**
JAGN					*e*S		**Sn**	**16 20 44.9**	**-0.5**
JTN	**Tanegashima 3**	**3.02**	**15**	P			**Pn**	**16 20 16.7**	**-0.1**
JTN					*e*S		**Sn**	**16 20 50.7**	**-1.4**
JKE	**Kume jima 2**	**3.23**	**245**	P			**Pn**	**16 20 19.1**	**-0.6**
JKE					*e*S		**Sn**	**16 20 55.8**	**-1.5**
JNU	**Nakatsue**	**5.42**	**7**	Pn			**Pn**	**16 20 50.4**	**+0.6**
	2.3nm,0.3s,baz=157,slow=5.8,SNR=24								
JNU					Sn		**Sn**	**16 21 49.7**	**-1.5**
	baz=53,slow=20,SNR=2.7								
KSRS	**Korea Array**	**9.86**	**350**	Pn			**Pn**	**16 21 51.9**	**+1.3**
	0.1nm,0.3s,baz=178,slow=14,SNR=3.1								
MJAR	**Matsushiro Arr**	**11.17**	**36**	Pn			**Pn**	**16 22 09.7**	**+1.1**
	0.1nm,0.3s,baz=204,slow=12,SNR=3.7								
CMAR	**Chiang Mai Arr**	**30.00**	**259**	P			**P**	**16 25 38.2**	**+0.9**
	0.4nm,0.7s,baz=57,slow=6.7,SNR=3.5								
MKAR	**Makanchi Array**	**41.78**	**310**	P			**P**	**16 27 18.7**	**+0.9**
	0.3nm,0.7s,baz=102,slow=9.1,SNR=2.9								
WRA	**Warramunga Arr**	**47.58**	**175**	P			**P**	**16 28 04.5**	**+0.3**
	2.1nm,0.5s,baz=353,slow=8.3,SNR=31								
WRA				pP			**sP**	**16 28 16.1**	**+0.4**
	1.0nm,0.7s,baz=354,slow=8.4,SNR=5.1								
NRIK	**Noril'sk**	**48.34**	**341**	LR			LR	16 50 45.8	
	comp=Z,226nm,20.5s,baz=8.0,slow=39								
ASAR	**Alice Springs**	**51.24**	**175**	P			**P**	**16 28 33.2**	**+1.1**
	0.7nm,0.6s,baz=12,slow=9.7,SNR=20								
ASAR				pP			**sP**	**16 28 44.3**	**+0.6**
	1.1nm,0.6s,baz=7.4,slow=14,SNR=10								
FINES	**FINESS Array B**	**72.35**	**331**	P			**P**	**16 30 53.2**	**-0.6**
	2.3nm,0.7s,baz=70,slow=5.6,SNR=11								
AKASG	**Malin Array Be**	**75.44**	**320**	P			**P**	**16 31 11.9**	**-0.2**
	0.5nm,0.5s,baz=59,slow=6.2,SNR=3.5								
AKASG				pP			**sP**	**16 31 23.7**	**-0.2**
	0.5nm,0.4s,baz=57,slow=6.8,SNR=2.0								
BRTR	**Keskin Array B**	**77.39**	**308**	P			**P**	**16 31 23.4**	**-0.2**
	0.8nm,0.8s,baz=72,slow=4.7,SNR=3.1								
NB2	**NORSAR Subarra**	**78.68**	**334**	P			**P**	**16 31 29.5**	**-0.7**
	comp=Z,1.1nm,0.8s,baz=52,slow=5.6								
NOA	**NORSAR Array B**	**78.68**	**334**	P			**P**	**16 31 29.4**	**-0.7**
	comp=Z,1.1nm,0.7s,baz=52,slow=5.5,SNR=5.2								

TIR ***25*** *16:23:04.4±4.5, 42°.14N×18°.53E, h12km±82km, ML3.7*
ISCJB ***25*** *16:23:06.0±0.3, 42°.62N±0°.01×18°.59E±0°.02, h4km±2km, mb3.6/2, Error ellipse: s-maj=2.4km s-min=1.8km az=23.8*
PDG ***25*** *16:23:06.5±0.3, 42°.57N×18°.61E, h6km, MD3.3/8, ML3.3/10, Error ellipse: s-maj=0.3km s-min=0.5km az=0.0*
BEO ***25*** *16:23:07.3±0.3, 42°.60N×18°.65E, h0km, M3.2/1*
PRU ***25*** *16:23:07.9, 42°.53N×18°.78E, h0km*
CSEM ***25*** *16:23:07.1±0.1, 42°.59N×18°.64E, h2km, ML3.4/14, Error ellipse: s-maj=2.5km s-min=1.9km az=33.0*
IDC ***25*** *16:23:07.7±3.6, 42°.75N×18°.96E, h0km, mb3.6/2, mb1 3.5/5, mb1mx3.4/29, mbtmp3.4/5, ML3.3/3, Error ellipse: s-maj=68.2km s-min=17.3km az=38.0*
ISC 25 16:23:06.6±0.9, 42°.57N±0°.01×18°.61E±0°.01, h5km±7km, n173, σ1§23/294, 45C-35D, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
HCY	**Herceg Novi**	**0.15**	**215**	⇑*i*Pg			**Pg**	**16 23 09.1**	**-0.5**
HCY					*e*Sg		**Sg**	**16 23 11.8**	**+0.2**
HCY	**Herceg Novi**	**0.15**	**215**	⇑*i*Pg			**Pg**	**16 23 09.1**	**-0.5**
HCY					*e*Sg		**Sg**	**16 23 11.8**	**+0.2**
CEME	**Cevo**	**0.23**	**95**	⇓*i*Pg			**Pg**	**16 23 10.9**	**-0.2**
CEME					*e*Sg		**Sg**	**16 23 14.4**	**+0.3**
TREB	**Trebinje**	**0.24**	**308**	⇓*i*Pg			**Pg**	**16 23 11.5**	**+0.1**
TREB					*e*Sg		**Sg**	**16 23 14.7**	**+0.1**
TREB	**Trebinje**	**0.24**	**308**	⇓*i*Pg			**Pg**	**16 23 11.5**	**+0.1**
TREB					*e*Sg		**Sg**	**16 23 14.7**	**+0.1**
NKME	**Niksic**	**0.32**	**52**	⇓*i*Pg			**Pg**	**16 23 12.8**	**-0.1**
NKME					*e*Sg		**Sg**	**16 23 17.9**	**+0.7**
NKME	**Niksic**	**0.32**	**52**	⇓*i*Pg			**Pg**	**16 23 12.8**	**-0.1**
NKME					*e*Sg		**Sg**	**16 23 17.9**	**+0.7**
BRY	**Bratogost**	**0.34**	**351**	⇓*i*Pg			**Pg**	**16 23 13.2**	**0.0**
BRY					*e*Sg		**Sg**	**16 23 19.0**	**+1.3**
BRY	**Bratogost**	**0.34**	**351**	⇓*i*Pg			**Pg**	**16 23 13.2**	**0.0**
BRY					*e*Sg		**Sg**	**16 23 18.6**	**+0.9**
BUM	**Brajici-Budva**	**0.34**	**142**	⇓*i*Pg			**Pg**	**16 23 12.8**	**-0.4**
BUM					*e*Sg		**Sg**	**16 23 18.1**	**+0.4**
BUM	**Brajici-Budva**	**0.34**	**142**	⇓*i*Pg			**Pg**	**16 23 12.8**	**-0.4**
BUM					*e*Sg		**Sg**	**16 23 18.1**	**+0.4**
NKY	**Niksic**	**0.37**	**49**	⇓*i*Pg			**Pg**	**16 23 13.8**	**-0.1**
NKY					*e*Sg		**Sg**	**16 23 19.4**	**+0.6**
NKY	**Niksic**	**0.37**	**49**	⇓*i*Pg			**Pg**	**16 23 13.8**	**-0.1**
NKY					*e*Sg		**Sg**	**16 23 19.4**	**+0.6**
PDG	**Podgorica**	**0.50**	**106**	⇓*i*Pg			**Pg**	**16 23 15.2**	**-0.9**
PDG					*e*Sg		**Sg**	**16 23 22.9**	**+0.3**
PDG	**Podgorica**	**0.50**	**106**	⇓*i*P			**Pg**	**16 23 15.3**	**-0.9**
PDG					S		**Sg**	**16 23 23.9**	**+1.3**
PDG	**Podgorica**	**0.50**	**106**	⇓*i*P			**Pg**	**16 23 15.3**	**-0.9**
PDG					*e*Sg		**Sg**	**16 23 22.9**	**+0.3**
TTG	**Podgorica**	**0.50**	**106**	⇓*i*Pg			**Pg**	**16 23 15.3**	**-0.9**
TTG					*e*Sg		**Sg**	**16 23 23.6**	**+1.0**
DRME	**Dracevica, Mon**	**0.57**	**132**	⇓*i*Pg			**Pg**	**16 23 17.1**	**-0.5**
DRME					*e*Sg		**Sg**	**16 23 26.2**	**+1.2**
DRME	**Dracevica, Mon**	**0.57**	**132**	⇓*i*Pg			**Pg**	**16 23 17.1**	**-0.5**
DRME					*e*Sg		**Sg**	**16 23 26.2**	**+1.2**
UPM	**Unac-Piva**	**0.67**	**19**	⇑*i*Pg			**Pg**	**16 23 18.8**	**-0.7**
UPM					*e*Sg		**Sb**	**16 23 29.6**	**-1.0**
UPM	**Unac-Piva**	**0.67**	**19**	P			**Pg**	**16 23 19.0**	**-0.5**
UPM					*e*Sg		**Sb**	**16 23 29.6**	**-1.0**
STON	**Ston**	**0.74**	**295**	*i* Pg			**Pg**	**16 23 19.7**	**-1.1**
STON					Sg		**Sb**	**16 23 31.6**	**-0.7**
ULC	**Ulcinj**	**0.77**	**142**	⇓*i*Pg			**Pg**	**16 23 20.1**	**-1.2**
ULC					*e*Sg		**Sg**	**16 23 31.9**	**+0.6**
ULC	**Ulcinj**	**0.77**	**142**	P			**Pg**	**16 23 20.2**	**-1.1**
ULC					*e*Sg		**Sg**	**16 23 31.9**	**+0.6**
PLE	**Pljevlja**	**0.95**	**37**	⇓*i*Pg			**Pg**	**16 23 24.2**	**-0.7**
PLE					*e*Sg		**Sb**	**16 23 39.1**	**+0.4**
PLE	**Pljevlja**	**0.95**	**37**	⇓*i*Pg			**Pg**	**16 23 24.2**	**-0.7**
PLE					*e*Sg		**Sb**	**16 23 39.1**	**+0.4**
BEY	**Berane**	**0.99**	**72**	⇓*i*Pg			**Pg**	**16 23 24.6**	**-1.1**
BEY	**Berane**	**0.99**	**72**	P			**Pg**	**16 23 26.0**	**+0.3**
BEY					*e*Sg		**Sb**	**16 23 40.4**	**+0.6**
IVA	**Berane**	**0.99**	**72**	⇓*i*Pg			**Pg**	**16 23 24.6**	**-1.1**
IVA					*e*Sg		**Sb**	**16 23 40.4**	**+0.6**
PVY	**Plav**	**1.00**	**88**	⇓*i*Pg			**Pg**	**16 23 25.0**	**-0.8**
PVY					*e*Sg		**Sb**	**16 23 40.4**	**+0.5**
PVY	**Plav**	**1.00**	**88**	⇓*i*Pg			**Pg**	**16 23 25.0**	**-0.8**
PVY					*e*Sg		**Sb**	**16 23 40.4**	**+0.5**
SJES	**Sjenica**	**1.22**	**55**	*i* Pg			**Pg**	**16 23 29.5**	**-0.5**
SJES					*e*Sg		**Sg**	**16 23 45.4**	**-0.4**
BBLS	**Lazi?i**	**1.42**	**24**	⇓*i*Pg			**Pg**	**16 23 33.3**	**+0.1**
BBLS					*e*Sg		**Sb**	**16 23 51.9**	**-0.2**
BBLS	**Lazi?i**	**1.42**	**24**	⇓*i*Pg			**Pg**	**16 23 33.3**	**+0.1**
BBLS					*e*Sg		**Sb**	**16 23 51.9**	**-0.2**
IVAS	**Ivanjica**	**1.52**	**48**	*i* Pg			**Pn**	**16 23 33.8**	**-0.7**
IVAS	**Ivanjica**	**1.52**	**48**	*i* Pg			**Pn**	**16 23 33.8**	**-0.7**
TIR	**Tirane**	**1.54**	**142**	*i* PN			**Pg**	**16 23 36.2**	**+0.1**
TIR					*i* SN		**Sg**	**16 23 58.8**	**+2.8**
TIR	**Tirane**	**1.54**	**142**	⇑*i*Pg			**Pb**	**16 23 35.5**	**-0.1**
TIR					*e*Sg		**Sg**	**16 23 57.0**	**+1.0**
TIR	**Tirane**	**1.54**	**142**	⇓*i*P			**Pb**	**16 23 35.7**	**+0.2**
TIR					S		**Sg**	**16 23 57.5**	**+1.5**
TIR	**Tirane**	**1.54**	**142**	⇑*i*Pg			**Pb**	**16 23 35.5**	**-0.1**
TIR	**Tirane**	**1.54**	**142**	P			**Pb**	**16 23 35.8**	**+0.2**
TIR	**Tirane**	**1.54**	**142**	*i* Pn			**Pg**	**16 23 36.2**	**+0.1**
	SNR=63								
TIR					*e*Sg		**Sg**	**16 23 57.0**	**+1.0**
TIR					*i* Sn		**Sg**	**16 23 58.8**	**+2.8**
	SNR=63								
DIVS	**Divibare**	**1.83**	**33**	⇑*i*Pg			**Pn**	**16 23 39.8**	**+0.9**
DIVS					*e*Sg		**Sg**	**16 24 05.0**	**-0.5**
DIVS	**Divibare**	**1.83**	**33**	⇑*i*Pn			**Pn**	**16 23 39.5**	**+0.6**
DIVS	**Divibare**	**1.83**	**33**	⇑*i*Pg			**Pn**	**16 23 39.8**	**+0.9**
DIVS					*e*Sn		**Sb**	**16 24 03.7**	**-0.3**
DIVS					*e*Sg		**Sg**	**16 24 05.0**	**-0.5**
BAI	**Bari**	**1.95**	**222**	*e*Pn			**Pn**	**16 23 38.2**	**-2.2**
SELS	**Selova**	**1.96**	**70**	⇑*i*Pg			**Pn**	**16 23 41.1**	**+0.6**
SELS	**Selova**	**1.96**	**70**	⇑*i*Pg			**Pn**	**16 23 41.1**	**+0.6**
GRUS	**Gruza**	**2.03**	**49**	⇑*i*Pg			**Pn**	**16 23 42.4**	**+0.9**
GRUS					*e*Sg		**Sb**	**16 24 10.1**	**+0.6**
GRUS	**Gruza**	**2.03**	**49**	⇑*i*Pg			**Pn**	**16 23 42.4**	**+0.9**
GRUS					*e*Sg		**Sb**	**16 24 10.1**	**+0.6**
TEKS	**Tekeris**	**2.09**	**18**	*i* Pg			**Pn**	**16 23 43.1**	**+0.8**
TEKS					*e*Sg		**Sg**	**16 24 12.8**	**-1.0**
TEKS	**Tekeris**	**2.09**	**18**	*i* Pg			**Pn**	**16 23 43.1**	**+0.8**
TEKS					*e*Sn		**Sn**	**16 24 09.2**	**+0.4**
TEKS					*e*Sg		**Sg**	**16 24 12.8**	**-1.0**
TRUS	**Trudelj**	**2.11**	**38**	*e*Pn			**Pn**	**16 23 43.3**	**+0.7**
TRUS					*e*Sg		**Sb**	**16 24 12.3**	**+0.4**
TRUS	**Trudelj**	**2.11**	**38**	*e*Pn			**Pn**	**16 23 43.3**	**+0.7**
TRUS					*e*Sn		**Sb**	**16 24 12.3**	**+0.4**
MS1	**Monte Sant'Ang**	**2.16**	**247**	*e*Pn			**Pb**	**16 23 46.1**	**-0.2**
SKO	**Skopje**	**2.18**	**105**	⇑*i*Pn			**Pb**	**16 23 45.4**	**-1.2**
SKO					*i* Sn		**Sg**	**16 24 16.2**	**-0.5**
SKO	**Skopje**	**2.18**	**105**	⇑*i*Pn			**Pb**	**16 23 45.4**	**-1.2**
SKO					*i* Sn		**Sg**	**16 24 16.2**	**-0.5**
OHR	**Ohrid**	**2.19**	**131**	*i* Pn			**Pb**	**16 23 46.9**	**+0.1**
OHR					*i* Sn		**Sb**	**16 24 15.1**	**+0.9**
OHR	**Ohrid**	**2.19**	**131**	*i* Pn			**Pb**	**16 23 46.8**	**+0.1**
OHR					*i* Sn		**Sb**	**16 24 15.1**	**+0.9**
SG1	**Sgolgore (BA)**	**2.25**	**221**	*e*Pn			**Pn**	**16 23 42.7**	**-1.9**
CDT	**Castel del Mon**	**2.29**	**230**	*i* Pn			**Pn**	**16 23 43.2**	**-1.9**
BARS	**Barje**	**2.38**	**83**	⇑*i*Pn			**Pn**	**16 23 47.5**	**+1.2**
BARS					*e*Sn		**Sn**	**16 24 17.6**	**+1.8**
BLY	**Banja Luka**	**2.41**	**335**	*e*Pn			**Pb**	**16 23 48.9**	**+1.6**
BLY					*e*Sn		**Sb**	**16 24 20.4**	**-0.2**
BLY	**Banja Luka**	**2.41**	**335**	*e*Pn			**Pn**	**16 23 48.1**	**+1.3**
BLY					*e*Sn		**Sn**	**16 24 18.1**	**+1.4**
BOVS	**Bovan**	**2.51**	**64**	*i* Pn			**Pn**	**16 23 48.7**	**+0.7**
BOVS					*e*Sn		**Sn**	**16 24 19.1**	**+0.1**
SVIS	**Svilajnac**	**2.55**	**47**	⇑*i*Pn			**Pn**	**16 23 48.6**	**0.0**
BIA	**Bitola**	**2.55**	**126**	*i* Pn			**Pn**	**16 23 50.5**	**+1.8**
BIA					*i* Sn		**Sb**	**16 24 22.8**	**-1.8**
BIA	**Bitola**	**2.55**	**126**	*i* Pn			**Pn**	**16 23 50.5**	**+1.8**
BIA					*i* Sn		**Sb**	**16 24 22.8**	**-1.8**
FGSL	**Fruska Gora**	**2.73**	**18**	⇑*i*Pn			**Pn**	**16 23 51.5**	**+0.4**
FRGS	**Fruska Gora**	**2.73**	**18**	⇑*i*Pn			**Pn**	**16 23 51.5**	**+0.4**
BOLS	**Boljevac**	**2.75**	**62**	⇑*i*Pn			**Pn**	**16 23 50.7**	**-0.7**
BOLS	**Boljevac**	**2.75**	**62**	⇑*i*Pn			**Pn**	**16 23 50.7**	**-0.7**
UDBI	**Udbina**	**2.85**	**314**	*e*Pn			**Pn**	**16 23 54.6**	**+1.7**
UDBI					*e*Sn		**Sb**	**16 24 31.5**	**-1.7**
UDBI	**Udbina**	**2.85**	**314**	*e*Pn			**Pn**	**16 23 54.5**	**+1.7**
UDBI					*e*Sn		**Sb**	**16 24 31.5**	**-1.7**
ZAGS	**Zajecar**	**2.93**	**64**	⇑*i*Pn			**Pn**	**16 23 54.3**	**+0.5**
ZAGS					*e*Sn		**Sn**	**16 24 29.7**	**+0.4**
ZAGS	**Zajecar**	**2.93**	**64**	⇑*i*Pn			**Pn**	**16 23 54.3**	**+0.5**
ZAGS					*e*Sn		**Sn**	**16 24 29.7**	**+0.4**
ZAPS	**Zavoj**	**3.04**	**75**	*e*Pn			**Pn**	**16 23 56.8**	**+1.4**
ZAPS					*e*Sn		**Sn**	**16 24 32.3**	**+0.1**
MDVR	**Moldovita**	**3.16**	**44**	⇓*i*P			**Pn**	**16 23 58.0**	**+1.0**
MDVR	**Moldovita**	**3.16**	**44**	⇓*i*P			**Pn**	**16 23 58.0**	**+1.0**
MDVR					S		**Sn**	**16 24 35.4**	**+0.3**
VAY	**Valandovo**	**3.21**	**112**	*i* Pn			**Pb**	**16 24 03.5**	**-0.6**
VAY					*i* Sn		**Sg**	**16 24 48.7**	**-0.9**
VAY	**Valandovo**	**3.21**	**112**	*i* Pn			**Pb**	**16 24 03.4**	**-0.6**
NVLJ	**Novalja**	**3.37**	**308**	*e*Pn			**Pn**	**16 24 01.0**	**+1.1**
NVLJ					*e*Sn		**Sn**	**16 24 41.5**	**+1.2**
NVLJ	**Novalja**	**3.37**	**308**	*e*Pn			**Pn**	**16 24 01.0**	**+1.1**
NVLJ					*e*Sn		**Sn**	**16 24 41.4**	**+1.2**
VTS	**Vitosha**	**3.40**	**88**	⇑*i*P			**Pn**	**16 24 02.0**	**+1.6**
VTS	**Vitosha**	**3.40**	**88**	S			**Sn**	**16 24 44.0**	**+2.8**
VTS	**Vitosha**	**3.40**	**88**	⇑*i*P			**Pn**	**16 24 02.0**	**+1.6**
BZS	**Buzias**	**3.74**	**34**	⇑*i*P			**Pn**	**16 24 05.6**	**+0.6**
BZS	**Buzias**	**3.74**	**34**	⇑*i*Pn			**Pn**	**16 24 05.6**	**+0.6**
BZS					S		**Sn**	**16 24 49.6**	**+0.2**
OZLJ	**Ozalj**	**3.79**	**324**	*e*Pn			**Pn**	**16 24 06.8**	**+1.1**
OZLJ					*e*Sn		**Sn**	**16 24 52.2**	**+1.5**
AQU	**L'Aquila**	**3.86**	**269**	*e*Pn			**Pn**	**16 24 07.5**	**+0.8**
CRES	**Cresnjev**	**3.97**	**326**	*e*Pn			**Pn**	**16 24 09.2**	**+1.1**
CRES					*e*Sn		**Sn**	**16 24 54.8**	**-0.2**
BEHE	**Becsehely**	**4.12**	**342**	*e*Pn			**Pn**	**16 24 10.7**	**+0.5**
BEHE					*e*Sn		**Sn**	**16 24 59.0**	**+0.3**
BEHE	**Becsehely**	**4.12**	**342**	⇑*e*x			**Pn**	**16 24 12.4**	**+2.2**
BEHE					*e*x		**Sn**	**16 24 59.8**	**+1.1**
GZR	**Gura Zlata**	**4.12**	**45**	⇑*i*P			**Pn**	**16 24 11.2**	**+0.8**
GZR	**Gura Zlata**	**4.12**	**45**	⇑*i*P			**Pn**	**16 24 11.2**	**+0.8**
GZR					S		**Sn**	**16 24 59.5**	**+0.5**
SIRR	**Siria**	**4.30**	**30**	⇑*i*P			**Pn**	**16 24 13.2**	**+0.6**
SIRR	**Siria**	**4.30**	**30**	⇑*i*P			**Pn**	**16 24 13.2**	**+0.6**
SIRR					S		**Sn**	**16 25 03.4**	**+0.3**
CEY	**Cerknica**	**4.37**	**318**	*e*Pn			**Pn**	**16 24 14.1**	**+0.4**
CEY					*e*Sn		**Sn**	**16 25 04.5**	**-0.5**
DEV	**Deva**	**4.53**	**41**	S			**Sn**	**16 25 09.1**	**+0.3**
DEV	**Deva**	**4.53**	**41**	S			**Sn**	**16 25 09.1**	**+0.3**
LJU	**Ljubljana**	**4.54**	**321**	*e*Pn			**Pn**	**16 24 17.3**	**+1.2**
LJU					*e*Sn		**Sn**	**16 25 08.7**	**-0.6**
LOT	**Lotru**	**4.71**	**51**	⇑*i*P			**Pn**	**16 24 19.2**	**+0.8**
LOT	**Lotru**	**4.71**	**51**	⇑*i*P			**Pn**	**16 24 19.2**	**+0.8**
LOT					S		**Sn**	**16 25 10.4**	**-3.0**
CSKK	**Cs^‡kako**	**4.80**	**357**	*e*Pn			**Pn**	**16 24 20.7**	**+1.1**
CSKK					*e*Sn		**Sn**	**16 25 20.7**	**+5.1**
CSKK	**Cs^‡kako**	**4.80**	**357**	*e*x			**Pn**	**16 24 20.7**	**+1.1**
CSKK					*e*x		**Sn**	**16 25 20.7**	**+5.1**
SOKA	**Soboth**	**4.84**	**329**	*i* Pn			**Pn**	**16 24 21.6**	**+1.5**
	0.5nm,0.2s								
SOKA					*i* Sn		**Sn**	**16 25 17.3**	**+0.7**
	8.6nm,1.0s								
SOKA	**Soboth**	**4.84**	**329**	Pn			**Pn**	**16 24 21.6**	**+1.5**
	0.5nm,0.2s								
SOKA					Sn		**Sn**	**16 25 17.3**	**+0.7**
	8.6nm,1.0s								
OBKA	**Obir**	**4.89**	**325**	*i* Pn			**Pn**	**16 24 22.3**	**+1.4**
	0.2nm,0.1s								
OBKA					*i* Sn		**Sn**	**16 25 20.4**	**+2.4**
	9.9nm,0.5s								
OBKA	**Obir**	**4.89**	**325**	Pn			**Pn**	**16 24 22.3**	**+1.4**
	0.2nm,0.1s								
OBKA					Sn		**Sn**	**16 25 20.4**	**+2.4**
	9.9nm,0.5s								
DRGR		**5.14**	**33**	⇑*i*P			**Pn**	**16 24 25.0**	**+0.8**
DRGR		**5.14**	**33**	⇑*i*Pn			**Pn**	**16 24 25.0**	**+0.8**
DRGR					S		**Sn**	**16 25 24.5**	**+0.6**
ARSA	**Arzberg**	**5.17**	**336**	*i* Pn			**Pn**	**16 24 26.3**	**+1.6**
	3.9nm,0.3s								
ARSA					*i* Sn		**Sn**	**16 25 25.8**	**+1.1**
	2.7nm,0.4s								
ARSA	**Arzberg**	**5.17**	**336**	Pn			**Pn**	**16 24 26.3**	**+1.6**
	3.9nm,0.3s								
ARSA					Sn		**Sn**	**16 25 25.8**	**+1.1**
	2.7nm,0.4s								
ARR	**Arges**	**5.17**	**55**	⇑*i*P			**Pn**	**16 24 26.0**	**+1.3**
ARR	**Arges**	**5.17**	**55**	⇑*i*P			**Pn**	**16 24 26.0**	**+1.3**
MYKA	**Terra Mystica**	**5.39**	**321**	*i* Pn			**Pn**	**16 24 27.9**	**+0.1**
	2.1nm,0.4s								
MYKA					*i* Sn		**Sn**	**16 25 31.4**	**+1.2**
	4.4nm,0.5s								
MYKA	**Terra Mystica**	**5.39**	**321**	Pn			**Pn**	**16 24 27.9**	**+0.1**
	2.1nm,0.4s								
MYKA					Sn		**Sn**	**16 25 31.4**	**+1.2**
	4.4nm,0.5s								
PSZ	**Piszkesteto**	**5.43**	**9**	⇓*i*P			**Pn**	**16 24 28.7**	**+0.5**
PSZ	**Piszkesteto**	**5.43**	**9**	⇑*e*Pn			**Pn**	**16 24 28.4**	**+0.2**
PSZ	**Piszkesteto**	**5.43**	**9**	⇓*i*P			**Pn**	**16 24 28.7**	**+0.5**
PSZ	**Piszkesteto**	**5.43**	**9**	⇑*e*x			**Pn**	**16 24 28.4**	**+0.2**
PSZ					*e*x		**Sn**	**16 25 28.9**	**-2.2**
VOIR		**5.46**	**56**	⇑*i*P			**Pn**	**16 24 28.6**	**-0.1**
VOIR		**5.46**	**56**	⇑*i*P			**Pn**	**16 24 28.6**	**-0.1**
VOIR					S		**Sn**	**16 25 34.0**	**+2.1**
CONA	**Conrad Observa**	**5.70**	**341**	*e*Pn			**Pn**	**16 24 32.1**	**+0.1

DNP	**Denpasar**	**3.33 339**	P	**Pn**	**16 34 30.5**	**+1.9**		
JAGI	**Jajag, Banyuwa**	**3.99 326**	P	**Pn**	**16 34 38.4**	**+0.7**		
JAGI			S	**Sn**	**16 35 22.3**	**-1.0**		
BASI	**Baing, Sumba**	**4.40 69**	P	**Pn**	**16 34 47.7**	**+4.3**		
GMJI	**Gumukmas**	**4.56 320**	P	**Pn**	**16 34 46.5**	**+0.9**		
GMJI			S	**Sn**	**16 35 36.5**	**-0.9**		
BLJI	**Banyuglugur**	**4.89 325**	P	**Pn**	**16 34 51.3**	**+1.1**		
KMMI	**Kalianget**	**5.30 333**	P	**Pn**	**16 34 56.5**	**+0.7**		
PWJI	**Pagerwojo**	**5.88 309**	P	**Pn**	**16 35 04.8**	**+1.0**		
PWJI			S	**Sn**	**16 36 09.2**	**-0.9**		
PCJI	**Pacitan**	**6.27 304**	P	**Pn**	**16 35 10.0**	**+0.9**		
MMRI	**Maumere**	**6.56 62**	P	**Pn**	**16 35 16.0**	**+2.9**		
NGJI	**Ngawi**	**6.57 312**	P	**Pn**	**16 35 14.2**	**+1.0**		
WOJI	**Wonogiri, Jawa**	**6.68 306**	P	**Pn**	**16 35 15.9**	**+1.1**		
TBJI	**Tambak Boyo**	**6.69 317**	P	**Pn**	**16 35 15.1**	**+0.2**		
UGM	**Wanagama**	**6.96 303**	P	**Pn**	**16 35 19.7**	**+1.0**		
BATI	**Baumata**	**7.31 78**	P	**Pn**	**16 35 26.9**	**+3.4**		
BKSI	**Bulukumba**	**7.43 30**	P	**Pn**	**16 35 25.3**	**+0.3**		
FITZ	**Fitzroy Crossi**	**10.90 126**	Pn	Pn	16 36 06.8	-5.8		
	0.4nm,0.3s,baz=308,slow=8.1,SNR=23							
FITZ			Sn	Sn	16 37 56.4	-17		
	0.8nm,0.3s,baz=177,slow=18,SNR=9.5							
WRA	**Warramunga Arr**	**19.05 117**	P	**P**	**16 37 55.5**	**-2.9**		
	0.1nm,0.3s,baz=294,slow=12,SNR=8.1							
WRA			S	Sn	16 41 12.1	-20		
	0.1nm,0.3s,baz=282,slow=24,SNR=6.3							
ASAR	**Alice Springs**	**20.40 128**	P	**P**	**16 38 12.3**	**-0.9**		
	0.0nm,0.3s,baz=303,slow=12,SNR=4.6							
ASAR			S	S	16 41 43.6	-16		
	0.0nm,0.3s,baz=292,slow=23,SNR=3.1							
NWAO	**Narrogin (SRO)**	**21.03 178**	P	**P**	**16 38 19.2**	**-0.7**		
	5.1nm,0.7s,baz=12,slow=20,SNR=4.1							
NWAO			S	S	16 41 51.5	-21		
	6.7nm,0.9s,baz=16,slow=12,SNR=2.1							
MKAR	**Makanchi Array**	**65.84 335**	P	P	16 44 32.9	+12		
	0.2nm,0.5s,baz=132,slow=6.2,SNR=3.3							

NEIC ***25*** *16:38:41.7±0.8, 6.82S×129.53E, h168km±10km, mb4.6/4, Error ellipse: s-maj=12.3km s-min=10.1km az=80.0*
IDC ***25*** *16:38:41.7±2.6, 6.75S×129.45E, h170km±24km, mb3.6/11, mb1 3.7/14, mb1mx3.6/30, mbtmp4.2/14, Error ellipse: s-maj=23.2km s-min=11.0km az=76.0*
ISCJB ***25*** *16:38:42.4±0.3, 6.93S±0.03×129.46E±0.03, h200km, mb3.9/14, Error ellipse: s-maj=5.3km s-min=3.7km az=142.5*
DJA ***25*** *16:38:42.2±0.2, 7°S±2'×13°0E±°, h187km±6km, M4.4/25, mb4.3/25, mB5.1/7, MLv4.5/13, Mw(mB)4.4/7, Mwp6.9/1*
BJI ***25*** *16:38:42.7, 7.00S×129.50E, h181km, mb4.5/7, mB4.8/7*
ISC 25 16:38:43.7±0.4, 6.99S±0.05×129.53E±0.05, h200km, n85, σ2$18/84, mb4.1/14, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SAUI	**Saumlaki**	**2.01**	**120**	P	**Pn**	**16 39 21.2**	**-1.2**
SAUI	**Saumlaki**	**2.01**	**120**	*e*Pn	**Pn**	**16 39 21.0**	**-1.4**
SAUI				*e*Sn	**Sn**	**16 39 46.5**	**-5.9**
BNDI	**Bandanaira**	**2.48**	**9**	P	**Pn**	**16 39 25.2**	**-2.2**
AAI	**Ambon**	**3.54**	**338**	P	**Pn**	**16 39 36.2**	**-3.7**
MSAI	**Masohi**	**3.67**	**351**	P	**Pn**	**16 39 38.4**	**-3.0**
NLAI	**Namlea**	**4.44**	**327**	P	**Pn**	**16 39 48.8**	**-2.3**
FAKI	**Fak Fak**	**4.86**	**34**	P	Pn	16 39 50.8	-5.7
FAKI	**Fak Fak**	**4.86**	**34**	*e*Pn	Pn	16 39 50.5	-5.9
SOEI	**Soe**	**5.89**	**242**	P	**Pn**	**16 40 07.9**	**-1.8**
	54nm,0.5s,0.7nm						
SOEI	**Soe**	**5.89**	**242**	*e*Pn	**Pn**	**16 40 07.8**	**-2.0**
MTN	**Manton Dam**	**6.03**	**165**	P	**Pn**	**16 40 10.4**	**-1.0**
	baz=6.1,SNR=418						
MTN	**Manton Dam**	**6.03**	**165**	*e*Pn	**Pn**	**16 40 10.3**	**-1.1**
SANI	**Sanana**	**6.04**	**324**	P	**Pn**	**16 40 09.1**	**-2.5**
SIJI	**Sorong**	**6.32**	**16**	P	Pn	16 40 09.8	-5.4
	12nm,0.3s,baz=182,slow=8.0,SNR=1.9						
SIJI				S	Sn	16 41 15.3	-12
	24nm,0.3s,baz=270,slow=23,SNR=6.4						
KDU	**Kakadu**	**6.36**	**153**	P	**Pn**	**16 40 14.8**	**-0.9**
	baz=6.5,SNR=428						
LBMI	**Labuha**	**6.62**	**342**	P	**Pn**	**16 40 16.9**	**-2.3**
BATI	**Baumata**	**6.63**	**241**	P	**Pn**	**16 40 17.5**	**-1.7**
BBSI	**Bau Bau**	**7.08**	**282**	P	**Pn**	**16 40 23.2**	**-1.9**
MMRI	**Maumere**	**7.41**	**257**	P	**Pn**	**16 40 27.2**	**-2.2**
KDI	**Kendari**	**7.51**	**293**	P	**Pn**	**16 40 28.7**	**-2.0**
KNRA	**Kununurra**	**8.67**	**185**	P	**Pn**	**16 40 44.1**	**-1.6**
	baz=8.7,SNR=138						
BSSI	**Bau Bau, Buton**	**9.02**	**275**	P	**Pn**	**16 40 48.4**	**-2.0**
KMSI	**Cibinong**	**9.33**	**323**	P	**Pn**	**16 40 52.4**	**-2.0**
BASI	**Baing, Sumba**	**9.42**	**249**	P	**Pn**	**16 40 53.9**	**-1.6**
BKSI	**Bulukumba**	**9.50**	**280**	P	**Pn**	**16 40 54.9**	**-1.7**
WSI	**Waingapu**	**9.52**	**253**	P	**Pn**	**16 40 55.1**	**-1.7**
GTOI	**Gorontalo**	**9.98**	**319**	P	**Pn**	**16 41 03.6**	**+0.8**
TTSI	**Tana Toraja**	**10.44**	**292**	P	**Pn**	**16 41 07.1**	**-1.6**
MRSI	**Marisa**	**10.60**	**314**	P	**Pn**	**16 41 09.9**	**-0.9**
PCI	**Palu**	**11.40**	**302**	P	**Pn**	**16 41 19.3**	**-1.8**
GENI	**Genyem**	**11.46**	**68**	P	**Pn**	**16 41 21.1**	**-0.7**
FITZ	**Fitzroy Crossi**	**11.68**	**199**	P	**Pn**	**16 41 22.3**	**-2.3**
	2.3nm,0.3s,baz=24,slow=11,SNR=32						
FITZ				S	Sn	16 43 25.3	-10
	7.2nm,0.3s,baz=94,slow=19,SNR=8.6						
FITZ	**Fitzroy Crossi**	**11.68**	**199**	P	**Pn**	**16 41 22.0**	**-2.6**
	baz=12,SNR=50						
PLAI	**Plampang**	**11.79**	**260**	P	**Pn**	**16 41 24.4**	**-1.6**
JAY	**Jayapura**	**11.98**	**69**	P	**Pn**	**16 41 27.8**	**-0.8**
TWSI	**Taliwang, Sumb**	**12.65**	**261**	P	**Pn**	**16 41 35.6**	**-1.4**
WRAB	**Tennant Creek**	**13.69**	**161**	*e*Pn	**Pn**	**16 41 47.4**	**-2.5**
WRA	**Warramunga Arr**	**13.70**	**161**	P	**Pn**	**16 41 47.5**	**-2.5**
	4.6nm,0.3s,baz=347,slow=13,SNR=68						
WRA				S	S	16 44 14.1	-8.6
	5.4nm,0.3s,baz=340,slow=22,SNR=8.6						
WB2	**Warramunga Arr**	**13.70**	**161**	*e*Pn	**Pn**	**16 41 47.7**	**-2.3**
IGBI	**Denpasar**	**14.37**	**262**	P	**P**	**16 41 57.2**	**-2.5**
COEN	**Coen**	**15.09**	**118**	P	**P**	**16 42 07.3**	**-0.5**
	baz=15,SNR=22						
COEN	**Coen**	**15.09**	**118**	*e*Pn	**P**	**16 42 07.3**	**-0.5**
	26nm,0.4s						
ABJI	**Asem Bagus**	**15.19**	**266**	P	**P**	**16 42 07.5**	**-1.4**
JAGI	**Jajag, Banyuwa**	**15.31**	**263**	P	**P**	**16 42 08.4**	**-1.8**
QIS	**Mount Isa**	**16.65**	**145**	P	**Pn**	**16 42 27.0**	**+1.1**
	baz=17,SNR=23						
MBWA	**Marble Bar**	**16.98**	**213**	*e*P	**Pn**	**16 42 29.4**	**-0.5**
AS31	**Alice Springs**	**17.11**	**166**	*e*P	**Pn**	**16 42 32.0**	**+0.6**
	9.3nm,0.6s						
ASAR	**Alice Springs**	**17.11**	**166**	P	**Pn**	**16 42 32.8**	**+1.4**
	2.9nm,0.3s,baz=343,slow=9.5,SNR=236						
ASAR				S	**S**	**16 45 34.2**	**-3.7**
	1.2nm,0.3s,baz=334,slow=19,SNR=7.6						
AS01	**Alice Springs**	**17.12**	**166**	*e*P	**Pn**	**16 42 32.2**	**+0.7**
PMG	**Port Moresby**	**17.61**	**99**	P	**Pn**	**16 42 38.1**	**+0.8**
	1.2nm,0.3s,baz=188,slow=16,SNR=5.9						
PMG	**Port Moresby**	**17.61**	**99**	*e*P	**Pn**	**16 42 39.6**	**+2.2**
WRKA	**Warakurna**	**17.99**	**184**	P	**Pn**	**16 42 42.3**	**+0.6**
	baz=18,SNR=12						
MTSU	**Mount Surprise**	**18.18**	**129**	P	**Pn**	**16 42 45.1**	**+1.1**
	baz=18,SNR=9.5						
SBUM	**Sibu**	**19.66**	**298**	*e*P	**Pn**	**16 42 58.4**	**-3.1**
	14nm,0.7s						
CTA	**Charters Tower**	**20.80**	**130**	P	Pn	16 43 13.6	-2.1
	2.3nm,0.6s,baz=301,slow=10.0,SNR=4.2						
MEEK	**Meekatharra**	**22.13**	**207**	P	**P**	**16 43 24.6**	**+1.3**
	baz=22						
QLP	**Quilpie**	**23.99**	**146**	P	**P**	**16 43 43.3**	**+3.1**
	baz=24,SNR=3.9						
BBOO	**Buckleboo**	**26.40**	**168**	P	**P**	**16 44 04.0**	**+2.2**
	baz=27,SNR=6.1						
STKA	**Stephens Creek**	**27.20**	**157**	P	**P**	**16 44 11.6**	**+2.7**
	1.9nm,0.4s,baz=341,slow=7.6,SNR=24						
STKA	**Stephens Creek**	**27.20**	**157**	P	**P**	**16 44 11.7**	**+2.7**
	baz=27,SNR=14						
HTT	**Hallett**	**27.72**	**163**	P	**P**	**16 44 16.6**	**+3.0**
	baz=28,SNR=3.3						
NWAO	**Narrogin (SRO)**	**28.23**	**202**	P	**P**	**16 44 19.6**	**+1.6**
	13nm,0.9s,baz=315,slow=13,SNR=3.9						
CMSA	**Cobar Meteorol**	**28.71**	**150**	P	**P**	**16 44 25.5**	**+3.1**
	baz=29,SNR=11						
ARPS	**Mount Arapiles**	**31.70**	**161**	P	**P**	**16 44 51.7**	**+3.1**
	baz=32,SNR=14						
CMAR	**Chiang Mai Arr**	**39.37**	**310**	P	**P**	**16 45 54.1**	**-0.1**
	0.3nm,0.6s,baz=131,slow=4.8,SNR=4.5						
MJAR	**Matsushiro Arr**	**44.06**	**10**	P	**P**	**16 46 29.8**	**-2.1**
	0.4nm,0.4s,baz=192,slow=7.9,SNR=3.5						
CD2	**Chengdu**	**45.05**	**328**	*e*P	**P**	**16 46 41.3**	**+1.5**
CD2				pmax	pmax		
	comp=Z,10.0nm,1.0s						
LZH	**Lanzhou**	**49.18**	**332**	*e*P	**P**	**16 47 13.3**	**+1.5**
LZH				pP	pP	16 47 53.5	-2.4
LZH				sP	sP	16 48 13.0	-5.1
LZH				pmax	pmax		
	comp=Z,19nm,1.0s						
HHC	**Hu-ho-hao-te**	**50.39**	**342**	P	P	16 47 26.0	+5.2
HHC				pP	pP	16 48 05.3	+0.3
HHC				S	S	16 54 27.8	+9.3
HHC				ScS	**ScS**	**16 56 55.0**	**+4.0**
HHC				SS	**SS**	**16 57 55.8**	**+0.5**
HHC				pmax	pmax		
	comp=Z,18nm,1.2s						
HHC				pmax	pmax		
	comp=Z,140nm,5.1s						
HHC				LR	LR		
	comp=N,190nm,14.9s						
HHC				LR	LR		
	comp=E,190nm,16.2s						
HHC				LR	LR		
	comp=Z,130nm,17.4s						
SONM	**Songino Array**	**58.28**	**342**	P	**P**	**16 48 16.9**	**-0.6**
	0.4nm,0.4s,baz=138,slow=4.9,SNR=3.2						
WMQ	**Urumqi**	**63.13**	**327**	P	P	16 48 52.3	+2.0
WMQ				pP	pP	16 49 34.8	-1.8
WMQ				pmax	pmax		
	comp=Z,13nm,0.5s						
WMQ				pmax	pmax		
	comp=Z,89nm,4.2s						
WMQ				LR	LR		
	comp=N,92nm,21.1s						
WMQ				LR	LR		
	comp=E,110nm,21.1s						
WMQ				LR	LR		
	comp=Z,190nm,19.3s						
KSH	**Kashi**	**67.70**	**318**	*e*P	P	16 49 24.3	+4.5
KSH				pP	pP	16 50 06.0	-0.6
KSH				PP	PP	16 51 58.0	+6.1
KSH				S	**S**	**16 58 04.0**	**+2.9**
KSH				sS	sS	16 59 16.3	-6.6
KSH				SS	**SS**	**17 02 31.0**	**+4.4**
KSH				pmax	pmax		
	comp=Z,71nm,4.7s						
KSH				LR	LR		
	comp=N,420nm,18.5s						
KSH				LR	LR		
	comp=E,150nm,13.9s						
KSH				LR	LR		
	comp=Z,180nm,20.2s						
MK01	**Makanchi Array**	**67.94**	**327**	*e*P	**P**	**16 49 21.3**	**+0.3**
MK31	**Makanchi Array**	**67.96**	**327**	*e*P	**P**	**16 49 21.6**	**+0.5**
MKAR	**Makanchi Array**	**67.96**	**327**	P	**P**	**16 49 21.6**	**+0.5**
	1.3nm,0.3s,baz=118,slow=7.8,SNR=40						
MKAR	**Makanchi Array**	**67.96**	**327**	*e*P	**P**	**16 49 21.6**	**+0.5**
	12nm,0.7s						
ZALV	**Zalesovo Beam**	**71.37**	**334**	P	**P**	**16 49 41.4**	**-0.3**
	0.7nm,0.4s,baz=118,slow=5.5,SNR=3.7						
VNDA	**Vanda**	**72.52**	**173**	P	**P**	**16 49 50.4**	**+2.2**
	0.6nm,0.7s,baz=304,slow=8.2,SNR=6.9						
MAW	**Mawson**	**74.79**	**201**	P	**P**	**16 50 04.2**	**+2.6**
	1.5nm,0.5s,baz=53,slow=7.5,SNR=6.5						
ILAR	**Eielson Array**	**93.53**	**25**	P	**P**	**16 51 35.8**	**-0.7**
	0.2nm,0.5s,baz=258,slow=4.5,SNR=3.2						
GERES	**GERESS Array B**	**112.11**	**320**	PKiKP	**PKiKP**	**16 56 56.0**	**+0.4**
	0.1nm,0.3s,baz=83,slow=4.2,SNR=3.9						
TXAR	**Lajitas Array**	**125.32**	**59**	PKP	**PKPdf**	**16 57 23.5**	**+2.0**
	0.2nm,0.6s,baz=284,slow=0.7,SNR=2.9						
TORD	**Torodi Ar. Bea**	**128.35**	**281**	PKP	**PKPdf**	**16 57 28.4**	**+0.9**
	0.4nm,0.5s,baz=98,slow=1.5,SNR=4.4						
CPUP	**Villa Florida**	**146.22**	**169**	PKPbc	**PKPab**	**16 58 03.6**	**+1.3**
	2.3nm,0.6s,baz=184,slow=4.1,SNR=7.6						
LPAZ	**La Paz**	**151.01**	**143**	PKPbc	**PKPab**	**16 58 16.8**	**-6.0**
	1.0nm,0.5s,baz=300,slow=0.8,SNR=7.9						

CSEM ***25*** *16:40:16.5±0.6, 51°50N×16°12E, h1km, ML2.7/5, Error ellipse: s-maj=8.4km s-min=3.9km az=12.0*
WAR ***25*** *16:40:17.6, 51°48N×16°11E, h1km*
PRU 25 16:40:19.2, 51°42N×16°13E, h0km, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.59**	**170**	*e*Pg	Pg	16 40 29.8	-0.6
KSP				*e*Sg	Sg	16 40 38.2	+0.2
KSP	**Ksiaz**	**0.59**	**170**	*e*Pg	Pg	16 40 29.8	-0.6
KSP				*e*Sg	Sg	16 40 38.2	+0.2
KSP	**Ksiaz**	**0.59**	**170**	*e*Pg	Pg	16 40 29.8	-0.6
KSP				*e*Sg	Sg	16 40 38.2	+0.2
UPC	**Upice**	**0.92**	**185**	*e*PG	Pg	16 40 35.7	-1.0
UPC				*e*SG	Sg	16 40 48.8	+0.2
	comp=Z,12nm,0.4s						
UPC	**Upice**	**0.92**	**185**	Pg	Pg	16 40 35.7	-1.0
UPC				Sg	Sg	16 40 48.8	+0.2
	12nm,0.4s						
DPC	**Dobruska-Polom**	**1.08**	**173**	*e*PG	Pg	16 40 38.5	-1.3
DPC				*e*SG	Sg	16 40 53.5	-0.3
	comp=Z,3.5nm,0.3s						
DPC	**Dobruska-Polom**	**1.08**	**173**	Pg	Pg	16 40 38.5	-1.3
DPC				Sg	Sg	16 40 53.5	-0.3
	3.5nm,0.3s						
PVCC	**Panska Ves**	**1.33**	**228**	*e*PG	Pg	16 40 43.3	-1.4
PVCC				*e*SG	Sg	16 41 01.6	-0.3
	comp=Z,24nm,0.2s						
PVCC	**Panska Ves**	**1.33**	**228**	Pg	Pg	16 40 43.3	-1.4
PVCC				Sg	Sg	16 41 01.6	-0.3
	24nm,0.2s						
KRLC	**Kraliky**	**1.41**	**163**	*e*PG	Pn	16 40 44.6	-1.5
KRLC				*e*SG	Sg	16 41 03.4	-1.0
KRLC	**Kraliky**	**1.41**	**163**	Pg	Pn	16 40 44.6	-1.5
KRLC				Sg	Sg	16 41 03.4	-1.0
BRG	**Berggiesshubel**	**1.48**	**249**	PG	Pn	16 40 46.0	-1.1
BRG				SG	Sg	16 41 05.6	-1.2
	7.0nm,0.4s						
PRU	**Pruhonice**	**1.75**	**216**	*e*PG	Pn	16 40 50.5	-0.3
PRU				*e*SG	Sb	16 41 14.4	-0.4
	comp=Z,2.6nm,0.2s						
PRU	**Pruhonice**	**1.75**	**216**	Pg	Pn	16 40 50.5	-0.3
PRU				Sg	Sb	16 41 14.4	-0.4
	2.6nm,0.2s						
CLL	**Collm**	**1.96**	**268**	*e*Pg	Pn	16 40 53.0	-0.7
CLL				*e*Sg	Sb	16 41 20.0	-0.8
	comp=Z,4.0nm,0.4s						
OKC	**Ostrava-Krasne**	**2.04**	**140**	*e*SG	Sg	16 41 24.7	0.0
OKC	**Ostrava-Krasne**	**2.04**	**140**	Sg	Sg	16 41 24.7	0.0
NKC	**Novy Kostel**	**2.62**	**244**	*e*SG	Sg	16 41 41.9	-1.4
	comp=Z,4.4nm,0.3s						
NKC	**Novy Kostel**	**2.62**	**244**	Sg	Sg	16 41 41.9	-1.4
	comp=Z,4.4nm,0.3s						
KHC	**Kasperske Hory**	**2.82**	**217**	*e*PG	Pb	16 41 09.2	-1.2
KHC				*e*SG	Sg	16 41 48.5	-1.1

JMA 25 17:14:52.1±0.1, 39.59N×142.79E, h25km±2km, M3.6,
Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MIYJ	**Miyakonagasawa**	**0.75**	**269**	P	Pb	17 15 06.2	-0.3
MIYJ				*e*S	Sb	17 15 16.5	+0.2
JTH	**Tanohata**	**0.79**	**296**	P	Pb	17 15 07.2	-0.1
JTH				*e*S	Sb	17 15 17.8	+0.2
OFUJ	**Ofunato**	**1.01**	**240**	P	Pn	17 15 10.4	-0.2
OFUJ				*e*S	Sb	17 15 23.2	-0.5
JOM	**Ohasama**	**1.16**	**265**	P	Pn	17 15 13.0	+0.2
JKZ	**Kuzumaki**	**1.19**	**290**	P	Pn	17 15 13.6	+0.4
JKZ				*e*S	Sb	17 15 28.9	-0.2
JANG	**Nango**	**1.25**	**309**	P	Pn	17 15 13.6	-0.4
JMK	**Ichinoseki**	**1.38**	**243**	P	Pn	17 15 16.3	+0.6
JMK				*e*S	Sn	17 15 33.3	+0.2
JIO	**Ouri**	**1.60**	**225**	P	Pn	17 15 18.9	+0.2
JIO				*e*S	Sn	17 15 38.7	+0.2
JRG	**Rokugo**	**1.68**	**264**	P	Pb	17 15 21.9	-0.4
JAH	**Hinai**	**1.76**	**291**	P	Pb	17 15 23.0	-0.7
JTM	**Tenmabayashi**	**1.78**	**313**	P	Pn	17 15 22.4	+1.1

IDC ***25*** *17:24:10.6±2.0, 37°15N×143°64E, h0km, mb3.4/2, mb1 3.6/5, mb1mx3.3/58, mbtmp3.6/5, ML3.5/3, Error ellipse: s-maj=47.7km s-min=30.9km az=89.0*
ISCJB ***25*** *17:24:13.4±1.0, 37°25N±0°06×143°44E±0°07, h33km, mb3.5/2, Error ellipse: s-maj=9.2km s-min=7.6km az=38.8*
JMA ***25*** *17:24:15.2±0.2, 37°30N×143°33E, h46km, M3.3*
ISC 25 17:24:13.9±1.4, 37°24N±0°06×143°53E±0°09, h35km, n13, σ1$87/21, Off east coast of Honshu

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

JIO	**Ouri**	**2.11**	**306**	P	**Pn**	**17 24 46.6**	**0.0**	
JIO				S	**Sn**	**17 25 09.8**	**-1.8**	
JFK	**Kawauchi**	**2.12**	**274**	P	**Pn**	**17 24 46.8**	**0.0**	
JFK				*e*S	**Sn**	**17 25 10.1**	**-1.8**	
ONAJ	**Iwakimizuishiy**	**2.18**	**267**	P	**Pn**	**17 24 48.2**	**+0.5**	
ONAJ				S	**Sn**	**17 25 11.6**	**-2.0**	
JMM	**Marumori**	**2.26**	**287**	P	**Pn**	**17 24 48.7**	**0.0**	
JMM				S	**Sn**	**17 25 13.3**	**-2.1**	
JMK	**Ichinoseki**	**2.50**	**314**	*e*S	**Sn**	**17 25 20.4**	**-0.8**	
JFT	**Otama**	**2.56**	**277**	P	**Pn**	**17 24 53.8**	**+1.0**	
JFT				*e*S	**Sn**	**17 25 21.8**	**-0.9**	
JYK	**Kaneyama**	**3.01**	**305**	P	**Pn**	**17 24 59.8**	**+0.7**	
JAG	**Ashikaga**	**3.37**	**257**	P	**Pn**	**17 25 04.7**	**+0.8**	
MJAR	**Matsushiro Arr**	**4.32**	**262**	Pn	**Pn**	**17 25 18.5**	**+1.4**	
	2.1nm,0.3s,baz=84,slow=16,SNR=31							
MJAR				Sn	**Sn**	**17 26 07.5**	**+1.3**	
	0.6nm,0.3s,baz=91,slow=27,SNR=4.3							
JHJ	**Hachijo jima 2**	**5.12**	**218**	Pn	**Pn**	**17 25 27.8**	**-0.3**	
	8.5nm,0.3s,baz=66,slow=20,SNR=2.8							
JHJ				Sn	**Sn**	**17 26 21.4**	**-4.7**	
	6.6nm,0.3s,baz=72,slow=20,SNR=1.9							
ASAJ	**Asahikawa**	**6.91**	**354**	Pn	**Pn**	**17 25 54.1**	**+1.6**	
	0.6nm,0.3s,baz=208,slow=12,SNR=12							
ASAJ				Sn	**Sn**	**17 27 06.7**	**-3.2**	
	0.3nm,0.3s,baz=142,slow=18,SNR=2.5							
WRA	**Warramunga Arr**	**57.53**	**190**	P	**P**	**17 34 01.3**	**+1.5**	
	0.4nm,0.7s,baz=9.4,slow=7.3,SNR=6.6							
ASAR	**Alice Springs**	**61.25**	**190**	P	**P**	**17 34 27.2**	**+1.7**	
	0.3nm,0.9s,baz=2.6,slow=6.7,SNR=5.1							

PDA ***25*** *17:29:01.2±8.2, 37°41N×16°34W, h5km, ML5.4, Error ellipse: s-maj=208.0km s-min=65.4km az=175.0*
CSEM ***25*** *17:29:02.5±0.2, 37°48N×16°31W, h2km, mb4.0/12, Error ellipse: s-maj=6.8km s-min=4.8km az=106.0*
IDC ***25*** *17:29:02.1±0.9, 37°44N×16°37W, h0km, mb3.8/16, mb1 4.0/18, mb1mx3.9/56, mbtmp3.9/18, ML5.2/2, MS3.3/6, Ms1 3.2/6, ms1mx2.8/44, Error ellipse: s-maj=20.4km s-min=17.5km az=55.0*
NEIC ***25*** *17:29:04.0±0.6, 37°53N×16°28W, h10km, mb4.3/3, Error ellipse: s-maj=10.6km s-min=8.9km az=128.0*
IGIL ***25*** *17:29:04.5, 37°39N×16°32W, h3km, ML4.4*
MDD ***25*** *17:29:04.9±1.2, 37°43N×16°42W, h28km±15km, mbLg4.5/44, Error ellipse: s-maj=12.3km s-min=5.0km az=123.0, PRXIMO*
LDG ***25*** *17:29:06.1±0.2, 37°48N×16°40W, h30km, Ml4.4/12, Error ellipse: s-maj=4.9km s-min=2.8km az=120.0*
CNRM ***25*** *17:29:06.1, 37°73N×16°13W, h30km, MD4.2*
INMG ***25*** *17:29:08.8±2.5, 37°41N×16°35W, h16km±19km, MD4.0, ML4.2, Error ellipse: s-maj=9.8km s-min=2.4km az=119.0*
ISC 25 17:29:03.5±0.5, 37°49N±0°05×16°17W±0°05, h10km, n370, σ3$38/509, mb3.9/29, MS3.3/4, Azores-Cape St. Vincent Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMPS	**Porto Santo**	**4.42**	**182**	*e*P	**Pn**	**17 30 09.7**	**-0.9**
PMPS				*e*S	Sn	17 30 53.5	-8.6
PMPS				A	A	17 30 56.1	
	230nm,0.2s						
PMPS	**Porto Santo**	**4.42**	**182**	P	**Pn**	**17 30 09.7**	**-0.9**
PMPS				S	Sn	17 30 53.5	-8.6
	115nm,0.2s						
PMPS	**Porto Santo**	**4.42**	**182**	*e*P	**Pn**	**17 30 09.7**	**-0.9**
PMPS				*e*S	Sn	17 30 53.5	-8.6
	230nm,0.2s						
PMOZ	**Porto Moniz, M**	**4.73**	**191**	*e*P	**Pn**	**17 30 13.5**	**-1.4**
PMOZ				*e*S	Sn	17 31 00.6	-9.3
PMOZ				A	A	17 31 06.6	
	177nm,0.2s						
PMOZ	**Porto Moniz, M**	**4.73**	**191**	P	**Pn**	**17 30 12.3**	**-2.6**
	137nm,0.5s,SNR=7.9						
PMOZ				S	Sn	17 31 00.6	-9.3
	609nm,0.3s,SNR=7.9						
PMOZ	**Porto Moniz, M**	**4.73**	**191**	*e*P	**Pn**	**17 30 13.5**	**-1.4**
PMOZ				*e*S	Sn	17 31 00.6	-9.3
	177nm,0.2s						
PMAR	**Madeira**	**4.79**	**187**	*e*P	**Pn**	**17 30 14.2**	**-1.7**
PMAR				*e*S	Sn	17 31 01.5	-10
PMAR				A	A	17 31 08.1	
	795nm,0.2s						
PMAR	**Madeira**	**4.79**	**187**	P	**Pn**	**17 30 14.2**	**-1.7**
PMAR				S	Sn	17 31 01.5	-10
	398nm,

PTOM Tomar 6.44 68 *eP* **Pn 17 30 39.7 +1.3**
PTOM *eS* **Sn 17 31 48.1 -3.9**
PTOM A A 17 31 54.2
comp=E,150nm,0.2s
PTOM Tomar 6.44 68 P **Pn 17 30 39.7 +1.3**
PTOM S **Sn 17 31 48.1 -3.9**
comp=E,75nm,0.2s
PTOM Tomar 6.44 68 *eP* **Pn 17 30 39.7 +1.3**
PTOM S **Sn 17 31 48.1 -3.9**
comp=E,75nm,0.2s
PCVE Castro Verde 6.46 86 *eP* **Pn 17 30 39.5 +0.9**
PCVE *eS* **Sn 17 31 47.9 -4.6**
PCVE A A 17 31 53.2
comp=E,74nm,0.2s
PCVE Castro Verde 6.46 86 P **Pn 17 30 39.5 +0.9**
PCVE S **Sn 17 31 47.9 -4.6**
comp=E,74nm,0.2s
PCVE Castro Verde 6.46 86 *eP* **Pn 17 30 39.5 +0.9**
PCVE S **Sn 17 31 47.9 -4.6**
comp=E,74nm,0.2s
PCAS Casmilo, Conde 6.52 65 *eP* **Pn 17 30 40.4 +1.0**
PCAS *eS* **Sn 17 31 49.6 -4.2**
PCAS A A 17 31 54.3
comp=E,66nm,0.1s
PCAS Casmilo, Conde 6.52 65 *eP* **Pn 17 30 40.4 +1.0**
PCAS *eS* **Sn 17 31 49.6 -4.2**
comp=E,66nm,0.1s
EVO Evora 6.53 78 *eP* **Pn 17 30 40.6 +1.1**
EVO *eS* **Sn 17 31 50.0 -4.0**
EVO A A 17 31 55.8
comp=E,176nm,0.1s
EVO Evora 6.53 78 P **Pn 17 30 40.6 +1.1**
EVO S **Sn 17 31 50.0 -4.0**
comp=E,176nm,0.1s
EVO Evora 6.53 78 *eP* **Pn 17 30 40.6 +1.1**
EVO S **Sn 17 31 50.0 -4.0**
comp=E,176nm,0.1s
PBDV Barranco-do-Ve 6.57 90 *eP* **Pn 17 30 41.4 +1.3**
PBDV *eS* **Sn 17 31 52.5 -2.6**
PBDV A A 17 31 55.3
comp=E,53nm,0.2s
PBDV Barranco-do-Ve 6.57 90 P **Pn 17 30 41.4 +1.3**
PBDV S **Sn 17 31 52.5 -2.6**
comp=E,53nm,0.2s
PBDV Barranco-do-Ve 6.57 90 *eP* **Pn 17 30 41.4 +1.3**
PBDV S **Sn 17 31 52.5 -2.6**
comp=E,53nm,0.2s
PBEJ Beja 6.60 83 *eS* **Sn 17 31 51.8 -4.1**
PBEJ Beja 6.60 83 S **Sn 17 31 51.8 -4.1**
PBEJ Beja 6.60 83 *eS* **Sn 17 31 51.8 -4.1**
COI Coimbra 6.64 63 P **Pn 17 30 43.1 +2.1**
COI S **Sn 17 31 53.0 -3.7**
comp=E,71nm,0.2s
COI Coimbra 6.64 63 *eP* **Pn 17 30 43.1 +2.1**
COI S **Sn 17 31 53.0 -3.7**
comp=E,71nm,0.2s
PVAQ Vaqueiros 6.73 88 *eP* **Pn 17 30 43.5 +1.2**
PVAQ *eS* **Sn 17 31 56.2 -2.8**
PVAQ A A 17 32 01.8
comp=E,115nm,0.2s
PVAQ Vaqueiros 6.73 88 P **Pn 17 30 43.5 +1.2**
PVAQ S **Sn 17 31 56.2 -2.8**
comp=E,115nm,0.2s
PVAQ Vaqueiros 6.73 88 *eP* **Pn 17 30 43.5 +1.2**
PVAQ S **Sn 17 31 56.2 -2.8**
comp=E,115nm,0.2s
PESTR Estremoz 6.90 76 *eP* **Pn 17 30 45.7 +1.0**
PESTR *eS* **Sn 17 31 58.9 -4.3**
PESTR A A 17 32 08.0
comp=E,44nm,0.2s
PESTR Estremoz 6.90 76 *eP* **Pn 17 30 45.7 +1.0**
PESTR *eS* **Sn 17 31 58.9 -4.3**
comp=E,44nm,0.2s
EGRO El Granado 6.91 87 P **Pn 17 30 45.5 +0.8**
comp=E,23nm,0.4s,SNR=96
EGRO S **Sn 17 31 59.2 -4.2**
comp=E,77nm,0.3s,SNR=4.8
EGRO El Granado 6.91 87 P **Pn 17 30 45.5 +0.8**
comp=E,23nm,0.4s,SNR=96
EGRO S **Sn 17 31 59.2 -4.2**
comp=E,77nm,0.3s,SNR=4.8
PSMN Pico do Norte, 7.11 269 *eP* Pn 17 30 40.5 -7.0
PSMN *eS* Sn 17 31 51.1 -17
PSMN A A 17 31 54.9
comp=E,16nm,0.2s
BART Pico Bartolome 7.14 275 *eP* **Pn 17 30 45.9 -2.2**
PMRV Marv??o 7.16 72 *eP* **Pn 17 30 49.6 +1.4**
PMRV *eS* **Sn 17 32 04.9 -4.7**
PMRV A A 17 32 08.8
comp=E,41nm,0.2s
PMRV Marv??o 7.16 72 P **Pn 17 30 49.6 +1.4**
PMRV S **Sn 17 32 04.9 -4.7**
comp=E,41nm,0.2s
PMRV Marv??o 7.16 72 *eP* **Pn 17 30 49.6 +1.4**
PMRV S **Sn 17 32 04.9 -4.7**
comp=E,41nm,0.2s
PSMA Santa Maria 7.16 269 *eP* Pn 17 30 40.8 -7.4
PSMA *eS* Sn 17 31 52.3 -17
PSMA A A 17 31 56.3
comp=E,24nm,0.2s
PCBR Castelo Branco 7.20 68 *eP* **Pn 17 30 49.7 +1.0**
PCBR *eS* **Sn 17 32 05.8 -4.7**
PCBR A A 17 32 11.9
comp=E,34nm,0.2s
PCBR Castelo Branco 7.20 68 P **Pn 17 30 49.7 +1.0**
PCBR S **Sn 17 32 05.8 -4.7**
comp=E,17nm,0.2s
PCBR Castelo Branco 7.20 68 *eP* **Pn 17 30 49.7 +1.0**
PCBR S **Sn 17 32 05.8 -4.7**
comp=E,17nm,0.2s
PVIS Viseu 7.20 61 *eP* **Pn 17 30 50.2 +1.4**
PVIS *eS* **Sn 17 32 04.9 -5.7**
PVIS A A 17 32 10.3
comp=E,88nm,0.1s
PVIS Viseu 7.20 61 P **Pn 17 30 50.2 +1.4**
PVIS S **Sn 17 32 04.9 -5.7**
comp=E,44nm,0.1s
PVIS Viseu 7.20 61 *eP* **Pn 17 30 50.2 +1.4**
PVIS S **Sn 17 32 04.9 -5.7**
comp=E,44nm,0.1s
PBAR Barrancos 7.26 82 *eP* **Pn 17 30 50.5 +0.9**
PBAR *eS* **Sn 17 32 08.2 -3.9**
PBAR A A 17 32 15.0
comp=E,105nm,0.1s
PBAR Barrancos 7.26 82 P **Pn 17 30 50.5 +0.9**
PBAR S **Sn 17 32 08.2 -3.9**
comp=E,105nm,0.1s
PBAR Barrancos 7.26 82 *eP* **Pn 17 30 50.5 +0.9**
PBAR S **Sn 17 32 08.2 -3.9**
comp=E,105nm,0.1s
EBAD Badajoz 7.33 77 P **Pn 17 30 51.5 +0.9**
comp=E,14nm,0.3s,SNR=184
EBAD S **Sn 17 32 08.8 -4.9**
comp=E,126nm,0.6s,SNR=13
EBAD Badajoz 7.33 77 P **Pn 17 30 51.5 +0.9**
comp=E,14nm,0.3s,SNR=184
EBAD S **Sn 17 32 08.9 -4.9**
comp=E,126nm,0.6s,SNR=13
CMLA Cha da Macela 7.43 275 *eP* **Pn 17 30 48.3 -3.6**
CMLA *eS* Sn 17 32 02.1 -14
EMIN Mina Concepcio 7.54 85 P **Pn 17 30 54.5 +1.0**
comp=E,18nm,0.3s,SNR=126
EMIN S **Sn 17 32 14.6 -4.5**
comp=E,38nm,0.3s,SNR=11
EMIN Mina Concepcio 7.54 85 P **Pn 17 30 54.5 +1.0**
comp=E,18nm,0.3s,SNR=126
EMIN S **Sn 17 32 14.6 -4.5**
comp=E,38nm,0.3s,SNR=11
PGAV Gavieira, Arco 7.55 51 *eP* **Pn 17 30 54.1 +0.4**
PGAV *eS* **Sn 17 32 13.0 -6.4**
PGAV A A 17 32 17.5
comp=E,145nm,0.2s
PGAV Gavieira, Arco 7.55 51 *eP* **Pn 17 30 54.1 +0.4**
PGAV *eS* **Sn 17 32 13.0 -6.4**
comp=E,145nm,0.2s
POLO Lamas de Olo 7.56 57 *eP* **Pn 17 30 54.3 +0.6**
POLO *eS* **Sn 17 32 12.5 -7.0**
POLO A A 17 32 22.1
comp=E,16nm,0.1s
POLO Lamas de Olo 7.56 57 *eP* **Pn 17 30 54.3 +0.6**
POLO *eS* **Sn 17 32 12.5 -7.0**
comp=E,16nm,0.1s
PVRL Vila Real 7.56 57 *eP* **Pn 17 30 55.3 +1.5**
PVRL *eS* **Sn 17 32 13.1 -6.4**
PVRL A A 17 32 19.4
comp=E,132nm,0.1s
PVRL Vila Real 7.56 57 P **Pn 17 30 55.3 +1.5**
PVRL S **Sn 17 32 13.1 -6.4**
comp=E,66nm,0.1s
PVRL Vila Real 7.56 57 *eP* **Pn 17 30 55.3 +1.5**
PVRL *eS* **Sn 17 32 13.1 -6.4**
comp=E,132nm,0.1s
PCAB Cabril 7.57 54 *eP* **Pn 17 30 55.8 +1.9**
PCAB *eS* **Sn 17 32 14.6 -5.1**
PCAB A A 17 32 18.3
comp=E,73nm,0.1s
PCAB Cabril 7.57 54 P **Pn 17 30 55.8 +1.9**
PCAB S **Sn 17 32 14.6 -5.1**
comp=E,36nm,0.1s
PCAB Cabril 7.57 54 *eP* **Pn 17 30 55.8 +1.9**
PCAB S **Sn 17 32 14.6 -5.1**
comp=E,36nm,0.1s
PSET Sete Cidades 7.58 275 *eP* Pn 17 30 48.3 -5.7
PSET *eS* Sn 17 32 02.6 -17
PSET A A 17 32 09.6
comp=E,35nm,0.3s
PSET A A 17 32 15.0
comp=E,56nm,0.3s
ELOB Lobios 7.63 53 P **Pn 17 30 54.9 +0.2**
comp=E,16nm,0.2s,SNR=134
ELOB S **Sn 17 32 14.4 -6.9**
comp=E,83nm,0.3s,SNR=10
ELOB Lobios 7.63 53 P **Pn 17 30 54.9 +0.2**
comp=E,16nm,0.2s,SNR=134
EMAZ Mazaricos 7.75 43 P **Pn 17 30 55.9 -0.4**
comp=E,41nm,0.2s,SNR=7.9
EMAZ S Sn 17 32 15.4 -8.7
comp=E,30nm,0.2s,SNR=7.9
MVO Moncorvo 7.98 60 *eP* **Pn 17 30 59.6 +0.1**
MVO *eS* Sn 17 32 22.4 -7.5
MVO A A 17 32 30.8
comp=E,82nm,0.1s
MVO Moncorvo 7.98 60 P **Pn 17 31 00.4 +0.9**
comp=E,15nm,0.3s,SNR=122
MVO S **Sn 17 32 24.0 -5.9**
comp=E,65nm,0.2s,SNR=7.3
MVO Moncorvo 7.98 60 *eP* **Pn 17 30 59.6 +0.1**
MVO *eS* Sn 17 32 22.4 -7.5
comp=E,82nm,0.1s
EAGO Agolada(Pontev 8.15 47 P **Pn 17 31 01.1 -0.8**
comp=E,2.8nm,0.2s,SNR=7.9
EAGO S Sn 17 32 25.4 -8.6
SNR=7.9
ESPR Espera 8.26 91 P **Pn 17 31 05.0 +1.7**
comp=E,19nm,0.3s,SNR=60
ESPR S **Sn 17 32 32.0 -4.6**
comp=E,58nm,0.3s,SNR=7.0
ESPR Espera 8.26 91 P **Pn 17 31 05.0 +1.7**
comp=E,19nm,0.3s,SNR=60
ESPR S **Sn 17 32 32.0 -4.6**
comp=E,58nm,0.3s,SNR=7.0
EPLA Plasencia 8.29 69 P **Pn 17 31 04.9 +1.1**
comp=E,12nm,0.3s,SNR=65
EPLA S **Sn 17 32 32.4 -5.1**
comp=E,68nm,0.4s,SNR=7.5
EPLA Plasencia 8.29 69 P **Pn 17 31 04.9 +1.1**
comp=E,12nm,0.3s,SNR=65
EPLA S **Sn 17 32 32.4 -5.1**
comp=E,68nm,0.4s,SNR=7.5
PBRG Braganca 8.46 56 *eP* **Pn 17 31 06.8 +0.8**
PBRG *eS* Sn 17 32 33.8 -7.7
PBRG A A 17 32 40.3
comp=E,95nm,0.5s
PBRG Braganca 8.46 56 P **Pn 17 31 06.8 +0.8**
PBRG S Sn 17 32 33.8 -7.7
comp=E,47nm,0.5s
PBRG Braganca 8.46 56 *eP* **Pn 17 31 06.8 +0.8**
PBRG *eS* Sn 17 32 33.8 -7.7
comp=E,95nm,0.5s
TSY Tnine Yamani 8.49 101 *eP* **Pn 17 31 06.0 -0.4**
TSY *i S* **Sn 17 32 37.0 -5.3**
CIA Chichaoua 8.50 132 *i P* **Pn 17 31 10.0 +3.3**
CIA *i S* **Sn 17 32 40.0 -2.7**
ECAL Calabor 8.52 56 P **Pn 17 31 07.9 +0.9**
comp=E,30nm,0.3s,SNR=70
ECAL S **Sn 17 32 37.1 -6.1**
comp=E,104nm,0.3s,SNR=8.9
ECAL Calabor 8.52 56 P **Pn 17 31 07.9 +0.9**
comp=E,30nm,0.3s,SNR=70
ECAL S **Sn 17 32 37.1 -6.1**
comp=E,104nm,0.3s,SNR=8.9
ECAB El Cabril 8.54 83 P **Pn 17 31 07.8 +0.7**
comp=E,26nm,0.4s,SNR=131
ECAB S Sn 17 32 36.9 -6.6
comp=E,12nm,0.1s,SNR=5.1
ECAB El Cabril 8.54 83 P **Pn 17 31 07.8 +0.7**
comp=E,26nm,0.4s,SNR=131
ECAB S **Sn 17 32 36.9 -6.6**
comp=E,12nm,0.1s,SNR=5.1
EFAM Famara 8.63 164 P **Pn 17 31 07.4 -0.9**
comp=E,4.5nm,0.2s,SNR=7.9
EFAM S Sn 17 32 34.9 -11
comp=E,4.9nm,0.2s,SNR=7.9
EJIF Jimena Fronter 8.63 94 P **Pn 17 31 09.9 +1.5**
comp=E,3.0nm,0.2s,SNR=7.9
EJIF S **Sn 17 32 40.7 -5.1**
comp=E,3.8nm,0.2s,SNR=7.9
EJIF Jimena Fronter 8.63 94 P **Pn 17 31 09.9 +1.5**
comp=E,3.0nm,0.2s,SNR=7.9
EJIF S **Sn 17 32 40.7 -5.1**
comp=E,3.8nm,0.2s,SNR=7.9
ADH Angra Heroismo 8.80 281 *eP* **Pn 17 31 06.5 -4.2**
TBT Taburiente 8.90 190 P **Pn 17 31 09.4 -2.7**
comp=E,1.0nm,0.2s,SNR=7.9
TBT S Sn 17 32 35.8 -17
SNR=7.9
EBAJ Bajamar 8.93 181 P **Pn 17 31 11.1 -1.4**
comp=E,13nm,0.8s,SNR=8.5
EBAJ S Sn 17 32 40.0 -13
SNR=7.9
EHIG Higuera 9.01 189 P **Pn 17 31 13.7 -0.1**
SNR=7.9
EHIG S Sn 17 32 40.8 -15
comp=E,30nm,0.1s,SNR=7.9
CFUE Fuerteventura 9.01 167 P **Pn 17 31 12.1 -1.6**
comp=E,16nm,0.2s,SNR=7.9
CFUE S Sn 17 32 42.5 -13
comp=E,37nm,0.2s,SNR=7.9
EPON Pontenova 9.02 47 P **Pn 17 31 13.9 +0.2**
comp=E,11nm,0.4s,SNR=33
EPON S Sn 17 32 47.2 -8.1
comp=E,27nm,0.1s,SNR=9.0
EPON Pontenova 9.02 47 P **Pn 17 31 13.9 +0.2**
comp=E,11nm,0.4s,SNR=33
EMIJ Mijas 9.16 92 P **Pn 17 31 17.9 +2.2**
comp=E,24nm,0.7s,SNR=13
EMIJ S **Sn 17 32 54.0 -4.9**
comp=E,2.8nm,0.2s,SNR=5.0
EMIJ Mijas 9.16 92 P **Pn 17 31 17.9 +2.2**
comp=E,24nm,0.7s,SNR=13
EMIJ S **Sn 17 32 54.0 -4.9**
comp=E,2.8nm,0.2s,SNR=5.0
EADA Adamuz 9.20 82 P **Pn 17 31 17.1 +0.9**
comp=E,20nm,0.1s,SNR=168
EADA S **Sn 17 32 55.3 -4.5**
comp=E,17nm,0.1s,SNR=4.5
EADA Adamuz 9.20 82 P **Pn 17 31 17.1 +0.9**
comp=E,20nm,0.1s,SNR=168
EADA S **Sn 17 32 55.3 -4.5**
comp=E,17nm,0.1s,SNR=4.5
CFTV Fuerteventura 9.22 168 P **Pn 17 31 15.2 -1.3**
comp=E,1.5nm,0.2s,SNR=7.9
CFTV S Sn 17 32 47.6 -13
comp=E,1.6nm,0.1s,SNR=7.9
CCAN Las Canadas 9.25 182 P **Pn 17 31 14.9 -2.2**
comp=E,0.8nm,0.2s,SNR=7.9
CCAN S Sn 17 32 47.6 -14
comp=E,1.2nm,0.2s,SNR=7.9
OUK Oukaimeden 9.29 130 *i P* **Pn 17 31 21.0 +3.2**
OUK *i S* **Sn 17 33 00.0 -2.5**
EGOM La Gomera 9.34 186 P **Pn 17 31 15.5 -2.6**
comp=E,11nm,0.6s,SNR=7.8
EGOM S Sn 17 32 49.5 -14
comp=E,19nm,0.2s,SNR=5.5
EOSO Osorio 9.40 177 P **Pn 17 31 15.7 -3.4**
comp=E,1.1nm,0.2s,SNR=7.9
EOSO S Sn 17 32 52.0 -13
comp=E,8.0nm,0.2s,SNR=7.9
PGRA Graciosa 9.42 283 *eP* **Pn 17 31 15.1 -4.0**
YBT Youssef Ben Ta 9.43 142 *i P* **Pn 17 31 22.0 +2.6**
PAB San Pablo 9.49 74 *ePn* **Pn 17 31 20.9 +0.6**
comp=E,32nm,0.7s
PAB *eSn* **Sn 17 33 02.4 -4.7**
PAB San Pablo 9.49 74 *ePn* **Pn 17 31 20.9 +0.6**
comp=E,32nm,0.7s
PAB *eSn* **Sn 17 33 02.4 -4.7**
ROSA Rosais 9.59 281 P Pn 17 31 16.2 -5.4
comp=E,94nm,0.2s,SNR=7.9
ROSA Rosais 9.59 281 *eP* **Pn 17 31 17.0 -4.6**
EGOR Sierra Gorda, 9.62 89 P **Pn 17 31 23.7 +1.6**
comp=E,1.1nm,0.2s,SNR=7.9
EGOR S **Sn 17 33 05.8 -4.5**
comp=E,3.1nm,0.2s,SNR=7.9
EGOR Sierra Gorda, 9.62 89 P **Pn 17 31 23.7 +1.6**
comp=E,1.1nm,0.2s,SNR=7.9
EGOR S **Sn 17 33 05.8 -4.5**
comp=E,3.1nm,0.2s,SNR=7.9
KIB El Ksiba 9.64 118 *i P* **Pn 17 31 24.0 +1.6**
KIB *i S* **Sn 17 33 06.0 -4.8**
PICO Pico 9.73 280 *eP* Pn 17 31 34.4 +11
PICO Pico 9.73 280 *eP* Pn 17 31 34.4 +11
PCAN Candelaria 9.77 279 *eP* **Pn 17 31 19.5 -4.5**
CTIG El Hierro 9.78 189 P **Pn 17 31 21.8 -2.4**
comp=E,0.4nm,0.2s,SNR=7.9
CTIG S Sn 17 32 58.6 -16
comp=E,12nm,0.2s,SNR=7.9
ESDC Sonseca Array 9.81 73 Pn **Pn 17 31 24.9 +0.4**
comp=E,11nm,0.3s,baz=258,slow=13,SNR=100
ESDC Sn **Sn 17 33 08.8 -5.9**
comp=E,12nm,0.3s,baz=262,slow=26,SNR=16
ESDC LR LR 17 34 33.1
comp=E,48nm,21.2s,baz=215,slow=33
ESDC Sonseca Array 9.81 73 P **Pn 17 31 24.9 +0.4**
comp=E,5.7nm,0.3s,baz=262,slow=13,SNR=149
ESDC S **Sn 17 33 09.7 -5.1**
comp=E,9.9nm,0.3s,baz=260,slow=23,SNR=11
ESDC Sonseca Array 9.81 73 P **Pn 17 31 24.9 +0.4**
comp=E,5.7nm,0.3s,SNR=149
ESDC Sn **Sn 17 33 08.8 -5.9**
ESDC S **Sn 17 33 09.7 -5.1**
comp=E,9.9nm,0.3s,SNR=11
CHIE El Hierro 9.85 189 S Sn 17 33 02.7 -13
comp=E,2.7nm,0.2s,SNR=7.9
GUD Guadarrama 9.86 68 P **Pn 17 31 26.1 +0.7**
comp=E,4.4nm,0.2s,SNR=7.9
GUD S **Sn 17 33 11.7 -4.5**
comp=E,9.9nm,0.2s,SNR=7.9
GUD Guadarrama 9.86 68 P **Pn 17 31 26.1 +0.7**
comp=E,4.4nm,0.2s,SNR=7.9
GUD S **Sn 17 33 11.7 -4.5**
comp=E,9.9nm,0.2s,SNR=7.9
SELV Sierra Elvira 9.91 88 P **Pn 17 31 27.0 +1.0**
comp=E,0.8nm,0.2s,SNR=7.9
SELV S **Sn 17 33 13.2 -4.1**
comp=E,1.3nm,0.2s,SNR=7.9
SELV Sierra Elvira 9.91 88 P **Pn 17 31 27.0 +1.0**
comp=E,0.8nm,0.2s,SNR=7.9
SELV S **Sn 17 33 13.2 -4.1**
comp=E,1.3nm,0.2s,SNR=7.9
CZD Col de Zad 10.13 113 *i P* **Pn 17 31 32.0 +2.9**
CZD *i S* **Sn 17 33 18.0 -4.9**
EQUE Quentar 10.14 88 P **Pn 17 31 30.3 +1.1**
comp=E,6.5nm,0.3s,SNR=7.2
EQUE S **Sn 17 33 18.9 -4.2**
comp=E,2.3nm,0.2s,SNR=5.7
EQUE Quentar 10.14 88 P **Pn 17 31 30.3 +1.1**
comp=E,6.5nm,0.3s,SNR=7.2
EQUE S **Sn 17 33 18.9 -4.2**
comp=E,2.3nm,0.2s,SNR=5.7
EARI Arriondas 10.18 52 P **Pn 17 31 30.7 +1.1**
comp=E,14nm,0.4s,SNR=103
EARI S **Sn 17 33 17.8 -5.9**
comp=E,5.4nm,0.2s,SNR=6.4
EARI Arriondas 10.18 52 P **Pn 17 31 30.7 +1.1**
comp=E,14nm,0.4s,SNR=103
EQES Quesada 10.40 84 P **Pn 17 31 32.9 +0.2**
comp=E,3.5nm,0.3s,SNR=42
EQES S **Sn 17 33 23.8 -5.5**
comp=E,4.6nm,0.1s,SNR=7.9
EQES Quesada 10.40 84 P **Pn 17 31 32.9 +0.2**
comp=E,3.5nm,0.3s,SNR=42
EQES S **Sn 17 33 23.8 -5.5**
comp=E,4.6nm,0.1s,SNR=7.9
GORA Gorafe 10.44 86 S **Sn 17 33 24.4 -5.9**
comp=E,36nm,0.2s,SNR=7.9
GORA Gorafe 10.44 86 S **Sn 17 33 24.4 -5.9**
comp=E,36nm,0.2s,SNR=7.9
MDT Midelt 10.55 113 Pn **Pn 17 31 35.7 +0.9**
comp=E,3.5nm,0.3s,baz=308,slow=8.9,SNR=85
MDT Sn Sn 17 33 25.5 -7.5
comp=E,12nm,0.3s,baz=36,slow=21,SNR=20
MDT LR LR 17 35 11.0
comp=E,110nm,21.2s,baz=294,slow=34
EBER Berja 10.62 89 P **Pn 17 31 36.6 +0.9**
comp=E,9.6nm,0.7s,SNR=8.6
EBER S **Sn 17 33 28.5 -6.2**
comp=E,2.7nm,0.2s,SNR=7.9
EBER Berja 10.62 89 P **Pn 17 31 36.6 +0.9**
comp=E,9.6nm,0.7s,SNR=8.6
EBER S **Sn 17 33 28.5 -6.2**
comp=E,2.7nm,0.2s,SNR=7.9
SESP Santiago Espad 10.80 82 P **Pn 17 31 38.7 +0.4**
comp=E,3.0nm,0.1s,SNR=7.9
SESP S **Sn 17 33 34.6 -4.7**
comp=E,5.6nm,0.1s,SNR=7.9
SESP Santiago Espad 10.80 82 P **Pn 17 31 38.7 +0.4**
comp=E,3.0nm,0.1s,SNR=7.9
SESP S **Sn 17 33 34.6 -4.7**
comp=E,5.6nm,0.1s,SNR=7.9
ZFT Errachidia 11.14 116 *i P* **Pn 17 31 44.0 +1.1**
ZFT *i S* **Sn 17 33 43.0 -4.6**
ENIJ Nijar 11.15 88 P **Pn 17 31 45.0 +2.1**
comp=E,1.5nm,0.1s,SNR=7.9
ENIJ Nijar 11.15 88 P **Pn 17 31 45.0 +2.1**
comp=E,1.5nm,0.1s,SNR=7.9
ELAN Lanestosa 11.28 55 P **Pn 17 31 46.0 +1.3**
comp=E,6.4nm,0.4s,SNR=17
ELAN S **Sn 17 33 45.3 -5.5**
comp=E,1.0nm,0.3s,SNR=4.7
ELAN Lanestosa 11.28 55 P **Pn 17 31 46.0 +1.3**
comp=E,6.4nm,0.4s,SNR=17
ELAN S **Sn 17 33 45.3 -5.5**
comp=E,1.0nm,0.3s,SNR=4.7
ETOB Tobarra 11.59 80 P **Pn 17 31 49.7 +0.7**
comp=E,3.9nm,0.2s,SNR=46
ETOB S **Sn 17 33 52.9 -5.5**
comp=E,2.1nm,0.2s,SNR=7.9
ETOB Tobarra 11.59 80 P **Pn 17 31 49.7 +0.7**
comp=E,3.9nm,0.2s,SNR=46
ETOB S **Sn 17 33 52.9 -5.5**
comp=E,2.1nm,0.2s,SNR=7.9
EMUR La Murta 11.84 84 P **Pn 17 31 53.0 +0.6**
comp=E,3.2nm,0.4s,SNR=10
EMUR S **Sn 17 33 58.5 -6.1**
comp=E,0.8nm,0.2s,SNR=7.9
EMUR La Murta 11.84 84 P **Pn 17 31 53.0 +0.6**
comp=E,3.2nm,0.4s,SNR=10
EMUR S **Sn 17 33 58.5 -6.1**
comp=E,0.8nm,0.2s,SNR=7.9
EARA Aranguren 12.35 60 P **Pn 17 32 00.8 +1.5**
comp=E,13nm,0.7s,SNR=7.3
EARA S **Sn 17 34 10.8 -6.1**
comp=E,5.2nm,0.2s,SNR=4.6
EARA Aranguren 12.35 60 P **Pn 17 32 00.8 +1.5**
comp=E,13nm,0.7s,SNR=7.3
EARA S **Sn 17 34 10.8 -6.1**
comp=E,5.2nm,0.2s,SNR=4.6
AFON Font Roja 12.38 80 P **Pn 17 32 01.1 +1.3**
comp=E,0.1nm,0.1s,SNR=7.9
AFON S **Sn 17 34 12.4 -5.4**
comp=E,0.0nm,0.3s,SNR=7.9
AFON Font Roja 12.38 80 P **Pn 17 32 01.1 +1.3**
comp=E,0.1nm,0.1s,SNR=7.9
AFON S **Sn 17 34 12.4 -5.4**
SNR=7.9
YSOS Sos del Rey Ca 12.54 62 P **Pn 17 32 04.1 +2.1**
SNR=7.9
YSOS S **Sn 17 34 16.3 -5.5**
SNR=7.9
YSOS Sos del Rey Ca 12.54 62 P **Pn 17 32 04.1 +2.1**
SNR=7.9
YSOS S **Sn 17 34 16.3 -5.5**
SNR=7.9
EALK Alkurruntz 12.56 58 P **Pn 17 32 05.0 +2.8**
comp=E,3.9nm,0.5s,SNR=16
EALK S **Sn 17 34 16.3 -5.9**
comp=E,1.4nm,0.2s,SNR=11
EALK Alkurruntz 12.56 58 P **Pn 17 32 05.0 +2.8**
comp=E,3.9nm,0.5s,SNR=16
EALK S **Sn 17 34 16.3 -5.9**

comp=E,1.4nm,0.2s,SNR=11
EMOS Mosqueruela 12.56 72 P **Pn** **17 32 04.2 +1.8**
comp=E,16nm,0.6s,SNR=20
EMOS S **Sn** 17 34 16.1 -6.3
comp=E,1.5nm,0.1s,SNR=6.8
EMOS Mosqueruela 12.56 72 P **Pn** **17 32 04.2 +1.8**
comp=E,16nm,0.6s,SNR=20
EMOS S **Sn** 17 34 16.1 -6.3
comp=E,1.5nm,0.1s,SNR=6.8
IEPA Eparoz 12.57 61 P **Pn** **17 32 03.8 +1.5**
SNR=7.9
IEPA S **Sn** 17 34 18.2 -4.2
SNR=7.9
IEPA Eparoz 12.57 61 P **Pn** **17 32 03.8 +1.5**
SNR=7.9
IEPA S **Sn** 17 34 18.2 -4.2
SNR=7.9
YARA Arangoiti 12.58 61 P **Pn** **17 32 04.6 +2.1**
SNR=7.9
YARA S **Sn** 17 34 15.6 -7.0
SNR=7.9
YARA Arangoiti 12.58 61 P **Pn** **17 32 04.6 +2.1**
SNR=7.9
EORO Oroz-Betelu 12.58 60 P **Pn** **17 32 04.9 +2.5**
comp=E,5.7nm,0.5s,SNR=20
EORO S **Sn** 17 34 16.6 -6.0
comp=E,0.8nm,0.3s,SNR=6.2
EORO Oroz-Betelu 12.58 60 P **Pn** **17 32 04.9 +2.5**
comp=E,5.7nm,0.5s,SNR=20
EORO S **Sn** 17 34 16.6 -6.0
comp=E,0.8nm,0.3s,SNR=6.2
YUND Undues 12.59 62 P **Pn** **17 32 05.8 +3.1**
SNR=7.9
YUND S Sn 17 34 15.3 -7.7
SNR=7.9
YUND Undues 12.59 62 P **Pn** **17 32 05.8 +3.1**
SNR=7.9
IELO Elcoad 12.61 60 P **Pn** **17 32 04.1 +1.2**
comp=E,1.9nm,0.1s,SNR=7.9
IELO S Sn 17 34 15.9 -7.5
comp=E,1.5nm,0.1s,SNR=7.9
IELO Elcoad 12.61 60 P **Pn** **17 32 04.1 +1.2**
comp=E,1.9nm,0.1s,SNR=7.9
YASP Aspurt 12.62 61 P **Pn** **17 32 05.1 +2.1**
SNR=7.9
YASP S **Sn** 17 34 16.7 -6.9
SNR=7.9
YASP Aspurt 12.62 61 P **Pn** **17 32 05.1 +2.1**
SNR=7.9
YMUS Pe˜–a Musera 12.68 62 P **Pn** **17 32 05.8 +2.1**
SNR=7.9
YMUS S **Sn** 17 34 18.5 -6.4
SNR=7.9
YMUS Pe˜–a Musera 12.68 62 P **Pn** **17 32 05.8 +2.1**
SNR=7.9
YMUS S **Sn** 17 34 18.5 -6.4
SNR=7.9
YSIG Sigues 12.71 61 P **Pn** **17 32 07.4 +3.1**
SNR=7.9
YSIG S Sn 17 34 18.5 -7.3
SNR=7.9
YSIG Sigues 12.71 61 P **Pn** **17 32 07.4 +3.1**
SNR=7.9
SJPF Ste Jean 12.71 59 *e*Pn **Pn** **17 32 06.2 +1.9**
SJPF *e*Sn **Sn** **17 34 19.0 -6.8**
comp=E,18nm,0.3s
SJPF Ste Jean 12.71 59 Pn **Pn** **17 32 06.2 +1.9**
SJPF Sn **Sn** **17 34 19.0 -6.8**
comp=E,8.8nm,0.3s
SJPF Ste Jean 12.71 59 *e*Pn **Pn** **17 32 06.2 +1.9**
SJPF *e*Sn **Sn** **17 34 19.0 -6.8**
SJPF Ste Jean 12.71 59 *e*Pn **Pn** **17 32 06.2 +1.9**
SJPF *e*Sn **Sn** **17 34 19.0 -6.8**
OSSF Osses 12.74 58 *e*P **Pn** **17 32 06.7 +2.1**
OSSF Osses 12.74 58 *e*P **Pn** **17 32 06.7 +2.1**
YBER Berdun 12.74 62 P **Pn** **17 32 06.8 +2.1**
SNR=7.9
YBER S Sn 17 34 18.4 -8.2
SNR=7.9
YBER Berdun 12.74 62 P **Pn** **17 32 06.8 +2.1**
SNR=7.9
ESAC San Caprasio 12.82 66 P **Pn** **17 32 07.4 +1.6**
comp=E,15nm,0.5s,SNR=12
ESAC S **Sn** **17 34 22.2 -6.5**
comp=E,4.5nm,0.3s,SNR=6.0
ESAC San Caprasio 12.82 66 P **Pn** **17 32 07.4 +1.6**
comp=E,15nm,0.5s,SNR=12
ESAC S **Sn** **17 34 22.2 -6.5**
comp=E,4.5nm,0.3s,SNR=6.0
LARF Larrau 12.85 60 *e*P **Pn** **17 32 08.7 +2.6**
LARF Larrau 12.85 60 *e*P **Pn** **17 32 08.7 +2.6**
ORDF Ordiarp 12.95 59 *e*P **Pn** **17 32 10.6 +3.2**
ORDF Ordiarp 12.95 59 *e*P **Pn** **17 32 10.6 +3.2**
ATE Arette 13.06 60 *e*P **Pn** **17 32 11.7 +2.7**
ATE Arette 13.06 60 P **Pn** **17 32 10.5 +1.5**
comp=E,2.1nm,0.2s,SNR=7.9
ATE S Sn 17 34 24.8 -10
comp=E,2.6nm,0.1s,SNR=7.9
ATE Arette 13.06 60 P **Pn** **17 32 10.5 +1.5**
comp=E,2.1nm,0.2s,SNR=7.9
ETSF Etsaut 13.10 61 *e*Pn **Pn** **17 32 11.4 +1.8**
ETSF *e*Sn Sn 17 34 27.1 -8.2
comp=E,16nm,0.3s
ETSF Etsaut 13.10 61 Pn **Pn** **17 32 11.4 +1.8**
ETSF Sn Sn 17 34 27.1 -8.2
comp=E,7.8nm,0.3s
ETSF Etsaut 13.10 61 *e*Pn **Pn** **17 32 11.4 +1.8**
ETSF *e*Sn Sn 17 34 27.1 -8.2
ETSF Etsaut 13.10 61 *e*Pn **Pn** **17 32 11.4 +1.8**
ETSF *e*Sn Sn 17 34 27.1 -8.2
ERTA Horta de San J 13.26 70 P **Pn** **17 32 13.5 +1.8**
comp=E,0.1nm,0.3s,SNR=7.9
ERTA S Sn 17 34 31.6 -7.6
comp=E,0.4nm,0.4s,SNR=7.9
ERTA Horta de San J 13.26 70 P **Pn** **17 32 13.5 +1.8**
comp=E,0.1nm,0.3s,SNR=7.9
REYF Montagne du Re 13.27 60 *e*P **Pn** **17 32 14.2 +2.3**
REYF Montagne du Re 13.27 60 *e*P **Pn** **17 32 14.2 +2.3**
VIEF Viey 13.50 61 *e*P **Pn** **17 32 17.4 +2.3**
VIEF Viey 13.50 61 *e*P **Pn** **17 32 17.4 +2.3**
ECHI Chisagues Biel 13.55 62 P **Pn** **17 32 17.7 +1.9**
comp=E,2.0nm,0.3s,SNR=9.9
ECHI S Sn 17 34 38.2 -8.3
comp=E,1.3nm,0.3s,SNR=5.7
ECHI Chisagues Biel 13.55 62 P **Pn** **17 32 17.7 +1.9**
comp=E,2.0nm,0.3s,SNR=9.9
RESF Ens 13.70 62 *e*P **Pn** **17 32 20.1 +2.3**
RESF Ens 13.70 62 *e*P **Pn** **17 32 20.1 +2.3**
EPF Esparros 13.77 61 *e*Pn **Pn** **17 32 21.0 +2.3**
EPF *e*Sn Sn 17 34 43.6 -8.0
comp=E,8.7nm,0.3s
EPF Esparros 13.77 61 Pn **Pn** **17 32 21.0 +2.3**
EPF Sn Sn 17 34 43.6 -8.0
comp=E,4.3nm,0.3s
EPF Esparros 13.77 61 *e*Pn **Pn** **17 32 21.0 +2.3**
EPF *e*Sn Sn 17 34 43.6 -8.0
EPF Esparros 13.77 61 *e*Pn **Pn** **17 32 21.0 +2.3**
EPF *e*Sn Sn 17 34 43.6 -8.0
EIBI Ibiza 13.85 78 S Sn 17 34 45.7 -8.0
comp=E,0.4nm,0.1s,SNR=7.9
EPOB Poblet 13.88 69 P **Pn** **17 32 20.3 0.0**
comp=E,1.8nm,0.4s,SNR=8.3
EPOB S Sn 17 34 46.7 -7.8
comp=E,0.4nm,0.1s,SNR=7.9
QUIF Quistinic 14.12 38 *e*Pn **Pn** **17 32 22.5 -1.0**
QUIF *e*Sn Sn 17 34 47.7 -12
QUIF Quistinic 14.12 38 Pn **Pn** **17 32 22.5 -1.0**
QUIF Sn Sn 17 34 47.7 -12
QUIF Quistinic 14.12 38 *e*Pn **Pn** **17 32 22.5 -1.0**
QUIF Quistinic 14.12 38 *e*Pn **Pn** **17 32 22.5 -1.0**
QUIF *e*Sn Sn 17 34 47.7 -12
SALF Salau 14.28 63 *e*P **Pn** **17 32 27.6 +1.8**
ROSF Rostrenen 14.36 37 *e*Pn **Pn** **17 32 25.6 -1.1**
ROSF *e*Sn Sn 17 34 53.7 -12
ROSF Rostrenen 14.36 37 Pn **Pn** **17 32 25.6 -1.1**
ROSF Sn Sn 17 34 53.7 -12
ROSF Rostrenen 14.36 37 *e*Pn **Pn** **17 32 25.6 -1.1**
ROSF *e*Sn Sn 17 34 53.7 -12
ROSF Rostrenen 14.36 37 *e*Pn **Pn** **17 32 25.6 -1.1**
ROSF *e*Sn Sn 17 34 53.7 -12
SGMF Saint Gilles 14.65 38 *e*Pn **Pn** **17 32 29.2 -1.5**
SGMF *e*Sn Sn 17 34 59.9 -13
SGMF Saint Gilles 14.65 38 Pn **Pn** **17 32 29.2 -1.5**
SGMF Sn Sn 17 34 59.9 -13
SGMF Saint Gilles 14.65 38 *e*Pn **Pn** **17 32 29.2 -1.5**
SGMF *e*Sn Sn 17 34 59.9 -13
SGMF Saint Gilles 14.65 38 *e*Pn **Pn** **17 32 29.2 -1.5**
SGMF *e*Sn Sn 17 34 59.9 -13
LFF La Frestale 14.73 54 *e*Sn Sn 17 35 07.1 -7.9
LFF La Frestale 14.73 54 Sn Sn 17 35 07.1 -7.9
LFF La Frestale 14.73 54 *e*Sn Sn 17 35 07.1 -7.9
LFF La Frestale 14.73 54 *e*Sn Sn 17 35 07.1 -7.9
MFF Saint Martin d 14.97 47 *e*Pn **Pn** **17 32 34.5 -0.5**
MFF *e*Sn Sn 17 35 09.4 -11
MFF Saint Martin d 14.97 47 Pn **Pn** **17 32 34.5 -0.5**
MFF Sn Sn 17 35 09.4 -11
MFF Saint Martin d 14.97 47 *e*Pn **Pn** **17 32 34.5 -0.5**
MFF *e*Sn Sn 17 35 09.4 -11
MFF Saint Martin d 14.97 47 *e*Pn **Pn** **17 32 34.5 -0.5**
MFF *e*Sn Sn 17 35 09.4 -11
ETOS Mallorca 15.02 75 P **Pn** **17 32 36.9 +1.2**
comp=E,0.2nm,0.1s,SNR=7.9
ETOS S **Sn** **17 35 13.8 -8.3**
comp=E,0.2nm,0.2s,SNR=7.9
MTLF Montolieu 15.17 62 *e*Pn **Pn** **17 32 40.5 +2.8**
MTLF *e*Sn **Sn** **17 35 17.9 -7.8**
comp=E,2.8nm,0.4s
MTLF Montolieu 15.17 62 Pn **Pn** **17 32 40.5 +2.8**
MTLF Sn **Sn** **17 35 17.9 -7.8**
comp=E,1.4nm,0.4s
MTLF Montolieu 15.17 62 *e*Pn **Pn** **17 32 40.5 +2.8**
MTLF *e*Sn **Sn** **17 35 17.9 -7.8**
MTLF Montolieu 15.17 62 *e*Pn **Pn** **17 32 40.5 +2.8**
MTLF *e*Sn **Sn** **17 35 17.9 -7.8**
RJF Les Rejaudoux 15.38 54 *e*Pn **Pn** **17 32 41.1 +0.6**
RJF *e*Sn Sn 17 35 21.5 -9.4
RJF Les Rejaudoux 15.38 54 Pn **Pn** **17 32 41.1 +0.6**
RJF Sn Sn 17 35 21.5 -9.4
RJF Les Rejaudoux 15.38 54 *e*Pn **Pn** **17 32 41.1 +0.6**
RJF *e*Sn Sn 17 35 21.5 -9.4
RJF Les Rejaudoux 15.38 54 *e*Pn **Pn** **17 32 41.1 +0.6**
RJF *e*Sn Sn 17 35 21.5 -9.4
CAF Calviac 15.59 56 *e*Pn **Pn** **17 32 44.4 +1.2**
CAF *e*Sn **Sn** **17 35 26.9 -9.1**
comp=E,5.0nm,0.3s
CAF Calviac 15.59 56 Pn **Pn** **17 32 44.4 +1.2**
CAF Sn **Sn** **17 35 26.9 -9.1**
comp=E,2.5nm,0.3s
CAF Calviac 15.59 56 *e*Pn **Pn** **17 32 44.4 +1.2**
CAF *e*Sn **Sn** **17 35 26.9 -9.1**
CAF Calviac 15.59 56 *e*Pn **Pn** **17 32 44.4 +1.2**
CAF *e*Sn **Sn** **17 35 26.9 -9.1**
GRR Gorron 15.60 41 *e*Pn **Pn** **17 32 42.9 -0.4**
GRR *e*Sn Sn 17 35 22.5 -14
comp=E,10nm,0.2s
GRR Gorron 15.60 41 Pn **Pn** **17 32 42.9 -0.4**
GRR Sn Sn 17 35 22.5 -14
comp=E,5.2nm,0.2s
GRR Gorron 15.60 41 *e*Pn **Pn** **17 32 42.9 -0.4**
GRR *e*Sn Sn 17 35 22.5 -14
GRR Gorron 15.60 41 *e*Pn **Pn** **17 32 42.9 -0.4**
GRR *e*Sn Sn 17 35 22.5 -14
FLN La Foliniere 16.03 40 *e*Pn **Pn** **17 32 49.5 +0.6**
baz=237
FLN *e*Sn Sn 17 35 35.3 -11
comp=E,20nm,0.5s
FLN La Foliniere 16.03 40 Pn **Pn** **17 32 49.5 +0.6**
FLN Sn Sn 17 35 35.3 -11
comp=E,10nm,0.5s
FLN La Foliniere 16.03 40 *e*Pn **Pn** **17 32 49.5 +0.6**
FLN *e*Sn Sn 17 35 35.3 -11
FLN La Foliniere 16.03 40 *e*Pn **Pn** **17 32 49.5 +0.6**
FLN *e*Sn Sn 17 35 35.3 -11
LDF La Druitiere 16.11 41 *e*Pn **Pn** **17 32 50.0 0.0**
LDF *e*Sn Sn 17 35 36.3 -12
comp=E,6.4nm,0.3s
LDF La Druitiere 16.11 41 *e*Pn **Pn** **17 32 50.0 0.0**
LDF *e*Sn Sn 17 35 36.3 -12
LDF La Druitiere 16.11 41 *e*Pn **Pn** **17 32 50.0 0.0**
LDF *e*Sn Sn 17 35 36.3 -12
TCF Toulx Ste Croi 16.24 51 *e*Pn **Pn** **17 32 52.9 +1.3**
TCF *e*Sn Sn 17 35 40.2 -12
comp=E,4.8nm,0.2s
TCF Toulx Ste Croi 16.24 51 Pn **Pn** **17 32 52.9 +1.3**
TCF Sn Sn 17 35 40.2 -12
comp=E,2.4nm,0.2s
TCF Toulx Ste Croi 16.24 51 *e*Pn **Pn** **17 32 52.9 +1.3**
TCF *e*Sn Sn 17 35 40.2 -12
TCF Toulx Ste Croi 16.24 51 *e*Pn **Pn** **17 32 52.9 +1.3**
TCF *e*Sn Sn 17 35 40.2 -12
BGF Bois d'Agland 16.75 51 *e*Sn Sn 17 35 52.3 -12
comp=E,12nm,0.4s
BGF Bois d'Agland 16.75 51 Sn Sn 17 35 52.3 -12
comp=E,5.8nm,0.4s
BGF Bois d'Agland 16.75 51 *e*Sn Sn 17 35 52.3 -12
BGF Bois d'Agland 16.75 51 *e*Sn Sn 17 35 52.3 -12
AVF Avril sur Loir 17.17 51 *e*Pn **Pn** **17 33 04.8 +1.5**
AVF *e*Sn Sn 17 36 03.2 -11
AVF Avril sur Loir 17.17 51 Pn **Pn** **17 33 04.8 +1.5**
AVF Sn Sn 17 36 03.2 -11
AVF Avril sur Loir 17.17 51 *e*Pn **Pn** **17 33 04.8 +1.5**
AVF *e*Sn Sn 17 36 03.2 -11
AVF Avril sur Loir 17.17 51 *e*Pn **Pn** **17 33 04.8 +1.5**
AVF *e*Sn Sn 17 36 03.2 -11
VIVF Saint-Julien-l 17.31 58 *e*P **P** **17 33 07.1 +0.5**
VIVF *e*Sn **Sn** **17 36 09.0 -8.7**
VIVF Saint-Julien-l 17.31 58 P **P** **17 33 07.1 +0.5**
VIVF Sn **Sn** **17 36 09.0 -8.7**
VIVF Saint-Julien-l 17.31 58 *e*P **P** **17 33 07.1 +0.5**
VIVF *e*Sn **Sn** **17 36 09.0 -8.7**
VIVF Saint-Julien-l 17.31 58 *e*P **P** **17 33 07.1 +0.5**
VIVF *e*Sn **Sn** **17 36 09.0 -8.7**
SSF Saint Saulge 17.38 50 *e*Pn **P** **17 33 07.7 +0.4**
SSF *e*Sn Sn 17 36 07.8 -12
comp=E,4.1nm,0.3s
SSF Saint Saulge 17.38 50 Pn **P** **17 33 07.7 +0.4**
SSF Sn Sn 17 36 07.8 -12
comp=E,2.0nm,0.3s
SSF Saint Saulge 17.38 50 *e*Pn **P** **17 33 07.7 +0.4**
SSF *e*Sn Sn 17 36 07.8 -12
SSF Saint Saulge 17.38 50 *e*Pn **P** **17 33 07.7 +0.4**
SSF *e*Sn Sn 17 36 07.8 -12
SMF Signal de Mont 17.41 52 *e*Pn **P** **17 33 08.4 +0.7**
SMF Signal de Mont 17.41 52 Pn **P** **17 33 08.4 +0.7**
SMF Signal de Mont 17.41 52 *e*Pn **P** **17 33 08.4 +0.7**
SMF Signal de Mont 17.41 52 *e*Pn **P** **17 33 08.4 +0.7**
LOR Lormes 17.69 50 *e*Pn **P** **17 33 12.2 +1.4**
baz=237
LOR *e*Sn Sn 17 36 15.2 -12
LOR Lormes 17.69 50 Pn **P** **17 33 12.2 +1.4**
LOR Sn Sn 17 36 15.2 -12
LOR Lormes 17.69 50 *e*Pn **P** **17 33 12.2 +1.4**
LOR *e*Sn Sn 17 36 15.2 -12
LOR Lormes 17.69 50 *e*Pn **P** **17 33 12.2 +1.4**
LOR *e*Sn Sn 17 36 15.2 -12
ORIF Oris-en-Rattie 18.14 59 *e*P **P** **17 33 19.8 +3.9**
ORIF Oris-en-Rattie 18.14 59 P **P** **17 33 19.8 +3.9**
ORIF Oris-en-Rattie 18.14 59 *e*P **P** **17 33 19.8 +3.9**
ORIF Oris-en-Rattie 18.14 59 *e*P **P** **17 33 19.8 +3.9**
SBF Sospel 18.97 63 *e*P **Pn** **17 33 31.6 +6.0**
SBF Sospel 18.97 63 *e*P **Pn** **17 33 31.6 +6.0**
SBF Sospel 18.97 63 *e*P **Pn** **17 33 31.6 +6.0**
BAIF Baives 19.27 43 *e*Pn **Pn** **17 33 33.7 +4.6**
BAIF Baives 19.27 43 *e*Pn **Pn** **17 33 33.7 +4.6**
BAIF Baives 19.27 43 *e*Pn **Pn** **17 33 33.7 +4.6**
EKA Eskdalemuir Ar 19.92 22 P **Pn** **17 33 37.4 +0.7**
comp=E,1.8nm,0.6s,baz=198,slow=9.0,SNR=4.0
WLF Walferdange 20.15 46 *e*P **P** **17 33 37.6 -0.1**
comp=E,15nm,1.1s
WLF Walferdange 20.15 46 *e*P **P** **17 33 37.6 -0.1**
comp=E,15nm,1.1s
CDF Champ du Feu 20.26 50 *e*P **P** **17 33 40.3 +1.3**
CDF Champ du Feu 20.26 50 *e*P **P** **17 33 40.3 +1.3**
CDF Champ du Feu 20.26 50 *e*P **P** **17 33 40.3 +1.3**
KEST Kesra 20.55 87 P **P** **17 33 44.3 +2.1**
comp=E,8.4nm,1.0s,baz=270,slow=8.1,SNR=5.5
BFO Black Forest 20.87 51 P **P** **17 33 46.3 +0.7**
comp=E,15nm,1.0s
BFO Black Forest 20.87 51 P **P** **17 33 46.3 +0.7**
comp=E,15nm,1.0s
DAVOX Davos/Dischmat 21.35 56 P **P** **17 33 52.6 +1.7**
comp=E,5.0nm,0.8s,baz=262,slow=8.0,SNR=11
DAVOX LR LR 17 42 04.9
comp=E,98nm,19.6s,baz=276,slow=36
DAVA Damuels 21.50 55 *i* P **P** **17 33 55.1 +2.6**
comp=E,10nm,1.0s
DAVA Damuels 21.50 55 P **P** **17 33 55.1 +2.6**
comp=E,10nm,1.0s
FETA Feichten 21.98 56 *i* P **P** **17 34 00.1 +2.4**
comp=E,7.1nm,1.0s
FETA Feichten 21.98 56 P **P** **17 34 00.1 +2.4**
comp=E,7.1nm,1.0s
MOTA Moosalm 22.32 55 *i* P **P** **17 34 04.0 +2.7**
comp=E,1.3nm,0.5s
MOTA Moosalm 22.32 55 P **P** **17 34 04.0 +2.7**
comp=E,1.3nm,0.5s
WATA Walderalm 22.62 55 *i* P **P** **17 34 07.4 +2.9**
comp=E,5.4nm,0.6s
WATA Walderalm 22.62 55 P **P** **17 34 07.4 +2.9**
comp=E,5.4nm,0.6s
WTTA Wattenberg 22.64 56 *e*P **P** **17 34 08.1 +3.3**
comp=E,2.7nm,0.7s
WTTA Wattenberg 22.64 56 P **P** **17 34 08.1 +3.3**
comp=E,2.7nm,0.7s
ABTA Abfaltersbach 23.09 57 *i* P **P** **17 34 13.3 +3.9**
comp=E,2.8nm,1.0s
ABTA Abfaltersbach 23.09 57 P **P** **17 34 13.3 +3.9**
comp=E,2.8nm,1.0s
AQU L'Aquila 23.14 69 P **P** **17 34 09.3 -0.5**
comp=E,11nm,0.9s
AQU L'Aquila 23.14 69 P **P** **17 34 09.3 -0.5**
comp=E,11nm,0.9s
KBA Koelnbreinsper 23.73 57 *i* P **P** **17 34 17.1 +1.3**
comp=E,4.5nm,1.1s
KBA Koelnbreinsper 23.73 57 P **P** **17 34 17.1 +1.3**
comp=E,4.5nm,1.1s
GERES GERESS Array B 24.41 53 P **P** **17 34 23.1 +1.0**
comp=E,4.3nm,1.0s,baz=260,slow=8.0,SNR=25
KHC Kasperske Hory 24.41 52 *e*P **P** **17 34 25.7 +3.6**
KHC *e*pP **sP** **17 34 29.2 +2.8**
KHC *ex* x 17 34 40.7
OBKA Obir 24.42 59 *i* P **P** **17 34 25.3 +3.1**
comp=E,4.4nm,0.7s
OBKA Obir 24.42 59 P **P** **17 34 25.3 +3.1**
comp=E,4.4nm,0.7s
MOA Molln 24.51 55 *i* P **P** **17 34 24.8 +1.8**
comp=E,8.6nm,1.4s
MOA Molln 24.51 55 P **P** **17 34 24.8 +1.8**
comp=E,8.6nm,1.4s
SOKA Soboth 24.78 58 *i* P **P** **17 34 26.6 +1.2**
comp=E,3.7nm,0.8s
SOKA Soboth 24.78 58 P **P** **17 34 26.6 +1.2**
comp=E,3.7nm,0.8s
ARSA Arzberg 25.21 57 *i* P **P** **17 34 28.2 -1.1**
comp=E,2.7nm,0.9s
CONA Conrad Observa 25.58 56 *i* P **P** **17 34 36.4 +3.8**
comp=E,2.9nm,1.1s
CONA Conrad Observa 25.58 56 P **P** **17 34 36.4 +3.8**
comp=E,2.9nm,1.1s
BORG Borgarnes 27.47 355 P **P** **17 34 49.1 -0.2**
comp=E,24nm,1.0s,baz=235,slow=15,SNR=2.8
TORD Torodi Ar. Bea 29.02 142 P **P** **17 35 04.3 +0.7**
comp=E,1.5nm,0.7s,baz=322,slow=7.7,SNR=11
TORD LR LR 17 46 54.0
comp=E,195nm,18.2s,baz=330,slow=37
DBIC Dimbokro 32.36 159 P **P** **17 35 34.1 +1.0**
comp=E,5.5nm,0.9s,baz=312,slow=9.0,SNR=4.2
DBIC LR LR 17 48 36.0
comp=E,68nm,18.4s,baz=15,slow=36
AKASG Malin Array Be 34.62 53 P **P** **17 35 52.7 +0.1**
comp=E,2.2nm,0.3s,baz=255,slow=9.5,SNR=4.0
FINES FINESS Array B 35.47 34 P **P** **17 36 00.4 +0.7**
comp=E,0.9nm,0.8s,baz=243,slow=6.2,SNR=5.0
ARCES ARCESS Array B 39.08 22 P **P** **17 36 31.1 +0.8**
comp=E,1.1nm,0.8s,baz=242,slow=5.7,SNR=2.3
MMAI Mount Meron Ar 41.93 80 P **P** **17 36 56.8 +2.4**
comp=E,0.6nm,0.5s,baz=300,slow=5.8,SNR=3.5
KBZ Khabaz 44.45 63 P **P** **17 37 17.6 +3.1**
comp=E,4.4nm,0.9s,baz=262,slow=3.7,SNR=4.4
KBZ LR LR 17 57 55.9
comp=E,17nm,18.5s,baz=36,slow=39
ZALV Zalesovo Beam 66.47 39 P **P** **17 39 55.0 +2.1**
comp=E,0.2nm,0.3s,baz=284,slow=7.3,SNR=2.3
ZALV Zalesovo Beam 66.47 39 P **P** **17 39 55.0 +2.1**
MKAR Makanchi Array 68.91 47 P **P** **17 40 09.3 +0.9**
comp=E,0.3nm,0.8s,baz=318,slow=3.9,SNR=2.4
TXAR Lajitas Array 70.99 293 P **P** **17 40 20.4 -1.2**
comp=E,0.6nm,0.8s,baz=72,slow=8.3,SNR=6.1
ILAR Eielson Array 71.02 340 P **P** **17 40 22.8 +1.7**
comp=E,0.2nm,0.6s,baz=30,slow=4.5,SNR=3.2
SONM Songino Array 80.83 35 P **P** **17 41 18.7 +1.2**
comp=E,0.2nm,0.4s,baz=329,slow=5.0,SNR=2.2
HHC Hu-ho-hao-te 88.54 37 *e*P **P** **17 41 58.8 +2.3**
HHC pmax pmax
comp=Z,29nm,1.5s
HHC pmax pmax
comp=Z,120nm,5.0s
WRA Warramunga Arr 148.97 64 PKPbc **PKPbc** **17 48 51.3 -0.7**
comp=Z,0.3nm,0.6s,baz=321,slow=3.5,SNR=3.6
ASAR Alice Springs 150.93 70 PKPbc **PKPbc** **17 48 56.4 -0.3**
comp=Z,0.5nm,0.6s,baz=299,slow=1.6,SNR=6.6
ASAR PKPab **PKPab** **17 49 04.7 +0.6**
comp=Z,0.6nm,0.6s,baz=318,slow=2.4,SNR=7.2

---

*IDC **25** 17:34:21.3±0.7, 12°.47S×166°.67E, h0km, mb4.4/16, mb1 4.5/17, mb1mx4.3/32, mbtmp4.4/17, ML5.0/1, MS3.5/18, Ms1 3.6/18, ms1mx3.4/30, Error ellipse: s-maj=23.4km s-min=16.1km az=96.0*
*BJI **25** 17:34:25.6, 12°.30S×166°.87E, h37km, mb4.8/36, mB5.0/21, Ms7 4.5/5*
*NEIC **25** 17:34:26.7±0.4, 12°.39S×166°.68E, h35km, mb4.7/5, Error ellipse: s-maj=12.2km s-min=8.4km az=90.0*
*ISCJB **25** 17:34:28.7±0.4, 12°.55S±0°.05×166°.46E±0°.09, h59km, mb4.6/28, MS3.5/15, Error ellipse: s-maj=13.0km s-min=7.4km az=167.5*
ISC 25 17:34:30.5±0.6, 12°.58S±0°.06×166°.46E±0°.10, h59km, n79,
σ2509/80, mb4.6/28, MS3.6/15, 1C, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**7.12**	**295**	Pn	**Pn**	**17 36 10.3**	**-1.7**
	25nm,0.3s,baz=168,slow=2.7,SNR=35			Sn	**Sn**	**17 37 24.9**	**-6.7**
HNR	15nm,0.3s,baz=94,slow=19,SNR=2.9			LR	LR	17 39 16.4	
HNR	comp=Z,419nm,18.9s,baz=148,slow=41						
HNR	**Honiara**	**7.12**	**295**	*e*Pn	**Pn**	**17 36 09.5**	**-2.5**
HNR				Sn	**Sn**	**17 37 30.9**	**-0.7**
DZM	**Mont Dzumac**	**9.44**	**180**	Pn	**Pn**	**17 36 44.9**	**+1.0**
	1.3nm,0.3s,baz=320,slow=18,SNR=18						
DZM	baz=319,slow=19,SNR=1.7			Sn	**Sn**	**17 38 25.3**	**-3.4**
DZM	comp=Z,241nm,22.0s,baz=20,slow=34			LR	LR	17 39 45.5	
DZM	**Mont Dzumac**	**9.44**	**180**	*e*Pn	**Pn**	**17 36 44.4**	**+0.5**
	13nm,0.3s						
DZM	8.2nm,0.3s			*e*Sn	**Sn**	**17 38 32.4**	**+3.7**
DZM	510nm,23.4s			*e*LR	LR	17 39 03.3	
DZM	**Mont Dzumac**	**9.44**	**180**	*e*Pn	**Pn**	**17 36 43.9**	**0.0**
DZM				Sn	**Sn**	**17 38 25.3**	**-3.4**
PMG	**Port Moresby**	**19.21**	**277**	LR	LR	17 45 48.2	
	comp=Z,196nm,18.8s,baz=127,slow=35						
EIDS	**Eidsvold**	**19.30**	**227**	*e*P	**Pn**	**17 38 52.8**	**+0.5**
CTA	**Charters Tower**	**20.77**	**246**	P	**P**	**17 39 07.8**	**+1.1**
	2.2nm,0.5s,baz=64,slow=11,SNR=4.7						
CTAO	**Charters Tower**	**20.77**	**246**	*e*P	Pn	17 39 10.1	+0.4
AFI	**Afiamalu**	**21.23**	**96**	LR	LR	17 46 12.6	
	comp=Z,113nm,18.8s,baz=280,slow=34						
URZ	**Urewera**	**27.28**	**161**	LR	LR	17 49 34.0	
	comp=Z,157nm,20.0s,baz=340,slow=33						
STKA	**Stephens Creek**	**29.85**	**226**	P	**P**	**17 40 33.2**	**+0.8**
	4.5nm,0.7s,baz=47,slow=7.7,SNR=14						
STKA	comp=Z,176nm,19.2s,baz=30,slow=36			LR	LR	17 52 11.9	
RPZ	**Rata Peaks**	**31.28**	**174**	P	**P**	**17 40 44.6**	**-0.2**
	11nm,0.9s,baz=333,slow=2.3,SNR=4.8						
RPZ	comp=Z,98nm,19.4s,baz=0.5,slow=34			LR	LR	17 52 05.8	
WRAB	**Tennant Creek**	**31.64**	**252**	*e*P	**P**	**17 40 49.1**	**+0.8**
WRA	**Warramunga Arr**	**31.65**	**252**	P	**P**	**17 40 46.8**	**-1.6**
	0.5nm,0.5s,baz=82,slow=9.6,SNR=14						
WRA	0.5nm,0.8s,baz=84,slow=3.4,SNR=4.7			ScP	**ScP**	**17 47 25.8**	**+7.9**
WRA	comp=Z,108nm,20.4s,baz=40,slow=35			LR	LR	17 53 06.4	
ASAR	**Alice Springs**	**32.77**	**246**	P	**P**	**17 40 56.6**	**-1.6**
	1.4nm,0.6s,baz=66,slow=9.9,SNR=43						
ASAR	0.6nm,0.9s,baz=76,slow=3.9,SNR=4.4			ScP	**ScP**	**17 47 28.9**	**+7.2**
ASAR				LR	LR	17 53 39.7	

σ1§26/84, mb4.2/26, 2C-1D, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
	comp=Z,159nm,18.7s,baz=77,slow=35						
RAR	**Rarotonga**	**33.37 109**	LR	LR		17 51 57.6	
	comp=Z,71nm,21.0s,baz=285,slow=32						
GUMO	**Guam**	**33.67 320**	LR	LR		17 53 00.9	
	comp=Z,132nm,21.8s,baz=136,slow=33						
FITZ	**Fitzroy Crossi**	**39.69 257**	P	**P**		**17 41 57.2**	**0.0**
	6.8nm,1.1s,baz=92,slow=9.3,SNR=5.6						
PPT	**Papeete**	**42.67 102**	LR	LR		17 56 60.0	
	comp=Z,50nm,20.6s,baz=298,slow=32						
PPT2	**Papeete2**	**42.67 102**	eLR	LR		17 54 14.1	
	190nm,26.2s						
JNU	**Nakatsue**	**56.72 324**	P	**P**		**17 44 07.5**	**-0.8**
	17nm,0.8s,baz=76,slow=0.9,SNR=13						
JNU	**Nakatsue**	**56.72 324**	eP	**P**		**17 44 06.3**	**-2.0**
	20nm,0.9s						
KSRS	**Korea Array**	**61.53 326**	P	**P**		**17 44 41.0**	**-0.5**
	3.4nm,0.8s,baz=138,slow=7.3,SNR=19						
KSRS			LR	LR		18 09 26.9	
	comp=Z,12nm,19.6s,baz=165,slow=34						
KSAR	**Wonju Array Be**	**61.54 326**	P	**P**		**17 44 41.0**	**-0.6**
KS01	**Wonju Array Si**	**61.56 326**	eP	**P**		**17 44 40.6**	**-1.0**
NJ2	**Nanjing**	**63.59 316**	eP	**P**		**17 44 55.8**	**+0.5**
NJ2			pmax	pmax			
	comp=Z,19nm,0.8s						
USRK	**Ussuriysk Ar.**	**64.62 333**	P	**P**		**17 45 02.0**	**+0.3**
	2.9nm,0.7s,baz=106,slow=9.0,SNR=4.3						
VNDA	**Vanda**	**64.99 181**	P	**P**		**17 45 03.8**	**+0.1**
	1.4nm,0.8s,baz=358,slow=5.2,SNR=7.2						
VNDA	**Vanda**	**64.99 181**	eP	**P**		**17 45 03.7**	**-0.1**
	12nm,1.6s						
SBA	**Scott Base**	**65.28 180**	eP	**P**		**17 45 06.7**	**+1.1**
	5.5nm,0.9s						
PETK	**Petropavlovsk-**	**65.85 354**	LR	LR		18 10 06.3	
	comp=Z,32nm,19.9s,baz=157,slow=33						
CN2	**Changchun**	**67.41 329**	eP	**P**		**17 45 20.5**	**+0.8**
PSI	**Prapat**	**68.77 278**	LR	LR		18 19 32.1	
	comp=Z,34nm,18.0s,baz=112,slow=31						
GYA	**Guiyang**	**69.85 304**	eP	**P**		**17 45 36.3**	**+0.8**
GYA			pP	pP		17 45 48.5	-3.2
GYA			PP	**PP**		**17 48 14.0**	**+3.2**
GYA			S	**S**		**17 54 43.3**	**+2.2**
GYA			SKS	**SKSac**		**17 55 30.8**	**-1.0**
GYA			pmax	pmax			
	comp=Z,10.0nm,1.0s						
GYA			pmax	pmax			
	comp=Z,120nm,5.9s						
XAN	**Xi'an**	**71.66 312**	P	**P**		**17 45 46.3**	**0.0**
XAN			pP	pP		17 45 58.0	-4.5
XAN			pmax	pmax			
	comp=Z,4.0nm,1.7s						
KMI	**Kunming**	**72.51 302**	P	**P**		**17 45 52.8**	**+1.1**
KMI			pmax	pmax			
	comp=Z,13nm,0.7s						
KMI			pmax	pmax			
	comp=Z,210nm,4.9s						
CM01	**Chiang Mai Arr**	**73.34 294**	eP	**P**		**17 45 56.9**	**+0.5**
CMAR	**Chiang Mai Arr**	**73.36 294**	P	**P**		**17 45 57.3**	**+0.7**
	5.1nm,0.7s,baz=128,slow=4.9,SNR=8.9						
HHC	**Hu-ho-hao-te**	**73.44 320**	eP	**P**		**17 45 59.0**	**+2.2**
HHC			pmax	pmax			
	comp=Z,18nm,1.4s						
HHC			pmax	pmax			
	comp=Z,150nm,4.7s						
CHTO	**Chiang Mai**	**73.48 294**	eP	**P**		**17 45 57.4**	**+0.1**
	20nm,1.7s						
CD2	**Chengdu**	**74.08 307**	eP	**P**		**17 46 01.3**	**+0.6**
CD2			pmax	pmax			
	comp=Z,20nm,0.8s						
LZH	**Lanzhou**	**76.30 312**	eP	**P**		**17 46 14.5**	**+1.1**
LZH			pP	PcP		17 46 24.0	-1.1
LZH			sP	pP		17 46 29.0	-0.8
LZH			PP	**PP**		**17 49 06.8**	**+1.1**
LZH			pmax	pmax			
	comp=Z,33nm,1.0s						
LZH			pmax	pmax			
	comp=Z,200nm,4.6s						
QSPA	**South Pole Qui**	**77.44 180**	eP	**P**		**17 46 17.6**	**-1.7**
ULN	**Ulaanbaatar**	**79.94 324**	eP	**P**		**17 46 33.1**	**-0.2**
	7.2nm,0.9s						
SONM	**Songino Array**	**80.31 324**	P	**P**		**17 46 34.8**	**-0.4**
	1.5nm,0.4s,baz=141,slow=5.6,SNR=15						
SONA1	**Songino Array**	**80.31 324**	eP	**P**		**17 46 35.0**	**-0.3**
GTA	**Gaotai**	**80.62 314**	eP	**P**		**17 46 37.8**	**+0.7**
GTA			pP	PcP		17 46 47.3	+3.5
GTA			sP	pP		17 46 51.8	-1.9
GTA			pmax	pmax			
	comp=Z,9.0nm,1.1s						
MAW	**Mawson**	**83.58 202**	P	**P**		**17 46 52.0**	**+0.1**
	2.5nm,0.8s,baz=123,slow=5.7,SNR=6.1						
ILAR	**Eielson Array**	**84.73 18**	P	**P**		**17 46 55.2**	**-2.5**
	0.8nm,0.8s,baz=234,slow=5.0,SNR=6.4						
ILAR			LR	LR		18 19 52.0	
	comp=Z,35nm,19.1s,baz=215,slow=32						
TAPN	**Taplejung**	**85.95 299**	eP	**P**		**17 47 05.1**	**0.0**
ODAN	**Odare**	**86.09 298**	eP	**P**		**17 47 05.7**	**0.0**
RAMN	**Ramite**	**86.80 298**	eP	**P**		**17 47 07.9**	**-1.3**
JIRN	**Jiri**	**87.34 299**	eP	**P**		**17 47 11.9**	**0.0**
PKI	**Pulchoki**	**87.98 299**	eP	**P**		**17 47 14.4**	**-0.6**
	12nm,0.7s						
PKIN	**Phulchoki**	**88.00 299**	eP	**P**		**17 47 14.5**	**-0.5**
KKN	**Kakani**	**88.15 299**	eP	**P**		**17 47 15.3**	**-0.3**
	20nm,0.8s						
DMN	**Daman**	**88.25 299**	eP	**P**		**17 47 16.0**	**-0.2**
	34nm,0.7s						
GKN	**Gorkha**	**88.75 299**	eP	**P**		**17 47 17.6**	**-0.8**
	27nm,0.8s						
KOLN	**Koldanda**	**89.58 298**	eP	**P**		**17 47 21.4**	**-1.0**
PYUN	**Piuthan**	**90.19 299**	eP	**P**		**17 47 24.0**	**-1.2**
SYO	**Syowa Base**	**90.53 197⇑**	eP	**P**		**17 47 24.0**	**-1.7**
WMQ	**Urumqi**	**90.66 315**	P	**P**		**17 47 26.8**	**-0.1**
WMQ			pP	PcP		17 47 35.0	+7.1
WMQ			sP	pP		17 47 43.8	+0.2
WMQ			pmax	pmax			
	comp=Z,12nm,0.6s						
WMQ			pmax	pmax			
	comp=Z,58nm,4.2s						
MK01	**Makanchi Array**	**95.10 317**	eP	**P**		**17 47 46.6**	**-0.6**
MK31	**Makanchi Array**	**95.11 317**	eP	**P**		**17 47 46.3**	**-0.9**
MKAR	**Makanchi Array**	**95.11 317**	P	**P**		**17 47 46.7**	**-0.5**
	7.5nm,0.7s,baz=97,slow=6.5,SNR=64						
MKAR	**Makanchi Array**	**95.11 317**	eP	**P**		**17 47 46.7**	**-0.5**
	42nm,0.8s						
ZAA0	**Zalesovo Array**	**95.20 324**	eP	**P**		**17 47 44.9**	**-2.5**
ZALV	**Zalesovo Beam**	**95.20 324**	P	**P**		**17 47 45.9**	**-1.5**
	1.7nm,0.7s,baz=108,slow=4.8,SNR=11						
MAKZ	**Makanchi**	**95.32 317**	eP	**P**		**17 47 47.8**	**-0.4**
	6.0nm,0.9s						
TXAR	**Lajitas Array**	**95.94 61**	LR	LR		18 22 10.5	
	comp=Z,25nm,21.8s,baz=0.0,slow=30						
NRIK	**Noril'sk**	**97.79 339**	LR	LR		18 34 56.7	
	comp=Z,18nm,18.0s,baz=104,slow=37						
KSH	**Kashi**	**98.25 309**	eP	Pdif		17 48 04.0	+2.2
KSH			pP	pP		17 48 14.0	-4.6
KSH			PP	**PP**		**17 52 07.0**	**+4.8**
KSH			S	**S**		**17 59 26.5**	**+1.4**
KSH			sS	pS		17 59 43.5	-3.4
KSH			SS	**SS**		**18 06 15.0**	**+5.1**
KSH			pmax	pmax			
	comp=Z,64nm,3.8s						
KSH			LR	LR			
	comp=Z,62nm,8.7s						
ARCES	**ARCESS Array B**	**117.98 345**	PKP	**PKPdf**		**17 53 08.0**	**-2.0**
	1.9nm,0.8s,baz=93,slow=1.8,SNR=3.4						
FINES	**FINESS Array B**	**123.44 338**	PKP	**PKPdf**		**17 53 19.5**	**-1.2**
	1.3nm,0.8s,baz=29,slow=4.4,SNR=5.8						
GERES	**GERESS Array B**	**137.38 333**	PKP	**PKPdf**		**17 53 47.8**	**+0.2**
	0.6nm,0.8s,baz=24,slow=1.6,SNR=5.6						
KEST	**Kesra**	**149.05 322**	PKPbc	**PKPbc**		**17 54 12.0**	**-0.5**
	6.7nm,0.9s,baz=115,slow=3.1,SNR=7.6						
ESDC	**Sonseca Array**	**151.71 344**	PKPbc	**PKPbc**		**17 54 16.9**	**-1.9**
	0.7nm,0.8s,baz=14,slow=2.9,SNR=5.7						
TORD	**Torodi Ar. Bea**	**165.13 274**	PKPab	**PKPab**		**17 55 26.0**	**-0.4**
	3.8nm,1.0s,baz=78,slow=4.6,SNR=17						
RAO	**Raoul Island**	**4.93 157**	P	**P**		**17 45 09.5**	**+2.1**
	66nm,0.3s,baz=321,slow=20,SNR=4.3						
RAO			S	**S**		**17 46 19.2**	**+1.3**
	56nm,0.3s,baz=270,slow=20,SNR=2.6						
RAO	**Raoul Island**	**4.93 157**	eP	**P**		**17 45 06.2**	**-1.2**
RAO			eS	**S**		**17 46 17.2**	**-0.7**
MSVF	**Nonsavu**	**7.16 346**	eP	**P**		**17 45 27.4**	**-1.8**
DZM	**Mont Dzumac**	**12.58 279**	P	**P**		**17 46 28.2**	**+2.2**
	2.3nm,0.3s,baz=84,slow=13,SNR=14						
DZM	**Mont Dzumac**	**12.58 279**	eP	**P**		**17 46 27.1**	**+1.0**
AFI	**Afiamalu**	**13.35 38**	P	**P**		**17 46 34.5**	**+0.3**
	3.0nm,0.3s,baz=225,slow=19,SNR=4.0						
AFI			S	S		17 48 46.0	-11
	1.2nm,0.3s,baz=287,slow=17,SNR=2.6						
URZ	**Urewera**	**13.69 189**	P	**P**		**17 46 36.2**	**-1.2**
	5.5nm,0.3s,baz=52,slow=2.9,SNR=18						
URZ			S	**S**		**17 49 04.7**	**+2.0**
	2.2nm,0.3s,baz=37,slow=20,SNR=12						
BKZ	**Black Stump Fm**	**14.67 190**	eP	**P**		**17 46 44.5**	**-3.3**
LTZ	**Lake Taylor**	**19.06 197**	eP	**P**		**17 47 29.7**	**-1.4**
	34nm,1.2s						
RPZ	**Rata Peaks**	**20.27 199**	P	**P**		**17 47 42.3**	**+0.3**
	8.4nm,0.4s,baz=311,slow=1.7,SNR=9.2						
HNR	**Honiara**	**24.30 305**	P	**P**		**17 48 17.1**	**-1.4**
	76nm,0.7s,baz=162,slow=1.3,SNR=13						
HNR	**Honiara**	**24.30 305**	P	**P**		**17 48 17.1**	**-1.4**
	192nm,0.8s						
CTA	**Charters Tower**	**31.34 272**	P	**P**		**17 49 21.2**	**+0.9**
	63nm,0.5s,baz=94,slow=11,SNR=187						
CTAO	**Charters Tower**	**31.34 272**	eP	**P**		**17 49 20.3**	**+0.1**
	51nm,0.6s						
STKA	**Stephens Creek**	**34.29 249**	P	**P**		**17 49 46.2**	**+1.1**
	4.8nm,0.4s,baz=93,slow=11,SNR=37						
STKA	**Stephens Creek**	**34.29 249**	eP	**P**		**17 49 45.3**	**+0.2**
	1.5nm,0.6s						
PMG	**Port Moresby**	**34.63 290**	P	**P**		**17 49 48.2**	**0.0**
	33nm,0.8s,baz=55,slow=4.7,SNR=9.6						
COEN	**Coen**	**36.11 280**	eP	**P**		**17 50 01.4**	**+0.9**
	12nm,0.8s						
AS01	**Alice Springs**	**41.72 262**	eP	**P**		**17 50 46.1**	**+0.1**
AS31	**Alice Springs**	**41.76 262**	eP	**P**		**17 50 45.8**	**-0.6**
	3.8nm,0.4s						
ASAR	**Alice Springs**	**41.76 262**	P	**P**		**17 50 46.5**	**+0.2**
	4.8nm,0.3s,baz=91,slow=6.8,SNR=123						
ASAR			pP	**pP**		**17 52 17.2**	**-0.3**
	0.6nm,0.5s,baz=90,slow=6.2,SNR=2.5						
ASAR			ScP	**ScP**		**17 55 34.8**	**+1.2**
	0.4nm,0.6s,baz=109,slow=4.6,SNR=4.3						
ASAR			S	**S**		**17 56 25.7**	**-1.5**
	0.7nm,0.7s,baz=96,slow=16,SNR=4.3						
WB2	**Warramunga Arr**	**42.20 267**	eP	**P**		**17 50 49.6**	**-0.2**
WRAB	**Tennant Creek**	**42.21 267**	eP	**P**		**17 50 49.3**	**-0.5**
	20nm,0.4s						
WRA	**Warramunga Arr**	**42.21 267**	P	**P**		**17 50 49.5**	**-0.3**
	19nm,0.5s,baz=101,slow=8.3,SNR=281						
WRA			ScP	**ScP**		**17 55 37.8**	**+2.4**
	5.1nm,0.9s,baz=101,slow=4.1,SNR=20						
WRA			S	**S**		**17 56 31.8**	**-1.9**
	1.1nm,0.9s,baz=100,slow=16,SNR=4.5						
JAY	**Jayapura**	**43.71 294**	P	**P**		**17 51 01.3**	**-0.4**
	1.4nm,0.6s,baz=115,slow=24,SNR=8.4						
FITZ	**Fitzroy Crossi**	**50.63 266**	P	**P**		**17 51 53.9**	**+0.1**
	16nm,0.7s,baz=107,slow=7.3,SNR=36						
FITZ	**Fitzroy Crossi**	**50.63 266**	eP	**P**		**17 51 54.2**	**+0.4**
	15nm,0.6s						
GUMO	**Guam**	**51.14 314**	P	**P**		**17 51 56.5**	**-0.9**
	9.5nm,0.3s,baz=84,slow=10,SNR=3.5						
VNDA	**Vanda**	**53.55 185**	P	**P**		**17 52 15.5**	**+1.6**
	0.5nm,0.5s,baz=18,slow=7.8,SNR=5.2						
SOEI	**Soe**	**54.77 276**	P	**P**		**17 52 20.8**	**-2.9**
	34nm,0.9s						
QSPA	**South Pole Qui**	**65.36 180**	eP	**P**		**17 53 30.5**	**-2.8**
MJAR	**Matsushiro Arr**	**72.49 326**	P	**P**		**17 54 15.8**	**-0.8**
	2.9nm,0.7s,baz=141,slow=5.6,SNR=14						
MAT	**Matsushiro**	**72.50 326**	P	**P**		**17 54 16.3**	**-0.3**
JNU	**Nakatsue**	**74.05 319**	P	**P**		**17 54 25.1**	**-0.5**
	3.0nm,0.6s,baz=117,slow=4.5,SNR=3.7						
MAW	**Mawson**	**76.93 201**	P	**P**		**17 54 42.1**	**+1.0**
	1.1nm,0.5s,baz=132,slow=12,SNR=4.5						
KSRS	**Korea Array**	**78.78 320**	P	**P**		**17 54 52.1**	**+0.6**
	2.1nm,0.7s,baz=133,slow=6.0,SNR=13						
KSAR	**Wonju Array Be**	**78.80 320**	P	**P**		**17 54 52.1**	**+0.5**
PETK	**Petropavlovsk-**	**79.86 347**	P	**P**		**17 54 56.8**	**-0.2**
	3.0nm,0.7s,baz=116,slow=8.6,SNR=8.9						
NJ2	**Nanjing**	**81.09 311**	eP	**P**		**17 55 04.5**	**+0.7**
USRK	**Ussuriysk Ar.**	**81.38 327**	P	**P**		**17 55 05.7**	**+0.7**
	1.2nm,0.4s,baz=105,slow=3.4,SNR=5.8						
SYO	**Syowa Base**	**82.18 193⇑**	eP	**P**		**17 55 06.5**	**-2.3**
SYO	**Syowa Base**	**82.18 193⇓**	ePcP	**PcP**		**17 55 12.4**	**-0.3**
SNAA	**Sanae**	**83.85 179**	P	**P**		**17 55 17.3**	**+0.1**
CMB	**Columbia Colle**	**83.90 43**	eP	**P**		**17 55 18.1**	**+0.1**
VNA3	**Neumayer Olymp**	**84.06 177**	P	**P**		**17 55 18.5**	**+0.2**
CN2	**Changchun**	**84.46 324**	eP	**P**		**17 55 22.0**	**+1.5**
VNA2	**Neumayer--Watz**	**84.48 178**	P	**P**		**17 55 20.3**	**0.0**
	baz=186,slow=4.1						
GYA	**Guiyang**	**87.04 301**	eP	**P**		**17 55 34.0**	**+0.5**
GYA			pP	pP		17 57 25.5	+1.2
GYA			sP	sP		17 58 16.5	+1.3
GYA			PP	**PP**		**17 59 09.3**	**+3.1**
GYA			SKS	**SKSac**		**18 05 12.0**	**-1.1**
GYA			S	**S**		**18 05 30.3**	**-0.3**
GYA			pmax	pmax			
	comp=Z,10.0nm,1.0s						
TUC	**Tucson**	**87.13 53**	eP	**P**		**17 55 34.1**	**+0.3**
U15A	**North Rim**	**88.26 48**	eP	**P**		**17 55 40.6**	**+1.4**
XAN	**Xi'an**	**89.14 308**	P	**P**		**17 55 44.0**	**+1.0**
XAN			pP	pP		17 57 38.5	+4.1
XAN			pmax	pmax			
	comp=Z,7.0nm,1.3s						
CMAR	**Chiang Mai Arr**	**89.68 290**	P	**P**		**17 55 47.5**	**+1.7**
	comp=Z,2.7nm,0.9s,baz=138,slow=3.6,SNR=14						
CHTO	**Chiang Mai**	**89.83 291**	eP	**P**		**17 55 47.9**	**+1.3**
SEY	**Seychan**	**90.04 348**	P	**P**		**17 55 46.4**	**0.0**
	comp=Z,2.2nm,0.9s,baz=188,slow=18,SNR=5.3						
SRU	**San Rafael Swe**	**90.87 47**	eP	**P**		**17 55 49.9**	**-1.2**
HHC	**Hu-ho-hao-te**	**90.90 315**	eP	**P**		**17 55 52.3**	**+1.2**
HHC			pmax	pmax			
	comp=Z,84nm,4.8s						
TX31	**Lajitas Ar. Si**	**90.99 58**	eP	**P**		**17 55 52.6**	**+0.8**
TXAR	**Lajitas Array**	**90.99 58**	P	**P**		**17 55 52.4**	**+0.6**
	comp=Z,1.8nm,0.8s,baz=214,slow=6.5,SNR=24						
CD2	**Chengdu**	**91.41 303**	eP	**P**		**17 55 54.5**	**+0.9**
HWUT	**Hardware Ranch**	**91.50 44**	eP	**P**		**17 55 52.9**	**-1.1**
PDAR	**Pinedale Array**	**93.38 44**	P	**P**		**17 56 01.9**	**-0.8**
	comp=Z,0.5nm,0.3s,baz=174,slow=3.0,SNR=5.4						
MKAR	**Makanchi Array**	**112.60 312**	PKiKP	**PKiKP**		**18 01 18.9**	**-1.3**
	comp=Z,0.2nm,0.5s,baz=113,slow=1.5,SNR=3.5						
KSH	**Kashi**	**115.61 304**	ePKP	**PKPdf**		**18 01 29.3**	**+3.0**
KSH			PP	PP		18 02 46.3	+8.1
KSH			AMB	AMB			
	comp=Z,83nm,3.7s						
KSH			LR	LR			
	comp=N,53nm,4.8s						
KSH			LR	LR			
	comp=E,46nm,5.3s						
KSH			LR	LR			
	comp=Z,70nm,5.3s						
KURK	**Kurchatov**	**115.69 316**	PKP	**PKPdf**		**18 01 24.9**	**-1.1**
KURBB	**Kurchatov Arra**	**115.74 316**	PKP	**PKPdf**		**18 01 24.8**	**-1.2**
	comp=Z,0.4nm,0.2s,baz=98,slow=2.0,SNR=4.3						
GEYT	**Alibeck**	**129.25 300**	SKPbc	SKPbc		18 04 27.4	+0.4
	comp=Z,1.6nm,0.8s,baz=35,slow=5.4,SNR=4.1						
FINES	**FINESS Array B**	**139.18 341**	PKhKP	PKPpre		18 01 58.7	
	comp=Z,0.4nm,0.5s,baz=48,slow=5.7,SNR=6.9						
FINES			PKP	**PKPdf**		**18 02 10.8**	**+0.7**
	comp=Z,0.5nm,0.4s,baz=77,slow=3.2,SNR=7.4						
FINES			SKPbc	**SKPbc**		**18 04 57.5**	**-0.5**
	comp=Z,2.2nm,0.8s,baz=43,slow=4.3,SNR=6.1						
NOA	**NORSAR Array B**	**142.87 351**	PKhKP	PKPpre		18 02 13.1	
	comp=Z,1.3nm,0.8s,baz=16,slow=4.6,SNR=3.2						
NOA			SKPbc	**SKPbc**		**18 05 07.0**	**-0.5**
	comp=Z,1.4nm,0.9s,baz=13,slow=4.0,SNR=3.5						
AKASG	**Malin Array Be**	**145.55 326**	PKPbc	**PKPdf**		**18 02 21.8**	**+0.1**
	comp=Z,1.1nm,0.3s,baz=45,slow=4.1,SNR=11						
BRTR	**Keskin Array B**	**147.95 306**	PKPbc	**PKPbc**		**18 02 29.6**	**-0.5**
	comp=Z,1.0nm,0.6s,baz=111,slow=2.8,SNR=6.9						
GERES	**GERESS Array B**	**153.57 339**	PKPab	**PKPab**		**18 02 57.1**	**-0.6**
	comp=Z,0.5nm,0.6s,baz=0.0,slow=4.9,SNR=4.7						
VTS	**Vitosha**	**153.76 319⇑**	iP	**PKPab**		**18 02 59.8**	**+1.0**
TORD	**Torodi Ar. Bea**	**168.35 189**	PKPab	**PKPab**		**18 04 03.0**	**+0.1**
	comp=Z,1.0nm,0.7s,baz=177,slow=3.3,SNR=6.4						

*ISCJB **25** 17:43:40.5±0.3,24.°72S±0.°05×179.°77E±0.°06,h500km, mb4.2/26, Error ellipse: s-maj=7.7km s-min=6.9km az=160.9*

*NEIC **25** 17:43:40.3±0.7,24.°75S×179.°87E,h493km±8km, mb4.6/8, Error ellipse: s-maj=9.1km s-min=8.5km az=124.0*

*IDC **25** 17:43:41.0±1.3,24.°59S×179.°83E,h494km±13km, mb3.9/20, mb1 4.0/22, mb1mx3.8/33, mbtmp4.7/22, Error ellipse: s-maj=13.4km s-min=11.6km az=83.0*

ISC 25 17:43:41.1±0.4,24.°73S±0.°06×179.°84E±0.°07,h500km,n73,

*ISCJB **25** 17:47:19.4±0.4,24.°15N±0.°02×122.°38E±0.°01,h26km±3km, Error ellipse: s-maj=4.0km s-min=2.1km az=166.4*

*JMA **25** 17:47:19.4±0.1,24.°14N×122.°33E,h54km±2km,M2.4*

*TAP **25** 17:47:19.9,24.°19N×122.°34E,h52km,ML3.2,C*

ISC 25 17:47:17.4±1.3,24.°15N±0.°03×122.°36E±0.°02,h11km±10km, n57,σ0§80/103,7C-2D,Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JYNG	**Yonagunijimaku**	**0.62 60**		P	Pn	**17 47 32.8**	**+0.7**
JYNG				S	Sn	**17 47 42.1**	**0.0**
ENA	**Nanau**	**0.63 297⇑**		*i*P	Pn	**17 47 32.5**	**+0.3**
	baz=302						
ENA				eS	Sn	**17 47 41.5**	**-0.8**
	baz=302						
TWC	**Suao**	**0.65 315**		eP	Pn	**17 47 32.6**	**0.0**
	baz=313						
TWC				eS	Sn	**17 47 41.4**	**-1.5**
	baz=313						
YOJ	**Yonaguni jima**	**0.68 62**		P	Pn	**17 47 33.4**	**+0.5**
YOJ				S	Sn	**17 47 43.2**	**-0.3**
TWD	**Chiawan**	**0.70 265⇑**		*i*P	Pn	**17 47 33.3**	**+0.1**
	baz=251						
TWD				S	Sn	**17 47 43.2**	**-0.8**
	baz=251						
HWA	**Hwalien**	**0.70 256**		P	Pn	**17 47 33.9**	**+0.6**
	baz=252						
HWA				S	Sn	**17 47 44.5**	**+0.3**
	baz=252						
EGS		**0.80 331**		eP	Pn	**17 47 34.9**	**+0.4**
	baz=323						
EGS				eS	Sn	**17 47 45.8**	**-0.7**
	baz=323						
ILA	**Ilan**	**0.83 318**		eS	Sn	**17 47 46.9**	**-0.4**
	baz=327						
TWE	**Neicheng**	**0.85 313**		P	Pn	**17 47 35.8**	**+0.5**
	baz=304						
TWE				eS	Sn	**17 47 47.4**	**-0.4**
	baz=304						
ENTT	**Nioudou**	**0.87 305⇑**		*i*P	Pn	**17 47 36.1**	**+0.5**
	baz=302						
ENTT				S	Sn	**17 47 47.7**	**-0.6**
	baz=302						
ESL	**Shilin**	**0.91 249⇓**		*i*P	Pn	**17 47 36.1**	**0.0**
	baz=237						
ESL				eS	Sb	**17 47 48.2**	**+1.1**
	baz=237						
TWB1	**Santiao Chiao**	**0.92 339**		eP	Pn	**17 47 36.0**	**-0.3**
	baz=339						
NNS	**Nan Shan**	**0.94 288**	⇑	P	Pn	**17 47 36.8**	**+0.1**
	baz=285						
NNS				eS	Sn	**17 47 49.4**	**-0.9**
	baz=285						
WHF	**Hehuan Shan**	**0.99 270**		P	Pn	**17 47 37.8**	**+0.1**
	baz=257						
WHF				eS	Sb	**17 47 50.9**	**+0.7**
	baz=257						
NSK	**Sanguang**	**1.05 300**		P	Pn	**17 47 38.4**	**+0.3**
	baz=298						
NSK				S	Sn	**17 47 51.9**	**-1.0**
	baz=298						
NWF	**Wu-fen Shan**	**1.06 331**		eP	Pn	**17 47 38.2**	**-0.1**
	baz=330						
NWF				eS	Sg	**17 47 51.4**	**-0.2**
	baz=330						
TWT	**Tachien**	**1.08 276**		P	Pn	**17 47 39.4**	**+0.8**
	baz=267						
TWA	**Mucha**	**1.09 320**		eP	Pn	**17 47 39.2**	**+0.6**
	baz=331						
TWA				eS	Sn	**17 47 53.7**	**0.0**
	baz=331						
EHY	**Hungye**	**1.14 236**		eP	Pn	**17 47 39.9**	**+0.6**
	baz=233						
EHY				eS	Sb	**17 47 53.7**	**-0.3**
	baz=233						
TWF1	**Yuli**	**1.25 231**		P	Pn	**17 47 41.2**	**+0.3**
	baz=240						
TWF1				eS	Sb	**17 47 56.6**	**-0.6**
	baz=240						
IRIF	**Iriomote-Funau**	**1.27 81**		P	Pn	**17 47 41.4**	**+0.3**
IRIF				S	Sb	**17 47 57.6**	**-0.1**
TWS1	**Kuangyinshan**	**1.28 318**		eP	Pb	**17 47 41.4**	**-0.1**
	baz=328						
TWS1				eS	Sn	**17 47 57.8**	**-0.5**
	baz=328						
NSTT	**Nanjuang**	**1.33 292⇑**		*i*P	Pg	**17 47 42.8**	**-0.1**
	baz=290						
NSTT				S	Sn	**17 47 59.0**	**-0.5**
	baz=290						
HATJ	**Hateruma jima**	**1.33 94**		P	Pb	**17 47 42.9**	**+0.6**
HATJ				eS	Sn	**17 48 00.3**	**+0.7**
SMLT	**Sun Moon Lake**	**1.36 259**		P	Pb	**17 47 43.2**	**+0.4**
	baz=256						
SMLT				S	Sb	**17 48 00.2**	**-0.1**
	baz=256						
CHKT	**Chengkung**	**1.38 221**		eP	Pn	**17 47 42.3**	**-0.3**
	baz=212						
CHKT				S	Sn	**17 47 58.4**	**-2.5**
	baz=212						
TYC	**Y

TWK	**Hsinying**	**1.92**	**243**	*eP*	**Pb**	**17 47 52.2**	**-0.3**
	baz=240							
TWK				*eS*	**Sn**	**17 48 15.6**	**+1.3**
	baz=240							
CHN1	**Nanshi**	**1.93**	**241**	P	**Pb**	**17 47 52.0**	**-0.5**
	baz=238							
CHN1				*eS*	**Sn**	**17 48 15.8**	**+1.4**
	baz=238							
SGST	**Jiashian**	**1.94**	**237**	*eP*	**Pb**	**17 47 52.2**	**-0.6**
	baz=234							
SGST				*eS*	**Sb**	**17 48 16.6**	**-0.4**
	baz=234							
SSD	**Sandimen**	**2.11**	**229**	*eP*	**Pn**	**17 47 54.3**	**+1.7**
	baz=226							
SSD				*eS*	**Sn**	**17 48 19.9**	**+1.0**
	baz=226							
JTJ	**Tarama**	**2.20**	**77**	P	**Pn**	**17 47 54.5**	**+0.7**
JTJ				S	**Sn**	**17 48 19.6**	**-1.4**
LAY	**Lan-yu**	**2.22**	**200**	*eP*	**Pn**	**17 47 53.2**	**-1.1**
	baz=198							
EAST	**Anshuo**	**2.23**	**219**	*eP*	**Pn**	**17 47 56.3**	**+1.9**
	baz=216							
SCZT	**Fangliau**	**2.38**	**222**	*eP*	**Pb**	**17 47 59.4**	**-0.8**
	baz=218							
JIRB	**Irabujima**	**2.66**	**75**	P	**Pn**	**17 48 00.9**	**+0.8**
JIKM	**Ikemajima**	**2.75**	**73**	P	**Pn**	**17 48 02.2**	**+0.8**
JOGS	**Gusukube**	**2.85**	**77**	P	**Pn**	**17 48 03.9**	**+1.1**
JKE	**Kume jima 2**	**4.56**	**61**	P	**Pn**	**17 48 26.5**	**+0.1**

IDC 25 18:03:18.7±2.1, 7°25S×156°72E, h0km, mb3.7/5, mb1 3.9/5, mb1mx3.6/22, mbtmp3.7/5, Error ellipse: s-maj=53.7km s-min=34.9km az=85.0, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**25.10**	**238**	P	P	18 08 46.2	+0.7
	1.1nm,0.7s,baz=63,slow=9.4,SNR=12						
ASAR	**Alice Springs**	**27.31**	**231**	P	P	18 09 04.6	-0.9
	0.5nm,0.8s,baz=56,slow=9.7,SNR=6.4						
H11S3	**WAKE ISLAND Hy 27.41**		**21**	T	T	18 37 37.5	
	baz=202,slow=74,SNR=49						
H11S2	**WAKE ISLAND Hy 27.41**		**21**	T	T	18 37 37.6	
	baz=202,slow=74,SNR=25						
H11S1	**WAKE ISLAND Hy 27.43**		**21**	T	T	18 37 38.8	
	baz=202,slow=74,SNR=21						
H11N1	**WAKE ISLAND Hy 28.61**		**20**	T	T	18 39 14.1	
	baz=202,slow=76,SNR=2.5						
H11N3	**WAKE ISLAND Hy 28.62**		**20**	T	T	18 39 10.7	
	baz=202,slow=76,SNR=6.0						
H11N2	**WAKE ISLAND Hy 28.62**		**20**	T	T	18 39 13.2	
	baz=202,slow=76,SNR=3.6						
CMAR	**Chiang Mai Arr**	**62.44**	**295**	P	P	18 13 44.2	0.0
	0.6nm,0.9s,baz=136,slow=5.6,SNR=4.5						
VNDA	**Vanda**	**70.28**	**179**	P	P	18 14 33.4	-0.2
	0.5nm,0.6s,baz=346,slow=4.2,SNR=3.7						
MKAR	**Makanchi Array**	**84.73**	**318**	P	P	18 15 55.1	+0.2
	0.8nm,0.8s,baz=95,slow=5.8,SNR=5.0						

*ATH **25** 18:03:42.1, 36°41N×28°12E, h30km±1km, ML2.5/4, Error ellipse: s-maj=2.6km s-min=1.0km az=245.0*
*ISCJB **25** 18:03:43.8±0.5, 36°42N±0°03×28°01E±0°03, h9km±4km, Error ellipse: s-maj=4.8km s-min=4.6km az=145.9*
*THE **25** 18:03:43.5, 36°44N×28°04E, h7km±1km, ML2.6/3, Error ellipse: s-maj=1.5km s-min=0.5km az=190.0*
*ISK **25** 18:03:43.5, 36°40N×28°03E, h7km, MD2.6*
*CSEM **25** 18:03:44.0±0.2, 36°40N×28°04E, h12km, ML2.5, Error ellipse: s-maj=5.7km s-min=3.9km az=159.0*

ISC 25 18:03:43.7±0.8, 36°42N±0°03×28°04E±0°02, h16km±7km, n41, σ0°51/55, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARG	**Arkhangelos**	**0.21**	**160**	P	**Pg**	**18 03 48.4**	**-0.2**
ARG				S	**Sg**	**18 03 52.5**	**+0.6**
ARG	**Arkhangelos**	**0.21**	**160**	P	**Pg**	**18 03 48.4**	**-0.2**
ARG				S	**Sg**	**18 03 52.0**	**+0.1**
ARG	**Arkhangelos**	**0.21**	**160**	P	**Pg**	**18 03 48.4**	**-0.2**
ARG				S	**Sg**	**18 03 52.0**	**+0.1**
ARG				AML	AML	18 03 54.1	
	comp=N,1858μm,0.3s						
ARG				AML	AML	18 03 55.1	
	comp=E,3253μm,0.4s						
MRSB	**Marmaris-Mugla**	**0.33**	**23**	*e*PG	**Pg**	**18 03 50.6**	**0.0**
MRSB				*e*SG	**Sb**	**18 03 56.2**	**-0.1**
DAT	**Datca**	**0.48**	**310**	*e*PG	**Pg**	**18 03 52.9**	**-0.5**
DALY	**Dalyan (Mu¨la**	**0.64**	**51**	*e*PG	**Pg**	**18 03 56.4**	**+0.1**
DALY	**Dalyan (Mu¨la**	**0.64**	**51**	*e*Pg	**Pg**	**18 03 56.4**	**+0.1**
NIS1	**Nisyros Isl.**	**0.72**	**285**	*e*PG	**Pb**	**18 03 58.2**	**+0.4**
NIS1	**Nisyros Isl.**	**0.72**	**285**	P	**Pg**	**18 03 57.2**	**-0.5**
NIS1				S	**Sb**	**18 04 08.1**	**+0.6**
NIS1	**Nisyros Isl.**	**0.72**	**285**	P	**Pb**	**18 03 58.7**	**+0.9**
NIS1				S	**Sn**	**18 04 09.1**	**-0.8**
NIS1	**Nisyros Isl.**	**0.72**	**285**	P	**Pb**	**18 03 58.7**	**+0.9**
NIS1				S	**Sn**	**18 04 09.1**	**-0.8**
NIS1				AML	AML	18 04 12.1	
	comp=E,1250μm,0.4s						
NIS1				AML	AML	18 04 12.5	
	comp=N,959μm,0.3s						
BODT	**Bodrum**	**0.87**	**318**	*e*PG	**Pb**	**18 04 00.6**	**+0.2**
BODT	**Bodrum**	**0.87**	**318**	P	**Pb**	**18 04 00.1**	**-0.4**
FETY	**Fethiye**	**0.87**	**75**	*e*PG	**Pb**	**18 04 00.4**	**-0.1**
FETY	**Fethiye**	**0.87**	**75**	P	**Pb**	**18 03 59.6**	**-0.9**
FETY				S	**Sn**	**18 04 13.2**	**-0.5**
FETY	**Fethiye**	**0.87**	**75**	P	**Pb**	**18 03 59.6**	**-0.9**
FETY	**Fethiye**	**0.87**	**75**	*e*Pg	**Pb**	**18 04 00.4**	**-0.1**
FETY				S	**Sn**	**18 04 13.2**	**-0.5**
MLSB	**Milas**	**0.90**	**347**	*e*PG	**Pn**	**18 04 02.2**	**+0.4**
MLSB	**Milas**	**0.90**	**347**	*e*Pg	**Pn**	**18 04 02.2**	**+0.4**
KARP	**Karpathos**	**1.12**	**220**	*e*PN	**Pg**	**18 04 05.4**	**0.0**
KARP	**Karpathos**	**1.12**	**220**	P	**Pb**	**18 04 04.3**	**-0.4**
KARP				S	**Sg**	**18 04 20.0**	**0.0**
KARP	**Karpathos**	**1.12**	**220**	P	**Pb**	**18 04 04.6**	**-0.1**
KARP	**Karpathos**	**1.12**	**220**	*e*Pn	**Pg**	**18 04 05.4**	**0.0**
KARP				S	**Sg**	**18 04 20.0**	**0.0**
KARP	**Karpathos**	**1.12**	**220**	P	**Pb**	**18 04 04.6**	**-0.1**
KARP				S	**Sb**	**18 04 18.5**	**-0.6**
KARP				AML	AML	18 04 21.8	
	comp=E,394μm,0.4s						
KARP				AML	AML	18 04 22.0	
	comp=N,277μm,0.2s						
AKAS	**Kas**	**1.28**	**98**	*e*PN	**Pg**	**18 04 08.9**	**+0.5**
AKAS	**Kas**	**1.28**	**98**	*e*Pn	**Pg**	**18 04 08.9**	**+0.5**
GLHS	**Glhisar (BURDU**	**1.39**	**57**	*e*PN	**Pg**	**18 04 10.7**	**+0.2**
GLHS	**Glhisar (BURDU**	**1.39**	**57**	*e*Pn	**Pg**	**18 04 10.7**	**+0.2**
AYDB	**Zeytinkoy-Aydi**	**1.53**	**356**	*e*PN	**Pb**	**18 04 11.9**	**+0.1**
AYDB	**Zeytinkoy-Aydi**	**1.53**	**356**	*e*Pn	**Pb**	**18 04 11.9**	**+0.1**
DENT	**Denizli**	**1.56**	**31**	*e*PN	**Pb**	**18 04 12.3**	**+0.1**
DENT	**Denizli**	**1.56**	**31**	*e*Pn	**Pb**	**18 04 12.3**	**+0.1**
SMG	**Samos**	**1.61**	**324**	P	**Pn**	**18 04 10.5**	**-1.0**
SMG	**Samos**	**1.61**	**324**	P	**Pn**	**18 04 11.3**	**-0.2**
SMG				S	**Sn**	**18 04 31.7**	**-0.2**
SMG	**Samos**	**1.61**	**324**	P	**Pn**	**18 04 11.3**	**-0.2**
SMG				S	**Sn**	**18 04 31.7**	**-0.2**
SMG				AML	AML	18 04 39.5	
	comp=E,154μm,0.5s						
SMG				AML	AML	18 04 39.9	
	comp=N,120μm,0.4s						
APE	**Apeiranthos**	**2.12**	**289**	P	**Pn**	**18 04 19.1**	**+0.6**
APE	**Apeiranthos**	**2.12**	**289**	P	**Pn**	**18 04 19.1**	**+0.6**
LAST	**Lasithi**	**2.43**	**240**	P	**Pn**	**18 04 24.0**	**+1.2**
LAST	**Lasithi**	**2.43**	**240**	P	**Pn**	**18 04 24.1**	**+1.2**
IDI	**Anoyia**	**2.79**	**247**	P	**Pn**	**18 04 27.8**	**0.0**
IDI	**Anoyia**	**2.79**	**247**	P	**Pn**	**18 04 27.8**	**0.0**

IDC 25 18:12:06.4±3.5, 7°42S×156°29E, h118km±36km, mb3.5/5, mb1 3.6/6, mb1mx3.3/30, mbtmp3.9/6, MS2.4/1, Ms1 2.4/1, ms1mx2.1/22, Error ellipse: s-maj=36.4km s-min=25.2km az=128.0, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**4.13**	**119**	P	Pn	18 13 07.8	+0.1
	3.1nm,0.3s,baz=255,slow=12,SNR=2.9						
HNR				S	Sn	18 13 50.9	-4.4
	2.4nm,0.3s,baz=229,slow=19,SNR=2.9						
PMG	**Port Moresby**	**9.25**	**257**	LR	LR	18 17 56.5	
	comp=Z,23nm,19.7s,baz=42,slow=38						
WRA	**Warramunga Arr**	**24.65**	**237**	P	P	18 17 16.7	+0.3
	2.7nm,0.8s,baz=62,slow=9.5,SNR=32						
WRA				PcP	PcP	18 20 51.0	0.0
	0.2nm,0.6s,baz=77,slow=3.2,SNR=3.8						
ASAR	**Alice Springs**	**26.88**	**231**	P	P	18 17 35.9	-0.5
	0.7nm,0.8s,baz=58,slow=10,SNR=17						
ASAR				PcP	PcP	18 20 56.2	+0.2
	0.4nm,1.1s,baz=57,slow=3.4,SNR=2.9						
H11S3	**WAKE ISLAND Hy 27.72**		**22**	T	T	18 46 05.9	
	baz=202,slow=74,SNR=152						
H11S2	**WAKE ISLAND Hy 27.72**		**22**	T	T	18 46 09.2	
	baz=202,slow=74,SNR=118						
H11S1	**WAKE ISLAND Hy 27.73**		**22**	T	T	18 46 07.1	
	baz=202,slow=74,SNR=72						
H11N1	**WAKE ISLAND Hy 28.91**		**21**	T	T	18 47 39.4	
	baz=203,slow=76,SNR=6.7						
H11N3	**WAKE ISLAND Hy 28.92**		**21**	T	T	18 47 39.2	
	baz=203,slow=76,SNR=14						
H11N2	**WAKE ISLAND Hy 28.93**		**21**	T	T	18 47 45.5	
	baz=203,slow=76,SNR=5.4						
CMAR	**Chiang Mai Arr**	**62.12**	**295**	P	P	18 22 15.8	+0.3
	1.0nm,0.8s,baz=123,slow=5.2,SNR=8.3						
SONM	**Songino Array**	**70.39**	**327**	P	P	18 23 07.8	0.0
	0.3nm,0.4s,baz=142,slow=7.2,SNR=3.2						
MKAR	**Makanchi Array**	**84.57**	**318**	P	P	18 24 26.4	-0.2
	1.5nm,0.8s,baz=99,slow=5.9,SNR=11						
TORD	**Torodi Ar. Bea**	**154.38**	**285**	PKPbc	PKPbc	18 31 53.2	-0.8
	0.5nm,0.9s,baz=45,slow=2.9,SNR=3.1						

*CSEM **25** 18:16:54.8, 38°39N×22°03E, h10km, ML0.9/1*
ATH 25 18:16:54.8, 38°39N×22°03E, h10km±3km, ML0.9/1, Error ellipse: s-maj=6.4km s-min=1.1km az=138.0, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TRIZ	**Trizonia**	**0.04**	**127**	P	Pg	18 16 56.7	-0.1
TRIZ				S	Sg	18 16 58.4	+0.1
TRIZ	**Trizonia**	**0.04**	**127**	P	Pg	18 16 56.7	-0.2
TRIZ				S	Sg	18 16 58.4	+0.1
KALE	**Kalithea**	**0.09**	**91**	P	Pg	18 16 57.5	+0.1
KALE				S	Sg	18 16 59.2	-0.1
KALE	**Kalithea**	**0.09**	**91**	P	Pg	18 16 57.5	0.0
KALE				S	Sg	18 16 59.2	0.0
KALE				AML	AML	18 16 59.9	
	comp=N,272μm,0.2s						
KALE				AML	AML	18 17 00.5	
	comp=E,158μm,0.2s						
LAKA	**Lakka**	**0.16**	**194**	P	Pg	18 16 58.1	-0.3
LAKA	**Lakka**	**0.16**	**194**	P	Pg	18 16 58.1	-0.3
KLV	**Kalavryta, Ach**	**0.36**	**164**	P	Pg	18 17 01.8	-0.2
KLV	**Kalavryta, Ach**	**0.36**	**164**	P	Pg	18 17 01.8	-0.2
DRO	**Drossia**	**0.51**	**210**	P	Pg	18 17 04.9	+0.2
DRO				S	Sg	18 17 11.9	+0.5
DRO	**Drossia**	**0.51**	**210**	P	Pg	18 17 04.9	+0.2
DRO				S	Sg	18 17 11.8	+0.5

BUC 25 18:20:10.5±0.6, 45°79N×27°12E, h17km±4km, MD2.5/4, 13C-6D, Error ellipse: s-maj=11.9km s-min=5.1km az=35.0, Romania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ODBI	**Odobesti**	**0.05**	**243**	↑*i*P	Pg	18 20 13.9	+0.2
ODBI	**Odobesti**	**0.05**	**243**	S	Sg	18 20 17.6	+1.8
ODBI	**Odobesti**	**0.05**	**243**	↑*i*P	Pg	18 20 13.9	+0.2
ODBI				*i* S	Sg	18 20 17.6	+1.8
PETR	**Petresti**	**0.10**	**129**	↑*i*P	Pg	18 20 14.6	+0.5
PETR	**Petresti**	**0.10**	**129**	S	Sg	18 20 18.9	+2.5
PETR	**Petresti**	**0.10**	**129**	↑*i*P	Pg	18 20 14.6	+0.5
PETR				*i* S	Sg	18 20 18.9	+2.5
VRI	**Vrincioaia**	**0.29**	**286**	↓*i*P	Pg	18 20 16.9	+0.1
VRI	**Vrincioaia**	**0.29**	**286**	↓*i*P	Pg	18 20 16.9	+0.1
VRI				*i* S	Sb	18 20 21.8	+0.1
PLOR	**Plostina**	**0.34**	**281**	↓*i*P	Pg	18 20 17.8	+0.2
PLOR	**Plostina**	**0.34**	**281**	S	Sb	18 20 23.6	+0.5
PLOR	**Plostina**	**0.34**	**281**	↓*i*P	Pg	18 20 17.8	+0.2
PLOR				*i* S	Sb	18 20 23.6	+0.5
TESR	**Tescani**	**0.80**	**336**	↑*i*P	Pg	18 20 26.1	0.0
TESR	**Tescani**	**0.80**	**336**	↑*i*P	Pg	18 20 26.1	0.0
TESR				*i* S	Sn	18 20 37.8	-0.6
MLR	**Muntele Rosu**	**0.88**	**251**	↓*i*P	Pn	18 20 28.1	0.0
MLR	**Muntele Rosu**	**0.88**	**251**	↓*i*P	Pn	18 20 28.1	0.0
MLR				*i* S	Sb	18 20 38.9	+0.2
CFR	**Carcaliu**	**0.94**	**130**	↑*i*P	Pb	18 20 27.5	-0.8
CFR	**Carcaliu**	**0.94**	**130**	↑*i*P	Pb	18 20 27.5	-0.8
CFR				*i* S	Sb	18 20 40.2	-0.2
TLCR		**1.33**	**116**	S	Sb	18 20 52.7	+0.9
TLCR		**1.33**	**116**	*i* S	Sb	18 20 52.7	+0.9
TLB	**Topalu**	**1.37**	**151**	↑*i*P	Pb	18 20 35.9	+0.4
TLB	**Topalu**	**1.37**	**151**	↑*i*P	Pb	18 20 35.9	+0.4
TLB				*i* S	Sb	18 20 53.0	+0.3
TIRR	**Tirgusor**	**1.61**	**145**	↑*i*P	Pb	18 20 39.0	-0.8
TIRR	**Tirgusor**	**1.61**	**145**	↑*i*P	Pb	18 20 39.0	-0.8
TIRR				*i* S	Sn	18 20 58.8	+0.4
GZR	**Gura Zlata**	**3.08**	**264**	↑*i*P	Pn	18 20 51.9	-6.4

*ISCJB **25** 18:41:28.9±0.9, 61°45N±0°04×60°6W±0°1, h10km, Error ellipse: s-maj=8.0km s-min=5.8km az=175.9*
*OTT **25** 18:41:36.0±0.5, 61°49N×60°59W, h18km, ML3.2/4, 230km east from Resolution Island, Nu LAlbertaRADOR Sea Seismic Zone.*

ISC 25 18:41:31.8±1.0, 61°43N±0°06×60°57W±0°07, h10km, n14, σ2°72/20, Davis Strait

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAJQ	**Kangiqsualujju**	**3.84**	**227**	PN	**Pn**	**18 42 33.9**	**+3.1**
KAJQ				SN	**Sn**	**18 43 15.7**	**-0.3**
CDKN	**Chidliak Camp**	**3.87**	**319**	PN	**Pn**	**18 42 34.4**	**+3.1**
CDKN				SN	**Sn**	**18 43 16.6**	**0.0**
CDKN				Trac		18 43 19.5	
	comp=Z,5.6nm,0.1s						
FRB	**Frobisher Bay**	**4.36**	**306**	PN	**Pn**	**18 42 40.3**	**+2.3**
FRB				SN	**Sn**	**18 43 27.6**	**-1.3**
FRB				Trac		18 43 31.2	
	comp=Z,14nm,0.2s						
CMBN	**Cumberland Cam**	**4.61**	**340**	PN	**Pn**	**18 42 43.3**	**+1.8**
CMBN				SN	**Sn**	**18 43 32.4**	**-2.7**
CMBN				Trac		18 43 35.5	
	comp=Z,5.3nm,0.1s						
KUQ	**Kuujjuuaa**	**5.17**	**233**	PN	**Pn**	**18 42 50.0**	**+0.8**
KUQ				SN	**Sn**	**18 43 45.7**	**-3.2**
KNGQ	**Kangiqsujuaq**	**5.45**	**277**	SN	**Sn**	**18 43 54.3**	**-1.4**
SFJD	**Kangerlussuaq**	**7.07**	**33**	PN	**Pn**	**18 43 18.1**	**+3.0**
SFJD				SN	**Sn**	**18 44 31.2**	**-4.2**
SFJD	**Kangerlussuaq**	**7.07**	**33**	*i* P	**Pn**	**18 43 17.8**	**+2.7**
NRS	**Narsarsuaq**	**7.30**	**85**	*i* P	**Pn**	**18 43 17.9**	**-0.5**
NRS				*e*S	Sn	18 44 30.7	-11
SCHQ	**Schefferville**	**7.40**	**209**	PN	**Pn**	**18 43 22.5**	**+2.7**
SCHQ				SN	**Sn**	**18 44 43.5**	**-0.2**
INUQ	**Inukjuak**	**9.29**	**259**	PN	**Pn**	**18 43 47.4**	**+1.7**
INUQ				SN	**Sn**	**18 45 24.4**	**-5.7**
INUQ				Trac		18 45 30.7	
	comp=Z,3.1nm,0.2s						
NATG	**Natashquan Que**	**11.24**	**187**	PN	**Pn**	**18 44 12.2**	**-0.1**
NATG				SN	Sn	18 46 09.6	-8.2
ILON	**Igloolik, Nuna**	**11.84**	**321**	PN	Pn	18 44 12.4	-8.0
MRYN	**Mary River**	**12.39**	**331**	SN	Sn	18 46 35.9	-10

*ISCJB **25** 18:54:12.0±0.3, 7°21S±0°04×126°94E±0°03, h350km, mb3.6/14, Error ellipse: s-maj=5.0km s-min=4.5km az=178.9*
*DJA **25** 18:54:11.5±0.2, 7°S±2°×12°7E±°, h331km±4km, M4.5/27, mb4.4/27, mB5.0/10, MLv4.7/16, Mw(mB)4.3/10*
*IDC **25** 18:54:12.8±1.7, 7°18S×126°92E, h328km±17km, mb3.5/15, mb1 3.6/19, mb1mx3.5/36, mbtmp4.3/19, Error ellipse: s-maj=14.1km s-min=9.3km az=69.0*

ISC 25 18:54:13.4±0.4, 7°21S±0°05×127°01E±0°05, h350km, n55, σ2°05/62, mb3.8/14, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AAI	**Ambon**	**3.69**	**19**	P	**Pn**	**18 55 17.4**	**-2.0**
SOEI	**Soe**	**3.71**	**227**	P	**Pn**	**18 55 17.6**	**-2.1**
SOEI				S	**S**	**18 56 07.7**	**-5.3**
BNDI	**Bandanaira**	**3.93**	**47**	P	**Pn**	**18 55 19.3**	**-2.5**
NLAI	**Namlea**	**3.94**	**1**	P	**Pn**	**18 55 21.3**	**-0.6**
MSAI	**Masohi**	**4.29**	**27**	P	**Pn**	**18 55 23.4**	**-2.1**
SAUI	**Saumlaki**	**4.33**	**101**	P	**Pn**	**18 55 24.2**	**-1.7**
SAUI				S	**S**	**18 56 17.7**	**-6.6**
BATI	**Baumata**	**4.45**	**228**	P	**Pn**	**18 55 25.6**	**-1.6**
BBSI	**Bau Bau**	**4.73**	**291**	P	**Pn**	**18 55 29.3**	**-0.8**
MMRI	**Maumere**	**4.93**	**253**	P	**Pn**	**18 55 29.4**	**-2.9**
MMRI				S	**S**	**18 56 34.2**	**-1.9**
KDI	**Kendari**	**5.43**	**306**	P	**Pn**	**18 55 36.0**	**-1.9**
LBMI	**Labuha**	**6.54**	**4**	P	**Pn**	**18 55 49.6**	**-1.0**
BSSI	**Bau Bau, Buton**	**6.56**	**279**	P	**Pn**	**18 55 49.8**	**-0.9**
FAKI	**Fak Fak**	**6.74**	**51**	P	**Pn**	**18 55 49.0**	**-3.9**
FAKI				S	S	18 57 01.8	-12
BASI	**Baing, Sumba**	**7.02**	**244**	P	**Pn**	**18 55 54.0**	**-2.1**
WSI	**Waingapu**	**7.07**	**249**	P	**Pn**	**18 55 52.9**	**-3.8**
BKSI	**Bulukumba**	**7.09**	**285**	P	**Pn**	**18 55 55.9**	**-1.1**
SlJI	**Sorong**	**7.59**	**34**	S	S	18 57 22.4	-10
	9.9nm,0.3s,baz=270,slow=20,SNR=4.5						
SPSI	**Sidrap Palu**	**7.89**	**294**	P	**Pn**	**18 56 05.1**	**-1.2**
TTSI	**Tana Toraja**	**8.26**	**300**	P	**Pn**	**18 56 09.6**	**-1.2**
KMSI	**Cibinong**	**8.30**	**339**	P	**Pn**	**18 56 10.3**	**-0.9**
GTOI	**Gorontalo**	**8.75**	**333**	P	**P**	**18 56 17.8**	**-1.3**
MRSI	**Marisa**	**9.15**	**326**	P	**Pn**	**18 56 20.5**	**-0.9**
PLAI	**Plampang**	**9.28**	**259**	P	**Pn**	**18 56 19.6**	**-3.3**
PCI	**Palu**	**9.50**	**311**	P	**Pn**	**18 56 24.7**	**-0.8**
TWSI	**Taliwang, Sumb**	**10.14**	**261**	P	**Pn**	**18 56 31.6**	**-1.6**
FITZ	**Fitzroy Crossi**	**10.91**	**187**	P	**Pn**	**18 56 41.0**	**-1.3**
	8.9nm,0.3s,baz=13,slow=11,SNR=183						
FITZ				S	**S**	**18 58 44.3**	**-0.4**
	0.6nm,0.3s,baz=316,slow=14,SNR=3.0						
SGSI	**Sangihe**	**10.92**	**352**	P	**Pn**	**18 56 41.7**	**-0.8**
DNP	**Denpasar**	**11.77**	**262**	P	**P**	**18 56 51.1**	**-1.6**
IGBI	**Denpasar**	**11.85**	**261**	P	**P**	**18 56 52.1**	**-1.4**
ABJI	**Asem Bagus**	**12.68**	**267**	P	**Pn**	**18 57 01.7**	**-1.6**
SMPI	**Sarmi**	**12.76**	**67**	P	**P**	**18 57 02.7**	**-0.9**
KMMI	**Kalianget**	**12.94**	**270**	P	**Pn**	**18 57 05.5**	**-0.9**
BLJI	**Banyuglugur**	**13.31**	**267**	P	**Pn**	**18 57 09.0**	**-1.7**
GMJI	**Gumukmas**	**13.48**	**265**	P	**Pn**	**18 57 10.7**	**-2.0**
MTKI	**Muara Teweh, K**	**13.58**	**297**	P	**Pn**	**18 57 12.4**	**-1.6**
GENI	**Genyem**	**13.89**	**71**	P	**P**	**18 57 15.0**	**-1.0**
JAY	**Jayapura**	**14.42**	**72**	P	**Pn**	**18 57 23.2**	**-0.6**
	0.2nm,0.3s,baz=207,slow=22,SNR=10						
WRA	**Warramunga Arr**	**14.52**	**151**	P	**P**	**18 57 23.6**	**+0.7**
	1.6nm,0.3s,baz=324,slow=12,SNR=59						
WRA				S	**S**	**18 59 57.8**	**-2.2**
	1.0nm,0.3s,baz=325,slow=21,SNR=18						
ASAR	**Alice Springs**	**17.66**	**159**	P	**P**	**18 57 58.5**	**+1.6**
	4.0nm,0.3s,baz=335,slow=11,SNR=351						
ASAR				S	**S**	**19 01 02.0**	**0.0**
	0.8nm,0.3s,baz=348,slow=20,SNR=12						
ASAR				ScP	**ScP**	**19 05 21.5**	**+3.1**
	0.1nm,0.3s,baz=350,slow=2.5,SNR=3.7						
PMG	**Port Moresby**	**20.06**	**98**	P	**P**	**18 58 23.0**	**+0.9**
	11nm,0.5s,baz=13,slow=4.4,SNR=7.5						
CTA	**Charters Tower**	**22.63**	**126**	P	**P**	**18 58 47.7**	**+2.1**
	3.4nm,0.5s,baz=309,slow=12,SNR=11						
NWAO	**Narrogin (SRO)**	**27.15**	**198**	P	**P**	**18 59 26.7**	**+0.8**
	5.2nm,0.6s,baz=70,slow=7.6,SNR=7.2						
STKA	**Stephens Creek**	**28.07**	**153**	P	**P**	**18 59 35.8**	**+1.9**
	2.6nm,0.4s,baz=328,slow=9.0,SNR=27						
PSI	**Prapat**	**29.73**	**289**	P	**P**	**18 59 48.7**	**-0.4**
	6.4nm,0.7s,baz=92,slow=7.0,SNR=6.4						
CMAR	**Chiang Mai Arr**	**37.64**	**313**	P	**P**	**19 00 57.1**	**+0.7**
	0.7nm,0.7s,baz=137,slow=6.7,SNR=6.2						
CMAR				ScP	**ScP**	**19 06 22.5**	**+3.2**
	0.8nm,0.6s,baz=157,slow=3.0,SNR=7.1						
DZM	**Mont Dzumac**	**40.77**	**116**	P	**P**	**19 01 23.8**	**+1.6**
	3.2nm,0.8s,baz=246,slow=10.0,SNR=3.4						
KSRS	**Korea Array**	**44.44**	**1**	P	**P**	**19 01 52.4**	**+1.5**
	0.8nm,0.8s,baz=178,slow=9.1,SNR=4.9						
MJAR	**Matsushiro Ar**	**44.77**	**13**	P	**P**	**19 01 53.4**	**-0.1**
	1.9nm,0.5s,baz=194,slow=8.4,SNR=6.4						
USRK	**Ussuriysk Ar.**	**51.36**	**5**	P	**P**	**19 02 44.7**	**+1.4**
	0.8nm,0.4s,baz=193,slow=8.6,SNR=3.2						
PETK	**Petropavlovsk-**	**65.48**	**20**	P	**P**	**19 04 21.6**	**+1.8**
	2.0nm,0.5s,baz=122,slow=0.9,SNR=7.3						
MKAR	**Makanchi Array**	**66.80**	**328**	P	**P**	**19 04 29.7**	**+1.3**
	1.2nm,0.4s,baz=115,slow=8.5,SNR=24						
ZALV	**Zalesovo Beam**	**70.48**	**335**	P	**P**	**19 04 51.4**	**+0.7**
	1.1nm,0.5s,baz=132,slow=3.7,SNR=6.8						
**VNDA

region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**6.25**	**96**	*e*Pn	**Pn**	**19 12 39.5**	**-1.8**
MSVF				*e*Sn	**Sn**	**19 13 49.9**	**-1.8**
DZM	**Mont Dzumac**	**6.84**	**224**	Pn	**Pn**	**19 12 50.3**	**+0.9**
	1.4nm,0.3s,baz=90,slow=20,SNR=13						
DZM				Sn	**Sn**	**19 14 04.9**	**-1.3**
	0.2nm,0.3s,baz=121,slow=19,SNR=2.9						
DZM				LR	LR	19 15 11.0	
	comp=Z,2μm,21.7s,baz=42,slow=35						
DZM	**Mont Dzumac**	**6.84**	**224**	*e*Pn	**Pn**	**19 12 49.6**	**+0.2**
	91nm,1.2s						
DZM				*e*LR	LR	19 14 28.0	
	2μm,24.9s						
DZM	**Mont Dzumac**	**6.84**	**224**	*e*Pn	**Pn**	**19 12 48.9**	**-0.5**
DZM				Sn	**Sn**	**19 14 04.9**	**-1.3**
FUNA	**Funafuti**	**11.38**	**42**	*e*Pn	Pn	19 13 44.6	-6.9
HNR	**Honiara**	**13.63**	**303**	LR	LR	19 18 43.7	
	comp=Z,238nm,21.4s,baz=138,slow=33						
RAO	**Raoul Island**	**15.45**	**143**	LR	LR	19 19 28.9	
	comp=Z,538nm,18.2s,baz=344,slow=33						
AFI	**Afiamalu**	**16.41**	**81**	LR	LR	19 19 10.0	
	comp=Z,41nm,21.1s,baz=96,slow=30						
URZ	**Urewera**	**21.59**	**168**	LR	LR	19 22 25.1	
	comp=Z,440nm,21.4s,baz=354,slow=31						
CTA	**Charters Tower**	**24.12**	**259**	P	**P**	**19 16 26.4**	**+2.2**
	8.7nm,0.9s,baz=89,slow=11,SNR=9.2						
CTAO	**Charters Tower**	**24.12**	**259**	*e*P	**P**	**19 16 23.6**	**-0.6**
PMG	**Port Moresby**	**24.91**	**285**	LR	LR	19 25 06.1	
	comp=Z,169nm,18.3s,baz=118,slow=34						
RPZ	**Rata Peaks**	**24.91**	**285**	LR	LR	19 25 39.7	
	comp=Z,273nm,21.8s,baz=346,slow=33						
MANU	**Manus Island**	**28.10**	**300**	*e*P	**P**	**19 17 00.1**	**0.0**
	26nm,1.1s						
STKA	**Stephens Creek**	**30.80**	**236**	P	**P**	**19 17 25.1**	**+1.1**
	3.8nm,0.9s,baz=55,slow=7.8,SNR=5.3						
STKA				LR	LR	19 28 51.9	
	comp=Z,160nm,20.1s,baz=54,slow=34						
STKA	**Stephens Creek**	**30.80**	**236**	*e*P	**P**	**19 17 23.6**	**-0.3**
	3.6nm,1.3s						
WB2	**Warramunga Arr**	**35.31**	**260**	*e*P	**P**	**19 18 02.7**	**-0.7**
WRAB	**Tennant Creek**	**35.31**	**260**	*e*P	**P**	**19 18 00.2**	**-3.2**
	5.1nm,1.0s						
WRA	**Warramunga Arr**	**35.32**	**260**	P	**P**	**19 18 03.0**	**-0.6**
	5.4nm,1.1s,baz=90,slow=8.5,SNR=20						
WRA				PcP	**PcP**	**19 20 33.4**	**-0.3**
	0.4nm,0.7s,baz=89,slow=3.7,SNR=4.3						
AS01	**Alice Springs**	**35.73**	**253**	*e*P	**P**	**19 18 05.7**	**-1.4**
H11S2	**WAKE ISLAND Hy**	**35.74**	**352**	T	T	19 55 48.1	
	baz=171,slow=76,SNR=14						
H11S3	**WAKE ISLAND Hy**	**35.74**	**352**	T	T	19 55 48.5	
	baz=171,slow=76,SNR=13						
H11S1	**WAKE ISLAND Hy**	**35.76**	**352**	T	T	19 55 49.4	
	baz=171,slow=76,SNR=12						
AS31	**Alice Springs**	**35.77**	**253**	*e*P	**P**	**19 18 06.2**	**-1.3**
	4.2nm,0.8s						
ASAR	**Alice Springs**	**35.77**	**253**	P	**P**	**19 18 07.3**	**-0.1**
	11nm,0.8s,baz=80,slow=9.0,SNR=97						
ASAR				PcP	**PcP**	**19 20 35.5**	**+0.5**
	0.9nm,0.8s,baz=79,slow=2.0,SNR=4.7						
ASAR				LR	LR	19 32 15.1	
	comp=Z,136nm,18.4s,baz=88,slow=35						
H11N1	**WAKE ISLAND Hy**	**36.92**	**353**	T	T	19 57 14.2	
	baz=172,slow=76,SNR=22						
H11N3	**WAKE ISLAND Hy**	**36.92**	**353**	T	T	19 57 08.8	
	baz=172,slow=76,SNR=10						
H11N2	**WAKE ISLAND Hy**	**36.94**	**353**	T	T	19 57 13.3	
	baz=172,slow=76,SNR=9.6						
PPT2	**Papeete2**	**37.08**	**97**	*e*LR	LR	19 28 28.7	
	125nm,23.0s						
PPT	**Papeete**	**37.09**	**97**	LR	LR	19 29 40.6	
	comp=Z,71nm,21.2s,baz=200,slow=30						
MTN	**Manton Dam**	**39.20**	**271**	*e*P	**P**	**19 18 34.8**	**-1.7**
	12nm,0.8s						
GUMO	**Guam**	**40.33**	**318**	LR	LR	19 31 38.6	
	comp=Z,118nm,21.7s,baz=288,slow=30						
FITZ	**Fitzroy Crossi**	**43.66**	**262**	LR	LR	19 36 48.7	
	comp=Z,117nm,18.1s,slow=35						
FITZ	**Fitzroy Crossi**	**43.66**	**262**	*e*P	**P**	**19 19 11.5**	**-1.5**
	20nm,1.0s						
MBWA	**Marble Bar**	**48.92**	**257**	*e*P	**P**	**19 19 50.5**	**-4.0**
	22nm,0.8s						
VNDA	**Vanda**	**60.58**	**182**	LR	LR	19 43 29.2	
	comp=Z,81nm,20.6s,baz=1.5,slow=32						
MJAR	**Matsushiro Arr**	**61.99**	**330**	LR	LR	19 44 02.2	
	comp=Z,63nm,21.9s,baz=110,slow=32						
KSRS	**Korea Array**	**26.48**	**124**	P	**P**	**19 22 08.2**	**+0.7**
	2.3nm,1.0s,baz=146,slow=6.7,SNR=7.5						
KSAR	**Wonju Array Be**	**68.09**	**324**	P	**P**	**19 22 08.2**	**+0.6**
USRK	**Ussuriysk Ar.**	**70.94**	**331**	P	**P**	**19 22 26.3**	**+1.2**
	2.2nm,0.9s,baz=134,slow=7.5,SNR=3.1						
USRK				LR	LR	19 48 52.9	
	comp=Z,52nm,20.7s,baz=150,slow=32						
PETK	**Petropavlovsk-**	**70.99**	**351**	LR	LR	19 48 15.2	
	comp=Z,85nm,20.5s,baz=140,slow=31						
MDJ	**Mudanjiang**	**72.38**	**330**	P	**P**	**19 22 35.0**	**+1.2**
MDJ				pmax	pmax		
	comp=Z,5.0nm,0.7s						
MDJ				pmax	pmax		
	comp=Z,46nm,4.0s						
QSPA	**South Pole Qui**	**72.89**	**180**	*e*P	**P**	**19 22 39.6**	**+2.8**
CN2	**Changchun**	**73.86**	**327**	*e*P	P	19 22 33.8	-8.8
GYA	**Guiyang**	**76.46**	**303**	*e*P	**P**	**19 22 58.0**	**-0.1**
GYA				PP	**PP**	**19 25 51.0**	**+0.6**
GYA				S	**S**	**19 32 41.5**	**-0.1**
GYA	**Guiyang**	**76.46**	**303**	SKS	**SKSac**	**19 33 04.3**	**-3.1**
GYA				pmax	pmax		
	comp=Z,10.0nm,1.0s						
GYA				pmax	pmax		
	comp=Z,120nm,5.9s						
XAN	**Xi'an**	**78.35**	**311**	P	**P**	**19 23 08.8**	**+0.4**
XAN				pP	PcP	19 23 13.0	-4.6
XAN				pmax	pmax		
	comp=Z,11nm,1.2s						
CMAR	**Chiang Mai Arr**	**79.67**	**293**	P	**P**	**19 23 17.6**	**+1.6**
	comp=Z,2.0nm,0.9s,baz=126,slow=3.8,SNR=12						
CHTO	**Chiang Mai**	**79.80**	**293**	P	P	19 23 10.5	-6.2
	comp=Z,3.1nm,1.3s						
HHC	**Hu-ho-hao-te**	**80.09**	**318**	*e*P	**P**	**19 23 18.0**	**+0.1**
HHC				pmax	pmax		
	comp=Z,8.0nm,1.4s						
HHC				pmax	pmax		
	comp=Z,110nm,5.2s						
CD2	**Chengdu**	**80.73**	**306**	*e*P	**P**	**19 23 19.5**	**-2.0**
CD2				pmax	pmax		
	comp=Z,10.0nm,1.2s						
MAW	**Mawson**	**81.17**	**202**	P	**P**	**19 23 24.8**	**+1.8**
	comp=Z,0.5nm,0.2s,baz=97,slow=8.5,SNR=3.8						
MAW				LR	LR	19 54 43.7	
	comp=Z,70nm,20.2s,baz=61,slow=32						
RSO	**Redoubt South**	**82.53**	**17**	*e*P	P	19 23 24.9	-5.6
SML	**Sawmill**	**84.89**	**18**	*e*P	**P**	**19 23 40.8**	**-1.5**
	comp=Z,22nm,1.2s						
CAST	**Castle Rocks**	**85.16**	**16**	*e*P	**P**	**19 23 41.7**	**-2.0**
	comp=Z,6.7nm,0.9s						
YAK	**Yakutsk**	**85.57**	**342**	P	**P**	**19 23 45.8**	**+0.2**
	comp=Z,4.5nm,0.7s,baz=106,slow=2.6,SNR=7.1						
RND	**Reindeer**	**86.01**	**17**	*e*P	**P**	**19 23 43.4**	**-4.5**
	comp=Z,39nm,2.0s						
SONM	**Songino Array**	**86.89**	**322**	LR	LR	19 59 06.2	
	comp=Z,10nm,21.6s,baz=68,slow=33						
SYO	**Syowa Base**	**87.52**	**196**	*e*sP	P	19 24 01.3	+6.0
ILAR	**Eielson Array**	**87.62**	**17**	P	**P**	**19 23 54.4**	**-1.3**
	comp=Z,1.7nm,0.7s,baz=233,slow=5.3,SNR=16						
ILAR				LR	LR	19 57 55.3	
	comp=Z,68nm,19.7s,baz=211,slow=32						
IL1	**Eielson Array**	**87.62**	**17**	*e*P	**P**	**19 23 54.2**	**-1.4**
SNAA	**Sanae**	**91.31**	**182**	P	**P**	**19 24 13.7**	**+0.6**
SNAA	**Sanae**	**91.31**	**182**	*e*P	**P**	**19 24 14.0**	**+0.8**
	comp=Z,12nm,1.5s						
VNA3	**Neumayer Olymp**	**91.82**	**180**	P	**P**	**19 24 16.1**	**+0.6**
VNA2	**Neumayer--Watz**	**92.14**	**180**	P	**P**	**19 24 17.9**	**+1.0**
	baz=164,slow=5.0						
VNA1	**Neumayer--Stat**	**92.42**	**180**	P	**P**	**19 24 19.2**	**+1.1**
PDAR	**Pinedale Array**	**93.61**	**46**	LR	LR	20 00 42.7	
	comp=Z,30nm,18.5s,baz=248,slow=32						
TXAR	**Lajitas Array**	**93.86**	**61**	P	**P**	**19 24 26.4**	**+0.7**
	comp=Z,0.6nm,0.8s,baz=228,slow=3.0,SNR=4.5						
TXAR				LR	LR	19 57 40.1	
	comp=Z,56nm,22.0s,baz=0.0,slow=30						
YKA	**Yellowknife Ar**	**97.83**	**27**	LR	LR	20 02 13.0	
	comp=Z,7.6nm,20.5s,baz=180,slow=31						
ARCES	**ARCESS Array B**	**123.59**	**346**	PKP	**PKPdf**	**19 30 04.5**	**-0.1**
	comp=Z,3.3nm,0.7s,baz=39,slow=1.1,SNR=8.0						
FINES	**FINESS Array B**	**129.46**	**339**	PKP	**PKPdf**	**19 30 16.5**	**+0.5**
	comp=Z,1.6nm,0.8s,baz=67,slow=2.2,SNR=3.5						
CRVS	**Cervenica-Dubn**	**140.08**	**329**	*e*PKP	**PKPdf**	**19 30 35.9**	**-0.4**
DPC	**Dobruska-Polom**	**141.36**	**335**	*e*PKP	**PKPdf**	**19 30 42.6**	**+4.0**
DPC				*ex*	x	19 30 50.3	
UPC	**Upice**	**141.37**	**335**	*e*PKP	**PKPdf**	**19 30 42.8**	**+4.3**
VYHS	**Vyhne**	**141.63**	**331**	*e*PKP	**PKPdf**	**19 30 43.0**	**+3.9**
CLL	**Collm**	**141.88**	**338**	*i* PKiKP	**PKiKP**	**19 30 43.1**	**+0.8**
	comp=Z,4.0nm,0.9s						
CONA	**Conrad Observa**	**143.40**	**332**	*i* PKPdf	**PKPdf**	**19 30 42.4**	**0.0**
	comp=Z,8.3nm,1.4s,SNR=6.4						
KHC	**Kasperske Hory**	**143.43**	**336**	*e*PKP	**PKPdf**	**19 30 42.0**	**-0.3**
KHC				*ep*PKP	**PKiKP**	**19 30 46.2**	**+0.6**
GERES	**GERESS Array B**	**143.60**	**335**	PKP	PKPbc	19 30 41.1	+1.0
	comp=Z,0.8nm,0.8s,baz=35,slow=3.3,SNR=6.1						
ARSA	**Arzberg**	**144.06**	**332**	*i* PKPdf	**PKPdf**	**19 30 42.9**	**-0.5**
	comp=Z,4.3nm,1.2s						
MOA	**Molln**	**144.15**	**334**	*i* pPKPdf	**PKPdf**	**19 30 44.0**	**+0.5**
	comp=Z,7.0nm,1.4s						
SOKA	**Soboth**	**144.71**	**332**	*i* PKPdf	**PKPdf**	**19 30 44.7**	**0.0**
	comp=Z,15nm,1.5s,SNR=10						
OBKA	**Obir**	**145.06**	**332**	*i* pPKPbc	**PKPdf**	**19 30 45.6**	**+0.3**
	comp=Z,4.3nm,1.2s						
KBA	**Koelnbreinsper**	**145.15**	**334**	*i* pPKPbc	**PKPdf**	**19 30 45.7**	**+0.2**
	comp=Z,8.7nm,1.3s,SNR=5.6						
IDI	**Anoyia**	**145.27**	**308**	PKPbc	**PKPbc**	**19 30 45.1**	**-0.6**
DPC				*e*PKPbc	**PKPdf**	**19 30 46.3**	**+0.5**
MYKA	**Terra Mystica**	**145.37**	**333**	*i* pPKPbc	**PKPab**	**19 30 46.3**	**+0.5**
	comp=Z,9.2nm,0.9s						
WLF	**Walferdange**	**145.48**	**343**	APKP	**PKPab**	**19 30 47.8**	**+1.7**
DOU	**Dourbes**	**145.49**	**345**	APKP	**PKPab**	**19 30 47.1**	**+1.0**
LANF	**Langenberg**	**145.60**	**341**	PKP	**PKPab**	**19 30 46.9**	**+0.3**
WATA	**Walderalm**	**145.67**	**336**	*i* pPKPbc	**PKPab**	**19 30 47.7**	**+0.7**
	comp=Z,12nm,1.1s,SNR=6.1						
WTTA	**Wattenberg**	**145.70**	**335**	*i* pPKPdf	**PKPab**	**19 30 47.9**	**+0.8**
	comp=Z,15nm,1.3s						
ABTA	**Abfaltersbach**	**145.76**	**334**	*i* pPKPbc	**PKPab**	**19 30 47.3**	**0.0**
	comp=Z,22nm,1.1s,SNR=12						
MOTA	**Moosalm**	**145.84**	**336**	*i* pPKPdf	**PKPab**	**19 30 48.3**	**+0.7**
	comp=Z,17nm,1.0s,SNR=16						
RETA	**Reutte**	**145.86**	**337**	*i* pPKPbc	**PKPab**	**19 30 48.1**	**+0.5**
	comp=Z,12nm,1.1s,SNR=8.3						
FETA	**Feichten**	**146.26**	**336**	*i* pPKPbc	**PKPab**	**19 30 49.7**	**+0.4**
	comp=Z,11nm,0.9s,SNR=6.5						
DAVA	**Damuels**	**146.36**	**337**	*i* sPKPdf	**PKPab**	**19 30 50.1**	**+0.5**
	comp=Z,22nm,1.7s,SNR=6.8						
ECH	**Echery**	**146.48**	**341**	PKP	**PKPab**	**19 30 50.2**	**+0.3**
MOF	**Molkenrain**	**146.81**	**341**	PKP	**PKPbc**	**19 30 50.2**	**+0.2**
THEF	**They Montfort**	**146.83**	**342**	PKP	**PKPbc**	**19 30 50.2**	**+0.3**
LOMF	**Lomont**	**147.35**	**341**	PKP	**PKPbc**	**19 30 52.2**	**+0.7**
PLDF	**La Plantade**	**149.55**	**343**	PKP	**PKPbc**	**19 30 58.4**	**+1.1**
AGO	**Saint Agoulin**	**149.61**	**344**	PKP	**PKPbc**	**19 30 58.1**	**+0.7**
PYM	**Petit Puy Mans**	**149.92**	**344**	PKP	**PKPbc**	**19 30 59.1**	**+0.9**
LBL	**Lubilhac**	**150.33**	**343**	PKP	**PKPbc**	**19 31 00.2**	**+1.0**
ESDC	**Sonseca Array**	**157.22**	**351**	PKPab	**PKPab**	**19 31 35.1**	**+0.4**
	comp=Z,1.4nm,1.0s,baz=7.3,slow=3.7,SNR=7.0						
TORD	**Torodi Ar. Bea**	**169.41**	**249**	PKPab	**PKPab**	**19 32 28.6**	**-0.4**
	comp=Z,1.1nm,1.1s,baz=104,slow=4.5,SNR=3.6						

*IDC **25** 19:18:17.9±0.6,41.02N×72.01E,h0km,mb4.2/22,*
mb1 4.3/30,mb1mx4.1/57,mbtmp4.2/30,ML3.5/8,MS3.2/9,
Ms1 3.2/9,ms1mx2.9/49,Error ellipse: s-maj=13.8km
s-min=8.5km az=156.0
*NNC **25** 19:18:19.7±1.5,41.04N×71.91E,h0km,mb4.8,mpv4.8,*
Error ellipse: s-maj=10.3km s-min=10.1km az=77.0
*KRNET **25** 19:18:20.2±0.1,41.18N×72.00E,h11km,mb4.6*
*MOS **25** 19:18:21.1±1.4,41.18N×71.94E,h24km,mb4.5/26,Error*
ellipse: s-maj=6.7km s-min=5.2km az=111.9
*SOME **25** 19:18:22.1,41.32N×72.05E,h0km*
*NEIC **25** 19:18:23.4±1.1,41.16N×71.92E,h36km±10km,mb4.4/5,*
Error ellipse: s-maj=11.0km s-min=7.0km az=180.0
*BJI **25** 19:18:25.3,40.72N×72.10E,h36km,mb3.9/5,ML3.8/2,*
Ms7 3.3/1

ISC 25 19:18:20.6±0.6,41.08N±0.02×72.10E±0.02,h17km±4km,
n211,σ2s33/251,mb4.2/51,MS3.2/6,68C-30D,Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARSB	**Arslanbob**	**0.71**	**70**	↓*i*P	**Pg**	**19 18 34.7**	**+0.2**
	baz=78						
ARSB				↓*i*S	**Sb**	**19 18 45.5**	**+1.4**
	baz=78						
ARK	**Arkit**	**0.72**	**352**	↑*i*P	**Pg**	**19 18 32.8**	**-2.0**
	baz=358						
ARK				↑*i*S	**Sg**	**19 18 41.2**	**-3.3**
	baz=358						
BTK	**Batken**	**1.41**	**224**	↓*i*P	**Pg**	**19 18 48.2**	**+0.4**
	baz=219						
BTK				↓*i*S	**Sg**	**19 19 07.5**	**+1.2**
	baz=219						
MNAS	**Manas**	**1.44**	**12**	↑*i*P	**Pn**	**19 18 47.1**	**+1.1**
	baz=16						
MNAS				↑*i*S	**Sn**	**19 19 06.3**	**+1.8**
	baz=16						
MNAS	**Manas**	**1.44**	**12**	↓P	**Pn**	**19 18 46.1**	**0.0**
	570nm,0.3s						
MNAS				↓S	**Sg**	**19 19 08.8**	**+1.8**
	5μm,0.5s						
MNAS	**Manas**	**1.44**	**12**	PG	**Pn**	**19 18 46.0**	**0.0**
MNAS				S	**Sg**	**19 19 08.0**	**+0.9**
AML	**Almayashu**	**1.59**	**48**	↓*i*P	**Pn**	**19 18 49.5**	**+1.2**
	baz=52						
AML				↓*i*S	**Sb**	**19 19 11.7**	**+2.0**
	baz=52						
MRKS	**Merke**	**1.86**	**26**	↑*i*P	**Pb**	**19 18 55.1**	**+0.9**
	2μm,0.3s						
MRKS				↓*i*S	**Sb**	**19 19 18.9**	**+1.7**
	3μm,0.4s						
IUG	**Iuzhnay**	**1.88**	**305**	*e*P	**Pb**	**19 18 54.5**	**0.0**
	2μm,0.2s						
IUG				*e*S	**Sb**	**19 19 18.1**	**+0.3**
	6μm,0.3s						
DZA	**Taraz**	**1.90**	**343**	*e*P	**Pn**	**19 18 54.6**	**+2.4**
	2μm,0.3s						
DZA				*e*S	**Sn**	**19 19 17.7**	**+1.9**
	11μm,0.3s						
EKS2	**Erkin-Say**	**2.02**	**38**	↑*i*P	**Pn**	**19 18 56.7**	**+2.8**
	baz=41						
EKS2				↑*i*S	**Sb**	**19 19 23.4**	**+1.7**
	baz=41						
UCH	**Uchtor**	**2.14**	**57**	↑*i*P	**Pb**	**19 18 59.4**	**+0.2**
	baz=60						
UCH				↑*i*S	**Sb**	**19 19 27.8**	**+2.2**
	baz=60						
CHM	**Chimkent**	**2.24**	**304**	*e*P	**Pb**	**19 19 01.7**	**+1.1**
	1μm,0.2s						
CHM				*e*S	**Sb**	**19 19 29.4**	**+1.4**
	10μm,0.4s						
KK31	**Karatay Array**	**2.34**	**330**	Pn	**Pn**	**19 19 00.1**	**+1.8**
	89nm,0.3s,baz=143,slow=17,SNR=1213						
KK31				↑Sn	**Sn**	**19 19 30.2**	**+3.6**
	556nm,0.3s,baz=171,slow=35,SNR=4.4						
KK31	**Karatay Array**	**2.34**	**330**	PN	**Pn**	**19 19 00.1**	**+1.8**
KK31				SN	**Sn**	**19 19 30.2**	**+3.6**
KKAR	**Karatay Array**	**2.34**	**330**	*e*PN	**Pn**	**19 19 00.3**	**+2.0**
KKAR				*e*		19 19 29.4	
KKAR	**Karatay Array**	**2.34**	**330**	*e*Pn	**Pn**	**19 19 00.2**	**+2.0**
KKAR				*e*Sn	**Sn**	**19 19 29.4**	**+2.7**
AAK	**Ala-Archa**	**2.37**	**48**	Pn	**Pb**	**19 19 02.4**	**-0.5**
	93nm,0.3s,baz=216,slow=9.0,SNR=254						
AAK				LR	LR	19 19 29.3	
	comp=Z,123nm,19.6s,baz=254,slow=29						
AAK				Lg	Lg	19 19 35.3	
	128nm,0.3s,baz=119,slow=19,SNR=16						
AAK	**Ala-Archa**	**2.37**	**48**	↓*i*P	**Pb**	**19 19 02.4**	**-0.5**
	baz=51						
AAK				↓*i*S	**Sb**	**19 19 33.0**	**+1.1**
	baz=51						
AAK	**Ala-Archa**	**2.37**	**48**	↓Pn	**Pb**	**19 19 03.0**	**+0.1**
	357nm,0.5s						
AAK				↑Sn	**Sb**	**19 19 35.3**	**+3.4**
	748nm,0.7s						
AAK	**Ala-Archa**	**2.37**	**48**	PN	**Pb**	**19 19 03.2**	**+0.3**
AAK				SN	**Sb**	**19 19 35.3**	**+3.4**
FRU1	**Bishkek**	**2.56**	**47**	↑*i*P	**Pb**	**19 19 05.6**	**-0.5**
	baz=49						
FRU1				↑*i*S	**Sb**	**19 19 37.6**	**+0.3**
	baz=49						
KZA	**Kyzart**	**2.56**	**66**	↓*i*P	**Pb**	**19 19 05.9**	**-0.5**
	baz=69						
KZA				↓*i*S	**Sb**	**19 19 39.1**	**+1.4**
	baz=69						
FRU	**Bishkek**	**2.57**	**46**	*e*PN	**Pn**	**19 19 04.5**	**+3.1**
FRU				*i*		19 19 09.0	
FRU				*e*		19 19 39.0	
FRU				smax	smax		
	comp=E,3μm,2.5s						
BRLS	**Borolday**	**2.58**	**320**	*e*P	**Pn**	**19 19 04.9**	**+3.4**
	comp=E,7.7nm,0.3s						
BRLS				*e*S	**Sn**	**19 19 34.9**	**+2.5**
	comp=E,325nm,0.3s						
KBK	**Karagaybulak**	**2.65**	**53**	↑*i*P	**Pb**	**19 19 06.8**	**-0.8**
	baz=55						
KBK				↑*i*S	**Sb**	**19 19 39.6**	**-0.3**
	baz=55						
CHMS	**Chumysh**	**2.75**	**45**	↑*i*P	**Pn**	**19 19 07.3**	**+3.4**
	baz=47						
CHMS				↑*i*S	**Sb**	**19 19 42.2**	**-0.6**
	baz=47						
USP	**Ospenovka**	**2.82**	**38**	↓*i*P	**Pn**	**19 19 07.9**	**+3.0**
	baz=41						
USP				↓*i*S	**Sn**	**19 19 43.5**	**+5.0**
	baz=41						
TKM2	**Tokmak 2**	**3.19**	**54**	↓*i*P	**Pn**	**19 19 13.7**	**+3.6**
	baz=56						
TKM2				↓*i*S	**Sn**	**19 19 51.1**	**+3.3**
	baz=56						
TKM2	**Tokmak 2**	**3.19**	**54**	↑Pn	**Pn**	**19 19 13.5**	**+3.4**
	comp=E,213nm,0.7s						
TKM2				↑Lg	Lg	19 20 01.2	
	comp=E,169nm,0.6s						
TKM2	**Tokmak 2**	**3.19**	**54**	PN	**Pn**	**19 19 13.0**	**+2.9**
BOOM	**Boomskoye usch**	**3.20**	**63**	↓*i*P	**Pn**	**19 19 14.5**	**+4.3**
	baz=65						
BOOM				↓*i*S	**Sb**	**19 19 53.9**	**-1.9**
	baz=65						
ULHL	**Ulahol**	**3.31**	**68**	↑*i*P	**Pn**	**19 19 15.7**	**+3.9**
	baz=70						
ULHL				↑*i*S	**Sb**	**19 19 58.2**	**-0.9**
	baz=70						
KSH	**Kashi**	**3.35**	**117**	P	**Pn**	**19 19 15.8**	**+3.6**
KSH				pP	Pb	19 19 18.0	-1.6
KSH				S	**Sn**	**19 19 56.3**	**+4.6**
KSH				smax	smax		
	comp=E,540nm,0.8s						
KSH				smax	smax		
	comp=E,410nm,0.7s						
DGS	**Degeres**	**3.48**	**50**	*e*P	**Pb**	**19 19 24.2**	**+2.4**
	comp=E,180nm,0.5s						
DGS				*e*S	**Sb**	**19 20 09.2**	**+5.4**
	comp=E,537nm,0.7s						
KST	**Kastek**	**3.48**	**54**	*e*P	**Pb**	**19 19 24.3**	**+2.5**
	comp=E,53nm,0.7s						
KST				*e*S	**Sb**	**19 20 08.6**	**+4.7**
	comp=E,435nm,0.7s						
IZV	**Izvestkoviy**	**3.89**	**58**	*e*P	**Pb**	**19 19 31.6**	**+2.9**
	comp=E,267nm,0.8s						
IZV				*e*S	**Sb**	**19 20 21.6**	**+6.0**
	comp=E,209nm,0.8s						
KDJ	**Kajisay**	**3.95**	**73**	↑*e*P	**Pn**	**19 19 24.7**	**+4.1**
	baz=75						
KDJ				↑*i*S	**Sb**	**19 20 14.7**	**-2.7**
	baz=75						
TNSS	**Tian-Shan**	**4.10**	**60**	*e*P	**Pb**	**19 19 36.8**	**+4.2**
	comp=E,214nm,0.8s						
TNSS				*e*S	**Sg**	**19 20 30.8**	**-1.6**
	comp=E,500nm,0.7s						
AAA	**Alma-Ata**	**4.16**	**58**	*e*PN	**Pb**	**19 19 36.7**	**+3.3**
AAA				*e*S	**Sg**	**19 20 32.0**	**-2.3**
AAA				pmax	pmax		
	comp=Z,389nm,0.5s						
AAA				smax	smax		
	comp=E,528nm,0.9s						
KNDC	**Almaty**	**4.20**	**58**	↑Pn	**Pn**	**19 19 28.3**	**+4.4**
	comp=E,45nm,0.4s						
KNDC				↑Pg	**Pb**	**19 19 37.6**	**+3.6**
	comp=E,335nm,0.9s						
KNDC				↑Lg	Lg	19 20 34.3	
	comp=E,790nm,0.8s						
MDOK	**Medeo**	**4.23**	**59**	↑Pn	Pn	19 19 28.8	+4.5
MDOK				↑Pg	**Pg**	**19 19 39.9**	**-1.7**
MDOK				↑Lg	Lg	19 20 34.3	
MDOK	**Medeo**	**4.23**	**59**	*e*P	**Pg**	**19 19 39.2**	**-2.4**
	comp=E,283nm,0.7s						
MDOK				*e*S	**Sg**	**19 20 34.2**	**-2.1**
	comp=E,257nm,0.8s						
KTBS	**Karatobe**	**4.29**	**51**	*e*P	**Pb**	**19 19 39.1**	**+3.5**
KTBS				*e*S	**Sb**	**19 20 34.0**	**+6.9**
CHKK	**Chushkaly**	**4.55**	**51**	*e*P	**Pb**	**19 19 43.8**	**+3.7**
	comp=E,32nm,0.7s						
CHKK				*e*S	**Sg**	**19 20 42.9**	**-3.9**
	comp=E,166nm,0.5s						
KURS	**Kuram**	**5.11**	**60**	*e*P	**Pb**	**19 19 53.3**	**+3.8**
KURS				*e*S	**Sb**	**19 20 58.1**	**+7.6**
**

comp=E,7.9nm,0.5s
BVAR Borovoye Array 12.01 355 Pn **Pn 19 21 09.9 -0.9**
comp=E,0.4nm,0.3s,baz=156,slow=11,SNR=6.4
BVAR Sn **Sn 19 23 17.4 -6.8**
comp=E,1.4nm,0.3s,baz=180,slow=18,SNR=4.2
BVAR Lg Lg 19 24 34.2
comp=E,0.6nm,0.3s,baz=154,slow=24,SNR=3.1
BRVK Borovoye 12.05 355⇓ *e*P **Pn 19 21 11.3 0.0**
BRVK Borovoye 12.05 355 *e*Pn **Pn 19 21 10.7 -0.6**
comp=E,20nm,0.6s
AKTO Aktyubinsk 13.55 318 Pn **Pn 19 21 30.2 -1.6**
comp=E,1.2nm,0.3s,baz=131,slow=14,SNR=19
AKTO Sn **Sn 19 23 55.6 -6.3**
comp=E,0.8nm,0.3s,baz=81,slow=19,SNR=3.0
AKTO Lg Lg 19 25 25.0
comp=E,0.1nm,0.3s,baz=243,slow=18,SNR=2.0
AKTO Aktyubinsk 13.55 318 ⇑P **Pn 19 21 29.2 -2.7**
comp=E,6.8nm,0.6s
DGZ Jazzator, Alta 13.78 46 *e*P **Pn 19 21 37.5 +2.4**
ZALV Zalesovo Beam 15.44 29 Pn **Pn 19 21 57.9 +0.4**
comp=E,0.5nm,0.3s,baz=225,slow=13,SNR=7.5
ZALV Sn **Sn 19 24 48.9 +0.9**
comp=E,0.2nm,0.3s,baz=221,slow=21,SNR=2.6
ZALV LR LR 19 28 15.0
comp=E,101nm,18.5s,baz=250,slow=38
NVS Novosibirsk 15.63 24 *e*P **P 19 22 04.6 +0.7**
NVS *e*S **Sn 19 25 01.0 +8.6**
PYUN Piuthan 15.73 142 *e*P **Pn 19 21 58.9 -2.7**
comp=E,31nm,0.4s
KOLN Koldanda 16.30 141 *e*P **Pn 19 22 06.5 -2.3**
comp=E,13nm,0.5s
GKN Gorkha 16.61 138 *e*P **Pn 19 22 11.1 -1.7**
comp=E,16nm,0.4s
KKN Kakani 17.12 137 *e*P **Pn 19 22 18.2 -1.0**
comp=E,14nm,0.6s
DMN Daman 17.18 137 *e*P **Pn 19 22 18.0 -2.0**
comp=E,7.6nm,0.4s
GUN Gumba 17.34 135 *e*P **Pn 19 22 22.0 -0.1**
comp=E,26nm,0.5s
PKIN Phulchoki 17.35 137 *e*P **Pn 19 22 19.8 -2.4**
comp=E,7.1nm,0.4s
PKI Pulchoki 17.36 137 *e*P **Pn 19 22 19.7 -2.7**
JIRN Jiri 17.70 135 *e*P **Pn 19 22 24.8 -1.8**
comp=E,166nm,0.4s
ARU Arti 17.71 335 P **Pn 19 22 24.5 -1.6**
comp=E,0.0nm,0.3s,baz=131,slow=10,SNR=5.5
ARU S Sn 19 25 32.4 -11
comp=E,0.0nm,0.3s,baz=75,slow=20,SNR=4.1
ARU Lg Lg 19 27 34.4
baz=112,slow=19,SNR=2.4
ARU LR LR 19 29 43.9
comp=E,69nm,20.0s,baz=124,slow=39
ARU Arti 17.71 335*c* *i*P **Pn 19 22 25.1 -1.1**
ARU S **Sn 19 25 40.1 -2.8**
ARU pmax pmax
comp=Z,13nm,1.7s
ARU Arti 17.71 335 *e*Pn **Pn 19 22 23.7 -2.5**
comp=Z,8.5nm,0.9s
ARU S Sn 19 25 32.4 -11
BHPL Bhopal 18.34 164 *ex* Sn 19 25 47.3 -11
LSA Lhasa 19.20 120 *e*P **Pn 19 22 46.4 +1.5**
LSA pmax pmax
comp=Z,6.0nm,0.9s
LSA Lhasa 19.20 120 *e*P **Pn 19 22 46.4 +1.5**
comp=Z,6.2nm,0.9s
BOK Bokaro 20.75 142 *e*P **P 19 22 58.1 -2.4**
GNI Garni 20.76 276 P **P 19 22 59.6 -1.1**
comp=Z,16nm,0.9s,baz=54,slow=13,SNR=11
GNI Garni 20.76 276*c* *i*P **P 19 23 02.0 +1.3**
GNI pmax pmax
comp=Z,55nm,1.0s
GNI Garni 20.76 276 *e*P **P 19 22 58.5 -2.2**
comp=Z,84nm,0.9s
WSAR Wadi Sarin 21.08 217 P **P 19 23 04.8 +0.7**
comp=Z,3.6nm,0.8s,baz=49,slow=5.6,SNR=5.2
NCK Nalchik 21.18 286⇓ *e*P **P 19 23 06.9 +1.9**
NCK pmax pmax
comp=Z,8.0nm,0.5s
GTA Gaotai 21.19 85 *e*P P 19 23 12.5 +7.2
GTA pP sP 19 23 17.3 +4.9
GTA pmax pmax
comp=Z,2.0nm,1.1s
AKH Akhalkalaki 21.48 280⇓ *i*P **P 19 23 09.9 +1.5**
KBZ Khabaz 21.68 287 P **P 19 23 08.8 -1.4**
comp=Z,3.5nm,0.9s,baz=106,slow=15,SNR=3.8
KVAR Kislovodsk Arr 21.81 287 P **P 19 23 11.1 -0.8**
comp=Z,7.0nm,0.7s,baz=90,slow=9.1,SNR=5.3
KIV Kislovodsk 21.82 287 *e*P **P 19 23 11.4 -0.5**
KIV pmax pmax
comp=Z,9.0nm,1.0s
KIV MLR MLR 19 23 55.6
comp=Z,23nm,14.0s
NEY Neytrino 21.84 285⇓ *e*P **P 19 23 12.2 0.0**
NEY pmax pmax
comp=Z,2.0nm,0.7s
ZAK Zakamensk 23.52 56 *e*P **P 19 23 31.1 +1.4**
ZAK pmax pmax
comp=Z,4.0nm,1.2s
VSR Storozhevoye 24.77 305 *e*P **P 19 23 40.4 -0.8**
VSR pmax pmax
comp=Z,6.0nm,0.8s
LPSR Galich'ya Gora 25.22 308 *e*P **P 19 23 44.8 -0.4**
LPSR pmax pmax
comp=Z,10.0nm,0.6s
SONM Songino Array 25.24 63 P **P 19 23 47.6 +2.0**
comp=Z,0.7nm,0.7s,baz=263,slow=9.0,SNR=4.8
SONM LR LR 19 35 02.4
comp=Z,54nm,18.2s,baz=7.5,slow=40
SONM Songino Array 25.24 63 *e*P P 19 23 52.7 +7.0
SONM pmax pmax
comp=Z,2.0nm,0.8s
ANN Anapa 25.53 290 *e*P **P 19 23 45.9 -2.2**
ANN *e**PP **sP 19 23 59.1 +3.6**
ANN *e* 19 24 24.2
ANN *e* 19 27 16.9
ANN *e*S **S 19 28 09.4 -5.4**
ANN pmax pmax
comp=Z,27nm,1.0s
ULN Ulaanbaatar 25.69 63⇓ *e*P **P 19 23 51.8 +2.1**
ULN pmax pmax
comp=Z,3.0nm,1.0s
SIM Simferopol' 27.87 291 *e*P **P 19 24 10.0 +0.8**
SIM pmax pmax
comp=Z,14nm,0.9s
KLMR Klimovskoe 28.04 326 *e*P **P 19 24 08.9 -1.6**
KLMR pmax pmax
comp=Z,10.0nm,1.5s
BRTR Keskin Array B 29.16 280 P **P 19 24 21.8 +0.8**
comp=Z,5.6nm,0.7s,baz=94,slow=8.3,SNR=31
HHC Hu-ho-hao-te 29.63 77 *e*P **P 19 24 22.3 -2.7**
HHC pmax pmax
comp=Z,15nm,1.3s
HHC pmax pmax
comp=Z,15nm,0.5s
KIEV Kiev 30.97 303⇓ *e*P **P 19 24 36.5 -0.1**
KIEV pmax pmax
comp=Z,11nm,3.0s
KIEV MLR MLR
comp=Z,49nm,15.0s
SORM Soroca 31.59 298⇑ *i*P **P 19 24 41.3 -0.8**
SORM Soroca 31.59 298 ⇑P **P 19 24 41.3 -0.8**
CFR Carcaliu 32.05 292⇑ *i*P **P 19 24 46.7 +0.6**
CFR Carcaliu 32.05 292 ⇑P **P 19 24 46.7 +0.6**
TLB Topalu 32.20 291⇑ *i*P **P 19 24 47.9 +0.3**
TLB Topalu 32.20 291 ⇑P **P 19 24 47.9 +0.3**
TESR Tescani 32.89 295⇑ *i*P **P 19 24 54.1 +0.5**
VRI Vrincioaia 32.93 294⇑ *i*P **P 19 24 54.9 +1.0**
VRI Vrincioaia 32.93 294 ⇑P **P 19 24 54.9 +1.0**
PLOR Plostina 32.98 294⇑ *i*P **P 19 24 55.7 +1.3**
PLOR Plostina 32.98 294 ⇑P **P 19 24 55.7 +1.3**
ISR Istrita 33.17 292⇑ *i*P **P 19 24 57.9 +1.8**
ISR Istrita 33.17 292 ⇑P **P 19 24 57.9 +1.8**
MLR Muntele Rosu 33.52 293⇓ *i*P **P 19 25 01.1 +1.8**
MLR Muntele Rosu 33.52 293 ⇓P **P 19 25 01.1 +1.8**
BURAR Bucovina Array 33.73 297⇑ *i*P **P 19 25 01.5 +0.5**
BURAR Bucovina Array 33.73 297 ⇑P **P 19 25 01.5 +0.5**
DOPR Dopca 33.84 294⇑ *i*P **P 19 25 03.1 +1.2**
VOIR 34.16 293⇑ *i*P **P 19 25 05.9 +1.2**
VOIR 34.16 293 ⇑P **P 19 25 06.0 +1.2**
FINES FINESS Array B 34.28 322 P **P 19 25 05.7 +0.3**
comp=Z,2.9nm,0.5s,baz=109,slow=9.6,SNR=29
LOT Lotru 35.04 294⇓ *i*P **P 19 25 13.2 +0.8**
DRGR 35.54 296⇑ *i*P **P 19 25 17.4 +0.8**
DRGR 35.54 296 ⇑P **P 19 25 17.4 +0.8**
GZR Gura Zlata 35.74 294⇑ *i*P **P 19 25 18.3 0.0**
VTS Vitosha 36.05 289⇑ *i*P **P 19 25 22.4 +1.2**
VTS Vitosha 36.05 289 ⇑P **P 19 25 22.4 +1.2**
CRVS Cervenica-Dubn 36.08 300 *e*P **P 19 25 18.9 -2.2**
CRVS Cervenica-Dubn 36.08 300 *e*P **P 19 25 18.9 -2.2**
STHS Stebnicka Huta 36.16 301 *e*P P 19 25 17.7 -4.1
STHS Stebnicka Huta 36.16 301 *e*P P 19 25 17.7 -4.1
BZS Buzias 36.49 294⇑ *i*P **P 19 25 25.9 +1.2**
BZS Buzias 36.49 294 ⇑P **P 19 25 25.9 +1.2**
MDVR Moldovita 36.60 293⇑ *i*P **P 19 25 26.7 +1.0**
ARCES ARCESS Array B 37.30 335 P **P 19 25 31.9 +0.6**
comp=Z,2.9nm,0.5s,baz=111,slow=9.2,SNR=11
ARCES LR LR 19 41 23.4
comp=Z,56nm,19.1s,baz=108,slow=37
VYHS Vyhne 37.85 300 *e*P **P 19 25 36.8 +0.5**
VYHS Vyhne 37.85 300 *e*P **P 19 25 36.8 +0.5**
PDG Podgorica 38.91 290⇑ *i*P **P 19 25 45.6 +0.4**
DPC Dobruska-Polom 39.19 303 *e*P **P 19 25 48.5 +1.0**
DPC Dobruska-Polom 39.19 303 *e*P **P 19 25 48.5 +1.0**
UPC Upice 39.37 303 *e*P **P 19 25 49.8 +0.9**
UPC Upice 39.37 303 *e*P **P 19 25 49.8 +0.9**
YAK Yakutsk 39.79 38 P **P 19 25 53.0 +0.7**
comp=Z,3.5nm,0.5s,baz=246,slow=4.6,SNR=4.0
CONA Conrad Observa 39.91 299 *i*P **P 19 25 53.7 +0.1**
comp=Z,5.2nm,1.1s,SNR=6.0
GOPC GO Pecny, Ondr 40.24 303 *e*P **P 19 25 58.1 +1.9**
GOPC GO Pecny, Ondr 40.24 303 *e*P **P 19 25 58.1 +1.9**
ARSA Arzberg 40.28 298 *i*P **P 19 25 56.2 -0.4**
comp=Z,1.9nm,0.7s
PRU Pruhonice 40.38 303 *e*P **P 19 25 58.3 +1.0**
PRU Pruhonice 40.38 303 *e*P **P 19 25 58.3 +1.0**
BRG Berggiesshubel 40.61 304 *e*P **P 19 26 00.0 +0.8**
comp=Z,2.5nm,0.8s
BRG Berggiesshubel 40.61 304 *e*P **P 19 26 00.0 +0.8**
BRG pmax pmax
comp=Z,3.0nm,0.8s
SOKA Soboth 40.74 298 *i*P **P 19 26 01.1 +0.7**
comp=Z,3.9nm,1.0s,SNR=4.6
MOA Mollm 40.98 300 *i*P **P 19 26 02.5 +0.2**
comp=Z,2.0nm,0.7s
OBKA Obir 41.10 298 *i*P **P 19 26 04.4 +1.0**
comp=Z,2.7nm,0.6s
CLL Collm 41.12 305 *e*P **P 19 26 04.0 +0.6**
GERES GERESS Array B 41.14 301 P **P 19 26 04.5 +0.8**
comp=Z,2.9nm,0.7s,baz=66,slow=8.2,SNR=32
GERES LR LR 19 43 45.5
comp=Z,24nm,18.0s,baz=84,slow=37
KHC Kasperske Hory 41.16 302 *e*P **P 19 26 04.4 +0.6**
KHC *ex* x 19 26 16.8
KHC Kasperske Hory 41.16 302 *e*P **P 19 26 04.4 +0.6**
KHC *e* 19 26 16.8
TIXI Tiksi 41.22 24⇑ *e*P **P 19 26 04.1 +0.1**
TIXI pmax pmax
comp=Z,13nm,1.1s
MOZS Mozjanca 41.23 297 *i*P **P 19 26 04.9 +0.5**
NB2 NORSAR Subarra 41.33 320 P **P 19 26 04.6 -0.5**
comp=Z,1.4nm,0.5s,baz=92,slow=8.6
NOA NORSAR Array B 41.33 320 P **P 19 26 04.7 -0.5**
comp=Z,1.8nm,0.7s,baz=92,slow=8.2,SNR=7.3
CEY Cerknica 41.38 296 *i*P **P 19 26 06.2 +0.5**
JAVS Javornik 41.58 297 *i*P **P 19 26 07.5 +0.1**
KBA Koelnbreinsper 41.77 299 *i*P **P 19 26 09.1 +0.1**
comp=Z,1.4nm,0.4s
WTTA Wattenberg 42.85 299 *i*P **P 19 26 17.6 -0.2**
comp=Z,1.6nm,0.4s
WATA Walderalm 42.87 300 *i*P **P 19 26 17.7 -0.2**
comp=Z,1.9nm,0.5s
MOTA Moosalm 43.18 300 *i*P **P 19 26 20.2 -0.3**
comp=Z,3.3nm,0.9s
RETA Reute 43.37 300 *i*P **P 19 26 22.4 +0.5**
comp=Z,1.6nm,0.6s
FETA Feichten 43.51 299 *i*P **P 19 26 22.8 -0.4**
comp=Z,3.4nm,1.0s
DAVA Damuels 44.00 300 *i*P **P 19 26 27.2 +0.1**
comp=Z,6.0nm,0.6s,SNR=9.0
DAVOX Davos/Dischmat 44.14 299 P **P 19 26 27.7 -0.5**
comp=Z,6.2nm,0.5s,baz=116,slow=5.1,SNR=32
MJAR Matsushiro Arr 50.61 72 P **P 19 27 18.6 0.0**
comp=Z,5.1nm,0.3s,baz=291,slow=9.3,SNR=5.6
MJA0 Matsu Arr-Jizo 50.63 72 *e*P P 19 27 24.9 +6.2
MJA0 pmax pmax
comp=Z,1.0nm,0.7s
ESDC Sonseca Array 56.17 296 P **P 19 27 58.6 -0.7**
comp=Z,0.6nm,0.6s,baz=55,slow=7.2,SNR=9.1
TORD Torodi Ar. Bea 66.74 267 P **P 19 29 10.2 -0.9**
comp=Z,1.6nm,0.6s,baz=54,slow=5.5,SNR=19
COLD Coldfoot 67.34 16 *e*P **P 19 29 13.4 -0.7**
comp=Z,4.3nm,0.8s
INK Inuvik 69.25 10 P **P 19 29 26.4 +0.4**
comp=Z,3.5nm,0.7s,baz=360,slow=7.8,SNR=8.3
INK Inuvik 69.25 10 *e*P **P 19 29 25.7 -0.3**
comp=Z,9.9nm,1.4s
ILAR Eielson Array 70.15 17 P **P 19 29 31.6 -0.1**
comp=Z,1.0nm,0.9s,baz=323,slow=5.3,SNR=11
DBIC Dimbokro 75.82 266 P **P 19 30 05.3 -0.7**
comp=Z,3.6nm,0.7s,baz=9.0,slow=5.8,SNR=5.1
KIC Kosan Boka 75.93 266 *e*P **P 19 30 06.0 -0.6**
comp=Z,18nm,1.0s
TIC Toumodi 75.96 267 *e*P **P 19 30 05.9 -0.9**
LIC Lamto 76.23 266 *e*P **P 19 30 07.7 -0.7**
comp=Z,45nm,1.5s
YKA Yellowknife Ar 76.63 3 P **P 19 30 10.0 +0.2**
comp=Z,2.8nm,0.7s,baz=357,slow=5.8,SNR=6.4
TSUM Tsumeb 78.42 232 P **P 19 30 20.5 0.0**
comp=Z,13nm,1.4s,baz=28,slow=15,SNR=5.0
WRA Warramunga Arr 83.72 123 P **P 19 30 49.0 +0.3**
comp=Z,0.6nm,0.8s,baz=330,slow=4.7,SNR=6.5
WRA Warramunga Arr 83.72 123 P **P 19 30 49.0 +0.3**
WRA pmax pmax
comp=Z,1.0nm,0.8s
ASAR Alice Springs 86.20 126 P **P 19 31 00.9 -0.2**
comp=Z,1.0nm,0.9s,baz=314,slow=5.1,SNR=9.2
ASAR Alice Springs 86.20 126 *e*P **P 19 31 01.1 0.0**
ASAR pmax pmax
comp=Z,1.0nm,0.9s
SADO Sadowa 90.72 340 LR LR 20 11 49.3
comp=Z,58nm,21.3s,baz=297,slow=35
CPUP Villa Florida 136.03 273 PKP **PKPdf 19 37 39.1 -1.6**
comp=Z,1.5nm,0.8s,baz=96,slow=4.4,SNR=3.1
PLCA Paso Flores 151.91 258 PKPbc **PKPbc 19 38 14.2 -0.1**
comp=Z,2.3nm,0.9s,baz=110,slow=2.8,SNR=3.4

DJA 25 19:32:48.5±0.6, 3°S±4°×14°0E±°, h10km±5km, M3.7/4, mb4.4/3, MLv3.4/4, Irian Jaya

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GENI	**Genyem**	**0.56**	**345**	P	Pg	19 32 59.6	+0.2
GENI				S	Sb	19 33 08.7	+0.2
JAY	**Jayapura**	**0.74**	**32**	P	Pg	19 33 02.9	+0.2
JAY				S	Sb	19 33 13.9	+0.3
WAMI	**Wamena**	**1.76**	**245**	P	Pn	19 33 17.6	-1.4
SMPI	**Sarmi**	**1.96**	**306**	P	Pn	19 33 22.0	+0.1
SMPI				S	Sn	19 33 47.3	+0.7
FAKI	**Fak Fak**	**8.05**	**271**	P	Pn	19 34 45.3	-0.3

MEX 25 19:40:45.3±0.4, 13°.88N×93°.21W, h16km±999km, MD3.9, Off coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PCIG		**1.82**	**360**	*e*P	Pn	19 41 12.4	-3.6
PCIG				*i*S	Sn	19 41 34.1	-4.5
CCIG	**Comitan**	**2.61**	**23**	*e*P	Pn	19 41 24.1	-2.8
CCIG				*i*S	Sn	19 41 54.5	-3.9

IDC 25 19:55:11.2±5.4, 39°.08N×110°.52E, h0km, mb3.3/3, mb1 3.5/4, mb1mx3.2/61, mbtmp3.4/4, ML2.8/1, Error ellipse: s-maj=113.0km s-min=24.3km az=85.0, Western Nei Mongol

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SONM	**Songino Array**	**9.25**	**342**	Pn	Pn	19 57 26.3	+0.4
	0.1nm,0.3s,baz=159,slow=13,SNR=6.1						
SONM				Sn	Sn	19 59 07.2	-3.5
	0.1nm,0.3s,baz=144,slow=20,SNR=3.4						
SONM				Lg	Lg	20 00 03.2	
	0.2nm,0.3s,baz=160,slow=30,SNR=8.7						
MKAR	**Makanchi Array**	**21.97**	**300**	P	P	20 00 06.7	+0.1
	1.4nm,0.9s,baz=101,slow=12,SNR=7.7						
CMAR	**Chiang Mai Arr**	**22.88**	**209**	P	P	20 00 16.1	-0.3
	1.7nm,0.9s,baz=13,slow=9.8,SNR=12						
KURBB	**Kurchatov Arra**	**25.24**	**308**	P	P	20 00 38.9	+0.2
	0.5nm,0.9s,baz=106,slow=9.4,SNR=3.2						

IDC 25 19:55:14.3±7.5, 6°.92S×125°.03E, h528km±105km, mb2.6/2, mb1 2.7/5, mb1mx2.4/49, mbtmp3.5/5, Error ellipse: s-maj=173.9km s-min=28.0km az=52.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**11.13**	**177**	P	P	19 57 43.8	+0.1
	0.2nm,0.3s,baz=348,slow=9.5,SNR=4.2						
WRA	**Warramunga Arr**	**15.78**	**146**	P	P	19 58 31.8	-0.6
	0.3nm,0.3s,baz=323,slow=11,SNR=16						
ASAR	**Alice Springs**	**18.70**	**154**	P	P	19 58 59.9	+0.1
	0.3nm,0.3s,baz=328,slow=8.4,SNR=18						
STKA	**Stephens Creek**	**29.25**	**150**	P	P	20 00 33.4	-0.1
	0.7nm,0.6s,baz=329,slow=9.1,SNR=4.9						
MKAR	**Makanchi Array**	**65.54**	**329**	P	P	20 05 05.7	0.0
	0.2nm,0.4s,baz=141,slow=7.1,SNR=2.9						

MEX 25 19:57:14.6±0.5, 17°.05N×100°.10W, h3km±9km, MD3.6, Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CAIG	**El Cayaco**	**0.16**	**271**	*i*P	Pg	19 57 17.6	-0.1
CAIG				*i*S	Sg	19 57 19.8	0.0
ACP2	**Acapulco**	**0.27**	**129**	*e*P	Pg	19 57 19.3	-0.5
ACP2				*i*S	Sg	19 57 23.1	-0.2
MEIG	**Mezcala**	**0.99**	**28**	*e*P	Pg	19 57 31.4	-2.2
MEIG				*i*S	Sg	19 57 44.4	-2.1
ARIG	**Puente Sto Nin**	**1.25**	**349**	*e*P	Pg	19 57 35.1	-3.5
ARIG				*e*S	Sg	19 57 50.4	-4.4
ZIIG	**Zihuatanejo**	**1.42**	**293**	*e*P	Pn	19 57 37.3	-4.0
ZIIG				*i*S	Sb	19 57 56.0	-4.1
TLIG	**Tlapa**	**1.56**	**70**	*i*P	Pn	19 57 40.3	-3.0
TLIG				*e*S	Sn	19 57 59.5	-4.6
YAIG	**Yautepec**	**2.06**	**29**	*i*P	Pn	19 57 46.8	-3.4
YAIG				*i*S	Sn	19 58 12.2	-4.4

MEX 25 19:59:03.8±0.7, 17°.85N×99°.63W, h5km, MD3.5, Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MEIG	**Mezcala**	**0.07**	**8**	*e*P	Pg	19 59 04.5	-1.1
MEIG				*e*S	Sg	19 59 06.4	-0.4
PLIG	**Platanillo**	**0.55**	**13**	*e*P	Pg	19 59 13.4	-1.1
PLIG				*i*S	Sg	19 59 22.7	+1.0
ARIG	**Puente Sto Nin**	**0.81**	**302**	*i*P	Pg	19 59 17.1	-2.1
ARIG				*i*S	Sg	19 59 29.1	-0.6
CAIG	**El Cayaco**	**1.00**	**217**	*i*P	Pg	19 59 20.8	-2.2
CAIG				*e*S	Sg	19 59 33.8	-2.3
TLIG	**Tlapa**	**1.05**	**106**	*i*P	Pg	19 59 21.9	-2.1
TLIG				*i*S	Sg	19 59 35.2	-2.5

*NEIC **25** 19:59:07.0±0.0, 16°.29S×75°.32W, h36km, mb4.5/9, ML4.5(ARE), After ARE.*
*IDC **25** 19:59:16.4±0.8, 15°.50S×74°.90W, h23km±5km, mb4.1/13, mb1 4.2/16, mb1mx4.0/43, mbtmp4.2/16, ML3.9/3, MS3.7/13, Ms1 3.7/13, ms1mx3.6/27, Error ellipse: s-maj=24.3km s-min=14.0km az=54.0*
*SCB **25** 19:59:31.6±1.1, 15°.74S×73°.80W, h49km, Ml3.8/1, Error ellipse: s-maj=29.1km s-min=17.9km az=132.0*

ISC 25 19:59:15.8±0.5, 15°.76S±0°.06×75°.11W±0°.08, h30km, n77, σ1899/75, mb4.5/24, MS3.7/8, 9C, Near coast of Peru

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NNA	**Nana**	**4.11**	**336**	Pn	**Pn**	**20 00 15.5**	**-1.2**
	10nm,0.3s,baz=131,slow=12,SNR=23						
NNA				Sn	**Sn**	**20 01 04.2**	**+0.4**
	70nm,0.3s,baz=116,slow=12,SNR=3.6						
NNA				Lg	Lg	20 01 17.8	
	138nm,0.3s,baz=246,slow=22,SNR=6.8						
NNA	**Nana**	**4.11**	**336**	*e*Pn	**Pn**	**20 00 15.7**	**-1.0**
NNA				*e*Sn	**Sn**	**20 01 04.7**	**+0.8**
BBOD	**La Paz, Gloria**	**6.31**	**99**⇑	*i*Pn	**Pn**	**20 00 51.5**	**+4.1**
PB11	**IPOC Station P**	**6.54**	**128**	*e*Pn	**Pn**	**20 00 49.2**	**-1.0**
BBOB	**La Paz, Bander**	**6.72**	**94**⇑	*i*Pn	**Pn**	**20 00 56.7**	**+3.7**
BBOB				*e*Sn	Sn	20 01 57.7	-11
	53nm,0.8s						
LPAZ	**La Paz**	**6.73**	**95**	Pn	**Pn**	**20 00 55.4**	**+2.2**
	2.6nm,0.3s,baz=314,slow=7.3,SNR=83						
LPAZ				LR	LR	20 03 17.1	
	comp=Z,174nm,18.1s,baz=273,slow=37						
LPAZ	**La Paz**	**6.73**	**95**⇑	*i*Pn	**Pn**	**20 00 56.4**	**+3.2**
LPAZ	**La Paz**	**6.73**	**95**	*e*Pn	**Pn**	**20 00 57.7**	**+4.6**
BBOJ	**La Paz, Jacaqu**	**6.75**	**101**⇑	*i*Pn	**Pn**	**20 00 56.7**	**+3.3**
BBOE	**La Paz, Chanca**	**6.92**	**100**⇑	*i*Pn	**Pn**	**20 00 59.3**	**+3.5**
PB01	**IPOC Station P**	**7.49**	**135**	*e*Pn	**Pn**	**20 01 03.8**	**+0.7**
PB10	**IPOC Station P**	**8.82**	**152**	*e*Pn	**Pn**	**20 01 20.9**	**+0.5**
LVC	**Limon Verde**	**8.98**	**140**	Pn	**Pn**	**20 01 25.4**	**+1.5**
	239nm,0.3s,baz=315,slow=9.3,SNR=40						
LVC				Sn	**Sn**	**20 02 59.0**	**-5.3**
	38nm,0.3s,baz=99,slow=19,SNR=2.0						
LVC				Lg	Lg	20 04 00.7	
	24nm,0.3s,baz=183,slow=17,SNR=4.3						
LVC				LR	LR	20 04 40.6	
	comp=Z,1μm,21.6s,baz=311,slow=36						
LVC	**Limon Verde**	**8.98**	**140**	*e*Pn	**Pn**	**20 01 23.3**	**-0.5**
LVC				Sn	**Sn**	**20 03 01.6**	**-2.6**
ATAH	**Atahualpa**	**9.16**	**339**	Pn	**Pn**	**20 01 27.6**	**+1.3**
	0.2nm,0.3s,baz=191,slow=5.2,SNR=1.9						
ATAH				LR	LR	20 05 42.3	
	comp=Z,291nm,19.6s,baz=198,slow=43						
MOCB	**Mochara**	**10.51**	**123**⇑	*i*Pn	**Pn**	**20 01 48.8**	**+3.9**
SAML	**Samuel**	**13.47**	**61**	*e*Pn	**Pn**	**20 02 22.3**	**-2.7**
SIV	**San Ignacio**	**13.51**	**93**	Pn	**Pn**	**20 02 24.7**	**-0.9**
	0.5nm,0.3s,baz=279,slow=19,SNR=6.7						
SIV				LR	LR	20 08 14.1	
	comp=Z,423nm,21.5s,baz=304,slow=40						
SIV	**San Ignacio**	**13.51**	**93**⇑	*i*P	**Pn**	**20 02 25.5**	**0.0**
OTAV	**Otavalo**	**16.23**	**348**	Pn	**Pn**	**20 02 58.6**	**-3.7**
	7.2nm,0.8s						
CPUP	**Villa Florida**	**19.62**	**125**	P	**Pn**	**20 03 43.5**	**0.0**
	0.1nm,0.3s,baz=303,slow=12,SNR=4.4						
CPUP				LR	LR	20 12 38.6	
	comp=Z,176nm,18.1s,baz=300,slow=41						
ROSC	**El Rosal**	**20.48**	**2**	LR	LR	20 13 25.6	
	comp=Z,265nm,20.7s,baz=238,slow=42						
PTGA	**Pitinga**	**21.12**	**46**	P	**P**	**20 03 57.0**	**-1.4**
	5.9nm,0.5s,baz=218,slow=10.0,SNR=17						
PTGA				S	**S**	**20 07 49.8**	**-2.2**
	2.7nm,0.7s,baz=270,slow=20,SNR=2.7						
PTGA				LR	LR	20 13 16.2	
	comp=Z,226nm,21.4s,baz=224,slow=40						
PTGA	**Pitinga**	**21.12**	**46**	*e*P	**P**	**20 03 57.5**	**-0.9**
	42nm,1.6s						
PTGA				S	**S**	**20 07 49.8**	**-2.2**
RUSC	**La Rusia**	**21.61**	**5**	*e*P	**P**	**20 04 04.3**	**+0.3**
	10nm,0.9s						
PLCA	**Paso Flores**	**25.20**	**172**	P	**P**	**20 04 43.5**	**+4.6**
	2.2nm,0.8s,baz=11,slow=16,SNR=3.7						
PCRV	**Puerto La Cruz**	**27.78**	**23**	LR	LR	20 17 20.7	
	comp=Z,160nm,20.3s,baz=191,slow=40						
TXAR	**Lajitas Array**	**52.63**	**328**	P	**P**	**20 08 28.1**	**+0.7**
	0.3nm,0.5s,baz=156,slow=8.2,SNR=11						
TXAR				LR	LR	20 28 52.4	
	comp=Z,69nm,19.3s,baz=0.0,slow=34						
TX31	**Lajitas Ar. Si**	**52.63**	**328**	*e*P	**P**	**20 08 26.4**	**-1.0**
WCI	**Wyandotte Cave**	**54.72**	**349**	*e*P	**P**	**20 08 40.8**	**-1.7**
	15nm,1.1s						
TUL1	**Leonard**	**54.99**	**340**	*e*P	**P**	**20 08 43.3**	**-1.1**
	10nm,0.9s						
RKT	**Rikitea**	**56.60**	**252**	*e*LR	LR	20 25 40.6	
	137nm,31.0s						
RKT	**Rikitea**	**56.60**	**252**	*e*T	T	21 10 02.5	
	3.7nm,0.2s						
ANMO	**Albuquerque**	**58.56**	**330**	P	**P**	**20 09 10.3**	**+0.3**
	1.5nm,0.9s,baz=135,slow=9.6,SNR=4.6						
ANMO	**Albuquerque**	**58.56**	**330**	*e*P	**P**	**20 09 09.0**	**-1.0**
	2.2nm,0.9s						
SADO	**Sadowa**	**60.35**	**357**	P	**P**	**20 09 20.7**	**-1.2**
	3.8nm,1.0s,baz=180,slow=9.1,SNR=2.6						
SDCO	**Great Sand Dun**	**60.41**	**333**	*e*P

DUG	**Dugway, Tooele**	**65.80**	**329**	*e*P		**P**	**20 09 57.0**	**-1.4**
HWUT	**Hardware Ranch**	**66.28**	**331**	*e*P		**P**	**20 10 01.7**	**+0.2**
	5.1nm,1.0s							
PDAR	**Pinedale Array**	**66.29**	**333**	P		**P**	**20 10 02.2**	**+0.6**
	0.3nm,0.5s,baz=123,slow=5.5,SNR=4.4							
PDAR				LR		LR	20 41 11.2	
	comp=Z,34nm,18.1s,baz=154,slow=38							
AGMN	**Agassiz Nation**	**66.40**	**345**	*e*P		**P**	**20 10 00.5**	**-1.4**
	8.1nm,0.7s							
HVU	**Hansel Valley**	**66.99**	**330**	*e*P		**P**	**20 10 06.7**	**+0.7**
	3.0nm,0.8s							
ULM	**Lac du Bonnet**	**68.22**	**346**	P		**P**	**20 10 13.1**	**-0.3**
	5.4nm,0.7s,baz=135,slow=7.4,SNR=5.9							
SNAA	**Sanae**	**69.58**	**161**	*e*P		**P**	**20 10 21.0**	**-0.7**
PPT2	**Papeete2**	**70.91**	**257**	*e*LR		LR	20 32 25.9	
	49nm,22.5s							
PPT	**Papeete**	**70.92**	**257**	LR		LR	20 35 46.8	
	comp=Z,53nm,19.6s,baz=206,slow=31							
DBIC	**Dimbokro**	**73.02**	**78**	P		**P**	**20 10 43.1**	**-0.3**
	2.5nm,0.7s,baz=243,slow=6.8,SNR=5.4							
DBIC				LR		LR	20 41 42.6	
	comp=Z,142nm,19.2s,baz=224,slow=35							
TORD	**Torodi Ar. Bea**	**81.19**	**74**	P		**P**	**20 11 29.9**	**+0.6**
	8.5nm,0.7s,baz=258,slow=5.0,SNR=55							
TORD				LR		LR	20 46 01.5	
	comp=Z,98nm,19.7s,baz=265,slow=35							
VNDA	**Vanda**	**81.42**	**191**	pP		pP	20 11 40.3	+1.3
	0.8nm,0.8s,baz=116,slow=4.3,SNR=4.1							
PNCL	**Nicolau / Gran**	**82.18**	**47**	*e*P		**P**	**20 11 36.1**	**+2.0**
PCVE	**Castro Verde**	**82.31**	**48**	*e*P		**P**	**20 11 37.1**	**+2.3**
	19nm,1.8s							
PTOM	**Tomar**	**82.95**	**46**	*e*P		**P**	**20 11 39.4**	**+1.4**
PMRV	**Marv??o**	**83.57**	**46**	*e*P		**P**	**20 11 42.3**	**+1.0**
PCBR	**Castelo Branco**	**83.69**	**46**	*e*P		**P**	**20 11 43.0**	**+1.2**
PVIS	**Viseu**	**83.80**	**45**	*e*P		**P**	**20 11 43.4**	**+1.0**
	20nm,1.5s							
SYO	**Syowa Base**	**83.87**	**161⇑**	*e*pP		**P**	**20 11 42.5**	**+0.2**
SYO	**Syowa Base**	**83.87**	**161⇑**	*e*P		P	20 11 51.0	+8.7
ESDC	**Sonseca Array**	**86.07**	**47**	P		**P**	**20 11 54.6**	**+0.7**
	0.7nm,0.7s,baz=264,slow=4.7,SNR=8.7							
DLBC	**Dease Lake**	**86.47**	**334**	P		**P**	**20 11 55.9**	**+0.4**
	1.6nm,0.9s,baz=135,slow=2.9,SNR=2.2							
MAW	**Mawson**	**91.42**	**165**	P		**P**	**20 12 20.1**	**+1.4**
	1.5nm,0.7s,baz=198,slow=5.5,SNR=4.1							
MAW				pP		**pP**	**20 12 28.6**	**+0.2**
	2.4nm,0.8s,baz=242,slow=7.1,SNR=4.1							
H11N3	**WAKE ISLAND Hy**	**21.08**	**284**	T		T	22 30 42.9	
	baz=97,slow=74,SNR=39							
H11N2	**WAKE ISLAND Hy**	**21.09**	**284**	T		T	22 30 37.3	
	baz=97,slow=74,SNR=56							
H11N1	**WAKE ISLAND Hy**	**21.09**	**284**	T		T	22 30 44.0	
	baz=97,slow=74,SNR=36							
H11S2	**WAKE ISLAND Hy**	**21.11**	**282**	T		T	22 30 49.4	
	baz=97							
H11S1	**WAKE ISLAND Hy**	**21.12**	**282**	T		T	22 30 54.1	
	baz=97							
H11S3	**WAKE ISLAND Hy**	**21.13**	**282**	T		T	22 30 46.7	
	baz=97							
ASAR	**Alice Springs**	**131.63**	**217**	PKP		**PKPdf**	**20 18 27.6**	**+0.9**
	0.5nm,0.8s,baz=82,slow=2.5,SNR=3.6							
ASAR				pPKP		**pPKPdf**	**20 18 35.6**	**-0.9**
	2.3nm,1.0s,baz=136,slow=2.8,SNR=8.0							
WRA	**Warramunga Arr**	**134.21**	**220**	PKP		**PKPdf**	**20 18 32.5**	**+1.0**
	0.6nm,0.7s,baz=134,slow=2.0,SNR=10							
ZALV	**Zalesovo Beam**	**138.79**	**18**	PKP		**PKPdf**	**20 18 39.9**	**+1.0**
	3.7nm,0.8s,baz=299,slow=3.2,SNR=14							
MKAR	**Makanchi Array**	**143.79**	**27**	PKhKP		PKPpre	20 18 44.8	
	0.8nm,0.8s,baz=347,slow=4.4,SNR=4.2							
MJAR	**Matsushiro Arr**	**143.90**	**311**	PKhKP		PKPpre	20 18 46.8	
	1.3nm,0.7s,baz=85,slow=3.6,SNR=5.0							
KSH	**Kashi**	**145.39**	**41**	*e*PKPbc		**PKPbc**	**20 18 51.0**	**-0.2**
KSH				pPKP		pPKPdf	20 19 02.3	+1.1
KSH				PP		**PP**	**20 22 14.0**	**+3.2**
KSH				PKS		**PKSdf**	**20 22 25.3**	**-1.6**
KSH				SKS		**SKSdf**	**20 25 55.3**	**-3.3**
SONM	**Songino Array**	**147.99**	**358**	PKPbc		**PKPbc**	**20 18 59.3**	**+0.8**
	3.2nm,0.7s,baz=328,slow=1.2,SNR=18							
KSRS	**Korea Array**	**150.30**	**321**	PKP		**PKPdf**	**20 19 01.3**	**+2.1**
	0.6nm,0.5s,baz=335,slow=1.7,SNR=4.2							
KSRS				PKPbc		**PKiKP**	**20 19 05.7**	**+0.4**
	3.6nm,1.0s,baz=16,slow=1.0,SNR=13							
KSAR	**Wonju Array Be**	**150.33**	**321**	PKP		**PKPdf**	**20 19 01.3**	**+2.0**
KSAR				PKPbc		**PKiKP**	**20 19 05.7**	**+0.3**

*NNC **25** 20:01:01.5±7.2,37.°08N×70.°47E,h0km,mb3.9,mpv3.5, Error ellipse: s-maj=67.6km s-min=44.1km az=146.0*
*IDC **25** 20:01:03.5±5.5,36.°97N×70.°62E,h188km±31km,mb3.3/1, mb1 3.0/6,mb1mx2.7/54,mbtmp3.5/6,Error ellipse: s-maj=80.6km s-min=22.4km az=151.0*
ISC 25 20:00:58.2±2.1,**36.°6N**±0.°2×**70.°8E**±0.°1,**h150km,n12,** σ1**183**/18,**1C-6D,Hindu Kush region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MNAS	**Manas**	**6.07**	**12**	⇓Pn	**Pn**	**20 02 28.3**	**+2.4**
	1.4nm,0.5s						
MNAS				Sn	**Sn**	20 03 34.0	-0.5
	19nm,0.6s						
KK31	**Karatay Array**	**6.54**	**358**	Pn	**Pn**	**20 02 36.3**	**+4.2**
	2.1nm,0.4s,baz=181,slow=13,SNR=16						
KK31				Sn	**Sn**	**20 03 43.5**	**-2.1**
	2.2nm,0.3s,baz=185,slow=21,SNR=8.1						
AAK	**Ala-Archa**	**6.72**	**24**	P	**Pn**	**20 02 36.5**	**+2.0**
	1.5nm,0.3s,baz=183,slow=9.0,SNR=11						
AAK				S	**Sn**	**20 03 49.3**	**-0.7**
	0.7nm,0.3s,baz=146,slow=2.2,SNR=4.0						
AAK	**Ala-Archa**	**6.72**	**24**	⇓Pn	**Pn**	**20 02 36.3**	**+1.8**
	1.2nm,0.3s						
AAK				⇑Sn	**Sn**	**20 03 50.5**	**+0.4**
	5.0nm,0.5s						
TKM2	**Tokmak 2**	**7.36**	**29**	⇓Pn	**Pn**	**20 02 44.7**	**+1.5**
	6.9nm,0.6s						
TKM2				⇓Sn	**Sn**	**20 04 04.6**	**-1.0**
	3.3nm,0.7s						
GEYT	**Alibeck**	**10.18**	**282**	P	**Pn**	**20 03 22.2**	**+1.6**
	0.4nm,0.3s,baz=84,slow=14,SNR=3.7						
GEYT				S	**Sn**	**20 05 11.4**	**-1.8**
	0.1nm,0.3s,baz=99,slow=24,SNR=2.3						
MKAR	**Makanchi Array**	**13.36**	**36**	P	**Pn**	**20 04 01.0**	**-0.7**
	0.1nm,0.3s,baz=216,slow=11,SNR=4.4						
AB31	**Akbulak array**	**14.39**	**331**	⇓P	**P**	**20 04 23.5**	**-0.1**
	0.9nm,0.7s,baz=137,slow=12,SNR=10						
BVAR	**Borovoye Array**	**16.47**	**359**	P	**Pn**	**20 04 40.0**	**-0.4**
	0.2nm,0.3s,baz=166,slow=13,SNR=4.2						
AKTO	**Aktyubinsk**	**16.64**	**330**	⇓P	**Pn**	**20 04 42.4**	**-0.1**
	3.4nm,0.7s						
ZALV	**Zalesovo Beam**	**19.94**	**25**	P	**P**	**20 05 17.2**	**-1.0**
	0.1nm,0.3s,baz=230,slow=9.0,SNR=3.5						
NOA	**NORSAR Array B**	**44.22**	**323**	P	**P**	**20 08 50.4**	**-1.8**
	0.6nm,0.8s,baz=98,slow=7.8,SNR=3.3						

*ISCJB **25** 20:05:19.5±0.6,51.°82N±0.°09×171.°47W±0.°05,h44km, mb3.9/18,Error ellipse: s-maj=13.7km s-min=3.1km az=165.5*
*NEIC **25** 20:05:19.6±0.0,51.°68N×171.°42W,h42km,mb4.2/2, ML4.0(AEIC),After AEIC.*
*IDC **25** 20:05:21.8±3.6,52.°23N×171.°72W,h49km±33km,mb3.6/17, mb1 3.8/20,mb1mx3.7/52,mbtmp3.9/20,ML3.6/3,Error ellipse: s-maj=27.3km s-min=13.3km az=172.0*
ISC 25 20:05:20.9±0.7,**52.°0N**±0.°1×**171.°57W**±0.°04,**h44km,n69,** σ1**92**/70,**mb3.9**/18,**Fox Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KOSE	**Korovin Southe**	**1.57**	**284**	P	**Pn**	**20 05 48.6**	**+2.3**
KOFP	**Korovin Flat P**	**1.58**	**281**	P	**Pn**	**20 05 48.5**	**+2.0**
KONE	**Korovin Northe**	**1.62**	**285**	P	**Pn**	**20 05 49.3**	**+2.4**
ATKA	**Atka Island**	**1.63**	**278**	P	**Pn**	**20 05 47.7**	**+0.6**
ATKA				S	**Sn**	**20 06 08.5**	**+1.7**
KOKL	**Mount Kliuchef**	**1.65**	**283**	P	**Pn**	**20 05 49.5**	**+2.1**
NIKH	**Nikolski High**	**1.93**	**58**	P	**Pn**	**20 05 50.9**	**-0.3**
NIKH				S	**Sn**	**20 06 13.9**	**-0.3**
OKSO	**Okmok South**	**2.49**	**55**	P	**Pn**	**20 06 00.2**	**+1.4**
OKSO				S	**Sn**	**20 06 31.3**	**+3.4**
OKCE	**Okmok Cone E**	**2.52**	**54**	P	**Pn**	**20 06 01.6**	**+2.3**
OKTU	**Okmok Mt. Tuli**	**2.56**	**56**	P	**Pn**	**20 06 02.0**	**+2.1**
OKFG	**Magazine Ridge**	**2.64**	**56**	P	**Pn**	**20 06 02.3**	**+1.4**
GSTR	**Great Sitkin T**	**2.77**	**274**	*e*Pn	**Pn**	**20 06 04.8**	**+2.0**
GSTD	**Great Sitkin T**	**2.83**	**273**	P	**Pn**	**20 06 05.1**	**+1.6**
GSTD				S	**Sn**	**20 06 38.9**	**+2.5**
GSCK	**Great Sitkin C**	**2.84**	**272**	P	**Pn**	**20 06 04.6**	**+1.0**
ETKA	**Kagalaska Isla**	**3.00**	**269**	P	**Pn**	**20 06 06.6**	**+0.8**
ADAG	**Mount Adagdak**	**3.11**	**272**	P	**Pn**	**20 06 09.3**	**+2.0**
ADK	**Adak**	**3.17**	**270**	P	**Pn**	**20 06 09.2**	**+1.1**
ADK				S	**Sn**	**20 06 46.1**	**+1.5**
MGOD	**Makushin Gods**	**3.37**	**56**	P	**Pn**	**20 06 12.1**	**+1.2**
KIRH	**Kanaga Island**	**3.42**	**271**	P	**Pn**	**20 06 13.6**	**+2.0**
KIKV	**Kanaga Island**	**3.47**	**270**	P	**Pn**	**20 06 14.2**	**+1.9**
MSW	**Makushin Switc**	**3.48**	**54**	P	**Pn**	**20 06 13.9**	**+1.5**
UNV	**Unalaska Valle**	**3.59**	**57**	P	**Pn**	**20 06 15.4**	**+1.6**
TAPA	**Tanaga Point A**	**3.87**	**270**	P	**Pn**	**20 06 19.5**	**+1.7**
TAFP	**Tanaga Falls P**	**3.97**	**271**	P	**Pn**	**20 06 20.7**	**+1.6**
AKUT	**Akutan**	**4.10**	**56**	*e*Pn	**Pn**	**20 06 23.9**	**+3.0**
GAEA	**Gareloi East**	**4.45**	**270**	P	**Pn**	**20 06 27.6**	**+1.9**
SPIA	**Saint Paul Isl**	**5.25**	**8**	P	**Pn**	**20 06 39.6**	**+2.9**
CHGN	**Chignik**	**8.84**	**56**	*e*Pn	**Pn**	**20 07 27.3**	**+1.5**
KDAK	**Kodiak Island**	**12.35**	**55**	P	**Pn**	**20 08 11.9**	**-1.9**
	0.5nm,0.3s,baz=255,slow=12,SNR=5.4						
CAST	**Castle Rocks**	**15.39**	**34**	*e*Pn	**P**	**20 09 00.4**	**+1.7**
	19nm,1.9s						
CCB	**Clear Creek Bu**	**17.64**	**35**	*e*Pn	**Pn**	**20 09 21.5**	**-1.5**
	3.3nm,1.1s						
ILAR	**Eielson Array**	**18.03**	**35**	P	**P**	**20 09 26.2**	**-1.6**
	0.2nm,0.3s,baz=222,slow=9.0,SNR=13						
PETK	**Petropavlovsk-**	**18.66**	**286**	P	**P**	**20 09 33.9**	**-0.9**
	0.2nm,0.3s,baz=86,slow=15,SNR=4.6						
SEY	**Seymchan**	**21.34**	**314**	P	**P**	**20 10 09.4**	**-0.8**
	2.8nm,0.9s,baz=112,slow=14,SNR=6.2						
DLBC	**Dease Lake**	**24.24**	**58**	P	**P**	**20 10 34.5**	**+1.2**
	1.8nm,0.5s,baz=246,slow=8.5,SNR=11						
DLBC	**Dease Lake**	**24.24**	**58**	*e*P	**P**	**20 10 36.4**	**+3.1**
	21nm,1.8s						
INK	**Inuvik**	**24.41**	**34**	P	**P**	**20 10 33.8**	**-0.9**
	2.2nm,0.4s,baz=260,slow=7.2,SNR=17						
YKA	**Yellowknife Ar**	**31.51**	**48**	P	**P**	**20 11 37.8**	**-0.3**
	0.7nm,0.4s,baz=272,slow=7.9,SNR=4.4						
H11N2	**WAKE ISLAND Hy**	**36.34**	**216**	T	T	20 50 55.3	
	baz=21,slow=75,SNR=26						
H11N3	**WAKE ISLAND Hy**	**36.34**	**216**	T	T	20 50 54.9	
	baz=21,slow=75,SNR=28						
H11N1	**WAKE ISLAND Hy**	**36.35**	**216**	T	T	20 50 56.7	
	baz=21,slow=75,SNR=34						
H11S1	**WAKE ISLAND Hy**	**37.53**	**215**	T	T	20 52 24.5	
	baz=22,slow=76,SNR=62						
H11S2	**WAKE ISLAND Hy**	**37.55**	**215**	T	T	20 52 25.7	
	baz=22,slow=76,SNR=68						
H11S3	**WAKE ISLAND Hy**	**37.55**	**215**	T	T	20 52 25.7	
	baz=22,slow=76,SNR=67						
MJAR	**Matsushiro Arr**	**38.32**	**266**	P	**P**	**20 12 37.8**	**+0.6**
	0.9nm,0.8s,baz=40,slow=9.9,SNR=4.5						
PDAR	**Pinedale Array**	**41.81**	**77**	P	**P**	**20 13 07.5**	**+1.2**
	0.5nm,0.5s,baz=270,slow=5.0,SNR=5.7						
KSRS	**Korea Array**	**44.10**	**275**	P	**P**	**20 13 24.0**	**-0.5**
	1.6nm,0.6s,baz=56,slow=7.2,SNR=6.1						
SONM	**Songino Array**	**50.32**	**300**	P	**P**	**20 14 12.2**	**-0.8**
	0.6nm,0.5s,baz=51,slow=6.4,SNR=4.8						
TXAR	**Lajitas Array**	**54.12**	**87**	P	**P**	**20 14 42.2**	**+0.9**
	0.4nm,0.6s,baz=307,slow=5.6,SNR=6.3						
ZALV	**Zalesovo Beam**	**56.78**	**317**	P	**P**	**20 14 57.6**	**-2.3**
	0.3nm,0.3s,baz=21,slow=4.9,SNR=2.6						
ZALV				PcP	**PcP**	**20 15 55.1**	**-0.3**
	1.2nm,0.6s,baz=47,slow=4.2,SNR=7.3						
MKAR	**Makanchi Array**	**63.07**	**312**	P	**P**	**20 15 42.3**	**-1.0**
	1.2nm,0.4s,baz=44,slow=6.2,SNR=26						
FINES	**FINESS Array B**	**66.04**	**351**	P	**P**	**20 16 00.8**	**-1.6**
	0.9nm,0.5s,baz=17,slow=7.8,SNR=7.9						
NB2	**NORSAR Subarra**	**67.30**	**359**	P	**P**	**20 16 09.9**	**-0.6**
	comp=Z,0.5nm,0.6s,baz=1.3,slow=6.2						
NOA	**NORSAR Array B**	**67.30**	**359**	P	**P**	**20 16 09.6**	**-0.9**
	comp=Z,0.7nm,0.7s,baz=1.8,slow=6.4,SNR=3.7						
KSH	**Kashi**	**71.62**	**311**	*e*P	**P**	**20 16 41.0**	**+3.4**
KSH				pP	PcP	20 16 56.8	+0.1
KSH				PP	**PP**	**20 19 20.8**	**+4.5**
KSH				S	**S**	**20 25 45.8**	**-7.9**
KSH				sS	SKiKP	20 26 13.8	+1.5
KSH	**Kashi**	**71.62**	**311**	SS	SS	20 30 20.8	-7.8
KSH				pmax	pmax		
	comp=Z,7.0nm,0.5s						
KSH				pmax	pmax		
	comp=Z,83nm,4.2s						
KSH				LR	LR		
	comp=N,61nm,7.0s						
KSH				LR	LR		
	comp=E,43nm,5.6s						
KSH				LR	LR		
	comp=Z,63nm,9.3s						
TAPN	**Taplejung**	**75.12**	**295**	*e*P	**P**	**20 16 59.0**	**+0.4**
	comp=Z,8.5nm,0.6s						
CMAR	**Chiang Mai Arr**	**75.37**	**281**	P	**P**	**20 16 59.5**	**-0.3**
	comp=Z,1.2nm,0.7s,baz=29,slow=6.1,SNR=8.5						
ODAN	**Odare**	**75.67**	**295**	*e*P	**P**	**20 17 01.5**	**-0.2**
JIRN	**Jiri**	**75.72**	**297**	*e*P	**P**	**20 17 02.8**	**+0.6**
	comp=Z,52nm,0.3s						
KKN	**Kakani**	**76.12**	**297**	*e*P	**P**	**20 17 04.6**	**+0.4**
PKI	**Pulchoki**	**76.22**	**297**	*e*P	**P**	**20 17 04.9**	**-0.1**
PKIN	**Phulchoki**	**76.22**	**297**	*e*P	**P**	**20 17 04.8**	**-0.1**
GKN	**Gorkha**	**76.31**	**298**	*e*P	**P**	**20 17 05.3**	**+0.1**
DMN	**Daman**	**76.36**	**297**	*e*P	**P**	**20 17 06.0**	**+0.4**
KOLN	**Koldanda**	**77.06**	**298**	*e*P	**P**	**20 17 09.5**	**0.0**
	comp=Z,6.6nm,0.6s						
PYUN	**Piuthan**	**77.12**	**299**	*e*P	**P**	**20 17 10.0**	**+0.1**
GERES	**GERESS Array B**	**79.44**	**356**	P	**P**	**20 17 21.4**	**-0.9**
	comp=Z,0.7nm,0.9s,baz=39,slow=7.0,SNR=6.1						
ESDC	**Sonseca Array**	**88.07**	**10**	P	**P**	**20 18 05.1**	**-1.3**
	comp=Z,0.7nm,0.7s,baz=342,slow=4.6,SNR=6.3						
ASAR	**Alice Springs**	**89.12**	**228**	P	**P**	**20 18 11.2**	**-0.2**
	comp=Z,0.6nm,0.6s,baz=32,slow=4.3,SNR=10						

*DDA **25** 20:07:42.2,37.°39N×34.°99E,h7km,Md2.3*
*ISK **25** 20:07:43.6,37.°40N×34.°97E,h6km,MD2.5*
*CSEM **25** 20:07:44.2±0.2,37.°39N×34.°95E,h5km,MD2.5,Error ellipse: s-maj=4.6km s-min=4.0km az=167.0*
ISC 25 20:07:43.2±1.2,**37.°38N**±0.°03×**34.°98E**±0.°03,**h5**km±15km, **n20,**σ0**946**/30,**Turkey**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DED	**Mersin**	**0.44**	**199**	*i* P	**Pg**	**20 07 51.6**	**-0.1**
DED				*i* S	**Sg**	**20 07 57.6**	**+0.1**
MERS	**Mersin**	**0.63**	**216**	*e*PG	**Pb**	**20 07 56.5**	**-0.2**
MERS				*e*SG	**Sb**	**20 08 05.5**	**-0.2**
MERS	**Mersin**	**0.63**	**216**	*e*Pg	**Pb**	**20 07 56.5**	**-0.2**
MERS				*e*Sg	**Sb**	**20 08 05.5**	**-0.2**
KERG	**Konya-Eregli**	**0.68**	**273**	*i* P	**Pg**	**20 07 56.0**	**-0.3**
KERG				*i* S	**Sg**	**20 08 05.3**	**+0.2**
KERG	**Konya-Eregli**	**0.68**	**273**	P	**Pg**	**20 07 56.0**	**-0.3**
KERG				S	**Sg**	**20 08 05.3**	**+0.2**
KOZT	**Kozan**	**0.69**	**81**	*e*PG	**Pb**	**20 07 57.4**	**-0.2**
KOZT				*e*SG	**Sb**	**20 08 06.9**	**-0.5**
KOZT	**Kozan**	**0.69**	**81**	*e*Pg	**Pb**	**20 07 57.4**	**-0.2**
KOZT				*e*Sg	**Sb**	**20 08 06.9**	**-0.5**
YAHY	**KAYSERI_Yahyal**	**0.78**	**23**	*i* P	**Pg**	**20 07 57.2**	**-1.0**
YAHY				*i* S	**Sg**	**20 08 08.2**	**-0.1**
KRTS	**Karatas**	**0.87**	**158**	*e*PG	**Pb**	**20 08 01.2**	**+0.5**
KRTS	**Karatas**	**0.87**	**158**	*e*Pg	**Pb**	**20 08 01.2**	**+0.5**
KIZK	**Mersin**	**1.12**	**217**	*e*PN	**Pb**	**20 08 05.6**	**+0.6**
TAHT	**Tahtakopru-Hat**	**1.39**	**136**	*e*PN	**Pb**	**20 08 10.2**	**+0.5**
TAHT	**Tahtakopru-Hat**	**1.39**	**136**	*e*Pn	**Pb**	**20 08 10.2**	**+0.5**
AVNS	**Nevsehir-Avano**	**1.43**	**356**	*i* P	**Pg**	**20 08 11.5**	**+0.9**
AVNS				*i* S	**Sb**	**20 08 29.0**	**+0.1**
AVNS	**Nevsehir-Avano**	**1.43**	**356**	P	**Pg**	**20 08 11.5**	**+0.9**
AVNS				S	**Sb**	**20 08 29.0**	**+0.1**
IKL	**Isikli**	**1.54**	**223**	*e*PN	**Pb**	**20 08 12.4**	**+0.2**
IKL	**Isikli**	**1.54**	**223**	*e*Pn	**Pb**	**20 08 12.4**	**+0.2**
YAYL	**Yayladag**	**1.62**	**146**	*e*PN	**Pb**	**20 08 13.9**	**+0.3**
YAYL	**Yayladag**	**1.62**	**146**	*e*Pn	**Pb**	**20 08 13.9**	**+0.3**
TEKE	**Tekeli-Mersin**	**1.94**	**231**	*e*PN	**Pb**	**20 08 18.3**	**-0.7**

*ISCJB **25** 20:19:06.7±0.6,43.°98N±0.°04×105.°43W±0.°05,h0km,Error ellipse: s-maj=5.7km s-min=5.0km az=154.9*
*NEIC **25** 20:19:07.9±0.8,44.°05N×105.°40W,h0km,MN2.5,Error ellipse: s-maj=12.9km s-min=10.1km az=143.0,Suspected Mining explosion.*
NEIC 28 km [17 miles] SSE of Gillette.
*IDC **25** 20:19:08.3±2.0,43.°96N×105.°39W,h0km,mb1 3.5/2, mb1mx3.2/41,mbtmp3.4/2,ML3.1/2,Error ellipse: s-maj=59.7km s-min=9.6km az=149.0*
ISC 25 20:19:04.3±0.9,**43.°97N**±0.°04×**105.°61W**±0.°04,**h0km,n14,** σ1**17**/18,**Wyoming**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RSSD	**Black Hills**	**1.14**	**82**	*e*Pg	**Pb**	**20 19 27.2**	**+0.1**
RSSD				*e*Sg	**Sg**	**20 19 40.4**	**-0.6**
K22A	**Casper**	**1.48**	**207**	*e*Pn	Pb	20 19 40.5	+7.6
K22A				*e*Sn	Sn	20 20 01.6	+9.0
RWWY	**Rawlins**	**2.57**	**208**	*e*Pn	**Pb**	**20 19 51.7**	**+0.3**
RWWY				*e*Sn	**Sb**	**20 20 23.4**	**-0.3**
PHWY	**Pilot Hill**	**2.67**	**178**	*e*Pn	**Pb**	**20 19 51.9**	**-1.3**
PHWY				*e*Sn	**Sb**	**20 20 24.9**	**-1.8**
LAO	**LASA Array**	**2.75**	**351**	*e*Pn	**Pb**	**20 19 52.8**	**-1.5**
LAO				*e*Sn	**Sb**	**20 20 28.3**	**-0.3**
RLMT	**Red Lodge**	**2.86**	**295**	*e*Pn	**Pb**	**20 19 55.1**	**-1.2**
RLMT				*e*Sn	**Sb**	**20 20 31.4**	**-0.5**
PDAR	**Pinedale Array**	**3.12**	**249**	Pn	**Pg**	**20 20 03.5**	**-0.6**
	1.3nm,0.3s,baz=71,slow=16,SNR=27						
PDAR				Lg	Lg	20 20 51.0	
	4.3nm,0.3s,baz=68,slow=36,SNR=11						
BW06	**Boulder Array**	**3.12**	**249**	*e*Pn	**Pg**	**20 20 03.7**	**-0.5**
BW06				*e*Sn	**Sb**	**20 20 39.5**	**0.0**
SNOW	**Snow King Moun**	**3.77**	**264**	Pn	**Pb**	**20 20 09.9**	**-1.9**
IMW	**Indian Meadow**	**3.85**	**271**	Pn	**Pb**	**20 20 12.7**	**-0.6**
REDW	**Red Top Meadow**	**3.85**	**263**	*e*Pn	**Pb**	**20 20 14.7**	**+1.4**
TPAW	**Teton Pass**	**3.90**	**265**	*e*Pn	**Pn**	**20 20 07.7**	**+1.9**
I10CA	**LAC DU BONNET**	**9.02**	**43**	*i*		21 12 50.0	
	baz=227,slow=317,SNR=1.1						
ULM	**Lac du Bonnet**	**9.13**	**43**	Pn	**Pn**	**20 21 18.2**	**+1.0**
	0.5nm,0.3s,baz=230,slow=10,SNR=5.6						
ULM				Lg	Lg	20 23 46.3	
	0.2nm,0.3s,baz=294,slow=20,SNR=2.3						

DJA 25 20:32:45.1±0.3,**0.°3S**×**12.°3E**±°,**h10km,M3.7**/10,**mB4.8**/1, **mb3.8**/2,**MLv3.6**/10,**Mw(mB)4.1**/1,**Minahassa Peninsula, Sulawesi**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GTOI	**Gorontalo**	**1.01**	**20**	P	Pn	20 33 05.2	-0.2
MRSI	**Marisa**	**1.07**	**318**	P	Pg	20 33 04.3	-1.4
MRSI				S	Sb	20 33 20.3	+0.5
KMSI	**Cibinong**	**1.59**	**56**	P	Pn	20 33 12.3	-1.1
KMSI				S	Sb	20 33 34.5	-0.3
PCI	**Palu**	**2.88**	**258**	P	Pn	20 33 30.8	-0.3
KDI	**Kendari**	**3.61**	**181**	P	Pn	20 33 41.2	0.0
SANI	**Sanana**	**3.75**	**117**	P	Pn	20 33 43.0	0.0
TTSI	**Tana Toraja**	**3.92**	**226**	P	Pn	20 33 45.6	+0.2
SPSI	**Sidrap Palu**	**4.63**	**219**	P	Pn	20 33 55.4	+0.2
LBMI	**Labuha**	**4.85**	**94**	P	Pn	20 33 58.1	-0.1
SGSI	**Sangihe**	**4.90**	**36**	P	Pn	20 33 58.9	-0.1
BBSI	**Bau Bau**	**5.13**	**181**	P	Pn	20 34 01.9	-0.2
NLAI	**Namlea**	**5.30**	**123**	P	Pn	20 34 04.9	+0.5

*IDC **25** 20:37:38.0±0.9,32.°35N×105.°59E,h0km,mb3.6/7, mb1 3.6/10,mb1mx3.5/49,mbtmp3.5/10,ML3.4/3,MS2.9/4, Ms1 2.9/4,ms1mx2.5/35,Error ellipse: s-maj=36.7km s-min=16.4km az=56.0*
*BJI **25** 20:37:40.9,32.°15N×104.°90E,h19km,ML3.8/16,Ms3.7/4, Ms7 3.6/4*
ISC 25 20:37:40.3±0.6,**32.°22N**±0.°03×**104.°86E**±0.°05,**h14km,n

H08S3	**Diego Garcia H**	**13.92**	**28**	T	T	21 11 38.5		
	baz=203,slow=75,SNR=24							
H08N3	**Diego Garcia H**	**14.54**	**20**	T	T	21 13 04.1		
	baz=201,slow=77,SNR=6.4							
H08N1	**Diego Garcia H**	**14.55**	**20**	T	T	21 13 02.7		
	baz=201,slow=77,SNR=4.2							
H08N2	**Diego Garcia H**	**14.56**	**20**	T	T	21 13 07.1		
	baz=201,slow=77,SNR=8.8							
CMAR	**Chiang Mai Arr**	**50.13**	**42**	P	P	21 03 33.4	-0.3	
	0.4nm,0.5s,baz=233,slow=7.5,SNR=5.1							
CMAR				LR	LR	21 20 56.4		
	comp=Z,20nm,21.9s,baz=192,slow=32							
ASAR	**Alice Springs**	**62.53**	**107**	P	P	21 05 01.4	-1.0	
	0.4nm,0.8s,baz=257,slow=7.4,SNR=3.6							
ASAR				LR	LR	21 27 42.2		
	comp=Z,25nm,21.1s,baz=284,slow=32							
WRA	**Warramunga Arr**	**63.71**	**103**	P	P	21 05 11.3	+1.0	
	0.9nm,1.1s,baz=255,slow=5.7,SNR=4.5							
ZALV	**Zalesovo Beam**	**75.54**	**11**	P	P	21 06 22.3	-0.1	
	0.4nm,0.2s,baz=216,slow=7.1,SNR=3.9							
SONM	**Songino Array**	**76.74**	**27**	P	P	21 06 29.8	+0.3	
	0.4nm,0.6s,baz=219,slow=3.7,SNR=2.8							

---

*IDC **25** 21:05:40.5±0.4, 19°.96N×45°.82W, h0km, mb4.3/28, mb1 4.5/29, mb1mx4.3/47, mbtmp4.4/29, ML4.0/1, MS3.8/26, Ms1 3.8/26, ms1mx3.7/38, Error ellipse: s-maj=14.2km s-min=10.7km az=145.0*

*BJI **25** 21:05:40.6, 20°.29N×46°.32W, h16km, mb5.2/2, mB5.4/1, Ms4.9/1, Ms7 4.5/2*

*MOS **25** 21:05:40.8±0.9, 20°.00N×45°.84W, h10km, mb4.9/55, Error ellipse: s-maj=7.3km s-min=6.5km az=154.3*

*ISCJB **25** 21:05:40.5±0.2, 19°.97N±0°.04×45°.83W±0°.02, h10km, mb4.7/179, MS3.9/28, Error ellipse: s-maj=6.2km s-min=2.9km az=179.5*

*GCMT **25** 21:05:42.4±0.4, 20°.10N×45°.77W, h12km±1km, MW4.8/84, Moment Tensor Solution. s16,c17; s84,c104; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-1.92±.12; $M_{\theta\theta}$0.33±.08; $M_{\phi\phi}$1.59±.09; $M_{r\theta}$-0.23±.25; $M_{\theta\phi}$0.78±.06; $M_{\phi r}$-0.20±.22; Best double couple: $M_0$1.96600×10^{16} NP1:ϕ_s202.00000°, δ41.00000°, λ-95.00000°. Principal axes: T 1.9850, Plg4.0000°, Azm116.0000°; N -0.0380, Plg4.0000°, Azm206.0000°; P -1.9470, Plg85.0000°, Azm337.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

*NEIC **25** 21:05:42.4±0.2, 19°.97N×45°.77W, h10km, mb4.9/129 Error ellipse: s-maj=4.8km s-min=3.5km az=176.0*

ISC 25 21:05:42.2±0.4, **19°.96N**±0°.07×**45°.77W**±0°.06, **h10**km, **n531,** σ1§**09**/528, **mb4.8**/183, **MS3.8**/28, **12C-14D, Northern Mid-Atlantic Ridge**

Code	Station	Name	Δ°	AZ°	Phase	ID	Time h m s	Res	ISC
H05S1	**Guadeloupe/Mar**		**15.41**	**251**	T	T	21 24 51.9		
	SNR=12								
SMRT	**St. Maarten**		**16.48**	**266**	*e*Pn	**P**	**21 09 36.4**	**+0.1**	
	102nm,1.3s								
SJG	**San Juan**		**19.36**	**268**	P	**P**	**21 10 08.3**	**+0.3**	
	0.5nm,0.3s,baz=76,slow=10.0,SNR=7.6								
SJG					LR	LR	21 16 10.3		
	comp=Z,361nm,20.8s,baz=79,slow=33								
SJG	**San Juan**		**19.36**	**268**	*e*P	**Pn**	**21 10 09.1**	**-0.1**	
SJG	**San Juan**		**19.36**	**268**	*e*P	**Pn**	**21 10 09.1**	**-0.1**	
CELP	**Cerrillos**		**19.77**	**268**	*e*P	**P**	**21 10 13.0**	**+0.5**	
MPR	**Mayaguez**		**20.27**	**269**	*e*P	Pn	21 10 21.1	+1.0	
	3μm,1.5s								
PCRV	**Puerto La Cruz**		**20.63**	**245**	P	**P**	**21 10 22.6**	**+0.6**	
	45nm,1.2s,baz=12,slow=6.2,SNR=5.2								
SDDR	**Presa de Saban**		**24.08**	**272**	*e*P	**P**	**21 10 59.0**	**+1.0**	
	36nm,0.9s								
PTGA	**Pitinga**		**24.83**	**216**	P	**P**	**21 11 04.4**	**-0.5**	
	12nm,1.1s,baz=37,slow=11,SNR=12								
PTGA	**Pitinga**		**24.83**	**216**	*e*P	**P**	**21 11 05.1**	**+0.2**	
	11nm,1.0s								
SDV	**Santo Domingo**		**26.44**	**249**	*e*P	**P**	**21 11 20.9**	**+1.2**	
	22nm,1.2s								
RUSC	**La Rusia**		**30.00**	**246**	*e*P	**P**	**21 11 50.3**	**-1.5**	
	24nm,1.5s								
ROSC	**El Rosal**		**31.59**	**245**	P	**P**	**21 12 05.2**	**-0.6**	
	3.4nm,0.5s,baz=88,slow=12,SNR=4.0								
ROSC					LR	LR	21 27 11.9		
	comp=Z,82nm,18.3s,baz=29,slow=41								
ROSC	**El Rosal**		**31.59**	**245**	*e*P	**P**	**21 12 05.2**	**-0.6**	
	3.6nm,0.8s								
PKME	**Peaks-Kenny Pk**		**31.86**	**328**	*e*P	**P**	**21 12 07.4**	**+0.1**	
	13nm,1.0s								
ODNJ	**Ogdensburg**		**32.32**	**317**	*e*P	**P**	**21 12 11.8**	**+0.3**	
	32nm,1.8s								
HNH	**Hanover**		**32.43**	**323**	*e*P	**P**	**21 12 13.4**	**+1.1**	
	26nm,1.1s								
IP05	**Hopewell Churc**		**32.97**	**310**	*e*P	**P**	**21 12 17.8**	**+0.6**	
	64nm,0.1s								
N59A	**State Game Lan**		**32.99**	**316**	P	**P**	**21 12 17.3**	**-0.1**	
	baz=120								
IP01	**Cuckoo**		**33.13**	**310**	*e*P	**P**	**21 12 19.5**	**+0.9**	
	15nm,1.1s								
IP07	**Quail**		**33.20**	**310**	*e*P	**P**	**21 12 20.1**	**+0.9**	
	46nm,1.6s								
SAML	**Samuel**		**33.46**	**212**	*e*P	**P**	**21 12 21.8**	**+0.2**	
	8.7nm,1.1s								
NCB	**Newcomb**		**33.71**	**322**	*e*P	**P**	**21 12 24.4**	**+0.8**	
	0.2nm,1.1s								
FRNY	**Flat Rock**		**33.86**	**323**	*e*P	**P**	**21 12 25.9**	**+1.0**	
	18nm,1.1s								
O56A	**Blue Knob Stat**		**34.56**	**313**	P	**P**	**21 12 30.7**	**-0.4**	
	baz=116								
BLA	**Blacksburg**		**34.70**	**307**	*e*P	**P**	**21 12 33.4**	**+1.0**	
BLA					pmax	pmax			
	comp=Z,45nm,1.4s								
BLA	**Blacksburg**		**34.70**	**307**	*e*P	**P**	**21 12 33.4**	**+1.0**	
	comp=Z,45nm,1.4s								
KMSC	**Kings Mountain**		**34.76**	**303**	P	**P**	**21 12 32.7**	**-0.1**	
	baz=106								
N54A	**Moraine State**		**35.84**	**313**	P	**P**	**21 12 42.2**	**+0.2**	
	baz=116								
BG3	**Lake Jocassee**		**35.98**	**302**	*e*P	**P**	**21 12 44.7**	**+1.3**	
	comp=Z,14nm,1.1s								
PLVO	**Plevna**		**35.99**	**321**	*e*P	**P**	**21 12 43.7**	**+0.4**	
	comp=Z,19nm,1.3s								
TKL	**Tuckaleechee C**		**36.82**	**303**	P	**P**	**21 12 50.0**	**-0.5**	
	comp=Z,3.0nm,0.7s,baz=129,slow=8.5,SNR=4.0								
TKL	**Tuckaleechee C**		**36.82**	**303**	*e*P	**P**	**21 12 50.0**	**-0.5**	
TKL					pmax	pmax			
	comp=Z,24nm,1.6s								
TKL	**Tuckaleechee C**		**36.82**	**303**	*e*P	**P**	**21 12 50.0**	**-0.5**	
	comp=Z,24nm,1.6s								
PNCL	**Nicolau / Gran**		**36.94**	**53**	*e*P	**P**	**21 12 50.6**	**-0.8**	
SADO	**Sadowa**		**37.09**	**319**	P	**P**	**21 12 52.8**	**+0.1**	
	comp=Z,5.7nm,0.8s,baz=104,slow=7.9,SNR=4.8								
SADO	**Sadowa**		**37.09**	**319**	*e*P	**P**	**21 12 52.8**	**+0.1**	
	comp=Z,13nm,1.0s								
PBDV	**Barranco-do-Ve**		**37.12**	**54**	*e*P	**P**	**21 12 56.0**	**+2.9**	
	comp=Z,22nm,1.2s								
OTAV	**Otavalo**		**37.52**	**242**	*e*P	**P**	**21 12 58.3**	**+1.1**	
	comp=Z,8.6nm,0.8s								
PMRV	**Marv??o**		**38.20**	**51**	*e*P	**P**	**21 13 02.9**	**+0.7**	
	comp=Z,14nm,2.1s								
PCBR	**Castelo Branco**		**38.28**	**50**	*e*P	**P**	**21 13 03.5**	**+0.7**	
	comp=Z,14nm,1.8s								
SCHQ	**Schefferville**		**38.31**	**340**	P	**P**	**21 13 03.2**	**+0.4**	
	comp=Z,6.6nm,0.6s,baz=268,slow=5.9,SNR=3.9								
SCHQ					LR	LR	21 26 42.1		
	comp=Z,248nm,20.8s,baz=116,slow=33								
SCHQ	**Schefferville**		**38.31**	**340**	*e*P	**P**	**21 13 03.2**	**+0.4**	
	comp=Z,27nm,1.1s								
SWET	**Sewanee**		**38.43**	**302**	*e*P	**P**	**21 13 05.0**	**+0.8**	
	comp=Z,15nm,1.3s								
SIV	**San Ignacio**		**38.77**	**204**	P	**P**	**21 13 06.5**	**-0.6**	
	comp=Z,2.5nm,0.9s,baz=55,slow=7.1,SNR=4.7								
MDT	**Midelt**		**38.79**	**62**	P	**P**	**21 13 08.2**	**+0.8**	
	comp=Z,2.5nm,0.9s,baz=283,slow=8.9,SNR=5.4								
LRAL	**Lakeview Retre**		**38.89**	**298**	*e*P	**P**	**21 13 08.8**	**+0.7**	
	comp=Z,9.9nm,0.9s								
AAM	**Ann Arbor**		**38.90**	**313**	*e*P	**P**	**21 13 08.8**	**+0.8**	
AAM					pmax	pmax			
	comp=Z,30nm,1.0s								
AAM	**Ann Arbor**		**38.90**	**313**	*e*P	**P**	**21 13 08.8**	**+0.8**	
	comp=Z,30nm,1.0s								
Z48A	**Northport**		**39.41**	**299**	P	**P**	**21 13 12.1**	**-0.2**	
	baz=99,SNR=7.6								
WCI	**Wyandotte Cave**		**39.45**	**306**	*e*P	**P**	**21 13 13.5**	**+0.8**	
WCI					pmax	pmax			
	comp=Z,16nm,0.8s								
WCI	**Wyandotte Cave**		**39.45**	**306**	*e*P	**P**	**21 13 13.5**	**+0.8**	
	comp=Z,16nm,0.8s								
Y47A	**UCPARC, Winfie**		**39.73**	**299**	P	**P**	**21 13 15.5**	**+0.5**	
	baz=100,SNR=8.4								
BLO	**Bloomington**		**39.88**	**308**	*e*P	**P**	**21 13 16.9**	**+0.7**	
BLO					pmax	pmax			
	comp=Z,14nm,0.7s								
BLO	**Bloomington**		**39.88**	**308**	*e*P	**P**	**21 13 16.9**	**+0.7**	
	comp=Z,14nm,0.7s								
WVT	**Waverly**		**40.13**	**303**	*e*P	**P**	**21 13 18.7**	**+0.4**	
WVT					pmax	pmax			
	comp=Z,13nm,1.0s								
WVT	**Waverly**		**40.13**	**303**	*e*P	**P**	**21 13 18.7**	**+0.4**	
	comp=Z,13nm,1.0s								
SFIN	**Lafayette**		**40.66**	**309**	P	**P**	**21 13 22.7**	**+0.1**	
	baz=108								
SFIN	**Lafayette**		**40.66**	**309**	*e*P	**P**	**21 13 23.2**	**+0.6**	
	comp=Z,28nm,0.9s								
ESDC	**Sonseca Array**		**40.80**	**52**	P	**P**	**21 13 23.9**	**-0.1**	
	comp=Z,0.6nm,0.8s,baz=255,slow=8.3,SNR=7.1								
ESDC					PcP	**PcP**	**21 15 24.6**	**-0.4**	
	comp=Z,1.5nm,0.9s,baz=282,slow=3.8,SNR=6.8								
OLIL	**Olney**		**40.95**	**307**	*e*P	**P**	**21 13 26.3**	**+1.2**	
	comp=Z,31nm,1.0s								
S45A	**Carrier Mills**		**41.06**	**305**	P	**P**	**21 13 25.9**	**-0.1**	
	baz=103								
145A	**Houston Renfro**		**41.28**	**297**	P	**P**	**21 13 26.5**	**-1.4**	
	baz=97								
H10N3	**ASCENSION HYDR**		**41.35**	**129**	T	T	21 57 25.3		
	baz=312,slow=75,SNR=1498								
H10N2	**ASCENSION HYDR**		**41.35**	**129**	T	T	21 57 25.5		
	baz=312,slow=75,SNR=1929								
H10N1	**ASCENSION HYDR**		**41.37**	**129**	T	T	21 57 26.7		
	baz=312,slow=75,SNR=2018								
P44A	**Sand Creek, Wi**		**41.53**	**307**	P	**P**	**21 13 30.2**	**+0.4**	
	baz=105								
R44A	**Waltonville**		**41.58**	**306**	P	**P**	**21 13 30.2**	**0.0**	
	baz=104,SNR=5.7								
S44A	**Carbondale**		**41.58**	**305**	P	**P**	**21 13 30.5**	**+0.2**	
	baz=103,SNR=6.0								
TIC	**Toumodi**		**41.67**	**103**	*e*P	**P**	**21 13 30.8**	**-0.5**	
Q44A	**Meyer Farm, Va**		**41.68**	**306**	P	**P**	**21 13 31.5**	**+0.4**	
	baz=104,SNR=6.6								
DBIC	**Dimbokro**		**41.81**	**103**	P	**P**	**21 13 31.8**	**-0.7**	
	comp=Z,6.7nm,0.8s,baz=274,slow=6.5,SNR=7.2								
DBIC					LR	LR	21 27 36.5		
	comp=Z,324nm,21.4s,baz=270,slow=31								
DBIC	**Dimbokro**		**41.81**	**103**	*e*P	**P**	**21 13 32.6**	**+0.1**	
DBIC					pmax	pmax			
	comp=Z,11nm,1.0s								
DBIC	**Dimbokro**		**41.81**	**103**	*e*P	**P**	**21 13 32.6**	**+0.1**	
	comp=Z,11nm,1.0s								
LIC	**Lamto**		**41.83**	**103**	*e*P	**P**	**21 13 33.1**	**+0.5**	
	comp=Z,37nm,1.2s								
ATAH	**Atahualpa**		**41.90**	**233**	LR	LR	21 31 43.8		
	comp=Z,126nm,19.5s,baz=19,slow=37								
H10S3	**ASCENSION HYDR**		**41.99**	**130**	T	T	21 58 15.7		
	baz=314,slow=75,SNR=343								
H10S1	**ASCENSION HYDR**		**41.99**	**130**	T	T	21 58 14.6		
	baz=314,slow=75,SNR=509								
H10S2	**ASCENSION HYDR**		**42.01**	**130**	T	T	21 58 17.0		
	baz=314,slow=75,SNR=489								
KIC	**Kosan Boka**		**42.04**	**103**	*e*P	P	21 13 28.8	-5.5	
	comp=Z,121nm,2.0s								
S43A	**Fulton Ridge,**		**42.19**	**304**	P	**P**	**21 13 34.9**	**-0.4**	
	baz=102								
LPAZ	**La Paz**		**42.20**	**213**	P	**P**	**21 13 35.3**	**-0.9**	
	comp=Z,7.9nm,1.0s,baz=23,slow=8.2,SNR=30								
LPAZ					LR	LR	21 30 09.0		
	comp=Z,104nm,21.3s,baz=12,slow=35								
LPAZ	**La Paz**		**42.20**	**213**	*e*P	**P**	**21 13 36.4**	**+0.2**	
LPAZ					pmax	pmax			
	comp=Z,12nm,1.0s								
LPAZ	**La Paz**		**42.20**	**213**	*e*P	**P**	**21 13 36.4**	**+0.2**	
	comp=Z,12nm,1.0s								
Q43A	**New Douglas**		**42.21**	**306**	P	**P**	**21 13 35.6**	**+0.2**	
	baz=104								
R43A	**Red Bud**		**42.23**	**305**	P	**P**	**21 13 35.6**	**0.0**	
	baz=103,SNR=5.8								
P43A	**Skaggs, Pawnee**		**42.25**	**307**	P	**P**	**21 13 35.6**	**-0.1**	
	baz=105								
T43A	**Greenville**		**42.26**	**304**	P	**P**	**21 13 35.4**	**-0.4**	
	baz=101								
PBMO	**Poplar Bluff**		**42.31**	**303**	*e*P	**P**	**21 13 35.9**	**-0.3**	
	comp=Z,6.0nm,0.8s								
F43A	**Flat Rock, Esc**		**42.61**	**317**	P	**P**	**21 13 39.1**	**+0.5**	
	baz=113								
E43A	**Lone Tree Farm**		**42.72**	**318**	P	**P**	**21 13 39.7**	**+0.2**	
	baz=114								
S42A	**Caledonia**		**42.79**	**304**	P	**P**	**21 13 39.9**	**-0.3**	
	baz=102,SNR=6.0								
Q42A	**Golden Eagle**		**42.84**	**306**	P	**P**	**21 13 40.4**	**-0.1**	
	baz=103,SNR=5.4								
U42A	**Revenden**		**42.88**	**302**	P	**P**	**21 13 40.7**	**-0.2**	
	baz=100,SNR=5.2								
R42A	**Luebbering**		**42.90**	**305**	P	**P**	**21 13 40.9**	**-0.2**	
	baz=102,SNR=5.0								
M42A	**Sheffield**		**42.90**	**310**	P	**P**	**21 13 40.5**	**-0.5**	
	baz=106								
V42A	**Cord**		**42.91**	**301**	P	**P**	**21 13 40.4**	**-0.7**	
	baz=99								
N42A	**Yates City**		**42.93**	**309**	P	**P**	**21 13 41.3**	**0.0**	
	baz=106,SNR=5.2								
R41A	**Rosebud**		**43.35**	**305**	P	**P**	**21 13 44.1**	**-0.6**	
	baz=102								
Q41A	**Truxton**		**43.38**	**306**	P	**P**	**21 13 44.3**	**-0.5**	
	baz=102,SNR=9.2								
O41A	**Passleys Farm,**		**43.38**	**308**	P	**P**	**21 13 44.5**	**-0.4**	
	baz=104,SNR=5.5								
P41A	**Barry, Barry**		**43.41**	**307**	P	**P**	**21 13 45.0**	**-0.2**	
	baz=103,SNR=6.6								
T41A	**Mountain View**		**43.41**	**303**	P	**P**	**21 13 44.4**	**-0.8**	
	baz=100,SNR=7.2								
U41A	**Viola**		**43.42**	**302**	P	**P**	**21 13 44.5**	**-0.8**	
	baz=99,SNR=5.7								
M41A	**Milan**		**43.45**	**310**	P	**P**	**21 13 44.8**	**-0.6**	
	baz=106,SNR=6.9								
N41A	**Harden Midland**		**43.50**	**309**	P	**P**	**21 13 45.3**	**-0.6**	
	baz=105								
W41B	**Gary Mavity, V**		**43.51**	**300**	P	**P**	**21 13 45.3**	**-0.7**	
	baz=98								
V41A	**Mountainview**		**43.52**	**301**	P	**P**	**21 13 45.4**	**-0.7**	
	baz=98								
WHAR	**Wooly Hollow**		**43.56**	**301**	*e*P	**P**	**21 13 46.5**	**+0.1**	
L41A	**Preston**		**43.61**	**311**	P	**P**	**21 13 46.2**	**-0.6**	
	baz=106								
K41A	**Shullsburg**		**43.62**	**311**	P	**P**	**21 13 46.4**	**-0.5**	
	baz=107,SNR=5.9								
X301	**Greenbrier Sit**		**43.64**	**300**	*e*P	**P**	**21 13 46.9**	**-0.2**	
	comp=Z,22nm,1.4s								
J41A	**Loganville**		**43.65**	**313**	P	**P**	**21 13 46.6**	**-0.5**	
	baz=108,SNR=6.2								
JFWS	**Jewell Farm**		**43.67**	**312**	*e*P	**P**	**21 13 47.7**	**+0.5**	
JFWS					pmax	pmax			
	comp=Z,28nm,0.8s								
JFWS	**Jewell Farm**		**43.67**	**312**	*e*P	**P**	**21 13 47.7**	**+0.5**	
	comp=Z,28nm,0.8s								
F41A	**Three Lakes**		**43.83**	**316**	P	**P**	**21 13 48.7**	**+0.2**	
	baz=111								
X40A	**Bain Creek Fa**		**43.90**	**299**	P	**P**	**21 13 48.4**	**-0.8**	
	baz=97								
Q40A	**Laux Farm, Aux**		**44.03**	**306**	P	**P**	**21 13 49.4**	**-0.7**	
	baz=102								
T40A	**Mansfield**		**44.03**	**303**	P	**P**	**21 13 49.4**	**-0.8**	
	baz=100								
R40A	**Maddies Statio**		**44.04**	**305**	P	**P**	**21 13 49.5**	**-0.7**	
	baz=101,SNR=7.2								
V40A	**Witts Springs**		**44.06**	**301**	P	**P**	**21 13 49.5**	**-1.0**	
	baz=98								
N40A	**Mertquake, Sal**		**44.08**	**309**	P	**P**	**21 13 49.8**	**-0.7**	
	baz=104,SNR=6.6								
NNA	**Nana**		**44.09**	**227**	LR	LR	21 31 16.3		
	comp=Z,119nm,21.5s,baz=9.5,slow=35								
S40A	**Lebanon**		**44.09**	**304**	P	**P**	**21 13 50.0**	**-0.7**	
	baz=100,SNR=6.6								
O40A	**La Belle**		**44.12**	**307**	P	**P**	**21 13 50.2**	**-0.6**	
	baz=103,SNR=5.0								
P40A	**Paris**		**44.12**	**307**	P	**P**	**21 13 50.1**	**-0.7**	
	baz=102,SNR=6.1								
L40A	**Anamosa**		**44.12**	**310**	P	**P**	**21 13 50.3**	**-0.6**	
	baz=106								
M40A	**Post Highland**		**44.16**	**309**	P	**P**	**21 13 50.6**	**-0.6**	
	baz=105								
J40A	**Soldiers Grove**		**44.16**	**312**	P	**P**	**21 13 50.6**	**-0.6**	
	baz=107								
U40A	**Yellville**		**44.17**	**302**	P	**P**	**21 13 50.5**	**-0.8**	
	baz=99,SNR=8.3								
K40A	**Colesburg**		**44.24**	**311**	P	**P**	**21 13 51.0**	**-0.8**	
	baz=106,SNR=5.5								
H40A	**Chili**		**44.30**	**314**	P	**P**	**21 13 52.1**	**-0.1**	
	baz=109								
G40A	**Rib Lake**		**44.39**	**315**	P	**P**	**21 13 52.6**	**-0.3**	
	baz=110								
MIAR	**Mount Ida**		**44.52**	**299**	P	**P**	**21 13 53.4**	**-0.7**	
	baz=96								
MIAR	**Mount Ida**		**44.52**	**299**	*e*P	**P**	**21 13 54.3**	**+0.2**	
MIAR					pmax	pmax			
	comp=Z,20nm,1.5s								
MIAR	**Mount Ida**		**44.52**	**299**	*e*P	**P**	**21 13 54.3**	**+0.2**	
	comp=Z,20nm,1.5s								
F40A	**Park Falls**		**44.56**	**316**	P	**P**	**21 13 54.1**	**-0.2**	
	baz=110								
E40A	**Wakefield**		**44.60**	**317**	P	**P**	**21 13 54.5**	**-0.1**	
	baz=111,SNR=5.5								
R39A	**Chumby, Stover**		**44.64**	**305**	P	**P**	**21 13 54.6**	**-0.4**	
	baz=100,SNR=6.5								
P39B	**Salisbury**		**44.64**	**306**	P	**P**	**21 13 54.7**	**-0.3**	
	baz=102								
O39A	**Kirksville**		**44.65**	**307**	P	**P**	**21 13 54.7**	**-0.4**	
	baz=103								
M39A	**Webster**		**44.66**	**309**	P	**P**	**21 13 54.5**	**-0.7**	
	baz=104								
U39A	**Green Forest**		**44.67**	**302**	P	**P**	**21 13 54.4**	**-1.0**	
	baz=98,SNR=9.1								
T39A	**Clever**		**44.69**	**303**	P	**P**	**21 13 54.8**	**-0.7**	
	baz=99,SNR=7.9								
L39A	**Vinton**		**44.70**	**310**	P	**P**	**21 13 55.0**	**-0.4**	
	baz=105,SNR=6.2								
Q39A	**Willow Grove F**		**44.73**	**306**	P	**P**	**21 13 55.2**	**-0.5**	
	baz=101								
V39A	**Pettigrew**		**44.73**	**301**	P	**P**	**21 13 54.9**	**-1.0**	
	baz=98								
S39A	**Bolivar**		**44.75**	**304**	P	**P**	**21 13 55.3**	**-0.7**	
	baz=100,SNR=5.1								
N39A	**Derby Farms, D**		**44.76**	**308**	P	**P**	**21 13 55.4**	**-0.6**	
	baz=103,SNR=8.9								
W39A	**Magazine**		**44.76**	**300**	P	**P**	**21 13 55.4**	**-0.6**	
	baz=97,SNR=5.0								
K39A	**Oelwein**		**44.77**	**311**	P	**P**	**21 13 55.5**	**-0.6**	
	baz=106								
J39A	**Decorah**		**44.82**	**312**	P	**P**	**21 13 56.1**	**-0.3**	
	baz=106								
I39A	**Houston**		**44.84**	**313**	P	**P**	**21 13 56.4**	**-0.1**	
	baz=107								
H39A	**Augusta**		**44.93**	**314**	P	**P**	**21 13 57.3**	**0.0**	
	baz=108								
X39A	**Fountain Ranch**		**44.96**	**299**	P	**P**	**21 13 57.1**	**-0.5**	
	baz=96,SNR=6.8								
E39A	**Mellen**		**45.01**	**316**	P	**P**	**21 13 57.8**	**-0.1**	
	baz=110								
G39A	**Holcombe**		**45.04**	**315**	P	**P**	**21 13 58.3**	**+0.2**	
	baz=109								
F39A	**Loretta**		**45.08**	**316**	P	**P**	**21 13 58.4**	**-0.1**	
	baz=110,SNR=5.4								
S38A	**Stockton**		**45.20**	**304**	P	**P**	**21 13 58.7**	**-0.8**	
	baz=99								
Q38A	**Cooks Store, C**		**45.20**	**305**	P	**P**	**21 13 59.0**	**-0.5**	
	baz=101								
C39A	**Grand Marais**		**45.26**	**318**	P	**P**	**21 13 59.5**	**-0.3**	
	baz=112								
N38A	**Joes South For**		**45.28**	**308**	P	**P**	**21 13 59.9**	**-0.2**	
	baz=103								
R38A	**Fenwick Farm,**		**45.29**	**304**	P	**P**	**21 13 59.8**	**-0.4**	
	baz=100,SNR=6.1								
V38A	**Canehill**		**45.35**	**301**	P	**P**	**21 13 59.7**	**-1.0**	
	baz=97								
J38A	**Wedel Dairy, R**		**45.35**	**312**	P	**P**	**21 14 00.3**	**-0.4**	
	baz=106								
K38A	**Parkersburg**		**45.38**	**311**	P	**P**	**21 14 00.4**	**-0.5**	
	baz=105								
L38A	**Oak Wood Farm,**		**45.39**	**310**	P	**P**	**21 14 00.5**	**-0.5**	
	baz=104								
M38A	**Pleasantville**		**45.39**	**309**	P	**P**	**21 14 00.8**	**-0.2**	
	baz=103,SNR=9.6								
U38A	**Gravette**		**45.40**	**302**	P	**P**	**21 14 00.6**	**-0.6**	
	baz=98								
T38A	**Diamond**		**45.41**	**303**	P	**P**	**21 14 00.6**	**-0.6**	
	baz=98								
Y38A	**Idabel**		**45.41**	**298**	P	**P**	**21 14 00.9**	**-0.3**	
	baz=95								
I38A	**Scanlan Farm,**		**45.45**	**313**	P	**P**	**21 14 01.3**	**-0.2**	
	baz=107,SNR=9.3								
G38A	**Ridgeland**		**45.47**	**314**	P	**P**	**21 14 01.1**	**-0.4**	
	baz=108								
SCIA	**State Center**		**45.52**	**310**	*e*P	**P**	**21 14 02.4**	**+0.4**	
	comp=Z,26nm,0.9s								
MFF	**Saint Martin d

X35A **Drake** 47.30 299 P P 21 14 15.2 -0.9
baz=94
H35A **Sunnyside Ranc** 47.36 313 P P 21 14 15.8 -0.6
baz=105,SNR=8.9
CPUP **Villa Florida** 47.36 194 P P 21 14 15.9 -0.6
comp=Z,10nm,1.1s,baz=3.9,slow=8.1,SNR=11
CPUP LR LR 21 35 29.1
comp=Z,48nm,18.0s,baz=10,slow=38
CPUP **Villa Florida** 47.36 194 *eP* P 21 14 16.5 0.0
F35A **Swanville** 47.49 314 P P 21 14 16.9 -0.6
baz=106
D35A **Remer** 47.51 316 P P 21 14 17.0 -0.5
baz=108
335A **Moody** 47.55 294 P P 21 14 17.1 -1.0
baz=91
WHTX **Lake Whitney,** 47.59 295 P P 21 14 18.7 +0.3
baz=92
WHTX **Lake Whitney,** 47.59 295 *eP* P 21 14 18.8 +0.4
comp=Z,17nm,0.8s
C35A **Jirik Farms, M** 47.65 317 P P 21 14 18.4 -0.3
baz=108
TAM **Tamanrasset** 47.65 77 *eP* P 21 14 21.4 +2.2
TAM pmax pmax
comp=Z,6.0nm,1.2s
TAM **Tamanrasset** 47.65 77 *eP* P 21 14 21.4 +2.2
comp=Z,6.0nm,1.2s
B35A **Bob, Littlefor** 47.70 318 P P 21 14 18.5 -0.5
baz=109
T34A **McClaskey Farm** 47.71 302 P P 21 14 18.3 -0.9
baz=96
N34A **Lincoln** 47.72 307 P P 21 14 18.6 -0.7
baz=100
K34A **Le Mars** 47.78 310 P P 21 14 19.2 -0.6
baz=102
L34A **Svendsen Farm,** 47.84 309 P P 21 14 19.6 -0.6
baz=101
635A **Leesville** 47.85 292 P P 21 14 19.6 -0.9
baz=89
H34A **Spellman Lake,** 48.00 313 P P 21 14 20.9 -0.5
baz=104
G34A **Benson** 48.05 313 P P 21 14 21.2 -0.5
baz=105,SNR=6.3
SSF **Saint Saulge** 48.14 44 *eP* P 21 14 22.1 -0.4
SSF pmax pmax
comp=Z,14nm,1.3s
C34A **RKJ Ranch, Bem** 48.24 317 P P 21 14 22.7 -0.5
baz=108
SMF **Signal de Mont** 48.25 45 *eP* P 21 14 23.0 -0.3
SMF pmax pmax
comp=Z,2.0nm,0.7s
334A **Lometa** 48.25 295 P P 21 14 22.6 -0.9
baz=90
434A **Burnet** 48.27 294 P P 21 14 22.8 -0.9
baz=90
B34A **Aery, Baudette** 48.33 318 P P 21 14 23.4 -0.4
baz=108,SNR=5.2
VIVF **Saint-Julien-l** 48.34 47 *eP* P 21 14 26.8 +2.7
VIVF pmax pmax
comp=Z,15nm,1.5s
M33A **Taylor Creek F** 48.37 308 P P 21 14 23.6 -0.7
baz=100
ECSD **EROS Data Cent** 48.37 311 P P 21 14 23.6 -0.7
baz=103
ECSD **EROS Data Cent** 48.37 311 *eP* P 21 14 23.8 -0.5
comp=Z,11nm,1.3s
534A **Blanco** 48.46 293 P P 21 14 24.1 -1.1
baz=89,SNR=5.1
J33A **Davis** 48.53 311 P P 21 14 24.9 -0.6
baz=102
I33A **Coleman** 48.57 312 P P 21 14 25.3 -0.5
baz=103
G33A **Ortonville** 48.59 313 P P 21 14 25.3 -0.6
baz=104
F33A **5 Mile Ranch,** 48.65 314 P P 21 14 25.8 -0.5
baz=105
H33A **Prehn Over Nor** 48.68 312 P P 21 14 26.3 -0.3
baz=103,SNR=10
034A **Hebbronville** 48.75 289 P P 21 14 27.2 -0.2
baz=86
WMOK **Wichita Mounta** 48.81 299 P P 21 14 27.0 -0.8
baz=93,SNR=6.6
WMOK **Wichita Mounta** 48.81 299 *eP* P 21 14 27.3 -0.5
WMOK pmax pmax
comp=Z,6.0nm,0.9s
WMOK **Wichita Mounta** 48.81 299 *eP* P 21 14 27.3 -0.5
comp=Z,6.1nm,0.9s
233A **Rising Star** 48.82 295 P P 21 14 27.0 -0.9
baz=91,SNR=5.9
333A **Richland Sprin** 48.89 295 P P 21 14 27.5 -0.9
baz=90,SNR=10.0
A33A **Warroad** 48.93 318 P P 21 14 28.1 -0.4
baz=108,SNR=5.0
533A **Kerrville** 48.94 293 P P 21 14 26.8 -2.1
baz=89
433A **Art** 48.98 294 P P 21 14 28.1 -1.1
baz=90,SNR=6.9
AGMN **Agassiz Nation** 49.04 317 P P 21 14 28.9 -0.4
baz=107
AGMN **Agassiz Nation** 49.04 317 *eP* P 21 14 29.1 -0.3
comp=Z,19nm,0.9s
H32A **Carlson Farm,** 49.12 312 P P 21 14 29.7 -0.3
baz=103,SNR=6.4
933A **Laredo** 49.24 290 P P 21 14 31.2 0.0
baz=87
833A **Chaparral WMA,** 49.31 291 P P 21 14 30.9 -0.8
baz=87
G32A **Webster** 49.33 313 P P 21 14 30.9 -0.7
baz=103
ABTX **Abilene, Hawle** 49.46 296 P P 21 14 31.4 -1.4
baz=91
ABTX **Abilene, Hawle** 49.46 296 *eP* P 21 14 31.6 -1.2
comp=Z,10nm,0.9s
B32A **Ashes, Strandq** 49.50 317 P P 21 14 32.3 -0.6
baz=107
JCT **Junction City** 49.60 293 P P 21 14 32.5 -1.4
baz=89
A32A **Rocking H Ranc** 49.62 318 P P 21 14 33.2 -0.5
baz=107
ULM **Lac du Bonnet** 49.65 320 P P 21 14 32.8 -1.1
comp=Z,7.7nm,0.9s,baz=122,slow=6.4,SNR=7.8
ULM LR LR 21 32 32.6
comp=Z,207nm,21.4s,baz=110,slow=32
ULM **Lac du Bonnet** 49.65 320 *eP* P 21 14 32.9 -1.1
ULM pmax pmax
comp=Z,11nm,1.0s
ULM **Lac du Bonnet** 49.65 320 *eP* P 21 14 32.9 -1.1
comp=Z,11nm,1.0s
CABF **La Chapelle** 49.73 45 *eP* P 21 14 37.0 +2.2
CABF pmax pmax
comp=Z,14nm,1.2s
MBDF **Montbardon** 49.77 48 *eP* P 21 14 35.9 +0.7
MBDF pmax pmax
comp=Z,6.0nm,0.9s
BNI **Bardonecchia** 49.77 47 *eP* P 21 14 36.7 +1.5
BNI pmax pmax
comp=Z,40nm,2.0s
BNI **Bardonecchia** 49.77 47 *eP* P 21 14 36.7 +1.5
comp=Z,40nm,2.0s
832A **Faith Ranch, C** 49.82 291 P P 21 14 35.0 -0.6
baz=87
H31A **Wolsey** 49.84 312 P P 21 14 35.3 -0.2
baz=102
TLIG **Tlapa** 49.89 276 *eP* P 21 14 37.3 +1.0
comp=Z,13nm,1.0s
E31A **Nome** 49.90 315 P P 21 14 35.4 -0.6
baz=104
CBKS **Cedar Bluff** 49.90 304 P P 21 14 35.5 -0.7
baz=96
CBKS **Cedar Bluff** 49.90 304 *eP* P 21 14 35.9 -0.2
CBKS pmax pmax
comp=Z,26nm,1.1s
CBKS **Cedar Bluff** 49.90 304 *eP* P 21 14 35.9 -0.2
comp=Z,26nm,1.1s
LPL **La Plagne** 49.91 47 *eP* P 21 14 39.1 +2.8
LPL pmax pmax
comp=Z,12nm,1.6s
LPG **La Plagne** 49.92 47 *eP* P 21 14 37.1 +0.6
LPG pmax pmax
comp=Z,9.0nm,1.3s
F31A **Hecla** 49.98 314 P P 21 14 35.9 -0.7
baz=103
SUSD **Miller** 50.17 312 P P 21 14 37.5 -0.6
baz=101
KEST **Kesra** 50.58 60 P P 21 14 42.2 +0.9
comp=Z,9.3nm,1.1s,baz=236,slow=8.5,SNR=4.7
KEST LR LR 21 34 25.7
comp=Z,106nm,20.1s,baz=194,slow=34

KEST **Kesra** 50.58 60 *eP* P 21 14 42.8 +1.5
comp=Z,16nm,1.2s
VSL **Villasalto** 50.88 55 *eP* P 21 14 44.1 +0.7
comp=Z,21nm,1.0s
PGF **Pioggiola** 50.98 51 *eP* P 21 14 44.0 -0.3
PGF pmax pmax
comp=Z,8.0nm,0.9s
AMTX **Amarillo** 51.20 299 P P 21 14 45.1 -0.9
baz=92
AMTX **Amarillo** 51.20 299 *eP* P 21 14 45.9 -0.2
comp=Z,27nm,1.1s
OGNE **Ogallala** 51.89 307 P P 21 14 50.5 -0.6
baz=96
TUE **Stuetta** 51.90 46 *eP* P 21 14 52.4 +1.2
comp=Z,9.6nm,1.3s
MSTX **Muleshoe** 52.09 298 P P 21 14 52.0 -0.8
baz=90
DAVA **Damuels** 52.41 45 *i* P P 21 14 55.6 +0.6
comp=Z,7.8nm,1.1s
FUORN **Ofenpass-Fuorn** 52.54 46 *eP* P 21 14 60.0 +3.9
comp=Z,8.4nm,1.2s
ZAIG **Zacatecas** 52.70 284 *eP* P 21 15 00.0 +2.4
comp=Z,21nm,1.6s
FETA **Feichten** 52.93 46 *i* P P 21 14 59.7 +0.9
comp=Z,9.0nm,1.1s
LTX **Lajitas** 53.00 292 *eP* P 21 14 59.0 -0.6
LTX **Lajitas** 53.00 292 *eP* P 21 14 59.0 -0.6
TXAR **Lajitas Array** 53.00 292 P P 21 14 59.0 -0.6
comp=Z,1.7nm,0.9s,baz=101,slow=6.7,SNR=13
TXAR LR LR 21 37 41.5
comp=Z,110nm,19.2s,baz=0.0,slow=36
TXAR **Lajitas Array** 53.00 292 P P 21 14 59.0 -0.6
TXAR pmax pmax
comp=Z,2.0nm,0.9s
TXAR MLR MLR
comp=Z,110nm,19.2s
TX31 **Lajitas Ar. Si** 53.00 292 *eP* P 21 14 59.0 -0.6
RETA **Reutte** 53.04 45 pP P 21 15 01.8 +2.2
comp=Z,3.2nm,1.4s
MOTA **Moosalm** 53.24 45 *i* P P 21 15 01.9 +0.8
comp=Z,7.9nm,1.2s
T25A **Trinidad** 53.48 302 P P 21 15 01.9 -1.2
baz=92
T25A **Trinidad** 53.48 302 *eP* P 21 15 04.3 +1.2
comp=Z,8.7nm,1.3s
WATA **Walderalm** 53.56 45 *i* pP P 21 15 04.8 +1.4
comp=Z,6.5nm,0.9s
WTTA **Wattenberg** 53.59 45 *i* pP P 21 15 06.3 +2.6
comp=Z,5.8nm,0.9s
ABTA **Abfaltersbach** 54.09 46 *i* P P 21 15 07.7 +0.4
comp=Z,4.1nm,1.0s
Q24A **Divide** 54.13 304 P P 21 15 06.8 -1.1
baz=92
Q24A **Divide** 54.13 304 *eP* P 21 15 08.6 +0.6
comp=Z,8.2nm,1.1s
AQU **L'Aquila** 54.19 52 *eP* P 21 15 09.1 +1.1
AQU pmax pmax
comp=Z,23nm,1.2s
AQU **L'Aquila** 54.19 52 *eP* P 21 15 09.1 +1.1
comp=Z,24nm,1.2s
MNTX **Cornudas Mount** 54.34 295 P P 21 15 08.3 -0.9
baz=87
MNTX **Cornudas Mount** 54.34 295 *eP* P 21 15 09.3 0.0
comp=Z,13nm,1.8s
SDCO **Great Sand Dun** 54.36 303 P P 21 15 08.6 -1.0
baz=91
SDCO **Great Sand Dun** 54.36 303 *eP* P 21 15 10.0 +0.4
comp=Z,4.3nm,1.3s
PHWY **Pilot Hill** 54.49 307 *eP* P 21 15 10.7 +0.1
comp=Z,7.1nm,1.0s
ISCO **Idaho Springs** 54.52 305 P P 21 15 09.9 -0.9
baz=93,SNR=8.5
ISCO **Idaho Springs** 54.52 305 *eP* P 21 15 11.5 +0.7
ISCO pmax pmax
comp=Z,9.0nm,1.1s
ISCO **Idaho Springs** 54.52 305 *eP* P 21 15 11.5 +0.7
comp=Z,8.9nm,1.1s
FFC **Flin Flon** 54.56 324 *eP* P 21 15 10.0 -0.4
FFC pmax pmax
comp=Z,12nm,0.9s
FFC **Flin Flon** 54.56 324 *eP* P 21 15 10.0 -0.4
comp=Z,12nm,0.9s
KBA **Koelnbreinsper** 54.71 46 *eP* P 21 15 11.8 0.0
comp=Z,1.1nm,0.6s
KBA **Koelnbreinsper** 54.71 46 P P 21 15 13.6 +1.8
KBA pmax pmax
comp=Z,4.0nm,1.4s
N23A **Red Feather La** 54.84 306 P P 21 15 12.3 -0.8
baz=93
N23A **Red Feather La** 54.84 306 *eP* P 21 15 14.1 +1.1
comp=Z,20nm,1.3s
MYKA **Terra Mystica** 54.84 47 *i* P P 21 15 13.2 +0.5
comp=Z,5.7nm,0.9s
ANMO **Albuquerque** 55.13 299 LR LR 21 36 48.3
comp=Z,212nm,19.3s,baz=93,slow=34
ANMO **Albuquerque** 55.13 299 P P 21 15 14.1 -1.1
baz=89
ANMO **Albuquerque** 55.13 299 *eP* P 21 15 15.8 +0.7
ANMO pmax pmax
comp=Z,3.0nm,0.9s
ANMO **Albuquerque** 55.13 299 *eP* P 21 15 15.8 +0.7
comp=Z,3.3nm,0.9s
GEA0 **GERESS Array S** 55.22 44 *eP* P 21 15 14.9 -0.5
GEC2 **GERESS Array S** 55.22 44 *eP* P 21 15 15.3 -0.1
GEC2 pmax pmax
comp=Z,6.0nm,1.3s
GEC2 **GERESS Array S** 55.22 44 *eP* P 21 15 15.3 -0.1
comp=Z,5.8nm,1.3s
GERES **GERESS Array B** 55.22 44 P P 21 15 15.3 -0.1
comp=Z,0.6nm,0.8s,baz=256,slow=5.4,SNR=7.1
CLL **Collm** 55.23 41 *eP* P 21 15 16.0 +0.7
CLL *e* 21 15 25.0
BNM **Barren Site** 55.29 298 *eP* P 21 15 16.9 +0.5
K22A **Casper** 55.38 309 P P 21 15 15.8 -1.0
baz=94
K22A **Casper** 55.38 309 *eP* P 21 15 16.1 -0.7
comp=Z,22nm,1.3s
S22A **4UR Ranch, Cre** 55.41 303 P P 21 15 16.8 -0.5
baz=91,SNR=8.4
S22A **4UR Ranch, Cre** 55.41 303 *eP* P 21 15 18.1 +0.9
comp=Z,30nm,1.8s
MOA **Molln** 55.44 45 *i* P P 21 15 15.4 -1.5
comp=Z,2.4nm,0.9s
OBKA **Obir** 55.45 47 *i* P P 21 15 17.4 +0.2
comp=Z,12nm,1.2s
LAO **LASA Array** 55.57 313 *eP* P 21 15 18.2 +0.3
comp=Z,17nm,1.1s
SOKA **Soboth** 55.80 47 *i* pP P 21 15 21.5 +1.9
comp=Z,3.5nm,1.4s
RWWY **Rawlins** 55.83 307 *eP* P 21 15 20.5 +0.3
comp=Z,21nm,0.9s
ARSA **Arzberg** 56.20 46 *i* P P 21 15 22.3 -0.1
comp=Z,4.5nm,1.1s
121A **Cookes Peak, D** 56.33 296 P P 21 15 23.8 0.0
baz=86
CONA **Conrad Observa** 56.51 45 *i* P P 21 15 24.8 +0.1
comp=Z,2.4nm,0.9s
O20A **White River Ci** 56.55 305 P P 21 15 24.8 -0.5
baz=91
O20A **White River Ci** 56.55 305 *eP* P 21 15 25.5 +0.2
comp=Z,16nm,1.3s
MVCO **Mesa Verde** 56.74 302 P P 21 15 27.0 +0.3
baz=89
MVCO **Mesa Verde** 56.74 302 *eP* P 21 15 27.5 +0.8
comp=Z,13nm,1.1s
PV01 **Paradox Valley** 56.79 303 *eP* P 21 15 27.8 +0.7
NB2 **NORSAR Subarra** 56.91 29 P P 21 15 28.1 +0.8
comp=Z,3.0nm,1.0s,baz=252,slow=7.4
NB200 **NORSAR Array S** 56.91 29 *eP* P 21 15 28.1 +0.8
NOA **NORSAR Array B** 56.91 29 P P 21 15 28.1 +0.8
comp=Z,1.3nm,0.8s,baz=248,slow=7.0,SNR=4.0
NOA LR LR 21 35 54.6
comp=Z,45nm,18.5s,baz=240,slow=32
RLMT **Red Lodge** 57.53 311 P P 21 15 32.1 -0.1
baz=94,SNR=5.7
RLMT **Red Lodge** 57.53 311 *eP* P 21 15 32.5 +0.3
comp=Z,13nm,1.0s
BW06 **Boulder Array** 57.62 309 P P 21 15 31.8 -1.1
baz=92,SNR=15
BW06 **Boulder Array** 57.62 309 *eP* P 21 15 31.9 -1.1
comp=Z,16nm,1.0s
PD31 **Pinedale Array** 57.62 309 *eP* P 21 15 32.1 -0.8
PDAR **Pinedale Array** 57.62 309 P P 21 15 32.1 -0.8
comp=Z,11nm,1.0s,baz=84,slow=7.6,SNR=40
PDAR LR LR 21 37 27.3
comp=Z,172nm,21.4s,baz=122,slow=33
GCMT **Greycliff** 57.86 312 *eP* P 21 15 34.7 +0.3

P18A **Preston Nutter** 58.09 305 *eP* P 21 15 36.6 +0.3
comp=Z,18nm,1.3s
SRU **San Rafael Swe** 58.31 304 *eP* P 21 15 38.0 +0.3
SRU pmax pmax
comp=Z,9.0nm,1.0s
SRU **San Rafael Swe** 58.31 304 *eP* P 21 15 38.0 +0.3
comp=Z,9.3nm,1.0s
P17A **Butcher Ranch,** 58.48 305 *eP* P 21 15 39.2 +0.4
comp=Z,13nm,1.3s
PDG **Podgorica** 58.52 52 ⇑*iP* P 21 15 40.0 +1.2
MOOW **Moose Ponds** 58.52 310 *eP* P 21 15 38.6 -0.6
comp=Z,14nm,1.4s
YPP **Pitchstone Pla** 58.59 310 *eP* P 21 15 38.4 -1.2
comp=Z,5.2nm,0.8s
REDW **Red Top Meadow** 58.59 309 *eP* P 21 15 39.1 -0.5
comp=Z,15nm,1.1s
TMUT **Trail Mountain** 58.84 304 *eP* P 21 15 41.8 +0.3
comp=Z,16nm,1.5s
TUC **Tucson** 58.88 296 P P 21 15 41.0 -0.6
baz=85
TUC **Tucson** 58.88 296 *eP* P 21 15 42.2 +0.6
TUC pmax pmax
comp=Z,18nm,1.6s
TUC **Tucson** 58.88 296 *eP* P 21 15 42.2 +0.6
comp=Z,18nm,1.6s
JLU **Jordanelle** 59.01 306 *eP* P 21 15 43.3 +0.7
comp=Z,27nm,1.5s
HWUT **Hardware Ranch** 59.09 307 *eP* P 21 15 42.6 -0.4
comp=Z,17nm,0.8s
WUAZ **Wupatki** 59.12 300 P P 21 15 43.1 -0.3
baz=86,SNR=14
WUAZ **Wupatki** 59.12 300 *eP* P 21 15 44.2 +0.9
comp=Z,17nm,0.9s
MPU **Maple Canyon** 59.16 305 *eP* P 21 15 43.5 -0.1
comp=Z,13nm,1.1s
BOZ **Bozeman (W)** 59.22 312 P P 21 15 43.6 -0.3
baz=92,SNR=6.1
BOZ **Bozeman (W)** 59.22 312 *eP* P 21 15 43.6 -0.3
BOZ pmax pmax
comp=Z,6.0nm,1.0s
BOZ **Bozeman (W)** 59.22 312 *eP* P 21 15 43.6 -0.3
comp=Z,6.3nm,1.0s
X16A **Lo Mia Camp, P** 59.25 299 *eP* P 21 15 45.6 +1.2
comp=Z,20nm,1.6s
HRY **Holter Researc** 59.41 313 *eP* P 21 15 45.2 +0.1
NLU **North Lily Min** 59.50 305 *eP* P 21 15 46.3 +0.3
comp=Z,9.4nm,1.0s
MSU **Marysvale** 59.62 304 *eP* P 21 15 47.2 +0.4
MSU **Marysvale** 59.62 304 *eP* P 21 15 47.2 +0.4
SPUT **South Promonto** 59.76 307 *eP* P 21 15 47.3 -0.3
comp=Z,26nm,0.9s
U15A **North Rim** 59.81 301 *eP* P 21 15 49.5 +1.2
comp=Z,34nm,1.9s
HVU **Hansel Valley** 60.00 307 *eP* P 21 15 48.8 -0.5
HVU pmax pmax
comp=Z,6.0nm,0.8s
HVU **Hansel Valley** 60.00 307 *eP* P 21 15 48.8 -0.5
comp=Z,6.2nm,0.8s
DUG **Dugway, Tooele** 60.06 306 P P 21 15 49.2 -0.5
baz=88,SNR=15
DUG **Dugway, Tooele** 60.06 306 *eP* P 21 15 50.0 +0.3
DUG pmax pmax
comp=Z,16nm,1.1s
DUG **Dugway, Tooele** 60.06 306 *eP* P 21 15 50.0 +0.3
comp=Z,16nm,1.1s
BGU **Big Grassy Mou** 60.20 306 *eP* P 21 15 50.8 0.0
comp=Z,20nm,0.9s
BZS **Buzias** 60.29 48 ⇓*iP* P 21 15 51.7 +0.7
BZS **Buzias** 60.29 48 ⇓P P 21 15 51.7 +0.7
MDVR **Moldovita** 60.34 49 ⇓*iP* P 21 15 51.3 -0.2
SLMT **Seeley Lake** 60.57 314 *eP* P 21 15 53.0 -0.2
Y14A **Wickenburg** 60.58 298 *eP* P 21 15 54.3 +0.9
comp=Z,38nm,1.0s
CCUT **Cedar City** 60.60 302 *eP* P 21 15 53.3 -0.3
comp=Z,11nm,1.2s
214A **Organ Pipe Nat** 60.62 296 P P 21 15 53.6 +0.1
baz=84,SNR=5.8
UZH **Uzhgorod** 60.85 45 *ciP* P 21 16 03.6 +8.8
MSO **Missoula** 60.87 313 P P 21 15 54.1 -1.0
baz=91
MSO **Missoula** 60.87 313 *eP* P 21 15 54.5 -0.7
comp=Z,7.6nm,1.1s
SWMT **Swartz Lake** 60.93 314 *eP* P 21 15 55.4 -0.1
DRGR 61.07 47 ⇓*iP* P 21 15 57.3 +0.8
DRGR 61.07 47 ⇓P P 21 15 57.3 +0.8
GZR **Gura Zlata** 61.10 49 ⇑*iP* P 21 15 57.9 +1.2
GZR **Gura Zlata** 61.10 49 ⇑P P 21 15 57.9 +1.2
HLID **Hailey** 61.18 309 P P 21 15 56.9 -0.5
baz=89,SNR=9.9
HLID **Hailey** 61.18 309 *eP* P 21 15 57.3 -0.1
comp=Z,7.1nm,0.8s
VTS **Vitosha** 61.44 52 ⇑*iP* P 21 16 00.6 +1.5
VTS **Vitosha** 61.44 52 ⇑P P 21 16 00.6 +1.5
BSMT **Bassoo Peak** 61.47 314 *eP* P 21 15 59.2 -0.1
LOT **Lotru** 61.80 48 ⇑*iP* P 21 16 01.8 +0.4
Y12C **Blythe** 61.86 298 *eP* P 21 16 03.0 +1.1
comp=Z,33nm,1.8s
MFID **Camas Ranch** 62.22 309 *eP* P 21 16 03.8 -0.5
comp=Z,14nm,1.0s
R11A **Troy Canyon, C** 62.30 304 P P 21 16 04.4 -0.7
baz=86,SNR=8.5
R11A **Troy Canyon, C** 62.30 304 *eP* P 21 16 04.3 -0.7
comp=Z,5.7nm,1.0s
IRM **Iron Mountain** 62.33 299 P P 21 16 04.9 -0.2
baz=84,SNR=5.1
ARR **Arges** 62.41 49 ⇓*iP* P 21 16 04.6 -0.9
GMRC **Granite Mounta** 62.69 300 P P 21 16 07.6 0.0
baz=84,SNR=7.1
VOIR 62.70 48 ⇓*iP* P 21 16 10.0 +2.6
VOIR 62.70 48 ⇓P P 21 16 10.0 +2.6
YKA **Yellowknife Ar** 62.73 331 LR LR 21 42 41.0
comp=Z,13nm,18.1s,baz=180,slow=35
BURAR **Bucovina Array** 62.79 46 ⇑*iP* P 21 16 09.4 +1.4
BURAR **Bucovina Array** 62.79 46 ⇑P P 21 16 09.4 +1.4
TUQ **Turquoise Moun** 62.83 300 P P 21 16 08.5 0.0
baz=84
TPNV **Topopah Spring** 62.94 302 P P 21 16 10.0 +0.6
baz=85,SNR=5.1
TPNV **Topopah Spring** 62.94 302 *eP* P 21 16 10.1 +0.8
TPNV pmax pmax
comp=Z,8.0nm,1.0s
TPNV **Topopah Spring** 62.94 302 *eP* P 21 16 10.1 +0.8
comp=Z,7.6nm,1.0s
NEW **Newport** 63.04 315 P P 21 16 09.4 -0.1
baz=90,SNR=12
NEW **Newport** 63.04 315 *eP* P 21 16 09.5 -0.1
NEW pmax pmax
comp=Z,22nm,0.9s
NEW **Newport** 63.04 315 *eP* P 21 16 09.5 -0.1
comp=Z,22nm,0.9s
BELC **Belle Mtn. Jos** 63.05 299 P P 21 16 10.1 0.0
baz=83
F10A **Beach Ranch, E** 63.14 312 *eP* P 21 16 10.0 -0.4
comp=Z,12nm,1.2s
MLR **Muntele Rosu** 63.33 48 ⇓*iP* P 21 16 13.0 +1.3
MLR **Muntele Rosu** 63.33 48 *eP* P 21 16 13.0 +1.3
MLR pmax pmax
comp=Z,16nm,0.9s
MLR **Muntele Rosu** 63.33 48 *eP* P 21 16 13.0 +1.3
comp=Z,16nm,0.9s
BMN **Battle Mountai** 63.41 306 *eP* P 21 16 12.0 -0.4
BMN pmax pmax
comp=Z,5.0nm,0.8s
BMN **Battle Mountai** 63.41 306 *eP* P 21 16 12.0 -0.4
comp=Z,4.9nm,0.8s
FURC **Furnace Creek,** 63.48 302 P P 21 16 11.1 -1.6
baz=84
GSC **Goldstone, Bar** 63.56 300 P P 21 16 13.4 0.0
baz=83,SNR=5.7
GSC **Goldstone, Bar** 63.56 300 *eP* P 21 16 14.1 +0.8
GSC pmax pmax
comp=Z,4.0nm,0.8s
GSC **Goldstone, Bar** 63.56 300 *eP* P 21 16 14.1 +0.8
comp=Z,4.4nm,0.8s
E09A **Wood Farm, Sta** 63.76 313 *eP* P 21 16 14.0 -0.4
VRI **Vrincioaia** 63.87 48 ⇓*iP* P 21 16 19.2 +4.1
VRI **Vrincioaia** 63.87 48 ⇓P P 21 16 19.2 +4.1
FIA0 **FINESS Array S** 63.99 31 *eP* P 21 16 15.4 -0.2
FIA0 **FINESS Array S** 63.99 31 *eP* P 21 16 15.4 -0.2
FINES **FINESS Array B** 63.99 31 P P 21 16 15.4 -0.2
comp=Z,1.5nm,0.8s,baz=267,slow=8.2,SNR=3.6
FINES LR LR 21 40 07.6
comp=Z,54nm,18.1s,baz=288,slow=32
FINES **FINESS Array B** 63.99 31 P P 21 16 15.4 -0.2
FINES pmax pmax
comp=Z,1.0nm,0.8s

FINES					MLR	MLR		
	comp=Z,54nm,18.1s							
MPMC	**Manual Prospec**	**64.03**	**301**		P	**P**	**21 16 16.5**	**-0.1**
	baz=83,SNR=5.0							
D08A	**Wollman Farm,**	**64.28**	**313**	*e*P		**P**	**21 16 17.6**	**-0.1**
	comp=Z,37nm,1.4s							
CWC	**Cottonwood Cre**	**64.46**	**302**		P	**P**	**21 16 19.3**	**-0.1**
	baz=83							
EDW2	**Edwards Air Fo**	**64.58**	**300**		P	**P**	**21 16 19.6**	**-0.4**
	baz=83							
PLCA	**Paso Flores**	**64.63**	**201**		P	**P**	**21 16 20.4**	**+0.4**
	comp=Z,4.0nm,0.7s,baz=37,slow=2.4,SNR=8.3							
PLCA					LR	LR	21 44 31.7	
	comp=Z,35nm,18.5s,baz=144,slow=36							
PLCA	**Paso Flores**	**64.63**	**201**	*e*P		**P**	**21 16 20.4**	**+0.4**
PLCA					pmax	pmax		
	comp=Z,21nm,1.3s							
PLCA	**Paso Flores**	**64.63**	**201**	*e*P		**P**	**21 16 20.4**	**+0.4**
	comp=Z,21nm,1.3s							
HAWA	**Hanford**	**64.73**	**313**	*e*P		**P**	**21 16 20.6**	**-0.1**
	comp=Z,34nm,1.5s							
TVH1	**TV Hill, Hawth**	**64.78**	**304**	*e*P		**P**	**21 16 21.6**	**0.0**
	comp=Z,33nm,1.7s							
SORM	**Soroca**	**64.89**	**45**	⇓*i*P		**P**	**21 16 20.1**	**-1.6**
SORM	**Soroca**	**64.89**	**45**	⇓P		**P**	**21 16 20.1**	**-1.6**
ARCES	**ARCESS Array B**	**64.92**	**22**		LR	LR	21 39 51.1	
	comp=Z,29nm,20.2s,baz=266,slow=32							
E07A	**Sunnyside**	**64.94**	**313**	*e*P		**P**	**21 16 22.2**	**+0.1**
	comp=Z,11nm,0.8s							
WAKR	**Walker**	**65.30**	**304**	*e*P		**P**	**21 16 25.4**	**+0.6**
	comp=Z,20nm,1.4s							
AKASG	**Malin Array Be**	**65.37**	**43**		P	**P**	**21 16 24.8**	**0.0**
	comp=Z,0.8nm,0.7s,baz=268,slow=5.9,SNR=5.3							
AKBB	**Malin Array Si**	**65.37**	**43**	*e*P		**P**	**21 16 24.8**	**+0.1**
AKBB					pmax	pmax		
	comp=Z,7.0nm,1.3s							
AKBB	**Malin Array Si**	**65.37**	**43**	*e*P		**P**	**21 16 24.8**	**+0.1**
	comp=Z,6.6nm,1.3s							
MOD	**Modoc Plateau**	**65.61**	**308**	*e*P		**P**	**21 16 26.8**	**+0.1**
	comp=Z,5.4nm,0.9s							
K05A	**Summer Lake**	**65.96**	**309**	*e*P		**P**	**21 16 29.6**	**+0.6**
	comp=Z,100nm,1.6s							
LLLB	**Lillooet**	**66.09**	**317**	*e*P		**P**	**21 16 29.0**	**-0.5**
	comp=Z,76nm,1.9s							
CMB	**Columbia Colle**	**66.10**	**304**	*e*P		**P**	**21 16 30.0**	**+0.2**
CMB					pmax	pmax		
	comp=Z,6.0nm,1.3s							
CMB	**Columbia Colle**	**66.10**	**304**	*e*P		**P**	**21 16 30.0**	**+0.2**
	comp=Z,6.4nm,1.3s							
J05D	**Fort Rock, OR**	**66.16**	**309**		P	**P**	**21 16 30.3**	**0.0**
	baz=84,SNR=5.0							
M04C	**Macdoel**	**66.76**	**308**		P	**P**	**21 16 33.5**	**-0.6**
	baz=84							
ORV	**Oroville**	**66.77**	**305**	*e*P		**P**	**21 16 34.0**	**0.0**
ORV					pmax	pmax		
	comp=Z,15nm,1.5s							
ORV	**Oroville**	**66.77**	**305**	*e*P		**P**	**21 16 34.0**	**0.0**
	comp=Z,15nm,1.5s							
J04D	**Umpqua Nationa**	**66.80**	**309**		P	**P**	**21 16 33.9**	**-0.5**
	baz=84							
APA	**Apatity**	**67.59**	**24**⇑	*i*P		**P**	**21 16 37.0**	**-1.7**
APA					MLR	MLR		
	comp=Z,300nm,10.0s							
BR231	**Keskin MP Arra**	**68.87**	**54**	*e*P		**P**	**21 16 51.0**	**+3.6**
OBN	**Obninsk**	**69.52**	**37**⇑	*e*P		**P**	**21 16 53.7**	**+2.8**
OBN							21 17 19.0	
OBN				*e*S		**S**	**21 26 06.7**	**+8.1**
OBN					pmax	pmax		
	comp=Z,9.0nm,1.4s							
OBN					MLR	MLR		
	comp=Z,38nm,16.0s							
BR101	**Keskin Array S**	**69.55**	**54**	*e*P		**P**	**21 16 52.1**	**+0.5**
BR131	**Keskin Array S**	**69.55**	**54**	*e*P		**P**	**21 16 52.2**	**+0.5**
BRTR	**Keskin Array B**	**69.55**	**54**		P	**P**	**21 16 52.1**	**+0.5**
	comp=Z,4.6nm,0.8s,baz=258,slow=5.0,SNR=17							
BRTR					LR	LR	21 44 26.3	
	comp=Z,19nm,20.3s,baz=276,slow=33							
KLMR	**Klimovskoe**	**70.50**	**31**	*e*P		**P**	**21 16 54.8**	**-2.1**
KLMR					pmax	pmax		
	comp=Z,11nm,1.2s							
INK	**Inuvik**	**70.81**	**337**	*e*P		**P**	**21 16 57.8**	**-0.8**
INK					pmax	pmax		
	comp=Z,6.0nm,1.0s							
INK	**Inuvik**	**70.81**	**337**	*e*P		**P**	**21 16 57.8**	**-0.8**
	comp=Z,6.3nm,1.0s							
ANN	**Anapa**	**71.48**	**48**	*e*P		**P**	**21 17 00.1**	**-3.0**
ANN				*e*PP		**pP**	**21 17 03.9**	**-2.5**
ANN				*e*			21 17 18.9	
ANN				*e*S		**S**	**21 26 18.3**	**-3.6**
ANN				*e*SS		**SS**	**21 30 52.2**	**-4.1**
ANN					pmax	pmax		
	comp=Z,35nm,1.3s							
DAWY	**Dawson**	**73.82**	**333**	*e*P		**P**	**21 17 16.3**	**-0.5**
	comp=Z,8.2nm,1.2s							
KIV	**Kislovodsk**	**75.34**	**48**	*e*P		**P**	**21 17 26.6**	**+0.6**
KIV					pmax	pmax		
	comp=Z,11nm,1.0s							
KBZ	**Khabaz**	**75.54**	**48**		P	**P**	**21 17 28.1**	**+1.0**
	comp=Z,2.8nm,0.8s,baz=350,slow=3.9,SNR=3.7							
KBZ					LR	LR	21 50 38.7	
	comp=Z,13nm,19.5s,baz=246,slow=36							
IL1	**Eielson Array**	**76.77**	**334**	*e*P		**P**	**21 17 32.0**	**-1.6**
ILAR	**Eielson Array**	**76.77**	**334**		P	**P**	**21 17 32.9**	**-0.8**
	comp=Z,5.3nm,0.8s,baz=72,slow=4.7,SNR=44							
ILAR					PP	**PP**	**21 20 27.6**	**+1.6**
	comp=Z,0.3nm,0.8s,baz=65,slow=8.9,SNR=4.1							
ILAR					LR	LR	21 50 55.3	
	comp=Z,115nm,19.4s,baz=91,slow=35							
ILB	**Eielson Array**	**76.77**	**334**	*e*P		**P**	**21 17 33.2**	**-0.5**
ILB				*e*PP		**PP**	**21 20 27.6**	**+1.6**
COLA	**College**	**77.13**	**335**	*i* P		**P**	**21 17 35.8**	**+0.2**
COLA					pmax	pmax		
	comp=Z,9.0nm,0.5s							
CCB	**Clear Creek Bu**	**77.19**	**334**	*e*P		**P**	**21 17 35.6**	**-0.4**
	comp=Z,8.8nm,1.0s							
COLD	**Coldfoot**	**77.22**	**337**	*e*P		**P**	**21 17 36.8**	**+0.7**
	comp=Z,8.3nm,1.2s							
MDM	**Murphy Dome**	**77.25**	**335**	*e*P		**P**	**21 17 36.0**	**-0.4**
	comp=Z,10nm,1.1s							
WRH	**Wood River Hil**	**77.36**	**334**	*e*P		**P**	**21 17 36.6**	**-0.3**
	comp=Z,9.2nm,1.0s							
GNI	**Garni**	**77.79**	**52**⇑	*e*P		**P**	**21 17 41.2**	**+1.1**
GNI					pmax	pmax		
	comp=Z,31nm,1.0s							
MCK	**McKinley**	**77.96**	**334**	*e*P		**P**	**21 17 40.0**	**-0.4**
MCK					pmax	pmax		
	comp=Z,29nm,1.9s							
MCK	**McKinley**	**77.96**	**334**	*e*P		**P**	**21 17 40.0**	**-0.4**
	comp=Z,28nm,1.9s							
TRF	**Thorofare Moun**	**78.63**	**334**	*e*P		**P**	**21 17 44.2**	**-0.1**
	comp=Z,6.3nm,0.8s							
KTH	**Kantishna Hill**	**78.85**	**334**	*e*P		**P**	**21 17 45.1**	**-0.3**
	comp=Z,13nm,1.0s							
MAK	**Makhachkala**	**78.99**	**48**	*e*P		**P**	**21 17 45.3**	**-1.1**
MAK				*e*			21 20 45.6	
MAK				*e*PPP		PPP	21 22 31.7	
MAK				*e*S		**S**	**21 27 40.7**	**-4.6**
MAK					pmax	pmax		
	comp=Z,254nm,1.4s							
ARU	**Arti**	**81.21**	**33**	*d i* P		**P**	**21 17 58.6**	**+0.5**
ARU							21 20 59.7	
ARU					S	**S**	**21 28 11.4**	**+3.1**
ARU					SS	**SS**	**21 33 21.1**	**-1.6**
ARU					pmax	pmax		
	comp=Z,6.0nm,1.7s							
AKTO	**Aktyubinsk**	**83.25**	**39**		P	**P**	**21 18 09.3**	**+0.3**
	comp=Z,2.0nm,0.9s,baz=309,slow=5.6,SNR=4.7							
KMBO	**Kilima Mbogo**	**83.82**	**93**		P	**P**	**21 18 14.8**	**+1.9**
	comp=Z,0.8nm,0.3s,baz=242,slow=1.9,SNR=3.6							
KMBO					LR	LR	21 52 45.3	
	comp=Z,130nm,21.3s,baz=77,slow=34							
KMBO	**Kilima Mbogo**	**83.82**	**93**	*e*P		**P**	**21 18 14.8**	**+1.9**
KMBO					pmax	pmax		
	comp=Z,20nm,1.9s							
KMBO	**Kilima Mbogo**	**83.82**	**93**	*e*P		**P**	**21 18 14.8**	**+1.9**
	comp=Z,20nm,1.9s							
BOSA	**Boshof**	**83.84**	**123**		LR	LR	21 47 59.1	
	comp=Z,114nm,19.5s,baz=296,slow=30							
ABKAR	**Akbulak array**	**84.87**	**39**	*e*P		**P**	**21 18 18.5**	**+1.3**
	comp=Z,14nm,0.5s							
ZALV	**Zalesovo Beam**	**95.05**	**27**		LR	LR	21 58 18.2	
	comp=Z,22nm,21.8s,baz=250,slow=33							
MKAR	**Makanchi Array**	**98.73**	**33**		LR	LR	22 01 13.1	
	comp=Z,48nm,20.4s,baz=291,slow=34							
KSH	**Kashi**	**99.65**	**42**	*e*P		**Pdif**	**21 19 26.0**	**-0.5**
KSH					pP	sP	21 19 31.3	+0.2
KSH					PP	**PP**	**21 23 32.0**	**+2.0**
KSH					S	**S**	**21 30 53.5**	**-6.8**
KSH					SS	**SS**	**21 37 47.8**	**-2.4**
KSH					LR	LR		
	comp=Z,59nm,8.6s							
HHC	**Hu-ho-hao-te**	**115.94**	**19**	*e*PKP		**PKPdf**	**21 24 25.5**	**-0.2**
LZH	**Lanzhou**	**117.27**	**27**	*e*PKP		**PKPdf**	**21 24 24.5**	**-4.0**
LZH					LR	LR		
	comp=Z,93nm,16.0s							
LZH					LR	LR		
	comp=Z,100nm,18.1s							
LZH					LR	LR		
	comp=Z,130nm,20.0s							
NJ2	**Nanjing**	**126.22**	**16**	*e*PKP		**PKPdf**	**21 24 44.3**	**-1.3**
GYA	**Guiyang**	**126.66**	**31**	*e*Pdif		**Pdif**	**21 21 26.0**	**-0.9**
GYA				PKP		**PKPdf**	**21 24 46.0**	**-0.7**
GYA				PP		**PP**	**21 26 45.5**	**+3.6**
GYA				AMB		AMB		
	comp=Z,120nm,7.9s							
STKA	**Stephens Creek**	**166.42**	**208**	PKP		**PKPdf**	**21 25 47.3**	**-0.9**
	comp=Z,1.9nm,0.9s,baz=6.6,slow=22,SNR=3.5							
ASAR	**Alice Springs**	**176.30**	**175**	PKP		**PKPdf**	**21 25 52.0**	**-1.4**
	comp=Z,0.9nm,1.0s,baz=158,slow=0.6,SNR=5.9							
AS31	**Alice Springs**	**176.30**	**175**	*e*PKPdf		**PKPdf**	**21 25 52.0**	**-1.4**
WB2	**Warramunga Arr**	**179.89**	**279**	*e*PKPdf		**PKPdf**	**21 25 54.5**	**+0.6**

OBM 25 21:13:50.6±0.1, 46.48N×103.00E, h2km, Ml4.1, Error ellipse: s-maj=1.8km s-min=0.7km az=174.0, Mongolia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TTS	**Tsetserleg**	**1.46**	**314**	*e*Pg	Pn	21 14 17.3	-0.9
TTS				*e*Sg	Sg	21 14 36.5	-1.1
BLGM	**Bulgan**	**2.34**	**9**	*e*Pn	Pn	21 14 29.5	-0.7
BLGM	**Bulgan**	**2.34**	**9**	*e*Pg	Pn	21 14 31.6	+1.4
BLGM				*e*Sg	Sb	21 15 01.4	-1.6
	360nm,0.2s						
SONB4	**Songino Array**	**2.67**	**58**	*e*Pn	Pn	21 14 34.9	+0.2
SONB4				*e*Sg	Sb	21 15 14.0	+1.6
	541nm,0.3s						
SONB5	**Songino Array**	**2.68**	**58**	*e*Pn	Pn	21 14 35.2	+0.3
SONB5				*e*Sg	Sb	21 15 14.4	+1.6
SONA0	**Songino Array**	**2.69**	**58**	*e*Pn	Pn	21 14 35.3	+0.3
SONA0				*e*Sg	Sb	21 15 14.0	+1.0
	300nm,0.2s						
SONA4	**Songino Array**	**2.70**	**58**	*e*Pn	Pn	21 14 35.4	+0.3
SONA4				*e*Sg	Sb	21 15 14.4	+1.2
	241nm,0.2s						
SONA2	**Songino Array**	**2.70**	**58**	*e*Pn	Pn	21 14 35.4	+0.3
SONA2				*e*Sg	Sb	21 15 14.4	+1.1
	275nm,0.2s						
SONA1	**Songino Array**	**2.70**	**58**	*e*Pn	Pn	21 14 35.4	+0.3
SONA1				*e*Sg	Sb	21 15 14.5	+1.2
	294nm,0.3s						
SONB3	**Songino Array**	**2.70**	**59**	*e*Pn	Pn	21 14 35.4	+0.2
SONB3				*e*Sg	Sb	21 15 14.4	+1.1
	294nm,0.2s						
SONA3	**Songino Array**	**2.70**	**58**	*e*Pn	Pn	21 14 35.4	+0.2
SONA3				*e*Sg	Sb	21 15 14.4	+1.0
SONB1	**Songino Array**	**2.71**	**58**	*e*Pn	Pn	21 14 35.5	+0.2
SONB1				*e*Sg	Sb	21 15 14.5	+1.0
	378nm,0.2s						
UB1M		**2.84**	**58**	*e*Pn	Pn	21 14 37.3	+0.2
UB1M				*e*Sg	Sb	21 15 19.2	+1.8
DZBM		**2.87**	**158**	*e*Pn	Pn	21 14 38.4	+0.9
DZBM				*e*Sg	Sg	21 15 21.2	-1.5
UB5M		**2.91**	**61**	*e*Pn	Pn	21 14 38.2	+0.1
UB5M				*e*Sg	Sb	21 15 21.3	+1.9
SEMM		**2.93**	**67**	*e*Pn	Pn	21 14 38.7	+0.3
SEMM				*e*Sg	Sb	21 15 21.3	+1.3
ALFM		**2.99**	**58**	*e*Pn	Pn	21 14 39.3	+0.1
ALFM				*e*Sg	Sb	21 15 23.2	+1.5
	198nm,0.2s						
UGDM		**3.23**	**67**	*e*Pn	Pn	21 14 42.7	+0.2
UGDM				*e*Sg	Sb	21 15 31.0	+2.5
ARTM		**3.26**	**62**	*e*Pn	Pn	21 14 43.0	+0.1
ARTM				*e*Sg	Sb	21 15 32.0	+2.6
TSC	**Tosontsengel**	**3.94**	**307**	*e*Pn	Pn	21 14 53.1	+0.8
TSC				*e*Sg	Sg	21 15 54.3	-3.0
HBD	**Hovd**	**7.87**	**285**	*e*Sg	Sg	21 17 53.4	-10
BYO	**Bayan-Olgiy**	**9.13**	**291**	*e*Pg	Pn	21 16 45.2	+42
BYO				*e*Sg	Sn	21 18 34.1	+47

CSEM 25 21:14:05.6, 37.16N×22.02E, h4km, ML1.4/4
ATH 25 21:14:05.6, 37.16N×22.02E, h4km±1km, ML1.4/4, Error ellipse: s-maj=2.0km s-min=0.9km az=243.0, Southern Greece

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ITM	**Ithomi**	**0.08**	**283**	P	Pg	21 14 07.4	+0.2
ITM	**Ithomi**	**0.08**	**283**	P	Pg	21 14 07.4	+0.1
PYL	**PYLOS**	**0.35**	**220**	P	Pg	21 14 12.4	+0.1
PYL				S	Sg	21 14 17.6	+0.8
PYL	**PYLOS**	**0.35**	**220**	P	Pg	21 14 12.4	+0.1
PYL				S	Sg	21 14 17.6	+0.7
PYL				AML	AML	21 14 19.6	
	comp=N,172μm,0.3s						
PYL				AML	AML	21 14 21.7	
	comp=E,285μm,0.2s						
VLX	**Vlachokerasia**	**0.35**	**54**	P	Pg	21 14 12.9	+0.5
VLX				S	Sg	21 14 17.5	+0.4
VLX	**Vlachokerasia**	**0.35**	**54**	P	Pg	21 14 12.9	+0.5
VLX				S	Sg	21 14 17.5	+0.4
VLX				AML	AML	21 14 20.3	
	comp=E,158μm,0.3s						
VLX				AML	AML	21 14 21.7	
	comp=N,145μm,0.4s						
TRIP	**Tripoli**	**0.41**	**29**	P	Pg	21 14 13.8	+0.2
TRIP				S	Sg	21 14 19.7	+0.7
TRIP	**Tripoli**	**0.41**	**29**	P	Pg	21 14 13.8	+0.2
TRIP				S	Sg	21 14 19.7	+0.7
TRIP				AML	AML	21 14 21.7	
	comp=N,64μm,0.1s						
TRIP				AML	AML	21 14 22.3	
	comp=E,79μm,0.3s						
AMT	**Artemida-Makis**	**0.45**	**326**	P	Pg	21 14 14.1	-0.1
AMT				S	Sg	21 14 20.5	+0.5
AMT	**Artemida-Makis**	**0.45**	**326**	P	Pg	21 14 14.1	0.0
AMT				S	Sg	21 14 20.5	+0.5
DRO	**Drossia**	**0.83**	**343**	P	Pg	21 14 21.2	-0.2
DRO	**Drossia**	**0.83**	**343**	P	Pg	21 14 21.2	-0.3
DRO				AML	AML	21 14 37.1	
	comp=N,105μm,0.3s						
DRO				AML	AML	21 14 39.6	
	comp=E,116μm,0.3s						
VLI	**Veliai**	**0.86**	**121**	P	Pg	21 14 21.5	-0.5
VLI	**Veliai**	**0.86**	**121**	P	Pg	21 14 21.5	-0.5
KLV	**Kalavryta, Ach**	**0.89**	**7**	P	Pg	21 14 22.2	-0.4
KLV	**Kalavryta, Ach**	**0.89**	**7**	P	Pg	21 14 22.2	-0.4

IDC 25 21:25:42.1±2.2, 6.20S×130.45E, h0km, mb3.8/1, mb1 3.6/4, mb1mx3.3/28, mbtmp3.4/4, ML3.4/3, Error ellipse: s-maj=92.5km s-min=27.7km az=78.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**12.73**	**201**	Pn	Pn	21 28 43.6	-1.0
	0.2nm,0.3s,baz=22,slow=9.5,SNR=11						
FITZ				Sn	Sn	21 30 47.3	-20
	0.2nm,0.3s,baz=108,slow=20,SNR=5.3						
WRA	**Warramunga Arr**	**14.18**	**165**	Pn	Pn	21 29 05.3	+0.9
	0.2nm,0.3s,baz=349,slow=13,SNR=10						
WRA				Sn	Sn	21 31 30.6	-12
	0.4nm,0.3s,baz=324,slow=27,SNR=8.5						
ASAR	**Alice Springs**	**17.68**	**170**	P	Pn	21 29 50.0	0.0
	0.1nm,0.3s,baz=346,slow=10,SNR=9.7						
MKAR	**Makanchi Array**	**67.81**	**326**	P	P	21 36 42.1	+0.1
	0.3nm,0.4s,baz=116,slow=8.1,SNR=9.4						

WEL 25 21:25:57.6±0.5, 37.86S×176.02E, h195km±4km, ML3.7/32, 20C-1D, Error ellipse: s-maj=3.7km s-min=3.2km az=0.0, North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
URZ	**Urewera**	**0.95**	**115**	⇑PN	Pn	21 26 26.5	0.0
URZ				SN	Sn	21 26 48.2	-0.6
URZ				AML	AML	21 26 48.3	
MRHZ	**Matea Rd**	**1.02**	**162**	PN	Pn	21 26 27.2	+0.1
MRHZ				AML	AML	21 26 27.5	
MRHZ				AML	AML	21 26 28.1	
RTZ	**Ruatahuna**	**1.07**	**135**	PN	Pn	21 26 27.4	+0.1
RTZ				SN	Sn	21 26 50.0	-0.6
KRVZ	**Karewarewa**	**1.27**	**194**	PN	Pn	21 26 29.2	+0.3
RAGZ	**Rawiri**	**1.27**	**120**	PN	Pn	21 26 29.1	+0.2
RAGZ				AML	AML	21 26 55.2	
RAGZ				AML	AML	21 26 55.4	
MWZ	**Matawai**	**1.28**	**112**	PN	Pn	21 26 29.1	+0.1
MWZ				AML	AML	21 26 53.4	
MWZ				AML	AML	21 26 54.8	
TWVZ	**Taurewa**	**1.29**	**201**	PN	Pn	21 26 29.5	+0.4
WTVZ	**West Tongariro**	**1.30**	**195**	PN	Pn	21 26 29.5	+0.3
RUGZ	**Raukumara Rang**	**1.31**	**95**	PN	Pn	21 26 28.7	-0.7
OTVZ	**Oturere**	**1.33**	**192**	PN	Pn	21 26 29.9	+0.3
NGZ	**Ngauruhoe**	**1.35**	**194**	PN	Pn	21 26 29.9	+0.2
BKZ	**Black Stump Fm**	**1.35**	**164**	⇑PN	Pn	21 26 29.3	-0.3
BKZ				AML	AML	21 26 53.5	
BKZ				AML	AML	21 26 54.9	
NMHZ	**Naumai**	**1.38**	**154**	⇑PN	Pn	21 26 30.4	+0.6
NMHZ				AML	AML	21 26 57.4	
NMHZ				AML	AML	21 27 00.1	
SNGZ	**Shannon Statio**	**1.39**	**132**	PN	Pn	21 26 30.1	+0.2
SNGZ				AML	AML	21 26 56.0	
SNGZ				AML	AML	21 27 01.4	
HAZ	**Te Kaha**	**1.40**	**86**	PN	Pn	21 26 29.7	-0.2
HAZ				AML	AML	21 26 54.3	
HAZ				AML	AML	21 26 54.3	
HAZ				AML	AML	21 26 55.5	
HAZ				AML	AML	21 26 55.5	
TUVZ	**Tukino**	**1.43**	**191**	PN	Pn	21 26 30.4	0.0
WHVZ	**Whangaehu Hut**	**1.46**	**193**	⇑PN	Pn	21 26 30.7	-0.1
WNVZ	**Wahianoa**	**1.50**	**193**	⇑PN	Pn	21 26 30.8	-0.2
PKVZ	**Pokaka**	**1.52**	**200**	⇑PN	Pn	21 26 31.1	0.0
TKGZ	**Te Karaka**	**1.55**	**112**	PN	Pn	21 26 31.5	+0.2
TKGZ				SN	Sn	21 26 56.9	-0.6
TKGZ				AML	AML	21 26 57.7	
MOVZ	**Moawhango**	**1.56**	**188**	PN	Pn	21 26 30.8	-0.6
TWGZ	**Tauwhareparae**	**1.58**	**102**	PN	Pn	21 26 32.0	+0.4
TWGZ				AML	AML	21 27 03.4	
TWGZ				AML	AML	21 27 04.0	
MTVZ	**Mangateitei**	**1.58**	**196**	PN	Pn	21 26 31.5	-0.1
KWHZ	**Kaweka Forest**	**1.59**	**169**	PN	Pn	21 26 31.4	-0.3
KWHZ				AML	AML	21 26 32.2	
KWHZ				AML	AML	21 26 32.7	
ARHZ	**Aropaoanui**	**1.59**	**152**	⇑PN	Pn	21 26 31.8	+0.1
ARHZ				AML	AML	21 26 58.7	
ARHZ				AML	AML	21 26 59.5	
VRZ	**Vera Road**	**1.60**	**218**	PN	Pn	21 26 32.6	+0.9
RIGZ	**Rimuhau**	**1.61**	**122**	⇑PN	Pn	21 26 32.0	+0.2
RIGZ				AML	AML	21 26 58.2	
RIGZ				AML	AML	21 26 60.0	
PKGZ	**Pakihiroa**	**1.63**	**92**	PN	Pn	21 26 31.3	-0.8
MCHZ	**McNeill Hill**	**1.67**	**162**	⇑PN	Pn	21 26 32.5	+0.2
KNZ	**Kokohu**	**1.74**	**132**	⇑PN	Pn	21 26 32.7	-0.3
KNZ				AML	AML	21 26 59.4	
PUZ	**Puketiti**	**1.78**	**97**	PN	Pn	21 26 33.7	+0.2
PUZ				AML	AML	21 27 08.2	
KRHZ	**Kereru**	**1.80**	**171**	⇑PN	Pn	21 26 33.1	-0.6
KRHZ				AML	AML	21 26 33.7	
PRGZ	**Paritu Road**	**1.81**	**126**	PN	Pn	21 26 33.5	-0.3
PRGZ				AML	AML	21 27 00.9	
PRGZ				AML	AML	21 27 02.9	
CNGZ	**Carnagh Statio**	**1.83**	**110**	PN	Pn	21 26 34.4	+0.5
MXZ	**Matakaoa Point**	**1.84**	**81**	⇑PN	Pn	21 26 34.5	+0.5
MXZ				AML	AML	21 27 14.7	
WMGZ	**Waiomatatini S**	**1.90**	**89**	PN	Pn	21 26 34.6	0.0
WMGZ				AML	AML	21 27 04.0	
WMGZ				AML	AML	21 27 04.2	
MHGZ	**Mahia Peninsul**	**1.96**	**132**	PN	Pn	21 26 34.7	-0.6
CKHZ	**Cape Kidnapper**	**1.97**	**156**	PN	Pn	21 26 34.9	-0.5
KAHZ	**Kahuranaki**	**2.04**	**161**	⇑PN	Pn	21 26 35.5	-0.7
PNHZ	**Pukenui**	**2.05**	**176**	⇑PN	Pn	21 26 35.1	-1.2
WAZ	**Wanganui**	**2.06**	**203**	PN	Pn	21 26 35.8	-0.5
PKE	**Pukeiti**	**2.08**	**230**	PN	Pn	21 26 37.3	+0.8
TSZ	**Takapari Road**	**2.19**	**181**	⇑PN	Pn	21 26 36.5	-1.3
TSZ				AML	AML	21 26 36.9	
TSZ				AML	AML	21 26 37.1	
WPHZ	**Waipukurau**	**2.22**	**172**	PN	Pn	21 26 36.8	-1.3
PXZ	**Pawanui**	**2.26**	**163**	⇑PN	Pn	21 26 37.1	-1.3
OHWZ	**Ohakea**	**2.40**	**193**	PN	Pn	21 26 39.1	-0.9
DVHZ	**Dannevirke**	**2.44**	**177**	PN	Pn	21 26 38.5	-2.0
DVHZ				AML	AML	21 27 12.1	
PRHZ	**Porangahau**	**2.45**	**169**	PN	Pn	21 26 38.9	-1.7
POWZ	**Post Office Ro**	**2.53**	**184**	PN	Pn	21 26 39.6	-1.9
ANWZ	**Angora Road**	**2.62**	**172**	⇑PN	Pn	21 26 40.7	-1.8
ANWZ				AML	AML	21 27 16.1	
PRWZ	**Pori Road**	**2.69**	**181**	PN	Pn	21 26 41.4	-1.9
PRWZ				AML	AML	21 27 15.3	
MRZ	**Mangatainoka R**	**2.82**	**187**	⇑PN	Pn	21 26 42.3	-2.4
MRZ				AML	A

SMKR	**Semkarok**	**2.19**	**352**	*e*P	Pn	21 26 45.3	+2.9
KRER	**Koryakskii**	**2.22**	**241**	*e*P	Pn	21 26 46.5	+3.5
UGLR	**Uglovaya**	**2.23**	**238**	*e*P	Pn	21 26 46.3	+3.2
AVH	**Avacha**	**2.25**	**240**	*e*P	Pn	21 26 47.0	+3.8
AVH				*e*S	Sn	21 27 13.2	+3.5
SRKR	**Sorokina**	**2.29**	**349**	*e*P	Pn	21 26 46.5	+2.7
DALK	**Dalny**	**2.37**	**235**	*e*P	Pn	21 26 47.8	+3.0
DALK				*e*S	Sn	21 27 15.4	+2.7
ESO	**Esso**	**2.42**	**310**	*e*P	Pn	21 26 46.8	+1.3
BKI	**Bering**	**2.44**	**70**	*e*S	Sn	21 27 16.5	+2.3
GNL	**Ganaly**	**2.49**	**255**	*e*P	Pn	21 26 50.8	+4.2
KRMR	**Karymshinskiy**	**2.80**	**237**	*e*P	Pn	21 26 54.2	+3.6
KRMR				*e*S	Sn	21 27 26.2	+3.1
RUS	**Russkaya**	**2.88**	**228**	*e*P	Pn	21 26 54.9	+3.1
RUS				*e*S	Sn	21 27 27.3	+2.2
APC	**Apacha**	**3.24**	**244**	*e*P	Pn	21 27 02.0	+5.3

CSEM ***25*** *21:27:40.5±0.1, 46˚36N×8˚07E, h10km, ML1.1, Error ellipse: s-maj=1.0km s-min=0.7km az=126.0*
GEN ***25*** *21:27:41.1, 46˚33N×8˚04E, h13km, ML0.7*
ZUR 25 21:27:40.6, 46˚36N×8˚07E, h8km±1km, ML1.1/11, 12C-20D, Switzerland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FIESA	**Fiescheralp**	**0.08**	**21**	⇑*i*Pg	Pg	21 27 43.3	+0.3
FIESA				*i* Sg	Sg	21 27 44.9	+0.2
FIESA	**Fiescheralp**	**0.08**	**21**	⇑*i*Pg	Pg	21 27 43.3	+0.3
FIESA				*i* Sg	Sg	21 27 44.9	+0.2
BIBA	**Brigerbad**	**0.11**	**239**	⇑*i*Pg	Pg	21 27 43.6	+0.4
BIBA				*i* Sg	Sg	21 27 45.2	+0.2
BIBA	**Brigerbad**	**0.11**	**239**	⇑*i*Pg	Pg	21 27 43.6	+0.4
BIBA				*i* Sg	Sg	21 27 45.2	+0.2
SIMPL	**Simplonpass** 201nm,0.2s	**0.12**	**196**	⇑*i*Pg	Pg	21 27 43.8	+0.3
SIMPL	**Simplonpass** 201nm,0.2s	**0.12**	**196**	⇑*i*Pg	Pg	21 27 43.8	+0.3
SVIT	**Visp-Terbiners**	**0.14**	**241**	⇓*i*Pg	Pg	21 27 44.1	+0.4
SVIT				*i* Sg	Sg	21 27 46.2	+0.3
SVIT	**Visp-Terbiners**	**0.14**	**241**	⇓*i*Pg	Pg	21 27 44.1	+0.4
SVIT				*i* Sg	Sg	21 27 46.2	+0.3
SVIO	**Visp Obere Sta**	**0.15**	**242**	⇓*i*Pg	Pg	21 27 44.1	+0.4
SVIO				*i* Sg	Sg	21 27 46.2	+0.3
SVIO	**Visp Obere Sta**	**0.15**	**242**	⇓*i*Pg	Pg	21 27 44.1	+0.4
SVIO				*i* Sg	Sg	21 27 46.2	+0.3
LAUCH	**Lauchernalp** 75nm,0.1s	**0.21**	**286**	⇓*i*Pg	Pg	21 27 45.3	+0.3
LAUCH				*i* Sg	Sg	21 27 48.3	+0.3
LAUCH	**Lauchernalp** 75nm,0.1s	**0.21**	**286**	⇓*i*Pg	Pg	21 27 45.3	+0.3
LAUCH				*i* Sg	Sg	21 27 48.3	+0.3
EMBD	**Embd, Matterta** 65nm,0.2s	**0.22**	**229**	⇑*i*Pg	Pg	21 27 45.4	+0.4
EMBD				*i* Sg	Sg	21 27 48.4	+0.4
EMBD	**Embd, Matterta** 65nm,0.2s	**0.22**	**229**	⇑*i*Pg	Pg	21 27 45.4	+0.4
EMBD				*i* Sg	Sg	21 27 48.4	+0.4
SGRA	**Graechen Ausbl**	**0.23**	**224**	⇓*i*Pg	Pg	21 27 45.7	+0.4
SGRA	**Graechen Ausbl**	**0.23**	**224**	⇓*i*Pg	Pg	21 27 45.7	+0.4
LKBD2	**Leukerbad 2** 7.2nm,0.1s	**0.29**	**273**	⇓*i*Pg	Pg	21 27 46.8	+0.3
LKBD2				*i* Sg	Sg	21 27 50.8	+0.4
LKBD2	**Leukerbad 2** 7.2nm,0.1s	**0.29**	**273**	⇓*i*Pg	Pg	21 27 46.8	+0.3
LKBD2				*i* Sg	Sg	21 27 50.8	+0.4
LKBD	**Leukerbad** 4.5nm,1.4s	**0.31**	**275**	⇓*i*Pg	Pg	21 27 46.9	+0.2
LKBD				*e*Sg	Sg	21 27 51.0	+0.2
LKBD	**Leukerbad** 4.5nm,1.4s	**0.31**	**275**	⇓*i*Pg	Pg	21 27 46.9	+0.2
LKBD				*e*Sg	Sg	21 27 51.0	+0.2
MMK	**Mattmark** 27nm,0.1s	**0.32**	**193**	⇑*i*Pg	Pg	21 27 47.2	+0.3
MMK				*e*Sg	Sg	21 27 51.3	+0.2
MMK	**Mattmark** 27nm,0.1s	**0.32**	**193**	⇑*i*Pg	Pg	21 27 47.2	+0.3
MMK				*e*Sg	Sg	21 27 51.3	+0.2
VANNI	**Vissoie, Val d** 47nm,0.2s	**0.36**	**246**	⇓*i*Pg	Pg	21 27 47.9	+0.2
VANNI	**Vissoie, Val d** 47nm,0.2s	**0.36**	**246**	⇓*i*Pg	Pg	21 27 47.9	+0.2
HASLI	**Hasliberg/Brie** 18nm,0.4s	**0.40**	**8**	⇑*i*Pg	Pg	21 27 48.7	+0.2
HASLI				*i* Sg	Sg	21 27 53.9	+0.1
HASLI	**Hasliberg/Brie** 18nm,0.4s	**0.40**	**8**	⇑*i*Pg	Pg	21 27 48.7	+0.2
HASLI				*i* Sg	Sg	21 27 53.9	+0.1
FUSIO	**Fusio** 8.9nm,0.1s	**0.42**	**77**	⇓*i*Pg	Pg	21 27 49.0	+0.1
FUSIO	**Fusio** 8.9nm,0.1s	**0.42**	**77**	⇓*i*Pg	Pg	21 27 49.0	+0.1
SATI	**Passo dei Sala**	**0.50**	**196**	P	Pg	21 27 50.5	+0.1
SATI				S	Sg	21 27 56.8	-0.2
SENIN	**Lac Senin/Sane**	**0.53**	**271**	⇓*i*Pg	Pg	21 27 51.0	+0.1
SENIN	**Lac Senin/Sane**	**0.53**	**271**	⇓*i*Pg	Pg	21 27 51.0	+0.1
DIX	**Grande Dixence** 8.9nm,10.0s	**0.54**	**239**	⇓*i*Pg	Pg	21 27 51.0	0.0
DIX	**Grande Dixence** 8.9nm,10.0s	**0.54**	**239**	⇓*i*Pg	Pg	21 27 51.0	0.0

CASC ***25*** *21:29:36.8±1.4, 14˚21N×90˚30W, h0km±8km, MD3.9, ML3.8, mb4.6(NEIC)*
IDC ***25*** *21:29:36.1±1.8, 14˚00N×90˚30W, h0km, mb3.9/5, mb1 4.3/7, mb1mx3.9/41, mbtmp3.9/7, ML3.6/2, MS3.6/10, Ms1 3.6/10, ms1mx3.2/28, Error ellipse: s-maj=48.5km s-min=31.4km az=20.0*
NEIC ***25*** *21:29:37.1±4.9, 13˚94N×90˚32W, h6km±29km, mb4.6/24, Error ellipse: s-maj=15.5km s-min=8.9km az=206.0*
NEIC Felt [I] at Ahuachapan, El Salvador.
ISCJB ***25*** *21:29:38.2±0.4, 14˚11N±0˚05×90˚26W±0˚04, h10km, mb4.5/23, MS3.6/10, Error ellipse: s-maj=8.3km s-min=2.5km az=38.1*
ISC 25 21:29:38.9±0.5, 14˚12N±0˚06×90˚23W±0˚04, h10km, n200, σ1s29/187, mb4.5/23, MS3.7/10, 1C-1D, Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IXG	**Ixpaco**	**0.23**	**284**	⇓*i*P	**Pg**	**21 29 40.7**	**-3.0**
CUS1	**Cusmapa**	**0.34**	**127**	*e*P	**Pb**	**21 29 46.3**	**-0.7**
RBDL	**Robledal**	**0.52**	**91**	⇑*i*P	**Pg**	**21 29 49.1**	**0.0**
RTR	**El Retiro**	**0.60**	**111**	*e*P	**Pb**	**21 29 51.2**	**-0.4**
MONT	**Ecomontaæa**	**0.62**	**115**	*e*P	**Pb**	**21 29 51.8**	**-0.2**
SBLS	**San Blas**	**0.65**	**115**	*e*P	**Pb**	**21 29 52.3**	**-0.2**
SNJE	**San Jose**	**0.65**	**112**	*e*P	**Pb**	**21 29 51.9**	**-0.6**
BOQS	**Boqueron**	**0.99**	**112**	*e*P	**Pb**	**21 29 58.2**	**-0.1**
SNET	**Serv Nac Est T**	**1.06**	**114**	*e*P	**Pg**	**21 29 59.0**	**-0.2**
SNET				*e*S	**Sn**	**21 30 16.1**	**+1.4**
SNET	comp=Z,2µm,0.7s			AML	AML	21 30 27.6	
MRL	**Marmol**	**1.07**	**29**	*e*P	**Pg**	**21 29 57.3**	**-2.3**
LFU	**La Fuente**	**1.14**	**109**	*e*P	**Pb**	**21 30 00.5**	**-0.2**
LBRS	**Las Brisas**	**1.21**	**108**	*e*P	**Pn**	**21 30 01.5**	**-0.4**
LFRS	**El Faro**	**1.23**	**113**	*e*P	**Pn**	**21 30 02.1**	**-0.2**
SNVI	**San Vicente**	**1.44**	**110**	*e*P	**Pg**	**21 30 06.4**	**-0.1**
CAHU	**Cacacuatique** comp=Z,1µm,0.5s	**1.99**	**100**	*e*P	**Pn**	**21 30 12.6**	**-0.1**
CNCH	**Conchagua**	**2.47**	**110**	*e*P	**Pn**	**21 30 20.8**	**+1.5**
CNCH	comp=Z,571nm,0.5s			AML	AML	21 31 05.8	
CCIG	**Comitan**	**2.83**	**320**	*e*Pn	**Pn**	**21 30 23.7**	**-0.7**
CCIG				*e*Sn	**Sn**	**21 30 60.0**	**+1.2**
TGUH	**Tegucigalpa,Un**	**2.87**	**91**	*e*Pn	**Pn**	**21 30 24.4**	**-0.3**
TGUH				*e*Sn	**Sn**	**21 30 54.1**	**-5.1**
TGUH	**Tegucigalpa,Un**	**2.87**	**91**	*e*P	**Pn**	**21 30 24.2**	**-0.4**
CNGN	**Cerro Negro**	**3.79**	**115**	*e*P	**Pn**	**21 30 37.8**	**+0.3**
ESTN	**Estel**	**3.88**	**105**	*e*P	**Pn**	**21 30 38.4**	**-0.3**
MOMN	**Momotombo**	**3.97**	**115**	*e*P	**Pn**	**21 30 40.6**	**+0.7**
COPN	**Copaltepe**	**4.03**	**118**	*e*P	**Pn**	**21 30 42.0**	**+1.3**
XAVN	**Gruta Xavier**	**4.27**	**117**	*e*P	**Pn**	**21 30 45.2**	**+1.2**
CMIG	**Matias Romero** comp=Z,0.9nm,0.3s,baz=86,slow=12,SNR=9.9	**5.37**	**304**	Pn	**Pn**	**21 30 57.1**	**-2.0**
CMIG	comp=Z,1.7nm,0.3s,baz=337,slow=13,SNR=3.1			Sn	**Sn**	**21 32 04.9**	**+3.7**
TLIG	**Tlapa**	**8.73**	**294**	*e*Pn	**Pn**	**21 31 49.1**	**+3.8**
MTDJ	**Mount Denham**	**12.86**	**70**	*e*Pn	**Pn**	**21 32 41.5**	**-0.4**
LNIG	**Linares**	**13.81**	**322**	*e*Pn	**P**	**21 33 00.0**	**-3.3**
034A	**Hebbronville** baz=148	**15.11**	**330**	P	**Pn**	**21 33 14.3**	**+1.8**
934A	**Benavides** baz=149	**15.48**	**331**	P	**Pn**	**21 33 19.3**	**+1.9**
933A	**Laredo** baz=147	**15.86**	**329**	P	**P**	**21 33 24.6**	**-1.4**
834A	**Tilden** baz=150	**15.95**	**332**	P	**P**	**21 33 26.9**	**-0.2**
833A	**Chaparral WMA,** baz=148	**16.50**	**330**	P	**P**	**21 33 32.0**	**-1.2**
446A	**Poplarville** baz=183	**16.61**	**3**	P	**P**	**21 33 35.4**	**+1.0**
447A	**Lucedale** baz=186	**16.66**	**5**	P	**P**	**21 33 35.1**	**+0.2**
832A	**Faith Ranch, C** baz=146	**16.76**	**329**	P	**P**	**21 33 36.0**	**-0.1**
733A	**Divot King Ran** baz=149	**16.79**	**331**	P	**P**	**21 33 35.9**	**-0.5**
535A	**Dale** baz=156	**17.23**	**338**	P	**P**	**21 33 41.5**	**+0.3**
344A	**Westbrook Farm** baz=179	**17.26**	**359**	P	**P**	**21 33 43.2**	**+1.7**
633A	**Saathoff Ranch** baz=150	**17.37**	**333**	P	**P**	**21 33 44.0**	**+1.2**
534A	**Blanco** baz=153	**17.57**	**336**	P	**P**	**21 33 45.4**	**+0.4**
533A	**Kerrville** baz=152,SNR=6.9	**17.84**	**334**	P	**P**	**21 33 49.4**	**+1.4**
434A	**Burnet** baz=155	**18.19**	**337**	P	**P**	**21 33 52.4**	**+0.5**
TIGA	**Tifton** baz=201	**18.28**	**18**	P	**P**	**21 33 54.2**	**+1.4**
433A	**Art** baz=152,SNR=8.9	**18.46**	**335**	P	**Pn**	**21 33 56.0**	**+1.0**
JCT	**Junction City** baz=150	**18.52**	**333**	P	**Pn**	**21 33 56.9**	**+1.2**
147A	**Livingston** baz=186	**18.56**	**5**	P	**Pn**	**21 33 57.8**	**+1.8**
333A	**Richland Sprin** baz=154,SNR=5.3	**18.92**	**336**	P	**Pn**	**21 34 01.3**	**+0.8**
WHTX	**Lake Whitney,** baz=158	**18.98**	**341**	P	**Pn**	**21 34 02.2**	**+1.0**
Z46A	**Louisville** baz=184	**19.02**	**3**	P	**Pn**	**21 34 03.2**	**+1.5**
Z47A	**Carrollton** baz=187	**19.09**	**6**	P	**Pn**	**21 34 03.2**	**+0.6**
Z42A	**Norrel Spur, H** baz=175	**19.13**	**356**	P	**Pn**	**21 34 03.4**	**+0.4**
136A	**Ennis** baz=162	**19.16**	**344**	P	**Pn**	**21 34 03.5**	**+0.1**
Z41A	**Richland Creek** baz=173	**19.20**	**353**	P	**Pn**	**21 34 03.9**	**+0.1**
Z48A	**Northport** baz=188	**19.32**	**7**	P	**Pn**	**21 34 05.3**	**0.0**
233A	**Rising Star** baz=155,SNR=7.1	**19.50**	**337**	P	**Pn**	**21 34 07.3**	**-0.3**
GRTK	**Grand Turk** comp=Z,265nm,1.4s	**19.59**	**65**	*e*P	**Pn**	**21 34 09.7**	**+1.0**
LTX	**Lajitas**	**19.60**	**323**	*e*P	**P**	**21 34 07.6**	**+0.2**
TX31	**Lajitas Ar. Si**	**19.60**	**323**	*e*P	**P**	**21 34 07.8**	**+0.3**
TXAR	**Lajitas Array** comp=Z,0.1nm,0.3s,baz=150,slow=9.2,SNR=39	**19.60**	**323**	P	**P**	**21 34 07.6**	**+0.2**
Y45A	**Yeager Farm, C** baz=182	**19.67**	**2**	P	**Pn**	**21 34 10.5**	**+1.1**
Y46A	**Houston** baz=184	**19.71**	**3**	P	**Pn**	**21 34 10.4**	**+0.4**
Y41A	**Eaglette Beard** baz=174	**19.79**	**354**	P	**Pn**	**21 34 11.2**	**+0.3**
Y47A	**UCPARC, Winfie** baz=187,SNR=6.7	**19.81**	**6**	P	**Pn**	**21 34 11.5**	**+0.3**
SDV	**Santo Domingo** comp=Z,43nm,0.9s	**19.88**	**103**	*e*P	**Pn**	**21 34 15.1**	**+2.7**
Z36A	**Blue Ridge** baz=162	**19.89**	**345**	P	**Pn**	**21 34 11.4**	**-0.6**
Y38A	**Idabel** baz=168	**20.14**	**349**	P	Pn	21 34 15.8	+0.7
X45A	**UM Field Stati** baz=183	**20.23**	**2**	P	Pn	21 34 15.6	-0.5
ABTX	**Abilene, Hawle** baz=153	**20.33**	**337**	P	**P**	**21 34 16.1**	**+0.8**
ABTX	**Abilene, Hawle** comp=Z,8.3nm,0.8s	**20.33**	**337**	*e*P	Pn	21 34 16.2	-1.1
Y37A	**Hugo** baz=165	**20.37**	**347**	P	Pn	21 34 18.6	+0.8
X40A	**Basin Creek Fa** baz=173	**20.42**	**354**	P	Pn	21 34 18.3	0.0
Y36A	**Durant** baz=163,SNR=5.7	**20.45**	**345**	P	Pn	21 34 20.6	+2.0
MIAR	**Mount Ida** baz=171,SNR=7.8	**20.56**	**352**	P	Pn	21 34 19.4	-0.6
MIAR	**Mount Ida** comp=Z,20nm,1.2s	**20.56**	**352**	*e*P	Pn	21 34 19.8	-0.2
X39A	**Fountain Ranch** baz=170	**20.61**	**351**	P	Pn	21 34 20.9	+0.4
Y35A	**Marietta** baz=161,SNR=11	**20.65**	**344**	P	Pn	21 34 21.3	+0.3
UALR	**University of** comp=Z,31nm,1.5s	**20.66**	**355**	*e*P	**P**	**21 34 19.4**	**+0.6**
X38A	**Whitesboro** baz=168	**20.88**	**349**	P	Pn	21 34 24.4	+0.7
X37A	**Clayton** baz=166,SNR=7.0	**20.91**	**348**	P	Pn	21 34 24.6	+0.6
W41B	**Gary Mavity, V** baz=175	**21.04**	**355**	P	**P**	**21 34 24.0**	**+1.1**
X35A	**Drake** baz=162,SNR=6.6	**21.09**	**344**	P	**P**	**21 34 26.1**	**+2.5**
X36A	**Centrahoma** baz=164	**21.10**	**346**	P	**P**	**21 34 24.4**	**+0.8**
W40A	**Ferguson Farm,** baz=173	**21.14**	**354**	P	**P**	**21 34 25.2**	**+1.2**
W38A	**Poteau** baz=169	**21.22**	**350**	P	**P**	**21 34 25.9**	**+1.1**
W39A	**Magazine** baz=171	**21.23**	**352**	P	**P**	**21 34 26.8**	**+1.8**
HBAR	**Harrisburg** comp=Z,30nm,0.6s	**21.35**	**359**	*e*P	**P**	**21 34 24.0**	**-2.2**
SWET	**Sewanee** comp=Z,23nm,1.0s	**21.36**	**10**	*e*P	**P**	**21 34 26.8**	**+0.4**
W37B	**Quinton** baz=166,SNR=6.3	**21.45**	**348**	P	**P**	**21 34 28.4**	**+1.0**
W36A	**Wetumka** baz=164	**21.62**	**347**	P	**P**	**21 34 30.2**	**+1.0**
V41A	**Mountainview** baz=175	**21.64**	**356**	P	**P**	**21 34 30.6**	**+1.1**
V40A	**Witts Springs** baz=174	**21.72**	**354**	P	**P**	**21 34 31.4**	**+1.1**
W35A	**Tecumseh** baz=163,SNR=7.4	**21.78**	**345**	P	**P**	**21 34 31.7**	**+0.7**
BG3	**Lake Jocassee** comp=Z,32nm,1.6s	**21.80**	**16**	*e*P	**P**	**21 34 31.4**	**+0.2**
V39A	**Pettigrew** baz=171,SNR=7.1	**21.84**	**353**	P	**P**	**21 34 32.7**	**+1.0**
CPCT	**Cooper Cave** comp=Z,28nm,1.3s	**21.85**	**13**	*e*P	**P**	**21 34 32.5**	**+0.8**
WMOK	**Wichita Mounta** baz=158	**21.94**	**341**	P	**P**	**21 34 33.6**	**+1.0**
WMOK	**Wichita Mounta** comp=Z,6.3nm,1.2s	**21.94**	**341**	*e*P	**P**	**21 34 31.1**	**-1.5**
V38A	**Canehill** baz=169	**21.98**	**351**	P	**P**	**21 34 34.0**	**+0.9**
GLAT	**Glass** comp=Z,559nm,0.3s	**22.07**	**2**	*e*P	**P**	**21 34 34.7**	**+0.7**
V37A	**Hulbert** baz=168	**22.12**	**349**	P	**P**	**21 34 35.7**	**+1.1**
U42A	**Revenden** baz=178	**22.16**	**358**	P	**P**	**21 34 35.8**	**+0.9**
U43A	**Rector** baz=180	**22.16**	**360**	P	**P**	**21 34 36.2**	**+1.2**
U45A	**Rockin P Farm,** baz=184	**22.18**	**3**	P	**P**	**21 34 36.2**	**+1.0**
V36A	**Jenks** baz=166	**22.18**	**348**	P	**P**	**21 34 36.4**	**+1.2**
U41A	**Viola** baz=176	**22.18**	**356**	P	**P**	**21 34 36.1**	**+0.8**
TKL	**Tuckaleechee C** comp=Z,8.0nm,1.0s,baz=188,slow=11,SNR=5.7	**22.22**	**14**	P	**P**	**21 34 37.3**	**+1.6**
TKL	comp=Z,158nm,21.1s,baz=186,slow=37			LR	LR	21 43 23.8	
TKL	**Tuckaleechee C** comp=Z,19nm,1.3s	**22.22**	**14**	*e*P	**P**	**21 34 37.8**	**+2.1**
TUL1	**Leonard** baz=166	**22.27**	**348**	P	**P**	**21 34 36.9**	**+0.7**
TUL1	**Leonard** comp=Z,8.4nm,0.8s	**22.27**	**348**	*e*P	**P**	**21 34 38.0**	**+1.8**
U40A	**Yellville** baz=174,SNR=5.5	**22.27**	**354**	P	**P**	**21 34 36.9**	**+0.7**
MNTX	**Cornudas Mount** baz=139	**22.34**	**324**	P	**P**	**21 34 36.8**	**-0.1**
MNTX	**Cornudas Mount** comp=Z,11nm,1.6s	**22.34**	**324**	*e*P	**P**	**21 34 37.7**	**+0.7**
V35A	**Meyer Ranch, C** baz=163	**22.36**	**346**	P	**P**	**21 34 37.8**	**+0.7**
U39A	**Green Forest** baz=172,SNR=5.5	**22.36**	**353**	P	**P**	**21 34 38.3**	**+1.1**
KMSC	**Kings Mountain** baz=203	**22.41**	**19**	P	**P**	**21 34 39.1**	**+1.4**
PARMO	**Parma** comp=Z,70nm,0.4s	**22.45**	**1**	*e*P	**P**	**21 34 39.0**	**+0.9**
U38A	**Gravette** baz=170	**22.54**	**351**	P	**P**	**21 34 39.7**	**+0.7**
PBMO	**Poplar Bluff** comp=Z,17nm,1.1s	**22.57**	**360**	*e*P	**P**	**21 34 40.1**	**+0.7**
U37A	**Salina** baz=168,SNR=8.6	**22.62**	**350**	P	**P**	**21 34 40.4**	**+0.5**
MSTX	**Muleshoe** baz=148	**22.80**	**332**	P	**P**	**21 34 42.4**	**+0.4**
T43A	**Greenville** baz=180	**22.87**	**360**	P	**P**	**21 34 43.5**	**+1.0**
U35A	**Pawnee** baz=164,SNR=5.3	**22.91**	**346**	P	**P**	**21 34 43.9**	**+0.9**
T39A	**Clever** baz=172	**22.98**	**354**	P	**P**	**21 34 44.6**	**+0.9**
T40A	**Mansfield** baz=175	**23.03**	**355**	P	**P**	**21 34 44.6**	**+0.4**
T38A	**Diamond** baz=170	**23.11**	**352**	P	**P**	**21 34 45.6**	**+0.5**
AMTX	**Amarillo** baz=151	**23.12**	**335**	P	**P**	**21 34 45.2**	**0.0**
T37A	**Cheneyville 18** baz=169,SNR=11	**23.29**	**350**	P	**P**	**21 34 47.6**	**+0.7**
S43A	**Fulton Ridge,** baz=181	**23.36**	**0**	P	**P**	**21 34 47.7**	**+0.2**
SJG	**San Juan** comp=Z,155nm,21.4s,baz=246,slow=36	**23.46**	**77**	LR	LR	21 43 40.2	
S40A	**Lebanon** baz=175	**23.47**	**355**	P	**P**	**21 34 49.0**	**+0.3**
S44A	**Carbondale** baz=183,SNR=14	**23.50**	**2**	P	**P**	**21 34 49.7**	**+0.8**
S45A	**Carrier Mills** baz=184	**23.51**	**3**	P	**P**	**21 34 49.2**	**+0.2**
S42A	**Caledonia** baz=179	**23.56**	**359**	P	**P**	**21 34 50.1**	**+0.5**
S39A	**Bolivar** baz=173	**23.64**	**354**	P	**P**	**21 34 50.5**	**+0.2**
T34A	**McClaskey Farm** baz=163	**23.64**	**346**	P	**P**	**21 34 50.2**	**-0.2**
S38A	**Stockton** baz=171	**23.64**	**353**	P	**P**	**21 34 50.6**	**+0.3**
USIN	**University of** comp=Z,52nm,1.1s	**23.86**	**5**	*e*P	**P**	**21 34 53.6**	**+1.1**
S37A	**Fort Scott** baz=169,SNR=5.0	**23.90**	**351**	P	**P**	**21 34 52.9**	**+0.1**
S36A	**Lake Cedric, C** baz=167	**23.99**	**349**	P	**P**	**21 34 53.8**	**+0.1**
R44A	**Waltonville** baz=183	**24.05**	**2**	P	**P**	**21 34 55.0**	**+0.8**
R43A	**Red Bud** baz=181	**24.06**	**1**	P	**P**	**21 34 55.2**	**+0.8**
R42A	**Luebbering** baz=179	**24.07**	**359**	P	**P**	**21 34 54.7**	**+0.3**
S35A	**Otter Creek Ra** baz=166	**24.09**	**348**	P	**P**	**21 34 54.8**	**+0.2**
R41A	**Rosebud** baz=178,SNR=9.6	**24.10**	**358**	P	**P**	**21 34 54.8**	**0.0**
R40A	**Maddies Statio** baz=175	**24.14**	**356**	P	**P**	**21 34 55.5**	**+0.4**
R38A	**Fenwick Farm,** baz=172	**24.19**	**353**	P	**P**	**21 34 56.1**	**+0.5**
R39A	**Chumby, Stover** baz=174	**24.23**	**355**	P	**P**	**21 34 56.7**	**+0.8**
WCI	**Wyandotte Cave** comp=Z,19nm,0.9s	**24.27**	**8**	*e*P	**P**	**21 34 57.5**	**+1.2**
121A	**Cookes Peak, D** baz=135	**24.35**	**322**	P	**P**	**21 34 56.8**	**-0.5**
OLIL	**Olney** comp=Z,18nm,1.0s	**24.59**	**4**	*e*P	**P**	**21 35 00.3**	**+1.1**
Q42A	**Golden Eagle** baz=180	**24.70**	**359**	P	**P**	**21 35 00.9**	**+0.7**
Q44A	**Meyer Farm, Va** baz=183	**24.71**	**2**	P	**P**	**21 35 01.3**	**+1.1**
Q43A	**New Douglas** baz=181	**24.73**	**1**	P	**P**	**21 35 01.1**	**+0.6**
Q41A	**Truxton** baz=178	**24.75**	**358**	P	**P**	**21 35 01.4**	**+0.8**
R34A	**Isabella, Hill** baz=164	**24.88**	**347**	P	**P**	**21 35 01.9**	**0.0**
Q38A	**Cooks Store, C** baz=172	**24.93**	**354**	P	**P**	**21 35 02.8**	**+0.6**
Q39A	**Willow Grove F** baz=174	**24.95**	**355**	P	**P**	**21 35 03.2**	**+0.8**
P44A	**Sand Creek, Wi** baz=184	**25.29**	**3**	P	**P**	**21 35 06.6**	**+1.1**
P40A	**Paris** baz=176	**25.36**	**357**	P	**P**	**21 35 07.0**	**+0.8**
P41A	**Barry, Barry** baz=178	**25.47**	**358**	P	**P**	**21 35 08.1**	**+1.0**
P35A	**Duane Minner,** baz=167	**25.82**	**350**	P	**P**	**21 35 10.7**	**+0.3**
O40A	**La Belle** baz=177	**25.94**	**357**	P	**P**	**21 35 12.0**	**+0.6**
CBKS	**Cedar Bluff** baz=159	**26.00**	**343**	P	**P**	**21 35 12.3**	**+0.3**
TUC	**Tucson** baz=130	**26.08**	**317**	P	**P**	**21 35 12.6**	**-0.4**
T25A	**Trinidad** baz=148	**26.18**	**334**	P	**P**	**21 35 13.7**	**-0.2**
IP04	**Greensprings** comp=Z,14nm,1.4s	**26.19**	**22**	*e*P	**P**	**21 35 14.0**	**+0.3**
L40A	**Anamosa** baz=178	**27.86**	**358**	P	**P**	**21 35 29.7**	**+1.0**
L41A	**Preston** baz=180	**27.86**	**360**	P	**P**	**21 35 29.5**	**+0.8**
BUF	**Buffalo**	**30.33**	**17**	*e*P	**P**	**21 35 50.4**	**-0.3**
TVH3	**East Aurora ar** comp=Z,17nm,0.3s	**34.96**	**319**	*e*P	**P**	**21 36 29.9**	**-1.6**
A33A	**Warroad** baz=171	**34.98**	**354**	P	**P**	**21 36 32.2**	**+1.0**
TVH1	**TV Hill, Hawth** comp=Z,19nm,0.7s	**34.99**	**319**	*e*P	**P**	**21 36 31.9**	**0.0**
LAO	**LASA Array** baz=153	**35.13**	**341**	P	**P**	**21 36 33.0**	**+0.3**
SAML	**Samuel** comp=Z,6.3nm,1.1s	**35.29**	**129**	*e*P	**P**	**21 36 31.6**	**-2.6**
SCHQ	**Schefferville** comp=Z,94nm,18.8s,baz=289,slow=37	**44.53**	**19**	LR	LR	21 57 14.1	
IL1	**Eielson Array**	**63.41**	**336**	*e*P	**P**	**21 40 08.3**	**-0.2**
ILAR	**Eielson Array** baz=124,slow=4.6,SNR=7.4	**63.41**	**336**	P	**P**	**21 40 05.8**	**-2.6**
ILB	**Eielson Array**	**63.41**	**336**	*e*P	**P**	**21 40 05.8**	**-2.6**
PPT	**Papeete** comp=Z,63nm,19.0s,baz=198,slow=28	**66.48**	**244**	LR	LR	22 00 48.8	
ESDC	**Sonseca Array** comp=Z,0.7nm,0.8s,baz=285,slow=5.8,SNR=5.8	**78.29**	**52**	P	**P**	**21 41 37.9**	**-1.6**
ES19	**SONSECA Array**	**78.33**	**52**	*e*P	**P**	**21 41 39.6**	**-0.1**
NB200	**NORSAR Array S**	**83.22**	**29**	*e*P	**P**	**21 42 05.9**	**+0.5**
NOA	**NORSAR Array B** comp=Z,1.4nm,0.9s,baz=286,slow=5.0,SNR=3.1	**83.22**	**29**	P	**P**	**21 42 05.9**	**+0.5**
NOA	comp=Z,13nm,21.5s,baz=290,slow=34			LR	LR	22 16 34.4	
DBIC	**Dimbokro** comp=Z,34nm,19.2s,baz=246,slow=34	**83.93**	**85**	LR	LR	22 17 17.5	
ARCES	**ARCESS Array B** comp=Z,35nm,18.4s,baz=272,slow=36	**85.48**	**19**	LR	LR	22 20 32.9	
FUORN	**Ofenpass-Fuorn** comp=Z,

KSH				PP	**PP**	**21 50 35.0**	**+7.1**
KSH				PKS	**PKSdf**	**21 52 17.0**	**0.0**
KSH				SKS	**SKSdf**	**21 55 52.3**	**-0.3**
KSH	**Kashi**	**125.11**	**13**	SS	SS	22 07 30.0	+6.3
KSH				AMB	AMB		
	comp=Z,78nm,4.1s						
KSH				LR	LR		
	comp=N,37nm,5.1s						
KSH				LR	LR		
	comp=E,45nm,5.8s						
KSH				LR	LR		
	comp=Z,110nm,5.0s						
WR1	**Warramunga Arr**	**137.09**	**256**	*e*PKPdf	**PKPdf**	**21 49 01.6**	**-1.6**
WRA	**Warramunga Arr**	**137.09**	**256**	PKP	**PKPdf**	**21 49 01.6**	**-1.6**
	comp=Z,1.1nm,0.9s,baz=82,slow=1.2,SNR=7.9						
AS31	**Alice Springs**	**137.33**	**250**	*e*PKPdf	**PKPdf**	**21 49 02.8**	**-0.8**
ASAR	**Alice Springs**	**137.33**	**250**	PKP	**PKPdf**	**21 49 02.8**	**-0.8**
	comp=Z,0.5nm,0.9s,baz=107,slow=4.3,SNR=4.1						
CM31	**Chiang Mai Arr**	**146.39**	**344**	*e*PKPdf	**PKPab**	**21 49 21.4**	**-0.4**
CMAR	**Chiang Mai Arr**	**146.39**	**344**	PKPbc	**PKPab**	**21 49 21.4**	**-0.4**
	comp=Z,0.5nm,0.3s,baz=358,slow=3.2,SNR=3.8						

IGIL ***25*** *21:31:23.3, 37.32N×16.33W, h17km, ML2.7*
MDD ***25*** *21:31:25.3±2.2, 37.65N×15.94W, h0km, mb4.0/13, Error ellipse: s-maj=21.6km s-min=18.8km az=11.0, PRX/IMO*
INMG ***25*** *21:31:26.9±1.0, 37.33N×16.32W, h10km, ML2.8, Error ellipse: s-maj=6.6km s-min=2.1km az=124.0*
CSEM ***25*** *21:31:29.4±0.4, 37.65N×15.54W, h10km, ML3.6/6, Error ellipse: s-maj=8.5km s-min=6.5km az=16.0*

ISC 25 21:31:19.3±0.8, 37.51N±0.03×16.09W±0.05, h10km, n86, σ279/127, Azores-Cape St. Vincent Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMPS	**Porto Santo**	**4.44**	**183**	*e*Pn	**Pn**	**21 32 25.2**	**-1.6**
PMPS				*e*Sn	Sn	21 33 09.8	-8.7
PMPS				A	A	21 33 11.2	
	5.1nm,0.3s						
PMPS	**Porto Santo**	**4.44**	**183**	P	**Pn**	**21 32 25.2**	**-1.6**
PMPS				S	Sn	21 33 09.8	-8.7
	2.6nm,0.3s						
PMOZ	**Porto Moniz, M**	**4.76**	**191**	*e*Pn	**Pn**	**21 32 30.7**	**-0.5**
PMOZ				*e*Sn	Sn	21 33 17.9	-8.6
PMOZ				A	A	21 33 19.3	
	24nm,0.5s						
PMOZ	**Porto Moniz, M**	**4.76**	**191**	P	**Pn**	**21 32 30.7**	**-0.5**
PMOZ				S	Sn	21 33 17.9	-8.6
	24nm,0.5s						
PMAR	**Madeira**	**4.82**	**188**	*e*Pn	**Pn**	**21 32 30.9**	**-1.2**
PMAR				*e*Sn	Sn	21 33 18.5	-10
PMAR				A	A	21 33 23.3	
	13nm,0.2s						
PMAR	**Madeira**	**4.82**	**188**	P	**Pn**	**21 32 30.9**	**-1.2**
PMAR				S	Sn	21 33 18.5	-10
	6.3nm,0.2s						
PMAFR	**Mafra**	**5.55**	**73**	*e*Pn	**Pn**	**21 32 46.5**	**+4.5**
PMAFR				*e*Sn	**Sn**	**21 33 47.0**	**+1.1**
PMAFR				A	A	21 33 52.3	
	16nm,0.6s						
PMAFR	**Mafra**	**5.55**	**73**	P	**Pn**	**21 32 46.5**	**+4.5**
	4.4nm,0.1s,SNR=14						
PMAFR				S	**Sn**	**21 33 45.6**	**-0.3**
	1.5nm,0.3s,SNR=69						
PMAFR	**Mafra**	**5.55**	**73**	P	**Pn**	**21 32 46.5**	**+4.5**
	4.4nm,0.1s,SNR=14						
PMAFR				S	**Sn**	**21 33 45.6**	**-0.3**
	1.5nm,0.3s,SNR=69						
PMAFR				*e*Sn	**Sn**	**21 33 47.0**	**+1.1**
	16nm,0.6s						
PMST	**Lisbon--Monsan**	**5.58**	**75**	*e*Sn	**Sn**	**21 33 46.1**	**-0.5**
PMST	**Lisbon--Monsan**	**5.58**	**75**	*e*Sn	**Sn**	**21 33 46.1**	**-0.5**
PFVI	**Vila Bisbo**	**5.80**	**91**	*e*Pn	**Pn**	**21 32 49.0**	**+3.6**
PFVI				*e*Sn	**Sn**	**21 33 50.7**	**-1.3**
PFVI	**Vila Bisbo**	**5.80**	**91**	P	**Pn**	**21 32 49.1**	**+3.6**
	2.9nm,0.1s,SNR=7.9						
PFVI				S	**Sn**	**21 33 51.2**	**-0.8**
	8.4nm,0.5s,SNR=7.9						
PFVI	**Vila Bisbo**	**5.80**	**91**	P	**Pn**	**21 32 49.1**	**+3.6**
	2.9nm,0.1s,SNR=7.9						
PFVI				*e*Sn	**Sn**	**21 33 50.7**	**-1.3**
PFVI				S	**Sn**	**21 33 51.2**	**-0.8**
	8.4nm,0.5s,SNR=7.9						
PTEO	**Sao Teotonio**	**5.86**	**87**	*e*Pn	**Pn**	**21 32 50.0**	**+3.8**
PTEO				*e*Sn	**Sn**	**21 33 52.4**	**-0.9**
PTEO				A	A	21 33 56.2	
	7.1nm,0.3s						
PTEO	**Sao Teotonio**	**5.86**	**87**	P	**Pn**	**21 32 50.0**	**+3.8**
PTEO				S	**Sn**	**21 33 52.4**	**-0.9**
	3.6nm,0.3s						
PTEO	**Sao Teotonio**	**5.86**	**87**	P	**Pn**	**21 32 50.0**	**+3.8**
PTEO				S	**Sn**	**21 33 52.4**	**-0.9**
	3.6nm,0.3s						
PNCL	**Nicolau / Gran**	**6.02**	**82**	*e*Pn	**Pn**	**21 32 51.8**	**+3.4**
PNCL				*e*Sn	**Sn**	**21 33 56.8**	**-0.5**
PNCL				A	A	21 34 02.0	
	4.9nm,0.2s						
PNCL	**Nicolau / Gran**	**6.02**	**82**	*e*Pn	**Pn**	**21 32 51.8**	**+3.4**
PNCL				*e*Sn	**Sn**	**21 33 56.8**	**-0.5**
	4.9nm,0.2s						
MESJ	**Messejana**	**6.25**	**85**	*e*P	**Pn**	**21 32 55.2**	**+3.6**
MESJ				*e*S	**Sn**	**21 34 02.5**	**-0.7**
MESJ				AML	AML	21 34 04.6	
	comp=N,8.0nm,0.3s						
MESJ	**Messejana**	**6.25**	**85**	*e*Pn	**Pn**	**21 32 55.6**	**+4.0**
MESJ				*e*Sn	**Sn**	**21 34 02.4**	**-0.7**
MESJ				A	A	21 34 07.7	
	comp=N,4.4nm,0.3s						
MESJ	**Messejana**	**6.25**	**85**	P	**Pn**	**21 32 55.6**	**+4.0**
MESJ				S	**Sn**	**21 34 02.4**	**-0.7**
	comp=N,4.4nm,0.3s						
MESJ	**Messejana**	**6.25**	**85**	P	**Pn**	**21 32 55.6**	**+4.0**
MESJ				S	**Sn**	**21 34 02.4**	**-0.7**
	comp=N,4.4nm,0.3s						
PTOM	**Tomar**	**6.38**	**68**	*e*Sn	**Sn**	**21 34 06.0**	**-0.2**
PTOM				A	A	21 34 09.5	
	comp=N,4.9nm,0.3s						
PTOM	**Tomar**	**6.38**	**68**	S	**Sn**	**21 34 06.0**	**-0.2**
	comp=N,2.5nm,0.3s						
PTOM	**Tomar**	**6.38**	**68**	S	**Sn**	**21 34 06.0**	**-0.2**
	comp=N,2.5nm,0.3s						
PCAS	**Casmilo, Conde**	**6.45**	**64**	*e*Pn	**Pn**	**21 32 58.8**	**+4.4**
PCAS				*e*Sn	**Sn**	**21 34 08.1**	**0.0**
PCAS				A	A	21 34 09.6	
	comp=N,2.2nm,0.3s						
PCAS	**Casmilo, Conde**	**6.45**	**64**	*e*Pn	**Pn**	**21 32 58.8**	**+4.4**
PCAS				*e*Sn	**Sn**	**21 34 08.1**	**0.0**
	comp=N,2.2nm,0.3s						
EVO	**Evora**	**6.46**	**78**	*e*Sn	**Sn**	**21 34 07.3**	**-0.9**
EVO				A	A	21 34 12.6	
	comp=N,6.8nm,0.1s						
EVO	**Evora**	**6.46**	**78**	S	**Sn**	**21 34 07.3**	**-0.9**
	comp=N,6.8nm,0.1s						
EVO	**Evora**	**6.46**	**78**	S	**Sn**	**21 34 07.3**	**-0.9**
	comp=N,6.8nm,0.1s						
PBDV	**Barranco-do-Ve**	**6.50**	**90**	*e*Pn	**Pn**	**21 32 58.7**	**+3.6**
PBDV				*e*Sn	**Sn**	**21 34 08.3**	**-1.1**
PBDV				A	A	21 34 12.9	
	comp=N,3.8nm,0.7s						
PBDV	**Barranco-do-Ve**	**6.50**	**90**	P	**Pn**	**21 32 58.7**	**+3.6**
PBDV				S	**Sn**	**21 34 08.3**	**-1.1**
	comp=N,3.8nm,0.7s						
PBDV	**Barranco-do-Ve**	**6.50**	**90**	P	**Pn**	**21 32 58.7**	**+3.6**
PBDV				S	**Sn**	**21 34 08.3**	**-1.1**
	comp=N,3.8nm,0.7s						
PBEJ	**Beja**	**6.54**	**83**	*e*Sn	**Sn**	**21 34 08.6**	**-1.5**
PBEJ	**Beja**	**6.54**	**83**	S	**Sn**	**21 34 08.6**	**-1.5**
PBEJ	**Beja**	**6.54**	**83**	*e*Sn	**Sn**	**21 34 08.6**	**-1.5**
PVAQ	**Vaqueiros**	**6.66**	**88**	*e*Pn	**Pn**	**21 33 00.6**	**+3.3**
PVAQ				*e*Sn	**Sn**	**21 34 11.7**	**-1.5**
PVAQ				A	A	21 34 18.0	
	comp=N,3.9nm,0.1s						
PVAQ	**Vaqueiros**	**6.66**	**88**	P	**Pn**	**21 33 00.6**	**+3.3**
PVAQ				S	**Sn**	**21 34 11.7**	**-1.5**
	comp=N,3.9nm,0.1s						
PVAQ	**Vaqueiros**	**6.66**	**88**	P	**Pn**	**21 33 00.6**	**+3.3**
PVAQ				*e*Sn	**Sn**	**21 34 11.7**	**-1.5**
	comp=N,3.9nm,0.1s						
PESTR	**Estremoz**	**6.83**	**76**	*e*Sn	**Sn**	**21 34 16.2**	**-1.2**
PESTR				A	A	21 34 21.5	
	comp=N,1.9nm,0.2s						
PESTR	**Estremoz**	**6.83**	**76**	*e*Sn	**Sn**	**21 34 16.2**	**-1.2**
	comp=N,1.9nm,0.2s						
EGRO	**El Granado**	**6.84**	**87**	P	**Pn**	**21 33 03.8**	**+4.1**
	comp=N,0.6nm,0.1s,SNR=7.9						
EGRO				S	**Sn**	**21 34 16.9**	**-0.7**
	comp=N,2.3nm,0.2s,SNR=6.5						
EGRO	**El Granado**	**6.84**	**87**	P	**Pn**	**21 33 03.8**	**+4.1**
	comp=N,0.6nm,0.1s,SNR=7.9						
EGRO				S	**Sn**	**21 34 16.9**	**-0.7**
	comp=N,2.3nm,0.2s,SNR=6.5						
PMRV	**Marv??o**	**7.09**	**72**	*e*Pn	**Pn**	**21 33 07.4**	**+4.2**
PMRV				*e*Sn	**Sn**	**21 34 22.1**	**-1.7**
PMRV				A	A	21 34 24.9	
	comp=N,4.1nm,0.3s						
PMRV	**Marv??o**	**7.09**	**72**	P	**Pn**	**21 33 07.4**	**+4.2**
PMRV				S	**Sn**	**21 34 22.1**	**-1.7**
	comp=N,4.1nm,0.3s						
PMRV	**Marv??o**	**7.09**	**72**	P	**Pn**	**21 33 07.4**	**+4.2**
PMRV				S	**Sn**	**21 34 22.1**	**-1.7**
	comp=N,4.1nm,0.3s						
PCBR	**Castelo Branco**	**7.13**	**68**	*e*Sn	**Sn**	**21 34 22.5**	**-2.2**
PCBR	**Castelo Branco**	**7.13**	**68**	S	**Sn**	**21 34 22.5**	**-2.2**
PCBR	**Castelo Branco**	**7.13**	**68**	S	**Sn**	**21 34 22.5**	**-2.2**
PVIS	**Viseu**	**7.13**	**61**	*e*Pn	Pn	21 33 08.3	+4.5
PVIS				*e*Sn	**Sn**	**21 34 24.5**	**-0.4**
PVIS				A	A	21 34 27.5	
	comp=N,4.8nm,0.1s						
PVIS	**Viseu**	**7.13**	**61**	P	Pn	21 33 08.3	+4.5
PVIS				S	**Sn**	**21 34 24.5**	**-0.4**
	comp=N,2.4nm,0.1s						
PVIS	**Viseu**	**7.13**	**61**	P	Pn	21 33 08.3	+4.5
PVIS				S	**Sn**	**21 34 24.5**	**-0.4**
	comp=N,2.4nm,0.1s						
PBAR	**Barrancos**	**7.20**	**82**	*e*Pn	Pn	21 33 09.1	+4.5
PBAR				*e*Sn	**Sn**	**21 34 24.6**	**-1.7**
PBAR				A	A	21 34 32.5	
	comp=N,4.6nm,0.2s						
PBAR	**Barrancos**	**7.20**	**82**	P	Pn	21 33 09.1	+4.5
PBAR				S	**Sn**	**21 34 24.6**	**-1.7**
	comp=N,4.6nm,0.2s						
PBAR	**Barrancos**	**7.20**	**82**	P	Pn	21 33 09.1	+4.5
PBAR				S	**Sn**	**21 34 24.6**	**-1.7**
	comp=N,4.6nm,0.2s						
EBAD	**Badajoz**	**7.26**	**77**	P	**Pn**	**21 33 09.7**	**+4.2**
	comp=N,0.7nm,0.1s,SNR=10						
EBAD				S	**Sn**	**21 34 25.9**	**-2.1**
	comp=N,1.6nm,0.2s,SNR=6.7						
EBAD	**Badajoz**	**7.26**	**77**	P	**Pn**	**21 33 09.7**	**+4.2**
	comp=N,0.7nm,0.1s,SNR=10						
EBAD				S	**Sn**	**21 34 25.9**	**-2.1**
	comp=N,1.6nm,0.2s,SNR=6.7						
EMIN	**Mina Concepcio**	**7.48**	**85**	P	**Pn**	**21 33 12.4**	**+3.9**
	comp=N,0.5nm,0.1s,SNR=7.9						
EMIN				S	**Sn**	**21 34 31.3**	**-2.0**
	comp=N,0.1nm,0.2s,SNR=5.8						
EMIN	**Mina Concepcio**	**7.48**	**85**	P	**Pn**	**21 33 12.4**	**+3.9**
	comp=N,0.5nm,0.1s,SNR=7.9						
EMIN				S	**Sn**	**21 34 31.3**	**-2.0**
	comp=N,0.1nm,0.2s,SNR=5.8						
PGAV	**Gavieira, Arco**	**7.49**	**51**	*e*Pn	Pn	21 33 13.5	+4.8
PGAV				*e*Sn	**Sn**	**21 34 31.2**	**-2.6**
PGAV				A	A	21 34 35.2	
	comp=N,3.7nm,0.5s						
PGAV	**Gavieira, Arco**	**7.49**	**51**	*e*Pn	Pn	21 33 13.5	+4.8
POLO	**Lamas de Olo**	**7.49**	**56**	*e*Pn	Pn	21 33 13.6	+4.9
POLO	**Lamas de Olo**	**7.49**	**56**	*e*Pn	Pn	21 33 13.6	+4.9
PCAB	**Cabril**	**7.51**	**53**	*e*Pn	Pn	21 33 13.7	+4.8
PCAB				*e*Sn	**Sn**	**21 34 33.7**	**-0.4**
PCAB				A	A	21 34 37.0	
	comp=N,4.5nm,0.8s						
PCAB	**Cabril**	**7.51**	**53**	P	Pn	21 33 13.7	+4.8
PCAB				S	**Sn**	**21 34 33.7**	**-0.4**
	comp=N,2.2nm,0.8s						
PCAB	**Cabril**	**7.51**	**53**	P	Pn	21 33 13.7	+4.8
PCAB				S	**Sn**	**21 34 33.7**	**-0.4**
	comp=N,2.2nm,0.8s						
ELOB	**Lobios**	**7.57**	**52**	P	**Pn**	**21 33 13.0**	**+3.2**
	comp=N,0.5nm,0.1s,SNR=6.5						
ELOB				S	**Sn**	**21 34 30.9**	**-4.8**
	comp=N,0.3nm,0.3s,SNR=4.5						
ELOB	**Lobios**	**7.57**	**52**	P	**Pn**	**21 33 13.0**	**+3.2**
	comp=N,0.5nm,0.1s,SNR=6.5						
EMAZ	**Mazaricos**	**7.69**	**43**	S	**Sn**	**21 34 33.0**	**-5.6**
	comp=N,2.2nm,0.4s,SNR=7.9						
MVO	**Moncorvo**	**7.92**	**60**	*e*Sn	**Sn**	**21 34 43.2**	**-1.0**
MVO				A	A	21 34 47.4	
	comp=N,2.5nm,0.3s						
MVO	**Moncorvo**	**7.92**	**60**	P	**Pn**	**21 33 17.7**	**+3.2**
	comp=N,0.4nm,0.1s,SNR=7.9						
MVO				S	**Sn**	**21 34 40.3**	**-3.9**
	comp=N,1.0nm,0.3s,SNR=5.6						
MVO	**Moncorvo**	**7.92**	**60**	P	**Pn**	**21 33 17.7**	**+3.2**
	comp=N,0.4nm,0.1s,SNR=7.9						
MVO				*e*Sn	**Sn**	**21 34 43.2**	**-1.0**
	comp=N,2.5nm,0.3s						
EAGO	**Agolada(Pontev**	**8.09**	**47**	P	**Pn**	**21 33 19.5**	**+2.6**
	comp=N,0.8nm,0.2s,SNR=7.9						
EAGO				S	**Sn**	**21 34 43.6**	**-4.8**
	comp=N,1.3nm,0.1s,SNR=7.9						
EAGO	**Agolada(Pontev**	**8.09**	**47**	P	**Pn**	**21 33 19.5**	**+2.6**
	comp=N,0.8nm,0.2s,SNR=7.9						
ESPR	**Espera**	**8.19**	**91**	P	Pn	21 33 23.7	+5.4
	comp=N,0.6nm,0.2s,SNR=7.9						
ESPR				S	**Sn**	**21 34 50.3**	**-0.6**
	comp=N,4.2nm,0.2s,SNR=7.9						
ESPR	**Espera**	**8.19**	**91**	P	Pn	21 33 23.7	+5.4
	comp=N,0.6nm,0.2s,SNR=7.9						
ESPR				S	**Sn**	**21 34 50.3**	**-0.6**
	comp=N,4.2nm,0.2s,SNR=7.9						
EPLA	**Plasencia**	**8.22**	**69**	P	**Pn**	**21 33 22.9**	**+4.1**
	comp=N,0.3nm,0.2s,SNR=7.9						
EPLA				S	**Sn**	**21 34 47.3**	**-4.4**
	comp=N,0.8nm,0.2s,SNR=7.9						
EPLA	**Plasencia**	**8.22**	**69**	P	**Pn**	**21 33 22.9**	**+4.1**
	comp=N,0.3nm,0.2s,SNR=7.9						
ECAL	**Calabor**	**8.46**	**56**	P	**Pn**	**21 33 25.1**	**+3.1**
	comp=N,0.5nm,0.2s,SNR=7.9						
ECAL				S	**Sn**	**21 34 53.3**	**-4.2**
	comp=N,0.2nm,0.2s,SNR=6.7						
ECAL	**Calabor**	**8.46**	**56**	P	**Pn**	**21 33 25.1**	**+3.1**
	comp=N,0.5nm,0.2s,SNR=7.9						
ECAB	**El Cabril**	**8.47**	**83**	P	**Pn**	**21 33 26.2**	**+4.1**
	comp=N,0.4nm,0.2s,SNR=7.5						
ECAB				S	**Sn**	**21 34 54.3**	**-3.5**
	comp=N,0.6nm,0.3s,SNR=7.9						
ECAB	**El Cabril**	**8.47**	**83**	P	**Pn**	**21 33 26.2**	**+4.1**
	comp=N,0.4nm,0.2s,SNR=7.5						
ECAB				S	**Sn**	**21 34 54.3**	**-3.5**
	comp=N,0.6nm,0.3s,SNR=7.9						
EPON	**Pontenova**	**8.96**	**47**	S	**Sn**	**21 35 04.0**	**-5.7**
	comp=N,1.4nm,0.3s,SNR=7.9						
EADA	**Adamuz**	**9.13**	**82**	P	**Pn**	**21 33 35.3**	**+4.1**
	comp=N,0.4nm,0.1s,SNR=7.9						
EADA				S	**Sn**	**21 35 12.2**	**-1.9**
	comp=N,0.9nm,0.1s,SNR=7.9						
EADA	**Adamuz**	**9.13**	**82**	P	**Pn**	**21 33 35.3**	**+4.1**
	comp=N,0.4nm,0.1s,SNR=7.9						
EADA				S	**Sn**	**21 35 12.2**	**-1.9**
	comp=N,0.9nm,0.1s,SNR=7.9						

MEX 25 21:46:44.4±0.5, 17.19N×99.60W, h31km±6km, MD3.9, Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ACP2	**Acapulco**	**0.41**	**222**	*i* P	Pb	21 46 51.6	-1.9
ACP2				*e*S	Sb	21 46 58.8	-1.0
CAIG	**El Cayaco**	**0.65**	**258**	*i* P	Pb	21 46 55.0	-2.4
CAIG				*e*S	Sb	21 47 03.5	-2.7
MEIG	**Mezcala**	**0.74**	**358**	*i* P	Pn	21 46 56.2	-2.6
MEIG				*e*S	Sb	21 47 05.5	-3.1
TLIG	**Tlapa**	**1.05**	**69**	*e*P	Pn	21 47 01.0	-2.2
TLIG				*i* S	Sn	21 47 13.6	-3.3
PLIG	**Platanillo**	**1.20**	**4**	*e*P	Pn	21 47 03.5	-1.8
PLIG				*e*S	Sn	21 47 17.9	-2.7
ARIG	**Puente Sto Nin**	**1.30**	**327**	*e*P	Pn	21 47 04.7	-1.8
ARIG				*i* S	Sn	21 47 20.0	-2.9
PNIG	**Pinotepa**	**1.62**	**119**	*i* P	Pn	21 47 08.2	-2.6
PNIG				*i* S	Sn	21 47 27.8	-2.8
YAIG	**Yautepec**	**1.74**	**17**	*e*P	Pn	21 47 10.5	-2.2
YAIG				*i* S	Sn	21 47 31.3	-2.7
ZIIG	**Zihuatanejo**	**1.83**	**283**	*e*P	Pn	21 47 11.9	-1.9
ZIIG				*i* S	Sn	21 47 33.1	-2.8

PGC 25 22:02:37.2±6.2, 50.87N×130.46W, h10km, MLSn3.0/5, Mw3.6/5, 214km west of Pt. Hardy, Bc Vancouver Island, Canada Region, Vancouver Island region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PHC	**Port Hardy**	**1.93**	**94**	Pn	Pn	22 03 07.9	-2.2
PHC				Sn	Sn	22 03 30.2	-4.1
BBB	**Bella Bella**	**1.97**	**47**	Pn	Pn	22 03 08.8	-1.8
BBB				Sn	Sn	22 03 31.6	-3.8
TLCB	**Telegraph Cove**	**2.33**	**97**	Pn	Pn	22 03 13.9	-1.6
TLCB				Sn	Sn	22 03 40.8	-3.4
WOSB	**Woss**	**2.58**	**104**	Pn	Pn	22 03 17.3	-1.8
NCRB	**Newcastle Ridg**	**2.84**	**98**	Pn	Pn	22 03 21.8	-0.9

IDC 25 22:08:51.0±5.0, 15.20S×65.71E, h0km, mb3.6/3, mb1 3.9/3, mb1mx3.3/38, mbtmp3.6/3, Error ellipse: s-maj=474.2km s-min=33.3km az=30.0, Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
H08S1	**Diego Garcia H**	**10.01**	**42**	T	T	22 20 31.8	
	baz=222,slow=76,SNR=76						
H08S2	**Diego Garcia H**	**10.02**	**42**	T	T	22 20 31.6	
	baz=222,slow=76,SNR=70						
H08S3	**Diego Garcia H**	**10.03**	**42**	T	T	22 20 32.4	
	baz=222,slow=76,SNR=70						
H08N3	**Diego Garcia H**	**10.21**	**31**	T	T	22 21 09.5	
	baz=210,slow=75,SNR=975						
H08N1	**Diego Garcia H**	**10.22**	**31**	T	T	22 21 06.7	
	baz=210,slow=75,SNR=875						
H08N2	**Diego Garcia H**	**10.23**	**31**	T	T	22 21 11.1	
	baz=210,slow=75,SNR=856						
PSI	**Prapat**	**37.42**	**64**	P	P	22 15 33.8	-33
	10nm,0.4s,baz=186,slow=8.8,SNR=5.2						
ASAR	**Alice Springs**	**64.35**	**109**	P	P	22 19 28.6	-0.6
	0.8nm,0.9s,baz=256,slow=5.0,SNR=6.3						
WRA	**Warramunga Arr**	**65.21**	**105**	P	P	22 19 35.2	+0.5
	0.5nm,0.8s,baz=271,slow=5.7,SNR=6.4						
ESDC	**Sonseca Array**	**84.66**	**313**	P	P	22 21 26.6	-0.2
	0.1nm,0.4s,baz=122,slow=4.4,SNR=4.9						
PDAR	**Pinedale Array**	**152.23**	**353**	PKPbc	PKPbc	22 28 49.5	+0.2
	0.6nm,0.6s,baz=62,slow=3.1,SNR=6.0						

IDC 25 22:15:48.7±3.6, 14.09S×75.21W, h77km±27km, mb3.4/1, mb1 3.4/3, mb1mx3.1/32, mbtmp3.6/3, MS3.1/1, Ms1 3.2/1, ms1mx2.5/11, Error ellipse: s-maj=93.9km s-min=28.9km az=31.0, Near coast of Peru

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NNA	**Nana**	**2.63**	**323**	P	Pn	22 16 29.2	+0.1
	4.8nm,0.3s,baz=127,slow=8.5,SNR=11						
NNA				S	Sn	22 17 06.2	+6.2
	7.8nm,0.3s,baz=202,slow=19,SNR=4.4						
LPAZ	**La Paz**	**7.18**	**109**	P	Pn	22 17 31.4	-0.2
	0.8nm,0.3s,baz=302,slow=8.7,SNR=14						
CPUP	**Villa Florida**	**20.70**	**129**	LR	LR	22 29 46.2	
	comp=Z,62nm,21.2s,baz=246,slow=40						
TORD	**Torodi Ar. Bea**	**80.83**	**74**	P	P	22 27 55.1	+0.3
	0.4nm,0.5s,baz=249,slow=4.5,SNR=6.3						
WRA	**Warramunga Arr**	**135.40**	**221**	PKP	PKPdf	22 34 59.4	-1.3
	0.2nm,0.4s,baz=136,slow=2.0,SNR=4.7						

FUNV ***25*** *22:27:59.6, 6.69N×73.26W, h166km, MW3.1*
ISCJB ***25*** *22:28:00.8±0.6, 6.85N±0.03×73.07W±0.03, h155km±6km, Error ellipse: s-maj=6.3km s-min=3.8km az=35.7*
RSNC ***25*** *22:28:02.5±0.5, 6.82N×73.08W, h147km±4km, ML2.8*

ISC 25 22:28:01.2±1.4, 6.83N±0.04×73.07W±0.04, h155km±8km, n23, σ0967/41, 1C-1D, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BTLC	**Betulia, Santa**	**0.22**	**293**	*e*P	**Pn**	**22 28 22.5**	**+0.2**
BARC	**Barichara**	**0.26**	**206**	*i* P	**Pn**	**22 28 22.2**	**-0.2**
BARC				*e*S	**Sn**	**22 28 37.5**	**-1.2**
BARC				*i*		22 28 39.8	
	comp=Z,147nm,0.3s						
BRRC	**Barranca, Sant**	**0.70**	**293**	⇑*i* P	**Pn**	**22 28 24.2**	**0.0**
BRRC				*i*		22 28 40.7	
	comp=Z,118nm,0.1s						
BRRC				*e*S	**Sn**	**22 28 41.2**	**-0.4**
RUSC	**La Rusia**	**0.93**	**181**	*e*P	**Pn**	**22 28 26.0**	**-0.4**
RUSC				*i*		22 28 27.3	
	comp=Z,43nm,0.1s						
RUSC				*e*S	**Sn**	**22 28 45.0**	**-0.8**
CAPV	**Capacho**	**1.27**	**36**	⇓*i* P	**Pn**	**22 28 30.3**	**+1.2**
CAPV				*e*S	**Sn**	**22 28 52.1**	**+1.7**
OCAC	**Ocana**	**1.42**	**350**	*e*P	**Pn**	**22 28 31.2**	**+0.7**
OCAC				*e*S	**Sn**	**22 28 52.8**	**-0.1**
OCAC				*i*		22 28 56.9	
	comp=Z,58nm,0.2s						
YOPC	**Yopal, Colombi**	**1.60**	**156**	*e*P	**Pn**	**22 28 32.8**	**+0.5**
YOPC				*e*S	**Sn**	**22 28 56.2**	**-0.1**
ZARC	**Zaragoza, Cauc**	**1.89**	**290**	*e*P	**Pn**	**22 28 35.6**	**+0.2**
ZARC				*e*S	**Sn**	**22 29 01.3**	**-0.4**

fault plane solution: P waves. NP1:ϕ_s138.00000°, δ49.00000°,λ-101.00000°. NP2:ϕ_s335.00000°, δ43.00000°,λ-77.00000°. Principal axes: T Plg3.0000°, Azm236.0000°; N Plg9.0000°, Azm146.0000°; P Plg81.0000°, Azm344.0000°;
JMA Felt III J1.
NEIC ***25*** *22:30:54.8±0.3,36.76N×140.60E,h35km,mb4.6/11 Error ellipse: s-maj=7.8km s-min=6.9km az=169.0*
NEIC Recorded [3 JMA] in Ibaraki.

ISC 25 22:30:50.4±1.1,36.74N±0.04×140.59E±0.04,h6km±7km, n81,σ1°11/77,mb4.3/24,MS2.8/4,5C-1D,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JHO	**Hitachi**	**0.13**	**189**	⇑P	**Pg**	**22 30 53.1**	**+0.1**
JHO				S	**Sg**	**22 30 54.8**	**0.0**
ONAJ	**Iwakimizuishiy**	**0.40**	**24**	⇑P	**Pg**	**22 30 59.4**	**+1.2**
ONAJ				S	**Sb**	**22 31 05.5**	**-0.9**
JSB	**Shiboa**	**0.59**	**293**	P	**Pb**	**22 31 03.6**	**+0.5**
JYT	**Yasato**	**0.60**	**212**	⇑P	**Pg**	**22 31 02.1**	**+0.2**
JYT				S	**Sg**	**22 31 09.7**	**0.0**
JFK	**Kawauchi**	**0.67**	**20**	⇑P	**Pg**	**22 31 04.2**	**+0.9**
JFK				S	**Sb**	**22 31 13.8**	**-0.3**
JFT	**Otama**	**0.81**	**345**	⇓P	**Pb**	**22 31 07.3**	**+0.4**
JAG	**Ashikaga**	**0.97**	**252**	⇑P	**Pg**	**22 31 08.7**	**-0.3**
JFY	**Yanaizu**	**0.98**	**314**	P	**Pb**	**22 31 10.2**	**+0.5**
MJAR	**Matsushiro Arr**	**1.93**	**265**	Pn	**Pn**	**22 31 24.6**	**+0.8**
	43nm,0.3s,baz=83,slow=10,SNR=220						
MJAR				Lg	Lg	22 31 48.5	
	38nm,0.3s,baz=79,slow=26,SNR=15						
MJAR				LR	LR	22 32 15.0	
	comp=Z,194nm,20.7s,baz=90,slow=46						
MJAR	**Matsushiro Arr**	**1.93**	**265**	Pn	**Pn**	**22 31 24.6**	**+0.8**
MJAR				Lg	Lg	22 31 48.5	
MAJO	**Matsushiro**	**1.93**	**265**	*e*Pn	**Pb**	**22 31 25.1**	**-0.9**
MAJO				*e*Sn	**Sb**	**22 31 50.7**	**+0.4**
MAT	**Matsushiro**	**1.93**	**265**	P	**Pn**	**22 31 25.0**	**+1.2**
MAT				S	**Sb**	**22 31 50.5**	**+0.2**
MJB9	**Matsu-Tunnel**	**1.93**	**265**	*e*Pn	**Pb**	**22 31 25.4**	**-0.7**
MJB9				*e*Sn	**Sb**	**22 31 49.9**	**-0.5**
INU	**Inuyama**	**3.21**	**246**	*e*Pn	**Pn**	**22 31 43.8**	**+2.4**
INU				*e*Sn	**Sn**	**22 32 23.5**	**+3.6**
ERM	**Erimo**	**5.63**	**20**	*e*Pn	Pn	22 32 09.3	-5.3
ERM				*e*Sn	Sn	22 33 10.3	-9.4
ASAJ	**Asahikawa**	**7.53**	**11**	*e*Pn	Pn	22 32 34.7	-6.0
USRK	**Ussuriysk Ar.**	**9.92**	**321**	Pn	**Pn**	**22 33 13.6**	**+0.1**
	baz=114,slow=18,SNR=2.2						
KSRS	**Korea Array**	**10.15**	**278**	Pn	**Pn**	**22 33 16.2**	**-0.4**
	baz=90,slow=15,SNR=3.3						
KSRS				LR	LR	22 36 45.7	
	comp=Z,60nm,20.7s,baz=99,slow=35						
KS15	**Wonju Array Si**	**10.18**	**278**	*e*Pn	**Pn**	**22 33 16.2**	**-0.8**
KSAR	**Wonju Array Be**	**10.18**	**278**	Pn	**Pn**	**22 33 16.2**	**-0.8**
MDJ	**Mudanjiang**	**11.47**	**317**	*e*Pn	**Pn**	**22 33 30.7**	**-3.9**
PETK	**Petropavlovsk-**	**20.28**	**31**	LR	LR	22 44 10.0	
	comp=Z,266nm,18.3s,baz=148,slow=39						
MA2	**Magadan**	**23.79**	**13**	LR	LR	22 45 15.5	
	comp=Z,23nm,19.2s,baz=150,slow=36						
SONA1	**Songino Array**	**27.41**	**305**	*e*P	**P**	**22 36 35.9**	**-0.9**
SONA0	**Songino Array**	**27.41**	**305**	*e*P	**P**	**22 36 37.1**	**+0.3**
	2.6nm,0.7s						
SONM	**Songino Array**	**27.41**	**305**	P	**P**	**22 36 37.1**	**+0.3**
	2.5nm,0.8s,baz=105,slow=8.4,SNR=12						
SONM	**Songino Array**	**27.41**	**305**	P	**P**	**22 36 37.1**	**+0.3**
H11N2	**WAKE ISLAND Hy**	**28.57**	**119**	T	T	23 07 36.6	
	baz=313,slow=75,SNR=369						
H11N1	**WAKE ISLAND Hy**	**28.58**	**119**	T	T	23 07 37.0	
	baz=313,slow=75,SNR=353						
H11N3	**WAKE ISLAND Hy**	**28.59**	**119**	T	T	23 07 37.7	
	baz=313,slow=75,SNR=1522						
H11S1	**WAKE ISLAND Hy**	**29.26**	**121**	T	T	23 08 28.1	
	baz=314,slow=76,SNR=5055						
H11S3	**WAKE ISLAND Hy**	**29.26**	**121**	T	T	23 08 28.1	
	baz=314,slow=76,SNR=666						
H11S2	**WAKE ISLAND Hy**	**29.27**	**121**	T	T	23 08 29.3	
	baz=314,slow=76,SNR=506						
SLVN	**Son La**	**35.32**	**254**	*e*P	**P**	**22 37 46.5**	**-0.1**
	34nm,2.0s						
SPIA	**Saint Paul Isl**	**38.23**	**42**	*e*P	**P**	**22 38 08.8**	**-2.0**
	757nm,1.6s						
CMAR	**Chiang Mai Arr**	**40.78**	**255**	LR	LR	22 57 15.9	
	comp=Z,16nm,18.1s,baz=255,slow=39						
ZAA0	**Zalesovo Array**	**41.63**	**313**	*e*P	**P**	**22 38 39.5**	**+0.4**
ZAA1	**Zalesovo Array**	**41.63**	**313**	*e*P	**P**	**22 38 38.6**	**-0.5**
ZALV	**Zalesovo Beam**	**41.63**	**313**	P	**P**	**22 38 38.6**	**-0.5**
	3.1nm,0.5s,baz=96,slow=7.6,SNR=12						
ZALV	**Zalesovo Beam**	**41.63**	**313**	P	**P**	**22 38 38.6**	**-0.5**
MK01	**Makanchi Array**	**43.72**	**302**	*e*P	**P**	**22 38 58.1**	**+1.8**
MK31	**Makanchi Array**	**43.72**	**302**	*e*P	**P**	**22 38 58.2**	**+1.9**
MK32	**Makanchi Array**	**43.72**	**302**	*e*P	**P**	**22 38 56.5**	**+0.2**
MKAR	**Makanchi Array**	**43.72**	**302**	P	**P**	**22 38 56.5**	**+0.2**
	1.0nm,0.7s,baz=82,slow=9.9,SNR=9.2						
MKAR	**Makanchi Array**	**43.72**	**302**	*e*P	**P**	**22 38 57.2**	**+0.9**
	7.1nm,0.8s						
KURK	**Kurchatov**	**45.60**	**308**	*e*P	**P**	**22 39 10.9**	**-0.2**
	5.5nm,0.8s						
SUA	**Susitna One**	**48.49**	**37**	*e*P	**P**	**22 39 29.9**	**-3.9**
	14nm,1.4s						
HNR	**Honiara**	**49.39**	**154**	*e*P	**P**	**22 39 41.4**	**+0.4**
	78nm,0.4s						
IL1	**Eielson Array**	**50.10**	**32**	*e*P	**P**	**22 39 44.1**	**-1.8**
ILAR	**Eielson Array**	**50.10**	**32**	P	**P**	**22 39 46.6**	**+0.8**
	0.8nm,0.7s,baz=269,slow=6.1,SNR=7.1						
ILAR	**Eielson Array**	**50.10**	**32**	P	**P**	**22 39 46.6**	**+0.8**
COEN	**Coen**	**50.48**	**177**	*e*P	**P**	**22 39 50.9**	**+1.7**
	37nm,1.5s						
ARU	**Arti**	**56.15**	**319**	*e*P	**P**	**22 40 29.9**	**-0.7**
	4.3nm,0.8s						
WR1	**Warramunga Arr**	**56.68**	**187**	*e*P	**P**	**22 40 33.6**	**-1.0**
	16nm,1.6s						
WRA	**Warramunga Arr**	**56.68**	**187**	P	**P**	**22 40 33.6**	**-1.0**
	2.4nm,0.8s,baz=2.6,slow=7.4,SNR=24						
WRA	**Warramunga Arr**	**56.68**	**187**	P	**P**	**22 40 33.6**	**-1.0**
ABKAR	**Akbulak array**	**57.63**	**310**	*e*P	**P**	**22 40 41.0**	**-0.2**
	22nm,1.1s						
AS31	**Alice Springs**	**60.41**	**187**	*e*P	**P**	**22 41 00.6**	**0.0**
	3.2nm,1.7s						
ASAR	**Alice Springs**	**60.41**	**187**	P	**P**	**22 41 00.6**	**-0.1**
	1.3nm,0.8s,baz=9.4,slow=6.1,SNR=14						
ASAR	**Alice Springs**	**60.41**	**187**	P	**P**	**22 41 00.6**	**-0.1**
GEYT	**Alibeck**	**63.40**	**299**	LR	LR	23 10 56.4	
	comp=Z,17nm,19.6s,baz=220,slow=38						
FIA0	**FINESS Array S**	**68.77**	**332**	*e*P	**P**	**22 41 54.8**	**-0.1**
FINES	**FINESS Array B**	**68.77**	**332**	P	**P**	**22 41 54.8**	**-0.1**
	4.7nm,1.0s,baz=100,slow=7.9,SNR=8.7						
FINES	**FINESS Array B**	**68.77**	**332**	P	**P**	**22 41 54.8**	**-0.1**
AKASG	**Malin Array Be**	**74.13**	**322**	P	**P**	**22 42 26.8**	**-0.6**
	0.8nm,0.5s,baz=47,slow=5.9,SNR=8.6						
AKASG	**Malin Array Be**	**74.13**	**322**	P	**P**	**22 42 26.8**	**-0.6**
AKBB	**Malin Array Si**	**74.13**	**322**	*e*P	**P**	**22 42 26.8**	**-0.6**
	2.4nm,0.8s						
NB2	**NORSAR Subarra**	**74.20**	**337**	P	**P**	**22 42 27.7**	**0.0**
	comp=Z,1.5nm,0.8s,baz=38,slow=6.2						
NB200	**NORSAR Array S**	**74.20**	**337**	*e*P	**P**	**22 42 27.8**	**0.0**
NOA	**NORSAR Array B**	**74.20**	**337**	P	**P**	**22 42 27.8**	**0.0**
	comp=Z,1.5nm,0.8s,baz=40,slow=5.9,SNR=4.5						
NOA	**NORSAR Array B**	**74.20**	**337**	P	**P**	**22 42 27.8**	**0.0**
PD31	**Pinedale Array**	**78.34**	**45**	*e*P	**P**	**22 42 52.9**	**+1.1**
PDAR	**Pinedale Array**	**78.34**	**45**	P	**P**	**22 42 52.9**	**+1.1**
	comp=Z,0.4nm,0.5s,baz=300,slow=2.0,SNR=3.2						
PDAR	**Pinedale Array**	**78.34**	**45**	P	**P**	**22 42 52.9**	**+1.1**
GERES	**GERESS Array B**	**82.61**	**328**	P	**P**	**22 43 14.6**	**+0.1**
	comp=Z,0.4nm,0.4s,baz=42,slow=6.1,SNR=6.3						
GERES	**GERESS Array B**	**82.61**	**328**	P	**P**	**22 43 14.6**	**+0.1**
LTX	**Lajitas**	**90.82**	**52**	*e*P	**P**	**22 43 55.8**	**+0.7**
TXAR	**Lajitas Array**	**90.82**	**52**	P	**P**	**22 43 55.8**	**+0.7**
	comp=Z,0.4nm,0.7s,baz=328,slow=4.6,SNR=5.6						
TXAR	**Lajitas Array**	**90.82**	**52**	P	**P**	**22 43 55.8**	**+0.7**
LPAZ	**La Paz**	**147.41**	**59**	PKPbc	**PKPbc**	**22 50 36.4**	**0.0**
	comp=Z,1.3nm,0.7s,baz=0.7,slow=3.9,SNR=7.2						
LPAZ	**La Paz**	**147.41**	**59**	*e*PKPbc	**PKPbc**	**22 50 36.4**	**0.0**

ISCJB ***25*** *22:31:49.8±0.9,6.84N±0.04×73.09W±0.05,h154km±8km, Error ellipse: s-maj=9.5km s-min=5.6km az=32.4*
FUNV ***25*** *22:31:49.3,6.65N×73.20W,h151km, MW2.6*
RSNC ***25*** *22:31:52.0±0.5,6.80N×73.10W,h144km±5km, ML2.2*

ISC 25 22:31:50.1±1.6,6.82N±0.05×73.07W±0.06,h154km±11km, n15,σ0°62/25,Northern Colombia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BTLC	**Betulia, Santa**	**0.22**	**297**	*e*P	**Pn**	**22 32 11.6**	**+0.4**
BARC	**Barichara**	**0.25**	**206**	*e*P	**Pn**	**22 32 11.4**	**+0.1**
BARC				*e*S	**Sn**	**22 32 26.2**	**-1.2**
BARC				*i*		22 32 27.7	
	comp=Z,37nm,0.2s						
BRRC	**Barranca, Sant**	**0.69**	**294**	*e*P	**Pn**	**22 32 13.2**	**+0.2**
BRRC				*e*S	**Sn**	**22 32 30.2**	**-0.2**
BRRC				*i*		22 32 32.6	
	comp=Z,36nm,0.3s						
RUSC	**La Rusia**	**0.92**	**181**	*e*P	**Pn**	**22 32 15.4**	**+0.2**
RUSC				*e*S	**Sn**	**22 32 33.7**	**-0.6**
RUSC				*i*		22 32 35.5	
	comp=Z,21nm,0.3s						
CAPV	**Capacho**	**1.28**	**36**	*e*P	**Pn**	**22 32 18.7**	**+0.6**
CAPV				*e*S	**Sn**	**22 32 39.7**	**+0.2**
OCAC	**Ocana**	**1.43**	**350**	*e*P	**Pn**	**22 32 20.0**	**+0.5**
OCAC				*e*S	**Sn**	**22 32 42.4**	**+0.4**
OCAC				*i*		22 32 46.4	
	comp=Z,22nm,0.2s						
ZARC	**Zaragoza, Cauc**	**1.89**	**291**	*e*S	**Sn**	**22 32 50.2**	**-0.3**
ZARC				*i*		22 32 55.9	
	comp=Z,20nm,0.2s						
NORC	**Norcasia**	**2.18**	**235**	*e*P	**Pn**	**22 32 28.1**	**+0.5**
NORC				*e*S	**Sn**	**22 32 55.7**	**-0.8**
CHIC	**Chingaza**	**2.27**	**197**	*e*P	**Pn**	**22 32 29.8**	**+0.7**
CHIC				*e*S	**Sn**	**22 32 59.6**	**+0.5**
CHIC				*i*		22 33 06.2	
	comp=Z,8.3nm,0.5s						
VIGV	**El Vigia**	**2.63**	**40**	*e*P	**Pn**	**22 32 34.1**	**+1.0**
VIGV				*e*S	**Sn**	**22 33 06.7**	**+0.4**
SOCV	**Socops**	**2.64**	**56**	*e*P	**Pn**	**22 32 33.0**	**-0.1**
SOCV				*e*S	**Sn**	**22 33 06.1**	**-0.3**
ELOV	**Elorza**	**3.57**	**87**	*e*P	**Pn**	**22 32 45.2**	**+0.3**
VIRV	**Villa del Rosa**	**3.72**	**10**	*e*P	**Pn**	**22 32 46.2**	**-0.6**
VIRV				*e*S	**Sn**	**22 33 30.2**	**-0.7**
CURV	**Curarigua**	**4.42**	**44**	*e*P	**Pn**	**22 32 56.6**	**+0.6**
BAUV	**El Baul**	**5.41**	**67**	*e*P	**Pn**	**22 33 08.4**	**-0.7**

NIED ***25*** *22:31:00,36.70N×140.60E,h5km,Mw3.8 Best double couple: M0 5.55000×10^14 NP1:ϕ_s326.00000°,δ40.00000°, λ-99.00000°. NP2:ϕ_s157.00000°,δ51.00000°, λ-83.00000°.*
ISCJB ***25*** *22:31:54.9±1.2,36.61N±0.06×140.77E±0.08,h11km±5km, mb3.8/4,Error ellipse: s-maj=13.3km s-min=6.1km az=36.2*
IDC ***25*** *22:31:55.2±1.2,36.58N×140.60E,h0km,mb3.8/4, mb1 4.0/4,mb1mx3.5/45,mbtmp3.8/4,Error ellipse: s-maj=25.8km s-min=16.5km az=180.0*
JMA ***25*** *22:31:56.8,36.70N×140.62E,h6km±1km,M3.5*
JMA Felt III J1.

ISC 25 22:31:56.4±1.2,36.66N±0.05×140.68E±0.08,h8km±7km, n11,σ0°65/15,mb3.8/4,1C,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JHO	**Hitachi**	**0.11**	**241**	⇑P	**Pg**	**22 31 58.9**	**0.0**
JHO				S	**Sg**	**22 32 00.5**	**-0.1**
ONAJ	**Iwakimizuishiy**	**0.45**	**12**	P	**Pg**	**22 32 05.3**	**+0.1**
ONAJ				S	**Sg**	**22 32 11.2**	**+0.1**
JYT	**Yasato**	**0.59**	**223**	P	**Pg**	**22 32 07.8**	**0.0**
JYT				S	**Sg**	**22 32 15.7**	**+0.3**
JSB	**Shiboa**	**0.69**	**297**	P	**Pg**	**22 32 09.5**	**-0.2**
JFK	**Kawauchi**	**0.72**	**12**	P	**Pg**	**22 32 10.1**	**-0.2**
MJAR	**Matsushiro Arr**	**2.00**	**267**	Pn	**Pn**	**22 32 30.6**	**+0.1**
	19nm,0.3s,baz=80,slow=12,SNR=5.4						
MJAR				Lg	Lg	22 32 55.3	
	34nm,0.3s,baz=73,slow=34,SNR=8.6						
MAT	**Matsushiro**	**2.00**	**267**	P	**Pn**	**22 32 31.0**	**+0.5**
MAT				S	**Sn**	**22 32 56.3**	**+0.6**
ZALV	**Zalesovo Beam**	**41.73**	**313**	P	**P**	**22 39 44.5**	**-1.2**
	1.6nm,0.7s,baz=97,slow=9.3,SNR=4.4						
ILAR	**Eielson Array**	**50.12**	**32**	P	**P**	**22 40 53.0**	**+1.3**
	0.6nm,0.9s,baz=262,slow=6.8,SNR=3.8						
WRA	**Warramunga Arr**	**56.62**	**187**	P	**P**	**22 41 39.4**	**-0.5**
	1.4nm,0.8s,baz=5.9,slow=7.5,SNR=5.7						
ASAR	**Alice Springs**	**60.34**	**187**	P	**P**	**22 42 05.1**	**-0.8**
	0.5nm,0.6s,baz=10,slow=5.7,SNR=4.0						

CSEM ***25*** *22:36:08.6±0.2,38.37N×21.81E,h5km,ML0.6,Error ellipse: s-maj=5.2km s-min=4.2km az=108.0*

ATH 25 22:36:09.0,38.37N×21.82E,h10km±3km,ML0.6/4,Error ellipse: s-maj=3.4km s-min=0.9km az=153.0,Greece

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
UPR	**University Cam**	**0.09**	**198**	P	Pg	22 36 11.0	-0.5
UPR				S	Sg	22 36 13.5	+0.2
UPR	**University Cam**	**0.09**	**198**	P	Pg	22 36 11.0	-0.5
UPR				S	Sg	22 36 13.5	+0.3
LAKA	**Lakka**	**0.18**	**136**	P	Pg	22 36 12.3	-0.6
LAKA				S	Sg	22 36 14.4	-1.2
LAKA	**Lakka**	**0.18**	**136**	P	Pg	22 36 12.3	-0.6
LAKA				S	Sg	22 36 14.4	-1.1
SERG	**Sergoula**	**0.19**	**77**	P	Pg	22 36 12.3	-0.8
SERG				S	Sg	22 36 16.8	+0.9
SERG	**Sergoula**	**0.19**	**77**	P	Pg	22 36 12.3	-0.8
SERG				S	Sg	22 36 16.8	+0.9
SERG				AML	AML	22 36 18.0	
	comp=E,57μm,0.3s						
SERG				AML	AML	22 36 18.2	
	comp=N,54μm,0.2s						
TRIZ	**Trizonia**	**0.20**	**91**	P	Pg	22 36 12.6	-0.6
TRIZ				S	Sg	22 36 16.8	+0.8
TRIZ	**Trizonia**	**0.20**	**91**	P	Pg	22 36 12.6	-0.6
TRIZ				S	Sg	22 36 16.8	+0.8
KALE	**Kalithea**	**0.25**	**85**	P	Pg	22 36 13.8	-0.4
KALE				S	Sg	22 36 18.6	+0.9
KALE	**Kalithea**	**0.25**	**85**	P	Pg	22 36 13.8	-0.4
KALE				S	Sg	22 36 18.6	+1.0
KALE				AML	AML	22 36 19.1	
	comp=E,15μm,0.2s						
KALE				AML	AML	22 36 19.4	
	comp=N,30μm,0.3s						
PVO	**Paravola**	**0.34**	**317**	P	Pg	22 36 14.8	-1.0
PVO				S	Sb	22 36 21.7	-0.9
PVO	**Paravola**	**0.34**	**317**	P	Pg	22 36 14.8	-1.0
PVO				S	Sb	22 36 21.7	-0.9
PVO				AML	AML	22 36 21.7	
	comp=N,34μm,0.2s						
PVO				AML	AML	22 36 22.1	
	comp=E,25μm,0.2s						
KLV	**Kalavryta, Ach**	**0.42**	**141**	P	Pg	22 36 16.3	-0.9
KLV				S	Sb	22 36 25.0	+0.1
KLV	**Kalavryta, Ach**	**0.42**	**141**	P	Pg	22 36 16.3	-0.9
KLV				S	Sb	22 36 25.0	+0.1
RLS	**Riolos of Patr**	**0.42**	**222**	P	Pg	22 36 16.7	-0.6
RLS				S	Sb	22 36 24.7	-0.2
RLS	**Riolos of Patr**	**0.42**	**222**	P	Pg	22 36 16.7	-0.5
RLS				S	Sb	22 36 24.7	-0.2
DRO	**Drossia**	**0.43**	**192**	P	Pg	22 36 16.5	-0.9
DRO				S	Sg	22 36 24.0	+1.0
DRO	**Drossia**	**0.43**	**192**	P	Pg	22 36 16.5	-0.9
DRO				S	Sg	22 36 24.0	+1.0
DRO				AML	AML	22 36 25.8	
	comp=N,29μm,0.2s						
DRO				AML	AML	22 36 26.4	
	comp=E,37μm,0.2s						
EVR	**Evrytania**	**0.55**	**359**	P	Pg	22 36 18.3	-1.4
EVR	**Evrytania**	**0.55**	**359**	P	Pg	22 36 18.3	-1.4
DSF	**Desfina**	**0.56**	**86**	P	Pb	22 36 20.5	-0.4
DSF				S	Sg	22 36 27.5	+0.3
DSF	**Desfina**	**0.56**	**86**	P	Pb	22 36 20.5	-0.4
DSF				S	Sg	22 36 27.5	+0.3
AGG	**Agios Georgios**	**0.76**	**31**	P	Pb	22 36 24.4	-0.1
AGG				S	Sb	22 36 34.5	-0.4
AGG	**Agios Georgios**	**0.76**	**31**	P	Pb	22 36 24.4	-0.1
AGG				S	Sb	22 36 34.5	-0.4

ISCJB ***25*** *22:36:28.8±1.4,34.45N±0.06×26.40E±0.04,h7km±7km, Error ellipse: s-maj=10.1km s-min=5.3km az=174.8*
ATH ***25*** *22:36:29.3,34.45N×26.35E,h20km±1km,ML2.8/8,Error ellipse: s-maj=3.0km s-min=1.4km az=351.0*
CSEM ***25*** *22:36:29.9±0.6,34.48N×26.34E,h5km,ML2.8,Error ellipse: s-maj=11.7km s-min=6.0km az=173.0*
THE ***25*** *22:36:31.1,34.55N×26.25E,h0km±4km,ML2.9/2,Error ellipse: s-maj=6.6km s-min=1.5km az=162.0*

ISC 25 22:36:30.0±1.8,34.51N±0.07×26.33E±0.03,h4km±11km, n41,σ0°94/64,Crete

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ZKR	**Zakros**	**0.61**	**351**	P	**Pg**	**22 36 41.6**	**-0.2**
ZKR				S	**Sb**	**22 36 52.3**	**+0.1**
ZKR	**Zakros**	**0.61**	**351**	P	**Pg**	**22 36 41.6**	**-0.2**
ZKR				S	**Sb**	**22 36 52.3**	**+0.1**
ZKR				AML	AML	22 37 00.9	
	comp=N,650μm,1.1s						
ZKR				AML	AML	22 37 01.7	
	comp=E,1391μm,0.9s						
LAST	**Lasithi**	**0.96**	**313**	P	**Pg**	**22 36 47.8**	**-0.6**
LAST				S	**Sb**	**22 37 02.8**	**+0.6**
LAST	**Lasithi**	**0.96**	**313**	P	**Pg**	**22 36 47.8**	**-0.6**
LAST				S	**Sb**	**22 37 02.5**	**+0.2**
LAST	**Lasithi**	**0.96**	**313**	P	**Pg**	**22 36 46.9**	**-1.4**
LAST				S	**Sb**	**22 37 02.5**	**+0.2**
LAST				AML	AML	22 37 09.1	
	comp=N,1074μm,0.7s						
LAST				AML	AML	22 37 11.0	
	comp=E,768μm,0.7s						
NPS	**Neapolis**	**0.96**	**322**	P	**Pg**	**22 36 47.8**	**-0.6**
NPS				S	**Sb**	**22 37 02.5**	**+0.3**
NPS	**Neapolis**	**0.96**	**322**	P	**Pg**	**22 36 47.8**	**-0.6**
NPS				S	**Sb**	**22 37 02.5**	**+0.3**
NPS	**Neapolis**	**0.96**	**322**	P	**Pg**	**22 36 47.6**	**-0.8**
NPS				AML	AML	22 37 04.5	
	comp=E,1173μm,0.6s						
NPS				S	**Sn**	**22 37 04.9**	**+0.6**
NPS				AML	AML	22 37 11.7	
	comp=N,877μm,0.6s						
KARP	**Karpathos**	**1.24**	**33**	P	**Pn**	**22 36 55.2**	**+1.1**
KARP	**Karpathos**	**1.24**	**33**	P	**Pn**	**22 36 55.2**	**+1.1**
SIVA	**Sivas**	**1.35**	**293**	P	**Pn**	**22 36 54.8**	**-0.8**
SIVA	**Sivas**	**1.35**	**293**	P	**Pn**	**22 36 54.8**	**-0.8**
SIVA				S	**Sn**	**22 37 14.6**	**+0.6**
SIVA	**Sivas**	**1.35**	**293**	P	**Pn**	**22 36 54.1**	**-1.5**
SIVA				S	**Sn**	**22 37 14.6**	**+0.6**
SIVA				AML	AML	22 37 25.7	
	comp=E,1831μm,0.6s						
SIVA				AML	AML	22 37 28.1	
	comp=N,1148μm,0.8s						
IDI	**Anoyia**	**1.42**	**304**	P	**Pn**	**22 36 55.9**	**-0.7**
IDI	**Anoyia**	**1.42**	**304**	P	**Pn**	**22 36 56.7**	**+0.1**
IDI				S	**Sg**	**22 37 17.1**	**+1.5**
IDI	**Anoyia**	**1.42**	**304**	P	**Pn**	**22 36 56.7**	**+0.1**
IDI				S	**Sg**	**22 37 17.1**	**+1.5**
IDI				AML	AML	22 37 17.9	
	comp=N,359μm,0.4s						
IDI				AML	AML	22 37 25.6	
	comp=E,377μm,0.6s						
GVD	**Gavdhos**	**1.88**	**281**	P	**Pn**	**22 37 02.5**	**-0.3**
GVD	**Gavdhos**	**1.88**	**281**	P	**Pn**	**22 37 02.5**	**-0.3**
GVD				S	**Sb**	**22 37 29.6**	**+0.9**
GVD	**Gavdhos**	**1.88**	**281**	P	**Pb**	**22 37 03.9**	**-0.9**
GVD				S	**Sb**	**22 37 29.6**	**+0.9**
GVD				AML	AML	22 37 37.9	
	comp=E,427μm,0.5s						
GVD				AML	AML	22 37 42.5	
	comp=N,458μm,0.3s						
VAM	**Vamos**	**1.97**	**298**	P	**Pn**	**22 37 03.4**	**-0.7**
VAM	**Vamos**	**1.97**	**298**	P	**Pn**	**22 37 04.5**	**+0.4**
VAM				S	**Sn**	**22 37 30.0**	**+0.8**
VAM	**Vamos**	**1.97**	**298**	P	**Pn**	**22 37 03.4**	**-0.7**
VAM	**Vamos**	**1.97**	**298**	P	**Pn**	**22 37 04.5**	**+0.4**
VAM				S	**Sn**	**22 37 30.0**	**+0.8**
VAM				AML	AML	22 37 51.4	
	comp=N,334μm,1.1s						
VAM				AML	AML	22 37 52.4	
	comp=E,373μm,0.7s						
SANT	**Santorini**	**1.99**	**339**	P	**Pn**	**22 37 02.9**	**-1.6**
SANT	**Santorini**	**1.99**	**339**	P	**Pn**	**22 37 02.9**	**-1.6**
SAP1	**Santorini-Akro**	**2.00**	**338**	P	**Pn**	**22 37 04.3**	**-0.2**
IMMV	**Iera Moni Meta**	**2.15**	**297**	P	**Pn**	**22 37 05.8**	**-0.8**
IMMV	**Iera Moni Meta**	**2.15**	**297**	P	**Pn**	**22 37 05.8**	**-0.8**
IMMV				S	**Sn**	**22 37 32.5**	**-1.2**
IMMV	**Iera Moni Meta**	**2.15**	**297**	P	**Pn**	**22 37 07.7**	**+1.1**
IMMV				S	**Sn**	**22 37 32.5**	**-1.2**
IMMV				AML	AML	22 37 57.0	
	comp=E,417μm,1.0s						
IMMV				AML	AML	22 38 08.7	
	comp=N,323μm,1.5s						
ARG	**Arkhangelos**	**2.25**	**40**	P	**Pn**	**22 37 08.9**	**+1.0**
ARG	**Arkhangelos**	**2.25**	**40**	P	**Pn**	**22 37 08.9**	**+1.0**
ARG				S	**Sn**	**22 37 37.1**	**+1.0**
ARG	**Arkhangelos**	**2.25**	**40**	P	**Pb**	**22 37 10.3**	**-0.8**
ARG				S	**Sn**	**22 37 37.1**	**+1.0**
APE	**Apeiranthos**	**2.64**	**346**	P	**Pn**	**22 37 12.0**	**-1.

mb1 3.9/14,mb1mx3.8/51,mbtmp3.7/14,ML2.9/3,MS3.0/4, Ms1 3.0/4,ms1mx2.5/37,Error ellipse: s-maj=20.4km s-min=17.4km az=34.0
JMA ***25*** *22:43:25.7,36°52.N×140°.96E,h15km±1km,M4.2*
JMA Felt II J1.

ISC 25 22:43:25.7±1.7**,36°.52N**±0°.05×**140°.96E**±0°.06**, h8**km±9km**, n29,**σ1**3**30/30**, mb3.8/**11**, Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JHO	**Hitachi**	**0.33**	**286**	P	**Pg**	**22 43 32.2**	**+0.1**
JHO				S	**Sg**	**22 43 37.2**	**+0.7**
ONAJ	**Iwakimizuishiy**	**0.60**	**348**	P	**Pg**	**22 43 37.2**	**0.0**
ONAJ				S	**Sg**	**22 43 45.2**	**+0.1**
JYT	**Yasato**	**0.68**	**245**	P	**Pg**	**22 43 38.7**	**-0.1**
JYT				S	**Sg**	**22 43 47.8**	**+0.1**
JFK	**Kawauchi**	**0.85**	**355**	P	**Pb**	**22 43 41.3**	**-1.4**
JFK				S	**Sg**	**22 43 52.9**	**-0.2**
JSB	**Shiboa**	**0.95**	**299**	P	**Pb**	**22 43 43.9**	**-0.5**
JSB				S	**Sn**	**22 43 57.3**	**-1.8**
JFT	**Otama**	**1.11**	**334**	P	**Pb**	**22 43 46.4**	**-0.9**
JFT				*e*S	**Sb**	**22 44 01.3**	**-0.7**
MJAR	**Matsushiro Arr**	**2.21**	**271**	Pn	**Pn**	**22 44 02.7**	**-0.1**
	12nm,0.3s,baz=85,slow=17,SNR=57						
MJAR				Sn	**Sb**	**22 44 32.2**	**-1.4**
	36nm,0.3s,baz=87,slow=28,SNR=8.9						
MJAR				LR	LR	22 45 07.2	
	comp=Z,230nm,20.2s,baz=105,slow=46						
MAT	**Matsushiro**	**2.22**	**271**	P	**Pn**	**22 44 02.8**	**0.0**
MAT				S	**Sb**	**22 44 31.7**	**-2.0**
USRK	**Ussuriysk Ar.**	**10.28**	**321**	Pn	**Pn**	**22 45 55.9**	**+2.5**
	0.1nm,0.3s,baz=117,slow=14,SNR=2.2						
KSRS	**Korea Array**	**10.47**	**279**	Pn	**Pn**	**22 45 59.1**	**+3.0**
	0.3nm,0.3s,baz=93,slow=14,SNR=3.5						
KSRS				LR	LR	22 49 29.6	
	comp=Z,60nm,21.9s,baz=62,slow=34						
SONM	**Songino Array**	**27.77**	**305**	P	**P**	**22 49 16.9**	**+1.8**
	0.6nm,0.5s,baz=112,slow=11,SNR=2.3						
H11N2	**WAKE ISLAND Hy 28.21**	**119**		T	T	23 18 45.0	
	baz=313,slow=75,SNR=134						
H11N1	**WAKE ISLAND Hy 28.21**	**119**		T	T	23 18 45.7	
	baz=313,slow=75,SNR=129						
H11N3	**WAKE ISLAND Hy 28.22**	**119**		T	T	23 18 46.4	
	baz=313,slow=75,SNR=140						
H11S1	**WAKE ISLAND Hy 28.89**	**121**		T	T	23 19 35.5	
	baz=314,slow=76,SNR=631						
H11S3	**WAKE ISLAND Hy 28.89**	**122**		T	T	23 19 36.8	
	baz=314,slow=76,SNR=435						
H11S2	**WAKE ISLAND Hy 28.91**	**121**		T	T	23 19 38.4	
	baz=314,slow=76,SNR=677						
ZALV	**Zalesovo Beam**	**41.99**	**313**	P	**P**	**22 51 15.9**	**-1.3**
	1.8nm,0.5s,baz=90,slow=7.2,SNR=9.1						
MKAR	**Makanchi Array**	**44.09**	**302**	P	**P**	**22 51 33.6**	**-0.7**
	0.2nm,0.4s,baz=90,slow=10,SNR=2.4						
ILAR	**Eielson Array**	**50.12**	**32**	P	**P**	**22 52 20.6**	**-0.5**
	0.4nm,0.7s,baz=267,slow=6.1,SNR=5.0						
INK	**Inuvik**	**55.01**	**27**	LR	LR	23 20 17.1	
	comp=Z,19nm,19.1s,baz=192,slow=40						
WRA	**Warramunga Arr**	**56.50**	**187**	P	**P**	**22 53 07.0**	**-1.5**
	1.0nm,0.6s,baz=5.7,slow=7.4,SNR=22						
ASAR	**Alice Springs**	**60.23**	**187**	P	**P**	**22 53 33.5**	**-0.9**
	0.7nm,0.7s,baz=15,slow=9.0,SNR=9.1						
FINES	**FINESS Array B**	**69.10**	**332**	P	**P**	**22 54 32.1**	**+0.2**
	1.3nm,0.7s,baz=42,slow=8.9,SNR=9.4						
AKASG	**Malin Array Be**	**74.48**	**322**	P	**P**	**22 55 06.5**	**+2.1**
	0.4nm,0.4s,baz=46,slow=6.3,SNR=4.2						
AKASG				LR	LR	23 30 46.7	
	comp=Z,11nm,18.3s,baz=65,slow=38						
PDAR	**Pinedale Array**	**78.29**	**45**	P	**P**	**22 55 26.4**	**-0.1**
	0.3nm,0.5s,baz=250,slow=3.6,SNR=4.3						
BRTR	**Keskin Array B**	**78.92**	**311**	P	**P**	**22 55 31.3**	**+1.3**
	1.3nm,1.0s,baz=57,slow=4.6,SNR=4.4						
TXAR	**Lajitas Array**	**90.72**	**52**	P	**P**	**22 56 29.8**	**+0.2**
	0.3nm,0.7s,baz=321,slow=1.2,SNR=3.2						
LPAZ	**La Paz**	**147.27**	**60**	PKPbc	**PKPbc**	**23 03 10.2**	**-0.8**
	0.5nm,0.6s,baz=342,slow=3.2,SNR=3.1						

WEL 25 22:56:55.9±0.5**,35°.22S**×**178°.93E, h174**km±9km**, ML3.9/9, 1C-1D, Error ellipse: s-maj=11.9km s-min=7.7km az=90.0, Off east coast of North Island**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MXZ	**Matakaoa Point**	**2.40**	**192**	⇑P	Pn	22 57 36.8	-0.1
MXZ				S	Sn	22 58 08.4	-0.6
WMGZ	**Waiomatatini S**	**2.63**	**189**	PN	Pn	22 57 40.2	+0.4
WMGZ				AML	AML	22 58 17.6	
WMGZ				AML	AML	22 58 23.4	
HAZ	**Te Kaha**	**2.70**	**200**	PN	Pn	22 57 41.6	+1.0
HAZ				AML	AML	22 58 20.1	
HAZ				AML	AML	22 58 23.7	
PKGZ	**Pakihiroa**	**2.75**	**194**	PN	Pn	22 57 41.6	+0.3
PUZ	**Puketiti**	**2.90**	**191**	⇓PN	Pn	22 57 42.9	-0.2
PUZ				SN	Sn	22 58 19.3	-0.5
PUZ				AML	AML	22 58 21.8	
RUGZ	**Raukumara Rang**	**2.92**	**200**	PN	Pn	22 57 43.0	+0.5
TWGZ	**Tauwhareparae**	**3.05**	**194**	PN	Pn	22 57 45.6	+0.7
TWGZ				AML	AML	22 58 28.2	
TWGZ				AML	AML	22 58 28.6	
MWZ	**Matawai**	**3.31**	**199**	PN	Pn	22 57 48.6	+0.5
CNGZ	**Carnagh Statio**	**3.31**	**190**	PN	Pn	22 57 48.2	+0.2
TKGZ	**Te Karaka**	**3.33**	**195**	PN	Pn	22 57 48.4	+0.1
TKGZ				AML	AML	22 58 31.0	
TKGZ				AML	AML	22 58 34.1	
URZ	**Urewera**	**3.37**	**205**	PN	Pn	22 57 49.5	+0.8
RAGZ	**Rawiri**	**3.49**	**200**	PN	Pn	22 57 50.9	+0.5
RAGZ				AML	AML	22 58 36.5	
RAGZ				AML	AML	22 58 41.7	
RIGZ	**Rimuhau**	**3.61**	**195**	PN	Pn	22 57 51.6	-0.2
RIGZ				AML	AML	22 58 38.3	
RTZ	**Ruatahuna**	**3.73**	**204**	PN	Pn	22 57 53.4	-0.1
SNGZ	**Shannon Statio**	**3.78**	**199**	PN	Pn	22 57 54.5	+0.5
SNGZ				AML	AML	22 58 42.3	
SNGZ				AML	AML	22 58 43.0	
KNZ	**Kokohu**	**3.93**	**194**	PN	Pn	22 57 55.0	-0.9
MHGZ	**Mahia Peninsul**	**4.01**	**191**	PN	Pn	22 57 56.3	-0.6
NMHZ	**Naumai**	**4.23**	**203**	PN	Pn	22 57 60.0	+0.2
NMHZ				AML	AML	22 58 55.9	
NMHZ				AML	AML	22 59 09.1	
KAHZ	**Kahuranaki**	**4.85**	**199**	PN	Pn	22 58 06.6	-1.2
PXZ	**Pawanui**	**5.08**	**198**	PN	Pn	22 58 08.5	-2.1
PNHZ	**Pukenui**	**5.17**	**204**	PN	Pn	22 58 10.3	-1.6
PRHZ	**Porangahau**	**5.36**	**199**	PN	Pn	22 58 12.2	-2.1
MRZ	**Mangatainoka R**	**6.04**	**205**	PN	Pn	22 58 21.0	-2.4
KIW	**Kapiti Island**	**6.47**	**208**	PN	Pn	22 58 26.5	-2.4

DJA 25 23:14:36.5±0.8**,3°S**±11°×**12°1E**±1°1**, h10**km**, M3.7/4, MLv3.7/4, Sulawesi**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TTSI	**Tana Toraja**	**1.28**	**249**	P	Pn	23 14 58.2	-2.2
APSI	**Ampana**	**1.78**	**21**	P	Pn	23 15 06.3	-1.0
SPSI	**Sidrap Palu**	**1.85**	**222**	P	Pn	23 15 08.6	+0.3
GTOI	**Gorontalo**	**3.77**	**32**	P	Pn	23 15 35.8	+1.1
PLAI	**Plampang**	**6.99**	**207**	P	Sn	23 17 39.9	+1.2
TWSI	**Taliwang, Sumb**	**7.37**	**214**	P	Sn	23 17 46.1	-1.9

ISK ***25*** *23:28:38.1,39°.73N×38°.44E,h5km,MD2.8*
CSEM ***25*** *23:28:41.4±0.4,39°.68N×38°.74E,h5km,MD2.5,Error ellipse: s-maj=9.2km s-min=7.1km az=122.0*
ISCJB ***25*** *23:28:42.0±0.7,39°.69N±0°.03×38°.72E±0°.05,h10km±5km, Error ellipse: s-maj=6.1km s-min=4.8km az=28.5*
DDA ***25*** *23:28:42.3,39°.64N×38°.70E,h7km,Md2.5*

ISC 25 23:28:41.7±1.2**,39°.68N**±0°.02×**38°.70E**±0°.03**, h10**km±10km**, n17,**σ0**9**66/31**, Turkey**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
REFA	**Refahiye_ERZ˜**	**0.28**	**169**	*i* P	**Pb**	**23 28 48.1**	**-0.9**
REFA				*i* S	**Sb**	**23 28 52.7**	**-1.2**
REFA	**Refahiye_ERZ˜**	**0.28**	**169**	P	**Pb**	**23 28 48.1**	**-0.9**
REFA				S	**Sb**	**23 28 52.7**	**-1.2**
KEMA	**Kemaliye**	**0.44**	**201**	*i* P	**Pg**	**23 28 50.3**	**0.0**
KEMA				*i* S	**Sg**	**23 28 56.9**	**+0.9**
KEMA	**Kemaliye**	**0.44**	**201**	P	**Pg**	**23 28 50.3**	**0.0**
KEMA				S	**Sg**	**23 28 56.9**	**+0.9**
KELT	**Kelkit**	**0.64**	**42**	*i* P	**Pb**	**23 28 55.1**	**0.0**
KELT				*i* S	**Sb**	**23 29 04.4**	**+0.2**
CUZAR	**Zara_SIVAS**	**0.75**	**287**	*i* P	**Pb**	**23 28 56.9**	**0.0**
CUZAR				*i* S	**Sb**	**23 29 07.3**	**+0.1**
CUZAR	**Zara_SIVAS**	**0.75**	**287**	P	**Pb**	**23 28 56.9**	**0.0**
CUZAR				S	**Sb**	**23 29 07.3**	**+0.1**
PTK	**Pertek**	**0.95**	**145**	*e*PN	**Pg**	**23 28 59.9**	**-0.1**
PTK				*e*SN	**Sn**	**23 29 16.0**	**+1.0**
PTK	**Pertek**	**0.95**	**145**	*e*Pn	**Pg**	**23 28 59.9**	**-0.1**
GUMT	**Gumushane**	**0.99**	**37**	*e*PN	**Pg**	**23 28 59.6**	**-1.1**
GUMT				*e*SN	**Sb**	**23 29 14.9**	**+0.8**
GUMT	**Gumushane**	**0.99**	**37**	*e*Pn	**Pg**	**23 28 59.6**	**-1.1**
GUMT				*e*Sn	**Sb**	**23 29 14.9**	**+0.8**
CUKAN	**kangal_SIVAS**	**1.02**	**250**	*i* P	**Pg**	**23 29 00.7**	**-0.6**
CUKAN				*i* S	**Sn**	**23 29 16.6**	**-0.1**
CUKAN	**kangal_SIVAS**	**1.02**	**250**	P	**Pg**	**23 29 00.7**	**-0.6**
CUKAN				S	**Sn**	**23 29 16.6**	**-0.1**
ELZG	**Elazig**	**1.20**	**169**	*i* P	**Pb**	**23 29 04.8**	**+0.2**
ELZG				*i* S	**Sb**	**23 29 20.5**	**+0.3**
ELZG	**Elazig**	**1.20**	**169**	P	**Pb**	**23 29 04.8**	**+0.2**
ELZG				S	**Sb**	**23 29 20.5**	**+0.3**
SVSK	**Karacayir**	**1.33**	**281**	*e*PN	Pn	23 29 00.2	-6.2

IDC ***25*** *23:43:09.7±0.9,19°.05N×121°.31E,h0km,mb3.9/5, mb1 4.1/6,mb1mx3.6/49,mbtmp3.9/6,ML3.8/1,MS3.0/4, Ms1 3.1/4,ms1mx2.6/48,Error ellipse: s-maj=60.5km s-min=19.6km az=76.0*
NEIC ***25*** *23:43:12.6±1.2,19°.56N×121°.24E,h45km±12km,mb4.5/10, Error ellipse: s-maj=22.8km s-min=8.7km az=87.0*

ISC 25 23:43:11.2±0.7**,19°.48N**±0°.07×**121°.0E**±0°.2**, h32**km**, n29,**σ1**3**70/16**, mb4.4/14, MS3.0/3, Philippine Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SZP	**Santa**	**1.99**	**196**	*e*Pn	**Pb**	**23 43 45.9**	**-0.9**
SZP				*e*Sn	**Sb**	**23 44 10.8**	**-0.4**
NACB	**Ninganchiao**	**4.70**	**6**	Pn	**Pn**	**23 44 19.5**	**-0.5**
KSAR	**Wonju Array Be**	**18.88**	**17**	P	Pn	23 47 35.4	+5.8
KSRS	**Korea Array**	**18.90**	**17**	P	Pn	23 47 35.4	+5.5
	0.3nm,0.3s,baz=198,slow=11,SNR=4.9						
KSRS				LR	LR	23 56 11.9	
	comp=Z,26nm,19.8s,baz=171,slow=41						
CMAR	**Chiang Mai Arr**	**20.90**	**271**	LR	LR	23 55 15.8	
	comp=Z,24nm,19.7s,baz=115,slow=34						
MDJ	**Mudanjiang**	**26.07**	**14**	P	**P**	**23 48 40.4**	**-1.3**
	8.1nm,0.4s						
PMG	**Port Moresby**	**38.57**	**136**	*e*P	**P**	**23 50 31.7**	**+0.4**
	9.9nm,0.8s						
WRAB	**Tennant Creek**	**41.29**	**161**	*e*P	**P**	**23 50 54.6**	**+0.7**
	0.7nm,0.4s						
WRA	**Warramunga Arr**	**41.30**	**161**	P	**P**	**23 50 52.1**	**-1.8**
	0.5nm,0.4s,baz=342,slow=9.2,SNR=18						
WRA				PcP	**PcP**	**23 52 54.6**	**+2.3**
	0.4nm,0.5s,baz=345,slow=3.3,SNR=6.3						
MKAR	**Makanchi Array**	**41.70**	**320**	P	P	23 51 04.3	+7.2
	0.5nm,0.7s,baz=102,slow=12,SNR=4.7						
H11S3	**WAKE ISLAND Hy 43.10**	**83**		T	T	00 36 53.4	
	baz=279,slow=75,SNR=9.0						
H11S1	**WAKE ISLAND Hy 43.11**	**83**		T	T	00 36 55.2	
	baz=279,slow=75,SNR=14						
H11N1	**WAKE ISLAND Hy 43.12**	**82**		T	T	00 36 54.3	
	baz=277,slow=75,SNR=61						
H11N2	**WAKE ISLAND Hy 43.12**	**82**		T	T	00 36 52.2	
	baz=277,slow=75,SNR=53						
H11S2	**WAKE ISLAND Hy 43.12**	**83**		T	T	00 36 55.6	
	baz=279,slow=75,SNR=6.4						
H11N3	**WAKE ISLAND Hy 43.13**	**82**		T	T	00 36 51.6	
	baz=277,slow=75,SNR=44						
ASAR	**Alice Springs**	**44.69**	**163**	P	**P**	**23 51 21.2**	**-0.2**
	0.4nm,0.3s,baz=347,slow=8.1,SNR=8.6						
KURK	**Kurchatov**	**45.67**	**323**	P	**P**	**23 51 29.6**	**+0.8**
	3.5nm,0.7s						
NRIK	**Noril'sk**	**53.90**	**346**	P	P	23 52 37.6	+6.5
	4.3nm,1.0s,baz=95,slow=7.3,SNR=3.8						
GEYT	**Alibeck**	**57.12**	**303**	LR	LR	00 22 23.6	
	comp=Z,38nm,18.1s,baz=195,slow=41						
ARU	**Arti**	**58.80**	**325**	*e*P	**P**	**23 53 06.2**	**0.0**
	2.2nm,0.6s						
MCK	**McKinley**	**72.75**	**28**	*e*P	**P**	**23 54 35.1**	**-1.0**
	2.2nm,1.0s						
PMR	**Palmer**	**73.01**	**30**	*e*P	**P**	**23 54 37.3**	**-0.3**
	1.4nm,0.8s						
COLA	**College**	**73.03**	**27**	*e*P	**P**	**23 54 34.9**	**-2.8**
	5.6nm,0.6s						
NOA	**NORSAR Array B**	**82.30**	**332**	LR	LR	00 33 29.7	
	comp=Z,7.3nm,20.0s,baz=270,slow=36						
SUMG	**Summit**	**87.14**	**354**	*e*P	**P**	**23 55 54.1**	**-0.1**
	2.0nm,0.6s						
YKA	**Yellowknife Ar**	**87.35**	**23**	P	P	23 55 59.7	+4.9
	1.8nm,0.7s,baz=311,slow=5.6,SNR=3.5						
CMB	**Columbia Colle**	**98.81**	**45**	*e*P	Pdif	23 56 47.2	-1.1
	3.5nm,0.6s						
TXAR	**Lajitas Array**	**115.10**	**43**	PKP	**PKPdf**	**00 01 53.9**	**+4.0**
	0.1nm,0.4s,baz=339,slow=2.3,SNR=4.8						

ISCJB ***25*** *23:44:16.8±0.2,49°.83N±0°.01×18°.42E±0°.01,h0km, mb3.8/5,MS3.0/2,Error ellipse: s-maj=2.0km s-min=1.3km az=5.7*
MOS ***25*** *23:44:17.9±0.8,49°.87N×18°.45E,h7km,mb4.0/4,Error ellipse: s-maj=5.9km s-min=4.7km az=115.9*
SIGU ***25*** *23:44:18.1±0.1,49°.82N±0°.01×18°.50E±0°.01,h14km, mb3.6/10*
IDC ***25*** *23:44:18.9±0.7,49°.68N×18°.54E,h0km,mb3.6/2, mb1 3.6/9,mb1mx3.4/42,mbtmp3.6/9,ML3.4/7,MS2.9/2, Ms1 2.9/2,ms1mx2.1/50,Error ellipse: s-maj=12.7km s-min=6.9km az=159.0*
LDG ***25*** *23:44:18.3±0.1,49°.85N×18°.54E,h10km,Ml4.1/13,Error ellipse: s-maj=2.5km s-min=1.5km az=15.0*
PRU ***25*** *23:44:18.9,49°.79N×18°.53E,h0km,Rockburst In Region Felt In Karvina, Havirov Mining induced.*
CSEM ***25*** *23:44:18.2±0.1,49°.87N×18°.46E,h1km,ML3.8/24,Ms3.6, Error ellipse: s-maj=2.7km s-min=2.0km az=9.0,Mining induced.*
IPEC ***25*** *23:44:18.6±0.2,49°.82N×18°.54E,h0km,ML3.2/3,Error ellipse: s-maj=2.1km s-min=1.1km az=161.0,Mining induced.*
VIE ***25*** *23:44:19.0±0.6,49°.79N×18°.45E,h0km,mb3.0/13, ML3.3/12,Ms3.6/3,Error ellipse: s-maj=5.8km s-min=4.9km az=5.0,Suspected Mining induced.*

ISC 25 23:44:17.5±0.5**,49°.82N**±0°.02×**18°.44E**±0°.01**, h0**km**, n271,**σ1**9**75/367**, mb3.8/5, 27C-39D, Czech and Slovak Republics**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OKC	**Ostrava-Krasne**	**0.19**	**275**	⇓*i*PG	**Pg**	**23 44 24.3**	**+3.1**
OKC				*e*SG	**Sg**	**23 44 26.6**	**+2.9**
	comp=Z,3μm,0.8s						
OKC	**Ostrava-Krasne**	**0.19**	**275**	⇓*i*P	**Pg**	**23 44 24.3**	**+3.1**
OKC	**Ostrava-Krasne**	**0.19**	**275**	Pg	**Pg**	**23 44 24.3**	**+3.1**
OKC				Sg	**Sg**	**23 44 26.6**	**+2.9**
	3μm,0.8s						
RAC	**Raciborz**	**0.31**	**329**	⇓*i*P	**Pb**	**23 44 26.3**	**+0.4**
RAC				*e*		23 44 32.1	
RAC	**Raciborz**	**0.31**	**329**	*i* P	**Pb**	**23 44 26.3**	**+0.4**
RAC				*e*S	**Sb**	**23 44 32.1**	**+0.6**
MORC	**Moravsky Berou**	**0.58**	**266**	⇓*i*P	**Pb**	**23 44 30.8**	**+0.2**
MORC				S	**Sb**	**23 44 39.9**	**+0.4**
MORC	**Moravsky Berou**	**0.58**	**266**	P	**Pb**	**23 44 30.8**	**+0.2**
MORC				S	**Sb**	**23 44 39.9**	**+0.4**
MORC	**Moravsky Berou**	**0.58**	**266**	⇓*i*P	**Pb**	**23 44 30.8**	**+0.2**
MORC				*e*Sg	**Sb**	**23 44 38.7**	**-0.8**
	442nm,0.7s						
MORC				S	**Sb**	**23 44 39.9**	**+0.4**
LANS	**Liptovska Anna**	**0.95**	**135**	*e*P	**Pb**	**23 44 36.9**	**+0.1**
LANS				*e*		23 44 50.6	
LANS	**Liptovska Anna**	**0.95**	**135**	*e*P	**Pb**	**23 44 36.9**	**+0.1**
LANS				*e*S	**Sb**	**23 44 50.6**	**+0.7**
LANS	**Liptovska Anna**	**0.95**	**135**	*e*PG	**Pb**	**23 44 36.9**	**+0.1**
LANS				*e*SG	**Sb**	**23 44 50.6**	**+0.7**
OJC	**Ojcow**	**0.96**	**65**	*e*Pg	**Pg**	**23 44 36.0**	**+0.1**
OJC				*e*Sg	**Sb**	**23 44 49.4**	**-0.9**
OJC	**Ojcow**	**0.96**	**65**	*e*P	**Pg**	**23 44 36.0**	**+0.1**
OJC				*e*		23 44 49.4	
OJC	**Ojcow**	**0.96**	**65**	*e*P	**Pg**	**23 44 36.0**	**+0.1**
OJC				*e*S	**Sb**	**23 44 49.4**	**-0.9**
JAVC	**Velka Javorina**	**1.09**	**208**	P	**Pn**	**23 44 40.8**	**+0.8**
JAVC	**Velka Javorina**	**1.09**	**208**	P	**Pn**	**23 44 40.8**	**+0.8**
KRLC	**Kraliky**	**1.10**	**284**	⇓*i*PG	**Pb**	**23 44 39.7**	**+0.2**
KRLC				*e*SG	**Sn**	**23 44 56.0**	**-0.2**
KRLC	**Kraliky**	**1.10**	**284**	⇓*i*P	**Pb**	**23 44 39.7**	**+0.2**
KRLC				*e*		23 44 56.0	
KRLC	**Kraliky**	**1.10**	**284**	Pg	**Pb**	**23 44 39.7**	**+0.2**
KRLC				Sg	**Sn**	**23 44 56.0**	**-0.2**
NIE	**Niedzica**	**1.27**	**108**	*e*Pg	**Pb**	**23 44 42.4**	**+0.1**
NIE				*e*Sg	**Sn**	**23 45 00.8**	**+0.4**
NIE	**Niedzica**	**1.27**	**108**	*e*P	**Pb**	**23 44 42.4**	**+0.1**
NIE				*e*		23 45 00.8	
VRAC	**Vranov**	**1.31**	**248**	Pg	**Pn**	**23 44 43.7**	**+0.7**
	139nm,0.3s,baz=67,slow=15,SNR=1016						
VRAC				Lg	Lg	23 45 02.7	
	74nm,0.3s,baz=166,slow=22,SNR=13						
VRAC	**Vranov**	**1.31**	**248**	*e*Pg	**Pn**	**23 44 44.0**	**+1.0**
VRAC				*e*Sg	**Sn**	**23 45 01.5**	**+0.3**
	376nm,0.8s						
VYHS	**Vyhne**	**1.35**	**169**	*e*P	**Pb**	**23 44 44.0**	**+0.3**
VYHS				*e*		23 45 02.4	
VYHS				smax	smax		
	comp=N,122nm,0.8s						
VYHS	**Vyhne**	**1.35**	**169**	*e*P	**Pb**	**23 44 44.0**	**+0.3**
	comp=N,122nm,0.8s						
VYHS				*e*S	**Sn**	**23 45 02.4**	**+0.1**
VYHS	**Vyhne**	**1.35**	**169**	*e*PG	**Pb**	**23 44 44.0**	**+0.3**
VYHS				*e*SN	**Sn**	**23 45 02.4**	**+0.1**
VYHS				*e*LG	Lg	23 45 05.8	
DPC	**Dobruska-Polom**	**1.47**	**292**	⇓*i*PG	**Pb**	**23 44 46.1**	**+0.4**
DPC				*e*SG	**Sn**	**23 45 07.0**	**+1.8**
	comp=N,221nm,0.6s						
DPC				AMS	AMS	23 45 20.0	
	comp=N,300nm,5.3s						
DPC	**Dobruska-Polom**	**1.47**	**292**	⇓*i*P	**Pb**	**23 44 46.1**	**+0.4**
DPC				*e*		23 45 07.0	
DPC				smax	smax		
	comp=N,221nm,0.6s						
DPC				MLR	MLR		
	comp=Z,300nm,5.3s						
DPC	**Dobruska-Polom**	**1.47**	**292**	Pg	**Pb**	**23 44 46.1**	**+0.4**
DPC				Sg	**Sn**	**23 45 07.0**	**+1.8**
	comp=Z,221nm,0.6s						
SMOL	**Smolenice**	**1.47**	**207**	*e*P	**Pb**	**23 44 46.3**	**+0.7**
SMOL				*e*		23 45 06.9	
SMOL	**Smolenice**	**1.47**	**207**	*e*P	**Pb**	**23 44 46.3**	**+0.7**
SMOL				*e*S	**Sn**	**23 45 06.9**	**+1.8**
SMOL	**Smolenice**	**1.47**	**207**	*e*PG	**Pb**	**23 44 46.3**	**+0.7**
SMOL				*e*SN	**Sn**	**23 45 06.9**	**+1.8**
KRUC	**Moravsky**	**1.54**	**241**	*e*Pg	**Pg**	**23 44 47.7**	**+0.8**
KRUC				*e*Sg	**Sg**	**23 45 08.6**	**+1.8**
	comp=Z,280nm,0.7s						
UPC	**Upice**	**1.71**	**295**	⇓*e*PN	**Pn**	**23 44 49.1**	**+0.6**
UPC				*e*PG	**Pg**	**23 44 50.8**	**+0.6**
UPC				*e*SG	**Sg**	**23 45 15.4**	**+3.1**
	comp=Z,401nm,0.8s						
UPC				AMS	AMS	23 45 30.0	
	comp=Z,400nm,4.0s						
UPC	**Upice**	**1.71**	**295**	*e*P	**Pn**	**23 44 49.1**	**+0.6**
UPC				*e*		23 45 15.4	
UPC				smax	smax		
	comp=N,401nm,0.8s						
UPC				MLR	MLR		
	comp=Z,400nm,4.0s						
UPC	**Upice**	**1.71**	**295**	Pn	**Pn**	**23 44 49.1**	**+0.6**
KSP	**Ksiaz**	**1.72**	**307**	*e*Pn	**Pb**	**23 44 49.4**	**-0.5**
KSP				*i* Pg	**Pg**	**23 44 51.9**	**+1.5**
KSP				*e*Sg	**Sg**	**23 45 14.7**	**+2.1**
KSP	**Ksiaz**	**1.72**	**307**	*e*P	**Pb**	**23 44 49.4**	**-0.5**
KSP				*e*		23 45 14.7	
KSP	**Ksiaz**	**1.72**	**307**	*e*P	**Pb**	**23 44 49.4**	**-0.5**
KSP	**Ksiaz**	**1.72**	**307**	*i* Pg	**Pg**	**23 44 51.9**	**+1.5**
KSP				*e*S	**Sg**	**23 45 14.7**	**+2.1**
STHS	**Stebnicka Huta**	**1.87**	**101**	*e*P	**Pg**	**23 44 54.0**	**+0.8**
STHS				*e*		23 45 21.2	
STHS				smax	smax		
	comp=N,388nm,0.8s						
STHS	**Stebnicka Huta**	**1.87**	**101**	*e*P	**Pg**	**23 44 54.0**	**+0.8**
	comp=N,388nm,0.8s						
STHS				*e*Sg	**Sg**	**23 45 21.2**	**+3.8**
STHS	**Stebnicka Huta**	**1.87**	**101**	*e*PG	**Pg**	**23 44 54.0**	**+0.8**
STHS				*e*SG	**Sg**	**23 45 21.1**	**+3.7**
STHS				*e*LG	Lg	23 45 24.1	
KECS	**Kecovo**	**1.90**	**134**	*e*P	**Pn**	**23 44 51.7**	**+0.6**
KECS				*e*		23 45 17.1	
KECS				smax	smax		
	comp=N,141nm,0.7s						
KECS	**Kecovo**	**1.90**	**134**	*e*P	**Pn**	**23 44 51.7**	**+0.6**
	comp=N,141nm,0.7s						
KECS				*e*S	**Sb**	**23 45 17.1**	**0.0**
KECS	**Kecovo**	**1.90**	**134**	*e*PN	**Pn**	**23 44 51.7**	**+0.6**
KECS				*e*SN	**Sb**	**23 45 17.

PRU	**Pruhonice**	**2.53 275**	Pn	**Pn**	**23 44 59.9 +0.1**
CONA	**Conrad Observa**	**2.55 223**	Pn	**Pn**	**23 45 01.0 +0.9**
	comp=Z,28nm,0.4s,SNR=110				
CONA			Sn	**Sn**	**23 45 33.6 +1.7**
	comp=Z,46nm,0.4s				
PVCC	**Panska Ves**	**2.59 287**⇓	*e*PN	**Pn**	**23 45 01.2 +0.6**
PVCC			*e*PG	**Pg**	**23 45 06.8 -0.3**
PVCC			*e*SG	**Sg**	**23 45 42.8 +2.2**
	comp=Z,142nm,0.4s				
PVCC			AMS	AMS	23 46 10.0
	comp=Z,300nm,2.6s				
PVCC	**Panska Ves**	**2.59 287**	*e*P	**Pn**	**23 45 01.2 +0.6**
PVCC			*e*		23 45 42.8
PVCC			smax	smax	
	comp=N,142nm,0.4s				
PVCC			MLR	MLR	
	comp=Z,300nm,2.6s				
PVCC	**Panska Ves**	**2.59 287**	Pn	**Pn**	**23 45 01.2 +0.6**
PVCC	**Panska Ves**	**2.59 287**	Pg	**Pg**	**23 45 06.8 -0.3**
PVCC			Sg	**Sg**	**23 45 42.8 +2.2**
	comp=Z,142nm,0.4s				
PRA	**Prague**	**2.60 277**⇓	*e*PN	**Pn**	**23 45 01.2 +0.4**
PRA			*e*PG	**Pg**	**23 45 06.7 -0.6**
PRA	**Prague**	**2.60 277**	*e*P	**Pn**	**23 45 01.2 +0.4**
PRA	**Prague**	**2.60 277**	Pn	**Pn**	**23 45 01.2 +0.4**
PRA	**Prague**	**2.60 277**	Pg	**Pg**	**23 45 06.7 -0.6**
KWP	**Kalwaria Pacla**	**2.77 92**	*e*Pn	**Pn**	**23 45 03.1 -0.1**
KWP			*e*Pb	**Pb**	**23 45 08.8 +0.8**
KWP			*e*Pg	**Pg**	**23 45 11.3 +0.7**
KWP			*e*Sg	**Sb**	**23 45 43.7 +1.3**
KWP	**Kalwaria Pacla**	**2.77 92**	*e*P	**Pn**	**23 45 03.1 -0.1**
KWP			*e*		23 45 43.7
KWP	**Kalwaria Pacla**	**2.77 92**	*e*P	**Pn**	**23 45 03.1 -0.1**
UZH	**Uzhgorod**	**2.79 114**	*e*P	**Pn**	**23 45 00.2 -3.2**
UZH			*i*		23 45 30.0
UZH			smax	smax	
	comp=N,100nm,0.8s				
UZH			smax	smax	
	comp=E,170nm,0.8s				
UZH	**Uzhgorod**	**2.79 114**	*i* Pn	**Pn**	**23 45 04.2 +0.8**
UZH			Pnm		23 45 05.0
UZH			*i* Sn	**Sn**	**23 45 39.0 +1.3**
UZH			Snm		23 45 39.3
UZH	**Uzhgorod**	**2.79 114**	*e*P	**Pn**	**23 45 00.2 -3.2**
BRG	**Berggiesshubel**	**3.07 292**	PN	**Pn**	**23 45 08.1 +0.9**
BRG			PG	**Pg**	**23 45 15.6 -0.7**
BRG			SG	**Sg**	**23 46 00.4 +4.4**
	comp=E,93nm,0.9s				
BRG	**Berggiesshubel**	**3.07 292**	P	**Pn**	**23 45 08.1 +0.9**
BRG	**Berggiesshubel**	**3.07 292**	P	**Pn**	**23 45 08.1 +0.9**
TRPA	**Tarpa**	**3.19 121**	*e*Pn	**Pn**	**23 45 10.5 +1.7**
TRPA	**Tarpa**	**3.19 121**	*ex*	**Pn**	**23 45 10.5 +1.7**
TRPA			*ex*	x	23 46 01.7
BERU	**Beregovo**	**3.19 118**	*i* Pn	**Pn**	**23 45 09.3 +0.4**
BERU			*i* Sn	**Sn**	**23 45 49.0 +1.4**
ARSA	**Arzberg**	**3.22 218**	Pn	**Pn**	**23 45 10.9 +1.6**
	SNR=25				
ARSA			Sn	**Sn**	**23 45 51.0 +2.6**
	comp=E,16nm,0.5s				
KHC	**Kasperske Hory**	**3.25 260**⇓	*e*PG	**Pg**	**23 45 18.4 -1.3**
KHC			*e*SG	**Sg**	**23 46 03.5 +1.8**
	comp=E,77nm,0.5s				
KHC			AMS	AMS	23 46 30.0
	comp=E,500nm,2.9s				
KHC	**Kasperske Hory**	**3.25 260**	*e*P	**Pg**	**23 45 18.4 -1.3**
KHC			MLR	MLR	
	comp=Z,500nm,2.9s				
GERES	**GERESS Array B**	**3.25 254**	Pn	**Pn**	**23 45 10.8 +1.0**
	comp=Z,1.5nm,0.3s,baz=65,slow=14,SNR=34				
GERES			Pg	**Pg**	**23 45 19.3 -0.5**
	comp=Z,15nm,0.3s,baz=68,slow=17,SNR=100				
GERES			Lg	Lg	23 46 03.4
	comp=Z,16nm,0.3s,baz=69,slow=26,SNR=11				
SHIU	**Shidnytsya**	**3.26 99**	*i* Pn	**Pn**	**23 45 10.6 +0.7**
SHIU			Pnm		23 45 14.2
SHIU			*i* Sn	**Sn**	**23 45 51.0 +1.6**
SHIU			Snm		23 45 51.8
BRIU	**Brid**	**3.35 115**	*i* Pn	**Pn**	**23 45 11.9 +0.8**
BRIU			Pnm		23 45 12.8
BRIU			*i* Sn	**Sn**	**23 45 52.4 +0.8**
BRIU			Snm		23 45 55.2
MOA	**Molln**	**3.39 236**	Pn	**Pn**	**23 45 12.5 +0.8**
	comp=Z,7.1nm,0.3s				
MOA			Sg	**Sg**	**23 46 07.9 +1.5**
	comp=Z,36nm,0.5s				
TRSU	**Trosnyk**	**3.44 118**	*i* Pn	**Pn**	**23 45 13.3 +1.0**
TRSU			Pnm		23 45 13.5
TRSU			*i* Sn	**Sn**	**23 45 55.1 +1.4**
TRSU			Snm		23 45 55.5
KORU	**Korolevo**	**3.51 117**	*i* Pn	**Pn**	**23 45 13.8 +0.6**
KORU			Pnm		23 45 16.0
KORU			*i* Sn	**Sn**	**23 45 56.1 +0.7**
KORU			Snm		23 45 57.0
BEHE	**Becsehely**	**3.53 199**⇑	*e*Pn	**Pn**	**23 45 15.6 +2.0**
BEHE			*e*Sn	**Sn**	**23 45 57.6 +1.5**
BEHE	**Becsehely**	**3.53 199**⇑	*ex*	**Pn**	**23 45 15.6 +2.0**
BEHE			*ex*	**Sn**	**23 45 57.6 +1.5**
GKP	**Gorka Klasztor**	**3.54 348**	*e*Pn	**Pn**	**23 45 15.2 +1.6**
GKP			*e*Pg	Pg	23 45 31.0 +5.7
GKP			*e*Sg	**Sg**	**23 46 19.1 +8.1**
GKP	**Gorka Klasztor**	**3.54 348**	*e*P	**Pn**	**23 45 15.2 +1.6**
GKP	**Gorka Klasztor**	**3.54 348**	*e*P	**Pn**	**23 45 15.2 +1.6**
MEZ	**Mezhgor'ye**	**3.58 110**	*i* Pn	**Pn**	**23 45 15.2 +1.0**
LVV	**L'vov**	**3.62 88**	*e*P	**Pn**	**23 45 16.7 +1.9**
LVV			*e*		23 45 57.8
LVV			pmax	pmax	
	comp=Z,40nm,1.2s				
LVV			pmax	pmax	
	comp=Z,150nm,1.2s				
LVV			smax	smax	
	comp=N,50nm,1.5s				
LVV			smax	smax	
	comp=E,50nm,1.5s				
LVV			smax	smax	
	comp=N,30nm,1.4s				
LVV			smax	smax	
	comp=E,230nm,1.4s				
LVV	**L'vov**	**3.62 88**	*i* Pn	**Pn**	**23 45 16.0 +1.2**
LVV	**L'vov**	**3.62 88**	*e*P	**Pn**	**23 45 16.7 +1.9**
	comp=E,150nm,1.2s				
LVV			*e*S	**Sn**	**23 45 57.8 -0.4**
MORS	**Morshin**	**3.62 99**	*i* Pn	**Pn**	**23 45 16.1 +1.3**
CLL	**Collm**	**3.77 295**	*e*P	**Pn**	**23 45 18.0 +1.1**
CLL	**Collm**	**3.77 295**	*e*P	**Pn**	**23 45 18.0 +1.1**
CLL	**Collm**	**3.77 295**	*e*Pn	**Pn**	**23 45 18.0 +1.1**
CLL			*e*Pg	**Pg**	**23 45 29.0 -0.8**
CLL			*e*Pgmax		23 45 31.0
CLL			*e*Sn	**Sn**	**23 46 00.0 -2.0**
CLL			*e*Sg	**Sg**	**23 46 19.0 +0.3**
	comp=Z,100nm,0.6s				
SOKA	**Soboth**	**3.88 217**	Pn	**Pn**	**23 45 19.9 +1.4**
	comp=Z,5.3nm,0.3s,SNR=18				
SOKA			Sg	**Sg**	**23 46 25.6 +3.4**
	comp=Z,6.7nm,0.6s				
NKC	**Novy Kostel**	**3.89 278**⇓	*e*PN	**Pn**	**23 45 19.5 +1.0**
NKC			*e*PG	**Pb**	**23 45 28.7 +1.8**
NKC			*e*SG	**Sg**	**23 46 24.9 +2.6**
	comp=Z,88nm,0.6s				
NKC	**Novy Kostel**	**3.89 278**	*e*P	**Pn**	**23 45 19.5 +1.0**
NKC	**Novy Kostel**	**3.89 278**	Pn	**Pn**	**23 45 19.5 +1.0**
NKC			Sg	**Sg**	**23 46 24.9 +2.6**
	comp=Z,88nm,0.6s				
BMR	**Baia Mare**	**3.97 121**⇑	*i* P	**Pn**	**23 45 19.5 -0.2**
BMR	**Baia Mare**	**3.97 121**⇑	*i* P	**Pn**	**23 45 19.5 -0.2**
SIRR	**Siria**	**4.16 148**⇑	*i* P	**Pn**	**23 45 23.0 +0.8**
SIRR	**Siria**	**4.16 148**⇑	*i* P	**Pn**	**23 45 23.0 +0.8**
DRGR		**4.16 135**⇓	*i* P	**Pn**	**23 45 23.1 +0.8**
DRGR		**4.16 135**	S	**Sn**	**23 46 11.5 -0.1**
DRGR		**4.16 135**	P	**Pn**	**23 45 23.1 +0.8**
DRGR			S	**Sn**	**23 46 11.5 -0.1**
DRGR		**4.16 135**	P	**Pn**	**23 45 23.1 +0.8**
DRGR			S	**Sn**	**23 46 11.5 -0.1**
OBKA	**Obir**	**4.21 220**	Pn	**Pn**	**23 45 24.8 +1.7**
	comp=Z,8.0nm,0.3s,SNR=12				
OBKA			Sg	**Sg**	**23 46 37.0 +4.2**
	comp=Z,21nm,0.8s				
NSLU	**Nyzhne Selyshc**	**4.28 110**	*i* Pn	Pn	23 45 16.4 -7.4
ZAG	**Zagreb**	**4.32 203**	*e*Pn	**Pn**	**23 45 25.7 +1.2**
KBA	**Koelnbreinsper**	**4.36 233**	P	**Pn**	**23 45 26.8 +1.6**
KBA	**Koelnbreinsper**	**4.36 233**	P	**Pn**	**23 45 26.8 +1.6**
KBA			Sg	**Sg**	**23 46 42.8 +5.2**
	comp=Z,8.8nm,0.4s				
MOX	**Moxa**	**4.46 283**	P	**Pn**	**23 45 27.4 +1.1**
MOX	**Moxa**	**4.46 283**	P	**Pn**	**23 45 27.4 +1.1**
CRES	**Cresnjev**	**4.47 208**⇑	*i* Pn	**Pn**	**23 45 27.8 +1.3**
MYKA	**Terra Mystica**	**4.53 227**	Sg	**Sg**	**23 46 45.4 +2.6**
	comp=Z,9.1nm,0.6s				
LJU	**Ljubljana**	**4.60 216**	*e*Pn	**Pn**	**23 45 30.3 +2.0**
CJR	**Cluj-Napoca**	**4.64 130**⇓	*i* P	**Pn**	**23 45 29.7 +0.9**
CJR	**Cluj-Napoca**	**4.64 130**⇓	*i* P	**Pn**	**23 45 29.7 +0.9**
CJR			S	**Sn**	**23 46 26.4 +3.0**
OZLJ	**Ozalj**	**4.66 207**	*i* Pn	**Pn**	**23 45 30.2 +1.1**
BZS	**Buzias**	**4.72 152**⇓	*i* P	**Pn**	**23 45 30.7 +0.8**
BZS	**Buzias**	**4.72 152**⇓	*i* P	**Pn**	**23 45 30.7 +0.8**
BZS			S	**Sn**	**23 46 27.1 +1.8**
FGSL	**Fruska Gora**	**4.76 168**⇑	*i* Pn	**Pn**	**23 45 31.6 +1.2**
ARCR	**ARCALIA**	**4.79 123**⇓	*i* P	**Pn**	**23 45 31.4 +0.5**
ARCR	**ARCALIA**	**4.79 123**⇓	*i* P	**Pn**	**23 45 31.4 +0.5**
BANR	**Banloc**	**4.80 157**⇑	*i* P	**Pn**	**23 45 32.5 +1.5**
BANR	**Banloc**	**4.80 157**⇑	*i* P	**Pn**	**23 45 32.5 +1.5**
CEY	**Cerknica**	**4.90 215**⇑	*i* Pn	**Pn**	**23 45 34.1 +1.7**
KLNR	**Kaliningrad**	**4.91 12**⇑	*e*P	**Pn**	**23 45 33.3 +0.8**
BURAR	**Bucovina Array**	**5.00 114**⇑	*i* P	**Pn**	**23 45 34.8 +1.0**
BURAR	**Bucovina Array**	**5.00 114**	P	**Pn**	**23 45 34.7 +1.0**
BURAR	**Bucovina Array**	**5.00 114**⇑	*i* P	**Pn**	**23 45 34.8 +1.0**
ABTA	**Abfaltersbach**	**5.01 234**	Pn	**Pn**	**23 45 34.9 +0.9**
	comp=Z,7µm,0.0s				
ABTA			Sg	**Sg**	**23 47 03.8 +5.4**
	comp=Z,24nm,0.7s				
BLY	**Banja Luka**	**5.15 190**	*e*Pn	**Pn**	**23 45 36.6 +0.9**
WATA	**Walderalm**	**5.19 244**	Pn	**Pn**	**23 45 37.4 +0.9**
	comp=Z,0.3nm,0.2s,SNR=6.1				
WATA			Sg	**Sg**	**23 47 08.4 +4.2**
	comp=Z,28nm,0.6s				
WTTA	**Wattenberg**	**5.19 243**	Pn	**Pn**	**23 45 37.1 +0.5**
	comp=Z,0.2nm,0.1s				
WTTA			Sg	**Sg**	**23 47 07.8 +3.5**
	comp=Z,18nm,0.5s				
HORU	**Horodok**	**5.24 94**	*i* Pn	**Pn**	**23 45 39.3 +2.3**
GZR	**Gura Zlata**	**5.31 145**⇑	*i* P	**Pn**	**23 45 39.6 +1.5**
GZR	**Gura Zlata**	**5.31 145**⇑	*i* P	**Pn**	**23 45 39.6 +1.5**
GZR			S	**Sn**	**23 46 41.4 +1.4**
TEKS	**Tekeris**	**5.33 172**	*e*Pn	**Pn**	**23 45 39.5 +1.3**
KMPD	**K-Podol'skiy**	**5.41 100**	*i* Pn	**Pn**	**23 45 41.0 +1.7**
MOTA	**Moosalm**	**5.46 246**	Pn	**Pn**	**23 45 41.1 +0.8**
	comp=Z,0.7nm,0.3s				
MOTA			Sg	**Sg**	**23 47 15.9 +3.0**
	comp=Z,17nm,0.5s				
MDVR	**Moldovita**	**5.51 155**⇑	*i* P	**Pn**	**23 45 42.3 +1.5**
MDVR	**Moldovita**	**5.51 155**⇑	*i* P	**Pn**	**23 45 42.3 +1.5**
RETA	**Reutte**	**5.60 248**	Pn	**Pn**	**23 45 43.9 +1.8**
	comp=Z,2.8nm,0.3s,SNR=8.6				
UDBI	**Udbina**	**5.60 200**	*e*Pn	**Pn**	**23 45 44.0 +1.9**
UDBI	**Udbina**	**5.60 200**	*e*Pn	**Pn**	**23 45 43.9 +1.9**
LOT	**Lotru**	**5.66 139**⇓	*i* P	**Pn**	**23 45 44.4 +1.4**
LOT	**Lotru**	**5.66 139**⇓	*i* P	**Pn**	**23 45 44.4 +1.4**
BSD	**Bornholm Skovb**	**5.72 339**	*i* P	**Pn**	**23 45 44.0 +0.4**
BSD			*e*S	**Sn**	**23 46 47.0 -3.0**
BSD	**Bornholm Skovb**	**5.72 339**	*i* P	**Pn**	**23 45 44.0 +0.4**
BSD			*e*S	**Sn**	**23 46 47.0 -3.0**
BSD	**Bornholm Skovb**	**5.72 339**	*i* P	**Pn**	**23 45 44.0 +0.4**
TRUS	**Trudelj**	**5.76 166**⇓	*i* Pn	**Pn**	**23 45 45.5 +1.3**
NVLJ	**Novalja**	**5.79 206**	*e*Pn	**Pn**	**23 45 46.8 +2.2**
NVLJ	**Novalja**	**5.79 206**	*e*Pn	**Pn**	**23 45 46.8 +2.2**
DIVS	**Divibare**	**5.82 169**⇑	*i* Pn	**Pn**	**23 45 45.8 +0.7**
FETA	**Feichten**	**5.85 244**	Pn	**Pn**	**23 45 46.0 +0.4**
	comp=Z,0.5nm,0.3s				
FETA			Sg	**Sg**	**23 47 29.0 +3.7**
	comp=Z,12nm,0.6s				
BBLS	**Lazići**	**5.99 173**⇑	*i* Pn	**Pn**	**23 45 48.4 +0.9**
DOPR	**Dopca**	**6.05 127**⇓	*i* P	**Pn**	**23 45 48.0 -0.3**
DOPR	**Dopca**	**6.05 127**⇓	*i* P	**Pn**	**23 45 48.0 -0.3**
ARR	**Arges**	**6.11 134**⇑	*i* P	**Pn**	**23 45 51.2 +2.1**
ARR	**Arges**	**6.11 134**⇑	*i* P	**Pn**	**23 45 51.2 +2.1**
GRUS	**Gruza**	**6.13 164**⇑	*i* Pn	**Pn**	**23 45 50.4 +1.1**
DAVA	**Damuels**	**6.22 249**	Pn	**Pn**	**23 45 51.0 +0.3**
	comp=Z,1.8nm,0.3s				
VOIR		**6.26 132**⇓	*i* P	**Pn**	**23 45 52.8 +1.7**
VOIR		**6.26 132**	P	**Pn**	**23 45 53.3 +2.2**
VOIR		**6.26 132**	P	**Pn**	**23 45 53.3 +2.2**
IVAS	**Ivanjica**	**6.36 169**	*e*Pn	**Pn**	**23 45 54.4 +2.0**
BOLS	**Boljevac**	**6.46 157**⇑	*i* Pn	**Pn**	**23 45 53.7 -0.1**
DAVOX	**Davo/Dischmat**	**6.47 245**	Pn	**Pn**	**23 45 54.9 +0.7**
	comp=Z,1.0nm,0.3s,baz=55,slow=15,SNR=22				
DAVOX			Lg	Lg	23 47 45.2
	comp=Z,1.2nm,0.3s,baz=58,slow=23,SNR=4.2				
ZAGS	**Zajecar**	**6.55 155**	*e*Pn	**Pn**	**23 45 55.3 +0.3**
MLR	**Muntele Rosu**	**6.66 128**⇑	*i* P	**Pn**	**23 45 58.4 +1.7**
MLR	**Muntele Rosu**	**6.66 128**	P	**Pn**	**23 45 58.4 +1.7**
MLR	**Muntele Rosu**	**6.66 128**	P	**Pn**	**23 45 58.4 +1.7**
BFO	**Black Forest**	**6.81 261**	*e*P	**Pn**	**23 46 00.8 +2.2**
BFO	**Black Forest**	**6.81 261**	*e*P	**Pn**	**23 46 00.8 +2.2**
AKASG	**Malin Array Be**	**6.97 79**	Pn	**Pn**	**23 45 59.0 -1.8**
	comp=Z,2.8nm,0.3s,baz=260,slow=13,SNR=16				
AKASG			Lg	Lg	23 47 58.5
	comp=Z,1.3nm,0.3s,baz=261,slow=30,SNR=4.5				
STON	**Ston**	**6.97 185**	*i* Pn	**Pn**	**23 46 01.9 +1.1**
STON			Sn	**Sn**	**23 47 21.3 +0.6**
STON	**Ston**	**6.97 185**	*i* Pn	**Pn**	**23 46 01.8 +1.1**
STON			Sn	**Sn**	**23 47 21.3 +0.6**
NACGM	**Naroch**	**7.21 42**	*e*	**Pg**	**23 46 35.0 -0.5**
IIGN	**Ignalina**	**7.29 38**	*e*P	**Pn**	**23 46 05.3 +0.2**
IIGN			IAmb	IAmb	23 46 38.2
	comp=Z,6.6nm,0.5s				
IIGN	**Ignalina**	**7.29 38**	*e*P	**Pn**	**23 46 05.3 +0.2**
BARS	**Barje**	**7.38 160**⇓	*i* Pn	**Pn**	**23 46 07.4 +0.9**
ISAL	**Salakas**	**7.41 36**	*e*P	**Pn**	**23 46 06.7 -0.1**
ISAL			IAmb	IAmb	23 46 39.3
	comp=Z,18nm,1.1s				
ISAL	**Salakas**	**7.41 36**	*e*P	**Pn**	**23 46 06.7 -0.1**
CDF	**Champ du Feu**	**7.46 263**	*e*Pn	**Pn**	**23 46 06.3 -1.4**
CDF	**Champ du Feu**	**7.46 263**	*e*Pg	**Pg**	**23 46 37.8 -2.6**
CDF			*e*Sg	**Sg**	**23 48 13.5 -3.6**
	comp=Z,66nm,1.0s				
CDF	**Champ du Feu**	**7.46 263**	*e*Pn	**Pn**	**23 46 06.3 -1.4**
IDID	**Didziasalis**	**7.47 39**	*e*P	**Pn**	**23 46 05.4 -2.2**
IDID			IAmb	IAmb	23 46 40.1
	comp=Z,6.8nm,0.8s				
IDID	**Didziasalis**	**7.47 39**	*e*P	**Pn**	**23 46 05.4 -2.2**
IZAR	**Zarasai**	**7.59 36**	*e*P	**Pn**	**23 46 09.4 +0.2**
IZAR			IAmb	IAmb	23 46 42.0
	comp=Z,4.6nm,0.7s				
IZAR	**Zarasai**	**7.59 36**	*e*P	**Pn**	**23 46 09.4 +0.2**
HINF	**Hinteralfeld**	**7.91 260**	*e*Sg	**Sg**	**23 48 27.9 -3.4**
	comp=Z,96nm,1.3s				
HAU	**Haudompre**	**8.17 262**	*e*Pn	**Pn**	**23 46 16.3 -1.0**
HAU			*e*Sg	**Sg**	**23 48 36.0 -3.8**
	comp=Z,39nm,1.0s				
HAU	**Haudompre**	**8.17 262**	*e*Pn	**Pn**	**23 46 16.3 -1.0**
PAGF	**Fort de Pagny**	**8.43 266**	*e*Pn	**Pn**	**23 46 19.8 -1.0**
PAGF			*e*Sg	**Sg**	**23 48 47.3 -0.7**
	comp=Z,17nm,1.1s				
PAGF	**Fort de Pagny**	**8.43 266**	*e*Pn	**Pn**	**23 46 19.8 -1.0**
PAGF			*e*Sg	**Sg**	**23 48 47.3 -0.7**
	comp=Z,8.6nm,1.1s				
CABF	**La Chapelle**	**8.85 253**	*e*Sg	**Sg**	**23 48 59.4 -2.2**
	comp=Z,86nm,1.2s				
CABF	**La Chapelle**	**8.85 253**	*e*Sg	**Sg**	**23 48 59.4 -2.2**
	comp=Z,43nm,1.2s				
MEZF	**Maizieres J'vi**	**8.88 267**	*e*Sg	**Sg**	**23 48 57.5 -4.8**
	comp=Z,107nm,1.5s				
MEZF	**Maizieres J'vi**	**8.88 267**	*e*Sg	**Sg**	**23 48 57.5 -4.8**
	comp=Z,53nm,1.5s				
SFTF	**Sexfontaines**	**8.96 265**	*e*Sg	**Sg**	**23 49 00.7 -4.3**
	comp=Z,135nm,1.5s				
LPG	**La Plagne**	**8.99 246**	*e*P	**Pn**	**23 46 32.1 +3.3**
LPG			*e*Sg	**Sg**	**23 49 02.8 -3.4**
	comp=Z,48nm,1.3s				
LPG	**La Plagne**	**8.99 246**	*e*P	**Pn**	**23 46 32.1 +3.3**
LPL	**La Plagne**	**9.00 246**	*e*Pn	**Pn**	**23 46 26.6 -2.2**
LPL	**La Plagne**	**9.00 246**	*e*P	**Pn**	**23 46 32.1 +3.3**
LPL	**La Plagne**	**9.00 246**	*e*P	**Pn**	**23 46 32.1 +3.3**
BAIF	**Baives**	**9.19 277**	*e*Sg	Sn	23 49 05.5 +50
	comp=Z,42nm,1.4s				
MBDF	**Montbardon**	**9.43 242**	*e*Pn	**Pn**	**23 46 33.5 -1.1**
MBDF	**Montbardon**	**9.43 242**	*e*P	Pn	23 46 39.6 +5.0
MBDF			*e*Sg	Sn	23 49 15.7 +54
	comp=Z,16nm,1.0s				
MBDF	**Montbardon**	**9.43 242**	*e*Pn	**Pn**	**23 46 33.5 -1.1**
ORIF	**Oris-en-Rattie**	**9.83 245**	*e*P	**Pn**	**23 46 42.0 +1.9**
ORIF	**Oris-en-Rattie**	**9.83 245**	*e*P	**Pn**	**23 46 42.0 +1.9**
VSU	**Vasula**	**9.92 26**⇓	*e*P	**Pn**	**23 46 41.6 +0.4**
VSU	**Vasula**	**9.92 26**	*e*P	**Pn**	**23 46 41.6 +0.4**
LOR	**Lormes**	**10.00 261**	*e*Sg	Sn	23 49 35.1 +60
	comp=Z,26nm,1.0s				
VIVF	**Saint-Julien-l**	**10.58 247**	*e*Pn	**Pn**	**23 46 49.6 -0.7**
VIVF	**Saint-Julien-l**	**10.58 247**	*e*Pn	**Pn**	**23 46 49.6 -0.7**
HFS	**Hagfors**	**10.69 347**	Pn	**Pn**	**23 46 50.3 -1.4**
	comp=Z,0.2nm,0.3s,baz=161,slow=15,SNR=8.1				
NB2	**NORSAR Subarra**	**11.96 343**	P	**Pn**	**23 47 07.3 -1.8**
	comp=Z,2.2nm,0.6s,SNR=5.4				
NB2	**NORSAR Subarra**	**11.96 343**	P	**Pn**	**23 47 07.3 -1.8**
	comp=Z,2.2nm,0.6s,baz=152,slow=12				
NOA	**NORSAR Array B**	**11.96 343**	Pn	**Pn**	**23 47 07.2 -1.9**
	comp=Z,0.4nm,0.3s,baz=152,slow=12,SNR=11				
OBN	**Obninsk**	**12.24 57**⇓	*i* P	**Pn**	**23 47 10.2 -2.7**
OBN			S	**Sn**	**23 49 26.0 -4.0**
OBN			pmax	pmax	
	comp=Z,9.0nm,1.0s				
OBN			MLR	MLR	
	comp=Z,21nm,14.0s				
FINES	**FINESS Array B**	**12.41 17**	Pn	**Pn**	**23 47 12.2 -3.0**
	comp=Z,0.7nm,0.3s,baz=188,slow=12,SNR=38				
ANN	**Anapa**	**13.82 104**	*e*P	Pn	23 47 29.1 -5.4
ANN			*e*S	**Sn**	**23 50 00.9 -7.6**
ANN			pmax	pmax	
	comp=Z,31nm,1.0s				
EPF	**Esparros**	**14.19 248**	*e*Pn	**Pn**	**23 47 38.0 -1.7**
EKA	**Eskdalemuir Ar**	**14.22 301**	Pn	**Pn**	**23 47 38.3 -1.6**
	baz=111,slow=15,SNR=2.6				
BRTR	**Keskin Array B**	**14.75 127**	Pn	**Pn**	**23 47 49.9 +2.5**
	comp=Z,0.1nm,0.3s,baz=328,slow=19,SNR=3.1				
KLMR	**Klimovskoe**	**16.22 39**	*e*P	Pn	23 47 59.0 -7.4
KLMR			pmax	pmax	
	comp=Z,20nm,1.1s				
ARCES	**ARCESS Array B**	**20.07 7**	P	**P**	**23 48 51.4 -0.6**
	comp=Z,1.4nm,0.6s,baz=193,slow=12,SNR=5.1				
ARCES	**ARCESS Array B**	**20.07 7**	*e*P	**P**	**23 48 52.3 +0.3**
ARCES			pmax	pmax	
	comp=Z,1.0nm,0.6s				
ARCES	**ARCESS Array B**	**20.07 7**	*e*P	**P**	**23 48 52.3 +0.3**
	comp=Z,1.0nm,0.6s				
ARU	**Arti**	**24.68 59***d*	*i*P	**P**	**23 49 39.2 -0.6**
ARU					23 50 11.1
ARU			S	**S**	**23 54 03.4 +1.3**
ARU			pmax	pmax	
	comp=Z,2.0nm,1.0s				
ARU	**Arti**	**24.68 59**	*i* P	**P**	**23 49 39.2 -0.6**
	comp=Z,2.0nm,1.0s				
ARU			S	**S**	**23 54 03.4 +1.3**
AKTK	**Aktyubinsk**	**25.18 73**	P	**P**	**23 49 44.2 -0.1**
	comp=Z,2.0nm,0.8s				
AKTO	**Aktyubinsk**	**25.18 73**	P	**P**	**23 49 44.2 -0.1**
	comp=Z,1.5nm,0.8s,baz=295,slow=12,SNR=4.1				
BRVK	**Borovoye**	**31.90 64**⇓	*i* P	**P**	**23 50 46.3 +2.1**
BRVK	**Borovoye**	**31.90 64**	*i* P	**P**	**23 50 46.3 +2.1**
NRIK	**Noril'sk**	**37.42 33**	LR	LR	00 10 15.1
	comp=Z,16nm,19.4s,baz=288,slow=42				
KURK	**Kurchatov**	**37.54 65**⇓	*e*P	**P**	**23 51 35.6 +2.6**
KURK			pmax	pmax	
	comp=Z,4.0nm,0.9s				
KURK	**Kurchatov**	**37.54 65**	*e*P	**P**	**23 51 35.6 +2.6**
	comp=Z,4.0nm,0.9s				
TORD	**Torodi Ar. Bea**	**39.07 206**	P	**P**	**23 51 46.6 +0.4**
	comp=Z,0.4nm,0.5s,baz=14,slow=8.7,SNR=16				
KSRS	**Korea Array**	**73.17 52**	LR	LR	00 28 58.1
	comp=Z,8.8nm,18.1s,baz=265,slow=37				
NNA	**Nana**	**102.45 266**	*i* P	**Pdif**	**23 58 15.3 -0.3**
NNA	**Nana**	**102.45 266**	*i* P	**Pdif**	**23 58 15.3 -0.3**

*ISCJB **25** 23:57:55.1±1.9, 36°.67N±0°.06×141°.6E±0°.1, h26km, mb3.3/2, Error ellipse: s-maj=15.5km s-min=8.3km az=14.9*
*JMA **25** 23:57:56.5±0.2, 36°.70N×141°.47E, h38km±3km, M3.3*
*IDC **25** 23:57:59.3±3.4, 35°.44N×140°.90E, h0km, mb3.3/2, mb1 3.4/3, mb1mx3.2/51, mbtmp3.2/3, ML3.3/1, MS2.5/1, Ms1 2.5/1, ms1mx2.1/23, Error ellipse: s-maj=94.6km s-min=26.2km az=52.0*
ISC 25 23:57:54.5±1.7, 36°.67N±0°.06×141°.5E±0°.1, h26km, n17, σ1s 32/14, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ONAJ	**Iwakimizuishiy**	**0.74**	**306**	P	**Pn**	**23 58

H10S2	**ASCENSION HYDR** baz=150,slow=75,SNR=3.9	**55.52**	**306**	T	T	01 08 57.9		
H10S3	**ASCENSION HYDR** baz=150,slow=75,SNR=3.8	**55.53**	**306**	T	T	01 08 55.7		
H10S1	**ASCENSION HYDR** baz=150,slow=75,SNR=4.4	**55.53**	**306**	T	T	01 08 58.6		
PLCA	**Paso Flores** 2.2nm,1.0s,baz=134,slow=7.2,SNR=4.1	**63.18**	**237**	P	**P**	**00 09 42.1**	**-0.6**	
DBIC	**Dimbokro** 6.4nm,0.8s,baz=144,slow=7.0,SNR=7.6	**65.40**	**324**	P	**P**	**00 09 56.4**	**-0.9**	
DBIC	comp=Z,33nm,20.4s,baz=115,slow=30			LR	LR	00 31 55.6		
CPUP	**Villa Florida** 1.8nm,0.8s,baz=99,slow=6.1,SNR=5.1	**66.52**	**257**	P	**P**	**00 10 04.2**	**-0.2**	
TORD	**Torodi Ar. Bea** 3.0nm,0.8s,baz=173,slow=6.4,SNR=38	**69.43**	**333**	P	**P**	**00 10 22.7**	**-0.1**	
ASAR	**Alice Springs** 1.6nm,1.0s,baz=212,slow=5.5,SNR=7.8	**80.69**	**117**	P	**P**	**00 11 28.8**	**+0.9**	
ASAR	comp=Z,59nm,22.0s,baz=280,slow=30			LR	LR	00 38 57.4		
WRA	**Warramunga Arr** 1.2nm,1.1s,baz=218,slow=4.7,SNR=4.7	**83.93**	**115**	P	**P**	**00 11 45.1**	**+0.3**	
PDAR	**Pinedale Array** 0.3nm,0.6s,baz=96,slow=5.5,SNR=3.1	**149.96**	**268**	PKPbc	**PKPbc**	**00 19 05.5**	**+0.7**	

*ISCJB **26** 00:07:20.9±1.3,21°.7S±0°.3×69°.1E±0°.2, h10km, mb3.8/7, MS3.2/4, Error ellipse: s-maj=40.1km s-min=24.8km az=32.8*

*IDC **26** 00:07:21.3±1.4,21°.66S×69°.06E, h0km, mb3.8/7, mb1 4.0/7, mb1mx3.5/61, mbtmp3.8/7, MS3.2/4, Ms1 3.2/4, ms1mx2.8/39, Error ellipse: s-maj=43.5km s-min=26.0km az=31.0*

ISC 26 00:07:22.9±1.6, 21°.7S±0°.3×69°.1E±0°.2, h10km, n13, σ0s97/7, mb4.0/7, MS3.2/4, Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H08S1	**Diego Garcia H** baz=195,slow=76,SNR=141	**14.38**	**14**	T	T	00 25 32.7	
H08S2	**Diego Garcia H** baz=195,slow=76,SNR=177	**14.38**	**14**	T	T	00 25 29.6	
H08S3	**Diego Garcia H** baz=195,slow=76,SNR=147	**14.40**	**14**	T	T	00 25 34.1	
BOSA	**Boshof** comp=Z,67nm,19.9s,baz=37,slow=32	**40.05**	**251**	LR	LR	00 28 41.4	
ATD	**Arta Tunnel** comp=Z,26nm,21.5s,baz=325,slow=32	**41.87**	**320**	LR	LR	00 29 32.1	
CMAR	**Chiang Mai Arr** 0.8nm,0.3s,baz=236,slow=7.5,SNR=6.2	**49.50**	**38**	P	**P**	**00 16 14.9**	**+1.0**
CMAR	comp=Z,15nm,18.8s,baz=180,slow=34			LR	LR	00 35 18.2	
ASAR	**Alice Springs** 1.1nm,0.9s,baz=254,slow=6.2,SNR=8.8	**59.40**	**105**	P	**P**	**00 17 25.8**	**-0.2**
WRA	**Warramunga Arr** 1.8nm,1.0s,baz=258,slow=6.2,SNR=8.9	**60.63**	**101**	P	**P**	**00 17 34.5**	**0.0**
STKA	**Stephens Creek** comp=Z,25nm,21.8s,baz=203,slow=33	**64.49**	**116**	LR	LR	00 42 29.4	
MKAR	**Makanchi Array** 1.2nm,1.1s,baz=179,slow=7.2,SNR=3.7	**69.23**	**10**	P	**P**	**00 18 29.6**	**-0.3**
KURBB	**Kurchatov Arra** 0.2nm,0.4s,baz=198,slow=6.6,SNR=4.1	**72.51**	**6**	P	**P**	**00 18 48.3**	**-1.3**
TORD	**Torodi Ar. Bea** 0.6nm,1.1s,baz=121,slow=6.9,SNR=2.4	**74.59**	**291**	P	**P**	**00 19 03.2**	**+0.5**
ZALV	**Zalesovo Beam** 0.3nm,0.3s,baz=199,slow=3.1,SNR=2.6	**76.57**	**10**	P	**P**	**00 19 12.3**	**-0.9**

*NEIC **26** 00:30:08.9±0.0, 15°.89N×98°.58W, h13km, MD4.0(MEX), After MEX.*

MEX 26 00:30:08.9±0.5, 15°.89N×98°.58W, h13km±7km, MD4.0, Off coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.66**	**41**	*i* P	Pg	00 30 20.1	-1.8
PNIG				*i* S	Sg	00 30 28.5	-2.1
PNIG	**Pinotepa**	**0.66**	**41**	*i* P	Pg	00 30 20.1	-1.8
PNIG				*i* S	Sg	00 30 28.5	-2.1
TLIG	**Tlapa**	**1.66**	**1**	*i* P	Pn	00 30 34.0	-3.9
TLIG				*i* S	Sn	00 30 54.6	-4.6
CAIG	**El Cayaco**	**1.98**	**306**	*i* P	Pn	00 30 38.8	-3.5
CAIG				*i* S	Sn	00 31 02.4	-4.6
CAIG	**El Cayaco**	**1.98**	**306**	*i* P	Pn	00 30 38.8	-3.5
CAIG				*i* S	Sn	00 31 02.4	-4.6
VHO	**Vista Hermosa**	**2.13**	**56**	*e*P	Pn	00 30 41.9	-2.5
VHO				*i* S	Sn	00 31 06.0	-4.8
VHO	**Vista Hermosa**	**2.13**	**56**	*e*P	Pn	00 30 41.9	-2.5
VHO				*i* S	Sn	00 31 06.0	-4.8
MEIG	**Mezcala**	**2.25**	**334**	*i* P	Pn	00 30 42.9	-3.1
MEIG				*i* S	Sn	00 31 09.6	-4.2
MEIG	**Mezcala**	**2.25**	**334**	*i* P	Pn	00 30 42.9	-3.1
MEIG				*i* S	Sn	00 31 09.6	-4.2
HUIG	**Huatulco**	**2.38**	**93**	*e*P	Pn	00 30 44.3	-3.4
HUIG				*i* S	Sn	00 31 12.7	-4.2
HUIG	**Huatulco**	**2.38**	**93**	*e*P	Pn	00 30 44.3	-3.4
HUIG				*i* S	Sn	00 31 12.7	-4.2
PLIG	**Platanillo**	**2.64**	**341**	*e*P	Pn	00 30 48.4	-2.9
PLIG				*e*S	Sn	00 31 19.4	-3.9
PLIG	**Platanillo**	**2.64**	**341**	*e*P	Pn	00 30 48.4	-2.9
PLIG				*e*S	Sn	00 31 19.4	-3.9
TPIG	**Tehuac#an**	**2.77**	**25**	*e*P	Pn	00 30 50.6	-2.6
TPIG				*i* S	Sn	00 31 23.3	-3.4
TPIG	**Tehuac#an**	**2.77**	**25**	*e*P	Pn	00 30 50.6	-2.6
TPIG				*i* S	Sn	00 31 23.3	-3.4
ARIG	**Puente Sto Nin**	**2.92**	**325**	*e*P	Pn	00 30 52.1	-2.9
ARIG				*e*S	Sn	00 31 26.7	-3.3

MEX 26 00:35:41.7±0.3, 15°.99N×98°.58W, h9km±5km, MD3.9, Off coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.59**	**48**	*i* P	Pg	00 35 52.1	-1.1
PNIG				*i* S	Sg	00 36 00.4	-0.6
TLIG	**Tlapa**	**1.56**	**1**	*e*P	Pn	00 36 06.0	-3.8
TLIG				*e*S	Sn	00 36 25.1	-5.1
CAIG	**El Cayaco**	**1.93**	**303**	*i* P	Pn	00 36 12.0	-2.7
CAIG				*i* S	Sn	00 36 34.3	-4.7
VHO	**Vista Hermosa**	**2.07**	**59**	*i* P	Pn	00 36 13.9	-3.0
VHO				*i* S	Sn	00 36 39.3	-3.6
MEIG	**Mezcala**	**2.17**	**333**	*e*P	Pn	00 36 14.7	-3.4
MEIG				*i* S	Sn	00 36 40.6	-4.5
HUIG	**Huatulco**	**2.39**	**95**	*i* P	Pn	00 36 18.4	-2.6
HUIG				*i* S	Sn	00 36 46.1	-4.4
PLIG	**Platanillo**	**2.54**	**340**	*e*P	Pn	00 36 20.5	-2.8
PLIG				*i* S	Sn	00 36 50.5	-4.0
TPIG	**Tehuac#an**	**2.68**	**26**	*i* P	Pn	00 36 21.9	-3.3
TPIG				*i* S	Sn	00 36 54.1	-3.8
ARIG	**Puente Sto Nin**	**2.83**	**324**	*e*P	Pn	00 36 24.4	-2.8
ARIG				*i* S	Sn	00 36 57.7	-3.8
YAIG	**Yautepec**	**2.89**	**351**	*i* P	Pn	00 36 25.4	-2.7
YAIG				*i* S	Sn	00 36 58.9	-4.3

*ISCJB **26** 00:40:13.5±0.5, 32°.39N±0°.05×101°.01E±0°.06, h10km, mb3.5/5, MS3.0/7, Error ellipse: s-maj=8.3km s-min=6.1km az=141.6*

*IDC **26** 00:40:13.6±1.0, 32°.36N×100°.84E, h0km, mb3.5/6, mb1 3.8/8, mb1mx3.5/50, mbtmp3.6/8, ML3.5/2, MS3.1/8, Ms1 3.1/8, ms1mx2.9/34, Error ellipse: s-maj=46.5km s-min=18.0km az=65.0*

*BJI **26** 00:40:15.5, 32°.31N×101°.14E, h11km, ML3.7/16, Ms3.6/9, Ms7 3.4/6*

ISC 26 00:40:14.7±0.7, 32°.34N±0°.05×100°.95E±0°.06, h10km, n23, σ2s56/22, mb3.6/5, MS3.0/7, Sichuan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CD2	**Chengdu**	**2.79**	**120**	Pn	**Pn**	**00 41 01.3**	**+1.8**
CD2				Pg	**Pb**	**00 41 03.8**	**-0.9**
CD2				Sg	**Sb**	**00 41 39.0**	**0.0**
LZH	**Lanzhou**	**4.44**	**32**	Pn	**Pn**	**00 41 22.5**	**+0.3**
LZH				Pg	**Pg**	**00 41 36.5**	**-3.2**
LZH				Sn	**Sn**	**00 42 20.0**	**+5.9**
LZH				Sg	**Sg**	**00 42 36.5**	**-0.8**
LZH	comp=N,120nm,0.9s			smax	smax		
LZH	comp=E,160nm,1.0s			smax	smax		
LZH	comp=E,1μm,5.2s			LR	LR		
LZH	comp=Z,1μm,5.8s			LR	LR		
XAN	**Xi'an**	**6.90**	**74**	Pn	**Pn**	**00 41 53.0**	**-2.9**
XAN				Sn	**Sn**	**00 43 15.8**	**+1.3**
XAN	comp=E,170nm,8.3s			LR	LR		
XAN	comp=Z,300nm,8.2s			LR	LR		
GTA	**Gaotai**	**7.11**	**353**	*e*Pn	**Pn**	**00 42 01.3**	**+2.4**
GTA				Sn	**Sn**	**00 43 24.8**	**+4.9**
GTA	comp=N,170nm,7.0s			LR	LR		
GTA	comp=E,260nm,12.8s			LR	LR		
GTA	comp=Z,170nm,9.0s			LR	LR		
TAPN	**Taplejung** 5.3nm,0.4s	**12.52**	**250**	*e*P	Pn	00 43 19.6	+6.4
ODAN	**Odare** 18nm,0.5s	**12.99**	**249**	*e*P	Pn	00 43 22.5	+2.8
CMAR	**Chiang Mai Arr** 0.1nm,0.3s,baz=359,slow=14,SNR=6.4	**13.95**	**188**	Pn	**Pn**	**00 43 34.4**	**+2.0**
CMAR	comp=Z,56nm,21.1s,baz=341,slow=39			LR	LR	00 49 23.7	
GKN	**Gorkha** 6.4nm,0.5s	**14.75**	**257**	*e*P	**P**	**00 43 47.2**	**-2.5**
WMQ	**Urumqi**	**15.47**	**322**	P	**Pn**	**00 43 53.0**	**0.0**
WMQ				pP	P	00 43 56.8	-0.7
WMQ	comp=N,220nm,11.9s			LR	LR		
KOLN	**Koldanda** 7.2nm,0.6s	**15.69**	**258**	*e*P	**Pn**	**00 43 55.5**	**-0.6**
SONM	**Songino Array** 0.2nm,0.3s,baz=198,slow=12,SNR=10	**16.02**	**13**	Pn	**Pn**	**00 43 58.5**	**-1.6**
PYUN	**Piuthan**	**16.08**	**259**	*e*P	**P**	**00 44 01.1**	**-3.5**
MKAR	**Makanchi Array** 0.6nm,0.7s,baz=132,slow=11,SNR=4.3	**20.30**	**321**	P	Pn	00 44 51.4	-1.2
MKAR	comp=Z,48nm,18.9s,baz=124,slow=39			LR	LR	00 53 14.9	
KSRS	**Korea Array** comp=Z,33nm,20.8s,baz=257,slow=38	**22.67**	**70**	LR	LR	00 54 29.7	
AAK	**Ala-Archa** comp=Z,75nm,18.1s,baz=74,slow=40	**23.28**	**304**	LR	LR	00 55 35.5	
ZALV	**Zalesovo Beam** 1.8nm,0.6s,baz=148,slow=9.9,SNR=8.9	**24.48**	**337**	P	**P**	**00 45 32.2**	**-1.5**
ZALV	comp=Z,54nm,19.3s,baz=70,slow=38			LR	LR	00 55 46.6	
KURBB	**Kurchatov Arra** 0.8nm,0.7s,baz=130,slow=9.4,SNR=10	**24.65**	**324**	P	**P**	**00 45 35.1**	**-0.2**
USRK	**Ussuriysk Ar.** comp=Z,37nm,18.2s,baz=138,slow=36	**26.93**	**55**	LR	LR	00 56 27.8	
KVAR	**Kislovodsk Arr** comp=Z,13nm,21.9s,baz=73,slow=39	**46.37**	**302**	LR	LR	01 09 59.4	
OBN	**Obninsk** comp=Z,39nm,18.6s,baz=278,slow=38	**49.75**	**317**	LR	LR	01 11 21.5	
WRA	**Warramunga Arr** 0.4nm,0.8s,baz=338,slow=6.8,SNR=2.5	**61.03**	**144**	P	**P**	**00 50 28.4**	**-0.3**
ASAR	**Alice Springs** 0.3nm,0.4s,baz=335,slow=6.4,SNR=3.1	**63.98**	**146**	P	**P**	**00 50 49.7**	**+1.4**
ILAR	**Eielson Array** 0.5nm,1.0s,baz=309,slow=4.5,SNR=3.2	**69.87**	**25**	P	**P**	**00 51 27.4**	**+2.1**

*ISK **26** 00:47:59.9, 37°.61N×38°.72E, h5km, MD2.8*

*DDA **26** 00:48:00.8, 37°.46N×38°.61E, h7km, Md2.6*

*ISCJB **26** 00:48:01.5±0.7, 37°.48N±0°.04×38°.63E±0°.03, h4km±6km, Error ellipse: s-maj=6.7km s-min=4.0km az=170.4*

*CSEM **26** 00:48:01.8±0.3, 37°.49N×38°.66E, h2km, MD2.8, Error ellipse: s-maj=9.5km s-min=6.4km az=167.0*

ISC 26 00:48:00.9±0.9, 37°.53N±0°.04×38°.63E±0°.02, h9km±7km, n21, σ0s86/34, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URFA	**Urfa**	**0.17**	**120**	*e*PG	**Pg**	**00 48 04.6**	**-0.1**
URFA				*e*SG	**Sg**	**00 48 08.1**	**+0.9**
URFA	**Urfa**	**0.17**	**120**	*e*Pg	**Pg**	**00 48 04.6**	**-0.1**
URFA				*e*Sg	**Sg**	**00 48 08.1**	**+0.9**
ATAB	**Bozova**	**0.28**	**258**	*i* P	**Pg**	**00 48 06.2**	**-0.3**
ATAB				*i* S	**Sg**	**00 48 10.1**	**-0.1**
ATAB	**Bozova**	**0.28**	**258**	P	**Pg**	**00 48 06.2**	**-0.3**
ATAB				S	**Sg**	**00 48 10.1**	**-0.1**
SURC	**SANLIURFA_SURC**	**0.65**	**181**	*i* P	**Pg**	**00 48 12.5**	**-0.9**
SURC				*i* S	**Sg**	**00 48 21.0**	**-0.9**
GZT	**Gaziantep**	**0.87**	**259**	*i* P	**Pn**	**00 48 19.5**	**0.0**
GZT				*i* S	**Sb**	**00 48 30.4**	**+0.4**
SVRC	**Sivrice-ELAZID**	**1.00**	**32**	*e*PG	**Pg**	**00 48 18.1**	**-2.2**
ELZG	**Elazig**	**1.01**	**16**	*i* P	**Pn**	**00 48 22.6**	**+1.1**
ELZG				*i* S	**Sn**	**00 48 37.0**	**+1.2**
ELZG	**Elazig**	**1.01**	**16**	P	**Pn**	**00 48 22.5**	**+1.1**
ELZG				S	**Sn**	**00 48 37.0**	**+1.2**
HCB	**Kahramanmara¯**	**1.39**	**263**	*i* P	**Pn**	**00 48 27.1**	**+0.7**
MAZI	**Mazidag**	**1.44**	**92**	*e*PN	**Pn**	**00 48 27.6**	**+0.3**
MAZI				*e*SN	**Sn**	**00 48 47.2**	**+0.7**
MAZI	**Mazidag**	**1.44**	**92**	*e*Pn	**Pn**	**00 48 27.6**	**+0.3**
MAZI				*e*Sn	**Sn**	**00 48 47.2**	**+0.7**
KUZU	**Kuzuini**	**1.45**	**239**	*i* P	**Pg**	**00 48 28.9**	**+0.1**
KUZU				*i* S	**Sg**	**00 48 47.5**	**-0.2**
KUZU	**Kuzuini**	**1.45**	**239**	P	**Pg**	**00 48 28.9**	**+0.1**
KUZU				S	**Sg**	**00 48 47.5**	**-0.2**
PTK	**Pertek**	**1.49**	**23**	*e*PN	**Pn**	**00 48 27.3**	**-0.7**
KAMA	**Osmaniye**	**1.60**	**258**	*i* P	**Pb**	**00 48 31.0**	**+0.3**
KAMA				*i* S	**Sn**	**00 48 50.1**	**-0.3**
SARI	**SarD1z-Kayseri**	**1.96**	**297**	*e*PN	**Pn**	**00 48 35.8**	**+1.3**
TAHT	**Tahtakopru-Hat**	**2.27**	**240**	*e*PN	**Pb**	**00 48 41.4**	**-0.7**
TAHT	**Tahtakopru-Hat**	**2.27**	**240**	*e*Pn	**Pb**	**00 48 41.4**	**-0.7**
YAYL	**Yayladag**	**2.52**	**234**	*e*PN	**Pb**	**00 48 45.1**	**-1.2**
YAYL	**Yayladag**	**2.52**	**234**	*e*Pn	**Pb**	**00 48 45.1**	**-1.2**

*ECX **26** 00:49:42.5±0.5, 32°.25N×115°.34W, h5km, MD2.6, ML2.8*

*MEX **26** 00:49:43.2±0.5, 32°.32N×115°.25W, h16km±61km, MD3.6*

ISC 26 00:49:40.6±1.0, 32°.29N±0°.03×115°.31W±0°.04, h24km±8km, n21, σ0s42/31, 3C-8D, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CPBX	**Cerro Prieto**	**0.13**	**1**	*e*P	**Pb**	**00 49 45.5**	**0.0**
CPBX				*e*S	**Sb**	**00 49 48.4**	**-0.3**
CPBX				⇑*e*		00 49 50.1	
CPBX	comp=E,13μm,0.2s			IAML		00 49 50.1	
CPBX	comp=N,7μm,0.2s			IAML		00 49 51.6	
CPBX				⇓*e*		00 49 51.6	
SGL	**Mount Signal**	**0.51**	**316**	⇓*i* P	**Pb**	**00 49 51.5**	**+0.6**
EMSC	**East Mesa**	**0.53**	**31**	⇓*i* P	**Pn**	**00 49 52.8**	**+0.2**
DREC	**Desert Rsrch C**	**0.53**	**347**	⇓*i* P	**Pn**	**00 49 52.9**	**+0.2**
WESC	**Westside Schoo**	**0.59**	**323**	⇓*i* P	**Pn**	**00 49 53.5**	**-0.1**
COA	**Coachella**	**0.60**	**15**	⇓*i* P	**Pn**	**00 49 53.6**	**+0.1**
YUH	**Yuha Desert**	**0.64**	**305**	⇓*i* P	**Pb**	**00 49 53.4**	**+0.4**
RMX	**La Rumorosa**	**0.73**	**296**	*e*P	**Pb**	**00 49 54.6**	**-0.1**
RMX				*e*S	**Sb**	**00 50 03.6**	**-0.7**
RMX	comp=N,365nm,0.1s			IAML		00 50 04.7	
RMX				⇓*e*		00 50 04.7	
IKP	**In-Ko-Pah, Jac**	**0.77**	**298**	⇓*i* P	**Pn**	**00 49 55.9**	**-0.2**
ECBX	**El Chinero**	**0.84**	**165**	*e*P	**Pn**	**00 49 57.1**	**+0.2**
ECBX				*e*S	**Sn**	**00 50 08.1**	**-0.4**
ECBX	comp=N,193nm,0.3s			IAML		00 50 08.4	
ECBX				*e*		00 50 08.4	
ZAX	**El Zacaton**	**1.13**	**227**	*e*P	**Pn**	**00 50 01.2**	**+0.3**
ZAX				*e*S	**Sb**	**00 50 16.3**	**+0.6**
CBX	**Cerro Bola**	**1.15**	**272**	*e*P	**Pb**	**00 50 02.1**	**+0.2**
CBX				*e*S	**Sb**	**00 50 17.3**	**+0.8**
CBX	**Cerro Bola**	**1.15**	**272**	*i* P	**Pb**	**00 50 02.1**	**+0.2**
CBX				*i* S	**Sn**	**00 50 15.6**	**-0.8**
TJIG	**Tijuana**	**1.17**	**278**	*e*P	**Pb**	**00 50 02.3**	**+0.1**
TJIG	**Tijuana**	**1.17**	**278**	*i* P	**Pn**	**00 50 01.8**	**+0.3**
TJIG				*e*S	**Sn**	**00 50 16.3**	**-0.4**
BAR	**Barrett**	**1.22**	**289**	*e*P	**Pb**	**00 50 03.3**	**+0.3**
SPIG	**San Pedro Mart**	**1.24**	**186**	*e*P	**Pb**	**00 50 03.6**	**0.0**
SPIG				*e*S	**Sb**	**00 50 20.1**	**+0.8**
SPIG	**San Pedro Mart**	**1.24**	**186**	*i* P	**Pb**	**00 50 03.5**	**0.0**
SPIG				*e*S	**Sn**	**00 50 18.6**	**-0.4**
SPX	**San Pedro Mart**	**1.24**	**186**	⇓*e*P	**Pn**	**00 50 02.6**	**-0.2**
SPX				*e*S	**Sn**	**00 50 18.6**	**-0.3**
ECNX	**Esteban Cantu**	**1.26**	**241**	*e*P	**Pb**	**00 50 03.5**	**-0.3**
PBX	**Punta Banda**	**1.32**	**246**	*e*P	**Pb**	**00 50 04.3**	**-0.4**

*BJI **26** 01:02:53.5, 63°.40N×126°.30W, h6km, mb5.0/56, mB5.3/41, Ms5.1/38, Ms7 4.8/39*

*ISCJB **26** 01:02:55.2±0.1, 63°.441N±0°.010×126°.31W±0°.02, h6km, mb5.3/340, MS4.8/183, Error ellipse: s-maj=1.6km s-min=1.3km az=150.2*

*IDC **26** 01:02:55.9±0.3, 63°.42N×126°.30W, h0km, mb4.9/31, mb1 5.0/36, mb1mx5.0/39, mbtmp4.9/36, ML4.2/6, MS4.7/44, Ms1 4.7/44, ms1mx4.6/51, Error ellipse: s-maj=8.8km s-min=7.9km az=53.0*

*NEIC **26** 01:02:56.2±0.0, 63°.43N×126°.28W, h1km, mb5.3/240, MS4.8/109, MW5.1, MW5.3(OTT), Moment Tensor Solution. s15 Moment tensor: Scale 10¹⁶Nm; M_{rr}6.04; $M_{\theta\theta}$-2.82; $M_{\phi\phi}$-3.23; $M_{r\theta}$-1.77; $M_{\theta\phi}$3.03; $M_{\phi r}$1.39; Best double couple: $M_0$6.50000×10¹⁶ NP1:ϕ_s140.00000°, δ35.00000°, λ95.00000°. NP2:ϕ_s314.00000°, δ55.00000°, λ87.00000°. Principal axes: T 6.4500, Plg79.0000°, Azm210.0000°; N -0.0100, Plg3.0000°, Azm316.0000°; P -6.4600, Plg10.0000°, Azm46.0000°; After OTT.*

NEIC Felt [IV] at Yellowknife. Also felt at Norman Wells. Felt at Fort Nelson, British Columbia and at High Level, Alberta.

*PGC **26** 01:02:56.2±0.0, 63°.43N×126°.28W, h1km, mb5.3, ML5.6/20, Mw5.3/20, 211km Sse of Norman Wells, Nt Nw Territories - Nunavut, Canada*

*GCMT **26** 01:02:56.2±0.2, 63°.61N×126°.17W, h12km, MW5.2/117, Moment Tensor Solution. s59,c90; s117,c214; Duration: 1s0 Moment tensor: Scale 10¹⁶Nm; M_{rr}7.13±.10; $M_{\theta\theta}$-3.34±.10; $M_{\phi\phi}$-3.78±.10; $M_{r\theta}$-2.62±.30; $M_{\theta\phi}$3.39±.08; $M_{\phi r}$0.43±.30; Best double couple: $M_0$7.51700×10¹⁶ NP1:ϕ_s305.00000°, δ54.00000°, λ76.00000°. NP2:ϕ_s148.00000°, δ38.00000°, λ108.00000°. Principal axes: T 7.7620, Plg76.0000°, Azm172.0000°; N -0.4790, Plg11.0000°, Azm313.0000°; P -7.2720, Plg9.0000°, Azm45.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

*MOS **26** 01:02:56.0±0.9, 63°.47N×126°.39W, h10km, mb5.5/122, MS4.8/57 Error ellipse: s-maj=8.8km s-min=3.1km az=91.4*

ISC 26 01:02:56.5±0.6, 63°.39N±0°.03×126°.09W±0°.02, h4km±3km, n1514, σ1s66/1533, mb5.3/356, MS4.8/185, 46C-52D, Northwest Territories

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CLVN	**Colville Lake**	**3.67**	**0**	Pn	**Pn**	**01 03 52.5**	**-1.4**
CLVN				Sn	**Sn**	**01 04 34.2**	**-3.3**
CLVN				Sg	**Sb**	**01 04 49.0**	**+2.5**
DHRN	**Dharma Camp**	**4.59**	**34**	Pn	**Pn**	**01 04 06.1**	**-0.4**
DHRN				Sn	**Sn**	**01 04 56.2**	**-4.0**
FNBB	**Fort Nelson**	**4.75**	**160**	Pn	**Pn**	**01 04 08.1**	**-0.7**
FNBB				Sn	**Sn**	**01 05 03.8**	**-0.5**
SMPN	**Simpson Lake**	**4.85**	**357**	Pn	**Pn**	**01 04 08.9**	**-1.2**
SMPN				Sg	**Sb**	**01 05 25.2**	**+4.7**
WHY	**Whitehorse**	**4.96**	**241**	Pn	**Pn**	**01 04 10.0**	**-1.8**
WHY				Sg	**Sb**	**01 05 28.2**	**+4.3**
WHY	**Whitehorse**	**4.96**	**241**	*e*Pn	**Pn**	**01 04 10.1**	**-1.7**
WHY				*e*Sn	**Sn**	**01 05 06.8**	**-2.9**
YKR1	**Yellowknife Ar**	**5.17**	**95**	Pn	**Pn**	**01 04 14.6**	**+0.2**
YKR1				Sg	**Sg**	**01 05 39.2**	**-3.0**
YKR2	**Yellowknife Ar**	**5.19**	**95**	Pn	**Pn**	**01 04 14.9**	**+0.1**
YKR3	**Yellowknife Ar**	**5.21**	**95**	Pn	**Pn**	**01 04 15.4**	**+0.3**
YKR4	**Yellowknife Ar**	**5.23**	**95**	Pn	**Pn**	**01 04 15.4**	**0.0**
YKR6	**Yellowknife Ar**	**5.28**	**95**	Pn	**Pn**	**01 04 16.2**	**+0.2**
YKR6				Sg	**Sg**	**01 05 43.2**	**-2.5**
YKB0	**Yellowknife Ar**	**5.29**	**93**	Pn	**Pn**	**01 04 16.4**	**+0.3**
YKB9	**Yellowknife Ar**	**5.30**	**94**	Pn	**Pn**	**01 04 16.5**	**+0.2**
YKB9				Sg	**Sg**	**01 05 43.4**	**-3.0**
YKW3	**Yellowknife Ar**	**5.30**	**94**	Pn	**Pn**	**01 04 16.5**	**+0.2**
YKW3				Sg	**Sg**	**01 05 43.4**	**-3.0**
YKB8	**Yellowknife Ar**	**5.30**	**94**	Pn	**Pn**	**01 04 16.5**	**+0.2**
YKB8				Sg	**Sg**	**01 05 43.9**	**-2.7**
YKB7	**Yellowknife Ar**	**5.31**	**94**	Pn	**Pn**	**01 04 16.6**	**+0.2**
YKB6	**Yellowknife Ar**	**5.31**	**94**	Pn	**Pn**	**01 04 16.6**	**+0.1**
YKA	**Yellowknife Ar** 8.8nm,0.3s,baz=286,slow=13,SNR=69	**5.32**	**95**	Pn	**Pn**	**01 04 16.3**	**-0.3**
YKA				Sn	**Sn**	**01 05 15.3**	**-2.9**
YKA	18nm,0.3s,baz=280,slow=23,SNR=3.9			Lg	Lg	01 05 36.5	
YKA	33nm,0.3s,baz=312,slow=10,SNR=4.6			LR	LR	01 06 42.5	
YKR8	comp=Z,1μm,18.8s,baz=0.0,slow=42 **Yellowknife Ar**	**5.32**	**95**	Pn	**Pn**	**01 04 16.6**	**+0.1**
YKR8				Sg	**Sg**	**01 05 44.2**	**-2.9**
YKB4	**Yellowknife Ar**	**5.33**	**95**	Pn	**Pn**	**01 04 17.0**	**+0.4**
DLBC	**Dease Lake** 18nm,0.3s,baz=15,slow=13,SNR=186	**5.33**	**203**	Pn	**Pn**	**01 04 15.9**	**-0.8**
DLBC	21nm,0.3s,baz=61,slow=10,SNR=6.5			Lg	Lg	01 05 39.3	
DLBC	comp=Z,10μm,20.5s,baz=15,slow=43			LR	LR	01 06 46.3	
DLBC	**Dease Lake**	**5.33**	**203**	Pn	**Pn**	**01 04 16.7**	**0.0**
DLBC				Sg	**Sg**	**01 05 41.2**	**-6.2**
DLBC	**Dease Lake**	**5.33**	**203**	*e*Pn	**Pn**	**01 04 16.8**	**0.0**
DLBC				*e*Sn	**Sb**	**01 05 28.5**	**-5.8**
DLBC				Lg	Lg	01 05 39.3	
YKB3	**Yellowknife Ar**	**5.33**	**95**	Pn	**Pn**	**01 04 17.1**	**+0.4**
YKB2	**Yellowknife Ar**	**5.34**	**95**	Pn	**Pn**	**01 04 17.3**	**+0.5**
YKR9	**Yellowknife Ar**	**5.34**	**95**	Pn	**Pn**	**01 04 17.0**	**+0.2**
YKB1	**Yellowknife Ar**	**5.34**	**96**	Pn	**Pn**	**01 04 17.1**	**+0.2**
YKB1				Sg	**Sg**	**01 05 44.5**	**-3.4**
HPLN	**Hepburn Lake,**	**5.46**	**52**	Pn	**Pn**	**01 04 18.3**	**-0.2**
HPLN				Sn	**Sn**	**01 05 19.8**	**

BMRM Bremner River 8.99 263 *e*Pn **Pn** **01 05 05.3 -1.6**
BMRM *e*S Sg 01 07 35.8 -8.8
IL1 Eielson Array 9.20 288 *e*Pn **Pn** **01 05 07.0 -2.8**
ILAR Eielson Array 9.20 288 Pn **Pn** **01 05 06.6 -3.2**
1.6nm,0.3s,baz=102,slow=12,SNR=62
ILAR Sn **Sn** **01 06 50.2 -3.5**
1.4nm,0.3s,baz=276,slow=27,SNR=4.6
ILAR Lg Lg 01 07 35.9
1.8nm,0.3s,baz=93,slow=24,SNR=6.2
ILB Eielson Array 9.20 288 *e*Pn **Pn** **01 05 06.8 -3.0**
HDA Harding Lake 9.24 286 *e*Pn **Pn** **01 05 08.6 -1.7**
RAGM Ragged Mountai 9.27 259 *e*Pn **Pn** **01 05 10.2 -0.5**
KLU Klutina 9.38 267 *e*Pn **Pn** **01 05 11.9 -0.4**
DIV Divide 9.45 265 Pn **Pn** **01 05 13.5 +0.3**
DIV Divide 9.45 265 *e*Pn **Pn** **01 05 13.1 -0.1**
DHY Denali Highway 9.60 278 *e*Pn **Pn** **01 05 14.0 -1.4**
CCB Clear Creek Bu 9.60 287 *e*Pn **Pn** **01 05 12.7 -2.6**
COLA College 9.62 289 *e*P **Pn** **01 05 13.9 -1.5**
COLA College 9.62 289 *e*Pn **Pn** **01 05 13.9 -1.5**
COLA *e*S Sn 01 07 16.3 +13
EYAK Cordova Ski Ar 9.67 262 *e*Pn **Pn** **01 05 15.7 -0.5**
WRH Wood River Hil 9.73 286 *e*Pn **Pn** **01 05 14.3 -2.8**
MDM Murphy Dome 9.78 289 *e*Pn **Pn** **01 05 15.8 -1.8**
SCM Sheep Creek Mo 9.90 271 *e*P **Pn** **01 05 19.1 -0.3**
SCM Sheep Creek Mo 9.90 271 *e*Pn **Pn** **01 05 19.1 -0.3**
FID Port Fidalgo 9.91 264 *e*Pn **Pn** **01 05 20.2 +0.7**
NDB Naden 10.10 204 P **Pn** **01 05 24.3 +2.1**
GLI Glacier Island 10.14 265 *e*Pn **Pn** **01 05 22.8 +0.2**
MCK McKinley 10.18 282 *e*P **Pn** **01 05 22.4 -0.8**
MCK McKinley 10.18 282 *e*Pn **Pn** **01 05 22.4 -0.8**
RND Reindeer 10.20 280 *e*P **Pn** **01 05 22.0 -1.5**
RND Reindeer 10.20 280 *e*Pn **Pn** **01 05 22.0 -1.5**
SML Sawmill 10.36 271 *e*P **Pn** **01 05 25.8 +0.1**
SML Sawmill 10.36 271 *e*Pn **Pn** **01 05 25.8 +0.1**
UBRB Upper Baezaeko 10.58 173 P **Pn** **01 05 28.8 0.0**
VIB Van Inlet 10.71 201 P **Pn** **01 05 33.7 +3.2**
DIB Dawson Inlet, 10.75 201 P **Pn** **01 05 33.6 +2.6**
DIB Dawson Inlet, 10.75 201 *e*Pn **Pn** **01 05 32.6 +1.7**
COLD Coldfoot 10.76 302 P **Pn** **01 05 27.9 -3.1**
COLD Coldfoot 10.76 302 *e*Pn **Pn** **01 05 28.2 -2.8**
COLD *e*S Sn 01 07 13.2 -18
PMR Palmer 10.79 271 *e*P **Pn** **01 05 31.9 +0.4**
PMR Palmer 10.79 271 *e*Pn **Pn** **01 05 31.9 +0.4**
TRF Thorofare Moun 10.82 281 *e*Pn **Pn** **01 05 30.5 -1.7**
TOLK Toolik Lake Re 10.86 309 P **Pn** **01 05 29.9 -2.6**
baz=108
TOLK S **Sn** **01 07 26.1 -8.2**
baz=108
KTH Kantishna Hill 11.09 282 *e*Pn **Pn** **01 05 33.4 -2.2**
RC01 Rabbit Creek A 11.24 269 *e*Pn **Pn** **01 05 38.2 +0.5**
RC01 *e*S Sn 01 08 00.1 +16
BNB Barry Inlet 11.24 198 P **Pn** **01 05 39.9 +2.1**
BBB Bella Bella 11.29 186 Pn **Pn** **01 05 36.5 -1.8**
0.3nm,0.3s,baz=12,slow=19,SNR=2.1
BBB Lg Lg 01 08 46.9
0.5nm,0.3s,baz=89,slow=22,SNR=6.9
SEW Seward 11.52 264 *e*Pn **Pn** **01 05 40.9 -0.7**
SUA Susitna One 11.56 272 *e*Pn **Pn** **01 05 42.2 0.0**
CAST Castle Rocks 11.62 282 *e*Pn **Pn** **01 05 40.9 -2.0**
PPLA Purkeypile 11.78 279 *e*Pn **Pn** **01 05 44.5 -0.7**
MNB Mounoet Dainar 11.94 156 P **Pn** **01 05 45.8 -1.6**
BLBC Blue River 11.94 159 P **Pn** **01 05 46.8 -0.8**
EDM Edmonton 12.16 141 P **Pn** **01 05 49.2 -1.2**
SPU Mount Spurr 12.25 271 *e*Pn **Pn** **01 05 51.2 -0.4**
BRLK Bradley Lake 12.32 264 *e*Pn **Pn** **01 05 52.6 +0.1**
DOWB Downie Slide 12.57 158 P **Pn** **01 05 54.6 -1.3**
CNPM China Poot 12.59 264 *e*Pn **Pn** **01 05 55.7 -0.5**
PHC Port Hardy 12.74 184 P **Pn** **01 05 59.8 +1.7**
RSO Redoubt South 12.85 269 *e*Pn **Pn** **01 05 59.8 -0.1**
TLCB Telegraph Cove 12.88 182 P **Pn** **01 06 03.1 +3.0**
LLLB Lillooet 13.01 168 P **Pn** **01 06 01.9 0.0**
LLLB Lillooet 13.01 161 *e*Pn **Pn** **01 06 02.2 +0.3**
NCRB Newcastle Ridg 13.02 180 P **Pn** **01 06 04.5 +2.4**
YBKN Baker Lake, Hu 13.24 73 P **Pn** **01 06 01.5 -3.4**
WOSB Woss 13.27 181 P **Pn** **01 06 08.6 +3.2**
WSLR Whistler 13.41 171 P **Pn** **01 06 07.2 -0.2**
TTA Tatalina 13.47 282 *e*P **Pn** **01 06 06.0 -2.2**
TTA Tatalina 13.47 282 *e*Pn **Pn** **01 06 06.0 -2.2**
TT01 Tatalina 13.48 281 *e*Pn **Pn** **01 06 05.3 -2.9**
GDR Gold River 13.64 180 P **Pn** **01 06 12.6 +2.1**
MWAB Mount Washingt 13.69 178 P **Pn** **01 06 13.3 +2.1**
TXB Texada 13.76 175 P **Pn** **01 06 15.0 +2.9**
SVW2 Sparrevohn 13.87 274 *e*Pn **Pn** **01 06 12.0 -1.6**
SHB Sechelt 13.88 174 P **Pn** **01 06 16.2 +2.3**
PRDA Priddis 14.05 148 P **Pn** **01 06 13.6 -2.6**
KDAK Kodiak Island 14.11 259 Pn **Pn** **01 06 14.0 -2.8**
0.4nm,0.3s,baz=50,slow=11,SNR=10
KDAK LR LR 01 12 19.8
comp=Z,10μm,18.5s,baz=64,slow=40
KDAK Kodiak Island 14.11 259 *i* P **Pn** **01 06 18.1 +1.3**
KDAK Kodiak Island 14.11 259 *e*Pn **Pn** **01 06 16.8 0.0**
GHNB Nanoose 14.15 175 P **Pn** **01 06 19.7 +2.3**
BULN Bullion Camp, 14.21 63 P **Pn** **01 06 14.5 -3.6**
B927 Port Alberni 14.22 177 P **Pn** **01 06 21.6 +3.2**
STLN Stellar Camp, 14.24 59 P **Pn** **01 06 15.4 -3.2**
NLLB Nanaimo Lost L 14.24 174 P **Pn** **01 06 21.4 +2.7**
HOPB Hope 14.27 168 P **Pn** **01 06 19.7 +0.7**
MGB Mount Grey 14.44 176 P **Pn** **01 06 22.7 +1.1**
PNT Penticton 14.54 163 P **Pn** **01 06 22.9 0.0**
YOUB Youbou, Lake C 14.56 175 P **Pn** **01 06 24.7 +1.6**
BPCB Bare Point 14.56 174 P **Pn** **01 06 24.8 +1.7**
B926 Mesachie Lake 14.64 175 P **Pn** **01 06 26.5 +2.4**
SMLN Simpson Lake, 14.69 54 P **Pn** **01 06 20.9 -3.8**
OHAK Old Harbor 14.74 258 *e*Pn **Pn** **01 06 25.0 -0.5**
A04D Lummi Island 14.82 171 P **Pn** **01 06 26.2 -0.3**
baz=354
PGC Sidney 14.85 173 P **Pn** **01 06 28.6 +1.7**
PGC Sidney 14.85 173 *e*Pn **Pn** **01 06 27.7 +0.8**
LZB Mount Lazard 14.87 174 P **Pn** **01 06 28.3 +1.0**
PFB Port Renfrew 14.88 176 P **Pn** **01 06 27.4 0.0**
ARVN Arviat, NU 15.01 84 P **Pn** **01 06 25.1 -3.9**
FFC Flin Flon 15.04 114 *e*P **Pn** **01 06 25.1 -4.4**
FFC pmax pmax
comp=Z,465nm,1.1s
FFC Flin Flon 15.04 114 *e*Pn **Pn** **01 06 25.1 -4.4**
comp=Z,465nm,1.1s
MCMN McManaman Lake 15.06 75 P **Pn** **01 06 24.9 -4.8**
B06A Marblemount 15.12 168 *e*Pn **Pn** **01 06 31.2 +0.6**
comp=Z,152nm,1.4s
NUNN Nunuq Camp, NU 15.17 68 P **Pn** **01 06 26.7 -4.5**
B05A Bryant 15.32 170 P **Pn** **01 06 33.6 +0.3**
baz=353,SNR=15
KUGN Kugaaruk Camp, 15.36 56 P **Pn** **01 06 28.9 -4.8**
B08A Colville Reser 15.52 163 P **Pn** **01 06 35.9 0.0**
SEDN First Sedna Si 15.55 75 P **Pn** **01 06 31.3 -4.9**
RES Resolute Bay 15.61 31 Pn **Pn** **01 06 32.4 -4.5**
comp=Z,3.9nm,0.3s,baz=229,slow=14,SNR=32
RES Sn Sn 01 09 14.4 -15
comp=Z,3.3nm,0.3s,baz=308,slow=20,SNR=5.0
RES Lg Lg 01 10 59.5
comp=Z,1.5nm,0.3s,baz=336,slow=20,SNR=2.8
RES LR LR 01 13 22.2
comp=Z,2μm,18.4s,baz=236,slow=40
RES Resolute Bay 15.61 31 P **Pn** **01 06 32.2 -4.6**
RES Resolute Bay 15.61 31 *e*P **Pn** **01 06 32.9 -4.0**
RES pmax pmax
comp=Z,376nm,1.0s
RES Resolute Bay 15.61 31 *e*Pn **Pn** **01 06 32.9 -4.0**
comp=Z,376nm,1.0s
RES Sn Sn 01 09 14.4 -15
RES Lg Lg 01 10 59.5
WAGN Wager Bay 15.75 65 P **Pn** **01 06 34.3 -4.4**
C06D Leavenworth 15.77 167 P **Pn** **01 06 39.3 +0.2**
baz=351
WALA Waterton Lakes 15.83 149 P **Pn** **01 06 36.1 -4.0**
WALA Waterton Lakes 15.83 149 *e*Pn **Pn** **01 06 36.7 -3.4**
comp=Z,241nm,1.1s
WALA *e*S Sn 01 09 24.9 -11
WRW Wenatchee Ridg 15.83 167 P **Pn** **01 06 42.6 -1.4**
HDW Hoodsport 15.87 172 P **Pn** **01 06 41.9 +1.4**
HDW Hoodsport 15.87 172 P **Pn** **01 06 41.3 +0.8**
NEW Newport 15.95 158 Pn **Pn** **01 06 40.0 -1.5**
comp=Z,0.3nm,0.3s,baz=0.8,slow=13,SNR=6.1
NEW Lg Lg 01 10 59.4
comp=Z,0.3nm,0.3s,baz=248,slow=17,SNR=2.3
NEW LR LR 01 13 26.1
comp=Z,4μm,19.6s,baz=340,slow=39
NEW Newport 15.95 158 P **Pn** **01 06 41.0 -0.5**
baz=345,SNR=29
NEW Newport 15.95 158 *e*P **Pn** **01 06 40.8 -0.7**
NEW pmax pmax
comp=Z,144nm,1.1s
NEW Newport 15.95 158 *e*Pn **Pn** **01 06 40.8 -0.7**
comp=Z,144nm,1.1s
NEW Lg Lg 01 10 59.4
FCC Fort Churchill 16.04 92 *e*P **Pn** **01 06 38.2 -4.4**
FCC pmax pmax
comp=Z,851nm,1.6s
FCC Fort Churchill 16.04 92 *e*Pn **Pn** **01 06 38.2 -4.4**
comp=Z,851nm,1.6s
FCC *e*S Sn 01 09 21.5 -19
NLWA Neilton Lookou 16.08 175 *e*Pn **Pn** **01 06 43.5 +0.3**
comp=Z,124nm,1.1s
WTV Waterville 16.09 165 P **Pn** **01 06 43.9 +0.5**
D05A Enumclaw 16.40 170 *e*Pn **Pn** **01 06 48.6 +1.4**
comp=Z,177nm,1.1s
LTY Liberty 16.45 167 P **Pn** **01 06 48.8 +0.9**
LTY Liberty 16.45 167 *e*Pn **Pn** **01 06 49.1 +1.2**
comp=Z,122nm,1.0s
TWW Teanaway 16.55 167 P **P** **01 06 50.7 -1.2**
BLMT Blacktail Moun 16.72 152 *e*Pn **Pn** **01 06 49.2 -2.3**
BSMT Bassoo Peak 16.78 153 P **Pn** **01 06 50.5 -1.8**
LON Longmire 16.85 170 P **Pn** **01 06 50.3 -2.7**
LON Longmire 16.85 170 *e*P **Pn** **01 06 53.9 +0.9**
LON pmax pmax
comp=Z,50nm,1.0s
LON Longmire 16.85 170 *e*Pn **Pn** **01 06 53.9 +0.9**
comp=Z,50nm,1.0s
D08A Wollman Farm, 16.85 163 *e*Pn **Pn** **01 06 53.9 +0.9**
comp=Z,98nm,1.1s
YBMT Yellow Bay 16.93 151 *e*Pn **Pn** **01 06 54.1 -0.1**
E03A Lebam 16.94 174 P **Pn** **01 06 51.3 -2.8**
E03A Lebam 16.94 174 *e*Pn **Pn** **01 06 54.6 +0.5**
comp=Z,157nm,1.0s
JTMT Jette 16.99 152 *e*Pn **Pn** **01 06 52.6 -2.3**
OT3 Othello 3 17.19 164 P **P** **01 06 58.6 -0.3**
GBB Gable Butte 17.20 165 P **Pn** **01 06 57.4 0.0**
E07A Sunnyside 17.23 165 *e*Pn **Pn** **01 06 58.6 +0.9**
comp=Z,292nm,1.4s
SWMT Swartz Lake 17.27 151 *e*Pn **Pn** **01 06 56.7 -1.7**
HAWA Hanford 17.43 165 *e*Pn **Pn** **01 07 00.8 +0.6**
comp=Z,212nm,1.4s
F04D Rainier, OR 17.43 173 P **P** **01 07 01.2 -0.4**
baz=355,SNR=5.5
LVP Lakeview Peak 17.48 171 P **P** **01 07 02.2 0.0**
CHGN Chigik 17.56 261 *e*Pn **Pn** **01 07 00.5 -1.3**
comp=Z,468nm,1.5s
F04A Amboy 17.62 172 *e*Pn **P** **01 07 03.9 +0.3**
comp=Z,294nm,1.4s
SLMT Seeley Lake 17.64 151 *e*Pn **Pn** **01 07 00.6 -2.4**
EGMT Eagleton 17.84 142 P **Pn** **01 07 02.2 -3.3**
baz=336,SNR=34
EGMT Eagleton 17.84 142 *e*Pn **Pn** **01 07 02.9 -2.6**
comp=Z,680nm,1.2s
MSO Missoula 17.93 152 P **Pn** **01 07 04.1 -2.4**
baz=342,SNR=34
MSO Missoula 17.93 152 *e*Pn **Pn** **01 07 03.9 -2.7**
comp=Z,128nm,1.0s
CHMT Chamberlain Mo 18.00 150 *e*Pn **Pn** **01 07 05.6 -2.0**
F10A Beach Ranch, E 18.15 160 *e*Pn **P** **01 07 10.1 +0.4**
comp=Z,127nm,1.1s
G03D McMinnville, O 18.29 174 P **Pn** **01 07 10.5 -0.3**
baz=356
G05D Wamic, OR 18.39 169 P **P** **01 07 12.7 +0.6**
baz=353,SNR=10
G06A Carlson Farm, 18.45 168 *e*P **Pn** **01 07 13.7 +0.8**
comp=Z,77nm,1.2s
HRY Holter Researc 18.52 148 *e*P **P** **01 07 12.1 -1.6**
COR Corvallis 18.91 174 *e*P **Pn** **01 07 19.7 +1.3**
COR pmax pmax
comp=Z,160nm,1.0s
COR Corvallis 18.91 174 *e*P **Pn** **01 07 19.7 +1.3**
comp=Z,160nm,1.0s
SDPT Sand Point 19.07 261 *e*P **P** **01 07 18.8 -0.7**
comp=Z,510nm,1.6s
DGMT Dagmar 19.17 131 P **P** **01 07 20.2 -0.6**
baz=329,SNR=63
DGMT Dagmar 19.17 131 *e*P **P** **01 07 20.9 +0.2**
comp=Z,296nm,1.1s
LRM Limekiln Ridge 19.21 150 *e*P **Pn** **01 07 22.5 +0.2**
BMO Blue Mountains 19.24 161 *e*P **Pn** **01 07 22.5 0.0**
BMO pmax pmax
comp=Z,82nm,1.3s
BMO Blue Mountains 19.24 161 *e*P **Pn** **01 07 22.5 0.0**
comp=Z,82nm,1.3s
I05D Terrebonne, OR 19.28 170 P **Pn** **01 07 22.6 -0.3**
baz=353,SNR=6.9
BOZ Bozeman (W) 19.62 149 P **Pn** **01 07 26.9 -0.1**
baz=340,SNR=46
BOZ Bozeman (W) 19.62 149 *e*P **Pn** **01 07 27.4 +0.3**
BOZ pmax pmax
comp=Z,104nm,1.2s
BOZ Bozeman (W) 19.62 149 *e*P **Pn** **01 07 27.4 +0.3**
comp=Z,104nm,1.2s
I04A Tendick Farm, 19.75 172 P **Pn** **01 07 28.1 -0.4**
baz=355,SNR=16
I03D Drain, OR 19.79 174 P **P** **01 07 27.5 +0.1**
baz=356
GCMT Greycliff 19.92 145 *e*P **Pn** **01 07 30.1 -0.5**
MCMT McKenzie Canyo 20.07 152 P **Pn** **01 07 32.5 0.0**
LAO LASA Array 20.08 137 P **Pn** **01 07 32.3 -0.2**
baz=334,SNR=57
LAO LASA Array 20.08 137 *e*P **Pn** **01 07 32.3 -0.2**
comp=Z,197nm,1.0s
J04D Umpqua Nationa 20.32 172 P **Pn** **01 07 34.5 -0.9**
baz=355,SNR=8.6
J05D Fort Rock, OR 20.34 170 P **Pn** **01 07 35.8 +0.2**
baz=354,SNR=45
QLMT Earthquake Lak 20.39 149 *e*P **Pn** **01 07 36.4 +0.2**
YHB Horse Butte 20.52 149 *e*P **Pn** **01 07 38.2 +0.5**
comp=Z,171nm,1.1s
YHH Holmes Hill 20.56 148 *e*P **Pn** **01 07 38.1 -0.3**
comp=Z,112nm,1.1s
KEBM Edson Butte 20.58 176 *e*P **Pn** **01 07 38.1 -0.2**
comp=Z,152nm,1.3s
RLMT Red Lodge 20.65 144 P **Pn** **01 07 38.9 -0.4**
baz=338,SNR=73
RLMT Red Lodge 20.65 144 *e*P **Pn** **01 07 39.0 -0.2**
comp=Z,130nm,1.0s
RLMT LR LR
comp=Z,581nm,19.0s
YMR Madison River 20.65 148 *e*P **Pn** **01 07 38.8 -0.5**
comp=Z,104nm,1.0s
YNR Norris Junctio 20.67 148 *e*P **Pn** **01 07 39.9 +0.2**
comp=Z,3μm,1.1s
I10CA LAC DU BONNET 20.84 115 *i* 03 08 30.0
baz=320,slow=330,SNR=0.6
ULM Lac du Bonnet 20.86 115 P **P** **01 07 39.1 0.0**
comp=Z,143nm,1.2s,baz=317,slow=11,SNR=45
ULM Sn S 01 11 14.1 -18
comp=Z,31nm,0.9s,baz=52,slow=20,SNR=3.0
ULM Lg Lg 01 13 39.6
comp=Z,408nm,1.4s,baz=45,slow=21,SNR=5.8
ULM LR LR 01 15 60.0
comp=Z,2μm,19.6s,baz=322,slow=37
ULM Lac du Bonnet 20.86 115 P **P** **01 07 39.0 -0.1**
ULM Lac du Bonnet 20.86 115 *e*P **P** **01 07 39.7 +0.6**
ULM Lac du Bonnet 20.86 115 *e*P **P** **01 07 39.7 +0.6**
ULM Sn S 01 11 14.1 -18
ULM Lg Lg 01 13 39.6
MFID Camas Ranch 20.87 159 *e*P **P** **01 07 40.7 +1.3**
comp=Z,104nm,1.0s
LKWY Lake 20.88 147 *e*P Pn 01 07 42.1 0.0
LKWY pmax pmax
comp=Z,371nm,2.0s
LKWY MLR MLR
comp=Z,252nm,20.0s
LKWY Lake 20.88 147 *e*P Pn 01 07 42.1 0.0
comp=Z,371nm,2.0s
LKWY LR LR
comp=Z,252nm,20.0s
YFT Old Faithful 20.88 148 *e*P Pn 01 07 43.1 +1.1
comp=Z,113nm,1.1s
HUMO Hull Mountain 20.90 174 *e*P Pn 01 07 41.1 -1.0
comp=Z,111nm,1.2s
K05A Summer Lake 20.92 169 *e*P Pn 01 07 41.4 -1.1
comp=Z,228nm,1.1s
K04D Chiloquin, OR 20.95 171 P Pn 01 07 42.0 -0.8
baz=354,SNR=6.0
HLID Hailey 20.98 156 P **P** **01 07 41.3 +0.8**
baz=345,SNR=97
HLID Hailey 20.98 156 *e*P **P** **01 07 41.5 +0.9**
comp=Z,103nm,1.1s
HLID LR LR
comp=Z,312nm,19.0s
H17A Grant Village 21.00 148 P **P** **01 07 43.3 +2.4**
baz=340,SNR=22
H17A Grant Village 21.00 148 *e*P **P** **01 07 44.1 +3.2**
comp=Z,189nm,1.5s
YPP Pitchstone Pla 21.06 148 *e*P **P** **01 07 44.3 +2.7**
comp=Z,107nm,1.2s
KBO Bosley Butte 21.24 176 *e*P **P** **01 07 44.5 +1.2**
comp=Z,242nm,1.3s
L02D Cave Junction, 21.32 175 P **P** **01 07 45.2 +1.2**
baz=357
MDND Maddock 21.34 124 P **P** **01 07 45.3 +1.1**
baz=326,SNR=28
MDND Maddock 21.34 124 *e*P **P** **01 07 45.9 +1.6**
comp=Z,316nm,1.0s
A31A Linda, St. Vin 21.38 119 P **P** **01 07 45.4 +0.8**
baz=323
IMW Indian Meadow 21.38 149 *e*P **P** **01 07 47.3 +2.2**
comp=Z,145nm,1.2s
WVOR Wild Horse Val 21.44 165 *e*P **P** **01 07 47.2 +1.7**
WVOR pmax pmax
comp=Z,164nm,1.2s
WVOR MLR MLR
comp=Z,1μm,20.0s
WVOR Wild Horse Val 21.44 165 *e*P **P** **01 07 47.2 +1.7**
comp=Z,164nm,1.2s
WVOR LR LR
comp=Z,1μm,20.0s
MOOW Moose Ponds 21.57 149 *e*P **P** **01 07 49.3 +2.4**
comp=Z,80nm,1.1s
B31A Greenbush Farm 21.61 121 P **P** **01 07 47.6 +0.5**
baz=324,SNR=14
A32A Rocking H Ranc 21.66 118 P **P** **01 07 48.0 +0.3**
baz=323,SNR=8.8
LOHW Long Hollow 21.73 148 *e*P **P** **01 07 51.3 +2.6**
comp=Z,112nm,1.1s
TPAW Teton Pass 21.77 149 *e*P **P** **01 07 51.4 +2.3**
comp=Z,240nm,1.5s
YBH Yreka Blue Hor 21.78 173 *e*P **P** **01 07 51.1 +2.0**
YBH pmax pmax
comp=Z,41nm,1.2s
YBH Yreka Blue Hor 21.78 173 *e*P **P** **01 07 51.1 +2.0**
comp=Z,41nm,1.2s
M04C Macdoel 21.79 171 P **P** **01 07 49.9 +0.7**
baz=355,SNR=21
MOD Modoc Plateau 21.79 168 *e*P **P** **01 07 51.5 +2.3**
comp=Z,250nm,1.8s
SNOW Snow King Moun 21.84 149 *e*P **P** **01 07 52.6 +2.7**
comp=Z,170nm,1.3s
REDW Red Top Meadow 21.91 149 *e*P **P** **01 07 53.1 +2.5**
comp=Z,234nm,1.5s
B32A Ashes, Strandq 22.07 119 P **P** **01 07 52.4 +0.4**
baz=324,SNR=18
A33A Warroad 22.09 116 P **P** **01 07 52.5 +0.3**
baz=322,SNR=127
C31A Landman Farms, 22.09 122 P **P** **01 07 52.9 +0.6**
baz=325,SNR=56
M02C Callahan 22.11 174 P **P** **01 07 54.0 +1.3**
baz=356
EPLO Experimental L 22.19 113 P **P** **01 07 53.2 -0.2**
PKLO Pickle Lake 22.27 106 P **P** **01 07 53.9 -0.3**
AGMN Agassiz Nation 22.41 118 P **P** **01 07 56.1 +0.4**
baz=324,SNR=26
AGMN Agassiz Nation 22.41 118 *e*P **P** **01 07 56.1 +0.4**
comp=Z,382nm,1.5s
AGMN LR LR
comp=Z,406nm,22.0s
C32A Crookston 22.53 120 P **P** **01 07 57.3 +0.3**
baz=325
N02D Trinity Center 22.54 173 P **P** **01 07 59.0 +1.8**
baz=356
B33A Robert and Kas 22.54 118 P **P** **01 07 57.5 +0.4**
baz=324,SNR=33
KHMM Horse Mountain 22.59 175 *e*P **P** **01 07 58.2 +0.4**
comp=Z,386nm,2.0s
SOLO Sioux Lookout 22.62 110 P **P** **01 07 57.6 -0.3**
D31A Mcclaflin, Tow 22.71 123 P **P** **01 07 59.0 +0.1**
baz=326,SNR=12
B34A Aery, Baudette 22.75 116 P **P** **01 07 59.7 +0.4**
baz=323,SNR=86
BW06 Boulder Array 22.78 147 P **P** **01 08 00.4 +0.4**
baz=341,SNR=67
BW06 Boulder Array 22.78 147 *e*P **P** **01 08 01.5 +1.5**
BW06 LR LR
comp=Z,649nm,21.0s
PD31 Pinedale Array 22.78 147 *e*P **P** **01 08 01.5 +1.6**
PDAR Pinedale Array 22.78 147 P **P** **01 08 01.6 +1.6**
comp=Z,33nm,1.0s,baz=347,slow=6.1,SNR=81
PDAR Lg Lg 01 14 45.4
comp=Z,1.9nm,1.0s,baz=21,slow=28,SNR=2.9
PDAR LR LR 01 18 07.4
comp=Z,748nm,20.9s,baz=348,slow=40
C33A Trail 22.88 119 P **P** **01 08 00.8 0.0**
baz=324,SNR=22
D32A Dogwood Acres, 22.91 122 P **P** **01 08 01.1 +0.1**
baz=326,SNR=11
WDC Whiskeytown Da 22.94 173 *e*P **P** **01 08 03.1 +1.7**
WDC pmax pmax
comp=Z,81nm,1.4s
WDC Whiskeytown Da 22.94 173 *e*P **P** **01 08 03.1 +1.7**
comp=Z,81nm,1.4s
HVU Hansel Valley 23.01 154 *e*P **P** **01 08 03.7 +1.4**
HVU pmax pmax
comp=Z,176nm,1.3s
HVU Hansel Valley 23.01 154 *e*P **P** **01 08 03.7 +1.4**
comp=Z,176nm,1.3s
E31A Nome 23.06 124 P **P** **01 08 02.7 +0.1**
baz=327,SNR=8.7
RSSD Black Hills 23.07 136 P **P** **01 08 03.6 +0.7**
baz=334
RSSD Black Hills 23.07 136 *e*P **P** **01 08 04.0 +1.1**
RSSD pmax pmax
comp=Z,182nm,1.1s
RSSD Black Hills 23.07 136 *e*P **P** **01 08 04.0 +1.1**
comp=Z,182nm,1.1s
B35A Bob, Littlefor 23.22 115 P **P** **01 08 04.3 +0.1**
baz=322,SNR=67
KMRM Mail Ridge 23.24 175 *e*P **P** **01 08 06.6 +2.0**
comp=Z,150nm,1.4s
O03D Paynes Creek 23.27 172 P **P** **01 08 05.4 +0.6**
baz=355,SNR=10
C34A RKJ Ranch, Bem 23.31 118 P **P** **01 08 05.1 -0.1**
baz=324,SNR=17
E32A Braaten, Kindr 23.34 122 P **P** **01 08 05.3 -0.1**
baz=327
D33A AnnSam, Waubun 23.36 120 P **P** **01 08 06.1 +0.5**
baz=325,SNR=8.3
HWUT Hardware Ranch 23.42 152 *e*P **P** **01 08 08.1 +1.6**
comp=Z,148nm,1.0s
F31A Hecla 23.51 125 P **P** **01 08 07.8 +0.6**
baz=328,SNR=21
SPUT South Promonto 23.53 154 *e*P **P** **01 08 08.8 +1.2**
comp=Z,92nm,1.0s
BMN Battle Mountai 23.59 163 *e*P **P** **01 08 10.2 +2.1**
BMN *e* 01 11 54.3
BMN pmax pmax
comp=Z,50nm,1.3s
BMN Battle Mountai 23.59 163 *e*P **P** **01 08 10.2 +2.1**
comp=Z,50nm,1.3s
BMN *e*PcP **PcP** **01 11 54.3 +1.4**
C35A Jirik Farms, M 23.64 116 P **P** **01 08 08.8 +0.3**
baz=323,SNR=60
D34A Park Rapids 23.66 119 P **P** **01 08 09.1 +0.5**
baz=325,SNR=29
K22A Casper 23.68 142 P **P** **01 08 10.2 +1.3**
baz=338,SNR=59
K22A Casper 23.68 142 *e*P **P** **01 08 10.3 +1.3**
comp=Z,299nm,1.1s
ATKO Atikokan Iron 23.74 112 P **P** **01 08 09.9 +0.6**
KCPM Cahto Peak 23.78 175 *e*P **P** **01 08 11.3 +1.3**
comp=Z,281nm,1.9s
BGU Big Grassy Mou 23.78 155 *e*P **P** **01 08 11.4 +1.4**
comp=Z,91nm,1.4s
BEKR Beckworth 23.80 169 *e*P **P** **01 08 12.2 +2.0**
comp=Z,40nm,1.1s
E33A Westby DABS, E 23.82 121 P **P** **01 08 11.0 +0.8**
baz=326,SNR=13
F32A Veblen 23.92 123 P **P** **01 08 11.5 +0.4**
baz=328
SNKN Sanikiluaq 23.94 85 P **P** **01 08 11.6 +0.4**
ORV Oroville 24.02 171 *e*P **P** **01 08 13.3 +1.1**
ORV pmax pmax
comp=Z,108nm,2.0s
ORV Oroville 24.02 171 *e*P **P** **01 08 13.3 +1.1**
comp=Z,108nm,2.0s
PAHR Pah Rah Range 24.05 167 *e*P **P** **01 08 14.9 +2.3**
comp=Z,79nm,1.4s
C36A Pine Crest Far 24.06 115 P **P** **01 08 13.2 +0.8**
baz=323,SNR=59
G31A Conde 24.07 126 P **P** **01 08 13.5 +1.0**
baz=329,SNR=8.7
D35A Remer 24.11 117 P **P** **01 08 13.7 +0.8**
baz=324,SNR=41

E34A **Wadena** 24.14 120 P P 01 08 14.0 +0.8
baz=326,SNR=16
F33A **5 Mile Ranch,** 24.27 122 P P 01 08 15.3 +0.9
baz=327,SNR=19
VIMO **Victor Mine** 24.27 96 P P 01 08 14.0 -0.3
G32A **Webster** 24.31 125 P P 01 08 16.0 +1.2
baz=328,SNR=22
C37A **Embarrass** 24.35 114 P P 01 08 16.1 +0.9
baz=323,SNR=28
RWWY **Rawlins** 24.39 144 eP P 01 08 17.4 +1.6
comp=Z,612nm,1.9s
D36A **Goodland** 24.39 116 P P 01 08 16.0 +0.4
baz=324,SNR=27
E35A **Pequot Lakes** 24.40 119 P P 01 08 16.5 +0.9
baz=325,SNR=12
JLU **Jordanelle** 24.41 152 eP P 01 08 17.7 +1.7
comp=Z,99nm,1.3s
EYMN **Ely** 24.47 113 P P 01 08 17.2 +1.0
baz=322,SNR=60
EYMN **Ely** 24.47 113 eP P 01 08 17.1 +1.0
comp=Z,152nm,0.9s
EYMN eS S 01 12 39.8 +3.3
EYMN LR LR
comp=Z,3µm,20.0s
SUSD **Miller** 24.48 128 P P 01 08 17.7 +1.3
baz=330,SNR=5.8
HOPS **Hopland Field** 24.50 174 eP P 01 08 17.7 +1.2
comp=Z,92nm,1.4s
DUG **Dugway, Tooele** 24.53 155 P P 01 08 18.9 +1.9
baz=346,SNR=64
DUG **Dugway, Tooele** 24.53 155 eP P 01 08 18.7 +1.7
DUG pmax pmax
comp=Z,48nm,1.1s
DUG MLR MLR
comp=Z,183nm,19.0s
DUG **Dugway, Tooele** 24.53 155 eP P 01 08 18.7 +1.7
comp=Z,48nm,1.1s
DUG LR LR
comp=Z,183nm,19.0s
H31A **Wolsey** 24.62 127 P P 01 08 18.7 +1.2
baz=330
AFDM **Forest Hills D** 24.67 170 eP P 01 08 18.6 +0.6
comp=Z,38nm,1.4s
F34A **Alexandria** 24.70 121 P P 01 08 19.4 +1.1
baz=326,SNR=7.1
D37A **Cotton** 24.71 115 P P 01 08 19.1 +0.7
baz=323,SNR=45
C38A **Sawbill Land.** 24.74 113 P P 01 08 19.3 +0.7
baz=322,SNR=36
G33A **Ortonville** 24.75 123 P P 01 08 20.1 +1.4
baz=328,SNR=15
TBO **Thunder Bay** 24.80 109 P P 01 08 20.6 +1.4
FRB **Frobisher Bay** 24.88 63 P P 01 08 19.9 +0.1
comp=Z,47nm,0.9s,baz=296,slow=12,SNR=9.7
FRB Lg Lg 01 15 40.0
comp=Z,194nm,1.2s,baz=13,slow=22,SNR=6.0
FRB LR LR 01 18 07.5
comp=Z,8µm,18.5s,baz=298,slow=36
E36A **McGregor** 24.89 117 P P 01 08 21.0 +1.0
baz=325,SNR=49
NLU **North Lily Min** 24.91 154 eP P 01 08 22.3 +1.8
comp=Z,46nm,1.1s
F35A **Swanville** 24.91 120 P P 01 08 21.8 +1.5
baz=326,SNR=13
H32A **Carlson Farm,** 24.97 126 P P 01 08 22.1 +1.4
baz=329,SNR=70
I31A **Royce, Wessing** 24.99 128 P P 01 08 21.9 +1.0
baz=330
G34A **Benson** 25.02 122 P P 01 08 22.4 +1.3
baz=327,SNR=11
GTO **Geraldton** 25.02 105 P P 01 08 22.2 +1.0
H33A **Prehn Over Nor** 25.08 124 P P 01 08 23.2 +1.5
baz=329,SNR=107
C39A **Grand Marais** 25.14 111 P P 01 08 22.8 +0.6
baz=322,SNR=23
E37A **Wrenshall** 25.20 116 P P 01 08 23.5 +0.7
baz=324
PHWY **Pilot Hill** 25.23 141 eP P 01 08 24.7 +1.3
comp=Z,77nm,1.2s
WAKR **Walker** 25.24 168 eP P 01 08 25.3 +1.9
comp=Z,44nm,1.3s
F36A **Milaca** 25.32 118 P P 01 08 24.7 +0.8
baz=326,SNR=63
TVH1 **TV Hill, Hawth** 25.35 166 eP P 01 08 27.4 +2.7
comp=Z,77nm,1.3s
I32A **Karley and Nic** 25.37 126 P P 01 08 25.4 +1.0
baz=330,SNR=9.1
TVH2 **Borealis Mine** 25.43 166 eP P 01 08 27.7 +2.5
comp=Z,21nm,1.1s
TVH3 **East Aurora ar** 25.45 167 eP P 01 08 27.1 +1.7
comp=Z,30nm,1.2s
H34A **Spellman Lake,** 25.45 123 P P 01 08 26.4 +1.3
baz=328,SNR=14
N23A **Red Feather La** 25.47 143 P P 01 08 26.9 +1.3
baz=339,SNR=118
N23A **Red Feather La** 25.47 143 eP P 01 08 27.0 +1.4
comp=Z,199nm,1.0s
G35A **Watkins** 25.48 121 P P 01 08 26.5 +1.1
baz=327,SNR=8.6
E38A **The Farm, Brul** 25.51 115 P P 01 08 26.6 +1.0
baz=324,SNR=11
J31A **Geddes** 25.56 129 P P 01 08 27.5 +1.4
baz=331,SNR=24
O20A **White River Ci** 25.59 147 P P 01 08 28.6 +2.0
baz=341,SNR=40
O20A **White River Ci** 25.59 147 eP P 01 08 28.6 +2.0
comp=Z,109nm,1.0s
O20A ePcP PcP 01 11 49.6 -7.8
I33A **Coleman** 25.60 125 P P 01 08 27.8 +1.4
baz=329,SNR=21
CMB **Columbia Colle** 25.62 170 eP P 01 08 27.7 +1.0
CMB pmax pmax
comp=Z,41nm,1.5s
CMB **Columbia Colle** 25.62 170 eP P 01 08 27.7 +1.0
comp=Z,41nm,1.5s
CMBN **Cumberland Cam** 25.67 57 P P 01 08 26.0 -0.9
TMUT **Trail Mountain** 25.72 153 eP P 01 08 30.2 +2.3
comp=Z,80nm,1.2s
G36A **St. Michael** 25.75 120 P P 01 08 29.1 +1.2
baz=326,SNR=8.1
H35A **Sunnyside Ranc** 25.78 122 P P 01 08 29.5 +1.4
baz=328,SNR=47
F37A **Hinrichs Farm,** 25.79 117 P P 01 08 29.6 +1.4
baz=325
J32A **Parkston** 25.80 128 P P 01 08 29.4 +1.1
baz=331,SNR=9.6
R11A **Troy Canyon, C** 25.86 161 P P 01 08 30.7 +1.6
baz=349,SNR=24
R11A **Troy Canyon, C** 25.86 161 eP P 01 08 30.5 +1.4
comp=Z,36nm,1.3s
F38A **Pierce - Schro** 25.90 116 P P 01 08 30.4 +1.2
baz=325,SNR=102
ECSD **EROS Data Cent** 25.94 125 P P 01 08 30.7 +1.2
baz=330,SNR=72
ECSD **EROS Data Cent** 25.94 125 eP P 01 08 30.4 +0.8
comp=Z,209nm,1.4s
ECSD eS S 01 13 12.8 +13
ECSD LR LR
comp=Z,441nm,22.0s
I34A **Hadley** 25.95 124 P P 01 08 31.0 +1.3
baz=329,SNR=19
PSUT **Pine Spring** 25.96 158 eP P 01 08 31.2 +1.2
comp=Z,58nm,1.3s
SRU **San Rafael Swe** 26.04 152 eP P 01 08 33.1 +2.4
SRU pmax pmax
comp=Z,124nm,1.0s
SRU **San Rafael Swe** 26.04 152 eP P 01 08 33.1 +2.4
comp=Z,124nm,1.0s
E39A **Mellen** 26.10 114 P P 01 08 31.2 +0.2
baz=324,SNR=7.8
SPMN **Marine on St.** 26.13 118 P P 01 08 32.6 +1.3
baz=326,SNR=74
SPMN **Marine on St.** 26.13 118 eP P 01 08 33.0 +1.7
comp=Z,305nm,1.1s
K31A **O'Neill** 26.14 130 P P 01 08 33.0 +1.6
baz=332,SNR=6.3
MLAC **Mammoth, Mammo** 26.16 167 P P 01 08 34.0 +2.1
baz=352
J33A **Davis** 26.17 126 P P 01 08 32.7 +1.1
baz=330,SNR=21
PNPO **Pukaskwa Natio** 26.18 106 P P 01 08 32.5 +0.8
H36A **Jessenland, He** 26.23 121 P P 01 08 34.1 +2.0
baz=327,SNR=13
MSU **Marysvale** 26.28 155 eP P 01 08 35.6 +2.7
MSU **Marysvale** 26.28 155 eP P 01 08 35.6 +2.7
E40A **Wakefield** 26.32 113 P P 01 08 33.9 +0.9
baz=323,SNR=10
F39A **Loretta** 26.33 115 P P 01 08 34.2 +1.2
baz=324,SNR=22
K32A **Verdigre** 26.38 129 P P 01 08 34.1 +0.6
baz=332
D41A **Chassel** 26.39 110 P P 01 08 34.6 +1.0
baz=322,SNR=55
I35A **Creekview Farm** 26.44 123 P P 01 08 35.3 +1.2
baz=329,SNR=9.1
G38A **Ridgeland** 26.56 117 P P 01 08 36.2 +1.1
baz=326,SNR=28
J34A **George** 26.57 125 P P 01 08 36.6 +1.4
baz=330,SNR=11
OGNE **Ogallala** 26.57 136 P P 01 08 36.7 +1.4
baz=336,SNR=9.1
OGNE **Ogallala** 26.57 136 eP P 01 08 36.9 +1.6
OGNE comp=Z,209nm,1.5s LR LR
comp=Z,1µm,21.0s
ISCO **Idaho Springs** 26.58 143 P P 01 08 37.6 +1.8
baz=339,SNR=26
ISCO **Idaho Springs** 26.58 143 eP P 01 08 37.7 +2.0
ISCO pmax pmax
comp=Z,50nm,1.0s
ISCO MLR MLR
comp=Z,908nm,19.0s
ISCO **Idaho Springs** 26.58 143 eP P 01 08 37.7 +2.0
comp=Z,50nm,1.0s
ISCO LR LR
comp=Z,908nm,19.0s
H37A **Dierke Farm, C** 26.62 119 P P 01 08 37.4 +1.7
baz=327,SNR=13
F40A **Park Falls** 26.65 114 P P 01 08 37.2 +1.2
baz=324,SNR=13
I36A **Fitzsimmons Fa** 26.67 121 P P 01 08 37.7 +1.6
baz=328,SNR=18
G39A **Holcombe** 26.74 116 P P 01 08 37.8 +1.1
baz=325,SNR=14
MTPU **Mount Pierson** 26.74 155 eP P 01 08 40.7 +3.5
comp=Z,126nm,1.6s
J35A **Milford** 26.77 124 P P 01 08 38.2 +1.1
baz=329,SNR=5.7
K33A **Hardington** 26.78 127 P P 01 08 38.3 +1.2
baz=331
H38A **Maiden Rock** 26.80 118 P P 01 08 38.7 +1.4
baz=326,SNR=14
TIN **Tinemaha, Big** 26.80 166 P P 01 08 39.8 +2.3
baz=352
SAO **San Andreas Ge** 26.80 172 eP P 01 08 39.8 +2.4
SAO pmax pmax
comp=Z,42nm,1.3s
SAO **San Andreas Ge** 26.80 172 eP P 01 08 39.8 +2.4
comp=Z,42nm,1.3s
SMCO **Snowmass** 26.81 146 eP P 01 08 40.1 +2.2
comp=Z,52nm,1.1s
BILL **Bilibino** 26.91 310⇑ eP P 01 08 38.2 +0.1
BILL e 01 09 14.9
BILL eS S 01 13 02.0 -13
BILL pmax pmax
comp=Z,33nm,1.1s
BILL MLR MLR
comp=Z,1µm,16.0s
I37A **Lemond, Waseca** 26.91 121 P P 01 08 39.9 +1.6
baz=328,SNR=40
PV09 **Paradox Valley** 26.93 150 eP P 01 08 40.6 +1.7
L32A **Elgin** 26.95 129 P P 01 08 39.9 +1.3
baz=332
GRAC **Grayvine Rang** 26.95 164 P P 01 08 40.6 +1.8
baz=351
CCUT **Cedar City** 27.00 157 eP P 01 08 40.6 +1.2
comp=Z,60nm,1.5s
SZCU **Shurtz Canyon** 27.00 157 eP P 01 08 41.4 +2.0
comp=Z,48nm,1.5s
K34A **Le Mars** 27.03 126 P P 01 08 40.8 +1.4
baz=330
L33A **Hoskins** 27.06 128 P P 01 08 40.9 +1.2
baz=332,SNR=5.1
PV10 **Paradox Valley** 27.07 150 eP P 01 08 42.9 +2.8
PV04 **Paradox Valley** 27.09 149 eP P 01 08 41.6 +1.4
J36A **Seneca 1, Swea** 27.13 123 P P 01 08 41.5 +1.2
baz=329
TPNV **Topopah Spring** 27.14 163 P P 01 08 42.0 +1.3
baz=350,SNR=14
TPNV **Topopah Spring** 27.14 163 eP P 01 08 42.4 +1.8
TPNV pmax pmax
comp=Z,24nm,1.0s
TPNV **Topopah Spring** 27.14 163 eP P 01 08 42.4 +1.8
comp=Z,24nm,1.0s
G40A **Rib Lake** 27.15 115 P P 01 08 41.5 +1.0
baz=325,SNR=13
E42A **Champion** 27.16 111 P P 01 08 41.7 +1.2
baz=322,SNR=14
H39A **Augusta** 27.19 117 P P 01 08 41.8 +1.0
baz=326,SNR=30
KAPO **Kapuskasing** 27.20 100 P P 01 08 42.4 +1.5
F41A **Three Lakes** 27.22 113 P P 01 08 38.7 -2.4
baz=324
PKCU **Pink Cliffs** 27.29 156 eP P 01 08 45.5 +3.4
comp=Z,174nm,1.8s
I38A **Scanlan Farm,** 27.31 119 P P 01 08 43.3 +1.4
baz=327,SNR=29
K35A **Storm Lake** 27.32 125 P P 01 08 43.1 +1.1
baz=330,SNR=11
PV05 **Paradox Valley** 27.34 150 eP P 01 08 44.0 +1.5
PMPB **Monarch Peak** 27.39 171 eP P 01 08 45.7 +2.9
comp=Z,54nm,1.2s
PV01 **Paox Valley** 27.41 149 eP P 01 08 44.5 +1.3
comp=Z,799nm,0.8s
CWC **Cottonwood Cre** 27.42 166 P P 01 08 44.5 +1.4
baz=352
BGNE **Belgrade** 27.43 130 P P 01 08 44.2 +1.2
baz=333,SNR=9.2
BGNE **Belgrade** 27.43 130 eP P 01 08 44.7 +1.7
comp=Z,234nm,1.0s
RCTC **Rector, Farmer** 27.44 168 P P 01 08 44.2 +1.2
baz=353
J37A **Redenius Farm,** 27.45 122 P P 01 08 44.4 +1.2
baz=328,SNR=22
Q24A **Divide** 27.49 143 P P 01 08 45.9 +1.9
baz=340,SNR=26
Q24A **Divide** 27.49 143 eP P 01 08 46.3 +2.4
comp=Z,54nm,1.3s
FURC **Furnace Creek,** 27.54 164 P P 01 08 45.9 +2.0
baz=351,SNR=10
LCMT **Little Creek M** 27.55 157 eP P 01 08 46.4 +2.2
comp=Z,43nm,1.5s
L34A **Svendsen Farm,** 27.56 127 P P 01 08 45.2 +1.1
baz=331
E43A **Lone Tree Farm** 27.59 110 P P 01 08 45.3 +0.9
baz=322
H40A **Chili** 27.60 116 P P 01 08 46.3 +1.8
baz=326,SNR=22
F42A **Maple Grove Fa** 27.60 112 P P 01 08 45.7 +1.2
baz=323,SNR=5.2
G41A **Antigo** 27.61 114 P P 01 08 46.2 +1.6
baz=324,SNR=18
M33A **Taylor Creek F** 27.61 129 P P 01 08 46.2 +1.6
baz=332,SNR=7.5
KNB **Kanab** 27.61 157 eP P 01 08 47.2 +2.3
KNB pmax pmax
comp=Z,34nm,1.2s
KNB **Kanab** 27.61 157 eP P 01 08 47.2 +2.3
comp=Z,34nm,1.2s
DAC **Darwin (Calif)** 27.64 165 eP P 01 08 47.0 +1.9
DAC pmax pmax
comp=Z,96nm,1.6s
DAC **Darwin (Calif)** 27.64 165 eP P 01 08 47.0 +1.9
comp=Z,96nm,1.6s
K36A **Gilmore City** 27.68 124 P P 01 08 46.6 +1.3
baz=330
L35A **Bielow Farm, R** 27.73 126 P P 01 08 46.9 +1.2
baz=331
SHPR **Sheep Range** 27.73 161 eP P 01 08 47.8 +1.9
comp=Z,23nm,1.1s
I39A **Houston** 27.78 118 P P 01 08 47.4 +1.3
baz=327,SNR=10
J38A **Wedel Dairy, R** 27.86 120 P P 01 08 47.6 +0.8
baz=328
MPMC **Manual Prospec** 27.86 165 P P 01 08 49.6 +2.4
baz=352,SNR=36
K37A **Belmond** 27.88 122 P P 01 08 48.4 +1.4
baz=329,SNR=33
M34A **Aspy Farms, Fr** 27.89 128 P P 01 08 48.3 +1.2
baz=332
H41A **Junction City** 27.90 115 P P 01 08 48.4 +1.2
baz=325,SNR=5.7
VES **Vestal, Richgr** 27.91 168 P P 01 08 48.5 +1.2
baz=353
PAGB **Antelope Grade** 27.92 170 eP P 01 08 50.4 +3.0
comp=Z,25nm,1.2s
F43A **Flat Rock, Esc** 27.95 110 P P 01 08 48.9 +1.3
baz=323,SNR=10
L36A **Harm Buss Farm** 28.07 124 P P 01 08 49.5 +0.8
baz=330
I40A **Norwalk** 28.11 117 P P 01 08 50.4 +1.4
baz=326,SNR=15
J39A **Decorah** 28.14 119 P P 01 08 50.1 +0.8
baz=328,SNR=15
ISA **Isabella, Lake** 28.15 167 P P 01 08 51.4 +1.8
baz=353
F44A **Big Bay de Noc** 28.16 109 P P 01 08 50.4 +1.0
baz=323,SNR=5.5
KSCO **Kaye Shedlock'** 28.16 139 P P 01 08 51.1 +1.4
baz=338
KSCO **Kaye Shedlock'** 28.16 139 eP P 01 08 51.8 +2.1
comp=Z,213nm,1.4s
SHOC **Shoshone, Teco** 28.17 163 P P 01 08 51.9 +2.2
baz=350,SNR=8.0
G43A **Wallace** 28.20 112 P P 01 08 51.0 +1.3
baz=324
S22A **4UR Ranch, Cre** 28.20 146 P P 01 08 52.3 +2.0
baz=342,SNR=16
S22A **4UR Ranch, Cre** 28.20 146 eP P 01 08 52.2 +2.0
comp=Z,33nm,1.3s
M35A **Neola** 28.24 127 P P 01 08 51.4 +1.2
baz=331
I41A **Arkdale** 28.27 116 P P 01 08 51.7 +1.2
baz=326,SNR=7.6
U15A **North Rim** 28.28 156 eP P 01 08 52.7 +1.8
comp=Z,22nm,1.0s
MVCO **Mesa Verde** 28.31 149 P P 01 08 53.1 +1.9
baz=343,SNR=10
MVCO **Mesa Verde** 28.31 149 eP P 01 08 53.0 +1.9
comp=Z,47nm,1.3s
K38A **Parkersburg** 28.31 121 P P 01 08 52.4 +1.5
baz=329,SNR=13
L37A **Phoenix Point,** 28.39 123 P P 01 08 52.9 +1.3
baz=330,SNR=14
LRMC **Laurel Mtn Rad** 28.41 165 P P 01 08 54.5 +2.5
baz=352,SNR=9.9
J40A **Soldiers Grove** 28.48 118 P P 01 08 53.6 +1.3
baz=327,SNR=13
N34A **Lincoln** 28.51 128 P P 01 08 53.7 +1.1
baz=332,SNR=15
SDCO **Great Sand Dun** 28.54 144 P P 01 08 53.7 +0.4
baz=341,SNR=15
SDCO **Great Sand Dun** 28.54 144 eP P 01 08 54.8 +1.5
comp=Z,50nm,1.8s
SDCO LR LR
comp=Z,1µm,20.0s
M36A **Felix, Anita** 28.58 125 P P 01 08 54.1 +0.8
baz=331,SNR=6.0
K39A **Oelwein** 28.61 120 P P 01 08 54.3 +0.8
baz=328,SNR=15
ADK **Adak** 28.62 270 PFAKE 01 09 00.0 +6.5
ADK LR LR
comp=Z,3µm,20.0s
L38A **Oak Wood Farm,** 28.68 122 P P 01 08 55.6 +1.5
baz=329,SNR=41
TUQ **Turquoise Moun** 28.68 163 P P 01 08 56.8 +2.5
baz=350,SNR=12
GSC **Goldstone, Bar** 28.69 164 P P 01 08 56.8 +2.4
baz=351,SNR=10
GSC **Goldstone, Bar** 28.69 164 eP P 01 08 57.3 +2.9
GSC pmax pmax
comp=Z,46nm,1.4s
GSC **Goldstone, Bar** 28.69 164 eP P 01 08 57.3 +2.9
comp=Z,46nm,1.4s
SCIA **State Center** 28.78 123 eP P 01 08 56.9 +1.9
comp=Z,117nm,1.1s
PKM **Mcpherson Peak** 28.79 169 P P 01 08 56.5 +1.2
baz=354
N35A **Tabor** 28.79 127 P P 01 08 56.7 +1.6
baz=332,SNR=8.2
J41A **Loganville** 28.79 117 P P 01 08 56.4 +1.3
baz=327,SNR=10
O33A **Hebron** 28.81 131 P P 01 08 56.0 +0.7
baz=334,SNR=12
M37A **Trindle Farm,** 28.90 124 P P 01 08 57.8 +1.8
baz=330,SNR=9.7
K40A **Colesburg** 28.91 119 P P 01 08 57.5 +1.4
baz=328,SNR=11
EDW2 **Edwards Air Fo** 28.97 166 P P 01 08 59.0 +2.2
baz=352,SNR=6.1
O34A **Beatrice** 29.02 129 P P 01 08 58.2 +1.0
baz=333,SNR=23
L39A **Vinton** 29.06 121 P P 01 08 58.7 +1.2
baz=329,SNR=29
JFWS **Jewell Farm** 29.08 118 eP P 01 08 58.8 +1.1
JFWS pmax pmax
comp=Z,76nm,1.2s
JFWS MLR MLR
comp=Z,3µm,20.0s
JFWS **Jewell Farm** 29.08 118 eP P 01 08 58.8 +1.1
comp=Z,76nm,1.2s
JFWS LR LR
comp=Z,3µm,20.0s
N36A **Muff Farm, Cla** 29.08 126 P P 01 08 59.3 +1.6
baz=331
RRX **Edison Barstow** 29.09 165 P P 01 08 59.9 +2.0
baz=352
LDFC **Landfair** 29.14 161 eP P 01 09 00.4 +2.0
comp=Z,51nm,1.1s
M38A **Pleasantville** 29.21 123 P P 01 09 00.1 +1.3
baz=330,SNR=31
HEC **Hector,Ludlow** 29.22 163 P P 01 09 01.4 +2.3
baz=351,SNR=7.5
O35A **Humboldt** 29.22 128 P P 01 08 59.5 +0.6
baz=332
CBKS **Cedar Bluff** 29.23 135 P P 01 09 00.1 +1.0
baz=336
CBKS **Cedar Bluff** 29.23 135 eP P 01 09 00.5 +1.4
CBKS pmax pmax
comp=Z,50nm,0.9s
CBKS MLR MLR
comp=Z,2µm,20.0s
CBKS **Cedar Bluff** 29.23 135 eP P 01 09 00.5 +1.4
comp=Z,50nm,0.9s
CBKS LR LR
comp=Z,2µm,20.0s
SBC **Santa Barbara** 29.24 169 P P 01 09 00.2 +1.0
baz=354
W13A **Hualapai Mount** 29.31 159 eP P 01 09 02.0 +2.0
comp=Z,34nm,1.6s
K41A **Shullsburg** 29.31 118 P P 01 09 00.6 +0.9
baz=328,SNR=12
WUAZ **Wupatki** 29.34 155 P P 01 09 02.3 +2.0
baz=346,SNR=13
WUAZ **Wupatki** 29.34 155 eP P 01 09 01.4 +1.1
WUAZ comp=Z,30nm,1.2s LR LR
comp=Z,750nm,19.0s
GMRC **Granite Mounta** 29.35 162 P P 01 09 02.8 +2.5
baz=350,SNR=23
T25A **Trinidad** 29.40 143 P P 01 09 02.4 +1.6
baz=340
T25A **Trinidad** 29.40 143 eP P 01 09 02.6 +1.8
comp=Z,39nm,1.2s
N37A **Lee Faris, Mou** 29.40 125 P P 01 09 01.9 +1.4
baz=331
L40A **Anamosa** 29.41 120 P P 01 09 01.5 +0.9
baz=328,SNR=14
YOSQ **Ashton Mining** 29.43 85 P P 01 09 01.3 +0.6
P34A **Walnut Farm, R** 29.54 130 P P 01 09 02.7 +0.9
baz=334,SNR=6.0
M39A **Webster** 29.54 122 P P 01 09 03.0 +1.2
baz=329,SNR=13
DECC **Green Verdugo** 29.56 167 P P 01 09 04.3 +2.3
baz=353
MWC **Mount Wilson** 29.61 166 eP P 01 09 04.9 +2.2
MWC pmax pmax
comp=Z,85nm,1.6s
MWC **Mount Wilson** 29.61 166 eP P 01 09 04.9 +2.2
comp=Z,85nm,1.6s
BLG **Laguna Peak, P** 29.63 168 P P 01 09 04.9 +2.2
baz=354
BFSC **Mount Baldy Ra** 29.64 166 P P 01 09 04.7 +1.8
baz=352,SNR=13
PASC **Pasadena Art C** 29.65 167 eP P 01 09 04.3 +1.4
comp=Z,116nm,2.0s
O36A **Bolckow** 29.68 127 P P 01 09 04.7 +1.7
baz=332,SNR=8.1
L41A **Preston** 29.69 119 P P 01 09 04.0 +1.0
baz=328,SNR=10
BSC **Santa Cruz Isl** 29.69 169 P P 01 09 04.8 +1.6
baz=354
BBRC **Big Bear Solar** 29.70 165 P P 01 09 04.4 +0.9
baz=352

N38A	Joes South For	29.73	124	P	P	01 09 04.6 +1.1
	baz=331,SNR=13					
P35A	Duane Minner,	29.84	129	P	P	01 09 05.7 +1.3
	baz=333,SNR=25					
M40A	Post Highland	29.86	121	P	P	01 09 05.8 +1.2
	baz=329,SNR=13					
N39A	Derby Farms, D	29.94	123	P	P	01 09 06.6 +1.3
	baz=330,SNR=36					
O37A	Wolven Farm, M	29.95	126	P	P	01 09 06.5 +1.2
	baz=332,SNR=8.8					
KSU1	Kansas State U	30.02	130	P	P	01 09 07.1 +1.1
	baz=334					
KSU1	Kansas State U	30.02	130	PFAKE		01 09 20.0 +14
KSU1				LR	LR	
	comp=Z,1µm,20.0s					
IRM	Iron Mountain	30.04	162	P	P	01 09 09.0 +2.7
	baz=350,SNR=14					
P36A	Good Intent, A	30.04	128	P	P	01 09 07.5 +1.3
	baz=333,SNR=23					
PDMCI	Parker Dam,Lak	30.05	160	P	P	01 09 08.2 +1.9
	baz=349					
W18A	Petrified Fore	30.05	153	P	P	01 09 08.9 +2.3
	baz=345,SNR=5.3					
W18A	Petrified Fore	30.05	153	*e*P	P	01 09 08.6 +2.0
	comp=Z,19nm,1.0s					
Q34A	Chapman	30.06	131	P	P	01 09 07.8 +1.4
	baz=334,SNR=6.8					
SFJD	Kangerlussuaq	30.07	49	*e*P	P	01 09 06.9 +0.7
SFJD				pmax	pmax	
	comp=Z,85nm,1.1s					
SFJD				MLR	MLR	
	comp=Z,4µm,19.0s					
SFJD	Kangerlussuaq	30.07	49	*e*P	P	01 09 06.9 +0.7
	comp=Z,85nm,1.1s					
SFJD				LR	LR	
	comp=Z,4µm,19.0s					
BELC	Belle Mtn. Jos	30.08	163	P	P	01 09 09.5 +2.8
	baz=351,SNR=10					
FMP	Fort Macarthur	30.10	167	P	P	01 09 07.6 +0.8
	baz=353					
O38A	Galt	30.23	125	P	P	01 09 08.8 +1.0
	baz=331,SNR=11					
M41A	Milan	30.26	120	P	P	01 09 09.4 +1.2
	baz=329,SNR=17					
N40A	Mertquake, Sal	30.28	122	P	P	01 09 09.4 +1.1
	baz=330,SNR=9.4					
L43A	Garden Prairie	30.29	117	P	P	01 09 09.5 +1.1
	baz=327					
MURC	Murrieta	30.33	165	P	P	01 09 10.8 +1.9
	baz=352,SNR=6.0					
P37A	Lathrop	30.38	127	P	P	01 09 10.4 +1.2
	baz=332,SNR=28					
CIS	Catalina Islan	30.39	167	P	P	01 09 10.9 +1.5
	baz=353					
X16A	Lo Mia Camp, P	30.39	156	*e*P	P	01 09 12.2 +2.7
PFO	Pinyon Flats O	30.40	164	P	P	01 09 10.3 +0.7
	baz=351					
PFO	Pinyon Flats O	30.40	164	*e*P	P	01 09 11.2 +1.6
PFO				pmax	pmax	
	comp=Z,12nm,1.1s					
PFO				MLR	MLR	
	comp=Z,2µm,20.0s					
PFO	Pinyon Flats O	30.40	164	*e*P	P	01 09 11.2 +1.6
	comp=Z,12nm,1.1s					
PFO				LR	LR	
	comp=Z,2µm,20.0s					
BELQ	Belleterre	30.43	99	P	P	01 09 10.8 +1.2
Q35A	Mercer Eighty,	30.43	129	P	P	01 09 10.6 +1.0
	baz=334,SNR=7.3					
VLDQ	Val d'Or	30.44	97	P	P	01 09 08.9 -0.8
VLDQ	Val d'Or	30.44	97	*e*P	P	01 09 09.3 -0.3
	comp=Z,87nm,1.1s					
O39A	Kirksville	30.46	123	P	P	01 09 11.2 +1.2
	baz=331,SNR=11					
BC3	Big Chuckawall	30.49	162	P	P	01 09 12.4 +2.1
	baz=350					
M42A	Sheffield	30.50	119	P	P	01 09 10.5 +0.3
	baz=328					
R34A	Isabella, Hill	30.52	132	P	P	01 09 11.4 +1.0
	baz=335,SNR=11					
SCHQ	Schefferville	30.52	78	P	P	01 09 11.7 +1.4
	comp=Z,69nm,1.3s,baz=318,slow=10,SNR=9.0					
SCHQ				Lg	Lg	01 18 33.4
	comp=Z,56nm,1.1s,baz=232,slow=19,SNR=2.7					
SCHQ				LR	LR	01 21 38.5
	comp=Z,5µm,18.5s,baz=306,slow=37					
Y12C	Blythe	30.53	161	P	P	01 09 12.8 +2.2
	baz=350					
Y12C	Blythe	30.53	161	*e*P	P	01 09 13.3 +2.8
	comp=Z,48nm,1.8s					
Q36A	Arnold C. Orve	30.54	129	P	P	01 09 11.6 +1.0
	baz=333,SNR=8.8					
X18A	Snowflake	30.58	153	*e*P	P	01 09 14.3 +3.1
P38A	Dawn	30.65	125	P	P	01 09 12.6 +1.1
	baz=332,SNR=25					
N41A	Harden Midland	30.71	121	P	P	01 09 13.1 +1.0
	baz=330,SNR=24					
O40A	La Belle	30.83	123	P	P	01 09 14.0 +0.8
	baz=330,SNR=23					
R35A	Emporia Munici	30.85	130	P	P	01 09 14.6 +1.2
	baz=334,SNR=23					
N42A	Yates City	30.93	120	P	P	01 09 14.9 +0.9
	baz=329,SNR=22					
ANMO	Albuquerque	30.95	148	P	P	01 09 16.9 +2.3
	baz=343					
ANMO	Albuquerque	30.95	148	*e*P	P	01 09 17.1 +2.6
ANMO				pmax	pmax	
	comp=Z,58nm,1.1s					
ANMO				MLR	MLR	
	comp=Z,179nm,19.0s					
ANMO	Albuquerque	30.95	148	*e*P	P	01 09 17.1 +2.6
	comp=Z,58nm,1.1s					
ANMO				LR	LR	
	comp=Z,179nm,19.0s					
Q37A	Longview Farm,	30.97	127	P	P	01 09 15.5 +1.1
	baz=333,SNR=12					
SUMG	Summit	31.02	36	*e*P	P	01 09 15.5 +0.5
SUMG				pmax	pmax	
	comp=Z,73nm,1.3s					
SUMG	Summit	31.02	36	*e*P	P	01 09 15.5 +0.5
	comp=Z,73nm,1.3s					
109C	Camp Elliot, M	31.04	165	P	P	01 09 17.3 +2.2
	baz=352					
P39B	Salisbury	31.05	124	P	P	01 09 16.0 +0.8
	baz=331,SNR=50					
R36A	Gordon, Harris	31.09	129	P	P	01 09 16.6 +1.1
	baz=334,SNR=27					
S34A	Willow Spring	31.10	132	P	P	01 09 16.3 +0.7
	baz=335,SNR=9.2					
MONP	Monument Peak,	31.12	164	P	P	01 09 18.9 +2.9
	baz=352,SNR=11					
SWSC	Sam W. Stewart	31.14	163	P	P	01 09 18.6 +2.6
	baz=351,SNR=6.2					
GLA	Glamis	31.17	162	P	P	01 09 17.8 +1.5
	baz=350,SNR=7.5					
GLA	Glamis	31.17	162	*e*P	P	01 09 18.6 +2.3
GLA				pmax	pmax	
	comp=Z,27nm,1.1s					
GLA	Glamis	31.17	162	*e*P	P	01 09 18.6 +2.3
	comp=Z,27nm,1.1s					
Q38A	Cooks Store, C	31.20	126	P	P	01 09 17.6 +1.2
	baz=332,SNR=30					
O41A	Passleys Farm,	31.21	121	P	P	01 09 17.7 +1.1
	baz=330,SNR=48					
P40A	Paris	31.28	124	P	P	01 09 18.2 +1.0
	baz=331,SNR=39					
BAR	Barrett	31.30	165	*e*P	P	01 09 19.9 +2.5
	comp=Z,58nm,1.3s					
LAZ	Ladron	31.31	149	*e*P	P	01 09 20.3 +2.6
R37A	Teagarden Farm	31.34	128	P	P	01 09 18.5 +0.8
	baz=333,SNR=6.3					
Q39A	Willow Grove F	31.36	125	P	P	01 09 18.9 +1.1
	baz=332					
S35A	Otter Creek Ra	31.39	131	P	P	01 09 18.8 +0.7
	baz=335,SNR=28					
IKP	In-Ko-Pah, Jac	31.39	164	P	P	01 09 20.7 +2.4
	baz=351,SNR=7.1					
HDIL	Hopedale	31.45	119	P	P	01 09 19.8 +1.2
	baz=329,SNR=16					
HDIL	Hopedale	31.45	119	*e*P	P	01 09 19.9 +1.2
HDIL				LR	LR	
	comp=Z,178nm,1.3s					
	comp=Z,1µm,19.0s					
O42A	Bath	31.45	120	P	P	01 09 19.7 +1.0
	baz=330,SNR=5.6					
LPM	Los Pinos Moun	31.52	148	*e*P	P	01 09 22.7 +3.2
P41A	Barry, Barry	31.53	122	P	P	01 09 20.3 +1.0
	baz=330,SNR=48					
S36A	Lake Cedric, C	31.60	130	P	P	01 09 20.7 +0.7
	baz=334,SNR=23					
BNM	Barren Site	31.67	148	*e*P	P	01 09 23.5 +2.6
Y22D	IRIS PASSCAL I	31.68	149	P	P	01 09 23.3 +2.5
	baz=344					
O43A	Sugar Creek Fa	31.68	119	P	P	01 09 21.6 +1.0
	baz=329,SNR=20					
T34A	McClaskey Farm	31.69	133	P	P	01 09 21.3 +0.5
	baz=336,SNR=12					
U32A	Winter Ranch,	31.70	136	P	P	01 09 22.0 +1.1
	baz=337,SNR=8.0					
Q40A	Laux Farm, Aux	31.74	124	P	P	01 09 22.0 +0.8
	baz=332,SNR=54					
R38A	Fenwick Farm,	31.78	127	P	P	01 09 22.1 +0.6
	baz=333,SNR=44					
S37A	Fort Scott	31.84	129	P	P	01 09 22.6 +0.6
	baz=334,SNR=25					
P42A	Winchester	31.88	121	P	P	01 09 23.2 +0.8
	baz=330,SNR=54					
R39A	Chumby, Stover	31.98	126	P	P	01 09 24.4 +1.0
	baz=332,SNR=43					
T35A	Sooner Cattle	32.02	132	P	P	01 09 24.2 +0.6
	baz=335,SNR=29					
Q41A	Truxton	32.09	123	P	P	01 09 25.1 +0.8
	baz=331,SNR=40					
T36A	Boggs Farm, Ca	32.10	131	P	P	01 09 24.8 +0.5
	baz=335,SNR=20					
P43A	Skaggs, Pawnee	32.15	120	P	P	01 09 25.8 +1.0
	baz=330,SNR=24					
DMCQ	Dolbeau-Mistas	32.23	91	P	P	01 09 26.9 +1.6
SADO	Sadowa	32.26	103	*e*P	P	01 09 26.5 +0.8
	comp=Z,54nm,1.2s					
AMTX	Amarillo	32.28	140	P	P	01 09 27.4 +1.4
	baz=340					
AMTX	Amarillo	32.28	140	*e*P	P	01 09 27.7 +1.7
	comp=Z,94nm,1.3s					
S38A	Stockton	32.28	128	P	P	01 09 26.6 +0.6
	baz=333,SNR=47					
R40A	Maddies Statio	32.28	125	P	P	01 09 26.4 +0.4
	baz=332,SNR=40					
AAM	Ann Arbor	32.30	110	*e*P	P	01 09 28.7 +2.7
AAM				pmax	pmax	
	comp=Z,103nm,1.2s					
AAM				MLR	MLR	
	comp=Z,3µm,19.0s					
AAM	Ann Arbor	32.30	110	*e*P	P	01 09 28.7 +2.7
AAM				LR	LR	
	comp=Z,103nm,1.2s					
	comp=Z,3µm,19.0s					
T37A	Cheneyville 18	32.38	129	P	P	01 09 27.2 +0.5
	baz=334,SNR=39					
PEMO	Pembroke	32.38	100	P	P	01 09 28.1 +1.3
Q42A	Golden Eagle	32.39	122	P	P	01 09 27.9 +1.0
	baz=331,SNR=18					
S39A	Bolivar	32.43	127	P	P	01 09 27.8 +0.5
	baz=333,SNR=57					
U35A	Pawnee	32.44	132	P	P	01 09 27.9 +0.6
	baz=336,SNR=12					
SFIN	Lafayette	32.48	116	P	P	01 09 29.2 +1.5
	baz=328,SNR=17					
SFIN	Lafayette	32.48	116	*e*P	P	01 09 29.8 +2.1
	comp=Z,127nm,1.2s					
214A	Organ Pipe Nat	32.56	159	P	P	01 09 30.1 +1.7
	baz=349,SNR=14					
214A	Organ Pipe Nat	32.56	159	*e*P	P	01 09 31.0 +2.5
	comp=Z,217nm,1.4s					
TUC	Tucson	32.57	155	P	P	01 09 31.1 +2.5
	baz=347					
TUC	Tucson	32.57	155	*e*P	P	01 09 31.1 +2.5
TUC				pmax	pmax	
	comp=Z,45nm,1.2s					
TUC				MLR	MLR	
	comp=Z,2µm,20.0s					
TUC	Tucson	32.57	155	*e*P	P	01 09 31.1 +2.5
	comp=Z,45nm,1.2s					
TUC				LR	LR	
	comp=Z,2µm,20.0s					
R41A	Rosebud	32.61	124	P	P	01 09 29.3 +0.5
	baz=332,SNR=36					
P44A	Sand Creek, Wi	32.65	119	P	P	01 09 30.3 +1.2
	baz=330,SNR=20					
T38A	Diamond	32.67	129	P	P	01 09 29.8 +0.4
	baz=334,SNR=41					
Q43A	New Douglas	32.69	121	P	P	01 09 30.6 +1.1
	baz=330,SNR=20					
SLM	Saint Louis	32.75	122	*e*P	P	01 09 31.9 +1.9
SLM				pmax	pmax	
	comp=Z,101nm,1.1s					
SLM	Saint Louis	32.75	122	*e*P	P	01 09 31.9 +1.9
	comp=Z,101nm,1.1s					
U36A	Oologah	32.75	131	P	P	01 09 30.7 +0.6
	baz=335,SNR=9.2					
S40A	Lebanon	32.81	126	P	P	01 09 31.4 +0.8
	baz=333,SNR=131					
MSTX	Muleshoe	32.83	143	P	P	01 09 32.7 +1.7
	baz=341,SNR=17					
MSTX	Muleshoe	32.83	143	*e*P	P	01 09 32.6 +1.7
	comp=Z,55nm,1.1s					
R42A	Luebbering	32.84	123	P	P	01 09 31.7 +0.8
	baz=331,SNR=11					
U37A	Salina	32.95	130	P	P	01 09 32.0 +0.2
	baz=335,SNR=8.8					
PLVO	Plevna	32.96	100	*e*P	P	01 09 33.9 +2.1
	comp=Z,97nm,1.4s					
V35A	Meyer Ranch, C	32.96	133	P	P	01 09 32.7 +0.8
	baz=336,SNR=7.1					
121A	Cookes Peak, D	32.96	151	P	P	01 09 34.6 +2.5
	baz=345,SNR=30					
121A	Cookes Peak, D	32.96	151	*e*P	P	01 09 34.7 +2.5
	comp=Z,44nm,1.0s					
Q44A	Meyer Farm, Va	32.98	120	P	P	01 09 33.1 +1.0
	baz=330,SNR=30					
T39A	Clever	33.01	127	P	P	01 09 32.5 +0.2
	baz=334,SNR=16					
DAG	Danmarks Havn	33.09	24⇓	*i*P	P	01 09 32.3 -0.4
	comp=Z,42nm,0.9s					
DAG	Danmarks Havn	33.09	24⇓	*i*P	P	01 09 32.3 -0.4
DAG				pmax	pmax	
	comp=Z,35nm,0.9s					
S41A	Jillco Farms,	33.10	125	P	P	01 09 33.8 +0.7
	baz=332,SNR=33					
GAC	Glen Almond	33.15	98	P	P	01 09 38.5 +5.0
TRQ	Mont Tremblant	33.16	96	*e*P	P	01 09 35.1 +1.4
TUL1	Leonard	33.17	132	P	P	01 09 34.3 +0.6
	baz=336,SNR=13					
TUL1	Leonard	33.17	132	*e*P	P	01 09 34.5 +0.7
	comp=Z,52nm,1.1s					
U38A	Gravette	33.17	129	P	P	01 09 34.1 +0.3
	baz=334					
R43A	Red Bud	33.18	122	P	P	01 09 34.2 +0.5
	baz=331,SNR=8.6					
T40A	Mansfield	33.20	126	P	P	01 09 34.7 +0.7
	baz=333,SNR=63					
V36A	Jenks	33.23	132	P	P	01 09 34.9 +0.6
	baz=336,SNR=13					
WMOK	Wichita Mounta	33.28	136	P	P	01 09 35.5 +0.8
	baz=338,SNR=31					
WMOK	Wichita Mounta	33.28	136	*e*P	P	01 09 35.6 +0.8
WMOK				pmax	pmax	
	comp=Z,38nm,1.3s					
WMOK				MLR	MLR	
	comp=Z,982nm,20.0s					
WMOK	Wichita Mounta	33.28	136	*e*P	P	01 09 35.6 +0.9
	comp=Z,38nm,1.3s					
WMOK				LR	LR	
	comp=Z,982nm,20.0s					
S42A	Caledonia	33.29	123	P	P	01 09 35.1 +0.3
	baz=332,SNR=34					
V37A	Hulbert	33.42	131	P	P	01 09 36.1 +0.3
	baz=335,SNR=14					
OLIL	Olney	33.49	119	*e*P	P	01 09 37.4 +0.9
	comp=Z,255nm,1.1s					
W35A	Tecumseh	33.50	134	P	P	01 09 37.2 +0.6
	baz=337,SNR=26					
R44A	Waltonville	33.53	121	P	P	01 09 37.3 +0.5
	baz=331,SNR=12					
U39A	Green Forest	33.54	128	P	P	01 09 37.0 0.0
	baz=334,SNR=35					
T41A	Mountain View	33.57	125	P	P	01 09 37.7 +0.4
	baz=333,SNR=12					
V38A	Canehill	33.69	130	P	P	01 09 38.2 -0.1
	baz=335,SNR=11					
W36A	Wetumka	33.73	133	P	P	01 09 39.6 +1.0
	baz=336,SNR=19					
S43A	Fulton Ridge,	33.74	123	P	P	01 09 39.2 +0.6
	baz=332,SNR=48					
BLO	Bloomington	33.74	117	*e*P	P	01 09 40.7 +2.0
BLO				pmax	pmax	
	comp=Z,101nm,1.2s					
BLO	Bloomington	33.74	117	*e*P	P	01 09 40.7 +2.0
	comp=Z,101nm,1.2s					
319A	Douglas	33.76	154	*e*P	P	01 09 41.7 +2.6
U40A	Yellville	33.79	127	P	P	01 09 39.3 +0.1
	baz=334,SNR=82					
BUF	Buffalo	33.85	105	*e*P	P	01 09 42.0 +2.4
S44A	Carbondale	33.94	122	P	P	01 09 41.0 +0.6
	baz=331,SNR=16					
V39A	Pettigrew	33.97	129	P	P	01 09 41.0 +0.1
	baz=334,SNR=34					
W37B	Quinton	33.99	132	P	P	01 09 41.8 +0.9
	baz=336,SNR=32					
ERPA	Erie	34.01	107	*e*P	P	01 09 43.4 +2.4
	comp=Z,71nm,1.1s					
LMQ	La Malbaie	34.06	91	P	P	01 09 42.7 +1.3
LMQ	La Malbaie	34.06	91	*e*P	P	01 09 42.7 +1.3
T43A	Greenville	34.09	123	P	P	01 09 42.1 +0.4
	baz=332,SNR=70					
U41A	Viola	34.14	126	P	P	01 09 42.4 +0.2
	baz=333,SNR=21					
X35A	Drake	34.16	134	P	P	01 09 43.1 +0.7
	baz=337,SNR=26					
X36A	Centrahoma	34.21	133	P	P	01 09 43.7 +0.9
	baz=337,SNR=19					
S45A	Carrier Mills	34.22	121	P	P	01 09 43.6 +0.7
	baz=331,SNR=24					
ACSO	Alum Creek Sta	34.30	112	*e*P	P	01 09 45.5 +2.0
ACSO				LR	LR	
	comp=Z,372nm,21.0s					
V40A	Witts Springs	34.30	128	P	P	01 09 43.9 +0.3
	baz=334,SNR=26					
PBMO	Poplar Bluff	34.30	124	*e*P	P	01 09 44.5 +0.9
	comp=Z,81nm,1.0s					
MNTX	Cornudas Mount	34.31	148	P	P	01 09 45.9 +2.1
	baz=344,SNR=49					
MNTX	Cornudas Mount	34.31	148	*e*P	P	01 09 45.8 +2.1
MNTX				LR	LR	
	comp=Z,623nm,22.0s					
USIN	University of	34.33	119	*e*P	P	01 09 45.0 +1.3
	comp=Z,205nm,1.1s					
ALLY	Alegheny Colle	34.33	107	*e*P	P	01 09 46.0 +2.2
	comp=Z,160nm,1.0s					
T44A	Benton	34.35	123	P	P	01 09 44.1 +0.1
	baz=332,SNR=8.4					
W38A	Poteau	34.37	130	P	P	01 09 44.9 +0.8
	baz=335,SNR=15					
U42A	Revenden	34.38	125	P	P	01 09 44.5 +0.2
	baz=333,SNR=21					
LONY	Lake Ozonia	34.39	98	*e*P	P	01 09 45.5 +1.2
	comp=Z,83nm,1.4s					
LONY				LR	LR	
	comp=Z,3µm,19.0s					
MMNY	Mt. Morris Dam	34.42	104	*e*P	P	01 09 46.8 +2.2
SEY	Seymchan	34.48	307⇑	*e*P	P	01 09 45.5 +0.6
W39A	Magazine	34.51	129	P	P	01 09 45.4 0.0
	baz=335,SNR=13					
X37A	Clayton	34.51	132	P	P	01 09 46.2 +0.8
	baz=336,SNR=34					
V41A	Mountainview	34.55	127	P	P	01 09 45.7 0.0
	baz=334,SNR=44					
Y35A	Marietta	34.59	135	P	P	01 09 47.5 +1.3
	baz=337,SNR=8.8					
X38A	Whitesboro	34.62	131	P	P	01 09 47.2 +0.8
	baz=336,SNR=47					
WCI	Wyandotte Cave	34.64	118	*e*P	P	01 09 46.9 +0.4
WCI				pmax	pmax	
	comp=Z,84nm,1.3s					
WCI	Wyandotte Cave	34.64	118	*e*P	P	01 09 46.9 +0.4
	comp=Z,84nm,1.3s					
M54A	Oil Creek Stat	34.65	107	P	P	01 09 47.9 +1.3
	baz=325,SNR=17					
FRNY	Flat Rock	34.67	97	*e*P	P	01 09 48.1 +1.5
	comp=Z,34nm,1.1s					
U43A	Rector	34.67	124	P	P	01 09 47.6 +0.8
	baz=333,SNR=12					
W40A	Ferguson Farm,	34.76	128	P	P	01 09 48.0 +0.4
	baz=335,SNR=11					
V42A	Cord	34.81	126	P	P	01 09 48.1 +0.1
	baz=333,SNR=17					
U44A	Portageville	34.82	123	P	P	01 09 49.0 +0.9
	baz=332,SNR=9.5					
Y36A	Durant	34.84	134	P	P	01 09 49.7 +1.4
	baz=337,SNR=9.9					
WHAR	Wooly Hollow	34.95	127	*e*P	P	01 09 50.1 +0.9
	comp=Z,73nm,1.5s					
X301	Greenbrier Sit	34.95	128	*e*P	P	01 09 50.1 +0.9
	comp=Z,29nm,1.2s					
N54A	Moraine State	34.96	108	P	P	01 09 50.0 +0.8
	baz=326,SNR=14					
ABTX	Abilene, Hawle	34.98	139	P	P	01 09 50.4 +0.9
	baz=340,SNR=5.2					
ABTX	Abilene, Hawle	34.98	139	*e*P	P	01 09 50.9 +1.3
	comp=Z,22nm,1.2s					
Y37A	Hugo	34.99	133	P	P	01 09 50.7 +1.2
	baz=337,SNR=14					
X39A	Fountain Ranch	35.01	130	P	P	01 09 50.3 +0.5
	baz=336,SNR=22					
NCB	Newcomb	35.06	99	*e*P	P	01 09 51.4 +1.3
	comp=Z,1.2nm,1.3s					
W41B	Gary Mavity, V	35.07	127	P	P	01 09 50.4 +0.2
	baz=334,SNR=9.0					
U44B	Burton Farm, H	35.10	123	P	P	01 09 51.2 +0.8
	baz=332					
V43A	Jonesboro	35.14	125	P	P	01 09 51.7 +0.9
	baz=333,SNR=17					
MIAR	Mount Ida	35.17	130	P	P	01 09 51.6 +0.5
	baz=335,SNR=39					
MIAR	Mount Ida	35.17	130	*e*P	P	01 09 51.6 +0.5
MIAR				*e*		01 11 09.5
MIAR				pmax	pmax	
	comp=Z,88nm,1.1s					
MIAR				MLR	MLR	
	comp=Z,1µm,19.0s					
MIAR	Mount Ida	35.17	130	*e*P	P	01 09 51.6 +0.5
	comp=Z,88nm,1.1s					
MIAR				*e*PP	PnPn	01 11 09.5 +1.1
MIAR				LR	LR	
	comp=Z,1µm,19.0s					
W42A	Bald Knob	35.24	126	P	P	01 09 52.0 +0.3
	baz=334					
U45A	Rockin P Farm,	35.31	122	P	P	01 09 52.7 +0.4
	baz=332					
Y38A	Idabel	35.33	132	P	P	01 09 53.2 +0.7
	baz=336					
V44A	Blytheville	35.34	124	P	P	01 09 53.0 +0.5
	baz=333					
Z36A	Blue Ridge	35.37	134	P	P	01 09 53.9 +1.0
	baz=337,SNR=18					
UALR	University of	35.39	128	*e*P	P	01 09 54.2 +1.2
	comp=Z,35nm,1.3s					
X40A	Basin Creek Fa	35.48	129	P	P	01 09 54.0 +0.2
	baz=335,SNR=16					
MDV	Middlebury	35.50	98	*e*P	P	01 09 55.1 +1.2
Y39A	Lockesburg	35.54	131	P	P	01 09 54.7 +0.5
	baz=336,SNR=11					
X41A	Kaden, Bauxite	35.58	128	P	P	01 09 55.2 +0.5
	baz=335,SNR=7.8					
BINY	Binghamton	35.69	102	*e*P	P	01 09 56.4 +0.8
	comp=Z,43nm,1.3s					
W43A	Forest City	35.70	126	P	P	01 09 56.5 +0.8
	baz=334					
Z37A	Pogue Cattle C	35.70	133	P	P	01 09 56.6 +0.9
	baz=337					
HSIG		35.74	157	*e*P	P	01 09 58.6 +2.5
	comp=Z,43nm,1.4s					
Y40A	Okolona	35.75	130	P	P	01 09 56.4 +0.3
	baz=335,SNR=6.0					
PQI	Presque Isle	35.76	90	*e*P	P	01 09 58.1 +2.0
	comp=Z,379nm,1.9s					
233A	Rising Star	35.77	138	P	P	01 09 57.1 +0.8
	baz=339,SNR=22					
ACCN	Adirondack Com	35.77	99	*e*P	P	01 09 57.9 +1.7
	comp=Z,92nm,1.4s					
V45A	Humboldt	35.77	123	P	P	01 09 56.9 +0.7
	baz=332,SNR=8.4					
KBS	Kingsbay	35.78	13	*e*P	P	01 09 58.8 +2.9
KBS				pmax	pmax	
	comp=Z,102nm,1.5s					
KBS				MLR	MLR	
	comp=Z,1µm,20.0s					
KBS	Kingsbay	35.78	13	*e*P	P	01 09 58.8 +2.9
	comp=Z,102nm,1.5s					
KBS				LR	LR	
	comp=Z,1µm,20.0s					
X42A	Stuttgart	35.85	127	P	P	01 09 57.7 +0.8

baz=334,SNR=9.5
WVT Waverly 35.86 121 *e*P **P 01 09 57.8 +0.8**
WVT pmax pmax
comp=Z,49nm,0.9s
WVT Waverly 35.86 121 *e*P **P 01 09 57.8 +0.8**
comp=Z,49nm,0.9s
Z38A Mt. Pleasant 35.87 132 P **P 01 09 58.1 +1.0**
baz=337
LBNH Lisbon 35.88 96 *e*P **P 01 09 59.5 +2.4**
LBNH pmax pmax
comp=Z,48nm,1.3s
LBNH Lisbon 35.88 96 *e*P **P 01 09 59.5 +2.4**
comp=Z,48nm,1.3s
TIXI Tiksi 35.92 329 P **P 01 09 56.9 -0.3**
comp=Z,14nm,0.9s,baz=44,slow=7.1,SNR=6.2
TIXI Tiksi 35.92 329‖ *e*P **P 01 09 57.0 -0.1**
TIXI pmax pmax
comp=Z,31nm,1.1s
TIXI MLR MLR
comp=Z,439nm,17.0s
TIXI Tiksi 35.92 329 P **P 01 09 56.9 -0.3**
TIXI LR LR
comp=Z,465nm,21.0s
W44A Shelby Farms P 35.98 124 P **P 01 09 58.9 +0.8**
baz=333
234A Clairette 36.01 137 P **P 01 09 59.1 +0.7**
baz=339
136A Ennis 36.08 135 P **P 01 10 00.0 +1.1**
baz=338,SNR=11
MCWV Mont Chateau 36.10 109 *e*P **P 01 10 00.4 +1.3**
comp=Z,126nm,1.3s
WLAR White Oak Lake 36.10 130 *e*P **P 01 10 01.0 +1.9**
comp=Z,178nm,1.2s
Y41A Eaglette Beard 36.10 129 P **P 01 09 60.0 +0.9**
baz=335,SNR=7.8
SSPA Standing Stone 36.13 106 *e*P **P 01 10 00.6 +1.3**
comp=Z,111nm,1.3s
HNH Hanover 36.13 97 *e*P **P 01 10 01.4 +2.1**
comp=Z,198nm,1.5s
O56A Blue Knob Stat 36.14 107 P **P 01 09 59.8 +0.4**
baz=326,SNR=24
Z39A Irene McRaven, 36.14 131 P **P 01 10 00.1 +0.7**
baz=336
X43A Marvell 36.15 126 P **P 01 10 00.1 +0.6**
baz=334
W45A Hickory Valley 36.20 124 P **P 01 10 01.1 +1.2**
baz=333,SNR=7.2
137A Heron Place, G 36.21 134 P **P 01 10 00.3 +0.3**
baz=337
WHTX Lake Whitney, 36.23 136 P **P 01 10 01.3 +1.1**
baz=339,SNR=13
WHTX Lake Whitney, 36.23 136 *e*P **P 01 10 01.3 +1.1**
comp=Z,85nm,1.4s
PKME Peaks-Kenny Pk 36.26 93 *e*P **P 01 10 01.7 +1.3**
comp=Z,73nm,1.3s
PKME LR LR
comp=Z,3µm,20.0s
TRY Troy 36.29 99 *e*P **P 01 10 02.4 +1.7**
comp=Z,76nm,1.3s
138A Matatall Enter 36.37 133 P **P 01 10 02.5 +1.1**
baz=337
333A Richland Sprin 36.39 139 P **P 01 10 02.3 +0.7**
baz=340,SNR=28
Z40A Long Farm, Mag 36.40 130 P **P 01 10 02.5 +0.9**
baz=336,SNR=9.7
X44A Crenshaw 36.43 125 P **P 01 10 02.8 +0.9**
baz=334
Y42A Garnett, Star 36.44 128 P **P 01 10 02.9 +0.9**
baz=335
236A Katherine and 36.51 135 P **P 01 10 03.7 +1.0**
baz=338,SNR=12
139A Bunkhouse Ranc 36.59 132 P **P 01 10 04.1 +0.9**
baz=337
Z41A Richland Creek 36.60 130 P **P 01 10 04.2 +0.9**
baz=336,SNR=8.1
334A Lometa 36.61 138 P **P 01 10 04.2 +0.7**
baz=339,SNR=11
WVL Waterville 36.64 94 *e*P **P 01 10 06.0 +2.4**
comp=Z,90nm,1.1s
OXF Oxford 36.70 124 *e*P **P 01 10 05.4 +1.3**
OXF pmax pmax
comp=Z,356nm,1.1s
OXF Oxford 36.70 124 *e*P **P 01 10 05.4 +1.3**
comp=Z,356nm,1.1s
237A Washetta, Mont 36.74 134 P **P 01 10 05.6 +1.0**
baz=338
X45A UM Field Stati 36.78 124 P **P 01 10 05.6 +0.8**
baz=333
N59A State Game Lan 36.82 103 P **P 01 10 05.6 +0.3**
baz=325,SNR=12
Z42A Norrel Spur, H 36.89 128 P **P 01 10 06.4 +0.6**
baz=335
Y44A Strider, Charl 36.89 126 P **P 01 10 06.3 +0.5**
baz=334
433A Art 36.89 139 P **P 01 10 06.6 +0.7**
baz=340,SNR=10
140A Cam and Jess, 36.90 131 P **P 01 10 06.7 +0.8**
baz=336
335A Moody 36.90 137 P **P 01 10 06.7 +0.7**
baz=339
JCT Junction City 36.94 141 P **P 01 10 06.8 +0.4**
baz=341,SNR=11
JCT Junction City 36.94 141 *e*P **P 01 10 07.3 +0.9**
JCT pmax pmax
comp=Z,52nm,1.3s
JCT Junction City 36.94 141 *e*P **P 01 10 07.3 +0.9**
comp=Z,52nm,1.3s
238A Jacksonville 36.97 133 P **P 01 10 08.1 +1.6**
baz=337,SNR=8.3
336A Riesel 36.98 136 P **P 01 10 07.0 +0.4**
baz=339,SNR=7.0
TX31 Lajitas Ar. Si 36.99 146 *e*P **P 01 10 07.7 +0.8**
TXAR Lajitas Array 36.99 146 P **P 01 10 08.2 +1.3**
comp=Z,13nm,1.1s,baz=350,slow=6.4,SNR=64
TXAR LR LR 01 26 03.4
comp=Z,652nm,19.2s,baz=0.0,slow=37
434A Burnet 37.08 138 P **P 01 10 08.4 +0.9**
baz=340,SNR=21
141A Papa Simpson, 37.16 130 P **P 01 10 09.4 +1.3**
baz=336,SNR=6.6
239A Gary 37.17 133 P **P 01 10 09.7 +1.5**
baz=337,SNR=8.1
Z43A Armstrong Fami 37.19 128 P **P 01 10 09.4 +1.0**
baz=335
ODNJ Ogdensburg 37.20 102 *e*P **P 01 10 10.0 +1.6**
comp=Z,28nm,1.1s
Y45A Yeager Farm, C 37.22 125 P **P 01 10 09.9 +1.3**
baz=334,SNR=16
QUA2 Belchertown 37.23 99 *e*P **P 01 10 10.8 +2.2**
comp=Z,61nm,1.4s
435B Jarrell 37.32 137 P **P 01 10 10.6 +1.1**
baz=339
MVL Millersville 37.32 105 *e*P **P 01 10 11.4 +1.9**
comp=Z,59nm,1.4s
NATX Nacogdoches 37.34 133 P **P 01 10 11.1 +1.4**
baz=337
NATX Nacogdoches 37.34 133 *e*P **P 01 10 11.7 +2.0**
comp=Z,92nm,1.1s
NATX LR LR
comp=Z,3µm,19.0s
337A Centerville 37.35 135 P **P 01 10 11.0 +1.2**
baz=338
240A Hunter Patters 37.38 132 P **P 01 10 11.5 +1.5**
baz=337
SWET Sewanee 37.40 120 *e*P **P 01 10 11.0 +0.8**
comp=Z,18nm,1.1s
HRV Adam Dziewonsk 37.41 98 *e*P **P 01 10 12.5 +2.3**
HRV pmax pmax
comp=Z,52nm,1.3s
HRV Adam Dziewonsk 37.41 98 *e*P **P 01 10 12.5 +2.3**
comp=Z,52nm,1.3s
HRV *e*PP **PP 01 11 28.8 -6.4**
Z44A Pea Ridge, Bel 37.42 127 P **P 01 10 11.5 +1.1**
baz=334
Y46A Houston 37.46 124 P **P 01 10 11.9 +1.2**
baz=334,SNR=33
GGN Saint George 37.48 90 P **P 01 10 12.7 +2.0**
GGN Saint George 37.48 90 *e*P **P 01 10 13.0 +2.3**
comp=Z,164nm,1.3s
338A Crockett 37.50 134 P **P 01 10 12.4 +1.4**
baz=338
EMMW East Machias 37.52 91 *e*P **P 01 10 13.1 +2.1**
comp=Z,257nm,1.4s
142A Monroe 37.54 129 P **P 01 10 12.7 +1.4**
baz=336
533A Kerrville 37.55 140 P **P 01 10 12.6 +1.1**
baz=340
436A Wall Ranch, Ga 37.57 136 P **P 01 10 12.8 +1.1**
baz=339
143A Socs Landing, 37.59 128 P **P 01 10 13.2 +1.4**
baz=335
SDMD Soldier's Deli 37.60 106 *e*P **P 01 10 13.4 +1.6**
comp=Z,36nm,1.7s
WES Weston 37.61 97 *e*P **P 01 10 14.0 +2.2**
WES pmax pmax
comp=Z,206nm,1.6s
WES Weston 37.61 97 *e*P **P 01 10 14.0 +2.2**
comp=Z,206nm,1.6s
Z45A Winona 37.61 126 P **P 01 10 13.3 +1.3**
baz=334
241A Mo Tay, Goldon 37.69 131 P **P 01 10 13.8 +1.2**
baz=336
BCX Boston College 37.72 97 *e*P **P 01 10 15.1 +2.3**
comp=Z,266nm,1.5s
437A Phantom Ranch, 37.72 135 P **P 01 10 14.1 +1.2**
baz=338
YLE Yale 37.75 100 *e*P **P 01 10 14.4 +1.4**
comp=Z,71nm,0.9s
CPCT Cooper Cave 37.75 118 *e*P **P 01 10 14.4 +1.3**
comp=Z,60nm,1.4s
534A Blanco 37.75 139 P **P 01 10 14.2 +1.0**
baz=340,SNR=18
339A Huntington 37.77 133 P **P 01 10 14.8 +1.5**
baz=337
PSUB Penn St. - Bra 37.77 104 *e*P **P 01 10 14.9 +1.7**
comp=Z,75nm,1.7s
Y47A UCPARC, Winfie 37.82 123 P **P 01 10 14.6 +0.9**
baz=333
LMN Caledonia Moun 37.83 88 P **P 01 10 15.6 +1.9**
LMN Caledonia Moun 37.83 88 *e*P **P 01 10 15.9 +2.2**
comp=Z,75nm,1.2s
TKL Tuckaleechee C 37.87 117 *e*P **P 01 10 15.6 +1.4**
TKL pmax pmax
comp=Z,133nm,1.2s
TKL Tuckaleechee C 37.87 117 *e*P **P 01 10 15.6 +1.4**
comp=Z,133nm,1.2s
BRYW Bryant College 37.89 98 *e*P **P 01 10 16.6 +2.4**
comp=Z,129nm,1.3s
340A Bronson 37.91 132 P **P 01 10 15.9 +1.4**
baz=337
242A Grayson 37.91 130 P **P 01 10 15.9 +1.4**
baz=336
BLA Blacksburg 37.91 112 *e*P **P 01 10 16.1 +1.6**
BLA pmax pmax
comp=Z,142nm,1.3s
BLA MLR MLR
comp=Z,2µm,19.0s
BLA Blacksburg 37.91 112 *e*P **P 01 10 16.1 +1.6**
comp=Z,142nm,1.3s
BLA LR LR
comp=Z,2µm,19.0s
438A Sam Houston St 38.01 135 P **P 01 10 16.4 +1.1**
baz=338
144A Alexander Plac 38.01 127 P **P 01 10 16.9 +1.6**
baz=335
535A Dale 38.02 138 P **P 01 10 16.9 +1.5**
baz=340
Z46A Louisville 38.05 125 P **P 01 10 17.2 +1.6**
baz=334,SNR=12
VWCC Virginia Weste 38.07 111 *e*P **P 01 10 17.4 +1.6**
633A Saathoff Ranch 38.08 140 P **P 01 10 17.5 +1.5**
baz=341,SNR=22
536A Bastrop 38.13 137 P **P 01 10 17.9 +1.5**
baz=335
439A Center Grove, 38.20 134 P **P 01 10 18.3 +1.4**
baz=338
145A Houston Renfro 38.21 126 P **P 01 10 18.3 +1.2**
baz=335
341A Kurthwood 38.23 131 P **P 01 10 18.8 +1.6**
baz=337,SNR=15
243A Waterproof 38.31 129 P **P 01 10 19.8 +1.9**
baz=336
VBMS Vicksburg 38.35 127 P **P 01 10 19.2 +1.1**
baz=335
537A Green Hill Far 38.36 136 P **P 01 10 19.9 +1.6**
baz=339
Z47A Carrollton 38.37 124 P **P 01 10 19.6 +1.3**
baz=334,SNR=17
CBN Corbin Frederi 38.37 108 *e*P **P 01 10 20.0 +1.7**
comp=Z,122nm,1.1s
634A China Grove, S 38.40 139 P **P 01 10 20.0 +1.4**
baz=340
Z48A Northport 38.40 123 P **P 01 10 19.5 +0.9**
baz=333,SNR=16
244A Avery, Jackson 38.45 128 P **P 01 10 20.6 +1.6**
baz=335,SNR=8.1
342A Flagon Creek P 38.48 130 P **P 01 10 21.2 +1.9**
baz=336,SNR=8.0
538A Harpers Horsep 38.49 135 P **P 01 10 21.4 +2.0**
baz=338
146A Union 38.50 125 P **P 01 10 20.9 +1.4**
baz=334,SNR=5.2
440A Kirbyville 38.51 133 P **P 01 10 21.5 +2.1**
baz=337
DRLN Deer Lake 38.53 78 P **P 01 10 20.8 +1.2**
DRLN Deer Lake 38.53 78 *e*P **P 01 10 21.7 +2.2**
comp=Z,152nm,1.6s
635A Leesville 38.56 138 P **P 01 10 21.7 +1.7**
baz=340
JSRW J. Sargeant Re 38.58 108 *e*P **P 01 10 21.9 +1.8**
PET Petropavlovsk 38.67 291 PFAKE 01 10 30.0 +9.3
PET LR LR
comp=Z,973nm,19.0s
636A Smothers Creek 38.69 137 P **P 01 10 23.0 +1.9**
baz=340,SNR=5.8
245A Little AP, Sta 38.74 127 P **P 01 10 22.8 +1.3**
baz=335
733A Divot King Ran 38.75 141 P **P 01 10 23.2 +1.6**
baz=341,SNR=5.1
441A DeRidder 38.76 132 P **P 01 10 23.6 +1.9**
baz=337
147A Livingston 38.76 124 P **P 01 10 23.2 +1.6**
baz=334,SNR=32
343A Vidalia 38.81 129 P **P 01 10 24.2 +2.2**
baz=336
HPIG 38.82 150 *e*P **P 01 10 25.3 +2.8**
comp=Z,25nm,1.3s
URVA University of 38.83 108 *e*P **P 01 10 23.9 +1.8**
734A La Parita Cree 38.84 140 P **P 01 10 24.1 +1.8**
baz=341
LRAL Lakeview Retre 38.92 123 *e*P **P 01 10 23.7 +0.8**
comp=Z,58nm,1.3s
637A Eagle Lake 38.95 136 P **P 01 10 25.5 +2.2**
baz=339
344A Westbrook Farm 38.97 128 P **P 01 10 25.4 +2.1**
baz=336,SNR=7.4
832A Faith Ranch, C 38.97 142 P **P 01 10 25.1 +1.7**
baz=342,SNR=5.5
PEA0 Petropavlovsk- 39.01 292 *e*P **P 01 10 23.9 +0.3**
PEA0B Petropavlovsk- 39.01 292 *e*P **P 01 10 24.0 +0.4**
comp=Z,82nm,1.2s
PETK Petropavlovsk- 39.01 292 P **P 01 10 23.6 0.0**
comp=Z,21nm,0.6s,baz=63,slow=12,SNR=20
PETK LR LR 01 28 23.9
comp=Z,803nm,18.3s,baz=48,slow=39
442A Mamou 39.05 131 P **P 01 10 25.9 +1.8**
baz=337
833A Chaparral WMA, 39.09 141 P **P 01 10 26.5 +2.0**
baz=341
736A Circle Diamond 39.18 138 P **P 01 10 27.7 +2.5**
baz=340
247A Quitman 39.19 125 P **P 01 10 27.3 +2.0**
baz=334,SNR=17
KMSC Kings Mountain 39.31 114 P **P 01 10 27.0 +0.8**
baz=330,SNR=7.5
KMSC Kings Mountain 39.31 114 *e*P **P 01 10 26.9 +0.6**
comp=Z,22nm,1.0s
345A Thompson Farm, 39.35 127 P **P 01 10 28.1 +1.6**
baz=335
248A Dixon Mills 39.48 124 P **P 01 10 28.8 +1.2**
baz=334,SNR=12
346A Big Creek Wild 39.48 127 P **P 01 10 29.4 +1.8**
baz=335,SNR=5.4
834A Tilden 39.52 140 P **P 01 10 30.1 +2.1**
baz=341
444A Pine Grove 39.63 129 P **P 01 10 31.4 +2.5**
baz=336
445A Amite 39.76 128 P **P 01 10 32.2 +2.2**
baz=336
933A Laredo 39.80 141 P **P 01 10 32.7 +2.3**
baz=342,SNR=7.7
347A Saraland 39.80 126 P **P 01 10 32.3 +2.0**
baz=335,SNR=26
GOGA Godfrey 39.95 118 *e*P **P 01 10 32.9 +1.3**
GOGA pmax pmax
comp=Z,107nm,1.1s
GOGA MLR MLR
comp=Z,670nm,19.0s
GOGA Godfrey 39.95 118 *e*P **P 01 10 32.9 +1.3**
comp=Z,107nm,1.1s
GOGA LR LR
comp=Z,670nm,19.0s
934A Benavides 40.02 140 P **P 01 10 34.8 +2.6**
baz=341,SNR=5.6
348A Jackson 40.03 125 P **P 01 10 34.1 +1.9**
baz=334,SNR=10
446A Poplarville 40.05 127 P **P 01 10 34.3 +1.9**
baz=335
JSC Jenkinsville 40.08 115 *e*P **P 01 10 34.4 +1.8**
JSC pmax pmax
comp=Z,63nm,1.2s
JSC Jenkinsville 40.08 115 *e*P **P 01 10 34.4 +1.8**
comp=Z,63nm,1.2s
447A Lucedale 40.31 126 P **P 01 10 36.9 +2.4**
baz=335,SNR=16
448A Bay Minette 40.48 125 P **P 01 10 37.4 +1.4**
baz=335
034A Hebbronville 40.48 141 P **P 01 10 39.0 +3.0**
baz=341,SNR=7.0
BRAL Brewton 40.56 124 *e*P **P 01 10 38.7 +2.1**
comp=Z,283nm,1.4s
CNNC Cliffs of the 40.66 111 *e*P **P 01 10 39.3 +1.9**
comp=Z,72nm,1.4s
BORG Borgarnes 40.77 39 *i* P **P 01 10 37.7 -0.3**
BORG Borgarnes 40.77 39 PFAKE 01 10 50.0 +12
BORG LR LR
comp=Z,3µm,19.0s
035Z Hargill 41.23 140 P **P 01 10 44.0 +1.9**
baz=341
SKR Severo-Kuril's 41.46 290 *i* P **P 01 10 44.2 +0.4**
NHSC New Hope 41.55 115 *e*P **P 01 10 45.7 +1.0**
comp=Z,91nm,1.1s
NHSC LR LR
comp=Z,264nm,19.0s
TIGA Tifton 41.65 120 P **P 01 10 46.3 +0.7**
baz=333
LNIG Linares 42.31 143 *e*P **P 01 10 51.7 +0.6**
YAK Yakutsk 42.68 318 P **P 01 10 52.5 -1.1**
comp=Z,16nm,0.5s,baz=118,slow=5.5,SNR=6.6
YAK Yakutsk 42.68 318 *e*P **P 01 10 53.9 +0.3**
YAK *e* 01 12 31.3
YAK *e* 01 12 48.2
YAK *e*S **S 01 17 19.6 +2.7**
YAK *e* 01 20 51.8
YAK pmax pmax
comp=Z,63nm,1.0s
YAK pmax pmax
comp=N,22nm,1.3s
YAK pmax pmax
comp=Z,129nm,3.8s
YAK pmax pmax
comp=N,48nm,2.5s
YAK smax smax
comp=N,87nm,3.3s
YAK MLR MLR
comp=Z,622nm,21.0s
YAK Yakutsk 42.68 318 P **P 01 10 52.5 -1.1**
YAK LR LR
comp=Z,896nm,20.0s
ZAIG Zacatecas 43.55 148 *e*P **P 01 11 04.3 +2.8**
comp=Z,13nm,1.2s
NRIK Noril'sk 45.44 344 P **P 01 11 15.3 -0.4**
comp=Z,24nm,0.9s,baz=31,slow=7.0,SNR=21
NRIK LR LR 01 30 30.0
comp=Z,342nm,21.4s,baz=17,slow=36
KEV Kevo 45.80 13 *e*P **P 01 11 17.8 -0.7**
KEV MLR MLR
comp=Z,727nm,20.0s
KEV Kevo 45.80 13 *e*P **P 01 11 17.8 -0.7**
KEV LR LR
comp=Z,727nm,20.0s
ARCES ARCESS Array B 45.85 13 P **P 01 11 17.5 -1.5**
comp=Z,10.0nm,0.8s,baz=338,slow=9.5,SNR=15
ARCES LR LR 01 31 38.7
comp=Z,896nm,18.1s,baz=338,slow=38
ARE0 ARCESS Array S 45.85 13 *e*P **P 01 11 18.3 -0.7**
TYV Tymovskoe 46.81 300 *e*P P 01 11 18.2 -8.5
TYV pmax pmax
comp=Z,49nm,1.7s
KIP Kipapa 47.13 222‖ *e*P **P 01 11 31.1 +1.6**
KIP pmax pmax
comp=Z,2µm,2.5s
KIP Kipapa 47.13 222 *e*P **P 01 11 30.7 +1.2**
comp=Z,2µm,1.7s
MIDW Midway 48.05 248 PFAKE 01 11 50.0 +13
MIDW LR LR
comp=Z,2µm,19.0s
LVZ Lovozero 48.27 10 PFAKE 01 11 50.0 +12
LVZ LR LR
comp=Z,946nm,20.0s
CLNS Chul'man 48.30 316 *e*P **P 01 11 37.0 -1.3**
CLNS pmax pmax
comp=E,13nm,1.2s
CLNS pmax pmax
comp=Z,23nm,1.2s
CLNS pmax pmax
comp=N,11nm,0.8s
CLNS MLR MLR
comp=E,427nm,13.0s
CLNS MLR MLR
comp=Z,397nm,13.0s
CLNS MLR MLR
comp=N,203nm,12.0s
BBSR BB Station 48.83 99 *e*P **P 01 11 43.5 +0.9**
BBSR LR LR
comp=Z,1µm,19.0s
YSS Yuzh-Sakhalins 49.89 296 *e*P **P 01 11 50.0 -0.5**
YSS pmax pmax
comp=Z,50nm,0.7s
YSS MLR MLR
comp=Z,400nm,18.0s
YSS Yuzh-Sakhalins 49.89 296 *e*P **P 01 11 50.4 -0.2**
YSS LR LR
comp=Z,255nm,22.0s
BOD Bodaibo 50.65 323 *e*P **P 01 11 53.3 -2.8**
BOD pmax pmax
comp=Z,68nm,0.9s
HABR Khabarovsk 51.66 303 *e*P **P 01 12 02.1 -1.7**
HABR *e*PP **pP 01 12 05.3 0.0**
HABR *e*SP **sP 01 12 06.6 +0.8**
HABR *e* 01 13 16.2
HABR *e* 01 13 59.5
HABR *e*PPP PPP 01 14 58.8
HABR *e*S **S 01 19 23.1 -2.1**
HABR *e*SS **pS 01 19 28.3 +1.4**
HABR *e* 01 21 52.5
HABR *e*SS **SS 01 23 00.4 -0.3**
HABR pmax pmax
comp=N,27nm,1.1s
HABR pmax pmax
comp=E,22nm,1.1s
HABR pmax pmax
comp=Z,33nm,1.1s
HABR MLR MLR
comp=Z,445nm,20.0s
NB2 NORSAR Subarra 51.77 25 P **P 01 12 04.3 -0.2**
baz=337,slow=7.9
NB2 NORSAR Subarra 51.77 25 P **P 01 12 04.3 -0.2**
comp=Z,6nm,0.9s,baz=337,slow=7.9
NOA NORSAR Array B 51.77 25 P **P 01 12 04.3 -0.2**
comp=Z,25nm,0.9s,baz=337,slow=7.7,SNR=29
NOA LR LR 01 35 29.2
comp=Z,2µm,18.4s,baz=340,slow=38
TMCR Tamitsa 52.21 9 *e*P **P 01 12 06.7 -1.0**
TMCR pmax pmax
comp=Z,38nm,1.1s
KLR Kul'dur 52.26 306 *de*P **P 01 12 07.8 -0.5**
CCIG Comitan 52.59 138 *e*P **P 01 12 13.1 +1.9**
KONO Kongsberg 52.73 26 *ce*P **P 01 12 12.5 +0.8**
KONO pmax pmax
comp=Z,77nm,1.7s
KONO Kongsberg 52.73 26 *e*P **P 01 12 13.2 +1.6**
KONO LR LR
comp=Z,1µm,19.0s
ESK Eskdalemuir 53.64 37 *e*P **P 01 12 19.0 +0.6**
ESK pmax pmax
comp=Z,100nm,1.5s
ESK MLR MLR
comp=Z,2µm,21.0s
ESK Eskdalemuir 53.64 37 *e*P **P 01 12 18.9 +0.6**
comp=Z,100nm,1.5s
ESK LR LR

comp=Z,2µm,21.0s
FINES FINESS Array B 53.72 16 P **P** **01 12 18.2 -0.7**
comp=Z,22nm,0.8s,baz=2.9,slow=7.6,SNR=58
FINES LR LR 01 35 50.2
comp=Z,860nm,19.4s,baz=344,slow=37
ERM Erimo 53.78 293⇑ *e*P **P** **01 12 19.6 +0.1**
ERM pmax pmax
comp=Z,93nm,1.7s
ERM Erimo 53.78 293 PFAKE 01 12 30.0 +10
ERM LR LR
comp=Z,892nm,21.0s
GTBY Guantanamo Bay 55.30 117 PFAKE 01 12 40.0 +9.2
GTBY LR LR
comp=Z,282nm,21.0s
GRTK Grand Turk 55.51 112 PFAKE 01 12 50.0 +18
GRTK LR LR
comp=Z,1µm,19.0s
MUD Monsted U'grnd 55.60 28 *i* P **P** **01 12 33.5 +1.0**
comp=Z,45nm,1.0s
MUD Monsted U'grnd 55.60 28 *i* P **P** **01 12 33.5 +1.0**
MUD pmax pmax
comp=Z,45nm,1.0s
KLMR Klimovskoe 55.60 8 *e*P **P** **01 12 31.1 -1.4**
KLMR *e* 01 14 34.4
KLMR pmax pmax
comp=Z,116nm,1.4s
PUL Pulkovo 55.86 14⇓ *e*P **P** **01 12 34.9 +0.5**
PUL pmax pmax
comp=Z,54nm,0.8s
MTDJ Mount Denham 55.88 121 PFAKE 01 12 50.0 +15
MTDJ LR LR
comp=Z,727nm,21.0s
HIA Hailar 56.37 314 *e*P **P** **01 12 37.6 -0.7**
HIA pmax pmax
comp=Z,16nm,0.8s
HIA MLR MLR
comp=Z,563nm,19.0s
HIA Hailar 56.37 314 *e*P **P** **01 12 37.6 -0.7**
comp=Z,16nm,0.8s
HIA LR LR
comp=Z,563nm,19.0s
USRK Ussuriysk Ar. 56.40 302 P **P** **01 12 37.5 -1.0**
comp=Z,13nm,1.1s,baz=36,slow=4.9,SNR=18
VSU Vasula 56.70 17 *de*P **P** **01 12 40.6 +0.2**
VSU pmax pmax
comp=Z,151nm,0.8s
MDJ Mudanjiang 56.95 304 P **P** **01 12 41.3 -1.1**
MDJ pmax pmax
comp=Z,8.0nm,0.8s
MDJ pmax pmax
comp=Z,38nm,3.6s
MDJ Mudanjiang 56.95 304 PFAKE 01 12 50.0 +7.6
MDJ LR LR
comp=Z,525nm,21.0s
COP Copenhagen 56.99 27 *i* P **P** **01 12 44.0 +1.5**
comp=Z,45nm,1.0s
COP Copenhagen 56.99 27 *i* P **P** **01 12 44.0 +1.5**
COP pmax pmax
comp=Z,45nm,1.0s
LLD Lille Linde 57.27 27 *i* P **P** **01 12 46.1 +1.6**
comp=Z,37nm,1.0s
LLD Lille Linde 57.27 27 *i* P **P** **01 12 46.1 +1.6**
LLD pmax pmax
comp=Z,37nm,1.0s
SOKR Solikamsk 57.32 358⇑ *i*P **P** **01 12 43.9 -0.8**
SOKR pmax pmax
comp=Z,21nm,0.9s
SDDR Presa de Saban 57.70 114 *e*P **P** **01 12 48.9 +0.9**
comp=Z,111nm,1.4s
SDDR LR LR
comp=Z,433nm,22.0s
BSD Bornholm Skovb 58.02 25⇓ *i*P **P** **01 12 50.1 +0.4**
comp=Z,44nm,0.8s
BSD Bornholm Skovb 58.02 25⇓ *i*P **P** **01 12 50.1 +0.4**
BSD pmax pmax
comp=Z,44nm,0.8s
RGN Rugen 58.24 26 *e*P **P** **01 12 52.2 +0.9**
comp=Z,109nm,1.4s
TLY Talaya 58.84 326 *e*P **P** **01 12 56.3 +0.7**
TLY *e*S S 01 20 51.2 -10
TLY *e*SS **SS** **01 24 47.0 -6.5**
TLY pmax pmax
comp=Z,18nm,1.0s
TLY MLR MLR
comp=Z,280nm,14.0s
TLY Talaya 58.84 326 PFAKE 01 13 10.0 +14
TLY LR LR
comp=Z,240nm,20.0s
CN2 Changchun 59.17 307 *e*P **P** **01 12 56.5 -1.4**
CN2 *e*S **S** **01 20 59.3 -6.3**
CN2 pmax pmax
comp=Z,10.0nm,0.6s
CN2 pmax pmax
comp=Z,200nm,4.0s
CN2 LR LR
comp=Z,300nm,18.0s
CN2 LR LR
comp=Z,400nm,18.0s
CN2 LR LR
comp=Z,400nm,16.0s
WTSB Winterswijk 59.21 32 *e*P **P** **01 12 59.0 +0.9**
comp=Z,171nm,1.9s
IZAR Zarasai 59.27 18 *e*P **P** **01 12 58.7 +0.2**
IZAR IAmb IAmb 01 13 01.0
comp=Z,19nm,1.0s
ISAL Salakas 59.43 18 *e*P **P** **01 12 59.8 +0.3**
ISAL IAmb IAmb 01 13 02.2
comp=Z,30nm,1.2s
KLNR Kaliningrad 59.45 22 *c i*P **P** **01 13 00.7 +1.0**
MOY Mondy 59.50 328 *e*P **P** **01 13 00.9 +0.6**
MOY pmax pmax
comp=Z,43nm,1.8s
IIGN Ignalina 59.66 18 *e*P **P** **01 13 01.3 +0.1**
IIGN IAmb IAmb 01 13 03.7
comp=Z,25nm,0.9s
UCC Uccle 59.69 34 P **P** **01 13 02.5 +1.0**
comp=Z,22nm,1.6s
IDID Didziasalis 59.77 18 *e*P **P** **01 13 02.1 +0.2**
IDID IAmb IAmb 01 13 04.3
comp=Z,27nm,1.0s
NVS Novosibirsk 59.92 341 *e*P **P** **01 13 02.7 -0.3**
NVS *i* S **S** **01 21 16.4 +1.4**
NVS pmax pmax
comp=Z,30nm,1.3s
NVS pmax pmax
comp=N,5.0nm,0.7s
NVS pmax pmax
comp=E,5.0nm,0.6s
NVS pmax pmax
comp=Z,9.0nm,0.8s
NVS pmax pmax
comp=N,1.0nm,0.4s
NVS pmax pmax
comp=E,1.0nm,0.4s
NVS smax smax
comp=N,2.0nm,0.5s
NVS smax smax
comp=E,4.0nm,0.6s
SNF Seneffe 59.94 34 P **P** **01 13 04.5 +1.4**
SVE Sverdlovsk 60.00 356 *e*P **P** **01 13 03.2 -0.3**
SVE pmax pmax
comp=Z,33nm,1.3s
BEBN Eben Emael 60.02 33 P **P** **01 13 05.0 +1.3**
comp=Z,14nm,1.4s
HGN Heimansgroeve 60.12 33 *e*P **P** **01 13 05.2 +0.9**
comp=Z,89nm,1.1s
HGN *e*S S 01 21 26.7 +9.1
ZAK Zakamensk 60.12 326 *e*P **P** **01 13 02.9 -1.7**
ZAK pmax pmax
comp=Z,6.0nm,1.0s
NACGM Naroch 60.17 18 *e* **P** **01 13 05.0 +0.3**
NACGM *e*LR LR 01 34 54.0
GKP Gorka Klasztor 60.20 24 *e*P **P** **01 13 05.2 +0.3**
GKP Gorka Klasztor 60.20 24 *e*P **P** **01 13 05.2 +0.3**
MEM Membach 60.28 33 P **P** **01 13 06.5 +1.0**
comp=Z,54nm,1.2s
BCLA Clavier 60.28 34 P **P** **01 13 06.0 +0.5**
DOU Dourbes 60.40 34 P **P** **01 13 05.3 -1.0**
comp=Z,18nm,1.7s
MAJO Matsushiro 60.45 293⇑ *i*P **P** **01 13 07.0 +0.1**
MAJO pmax pmax
comp=Z,42nm,2.5s
MAJO Matsushiro 60.45 293 PFAKE 01 13 20.0 +13
MAJO LR LR
comp=Z,574nm,19.0s
MAT Matsushiro 60.45 293 P **P** **01 13 06.3 -0.6**
MAT S **S** **01 21 28.4 +6.1**
MJAR Matsushiro Arr 60.45 293 P **P** **01 13 06.3 -0.5**
comp=Z,1.4nm,0.4s,baz=9.5,slow=6.7,SNR=10
MJAR LR LR 01 40 19.3
comp=Z,448nm,19.8s,baz=40,slow=37
ARU Arti 60.46 357 *d i*P **P** **01 13 06.1 -0.5**
ARU 01 13 49.2
ARU 01 15 16.4
ARU S **S** **01 21 21.7 -0.2**
ARU SS **SS** **01 25 21.6 +3.0**
ARU pmax pmax
comp=Z,47nm,1.2s
ARU MLR MLR
comp=Z,465nm,20.0s
ARU Arti 60.46 357 *e*P **P** **01 13 06.2 -0.5**
comp=Z,25nm,0.8s
ARU LR LR
comp=Z,499nm,19.0s
GRR Gorron 60.50 39 *e*P **P** **01 13 08.0 +1.0**
GRR pmax pmax
comp=Z,71nm,1.1s
SUW Suwalki 60.51 20 *e*P **P** **01 13 06.5 -0.5**
SUW Suwalki 60.51 20 *e*P **P** **01 13 06.5 -0.5**
LDF La Druitiere 60.52 38 *e*P **P** **01 13 07.8 +0.6**
LDF pmax pmax
comp=Z,50nm,1.0s
MOS Moscow 60.54 10 *e*P **P** **01 13 06.6 -0.6**
MOS *e* 01 13 51.4
MOS *e* 01 15 20.6
MOS pmax pmax
comp=Z,77nm,1.1s
MOS pmax pmax
comp=Z,100nm,1.5s
MOS MLR MLR
comp=Z,700nm,18.0s
MOS MLR MLR
comp=N,600nm,17.0s
ZALV Zalesovo Beam 60.54 340 P **P** **01 13 06.1 -1.1**
comp=N,12nm,0.8s,baz=11,slow=7.4,SNR=38
ZALV LR LR 01 39 58.7
comp=N,231nm,22.0s,baz=70,slow=37
SJG San Juan 60.63 109 *e*P **P** **01 13 09.3 +1.0**
SJG pmax pmax
comp=Z,43nm,1.0s
SJG MLR MLR
comp=Z,745nm,20.0s
SJG San Juan 60.63 109 *e*P **P** **01 13 09.2 +1.0**
comp=Z,43nm,1.0s
SJG LR LR
comp=Z,745nm,20.0s
MICGM Minsk 60.71 17⇑ *e*P **P** **01 13 09.0 +0.6**
MICGM PM 01 13 10.0
comp=Z,0.2nm,1.0s
MICGM *e*LR LR 01 35 04.0
MICGM LRM MLR 01 39 14.0
comp=Z,1.7nm,20.0s
MNK Minsk 60.71 17⇑ *e*P **P** **01 13 09.0 +0.6**
MNK pmax pmax
comp=Z,170nm,1.0s
MNK MLR MLR
comp=Z,2µm,20.0s
OBN Obninsk 61.07 11 P **P** **01 13 10.5 -0.2**
comp=Z,12nm,0.4s,baz=10,slow=8.9,SNR=18
OBN Obninsk 61.07 11 *c i*P **P** **01 13 11.0 +0.3**
OBN *e* 01 13 53.5
OBN *i* S **S** **01 21 32.4 +2.8**
OBN pmax pmax
comp=Z,81nm,1.2s
OBN MLR MLR
comp=Z,588nm,15.0s
OBN Obninsk 61.07 11 *e*P **P** **01 13 10.5 -0.2**
comp=Z,79nm,1.3s
OBN LR LR
comp=Z,373nm,20.0s
WLF Walferdange 61.19 33 P **P** **01 13 12.9 +1.3**
comp=Z,29nm,1.9s
WLF Walferdange 61.19 33 *e*P **P** **01 13 13.0 +1.3**
WLF pmax pmax
comp=Z,41nm,1.4s
WLF MLR MLR
comp=Z,988nm,19.0s
WLF Walferdange 61.19 33 *e*P **P** **01 13 13.0 +1.3**
comp=Z,41nm,1.4s
WLF LR LR
comp=Z,988nm,19.0s
CLL Collm 61.22 28⇓ *i*P **P** **01 13 12.3 +0.4**
CLL *i* 01 13 20.0
CLL *e* 01 13 55.0
CLL *e*S **S** **01 21 31.0 -0.8**
CLL pmax pmax
comp=Z,4.0nm,1.0s
CLL Collm 61.22 28⇓ *i*P **P** **01 13 12.3 +0.4**
comp=Z,34nm,1.0s
CLL *i* 01 13 20.0
CLL *e*PcP **PcP** **01 13 55.0 +0.5**
comp=Z,49nm,1.7s
CLL *e*PP **PP** **01 15 27.0 +0.9**
CLL *e*S **S** **01 21 31.0 -0.8**
CLL *e*(SS) 01 25 24.0
CLL *e*SSS SSS 01 28 24.0
TNS Taunus Mts 61.22 31 P **P** **01 13 13.8 +1.8**
CMLA Cha da Macela 61.38 63 PFAKE 01 13 30.0 +17
CMLA LR LR
comp=Z,633nm,19.0s
ULN Ulaanbaatar 61.43 322 *d i*P **P** **01 13 13.4 -0.2**
ULN pmax pmax
comp=Z,20nm,1.2s
ULN Ulaanbaatar 61.43 322 *e*P **P** **01 13 12.9 -0.7**
comp=Z,12nm,0.9s
ULN LR LR
comp=Z,611nm,20.0s
ULN Ulaanbaatar 61.43 322 P **P** **01 13 14.1 +0.5**
SNR=7.4
ULN Ulaanbaatar 61.43 322 P **P** **01 13 14.1 +0.5**
SNR=7.4
ULN P **P** **01 13 14.1 +0.5**
SNR=7.4
SONM Songino Array 61.64 323 P **P** **01 13 14.5 -0.5**
comp=Z,7.5nm,0.8s,baz=8.6,slow=3.8,SNR=38
SONM LR LR 01 43 42.1
comp=Z,711nm,18.7s,baz=30,slow=40
BRG Berggiesshubel 61.83 27 *e*P **P** **01 13 17.5 +1.5**
comp=Z,71nm,1.6s
BRG *e* 01 13 25.3
comp=Z,32nm,1.3s
BRG *e* 01 13 58.3
comp=Z,52nm,1.9s
comp=Z,791nm,19.0s
comp=N,680nm,18.2s
comp=E,607nm,18.2s
BRG Berggiesshubel 61.83 27 *e*P **P** **01 13 17.5 +1.5**
BRG *e* 01 13 25.3
BRG *e* 01 13 58.3
BRG pmax pmax
comp=Z,71nm,1.6s
BRG pmax pmax
comp=Z,32nm,1.3s
BRG pmax pmax
comp=Z,52nm,1.9s
BRG MLR MLR
comp=Z,791nm,19.0s
BRG MLR MLR
comp=N,680nm,18.2s
BRG MLR MLR
comp=E,607nm,18.2s
NKC Novy Kostel 62.12 29⇓ *e*P **P** **01 13 18.9 +0.9**
NKC *ex* x 01 13 24.5
NKC AMS AMS 01 41 30.0
comp=E,1µm,18.5s
NKC Novy Kostel 62.12 29 *e*P **P** **01 13 18.9 +0.9**
NKC *e* 01 13 24.5
NKC MLR MLR
comp=Z,1µm,18.5s
BEL Belsk 62.21 23 *e*P **P** **01 13 20.1 +1.5**
BEL Belsk 62.21 23 *e*P **P** **01 13 20.1 +1.5**
LANF Langenberg 62.23 32 P **P** **01 13 20.7 +2.0**
PVCC Panska Ves 62.28 27⇓ *e*P **P** **01 13 20.9 +1.8**
PVCC AMS AMS 01 40 50.0
comp=Z,800nm,17.1s
PVCC Panska Ves 62.28 27 *e*P **P** **01 13 20.9 +1.8**
PVCC MLR MLR
comp=Z,800nm,17.1s
MFF Saint Martin d 62.33 39 *e*P **P** **01 13 20.5 +1.1**
MFF pmax pmax
comp=Z,37nm,1.1s
KSP Ksiaz 62.33 26 *e*P **P** **01 13 21.1 +1.7**
KSP Ksiaz 62.33 26 *e*P **P** **01 13 21.1 +1.7**
THEF They Montfort 62.48 34⇑ *e*P **P** **01 13 22.1 +1.7**
UPC Upice 62.60 26⇓ *e*S **S** **01 21 51.3 +2.1**
UPC AMS AMS 01 41 20.0
comp=Z,2µm,18.2s
CDF Champ du Feu 62.63 33 *e*P **P** **01 13 22.3 +0.8**
CDF pmax pmax
comp=Z,49nm,1.4s
PRA Prague 62.69 27⇓ *e*P **P** **01 13 23.2 +1.4**
PRA AMS AMS 01 40 00.0
comp=Z,700nm,17.7s
PRA Prague 62.69 27 *e*P **P** **01 13 23.2 +1.4**
PRA MLR MLR
comp=Z,700nm,17.7s
JHJ Hachijo jima 2 62.72 290 LR LR 01 44 06.4
comp=Z,82nm,18.2s,baz=40,slow=40
STU Stuttgart 62.75 32 *e*P **P** **01 13 23.8 +1.5**
STU pmax pmax
comp=Z,18nm,0.8s
STU Stuttgart 62.75 32 *e*P **P** **01 13 23.8 +1.5**
comp=Z,18nm,0.8s
ECH Echery 62.78 33⇑ *e*P **P** **01 13 24.3 +1.8**
PRU Pruhonice 62.79 27⇓ *e*P **P** **01 13 23.3 +0.8**
PRU *ex* x 01 13 29.3
PRU *e*S **S** **01 21 52.0 +0.3**
PRU AMS AMS 01 41 00.0
comp=Z,700nm,18.5s
PRU Pruhonice 62.79 27 *e*P **P** **01 13 23.3 +0.8**
PRU *e* 01 13 29.3
PRU *e*S **S** **01 21 52.0 +0.3**
PRU MLR MLR
comp=Z,700nm,18.5s
DPC Dobruska-Polom 62.81 26 *e*P **P** **01 13 23.7 +1.0**
DPC *ex* x 01 13 29.6
DPC *e*S **S** **01 21 52.5 +0.5**
DPC AMS AMS 01 41 30.0
comp=Z,1µm,18.5s
DPC Dobruska-Polom 62.81 26 *e*P **P** **01 13 23.7 +1.0**
DPC *e* 01 13 29.6
DPC *e*S **S** **01 21 52.5 +0.5**
DPC MLR MLR
comp=Z,1µm,18.5s
LOR Lormes 62.81 36 *e*P **P** **01 13 23.7 +1.0**
LOR pmax pmax
comp=Z,90nm,1.2s
ANWB Willy Bob 62.90 105 PFAKE 01 13 40.0 +16
ANWB LR LR
comp=Z,296nm,20.0s
SSF Saint Saulge 62.91 36 *e*P **P** **01 13 24.3 +1.0**
SSF pmax pmax
comp=Z,77nm,1.0s
GOPC GO Pecny, Ondr 62.91 27 *e*P **P** **01 13 24.3 +1.0**
GOPC *ex* x 01 13 30.0
GOPC AMS AMS 01 44 30.0
comp=Z,800nm,14.6s
GOPC GO Pecny, Ondr 62.91 27 *e*P **P** **01 13 24.3 +1.0**
GOPC *e* 01 13 30.0
GOPC MLR MLR
comp=Z,800nm,14.6s
BFO Black Forest 62.96 32 *e*P **P** **01 13 24.3 +0.7**
BFO pmax pmax
comp=Z,67nm,1.5s
BFO MLR MLR
comp=Z,1µm,19.0s
BFO Black Forest 62.96 32 *e*P **P** **01 13 24.3 +0.7**
comp=Z,67nm,1.5s
BFO LR LR
comp=Z,1µm,19.0s
MOF Molkenrain 63.11 33⇑ *e*P **P** **01 13 26.5 +1.7**
AVF Avril sur Loir 63.12 37 *e*P **P** **01 13 25.5 +0.8**
AVF pmax pmax
comp=Z,59nm,1.0s
KRLC Kraliky 63.16 26⇓ *e*P **P** **01 13 26.0 +1.0**
KRLC *ex* x 01 13 32.8
KRLC Kraliky 63.16 26 *e*P **P** **01 13 26.0 +1.0**
KRLC *e* 01 13 32.8
BRVK Borovoye 63.19 349 *e*P **P** **01 13 24.5 -0.6**
BRVK pmax pmax
comp=Z,75nm,1.3s
BRVK MLR MLR
comp=Z,293nm,21.0s
BRVK Borovoye 63.19 349 *e*P **P** **01 13 24.5 -0.6**
comp=Z,75nm,1.3s
BRVK LR LR
comp=Z,293nm,21.0s
BRVK Borovoye 63.19 349 P **P** **01 13 24.9 -0.2**
SNR=12
BRVK Borovoye 63.19 349 P **P** **01 13 24.9 -0.2**
SNR=12
BRVK P **P** **01 13 24.9 -0.2**
SNR=12
BVAR Borovoye Array 63.21 349 LR LR 01 43 21.4
comp=Z,491nm,21.0s,baz=26,slow=38
TCF Toulx Ste Croi 63.27 38 *e*P **P** **01 13 26.6 +0.8**
TCF pmax pmax
comp=Z,59nm,1.0s
BCIP Isla Barro Col 63.33 127 PFAKE 01 13 40.0 +14
BCIP LR LR
comp=Z,330nm,19.0s
KHC Kasperske Hory 63.40 28⇓ *e*P **P** **01 13 27.9 +1.3**
KHC *ex* x 01 13 33.7
KHC *e*S **S** **01 22 00.1 +0.7**
KHC AMS AMS 01 42 30.0
comp=Z,1µm,16.9s
KHC Kasperske Hory 63.40 28 *e*P **P** **01 13 27.9 +1.3**
KHC *e* 01 13 33.7
KHC *e*S **S** **01 22 00.1 +0.7**
KHC MLR MLR
comp=Z,1µm,16.9s
KHC Kasperske Hory 63.40 28 *e*P **P** **01 13 27.7 +1.1**
comp=Z,34nm,1.4s
LOMF Lomont 63.50 34⇑ *e*P **P** **01 13 29.1 +1.8**
OJC Ojcow 63.59 24 *e*P **P** **01 13 28.0 +0.2**
OJC Ojcow 63.59 24 *e*P **P** **01 13 28.0 +0.2**
MORC Moravsky Berou 63.59 25⇓ *i*P **P** **01 13 28.5 +0.6**
MORC Moravsky Berou 63.59 25⇓ P **P** **01 13 28.5 +0.6**
MORC Moravsky Berou 63.59 25 *e*P **P** **01 13 28.5 +0.6**
comp=Z,218nm,1.6s
TREC Trest 63.65 27⇓ *e*P **P** **01 13 29.0 +0.8**
TREC *ex* x 01 13 34.2
TREC AMS AMS 01 41 50.0
comp=Z,1µm,17.8s
TREC Trest 63.65 27 *e*P **P** **01 13 29.0 +0.8**
TREC *e* 01 13 34.2
TREC MLR MLR
comp=Z,1µm,17.8s
OKC Ostrava-Krasne 63.65 25⇓ *e*P **P** **01 13 28.8 +0.6**
OKC *ex* x 01 13 34.4
OKC *e*S **S** **01 22 03.9 +1.5**
OKC AMS AMS 01 42 40.0
comp=Z,900nm,16.7s
OKC Ostrava-Krasne 63.65 25 *e*P **P** **01 13 28.8 +0.6**
OKC *e* 01 13 34.4
OKC *e*S **S** **01 22 03.9 +1.5**
OKC MLR MLR
comp=Z,900nm,16.7s
GERES GERESS Array B 63.70 28 P **P** **01 13 29.1 +0.5**
comp=Z,7.9nm,0.9s,baz=344,slow=4.4,SNR=56
GERES PKP2bc 01 42 26.7
comp=Z,0.1nm,0.3s,baz=114,slow=2.5,SNR=4.8
GERES LR LR 01 42 39.2
comp=Z,620nm,18.5s,baz=337,slow=37
AGO Saint Agoulin 63.74 37⇑ *e*P **P** **01 13 31.3 +2.4**
LPSR Galich'ya Gora 63.76 10 *e*P **P** **01 13 28.9 +0.1**
LPSR pmax pmax
comp=Z,40nm,0.8s
KSRS Korea Array 63.77 301 P **P** **01 13 28.6 -0.6**
comp=Z,4.3nm,0.8s,baz=25,slow=6.2,SNR=12
KSRS LR LR 01 43 10.5
comp=Z,259nm,21.4s,baz=42,slow=38
KSAR Wonju Array Be 63.80 302 P **P** **01 13 28.6 -0.7**
KSAR Wonju Array Be 63.80 302 P **P** **01 13 28.6 -0.7**
PLDF La Plantade 63.95 37 *e*P **P** **01 13 32.4 +2.1**
PYM Petit Puy Mans 63.98 37 *e*P **P** **01 13 32.4 +1.9**
URIC Uribia, Colomb 63.98 118 *e*P **P** **01 13 31.7 +1.0**
PGAV Gavieira, Arco 64.02 47 *e*P **P** **01 13 32.4 +1.6**
comp=Z,101nm,1.4s
LFF La Frestale 64.10 39 *e*P **P** **01 13 32.5 +1.3**
LFF pmax pmax
comp=Z,163nm,1.4s
DGZ Jazzator, Alta 64.20 337 *i* P **P** **01 13 32.2 +0.2**
DGZ pmax pmax
comp=Z,6.0nm,0.9s
DAVA Damuels 64.31 32 *es*P **P** **01 13 34.6 +1.9**
comp=Z,14nm,0.9s,SNR=8.4

RETA Reutte 64.32 31 *esP* **P 01 13 34.4 +1.6**
comp=Z,26nm,1.5s,SNR=13
PCAB Cabril 64.33 47 *eP* **P 01 13 34.8 +2.0**
comp=Z,83nm,1.6s
NIE Niedzica 64.45 24 *eP* **P 01 13 34.3 +0.8**
NIE Niedzica 64.45 24 *eP* **P 01 13 34.3 +0.8**
CAF Calviac 64.48 38 *eP* **P 01 13 34.5 +0.7**
CAF pmax pmax
comp=Z,49nm,1.2s
LBL Lubilhac 64.53 37 *eP* **P 01 13 36.0 +1.9**
MOTA Moosalm 64.54 31 *esP* **P 01 13 35.9 +1.6**
comp=Z,6.6nm,0.8s,SNR=10
LANS Liptovska Anna 64.56 24 *eP* **P 01 13 35.8 +1.6**
LANS Liptovska Anna 64.56 24 *eP* **P 01 13 35.8 +1.6**
KURK Kurchatov 64.59 343 *eP* **P 01 13 33.2 -1.1**
KURK pmax pmax
comp=Z,232nm,1.2s
KURK MLR MLR
comp=Z,630nm,19.0s
KURK Kurchatov 64.59 343 *eP* **P 01 13 33.1 -1.1**
comp=Z,232nm,1.2s
KURK LR LR
comp=Z,630nm,19.0s
KURK Kurchatov 64.59 343 P **P 01 13 34.5 +0.2**
SNR=21
KURK Kurchatov 64.59 343 P **P 01 13 34.5 +0.2**
SNR=21
AKASG Malin Array Be 64.60 17 P **P 01 13 33.9 -0.5**
comp=Z,21nm,0.8s,baz=348,slow=6.5,SNR=74
AKASG LR LR 01 41 52.8
comp=Z,2µm,20.4s,baz=345,slow=36
STHS Stebnicka Huta 64.62 23 *eP* **P 01 13 36.1 +1.5**
STHS pmax pmax
comp=Z,36nm,1.8s
STHS Stebnicka Huta 64.62 23 *eP* **P 01 13 36.1 +1.5**
WATA Walderalm 64.65 30 *esP* **P 01 13 36.4 +1.4**
comp=Z,13nm,1.0s,SNR=12
PBRG Braganca 64.66 46 *eP* **P 01 13 35.9 +0.9**
comp=Z,64nm,1.6s
KWP Kalwaria Pacla 64.67 22 *eP* **P 01 13 36.4 +1.5**
KWP Kalwaria Pacla 64.67 22 *eP* **P 01 13 36.4 +1.5**
LVV L'vov 64.70 21 *eP* **P 01 13 34.6 -0.5**
LVV *eS* **S 01 22 11.7 -3.7**
LVV MLR MLR
comp=E,200nm,15.0s
LVV MLR MLR
comp=N,400nm,14.0s
LVV MLR MLR
comp=Z,300nm,15.0s
POLO Lamas de Olo 64.70 47 *eP* **P 01 13 36.1 +0.7**
comp=Z,26nm,1.5s
WTTA Wattenberg 64.73 30 *esP* **P 01 13 37.3 +1.8**
comp=Z,53nm,1.5s,SNR=19
FETA Feichten 64.75 31 *esP* **P 01 13 37.5 +1.9**
comp=Z,42nm,1.8s,SNR=18
MOA Molln 64.76 28 *esP* **P 01 13 36.7 +1.2**
comp=Z,22nm,1.6s,SNR=11
SMOL Smolenice 64.78 26 *eP* **P 01 13 37.6 +2.0**
SMOL Smolenice 64.78 26 *eP* **P 01 13 37.6 +2.0**
PVRL Vila Real 64.82 47 *eP* **P 01 13 37.1 +1.1**
comp=Z,69nm,1.3s
SSB Saint Sauveur 64.83 36 *eP* **P 01 13 37.8 +1.7**
SSB Saint Sauveur 64.83 36 *eP* **P 01 13 36.4 +0.4**
SSB pmax pmax
comp=Z,67nm,1.4s
SSB MLR MLR
comp=Z,1µm,20.0s
SSB Saint Sauveur 64.83 36 *eP* **P 01 13 36.4 +0.4**
comp=Z,67nm,1.4s
SSB LR LR
comp=Z,1µm,20.0s
TUE Stuetta 64.94 32 *eP* **P 01 13 38.6 +1.7**
comp=Z,58nm,1.5s
TUE LR LR
comp=Z,1µm,20.0s
RSL Roselend 65.00 35 *eP* **P 01 13 39.2 +1.9**
CONA Conrad Observa 65.02 27 *esP* **P 01 13 38.6 +1.3**
comp=Z,58nm,1.5s,SNR=39
VYHS Vyhne 65.07 25 *eP* **P 01 13 38.3 +0.8**
VYHS pmax pmax
comp=Z,26nm,1.5s
VYHS Vyhne 65.07 25 *eP* **P 01 13 38.3 +0.8**
VYHS *eL* L 01 43 42.3
MVO Moncorvo 65.14 47 *eP* **P 01 13 39.0 +0.8**
comp=Z,59nm,1.3s
VSR Storozhevoye 65.15 10 *eP* **P 01 13 37.4 -0.5**
VSR pmax pmax
comp=Z,40nm,1.0s
CRVS Cervenica-Dubn 65.16 23 *eP* **P 01 13 39.5 +1.4**
CRVS Cervenica-Dubn 65.16 23 *eP* **P 01 13 39.5 +1.4**
LPL La Plagne 65.19 35 *eP* **P 01 13 40.0 +1.4**
LPL pmax pmax
comp=Z,21nm,1.1s
LPG La Plagne 65.21 35 *eP* **P 01 13 40.3 +1.5**
LPG pmax pmax
comp=Z,70nm,1.6s
PVIS Viseu 65.26 48 *eP* **P 01 13 39.6 +0.7**
comp=Z,72nm,1.5s
KBA Koelnbreinsper 65.29 29 *esP* **P 01 13 40.3 +1.1**
comp=Z,41nm,1.1s,SNR=39
KBA Koelnbreinsper 65.29 29 *eP* **P 01 13 40.8 +1.6**
KECS Kecovo 65.39 24 *eP* **P 01 13 41.0 +1.5**
KECS pmax pmax
comp=Z,14nm,1.0s
KECS Kecovo 65.39 24 *eP* **P 01 13 41.0 +1.5**
ABTA Abfaltersbach 65.42 30 *esP* **P 01 13 40.6 +0.7**
comp=Z,12nm,0.9s,SNR=7.9
ORIF Oris-en-Rattie 65.52 35 *eP* **P 01 13 41.4 +0.8**
ORIF pmax pmax
comp=Z,13nm,1.0s
UZH Uzhgorod 65.56 22 *c iP* **P 01 13 40.4 -0.3**
ARSA Arzberg 65.60 28 *esP* **P 01 13 42.2 +1.2**
comp=Z,53nm,1.8s,SNR=15
BNI Bardonecchia 65.60 35 *eP* **P 01 13 42.5 +1.3**
BNI pmax pmax
comp=Z,60nm,1.6s
BNI MLR MLR
comp=Z,2µm,20.0s
BNI Bardonecchia 65.60 35 *eP* **P 01 13 42.5 +1.3**
comp=Z,60nm,1.6s
BNI LR LR
comp=Z,2µm,20.0s
PCAS Casmilo, Conde 65.66 48 *eP* **P 01 13 42.4 +1.0**
comp=Z,162nm,1.4s
PCM Pelee Case Pet 65.68 106 *eP* **P 01 13 43.2 +1.4**
CXM Morne La Croix 65.70 106 *eP* **P 01 13 42.7 +0.5**
BAMF Morne Balai 65.71 106 *eP* **P 01 13 42.8 +0.7**
GBMF Grand Be 65.72 106 *eP* **P 01 13 43.3 +1.1**
BJI Beijing 65.72 312 P **P 01 13 40.8 -1.0**
BJI pmax pmax
comp=Z,14nm,1.5s
BJT Baijiatuau 65.74 312 PFAKE 01 13 50.0 +8.0
BJT LR LR
comp=Z,764nm,20.0s
VIEF Viey 65.78 41⇑ *eP* **P 01 13 44.7 +2.4**
FDF Fort de France 65.78 106 *eP* **P 01 13 43.1 +0.6**
FDF Fort de France 65.78 106 *eP* **P 01 13 42.8 +0.3**
FDF pmax pmax
comp=Z,86nm,1.1s
FDF MLR MLR
comp=Z,483nm,19.0s
FDF Fort de France 65.78 106 *eP* **P 01 13 42.8 +0.3**
comp=Z,86nm,1.1s
FDF LR LR
comp=Z,483nm,19.0s
MYKA Terra Mystica 65.78 29 *esP* **P 01 13 43.5 +1.2**
comp=Z,20nm,1.1s,SNR=11
PSZ Piszkesteto 65.82 24 *eP* **P 01 13 43.4 +1.0**
PSZ pmax pmax
comp=Z,108nm,1.5s
PSZ MLR MLR
comp=Z,1µm,19.0s
PSZ Piszkesteto 65.82 24⇑ *eP* **P 01 13 44.3 +1.8**
PSZ Piszkesteto 65.82 24 *eP* **P 01 13 43.4 +1.0**
comp=Z,108nm,1.5s
PSZ LR LR
comp=Z,1µm,19.0s
RESF Ens 65.94 40⇑ *eP* **P 01 13 45.8 +2.5**
ZAM Aeronautique 65.97 106 *eP* **P 01 13 44.8 +1.1**
TRMF Trois Ilets 66.00 106 *eP* **P 01 13 45.4 +1.5**
BIM Bigot 66.01 106 *eP* **P 01 13 44.6 +0.7**
SOKA Soboth 66.04 28 *esP* **P 01 13 45.1 +1.2**
comp=Z,47nm,1.5s,SNR=35
CSKK Cs‡kako 66.04 26⇑ *eP* **P 01 13 45.0 +1.2**
BUD Budapest 66.08 25⇑ *eP* **P 01 13 45.8 +1.8**
PTOM Tomar 66.08 48 *eP* **P 01 13 44.8 +0.7**
comp=Z,45nm,1.5s
TRPA Tarpa 66.09 22⇑ *eP* **P 01 13 45.6 +1.5**
OBKA Obir 66.10 29 *esP* **P 01 13 45.1 +0.8**
comp=Z,76nm,1.7s,SNR=22
PCBR Castelo Branco 66.19 48 *eP* **P 01 13 45.0 +0.2**
comp=Z,51nm,1.4s
PMAFR Mafra 66.38 49 *eP* **P 01 13 46.7 +0.6**
comp=Z,134nm,1.4s
LRDF Laroque-de-Fa 66.45 39⇑ *eP* **P 01 13 47.9 +1.4**
AKTO Aktyubinsk 66.47 357 LR LR 01 47 00.2
comp=Z,460nm,18.9s,slow=40
HHC Hu-ho-hao-te 66.49 316 *eP* **P 01 13 48.0 +1.1**
HHC PP **PP 01 16 17.0 +4.3**
HHC PcS 01 18 21.8
HHC S **S 01 22 38.0 +0.2**
HHC ScS **ScS 01 23 43.8 -0.4**
HHC SS **SS 01 26 54.0 +0.5**
HHC pmax pmax
comp=Z,20nm,1.2s
HHC pmax pmax
comp=Z,150nm,4.7s
HHC LR LR
comp=Z,530nm,16.2s
HHC LR LR
comp=Z,610nm,18.7s
HHC LR LR
comp=Z,840nm,17.4s
PMRV Marv??o 66.59 48 *eP* **P 01 13 48.0 +0.6**
comp=Z,41nm,1.5s
BEHE Beghehely 66.60 27⇑ *eP* **P 01 13 49.2 +1.8**
OCAC Ocana 66.62 121 *eP* **P 01 13 49.0 +1.0**
LIS Lisbon 66.64 49 *eP* **P 01 13 49.0 +1.3**
LIS AMS AMS 01 42 09.7
comp=N,1µm,18.9s
LIS Lisbon 66.64 49 *eP* **P 01 13 49.0 +1.3**
BMR Baia Mare 66.69 22 *⇓iP* **P 01 13 49.3 +1.3**
BMR Baia Mare 66.69 22 *⇓P* **P 01 13 49.3 +1.3**
ZARC Zaragoza, Cauc 66.72 123 *eP* **P 01 13 48.1 -0.4**
VALF Valcebollere 66.80 39⇑ *eP* **P 01 13 50.8 +1.9**
FILF Fillols 66.80 39⇑ *eP* **P 01 13 49.8 +1.0**
SJAF Saint Jean de 66.96 39⇑ *eP* **P 01 13 51.3 +1.5**
FRF La Foret Royal 66.99 35 *eP* **P 01 13 50.9 +1.0**
FRF pmax pmax
comp=Z,65nm,1.4s
PESTR Estremoz 67.03 48 *eP* **P 01 13 50.6 +0.3**
comp=Z,38nm,1.5s
BURAR Bucovina Array 67.03 21 *⇓iP* **P 01 13 50.5 +0.2**
BURAR Bucovina Array 67.03 21 *⇓P* **P 01 13 50.5 +0.2**
SDV Santo Domingo 67.08 118 *eP* **P 01 13 52.1 +1.0**
comp=Z,59nm,1.4s
SDV LR LR
comp=Z,451nm,19.0s
OZLJ Ozalj 67.14 28 *i P* **P 01 13 50.6 -0.2**
EVO Evora 67.19 49 *eP* **P 01 13 51.8 +0.6**
comp=Z,68nm,1.5s
VLC Villacollemand 67.37 32 *eP* **P 01 13 53.4 +1.1**
comp=Z,56nm,1.3s
VLC LR LR
comp=Z,952nm,20.0s
PNCL Nicolau / Gran 67.39 49 *eP* **P 01 13 53.4 +0.9**
comp=Z,47nm,1.5s
DRGR 67.42 23 *⇓iP* **P 01 13 53.2 +0.5**
DRGR 67.42 23 *⇓P* **P 01 13 53.2 +0.5**
SISC Sisak 67.47 28 *i P* **P 01 13 54.5 +1.6**
PAB San Pablo 67.48 45 *eP* **P 01 13 54.2 +1.0**
PAB pmax pmax
comp=Z,50nm,1.3s
PAB MLR MLR
comp=Z,873nm,20.0s
PAB San Pablo 67.48 45 *eP* **P 01 13 54.2 +1.0**
comp=Z,50nm,1.3s
PAB LR LR
comp=Z,873nm,20.0s
ESDC Sonseca Array 67.48 45 P **P 01 13 53.9 +0.7**
comp=Z,12nm,0.8s,baz=332,slow=6.4,SNR=119
ESDC LR LR 01 42 00.3
comp=Z,812nm,18.5s,baz=315,slow=35
ESDC PKP2bc 01 42 17.9
comp=Z,0.3nm,0.6s,baz=155,slow=3.8,SNR=6.0
AB31 Akbulak array 67.60 356 *i P* **P 01 13 52.9 -0.8**
AB31 pmax pmax
comp=Z,16nm,1.2s
ABKAR Akbulak array 67.60 356 *eP* **P 01 13 52.9 -0.7**
comp=Z,16nm,1.1s
CJR Cluj-Napoca 67.64 22 *⇓iP* **P 01 13 55.4 +1.3**
CJR Cluj-Napoca 67.64 22 *⇓P* **P 01 13 55.4 +1.3**
HELC Santa Helena 67.66 124 *eP* **P 01 13 55.5 +0.7**
PBEJ Beja 67.69 49 *eP* **P 01 13 55.3 +0.8**
comp=Z,45nm,1.4s
SIRR Siria 67.74 24 *⇓iP* **P 01 13 56.1 +1.5**
MESJ Messejana 67.74 49 *eP* **P 01 13 56.0 +1.2**
MESJ *eS* **S 01 22 55.4 +2.7**
MESJ AMS AMS 01 43 15.2
comp=Z,1µm,16.5s
MESJ Messejana 67.74 49 *eP* **P 01 13 55.9 +1.2**
comp=Z,40nm,1.5s
MESJ Messejana 67.74 49 *eP* **P 01 13 55.9 +1.2**
PBAR Barrancos 67.84 48 *eP* **P 01 13 56.0 +0.6**
comp=Z,74nm,1.5s
GRGR Grenville 67.88 108 PFAKE 01 14 10.0 +14
GRGR LR LR
comp=Z,784nm,20.0s
MK31 Makanchi Array 67.88 339 P **P 01 13 53.3 -2.3**
MK31 pmax pmax
comp=Z,9.0nm,1.0s
MKAR Makanchi Array 67.88 339 P **P 01 13 54.1 -1.5**
comp=Z,8.6nm,1.1s,baz=28,slow=5.5,SNR=18
MKAR PKP2bc 01 42 15.4
comp=Z,1.0nm,0.9s,baz=245,slow=2.6,SNR=4.5
MKAR LR LR 01 49 09.4
comp=Z,153nm,18.1s,baz=12,slow=41
MKAR Makanchi Array 67.88 339 *i P* **P 01 13 54.9 -0.7**
MKAR pmax pmax
comp=Z,9.0nm,1.1s
MAKZ Makanchi 67.92 340 P **P 01 13 53.3 -2.5**
MAKZ pmax pmax
comp=Z,30nm,1.3s
PCVE Castro Verde 67.99 49 *eP* **P 01 13 57.6 +1.3**
comp=Z,38nm,1.7s
NVLJ Novalja 68.02 29 *i P* **P 01 13 56.3 0.0**
KIS Kishinev 68.17 18⇑ *iP* **P 01 13 57.0 -0.3**
comp=Z,200nm,1.6s
KIS Kishinev 68.17 18 *ePcP* **PcP 01 14 18.0 -5.2**
KIS *eS* **S 01 22 56.0 -1.6**
KIS *eL* L 01 36 00.0
comp=Z,800nm,26.0s
KIS LRM MLR 01 46 25.0
comp=Z,600nm,19.0s
KIS Kishinev 68.17 18⇑ *iP* **P 01 13 57.0 -0.3**
KIS *e* 01 14 01.0
KIS *e* 01 14 23.0
KIS *eS* **S 01 22 56.0 -1.6**
KIS pmax pmax
comp=Z,200µm,1.6s
KIS MLR MLR
comp=N,500nm,19.0s
KIS MLR MLR
comp=Z,500nm,19.0s
BARC Barichara 68.18 121 *eP* **P 01 13 57.9 -0.1**
UDBI Udbina 68.24 28 *i P* **P 01 13 58.7 +0.8**
PVAQ Vaqueiros 68.31 49 *eP* **P 01 13 59.9 +1.6**
comp=Z,75nm,1.5s
TESR Tescani 68.33 20⇑ *iP* **P 01 13 58.5 +0.2**
BZS Buzias 68.36 24 *⇓iP* **P 01 13 58.8 +0.3**
BZS Buzias 68.36 24 *⇓P* **P 01 13 58.8 +0.3**
PBDV Barranco-do-Ve 68.38 49 *eP* **P 01 14 00.6 +1.8**
comp=Z,88nm,1.4s
NORC Norcasia 68.48 123 *eP* **P 01 14 00.2 +0.5**
DOPR Dopca 68.66 21 *⇓iP* **P 01 14 01.2 +0.8**
GZR Gura Zlata 68.78 23⇑ *iP* **P 01 14 02.1 +0.9**
GZR Gura Zlata 68.78 23 *⇑P* **P 01 14 02.1 +0.9**
RUSC La Rusia 68.86 122 *eP* **P 01 14 03.5 +0.9**
PMOZ Porto Moniz, M 68.97 59 *eP* **P 01 14 01.8 -0.8**
comp=Z,49nm,1.1s
VRI Vrincioaia 68.97 20 *⇓iP* **P 01 14 02.7 +0.3**
VRI Vrincioaia 68.97 20 *⇓P* **P 01 14 02.7 +0.3**
PLOR Plostina 68.98 20⇑ *iP* **P 01 14 03.9 +1.5**
PLOR Plostina 68.98 20 *⇑P* **P 01 14 03.9 +1.5**
PMPS Porto Santo 69.09 58 *eP* **P 01 14 05.0 +1.8**
comp=Z,118nm,1.3s
ARR Arges 69.12 22⇑ *iP* **P 01 14 04.0 +0.6**
VOIR 69.12 21 *⇓iP* **P 01 14 03.6 +0.2**
VOIR 69.12 21 *⇓P* **P 01 14 03.6 +0.2**
MLR Muntele Rosu 69.22 21 *⇓iP* **P 01 14 05.0 +1.0**
MLR Muntele Rosu 69.22 21 *⇓P* **P 01 14 05.0 +1.0**
ROSC El Rosal 69.36 123 P **P 01 14 07.1 +1.5**
comp=Z,18nm,0.9s,baz=63,slow=1.8,SNR=18
ROSC LR LR 01 47 11.6
comp=Z,215nm,18.2s,baz=14,slow=38
ROSC El Rosal 69.36 123 *eP* **P 01 14 05.8 +0.3**
DIVS Divibare 69.52 25 P **P 01 14 05.8 -0.1**
ISR Istrita 69.67 20⇑ *iP* **P 01 14 06.7 -0.1**
ISR Istrita 69.67 20 *⇑P* **P 01 14 06.7 -0.1**
AQU L'Aquila 69.79 31 *eP* **P 01 14 09.0 +1.5**
AQU pmax pmax
comp=Z,29nm,1.3s
AQU MLR MLR
comp=Z,1µm,20.0s
AQU L'Aquila 69.79 31 *eP* **P 01 14 09.0 +1.5**
comp=Z,29nm,1.3s
AQU LR LR
comp=Z,1µm,20.0s
WMQ Urumqi 69.81 335 P **P 01 14 08.5 +0.8**
WMQ pP sP 01 14 13.0 +3.3
WMQ sP pP 01 14 17.0 +7.9
WMQ S **S 01 23 18.3 +1.1**
WMQ SKS **SKSac 01 24 07.8 -1.1**
WMQ pmax pmax
comp=Z,28nm,1.1s
WMQ pmax pmax
comp=Z,150nm,5.1s
WMQ LR LR
comp=Z,360nm,16.1s
WMQ LR LR
comp=Z,340nm,16.3s
WMQ LR LR
comp=Z,210nm,18.9s
CFR Carcaliu 69.86 19 *⇓iP* **P 01 14 07.9 +0.1**
CFR Carcaliu 69.86 19 *⇓P* **P 01 14 07.9 +0.1**
STON Ston 70.24 27 *i P* **P 01 14 09.8 -0.4**
HARR Harsova 70.30 19 *⇓iP* **P 01 14 11.4 +0.9**
HARR Harsova 70.30 19 *⇓P* **P 01 14 11.4 +0.9**
TLB Topalu 70.42 19 *⇓iP* **P 01 14 11.9 +0.6**
TLB Topalu 70.42 19 *⇓P* **P 01 14 11.9 +0.6**
TIRR Tirgusor 70.60 19⇑ *iP* **P 01 14 12.6 +0.2**
TIRR Tirgusor 70.60 19 *eP* **P 01 14 12.8 +0.4**
TIRR pmax pmax
comp=Z,76nm,1.5s
TIRR Tirgusor 70.60 19 *eP* **P 01 14 12.8 +0.4**
comp=Z,76nm,1.5s
SIM Simferopol' 70.87 15 *eP* **P 01 14 15.0 +1.0**
SIM *eS* **S 01 23 29.0 -0.4**
SIM pmax pmax
comp=Z,20nm,1.1s
SIM MLR MLR
comp=Z,1µm,16.8s
PDG Podgorica 70.98 26 P **P 01 14 15.1 +0.4**
PDG Podgorica 70.98 26 *⇓iP* **P 01 14 15.4 +0.7**
TTG Podgorica 70.98 26 P **P 01 14 15.1 +0.4**
TTG Podgorica 70.98 26 P **P 01 14 15.1 +0.4**
GTA Gaotai 71.23 324 P **P 01 14 16.8 +0.3**
GTA pP sP 01 14 21.8 +3.3
GTA sP pP 01 14 24.8 +6.9
GTA S **S 01 23 32.8 -1.2**
GTA sS sS 01 23 41.0 +4.6
GTA SS **SS 01 28 09.0 +2.4**
GTA pmax pmax
comp=Z,19nm,1.2s
GTA pmax pmax
comp=Z,130nm,4.9s
GTA LR LR
comp=Z,310nm,17.6s
GTA LR LR
comp=Z,380nm,19.0s
GTA LR LR
comp=Z,470nm,17.1s
ANN Anapa 71.36 12 *eP* **P 01 14 16.2 -0.8**
ANN *eS* **S 01 23 32.7 -2.4**
ANN pmax pmax
comp=Z,64nm,1.5s
ANN MLR MLR
comp=Z,772nm,15.0s
VSL Villasalto 71.50 35 PFAKE 01 14 30.0 +12
VSL LR LR
comp=Z,988nm,21.0s
GOF Gofitskoye 71.56 8⇑ *iP* **P 01 14 19.2 +1.0**
GOF pmax pmax
comp=Z,88nm,1.2s
VTS Vitosha 71.57 23 P **P 01 14 18.2 -0.3**
VTS Vitosha 71.57 23 *⇓iP* **P 01 14 18.2 -0.3**
VTS Vitosha 71.57 23 *⇓P* **P 01 14 18.2 -0.3**
VTS Vitosha 71.57 23 P **P 01 14 18.2 -0.3**
RTC Rabat Centre 71.69 50 PFAKE 01 14 30.0 +11
RTC LR LR
comp=Z,2µm,21.0s
PDGK Podgornoye 71.70 341 P **P 01 14 19.0 -0.2**
PDGK pmax pmax
comp=Z,21nm,1.2s
SKO Skopje 71.85 25 *i P* **P 01 14 21.3 +1.4**
NJ2 Nanjing 71.97 306 *eP* **P 01 14 21.8 +1.0**
NJ2 pmax pmax
comp=Z,13nm,0.5s
OTAV Otavalo 72.11 129 *eP* **P 01 14 23.7 +1.3**
comp=Z,42nm,1.2s
OTAV LR LR
comp=Z,361nm,22.0s
TIR Tirane 72.14 26 *eP* **P 01 14 22.6 +0.8**
TIR pmax pmax
comp=Z,20nm,0.8s
TIR MLR MLR
comp=Z,891nm,20.0s
TIR Tirane 72.14 26 *eP* **P 01 14 22.6 +0.8**
comp=Z,20nm,0.8s
TIR LR LR
comp=Z,891nm,20.0s
OHR Ohrid 72.55 26 *i P* **P 01 14 25.5 +1.2**
OHR Ohrid 72.55 26 P **P 01 14 26.1 +1.8**
CUC Castrocucco 72.58 30 *eP* **P 01 14 24.5 +0.1**
comp=Z,54nm,1.4s
CUC LR LR
comp=Z,506nm,20.0s
KIV Kislovodsk 72.63 8 *eP* **P 01 14 26.0 +1.3**
KIV *eS* **S 01 23 51.1 +1.2**
KIV *eSS* **SS 01 28 30.5 +2.8**
KIV pmax pmax
comp=Z,28nm,1.0s
KIV MLR MLR
comp=Z,521nm,18.0s
KIV Kislovodsk 72.63 8 *eP* **P 01 14 25.7 +0.9**
comp=Z,49nm,1.3s
KIV LR LR
comp=Z,488nm,20.0s
KIV Kislovodsk 72.63 8 P **P 01 14 28.3 +3.5**
SNR=6.0
KIV Kislovodsk 72.63 8 P **P 01 14 28.3 +3.5**
SNR=6.0
KIV P **P 01 14 28.3 +3.5**
SNR=6.0
KVAR Kislovodsk Arr 72.63 8 P **P 01 14 25.9 +1.1**
baz=274,slow=1.9
KVAR LR LR 01 48 42.5
comp=Z,462nm,18.3s,slow=38
TKM2 Tokmak 2 72.64 343 P **P 01 14 24.5 -0.5**
TKM2 pmax pmax
comp=Z,39nm,1.4s
VAY Valandovo 72.69 24 *i P* **P 01 14 26.7 +1.7**
BIA Bitola 72.74 25 P **P 01 14 26.1 +0.7**
BIA Bitola 72.74 25 *i P* **P 01 14 26.4 +1.0**
BIA Bitola 72.74 25 P **P 01 14 26.1 +0.7**
TAOE Nuku Hiva Isla 72.83 195 *eLR* LR 01 36 59.6
comp=Z,635nm,20.9s
FRU Bishkek 72.85 344⇓ *eP* **P 01 14 27.0 +1.0**
FRU pmax pmax
comp=Z,80nm,1.8s
KBZ Khabaz 72.87 8 P **P 01 14 27.3 +1.3**
comp=Z,13nm,0.8s,baz=355,slow=11,SNR=23
KBZ LR LR 01 50 04.6
comp=Z,452nm,18.3s,baz=313,slow=39
KNT Kendrikon 72.90 24 P **P 01 14 27.0 +0.7**
KNT Kendrikon 72.90 24 P **P 01 14 27.0 +0.7**
KNT Kendrikon 72.90 24 P **P 01 14 27.0 +0.7**
FNA Florina 72.98 25 P **P 01 14 26.8 0.0**
FNA Florina 72.98 25 P **P 01 14 26.8 0.0**
FNA Florina 72.98 25 P **P 01 14 26.8 0.0**
GRG Griva 73.01 24 P **P 01 14 27.7 +0.7**
GRG Griva 73.01 24 P **P 01 14 27.7 +0.7**
GRG Griva 73.01 24 P **P 01 14 27.7 +0.7**
KK31 Karatay Array 73.03 347 *i P* **P 01 14 26.2 -0.9**
KK31 pmax pmax
comp=Z,13nm,1.1s

KKAR	**Karatay Array**	**73.03**	**347**	*e*P		**P**	**01 14 26.5**	**-0.6**
KKAR				pmax		pmax			
	comp=Z,12nm,1.0s								
KKAR	**Karatay Array**	**73.03**	**347**	*e*P		**P**	**01 14 26.5**	**-0.6**
	comp=Z,12nm,1.0s								
AAK	**Ala-Archa**	**73.06**	**344**	*d i*P		**P**	**01 14 27.9**	**+0.5**
AAK				pmax		pmax			
	comp=Z,61nm,1.1s								
AAK	**Ala-Archa**	**73.06**	**344**	*e*P		**P**	**01 14 27.7**	**+0.3**
	comp=Z,20nm,1.0s								
AAK				LR		LR			
	comp=Z,296nm,20.0s								
AAK	**Ala-Archa**	**73.06**	**344**	P		**P**	**01 14 28.7**	**+1.3**
	SNR=15								
AAK	**Ala-Archa**	**73.06**	**344**	P		**P**	**01 14 28.7**	**+1.3**
	SNR=15								
NCK	**Nalchik**	**73.15**	**8**	⇑*i*P		**P**	**01 14 29.3**	**+1.6**
NCK				pmax		pmax			
	comp=Z,69nm,1.7s								
LZH	**Lanzhou**	**73.22**	**320**	⇑P		**P**	**01 14 29.3**	**+0.9**
LZH				pP		pP	01 14 31.3	+1.4
LZH				sP		sP	01 14 33.8	+3.4
LZH				PP		**PP**	**01 17 13.5**	**+2.7**
LZH				S		**S**	**01 23 48.5**	**-8.5**
LZH				sS		sS	01 24 01.0	+1.6
LZH				SS		**SS**	**01 28 32.5**	**-4.7**
LZH				pmax		pmax			
	comp=Z,59nm,1.0s								
LZH				pmax		pmax			
	comp=Z,330nm,4.9s								
LZH				LR		LR			
	comp=Z,550nm,14.2s								
LZH				LR		LR			
	comp=Z,650nm,15.0s								
LZH				LR		LR			
	comp=Z,750nm,15.9s								
NEY	**Neytrino**	**73.34**	**9**	*ce*P		**P**	**01 14 30.8**	**+1.8**
NEY				pmax		pmax			
	comp=Z,54nm,3.3s								
RDO	**Rodhopi**	**73.38**	**22**	P		**P**	**01 14 29.9**	**+0.8**
RDO	**Rodhopi**	**73.38**	**22**	P		**P**	**01 14 29.9**	**+0.8**
MNAS	**Manas**	**73.44**	**346**	P		**P**	**01 14 30.0**	**+0.4**
MNAS				pmax		pmax			
	comp=Z,23nm,1.0s								
PENT	**Pentalofos**	**73.50**	**26**	P		**P**	**01 14 30.4**	**+0.4**
KZN	**Kozani**	**73.52**	**25**	P		**P**	**01 14 29.7**	**-0.3**
KZN	**Kozani**	**73.52**	**25**	P		**P**	**01 14 29.7**	**-0.3**
KZN	**Kozani**	**73.52**	**25**	P		**P**	**01 14 29.7**	**-0.3**
KEK	**Kerkira**	**73.70**	**27**	P		**P**	**01 14 31.3**	**+0.3**
KEK	**Kerkira**	**73.70**	**27**	P		**P**	**01 14 31.3**	**+0.3**
ALN	**Alexandroupoli**	**73.71**	**22**	P		**P**	**01 14 31.8**	**+0.8**
ALN	**Alexandroupoli**	**73.71**	**22**	P		**P**	**01 14 31.8**	**+0.8**
ALN	**Alexandroupoli**	**73.71**	**22**	P		**P**	**01 14 31.8**	**+0.8**
KPRO	**Kipourio**	**73.78**	**26**	P		**P**	**01 14 32.5**	**+0.9**
LIT	**Litokhoron**	**73.85**	**25**	P		**P**	**01 14 31.9**	**0.0**
LIT	**Litokhoron**	**73.85**	**25**	P		**P**	**01 14 31.9**	**0.0**
LIT	**Litokhoron**	**73.85**	**25**	P		**P**	**01 14 31.9**	**0.0**
ZEI	**Tsey**	**73.87**	**8**	*e*P		**P**	**01 14 30.0**	**-2.2**
ZEI				pmax		pmax			
	comp=Z,40nm,1.1s								
MAK	**Makhachkala**	**73.87**	**5**	*e*P		**P**	**01 14 32.5**	**+0.6**
MAK				*e*			01 17 18.2		
MAK				*e*S		**S**	**01 24 01.9**	**-1.9**
MAK				pmax		pmax			
	comp=Z,303nm,1.8s								
MAK				MLR		MLR			
	comp=Z,889nm,19.0s								
CEL	**Celeste**	**74.26**	**30**	PFAKE			01 14 50.0	+16	
CEL				LR		LR			
	comp=Z,307nm,19.0s								
THL	**Klokotos Trika**	**74.28**	**25**	P		**P**	**01 14 34.1**	**-0.3**
DSL	**Palaion Diasel**	**74.52**	**26**	P		P	01 14 29.3	-6.6	
DSL	**Palaion Diasel**	**74.52**	**26**	P		P	01 14 29.3	-6.6	
EVR	**Evrytania**	**74.87**	**25**	P		**P**	**01 14 38.7**	**+0.7**
EVR	**Evrytania**	**74.87**	**25**	P		**P**	**01 14 38.7**	**+0.7**
WHN	**Wuhan**	**74.94**	**309**	⇑P		**P**	**01 14 37.8**	**-0.6**
WHN				LR		LR			
	comp=Z,1μm,19.9s								
KEST	**Kesra**	**75.04**	**36**	P		**P**	**01 14 40.1**	**+1.1**
	comp=Z,28nm,0.8s,baz=257,slow=2.3,SNR=31								
KEST				LR		LR	01 48 00.4		
	comp=Z,846nm,18.9s,baz=290,slow=36								
ZKTA	**Zakatala**	**75.16**	**6**	P		**P**	**01 14 38.3**	**-1.2**
LKR	**Lokris**	**75.36**	**25**	P		**P**	**01 14 40.2**	**-0.4**
LKR	**Lokris**	**75.36**	**25**	P		**P**	**01 14 40.2**	**-0.4**
DSF	**Desfina**	**75.50**	**25**	P		**P**	**01 14 40.4**	**-1.1**
DSF	**Desfina**	**75.50**	**25**	P		**P**	**01 14 40.4**	**-1.1**
LAKA	**Lakka**	**75.56**	**25**	P		**P**	**01 14 42.8**	**+0.9**
LAKA	**Lakka**	**75.56**	**25**	P		**P**	**01 14 42.8**	**+0.9**
SEKA	**Sheki**	**75.61**	**5**	P		**P**	**01 14 41.0**	**-1.2**
RLS	**Riolos of Patr**	**75.63**	**26**	P		**P**	**01 14 40.4**	**-1.8**
RLS	**Riolos of Patr**	**75.63**	**26**	P		**P**	**01 14 40.4**	**-1.8**
ANTO	**Ankara**	**75.71**	**17**	*e*P		**P**	**01 14 43.8**	**+1.0**
ANTO				pmax		pmax			
	comp=Z,482nm,1.5s								
ANTO				MLR		MLR			
	comp=Z,469nm,19.0s								
ANTO	**Ankara**	**75.71**	**17**	*e*P		**P**	**01 14 43.8**	**+1.0**
	comp=Z,482nm,1.5s								
ANTO				LR		LR			
	comp=Z,469nm,19.0s								
ANTO	**Ankara**	**75.71**	**17**	P		**P**	**01 14 45.1**	**+2.3**
	SNR=14								
ANTO	**Ankara**	**75.71**	**17**	P		**P**	**01 14 45.1**	**+2.3**
	SNR=14								
ANTO				P		**P**	**01 14 45.1**	**+2.3**
	SNR=14								
KSH	**Kashi**	**75.94**	**343**	P		**P**	**01 14 46.8**	**+2.7**
KSH				PcP		**PcP**	**01 14 58.5**	**+1.9**
KSH				PP		**PP**	**01 17 38.8**	**+5.2**
KSH				S		**S**	**01 24 29.5**	**+2.3**
KSH				SKS		**SKSac**	**01 24 52.5**	**-2.7**
KSH				SS		**SS**	**01 29 24.5**	**+6.3**
KSH				pmax		pmax			
	comp=Z,38nm,1.2s								
KSH				pmax		pmax			
	comp=Z,130nm,4.2s								
KSH				LR		LR			
	comp=Z,130nm,11.3s								
KSH				LR		LR			
	comp=Z,370nm,14.8s								
KSH				LR		LR			
	comp=Z,310nm,16.6s								
BRTR	**Keskin Array B**	**75.96**	**16**	P		**P**	**01 14 44.8**	**+0.5**
	comp=Z,13nm,0.8s,baz=353,slow=3.9,SNR=55								
BRTR				LR		LR	01 51 40.0		
	comp=Z,272nm,18.2s,baz=333,slow=38								
MNGR	**Mingechevir, A**	**76.04**	**5**	P		**P**	**01 14 43.5**	**-1.0**
TARA	**Tarawa**	**76.16**	**244**	PFAKE			01 15 00.0	+15	
TARA				LR		LR			
	comp=Z,83nm,19.0s								
ATHU	**Athens Univers**	**76.16**	**24**	P		**P**	**01 14 42.6**	**-2.7**
ATHU	**Athens Univers**	**76.16**	**24**	P		**P**	**01 14 42.6**	**-2.7**
WDD	**Wied Dalam**	**76.25**	**32**	PFAKE			01 15 00.0	+14	
WDD				LR		LR			
	comp=Z,753nm,19.0s								
KULA	**Kula-Manisa**	**76.46**	**20**	P		**P**	**01 14 48.1**	**+1.1**
KULA	**Kula-Manisa**	**76.46**	**20**	P		**P**	**01 14 48.1**	**+1.1**
GNI	**Garni**	**76.55**	**7**	P		**P**	**01 14 48.4**	**+0.7**
	comp=Z,26nm,1.1s,baz=354,slow=15,SNR=12								
GNI				LR		LR	01 51 05.1		
	comp=Z,477nm,21.1s,baz=344,slow=38								
GNI	**Garni**	**76.55**	**7**	*e*P		**P**	**01 14 48.9**	**+1.3**
GNI				pmax		pmax			
	comp=Z,365nm,1.4s								
GNI	**Garni**	**76.55**	**7**	*e*P		**P**	**01 14 48.9**	**+1.3**
	comp=Z,365nm,1.4s								
GNI	**Garni**	**76.55**	**7**	P		**P**	**01 14 49.7**	**+2.1**
	SNR=6.1								
GNI	**Garni**	**76.55**	**7**	P		**P**	**01 14 49.7**	**+2.1**
	SNR=6.1								
GNI				P		**P**	**01 14 49.7**	**+2.1**
	SNR=6.1								
ENH	**Enshi**	**76.85**	**313**	PFAKE			01 15 00.0	+11	
ENH				LR		LR			
	comp=Z,534nm,22.0s								
GUMO	**Guam**	**77.54**	**275**	LR		LR	01 47 37.2		
	comp=Z,254nm,20.7s,baz=64,slow=35								
SANT	**Santorini**	**78.02**	**23**	PFAKE			01 15 10.0	+14	
SANT				LR		LR			
	comp=Z,391nm,21.0s								
CD2	**Chengdu**	**78.07**	**318**	⇑*i*P		**P**	**01 14 56.0**	**-0.1**
CD2				pP		pP	01 14 59.0	+1.4	
CD2				sP		sP	01 15 03.0	+4.8	
CD2				PcP		**PcP**	**01 15 07.3**	**+1.5**
CD2				S		**S**	**01 24 47.5**	**-3.0**
CD2				SS		**SS**	**01 29 50.3**	**-0.4**
CD2				pmax		pmax			
	comp=Z,20nm,1.0s								
CD2				pmax		pmax			
	comp=Z,270nm,4.6s								
CD2				LR		LR			
	comp=Z,900nm,13.3s								
CD2				LR		LR			
	comp=Z,550nm,16.1s								
CD2				LR		LR			
	comp=Z,920nm,18.0s								
FETY	**Fethiye**	**78.36**	**20**	P		**P**	**01 14 58.4**	**+0.7**
FETY	**Fethiye**	**78.36**	**20**	P		**P**	**01 14 58.4**	**+0.7**
ARG	**Arkhangelos**	**78.62**	**21**	P		**P**	**01 14 57.8**	**-1.2**
ARG	**Arkhangelos**	**78.62**	**21**	P		**P**	**01 14 57.8**	**-1.2**
ARG	**Arkhangelos**	**78.62**	**21**	P		**P**	**01 14 57.8**	**-1.2**
GEYT	**Alibeck**	**78.97**	**357**	P		**P**	**01 15 02.0**	**+1.0**
	comp=Z,9.4nm,1.1s,baz=328,slow=5.3,SNR=17								
GEYT				LR		LR	01 53 35.3		
	comp=Z,305nm,20.7s,baz=335,slow=38								
SIVA	**Sivas**	**79.22**	**24**	P		**P**	**01 15 02.5**	**+0.2**
SIVA	**Sivas**	**79.22**	**24**	P		**P**	**01 15 02.5**	**+0.2**
DRWC	**Darouich**	**79.38**	**14**	*e*P		**P**	**01 15 04.7**	**+1.4**
KBSD	**Kabsdagh**	**79.38**	**11**	*e*P		**P**	**01 15 04.9**	**+1.6**
SFNV	**Sufian**	**79.92**	**11**	*e*P		**P**	**01 15 08.2**	**+1.9**
BTCH	**Batrach**	**79.94**	**14**	*e*P		**P**	**01 15 07.0**	**+0.6**
ARNB	**Al Arnab**	**80.06**	**15**	*e*P		**P**	**01 15 07.9**	**+0.9**
CSS	**Mathiatis**	**80.62**	**17**	P		**P**	**01 15 09.3**	**-0.7**
CSS	**Mathiatis**	**80.62**	**17**	*e*P		**P**	**01 15 10.0**	**0.0**
	comp=Z,4.6nm,1.0s								
CSS				LR		LR			
	comp=Z,155nm,22.0s								
GYA	**Guiyang**	**81.30**	**314**	*e*P		**P**	**01 15 14.0**	**+0.2**
GYA				PP		**PP**	**01 18 20.3**	**+1.6**
GYA				S		**S**	**01 25 21.5**	**-3.5**
GYA				SKS		**SKSac**	**01 25 29.8**	**-4.0**
GYA				pmax		pmax			
	comp=Z,20nm,1.0s								
GYA				pmax		pmax			
	comp=Z,120nm,6.2s								
ROOS	**tl_alroos**	**81.87**	**14**	*e*P		**P**	**01 15 17.7**	**+0.9**
MARH	**Ras Al Marh**	**81.92**	**15**	*e*P		**P**	**01 15 18.8**	**+1.5**
BRBR	**Barbar**	**82.47**	**15**	*e*P		**P**	**01 15 21.4**	**+1.4**
TOTH	**TOTAH**	**82.58**	**15**	*e*P		**P**	**01 15 21.6**	**+1.2**
LSA	**Lhasa**	**82.64**	**328**	*e*P		**P**	**01 15 21.8**	**+0.5**
LSA				pmax		pmax			
	comp=Z,32nm,1.3s								
LSA				MLR		MLR			
	comp=Z,295nm,22.0s								
LSA	**Lhasa**	**82.64**	**328**	*e*P		**P**	**01 15 21.8**	**+0.5**
	comp=Z,32nm,1.3s								
LSA				LR		LR			
	comp=Z,295nm,22.0s								
PPT	**Papeete**	**82.75**	**203**	LR		LR	01 44 40.3		
	comp=Z,383nm,19.6s,baz=9.0,slow=30								
FUNA	**Funafuti**	**82.77**	**234**	PFAKE			01 15 30.0	+8.6	
FUNA				LR		LR			
	comp=Z,3μm,19.0s								
PPT2	**Papeete2**	**82.77**	**203**	*e*LR		LR	01 41 16.4		
	comp=Z,854nm,24.8s								
SALA	**Sala**	**83.25**	**15**	*e*P		**P**	**01 15 25.0**	**+0.9**
KMI	**Kunming**	**83.79**	**317**	P		**P**	**01 15 27.0**	**0.0**
KMI				pmax		pmax			
	comp=Z,10.0nm,0.8s								
KMI				pmax		pmax			
	comp=Z,200nm,3.9s								
NNA	**Nana**	**84.06**	**132**	*i* P		**P**	**01 15 29.3**	**+1.2**
AFI	**Afiamalu**	**84.71**	**224**	LR		LR	01 48 10.4		
	comp=Z,218nm,19.1s,baz=353,slow=32								
TAM	**Tamanrasset**	**86.11**	**44**	*e*P		**P**	**01 15 39.9**	**+1.4**
TAM				*e*			01 19 00.5		
TAM				pmax		pmax			
	comp=Z,20nm,1.4s								
TAM				MLR		MLR			
	comp=Z,653nm,20.0s								
TAM	**Tamanrasset**	**86.11**	**44**	*e*P		**P**	**01 15 39.9**	**+1.4**
	comp=Z,20nm,1.4s								
TAM				*e*PP		**PP**	**01 19 00.5**	**+2.4**
TAM				LR		LR			
	comp=Z,653nm,20.0s								
SAML	**Samuel**	**86.29**	**118**	*e*P		**P**	**01 15 38.8**	**-0.4**
	comp=Z,33nm,1.0s								
SAML				LR		LR			
	comp=Z,455nm,19.0s								
SHL	**Shillong**	**86.41**	**326**	*e*P		**P**	**01 15 39.0**	**-1.1**
RKT	**Rikitea**	**86.50**	**188**	*e*LQ		LQ	01 39 26.7		
	comp=Z,228nm,36.5s								
RKT				*e*LR		LR	01 43 17.0		
	comp=Z,714nm,29.5s,baz=2.5								
QIZ	**Qiongzhong**	**87.09**	**308**	P		**P**	**01 15 41.0**	**-2.3**
QIZ				S		**S**	**01 26 27.0**	**+4.1**
QIZ				LR		LR			
	comp=Z,160nm,20.8s								
PTCN	**Pitcairn Islan**	**88.22**	**184**	PFAKE			01 16 00.0	+12	
PTCN				LR		LR			
	comp=Z,910nm,22.0s								
RAR	**Rarotonga**	**88.37**	**211**	LR		LR	01 48 28.1		
	comp=Z,500nm,18.4s,baz=342,slow=31								
CHTO	**Chiang Mai**	**90.88**	**318**	PFAKE			01 16 10.0	+8.9	
CHTO				LR		LR			
	comp=Z,347nm,20.0s								
LPAZ	**La Paz**	**91.11**	**125**	P		**P**	**01 16 02.8**	**0.0**
	comp=Z,2.8nm,0.7s,baz=4.5,slow=2.0,SNR=17								
LPAZ				PP		**PP**	**01 19 36.2**	**-3.3**
	comp=Z,5.7nm,1.2s,baz=31,slow=6.7,SNR=3.5								
LPAZ				LR		LR	02 00 56.9		
	comp=Z,212nm,18.7s,baz=334,slow=38								
CMAR	**Chiang Mai Arr**	**91.21**	**318**	P		**P**	**01 16 02.5**	**-0.2**
	comp=Z,6.2nm,0.8s,baz=355,slow=5.5,SNR=26								
CMAR				LR		LR	02 02 09.7		
	comp=Z,265nm,19.6s,baz=28,slow=39								
CMAR	**Chiang Mai Arr**	**91.21**	**318**	*i* P		**P**	**01 16 02.9**	**+0.2**
CMAR				pmax		pmax			
	comp=Z,6.0nm,0.8s								
HNR	**Honiara**	**91.30**	**252**	PFAKE			01 16 10.0	+7.0	
HNR				LR		LR			
	comp=Z,685nm,21.0s								
MSVF	**Nonsavu**	**91.69**	**232**	PFAKE			01 16 20.0	+15	
MSVF				LR		LR			
	comp=Z,512nm,19.0s								
SIV	**San Ignacio**	**93.53**	**119**	LR		LR	02 00 59.4		
	comp=Z,309nm,18.1s,baz=1.0,slow=37								
TORD	**Torodi Ar. Bea**	**93.84**	**51**	P		**P**	**01 16 14.9**	**+0.1**
	comp=Z,4.9nm,0.9s,baz=337,slow=2.8,SNR=25								
TORD				PP		**PP**	**01 20 01.6**	**+2.0**
	comp=Z,1.3nm,1.1s,baz=356,slow=3.4,SNR=3.7								
TORD				LR		LR	01 55 46.1		
	comp=Z,977nm,20.0s,baz=325,slow=34								
RCBR	**Riachuelo**	**95.25**	**92**	PFAKE			01 16 30.0	+8.7	
RCBR				LR		LR			
	comp=Z,579nm,20.0s								
KKM	**Kota Kinabalu**	**96.59**	**298**	PFAKE			01 16 40.0	+12	
KKM				LR		LR			
	comp=Z,197nm,19.0s								
LVC	**Limon Verde**	**96.64**	**129**	LR		LR	02 05 06.6		
	comp=Z,572nm,18.8s,baz=338,slow=39								
PMG	**Port Moresby**	**96.88**	**263**	PFAKE			01 16 40.0	+11	
PMG				LR		LR			
	comp=Z,272nm,20.0s								
DBIC	**Dimbokro**	**97.41**	**59**	LR		LR	01 57 53.3		
	comp=Z,589nm,20.0s,baz=342,slow=34								
DZM	**Mont Dzumac**	**99.99**	**240**	*e*LR		LR	01 49 13.0		
	comp=Z,571nm,23.9s								
RAO	**Raoul Island**	**101.00**	**224**	PFAKE			01 17 00.0	+13	
RAO				LR		LR			
	comp=Z,3μm,21.0s								
KULM	**Kulim**	**103.04**	**312**	PFAKE			01 17 10.0	+14	
KULM				LR		LR			
	comp=Z,248nm,20.0s								
SPB	**Sao Paulo**	**105.90**	**111**	PFAKE			01 21 30.0		
SPB				LR		LR			
	comp=Z,462nm,19.0s								
ASCN	**Ascension**	**106.71**	**74**	PFAKE			01 21 30.0		
ASCN				LR		LR			
	comp=Z,655nm,20.0s								
CTAO	**Charters Tower**	**106.71**	**259**	PFAKE			01 21 30.0		
CTAO				LR		LR			
	comp=Z,521nm,21.0s								
WRAB	**Tennant Creek**	**111.90**	**269**	PFAKE			01 21 40.0		
WRAB				LR		LR			
	comp=Z,622nm,20.0s								
WRA	**Warramunga Arr**	**111.91**	**269**	PKiKP		**PKiKP**	**01 21 31.3**	**-1.1**
	comp=Z,0.4nm,0.8s,baz=14,slow=2.1,SNR=6.1								
WRA				PP		**PP**	**01 22 12.3**	**-3.4**
	comp=Z,1.7nm,1.0s,baz=32,slow=7.5,SNR=6.5								
SNZO	**South Karori**	**114.42**	**225**	PFAKE			01 21 50.0	+14	
SNZO				LR		LR			
	comp=Z,360nm,21.0s								
ASAR	**Alice Springs**	**115.35**	**268**	PKP		**PKPdf**	**01 21 36.3**	**-2.6**
	comp=Z,5.1nm,0.3s,baz=26,slow=2.4,SNR=4.8								
ASAR				PP		**PP**	**01 22 36.1**	**-4.0**
	comp=Z,0.5nm,0.7s,baz=44,slow=7.4,SNR=5.1								
ASAR				PKKPab		**PKKPab**	**01 32 18.1**	**+0.7**
	comp=Z,0.7nm,1.1s,baz=197,slow=5.7,SNR=5.1								
KMBO	**Kilima Mbogo**	**116.67**	**19**	PFAKE			01 21 50.0	+8.0	
KMBO				LR		LR			
	comp=Z,468nm,20.0s								
STKA	**Stephens Creek**	**119.00**	**256**	PKKPab		PKKPab	01 32 01.4	+0.7	
	comp=Z,1.9nm,0.9s,baz=195,slow=10,SNR=3.6								
MBWA	**Marble Bar**	**119.51**	**282**	PFAKE			01 22 00.0	+13	
MBWA				LR		LR			
	comp=Z,350nm,19.0s								
LSZ	**Lusaka**	**128.71**	**32**	PFAKE			01 22 20.0	+15	
LSZ				LR		LR			
	comp=Z,659nm,22.0s								
NWAO	**Narrogin (SRO)**	**130.78**	**277**	PFAKE			01 22 20.0	+12	
NWAO				LR		LR			
	comp=Z,449nm,21.0s								
BOSA	**Boshof**	**140.61**	**42**	PKhKP		PKPpre	01 22 20.3		
	comp=Z,3.6nm,0.8s,baz=257,slow=0.4,SNR=4.6								
SBA	**Scott Base**	**146.67**	**201**	*e*PKP2		**PKPab**	**01 22 38.2**	**-0.3**
SBA				MLR		MLR			
	comp=Z,469nm,19.0s								
SBA	**Scott Base**	**146.67**	**201**	*e*PKPbc		**PKPab**	**01 22 38.2**	**-0.3**
SBA				LR		LR			
	comp=Z,469nm,19.0s								
VNDA	**Vanda**	**147.28**	**203**	PKPbc		**PKPab**	**01 22 40.4**	**-0.6**
	comp=Z,6.9nm,0.9s,baz=31,slow=5.9,SNR=42								
QSPA	**South Pole Qui**	**153.23**	**180**	*e*PKPdf		**PKPdf**	**01 22 44.8**	**-1.5**
QSPA				*e*PKPbc		**PKPbc**	**01 22 52.5**	**-1.3**
QSPA				LR		LR			
	comp=Z,522nm,20.0s								
VNA3	**Neumayer Olymp**	**155.46**	**136**	PKP		**PKPab**	**01 23 14.6**	**-0.5**
VNA1	**Neumayer--Stat**	**155.76**	**134**	PKP		**PKPab**	**01 23 17.1**	**+0.7**
VNA2	**Neumayer--Watz**	**156.11**	**135**	PKP		**PKPab**	**01 23 17.3**	**-0.6**
	baz=300,slow=4.6								
SNAA	**Sanae**	**157.68**	**136**	PKP		**PKPab**	**01 23 24.6**	**-0.2**
SYO	**Syowa Base**	**171.93**	**141**	⇑*eX*		**PKPab**	**01 24 25.4**	**-2.0**

SKO ***26*** *01:09:29.8,39.91N×21.75E,h11km*
ATH ***26*** *01:09:31.8,40.16N×21.85E,h12km±4km,ML1.4/3, Error ellipse: s-maj=4.6km s-min=1.1km az=349.0*
CSEM ***26*** *01:09:31.9±0.2,40.15N×21.87E,h2km,ML1.4, Error ellipse: s-maj=4.9km s-min=3.1km az=56.0*

THE 26 01:09:32.0,40.15N×21.86E,h0km±2km,ML1.5/6,2D, Error ellipse: s-maj=2.0km s-min=0.5km az=112.0, Greece

Code	Station Name	Δ°	AZ°	Phase ID		Time			Res
				Op	ISC	h	m	s	ISC
KZN	**Kozani**	**0.18**	**337**	P	Pg	01 09	35.4	0.0	
KZN				S	Sg	01 09	38.0	+0.3	
KZN	**Kozani**	**0.18**	**337**	P	Pg	01 09	35.3	-0.1	
KZN				S	Sg	01 09	38.0	+0.3	
KZN	**Kozani**	**0.18**	**337**	P	Pg	01 09	35.3	-0.1	
KZN				S	Sg	01 09	37.9	+0.2	
KZN				AML	AML	01 09	38.3		
	comp=N,454μm,0.2s								
KZN				AML	AML	01 09	39.9		
	comp=E,676μm,0.4s								
KPRO	**Kipourio**	**0.43**	**244**	P	Pg	01 09	40.3	+0.1	
KPRO				S	Sg	01 09	47.1	+1.4	
KPRO	**Kipourio**	**0.43**	**244**	P	Pg	01 09	40.2	0.0	
KPRO				S	Sg	01 09	46.9	+1.2	
KPRO				AML	AML	01 09	47.9		
	comp=N,102μm,0.4s								
KPRO				AML	AML	01 09	50.6		
	comp=E,82μm,0.3s								
LIT	**Litokhoron**	**0.48**	**95**	P	Pg	01 09	41.2	-0.1	
LIT				S	Sg	01 09	48.8	+1.2	
LIT	**Litokhoron**	**0.48**	**95**	P	Pg	01 09	40.9	-0.4	
LIT				S	Sg	01 09	49.2	+1.6	
LIT	**Litokhoron**	**0.48**	**95**	P	Pg	01 09	40.9	-0.4	
LIT				S	Sg	01 09	49.2	+1.7	
LIT				AML	AML	01 09	52.2		
	comp=N,159μm,0.3s								
LIT				AML	AML	01 09	52.9		
	comp=E,152μm,0.2s								
PENT	**Pentalofos**	**0.56**	**276**	P	Pg	01 09	42.4	-0.3	
PENT				S	Sg	01 09	50.7	+0.8	
PENT	**Pentalofos**	**0.56**	**276**	P	Pg	01 09	42.6	-0.1	
PENT				S	Sg	01 09	50.7	+0.8	
PENT	**Pentalofos**	**0.56**	**276**	P	Pg	01 09	42.5	-0.1	
THL	**Klokotos Trika**	**0.59**	**168**	P	Pg	01 09	43.1	-0.2	
THL				S	Sg	01 09	52.2	+1.2	
THL	**Klokotos Trika**	**0.59**	**168**	P	Pg	01 09	43.1	-0.2	
THL				S	Sg	01 09	52.2	+1.2	
THL	**Klokotos Trika**	**0.59**	**168**	P	Pg	01 09	42.9	-0.5	
FNA	**Florina**	**0.74**	**330**	P	Pg	01 09	45.4	-0.8	
FNA				S	Sb	01 09	57.1	-1.4	
FNA	**Florina**	**0.74**	**330**	P	Pg	01 09	45.7	-0.5	
FNA				S	Sb	01 09	57.1	-1.4	
FNA	**Florina**	**0.74**	**330**	P	Pg	01 09	45.7	-0.4	
GRG	**Griva**	**0.91**	**27**	P	Pg	01 09	48.7	-0.8	
GRG	**Griva**	**0.91**	**27**	P	Pg	01 09	48.7	-0.7	
BIA

BALY				S		Sg	01 12 39.1	-0.1
KRBG	**Karabiga-Canak**	**0.36**	**337**	*e*PG		**Pg**	**01 12 34.4**	**-0.9**
KRBG				*e*SG		**Sg**	**01 12 40.1**	**0.0**
KRBG	**Karabiga-Canak**	**0.36**	**337**	*e*Pg		**Pg**	**01 12 34.4**	**-0.9**
KRBG				*e*Sg		**Sg**	**01 12 40.1**	**0.0**
EDC	**Edincik**	**0.41**	**45**	*e*PG		**Pg**	**01 12 35.8**	**-0.3**
EDC				*e*SG		**Sg**	**01 12 42.3**	**+0.7**
EDC	**Edincik**	**0.41**	**45**	*e*Pg		**Pg**	**01 12 35.8**	**-0.3**
EDC				*e*Sg		**Sg**	**01 12 42.3**	**+0.7**
BALB	**Balikesir**	**0.52**	**144**	*e*PG		**Pg**	**01 12 37.5**	**-0.6**
BALB	**Balikesir**	**0.52**	**144**	*e*Pg		**Pg**	**01 12 37.5**	**-0.6**
MRMT	**Marmara Adasi**	**0.55**	**9**	*e*PG		**Pg**	**01 12 38.0**	**-0.7**
MRMT	**Marmara Adasi**	**0.55**	**9**	*e*Pg		**Pg**	**01 12 38.1**	**-0.7**
LPK	**Lapseki**	**0.64**	**300**	*e*PG		**Pg**	**01 12 39.9**	**-0.5**
LPK	**Lapseki**	**0.64**	**300**	*e*Pg		**Pg**	**01 12 39.9**	**-0.5**
KCTX	**Karacabey (Bur**	**0.70**	**72**	*e*PG		**Pg**	**01 12 41.0**	**-0.6**
KCTX	**Karacabey (Bur**	**0.70**	**72**	*e*Pg		**Pg**	**01 12 41.0**	**-0.6**
GELI	**Tayfur-Gelibol**	**0.84**	**294**	*e*PG		**Pg**	**01 12 43.8**	**-0.5**
GELI	**Tayfur-Gelibol**	**0.84**	**294**	*e*Pg		**Pg**	**01 12 43.8**	**-0.5**
EZN	**Ezine**	**0.92**	**256**	*e*PG		**Pg**	**01 12 45.3**	**-0.4**
EZN	**Ezine**	**0.92**	**256**	*e*Pg		**Pg**	**01 12 45.3**	**-0.4**
ERIK	**Erikli-Kesan**	**0.96**	**310**	*e*PG		**Pg**	**01 12 45.8**	**-0.7**
ERIK	**Erikli-Kesan**	**0.96**	**310**	*e*Pg		**Pg**	**01 12 45.8**	**-0.7**
KESN	**Edirne-Kesan**	**0.98**	**322**	*i* P		**Pb**	**01 12 47.8**	**+0.6**
KESN	**Edirne-Kesan**	**0.98**	**322**	P		**Pb**	**01 12 47.8**	**+0.6**
DKL	**Dikili**	**1.08**	**205**	*e*PN		**Pg**	**01 12 48.4**	**-0.4**
DKL	**Dikili**	**1.08**	**205**	*e*Pn		**Pg**	**01 12 48.4**	**-0.4**
BOZC	**Bozcaada**	**1.12**	**259**	*e*PN		**Pg**	**01 12 48.9**	**-0.7**
BOZC	**Bozcaada**	**1.12**	**259**	*i* P		**Pg**	**01 12 49.1**	**-0.4**
BOZC	**Bozcaada**	**1.12**	**259**	*e*Pn		**Pg**	**01 12 48.9**	**-0.7**
ARMT	**Armutlu**	**1.17**	**64**	*e*PN		**Pb**	**01 12 50.3**	**+0.1**
ARMT	**Armutlu**	**1.17**	**64**	*e*Pn		**Pb**	**01 12 50.3**	**+0.1**
ENEZ	**Enez**	**1.22**	**304**	*e*PN		**Pn**	**01 12 51.0**	**+0.1**
ENEZ	**Enez**	**1.22**	**304**	*e*Pn		**Pn**	**01 12 51.0**	**+0.1**
GADA	**Gvkgeada**	**1.22**	**277**	*e*PN		**Pn**	**01 12 51.1**	**+0.1**
GADA	**Gvkgeada**	**1.22**	**277**	*e*Pn		**Pn**	**01 12 51.1**	**+0.1**
IGD	**Bursa**	**1.33**	**81**	*i* P		**Pn**	**01 12 52.5**	**0.0**
IGD				*i* S		**Sn**	**01 13 10.8**	**+0.6**
DEMI	**Demirci**	**1.39**	**136**	*i* P		**Pb**	**01 12 53.9**	**-0.2**
DEMI				*i* S		**Sn**	**01 13 11.8**	**0.0**
DEMI	**Demirci**	**1.39**	**136**	P		**Pb**	**01 12 53.8**	**-0.2**
DEMI				S		**Sn**	**01 13 11.8**	**0.0**
CTKS	**Kestanelik-??a**	**1.41**	**33**	*e*PN		**Pn**	**01 12 52.7**	**-0.8**
CTKS	**Kestanelik-??a**	**1.41**	**33**	*e*Pn		**Pn**	**01 12 52.7**	**-0.8**
SIMA	**Simav-Kutahya**	**1.51**	**130**	*e*PN		**Pb**	**01 12 55.7**	**-0.4**
SIGR	**SIGRI**	**1.52**	**237**	*e*PN		**Pn**	**01 12 55.5**	**+0.5**
SIGR	**SIGRI**	**1.52**	**237**	*e*Pn		**Pn**	**01 12 55.5**	**+0.5**
KAVV	**Kandilli-Istan**	**1.56**	**50**	*e*PN		**Pn**	**01 12 56.0**	**+0.4**
ISK	**Istanbul-Kandi**	**1.57**	**49**	*e*PN		**Pn**	**01 12 55.7**	**0.0**
ISK	**Istanbul-Kandi**	**1.57**	**49**	*e*Pn		**Pn**	**01 12 55.7**	**0.0**
TVSB	**Tavsanli**	**1.64**	**111**	*e*PN		**Pn**	**01 12 57.2**	**+0.4**
TVSB	**Tavsanli**	**1.64**	**111**	*e*Pn		**Pn**	**01 12 57.2**	**+0.4**
KULA	**Kula-Manisa**	**1.79**	**149**	*e*PN		**Pn**	**01 12 59.1**	**+0.3**
KULA	**Kula-Manisa**	**1.79**	**149**	*e*Pn		**Pn**	**01 12 59.2**	**+0.3**

*DDA **26** 01:13:26.8, 39°.65N×38°.75E, h7km, Md2.5*
*ISCJB **26** 01:13:27.1±0.7, 39°.68N±0°.03×38°.68E±0°.05, h3km±8km, Error ellipse: s-maj=6.4km s-min=5.1km az=23.7*
*CSEM **26** 01:13:27.2±0.3, 39°.67N×38°.69E, h5km, MD2.5, Error ellipse: s-maj=6.0km s-min=5.5km az=88.0*
*ISK **26** 01:13:28.6, 39°.65N×38°.76E, h20km, MD2.6*
ISC 26 01:13:27.3±1.0, 39°.66N±0°.03×38°.75E±0°.03, h10km±8km, n23, σ0s39/34, Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
REFA	**Refahiye_ERZ¯**	**0.26**	**178**	*i* P	**Pg**	**01 13 32.4**	**-0.3**
REFA				*i* S	**Sg**	**01 13 36.5**	**+0.3**
REFA	**Refahiye_ERZ¯**	**0.26**	**178**	P	**Pg**	**01 13 32.3**	**-0.3**
REFA				S	**Sg**	**01 13 36.5**	**+0.3**
KEMA	**Kemaliye**	**0.43**	**207**	*i* P	**Pg**	**01 13 35.4**	**-0.5**
KEMA				*i* S	**Sg**	**01 13 41.8**	**+0.2**
KEMA	**Kemaliye**	**0.43**	**207**	P	**Pg**	**01 13 35.4**	**-0.5**
KEMA				S	**Sg**	**01 13 41.8**	**+0.2**
KELT	**Kelkit**	**0.63**	**38**	*i* P	**Pg**	**01 13 39.3**	**-0.3**
KELT				*i* S	**Sg**	**01 13 48.2**	**+0.4**
KELT	**Kelkit**	**0.63**	**38**	P	**Pg**	**01 13 39.3**	**-0.3**
KELT				S	**Sg**	**01 13 48.2**	**+0.4**
EUZM	**Uzumlu**	**0.73**	**86**	*i* P	**Pb**	**01 13 42.6**	**+0.3**
EUZM	**Uzumlu**	**0.73**	**86**	P	**Pb**	**01 13 42.6**	**+0.3**
ERZN	**Erzincan**	**0.75**	**95**	*e*PG	**Pn**	**01 13 44.0**	**-0.2**
ERZN				*e*SG	**Sn**	**01 13 54.7**	**-1.0**
CUZAR	**Zara_SIVAS**	**0.79**	**287**	*i* P	**Pg**	**01 13 42.0**	**-0.6**
CUZAR	**Zara_SIVAS**	**0.79**	**287**	P	**Pg**	**01 13 42.0**	**-0.6**
TNCL	**Tunceli-Merkez**	**0.82**	**131**	*i* P	**Pn**	**01 13 45.1**	**+0.1**
TNCL	**Tunceli-Merkez**	**0.82**	**131**	P	**Pn**	**01 13 45.1**	**+0.1**
PTK	**Pertek**	**0.91**	**147**	*e*PG	**Pn**	**01 13 46.5**	**+0.1**
PTK				*e*SG	**Sn**	**01 13 59.8**	**+0.1**
PTK	**Pertek**	**0.91**	**147**	*e*Pg	**Pn**	**01 13 46.5**	**+0.1**
PTK				*e*Sg	**Sn**	**01 13 59.8**	**+0.1**
ELZG	**Elazig**	**1.17**	**171**	*i* P	**Pg**	**01 13 49.2**	**-0.6**
ELZG				*i* S	**Sn**	**01 14 06.2**	**+0.1**
ELZG	**Elazig**	**1.17**	**171**	P	**Pg**	**01 13 49.2**	**-0.6**
ELZG				S	**Sn**	**01 14 06.2**	**+0.1**
SVRC	**Sivrice-ELAZID**	**1.35**	**161**	*e*PN	**Pn**	**01 13 52.3**	**-0.1**
SVRC	**Sivrice-ELAZID**	**1.35**	**161**	*e*Pn	**Pn**	**01 13 52.3**	**-0.1**
SVSK	**Karacayir**	**1.38**	**282**	*e*PN	**Pb**	**01 13 53.3**	**+0.2**
SVSK	**Karacayir**	**1.38**	**282**	*e*Pn	**Pb**	**01 13 53.3**	**+0.2**
DARE	**Darende-Malaty**	**1.46**	**223**	*e*PN	**Pn**	**01 13 54.3**	**+0.4**
DARE	**Darende-Malaty**	**1.46**	**223**	*e*Pn	**Pn**	**01 13 54.3**	**+0.4**

*SOME **26** 01:37:05.3, 43°.37N×81°.92E, h0km*
*NNC **26** 01:37:07.8±3.7, 43°.59N×81°.92E, h4km±19km, mb2.6, mpv2.3, Error ellipse: s-maj=37.9km s-min=9.1km az=131.0*
ISC 26 01:37:06.6±3.7, 43°.4N±0°.1×81°.9E±0°.1, h12km±20km, n7, σ1s11/15, 5C-2D, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PDGK	**Podgornoye**	**1.79**	**268**	⇑Pn	**Pb**	**01 37 39.3**	**-0.1**
	2.3nm,0.3s						
PDGK				⇑Sn	**Sg**	**01 38 04.3**	**+0.2**
	24nm,0.6s						
UZB	**Uzymbulak**	**2.15**	**264**	*e*P	**Pb**	**01 37 45.2**	**-0.4**
	0.9nm,0.1s						
UZB				*e*S	**Sb**	**01 38 13.6**	**+1.4**
	11nm,0.4s						
KPKS	**Kokpek**	**2.37**	**272**	*e*P	**Pb**	**01 37 50.4**	**+1.1**
	4.8nm,0.1s						
KPKS				*e*S	**Sg**	**01 38 22.5**	**-0.2**
	18nm,0.3s						
SATY	**Saty**	**2.60**	**263**	*e*P	**Pb**	**01 37 54.4**	**+1.0**
	2.9nm,0.1s						
SATY				*e*S	**Sg**	**01 38 30.0**	**-0.3**
	14nm,0.2s						
KAPS	**Kapalarasan**	**2.62**	**316**	*e*P	**Pb**	**01 37 54.4**	**+0.8**
	0.8nm,0.1s						
KAPS				*e*S	**Sg**	**01 38 29.7**	**-1.1**
	4.8nm,0.3s						
MK31	**Makanchi Array**	**3.38**	**4**	⇓Pn	**Pn**	**01 37 57.4**	**-1.8**
	0.1nm,0.3s,baz=184,slow=11,SNR=9.1						
MK31				Pg	**Pb**	**01 38 08.1**	**+1.6**
	0.4nm,0.5s,baz=181,slow=14,SNR=8.6						
MK31				Sn	**Sn**	**01 38 39.8**	**+0.5**
	0.5nm,0.3s,baz=190,slow=27,SNR=5.7						
MK31				⇓Lg	Lg	01 38 49.5	
	1.8nm,0.5s,baz=181,slow=25,SNR=4.5						
MAKZ	**Makanchi**	**3.38**	**0**	⇑Pn	**Pn**	**01 37 58.7**	**-0.6**
	0.9nm,0.7s						
MAKZ				⇑Sn	**Sn**	**01 38 38.7**	**-0.7**
	1.1nm,0.3s						
MAKZ				⇑Lg	Lg	01 38 52.7	
	2.4nm,0.5s						

*IDC **26** 01:53:31.7±1.1, 21°.47S×66°.56W, h215km±11km, mb3.3/5, mb1 3.5/8, mb1mx3.3/27, mbtmp3.9/8, Error ellipse: s-maj=23.8km s-min=15.5km az=140.0*
*ISCJB **26** 01:53:32.2±0.4, 21°.41S±0°.04×66°.75W±0°.04, h228km±5km, mb3.5/5, Error ellipse: s-maj=8.1km s-min=5.6km az=38.4*
*GUC **26** 01:53:34.5±0.5, 21°.46S×67°.23W, h249km±9km, ML3.9*
*SJA **26** 01:53:37.1±0.9, 21°.80S×66°.76W, h190km±14km, ML3.1, MW3.8*
ISC 26 01:53:32.1±0.8, 21°.38S±0°.06×66°.60W±0°.05, h216km±7km, n28, σ2s02/42, mb3.9/5, 5C-1D, Southern Bolivia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
YJA	**Yavi**	**1.28**	**128**	*e*P	**Pn**	**01 54 08.6**	**+2.6**
YJA				*e*S	**S**	**01 54 32.8**	**+0.5**
HJA	**Humahuaca**	**2.13**	**149**	*e*P	**Pn**	**01 54 15.7**	**+2.2**
HJA				IAML		01 54 16.1	
	comp=Z,200nm,0.3s						
HJA				*e*S	**S**	**01 54 42.8**	**-2.8**
LVC	**Limon Verde**	**2.46**	**240**	P	**Pn**	**01 54 17.8**	**+0.8**
	comp=Z,115nm,0.3s,baz=69,slow=4.6,SNR=66						
LVC				S	**S**	**01 54 51.2**	**-0.6**
	comp=Z,933nm,0.3s,baz=236,slow=21,SNR=62						
PB09	**IPOC Station P**	**2.49**	**260**	*e*P	**Pn**	**01 54 18.0**	**+0.9**
PB09				*i* S	**S**	**01 54 51.0**	**-0.9**
PB09				IAML		01 54 55.8	
	comp=E,376nm,0.6s						
PB08	**IPOC Station P**	**2.69**	**297**	⇑*i* P	**Pn**	**01 54 21.2**	**+1.8**
PB08				*i* S	**S**	**01 54 57.4**	**+1.2**
PB01	**IPOC Station P**	**2.71**	**277**	⇑*i* P	**Pn**	**01 54 20.0**	**+0.6**
PB01				*i* S	**S**	**01 54 55.7**	**-0.5**
PB01				IAML		01 54 57.8	
	comp=E,166nm,0.1s						
PB06	**IPOC Station P**	**3.05**	**244**	*i* S	**S**	**01 55 01.1**	**-2.2**
PB06				IAML		01 55 06.5	
	comp=E,164nm,0.4s						
PB02	**IPOC Station P**	**3.07**	**271**	*i* P	**Pn**	**01 54 23.8**	**+0.3**
PB02				*i* S	**S**	**01 55 01.2**	**-2.3**
PB07	**IPOC Station P**	**3.08**	**263**	⇑*i* P	**Pn**	**01 54 23.9**	**+0.3**
PB07				*i* S	**S**	**01 55 01.4**	**-2.2**
PB07				IAML		01 55 02.0	
	comp=N,344nm,0.8s						
ASTB	**Santa Barbara**	**3.24**	**143**	*e*P	**Pn**	**01 54 27.1**	**+1.6**
ASTB				*e*S	**S**	**01 55 04.8**	**-2.3**
HMBC	**Humberstone**	**3.26**	**289**	⇑*i* P	**Pn**	**01 54 25.8**	**0.0**
HMBC				*i* S	**S**	**01 55 05.5**	**-2.1**
PB11	**IPOC Station P**	**3.28**	**299**	⇑*i* P	**Pn**	**01 54 26.7**	**+0.7**
PB11				*i* S	**S**	**01 55 07.5**	**-0.5**
PB04	**IPOC Station P**	**3.43**	**253**	⇓*i* P	**Pn**	**01 54 27.8**	**0.0**
PB04				*i* S	**S**	**01 55 08.3**	**-3.1**
PB04				IAML		01 55 10.4	
	comp=N,202nm,0.3s						
PSGC	**Pisagua**	**3.75**	**298**	*e*P	**Pn**	**01 54 31.0**	**-0.5**
PSGC				*i* S	**S**	**01 55 15.8**	**-2.2**
FSA	**Cafayete**	**4.74**	**173**	*e*P	**Pn**	**01 54 44.4**	**+0.6**
FSA				IAML		01 54 46.6	
	comp=Z,14nm,0.6s						
LPAZ	**La Paz**	**5.27**	**344**	P	**Pn**	**01 54 53.5**	**+2.5**
	comp=Z,3.4nm,0.3s,baz=150,slow=7.6,SNR=112						
LPAZ				S	**S**	**01 55 51.7**	**-1.4**
	baz=82,slow=9.0,SNR=1.0						
AHML	**Horco Molle**	**5.50**	**168**	*e*P	**Pn**	**01 54 53.9**	**+0.6**
AHML				IAML		01 55 01.8	
	comp=Z,5.5nm,0.5s						
SIV	**San Ignacio**	**7.50**	**45**	P	**Pn**	**01 55 19.8**	**+0.9**
	comp=Z,6.3nm,0.3s,baz=271,slow=9.2,SNR=60						
SIV				S	**S**	**01 56 36.8**	**-7.4**
	comp=Z,0.2nm,0.3s,baz=236,slow=15,SNR=3.2						
AGUA	**GUANDACOL**	**8.25**	**192**	*e*P	**Pn**	**01 55 28.1**	**-0.5**
CPUP	**Villa Florida**	**9.81**	**122**	P	**Pn**	**01 55 52.8**	**+4.1**
	comp=Z,0.2nm,0.3s,baz=316,slow=12,SNR=3.4						
PTGA	**Pitinga**	**21.52**	**18**	P	**P**	**01 58 03.1**	**-1.4**
	comp=Z,1.4nm,0.2s,baz=244,slow=23,SNR=5.3						
TXAR	**Lajitas Array**	**61.79**	**323**	P	**P**	**02 03 28.8**	**+0.5**
	comp=Z,0.2nm,0.6s,baz=144,slow=11,SNR=3.2						
PDAR	**Pinedale Array**	**75.10**	**329**	P	**P**	**02 04 51.3**	**+0.8**
	comp=Z,0.2nm,0.5s,baz=119,slow=7.3,SNR=3.0						
TORD	**Torodi Ar. Bea**	**75.30**	**69**	P	**P**	**02 04 51.7**	**-0.3**
	comp=Z,0.8nm,0.3s,baz=257,slow=5.7,SNR=30						
ULM	**Lac du Bonnet**	**75.88**	**341**	P	**P**	**02 04 54.4**	**0.0**
	comp=Z,1.5nm,0.7s,baz=153,slow=4.5,SNR=3.0						
ASAR	**Alice Springs**	**130.97**	**205**	PKP	**PKPdf**	**02 12 18.5**	**-0.2**
	comp=Z,0.2nm,0.5s,baz=132,slow=1.4,SNR=3.7						
WRA	**Warramunga Arr**	**134.11**	**208**	PKP	**PKPdf**	**02 12 24.8**	**+0.1**
	comp=Z,0.3nm,0.4s,baz=154,slow=1.8,SNR=8.2						
MKAR	**Makanchi Array**	**144.25**	**37**	PKP	PKPbc	02 12 42.0	+0.9
	comp=Z,1.3nm,0.6s,baz=309,slow=3.2,SNR=9.2						

IDC 26 01:56:59.4±1.1, 31°.22N×139°.82E, h0km, mb3.8/4, mb1 4.1/4, mb1mx3.6/25, mbtmp3.8/4, Error ellipse: s-maj=51.2km s-min=25.6km az=93.0, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MKAR	**Makanchi Array**	**46.31**	**307**	P	P	02 05 26.9	0.0
	0.6nm,0.6s,baz=88,slow=8.6,SNR=4.0						
WRA	**Warramunga Arr**	**51.14**	**187**	P	P	02 06 04.1	-0.1
	0.5nm,0.4s,baz=4.7,slow=7.6,SNR=15						
ASAR	**Alice Springs**	**54.87**	**187**	P	P	02 06 31.6	-0.1
	0.2nm,0.4s,baz=6.8,slow=6.0,SNR=4.0						
YKA	**Yellowknife Ar**	**69.51**	**29**	P	P	02 08 09.5	0.0
	4.3nm,0.8s,baz=303,slow=5.6,SNR=3.2						

*ISK **26** 02:43:44.9, 39°.61N×38°.68E, h5km, ML3.4*
*DDA **26** 02:43:45.7, 39°.62N×38°.71E, h7km, Ml3.5*
*CSEM **26** 02:43:46.3±0.1, 39°.63N×38°.69E, h2km, ML3.5, Error ellipse: s-maj=3.6km s-min=2.8km az=18.0*
*NSSC **26** 02:43:53.7±1.6, 38°.98N×38°.52E, h0km±23km, ML2.3*
ISC 26 02:43:46.8±0.9, 39°.58N±0°.02×38°.68E±0°.02, h24km±7km, n82, σ2s26/107, Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
REFA	**Refahiye_ERZ¯**	**0.20**	**159**	*i* P	**Pb**	**02 43 51.7**	**-0.7**
REFA				*i* S	**Sb**	**02 43 56.6**	**+0.3**
REFA	**Refahiye_ERZ¯**	**0.20**	**159**	P	**Pb**	**02 43 51.7**	**-0.7**
REFA				S	**Sb**	**02 43 56.6**	**+0.3**
KEMA	**Kemaliye**	**0.34**	**205**	*i* P	**Pb**	**02 43 53.4**	**-1.0**
KEMA				*i* S	**Sb**	**02 43 59.9**	**+0.3**
KEMA	**Kemaliye**	**0.34**	**205**	P	**Pb**	**02 43 53.4**	**-1.0**
KEMA				S	**Sb**	**02 43 59.9**	**+0.3**
KELT	**Kelkit**	**0.72**	**38**	*i* P	**Pb**	**02 43 58.8**	**-2.1**
KELT				*i* S	**Sb**	**02 44 08.7**	**-1.8**
KELT	**Kelkit**	**0.72**	**38**	P	**Pb**	**02 43 58.8**	**-2.1**
KELT				S	**Sb**	**02 44 08.7**	**-1.8**
CUZAR	**Zara_SIVAS**	**0.76**	**294**	*i* P	**Pb**	**02 44 00.4**	**-1.1**
CUZAR				*i* S	**Sb**	**02 44 11.5**	**-0.1**
CUZAR	**Zara_SIVAS**	**0.76**	**294**	P	**Pb**	**02 44 00.4**	**-1.1**
CUZAR				S	**Sb**	**02 44 11.5**	**-0.1**
EUZM	**Uzumlu**	**0.80**	**80**	*i* P	**Pb**	**02 44 01.0**	**-1.1**
EUZM				*i* S	**Sn**	**02 44 14.9**	**+1.0**
EUZM	**Uzumlu**	**0.80**	**80**	P	**Pb**	**02 44 01.0**	**-1.1**
ERZN	**Erzincan**	**0.81**	**89**	*e*PG	**Pb**	**02 44 01.3**	**-0.9**
ERZN				*e*SG	**Sn**	**02 44 13.9**	**-0.4**
TNCL	**Tunceli-Merkez**	**0.82**	**124**	*i* P	**Pb**	**02 44 01.7**	**-0.7**
TNCL				*i* S	**Sb**	**02 44 13.3**	**+0.3**
TNCL	**Tunceli-Merkez**	**0.82**	**124**	P	**Pb**	**02 44 01.7**	**-0.7**
TNCL				S	**Sb**	**02 44 13.3**	**+0.3**
PTK	**Pertek**	**0.88**	**141**	*e*PG	**Pb**	**02 44 03.2**	**-0.4**
PTK				*e*SG	**Sn**	**02 44 16.9**	**+0.8**
PTK	**Pertek**	**0.88**	**141**	*e*Pg	**Pb**	**02 44 03.2**	**-0.4**
PTK				*e*Sg	**Sn**	**02 44 16.9**	**+0.8**
CUKAN	**kangal_SIVAS**	**0.97**	**255**	*i* P	**Pb**	**02 44 03.6**	**-1.5**
CUKAN				*i* S	**Sn**	**02 44 19.8**	**+1.5**
SCER	**sogukcermik**	**1.23**	**284**	*i* P	**Pn**	**02 44 08.9**	**+0.3**
SCER				*i* S	**Sb**	**02 44 26.9**	**+2.1**
SCER	**sogukcermik**	**1.23**	**284**	P	**Pn**	**02 44 08.9**	**+0.3**
SCER				S	**Sb**	**02 44 26.9**	**+2.1**
SVRC	**Sivrice-ELAZID**	**1.30**	**158**	*e*PN	**Pb**	**02 44 11.2**	**+0.6**
SVRC	**Sivrice-ELAZID**	**1.30**	**158**	*e*Pn	**Pb**	**02 44 11.2**	**+0.6**
RSDY	**Resadiye-TOKAT**	**1.32**	**309**	*e*PN	**Pb**	**02 44 10.6**	**-0.3**
RSDY	**Resadiye-TOKAT**	**1.32**	**309**	*e*Pn	**Pb**	**02 44 10.6**	**-0.3**
SVSK	**Karacayir**	**1.34**	**285**	*e*PN	**Pb**	**02 44 11.1**	**0.0**
SVSK	**Karacayir**	**1.34**	**285**	*e*Pn	**Pb**	**02 44 11.1**	**0.0**
DARE	**Darende-Malaty**	**1.37**	**223**	*e*PN	**Pb**	**02 44 12.8**	**+1.0**
DARE	**Darende-Malaty**	**1.37**	**223**	*e*Pn	**Pb**	**02 44 12.8**	**+1.0**
YEDI	**Yedisu-Bingol**	**1.45**	**95**	*e*PN	**Pb**	**02 44 13.8**	**+0.6**
BINT	**Bingol**	**1.57**	**116**	*e*Pn	**Pb**	**02 44 16.4**	**+1.1**
KTUT	**Trabzon**	**1.64**	**30**	*e*PN	**Pn**	**02 44 15.4**	**+1.3**
KTUT	**Trabzon**	**1.64**	**30**	*e*Pn	**Pn**	**02 44 15.4**	**+1.3**
BNGB	**Bing ¶l**	**1.66**	**110**	*e*PN	**Pb**	**02 44 16.4**	**-0.3**
TOKT	**Tokat**	**1.80**	**295**	*e*PN	**Pn**	**02 44 17.8**	**+1.4**
TOKT	**Tokat**	**1.80**	**295**	*e*Pn	**Pn**	**02 44 17.8**	**+1.4**
EZM	**Erzurum**	**2.10**	**80**	*e*PN	**Pn**	**02 44 22.2**	**+1.5**
SARI	**SarD1z-Kayseri**	**2.11**	**237**	*e*PN	**Pb**	**02 44 23.0**	**-1.5**
URFA	**Urfa**	**2.14**	**177**	*e*PN	**Pb**	**02 44 23.6**	**-1.3**
URFA	**Urfa**	**2.14**	**177**	*e*Pn	**Pb**	**02 44 23.6**	**-1.3**
BNN	**Bunyan**	**2.31**	**253**	*e*PN	**Pn**	**02 44 25.8**	**+2.2**
BNN	**Bunyan**	**2.31**	**253**	*e*Pn	**Pn**	**02 44 25.8**	**+2.2**
SVAN	**Silvan-Diyarba**	**2.43**	**125**	*e*PN	**Pb**	**02 44 27.8**	**-2.1**
SVAN	**Silvan-Diyarba**	**2.43**	**125**	*e*Pn	**Pb**	**02 44 27.8**	**-2.1**
KMRS	**Kahramanmaras**	**2.50**	**214**	*e*PN	**Pb**	**02 44 29.2**	**-1.7**
KMRS	**Kahramanmaras**	**2.50**	**214**	*e*Pn	**Pb**	**02 44 29.2**	**-1.7**
KVT	**Kavak**	**2.51**	**308**	*e*PN	**Pn**	**02 44 28.3**	**+2.1**
KVT	**Kavak**	**2.51**	**308**	*e*Pn	**Pn**	**02 44 28.3**	**+2.1**
MAZI	**Mazidag**	**2.53**	**146**	*e*PN	**Pb**	**02 44 29.4**	**-2.2**
MAZI	**Mazidag**	**2.53**	**146**	*e*Pn	**Pb**	**02 44 29.4**	**-2.2**
YOZ	**Yozgat**	**2.59**	**272**	*e*PN	**Pn**	**02 44 29.8**	**+2.3**
YOZ	**Yozgat**	**2.59**	**272**	*e*Pn	**Pn**	**02 44 29.8**	**+2.3**
KBSD	**Kabsdagh**	**2.96**	**150**	*e*P	**Pb**	**02 44 35.9**	**-3.0**
KBSD				*e*S	**Sn**	**02 45 08.6**	**+1.3**
KBSD				AML	AML	02 45 29.9	
	comp=Z,30nm,0.7s						
KBSD	**Kabsdagh**	**2.96**	**150**	*e*P	**Pb**	**02 44 35.9**	**-3.0**
	SNR=45						
KBSD				*e*S	**Sn**	**02 45 08.6**	**+1.3**
	comp=Z,30nm,0.7s,SNR=40						
SENK	**Senkaya-Erzuru**	**2.98**	**70**	*e*PN	**Pn**	**02 44 35.4**	**+2.5**
KOZT	**Kozan**	**3.06**	**228**	*e*PN	**Pn**	**02 44 36.9**	**+3.1**
KOZT	**Kozan**	**3.06**	**228**	*e*Pn	**Pn**	**02 44 36.9**	**+3.1**
CORM	**Corum**	**3.17**	**282**	*e*PN	**Pn**	**02 44 38.0**	**+2.7**
CORM	**Corum**	**3.17**	**282**	*e*Pn	**Pn**	**02 44 38.0**	**+2.7**
DIKM	**Dikmen**	**3.32**	**310**	*e*PN	**Pn**	**02 44 40.4**	**+3.1**
DIKM	**Dikmen**	**3.32**	**310**	*e*Pn	**Pn**	**02 44 40.4**	**+3.1**
AGRB	**Hanur-Agry**	**3.33**	**89**	*e*PN	**Pn**	**02 44 40.7**	**+3.0**
AGRB	**Hanur-Agry**	**3.33**	**89**	*e*Pn	**Pn**	**02 44 40.7**	**+3.0**
DRWC	**Darouich**	**3.35**	**209**	*e*P	**Pn**	**02 44 39.6**	**+1.8**
DRWC				*e*S	**Sn**	**02 45 12.6**	**-4.4**
DRWC				AML	AML	02 45 45.7	
	comp=N,37nm,0.6s						
DRWC				AML	AML	02 45 51.5	
	comp=E,21nm,0.7s						
DRWC	**Darouich**	**3.35**	**209**	*e*P	**Pn**	**02 44 39.6**	**+1.8**
	SNR=45						
SFNV	**Sufian**	**3.35**	**160**	*e*P	**Pn**	**02 44 40.0**	**+2.2**
SFNV				*e*S	**Sn**	**02 45 14.5**	**-2.4**
SFNV				AML	AML	02 45 47.3	
	comp=Z,33nm,0.6s						
SFNV	**Sufian**	**3.35**	**160**	*e*P	**Pn**	**02 44 40.0**	**+2.2**
	SNR=45						
CEYT	**Ceyhan**	**3.45**	**223**	*e*PN	**Pn**	**02 44 42.2**	**+3.2**
CEYT	**Ceyhan**	**3.45**	**223**	*e*Pn	**Pn**	**02 44 42.2**	**+3.2**
GULA	**Gulagac**	**3.67**	**252**	*e*PN	**Pn**	**02 44 44.9**	**+2.6**
GULA	**Gulagac**	**3.67**	**252**	*e*

KELT	**Kelkit**	**0.68**	**44**	*i* P	**Pg**	**02 48 46.7**	**-0.1**
KELT				*i* S	**Sb**	**02 48 56.6**	**-0.4**
KELT	**Kelkit**	**0.68**	**44**	P	**Pg**	**02 48 46.7**	**-0.1**
KELT				S	**Sb**	**02 48 56.6**	**-0.4**
CUZAR	**Zara_SIVAS**	**0.71**	**289**	*i* P	**Pg**	**02 48 47.0**	**-0.3**
CUZAR				*i* S	**Sn**	**02 49 01.2**	**+0.7**
CUZAR	**Zara_SIVAS**	**0.71**	**289**	P	**Pg**	**02 48 47.0**	**-0.3**
CUZAR				S	**Sn**	**02 49 01.2**	**+0.7**
ERZN	**Erzincan**	**0.84**	**95**	*e*PG	**Pb**	**02 48 50.7**	**+0.4**
ERZN				*e*SG	**Sg**	**02 49 01.1**	**+0.4**
PTK	**Pertek**	**0.97**	**143**	*e*PG	**Pg**	**02 48 52.2**	**0.0**
PTK				*e*SG	**Sg**	**02 49 04.3**	**-0.5**
PTK	**Pertek**	**0.97**	**143**	*e*Pg	**Pg**	**02 48 52.2**	**0.0**
PTK				*e*Sg	**Sg**	**02 49 04.3**	**-0.5**
CUKAN	**kangal_SIVAS**	**0.97**	**249**	*i* P	**Pg**	**02 48 52.1**	**-0.1**
CUKAN				*i* S	**Sn**	**02 49 07.7**	**+0.6**
CUKAN	**kangal_SIVAS**	**0.97**	**249**	P	**Pg**	**02 48 52.1**	**-0.1**
CUKAN				S	**Sn**	**02 49 07.7**	**+0.6**
ELZG	**Elazig**	**1.19**	**167**	*i* P	**Pb**	**02 48 56.0**	**-0.3**
ELZG				*i* S	**Sn**	**02 49 12.9**	**+0.3**
ELZG	**Elazig**	**1.19**	**167**	P	**Pb**	**02 48 56.0**	**-0.3**
ELZG				S	**Sn**	**02 49 12.9**	**+0.3**
SVRC	**Sivrice-ELAZID**	**1.38**	**158**	*e*PN	**Pn**	**02 48 58.6**	**-0.4**
SVRC	**Sivrice-ELAZID**	**1.38**	**158**	*e*Pn	**Pn**	**02 48 58.6**	**-0.4**
DARE	**Darende-Malaty**	**1.41**	**220**	*e*PN	**Pg**	**02 49 01.1**	**+0.5**
DARE	**Darende-Malaty**	**1.41**	**220**	*e*Pn	**Pg**	**02 49 01.2**	**+0.5**
BINT	**Bingol**	**1.64**	**118**	*e*Pn	**Pb**	**02 49 03.7**	**-0.1**
BNGB	**Bing ¶‖**	**1.72**	**112**	*e*PN	**Pn**	**02 49 03.7**	**+0.2**

NIED ***26*** *02:59:00,38.˚10N×144.˚60E, h5km, Mw3.8 Best double couple: M0 6.40000×10^14 NP1:ϕs=44.00000°,δ 16.00000°, λ-85.00000°. NP2:ϕs=219.00000°,δ74.00000°, λ-91.00000°.*

IDC ***26*** *02:59:49.1±1.0,37.˚94N×144.˚83E, h0km, mb3.6/4, mb1 3.9/7, mb1mx3.6/41, mbtmp3.7/7, ML3.9/2, MS2.9/2, Ms1 2.9/2, ms1mx2.4/41, Error ellipse: s-maj=32.8km s-min=21.4km az=110.0*

ISCJB ***26*** *02:59:52.2±0.7,38.˚06N±0.˚05×144.˚65E±0.˚05, h33km, mb3.7/4, MS3.1/1, Error ellipse: s-maj=6.7km s-min=5.7km az=154.2*

JMA ***26*** *02:59:52.9±0.2,38.˚10N×144.˚60E, h43km, M4.0*

ISC 26 02:59:53.9±1.0, 38.˚03N±0.˚06×144.˚64E±0.˚08, h35km, n24, σ1s70/35, mb3.7/4, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OFUJ	**Ofunato**	**2.55**	**295**	P	**Pn**	**03 00 32.4**	**-0.4**
JIO	**Ouri**	**2.62**	**280**	P	**Pn**	**03 00 33.5**	**-0.3**
JIO				S	**Sn**	**03 01 03.2**	**-1.2**
MIYJ	**Miyakonagasawa**	**2.69**	**306**	P	**Pn**	**03 00 33.9**	**-0.8**
MIYJ				*e*S	**Sn**	**03 01 05.1**	**-0.9**
JMK	**Ichinoseki**	**2.84**	**290**	P	**Pn**	**03 00 36.6**	**-0.1**
JOM	**Ohasama**	**2.99**	**300**	P	**Pn**	**03 00 39.1**	**+0.3**
JOM				S	**Sn**	**03 01 13.9**	**+0.6**
JOU	**Okura**	**3.15**	**277**	P	**Pn**	**03 00 41.4**	**+0.4**
JOU				S	**Sn**	**03 01 17.2**	**-0.2**
JANG	**Nango**	**3.37**	**315**	P	**Pn**	**03 00 43.4**	**-0.7**
JANG				*e*S	**Sn**	**03 01 20.2**	**-2.6**
JRG	**Rokugo**	**3.42**	**295**	P	**Pn**	**03 00 45.2**	**+0.5**
JRG				S	**Sn**	**03 01 25.0**	**+1.1**
JFT	**Otama**	**3.44**	**263**	P	**Pn**	**03 00 46.7**	**+0.9**
JFT				S	**Sn**	**03 01 24.7**	**0.0**
JYK	**Kaneyama**	**3.47**	**286**	P	**Pn**	**03 00 46.1**	**+0.7**
JYK				*e*S	**Sn**	**03 01 25.8**	**+0.5**
JOT	**Ohata**	**4.34**	**322**	P	**Pn**	**03 00 58.1**	**+0.7**
JCH	**Churui**	**4.68**	**348**	P	**Pn**	**03 01 00.8**	**-1.3**
JCH				*e*S	**Sn**	**03 01 51.0**	**-4.1**
JRY	**Ryogami san**	**5.01**	**248**	P	**Pn**	**03 01 06.6**	**0.0**
JRY				S	**Sn**	**03 02 00.2**	**-3.1**
MJAR	**Matsushiro Arr**	**5.34**	**256**	Pn	**Pn**	**03 01 12.5**	**+1.4**
MJAR	3.0nm,0.3s,baz=82,slow=16,SNR=13			Sn	**Sn**	**03 02 12.5**	**+1.2**
MAT	1.5nm,0.3s,baz=243,slow=24,SNR=4.5 **Matsushiro**	**5.34**	**256**	P	**Pn**	**03 01 12.5**	**+1.4**
MAT				S	**Sn**	**03 02 12.5**	**+1.1**
ASAJ	**Asahikawa**	**6.28**	**346**	Pn	**Pn**	**03 01 23.4**	**-0.5**
ASAJ	2.8nm,0.3s,baz=214,slow=12,SNR=9.5			Sn	**Sn**	**03 02 35.4**	**+1.0**
JHJ	baz=52,slow=19 **Hachijo jima 2**	**6.29**	**220**	Pn	Pn	03 01 18.2	-6.0
JHJ	20nm,0.3s,baz=57,slow=9.1,SNR=2.4			Sn	**Sn**	**03 02 28.8**	**-6.2**
USRK	24nm,0.3s,baz=66,slow=20,SNR=2.5 **Ussuriysk Ar.**	**11.35**	**307**	Pn	**Pn**	**03 02 35.1**	**+1.6**
KSRS	0.3nm,0.3s,baz=103,slow=15,SNR=4.4 **Korea Array**	**13.24**	**273**	LR	LR	03 08 15.2	
MKAR	comp=Z,26nm,19.8s,baz=94,slow=38 **Makanchi Array**	**45.77**	**302**	LR	LR	03 27 52.9	
ILAR	comp=Z,22nm,18.4s,baz=181,slow=37 **Eielson Array**	**47.28**	**33**	P	**P**	**03 08 23.6**	**+0.2**
WRA	0.4nm,0.8s,baz=266,slow=5.8,SNR=5.6 **Warramunga Arr**	**58.47**	**191**	P	**P**	**03 09 46.0**	**-0.4**
ASAR	1.2nm,0.6s,baz=13,slow=7.3,SNR=15 **Alice Springs**	**62.19**	**191**	P	**P**	**03 10 12.2**	**+0.3**
PDAR	0.5nm,0.8s,baz=13,slow=9.6,SNR=5.2 **Pinedale Array**	**75.13**	**47**	P	**P**	**03 11 33.6**	**+0.9**
	0.4nm,0.6s,baz=297,slow=0.8,SNR=5.9						

ISCJB ***26*** *03:03:49.5±0.5,39.˚67N±0.˚03×38.˚69E±0.˚03, h5km±5km, Error ellipse: s-maj=4.4km s-min=4.0km az=13.5*

CSEM ***26*** *03:03:49.3±0.1,39.˚67N×38.˚69E, h2km, ML3.0, Error ellipse: s-maj=3.5km s-min=2.9km az=36.0*

ISK ***26*** *03:03:49.1,39.˚65N×38.˚68E, h7km, ML2.6*

DDA ***26*** *03:03:49.4,39.˚66N×38.˚72E, h7km, Ml3.0*

ISC 26 03:03:49.2±1.1, 39.˚68N±0.˚02×38.˚73E±0.˚02, h7km±9km, n34, σ0s51/51, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
REFA	**Refahiye_ERZ˜**	**0.29**	**174**	*i* P	**Pg**	**03 03 55.0**	**0.0**
REFA				*i* S	**Sg**	**03 03 59.1**	**+0.3**
REFA	**Refahiye_ERZ˜**	**0.29**	**174**	P	**Pg**	**03 03 55.0**	**0.0**
REFA				S	**Sg**	**03 03 59.1**	**+0.3**
KEMA	**Kemaliye**	**0.45**	**204**	*i* P	**Pg**	**03 03 57.8**	**-0.2**
KEMA				*i* S	**Sg**	**03 04 04.5**	**+0.6**
KEMA	**Kemaliye**	**0.45**	**204**	P	**Pg**	**03 03 57.8**	**-0.2**
KEMA				S	**Sg**	**03 04 04.5**	**+0.6**
KELT	**Kelkit**	**0.62**	**41**	*i* P	**Pb**	**03 04 02.0**	**-0.5**
KELT				*i* S	**Sb**	**03 04 11.0**	**-0.5**
KELT	**Kelkit**	**0.62**	**41**	P	**Pb**	**03 04 02.0**	**-0.5**
KELT				S	**Sb**	**03 04 11.0**	**-0.5**
EUZM	**Uzumlu**	**0.75**	**88**	*i* P	**Pb**	**03 04 04.5**	**-0.3**
EUZM				*i* S	**Sn**	**03 04 17.8**	**-0.2**
EUZM	**Uzumlu**	**0.75**	**88**	P	**Pb**	**03 04 04.4**	**-0.3**
CUZAR	**Zara_SIVAS**	**0.77**	**286**	*i* P	**Pg**	**03 04 04.1**	**+0.1**
CUZAR				*i* S	**Sb**	**03 04 15.5**	**-0.2**
CUZAR	**Zara_SIVAS**	**0.77**	**286**	P	**Pg**	**03 04 04.1**	**+0.1**
CUZAR				S	**Sb**	**03 04 15.5**	**-0.2**
ERZN	**Erzincan**	**0.77**	**97**	*e*PG	**Pb**	**03 04 05.1**	**0.0**
ERZN				*e*SG	**Sb**	**03 04 16.7**	**+0.9**
TNCL	**Tunceli-Merkez**	**0.85**	**132**	*i* P	**Pg**	**03 04 05.5**	**0.0**
TNCL				*i* S	**Sb**	**03 04 17.6**	**-0.5**
TNCL	**Tunceli-Merkez**	**0.85**	**132**	P	**Pg**	**03 04 05.5**	**0.0**
TNCL				S	**Sb**	**03 04 17.5**	**-0.5**
PTK	**Pertek**	**0.94**	**147**	*e*PG	**Pg**	**03 04 07.7**	**+0.3**
PTK				*e*SG	**Sb**	**03 04 21.1**	**+0.3**
PTK	**Pertek**	**0.94**	**147**	*e*Pg	**Pg**	**03 04 07.7**	**+0.3**
PTK				*e*Sg	**Sb**	**03 04 21.1**	**+0.3**
CUKAN	**kangal_SIVAS**	**1.04**	**250**	*i* P	**Pg**	**03 04 08.6**	**-0.7**
CUKAN				*i* S	**Sn**	**03 04 27.6**	**+2.3**
CUKAN	**kangal_SIVAS**	**1.04**	**250**	P	**Pg**	**03 04 08.6**	**-0.7**
ELZG	**Elazig**	**1.20**	**170**	*i* P	**Pb**	**03 04 11.7**	**-0.7**
ELZG				*i* S	**Sn**	**03 04 29.1**	**-0.1**
ELZG	**Elazig**	**1.20**	**170**	P	**Pb**	**03 04 11.7**	**-0.7**
ELZG				S	**Sn**	**03 04 29.1**	**-0.1**
RSDY	**Resadiye-TOKAT**	**1.29**	**304**	*e*PN	**Pg**	**03 04 14.0**	**0.0**
RSDY	**Resadiye-TOKAT**	**1.29**	**304**	*e*Pn	**Pg**	**03 04 14.0**	**0.0**
SVSK	**Karacayir**	**1.35**	**281**	*e*PN	**Pn**	**03 04 14.1**	**-0.4**
SVSK	**Karacayir**	**1.35**	**281**	*e*Pn	**Pn**	**03 04 14.1**	**-0.4**
SVRC	**Sivrice-ELAZID**	**1.38**	**161**	*e*PN	**Pn**	**03 04 14.8**	**-0.3**
SVRC	**Sivrice-ELAZID**	**1.38**	**161**	*e*Pn	**Pn**	**03 04 14.8**	**-0.3**
YEDI	**Yedisu-Bingol**	**1.43**	**99**	*e*PN	**Pg**	**03 04 16.6**	**0.0**
DARE	**Darende-Malaty**	**1.47**	**221**	*e*PN	**Pn**	**03 04 15.9**	**-0.4**
KTUT	**Trabzon**	**1.52**	**31**	*e*PN	**Pg**	**03 04 18.5**	**0.0**
KTUT	**Trabzon**	**1.52**	**31**	*e*Pn	**Pg**	**03 04 18.5**	**0.0**
BINT	**Bingol**	**1.59**	**120**	*e*Pn	**Pg**	**03 04 19.9**	**+0.2**
BNGB	**Bing ¶‖**	**1.66**	**114**	*e*PN	**Pb**	**03 04 19.9**	**-0.4**
TOKT	**Tokat**	**1.79**	**291**	*e*PN	**Pn**	**03 04 21.1**	**+0.4**
TOKT	**Tokat**	**1.79**	**291**	*e*Pn	**Pn**	**03 04 21.1**	**+0.4**
SARI	**SarD1z-Kayseri**	**2.20**	**235**	*e*PN	**Pn**	**03 04 26.9**	**+0.5**

BJI ***26*** *03:39:16.8,8.˚09S×123.˚59E, h557km, mb4.9/57, mB4.6/37*

MOS ***26*** *03:39:21.5±1.0, 7.˚26S×123.˚05E, h532km, mb5.0/55, Error ellipse: s-maj=9.5km s-min=5.4km az=113.5*

GCMT ***26*** *03:39:24.2±0.3, 7.˚32S×122.˚95E, h570km±2km, MW5.2/81, Moment Tensor Solution. s81,c114; Duration: 1s0 Moment tensor: Scale 10^17 Nm; Mrr=0.63±.02; Mθθ 0.74±.03; Mϕϕ=0.11±.04; Mrθ=0.24±.04; Mθϕ=0.10±.04; Mϕr 0.53±.04; Best double couple: M0 0.90200×10^17 NP1:ϕs 126.00000°, δ64.00000°, λ-59.00000°. NP2: ϕs 252.00000°, δ39.00000°, λ-137.00000°. Principal axes: T 0.8270, Plg14.0000°, Azm194.0000°; N 0.1490, Plg28.0000°, Azm291.0000°; P -0.9770, Plg59.0000°, Azm80.0000°; nsta1 refers to body waves, cutoff=40s.*

NEIC ***26*** *03:39:24.2±0.2, 7.˚36S×123.˚10E, h558km±2km, mb5.0/49 Error ellipse: s-maj=4.4km s-min=3.0km az=52.0*

IDC ***26*** *03:39:24.6±0.5, 7.˚32S×123.˚10E, h560km±5km, mb4.5/42, mb1 4.5/46, mb1mx4.4/55, mbtmp5.3/46, Error ellipse: s-maj=8.7km s-min=5.4km az=64.0*

DJA ***26*** *03:39:24.6±0.2, 8.˚8S±3.˚3×12.˚3E±.˚, h555km±3km, M5.2/27, mb5.5/27, mB5.6/25, MLv5.7/18, Mw(mB)5.1/25*

ISCJB ***26*** *03:39:24.0±0.2, 7.˚38S±0.˚02×123.˚14E±0.˚02, h572km±2km, mb4.8/114, Error ellipse: s-maj=3.9km s-min=2.9km az=143.0*

ISC 26 03:39:24.8±0.3, 7.˚35S±0.˚03×123.˚16E±0.˚04, h566km±3km, h568km=pP-P, n846, σ1s41/967, mb4.9/109, 10C-11D, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MMRI	**Maumere**	**1.57**	**215**	P	**P**	**03 40 33.1**	**-1.1**
MMRI	**Maumere**	**1.57**	**215**	*e*P	**P**	**03 40 33.2**	**-1.1**
MMRI				*e*S	**S**	**03 41 30.9**	**+0.2**
BBSI	**Bau Bau**	**1.94**	**343**	P	**P**	**03 40 37.1**	**+1.3**
SOEI	**Soe**	**2.63**	**155**	P	**P**	**03 40 38.8**	**-0.3**
SOEI				S	**S**	**03 41 36.6**	**-3.1**
SOEI	**Soe**	**2.63**	**155**	*e*P	**P**	**03 40 38.9**	**-0.3**
SOEI				*e*S	**S**	**03 41 36.5**	**-3.1**
BATI	**Baumata**	**2.88**	**170**	P	**P**	**03 40 40.6**	**+0.1**
BSSI	**Bau Bau, Buton**	**2.91**	**294**	P	**P**	**03 40 40.8**	**+0.2**
KDI	**Kendari**	**3.42**	**351**	P	**P**	**03 40 44.8**	**+1.0**
WSI	**Waingapu**	**3.65**	**231**	P	**P**	**03 40 43.5**	**-1.8**
BASI	**Baing, Sumba**	**3.82**	**222**	P	**P**	**03 40 45.5**	**-1.0**
SPSI	**Sidrap Palu**	**4.76**	**315**	P	**P**	**03 40 54.3**	**+0.6**
TTSI	**Tana Toraja**	**5.42**	**322**	P	**P**	**03 41 00.2**	**+1.1**
	533nm,0.8s,4µm2.6nm						
PLAI	**Plampang**	**5.52**	**254**	P	**P**	**03 40 57.6**	**-2.4**
NLAI	**Namlea**	**5.67**	**44**	P	**P**	**03 41 02.2**	**+0.9**
	5µm,0.5s,80µm22nm						
SANI	**Sanana**	**5.98**	**28**	P	**P**	**03 41 04.6**	**+0.6**
AAI	**Ambon**	**6.20**	**54**	P	**P**	**03 41 06.1**	**+0.1**
TWSI	**Taliwang, Sumb**	**6.36**	**257**	P	**P**	**03 41 05.4**	**-2.1**
	438nm,0.7s,11µm6.1nm						
APSI	**Ampana**	**6.57**	**347**	P	**P**	**03 41 09.6**	**+0.1**
MSAI	**Masohi**	**6.99**	**56**	P	**P**	**03 41 12.3**	**-1.1**
	96nm,0.8s,2µm0.8nm						
PCI	**Palu**	**7.21**	**333**	P	**P**	**03 41 16.6**	**+1.2**
	4µm,1.0s,44µm15nm						
BNDI	**Bandanaira**	**7.28**	**68**	P	**P**	**03 41 16.5**	**+0.4**
MRSI	**Marisa**	**7.87**	**351**	P	**P**	**03 41 22.3**	**+0.5**
	5µm,0.8s,44µm						
KMSI	**Cibinong**	**7.92**	**6**	P	**P**	**03 41 23.6**	**+1.4**
	14µm,0.8s,145µm						
GTOI	**Gorontalo**	**7.94**	**359**	P	**P**	**03 41 23.9**	**+1.5**
LBMI	**Labuha**	**7.95**	**33**	P	**P**	**03 41 23.5**	**+0.9**
	2µm,0.6s,22µm						
DNP	**Denpasar**	**7.98**	**260**	P	**P**	**03 41 22.7**	**-0.1**
IGBI	**Denpasar**	**8.06**	**259**	P	**P**	**03 41 22.4**	**-1.2**
	630nm,0.5s,16µm						
SAUI	**Saumlaki**	**8.10**	**95**	P	**P**	**03 41 23.7**	**-0.3**
	2µm,0.9s,13µm						
SAUI	**Saumlaki**	**8.10**	**95**	*e*P	**P**	**03 41 23.9**	**-0.1**
SAUI				*e*S	**S**	**03 42 55.4**	**-6.3**
BKB	**Balikpapan**	**8.69**	**314**	P	**P**	**03 41 33.4**	**+3.5**
JAGI	**Jajag, Banyuwa**	**8.99**	**262**	P	**P**	**03 41 31.1**	**-1.7**
JAGI	**Jajag, Banyuwa**	**8.99**	**262**	*e*P	**P**	**03 41 31.1**	**-1.7**
JAGI				*e*S	**S**	**03 43 11.3**	**-6.5**
KMMI	**Kalianget**	**9.12**	**271**	P	**P**	**03 41 38.1**	**+4.0**
BBKI	**Banjar Baru**	**9.13**	**295**	P	**P**	03 41 40.2	+5.9
BLJI	**Banyuglugur**	**9.49**	**267**	P	**P**	**03 41 37.9**	**+0.1**
MTN	**Manton Dam**	**9.56**	**125**	P	**P**	**03 41 38.2**	**-0.3**
	baz=9.6,SNR=177						
MTN	**Manton Dam**	**9.56**	**125**	*e*P	**P**	**03 41 38.2**	**-0.3**
MTN				*e*S	**S**	**03 43 26.0**	**-2.4**
GMJI	**Gumukmas**	**9.66**	**264**	P	**P**	**03 41 38.4**	**-1.2**
KNRA	**Kununurra**	**9.93**	**147**	P	**P**	**03 41 41.9**	**-0.3**
	baz=10.0,SNR=179						
FAKI	**Fak Fak**	**10.07**	**65**	P	**P**	**03 41 43.6**	**-0.1**
FAKI	**Fak Fak**	**10.07**	**65**	*e*P	**P**	**03 41 43.1**	**-0.6**
FAKI				*e*S	**S**	**03 43 32.4**	**-5.5**
SWI	**Sorong**	**10.34**	**52**	P	**P**	**03 41 46.1**	**-0.3**
SIJI	**Sorong**	**10.34**	**52**	P	**P**	**03 41 46.4**	**-0.1**
	26nm,0.3s,baz=117,slow=18,SNR=3.9						
SIJI				S	**S**	**03 43 39.1**	**-3.7**
	12nm,0.3s,baz=271,slow=24,SNR=6.4						
MTKI	**Muara Teweh, K**	**10.41**	**307**	P	**P**	**03 41 47.9**	**+0.7**
KDU	**Kakadu**	**10.60**	**121**	P	**P**	**03 41 48.4**	**-0.6**
	baz=11,SNR=6.5						
FITZ	**Fitzroy Crossi**	**10.96**	**167**	P	**P**	**03 41 51.8**	**-0.8**
	37nm,0.3s,baz=8.0,slow=9.0,SNR=303						
FITZ				S	**S**	**03 43 50.6**	**-3.6**
	2.1nm,0.3s,baz=3.6,slow=21,SNR=13						
FITZ	**Fitzroy Crossi**	**10.96**	**167**	P	**P**	**03 41 51.8**	**-0.8**
	baz=11,SNR=495						
FITZ	**Fitzroy Crossi**	**10.96**	**167**	*e*P	**P**	**03 41 51.6**	**-1.0**
	470nm,0.9s						
FITZ				S	**S**	**03 43 50.6**	**-3.6**
SGSI	**Sangihe**	**11.22**	**12**	P	**P**	**03 41 56.3**	**+0.9**
PWJI	**Pagerwojo**	**11.27**	**266**	P	**P**	**03 41 54.1**	**-1.8**
PCJI	**Pacitan**	**11.90**	**265**	P	**P**	**03 42 00.0**	**-2.4**
UGM	**Wanagama**	**12.53**	**267**	P	**P**	**03 42 08.3**	**-0.7**
MYLDM	**Lahad Datu**	**13.29**	**339**	*e*P	**P**	**03 42 17.4**	**+0.7**
KPJI	**Karang Pucung**	**14.11**	**269**	P	**P**	**03 42 25.5**	**+0.4**
MBWA	**Marble Bar**	**14.12**	**193**	*e*P	**P**	**03 42 23.8**	**-1.3**
MBWA	**Marble Bar**	**14.12**	**193**	P	**P**	**03 42 24.0**	**-1.1**
	SNR=49						
MBWA	**Marble Bar**	**14.12**	**193**	P	**P**	**03 42 24.0**	**-1.1**
	SNR=49						
CMJI	**Cimerak**	**14.59**	**267**	P	**P**	**03 42 28.3**	**-1.6**
SBUM	**Sibu**	**14.62**	**311**	*e*P	**P**	**03 42 29.8**	**-0.5**
KKM	**Kota Kinabalu**	**15.00**	**332**	*e*P	**P**	**03 42 33.2**	**-0.9**
	285nm,1.4s						
CISI	**Cisompet, Garu**	**15.21**	**268**	P	**P**	**03 42 35.2**	**-1.0**
CISI	**Cisompet, Garu**	**15.21**	**268**	*e*P	**P**	**03 42 33.6**	**-2.5**
	210nm,0.7s						
CISI				*e*S	**S**	**03 45 10.5**	**-2.7**
KSM	**Kuching**	**15.53**	**304**	*e*P	**P**	**03 42 38.6**	**-0.6**
	87nm,0.7s						
DCPH	**Dipolog City**	**15.83**	**1**	*i*P	**P**	**03 42 44.2**	**+2.1**
CNJI	**Cibinong**	**15.90**	**269**	P	**P**	**03 42 42.5**	**-0.3**
SMPI	**Sarmi**	**16.39**	**72**	P	**P**	**03 42 48.9**	**+1.5**
WRA	**Warramunga Arr**	**16.56**	**140**	P	**P**	**03 42 48.5**	**-0.4**
	24nm,0.3s,baz=307,slow=13,SNR=500						
WRA				S	**S**	**03 45 32.2**	**-3.0**
	1.4nm,0.3s,baz=315,slow=18,SNR=12						
WRA				ScS	**ScS**	**03 53 21.1**	**-4.3**
	0.0nm,0.3s,baz=350,slow=30,SNR=2.9						
WRAB	**Tennant Creek**	**16.56**	**140**	*e*P	**P**	**03 42 48.5**	**-0.4**
WRAB				*e*S	**S**	**03 45 33.3**	**-1.9**
WRAB				pmax	pmax		
	comp=Z,240nm,0.8s						
WRAB	**Tennant Creek**	**16.56**	**140**	*e*P	**P**	**03 42 48.5**	**-0.4**
	comp=Z,240nm,0.8s						
WRAB				*e*S	**S**	**03 45 33.3**	**-1.9**
WB2	**Warramunga Arr**	**16.57**	**140**	*e*P	**P**	**03 42 48.4**	**-0.6**
BATP	**Bataraza**	**16.91**	**342**	*e*P	**P**	**03 42 54.0**	**+2.0**
GIRL	**Giralia**	**17.46**	**209**	P	**P**	**03 42 56.7**	**-0.2**
	baz=18,SNR=298						
XMIS	**Christmas Isla**	**17.57**	**259**	*e*P	**P**	**03 42 56.7**	**-1.3**
	comp=Z,337nm,1.1s						
GENI	**Genyem**	**17.59**	**75**	P	**P**	**03 43 00.1**	**+1.8**
JAY	**Jayapura**	**18.13**	**76**	P	**P**	**03 43 03.7**	**+0.5**
	comp=Z,0.3nm,0.3s,baz=1.5,slow=23,SNR=11						
JAY				S	**S**	**03 45 59.0**	**-2.0**
	comp=Z,0.0nm,0.3s,baz=90,slow=20,SNR=3.3						
JAY	**Jayapura**	**18.13**	**76**	P	**P**	**03 43 06.2**	**+2.9**
WRKA	**Warakurna**	**18.26**	**165**	P	**P**	**03 43 04.1**	**-0.2**
	baz=18,SNR=166						
ENPP	**El Nido**	**18.81**	**349**	*e*P	**P**	**03 43 11.3**	**+2.0**
AS31	**Alice Springs**	**19.23**	**149**	*e*P	**P**	**03 43 13.1**	**0.0**
	comp=Z,41nm,0.6s						
ASAR	**Alice Springs**	**19.23**	**149**	P	**P**	**03 43 13.7**	**+0.6**
	comp=Z,13nm,0.3s,baz=325,slow=8.5,SNR=634						
ASAR				S	**S**	**03 46 16.1**	**-2.2**
	baz=330,slow=18,SNR=5.5						
ASAR				PcP	**PcP**	**03 47 08.4**	**+0.1**
	comp=Z,1.1nm,0.3s,baz=346,slow=0.8,SNR=5.1						
ASAR				ScP	**ScP**	**03 49 50.7**	**-0.5**
	comp=Z,0.5nm,0.3s,baz=342,slow=2.1,SNR=14						
ASAR				ScS	**ScS**	**03 53 29.1**	**-4.8**
	comp=Z,0.1nm,0.3s,baz=310,slow=4.7,SNR=4.8						
AS01	**Alice Springs**	**19.25**	**149**	*e*P	**P**	**03 43 12.8**	**-0.5**
SJMP	**San Jose**	**19.79**	**354**	*e*P	**P**	**03 43 19.6**	**+1.3**
QIS	**Mount Isa**	**20.64**	**131**	P	**P**	**03 43 26.1**	**+0.2**
	baz=21,SNR=32						
COEN	**Coen**	**20.73**	**110**	P	**P**	**03 43 26.3**	**-0.6**
	baz=21,SNR=24						
COEN	**Coen**	**20.73**	**110**	*e*P	**P**	**03 43 26.2**	**-0.6**
	comp=Z,40nm,0.8s						
MORW	**Morawa**	**22.62**	**196**	P	**P**	**03 43 42.7**	**-0.8**
	baz=23,SNR=58						
MTSU	**Mount Surprise**	**23.23**	**119**	P	**P**	**03 43 49.6**	**+0.5**
	baz=23,SNR=7.9						
PMG	**Port Moresby**	**23.83**	**97**	P	**P**	**03 43 55.0**	**+0.5**
	comp=Z,23nm,0.4s,baz=295,slow=7.9,SNR=5.8						
PMG				S	**S**	**03 47 28.3**	**-3.1**
	comp=Z,5.4nm,0.3s,baz=324,slow=4.7,SNR=3.2						
PMG	**Port Moresby**	**23.83**	**97**	*e*P	**P**	**03 43 55.4**	**+0.9**
PMG				S	**S**	**03 47 28.3**	**-3.1**
BLDU	**Ballidu**	**23.92**	**194**	P	**P**	**03 43 54.0**	**-1.1**
	baz=24,SNR=223						
KMBL	**Kambalda**	**23.92**	**183**	P	**P**	**03 43 54.2**	**-0.8**
	baz=24,SNR=42						
KLBR	**Kellerberrin**	**24.64**	**191**	P	**P**	**03 44 00.5**	**-1.0**
	baz=25,SNR=278						
MANU	**Manus Island**	**24.69**	**79**	*e*P	**P**	**03 44 02.2**	**+0.1**
	comp=Z,77nm,0.8s						
CTA	**Charters Tower**	**25.72**	**122**	P	**P**	**03 44 11.8**	**+0.7**
	comp=Z,2.5nm,0.5s,baz=293,slow=9.9,SNR=7.4						
CTA				PcP	**PcP**	**03 47 22.9**	**+0.9**
	comp=Z,17nm,0.7s,baz=317,slow=3.5,SNR=11						
CTA				S	**S**	**03 47 58.1**	**-2.8**
	comp=Z,2.1nm,0.4s,baz=306,slow=19,SNR=2.7						
CTAO	**Charters Tower**	**25.72**	**122**	*e*P	**P**	**03 44 11.6**	**+0.4**
CTAO				pmax	pmax		
	comp=Z,8.0nm,0.9s						
CTAO	**Charters Tower**	**25.72**	**122**	*e*P	**P**	**03 44 11.6**	**+0.4**
	comp=Z,7.7nm,0.9s						
KULM	**Kulim**	**25.73**	**299**	*e*P	**P**	**03 44 11.1**	**-0.2**
NWAO	**Narrogin (SRO)**	**26.04**	**191**	P	**P**	**03 44 13.7**	**-0.1**
	comp=Z,99nm,0.5s,baz=254,slow=8.2,SNR=141						
NWAO	**Narrogin (SRO)**	**26.04**	**191**	P	**P**	**03 44 12.9**	**-0.8**
	baz=26,SNR=126						
NWAO				P	**P**	**03 44 12.9**	**-0.8**
	baz=26,SNR=126						
NWAO	**Narrogin (SRO)**	**26.04**	**191**	*e*P	**P**	**03 44 12.9**	**-0.8**
NWAO				pmax	pmax		
	comp=Z,327nm,1.4s						
NWAO	**Narrogin (SRO)**	**26.04**	**191**	*e*P	**P**	**03 44

CD2 S **S** **03 52 07.8 -2.9**
CD2 pmax pmax
comp=Z,20nm,0.6s
XAN Xi'an 43.32 343 P **P** **03 46 37.0 -0.5**
XAN pP PcP 03 48 15.3 +1.9
XAN PP **PP** **03 48 28.5 -2.1**
XAN S **S** **03 52 21.5 -3.1**
XAN pmax pmax
comp=Z,61nm,0.8s
XAN pmax pmax
comp=Z,190nm,5.1s
DZM Mont Dzumac 44.17 114 P **P** **03 46 45.1 +0.7**
comp=Z,14nm,0.8s,baz=280,slow=7.2,SNR=15
DZM ScP **ScP** **03 51 16.6 +1.4**
comp=Z,7.0nm,1.1s,baz=153,slow=2.3,SNR=4.2
DZM S **S** **03 52 37.7 +0.5**
comp=Z,0.9nm,0.5s,baz=148,slow=19,SNR=4.4
DZM Mont Dzumac 44.17 114 *eP* **P** **03 46 43.9 -0.5**
comp=Z,25nm,1.0s
DZM ScP **ScP** **03 51 16.6 +1.4**
DZM S **S** **03 52 37.7 +0.5**
INU Inuyama 44.44 16 *eP* **P** **03 46 45.8 -0.3**
comp=Z,26nm,0.7s
KS15 Wonju Array Si 44.78 5 *eP* **P** **03 46 50.0 +1.4**
KSAR Wonju Array Be 44.78 5 P **P** **03 46 49.7 +1.1**
KSAR 03 48 19.5
KSAR Wonju Array Be 44.78 5 P **P** **03 46 49.7 +1.1**
KSAR PcP **PcP** **03 48 19.4 +1.1**
KSAR ScP **ScP** **03 51 17.6 +0.5**
KSRS Korea Array 44.80 5 P **P** **03 46 49.7 +1.0**
comp=Z,23nm,0.8s,baz=181,slow=8.8,SNR=85
KSRS PcP **PcP** **03 48 19.4 +1.1**
comp=Z,14nm,0.8s,baz=188,slow=3.3,SNR=20
KSRS ScP **ScP** **03 51 17.6 +0.5**
comp=Z,1.8nm,0.7s,baz=187,slow=4.3,SNR=4.3
KSRS Korea Array 44.80 5 P **P** **03 46 49.7 +1.0**
KSRS 03 48 19.5
KSRS pmax pmax
comp=Z,24nm,0.8s
KS01 Wonju Array Si 44.81 5 *eP* **P** **03 46 49.7 +0.9**
KS01 *e*PcP **PcP** **03 48 18.8 +0.3**
MAJO Matsushiro 45.89 17 *eP* **P** **03 46 56.8 -0.3**
MAJO *e* 03 48 22.6
MAJO pmax pmax
comp=Z,59nm,0.7s
MAJO Matsushiro 45.89 17 *eP* **P** **03 46 56.8 -0.3**
comp=Z,59nm,0.7s
MAJO *e*PcP **PcP** **03 48 22.6 +0.3**
MAT Matsushiro 45.89 17 P **P** **03 46 56.4 -0.8**
MAT S **S** **03 53 00.1 -0.5**
MJAR Matsushiro Arr 45.89 17 P **P** **03 46 56.7 -0.5**
comp=Z,62nm,0.8s,baz=187,slow=8.3,SNR=124
MJAR PcP **PcP** **03 48 22.7 +0.3**
comp=Z,10nm,0.8s,baz=189,slow=4.3,SNR=7.3
MJAR ScP **ScP** **03 51 22.0 +0.2**
comp=Z,1.9nm,0.7s,baz=213,slow=5.4,SNR=3.6
MJAR S **S** **03 52 57.4 -3.2**
comp=Z,2.1nm,0.8s,baz=227,slow=20,SNR=5.3
MJB9 Matsu-Tunnel 45.89 17 *eP* **P** **03 46 56.9 -0.3**
comp=Z,15nm,0.7s
LZH Lanzhou 46.87 338 *eP* **P** **03 47 06.3 +1.6**
LZH PcP **PcP** **03 48 28.0 +1.9**
LZH pP pP 03 48 50.5 +2.7
LZH PP **PP** **03 49 05.5 +2.6**
LZH sP sP 03 49 51.5 +1.0
LZH S **S** **03 53 11.0 -3.5**
LZH pmax pmax
comp=Z,63nm,1.0s
LZH pmax pmax
comp=Z,160nm,4.9s
BJT Baijiatuan 47.57 353 *eP* **P** **03 47 09.9 +0.2**
BJT *e* 03 48 29.4
BJT pmax pmax
comp=Z,27nm,0.6s
BJT Baijiatuan 47.57 353 *eP* **P** **03 47 09.9 +0.2**
comp=Z,27nm,0.6s
BJT *e*PcP **PcP** **03 48 29.4 +1.1**
LSA Lhasa 48.00 322 P **P** **03 47 15.3 +1.6**
LSA pmax pmax
comp=Z,51nm,0.5s
LSA Lhasa 48.00 322 *eP* **P** **03 47 14.6 +0.9**
LSA pmax pmax
comp=Z,38nm,0.5s
LSA Lhasa 48.00 322 *eP* **P** **03 47 14.6 +0.9**
comp=Z,38nm,0.5s
ODAN Odare 48.56 316 *eP* **P** **03 47 18.1 +0.5**
comp=Z,38nm,0.6s
TAPN Taplejung 48.65 317 *eP* **P** **03 47 18.5 +0.1**
comp=Z,55nm,0.4s
HHC Hu-ho-hao-te 49.14 348 *eP* P 03 47 26.3 +4.8
HHC pP pP 03 49 08.8 +2.8
HHC sP sP 03 50 07.0 -1.2
HHC S **S** **03 53 46.0 +0.6**
HHC ScS **ScS** **03 56 14.0 +1.3**
HHC sS sS 03 57 00.0 +5.7
HHC pmax pmax
comp=Z,17nm,1.4s
HHC pmax pmax
comp=Z,53nm,5.1s
JIRN Jiri 49.89 316 *eP* **P** **03 47 28.0 +0.4**
comp=Z,40nm,0.4s
MSHR Mys Shultsa 50.23 8⇑ *iP* **P** **03 47 29.7 +0.5**
GUN Gumba 50.26 316 *eP* **P** **03 47 30.7 +0.4**
comp=Z,83nm,0.5s
PKI Pulchoki 50.38 315 *eP* **P** **03 47 30.8 -0.3**
comp=Z,45nm,0.4s
PKIN Phulchoki 50.39 315 *eP* **P** **03 47 31.5 +0.4**
comp=Z,44nm,0.4s
HYB Hyderabad 50.47 300 *i* P **P** **03 47 31.0 -0.6**
DMN Daman 50.61 315 *eP* **P** **03 47 33.0 +0.3**
comp=Z,24nm,0.6s
CN2 Changchun 50.96 2 *eP* **P** **03 47 34.3 -0.2**
GKN Gorkha 51.18 315 *eP* **P** **03 47 36.7 0.0**
comp=Z,52nm,0.4s
GTA Gaotai 51.31 337 ⇓P **P** **03 47 38.5 +1.1**
GTA PcP **PcP** **03 48 43.5 +1.1**
GTA pP pP 03 49 27.5 +4.2
GTA sP sP 03 50 28.0 +2.9
GTA S **S** **03 54 13.8 -1.0**
GTA sS sS 03 57 31.0 +5.3
GTA pmax pmax
comp=Z,43nm,0.9s
GTA pmax pmax
comp=Z,48nm,6.2s
KOLN Koldanda 51.78 314 *eP* **P** **03 47 41.1 0.0**
comp=Z,37nm,0.4s
USRK Ussuriysk Ar. 51.93 8 P **P** **03 47 41.6 +0.1**
comp=Z,78nm,0.6s,baz=186,slow=6.6,SNR=136
USRK ScP **ScP** **03 51 48.2 +0.7**
comp=Z,1.3nm,0.7s,baz=176,slow=2.9,SNR=4.3
USRK S **S** **03 54 18.8 -3.8**
comp=Z,2.9nm,0.9s,baz=198,slow=18,SNR=4.6
DANN Dangsing 52.01 315 *eP* **P** **03 47 43.3 +0.5**
comp=Z,11nm,0.9s
MDJ Mudanjiang 52.05 6 P **P** **03 47 42.8 +0.3**
MDJ pP pP 03 49 25.0 -3.8
MDJ sP sP 03 50 25.3 -5.2
MDJ S **S** **03 54 23.3 -1.0**
MDJ pmax pmax
comp=Z,140nm,0.9s
MDJ Mudanjiang 52.05 6 *eP* **P** **03 47 42.7 +0.3**
comp=Z,88nm,0.7s
PYUN Piuthan 52.41 314 *eP* **P** **03 47 46.1 +0.5**
comp=Z,157nm,0.8s
ERM Erimo 52.43 19 *ceP* **P** **03 47 46.0 +0.9**
ERM pmax pmax
comp=Z,33nm,0.9s
ASAJ Asahikawa 54.16 17 *eP* **P** **03 47 57.8 +0.4**
comp=Z,37nm,0.7s
MSVF Nonsavu 54.40 106 *eP* **P** **03 48 00.8 +1.1**
MSVF pmax pmax
comp=Z,60nm,0.8s
MSVF Nonsavu 54.40 106 *eP* **P** **03 48 00.8 +1.1**
comp=Z,60nm,0.8s
RPZ Rata Peaks 55.27 139 P **P** **03 48 05.7 +0.5**
comp=Z,14nm,0.5s,baz=267,slow=2.5,SNR=8.1
HIA Hailar 56.46 357 *eP* **P** **03 48 13.6 +0.3**
HIA pmax pmax
comp=Z,40nm,0.8s
HIA Hailar 56.46 357 *eP* **P** **03 48 13.6 +0.3**
comp=Z,40nm,0.8s
HABR Khabarovsk 56.56 9 *eP* **P** **03 48 12.9 -1.1**
HABR *e* 03 49 01.0
HABR *e**PP **pP** **03 50 00.6 -2.4**
HABR *e* 03 50 27.5
HABR *eS* **S** **03 55 23.3 +0.2**
HABR *e* 03 57 04.4
HABR *eSS* **SS** **03 59 24.7 +1.6**
HABR pmax pmax
comp=E,11nm,0.8s
HABR pmax pmax
comp=N,27nm,0.9s
HABR pmax pmax
comp=Z,50nm,0.9s
HABR MLR MLR
comp=Z,314nm,21.0s
ULN Ulaanbaatar 56.79 347 *d iP* **P** **03 48 16.6 +0.8**
ULN pmax pmax
comp=Z,43nm,1.1s
ULN Ulaanbaatar 56.79 347 *eP* **P** **03 48 15.9 +0.1**
comp=Z,45nm,1.1s
ULN Ulaanbaatar 56.79 347 P **P** **03 48 16.5 +0.8**
SNR=12
ULN Ulaanbaatar 56.79 347 P **P** **03 48 16.5 +0.8**
SNR=12
YSS Yuzh-Sakhalins 56.80 16 *eP* **P** **03 48 16.4 +0.7**
YSS pmax pmax
comp=Z,60nm,0.7s
YSS Yuzh-Sakhalins 56.80 16 *eP* **P** **03 48 16.0 +0.3**
comp=Z,48nm,0.7s
KLR Kul'dur 56.84 7 *d iP* **P** **03 48 16.4 +0.5**
KUR Kuril'sk 56.86 21 *i* P **P** **03 48 17.8 +1.8**
SONM Songino Array 56.91 347 P **P** **03 48 16.5 0.0**
comp=Z,29nm,0.5s,baz=162,slow=8.8,SNR=128
SONM PcP **PcP** **03 49 04.2 +0.3**
comp=Z,5.7nm,0.6s,baz=170,slow=5.0,SNR=5.2
SONM S **S** **03 55 25.6 -2.2**
comp=Z,0.8nm,0.8s,baz=174,slow=16,SNR=2.9
SONA1 Songino Array 56.92 347 *eP* **P** **03 48 16.6 -0.1**
URZ Urewera 57.46 131 P **P** **03 48 20.8 +0.4**
comp=Z,18nm,0.6s,baz=313,slow=2.6,SNR=12
ZAK Zakamensk 60.03 345 *eP* **P** **03 48 36.8 -0.7**
ZAK *e* 03 49 14.6
ZAK pmax pmax
comp=Z,22nm,0.9s
WMQ Urumqi 60.19 331 P **P** **03 48 40.0 +1.4**
WMQ pP pP 03 50 30.5 +0.8
WMQ sP sP 03 51 27.5 -2.4
WMQ S **S** **03 56 11.5 +2.2**
WMQ ScS **ScS** **03 57 32.8 +0.3**
WMQ sS sS 03 59 25.3 -2.8
WMQ pmax pmax
comp=Z,73nm,0.7s
WMQ pmax pmax
comp=Z,120nm,3.7s
TLY Talaya 61.14 346 P **P** **03 48 45.1 +0.5**
comp=Z,18nm,0.6s,baz=212,slow=3.9,SNR=22
TLY PcP **PcP** **03 49 21.7 +1.0**
comp=Z,6.5nm,0.7s,baz=230,slow=7.9,SNR=3.1
TLY S **S** **03 56 19.5 -1.2**
comp=Z,0.9nm,0.3s,baz=168,slow=19,SNR=1.6
TLY Talaya 61.14 346 *eP* P 03 48 36.9 -7.8
TLY *eS* **S** **03 56 15.4 -5.3**
TLY pmax pmax
comp=Z,31nm,1.0s
TLY Talaya 61.14 346 *eP* **P** **03 48 45.7 +1.1**
comp=Z,26nm,0.9s
TLY PcP **PcP** **03 49 21.7 +1.0**
TLY S **S** **03 56 19.5 -1.2**
MOY Mondy 61.79 345 *eP* **P** **03 48 49.4 +0.4**
MOY pmax pmax
comp=Z,35nm,1.7s
KSH Kashi 63.84 321 P **P** **03 49 03.0 +0.6**
KSH PcP **PcP** **03 49 31.3 -0.9**
KSH pP pP 03 50 50.5 -4.9
KSH PP **PP** **03 51 32.0 -0.8**
KSH pmax pmax
comp=Z,47nm,0.6s
KSH pmax pmax
comp=Z,68nm,4.7s
DGZ Jazzator, Alta 64.78 335 *i* P **P** **03 49 08.3 +0.1**
DGZ pmax pmax
comp=Z,26nm,0.5s
MK01 Makanchi Array 64.95 330 *eP* **P** **03 49 09.1 -0.2**
MK31 Makanchi Array 64.97 330 *eP* **P** **03 49 09.3 0.0**
MK31 pmax pmax
comp=Z,97nm,0.8s
MK31 Makanchi Array 64.97 330 *eP* **P** **03 49 09.3 0.0**
MKAR Makanchi Array 64.97 330 P **P** **03 49 09.3 -0.1**
comp=Z,84nm,0.6s,baz=135,slow=7.6,SNR=346
MKAR PcP **PcP** **03 49 36.4 -0.3**
comp=Z,12nm,0.6s,baz=143,slow=6.3,SNR=4.7
MKAR S **S** **03 57 06.3 -1.1**
comp=Z,1.7nm,0.8s,baz=140,slow=13,SNR=6.0
MAKZ Makanchi 65.14 330 *eP* **P** **03 49 10.4 0.0**
MAKZ pmax pmax
comp=Z,41nm,0.8s
MAKZ Makanchi 65.14 330 *eP* **P** **03 49 10.4 0.0**
comp=Z,41nm,0.8s
BOD Bodaibo 65.38 355 *eP* **P** **03 49 11.0 -0.6**
BOD pmax pmax
comp=Z,57nm,1.2s
KBL Kabul 65.91 313 *eP* **P** **03 49 15.8 +0.1**
KBL Kabul 65.91 313 *eP* **P** **03 49 15.8 +0.1**
AAK Ala-Archa 66.57 323 P **P** **03 49 19.8 +0.3**
comp=Z,62nm,0.5s,baz=129,slow=5.7,SNR=134
AAK PcP **PcP** **03 49 44.4 +0.8**
comp=Z,15nm,0.8s,baz=178,slow=4.7,SNR=5.2
AAK S **S** **03 57 25.8 -0.9**
comp=Z,1.8nm,0.3s,baz=123,slow=6.4,SNR=5.1
AAK Ala-Archa 66.57 323 *eP* **P** **03 49 19.8 +0.3**
comp=Z,59nm,0.6s
AAK PcP **PcP** **03 49 44.4 +0.8**
AAK S **S** **03 57 25.8 -0.9**
AAK Ala-Archa 66.57 323 P **P** **03 49 20.1 +0.5**
SNR=16
AAK Ala-Archa 66.57 323 P **P** **03 49 20.1 +0.5**
SNR=16
FRU Bishkek 66.61 323 *eP* **P** **03 49 20.5 +0.9**
FRU pmax pmax
comp=Z,210nm,1.6s
PEA0 Petropavlovsk- 66.97 22 *eP* **P** **03 49 22.4 +0.8**
PEA0B Petropavlovsk- 66.97 22 *eP* **P** **03 49 22.7 +1.1**
PETK Petropavlovsk- 66.97 22 P **P** **03 49 22.3 +0.7**
comp=Z,38nm,0.8s,baz=189,slow=4.0,SNR=29
PETK PcP **PcP** **03 49 45.0 +0.1**
comp=Z,9.1nm,0.5s,baz=221,slow=1.8,SNR=5.6
PET Petropavlovsk 67.26 22 *i* P **P** **03 49 24.8 +1.5**
PET pmax pmax
comp=Z,60nm,1.1s
MNAS Manas 67.69 322 P **P** **03 49 26.0 -0.4**
MNAS pmax pmax
comp=Z,44nm,0.8s
ZALV Zalesovo Beam 69.06 337 P **P** **03 49 33.2 -1.0**
comp=Z,64nm,0.8s,baz=140,slow=4.3,SNR=103
ZALV S **S** **03 57 50.4 -4.5**
comp=Z,3.9nm,0.6s,baz=124,slow=9.6,SNR=9.8
KK31 Karatay Array 69.25 321 *i* P **P** **03 49 34.4 -1.3**
KK31 pmax pmax
comp=Z,5.0nm,0.6s
KKAR Karatay Array 69.25 321 *eP* **P** **03 49 35.6 -0.1**
KKAR pmax pmax
comp=Z,6.0nm,0.6s
KKAR Karatay Array 69.25 321 *eP* **P** **03 49 35.6 -0.1**
comp=Z,6.3nm,0.6s
YAK Yakutsk 69.36 3 P **P** **03 49 35.7 0.0**
comp=Z,141nm,0.6s,baz=344,slow=0.2,SNR=29
YAK Yakutsk 69.36 3 *eP* **P** **03 49 35.8 0.0**
YAK *e* 03 49 54.9
YAK *e* 03 52 20.8
YAK *eS* **S** **03 57 54.5 -3.4**
YAK *e* 03 58 40.9
YAK pmax pmax
comp=Z,160nm,0.8s
YAK pmax pmax
comp=N,43nm,1.0s
YAK smax smax
comp=N,148nm,3.3s
YAK Yakutsk 69.36 3 *eP* **P** **03 49 36.0 +0.2**
KURBB Kurchatov Arra 69.41 331 P **P** **03 49 36.0 -0.4**
comp=N,38nm,0.6s,baz=143,slow=5.2,SNR=135
KURBB pP **pP** **03 51 31.9 -0.1**
comp=N,0.6nm,0.5s,baz=140,slow=6.1,SNR=1.3
KURBB S **S** **03 57 56.9 -2.0**
comp=N,0.7nm,0.4s,baz=137,slow=12,SNR=12
KURK Kurchatov 69.43 332 P **P** **03 49 36.0 -0.5**
KURK *PP **pP** **03 51 31.9 -0.2**
KURK S **S** **03 57 56.9 -2.2**
KURK pmax pmax
comp=Z,38nm,0.6s
KURK smax smax
comp=N,1.0nm,0.4s
KURK Kurchatov 69.43 332 *eP* **P** **03 49 36.4 -0.1**
KURK pP **pP** **03 51 31.9 -0.2**
KURK S **S** **03 57 56.9 -2.2**
KURK Kurchatov 69.43 332 P **P** **03 49 36.8 +0.3**
SNR=24
KURK Kurchatov 69.43 332 P **P** **03 49 36.8 +0.3**
SNR=24
WSAR Wadi Sarin 69.97 298 P **P** **03 49 40.2 -0.1**
comp=N,15nm,0.8s,baz=141,slow=5.5,SNR=13
WSAR pP **pP** **03 51 36.1 0.0**
comp=N,4.5nm,0.7s,baz=114,slow=10.0,SNR=3.2
MA2 Magadan 70.25 15 P **P** **03 49 42.1 +0.9**
comp=N,52nm,0.6s,baz=192,slow=6.1,SNR=25
NVS Novosibirsk 70.35 337⇓ *iP* **P** **03 49 41.4 -0.4**
NVS *i* S **S** **03 58 06.2 -3.2**
NVS *i* 03 58 36.2
NVS *i* 03 59 04.0
NVS pmax pmax
comp=Z,25nm,0.9s
NVS pmax pmax
comp=N,10.0nm,0.8s
NVS pmax pmax
comp=E,12nm,1.0s
NVS smax smax
comp=N,6.0nm,0.9s
NVS smax smax
comp=E,35nm,1.0s
MAW Mawson 72.19 200 P **P** **03 49 52.6 +0.2**
comp=E,7.9nm,0.6s,baz=86,slow=5.4,SNR=32
MAW Mawson 72.19 200 P **P** **03 49 52.7 +0.3**
baz=72,SNR=20
UOSS Minazif 72.59 299 *eP* **P** **03 49 55.9 +0.3**
HATD Hatta, Dubai 72.62 299 *i* P **P** **03 49 56.3 +0.5**
SNR=12
ASHO Ashiyiah 72.64 299 *i* P **P** **03 49 56.4 +0.4**
SNR=22
VNDA Vanda 72.99 172 P **P** **03 49 57.3 +0.4**
comp=E,3.4nm,0.6s,baz=316,slow=6.4,SNR=37
VNDA pP **pP** **03 51 53.8 -0.3**
comp=E,1.5nm,0.9s,baz=332,slow=4.8,SNR=2.4
VNDA S **S** **03 58 36.0 -2.4**
comp=E,0.3nm,0.7s,baz=84,slow=4.0,SNR=3.6
FAQ Al Faqa, Dubai 73.06 299 *i* P **P** **03 49 58.7 +0.3**
SNR=8.5
FAQ Al Faqa, Dubai 73.06 299 P **P** **03 49 59.0 +0.7**
SNR=6.1
FAQ Al Faqa, Dubai 73.06 299 P **P** **03 49 59.0 +0.7**
SNR=6.1
NAZ Nazwa, Dubai 73.07 299 *i* P **P** **03 49 58.5 +0.2**
SNR=8.1
SEY Seymchan 73.56 13 P **P** **03 50 00.8 +0.5**
comp=E,69nm,0.7s,baz=212,slow=4.8,SNR=169
OPO Ambohidratompo 74.43 253 P **P** **03 50 07.2 +0.7**
comp=E,2.5nm,0.8s,baz=95,slow=8.8,SNR=5.4
BVAR Borovoye Array 74.86 330 P **P** **03 50 07.5 -0.3**
comp=E,15nm,0.7s,baz=140,slow=7.7,SNR=70
BVAR S **S** **03 58 57.7 -1.8**
comp=E,0.6nm,0.5s,baz=147,slow=14,SNR=5.0
BRVK Borovoye 74.93 330 *d iP* **P** **03 50 08.6 +0.4**
BRVK pmax pmax
comp=Z,132nm,1.4s
BRVK Borovoye 74.93 330 *eP* **P** **03 50 07.7 -0.5**
comp=Z,89nm,1.0s
BRVK Borovoye 74.93 330 P **P** **03 50 08.6 +0.4**
SNR=14
BRVK Borovoye 74.93 330 P **P** **03 50 08.6 +0.4**
SNR=14
GEYT Alibeck 75.33 312 P **P** **03 50 11.8 +0.9**
comp=Z,26nm,0.7s,baz=147,slow=3.5,SNR=39
GEYT pP **pP** **03 52 09.2 +0.1**
comp=Z,0.8nm,0.4s,baz=146,slow=3.1,SNR=1.0
AB31 Akbulak array 78.65 323 *i* P **P** **03 50 27.7 -0.9**
AB31 pmax pmax
comp=Z,17nm,0.5s
ABKAR Akbulak array 78.65 323 *eP* **P** **03 50 28.0 -0.6**
comp=Z,23nm,0.5s
TIXI Tiksi 78.93 2 P **P** **03 50 29.0 -0.6**
comp=Z,20nm,0.3s,baz=141,slow=5.2,SNR=18
TIXI S **S** **03 59 37.1 -4.7**
comp=Z,3.4nm,0.3s,baz=321,slow=19,SNR=5.8
TIXI Tiksi 78.93 2 *c iP* **P** **03 50 29.6 0.0**
TIXI pmax pmax
comp=Z,36nm,0.8s
ATKA Atka Island 79.61 34 *eP* **P** **03 50 34.2 +0.6**
AKTO Aktyubinsk 80.27 324 P **P** **03 50 36.8 -0.4**
comp=Z,76nm,0.7s,baz=112,slow=6.4,SNR=186
NRIK Noril'sk 80.36 348 P **P** **03 50 37.7 +0.5**
comp=Z,9.1nm,0.4s,baz=144,slow=6.0,SNR=24
NRIK S **S** **03 59 55.2 -1.4**
comp=Z,4.0nm,0.6s,baz=85,slow=18,SNR=13
SYO Syowa Base 80.87 201⇑ *eP* **P** **03 50 39.0 -0.9**
DAMY Dhamar 81.06 286 *eP* **P** **03 50 43.0 +0.7**
comp=Z,16nm,0.6s
BILL Bilibino 81.11 15⇑ *iP* **P** **03 50 42.8 +1.7**
BILL *e**PP **pP** **03 52 43.4 +1.8**
BILL *e* 03 53 56.7
BILL *eS* S 04 00 13.4 +9.2
BILL pmax pmax
comp=Z,6.0nm,1.2s
SVE Sverdlovsk 81.64 330 *c iP* **P** **03 50 44.3 +0.3**
SVE pmax pmax
comp=Z,68nm,0.9s
ARU Arti 82.49 330 P **P** **03 50 47.8 -0.6**
comp=Z,21nm,0.5s,baz=166,slow=0.6,SNR=29
ARU Arti 82.49 330 *d iP* **P** **03 50 48.3 0.0**
ARU 03 54 05.3
ARU S **S** **04 00 15.4 -3.0**
ARU SS **SS** **04 05 53.3 -3.4**
ARU pmax pmax
comp=Z,48nm,1.7s
ARU Arti 82.49 330 *eP* **P** **03 50 48.2 0.0**
comp=Z,20nm,0.6s
QSPA South Pole Qui 82.63 180 *eP* **P** **03 50 49.2 +0.1**
comp=Z,5.9nm,0.4s
MLH Mauna Loa 84.44 70 *eP* **P** **03 51 01.8 +2.6**
MLH Mauna Loa 84.44 70 *eP* **P** **03 51 01.8 +2.6**
SOKR Solikamsk 84.67 332 *c iP* **P** **03 50 57.8 -1.2**
SOKR pmax pmax
comp=Z,31nm,0.9s
KMBO Kilima Mbogo 85.79 269 P **P** **03 51 06.8 +0.9**
comp=Z,4.4nm,0.5s,baz=63,slow=7.1,SNR=13
KMBO Kilima Mbogo 85.79 269 *i* P **P** **03 51 07.0 +1.2**
KMBO pmax pmax
comp=Z,4.0nm,0.5s
KMBO Kilima Mbogo 85.79 269 *eP* **P** **03 51 06.6 +0.8**
comp=Z,5.1nm,0.8s
GNI Garni 85.93 311 *deP* **P** **03 51 06.7 +0.9**
GNI pmax pmax
comp=Z,69nm,1.8s
GNI Garni 85.93 311 *eP* **P** **03 51 06.3 +0.5**
comp=Z,30nm,0.8s
ZEI Tsey 87.13 314 *eP* **P** **03 51 11.7 +0.3**
ZEI pmax pmax
comp=Z,39nm,1.1s
NCK Nalchik 87.50 314⇑ *iP* **P** **03 51 13.8 +0.9**
NCK pmax pmax
comp=Z,6.0nm,0.3s
KBZ Khabaz 88.05 314 P **P** **03 51 14.6 -0.8**
comp=Z,14nm,0.8s,baz=116,slow=4.2,SNR=24
NEY Neytrino 88.07 314⇓ *iP* **P** **03 51 17.5 +1.7**
NEY pmax pmax
comp=Z,2.0nm,0.7s
KIV Kislovodsk 88.24 315 *eP* **P** **03 51 17.5 +1.0**
KIV pmax pmax
comp=Z,12nm,1.0s
MARD Mardin 88.39 308 *eP* **P** **03 51 18.2 +0.9**
VSR Storozhevoye 91.92 321 *eP* **P** **03 51 32.1 -1.1**
VSR pmax pmax
comp=Z,20nm,0.6s
LPSR Galich'ya Gora 92.29 323 *eP* **P** **03 51 33.9 -0.9**
LPSR pmax pmax
comp=Z,20nm,0.8s
LSZ Lusaka 92.84 254 *eP* **P** **03 51 38.3 -0.1**
LSZ pmax pmax
comp=Z,4.0nm,0.4s
LSZ Lusaka 92.84 254 *eP* **P** **03 51 38.3 -0.1**
comp=Z,3.9nm,0.4s
KDAK Kodiak Island 93.11 32 *i* P **P** **03 51 41.9 +3.5**
KLMR Klimovskoe 93.27 331 *eP* **P** **03 51 36.1 -3.0**
KLMR pmax pmax
comp=Z,20nm,0.9s
BOSA Boshof 93.40 241 P **P** **03 51 40.4 -0.3**
comp=Z,2.5nm,0.7s,baz=49,slow=6.1,SNR=4.3
SNAA Sanae 93.66 195 *eP* **P** **03 51 41.2 +0.3**

SNAA pmax pmax
comp=Z,48nm,0.7s
SNAA Sanae 93.66 195 *e*P **P 03 51 41.2 +0.3**
comp=Z,48nm,0.7s
OBN Obninsk 94.02 325 P **P 03 51 42.0 -0.6**
comp=Z,38nm,0.6s,baz=69,slow=4.8,SNR=8.9
OBN Obninsk 94.02 325‖ *e*P **P 03 51 42.3 -0.3**
OBN *e**PP pP 03 53 36.6 -10
OBN *e* 03 55 39.5
OBN pmax pmax
comp=Z,38nm,0.7s
OBN Obninsk 94.02 325 *e*P **P 03 51 42.4 -0.3**
BRTR Keskin Array B 94.27 309 P **P 03 51 43.5 -0.9**
comp=Z,3.0nm,0.7s,baz=125,slow=5.8,SNR=16
TMCR Tamitsa 94.43 334 *e*P **P 03 51 43.1 -1.2**
TMCR pmax pmax
comp=Z,26nm,0.8s
RC01 Rabbit Creek A 94.98 29 *e*P **P 03 51 46.0 -1.0**
comp=Z,9.7nm,0.8s
TRF Thorofare Moun 94.98 27 *e*P **P 03 51 45.5 -1.6**
comp=Z,7.0nm,1.0s
PMR Palmer 95.32 29 *e*P **P 03 51 47.3 -1.1**
PMR pmax pmax
comp=Z,3.0nm,0.6s
PMR Palmer 95.32 29 *e*P **P 03 51 47.3 -1.1**
comp=Z,3.4nm,0.6s
COLD Coldfoot 95.42 23 *e*P **P 03 51 48.8 0.0**
comp=Z,15nm,1.0s
MCK McKinley 95.61 27 *e*P **P 03 51 48.5 -1.3**
MCK pmax pmax
comp=Z,17nm,1.0s
MCK McKinley 95.61 27 *e*P **P 03 51 48.5 -1.3**
comp=Z,17nm,1.0s
TOLK Toolik Lake Re 95.80 22 P **P 03 51 51.3 +0.8**
baz=265
COLA College 96.17 25 *e*P **P 03 51 52.9 +0.7**
COLA pmax pmax
comp=Z,3.0nm,0.7s
ILAR Eielson Array 96.58 26 P **P 03 51 52.4 -1.6**
comp=Z,4.5nm,0.9s,baz=267,slow=4.1,SNR=30
ILAR PKKPbc **PKKPbc 04 08 34.9 -3.0**
comp=Z,0.7nm,0.7s,baz=76,slow=1.7,SNR=6.4
DOT Dot Lake 97.77 27 *e*Pdif Pdif 03 51 58.8 -0.7
comp=Z,12nm,0.7s
AKASG Malin Array Be 98.13 320 P Pdif 03 52 00.3 -0.9
comp=Z,4.5nm,0.7s,baz=76,slow=4.7,SNR=22
AKASG PKiKP **PKiKP 03 56 30.3 -0.1**
comp=Z,0.5nm,0.5s,baz=78,slow=2.0,SNR=3.4
AKASG PKKPbc **PKKPbc 04 08 31.0 -2.0**
comp=Z,0.9nm,0.5s,baz=285,slow=3.1,SNR=4.7
EGAK Eagle 99.03 26 *e*Pdif **Pdif 03 52 04.9 0.0**
comp=Z,3.4nm,0.9s
ARCES ARCESS Array B 99.52 339 P **Pdif 03 52 06.1 -1.0**
comp=Z,2.2nm,0.5s,baz=90,slow=6.3,SNR=8.8
ARCES PKiKP **PKiKP 03 56 31.6 -0.9**
comp=Z,1.8nm,0.7s,baz=117,slow=1.0,SNR=3.8
VSU Vasula 99.58 328 *c i*P **Pdif 03 52 07.4 -0.1**
FINES FINESS Array B 99.80 331 P **Pdif 03 52 06.9 -1.5**
comp=Z,1.0nm,0.5s,baz=81,slow=3.9,SNR=9.2
FINES PKiKP **PKiKP 03 56 31.8 -1.4**
comp=Z,1.5nm,0.5s,baz=104,slow=2.9,SNR=7.2
FINES FINESS Array B 99.80 331 *i*P **Pdif 03 52 07.0 -1.5**
FINES pmax pmax
comp=Z,1.0nm,0.5s
MLR Muntele Rosu 100.25 315 P **Pdif 03 52 10.7 -0.3**
comp=Z,0.9nm,1.0s
HFS Hagfors 105.99 331 Pdiff **Pdif 03 52 35.3 -0.8**
comp=Z,0.9nm,0.4s,baz=116,slow=3.4,SNR=10.0
HFS PKiKP **PKiKP 03 56 43.2 -1.3**
comp=Z,2.3nm,0.9s,baz=90,slow=2.9,SNR=4.6
NB2 NORSAR Subarra 106.94 332 P **Pdif 03 52 39.3 -1.0**
comp=Z,0.7nm,0.5s,baz=75,slow=4.4
NOA NORSAR Array B 106.94 332 Pdiff **Pdif 03 52 39.0 -1.3**
comp=Z,1.3nm,0.8s,baz=69,slow=7.9,SNR=4.3
NOA PKiKP **PKiKP 03 56 45.0 -1.4**
comp=Z,1.0nm,0.6s,baz=72,slow=2.2,SNR=4.6
NOA NORSAR Array B 106.94 332 P **Pdif 03 52 39.0 -1.3**
NOA pmax pmax
comp=Z,1.0nm,0.8s
SOKA Soboth 107.74 317 *e*PKiKP **PKiKP 03 56 48.8 +0.5**
comp=Z,1.8nm,0.9s
BOJS Bojanci 107.75 315 *e*PKiKP **PKiKP 03 56 48.6 +0.4**
BOJS *e*PP **PP 03 57 25.7 +4.8**
VISS Visnje 107.99 316 *i* PKiKP **PKiKP 03 56 49.1 +0.4**
VISS *i* PP **PP 03 57 25.9 +3.3**
GERES GERESS Array B 108.28 319 PKiKP **PKiKP 03 56 48.9 -0.4**
comp=Z,0.9nm,0.6s,baz=80,slow=1.6,SNR=11
JAVS Javornik 108.52 316 *e*PKiKP **PKiKP 03 56 46.7 -3.1**
JAVS *i* PP **PP 03 57 26.4 -0.1**
ABTA Abfaltersbach 109.44 317 *e*PKiKP **PKiKP 03 56 51.3 -0.2**
comp=Z,4.5nm,0.8s
WTTA Wattenberg 109.93 318 *e*PKiKP **PKiKP 03 56 52.8 +0.2**
comp=Z,12nm,0.7s
MOTA Moosalm 110.27 318 *e*PKiKP **PKiKP 03 56 53.0 -0.1**
comp=Z,4.6nm,0.6s
RETA Reutte 110.47 318 *e*PKiKP **PKiKP 03 56 53.4 0.0**
comp=Z,1.9nm,0.6s
FETA Feichten 110.59 318 *e*PKiKP **PKiKP 03 56 54.4 +0.7**
comp=Z,3.9nm,0.9s
YKA Yellowknife Ar 110.99 25 PKiKP **PKiKP 03 56 53.1 -0.7**
comp=Z,5.2nm,0.6s,baz=288,slow=1.9,SNR=13
DAVA Damuels 111.10 318 *e*PKiKP **PKiKP 03 56 54.6 -0.1**
comp=Z,9.6nm,0.7s
TUE Stuetta 111.63 317 *e*PKPdf **PKiKP 03 56 55.4 -0.5**
B05A Bryant 111.84 41 P **PKiKP 03 56 57.0 +1.1**
baz=284
L02D Cave Junction, 112.09 48 P **PKiKP 03 56 57.5 +0.9**
baz=280
I04A Tendick Farm, 112.63 46 P **PKiKP 03 56 58.6 +1.0**
baz=282
MEM Membach 112.73 322 PKP **PKiKP 03 56 58.3 +0.8**
M02C Callahan 112.78 48 P **PKiKP 03 56 59.3 +1.3**
baz=281
J04D Umpqua Nationa 112.96 46 P **PKiKP 03 56 59.5 +1.1**
baz=282
N02D Trinity Center 112.97 49 P **PKiKP 03 56 59.3 +0.9**
baz=281
G05D Wamic, OR 113.08 44 P **PKiKP 03 56 59.5 +1.1**
baz=283
BCLA Clavier 113.21 322 PKP **PKiKP 03 56 58.7 +0.2**
I05D Terrebonne, OR 113.27 45 P **PKiKP 03 56 59.8 +1.0**
baz=283
M04C Macdoel 113.45 48 P **PKiKP 03 57 00.1 +0.7**
baz=282
KEST Kesra 113.56 306 PKiKP **PKiKP 03 56 59.5 -0.2**
comp=Z,2.3nm,0.5s,baz=154,slow=0.5,SNR=14
J05D Fort Rock, OR 113.57 46 P **PKiKP 03 57 00.3 +0.7**
baz=283
DOU Dourbes 113.75 322 PKP **PKiKP 03 57 00.1 +0.6**
O03D Paynes Creek 113.77 49 P **PKiKP 03 57 00.6 +0.6**
baz=281
SNF Seneffe 113.81 322 PKP **PKiKP 03 57 00.2 +0.7**
HAWA Hanford 114.00 42 *e*PKPdf PKPdf 03 57 01.2 +1.2
MOD Modoc Plateau 114.55 47 *e*PKPdf PKPdf 03 57 02.3 +0.8
NEW Newport 115.03 40 P **PKPdf 03 57 03.5 +1.5**
baz=288
LOR Lormes 115.06 319 *e*PKiKP **PKPdf 03 57 01.6 -0.5**
LOR pmax pmax
comp=Z,4.0nm,0.5s
VIVF Saint-Julien-l 115.20 316 *e*PKiKP **PKPdf 03 57 01.9 -0.6**
VIVF pmax pmax
comp=Z,2.0nm,0.6s
SSF Saint Saulge 115.36 319 *e*PKiKP **PKPdf 03 57 02.3 -0.4**
SSF pmax pmax
comp=Z,10.0nm,0.6s
BMO Blue Mountains 115.92 43 *e*PKiKP **PKPdf 03 57 03.4 -0.6**
BMO Blue Mountains 115.92 43 *e*PKPdf **PKPdf 03 57 03.4 -0.6**
PKM Mcpherson Peak 116.29 55 P **PKPdf 03 57 06.2 +1.1**
baz=280
BSC Santa Cruz Isl 116.59 56 P **PKPdf 03 57 05.6 +0.1**
baz=280
VES Vestal, Richgr 116.71 54 P **PKPdf 03 57 06.0 +0.4**
baz=281
CAF Calviac 116.96 317 *e*PKiKP **PKPdf 03 57 05.9 0.0**
CAF pmax pmax
comp=Z,6.0nm,0.6s
ARVC Arvin 117.05 54 P **PKPdf 03 57 06.7 +0.4**
baz=281
TIN Tinemaha, Big 117.15 52 P **PKPdf 03 57 07.3 +0.7**
baz=282
LDF La Druitiere 117.16 321 *e*PKiKP **PKPdf 03 57 05.5 -0.6**
LDF pmax pmax
comp=Z,36nm,1.6s
USHA Ushuaia 117.29 172 PKiKP **PKiKP 03 57 06.8 +0.6**
comp=Z,65nm,1.1s,baz=353,slow=8.1,SNR=3.8
MFID Camas Ranch 117.36 45 *e*PKPdf **PKPdf 03 57 07.4 +0.6**
CWC Cottonwood Cre 117.39 53 P **PKPdf 03 57 07.7 +0.5**
baz=282
MSO Missoula 117.54 41 P **PKPdf 03 57 07.4 +0.3**
baz=290
CIS Catalina Islan 117.69 56 P **PKPdf 03 57 08.3 +0.7**
baz=280
EDW2 Edwards Air Fo 117.77 54 P **PKPdf 03 57 08.9 +1.1**
baz=281
GRAC Grapevine Rang 117.84 52 P **PKPdf 03 57 08.7 +0.9**
baz=282
LFF La Frestale 117.85 317 *e*PKiKP **PKPdf 03 57 07.5 0.0**
LFF pmax pmax
comp=Z,11nm,0.6s
LRMC Laurel Mtn Rad 117.90 54 P **PKPdf 03 57 08.3 +0.2**
baz=282
MPMC Manual Prospec 117.94 53 P **PKPdf 03 57 09.1 +0.9**
baz=282
BFSC Mount Baldy Ra 118.16 55 P **PKPdf 03 57 09.3 +0.7**
baz=281
TAM Tamanrasset 118.26 292 *e*PKiKP **PKPdf 03 57 10.4 +1.2**
TAM Tamanrasset 118.26 292 *e*PKPdf **PKPdf 03 57 10.4 +1.2**
HLID Hailey 118.29 44 P **PKPdf 03 57 09.7 +1.0**
baz=288
HLID Hailey 118.29 44 *e*PKPdf **PKPdf 03 57 09.3 +0.6**
FURC Furnace Creek, 118.35 53 P **PKPdf 03 57 10.0 +1.3**
baz=283
GSC Goldstone, Bar 118.64 54 P **PKPdf 03 57 10.9 +1.4**
baz=282
MURC Murrieta 118.66 56 P **PKPdf 03 57 10.3 +0.8**
baz=281
TPNV Topopah Spring 118.72 52 P **PKPdf 03 57 10.6 +0.9**
baz=283
BBRC Big Bear Solar 118.75 55 P **PKPdf 03 57 10.7 +0.8**
baz=281
109C Camp Elliot, M 118.86 57 P **PKPdf 03 57 10.9 +1.1**
baz=280
R11A Troy Canyon, C 118.90 50 P **PKPdf 03 57 11.1 +1.0**
baz=284
R11A Troy Canyon, C 118.90 50 *e*PKPdf **PKPdf 03 57 10.7 +0.6**
R11A *e*PP **PP 03 58 37.0 -2.1**
DLMT Dillon 118.93 42 *e*PKPdf **PKPdf 03 57 10.7 +0.9**
SHOC Shoshone, Teco 118.93 53 P **PKPdf 03 57 11.1 +1.2**
baz=283
PFO Pinyon Flats O 119.26 56 P **PKPdf 03 57 12.3 +1.5**
baz=281
PFO Pinyon Flats O 119.26 56 *e*PKiKP **PKPdf 03 57 11.2 +0.4**
PFO Pinyon Flats O 119.26 56 *e*PKPdf **PKPdf 03 57 11.2 +0.4**
TUQ Turquoise Moun 119.31 53 P **PKPdf 03 57 12.3 +1.4**
baz=283
MONP Monument Peak, 119.42 56 P **PKPdf 03 57 12.7 +1.5**
baz=281
BOZ Bozeman (W) 119.48 41 P **PKPdf 03 57 12.0 +1.1**
baz=292
BELC Belle Mtn. Jos 119.56 55 P **PKPdf 03 57 12.7 +1.3**
baz=282
GMRC Granite Mounta 119.67 54 P **PKPdf 03 57 13.1 +1.5**
baz=282
EGMT Eagleton 119.72 38 P **PKPdf 03 57 11.8 +0.7**
baz=284
EGMT Eagleton 119.72 38 *e*PKPdf **PKPdf 03 57 11.1 -0.1**
IKP In-Ko-Pah, Jac 119.73 57 P **PKPdf 03 57 13.2 +1.5**
baz=281
SWSC Sam W. Stewart 119.93 56 P **PKPdf 03 57 13.2 +1.3**
baz=281
BC3 Big Chuckawall 120.07 55 P **PKPdf 03 57 13.6 +1.3**
baz=282
IRM Iron Mountain 120.22 55 P **PKPdf 03 57 13.9 +1.4**
baz=282
DUG Dugway, Tooele 120.46 47 P **PKPdf 03 57 13.8 +0.9**
baz=286
DUG Dugway, Tooele 120.46 47 *e*PKiKP **PKPdf 03 57 13.3 +0.4**
DUG Dugway, Tooele 120.46 47 *e*PKPdf **PKPdf 03 57 13.3 +0.4**
IMW Indian Meadow 120.55 43 *e*PKPdf **PKPdf 03 57 13.8 +0.7**
H17A Grant Village 120.62 42 P **PKPdf 03 57 14.9 +1.7**
baz=292
FFC Flin Flon 120.63 29 *i* PKiKP **PKPdf 03 57 13.3 +0.7**
TPAW Teton Pass 120.69 43 *e*PKPdf **PKPdf 03 57 14.1 +0.7**
GLA Glamis 120.71 56 P **PKPdf 03 57 15.0 +1.5**
baz=282
MOOW Moose Ponds 120.74 43 *e*PKPdf **PKPdf 03 57 13.9 +0.5**
REDW Red Top Meadow 120.81 43 *e*PKPdf **PKPdf 03 57 13.9 +0.3**
Y12C Blythe 120.81 55 P **PKPdf 03 57 14.9 +1.4**
baz=283
SNOW Snow King Moun 120.83 43 *e*PKPdf **PKPdf 03 57 14.4 +0.7**
LOHW Long Hollow 120.88 43 *e*PKPdf **PKPdf 03 57 14.4 +0.6**
HWUT Hardware Ranch 120.91 46 *e*PKPdf **PKPdf 03 57 13.9 +0.1**
PDMCI Parker Dam,Lak 120.99 54 P **PKPdf 03 57 15.0 +1.1**
baz=283
RLMT Red Lodge 121.20 41 P **PKPdf 03 57 15.5 +1.2**
baz=293
RLMT Red Lodge 121.20 41 *e*PKPdf **PKPdf 03 57 15.2 +0.9**
BW06 Boulder Array 121.90 44 P **PKPdf 03 57 16.2 +0.5**
baz=292
BW06 Boulder Array 121.90 44 *e*PKPdf **PKPdf 03 57 16.0 +0.2**
PDAR Pinedale Array 121.90 44 PKP **PKPdf 03 57 15.8 +0.1**
comp=Z,2.5nm,0.5s,baz=99,slow=1.6,SNR=46
PDAR PKKPbc **PKKPbc 04 07 16.3 -0.8**
comp=Z,0.3nm,0.5s,baz=110,slow=6.5,SNR=4.2
TORD Torodi Ar. Bea 122.21 281 PKP **PKPdf 03 57 16.4 -0.4**
comp=Z,16nm,0.6s,baz=78,slow=1.9,SNR=136
TORD SKP 03 59 59.5
comp=Z,2.1nm,0.9s,baz=44,slow=1.2,SNR=6.4
TORD PKKPbc **PKKPbc 04 07 15.5 +0.5**
comp=Z,0.8nm,0.7s,baz=279,slow=3.4,SNR=7.0
LAO LASA Array 122.46 38 P **PKPdf 03 57 17.8 +1.3**
baz=297
LAO LASA Array 122.46 38 *e*PKPdf **PKPdf 03 57 17.1 +0.7**
214A Organ Pipe Nat 122.61 57 P **PKPdf 03 57 18.6 +1.4**
baz=283
DGMT Dagmar 122.83 36 P **PKPdf 03 57 18.2 +1.1**
baz=300
DGMT Dagmar 122.83 36 *e*PKPdf **PKPdf 03 57 17.4 +0.4**
ESDC Sonseca Array 122.88 313 PKP **PKPdf 03 57 16.9 -0.5**
comp=Z,3.3nm,0.7s,baz=21,slow=2.8,SNR=28
ESDC PP **PP 03 59 01.7 -3.8**
comp=Z,0.5nm,0.8s,baz=67,slow=8.5,SNR=4.3
WUAZ Wupatki 122.89 52 P **PKPdf 03 57 19.0 +1.2**
baz=286
WUAZ Wupatki 122.89 52 *e*PKPdf **PKPdf 03 57 18.6 +0.9**
PAB San Pablo 123.20 313 *e*PKiKP **PKPdf 03 57 18.4 +0.3**
PAB San Pablo 123.20 313 *e*PKPdf **PKPdf 03 57 18.4 +0.3**
O20A White River Ci 123.78 46 P **PKPdf 03 57 20.6 +1.2**
baz=291
O20A White River Ci 123.78 46 *e*PKPdf **PKPdf 03 57 19.7 +0.3**
PV04 Paradox Valley 123.91 48 *e*PKPdf **PKPdf 03 57 20.6 +1.0**
RWWY Rawlins 123.93 44 *e*PKPdf **PKPdf 03 57 20.1 +0.4**
K22A Casper 124.01 43 P **PKPdf 03 57 20.3 +0.6**
baz=294
K22A Casper 124.01 43 *e*PKPdf **PKPdf 03 57 19.7 0.0**
PBRG Braganca 124.06 316 *e*PKP **PKPdf 03 57 19.9 +0.2**
TUC Tucson 124.20 56 P **PKPdf 03 57 21.6 +1.4**
baz=284
TUC Tucson 124.20 56 *e*PKiKP **PKPdf 03 57 21.1 +0.9**
TUC Tucson 124.20 56 *e*PKPdf **PKPdf 03 57 21.1 +0.9**
PV01 Paradox Valley 124.24 48 *e*PKPdf **PKPdf 03 57 20.8 +0.4**
W18A Petrified Fore 124.29 52 P **PKPdf 03 57 21.9 +1.4**
baz=287
MVO Moncorvo 124.51 316 *e*PKP **PKPdf 03 57 21.8 +1.2**
MVCO Mesa Verde 124.60 50 P **PKPdf 03 57 22.7 +1.6**
baz=289
MVCO Mesa Verde 124.60 50 *e*PKPdf **PKPdf 03 57 22.1 +1.0**
PVRL Vila Real 124.94 316 *e*PKP **PKPdf 03 57 21.6 +0.2**
POLO Lamas de Olo 124.96 316 *e*PKP **PKPdf 03 57 22.8 +1.4**
PCAB Cabril 124.98 317 *e*PKP **PKPdf 03 57 24.2 +2.8**
RSSD Black Hills 125.00 40 P **PKPdf 03 57 21.9 +0.3**
baz=298
RSSD Black Hills 125.00 40 *e*PKiKP **PKPdf 03 57 21.1 -0.5**
RSSD Black Hills 125.00 40 *e*PKPdf **PKPdf 03 57 21.1 -0.5**
PGAV Gavieira, Arco 125.04 317 *e*PKP **PKPdf 03 57 22.7 +1.1**
SMCO Snowmass 125.05 47 *e*PKPdf **PKPdf 03 57 23.6 +1.5**
N23A Red Feather La 125.12 44 P **PKPdf 03 57 23.1 +1.1**
baz=294
PHWY Pilot Hill 125.29 44 *e*PKPdf **PKPdf 03 57 22.9 +0.5**
PVIS Viseu 125.29 315 *e*PKP **PKPdf 03 57 22.6 +0.6**
PCBR Castelo Branco 125.34 314 *e*PKP **PKPdf 03 57 23.2 +1.1**
PMRV Marv??o 125.44 314 *e*PKP **PKPdf 03 57 23.2 +0.9**
PTO Porto 125.61 316 *e*PKP **PKPdf 03 57 23.8 +1.3**
PBAR Barrancos 125.65 312 *e*PKP **PKPdf 03 57 23.9 +1.2**
S22A 4UR Ranch, Cre 125.67 48 P **PKPdf 03 57 25.0 +1.8**
baz=291
MDND Maddock 125.77 34 P **PKPdf 03 57 23.4 +0.7**
baz=304
ISCO Idaho Springs 125.78 46 P **PKPdf 03 57 24.7 +1.3**
baz=293
ISCO Idaho Springs 125.78 46 *e*PKiKP **PKPdf 03 57 24.5 +1.1**
ISCO Idaho Springs 125.78 46 *e*PKPdf **PKPdf 03 57 24.5 +1.1**
PESTR Estremoz 125.79 313 *e*PKP **PKPdf 03 57 24.1 +1.1**
PCAS Casmilo, Conde 125.98 315 *e*PKP **PKPdf 03 57 24.6 +1.3**
PTOM Tomar 126.09 314 *e*PKP **PKPdf 03 57 24.9 +1.4**
EVO Evora 126.22 313 *e*PKP **PKPdf 03 57 24.3 +0.5**
PBEJ Beja 126.31 312 *e*PKP **PKPdf 03 57 25.4 +1.4**
ULM Lac du Bonnet 126.31 30 PKP **PKPdf 03 57 23.6 0.0**
comp=Z,15nm,0.6s,baz=302,slow=2.8,SNR=31
Q24A Divide 126.44 46 P **PKPdf 03 57 25.9 +1.3**
baz=293
B31A Greenbush Farm 126.51 33 P **PKPdf 03 57 24.7 +0.7**
baz=306
PCVE Castro Verde 126.58 312 *e*PKP **PKPdf 03 57 25.9 +1.4**
121A Cookes Peak, D 126.58 55 P **PKPdf 03 57 26.5 +1.6**
baz=286
121A Cookes Peak, D 126.58 55 *e*PKPdf **PKPdf 03 57 26.7 +1.7**
MESJ Messejana 126.64 312 *e*PKP **PKPdf 03 57 25.8 +1.2**
SDCO Great Sand Dun 126.65 48 P **PKPdf 03 57 26.6 +1.6**
baz=292
SDCO Great Sand Dun 126.65 48 *e*PKPdf **PKPdf 03 57 26.5 +1.4**
PNCL Nicolau / Gran 126.76 313 *e*PKP **PKPdf 03 57 26.4 +1.6**
A32A Rocking H Ranc 126.82 32 P **PKPdf 03 57 24.9 +0.2**
baz=308
C31A Landman Farms, 126.83 33 P **PKPdf 03 57 25.3 +0.6**
baz=306
ANMO Albuquerque 126.90 51 P **PKPdf 03 57 27.0 +1.5**
baz=289
ANMO Albuquerque 126.90 51 *c i*PKIKP **PKPdf 03 57 27.6 +2.1**
ANMO Albuquerque 126.90 51 *e*PKPdf **PKPdf 03 57 27.2 +1.7**
PMAFR Mafra 126.97 314 *e*PKP **PKPdf 03 57 26.4 +1.1**
B32A Ashes, Strandq 127.12 32 P **PKPdf 03 57 25.4 +0.2**
baz=308
D31A Mcclaflin, Tow 127.27 34 P **PKPdf 03 57 26.4 +0.8**
baz=306
PFVI Vila Bisbo 127.35 312 *e*PKP **PKPdf 03 57 27.9 +1.9**
A33A Warroad 127.38 31 P **PKPdf 03 57 26.0 +0.3**
baz=309
E31A Nome 127.46 35 P **PKPdf 03 57 26.3 +0.3**
baz=305
AGMN Agassiz Nation 127.53 32 P **PKPdf 03 57 26.2 +0.2**
baz=308
D32A Dogwood Acres, 127.61 34 P **PKPdf 03 57 26.8 +0.6**
baz=306
F31A Hecla 127.65 36 P **PKPdf 03 57 26.7 +0.3**
baz=304
T25A Trinidad 127.68 48 P **PKPdf 03 57 28.8 +1.9**
baz=292
E32A Braaten, Kindr 127.90 34 P **PKPdf 03 57 26.9 +0.1**
baz=306
C33A Trail 127.91 33 P **PKPdf 03 57 26.8 +0.1**
baz=308
SUSD Miller 128.01 38 P **PKPdf 03 57 27.2 +0.2**
baz=303
B34A Aery, Baudette 128.05 31 P **PKPdf 03 57 27.4 +0.4**
baz=310,SNR=8.0
KSCO Kaye Shedlock' 128.22 45 P **PKPdf 03 57 28.7 +0.9**
baz=295
D33A AnnSam, Waubun 128.25 33 P **PKPdf 03 57 27.9 +0.5**
baz=308,SNR=6.3
H31A Wolsey 128.28 37 P **PKPdf 03 57 27.7 +0.2**
baz=303
KIC Kosan Boka 128.28 272 *e*PKIKP **PKPdf 03 57 29.1 +0.7**
comp=Z,17nm,0.7s
KIC Kosan Boka 128.28 272 *e*PKP1 PP 03 59 56.5 +15
comp=Z,50nm,1.1s
F32A Veblen 128.29 35 P **PKPdf 03 57 27.6 +0.1**
baz=305
DBIC Dimbokro 128.42 273 PKP **PKPdf 03 57 29.1 +0.4**
comp=Z,7.8nm,0.5s,baz=82,slow=2.3,SNR=19
DBIC SKPbc SKPbc 03 59 56.5
comp=Z,9.0nm,0.7s,baz=104,slow=9.1,SNR=9.7
G32A Webster 128.43 36 P **PKPdf 03 57 28.0 +0.2**
baz=305
C34A RKJ Ranch, Bem 128.44 32 P **PKPdf 03 57 27.9 +0.1**
baz=309
E33A Westby DABS, E 128.55 34 P **PKPdf 03 57 28.4 +0.4**
baz=307
LIC Lamto 128.56 272 *e*PKIKP **PKPdf 03 57 29.1 +0.1**
comp=Z,35nm,0.5s
LIC Lamto 128.56 272 *e*PKP1 PP 03 59 57.5 +14
comp=Z,61nm,1.5s
TIC Toumodi 128.58 273 *e*PKIKP **PKPdf 03 57 29.2 +0.2**
TIC Toumodi 128.58 273 *e*PKP1 PP 03 59 57.5 +14
B35A Bob, Littlefor 128.60 31 P **PKPdf 03 57 28.4 +0.3**
baz=310,SNR=6.3
D34A Park Rapids 128.64 33 P **PKPdf 03 57 28.7 +0.5**
baz=308,SNR=9.8
J31A Geddes 128.75 39 P **PKPdf 03 57 28.5 0.0**
baz=302
MNTX Cornudas Mount 128.78 55 P **PKPdf 03 57 30.2 +1.2**
baz=288
MNTX Cornudas Mount 128.78 55 *e*PKPdf **PKPdf 03 57 30.1 +1.2**
F33A 5 Mile Ranch, 128.78 35 P **PKPdf 03 57 28.9 +0.4**
baz=306
H32A Carlson Farm, 128.88 37 P **PKPdf 03 57 28.9 +0.1**
baz=304
C35A Jirik Farms, M 128.90 32 P **PKPdf 03 57 28.7 0.0**
baz=310
E34A Wadena 129.00 33 P **PKPdf 03 57 29.2 +0.3**
baz=308
G33A Ottoville 129.07 35 P **PKPdf 03 57 29.6 +0.5**
baz=306
K31A O'Neill 129.09 39 P **PKPdf 03 57 29.5 +0.3**
baz=302
I32A Karley and Nic 129.13 37 P **PKPdf 03 57 29.4 +0.1**
baz=304
H33A Prehn Over Nor 129.19 36 P **PKPdf 03 57 29.7 +0.3**
baz=305
D35A Remer 129.25 32 P **PKPdf 03 57 29.7 +0.4**
baz=309,SNR=12
J32A Parkston 129.26 38 P **PKPdf 03 57 29.8 +0.3**
baz=303
F34A Alexandria 129.39 34 P **PKPdf 03 57 30.0 +0.4**
baz=307
E35A Pequot Lakes 129.39 33 P **PKPdf 03 57 30.2 +0.5**
baz=309,SNR=9.7
C36A Pine Crest Far 129.44 31 P **PKPdf 03 57 30.3 +0.7**
baz=311
G34A Benson 129.51 35 P **PKPdf 03 57 30.8 +0.9**
baz=306,SNR=7.2
I33A Coleman 129.52 37 P **PKPdf 03 57 30.3 +0.3**
baz=304
K32A Verdigre 129.57 39 P **PKPdf 03 57 30.5 +0.4**
baz=302
D36A Goodland 129.65 32 P **PKPdf 03 57 30.4 +0.3**
baz=310
F35A Swanville 129.73 34 P **PKPdf 03 57 31.1 +0.8**
baz=308,SNR=6.6
H34A Spellman Lake, 129.76 36 P **PKPdf 03 57 31.3 +0.9**
baz=306
C37A Embarrass 129.79 31 P **PKPdf 03 57 30.5 +0.1**
baz=312
ECSD EROS Data Cent 129.81 37 P **PKPdf 03 57 31.2 +0.6**
baz=304
ECSD EROS Data Cent 129.81 37 *e*PKPdf **PKPdf 03 57 29.5 -1.0**
J33A Davis 129.83 38 P **PKPdf 03 57 30.7 +0.1**
baz=304
EYMN Ely 129.99 30 P **PKPdf 03 57 31.4 +0.6**
baz=313
EYMN Ely 129.99 30 *e*PKPdf **PKPdf 03 57 31.2 +0.5**
E36A McGregor 130.03 32 P **PKPdf 03 57 31.6 +0.7**
baz=310,SNR=6.7
D37A Cotton 130.05 31 P **PKPdf 03 57 31.5 +0.6**
baz=311
I34A Hadley 130.08 36 P **PKPdf 03 57 31.6 +0.5**
baz=306
MSTX Muleshoe 130.10 51 P **PKPdf 03 57 32.2 +0.7**
baz=291
MSTX Muleshoe 130.10 51 *e*PKPdf **PKPdf 03 57 32.1 +0.6**
BGNE Belgrade 130.11 40 P **PKPdf 03 57 31.7 +0.6**
baz=301
BGNE Belgrade 130.11 40 *e*PKPdf **PKPdf 03 57 30.8 -0.4**
G35A Watkins 130.17 34 P **PKPdf 03 57 32.3 +1.2**
baz=308,SNR=5.7
C38A Sawbill Land. 130.26 30 P **PKPdf 03 57 31.6 +0.4**
baz=313
H35A Sunnyside Ranc 130.29 35 P **PKPdf 03 57 31.8 +0.5**
baz=307,SNR=15
F36A Milaca 130.30 33 P **PKPdf 03 57 32.3 +0.9**
baz=309,SNR=7.4
CBKS Cedar Bluff 130.32 44 P **PKPdf 03 57 31.5 -0.2**
baz=298
J34A George 130.46 37 P **PKPdf 03 57 32.2 +0.4**
baz=305
PLCA Paso Flores 130.52 166 PKP **PKPdf 03 57 32.7 +0.6**
comp=Z,3.4nm,0.7s,baz=67,slow=0.7,SNR=12
PLCA SKPbc **SKPab 04 00 03.8 -0.1**
comp=Z,8.6nm,1.2s,baz=225,slow=5.7,SNR=4.5

G36A	St. Michael baz=308	130.57	34	P	PKPdf	03 57 32.6	+0.7
AMTX	Amarillo baz=293	130.59	50	P	PKPdf	03 57 33.2	+0.8
AMTX	Amarillo	130.59	50	*e*PKPdf	PKPdf	03 57 33.1	+0.7
M33A	Taylor Creek F baz=302	130.63	40	P	PKPdf	03 57 31.9	-0.3
K34A	Le Mars baz=304	130.71	38	P	PKPdf	03 57 32.3	+0.1
C39A	Grand Marais baz=314	130.75	29	P	PKPdf	03 57 32.2	+0.1
J35A	Milford baz=306	130.86	37	P	PKPdf	03 57 32.8	+0.3
E38A	The Farm, Brul baz=312	130.86	31	P	PKPdf	03 57 32.6	+0.2
F37A	Hinrichs Farm, baz=310,SNR=6.1	130.88	33	P	PKPdf	03 57 33.4	+1.0
H36A	Jessenland, He baz=308,SNR=7.5	130.88	35	P	PKPdf	03 57 33.3	+0.8
TXAR	Lajitas Array comp=Z,0.6nm,0.8s,baz=227,slow=1.8,SNR=6.7	130.89	57	PKhKP	PKPpre	03 57 17.9	
TXAR	comp=Z,5.5nm,0.8s,baz=205,slow=2.8,SNR=30			PKP	PKPdf	03 57 33.5	+0.4
TXAR	comp=Z,0.6nm,0.8s,baz=294,slow=2.9,SNR=3.5			PP	PP	03 59 56.4	-1.7
TXAR	comp=Z,1.6nm,0.7s,baz=285,slow=3.5,SNR=8.8			SKPbc	SKPab	04 00 06.2	+0.3
L34A	Svendsen Farm, baz=304	130.94	39	P	PKPdf	03 57 33.3	+0.6
M34A	Aspy Farms, Fr baz=303	131.06	40	P	PKPdf	03 57 33.2	+0.2
SPMN	Marine on St. baz=310	131.10	33	P	PKPdf	03 57 33.4	+0.6
SPMN	Marine on St.	131.10	33	*e*PKPdf	PKPdf	03 57 34.1	+1.2
F38A	Pierce - Schro baz=311	131.12	32	P	PKPdf	03 57 33.3	+0.4
O33A	Hebron baz=301	131.16	42	P	PKPdf	03 57 33.6	+0.4
I36A	Fitzsimmons Fa baz=307	131.17	35	P	PKPdf	03 57 33.5	+0.4
K35A	Storm Lake baz=305,SNR=6.8	131.21	37	P	PKPdf	03 57 33.8	+0.6
L35A	Bielow Farm, R baz=304	131.37	38	P	PKPdf	03 57 34.0	+0.5
J36A	Seneca 1, Swea baz=307,SNR=5.1	131.39	36	P	PKPdf	03 57 34.3	+0.8
H37A	Dierke Farm, C baz=309	131.44	34	P	PKPdf	03 57 34.3	+0.7
N34A	Lincoln baz=302	131.47	40	P	PKPdf	03 57 34.2	+0.4
I37A	Lemond, Waseca baz=308	131.52	35	P	PKPdf	03 57 33.7	0.0
E39A	Mellen baz=313	131.53	31	P	PKPdf	03 57 34.4	+0.8
M35A	Neola baz=304	131.64	39	P	PKPdf	03 57 34.7	+0.7
G38A	Ridgeland baz=311	131.65	33	P	PKPdf	03 57 34.3	+0.3
F39A	Loretta baz=312	131.65	32	P	PKPdf	03 57 34.8	+0.9
O34A	Beatrice baz=302	131.69	41	P	PKPdf	03 57 34.5	+0.3
K36A	Gilmore City baz=306	131.73	37	P	PKPdf	03 57 34.8	+0.6
H38A	Maiden Rock baz=310	131.73	34	P	PKPdf	03 57 34.6	+0.5
E40A	Wakefield baz=314	131.81	30	P	PKPdf	03 57 35.2	+1.0
J37A	Redenius Farm, baz=307	131.86	36	P	PKPdf	03 57 34.8	+0.4
L36A	Harm Buss Farm baz=305,SNR=7.4	131.91	38	P	PKPdf	03 57 35.4	+0.8
P34A	Walnut Farm, R baz=301	131.93	42	P	PKPdf	03 57 35.5	+0.8
G39A	Holcombe baz=311	131.94	32	P	PKPdf	03 57 35.1	+0.6
U32A	Winter Ranch, baz=297	131.95	47	P	PKPdf	03 57 35.7	+0.9
SCHQ	Schefferville comp=Z,13nm,0.5s,baz=226,slow=2.4,SNR=8.3	131.98	8	PKP	PKPdf	03 57 35.3	+1.0
N35A	Tabor baz=303	132.00	40	P	PKPdf	03 57 35.2	+0.4
D41A	Chassel baz=316	132.04	29	P	PKPdf	03 57 35.8	+1.2
F40A	Park Falls baz=313	132.06	31	P	PKPdf	03 57 35.6	+0.8
I38A	Scanlan Farm, baz=309,SNR=5.3	132.11	34	P	PKPdf	03 57 35.6	+0.8
K37A	Belmond baz=307	132.14	36	P	PKPdf	03 57 35.3	+0.4
O35A	Humboldt baz=303	132.16	41	P	PKPdf	03 57 35.6	+0.5
Q34A	Chapman baz=301	132.18	43	P	PKPdf	03 57 36.4	+1.2
M36A	Felix, Anita baz=305	132.20	39	P	PKPdf	03 57 35.7	+0.6
H39A	Augusta baz=311	132.28	33	P	PKPdf	03 57 35.6	+0.5
R34A	Isabella, Hill baz=300	132.28	44	P	PKPdf	03 57 36.6	+1.2
KSU1	Kansas State U baz=301	132.31	42	P	PKPdf	03 57 36.3	+0.9
L37A	Phoenix Point, baz=306	132.45	37	P	PKPdf	03 57 35.9	+0.3
G40A	Rib Lake baz=312	132.46	32	P	PKPdf	03 57 36.4	+0.9
P35A	Duane Minner, baz=302,SNR=5.1	132.48	41	P	PKPdf	03 57 36.7	+1.0
S34A	Willow Spring baz=300	132.67	44	P	PKPdf	03 57 36.7	+0.7
I39A	Houston baz=310	132.68	34	P	PKPdf	03 57 36.4	+0.5
M37A	Trindle Farm, baz=306	132.69	38	P	PKPdf	03 57 36.9	+0.9
F41A	Three Lakes baz=314	132.70	31	P	PKPdf	03 57 36.8	+0.8
K38A	Parkersburg baz=308	132.72	36	P	PKPdf	03 57 36.6	+0.6
H40A	Chili baz=312	132.79	33	P	PKPdf	03 57 37.1	+1.0
E42A	Champion baz=316	132.80	29	P	PKPdf	03 57 37.2	+1.2
Q35A	Mercer Eighty, baz=302,SNR=6.8	132.81	42	P	PKPdf	03 57 37.7	+1.3
WMOK	Wichita Mounta baz=296	132.83	49	P	PKPdf	03 57 37.8	+1.3
O36A	Bolckow baz=304	132.84	40	P	PKPdf	03 57 37.5	+1.1
J39A	Decorah baz=309	132.91	35	P	PKPdf	03 57 36.6	+0.2
L38A	Oak Wood Farm, baz=307	132.92	37	P	PKPdf	03 57 37.1	+0.7
T34A	McClaskey Farm baz=299	132.94	45	P	PKPdf	03 57 37.9	+1.3
P36A	Good Intent, A baz=303	132.96	41	P	PKPdf	03 57 37.4	+0.8
R35A	Emporia Munici baz=301	132.98	43	P	PKPdf	03 57 37.8	+1.1
G41A	Antigo baz=314	133.03	31	P	PKPdf	03 57 37.3	+0.8
ABTX	Abilene, Hawle baz=293	133.03	52	P	PKPdf	03 57 38.3	+1.4
ABTX	Abilene, Hawle	133.03	52	*e*PKPdf	PKPdf	03 57 38.8	+1.8
Q36A	Arnold C. Orve baz=302,SNR=6.3	133.14	42	P	PKPdf	03 57 38.0	+1.1
I40A	Norwalk baz=311	133.15	33	P	PKPdf	03 57 37.6	+0.8
F42A	Maple Grove Fa baz=315	133.17	30	P	PKPdf	03 57 37.5	+0.7
H41A	Junction City baz=313	133.19	32	P	PKPdf	03 57 37.3	+0.5
K39A	Oelwein baz=309	133.20	35	P	PKPdf	03 57 36.8	-0.1
M38A	Pleasantville baz=306	133.21	38	P	PKPdf	03 57 37.7	+0.7
S35A	Otter Creek Ra baz=300,SNR=6.3	133.22	44	P	PKPdf	03 57 38.6	+1.5
E43A	Lone Tree Farm baz=317	133.28	29	P	PKPdf	03 57 37.9	+1.0
O37A	Wolven Farm, M baz=304	133.34	40	P	PKPdf	03 57 38.1	+0.8
J40A	Soldiers Grove baz=311	133.41	34	P	PKPdf	03 57 38.3	+1.0
I41A	Arkdale baz=312	133.45	33	P	PKPdf	03 57 37.9	+0.6
R36A	Gordon, Harris baz=302,SNR=12	133.45	43	P	PKPdf	03 57 38.8	+1.3
T35A	Sooner Cattle baz=299,SNR=7.3	133.47	45	P	PKPdf	03 57 39.3	+1.6
L39A	Vinton baz=308	133.49	36	P	PKPdf	03 57 38.2	+0.8
P37A	Lathrop baz=304	133.53	40	P	PKPdf	03 57 38.3	+0.7
N38A	Joes South For baz=306	133.55	38	P	PKPdf	03 57 38.4	+0.7
U35A	Pawnee baz=299,SNR=10.0	133.58	46	P	PKPdf	03 57 39.7	+1.8
F43A	Flat Rock, Esc baz=316	133.59	29	P	PKPdf	03 57 38.8	+1.3
K40A	Colesburg baz=310	133.63	35	P	PKPdf	03 57 38.7	+1.0
JCT	Junction City baz=291,SNR=16	133.70	54	P	PKPdf	03 57 40.1	+1.8
S36A	Lake Cedric, C baz=301	133.70	43	P	PKPdf	03 57 39.2	+1.2
G43A	Wallace baz=315	133.75	30	P	PKPdf	03 57 39.1	+1.2
M39A	Webster baz=308	133.78	37	P	PKPdf	03 57 39.1	+1.0
O38A	Galt baz=305	133.79	39	P	PKPdf	03 57 39.1	+1.0
V35A	Meyer Ranch, C baz=298,SNR=5.3	133.79	46	P	PKPdf	03 57 40.1	+1.9
J41A	Loganville baz=311	133.83	34	P	PKPdf	03 57 38.8	+0.8
T36A	Boggs Farm, Ca baz=300,SNR=6.8	133.84	44	P	PKPdf	03 57 40.0	+1.8
233A	Rising Star baz=293,SNR=6.3	133.84	52	P	PKPdf	03 57 40.4	+1.9
Q37A	Longview Farm, baz=303	133.85	41	P	PKPdf	03 57 39.1	+0.9
R37A	Teagarden Farm baz=302,SNR=6.6	133.91	42	P	PKPdf	03 57 39.5	+1.1
N39A	Derby Farms, D baz=307	133.95	38	P	PKPdf	03 57 39.3	+0.9
L40A	Anamosa baz=309	133.98	36	P	PKPdf	03 57 39.1	+0.7
JFWS	Jewell Farm	133.99	34	*e*PKIKP	PKPdf	03 57 38.4	0.0
JFWS	Jewell Farm	133.99	34	*e*PKPdf	PKPdf	03 57 38.4	0.0
P38A	Dawn baz=305	134.03	40	P	PKPdf	03 57 39.8	+1.2
333A	Richland Sprin baz=292,SNR=14	134.04	53	P	PKPdf	03 57 40.7	+1.8
W35A	Tecumseh baz=298,SNR=9.8	134.04	47	P	PKPdf	03 57 40.6	+1.9
K41A	Shullsburg baz=310	134.16	35	P	PKPdf	03 57 39.4	+0.6
433A	Art baz=292,SNR=12	134.17	54	P	PKPdf	03 57 40.9	+1.7
S37A	Fort Scott baz=302,SNR=17	134.20	43	P	PKPdf	03 57 40.5	+1.5
M40A	Post Highland baz=308	134.22	37	P	PKPdf	03 57 39.8	+0.9
U36A	Oologah baz=300	134.27	45	P	PKPdf	03 57 40.7	+1.6
O39A	Kirksville baz=306	134.29	39	P	PKPdf	03 57 40.2	+1.1
832A	Faith Ranch, C baz=289,SNR=12	134.29	57	P	PKPdf	03 57 41.6	+2.2
X35A	Drake baz=297	134.31	48	P	PKPdf	03 57 40.6	+1.3
Q38A	CG Store, C baz=304	134.35	41	P	PKPdf	03 57 40.1	+0.9
L41A	Preston baz=310	134.39	35	P	PKPdf	03 57 40.8	+1.6
V36A	Jenks baz=299,SNR=7.5	134.42	46	P	PKPdf	03 57 41.4	+2.0
234A	Clairette baz=294,SNR=5.4	134.44	52	P	PKPdf	03 57 41.6	+2.0
533A	Kerrville baz=291	134.46	55	P	PKPdf	03 57 41.1	+1.4
TUL1	Leonard baz=299	134.47	46	P	PKPdf	03 57 41.2	+1.6
TUL1	Leonard	134.47	46	*e*PKPdf	PKPdf	03 57 41.1	+1.6
T37A	Cheneyville 18 baz=301,SNR=5.5	134.47	44	P	PKPdf	03 57 41.1	+1.7
Y35A	Marietta baz=296	134.49	49	P	PKPdf	03 57 40.7	+1.1
N40A	Mertquake, Sal baz=308	134.50	37	P	PKPdf	03 57 40.6	+1.2
W36A	Watumka baz=298,SNR=9.2	134.52	47	P	PKPdf	03 57 41.6	+2.0
633A	Saathoff Ranch baz=290	134.56	56	P	PKPdf	03 57 41.7	+1.8
R38A	Fenwick Farm, baz=303	134.59	42	P	PKPdf	03 57 40.5	+0.8
P39B	Salisbury baz=305	134.60	40	P	PKPdf	03 57 40.8	+1.2
334A	Lometa baz=293	134.63	53	P	PKPdf	03 57 41.6	+1.6
X36A	Centrahoma baz=298,SNR=8.3	134.69	48	P	PKPdf	03 57 41.8	+1.8
U37A	Salina baz=300	134.69	45	P	PKPdf	03 57 41.1	+1.2
Q39A	Willow Grove F baz=305,SNR=6.4	134.72	40	P	PKPdf	03 57 41.5	+1.6
733A	Divot King Ran baz=290	134.72	57	P	PKPdf	03 57 41.8	+1.6
833A	Chaparral WMA, baz=289	134.77	57	P	PKPdf	03 57 42.6	+2.3
O40A	La Belle baz=307	134.78	38	P	PKPdf	03 57 41.1	+1.1
434A	Burnet baz=292	134.80	53	P	PKPdf	03 57 41.3	+1.0
M41A	Milan baz=309	134.81	36	P	PKPdf	03 57 40.9	+0.9
S38A	Stockton baz=303	134.89	42	P	PKPdf	03 57 41.5	+1.3
534A	Blanco baz=292	134.93	54	P	PKPdf	03 57 42.5	+1.9
V37A	Hulbert baz=300,SNR=8.4	134.94	45	P	PKPdf	03 57 42.2	+1.8
T38A	Diamond baz=302,SNR=9.1	134.94	43	P	PKPdf	03 57 41.9	+1.5
WHTX	Lake Whitney, baz=294	134.98	51	P	PKPdf	03 57 42.8	+2.3
P40A	Paris baz=306	135.02	39	P	PKPdf	03 57 42.0	+1.6
N41A	Harden Midland baz=308	135.04	37	P	PKPdf	03 57 41.6	+1.2
Y36A	Durant baz=297	135.05	48	P	PKPdf	03 57 41.6	+1.0
R39A	Chumby, Stover baz=304,SNR=7.7	135.09	41	P	PKPdf	03 57 42.1	+1.5
933A	Laredo baz=298	135.09	58	P	PKPdf	03 57 43.0	+2.1
W37B	Quinton baz=299,SNR=12	135.09	46	P	PKPdf	03 57 42.7	+2.0
U38A	Gravette baz=301	135.19	44	P	PKPdf	03 57 42.5	+1.6
Z36A	Blue Ridge baz=296	135.22	49	P	PKPdf	03 57 42.0	+1.1
S39A	Bolivar baz=303,SNR=18	135.24	42	P	PKPdf	03 57 42.6	+1.6
634A	China Grove, S baz=291	135.26	55	P	PKPdf	03 57 43.6	+2.5
335A	Moody baz=294	135.29	52	P	PKPdf	03 57 43.4	+2.2
L43A	Garden Prairie baz=312	135.31	34	P	PKPdf	03 57 42.0	+1.1
Q40A	Laux Farm, Aux baz=306	135.32	40	P	PKPdf	03 57 42.7	+1.6
435B	Jarrell baz=293	135.36	53	P	PKPdf	03 57 43.6	+2.3
O41A	Passleys Farm, baz=308	135.39	38	P	PKPdf	03 57 42.6	+1.5
X37A	Clayton baz=298,SNR=5.3	135.40	47	P	PKPdf	03 57 43.4	+2.1
N42A	Yates City baz=310	135.45	36	P	PKPdf	03 57 42.3	+1.1
V38A	Canehill baz=301	135.46	45	P	PKPdf	03 57 43.0	+1.6
136A	Ennis baz=296	135.49	50	P	PKPdf	03 57 43.6	+2.2
Y37A	Hugo baz=298	135.50	48	P	PKPdf	03 57 43.7	+2.3
834A	Tilden baz=290	135.53	57	P	PKPdf	03 57 44.2	+2.5
P41A	Barry, Barry baz=307	135.55	38	P	PKPdf	03 57 42.8	+1.4
T39A	Clever baz=303,SNR=6.9	135.57	43	P	PKPdf	03 57 43.3	+1.8
R40A	Maddies Statio baz=305	135.60	41	P	PKPdf	03 57 43.1	+1.6
535A	Dale baz=292,SNR=6.5	135.66	54	P	PKPdf	03 57 44.4	+2.6
236A	Katherine and baz=295,SNR=7.2	135.69	51	P	PKPdf	03 57 44.4	+2.6
336A	Riesel baz=294	135.70	52	P	PKPdf	03 57 44.3	+2.4
635A	Leesville baz=292	135.73	55	P	PKPdf	03 57 44.9	+2.9
934A	Benavides baz=289	135.73	58	P	PKPdf	03 57 43.8	+1.7
X38A	Whitesboro baz=299,SNR=5.2	135.75	47	P	PKPdf	03 57 44.4	+2.5
034A	Hebbronville baz=289	135.77	59	P	PKPdf	03 57 44.6	+2.4
W38A	Poteau baz=300,SNR=6.4	135.78	46	P	PKPdf	03 57 44.2	+2.3
O42A	Bath baz=309	135.82	37	P	PKPdf	03 57 43.3	+1.4
S40A	Lebanon baz=304	135.84	42	P	PKPdf	03 57 43.5	+1.5
U39A	Green Forest baz=302	135.84	44	P	PKPdf	03 57 43.6	+1.5
Z37A	Pogue Cattle C baz=297	135.86	49	P	PKPdf	03 57 44.3	+2.1
Q41A	Truxton baz=307	135.88	39	P	PKPdf	03 57 44.0	+2.0
V39A	Pettigrew baz=301	136.01	44	P	PKPdf	03 57 44.2	+1.7
137A	Heron Place, G baz=296	136.03	50	P	PKPdf	03 57 44.3	+1.8
P42A	Winchester baz=308	136.04	38	P	PKPdf	03 57 44.1	+1.8
536A	Bastrop baz=293	136.05	54	P	PKPdf	03 57 45.1	+2.5
HDIL	Hopedale baz=310	136.06	36	P	PKPdf	03 57 43.8	+1.5
T40A	Mansfield baz=304	136.07	42	P	PKPdf	03 57 44.2	+1.7
835A	Beeville baz=290	136.08	56	P	PKPdf	03 57 45.2	+2.5
R41A	Rosebud baz=306	136.17	40	P	PKPdf	03 57 44.7	+2.1
Y38A	Idabel baz=299	136.18	48	P	PKPdf	03 57 44.7	+2.0
O43A	Sugar Creek Fa baz=310	136.22	36	P	PKPdf	03 57 44.3	+1.7
W39A	Magazine baz=301	136.24	45	P	PKPdf	03 57 44.9	+2.1
237A	Washetta, Mont baz=296	136.25	51	P	PKPdf	03 57 44.7	+1.8
636A	Smothers Creek baz=292	136.28	55	P	PKPdf	03 57 46.1	+3.1
U40A	Yellville baz=303	136.28	43	P	PKPdf	03 57 44.7	+1.8
035A	Encino baz=298	136.30	58	P	PKPdf	03 57 46.4	+3.3
Q42A	Golden Eagle baz=307	136.34	39	P	PKPdf	03 57 44.8	+2.0
S41A	Jillco Farms, baz=305	136.34	41	P	PKPdf	03 57 44.9	+1.9
X39A	Fountain Ranch baz=300	136.35	46	P	PKPdf	03 57 45.5	+2.5
736A	Circle Diamond baz=292	136.47	55	P	PKPdf	03 57 46.7	+3.3
035Z	Hargill baz=288	136.48	59	P	PKPdf	03 57 45.7	+2.2
337A	Centerville baz=295	136.48	52	P	PKPdf	03 57 45.7	+2.4
437A	Phantom Ranch, baz=294	136.48	52	P	PKPdf	03 57 46.3	+2.9
138A	Matatall Enter baz=297	136.50	49	P	PKPdf	03 57 46.2	+2.8
P43A	Skaggs, Pawnee baz=309	136.51	37	P	PKPdf	03 57 45.3	+2.1
R42A	Luebbering baz=306	136.55	40	P	PKPdf	03 57 45.2	+1.9
V40A	Witts Springs baz=302	136.59	44	P	PKPdf	03 57 45.4	+1.9
T41A	Mountain View baz=304	136.64	42	P	PKPdf	03 57 45.5	+2.0
Y39A	Lockesburg baz=299	136.64	47	P	PKPdf	03 57 45.8	+2.2
537A	Green Hill Far baz=294	136.64	53	P	PKPdf	03 57 45.9	+2.2
MIAR	Mount Ida baz=300	136.72	46	P	PKPdf	03 57 45.8	+2.1
W40A	Ferguson Farm, baz=301	136.74	45	P	PKPdf	03 57 45.9	+2.1
238A	Jacksonville baz=296	136.77	50	P	PKPdf	03 57 46.7	+2.8
Q43A	New Douglas baz=308	136.84	38	P	PKPdf	03 57 46.1	+2.3
S42A	Caleenia baz=306	136.85	40	P	PKPdf	03 57 45.8	+1.9
338A	Crockett baz=296	136.91	51	P	PKPdf	03 57 46.2	+2.0
U41A	Viola baz=304	136.92	43	P	PKPdf	03 57 45.8	+1.8
R43A	Red Bud baz=308	137.10	39	P	PKPdf	03 57 45.9	+1.6
P44A	Sand Creek, Wi baz=310	137.16	37	P	PKPdf	03 57 46.0	+1.7
Q44A	Meyer Farm, Va baz=309	137.27	38	P	PKPdf	03 57 46.7	+2.1
W41B	Gary Mavity, V baz=302	137.33	44	P	PKPdf	03 57 46.1	+1.3
U42A	Revenden baz=304	137.37	42	P	PKPdf	03 57 46.9	+2.0
S43A	Fulton Ridge, baz=307	137.43	40	P	PKPdf	03 57 46.6	+1.6
X41A	Kaden, Bauxite baz=301	137.50	45	P	PKPdf	03 57 47.4	+2.3
V42A	Cord baz=304	137.57	43	P	PKPdf	03 57 46.9	+1.7
T43A	Greenville baz=306	137.58	41	P	PKPdf	03 57 47.1	+1.9
140A	Cam and Jess, baz=298	137.64	48	P	PKPdf	03 57 48.5	+3.0
R44A	Waltonville baz=308	137.64	39	P	PKPdf	03 57 47.1	+1.9
Y41A	Eaglette Beard baz=301	137.74	46	P	PKPdf	03 57 48.2	+2.6
240A	Hunter Patters baz=298	137.78	49	P	PKPdf	03 57 47.8	+2.0
S44A	Carbondale baz=308	137.88	39	P	PKPdf	03 57 48.0	+2.2
U43A	Rector baz=305	137.92	42	P	PKPdf	03 57 47.9	+2.1
340A	Bronson baz=297	137.97	50	P	PKPdf	03 57 48.9	+2.8
T44A	Benton baz=307	138.03	40	P	PKPdf	03 57 48.3	+2.3
141A	Papa Simpson, baz=299	138.16	48	P	PKPdf	03 57 49.1	+2.7
S45A	Carrier Mills baz=308	138.31	39	P	PKPdf	03 57 48.8	+2.3
U44A	Portageville baz=306	138.31	41	P	PKPdf	03 57 48.4	+1.8
Y42A	Garnett, Star baz=301	138.35	46	P	PKPdf	03 57 48.7	+2.0
341A	Kurthwood baz=298	138.56	50	P	PKPdf	03 57 49.2	+2.0
Y43A	Makayla and Ka baz=302	138.92	45	P	PKPdf	03 57 49.9	+2.2
242A	Grayson baz=299	138.98	48	P	PKPdf	03 57 50.0	+2.1
U45A	Rockin P Farm, baz=307	139.00	41	P	PKPdf	03 57 50.4	+2.5
X44A	Crenshaw baz=304	139.14	44	P	PKPdf	03 57 50.7	+2.6
V45A	Humboldt baz=306	139.23	41	P	PKPdf	03 57 50.5	+2.2
W45A	Hickory Valley baz=306	139.42	42	P	PKPdf	03 57 51.0	+2.4
443A	Delano Plantat baz=298	139.88	50	P	PKPdf	03 57 51.3	+1.8
543A	St. Martinvill baz=298	140.13	51	P	PKPdf	03 57 52.3	+2.3
M54A	Oil Creek Stat baz=323	140.41	27	P	PKPdf	03 57 52.8	+2.5
345A	Thompson Farm, baz=301	140.92	48	P	PKPdf	03 57 54.7	+3.2
Y47A	UCPARC, Winfie baz=306	141.05	43	P	PKPdf	03 57 54.6	+2.9
Z48A	Northport baz=306	141.55	43	P	PKPdf	03 57 55.3	+2.8
O56A	Blue Knob Stat baz=324	141.90	27	P	PKPdf	03 57 56.2	+3.2
BLA	Blacksburg	143.35	32	*e*PKIKP	PKPab	03 57 53.5	-0.4
BLA	Blacksburg	143.35	32	*e*PKPdf	PKPab	03 57 53.5	-0.4

CBN	**Corbin Frederi**	**144.11**	**28**	*e*PKPdf	PKPbc	03 57 56.4	0.0
GOGA	**Godfrey**	**144.23**	**40**	*e*PKIKP	PKPbc	03 57 56.9	-0.1
GOGA	**Godfrey**	**144.23**	**40**	*e*PKPdf	PKPbc	03 57 56.9	-0.1
KMSC	**Kings Mountain**	**144.35**	**36**	*e*PKPdf	PKPbc	03 57 57.1	-0.2
TIGA	**Tifton**	**145.40**	**43**	*e*PKPbc	**PKPbc**	**03 58 01.1**	**+0.6**
CNNC	**Cliffs of the**	**146.18**	**32**	*e*PKPdf	**PKPdf**	**03 58 00.1**	**-0.4**
CNNC				*e*PKPbc	**PKPbc**	**03 58 03.0**	**+0.4**
CNNC				*e*PKPab	**PKiKP**	**03 58 05.2**	**+0.2**
NHSC	**New Hope**	**146.47**	**37**	*e*PKPbc	**PKPbc**	**03 58 04.3**	**+0.8**
CPUP	**Villa Florida**	**146.51**	**179**	PKP	**PKPdf**	**03 58 00.8**	**-0.6**
	comp=Z,23nm,0.8s,baz=162,slow=1.8,SNR=36						
CPUP				PKPbc	**PKPbc**	**03 58 04.3**	**+0.5**
	comp=Z,23nm,0.8s,baz=162,slow=2.0,SNR=35						
CPUP				pPKPbc	pPKPab	04 00 11.1	-2.2
	comp=Z,2.1nm,1.0s,baz=233,slow=6.8,SNR=2.1						
CPUP				SKPbc	**SKPbc**	**04 00 48.5**	**-0.2**
	comp=Z,4.1nm,0.9s,baz=155,slow=1.1,SNR=4.1						
CPUP	**Villa Florida**	**146.51**	**179**	PKIKP	**PKPdf**	**03 58 00.8**	**-0.6**
CPUP				pmax	pmax		
	comp=Z,23nm,0.9s						
CPUP				pmax	pmax		
	comp=Z,23nm,0.9s						
CPUP				pmax	pmax		
	comp=Z,2.0nm,1.0s						
CPUP				pmax	pmax		
	comp=N,4.0nm,0.9s						
SACV	**Santiago Islan**	**146.56**	**286**	*e*PKPbc	**PKPbc**	**03 58 04.9**	**+0.6**
LVC	**Limon Verde**	**147.96**	**159**	PKP	**PKPdf**	**03 58 05.6**	**+1.3**
	comp=N,85nm,0.6s,baz=265,slow=2.9,SNR=19						
LVC				PKPbc	**PKiKP**	**03 58 09.2**	**-0.3**
	comp=N,85nm,0.6s,baz=265,slow=3.2,SNR=21						
LVC	**Limon Verde**	**147.96**	**159**	PKP	**PKPdf**	**03 58 05.6**	**+1.3**
LVC				*e*PKPbc	**PKPbc**	**03 58 08.7**	**+0.5**
LVC				PKPbc	**PKiKP**	**03 58 09.2**	**-0.3**
DWPF	**Disney Wildern**	**148.91**	**45**	*e*PKPdf	**PKPdf**	**03 58 05.7**	**+0.5**
DWPF				*e*PKPbc	**PKPbc**	**03 58 10.0**	**+0.1**
NNA	**Nana**	**152.35**	**134**	PKP	**PKPdf**	**03 58 12.0**	**+1.1**
	comp=N,3.4nm,0.4s,baz=280,slow=5.5,SNR=2.6						
NNA				PKPbc	**PKiKP**	**03 58 18.9**	**+0.5**
	comp=N,27nm,0.8s,baz=256,slow=4.4,SNR=11						
NNA	**Nana**	**152.35**	**134**	PKIKP	**PKPdf**	**03 58 12.0**	**+1.1**
NNA				pmax	pmax		
	comp=Z,3.0nm,0.4s						
NNA				pmax	pmax		
	comp=Z,27nm,0.8s						
LPAZ	**La Paz**	**153.99**	**155**	PKP	**PKPdf**	**03 58 15.2**	**+1.4**
	comp=Z,3.1nm,0.8s,baz=193,slow=3.0,SNR=12						
LPAZ				PKPbc	**PKiKP**	**03 58 23.1**	**+0.7**
	comp=Z,2.3nm,0.9s,baz=62,slow=8.4,SNR=5.2						
LPAZ				PKPab	**PKPab**	**03 58 39.5**	**+0.9**
	comp=Z,6.5nm,0.6s,baz=230,slow=0.8,SNR=9.9						
SIV	**San Ignacio**	**156.43**	**170**	PKP	**PKPdf**	**03 58 17.0**	**+0.7**
	comp=Z,2.6nm,0.8s,baz=224,slow=0.7,SNR=4.7						
SIV				PKPab	**PKPab**	**03 58 48.8**	**+0.5**
	comp=Z,2.8nm,0.5s,baz=221,slow=6.3,SNR=6.1						
OTAV	**Otavalo**	**157.32**	**107**	*e*PKPdf	**PKPdf**	**03 58 18.6**	**+0.4**
CMBC	**Cumbal**	**158.14**	**106**	*e*P	**PKPdf**	**03 58 19.6**	**+0.5**
PRAC	**Prado**	**161.69**	**100**	*e*P	**PKPdf**	**03 58 21.5**	**-1.0**
ZARC	**Zaragoza, Cauc**	**162.14**	**88**	*e*P	**PKPdf**	**03 58 22.5**	**-0.4**
ROSC	**El Rosal**	**162.45**	**97**	PKP	**PKPdf**	**03 58 24.0**	**+0.3**
	comp=Z,8.5nm,0.8s,baz=165,slow=6.5,SNR=7.5						
ROSC				PKPab	**PKPab**	**03 59 17.9**	**+2.4**
	comp=Z,2.9nm,0.5s,baz=101,slow=6.6,SNR=4.4						
ROSC	**El Rosal**	**162.45**	**97**	*e*P	**PKPdf**	**03 58 22.9**	**-0.8**
SAML	**Samuel**	**162.62**	**159**	*e*PKPdf	**PKPdf**	**03 58 23.6**	**+0.3**
CHIC	**Chingaza**	**162.99**	**98**	*e*P	**PKPdf**	**03 58 23.9**	**-0.4**
OCAC	**Ocana**	**163.65**	**86**	*e*P	**PKPdf**	**03 58 24.3**	**-0.2**
RUSC	**La Rusia**	**163.81**	**94**	*e*P	**PKPdf**	**03 58 23.9**	**-1.2**

*ISCJB **26** 03:59:55.1±1.4,36.66N×0.07×141.9E±0.1, h19km, mb3.3/2, Error ellipse: s-maj=12.4km s-min=9.9km az=29.3*
*JMA **26** 03:59:57.9±0.3,36.67N×141.71E, h37km±4km, M3.1*
*IDC **26** 03:59:57.7±2.6,36.13N×141.58E, h0km, mb3.4/2, mb1 3.5/3, mb1mx3.3/42, mbtmp3.3/3, ML3.1/1, Error ellipse: s-maj=59.1km s-min=30.0km az=47.0*

ISC 26 03:59:56.7±1.7,36.68N±0.07×141.69E±0.1,h19km,n17, σ1§87/13,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ONAJ	**Iwakimizuishiy**	**0.83**	**301**	P	**Pg**	**04 00 13.5**	**+0.5**
JHO	**Hitachi**	**0.91**	**266**	P	**Pg**	**04 00 14.4**	**0.0**
JFK	**Kawauchi**	**0.95**	**316**	P	**Pg**	**04 00 15.1**	**0.0**
JFT	**Otama**	**1.37**	**308**	P	**Pg**	**04 00 22.5**	**-0.6**
JMM	**Marumori**	**1.38**	**329**	P	**Pb**	**04 00 21.6**	**-0.3**
JMM				S	**Sn**	**04 00 38.7**	**0.0**
JIO	**Ouri**	**1.79**	**351**	P	**Pb**	**04 00 27.2**	**-1.7**
JAG	**Ashikaga**	**1.82**	**263**	P	**Pb**	**04 00 27.9**	**-1.5**
MJAR	**Matsushiro Arr**	**2.81**	**268**	Pn	**Pn**	**04 00 42.7**	**+2.2**
	2.9nm,0.3s,baz=93,slow=9.9,SNR=19						
MJAR				Sn	**Sn**	**04 01 17.4**	**+3.5**
	2.2nm,0.3s,baz=98,slow=18,SNR=6.3						
MAT	**Matsushiro**	**2.81**	**268**	P	**Pb**	**04 00 43.1**	**-3.1**
MAT				S	**Sb**	**04 01 18.6**	**-1.6**
H11N2	**WAKE ISLAND Hy**	**27.77**	**121**	T	T	04 35 01.2	
	baz=313,slow=75,SNR=18						
H11N1	**WAKE ISLAND Hy**	**27.78**	**121**	T	T	04 34 59.9	
	baz=313,slow=75,SNR=13						
H11N3	**WAKE ISLAND Hy**	**27.79**	**121**	T	T	04 35 04.7	
	baz=313,slow=75,SNR=15						
H11S1	**WAKE ISLAND Hy**	**28.48**	**123**	T	T	04 35 38.8	
	baz=315,slow=76						
H11S3	**WAKE ISLAND Hy**	**28.48**	**123**	T	T	04 35 59.3	
	baz=315,slow=76						
H11S2	**WAKE ISLAND Hy**	**28.50**	**123**	T	T	04 36 02.0	
	baz=315,slow=76						
MKAR	**Makanchi Array**	**44.50**	**302**	P	P	04 08 12.5	+5.7
	0.2nm,0.4s,baz=99,slow=7.4,SNR=3.1						
WRA	**Warramunga Arr**	**56.74**	**188**	P	**P**	**04 09 39.2**	**-0.1**
	0.3nm,1.0s,baz=5.3,slow=7.2,SNR=4.6						

MEX 26 04:02:20.3±0.4,17.03N×100.11W,h9km±3km,MD3.7, Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CAIG	**El Cayaco**	**0.16**	**277**	*i* P	Pg	04 02 22.9	-0.8
CAIG				*i* S	Sg	04 02 25.8	-0.2
ACP2	**Acapulco**	**0.26**	**126**	*i* P	Pg	04 02 25.6	+0.1
ACP2				*i* S	Sg	04 02 28.3	-0.7
MEIG	**Mezcala**	**1.01**	**27**	*e*P	Pg	04 02 36.7	-3.0
MEIG				*i* S	Sg	04 02 49.5	-3.3
ARIG	**Puente Sto Nin**	**1.27**	**350**	*e*P	Pn	04 02 40.7	-3.6
ARIG				*i* S	Sb	04 02 55.9	-4.9
ZIIG	**Zihuatanejo**	**1.42**	**294**	*i* P	Pn	04 02 42.9	-3.4
ZIIG				*i* S	Sn	04 02 59.8	-5.3
PLIG	**Platanillo**	**1.47**	**23**	*i* P	Pn	04 02 43.5	-3.7
PLIG				*i* S	Sn	04 03 01.7	-4.9
TLIG	**Tlapa**	**1.56**	**70**	*e*P	Pn	04 02 45.0	-3.4
TLIG				*i* S	Sn	04 03 03.9	-5.0
PNIG	**Pinotepa**	**2.00**	**108**	*i* P	Pn	04 02 50.9	-3.4
PNIG				*i* S	Sn	04 03 14.2	-5.2
YAIG	**Yautepec**	**2.08**	**28**	*i* P	Pn	04 02 52.8	-2.7
YAIG				*i* S	Sn	04 03 16.5	-5.1

*SOME **26** 04:06:25.8, 41.18N×71.98E, h0km*
*NNC **26** 04:06:25.3±9.1, 41.03N×72.18E, h0km, mb2.5, mpv2.2, Error ellipse: s-maj=62.5km s-min=43.5km az=158.0*

ISC 26 04:06:26.6±2.8,41.1N±0.1×72.00E±0.05,h18km,n5, σ1§04/9,2C-4D,Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MNAS	**Manas**	**1.43**	**15**	⇑P	**Pn**	**04 06 51.8**	**0.0**
	0.9nm,0.4s						
MNAS				⇓S	**Sg**	**04 07 14.3**	**+1.5**
	6.8nm,0.4s						
IUG	**Iuzhnay**	**1.81**	**306**	*e*P	**Pb**	**04 06 59.9**	**+0.7**
	14nm,0.1s						
IUG				*e*S	**Sg**	**04 07 24.5**	**-0.3**
	32nm,0.2s						
MRKS	**Merke**	**1.87**	**29**	*e*P	**Pb**	**04 07 00.8**	**+0.5**
	7.9nm,0.2s						
MRKS				*e*S	**Sg**	**04 07 25.7**	**-1.3**
	16nm,0.3s						
KK31	**Karatay Array**	**2.28**	**331**	⇓Pn	**Pb**	**04 07 06.0**	**-1.3**
	0.8nm,0.6s,baz=137,slow=14,SNR=7.4						
KK31				⇓Sn	**Sb**	**04 07 35.5**	**+0.4**
	1.2nm,0.3s,baz=136,slow=28,SNR=10						
AAK	**Ala-Archa**	**2.41**	**50**	⇓Pg	**Pb**	**04 07 09.2**	**-0.3**
	0.9nm,0.4s						
AAK				⇑Lg	Lg	04 07 40.0	
	2.5nm,0.4s						

MEX 26 04:18:06.8±0.5,15.44N×93.76W,h69km±6km,MD3.9, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PCIG		**0.59**	**63**	*i* P	Pn	04 18 18.9	-1.5
PCIG				*i* S	Sn	04 18 28.7	-1.6
CCIG	**Comitan**	**1.77**	**61**	*e*P	Pn	04 18 34.0	-1.6
CCIG				*i* S	Sn	04 18 55.5	-1.8
CMIG	**Matias Romero**	**1.97**	**327**	*e*P	Pn	04 18 37.1	-0.9
CMIG				*i* S	Sn	04 18 59.4	-2.4
HUIG	**Huatulco**	**2.29**	**279**	*e*P	Pn	04 18 41.3	-1.0
HUIG				*i* S	Sn	04 19 07.1	-2.4
VHO	**Vista Hermosa**	**3.29**	**300**	*i* P	Pn	04 18 54.4	-1.7
VHO				*i* S	Sn	04 19 33.1	-1.0

IDC 26 04:19:44.4±6.4,21.25S×179.67W,h664km±76km, mb3.2/4,mb1 3.5/4,mb1mx3.0/24,mbtmp4.3/4,Error ellipse: s-maj=101.9km s-min=40.6km az=163.0,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**36.06**	**245**	P	P	04 25 53.6	0.0
	2.2nm,0.5s,baz=86,slow=9.0,SNR=10						
ASAR	**Alice Springs**	**42.83**	**258**	P	P	04 26 47.6	+0.2
	5.8nm,0.6s,baz=94,slow=7.8,SNR=62						
ASAR				PcP	PcP	04 28 22.6	0.0
	0.5nm,0.7s,baz=99,slow=4.8,SNR=3.8						
WRA	**Warramunga Arr**	**42.95**	**263**	P	P	04 26 48.3	-0.2
	3.7nm,0.5s,baz=96,slow=7.7,SNR=159						
TXAR	**Lajitas Array**	**88.78**	**58**	P	P	04 31 30.4	+0.2
	0.4nm,0.8s,baz=205,slow=3.9,SNR=4.9						
AKASG	**Malin Array Be**	**142.89**	**329**	PKP	PKPdf	04 38 02.1	-2.1
	0.8nm,0.4s,baz=48,slow=4.2,SNR=6.4						
BRTR	**Keskin Array B**	**146.16**	**310**	PKPbc	PKPbc	04 38 13.0	+0.2
	0.6nm,0.6s,baz=149,slow=4.7,SNR=3.6						

IDC 26 04:45:02.6±2.1,20.34S×177.77W,h453km±28km, mb3.1/6,mb1 3.4/9,mb1mx3.2/25,mbtmp4.0/9,Error ellipse: s-maj=29.3km s-min=15.5km az=153.0,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**8.59**	**43**	P	P	04 47 04.7	+0.1
	7.0nm,0.3s,baz=225,slow=3.0,SNR=6.0						
AFI				S	S	04 48 40.1	-4.6
	11nm,0.3s,baz=187,slow=21,SNR=9.3						
RAO	**Raoul Island**	**8.87**	**181**	P	P	04 47 07.9	+0.5
	23nm,0.3s,baz=90,slow=20,SNR=1.6						
RAO				S	S	04 48 47.7	-2.2
	27nm,0.3s,baz=180,slow=20,SNR=2.4						
DZM	**Mont Dzumac**	**14.82**	**261**	P	P	04 48 13.2	+1.2
	0.2nm,0.3s,baz=139,slow=20,SNR=2.8						
URZ	**Urewera**	**18.40**	**193**	P	P	04 48 47.6	-1.3
	1.1nm,0.3s,baz=330,slow=5.9,SNR=6.4						
CTA	**Charters Tower**	**33.72**	**264**	P	P	04 51 04.8	-0.2
	1.8nm,0.2s,baz=110,slow=11,SNR=4.7						
ASAR	**Alice Springs**	**44.76**	**257**	P	P	04 52 34.9	+0.2
	1.4nm,0.8s,baz=91,slow=8.7,SNR=13						
WRA	**Warramunga Arr**	**44.84**	**262**	P	P	04 52 34.9	-0.3
	0.5nm,0.6s,baz=96,slow=7.7,SNR=17						
TXAR	**Lajitas Array**	**86.79**	**57**	P	P	04 56 59.1	+1.0
	1.0nm,0.7s,baz=217,slow=6.8,SNR=16						
ILAR	**Eielson Array**	**88.11**	**13**	P	P	04 57 02.0	-1.4
	0.2nm,0.5s,baz=213,slow=5.9,SNR=4.3						
PDAR	**Pinedale Array**	**88.70**	**43**	P	P	04 57 06.7	-0.3
	0.5nm,0.7s,baz=211,slow=2.6,SNR=6.5						
AKASG	**Malin Array Be**	**142.98**	**331**	PKhKP	PKPpre	05 03 39.1	
	0.5nm,0.4s,baz=37,slow=3.9,SNR=5.5						

*IDC **26** 05:12:04.2±1.5,30.91S×177.88W,h0km,mb4.3/3, mb1 4.4/4,mb1mx4.0/29,mbtmp4.2/4,ML3.2/1,MS3.1/1, Ms1 3.1/1,ms1mx2.4/29, Error ellipse: s-maj=39.6km s-min=24.3km az=115.0*
*NEIC **26** 05:12:09.9±0.6,30.65S×177.98W,h35km,mb4.4/4,Error ellipse: s-maj=18.4km s-min=11.1km az=116.0*
*ISCJB **26** 05:12:10.0±0.9,30.71S±0.08×178.1W±0.2,h46km, mb4.5/8,Error ellipse: s-maj=22.8km s-min=9.3km az=18.1*

ISC 26 05:12:10.8±0.8,30.75S±0.08×178.1W±0.2,h46km,n16, σ1§89/17,mb4.5/8,Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**1.50**	**5**	Pn	**Pn**	**05 12 35.2**	**+0.1**
	127nm,0.3s,baz=84,slow=9.1,SNR=12						
RAO				Sn	**Sn**	**05 12 53.0**	**-0.5**
	501nm,0.3s,baz=101,slow=23,SNR=13						
RAO	**Raoul Island**	**1.50**	**5**	*e*Pn	**Pn**	**05 12 34.8**	**-0.4**
RAO				*e*Sn	**Sn**	**05 12 53.2**	**-0.3**
URZ	**Urewera**	**8.48**	**207**	Pn	Pn	05 14 06.1	-4.8
	0.3nm,0.3s,baz=194,slow=18,SNR=2.6						
URZ				Sn	**Sn**	**05 15 39.9**	**-5.3**
	2.1nm,0.3s,baz=168,slow=20,SNR=6.4						
DZM	**Mont Dzumac**	**16.33**	**298**	LR	LR	05 20 29.8	
	comp=Z,62nm,18.3s,baz=24,slow=30						
AFI	**Afiamalu**	**17.73**	**20**	*e*Pn	**Pn**	**05 16 11.4**	**-3.0**
STKA	**Stephens Creek**	**34.34**	**257**	P	**P**	**05 18 55.4**	**+2.2**
	5.4nm,0.8s,baz=90,slow=9.5,SNR=12						
BBOO	**Buckleboo**	**38.81**	**255**	*e*P	**P**	**05 19 31.7**	**+0.4**
	4.0nm,0.7s						
ASAR	**Alice Springs**	**43.03**	**267**	P	**P**	**05 20 06.6**	**+0.5**
	1.5nm,0.6s,baz=104,slow=7.5,SNR=16						
WRAB	**Tennant Creek**	**44.04**	**273**	*e*P	**P**	**05 20 14.7**	**+0.4**
	1.6nm,0.3s						
WRA	**Warramunga Arr**	**44.05**	**273**	P	**P**	**05 20 14.8**	**+0.5**
	1.7nm,0.4s,baz=111,slow=8.1,SNR=45						
QSPA	**South Pole Qui**	**59.36**	**180**	*e*P	**P**	**05 22 10.1**	**+2.0**
	16nm,0.9s						
SNAA	**Sanae**	**77.81**	**178**	*e*P	**P**	**05 24 04.0**	**+1.2**
	62nm,0.7s						
PMR	**Palmer**	**94.96**	**13**	*e*P	**P**	**05 25 27.1**	**-0.4**
	1.4nm,0.6s						
FINES	**FINESS Array B**	**145.45**	**340**	PKPbc	**PKPdf**	**05 31 42.6**	**-0.3**
	3.4nm,0.6s,baz=45,slow=4.1,SNR=18						
AKASG	**Malin Array Be**	**151.54**	**322**	PKPbc	**PKPbc**	**05 31 59.6**	**+0.2**
	0.9nm,0.5s,baz=48,slow=2.7,SNR=2.5						
TORD	**Torodi Ar. Bea**	**162.48**	**179**	PKPab	**PKPab**	**05 32 56.2**	**+0.4**
	0.4nm,0.5s,baz=173,slow=2.7,SNR=5.0						

*KRSC **26** 05:22:16.8±0.7,54.38N×160.87E,h92km±17km,ML5.1, FELT [II] at Petropavlovsk.*
*ISCJB **26** 05:22:18.9±0.2,54.52N±0.02×160.42E±0.04, h106km±1km,mb4.6/204,Error ellipse: s-maj=4.2km s-min=2.4km az=40.6*
*MOS **26** 05:22:18.8±0.9,54.51N×160.43E,h102km,mb4.8/49, Error ellipse: s-maj=8.6km s-min=3.5km az=70.8*
MOS Felt (II) at Petropavlovsk-Kamchatskiy.
*BJI **26** 05:22:19.0,54.66N×160.26E,h104km,mb4.4/20, mB5.0/16*
*IDC **26** 05:22:19.2±0.5,54.57N×160.29E,h94km±4km,mb4.0/32, mb1 4.2/34,mb1mx4.0/62,mbtmp4.3/34,MS3.1/18, Ms1 3.1/18,ms1mx3.0/42,Error ellipse: s-maj=10.7km s-min=8.8km az=155.0*
*NEIC **26** 05:22:20.2±0.4,54.60N×160.28E,h99km±4km,mb4.8/175, Error ellipse: s-maj=4.7km s-min=2.8km az=159.0*

ISC 26 05:22:18.5±0.4,54.45N±0.03×160.65E±0.03,h89km±3km, h89km:pP-P,n788,σ1§33/859,mb4.8/205,6C-5D,Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MKZ	**Mys Kozlova**	**0.64**	**80**	PN	**Pn**	**05 22 34.2**	**0.0**
MKZ	**Mys Kozlova**	**0.64**	**80**	*e*P	**Pn**	**05 22 34.2**	**0.0**
KZV	**Kizimen**	**0.70**	**343**	PN	**Pn**	**05 22 35.5**	**+0.5**
KZV	**Kizimen**	**0.70**	**343**	*e*P	**Pn**	**05 22 35.5**	**+0.5**
KII	**Karymskiy**	**0.81**	**240**	PN	**Pn**	**05 22 36.5**	**+0.4**
KII	**Karymskiy**	**0.81**	**240**	*e*P	**Pn**	**05 22 36.5**	**+0.4**
TUMR	**Tumrok**	**0.89**	**341**	PN	**Pn**	**05 22 37.9**	**+1.0**
TUMR				S	**Sn**	**05 22 52.1**	**+1.4**
TUMR	**Tumrok**	**0.89**	**341**	*i* P	**Pn**	**05 22 37.9**	**+1.0**
TUMR				*e*S	**Sn**	**05 22 52.1**	**+1.4**
KMNR	**Kamenistaya**	**1.33**	**350**	PN	**Pn**	**05 22 43.4**	**+1.2**
KMNR	**Kamenistaya**	**1.33**	**350**	*i* P	**Pn**	**05 22 43.4**	**+1.2**
SPN	**Mys Shipunski**	**1.40**	**196**	PN	**Pn**	**05 22 42.7**	**-0.2**
SPN				S	**Sn**	**05 23 00.7**	**-0.6**
SPN	**Mys Shipunski**	**1.40**	**196**	*i* P	**Pn**	**05 22 42.7**	**-0.2**
SPN				*e*S	**Sn**	**05 23 00.7**	**-0.6**
NLC	**Nalytchevo**	**1.49**	**212**	PN	**Pn**	**05 22 44.6**	**+0.6**
NLC				S	**Sn**	**05 23 04.0**	**+0.7**
NLC	**Nalytchevo**	**1.49**	**212**	*e*P	**Pn**	**05 22 44.6**	**+0.6**
NLC				*e*S	**Sn**	**05 23 04.0**	**+0.7**
BZMR	**Bezymyannaya**	**1.50**	**357**	PN	**Pn**	**05 22 45.5**	**+1.3**
BZMR	**Bezymyannaya**	**1.50**	**357**	*i* P	**Pn**	**05 22 45.5**	**+1.3**
KIRR	**Kirishev**	**1.52**	**354**	PN	**Pn**	**05 22 45.6**	**+1.1**
KIRR				S	**Sn**	**05 23 07.1**	**+2.9**
KIRR	**Kirishev**	**1.52**	**354**	*i* P	**Pn**	**05 22 45.6**	**+1.1**
KIRR				*e*S	**Sn**	**05 23 07.1**	**+2.9**
KPT	**Kopyto**	**1.54**	**351**	PN	**Pn**	**05 22 45.7**	**+0.9**
KPT	**Kopyto**	**1.54**	**351**	*e*P	**Pn**	**05 22 45.7**	**+0.9**
SDLR	**Sedlovina**	**1.57**	**222**	PN	**Pn**	**05 22 46.3**	**+1.2**
SDLR	**Sedlovina**	**1.57**	**222**	*i* P	**Pn**	**05 22 46.3**	**+1.2**
ZLN	**Zelenaya**	**1.58**	**3**	PN	**Pn**	**05 22 46.9**	**+1.7**
ZLN	**Zelenaya**	**1.58**	**3**	*i* P	**Pn**	**05 22 46.9**	**+1.7**
KRER	**Koryakskii**	**1.60**	**225**	PN	**Pn**	**05 22 47.2**	**+1.6**
KRER	**Koryakskii**	**1.60**	**225**	*i* P	**Pn**	**05 22 47.2**	**+1.6**
KRX	**Arik**	**1.61**	**228**	PN	**Pn**	**05 22 46.4**	**+0.8**
KRX	**Arik**	**1.61**	**228**	*e*P	**Pn**	**05 22 46.4**	**+0.8**
AVH	**Avacha**	**1.64**	**224**	PN	**Pn**	**05 22 47.4**	**+1.5**
AVH	**Avacha**	**1.64**	**224**	*e*P	**Pn**	**05 22 47.4**	**+1.5**
LGNR	**Loginova**	**1.64**	**1**	PN	**Pn**	**05 22 48.1**	**+1.9**
LGNR	**Loginova**	**1.64**	**1**	*e*P	**Pn**	**05 22 48.1**	**+1.9**
UGLR	**Uglovaya**	**1.64**	**222**	PN	**Pn**	**05 22 47.5**	**+1.4**
UGLR	**Uglovaya**	**1.64**	**222**	*i* P	**Pn**	**05 22 47.5**	**+1.4**
KOK	**Koryaka**	**1.66**	**227**	PN	**Pn**	**05 22 47.8**	**+1.5**
KOK	**Koryaka**	**1.66**	**227**	*e*P	**Pn**	**05 22 47.8**	**+1.5**
CIRR	**Tsirk**	**1.67**	**2**	PN	**Pn**	**05 22 47.9**	**+1.4**
CIRR	**Tsirk**	**1.67**	**2**	*i* P	**Pn**	**05 22 47.9**	**+1.4**
GNL	**Ganaly**	**1.76**	**246**	PN	**Pn**	**05 22 49.0**	**+1.4**
GNL	**Ganaly**	**1.76**	**246**	*e*P	**Pn**	**05 22 49.0**	**+1.4**
DALK	**Dalny**	**1.81**	**219**	PN	**Pn**	**05 22 49.0**	**+0.9**
DALK				S	**Sn**	**05 23 11.3**	**+0.7**
DALK	**Dalny**	**1.81**	**219**	*i* P	**Pn**	**05 22 49.0**	**+0.9**
DALK				*e*S	**Sn**	**05 23 11.3**	**+0.7**
PET	**Petropavlovsk**	**1.85**	**221κ**	*i* PN	**Pn**	**05 22 49.6**	**+1.0**
PET				*e*S	**Sn**	**05 23 12.9**	**+1.3**
PET				pmax	pmax		
	comp=Z,4μm,1.1s						
PET				pmax	pmax		
	comp=Z,3μm,0.4s						
PET				smax	smax		
	comp=N,10μm,2.7s						
PET				smax	smax		
	comp=N,2μm,5.2s						
PET				smax	smax		
	comp=N,14μm,0.7s						
PET				smax	smax		
	comp=E,9μm,0.5s						
PET	**Petropavlovsk**	**1.85**	**221**	*e*Pn	**Pn**	**05 22 49.7**	**+1.1**
PET				*e*Sn	**Sn**	**05 23 13.3**	**+1.7**
ESO	**Esso**	**1.86**	**324**	PN	**Pn**	**05 22 49.7**	**+1.0**
ESO				S	**Sn**	**05 23 12.9**	**+1.2**
ESO	**Esso**	**1.86**	**324**	*i* P	**Pn**	**05 22 49.7**	**+1.0**
ESO				*e*S	**Sn**	**05 23 12.9**	**+1.2**
KLY	**Klyuchi**	**1.87**	**0**	PN	**Pn**	**05 22 50.3**	**+1.4**
KLY	**Klyuchi**	**1.87**	**0**	*i* P	**Pn**	**05 22 50.3**	**+1.4**
KBG	**Krutoberegovo**	**2.16**	**32**	PN	**Pn**	**05 22 51.7**	**-1.0**
KBG				S	**Sn**	**05 23 18.6**	**-0.2**
KBG	**Krutoberegovo**	**2.16**	**32**	*e*P	**Pn**	**05 22 51.7**	**-1.0**
KBG				*e*S	**Sn**	**05 23 18.6**	**-0.2**
SMKR	**Semkarok**	**2.19**	**12**	PN	**Pn**	**05 22 54.5**	**+1.3**
SMKR	**Semkarok**	**2.19**	**12**	*i* P	**Pn**	**05 22 54.5**	**+1.3**
PEA1	**Petropavlovsk-**	**2.20**	**234**	*e*Pn	**Pn**	**05 22 54.5**	**+1.3**
PEA1				*e*Sn	**Sn**	**05 23 21.6**	**+1.8**
PEA0B	**Petropavlovsk-**	**2.20**	**234**	*e*Pn	**Pn**	**05 22 54.6**	**+1.3**
PEA0B				*e*Sn	**Sn**	**05 23 18.0**	**-1.9**
PETK	**Petropavlovsk-**	**2.20**	**234**	P	**Pn**	**05 22 54.5**	**+1.2**
	comp=E,114nm,0.3s,baz=71,slow=17,SNR=206						
PETK				S	**Sn**	**05 23 21.6**	**+1.7**
	comp=E,80nm,0.3s,baz=91,slow=19,SNR=6.1

KLR **Kul'dur** 18.53 266 *e*P P 05 26 30.3 +1.4
UNV **Unalaska Valle** 19.16 78 *e*P Pn 05 26 37.0 +0.7
comp=N,200nm,1.8s
AKUT **Akutan** 19.50 77 *e*P Pn 05 26 40.7 +0.4
comp=N,434nm,1.7s
USRK **Ussuriysk Ar.** 21.16 253 pP pP 05 27 16.1 +2.4
comp=N,3.6nm,0.7s,baz=53,slow=13,SNR=4.4
TIXI **Tiksi** 22.00 334 P P 05 27 04.3 -0.6
comp=N,9.3nm,0.8s,baz=142,slow=11,SNR=2.7
TIXI LR LR 05 36 39.2
comp=N,54nm,20.3s,baz=174,slow=40
TIXI **Tiksi** 22.00 334 *e*P P 05 27 05.7 +0.8
TIXI pmax pmax
comp=Z,8.0nm,0.8s
CHGN **Chignik** 23.10 69 *e*P P 05 27 15.9 -0.4
comp=Z,97nm,1.7s
TT01 **Tatalina** 23.63 52 *e*P P 05 27 22.2 +1.0
TTA **Tatalina** 23.64 52 P P 05 27 22.5 +1.2
TTA **Tatalina** 23.64 52 *e*P P 05 27 21.7 +0.4
comp=Z,32nm,0.9s
MJB9 **Matsu-Tunnel** 23.66 230 *e*P P 05 27 22.1 +0.4
comp=Z,3.3nm,0.8s
MAJO **Matsushiro** 23.66 230 *d i*P P 05 27 21.3 -0.4
MAJO pmax pmax
comp=Z,80nm,0.8s
MAJO **Matsushiro** 23.66 230 *e*P P 05 27 22.0 +0.3
comp=Z,12nm,0.8s
MAT **Matsushiro** 23.66 230 P P 05 27 21.8 +0.1
MJAR **Matsushiro Arr** 23.66 230 P P 05 27 21.9 +0.2
comp=Z,4.6nm,0.7s,baz=24,slow=11,SNR=14
MJAR LR LR 05 37 36.2
comp=Z,48nm,19.8s,baz=45,slow=39
SVW2 **Sparrevohn** 23.88 56 *e*P P 05 27 25.1 +1.6
comp=Z,18nm,1.1s
IMAR **Indian Mountai** 24.79 44 *e*P P 05 27 31.9 +0.3
IMAR *e*PcP PcP 05 31 06.7 +1.3
RSO **Redoubt South** 25.32 57 *e*P P 05 27 38.2 +1.5
PPLA **Purkeypile** 25.39 52 *e*P P 05 27 38.8 +1.6
comp=Z,47nm,1.6s
CAST **Castle Rocks** 25.42 50 *e*P P 05 27 38.6 +1.2
comp=Z,9.0nm,0.7s
SPU **Mount Spurr** 25.58 56 *e*P P 05 27 40.5 +1.6
OHAK **Old Harbor** 25.64 65 *e*P P 05 27 39.5 +0.2
comp=Z,26nm,1.1s
KDAK **Kodiak Island** 25.88 63 P P 05 27 41.6 +0.1
comp=Z,9.4nm,0.6s,baz=177,slow=1.9,SNR=14
KDAK LR LR 05 36 30.1
comp=Z,42nm,21.1s,baz=266,slow=33
KDAK **Kodiak Island** 25.88 63 *e*P P 05 27 41.8 +0.3
comp=Z,32nm,1.3s
KTH **Kantishna Hill** 25.93 50 *e*P P 05 27 43.2 +1.2
comp=Z,16nm,1.0s
SUA **Susitna One** 26.18 55 *e*P P 05 27 44.9 +0.5
comp=Z,12nm,1.0s
CNPM **China Poot** 26.22 59 *e*P P 05 27 44.9 +0.2
comp=Z,18nm,1.1s
TRF **Thorofare Moun** 26.22 50 *e*P P 05 27 45.6 +0.8
comp=Z,15nm,0.8s
COLD **Coldfoot** 26.31 42 *e*P P 05 27 45.8 +0.5
comp=Z,5.4nm,0.7s
BRLK **Bradley Lake** 26.35 59 *e*P P 05 27 45.9 +0.1
comp=Z,12nm,1.0s
TOLK **Toolik Lake Re** 26.69 39 P P 05 27 49.1 +0.3
baz=264
RC01 **Rabbit Creek A** 26.71 55 *e*P P 05 27 49.0 0.0
comp=Z,6.3nm,0.8s
MCK **McKinley** 26.81 49 *e*P P 05 27 50.4 +0.5
MCK pmax pmax
comp=Z,14nm,0.8s
MCK **McKinley** 26.81 49 *e*P P 05 27 50.4 +0.5
comp=Z,14nm,0.8s
RND **Reindeer** 26.87 50 *e*P P 05 27 50.6 +0.1
RND pmax pmax
comp=Z,17nm,0.9s
RND **Reindeer** 26.87 50 *e*P P 05 27 50.6 +0.1
comp=Z,17nm,0.9s
PMR **Palmer** 26.93 54 *e*P P 05 27 51.6 +0.7
PMR pmax pmax
comp=Z,5.0nm,0.7s
PMR **Palmer** 26.93 54 *e*P P 05 27 51.6 +0.7
comp=Z,5.2nm,0.7s
SEW **Seward** 27.01 58 *e*P P 05 27 51.8 +0.2
comp=Z,15nm,0.8s
MDM **Murphy Dome** 27.06 47 *e*P P 05 27 53.0 +0.9
comp=Z,20nm,1.3s
WRH **Wood River Hil** 27.14 48 *e*P P 05 27 53.5 +0.8
comp=Z,36nm,0.8s
COLA **College** 27.22 47 *e*P P 05 27 54.7 +1.2
COLA pmax pmax
comp=Z,18nm,0.6s
COLA **College** 27.22 47 *e*P P 05 27 54.7 +1.2
comp=Z,18nm,0.6s
CCB **Clear Creek Bu** 27.25 47 *e*P P 05 27 54.5 +0.7
comp=Z,15nm,0.7s
SML **Sawmill** 27.27 54 *e*P P 05 27 54.9 +0.8
SML pmax pmax
comp=Z,30nm,1.0s
SML **Sawmill** 27.27 54 *e*P P 05 27 54.9 +0.8
comp=Z,30nm,1.0s
DHY **Denali Highway** 27.56 51 *e*P P 05 27 57.3 +0.5
comp=Z,9.7nm,0.7s
HDA **Harding Lake** 27.64 48 *e*P P 05 27 58.1 +0.9
comp=Z,21nm,0.8s
IL1 **Eielson Array** 27.64 47 *e*P P 05 27 57.7 +0.4
ILAR **Eielson Array** 27.64 47 P P 05 27 57.5 +0.3
comp=Z,16nm,0.8s,baz=268,slow=8.1,SNR=155
ILAR PcP PcP 05 31 11.2 -0.8
comp=Z,0.7nm,0.6s,baz=275,slow=3.0,SNR=4.2
ILAR LR LR 05 39 31.0
comp=Z,39nm,18.7s,baz=276,slow=37
ILAR **Eielson Array** 27.64 47 P P 05 27 57.6 +0.3
ILAR 05 31 11.3
ILAR pmax pmax
comp=Z,17nm,0.7s
ILAR MLR MLR
comp=Z,39nm,18.7s
ILB **Eielson Array** 27.64 47 *e*P P 05 27 57.9 +0.6
SCM **Sheep Creek Mo** 27.74 53 *e*P P 05 27 59.3 +1.0
SCM pmax pmax
comp=Z,27nm,0.7s
SCM **Sheep Creek Mo** 27.74 53 *e*P P 05 27 59.3 +1.0
comp=Z,27nm,0.7s
GLI **Glacier Island** 28.01 55 *e*P P 05 28 01.5 +0.8
comp=Z,6.7nm,0.7s
KSRS **Korea Array** 28.05 246 LR LR 05 39 08.8
comp=Z,30nm,19.1s,baz=54,slow=36
FYU **Fort Yukon** 28.25 43 *e*P P 05 28 04.0 +1.3
comp=Z,13nm,0.8s
FID **Port Fidalgo** 28.33 56 *e*P P 05 28 04.3 +0.9
comp=Z,24nm,1.5s
PAX **Paxson** 28.44 51 *e*P P 05 28 05.6 +1.1
PAX pmax pmax
comp=Z,7.0nm,0.8s
PAX **Paxson** 28.44 51 *e*P P 05 28 05.6 +1.1
comp=Z,6.6nm,0.8s
KLU **Klutina** 28.46 54 *e*P P 05 28 05.6 +0.9
comp=Z,34nm,1.6s
DIV **Divide** 28.60 55 *e*P P 05 28 07.0 +1.1
comp=Z,11nm,0.8s
HARP **HAARP** 28.66 52 *e*P P 05 28 07.9 +1.4
comp=Z,16nm,0.5s
DOT **Dot Lake** 28.98 49 *e*P P 05 28 08.8 -0.4
comp=Z,21nm,0.6s
BMRM **Bremner River** 29.19 55 *e*P P 05 28 12.4 +1.3
comp=Z,23nm,0.8s
RAGM **Ragged Mountai** 29.28 56 *e*P P 05 28 13.6 +1.6
comp=Z,36nm,1.2s
CRQM **Cirque** 29.93 55 *e*P P 05 28 19.6 +1.8
comp=Z,20nm,0.8s
EGAK **Eagle** 30.08 47 *e*P P 05 28 18.7 -0.2
comp=Z,36nm,0.6s
DAWY **Dawson** 30.95 48 *e*P P 05 28 28.0 +1.3
comp=Z,8.0nm,0.6s
PCA **Pinnacle** 31.49 55 *e*P P 05 28 32.9 +1.5
comp=Z,25nm,0.8s
INK **Inuvik** 32.60 39 P P 05 28 41.8 +0.8
comp=Z,3.1nm,0.3s,baz=275,slow=6.3,SNR=22
INK PcP PcP 05 31 25.4 +0.5
comp=Z,1.8nm,0.5s,baz=86,slow=0.4,SNR=8.0
INK LR LR 05 43 14.7
comp=Z,569nm,19.1s,baz=316,slow=38
INK **Inuvik** 32.60 39 *e*P P 05 28 41.8 +0.8
comp=Z,8.0nm,1.0s
TLY **Talaya** 33.57 289 LR LR 05 43 16.1
comp=Z,31nm,18.6s,baz=10,slow=38
WHY **Whitehorse** 33.86 53 *e*P P 05 28 54.1 +2.0
comp=Z,9.4nm,0.8s

SONA0 **Songino Array** 33.93 282 *e*P P 05 28 51.0 -1.9
SONA0 *e*PcP PcP 05 31 29.2 0.0
SONM **Songino Array** 33.93 282 P P 05 28 51.1 -1.9
comp=Z,0.2nm,0.3s,baz=63,slow=6.6,SNR=2.3
SONM pP pP 05 29 14.0 +0.6
comp=Z,0.6nm,0.5s,baz=64,slow=7.5,SNR=3.9
SONM PcP PcP 05 31 29.2 0.0
comp=Z,3.8nm,0.7s,baz=78,slow=1.5,SNR=13
SKAG **Skagway** 34.05 55 *e*P P 05 28 56.4 +2.7
comp=Z,9.8nm,0.8s
BESE **Bessie Mountai** 34.60 56 *e*P P 05 28 59.7 +1.2
comp=Z,19nm,1.0s
H11N2 **WAKE ISLAND Hy** 34.98 170 T T 06 06 09.4
baz=354,slow=76,SNR=1030
H11N3 **WAKE ISLAND Hy** 35.00 170 T T 06 06 33.6
baz=354,slow=76,SNR=1031
H11N1 **WAKE ISLAND Hy** 35.00 170 T T 06 06 23.9
baz=354,slow=76,SNR=1070
NRIK **Noril'sk** 35.00 324 LR LR 05 44 11.6
comp=Z,25nm,21.3s,baz=136,slow=38
HHC **Hu-ho-hao-te** 35.01 268 *e*P P 05 29 02.8 +0.5
HHC S S 05 34 24.0 -3.7
HHC sS ScP 05 35 06.3 -3.3
HHC pmax pmax
comp=Z,25nm,1.3s
HHC pmax pmax
comp=Z,110nm,5.1s
H11S1 **WAKE ISLAND Hy** 36.17 170 T T 06 07 41.9
baz=352,slow=76,SNR=35
H11S3 **WAKE ISLAND Hy** 36.18 170 T T 06 07 28.7
baz=352,slow=76,SNR=50
H11S2 **WAKE ISLAND Hy** 36.19 170 T T 06 07 48.3
baz=352,slow=76,SNR=15
DLBC **Dease Lake** 36.98 55 P P 05 29 21.2 +2.3
comp=Z,4.0nm,0.7s,baz=288,slow=11,SNR=9.1
DLBC **Dease Lake** 36.98 55 *e*P P 05 29 19.7 +0.9
comp=Z,7.8nm,1.1s
NJ2 **Nanjing** 37.02 250 *e*P P 05 29 20.0 +0.7
NJ2 pmax pmax
comp=Z,14nm,0.6s
YKA **Yellowknife Ar** 41.95 44 P P 05 30 00.9 +1.0
comp=Z,10nm,0.6s,baz=299,slow=8.0,SNR=13
YKA PcP PcP 05 31 54.3 +0.8
comp=Z,0.9nm,0.5s,baz=308,slow=3.1,SNR=5.7
ZAA1 **Zalesovo Array** 42.33 302 *e*P P 05 29 59.8 -3.3
ZAA1 *e*pP pP 05 30 23.0 -1.1
ZAA1 *e*PcP PcP 05 31 54.2 -0.7
ZALV **Zalesovo Beam** 42.33 302 P P 05 29 59.8 -3.3
comp=Z,0.5nm,0.3s,baz=72,slow=4.7,SNR=2.1
ZALV pP pP 05 30 23.0 -1.2
comp=Z,0.9nm,0.5s,baz=69,slow=8.1,SNR=2.3
ZALV PcP PcP 05 31 54.2 -0.7
comp=Z,1.4nm,0.5s,baz=20,slow=4.7,SNR=5.3
ZALV LR LR 05 47 33.5
comp=Z,16nm,20.4s,baz=70,slow=36
LZH **Lanzhou** 42.69 269 *e*P P 05 30 05.5 -1.0
LZH pP pP 05 30 25.5 -2.0
LZH pmax pmax
comp=Z,19nm,1.0s
DGZ **Jazzator, Alta** 43.38 295 *e*P P 05 30 11.4 -0.5
DGZ pmax pmax
comp=Z,1.0nm,0.7s
A04D **Lummi Island** 45.77 64 P P 05 30 30.8 +0.1
baz=308
B05A **Bryant** 46.37 64 P P 05 30 37.2 +1.8
baz=308
CD2 **Chengdu** 46.44 263 *e*P P 05 30 34.0 -2.2
WMQ **Urumqi** 46.84 288 P P 05 30 38.8 -0.4
WMQ pP pP 05 31 02.8 +2.2
WMQ sP sP 05 31 14.8 +4.2
WMQ pmax pmax
comp=Z,15nm,0.6s
WMQ pmax pmax
comp=Z,91nm,3.9s
C06D **Leavenworth** 47.21 64 P P 05 30 43.6 +1.5
baz=309
F04D **Rainier, OR** 47.25 67 P P 05 30 44.1 +1.8
baz=310
KURK **Kurchatov** 47.31 301 P P 05 30 40.4 -2.2
KURK *PP pP 05 31 05.7 +1.7
KURK 05 32 11.1
KURK pmax pmax
comp=Z,1.0nm,0.3s
KURK **Kurchatov** 47.31 301 *e*P P 05 30 39.6 -3.1
KURK *e*pP pP 05 31 04.8 +0.7
KURK *e*sP sP 05 31 14.3 +0.2
KURK *e*PcP PcP 05 32 11.1 -1.0
KURBB **Kurchatov Arra** 47.41 301 P P 05 30 40.4 -3.1
comp=Z,0.9nm,0.3s,baz=58,slow=7.7,SNR=8.6
KURBB pP pP 05 31 05.7 +0.9
comp=Z,7.4nm,0.8s,baz=56,slow=8.1,SNR=17
KURBB PcP PcP 05 32 11.1 -1.4
comp=Z,0.8nm,0.7s,baz=50,slow=3.7,SNR=5.0
B08A **Colville Reser** 47.76 63 *e*P P 05 30 47.6 +1.4
comp=Z,12nm,0.8s
MK31 **Makanchi Array** 47.87 295 *e*P P 05 30 43.9 -3.2
MK31 *e*PP pP 05 31 09.6 +1.1
MK31 *e*SP sP 05 31 16.2 -2.4
MK31 **Makanchi Array** 47.87 295 *e*P P 05 30 43.9 -3.2
MK31 *e*pP pP 05 31 09.6 +1.1
MK31 *e*sP sP 05 31 16.2 -2.4
MK32 **Makanchi Array** 47.87 295 *e*P P 05 30 44.2 -2.9
MK32 *e*pP pP 05 31 09.2 +0.7
MKAR **Makanchi Array** 47.87 295 P P 05 30 44.2 -2.9
comp=Z,0.6nm,0.6s,baz=61,slow=7.9,SNR=6.4
MKAR pP pP 05 31 09.2 +0.7
comp=Z,1.8nm,0.7s,baz=50,slow=8.0,SNR=7.4
MKAR **Makanchi Array** 47.87 295 *e*P P 05 30 46.2 -0.9
MKAR *e*pP pP 05 31 09.6 +1.1
MKAR *e*sP sP 05 31 16.1 -2.5
MK01 **Makanchi Array** 47.88 295 *e*P P 05 30 46.3 -1.0
MK01 *e*pP pP 05 31 09.3 +0.7
I03D **Drain, OR** 48.60 70 P P 05 30 55.4 +2.6
baz=311
G05D **Wamic, OR** 48.70 67 P P 05 30 55.2 +1.7
baz=311
NEW **Newport** 48.95 61 P P 05 30 56.0 +0.6
comp=Z,4.0nm,0.6s,baz=304,slow=7.3,SNR=8.6
NEW PcP PcP 05 32 19.4 +1.2
comp=Z,2.9nm,0.6s,baz=286,slow=5.4,SNR=5.3
NEW **Newport** 48.95 61 P P 05 30 56.7 +1.2
baz=310
NEW **Newport** 48.95 61 *e*P P 05 30 56.8 +1.4
comp=Z,5.5nm,0.9s
I04A **Tendick Farm,** 49.05 69 P P 05 30 58.2 +2.0
baz=312
I05D **Terebonne, OR** 49.28 68 P P 05 30 59.7 +1.7
baz=312
L02D **Cave Junction,** 49.48 71 P P 05 31 01.5 +2.0
baz=312
HUMO **Hull Mountain** 49.54 71 *e*P P 05 31 02.2 +2.3
comp=Z,58nm,1.9s
E09A **Wood Farm, Sta** 49.56 64 *e*P P 05 31 01.3 +1.3
comp=Z,14nm,0.8s
J04D **Umpqua Nationa** 49.58 69 P P 05 31 02.5 +2.0
baz=312
BVAR **Borovoye Array** 49.81 308 P P 05 30 58.6 -3.3
comp=Z,1.4nm,0.4s,baz=54,slow=8.0,SNR=8.6
BVAR pP pP 05 31 23.2 -0.1
comp=Z,2.6nm,0.6s,baz=59,slow=8.8,SNR=6.3
BVAR PcP PcP 05 32 20.2 -1.0
comp=Z,1.3nm,0.4s,baz=46,slow=3.1,SNR=5.8
J05D **Fort Rock, OR** 50.03 69 P P 05 31 06.0 +2.1
baz=312
WALA **Waterton Lakes** 50.06 59 *e*P P 05 31 05.2 +1.2
comp=Z,14nm,0.8s
K04D **Chiloquin, OR** 50.19 70 P P 05 31 06.9 +1.9
baz=312
YBH **Yreka Blue Hor** 50.26 71 *e*P P 05 31 07.9 +2.4
YBH pmax pmax
comp=Z,5.0nm,0.7s
YBH **Yreka Blue Hor** 50.26 71 *e*P P 05 31 07.9 +2.4
comp=Z,4.9nm,0.7s
F10A **Beach Ranch, E** 50.39 64 *e*P P 05 31 07.9 +1.5
comp=Z,5.8nm,0.8s
M02C **Callahan** 50.41 72 P P 05 31 09.2 +2.6
baz=313
BSMT **Bassoo Peak** 50.41 60 *e*P P 05 31 08.4 +1.7
M04C **Macdoel** 50.71 71 P P 05 31 11.0 +2.1
baz=313
JTMT **Jette** 50.74 60 *e*P P 05 31 11.0 +1.9
N02D **Trinity Center** 50.78 72 P P 05 31 11.7 +2.3
baz=313
SWMT **Swartz Lake** 51.04 60 *e*P P 05 31 12.7 +1.4
BMO **Blue Mountains** 51.09 65 *e*P P 05 31 13.3 +1.6
BMO pmax pmax
comp=Z,6.0nm,0.6s
BMO **Blue Mountains** 51.09 65 *e*P P 05 31 13.3 +1.6
comp=Z,6.1nm,0.6s
WDC **Whiskeytown Da** 51.14 72 *e*P P 05 31 14.3 +2.3
WDC pmax pmax
comp=Z,7.0nm,0.8s
WDC **Whiskeytown Da** 51.14 72 *e*P P 05 31 14.3 +2.3
comp=Z,7.0nm,0.8s
KMI **Kunming** 51.39 259 P P 05 31 15.0 +0.7
KMI pmax pmax
comp=Z,3.0nm,0.6s
KMI pmax pmax
comp=Z,95nm,3.9s
MOD **Modoc Plateau** 51.47 70 *e*P P 05 31 16.7 +2.1
comp=Z,12nm,0.6s
SLMT **Seeley Lake** 51.48 60 *e*P P 05 31 15.9 +1.3
MSO **Missoula** 51.52 61 P P 05 31 16.2 +1.3
baz=312
MSO **Missoula** 51.52 61 *e*P P 05 31 16.4 +1.5
comp=Z,5.5nm,0.6s
O03D **Paynes Creek** 51.74 72 P P 05 31 18.2 +1.6
baz=314,SNR=10
CHMT **Chamberlain Mo** 51.82 60 *e*P P 05 31 18.2 +1.0
FFC **Flin Flon** 51.85 47 *i*P P 05 31 18.7 +1.6
WVOR **Wild Horse Val** 52.02 68 *e*P P 05 31 20.6 +1.9
WVOR pmax pmax
comp=Z,8.0nm,0.9s
WVOR **Wild Horse Val** 52.02 68 *e*P P 05 31 20.6 +1.9
comp=Z,8.2nm,0.9s
ARCES **ARCESS Array B** 52.10 342 PcP PcP 05 32 29.1 -0.4
comp=Z,1.7nm,0.5s,baz=35,slow=4.4,SNR=7.8
ORV **Oroville** 52.42 72 *e*P P 05 31 23.1 +1.6
ORV pmax pmax
comp=Z,9.0nm,0.9s
ORV **Oroville** 52.42 72 *e*P P 05 31 23.1 +1.6
comp=Z,9.2nm,0.9s
SUMG **Summit** 52.58 7 *i*P P 05 31 22.3 -0.4
comp=Z,13nm,1.1s
SUMG **Summit** 52.58 7 *e*P P 05 31 22.9 +0.2
SUMG pmax pmax
comp=Z,60nm,1.9s
SUMG **Summit** 52.58 7 *e*P P 05 31 22.9 +0.2
comp=Z,60nm,1.9s
HRY **Holter Researc** 52.67 60 *e*P P 05 31 25.3 +1.9
EGMT **Eagleton** 52.82 57 P P 05 31 25.2 +0.8
baz=313
BEKR **Beckworth** 52.84 71 *e*P P 05 31 26.8 +1.9
comp=Z,15nm,1.0s
MFID **Camas Ranch** 52.85 65 *e*P P 05 31 26.6 +1.8
comp=Z,8.7nm,1.3s
AFDM **Forest Hills D** 53.14 73 *e*P P 05 31 29.1 +2.2
comp=Z,7.5nm,1.0s
DLMT **Dillon** 53.20 62 *e*P P 05 31 29.6 +2.2
comp=Z,19nm,1.5s
MCMT **McKenzie Canyo** 53.44 62 *e*P P 05 31 30.4 +1.1
PAHR **Pah Rah Range** 53.49 71 *e*P P 05 31 31.7 +2.1
comp=Z,14nm,0.8s
HLID **Hailey** 53.50 64 P P 05 31 31.2 +1.6
baz=314
HLID **Hailey** 53.50 64 *e*P P 05 31 31.2 +1.6
HLID *e*PcP PcP 05 32 37.1 +1.8
BOZ **Bozeman (W)** 53.54 61 P P 05 31 31.4 +1.5
baz=314
BOZ **Bozeman (W)** 53.54 61 *e*P P 05 31 31.3 +1.5
BOZ pmax pmax
comp=Z,6.0nm,0.7s
BOZ **Bozeman (W)** 53.54 61 *e*P P 05 31 31.3 +1.5
comp=Z,6.0nm,0.7s
PNTR **Pine Nut** 53.80 72 *e*P P 05 31 34.5 +2.5
comp=Z,39nm,0.8s
YERR **Yerington** 54.07 71 *e*P P 05 31 36.3 +2.4
comp=Z,23nm,0.9s
CMB **Columbia Colle** 54.10 73 *e*P P 05 31 36.2 +2.3
CMB pmax pmax
comp=Z,15nm,1.3s
CMB **Columbia Colle** 54.10 73 *e*P P 05 31 36.2 +2.3
comp=Z,15nm,1.3s
BMN **Battle Mountai** 54.17 69 *e*P P 05 31 37.0 +2.5
BMN pmax pmax
comp=Z,14nm,0.8s
BMN **Battle Mountai** 54.17 69 *e*P P 05 31 37.0 +2.5
comp=Z,14nm,0.8s
QLMT **Earthquake Lak** 54.17 61 *e*P P 05 31 36.5 +1.9
WAKR **Walker** 54.30 72 *e*P P 05 31 38.3 +2.8
comp=Z,28nm,0.7s
YHB **Horse Butte** 54.34 61 *e*P P 05 31 37.6 +1.8
comp=Z,12nm,0.7s
GCMT **Greycliff** 54.40 59 *e*P P 05 31 37.9 +1.8
YHH **Holmes Hill** 54.49 61 *e*P P 05 31 38.9 +1.9
comp=Z,8.7nm,1.1s
YMR **Madison River** 54.52 61 *e*P P 05 31 39.0 +1.9
YNR **Norris Junctio** 54.63 61 *e*P P 05 31 39.2 +1.3
YFT **Old Faithful** 54.74 61 *e*P P 05 31 41.8 +3.1
comp=Z,12nm,0.7s
TVH3 **East Aurora ar** 54.75 72 *e*P P 05 31 41.4 +2.6
comp=Z,9.3nm,0.9s
TVH2 **Borealis Mine** 54.77 72 *e*P P 05 31 41.4 +2.4
comp=Z,7.7nm,1.1s
AAK **Ala-Archa** 54.78 296 *e*P P 05 31 41.4 +2.5
AAK pmax pmax
comp=Z,4.0nm,1.0s
YPP **Pitchstone Pla** 54.88 61 *e*P P 05 31 42.7 +2.9
LKWY **Lake** 54.88 61 *e*P P 05 31 40.8 +1.1
LKWY pmax pmax
comp=Z,10.0nm,0.8s
LKWY **Lake** 54.88 61 *e*P P 05 31 40.8 +1.1
comp=Z,10nm,0.8s
H17A **Grant Village** 54.91 61 P P 05 31 42.9 +2.9
baz=315
RLMT **Red Lodge** 55.07 60 P P 05 31 42.9 +1.9
baz=315
RLMT **Red Lodge** 55.07 60 *e*P P 05 31 43.1 +2.0
comp=Z,13nm,0.8s
IMW **Indian Meadow** 55.07 62 *e*P P 05 31 43.6 +2.4
comp=Z,7.2nm,0.6s
DGMT **Dagmar** 55.19 54 P P 05 31 43.1 +1.5
baz=315
MOOW **Moose Ponds** 55.28 62 *e*P P 05 31 44.6 +2.1
comp=Z,4.2nm,0.9s
TPAW **Teton Pass** 55.35 62 *e*P P 05 31 45.4 +2.2
comp=Z,6.2nm,0.7s
LOHW **Long Hollow** 55.45 62 *e*P P 05 31 45.9 +2.1
comp=Z,6.6nm,0.8s
LAO **LASA Array** 55.47 57 P P 05 31 45.4 +1.7
baz=315
LAO **LASA Array** 55.47 57 *e*P P 05 31 45.8 +2.1
comp=Z,9.0nm,0.8s
SNOW **Snow King Moun** 55.47 62 *e*P P 05 31 46.8 +2.7
comp=Z,30nm,2.0s
REDW **Red Top Meadow** 55.49 62 *e*P P 05 31 46.7 +2.5
comp=Z,5.2nm,0.8s
HVU **Hansel Valley** 55.61 65 *e*P P 05 31 47.1 +2.2
HVU pmax pmax
comp=Z,7.0nm,0.9s
HVU **Hansel Valley** 55.61 65 *e*P P 05 31 47.1 +2.2
comp=Z,7.2nm,0.9s
RCTC **Rector, Farmer** 55.98 74 P P 05 31 49.7 +2.4
baz=316
TIN **Tinemaha, Big** 56.01 72 P P 05 31 50.4 +2.7
baz=316
BGU **Big Grassy Mou** 56.08 66 *e*P P 05 31 50.3 +2.0
comp=Z,4.3nm,0.6s
SPUT **South Promonto** 56.11 65 *e*P P 05 31 50.9 +2.4
comp=Z,9.0nm,0.8s
KSH **Kashi** 56.20 292 *e*P P 05 31 51.5 +2.4
KSH pP pP 05 32 14.5 +3.5
KSH PP PP 05 33 58.5 +3.8
KSH S S 05 39 29.5 -2.1
KSH SS SS 05 43 16.5 -2.2
KSH pmax pmax
comp=Z,6.0nm,1.3s
KSH pmax pmax
comp=Z,100nm,5.8s
KSH LR LR
comp=Z,170nm,7.0s
KSH LR LR
comp=Z,110nm,11.9s
KSH LR LR
comp=Z,55nm,10.3s
SMMC **Simmler** 56.27 75 P P 05 31 52.0 +2.5
baz=317,SNR=6.0
VES **Vestal, Richgr** 56.40 74 P P 05 31 51.9 +1.5
baz=317,SNR=11
GRAC **Grapevine Rang** 56.53 72 P P 05 31 53.8 +2.4
baz=316,SNR=6.9
CWC **Cottonwood Cre** 56.53 73 P P 05 31 53.5 +2.0
baz=317

R11A **Troy Canyon, C** 56.54 70 P P 05 31 53.3 +1.7
baz=316,SNR=11
R11A **Troy Canyon, C** 56.54 70 eP P 05 31 53.4 +1.8
comp=Z,3.9nm,0.8s
PD31 **Pinedale Array** 56.59 62 eP P 05 31 53.7 +1.8
PDAR **Pinedale Array** 56.59 62 P P 05 31 53.6 +1.7
comp=Z,6.5nm,0.7s,baz=316,slow=2.6,SNR=61
PDAR LR LR 05 56 34.6
comp=Z,19nm,18.0s,baz=14,slow=36
SFJD **Kangerlussuaq** 56.62 14 i P P 05 31 50.4 -1.1
SFJD **Kangerlussuaq** 56.62 14 i P P 05 31 50.4 -1.1
SFJD pmax pmax
comp=Z,12nm,0.6s
PKM **Mcpherson Peak** 56.68 75 P P 05 31 54.7 +2.1
baz=317
DUG **Dugway, Tooele** 56.71 66 P P 05 31 55.0 +2.3
baz=316
DUG **Dugway, Tooele** 56.71 66 eP P 05 31 55.1 +2.3
DUG pmax pmax
comp=Z,14nm,0.9s
DUG **Dugway, Tooele** 56.71 66 eP P 05 31 55.1 +2.4
comp=Z,14nm,0.9s
ISA **Isabella, Lake** 56.87 74 P P 05 31 55.2 +1.4
baz=317
DAC **Darwin (Calif)** 56.92 73 eP P 05 31 56.4 +2.1
DAC pmax pmax
comp=Z,15nm,1.4s
DAC **Darwin (Calif)** 56.92 73 eP P 05 31 56.4 +2.1
comp=Z,15nm,1.4s
MPMC **Manual Prospec** 57.14 73 P P 05 31 58.0 +2.1
baz=317,SNR=12
JLU **Jordanelle** 57.15 65 eP P 05 31 57.7 +1.8
comp=Z,4.7nm,0.8s
AKTO **Aktyubinsk** 57.16 312 P P 05 31 54.1 -1.4
comp=Z,0.8nm,0.4s,baz=356,slow=2.2,SNR=3.6
AKTO PcP PcP 05 32 48.3 -0.9
comp=Z,1.8nm,0.5s,baz=31,slow=5.9,SNR=4.9
AKTO LR LR 05 59 53.6
comp=Z,21nm,19.4s,baz=287,slow=40
TPNV **Topopah Spring** 57.18 71 P P 05 31 57.8 +1.7
baz=317
TPNV **Topopah Spring** 57.18 71 eP P 05 31 58.3 +2.2
TPNV pmax pmax
comp=Z,17nm,1.0s
TPNV **Topopah Spring** 57.18 71 eP P 05 31 58.2 +2.2
comp=Z,17nm,1.0s
FURC **Furnace Creek,** 57.19 72 P P 05 31 58.0 +2.1
baz=317,SNR=25
NLU **North Lily Min** 57.28 66 eP P 05 31 58.7 +1.8
comp=Z,9.8nm,0.8s
LRMC **Laurel Mtn Rad** 57.45 73 P P 05 31 59.7 +1.7
baz=317,SNR=8.7
MPU **Maple Canyon** 57.47 66 eP P 05 32 00.4 +2.2
comp=Z,9.7nm,0.9s
OSI **Osito Audit: C** 57.49 75 P P 05 32 00.0 +1.8
baz=317
ULM **Lac du Bonnet** 57.66 48 P P 05 31 60.0 +0.9
comp=Z,9.5nm,0.4s,baz=318,slow=7.0,SNR=36
ULM PcP PcP 05 32 51.4 +0.3
comp=Z,2.3nm,0.7s,baz=321,slow=4.5,SNR=3.0
ULM **Lac du Bonnet** 57.66 48 eP P 05 32 00.1 +1.1
comp=Z,12nm,0.5s
EDW2 **Edwards Air Fo** 57.71 74 P P 05 32 01.5 +1.8
baz=317,SNR=10
SHOC **Shoshone, Teco** 57.93 72 P P 05 32 03.3 +2.1
baz=317
DECC **Green Verdugo** 57.98 75 P P 05 32 03.4 +1.8
baz=318
SNCC **San Nicolas Is** 58.04 76 P P 05 32 04.7 +2.8
baz=318
GSC **Goldstone, Bar** 58.07 73 P P 05 32 04.3 +2.0
baz=317,SNR=13
GSC **Goldstone, Bar** 58.07 73 eP P 05 32 04.6 +2.4
GSC pmax pmax
comp=Z,13nm,0.8s
GSC **Goldstone, Bar** 58.07 73 eP P 05 32 04.6 +2.4
comp=Z,13nm,0.8s
SHPR **Sheep Range** 58.10 71 eP P 05 32 04.9 +2.3
comp=Z,7.0nm,1.4s
MWC **Mount Wilson** 58.15 75 eP P 05 32 05.2 +2.2
MWC pmax pmax
comp=Z,13nm,0.9s
MWC **Mount Wilson** 58.15 75 eP P 05 32 05.2 +2.2
comp=Z,13nm,0.9s
K22A **Casper** 58.22 60 P P 05 32 04.9 +1.6
baz=317
TMUT **Trail Mountain** 58.22 66 eP P 05 32 05.7 +2.2
comp=Z,12nm,0.8s
B31A **Greenbush Farm** 58.23 50 P P 05 32 04.5 +1.4
baz=318,SNR=15
MSU **Marysvale** 58.27 67 eP P 05 32 06.3 +2.5
MSU **Marysvale** 58.27 67 eP P 05 32 06.3 +2.5
CCUT **Cedar City** 58.33 69 eP P 05 32 05.4 +1.2
comp=Z,6.3nm,0.9s
BFSC **Mount Baldy Ra** 58.37 74 P P 05 32 06.3 +1.9
baz=318,SNR=6.0
A32A **Rocking H Ranc** 58.38 49 P P 05 32 05.0 +0.9
baz=318
RSSD **Black Hills** 58.39 57 P P 05 32 05.6 +1.1
baz=317
RSSD **Black Hills** 58.39 57 eP P 05 32 06.0 +1.5
RSSD pmax pmax
comp=Z,13nm,0.8s
RSSD **Black Hills** 58.39 57 eP P 05 32 06.0 +1.5
comp=Z,12nm,0.8s
FMP **Fort Macarthur** 58.39 75 P P 05 32 06.3 +1.9
baz=318
SZCU **Shurtz Canyon** 58.44 68 eP P 05 32 06.9 +1.9
comp=Z,8.8nm,1.1s
TUQ **Turquoise Moun** 58.46 72 P P 05 32 07.1 +2.1
baz=318,SNR=6.3
P18A **Preston Nutter** 58.49 65 eP P 05 32 07.5 +2.1
comp=Z,20nm,1.5s
CIS **Catalina Islan** 58.55 76 P P 05 32 07.1 +1.5
baz=318
RWWY **Rawlins** 58.57 61 eP P 05 32 07.3 +1.4
comp=Z,5.2nm,0.7s
C31A **Landman Farms,** 58.66 51 P P 05 32 07.0 +0.9
baz=318,SNR=6.6
HEC **Hector,Ludlow** 58.67 73 P P 05 32 08.5 +2.0
baz=318,SNR=6.3
SRU **San Rafael Swe** 58.72 66 eP P 05 32 08.9 +2.1
SRU pmax pmax
comp=Z,16nm,0.7s
SRU **San Rafael Swe** 58.72 66 eP P 05 32 08.9 +2.1
comp=Z,16nm,0.7s
B32A **Ashes, Strandq** 58.75 49 P P 05 32 07.5 +0.8
baz=319,SNR=5.2
LCMT **Little Creek M** 58.78 69 eP P 05 32 09.6 +2.3
comp=Z,9.4nm,1.1s
CMAR **Chiang Mai Arr** 58.79 258 PcP PcP 05 32 55.0 -1.1
comp=Z,0.6nm,0.3s,baz=10,slow=4.0,SNR=3.6
CMAR LR LR 06 01 02.5
comp=Z,16nm,19.5s,baz=145,slow=40
A33A **Warroad** 58.85 48 P P 05 32 08.2 +0.9
baz=319
FIA0 **FINESS Array S** 59.01 336 eP P 05 32 06.3 -2.0
FIA0 **FINESS Array S** 59.01 336 eP P 05 32 06.3 -2.0
FINES **FINESS Array B** 59.01 336 P P 05 32 06.3 -1.9
comp=Z,2.5nm,0.8s,baz=34,slow=7.2,SNR=5.5
FINES LR LR 06 00 30.4
comp=Z,15nm,20.5s,baz=34,slow=39
KNB **Kanab** 59.01 69 eP P 05 32 11.4 +2.5
KNB pmax pmax
comp=Z,6.0nm,0.9s
KNB **Kanab** 59.01 69 eP P 05 32 11.4 +2.5
comp=Z,6.2nm,0.9s
GMRC **Granite Mounta** 59.08 72 P P 05 32 11.3 +1.9
baz=318,SNR=10.0
MURC **Murrieta** 59.09 75 P P 05 32 11.1 +1.8
baz=318,SNR=5.4
AGMN **Agassiz Nation** 59.12 49 P P 05 32 09.9 +0.7
baz=319
AGMN **Agassiz Nation** 59.12 49 eP P 05 32 10.0 +0.7
comp=Z,6.6nm,0.7s
O20A **White River Ci** 59.17 63 P P 05 32 11.5 +1.6
baz=318,SNR=8.2
O20A **White River Ci** 59.17 63 eP P 05 32 11.8 +1.8
comp=Z,9.4nm,0.8s
D31A **Mcclaflin, Tow** 59.22 51 P P 05 32 11.0 +1.0
baz=319
B33A **Robert and Kas** 59.26 49 P P 05 32 10.9 +0.7
baz=319
BELC **Belle Mtn. Jos** 59.47 73 P P 05 32 13.5 +1.4
baz=318,SNR=6.6
D32A **Dogwood Acres,** 59.48 51 P P 05 32 12.7 +1.0
baz=319

PFO **Pinyon Flats O** 59.50 74 P P 05 32 13.1 +0.8
comp=Z,6.2nm,0.8s,baz=332,slow=5.9,SNR=11
PFO **Pinyon Flats O** 59.50 74 P P 05 32 13.7 +1.5
baz=318
PFO **Pinyon Flats O** 59.50 74 eP P 05 32 13.6 +1.4
PFO pmax pmax
comp=Z,7.0nm,0.9s
PFO **Pinyon Flats O** 59.50 74 eP P 05 32 13.6 +1.4
comp=Z,6.6nm,0.9s
B34A **Aery, Baudette** 59.51 48 P P 05 32 12.4 +0.5
baz=319,SNR=7.4
E31A **Nome** 59.51 52 P P 05 32 12.5 +0.5
baz=319,SNR=5.9
C33A **Trail** 59.56 50 P P 05 32 12.8 +0.5
baz=319
U15A **North Rim** 59.73 69 eP P 05 32 16.0 +2.0
comp=Z,6.1nm,1.0s
N23A **Red Feather La** 59.80 61 P P 05 32 16.0 +1.7
baz=318,SNR=6.8
N23A **Red Feather La** 59.80 61 eP P 05 32 16.1 +1.7
comp=Z,7.2nm,0.8s
IRM **Iron Mountain** 59.83 73 P P 05 32 16.3 +1.9
baz=318,SNR=6.0
W13A **Hualapai Mount** 59.84 71 eP P 05 32 16.7 +2.1
comp=Z,4.7nm,0.8s
F31A **Hecla** 59.87 52 P P 05 32 15.1 +0.7
baz=319
PV09 **Paradox Valley** 59.90 65 eP P 05 32 17.5 +2.3
B35A **Bob, Littlefor** 60.01 48 P P 05 32 15.7 +0.4
baz=320,SNR=5.1
BC3 **Big Chuckawall** 60.03 73 P P 05 32 17.3 +1.5
baz=318,SNR=6.5
MONP **Monument Peak,** 60.05 74 P P 05 32 17.7 +1.5
baz=318
PV05 **Paradox Valley** 60.23 65 eP P 05 32 19.3 +1.9
PDMCI **Parker Dam,Lak** 60.28 72 P P 05 32 19.3 +1.9
baz=318,SNR=6.0
D34A **Park Rapids** 60.33 50 P P 05 32 18.1 +0.5
baz=320,SNR=12
G31A **Conde** 60.36 53 P P 05 32 18.6 +0.7
baz=319
SWSC **Sam W. Stewart** 60.36 74 P P 05 32 19.4 +1.4
baz=318
F32A **Veblen** 60.38 52 P P 05 32 18.6 +0.7
baz=319
C35A **Jirik Farms, M** 60.40 49 P P 05 32 18.2 +0.1
baz=320
E33A **Westby DABS, E** 60.41 51 P P 05 32 19.0 +0.9
baz=320,SNR=5.8
IKP **In-Ko-Pah, Jac** 60.41 74 P P 05 32 20.0 +1.6
baz=318
PV01 **Paradox Valley** 60.47 65 eP P 05 32 20.5 +1.6
Y12C **Blythe** 60.48 72 P P 05 32 20.8 +2.0
baz=318,SNR=5.9
Y12C **Blythe** 60.48 72 eP P 05 32 21.1 +2.4
comp=Z,8.5nm,0.8s
SMCO **Snowmass** 60.54 63 eP P 05 32 21.3 +1.7
comp=Z,8.2nm,0.9s
G32A **Webster** 60.67 52 P P 05 32 20.6 +0.6
baz=319
ISCO **Idaho Springs** 60.78 62 P P 05 32 23.1 +1.9
baz=318
ISCO **Idaho Springs** 60.78 62 eP P 05 32 23.4 +2.3
ISCO pmax pmax
comp=Z,10.0nm,1.1s
ISCO **Idaho Springs** 60.78 62 eP P 05 32 23.4 +2.3
comp=Z,9.7nm,1.1s
F33A **5 Mile Ranch,** 60.78 51 P P 05 32 21.5 +0.8
baz=320,SNR=6.2
H31A **Wolsey** 60.80 54 P P 05 32 21.5 +0.7
baz=319
GLA **Glamis** 60.83 73 P P 05 32 23.3 +2.0
baz=319
GLA **Glamis** 60.83 73 eP P 05 32 23.4 +2.2
GLA pmax pmax
comp=Z,12nm,0.8s
GLA **Glamis** 60.83 73 eP P 05 32 23.4 +2.2
comp=Z,12nm,0.8s
D35A **Remer** 60.84 49 P P 05 32 21.7 +0.6
baz=320
C36A **Pine Crest Far** 60.85 48 P P 05 32 21.9 +0.8
baz=320
WUAZ **Wupatki** 60.91 69 P P 05 32 23.8 +1.9
baz=318
WUAZ **Wupatki** 60.91 69 eP P 05 32 24.3 +2.4
comp=Z,12nm,1.1s
E35A **Pequot Lakes** 61.09 50 P P 05 32 23.3 +0.6
baz=320
C37A **Embarrass** 61.16 47 P P 05 32 23.6 +0.4
baz=321
D36A **Goodland** 61.16 48 P P 05 32 23.5 +0.3
baz=321
MVCO **Mesa Verde** 61.20 66 P P 05 32 25.6 +1.7
baz=319
MVCO **Mesa Verde** 61.20 66 eP P 05 32 24.8 +0.9
comp=Z,6.1nm,0.8s
G33A **Ortonville** 61.20 52 P P 05 32 24.3 +0.7
baz=320,SNR=6.3
H32A **Carlson Farm,** 61.27 53 P P 05 32 24.8 +0.8
baz=320
EYMN **Ely** 61.28 47 P P 05 32 24.6 +0.5
baz=321
EYMN **Ely** 61.28 47 eP P 05 32 24.8 +0.7
comp=Z,12nm,0.7s
F34A **Alexandria** 61.28 51 P P 05 32 24.7 +0.7
baz=320
H33A **Prehn Over Nor** 61.45 52 P P 05 32 26.1 +0.8
baz=320
D37A **Cotton** 61.49 48 P P 05 32 26.1 +0.7
baz=321
G34A **Benson** 61.53 51 P P 05 32 26.7 +0.9
baz=320,SNR=6.5
F35A **Swanville** 61.55 50 P P 05 32 26.5 +0.7
baz=320
C38A **Sawbill Land.** 61.56 47 P P 05 32 26.0 +0.1
baz=321
E36A **McGregor** 61.62 49 P P 05 32 27.2 +0.8
baz=321,SNR=5.9
113A **Mohawk Valley,** 61.63 73 eP P 05 32 28.1 +1.6
comp=Z,4.7nm,0.8s
Q24A **Divide** 61.64 62 P P 05 32 28.1 +1.1
baz=319
S22A **4UR Ranch, Cre** 61.68 64 P P 05 32 29.1 +1.9
baz=319,SNR=13
S22A **4UR Ranch, Cre** 61.68 64 eP P 05 32 29.8 +2.6
comp=Z,12nm,1.2s
X16A **Lo Mia Camp, P** 61.69 70 eP P 05 32 29.1 +1.9
comp=Z,6.8nm,0.9s
H34A **Spellman Lake,** 61.91 52 P P 05 32 29.1 +0.9
baz=320,SNR=12
J32A **Parkston** 61.93 54 P P 05 32 29.2 +0.7
baz=320
C39A **Grand Marais** 61.96 46 P P 05 32 28.6 0.0
baz=322
F36A **Milaca** 62.01 50 P P 05 32 29.4 +0.5
baz=321
G35A **Watkins** 62.08 51 P P 05 32 30.3 +0.9
baz=321
ECSD **EROS Data Cent** 62.24 53 P P 05 32 31.1 +0.6
baz=320,SNR=7.9
ECSD **EROS Data Cent** 62.24 53 eP P 05 32 31.5 +1.0
comp=Z,32nm,1.6s
E38A **The Farm, Brul** 62.30 48 P P 05 32 31.0 +0.1
baz=322
H35A **Sunnyside Ranc** 62.32 51 P P 05 32 32.1 +1.1
baz=321,SNR=12
NB2 **NORSAR Subarra** 62.33 344 P P 05 32 29.3 -1.6
comp=Z,1.1nm,0.4s,baz=20,slow=6.9
NB2 **NORSAR Subarra** 62.33 344 PKP PcP 05 33 08.7 -1.0
comp=Z,2.5nm,0.9s,baz=17,slow=2.6
NB200 **NORSAR Array S** 62.33 344 eP P 05 32 29.6 -1.3
NB200 eP PcP PcP 05 33 09.1 -0.6
NOA **NORSAR Array B** 62.33 344 P P 05 32 29.6 -1.3
comp=Z,1.6nm,0.5s,baz=20,slow=6.3,SNR=10
NOA PcP PcP 05 33 09.1 -0.6
comp=Z,1.8nm,0.6s,baz=24,slow=3.4,SNR=6.5
NOA **NORSAR Array B** 62.33 344 P P 05 32 29.6 -1.3
NOA 05 33 09.1
NOA pmax pmax
comp=Z,1.0nm,0.7s
I34A **Hadley** 62.35 52 P P 05 32 32.2 +0.9
baz=320,SNR=6.7
SDCO **Great Sand Dun** 62.37 63 P P 05 32 33.7 +1.8
baz=319
SDCO **Great Sand Dun** 62.37 63 eP P 05 32 33.7 +1.8
comp=Z,5.9nm,1.2s
J33A **Davis** 62.39 54 P P 05 32 31.7 +0.2
baz=320

G36A **St. Michael** 62.39 50 P P 05 32 31.9 +0.4
baz=321
K32A **Verdigre** 62.42 55 P P 05 32 32.6 +0.9
baz=320
X18A **Snowflake** 62.42 69 eP P 05 32 34.5 +2.4
comp=Z,12nm,0.8s
F37A **Hinrichs Farm,** 62.52 49 P P 05 32 32.7 +0.4
baz=321
F38A **Pierce - Schro** 62.66 49 P P 05 32 34.2 +0.9
baz=322,SNR=6.4
HFS **Hagfors** 62.76 342 P P 05 32 31.9 -1.8
comp=Z,1.9nm,0.5s,baz=46,slow=6.2,SNR=9.5
HFS PcP PcP 05 33 10.1 -1.4
comp=Z,2.9nm,0.6s,baz=72,slow=4.7,SNR=4.7
214A **Organ Pipe Nat** 62.77 73 P P 05 32 36.0 +1.7
baz=319
H36A **Jessenland, He** 62.82 51 P P 05 32 35.5 +1.2
baz=321,SNR=7.8
SPMN **Marine on St.** 62.83 50 P P 05 32 34.7 +0.3
baz=321
SPMN **Marine on St.** 62.83 50 eP P 05 32 35.3 +1.0
comp=Z,8.8nm,0.8s
J34A **George** 62.89 53 P P 05 32 35.5 +0.7
baz=321
I35A **Creekview Farm** 62.90 52 P P 05 32 35.6 +0.7
baz=321,SNR=5.3
E39A **Mellen** 62.91 47 P P 05 32 35.1 +0.1
baz=322,SNR=5.1
K33A **Hardington** 62.92 54 P P 05 32 35.7 +0.6
baz=320
F39A **Loretta** 63.11 48 P P 05 32 36.8 +0.5
baz=322
E40A **Wakefield** 63.14 47 P P 05 32 37.0 +0.6
baz=322,SNR=8.6
J35A **Milford** 63.17 52 P P 05 32 37.4 +0.6
baz=321
D41A **Chassel** 63.21 46 P P 05 32 37.2 +0.3
baz=323
I36A **Fitzsimmons Fa** 63.22 51 P P 05 32 37.6 +0.6
baz=321
MHTCO **State Highway** 63.26 63 eP P 05 32 39.7 +2.0
comp=Z,16nm,1.0s
H37A **Dierke Farm, C** 63.27 50 P P 05 32 38.2 +0.8
baz=322
K34A **Le Mars** 63.28 53 P P 05 32 38.0 +0.6
baz=321,SNR=7.1
G38A **Ridgeland** 63.29 49 P P 05 32 37.8 +0.4
baz=322
T25A **Trinidad** 63.40 63 P P 05 32 39.9 +1.3
baz=320
T25A **Trinidad** 63.40 63 eP P 05 32 40.2 +1.6
comp=Z,8.1nm,1.3s
F40A **Park Falls** 63.45 47 P P 05 32 38.8 +0.3
baz=322
H38A **Maiden Rock** 63.48 50 P P 05 32 39.0 +0.2
baz=322
G39A **Holcombe** 63.50 49 P P 05 32 38.6 -0.2
baz=322
I37A **Lemond, Waseca** 63.50 51 P P 05 32 39.7 +0.8
baz=322,SNR=7.1
J36A **Seneca 1, Swea** 63.60 52 P P 05 32 40.2 +0.6
baz=321
TUC **Tucson** 63.63 71 P P 05 32 41.7 +1.7
baz=320
TUC **Tucson** 63.63 71 eP P 05 32 41.9 +1.9
TUC pmax pmax
comp=Z,8.0nm,1.3s
TUC **Tucson** 63.63 71 eP P 05 32 41.9 +1.9
comp=Z,8.2nm,1.3s
K35A **Storm Lake** 63.66 53 P P 05 32 40.6 +0.7
baz=321
L34A **Svendsen Farm,** 63.71 54 P P 05 32 41.0 +0.7
baz=321
H39A **Augusta** 63.92 49 P P 05 32 41.9 +0.2
baz=322
G40A **Rib Lake** 63.93 48 P P 05 32 41.9 +0.2
baz=322
I38A **Scanlan Farm,** 63.96 50 P P 05 32 42.3 +0.5
baz=322
J37A **Redenius Farm,** 63.98 51 P P 05 32 42.6 +0.6
baz=322
ANMO **Albuquerque** 63.98 66 P P 05 32 44.1 +1.6
baz=320
ANMO **Albuquerque** 63.98 66 i P P 05 32 44.0 +1.6
ANMO pmax pmax
comp=Z,7.0nm,1.2s
ANMO **Albuquerque** 63.98 66 eP P 05 32 44.2 +1.8
comp=Z,4.4nm,0.8s
E42A **Champion** 63.99 46 P P 05 32 42.2 +0.1
baz=323
L35A **Bielow Farm, R** 63.99 54 P P 05 32 42.4 +0.3
baz=321
LAZ **Ladron** 64.03 67 eP P 05 32 45.2 +2.4
K36A **Gilmore City** 64.09 52 P P 05 32 43.4 +0.7
baz=322
SCHQ **Schefferville** 64.30 28 P P 05 32 43.0 -1.0
comp=Z,4.3nm,0.6s,baz=320,slow=7.9,SNR=4.1
SCHQ **Schefferville** 64.30 28 eP P 05 32 43.9 0.0
comp=Z,60nm,1.6s
H40A **Chili** 64.36 49 P P 05 32 44.6 +0.1
baz=323
K37A **Belmond** 64.36 52 P P 05 32 44.7 +0.1
baz=322
L36A **Harm Buss Farm** 64.41 53 P P 05 32 45.2 +0.4
baz=322
E43A **Lone Tree Farm** 64.41 45 P P 05 32 44.9 +0.1
baz=324
M35A **Neola** 64.42 54 P P 05 32 45.6 +0.7
baz=321
G41A **Antigo** 64.42 47 P P 05 32 44.9 +0.1
baz=323
F42A **Maple Grove Fa** 64.43 46 P P 05 32 44.9 0.0
baz=323
I39A **Houston** 64.47 50 P P 05 32 45.2 0.0
baz=322
BNM **Barren Site** 64.50 67 eP P 05 32 47.9 +2.0
CBKS **Cedar Bluff** 64.50 59 P P 05 32 45.9 +0.3
baz=321
N34A **Lincoln** 64.52 55 P P 05 32 45.8 +0.2
baz=321
O33A **Hebron** 64.59 56 P P 05 32 46.2 +0.1
baz=321
H41A **Junction City** 64.69 48 P P 05 32 46.4 -0.2
baz=323
F43A **Flat Rock, Esc** 64.78 46 P P 05 32 46.9 -0.2
baz=324
J39A **Decorah** 64.79 50 P P 05 32 47.3 -0.1
baz=322
L37A **Phoenix Point,** 64.81 52 P P 05 32 47.9 +0.4
baz=322
I40A **Norwalk** 64.84 49 P P 05 32 47.8 +0.2
baz=323
M36A **Felix, Anita** 64.85 53 P P 05 32 48.4 +0.7
baz=322
K38A **Parkersburg** 64.85 51 P P 05 32 47.8 +0.1
baz=322
N35A **Tabor** 64.91 54 P P 05 32 48.8 +0.6
baz=322
O34A **Beatrice** 64.94 56 P P 05 32 48.3 0.0
baz=321,SNR=6.1
G43A **Wallace** 65.02 46 P P 05 32 48.6 -0.1
baz=324
I41A **Arkdale** 65.03 49 P P 05 32 48.9 0.0
baz=323
121A **Cookes Peak, D** 65.11 69 P P 05 32 52.0 +2.2
baz=320
319A **Douglas** 65.17 70 eP P 05 32 52.3 +2.2
comp=Z,14nm,0.9s
J40A **Soldiers Grove** 65.18 50 P P 05 32 49.6 -0.2
baz=323
K39A **Oelwein** 65.21 51 P P 05 32 49.9 -0.2
baz=322
SCIA **State Center** 65.23 52 eP P 05 32 51.3 +1.1
comp=Z,34nm,0.6s
M37A **Trindle Farm,** 65.24 53 P P 05 32 51.1 +0.9
baz=322
O35A **Humboldt** 65.25 55 P P 05 32 50.5 +0.2
baz=322
N36A **Muff Farm, Cla** 65.27 54 P P 05 32 51.0 +0.5
baz=322,SNR=5.1
P34A **Walnut Farm, R** 65.37 56 P P 05 32 51.1 0.0
baz=322
J41A **Loganville** 65.52 49 P P 05 32 52.3 +0.2
baz=323
K40A **Colesburg** 65.55 50 P P 05 32 52.2 -0.1
baz=323
L39A **Vinton** 65.62 51 P P 05 32 52.9 +0.2
baz=323

M38A	**Pleasantville** baz=322	65.62	52	P		P	05 32 53.5	+0.8
N37A	**Lee Faris, Mou** baz=322	65.67	54	P		P	05 32 53.7	+0.6
P35A	**Duane Minner,** baz=322	65.77	56	P		P	05 32 53.8	+0.1
Q34A	**Chapman** baz=322	65.80	57	P		P	05 32 54.3	+0.4
O36A	**Bolckow** baz=322	65.81	55	P		P	05 32 53.9	0.0
K41A	**Shullsburg** baz=323	66.00	50	P		P	05 32 54.9	-0.2
L40A	**Anamosa** baz=323	66.02	51	P		P	05 32 55.0	-0.2
M39A	**Webster** baz=323,SNR=9.0	66.05	52	P		P	05 32 55.7	+0.3
P36A	**Good Intent, A** baz=322	66.09	55	P		P	05 32 55.6	-0.1
N38A	**Joes South For** baz=322	66.10	53	P		P	05 32 56.1	+0.4
R34A	**Isabella, Hill** baz=322	66.13	57	P		P	05 32 56.1	+0.1
Q35A	**Mercer Eighty,** baz=322	66.29	56	P		P	05 32 56.6	-0.5
L41A	**Preston** baz=323	66.33	50	P		P	05 32 57.0	-0.2
N39A	**Derby Farms, D** baz=323	66.37	52	P		P	05 32 57.6	+0.1
M40A	**Post Highland** baz=323	66.41	51	P		P	05 32 57.7	0.0
O38A	**Galt** baz=323	66.52	54	P		P	05 32 58.7	+0.2
P37A	**Lathrop** baz=322,SNR=6.5	66.52	54	P		P	05 32 58.6	+0.1
AMTX	**Amarillo** baz=321	66.55	63	P		P	05 32 59.6	+0.8
GEYT	**Alibeck** comp=Z,17nm,20.7s,baz=315,slow=38	66.63	303	LR		LR	06 03 58.9	
MSTX	**Muleshoe** baz=321,SNR=6.0	66.68	64	P		P	05 33 00.7	+0.9
MSTX	**Muleshoe** comp=Z,14nm,1.0s	66.68	64	*e*P		P	05 33 01.1	+1.3
VLDQ	**Val d'Or** comp=Z,13nm,0.8s	66.69	38	*e*P		P	05 32 58.0	-1.4
U32A	**Winter Ranch,** baz=322	66.75	60	P		P	05 33 00.1	0.0
N40A	**Mertquake, Sal** baz=323	66.79	52	P		P	05 33 00.3	+0.1
O39A	**Kirksville** baz=323	66.85	53	P		P	05 33 00.6	+0.1
M41A	**Milan** baz=323	66.87	51	P		P	05 33 00.4	-0.3
P38A	**Dawn** baz=323,SNR=9.4	66.88	54	P		P	05 33 00.9	+0.1
R36A	**Gordon, Harris** baz=322	66.97	56	P		P	05 33 01.1	-0.2
L43A	**Garden Prairie** baz=324	67.03	49	P		P	05 33 01.3	-0.4
Q37A	**Longview Farm,** baz=323	67.04	55	P		P	05 33 01.8	+0.1
MNTX	**Cornudas Mount** baz=321	67.05	67	P		P	05 33 03.7	+1.7
MNTX	**Cornudas Mount** comp=Z,16nm,1.3s	67.05	67	*e*P		P	05 33 03.7	+1.7
S35A	**Otter Creek Ra** baz=322	67.07	57	P		P	05 33 02.0	0.0
T34A	**McClaskey Farm** baz=322	67.16	58	P		P	05 33 02.6	0.0
M42A	**Sheffield** baz=324	67.16	50	P		P	05 33 02.5	0.0
N41A	**Harden Midland** baz=324,SNR=6.1	67.26	51	P		P	05 33 03.1	-0.1
O40A	**La Belle** baz=323,SNR=7.7	67.26	52	P		P	05 33 03.5	+0.4
P39B	**Salisbury** baz=323,SNR=5.6	67.36	53	P		P	05 33 04.0	+0.2
Q38A	**Cooks Store, C** baz=323,SNR=11	67.37	54	P		P	05 33 03.8	-0.1
S36A	**Lake Cedric, C** baz=322	67.39	57	P		P	05 33 03.9	-0.1
N42A	**Yates City** baz=324	67.54	51	P		P	05 33 04.9	0.0
Q39A	**Willow Grove F** baz=323,SNR=14	67.60	54	P		P	05 33 05.7	+0.4
AKASG	**Malin Array Be** comp=Z,0.5nm,0.4s,baz=28,slow=6.8,SNR=3.7	67.62	329	P		P	05 33 03.7	-1.5
AKASG	comp=Z,1.3nm,0.7s,baz=28,slow=6.2,SNR=2.6			pP		pP	05 33 27.8	-0.1
P40A	**Paris** baz=323,SNR=6.3	67.65	53	P		P	05 33 05.9	+0.2
O41A	**Passleys Farm,** baz=324,SNR=6.9	67.72	52	P		P	05 33 06.3	+0.2
S37A	**Fort Scott** baz=323	67.74	56	P		P	05 33 05.9	-0.3
R38A	**Fenwick Farm,** baz=323	67.84	55	P		P	05 33 06.3	-0.6
U35A	**Pawnee** baz=322	67.90	58	P		P	05 33 07.2	0.0
P41A	**Barry, Barry** baz=324,SNR=12	68.00	52	P		P	05 33 08.1	+0.3
Q40A	**Laux Farm, Aux** baz=323,SNR=5.2	68.07	53	P		P	05 33 08.5	+0.2
HDIL	**Hopedale** baz=324,SNR=5.2	68.09	50	P		P	05 33 08.4	0.0
HDIL	**Hopedale** comp=Z,23nm,0.6s	68.09	50	*e*P		P	05 33 08.6	+0.2
WMOK	**Wichita Mounta** baz=322	68.15	61	P		P	05 33 09.5	+0.6
WMOK	**Wichita Mounta** comp=Z,12nm,1.0s	68.15	61	*e*P pmax		P pmax	05 33 09.7	+0.8
WMOK	**Wichita Mounta** comp=Z,12nm,1.0s	68.15	61	*e*P		P	05 33 09.7	+0.8
R39A	**Chumby, Stover** baz=323,SNR=11	68.16	54	P		P	05 33 08.7	-0.2
T37A	**Cheneyville 18** baz=323,SNR=5.9	68.20	56	P		P	05 33 09.0	-0.1
S38A	**Stockton** baz=323	68.28	55	P		P	05 33 09.3	-0.3
O43A	**Sugar Creek Fa** baz=324	68.30	51	P		P	05 33 09.5	-0.2
V35A	**Meyer Ranch, C** baz=322	68.33	59	P		P	05 33 10.1	+0.2
U36A	**Oologah** baz=323	68.38	58	P		P	05 33 10.3	+0.1
P42A	**Winchester** baz=324	68.40	52	P		P	05 33 10.1	-0.1
Q41A	**Truxton** baz=324,SNR=13	68.49	53	P		P	05 33 11.5	+0.6
S39A	**Bolivar** baz=323,SNR=5.7	68.52	55	P		P	05 33 10.7	-0.4
R40A	**Maddies Statio** baz=324,SNR=14	68.54	54	P		P	05 33 11.4	+0.2
T38A	**Diamond** baz=323,SNR=5.2	68.57	56	P		P	05 33 11.4	-0.1
U37A	**Salina** baz=323,SNR=6.2	68.67	57	P		P	05 33 12.4	+0.4
KVAR	**Kislovodsk Arr** comp=Z,20nm,18.7s,baz=340,slow=39	68.67	317	LR		LR	06 06 52.7	
TUL1	**Leonard** baz=323	68.73	58	P		P	05 33 12.9	+0.5
TUL1	**Leonard** comp=Z,7.7nm,0.7s	68.73	58	*e*P		P	05 33 13.0	+0.5
P43A	**Skaggs, Pawnee** baz=324	68.73	51	P		P	05 33 12.5	+0.2
V36A	**Jenks** baz=323	68.75	58	P		P	05 33 12.9	+0.3
W35A	**Tecumseh** baz=323	68.79	59	P		P	05 33 13.3	+0.5
Q42A	**Golden Eagle** baz=324,SNR=8.5	68.85	52	P		P	05 33 13.7	+0.6
R41A	**Rosebud** baz=324,SNR=9.3	68.95	53	P		P	05 33 13.9	+0.2
S40A	**Lebanon** baz=324,SNR=8.1	68.98	55	P		P	05 33 13.7	-0.3
U38A	**Gravette** baz=323	69.00	57	P		P	05 33 13.9	-0.2
T39A	**Clever** baz=323	69.02	55	P		P	05 33 14.1	-0.1
V37A	**Hulbert** baz=323,SNR=6.0	69.07	57	P		P	05 33 14.8	+0.3
W36A	**Wetumka** baz=323,SNR=5.7	69.12	59	P		P	05 33 15.7	+0.8
SFIN	**Lafayette** baz=325	69.22	49	P		P	05 33 15.2	-0.1
R42A	**Luebbering** baz=324,SNR=8.0	69.24	53	P		P	05 33 16.1	+0.5
P44A	**Sand Creek, Wi**	69.28	51	P		P	05 33 15.7	-0.1
	baz=325							
T40A	**Mansfield** baz=324,SNR=7.6	69.33	55	P		P	05 33 15.9	-0.2
X35A	**Drake** baz=323	69.33	60	P		P	05 33 16.7	+0.5
S41A	**Jillco Farms,** baz=324,SNR=9.5	69.35	54	P		P	05 33 16.2	0.0
ABTX	**Abilene, Hawle** baz=322	69.37	63	P		P	05 33 17.2	+0.8
ABTX	**Abilene, Hawle** comp=Z,11nm,1.0s	69.37	63	*e*P		P	05 33 17.4	+0.9
V38A	**Canehill** baz=323,SNR=21	69.45	57	P		P	05 33 17.3	+0.4
U39A	**Green Forest** baz=324,SNR=37	69.48	56	P		P	05 33 17.3	+0.2
X36A	**Centrahoma** baz=323	69.51	59	P		P	05 33 17.9	+0.6
W37B	**Quinton** baz=323,SNR=8.5	69.52	58	P		P	05 33 18.0	+0.7
Q44A	**Meyer Farm, Va** baz=325	69.56	51	P		P	05 33 17.2	-0.3
R43A	**Red Bud** baz=324,SNR=5.2	69.64	52	P		P	05 33 18.1	+0.1
S42A	**Caledonia** baz=324,SNR=7.9	69.65	53	P		P	05 33 18.4	+0.3
Y35A	**Marietta** baz=323	69.69	60	P		P	05 33 18.9	+0.5
EKA	**Eskdalemuir Ar** comp=Z,0.6nm,0.4s,baz=19,slow=5.9,SNR=6.8	69.78	350	P		P	05 33 17.5	-1.1
T41A	**Mountain View** baz=324	69.78	54	P		P	05 33 18.7	-0.2
U40A	**Yellville** baz=324,SNR=12	69.81	56	P		P	05 33 19.2	+0.1
LTX	**Lajitas**	69.81	68	*e*P		P	05 33 20.9	+1.6
LTX	**Lajitas**	69.81	68	*e*P		P	05 33 20.9	+1.6
TX31	**Lajitas Ar. Si**	69.81	68	*e*P		P	05 33 20.9	+1.5
TXAR	**Lajitas Array** comp=Z,11nm,0.7s,baz=295,slow=5.0,SNR=211	69.81	68	P		P	05 33 20.9	+1.5
TXAR	comp=Z,25nm,18.6s,baz=0.0,slow=35			LR		LR	06 02 54.9	
V39A	**Pettigrew** baz=324,SNR=19	69.84	56	P		P	05 33 19.6	+0.2
X37A	**Clayton** baz=323	69.98	58	P		P	05 33 20.4	+0.2
W38A	**Poteau** baz=324,SNR=6.6	70.02	58	P		P	05 33 21.0	+0.6
R44A	**Waltonville** baz=325	70.06	52	P		P	05 33 20.9	+0.4
Y36A	**Durant** baz=323	70.08	60	P		P	05 33 21.4	+0.6
S43A	**Fulton Ridge,** baz=324,SNR=6.7	70.14	53	P		P	05 33 21.3	+0.1
X38A	**Whitesboro** baz=323	70.19	58	P		P	05 33 22.2	+0.7
233A	**Rising Star** baz=323,SNR=5.2	70.23	63	P		P	05 33 22.3	+0.5
V40A	**Witts Springs** baz=324,SNR=8.7	70.26	56	P		P	05 33 21.9	-0.1
U41A	**Viola** baz=324,SNR=6.9	70.27	55	P		P	05 33 21.8	-0.1
W39A	**Magazine** baz=324	70.28	57	P		P	05 33 22.2	+0.2
Y37A	**Hugo** baz=323	70.35	59	P		P	05 33 23.5	+1.1
S44A	**Carbondale** baz=325,SNR=6.4	70.43	52	P		P	05 33 23.1	+0.3
T43A	**Greenville** baz=324	70.44	53	P		P	05 33 23.1	+0.2
Z36A	**Blue Ridge** baz=323	70.50	60	P		P	05 33 23.6	+0.3
U42A	**Revenden** baz=324	70.58	54	P		P	05 33 23.8	0.0
V41A	**Mountainview** baz=324,SNR=11	70.60	55	P		P	05 33 23.8	-0.1
PBMO	**Poplar Bluff** comp=Z,13nm,0.8s	70.62	54	*e*P		P	05 33 24.5	+0.5
234A	**Clairette** baz=323	70.64	62	P		P	05 33 24.8	+0.6
W40A	**Ferguson Farm,** baz=324,SNR=6.1	70.64	56	P		P	05 33 24.7	+0.6
X39A	**Fountain Ranch** baz=324,SNR=9.3	70.67	58	P		P	05 33 25.1	+0.7
333A	**Richland Sprin** baz=323,SNR=6.1	70.73	63	P		P	05 33 25.4	+0.6
S45A	**Carrier Mills** baz=325	70.75	52	P		P	05 33 24.8	+0.1
T44A	**Benton** baz=325	70.77	53	P		P	05 33 25.2	+0.3
MIAR	**Mount Ida** baz=324	70.91	57	P		P	05 33 26.3	+0.5
MIAR	**Mount Ida** comp=Z,8.0nm,0.8s	70.91	57	*e*P pmax		P pmax	05 33 26.4	+0.6
MIAR	**Mount Ida** comp=Z,7.8nm,0.8s	70.91	57	*e*P		P	05 33 26.4	+0.6
X301	**Greenbrier Sit** comp=Z,8.1nm,0.6s	70.92	56	*e*P		P	05 33 26.2	+0.3
WHAR	**Wooly Hollow** comp=Z,9.7nm,0.9s	70.94	56	*e*P		P	05 33 26.2	+0.2
V42A	**Cord** baz=324	70.95	55	P		P	05 33 25.9	-0.1
U43A	**Rector** baz=325	70.96	54	P		P	05 33 26.6	+0.5
JCT	**Junction City** baz=323	70.97	64	P		P	05 33 27.2	+0.9
JCT	**Junction City** comp=Z,14nm,0.8s	70.97	64	*e*P pmax		P pmax	05 33 27.4	+1.1
JCT	**Junction City** comp=Z,14nm,0.8s	70.97	64	*e*P		P	05 33 27.4	+1.1
WHTX	**Lake Whitney,** baz=323	71.00	62	P		P	05 33 27.0	+0.6
PARMO	**Parma** comp=Z,84nm,0.7s	71.03	53	*e*P		P	05 33 27.4	+0.9
W41B	**Gary Mavity, V** baz=324,SNR=9.4	71.05	56	P		P	05 33 26.9	+0.3
MMNY	**Mt. Morris Dam**	71.08	42	*e*P		P	05 33 26.2	-0.5
334A	**Lometa** baz=323	71.11	63	P		P	05 33 27.7	+0.6
ACSO	**Alum Creek Sta** comp=Z,12nm,0.8s	71.12	46	*e*P		P	05 33 27.3	+0.3
433A	**Art** baz=323,SNR=8.4	71.13	64	P		P	05 33 27.8	+0.6
U44A	**Portageville** baz=325	71.19	53	P		P	05 33 28.1	+0.6
X40A	**Basin Creek Fa** baz=324	71.32	57	P		P	05 33 29.0	+0.8
WCI	**Wyandotte Cave** comp=Z,17nm,0.9s	71.33	50	*e*P pmax		P pmax	05 33 29.1	+0.7
WCI	**Wyandotte Cave** comp=Z,17nm,0.9s	71.33	50	*e*P		P	05 33 29.1	+0.7
NCB	**Newcomb** comp=Z,0.1nm,0.8s	71.40	39	*e*P		P	05 33 28.7	+0.1
M54A	**Oil Creek Stat** baz=328	71.42	44	P		P	05 33 28.5	-0.3
Y40A	**Okolona** baz=324	71.48	57	P		P	05 33 29.7	+0.5
434A	**Burnet** baz=323,SNR=8.3	71.51	63	P		P	05 33 30.0	+0.5
335A	**Moody** baz=323,SNR=5.1	71.57	62	P		P	05 33 30.5	+0.6
138A	**Matatall Enter** baz=324	71.67	59	P		P	05 33 31.0	+0.6
533A	**Kerrville** baz=323,SNR=6.0	71.70	64	P		P	05 33 31.1	+0.4
N54A	**Moraine State** baz=328	71.75	44	P		P	05 33 30.5	-0.3
U45A	**Rankin P Farm,** baz=325	71.75	53	P		P	05 33 30.9	+0.1
X42A	**Stuttgart** baz=325	71.85	56	P		P	05 33 31.8	+0.4
435B	**Jarrell** baz=323	71.89	62	P		P	05 33 32.5	+0.7
LBNH	**Lisbon** comp=Z,7.0nm,0.7s	71.99	37	*e*P pmax		P pmax	05 33 32.8	+0.6
LBNH	**Lisbon** comp=Z,6.5nm,0.7s	71.99	37	*e*P		P	05 33 32.8	+0.6
534A	**Blanco** baz=323,SNR=6.0	72.03	64	P		P	05 33 33.1	+0.5
Z40A	**Long Farm, Mag** baz=324	72.03	58	P		P	05 33 33.1	+0.6
633A	**Saathoff Ranch** baz=323	72.11	64	P		P	05 33 34.2	+1.1
ACCN	**Adirondack Com** comp=Z,10nm,0.8s	72.11	38	*e*P		P	05 33 32.8	-0.1
V45A	**Humboldt**	72.15	53	P		P	05 33 33.7	+0.4
	baz=325							
238A	**Jacksonville** baz=324	72.18	60	P		P	05 33 34.5	+1.0
X43A	**Marvell** baz=325	72.24	55	P		P	05 33 34.5	+0.7
WVT	**Waverly**	72.36	52	*e*P		P	05 33 35.2	+0.7
WVT	comp=Z,11nm,0.8s			pmax		pmax		
WVT	**Waverly** comp=Z,11nm,0.8s	72.36	52	*e*P		P	05 33 35.2	+0.7
W45A	**Hickory Valley** baz=325	72.52	54	P		P	05 33 36.0	+0.6
X44A	**Crenshaw** baz=325	72.61	55	P		P	05 33 36.8	+0.8
832A	**Faith Ranch, C** baz=323	72.62	66	P		P	05 33 37.3	+1.2
SSPA	**Standing Stone** comp=Z,11nm,1.0s	72.87	43	*e*P		P	05 33 37.4	0.0
833A	**Chaparral WMA,** baz=323	72.90	65	P		P	05 33 38.8	+1.0
O56A	**Blue Knob Stat** baz=329	72.91	43	P		P	05 33 37.6	-0.2
OXF	**Oxford**	72.95	54	*e*P		P	05 33 38.7	+0.7
OXF	comp=Z,19nm,0.8s			pmax		pmax		
OXF	**Oxford** comp=Z,19nm,0.8s	72.95	54	*e*P		P	05 33 38.7	+0.7
339A	**Huntington** baz=324	73.00	60	P		P	05 33 39.4	+1.1
438A	**Sam Houston St** baz=324	73.00	61	P		P	05 33 39.6	+1.3
X45A	**UM Field Stati** baz=325	73.03	54	P		P	05 33 38.8	+0.4
636A	**Smothers Creek** baz=324	73.20	63	P		P	05 33 40.6	+1.0
241A	**Mo Tay, Goldon** baz=325	73.26	58	P		P	05 33 40.6	+0.7
GERES	**GERESS Array B** comp=Z,0.3nm,0.4s,baz=48,slow=6.0,SNR=3.3	73.38	338	P		P	05 33 40.3	-0.2
GERES	comp=Z,10nm,18.8s,baz=17,slow=40			LR		LR	06 11 17.1	
Y45A	**Yeager Farm, C** baz=325	73.41	55	P		P	05 33 41.3	+0.6
N59A	**State Game Lan** baz=330	73.45	41	P		P	05 33 40.7	-0.2
933A	**Laredo** baz=324	73.53	66	P		P	05 33 43.2	+1.7
Y46A	**Houston** baz=326	73.72	54	P		P	05 33 43.2	+0.6
WES	**Weston**	73.83	37	*e*P		P	05 33 43.5	+0.5
WES	comp=Z,12nm,0.8s			pmax		pmax		
WES	**Weston** comp=Z,12nm,0.8s	73.83	37	*e*P		P	05 33 43.5	+0.5
SWET	**Sewanee** comp=Z,18nm,0.7s	73.98	51	*e*P		P	05 33 44.2	0.0
BRYW	**Bryant College** comp=Z,8.9nm,0.8s	74.16	38	*e*P		P	05 33 45.3	+0.3
Y47A	**UCPARC, Winfie** baz=326	74.18	54	P		P	05 33 45.5	+0.3
034A	**Hebbronville** baz=324	74.28	66	P		P	05 33 47.2	+1.3
244A	**Avery, Jackson** baz=325	74.35	57	P		P	05 33 47.0	+0.8
146A	**Union** baz=326	74.65	55	P		P	05 33 48.9	+1.0
Z47A	**Carrollton** baz=326	74.66	54	P		P	05 33 48.4	+0.4
Z48A	**Northport** baz=326	74.75	54	P		P	05 33 48.7	+0.2
IP04	**Greensprings** comp=Z,10nm,0.8s	74.96	44	*e*P		P	05 33 50.6	+1.0
147A	**Livingston** baz=326	74.99	55	P		P	05 33 50.5	+0.6
IP03	**Louisa** comp=Z,10.0nm,0.9s	75.05	44	*e*P		P	05 33 50.7	+0.5
CVRD	**Centerville Ro** comp=Z,12nm,0.8s	75.09	44	*e*P		P	05 33 51.1	+0.7
IP07	**Quail** comp=Z,15nm,0.9s	75.13	44	*e*P		P	05 33 51.5	+0.8
IP06	**Yanceyville** comp=Z,15nm,1.0s	75.14	44	*e*P		P	05 33 51.5	+0.8
CTA	**Charters Tower** comp=Z,2.6nm,0.8s,baz=60,slow=8.1,SNR=4.5	75.25	194	P		P	05 33 52.0	+0.6
LRAL	**Lakeview Retre** comp=Z,10nm,0.6s	75.30	53	*e*P		P	05 33 51.5	-0.2
IP05	**Hopewell Churc** comp=Z,26nm,1.1s	75.32	44	*e*P		P	05 33 52.3	+0.6
346A	**Big Creek Wild** baz=326	75.48	56	P		P	05 33 53.8	+1.1
BG3	**Lake Jocassee** comp=Z,12nm,1.2s	75.52	49	*e*P		P	05 33 53.3	+0.4
248A	**Dixon Mills** baz=326	75.72	55	P		P	05 33 55.0	+0.9
BR101	**Keskin Array S**	75.78	321	*e*P		P	05 33 54.0	-0.5
BR101				*e*pP		pP	05 34 18.2	+0.6
BRTR	**Keskin Array B** comp=Z,0.6nm,0.4s,baz=58,slow=3.1,SNR=3.9	75.78	321	P		P	05 33 54.0	-0.5
BRTR	comp=Z,1.1nm,0.7s,baz=58,slow=3.5,SNR=3.3			pP		pP	05 34 18.2	+0.6
BRTR				LR		LR	06 10 00.4	
347A	comp=Z,9.1nm,19.7s,baz=105,slow=38 **Saraland** baz=326	75.91	55	P		P	05 33 56.3	+1.1
KMSC	**Kings Mountain** baz=328	76.10	48	P		P	05 33 56.2	0.0
WRAB	**Tennant Creek**	77.44	205	*i*P		P	05 34 04.1	+0.4
WRAB	comp=Z,22nm,3.4s			pmax		pmax		
WB2	**Warramunga Arr**	77.44	205	*e*P		P	05 34 04.2	+0.5
WR1	**Warramunga Arr**	77.45	205	*e*P		P	05 34 04.1	+0.3
WR1				epP		pP	05 34 26.7	-0.2
WRA	**Warramunga Arr** comp=Z,1.2nm,0.5s,baz=19,slow=6.0,SNR=20	77.45	205	P		P	05 34 04.1	+0.3
WRA	comp=Z,4.5nm,0.7s,baz=20,slow=6.0,SNR=16			pP		pP	05 34 26.7	-0.3
FITZ	**Fitzroy Crossi** comp=Z,3.2nm,0.8s,baz=29,slow=4.5,SNR=6.3	78.21	214	P		P	05 34 08.3	+0.3
TIGA	**Tifton** baz=328	78.21	52	P		P	05 34 08.9	+0.8
TIGA	**Tifton** comp=Z,21nm,0.7s	78.21	52	*e*P		P	05 34 09.2	+1.1
AS01	**Alice Springs**	81.11	205	*e*P		P	05 34 24.4	+0.7
ASAR	**Alice Springs** comp=Z,1.1nm,0.4s,baz=16,slow=4.9,SNR=13	81.13	205	P		P	05 34 24.7	+0.9
ASAR	comp=Z,4.5nm,1.0s,baz=11,slow=5.2,SNR=11			pP		pP	05 34 47.9	+0.7
POLO	**Lamas de Olo**	84.04	351	*e*P		P	05 34 39.5	+0.5
PVRL	**Vila Real**	84.13	351	*e*P		P	05 34 39.6	+0.2
MVO	**Moncorvo**	84.18	351	*e*P		P	05 34 40.0	+0.4
PVIS	**Viseu**	84.70	351	*e*P		P	05 34 42.2	-0.1
ES19	**SONSECA Array**	85.29	348	*e*P		P	05 34 45.4	+0.2
ESDC	**Sonseca Array** comp=Z,17nm,0.5s,baz=2.5,slow=4.8,SNR=18	85.32	348	P		P	05 34 45.5	+0.1
PCAS	**Casmilo, Conde**	85.41	352	*e*P		P	05 34 46.1	+0.3
PCBR	**Castelo Branco**	85.53	351	*e*P		P	05 34 46.4	+0.1
EVO	**Evora**	86.88	351	*e*P		P	05 34 52.7	-0.3
PBAR	**Barrancos**	87.14	350	*e*P		P	05 34 54.0	-0.3
STKA	**Stephens Creek** comp=Z,2.1nm,0.9s,baz=340,slow=12,SNR=3.4	87.53	196	P		P	05 34 56.5	+0.7
STKA	comp=Z,3.1nm,0.9s,baz=343,slow=9.1,SNR=4.1			pP		pP	05 35 19.4	-0.1
TOA1	**Torodi Ar. Sit**	110.33	338	*e*PKiKP		PKiKP	05 40 39.9	-0.3
TORD	**Torodi Ar. Bea** comp=Z,0.3nm,0.7s,baz=352,slow=3.1,SNR=3.4	110.34	338	PKiKP		PKiKP	05 40 39.9	-0.3
DBIC	**Dimbokro** comp=Z,1.1nm,0.6s,baz=0.0,slow=5.1,SNR=3.4	117.91	344	PKP		PKPdf	05 40 54.5	-0.2
DBIC	**Dimbokro**	117.91	344	*e*PKPdf		PKPdf	05 40 54.7	0.0
LPAZ	**La Paz** comp=Z,1.0nm,0.7s,baz=15,slow=8.9,SNR=4.2	126.58	64	PKP		PKPdf	05 41 12.2	+0.3
BOSA	**Boshof** comp=Z,2.8nm,0.6s,baz=70,slow=1.2,SNR=7.2	138.79	290	PKP		PKPdf	05 41 35.2	+1.2
MAW	**Mawson** comp=Z,0.3nm,0.3s,baz=16,slow=7.4,SNR=3.2	141.26	217	PKP		PKPdf	05 41 37.3	+0.3
MAW	**Mawson**	141.26	217	*e*PKiKP		PKPdf	05 41 37.9	+0.9
MAW	**Mawson**	141.26	217	*e*PKPdf		PKPdf	05 41 37.9	+0.9
PLCA	**Paso Flores** comp=Z,1.8nm,0.9s,baz=356,slow=3.6,SNR=6.8	143.68	89	PKP		PKPbc	05 41 40.6	+0.5

IDC 26 05:32:21.8±3.4, 6°57S×147°82E, h0^{km}, mb3.3/2, mb1 3.4/4, mb1mx3.3/34, mbtmpg3.2/4, ML3.1/1, Error ellipse: s-maj=79.9km s-min=42.3km az=102.0, Eastern New Guinea region

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

PMG	**Port Moresby**	**2.90**	**193**	Pn	Pn	05 33 10.7	+1.5
	2.6nm,0.3s,baz=56,slow=18,SNR=1.8						
PMG				Sn	Sn	05 33 42.7	-2.0
	5.9nm,0.3s,baz=16,slow=13,SNR=3.1						
WRA	**Warramunga Arr**	**18.66**	**223**	P	P	05 36 40.5	-1.0
	0.1nm,0.3s,baz=49,slow=11,SNR=1.6						
ASAR	**Alice Springs**	**21.63**	**217**	P	P	05 37 13.2	-0.7
	0.5nm,0.5s,baz=56,slow=8,9,SNR=11						
FITZ	**Fitzroy Crossi**	**24.48**	**240**	P	P	05 37 43.7	+0.8
	0.5nm,0.4s,baz=56,slow=11,SNR=1.8						
TORD	**Torodi Ar. Bea**	**146.02**	**284**	PKPbc	PKPdf	05 52 03.5	-0.5
	0.2nm,0.8s,baz=68,slow=2.1,SNR=2.2						

IDC 26 05:38:31.7±2.7, 54.17N×86.31E, h0km, mb1 2.8/2, mb1mx2.8/44, mbtmp2.8/2, ML2.4/2, Error ellipse: s-maj=19.8km s-min=11.9km az=60.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**0.91**	**257**	*i*		05 44 05.0	
	baz=77,slow=326,SNR=6.8						
ZALV	**Zalesovo Beam**	**0.91**	**257**	Pg	Pg	05 38 47.7	-1.3
	3.6nm,0.3s,baz=73,slow=16,SNR=28						
ZALV				Lg	Lg	05 39 01.9	
	3.1nm,0.3s,baz=77,slow=31,SNR=21						
ZALV				Rg	Rg	05 39 07.0	
	28nm,1.0s,baz=73,slow=29,SNR=30						
KURBB	**Kurchatov Arra**	**5.94**	**236**	Pn	Pn	05 40 02.3	+1.5
	0.1nm,0.3s,baz=53,slow=13,SNR=5.5						
KURBB				Lg	Lg	05 41 40.8	
	0.1nm,0.3s,baz=52,slow=32,SNR=5.4						
MKAR	**Makanchi Array**	**7.81**	**201**	Pn	Pn	05 40 26.9	+0.3
	0.1nm,0.3s,baz=24,slow=14,SNR=4.3						
MKAR				Sn	Sn	05 41 56.6	+0.9
	0.1nm,0.3s,baz=15,slow=24,SNR=2.4						
MKAR				Lg	Lg	05 42 39.6	
	0.1nm,0.3s,baz=19,slow=32,SNR=5.6						

*NIED **26** 05:39:00,37.70N×139.90E,h8km,Mw3.9 Best double couple: M0 7.73000×10^14 NP1:φ=78.00000°,δ=32.00000°, λ=62.00000°. NP2:φ=290.00000°,δ=62.00000°,λ=106.00000°.*
*IDC **26** 05:39:35.4±0.7,37.65N×139.97E,h0km,mb3.9/13, mb1 4.1/14,mb1mx3.9/48,mbtmp3.9/14,ML3.3/1,MS2.8/2, Ms1 2.8/2,ms1mx2.4/36,Error ellipse: s-maj=18.4km s-min=15.4km az=129.0*
*ISCJB **26** 05:39:36.3±0.6,37.68N±0.02×139.96E±0.03,h12km±4km, mb4.0/17,MS2.6/1,Error ellipse: s-maj=4.4km s-min=3.5km az=149.1*
*JMA **26** 05:39:36.7,37.68N×139.94E,h8km±1km,M3.8 Broadband fault plane solution: P waves. NP1: φ±255.00000°,δ67.00000°,λ123.00000°. NP2: φ±16.00000°,δ39.00000°,λ37.00000°. Principal axes: T Plg55.0000°, Azm207.0000°; N Plg30.0000°, Azm62.0000°; P Plg16.0000°, Azm322.0000°;*
JMA Felt III J1.
*NEIC **26** 05:39:40.0±2.6,37.64N×139.94E,h30km±18km,mb4.3/3 Error ellipse: s-maj=11.4km s-min=7.8km az=125.0*
NEIC Recorded [3 JMA] in Fukushima.

ISC 26 05:39:36.9±1.0, 37.67N±0.03×139.94E±0.02, h8km±7km, n43, σ0 75/49, mb4.1/17, 2C-6D, Eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JFY	**Yanaizu**	**0.32**	**216**	⇑P	**Pg**	**05 39 43.4**	**+0.3**
JFY				S	**Sg**	**05 39 47.9**	**+0.6**
JFT	**Otama**	**0.35**	**115**	⇓P	**Pg**	**05 39 43.8**	**+0.1**
JFT				S	**Sg**	**05 39 48.8**	**+0.5**
JNS	**Sasagawa**	**0.52**	**287**	⇓P	**Pg**	**05 39 46.6**	**-0.2**
JNS				S	**Sg**	**05 39 53.4**	**-0.2**
JYS	**Shirataka**	**0.56**	**10**	⇓P	**Pg**	**05 39 47.5**	**-0.3**
JYS				S	**Sg**	**05 39 55.1**	**-0.1**
JMM	**Marumori**	**0.71**	**73**	P	**Pg**	**05 39 50.2**	**-0.3**
JFK	**Kawauchi**	**0.80**	**112**	⇓P	**Pg**	**05 39 51.9**	**-0.4**
JFK				S	**Sg**	**05 40 02.3**	**-0.4**
JHK	**Hiroka**	**0.84**	**241**	P	**Pg**	**05 39 52.7**	**-0.4**
JHK				S	**Sg**	**05 40 03.7**	**-0.3**
JOU	**Okura**	**0.90**	**39**	⇑P	**Pg**	**05 39 53.7**	**-0.6**
JOU				S	**Sg**	**05 40 05.3**	**-0.7**
JYA	**Atsumi**	**0.94**	**349**	⇓P	**Pg**	**05 39 54.2**	**-0.8**
JYA				S	**Sg**	**05 40 06.7**	**-0.6**
JAW	**Awa shima**	**0.96**	**326**	⇓P	**Pg**	**05 39 54.7**	**-0.6**
JAW				S	**Sg**	**05 40 08.0**	**+0.2**
JIZZ	**Izumozaki**	**0.98**	**263**	P	**Pb**	**05 39 56.3**	**+0.1**
JIZZ				S	**Sn**	**05 40 11.3**	**+0.2**
MAJO	**Matsushiro**	**1.78**	**232**	*e*Pn	**Pn**	**05 40 08.1**	**+0.2**
MAJO				*e*Sn	**Sg**	**05 40 33.5**	**-0.5**
MAT	**Matsushiro**	**1.78**	**232**	P	**Pn**	**05 40 08.2**	**+0.2**
MAT				S	**Sb**	**05 40 31.6**	**-0.6**
MJAR	**Matsushiro Arr**	**1.78**	**231**	Pn	**Pb**	**05 40 08.9**	**-0.9**
	47nm,0.3s,baz=32,slow=14,SNR=380						
MJAR				Sn	**Sb**	**05 40 32.6**	**+0.4**
	26nm,0.3s,baz=28,slow=30,SNR=13						
ERM	**Erimo**	**5.00**	**29**	*e*Pn	**Pn**	**05 40 52.2**	**0.0**
ERM				*e*Sn	**Sn**	**05 41 51.0**	**+0.9**
KSRS	**Korea Array**	**9.54**	**272**	Pn	**Pn**	**05 41 57.0**	**+2.5**
	0.3nm,0.3s,baz=89,slow=13,SNR=8.4						
KSAR	**Wonju Array Be**	**9.57**	**272**	Pn	**Pn**	**05 41 57.0**	**+2.0**
PETK	**Petropavlovsk-**	**19.77**	**33**	LR	LR	05 52 06.2	
	comp=Z,25nm,18.3s,baz=11,slow=38						
MA2	**Magadan**	**23.01**	**14**	LR	LR	05 55 29.1	
	comp=Z,21nm,18.0s,baz=108,slow=41						
SONM	**Songino Array**	**26.46**	**303**	P	**P**	**05 45 15.2**	**+0.8**
	0.6nm,0.8s,baz=120,slow=8.8,SNR=3.0						
H11N2	**WAKE ISLAND Hy**	**29.48**	**120**	T	T	06 15 52.7	
	baz=313,slow=75,SNR=79						
H11N1	**WAKE ISLAND Hy**	**29.49**	**120**	T	T	06 15 51.7	
	baz=313,slow=75,SNR=72						
H11N3	**WAKE ISLAND Hy**	**29.50**	**120**	T	T	06 15 52.5	
	baz=313,slow=75,SNR=50						
H11S1	**WAKE ISLAND Hy**	**30.19**	**122**	T	T	06 16 41.2	
	baz=314,slow=75,SNR=168						
H11S3	**WAKE ISLAND Hy**	**30.19**	**122**	T	T	06 16 41.2	
	baz=314,slow=75,SNR=161						
H11S2	**WAKE ISLAND Hy**	**30.21**	**122**	T	T	06 16 42.4	
	baz=314,slow=75,SNR=166						
ZALV	**Zalesovo Beam**	**40.62**	**312**	P	**P**	**05 47 16.2**	**-0.8**
	0.5nm,0.4s,baz=90,slow=10,SNR=4.7						
MKAR	**Makanchi Array**	**42.79**	**301**	P	**P**	**05 47 33.9**	**-1.0**
	0.9nm,0.8s,baz=88,slow=11,SNR=6.3						
KURK	**Kurchatov**	**44.62**	**307**	*e*P	**P**	**05 47 48.4**	**-1.1**
	32nm,1.0s						
KURBB	**Kurchatov Arra**	**44.69**	**307**	P	**P**	**05 47 49.2**	**-0.8**
	2.1nm,0.6s,baz=82,slow=8.0,SNR=15						
BVAR	**Borovoye Array**	**49.28**	**312**	P	**P**	**05 48 25.8**	**-0.1**
	0.4nm,0.4s,baz=76,slow=7.9,SNR=3.0						
ILAR	**Eielson Array**	**49.59**	**33**	P	**P**	**05 48 28.1**	**-0.1**
	0.8nm,1.0s,baz=284,slow=7.6,SNR=5.9						
INK	**Inuvik**	**54.36**	**27**	P	**P**	**05 49 04.0**	**+0.4**
	3.8nm,1.1s,baz=132,slow=14,SNR=2.6						
WRAB	**Tennant Creek**	**57.53**	**186**	*e*P	**P**	**05 49 25.7**	**-1.1**
	0.8nm,0.4s						
WRA	**Warramunga Arr**	**57.54**	**186**	P	**P**	**05 49 25.9**	**-1.0**
	3.2nm,0.8s,baz=2.6,slow=7.3,SNR=46						
ASAR	**Alice Springs**	**61.27**	**186**	P	**P**	**05 49 52.4**	**-0.3**
	1.4nm,0.8s,baz=7.7,slow=5.7,SNR=13						
AKASG	**Malin Array Be**	**73.08**	**322**	P	**P**	**05 51 07.2**	**-0.1**
	0.2nm,0.3s,baz=57,slow=6.3,SNR=3.7						
DUG	**Dugway, Tooele**	**77.82**	**48**	*e*P	**P**	**05 51 36.2**	**+1.2**
	1.4nm,0.8s						
PDAR	**Pinedale Array**	**78.06**	**45**	P	**P**	**05 51 36.5**	**+0.2**
	0.7nm,0.7s,baz=277,slow=2.5,SNR=6.4						
ULM	**Lac du Bonnet**	**79.61**	**33**	P	**P**	**05 51 44.6**	**+0.1**
	2.8nm,0.9s,baz=302,slow=9.9,SNR=3.3						
CLL	**Collm**	**79.96**	**329**	*i* P	**P**	**05 51 45.9**	**-0.4**
	comp=Z,4.0nm,1.0s						
TXAR	**Lajitas Array**	**90.66**	**51**	P	**P**	**05 52 40.2**	**-0.2**
	comp=Z,0.4nm,0.8s,baz=309,slow=2.9,SNR=5.2						
LPAZ	**La Paz**	**147.36**	**57**	PKPbc	**PKPbc**	**05 59 21.5**	**-0.9**
	comp=Z,1.4nm,1.0s,baz=343,slow=7.8,SNR=4.9						

*ISCJB **26** 06:10:05.3±0.8,24.92N±0.05×123.32E±0.04,h10km, mb3.5/6,Error ellipse: s-maj=6.8km s-min=5.8km az=176.1*
*JMA **26** 06:10:06.3±0.1,24.90N×123.31E,h26km,M3.0*
*IDC **26** 06:10:06.3±1.1,24.22N×121.59E,h0km,mb3.6/6, mb1 3.8/7,mb1mx3.6/49,mbtmp3.6/7,ML3.9/1,Error ellipse: s-maj=46.7km s-min=20.6km az=70.0*

ISC 26 06:10:05.6±1.0, 24.93N±0.07×123.34E±0.04, h10km, n14, σ1 37/17, mb3.6/6, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
YOJ	**Yonaguni jima**	**0.55**	**213**	P	**Pg**	**06 10 16.4**	**+0.1**
YOJ				*e*S	**Sg**	**06 10 23.4**	**-0.1**
JYNG	**Yonagunijimaku**	**0.59**	**217**	P	**Pg**	**06 10 17.3**	**+0.2**
JYNG				*e*S	**Sg**	**06 10 24.8**	**-0.1**
IRIF	**Iriomote-Funau**	**0.69**	**149**	P	**Pg**	**06 10 19.3**	**+0.5**
IRIF				*e*S	**Sg**	**06 10 28.6**	**+0.8**
JKRS	**Kuro-shima**	**0.92**	**138**	P	**Pg**	**06 10 23.2**	**0.0**
JKRS				S	**Sg**	**06 10 34.9**	**-0.2**
JIJ	**Ishigaki jima**	**0.92**	**127**	P	**Pg**	**06 10 23.0**	**-0.3**
JISG	**Ishigakijimahi**	**0.94**	**111**	P	**Pg**	**06 10 23.7**	**-0.1**
HATJ	**Hateruma jima**	**0.96**	**154**	P	**Pg**	**06 10 23.8**	**-0.3**
HATJ				*e*S	**Sg**	**06 10 36.1**	**-0.5**
KSRS	**Korea Array**	**13.09**	**16**	Pn	P	06 13 29.6	+7.7
	0.5nm,0.3s,baz=198,slow=15,SNR=2.3						
SONM	**Songino Array**	**26.51**	**334**	P	**P**	**06 15 46.2**	**+2.9**
	0.3nm,0.4s,baz=142,slow=7.5,SNR=4.0						
MKAR	**Makanchi Array**	**39.20**	**314**	P	**P**	**06 17 30.0**	**-3.9**
	0.2nm,0.7s,baz=114,slow=6.5,SNR=2.4						
ZALV	**Zalesovo Beam**	**40.72**	**326**	P	**P**	**06 17 46.7**	**+0.4**
	0.7nm,0.3s,baz=115,slow=6.5,SNR=1.6						
WRA	**Warramunga Arr**	**45.86**	**166**	P	**P**	**06 18 27.8**	**-0.5**
	0.8nm,0.8s,baz=347,slow=8.7,SNR=6.6						
ASAR	**Alice Springs**	**49.38**	**167**	P	**P**	**06 18 56.6**	**+1.1**
	0.3nm,0.6s,baz=346,slow=5.7,SNR=1.7						
ILAR	**Eielson Array**	**67.65**	**28**	P	P	06 21 13.1	+11
	0.7nm,0.8s,baz=265,slow=5.7,SNR=6.1						

*ISCJB **26** 06:12:19.9±0.5,33.70N±0.05×138.44E±0.05, h298km±3km,mb3.5/10,Error ellipse: s-maj=8.9km s-min=6.6km az=160.5*
*JMA **26** 06:12:19.2±0.3,33.60N×138.45E,h303km±3km,M3.4*
*IDC **26** 06:12:21.0±0.6,33.64N×138.38E,h297km±6km,mb3.3/10, mb1 3.5/13,mb1mx3.2/56,mbtmp4.0/13,Error ellipse: s-maj=21.9km s-min=10.4km az=58.0*

ISC 26 06:12:20.6±0.8, 33.68N±0.06×138.41E±0.05, h294km±6km, n46, σ1 01/57, mb3.6/10, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TK02	**Tokai 2**	**0.61**	**296**	P	**Pn**	**06 12 59.0**	**+0.6**
TK03	**Tokai 3**	**0.61**	**322**	P	**Pn**	**06 12 59.1**	**+0.6**
TK01	**Tokai 1**	**0.69**	**277**	P	**Pn**	**06 12 58.6**	**0.0**
TTO4	**TONANKAI O.B.S**	**0.80**	**294**	P	**Pn**	**06 12 59.5**	**+0.5**
TTO5	**TONANKAI O.B.S**	**0.81**	**315**	P	**Pn**	**06 12 59.8**	**+0.6**
TK04	**Tokai 4**	**0.83**	**328**	P	**Pn**	**06 13 00.2**	**+0.9**
JHMK	**Hamakita**	**1.25**	**335**	P	**Pn**	**06 13 01.8**	**+0.4**
JHJ	**Hachijo jima 2**	**1.28**	**116**	P	**Pn**	**06 13 02.4**	**+0.6**
	44nm,0.3s,baz=59,slow=19,SNR=4.4						
JHJ				S	**S**	**06 13 36.3**	**+1.8**
	65nm,0.3s,baz=252,slow=19,SNR=4.0						
HMMJ	**Hamamatsu 2**	**1.30**	**334**	P	**Pn**	**06 13 02.3**	**+0.5**
JHJ2	**Mitsune**	**1.31**	**116**	P	**Pn**	**06 13 02.5**	**+0.6**
TTO1	**TONANKAI O.B.S**	**1.36**	**268**	P	**Pn**	**06 13 02.0**	**+0.1**
JIE	**Ise**	**1.58**	**297**	P	**Pn**	**06 13 03.7**	**+0.1**
JOD2	**Odawara 2**	**1.67**	**19**	P	**Pn**	**06 13 04.6**	**+0.3**
JNY	**Yasuok**	**1.73**	**345**	P	**Pn**	**06 13 05.6**	**+0.8**
JYN	**Shimob**	**1.81**	**3**	P	**Pn**	**06 13 06.3**	**+0.9**
JAO	**Obara**	**1.84**	**329**	P	**Pn**	**06 13 06.3**	**+0.7**
JKN2	**Miekihoku**	**1.86**	**288**	P	**Pn**	**06 13 05.3**	**-0.4**
JKN2				*e*S	**S**	**06 13 41.0**	**-0.5**
BSO4	**Boso 4**	**2.06**	**50**	P	**Pn**	**06 13 07.2**	**+0.1**
BSO3	**Boso 3**	**2.06**	**57**	P	**Pn**	**06 13 06.2**	**-0.7**
JWZ	**Kozaga**	**2.26**	**267**	P	**Pn**	**06 13 07.5**	**-1.4**
JHU	**Hanno**	**2.28**	**18**	P	**Pn**	**06 13 09.0**	**-0.1**
JHU				S	**S**	**06 13 46.7**	**-1.0**
BSO1	**Boso 1**	**2.34**	**65**	P	**Pn**	**06 13 08.1**	**-0.8**
BSO1				*e*S	**S**	**06 13 45.8**	**-1.8**
JRY	**Ryogami san**	**2.36**	**10**	P	**Pn**	**06 13 10.9**	**+1.1**
MJAR	**Matsushiro Arr**	**2.86**	**357**	P	**Pn**	**06 13 14.9**	**+0.5**
	2.4nm,0.3s,baz=172,slow=11,SNR=16						
MJAR				S	**S**	**06 13 58.5**	**+1.1**
	1.0nm,0.3s,baz=300,slow=32,SNR=4.6						
MAT	**Matsushiro**	**2.86**	**357**	P	**Pn**	**06 13 15.1**	**+0.7**
MAT				S	**S**	**06 13 57.7**	**+0.4**
MAT	**Matsushiro**	**2.86**	**357**	P	**Pn**	**06 13 14.5**	**+0.1**
MAT				*e*S	**S**	**06 13 57.8**	**+0.4**
JAG	**Ashikaga**	**2.86**	**17**	P	**Pn**	**06 13 14.1**	**-0.4**
JAG				*e*S	**S**	**06 13 55.6**	**-1.9**
JYT	**Yasato**	**2.93**	**29**	P	**Pn**	**06 13 14.1**	**-1.0**
JYT				*e*S	**S**	**06 13 55.9**	**-2.7**
JWT	**Wachi**	**2.96**	**303**	P	**Pn**	**06 13 15.8**	**+0.4**
JWT				S	**S**	**06 13 58.3**	**-0.8**
JKG	**Kaga**	**3.10**	**327**	P	**Pn**	**06 13 17.5**	**+0.7**
JAI	**Aioi**	**3.30**	**273**	P	**Pn**	**06 13 18.2**	**-0.8**
JHO	**Hitachi**	**3.41**	**31**	*e*S	**S**	**06 14 04.2**	**-3.4**
JMN	**Monobe**	**3.78**	**272**	P	**Pn**	**06 13 23.7**	**-0.4**
JMN				*e*S	**S**	**06 14 13.4**	**-1.5**
KSRS	**Korea Array**	**9.34**	**297**	P	**Pn**	**06 14 31.5**	**+1.0**
	0.6nm,0.3s,baz=113,slow=12,SNR=38						
USRK	**Ussuriysk Ar.**	**11.62**	**336**	P	**Pn**	**06 14 58.2**	**-0.3**
	0.2nm,0.3s,baz=164,slow=14,SNR=6.0						
SONM	**Songino Array**	**27.84**	**310**	P	**P**	**06 17 44.8**	**+1.3**
	2.9nm,0.6s,baz=112,slow=9.2,SNR=13						
MKAR	**Makanchi Array**	**43.91**	**305**	P	**P**	**06 19 59.0**	**+0.3**
	2.2nm,0.4s,baz=90,slow=10,SNR=21						
KURBB	**Kurchatov Arra**	**46.21**	**310**	P	**P**	**06 20 16.5**	**-0.1**
	1.9nm,0.5s,baz=85,slow=6.5,SNR=5.0						
BVAR	**Borovoye Array**	**51.07**	**314**	P	**P**	**06 20 53.7**	**+0.4**
	0.8nm,0.4s,baz=91,slow=7.5,SNR=6.4						
WRA	**Warramunga Arr**	**53.47**	**185**	P	**P**	**06 21 09.7**	**-1.5**
	0.6nm,0.5s,baz=1.1,slow=7.9,SNR=4.9						
AKTO	**Aktyubinsk**	**59.11**	**313**	P	**P**	**06 21 50.3**	**-0.2**
	1.0nm,0.5s,baz=70,slow=12,SNR=3.5						
FINES	**FINESS Array B**	**70.62**	**322**	P	**P**	**06 23 04.3**	**+0.3**
	0.5nm,0.5s,baz=198,slow=30,SNR=4.1						
AKASG	**Malin Array Be**	**75.42**	**322**	P	**P**	**06 23 32.6**	**+0.3**
	0.4nm,0.4s,baz=48,slow=5.9,SNR=3.9						
PDAR	**Pinedale Array**	**81.77**	**44**	P	**P**	**06 24 07.2**	**0.0**
	0.2nm,0.5s,baz=78,slow=3.6,SNR=5.0						
TXAR	**Lajitas Array**	**94.12**	**51**	P	**P**	**06 25 07.6**	**+1.1**
	0.8nm,0.7s,baz=291,slow=2.3,SNR=12						
LPAZ	**La Paz**	**150.49**	**61**	PKPbc	**PKPbc**	**06 31 38.8**	**-0.1**
	0.6nm,0.7s,baz=328,slow=9.5,SNR=3.5						

*ISCJB **26** 06:17:32.4±0.8,6.84N±0.05×73.10W±0.05,h154km±7km, Error ellipse: s-maj=10.1km s-min=5.1km az=140.8*
*FUNV **26** 06:17:33.0,6.86N×73.13W,h177km,MW2.6*
*RSNC **26** 06:17:34.6±1.1,6.81N×73.12W,h144km±8km,ML2.2*

ISC 26 06:17:32.1±1.5, 6.85N±0.05×73.09W±0.05, h159km±10km, n15, σ1 25/26, 1D, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BARC	**Barichara**	**0.28**	**200**	*e*P	**Pn**	**06 17 54.3**	**+0.3**
BARC				*i*		06 17 54.7	
	comp=Z,22nm,0.2s						
BARC				*e*S	**Sn**	**06 18 08.9**	**-1.8**
BRRC	**Barranca, Sant**	**0.67**	**292**	⇓P	**Pn**	**06 17 56.0**	**+0.7**
BRRC				*e*S	**Sn**	**06 18 12.8**	**-0.4**
BRRC				*i*		06 18 15.1	
	comp=Z,34nm,0.1s						
RUSC	**La Rusia**	**0.95**	**180**	*e*P	**Pn**	**06 17 58.4**	**+0.4**
RUSC				*i*		06 17 59.6	
	comp=Z,17nm,0.1s						
RUSC				*e*S	**Sn**	**06 18 16.0**	**-1.8**
CAPV	**Capacho**	**1.26**	**37**	*e*P	**Pn**	**06 18 02.1**	**+1.8**
CAPV				*e*S	**Sn**	**06 18 23.4**	**+1.5**
OCAC	**Ocana**	**1.40**	**350**	*e*P	**Pn**	**06 18 01.9**	**+0.4**
OCAC				*i*		06 18 30.1	
	comp=Z,20nm,0.3s						
ZARC	**Zaragoza, Cauc**	**1.87**	**290**	*e*P	**Pn**	**06 18 06.3**	**0.0**
ZARC				*e*S	**Sn**	**06 18 31.9**	**-0.7**
NORC	**Norcasia**	**2.19**	**234**	*e*P	**Pn**	**06 18 10.5**	**+0.5**
NORC				*e*S	**Sn**	**06 18 38.6**	**-0.6**
HELC	**Santa Helena**	**2.52**	**255**	*e*P	**Pn**	**06 18 15.8**	**+1.5**
HELC				*e*S	**Sn**	**06 18 46.0**	**-0.7**
HELC				*i*		06 18 53.7	
	comp=Z,11nm,0.5s						
VIGV	**El Vigia**	**2.61**	**41**	*e*P	**Pn**	**06 18 16.2**	**+1.1**
VIGV				*e*S	**Sn**	**06 18 48.8**	**+0.5**
SOCV	**Socops**	**2.63**	**57**	*e*P	**Pn**	**06 18 16.7**	**+1.4**
SOCV				*e*S	**Sn**	**06 18 48.3**	**-0.4**
ELOV	**Elorza**	**3.58**	**87**	*e*P	**Pn**	**06 18 28.2**	**+1.1**
PRAC	**Prado**	**3.60**	**210**	*e*P	**Pn**	**06 18 28.6**	**+1.1**
PRAC				*e*S	**Sn**	**06 19 10.4**	**-0.2**
VIRV	**Villa del Rosa**	**3.69**	**10**	*e*P	**Pn**	**06 18 28.7**	**+0.1**
CURV	**Curarigua**	**4.41**	**44**	*e*P	**Pn**	**06 18 38.3**	**+0.3**
CURV				*e*S	**Sn**	**06 19 26.0**	**-3.4**
BAUV	**El Baul**	**5.41**	**67**	*e*P	**Pn**	**06 18 50.5**	**-0.6**

*ISCJB **26** 06:21:16.9±1.4,11.38S±0.04×166.40E±0.05, h117km±12km,mb4.8/90,Error ellipse: s-maj=8.4km s-min=5.4km az=155.8*
*BJI **26** 06:21:16.8,11.15S×166.43E,h110km,mb4.9/40, mB5.1/26*
*IDC **26** 06:21:16.8±0.5,11.30S×166.48E,h106km±3km,mb4.2/24, mb1 4.3/26,mb1mx4.2/43,mbtmp4.5/26,MS3.2/7, Ms1 3.2/7,ms1mx2.9/25,Error ellipse: s-maj=13.4km s-min=9.9km az=112.0*
*NEIC **26** 06:21:18.8±0.9,11.32S×166.38E,h121km±8km,mb4.9/61, Error ellipse: s-maj=5.3km s-min=3.7km az=81.0*

ISC 26 06:21:16.7±0.5, 11.36S±0.05×166.52E±0.06, h106km±3km, h106km: pP-P, n175, σ1 21/211, mb4.8/90, 1D, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**6.75**	**286**	P	**Pn**	**06 22 52.8**	**-0.3**
	45nm,0.3s,baz=151,slow=2.6,SNR=16						
HNR				S	**Sn**	**06 24 09.5**	**+1.0**
	26nm,0.3s,baz=165,slow=20,SNR=3.6						
HNR	**Honiara**	**6.75**	**286**	*e*P	**Pn**	**06 22 51.0**	**-2.2**
HNR				*e*S	**Sn**	**06 24 10.0**	**+1.4**
HNR	**Honiara**	**6.75**	**286**	*e*Pn	**Pn**	**06 22 53.0**	**-0.2**
HNR				*e*Sn	**Sn**	**06 24 09.1**	**+0.5**
DZM	**Mont Dzumac**	**10.65**	**180**	P	**Pn**	**06 23 48.0**	**+1.7**
	1.3nm,0.3s,baz=355,slow=21,SNR=24						
DZM				S	**Sn**	**06 25 41.5**	**-2.1**
	0.5nm,0.3s,baz=143,slow=20,SNR=4.1						
DZM				LR	LR	06 26 30.6	
	comp=Z,72nm,18.8s,baz=14,slow=29						
DZM	**Mont Dzumac**	**10.65**	**180**	*e*Pn	**Pn**	**06 23 47.0**	**+0.7**
	6.7nm,0.3s						
DZM				*e*Sn	**Sn**	**06 25 40.2**	**-3.4**
	7.9nm,0.2s						
DZM				*e*LR	LR	06 26 15.4	
	307nm,28.9s						
DZM	**Mont Dzumac**	**10.65**	**180**	*e*Pn	**Pn**	**06 23 47.4**	**+1.1**
DZM				*e*Sn	**Sn**	**06 25 44.5**	**+0.9**
PMG	**Port Moresby**	**19.14**	**274**	LR	LR	06 32 41.1	
	comp=Z,114nm,19.2s,baz=96,slow=36						
PATS	**Pohnpei**	**19.84**	**335**	*e*P	**P**	**06 25 39.6**	**+0.2**
	115nm,1.0s						
PATS				*e*S	**S**	**06 29 18.2**	**+1.0**
EIDS	**Eidsvold**	**20.19**	**224**	*e*P	Pn	06 25 44.8	-1.2
	28nm,1.0s						
CTA	**Charters Tower**	**21.33**	**244**	P	**P**	**06 25 56.1**	**+0.7**
	5.2nm,0.6s,baz=78,slow=12,SNR=12						
CTAO	**Charters Tower**	**21.33**	**244**	*e*P	**P**	**06 25 56.2**	**+0.8**
	11nm,1.0s						
COEN	**Coen**	**22.92**	**261**	*e*P	**P**	**06 26 12.6**	**+0.6**
	20nm,1.1s						
ARMA	**Armidale**	**23.47**	**214**	*e*P	**P**	**06 26 18.4**	**+1.3**
	92nm,1.5s						
MXZ	**Matakaoa Point**	**28.15**	**160**	*e*P	**P**	**06 27 01.3**	**+2.3**
	169nm,1.5s						
URZ	**Urewera**	**28.41**	**162**	*e*P	**P**	**06 27 02.8**	**+1.6**
	60nm,1.9s						
CAN	**Canberra**	**28.67**	**211**	*e*P	**P**	**06 27 04.6**	**+0.9**
	64nm,1.8s						
BKZ	**Black Stump Fm**	**29.08**	**164**	*e*P	**P**	**06 27 08.6**	**+1.3**
	16nm,0.5s						
H11S2	**WAKE ISLAND Hy**	**29.66**	**0**	T	T	06 57 59.7	
	baz=181,slow=76,SNR=13						
H11S3	**WAKE ISLAND Hy**	**29.67**	**0**	T	T	06 57 55.6	
	baz=181,slow=76,SNR=4.0						
H11S1	**WAKE ISLAND Hy**	**29.68**	**0**	T	T	06 57 54.9	
	baz=181,slow=76,SNR=4.9						
BFZ	**Birch Farm**	**30.44**	**165**	*e*P	**P**	**06 27 18.9**	**-0.3**
	108nm,1.3s						
SNZO	**South Karori**	**30.69**	**168**	*e*P	**P**	**06 27 22.0**	**+0.6**
	62nm,1.1s						
STKA	**Stephens Creek**	**30.74**	**225**	P	**P**	**06 27 22.3**	**+0.3**
	5.5nm,0.8s,baz=30,slow=10,SNR=14						
STKA				pP

	146nm,1.7s								
INU	**Inuyama**	**54.20**	**330**	*e*P		**P**	06 30 31.8	+0.4	
	11nm,1.0s								
MJAR	**Matsushiro Arr**	**54.60**	**332**	P		**P**	06 30 32.7	-1.7	
	0.6nm,0.3s,baz=179,slow=8.6,SNR=6.0								
KSRS	**Korea Array**	**60.57**	**325**	P		**P**	06 31 15.8	-0.4	
	1.7nm,0.6s,baz=139,slow=7.3,SNR=8.2								
KSRS				PcP		**PcP**	06 32 00.1	+0.5	
	1.1nm,0.7s,baz=143,slow=4.3,SNR=3.0								
KSRS				LR		LR	06 56 13.9		
	comp=Z,8.4nm,18.9s,baz=140,slow=35								
NJ2	**Nanjing**	**62.78**	**315**	*e*P		**P**	06 31 32.0	+0.9	
NJ2				pmax	pmax				
	comp=Z,23nm,0.5s								
USRK	**Ussuriysk Ar.**	**63.57**	**333**	P		**P**	06 31 35.0	-1.1	
	2.8nm,0.9s,baz=114,slow=6.9,SNR=5.2								
PETK	**Petropavlovsk-**	**64.66**	**354**	P		**P**	06 31 42.4	-0.6	
	2.6nm,0.4s,baz=242,slow=3.2,SNR=4.9								
PEA1	**Petropavlovsk-**	**64.66**	**354**	*e*P		**P**	06 31 42.4	-0.7	
VNDA	**Vanda**	**66.19**	**181**	P		**P**	06 31 52.4	-0.3	
	4.9nm,0.7s,baz=326,slow=6.4,SNR=23								
VNDA	**Vanda**	**66.19**	**181**	*e*P		**P**	06 31 53.1	+0.5	
	24nm,1.5s								
SBA	**Scott Base**	**66.48**	**180**	*e*P		**P**	06 31 56.1	+1.7	
	16nm,0.8s								
NIKH	**Nikolski High**	**67.47**	**16**	*e*P		**P**	06 32 02.1	+1.1	
	112nm,0.9s								
GYA	**Guiyang**	**69.22**	**304**	*e*P		**P**	06 32 14.3	+1.6	
GYA				pP	pP		06 32 42.5	+3.3	
GYA				sP	sP		06 32 55.5	+4.8	
GYA				PP	**PP**		**06 34 50.0**	**+2.9**	
GYA				S	**S**		**06 41 10.8**	**-0.1**	
GYA				sS	sS		06 41 58.3	+2.0	
GYA				pmax	pmax				
	comp=Z,20nm,1.0s								
XAN	**Xi'an**	**70.90**	**312**	P		**P**	06 32 22.3	-0.4	
XAN				pmax	pmax				
	comp=Z,19nm,0.8s								
XAN				pmax	pmax				
	comp=Z,200nm,4.8s								
KMI	**Kunming**	**71.94**	**301**	P		**P**	06 32 31.0	+1.7	
KMI				pmax	pmax				
	comp=Z,11nm,0.8s								
KMI				pmax	pmax				
	comp=Z,96nm,4.0s								
HHC	**Hu-ho-hao-te**	**72.56**	**319**	*e*P		**P**	06 32 35.0	+2.4	
HHC				sP	sP		06 33 16.5	+5.8	
HHC				S	**S**		**06 41 52.0**	**+3.0**	
HHC				SKS	**SKSac**		**06 42 25.5**	**-2.6**	
HHC				sS	sS		06 42 40.5	+5.7	
HHC				pmax	pmax				
	comp=Z,16nm,1.1s								
HHC				pmax	pmax				
	comp=Z,110nm,5.3s								
CM01	**Chiang Mai Arr**	**72.91**	**293**	*e*P		**P**	06 32 35.9	+0.9	
CMAR	**Chiang Mai Arr**	**72.94**	**293**	P		**P**	06 32 36.0	+0.9	
	4.6nm,0.7s,baz=116,slow=4.5,SNR=17								
CD2	**Chengdu**	**73.40**	**307**	*e*P		**P**	06 32 37.5	-0.2	
CD2				PcP	**PcP**		**06 32 53.0**	**-0.4**	
CD2				sP	sP		06 33 20.5	+4.7	
CD2				pmax	pmax				
	comp=Z,20nm,0.9s								
SEY	**Seymchan**	**74.87**	**353**	P		**P**	06 32 44.6	-0.8	
	0.7nm,0.3s,baz=7.6,slow=15,SNR=2.6								
LZH	**Lanzhou**	**75.53**	**312**	*e*P		**P**	06 32 51.5	+1.4	
LZH				pP	pP		06 33 18.8	+1.8	
LZH				sP	sP		06 33 28.3	0.0	
LZH				*e*PP	**PP**		**06 35 41.0**	**+0.1**	
LZH				S	**S**		**06 42 18.3**	**-4.3**	
LZH				sS	sS		06 43 09.0	+0.3	
LZH				SS	**SS**		**06 47 15.5**	**-0.4**	
LZH				pmax	pmax				
	comp=Z,57nm,1.2s								
LZH				pmax	pmax				
	comp=Z,150nm,4.2s								
KDAK	**Kodiak Island**	**76.60**	**21**	P		**P**	06 32 55.4	0.0	
	5.1nm,1.0s,baz=260,slow=16,SNR=2.4								
KDAK	**Kodiak Island**	**76.60**	**21**	*e*P		**P**	06 32 55.5	+0.2	
	55nm,1.6s								
QSPA	**South Pole Qui**	**78.64**	**180**	*e*P		**P**	06 33 07.2	+0.3	
BRLK	**Bradley Lake**	**78.67**	**20**	*e*P		**P**	06 33 06.9	0.0	
	9.3nm,0.8s								
ULN	**Ulaanbaatar**	**79.00**	**324**	*e*P		**P**	06 33 09.5	+0.3	
	12nm,1.1s								
SONA0	**Songino Array**	**79.37**	**324**	*e*P		**P**	06 33 11.0	-0.1	
	12nm,1.4s								
SONA0				*e*pP		**pP**	06 33 37.4	-0.8	
SONM	**Songino Array**	**79.37**	**324**	P		**P**	06 33 11.0	-0.1	
	3.3nm,0.9s,baz=144,slow=6.0,SNR=14								
SONM				pP		**pP**	06 33 37.4	-0.8	
	0.7nm,0.7s,baz=100,slow=6.0,SNR=1.7								
SONA1	**Songino Array**	**79.37**	**324**	*e*P		**P**	06 33 11.0	-0.1	
TTA	**Tatalina**	**79.51**	**16**	*e*P		**P**	06 33 12.0	+0.5	
	14nm,1.5s								
GTA	**Gaotai**	**79.83**	**314**	P		**P**	06 33 14.3	+0.5	
GTA				pP	pP		06 33 42.8	+1.9	
GTA				sP	sP		06 33 54.5	+2.2	
GTA				pmax	pmax				
	comp=Z,12nm,1.4s								
GLI	**Glacier Island**	**80.78**	**21**	*e*P		**P**	06 33 18.5	+0.2	
	8.0nm,0.9s								
CAST	**Castle Rocks**	**81.02**	**18**	*e*P		**P**	06 33 19.1	-0.4	
	5.8nm,0.7s								
SCM	**Sheep Creek Mo**	**81.37**	**20**	*e*P		**P**	06 33 21.9	+0.4	
	8.1nm,0.8s								
TRF	**Thorofare Moun**	**81.58**	**18**	*e*P		**P**	06 33 23.4	+0.8	
	5.3nm,1.0s								
IMAR	**Indian Mountai**	**82.53**	**15**	*e*P		**P**	06 33 27.4	+0.1	
TLY	**Talaya**	**82.81**	**326**	P		**P**	06 33 28.1	-1.1	
	3.0nm,0.5s,baz=216,slow=4.0,SNR=8.7								
WRH	**Wood River Hil**	**82.99**	**18**	*e*P		**P**	06 33 29.5	-0.3	
	7.2nm,1.1s								
CCB	**Clear Creek Bu**	**83.20**	**18**	*e*P		**P**	06 33 30.5	-0.3	
	3.7nm,0.8s								
MDM	**Murphy Dome**	**83.30**	**18**	*e*P		**P**	06 33 30.8	-0.5	
	4.7nm,0.8s								
IL1	**Eielson Array**	**83.57**	**18**	*e*P		**P**	06 33 31.9	-0.9	
ILAR	**Eielson Array**	**83.57**	**18**	P		**P**	06 33 32.5	-0.3	
	2.0nm,0.6s,baz=263,slow=5.3,SNR=39								
ILAR				pP		**pP**	06 34 00.5	+0.4	
	1.6nm,0.6s,baz=254,slow=4.9,SNR=5.0								
ILB	**Eielson Array**	**83.57**	**18**	*e*P		**P**	06 33 32.5	-0.3	
DOT	**Dot Lake**	**83.71**	**20**	*e*P		**P**	06 33 33.5	0.0	
	21nm,0.8s								
AFDM	**Forest Hills D**	**83.84**	**48**	*e*P		**P**	06 33 36.0	+1.3	
	9.8nm,1.4s								
BEKR	**Beckworth**	**84.59**	**48**	*e*P		**P**	06 33 39.6	+0.9	
	11nm,1.4s								
MAW	**Mawson**	**84.72**	**202**	P		**P**	06 33 38.0	-0.5	
	0.5nm,0.3s,baz=138,slow=5.9,SNR=7.9								
MAW	**Mawson**	**84.72**	**202**	*e*P		**P**	06 33 39.1	+0.6	
	2.3nm,1.7s								
TVH3	**East Aurora ar**	**85.24**	**50**	*e*P		**P**	06 33 43.5	+1.4	
	2.4nm,0.8s								
PAHR	**Pah Rah Range**	**85.25**	**48**	*e*P		**P**	06 33 43.5	+1.5	
	16nm,1.7s								
EGAK	**Eagle**	**85.41**	**20**	*e*P		**P**	06 33 42.8	+0.8	
	7.4nm,0.6s								
TAPN	**Taplejung**	**85.42**	**299**	*e*P		**P**	06 33 43.3	0.0	
	25nm,0.9s								
ODAN	**Odare**	**85.57**	**298**	*e*P		**P**	06 33 44.2	+0.2	
	40nm,0.7s								
TIXI	**Tiksi**	**86.55**	**349**	P		**P**	06 33 47.4	0.0	
	4.1nm,0.4s,baz=344,slow=7.4,SNR=2.3								
PKI	**Pulchoki**	**87.46**	**299**	*e*P		**P**	06 33 52.7	-0.6	
	14nm,0.7s								
PKIN	**Phulchoki**	**87.47**	**299**	*e*P		**P**	06 33 52.9	-0.4	
	7.4nm,0.5s								
KKN	**Kakani**	**87.62**	**299**	*e*P		**P**	06 33 53.2	-0.7	
R11A	**Troy Canyon, C**	**87.66**	**50**	*e*P		**P**	06 33 55.6	+1.8	
	6.5nm,1.4s								
DMN	**Daman**	**87.73**	**299**	*e*P		**P**	06 33 54.2	-0.3	
	43nm,0.8s								
GKN	**Gorkha**	**88.22**	**299**	*e*P		**P**	06 33 55.9	-0.8	
	32nm,0.8s								
DANN	**Dangsing**	**89.06**	**299**	*e*P		**P**	06 34 00.0	-0.8	
	2.0nm,0.7s								
KOLN	**Koldanda**	**89.06**	**298**	*e*P		**P**	06 33 59.6	-1.1	
	9.9nm,0.6s								
LCMT	**Little Creek M**	**89.09**	**52**	*e*P		**P**	06 34 02.3	+1.7	
	4.4nm,1.1s								
CCUT	**Cedar City**	**89.14**	**52**	*e*P		**P**	06 34 01.9	+1.0	
	12nm,1.6s								
KNB	**Kanab**	**89.42**	**52**	*e*P		**P**	06 34 04.0	+1.8	
	32nm,2.0s								
PYUN	**Piuthan**	**89.66**	**299**	*e*P		**P**	06 34 02.6	-0.9	

U15A	**North Rim**	**89.69**	**53**	*e*P		**P**	06 34 05.5	+1.9	
	23nm,1.8s								
WMQ	**Urumqi**	**89.86**	**315**	P		**P**	06 34 04.3	+0.4	
WMQ				pP	pP		06 34 33.3	+1.8	
WMQ				sP	sP		06 34 44.5	+1.8	
WMQ				pmax	pmax				
	comp=Z,18nm,0.8s								
WMQ				pmax	pmax				
	comp=Z,170nm,4.7s								
WMQ				LR	LR				
	comp=N,200nm,19.5s								
WMQ				LR	LR				
	comp=E,150nm,22.7s								
WMQ				LR	LR				
	comp=Z,24nm,17.3s								
X16A	**Lo Mia Camp, P**	**89.88**	**55**	*e*P		**P**	06 34 04.3	0.0	
	2.4nm,1.0s								
BGU	**Big Grassy Mou**	**90.25**	**48**	*e*P		**P**	06 34 07.3	+1.3	
	2.9nm,0.9s								
MSU	**Marysvale**	**90.29**	**51**	*e*P		**P**	06 34 08.4	+2.2	
HVU	**Hansel Valley**	**90.66**	**48**	*e*P		**P**	06 34 09.4	+1.6	
	4.6nm,1.0s								
HYB	**Hyderabad**	**91.44**	**287**	*i* P		**P**	06 34 11.0	-0.8	
DLMT	**Dillon**	**91.68**	**44**	*e*P		**P**	06 34 13.7	+1.3	
	12nm,1.4s								
SYO	**Syowa Base**	**91.70**	**197**	*e*P		**P**	06 34 10.6	-1.3	
PD31	**Pinedale Array**	**93.21**	**47**	*e*P		**P**	06 34 20.6	+0.9	
PDAR	**Pinedale Array**	**93.21**	**47**	P		**P**	06 34 20.4	+0.7	
	0.2nm,0.7s,baz=298,slow=1.9,SNR=2.8								
ZALV	**Zalesovo Beam**	**94.26**	**324**	P		**P**	06 34 22.9	-1.0	
	2.0nm,0.5s,baz=121,slow=3.0,SNR=8.1								
ZALV				pP		**pP**	06 34 50.0	-1.6	
	1.0nm,0.5s,baz=113,slow=3.9,SNR=1.7								
ZALV	**Zalesovo Beam**	**94.26**	**324**	*e*P		**P**	06 34 22.7	-1.2	
ZAA1	**Zalesovo Array**	**94.26**	**324**	*e*P		**P**	06 34 22.9	-1.0	
ZAA1				*e*pP		**pP**	06 34 50.0	-1.6	
MK01	**Makanchi Array**	**94.26**	**317**	*e*P		**P**	06 34 23.6	-0.6	
MK31	**Makanchi Array**	**94.27**	**317**	*e*P		**P**	06 34 24.0	-0.2	
MK32	**Makanchi Array**	**94.27**	**317**	*e*P		**P**	06 34 23.9	-0.3	
MK32				*e*pP		**pP**	06 34 51.0	-0.9	
MKAR	**Makanchi Array**	**94.27**	**317**	P		**P**	06 34 23.9	-0.3	
	8.1nm,0.7s,baz=101,slow=6.3,SNR=46								
MKAR				pP		**pP**	06 34 51.0	-0.9	
	3.1nm,0.6s,baz=91,slow=6.9,SNR=6.7								
MKAR	**Makanchi Array**	**94.27**	**317**	*e*P		**P**	06 34 24.0	-0.3	
	44nm,0.6s								
MAKZ	**Makanchi**	**94.49**	**317**	*e*P		**P**	06 34 25.0	-0.1	
	7.8nm,1.0s								
LTX	**Lajitas**	**95.31**	**61**	*e*P		**P**	06 34 29.1	-0.4	
LTX				*e*pP		**pP**	06 34 58.0	+0.9	
TXAR	**Lajitas Array**	**95.31**	**61**	P		**P**	06 34 29.1	-0.4	
	0.2nm,0.6s,baz=225,slow=5.7,SNR=5.8								
TXAR				pP		**pP**	06 34 58.0	+0.9	
	0.2nm,0.7s,baz=221,slow=5.0,SNR=2.7								
SNAA	**Sanae**	**96.85**	**183**	P		**P**	06 34 33.9	-1.7	
KURK	**Kurchatov**	**97.37**	**320**	*e*P		**P**	06 34 36.7	-1.4	
KURBB	**Kurchatov Arra**	**97.41**	**320**	P		**P**	06 34 36.7	-1.6	
	0.5nm,0.4s,baz=100,slow=4.1,SNR=3.9								
KSH	**Kashi**	**97.55**	**309**	*e*P		Pdif	06 34 42.3	+2.9	
KSH				pP	pP		06 35 11.3	+4.2	
KSH				PP	**PP**		**06 38 44.0**	**+5.8**	
KSH				S	**S**		**06 45 52.5**	**-3.2**	
KSH				sS	sS		06 46 43.8	0.0	
KSH				SS	**SS**		**06 52 39.5**	**+1.8**	
KSH				pmax	pmax				
	comp=Z,46nm,7.1s								
KSH				LR	LR				
	comp=N,91nm,5.4s								
KSH				LR	LR				
	comp=E,99nm,6.2s								
KSH				LR	LR				
	comp=Z,49nm,8.6s								
VNA3	**Neumayer Olymp**	**97.55**	**181**	P		**P**	06 34 37.3	-1.3	
VNA2	**Neumayer--Watz**	**97.80**	**182**	P		**P**	06 34 38.7	-1.1	
BVAR	**Borovoye Array**	**102.67**	**322**	P		**Pdif**	06 35 00.6	-1.1	
	0.5nm,0.6s,baz=119,slow=8.9,SNR=3.0								
ARA0	**ARCESS Array S**	**116.83**	**346**	*e*PKPdf		**PKPdf**	06 39 47.8	-0.6	
ARCES	**ARCESS Array B**	**116.83**	**346**	PKP		**PKPdf**	06 39 47.8	-0.6	
	3.0nm,0.5s,baz=40,slow=2.1,SNR=9.1								
FIA0	**FINESS Array S**	**122.34**	**339**	*e*PKPdf		**PKPdf**	06 39 58.5	-0.6	
FINES	**FINESS Array B**	**122.34**	**339**	PKP		**PKPdf**	06 39 58.5	-0.6	
	1.2nm,0.5s,baz=58,slow=3.0,SNR=12								
FINES				pPKP		**pPKPdf**	06 40 27.4	-0.5	
	0.5nm,0.5s,baz=180,slow=0.2,SNR=1.5								
BOSA	**Boshof**	**125.40**	**222**	PKP		**PKPdf**	06 40 06.2	0.0	
	3.2nm,0.7s,baz=144,slow=5.1,SNR=7.2								
NB2	**NORSAR Subarra**	**127.20**	**345**	PKPdf		**PKPdf**	06 40 08.0	-0.5	
	comp=Z,1.1nm,0.7s,baz=34,slow=1.8								
NB200	**NORSAR Array S**	**127.20**	**345**	*e*PKPdf		**PKPdf**	06 40 07.3	-1.2	
NOA	**NORSAR Array B**	**127.20**	**345**	PKP		**PKPdf**	06 40 07.3	-1.2	
	comp=Z,1.4nm,0.7s,baz=34,slow=1.9,SNR=5.9								
NOA				pPKP		**pPKPdf**	06 40 37.2	-0.1	
	comp=Z,1.2nm,0.8s,baz=29,slow=1.9,SNR=2.9								
AKASG	**Malin Array Be**	**127.54**	**327**	PKP		**PKPdf**	06 40 08.7	-0.7	
	comp=Z,0.5nm,0.5s,baz=70,slow=3.1,SNR=4.2								
AKBB	**Malin Array Si**	**127.54**	**327**	*e*PKPdf		**PKPdf**	06 40 09.0	-0.4	
BR101	**Keskin Array S**	**129.74**	**313**	*e*PKPdf		**PKPdf**	06 40 13.4	-0.7	
BRTR	**Keskin Array B**	**129.74**	**313**	PKP		**PKPdf**	06 40 13.4	-0.7	
	comp=Z,0.3nm,0.3s,baz=86,slow=2.0,SNR=2.4								
GERES	**GERESS Array B**	**136.32**	**334**	PKP		**PKPdf**	06 40 25.4	-0.8	
	comp=Z,0.8nm,0.5s,baz=29,slow=3.0,SNR=4.6								
KEST	**Kesra**	**148.12**	**323**	PKPbc		**PKPbc**	06 40 50.9	+0.1	
	comp=Z,8.2nm,0.8s,baz=252,slow=1.9,SNR=8.5								
KEST				pPKPbc		**pPKPbc**	06 41 18.6	-0.7	
	comp=Z,3.2nm,0.6s,baz=297,slow=4.5,SNR=2.2								
POLO	**Lamas de Olo**	**149.69**	**352**	*e*PKPbc		**PKPbc**	06 40 53.9	-0.6	
POLO	**Lamas de Olo**	**149.69**	**352**	*e*PKPab		**PKPab**	06 40 59.5	-0.5	
PVRL	**Vila Real**	**149.78**	**351**	*e*PKPbc		**PKPbc**	06 40 54.3	-0.4	
PVIS	**Viseu**	**150.35**	**351**	*e*PKPbc		**PKPbc**	06 40 55.2	-0.9	
ES19	**SONSECA Array**	**150.52**	**345**	*e*PKPbc		**PKPbc**	06 40 56.5	0.0	
ESDC	**Sonseca Array**	**150.56**	**345**	PKPbc		**PKPbc**	06 40 56.7	0.0	
	comp=Z,0.5nm,0.4s,baz=16,slow=1.6,SNR=12								
ESDC				PKPab		**PKPab**	06 41 04.0	+0.5	
	comp=Z,0.7nm,0.5s,baz=32,slow=3.0,SNR=4.8								
PCBR	**Castelo Branco**	**151.14**	**350**	*e*PKPbc		**PKPbc**	06 40 57.2	-0.7	
PMRV	**Marv??o**	**151.53**	**350**	*e*PKPbc		**PKPbc**	06 40 58.9	0.0	
TORD	**Torodi Ar. Bea**	**165.06**	**278**	PKP		**PKPdf**	06 41 09.1	-0.4	
	comp=Z,0.8nm,0.7s,baz=36,slow=1.8,SNR=6.2								
TORD				pPKP		**pPKPdf**	06 41 38.9	+0.3	
	comp=Z,0.6nm,0.9s,baz=180,slow=1.4,SNR=2.5								
TORD				PKPab		**PKPab**	06 42 05.9	-1.0	
	comp=Z,1.4nm,0.9s,baz=87,slow=4.5,SNR=6.0								
TORD				pPKPab		**pPKPab**	06 42 33.9	-0.8	
	comp=Z,2.0nm,1.1s,baz=94,slow=4.5,SNR=4.6								
TOA1	**Torodi Ar. Sit**	**165.07**	**278**	*e*PKPdf		**PKPdf**	06 41 09.1	-0.4	
TOA1				*e*PKPab		**PKPab**	06 42 05.9	-1.0	
DBIC	**Dimbokro**	**170.29**	**242**	PKPab		**PKPab**	06 42 29.8	-0.1	
	comp=Z,3.2nm,0.8s,baz=111,slow=6.7,SNR=5.1								

NEIC ***26*** *06:32:40.0±0.0, 19°.17N×65°.05W, h60km, MD3.5(RSPR), After RSPR.*
RSPR ***26*** *06:32:40.0, 19°.17N×65°.05W, h59km±10km, MD3.5/8*
ISC 26 06:32:39.0±3.4, 19°.2N±0°.2×65°.10W±0°.09, h25km, n29, σ0°33/41, 15C-9D, Puerto Rico region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
STVI	**Saint Thomas**	**0.83**	**170**	*i*P		**Pn**		**06 32 55.0**	**-0.1**
STVI	**Saint Thomas**	**0.83**	**170**	*e*S		**Sn**		**06 33 06.7**	**+0.2**
STVI	**Saint Thomas**	**0.83**	**170**	*i*P		**Pn**		**06 32 55.0**	**-0.1**
STVI				*e*S		**Sn**		**06 33 06.7**	**+0.2**
STVI	**Saint Thomas**	**0.83**	**170**	*i*P		**Pn**		**06 32 55.0**	**-0.1**
STVI				*e*S		**Sn**		**06 33 06.7**	**+0.2**
CBYP	**Canovanas**	**1.15**	**219**	*i*P		**Pn**		**06 32 59.2**	**-0.4**
CBYP	**Canovanas**	**1.15**	**219**	*e*S		**Sn**		**06 33 14.6**	**+0.1**
CBYP	**Canovanas**	**1.15**	**219**	*i*P		**Pn**		**06 32 59.2**	**-0.4**
CBYP				*e*S		**Sn**		**06 33 14.6**	**+0.1**
CBYP	**Canovanas**	**1.15**	**219**	*i*P		**Pn**		**06 32 59.2**	**-0.4**
CBYP				*e*S		**Sn**		**06 33 14.6**	**+0.1**
SJG	**San Juan**	**1.45**	**224**	*e*S		**Sn**		**06 33 22.3**	**+0.4**
SJG	**San Juan**	**1.45**	**224**	*i*P		**Pn**		**06 33 03.5**	**-0.2**
SJG	**San Juan**	**1.45**	**224**	*i*P		**Pn**		**06 33 03.5**	**-0.2**
SJG				*e*S		**Sn**		**06 33 22.3**	**+0.4**
SJG	**San Juan**	**1.45**	**224**	*i*P		**Pn**		**06 33 03.5**	**-0.2**
SJG				*e*S		**Sn**		**06 33 22.3**	**+0.4**
AOPR	**Arecibo Observ**	**1.77**	**243**	*e*S		**Sn**		**06 33 30.3**	**+0.5**
AOPR	**Arecibo Observ**	**1.77**	**243**	*i*P		**Pn**		**06 33 07.8**	**-0.3**
AOPR	**Arecibo Observ**	**1.77**	**243**	*i*P		**Pn**		**06 33 07.8**	**-0.3**
AOPR				*e*S		**Sn**		**06 33 30.3**	**+0.5**
AOPR	**Arecibo Observ**	**1.77**	**243**	*i*P		**Pn**		**06 33 07.8**	**-0.3**
AOPR				*e*S		**Sn**		**06 33 30.3**	**+0.5**
CELP	**Cerrillos**	**1.78**	**232**	*i*P		**Pn**		**06 33 08.4**	**+0.2**
CELP				*e*S		**Sn**		**06 33 29.6**	**-0.4**
CELP	**Cerrillos**	**1.78**	**232**	*i*P		**Pn**		**06 33 08.4**	**+0.2**
OBIP	**Obispado Ponce**	**1.82**	**232**	*e*S		**Sn**		**06 33 31.1**	**+0.1**
OBIP	**Obispado Ponce**	**1.82**	**232**	*i*P		**Pn**		**06 33 08.1**	**-0.7**
OBIP	**Obispado Ponce**	**1.82**	**232**	*e*P		**Pn**		**06 33 08.1**	**-0.7**
OBIP				*e*S		**Sn**		**06 33 31.1**	**+0.1**
OBIP	**Obispado Ponce**	**1.82**	**232**	*e*P		**Pn**		**06 33 08.1**	**-0.7**
OBIP				*e*S		**Sn**		**06 33 31.1**	**+0.1**
LSP	**Las Mesas**	**2.13**	**243**	*e*P		**Pn**		**06 33 13.0**	**0.0**
LSP	**Las Mesas**	**2.13**	**243**	*i*P		**Pn**		**06 33 13.0**	**0.0**
LSP	**Las Mesas**	**2.13**	**243**	*i*P		**Pn**		**06 33 13.0**	**0.0**
CRPR	**Cabo Rojo, PR**	**2.23**	**239**	*e*P		**Pn**		**06 33 14.5**	**+0.1**
CRPR	**Cabo Rojo, PR**	**2.23**	**239**	*e*P		**Pn**		**06 33 14.5**	**+0.1**
CRPR	**Cabo Rojo, PR**	**2.23**	**239**	*i*P		**Pn**		**06 33 14.5**	**+0.1**

NIED ***26*** *06:37:00, 38°.60N×144°.60E, h8km, Mw3.6 Best double couple: M0 2.92000×10^14 NP1:φs=351.00000°, δ34.00000°, λ-121.00000°. NP2:φs=207.00000°, δ61.00000°, λ-71.00000°.*
IDC ***26*** *06:37:48.8±1.3, 38°.46N×144°.88E, h0km, mb3.7/4, mb1 4.0/6, mb1mx3.6/39, mbtmpg3.7/6, ML2.9/2, Error ellipse: s-maj=37.5km s-min=27.6km az=85.0*
ISCJB ***26*** *06:37:51.6±0.7, 38°.71N±0°.04×144°.62E±0°.05, h29km, mb3.7/4, Error ellipse: s-maj=6.2km s-min=5.8km az=159.4*
JMA ***26*** *06:37:53.0±0.2, 38°.65N×144°.57E, h52km, M3.8*
ISC 26 06:37:52.4±1.0, 38°.71N±0°.05×144°.52E±0°.06, h29km, n28, σ2°37/38, mb3.8/4, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
OFUJ	**Ofunato**	**2.26**	**280**	P		**Pb**		**06 38 29.7**	**-2.8**
OFUJ				*e*S		**Sn**		**06 38 56.6**	**+2.0**
MIYJ	**Miyakonagasawa**	**2.27**	**293**	P		**Pb**		**06 38 29.9**	**-2.8**
MIYJ				S		**Sn**		**06 38 56.6**	**+1.6**
JTH	**Tanohata**	**2.40**	**302**	P		**Pb**		**06 38 31.8**	**-3.1**
JTH				S		**Sn**		**06 39 00.5**	**+2.3**
JMK	**Ichinoseki**	**2.59**	**276**	P		**Pb**		**06 38 34.6**	**-3.5**
JMK				*e*S		**Sn**		**06 39 04.8**	**+2.0**
JOM	**Ohasama**	**2.63**	**288**	P		**Pb**		**06 38 35.3**	**-3.5**
JOM				S		**Sn**		**06 39 06.4**	**+2.8**
JANG	**Nango**	**2.86**	**307**	P		**Pb**		**06 38 37.8**	**+1.8**
JANG				S		**Sn**		**06 39 11.3**	**+1.8**
JOU	**Okura**	**3.05**	**265**	P		**Pn**		**06 38 40.2**	**+1.6**
JOU				S		**Sn**		**06 39 16.1**	**+2.0**
JRG	**Rokugo**	**3.11**	**284**	P		**Pn**		**06 38 42.1**	**+2.7**
JRG				S		**Sn**		**06 39 19.1**	**+3.6**
JYK	**Kaneyama**	**3.26**	**275**	P		Pb		06 38 44.5	-5.0
JYK				S		**Sn**		**06 39 22.6**	**+3.2**
JAH	**Hinai**	**3.35**	**297**	S		**Sb**

MBWA	**Marble Bar**	**17.69**	**215**	*e*Pn	**P**	**06 53 24.6**	**+2.4**
CTAO	**Charters Tower**	**20.20**	**132**	*e*P	**P**	**06 53 51.8**	**+2.0**
STKA	**Stephens Creek**	**27.02**	**159**	P	**P**	**06 54 58.7**	**+2.2**
	1.3nm,0.8s,baz=0.0,slow=20,SNR=2.0						
CMAR	**Chiang Mai Arr**	**39.99**	**309**	P	**P**	**06 56 49.0**	**-0.1**
	0.8nm,0.3s,baz=125,slow=7.8,SNR=3.7						
CHTO	**Chiang Mai**	**40.20**	**310**	*e*P	**P**	**06 56 51.0**	**+0.1**
	2.1nm,0.3s						
TARA	**Tarawa**	**43.09**	**81**	*e*P	**P**	**06 57 16.7**	**+2.1**
	4.1nm,0.5s						
SONM	**Songino Array**	**58.41**	**341**	P	**P**	**06 59 09.8**	**+0.2**
	0.4nm,0.5s,baz=140,slow=9.1,SNR=2.4						
MKAR	**Makanchi Array**	**68.33**	**327**	P	**P**	**07 00 15.1**	**0.0**
	0.9nm,0.4s,baz=121,slow=7.8,SNR=11						
VNDA	**Vanda**	**72.59**	**173**	P	**P**	**07 00 41.9**	**+1.3**
	1.2nm,1.0s,baz=316,slow=5.6,SNR=3.8						
KURBB	**Kurchatov Arra**	**72.60**	**328**	P	**P**	**07 00 40.6**	**-0.4**
	0.9nm,0.5s,baz=126,slow=5.1,SNR=8.2						
KURK	**Kurchatov**	**72.61**	**328**	P	**P**	**07 00 40.6**	**-0.4**
BVAR	**Borovoye Array**	**78.16**	**328**	P	**P**	**07 01 12.8**	**-0.1**
	0.4nm,0.4s,baz=137,slow=4.9,SNR=4.1						
ABKAR	**Akbulak array**	**82.66**	**321**	*e*P	**P**	**07 01 36.6**	**-0.5**
	0.3nm,0.4s						
QSPA	**South Pole Qui**	**83.19**	**180**	*e*P	**P**	**07 01 40.7**	**+0.9**
TORD	**Torodi Ar. Bea**	**129.27**	**281**	PKP	**PKPdf**	**07 08 22.5**	**-0.3**
	0.4nm,0.7s,baz=76,slow=2.8,SNR=2.4						
LPAZ	**La Paz**	**150.57**	**141**	PKPbc	**PKPbc**	**07 09 08.7**	**+1.6**
	0.8nm,0.4s,baz=24,slow=5.8,SNR=13						

BUC 26 06:55:05.0±0.4, 45.78N×27.13E, h24km±2km, MD2.4/3, 10C-8D, Error ellipse: s-maj=8.1km s-min=3.4km az=39.0, Romania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ODBI	**Odobesti**	**0.05**	**253**	⇑*i*P	Pb	06 55 09.3	0.0
ODBI	**Odobesti**	**0.05**	**253**	S	Sb	06 55 13.0	+0.8
ODBI	**Odobesti**	**0.05**	**253**	⇑P	Pb	06 55 09.3	0.0
ODBI				*i* S	Sb	06 55 13.0	+0.8
PETR	**Petresti**	**0.09**	**128**	⇓*i*P	Pb	06 55 10.0	+0.5
PETR	**Petresti**	**0.09**	**128**	S	Sb	06 55 14.1	+1.6
PETR	**Petresti**	**0.09**	**128**	⇓*i*P	Pb	06 55 10.0	+0.5
PETR				*i* S	Sb	06 55 14.1	+1.6
VRI	**Vrincioaia**	**0.29**	**288**	⇓*i*P	Pb	06 55 12.2	+0.3
VRI	**Vrincioaia**	**0.29**	**288**	⇓*i*P	Pb	06 55 12.2	+0.3
VRI				*i* S	Sb	06 55 17.0	+0.4
PLOR	**Plostina**	**0.34**	**282**	⇓*i*P	Pb	06 55 13.2	+0.5
PLOR	**Plostina**	**0.34**	**282**	⇓*i*P	Pb	06 55 13.2	+0.5
PLOR				*i* S	Sb	06 55 19.0	+1.1
TESR	**Tescani**	**0.81**	**336**	⇑*i*P	Pn	06 55 21.0	+0.2
TESR	**Tescani**	**0.81**	**336**	⇑*i*P	Pn	06 55 21.0	+0.2
TESR				*i* S	Sn	06 55 32.8	+0.8
MLR	**Muntele Rosu**	**0.88**	**251**	⇓*i*P	Pn	06 55 23.1	+1.2
MLR	**Muntele Rosu**	**0.88**	**251**	⇓*i*P	Pn	06 55 23.1	+1.2
MLR				*i* S	Sn	06 55 35.2	+1.2
CFR	**Carcaliu**	**0.93**	**130**	⇑*i*P	Pn	06 55 22.6	+0.1
CFR	**Carcaliu**	**0.93**	**130**	⇑*i*P	Pn	06 55 22.6	+0.1
CFR				*i* S	Sn	06 55 35.6	+0.6
TLB	**Topalu**	**1.36**	**151**	⇑*i*P	Pn	06 55 28.7	+0.3
TLB	**Topalu**	**1.36**	**151**	⇑*i*P	Pn	06 55 28.7	+0.3
TLB				*i* S	Sb	06 55 47.0	+0.4
TIRR	**Tirgusor**	**1.60**	**145**	⇑*i*P	Pb	06 55 32.9	-1.0
TIRR	**Tirgusor**	**1.60**	**145**	⇑*i*P	Pb	06 55 32.9	-1.0
TIRR				*i* S	Sb	06 55 52.8	-0.9

IDC 26 06:59:21.3±999.0, 51.24N×115.24E, h0km, Error ellipse: s-maj=696.5km s-min=196.4km az=104.0, East of Lake Baykal

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I45RU	**USSURIYSK INFR**	**13.27**	**116**	*i*		08 19 08.3	
	baz=307,slow=318,SNR=5.0						
I30JP	**ISUMI INFRASON**	**24.05**	**122**	*i*		09 28 10.0	
	baz=320,slow=322,SNR=0.5						
I44RU	**PETROPAVLOVSK**	**25.84**	**69**	*i*		09 36 44.5	
	baz=282,slow=310,SNR=0.3						

MEX 26 07:20:49.0±0.7, 18.26N×99.98W, h48km±6km, MD3.8, Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARIG	**Puente Sto Nin**	**0.35**	**274**	*i* P	Pn	07 20 56.9	-1.6
ARIG				*e*S	Sn	07 21 03.8	-1.3
MEIG	**Mezcala**	**0.47**	**134**	*i* P	Pn	07 20 58.7	-1.2
MEIG				*e*S	Sn	07 21 05.4	-2.2
PLIG	**Platanillo**	**0.47**	**73**	*e*P	Pn	07 20 58.2	-1.6
PLIG				*e*S	Sn	07 21 05.8	-1.9
MAVM	**Malinalco, Edo**	**0.84**	**33**	*i* P	Pn	07 21 02.5	-2.2
MAVM				*i* S	Sn	07 21 13.4	-2.7
YAIG	**Yautepec**	**1.06**	**55**	*i* P	Pn	07 21 05.7	-1.9
YAIG				*e*S	Sn	07 21 18.8	-2.5
TOVM	**TOLUCA**	**1.06**	**16**	*i* P	Pn	07 21 06.1	-1.8
TOVM				*i* S	Sn	07 21 19.1	-2.6
MZVM		**1.17**	**37**	*i* P	Pn	07 21 08.2	-0.8
CAIG	**El Cayaco**	**1.23**	**193**	*e*P	Pn	07 21 07.7	-2.1
CAIG				*i* S	Sn	07 21 22.4	-2.9
TLIG	**Tlapa**	**1.51**	**117**	*e*P	Pn	07 21 13.0	-0.8
TLIG				*i* S	Sn	07 21 30.7	-1.7
PPM	**Popocatepetl**	**1.52**	**58**	*i* P	Pn	07 21 12.7	-1.5
PPM				*i* S	Sn	07 21 31.0	-2.0
ZIIG	**Zihuatanejo**	**1.55**	**246**	*i* P	Pn	07 21 13.0	-1.2
ZIIG				*i* S	Sn	07 21 30.8	-2.4
TPIG	**Tehuac#an**	**2.49**	**86**	*i* P	Pn	07 21 26.6	-0.6
TPIG				*i* S	Sn	07 21 54.6	-2.0
PNIG	**Pinotepa**	**2.56**	**136**	*i* P	Pn	07 21 27.2	-0.9
PNIG				*i* S	Sn	07 21 56.3	-1.7

*IDC **26** 07:27:46.9±0.4, 16.75S×173.20W, h0km, mb4.6/16, mb1 4.8/19, mb1mx4.6/36, mbtmp4.6/19, ML4.9/3, MS4.1/22, Ms1 4.1/22, ms1mx4.0/29, Error ellipse: s-maj=21.3km s-min=11.9km az=128.0*

*NEIC **26** 07:27:47.4±2.2, 16.71S×173.32W, h3km±13km, mb5.1/159, Error ellipse: s-maj=5.8km s-min=2.7km az=132.0*

NEIC Felt at Nu'uuli, Pago Pago and Utulei, American Samoa. Also felt at Apia, Samoa.

*GCMT **26** 07:27:47.4±0.1, 16.52S×172.81W, h12km, MW5.4/99, Moment Tensor Solution. s78,c116; s99,c161; Duration: 1ŝ2 Moment tensor: Scale 10^{17}Nm; M_{rr}-0.11±.01; $M_{\theta\theta}$0.25±.01; $M_{\phi\phi}$-0.13±.01; $M_{r\theta}$-0.72±.03; $M_{\theta\phi}$-0.22±.01; $M_{\phi r}$1.45±.03; Best double couple: $M_0$1.65000×10^{17} NP1:ϕ_s153.00000°,δ88.00000°, λ-80.00000°. NP2:ϕ_s255.00000°,δ10.00000°, λ-169.00000°. Principal axes: T 1.6540, Plg42.0000°, Azm234.0000°; N -0.0100, Plg10.0000°, Azm333.0000°; P -1.6460, Plg46.0000°, Azm73.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

*BJI **26** 07:27:50.7, 16.97S×173.54W, h31km, mb4.9/16, mB5.5/12, Ms4.8/9, Ms7 4.5/9*

*ISCJB **26** 07:27:51.3±0.1, 16.75S±0.03×173.32W±0.04, h41km, mb5.0/177, MS4.2/22, Error ellipse: s-maj=6.3km s-min=2.7km az=39.1*

*MOS **26** 07:27:52.1±1.8, 16.85S×173.16W, h39km, mb5.1/46, Error ellipse: s-maj=11.6km s-min=6.9km az=54.1*

ISC 26 07:27:52.6±0.3, 16.85S±0.04×173.13W±0.05, h41km, n648,σ1ŝ19/648, mb5.0/177, **MS4.3**/22, **21C-7D, Tonga Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**3.20**	**24**	Pn	**Pn**	**07 28 38.8**	**-1.6**
	630nm,0.3s,baz=195,slow=1.2,SNR=734						
AFI				Sn	**Sn**	**07 29 11.6**	**-5.8**
	2µm,0.3s,baz=239,slow=22,SNR=12						
AFI				LR	LR	07 29 20.3	
	comp=Z,1µm,19.0s,baz=259,slow=30						
AFI	**Afiamalu**	**3.20**	**24**	*e*Pn	**Pn**	**07 28 38.8**	**-1.6**
AFI				*e*Sn	**Sn**	**07 29 11.0**	**-6.4**
NIUE	**Niue**	**3.77**	**127**	P	**Pn**	**07 28 48.6**	**+0.4**
	baz=3.7,SNR=254						
RAO	**Raoul Island**	**13.11**	**199**	Pn	**Pn**	**07 30 55.5**	**-0.8**
	139nm,0.3s,baz=74,slow=7.0,SNR=8.2						
RAO				Sn	**Sn**	**07 33 12.5**	**-8.2**
	19nm,0.3s,baz=60,slow=20,SNR=4.9						
RAO	**Raoul Island**	**13.11**	**199**	*e*P	**Pn**	**07 30 55.4**	**-0.8**
RAO				*e*		07 33 18.0	
RAO	**Raoul Island**	**13.11**	**199**	*e*Pn	**Pn**	**07 30 55.4**	**-0.8**
RAO				*e*Sn	**Sn**	**07 33 18.0**	**-2.7**
RAR	**Rarotonga**	**13.35**	**111**	Pn	**Pn**	**07 30 58.9**	**-0.7**
	33nm,0.3s,baz=248,slow=4.5,SNR=85						
RAR				Sn	Sn	07 33 17.3	-9.4
	2.0nm,0.3s,baz=29,slow=19,SNR=3.4						
RAR	**Rarotonga**	**13.35**	**111**	*e*Pn	**Pn**	**07 30 59.6**	**0.0**
DZM	**Mont Dzumac**	**19.95**	**252**	P	**P**	**07 32 21.2**	**-0.2**
	1.3nm,0.3s,baz=90,slow=20,SNR=15						
DZM				LR	LR	07 39 02.9	
	comp=Z,2µm,21.4s,baz=76,slow=34						
DZM	**Mont Dzumac**	**19.95**	**252**	*e*P	**P**	**07 32 21.9**	**+0.5**
	180nm,1.6s						
DZM				*e*LQ	LQ	07 36 18.0	
	2µm,32.1s						
DZM				*e*LR	LR	07 37 11.5	
	5µm,27.3s						
DZM	**Mont Dzumac**	**19.95**	**252**	*e*P	**P**	**07 32 20.9**	**-0.5**
	64nm,1.3s						
OUZ	**Omahuta**	**21.80**	**210**	*e*P	**P**	**07 32 42.1**	**+1.0**
	263nm,1.5s						
MXZ	**Matakaoa Point**	**21.98**	**198**	*e*P	**P**	**07 32 43.1**	**+0.1**
	154nm,1.5s						
MXZ	**Matakaoa Point**	**21.98**	**198**	P*	**P**	**07 32 46.8**	**+3.8**
WCZ	**Waipu Caves**	**22.04**	**208**	*e*P*	**P**	**07 32 44.9**	**+1.2**
HAZ	**Te Kaha**	**22.32**	**199**	P*	**P**	**07 32 47.6**	**+0.9**
PUZ	**Puketiti**	**22.46**	**198**	P*	**P**	**07 32 49.8**	**+1.5**
PAE	**Paea**	**22.50**	**96**	*e*T	T	07 56 15.6	
	9.5nm,0.3s						
PPT2	**Papeete2**	**22.50**	**95**	*e*LQ	LQ	07 37 14.2	
	2µm,30.5s						
PPT2				*e*LR	LR	07 37 59.0	
	3µm,28.2s,baz=266						
PPT2	**Papeete2**	**22.50**	**95**	*e*T	T	07 56 17.3	
	14nm,0.3s						
PPT	**Papeete**	**22.51**	**95**	LR	LR	07 39 05.8	
	comp=Z,377nm,19.4s,baz=268,slow=30						
RUGZ	**Raukumara Rang**	**22.54**	**199**	P*	**P**	**07 32 51.3**	**+2.1**
TWGZ	**Tauwhareparae**	**22.64**	**198**	P*	**P**	**07 32 52.1**	**+1.9**
MKAZ	**Moumakai**	**22.68**	**205**	P*	**P**	**07 32 52.2**	**+1.7**
TIAR	**Tiarei**	**22.73**	**95**	*e*T	T	07 56 32.8	
	5.2nm,0.3s						
TVO	**Taravao**	**22.81**	**96**	*e*T	T	07 56 39.6	
	4.2nm,0.3s						
MWZ	**Matawai**	**22.93**	**199**	P*	**P**	**07 32 54.5**	**+1.4**
URZ	**Urewera**	**22.99**	**200**	P	**P**	**07 32 53.5**	**-0.3**
	122nm,0.5s,baz=26,slow=2.4,SNR=102						
URZ				S	**S**	**07 36 54.8**	**-6.5**
	3.9nm,0.5s,baz=59,slow=17,SNR=3.4						
URZ	**Urewera**	**22.99**	**200**	*e*P	**P**	**07 32 54.0**	**+0.3**
URZ				*e*S	**S**	**07 37 06.5**	**+5.2**
URZ	**Urewera**	**22.99**	**200**	P*	**P**	**07 32 52.8**	**-1.0**
TOZ	**Tahuroa Road**	**23.09**	**203**	P*	**P**	**07 32 57.5**	**+2.8**
RTZ	**Ruatahuna**	**23.36**	**200**	P*	**P**	**07 32 58.0**	**+0.5**
NMHZ	**Naumai**	**23.85**	**200**	P*	**P**	**07 33 03.6**	**+1.4**
BKZ	**Black Stump Fm**	**24.02**	**200**	*e*P	**P**	**07 33 04.4**	**+0.7**
	32nm,0.8s						
HIZ	**Hauiti**	**24.02**	**204**	*e*P	**P**	**07 33 05.4**	**+1.8**
	301nm,1.4s						
PMOR	**Pomariorio Ree**	**24.33**	**89**	*e*T	T	07 58 28.0	
	8.8nm,0.2s						
KAHZ	**Kahuranaki**	**24.46**	**199**	P*	**P**	**07 33 10.2**	**+2.4**
VAH	**Vaihoa**	**24.55**	**90**	*e*T	T	07 58 45.9	
	15nm,0.2s						
PXZ	**Pawanui**	**24.68**	**199**	P*	**P**	**07 33 10.9**	**+1.2**
ANWZ	**Angora Road**	**25.20**	**199**	P*	**P**	**07 33 16.8**	**+2.5**
BFZ	**Birch Farm**	**25.47**	**199**	*e*P	**P**	**07 33 17.6**	**+0.8**
	51nm,0.8s						
SNZO	**South Karori**	**26.54**	**201**	*e*P	**P**	**07 33 26.9**	**+0.4**
	91nm,1.3s						
QRZ	**Quartz Range**	**26.92**	**205**	P*	**P**	**07 33 32.2**	**+2.3**
NNZ	**Nelson**	**26.93**	**203**	P*	**P**	**07 33 32.2**	**+2.2**
HNR	**Honiara**	**27.21**	**282**	LR	LR	07 42 51.2	
	comp=Z,1µm,19.9s,baz=114,slow=33						
THZ	**Tophouse**	**27.58**	**203**	*e*P	**P**	**07 33 35.9**	**0.0**
	148nm,1.6s						
THZ	**Tophouse**	**27.58**	**203**	P*	**P**	**07 33 34.9**	**-1.0**
KHZ	**Kahutara**	**27.92**	**201**	*e*P	**P**	**07 33 39.0**	**+0.2**
	29nm,0.6s						
KHZ	**Kahutara**	**27.92**	**201**	P*	**P**	**07 33 40.8**	**+2.0**
LTZ	**Lake Taylor**	**28.70**	**203**	*e*P	**P**	**07 33 45.6**	**-0.2**
	110nm,0.5s						
LTZ	**Lake Taylor**	**28.70**	**203**	P*	**P**	**07 33 48.0**	**+2.1**
INZ	**Inchbonnie**	**28.96**	**204**	P*	**P**	**07 33 47.6**	**-0.6**
OXZ	**Oxford**	**29.25**	**202**	*e*P	**P**	**07 33 50.5**	**-0.2**
	82nm,0.5s						
OXZ	**Oxford**	**29.25**	**202**	P*	**P**	**07 33 49.6**	**-1.1**
WVZ	**Waitaha Valley**	**29.54**	**204**	P*	**P**	**07 33 51.4**	**-1.8**
RPZ	**Rata Peaks**	**29.95**	**203**	P	**P**	**07 33 57.6**	**+0.7**
	9.8nm,0.7s,baz=350,slow=3.9,SNR=5.1						
RPZ	**Rata Peaks**	**29.95**	**203**	*e*P	**P**	**07 33 57.6**	**+0.7**
	135nm,1.3s						
FOZ	**Fox Glacier**	**30.29**	**205**	*e*P	**P**	**07 34 00.4**	**+0.5**
	115nm,1.3s						
LBZ	**Lake Benmore**	**30.86**	**204**	*e*P	**P**	**07 34 05.0**	**+0.1**
	48nm,1.3s						
JCZ	**Jackson Bay**	**31.16**	**206**	P*	**P**	**07 34 06.5**	**-1.1**
ODZ	**Otahua Downs**	**31.24**	**202**	*e*P	**P**	**07 34 10.0**	**+1.7**
	32nm,1.1s						
DCZ	**Deep Cove**	**32.96**	**206**	*e*P	**P**	**07 34 23.8**	**+0.5**
	24nm,0.9s						
WHZ	**Wether Hill Ro**	**32.99**	**205**	*e*P	**P**	**07 34 25.0**	**+1.4**
	37nm,1.0s						
EIDS	**Eidsvold**	**34.37**	**250**	P	**P**	**07 34 34.7**	**-1.2**
	baz=34,SNR=6.8						
EIDS	**Eidsvold**	**34.37**	**250**	*e*P	**P**	**07 34 35.2**	**-0.7**
	65nm,1.9s						
ARMA	**Armidale**	**34.85**	**241**	P	**P**	**07 34 39.5**	**-0.6**
	baz=35,SNR=29						
ARMA	**Armidale**	**34.85**	**241**	*e*P	**P**	**07 34 39.7**	**-0.4**
	21nm,0.6s						
MGCD	**Mangrove Creek**	**36.06**	**236**	P	**P**	**07 34 50.1**	**-0.2**
	baz=36,SNR=5.4						
RKT	**Rikitea**	**36.32**	**106**	*e*S	**S**	**07 40 23.3**	**-7.7**
	191nm,33.8s						
RKT				*e*LQ	LQ	07 43 09.8	
	315nm,32.5s						
RKT				*e*LR	LR	07 44 26.0	
	1µm,30.0s,baz=280						
RKT	**Rikitea**	**36.32**	**106**	*e*T	T	08 13 33.6	
	11nm,0.3s						
CNB	**Canbra Magne**	**38.10**	**234**	P	**P**	**07 35 06.8**	**-0.9**
	baz=38,SNR=16						
CAN	**Canberra**	**38.38**	**234**	*e*P	**P**	**07 35 10.1**	**0.0**
CAN				pmax	pmax		
	comp=Z,39nm,1.3s						
CAN	**Canberra**	**38.38**	**234**	*e*P	**P**	**07 35 10.1**	**0.0**
	comp=Z,39nm,1.3s						
CTA	**Charters Tower**	**38.60**	**259**	P	**P**	**07 35 10.8**	**-1.3**
CTA				pmax	pmax		
	comp=Z,11nm,1.1s						
CTAO	**Charters Tower**	**38.60**	**259**	*e*P	**P**	**07 35 10.6**	**-1.5**
CTAO				pmax	pmax		
	comp=Z,8.0nm,0.8s						
CTAO	**Charters Tower**	**38.60**	**259**	*e*P	**P**	**07 35 10.6**	**-1.5**
	comp=Z,7.7nm,0.8s						
PMG	**Port Moresby**	**39.32**	**276**	⇑*e*P	**P**	**07 35 17.9**	**-0.2**
PMG				pmax	pmax		
	comp=Z,65nm,0.9s						
CMSA	**Cobar Meteorol**	**40.06**	**241**	P	**P**	**07 35 23.1**	**-1.1**
	baz=40,SNR=25						
H11S2	**WAKE ISLAND Hy**	**40.34**	**330**	T	T	08 16 38.5	
	baz=146,slow=76,SNR=9.3						
H11S3	**WAKE ISLAND Hy**	**40.35**	**330**	T	T	08 16 37.4	
	baz=146,slow=76,SNR=10.0						
H11S1	**WAKE ISLAND Hy**	**40.35**	**330**	T	T	08 16 41.0	
	baz=146,slow=76,SNR=10						
MTSU	**Mount Surprise**	**40.55**	**262**	P	**P**	**07 35 26.8**	**-1.5**
	baz=41,SNR=5.1						
QLP	**Quilpie**	**40.62**	**249**	P	**P**	**07 35 27.3**	**-1.5**
	baz=41,SNR=10.0						
KIP	**Kipapa**	**40.82**	**22**	⇓*e*P	**P**	**07 35 32.0**	**+1.7**
H11N3	**WAKE ISLAND Hy**	**41.29**	**331**	T	T	08 19 11.4	
	baz=151,slow=75						
H11N1	**WAKE ISLAND Hy**	**41.30**	**331**	T	T	08 19 09.8	
	baz=151,slow=75						
H11N2	**WAKE ISLAND Hy**	**41.31**	**331**	T	T	08 18 48.7	
	baz=151,slow=75						
TOO	**Toolangi**	**41.77**	**232**	P	**P**	**07 35 37.1**	**-1.1**
	baz=42,SNR=16						
TOO	**Toolangi**	**41.77**	**232**	P	**P**	**07 35 38.8**	**+0.6**
TOO				pmax	pmax		
	comp=Z,16nm,1.0s						
COEN	**Coen**	**42.17**	**268**	P	**P**	**07 35 40.0**	**-1.6**
	baz=42,SNR=17						
STKA	**Stephens Creek**	**43.56**	**241**	P	**P**	**07 35 52.2**	**-0.6**
	comp=Z,14nm,0.5s,baz=87,slow=10.0,SNR=51						
STKA				LR	LR	07 51 18.7	
	comp=Z,440nm,21.2s,baz=61,slow=32						
STKA	**Stephens Creek**	**43.56**	**241**	P	**P**	**07 35 52.1**	**-0.6**
	baz=44,SNR=46						
STKA	**Stephens Creek**	**43.56**	**241**	*e*P	**P**	**07 35 52.1**	**-0.7**
	comp=Z,12nm,1.3s						
ARPS	**Mount Arapiles**	**44.35**	**234**	P	**P**	**07 35 57.8**	**-1.2**
	baz=44,SNR=10						
HTT	**Hallett**	**46.03**	**240**	P	**P**	**07 36 11.8**	**-0.7**
	baz=46,SNR=10						
BBOO	**Buckleboo**	**48.33**	**241**	P	**P**	**07 36 29.2**	**-1.1**
	baz=48,SNR=12						
BBOO	**Buckleboo**	**48.33**	**241**	*e*P	**P**	**07 36 29.2**	**-1.1**
	comp=Z,54nm,1.4s						
WB2	**Warramunga Arr**	**49.77**	**258**	*e*P	**P**	**07 36 39.2**	**-2.3**
WRAB	**Tennant Creek**	**49.78**	**258**	*d*P	**P**	**07 36 39.8**	**-1.8**
WRAB				*e**PP	**pP**	**07 36 50.0**	**-3.3**
WRAB				pmax	pmax		
	comp=Z,60nm,1.5s						
WRAB	**Tennant Creek**	**49.78**	**258**	*e*P	**P**	**07 36 39.3**	**-2.3**
	comp=Z,8.6nm,0.6s						
WR1	**Warramunga Arr**	**49.78**	**258**	*e*P	**P**	**07 36 39.5**	**-2.1**
	comp=Z,11nm,0.6s						
WRA	**Warramunga Arr**	**49.79**	**258**	P	**P**	**07 36 39.5**	**-2.1**
	comp=Z,7.5nm,0.5s,baz=97,slow=7.0,SNR=283						
WRA				LR	LR	07 56 56.1	
	comp=Z,408nm,18.9s,baz=105,slow=35						
AS01	**Alice Springs**	**49.89**	**253**	*e*P	**P**	**07 36 40.4**	**-2.0**
AS31	**Alice Springs**	**49.93**	**253**	*e*P	**P**	**07 36 41.0**	**-1.7**
	comp=Z,40nm,0.5s						
ASAR	**Alice Springs**	**49.93**	**253**	P	**P**	**07 36 41.0**	**-1.7**
	comp=Z,121nm,0.5s,baz=88,slow=8.4,SNR=1698						
ASAR				LR	LR	07 55 41.8	
	comp=Z,380nm,21.8s,baz=90,slow=34						
GUMO	**Guam**	**51.34**	**304**	LR	LR	07 55 27.0	
	comp=Z,46nm,18.9s,baz=147,slow=32						
WRKA	**Warakurna**	**54.96**	**251**	P	**P**	**07 37 18.5**	**-1.6**
	baz=55,SNR=58						
KNRA	**Kununurra**	**55.62**	**262**	P	**P**	**07 37 23.9**	**-0.9**
	baz=56,SNR=5.9						
SBA	**Scott Base**	**61.84**	**185**	*e*P	**P**	**07 38 07.9**	**+0.9**
SBA				pmax	pmax		
	comp=Z,7.0nm,1.0s						
SBA	**Scott Base**	**61.84**	**185**	*e*P	**P**	**07 38 07.9**	**+0.9**
	comp=Z,6.8nm,1.0s						
VNDA	**Vanda**	**61.97**	**186**	P	**P**	**07 38 09.7**	**+1.8**
	comp=Z,3.1nm,1.1s,baz=11,slow=6.0,SNR=8.2						
VNDA	**Vanda**	**61.97**	**186**	*e*P	**P**	**07 38 10.2**	**+2.2**
VNDA				pmax	pmax		
	comp=Z,3.0nm,0.8s						
VNDA	**Vanda**	**61.97**	**186**	*e*P	**P**	**07 38 10.2**	**+2.2**
	comp=Z,2.6nm,0.8s						
MBWA	**Marble Bar**	**63.22**	**254**	*e*P	**P**	**07 38 16.1**	**-1.2**
	comp=Z,34nm,1.3s						
KLBR	**Kellerberrin**	**63.81**	**243**	P	**P**	**07 38 20.2**	**-0.8**
	baz=64,SNR=11						
BLDU	**Ballidu**	**64.78**	**244**	P	**P**	**07 38 26.6**	**-0.8**
	baz=65,SNR=17						
GIRL	**Giralia**	**68.02**	**252**	P	**P**	**07 38 48.8**	**+0.5**
	baz=68,SNR=4.0						
MAJO	**Matsushiro**	**70.21**	**320**	⇑P	**P**	**07 39 01.6**	**+0.2**
MAJO				pmax	pmax		
	comp=Z,28nm,1.1s						
ARVC	**Arvin**	**72.95**	**44**	P	**P**	**07 39 18.5**	**+0.5**
	baz=234						
MWC	**Mount Wilson**	**72.96**	**45**	*e*P	**P**	**07 39 18.5**	**+0.3**
MWC				pmax	pmax		
	comp=Z,18nm,1.3s						
MWC	**Mount Wilson**	**72.96**	**45**	*e*P	**P**	**07 39 18.5**	**+0.3**
	comp=Z,18nm,1.3s						
MURC	**Murrieta**	**73.20**	**46**	P	**P**	**07 39 20.0**	**+0.6**
	baz=236						
VES	**Vestal, Richgr**	**73.20**	**43**	P	**P**	**07 39 19.4**	**0.0**
	baz=234,SNR=9.4						
QSPA	**South Pole Qui**	**73.21**	**180**	*e*P	**P**	**07 39 20.6**	**+1.4**
BFSC	**Mount Baldy Ra**	**73.24**	**45**	P	**P**	**07 39 19.5**	**-0.3**
	baz=236						
EDW2	**Edwards Air Fo**	**73.37**	**45**	P	**P**	**07 39 20.8**	**+0.2**
	baz=235,SNR=7.2						
IKP	**In-Ko-Pah, Jac**	**73.43**	**48**	P	**P**	**07 39 21.4**	**+0.4**
	baz=237						
ISA	**Isabella, Lake**	**73.50**	**44**	P	**P**	**07 39 22.0**	**+0.7**
	baz=235						
CMB	**Columbia Colle**	**73.67**	**41**	*e*P	**P**	**07 39 22.8**	**+0.6**
CMB				pmax	pmax		
	comp=Z,10.0nm,1.1s						
CMB	**Columbia Colle**	**73.67**	**41**	*e*P	**P**	**07 39 22.8**	**+0.6**
	comp=Z,10nm,1.1s						
PFO	**Pinyon Flats O**	**73.71**	**47**	P	**P**	**07 39 22.7**	**+0.1**
	comp=Z,3.2nm,0.8s,baz=221,slow=2.6,SNR=4.1						

baz=237,SNR=6.5
YERR Yerington 74.96 41 eP P 07 39 30.5 +0.6
comp=Z,23nm,1.4s
GRAC Grapevine Rang 75.00 43 P P 07 39 30.5 +0.6
baz=235,SNR=11
FURC Furnace Creek, 75.03 44 P P 07 39 30.4 +0.4
baz=236,SNR=5.3
TUQ Turquoise Moun 75.09 45 P P 07 39 30.9 +0.2
baz=236
SHOC Shoshone, Teco 75.11 45 P P 07 39 31.3 +0.7
baz=236
M04C Macdoel 75.12 37 P P 07 39 31.6 +1.0
baz=231
Y12C Blythe 75.14 47 P P 07 39 32.4 +1.6
baz=238
113A Mohawk Valley, 75.16 49 eP P 07 39 32.6 +1.7
comp=Z,16nm,1.3s
PAHR Pah Rah Range 75.31 40 eP P 07 39 32.3 +0.5
comp=Z,22nm,1.4s
214A Organ Pipe Nat 75.44 50 P P 07 39 33.1 +0.6
baz=239
I03D Drain, OR 75.51 35 P P 07 39 33.8 +1.2
baz=229
PDMCI Parker Dam,Lak 75.71 47 P P 07 39 34.6 +0.6
baz=238,SNR=5.8
K04D Chiloquin, OR 75.71 37 P P 07 39 34.8 +0.9
baz=231
TPNV Topopah Spring 75.71 44 P P 07 39 34.5 +0.4
baz=236,SNR=9.4
TPNV Topopah Spring 75.71 44 eP P 07 39 34.6 +0.4
TPNV pmax pmax
comp=Z,36nm,1.6s
TPNV Topopah Spring 75.71 44 eP P 07 39 34.6 +0.4
comp=Z,36nm,1.6s
J04D Umpqua Nationa 75.90 36 P P 07 39 36.2 +1.0
baz=230
I04A Tendick Farm, 76.09 35 P P 07 39 36.8 +0.8
baz=230
MOD Modoc Plateau 76.09 38 eP P 07 39 36.5 +0.2
comp=Z,33nm,1.4s
SHPR Sheep Range 76.19 45 eP P 07 39 37.7 +0.8
comp=Z,23nm,1.5s
K05A Summer Lake 76.26 37 eP P 07 39 38.2 +0.9
comp=Z,44nm,1.4s
KDAK Kodiak Island 76.28 11 P P 07 39 36.9 +0.2
comp=Z,5.7nm,0.9s,baz=191,slow=4.8,SNR=6.3
KDAK LR LR 08 06 08.6
comp=Z,271nm,21.4s,baz=163,slow=30
KDAK Kodiak Island 76.28 11 eP P 07 39 36.9 +0.2
comp=Z,85nm,1.7s
W13A Hualapai Mount 76.31 46 eP P 07 39 37.8 +0.1
comp=Z,13nm,1.4s
Y14A Wickenburg 76.32 48 eP P 07 39 38.8 +1.2
comp=Z,65nm,1.3s
J05D Fort Rock, OR 76.42 36 P P 07 39 38.9 +0.8
baz=231
G03D McMinnville, O 76.55 34 P P 07 39 39.7 +1.2
baz=229
R11A Troy Canyon, C 76.93 43 P P 07 39 41.6 +0.5
baz=236,SNR=9.6
R11A Troy Canyon, C 76.93 43 eP P 07 39 41.9 +0.8
comp=Z,19nm,1.5s
I05D Terrebonne, OR 77.03 35 P P 07 39 42.6 +1.2
baz=231
BMN Battle Mountai 77.07 40 eP P 07 39 42.5 +0.7
BMN pmax pmax
comp=Z,33nm,1.6s
BMN Battle Mountai 77.07 40 eP P 07 39 42.5 +0.7
comp=Z,33nm,1.6s
TUC Tucson 77.10 50 P P 07 39 43.2 +1.1
baz=240
TUC Tucson 77.10 50 eP P 07 39 43.2 +1.1
TUC pmax pmax
comp=Z,18nm,1.3s
TUC Tucson 77.10 50 eP P 07 39 43.2 +1.1
comp=Z,18nm,1.3s
KSRS Korea Array 77.37 316 LR LR 08 08 40.9
comp=Z,27nm,21.2s,baz=155,slow=32
WVOR Wild Horse Val 77.40 38 eP P 07 39 44.7 +1.1
WVOR pmax pmax
comp=Z,19nm,1.3s
WVOR Wild Horse Val 77.40 38 eP P 07 39 44.7 +1.1
comp=Z,19nm,1.3s
G05D Wamic, OR 77.62 35 P P 07 39 46.0 +1.4
baz=230
X16A Lo Mia Camp, P 77.67 48 eP P 07 39 46.6 +1.2
comp=Z,14nm,1.2s
LCMT Little Creek M 77.76 45 eP P 07 39 46.2 +0.5
comp=Z,17nm,1.4s
319A Douglas 77.77 52 eP P 07 39 46.5 +0.6
comp=Z,14nm,1.0s
CCUT Cedar City 77.97 45 eP P 07 39 50.3 +3.3
comp=Z,6.3nm,1.4s
G06A Carlson Farm, 77.98 35 eP P 07 39 48.0 +1.3
comp=Z,77nm,1.8s
KNB Kanab 78.05 45 eP P 07 39 48.3 +0.9
KNB pmax pmax
comp=Z,41nm,1.7s
KNB Kanab 78.05 45 eP P 07 39 48.3 +0.9
comp=Z,41nm,1.7s
U15A North Rim 78.11 46 eP P 07 39 47.7 -0.1
comp=Z,29nm,1.5s
SZCU Shurtz Canyon 78.18 45 eP P 07 39 49.7 +1.6
comp=Z,30nm,1.5s
MSHR Mys Shultsa 78.22 321 c iP P 07 39 48.4 +0.5
WUAZ Wupatki 78.28 47 P P 07 39 49.7 +1.0
baz=240
WUAZ Wupatki 78.28 47 eP P 07 39 49.2 +0.5
comp=Z,15nm,1.4s
BRLK Bradley Lake 78.45 11 eP P 07 39 48.5 -0.4
comp=Z,18nm,1.2s
D05A Enumclaw 78.51 33 eP P 07 39 50.9 +1.4
comp=Z,61nm,1.4s
HPIG 78.58 57 eP P 07 39 51.0 +0.4
comp=Z,12nm,1.2s
PKCU Pink Cliffs 78.62 45 eP P 07 39 52.9 +2.2
comp=Z,57nm,1.8s
USRK Ussuriysk Ar. 78.69 323 LR LR 08 08 10.1
comp=Z,70nm,21.9s,baz=116,slow=31
RSO Redoubt South 78.78 10 eP P 07 39 50.0 -0.9
SEW Seward 79.04 12 eP P 07 39 52.0 0.0
comp=Z,19nm,1.3s
A04D Lummi Island 79.15 31 P P 07 39 54.2 +1.3
baz=229
B05A Bryant 79.16 32 P P 07 39 53.7 +0.8
baz=229
E07A Sunnyside 79.24 34 eP P 07 39 54.0 +0.4
comp=Z,63nm,1.8s
W18A Petrified Fore 79.24 48 P P 07 39 54.8 +0.8
baz=241
W18A Petrified Fore 79.24 48 eP P 07 39 54.9 +0.9
comp=Z,22nm,1.8s
LTY Liberty 79.25 33 eP P 07 39 54.3 +0.7
comp=Z,31nm,1.8s
MSU Marysvale 79.27 44 eP P 07 39 55.3 +1.2
MSU Marysvale 79.27 44 eP P 07 39 55.3 +1.2
HAWA Hanford 79.31 35 eP P 07 39 54.4 +0.5
comp=Z,45nm,1.5s
ZAIG Zacatecas 79.43 62 eP P 07 39 56.7 +1.2
121A Cookes Peak, D 79.44 51 P P 07 39 56.5 +1.4
baz=242
BMO Blue Mountains 79.62 37 eP P 07 39 56.5 +0.8
BMO pmax pmax
comp=Z,23nm,1.5s
BMO Blue Mountains 79.62 37 eP P 07 39 56.5 +0.8
comp=Z,23nm,1.5s
MFID Camas Ranch 79.64 39 eP P 07 39 56.2 +0.3
comp=Z,20nm,1.4s
DUG Dugway, Tooele 79.74 43 P P 07 39 57.2 +0.7
baz=238
DUG Dugway, Tooele 79.74 43 eP P 07 39 56.9 +0.4
DUG pmax pmax
comp=Z,17nm,1.4s
DUG Dugway, Tooele 79.74 43 eP P 07 39 56.9 +0.4
comp=Z,17nm,1.4s
RC01 Rabbit Creek A 79.90 11 eP P 07 39 56.6 -0.1
comp=Z,59nm,1.6s
BGU Big Grassy Mou 79.99 42 eP P 07 39 59.2 +1.3
comp=Z,35nm,2.0s
D08A Wollman Farm, 80.05 34 eP P 07 39 58.2 +0.3
comp=Z,56nm,1.5s
SUA Susitna One 80.06 11 eP P 07 39 57.4 -0.4
comp=Z,8.6nm,0.6s
NLU North Lily Min 80.09 43 eP P 07 39 59.8 +1.2
comp=Z,6.6nm,1.4s
E09A Wood Farm, Sta 80.14 35 eP P 07 39 59.0 +0.7
comp=Z,38nm,1.5s
GLI Glacier Island 80.23 13 eP P 07 39 58.1 -0.5
comp=Z,48nm,1.4s
TMUT Trail Mountain 80.32 44 eP P 07 40 01.2 +1.3
comp=Z,23nm,1.2s
MDJ Mudanjiang 80.33 322 P P 07 40 00.0 +0.6
MDJ pP pP 07 40 09.5 -2.3
MDJ sP sP 07 40 13.0 -3.4
MDJ PP PP 07 43 00.5 -2.4
MDJ S S 07 50 02.0 -0.1
MDJ SS SS 07 55 14.0 -0.6
MDJ pmax pmax
comp=Z,4.0nm,0.7s
MDJ pmax pmax
comp=Z,41nm,4.2s
MDJ LR LR
comp=Z,140nm,15.3s
MDJ LR LR
comp=Z,170nm,14.8s
F10A Beach Ranch, E 80.33 36 eP P 07 40 00.0 +0.5
comp=Z,23nm,1.3s
MPU Maple Canyon 80.41 43 eP P 07 40 01.0 +0.7
comp=Z,7.9nm,1.1s
PMR Palmer 80.48 11 eP P 07 39 59.5 -0.3
PMR pmax pmax
comp=Z,10.0nm,0.7s
PMR Palmer 80.48 11 eP P 07 39 59.5 -0.3
comp=Z,10nm,0.7s
HLID Hailey 80.58 39 P P 07 40 01.8 +0.8
baz=236
HLID Hailey 80.58 39 eP P 07 40 01.5 +0.4
comp=Z,17nm,1.2s
TT01 Tatalina 80.62 8 eP P 07 40 01.1 +0.6
B08A Colville Reser 80.64 33 eP P 07 40 00.6 -0.4
comp=Z,22nm,1.3s
TTA Tatalina 80.64 8 P P 07 40 02.0 +1.2
SRU San Rafael Swe 80.68 44 eP P 07 40 02.8 +1.1
SRU pmax pmax
comp=Z,14nm,1.2s
SRU San Rafael Swe 80.68 44 eP P 07 40 02.8 +1.1
comp=Z,14nm,1.2s
DIV Divide 80.74 13 eP P 07 40 01.3 0.0
comp=Z,50nm,1.4s
LAZ Ladron 80.78 50 eP P 07 40 03.9 +1.5
LLLB Lillooet 80.80 30 eP P 07 40 02.5 +0.6
comp=Z,32nm,1.4s
JLU Jordanelle 80.84 43 eP P 07 40 03.3 +0.8
comp=Z,8.8nm,1.2s
BMRM Bremner River 80.85 14 eP P 07 40 01.9 -0.1
comp=Z,34nm,1.2s
MNTX Cornudas Mount 80.88 53 P P 07 40 03.7 +1.0
baz=244
MNTX Cornudas Mount 80.88 53 eP P 07 40 03.1 +0.5
comp=Z,17nm,1.4s
TLIG Tlapa 80.98 69 eP P 07 40 05.9 +2.3
comp=Z,30nm,1.5s
CRQM Cirque 81.00 14 eP P 07 40 02.9 0.0
comp=Z,62nm,1.6s
KLU Klutina 81.03 13 eP P 07 40 03.1 +0.2
comp=Z,14nm,1.3s
BNM Barren Site 81.04 50 eP P 07 40 05.1 +1.3
SCM Sheep Creek Mo 81.05 12 eP P 07 40 02.9 -0.1
SCM pmax pmax
comp=Z,14nm,0.8s
SCM Sheep Creek Mo 81.05 12 eP P 07 40 02.9 -0.1
comp=Z,14nm,0.8s
MVCO Mesa Verde 81.13 47 P P 07 40 05.1 +0.8
baz=241
P18A Preston Nutter 81.13 44 eP P 07 40 05.5 +1.2
comp=Z,14nm,1.4s
PV05 Paradox Valley 81.14 46 eP P 07 40 05.3 +1.1
PCA Pinnacle 81.16 16 eP P 07 40 04.2 +0.6
comp=Z,31nm,1.4s
LTX Lajitas 81.20 56 eP P 07 40 04.8 +0.2
LTX Lajitas 81.20 56 eP P 07 40 04.8 +0.2
TX31 Lajitas Ar. Si 81.20 56 eP P 07 40 05.9 +1.3
TXAR Lajitas Array 81.20 56 P P 07 40 04.8 +0.2
comp=Z,6.6nm,1.2s,baz=221,slow=5.0,SNR=29
TXAR LR LR 08 07 34.4
comp=Z,176nm,21.9s,baz=0.0,slow=29
NJ2 Nanjing 81.24 307 eP P 07 40 04.5 -0.1
NJ2 pmax pmax
comp=Z,24nm,0.6s
PV09 Paradox Valley 81.32 46 eP P 07 40 05.6 +0.3
ANMO Albuquerque 81.53 50 P P 07 40 06.9 +0.5
comp=Z,3.0nm,0.9s,baz=221,slow=4.9,SNR=10
ANMO Albuquerque 81.53 50 eP P 07 40 07.2 +0.9
baz=243
ANMO Albuquerque 81.53 50 eP P 07 40 06.8 +0.5
ANMO pmax pmax
comp=Z,20nm,1.5s
ANMO Albuquerque 81.53 50 eP P 07 40 06.8 +0.5
comp=Z,20nm,1.5s
PV01 Paradox Valley 81.53 46 eP P 07 40 06.6 +0.3
CAST Castle Rocks 81.67 9 eP P 07 40 05.2 -1.0
comp=Z,16nm,1.7s
NEW Newport 81.75 34 P P 07 40 06.7 -0.3
comp=Z,3.2nm,1.0s,baz=221,slow=3.1,SNR=5.8
NEW Newport 81.75 34 P P 07 40 06.8 -0.1
baz=233
NEW Newport 81.75 34 eP P 07 40 07.1 +0.1
NEW pmax pmax
comp=Z,23nm,1.5s
NEW Newport 81.75 34 eP P 07 40 07.1 +0.1
comp=Z,23nm,1.5s
KTH Kantishna Hill 81.98 10 eP P 07 40 07.3 -0.6
comp=Z,8.9nm,1.1s
TRF Thorofare Moun 81.99 10 eP P 07 40 07.4 -0.6
comp=Z,18nm,1.2s
SKAG Skagway 82.02 18 eP P 07 40 08.0 0.0
comp=Z,30nm,1.4s
DHY Denali Highway 82.17 12 eP P 07 40 09.0 0.0
comp=Z,13nm,1.3s
RND Reindeer 82.20 11 eP P 07 40 09.3 +0.2
RND pmax pmax
comp=Z,17nm,1.1s
RND Reindeer 82.20 11 eP P 07 40 09.3 +0.2
comp=Z,17nm,1.1s
PAX Paxson 82.45 12 eP P 07 40 10.8 +0.4
PAX pmax pmax
comp=Z,17nm,1.4s
PAX Paxson 82.45 12 eP P 07 40 10.8 +0.4
comp=Z,17nm,1.4s
MCK McKinley 82.49 11 eP P 07 40 10.3 -0.2
MCK pmax pmax
comp=Z,41nm,1.4s
MCK McKinley 82.49 11 eP P 07 40 10.3 -0.2
comp=Z,41nm,1.4s
S22A 4UR Ranch, Cre 82.55 47 P P 07 40 12.6 +0.8
baz=242
S22A 4UR Ranch, Cre 82.55 47 eP P 07 40 12.6 +0.8
comp=Z,35nm,1.3s
DLMT Dillon 82.65 38 eP P 07 40 12.7 +0.8
comp=Z,31nm,1.5s
REDW Red Top Meadow 82.65 41 eP P 07 40 12.8 +0.7
comp=Z,44nm,1.5s
TPAW Teton Pass 82.66 40 eP P 07 40 12.8 +0.6
comp=Z,30nm,1.4s
MSO Missoula 82.68 36 P P 07 40 11.3 -0.6
baz=236
MSO Missoula 82.68 36 eP P 07 40 12.8 +0.8
comp=Z,30nm,1.4s
O20A White River Ci 82.72 44 P P 07 40 12.7 +0.3
baz=241
SNOW Snow King Moun 82.77 41 eP P 07 40 13.2 +0.5
comp=Z,25nm,1.3s
BSMT Bassoo Peak 82.78 35 eP P 07 40 12.3 -0.3
LNIG Linares 82.87 61 eP P 07 40 13.0 -0.4
comp=Z,26nm,1.3s
IMW Indian Meadow 82.88 40 eP P 07 40 13.8 +0.5
comp=Z,37nm,1.5s
MOOW Moose Ponds 82.92 40 eP P 07 40 13.9 +0.5
comp=Z,20nm,1.5s
LOHW Long Hollow 82.94 40 eP P 07 40 13.9 +0.4
comp=Z,18nm,1.3s
DLBC Dease Lake 82.94 21 P P 07 40 11.7 -1.3
comp=Z,3.1nm,0.9s,baz=204,slow=7.4,SNR=5.3
DLBC Dease Lake 82.94 21 eP P 07 40 13.6 +0.6
comp=Z,42nm,1.9s
LRM Limekiln Ridge 82.99 38 eP P 07 40 13.7 -0.1
QLMT Earthquake Lak 83.07 39 eP P 07 40 15.2 +1.1
CHMT Chamberlain Mo 83.12 37 eP P 07 40 13.8 -0.5
WHY Whitehorse 83.12 18 eP P 07 40 14.8 +0.9
comp=Z,19nm,1.3s
SMCO Snowmass 83.12 46 eP P 07 40 15.1 +0.3
comp=Z,55nm,1.7s
YPP Pitchstone Pla 83.15 40 eP P 07 40 16.2 +1.5
BW06 Boulder Array 83.16 42 P P 07 40 15.0 +0.2
baz=240
BW06 Boulder Array 83.16 42 eP P 07 40 14.4 -0.3
comp=Z,28nm,1.4s
PD31 Pinedale Array 83.16 42 eP P 07 40 14.6 -0.1
PDAR Pinedale Array 83.16 42 P P 07 40 14.6 -0.1
comp=Z,3.1nm,0.6s,baz=208,slow=3.5,SNR=35
PDAR LR LR 08 09 53.1
comp=Z,225nm,21.4s,baz=244,slow=30
PDAR Pinedale Array 83.16 42 eP P 07 40 14.2 -0.6
YHB Horse Butte 83.17 39 eP P 07 40 15.6 +0.9
comp=Z,34nm,1.3s
YMR Madison River 83.26 39 eP P 07 40 16.6 +1.4
WRH Wood River Hil 83.32 11 eP P 07 40 14.5 -0.2
comp=Z,44nm,1.4s
DOT Dot Lake 83.35 13 eP P 07 40 14.9 0.0
comp=Z,74nm,1.4s
BOZ Bozeman (W) 83.35 38 P P 07 40 15.9 +0.4
baz=238
BOZ Bozeman (W) 83.35 38 eP P 07 40 16.3 +0.7
BOZ pmax pmax
comp=Z,31nm,1.4s
BOZ Bozeman (W) 83.35 38 eP P 07 40 16.2 +0.7
comp=Z,31nm,1.4s
H17A Grant Village 83.36 40 P P 07 40 16.9 +1.2
baz=239
H17A Grant Village 83.36 40 eP P 07 40 17.3 +1.6
comp=Z,32nm,1.5s
YHH Holmes Hill 83.40 39 eP P 07 40 17.6 +1.6
comp=Z,45nm,1.6s
YNR Norris Junctio 83.46 40 eP P 07 40 17.8 +1.5
SDCO Great Sand Dun 83.49 48 P P 07 40 16.7 +0.1
baz=243
SDCO Great Sand Dun 83.49 48 eP P 07 40 16.8 +0.1
comp=Z,7.4nm,1.0s
CCB Clear Creek Bu 83.53 11 eP P 07 40 15.4 -0.4
comp=Z,30nm,1.4s
LKWY Lake 83.56 40 eP P 07 40 17.2 +0.5
LKWY pmax pmax
comp=Z,22nm,1.1s
LKWY Lake 83.56 40 eP P 07 40 17.2 +0.5
comp=Z,22nm,1.1s
COLA College 83.73 11 i P P 07 40 16.7 -0.1
COLA eAP pP 07 40 27.3 -1.9
COLA pmax pmax
comp=Z,10.0nm,1.0s
MDM Murphy Dome 83.74 10 eP P 07 40 17.1 +0.2
comp=Z,34nm,1.4s
832A Faith Ranch, C 83.74 58 P P 07 40 17.8 0.0
baz=247
ILAR Eielson Array 83.81 11 P P 07 40 16.6 -0.5
comp=Z,1.6nm,0.6s,baz=230,slow=6.2,SNR=18
ILAR LR LR 08 10 26.8
comp=Z,52nm,21.4s,baz=202,slow=31
ILB Eielson Array 83.81 11 eP P 07 40 16.8 -0.5
IL1 Eielson Array 83.81 11 eP P 07 40 16.0 -1.2
HRY Holter Researc 83.83 37 eP P 07 40 18.3 +0.4
MSTX Muleshoe 83.83 52 P P 07 40 18.3 +0.1
baz=245
MSTX Muleshoe 83.83 52 eP P 07 40 18.5 +0.3
comp=Z,38nm,1.3s
IMAR Indian Mountai 83.86 8 eP P 07 40 17.8 +0.3
SEY Seymchan 83.98 345 i iP P 07 40 18.2 +0.1
T25A Trinidad 83.99 48 P P 07 40 19.2 +0.1
baz=244
T25A Trinidad 83.99 48 eP P 07 40 19.7 +0.6
comp=Z,6.0nm,1.0s
933A Laredo 84.06 59 P P 07 40 19.5 +0.1
baz=248
RWWY Rawlins 84.15 43 eP P 07 40 19.5 -0.3
comp=Z,26nm,1.1s
833A Chaparral WMA, 84.23 58 P P 07 40 20.6 +0.4
baz=248
Q24A Divide 84.29 47 P P 07 40 21.2 +0.5
baz=243
034A Hebbronville 84.34 60 P P 07 40 21.4 +0.6
baz=248
ISCO Idaho Springs 84.34 46 P P 07 40 21.8 +0.9
baz=243
ISCO Idaho Springs 84.34 46 eP P 07 40 21.8 +0.9
ISCO pmax pmax
comp=Z,16nm,1.8s
ISCO Idaho Springs 84.34 46 eP P 07 40 21.8 +0.9
comp=Z,16nm,1.8s
RLMT Red Lodge 84.53 40 P P 07 40 22.4 +0.7
baz=240
RLMT Red Lodge 84.53 40 eP P 07 40 22.4 +0.7
comp=Z,18nm,1.2s
N23A Red Feather La 84.62 45 P P 07 40 22.9 +0.6
baz=242
N23A Red Feather La 84.62 45 eP P 07 40 23.2 +1.0
comp=Z,17nm,1.4s
GCMT Greycliff 84.63 39 eP P 07 40 23.0 +1.0
934A Benavides 84.67 59 P P 07 40 22.8 +0.4
baz=248
DAWY Dawson 84.75 14 eP P 07 40 22.3 +0.2
comp=Z,33nm,1.4s
035A Encino 84.77 60 P P 07 40 22.8 -0.1
baz=248
633A Seathoff Ranch 84.84 57 P P 07 40 23.8 +0.5
baz=248
834A Tilden 84.84 59 P P 07 40 23.3 0.0
baz=248
EGAK Eagle 84.96 13 eP P 07 40 23.7 +0.6
comp=Z,29nm,1.4s
AMTX Amarillo 85.03 51 P P 07 40 24.0 -0.3
baz=246
AMTX Amarillo 85.03 51 eP P 07 40 24.1 -0.1
comp=Z,29nm,1.4s
K22A Casper 85.06 43 P P 07 40 24.4 +0.1
baz=242
K22A Casper 85.06 43 eP P 07 40 24.3 0.0
comp=Z,21nm,1.4s
PHWY Pilot Hill 85.14 44 eP P 07 40 26.0 +1.1
comp=Z,26nm,1.9s
533A Kerrville 85.18 57 P P 07 40 25.1 +0.1
baz=248
433A Art 85.40 56 P P 07 40 26.0 -0.1
baz=248
COLD Coldfoot 85.52 9 eP P 07 40 27.1 +1.2
comp=Z,20nm,1.5s
534A Blanco 85.62 57 P P 07 40 27.2 0.0
baz=248
ABTX Abilene, Hawle 85.69 54 P P 07 40 27.2 -0.2
baz=247
ABTX Abilene, Hawle 85.69 54 eP P 07 40 27.8 +0.3
comp=Z,57nm,1.4s
333A Richland Sprin 85.70 56 P P 07 40 27.5 -0.1
baz=248
EGMT Eagleton 85.72 37 P P 07 40 26.9 -0.5
baz=239
EGMT Eagleton 85.72 37 eP P 07 40 28.6 +1.3
comp=Z,31nm,1.2s
233A Rising Star 86.03 55 P P 07 40 29.3 +0.1
baz=248
434A Burnet 86.08 56 P P 07 40 29.3 -0.2
baz=248
334A Lometa 86.30 56 P P 07 40 30.5 0.0
baz=248
736A Circle Diamond 86.36 58 P P 07 40 31.9 +1.1
baz=249
MAW Mawson 86.51 199 P P 07 40 31.8 +0.9
comp=Z,2.8nm,0.8s,baz=138,slow=6.0,SNR=7.8
MAW LR LR 08 19 24.2
comp=Z,114nm,18.1s,baz=64,slow=36
MAW Mawson 86.51 199 eP P 07 40 32.0 +1.1
comp=Z,1.2nm,1.0s
636A Smothers Creek 86.56 58 P P 07 40 33.2 +1.4
baz=249
234A Clairette 86.63 55 P P 07 40 32.2 +0.1
baz=248
335A Moody 86.92 56 P P 07 40 34.0 +0.5
baz=248
LAO LASA Array 87.15 39 P P 07 40 35.6 +1.2
baz=242
WHTX Lake Whitney, 87.16 56 P P 07 40 35.0 +0.4
baz=248
WHTX Lake Whitney, 87.16 56 eP P 07 40 35.3 +0.7
comp=Z,85nm,2.0s
RSSD Black Hills 87.34 42 P P 07 40 35.3 -0.3
baz=244
RSSD Black Hills 87.34 42 eP P 07 40 35.5 -0.1
RSSD pmax pmax
comp=Z,13nm,1.5s
RSSD Black Hills 87.34 42 eP P 07 40 35.5 -0.1
comp=Z,13nm,1.5s
336A Riesel 87.42 56 P P 07 40 36.4 +0.5
baz=249
CBKS Cedar Bluff 88.05 49 P P 07 40 40.2 +1.4
baz=247

136A	**Ennis**	**88.07**	**55**	P	**P**	**07 40 39.2**	**+0.2**	
	baz=249							
Y35A	**Marietta**	**88.19**	**54**	P	**P**	**07 40 40.0**	**+0.5**	
	baz=248							
438A	**Sam Houston St**	**88.29**	**57**	P	**P**	**07 40 40.7**	**+0.6**	
	baz=249							
PLCA	**Paso Flores**	**88.35**	**132**	P	**P**	**07 40 42.0**	**+1.5**	
	comp=Z,2.6nm,0.8s,baz=259,slow=5.4,SNR=6.8							
PLCA				LR	LR	08 13 11.2		
	comp=Z,32nm,20.8s,baz=322,slow=31							
PLCA	**Paso Flores**	**88.35**	**132**	P	**P**	**07 40 42.0**	**+1.5**	
PLCA				pmax	pmax			
	comp=Z,3.0nm,0.8s							
PLCA	**Paso Flores**	**88.35**	**132**	*eP*	**P**	**07 40 42.0**	**+1.5**	
	comp=Z,15nm,1.4s							
Z36A	**Blue Ridge**	**88.43**	**55**	P	**P**	**07 40 41.0**	**+0.3**	
	baz=249							
237A	**Washetta, Mont**	**88.47**	**56**	P	**P**	**07 40 41.6**	**+0.7**	
	baz=249							
Y36A	**Durant**	**88.77**	**54**	P	**P**	**07 40 42.9**	**+0.6**	
	baz=249							
W35A	**Tecumseh**	**88.77**	**53**	P	**P**	**07 40 42.3**	**0.0**	
	baz=249							
GYA	**Guiyang**	**88.95**	**298**	*eP*	**P**	**07 40 42.5**	**-1.0**	
GYA				pP	pP	07 40 54.3	-1.7	
GYA				PP	**PP**	**07 44 15.8**	**+2.1**	
GYA				SKS	**SKSac**	**07 51 07.0**	**-3.4**	
GYA				S	**S**	**07 51 26.5**	**-2.5**	
GYA				sS	pS	07 51 42.5	-2.4	
GYA				pmax	pmax			
	comp=Z,10.0nm,1.0s							
X36A	**Centrahoma**	**88.96**	**53**	P	**P**	**07 40 44.5**	**+1.4**	
	baz=249							
DGMT	**Dagmar**	**89.19**	**38**	P	**P**	**07 40 44.6**	**+0.6**	
	baz=243							
T34A	**McClaskey Farm**	**89.22**	**51**	P	**P**	**07 40 45.5**	**+1.1**	
	baz=248							
W36A	**Wetumka**	**89.26**	**53**	P	**P**	**07 40 44.9**	**+0.3**	
	baz=249							
138A	**Matatall Enter**	**89.27**	**56**	P	**P**	**07 40 45.4**	**+0.7**	
	baz=250							
INK	**Inuvik**	**89.60**	**14**	P	**P**	**07 40 46.0**	**+0.6**	
	comp=Z,3.1nm,0.9s,baz=244,slow=4.6,SNR=4.2							
INK	**Inuvik**	**89.60**	**14**	P	**P**	**07 40 46.0**	**+0.6**	
INK				pmax	pmax			
	comp=Z,3.0nm,1.0s							
INK	**Inuvik**	**89.60**	**14**	*eP*	**P**	**07 40 46.0**	**+0.6**	
	comp=Z,15nm,1.3s							
T35A	**Sooner Cattle**	**89.69**	**51**	P	**P**	**07 40 47.0**	**+0.4**	
	baz=249							
X37A	**Clayton**	**89.72**	**54**	P	**P**	**07 40 48.3**	**+1.6**	
	baz=249							
340A	**Bronson**	**89.80**	**57**	P	**P**	**07 40 47.7**	**+0.5**	
	baz=250							
X38A	**Whitesboro**	**90.17**	**54**	P	**P**	**07 40 48.9**	**+0.1**	
	baz=250							
HHC	**Hu-ho-hao-te**	**90.20**	**313**	*eP*	**P**	**07 40 49.3**	**+0.3**	
HHC				sP	pP	07 41 03.5	+2.0	
HHC				PP	**PP**	**07 44 26.5**	**+3.2**	
HHC				SKS	**SKSac**	**07 51 15.8**	**-1.2**	
HHC				S	**S**	**07 51 40.5**	**+0.5**	
HHC				SS	**SS**	**07 57 42.0**	**+1.7**	
HHC				pmax	pmax			
	comp=Z,10.0nm,1.2s							
HHC				pmax	pmax			
	comp=Z,63nm,5.4s							
HHC				LR	LR			
	comp=Z,170nm,14.9s							
HHC				LR	LR			
	comp=Z,130nm,13.7s							
V37A	**Hulbert**	**90.35**	**53**	P	**P**	**07 40 49.8**	**+0.1**	
	baz=250							
YAK	**Yakutsk**	**90.54**	**337**	LR	LR	08 13 44.6		
	comp=Z,131nm,21.8s,baz=2.0,slow=30							
Q35A	**Mercer Eighty,**	**90.74**	**50**	P	**P**	**07 40 51.3**	**-0.2**	
	baz=249							
T37A	**Cheneyville 18**	**90.95**	**51**	P	**P**	**07 40 52.9**	**+0.4**	
	baz=250							
342A	**Flagon Creek P**	**91.05**	**58**	P	**P**	**07 40 53.7**	**+0.7**	
	baz=251							
SYO	**Syowa Base**	**91.24**	**191**	⇑*eX*	P	07 40 47.8	-5.4	
YKA	**Yellowknife Ar**	**91.31**	**23**	P	**P**	**07 40 54.1**	**+0.6**	
	comp=Z,3.2nm,0.9s,baz=162,slow=35,SNR=3.9							
YKB5	**Yellowknife Ar**	**91.31**	**23**	*eP*	**P**	**07 40 54.1**	**+0.6**	
T38A	**Diamond**	**91.39**	**52**	P	**P**	**07 40 55.2**	**+0.7**	
	baz=250							
VNA3	**Neumayer Olymp**	**91.40**	**175**	P	**P**	**07 40 55.0**	**+1.1**	
SNAA	**Sanae**	**91.46**	**177**	P	**P**	**07 40 55.0**	**+0.7**	
SNAA	**Sanae**	**91.46**	**177**	*eP*	**P**	**07 40 55.4**	**+1.1**	
SNAA				pmax	pmax			
	comp=Z,6.0nm,1.2s							
SNAA	**Sanae**	**91.46**	**177**	*eP*	**P**	**07 40 55.4**	**+1.1**	
	comp=Z,6.1nm,1.2s							
V39A	**Pettigrew**	**91.48**	**53**	P	**P**	**07 40 55.2**	**+0.2**	
	baz=250							
Y41A	**Eaglette Beard**	**91.64**	**55**	P	**P**	**07 40 56.2**	**+0.5**	
	baz=251							
W40A	**Ferguson Farm,**	**91.71**	**54**	P	**P**	**07 40 56.3**	**+0.3**	
	baz=251							
U39A	**Green Forest**	**91.79**	**53**	P	**P**	**07 40 57.0**	**+0.6**	
	baz=250							
S38A	**Stockton**	**91.88**	**51**	P	**P**	**07 40 58.1**	**+1.3**	
	baz=250							
KMI	**Kunming**	**91.89**	**296**	P	**P**	**07 40 57.5**	**+0.2**	
KMI				pmax	pmax			
	comp=Z,20nm,0.7s							
VNA2	**Neumayer--Watz**	**91.90**	**175**	P	**P**	**07 40 57.6**	**+1.3**	
	baz=178,slow=3.4							
R38A	**Fenwick Farm,**	**92.07**	**51**	P	**P**	**07 40 58.1**	**+0.4**	
	baz=250							
T39A	**Clever**	**92.08**	**52**	P	**P**	**07 40 57.8**	**+0.2**	
	baz=251							
ECSD	**EROS Data Cent**	**92.09**	**45**	P	**P**	**07 40 58.5**	**+0.9**	
	baz=249							
ECSD	**EROS Data Cent**	**92.09**	**45**	*eP*	**P**	**07 40 57.5**	**-0.1**	
	comp=Z,10nm,1.4s							
VNA1	**Neumayer--Stat**	**92.09**	**175**	P	**P**	**07 40 58.5**	**+1.4**	
V40A	**Witts Springs**	**92.10**	**53**	P	**P**	**07 40 58.2**	**+0.3**	
	baz=251							
P37A	**Lathrop**	**92.22**	**49**	P	**P**	**07 40 58.2**	**0.0**	
	baz=250							
U40A	**Yellville**	**92.26**	**53**	P	**P**	**07 40 58.7**	**+0.1**	
	baz=251							
W41B	**Gary Mavity, V**	**92.34**	**54**	P	**P**	**07 40 59.4**	**+0.5**	
	baz=251							
S39A	**Bolivar**	**92.34**	**51**	P	**P**	**07 40 58.8**	**-0.1**	
	baz=251							
WHAR	**Wooly Hollow**	**92.34**	**54**	*eP*	**P**	**07 41 00.2**	**+1.3**	
	comp=Z,31nm,1.4s							
Q38A	**Cooks Store, C**	**92.55**	**50**	P	**P**	**07 40 59.4**	**-0.3**	
	baz=251							
V41A	**Mountainview**	**92.61**	**53**	P	**P**	**07 41 00.7**	**+0.5**	
	baz=251							
R39A	**Chumby, Stover**	**92.76**	**51**	P	**P**	**07 41 01.0**	**+0.2**	
	baz=251							
T40A	**Mansfield**	**92.77**	**52**	P	**P**	**07 41 01.7**	**+0.8**	
	baz=251							
CD2	**Chengdu**	**92.78**	**301**	*eP*	**P**	**07 41 01.0**	**-0.1**	
CD2				pP	pP	07 41 11.3	-2.4	
CD2				pmax	pmax			
	comp=Z,10.0nm,0.8s							
S40A	**Lebanon**	**92.93**	**52**	P	**P**	**07 41 02.1**	**+0.5**	
	baz=251							
U41A	**Viola**	**92.97**	**53**	P	**P**	**07 41 01.4**	**-0.4**	
	baz=251							
Q39A	**Willow Grove F**	**93.05**	**50**	P	**P**	**07 41 02.3**	**+0.3**	
	baz=251							
F33A	**5 Mile Ranch,**	**93.06**	**43**	P	**P**	**07 41 02.6**	**+0.6**	
	baz=249							
B31A	**Greenbush Farm**	**93.14**	**40**	P	**P**	**07 41 02.6**	**+0.3**	
	baz=248							
K36A	**Gilmore City**	**93.19**	**46**	P	**P**	**07 41 03.4**	**+0.7**	
	baz=250							
V42A	**Cord**	**93.20**	**54**	P	**P**	**07 41 03.2**	**+0.4**	
	baz=252							
T41A	**Mountain View**	**93.31**	**52**	P	**P**	**07 41 03.7**	**+0.4**	
	baz=252							
CMAR	**Chiang Mai Arr**	**93.32**	**288**	P	**P**	**07 41 06.0**	**+2.2**	
	comp=Z,1.9nm,0.4s,baz=128,slow=3.8,SNR=7.4							
R40A	**Maddies Statio**	**93.33**	**51**	P	**P**	**07 41 03.3**	**-0.1**	
	baz=251							
P39B	**Salisbury**	**93.35**	**50**	P	**P**	**07 41 03.6**	**+0.1**	
	baz=251							
U42A	**Revenden**	**93.49**	**53**	P	**P**	**07 41 04.3**	**+0.1**	
	baz=252							
S41A	**Jilco Farms,**	**93.49**	**52**	P	**P**	**07 41 04.2**	**0.0**	
	baz=252							

J36A	**Seneca 1, Swea**	**93.50**	**46**	P	**P**	**07 41 04.0**	**0.0**	
	baz=250							
L37A	**Phoenix Point,**	**93.50**	**47**	P	**P**	**07 41 03.9**	**-0.2**	
	baz=251							
M38A	**Pleasantville**	**93.66**	**48**	P	**P**	**07 41 04.2**	**-0.6**	
	baz=251							
Q40A	**Laux Farm, Aux**	**93.69**	**50**	P	**P**	**07 41 04.9**	**-0.2**	
	baz=251							
K37A	**Belmond**	**93.80**	**47**	P	**P**	**07 41 04.8**	**-0.7**	
	baz=251							
B32A	**Ashes, Strandq**	**93.83**	**41**	P	**P**	**07 41 05.0**	**-0.4**	
	baz=249							
P40A	**Paris**	**93.88**	**50**	P	**P**	**07 41 05.3**	**-0.6**	
	baz=252							
N39A	**Derby Farms, D**	**93.98**	**49**	P	**P**	**07 41 06.3**	**-0.1**	
	baz=251							
R41A	**Rosebud**	**93.99**	**51**	P	**P**	**07 41 06.1**	**-0.4**	
	baz=252							
J37A	**Redenius Farm,**	**94.03**	**46**	P	**P**	**07 41 05.6**	**-0.9**	
	baz=251							
A32A	**Rocking H Ranc**	**94.04**	**40**	P	**P**	**07 41 05.6**	**-0.9**	
	baz=249							
AGMN	**Agassiz Nation**	**94.21**	**41**	P	**P**	**07 41 06.7**	**-0.5**	
	baz=250							
S42A	**Caledonia**	**94.27**	**52**	P	**P**	**07 41 07.8**	**0.0**	
	baz=252							
LZH	**Lanzhou**	**94.29**	**306**	*eP*	**P**	**07 41 07.5**	**-0.6**	
LZH				pP	pP	07 41 18.3	-2.4	
LZH				sP	sP	07 41 21.8	-3.5	
LZH				pmax	pmax			
	comp=Z,23nm,1.0s							
K38A	**Parkersburg**	**94.36**	**47**	P	**P**	**07 41 07.6**	**-0.4**	
	baz=251							
I37A	**Lemond, Waseca**	**94.37**	**45**	P	**P**	**07 41 07.6**	**-0.4**	
	baz=251							
M39A	**Webster**	**94.41**	**48**	P	**P**	**07 41 07.8**	**-0.5**	
	baz=252							
T43A	**Greenville**	**94.44**	**53**	P	**P**	**07 41 07.8**	**-0.8**	
	baz=252							
Y46A	**Houston**	**94.60**	**56**	P	**P**	**07 41 08.7**	**-0.7**	
	baz=253							
P41A	**Barry, Barry**	**94.65**	**50**	P	**P**	**07 41 08.8**	**-0.6**	
	baz=252							
147A	**Livingston**	**94.72**	**57**	P	**P**	**07 41 08.6**	**-1.3**	
	baz=253							
A33A	**Warroad**	**94.73**	**40**	P	**P**	**07 41 09.3**	**-0.3**	
	baz=250							
L39A	**Vinton**	**94.74**	**48**	P	**P**	**07 41 08.3**	**-1.5**	
	baz=252							
S43A	**Fulton Ridge,**	**94.75**	**52**	P	**P**	**07 41 08.2**	**-1.8**	
	baz=253							
Q42A	**Golden Eagle**	**94.81**	**51**	P	**P**	**07 41 08.6**	**-1.6**	
	baz=252							
M40A	**Post Highland**	**94.86**	**48**	P	**P**	**07 41 09.5**	**-0.8**	
	baz=252							
ULM	**Lac du Bonnet**	**94.89**	**39**	LR	LR	08 16 54.0		
	comp=Z,435nm,22.0s,baz=268,slow=31							
F36A	**Milaca**	**94.89**	**44**	P	**P**	**07 41 09.3**	**-1.1**	
	baz=251							
O41A	**Passleys Farm,**	**94.92**	**50**	P	**P**	**07 41 09.4**	**-1.2**	
	baz=252							
I38A	**Scanlan Farm,**	**95.11**	**46**	P	**P**	**07 41 10.2**	**-1.2**	
	baz=252							
P42A	**Winchester**	**95.15**	**50**	P	**P**	**07 41 10.4**	**-1.4**	
	baz=253							
SPMN	**Marine on St.**	**95.16**	**44**	P	**P**	**07 41 10.7**	**-0.9**	
	baz=252							
C35A	**Jirik Farms, M**	**95.20**	**42**	P	**P**	**07 41 11.3**	**-0.5**	
	baz=251							
L40A	**Anamosa**	**95.27**	**48**	P	**P**	**07 41 11.0**	**-1.2**	
	baz=252							
E36A	**McGregor**	**95.28**	**43**	P	**P**	**07 41 11.7**	**-0.5**	
	baz=251							
Y47A	**UCPARC, Winfie**	**95.41**	**56**	P	**P**	**07 41 11.8**	**-1.2**	
	baz=254							
F37A	**Hinrichs Farm,**	**95.44**	**44**	P	**P**	**07 41 12.1**	**-0.8**	
	baz=252							
D36A	**Goodland**	**95.55**	**42**	P	**P**	**07 41 11.9**	**-1.5**	
	baz=251							
B35A	**Bob, Littlefor**	**95.57**	**41**	P	**P**	**07 41 12.4**	**-1.1**	
	baz=251							
I39A	**Houston**	**95.61**	**46**	P	**P**	**07 41 12.6**	**-1.1**	
	baz=252							
ULN	**Ulaanbaatar**	**95.68**	**318**	⇑*iP*	**P**	**07 41 14.1**	**-0.1**	
G38A	**Ridgeland**	**95.78**	**45**	P	**P**	**07 41 13.8**	**-0.7**	
	baz=252							
S45A	**Carrier Mills**	**95.92**	**53**	P	**P**	**07 41 14.8**	**-0.4**	
	baz=254							
J40A	**Soldiers Grove**	**96.01**	**47**	P	**P**	**07 41 15.0**	**-0.6**	
	baz=253							
D37A	**Cotton**	**96.02**	**43**	P	**P**	**07 41 15.1**	**-0.5**	
	baz=252							
K41A	**Shullsburg**	**96.08**	**47**	P	**P**	**07 41 15.1**	**-0.8**	
	baz=253							
I40A	**Norwalk**	**96.24**	**46**	P	**P**	**07 41 15.6**	**-1.0**	
	baz=253							
TIXI	**Tiksi**	**96.46**	**344**	LR	LR	08 20 58.7		
	comp=Z,27nm,20.1s,baz=191,slow=33							
J41A	**Loganville**	**96.51**	**47**	P	**P**	**07 41 16.9**	**-0.9**	
	baz=253							
F39A	**Loretta**	**96.64**	**44**	P	**P**	**07 41 17.5**	**-0.9**	
	baz=253							
I41A	**Arkdale**	**96.81**	**46**	P	**P**	**07 41 18.3**	**-0.9**	
	baz=253							
E40A	**Wakefield**	**97.47**	**44**	P	**P**	**07 41 21.0**	**-1.1**	
	baz=254							
TLY	**Talaya**	**98.92**	**321**	LR	LR	08 20 33.2		
	comp=Z,43nm,21.3s,baz=114,slow=32							
LPAZ	**La Paz**	**99.07**	**110**	LR	LR	08 18 24.9		
	comp=Z,30nm,21.7s,baz=268,slow=31							
ROSC	**El Rosal**	**99.80**	**88**	LR	LR	08 16 51.9		
	comp=Z,60nm,19.4s,baz=268,slow=30							
KSH	**Kashi**	**116.54**	**306**	*eP*	**PKPdf**	**07 46 33.0**	**+0.4**	
KSH				PP	**PP**	**07 47 45.0**	**+4.8**	
KSH				PKS	**PKSdf**	**07 50 08.3**	**-1.0**	
KSH				SKS	**SKSdf**	**07 53 40.0**	**-1.7**	
KSH				SS	**SS**	**08 03 45.0**	**+1.9**	
KSH				AMB	AMB			
	comp=Z,110nm,4.7s							
KSH				LR	LR			
	comp=Z,72nm,4.8s							
KSH				LR	LR			
	comp=Z,72nm,6.5s							
AAK	**Ala-Archa**	**117.61**	**310**	⇑*i*PKIKP	**PKPdf**	**07 46 35.8**	**+1.2**	
BRVK	**Borovoye**	**119.23**	**322**	⇑*i*PKIKP	**PKPdf**	**07 46 39.1**	**+2.0**	
ARA0	**ARCESS Array S**	**126.07**	**352**	*e*PKPdf	**PKPdf**	**07 46 50.4**	**+0.6**	
ARCES	**ARCESS Array B**	**126.07**	**352**	PKP	**PKPdf**	**07 46 50.4**	**+0.6**	
	comp=Z,2.5nm,0.8s,baz=6.3,slow=9.1,SNR=3.1							
FIA0	**FINESS Array S**	**133.40**	**347**	*e*PKIKP	**PKPdf**	**07 47 04.8**	**+0.9**	
FIA0	**FINESS Array S**	**133.40**	**347**	*e*PKPdf	**PKPdf**	**07 47 04.8**	**+0.9**	
FINES	**FINESS Array B**	**133.40**	**347**	PKP	**PKPdf**	**07 47 04.8**	**+0.9**	
	comp=Z,1.1nm,0.8s,baz=11,slow=2.8,SNR=3.4							
KVAR	**Kislovodsk Arr**	**139.47**	**319**	PKP	**PKPdf**	**07 47 15.8**	**0.0**	
	comp=Z,2.7nm,0.3s,baz=326,slow=11,SNR=2.2							
AKASG	**Malin Array Be**	**141.77**	**337**	PKP	**PKPdf**	**07 47 19.0**	**-0.6**	
	comp=Z,0.4nm,0.3s,baz=60,slow=2.2,SNR=4.0							
OJC	**Ojcow**	**145.12**	**345**	*e*PKIKP	**PKPdf**	**07 47 26.4**	**+0.8**	
OJC	**Ojcow**	**145.12**	**345**	*e*PKPbc	**PKPdf**	**07 47 26.4**	**+0.8**	
KMBO	**Kilima Mbogo**	**145.12**	**242**	PKPbc	**PKPdf**	**07 47 27.9**	**+0.9**	
	comp=Z,8.9nm,0.9s,baz=89,slow=3.5,SNR=13							
KMBO	**Kilima Mbogo**	**145.12**	**242**	*e*PKPbc	**PKPdf**	**07 47 28.7**	**+1.7**	
STHS	**Stebnicka Huta**	**145.48**	**343**	*e*PKIKP	**PKPab**	**07 47 28.5**	**+1.9**	
STHS	**Stebnicka Huta**	**145.48**	**343**	*e*PKP	**PKPab**	**07 47 28.5**	**+1.9**	
BRG	**Berggiesshubel**	**145.59**	**352**	*e*PKP	**PKPab**	**07 47 27.4**	**+0.5**	
	comp=Z,52nm,1.8s							
BRG				*e*		07 47 40.5		
	comp=Z,5.3nm,0.9s							
BRG				*e*		07 47 46.0		
	comp=Z,53nm,2.0s							
BRG	**Berggiesshubel**	**145.59**	**352**	*e*PKP2	**PKPab**	**07 47 27.4**	**+0.5**	
BRG				pmax	pmax			
	comp=Z,52nm,1.8s							
UPC	**Upice**	**145.63**	**350**	*e*PKP	**PKPab**	**07 47 27.9**	**+0.9**	
UPC				*ex*	x	07 47 46.2		
UPC	**Upice**	**145.63**	**350**	*e*PKP2	**PKPab**	**07 47 27.9**	**+0.9**	
BUR08	**Bucovina Ar. S**	**145.78**	**338**	*e*PKPdf	**PKPab**	**07 47 28.3**	**+0.4**	
BURAR	**Bucovina Array**	**145.80**	**338**	⇑*iP*	**PKPab**	**07 47 28.3**	**+0.4**	
BURAR	**Bucovina Array**	**145.80**	**338**	⇑PKP2	**PKPab**	**07 47 28.3**	**+0.4**	
PVCC	**Panska Ves**	**145.84**	**351**	*e*PKP	**PKPab**	**07 47 29.1**	**+1.3**	
PVCC	**Panska Ves**	**145.84**	**351**	*e*PKP2	**PKPab**	**07 47 29.1**	**+1.3**	
OKC	**Ostrava-Krasne**	**145.85**	**347**	*e*PKP	**PKPab**	**07 47 29.4**	**+1.5**	
OKC				*ex*	x	07 47 45.5		
OKC	**Ostrava-Krasne**	**145.85**	**347**	*e*PKP2	**PKPab**	**07 47 29.4**	**+1.5**	
CRVS	**Cervenica-Dubn**	**145.89**	**343**	*e*PKP2	**PKPab**	**07 47 28.7**	**+0.6**	
CRVS	**Cervenica-Dubn**	**145.89**	**343**	*e*PKP	**PKPab**	**07 47 28.7**	**+0.6**	
UZH	**Uzhgorod**	**145.89**	**342**	*e*PKIKP	**PKPdf**	**07 47 26.8**	**-0.1**	
UZH				*e*		07 47 38.2		
MORC	**Moravsky Berou**	**146.04**	**348**	*e*PKP2	**PKPab**	**07 47 30.0**	**+1.3**	
MORC	**Moravsky Berou**	**146.04**	**348**	*e*PKPdf	**PKPab**	**07 47 29.9**	**+1.3**	
TESR	**Tescani**	**146.17**	**335**	⇓*iP*	**PKPab**	**07 47 29.2**	**0.0**	
LANS	**Liptovska Anna**	**146.19**	**345**	*e*PKP2	**PKPab**	**07 47 30.1**	**+0.9**	
LANS	**Liptovska Anna**	**146.19**	**345**	*e*PKP	**PKPab**	**07 47 30.1**	**+0.9**	
PRA	**Prague**	**146.30**	**351**	*e*PKP	**PKPab**	**07 47 30.0**	**+0.4**	
PRA				*ex*	x	07 47 48.6		
PRA	**Prague**	**146.30**	**351**	*e*PKP2	**PKPab**	**07 47 30.0**	**+0.4**	
SNF	**Seneffe**	**146.36**	**3**	PKP	**PKPab**	**07 47 29.5**	**-0.3**	
PRU	**Pruhonice**	**146.37**	**351**	*e*PKP	**PKPab**	**07 47 30.1**	**+0.3**	
PRU				*ex*	x	07 47 47.3		
PRU	**Pruhonice**	**146.37**	**351**	*e*PKP2	**PKPab**	**07 47 30.1**	**+0.3**	
NKC	**Novy Kostel**	**146.39**	**354**	*e*PKP	**PKPab**	**07 47 30.1**	**+0.1**	
NKC	**Novy Kostel**	**146.39**	**354**	*e*PKP2	**PKPab**	**07 47 30.1**	**+0.1**	
GOPC	**GO Pecny, Ondr**	**146.40**	**351**	*e*PKP	**PKPab**	**07 47 30.2**	**+0.2**	
GOPC				*ex*	x	07 47 38.7		
GOPC				*ex*	x	07 47 48.5		
GOPC	**GO Pecny, Ondr**	**146.40**	**351**	*e*PKP2	**PKPab**	**07 47 30.2**	**+0.2**	
BCLA	**Clavier**	**146.49**	**2**	PKP	**PKPab**	**07 47 30.7**	**+0.4**	
KECS	**Kecovo**	**146.54**	**344**	*e*PKP2	**PKPab**	**07 47 31.9**	**+1.3**	
KECS	**Kecovo**	**146.54**	**344**	*e*PKP	**PKPab**	**07 47 31.9**	**+1.3**	
VRI	**Vrincioaia**	**146.66**	**334**	⇑*iP*	**PKPab**	**07 47 30.7**	**-0.4**	
VRI	**Vrincioaia**	**146.66**	**334**	⇑PKP2	**PKPab**	**07 47 30.7**	**-0.4**	
VRAC	**Vranov**	**146.67**	**348**	PKPbc	**PKPab**	**07 47 31.5**	**+0.4**	
	comp=Z,1.9nm,0.4s,baz=70,slow=4.1,SNR=6.1							
DOU	**Dourbes**	**146.78**	**3**	PKP	**PKPab**	**07 47 31.2**	**-0.2**	
VYHS	**Vyhne**	**146.95**	**345**	*e*PKP2	**PKPab**	**07 47 31.9**	**-0.3**	
VYHS	**Vyhne**	**146.95**	**345**	*e*PKP	**PKPab**	**07 47 31.9**	**-0.3**	
VYHS				*e*		07 47 50.0		
MLR	**Muntele Rosu**	**147.28**	**335**	PKPbc	**PKPbc**	**07 47 32.7**	**+0.8**	
	comp=Z,0.7nm,0.8s,baz=299,slow=6.6,SNR=3.6							
MLR	**Muntele Rosu**	**147.28**	**335**	⇑*iP*	**PKPab**	**07 47 32.9**	**-0.8**	
KHC	**Kasperske Hory**	**147.34**	**352**	*e*PKP	**PKPab**	**07 47 33.1**	**-0.6**	
KHC	**Kasperske Hory**	**147.34**	**352**	*e*PKP2	**PKPab**	**07 47 33.1**	**-0.6**	
DRGR		**147.38**	**340**	⇓*iP*	**PKPab**	**07 47 34.8**	**+0.8**	
DRGR		**147.38**	**340**	⇓PKP2	**PKPab**	**07 47 34.8**	**+0.8**	
BR101	**Keskin Array S**	**147.43**	**320**	*e*PKPbc	**PKPbc**	**07 47 33.0**	**+0.4**	
BRTR	**Keskin Array B**	**147.43**	**320**	PKPbc	**PKPbc**	**07 47 33.0**	**+0.4**	
	comp=Z,4.1nm,1.0s,baz=101,slow=2.5,SNR=12							
BRTR	**Keskin Array B**	**147.43**	**320**	PKP2	**PKPbc**	**07 47 33.0**	**+0.4**	
BRTR				pmax	pmax			
	comp=Z,4.0nm,1.0s							
GEC2	**GERESS Array S**	**147.60**	**352**	*e*PKP2	**PKPbc**	**07 47 32.4**	**-0.3**	
GEC2	**GERESS Array S**	**147.60**	**352**	*e*PKPbc	**PKPbc**	**07 47 32.4**	**-0.3**	
GERES	**GERESS Array B**	**147.60**	**352**	PKPbc	**PKPbc**	**07 47 33.1**	**+0.4**	
	comp=Z,1.2nm,0.6s,baz=50,slow=8.8,SNR=11							
VOIR		**147.69**	**336**	⇑*iP*	**PKPab**	**07 47 34.6**	**-0.7**	
VOIR		**147.69**	**336**	⇑PKP2	**PKPab**	**07 47 34.6**	**-0.7**	
BR231	**Keskin MP Arra**	**147.89**	**321**	*e*PKPdf	**PKPdf**	**07 47 30.4**	**-0.3**	
BR231				*e*PKPbc	**PKPbc**	**07 47 33.4**	**-0.4**	
ARR	**Arges**	**147.91**	**336**	⇑*iP*	**PKPbc**	**07 47 33.6**	**0.0**	
CONA	**Conrad Observa**	**148.13**	**349**	*es*PKPbc	**PKPbc**	**07 47 35.1**	**+1.0**	
	comp=Z,24nm,1.6s							
MOA	**Molln**	**148.49**	**350**	*e*PKiKP	**PKiKP**	**07 47 36.6**	**+0.1**	
	comp=Z,9.9nm,1.4s							
GZR	**Gura Zlata**	**148.57**	**338**	⇑*iP*	**PKPbc**	**07 47 36.1**	**+0.8**	
GZR	**Gura Zlata**	**148.57**	**338**	⇑PKIKP	**PKPbc**	**07 47 36.1**	**+0.8**	
BFO	**Black Forest**	**148.58**	**358**	*i* PKP2	**PKPbc**	**07 47 36.7**	**+1.5**	
BFO	**Black Forest**	**148.58**	**358**	*e*PKPbc	**PKPbc**	**07 47 36.2**	**+1.1**	
BZS	**Buzias**	**148.78**	**340**	⇑*iP*	**PKPbc**	**07 47 36.1**	**+0.4**	
BZS	**Buzias**	**148.78**	**340**	⇑PKP2	**PKPbc**	**07 47 36.1**	**+0.4**	
ASF	**Jabal al Asfar**	**148.85**	**305**	PKPbc	**PKPbc**	**07 47 37.4**	**+0.9**	
	comp=Z,2.6nm,0.4s,baz=59,slow=2.8,SNR=13							
ARSA	**Arzberg**	**148.85**	**349**	*e*PKiKP	**PKiKP**	**07 47 37.3**	**0.0**	
	comp=Z,7.6nm,1.1s							
RETA	**Reutte**	**149.28**	**355

65nm,0.3s,baz=215,slow=15,SNR=154
ASAJ Sn Sg 07 50 18.6 -0.6
baz=142,slow=19
ASAJ Asahikawa 1.92 358 *e*Pn **Pn** 07 49 49.7 0.0
ASAJ *e*Sn **Sn** 07 50 14.3 +0.5
YUK Yuzh-Kuril'sk 2.97 51 *e*PN **Pn** 07 50 05.2 +1.0
YUK *e*S **Sn** 07 50 42.5 +2.9
YUK pmax pmax
comp=Z,211nm,0.5s
YUK pmax pmax
comp=N,57nm,0.7s
YUK smax smax
comp=N,956nm,0.6s
YUK smax smax
comp=E,401nm,0.5s
YUK MLR MLR
comp=Z,2μm,9.0s
SHO Shikotan 3.48 60 *e*PN **Pn** 07 50 11.3 +0.2
SHO *e*S **Sn** 07 50 51.9 -0.2
SHO pmax pmax
comp=E,61nm,0.5s
SHO pmax pmax
comp=Z,64nm,0.5s
SHO pmax pmax
comp=N,61nm,0.6s
SHO smax smax
comp=E,564nm,0.6s
SHO smax smax
comp=N,702nm,0.5s
YSS Yuzh-Sakhalins 4.76 1 *e*PN **Pn** 07 50 33.5 +4.8
YSS *e*S **Sn** 07 51 30.0 +6.3
YSS pmax pmax
comp=Z,50nm,1.1s
YSS MLR MLR
comp=Z,500nm,11.0s
YSS MLR MLR
comp=N,1μm,14.0s
YSS MLR MLR
comp=E,600nm,12.0s
YSS Yuzh-Sakhalins 4.76 1 *e*Pn **Pn** 07 50 30.1 +1.4
YSS *e*Sn **Sn** 07 51 27.5 +3.8
KUR Kuril'sk 4.84 49 *e*PN **Pn** 07 50 32.7 +2.9
KUR pmax pmax
comp=N,83nm,0.4s
KUR pmax pmax
comp=E,44nm,0.4s
KUR pmax pmax
comp=Z,73nm,0.4s
KUR MLR MLR
comp=Z,1μm,11.0s
KUR MLR MLR
comp=E,1μm,12.0s
KUR MLR MLR
comp=N,550nm,8.0s
MJB9 Matsu-Tunnel 6.62 213 *e*Pn **Pn** 07 50 52.8 -1.5
MAJO Matsushiro 6.62 213 ⇓ *i* PN **Pn** 07 50 55.4 +1.1
MAJO Matsushiro 6.62 213 *e*Pn **Pn** 07 50 52.7 -1.6
MAT Matsushiro 6.62 213 P **Pn** 07 50 55.2 +0.9
MAT *e*S **Sn** 07 52 08.2 -1.4
MJAR Matsushiro Arr 6.62 213 Pn **Pn** 07 50 54.5 +0.2
comp=N,1.2nm,0.3s,baz=22,slow=15,SNR=14
MJAR LR LR 07 54 01.1
comp=N,212nm,20.1s,baz=355,slow=44
UGL Uglegorsk 6.90 357 *e*PN **Pn** 07 50 57.3 -0.8
UGL *e*SS Sb 07 52 28.4 -11
USRK Ussuriysk Ar. 8.06 288 Pn **Pn** 07 51 15.1 +1.0
comp=N,0.1nm,0.3s,baz=97,slow=16,SNR=7.2
INU Inuyama 8.13 215 *e*Pn **Pn** 07 51 14.7 -0.5
HABR Khabarovsk 8.26 322 *e*PN **Pn** 07 51 15.6 -1.1
HABR *e*SS Sn 07 53 01.5 +12
HABR pmax pmax
comp=E,30nm,1.5s
HABR pmax pmax
comp=N,16nm,1.4s
HABR pmax pmax
comp=Z,31nm,1.4s
HABR MLR MLR
comp=Z,355nm,12.0s
KLR Kul'dur 10.38 316 ⇑ *e*PN **Pn** 07 51 48.1 +2.3
KSRS Korea Array 12.29 252 Pn **Pn** 07 52 14.7 +2.8
comp=Z,0.6nm,0.3s,baz=65,slow=14,SNR=18
KSRS LR LR 07 56 45.8
comp=Z,79nm,18.9s,baz=62,slow=37
KS15 Wonju Array Si 12.32 252 *e*Pn **Pn** 07 52 11.6 -0.8
PETK Petropavlovsk- 14.86 38 Pn **Pn** 07 52 46.6 -0.3
comp=Z,0.2nm,0.3s,baz=199,slow=8.5,SNR=3.1
PEA1 Petropavlovsk- 14.86 38 *e*Pn **Pn** 07 52 46.6 -0.4
NJ2 Nanjing 21.46 250 *e*P **P** 07 54 05.0 -0.3
NJ2 pmax pmax
comp=Z,26nm,0.5s
SEY Seymchan 21.55 12 P **P** 07 54 04.2 -1.8
comp=Z,7.8nm,0.9s,baz=188,slow=8.8,SNR=10.0
HHC Hu-ho-hao-te 23.27 277 *e*P **P** 07 54 25.3 +0.7
HHC PP **PnPn** 07 54 57.5 +7.2
HHC S **S** 07 58 33.5 -3.1
HHC sS pS 07 58 38.8 -2.0
HHC SS **SnSn** 07 59 17.5 +7.0
HHC ScP **ScP** 08 01 51.0 +1.6
HHC pmax pmax
comp=Z,15nm,1.1s
HHC LR LR
comp=Z,150nm,14.9s
HHC LR LR
comp=Z,180nm,13.7s
SONA0 Songino Array 26.09 295 *e*P **P** 07 54 50.0 -0.7
SONM Songino Array 26.09 295 P **P** 07 54 50.0 -0.7
comp=Z,0.8nm,0.4s,baz=72,slow=8.6,SNR=4.5
H11N2 WAKE ISLAND Hy 30.35 130 T T 08 27 03.9
baz=327
H11N1 WAKE ISLAND Hy 30.36 130 T T 08 27 13.5
baz=327
H11N3 WAKE ISLAND Hy 30.37 130 T T 08 27 04.6
baz=327
LZH Lanzhou 30.53 272 *e*P **P** 07 55 29.5 -1.0
LZH pP pP 07 55 35.0 +0.4
LZH sP sP 07 55 38.3 +2.0
LZH pmax pmax
comp=Z,15nm,1.0s
H11S1 WAKE ISLAND Hy 31.22 132 T T 08 28 07.9
baz=314
H11S3 WAKE ISLAND Hy 31.22 132 T T 08 27 59.4
baz=314
H11S2 WAKE ISLAND Hy 31.24 132 T T 08 28 10.4
baz=314
QIZ Qiongzhong 36.14 240 P **P** 07 56 20.5 +1.2
QIZ S **S** 08 02 03.0 +4.4
ZAA1 Zalesovo Array 39.33 308 *e*P **P** 07 56 44.5 -1.4
ZAA1 *e*PcP **PcP** 07 58 53.4 -0.8
ZALV Zalesovo Beam 39.33 308 P **P** 07 56 44.5 -1.4
comp=Z,0.8nm,0.3s,baz=93,slow=14,SNR=3.5
ZALV PcP **PcP** 07 58 53.4 -0.8
comp=Z,1.6nm,0.6s,baz=127,slow=3.6,SNR=4.0
WMQ Urumqi 39.61 292 P **P** 07 56 48.0 -0.5
WMQ pP sP 07 56 53.8 -0.5
WMQ sP pP 07 56 57.5 +4.9
WMQ pmax pmax
comp=Z,7.0nm,0.8s
WMQ pmax pmax
comp=Z,64nm,4.1s
WMQ LR LR
comp=Z,200nm,16.1s
WMQ LR LR
comp=Z,130nm,12.1s
IMAR Indian Mountai 41.77 33 *e*P **P** 07 57 06.5 +0.6
MK01 Makanchi Array 42.39 298 *e*P **P** 07 57 10.4 -0.9
MK31 Makanchi Array 42.39 298 *e*P **P** 07 57 10.4 -0.9
MK31 Makanchi Array 42.39 298 *e*P **P** 07 57 10.4 -0.9
MK32 Makanchi Array 42.39 298 *e*P **P** 07 57 09.8 -1.5
MK32 *e*PcP **PcP** 07 59 03.6 -0.7
MKAR Makanchi Array 42.39 298 P **P** 07 57 09.8 -1.5
comp=Z,2.2nm,1.1s,baz=83,slow=9.9,SNR=8.1
MKAR PcP **PcP** 07 59 03.6 -0.7
comp=Z,0.4nm,0.5s,baz=73,slow=4.6,SNR=4.8
MKAR Makanchi Array 42.39 298 *e*P **P** 07 57 10.5 -0.8
comp=Z,9.3nm,0.6s
MAKZ Makanchi 42.59 298 *e*P **P** 07 57 13.4 +0.5
MAKZ pmax pmax
comp=Z,6.0nm,1.4s
MAKZ Makanchi 42.59 298 *e*P **P** 07 57 13.4 +0.5
comp=Z,5.5nm,1.4s
KTH Kantishna Hill 42.99 37 *e*P **P** 07 57 16.2 +0.2
comp=Z,7.6nm,1.0s
KURK Kurchatov 43.68 304 *e*P **P** 07 57 20.2 -1.4
KURK pmax pmax
comp=Z,4.0nm,0.8s
KURK Kurchatov 43.68 304 *e*P **P** 07 57 20.2 -1.4
comp=Z,3.9nm,0.8s
MDM Murphy Dome 44.08 35 *e*P **P** 07 57 25.6 +0.9
comp=Z,7.2nm,1.2s
COLA College 44.25 35 *i* P **P** 07 57 26.7 +0.8
DHY Denali Highway 44.62 38 *e*P **P** 07 57 30.0 +0.8
comp=Z,5.5nm,1.0s
IL1 Eielson Array 44.67 35 *e*P **P** 07 57 28.3 -1.0
ILAR Eielson Array 44.67 35 P **P** 07 57 28.0 -1.3
comp=Z,3.9nm,0.9s,baz=270,slow=6.2,SNR=23
ILB Eielson Array 44.67 35 *e*P **P** 07 57 28.6 -0.8
EGAK Eagle 47.10 35 *e*P **P** 07 57 50.1 +1.6
comp=Z,6.7nm,1.2s
BVAR Borovoye Array 47.94 309 P **P** 07 57 54.1 -1.2
comp=Z,4.5nm,0.4s,baz=77,slow=8.9,SNR=28
BVAR PcP **PcP** 07 59 22.9 -0.5
comp=Z,1.2nm,0.4s,baz=85,slow=3.1,SNR=5.4
BRVK Borovoye 47.99 309 ⇓ *i* P **P** 07 57 54.9 -0.7
BRVK pmax pmax
comp=Z,10.0nm,1.0s
BRVK Borovoye 47.99 309 *e*P **P** 07 57 55.0 -0.7
comp=Z,6.9nm,1.1s
KSH Kashi 49.35 291 *e*P **P** 07 58 10.0 +3.6
KSH sP sP 07 58 19.0 +6.7
KSH PP **PP** 08 00 05.0 +4.8
KSH S **S** 08 05 16.0 +3.3
KSH sS sS 08 05 26.0 +6.4
KSH SS **SS** 08 08 44.0 0.0
KSH pmax pmax
comp=Z,65nm,5.6s
KSH LR LR
comp=Z,100nm,8.4s
KSH LR LR
comp=Z,100nm,13.8s
INK Inuvik 49.38 29 P **P** 07 58 05.6 -0.5
comp=Z,2.5nm,0.5s,baz=292,slow=8.4,SNR=9.2
INK Inuvik 49.38 29 *e*P **P** 07 58 05.6 -0.5
comp=Z,18nm,1.6s
ARU Arti 53.22 316 *c i* P **P** 07 58 34.4 -0.6
ARU 08 00 33.3
ARU S **S** 08 06 05.2 -0.2
ARU pmax pmax
comp=Z,6.0nm,0.8s
ARU MLR MLR
comp=Z,105nm,14.0s
SOEI Soe 54.38 203 *e*P **P** 07 58 41.4 -2.7
comp=Z,43nm,0.4s
ABKAR Akbulak array 55.45 308 *e*P **P** 07 58 50.3 -1.1
comp=Z,27nm,0.6s
AKTO Aktyubinsk 56.03 310 P **P** 07 58 54.5 -1.0
comp=Z,1.8nm,0.7s,baz=68,slow=13,SNR=4.9
AKTO LR LR 08 22 39.9
comp=Z,15nm,18.5s,baz=85,slow=36
GEYT Alibeck 62.27 297 P **P** 07 59 39.0 0.0
comp=Z,1.4nm,0.3s,baz=349,slow=4.4,SNR=2.6
WRAB Tennant Creek 62.29 189 ⇓ *e*P **P** 07 59 38.2 -0.9
WRAB pmax pmax
comp=Z,6.0nm,1.0s
WB2 Warramunga Arr 62.30 189 *e*P **P** 07 59 37.8 -1.4
WR1 Warramunga Arr 62.30 189 *e*P **P** 07 59 37.2 -1.9
comp=Z,12nm,1.5s
WRA Warramunga Arr 62.30 189 P **P** 07 59 37.2 -1.9
comp=Z,0.8nm,0.5s,baz=6.4,slow=6.9,SNR=14
OBN Obninsk 64.58 322 ⇓ *e*P **P** 07 59 52.2 -1.7
OBN *e* 08 02 10.6
OBN *e*S **S** 08 08 29.6 -3.2
OBN pmax pmax
comp=Z,4.0nm,0.7s
OBN MLR MLR
comp=Z,91nm,14.0s
FIA0 FINESS Array S 64.72 332 *e*P **P** 07 59 53.2 -1.6
FIA0 FINESS Array S 64.72 332 *e*P **P** 07 59 53.1 -1.6
FINES FINESS Array B 64.72 332 P **P** 07 59 53.1 -1.6
comp=Z,1.7nm,0.5s,baz=41,slow=7.8,SNR=12
FINES FINESS Array B 64.72 332 *i* P **P** 07 59 53.5 -1.2
FINES pmax pmax
comp=Z,2.0nm,0.4s
SUMG Summit 65.53 0 *e*P **P** 07 59 59.5 -0.8
SUMG pmax pmax
comp=Z,8.0nm,0.8s
SUMG Summit 65.53 0 P **P** 07 59 59.5 -0.8
comp=Z,8.1nm,0.8s
NEW Newport 65.80 46 *e*P **P** 08 00 02.5 +0.4
NEW pmax pmax
comp=Z,20nm,1.9s
NEW Newport 65.80 46 *e*P **P** 08 00 02.5 +0.4
comp=Z,20nm,1.9s
AS31 Alice Springs 66.03 189 *e*P **P** 08 00 02.5 -1.1
comp=Z,0.6nm,0.8s
ASAR Alice Springs 66.03 189 P **P** 08 00 02.5 -1.1
comp=Z,0.4nm,0.8s,baz=6.7,slow=7.3,SNR=5.7
E09A Wood Farm, Sta 66.29 48 *e*P **P** 08 00 05.7 +0.5
comp=Z,7.7nm,1.1s
SWMT Swartz Lake 67.93 45 *e*P **P** 08 00 15.3 -0.4
KVAR Kislovodsk Arr 68.29 310 P **P** 08 00 18.2 +0.2
comp=Z,6.2nm,0.7s,baz=149,slow=8.0,SNR=3.0
KIV Kislovodsk 68.30 310 *e*P **P** 08 00 18.5 +0.4
KIV pmax pmax
comp=Z,8.0nm,0.9s
KIV Kislovodsk 68.30 310 *e*P **P** 08 00 18.2 +0.2
comp=Z,8.8nm,0.6s
KBZ Khabaz 68.32 310 P **P** 08 00 17.2 -0.8
comp=Z,2.6nm,0.8s,baz=14,slow=8.3,SNR=4.8
KBZ Khabaz 68.32 310 P **P** 08 00 17.2 -0.8
KBZ pmax pmax
comp=Z,2.0nm,0.8s
HFS Hagfors 69.80 336 P **P** 08 00 25.8 -1.1
comp=Z,2.2nm,0.4s,baz=71,slow=6.2,SNR=14
NB2 NORSAR Subarra 69.81 337 P **P** 08 00 25.7 -1.4
comp=Z,2.4nm,0.7s,baz=38,slow=6.2
NB200 NORSAR Array S 69.81 337 *e*P **P** 08 00 24.7 -2.4
NOA NORSAR Array B 69.81 337 P **P** 08 00 24.7 -2.4
comp=Z,3.9nm,0.8s,baz=37,slow=6.1,SNR=12
DLMT Dillon 70.04 47 *e*P **P** 08 00 29.6 +0.7
comp=Z,16nm,1.6s
ANN Anapa 70.68 313 *e*P **P** 08 00 31.8 -0.8
ANN pmax pmax
comp=Z,27nm,1.0s
AKASG Malin Array Be 70.83 322 P **P** 08 00 32.0 -1.4
comp=Z,0.3nm,0.3s,baz=43,slow=6.4,SNR=4.2
AKBB Malin Array Si 70.83 322 *e*P **P** 08 00 32.0 -1.4
AKBB pmax pmax
comp=Z,14nm,1.8s
AKBB Malin Array Si 70.83 322 *e*P **P** 08 00 32.0 -1.4
comp=Z,14nm,1.8s
PD31 Pinedale Array 73.40 47 *e*P **P** 08 00 49.2 -0.1
PDAR Pinedale Array 73.40 47 P **P** 08 00 49.2 -0.1
comp=Z,1.0nm,0.7s,baz=248,slow=1.5,SNR=9.6
MMAI Mount Meron Ar 79.77 305 P **P** 08 01 24.8 -0.5
comp=Z,0.6nm,0.3s,baz=18,slow=9.7,SNR=4.0
LTX Lajitas 86.23 53 *e*P **P** 08 01 58.8 0.0
LTX Lajitas 86.23 53 *e*P **P** 08 01 58.8 0.0
TXAR Lajitas Array 86.23 53 P **P** 08 01 58.8 0.0
comp=Z,0.5nm,0.6s,baz=290,slow=4.5,SNR=9.1

ISCJB ***26*** *07:55:57.6±0.6,50°.21N±0°.04×19°.25E±0°.03,h0km, Error ellipse: s-maj=5.9km s-min=2.7km az=17.0*
CSEM ***26*** *07:55:58.5±0.4,50°.18N×19°.26E,h2km,ML2.9/6, Error ellipse: s-maj=9.2km s-min=4.4km az=14.0*
PRU ***26*** *07:55:58.9,50°.24N×19°.27E,h0km*
ISC 26 07:55:59.0±0.8, 50°.13N±0°.04×19°.28E±0°.02, h0km, n32,
σ 1°.02/52, Poland

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
OJC	**Ojcow**	**0.34**	**74**	*e*Pg		**Pg**		**07 56 04.9**	**-0.7**
OJC				*e*Sg		**Sg**		**07 56 09.4**	**-0.7**
OJC	**Ojcow**	**0.34**	**74**	*e*Pg		**Pg**		**07 56 04.9**	**-0.7**
OJC				*e*Sg		**Sg**		**07 56 09.4**	**-0.7**
OJC	**Ojcow**	**0.34**	**74**	*e*Pg		**Pg**		**07 56 04.9**	**-0.7**
OJC				*e*Sg		**Sg**		**07 56 09.4**	**-0.7**
OKC	**Ostrava-Krasne**	**0.79**	**249**	*e*PG		**Pb**		**07 56 15.2**	**-0.4**
OKC				*e*SG		**Sb**		**07 56 26.8**	**0.0**
OKC	**Ostrava-Krasne**	**0.79**	**249**	Pg		**Pb**		**07 56 15.2**	**-0.4**
OKC				Sg		**Sb**		**07 56 26.8**	**0.0**
NIE	**Niedzica**	**0.97**	**137**	*e*Pg		**Pb**		**07 56 18.1**	**-0.6**
NIE				*e*Sg		**Sb**		**07 56 32.1**	**+0.1**
NIE	**Niedzica**	**0.97**	**137**	*e*Pg		**Pb**		**07 56 18.1**	**-0.6**
NIE				*e*Sg		**Sb**		**07 56 32.1**	**+0.1**
NIE	**Niedzica**	**0.97**	**137**	*e*Pg		**Pb**		**07 56 18.1**	**-0.6**
NIE				*e*Sg		**Sb**		**07 56 32.1**	**+0.1**
LANS	**Liptovska Anna**	**0.98**	**173**	*e*Pg		**Pb**		**07 56 18.4**	**-0.5**
LANS				*e*SG		**Sb**		**07 56 33.5**	**+1.0**
MORC	**Moravsky Berou**	**1.18**	**253**	*e*Pg		**Pg**		**07 56 21.5**	**0.0**
MORC				*e*Sg		**Sb**		**07 56 38.1**	**+0.1**
STHS	**Stebnicka Huta**	**1.46**	**118**	*e*Pg		**Pb**		**07 56 27.3**	**+0.3**
STHS				*e*Sn		**Sn**		**07 56 48.1**	**+1.7**
STHS	**Stebnicka Huta**	**1.46**	**118**	*e*PG		**Pb**		**07 56 27.3**	**+0.3**
STHS				*e*SN		**Sn**		**07 56 48.1**	**+1.7**
STHS				*e*LG		Lg		07 56 49.6	
KRLC	**Kraliky**	**1.61**	**269**	*e*SG		**Sn**		**07 56 50.1**	**-0.2**
KRLC	**Kraliky**	**1.61**	**269**	Sg		**Sn**		**07 56 50.1**	**-0.2**
VYHS	**Vyhne**	**1.66**	**190**	*e*Pg		**Pn**		**07 56 29.3**	**-0.1**
VYHS				*e*Sn		**Sn**		**07 56 50.9**	**-0.5**
VYHS	**Vyhne**	**1.66**	**190**	*e*PG		**Pn**		**07 56 29.3**	**-0.1**
VYHS				*e*SN		**Sn**		**07 56 50.9**	**-0.5**
VYHS				*e*LG		Lg		07 56 54.7	
KECS	**Kecovo**	**1.82**	**154**	*e*Sn		**Sg**		**07 56 58.3**	**+0.8**
KECS	**Kecovo**	**1.82**	**154**	*e*SN		**Sg**		**07 56 58.3**	**+0.8**
KECS				*e*LG		Lg		07 57 05.4	
DPC	**Dobruska-Polom**	**1.91**	**278**	*e*PG		**Pn**		**07 56 32.8**	**-0.1**
DPC				*e*SG		**Sb**		**07 56 58.7**	**-0.6**
	comp=Z,21nm,0.4s								
DPC	**Dobruska-Polom**	**1.91**	**278**	Pg		**Pn**		**07 56 32.8**	**-0.1**
DPC				Sg		**Sb**		**07 56 58.7**	**-0.6**
	21nm,0.4s								
KSP	**Ksiaz**	**2.04**	**292**	*e*Pg		**Pg**		**07 56 38.5**	**+0.4**
KSP				*e*Sg		**Sg**		**07 57 04.6**	**+0.1**
KSP	**Ksiaz**	**2.04**	**292**	*e*Pg		**Pg**		**07 56 38.5**	**+0.4**
KSP				*e*Sg		**Sg**		**07 57 04.6**	**+0.1**
KSP	**Ksiaz**	**2.04**	**292**	*e*Pg		**Pg**		**07 56 38.5**	**+0.4**
KSP				*e*Sg		**Sg**		**07 57 04.6**	**+0.1**
UPC	**Upice**	**2.13**	**282**	*e*SG		**Sg**		**07 57 07.3**	**-0.1**
	comp=Z,11nm,0.7s								
UPC	**Upice**	**2.13**	**282**	Sg		**Sg**		**07 57 07.3**	**-0.1**
	11nm,0.7s								
GOPC	**GO Pecny, Ondr**	**2.91**	**268**	*e*SG		**Sb**		**07 57 29.9**	**+2.1**
	comp=Z,6.6nm,0.4s								
GOPC	**GO Pecny, Ondr**	**2.91**	**268**	Sg		**Sb**		**07 57 29.9**	**+2.1**
	6.6nm,0.4s								
PRU	**Pruhonice**	**3.06**	**269**	*e*SG		**Sb**		**07 57 34.5**	**+2.4**
	comp=Z,5.5nm,0.4s								
PRU	**Pruhonice**	**3.06**	**269**	Sg		**Sb**		**07 57 34.5**	**+2.4**
	5.5nm,0.4s								
KHC	**Kasperske Hory**	**3.84**	**257**	*e*SG		**Sg**		**07 57 59.6**	**-2.7**
	comp=Z,5.9nm,0.4s								
KHC	**Kasperske Hory**	**3.84**	**257**	Sg		**Sg**		**07 57 59.6**	**-2.7**
	5.9nm,0.4s								

MEX 26 08:01:12.4±0.5, 17°.01N×99°.99W, h29km±4km, MD3.9,
Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
ACP2	**Acapulco**	**0.16**	**144**	*e*P		**Pb**		08 01 16.5	-1.6
ACP2				*e*S		Sb		08 01 20.8	-1.2
CAIG	**El Cayaco**	**0.27**	**279**	*i* P		Pb		08 01 18.1	-1.3
CAIG				*i* S		Sb		08 01 22.2	-1.8
MEIG	**Mezcala**	**0.98**	**21**	*i* P		Pn		08 01 27.6	-2.7
MEIG				*i* S		Sn		08 01 39.8	-3.5
ARIG	**Puente Sto Nin**	**1.31**	**345**	*i* P		Pn		08 01 33.0	-1.9
ARIG				*i* S		Sn		08 01 48.4	-3.1
PLIG	**Platanillo**	**1.45**	**18**	*e*P		Pn		08 01 35.1	-1.8
PLIG				*i* S		Sn		08 01 51.9	-3.1
TLIG	**Tlapa**	**1.47**	**68**	*e*P		Pn		08 01 35.1	-2.0
TLIG				*i* S		Sn		08 01 51.9	-3.5
ZIIG	**Zihuatanejo**	**1.53**	**293**	*e*P		Pn		08 01 35.7	-2.2
ZIIG				*i* S		Sn		08 01 53.9	-3.0
PNIG	**Pinotepa**	**1.88**	**109**	*e*P		Pn		08 01 40.7	-2.0
PNIG				*e*S		Sn		08 02 02.9	-2.6
YAIG	**Yautepec**	**2.04**	**25**	*e*P		Pn		08 01 43.1	-1.9
YAIG				*i* S		Sn		08 02 06.6	-3.1

NIED ***26*** *08:20:00,37°.70N×139°.90E,h5km,Mw4.0 Best double couple: M0 1.23000×10^15 NP1:φ s 96.00000°,δ29.00000°, λ90.00000°. NP2:φ s 276.00000°,δ61.00000°,λ90.00000°.*
IDC ***26*** *08:20:12.2±0.6,37°.72N×139°.88E,h0km,mb4.1/17, mb1 4.2/19,mb1mx4.2/44,mbtmp4.1/19,ML2.7/2,MS2.8/3, Ms1 2.8/3,ms1mx2.5/45, Error ellipse: s-maj=17.6km s-min=10.6km az=125.0*
ISCJB ***26*** *08:20:13.7±0.4,37°.66N±0°.02×139°.94E±0°.03,h21km±3km, mb4.1/24,MS3.0/1, Error ellipse: s-maj=4.3km s-min=3.9km az=139.9*
JMA ***26*** *08:20:13.8,37°.68N×139°.94E,h9km±1km,M4.2 Broadband fault plane solution: P waves. NP1: φs 275.00000°,δ54.00000°,λ109.00000°. NP2: φs 64.00000°,δ40.00000°,λ66.00000°. Principal axes: T Plg73.0000°, Azm238.0000°; N Plg15.0000°, Azm83.0000°; P Plg7.0000°, Azm351.0000°;*
JMA Felt IV J1.
NEIC ***26*** *08:20:17.5±0.4,37°.64N×139°.85E,h35km,mb4.3/7 Error ellipse: s-maj=10.4km s-min=6.6km az=125.0*
NEIC Recorded [4 JMA] in Fukushima.
ISC 26 08:20:13.7±1.0, 37°.69N±0°.02×139°.95E±0°.03, h10km±6km,
n48, σ 1°.29/61, mb4.2/24, 2C-7D, Eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
JFY	**Yanaizu**	**0.34**	**214**	⇓ P		**Pg**		**08 20 20.5**	**+0.1**
JFY				*e*S		**Sg**		**08 20 25.1**	**+0.2**
JFT	**Otama**	**0.35**	**118**	P		**Pg**		**08 20 20.6**	**-0.1**
JFT				*e*S		**Sg**		**08 20 25.7**	**+0.3**
JNS	**Sasagawa**	**0.52**	**285**	⇓ P		**Pg**		**08 20 23.8**	**+0.1**
JNS				S		**Sg**		**08 20 30.7**	**+0.2**
JYS	**Shirataka**	**0.54**	**10**	⇓ P		**Pg**		**08 20 24.4**	**+0.1**
JYS				S		**Sg**		**08 20 32.2**	**+0.8**
JMM	**Marumori**	**0.69**	**75**	⇓ P		**Pg**		**08 20 27.2**	**+0.1**
JFK	**Kawauchi**	**0.81**	**113**	⇑ P		**Pg**		**08 20 29.0**	**-0.2**
JFK				S		**Sg**		**08 20 39.3**	**-0.4**
JHK	**Hiroka**	**0.86**	**240**	⇑ P		**Pg**		**08 20 29.9**	**-0.3**
JHK				S		**Sg**		**08 20 40.9**	**-0.5**
JOU	**Okura**	**0.88**	**40**	⇓ P		**Pg**		**08 20 30.8**	**+0.1**
JOU				S		**Sg**		**08 20 42.3**	**0.0**
JYA	**Atsumi**	**0.92**	**349**	⇓ P		**Pg**		**08 20 31.3**	**-0.2**
JYA				S		**Sg**		**08 20 43.7**	**+0.2**
JAW	**Awa shima**	**0.94**	**325**	⇓ P		**Pg**		**08 20 31.9**	**0.0**
JAW				S		**Sb**		**08 20 45.0**	**+0.3**
MAJO	**Matsushiro**	**1.80**	**231**	*e*Pn		**Pn**		**08 20 45.4**	**+0.7**
MAJO				*e*Sn		**Sg**		**08 21 11.0**	**-0.6**
MAT	**Matsushiro**	**1.80**	**231**	P		**Pn**		**08 20 45.6**	**-1.1**
MAT				S		**Sb**		**08 21 09.8**	**+0.6**
MJAR	**Matsushiro Arr**	**1.80**	**231**	Pg		**Pn**		**08 20 45.5**	**+0.7**
	60nm,0.3s,baz=48,slow=12,SNR=624								
MJAR				Lg		Lg		08 21 10.0	
	43nm,0.3s,baz=28,slow=30,SNR=12								
JHJ2	**Mitsune**	**4.57**	**181**	Pn		**Pn**		**08 21 21.7**	**-1.0**
JHJ2				*e*Sn		**Sn**		**08 22 19.4**	**+3.6**
ERM	**Erimo**	**4.98**	**29**	*e*Pn		**Pn**		**08 21 28.7**	**+0.3**
ERM				*e*Sn		**Sn**		**08 22 22.1**	**-3.8**
ASAJ	**Asahikawa**	**6.73**	**17**	*e*Pn		**Pn**		**08 21 55.8**	**+3.4**
ASAJ				*e*Sn		**Sn**		**08 23 06.1**	**-3.0**
JNU	**Nakatsue**	**8.69**	**241**	Pn		**Pn**		**08 22 20.2**	**+0.8**
	0.1nm,0.3s,baz=94,slow=19,SNR=2.1								
USRK	**Ussuriysk Ar.**	**8.86**	**320**	Pn		**Pn**		**08 22 20.8**	**-0.9**
	0.2nm,0.3s,baz=145,slow=12,SNR=2.8								
KSRS	**Korea Array**	**9.55**	**272**	Pn		**Pn**		**08 22 33.1**	**+2.0**
	0.9nm,0.3s,baz=87,slow=14,SNR=16								
KSRS				LR		LR		08 25 14.5	
	comp=Z,36nm,18.6s,baz=129,slow=32								
KSAR	**Wonju Array Be**	**9.58**	**272**	Pn		**Pn**		**08 22 33.1**	**+1.5**
PETK	**Petropavlovsk-**	**19.74**	**33**	LR		LR		08 32 20.6	
	comp=Z,22nm,20.3s,baz=240,slow=37								
MA2	**Magadan**	**22.98**	**14**	P		**P**		**08 25 19.3**	**+1.1**
	9.6nm,0.6s,baz=200,slow=9.2,SNR=3.8								
MA2				LR		LR		08 35 18.7	
	comp=Z,47nm,18.0s,baz=319,slow=40								
SONM	**Songino Array**	**26.45**	**303**	P		**P**		**08 25 49.0**	**-1.7**
	0.9nm,0.6s,baz=109,slow=9.2,SNR=5.3								
ZALV	**Zalesovo Beam**	**40.61**	**312**	P		**P**		**08 27 52.2**	**-1.1**
	2.3nm,0.7s,baz=77,slow=7.8,SNR=7.2								
MKAR	**Makanchi Array**	**42.78**	**301**	P		**P**		**08 28 11.3**	**0.0**
	1.9nm,0.7s,baz=90,slow=9.1,SNR=5.0								
ILAR	**Eielson Array**	**49.57**	**33**	P		**P**		**08 29 05.3**	**+0.9**
	1.6nm,0.8s,baz=274,slow=6.7,SNR=13								
KKAR	**Karatay Array**	**51.78**	**299**	*e*P		**P**		**08 29 21.6**	**+0.2**
	3.2nm,0.8s								
INK	**Inuvik**	**54.34**	**27**	P		**P**		**08 29 40.6**	**+0.8**
	2.7nm,1.0s,baz=302,slow=13,SNR=3.8								
ABKAR	**Akbulak array**	**56.62**	**309**	*e*P		**P**		**08 29 56.4**	**-0.2**
	1.7nm,0.6s								

WRAB	**Tennant Creek**	**57.55**	**186**	*eP*	**P**		**08 30 02.8**	**-0.6**
	5.5nm,0.9s							
WRA	**Warramunga Arr**	**57.56**	**186**	P	**P**		**08 30 03.0**	**-0.5**
	4.4nm,0.7s,baz=2.2,slow=7.3,SNR=66							
ASAR	**Alice Springs**	**61.29**	**186**	P	**P**		**08 30 29.4**	**+0.2**
	2.0nm,0.8s,baz=14,slow=5.1,SNR=24							
FINES	**FINESS Array B**	**67.69**	**332**	P	**P**		**08 31 10.2**	**-0.4**
	2.7nm,1.0s,baz=50,slow=10,SNR=4.7							
STKA	**Stephens Creek**	**69.22**	**178**	P	**P**		**08 31 19.3**	**-1.2**
	1.0nm,0.6s,baz=323,slow=11,SNR=3.4							
AKASG	**Malin Array Be**	**73.06**	**322**	P	**P**		**08 31 42.4**	**-1.2**
	0.5nm,0.4s,baz=46,slow=5.9,SNR=5.2							
NB2	**NORSAR Subarra**	**73.13**	**337**	P	**P**		**08 31 43.7**	**-0.2**
	comp=Z,3.6nm,1.0s,baz=43,slow=6.2							
NOA	**NORSAR Array B**	**73.13**	**337**	P	**P**		**08 31 43.4**	**-0.5**
	comp=Z,1.8nm,0.8s,baz=40,slow=6.0,SNR=4.9							
HLID	**Hailey**	**74.78**	**47**	*eP*	**P**		**08 31 55.8**	**+1.6**
	comp=Z,0.6nm,0.6s							
BOZ	**Bozeman (W)**	**75.08**	**44**	*eP*	**P**		**08 31 57.1**	**+1.3**
	comp=Z,3.4nm,0.9s							
H17A	**Grant Village**	**76.42**	**44**	*eP*	**P**		**08 32 07.1**	**+3.5**
	comp=Z,7.2nm,1.1s							
BRTR	**Keskin Array B**	**77.54**	**311**	P	**P**		**08 32 10.8**	**+1.0**
	comp=Z,0.9nm,0.7s,baz=90,slow=3.7,SNR=3.7							
DUG	**Dugway, Tooele**	**77.81**	**48**	*eP*	**P**		**08 32 12.6**	**+1.3**
	comp=Z,1.4nm,0.6s							
PDAR	**Pinedale Array**	**78.04**	**45**	P	**P**		**08 32 13.8**	**+1.2**
	comp=Z,1.2nm,0.6s,baz=264,slow=2.6,SNR=12							
ULM	**Lac du Bonnet**	**79.59**	**33**	P	**P**		**08 32 20.0**	**-0.7**
	comp=Z,1.7nm,0.5s,baz=334,slow=13,SNR=3.3							
CLL	**Collm**	**79.94**	**329**	*i* P	**P**		**08 32 22.9**	**+0.3**
GERES	**GERESS Array B**	**81.54**	**327**	P	**P**		**08 32 30.9**	**-0.5**
	comp=Z,0.2nm,0.3s,baz=1.7,slow=4.4,SNR=3.8							
TXAR	**Lajitas Array**	**90.64**	**51**	P	**P**		**08 33 17.6**	**+0.9**
	comp=Z,0.6nm,0.8s,baz=279,slow=3.4,SNR=9.0							
LPAZ	**La Paz**	**147.34**	**57**	PKPbc	**PKPbc**		**08 39 58.9**	**+0.2**
	comp=Z,1.8nm,0.8s,baz=15,slow=4.2,SNR=9.4							

IDC ***26*** *08:37:25.4±0.7,8°.92S×158°.19E,h0km,mb4.3/12, mb1 4.4/14,mb1mx4.3/32,mbtmp4.2/14,ML3.6/2,MS3.7/11, Ms1 3.7/11,ms1mx3.4/21,Error ellipse: s-maj=21.5km s-min=16.8km az=124.0*

ISCJB ***26*** *08:37:27.3±0.4,8°.97S±0°.06×158°.14E±0°.05,h23km, mb4.4/22,MS3.6/9,Error ellipse: s-maj=8.4km s-min=7.2km az=26.3*

NEIC ***26*** *08:37:30.8±0.4,9°.01S×158°.17E,h35km,mb4.7/11,Error ellipse: s-maj=10.5km s-min=7.9km az=146.0*

ISC 26 08:37:29.2±0.5,8°.93S±0°.07×158°.13E±0°.05,h23km,n43, σ1°.65/43,mb4.4/22,MS3.6/9,1C,Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**1.86**	**106**	Pn	**Pn**	**08 37 58.0**	**-1.6**
	106nm,0.3s,baz=220,slow=3.0,SNR=34						
HNR				Sn	**Sb**	**08 38 26.1**	**+0.7**
	851nm,0.3s,baz=85,slow=21,SNR=8.3						
HNR	**Honiara**	**1.86**	**106**	*i* P	**Pn**	**08 37 57.5**	**-2.2**
HNR				*i* S	**Sb**	**08 38 28.0**	**+2.6**
HNR	**Honiara**	**1.86**	**106**	*e*Pn	**Pn**	**08 37 58.1**	**-1.6**
HNR				*e*Sn	**Sn**	**08 38 21.9**	**-0.6**
PMG	**Port Moresby**	**10.84**	**267**	LR	LR	08 44 03.4	
	comp=Z,879nm,20.1s,baz=90,slow=36						
DZM	**Mont Dzumac**	**15.32**	**149**	LR	LR	08 45 44.4	
	comp=Z,376nm,18.1s,baz=14,slow=33						
DZM	**Mont Dzumac**	**15.32**	**149**	*e*P	**P**	**08 41 13.5**	**+4.7**
	35nm,1.3s						
DZM				*e*LR	LR	08 45 01.0	
	179nm,20.1s						
DZM	**Mont Dzumac**	**15.32**	**149**	*e*Pn	**P**	**08 41 08.3**	**-0.5**
	20nm,1.3s						
DZM				*e*Sn	**Sn**	**08 43 51.5**	**-1.9**
COEN	**Coen**	**15.49**	**250**	*e*Pn	**Pn**	**08 41 05.8**	**-0.5**
	33nm,1.0s						
COEN				*e*Sn	**Sn**	**08 43 53.4**	**-3.9**
CTA	**Charters Tower**	**15.97**	**225**	Pn	**Pn**	**08 41 11.3**	**-1.2**
	0.5nm,0.3s,baz=57,slow=15,SNR=7.9						
CTAO	**Charters Tower**	**15.97**	**225**	*e*Pn	**Pn**	**08 41 11.4**	**-1.2**
	163nm,1.3s						
CTAO				*e*Sn	**Sn**	**08 44 12.7**	**+3.7**
JAY	**Jayapura**	**18.46**	**289**	P	**P**	**08 41 43.6**	**0.0**
	0.0nm,0.3s,baz=307,slow=20,SNR=3.0						
MSVF	**Nonsavu**	**21.25**	**116**	*e*P	**P**	**08 42 12.2**	**-1.8**
	23nm,1.0s						
WRAB	**Tennant Creek**	**25.46**	**242**	*e*P	**P**	**08 42 55.9**	**+0.2**
	17nm,0.9s						
WRA	**Warramunga Arr**	**25.47**	**242**	P	**P**	**08 42 56.0**	**+0.1**
	13nm,0.9s,baz=67,slow=9.4,SNR=40						
GUMO	**Guam**	**25.96**	**329**	LR	LR	08 52 30.3	
	comp=Z,74nm,18.9s,baz=149,slow=35						
ASAR	**Alice Springs**	**27.42**	**235**	P	**P**	**08 43 12.6**	**-0.8**
	4.4nm,1.0s,baz=66,slow=9.2,SNR=23						
STKA	**Stephens Creek**	**27.52**	**212**	P	**P**	**08 43 14.5**	**+0.4**
	12nm,0.8s,baz=40,slow=14,SNR=28						
STKA				LR	LR	08 54 20.0	
	comp=Z,257nm,18.8s,baz=30,slow=37						
BBOO	**Buckleboo**	**31.33**	**217**	*e*P	**P**	**08 43 48.4**	**+0.4**
	17nm,0.8s						
URZ	**Urewera**	**33.84**	**153**	LR	LR	08 55 18.6	
	comp=Z,117nm,18.8s,baz=330,slow=32						
RPZ	**Rata Peaks**	**36.44**	**164**	LR	LR	08 59 36.4	
	comp=Z,109nm,18.4s,baz=318,slow=36						
MBWA	**Marble Bar**	**38.92**	**247**	*e*P	**P**	**08 44 53.1**	**-0.3**
	42nm,0.8s						
PPT2	**Papeete2**	**51.48**	**105**	*e*LR	LR	09 02 05.0	
	153nm,22.8s,baz=273						
KSRS	**Korea Array**	**54.11**	**330**	P	**P**	**08 46 52.2**	**-0.1**
	0.4nm,0.4s,baz=145,slow=8.6,SNR=2.7						
KSRS				LR	LR	09 07 33.0	
	comp=Z,25nm,19.9s,baz=120,slow=33						
KSAR	**Wonju Array Be**	**54.12**	**330**	P	**P**	**08 46 52.2**	**-0.2**
USRK	**Ussuriysk Ar.**	**57.94**	**338**	P	**P**	**08 47 19.1**	**-0.6**
	0.7nm,0.6s,baz=145,slow=7.7,SNR=2.9						
PETK	**Petropavlovsk-**	**61.79**	**360**	P	**P**	**08 47 45.4**	**-0.6**
	4.2nm,0.9s,baz=175,slow=12,SNR=2.7						
PETK				LR	LR	09 13 36.2	
	comp=Z,36nm,19.4s,baz=178,slow=35						
CMAR	**Chiang Mai Arr**	**64.41**	**295**	P	**P**	**08 48 05.0**	**+1.0**
	1.3nm,0.4s,baz=120,slow=5.3,SNR=6.0						
CMAR				LR	LR	09 13 36.1	
	comp=Z,18nm,21.1s,baz=145,slow=34						
VNDA	**Vanda**	**68.60**	**179**	P	**P**	**08 48 32.0**	**+2.2**
	1.5nm,1.1s,baz=330,slow=6.6,SNR=6.2						
VNDA				LR	LR	09 15 26.3	
	comp=Z,74nm,18.1s,baz=340,slow=33						
SONM	**Songino Array**	**72.64**	**326**	P	**P**	**08 48 57.6**	**+2.5**
	1.8nm,0.8s,baz=110,slow=3.8,SNR=2.7						
QSPA	**South Pole Qui**	**81.06**	**180**	*e*P	**P**	**08 49 42.9**	**+0.6**
	28nm,1.1s						
PMR	**Palmer**	**81.33**	**23**	*e*P	**P**	**08 49 43.7**	**+0.2**
	1.4nm,0.8s						
COLA	**College**	**83.77**	**20**	*e*P	**P**	**08 49 56.8**	**+0.6**
	3.1nm,0.8s						
MAW	**Mawson**	**83.82**	**203**	P	**P**	**08 49 56.2**	**-0.3**
	1.9nm,0.8s,baz=91,slow=5.9,SNR=4.4						
MAW				LR	LR	09 24 39.3	
	comp=Z,52nm,18.7s,baz=62,slow=34						
ILAR	**Eielson Array**	**84.05**	**21**	P	**P**	**08 49 57.1**	**-0.5**
	2.2nm,1.0s,baz=246,slow=5.3,SNR=10						
DOT	**Dot Lake**	**84.44**	**22**	*e*P	**P**	**08 50 00.8**	**+1.1**
	9.4nm,0.9s						
MKAR	**Makanchi Array**	**86.90**	**318**	P	**P**	**08 50 12.1**	**-0.2**
	1.5nm,0.7s,baz=105,slow=5.7,SNR=6.6						
ZALV	**Zalesovo Beam**	**87.51**	**325**	P	**P**	**08 50 15.1**	**+0.1**
	0.4nm,0.3s,baz=151,slow=4.5,SNR=2.1						
SYO	**Syowa Base**	**91.51**	**198**	*e*X	**P**	**08 50 30.0**	**-3.5**
PDAR	**Pinedale Array**	**97.68**	**48**	P	**P**	**08 51 01.6**	**-1.0**
	0.8nm,0.8s,baz=238,slow=2.8,SNR=7.0						
TXAR	**Lajitas Array**	**101.43**	**62**	PP	PP	08 55 28.9	-0.6
	0.2nm,0.9s,baz=250,slow=8.9,SNR=3.8						
ESDC	**Sonseca Array**	**145.45**	**335**	PKPbc	**PKPab**	**08 57 06.8**	**+0.8**
	0.2nm,0.3s,baz=29,slow=2.9,SNR=3.8						
MDT	**Midelt**	**151.37**	**329**	PKPbc	**PKPbc**	**08 57 22.2**	**+0.4**
	1.6nm,0.9s,baz=6.3,slow=9.2,SNR=3.2						
TORD	**Torodi Ar. Bea**	**156.50**	**282**	PKP	**PKPdf**	**08 57 23.4**	**+0.1**
	0.3nm,0.8s,baz=354,slow=1.4,SNR=2.5						
TORD				PKPab	**PKPab**	**08 57 52.0**	**-0.1**
	0.7nm,0.9s,baz=48,slow=2.1,SNR=2.7						

IDC 26 08:41:01.4±6.2,20°.30S×175°.76W,h79km±40km,mb3.6/4, mb1 3.9/5,mb1mx3.5/27,mbtmp4.0/5,ML3.7/1,MS3.2/1, Ms1 3.2/1,ms1mx2.6/18,Error ellipse: s-maj=142.4km s-min=22.2km az=141.0,Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h m s		ISC
AFI	**Afiamalu**	**7.41**	**31**	P	Pn	08 42 46.9		-0.1
	1.2nm,0.3s,baz=49,slow=20,SNR=3.0							
AFI				S	Sn	08 44 01.0		-8.6
	3.0nm,0.3s,baz=77,slow=13,SNR=5.6							
RAO	**Raoul Island**	**9.12**	**192**	LR	LR	08 46 16.0		
	comp=Z,170nm,21.2s,baz=30,slow=34							
STKA	**Stephens Creek**	**39.77**	**244**	P	P	08 48 26.8		0.0
	1.9nm,0.5s,baz=90,slow=10,SNR=16							
ASAR	**Alice Springs**	**46.61**	**256**	P	P	08 49 21.9		-0.1
	1.2nm,0.8s,baz=93,slow=8.3,SNR=12							
ASAR				PcP	PcP	08 50 54.5		-0.5
	0.5nm,0.5s,baz=106,slow=4.1,SNR=7.3							
WRA	**Warramunga Arr**	**46.71**	**261**	P	P	08 49 22.7		-0.2
	0.6nm,0.4s,baz=96,slow=7.5,SNR=26							
WRA				PcP	PcP	08 50 55.2		-0.2
	0.5nm,0.5s,baz=101,slow=3.3,SNR=4.5							
ILAR	**Eielson Array**	**87.67**	**12**	P	P	08 53 41.0		+0.2
	0.3nm,0.5s,baz=214,slow=6.2,SNR=5.9							
BRTR	**Keskin Array B**	**148.24**	**314**	PKPbc	PKPbc	09 00 38.5		-0.4
	0.4nm,0.4s,baz=40,slow=2.4,SNR=3.2							
GERES	**GERESS Array B**	**150.53**	**347**	PKPbc	PKPbc	09 00 43.4		-0.8
	0.5nm,0.5s,baz=4.3,slow=3.9,SNR=4.2							

CSEM ***26*** *09:14:21.7,41°.64N×33°.73E,h30km,MD2.9*

ISK ***26*** *09:14:21.7,41°.64N×33°.73E,h30km,MD2.9*

ISC 26 09:14:19.8±1.8,41°.60N±0°.08×33°.79E±0°.09,h8km±11km, n13,σ0°.83/16,Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KAST	**KASTAMONU**	**0.15**	**136**	*i* P	**Pg**	**09 14 22.6**	**-0.5**
KAST				*i* S	**Sg**	**09 14 25.4**	**0.0**
BZK	**Bozkurt**	**0.39**	**24**	*e*PG	**Pn**	**09 14 30.9**	**-0.8**
BZK	**Bozkurt**	**0.39**	**24**	*e*Pg	**Pn**	**09 14 30.9**	**-0.8**
ILGA	**Ilgaz**	**0.55**	**186**	*i* P	**Pb**	**09 14 32.0**	**+0.1**
ILGA				*i* S	**Sg**	**09 14 38.9**	**+1.1**
DIKM	**Dikmen**	**1.10**	**87**	*e*PN	**Pg**	**09 14 42.2**	**+1.2**
DIKM				*e*SN	**Sn**	**09 14 57.1**	**+0.2**
DIKM	**Dikmen**	**1.10**	**87**	*e*Pn	**Pg**	**09 14 42.2**	**+1.2**
DIKM				*e*Sn	**Sn**	**09 14 57.1**	**+0.2**
SNOP	**Sinop**	**1.14**	**68**	*e*PN	**Pg**	**09 14 42.5**	**+0.8**
SNOP	**Sinop**	**1.14**	**68**	*e*Pn	**Pg**	**09 14 42.5**	**+0.8**
CORM	**Corum**	**1.56**	**156**	*e*PN	**Pb**	**09 14 48.7**	**-0.3**
CORM	**Corum**	**1.56**	**156**	*e*Pn	**Pb**	**09 14 48.7**	**-0.3**
KVT	**Kavak**	**1.78**	**106**	*e*PN	**Pb**	**09 14 51.9**	**-0.7**
KVT	**Kavak**	**1.78**	**106**	*e*Pn	**Pb**	**09 14 51.9**	**-0.7**
KIS	**Kishinev**	**6.46**	**328**	*e*	Pg	09 16 28.0	+4.4

NSSC ***26*** *09:16:24.5±1.1,33°.83N×35°.78E,h0km±3km,ML2.0*

ISCJB ***26*** *09:16:25.1±0.5,33°.86N±0°.02×35°.81E±0°.03,h5km±4km, Error ellipse: s-maj=4.6km s-min=3.6km az=168.6*

GRAL ***26*** *09:16:25.2±0.3,33°.90N×35°.78E,h14km±9km,MD2.8*

CSEM ***26*** *09:16:25.0±0.2,33°.86N×35°.80E,h2km,ML2.8,Error ellipse: s-maj=4.2km s-min=2.7km az=89.0*

ISC 26 09:16:24.7±0.8,33°.88N±0°.02×35°.78E±0°.03,h15km±7km, n26,σ0°.57/50,Jordan-Syria region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BHL	**Bhannes**	**0.11**	**283**	*e*P	**Pg**	**09 16 28.2**	**0.0**
BHL				*e*S	**Sg**	**09 16 30.4**	**0.0**
BHL	**Bhannes**	**0.11**	**283**	*e*P	**Pg**	**09 16 28.2**	**0.0**
BHL				*e*S	**Sg**	**09 16 30.5**	**0.0**
DQRL	**Deir Qamar**	**0.25**	**225**	*e*P	**Pg**	**09 16 30.4**	**+0.3**
DQRL				*e*S	**Sg**	**09 16 34.5**	**+0.6**
DQRL	**Deir Qamar**	**0.25**	**225**	*e*P	**Pg**	**09 16 30.4**	**+0.3**
DQRL				*e*S	**Sg**	**09 16 34.5**	**+0.6**
HWQ	**Hawqa**	**0.42**	**19**	*e*P	**Pg**	**09 16 32.7**	**-0.4**
HWQ				*e*S	**Sg**	**09 16 38.3**	**-0.6**
HWQ	**Hawqa**	**0.42**	**19**	*e*P	**Pg**	**09 16 32.7**	**-0.4**
HWQ				*e*S	**Sg**	**09 16 38.3**	**-0.6**
BRBR	**Barbar**	**0.49**	**163**	*i* P	**Pg**	**09 16 34.0**	**-0.5**
BRBR				*e*S	**Sg**	**09 16 40.6**	**-0.5**
BRBR				AML	AML	09 16 42.8	
	comp=E,223nm,0.4s						
BRBR				AML	AML	09 16 43.8	
	comp=N,94nm,0.3s						
BRBR	**Barbar**	**0.49**	**163**	*i* P	**Pg**	**09 16 34.0**	**-0.5**
	SNR=92						
BRBR				*e*S	**Sg**	**09 16 40.6**	**-0.5**
	comp=N,94nm,0.3s,SNR=59						
QASN	**Qassioun**	**0.54**	**130**	*i* P	**Pg**	**09 16 34.8**	**-0.5**
QASN				*e*S	**Sg**	**09 16 42.6**	**+0.1**
QASN				AML	AML	09 16 45.8	
	comp=E,106nm,0.3s						
QASN				AML	AML	09 16 46.5	
	comp=N,427nm,0.6s						
QASN	**Qassioun**	**0.54**	**130**	*i* P	**Pg**	**09 16 34.8**	**-0.5**
	SNR=91						
QASN				*e*S	**Sg**	**09 16 42.7**	**+0.1**
	comp=N,427nm,0.6s,SNR=59						
MARH	**Ras Al Marh**	**0.60**	**76**	*i* P	**Pg**	**09 16 36.5**	**-0.1**
MARH				*e*S	**Sb**	**09 16 46.0**	**+0.6**
MARH				AML	AML	09 16 52.1	
	comp=N,77nm,0.4s						
MARH				AML	AML	09 16 53.8	
	comp=E,122nm,0.3s						
MARH	**Ras Al Marh**	**0.60**	**76**	*i* P	**Pg**	**09 16 36.5**	**-0.1**
	SNR=92						
MARH				*e*S	**Sb**	**09 16 46.0**	**+0.6**
	comp=E,90nm,0.2s,SNR=59						
FKH	**Fakeheh**	**0.64**	**55**	*e*P	**Pg**	**09 16 36.4**	**-0.8**
FKH	**Fakeheh**	**0.64**	**55**	*e*P	**Pg**	**09 16 36.4**	**-0.8**
TOTH	**TOTAH**	**0.75**	**134**	*i* P	**Pg**	**09 16 39.0**	**-0.2**
TOTH				AML	AML	09 16 39.5	
	comp=E,90nm,0.2s						
TOTH				*e*S	**Sg**	**09 16 49.8**	**+0.7**
TOTH				AML	AML	09 16 58.0	
	comp=N,53nm,0.6s						
TOTH	**TOTAH**	**0.75**	**134**	*i* P	**Pg**	**09 16 39.0**	**-0.2**
	SNR=75						
TOTH				*e*S	**Sg**	**09 16 49.8**	**+0.7**
	comp=N,53nm,0.6s,SNR=59						
TCHB	**Talchebab**	**1.22**	**173**	*i* P	**Pn**	**09 16 46.8**	**-0.4**
TCHB				*e*S	**Sb**	**09 17 02.5**	**-0.4**
TCHB				AML	AML	09 17 15.1	
	comp=E,48nm,0.5s						
TCHB				AML	AML	09 17 20.0	
	comp=N,36nm,0.5s						
TCHB	**Talchebab**	**1.22**	**173**	*i* P	**Pn**	**09 16 46.8**	**-0.4**
	SNR=57						
TCHB				*e*S	**Sb**	**09 17 02.5**	**-0.4**
	comp=N,36nm,0.5s,SNR=49						
RABH	**Abou Rabah**	**1.30**	**64**	*i* P	**Pg**	**09 16 50.1**	**+0.3**
RABH				*e*S	**Sg**	**09 17 07.7**	**+0.9**
RABH				AML	AML	09 17 18.7	
	comp=E,16nm,0.6s						
RABH				AML	AML	09 17 20.3	
	comp=N,16nm,0.7s						
RABH	**Abou Rabah**	**1.30**	**64**	*i* P	**Pg**	**09 16 50.1**	**+0.3**
	SNR=57						
RABH				*e*S	**Sg**	**09 17 07.7**	**+0.9**
	comp=N,16nm,0.7s,SNR=49						
SALA	**Sala**	**1.41**	**145**	*i* P	**Pn**	**09 16 50.8**	**+0.8**
SALA				*e*S	**Sn**	**09 17 08.7**	**+0.3**
SALA				AML	AML	09 17 14.9	
	comp=E,6.3nm,0.5s						
SALA				AML	AML	09 17 15.3	
	comp=N,30nm,0.7s						
SALA	**Sala**	**1.41**	**145**	*i* P	**Pn**	**09 16 50.8**	**+0.8**
	SNR=57						
SALA				*e*S	**Sn**	**09 17 08.7**	**+0.3**
	comp=N,30nm,0.7s,SNR=49						
ARNB	**Al Arnab**	**1.98**	**4**	*i* P	**Pb**	**09 16 59.7**	**-0.8**
ARNB				*e*S	**Sb**	**09 17 26.1**	**+1.1**
ARNB				AML	AML	09 17 36.0	
	comp=E,22nm,0.4s						
ARNB				AML	AML	09 17 40.9	
	comp=N,30nm,0.5s						
ARNB	**Al Arnab**	**1.98**	**4**	*i* P	**Pb**	**09 16 59.7**	**-0.8**
	SNR=45						
ARNB				*e*S	**Sb**	**09 17 26.1**	**+1.1**
	comp=N,30nm,0.5s,SNR=40						
BTCH	**Batrach**	**2.22**	**14**	*i* P	**Pb**	**09 17 04.0**	**-0.6**
BTCH				*e*S	**Sb**	**09 17 31.9**	**0.0**
BTCH				AML	AML	09 17 47.1	
	comp=N,20nm,0.5s						
BTCH				AML	AML	09 17 54.3	
	comp=E,32nm,0.7s						
BTCH	**Batrach**	**2.22**	**14**	*i* P	**Pb**	**09 17 04.0**	**-0.6**
	SNR=45						
BTCH				*e*S	**Sb**	**09 17 31.9**	**0.0**
	comp=E,32nm,0.7s,SNR=40						

NIED ***26*** *09:28:00,34°.20N×141°.90E,h11km,Mw3.7 Best double couple: M0 3.99000×10^14 NP1:φ8166.00000°,δ47.00000°, λ22.00000°. NP2:φ8 61.00000°,δ74.00000°,λ135.00000°.*

IDC ***26*** *09:28:17.6±2.0,34°.33N×141°.93E,h0km,mb3.7/5, mb1 3.8/8,mb1mx3.6/48,mbtmp3.7/8,ML3.6/3,MS2.7/3, Ms1 2.7/3,ms1mx2.5/40,Error ellipse: s-maj=49.9km s-min=19.6km az=63.0*

ISCJB ***26*** *09:28:19.7±1.5,34°.26N±0°.05×141°.84E±0°.08, h26km±11km,mb3.8/5,MS2.6/1,Error ellipse: s-maj=11.9km s-min=7.3km az=154.5*

JMA ***26*** *09:28:19.3±0.3,34°.20N×141°.87E,h42km±3km,M3.7*

ISC 26 09:28:20.5±3.8,34°.27N±0°.06×141°.8E±0°.1,h17km±24km, n25,σ0°.84/27,mb3.7/5,Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BSO1	**Boso 1**	**0.77**	**300**	P	**Pb**	**09 28 35.2**	**0.0**
BSO1				X		09 28 47.4	
BSO3	**Boso 3**	**1.18**	**297**	P	**Pn**	**09 28 41.8**	**-0.3**
BSO3				S	**Sn**	**09 28 57.6**	**-0.1**
BSO4	**Boso 4**	**1.40**	**301**	P	**Pn**	**09 28 45.2**	**0.0**
CHOJ	**Chosi**	**1.62**	**332**	P	**Pn**	**09 28 47.8**	**-0.6**
CHOJ				S	**Sn**	**09 29 07.9**	**-1.0**
JIM2	**Oshima 3**	**2.00**	**284**	P	**Pn**	**09 28 52.4**	**-1.2**
JHJ	**Hachijo jima 2**	**2.03**	**236**	Pn	**Pn**	**09 28 54.2**	**+0.2**
	42nm,0.3s,baz=34,slow=3.6,SNR=3.5						
JHJ				Sn	**Sn**	**09 29 17.6**	**-1.3**
	156nm,0.3s,baz=13,slow=22,SNR=9.9						
JOD2	**Odawara 2**	**2.44**	**295**	P	**Pn**	**09 28 58.3**	**-1.3**
JOD2				S	**Sn**	**09 29 29.2**	**+0.2**
JAG	**Ashikaga**	**2.88**	**319**	P	**Pn**	**09 29 05.4**	**-0.2**
JAG				eS	**Sn**	**09 29 39.0**	**-0.9**
JYN	**Shimob**	**2.94**	**296**	P	**Pn**	**09 29 06.0**	**-0.5**
JYN				S	**Sn**	**09 29 41.3**	**-0.2**
JRY	**Ryogami san**	**2.94**	**307**	P	**Pn**	**09 29 06.3**	**-0.2**
JRY				S	**Sn**	**09 29 42.1**	**+0.6**
MJAR	**Matsushiro Arr**	**3.70**	**309**	Pn	**Pn**	**09 29 17.2**	**+0.2**
	7.5nm,0.3s,baz=159,slow=13,SNR=51						
MJAR				Sn	**Sn**	**09 30 02.1**	**+1.9**
	6.5nm,0.3s,baz=139,slow=22,SNR=7.5						
MJAR				LR	LR	09 30 53.3	
	comp=Z,44nm,20.3s,baz=125,slow=42						
MAT	**Matsushiro**	**3.70**	**309**	P	**Pn**	**09 29 17.0**	**0.0**
MAT				S	**Sn**	**09 30 00.7**	**+0.4**
KSRS	**Korea Array**	**11.69**	**290**	Pn	**Pn**	**09 31 07.9**	**+1.3**
	0.3nm,0.3s,baz=100,slow=16,SNR=4.1						
KSRS				LR	LR	09 36 12.3	
	comp=Z,67nm,18.8s,baz=114,slow=40						
PETK	**Petropavlovsk-**	**21.98**	**26**	LR	LR	09 45 08.2	
	comp=Z,20nm,18.2s,baz=297,slow=46						
H11N2	**WAKE ISLAND Hy**	**26.55**	**117**	T	T	10 02 08.8	
	baz=309,slow=75,SNR=7.8						
H11N1	**WAKE ISLAND Hy**	**26.56**	**117**	T	T	10 01 59.0	
	baz=309,slow=75,SNR=4.4						
H11N3	**WAKE ISLAND Hy**	**26.57**	**117**	T	T	10 01 58.1	
	baz=309,slow=75,SNR=6.4						
H11S3	**WAKE ISLAND Hy**	**27.18**	**119**	T	T	10 02 52.7	
	baz=312						
H11S1	**WAKE ISLAND Hy**	**27.18**	**119**	T	T	10 02 51.2	
	baz=312						
H11S2	**WAKE ISLAND Hy**	**27.19**	**119**	T	T	10 02 51.5	
	baz=312						
SONM	**Songino Array**	**29.66**	**308**	P	**P**	**09 34 24.3**	**-1.0**
	0.7nm,0.5s,baz=102,slow=6.5,SNR=3.3						
MKAR	**Makanchi Array**	**45.89**	**304**	P	**P**	**09 36 43.3**	**+1.3**
	0.4nm,0.4s,baz=88,slow=9.9,SNR=3.7						
KURBB	**Kurchatov Arra**	**47.98**	**310**	P	**P**	**09 36 58.0**	**-0.3**
	0.7nm,0.3s,baz=86,slow=7.4,SNR=3.5						
WRA	**Warramunga Arr**	**54.38**	**189**	P	**P**	**09 37 47.2**	**+0.6**
	0.7nm,0.6s,baz=4.7,slow=7.6,SNR=4.0						
ASAR	**Alice Springs**	**58.10**	**189**	P	**P**	**09 38 13.1**	**0.0**
	0.3nm,0.6s,baz=14,slow=12,SNR=7.2						

NERS ***26*** *09:43:29.1,64°.41N×151°.61E,h16km*

YARS ***26*** *09:43:29.1±0.3,64°.48N±0°.01×151°.68E±0°.04,h10km*

ISC 26 09:43:28.4±1.0,64°.44N±0°.03×151°.66E±0°.04,h10km,n18, σ2°.38/40,2D,Eastern Siberia

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

MOMR				*e*S	**Sb**	09 45 34.0	**+4.8**
MOMR				Smax		09 45 34.0	
	comp=E,98nm,0.4s						
MGD	**Magadan 1**	**4.43**	**186**	*e*P	**Pn**	09 44 37.2	**+1.5**
MGD				*e*Sg	**Sg**	09 45 48.1	**-2.5**
MGD				Sgmax		09 45 55.6	
	comp=E,110nm,0.4s						
MGD				Sgmax		09 45 55.6	
	comp=E,150nm,0.4s						
MGD	**Magadan 1**	**4.43**	**186**	*e*S	**Sg**	09 45 48.1	**-2.5**
MGD				Smax		09 45 48.1	
	comp=E,150nm,0.4s						
YBGR	**Belaya Gora**	**4.65**	**334**	*e*P	**Pb**	09 44 52.5	**+2.5**
YBGR				Pmax		09 44 52.5	
	comp=Z,5.0nm,0.2s						
YBGR				*e*S	**Sg**	09 45 51.9	**-5.7**
YBGR				Smax		09 45 51.9	
	comp=N,33nm,0.4s						
MA2	**Magadan**	**4.90**	**185**	*e*	**Pn**	09 44 40.1	**-2.0**
MA2				*e*P	**Pn**	09 44 43.9	**+1.8**
MA2				*e*Pg	**Pb**	09 44 57.7	**+3.4**
MA2				*e*Sg	**Sg**	09 46 01.1	**-4.6**
MA2				Sgmax		09 46 09.5	
	comp=N,220nm,0.3s						
MA2				Sgmax		09 46 09.5	
	comp=N,180nm,0.3s						
MA2	**Magadan**	**4.90**	**185**	*e*P	**Pb**	09 44 57.7	**+3.4**
MA2				*e*S	**Sg**	09 46 01.1	**-4.6**
MA2				Smax		09 46 01.1	
	comp=N,220nm,0.3s						
YAK	**Yakutsk**	**10.18**	**266**	*e*S	Sn	09 48 44.5	+56
YAK				Smax		09 48 44.5	
	comp=N,34nm,1.5s						
CGD	**Chagda**	**11.49**	**250**	*e*S		09 49 24.9	
CGD				Smax		09 49 24.9	
	comp=N,4.0nm,1.1s						

*NAM **26** 09:46:38.9±85.0, 26.09S×23.15E, h88km±999km*
*PRE **26** 09:46:48.0±0.8, 27.91S×16.22E, h5km, ML3.9*
*ISCJB **26** 09:46:52.5±1.4, 28.09S±0.09×16.5E±0.1, h10km, Error ellipse: s-maj=18.2km s-min=8.4km az=145.2*

ISC 26 09:46:52.7±1.7, 28°01'S±0'.08×16°.5E±0'.1, h10km, n11, σ1§34/13, Namibia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AUSN	**Aus**	**1.34**	**352**	*i* P	**Pg**	**09 47 19.8**	**+1.3**
AUSN	**Aus**	**1.34**	**352**	*i* P	**Pn**	**09 47 18.0**	**+0.3**
ARMS	**Ukamas**	**2.88**	**91**	*i* P	**Pn**	**09 47 38.7**	**-0.1**
ARMS	**Ukamas**	**2.88**	**91**	*i* P	**Pn**	**09 47 40.3**	**+1.4**
AUGR	**Augrabies**	**3.46**	**101**	*e*P	**Pn**	**09 47 46.8**	**+0.1**
AUGR				*e*S	**Sn**	**09 48 28.5**	**+0.8**
AUGR				AML	AML	09 48 37.5	
	comp=Z,118nm,0.3s						
CVNA	**Calvinia**	**4.49**	**141**	*e*P	**Pn**	**09 48 00.3**	**-0.7**
CVNA				*e*S	**Sn**	**09 48 53.6**	**+0.3**
CVNA				AML	AML	09 49 11.6	
	comp=Z,135nm,0.3s						
WIN	**Windhoek**	**5.45**	**6**	*i* P	**Pn**	**09 48 16.0**	**+1.9**
WIN				*i* S	**Sb**	**09 49 32.4**	**-1.1**
WIN	**Windhoek**	**5.45**	**6**	*i* P	Pn	09 48 20.1	+6.0
BOSA	**Boshof**	**7.76**	**97**	*e*P	**Pn**	**09 48 46.0**	**0.0**
BOSA				*e*S	**Sn**	**09 50 12.7**	**-1.3**
BOSA				AML	AML	09 50 49.8	
	comp=Z,17nm,0.7s						
KJAB	**KAMANJAB**	**8.48**	**350**	*i* P	Pg	09 49 46.0	+11
KJAB	**KAMANJAB**	**8.48**	**350**	*i* P	**Sn**	**09 50 29.1**	**-2.6**

*ISK **26** 09:58:34.8, 39.69N×38.69E, h5km, ML3.6*
*DDA **26** 09:58:35.3, 39.66N×38.70E, h5km, Md3.3*
*CSEM **26** 09:58:36.0±0.1, 39.69N×38.68E, h2km, MD3.3, Error ellipse: s-maj=3.6km s-min=3.2km az=10.0*

ISC 26 09:58:36.0±1.0, 39°66N±0'.02×38°69E±0'.02, h5km±9km, n77, σ1§41/106, Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
REFA	**Refahiye_ERZ¯**	**0.27**	**168**	*i* P	**Pg**	**09 58 41.2**	**-0.2**
REFA				*i* S	**Sg**	**09 58 45.5**	**+0.5**
REFA	**Refahiye_ERZ¯**	**0.27**	**168**	P	**Pg**	**09 58 41.2**	**-0.2**
REFA				S	**Sg**	**09 58 45.5**	**+0.5**
KEMA	**Kemaliye**	**0.42**	**201**	*i* P	**Pg**	**09 58 44.0**	**-0.2**
KEMA				*i* S	**Sb**	**09 58 50.9**	**-1.9**
KEMA	**Kemaliye**	**0.42**	**201**	P	**Pg**	**09 58 44.0**	**-0.2**
KEMA				S	**Sb**	**09 58 50.8**	**-1.9**
EZC	**Erzincan**	**0.52**	**80**	*e*Pg	**Pn**	**09 58 50.8**	**+0.6**
KELT	**Kelkit**	**0.65**	**42**	*i* P	**Pg**	**09 58 47.9**	**-0.7**
KELT				*i* S	**Sg**	**09 58 57.0**	**-0.1**
KELT	**Kelkit**	**0.65**	**42**	P	**Pg**	**09 58 47.9**	**-0.7**
KELT				S	**Sg**	**09 58 57.0**	**-0.1**
CUZAR	**Zara_SIVAS**	**0.74**	**288**	*i* P	**Pg**	**09 58 47.5**	**-2.8**
CUZAR				*i* S	**Sb**	**09 59 01.7**	**-0.3**
CUZAR	**Zara_SIVAS**	**0.74**	**288**	P	**Pg**	**09 58 47.5**	**-2.8**
EUZM	**Uzumlu**	**0.78**	**86**	*i* P	**Pb**	**09 58 51.0**	**-1.1**
EUZM				*i* S	**Sb**	**09 59 03.3**	**+0.3**
EUZM	**Uzumlu**	**0.78**	**86**	P	**Pb**	**09 58 51.0**	**-1.1**
EUZM				S	**Sb**	**09 59 03.3**	**+0.3**
ERZN	**Erzincan**	**0.80**	**95**	*e*PG	**Pg**	**09 58 50.8**	**-0.6**
ERZN				*e*SG	**Sb**	**09 59 03.7**	**0.0**
TNCL	**Tunceli-Merkez**	**0.86**	**129**	*i* P	**Pg**	**09 58 51.6**	**-0.9**
TNCL				*i* S	**Sb**	**09 59 04.4**	**-0.9**
TNCL	**Tunceli-Merkez**	**0.86**	**129**	P	**Pg**	**09 58 51.6**	**-0.9**
TNCL				S	**Sb**	**09 59 04.4**	**-0.9**
PTK	**Pertek**	**0.94**	**144**	*e*PG	**Pb**	**09 58 54.2**	**-0.8**
PTK				*e*SG	**Sn**	**09 59 09.0**	**-1.0**
PTK	**Pertek**	**0.94**	**144**	*e*Pg	**Pb**	**09 58 54.2**	**-0.8**
PTK				*e*Sg	**Sn**	**09 59 09.0**	**-1.0**
CUKAN	**kangal_SIVAS**	**1.01**	**250**	*i* P	**Pg**	**09 58 54.6**	**-0.7**
CUKAN				*i* S	**Sn**	**09 59 10.2**	**-1.3**
CUKAN	**kangal_SIVAS**	**1.01**	**250**	P	**Pg**	**09 58 54.6**	**-0.7**
CUKAN				S	**Sn**	**09 59 10.2**	**-1.3**
ELZG	**Elazig**	**1.19**	**169**	*i* P	**Pg**	**09 58 58.1**	**-0.7**
ELZG				*i* S	**Sn**	**09 59 15.0**	**-1.0**
ELZG	**Elazig**	**1.19**	**169**	P	**Pg**	**09 58 58.1**	**-0.7**
ELZG				S	**Sn**	**09 59 15.0**	**-1.0**
SCER	**sogukcermik**	**1.22**	**280**	*i* P	**Pn**	**09 58 59.2**	**-0.6**
SCER				*i* S	**Sn**	**09 59 16.6**	**-0.2**
SCER	**sogukcermik**	**1.22**	**280**	P	**Pn**	**09 58 59.2**	**-0.6**
SCER				S	**Sn**	**09 59 16.6**	**-0.2**
RSDY	**Resadiye-TOKAT**	**1.28**	**305**	*e*PN	**Pg**	**09 58 59.9**	**-0.6**
RSDY	**Resadiye-TOKAT**	**1.28**	**305**	*e*Pn	**Pg**	**09 58 59.9**	**-0.6**
GRSN	**GIRESUNGRSN**	**1.30**	**346**	*i* P	**Pn**	**09 59 00.1**	**-0.7**
GRSN				*i* S	**Sn**	**09 59 19.3**	**+0.7**
GRSN	**GIRESUNGRSN**	**1.30**	**346**	P	**Pn**	**09 59 00.1**	**-0.7**
SVSK	**Karacayir**	**1.33**	**282**	*e*PN	**Pg**	**09 59 01.1**	**-0.3**
SVSK	**Karacayir**	**1.33**	**282**	*e*Pn	**Pg**	**09 59 01.1**	**-0.3**
SVRC	**Sivrice-ELAZID**	**1.37**	**159**	*e*PN	**Pg**	**09 59 01.8**	**-0.5**
SVRC	**Sivrice-ELAZID**	**1.37**	**159**	*e*Pn	**Pg**	**09 59 01.8**	**-0.5**
KOPT	**Kop Dagi**	**1.44**	**75**	*i* P	**Pg**	**09 59 03.6**	**0.0**
KOPT				*i* S	**Sn**	**09 59 28.4**	**+6.1**
KOPT	**Kop Dagi**	**1.44**	**75**	P	**Pg**	**09 59 03.6**	**0.0**
DARE	**Darende-Malaty**	**1.44**	**221**	*e*PN	**Pg**	**09 59 02.9**	**-0.7**
DARE	**Darende-Malaty**	**1.44**	**221**	*e*Pn	**Pg**	**09 59 02.9**	**-0.7**
CUGUR	**Gurin_S¯VAS**	**1.45**	**230**	*i* P	**Pg**	**09 59 03.9**	**+0.2**
CUGUR				*i* S	**Sg**	**09 59 25.2**	**+2.7**
CUGUR	**Gurin_S¯VAS**	**1.45**	**230**	P	**Pg**	**09 59 03.9**	**+0.2**
YEDI	**Yedisu-Bingol**	**1.45**	**98**	*e*PN	**Pg**	**09 59 03.2**	**-0.7**
ORDU	**Ordu-Boztepe**	**1.47**	**335**	*i* P	**Pg**	**09 59 03.5**	**-0.7**
ORDU				*i* S	**Sg**	**09 59 27.3**	**+4.0**
ORDU	**Ordu-Boztepe**	**1.47**	**335**	P	**Pg**	**09 59 03.5**	**-0.7**
MACK	**Trabzon**	**1.52**	**33**	*i* P	**Pb**	**09 59 03.0**	**-0.9**
MACK				*i* S	**Sg**	**09 59 24.2**	**-0.7**
MACK	**Trabzon**	**1.52**	**33**	P	**Pb**	**09 59 03.8**	**-0.9**
MACK				S	**Sg**	**09 59 24.2**	**-0.7**
CUALT	**Altinyayla-SIV**	**1.54**	**256**	*i* P	**Pb**	**09 59 04.5**	**-0.7**
CUALT				*i* S	**Sg**	**09 59 28.8**	**+3.1**
CUALT	**Altinyayla-SIV**	**1.54**	**256**	P	**Pb**	**09 59 04.5**	**-0.7**
KTUT	**Trabzon**	**1.56**	**32**	*e*PN	**Pb**	**09 59 04.4**	**-0.9**
KTUT	**Trabzon**	**1.56**	**32**	*e*Pn	**Pb**	**09 59 04.4**	**-0.9**
BINT	**Bingol**	**1.60**	**119**	*e*Pn	**Pg**	**09 59 06.5**	**-0.3**
BNGB	**Bing¯ll**	**1.68**	**113**	*e*PN	**Pb**	**09 59 06.5**	**-1.0**
TOKA	**Tokat**	**1.82**	**292**	*i* P	**Pg**	**09 59 10.7**	**-0.2**
TOKA				*i* S	**Sg**	**09 59 35.9**	**+1.3**
CUSAR	**Sarkisla-SIVAS**	**1.91**	**263**	*i* P	**Pb**	**09 59 11.1**	**-0.2**
CUSAR				*i* S	**Sg**	**09 59 42.1**	**+4.9**
CUSAR	**Sarkisla-SIVAS**	**1.91**	**263**	P	**Pb**	**09 59 11.1**	**-0.2**
BNGL	**BINGOL**	**2.04**	**110**	*i* P	**Pg**	**09 59 14.8**	**-0.3**
SARI	**SarD1z-Kayseri**	**2.17**	**235**	*e*PN	**Pb**	**09 59 14.2**	**-1.7**
VRTB	**Varto-Mus**	**2.20**	**102**	*e*PN	**Pb**	**09 59 14.6**	**-1.8**
VRTB	**Varto-Mus**	**2.20**	**102**	*e*Pn	**Pb**	**09 59 14.6**	**-1.8**
URFA	**Urfa**	**2.22**	**177**	*e*PN	**Pb**	**09 59 14.7**	**-2.0**
URFA	**Urfa**	**2.22**	**177**	*e*Pn	**Pb**	**09 59 14.7**	**-2.0**
BNN	**Bunyan**	**2.35**	**251**	*e*PN	**Pn**	**09 59 15.4**	**0.0**
BNN	**Bunyan**	**2.35**	**251**	*e*Pn	**Pn**	**09 59 15.4**	**0.0**
KVT	**Kavak**	**2.46**	**306**	*e*PN	**Pn**	**09 59 17.6**	**+0.8**
KVT	**Kavak**	**2.46**	**306**	*e*Pn	**Pn**	**09 59 17.7**	**+0.8**
GZT	**Gaziantep**	**2.47**	**201**	*i* P	**Pb**	**09 59 20.0**	**-1.0**
SVAN	**Silvan-Diyarba**	**2.47**	**127**	*e*PN	**Pb**	**09 59 18.6**	**-2.3**
SVAN	**Silvan-Diyarba**	**2.47**	**127**	*e*Pn	**Pb**	**09 59 18.6**	**-2.3**
HOMI	**Horasan**	**2.50**	**80**	*i* P	**Pb**	**09 59 21.8**	**+0.2**
KMRS	**Kahramanmaras**	**2.57**	**214**	*e*PN	**Pn**	**09 59 19.7**	**+1.4**
KMRS	**Kahramanmaras**	**2.57**	**214**	*e*Pn	**Pn**	**09 59 19.7**	**+1.4**
MAZI	**Mazidag**	**2.60**	**147**	*e*PN	**Pn**	**09 59 20.0**	**+1.2**
MAZI	**Mazidag**	**2.60**	**147**	*e*Pn	**Pn**	**09 59 20.0**	**+1.2**
EKAR	**Karacoban**	**2.64**	**98**	*i* P	**Pg**	**09 59 25.7**	**-1.0**
BTMN	**Batman**	**2.68**	**130**	*i* P	**Pb**	**09 59 24.5**	**0.0**
GAZ	**Gaziantep**	**2.75**	**205**	*e*PN	**Pn**	**09 59 22.1**	**+1.4**
GAZ	**Gaziantep**	**2.75**	**205**	*e*Pn	**Pn**	**09 59 22.1**	**+1.4**
SENK	**Senkaya-Erzuru**	**2.95**	**71**	*e*PN	**Pn**	**09 59 25.2**	**+1.5**
KOZT	**Kozan**	**3.13**	**227**	*e*PN	**Pn**	**09 59 27.6**	**+1.7**
KOZT	**Kozan**	**3.13**	**227**	*e*Pn	**Pn**	**09 59 27.6**	**+1.7**
AGRB	**Hanur-Agry**	**3.33**	**90**	*e*PN	**Pn**	**09 59 29.8**	**+1.0**
AGRB	**Hanur-Agry**	**3.33**	**90**	*e*Pn	**Pn**	**09 59 29.8**	**+1.0**

*IDC **26** 09:59:57.5±2.8, 54.46N×86.52E, h0km, mb1 3.3/2, mb1mx3.1/55, mbtmp3.3/2, ML3.1/2, Error ellipse: s-maj=22.5km s-min=15.9km az=41.0*
*NNC **26** 10:10:01.2±3.0, 54.07N×86.45E, h0km, mb3.5, mpv3.1, Error ellipse: s-maj=24.5km s-min=19.6km az=176.0*

ISC 26 10:10:00.3±4.3, 54°.3N±0'.2×86°.5E±0'.2, h10km, n7, σ1§59/11, 7C-2D, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**1.02**	**252**	*i*		10 16 30.0	
	baz=60,slow=325,SNR=1.7						
ZALV	**Zalesovo Beam**	**1.02**	**252**	Pg	**Pb**	**10 10 18.2**	**-1.8**
	4.1nm,0.3s,baz=65,slow=15,SNR=20						
ZALV				Lg	Lg	10 10 34.6	
	3.2nm,0.3s,baz=60,slow=30,SNR=6.9						
KURK	**Kurchatov**	**5.97**	**237**	⇑Pn	**Pn**	**10 11 28.5**	**0.0**
	0.7nm,0.4s						
KURK				⇓Sn	**Sn**	**10 12 38.2**	**+1.3**
	2.6nm,0.8s						
KURK				⇑Lg	Lg	10 13 09.1	
	6.5nm,0.8s						
KURBB	**Kurchatov Arra**	**6.07**	**236**	Pn	**Pn**	**10 11 31.5**	**+1.6**
	0.4nm,0.3s,baz=50,slow=14,SNR=16						
KURBB				Sn	**Sn**	**10 12 41.0**	**+1.6**
	baz=54,slow=22,SNR=3.3						
KURBB				Lg	Lg	10 13 14.3	
	0.1nm,0.3s,baz=49,slow=33,SNR=5.7						
KURBB	**Kurchatov Arra**	**6.07**	**236**	⇑Pn	**Pn**	**10 11 30.0**	**+0.1**
	2.6nm,0.4s						
KURBB				⇑Sn	**Sn**	**10 12 40.3**	**+0.9**
	4.4nm,0.6s						
KURBB				⇑Lg	Lg	10 13 14.0	
	15nm,1.2s						
MK31	**Makanchi Array**	**7.94**	**201**	⇓Pn	**Pn**	**10 11 57.3**	**+1.6**
	0.2nm,0.5s,baz=24,slow=12,SNR=9.5						
MK31				⇑Sn	**Sn**	**10 13 23.7**	**-1.8**
	3.8nm,1.1s,baz=22,slow=21,SNR=4.8						
MK31				⇑Lg	Lg	10 14 08.1	
	1.5nm,1.1s,baz=23,slow=31,SNR=3.8						
MKAR	**Makanchi Array**	**7.94**	**201**	Pn	**Pn**	**10 11 57.2**	**+1.6**
	0.3nm,0.3s,baz=25,slow=14,SNR=11						
MKAR				Sn	**Sn**	**10 13 24.5**	**-1.0**
	0.3nm,0.3s,baz=15,slow=18,SNR=5.5						
MKAR				Lg	Lg	10 14 14.4	
	baz=24,slow=28,SNR=2.2						

JMA 26 10:12:39.0±0.1, 38°.45N×141°.80E, h53km±1km, M3.5, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JIO	**Ouri**	**0.35**	**271**	P	Pn	10 12 49.0	+0.1
JIO				S	Sn	10 12 56.1	+0.1
OFUJ	**Ofunato**	**0.64**	**351**	P	Pn	10 12 52.1	0.0
OFUJ				S	Sn	10 13 01.6	0.0
JMK	**Ichinoseki**	**0.68**	**318**	P	Pn	10 12 53.0	+0.4
JMK				S	Sn	10 13 02.1	-0.3
JOU	**Okura**	**0.90**	**265**	P	Pn	10 12 55.6	+0.2
JOU				S	Sn	10 13 07.8	+0.3
JMM	**Marumori**	**0.98**	**234**	P	Pn	10 12 56.3	-0.3
JMM				S	Sn	10 13 08.9	-0.6
JOM	**Ohasama**	**1.10**	**339**	P	Pn	10 12 58.4	+0.3
JOM				S	Sn	10 13 13.0	+0.8
JYK	**Kaneyama**	**1.22**	**293**	P	Pn	10 13 00.2	+0.4
JYK				S	Sn	10 13 15.8	+0.6
JFK	**Kawauchi**	**1.31**	**214**	P	Pn	10 13 00.7	-0.3
JFK				S	Sn	10 13 16.9	-0.4
JRG	**Rokugo**	**1.31**	**316**	P	Pn	10 13 01.3	+0.3
JYS	**Shirataka**	**1.38**	**261**	P	Pn	10 13 02.5	+0.5
JYS				S	Sn	10 13 19.9	+0.7
JFT	**Otama**	**1.48**	**232**	P	Pn	10 13 03.9	+0.6
JFT				S	Sn	10 13 21.7	+0.1

MEX 26 10:14:53.2±0.4, 16°.91N×100°.41W, h13km±2km, MD3.7, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CAIG	**El Cayaco**	**0.20**	**44**	*i* P	Pg	10 14 56.9	-0.7
CAIG				*i* S	Sg	10 15 00.5	-0.2
ACX	**Acapulco**	**0.53**	**94**	*i* P	Pg	10 14 54.8	-8.9
ACX				*i* S	Sg	10 15 01.6	-9.2
MEIG	**Mezcala**	**1.27**	**37**	*i* P	Pn	10 15 12.9	-3.8
MEIG				*i* S	Sb	10 15 27.8	-5.5
ARIG	**Puente Sto Nin**	**1.37**	**3**	*e*P	Pn	10 15 14.6	-3.5
ARIG				*i* S	Sn	10 15 31.2	-4.9
PLIG	**Platanillo**	**1.71**	**30**	*e*P	Pn	10 15 19.3	-3.6
PLIG				*i* S	Sn	10 15 40.0	-4.7
TLIG	**Tlapa**	**1.88**	**69**	*i* P	Pn	10 15 22.2	-3.0
TLIG				*i* S	Sn	10 15 44.2	-4.6
PNIG	**Pinotepa**	**2.25**	**103**	*i* P	Pn	10 15 27.1	-3.0
PNIG				*i* S	Sn	10 15 53.5	-4.3
YAIG	**Yautepec**	**2.33**	**33**	*i* P	Pn	10 15 28.0	-3.4
YAIG				*i* S	Sn	10 15 56.4	-3.6

*ISN **26** 10:18:38.7±0.7, 39.68N×38.90E, h19km±152km, ML3.9*
*ISK **26** 10:18:50.6, 39.67N×38.70E, h8km, ML3.9*
*DDA **26** 10:18:50.3, 39.68N×38.68E, h10km, MI3.8*
*ISCJB **26** 10:18:50.7±0.4, 39.68N±0.02×38.71E±0.02, h5km±3km, mb3.7/9, MS2.6/2, Error ellipse: s-maj=2.9km s-min=2.6km az=164.8*
*NEIC **26** 10:18:50.6±0.0, 39.67N×38.70E, h8km, ML4.0(ISK), After ISK.*
*IDC **26** 10:18:50.5±0.7, 39.68N×38.74E, h0km, mb3.8/9, mb1 3.8/17, mb1mx3.6/54, mbtmp3.7/17, ML3.4/7, MS2.8/5, Ms1 2.8/5, ms1mx2.4/46, Error ellipse: s-maj=14.1km s-min=8.6km az=157.0*
*CSEM **26** 10:18:51.0±0.1, 39.66N×38.72E, h2km, ML3.8, Error ellipse: s-maj=2.9km s-min=2.6km az=10.0*

ISC 26 10:18:51.5±0.7, 39°.67N±0'.02×38°.69E±0'.01, h3km±5km, n127, σ1§10/159, mb3.8/9, Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
REFA	**Refahiye_ERZ¯**	**0.28**	**168**	*i* P	**Pg**	**10 18 56.1**	**-0.8**
REFA				*i* S	**Sg**	**10 19 00.6**	**+0.1**
REFA	**Refahiye_ERZ¯**	**0.28**	**168**	P	**Pg**	**10 18 56.1**	**-0.8**
REFA				S	**Sg**	**10 19 00.6**	**+0.1**
KEMA	**Kemaliye**	**0.43**	**201**	*i* P	**Pg**	**10 18 59.2**	**-0.6**
KEMA				*i* S	**Sg**	**10 19 05.8**	**+0.5**
KEMA	**Kemaliye**	**0.43**	**201**	P	**Pg**	**10 18 59.2**	**-0.6**
KEMA				S	**Sg**	**10 19 05.8**	**+0.5**
KELT	**Kelkit**	**0.65**	**42**	*i* P	**Pg**	**10 19 03.0**	**-1.0**
KELT				*i* S	**Sg**	**10 19 11.5**	**-0.9**
KELT	**Kelkit**	**0.65**	**42**	P	**Pg**	**10 19 03.0**	**-1.0**
KELT				S	**Sg**	**10 19 11.5**	**-0.9**
CUZAR	**Zara_SIVAS**	**0.74**	**288**	*i* P	**Pg**	**10 19 05.3**	**-0.5**
CUZAR				*i* S	**Sg**	**10 19 16.1**	**+0.6**
CUZAR	**Zara_SIVAS**	**0.74**	**288**	P	**Pg**	**10 19 05.3**	**-0.5**
CUZAR				S	**Sg**	**10 19 16.1**	**+0.6**
EUZM	**Uzumlu**	**0.78**	**87**	*i* P	**Pg**	**10 19 05.7**	**-0.7**
EUZM				*i* S	**Sb**	**10 19 18.5**	**-0.2**
EUZM	**Uzumlu**	**0.78**	**87**	P	**Pg**	**10 19 05.7**	**-0.7**
EUZM				S	**Sb**	**10 19 18.5**	**-0.2**
ERZN	**Erzincan**	**0.80**	**95**	*e*PG	**Pg**	**10 19 06.0**	**-0.9**
ERZN				*e*SG	**Sg**	**10 19 18.1**	**+0.9**
TNCL	**Tunceli-Merkez**	**0.86**	**130**	*i* P	**Pg**	**10 19 06.5**	**-1.5**
TNCL				*i* S	**Sg**	**10 19 17.8**	**-1.3**
TNCL	**Tunceli-Merkez**	**0.86**	**130**	P	**Pg**	**10 19 06.5**	**-1.5**
TNCL				S	**Sg**	**10 19 17.8**	**-1.3**
PTK	**Pertek**	**0.94**	**145**	*e*PG	**Pg**	**10 19 08.6**	**-1.0**
PTK				*e*SG	**Sb**	**10 19 22.9**	**-0.8**
PTK	**Pertek**	**0.94**	**145**	*e*Pg	**Pg**	**10 19 08.6**	**-1.0**
PTK				*e*Sg	**Sb**	**10 19 22.9**	**-0.8**
CUKAN	**kangal_SIVAS**	**1.01**	**250**	*i* P	**Pg**	**10 19 09.4**	**-1.5**
CUKAN				*i* S	**Sg**	**10 19 23.2**	**-0.9**
CUKAN	**kangal_SIVAS**	**1.01**	**250**	P	**Pg**	**10 19 09.4**	**-1.5**
CUKAN				S	**Sg**	**10 19 23.2**	**-0.9**
ELZG	**Elazig**	**1.19**	**169**	*i* P	**Pg**	**10 19 12.4**	**-1.9**
ELZG				*i* S	**Sg**	**10 19 29.9**	**+0.2**
ELZG	**Elazig**	**1.19**	**169**	P	**Pg**	**10 19 12.4**	**-1.9**
ELZG				S	**Sg**	**10 19 29.9**	**+0.2**
SCER	**sogukcermik**	**1.22**	**280**	*i* P	**Pg**	**10 19 13.5**	**-1.5**
SCER				*i* S	**Sg**	**10 19 30.7**	**-0.1**
SCER	**sogukcermik**	**1.22**	**280**	P	**Pg**	**10 19 13.5**	**-1.5**
SCER				S	**Sg**	**10 19 30.7**	**-0.1**
RSDY	**Resadiye-TOKAT**	**1.28**	**305**	*e*PN	**Pg**	**10 19 15.3**	**-0.8**
RSDY	**Resadiye-TOKAT**	**1.28**	**305**	*e*Pn	**Pg**	**10 19 15.3**	**-0.8**
GRSN	**GIRESUNGRSN**	**1.30**	**346**	*i* P	**Pg**	**10 19 15.1**	**-1.3**
GRSN	**GIRESUNGRSN**	**1.30**	**346**	P	**Pg**	**10 19 15.1**	**-1.3**
SVSK	**Karacayir**	**1.33**	**281**	*e*PN	**Pn**	**10 19 15.9**	**-1.1**
SVSK	**Karacayir**	**1.33**	**281**	*e*Pn	**Pn**	**10 19 15.9**	**-1.1**
SVRC	**Sivrice-ELAZID**	**1.37**	**159**	*e*PN	**Pn**	**10 19 15.7**	**-2.0**
SVRC	**Sivrice-ELAZID**	**1.37**	**159**	*e*Pn	**Pn**	**10 19 15.7**	**-2.0**
KOPT	**Kop Dagi**	**1.43**	**75**	*i* P	**Pn**	**10 19 18.4**	**-0.3**
KOPT				*i* S	**Sn**	**10 19 42.6**	**+4.5**
KOPT	**Kop Dagi**	**1.43**	**75**	P	**Pn**	**10 19 18.4**	**-0.3**
DARE	**Darende-Malaty**	**1.44**	**221**	*e*PN	**Pn**	**10 19 17.8**	**-0.8**
DARE	**Darende-Malaty**	**1.44**	**221**	*e*Pn	**Pn**	**10 19 17.8**	**-0.8**
YEDI	**Yedisu-Bingol**	**1.45**	**98**	*e*PN	**Pn**	**10 19 16.9**	**-1.9**
CUGUR	**Gurin_S¯VAS**	**1.45**	**230**	*i* P	**Pb**	**10 19 19.0**	**-0.3**
CUGUR				*i* S	**Sb**	**10 19 37.6**	**-0.6**
CUGUR	**Gurin_S¯VAS**	**1.45**	**230**	P	**Pb**	**10 19 19.0**	**-0.3**
CUGUR				S	**Sb**	**10 19 37.6**	**-0.6**
ORDU	**Ordu-Boztepe**	**1.47**	**334**	*i* P	**Pn**	**10 19 18.1**	**-0.9**
ORDU				*i* S	**Sb**	**10 19 36.7**	**-1.9**
ORDU	**Ordu-Boztepe**	**1.47**	**334**	P	**Pn**	**10 19 18.1**	**-0.9**
ORDU				S	**Sb**	**10 19 36.7**	**-1.9**
MACK	**Trabzon**	**1.52**	**32**	*i* P	**Pn**	**10 19 18.9**	**-0.7**
MACK				*i* S	**Sn**	**10 19 39.7**	**-0.2**
MACK	**Trabzon**	**1.52**	**32**	P	**Pn**	**10 19 18.9**	**-0.7**
MACK				S	**Sn**	**10 19 39.7**	**-0.2**
CUALT	**Altinyayla-SIV**	**1.55**	**256**	*i* P	**Pn**	**10 19 19.5**	**-0.6**
CUALT				*i* S	**Sg**	**10 19 41.5**	**+0.2**
CUALT	**Altinyayla-SIV**	**1.55**	**256**	P	**Pn**	**10 19 19.5**	**-0.6**
CUALT				S	**Sg**	**10 19 41.5**	**+0.2**
KTUT	**Trabzon**	**1.55**	**32**	*e*PN	**Pn**	**10 19 19.4**	**-0.7**
BINT	**Bingol**	**1.60**	**119**	*e*Pn	**Pn**	**10 19 21.0**	**+0.1**
BNGB	**Bing¯ll**	**1.68**	**113**	*e*PN	**Pn**	**10 19 21.0**	**-0.9**
TOKA	**Tokat**	**1.82**	**292

HFS	**Hagfors**	**25.77**	**331**	P	**P**	**10 24 24.3**	**+1.0**
	1.5nm,0.7s,baz=149,slow=12,SNR=3.1							
KURBB	**Kurchatov Arra**	**29.81**	**55**	P	**P**	**10 24 58.5**	**-1.0**
	1.6nm,0.7s,baz=272,slow=9.2,SNR=10							
KURK	**Kurchatov**	**29.88**	**55**	P	**P**	**10 24 58.5**	**-1.6**
KURK	**Kurchatov**	**29.88**	**55**	P	**P**	**10 24 58.5**	**-1.6**
ARCES	**ARCESS Array B**	**30.74**	**351**	LR	LR	10 39 57.3	
	comp=Z,27nm,18.2s,baz=285,slow=41							
MKAR	**Makanchi Array**	**32.22**	**63**	P	**P**	**10 25 21.5**	**+0.7**
	0.1nm,0.4s,baz=264,slow=11,SNR=2.3							
ESDC	**Sonseca Array**	**32.61**	**284**	P	**P**	**10 25 23.8**	**-0.6**
	0.3nm,0.4s,baz=68,slow=9.8,SNR=4.5							
TORD	**Torodi Ar. Bea**	**41.91**	**241**	P	**P**	**10 26 42.7**	**-0.7**
	0.7nm,0.9s,baz=35,slow=7.8,SNR=4.0							
SEY	**Seymchan**	**64.94**	**28**	P	**P**	**10 29 32.4**	**+0.3**
	3.1nm,0.8s,baz=78,slow=1.0,SNR=7.6							
KSAR	**Wonju Array Be**	**66.82**	**60**	P	**P**	**10 29 44.2**	**-0.4**
KSAR	**Wonju Array Be**	**66.82**	**60**	P	**P**	**10 29 44.2**	**-0.4**
KSRS	**Korea Array**	**66.84**	**60**	P	**P**	**10 29 44.2**	**-0.5**
	0.9nm,0.7s,baz=302,slow=5.4,SNR=3.4							

NEIC ***26*** *10:28:33.5±0.0, 17°.76N×97°.60W, h68km, MD4.0(MEX), After MEX.*

MEX 26 10:28:33.5±0.9, 17°.76N×97°.60W, h68km±6km, MD4.0, Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TPIG	**Tehuac#an**	**0.69**	**19**	*e*P	Pn	10 28 47.2	-1.2
TPIG				*e*S	Sn	10 28 57.6	-1.7
TPIG	**Tehuac#an**	**0.69**	**19**	*e*P	Pn	10 28 47.2	-1.2
TPIG				*e*S	Sn	10 28 57.6	-1.7
HMTT	**Tlapaneco**	**0.92**	**272**	*e*P	Pn	10 28 49.3	-1.6
HMTT				*i* S	Sn	10 29 02.6	-1.2
TLIG	**Tlapa**	**0.94**	**258**	*e*P	Pn	10 28 50.3	-1.0
TLIG				*e*S	Sn	10 29 03.5	-1.0
VHO	**Vista Hermosa**	**1.07**	**130**	*i* P	Pn	10 28 51.7	-1.3
VHO				*e*S	Sn	10 29 05.8	-1.8
VHO	**Vista Hermosa**	**1.07**	**130**	*i* P	Pn	10 28 51.7	-1.3
VHO				*e*S	Sn	10 29 05.8	-1.8
PNIG	**Pinotepa**	**1.45**	**200**	*e*P	Pn	10 28 55.8	-2.0
PNIG				*i* S	Sn	10 29 13.9	-2.2
PNIG	**Pinotepa**	**1.45**	**200**	*e*P	Pn	10 28 55.8	-2.0
PNIG				*i* S	Sn	10 29 13.9	-2.2
PPM	**Popocatepetl**	**1.62**	**323**	*e*P	Pn	10 28 58.5	-2.0
PPM				*i* S	Sn	10 29 18.6	-2.2
PPM	**Popocatepetl**	**1.62**	**323**	*e*P	Pn	10 28 58.5	-2.0
PPM				*i* S	Sn	10 29 18.6	-2.2
YAIG	**Yautepec**	**1.77**	**308**	*e*P	Pn	10 29 00.2	-1.9
YAIG				*i* S	Sn	10 29 21.3	-2.7
YAIG	**Yautepec**	**1.77**	**308**	*e*P	Pn	10 29 00.2	-1.9
YAIG				*i* S	Sn	10 29 21.3	-2.7
PLIG	**Platanillo**	**1.92**	**289**	*e*P	Pn	10 29 03.2	-0.9
PLIG				*i* S	Sn	10 29 25.3	-2.0
PLIG	**Platanillo**	**1.92**	**289**	*e*P	Pn	10 29 03.2	-0.9
PLIG				*i* S	Sn	10 29 25.3	-2.0
MEIG	**Mezcala**	**1.93**	**275**	*e*P	Pn	10 29 03.5	-0.8
MEIG				*i* S	Sn	10 29 25.8	-1.9
MEIG	**Mezcala**	**1.93**	**275**	*e*P	Pn	10 29 03.5	-0.8
MEIG				*i* S	Sn	10 29 25.8	-1.9
MAVM	**Malinalco, Edo**	**2.16**	**304**	*e*P	Pn	10 29 07.0	-0.4
MAVM				*i* S	Sn	10 29 30.9	-2.4
HUIG	**Huatulco**	**2.44**	**144**	*e*P	Pn	10 29 10.4	-0.7
HUIG				*i* S	Sn	10 29 37.4	-2.5
HUIG	**Huatulco**	**2.44**	**144**	*e*P	Pn	10 29 10.4	-0.7
HUIG				*i* S	Sn	10 29 37.4	-2.5
CAIG	**El Cayaco**	**2.65**	**255**	*i* P	Pn	10 29 11.8	-2.0
CAIG				*i* S	Sn	10 29 43.1	-1.8
CAIG	**El Cayaco**	**2.65**	**255**	*i* P	Pn	10 29 11.8	-2.0
CAIG				*i* S	Sn	10 29 43.1	-1.8
ARIG	**Puente Sto Nin**	**2.67**	**282**	*i* P	Pn	10 29 13.5	-0.6
ARIG				*i* S	Sn	10 29 44.3	-1.1

PGC 26 10:31:20.0±0.0, 59°.08N×135°.29W, h1km, ML2.0/3, 4km Wsw of Haines, Ak Southeastern Alaska, Southeastern Alaska

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BESE	**Bessie Mountai**	**0.55**	**155**	P	Pg	10 31 29.9	-0.6
BESE				S	Sg	10 31 36.9	-0.8
PLBC	**Pleasant Camp**	**0.67**	**305**	P	Pg	10 31 31.8	-1.0
PLBC				S	Sg	10 31 40.8	-0.7
WHY	**Whitehorse**	**1.60**	**7**	Pn	Pn	10 31 48.9	-0.6
WHY				Sg	Sn	10 32 09.3	-1.5
PNL	**Peninsula**	**2.18**	**287**	Pn	Pn	10 31 57.9	+0.5
PNL				Sg	Sb	10 32 27.6	-0.2
DLBC	**Dease Lake**	**2.82**	**101**	Pn	Pn	10 32 06.7	+0.4
DLBC				Sg	Sb	10 32 47.1	+1.0

ISCJB ***26*** *10:49:26.0±1.6, 24°.95N±0°.10×123°.30E±0°.05, h25km±9km, mb3.5/2, MS3.1/1, Error ellipse: s-maj=16.8km s-min=6.7km az=171.8*
JMA ***26*** *10:49:26.7±0.2, 24°.93N×123°.33E, h20km, M2.9*
IDC ***26*** *10:49:28.1±7.0, 24°.30N×122°.60E, h0km, mb3.4/2, mb1 3.7/3, mb1mx3.3/44, mbtmp3.5/3, ML3.7/1, MS2.9/2, Ms1 2.9/2, ms1mx2.4/28, Error ellipse: s-maj=346.2km s-min=41.5km az=96.0*

ISC 26 10:49:27.5±1.6, 24°.84N±0°.07×123°.37E±0°.04, h12km±10km, n12, σ0°.83/18, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
YOJ	**Yonaguni jima**	**0.50**	**221**	P	**Pg**	**10 49 37.3**	**0.0**
YOJ				S	**Sg**	**10 49 44.1**	**+0.2**
JYNG	**Yonagunijimaku**	**0.55**	**225**	P	**Pg**	**10 49 38.1**	**-0.1**
JYNG				*e*S	**Sb**	**10 49 45.8**	**-1.0**
IRIF	**Iriomote-Funau**	**0.60**	**147**	P	**Pb**	**10 49 39.9**	**0.0**
IRIF				S	**Sb**	**10 49 49.6**	**+1.2**
JKRS	**Kuro-shima**	**0.84**	**136**	P	**Pg**	**10 49 43.8**	**+0.1**
JKRS				S	**Sb**	**10 49 56.3**	**+1.1**
JJ	**Ishigaki jima**	**0.85**	**124**	P	**Pg**	**10 49 43.6**	**-0.3**
HATJ	**Hateruma jima**	**0.88**	**153**	P	**Pg**	**10 49 44.6**	**+0.2**
HATJ				S	**Sn**	**10 49 57.8**	**-0.5**
JISG	**Ishigakijimahi**	**0.89**	**106**	P	**Pg**	**10 49 44.2**	**-0.5**
JISG				S	**Sb**	**10 49 57.1**	**+0.3**
JTJ	**Tarama**	**1.23**	**99**	P	**Pn**	**10 49 49.5**	**-0.9**
JTJ				S	**Sb**	**10 50 05.6**	**-0.8**
KSRS	**Korea Array**	**13.16**	**16**	Pn	**P**	**10 52 45.8**	**+1.6**
	0.4nm,0.3s,baz=203,slow=12,SNR=4.1						
KSRS				LR	LR	10 58 39.5	
	comp=Z,26nm,19.9s,baz=240,slow=40						
WRA	**Warramunga Arr**	**45.78**	**166**	P	**P**	**10 57 49.3**	**+0.2**
	1.0nm,0.8s,baz=347,slow=8.7,SNR=6.4						
ASAR	**Alice Springs**	**49.29**	**167**	P	**P**	**10 58 15.4**	**-1.0**
	0.2nm,0.8s,baz=343,slow=8.3,SNR=3.6						
NRIK	**Noril'sk**	**49.30**	**344**	LR	LR	11 21 10.3	
	comp=Z,21nm,20.3s,baz=94,slow=38						

IDC 26 10:58:36.3±2.1, 2°.74N×127°.25E, h0km, mb3.4/3, mb1 3.6/3, mb1mx3.4/25, mbtmp3.4/3, Error ellipse: s-maj=155.4km s-min=26.5km az=67.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**23.60**	**163**	P	P	11 03 48.9	-0.1
	0.3nm,0.3s,baz=342,slow=10,SNR=7.4						
ASAR	**Alice Springs**	**27.04**	**166**	P	P	11 04 20.2	-0.3
	0.2nm,0.4s,baz=352,slow=7.7,SNR=11						
MKAR	**Makanchi Array**	**58.66**	**325**	P	P	11 08 35.8	+0.3
	0.3nm,0.4s,baz=108,slow=6.8,SNR=4.3						

NEIC ***26*** *11:33:11.0±0.0, 16°.21N×99°.40W, h21km, MD4.0(MEX), After MEX.*

MEX 26 11:33:11.0±0.6, 16°.21N×99°.40W, h21km±27km, MD4.0, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CAIG	**El Cayaco**	**1.18**	**315**	*e*P	Pn	11 33 29.1	-3.1
CAIG				*e*S	Sb	11 33 42.6	-4.9
CAIG	**El Cayaco**	**1.18**	**315**	*e*P	Pn	11 33 29.1	-3.1
CAIG				*e*S	Sb	11 33 42.6	-4.9
PNIG	**Pinotepa**	**1.23**	**82**	*i* P	Pn	11 33 30.3	-2.7
PNIG				*i* S	Sn	11 33 44.4	-4.6
PNIG	**Pinotepa**	**1.23**	**82**	*i* P	Pn	11 33 30.3	-2.7
PNIG				*i* S	Sn	11 33 44.4	-4.6
TLIG	**Tlapa**	**1.56**	**31**	*e*P	Pn	11 33 34.5	-3.1
TLIG				*i* S	Sn	11 33 53.0	-4.3
MEIG	**Mezcala**	**1.72**	**353**	*i* P	Pn	11 33 37.3	-2.5
MEIG				*i* S	Sn	11 33 57.5	-3.6
MEIG	**Mezcala**	**1.72**	**353**	*i* P	Pn	11 33 37.3	-2.5
MEIG				*i* S	Sn	11 33 57.5	-3.6
PLIG	**Platanillo**	**2.17**	**357**	*e*P	Pn	11 33 43.8	-2.2
PLIG				*e*S	Sn	11 34 08.6	-3.7
PLIG	**Platanillo**	**2.17**	**357**	*e*P	Pn	11 33 43.8	-2.2
PLIG				*e*S	Sn	11 34 08.6	-3.7
ARIG	**Puente Sto Nin**	**2.25**	**336**	*e*P	Pn	11 33 45.1	-1.9
ARIG				*e*S	Sn	11 34 11.1	-3.0
YAIG	**Yautepec**	**2.65**	**7**	*e*P	Pn	11 33 51.3	-1.4
YAIG				*e*S	Sn	11 34 21.6	-2.7
YAIG	**Yautepec**	**2.65**	**7**	*e*P	Pn	11 33 51.3	-1.4
YAIG				*e*S	Sn	11 34 21.6	-2.7
VHO	**Vista Hermosa**	**2.69**	**71**	*i* P	Pn	11 33 50.3	-3.0
VHO				*i* S	Sn	11 34 21.5	-3.9
VHO	**Vista Hermosa**	**2.69**	**71**	*i* P	Pn	11 33 50.3	-3.0
VHO				*i* S	Sn	11 34 21.5	-3.9
HUIG	**Huatulco**	**3.19**	**98**	*i* P	Pn	11 33 57.3	-2.7
HUIG				*i* S	Sn	11 34 33.7	-3.8
HUIG	**Huatulco**	**3.19**	**98**	*i* P	Pn	11 33 57.3	-2.7
HUIG				*i* S	Sn	11 34 33.7	-3.8

MEX 26 12:04:30.4±1.0, 16°.75N×93°.87W, h172km±10km, MD3.9, Chiapas

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TGIG		**0.71**	**88**	*i* P	Pn	12 04 54.2	-1.3
TGIG				*e*S	Sn	12 05 12.4	-2.2
CMIG	**Matias Romero**	**1.03**	**289**	*i* P	Pn	12 04 56.2	-1.3
CMIG				*i* S	Sn	12 05 16.0	-2.5
PCIG		**1.21**	**149**	*e*P	Pn	12 04 57.2	-1.9
PCIG				*e*S	Sn	12 05 18.9	-2.3
HUIG	**Huatulco**	**2.37**	**246**	*e*P	Pn	12 05 08.7	-2.4
HUIG				*i* S	Sn	12 05 41.4	-1.2
VHO	**Vista Hermosa**	**2.76**	**277**	*i* P	Pn	12 05 15.2	-0.8
VHO				*i* S	Sn	12 05 49.9	-1.5

IDC ***26*** *12:12:32.9±1.0, 1°.71N×123°.73E, h0km, mb3.8/7, mb1 4.0/8, mb1mx3.7/30, mbtmp3.8/8, Error ellipse: s-maj=78.3km s-min=17.9km az=69.0*
ISCJB ***26*** *12:12:37.5±0.9, 1°.45N±0°.08×123°.25E±0°.06, h32km, mb3.7/7, Error ellipse: s-maj=11.5km s-min=8.7km az=166.4*
DJA ***26*** *12:12:38.2±0.6, 1°N±4°×12°.3E±°, h10km, M4.4/6, mb4.6/5, mB4.8/3, MLv4.3/6, Mw(mB)4.1/3*

ISC 26 12:12:38.1±0.9, 1°.51N±0°.08×123°.27E±0°.06, h32km, n18, σ1°76/22, mb3.9/7, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GTOI	**Gorontalo**	**0.91**	**197**	P	**Pn**	**12 12 52.3**	**-2.3**
GTOI				S	**Sn**	**12 13 03.7**	**-2.9**
KMSI	**Cibinong**	**1.17**	**143**	P	**Pn**	**12 12 59.1**	**+0.9**
KMSI				S	**Sb**	**12 13 15.2**	**+0.6**
MRSI	**Marisa**	**1.68**	**232**	P	**Pn**	**12 13 05.0**	**-0.3**
MRSI				S	**Sn**	**12 13 22.3**	**-3.4**
APSI	**Ampana**	**2.90**	**214**	P	**Pn**	**12 13 23.6**	**+1.5**
PCI	**Palu**	**4.19**	**235**	P	**Pn**	**12 13 41.5**	**+1.7**
SANI	**Sanana**	**4.46**	**142**	P	**Pn**	**12 13 43.0**	**-0.5**
KDI	**Kendari**	**5.47**	**187**	P	**Pn**	**12 13 59.8**	**+2.4**
	60nm,0.9s,640nm						
TTSI	**Tana Toraja**	**5.69**	**217**	P	**Pn**	**12 14 02.2**	**+1.7**
	91nm,1.0s,1μm						
SPSI	**Sidrap Palu**	**6.47**	**213**	P	**Pn**	**12 14 12.8**	**+1.7**
BSSI	**Bau Bau, Buton**	**8.09**	**200**	P	**Pn**	**12 14 34.7**	**+1.2**
FITZ	**Fitzroy Crossi**	**19.63**	**173**	P	**P**	**12 17 03.8**	**-0.3**
WRA	**Warramunga Arr**	**23.92**	**154**	P	**P**	**12 17 48.7**	**-0.7**
	2.1nm,0.5s,baz=336,slow=10.0,SNR=36						
ASAR	**Alice Springs**	**27.08**	**158**	P	**P**	**12 18 17.7**	**-0.3**
	0.5nm,0.8s,baz=328,slow=8.7,SNR=12						
ASAR				PcP	**PcP**	**12 21 39.0**	**+0.2**
	0.2nm,0.6s,baz=349,slow=2.1,SNR=4.4						
STKA	**Stephens Creek**	**37.48**	**154**	P	**P**	**12 19 49.2**	**+0.3**
	1.7nm,0.8s,baz=324,slow=8.7,SNR=3.4						
SONM	**Songino Array**	**48.41**	**345**	P	**P**	**12 21 14.6**	**-2.7**
	0.4nm,0.5s,baz=165,slow=6.0,SNR=2.9						
MKAR	**Makanchi Array**	**57.49**	**328**	P	**P**	**12 22 26.0**	**+1.8**
	0.2nm,0.4s,baz=125,slow=7.2,SNR=3.9						
MAW	**Mawson**		**80.50**	**200**	P	**P**	**12 24 48.0**	**+1.4**
	0.5nm,0.3s,baz=23,slow=7.7,SNR=2.9						
VNDA	**Vanda**		**81.69**	**172**	P	**P**	**12 24 53.5**	**+0.6**
	1.3nm,0.8s,baz=308,slow=6.3,SNR=9.2						

GUC 26 12:18:17.3±0.7, 21°.13S×68°.79W, h121km±4km, ML3.1, 6C-4D, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PB01	**IPOC Station P**	**0.66**	**277**	⇑*i*P	Pn	12 18 36.9	+0.3
PB01				*i* S	Sn	12 18 51.7	+0.6
PB09	**IPOC Station P**	**0.79**	**212**	⇓*i*P	Pn	12 18 38.6	+0.9
PB09				*i* S	Sn	12 18 54.3	+1.1
PB09				IAML		12 18 54.7	
	comp=N,1μm,0.4s						
PB08	**IPOC Station P**	**1.04**	**341**	⇑*i*P	Pn	12 18 41.1	+0.8
PB08				*i* S	Sn	12 18 58.7	+1.1
PB07	**IPOC Station P**	**1.19**	**240**	⇑*i*P	Pn	12 19 42.2	+0.7
PB07				*i* S	Sn	12 19 01.1	+1.2
PB07				IAML		12 19 03.2	
	comp=E,196nm,0.5s						
HMBC	**Humberstone**	**1.33**	**309**	⇓*i*P	Pn	12 18 43.8	+0.7
HMBC				*e*S	Sn	12 19 03.4	+0.8
HMBC				IAML		12 19 05.6	
	comp=N,152nm,0.1s						
LVC	**Limon Verde**	**1.48**	**184**	⇑*i*P	Pn	12 18 45.3	+0.3
PB11	**IPOC Station P**	**1.58**	**329**	⇓*i*P	Pn	12 18 46.7	+0.7
PB11				*i* S	Sn	12 19 09.1	+1.3
PB06	**IPOC Station P**	**1.73**	**205**	⇑*i*P	Pn	12 18 48.2	+0.5
PB06				*i* S	Sn	12 19 12.0	+1.0
PB06				IAML		12 19 14.6	
	comp=E,227nm,0.2s						
PB04	**IPOC Station P**	**1.75**	**226**	⇓*i*P	Pn	12 18 49.5	+1.6
PB04				*i* S	Sn	12 19 13.1	+1.8
PB04				IAML		12 19 21.6	
	comp=N,172nm,0.2s						
PSGC	**Pisagua**	**1.97**	**320**	*e*P	Pn	12 18 51.0	+0.4
PSGC				*e*S	Sn	12 19 17.1	+1.1
MNMC	**Minye Minye**	**2.12**	**339**	⇑*i*P	Pn	12 18 53.8	+1.1
MNMC				*e*S	Sn	12 19 22.3	+2.6
MNMC				IAML		12 19 25.3	
	comp=E,172nm,0.2s						

GUC 26 12:20:50.5±0.6, 21°.45S×68°.59W, h134km±4km, ML3.3, 7C-2D, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PB09	**IPOC Station P**	**0.70**	**240**	⇑*i*P	Pn	12 21 12.2	+0.7
PB09				*i* S	Sn	12 21 28.4	+0.9
PB01	**IPOC Station P**	**0.93**	**296**	⇑*i*P	Pn	12 21 13.8	+0.6
PB01				*i* S	Sn	12 21 32.0	+1.5
PB01				IAML		12 21 33.4	
	comp=N,597nm,0.3s						
PB07	**IPOC Station P**	**1.24**	**257**	⇑*i*P	Pn	12 21 17.3	+1.0
PB07				*i* S	Sn	12 21 37.3	+1.4
PB07				IAML		12 21 38.8	
	comp=E,723nm,0.2s						
PB08	**IPOC Station P**	**1.41**	**338**	⇑*i*P	Pn	12 21 19.3	+1.0
PB08				*i* S	Sn	12 21 40.8	+1.4
PB08				IAML		12 21 43.0	
	comp=N,225nm,0.6s						
PB08				IAML		12 21 43.4	
	comp=E,201nm,0.3s						
PB06	**IPOC Station P**	**1.55**	**216**	⇓*i*P	Pn	12 21 20.1	+0.5
PB06				*i* S	Sn	12 21 42.9	+1.1
PB06				IAML		12 21 43.0	
	comp=E,455nm,0.4s						
HMBC	**Humberstone**	**1.68**	**314**	⇑*i*P	Pn	12 21 21.8	+0.6
HMBC				*i* S	Sn	12 21 45.7	+1.2
HMBC				IAML		12 21 46.4	
	comp=E,456nm,0.7s						
PB04	**IPOC Station P**	**1.69**	**238**	*e*P	Pn	12 21 22.4	+1.1
PB04				*i* S	Sn	12 21 45.8	+1.0
PB04				IAML		12 21 48.5	
	comp=N,243nm,0.1s						
PB11	**IPOC Station P**	**1.95**	**329**	⇑*i*P	Pn	12 21 24.8	+0.4
PB11				*i* S	Sn	12 21 51.4	+1.2
PSGC	**Pisagua**	**2.34**	**322**	⇑*i*P	Pn	12 21 29.0	+0.1
PSGC				*i* S	Sn	12 21 59.2	+0.7
MNMC	**Minye Minye**	**2.49**	**338**	⇓*i*P	Pn	12 21 32.0	+0.9
MNMC				*i* S	Sn	12 22 03.8	+1.5
MNMC				IAML		12 22 05.2	
	comp=N,269nm,0.2s						

NNC 26 12:32:20.4±9.1, 38°.91N×71°.90E, h29km±96km, mb3.5, mpv3.0,7C-3D, Error ellipse: s-maj=73.9km s-min=17.0km az=144.0, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DZET	**Dzherino**	**2.40**	**268**	⇑Pn	Pn	12 32 54.9	-3.0
	11nm,0.4s						
DZET				⇑Sn	Sn	12 33 25.6	-0.7
	70nm,0.5s						
MNAS	**Manas**	**3.60**	**7**	⇑Pn	Pn	12 33 14.2	-0.2
	1.9nm,0.4s						
MNAS				⇑Sn	Sn	12 33 55.4	-0.6
	6.2nm,0.4s						
AAK	**Ala-Archa**	**4.21**	**27**	⇑Pn	Pn	12 33 22.4	-0.4
	1.5nm,0.5s						
AAK				⇓Sn	Sn	12 34 10.4	-0.8
	1.4nm,0.4s						
KK31	**Karatay Array**	**4.32**	**346**	⇑Pn	Pn	12 33 24.0	-0.2
	0.4nm,0.3s,baz=156,slow=13,SNR=4.9						
KK31				⇓Sn	Sn	12 34 10.7	-2.8
	1.5nm,0.3s,baz=158,slow=30,SNR=7.7						
TKM2	**Tokmak 2**	**4.89**	**34**	⇑Pn	Pn	12 33 33.6	+1.5
	1.7nm,0.6s						
TKM2				⇓Sn	Sn	12 34 27.3	-0.6
	1.0nm,0.6s						

SOME ***26*** *12:36:21.7, 44°.60N×82°.25E, h10km*
NNC ***26*** *12:36:25.2±1.8, 44°.72N×81°.98E, h0km, mb3.2, mpv2.8, Error ellipse: s-maj=30.3km s-min=5.9km az=113.0*

ISC 26 12:36:20.6±2.2, 44°.67N±0°.07×82°.4E±0°.1, h10km, n8, σ0°.90/15, 4C-2D, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DJR	**Jarkent**	**1.90**	**261**	*e*P	**Pb**	**12 36 55.5**	**+0.1**
	11nm,0.2s						
DJR				*e*S	**Sg**	**12 37 19.9**	**-1.7**
	9.9nm,0.2s						
MK31	**Makanchi Array**	**2.12**	**358**	⇓Pn	**Pg**	**12 37 01.5**	**+0.2**
	3.5nm,0.3s,baz=181,slow=13,SNR=162						
MK31				⇑Sn	**Sg**	**12 37 28.6**	**-0.2**
	9.5nm,0.7s,baz=187,slow=31,SNR=16						
MAKZ	**Makanchi**	**2.16**	**352**	⇓Pn	**Pg**	**12 37 01.4**	**-0.5**
	2.5nm,0.6s						
MAKZ				⇑Sn	**Sg**	**12 37 29.6**	**-0.4**
	6.9nm,0.6s						
KAPS	**Kapalarasan**	**2.24**	**287**	*e*P	**Pb**	**12 37 01.3**	**0.0**
	3.5nm,0.1s						
KAPS				*e*S	**Sb**	**12 37 29.7**	**+0.6**
	12nm,0.3s						
PDGK	**Podgornoye**	**2.49**	**238**	⇑Pn	**Pb**	**12 37 04.6**	**-0.9**
	3.6nm,0.6s						
PDGK				⇑Lg	Lg	12 37 36.2	
	9.1nm,0.6s						
UZB	**Uzynbulak**	**2.88**	**239**	*e*P	**Pb**	**12 37 12.3**	**+0.2**
	4.3nm,0.3s						
UZB				*e*S	**Sb**	**12 37 49.0**	**+1.5**
	5.2nm,0.2s						
KPKS	**Kokpek**	**2.94**	**247**	*e*P	**Pb**	**12 37 12.9**	**-0.2**
	11nm,0.2s						
KPKS				*e*S	**Sb**	**12 37 50.1**	**+1.1**
	17nm,0.3s						
ARXS	**Arharly**	**3.31**	**264**	*e*P	**Pb**	**12 37 19.5**	**+0.1**
	2.0nm,0.5s						
ARXS				*e*S	**Sb**	**12 38 00.9**	**+1.2**
	11nm,0.4s						

ISCJB ***26*** *13:02:28.7±0.5, 39°.09N±0°.03×27°.56E±0°.03, h0km, Error ellipse: s-maj=4.7km s-min=3.4km az=166.2*
CSEM ***26*** *13:02:29.7±0.2, 39°.08N×27°.54E, h10km, MD2.8, Error ellipse: s-maj=6.0km s-min=4.9km az=176.0*
ISK ***26*** *13:02:29.2, 39°.03N×27°.52E, h16km, MD2.8*
DDA ***26*** *13:02:30.4, 39°.12N×27°.55E, h8km, Md2.6, Suspected Mining explosion.*
ATH ***26*** *13:02:31.3, 39°.15N×27°.50E, h42km±8km, ML2.3/3, Error ellipse: s-maj=9.2km s-min=1.6km az=90.0*

ISC 26 13:02:27.5±0.8, 39°.18N±0°.03×27°.54E±0°.02, h0km, n35, σ0°66/55, Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DKL	**Dikili**	**0.51**	**258**	*e*PG	**Pb**	**13 02 39.3**	**+0.1**
DKL				*e*SG	**Sb**	**13 02 46.5**	**-0.6**
DKL	**Dikili**	**0.51**	**258**	*e*Pg	**Pb**	**13 02 39.3**	**+0.1**
DKL				*e*Sg	**Sb**	**13 02 46.5**	**-0.6**
BALY	**Balya**	**0.56**	**6**	*i* P	**Pn**	**13 02 42.6**	**-0.2**
BALY	**Balya**	**0.56**	**6**	P	**Pn**	**13 02 42.6**	**-0.2**
DEMI	**Demirci**	**0.93**	**98**	*i* P	**Pn**	**13 02 48.5**	**+0.7**
DEMI	**Demirci**	**0.93**	**98**	P	**Pn**	**13 02 48.5**	**+0.7**
PRK	**Paraskevi**	**0.99**	**274**	P	**Pn**	**13 02 49.5**	**+1.0**
PRK				S	**Sn**	**13 03 03.1**	**-0.1**
PRK	**Paraskevi**	**0.99**	**274**	P	**Pn**	**13 02 49.6**	**+1.0**
PRK				S	**Sn**	**13 03 03.2**	**-0.1**
PRK				AML	AML	13 03 06.9	
	comp=E,411μm,0.7s						
PRK				AML	AML	13 03 07.2	
	comp=N,244μm,0.6s						

*CSEM **26** 13:04:19.8±0.1,41.99N×21.50E,h0km±2km,ML2.5,Error ellipse: s-maj=2.8km s-min=2.2km az=76.0*
*SKO **26** 13:04:19.1,41.99N×21.50E,h12km,M1.9,ML2.7*
*ATH **26** 13:04:20.8,41.93N×21.51E,h18km±4km,ML2.5/3,Error ellipse: s-maj=5.9km s-min=1.9km az=162.0*
*THE **26** 13:04:20.8,41.94N×21.54E,h1km±2km,ML2.6/2,Error ellipse: s-maj=3.0km s-min=0.9km az=309.0*
*BEO **26** 13:04:21.4±0.3,42.00N×21.51E,h17km±5km,M2.3/1*

ISC 26 13:04:19.6±0.8,41.98N±0.02×21.52E±0.02,h5km±5km, n58,σ0°87/101,10C,Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SKO	**Skopje**	**0.06**	**263**	P	**Pg**	**13 04 20.6**	**-0.4**
SKO				S	**Sg**	**13 04 22.2**	**+0.3**
SKO	**Skopje**	**0.06**	**263**	⇑*i*Pg	**Pg**	**13 04 21.4**	**+0.4**
SKO				*i* Sg	**Sg**	**13 04 22.3**	**+0.3**
SKO				*e*Lg	Lg	13 04 22.3	
	comp=E,900nm,0.3s						
SKO				*e*Lg	Lg	13 04 22.4	
	comp=N,804nm,0.2s						
SKO	**Skopje**	**0.06**	**263**	P	**Pg**	**13 04 20.6**	**-0.4**
SKO	**Skopje**	**0.06**	**263**	⇑*i*Pg	**Pg**	**13 04 21.3**	**+0.4**
SKO				S	**Sg**	**13 04 22.2**	**+0.3**
SKO				*e*Lg	Lg	13 04 22.3	
	comp=N,804nm,0.2s						
KRUS	**Krusevo**	**0.64**	**198**	⇑*i*Pg	**Pg**	**13 04 32.2**	**+0.3**
KRUS				*i* Sg	**Sg**	**13 04 41.1**	**+0.9**
KRUS				*e*Lg	Lg	13 04 41.8	
	comp=E,87nm,0.2s						
KRUS				*e*Lg	Lg	13 04 42.1	
	comp=N,116nm,0.2s						
KRUS	**Krusevo**	**0.64**	**198**	⇑*i*Pg	**Pg**	**13 04 32.2**	**+0.3**
KRUS				*i* Sg	**Sg**	**13 04 41.1**	**+0.9**
KRUS				*e*Lg	Lg	13 04 41.8	
	comp=N,87nm,0.2s						
ZATK	**Zatriq**	**0.81**	**306**	P	**Pg**	**13 04 34.4**	**-0.8**
BARS	**Barje**	**0.86**	**15**	*e*Pg	**Pg**	**13 04 36.4**	**+0.2**
BIA	**Bitola**	**0.97**	**189**	P	**Pb**	**13 04 39.0**	**+0.1**
BIA				S	**Sg**	**13 04 50.8**	**+0.1**
BIA	**Bitola**	**0.97**	**189**	⇑*i*Pg	**Pg**	**13 04 38.0**	**-0.2**
BIA				*i* Sg	**Sb**	**13 04 51.6**	**-0.5**
BIA				*e*Lg	Lg	13 04 52.0	
	comp=N,77nm,0.3s						
BIA				*e*Lg	Lg	13 04 52.0	
	comp=E,92nm,0.4s						
BIA	**Bitola**	**0.97**	**189**	⇑*i*Pg	**Pg**	**13 04 38.0**	**-0.2**
BIA	**Bitola**	**0.97**	**189**	P	**Pb**	**13 04 39.0**	**+0.1**
BIA				S	**Sg**	**13 04 50.8**	**+0.1**
BIA				*i* Sg	**Sb**	**13 04 51.5**	**-0.5**
BIA				*e*Lg	Lg	13 04 51.9	
	comp=E,77nm,0.3s						
SMRK	**Smrekonice**	**0.99**	**335**	S	**Sg**	**13 04 51.3**	**-0.1**
OHR	**Ohrid**	**1.02**	**212**	⇑*i*Pg	**Pg**	**13 04 39.1**	**0.0**
OHR				*i* Sg	**Sb**	**13 04 53.3**	**-0.2**
OHR				*e*Lg	Lg	13 04 53.5	
	comp=N,202nm,0.3s						
OHR				*e*Lg	Lg	13 04 53.6	
	comp=E,256nm,0.4s						
OHR	**Ohrid**	**1.02**	**212**	⇑*i*Pg	**Pg**	**13 04 39.1**	**0.0**
OHR				*i* Sg	**Sb**	**13 04 53.3**	**-0.2**
OHR				*e*Lg	Lg	13 04 53.5	
	comp=E,202nm,0.3s						
VAY	**Valandovo**	**1.03**	**129**	P	**Pn**	**13 04 40.0**	**-0.7**
VAY				S	**Sb**	**13 04 53.6**	**-0.1**
VAY	**Valandovo**	**1.03**	**129**	⇑*i*Pg	**Pb**	**13 04 39.6**	**-0.2**
VAY				*i* Sg	**Sn**	**13 04 53.9**	**-1.6**
VAY				*e*Lg	Lg	13 04 55.2	
	comp=E,105nm,0.5s						
VAY				*e*Lg	Lg	13 04 55.6	
	comp=N,104nm,0.5s						
VAY	**Valandovo**	**1.03**	**129**	*e*Pg	**Pn**	**13 04 40.5**	**-0.2**
VAY				*e*Sg	**Sn**	**13 04 55.3**	**-0.2**
VAY	**Valandovo**	**1.03**	**129**	⇑*i*Pg	**Pb**	**13 04 39.6**	**-0.2**
VAY	**Valandovo**	**1.03**	**129**	P	**Pn**	**13 04 40.0**	**-0.7**
VAY				S	**Sb**	**13 04 53.6**	**-0.1**
VAY				*e*Lg	Lg	13 04 55.2	
	comp=N,105nm,0.5s						
FNA	**Florina**	**1.20**	**185**	P	**Pn**	**13 04 42.5**	**-0.6**
FNA				S	**Sg**	**13 04 58.5**	**+0.4**
FNA	**Florina**	**1.20**	**185**	P	**Pb**	**13 04 42.7**	**-0.1**
FNA				S	**Sg**	**13 04 58.5**	**+0.4**
FNA	**Florina**	**1.20**	**185**	P	**Pb**	**13 04 42.6**	**-0.1**
FNA				S	**Sg**	**13 04 58.5**	**+0.4**
FNA				AML	AML	13 05 02.8	
	comp=N,460μm,0.4s						
FNA				AML	AML	13 05 04.1	
	comp=E,329μm,0.3s						
GRG	**Griva**	**1.22**	**147**	P	**Pg**	**13 04 43.2**	**+0.2**
GRG				S	**Sn**	**13 05 00.0**	**-0.3**
GRG	**Griva**	**1.22**	**147**	P	**Pg**	**13 04 43.2**	**+0.2**
GRG				S	**Sn**	**13 04 59.2**	**-1.0**
GRG	**Griva**	**1.22**	**147**	P	**Pg**	**13 04 43.1**	**+0.2**
GRG				S	**Sn**	**13 04 59.3**	**-1.0**
GRG				AML	AML	13 05 05.2	
	comp=N,775μm,0.4s						
GRG				AML	AML	13 05 07.9	
	comp=E,349μm,0.2s						
SELS	**Selova**	**1.27**	**347**	*e*Pg	**Pn**	**13 04 43.3**	**-0.8**
SELS				*e*Sg	**Sg**	**13 05 02.1**	**+1.6**
KNT	**Kendrikon**	**1.32**	**128**	P	**Pg**	**13 04 44.9**	**0.0**
KNT				S	**Sg**	**13 05 02.5**	**+0.5**
KNT	**Kendrikon**	**1.32**	**128**	P	**Pg**	**13 04 45.2**	**+0.3**
KNT				S	**Sg**	**13 05 02.5**	**+0.5**
KNT	**Kendrikon**	**1.32**	**128**	P	**Pg**	**13 04 45.2**	**+0.3**
KNT				S	**Sg**	**13 05 03.2**	**+1.2**
KNT				AML	AML	13 05 06.6	
	comp=N,293μm,0.7s						
KNT				AML	AML	13 05 09.1	
	comp=E,163μm,0.4s						
TIR	**Tirane**	**1.39**	**244**	*e*Pg	**Pn**	**13 04 45.5**	**-0.1**
TIR				*e*Sg	**Sg**	**13 05 06.6**	**+2.4**
TIR	**Tirane**	**1.39**	**244**	*e*Pg	**Pn**	**13 04 45.5**	**-0.1**
TIR				*e*Sg	**Sg**	**13 05 06.6**	**+2.4**
VTS	**Vitosha**	**1.40**	**63**	P	**Pg**	**13 04 46.7**	**+0.3**
VTS				S	**Sg**	**13 05 06.1**	**+1.6**
VTS	**Vitosha**	**1.40**	**63**	*e*Pg	**Pg**	**13 04 47.4**	**+1.0**
VTS				*e*Sg	**Sg**	**13 05 06.0**	**+1.6**
VTS	**Vitosha**	**1.40**	**63**	P	**Pg**	**13 04 46.7**	**+0.3**
VTS	**Vitosha**	**1.40**	**63**	*e*Pg	**Pg**	**13 04 47.4**	**+1.0**
VTS				S	**Sg**	**13 05 06.1**	**+1.6**
ZAPS	**Zavoj**	**1.53**	**32**	*e*Pg	**Pg**	**13 04 49.6**	**+0.6**
ZAPS				*e*Sg	**Sg**	**13 05 09.8**	**+0.9**
BOVS	**Bovan**	**1.66**	**5**	*e*Pg	**Pb**	**13 04 50.1**	**-0.6**
BOVS				*e*Sg	**Sg**	**13 05 14.9**	**+2.0**
SJES	**Sjenica**	**1.71**	**319**	*e*Pg	**Pg**	**13 04 52.3**	**-0.1**
SJES				*e*Sg	**Sg**	**13 05 14.9**	**+0.3**
PDG	**Podgorica**	**1.74**	**286**	*e*Pg	**Pb**	**13 04 51.4**	**-0.6**
PDG				*e*Sg	**Sg**	**13 05 17.6**	**+2.2**
PDG	**Podgorica**	**1.74**	**286**	*e*Pg	**Pb**	**13 04 51.4**	**-0.6**
PDG				*e*Sg	**Sg**	**13 05 17.6**	**+2.2**
SRS	**Serrai**	**1.78**	**118**	P	**Pb**	**13 04 51.7**	**-1.0**
SRS	**Serrai**	**1.78**	**118**	P	**Pb**	**13 04 51.7**	**-1.0**
PENT	**Pentalofos**	**1.81**	**189**	P	**Pb**	**13 04 53.3**	**+0.1**
PENT	**Pentalofos**	**1.81**	**189**	P	**Pb**	**13 04 53.3**	**+0.1**
HORT	**Hortiatis**	**1.82**	**139**	P	**Pb**	**13 04 52.3**	**-1.2**
IVAS	**Ivanjica**	**1.89**	**328**	*e*Pg	**Pb**	**13 04 53.8**	**-0.7**
IVAS				*e*Sg	**Sg**	**13 05 19.8**	**-0.4**
ZAGS	**Zajecar**	**1.91**	**16**	*e*Pg	**Pb**	**13 04 54.5**	**-0.4**
ZAGS				*e*Sg	**Sg**	**13 05 20.1**	**-0.7**
GRUS	**Gruza**	**2.00**	**343**	*e*Pg	**Pb**	**13 04 56.2**	**-0.2**
GRUS				*e*Sg	**Sg**	**13 05 24.9**	**+1.2**
GRUS	**Gruza**	**2.00**	**343**	*e*Pg	**Pb**	**13 04 56.2**	**-0.2**
GRUS				*e*Sg	**Sg**	**13 05 24.9**	**+1.2**
TRUS	**Trudelj**	**2.39**	**340**	*e*Pn	**Pn**	**13 04 59.5**	**+0.1**
TRUS				*e*Sg	**Sg**	**13 05 37.4**	**+1.2**
DIVS	**Divibare**	**2.39**	**333**	*e*Pn	**Pn**	**13 05 00.1**	**+0.5**
BBLS	**Lazići**	**2.44**	**321**	*e*Pg	**Pg**	**13 05 05.7**	**-0.6**
BBLS				*e*Sg	**Sg**	**13 05 39.0**	**+1.0**
BBLS	**Lazići**	**2.44**	**321**	*e*Pg	**Pg**	**13 05 05.7**	**-0.6**
BBLS				*e*Sg	**Sg**	**13 05 39.0**	**+1.0**
TREB	**Trebinje**	**2.46**	**288**	*e*Pn	**Pn**	**13 05 00.1**	**-0.3**
TREB				*e*Sg	**Sg**	**13 05 39.7**	**+1.1**
KEK	**Kerkira**	**2.61**	**210**	P	**Pn**	**13 05 04.2**	**+1.7**
KEK	**Kerkira**	**2.61**	**210**	P	**Pn**	**13 05 04.2**	**+1.7**
TEKS	**Tekeris**	**2.95**	**331**	*e*Pn	**Pn**	**13 05 07.6**	**+0.5**

*CSEM **26** 13:09:16.1±0.1,59.00N×11.48E,h1km,ML1.1,Error ellipse: s-maj=3.9km s-min=3.2km az=62.0,Mining explosion.*
*BER **26** 13:09:17.4±0.4,58.99N×11.44E,h0km,ML1.6,Suspected explosion*

UPP 26 13:09:16.3,59.00N×11.48E,h0km,ML1.1,Mining explosion.,Sweden

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
STRU	**Stroemstad**	**0.16**	**284**	P	Pg	13 09 19.6	+0.3
STRU				S	Sg	13 09 21.8	+0.4
VANU	**Vaenersborg**	**0.59**	**148**	P	Pg	13 09 27.6	0.0
FINU	**Finntorp**	**0.66**	**51**	P	Pg	13 09 28.8	-0.1
NASU	**Vaermlandsnaes**	**0.89**	**94**	P	Pg	13 09 32.8	-0.5
TJOU	**Tjoern**	**0.97**	**175**	P	Pg	13 09 34.6	-0.2
KONO	**Kongsberg**	**1.17**	**305**	*e*P	Pg	13 09 38.1	-0.5
KONO				*e*S	Sg	13 09 53.4	-0.4
KONO				IAML		13 09 59.1	
	comp=Z,21nm,0.8s						
FKPU	**Falk**	**1.44**	**125**	P	Pn	13 09 42.8	-0.9
BORU	**Boraas**	**1.53**	**153**	P	Pn	13 09 44.1	-0.7
UDD	**Uddeholm**	**1.54**	**44**	P	Pn	13 09 44.6	-0.4
NC602	**NORSAR Array S**	**1.75**	**1**	*e*P	Pn	13 09 47.3	-0.5
NC602				*e*S	Sn	13 10 08.8	-1.9
NC602				IAML		13 10 12.4	
	comp=Z,8.2nm,0.6s						
NC602	**NORSAR Array S**	**1.75**	**1**	*e*P	Pn	13 09 47.3	-0.5
	SNR=50						
NC602				*e*S	Sn	13 10 08.8	-1.9
	SNR=50						
NRAU	**Nora**	**1.92**	**71**	P	Pn	13 09 50.7	+0.6

*JMA **26** 13:12:16.9±0.4,34.58N×127.98E,h12km,M3.6*
*ISCJB **26** 13:12:19.0±0.9,34.58N±0.04×128.09E±0.04,h11km±7km, Error ellipse: s-maj=6.4km s-min=5.0km az=14.3*
*KMA **26** 13:12:19.6±0.3,34.62N×128.10E,h18km±2km,Error ellipse: s-maj=3.7km s-min=1.7km az=148.0*

ISC 26 13:12:19.3±1.0,34.59N±0.04×128.10E±0.04,h22km±9km, n17,σ0°27/23,8C-6D,South Korea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KSNAH	**Namhae**	**0.27**	**329**	⇓P	**Pb**	**13 12 25.7**	**0.0**
	SNR=88						
KSTOY	**TONGYEONG**	**0.38**	**47**	⇓P	**Pb**	**13 12 27.3**	**-0.2**
	SNR=116						
KSTOY				⇓S	**Sb**	**13 12 32.7**	**-0.3**
KSJIN	**Jinju**	**0.58**	**355**	⇑P	**Pb**	**13 12 30.8**	**+0.1**
	SNR=193						
KSYSU	**YEOSU**	**0.66**	**322**	⇑P	**Pb**	**13 12 32.3**	**+0.1**
	SNR=374						
KOHB	**KOHEUNG**	**0.68**	**273**	⇑P	**Pb**	**13 12 32.4**	**0.0**
	SNR=951						
KSMAS	**Masan**	**0.70**	**34**	⇑P	**Pb**	**13 12 32.7**	**-0.1**
	SNR=48						
KSMAS				⇓S	**Sb**	**13 12 42.5**	**+0.4**
KSSAC	**SANCHEONG**	**0.84**	**348**	⇑P	**Pn**	**13 12 35.2**	**-0.5**
	SNR=86						
KSHAC	**HAPCHEON**	**0.97**	**4**	⇑P	**Pb**	**13 12 37.6**	**+0.2**
	SNR=54						
KSJAH	**Jangheung**	**0.97**	**276**	⇑P	**Pn**	**13 12 37.4**	**-0.1**
	SNR=86						
KSNAW	**Namwon**	**1.02**	**323**	⇓P	**Pb**	**13 12 38.5**	**+0.2**
	SNR=66						
JTU	**Tsushima**	**1.08**	**93**	P	**Pn**	**13 12 38.8**	**-0.2**
JTU				S	**Sn**	**13 12 53.1**	**-0.2**
KSWAN	**Wando**	**1.17**	**261**	⇓P	**Pn**	**13 12 40.5**	**+0.3**
	SNR=221						
KSJAS	**Jangsu**	**1.17**	**336**	⇑P	**Pb**	**13 12 40.9**	**+0.1**
	SNR=175						
JII	**Iki**	**1.57**	**120**	P	**Pn**	**13 12 45.9**	**+0.1**
JII				S	**Sb**	**13 13 07.5**	**+0.5**
KSJJU	**Jeju**	**1.73**	**229**	P	**Pb**	**13 12 49.8**	**-0.6**
	SNR=26						
JFU	**Fukue jima 2**	**2.00**	**164**	P	**Pn**	**13 12 51.7**	**0.0**
JFU				S	**Sb**	**13 13 19.6**	**+0.1**
JUR	**Ureshino**	**2.15**	**133**	P	**Pn**	**13 12 53.8**	**+0.1**
JUR				*e*S	**Sb**	**13 13 23.9**	**+0.3**

*ISCJB **26** 13:17:30.8±1.1,37.32N±0.08×144.46E±0.09,h33km, mb3.6/2,Error ellipse: s-maj=12.3km s-min=8.4km az=40.8*
*JMA **26** 13:17:32.1±0.2,37.40N×144.37E,h43km,M3.8*
*IDC **26** 13:17:35.2±5.6,36.19N×144.05E,h0km,mb3.4/2, mb1 3.8/3,mb1mx3.4/30,mbtmp3.5/3,ML3.8/1,Error ellipse: s-maj=118.4km s-min=34.5km az=30.0*

ISC 26 13:17:32.5±1.8,37.35N±0.09×144.5E±0.1,h35km,n16, σ1°24/17,Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JIO	**Ouri**	**2.69**	**295**	P	**Pn**	**13 18 13.6**	**+0.3**
JIO				*e*S	**Sn**	**13 18 44.3**	**-0.4**
OFUJ	**Ofunato**	**2.79**	**309**	P	**Pn**	**13 18 14.7**	**0.0**
JFK	**Kawauchi**	**2.86**	**271**	P	**Pn**	**13 18 15.6**	**0.0**
JFK				S	**Sn**	**13 18 47.7**	**-1.0**
JMK	**Ichinoseki**	**3.01**	**303**	P	**Pn**	**13 18 18.0**	**+0.4**
JMK				*e*S	**Sn**	**13 18 52.6**	**+0.1**
JOM	**Ohasama**	**3.27**	**311**	P	**Pn**	**13 18 21.7**	**+0.5**
JOM				S	**Sn**	**13 18 58.6**	**-0.2**
JFT	**Otama**	**3.29**	**274**	P	**Pn**	**13 18 22.4**	**+1.0**
JFT				S	**Sn**	**13 19 00.3**	**+1.0**
MJAR	**Matsushiro Arr**	**5.07**	**263**	Pn	**Pn**	**13 18 47.3**	**+1.3**
	4.4nm,0.3s,baz=88,slow=15,SNR=35						
MJAR				Sn	**Sn**	**13 19 44.0**	**+0.7**
	0.8nm,0.3s,baz=94,slow=19,SNR=4.3						
MAT	**Matsushiro**	**5.07**	**263**	P	**Pn**	**13 18 47.6**	**+1.6**
MAT				*e*S	**Sn**	**13 19 39.8**	**-3.6**
H11N2	**WAKE ISLAND Hy**	**26.29**	**126**	T	T	13 50 19.6	
	baz=317,slow=74,SNR=20						
H11N1	**WAKE ISLAND Hy**	**26.30**	**126**	T	T	13 50 08.0	
	baz=317,slow=74,SNR=10.0						
H11N3	**WAKE ISLAND Hy**	**26.30**	**126**	T	T	13 50 13.7	
	baz=317,slow=74,SNR=14						
H11S1	**WAKE ISLAND Hy**	**27.06**	**128**	T	T	13 51 16.4	
	baz=319						
H11S3	**WAKE ISLAND Hy**	**27.06**	**128**	T	T	13 51 13.5	
	baz=319						
H11S2	**WAKE ISLAND Hy**	**27.08**	**128**	T	T	13 51 15.3	
	baz=319						
WRA	**Warramunga Arr**	**57.78**	**191**	P	**P**	**13 27 19.6**	**-0.6**
	0.4nm,0.5s,baz=12,slow=7.4,SNR=8.8						
ASAR	**Alice Springs**	**61.50**	**191**	P	**P**	**13 27 45.6**	**-0.1**
	0.3nm,0.8s,baz=7.4,slow=7.2,SNR=5.4						

*ISCJB **26** 13:23:03.4±0.7,39.38N±0.04×38.32E±0.03,h2km±6km, Error ellipse: s-maj=6.7km s-min=3.5km az=12.4*
*CSEM **26** 13:23:03.5±0.2,39.36N×38.31E,h2km,MD2.8,Error ellipse: s-maj=5.8km s-min=3.5km az=17.0*
*DDA **26** 13:23:03.3,39.36N×38.30E,h7km,Md2.8*
*ISK **26** 13:23:03.4,39.35N×38.35E,h9km,MD2.8*

ISC 26 13:23:04.0±1.0,39.34N±0.03×38.28E±0.02,h7km±9km, n28,σ1°55/46,Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KEMA	**Kemaliye**	**0.18**	**113**	*i* P	**Pg**	**13 23 07.8**	**+0.1**
KEMA				*i* S	**Sg**	**13 23 10.9**	**+0.7**
KEMA	**Kemaliye**	**0.18**	**113**	P	**Pg**	**13 23 07.8**	**+0.1**
KEMA				S	**Sg**	**13 23 10.9**	**+0.7**
REFA	**Refahiye_ERZ**	**0.38**	**81**	*i* P	**Pn**	**13 23 16.1**	**-0.1**
REFA				*i* S	**Sb**	**13 23 26.4**	**+7.0**
CUKAN	**kangal_SIVAS**	**0.63**	**268**	*i* P	**Pg**	**13 23 15.7**	**-0.4**
CUKAN				*i* S	**Sg**	**13 23 24.9**	**+0.6**
CUKAN	**kangal_SIVAS**	**0.63**	**268**	P	**Pg**	**13 23 15.7**	**-0.4**
CUKAN				S	**Sg**	**13 23 24.9**	**+0.6**
CUZAR	**Zara_SIVAS**	**0.67**	**325**	*i* P	**Pg**	**13 23 16.7**	**-0.3**
CUZAR	**Zara_SIVAS**	**0.67**	**325**	P	**Pg**	**13 23 16.7**	**-0.3**
EZC	**Erzincan**	**0.93**	**63**	*e*Pn	**Pn**	**13 23 24.7**	**+1.1**
EZC				*e*Sn	**Sn**	**13 23 39.7**	**+2.4**
PTK	**Pertek**	**0.98**	**117**	*e*PG	**Pg**	**13 23 21.9**	**-0.9**
PTK				*e*SG	**Sb**	**13 23 35.9**	**-0.6**
PTK	**Pertek**	**0.98**	**117**	*e*Pg	**Pg**	**13 23 21.9**	**-0.9**
PTK				*e*Sg	**Sb**	**13 23 35.9**	**-0.6**
DARE	**Darende-Malaty**	**0.98**	**219**	*e*PG	**Pb**	**13 23 23.3**	**-0.1**
DARE	**Darende-Malaty**	**0.98**	**219**	*e*Pg	**Pb**	**13 23 23.3**	**-0.1**
ELZG	**Elazig**	**1.01**	**146**	*i* P	**Pg**	**13 23 22.9**	**-0.4**
ELZG				*i* S	**Sb**	**13 23 37.4**	**0.0**
ELZG	**Elazig**	**1.01**	**146**	P	**Pg**	**13 23 22.9**	**-0.4**
ELZG				S	**Sb**	**13 23 37.4**	**0.0**
TNCL	**Tunceli-Merkez**	**1.01**	**102**	*i* P	**Pg**	**13 23 22.1**	**-1.2**
TNCL				*i* S	**Sb**	**13 23 35.8**	**-1.6**
TNCL	**Tunceli-Merkez**	**1.01**	**102**	P	**Pg**	**13 23 22.1**	**-1.2**
TNCL				S	**Sb**	**13 23 35.8**	**-1.6**
KELT	**Kelkit**	**1.11**	**43**	*i* P	**Pg**	**13 23 23.2**	**-2.0**
KELT				*i* S	**Sb**	**13 23 38.8**	**-1.5**
KELT	**Kelkit**	**1.11**	**43**	P	**Pg**	**13 23 23.2**	**-2.0**
KELT				S	**Sb**	**13 23 38.8**	**-1.5**
SVSK	**Karacayir**	**1.14**	**301**	*e*PN	**Pn**	**13 23 26.6**	**+0.2**
SVSK	**Karacayir**	**1.14**	**301**	*e*Pn	**Pn**	**13 23 26.6**	**+0.2**
ERZN	**Erzincan**	**1.15**	**77**	*e*PN	**Pg**	**13 23 24.7**	**-1.3**
ERZN				*e*SN	**Sb**	**13 23 39.7**	**-1.7**
CUALT	**Altinyayla-SIV**	**1.18**	**267**	*i* P	**Pg**	**13 23 26.4**	**-0.2**
CUALT				*i* S	**Sn**	**13 23 44.4**	**+1.0**
CUALT	**Altinyayla-SIV**	**1.18**	**267**	P	**Pg**	**13 23 26.4**	**-0.2**
CUALT				S	**Sn**	**13 23 44.4**	**+1.0**
SVRC	**Sivrice-ELAZID**	**1.25**	**140**	*e*PN	**Pg**	**13 23 27.0**	**-1.0**
SVRC	**Sivrice-ELAZID**	**1.25**	**140**	*e*Pn	**Pg**	**13 23 27.0**	**-1.0**
RSDY	**Resadiye-TOKAT**	**1.28**	**326**	*e*PN	**Pg**	**13 23 28.7**	**+0.1**
RSDY	**Resadiye-TOKAT**	**1.28**	**326**	*e*Pn	**Pg**	**13 23 28.7**	**+0.1**
CUSAR	**Sarkisla-SIVAS**	**1.58**	**274**	*i* P	**Pn**	**13 23 29.2**	**-3.3**
CUSAR				*i* S	**Sg**	**13 23 55.4**	**+0.8**

IDC 26 13:42:20.7±17.0,22.45S×174.38W,h0km,mb4.2/5, mb1 4.3/5,mb1mx3.8/34,mbtmp4.2/5,Error ellipse: s-maj=328.4km s-min=146.3km az=81.0,Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CTA	**Charters Tower**	**36.69**	**266**	P	P	13 49 30.2	+0.5
	3.7nm,0.3s,baz=102,slow=9.5,SNR=12						
STKA	**Stephens Creek**	**40.05**	**247**	P	P	13 49 58.0	+0.2
	0.8nm,0.5s,baz=100,slow=6.8,SNR=5.4						
ASAR	**Alice Springs**	**47.39**	**258**	P	P	13 50 56.5	-0.6
	1.2nm,0.4s,baz=101,slow=8.6,SNR=43						
WRA	**Warramunga Arr**	**47.70**	**263**	P	P	13 50 58.7	-0.8
	2.0nm,0.5s,baz=102,slow=8.3,SNR=102						
FITZ	**Fitzroy Crossi**	**56.12**	**263**	P	P	13 52 02.8	+0.4
	1.0nm,0.5s,baz=107,slow=5.7,SNR=5.9						

*ISCJB **26** 13:45:23.1±0.6,36.94N±0.04×34.60E±0.05,h7km±7km, Error ellipse: s-maj=8.1km s-min=5.4km az=136.8*
*CSEM **26** 13:45:23.5±0.3,36.95N×34.56E,h5km,MD2.5,Error ellipse: s-maj=7.4km s-min=5.2km az=130.0*
*DDA **26** 13:45:23.2,36.97N×34.63E,h7km,Md2.6*
*ISK **26** 13:45:23.6,36.86N×34.61E,h6km,MD2.5*

ISC 26 13:45:23.5±0.9,36.93N±0.03×34.60E±0.03,h6km±7km, n17,σ0°51/27,Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MERS	**Mersin**	**0.09**	**224**	*e*PG	**Pg**	**13 45 25.3**	**-0.4**
MERS				*e*SG	**Sg**	**13 45 27.5**	**+0.3**
MERS	**Mersin**	**0.09**	**224**	*e*Pg	**Pg**	**13 45 25.3**	**-0.4**
MERS				*e*Sg	**Sg**	**13 45 27.5**	**+0.3**
DED	**Mersin**	**0.16**	**80**	*i* P	**Pg**	**13 45 26.1**	**-0.8**
KIZK	**Mersin**	**0.58**	**219**	*e*PG	**Pg**	**13 45 34.4**	**-0.4**
KIZK				*e*SG	**Sg**	**13 45 42.8**	**+0.4**
KIZK	**Mersin**	**0.58**	**219**	*i* P	**Pg**	**13 45 34.3**	**-0.4**
KIZK				*i* S	**Sb**	**13 45 44.7**	**+0.1**
KIZK	**Mersin**	**0.58**	**219**	P	**Pg**	**13 45 34.3**	**-0.4**
KIZK				S	**Sb**	**13 45 44.7**	**+0.1**
KERG	**Konya-Eregli**	**0.61**	**322**	*i* P	**Pg**	**13 45 34.7**	**-0.7**
KERG				*i* S	**Sg**	**13 45 43.9**	**+0.5**
KERG	**Konya-Eregli**	**0.61**	**322**	P	**Pg**	**13 45 34.7**	**-0.7**
KERG				S	**Sg**	**13 45 43.9**	**+0.5**
AKO	**Adana**	**0.85**	**52**	*i* P	**Pg**	**13 45 39.6**	**-0.4**
AKO				*i* S	**Sg**	**13 45 50.8**	**-0.3**
CEYT	**Ceyhan**	**0.92**	**85**	*e*PG	**Pb**	**13 45 42.1**	**+0.2**
CEYT	**Ceyhan**	**0.92**	**85**	*e*Pg	**Pb**	**13 45 42.1**	**+0.2**
IKL	**Isikli**	**1.01**	**227**	*e*PG	**Pg**	**13 45 42.0**	**-1.0**
IKL				*e*SG	**Sg**	**13 45 56.2**	**+0.2**
IKL	**Isikli**	**1.01**	**227**	*e*Pg	**Pg**	**13 45 42.0**	**-1.0**
IKL				*e*Sg	**Sg**	**13 45 56.3**	**+0.2**
TEVE	**Tevekalti-Mers**	**1.06**	**242**	*e*PG	**Pb**	**13 45 44.2**	**0.0**
KOZT	**Kozan**	**1.12**	**60**	*e*PN	**Pn**	**13 45 46.1**	**+0.4**
KOZT	**Kozan**	**1.12**	**60**	*e*Pn	**Pn**	**13 45 46.1**	**+0.4**
TEKE	**Tekeli-Mersin**	**1.44**	**237**	*e*PN	**Pn**	**13 45 50.2**	**+0.2**

*NIED **26** 13:46:00,36.70N×140.70E,h5km,Mw4.0 Best double couple: M0 1.04000×10^15 NP1:φs328.00000°,δ29.00000°, λ-87.00000°. NP2:φs144.00000°,δ61.00000°, λ-92.00000°.*
*ISCJB **26** 13:46:02.5±0.8,36.64N±0.04×140.79E±0.05,h16km±4km, mb4.

H11S1	**WAKE ISLAND Hy 29.14 121** baz=314,slow=76,SNR=6412		T		T		14 22 32.7	
H11S3	**WAKE ISLAND Hy 29.14 121** baz=314,slow=76,SNR=3081		T		T		14 22 33.3	
H11S2	**WAKE ISLAND Hy 29.16 121** baz=314,slow=76,SNR=3197		T		T		14 22 34.5	
TIXI	**Tiksi**	**35.57 354**	*i* P		**P**		**13 53 01.4**	**+1.0**
TIXI			pmax		pmax			
	comp=Z,6.0nm,1.1s							
DGZ	**Jazzator, Alta**	**40.15 306**	*i* P		**P**		**13 53 40.4**	**+0.9**
DGZ			pmax		pmax			
	comp=Z,3.0nm,0.8s							
CMAR	**Chiang Mai Arr**	**40.87 255**	LR		LR		14 12 18.4	
	comp=Z,22nm,20.9s,baz=190,slow=38							
ZALV	**Zalesovo Beam**	**41.74 313**	P		**P**		**13 53 51.9**	**-0.5**
	comp=Z,7.3nm,0.5s,baz=97,slow=6.8,SNR=25							
ZALV			PcP		**PcP**		**13 55 48.3**	**-0.4**
	comp=Z,0.7nm,0.5s,baz=85,slow=2.1,SNR=3.8							
MKAR	**Makanchi Array**	**43.83 302**	P		**P**		**13 54 09.3**	**-0.2**
	comp=Z,1.3nm,0.7s,baz=88,slow=9.1,SNR=12							
MKAR	**Makanchi Array**	**43.83 302**	*e*P		**P**		**13 54 09.7**	**+0.2**
MKAR			pmax		pmax			
	comp=Z,1.0nm,0.7s							
KURK	**Kurchatov**	**45.71 308**	*e*P		**P**		**13 54 23.6**	**-0.8**
KURK			pmax		pmax			
	comp=Z,54nm,0.6s							
KURK	**Kurchatov**	**45.71 308**	*e*P		**P**		**13 54 23.6**	**-0.8**
	comp=Z,54nm,0.6s							
ILAR	**Eielson Array**	**50.09 32**	P		**P**		**13 54 58.8**	**+0.8**
	comp=Z,0.5nm,0.8s,baz=273,slow=6.2,SNR=4.7							
AAK	**Ala-Archa**	**50.17 298**↑	*i*P		**P**		**13 54 59.4**	**+0.2**
AAK			pmax		pmax			
	comp=Z,4.0nm,0.9s							
BRVK	**Borovoye**	**50.45 312**	*e*P		**P**		**13 55 00.4**	**-0.6**
BRVK			pmax		pmax			
	comp=Z,9.0nm,0.8s							
BRVK	**Borovoye**	**50.45 312**	*e*P		**P**		**13 55 00.4**	**-0.6**
	comp=Z,8.6nm,0.8s							
KKAR	**Karatay Array**	**52.82 300**	*e*P		**P**		**13 55 18.3**	**-0.6**
KKAR	**Karatay Array**	**52.82 300**	*e*P		**P**		**13 55 18.2**	**-0.6**
ARU	**Arti**	**56.25 319**	*d* P		**P**		**13 55 43.7**	**+0.1**
ARU							13 57 45.9	
ARU			S		**S**		**14 03 31.9**	**-1.7**
ARU			SS		**SS**		**14 07 20.2**	**+0.6**
ARU			pmax		pmax			
	comp=Z,5.0nm,1.0s							
ARU	**Arti**	**56.25 319**	*e*P		**P**		**13 55 43.1**	**-0.5**
	comp=Z,3.2nm,0.4s							
WRAB	**Tennant Creek**	**56.63 187**↑	*i*P		**P**		**13 55 46.4**	**-0.2**
WRAB			pmax		pmax			
	comp=Z,6.0nm,0.8s							
WRAB	**Tennant Creek**	**56.63 187**	*e*P		**P**		**13 55 46.0**	**-0.7**
	comp=Z,3.4nm,0.7s							
WRA	**Warramunga Arr**	**56.64 187**	P		**P**		**13 55 46.0**	**-0.7**
	comp=Z,3.2nm,0.6s,baz=4.2,slow=7.3,SNR=69							
WRA			PcP		**PcP**		**13 56 42.9**	**-0.1**
	comp=Z,0.3nm,0.5s,baz=360,slow=4.5,SNR=4.9							
ABKAR	**Akbulak array**	**57.74 310**	*e*P		**P**		**13 55 53.3**	**-0.9**
	comp=Z,2.6nm,0.6s							
ASAR	**Alice Springs**	**60.37 187**	P		**P**		**13 56 12.4**	**-0.3**
	comp=Z,2.0nm,0.8s,baz=10,slow=6.4,SNR=34							
KLMR	**Klimovskoe**	**63.75 328**	*e*P		**P**		**13 56 31.6**	**-3.4**
KLMR			pmax		pmax			
	comp=Z,5.0nm,0.8s							
ARCES	**ARCESS Array B**	**64.13 339**	P		**P**		**13 56 36.8**	**-0.5**
	comp=Z,1.1nm,0.5s,baz=67,slow=7.9,SNR=3.8							
ARCES	**ARCESS Array B**	**64.13 339**	*e*P		**P**		**13 56 38.9**	**+1.5**
ARCES			pmax		pmax			
	comp=Z,1.0nm,0.4s							
STKA	**Stephens Creek**	**68.21 179**	P		**P**		**13 57 03.7**	**-0.2**
	comp=Z,0.8nm,0.6s,baz=355,slow=5.0,SNR=4.8							
STKA	**Stephens Creek**	**68.21 179**	*e*P		**P**		**13 57 05.3**	**+1.4**
STKA			pmax		pmax			
	comp=Z,1.0nm,0.6s							
FINES	**FINESS Array B**	**68.86 332**	P		**P**		**13 57 07.2**	**-0.6**
	comp=Z,2.6nm,0.7s,baz=64,slow=6.3,SNR=8.9							
FINES	**FINESS Array B**	**68.86 332**	*e*P		**P**		**13 57 08.1**	**+0.4**
FINES			pmax		pmax			
	comp=Z,3.0nm,0.7s							
AKASG	**Malin Array Be**	**74.23 322**	P		**P**		**13 57 37.9**	**-2.4**
	comp=Z,1.2nm,0.6s,baz=48,slow=5.9,SNR=7.9							
AKASG	**Malin Array Be**	**74.23 322**	*ce*P		**P**		**13 57 39.7**	**-0.6**
AKASG			pmax		pmax			
	comp=Z,1.0nm,0.6s							
NB2	**NORSAR Subarra**	**74.29 337**	P		**P**		**13 57 40.4**	**-0.2**
	comp=Z,1.1nm,0.5s,baz=41,slow=5.9							
NOA	**NORSAR Array B**	**74.29 337**	P		**P**		**13 57 40.2**	**-0.3**
	comp=Z,1.1nm,0.5s,baz=40,slow=5.7,SNR=4.9							
PDAR	**Pinedale Array**	**78.31 45**	P		**P**		**13 58 05.0**	**+1.1**
	comp=Z,0.5nm,0.6s,baz=23,slow=4.9,SNR=4.1							
CLL	**Collm**	**81.12 330**	*e*P		**P**		**13 58 19.0**	**+0.3**
CLL	**Collm**	**81.12 330**	*e*P		**P**		**13 58 19.0**	**+0.3**
CLL			Lm		MLR		14 56 00.0	
	comp=N,100nm,18.5s							
CLL			Lm		MLR		14 56 00.0	
	comp=E,100nm,19.2s							
GERES	**GERESS Array B**	**82.71 328**	P		**P**		**13 58 26.3**	**-1.0**
	comp=E,0.4nm,0.5s,baz=46,slow=7.6,SNR=4.0							
GERES	**GERESS Array B**	**82.71 328**	*e*P		**P**		**13 58 28.0**	**+0.7**
BFO	**Black Forest**	**85.33 330**	*ce*P		**P**		**13 58 41.1**	**+0.5**
TXAR	**Lajitas Array**	**90.77 52**	P		**P**		**13 59 08.1**	**+1.0**
	comp=E,0.4nm,0.7s,baz=298,slow=2.7,SNR=5.5							
TXAR	**Lajitas Array**	**90.77 52**	*e*P		**P**		**13 59 06.8**	**-0.3**

GUC 26 13:47:13.2±0.6, 19.90°N×69.34°W, h90km±2km, ML3.6, 3C-7D, Northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PB08	**IPOC Station P**	**0.29 144**↓		*i*P	Pn	13 47 27.4	+0.3
PB08				*i* S	Sn	13 47 38.4	+1.0
PB11	**IPOC Station P**	**0.33 295**↓		*i*P	Pn	13 47 27.3	+0.3
PB11				*i* S	Sn	13 47 38.0	+0.7
HMBC	**Humberstone**	**0.64 234**↓		*i*P	Pn	13 47 29.6	+0.3
HMBC				*i* S	Sn	13 47 41.9	+0.6
PSGC	**Pisagua**	**0.80 292**↓		*i*P	Pn	13 47 31.2	+0.3
PSGC				*i* S	Sn	13 47 44.9	+0.9
MNMC	**Minye Minye**	**0.80 342**↑		*i*P	Pn	13 47 31.8	+0.7
MNMC				*i* S	Sn	13 47 45.2	+0.8
MNMC				IAML		13 47 50.9	
	comp=N,2μm,0.2s						
PB01	**IPOC Station P**	**1.15 187**↓		*i*P	Pn	13 47 35.0	+0.3
PB01				*i* S	Sn	13 47 51.7	+0.9
PB12	**IPOC Station P**	**1.59 324**↑		*i*P	Pn	13 47 40.2	0.0
PB12				*i* S	Sn	13 47 60.0	-0.6
PB12				IAML		13 48 08.7	
	comp=E,2μm,0.2s						
PB07	**IPOC Station P**	**1.89 196**↑		*i*P	Pn	13 47 44.9	+0.8
PB07				*i* S	Sn	13 48 09.2	+1.5
PB07				IAML		13 48 14.4	
	comp=E,374nm,0.2s						
PB09	**IPOC Station P**	**1.89 177**↓		*i*P	Pn	13 47 45.2	+1.0
PB09				*i* S	Sn	13 48 09.4	+1.7
PB09				IAML		13 48 16.1	
	comp=E,747nm,0.3s						
PB06	**IPOC Station P**	**2.80 184**↓		*i*P	Pn	13 47 57.5	+1.3
PB06				*i* S	Sn	13 48 31.3	+2.1
PB06				IAML		13 48 36.9	
	comp=E,164nm,0.2s						

*ISCJB **26** 14:03:01.7±0.4, 38.42S±0.06×17.0W±0.1, h10km, mb4.5/19, MS4.2/21, Error ellipse: s-maj=12.9km s-min=8.7km az=8.3*
*IDC **26** 14:03:02.1±0.6, 38.45S×17.02W, h0km, mb4.2/12, mb1 4.3/12, mb1mx4.1/25, mbtmp4.2/12, MS4.2/21, Ms1 4.2/21, ms1mx4.2/23, Error ellipse: s-maj=21.1km s-min=17.4km az=102.0*
*NEIC **26** 14:03:03.6±0.3, 38.42S×16.99W, h10km, mb4.8/4, Error ellipse: s-maj=10.6km s-min=9.3km az=123.0*
*GCMT **26** 14:03:03.6±0.2, 38.50S×16.92W, h18km±1km, MW5.1/100, Moment Tensor Solution. s38,c49; s100,c154; Duration: 0 Moment tensor: Scale 10^16 Nm; Mrr~1.02±.16; Mθθ2.35±.16; Mϕϕ~1.33±.12; Mrθ0.85±.30; Mϕϕ~4.67±.12; Mϕr~1.45±.29; Best double couple: Ms5.26400×10^16 NP1:ϕs169.00000°,δ90.00000°,λ17.00000°. NP2: ϕs79.00000°,δ73.00000°,λ180.00000°. Principal axes: T 5.8660, Plg13.0000°, Azm35.0000°; N -1.2050, Plg73.0000°, Azm170.0000°; P -4.6620, Plg12.0000°, Azm302.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

ISC 26 14:03:03.5±0.5, 38.44S±0.09×17.0W±0.1, h10km, n57, σ1s14/33, mb4.6/19, MS4.3/21, 1D, Southern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
H10S2	**ASCENSION HYDR** baz=184,slow=75,SNR=834	**29.43**	**5**	T	T	14 39 59.4	
H10S3	**ASCENSION HYDR** baz=184,slow=75,SNR=800	**29.44**	**5**	T	T	14 39 59.8	
H10S1	**ASCENSION HYDR** baz=184,slow=75,SNR=737	**29.45**	**5**	T	T	14 40 00.8	
H10N1	**ASCENSION HYDR** baz=191,slow=79,SNR=53	**30.55**	**5**	T	T	14 41 24.2	
H10N3	**ASCENSION HYDR** baz=191,slow=79,SNR=525	**30.55**	**5**	T	T	14 41 24.2	
H10N2	**ASCENSION HYDR** baz=191,slow=79,SNR=121	**30.56**	**5**	T	T	14 41 24.0	
VNA1	**Neumayer--Stat**	**32.60**	**175**	P	**P**	**14 09 36.2**	**+1.4**
VNA2	**Neumayer--Watz** baz=341,slow=11	**32.93**	**174**	P	**P**	**14 09 38.2**	**+0.5**
VNA3	**Neumayer Olymp**	**33.09**	**176**	P	**P**	**14 09 38.8**	**-0.3**
SNAA	**Sanae**	**34.08**	**172**	P	**P**	**14 09 48.0**	**+0.1**
SNAA	**Sanae**	**34.08**	**172**	P	**P**	**14 09 47.9**	**+0.1**
	5.9nm,1.0s,baz=333,slow=10.0,SNR=16						
SNAA	**Sanae**	**34.08**	**172**	*e*P	**P**	**14 09 47.7**	**-0.1**
	531nm,1.2s						
TSUM	**Tsumeb**	**35.57**	**67**	*e*P	**P**	**14 10 00.2**	**-1.1**
	25nm,1.4s						
CPUP	**Villa Florida**	**35.87**	**278**	LR	LR	14 22 47.7	
	comp=Z,370nm,19.2s,baz=130,slow=33						
BOSA	**Boshof**	**36.30**	**87**	LR	LR	14 21 44.0	
	comp=Z,148nm,20.1s,baz=234,slow=31						
PLCA	**Paso Flores**	**40.80**	**249**	P	**P**	**14 10 44.4**	**-0.8**
	3.0nm,1.1s,baz=137,slow=12,SNR=3.9						
PLCA				LR	LR	14 26 35.7	
	comp=Z,466nm,18.8s,baz=141,slow=35						
SYO	**Syowa Base**	**42.83**	**154**‖	*e*P	**P**	**14 11 00.0**	**-1.2**
MATP	**Matopo**	**43.03**	**79**	P	**P**	**14 11 02.8**	**-0.8**
	2.8nm,0.8s,baz=245,slow=7.8,SNR=6.5						
SIV	**San Ignacio**	**44.59**	**288**	P	**P**	**14 11 16.6**	**+0.6**
	3.9nm,1.0s,baz=127,slow=11,SNR=5.2						
LIC	**Lamto**	**45.81**	**17**	*e*P	**P**	**14 11 25.1**	**-0.5**
	57nm,1.7s						
LSZ	**Lusaka**	**45.87**	**73**	*e*P	**P**	**14 11 26.3**	**-0.1**
	7.9nm,1.1s						
KIC	**Kosan Boka**	**46.01**	**17**	*e*P	**P**	**14 11 26.8**	**-0.4**
	18nm,0.8s						
TIC	**Toumodi**	**46.22**	**17**	*e*P	**P**	**14 11 28.2**	**-0.7**
DBIC	**Dimbokro**	**46.28**	**17**	P	**P**	**14 11 29.0**	**-0.3**
	3.7nm,0.8s,baz=196,slow=10,SNR=4.2						
DBIC				LR	LR	14 26 01.8	
	comp=Z,389nm,20.4s,baz=171,slow=30						
LPAZ	**La Paz**	**49.77**	**282**	P	**P**	**14 11 55.6**	**-1.6**
	1.8nm,0.9s,baz=126,slow=9.2,SNR=6.4						
LPAZ				LR	LR	14 30 40.7	
	comp=Z,202nm,21.8s,baz=122,slow=33						
SAML	**Samuel**	**50.74**	**293**	*e*P	**P**	**14 12 04.0**	**+0.2**
	11nm,1.1s						
MAW	**Mawson**	**51.33**	**151**	P	**P**	**14 12 07.5**	**0.0**
	3.0nm,0.9s,baz=247,slow=9.4,SNR=6.3						
MAW				LR	LR	14 29 11.1	
	comp=Z,171nm,21.4s,baz=242,slow=31						
QSPA	**South Pole Qui**	**51.81**	**180**	*e*P	**P**	**14 12 12.0**	**+0.6**
	50nm,0.9s						
TORD	**Torodi Ar. Bea**	**54.22**	**23**	P	**P**	**14 12 28.9**	**-0.6**
	3.7nm,0.8s,baz=201,slow=7.3,SNR=24						
TORD				LR	LR	14 31 06.7	
	comp=Z,607nm,19.2s,baz=195,slow=31						
KMBO	**Kilima Mbogo**	**61.92**	**67**	LR	LR	14 38 37.0	
	comp=Z,239nm,18.1s,baz=94,slow=34						
SBA	**Scott Base**	**63.95**	**181**	P	**P**	**14 13 37.6**	**+1.4**
	16nm,1.3s						
VNDA	**Vanda**	**64.31**	**180**	P	**P**	**14 13 38.8**	**+0.3**
	5.3nm,1.2s,baz=203,slow=6.5,SNR=8.0						
VNDA				LR	LR	14 40 04.0	
	comp=Z,197nm,18.3s,baz=179,slow=35						
TAM	**Tamanrasset**	**64.47**	**23**	*e*P	**P**	**14 13 40.2**	**-0.3**
ROSC	**El Rosal**	**68.25**	**295**	LR	LR	14 43 21.2	
	comp=Z,401nm,18.1s,baz=98,slow=36						
KEST	**Kesra**	**77.73**	**22**	P	**P**	**14 15 01.1**	**+0.7**
	6.0nm,0.9s,baz=149,slow=5.3,SNR=5.8						
KEST				LR	LR	14 46 16.2	
	comp=Z,513nm,19.1s,baz=176,slow=33						
ESDC	**Sonseca Array**	**78.66**	**10**	P	**P**	**14 15 06.5**	**+1.1**
	0.2nm,0.3s,baz=185,slow=4.0,SNR=4.5						
IDI	**Anoyia**	**82.98**	**33**	LR	LR	14 51 36.5	
	comp=Z,42nm,18.8s,baz=101,slow=35						
MMAI	**Mount Meron Ar**	**86.17**	**42**	LR	LR	14 50 13.9	
	comp=Z,160nm,21.7s,baz=230,slow=33						
ASF	**Jabal al Asfar**	**86.31**	**43**	LR	LR	14 51 44.3	
	comp=Z,92nm,19.4s,slow=34						
BRTR	**Keskin Array B**	**90.58**	**37**	P	**P**	**14 16 07.2**	**+1.3**
	1.3nm,0.8s,baz=211,slow=5.0,SNR=5.0						
BRTR				LR	LR	14 55 27.1	
	comp=Z,17nm,19.5s,baz=212,slow=35						
GERES	**GERESS Array B**	**91.08**	**20**	LR	LR	14 53 30.9	
	comp=Z,197nm,21.4s,baz=210,slow=33						
MLR	**Muntele Rosu**	**92.05**	**29**	LR	LR	14 55 31.6	
	comp=Z,24nm,19.8s,baz=230,slow=34						
VRAC	**Vranov**	**92.29**	**2**	LR	LR	14 56 27.3	
	comp=Z,225nm,18.2s,baz=214,slow=35						
WSAR	**Wadi Sarin**	**93.65**	**63**	LR	LR	14 56 10.4	
	comp=Z,169nm,20.9s,baz=240,slow=34						
H01W2	**Cape Leeuwin H** baz=217,slow=75,SNR=129	**94.13**	**142**	T	T	16 01 48.2	
H01W3	**Cape Leeuwin H** baz=217,slow=75,SNR=146	**94.14**	**142**	T	T	16 01 47.8	
H01W1	**Cape Leeuwin H** baz=217,slow=75,SNR=119	**94.14**	**142**	T	T	16 01 47.7	
AKASG	**Malin Array Be**	**97.61**	**28**	LR	LR	14 59 23.8	
	comp=Z,67nm,20.4s,baz=195,slow=35						
KBZ	**Khabaz**	**98.11**	**39**	LR	LR	14 59 38.0	
	comp=Z,71nm,20.2s,baz=196,slow=35						
PPT2	**Papeete2**	**108.71**	**228**	*e*S	**Sdif**	**14 29 32.5**	**-4.6**
	50nm,26.2s						
PPT2				*e*SS	SS	14 37 33.9	+18
	67nm,25.5s						
PPT2	**Papeete2**	**108.71**	**228**	*e*LR	LR	14 53 49.5	
	305nm,26.2s						
DZM	**Mont Dzumac**	**119.72**	**184**	*e*LR	LR	14 58 56.4	
	128nm,24.6s						
SONM	**Songino Array**	**138.48**	**58**	PKP	**PKPdf**	**14 22 29.1**	**0.0**
	0.7nm,0.9s,baz=315,slow=0.4,SNR=2.8						
ILAR	**Eielson Array**	**140.83**	**329**	PKP	**PKPdf**	**14 22 32.8**	**+0.2**
	0.8nm,0.9s,baz=24,slow=1.5,SNR=6.9						
KDAK	**Kodiak Island**	**145.41**	**319**	PKPbc	**PKPab**	**14 22 41.9**	**+0.9**
	7.6nm,1.1s,baz=233,slow=5.1,SNR=2.5						
KSAR	**Wonju Array Be**	**152.39**	**81**	PKPbc	**PKPbc**	**14 23 00.1**	**+0.4**
KSRS	**Korea Array**	**152.42**	**81**	PKPbc	**PKPbc**	**14 23 00.1**	**+0.4**
	0.4nm,0.5s,baz=257,slow=1.7,SNR=2.9						

BUC 26 14:16:08.0±0.5, 45.88N×27.14E, h10km, MD2.3/2, 2C-6D, Error ellipse: s-maj=4.8km s-min=1.2km az=24.0, Romania

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ODBI	**Odobesti**	**0.14 206**↑		*i*P	Pg	14 16 11.3	+0.2
ODBI				S	Sg	14 16 15.0	+1.8
ODBI	**Odobesti**	**0.14 206**↑		*i*P	Pg	14 16 11.3	+0.2
ODBI				*i* S	Sg	14 16 15.0	+1.8
PETR	**Petresti**	**0.17 159**↓		*i*P	Pg	14 16 11.9	+0.2
PETR	**Petresti**	**0.17 159**		S	Sg	14 16 16.3	+2.1
PETR	**Petresti**	**0.17 159**↓		*i*P	Pg	14 16 11.9	+0.2
PETR				*i* S	Sg	14 16 16.3	+2.1
VRI	**Vrincioaia**	**0.29 267**↓		*i*P	Pg	14 16 14.2	+0.4
VRI	**Vrincioaia**	**0.29 267**↓		*i*P	Pg	14 16 14.2	+0.4
PLOR	**Plostina**	**0.34 265**		S	Sb	14 16 21.0	-0.8
PLOR	**Plostina**	**0.34 265**		*i* S	Sb	14 16 21.0	-0.8
MLR	**Muntele Rosu**	**0.93 245**↓		*i*P	Pb	14 16 26.5	+0.3
MLR				S	Sn	14 16 39.8	-0.8
MLR	**Muntele Rosu**	**0.93 245**↓		*i*P	Pb	14 16 26.5	+0.3
MLR				*i* S	Sn	14 16 39.8	-0.8

IDC 26 14:17:43.3±3.7, 6.33S×129.41E, h272km±48km, mb3.3/1, mb1 3.4/4, mb1mx3.0/37, mbtmp4.1/4, Error ellipse: s-maj=81.0km s-min=13.3km az=76.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SIJI	**Sorong**	**5.74**	**19**	P	Pn	14 19 10.7	+1.9
	14nm,0.3s,baz=191,slow=8.0,SNR=2.2						
SIJI				S	S	14 20 16.5	-0.9
	26nm,0.3s,baz=132,slow=16,SNR=2.3						

WRA	**Warramunga Arr**	**14.35 161**		P		P	14 20 53.8	-1.0
	0.5nm,0.3s,baz=344,slow=12,SNR=35							
WRA				S		S	14 23 31.9	-1.5
	0.4nm,0.3s,baz=337,slow=22,SNR=7.4							
ASAR	**Alice Springs**	**17.77 166**		P		P	14 21 33.3	+1.0
	0.4nm,0.3s,baz=345,slow=11,SNR=78							
ASAR				S		S	14 24 42.5	+0.2
	0.1nm,0.3s,baz=345,slow=20,SNR=10							
MKAR	**Makanchi Array**	**67.35 327**		P		P	14 28 09.2	-0.2
	0.5nm,0.3s,baz=140,slow=7.0,SNR=8.8							

*CSEM **26** 14:17:45.0±1.9, 50.17N×19.17E, h1km, Error ellipse: s-maj=33.6km s-min=8.9km az=30.0*

PRU 26 14:17:47.2, 50.26N×19.06E, h0km, Poland

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OKC	**Ostrava-Krasne**	**0.72 235**		*e*SG	Sg	14 18 10.5	+0.1
	comp=Z,5.2nm,0.4s						
OKC	**Ostrava-Krasne**	**0.72 235**		Sg	Sg	14 18 10.5	+0.1
	5.2nm,0.4s						
MORC	**Moravsky Berou**	**1.09 244**		*e*Pg	Pg	14 18 07.5	-0.6
MORC				*e*Sg	Sg	14 18 21.1	-1.1
LANS	**Liptovska Anna**	**1.14 166**		*e*Pg	Pg	14 18 05.8	-3.3
LANS				*e*Sg	Sg	14 18 19.2	-4.6
LANS	**Liptovska Anna**	**1.14 166**		*e*PG	Pg	14 18 05.8	-3.3
LANS				*e*SG	Sg	14 18 19.2	-4.6
KRLC	**Kraliky**	**1.48 264**		*e*SG	Sg	14 18 33.5	-1.1
KRLC	**Kraliky**	**1.48 264**		Sg	Sg	14 18 33.5	-1.1
DPC	**Dobruska-Polom**	**1.76 274**		*e*SG	Sb	14 18 43.2	+0.2
	comp=Z,1.4nm,0.2s						
DPC	**Dobruska-Polom**	**1.76 274**		Sg	Sb	14 18 43.2	+0.2
	1.4nm,0.2s						
VYHS	**Vyhne**	**1.77 185**		*e*Pg	Pn	14 18 16.1	-3.0
VYHS				*e*Sn	Sn	14 18 37.3	-5.1
VYHS	**Vyhne**	**1.77 185**		*e*PG	Pn	14 18 16.1	-3.0
VYHS				*e*SN	Sn	14 18 37.3	-5.1
VYHS				*e*LG	Lg	14 18 40.0	

*DDA **26** 14:29:12.9, 37.79N×27.37E, h7km, Md2.6*
*ISCJB **26** 14:29:13.1±0.5, 37.79N±0.03×27.38E±0.04, h8km±5km, Error ellipse: s-maj=5.8km s-min=4.7km az=135.9*
*CSEM **26** 14:29:13.1±0.2, 37.80N×27.38E, h10km, MD2.5, Error ellipse: s-maj=6.0km s-min=4.4km az=59.0*
*ISK **26** 14:29:13.1, 37.79N×27.41E, h16km, MD2.5*

ISC 26 14:29:13.0±0.9, 37.79N±0.03×27.36E±0.03, h9km±7km, n25, σ0s46/34, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GCAM	**G?zelcaml?**	**0.13 228**		*i* P	**Pg**	**14 29 15.7**	**-0.3**
GCAM				*i* S	**Sg**	**14 29 18.1**	**+0.1**
GCAM	**G?zelcaml?**	**0.13 228**		P	**Pg**	**14 29 15.7**	**-0.3**
GCAM				S	**Sg**	**14 29 18.1**	**+0.1**
AYDB	**Zeytinkoy-Aydi**	**0.45 70**		*e*PG	**Pg**	**14 29 21.8**	**0.0**
AYDB				*e*SG	**Sg**	**14 29 28.4**	**+0.6**
AYDB	**Zeytinkoy-Aydi**	**0.45 70**		*e*Pg	**Pg**	**14 29 21.8**	**0.0**
AYDB				*e*Sg	**Sg**	**14 29 28.4**	**+0.6**
DGB	**˜zmir**	**0.46 305**		*i* P	**Pg**	**14 29 22.0**	**+0.1**
MLSB	**Milas**	**0.60 146**		*e*Pg	**Pg**	**14 29 24.9**	**+0.3**
MLSB	**Milas**	**0.60 146**		*e*Pg	**Pg**	**14 29 24.9**	**+0.3**
BDRM	**Kayabasi**	**0.73 175**		*i* P	**Pb**	**14 29 27.5**	**-0.4**
BDRM	**Kayabasi**	**0.73 175**		P	**Pb**	**14 29 27.5**	**-0.4**
BODT	**Bodrum**	**0.73 183**		*e*PG	**Pg**	**14 29 27.1**	**+0.1**
BODT				*e*SG	**Sb**	**14 29 38.8**	**+0.8**
BODT	**Bodrum**	**0.73 183**		*e*Pg	**Pg**	**14 29 27.1**	**+0.1**
BODT				*e*Sg	**Sb**	**14 29 38.8**	**+0.8**
ZEY	**˜zmir**	**0.81 304**		*i* P	**Pg**	**14 29 28.6**	**0.0**
ZEY				*i* S	**Sb**	**14 29 41.0**	**+0.7**
URLA	**Izmir**	**0.83 314**		*e*PG	**Pb**	**14 29 29.8**	**+0.1**
URLA				*e*SG	**Sn**	**14 29 42.6**	**-0.8**
URLA	**Izmir**	**0.83 314**		*i* P	**Pg**	**14 29 29.1**	**+0.1**
URLA	**Izmir**	**0.83 314**		P	**Pg**	**14 29 29.1**	**+0.1**
URLA	**Izmir**	**0.83 314**		*e*Pg	**Pb**	**14 29 29.8**	**+0.1**
URLA				*e*Sg	**Sn**	**14 29 42.6**	**-0.8**
DAT	**Datca**	**1.07 171**		*e*PG	**Pb**	**14 29 34.0**	**+0.1**
DAT	**Datca**	**1.07 171**		*i* P	**Pb**	**14 29 34.0**	**+0.1**
DAT	**Datca**	**1.07 171**		P	**Pb**	**14 29 34.0**	**+0.1**
CHOS	**Chios island**	**1.19 300**		*e*PN	**Pn**	**14 29 36.1**	**+0.1**
CHOS	**Chios island**	**1.19 300**		*e*Pn	**Pn**	**14 29 36.1**	**+0.1**
KULA	**Kula-Manisa**	**1.26 54**		*e*PN	**Pn**	**14 29 36.1**	**-0.8**
KULA	**Kula-Manisa**	**1.26 54**		*e*Pn	**Pn**	**14 29 36.1**	**-0.8**
DALY	**Dalyan (Mu˘la**	**1.42 133**		*e*PN	**Pn**	**14 29 38.6**	**-0.4**
DALY	**Dalyan (Mu˘la**	**1.42 133**		*e*P

SVSK	**Karacayir**	**1.54**	**81**	*e*PN	**Pn**	**14 55 23.1**	**+0.6**
SVSK	**Karacayir**	**1.54**	**81**	*e*Pn	**Pn**	**14 55 23.2**	**+0.6**
SARI	**SarD1z-Kayseri**	**1.68**	**139**	*e*PN	**Pn**	**14 55 24.7**	**+0.1**
KKUL	**Konya-Kulu**	**1.70**	**253**	*i* P	**Pg**	**14 55 28.6**	**+0.9**
KKUL	**Konya-Kulu**	**1.70**	**253**	P	**Pg**	**14 55 28.6**	**+0.9**

CSEM ***26*** *15:05:13.3±0.8, 36°.95N×37°.46E, h15km, MD2.9, Error ellipse: s-maj=16.3km s-min=12.3km az=121.0*
DDA ***26*** *15:05:14.4, 37°.01N×37°.34E, h7km, Md2.8*
ISK ***26*** *15:05:19.9, 37°.20N×37°.05E, h8km, MD2.9*
ISCJB ***26*** *15:05:20.3±0.7, 37°.18N±0°.06×37°.04E±0°.05, h8km±6km, Error ellipse: s-maj=10.0km s-min=6.9km az=7.6*

ISC 26 15:05:20.0±1.0, 37°.22N±0°.04×37°.14E±0°.04, h15km±6km, n19, σ1§58/23, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GAZ	**Gaziantep**	**0.07**	**129**	*e*PG	**Pg**	**15 05 22.9**	**-0.2**
GAZ				*e*SG	**Sg**	**15 05 25.6**	**+0.6**
GAZ	**Gaziantep**	**0.07**	**129**	*e*Pg	**Pg**	**15 05 22.9**	**-0.2**
GAZ				*e*Sg	**Sg**	**15 05 25.7**	**+0.6**
HCB	**Kahramanmara˜**	**0.22**	**304**	*i* P	**Pg**	**15 05 24.7**	**-0.3**
KMRS	**Kahramanmaras**	**0.34**	**326**	*e*PG	**Pg**	**15 05 26.9**	**-0.2**
KMRS	**Kahramanmaras**	**0.34**	**326**	*e*Pg	**Pg**	**15 05 26.9**	**-0.2**
ANDN	**Andirin**	**0.73**	**300**	*i* P	**Pb**	**15 05 34.8**	**+0.3**
ANDN				*i* S	**Sn**	**15 05 47.0**	**+0.2**
ANDN	**Andirin**	**0.73**	**300**	P	**Pb**	**15 05 34.8**	**+0.3**
ANDN				S	**Sn**	**15 05 47.0**	**+0.2**
KOZT	**Kozan**	**1.08**	**284**	*e*PG	**Pb**	**15 05 39.7**	**-0.6**
KOZT	**Kozan**	**1.08**	**284**	*e*Pg	**Pb**	**15 05 39.7**	**-0.6**
TAHT	**Tahtakopru-Hat**	**1.14**	**223**	*e*PG	**Pb**	**15 05 41.0**	**-0.3**
TAHT	**Tahtakopru-Hat**	**1.14**	**223**	*e*Pg	**Pb**	**15 05 41.0**	**-0.3**
SARI	**SarD1z-Kayseri**	**1.32**	**335**	*e*PN	**Pb**	**15 05 45.4**	**+0.4**
URFA	**Urfa**	**1.36**	**80**	*e*PN	**Pg**	**15 05 46.8**	**+0.7**
URFA	**Urfa**	**1.36**	**80**	*e*Pn	**Pg**	**15 05 46.8**	**+0.7**
DARE	**Darende-Malaty**	**1.38**	**11**	*e*PN	**Pb**	**15 05 46.4**	**-0.2**
YAYL	**Yayladag**	**1.45**	**215**	*e*PN	**Pb**	**15 05 46.3**	**-0.4**
YAYL	**Yayladag**	**1.45**	**215**	*e*Pn	**Pb**	**15 05 46.3**	**-0.4**
PTK	**Pertek**	**2.44**	**46**	*e*PN	**Pb**	**15 06 02.5**	**-1.2**
PTK	**Pertek**	**2.44**	**46**	*e*Pn	**Pb**	**15 06 02.5**	**-1.2**

IDC 26 15:20:18.2±23.0, 9°.09S×130°.33E, h380km±328km, mb2.8/1, mb1 2.4/3, mb1mx2.3/23, mbtmp3.2/3, Error ellipse: s-maj=178.4km s-min=91.9km az=156.0, Timor Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**11.46**	**161**	P	P	15 22 51.7	-1.0
	0.1nm,0.3s,baz=340,slow=12,SNR=5.0						
ASAR	**Alice Springs**	**14.89**	**167**	P	P	15 23 31.4	+1.0
	0.0nm,0.3s,baz=343,slow=12,SNR=8.2						
MKAR	**Makanchi Array**	**70.15**	**327**	P	P	15 30 50.8	0.0
	0.3nm,0.5s,baz=136,slow=8.2,SNR=4.0						

MEX 26 15:23:33.1±0.3, 15°.62N×93°.51W, h85km±4km, MD3.7, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCIG		**0.29**	**73**	*i* P	Pn	15 23 44.5	-1.5
PCIG				*i* S	Sn	15 23 54.0	-1.5
TGIG		**1.21**	**18**	*i* P	Pn	15 23 52.4	-2.7
TGIG				*i* S	Sn	15 24 10.0	-1.7
CCIG	**Comitan**	**1.48**	**63**	*i* P	Pn	15 23 57.0	-1.5
CCIG				*i* S	Sn	15 24 16.3	-1.5

SJA ***26*** *15:27:43.9±0.7, 24°.05S×67°.07W, h203km±6km, ML2.7, MW3.4*
ISCJB ***26*** *15:27:44.5±0.5, 24°.00S±0°.05×67°.16W±0°.04, h195km±5km, mb3.5/3, Error ellipse: s-maj=8.5km s-min=4.3km az=29.9*
IDC ***26*** *15:27:45.2±1.8, 24°.08S×67°.08W, h184km±13km, mb3.4/3, mb1 3.4/6, mb1mx3.2/20, mbtmp3.7/6, Error ellipse: s-maj=32.1km s-min=19.6km az=19.0*
GUC ***26*** *15:27:46.3±0.4, 23°.79S×67°.65W, h242km±11km, ML4.3*

ISC 26 15:27:45.7±0.9, 23°.96S±0°.06×67°.14W±0°.05, h193km±7km, n31, σ1§48/49, mb3.3/3, 11C-1D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SLA	**San Lorenzo**	**1.67**	**117**	*i* P	**Pn**	**15 28 19.7**	**-0.9**
SLA				IAML		15 28 21.4	
	comp=Z,64nm,0.7s						
SLA				*i* S	**Sn**	**15 28 45.6**	**-2.1**
HJA	**Humahuaca**	**1.75**	**65**	*i* P	**Pn**	**15 28 21.4**	**-0.2**
HJA				IAML		15 28 22.2	
	comp=Z,54nm,0.2s						
HJA				*i* S	**Sn**	**15 28 49.5**	**0.0**
AZAP	**Zapla**	**1.91**	**98**	*i* P	**Pn**	**15 28 21.9**	**-1.1**
AZAP				IAML		15 28 23.6	
	comp=Z,93nm,0.5s						
LVC	**Limon Verde**	**2.11**	**309**	P	**Pn**	**15 28 26.0**	**+0.8**
	comp=Z,1µm,0.3s,baz=127,slow=7.6,SNR=621						
LVC				S	**Sn**	**15 28 56.5**	**+0.5**
	comp=Z,456nm,0.3s,baz=207,slow=4.5,SNR=4.4						
LVC	**Limon Verde**	**2.11**	**309**	*i* P	**Pn**	**15 28 26.0**	**+0.8**
LVC				*e*S	**Sn**	**15 28 57.1**	**+1.1**
YJA	**Yavi**	**2.32**	**40**	*i* P	**Pn**	**15 28 27.9**	**+0.3**
YJA				IAML		15 28 30.5	
	comp=Z,13nm,0.4s						
YJA				*i* S	**Sn**	**15 29 00.4**	**+0.1**
FSA	**Cafayete**	**2.39**	**154**	*i* P	**Pn**	**15 28 26.1**	**-2.0**
FSA				IAML		15 28 29.6	
	comp=Z,9.7nm,0.3s						
ASTB	**Santa Barbara**	**2.46**	**90**	*i* P	**Pn**	**15 28 27.7**	**-1.1**
PB06	**IPOC Station P**	**2.56**	**299**	⇑*i* P	**Pn**	**15 28 30.6**	**+0.5**
PB06				*i* S	**Sn**	**15 29 04.0**	**-0.5**
PB06				IAML		15 29 06.5	
	comp=E,513nm,0.1s						
ALOL	**LOMAS DE OLMED**	**2.89**	**88**	*i* P	**Pn**	**15 28 32.8**	**-0.9**
PB09	**IPOC Station P**	**2.90**	**318**	⇑*i* P	**Pn**	**15 28 35.1**	**+1.1**
PB09				*i* S	**Sn**	**15 29 11.8**	**+0.2**
PB09				IAML		15 29 13.4	
	comp=E,880nm,0.5s						
PB10	**IPOC Station P**	**3.16**	**277**	⇑*i* P	**Pn**	**15 28 36.8**	**-0.1**
PB10				*i* S	**Sn**	**15 29 15.0**	**-1.9**
PB04	**IPOC Station P**	**3.21**	**300**	⇑*i* P	**Pn**	**15 28 37.7**	**0.0**
PB04				*e*S	**Sn**	**15 29 16.5**	**-1.8**
PB04				IAML		15 29 22.4	
	comp=N,253nm,0.5s						
PB07	**IPOC Station P**	**3.37**	**311**	⇑*i* P	**Pn**	**15 28 39.8**	**+0.2**
PB07				*i* S	**Sn**	**15 29 20.2**	**-1.6**
PB07				IAML		15 29 24.3	
	comp=E,410nm,0.5s						
PB01	**IPOC Station P**	**3.62**	**323**	⇑*i* P	**Pn**	**15 28 42.7**	**0.0**
PB01				*i* S	**Sn**	**15 29 26.1**	**-1.2**
PB02	**IPOC Station P**	**3.66**	**315**	⇑*i* P	**Pn**	**15 28 43.0**	**-0.1**
PB08	**IPOC Station P**	**4.24**	**333**	⇑*i* P	**Pn**	**15 28 51.5**	**+0.9**
PB08				*i* S	**Sn**	**15 29 41.7**	**+0.2**
HMBC	**Humberstone**	**4.46**	**325**	⇑*i* P	**Pn**	**15 28 52.1**	**-1.2**
HMBC				*i* S	**Sn**	**15 29 43.9**	**-2.4**
PB11	**IPOC Station P**	**4.79**	**330**	⇑*i* P	**Pn**	**15 28 56.6**	**-0.8**
PB11				*i* S	**Sn**	**15 29 51.5**	**-2.3**
PSGC	**Pisagua**	**5.15**	**327**	*e*P	**Pn**	**15 29 00.1**	**-1.9**
PSGC				*e*S	**Sn**	**15 29 58.5**	**-3.6**
MNMC	**Minye Minye**	**5.32**	**334**	⇓*i*P	**Pn**	**15 29 03.8**	**-0.6**
MNMC				*i* S	**Sn**	**15 30 16.4**	**-1.0**
PB12	**IPOC Station P**	**6.09**	**330**	⇑*i* P	**Pn**	**15 29 12.9**	**-1.3**
PB12				*i* S	**Sn**	**15 30 19.7**	**-4.5**
LPAZ	**La Paz**	**7.69**	**353**	P	**Pn**	**15 29 36.8**	**+1.2**
	comp=E,0.3nm,0.3s,baz=142,slow=4.4,SNR=9.3						
LPAZ				S	**Sn**	**15 30 59.9**	**-2.8**
	comp=E,0.0nm,0.3s,baz=306,slow=14,SNR=1.8						
CPUP	**Villa Florida**	**9.20**	**107**	P	**Pn**	**15 29 53.1**	**-1.4**
	comp=E,0.2nm,0.3s,baz=275,slow=10,SNR=3.4						
SIV	**San Ignacio**	**9.77**	**37**	P	**Pn**	**15 30 03.4**	**+1.3**
	comp=E,0.5nm,0.3s,baz=254,slow=7.8,SNR=6.1						
TXAR	**Lajitas Array**	**63.57**	**325**	P	**P**	**15 37 57.4**	**+1.5**
	comp=E,0.1nm,0.4s,baz=150,slow=7.3,SNR=1.9						
TORD	**Torodi Ar. Bea**	**76.67**	**69**	P	**P**	**15 39 15.4**	**-0.3**
	comp=E,0.3nm,0.5s,baz=256,slow=5.7,SNR=5.9						
SCHQ	**Schefferville**	**78.47**	**0**	P	**P**	**15 39 25.9**	**+1.1**
	comp=E,4.1nm,0.5s,baz=195,slow=16,SNR=2.5						
ASAR	**Alice Springs**	**128.44**	**205**	PKP	**PKPdf**	**15 46 30.1**	**0.0**
	comp=E,0.3nm,0.7s,baz=132,slow=1.7,SNR=2.4						
WRA	**Warramunga Arr**	**131.60**	**207**	PKP	**PKPdf**	**15 46 36.5**	**+0.4**
	comp=E,0.2nm,0.4s,baz=153,slow=1.8,SNR=6.1						

MKAR	**Makanchi Array**	**146.57**	**39**	PKPbc	**PKPbc**	**15 47 05.2**	**+0.9**
	comp=E,0.4nm,0.6s,baz=304,slow=2.5,SNR=4.1						

IDC ***26*** *15:34:06.7±0.9, 1°.97S×139°.14E, h0km, mb3.9/7, mb1 4.2/9, mb1mx3.9/31, mbtmp4.0/9, ML4.2/2, MS3.5/2, Ms1 3.5/2, ms1mx2.7/31, Error ellipse: s-maj=22.4km s-min=12.1km az=24.0*
ISCJB ***26*** *15:34:09.2±0.6, 1°.99S±0°.08×139°.09E±0°.04, h29km, mb3.9/6, MS3.4/2, Error ellipse: s-maj=11.1km s-min=5.8km az=13.3*
DJA ***26*** *15:34:09.2±0.7, 2°.S±12°×13°.9E±°, h16km±6km, M4.3/4, mb4.7/2, MLv4.1/4*
NEIC ***26*** *15:34:11.8±0.7, 2°.01S×139°.11E, h35km, mb4.3/2, Error ellipse: s-maj=13.4km s-min=10.3km az=218.0*

ISC 26 15:34:11.0±0.7, 2°.11S±0°.08×139°.11E±0°.05, h29km, n27, σ1§75/27, mb4.0/6, Near north coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SMPI	**Sarmi**	**0.42**	**287**	P	**Pb**	**15 34 18.7**	**-1.4**
SMPI				S	**Sn**	**15 34 28.0**	**+0.2**
GENI	**Genyem**	**1.16**	**114**	P	**Pn**	**15 34 31.1**	**-0.2**
GENI				S	**Sb**	**15 34 48.5**	**+1.4**
JAY	**Jayapura**	**1.64**	**104**	Pg	**Pn**	**15 34 37.0**	**-1.0**
	2.9nm,0.3s,baz=208,slow=23,SNR=77						
JAY				Lg	Lg	15 34 57.7	
	7.5nm,0.3s,baz=311,slow=23,SNR=18						
JAY				LR	LR	15 35 32.5	
	comp=Z,12nm,18.6s,baz=148,slow=52						
JAY	**Jayapura**	**1.64**	**104**	P	**Pn**	**15 34 36.9**	**-1.1**
JAY				S	**Sn**	**15 34 57.5**	**-0.7**
FAKI	**Fak Fak**	**6.90**	**263**	*e*Pn	**Pn**	**15 35 51.5**	**+1.3**
COEN	**Coen**	**12.44**	**161**	Pn	**Pn**	**15 37 09.3**	**+3.1**
SOEI	**Soe**	**16.59**	**242**	*e*Pn	**Pn**	**15 38 02.1**	**+0.3**
	27nm,0.9s						
WRAB	**Tennant Creek**	**18.31**	**194**	*e*P	**P**	**15 38 22.6**	**-0.4**
	12nm,0.6s						
WRA	**Warramunga Arr**	**18.32**	**194**	P	**P**	**15 38 22.9**	**-0.2**
	1.5nm,0.3s,baz=16,slow=12,SNR=57						
WRA				S	**Sn**	**15 41 40.7**	**-6.5**
	0.2nm,0.3s,baz=6.6,slow=20,SNR=4.3						
CTA	**Charters Tower**	**19.18**	**159**	P	**Pn**	**15 38 34.8**	**+1.2**
	0.2nm,0.3s,baz=343,slow=10,SNR=6.3						
FITZ	**Fitzroy Crossi**	**20.67**	**219**	P	**P**	**15 38 49.9**	**+1.2**
	2.2nm,0.7s,baz=78,slow=3.8,SNR=3.7						
FITZ				S	**S**	**15 42 37.1**	**-1.2**
	3.0nm,0.7s,baz=136,slow=15,SNR=4.4						
ASAR	**Alice Springs**	**22.01**	**193**	P	**P**	**15 39 03.9**	**+0.7**
	9.8nm,0.7s,baz=24,slow=11,SNR=152						
ASAR				S	**S**	**15 43 03.1**	**-1.6**
	0.4nm,0.8s,baz=29,slow=16,SNR=3.4						
ASAR				LR	LR	15 47 55.5	
	comp=Z,98nm,21.0s,baz=12,slow=37						
STKA	**Stephens Creek**	**29.70**	**176**	P	**P**	**15 40 15.6**	**+1.0**
	1.8nm,0.7s,baz=348,slow=9.4,SNR=4.6						
H11S3	**WAKE ISLAND Hy**	**34.00**	**52**	T	T	16 16 30.9	
	baz=236,slow=76,SNR=46						
H11S2	**WAKE ISLAND Hy**	**34.01**	**52**	T	T	16 16 31.7	
	baz=236,slow=76,SNR=34						
H11S1	**WAKE ISLAND Hy**	**34.02**	**52**	T	T	16 16 29.9	
	baz=236,slow=76,SNR=35						
H11N1	**WAKE ISLAND Hy**	**34.85**	**50**	T	T	16 17 35.6	
	baz=232,slow=75,SNR=5.3						
H11N2	**WAKE ISLAND Hy**	**34.86**	**50**	T	T	16 17 39.2	
	baz=232,slow=75,SNR=5.6						
H11N3	**WAKE ISLAND Hy**	**34.86**	**50**	T	T	16 17 39.0	
	baz=232,slow=75,SNR=4.8						
NWAO	**Narrogin (SRO)**	**36.90**	**211**	LR	LR	15 58 07.3	
	comp=Z,94nm,19.4s,slow=39						
CMAR	**Chiang Mai Arr**	**44.49**	**299**	P	**P**	**15 42 20.1**	**-0.1**
	1.7nm,0.8s,baz=124,slow=6.6,SNR=13						
CMAR				PcP	**PP**	**15 44 03.6**	**-0.8**
	0.5nm,0.7s,baz=132,slow=1.3,SNR=4.3						
MKAR	**Makanchi Array**	**69.56**	**322**	P	**P**	**15 45 16.1**	**-1.2**
	1.1nm,0.9s,baz=117,slow=7.2,SNR=7.2						
KURK	**Kurchatov**	**73.46**	**325**	*e*P	**P**	**15 45 40.0**	**-0.7**
VNDA	**Vanda**	**76.34**	**175**	P	**P**	**15 45 57.9**	**+1.0**
	0.6nm,0.8s,baz=326,slow=9.6,SNR=5.9						
MAW	**Mawson**	**82.83**	**202**	P	**P**	**15 46 33.3**	**+1.1**
	1.1nm,0.7s,baz=69,slow=6.4,SNR=4.4						
TORD	**Torodi Ar. Bea**	**136.47**	**287**	PKP	**PKPdf**	**15 53 30.4**	**-0.8**
	0.4nm,0.8s,baz=75,slow=2.0,SNR=3.2						
LPAZ	**La Paz**	**147.47**	**125**	PKPbc	**PKPab**	**15 53 56.4**	**+0.3**
	1.0nm,0.8s,baz=214,slow=3.6,SNR=5.0						

CSEM ***26*** *15:35:10.9±0.2, 39°.69N×38°.69E, h2km, MD2.7, Error ellipse: s-maj=6.5km s-min=4.7km az=94.0*
ISK ***26*** *15:35:10.9, 39°.69N×38°.71E, h6km, MD2.7*
ISCJB ***26*** *15:35:11.2±0.8, 39°.69N±0°.05×38°.72E±0°.07, h12km, Error ellipse: s-maj=7.5km s-min=6.6km az=10.0*
DDA ***26*** *15:35:11.1, 39°.66N×38°.71E, h7km, Md2.7*

ISC 26 15:35:11.0±1.0, 39°.70N±0°.04×38°.74E±0°.06, h12km, n14, σ0§67/20, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
REFA	**Refahiye_ERZ˜**	**0.31**	**176**	*i* P	**Pg**	**15 35 16.6**	**-0.7**
REFA	**Refahiye_ERZ˜**	**0.31**	**176**	P	**Pg**	**15 35 16.6**	**-0.7**
KEMA	**Kemaliye**	**0.47**	**204**	*i* P	**Pg**	**15 35 19.4**	**-0.9**
KEMA				*i* S	**Sg**	**15 35 26.1**	**-0.5**
KEMA	**Kemaliye**	**0.47**	**204**	P	**Pg**	**15 35 19.4**	**-0.9**
KEMA				S	**Sg**	**15 35 26.1**	**-0.5**
KELT	**Kelkit**	**0.60**	**41**	*i* P	**Pb**	**15 35 23.4**	**-0.1**
KELT	**Kelkit**	**0.60**	**41**	P	**Pb**	**15 35 23.4**	**-0.1**
ERZN	**Erzincan**	**0.77**	**98**	*e*PG	**Pb**	**15 35 26.5**	**+0.1**
PTK	**Pertek**	**0.95**	**148**	*e*PG	**Pb**	**15 35 29.9**	**+0.3**
PTK				*e*SG	**Sb**	**15 35 43.4**	**+1.1**
PTK	**Pertek**	**0.95**	**148**	*e*Pg	**Pb**	**15 35 29.9**	**+0.3**
PTK				*e*Sg	**Sb**	**15 35 43.4**	**+1.1**
ELZG	**Elazig**	**1.22**	**171**	*i* P	**Pn**	**15 35 33.6**	**-0.4**
ELZG				*i* S	**Sg**	**15 35 50.6**	**+0.3**
ELZG	**Elazig**	**1.22**	**171**	P	**Pn**	**15 35 33.6**	**-0.4**
ELZG				S	**Sg**	**15 35 50.6**	**+0.3**
SVSK	**Karacayir**	**1.36**	**280**	*e*PN	**Pg**	**15 35 36.8**	**-0.3**
SVSK	**Karacayir**	**1.36**	**280**	*e*Pn	**Pg**	**15 35 36.8**	**-0.3**
SARI	**SarD1z-Kayseri**	**2.22**	**235**	*e*PN	**Pn**	**15 35 48.7**	**+0.8**

IDC 26 15:39:49.4±8.5, 54°.86S×133°.10W, h0km, mb4.1/2, mb1 4.3/2, mb1mx3.7/26, mbtmp4.1/2, MS3.4/2, Ms1 3.4/2, ms1mx3.0/20, Error ellipse: s-maj=677.4km s-min=70.4km az=148.0, Pacific-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNDA	**Vanda**	**31.85**	**202**	LR	LR	15 55 24.4	
	comp=Z,53nm,21.5s,baz=62,slow=29						
RAO	**Raoul Island**	**40.97**	**290**	LR	LR	16 00 12.8	
	comp=Z,56nm,19.2s,baz=112,slow=30						
ASAR	**Alice Springs**	**72.67**	**254**	P	P	15 51 19.1	+0.1
	1.4nm,0.8s,baz=142,slow=6.6,SNR=19						
WRA	**Warramunga Arr**	**75.39**	**256**	P	P	15 51 34.8	0.0
	1.4nm,0.7s,baz=143,slow=5.2,SNR=19						
ILAR	**Eielson Array**	**119.77**	**353**	PKP	PKPdf	15 58 39.6	-0.2
	0.3nm,0.7s,baz=178,slow=2.3,SNR=2.5						

IDC ***26*** *15:49:42.9±0.6, 4°.58S×103°.56E, h0km, mb4.1/21, mb1 4.2/21, mb1mx4.1/50, mbtmp4.1/21, Error ellipse: s-maj=25.6km s-min=12.9km az=52.0*
ISCJB ***26*** *15:50:00.3±0.3, 4°.58S±0°.08×103°.83E±0°.06, h165km±2km, mb4.0/26, Error ellipse: s-maj=15.4km s-min=4.1km az=38.6*
NEIC ***26*** *15:50:01.4±0.7, 4°.50S×103°.86E, h155km±7km, mb4.2/2, Error ellipse: s-maj=16.4km s-min=7.1km az=49.0*
DJA ***26*** *15:50:01.3±0.3, 5°.S±7°×10°.4E±°, h155km±3km, M4.5/14, mB5.1/2, mb4.6/6, MLv4.4/14, Mw(mB)4.5/2*

ISC 26 15:50:00.9±0.7, 4°.68S±0°.08×103°.78E±0°.07, h155km±5km, n63, σ1§82/82, mb4.0/26, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LWLI	**Liwa**	**0.44**	**140**	P	**Pn**	**15 50 23.9**	**+1.2**
LWLI				S	**Sn**	**15 50 41.1**	**+1.8**
MNAI	**Manna**	**0.88**	**291**	P	**Pn**	**15 50 26.8**	**+1.7**
MNAI				S	**Sn**	**15 50 44.8**	**+1.1**
MNAI	**Manna**	**0.88**	**291**	*e*Pg	**Pn**	**15 50 26.9**	**+1.7**
MNAI				*e*Sg	**Sn**	**15 50 44.2**	**+0.5**
KLSI		**0.95**	**91**	P	**Pn**	**15 50 27.0**	**+1.3**
KLSI				S	**Sn**	**15 50 45.6**	**+0.9**

KASI	**Kota Agung**	**1.10**	**139**	P	**Pn**	**15 50 28.0**	**+1.0**
KASI				S	**Sn**	**15 50 47.3**	**+0.3**
KSI	**Kapahiang**	**1.56**	**311**	P	**Pn**	**15 50 32.9**	**+1.4**
KSI				S	**Sn**	**15 50 56.7**	**+1.6**
BLSI	**Bandar Lampung**	**1.61**	**115**	P	**Pn**	**15 50 33.5**	**+1.5**
BLSI				S	**Sn**	**15 50 56.0**	**+0.1**
MASI	**Maura Aman, Be**	**2.17**	**315**	P	**Pn**	**15 50 40.1**	**+1.8**
MASI				S	**Sn**	**15 51 09.2**	**+2.1**
CGJI	**Cibinong**	**2.71**	**135**	P	**Pn**	**15 50 44.9**	**+0.1**
CGJI				S	**Sn**	**15 51 16.6**	**-2.1**
PPSI	**Pulau Pagai**	**4.21**	**297**	P	**Pn**	**15 51 04.7**	**+0.6**
PPSI				S	**Sn**	**15 51 49.0**	**-4.3**
CNJI	**Cibinong**	**4.24**	**128**	P	**Pn**	**15 51 04.1**	**-0.2**
CISI	**Cisompet, Garu**	**4.93**	**126**	P	**Pn**	**15 51 13.6**	**+0.1**
CISI				S	**Sn**	**15 52 05.3**	**-4.9**
CISI	**Cisompet, Garu**	**4.93**	**126**	*e*Pn	**Pn**	**15 51 13.5**	**+0.1**
PDSI	**Padang**	**5.00**	**318**	P	**Pn**	**15 51 14.0**	**-0.4**
PDSI				S	**Sn**	**15 52 07.8**	**-4.0**
CMJI	**Cimerak**	**5.57**	**124**	P	**Pn**	**15 51 21.9**	**-0.1**
	74nm,0.4s,2µm						
CMJI				S	**Sn**	**15 52 18.3**	**-7.1**
	74nm,0.4s,2µm						
SISI	**Saibi**	**5.75**	**305**	P	**Pn**	**15 51 23.9**	**-0.4**
	60nm,0.6s						
SISI				S	**Sn**	**15 52 21.8**	**-7.7**
	60nm,0.6s						
KPJI	**Karang Pucung**	**5.76**	**117**	P	**Pn**	**15 51 26.4**	**+1.9**
	82nm,0.7s						
KPJI				S	**Sn**	**15 52 31.3**	**+1.4**
	82nm,0.7s						
PBSI	**Pulau Batu**	**7.16**	**310**	P	**Pn**	**15 51 42.0**	**-1.1**
	48nm,0.9s						
PBSI				S	Sn	15 52 53.4	-10
	48nm,0.9s						
PWJI	**Pagerwoio**	**8.64**	**113**	P	**Pn**	**15 52 03.1**	**+0.3**
CMAR	**Chiang Mai Arr**	**23.48**	**348**	P	**P**	**15 54 55.8**	**-0.9**
	5.3nm,0.6s,baz=181,slow=8.9,SNR=51						
CHTO	**Chiang Mai**	**23.83**	**349**	*e*P	**P**	**15 54 56.5**	**-3.3**
FITZ	**Fitzroy Crossi**	**25.20**	**124**	P	**P**	**15 55 13.1**	**+0.8**
	2.1nm,0.6s,baz=323,slow=9.6,SNR=6.9						
H01W3	**Cape Leeuwin H**	**31.55**	**164**	T	T	16 29 54.7	
	baz=336						
H01W2	**Cape Leeuwin H**	**31.56**	**164**	T	T	16 29 57.5	
	baz=336						
H01W1	**Cape Leeuwin H**	**31.56**	**164**	T	T	16 29 46.3	
	baz=336						
WRA	**Warramunga Arr**	**33.40**	**120**	P	**P**	**15 56 25.1**	**+0.2**
	1.1nm,0.6s,baz=299,slow=8.8,SNR=16						
WRA				S	**S**	**16 01 34.0**	**-0.8**
	0.4nm,0.9s,baz=291,slow=21,SNR=2.6						
WRAB	**Tennant Creek**	**33.40**	**120**	*e*P	**P**	**15 56 25.6**	**+0.7**
	1.5nm,0.5s						
ASAR	**Alice Springs**	**34.64**	**126**	P	**P**	**15 56 36.9**	**+1.3**
	0.8nm,0.4s,baz=296,slow=7.5,SNR=67						
ASAR				S	**S**	**16 01 52.3**	**-1.5**
	1.0nm,0.8s,baz=298,slow=16,SNR=11						
ODAN	**Odare**	**35.13**	**334**	*e*P	**P**	**15 56 39.3**	**-0.7**
	12nm,0.6s						
TAPN	**Taplejung**	**35.42**	**335**	*e*P	**P**	**15 56 41.8**	**-0.7**
	38nm,1.0s						
DMN	**Daman**	**36.81**	**332**	*e*P	**P**	**15 56 53.6**	**-0.7**
KKN	**Kakani**	**36.89**	**332**	*e*P	**P**	**15 56 53.7**	**-1.2**
	14nm,0.6s						
GKN	**Gorkha**	**37.37**	**331**	*e*P	**P**	**15 56 57.6**	**-1.3**
	5.4nm,0.3s						
KOLN	**Koldanda**	**37.68**	**330**	*e*P	**P**	**15 57 00.9**	**-0.6**
	18nm,0.7s						
DANN	**Dangsing**	**38.08**	**331**	*e*P	**P**	**15 57 03.8**	**-1.2**
	1.5nm,0.6s						
PYUN	**Piuthan**	**38.26**	**330**	*e*P	**P**	**15 57 05.4**	**-1.0**
GTA	**Gaotai**	**44.02**	**356**	*e*P	**P**	**15 57 53.8**	**+0.6**
GTA				pP	pP	15 57 58.0	-30
GTA				sP	sP	15 58 00.8	-44
GTA				pmax	pmax		
	comp=Z,4.0nm,0.7s						
STKA	**Stephens Creek**	**44.56**	**132**	P	**P**	**15 57 58.7**	**+1.2**
	comp=Z,0.8nm,0.6s,baz=300,slow=12,SNR=3.7						
KSAR	**Wonju Array Be**	**47.54**	**26**	P	**P**	**15 58 21.1**	**+0.5**
KSRS	**Korea Array**	**47.57**	**26**	P	**P**	**15 58 21.1**	**+0.3**
	comp=Z,1.9nm,0.7s,baz=228,slow=7.1,SNR=12		

ISRV					*e*AMB	AMB	15 52 46.0		
	comp=Z,19μm,0.2s								
ISRV	**Sarvestan**	**1.48**	**86**		Pn	**Pn**	**15 52 18.9**	**+1.0**	
ISRV	**Sarvestan**	**1.48**	**86**		Pn	**Pn**	**15 52 18.9**	**+1.0**	
IPAR	**Pars**	**1.52**	**68**	*e*	Pn	**Pn**	**15 52 19.4**	**+0.9**	
IPAR				*e*	Sg	**Sb**	**15 52 40.2**	**+0.7**	
IPAR				*e*	AMB	AMB	15 52 42.6		
	comp=Z,15μm,0.4s								
IPAR	**Pars**	**1.52**	**68**	*e*	Pn	**Pn**	**15 52 19.4**	**+0.9**	
IPAR					Sg	**Sb**	**15 52 40.1**	**+0.6**	
IPAR	**Pars**	**1.52**	**68**		Pn	**Pn**	**15 52 19.4**	**+0.9**	
IPAR					Sg	**Sb**	**15 52 40.1**	**+0.6**	
GHIR	**Ghir-Karzin**	**1.70**	**126**	*e*	Pg	**Pn**	**15 52 21.8**	**+1.0**	
GHIR				*e*	Sg	**Sb**	**15 52 44.6**	**+0.3**	
GHIR					AML	AML	15 52 56.5		
	comp=E,2μm,0.6s								
GHIR	**Ghir-Karzin**	**1.70**	**126**	*e*	Pn	**Pn**	**15 52 22.0**	**+1.2**	
GHIR				*e*	Sg	**Sb**	**15 52 44.6**	**+0.3**	
GHIR	**Ghir-Karzin**	**1.70**	**126**	*e*	Pn	**Pn**	**15 52 22.0**	**+1.2**	
GHIR				*e*	Sg	**Sn**	**15 52 44.0**	**+2.3**	
IRAM	**Ramesheh**	**2.65**	**18**	*e*	Pn	**Pn**	**15 52 35.2**	**+1.2**	
IRAM				*e*	AMB	AMB	15 52 48.1		
	comp=Z,2μm,0.4s								
IRAM	**Ramesheh**	**2.65**	**18**	*e*	Pn	**Pn**	**15 52 35.2**	**+1.2**	
IGAR	**Gharneh**	**3.15**	**10**	*e*	Pn	**Pn**	**15 52 42.4**	**+1.5**	
IGAR				*e*	AMB	AMB	15 52 51.8		
	comp=Z,1μm,0.2s								
IPIR	**Pirpir**	**3.42**	**352**	*e*	Pn	**Pn**	**15 52 46.4**	**+1.8**	
IPIR				*e*	AMB	AMB	15 54 05.1		
	comp=Z,2μm,0.6s								
IPIR	**Pirpir**	**3.42**	**352**	*e*	Pn	**Pn**	**15 52 46.4**	**+1.8**	
IMEH	**Mehriz**	**3.47**	**52**	*e*	Pn	**Pn**	**15 52 46.8**	**+1.6**	
IMEH				*e*	AMB	AMB	15 52 56.3		
	comp=Z,1μm,0.3s								
IMEH	**Mehriz**	**3.47**	**52**	*e*	Pn	**Pn**	**15 52 46.8**	**+1.6**	
IZEF	**Zefreh**	**3.68**	**12**	*e*	Pn	**Pn**	**15 52 49.2**	**+1.0**	
IZEF				*e*	AMB	AMB	15 53 05.2		
	comp=Z,704nm,0.2s								
IZEF	**Zefreh**	**3.68**	**12**	*e*	Pn	**Pn**	**15 52 49.2**	**+1.0**	
NASN	**Na'in**	**3.70**	**18**	*e*	Pn	**Pn**	**15 52 48.3**	**-0.2**	
NASN	**Na'in**	**3.70**	**18**	*e*	Pn	**Pn**	**15 52 48.3**	**-0.2**	
NASN	**Na'in**	**3.70**	**18**	*e*	Pn	**Pn**	**15 52 48.0**	**-0.5**	
ICHK	**Chekchek**	**3.91**	**40**	*e*	Pn	**Pn**	**15 52 52.2**	**+0.9**	
ICHK				*e*	AMB	AMB	15 53 08.6		
	comp=Z,1μm,0.3s								
ICHK	**Chekchek**	**3.91**	**40**	*e*	Pn	**Pn**	**15 52 52.2**	**+0.9**	
IKLH	**Kolahrood**	**4.03**	**2**	*e*	Pn	**Pn**	**15 52 54.1**	**+1.2**	
IKLH				*e*	AMB	AMB	15 53 11.6		
	comp=Z,766nm,0.3s								
IKLH	**Kolahrood**	**4.03**	**2**	*e*	Pn	**Pn**	**15 52 54.1**	**+1.2**	
IBAF	**Bafgh**	**4.25**	**56**	*e*	Pn	**Pn**	**15 52 57.0**	**+1.0**	
IBAF				*e*	AMB	AMB	15 54 14.8		
	comp=Z,1μm,0.5s								
IBAF	**Bafgh**	**4.25**	**56**	*e*	Pn	**Pn**	**15 52 57.0**	**+1.0**	
BNDS	**Bandar-Abbas**	**4.59**	**113**	*e*	Pn	**Pn**	**15 53 01.4**	**+0.8**	
BNDS	**Bandar-Abbas**	**4.59**	**113**	*e*	Pn	**Pn**	**15 53 01.4**	**+0.8**	
BNDS	**Bandar-Abbas**	**4.59**	**113**	*e*	Pn	**Pn**	**15 53 01.0**	**+0.4**	
NSR	**Nassriya**	**4.89**	**292**	*e*	Pn	**Pn**	**15 53 04.0**	**-0.5**	
	SNR=54								
ASAO	**Ashtian**	**5.38**	**348**	*e*	Pn	**Pn**	**15 53 12.3**	**+0.8**	
ASAO					AML	AML	15 54 16.7		
	comp=E,58nm,0.6s								
ASAO					AML	AML	15 54 17.9		
	comp=N,64nm,0.8s								
ASAO	**Ashtian**	**5.38**	**348**	*e*	Pn	**Pn**	**15 53 12.3**	**+0.8**	
ASAO	**Ashtian**	**5.38**	**348**	*e*	Pn	**Pn**	**15 53 12.0**	**+0.5**	
UOSS	**Minazif**	**6.07**	**134**	*e*	Pn	**Pn**	**15 53 20.4**	**-0.4**	
IVIS	**Veis**	**6.51**	**325**	*e*	Pn	**Pn**	**15 53 28.4**	**+1.4**	
IVIS				*e*	AMB	AMB	15 54 51.7		
	comp=Z,414nm,0.3s								
TABS	**Tabas**	**6.53**	**47**	*e*	Pn	**Pn**	**15 53 26.9**	**-0.3**	
TABS	**Tabas**	**6.53**	**47**	*e*	Pn	**Pn**	**15 53 26.9**	**-0.3**	
TABS	**Tabas**	**6.53**	**47**	*e*	Pn	**Pn**	**15 53 26.0**	**-1.2**	
SNGE	**Sanandaj**	**6.74**	**330**	*e*	Pn	**Pn**	**15 53 31.5**	**+1.3**	
SNGE	**Sanandaj**	**6.74**	**330**	*e*	Pn	**Pn**	**15 53 31.5**	**+1.3**	
SNGE	**Sanandaj**	**6.74**	**330**	*e*	Pn	**Pn**	**15 53 31.0**	**+0.8**	
ILIN	**Lien**	**6.77**	**327**	*e*	Pn	**Pn**	**15 53 31.6**	**+1.0**	
ILIN				*e*	AMB	AMB	15 54 54.2		
	comp=Z,554nm,0.4s								
IDHR	**Dehrash**	**6.89**	**323**	*e*	Pn	**Pn**	**15 53 34.3**	**+2.1**	
IDHR				*e*	AMB	AMB	15 53 44.5		
	comp=Z,420nm,0.1s								
WSAR	**Wadi Sarin**	**8.84**	**131**		Pn	**Pn**	**15 53 56.4**	**-2.5**	
	comp=Z,0.6nm,0.3s,baz=324,slow=4.4,SNR=7.5								
WSAR					Sn	Sn	15 55 28.3	-9.3	
	comp=Z,0.6nm,0.3s,baz=270,slow=20,SNR=2.7								
WSAR					LR	LR	15 58 24.6		
	comp=Z,51nm,20.0s,baz=191,slow=45								
GEYT	**Alibeck**	**10.27**	**31**		Pn	**Pn**	**15 54 18.5**	**+0.1**	
	comp=Z,0.5nm,0.3s,baz=208,slow=8.4,SNR=5.9								
MARD	**Mardin**	**11.97**	**315**	*e*	Pn	Pn	15 54 37.0	-4.8	
ASF	**Jabal al Asfar**	**12.82**	**287**		Sn	**Sn**	**15 57 10.9**	**-4.4**	
	comp=Z,0.3nm,0.3s,baz=256,slow=18,SNR=3.8								
VLKR	**Vladikavkaz**	**14.77**	**340**		P	**Pn**	**15 55 21.3**	**+1.5**	
VLKR	**Vladikavkaz**	**14.77**	**340**		P	**Pn**	**15 55 21.3**	**+1.5**	
ZEI	**Tsey**	**14.78**	**338**	*e*	P	**Pn**	**15 55 22.9**	**+2.8**	
ZEI					pmax	pmax			
	comp=Z,24nm,0.8s								
NEY	**Neytrino**	**15.59**	**336**	⇓	P	**P**	**15 55 34.4**	**-0.5**	
NEY	**Neytrino**	**15.59**	**336**		P	**P**	**15 55 34.4**	**-0.5**	
KBZ	**Khabaz**	**15.95**	**337**		Pn	**Pn**	**15 55 36.3**	**+1.1**	
	comp=Z,0.1nm,0.3s,baz=146,slow=7.2,SNR=9.0								
KVAR	**Kislovodsk Arr**	**16.22**	**337**		Pn	**Pn**	**15 55 38.8**	**0.0**	
	baz=256,slow=8.3,SNR=2.3								
KIV	**Kislovodsk**	**16.22**	**337**	*e*	P	**P**	**15 55 41.9**	**+0.1**	
KIV					pmax	pmax			
	comp=Z,19nm,1.0s								
KIV					MLR	MLR			
	comp=Z,22nm,13.0s								
KIV	**Kislovodsk**	**16.22**	**337**	*e*	P	**P**	**15 55 41.9**	**+0.1**	
	comp=Z,22nm,13.0s								
KIV	**Kislovodsk**	**16.22**	**337**	*e*	Pn	**Pn**	**15 55 38.6**	**-0.3**	
	comp=Z,36nm,1.3s								
CSS	**Mathiatis**	**16.33**	**295**		Pn	**Pn**	**15 55 40.8**	**+0.6**	
BRTR	**Keskin Array B**	**17.95**	**310**		P	**Pn**	**15 56 00.6**	**0.0**	
	comp=Z,0.1nm,0.3s,baz=133,slow=13,SNR=6.4								
KKAR	**Karatay Array**	**20.61**	**43**	*e*	P	**P**	**15 56 29.1**	**-0.9**	
KKAR					pmax	pmax			
	comp=Z,2.0nm,0.6s								
KKAR	**Karatay Array**	**20.61**	**43**	*e*	P	**P**	**15 56 29.1**	**-0.9**	
	comp=Z,2.0nm,0.6s								
KKAR	**Karatay Array**	**20.61**	**43**	*e*	P	**P**	**15 56 29.1**	**-0.9**	
	comp=Z,1.7nm,0.6s								
ABKAR	**Akbulak array**	**20.98**	**16**	*e*	P	**P**	**15 56 32.7**	**-1.2**	
	comp=Z,2.7nm,0.6s								
AKTK	**Aktyubinsk**	**21.71**	**11**		P	**P**	**15 56 41.6**	**0.0**	
	comp=Z,5.0nm,0.7s								
AKTO	**Aktyubinsk**	**21.71**	**11**		P	**P**	**15 56 41.6**	**0.0**	
	comp=Z,5.2nm,0.7s,baz=205,slow=12,SNR=15								
KSH	**Kashi**	**22.62**	**57**	*e*	P	**P**	**15 56 47.0**	**-4.7**	
KSH					pP	pP	15 56 52.0	-6.8	
KSH					PP	**PnPn**	**15 57 14.0**	**-1.6**	
KSH					S	S	16 00 44.8	-13	
KSH					sS	Sn	16 00 51.5	-21	
KSH					SS	**SnSn**	**16 01 24.8**	**-3.5**	
KSH					pmax	pmax			
	comp=Z,5.0nm,1.0s								
KSH					pmax	pmax			
	comp=Z,67nm,5.2s								
KSH					LR	LR			
	comp=N,200nm,13.3s								
KSH					LR	LR			
	comp=E,93nm,6.4s								
KSH					LR	LR			
	comp=Z,84nm,5.8s								
AAK	**Ala-Archa**	**22.85**	**48**		P	**P**	**15 56 54.6**	**+0.4**	
	comp=Z,1.6nm,0.5s,baz=210,slow=17,SNR=2.7								
AAK	**Ala-Archa**	**22.85**	**48**	⇓	*e*P	**P**	**15 56 55.1**	**+0.9**	
AAK					*e*SP	**pP**	**15 57 01.5**	**+0.2**	
AAK					pmax	pmax			
	comp=Z,11nm,0.8s								
AAK	**Ala-Archa**	**22.85**	**48**	*e*	P	**P**	**15 56 55.1**	**+0.9**	
	comp=Z,11nm,0.8s								
AAK	**Ala-Archa**	**22.85**	**48**	*e*	P	**P**	**15 56 54.3**	**+0.1**	
	comp=Z,5.5nm,0.8s								
IDI	**Anoyia**	**23.18**	**292**		P	**P**	**15 56 58.3**	**+0.9**	
	comp=Z,9.2nm,0.6s,baz=103,slow=18,SNR=2.1								
MLR	**Muntele Rosu**	**25.76**	**316**		P	**P**	**15 57 19.7**	**-1.6**	
	comp=Z,1.1nm,0.8s,baz=186,slow=2.7,SNR=5.4								
MLR	**Muntele Rosu**	**25.76**	**316**	*e*	P	**P**	**15 57 22.2**	**+0.8**	
MLR					pmax	pmax			
	comp=Z,6.0nm,0.8s								
MLR	**Muntele Rosu**	**25.76**	**316**	*e*	P	**P**	**15 57 22.2**	**+0.8**	
	comp=Z,6.0nm,0.8s								
MLR	**Muntele Rosu**	**25.76**	**316**	*e*	P	**P**	**15 57 22.2**	**+0.8**	
	comp=Z,6.5nm,0.8s								
AKASG	**Malin Array Be**	**27.14**	**328**		P	**P**	**15 57 31.3**	**-2.3**	
	comp=Z,0.6nm,0.4s,baz=132,slow=8.4,SNR=5.9								
BRVK	**Borovoye**	**27.50**	**25**	*de*	P	**P**	**15 57 36.4**	**-0.5**	
BRVK					pmax	pmax			
	comp=Z,5.0nm,0.9s								
BRVK	**Borovoye**	**27.50**	**25**	*e*	P	**P**	**15 57 36.4**	**-0.5**	
	comp=Z,5.0nm,0.9s								
BVAR	**Borovoye Array**	**27.52**	**25**		P	**P**	**15 57 36.4**	**-0.6**	
	comp=Z,0.7nm,0.5s,baz=195,slow=4.5,SNR=5.6								
ARU	**Arti**	**27.60**	**9**		P	**P**	**15 57 37.4**	**-0.3**	
ARU					S	**S**	**16 02 19.3**	**+1.8**	
ARU					SS	**SnSn**	**16 03 30.3**	**+0.8**	
ARU	**Arti**	**27.60**	**9**		P	**P**	**15 57 37.4**	**-0.3**	
KURBB	**Kurchatov Arra**	**29.49**	**36**		P	**P**	**15 57 54.8**	**+0.2**	
	comp=Z,0.9nm,0.8s,baz=236,slow=9.2,SNR=7.2								
KURK	**Kurchatov**	**29.59**	**36**	⇓	*i*P	**P**	**15 57 56.2**	**+0.8**	
KURK					pmax	pmax			
	comp=Z,6.0nm,1.0s								
KURK	**Kurchatov**	**29.59**	**36**	*i*	P	**P**	**15 57 56.2**	**+0.8**	
	comp=Z,6.0nm,1.0s								
KURK	**Kurchatov**	**29.59**	**36**		P	**P**	**15 57 54.8**	**-0.7**	
MKAR	**Makanchi Array**	**29.68**	**45**		P	**P**	**15 57 56.1**	**-0.2**	
	comp=Z,0.5nm,0.8s,baz=228,slow=7.4,SNR=3.7								
WMQ	**Urumqi**	**32.27**	**53**		P	**P**	**15 58 20.5**	**+1.2**	
WMQ					pP	pP	15 58 25.3	-1.6	
WMQ					sP	sP	15 58 28.0	-2.1	
WMQ					pmax	pmax			
	comp=Z,16nm,0.9s								
WMQ					pmax	pmax			
	comp=Z,94nm,4.1s								
WMQ					LR	LR			
	comp=N,53nm,20.5s								
WMQ					LR	LR			
	comp=Z,37nm,16.7s								
KLMR	**Klimovskoe**	**32.56**	**349**	*e*	P	**P**	**15 58 19.5**	**-2.0**	
KLMR					pmax	pmax			
	comp=Z,8.0nm,1.2s								
KLMR	**Klimovskoe**	**32.56**	**349**	*e*	P	**P**	**15 58 19.5**	**-2.0**	
	comp=Z,8.0nm,1.2s								
DGZ	**Jazzator, Alta**	**34.01**	**43**	*e*	P	**P**	**15 58 34.7**	**+0.2**	
DGZ					pmax	pmax			
	comp=Z,1.0nm,1.0s								
ZAA0	**Zalesovo Array**	**34.55**	**35**	*e*	P	**P**	**15 58 38.1**	**-0.8**	
ZALV	**Zalesovo Beam**	**34.55**	**35**		P	**P**	**15 58 37.9**	**-1.0**	
	comp=Z,2.0nm,0.8s,baz=255,slow=9.1,SNR=7.0								
ZALV					LR	LR	16 14 42.4		
	comp=Z,43nm,18.6s,baz=68,slow=40								
ZALV	**Zalesovo Beam**	**34.55**	**35**		P	**P**	**15 58 37.9**	**-1.0**	
ZALV					pmax	pmax			
	comp=Z,1.0nm,0.6s								
ZALV					MLR	MLR			
	comp=Z,43nm,18.6s								
GERES	**GERESS Array B**	**34.73**	**315**		P	**P**	**15 58 39.9**	**-0.8**	
	comp=Z,0.3nm,0.6s,baz=101,slow=6.9,SNR=4.2								
GERES	**GERESS Array B**	**34.73**	**315**	*e*	P	**P**	**15 58 42.5**	**+1.8**	
GERES	**GERESS Array B**	**34.73**	**315**	*e*	P	**P**	**15 58 42.5**	**+1.8**	
FINES	**FINESS Array B**	**36.28**	**340**		P	**P**	**15 58 53.4**	**-0.2**	
	comp=Z,1.9nm,0.9s,baz=132,slow=12,SNR=3.7								
FINES	**FINESS Array B**	**36.28**	**340**	*e*	P	**P**	**15 58 55.3**	**+1.7**	
FINES					pmax	pmax			
	comp=Z,2.0nm,0.9s								
FINES	**FINESS Array B**	**36.28**	**340**	*e*	P	**P**	**15 58 55.3**	**+1.7**	
	comp=Z,2.0nm,0.9s								
HFS	**Hagfors**	**39.90**	**331**		P	**P**	**15 59 23.6**	**-0.7**	
	comp=Z,1.7nm,0.5s,baz=124,slow=12								
GTA	**Gaotai**	**40.79**	**62**	*e*	P	**P**	**15 59 32.8**	**+0.8**	
GTA					pP	pP	15 59 36.8	-3.0	
GTA					sP	sP	15 59 39.8	-3.2	
GTA					pmax	pmax			
	comp=Z,6.0nm,1.3s								
NOA	**NORSAR Array B**	**41.42**	**332**		P	**P**	**15 59 36.0**	**-0.8**	
	comp=Z,1.4nm,1.0s,baz=118,slow=9.9,SNR=2.7								
NOA	**NORSAR Array B**	**41.42**	**332**		P	**P**	**15 59 36.0**	**-0.8**	
NOA					pmax	pmax			
	comp=Z,1.0nm,1.0s								
NOA	**NORSAR Array B**	**41.42**	**332**		P	**P**	**15 59 36.0**	**-0.8**	
	comp=Z,1.0nm,1.0s								
KONO	**Kongsberg**	**41.42**	**329**	⇑	P	**P**	**15 59 37.0**	**+0.2**	
KONO	**Kongsberg**	**41.42**	**329**		P	**P**	**15 59 37.0**	**+0.2**	
ARCES	**ARCESS Array B**	**42.95**	**347**		P	**P**	**15 59 49.3**	**+0.2**	
	comp=Z,2.7nm,0.9s,baz=169,slow=5.1,SNR=4.9								
ARCES	**ARCESS Array B**	**42.95**	**347**	*e*	P	**P**	**15 59 49.8**	**+0.7**	
ARCES					pmax	pmax			
	comp=Z,3.0nm,0.9s								
ARCES	**ARCESS Array B**	**42.95**	**347**	*e*	P	**P**	**15 59 49.8**	**+0.7**	
	comp=Z,3.0nm,0.9s								
TLY	**Talaya**	**44.44**	**45**		LR	LR	16 18 43.8		
	comp=Z,933nm,21.5s,baz=218,slow=36								
TLY	**Talaya**	**44.44**	**45**		P	**P**	**16 00 00.9**	**-0.5**	
TLY				*i*	XP	**pP**	**16 00 08.9**	**-0.3**	
TLY					pmax	pmax			
	comp=Z,3.0nm,1.0s								
TLY	**Talaya**	**44.44**	**45**		P	**P**	**16 00 00.9**	**-0.5**	
	comp=Z,3.0nm,1.0s								
ULN	**Ulaanbaatar**	**46.22**	**50**	⇑	*e*P	**P**	**16 00 15.7**	**0.0**	
ULN					pmax	pmax			
	comp=Z,1.0nm,1.1s								
ULN	**Ulaanbaatar**	**46.22**	**50**	*e*	P	**P**	**16 00 15.7**	**0.0**	
	comp=Z,1.0nm,1.1s								
TOA0	**Torodi Ar. Sit**	**48.69**	**262**	*e*	P	**P**	**16 00 35.6**	**+0.5**	
	comp=Z,4.7nm,0.8s								
TORD	**Torodi Ar. Bea**	**48.69**	**262**		P	**P**	**16 00 35.9**	**+0.7**	
	comp=Z,3.9nm,0.6s,baz=56,slow=7.8,SNR=13								
TORD					LR	LR	16 22 53.6		
	comp=Z,13nm,18.4s,baz=200,slow=38								
DBIC	**Dimbokro**	**57.46**	**259**		P	**P**	**16 01 40.0**	**+0.3**	
	comp=Z,1.9nm,0.6s,baz=67,slow=9.9,SNR=4.1								
DBIC	**Dimbokro**	**57.46**	**259**	*e*	P	**P**	**16 01 40.7**	**+0.9**	
DBIC					pmax	pmax			
	comp=Z,13nm,1.2s								
DBIC	**Dimbokro**	**57.46**	**259**	*e*	P	**P**	**16 01 40.7**	**+0.9**	
	comp=Z,13nm,1.2s								
DBIC	**Dimbokro**	**57.46**	**259**	*e*	P	**P**	**16 01 40.7**	**+0.9**	
	comp=Z,13nm,1.2s								
KSRS	**Korea Array**	**62.81**	**60**		LR	LR	16 33 44.1		
	comp=Z,17nm,19.1s,baz=240,slow=40								
ILAR	**Eielson Array**	**85.17**	**8**		P	**P**	**16 04 25.6**	**-0.7**	
	comp=Z,0.4nm,0.7s,baz=327,slow=4.3,SNR=4.7								
WRA	**Warramunga Arr**	**93.65**	**111**		P	**P**	**16 05 07.5**	**+0.3**	
	comp=Z,0.3nm,1.0s,baz=320,slow=4.0,SNR=3.8								
WRA	**Warramunga Arr**	**93.65**	**111**		P	**P**	**16 05 07.5**	**+0.3**	
WRA					pmax	pmax			
	comp=Z,1.0nm,1.2s								
WRA	**Warramunga Arr**	**93.65**	**111**		P	**P**	**16 05 07.5**	**+0.3**	
	comp=Z,1.0nm,1.2s								
ASAR	**Alice Springs**	**95.13**	**114**		P	**P**	**16 05 11.9**	**-2.1**	
	comp=Z,0.3nm,0.7s,baz=303,slow=4.8,SNR=6.7								
ASAR	**Alice Springs**	**95.13**	**114**	*e*	P	**P**	**16 05 12.1**	**-1.9**	
ASAR	**Alice Springs**	**95.13**	**114**	*e*	P	**P**	**16 05 12.1**	**-1.9**	

CSEM ***26*** *15:53:02.9, 39.42N×29.81W, h10km, ML2.7*
PDA 26 15:53:02.9±0.8, 39.42N×29.81W, h10km, MD3.6, ML2.7,
Error ellipse: s-maj=17.3km s-min=6.2km az=51.0,
Azores Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
PCED	**Cedros**			**1.17**	**132**	*e*	P	Pb	15 53 20.5	-4.6
PCED						*e*	S	Sb	15 53 33.6	-6.7
PCED						A		A	15 53 34.6	
	68nm,0.1s									
PCED	**Cedros**			**1.17**	**132**	*e*	P	Pb	15 53 20.5	-4.6
PCED						*e*	S	Sb	15 53 33.6	-6.7
CALA	**Caldeira**			**1.20**	**134**	*e*	S	Sb	15 53 34.6	-6.7
CALA	**Caldeira**			**1.20**	**134**	*e*	S	Sb	15 53 34.6	-6.7
HOR	**Horta**			**1.28**	**134**	*e*	P	Pg	15 53 37.7	+10
PCAN	**Candelaria**			**1.40**	**132**	*e*	P	Pn	15 53 24.0	-4.5
PCAN						*e*	S	Sn	15 53 39.8	-7.3
PCAN						A		A	15 53 42.8	
	100nm,0.1s									
PCAN	**Candelaria**			**1.40**	**132**	*e*	P	Pn	15 53 24.0	-4.5
PCAN						*e*	S	Sn	15 53 39.8	-7.3
ROSA	**Rosais**			**1.40**	**119**	*e*	P	Pn	15 53 23.6	-4.9
ROSA						*e*	S	Sn	15 53 39.6	-7.5
ROSA						A		A	15 53 40.9	
	26nm,0.1s									
ROSA	**Rosais**			**1.40**	**119**	*e*	P	Pn	15 53 23.6	-4.9
ROSA						*e*	S	Sn	15 53 39.6	-7.5
PICO	**Pico**			**1.41**	**130**	*e*	P	Pn	15 53 24.3	-4.4
PICO						*e*	S	Sn	15 53 40.3	-7.1
PICO						A		A	15 53 42.7	
	105nm,0.2s									
PICO	**Pico**			**1.41**	**130**	*e*	P	Pn	15 53 24.3	-4.4
PICO						*e*	S	Sn	15 53 40.3	-7.1

ISCJB ***26*** *15:55:27.6±0.5, 38.19N±0.04×30.77E±0.06, h7km, Error ellipse: s-maj=7.7km s-min=5.2km az=152.7*
DDA ***26*** *15:55:27.2, 38.17N×30.79E, h7km, Md2.7*
ISK ***26*** *15:55:27.6, 38.24N×30.84E, h7km, MD2.9*
CSEM ***26*** *15:55:28.1±0.1, 38.23N×30.82E, h8km, MD2.9, Error ellipse: s-maj=4.5km s-min=2.7km az=68.0*
ISC 26 15:55:27.8±0.9, 38.22N±0.03×30.80E±0.04, h7km, n19, σ0s77/21, Turkey

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
BAGO	**Egridir - ISPA**	**0.23**	**183**		*i*	P	**Pg**	**15 55 31.1**	**-1.3**
SHUT	**Suhut-Afyon**	**0.39**	**329**		*e*	PG	**Pg**	**15 55 35.4**	**0.0**
SHUT					*e*	SG	**Sg**	**15 55 41.6**	**+1.0**
SHUT	**Suhut-Afyon**	**0.39**	**329**		*e*	Pg	**Pg**	**15 55 35.4**	**0.0**
SHUT					*e*	Sg	**Sg**	**15 55 41.6**	**+1.0**
BOLV	**Bolvadin**	**0.51**	**13**		*i*	P	**Pb**	**15 55 38.3**	**-0.9**
BOLV	**Bolvadin**	**0.51**	**13**			P	**Pb**	**15 55 38.3**	**-0.9**
KZIL	**AFYON_Kizioren**	**0.52**	**275**		*i*	P	**Pg**	**15 55 37.1**	**-0.8**
SUTC	**Sutluce-Ispart**	**0.76**	**168**		*e*	PG	**Pb**	**15 55 43.0**	**-0.4**
SUTC	**Sutluce-Ispart**	**0.76**	**168**		*e*	Pg	**Pb**	**15 55 43.0**	**-0.4**
BRDR	**BURDUR-Merkez**	**0.78**	**229**		*i*	P	**Pg**	**15 55 41.7**	**-1.2**
KONT	**Konya--Tatoy**	**1.26**	**102**		*e*	PN	**Pg**	**15 55 51.7**	**-0.3**
KONT	**Konya--Tatoy**	**1.26**	**102**		*i*	P	**Pb**	**15 55 51.2**	**-0.7**
KONT	**Konya--Tatoy**	**1.26**	**102**		*e*	Pn	**Pg**	**15 55 51.7**	**-0.3**
KORT	**Korkueli**	**1.27**	**197**		*e*	PN	**Pg**	**15 55 52.7**	**+0.6**
KORT	**Korkueli**	**1.27**	**197**		*e*	Pn	**Pg**	**15 55 52.7**	**+0.6**
TVSB	**Tavsanli**	**1.61**	**320**		*e*	PN	**Pn**	**15 55 57.2**	**+0.4**
TVSB	**Tavsanli**	**1.61**	**320**		*e*	Pn	**Pn**	**15 55 57.2**	**+0.4**
CHBY	**Cihanbeyli**	**1.68**	**77**		*e*	PN	**Pn**	**15 55 57.7**	**0.0**
CHBY	**Cihanbeyli**	**1.68**	**77**		*e*	Pn	**Pn**	**15 55 57.7**	**0.0**
BERE	**Bereket-Mersin**	**2.69**	**133**		*e*	PN	**Pn**	**15 56 12.7**	**+1.1**

IDC ***26*** *15:59:55.0±1.1, 29.76N×51.47E, h0km, mb3.7/15, mb1 3.8/19, mb1mx3.7/46, mbtmp3.7/19, ML3.3/3, MS2.9/4, Ms1 2.8/4, ms1mx2.5/44, Error ellipse: s-maj=21.7km s-min=17.7km az=175.0*
ISCJB ***26*** *15:59:57.1±0.5, 29.26N±0.06×51.30E±0.05, h17km, mb3.6/15, MS2.8/1, Error ellipse: s-maj=7.9km s-min=5.9km az=2.7*
THR ***26*** *15:59:57.6±0.3, 29.34N×51.41E, h15km, ML3.8*
TEH ***26*** *15:59:58.5, 29.23N×51.44E, h10km, ML3.6*
CSEM ***26*** *15:59:58.6±0.1, 29.30N×51.45E, h10km, ML3.8, Error ellipse: s-maj=4.1km s-min=3.2km az=69.0*
ISC 26 15:59:57.8±0.6, 29.22N±0.05×51.42E±0.04, h17km, n50, σ1s23/52, mb3.7/15, Southern Iran

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
AHBU	**AHRAM**	**0.37**	**198**		*e*	Pg	**Pb**	**16 00 07.2**	**+1.3**
ISRV	**Sarvestan**	**1.

*IDC **26** 16:05:02.2±1.9, 45.91N×85.11E, h0km, mb3.6/2, mb1 3.7/6, mb1mx3.4/46, mbtmp3.5/6, ML3.2/4, Error ellipse: s-maj=26.6km s-min=16.5km az=19.0*
*NNC **26** 16:05:05.9±5.6, 45.81N×84.89E, h7km±26km, mb3.7, mpv3.3, Error ellipse: s-maj=31.4km s-min=14.7km az=109.0*
*SOME **26** 16:05:06.1, 45.80N×84.95E, h25km*

ISC 26 16:05:04.5±1.4, 45.86N±0.07×84.97E±0.08, h10km, n20, σ2s73/32, 8C-6D, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ZSN	**Zaisan**	**1.59**	**357**	*eP*	**Pn**	**16 05 35.3**	**+2.5**
	14nm,0.3s						
ZSN				*eS*	**Sb**	**16 05 57.4**	**+3.1**
	92nm,0.3s						
MK31	**Makanchi Array**	**2.08**	**298**	⇓Pn	**Pn**	**16 05 40.9**	**+1.4**
	6.6nm,0.3s,baz=118,slow=16,SNR=378						
MK31				⇑Lg	Lg	16 06 11.4	
	37nm,0.3s,baz=115,slow=30,SNR=29						
MKAR	**Makanchi Array**	**2.08**	**298**	Pn	**Pn**	**16 05 40.7**	**+1.2**
	13nm,0.3s,baz=109,slow=18,SNR=325						
MKAR				Lg	Lg	16 06 11.3	
	85nm,0.3s,baz=114,slow=29,SNR=33						
MAKZ	**Makanchi**	**2.28**	**296**	⇑Pn	**Pn**	**16 05 45.7**	**+3.5**
	18nm,0.4s						
MAKZ				⇑Lg	Lg	16 06 17.3	
	52nm,0.4s						
DJR	**Jarkent**	**3.97**	**249**	*eP*	**Pb**	**16 06 16.8**	**+2.1**
	16nm,0.6s						
DJR				*eS*	**Sb**	**16 07 07.4**	**+4.6**
	28nm,0.6s						
KAPS	**Kapalarasan**	**3.98**	**264**	*eP*	**Pb**	**16 06 18.2**	**+3.4**
	4.8nm,0.4s						
KAPS				*eS*	**Sg**	**16 07 09.9**	**-2.5**
	47nm,0.5s						
PDGK	**Podgornoye**	**4.66**	**239**	⇑Pn	**Pn**	**16 06 14.4**	**-0.6**
	0.7nm,0.5s						
PDGK				⇑Pg	**Pb**	**16 06 28.9**	**+2.5**
	3.0nm,0.4s						
PDGK				⇓Lg	Lg	16 07 28.2	
	38nm,0.5s						
TDK	**Taldyqorghan**	**4.70**	**262**	*eP*	**Pb**	**16 06 30.6**	**+3.6**
	15nm,0.1s						
TDK				*eS*	**Sg**	**16 07 30.9**	**-4.5**
	32nm,0.3s						
KPKS	**Kokpek**	**5.08**	**244**	*eP*	**Pb**	**16 06 35.7**	**+2.1**
	12nm,0.3s						
KPKS				*eS*	**Sb**	**16 07 39.3**	**+4.6**
	83nm,0.6s						
SATY	**Saty**	**5.47**	**242**	*eP*	**Pb**	**16 06 41.5**	**+1.4**
	16nm,0.4s						
SATY				*eS*	**Sb**	**16 07 50.0**	**+4.1**
	22nm,0.3s						
TNSS	**Tian-Shan**	**6.40**	**247**	*eP*	**Pg**	**16 07 03.2**	**-3.8**
	3.0nm,0.3s						
TNSS				*eS*	**Sg**	**16 08 25.8**	**-4.1**
	15nm,0.6s						
KURBB	**Kurchatov Arra**	**6.42**	**320**	Pn	**Pn**	**16 06 39.5**	**+0.5**
	0.3nm,0.3s,baz=133,slow=12,SNR=24						
KURBB				Sn	**Sn**	**16 07 52.2**	**-0.1**
	0.4nm,0.3s,baz=120,slow=20,SNR=3.6						
KURBB				Lg	Lg	16 08 27.0	
	1.0nm,0.3s,baz=126,slow=29,SNR=14						
KURBB	**Kurchatov Arra**	**6.42**	**320**	⇓Pn	**Pn**	**16 06 38.9**	**-0.1**
	2.7nm,0.6s						
KURBB				⇑Lg	Lg	16 08 29.4	
	86nm,0.7s						
KURK	**Kurchatov**	**6.45**	**321**	⇑Pn	**Pn**	**16 06 39.0**	**-0.4**
	0.7nm,0.3s						
KURK				⇓Lg	Lg	16 08 31.1	
	39nm,0.6s						
TKM2	**Tokmak 2**	**7.33**	**250**	⇓Pn	**Pn**	**16 06 54.9**	**+3.1**
	0.9nm,0.7s						
TKM2				⇓Sn	**Sn**	**16 08 13.2**	**-1.9**
	4.2nm,0.8s						
TKM2				⇑Lg	Lg	16 08 54.9	
ZALV	**Zalesovo Beam**	**8.10**	**359**	Pn	**Pn**	**16 07 01.4**	**-0.7**
	1.2nm,0.3s,baz=183,slow=14,SNR=15						
ZALV				Sn	**Sn**	**16 08 33.1**	**-0.5**
	1.3nm,0.3s,baz=167,slow=28,SNR=12						
ZALV				Lg	Lg	16 09 21.8	
	1.1nm,0.3s,baz=183,slow=26,SNR=12						
AAK	**Ala-Archa**	**8.18**	**251**	Sn	**Sn**	**16 08 38.0**	**+2.0**
	0.1nm,0.3s,baz=217,slow=20,SNR=2.9						
AAK				Lg	Lg	16 09 22.2	
	0.2nm,0.3s,baz=210,slow=20,SNR=4.5						
BVAR	**Borovoye Array**	**11.88**	**312**	Pn	**Pn**	**16 07 52.1**	**-1.8**
	0.2nm,0.3s,baz=122,slow=13,SNR=4.7						
BVAR				Sn	**Sn**	**16 10 05.1**	**-1.3**
	0.5nm,0.3s,baz=111,slow=22,SNR=9.4						
BVAR				Lg	Lg	16 11 19.7	
	0.3nm,0.3s,baz=118,slow=26,SNR=4.5						
NOA	**NORSAR Array B**	**43.95**	**318**	P	**P**	**16 13 11.5**	**+0.2**
	0.5nm,0.5s,baz=74,slow=7.9,SNR=2.9						
ILAR	**Eielson Array**	**62.53**	**22**	P	**P**	**16 15 26.2**	**-1.7**
	0.5nm,0.6s,baz=318,slow=5.1,SNR=5.3						

*ISCJB **26** 16:05:13.7±0.7, 11.07N±0.04×73.55W±0.03, h70km±14km, Error ellipse: s-maj=8.2km s-min=4.2km az=148.2*
*FUNV **26** 16:05:14.1, 11.08N×73.47W, h2km, MW3.2*
*RSNC **26** 16:05:15.1±0.7, 11.08N×73.55W, h32km±12km, ML3.5*

ISC 26 16:05:14.4±1.5, 11.10N±0.06×73.57W±0.05, h51km±38km, n25, σ1s00/42, 1C-2D, Near north coast of Colombia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CODC	**Agust˜›n Codaz**	**1.17**	**174**	⇓*i*P	**Pn**	**16 05 33.6**	**-0.8**
CODC				*e*S	**Sn**	**16 05 48.0**	**-1.2**
CODC				*i*		16 05 52.5	
	comp=Z,785nm,0.3s						
VIRV	**Villa del Rosa**	**1.29**	**117**	⇓*i*P	**Pn**	**16 05 36.4**	**+0.4**
VIRV				*e*S	**Sn**	**16 05 52.5**	**+0.3**
URIC	**Uribia, Colomb**	**1.66**	**69**	*e*P	**Pn**	**16 05 41.3**	**+0.3**
URIC				*e*S	**Sn**	**16 06 00.8**	**-0.3**
URIC				*i*		16 06 06.4	
	comp=Z,150nm,0.3s						
SJCC	**San Jacinto, C**	**1.99**	**233**	⇑*i*P	**Pn**	**16 05 45.6**	**0.0**
SJCC				*e*S	**Sn**	**16 06 09.4**	**0.0**
SJCC				*i*		16 06 17.0	
	comp=Z,141nm,0.4s						
OCAC	**Ocana**	**2.85**	**175**	*e*P	**Pn**	**16 05 57.5**	**-0.1**
DABV	**Dabajuro**	**2.88**	**93**	*e*P	**Pn**	**16 05 59.2**	**+1.3**
DABV				*e*S	**Sn**	**16 06 32.0**	**+0.7**
MOTC	**Monteria, Cord**	**3.10**	**222**	*e*P	**Pn**	**16 06 01.7**	**+0.9**
QARV	**Quebrada Arrib**	**3.12**	**106**	*e*P	**Pn**	**16 06 02.4**	**+1.2**
QARV				*e*S	**Sn**	**16 06 37.7**	**+0.4**
VIGV	**El Vigia**	**3.12**	**136**	*e*P	**Pn**	**16 06 02.5**	**+1.3**
VIGV				*e*S	**Sn**	**16 06 38.4**	**+1.0**
CAPV	**Capacho**	**3.44**	**159**	*e*P	**Pn**	**16 06 06.2**	**+0.4**
CAPV				*e*S	**Sn**	**16 06 46.6**	**+1.1**
MONV	**Montecano**	**3.63**	**76**	*e*P	**Pn**	**16 06 08.5**	**+0.5**
MONV				*e*S	**Sn**	**16 06 49.1**	**-0.5**
SDV	**Santo Domingo**	**3.63**	**127**	*e*P	**Pn**	**16 06 08.5**	**+0.2**
CURV	**Curarigua**	**3.71**	**107**	*e*P	**Pn**	**16 06 10.4**	**+1.2**
CURV				*e*S	**Sn**	**16 06 51.8**	**+0.1**
ZARC	**Zaragoza, Cauc**	**3.81**	**200**	*e*P	**Pn**	**16 06 11.3**	**+0.8**
ZARC				*e*S	**Sn**	**16 06 54.4**	**+0.4**
ZARC				*i*		16 07 06.9	
	comp=Z,175nm,0.3s						
SOCV	**Socops**	**3.87**	**136**	*e*P	**Pn**	**16 06 12.7**	**+1.2**
SOCV				*e*S	**Sn**	**16 06 54.9**	**-0.8**
BRRC	**Barranca, Sant**	**3.97**	**182**	*e*P	**Pn**	**16 06 12.1**	**-0.7**
BRRC				*e*S	**Sn**	**16 06 58.1**	**0.0**
BRRC				*i*		16 07 14.6	
	comp=Z,76nm,1.0s						
GIRC	**Giron, Santand**	**4.01**	**175**	*e*P	**Pn**	**16 06 14.2**	**+0.7**
SANV	**Sanarito**	**4.27**	**111**	*e*P	**Pn**	**16 06 18.4**	**+1.3**
SANV				*e*S	**Sn**	**16 07 04.1**	**-1.7**
TEPV	**Terepaima**	**4.45**	**104**	*e*P	**Pn**	**16 06 20.3**	**+0.9**
BARC	**Barichara**	**4.50**	**175**	*e*P	**Pn**	**16 06 20.5**	**+0.2**
BARC				*e*S	**Sn**	**16 07 11.4**	**0.0**
BARC				*i*		16 07 27.2	
	comp=Z,98nm,0.6s						
MAPV	**Macapo**	**5.18**	**104**	*e*P	**Pn**	**16 06 30.3**	**+0.9**
RUSC	**La Rusia**	**5.20**	**175**	*e*P	**Pn**	**16 06 30.2**	**+0.2**
RUSC				*i*		16 08 11.3	
	comp=Z,31nm,0.0s						
HELC	**Santa Helena**	**5.25**	**202**	*e*P	**Pn**	**16 06 30.3**	**-0.4**
HELC				*i*		16 07 49.4	
	comp=Z,71nm,0.4s						
TURV	**Turiamo**	**5.67**	**96**	*e*P	**Pn**	**16 06 35.5**	**-0.6**
TURV				*e*S	**Sn**	**16 07 37.1**	**-2.7**
BAUV	**El Baul**	**5.85**	**111**	*e*P	**Pn**	**16 06 38.3**	**-0.3**
BAUV				*e*S	**Sn**	**16 07 41.8**	**-2.6**

IDC 26 16:09:07.7±9.0, 18.05S×172.22W, h0km, mb3.4/3, mb1 3.7/3, mb1mx3.5/28, mbtmp3.4/3, Error ellipse: s-maj=390.2km s-min=42.3km az=141.0, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**50.39**	**259**	P	P	16 18 08.1	+1.0
	0.7nm,1.2s,baz=97,slow=7.6,SNR=1.8						
ASAR	**Alice Springs**	**50.41**	**254**	P	P	16 18 06.2	-1.1
	0.3nm,0.9s,baz=92,slow=8.2,SNR=1.1						
ILAR	**Eielson Array**	**84.82**	**11**	P	P	16 21 43.5	-0.1
	0.2nm,0.4s,baz=210,slow=7.1,SNR=4.6						

*ISCJB **26** 16:24:05.3±0.8, 55.85S±0.1×26.5W±0.2, h35km, mb4.3/7, MS3.2/2, Error ellipse: s-maj=19.4km s-min=10.9km az=138.9*
*NEIC **26** 16:24:11.2±2.2, 55.98S×26.76W, h75km±19km, mb4.5/1, Error ellipse: s-maj=20.9km s-min=11.6km az=65.0*
*IDC **26** 16:24:14.6±5.7, 56.06S×26.77W, h101km±51km, mb4.1/8, mb1 4.2/9, mb1mx3.9/24, mbtmp4.5/9, MS3.3/2, Ms1 3.2/2, ms1mx2.7/24, Error ellipse: s-maj=25.0km s-min=18.1km az=71.0*

ISC 26 16:24:07.1±0.6, 55.9S±0.1×26.6W±0.1, h35km, n34, σ1s44/24, mb4.3/6, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HOPE	**Hope Point**	**5.93**	**282**	*e*Pn	**Pn**	**16 25 34.0**	**+1.7**
VNA1	**Neumayer--Stat**	**16.79**	**159**	P	**P**	**16 28 02.7**	**+1.7**
VNA3	**Neumayer Olymp**	**17.00**	**161**	P	**P**	**16 28 05.1**	**+1.8**
VNA2	**Neumayer--Watz**	**17.18**	**159**	P	**P**	**16 28 07.5**	**+2.1**
	baz=316,slow=13						
SNAA	**Sanae**	**18.72**	**157**	P	**Pn**	**16 28 24.0**	**+1.0**
SNAA	**Sanae**	**18.72**	**157**	P	**Pn**	**16 28 24.0**	**+1.0**
	1.2nm,0.3s,baz=299,slow=9.3,SNR=129						
PMSA	**Palmer Station**	**20.25**	**229**	P	Pn	16 28 41.2	+0.1
	16nm,0.5s,baz=62,slow=6.4,SNR=11						
PMSA	**Palmer Station**	**20.25**	**229**	*e*P	Pn	16 28 40.8	-0.3
	15nm,0.6s						
USHA	**Ushuaia**	**23.56**	**255**	LR	LR	16 37 36.1	
	comp=Z,149nm,19.9s,baz=244,slow=34						
QSPA	**South Pole Qui**	**34.33**	**180**	*e*P	**P**	**16 30 49.1**	**-1.0**
MAW	**Mawson**	**40.05**	**143**	P	**P**	**16 31 37.8**	**-0.4**
	1.3nm,0.3s,baz=225,slow=6.6,SNR=7.1						
BOSA	**Boshof**	**45.60**	**75**	LR	LR	16 45 47.0	
	comp=Z,15nm,21.6s,baz=182,slow=28						
VNDA	**Vanda**	**46.72**	**183**	P	**P**	**16 32 31.4**	**-0.5**
	2.4nm,0.6s,baz=190,slow=7.9,SNR=16						
H10S2	**ASCENSION HYDR**	**47.78**	**16**	T	T	17 24 53.5	
	baz=190,slow=75,SNR=23						
H10S3	**ASCENSION HYDR**	**47.78**	**16**	T	T	17 24 52.4	
	baz=190,slow=75,SNR=28						
H10S1	**ASCENSION HYDR**	**47.79**	**16**	T	T	17 24 54.9	
	baz=190,slow=75,SNR=24						
H10N1	**ASCENSION HYDR**	**48.89**	**16**	T	T	17 26 18.0	
	baz=196,slow=76						
H10N3	**ASCENSION HYDR**	**48.90**	**16**	T	T	17 26 16.4	
	baz=196,slow=76						
H10N2	**ASCENSION HYDR**	**48.91**	**16**	T	T	17 26 18.8	
	baz=196,slow=76						
LPAZ	**La Paz**	**50.59**	**304**	P	**P**	**16 33 02.5**	**-0.5**
	1.8nm,0.5s,baz=135,slow=6.1,SNR=13						
DBIC	**Dimbokro**	**64.90**	**24**	P	**P**	**16 34 42.6**	**-0.2**
	3.0nm,0.6s,baz=180,slow=7.0,SNR=5.3						
TORD	**Torodi Ar. Bea**	**72.77**	**29**	P	**P**	**16 35 34.8**	**+3.1**
	3.2nm,0.6s,baz=199,slow=6.6,SNR=23						
STKA	**Stephens Creek**	**91.97**	**170**	P	**P**	**16 37 11.1**	**-0.9**
	0.5nm,0.5s,baz=225,slow=4.3,SNR=4.0						
ASAR	**Alice Springs**	**99.01**	**162**	P	**Pdif**	**16 37 42.7**	**-1.5**
	0.8nm,0.7s,baz=185,slow=4.3,SNR=16						
WRA	**Warramunga Arr**	**102.72**	**162**	P	**Pdif**	**16 37 59.3**	**-1.4**
	0.2nm,0.7s,baz=194,slow=4.4,SNR=5.3						
PDAR	**Pinedale Array**	**120.57**	**302**	PKP	**PKPdf**	**16 42 53.6**	**-0.8**
	2.0nm,0.3s,baz=78,slow=5.0,SNR=12						
FINES	**FINESS Array B**	**124.10**	**27**	PKP	**PKPdf**	**16 42 59.9**	**-0.4**
	0.9nm,0.6s,baz=217,slow=6.8,SNR=3.5						
CMAR	**Chiang Mai Arr**	**124.78**	**110**	PKP	**PKPdf**	**16 43 03.2**	**+0.2**
	0.2nm,0.3s,baz=226,slow=2.4,SNR=2.4						
YKA	**Yellowknife Ar**	**136.31**	**318**	PKP	**PKPdf**	**16 43 22.0**	**-1.4**
	0.7nm,0.5s,baz=192,slow=1.4,SNR=4.9						
DOT	**Dot Lake**	**148.83**	**310**	*e*PKPbc	**PKPbc**	**16 43 48.5**	**-0.9**
ILAR	**Eielson Array**	**150.29**	**312**	PKPbc	**PKPbc**	**16 43 51.8**	**-1.2**
	5.5nm,0.8s,baz=133,slow=1.9,SNR=41						
SONM	**Songino Array**	**150.37**	**86**	PKPbc	**PKPbc**	**16 43 51.8**	**-2.0**
	0.7nm,0.5s,baz=240,slow=2.5,SNR=2.8						
MCK	**McKinley**	**150.96**	**309**	*e*PKPbc	**PKPbc**	**16 43 53.6**	**-1.0**
KTH	**Kantishna Hill**	**151.79**	**309**	*e*PKPbc	**PKPbc**	**16 43 55.4**	**-1.2**

*IDC **26** 16:31:45.6±1.5, 13.66N×121.51E, h0km, mb3.7/3, mb1 3.8/3, mb1mx3.4/48, mbtmp3.7/3, MS3.3/1, Ms1 3.3/1, ms1mx2.4/36, Error ellipse: s-maj=262.1km s-min=24.4km az=72.0*
*MAN **26** 16:31:46, 13.15N×120.23E, h1km, mb3.7, ML2.5, MS2.0*
*ISCJB **26** 16:31:47.7±0.9, 13.28N±0.04×120.18E±0.05, h24km±9km, mb3.6/3, MS3.2/1, Error ellipse: s-maj=8.9km s-min=6.9km az=174.2*

ISC 26 16:31:47.7±3.6, 13.27N±0.04×120.17E±0.06, h17km±25km, n11, σ1s27/19, mb3.5/3, 1C-1D, Mindoro

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LUBP	**Lubang**	**0.47**	**10**	*e*P	**Pb**	**16 31 57.2**	**-0.2**
LUBP				*e*S	**Sb**	**16 32 03.8**	**-0.3**
PGP	**Puerto Galera**	**0.80**	**73**	⇓*e*P	**Pb**	**16 32 02.0**	**-1.2**
PGP				*i* S	**Sb**	**16 32 12.3**	**-1.4**
TGY	**Tagaytay City**	**1.11**	**42**	⇑*i*P	**Pb**	**16 32 09.2**	**+0.7**
TGY				*i* S	**Sb**	**16 32 21.0**	**-1.8**
SJMP	**San Jose**	**1.23**	**131**	*e*P	**Pn**	**16 32 09.9**	**-0.2**
SJMP				*e*S	**Sb**	**16 32 25.5**	**-0.6**
BUSP	**Coron**	**1.26**	**179**	*e*P	**Pn**	**16 32 10.2**	**-0.4**
BUSP				*e*S	**Sn**	**16 32 26.8**	**-0.3**
BOAC	**Boac**	**1.64**	**83**	*e*P	**Pn**	**16 32 16.6**	**+0.8**
BOAC				*e*S	**Sb**	**16 32 41.7**	**+3.8**
OTRP	**Odiongan**	**2.02**	**116**	*e*P	**Pb**	**16 32 24.1**	**+0.1**
OTRP				*e*S	**Sn**	**16 32 45.5**	**-0.4**
ENPP	**El Nido**	**2.18**	**200**	*e*P	**Pn**	**16 32 23.8**	**+0.7**
ENPP				*e*S	**Sn**	**16 32 50.0**	**+0.3**
WRA	**Warramunga Arr**	**35.83**	**157**	P	**P**	**16 38 45.9**	**-0.7**
	0.3nm,0.4s,baz=339,slow=9.3,SNR=14						
WRA				LR	LR	16 56 06.0	
	comp=Z,40nm,18.2s,baz=225,slow=41						
SONM	**Songino Array**	**36.32**	**344**	P	**P**	**16 38 51.1**	**+0.5**
	1.4nm,0.8s,baz=163,slow=11,SNR=6.7						
ASAR	**Alice Springs**	**39.09**	**160**	P	**P**	**16 39 14.3**	**+0.1**
	0.4nm,0.4s,baz=337,slow=7.2,SNR=23						

*SOME **26** 16:37:25.2, 49.18N×82.00E, h5km*
*NNC **26** 16:37:27.7±2.2, 49.02N×82.15E, h0km, mb3.3, mpv2.9, Error ellipse: s-maj=37.1km s-min=6.5km az=67.0*

ISC 26 16:37:27.4±1.0, 48.98N±0.04×81.86E±0.07, h10km, n9, σ2s07/16, 3C-5D, Eastern Kazakhstan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SEM	**Semipalatinsk**	**1.77**	**324**	*e*P	**Pg**	**16 38 02.5**	**+1.0**
	7.9nm,0.1s						
SEM				*e*S	**Sg**	**16 38 28.1**	**+3.6**
	74nm,0.4s						
MAKZ	**Makanchi**	**2.17**	**178**	⇓Pn	**Pb**	**16 38 06.4**	**-0.4**
	3.8nm,0.3s						
MAKZ				⇓Sn	**Sb**	**16 38 35.2**	**+1.4**
	32nm,0.4s						
MK31	**Makanchi Array**	**2.20**	**172**	⇑Pn	**Pb**	**16 38 06.9**	**-0.4**
	1.3nm,0.3s,baz=14,slow=13,SNR=153						
MK31				⇓Sn	**Sb**	**16 38 34.5**	**-0.2**
	13nm,0.3s,baz=7.0,slow=18,SNR=22						
ZSN	**Zaisan**	**2.52**	**126**	*e*P	**Pn**	**16 38 08.2**	**-0.2**
	3.2nm,0.2s						
ZSN				*e*S	**Sn**	**16 38 38.2**	**-1.1**
	31nm,0.4s						
KURBB	**Kurchatov Arra**	**2.71**	**309**	⇓Pn	**Pb**	**16 38 14.1**	**-1.9**
	3.5nm,0.3s						
KURBB				⇑Lg	Lg	16 38 58.5	
	92nm,0.5s						
KURK	**Kurchatov**	**2.73**	**311**	⇓Pn	**Pb**	**16 38 13.5**	**-2.7**
	2.5nm,0.4s						
KURK				⇑Lg	Lg	16 38 58.4	

*NNC **26** 16:39:44.9±3.4, 41.18N×72.50E, h0km, mb2.5, mpv2.3, Error ellipse: s-maj=23.4km s-min=15.1km az=32.0*
*SOME **26** 16:39:47.0, 41.18N×72.52E, h10km*

ISC 26 16:39:47.7±2.0, 41.3N±0.1×72.47E±0.05, h10km, n7, σ1s17/12, 4C-3D, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MNAS	**Manas**	**1.23**	**1**	⇑P	**Pn**	**16 40 08.9**	**-2.2**
	0.6nm,0.3s						
MNAS				⇓S	**Sb**	**16 40 27.9**	**+0.9**
	1.6nm,0.3s						
MRKS	**Merke**	**1.59**	**21**	*e*P	**Pb**	**16 40 17.9**	**+0.7**
MRKS				*e*S	**Sb**	**16 40 38.9**	**+1.5**
IUG	**luzhnay**	**2.03**	**297**	*e*P	**Pb**	**16 40 24.8**	**+0.1**
	6.2nm,0.3s						
IUG				*e*S	**Sb**	**16 40 51.4**	**+1.3**
	27nm,0.5s						
AAK	**Ala-Archa**	**2.04**	**47**	Pn	**Pn**	**16 40 23.1**	**+0.8**
	1.5nm,0.5s						
AAK				⇓Sn	**Sb**	**16 40 49.5**	**-1.1**
	1.4nm,0.3s						
KK31	**Karatay Array**	**2.35**	**322**	⇑Pg	**Pb**	**16 40 29.7**	**-0.4**
	0.5nm,0.3s,baz=140,slow=16,SNR=8.1						
KK31				⇓Lg	Lg	16 41 03.0	
	1.2nm,0.3s,baz=135,slow=28,SNR=9.1						
TKM2	**Tokmak 2**	**2.86**	**53**	⇑Pg	**Pn**	**16 40 33.7**	**+0.1**
	0.6nm,0.3s						
TKM2				⇑Lg	Lg	16 41 15.8	
	2.1nm,0.6s						
KST	**Kastek**	**3.15**	**54**	*e*P	**Pb**	**16 40 43.3**	**-0.6**
	0.7nm,0.1s						
KST				*e*S	**Sb**	**16 41 22.9**	**+0.5**
	8.4nm,0.7s						

IDC 26 16:51:14.1±6.0, 14.66S×167.26E, h96km±57km, mb3.6/6, mb1 3.7/7, mb1mx3.4/34, mbtmp3.9/7, ML3.8/1, Error ellipse: s-maj=45.9km s-min=31.0km az=157.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**7.41**	**186**	P	Pn	16 53 01.2	+1.4
	1.5nm,0.3s,baz=133,slow=19,SNR=32						
DZM				S	Sn	16 54 21.2	-1.1
	0.6nm,0.3s,baz=120,slow=20,SNR=2.7						
CTA	**Charters Tower**	**20.76**	**252**	P	P	16 55 47.0	-0.4
	2.9nm,0.7s,baz=74,slow=13,SNR=6.4						
STKA	**Stephens Creek**	**29.03**	**229**	P	P	16 57 06.3	+1.1
	1.1nm,0.4s,baz=50,slow=7.7,SNR=7.8						
WRA	**Warramunga Arr**	**31.84**	**256**	P	P	16 57 29.6	-0.5
	0.4nm,0.5s,baz=85,slow=9.4,SNR=8.8						
ASAR	**Alice Springs**	**32.69**	**249**	P	P	16 57 37.1	-0.4
	0.9nm,0.4s,baz=78,slow=8.9,SNR=49						
ASAR				PcP	PcP	17 00 20.4	-1.0
	0.4nm,1.1s,baz=85,slow=2.0,SNR=4.8						
ILAR	**Eielson Array**	**86.46**	**18**	P	P	17 03 44.7	-0.9
	0.3nm,0.8s,baz=232,slow=5.8,SNR=4.6						
MKAR	**Makanchi Array**	**97.15**	**316**	P	Pdif	17 04 37.4	+1.6
	0.3nm,0.5s,baz=90,slow=5.8,SNR=3.8						

IDC 26 16:51:15.3±5.0, 29.26N×141.35E, h0km, mb3.4/2, mb1 3.7/3, mb1mx3.3/43, mbtmp3.4/3, ML3.5/1, Error ellipse: s-maj=287.9km s-min=34.0km az=81.0, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MJAR	**Matsushiro Arr**	**7.73**	**341**	Pn	Pn	16 53 08.9	-0.3
	0.8nm,0.3s,baz=159,slow=11,SNR=6.0						
MAT	**Matsushiro**	**7.73**	**341**	P	Pn	16 53 08.8	-0.4
MAT				*e*S	Sn	16 54 21.7	-16
WRA	**Warramunga Arr**	**49.38**	**189**	P	P	17 00 06.2	-0.6
	0.7nm,0.7s,baz=7.1,slow=7.7,SNR=9.7						
ASAR	**Alice Springs**	**53.10**	**189**	P	P	17 00 35.2	+0.4
	0.1nm,0.5s,baz=4.7,slow=5.5,SNR=5.8						

*ISK **26** 17:15:48.8, 38.44N×26.80E, h6km, MD2.4*
*ISCJB **26** 17:15:51.2±0.7, 38.53N±0.04×26.71E±0.07, h12km, Error ellipse: s-maj=8.4km s-min=5.8km az=12.4*
*CSEM **26** 17:15:51.3±0.9, 38.51N×26.68E, h10km, MD2.5, Error ellipse: s-maj=31.6km s-min=17.7km az=139.0*
*DDA **26** 17:15:52.4, 38.50N×26.68E, h7km, Md2.5*

ISC 26 17:15:49.7±1.0, 38.46N±0.03×26.82E±0.04, h12km, n17, σ1s03/19, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
URLA	**Izmir**	**0.20**	**242**	*i* P	**Pb**	**17 15 56.2**	**+0.8**
URLA	**Izmir**	**0.20**	**242**	P	**Pb**	**17 15 56.2**	**+0.8**
KRBN	**Karaburun**	**0.25**	**303**	*e*PG	**Pg**	**17 15 54.8**	**-0.1**
KRBN				*e*SG	**Sg**	**17 15 57.9**	**-0.6**
FOCM	**Fo˜Şa**	**0.27**	**344**	*e*PG	**Pg**	**17 15 54.8**	**-0.5**
FOCM				*e*SG	**Sg**	**17 15 58.9**	**-0.1**
ZEY	**˜zmir**	**0.33**	**229**	*i* P	**Pb**	**17 15 58.5**	**+1.0**
GMLD	**Gumuldur**	**0.39**	**169**	*e*PG	**Pg**	**17 15 56.3**	**-1.0**
DGB	**˜zmir**	**0.41**	**173**	*i* P	**Pn**	**17 16 01.6**	**+0.3**
CHOS	**Chios island**

BDRM	**Kayabasi**	**0.79**	**139**	*i* P	**Pg**	**17**	**23**	**38.9 +0.5**
BDRM	**Kayabasi**	**0.79**	**139**	P	**Pg**	**17**	**23**	**38.9 +0.5**
MLSB	**Milas**	**0.86**	**115**	*e*PG	**Pg**	**17**	**23**	**40.3 +0.4**
MLSB	**Milas**	**0.86**	**115**	*e*Pg	**Pg**	**17**	**23**	**40.3 +0.4**
AYDB	**Zeytinkoy-Aydi**	**0.92**	**71**	*e*PG	**Pg**	**17**	**23**	**41.1 +0.2**
AYDB				*e*SG	**Sb**	**17**	**23**	**53.9 -0.2**
AYDB	**Zeytinkoy-Aydi**	**0.92**	**71**	*e*Pg	**Pg**	**17**	**23**	**41.1 +0.2**
AYDB				*e*Sg	**Sb**	**17**	**23**	**53.9 -0.2**
CHOS	**Chios island**	**0.93**	**322**	*e*PG	**Pb**	**17**	**23**	**42.9 +1.0**
CHOS	**Chios island**	**0.93**	**322**	P	**Pg**	**17**	**23**	**41.0 -0.2**
CHOS	**Chios island**	**0.93**	**322**	*e*Pg	**Pb**	**17**	**23**	**42.9 +1.0**
CHOS				S	**Sb**	**17**	**23**	**55.7 +1.2**
CHOS	**Chios island**	**0.93**	**322**	P	**Pb**	**17**	**23**	**43.0 +1.0**
CHOS				AML	AML	17	23	56.6
	comp=E,1409μm,0.2s							
CHOS				S	**Sn**	**17**	**23**	**57.8 +1.2**
CHOS				AML	AML	17	23	58.2
	comp=N,683μm,0.4s							
FOCM	**Fo˘ša**	**1.05**	**357**	*e*PG	**Pb**	**17**	**23**	**44.8 +0.9**
NISR	**Nisiros**	**1.08**	**166**	P	**Pn**	**17**	**23**	**46.7 +1.8**
NISR	**Nisiros**	**1.08**	**166**	P	**Pn**	**17**	**23**	**48.2 +3.4**
NIS1	**Nisyros Isl.**	**1.10**	**164**	*e*PN	**Pb**	**17**	**23**	**45.3 +0.6**
NIS1	**Nisyros Isl.**	**1.10**	**164**	*e*Pn	**Pb**	**17**	**23**	**45.3 +0.6**
NIS1	**Nisyros Isl.**	**1.10**	**164**	P	**Pn**	**17**	**23**	**46.2 +1.0**
NIS1				S	**Sn**	**17**	**24**	**01.2 +0.6**
NIS1	**Nisyros Isl.**	**1.10**	**164**	P	**Pn**	**17**	**23**	**47.7 +2.5**
NIS1				S	**Sn**	**17**	**24**	**02.5 +1.9**
NIS1				AML	AML	17	24	11.4
	comp=N,541μm,0.5s							
NIS1				AML	AML	17	24	11.9
	comp=E,583μm,0.6s							
DAT	**Datca**	**1.12**	**146**	*e*PN	**Pg**	**17**	**23**	**45.1 +0.2**
DAT	**Datca**	**1.12**	**146**	*i* P	**Pg**	**17**	**23**	**45.0 +0.2**
DAT	**Datca**	**1.12**	**146**	P	**Pg**	**17**	**23**	**45.0 +0.2**
APE	**Apeiranthos**	**1.17**	**240**	*e*PN	**Pn**	**17**	**23**	**47.2 +1.1**
APE	**Apeiranthos**	**1.17**	**240**	P	**Pg**	**17**	**23**	**44.9 -0.8**
APE	**Apeiranthos**	**1.17**	**240**	*e*Pn	**Pn**	**17**	**23**	**47.2 +1.1**
APE				S	**Sg**	**17**	**24**	**00.6 -0.2**
APE	**Apeiranthos**	**1.17**	**240**	P	**Pg**	**17**	**23**	**45.6 0.0**
APE				S	**Sg**	**17**	**24**	**00.7 -0.2**
APE				AML	AML	17	24	05.1
	comp=N,299μm,0.2s							
APE				AML	AML	17	24	05.9
	comp=E,282μm,0.2s							
DKL	**Dikili**	**1.41**	**4**	*e*PN	**Pg**	**17**	**23**	**51.2 +0.8**
DKL	**Dikili**	**1.41**	**4**	*e*Pn	**Pg**	**17**	**23**	**51.2 +0.8**
PRK	**Paraskevi**	**1.64**	**346**	P	**Pn**	**17**	**23**	**50.5 -2.0**
PRK				S	**Sn**	**17**	**24**	**11.2 -2.7**
PRK				AML	AML	17	24	19.1
	comp=N,526μm,0.8s							
PRK				AML	AML	17	24	23.8
	comp=E,507μm,1.2s							
TURN	**Turunc**	**1.64**	**118**	*i* P	**Pn**	**17**	**23**	**50.4 -2.2**
TURN	**Turunc**	**1.64**	**118**	P	**Pn**	**17**	**23**	**50.4 -2.2**
SANT	**Santorini**	**1.67**	**220**	P	**Pn**	**17**	**23**	**54.9 +0.4**
SANT	**Santorini**	**1.67**	**220**	P	**Pn**	**17**	**23**	**54.9 +0.4**
THR5	**Thira Island,**	**1.69**	**223**	P	**Pn**	**17**	**23**	**54.8 +1.4**
THR5	**Thira Island,**	**1.69**	**223**	P	**Pn**	**17**	**23**	**54.8 +1.4**
KULA	**Kula-Manisa**	**1.70**	**59**	*e*PN	**Pb**	**17**	**23**	**54.8 -0.3**
KULA	**Kula-Manisa**	**1.70**	**59**	*e*Pn	**Pb**	**17**	**23**	**54.8 -0.3**
DALY	**Dalyan (Mu˘la**	**1.71**	**119**	*e*PN	**Pb**	**17**	**23**	**54.9 -0.1**
DALY	**Dalyan (Mu˘la**	**1.71**	**119**	*e*Pn	**Pb**	**17**	**23**	**54.9 -0.1**
THR6	**Thira Island,**	**1.71**	**221**	P	**Pn**	**17**	**23**	**55.0 +1.3**
THR6	**Thira Island,**	**1.71**	**221**	P	**Pn**	**17**	**23**	**54.9 +1.3**
SIGR	**SIGRI**	**1.72**	**335**	*e*PN	**Pb**	**17**	**23**	**56.1 +0.9**
SIGR	**SIGRI**	**1.72**	**335**	P	**Pn**	**17**	**23**	**54.1 +0.4**
SIGR	**SIGRI**	**1.72**	**335**	*e*Pn	**Pb**	**17**	**23**	**56.1 +0.9**
SIGR	**SIGRI**	**1.72**	**335**	P	**Pn**	**17**	**23**	**54.0 +0.3**
SIGR				S	**Sn**	**17**	**24**	**12.8 -3.1**
DNZL	**Cakiroluk**	**1.79**	**88**	*i* P	**Pg**	**17**	**23**	**58.4 +0.8**
DNZL	**Cakiroluk**	**1.79**	**88**	P	**Pg**	**17**	**23**	**58.4 +0.8**
ARG	**Arkhangelos**	**1.79**	**143**	P	**Pn**	**17**	**23**	**55.1 +0.4**
ARG	**Arkhangelos**	**1.79**	**143**	P	**Pn**	**17**	**23**	**55.4 +0.7**
FETY	**Fethiye**	**2.10**	**118**	*e*PN	**Pn**	**17**	**24**	**00.3 +1.4**
FETY	**Fethiye**	**2.10**	**118**	*e*Pn	**Pn**	**17**	**24**	**00.3 +1.4**
KARP	**Karpathos**	**2.13**	**172**	P	**Pn**	**17**	**23**	**58.3 -1.1**
KARP	**Karpathos**	**2.13**	**172**	P	**Pn**	**17**	**23**	**58.4 -0.9**
BALB	**Balikesir**	**2.15**	**23**	*e*PN	**Pn**	**17**	**24**	**01.6 +1.9**
BALB	**Balikesir**	**2.15**	**23**	*e*Pn	**Pn**	**17**	**24**	**01.6 +1.9**
VLY	**Voula,Athens**	**2.38**	**276**	P	**Pn**	**17**	**24**	**04.0 +1.1**
VLY	**Voula,Athens**	**2.38**	**276**	P	**Pn**	**17**	**24**	**03.6 +0.7**
VLY				S	**Sn**	**17**	**24**	**27.6 -4.7**
LAST	**Lasithi**	**2.71**	**203**	P	**Pn**	**17**	**24**	**09.3 +1.9**
LAST	**Lasithi**	**2.71**	**203**	P	**Pn**	**17**	**24**	**09.1 +1.7**
LAST				S	**Sn**	**17**	**24**	**37.5 -3.0**
IDI	**Anoyia**	**2.82**	**214**	P	**Pn**	**17**	**24**	**09.6 +0.7**
IDI	**Anoyia**	**2.82**	**214**	P	**Pn**	**17**	**24**	**09.3 +0.4**
IDI				S	**Sn**	**17**	**24**	**38.9 -4.3**
ALN	**Alexandroupoli**	**3.29**	**350**	P	**Pn**	**17**	**24**	**16.0 +0.8**
ALN	**Alexandroupoli**	**3.29**	**350**	P	**Pn**	**17**	**24**	**15.6 +0.3**

IDC ***26*** *17:27:23.0±5.9, 37˚.21N×142˚.24E, h0km, mb3.3/2, mb1 3.4/3, mb1mx3.1/53, mbtmp3.1/3, ML2.5/1, MS3.1/2, Ms1 3.2/2, ms1mx2.6/22, Error ellipse: s-maj=118.7km s-min=37.1km az=15.0*

ISCJB ***26*** *17:27:26.5±1.5, 37˚.65N±0˚.05×141˚.83E±0˚.09, h31km±7km, mb3.4/2, MS3.1/2, Error ellipse: s-maj=12.3km s-min=7.2km az=14.2*

JMA ***26*** *17:27:27.6, 37˚.66N×141˚.76E, h46km±2km, M3.1*

ISC 26 17:27:25.4±2.1, 37˚.64N±0˚.05×141˚.89E±0˚.10, h28km±13km, n15, σ0ˢ94/22, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
JFK	**Kawauchi**	**0.85**	**252**	P		**Pb**	**17 27 42.1**	**+0.4**
JFK				*e*S		**Sb**	**17 27 52.3**	**-0.4**
JMM	**Marumori**	**0.90**	**285**	P		**Pb**	**17 27 42.5**	**+0.1**
JMM				*e*S		**Sb**	**17 27 53.4**	**-0.6**
JIO	**Ouri**	**0.92**	**333**	P		**Pb**	**17 27 43.4**	**+0.6**
JIO				*e*S		**Sn**	**17 27 54.6**	**-0.1**
ONAJ	**Iwakimizuishiy**	**1.02**	**239**	P		**Pb**	**17 27 44.5**	**0.0**
ONAJ				*e*S		**Sn**	**17 27 56.6**	**-0.8**
JOU	**Okura**	**1.21**	**307**	P		**Pn**	**17 27 47.1**	**+0.6**
JOU				*e*S		**Sn**	**17 28 01.7**	**-0.3**
JFT	**Otama**	**1.24**	**265**	P		**Pb**	**17 27 47.9**	**-0.3**
JFT				*e*S		**Sn**	**17 28 02.8**	**+0.1**
JMK	**Ichinoseki**	**1.41**	**338**	P		**Pb**	**17 27 50.6**	**-0.5**
JYS	**Shirataka**	**1.55**	**292**	P		**Pn**	**17 27 52.1**	**+0.9**
JYS				*e*S		**Sn**	**17 28 10.8**	**+0.3**
JFY	**Yanaizu**	**1.75**	**263**	P		**Pn**	**17 27 54.9**	**+0.9**
JYK	**Kaneyama**	**1.75**	**317**	P		**Pn**	**17 27 54.9**	**+0.9**
JYK				*e*S		**Sn**	**17 28 15.3**	**-0.1**
MJAR	**Matsushiro Arr**	**3.14**	**251**	Pn		**Pn**	**17 28 15.4**	**+2.4**
	0.6nm,0.3s,baz=77,slow=17,SNR=7.2							
MJAR				Sn		**Sb**	**17 28 56.8**	**-1.6**
	0.6nm,0.3s,baz=90,slow=32,SNR=4.0							
NRIK	**Noril'sk**	**42.88**	**335**	LR		LR	17 52 48.8	
	comp=Z,25nm,20.0s,baz=108,slow=35							
WRA	**Warramunga Arr**	**57.71**	**188**	P		**P**	**17 37 12.0**	**-1.6**
	0.2nm,0.6s,baz=6.2,slow=7.0,SNR=6.9							
ASAR	**Alice Springs**	**61.44**	**188**	P		**P**	**17 37 39.6**	**+0.3**
	0.4nm,1.0s,baz=13,slow=8.6,SNR=2.7							
NOA	**NORSAR Array B**	**73.77**	**337**	LR		LR	18 15 10.6	
	comp=Z,12nm,19.5s,baz=100,slow=39							

NIED ***26*** *17:30:00, 36˚.80N×140˚.70E, h5km, Mw3.8 Best double couple: M0=4.77000×10¹⁴ NP1:φs=338.00000°, δ31.00000°, λ-101.00000°. NP2:φs=171.00000°, δ60.00000°, λ-84.00000°.*

IDC ***26*** *17:30:34.2±0.7, 36˚.88N×140˚.64E, h0km, mb3.9/13, mb1 4.1/14, mb1mx3.8/51, mbtmp3.9/14, ML3.9/1, MS4.5/3, Ms1 4.5/3, ms1mx3.0/40, Error ellipse: s-maj=19.0km s-min=17.1km az=103.0*

ISCJB ***26*** *17:30:35.5±0.7, 36˚.82N±0˚.04×140˚.75E±0˚.06, h21km±4km, mb3.9/15, MS4.5/3, Error ellipse: s-maj=9.0km s-min=4.9km az=29.4*

JMA ***26*** *17:30:36.3, 36˚.85N×140˚.62E, h7km±1km, M4.1 Broadband fault plane solution: P waves. NP1: φs=168.00000°, δ50.00000°, λ-71.00000°. NP2: φs=319.00000°, δ44.00000°, λ-111.00000°. Principal axes: T Plg3.0000°, Azm244.0000°; N Plg15.0000°, Azm335.0000°; P Plg75.0000°, Azm143.0000°;*

JMA Felt II J1.

NEIC ***26*** *17:30:39.9±1.3, 36˚.90N×140˚.59E, h38km±11km, mb4.7/2 Error ellipse: s-maj=13.7km s-min=9.6km az=116.0*

NEIC Recorded [2 JMA] in Ibaraki.

ISC 26 17:30:35.9±1.0, 36˚.84N±0˚.04×140˚.59E±0˚.06, h10km±7km, n38, σ1ˢ29/33, mb3.9/15, MS4.6/3, 6C, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
JHO	**Hitachi**	**0.23**	**183**	⇑P		**Pg**	**17 30 41.1**	**+0.5**
ONAJ	**Iwakimizuishiy**	**0.31**	**33**	⇑P		**Pg**	**17 30 42.0**	**-0.2**
ONAJ				S		**Sg**	**17 30 46.2**	**-0.2**
JSB	**Shiboa**	**0.55**	**284**	⇑P		**Pb**	**17 30 48.1**	**+0.5**
JFK	**Kawauchi**	**0.57**	**24**	⇑P		**Pg**	**17 30 46.8**	**-0.2**
JFK				S		**Sg**	**17 30 54.3**	**-0.3**
JYT	**Yasato**	**0.69**	**207**	⇑P		**Pg**	**17 30 49.6**	**+0.5**
JYT				S		**Sg**	**17 30 58.8**	**+0.7**
JFT	**Otama**	**0.70**	**344**	⇑P		**Pb**	**17 30 50.0**	**-0.3**
JFT				S		**Sg**	**17 30 59.3**	**+0.5**
MJAR	**Matsushiro Arr**	**1.93**	**262**	Pn		**Pb**	**17 31 10.7**	**-0.6**
	96nm,0.3s,baz=83,slow=16,SNR=320							
MJAR				Sn		**Sb**	**17 31 35.3**	**-0.1**
	55nm,0.3s,baz=251,slow=26,SNR=8.5							
MJAR				LR		LR	17 32 12.7	
	comp=Z,162nm,21.7s,baz=85,slow=50							
MAJO	**Matsushiro**	**1.93**	**262**	*e*P		**Pb**	**17 31 10.7**	**-0.5**
MAT	**Matsushiro**	**1.93**	**262**	P		**Pb**	**17 31 10.7**	**-0.6**
MAT				*e*S		**Sn**	**17 31 34.2**	**+0.9**
ASAJ	**Asahikawa**	**7.43**	**11**	Pn		**Pn**	**17 32 24.9**	**+0.6**
	2.1nm,0.3s,baz=207,slow=16,SNR=6.7							
ASAJ				Sn		**Sn**	**17 33 54.4**	**+5.7**
	baz=90,slow=20							
USRK	**Ussuriysk Ar.**	**9.84**	**321**	Pn		Pn	17 33 03.2	+5.9
	0.1nm,0.3s,baz=146,slow=14,SNR=6.8							
KSRS	**Korea Array**	**10.13**	**277**	Pn		Pn	17 33 09.3	+7.9
	0.1nm,0.3s,baz=96,slow=14,SNR=11							
KSRS				LR		LR	17 36 43.0	
	comp=Z,50nm,21.0s,baz=113,slow=36							
KSAR	**Wonju Array Be**	**10.16**	**277**	Pn		Pn	17 33 09.3	+7.5
YAK	**Yakutsk**	**26.12**	**348**	P		**P**	**17 36 09.6**	**-0.2**
	3.0nm,0.3s,baz=205,slow=4.9,SNR=4.4							
SONM	**Songino Array**	**27.34**	**30**	P		**P**	**17 36 20.1**	**-1.1**
	1.1nm,0.7s,baz=115,slow=10,SNR=4.0							
H11N2	**WAKE ISLAND Hy**	**28.62**	**119**	T		T	18 06 18.2	
	baz=313,slow=75,SNR=520							
H11N1	**WAKE ISLAND Hy**	**28.63**	**119**	T		T	18 06 20.3	
	baz=313,slow=75,SNR=542							
H11N3	**WAKE ISLAND Hy**	**28.64**	**119**	T		T	18 06 21.1	
	baz=313,slow=75,SNR=540							
H11S1	**WAKE ISLAND Hy**	**29.32**	**121**	T		T	18 07 10.7	
	baz=314,slow=76,SNR=577							
H11S3	**WAKE ISLAND Hy**	**29.32**	**121**	T		T	18 07 09.9	
	baz=314,slow=76,SNR=294							
H11S2	**WAKE ISLAND Hy**	**29.33**	**121**	T		T	18 07 11.7	
	baz=314,slow=76,SNR=304							
ZALV	**Zalesovo Beam**	**41.55**	**313**	P		**P**	**17 38 24.0**	**+0.5**
	0.9nm,0.4s,baz=104,slow=7.1,SNR=6.0							
MKAR	**Makanchi Array**	**43.66**	**302**	P		**P**	**17 38 40.7**	**0.0**
	0.3nm,0.5s,baz=92,slow=8.9,SNR=4.0							
KURK	**Kurchatov**	**45.53**	**308**	*e*P		**P**	**17 38 55.1**	**-0.4**
	13nm,0.5s							
ILAR	**Eielson Array**	**50.01**	**32**	P		**P**	**17 39 27.6**	**-2.5**
	0.6nm,0.8s,baz=269,slow=6.9,SNR=6.1							
INK	**Inuvik**	**54.86**	**27**	LR		LR	18 04 25.3	
	comp=Z,323nm,21.9s,baz=270,slow=37							
WRAB	**Tennant Creek**	**56.77**	**187**	*e*P		**P**	**17 40 20.6**	**+0.4**
	3.2nm,1.0s							
WRA	**Warramunga Arr**	**56.78**	**187**	P		**P**	**17 40 19.6**	**-0.6**
	1.8nm,0.7s,baz=4.3,slow=7.3,SNR=25							
ASAR	**Alice Springs**	**60.51**	**187**	P		**P**	**17 40 46.4**	**+0.1**
	0.7nm,0.8s,baz=9.6,slow=8.0,SNR=9.5							
FINES	**FINESS Array B**	**68.67**	**332**	P		**P**	**17 41 39.1**	**0.0**
	1.7nm,0.8s,baz=58,slow=7.2,SNR=6.7							
AKASG	**Malin Array Be**	**74.04**	**322**	P		**P**	**17 42 10.6**	**-1.2**
	0.3nm,0.3s,baz=50,slow=6.1,SNR=4.0							
NOA	**NORSAR Array B**	**74.11**	**337**	P		**P**	**17 42 11.2**	**-0.8**
	1.1nm,0.8s,baz=50,slow=7.0,SNR=2.6							
PDAR	**Pinedale Array**	**78.27**	**45**	P		**P**	**17 42 37.1**	**+0.8**
	0.3nm,0.6s,baz=227,slow=8.6,SNR=4.4							
URZ	**Urewera**	**81.99**	**152**	LR		LR	18 11 45.9	
	comp=Z,306nm,21.5s,baz=132,slow=30							
GERES	**GERESS Array B**	**82.52**	**328**	P		**P**	**17 42 58.9**	**0.0**
	0.5nm,0.5s,baz=23,slow=7.7,SNR=4.5							
PPT	**Papeete**	**85.14**	**116**	LR		LR	18 11 15.9	
	comp=Z,291nm,21.5s,baz=156,slow=29							
TXAR	**Lajitas Array**	**90.76**	**52**	P		**P**	**17 43 40.4**	**+0.8**
	0.8nm,0.6s,baz=304,slow=2.8,SNR=12							
LPAZ	**La Paz**	**147.36**	**59**	PKPbc		**PKPbc**	**17 50 21.3**	**+0.2**
	0.9nm,0.6s,baz=27,slow=7.8,SNR=4.3							

IDC 26 17:33:40.6±5.4, 4˚.58S×150˚.20E, h173km±42km, mb2.8/2, mb1 3.1/3, mb1mx2.8/30, mbtmp3.4/3, Error ellipse: s-maj=121.6km s-min=42.0km az=125.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
PMG	**Port Moresby**	**5.67**	**212**	P		Pn	17 35 02.8	-0.4
	1.2nm,0.3s,baz=358,slow=2.7,SNR=5.9							
PMG				S		Sn	17 36 10.3	+2.1
	5.0nm,0.3s,baz=131,slow=23,SNR=12							
WRA	**Warramunga Arr**	**21.72**	**224**	P		P	17 38 18.2	-0.2
	0.2nm,0.3s,baz=51,slow=10,SNR=12							
ASAR	**Alice Springs**	**24.64**	**218**	P		P	17 38 44.9	-0.5
	0.5nm,0.4s,baz=52,slow=9.8,SNR=22							
TORD	**Torodi Ar. Bea**	**147.77**	**287**	PKPbc		PKPbc	17 53 06.0	0.0
	0.4nm,0.6s,baz=98,slow=2.5,SNR=2.7							

ATH ***26*** *17:45:15.4, 38˚.96N×27˚.95E, h14km±1km, ML2.6/4, Error ellipse: s-maj=3.4km s-min=1.6km az=244.0*

CSEM ***26*** *17:45:15.7±0.1, 38˚.92N×27˚.95E, h2km, MD2.9, Error ellipse: s-maj=2.8km s-min=2.6km az=44.0*

DDA ***26*** *17:45:15.7, 38˚.94N×27˚.95E, h7km, Md2.8*

ISK ***26*** *17:45:15.2, 38˚.90N×27˚.94E, h5km, MD2.9*

ISC 26 17:45:15.8±1.1, 38˚.93N±0˚.02×27˚.94E±0˚.02, h6km±11km, n65, σ0ˢ53/77, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
DEMI	**Demirci**	**0.61**	**79**	*i* P		**Pg**	**17 45 27.6**	**0.0**
DEMI	**Demirci**	**0.61**	**79**	P		**Pg**	**17 45 27.6**	**0.0**
KULA	**Kula-Manisa**	**0.70**	**126**	*e*PG		**Pg**	**17 45 29.1**	**-0.1**
KULA				*e*SG		**Sg**	**17 45 38.5**	**+0.3**
KULA	**Kula-Manisa**	**0.70**	**126**	*e*Pg		**Pg**	**17 45 29.1**	**-0.1**
KULA				*e*Sg		**Sg**	**17 45 38.5**	**+0.3**
BALB	**Balikesir**	**0.71**	**356**	*e*PG		**Pb**	**17 45 30.0**	**-0.7**
BALB	**Balikesir**	**0.71**	**356**	*e*Pg		**Pb**	**17 45 30.0**	**-0.7**
DKL	**Dikili**	**0.82**	**280**	*e*PG		**Pg**	**17 45 31.6**	**0.0**
DKL	**Dikili**	**0.82**	**280**	*e*Pg		**Pg**	**17 45 31.6**	**0.0**
SIMA	**Simav-Kutahya**	**0.82**	**79**	*e*PG		**Pg**	**17 45 31.7**	**+0.1**
BALY	**Balya**	**0.85**	**343**	*i* P		**Pg**	**17 45 31.9**	**-0.2**
BALY	**Balya**	**0.85**	**343**	P		**Pg**	**17 45 31.9**	**-0.2**
AYDB	**Zeytinkoy-Aydi**	**0.98**	**182**	*e*PG		**Pg**	**17 45 33.9**	**-0.8**
AYDB	**Zeytinkoy-Aydi**	**0.98**	**182**	*e*Pg		**Pg**	**17 45 33.9**	**-0.8**
AYVA	**Ayvalik**	**1.05**	**292**	*i* P		**Pg**	**17 45 35.8**	**-0.1**
AYVA	**Ayvalik**	**1.05**	**292**	P		**Pg**	**17 45 35.8**	**-0.1**
GEDZ	**Gediz**	**1.15**	**84**	*e*PN		**Pg**	**17 45 37.6**	**-0.2**
GEDZ	**Gediz**	**1.15**	**84**	*e*Pn		**Pg**	**17 45 37.7**	**-0.2**
GMLD	**Gumuldur**	**1.17**	**224**	*e*PN		**Pg**	**17 45 37.3**	**-0.9**
DGB	**˘zmir**	**1.21**	**224**	*i* P		**Pb**	**17 45 38.8**	**-0.3**
TVSB	**Tavsanli**	**1.29**	**66**	*e*PN		**Pg**	**17 45 40.7**	**+0.2**
TVSB	**Tavsanli**	**1.29**	**66**	*e*Pn		**Pg**	**17 45 40.7**	**+0.2**
PRK	**Paraskevi**	**1.34**	**284**	P		Pn	**17 45 40.4**	**-0.7**
PRK				S		**Sn**	**17 45 58.9**	**-0.3**
PRK	**Paraskevi**	**1.34**	**284**	P		Pn	**17 45 40.4**	**-0.7**
PRK				S		**Sn**	**17 45 58.9**	**-0.3**
PRK				AML	AML		17 45 59.1	
	comp=N,453μm,0.8s							
PRK				AML	AML		17 46 00.7	
	comp=E,511μm,0.8s							
KCTX	**Karacabey (Bur**	**1.37**	**13**	*e*PN		**Pg**	**17 45 41.9**	**-0.2**
KCTX	**Karacabey (Bur**	**1.37**	**13**	*e*Pn		**Pg**	**17 45 41.9**	**-0.2**
EDC	**Edincik**	**1.42**	**358**	*e*PN		**Pb**	**17 45 42.4**	**-0.3**
EDC	**Edincik**	**1.42**	**358**	*e*Pn		**Pb**	**17 45 42.4**	**-0.3**
SMG	**Samos**	**1.50**	**216**	P		**Pb**	**17 45 43.9**	**-0.1**
SMG				S		**Sg**	**17 46 04.7**	**+0.8**
SMG	**Samos**	**1.50**	**216**	P		**Pb**	**17 45 43.9**	**-0.1**
SMG				S		**Sg**	**17 46 04.6**	**+0.8**
SMG				AML	AML		17 46 06.7	
	comp=N,346μm,0.5s							
SMG				AML	AML		17 46 07.1	
	comp=E,215μm,0.5s							
DNZL	**Cakiroluk**	**1.51**	**145**	*i* P		**Pg**	**17 45 44.6**	**-0.2**
DNZL	**Cakiroluk**	**1.51**	**145**	P		**Pg**	**17 45 44.6**	**-0.2**
EZN	**Ezine**	**1.54**	**306**	*e*PN		**Pn**	**17 45 44.0**	**+0.1**
EZN	**Ezine**	**1.54**	**306**	*e*Pn		**Pn**	**17 45 44.0**	**+0.1**
KRBG	**Karabiga-Canak**	**1.55**	**341**	*e*PN		**Pb**	**17 45 44.5**	**-0.3**
KRBG	**Karabiga-Canak**	**1.55**	**341**	*e*Pn		**Pb**	**17 45 44.5**	**-0.3**
CHOS	**Chios island**	**1.57**	**251**	*e*PN		**Pn**	**17 45 44.3**	**-0.1**
CHOS	**Chios island**	**1.57**	**251**	*e*Pn		**Pn**	**17 45 44.3**	**-0.1**
CHOS	**Chios island**	**1.57**	**251**	P		**Pg**	**17 45 46.0**	**0.0**
CHOS				S		**Sg**	**17 46 07.2**	**+0.8**
CHOS	**Chios island**	**1.57**	**251**	P		**Pg**	**17 45 46.0**	**0.0**
CHOS				S		**Sg**	**17 46 07.2**	**+0.8**
CHOS				AML	AML		17 46 09.1	
	comp=N,311μm,0.5s							
CHOS				AML	AML		17 46 11.4	
	comp=E,480μm,0.4s							
MLSB	**Milas**	**1.64**	**185**	*e*PN		**Pn**	**17 45 45.1**	**-0.1**
MLSB	**Milas**	**1.64**	**185**	*e*Pn		**Pn**	**17 45 45.1**	**-0.1**
SIGR	**SIGRI**	**1.65**	**281**	*e*PN		**Pn**	**17 45 45.4**	**+0.1**
SIGR	**SIGRI**	**1.65**	**281**	*e*Pn		**Pn**	**17 45 45.4**	**+0.1**
SIGR	**SIGRI**	**1.65**	**281**	P		**Pb**	**17 45 46.7**	**0.0**
SIGR				S		**Sb**	**17 46 08.0**	**+0.3**
SIGR	**SIGRI**	**1.65**	**281**	P		**Pb**	**17 45 46.7**	**0.0**
SIGR				S		**Sb**	**17 46 08.0**	**+0.3**
SIGR				AML	AML		17 46 10.3	
	comp=N,186μm,0.8s							
SIGR				AML	AML		17 46 15.9	
	comp=E,291μm,1.4s							
IGD	**Bursa**	**1.65**	**36**	*i* P		**Pg**	**17 45 46.9**	**-0.6**
MRMT	**Marmara Adasi**	**1.69**	**351**	*e*PN		**Pb**	**17 45 46.9**	**-0.5**
MRMT	**Marmara Adasi**	**1.69**	**351**	*e*Pn		**Pb**	**17 45 46.9**	**-0.5**
LPK	**Lapseki**	**1.71**	**328**	*e*PN		**Pn**	**17 45 46.1**	**0.0**
LPK	**Lapseki**	**1.71**	**328**	*e*Pn		**Pn**	**17 45 46.1**	**0.0**
ARMT	**Armutlu**	**1.78**	**23**	*e*PN		**Pb**	**17 45 48.0**	**-0.8**
ARMT	**Armutlu**	**1.78**	**23**	*e*Pn		**Pb**	**17 45 48.1**	**-0.8**
SBT5	**Esenkoy-Cinarc**	**1.85**	**23**	*e*PN		**Pb**	**17 45 49.0**	**-0.9**
BODT	**Bodrum**	**1.93**	**195**	*e*PN		**Pn**	**17 45 49.3**	**+0.1**
BODT	**Bodrum**	**1.93**	**195**	*e*Pn		**Pn**	**17 45 49.3**	**+0.1**
SBT3	**Marmara-Eregli**	**1.96**	**1**	*e*PN		**Pb**	**17 45 50.4**	**-1.4**
SBT2	**Guzelce-Avcila**	**2.00**	**13**	*e*PN		**Pb**	**17 45 50.9**	**-1.6**
DAT	**Datca**	**2.21**	**188**	*e*PN		**Pn**	**17 45 52.8**	**-0.4**
DAT	**Datca**	**2.21**	**188**	*e*Pn		**Pn**	**17 45 52.8**	**-0.4**
HRT	**Hereke**	**2.31**	**34**	*e*PN		**Pn**	**17 45 54.9**	**+0.4**
HRT	**Hereke**	**2.31**	**34**	*e*Pn		**Pn**	**17 45 54.9**	**+0.4**
ALN	**Alexandroupoli**	**2.45**	**324**	P		**Pn**	**17 45 55.8**	**-0.6**
ALN				S		**Sn**	**17 46 27.3**	**+0

TCW	Tory Channel	8.18 206	*e*PN		Pn	17 56 16.1	-2.6
TUWZ	Tuamarina	8.50 207	*e*PN		Pn	17 56 19.7	-3.2
NNZ	Nelson	8.54 210	PN		Pn	17 56 20.7	-2.8
BSWZ	Blackbirch Sta	8.77 206	PN		Pn	17 56 24.0	-2.4
THZ	Tophouse	9.19 210	PN		Pn	17 56 29.4	-2.6
KHZ	Kahutara	9.50 206	PN		Pn	17 56 32.1	-3.8
DSZ	Denniston Nort	9.67 214	PN		Pn	17 56 36.9	-1.3
INZ	Inchbonnie	10.61 212	PN		Pn	17 56 46.6	-3.6
MQZ	McQueen's Vall	10.94 205	PN		Pn	17 56 50.3	-4.2
ODZ	Otahua Downs	12.84 208	PN		Pn	17 57 15.9	-2.7
JCZ	Jackson Bay	12.88 215	PN		Pn	17 57 15.7	-3.4
ASAR	Alice Springs	40.61 272	P		P	18 01 44.1	+0.4
	0.3nm,0.6s,baz=116,slow=7.4,SNR=5.9						
WRA	Warramunga Arr	41.94 278	P		P	18 01 54.8	+0.2
	0.3nm,0.3s,baz=117,slow=8.1,SNR=12						
FINES	FINESS Array B	147.51 336	PKPbc		PKPdf	18 13 39.7	-0.3
	1.5nm,0.8s,baz=29,slow=6.3,SNR=5.2						

IDC ***26*** *18:01:55.7±2.9,21˚.01N×146˚.41E,h0km,mb3.6/9, mb1 3.8/9,mb1mx3.5/55,mbtmp3.7/9,Error ellipse: s-maj=106.9km s-min=18.2km az=81.0*

ISCJB ***26*** *18:02:00.1±2.6,21˚.0N±0˚.1×146˚.2E±0˚.7,h37km,mb3.6/9, Error ellipse: s-maj=93.8km s-min=15.5km az=170.8*

ISC 26 18:02:01.7±2.8,21˚.0N±0˚.2×146˚.3E±0˚.7,h37km,n9, σ0s73/9,mb3.8/9,Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSRS	Korea Array	22.87	320	P	P	18 07 01.2	-0.7
	0.8nm,0.6s,baz=146,slow=8.7,SNR=6.0						
SONM	Songino Array	41.74	320	P	P	18 09 48.6	+1.3
	0.3nm,0.5s,baz=114,slow=7.0,SNR=2.4						
WRA	Warramunga Arr	42.30	197	P	P	18 09 52.0	+0.1
	0.4nm,0.5s,baz=16,slow=8.8,SNR=11						
FITZ	Fitzroy Crossi	43.77	209	P	P	18 10 03.6	-0.3
	1.4nm,0.8s,baz=29,slow=9.7,SNR=5.3						
ASAR	Alice Springs	45.97	196	P	P	18 10 21.4	+0.1
	0.2nm,0.6s,baz=14,slow=6.6,SNR=9.4						
ZALV	Zalesovo Beam	56.57	322	P	P	18 11 40.1	-0.3
	0.4nm,0.3s,baz=107,slow=7.9,SNR=2.6						
MKAR	Makanchi Array	57.30	313	P	P	18 11 45.7	-0.1
	0.6nm,0.6s,baz=86,slow=8.7,SNR=4.4						
KURBB	Kurchatov Array	60.02	317	P	P	18 12 03.7	-0.9
	0.5nm,0.3s,baz=90,slow=7.6,SNR=5.1						
FINES	FINESS Array B	85.06	335	P	P	18 14 33.1	-0.2
	0.7nm,0.5s,baz=72,slow=4.8,SNR=6.4						

NEIC ***26*** *18:10:01.2±0.0,17˚.28N×94˚.95W,h134km,MD4.0(MEX), After MEX.*

MEX 26 18:10:01.2±0.7,17˚.28N×94˚.95W,h134km±10km,MD4.0, Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TUIG	Tuzandepetl	0.90	34	*i* P	Pn	18 10 22.2	-1.3
TUIG				*i* S	Sn	18 10 38.5	-2.1
TUIG	Tuzandepetl	0.90	34	*i* P	Pn	18 10 22.2	-1.3
TUIG				*i* S	Sn	18 10 38.5	-2.1
OXBJ	Oaxaca	1.71	263	*e*P	Pn	18 10 31.2	-1.0
VHO	Vista Hermosa	1.72	263	*i* P	Pn	18 10 31.4	-0.9
VHO				*e*S	Sn	18 10 54.5	-1.5
VHO	Vista Hermosa	1.72	263	*i* P	Pn	18 10 31.4	-0.9
VHO				*e*S	Sn	18 10 54.5	-1.5
TGIG		1.81	106	*e*P	Pn	18 10 32.5	-0.7
TGIG				*e*S	Sn	18 10 56.3	-1.4
TGIG		1.81	106	*e*P	Pn	18 10 32.5	-0.7
TGIG				*e*S	Sn	18 10 56.3	-1.4
HUIG	Huatulco	1.87	217	*e*P	Pn	18 10 31.7	-2.2
HUIG				*e*S	Sn	18 10 57.2	-1.7
HUIG	Huatulco	1.87	217	*e*P	Pn	18 10 31.7	-2.2
HUIG				*e*S	Sn	18 10 57.2	-1.7
PCIG		2.28	133	*e*P	Pn	18 10 38.1	-0.8
PCIG				*e*S	Sn	18 11 06.2	-1.4
PCIG		2.28	133	*e*P	Pn	18 10 38.1	-0.8
PCIG				*e*S	Sn	18 11 06.2	-1.4
PNIG	Pinotepa	3.17	254	*e*P	Pn	18 10 47.0	-3.2
PNIG				*i* S	Sn	18 11 24.0	-4.1
PNIG	Pinotepa	3.17	254	*e*P	Pn	18 10 47.0	-3.2
PNIG				*i* S	Sn	18 11 24.0	-4.1

SJA 26 18:22:31.4±0.3,31˚.42S×69˚.14W,h107km±1km,ML3.1, MW3.5,San Juan Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RTLS	Leoncito	0.40	199	*e*P	Pn	18 22 48.8	+1.1
RTCV	Cerro Valdivia	0.68	131	*e*P	Pn	18 22 50.1	+0.7
RTCV				*e*S	Sn	18 23 03.9	+1.1
AMOG	MOGNA	0.73	50	*e*P	Pn	18 22 50.5	+0.7
AMOG				*e*S	Sn	18 23 04.8	+1.0
AUSP	Uspallata	0.83	194	*e*P	Pn	18 22 52.0	+1.0
AUSP				*e*S	Sn	18 23 07.5	+1.8
ACCO	Cerro Coronel	0.83	5	*e*P	Pn	18 22 52.2	+1.1
ACCO				*e*S	Sn	18 23 07.6	+1.8
AROD	Rodeo	1.28	347	*e*P	Pn	18 22 57.3	+1.5
AROD				*e*S	Sn	18 23 16.1	+1.9
ARCO	CERRO ARCO	1.43	173	IAML		18 23 21.7	
	comp=Z,188nm,0.5s						
AVFE	Valle Fertil	1.64	63	*e*P	Pn	18 23 00.7	+0.9
AVFE				*e*S	Sn	18 23 22.5	+1.2
AVFE				IAML		18 23 25.6	
	comp=Z,136nm,0.3s						
AVFE				AMP		18 23 25.7	
AAGR	Agrelo	1.68	171	*e*P	Pn	18 23 01.4	+1.0
AAGR				*e*S	Sn	18 23 23.8	+1.3
ACAN	Cantantal	1.87	118	*e*P	Pn	18 23 03.6	+1.0
AGUA	GUANDACOL	2.01	16	*e*P	Pn	18 23 05.5	+1.1
AGUA				*e*S	Sn	18 23 31.0	+1.3
ACHE	Chepes	2.14	84	*e*P	Pn	18 23 07.5	+1.3
ACHE				*e*S	Sn	18 23 34.1	+1.4
APLL	PUNTA DE LOS L	2.47	66	*e*P	Pn	18 23 11.6	+1.2

IDC ***26*** *18:25:32.7±3.1,1˚.95N×96˚.70E,h0km,mb3.7/4,mb1 3.9/5, mb1mx3.5/39,mbtmp3.7/5,ML3.7/1,MS3.5/3,Ms1 3.6/3, ms1mx2.8/44,Error ellipse: s-maj=113.9km s-min=26.8km az=59.0*

ISCJB ***26*** *18:25:35.1±1.3,1˚.98N±0˚.10×96˚.5E±0˚.2,h28km,mb3.7/4, MS3.6/3,Error ellipse: s-maj=24.3km s-min=10.8km az=156.8*

DJA ***26*** *18:25:35.0±2.7,2˚N±6˚×9˚7E±3˚1,h10km,M3.7/3, MLv3.7/3*

ISC 26 18:25:37.0±1.4,2˚.06N±0˚.09×96˚.6E±0˚.2,h28km,n18, σ0s78/9,mb3.8/4,MS3.5/3,Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TPTI		1.31	25	P	Pn	18 25 59.4	-0.1
KCSI	Kotacane, Aceh	1.85	38	P	Pn	18 26 07.5	+0.6
PBSI	Pulau Batu	2.67	142	P	Pn	18 26 18.6	+0.4
MNSI	Mandailing Nat	3.21	113	P	Pn	18 26 26.2	+0.6
CMAR	Chiang Mai Arr	16.45	8	Pn	P	18 29 27.9	-0.6
	0.1nm,0.3s,baz=196,slow=12,SNR=14						
H08S2	Diego Garcia H	25.94	248	T	T	18 57 50.1	
	baz=69,slow=76,SNR=79						
H08S3	Diego Garcia H	25.94	248	T	T	18 57 52.6	
	baz=69,slow=76,SNR=54						
H08S1	Diego Carcia H	25.95	248	T	T	18 57 53.5	
	baz=69,slow=76,SNR=66						
H01W3	Cape Leeuwin H	40.25	157	T	T	19 16 01.5	
	baz=333,slow=76,SNR=6.7						
H01W2	Cape Leeuwin H	40.27	158	T	T	19 15 57.8	
	baz=333,slow=76,SNR=6.7						
H01W1	Cape Leeuwin H	40.27	157	T	T	19 15 59.6	
	baz=333,slow=76,SNR=6.5						
WRA	Warramunga Arr	42.97	122	P	P	18 33 33.0	-1.2
	0.6nm,0.6s,baz=304,slow=9.1,SNR=3.4						
MKAR	Makanchi Array	46.28	346	P	P	18 34 00.7	+0.6
	1.1nm,0.7s,baz=153,slow=7.7,SNR=9.7						
SONM	Songino Array	46.38	9	P	P	18 34 01.2	+0.2
	0.4nm,0.4s,baz=187,slow=8.3,SNR=2.8						
USRK	Ussuriysk Ar.	52.34	32	LR	LR	18 57 51.6	
	comp=Z,19nm,18.8s,baz=129,slow=37						
ZALV	Zalesovo Beam	52.63	351	P	P	18 34 49.1	+0.7
	0.7nm,0.5s,baz=167,slow=5.5,SNR=5.9						
IDI	Anoyia	73.94	306	LR	LR	19 13 15.3	
	comp=Z,29nm,20.2s,baz=248,slow=39						
ARCES	ARCESS Array B	81.54	340	LR	LR	19 17 33.4	
	comp=Z,80nm,20.7s,baz=274,slow=38						

DJA 26 18:31:22.1±0.8,4˚S±5˚×12˚9E±˚,h168km±6km,M3.7/6, MLv3.7/6,Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BNDI	Bandanaira	0.65	123	P	Pn	18 31 46.9	+0.7
BNDI				S	Sn	18 32 07.3	+2.6
MSAI	Masohi	0.93	332	P	Pn	18 31 48.7	+0.6
MSAI				S	Sn	18 32 08.2	+0.1
NLAI	Namlea	2.44	292	P	Pn	18 32 04.3	+0.9
NLAI				S	Sn	18 32 35.7	+0.3
FAKI	Fak Fak	3.14	67	P	Pn	18 32 12.7	+0.7
FAKI				S	Sn	18 32 50.7	0.0
SWI	Sorong	3.79	30	P	Pn	18 32 21.1	+0.9
SWI				S	Sn	18 33 05.4	-0.2
LBMI	Labuha	3.97	332	P	Pn	18 32 22.9	+0.4
LBMI				S	Sn	18 33 11.4	+1.7
SANI	Sanana	3.97	302	P	Pn	18 32 20.6	-1.9
SANI				S	Sn	18 33 03.9	-5.7

DJA 26 18:41:43.9±0.5,9˚S±7˚×12˚0E±˚,h12km±10km,M3.1/5, MLv3.1/5,Flores region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WSI	Waingapu	0.99	145	P	Pb	18 42 02.7	-0.3
WSI				S	Sb	18 42 16.3	+0.3
BASI	Baing, Sumba	1.60	148	P	Pn	18 42 11.9	-0.1
BASI				S	Sn	18 42 32.8	+0.2
PLAI	Plampang	1.93	271	P	Pn	18 42 16.5	-0.1
PLAI				S	Sn	18 42 41.3	+0.5
TWSI	Taliwang, Sumb	2.82	272	P	Pn	18 42 29.9	+1.1

IDC 26 18:42:23.8±1.6,0˚.98N×125˚.65E,h0km,mb3.1/3, mb1 3.3/3,mb1mx3.1/41,mbtmp3.1/3,Error ellipse: s-maj=180.3km s-min=24.9km az=71.0,Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	22.48	158	P	P	18 47 24.7	-0.2
	0.3nm,0.4s,baz=337,slow=11,SNR=14						
ASAR	Alice Springs	25.79	162	P	P	18 47 56.8	+0.1
	0.2nm,0.8s,baz=344,slow=11,SNR=4.6						
SONM	Songino Array	49.56	343	P	P	18 51 16.7	-0.1
	0.3nm,0.4s,baz=151,slow=9.2,SNR=2.7						

ISK ***26*** *18:43:30.9,37˚.66N×26˚.82E,h14km,MD2.6*

ISCJB ***26*** *18:43:31.3±0.8,37˚.65N±0˚.05×26˚.8E±0˚.1,h12km,Error ellipse: s-maj=13.3km s-min=4.9km az=151.4*

CSEM ***26*** *18:43:31.6±0.5,37˚.65N×26˚.79E,h10km,MD2.6, Error ellipse: s-maj=16.7km s-min=7.7km az=55.0*

DDA ***26*** *18:43:32.0,37˚.66N×26˚.74E,h7km,Md2.4*

ISC 26 18:43:31.7±1.2,37˚.66N±0˚.04×26˚.80E±0˚.05,h12km,n19, σ0s53/21,Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GCAM	G?zelcaml?	0.34	82	*i* P	Pb	18 43 40.3	+0.6
GCAM	G?zelcaml?	0.34	82	P	Pb	18 43 40.3	+0.6
DGB	˜zmir	0.40	9	*i* P	Pg	18 43 39.9	+0.2
GMLD	Gumuldur	0.43	12	*e*P	Pg	18 43 39.7	-0.5
ZEY	˜zmir	0.63	338	*i* P	Pg	18 43 43.7	-0.2
BODT	Bodrum	0.72	145	*e*PG	Pg	18 43 45.3	-0.3
BODT				*e*SG	Sg	18 43 55.6	+0.6
BODT	Bodrum	0.72	145	*e*Pg	Pg	18 43 45.3	-0.3
BODT				*e*Sg	Sg	18 43 55.6	+0.6
URLA	Izmir	0.72	347	*i* P	Pb	18 43 46.1	-0.1
URLA	Izmir	0.72	347	P	Pb	18 43 46.2	-0.1
BDRM	Kayabasi	0.78	139	*i* P	Pb	18 43 47.6	+0.5
BDRM	Kayabasi	0.78	139	P	Pb	18 43 47.7	+0.5
MLSB	Milas	0.85	115	*e*PG	Pg	18 43 47.5	-0.7
MLSB	Milas	0.85	115	*e*Pg	Pg	18 43 47.5	-0.7
AYDB	Zeytinkoy-Aydi	0.91	71	*e*PG	Pg	18 43 48.5	-0.8
AYDB	Zeytinkoy-Aydi	0.91	71	*e*Pg	Pg	18 43 48.5	-0.8
CHOS	Chios island	0.94	321	*e*PG	Pg	18 43 49.5	-0.4
CHOS	Chios island	0.94	321	*e*Pg	Pg	18 43 49.5	-0.4
DAT	Datca	1.11	146	*e*PN	Pb	18 43 52.5	-0.4
DAT	Datca	1.11	146	*e*Pn	Pb	18 43 52.5	-0.4

ISCJB ***26*** *18:52:57.4±0.6,5˚.25N±0˚.08×94˚.89E±0˚.06,h100km, mb4.0/19,Error ellipse: s-maj=12.2km s-min=8.2km az=26.9*

IDC ***26*** *18:52:59.6±7.2,5˚.26N×94˚.82E,h104km±64km,mb3.7/17, mb1 3.8/18,mb1mx3.6/53,mbtmp4.1/18,ML4.2/1,Error ellipse: s-maj=38.4km s-min=12.6km az=52.0*

NEIC ***26*** *18:53:02.9±3.3,5˚.30N×94˚.91E,h135km±29km,mb4.0/2, Error ellipse: s-maj=24.9km s-min=7.1km az=53.0*

ISC 26 18:52:59.0±0.9,5˚.2N±0˚.1×94˚.9E±0˚.1,h100km,n38, σ0s76/35,mb4.0/19,Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRAB	Krabi	5.21	55	P	Pn	18 54 14.2	-0.4
SURT	Suratani	5.36	46	P	Pn	18 54 15.3	-1.3
TRTT	Trang	5.43	61	P	Pn	18 54 15.9	-1.7
SKLT	Songkhla	6.02	71	P	Pn	18 54 24.9	-0.7
SRAK	Srakaew	11.22	38	P	Pn	18 55 42.0	+5.7
PBKT	Sadao Pong	12.75	27	P	Pn	18 55 57.5	+0.9
CMAR	Chiang Mai Arr	13.73	16	P	Pn	18 56 11.4	+1.9
	0.3nm,0.3s,baz=207,slow=15,SNR=16						
PKI	Pulchoki	23.97	339	*e*P	P	18 58 04.5	-0.1
	2.5nm,0.3s						
PKIN	Phulchoki	23.98	339	*e*P	P	18 58 04.7	0.0
	3.5nm,0.4s						
LSA	Lhasa	24.59	352	*e*P	P	18 58 10.7	+0.3
	5.9nm,0.6s						
GKN	Gorkha	24.65	338	*e*P	P	18 58 10.0	-0.6
	6.2nm,0.4s						
KOLN	Koldanda	24.85	336	*e*P	P	18 58 11.7	-0.7
	7.1nm,0.5s						
PYUN	Piuthan	25.39	335	*e*P	P	18 58 16.6	-0.8
	8.6nm,0.2s						
H08S3	Diego Garcia H	25.74	240	T	T	19 25 17.2	
	baz=61,slow=76,SNR=72						
H08S2	Diego Garcia H	25.74	240	T	T	19 25 22.9	
	baz=61,slow=76,SNR=8.5						
H08S1	Diego Carcia H	25.76	240	T	T	19 25 18.5	
	baz=61,slow=76,SNR=76						
FITZ	Fitzroy Crossi	38.19	128	P	P	19 00 09.8	+0.6
	1.8nm,0.9s,baz=300,slow=8.1,SNR=2.9						
AAK	Ala-Archa	41.41	337	P	P	19 00 36.5	+0.8
	1.7nm,0.5s,baz=140,slow=7.7,SNR=8.4						
AAK	Ala-Archa	41.41	337	*e*P	P	19 00 36.8	+1.1
MKAR	Makanchi Array	42.81	347	P	P	19 00 46.5	-0.4
	1.7nm,0.6s,baz=168,slow=7.7,SNR=19						
KKAR	Karatay Array	43.44	334	*e*P	P	19 00 51.9	-0.2
	0.9nm,0.4s						
SONM	Songino Array	43.58	11	P	P	19 00 52.6	-0.5
	1.2nm,0.7s,baz=190,slow=8.4,SNR=6.9						
SONM				PcP	PcP	19 02 40.1	+1.0
	0.4nm,0.5s,baz=185,slow=3.7,SNR=3.3						
KSAR	Wonju Array Be	43.98	39	P	P	19 00 56.2	-0.1
KSRS	Korea Array	44.01	39	P	P	19 00 56.2	-0.4
	0.4nm,0.3s,baz=220,slow=9.4,SNR=3.3						
WRA	Warramunga Arr	46.16	124	P	P	19 01 14.5	+0.5
	2.4nm,0.6s,baz=303,slow=9.3,SNR=28						
WRAB	Tennant Creek	46.17	124	*e*P	P	19 01 14.3	+0.3
GEYT	Alibeck	46.66	319	P	P	19 01 17.4	-0.2
	1.6nm,0.5s,baz=140,slow=7.8,SNR=4.6						
KURBB	Kurchatov Arra	47.27	346	P	P	19 01 21.9	-0.2
	2.2nm,0.5s,baz=168,slow=7.3,SNR=15						
KURK	Kurchatov	47.33	346	P	P	19 01 21.9	-0.7
ASAR	Alice Springs	47.69	129	P	P	19 01 26.4	+0.6
	0.8nm,0.4s,baz=300,slow=8.0,SNR=55						
ZALV	Zalesovo Beam	49.25	352	P	P	19 01 37.0	-0.2
	4.8nm,0.5s,baz=170,slow=8.3,SNR=28						
BVAR	Borovoye Array	51.71	341	P	P	19 01 55.5	-0.3
	2.3nm,0.8s,baz=144,slow=8.0,SNR=10.0						
AKTO	Aktyubinsk	54.60	332	P	P	19 02 16.6	-0.4
	1.4nm,0.5s,baz=153,slow=14,SNR=7.3						
BRTR	Keskin Array B	64.71	312	P	P	19 03 25.8	-1.1
	0.4nm,0.5s,baz=129,slow=8.7,SNR=2.7						
FINES	FINESS Array B	75.37	332	P	P	19 04 31.3	-0.1
	1.8nm,0.9s,baz=116,slow=6.3,SNR=5.5						
ARCES	ARCESS Array B	77.98	340	P	P	19 04 46.2	+0.2
	1.7nm,0.7s,baz=99,slow=5.6,SNR=3.6						
GERES	GERESS Array B	80.27	319	P	P	19 04 59.3	+0.3
	0.6nm,0.5s,baz=115,slow=6.0,SNR=8.0						

EKA	Eskdalemuir Ar	90.30	326	P	P	19 05 49.1	+0.5
	0.4nm,0.5s,baz=104,slow=4.7,SNR=3.6						

IDC ***26*** *19:06:16.2±1.1,28˚.47S×68˚.88W,h0km,mb3.6/1, mb1 4.1/4,mb1mx3.8/29,mbtmp4.0/4,ML3.9/2,Error ellipse: s-maj=66.3km s-min=30.9km az=103.0*

ISCJB ***26*** *19:06:29.6±0.5,27˚.79S±0˚.04×69˚.28W±0˚.05,h130km±7km, mb3.3/1,Error ellipse: s-maj=7.4km s-min=5.5km az=156.9*

SJA ***26*** *19:06:30.5±0.4,27˚.88S×69˚.19W,h148km±3km,ML3.8, MW3.6*

GUC ***26*** *19:06:30.4±0.6,27˚.85S×69˚.13W,h80km,ML3.7*

ISC 26 19:06:30.7±0.8,27˚.77S±0˚.04×69˚.27W±0˚.05,h117km±8km, n29,σ1s45/43,1C-3D,Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CPCH	Copiapo	1.04	293	⇑*i* P	Pn	19 06 52.4	-0.6
CPCH				*e*S	Sn	19 07 08.2	-1.6
VCA	Vinchina	1.35	136	*e*P	Pn	19 06 57.3	+0.9
VCA				*e*S	Sn	19 07 18.1	+2.3
VACH	Vallenar	1.54	238	⇓*i* P	Pn	19 07 01.0	+2.6
VACH				*i* S	Sn	19 07 21.6	+2.1
LCO	Las Campanas	1.76	225	⇓*i* P	Pn	19 07 00.9	-0.4
LCO				*e*S	Sn	19 07 24.1	-0.7
LCO				IAML		19 07 24.9	
	comp=N,698nm,0.3s						
AGUA	GUANDACOL	1.84	158	*e*P	Pn	19 07 03.0	+0.8
AGUA				*e*S	Sn	19 07 27.1	+0.9
AROD	Rodeo	2.39	184	*e*P	Pn	19 07 10.6	+1.2
AROD				*e*S	Sn	19 07 40.2	+1.3
ACLC	CERRO LA CRUZ	2.62	129	*e*P	Pn	19 07 12.5	+0.3
ACLC				*e*S	Sn	19 07 43.7	-0.3
TLL	Tololo Astrono	2.74	209	⇓*i* P	Pn	19 07 13.1	-0.7
TLL				*i* S	Sn	19 07 45.7	-1.1
TLL				IAML		19 07 52.4	
	comp=E,305nm,0.5s						
ACCO	Cerro Coronel	2.81	176	*e*P	Pn	19 07 15.9	+1.1
ACCO				*e*S	Sn	19 07 49.1	+0.5
AMOG	MOGNA	3.23	168	*e*P	Pn	19 07 20.2	+0.2
AMOG				*e*S	Sn	19 07 56.8	-1.2
AVFE	Valle Fertil	3.29	152	*e*P	Pn	19 07 20.9	+0.1
AVFE				*e*S	Sn	19 07 57.9	-1.6
AVFE				IAML		19 08 01.4	
	comp=Z,290nm,0.5s						
FSA	Cafayete	3.37	61	*e*P	Pn	19 07 23.8	+1.7
APLL	PUNTA DE LOS L	3.55	138	*e*P	Pn	19 07 24.2	-0.1
RTLS	Leoncito	4.01	180	*e*P	Pn	19 07 31.0	+0.3
RTLS				*e*S	Sn	19 08 15.9	-1.2
ACHE	Chepes	4.07	147	*e*P	Pn	19 07 31.0	-0.3
ACHE				*e*S	Sn	19 08 15.9	-2.4
RTCV	Cerro Valdivia	4.13	171	*e*P	Pn	19 07 31.9	0.0
RTCV				*e*S	Sn	19 08 17.4	-2.0
AUSP	Uspallata	4.44	181	*e*P	Pn	19 07 36.8	+0.4
ASAL	Salagasta	4.82	176	*e*P	Pn	19 07 41.0	-0.3
ACAN	Cantantal	4.84	159	*e*P	Pn	19 07 40.9	-0.6
ACAN				*e*S	Sn	19 08 32.9	-3.6
ARCO	CERRO ARCO	5.06	177	IAML		19 08 46.6	
	comp=Z,36nm,0.3s						
LVC	Limon Verde	5.15	4	Pn	Pn	19 07 44.7	-1.4
	comp=Z,375nm,0.3s,baz=186,slow=9.7,SNR=14						
LVC				Sn	Sn	19 08 40.7	-3.9
	comp=Z,265nm,0.3s,baz=208,slow=20,SNR=8.5						
MRA	San Martin	5.56	147	*e*P	Pn	19 07 50.5	-0.8
LPAZ	La Paz	11.48	6	Pn	Pn	19 09 11.1	-0.7
	comp=Z,0.3nm,0.3s,baz=191,slow=8.2,SNR=8.9						
SIV	San Ignacio	13.97	35	Pn	Pn	19 09 40.5	-3.2
	comp=Z,0.5nm,0.3s,baz=223,slow=13,SNR=5.6						
TORD	Torodi Ar. Bea	79.82	69	P	P	19 18 26.9	+0.3
	comp=Z,0.5nm,0.7s,baz=263,slow=5.8,SNR=4.4						
ASAR	Alice Springs	124.19	206	PKP	PKPdf	19 25 16.2	0.0
	comp=Z,0.2nm,0.3s,baz=129,slow=1.6,SNR=9.2						
WRA	Warramunga Arr	127.35	208	PKP	PKPdf	19 25 22.8	+0.5
	comp=Z,0.3nm,0.3s,baz=155,slow=1.8,SNR=13						
ZALV	Zalesovo Beam	147.67	29	PKPbc	PKPbc	19 26 02.5	+1.4
	comp=Z,0.6nm,0.3s,baz=304,slow=3.3,SNR=5.0						
MKAR	Makanchi Array	150.71	42	PKPbc	PKPbc	19 26 10.2	+1.2
	comp=Z,0.9nm,0.7s,baz=329,slow=2.0,SNR=7.5						

ISCJB ***26*** *19:06:44.3±0.5,42˚.53N±0˚.04×141˚.50E±0˚.06, h122km±4km,mb3.7/4,Error ellipse: s-maj=8.8km s-min=5.2km az=136.9*

IDC ***26*** *19:06:44.7±7.3,42˚.54N×141˚.73E,h119km±57km,mb3.4/4, mb1 3.4/5,mb1mx3.1/39,mbtmp3.7/5,Error ellipse: s-maj=89.8km s-min=23.0km az=71.0*

JMA ***26*** *19:06:45.5±0.1,42˚.55N×141˚.48E,h114km±1km,M2.9*

ISC 26 19:06:45.2±0.9,42˚.53N±0˚.05×141˚.50E±0˚.05,h117km±6km, n20,σ0s55/33,mb3.7/4,Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JEW	Eniwo	0.31	353	P	Pn	19 07 01.7	-0.2
JEW				*e*S	Sn	19 07 13.9	-0.5
JNB	Noboribetsu	0.35	260	P	Pn	19 07 01.7	-0.3
JNB				*e*S	Sn	19 07 14.1	-0.5
JBT2	Biratori 2	0.68	69	P	Pn	19 07 04.1	0.0
JBT2				*e*S	Sn	19 07 19.3	+0.9
JKB	Kayabe	0.73	209	P	Pn	19 07 04.7	+0.2
JKB				*e*S	Sn	19 07 18.9	-0.1
JYM2	Yakumo 2	0.94	244	P	Pn	19 07 06.5

JYK				S	Sn	19 10 05.4	-0.2	
JFT	**Otama**	**1.50**	**241**	P	Pn	19 09 48.6	+0.2	
JFT				S	Sn	19 10 06.8	-0.1	
JYS	**Shirataka**	**1.52**	**270**	P	Pn	19 09 48.3	-0.4	
JYS				S	Sn	19 10 07.3	-0.1	
JRG	**Rokugo**	**1.56**	**318**	P	Pn	19 09 49.1	-0.2	
JRG				*eS*	Sn	19 10 09.4	+0.9	
JAH	**Hinai**	**2.21**	**332**	P	Pn	19 09 58.1	-0.1	
MJAR	**Matsushiro Arr**	**3.46**	**242**	Pn	Pn	19 10 18.0	+2.6	
	0.8nm,0.3s,baz=74,slow=13,SNR=7.5							
ASAJ	**Asahikawa**	**5.88**	**4**	Pn	Pn	19 10 58.9	+10	
	baz=200,slow=12							
H11N2	**WAKE ISLAND Hy**	**28.40**	**123**	T	T	19 45 29.4		
	baz=316,slow=75,SNR=4.8							
H11N1	**WAKE ISLAND Hy**	**28.41**	**124**	T	T	19 45 29.9		
	baz=316,slow=75,SNR=6.4							
H11N3	**WAKE ISLAND Hy**	**28.42**	**123**	T	T	19 45 30.6		
	baz=316,slow=75,SNR=6.5							
H11S1	**WAKE ISLAND Hy**	**29.16**	**126**	T	T	19 46 29.2		
	baz=318,slow=76,SNR=4.4							
H11S3	**WAKE ISLAND Hy**	**29.16**	**126**	T	T	19 46 25.4		
	baz=318,slow=76,SNR=4.8							
H11S2	**WAKE ISLAND Hy**	**29.18**	**126**	T	T	19 46 36.5		
	baz=318,slow=76,SNR=4.7							
WRA	**Warramunga Arr**	**58.33**	**188**	P	**P**	**19 19 16.1**	**+0.3**	
	0.5nm,0.5s,baz=8.5,slow=7.0,SNR=7.8							
ASAR	**Alice Springs**	**62.05**	**188**	P	**P**	**19 19 41.6**	**+0.4**	
	0.3nm,0.8s,baz=5.5,slow=8.3,SNR=5.3							

*IDC **26** 19:13:45.7±3.0,2˝.21S×100˝.84E, h0km, mb3.8/6, mb1 3.9/6, mb1mx3.6/32, mbtmp3.8/6, Error ellipse: s-maj=140.1km s-min=19.0km az=57.0*
*ISCJB **26** 19:13:53.1±0.5,2˝.23S±0˝.05×100˝.73E±0˝.05, h62km, mb3.8/6, Error ellipse: s-maj=7.9km s-min=6.1km az=139.4*
*DJA **26** 19:13:53.1±0.6,2˝S±3˝×10˝1E±˚, h16km±6km, M3.5/6, MLv3.5/6*

ISC 26 19:13:53.8±0.8,**2˝.23S**±0˝.05×**100˝.68E**±0˝.06,**h62**km,**n16,**
σ1°11/17,**mb3.8/6,Southern Sumatera**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PPSI	**Pulau Pagai**	**0.85**	**232**	P	**Pn**	**19 14 10.2**	**+0.1**
PPSI				S	**Sn**	**19 14 23.2**	**+1.1**
PDSI	**Padang**	**1.33**	**350**	P	**Pn**	**19 14 16.5**	**+0.1**
PDSI				S	**Sn**	**19 14 33.9**	**+0.7**
SDSI	**Sungai Dareh**	**1.49**	**30**	P	**Pn**	**19 14 19.1**	**+0.6**
PPI	**Padang Panjang**	**1.79**	**351**	P	**Pn**	**19 14 23.7**	**+1.2**
SISI	**Saibi**	**1.83**	**299**	P	**Pn**	**19 14 24.5**	**+1.5**
SISI				S	**Sn**	**19 14 45.9**	**+0.8**
KSI	**Kapahiang**	**2.37**	**127**	P	**Pn**	**19 14 32.1**	**+1.6**
KSI				S	**Sn**	**19 15 00.1**	**+1.6**
H08S2	**Diego Garcia H**	**28.58**	**258**	T	T	19 48 55.9	
	baz=82,slow=76,SNR=8.8						
H08S3	**Diego Garcia H**	**28.59**	**258**	T	T	19 48 57.7	
	baz=82,slow=76,SNR=8.6						
H08S1	**Diego Carcia H**	**28.60**	**258**	T	T	19 48 58.9	
	baz=82,slow=76,SNR=8.4						
WRA	**Warramunga Arr**	**37.29**	**121**	P	**P**	**19 20 58.4**	**-1.8**
	0.3nm,0.5s,baz=302,slow=9.0,SNR=7.5						
ASAR	**Alice Springs**	**38.57**	**126**	P	**P**	**19 21 09.6**	**-1.4**
	0.7nm,0.6s,baz=302,slow=7.8,SNR=25						
STKA	**Stephens Creek**	**48.49**	**132**	P	**P**	**19 22 30.2**	**-0.5**
	0.7nm,0.5s,baz=315,slow=13,SNR=2.9						
SONM	**Songino Array**	**50.11**	**5**	P	**P**	**19 22 42.4**	**-0.4**
	0.2nm,0.3s,baz=204,slow=6.3,SNR=2.9						
MKAR	**Makanchi Array**	**51.44**	**344**	P	**P**	**19 22 52.9**	**+0.2**
	1.0nm,0.4s,baz=158,slow=8.9,SNR=18						
ZALV	**Zalesovo Beam**	**57.52**	**349**	P	**P**	**19 23 36.7**	**0.0**
	0.5nm,0.3s,baz=157,slow=4.2,SNR=6.5						
TXAR	**Lajitas Array**	**144.47**	**38**	PKP	**PKPab**	**19 33 22.6**	**+0.2**
	0.5nm,0.7s,baz=250,slow=1.3,SNR=5.5						

*ISCJB **26** 19:14:04.9±0.3,10˝.81N±0˚.02×62˝.31W±0˚.02, h86km±3km, mb3.8/8, Error ellipse: s-maj=4.3km s-min=2.9km az=43.8*
*IDC **26** 19:14:05.2±2.8, 10˝.80N×62˝.23W, h75km±26km, mb3.6/8, mb1 3.7/9, mb1mx3.5/39, mbtmp3.9/9, Error ellipse: s-maj=22.1km s-min=20.0km az=51.0*
*FUNV **26** 19:14:07.7, 10˝.75N×62˝.27W, h72km, MW4.0*
*TRN **26** 19:14:08.3, 10˝.84N×62˝.16W, h70km, MD4.1*
TRN Felt in North Trinidad, MMI II,III.

ISC 26 19:14:05.6±0.7,**10˝.79N**±0˝.03×**62˝.30W**±0˝.03,**h82**km±6km,
n55,σ1°62/80,**mb3.9/8,10C-4D,Near coast of Venezuela**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GUIV	**Guiria**	**0.16**	**153**	⇓*eP*	**Pn**	**19 14 18.2**	**+0.8**
GUIV				*eS*	**Sn**	**19 14 25.8**	**-0.3**
TCE	**Chacachacare**	**0.54**	**100**	*eP*	**Pn**	**19 14 21.0**	**+1.1**
TCE				*eS*	**Sn**	**19 14 29.3**	**-1.1**
ALNG	**Atlantic LNG**	**0.85**	**135**	*eP*	**Pn**	**19 14 24.3**	**+1.3**
ALNG				*eS*	**Sn**	**19 14 36.9**	**+0.9**
GUNV	**Guanoco**	**0.89**	**225**	⇓*eP*	**Pn**	**19 14 25.3**	**+1.9**
GUNV				*eS*	**Sn**	**19 14 36.4**	**-0.4**
TRN	**Trinidad (W)**	**0.89**	**99**	⇑*iP*	**Pn**	**19 14 24.2**	**+0.8**
TRN				*eS*	**Sn**	**19 14 36.3**	**-0.5**
BUAY	**Buenos Aires**	**0.91**	**138**	*eP*	**Pn**	**19 14 26.6**	**+2.9**
BUAY				*eS*	**Sn**	**19 14 37.9**	**+0.8**
CRUV	**Carupano**	**0.93**	**263**	⇓*eP*	**Pn**	**19 14 24.8**	**+1.0**
CRUV				*eS*	**Sn**	**19 14 37.5**	**0.0**
TPP	**Pointe-a-Pierr**	**0.96**	**119**	⇑*iP*	**Pn**	**19 14 25.4**	**+1.2**
TPP				*eS*	**Sn**	**19 14 37.3**	**-0.8**
TBH	**Brigand Hill**	**1.25**	**104**	*eP*	**Pn**	**19 14 28.8**	**+1.0**
TBH				*eS*	**Sn**	**19 14 43.4**	**-1.1**
GRGR	**Grenville**	**1.47**	**25**	*eP*	**Pn**	**19 14 31.1**	**+0.5**
GRGR				*eS*	**Sn**	**19 14 49.6**	**0.0**
BOT	**Bacolet**	**1.60**	**76**	⇑*iP*	**Pn**	**19 14 32.7**	**+0.6**
BOT				*eS*	**Sn**	**19 14 51.0**	**-1.3**
TOSP	**Speyside**	**1.80**	**74**	*eP*	**Pn**	**19 14 35.0**	**+0.1**
TOSP				*eS*	**Sn**	**19 14 56.6**	**-0.5**
ORIV	**Oritupano**	**2.03**	**213**	⇑*eP*	**Pn**	**19 14 39.4**	**+1.4**
ORIV				*eS*	**Sn**	**19 15 02.7**	**+0.1**
PCRV	**Puerto La Cruz**	**2.38**	**255**	P	**Pn**	**19 14 44.1**	**+1.6**
	16nm,0.3s,baz=46,slow=7.8,SNR=30						
PCRV				S	**Sn**	**19 15 11.6**	**+0.6**
	20nm,0.3s,baz=234,slow=19,SNR=23						
PCRV	**Puerto La Cruz**	**2.38**	**255**	⇑*eP*	**Pn**	**19 14 44.2**	**+1.6**
PCRV				*eS*	**Sn**	**19 15 09.8**	**-1.2**
FCV	**Fort Charlotte**	**2.57**	**24**	⇑*iP*	**Pn**	**19 14 46.5**	**+1.4**
SVB	**Belmont**	**2.67**	**22**	*eP*	**Pn**	**19 14 47.5**	**+1.0**
SVB				*eS*	**Sn**	**19 15 16.6**	**-1.3**
SVV	**Soufriere Volc**	**2.72**	**23**	*eP*	**Pn**	**19 14 48.9**	**+1.6**
SSV	**Crater Summit**	**2.74**	**23**	*eP*	**Pn**	**19 14 49.2**	**+1.6**
PRGV	**PARIAGUAN**	**3.07**	**229**	⇓*eP*	**Pn**	**19 14 52.6**	**+0.7**
PRGV				*eS*	**Sn**	**19 15 27.2**	**-0.5**
MCLT	**Moule a Chique**	**3.19**	**24**	*eP*	**Pn**	**19 14 55.5**	**+2.0**
MCLT				*eS*	**Sn**	**19 15 29.0**	**-1.5**
CUPV	**Cœpira**	**3.51**	**258**	⇑*eP*	**Pn**	**19 14 59.5**	**+1.5**
CUPV				*eS*	**Sn**	**19 15 36.9**	**-1.6**
BIRV	**Birongo**	**3.92**	**266**	*eP*	**Pn**	**19 15 04.9**	**+1.5**
BIRV				*eS*	**Sn**	**19 15 46.4**	**-1.8**
FDF	**Fort de France**	**4.07**	**16**	*eP*	**Pn**	**19 15 08.1**	**+2.5**
FDF				*eS*	**Sn**	**19 15 50.9**	**-1.3**
MERV	**Las Mercedes**	**4.23**	**249**	*eP*	**Pn**	**19 15 08.9**	**+1.3**
MERV				*eS*	**Sn**	**19 15 54.5**	**-1.2**
DSHT	**Scott's Head**	**4.49**	**11**	*eP*	**Pn**	**19 15 12.7**	**+1.6**
DSHT	**Scott's Head**	**4.49**	**11**	*eS*	**Sn**	**19 16 00.5**	**-1.6**
BBL	**Barber's Block**	**4.77**	**10**	*eP*	**Pn**	**19 15 17.6**	**+2.5**
BBL	**Barber's Block**	**4.77**	**10**	*eS*	**Sn**	**19 16 08.9**	**-0.3**
DWS	**Wesley**	**4.84**	**11**	*eP*	**Pn**	**19 15 18.9**	**+2.9**
DWS	**Wesley**	**4.84**	**11**	*eS*	**Sn**	**19 16 09.4**	**-1.4**
LUEV	**Luepa**	**4.99**	**170**	⇓*eP*	**Pn**	**19 15 17.6**	**-0.6**
LUEV				*eS*	**Sn**	**19 16 10.0**	**-4.6**
TBG	**Guadaloupe-3**	**5.07**	**7**	*eP*	**Pn**	**19 15 21.2**	**+2.1**
TBG	**Guadaloupe-3**	**5.07**	**7**	*eS*	**Sn**	**19 16 16.0**	**-0.3**
MGG	**Marie-Galante**	**5.18**	**11**	*eP*	**Pn**	**19 15 22.9**	**+2.2**
MGG	**Marie-Galante**	**5.18**	**11**	*eS*	**Sn**	**19 16 17.3**	**-1.9**
TURV	**Turiamo**	**5.46**	**267**	*eP*	**Pn**	**19 15 26.1**	**+1.7**
DEG	**La Desirade**	**5.62**	**12**	*eP*	**Pn**	**19 15 28.4**	**+1.7**
DEG	**La Desirade**	**5.62**	**12**	*eS*	**Sn**	**19 16 27.8**	**-2.1**
MLYT	**Lee's Yard**	**5.89**	**1**	*eP*	**Pn**	**19 15 33.0**	**+2.6**
MLYT	**Lee's Yard**	**5.89**	**1**	*eS*	**Sn**	**19 16 36.0**	**-0.6**
BAUV	**El Baul**	**5.95**	**253**	⇓*eP*	**Pn**	**19 15 31.0**	**-0.2**
BAUV				*eS*	**Sn**	**19 16 33.1**	**-4.8**
MAPV	**Macapo**	**6.13**	**262**	*eP*	**Pn**	**19 15 33.6**	**-0.1**
MAPV				*eS*	**Sn**	**19 16 38.7**	**-3.8**
SMRT	**St. Maarten**	**7.25**	**354**	*eP*	**Pn**	**19 15 51.1**	**+2.2**
SOCV	**Socops**	**8.80**	**254**	⇓*eP*	**Pn**	**19 16 08.9**	**-1.2**
PTGA	**Pitinga**	**11.68**	**168**	P	**Pn**	**19 16 47.4**	**-1.9**
	7.1nm,0.3s,baz=353,slow=18,SNR=37						
PTGA				S	Sn	19 18 49.8	-8.1
	3.7nm,0.3s,baz=264,slow=20,SNR=11						
ATAH	**Atahualpa**	**23.96**	**223**	P	**P**	**19 19 14.7**	**+1.7**
	6.8nm,0.6s,baz=50,slow=8.5,SNR=3.6						
SIV	**San Ignacio**	**26.64**	**177**	P	**P**	**19 19 36.6**	**-0.2**
	2.3nm,0.5s,baz=358,slow=7.9,SNR=7.1						
LPAZ	**La Paz**	**27.52**	**192**	P	**P**	**19 19 45.8**	**+0.5**
	1.1nm,0.8s,baz=5.9,slow=10,SNR=5.1						
TXAR	**Lajitas Array**	**42.73**	**302**	P	**P**	**19 21 54.4**	**-0.7**
	0.4nm,0.6s,baz=116,slow=10,SNR=4.0						
ESDC	**Sonseca Array**	**58.91**	**50**	P	**P**	**19 23 55.9**	**-0.5**
	0.3nm,0.5s,baz=260,slow=9.0,SNR=4.4						
TORD	**Torodi Ar. Bea**	**62.50**	**81**	P	**P**	**19 24 21.2**	**+0.1**
	0.4nm,0.3s,baz=289,slow=6.1,SNR=8.8						
FINES	**FINESS Array B**	**79.83**	**29**	P	**P**	**19 26 05.2**	**+0.3**
	2.0nm,0.9s,baz=284,slow=5.6,SNR=4.6						
BRTR	**Keskin Array B**	**87.70**	**50**	P	**P**	**19 26 46.2**	**+0.5**
	0.7nm,0.6s,baz=282,slow=5.9,SNR=3.9						
CMAR	**Chiang Mai Arr**	**145.54**	**33**	PKPbc	**PKPdf**	**19 33 35.5**	**+0.1**
	0.5nm,0.5s,baz=306,slow=3.9,SNR=5.2						

*ISK **26** 19:22:47.4, 36˝.37N×28˚.03E, h6km, MD2.7*
*ISCJB **26** 19:22:48.9±0.7, 36˝.42N±0˝.04×28˚.04E±0˝.05, h22km±10km, Error ellipse: s-maj=7.3km s-min=5.8km az=29.8*
*CSEM **26** 19:22:48.4±0.3, 36˝.40N×28˚.05E, h15km, MD2.7, Error ellipse: s-maj=6.8km s-min=5.4km az=168.0*
*ATH **26** 19:22:48.0, 36˝.34N×28˚.15E, h31km±3km, ML1.7/2, Error ellipse: s-maj=7.3km s-min=1.5km az=74.0*

ISC 26 19:22:48.4±1.1,**36˝.39N**±0˝.03×**28˚.03E**±0˝.03,**h13**km±10km,
n19,σ0°46/28,**Dodecanese Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ARG	**Arkhangelos**	**0.19**	**155**	P	**Pb**	**19 22 53.7**	**-0.1**
ARG				S	**Sb**	**19 22 58.0**	**+0.6**
ARG	**Arkhangelos**	**0.19**	**155**	P	**Pb**	**19 22 53.7**	**-0.1**
ARG				S	**Sb**	**19 22 58.0**	**+0.6**
ARG				AML	AML	19 22 58.3	
	comp=N,345μm,0.3s						
ARG				AML	AML	19 22 58.3	
	comp=E,440μm,0.2s						
MRSB	**Marmaris-Mugla**	**0.35**	**23**	*e*PG	**Pg**	**19 22 55.2**	**-0.3**
MRSB				*e*SG	**Sg**	**19 23 01.0**	**+0.6**
DAT	**Datca**	**0.49**	**313**	*e*PG	**Pg**	**19 22 57.9**	**-0.3**
DAT				*e*SG	**Sg**	**19 23 05.4**	**+0.6**
DAT	**Datca**	**0.49**	**313**	*e*Pg	**Pg**	**19 22 57.9**	**-0.3**
DAT				*e*Sg	**Sg**	**19 23 05.4**	**+0.6**
DALY	**Dalyan (Mu¨la**	**0.66**	**50**	*e*PG	**Pg**	**19 23 00.8**	**-0.5**
DALY				*e*SG	**Sb**	**19 23 10.8**	**0.0**
DALY	**Dalyan (Mu¨la**	**0.66**	**50**	*e*Pg	**Pg**	**19 23 00.8**	**-0.5**
DALY				*e*Sg	**Sb**	**19 23 10.8**	**0.0**
NIS1	**Nisyros Isl.**	**0.71**	**287**	*e*PG	**Pb**	**19 23 02.6**	**-0.2**
NIS1	**Nisyros Isl.**	**0.71**	**287**	*e*Pg	**Pb**	**19 23 02.6**	**-0.2**
NIS1	**Nisyros Isl.**	**0.71**	**287**	P	**Pn**	**19 23 04.4**	**+0.1**
NIS1	**Nisyros Isl.**	**0.71**	**287**	P	**Pn**	**19 23 04.4**	**+0.1**
BODT	**Bodrum**	**0.88**	**319**	*e*PG	**Pb**	**19 23 05.3**	**-0.3**
BODT	**Bodrum**	**0.88**	**319**	*e*Pg	**Pb**	**19 23 05.3**	**-0.3**
FETY	**Fethiye**	**0.89**	**74**	*e*PG	**Pg**	**19 23 05.3**	**-0.3**
FETY	**Fethiye**	**0.89**	**74**	*e*Pg	**Pg**	**19 23 05.3**	**-0.3**
KARP	**Karpathos**	**1.10**	**220**	*e*PN	**Pb**	**19 23 08.3**	**-1.0**
KARP	**Karpathos**	**1.10**	**220**	*e*Pn	**Pb**	**19 23 08.3**	**-1.0**
KARP	**Karpathos**	**1.10**	**220**	P	**Pg**	**19 23 09.4**	**-0.2**
KARP				S	**Sn**	**19 23 24.6**	**+0.1**
KARP	**Karpathos**	**1.10**	**220**	P	**Pg**	**19 23 09.4**	**-0.2**
KARP				S	**Sn**	**19 23 24.6**	**+0.1**
KARP				AML	AML	19 23 28.6	
	comp=E,63μm,0.2s						
KARP				AML	AML	19 23 28.7	
	comp=N,64μm,0.1s						

*SJA **26** 19:50:57.5±0.4, 30˚.80S×72˚.12W, h52km±4km, ML3.9, MW3.9*
*GUC **26** 19:51:01.3±0.7, 30˚.75S×71˚.34W, h59km±6km, ML3.8*

ISC 26 19:50:59.5±2.0,**30˚.74S**±0˚.03×**71˚.50W**±0˚.08,**h12**km±12km,
n26,σ2°05/38,**1C,Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TLL	**Tololo Astrono**	**0.83**	**47**	*e*P	**Pn**	**19 51 17.4**	**+0.3**
TLL				*e*S	**Sn**	**19 51 29.7**	**+0.3**
TLL				IAML		19 51 33.8	
	comp=N,5μm,0.5s						
AROD	**Rodeo**	**1.84**	**73**	*e*P	**Pg**	**19 51 36.4**	**+1.6**
LCO	**Las Campanas**	**1.85**	**22**	⇑*i*P	**Pn**	**19 51 30.4**	**-0.9**
LCO				*i*S	**Sn**	**19 51 56.0**	**+1.2**
LCO				IAML		19 52 03.3	
	comp=E,737nm,1.1s						
ACCO	**Cerro Coronel**	**2.10**	**87**	*e*P	**Pg**	**19 51 40.6**	**+0.7**
ACDV	**Cuesta del Vie**	**2.13**	**75**	*e*P	**Pg**	**19 51 40.5**	**+0.1**
RTLS	**Leoncito**	**2.16**	**120**	*e*P	**Pg**	**19 51 40.3**	**-0.7**
RTLS				*i*P	**Sg**	**19 52 11.4**	**+2.3**
RTLS				*e*Sg	**Sg**	**19 52 11.4**	**+2.3**
VACH	**Vallenar**	**2.25**	**17**	*e*P	**Pb**	**19 51 40.7**	**+0.7**
VACH				*i*S	**Sb**	**19 52 08.4**	**+0.6**
ROCH	**El Roble**	**2.27**	**170**	*e*P	**Pn**	**19 51 36.6**	**-0.4**
ROCH				*i*S	**Sn**	**19 52 04.3**	**-0.6**
AUSP	**Uspallata**	**2.33**	**130**	*e*P	**Pb**	**19 51 41.9**	**+0.2**
AUSP				*e*S	**Sg**	**19 52 14.3**	**-0.3**
PEL	**Peldehue**	**2.50**	**164**	*e*P	**Pn**	**19 51 40.5**	**+0.5**
PEL				*e*S	**Sn**	**19 52 10.8**	**+0.4**
PEL				IAML		19 52 21.9	
	comp=N,489nm,0.8s						
AMOG	**MOGNA**	**2.59**	**95**	*e*P	**Pb**	**19 51 46.6**	**+0.7**
RTCV	**Cerro Valdivia**	**2.77**	**115**	*e*P	**Pb**	**19 51 48.5**	**-0.4**
CLCH	**Cerro Calan**	**2.77**	**163**	*e*P	**Pn**	**19 51 44.2**	**+0.4**
CLCH				IAML		19 52 34.3	
	comp=E,478nm,0.5s						
FCH	**Farellones**	**2.78**	**159**	*e*P	**Pn**	**19 51 45.6**	**+1.4**
FCH				*e*S	**Sn**	**19 52 18.5**	**+0.7**
FCH				IAML		19 52 33.3	
	comp=N,247nm,0.5s						
AGUA	**GUANDACOL**	**2.89**	**65**	*e*P	**Pb**	**19 51 50.5**	**-0.6**
AGUA				*e*S	**Sg**	**19 52 30.2**	**-2.2**
ANTU	**Antumapu**	**2.92**	**166**	*i*S	**Sn**	**19 52 20.5**	**-0.2**
ANTU				IAML		19 52 32.9	
	comp=E,490nm,0.5s						
ASAL	**Salagasta**	**2.93**	**130**	*e*P	**Pb**	**19 51 49.5**	**-2.2**
ARCO	**CERRO ARCO**	**3.03**	**134**	*e*P	**Pn**	**19 51 50.1**	**+2.7**
ARCO				IAML		19 51 57.1	
	comp=Z,207nm,0.2s						
AAGR	**Agrelo**	**3.26**	**137**	*e*P	**Pn**	**19 51 53.7**	**+3.1**
AAGR				*e*S	**Sb**	**19 52 35.2**	**-1.9**
AVFE	**Valle Fertil**	**3.48**	**90**	*e*P	**Pb**	**19 51 59.4**	**-1.8**
AVFE				IAML		19 53 01.3	
	comp=Z,126nm,0.5s						
VCA	**Vinchina**	**3.49**	**56**	*e*P	**Pb**	**19 51 59.0**	**-2.3**
VCA				*e*S	**Sb**	**19 52 44.2**	**+0.5**
VCA				IAML		19 52 59.2	
	comp=Z,296nm,0.4s						
ACAN	**Cantantal**	**3.99**	**114**	*e*P	**Pb**	**19 52 05.3**	**-4.4**
ACLC	**CERRO LA CRUZ**	**4.15**	**73**	*e*P	**Pb**	**19 52 08.5**	**-4.1**
ACLC				*e*S	**Sb**	**19 53 01.1**	**-1.7**
APLL	**PUNTA DE LOS L**	**4.30**	**87**	*e*P	**Pb**	**19 52 10.5**	**-4.6**
MRA	**San Martin**	**5.21**	**110**	*e*P	**Pn**	**19 52 21.9**	**+4.5**
TCA	**Tanti**	**5.96**	**98**	*e*P	Pn	19 52 32.8	+5.2

*WEL **26** 19:53:43.4±0.5, 36˝.02S×177˚.55E, h220km±5km, ML4.3/34, Error ellipse: s-maj=6.1km s-min=5.8km az=0.0*
*NEIC **26** 19:53:43.5±0.0, 36˝.01S×177˚.56E, h217km, MG4.3(WEL), After WEL.*
*IDC **26** 19:53:43.1±6.2, 35˝.80S×177˚.23E, h190km±68km, mb3.1/2, mb1 3.5/3, mb1mx3.1/24, mbtmp3.7/3, Error ellipse: s-maj=100.1km s-min=39.9km az=6.0*
*ISCJB **26** 19:53:44.1±1.0, 36˝.5S±0˝.1×177˚.8E±0˝.2, h260km±9km, mb3.1/2, Error ellipse: s-maj=24.9km s-min=15.3km az=31.2*

ISC 26 19:53:43.7±1.3,**36˝.5S**±0˝.1×**177˚.9E**±0˝.1,**h261**km±9km,**n96,**
σ0°91/108,**5C-6D,Off east coast of North Island**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MXZ	**Matakaoa Point**	**1.16**	**164**	Pn	**Pn**	**19 54 20.1**	**-0.6**
MXZ				Sn	**S**	**19 54 48.6**	**-1.5**
MXZ	**Matakaoa Point**	**1.16**	**164**	PN	**Pn**	**19 54 20.1**	**-0.6**
MXZ				SN	**S**	**19 54 48.6**	**-1.5**
MXZ				AML	AML	19 54 50.1	
HAZ	**Te Kaha**	**1.31**	**184**	PN	**Pn**	**19 54 21.2**	**-0.4**
HAZ					SN	**S**	**19 54 50.3**	**-1.4**
HAZ					AML	AML	19 54 56.8	
HAZ					AML	AML	19 54 59.1	
HAZ					AML	AML	19 54 59.1	
WMGZ	**Waiomatatini S**	**1.43**	**163**	Pn	**Pn**	**19 54 22.8**	**+0.3**
WMGZ				Sn	**S**	**19 54 52.5**	**-0.7**
WMGZ	**Waiomatatini S**	**1.43**	**163**	PN	**Pn**	**19 54 22.8**	**+0.3**
WMGZ				SN	**S**	**19 54 52.5**	**-0.7**
WMGZ				AML	AML	19 54 55.4	
PKGZ	**Pakihiroa**	**1.44**	**174**	PN	**Pn**	**19 54 22.9**	**+0.2**
RUGZ	**Raukumara Rang**	**1.52**	**187**	PN	**Pn**	**19 54 22.7**	**-0.6**
PUZ	**Puketiti**	**1.64**	**170**	Pn	**Pn**	**19 54 24.4**	**+0.3**
PUZ				Sn	**S**	**19 54 55.2**	**-0.9**
PUZ	**Puketiti**	**1.64**	**170**	PN	**Pn**	**19 54 24.4**	**+0.3**
PUZ				SN	**S**	**19 54 55.2**	**-0.9**
PUZ				AML	AML	19 55 13.2	
TWGZ	**Tauwhareparae**	**1.73**	**178**	Pn	**Pn**	**19 54 25.9**	**+1.2**
TWGZ				Sn	**S**	**19 54 58.0**	**+0.7**
TWGZ	**Tauwhareparae**	**1.73**	**178**	⇑PN	**Pn**	**19 54 25.9**	**+1.2**
TWGZ				SN	**S**	**19 54 58.0**	**+0.7**
TWGZ				AML	AML	19 55 01.5	
MWZ	**Matawai**	**1.90**	**189**	Pn	**Pn**	**19 54 26.8**	**+0.6**
MWZ	**Matawai**	**1.90**	**189**	PN	**Pn**	**19 54 26.8**	**+0.6**
MWZ				AML	AML	19 55 11.6	
MWZ				AML	AML	19 55 15.8	
URZ	**Urewera**	**1.91**	**199**	P	**Pn**	**19 54 26.4**	**+0.2**
	21nm,0.3s,baz=261,slow=8.3,SNR=162						
URZ				S	**S**	**19 54 59.5**	**-0.4**
	11nm,0.3s,baz=72,slow=20,SNR=17						
URZ	**Urewera**	**1.91**	**199**	Pn	**Pn**	**19 54 25.9**	**-0.3**
URZ				Sn	**S**	**19 54 59.6**	**-0.4**
URZ	**Urewera**	**1.91**	**199**	PN	**Pn**	**19 54 25.9**	**-0.3**
URZ				SN	**S**	**19 54 59.6**	**-0.4**
URZ				AML	AML	19 55 18.0	
TKGZ	**Te Karaka**	**1.99**	**181**	Pn	**Pn**	**19 54 27.8**	**+1.0**
TKGZ	**Te Karaka**	**1.99**	**181**	⇑PN	**Pn**	**19 54 27.8**	**+1.0**
TKGZ				AML	AML	19 55 04.2	
TKGZ				AML	AML	19 55 04.7	
CNGZ	**Carnagh Statio**	**2.04**	**173**	Pn	**Pn**	**19 54 28.8**	**+1.4**
CNGZ	**Carnagh Statio**	**2.04**	**173**	PN	**Pn**	**19 54 28.8**	**+1.4**
CNGZ				AML	AML	19 55 08.7	
CNGZ				AML	AML	19 55 10.0	
MUGZ	**Murupara**	**2.21**	**204**	⇑PN	**Pn**	**19 54 29.5**	**+0.5**
RIGZ	**Rimuhau**	**2.25**	**183**	PN	**Pn**	**19 54 30.4**	**+1.1**
RIGZ				AML	AML	19 55 11.5	
RIGZ				AML	AML	19 55 12.2	
SNGZ	**Shannon Statio**	**2.37**	**191**	Pn	**Pn**	**19 54 31.5**	**+1.1**
SNGZ	**Shannon Statio**	**2.37**	**191**	PN	**Pn**	**19 54 31.5**	**+1.1**
SNGZ				AML	AML	19 55 25.3	
SNGZ				AML	AML	19 55 29.6	
PRGZ	**Paritu Road**	**2.47**	**180**	Pn	**Pn**	**19 54 33.2**	**+1.9**
PRGZ	**Paritu Road**	**2.47**	**180**	PN	**Pn**	**19 54 33.2**	**+1.9**
PRGZ				AML	AML	19 55 15.6	
PRGZ				AML	AML	19 55 17.7	
KNZ	**Kokohu**	**2.57**	**184**	Pn	**Pn**	**19 54 33.5**	**+1.2**
KNZ	**Kokohu**	**2.57**	**184**	⇓PN	**Pn**	**19 54 33.5**	**+1.2**
KNZ				AML	AML	19 55 16.8	
MRHZ	**Matea Rd**	**2.65**	**206**	PN	**Pn**	**19 54 33.7**	**+0.5**
MRHZ				AML	AML	19 55 18.4	
MRHZ				AML	AML	19 55 18.6	
WHHZ	**Waihua**	**2.67**

KHZ	Kahutara	6.84	208	Pn	Pn	19 55 21.7	-0.7
KHZ	Kahutara	6.84	208	PN	Pn	19 55 21.7	-0.7
INZ	Inchbonnie	8.00	217	PN	Pn	19 55 35.9	-1.0
ASAR	Alice Springs	39.83	276	P	P	20 00 53.2	+1.1
	0.6nm,0.6s,baz=120,slow=7.7,SNR=18						
WRA	Warramunga Arr	41.39	281	P	P	20 01 05.2	+0.3
	0.5nm,0.5s,baz=120,slow=7.8,SNR=12						
FINES	FINESS Array B	149.35	334	PKPbc	PKPab	20 13 05.8	-0.5
	1.0nm,0.7s,baz=44,slow=4.4,SNR=3.2						

NEIC ***26*** *20:08:44.3±0.0, 52°.54N×173°.98W, h220km, mb4.7/53, After AEIC.*
BJI ***26*** *20:08:44.3, 52°.70N×174°.00W, h204km, mb4.3/10, mB4.8/10*
ISCJB ***26*** *20:08:46.3±0.3, 52°.89N±0°.04×174°.06W±0°.06, h217km, mb4.1/43, Error ellipse: s-maj=6.3km s-min=4.6km az=158.4*
IDC ***26*** *20:08:49.0±0.8, 52°.91N×174°.20W, h225km±5km, mb3.7/17, mb1 4.0/18, mb1mx3.5/60, mbtmp4.2/18, Error ellipse: s-maj=17.1km s-min=10.4km az=174.0*

ISC 26 20:08:47.8±0.5, 52°.8N±0°.1×173°.97W±0°.05, h217km, n244, σ1§26/252, mb4.4/45, Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ATKA	Atka Island	0.58	194	ePn	Pn	20 09 14.1	-3.1
GSTR	Great Sitkin T	1.45	243	ePn	Pn	20 09 19.9	-2.7
ADK	Adak	1.89	243	ePn	Pn	20 09 23.2	-3.2
NIKH	Nikolski High	3.11	84	ePn	Pn	20 09 38.3	-1.2
UNV	Unalaska Valle	4.61	73	ePn	Pn	20 09 56.6	-0.9
SPIA	Saint Paul Isl	4.91	24	ePn	Pn	20 10 01.1	-0.1
SDPT	Sand Point	8.35	67	ePn	Pn	20 10 43.8	-1.5
OHAK	Old Harbor	12.66	61	ePn	Pn	20 11 37.5	-2.7
SVW2	Sparrevohn	13.01	43	ePn	Pn	20 11 45.6	+1.1
KDAK	Kodiak Island	13.16	59	P	Pn	20 11 43.7	-2.6
	8.7nm,0.3s,baz=259,slow=7.0,SNR=54						
KDAK				S	S	20 14 05.3	-6.5
	0.4nm,0.3s,baz=319,slow=19,SNR=2.3						
TT01	Tatalina	13.89	36	ePn	Pn	20 11 53.9	-1.5
TTA	Tatalina	13.91	36	ePn	Pn	20 11 55.9	+0.2
RSO	Redoubt South	13.94	48	ePn	P	20 11 57.9	+0.1
HOM	Homer	14.16	52	ePn	Pn	20 11 58.3	-0.5
CNPM	China Poot	14.31	53	ePn	Pn	20 12 00.8	+0.2
SPU	Mount Spurr	14.55	46	ePn	P	20 12 06.1	+1.7
BRLK	Bradley Lake	14.55	52	ePn	Pn	20 12 02.5	-1.1
SUA	Susitna One	15.25	46	ePn	Pn	20 12 12.5	+0.4
	26nm,0.9s						
PPLA	Purkeypile	15.32	40	ePn	Pn	20 12 15.2	+2.2
	70nm,0.8s						
SEW	Seward	15.35	52	ePn	P	20 12 11.6	-1.5
	96nm,0.4s						
RC01	Rabbit Creek A	15.55	48	eP	P	20 12 15.5	+0.2
	17nm,0.4s						
CAST	Castle Rocks	15.64	38	eP	Pn	20 12 18.2	+1.5
	30nm,0.6s						
PMR	Palmer	16.01	47	eP	P	20 12 20.6	+0.3
	7.9nm,0.6s						
TRF	Thorofare Moun	16.34	40	eP	Pn	20 12 25.7	+0.4
	45nm,1.1s						
SML	Sawmill	16.44	47	eP	P	20 12 24.7	-0.5
	16nm,0.9s						
GLI	Glacier Island	16.69	50	eP	P	20 12 27.0	-0.9
	20nm,0.6s						
RND	Reindeer	16.89	41	eP	P	20 12 30.6	+0.5
	91nm,0.7s						
SCM	Sheep Creek Mo	16.89	47	eP	P	20 12 29.2	-1.0
	32nm,0.9s						
FID	Port Fidalgo	16.95	51	eP	P	20 12 29.5	-1.2
	38nm,0.6s						
MCK	McKinley	17.01	40	eP	P	20 12 32.2	+0.8
	77nm,0.6s						
EYAK	Cordova Ski Ar	17.24	52	eP	P	20 12 34.6	+0.8
	13nm,0.9s						
DHY	Denali Highway	17.35	43	eP	P	20 12 36.1	+0.9
	65nm,0.6s						
DIV	Divide	17.38	50	eP	P	20 12 35.7	+0.2
	23nm,0.9s						
KLU	Klutina	17.42	49	eP	P	20 12 34.4	-1.5
	20nm,0.6s						
WRH	Wood River Hil	17.69	38	eP	P	20 12 38.5	-0.3
	41nm,0.6s						
RAGM	Ragged Mountai	17.72	53	eP	P	20 12 39.1	-0.1
	17nm,0.6s						
MDM	Murphy Dome	17.89	37	eP	P	20 12 40.9	0.0
	34nm,0.5s						
CCB	Clear Creek Bu	17.89	38	eP	P	20 12 40.1	-0.7
	47nm,0.6s						
BMRM	Bremner River	17.89	51	eP	P	20 12 42.4	+1.4
	38nm,0.6s						
COLA	College	17.98	37	eP	P	20 12 42.5	+0.7
	42nm,0.4s						
HDA	Harding Lake	18.10	39	eP	P	20 12 42.5	-0.7
	97nm,0.6s						
PAX	Paxson	18.11	45	eP	P	20 12 43.9	+0.5
	28nm,0.6s						
IL1	Eielson Array	18.29	38	eP	P	20 12 43.9	-1.4
ILAR	Eielson Array	18.29	38	P	P	20 12 43.8	-1.4
	5.6nm,0.3s,baz=233,slow=8.5,SNR=53						
ILB	Eielson Array	18.29	38	eP	P	20 12 43.9	-1.4
COLD	Coldfoot	18.55	30	eP	P	20 12 47.8	-0.2
	18nm,0.6s						
DOT	Dot Lake	18.95	43	eP	P	20 12 52.4	+0.1
	155nm,0.6s						
TOLK	Toolik Lake Re	19.65	27	P	Pn	20 13 01.8	-2.3
	baz=228,SNR=12						
FYU	Fort Yukon	19.77	35	eP	P	20 13 01.9	+0.8
	16nm,0.7s						
PCA	Pinnacle	19.85	55	eP	P	20 13 02.0	-0.1
	27nm,0.7s						
EGAK	Eagle	20.54	41	eP	P	20 13 09.5	+0.2
DAWY	Dawson	21.04	44	eP	P	20 13 14.0	-0.7
	23nm,0.8s						
INK	Inuvik	24.60	35	P	P	20 13 47.6	-0.1
	4.3nm,0.4s,baz=229,slow=5.7,SNR=19						
INK	Inuvik	24.60	35	eP	P	20 13 47.9	+0.2
	15nm,1.0s						
DLBC	Dease Lake	25.09	59	P	P	20 13 54.8	+2.5
	1.5nm,0.5s,baz=294,slow=8.8,SNR=4.9						
YKA	Yellowknife Ar	32.09	49	P	P	20 14 54.5	+0.5
	1.0nm,0.4s,baz=276,slow=7.5,SNR=6.3						
A04D	Lummi Island	32.12	76	P	P	20 14 56.3	+1.8
	baz=297						
B05A	Bryant	32.69	77	P	P	20 15 01.1	+1.7
	baz=298						
B08A	Colville Reser	34.27	75	eP	P	20 15 15.2	+2.0
	17nm,0.8s						
HAWA	Hanford	35.13	78	eP	P	20 15 21.7	+1.3
	18nm,1.3s						
EDM	Edmonton	35.52	64	eP	P	20 15 23.9	+0.1
	19nm,0.6s						
NEW	Newport	35.61	74	P	P	20 15 25.9	+1.3
	15nm,0.5s,baz=296,slow=8.0,SNR=18						
NEW	Newport	35.61	74	P	P	20 15 25.9	+1.3
	baz=299,SNR=9.2						
NEW	Newport	35.61	74	eP	P	20 15 25.6	+1.0
	16nm,0.8s						
E09A	Wood Farm, Sta	35.89	77	eP	P	20 15 28.7	+1.8
	13nm,1.1s						
H11N2	WAKE ISLAND Hy	36.17	212	T	T	20 52 25.4	
	baz=18,slow=76,SNR=49						
H11N3	WAKE ISLAND Hy	36.18	212	T	T	20 52 21.2	
	baz=18,slow=76,SNR=34						
H11N1	WAKE ISLAND Hy	36.19	212	T	T	20 52 26.7	
	baz=18,slow=76,SNR=38						
BSMT	Bassoo Peak	37.18	73	eP	P	20 15 38.7	+0.7
O03D	Paynes Creek	37.18	88	P	P	20 15 39.6	+1.6
	baz=308						
BLMT	Blacktail Moun	37.34	73	eP	P	20 15 39.5	+0.1
H11S1	WAKE ISLAND Hy	37.38	211	T	T	20 53 54.2	
	baz=17,slow=76,SNR=35						
H11S2	WAKE ISLAND Hy	37.39	211	T	T	20 53 55.7	
	baz=17,slow=76,SNR=31						
H11S3	WAKE ISLAND Hy	37.39	211	T	T	20 53 55.8	
	baz=17,slow=76,SNR=22						
WVOR	Wild Horse Val	37.83	83	eP	P	20 15 41.8	-1.6
	4.2nm,0.7s						
MSO	Missoula	38.20	74	P	P	20 15 47.4	+1.0
	baz=302,SNR=6.0						
MSO	Missoula	38.20	74	eP	P	20 15 45.2	-1.3
	8.7nm,0.6s						
BEKR	Beckworth	38.32	88	eP	P	20 15 48.6	+1.0
	4.3nm,0.8s						
PAHR	Pah Rah Range	39.01	87	eP	P	20 15 53.3	0.0
	6.8nm,0.7s						
PNTR	Pine Nut	39.26	88	eP	P	20 15 54.4	-1.1
	17nm,0.8s						
CMB	Columbia Colle	39.45	90	eP	P	20 15 56.0	-0.9
	12nm,1.6s						
HLID	Hailey	39.72	79	P	P	20 16 00.5	+1.4
	baz=305,SNR=6.6						
HLID	Hailey	39.72	79	eP	P	20 16 00.8	+1.7
	8.3nm,1.0s						
WAKR	Walker	39.73	89	eP	P	20 15 57.8	-1.5
	8.5nm,0.7s						
MCMT	McKenzie Canyo	39.93	76	eP	P	20 16 02.0	+1.1
EGMT	Eagleton	39.99	70	P	P	20 16 02.1	+0.9
	baz=302						
BOZ	Bozeman (W)	40.22	74	P	P	20 16 04.0	+0.9
	baz=304,SNR=7.3						
BOZ	Bozeman (W)	40.22	74	eP	P	20 16 01.3	-1.9
	11nm,0.8s						
H17A	Grant Village	41.51	75	P	P	20 16 15.5	+1.6
	baz=305						
VES	Vestal, Richgr	41.67	91	P	P	20 16 16.4	+1.5
	baz=312						
RLMT	Red Lodge	41.86	74	P	P	20 16 18.4	+1.8
	baz=305						
PKM	Mcpherson Peak	41.86	93	P	P	20 16 18.9	+2.1
	baz=312						
CWC	Cottonwood Cre	41.88	90	P	P	20 16 19.0	+2.1
	baz=311						
ISA	Isabella, Lake	42.16	91	P	P	20 16 20.7	+1.7
	baz=312						
R11A	Troy Canyon, C	42.16	86	P	P	20 16 21.1	+2.0
	baz=310,SNR=9.7						
R11A	Troy Canyon, C	42.16	86	eP	P	20 16 20.9	+1.8
	5.4nm,1.0s						
MPMC	Manual Prospec	42.49	90	P	P	20 16 23.9	+2.1
	baz=312						
TPNV	Topopah Spring	42.66	88	P	P	20 16 25.3	+2.2
	baz=311,SNR=12						
DUG	Dugway, Tooele	42.68	82	P	P	20 16 24.9	+1.7
	baz=308						
LRMC	Laurel Mtn Rad	42.76	91	P	P	20 16 25.4	+1.5
	baz=312						
EDW2	Edwards Air Fo	42.97	92	P	P	20 16 27.3	+1.8
	baz=312						
BW06	Boulder Array	43.06	77	P	P	20 16 27.4	+1.0
	baz=307						
PDAR	Pinedale Array	43.06	77	P	P	20 16 27.6	+1.2
	13nm,0.7s,baz=296,slow=4.8,SNR=16						
GSC	Goldstone, Bar	43.41	90	P	P	20 16 30.4	+1.3
	baz=312,SNR=6.7						
BFSC	Mount Baldy Ra	43.61	92	P	P	20 16 32.4	+1.7
	baz=313						
TUQ	Turquoise Moun	43.86	89	P	P	20 16 34.7	+2.0
	baz=312						
HEC	Hector Ludlow	44.02	90	P	P	20 16 35.8	+2.0
	baz=312						
GMRC	Granite Mounta	44.45	90	P	P	20 16 39.3	+1.9
	baz=312,SNR=5.0						
BELC	Belle Mtn. Jos	44.78	91	P	P	20 16 41.1	+1.2
	baz=313						
K22A	Casper	44.92	75	P	P	20 16 41.8	+0.9
	baz=307						
IRM	Iron Mountain	45.19	90	P	P	20 16 44.6	+1.6
	baz=313						
BC3	Big Chuckawall	45.35	91	P	P	20 16 45.2	+0.9
	baz=313						
O20A	White River Ci	45.46	79	P	P	20 16 46.3	+1.0
	baz=309						
SWSC	Sam W. Stewart	45.62	92	P	P	20 16 47.8	+1.4
	baz=314						
IKP	In-Ko-Pah, Jac	45.64	92	P	P	20 16 48.4	+1.8
	baz=314						
PDMCI	Parker Dam,Lak	45.70	89	P	P	20 16 48.7	+1.7
	baz=313						
Y12C	Blythe	45.85	90	P	P	20 16 50.1	+2.0
	baz=313						
GLA	Glamis	46.14	91	P	P	20 16 52.2	+1.7
	baz=314						
WUAZ	Wupatki	46.57	86	P	P	20 16 55.8	+1.8
	baz=312						
MVCO	Mesa Verde	47.18	82	P	P	20 17 00.2	+1.5
	baz=311						
ISCO	Idaho Springs	47.23	77	P	P	20 17 00.8	+1.6
	baz=310						
214A	Organ Pipe Nat	48.12	90	P	P	20 17 07.3	+1.5
	baz=314						
D33A	AnnSam, Waubun	48.26	64	P	P	20 17 07.5	+0.9
	baz=307						
C34A	RKJ Ranch, Bem	48.46	62	P	P	20 17 08.1	0.0
	baz=307						
E33A	Westby DABS, E	48.56	64	P	P	20 17 09.8	+0.9
	baz=308						
OGNE	Ogallala	48.61	74	P	P	20 17 10.4	+1.0
	baz=310						
SDCO	Great Sand Dun	48.63	79	P	P	20 17 11.5	+1.7
	baz=311,SNR=5.3						
J31A	Geddes	49.02	69	P	P	20 17 12.8	+0.4
	baz=309						
TUC	Tucson	49.11	89	P	P	20 17 15.1	+1.8
	baz=314						
T25A	Trinidad	49.68	79	P	P	20 17 19.4	+1.7
	baz=312,SNR=5.3						
T25A	Trinidad	49.68	79	eP	P	20 17 19.7	+2.0
	14nm,1.0s						
HHC	Hu-ho-hao-te	50.14	288	eP	P	20 17 21.5	+0.5
HHC				pP	pP	20 18 07.0	-1.4
HHC				PP	PP	20 19 16.8	-1.3
HHC				PcS	PcS	20 22 34.5	0.0
HHC				S	S	20 24 16.5	+0.9
HHC				sS	sS	20 25 37.3	-1.5
HHC				ScS	ScS	20 26 45.8	-3.3
HHC				SS	SS	20 27 49.0	-2.2
HHC				pmax	pmax		
	comp=Z,19nm,1.9s						
HHC				pmax	pmax		
	comp=Z,90nm,5.1s						
FRB	Frobisher Bay	50.24	34	P	P	20 17 21.1	-0.2
	16nm,0.9s,baz=323,slow=8.2,SNR=4.2						
C38A	Sawbill Land.	50.36	60	P	P	20 17 23.0	+0.6
	baz=308						
121A	Cookes Peak, D	50.78	86	P	P	20 17 27.1	+1.1
	baz=314						
CBKS	Cedar Bluff	51.33	74	P	P	20 17 30.2	+0.3
	baz=312						
CBKS	Cedar Bluff	51.33	74	eP	P	20 17 29.8	-0.1
	24nm,0.7s						
F39A	Loretta	51.68	62	P	P	20 17 32.7	+0.4
	baz=310						
NJ2	Nanjing	51.72	274	eP	P	20 17 33.0	+0.3
NJ2				pmax	pmax		
	comp=Z,13nm,0.6s						
K36A	Gilmore City	51.86	67	P	P	20 17 33.1	-0.6
	baz=311						
D41A	Chassel	52.20	60	P	P	20 17 36.6	+0.5
	baz=310						
MNTX	Cornudas Mount	52.81	85	P	P	20 17 42.5	+1.6
	baz=315,SNR=6.9						
MNTX	Cornudas Mount	52.81	85	eP	P	20 17 41.8	+0.9
	4.2nm,0.8s						
P35A	Duane Minner,	53.02	71	P	P	20 17 41.9	-0.3
	baz=312						
L38A	Oak Wood Farm,	53.02	67	P	P	20 17 42.1	-0.1
	baz=311						
R34A	Isabella, Hill	53.13	73	P	P	20 17 43.2	+0.2
	baz=312						
N37A	Lee Faris, Mou	53.23	69	P	P	20 17 43.8	+0.1
	baz=312						
M38A	Pleasantville	53.36	68	P	P	20 17 43.9	-0.8
	baz=312						
E43A	Lone Tree Farm	53.46	59	P	P	20 17 44.6	-0.7
	baz=311						
O37A	Wolven Farm, M	53.66	69	P	P	20 17 46.7	-0.2
	baz=312						
J41A	Loganville	53.84	64	P	P	20 17 47.3	-0.7
	baz=312						
P37A	Lathrop	53.93	70	P	P	20 17 48.3	-0.5
	baz=312						
T34A	McClaskey Farm	54.03	74	P	P	20 17 49.4	-0.1
	baz=313						
O38A	Galt	54.07	69	P	P	20 17 49.6	-0.2
	baz=312						
S35A	Otter Creek Ra	54.09	73	P	P	20 17 49.8	-0.1
	baz=313						
N39A	Derby Farms, D	54.11	68	P	P	20 17 49.7	-0.4
	baz=312						
R36A	Gordon, Harris	54.12	72	P	P	20 17 49.9	-0.3
	baz=313						
K41A	Shullsburg	54.18	65	P	P	20 17 49.9	-0.7
	baz=312						
P38A	Dawn	54.37	70	P	P	20 17 51.2	-0.8
	baz=313						
L41A	Preston	54.43	65	P	P	20 17 51.4	-0.9
	baz=312						
S36A	Lake Cedric, C	54.48	73	P	P	20 17 52.6	-0.1
	baz=313						
T35A	Sooner Cattle	54.49	74	P	P	20 17 52.2	-0.8
	baz=313						
T36A	Boggs Farm, Ca	54.77	73	P	P	20 17 53.8	-1.0
	baz=313						
Q38A	Cooks Store, C	54.77	70	P	P	20 17 54.1	-0.8
	baz=313						
S37A	Fort Scott	54.90	72	P	P	20 17 54.6	-1.1
	baz=313						
P39B	Salisbury	54.91	69	P	P	20 17 55.0	-0.8
	baz=313						
O40A	La Belle	54.98	68	P	P	20 17 55.4	-0.9
	baz=313						
Q39A	Willow Grove F	55.08	70	P	P	20 17 56.3	-0.8
	baz=313						
P40A	Paris	55.28	69	P	P	20 17 57.9	-0.5
	baz=313						
T37A	Cheneyville 18	55.28	73	P	P	20 17 57.8	-0.7
	baz=314						
W35A	Tecumseh	55.50	76	P	P	20 18 00.5	+0.4
	baz=314						
S38A	Stockton	55.52	72	P	P	20 17 58.7	-1.4
	baz=314,SNR=5.5						
TX31	Lajitas Ar. Si	55.53	86	eP	P	20 18 01.0	+0.5
TXAR	Lajitas Array	55.53	86	P	P	20 18 01.7	+1.2
	3.0nm,0.8s,baz=302,slow=5.1,SNR=26						
V36A	Jenks	55.60	75	P	P	20 18 00.1	-0.7
	baz=314						
TUL1	Leonard	55.61	74	P	P	20 18 00.1	-0.7
	baz=314						
U37A	Salina	55.66	73	P	P	20 18 00.9	-0.3
	baz=314						
T38A	Diamond	55.70	72	P	P	20 18 00.9	-0.6
	baz=314						
P41A	Barry, Barry	55.74	68	P	P	20 18 01.6	-0.1
	baz=313						
S39A	Bolivar	55.81	71	P	P	20 18 00.8	-1.5
	baz=314						
W36A	Wetumka	55.89	75	P	P	20 18 03.3	+0.4
	baz=314						
R40A	Maddies Statio	56.00	70	P	P	20 18 02.3	-1.3
	baz=314,SNR=6.0						
V37A	Hulbert	56.01	74	P	P	20 18 03.3	-0.3
	baz=314						
U38A	Gravette	56.06	73	P	P	20 18 03.3	-0.7
	baz=314						
Q41A	Truxton	56.14	69	P	P	20 18 03.4	-1.1
	baz=314						
T39A	Clever	56.24	72	P	P	20 18 04.1	-1.2
	baz=314						
W37B	Quinton	56.35	75	P	P	20 18 05.7	-0.5
	baz=314						
V38A	Canehill	56.45	73	P	P	20 18 06.6	-0.2
	baz=314						
R41A	Rosebud	56.50	69	P	P	20 18 06.0	-1.1
	baz=314						
U39A	Green Forest	56.62	72	P	P	20 18 07.6	-0.5
	baz=314						
T40A	Mansfield	56.65	71	P	P	20 18 07.1	-1.1
	baz=314						
X37A	Clayton	56.77	75	P	P	20 18 09.7	+0.6
	baz=315						
S41A	Jillco Farms,	56.79	70	P	P	20 18 08.0	-1.2
	baz=314,SNR=9.4						
R42A	Luebbering	56.85	69	P	P	20 18 08.8	-0.8
	baz=314						
W38A	Poteau	56.94	74	P	P	20 18 10.2	-0.1
	baz=315						
U40A	Yellville	57.01	72	P	P	20 18 09.7	-1.0
	baz=314						
Q43A	New Douglas	57.01	68	P	P	20 18 10.2	-0.5
	baz=314						
Z36A	Blue Ridge	57.07	77	P	P	20 18 10.2	-1.0
	baz=315						
ARCES	ARCESS Array B	57.18	352	P	P	20 18 11.7	+0.3
	3.2nm,1.0s,baz=20,slow=8.8,SNR=3.3						
ARCES				pP	PcP	20 19 02.2	-1.0
	1.7nm,0.8s,baz=14,slow=4.1,SNR=2.1						
S42A	Caledonia	57.20	69	P	P	20 18 11.1	-1.0
	baz=314						
W39A	Magazine	57.28	74	P	P	20 18 12.4	-0.2
	baz=315						
334A	Lometa	57.37	80	P	P	20 18 13.5	+0.1
	baz=316						
V40A	Witts Springs	57.41	72	P	P	20 18 12.5	-1.1
	baz=315,SNR=6.9						
U41A	Viola	57.55	71	P	P	20 18 13.3	-1.2
	baz=315						
X39A	Fountain Ranch	57.57	74	P	P	20 18 14.7	+0.1
	baz=315						
W40A	Ferguson Farm,	57.70	73	P	P	20 18 15.2	-0.3
	baz=315						
S43A	Fulton Ridge,	57.75	69	P	P	20 18 15.1	-0.7
	baz=314						
V41A	Mountainview	57.81	72	P	P	20 18 15.4	-0.9
	baz=315,SNR=5.1						
MIAR	Mount Ida	57.85	74	P	P	20 18 17.0	+0.3
	baz=315						
MIAR	Mount Ida	57.85	74	eP	P	20 18 15.5	-1.1
	10.0nm,0.8s						
Z38A	Mt. Pleasant	57.94	76	P	P	20 18 17.1	-0.2
	baz=315						
T43A	Greenville	57.97	70	P	P	20 18 16.9	-0.5
	baz=315						
W41B	Gary Mavity, V	58.19	73	P	P	20 18 18.1	-0.8
	baz=315						
V42A	Cord	58.24	71	P	P	20 18 18.1	-1.2
	baz=315						
138A	Matatall Enter	58.30	77	P	P	20 18 20.4	+0.6
	baz=316						
X40A	Basin Creek Fa	58.33	74	P	P	20 18 20.0	+0.1
	baz=315						
V45A	Humboldt	59.68	70	P	P	20 18 28.3	-0.8
	baz=316						
KURBB	Kurchatov Arra	60.27	316	P	P	20 18 31.3	-1.7
	0.3nm,0.5s,baz=44,slow=6.8,SNR=5.0						
KURBB				pP	pP	20 19 22.1	0.0
	0.8nm,0.8s,baz=42,slow=6.9,SNR=4.9						
OXF	Oxford	60.30	71	eP	P	20 18 33.7	+0.3
	37nm,1.0s						
N54A	Moraine State	60.87	60	P	P	20 18 36.4	-0.8
	baz=316						
WMQ	Urumqi	61.04	305	P	P	20 18 40.0	+1.7
WMQ				pP	pP	20 19 26.8	-0.8
WMQ				sP	sP	20 19 49.0	-2.2
WMQ				pmax	pmax		
	comp=Z,10.0nm,0.9s						
WMQ				pmax	pmax		
	comp=Z,100nm,4.1s						
Y46A	Houston	61.06	71	P	P	20 18 38.8	+0.2
	baz=316						
MKAR	Makanchi Array	61.45	311	P	P	20 18 39.9	-1.1
	0.2nm,0.7s,baz=36,slow=7.1,SNR=2.5						
MKAR				pP	pP	20 19 30.9	+0.6
	0.7nm,0.8s,baz=34,slow=5.4,SNR=4.1						
Y47A	UCPARC, Winfie	61.63	71	P	P	20 18 42.1	-0.3
	baz=316						
BVAR	Borovoye Array	61.70	322	P	P	20 18 42.2	-0.3
	0.7nm,0.5s,baz=48,slow=6.3,SNR=5.1						
BVAR				pP	pP	20 19 32.7	+0.9
	1.9nm,0.8s,baz=53,slow=7.6,SNR=3.8						
Z48A	Northport	62.18	71	P	P	20 18 45.5	-0.5
	baz=317						
SSPA	Standing Stone	62.21	59	eP	P	20 18 46.4	+0.4
	23nm,1.0s						
147A	Livingston	62.28	72	P	P	20 18 46.4	-0.2
	baz=317						
ARU	Arti	62.93	330	pP	pP	20 19 40.8	+0.7
	1.4nm,0.5s,baz=56,slow=3.5,SNR=2.6						
GYA	Guiyang	63.10	279	eP	P	20 18 52.8	+0.5
GYA				pP	pP	20 19 41.3	-0.6
GYA				sP	sP	20 20 03.5	-1.9
GYA				PP	PP	20 21 16.0	+2.4
GYA				ScP		20 23 10.5	
GYA				S	S	20 27 05.8	+0.1
GYA			

KSH	**Kashi**	**69.99**	**309**	*e*P	**P**	**20 19 39.0**	**+3.3**
KSH				pP	pP	20 20 28.0	+1.7
KSH				PP	PP	20 22 20.0	+7.0
KSH				S	**S**	**20 28 27.8**	**-0.3**
KSH				pmax	pmax		
	comp=Z,64nm,3.5s						
KSH				LR	LR		
	comp=N,120nm,7.7s						
KSH				LR	LR		
	comp=E,120nm,6.1s						
KSH				LR	LR		
	comp=Z,130nm,4.8s						
CMAR	**Chiang Mai Arr**	**73.79**	**279**	P	**P**	**20 19 57.9**	**-0.5**
	0.4nm,0.4s,baz=23,slow=5.9,SNR=3.9						
AKASG	**Malin Array Be**	**75.06**	**345**	P	**P**	**20 20 03.8**	**-1.4**
	0.4nm,0.4s,baz=10,slow=5.3,SNR=2.4						
AKASG				pP	**pP**	**20 20 56.9**	**+0.5**
	0.6nm,0.4s,baz=14,slow=6.0,SNR=2.3						
DPC	**Dobruska-Polom**	**76.89**	**353**	*e*pP	pP	20 21 08.9	+1.8
KHC	**Kasperske Hory**	**78.27**	**355**	epP	pP	20 21 17.0	+2.0
GERES	**GERESS Array B**	**78.55**	**355**	P	**P**	**20 20 24.4**	**-0.5**
	0.3nm,0.7s,baz=8.9,slow=9.5,SNR=4.6						
GERES				pP	**pP**	**20 21 17.7**	**+1.1**
	0.6nm,0.7s,baz=27,slow=6.6,SNR=3.9						
WRA	**Warramunga Arr**	**85.12**	**228**	P	**P**	**20 20 58.6**	**-0.6**
	1.7nm,0.5s,baz=32,slow=5.8,SNR=46						
ESDC	**Sonseca Array**	**87.52**	**8**	P	**P**	**20 21 09.9**	**-1.0**
	0.2nm,0.4s,baz=360,slow=2.3,SNR=3.0						
ESDC				pP	**pP**	**20 22 04.8**	**+1.1**
	0.4nm,0.5s,baz=353,slow=4.7,SNR=3.6						
AS01	**Alice Springs**	**88.55**	**226**	*e*P	**P**	**20 21 15.5**	**-0.2**
AS31	**Alice Springs**	**88.57**	**226**	*e*P	**P**	**20 21 16.2**	**+0.4**
ASAR	**Alice Springs**	**88.57**	**226**	P	**P**	**20 21 15.8**	**+0.1**
	4.6nm,0.7s,baz=23,slow=4.7,SNR=72						
MAW	**Mawson**	**149.43**	**219**	PKPbc	**PKPbc**	**20 28 09.9**	**+0.4**
	3.1nm,0.7s,baz=28,slow=2.1,SNR=8.8						

*ISCJB **26** 20:11:24.9±0.7,39.°64N±0.°05×38.°67E±0.°05,h12km, Error ellipse: s-maj=7.6km s-min=5.2km az=12.5*
*CSEM **26** 20:11:24.4±0.2,39.°66N×38.°68E,h2km,MD2.7, Error ellipse: s-maj=6.6km s-min=5.2km az=41.0*
*DDA **26** 20:11:24.2,39.°65N×38.°71E,h7km,Md2.7*
*ISK **26** 20:11:25.2,39.°64N×38.°68E,h14km, MD2.7*

ISC 26 20:11:24.8±1.1,39.°63N±0.°04×38.°69E±0.°03,h12km,n19, σ0°56/22,Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
REFA	**Refahiye_ERZ˜**	**0.24**	**165**	*i* P	**Pg**	**20 11 29.2**	**-0.8**
REFA	**Refahiye_ERZ˜**	**0.24**	**165**	P	**Pg**	**20 11 29.2**	**-0.8**
KEMA	**Kemaliye**	**0.39**	**203**	*i* P	**Pg**	**20 11 32.3**	**-0.3**
KEMA	**Kemaliye**	**0.39**	**203**	P	**Pg**	**20 11 32.3**	**-0.3**
KELT	**Kelkit**	**0.68**	**40**	*i* P	**Pg**	**20 11 37.2**	**-0.8**
KELT	**Kelkit**	**0.68**	**40**	P	**Pg**	**20 11 37.2**	**-0.8**
CUZAR	**Zara_SIVAS**	**0.75**	**290**	*i* P	**Pg**	**20 11 39.1**	**-0.3**
CUZAR	**Zara_SIVAS**	**0.75**	**290**	P	**Pg**	**20 11 39.1**	**-0.3**
ERZN	**Erzincan**	**0.80**	**93**	*e*PG	**Pb**	**20 11 41.4**	**+0.6**
ERZN				*e*SG	**Sb**	**20 11 52.8**	**+1.2**
PTK	**Pertek**	**0.92**	**143**	*e*PG	**Pb**	**20 11 43.5**	**+0.7**
PTK				*e*SG	**Sn**	**20 11 56.6**	**-0.3**
PTK	**Pertek**	**0.92**	**143**	*e*Pg	**Pb**	**20 11 43.5**	**+0.7**
PTK				*e*Sg	**Sn**	**20 11 56.6**	**-0.3**
CUKAN	**kangal_SIVAS**	**0.99**	**252**	*i* P	**Pg**	**20 11 43.9**	**-0.1**
CUKAN	**kangal_SIVAS**	**0.99**	**252**	P	**Pg**	**20 11 43.9**	**-0.1**
ELZG	**Elazig**	**1.16**	**168**	*i* P	**Pb**	**20 11 46.7**	**-0.1**
ELZG	**Elazig**	**1.16**	**168**	P	**Pb**	**20 11 46.7**	**-0.1**
SVSK	**Karacayir**	**1.33**	**283**	*e*PN	**Pb**	**20 11 49.8**	**+0.1**
SVSK	**Karacayir**	**1.33**	**283**	*e*Pn	**Pb**	**20 11 49.8**	**+0.1**
DARE	**Darende-Malaty**	**1.41**	**222**	*e*PN	**Pb**	**20 11 51.2**	**+0.1**
DARE	**Darende-Malaty**	**1.41**	**222**	*e*Pn	**Pb**	**20 11 51.2**	**+0.1**

*ISCJB **26** 20:17:42.3±0.7,38.°91N±0.°04×33.°39E±0.°05,h3km±7km, Error ellipse: s-maj=7.5km s-min=5.9km az=156.8*
*CSEM **26** 20:17:42.3±0.1,38.°93N×33.°38E,h2km,MD2.8, Error ellipse: s-maj=4.0km s-min=3.3km az=155.0*
*DDA **26** 20:17:42.3,38.°94N×33.°43E,h7km,Md2.8*
*ISK **26** 20:17:42.1,38.°92N×33.°41E,h6km,MD2.8*

ISC 26 20:17:42.6±1.0,38.°93N±0.°03×33.°41E±0.°03,h7km±9km, n29,σ0°37/31,Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SERE	**Sereflikochisa**	**0.12**	**82**	*e*PG	**Pg**	**20 17 45.2**	**-0.1**
SERE				*e*SG	**Sg**	**20 17 47.4**	**+0.2**
SERE	**Sereflikochisa**	**0.12**	**82**	*e*Pg	**Pg**	**20 17 45.2**	**-0.1**
SERE				*e*Sg	**Sg**	**20 17 47.4**	**+0.2**
AKSY	**AKSARAY - Alti**	**0.39**	**135**	*i* P	**Pg**	**20 17 50.0**	**-0.3**
KKUL	**Konya-Kulu**	**0.45**	**303**	*i* P	**Pg**	**20 17 51.3**	**0.0**
KKUL	**Konya-Kulu**	**0.45**	**303**	P	**Pg**	**20 17 51.3**	**0.0**
CHBY	**Cihanbeyli**	**0.53**	**229**	*e*PG	**Pg**	**20 17 52.7**	**-0.1**
CHBY	**Cihanbeyli**	**0.53**	**229**	*e*Pg	**Pg**	**20 17 52.7**	**-0.1**
AFSR	**Af˘ar-Bala (A**	**0.58**	**333**	*e*PG	**Pg**	**20 17 53.7**	**-0.1**
AFSR	**Af˘ar-Bala (A**	**0.58**	**333**	*e*Pg	**Pg**	**20 17 53.7**	**-0.1**
SULT	**Sultanhani-AKS**	**0.73**	**173**	*e*PG	**Pg**	**20 17 56.5**	**-0.1**
SULT	**Sultanhani-AKS**	**0.73**	**173**	*e*Pg	**Pg**	**20 17 56.5**	**-0.1**
CDAG	**Cicekdag**	**1.02**	**47**	*i* P	**Pg**	**20 18 01.8**	**-0.4**
CDAG	**Cicekdag**	**1.02**	**47**	P	**Pg**	**20 18 01.8**	**-0.4**
LOD	**Lodumlu**	**1.08**	**333**	*e*PN	**Pb**	**20 18 03.4**	**-0.2**
LOD	**Lodumlu**	**1.08**	**333**	*e*Pn	**Pb**	**20 18 03.4**	**-0.2**
KDHN	**Kadinhani**	**1.09**	**248**	*i* P	**Pg**	**20 18 02.7**	**-0.8**
KDHN	**Kadinhani**	**1.09**	**248**	P	**Pg**	**20 18 02.7**	**-0.8**
KONT	**Konya--Tatoy**	**1.28**	**220**	*e*PN	**Pb**	**20 18 06.8**	**-0.2**
KONT	**Konya--Tatoy**	**1.28**	**220**	*i* P	**Pg**	**20 18 07.1**	**0.0**
KONT	**Konya--Tatoy**	**1.28**	**220**	*e*Pn	**Pb**	**20 18 06.8**	**-0.2**
CORM	**Corum**	**1.57**	**37**	*e*PN	**Pb**	**20 18 11.3**	**-0.6**
CORM	**Corum**	**1.57**	**37**	*e*Pn	**Pb**	**20 18 11.4**	**-0.6**
CMDR	**Camlidere-ANKA**	**1.72**	**336**	*i* P	**Pb**	**20 18 14.9**	**+0.3**
COAL	**Corum-Alaca**	**1.80**	**42**	*i* P	**Pb**	**20 18 15.7**	**-0.3**
COAL	**Corum-Alaca**	**1.80**	**42**	P	**Pb**	**20 18 15.7**	**-0.3**
BNN	**Bunyan**	**1.91**	**92**	*e*PN	**Pn**	**20 18 16.1**	**+0.5**
BNN	**Bunyan**	**1.91**	**92**	*e*Pn	**Pn**	**20 18 16.1**	**+0.5**
KOZT	**Kozan**	**2.39**	**126**	*e*PN	**Pn**	**20 18 22.7**	**+0.5**
KOZT	**Kozan**	**2.39**	**126**	*e*Pn	**Pn**	**20 18 22.7**	**+0.5**

IDC 26 20:32:38.9±48.0,15°.79S×176°.42W,h0km,mb3.8/3, mb1 4.0/3,mb1mx3.6/32,mbtmp3.8/3,Error ellipse: s-maj=892.0km s-min=168.2km az=77.0,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**41.33**	**240**	P	P	20 40 26.8	+0.2
	1.0nm,0.5s,baz=90,slow=10,SNR=5.6						
WRA	**Warramunga Arr**	**46.02**	**257**	P	P	20 41 11.3	-0.4
	0.2nm,0.5s,baz=93,slow=7.7,SNR=5.9						
ASAR	**Alice Springs**	**47.23**	**252**	P	P	20 41 13.8	-0.2
	2.1nm,0.6s,baz=88,slow=8.2,SNR=40						

IDC 26 20:38:47.6±1.6,1°.52N×127°.10E,h0km,mb3.7/4, mb1 3.8/5,mb1mx3.5/44,mbtmp3.7/5,ML3.6/1,Error ellipse: s-maj=111.7km s-min=19.4km az=70.0, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**19.55**	**184**	P	Pn	20 43 18.7	+0.5
	0.1nm,0.3s,baz=359,slow=8.0,SNR=3.5						
WRA	**Warramunga Arr**	**22.48**	**162**	P	P	20 43 48.8	+0.1
	1.4nm,0.4s,baz=339,slow=11,SNR=18						
ASAR	**Alice Springs**	**25.89**	**166**	P	P	20 44 20.3	-1.1
	0.3nm,0.5s,baz=350,slow=7.9,SNR=7.3						
MKAR	**Makanchi Array**	**59.58**	**326**	P	P	20 48 53.4	+0.3
	0.6nm,0.4s,baz=129,slow=8.8,SNR=7.6						
KURBB	**Kurchatov Arra**	**63.79**	**328**	P	P	20 49 21.3	-0.2
	0.8nm,0.7s,baz=128,slow=6.2,SNR=8.6						

*NEIC **26** 20:47:34.0±0.0,60.°49N×140.°28W,h10km,ML2.8(OTT), ML3.0(AEIC), After OTT.*

PGC 26 20:47:34.1±0.0,60.°49N×140.°28W,h10km,ML2.8/7, 140km Nnw of Yakutat, Ak Southeastern Alaska, Southeastern Alaska

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PCA	**Pinnacle**	**0.39**	**179**	P	Pg	20 47 41.4	-0.5
PCA				S	Sg	20 47 47.4	+0.4
CTGM	**Chitina Glacie**	**0.71**	**313**	P	Pg	20 47 46.5	-1.3
CTGM				S	Sg	20 47 56.3	-0.8
PNL	**Peninsula**	**0.93**	**151**	P	Pg	20 47 49.7	-2.4
PNL				S	Sg	20 48 03.1	-1.0
YUK3	**Moose Creek**	**1.30**	**356**	Pn	Pn	20 47 57.5	-1.0
YUK3				Sg	Sn	20 48 16.0	0.0
YUK2	**White River**	**1.33**	**348**	Pn	Pn	20 47 58.1	-0.8
YUK2				Sg	Sg	20 48 17.0	-0.1
YUK1	**Sand Pete Hill**	**1.68**	**356**	Pn	Pn	20 48 03.6	0.0
YUK1				Sg	Sb	20 48 26.6	+0.2
BVCY	**Beaver Creek**	**1.96**	**352**	Pn	Pn	20 48 06.5	-0.9
BVCY				Sg	Sb	20 48 33.6	-0.7
BMRM	**Bremner River**	**2.18**	**285**	*e*Pn	Pn	20 48 07.5	-2.9
BMRM				*e*Sn	Sn	20 48 33.7	-3.9
PLBC	**Pleasant Camp**	**2.22**	**116**	Pn	Pn	20 48 09.6	-1.4
PLBC				Sn	Sn	20 48 37.0	-1.5
PLBC				Sg	Sg	20 48 43.7	-1.7
WHY	**Whitehorse**	**2.67**	**84**	Pn	Pn	20 48 16.4	-0.9
WHY				Sn	Sn	20 48 49.6	-0.1
SKAG	**Skagway**	**2.69**	**110**	*e*Pn	Pn	20 48 16.3	-1.1
DIV	**Divide**	**2.77**	**286**	Pn	Pn	20 48 15.8	-2.8
DIV				Sn	Sn	20 48 47.9	-4.2
DIV	**Divide**	**2.77**	**286**	*e*Pn	Pn	20 48 16.3	-2.3
DIV				*e*Sn	Sn	20 48 47.7	-4.4
PAX	**Paxson**	**3.51**	**318**	*e*Pn	Pn	20 48 27.6	-1.2
DAWY	**Dawson**	**3.62**	**6**	Pn	Pn	20 48 30.0	-0.2
DAWY				Sn	Sn	20 49 11.5	-1.4
DAWY	**Dawson**	**3.62**	**6**	*e*Pn	Pn	20 48 29.8	-0.4
DOT	**Dot Lake**	**3.64**	**332**	*e*Pn	Pn	20 48 31.8	+1.3
EGAK	**Eagle**	**4.33**	**355**	*e*Pn	Pn	20 48 38.9	-0.9

*ISK **26** 21:02:37.8,40.°81N×30.°26E,h9km,MD2.8*
*ISCJB **26** 21:02:38.4±0.5,40.°80N±0.°05×30.°24E±0.°05,h11km, Error ellipse: s-maj=7.1km s-min=4.2km az=27.9*
*CSEM **26** 21:02:38.7±0.1,40.°79N×30.°24E,h10km,MD2.8, Error ellipse: s-maj=4.3km s-min=2.4km az=19.0*
*DDA **26** 21:02:38.5,40.°82N×30.°29E,h30km,Md2.6*

ISC 26 21:02:38.8±1.0,40.°81N±0.°03×30.°24E±0.°03,h11km,n42, σ0°36/44,Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KAND	**Kocaeli-Kandir**	**0.29**	**353**	*i* P	**Pb**	**21 02 46.0**	**0.0**
KAND	**Kocaeli-Kandir**	**0.29**	**353**	P	**Pb**	**21 02 46.0**	**0.0**
GULT	**Gulveren**	**0.43**	**151**	*e*PG	**Pg**	**21 02 47.2**	**0.0**
GULT				*e*SG	**Sg**	**21 02 53.0**	**+0.2**
GULT	**Gulveren**	**0.43**	**151**	*e*Pg	**Pg**	**21 02 47.2**	**0.0**
GULT				*e*Sg	**Sg**	**21 02 53.0**	**+0.2**
HRT	**Hereke**	**0.44**	**272**	*e*PG	**Pg**	**21 02 47.6**	**+0.2**
HRT	**Hereke**	**0.44**	**272**	*e*Pg	**Pg**	**21 02 47.6**	**+0.2**
SAHE	**Sakarya_HENDEK**	**0.47**	**84**	*i* P	**Pg**	**21 02 47.9**	**0.0**
SAHE	**Sakarya_HENDEK**	**0.47**	**84**	P	**Pg**	**21 02 47.9**	**0.0**
ADVT	**Abdulvahap**	**0.53**	**226**	*e*PG	**Pg**	**21 02 49.0**	**-0.2**
ADVT	**Abdulvahap**	**0.53**	**226**	*e*Pg	**Pg**	**21 02 49.0**	**-0.2**
SILT	**Sile**	**0.57**	**308**	*e*PG	**Pg**	**21 02 49.6**	**-0.3**
SILT	**Sile**	**0.57**	**308**	*e*Pg	**Pg**	**21 02 49.6**	**-0.3**
BTAS	**Taskesti**	**0.62**	**112**	*i* P	**Pg**	**21 02 50.9**	**+0.1**
BTAS	**Taskesti**	**0.62**	**112**	P	**Pg**	**21 02 50.9**	**+0.1**
MDUB	**Mudurnu**	**0.80**	**114**	*e*PG	**Pg**	**21 02 53.3**	**-0.9**
MDUB	**Mudurnu**	**0.80**	**114**	*e*Pg	**Pg**	**21 02 53.3**	**-0.9**
BUY	**Buyukada**	**0.85**	**274**	*e*PG	**Pg**	**21 02 54.6**	**-0.6**
BUY	**Buyukada**	**0.85**	**274**	*i* P	**Pb**	**21 02 56.0**	**+0.4**
BUY	**Buyukada**	**0.85**	**274**	*e*Pg	**Pg**	**21 02 54.6**	**-0.6**
BUY	**Buyukada**	**0.85**	**274**	P	**Pb**	**21 02 56.0**	**+0.4**
GEMT	**Gemlik**	**0.88**	**246**	*e*PG	**Pg**	**21 02 55.3**	**-0.5**
GEMT	**Gemlik**	**0.88**	**246**	*e*Pg	**Pg**	**21 02 55.3**	**-0.5**
KAVV	**Kandilli-Istan**	**0.93**	**286**	*e*PG	**Pg**	**21 02 56.5**	**-0.3**
ISK	**Istanbul-Kandi**	**0.93**	**287**	*e*PG	**Pg**	**21 02 56.4**	**-0.4**
ISK	**Istanbul-Kandi**	**0.93**	**287**	*e*Pg	**Pg**	**21 02 56.4**	**-0.4**
IGD	**Bursa**	**0.96**	**236**	*i* P	**Pg**	**21 02 57.4**	**+0.1**
KLYT	**Kilyos**	**1.01**	**297**	*e*PG	**Pg**	**21 02 58.1**	**-0.2**
KLYT	**Kilyos**	**1.01**	**297**	*e*Pg	**Pg**	**21 02 58.1**	**-0.2**
SBT5	**Esenkoy-Cinarc**	**1.05**	**261**	*e*PG	**Pb**	**21 02 58.5**	**-0.4**
ARMT	**Armutlu**	**1.08**	**258**	*e*PN	**Pb**	**21 02 59.0**	**-0.4**
ARMT	**Armutlu**	**1.08**	**258**	*e*Pn	**Pb**	**21 02 59.0**	**-0.4**
MDNY	**Mudanya-Bursa**	**1.12**	**248**	*e*PN	**Pb**	**21 03 00.1**	**-0.1**
MDNY	**Mudanya-Bursa**	**1.12**	**248**	*e*Pn	**Pb**	**21 03 00.1**	**-0.1**
SBT2	**Guzelce-Avcila**	**1.31**	**274**	*e*PN	**Pn**	**21 03 03.1**	**+0.2**
CTKS	**Kestanelik-??a**	**1.38**	**289**	*e*PN	**Pn**	**21 03 04.2**	**+0.2**
CTKS	**Kestanelik-??a**	**1.38**	**289**	*e*Pn	**Pn**	**21 03 04.2**	**+0.2**
TVSB	**Tavsanli**	**1.48**	**204**	*e*PN	**Pn**	**21 03 05.7**	**+0.3**
TVSB	**Tavsanli**	**1.48**	**204**	*e*Pn	**Pn**	**21 03 05.7**	**+0.3**
KCTX	**Karacabey (Bur**	**1.54**	**250**	*e*PN	**Pn**	**21 03 06.3**	**+0.2**
KCTX	**Karacabey (Bur**	**1.54**	**250**	*e*Pn	**Pn**	**21 03 06.3**	**+0.2**
SLVT	**Silivri**	**1.59**	**286**	*e*PN	**Pn**	**21 03 07.3**	**+0.4**
SLVT	**Silivri**	**1.59**	**286**	*e*Pn	**Pn**	**21 03 07.3**	**+0.4**

*IDC **26** 21:18:18.3±0.8,2°.99N×126°.18E,h0km,mb4.1/9, mb1 4.2/11,mb1mx3.9/46,mbtmp4.0/11,ML3.3/2,Error ellipse: s-maj=45.5km s-min=15.2km az=62.0*
*ISCJB **26** 21:18:25.4±0.7,3°.1N±0°.1×126°.4E±0°.1,h72km,mb3.9/9, Error ellipse: s-maj=22.3km s-min=9.5km az=42.5*

ISC 26 21:18:27.4±0.8,3°.0N±0°.2×126°.4E±0°.2,h72km,n11, σ0°89/15,mb4.0/8,Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SIJI	**Sorong**	**6.20**	**128**	Pn	**Pn**	**21 19 54.6**	**-1.7**
	1.2nm,0.3s,baz=356,slow=16,SNR=1.0						
SIJI				Sn	**Sn**	**21 21 07.5**	**+1.7**
	19nm,0.3s,baz=186,slow=3.9,SNR=1.4						
JAY	**Jayapura**	**15.30**	**111**	Pn	**Pn**	**21 21 59.4**	**0.0**
	0.1nm,0.3s,baz=90,slow=20,SNR=1.9						
FITZ	**Fitzroy Crossi**	**21.00**	**182**	P	**P**	**21 23 05.1**	**0.0**
	4.0nm,0.5s,baz=14,slow=9.4,SNR=6.5						
WRA	**Warramunga Arr**	**24.11**	**161**	P	**P**	**21 23 36.0**	**-0.5**
	4.8nm,0.5s,baz=341,slow=10,SNR=80						
WRA				PcP	**PcP**	**21 27 17.1**	**+0.8**
	0.3nm,0.5s,baz=336,slow=2.3,SNR=4.7						
ASAR	**Alice Springs**	**27.51**	**165**	P	**P**	**21 24 06.8**	**-0.4**
	1.2nm,0.5s,baz=350,slow=7.4,SNR=40						
ASAR				PcP	**PcP**	**21 27 24.5**	**+0.4**
	0.2nm,0.4s,baz=352,slow=1.8,SNR=4.4						
STKA	**Stephens Creek**	**37.58**	**159**	P	**P**	**21 25 35.3**	**+0.3**
	8.5nm,0.7s,baz=331,slow=7.8,SNR=18						
MKAR	**Makanchi Array**	**57.96**	**326**	P	**P**	**21 28 11.8**	**-0.7**
	1.0nm,0.6s,baz=117,slow=8.2,SNR=13						
MKAR				PcP	**PcP**	**21 29 05.0**	**+1.1**
	0.3nm,0.5s,baz=94,slow=4.9,SNR=2.5						
ZALV	**Zalesovo Beam**	**61.08**	**333**	P	**P**	**21 28 33.3**	**-0.4**
	0.4nm,0.3s,baz=134,slow=6.4,SNR=5.1						
VNDA	**Vanda**	**82.76**	**173**	P	**P**	**21 30 43.4**	**+0.3**
	0.6nm,0.8s,baz=306,slow=8.0,SNR=2.7						
MAW	**Mawson**	**82.98**	**200**	P	**P**	**21 30 43.9**	**-0.4**
	0.5nm,0.2s,baz=30,slow=8.1,SNR=3.5						
AKASG	**Malin Array Be**	**92.25**	**321**	P	**P**	**21 31 29.9**	**+0.4**
	0.1nm,0.2s,baz=62,slow=6.4,SNR=5.0						

IDC 26 21:42:09.9±46.0,16°.03S×173°.18W,h0km,mb3.9/3, mb1 4.0/3,mb1mx3.6/27,mbtmp3.9/3,Error ellipse: s-maj=886.8km s-min=187.5km az=79.0,Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**43.91**	**241**	P	P	21 50 19.3	+0.7
	1.4nm,0.9s,baz=107,slow=11,SNR=2.9						
WRA	**Warramunga Arr**	**49.91**	**257**	P	P	21 51 05.0	-0.7
	0.3nm,0.5s,baz=96,slow=8.0,SNR=13						
ASAR	**Alice Springs**	**50.12**	**252**	P	P	21 51 07.2	-0.1
	2.3nm,0.4s,baz=88,slow=8.1,SNR=45						

*DDA **26** 21:45:35.8,39.°66N×38.°60E,h7km,Md2.5*
*ISCJB **26** 21:45:36.7±0.6,39.°63N±0.°05×38.°67E±0.°05,h12km, Error ellipse: s-maj=7.9km s-min=5.6km az=22.8*
*CSEM **26** 21:45:36.7±0.8,39.°65N×38.°69E,h2km,MD2.5, Error ellipse: s-maj=21.5km s-min=16.5km az=20.0*
*ISK **26** 21:45:36.0,39.°64N×38.°68E,h6km,MD2.8*

ISC 26 21:45:36.2±1.2,39.°64N±0.°04×38.°66E±0.°03,h12km,n23, σ0°45/24,Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
REFA	**Refahiye_ERZ˜**	**0.25**	**161**	*i* P	**Pg**	**21 45 41.7**	**+0.1**
REFA	**Refahiye_ERZ˜**	**0.25**	**161**	P	**Pg**	**21 45 41.7**	**+0.1**
KEMA	**Kemaliye**	**0.39**	**200**	*i* P	**Pg**	**21 45 43.8**	**-0.2**
KEMA	**Kemaliye**	**0.39**	**200**	P	**Pg**	**21 45 43.8**	**-0.2**
KELT	**Kelkit**	**0.69**	**42**	*i* P	**Pg**	**21 45 49.3**	**-0.3**
KELT	**Kelkit**	**0.69**	**42**	P	**Pg**	**21 45 49.3**	**-0.3**
CUZAR	**Zara_SIVAS**	**0.73**	**290**	*i* P	**Pb**	**21 45 51.5**	**+0.5**
CUZAR	**Zara_SIVAS**	**0.73**	**290**	P	**Pb**	**21 45 51.5**	**+0.5**
ERZN	**Erzincan**	**0.82**	**93**	*e*PG	**Pg**	**21 45 51.8**	**-0.3**
TNCL	**Tunceli-Merkez**	**0.86**	**127**	*i* P	**Pb**	**21 45 53.5**	**+0.3**
TNCL	**Tunceli-Merkez**	**0.86**	**127**	P	**Pb**	**21 45 53.5**	**+0.3**
PTK	**Pertek**	**0.94**	**142**	*e*PG	**Pb**	**21 45 54.6**	**+0.1**
PTK				*e*SG	**Sb**	**21 46 07.4**	**+0.5**
PTK	**Pertek**	**0.94**	**142**	*e*Pg	**Pb**	**21 45 54.6**	**+0.1**
CUKAN	**kangal_SIVAS**	**0.98**	**251**	*i* P	**Pg**	**21 45 54.0**	**-1.1**
CUKAN	**kangal_SIVAS**	**0.98**	**251**	P	**Pg**	**21 45 54.0**	**-1.1**
ELZG	**Elazig**	**1.16**	**167**	*i* P	**Pb**	**21 45 58.4**	**0.0**
ELZG	**Elazig**	**1.16**	**167**	P	**Pb**	**21 45 58.4**	**0.0**
SVSK	**Karacayir**	**1.31**	**283**	*e*PN	**Pg**	**21 46 01.5**	**+0.1**
SVSK	**Karacayir**	**1.31**	**283**	*e*Pn	**Pg**	**21 46 01.5**	**+0.1**
DARE	**Darende-Malaty**	**1.40**	**221**	*e*PN	**Pg**	**21 46 03.1**	**-0.1**
YEDI	**Yedisu-Bingol**	**1.47**	**97**	*e*PN	**Pb**	**21 46 03.7**	**+0.1**
BINT	**Bingol**	**1.61**	**118**	*e*Pn	**Pg**	**21 46 06.9**	**-0.2**
BNGB	**Bing˜¶l**	**1.69**	**112**	*e*PN	**Pb**	**21 46 06.9**	**-0.5**

*CSEM **26** 21:49:07.1,38.°91N×21.°92E,h11km,ML1.3/4*
ATH 26 21:49:07.1,38.°91N×21.°92E,h11km,±3km,ML1.3/4,Error ellipse: s-maj=3.4km s-min=0.9km az=293.0,Greece

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
EVR	**Evrytania**	**0.09**	**277**	P	Pg	21 49 09.1	-0.7
EVR				S	Sg	21 49 11.8	+0.1
EVR	**Evrytania**	**0.09**	**277**	P	Pg	21 49 09.2	-0.6
EVR				AML	AML	21 49 12.0	
	comp=E,408μm,0.1s						
EVR				AML	AML	21 49 12.0	
	comp=N,471μm,0.1s						
EVR				S	Sg	21 49 12.1	+0.4
EVR	**Evrytania**	**0.09**	**277**	P	Pg	21 49 09.1	-0.7
EVR				S	Sg	21 49 11.8	0.0
EVR				AML	AML	21 49 12.0	
	comp=E,408μm,0.1s						
EVR				AML	AML	21 49 12.0	
	comp=N,471μm,0.1s						
AGG	**Agios Georgios**	**0.34**	**70**	P	Pg	21 49 13.7	-0.3
AGG				S	Sb	21 49 20.0	-0.7
AGG	**Agios Georgios**	**0.34**	**70**	P	Pg	21 49 13.8	-0.1
AGG				S	Sg	21 49 19.6	+1.1
AGG				AML	AML	21 49 20.3	
	comp=N,207μm,0.2s						
AGG				AML	AML	21 49 20.6	
	comp=E,275μm,0.3s						
AGG	**Agios Georgios**	**0.34**	**70**	P	Pg	21 49 13.7	-0.2
AGG				S	Sb	21 49 20.0	-0.8
AGG				AML	AML	21 49 20.2	
	comp=N,207μm,0.2s						
AGG				AML	AML	21 49 20.4	
	comp=E,275μm,0.3s						
PVO	**Paravola**	**0.42**	**227**	P	Pg	21 49 15.7	+0.3
PVO				S	Sb	21 49 22.1	-0.9
PVO	**Paravola**	**0.42**	**227**	P	Pg	21 49 15.7	+0.3
PVO				S	Sb	21 49 22.0	-1.0
PVO	**Paravola**	**0.42**	**227**	P	Pg	21 49 15.7	+0.3
PVO				S	Sb	21 49 22.1	-0.9
SERG	**Sergoula**	**0.50**	**168**	P	Pb	21 49 17.8	-0.2
SERG				S	Sg	21 49 23.8	+0.2
SERG	**Sergoula**	**0.50**	**168**	P	Pb	21 49 17.8	-0.2
SERG				S	Sg	21 49 23.8	+0.1

0.5nm,0.9s,baz=129,slow=3.9,SNR=2.5

*ISCJB **26** 21:55:43.7±0.7,39°.68N±0°.06×38°.71E±0°.05,h12km, Error ellipse: s-maj=9.3km s-min=5.3km az=179.8*
*CSEM **26** 21:55:43.8±0.9,39°.72N×38°.73E,h2km,MD2.5, Error ellipse: s-maj=24.5km s-min=19.9km az=16.0*
*DDA **26** 21:55:43.6,39°.69N×38°.69E,h7km,Md2.5*
*ISK **26** 21:55:43.1,39°.72N×38°.67E,h6km,MD2.7*

ISC 26 21:55:43.1±1.0,39°.69N±0°.05×38°.75E±0°.03,h12km,n19, σ0s43/20,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
REFA	**Refahiye_ERZ˜**	**0.30**	**178**	*i* P	**Pg**	**21 55 48.7**	**-0.6**
REFA	**Refahiye_ERZ˜**	**0.30**	**178**	P	**Pg**	**21 55 48.7**	**-0.6**
KEMA	**Kemaliye**	**0.47**	**205**	*i* P	**Pg**	**21 55 51.9**	**-0.4**
KEMA	**Kemaliye**	**0.47**	**205**	P	**Pg**	**21 55 51.9**	**-0.4**
KELT	**Kelkit**	**0.60**	**40**	*i* P	**Pb**	**21 55 55.5**	**-0.2**
KELT	**Kelkit**	**0.60**	**40**	P	**Pb**	**21 55 55.5**	**-0.2**
ERZN	**Erzincan**	**0.76**	**98**	*e*PG	**Pb**	**21 55 59.3**	**+0.9**
ERZN				*e*SG	**Sn**	**21 56 11.0**	**-0.3**
CUZAR	**Zara_SIVAS**	**0.78**	**285**	*i* P	**Pg**	**21 55 58.0**	**-0.2**
CUZAR	**Zara_SIVAS**	**0.78**	**285**	P	**Pg**	**21 55 58.0**	**-0.2**
TNCL	**Tunceli-Merkez**	**0.84**	**133**	*i* P	**Pn**	**21 56 00.9**	**0.0**
TNCL	**Tunceli-Merkez**	**0.84**	**133**	P	**Pn**	**21 56 00.9**	**0.0**
PTK	**Pertek**	**0.94**	**148**	*e*PG	**Pn**	**21 56 02.7**	**+0.4**
PTK	**Pertek**	**0.94**	**148**	*e*Pg	**Pn**	**21 56 02.7**	**+0.4**
CUKAN	**kangal_SIVAS**	**1.06**	**250**	*i* P	**Pb**	**21 56 03.5**	**0.0**
CUKAN	**kangal_SIVAS**	**1.06**	**250**	P	**Pb**	**21 56 03.5**	**0.0**
SVSK	**Karacayir**	**1.37**	**280**	*e*PN	**Pb**	**21 56 08.6**	**0.0**
SVSK	**Karacayir**	**1.37**	**280**	*e*Pn	**Pb**	**21 56 08.6**	**0.0**
DARE	**Darende-Malaty**	**1.49**	**222**	*e*PN	**Pb**	**21 56 10.7**	**-0.1**
SARI	**SarD1z-Kayseri**	**2.22**	**235**	*e*PN	**Pn**	**21 56 20.8**	**+0.9**

IDC 26 21:59:29.0±4.0,7°.05S×151°.01E,h0km,mb3.2/2, mb1 3.6/2,mb1mx3.3/39,mbtmp3.3/2,Error ellipse: s-maj=147.9km s-min=52.7km az=121.0,New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**20.63**	**230**	P	P	22 04 09.6	-0.6
	0.8nm,0.5s,baz=56,slow=11,SNR=15						
ASAR	**Alice Springs**	**23.29**	**223**	P	P	22 04 39.1	+0.4
	0.2nm,0.4s,baz=57,slow=9.4,SNR=5.3						
TORD	**Torodi Ar. Bea**	**149.21**	**284**	PKPbc	PKPbc	22 19 20.2	-0.4
	0.3nm,0.5s,baz=58,slow=2.0,SNR=2.4						

*IASPEI **26** 22:03:26.9±0.8,32°.38N±0°.02×115°.27W±0°.02,h14km±5km, Error ellipse: s-maj=3.7km s-min=3.3km az=147.1,GT5 selection from ISC bulletin GT5 identified by Bond˜jr and McLaughlin (2009) selection criteria Bond˜jr and McLaughlin, A new ground truth data set for seismic studies, Seism. Res. Let., 80, 465-472, 2009*
*ISCJB **26** 22:03:27.1±0.4,32°.37N±0°.02×115°.23W±0°.02,h13km±3km, Error ellipse: s-maj=3.2km s-min=2.7km az=166.2*
*NEIC **26** 22:03:28.6±0.0,32°.37N×115°.26W,h2km,MD3.8(MEX), ML3.7(ECX),ML3.8(PAS),After ECX.*
*ECX **26** 22:03:28.5±0.6,32°.37N×115°.26W,h2km,MD3.7,ML3.9, Fault plane solution: NP1:ϕs118.57000°,δ30.00000°, λ90.00000°.*
*MEX **26** 22:03:28.2±1.2,32°.45N×115°.11W,h8km±5km,MD3.8*

ISC 26 22:03:26.8±0.8,32°.39N±0°.02×115°.29W±0°.02,h12km±4km, n73,σ1s68/109,14C-4D,California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CPBX	**Cerro Prieto**	**0.04**	**335**	⇑*e*P	**Pg**	**22 03 29.6**	**+0.6**
CPBX				IAML		22 03 33.9	
	comp=E,472μm,0.5s						
CPBX				⇑*e*		22 03 33.9	
CPBX	**Cerro Prieto**	**0.04**	**335**	*i* P	**Pg**	**22 03 29.6**	**+0.6**
CPBX				*i* S	**Sg**	**22 03 31.9**	**+1.3**
MBIG	**Mexicali**	**0.08**	**73**	*i* P	**Pg**	**22 03 29.1**	**-0.3**
MBIG				*i* S	**Sg**	**22 03 31.3**	**0.0**
EMSC	**East Mesa**	**0.43**	**36**	⇓*i*P	**Pb**	**22 03 36.6**	**+0.3**
DREC	**Desert Rsrch C**	**0.44**	**342**	*e*P	**Pb**	**22 03 37.6**	**+1.1**
SGL	**Mount Signal**	**0.46**	**305**	⇑*i*P	**Pb**	**22 03 37.0**	**+0.3**
ERPC	**Ernies Place**	**0.48**	**318**	*e*P	**Pb**	**22 03 38.0**	**+0.9**
COA	**Coachella**	**0.50**	**16**	⇓*i*P	**Pb**	**22 03 37.8**	**+0.4**
SLX	**San Luis R˜o**	**0.50**	**82**	⇓*e*P	**Pb**	**22 03 37.8**	**+0.4**
WESC	**Westside Schoo**	**0.53**	**315**	*e*P	**Pb**	**22 03 38.6**	**+0.7**
WESC				*e*S	**Sb**	**22 03 46.6**	**+1.0**
YUH	**Yuha Desert**	**0.60**	**296**	⇑*i*P	**Pb**	**22 03 39.5**	**+0.3**
YMD	**Yuma Desert**	**0.65**	**75**	⇑*i*P	**Pb**	**22 03 39.6**	**-0.4**
RMX	**La Rumorosa**	**0.70**	**288**	⇓*e*P	**Pb**	**22 03 41.2**	**+0.1**
RMX				*e*S	**Sb**	**22 03 51.4**	**+0.7**
SWSC	**Sam W. Stewart**	**0.71**	**322**	P	**Pb**	**22 03 40.9**	**-0.1**
	baz=142,SNR=135						
SWSC				S	**Sg**	**22 03 50.5**	**+0.6**
	baz=142						
IKP	**In-Ko-Pah, Jac**	**0.74**	**291**	P	**Pn**	**22 03 42.3**	**-0.9**
	baz=113,SNR=374						
IKP				S	**Sb**	**22 03 53.0**	**+1.2**
	baz=113						
IKP	**In-Ko-Pah, Jac**	**0.74**	**291**	⇑*i*P	**Pn**	**22 03 42.3**	**-0.9**
IKP				*e*S	**Sb**	**22 03 53.2**	**+1.3**
GLA	**Glamis**	**0.77**	**30**	P	**Pg**	**22 03 41.5**	**-0.2**
	baz=207,SNR=425						
GLA				S	**Sg**	**22 03 52.0**	**+0.3**
	baz=207						
GLA	**Glamis**	**0.77**	**30**	*e*Pg	**Pg**	**22 03 41.5**	**-0.2**
GLA				*e*Sn	**Sg**	**22 03 51.8**	**0.0**
ECBX	**El Chinero**	**0.93**	**168**	⇑*e*P	**Pb**	**22 03 44.2**	**-0.6**
ECBX				*e*S	**Sb**	**22 03 57.0**	**-0.2**
MONP	**Monument Peak,**	**1.08**	**298**	P	**Pb**	**22 03 47.4**	**-0.2**
	baz=119,SNR=263						
MONP				S	**Sn**	**22 04 03.0**	**0.0**
	baz=119						
CBX	**Cerro Bola**	**1.17**	**267**	*e*P	**Pn**	**22 03 50.1**	**+1.0**
CBX				*e*S	**Sn**	**22 04 05.8**	**+0.8**
CBX				IAML		22 04 12.2	
	comp=N,2μm,0.9s						
CBX	**Cerro Bola**	**1.17**	**267**	*e*P	**Pn**	**22 03 49.9**	**+0.9**
CBX				*e*S	**Sn**	**22 04 04.7**	**-0.3**
CBX	**Cerro Bola**	**1.17**	**267**	*e*P	**Pn**	**22 03 49.9**	**+0.9**
CBX				*e*S	**Sn**	**22 04 04.7**	**-0.3**
TJIG	**Tijuana**	**1.18**	**273**	⇑*e*P	**Pn**	**22 03 49.8**	**+0.8**
TJIG	**Tijuana**	**1.18**	**273**	*e*P	**Pn**	**22 03 49.8**	**+0.8**
TJIG				*e*S	**Sn**	**22 04 05.8**	**+0.8**
BAR	**Barrett**	**1.21**	**284**	⇑*e*P	**Pn**	**22 03 50.0**	**+0.5**
BAR	**Barrett**	**1.21**	**284**	*e*Pn	**Pn**	**22 03 49.8**	**+0.4**
ZAX	**El Zacaton**	**1.21**	**224**	⇑*e*P	**Pn**	**22 03 49.7**	**+0.1**
ZAX				IAML		22 04 12.0	
	comp=E,2μm,1.0s						
ZAX				⇑*e*		22 04 12.0	
BC3	**Big Chuckawall**	**1.27**	**354**	P	**Pn**	**22 03 49.3**	**-1.2**
	baz=173,SNR=210						
BC3				S	**Sb**	**22 04 05.2**	**-2.0**
	baz=173						
ECNX	**Esteban Cantu**	**1.33**	**237**	⇑*e*P	**Pg**	**22 03 51.9**	**-0.4**
113A	**Mohawk Valley,**	**1.34**	**73**	*e*Pn	**Pn**	**22 03 50.1**	**-1.1**
SPIG	**San Pedro Mart**	**1.34**	**187**	⇓*e*P	**Pg**	**22 03 51.3**	**-1.3**
SPIG	**San Pedro Mart**	**1.34**	**187**	*e*P	**Pg**	**22 03 51.6**	**-1.0**
SPIG				*e*S	**Sn**	**22 04 09.2**	**-0.3**
SPIG	**San Pedro Mart**	**1.34**	**187**	*e*P	**Pg**	**22 03 51.6**	**-1.0**
SPIG				*e*S	**Sn**	**22 04 09.2**	**-0.3**
SPX	**San Pedro Mart**	**1.34**	**187**	*e*P	**Pn**	**22 03 50.6**	**-1.1**
SPX				*e*S	**Sg**	**22 04 07.8**	**-2.4**
PBX	**Punta Banda**	**1.38**	**243**	⇑*e*P	**Pg**	**22 03 52.8**	**-0.5**
SDRC	**San Diego Road**	**1.44**	**284**	*e*P	**Pg**	**22 03 53.9**	**-0.5**
Y12C	**Blythe**	**1.50**	**25**	P	**Pn**	**22 03 52.9**	**-0.7**
	baz=204,SNR=122						
Y12C	**Blythe**	**1.50**	**25**	*e*Pn	**Pn**	**22 03 54.0**	**+0.5**
PFO	**Pinyon Flats O**	**1.57**	**321**	P	**Pn**	**22 03 53.4**	**-1.2**
	baz=141,SNR=26						
PFO				S	**Sn**	**22 04 14.0**	**-0.9**
	baz=141						
PFO	**Pinyon Flats O**	**1.57**	**321**	*e*Pn	**Pn**	**22 03 53.5**	**-1.1**
PFO				*e*S	**Sn**	**22 04 15.2**	**+0.3**
109C	**Camp Elliot, M**	**1.61**	**289**	P	**Pn**	**22 03 55.4**	**+0.4**
	baz=109,SNR=34						
109C				Sb	**Sg**	**22 04 18.6**	**-0.1**
	baz=109						
BELC	**Belle Mtn. Jos**	**1.72**	**340**	P	**Pn**	**22 03 55.4**	**-1.3**
	baz=159						
IRM	**Iron Mountain**	**1.77**	**4**	P	**Pn**	**22 03 56.2**	**-1.1**
	baz=183						
IRM				Sb	**Sb**	**22 04 23.1**	**+1.7**
	baz=183						
MURC	**Murrieta**	**2.01**	**308**	P	**Pn**	**22 03 59.9**	**-0.6**
	baz=127,SNR=22						
PDMCI	**Parker Dam,Lak**	**2.14**	**26**	Sb	**Sb**	**22 04 32.8**	**+0.9**
	baz=206						
214A	**Organ Pipe Nat**	**2.14**	**101**	P	**Pn**	**22 04 00.9**	**-1.4**
	baz=281,SNR=17						
214A	**Organ Pipe Nat**	**2.14**	**101**	*e*Pn	**Pn**	**22 04 01.3**	**-1.1**
214A				*e*S	**Sg**	**22 04 38.1**	**+2.5**
GMRC	**Granite Mounta**	**2.41**	**353**	P	**Pn**	**22 04 05.6**	**-0.6**
	baz=172,SNR=18						
LDFC	**Landfair**	**2.69**	**3**	*e*Pn	**Pn**	**22 04 11.5**	**+1.5**
CIS	**Catalina Islan**	**2.82**	**292**	Sb	**Sb**	**22 04 54.1**	**+2.5**
	baz=111						
FMP	**Fort Macarthur**	**2.85**	**298**	Sb	**Sg**	**22 04 55.7**	**-2.7**
	baz=117						
MWC	**Mount Wilson**	**2.96**	**309**	*e*Pn	**Pb**	**22 04 16.6**	**-2.9**
PASC	**Pasadena Art C**	**3.01**	**307**	*e*Pn	**Pb**	**22 04 21.0**	**+0.7**
PASC				*e*S	**Sn**	**22 04 51.5**	**+1.2**
X16A	**Lo Mia Camp, P**	**3.80**	**57**	*e*Pn	**Pn**	**22 04 25.9**	**+0.6**
TUC	**Tucson**	**3.81**	**90**	*e*Pn	**Pb**	**22 04 30.6**	**-3.4**
TUC				*e*Pg	**Pg**	**22 04 40.0**	**+0.2**
TUC				*e*S	**Sb**	**22 05 21.9**	**+1.8**
SHPR	**Sheep Range**	**4.11**	**1**	*e*Pn	**Pn**	**22 04 31.8**	**+2.2**
DAC	**Darwin (Calif)**	**4.33**	**334**	*e*Pn	**Pb**	**22 04 38.4**	**-4.4**
WUAZ	**Wupatki**	**4.51**	**45**	*e*Pn	**Pn**	**22 04 37.2**	**+2.2**
WUAZ				*e*S	**Sn**	**22 05 31.1**	**+3.6**
U15A	**North Rim**	**4.73**	**31**	*e*Pn	**Pn**	**22 04 40.0**	**+1.8**
LCMT	**Little Creek M**	**4.91**	**19**	*e*Pn	**Pn**	**22 04 42.2**	**+1.7**
X18A	**Snowflake**	**4.95**	**63**	*e*Pn	**Pn**	**22 04 42.4**	**+1.3**
KNB	**Kanab**	**5.05**	**23**	*e*Pn	**Pn**	**22 04 44.3**	**+1.9**
W18A	**Petrified Fore**	**5.37**	**58**	*e*Pn	**Pn**	**22 04 49.0**	**+2.1**
W18A				*e*S	**Sb**	**22 06 06.8**	**+1.8**
CCUT	**Cedar City**	**5.39**	**16**	*e*Pn	**Pn**	**22 04 49.3**	**+2.1**
SZCU	**Shurtz Canyon**	**5.50**	**19**	*e*Pn	**Pn**	**22 04 51.8**	**+3.1**
R11A	**Troy Canyon, C**	**5.96**	**358**	*e*Pn	Pn	22 05 00.9	+6.0
R11A				*e*Pg	**Pg**	**22 05 20.3**	**-0.5**
R11A				*e*S	**Sg**	**22 06 35.7**	**-2.2**
121A	**Cookes Peak, D**	**6.34**	**87**	*e*Pn	**Pn**	**22 05 00.9**	**+0.7**
	comp=E,13nm,0.6s						
121A				*e*S	**Sb**	**22 06 36.6**	**+3.6**
CMB	**Columbia Colle**	**7.01**	**325**	*e*Pn	Pn	22 05 17.2	+8.0
	comp=E,65nm,1.1s						
CMB				*e*Pg	**Pg**	**22 05 41.5**	**+0.5**
MVCO	**Mesa Verde**	**7.37**	**47**	*e*Pn	**Pn**	**22 05 18.0**	**+3.6**
MVCO				*e*Pg	**Pg**	**22 05 49.9**	**+2.0**
MVCO				*e*S	**Sg**	**22 07 23.2**	**-0.1**
PV01	**Paradox Valley**	**7.94**	**42**	Pn	**Pn**	**22 05 22.4**	**+0.2**
	comp=E,1μm,0.6s						
PV01				*e*Pg	**Pg**	**22 05 54.3**	**-4.5**
PV01				*e*S	**Sg**	**22 07 37.1**	**-4.4**
PV04	**Paradox Valley**	**7.94**	**39**	*e*Pn	**Pn**	**22 05 26.6**	**+4.4**
PV04				*e*Pg	**Pg**	**22 05 57.4**	**-1.4**
PV04				*e*S	**Sg**	**22 07 36.8**	**-4.8**
MNTX	**Cornudas Mount**	**8.44**	**92**	*e*Pn	Pn	22 05 33.6	+4.8

IDC 26 22:10:54.4±1.3,55°.52S×27°.73W,h0km,mb3.6/3, mb1 3.8/3,mb1mx3.6/18,mbtmp3.6/3,Error ellipse: s-maj=49.5km s-min=36.5km az=86.0,South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNDA	**Vanda**	**47.09**	**183**	P	P	22 19 26.7	-0.5
	0.3nm,0.6s,baz=164,slow=6.0,SNR=2.1						
H10S2	**ASCENSION HYDR**	**47.59**	**18**	T	T	23 11 05.0	
	baz=189,slow=74						
H10S3	**ASCENSION HYDR**	**47.59**	**18**	T	T	23 11 04.5	
	baz=189,slow=74,SNR=5.8						
H10S1	**ASCENSION HYDR**	**47.60**	**18**	T	T	23 11 05.3	
	baz=189						
LPAZ	**La Paz**	**49.82**	**305**	P	P	22 19 49.1	-0.7
	0.9nm,0.6s,baz=188,slow=5.5,SNR=3.1						
TORD	**Torodi Ar. Bea**	**72.75**	**30**	P	P	22 22 24.0	-0.3
	0.5nm,0.7s,baz=203,slow=7.2,SNR=5.8						
ILAR	**Eielson Array**	**149.53**	**312**	PKPbc	PKPbc	22 30 45.0	+0.8
	0.5nm,0.7s,baz=112,slow=1.5,SNR=5.5						

CASC 26 22:54:28.0±1.6,12°.47N×87°.74W,h49km±38km,MD4.4, ML4.0,3D,Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CNCH	**Conchagua**	**0.81**	**354**	*e*P	Pn	22 54 43.5	+0.3
CNCH				*e*S	Sn	22 54 55.8	+1.5
CNCH				AML	AML	22 54 58.0	
	comp=Z,3μm,0.4s						
CNGN	**Cerro Negro**	**1.02**	**88**	*e*P	Pn	22 54 46.0	0.0
CNGN				*e*S	Sn	22 54 59.5	+0.2
CNGN				AML	AML	22 55 02.4	
	comp=N,2μm,0.3s						
VSM	**San Miguel**	**1.08**	**331**	*e*P	Pn	22 54 47.4	+0.2
LCY	**Lacayo**	**1.09**	**330**	*e*P	Pn	22 54 47.2	+0.1
PACA	**Pacayal**	**1.14**	**330**	*e*P	Pn	22 54 48.1	+0.4
PACA				*e*S	Sn	22 55 03.7	+1.3
COPN	**Copaltepe**	**1.16**	**104**	*e*P	Pn	22 54 47.9	0.0
COPN				*e*S	Sn	22 55 02.9	+0.2
COPN				AML	AML	22 55 05.9	
	comp=Z,2μm,0.5s						
MOMN	**Momotombo**	**1.18**	**93**	*e*P	Pn	22 54 48.1	0.0
CAHU	**Cacaquatique**	**1.37**	**341**	⇓*e*P	Pn	22 54 51.5	+0.5
XAVN	**Gruta Xavier**	**1.42**	**103**	*e*P	Pn	22 54 51.7	+0.3
TISN	**Laguna Tiscapa**	**1.48**	**103**	*e*P	Pn	22 54 52.4	+0.2
TISN				AML	AML	22 55 15.2	
	comp=Z,2μm,0.5s						
ESTN	**Estel**	**1.48**	**65**	*e*P	Pn	22 54 52.6	+0.3
MGAN	**Managua**	**1.50**	**102**	*e*P	Pn	22 54 52.5	+0.1
MGAN				*e*S	Sn	22 55 11.3	+0.5
SNVI	**San Vicente**	**1.56**	**317**	*e*P	Pn	22 54 53.5	+0.1
SNVI				*e*S	Sn	22 55 12.7	0.0
MASN	**Masaya**	**1.63**	**107**	*e*S	Sn	22 55 14.9	+0.7
LFRS	**El Faro**	**1.72**	**312**	⇓*i*P	Pn	22 54 55.7	0.0
LBRS	**Las Brisas**	**1.79**	**315**	*e*P	Pn	22 54 57.0	+0.5
UDBS	**Soyapango**	**1.86**	**312**	AML	AML	22 55 25.2	
	comp=Z,6μm,0.3s						
SNET	**Serv Nac Est T**	**1.89**	**310**	*e*S	Sn	22 55 20.2	-0.4
SNET				AML	AML	22 55 24.4	
	comp=Z,3μm,0.3s						
BOQS	**Boqueron**	**1.96**	**310**	*e*P	Pn	22 54 59.3	+0.3
BOAB	**BOACO BROADBAN**	**2.03**	**90**	*e*S	Sn	22 55 23.6	-0.3
CONN	**Concepcion**	**2.26**	**113**	*e*P	Pn	22 55 03.0	+0.1
SBLS	**San Blas**	**2.28**	**307**	*e*P	Pn	22 55 03.9	+0.5
SBLS				*e*S	Sn	22 55 32.4	+1.9
MONT	**Ecomontaæa**	**2.31**	**307**	*e*P	Pn	22 55 04.2	+0.3
MTO3	**Montecristo**	**2.48**	**321**	⇓*i*P	Pn	22 55 06.5	+0.4
CRZ1	**La Cruz**	**2.49**	**124**	*e*P	Pn	22 55 05.3	-0.8
CRZ1				*e*S	Sn	22 55 37.9	+2.6
RBDL	**Robledal**	**2.50**	**311**	*e*P	Pn	22 55 06.5	+0.1
ACON	**Acoyapa**	**2.56**	**101**	*e*P	Pn	22 55 06.4	-0.7
CUS1	**Cusmapa**	**2.58**	**304**	*e*P	Pn	22 55 07.9	+0.5
VCR	**Vista de Mar**	**3.12**	**138**	*e*P	Pn	22 55 14.4	-0.4
IXG	**Ixpaco**	**3.14**	**303**	*e*P	Pn	22 55 15.3	+0.2
CGA2	**Cerro Gallo 2**	**4.04**	**127**	*e*P	Pn	22 55 28.9	+1.5
QCR1	**Quepos**	**4.63**	**130**	*e*P	Pn	22 55 36.2	+0.7
URSC	**Urasca**	**4.69**	**124**	*e*P	Pn	22 55 38.2	+1.8

IDC 26 22:55:38.5±8.0,31°.49S×179°.81E,h396km±95km,mb2.9/2, mb1 3.3/3,mb1mx2.9/27,mbtmp3.9/3,Error ellipse: s-maj=101.0km s-min=42.6km az=5.0,Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**7.11**	**197**	P	P	22 57 24.5	+0.8
	4.4nm,0.3s,baz=25,slow=14,SNR=18						
URZ				S	S	22 58 46.8	-1.8
	3.3nm,0.3s,baz=83,slow=22,SNR=15						
ASAR	**Alice Springs**	**41.19**	**269**	P	P	23 02 46.9	+0.2
	0.4nm,0.6s,baz=105,slow=6.8,SNR=4.8						
WRA	**Warramunga Arr**	**42.28**	**275**	P	P	23 02 55.1	-0.2
	0.6nm,0.3s,baz=112,slow=7.9,SNR=26						
FINES	**FINESS Array B**	**145.48**	**338**	PKPbc	PKPdf	23 14 29.2	-0.1
	1.0nm,0.6s,baz=64,slow=4.4,SNR=6.2						

*ISCJB **26** 23:00:29.4±0.6,48°.59N±0°.02×142°.31E±0°.06,h12km±4km, mb3.8/10,MS3.1/5,Error ellipse: s-maj=7.1km s-min=3.7km az=1.1*
*IDC **26** 23:00:29.2±0.8,48°.66N×142°.24E,h0km,mb3.9/10, mb1 4.1/11,mb1mx3.8/44,mbtmp3.9/11,MS3.1/8, Ms1 3.1/8,ms1mx2.8/32,Error ellipse: s-maj=22.7km s-min=19.8km az=168.0*
*MOS **26** 23:00:29.5±2.7,48°.57N×142°.07E,h10km,mb4.2/7,Error ellipse: s-maj=15.1km s-min=7.7km az=104.6*
MOS Felt (III) at Uglegorsk, Ol'khovka; (II-III) at Krasnopol'e; (II) at Poronaysk.
*SKHL **26** 23:00:29.1±0.2,48°.58N×142°.39E,h10km,mb4.6/8, Ms4.0/1*
SKHL Felt (III) at Uglegorsk, Ol'hovka, (II-III) at Krasnopol'ye, (II) at Poronaisk.

ISC 26 23:00:31.6±1.1,48°.65N±0°.03×142°.13E±0°.04,h14km±8km, n40,σ2s03/44,mb3.9/10,MS3.1/5,4C-2D,Sakhalin Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
UGL	**Uglegorsk**	**0.43**	**354**	⇑*i*PN	**Pg**	**23 00 39.8**	**-0.4**
UGL				*e*S	**Sb**	**23 00 47.3**	**+0.1**
UGL				pmax	pmax		
	comp=Z,2μm,0.3s						
UGL				smax	smax		
	comp=E,6μm,0.4s						
UGL	**Uglegorsk**	**0.43**	**354**	⇑*i*Pg	**Pg**	**23 00 40.0**	**-0.2**
	comp=Z,2μm,0.8s						
UGL				⇑*i*Pg	**Pg**	**23 00 40.0**	**-0.2**
	comp=Z,500nm,0.1s						
UGL				AMB	AMB	23 00 40.5	
	comp=Z,1μm,1.0s						
UGL				AMB	AMB	23 00 42.0	
	comp=Z,2μm,0.3s						
UGL				*e*Sg	**Sb**	**23 00 47.5**	**+0.3**
UGL				A	A	23 00 49.3	
	comp=Z,6μm,0.4s						
UGL				A	A	23 00 49.3	
	comp=Z,10μm,0.4s						
YSS	**Yuzh-Sakhalins**	**1.75**	**166**	⇓*i*PN	**Pn**	**23 01 00.5**	**-1.0**
YSS				*e*		23 01 25.2	
YSS				pmax	pmax		
	comp=Z,400nm,0.6s						
YSS				smax	smax		
	comp=N,1μm,0.4s						
YSS				smax	smax		
	comp=E,390nm,0.3s						
YSS	**Yuzh-Sakhalins**	**1.75**	**166**	⇓*i*Pg	**Pn**	**23 01 00.5**	**-1.0**
YSS				AMB	AMB	23 01 01.5	
	comp=E,400nm,0.6s						
YSS				*e*Sg	**Sb**	**23 01 25.2**	**-0.1**
YSS				A	A	23 01 26.7	
	comp=E,1μm,0.3s						
YSS				A	A	23 01 26.7	
	comp=E,390nm,0.3s						
YSS				AMS	AMS	23 01 51.0	
	comp=E,900nm,8.9s						
NEVR	**Nevel'sk**	**1.99**	**185**	*e*Pg	**Pb**	**23 01 07.4**	**-0.1**
NEVR				*e*Sg	**Sg**	**23 01 34.0**	**-1.5**
NEVR				A	A	23 01 35.0	
	comp=E,2μm,0.5s						
NEVR				A	A	23 01 35.0	
	comp=E,970nm,0.5s						
TYV	**Tymovskoe**	**2.24**	**9**	*e*PN	**Pg**	**23 01 14.3**	**-0.2**
TYV				MLR	MLR		
	comp=Z,2μm,5.0s						
TYV				MLR	MLR		
	comp=N,2μm,5.0s						
TYV	**Tymovskoe**	**2.24**	**9**	*e*Pg	**Pg**	**23 01 14.3**	**-0.2**
TYV				AMB	AMB	23 01 23.0	
	comp=N,130nm,0.5s						
TYV				*e*Sg	**Sg**	**23 01 46.0**	**+2.5**
TYV				A	A	23 01 49.0	
	comp=N,310nm,0.6s						
TYV				AMS	AMS	23 02 22.2	
	comp=N,2μm,4.9s						
TYV				AMS	AMS	23 02 22.2	
	comp=N,2μm,4.9s						
GRNR	**Gornyy**	**4.27**	**302**	*e*Pg	**Pg**	**23 01 51.2**	**-2.1**
GRNR				AMB	AMB	23 01 52.4	
	comp=N,30nm,0.5s						
GRNR				*e*Sg	**Sg**	**23 02 45.5**	**-3.1**
GRNR				A	A	23 02 46.8	
	comp=N,200nm,0.5s						
ASAJ	**Asahikawa**	**4.55**	**176**	Pn	**Pn**	**23 01 40.0**	**0.0**
	baz=333,slow=9.0						
HABR	**Khabarovsk**	**4.71**	**270**	*e*PN	Pn	23 01 48.3	+6.2
HABR				*e*S	**Sb**	**23 02 46.0**	**-4.3**
HABR				MLR	MLR		
	comp=Z,140nm,14.0s						
KUR	**Kuril'sk**	**5.21**	**129**	*i* PN	**Pn**	**23 01 50.4**	**+1.4**
TEY	**Ternei**	**5.24**	**228**	*e*P	**Pn**	**23 01 51.5**	**+2.0**
TEY				AMB	AMB	23 01 54.0	
	comp=Z,18nm,0.5s						
TEY				*e*Pg	**Pg**	**23 02 13.5**	**+1.6**
TEY				AMB	AMB	23 02 15.0	
	comp=Z,19nm,0.6s						
TEY				*e*S	**Sn**	**23 02 52.0**	**+2.3**
TEY				A	A	23 02 56.8	
	comp=Z,38nm,0.6s						
TEY				A	A	23 02 56.8	
	comp=Z,23nm,0.6s						
TEY				*e*Sg	**Sg**	**23 03 26.0**	**+6.2**
TEY				A	A	23 03 28.5	
	comp=Z,46nm,0.5s						
TEY				A	A	23 03 28.5	
	comp=Z,28nm,0

comp=Z,1.3nm,0.6s,baz=325,slow=2.3,SNR=12
ASAR Alice Springs 72.36 188 P **P** **23 11 56.5 -0.3**
comp=Z,0.5nm,0.4s,baz=2.1,slow=5.3,SNR=6.6
TXAR Lajitas Array 82.68 53 P **P** **23 12 54.8 0.0**
comp=Z,0.4nm,0.6s,baz=266,slow=3.3,SNR=8.7
PPT Papeete 89.46 118 LR LR 23 46 56.8
comp=Z,22nm,21.5s,baz=322,slow=31

NIED ***26*** *23:01:00,32˚.30N×141˚.90E,h5km,Mw4.0 Best double couple: M0 1.17000×10^15 NP1:φs163.00000°,δ31.00000°, λ81.00000°. NP2:φs354.00000°,δ59.00000°,λ95.00000°.*
IDC ***26*** *23:01:26.2±1.0,32˚.32N×141˚.74E,h0km,mb3.8/9, mb1 3.9/11,mb1mx3.7/49,mbtmp3.8/11,ML3.1/2,MS2.6/1, Ms1 2.6/1,ms1mx2.3/30,Error ellipse: s-maj=30.2km s-min=16.6km az=63.0*
JMA ***26*** *23:01:27.4±0.3,32˚.29N×141˚.93E,h44km,M3.7*
ISCJB ***26*** *23:01:29.3±0.7,32˚.34N±0˚.05×141˚.83E±0˚.08,h39km, mb3.8/9,Error ellipse: s-maj=10.5km s-min=6.0km az=156.6*

ISC 26 23:01:31.6±1.1,32˚33N±0˚.08×141˚74E±0˚.10,h39km,n20, σ0s98/28,mb4.0/9,Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHCJ	**Hachijojimakas**	**1.80**	**295**	P	**Pn**	**23 01 59.0**	**-1.1**
JHCJ				S	**Sn**	**23 02 22.1**	**+0.4**
JHJ2	**Mitsune**	**1.80**	**296**	P	**Pn**	**23 01 59.4**	**-0.8**
JHJ	**Hachijo jima 2**	**1.83**	**296**	Pn	**Pn**	**23 01 59.5**	**-1.0**
	74nm,0.3s,baz=318,slon=21,SNR=9.6						
JHJ				Sn	**Sn**	**23 02 22.6**	**+0.1**
	29nm,0.3s,baz=43,slow=23,SNR=1.6						
JHJ				LR	LR	23 02 45.2	
	comp=Z,258nm,20.3s,baz=152,slow=44						
BSO1	**Boso 1**	**2.41**	**345**	P	**Pn**	**23 02 06.4**	**-1.6**
BSO1				S	**Sn**	**23 02 36.2**	**+0.3**
BSO3	**Boso 3**	**2.67**	**338**	P	**Pn**	**23 02 11.0**	**-0.9**
BSO3				S	**Sn**	**23 02 43.8**	**+0.9**
BSO4	**Boso 4**	**2.90**	**337**	P	**Pn**	**23 02 14.5**	**-0.7**
BSO4				S	**Sn**	**23 02 49.9**	**+1.1**
JHU	**Hanno**	**4.06**	**331**	S	**Sn**	**23 03 19.7**	**+2.1**
JRY	**Ryogami san**	**4.37**	**328**	P	**Pn**	**23 02 35.8**	**+0.3**
JRY				S	**Sn**	**23 03 25.9**	**+0.8**
JAG	**Ashikaga**	**4.50**	**336**	P	**Pn**	**23 02 36.2**	**-1.1**
JAG				S	**Sn**	**23 03 27.0**	**-1.4**
MJAR	**Matsushiro Arr**	**5.12**	**326**	Pn	**Pn**	**23 02 45.1**	**-0.7**
	0.9nm,0.3s,baz=142,slow=11,SNR=7.7						
MJAR				Sn	**Sn**	**23 03 44.7**	**+1.2**
	0.6nm,0.3s,baz=125,slow=36,SNR=1.6						
MJAR				LR	LR	23 04 50.0	
	comp=Z,66nm,20.7s,baz=155,slow=40						
USRK	**Ussuriysk Ar.**	**14.10**	**330**	Pn	**Pn**	**23 04 48.0**	**-0.6**
	0.8nm,0.3s,baz=157,slow=15,SNR=5.0						
SONM	**Songino Array**	**30.85**	**311**	P	**P**	**23 07 44.7**	**+0.6**
	2.0nm,0.7s,baz=101,slow=6.3,SNR=4.0						
ZALV	**Zalesovo Beam**	**45.38**	**316**	P	**P**	**23 09 45.0**	**-1.0**
	1.0nm,0.8s,baz=76,slow=6.3,SNR=4.4						
MKAR	**Makanchi Array**	**46.97**	**306**	P	**P**	**23 09 58.3**	**-0.4**
	1.5nm,0.7s,baz=92,slow=7.8,SNR=9.3						
KURBB	**Kurchatov Arra**	**49.21**	**311**	P	**P**	**23 10 15.5**	**-0.3**
	1.8nm,0.8s,baz=87,slow=7.4,SNR=15						
WRA	**Warramunga Arr**	**52.45**	**189**	P	**P**	**23 10 39.8**	**-0.8**
	1.9nm,0.8s,baz=6.0,slow=7.6,SNR=18						
ILAR	**Eielson Array**	**53.36**	**30**	P	**P**	**23 10 47.1**	**+0.3**
	0.3nm,0.7s,baz=257,slow=6.1,SNR=3.8						
BVAR	**Borovoye Array**	**54.01**	**315**	P	**P**	**23 10 52.2**	**+0.5**
	1.3nm,0.7s,baz=75,slow=11,SNR=7.1						
ASAR	**Alice Springs**	**56.18**	**189**	P	**P**	**23 11 08.9**	**+1.3**
	0.2nm,0.3s,baz=3.6,slow=5.9,SNR=4.0						
BRTR	**Keskin Array B**	**82.19**	**312**	P	**P**	**23 13 49.4**	**+0.6**
	0.5nm,0.7s,baz=115,slow=5.6,SNR=3.7						

NIED ***26*** *23:44:00,44˚.00N×148˚.20E,h62km,Mw4.1 Best double couple: M0 1.79000×10^15 NP1:φs130.00000°,δ55.00000°, λ-37.00000°. NP2:φs244.00000°,δ60.00000°, λ-139.00000°.*
IDC ***26*** *23:44:16.8±1.2,44˚.21N×148˚.99E,h0km,mb3.5/4, mb1 3.9/7,mb1mx3.6/37,mbtmp3.6/7,ML3.7/2,MS3.0/6, Ms1 3.0/6,ms1mx2.7/39,Error ellipse: s-maj=45.0km s-min=23.3km az=140.0*
MOS ***26*** *23:44:20.4±1.4,44˚.32N×148˚.72E,h41km,mb4.0/2,Error ellipse: s-maj=21.7km s-min=13.8km az=145.3*
JMA ***26*** *23:44:22.6±0.5,44˚.05N×148˚.19E,h0km,M4.4*
SKHL ***26*** *23:44:23.5±0.6,44˚.49N×148˚.46E,h59km±5km,mb4.3/3*

ISC 26 23:44:19.4±3.3,44˚40N±0˚.08×148˚60E±0˚.10,h24km±23km, n35,σ2s07/38,mb3.6/4,MS3.2/3,1C-2D,Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**0.98**	**328**	*d* iPN	**Pn**	**23 44 38.5**	**+0.8**
KUR				*i* S	**Sb**	**23 44 49.6**	**-0.8**
KUR				pmax	pmax		
	comp=Z,556nm,0.4s						
KUR				pmax	pmax		
	comp=N,125nm,0.2s						
KUR				pmax	pmax		
	comp=E,119nm,0.1s						
KUR				smax	smax		
	comp=N,555nm,0.3s						
KUR				smax	smax		
	comp=E,1μm,0.3s						
KUR	**Kuril'sk**	**0.98**	**328**	*i* P	**Pn**	**23 44 38.5**	**+0.8**
KUR				AMB	AMB	23 44 39.1	
	comp=E,560nm,0.5s						
KUR				*i* S	**Sb**	**23 44 49.6**	**-0.8**
KUR				A	A	23 44 52.8	
	comp=E,560nm,0.3s						
KUR				A	A	23 44 52.8	
	comp=E,1μm,0.3s						
SHO	**Shikotan**	**1.38**	**248**	*e*PN	**Pn**	**23 44 43.6**	**+0.5**
SHO				*i* S	**Sn**	**23 44 58.3**	**-2.2**
SHO				pmax	pmax		
	comp=Z,738nm,0.3s						
SHO				pmax	pmax		
	comp=N,225nm,0.2s						
SHO				pmax	pmax		
	comp=E,333nm,0.3s						
SHO				smax	smax		
	comp=N,657nm,0.4s						
SHO				smax	smax		
	comp=E,800nm,0.4s						
SHO	**Shikotan**	**1.38**	**248**	*e*P	**Pn**	**23 44 43.6**	**+0.5**
SHO				AMB	AMB	23 44 44.1	
	comp=E,70nm,0.3s						
SHO				*e*S	**Sn**	**23 44 58.3**	**-2.2**
SHO				A	A	23 45 02.5	
	comp=E,660nm,0.4s						
SHO				A	A	23 45 02.5	
	comp=E,800nm,0.4s						
YUK	**Yuzh-Kuril'sk**	**2.00**	**261**	*c* iPN	**Pn**	**23 44 52.9**	**+1.2**
YUK				*i* S	**Sn**	**23 45 15.3**	**-0.6**
YUK				pmax	pmax		
	comp=Z,591nm,0.2s						
YUK				pmax	pmax		
	comp=N,87nm,0.1s						
YUK				pmax	pmax		
	comp=E,179nm,0.1s						
YUK				smax	smax		
	comp=N,523nm,0.2s						
YUK				smax	smax		
	comp=E,1μm,0.5s						
YUK	**Yuzh-Kuril'sk**	**2.00**	**261**	*i* P	**Pn**	**23 44 52.9**	**+1.2**
YUK				AMB	AMB	23 44 55.2	
	comp=E,60nm,0.2s						
YUK				*i* S	**Sn**	**23 45 15.4**	**-0.5**
YUK				A	A	23 45 20.7	
	comp=E,520nm,0.4s						
YUK				A	A	23 45 20.7	
	comp=E,1μm,0.4s						
NEM2	**Nemuro 2**	**2.31**	**244**	P	**Pn**	**23 44 56.6**	**+0.7**
NEM2				*e*S	**Sn**	**23 45 22.0**	**-1.4**
JRA	**Rausu**	**2.54**	**261**	P	**Pn**	**23 45 01.2**	**+2.1**
JNK	**Nakash**	**2.91**	**255**	P	**Pn**	**23 45 05.4**	**+1.2**
JAK	**Akkeshi**	**3.15**	**245**	P	**Pn**	**23 45 08.8**	**+1.3**
JTKR	**Abashiri--Toko**	**3.40**	**264**	P	**Pn**	**23 45 15.4**	**+4.5**
JAR	**Ashorobuto**	**3.66**	**254**	P	**Pn**	**23 45 17.4**	**+2.9**
JCH	**Churui**	**4.20**	**247**	P	**Pn**	**23 45 23.8**	**+1.8**
JCH				*e*S	**Sn**	**23 46 10.7**	**+0.4**
JKK2	**Kamakawa 2**	**4.24**	**265**	P	**Pn**	**23 45 26.9**	**+4.4**
JKA	**Kamikawa-asahi**	**4.32**	**268**	*e*P	Pn	23 45 29.0	+5.5
ASAJ	**Asahikawa**	**4.32**	**268**	Pn	Pn	23 45 29.0	+5.4
	baz=94,slow=16						
ASAJ				Sn	**Sb**	**23 46 26.3**	**0.0**
JFR	**Furan**	**4.52**	**256**	P	**Pn**	**23 45 30.1**	**+3.8**
ERM	**Erimo**	**4.63**	**241**	*d* iPN	Pn	23 45 32.7	+4.8
ERM	**Erimo**	**4.63**	**241**	*e*P	Pn	23 45 32.7	+4.8
JNBK	**Urakawa-nobuka**	**4.76**	**246**	P	**Pn**	**23 45 31.4**	**+1.8**
YSS	**Yuzh-Sakhalins**	**4.83**	**304**	*e*P	**Pn**	**23 45 32.5**	**+2.0**
JKB	**Kayabe**	**6.07**	**248**	P	**Pn**	**23 45 49.8**	**+2.1**
JKB				*e*S	**Sn**	**23 46 54.7**	**-1.6**
JOT	**Ohata**	**6.31**	**244**	P	**Pn**	**23 45 52.5**	**+1.6**
JOT				*e*S	**Sn**	**23 46 59.1**	**-3.0**
JANG	**Nango**	**6.61**	**235**	P	**Pn**	**23 45 56.1**	**+1.1**
PETK	**Petropavlovsk-**	**10.58**	**31**	LR	LR	23 51 34.7	
	comp=E,51nm,18.5s,baz=207,slow=41						
MJAR	**Matsushiro Arr**	**11.13**	**229**	Pn	**Pn**	**23 46 57.4**	**+0.3**
	comp=E,0.6nm,0.3s,baz=37,slow=14,SNR=1.8						
MJAR				LR	LR	23 52 08.5	
	comp=E,25nm,18.4s,baz=35,slow=42						
KSRS	**Korea Array**	**17.07**	**253**	P	**P**	**23 48 18.7**	**+0.8**
	comp=E,0.2nm,0.3s,baz=69,slow=11,SNR=5.2						
KSRS				LR	LR	23 54 18.2	
	comp=E,36nm,20.8s,baz=110,slow=35						
YAK	**Yakutsk**	**20.84**	**335**	*i* P	**P**	**23 48 54.2**	**-4.8**
ILAR	**Eielson Array**	**40.35**	**37**	P	**P**	**23 51 55.1**	**+0.4**
	comp=E,0.3nm,0.8s,baz=281,slow=7.4,SNR=2.6						
CMAR	**Chiang Mai Arr**	**48.70**	**254**	LR	LR	00 14 51.2	
	comp=E,16nm,18.3s,baz=200,slow=38						
RES	**Resolute Bay**	**54.05**	**17**	LR	LR	00 19 44.3	
	comp=E,19nm,18.2s,baz=200,slow=39						
WRA	**Warramunga Arr**	**65.34**	**195**	P	**P**	**23 55 00.2**	**+0.7**
	comp=E,0.7nm,0.8s,baz=11,slow=6.7,SNR=5.0						
ASAR	**Alice Springs**	**69.05**	**194**	P	**P**	**23 55 23.9**	**+0.9**
	comp=E,0.5nm,0.8s,baz=1.5,slow=7.0,SNR=2.4						
SCHQ	**Schefferville**	**76.66**	**20**	LR	LR	00 32 58.3	
	comp=E,34nm,20.4s,baz=56,slow=38						
TXAR	**Lajitas Array**	**81.42**	**57**	P	**P**	**23 56 35.3**	**+0.7**
	comp=E,0.3nm,0.5s,baz=298,slow=5.5,SNR=4.1						

IDC 26 23:47:28.7±2.4,1˚62S×127˚48E,h0km,mb3.5/2, mb1 3.6/3,mb1mx3.4/29,mbtmp3.4/3,ML3.5/1,MS2.5/1, Ms1 2.5/1,ms1mx2.3/22,Error ellipse: s-maj=200.9km s-min=28.3km az=67.0,Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAY	**Jayapura**	**13.24**	**94**	LR	LR	23 56 03.1	
	comp=Z,24nm,21.1s,baz=324,slow=39						
WRA	**Warramunga Arr**	**19.41**	**160**	P	P	23 51 55.8	-0.8
	0.2nm,0.3s,baz=342,slow=12,SNR=9.8						
ASAR	**Alice Springs**	**22.78**	**165**	P	P	23 52 33.9	+0.7
	0.9nm,0.6s,baz=346,slow=10,SNR=8.9						
MKAR	**Makanchi Array**	**62.38**	**327**	P	P	23 57 53.2	-0.1
	0.7nm,1.0s,baz=108,slow=7.2,SNR=2.4						

KRSC 26 23:53:04.4±0.9,53˚67N×160˚98E,h49km±17km,ML3.9, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPN	**Mys Shipunski**	**0.81**	**226**	*e*P	Pn	23 53 21.0	+1.5
SPN				*e*S	Sn	23 53 31.6	+1.1
KII	**Karymskiy**	**0.98**	**293**	*e*P	Pn	23 53 22.8	+0.9
KII				*e*S	Sn	23 53 34.8	0.0
MKZ	**Mys Kozlova**	**0.99**	**26**	*e*P	Pn	23 53 23.7	+1.7
MKZ				*e*S	Sn	23 53 35.9	+1.0
NLC	**Nalytchevo**	**1.10**	**244**	*e*P	Pn	23 53 24.9	+1.5
NLC				*e*S	Sn	23 53 38.4	+1.0
SDLR	**Sedlovina**	**1.31**	**254**	*e*P	Pn	23 53 27.8	+1.4
SDLR				*e*S	Sn	23 53 44.0	+1.1
UGLR	**Uglovaya**	**1.37**	**251**	*e*P	Pn	23 53 29.4	+2.2
UGLR				*e*S	Sn	23 53 46.4	+2.1
KRER	**Koryakskii**	**1.38**	**256**	*e*P	Pn	23 53 29.4	+1.9
KRER				*e*S	Sn	23 53 45.9	+1.2
AVH	**Avacha**	**1.40**	**254**	*e*P	Pn	23 53 29.9	+2.3
KRX	**Arik**	**1.43**	**258**	*e*P	Pn	23 53 29.9	+1.9
KRX				*e*S	Sn	23 53 46.9	+1.2
KOK	**Koryaka**	**1.45**	**256**	*e*P	Pn	23 53 30.4	+2.1
KOK				*e*S	Sn	23 53 47.4	+1.2
DALK	**Dalny**	**1.48**	**245**	*e*P	Pn	23 53 30.6	+2.0
DALK				*e*S	Sn	23 53 47.5	+0.8
TUMR	**Tumrok**	**1.69**	**344**	*e*P	Pn	23 53 34.0	+2.4
GNL	**Ganaly**	**1.81**	**272**	*e*P	Pn	23 53 35.2	+2.0
KRMR	**Karymshinskiy**	**1.91**	**245**	*e*P	Pn	23 53 37.0	+2.6
KRMR				*e*S	Sn	23 53 59.0	+1.8
RUS	**Russkaya**	**1.94**	**231**	*e*P	Pn	23 53 37.7	+2.9
RUS				*e*S	Sn	23 54 00.1	+2.2
MTVR	**Mutnovka**	**2.06**	**236**	*e*P	Pn	23 53 39.2	+2.5
MTVR				*e*S	Sn	23 54 03.5	+2.2
KMNR	**Kamenistaya**	**2.14**	**349**	*e*P	Pn	23 53 40.8	+3.1
KMNR				*e*S	Sn	23 54 06.3	+3.3
ASAK	**Asacha**	**2.26**	**237**	*e*P	Pn	23 53 42.7	+3.3
ASAK				*e*S	Sn	23 54 09.5	+3.4
BZMR	**Bezymyannaya**	**2.29**	**353**	*e*P	Pn	23 53 42.4	+2.6
KIRR	**Kirishev**	**2.32**	**351**	*e*P	Pn	23 53 43.3	+3.1
ZLN	**Zelenaya**	**2.36**	**358**	*e*P	Pn	23 53 44.0	+3.3
ZLN				*e*S	Sn	23 54 10.9	+2.5
APC	**Apacha**	**2.41**	**254**	*e*P	Pn	23 53 45.6	+4.3
LGNR	**Loginova**	**2.43**	**356**	*e*P	Pn	23 53 44.8	+3.0
CIRR	**Tsirk**	**2.46**	**357**	*e*P	Pn	23 53 45.3	+3.2
KDTR	**Khodutka, Kamc**	**2.57**	**225**	*e*P	Pn	23 53 47.0	+3.6
KDTR				*e*S	Sn	23 54 15.8	+2.4
KRSR	**Krestovskiy**	**2.57**	**355**	*e*P	Pn	23 53 46.3	+2.7
ESO	**Esso**	**2.62**	**331**	*e*P	Pn	23 53 46.2	+2.0
KLY	**Klyuchi**	**2.66**	**356**	*e*P	Pn	23 53 48.7	+4.0
KLY				*e*S	Sn	23 54 19.0	+3.4
KBG	**Krutoberegovo**	**2.78**	**20**	*e*P	Pn	23 53 51.0	+4.7
KBG				*e*S	Sn	23 54 24.1	+5.6
SMKR	**Semkarok**	**2.94**	**5**	*e*P	Pn	23 53 51.2	+2.6
SRKR	**Sorokina**	**3.00**	**2**	*e*P	Pn	23 53 52.5	+3.1
BKI	**Bering**	**3.29**	**60**	*e*P	Pn	23 53 55.9	+2.5
BKI				*e*S	Sn	23 54 31.6	+0.3

CSEM ***26*** *23:58:52.5,34˚.57N×23˚.61E,h25km,ML2.9/3*

ATH 26 23:58:52.5,34˚57N×23˚61E,h25km±4km,ML2.9/3,Error ellipse: s-maj=10.1km s-min=3.3km az=32.0,Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GVD	**Gavdhos**	**0.48**	**56**	P	Pb	23 59 01.7	-0.7
GVD				S	Sb	23 59 09.8	+0.7
GVD	**Gavdhos**	**0.48**	**56**	P	Pb	23 59 01.4	-1.0
GVD				S	Sn	23 59 18.9	+7.5
GVD	**Gavdhos**	**0.48**	**56**	P	Pb	23 59 01.4	-1.0
GVD				S	Sn	23 59 18.9	+7.6
GVD				AML	AML	23 59 19.1	
	comp=N,2678μm,0.5s						
GVD				AML	AML	23 59 20.5	
	comp=E,2113μm,0.5s						
GVD	**Gavdhos**	**0.48**	**56**	P	Pb	23 59 01.7	-0.7
GVD				S	Sb	23 59 09.8	+0.7
GVD				AML	AML	23 59 19.3	
	comp=N,2678μm,0.5s						
GVD				AML	AML	23 59 20.5	
	comp=E,2113μm,0.5s						
IMMV	**Iera Moni Meta**	**0.94**	**19**	P	Pb	23 59 11.1	+0.9
IMMV	**Iera Moni Meta**	**0.94**	**19**	P	Pb	23 59 11.8	+1.6
IMMV				S	Sn	23 59 31.5	+8.8
IMMV	**Iera Moni Meta**	**0.94**	**19**	P	Pb	23 59 11.8	+1.6
IMMV				S	Sn	23 59 31.5	+8.8
IMMV				AML	AML	23 59 39.9	
	comp=E,1239μm,0.7s						
IMMV				AML	AML	23 59 41.2	
	comp=N,1162μm,0.6s						
IMMV	**Iera Moni Meta**	**0.94**	**19**	P	Pb	23 59 11.1	+0.9
VAM	**Vamos**	**0.96**	**30**	P	Pb	23 59 10.9	+0.3
VAM	**Vamos**	**0.96**	**30**	P	Pb	23 59 10.6	0.0
VAM				S	Sn	23 59 32.8	+9.4
VAM	**Vamos**	**0.96**	**30**	P	Pb	23 59 10.6	0.0
VAM				S	Sn	23 59 32.7	+9.3
VAM				AML	AML	23 59 39.0	
	comp=N,974μm,1.0s						
VAM				AML	AML	23 59 41.5	
	comp=E,1276μm,1.0s						
VAM	**Vamos**	**0.96**	**30**	P	Pb	23 59 10.9	+0.3
VAM				AML	AML	23 59 39.0	
	comp=N,974μm,1.0s						
VAM				AML	AML	23 59 41.5	
	comp=E,1276μm,1.0s						
SIVA	**Sivas**	**1.09**	**65**	P	Pb	23 59 14.2	+1.5
SIVA	**Sivas**	**1.09**	**65**	P	Pb	23 59 14.1	+1.4
SIVA				S	Sb	23 59 38.0	+12
SIVA				AML	AML	23 59 43.6	
	comp=N,1667μm,0.7s						
SIVA				AML	AML	23 59 44.5	
	comp=E,1881μm,0.7s						
SIVA	**Sivas**	**1.09**	**65**	P	Pb	23 59 14.2	+1.6
SIVA				AML	AML	23 59 43.6	
	comp=N,1667μm,0.7s						
SIVA				AML	AML	23 59 44.8	
	comp=E,1881μm,0.7s						
IDI	**Anoyia**	**1.27**	**56**	P	Pn	23 59 15.1	+0.3
IDI	**Anoyia**	**1.27**	**56**	P	Pb	23 59 15.8	-0.1
IDI				S	Sb	23 59 43.1	+11
IDI	**Anoyia**	**1.27**	**56**	P	Pb	23 59 15.8	-0.2
IDI				S	Sb	23 59 43.1	+11
IDI				AML	AML	23 59 47.7	
	comp=E,228μm,0.7s						
IDI				AML	AML	23 59 50.1	
	comp=N,321μm,1.4s						
IDI	**Anoyia**	**1.27**	**56**	P	Pn	23 59 15.1	+0.3
LAST	**Lasithi**	**1.65**	**69**	P	Pb	23 59 22.2	-0.1
LAST	**Lasithi**	**1.65**	**69**	P	Pb	23 59 22.2	-0.1
LAST	**Lasithi**	**1.65**	**69**	P	Pb	23 59 22.2	-0.1
LAST	**Lasithi**	**1.65**	**69**	P	Pb	23 59 22.2	-0.1

TIF ***27*** *00:04:21.5,41˚.59N×42˚.18E,h6km*
CSEM ***27*** *00:04:22.3,41˚.58N×42˚.17E,h7km,MD2.5*
DDA ***27*** *00:04:22.3,41˚.58N×42˚.17E,h7km,Md2.5*
ISCJB ***27*** *00:04:23.1±0.8,41˚.54N±0˚.05×42˚.18E±0˚.05,h8km±6km, Error ellipse: s-maj=10.1km s-min=4.6km az=147.5*

ISC 27 00:04:22.8±1.2,41˚57N±0˚.06×42˚18E±0˚.04,h10km±16km, n12,σ0s55/24,Turkey-Georgia-Armenia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EPOS	**Posof**	**0.42**	**99**	*i* P	**Pg**	**00 04 30.8**	**-0.3**
EPOS				*i* S	**Sg**	**00 04 37.2**	**+0.6**
EPOS	**Posof**	**0.42**	**99**	P	**Pg**	**00 04 30.8**	**-0.3**
EPOS				S	**Sg**	**00 04 37.2**	**+0.6**
ARTV	**Artvin**	**0.43**	**206**	*i* P	**Pg**	**00 04 31.0**	**-0.3**
ARTV				*i* S	**Sg**	**00 04 37.6**	**+0.5**
ARTV	**Artvin**	**0.43**	**206**	P	**Pg**	**00 04 31.0**	**-0.3**
ARTV				S	**Sg**	**00 04 37.6**	**+0.5**
DBOC	**Borcka**	**0.45**	**240**	*i* P	**Pg**	**00 04 31.2**	**-0.4**
DBOC				*i* S	**Sg**	**00 04 38.0**	**+0.5**
DBOC	**Borcka**	**0.45**	**240**	P	**Pg**	**00 04 31.2**	**-0.4**
DBOC				S	**Sg**	**00 04 38.0**	**+0.5**
DAGI	**Agillar**	**0.53**	**202**	*i* P	**Pg**	**00 04 33.2**	**0.0**
DAGI				*i* S	**Sg**	**00 04 40.7**	**+0.5**
DDEM	**Demirkent**	**0.75**	**206**	*i* P	**Pg**	**00 04 36.9**	**-0.5**
DDEM				*i* S	**Sg**	**00 04 46.5**	**-0.7**
DDEM	**Demirkent**	**0.75**	**206**	P	**Pg**	**00 04 36.9**	**-0.5**
DDEM				S	**Sg**	**00 04 46.5**	**-0.7**
AKH	**Akhalkalaki**	**1.00**	**99**	P	**Pg**	**00 04 41.3**	**-0.8**
AKH				S	**Sg**	**00 04 55.2**	**+0.1**
ONI	**Oni**	**1.39**	**43**	P	**Pn**	**00 04 48.2**	**-0.1**
ONI				S	**Sg**	**00 05 08.1**	**+0.6**
GUDG	**Gudauri**	**1.93**	**62**	P	**Pn**	**00 04 56.7**	**+0.7**
GUDG				S	**Sg**	**00 05 24.2**	**-0.7**

IDC ***27*** *00:09:09.8±0.8,51˚.62N×173˚.19W,h0km,mb4.1/22, mb1 4.3/25,mb1mx4.2/46,mbtmp4.1/25,ML4.0/3,MS3.1/6, Ms1 3.0/6,ms1mx2.7/59,Error ellipse: s-maj=23.4km s-min=12.9km az=169.0*
ISCJB ***27*** *00:09:13.5±0.5,51˚.48N±0˚.07×173˚.09W±0˚.05,h37km, mb4.1/34,MS3.1/5,Error ellipse: s-maj=10.0km s-min=4.0km az=178.3*
NEIC ***27*** *00:09:13.2±0.0,51˚.49N×173˚.24W,h14km,mb4.3/6, ML3.7(AEIC),After AEIC.*

ISC 27 00:09:15.4±0.6,51˚59N±0˚.10×173˚15W±0˚.05,h37km,n75, σ1s06/70,mb4.2/34,MS3.1/5,1C-4D,Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATKA	**Atka Island**	**0.89**	**314**	P	**Pn**	**00 09 29.8**	**-1.6**
ATKA				S	**Sn**	**00 09 45.9**	**+2.8**
KOSE	**Korovin Southe**	**0.94**	**324**	P	**Pn**	**00 09 32.1**	**0.0**
KOKL	**Mount Kliuchef**	**0.98**	**319**	P	**Pn**	**00 09 32.4**	**-0.3**
KONE	**Korovin Northe**	**1.00**	**324**	P	**Pn**	**00 09 33.1**	**+0.2**
GSTD	**Great Sitkin T**	**1.92**	**285**	P	**Pn**	**00 09 45.0**	**-0.5**
GSTD				S	**Sn**	**00 10 10.2**	**+1.7**
GSCK	**Great Sitkin C**	**1.92**	**284**	P	**Pn**	**00 09 44.7**	**-0.8**
ETKA	**Kagalaska Isla**	**2.04**	**279**	P	**Pn**	**00 09 46.6**	**-0.6**
ADAG	**Mount Adagdak**	**2.18**	**282**	P	**Pn**	**00 09 49.6**	**+0.6**
ADK	**Adak**	**2.22**	**279**	*e*Pn	**Pn**	**00 09 48.5**	**-1.0**
ADK				*e*S	**Sn**	**00 10 15.3**	**-0.4**
KIRH	**Kanaga Island**	**2.47**	**279**	P	**Pn**	**00 09 52.0**	**-1.1**
KIKV	**Kanaga Island**	**2.52**	**278**	P	**Pn**	**00 09 54.4**	**+0.7**
TAFL	**Tanaga Flats**	**2.96**	**275**	P	**Pn**	**00 10 00.3**	**+0.5**
NIKH	**Nikolski High**	**2.98**	**61**	P	**Pn**	**00 10 01.2**	**+1.1**
TAFP	**Tanaga Falls P**	**3.02**	**278**	P	**Pn**	**00 10 00.8**	**+0.2**
TAFP				S	**Sn**	**00 10 37.7**	**+2.1**
AKUT	**Akutan**	**5.14**	**57**	*e*Pn	Pn	00 10 36.0	+6.3
KDAK	**Kodiak Island**	**13.38**	**54**	Pn	**Pn**	**00 12 23.8**	**+1.3**
	0.4nm,0.3s,baz=230,slow=7.9,SNR=4.7						
KDAK				Sn	**S**	**00 15 09.6**	**-3.0**
	0.1nm,0.3s,baz=125,slow=21,SNR=3.0						
KDAK	**Kodiak Island**	**13.38**	**54**	*e*Pn	**P**	**00 12 29.3**	**-2.1**
KDAK				Sn	**S**	**00 15 09.6**	**-3.0**
SEW	**Seward**	**15.72**	**48**	*e*Pn	**P

AFI	**Afiamalu**	**65.23**	**179**	LR	LR	00 40 47.7		
	comp=Z,112nm,20.8s,baz=46,slow=29							
FINES	**FINESS Array B**	**66.27**	**350**	P	**P**	**00 19 58.4**	**-0.8**
	2.2nm,0.9s,baz=20,slow=6.3,SNR=6.0							
AAK	**Ala-Archa**	**69.37**	**313**	*eP*	**P**	**00 20 19.6**	**+0.4**
	4.0nm,0.8s							
ABKAR	**Akbulak array**	**69.82**	**326**	*eP*	**P**	**00 20 21.7**	**0.0**
	2.0nm,0.4s							
CMAR	**Chiang Mai Arr**	**74.48**	**280**	P	**P**	**00 20 50.1**	**+0.1**
	0.8nm,0.4s,baz=21,slow=6.6,SNR=5.3							
AKASG	**Malin Array Be**	**76.33**	**346**	P	**P**	**00 20 59.1**	**-1.0**
	1.6nm,0.4s,baz=16,slow=5.9,SNR=5.8							
BRG	**Berggiesshubel**	**77.73**	**355**	*eP*	**P**	**00 21 07.8**	**-0.2**
	3.2nm,0.8s							
GERES	**GERESS Array B**	**79.77**	**355**	P	**P**	**00 21 19.4**	**0.0**
	0.6nm,0.5s,baz=23,slow=4.8,SNR=12							
BURAR	**Bucovina Array**	**79.92**	**347**	⇓*iP*	**P**	**00 21 20.0**	**-0.2**
KBZ	**Khabaz**	**80.06**	**334**	P	**P**	**00 21 20.7**	**-0.1**
	2.0nm,0.7s,baz=150,slow=4.0,SNR=6.8							
GEYT	**Alibeck**	**80.23**	**321**	P	**P**	**00 21 22.3**	**+0.4**
	1.8nm,0.8s,baz=352,slow=9.0,SNR=5.5							
CONA	**Conrad Observa**	**80.56**	**354**	*eP*	**P**	**00 21 23.7**	**+0.1**
	1.7nm,0.9s							
MOA	**Molln**	**80.73**	**355**	*eP*	**P**	**00 21 26.8**	**+2.4**
	0.4nm,0.3s							
DRGR		**81.05**	**349**	⇓*iP*	**P**	**00 21 26.0**	**-0.2**
ARSA	**Arzberg**	**81.26**	**354**	*eP*	**P**	**00 21 27.8**	**+0.5**
	1.9nm,0.8s							
MOTA	**Moosalm**	**81.38**	**357**	*iP*	**P**	**00 21 28.8**	**+0.7**
	0.7nm,0.6s							
KBA	**Koelnbreinsper**	**81.55**	**356**	*eP*	**P**	**00 21 30.0**	**+1.0**
	3.7nm,0.6s							
SOKA	**Soboth**	**81.86**	**354**	*iP*	**P**	**00 21 30.6**	**+0.1**
	1.1nm,0.6s							
CFR	**Carcaliu**	**81.87**	**345**	⇓*iP*	**P**	**00 21 29.4**	**-1.1**
MLR	**Muntele Rosu**	**81.90**	**347**	⇑*iP*	**P**	**00 21 29.6**	**-1.2**
MYKA	**Terra Mystica**	**81.98**	**355**	*iP*	**P**	**00 21 33.2**	**+2.0**
	1.6nm,0.5s							
OBKA	**Obir**	**82.05**	**355**	*iP*	**P**	**00 21 32.4**	**+0.8**
	2.7nm,1.1s							
BZS	**Buzias**	**82.34**	**350**	⇓*iP*	**P**	**00 21 32.8**	**-0.1**
WRA	**Warramunga Arr**	**84.71**	**229**	P	**P**	**00 21 44.2**	**-1.1**
	0.6nm,0.6s,baz=32,slow=5.9,SNR=9.2							
BRTR	**Keskin Array B**	**86.10**	**340**	P	**P**	**00 21 52.4**	**0.0**
	1.5nm,0.8s,baz=28,slow=4.8,SNR=7.8							
ASAR	**Alice Springs**	**88.13**	**227**	P	**P**	**00 22 01.9**	**-0.2**
	1.1nm,0.6s,baz=26,slow=4.7,SNR=12							
MDT	**Midelt**	**95.35**	**10**	P	**P**	**00 22 35.2**	**-0.5**
	1.6nm,1.0s,baz=326,slow=3.6,SNR=2.0							
BOSA	**Boshof**	**153.22**	**322**	PKPbc	**PKPbc**	**00 29 09.0**	**-0.1**
	3.6nm,1.0s,baz=297,slow=3.3,SNR=4.2							

IDC 27 00:33:17.9±16.0, 7°.33S×127°.98E, h122km±178km, mb3.1/2, mb1 3.7/5, mb1mx3.3/48, mbtmp3.9/5, ML3.9/2, Error ellipse: s-maj=152.1km s-min=58.3km az=40.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**10.95**	**192**	P	Pn	00 35 51.3	+0.2
FITZ				S	Sn	00 37 41.9	-10
WRA	**Warramunga Arr**	**13.97**	**154**	P	Pn	00 36 29.8	-0.9
	0.6nm,0.3s,baz=328,slow=12,SNR=31						
WRA				S	Sn	00 38 54.1	-11
	1.4nm,0.3s,baz=332,slow=22,SNR=11						
ASAR	**Alice Springs**	**17.21**	**161**	P	Pn	00 37 11.1	+0.2
	0.3nm,0.3s,baz=342,slow=11,SNR=32						
ASAR				S	Sn	00 40 13.5	-10
	0.2nm,0.3s,baz=325,slow=21,SNR=3.9						
MKAR	**Makanchi Array**	**67.42**	**328**	P	P	00 44 00.5	+0.2
	0.3nm,0.5s,baz=124,slow=7.9,SNR=4.5						
KURBB	**Kurchatov Arra**	**71.75**	**329**	P	P	00 44 26.6	-0.2
	0.3nm,0.5s,baz=130,slow=5.4,SNR=3.0						

*KRNET **27** 00:33:30.9±0.1, 40°.90N×73°.50E, h19km, mb4.1*
*NNC **27** 00:33:35.2±1.3, 41°.15N×73°.44E, h0km, mb4.2, mpv3.9, Error ellipse: s-maj=10.1km s-min=4.6km az=6.0*
*SOME **27** 00:33:41.0, 41°.28N×73°.47E, h25km*
ISC 27 00:33:30.6±1.2, 40°.97N±0°.03×73°.54E±0°.02, h0km±11km, n52, σ1§62/92, 32C-24D, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ARSB	**Arslanbob**	**0.55**	**310**	⇑*iP*	**Pb**	**00 33 43.1**	**-0.1**
	baz=317						
OHH	**Osh**	**0.72**	**232**	⇓*iP*	**Pg**	**00 33 43.7**	**-0.8**
	baz=236						
OHH				⇓*iS*	**Sg**	**00 33 52.7**	**-1.1**
	baz=236						
TOKL	**Toktogul**	**1.09**	**333**	⇓*iP*	**Pn**	**00 33 54.2**	**+1.0**
	baz=336						
TOKL				⇓*iS*	**Sn**	**00 34 09.5**	**+0.4**
	baz=336						
AML	**Almayashu**	**1.17**	**6**	⇓*iP*	**Pn**	**00 33 54.1**	**-0.4**
	baz=6.0						
AML				⇓*iS*	**Sn**	**00 34 10.7**	**-0.7**
	baz=6.0						
ARK	**Arkit**	**1.45**	**305**	⇓*iP*	**Pg**	**00 33 59.0**	**+0.7**
	baz=308						
ARK				⇓*iS*	**Sn**	**00 34 19.1**	**+1.2**
	baz=308						
UCH	**Uchtor**	**1.46**	**30**	⇑*iP*	**Pb**	**00 33 59.5**	**+0.7**
	baz=29						
UCH				⇑*iS*	**Sn**	**00 34 18.8**	**+0.2**
	baz=29						
KZA	**Kyzart**	**1.70**	**49**	⇑*iP*	**Pg**	**00 34 03.4**	**+0.3**
	baz=48						
KZA				⇑*iS*	**Sg**	**00 34 26.7**	**+1.6**
	baz=48						
EKS2	**Erkin-Say**	**1.70**	**6**	⇓*iP*	**Pg**	**00 34 03.8**	**+0.6**
	baz=7.0						
EKS2				⇓*iS*	**Sg**	**00 34 27.2**	**+1.9**
	baz=7.0						
MNAS	**Manas**	**1.70**	**333**	⇓*iP*	**Pg**	**00 34 03.7**	**+0.4**
	baz=335						
MNAS				⇓*iS*	**Sg**	**00 34 27.1**	**+1.7**
	baz=335						
MNAS	**Manas**	**1.70**	**333**	⇑Pn	**Pb**	**00 34 03.0**	**+0.1**
	61nm,0.4s						
MNAS				⇑Sn	**Sg**	**00 34 25.3**	**-0.1**
	171nm,0.5s						
MRKS	**Merke**	**1.79**	**353**	*eP*	**Pg**	**00 34 05.8**	**+0.9**
	378nm,0.5s						
MRKS				*eS*	**Sn**	**00 34 23.1**	**-3.2**
	491nm,0.4s						
AAK	**Ala-Archa**	**1.81**	**23**	⇓*iP*	**Pg**	**00 34 06.1**	**+0.7**
	baz=23						
AAK				⇓*iS*	**Sg**	**00 34 30.1**	**+1.2**
	baz=23						
AAK	**Ala-Archa**	**1.81**	**23**	⇑Pn	**Pg**	**00 34 06.0**	**+0.7**
	139nm,0.5s						
AAK				⇓Sn	**Sg**	**00 34 29.6**	**+0.7**
	97nm,0.3s						
NRN	**Naryn**	**1.92**	**75**	⇑*iP*	**Pb**	**00 34 06.8**	**+0.2**
	baz=74						
NRN				⇑*iS*	**Sg**	**00 34 32.9**	**+0.8**
	baz=74						
KBK	**Karagaybulak**	**1.99**	**32**	⇓*iP*	**Pg**	**00 34 09.0**	**+0.3**
	baz=31						
KBK				⇓*iS*	**Sg**	**00 34 35.6**	**+1.1**
	baz=31						
FRU1	**Bishkek**	**2.01**	**24**	⇑*iP*	**Pg**	**00 34 09.3**	**+0.1**
	baz=23						
FRU1				⇑*iS*	**Sg**	**00 34 36.9**	**+1.6**
	baz=23						
CHMS	**Chumysh**	**2.22**	**24**	⇑*iP*	**Pb**	**00 34 12.0**	**+0.4**
	baz=24						
CHMS				⇑*iS*	**Sg**	**00 34 41.9**	**-0.1**
	baz=24						
BTK	**Batken**	**2.26**	**247**	⇑*iP*	**Pn**	**00 34 10.1**	**+0.8**
	baz=249						
BTK				⇑*iS*	**Sn**	**00 34 39.0**	**+1.0**
	baz=249						
BOOM	**Boomskoye usch**	**2.35**	**49**	⇑*iP*	**Pb**	**00 34 14.0**	**0.0**
	baz=48						
BOOM				⇑*iS*	**Sg**	**00 34 45.2**	**-1.1**
	baz=48						
KSH	**Kashi**	**2.36**	**127**	Pn	**Pb**	**00 34 14.5**	**+0.5**
KSH				pP	Pg	00 34 22.0	+6.2
KSH				Sn	**Sb**	**00 34 45.0**	**+1.2**
KSH				pmax	pmax		
	comp=Z,55nm,0.5s						
KSH				smax	smax		
	comp=N,280nm,0.4s						
KSH				smax	smax		
	comp=E,210nm,0.4s						
ULHL	**Ulahol**	**2.40**	**57**	⇓*eP*	**Pb**	**00 34 13.6**	**-1.1**
	baz=56						
ULHL				⇓*iS*	**Sb**	**00 34 44.8**	**-0.1**
	baz=56						
USP	**Ospenovka**	**2.41**	**17**	⇑*iP*	**Pb**	**00 34 14.1**	**-0.7**
	baz=17						
USP				⇑*iS*	**Sg**	**00 34 46.3**	**-1.6**
	baz=17						
TKM2	**Tokmak 2**	**2.48**	**38**	⇑*iP*	**Pb**	**00 34 15.3**	**-0.9**
	baz=37						
TKM2				⇑*iS*	**Sg**	**00 34 48.4**	**-2.0**
	baz=37						
TKM2	**Tokmak 2**	**2.48**	**38**	⇑Pn	**Pb**	**00 34 15.3**	**-0.9**
	comp=E,32nm,0.5s						
TKM2				⇑Pg	**Pg**	**00 34 19.9**	**+1.7**
	comp=E,40nm,0.4s						
TKM2				⇓Lg	Lg	00 34 49.0	
	comp=E,221nm,0.6s						
DZA	**Taraz**	**2.53**	**320**	*eP*	**Pg**	**00 34 20.5**	**+1.4**
	comp=E,172nm,0.6s						
DZA				*eS*	**Sb**	**00 34 49.2**	**+0.6**
	comp=E,1μm,0.5s						
KST	**Kastek**	**2.75**	**40**	*eP*	**Pg**	**00 34 26.1**	**+2.8**
	comp=E,11nm,0.4s						
KST				*eS*	**Sg**	**00 34 58.4**	**-0.6**
	comp=E,117nm,0.6s						
DGS	**Degeres**	**2.81**	**35**	*eP*	**Pg**	**00 34 27.3**	**+2.7**
	comp=E,64nm,0.6s						
DGS				*eS*	**Sg**	**00 35 00.8**	**-0.2**
	comp=E,107nm,0.3s						
IUG	**Iuzhnay**	**2.88**	**295**	*eP*	**Pg**	**00 34 25.4**	**-0.4**
	comp=E,82nm,0.4s						
IUG				*eS*	**Sb**	**00 34 56.9**	**-1.9**
	comp=E,676nm,0.5s						
KDJ	**Kajisay**	**2.97**	**66**	⇑*iP*	**Pn**	**00 34 21.6**	**+2.5**
	baz=65						
KDJ				⇑*eS*	**Sb**	**00 34 59.3**	**-2.0**
	baz=65						
MTBS	**Maitube**	**3.05**	**44**	*eP*	**Pg**	**00 34 31.8**	**+2.7**
	comp=E,43nm,0.4s						
MTBS				*eS*	**Sg**	**00 35 07.7**	**-0.8**
	comp=E,142nm,0.3s						
IZV	**Izvestkoviy**	**3.08**	**47**	*eP*	**Pg**	**00 34 31.6**	**+1.9**
	comp=E,49nm,0.4s						
IZV				*eS*	**Sg**	**00 35 08.0**	**-1.7**
	comp=E,383nm,0.5s						
KK31	**Karatay Array**	**3.10**	**314**	Pg	**Pg**	**00 34 28.9**	**-1.2**
	comp=E,6.8nm,0.3s,baz=127,slow=16,SNR=43						
KK31				Lg	Lg	00 35 08.8	
	comp=E,66nm,0.4s,baz=133,slow=29,SNR=11						
CHM	**Chimkent**	**3.24**	**296**	*eP*	**Pg**	**00 34 34.8**	**+2.0**
	comp=E,85nm,0.3s						
CHM				*eS*	**Sg**	**00 35 13.5**	**-1.3**
	comp=E,389nm,0.5s						
TNSS	**Tian-Shan**	**3.27**	**50**	*eP*	**Pg**	**00 34 35.8**	**+2.4**
	comp=E,21nm,0.4s						
TNSS				*eS*	**Sg**	**00 35 14.8**	**-1.0**
	comp=E,404nm,0.7s						
AAA	**Alma-Ata**	**3.37**	**47**	*eP*	**Pg**	**00 34 37.5**	**+2.4**
	comp=E,83nm,0.2s						
AAA				*eS*	**Sg**	**00 35 17.3**	**-1.4**
	comp=E,516nm,0.3s						
KNDC	**Almaty**	**3.40**	**47**	⇑Pg	**Pg**	**00 34 36.7**	**+1.0**
	comp=E,50nm,0.6s						
KNDC				⇑Lg	Lg	00 35 20.7	
	comp=E,387nm,1.1s						
MDOK	**Medeo**	**3.41**	**49**	⇑Pg	**Pg**	**00 34 36.8**	**+0.8**
MDOK				⇑Lg	Lg	00 35 18.6	
MDOK	**Medeo**	**3.41**	**49**	*eP*	**Pg**	**00 34 38.1**	**+2.1**
	comp=E,26nm,0.4s						
MDOK				*eS*	**Sg**	**00 35 18.5**	**-1.7**
	comp=E,96nm,0.9s						
BRLS	**Borolday**	**3.44**	**308**	*eP*	**Pg**	**00 34 38.1**	**+1.5**
	comp=E,3.9nm,0.5s						
BRLS				*eS*	**Sg**	**00 35 19.4**	**-1.8**
	comp=E,141nm,0.5s						
CHKK	**Chushkaly**	**3.85**	**40**	*eP*	**Pg**	**00 34 46.0**	**+1.6**
	comp=E,23nm,0.5s						
CHKK				*eS*	**Sg**	**00 35 32.3**	**-2.0**
	comp=E,174nm,0.4s						
SATY	**Saty**	**4.18**	**58**	*eP*	**Pg**	**00 34 51.9**	**+1.1**
	comp=E,33nm,0.2s						
SATY				*eS*	**Sg**	**00 35 42.1**	**-2.9**
	comp=E,104nm,0.3s						
KURS	**Kuram**	**4.26**	**52**	*eP*	**Pg**	**00 34 54.3**	**+2.1**
	comp=E,4.3nm,0.5s						
KURS				*eS*	**Sg**	**00 35 46.3**	**-1.2**
	comp=E,33nm,0.5s						
ARXS	**Arharly**	**4.53**	**43**	*eP*	**Pg**	**00 34 57.7**	**+0.2**
	comp=E,15nm,0.5s						
ARXS				*eS*	**Sg**	**00 35 52.5**	**-3.7**
	comp=E,73nm,0.5s						
KPKS	**Kokpek**	**4.56**	**55**	*eP*	**Pg**	**00 34 58.6**	**+0.6**
	comp=E,32nm,0.7s						
KPKS				*eS*	**Sg**	**00 35 54.0**	**-3.2**
	comp=E,208nm,0.5s						
UZB	**Uzynbulak**	**4.63**	**60**	*eP*	**Pg**	**00 34 59.1**	**-0.1**
	comp=E,24nm,0.4s						
UZB				*eS*	**Sg**	**00 35 54.9**	**-4.3**
	comp=E,97nm,0.4s						
PDGK	**Podgornoye**	**5.01**	**60**	⇑Pn	Pn	00 34 53.3	+6.1
	comp=E,6.8nm,0.5s						
PDGK				⇑Lg	Lg	00 36 09.3	
	comp=E,60nm,0.5s						
TDK	**Taldyqorghan**	**5.38**	**40**	*eP*	**Pg**	**00 35 12.8**	**-0.9**
	comp=E,8.6nm,0.2s						
TDK				*eS*	**Sg**	**00 36 19.0**	**-4.5**
	comp=E,8.0nm,0.9s						
DJR	**Jarkent**	**5.71**	**52**	*eP*	**Pg**	**00 35 20.9**	**+1.0**
	comp=E,7.7nm,0.3s						
DJR				*eS*	**Sg**	**00 36 32.6**	**-1.2**
	comp=E,35nm,0.5s						
KAPS	**Kapalarasan**	**6.06**	**43**	*eP*	**Pg**	**00 35 26.8**	**+0.1**
	comp=E,5.5nm,0.5s						
KAPS				*eS*	**Sg**	**00 36 42.3**	**-2.9**
	comp=E,22nm,0.5s						
MAKZ	**Makanchi**	**8.44**	**43**	⇓Lg	Lg	00 38 00.7	
	comp=E,6.7nm,1.1s						
MK31	**Makanchi Array**	**8.59**	**44**	⇓Pg	Pn	00 35 50.5	+14
	comp=E,1.4nm,0.6s,baz=225,slow=13,SNR=7.0						
MK31				⇓Lg	Lg	00 38 04.3	
	comp=E,3.9nm,0.7s,baz=238,slow=24,SNR=5.1						
KURK	**Kurchatov**	**10.37**	**18**	⇓Lg	Lg	00 38 55.2	
	comp=E,18nm,1.1s						

*ISCJB **27** 00:36:00.4±0.6, 21°.81N±0°.07×145°.5E±0°.1, h36km, mb4.1/20, MS3.1/1, Error ellipse: s-maj=19.3km s-min=9.8km az=165.2*
*IDC **27** 00:36:06.3±4.7, 21°.83N×145°.37E, h70km±42km, mb3.7/16, mb1 3.8/18, mb1mx3.6/57, mbtmp4.0/18, ML4.0/2, MS3.1/3, Ms1 3.1/3, ms1mx2.8/34, Error ellipse: s-maj=24.7km s-min=13.2km az=80.0*
*NEIC **27** 00:36:07.2±2.0, 21°.82N×145°.36E, h80km±17km, mb4.3/3, Error ellipse: s-maj=14.0km s-min=7.6km az=79.0*
ISC 27 00:36:02.5±0.7, 21°.8N±0°.1×145°.4E±0°.2, h36km, n28, σ0§74/28, mb4.1/20, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GUMO	**Guam**	**8.22**	**184**	LR	LR	00 40 50.6	
	comp=Z,279nm,19.3s,baz=33,slow=35						
MJAR	**Matsushiro Arr**	**15.94**	**338**	P	**P**	**00 39 47.5**	**+0.2**
	0.4nm,0.3s,baz=148,slow=12,SNR=4.0						
MJAR				LR	LR	00 45 49.5	
	comp=Z,26nm,20.7s,baz=245,slow=37						
JNU	**Nakatsue**	**17.09**	**314**	P	**P**	**00 40 00.2**	**0.0**
	0.4nm,0.3s,baz=135,slow=14,SNR=3.0						
KSRS	**Korea Array**	**21.70**	**320**	P	**P**	**00 40 51.8**	**+1.4**
	1.4nm,0.5s,baz=140,slow=9.8,SNR=7.1						
KSAR	**Wonju Array Be**	**21.72**	**320**	P	**P**	**00 40 51.8**	**+1.2**
USRK	**Ussuriysk Ar.**	**24.92**	**337**	P	**P**	**00 41 23.4**	**+1.3**
	1.3nm,0.7s,baz=137,slow=43,SNR=3.2						
PETK	**Petropavlovsk-**	**32.61**	**14**	LR	LR	00 57 11.7	
	comp=Z,34nm,18.6s,baz=300,slow=39						
HNR	**Honiara**	**34.19**	**154**	P	**P**	**00 42 44.9**	**+0.2**
	66nm,0.3s,baz=70,slow=5.7,SNR=2.5						
WRAB	**Tennant Creek**	**42.90**	**195**	*eP*	**P**	**00 43 57.7**	**-0.1**
	2.6nm,0.5s						
WRA	**Warramunga Arr**	**42.91**	**195**	P	**P**	**00 43 57.6**	**-0.2**
	2.2nm,0.6s,baz=19,slow=8.7,SNR=12						
CMAR	**Chiang Mai Arr**	**43.65**	**274**	P	**P**	**00 44 04.1**	**+0.2**
	0.5nm,0.4s,baz=82,slow=7.4,SNR=3.3						
TLY	**Talaya**	**43.88**	**323**	P	**P**	**00 44 06.6**	**+1.2**
	1.8nm,0.5s,baz=73,slow=17,SNR=2.5						
FITZ	**Fitzroy Crossi**	**44.17**	**208**	P	**P**	**00 44 08.5**	**+0.5**
	2.3nm,0.7s,baz=29,slow=12,SNR=8.2						
ASAR	**Alice Springs**	**46.60**	**195**	P	**P**	**00 44 26.9**	**-0.3**
	0.9nm,0.6s,baz=14,slow=7.2,SNR=9.9						
ZALV	**Zalesovo Beam**	**55.40**	**321**	P	**P**	**00 45 31.9**	**-1.2**
	1.0nm,0.5s,baz=103,slow=8.2,SNR=6.2						
ZALV				PcP	**PcP**	**00 46 33.0**	**-0.1**
	0.6nm,0.5s,baz=25,slow=3.8,SNR=2.9						
MKAR	**Makanchi Array**	**56.14**	**312**	P	**P**	**00 45 38.0**	**-0.5**
	0.4nm,0.6s,baz=97,slow=9.9,SNR=4.2						
MKAR				PcP	**PcP**	**00 46 35.8**	**-0.3**
	0.8nm,0.6s,baz=63,slow=4.5,SNR=5.4						
KDAK	**Kodiak Island**	**56.91**	**34**	P	**P**	**00 45 44.0**	**+0.3**
	2.7nm,0.9s,baz=315,slow=7.1,SNR=2.2						
KURK	**Kurchatov**	**58.80**	**317**	P	**P**	**00 45 55.8**	**-1.2**
	6.8nm,0.7s						
KURBB	**Kurchatov Arra**	**58.85**	**317**	P	**P**	**00 45 56.7**	**-0.8**
	1.3nm,0.5s,baz=93,slow=7.7,SNR=17						
ILAR	**Eielson Array**	**60.97**	**27**	P	**P**	**00 46 11.6**	**-0.3**
	0.4nm,0.7s,baz=256,slow=5.1,SNR=4.9						
AAK	**Ala-Archa**	**61.73**	**308**	P	**P**	**00 46 17.5**	**-0.1**
	0.4nm,0.3s,baz=241,slow=12,SNR=2.2						
ABKAR	**Akbulak array**	**70.89**	**316**	*eP*	**P**	**00 47 15.2**	**-0.6**
	0.6nm,0.4s						
KBZ	**Khabaz**	**83.76**	**315**	P	**P**	**00 48 28.3**	**+0.2**
	2.6nm,0.8s,baz=82,slow=8.5,SNR=7.4						
FINES	**FINESS Array B**	**83.94**	**335**	P	**P**	**00 48 27.9**	**-0.7**
	1.4nm,0.5s,baz=76,slow=5.0,SNR=18						
AKASG	**Malin Array Be**	**88.59**	**325**	P	**P**	**00 48 50.8**	**-0.8**
	0.5nm,0.4s,baz=56,slow=5.2,SNR=3.3						
TORD	**Torodi Ar. Bea**	**130.25**	**311**	PKP	**PKPdf**	**00 55 09.9**	**+0.1**
	0.2nm,0.5s,baz=16,slow=1.6,SNR=5.0						
LPAZ	**La Paz**	**147.85**	**86**	PKPbc	**PKPbc**	**00 55 46.0**	**+0.7**
	1.1nm,0.6s,baz=332,slow=4.5,SNR=4.9						
LPAZ	**La Paz**	**147.85**	**86**	PKPbc	**PKPbc**	**00 55 46.0**	**+0.7**

*IDC **27** 00:37:32.8±0.9, 17°.70S×178°.25W, h498km±10km, mb4.4/31, mb1 4.5/35, mb1mx4.5/41, mbtmp5.3/35, Error ellipse: s-maj=8.8km s-min=7.8km az=154.0*
*ISCJB **27** 00:37:32.6±0.6, 17°.75S±0°.03×178°.32W±0°.02, h507km±7km, mb5.0/301, Error ellipse: s-maj=4.8km s-min=3.1km az=160.6*
*MOS **27** 00:37:33.8±1.2, 17°.57S×178°.31W, h510km, mb4.9/48, Error ellipse: s-maj=8.8km s-min=6.2km az=46.9*
*BJI **27** 00:37:34.0, 17°.80S×178°.30W, h527km, mb4.7/34, mB5.0/22*
*NEIC **27** 00:37:35.0±0.1, 17°.76S×178°.34W, mb4.8/221, Error ellipse: s-maj=4.4km s-min=2.7km az=138.0*
*GCMT **27** 00:37:35.0±0.5, 17°.71S×178°.32W, h547km±3km, MW5.3/44, Moment Tensor Solution. s44,c63; Duration: 1§1 Moment tensor: Scale 10^17 Nm; Mrr 0.03±.04; Mθθ -0.23±.07; Mφφ 0.19±.06; Mrθ 0.14±.07; Mrφ 0.57±.06; Mθφ -1.00±.05; Best double couple: M0 1.17800×10^17 NP1: ϕs 170.00000°, δ89.00000°, λ121.00000°. NP2: ϕs 261.00000°, δ31.00000°, λ2.00000°. Principal axes: T 1.1980, Plg38.0000°, Azm108.0000°; N -0.0380, Plg31.0000°, Azm350.0000°; P -1.1590, Plg37.0000°, Azm233.0000°; nsta1 refers to body waves, cutoff=40s.*
ISC 27 00:37:35.4±0.3, 17°.75S±0°.04×178°.25W±0°.04, h530km±3km, h531km; pP-P, n932, σ1§17/1115, mb4.9/301, 31C-28D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MSVF	**Nonsavu**	**3.53**	**270**	*eP*	**P**	**00 38 53.8**	**+1.3**
MSVF	**Nonsavu**	**3.53**	**270**	*eP*	**P**	**00 38 53.8**	**+1.3**
MSVF				*eS*	**S**	**00 40 00.5**	**+5.2**
AFI	**Afiamalu**	**7.30**	**59**	P	**P**	**00 39 22.2**	**-3.5**
	106nm,0.3s,baz=310,slow=22,SNR=20						
AFI				S	**S**	**00 40 47.6**	**-8.6**
	12nm,0.3s,baz=346,slow=19,SNR=2.5						
AFI	**Afiamalu**	**7.30**	**59**	*eP*	**P**	**00 39 22.2**	**-3.5**
AFI				*eS*	**S**	**00 40 58.6**	**+2.5**
AFI	**Afiamalu**	**7.30**	**59**	*eP*	**P**	**00 39 22.2**	**-3.5**
AFI				*eS*	**S**	**00 40 58.6**	**+2.5**
FUNA	**Funafuti**	**9.49**	**345**	*eP*	**P**	**00 39 47.4**	**-0.6**
FUNA				*eS*	**S**	**00 41 38.9**	**+2.1**
RAO	**Raoul Island**	**11.46**	**179**	P	**P**	**00 40 07.1**	**-1.1**
	88nm,0.3s,baz=84,slow=22,SNR=8.5						
RAO				S	**S**	**00 42 12.4**	**-1.4**
	26nm,0.3s,baz=82,slow=23,SNR=6.1						
RAO	**Raoul Island**	**11.46**	**179**	*eP*	**P**	**00 40 07.0**	**-1.1**
RAO				*eS*	**S**	**00 42 12.8**	**-1.1**
RAO	**Raoul Island**	**11.46**	**179**	*eP*	**P**	**00 40 07.0**	**-1.2**
RAO				*eS*	**S**	**00 42 12.8**	**-1.1**
DZM	**Mont Dzumac**	**15.02**	**251**	P	**P**	**00 40 44.0**	**-1.6**
	3.0nm,0.3s,baz=74,slow=17,SNR=38						
DZM				S	**S**	**00 43 22.1**	**-0.2**
	0.1nm,0.3s,baz=107,slow=19,SNR=2.0						
DZM	**Mont Dzumac**	**15.02**	**251**	*eP*	**P**	**00 40 42.8**	**-2.8**
	217nm,1.1s						
DZM	**Mont Dzumac**	**15.02**	**251**	*eP*	**P**	**00 40 42.3**	**-3.2**
	68nm,0.8s						
DZM				*eS*	**S**	**00 43 22.1**	**-0.2**
RAR	**Rarotonga**	**17.76**	**104**	P	**P**	**00 41 12.3**	**+0.2**
	7.2nm,0.3s,baz=250,slow=6.8,SNR=66						
RAR	**Rarotonga**	**17.76**	**104**	*eP*	**P**	**00 41 12.3**	**+0.2**
RAR				pmax	pmax		
	comp=Z,305nm,0.9s						
RAR	**Rarotonga**	**17.76**	**104**	*eP*	**P**	**00 41 12.3**	**+0.2**
	comp=Z,305nm,0.9s	

comp=Z,193nm,0.8s
FOZ **Fox Glacier** 27.62 199 PN P 00 42 38.3 -1.7
LBZ **Lake Benmore** 28.29 198 eP P 00 42 43.9 -2.0
comp=Z,130nm,1.1s
LBZ **Lake Benmore** 28.29 198 PN P 00 42 43.7 -2.2
JCZ **Jackson Bay** 28.43 200 PN P 00 42 46.4 -0.9
ODZ **Otahua Downs** 28.76 196 eP P 00 42 48.7 -1.4
comp=Z,215nm,1.9s
WKZ **Wanaka** 29.04 199 eP P 00 42 51.9 -0.5
comp=Z,113nm,0.9s
PMOR **Pomariorio Ree** 29.24 89⇑ eP P 00 42 54.7 +0.2
comp=Z,469nm,1.2s
VAH **Vaihoa** 29.45 90⇑ eP P 00 42 56.2 -0.2
comp=Z,265nm,1.1s
EIDS **Eidsvold** 29.47 250 P P 00 42 55.6 -0.8
baz=30,SNR=53
EIDS **Eidsvold** 29.47 250 eP P 00 42 55.8 -0.6
comp=Z,120nm,0.8s
EIDS ePcP PcP 00 45 45.3 -0.1
MLZ **Mavora Lakes** 29.80 200 eP P 00 42 57.9 -1.2
comp=Z,152nm,0.7s
KWAJ **Kwajalein Atol** 29.85 331 eP P 00 42 57.3 -2.5
KWAJ **Kwajalein Atol** 29.85 331 eP P 00 42 57.2 -2.5
comp=Z,374nm,1.1s
ARMA **Armidale** 30.15 240 P P 00 43 03.1 +0.7
baz=30,SNR=160
ARMA **Armidale** 30.15 240 eP P 00 43 02.8 +0.3
comp=Z,176nm,0.7s
DCZ **Deep Cove** 30.20 201 eP P 00 43 02.5 0.0
comp=Z,64nm,0.8s
WHZ **Wether Hill Ro** 30.32 199 eP P 00 43 02.4 -1.1
comp=Z,168nm,1.0s
MGCD **Mangrove Creek** 31.51 235 P P 00 43 14.8 +0.9
baz=32,SNR=44
RMQ **Roma** 31.71 248 P P 00 43 16.3 +0.6
baz=32,SNR=25
RABL **Rabaul** 31.95 291 eP P 00 43 16.1 -1.8
comp=Z,209nm,0.6s
CTA **Charters Tower** 33.62 260 P P 00 43 31.6 -0.5
comp=Z,73nm,0.7s,baz=89,slow=11,SNR=94
CTA PcP PcP 00 45 57.6 +0.7
comp=Z,11nm,0.6s,baz=108,slow=2.8,SNR=4.1
CTA ScP ScP 00 48 55.0 +3.7
comp=Z,29nm,1.1s,baz=68,slow=3.9,SNR=14
CTAO **Charters Tower** 33.62 260 eP P 00 43 31.4 -0.7
CTAO e 00 45 57.7
CTAO pmax pmax
comp=Z,91nm,0.8s
CTAO **Charters Tower** 33.62 260 eP P 00 43 31.4 -0.7
comp=Z,91nm,0.8s
CTAO ePcP PcP 00 45 57.7 +0.7
CNB **Canberra Magne** 33.65 232 P P 00 43 32.9 +0.8
baz=34,SNR=48
CAN **Canberra** 33.92 232 eP P 00 43 34.8 +0.4
CAN pmax pmax
comp=Z,145nm,0.9s
CAN **Canberra** 33.92 232 eP P 00 43 34.8 +0.4
comp=Z,145nm,0.9s
YNG **Young** 34.01 234 P P 00 43 41.4 +6.2
baz=34,SNR=18
MILA **Mila** 34.51 230 P P 00 43 39.8 +0.6
baz=35,SNR=11
PMG **Port Moresby** 34.58 279 P P 00 43 40.3 +0.2
comp=Z,105nm,0.9s,baz=90,slow=5.1,SNR=20
PMG **Port Moresby** 34.58 279 eP P 00 43 40.1 -0.1
PMG pmax pmax
comp=Z,155nm,0.9s
PMG **Port Moresby** 34.58 279 eP P 00 43 40.1 -0.1
comp=Z,155nm,0.9s
CMSA **Cobar Meteorol** 35.36 240 P P 00 43 46.6 +0.2
baz=36,SNR=168
MTSU **Mount Surprise** 35.58 263 P P 00 43 47.8 -0.6
baz=36,SNR=52
QLP **Quilpie** 35.73 249 P P 00 43 49.2 -0.4
baz=36,SNR=119
MANU **Manus Island** 37.18 291 eP P 00 44 01.9 +0.2
comp=Z,451nm,0.9s
COEN **Coen** 37.26 270 P P 00 44 02.4 +0.1
baz=38,SNR=54
COEN **Coen** 37.26 270 eP P 00 44 02.3 +0.1
comp=Z,109nm,1.0s
TOO **Toolangi** 37.39 231 P P 00 44 03.7 +0.6
baz=38,SNR=170
TAOE **Nuku Hiva Isla** 38.05 82 eP P 00 44 08.7 -0.2
comp=Z,216nm,0.9s
MOO **Moorlands** 38.31 223 P P 00 44 11.3 +0.7
baz=39,SNR=15
TAU **Tasmania Unive** 38.46 222 eP P 00 44 11.9 +0.2
TAU e 00 46 13.4
TAU pmax pmax
comp=Z,112nm,1.1s
TAU **Tasmania Unive** 38.46 222 eP P 00 44 11.9 +0.2
comp=Z,112nm,1.1s
TAU ePcP PcP 00 46 13.4 +2.2
STKA **Stephens Creek** 38.84 241 P P 00 44 15.5 +0.6
comp=Z,166nm,0.8s,baz=89,slow=9.4,SNR=202
STKA PcP PcP 00 46 13.7 +1.1
comp=Z,15nm,0.7s,baz=45,slow=2.9,SNR=3.2
STKA ScP ScP 00 49 14.6 +4.0
comp=Z,13nm,0.8s,baz=57,slow=3.0,SNR=6.2
STKA **Stephens Creek** 38.84 241 P P 00 44 15.5 +0.6
baz=39,SNR=131
STKA **Stephens Creek** 38.84 241 eP P 00 44 15.6 +0.6
STKA e 00 46 13.8
STKA pmax pmax
comp=Z,61nm,1.1s
STKA **Stephens Creek** 38.84 241 eP P 00 44 15.6 +0.6
comp=Z,61nm,1.1s
STKA ePcP PcP 00 46 13.8 +1.1
STKA eScP ScP 00 49 14.9 +4.3
QIS **Mount Isa** 39.83 259 P P 00 44 22.1 -1.1
baz=40,SNR=9.2
ARPS **Mount Arapiles** 39.87 233 P P 00 44 23.4 +0.2
baz=40,SNR=35
RKT **Rikitea** 40.80 105⇑ eP P 00 44 31.4 +0.6
comp=Z,158nm,1.0s
HTT **Hallett** 41.36 239 P P 00 44 35.6 +0.4
baz=42,SNR=157
JAY **Jayapura** 43.01 286 P P 00 44 48.9 +0.5
comp=Z,24nm,0.8s,baz=175,slow=22,SNR=47
JAY **Jayapura** 43.01 286 P P 00 44 49.1 +0.7
comp=Z,276nm,0.9s,comp=Z,3μm
MLH **Mauna Loa** 43.29 32 eP P 00 44 51.9 +1.2
MLH pmax pmax
comp=Z,250nm,1.5s
MLH **Mauna Loa** 43.29 32 eP P 00 44 50.5 -0.2
comp=Z,189nm,1.3s
GENI **Genyem** 43.47 285 P P 00 44 52.9 +0.9
comp=Z,863nm,0.7s,comp=Z,8μm
BBOO **Buckleboo** 43.62 241 P P 00 44 53.0 +0.1
baz=44,SNR=570
BBOO **Buckleboo** 43.62 241 eP P 00 44 52.7 -0.2
comp=Z,321nm,0.8s
WC3 **Warramunga Arr** 44.78 259 eP P 00 45 00.8 -1.3
comp=Z,79nm,0.6s
WC3 ePcP PcP 00 46 33.5 +0.6
WRAB **Tennant Creek** 44.80 259 *d* iP P 00 45 00.9 -1.3
WRAB pmax pmax
comp=Z,312nm,1.5s
WRAB **Tennant Creek** 44.80 259 eP P 00 45 00.2 -2.0
comp=Z,65nm,0.6s
WR1 **Warramunga Arr** 44.81 259 eP P 00 45 01.0 -1.3
comp=Z,98nm,0.6s
WR1 ePcP PcP 00 46 33.3 +0.3
WR1 eScP ScP 00 49 37.9 +3.0
WR1 eS S 00 50 55.7 -5.4
WR1 eScS ScS 00 54 03.3 +2.0
WRA **Warramunga Arr** 44.81 259 P P 00 45 01.0 -1.3
comp=Z,43nm,0.5s,baz=95,slow=6.9,SNR=438
WRA PcP PcP 00 46 33.3 +0.3
comp=Z,25nm,0.7s,baz=89,slow=3.5,SNR=11
WRA ScP ScP 00 49 37.9 +3.0
comp=Z,19nm,1.0s,baz=87,slow=4.3,SNR=22
WRA S S 00 50 55.7 -5.4
comp=Z,1.0nm,0.7s,baz=99,slow=15,SNR=4.9
WRA ScS ScS 00 54 03.3 +2.0
comp=Z,2.3nm,0.9s,baz=91,slow=5.8,SNR=3.8
AS01 **Alice Springs** 44.94 254 eP P 00 45 02.6 -0.6
AS01 ePcP PcP 00 46 33.6 +0.2
AS31 **Alice Springs** 44.98 254 eP P 00 45 02.8 -0.8
comp=Z,162nm,0.6s
AS31 ePcP PcP 00 46 33.7 +0.1
ASAR **Alice Springs** 44.98 254 P P 00 45 03.2 -0.4
comp=Z,449nm,0.5s,baz=89,slow=8.2,SNR=3733
ASAR PcP PcP 00 46 33.7 +0.1
comp=Z,32nm,0.5s,baz=106,slow=3.7,SNR=10
ASAR ScP ScP 00 49 39.0 +3.5
comp=Z,8.8nm,0.6s,baz=99,slow=4.4,SNR=9.9
ASAR S S 00 51 00.9 -2.6
comp=Z,3.8nm,0.9s,baz=91,slow=16,SNR=7.8
ASAR ScS ScS 00 54 04.0 +1.6
comp=Z,4.4nm,0.9s,baz=92,slow=6.4,SNR=6.6
SMPI **Sarmi** 45.04 285 P P 00 45 04.6 +0.5
comp=Z,300nm,0.8s,comp=Z,3μm
KDU **Kakadu** 47.71 269 P P 00 45 23.9 -0.4
baz=48,SNR=17
GUMO **Guam** 47.90 308 P P 00 45 25.2 -0.4
comp=Z,116nm,0.6s,baz=153,slow=7.4,SNR=9.0
GUMO **Guam** 47.90 308 eP P 00 45 26.0 +0.3
GUMO pmax pmax
comp=Z,159nm,0.8s
GUMO **Guam** 47.90 308 eP P 00 45 26.0 +0.3
comp=Z,158nm,0.8s
MTN **Manton Dam** 48.95 268 P P 00 45 32.7 -0.9
baz=49,SNR=37
MTN **Manton Dam** 48.95 268 eP P 00 45 32.7 -0.9
comp=Z,104nm,0.9s
SAUI **Saumlaki** 50.00 274 eP P 00 45 41.3 0.0
comp=Z,315nm,1.1s
WRKA **Warakurna** 50.04 252 P P 00 45 41.3 -0.2
baz=50,SNR=245
FORT **Forrest** 50.21 244 eP P 00 45 42.0 -0.7
comp=Z,3μm,0.6s
KNRA **Kununurra** 50.66 264 P P 00 45 45.6 -0.5
baz=51,SNR=35
FAKI **Fak Fak** 50.70 281 P P 00 45 46.3 -0.1
comp=Z,95nm,1.1s,comp=Z,1μm
FAKI **Fak Fak** 50.70 281 eP P 00 45 46.0 -0.5
comp=Z,179nm,1.4s
SWI **Sorong** 52.35 283 P P 00 45 58.6 +0.2
BNDI **Bandanaira** 52.36 278 P P 00 45 59.6 +1.1
comp=Z,485nm,1.0s,comp=Z,6μm
MSAI **Masohi** 53.67 279 P P 00 46 08.0 +0.2
comp=Z,63nm,0.7s,comp=Z,772nm
AAI **Ambon** 54.24 278 P P 00 46 11.9 0.0
comp=Z,338nm,0.5s
NLAI **Namlea** 55.42 278 P P 00 46 19.3 -0.8
comp=Z,345nm,0.6s,comp=Z,3μm
LBMI **Labuha** 55.94 282 P P 00 46 24.8 +1.1
comp=Z,379nm,0.8s,comp=Z,3μm
SOEI **Soe** 56.22 270 P P 00 46 26.4 +0.6
comp=Z,538nm,0.9s,comp=Z,4μm
SOEI **Soe** 56.22 270 eP P 00 46 26.9 +1.1
comp=Z,385nm,0.9s
SANI **Sanana** 56.87 279 P P 00 46 30.0 -0.1
comp=Z,330nm,0.8s,comp=Z,3μm
MBWA **Marble Bar** 58.26 256 eP P 00 46 38.0 -1.5
comp=Z,241nm,1.5s
MMRI **Maumere** 58.45 271 P P 00 46 40.0 -0.8
comp=Z,228nm,0.9s
MMRI **Maumere** 58.45 271 eP P 00 46 39.5 -1.4
comp=Z,131nm,0.7s
EDFI **Ende, Flores** 58.94 270 P P 00 46 43.1 -1.2
BBSI **Bau Bau** 59.01 274 P P 00 46 46.5 +1.8
comp=Z,16nm,0.6s
KLBR **Kellerberrin** 59.04 243 P P 00 46 43.8 -0.8
baz=59,SNR=66
NWAO **Narrogin (SRO)** 59.42 242 P P 00 46 46.9 -0.2
comp=Z,34nm,0.6s,baz=338,slow=6.3,SNR=27
NWAO **Narrogin (SRO)** 59.42 242 P P 00 46 46.9 -0.2
baz=60,SNR=18
NWAO P P 00 46 46.9 -0.2
baz=60,SNR=18
NWAO **Narrogin (SRO)** 59.42 242 eP P 00 46 46.0 -1.1
NWAO e 00 47 29.3
NWAO pmax pmax
comp=Z,184nm,1.5s
NWAO **Narrogin (SRO)** 59.42 242 eP P 00 46 46.0 -1.1
comp=Z,184nm,1.5s
NWAO ePcP PcP 00 47 29.3 +1.1
RKGY **Rocky Gully** 59.58 240 P P 00 46 48.5 +0.3
baz=60,SNR=7.9
SBA **Scott Base** 60.59 184 eP P 00 46 56.6 +2.5
SBA pmax pmax
comp=Z,50nm,1.1s
SBA **Scott Base** 60.59 184 eP P 00 46 56.6 +2.5
comp=Z,50nm,1.1s
VNDA **Vanda** 60.62 185 P P 00 46 55.8 +1.5
comp=Z,7.6nm,0.7s,baz=355,slow=7.5,SNR=44
VNDA PcP PcP 00 47 33.7 +1.6
comp=Z,2.7nm,0.8s,baz=13,slow=6.5,SNR=2.7
VNDA ScP ScP 00 50 46.1 +3.7
comp=Z,3.2nm,0.8s,baz=357,slow=2.7,SNR=5.1
VNDA **Vanda** 60.62 185 eP P 00 46 55.6 +1.4
VNDA e 00 47 33.2
VNDA pmax pmax
comp=Z,44nm,1.5s
VNDA **Vanda** 60.62 185 eP P 00 46 55.6 +1.4
comp=Z,44nm,1.5s
VNDA ePcP PcP 00 47 33.2 +1.1
DAV **Davao City (W)** 60.69 289 eP P 00 46 56.2 +0.4
comp=Z,279nm,0.6s
APSI **Ampana** 61.33 279 P P 00 47 01.2 +1.2
MRSI **Marisa** 61.53 281 P P 00 47 00.8 -0.5
comp=Z,167nm,0.8s,comp=Z,2μm
SPSI **Sidrap Palu** 62.13 275 P P 00 47 04.4 -0.9
comp=Z,116nm,0.8s,comp=Z,1μm
TTSI **Tana Toraja** 62.37 276 P P 00 47 07.0 +0.2
comp=Z,80nm,0.7s,comp=Z,1μm
PLAI **Plampang** 62.65 269 P P 00 47 08.4 -0.2
comp=Z,293nm,0.8s,comp=Z,3μm
PCI **Palu** 63.04 278 P P 00 47 12.6 +1.5
comp=Z,380nm,0.9s,comp=Z,4μm
TWSI **Taliwang, Sumb** 63.52 269 P P 00 47 13.6 -0.6
comp=Z,296nm,0.8s,comp=Z,3μm
IGBI **Denpasar** 65.16 268 P P 00 47 24.7 +0.1
comp=Z,369nm,0.8s,comp=Z,4μm
JAGI **Jajag, Banyuwa** 66.20 268 P P 00 47 29.6 -1.5
comp=Z,364nm,0.8s,comp=Z,3μm
JAGI **Jajag, Banyuwa** 66.20 268 eP P 00 47 29.6 -1.5
comp=Z,239nm,0.7s
MYLDM **Laad Datu** 66.42 284 eP P 00 47 33.1 +0.7
comp=Z,168nm,1.2s
KMMI **Kalianget** 66.76 270 P P 00 47 35.2 +0.6
comp=Z,172nm,0.9s
GMJI **Gumukmas** 66.92 268 P P 00 47 35.1 -0.5
comp=Z,181nm,0.6s,comp=Z,2μm
MJA0 **Matsu Arr-Jizo** 67.85 323 eP P 00 47 40.2 -0.6
MJA0 pmax pmax
comp=Z,11nm,0.5s
MJAR **Matsushiro Arr** 67.87 323 P P 00 47 40.2 -0.7
comp=Z,11nm,0.6s,baz=154,slow=6.3,SNR=22
MJAR PcP PcP 00 48 03.9 +1.0
comp=Z,1.4nm,0.4s,baz=130,slow=4.7,SNR=2.6
MAJO **Matsushiro** 67.87 323⇑ iP P 00 47 40.4 -0.5
MAJO pmax pmax
comp=Z,76nm,0.9s
MAJO **Matsushiro** 67.87 323 eP P 00 47 40.7 -0.2
comp=Z,17nm,0.6s
MJB9 **Matsu-Tunnel** 67.87 323 eP P 00 47 40.7 -0.2
comp=Z,4.4nm,0.6s
PWJI **Pagerwojo** 68.55 268 P P 00 47 45.2 -0.3
comp=Z,166nm,0.6s,comp=Z,2μm
KKM **Kota Kinabalu** 68.85 284 eP P 00 47 46.5 -1.0
comp=Z,120nm,0.7s
PCJI **Pacitan** 69.10 268 P P 00 47 49.1 +0.2
comp=Z,684nm,0.9s,comp=Z,6μm
UGM **Wanagama** 69.80 268 eP P 00 47 52.9 -0.2
comp=Z,374nm,0.5s
SMRI **Semarang** 70.12 269 eP P 00 47 55.1 +0.1
comp=Z,200nm,0.8s
SMRI ePcP PcP 00 48 07.5 -5.4
JNU **Nakatsue** 70.13 316 P P 00 47 54.5 -0.1
comp=Z,9.9nm,0.7s,baz=186,slow=2.7,SNR=5.1
JNU **Nakatsue** 70.13 316 eP P 00 47 54.5 -0.1
comp=Z,14nm,0.9s
SBUM **Sibu** 71.33 279 eP P 00 48 01.5 -0.5
comp=Z,56nm,0.8s
KPJI **Kang Pucung** 71.48 268 P P 00 48 03.0 0.0
comp=Z,240nm,0.8s,comp=Z,2μm
CMJI **Cimerak** 71.81 267 P P 00 48 03.6 -1.3
comp=Z,206nm,0.9s,comp=Z,2μm
NACB **Ninganchiao** 71.95 304 eP P 00 48 04.6 -0.9
comp=Z,130nm,1.4s
TPUB **Ta-pu** 72.30 302 eP P 00 48 06.4 -1.1
comp=Z,43nm,0.7s
QSPA **South Pole Qui** 72.31 180 eP P 00 48 08.1 +1.1
CISI **Cisompet, Garu** 72.48 268 eP P 00 48 07.4 -1.4
comp=Z,237nm,0.6s
KSM **Kuching** 72.81 277 eP P 00 48 11.2 +0.5
comp=Z,281nm,0.8s
CNJI **Cibinong** 73.20 268 P P 00 48 12.5 -0.4
comp=Z,363nm,0.9s,comp=Z,3μm
PETK **Petropavlovsk-** 73.56 345 P P 00 48 13.9 -0.1
comp=Z,8.0nm,0.8s,baz=131,slow=6.5,SNR=3.6
PETK **Petropavlovsk-** 73.56 345 P P 00 48 14.0 -0.1
PETK pmax pmax
comp=Z,9.0nm,0.8s
PEA1 **Petropavlovsk-** 73.57 345 eP P 00 48 13.9 -0.2
KSRS **Korea Array** 74.68 318 P P 00 48 21.0 +0.3
comp=Z,4.7nm,0.7s,baz=132,slow=6.4,SNR=22
KSRS **Korea Array** 74.68 318 P P 00 48 21.0 +0.3
KSRS pmax pmax
comp=Z,5.0nm,0.7s
KS15 **Wonju Array Si** 74.70 318 eP P 00 48 21.0 +0.1
KS01 **Wonju Array Si** 74.71 318 eP P 00 48 20.6 -0.4
CGJI **Cibinong** 74.77 268 P P 00 48 21.1 -0.7
comp=Z,743nm,0.5s,comp=Z,8μm
SNCC **San Nicolas Is** 75.56 48 P P 00 48 26.8 +1.0
baz=237
BSC **Santa Cruz Isl** 75.89 47 P P 00 48 28.5 +0.8
baz=237
MSHR **Mys Shultsa** 75.96 324*c* eP P 00 48 29.7 +2.0
SCI **San Clemente I** 76.11 48 P P 00 48 29.4 +0.5
baz=238
SAO **San Andreas Ge** 76.20 44 eP P 00 48 30.2 +0.9
SAO pmax pmax
comp=Z,41nm,0.8s
SAO **San Andreas Ge** 76.20 44 eP P 00 48 30.2 +0.9
comp=Z,41nm,0.8s
KASI **Kota Agung** 76.22 269 P P 00 48 29.1 -0.8
comp=Z,421nm,0.8s,comp=Z,3μm
KLSI **Kota Agung** 76.23 269 P P 00 48 28.9 -1.1
comp=Z,28nm,1.1s
PKM **Mcpherson Peak** 76.25 46 P P 00 48 30.6 +0.8
baz=237
PMPB **Monarch Peak** 76.32 45 eP P 00 48 31.1 +1.1
comp=Z,29nm,0.7s
BLG **Laguna Peak, P** 76.35 47 P P 00 48 30.7 +0.5
baz=237
SMMC **Simmler** 76.36 46 P P 00 48 31.4 +1.1
baz=236
PTRM **Twissleman Ran** 76.41 45 eP P 00 48 28.0 -2.5
PAGB **Antelope Grade** 76.42 45 eP P 00 48 31.3 +0.8
comp=Z,15nm,0.6s
CIS **Catalina Islan** 76.43 48 P P 00 48 30.9 +0.2
baz=238
HOPS **Hopland Field** 76.45 41 eP P 00 48 30.8 +0.2
comp=Z,58nm,1.4s
USRK **Ussuriysk Ar.** 76.57 326 P P 00 48 31.8 +0.8
comp=Z,3.9nm,0.5s,baz=131,slow=6.2,SNR=7.6
KMRM **Mail Ridge** 76.79 40 eP P 00 48 33.6 +1.0
comp=Z,63nm,0.8s
KMRM epP pP 00 50 25.6 +0.4
OSI **Osito Audit: C** 76.86 47 eP P 00 48 33.4 +0.3
comp=Z,25nm,1.0s
DECC **Green Verdugo** 76.94 47 P P 00 48 33.8 +0.4
baz=238
PASC **Pasadena Art C** 77.00 48 eP P 00 48 33.7 0.0
comp=Z,27nm,0.8s
ARVC **Arvin** 77.06 46 P P 00 48 34.5 +0.5
baz=237
109C **Camp Elliot, M** 77.10 49 P P 00 48 34.8 +0.5
baz=239
MWC **Mount Wilson** 77.12 48 eP P 00 48 34.5 -0.1
MWC pmax pmax
comp=Z,32nm,0.6s
MWC **Mount Wilson** 77.12 48 eP P 00 48 34.5 -0.1
comp=Z,32nm,0.6s
CHFC **Chilao Flat St** 77.20 47 eP P 00 48 37.9 +2.9
VES **Vestal, Richgr** 77.27 46 P P 00 48 35.5 +0.3
baz=237,SNR=14
BAR **Barrett** 77.31 49 eP P 00 48 36.0 +0.5
comp=Z,17nm,1.0s
BAR epP pP 00 50 27.4 -0.9
MURC **Murrieta** 77.40 48 P P 00 48 36.4 +0.5
baz=239,SNR=8.6
BFSC **Mount Baldy Ra** 77.41 48 P P 00 48 36.4 +0.3
baz=238,SNR=12
RCTC **Rector, Farmer** 77.42 45 P P 00 48 36.4 +0.5
baz=237
EDW2 **Edwards Air Fo** 77.51 47 P P 00 48 37.2 +0.7
baz=238,SNR=34
OHAK **Old Harbor** 77.54 14 eP P 00 48 35.9 -0.1
comp=Z,17nm,0.7s
ISA **Isabella, Lake** 77.59 46 P P 00 48 37.8 +0.7
baz=237,SNR=10
ISA **Isabella, Lake** 77.59 46 eP P 00 48 37.7 +0.7
ISA pmax pmax
comp=Z,37nm,0.9s
ISA **Isabella, Lake** 77.59 46 eP P 00 48 37.7 +0.7
comp=Z,37nm,0.9s
ISA epP pP 00 50 33.7 +3.7
MONP **Monument Peak,** 77.59 49 P P 00 48 38.1 +0.8
baz=239,SNR=36
CMB **Columbia Colle** 77.62 43 eP P 00 48 37.4 +0.3
CMB e*PP pP 00 50 30.7 +0.7
CMB pmax pmax
comp=Z,25nm,0.8s
CMB **Columbia Colle** 77.62 43 eP P 00 48 37.4 +0.3
comp=Z,26nm,0.8s
CMB epP pP 00 50 30.7 +0.7
IKP **In-Ko-Pah, Jac** 77.70 50 P P 00 48 38.6 +1.0
baz=240,SNR=18
WDC **Whiskeytown Da** 77.72 40 eP P 00 48 38.5 +1.0
WDC pmax pmax
comp=Z,32nm,1.4s
WDC **Whiskeytown Da** 77.72 40 eP P 00 48 38.5 +1.0
comp=Z,32nm,1.4s
AFDM **Forest Hills D** 77.76 42 eP P 00 48 38.1 +0.3
comp=Z,22nm,0.9s
ORV **Oroville** 77.77 41 eP P 00 48 38.2 +0.5
ORV pmax pmax
comp=Z,17nm,1.0s
ORV **Oroville** 77.77 41 eP P 00 48 38.2 +0.5
comp=Z,17nm,1.0s
N02D **Trinity Center** 77.86 40 P P 00 48 39.3 +1.0
baz=233,SNR=5.9
PFO **Pinyon Flats O** 77.93 49 P P 00 48 39.6 +0.6
comp=Z,9.8nm,0.9s,baz=276,slow=2.7,SNR=13
PFO **Pinyon Flats O** 77.93 49 P P 00 48 39.5 +0.6
baz=239,SNR=10
PFO **Pinyon Flats O** 77.93 49 eP P 00 48 39.5 +0.6
PFO pmax pmax
comp=Z,17nm,1.1s
PFO **Pinyon Flats O** 77.93 49 eP P 00 48 39.5 +0.6
comp=Z,17nm,1.1s
PFO epP pP 00 50 35.3 +3.3
BBRC **Big Bear Solar** 77.94 48 P P 00 48 39.7 +0.6
baz=239
HABR **Khabarovsk** 77.95 330 eP P 00 48 37.5 -0.9
HABR *e* 00 48 44.9
HABR e*PP pP 00 50 30.3 -1.3
HABR *e* 00 51 42.4
HABR ePPP PPP 00 53 34.4
HABR eS S 00 57 46.9 -1.5
HABR *e* 00 58 07.3
HABR eSS SS 01 03 03.1 -1.9
HABR eSSS SSS 01 06 33.3
HABR pmax pmax
comp=N,33nm,1.8s
HABR pmax pmax
comp=Z,102nm,1.8s
HABR pmax pmax
comp=E,38nm,1.8s
HABR MLR MLR
comp=Z,52nm,21.0s
NJ2 **Nanjing** 77.95 309 eP P 00 48 38.8 -0.1
NJ2 pmax pmax
comp=Z,15nm,0.5s
O03D **Paynes Creek** 78.01 41 P P 00 48 39.5 +0.4
baz=234,SNR=8.8
M02C **Callahan** 78.01 39 P P 00 48 40.2 +1.1
baz=233,SNR=5.8
MNAI **Manna** 78.02 269 P P 00 48 40.5 +0.8
comp=Z,464nm,0.7s,comp=Z,6μm
MNAI **Manna** 78.02 269 eP P 00 48 39.3 -0.4
comp=Z,309nm,0.8s
L02D **Cave Junction,** 78.03 38 P P 00 48 40.2 +1.1
baz=233
LRMC **Laurel Mtn Rad** 78.04 47 P P 00 48 40.2 +0.7
baz=238,SNR=15
SWSC **Sam W. Stewart** 78.07 50 P P 00 48 40.2 +0.7
baz=240,SNR=12
DLV **T Lat** 78.10 287 eP P 00 48 40.4 +0.2
comp=Z,50nm,0.8s
MDJ **Mudanjiang** 78.14 325 P P 00 48 39.8 +0.2
MDJ pP pP 00 50 33.0 +0.2
MDJ sP sP 00 51 26.5 -0.8
MDJ S S 00 57 49.5 -1.2
MDJ pmax pmax

comp=Z,14nm,1.0s
MDJ pmax pmax
comp=Z,71nm,4.2s
MDJ Mudanjiang 78.14 325 *e*P **P 00 48 40.3 +0.7**
comp=Z,20nm,0.7s
RRX Edison Barstow 78.20 47 P **P 00 48 40.6 +0.4**
baz=238
KDAK Kodiak Island 78.21 14 P **P 00 48 39.5 -0.1**
comp=Z,12nm,0.6s,baz=238,slow=5.3,SNR=23
KDAK Kodiak Island 78.21 14 *e*P **P 00 48 39.5 -0.1**
KDAK pmax pmax
comp=Z,70nm,1.6s
KDAK Kodiak Island 78.21 14 *e*P **P 00 48 39.5 -0.1**
comp=Z,70nm,1.6s
CWC Cottonwood Cre 78.28 46 P **P 00 48 41.3 +0.5**
baz=238
YBH Yreka Blue Hor 78.30 39 *e*P **P 00 48 41.7 +1.0**
YBH *e**PP **pP 00 50 32.4 -1.6**
YBH pmax pmax
comp=Z,13nm,0.8s
YBH Yreka Blue Hor 78.30 39 *e*P **P 00 48 41.7 +1.0**
comp=Z,13nm,0.8s
YBH *e*pP **pP 00 50 32.4 -1.6**
SLBS Sierra La Lagu 78.35 60 *e*P **P 00 48 42.4 +1.1**
comp=Z,30nm,0.7s
MLAC Mammoth, Mammo 78.41 44 P **P 00 48 42.3 +0.8**
baz=237,SNR=6.5
BELC Belle Mtn. Joe 78.46 49 P **P 00 48 42.5 +0.7**
baz=239,SNR=20
MPMC Manual Prospec 78.48 46 P **P 00 48 42.5 +0.6**
baz=238,SNR=20
WAKR Walker 78.50 43 *e*P **P 00 48 43.0 +1.0**
comp=Z,38nm,0.9s
TIN Tinemaha, Big 78.51 45 P **P 00 48 42.5 +0.6**
baz=237
DAC Darwin (Calif) 78.53 46 *e*P **P 00 48 42.6 +0.4**
DAC pmax pmax
comp=Z,10.0nm,0.8s
DAC Darwin (Calif) 78.53 46 *e*P **P 00 48 42.6 +0.4**
comp=Z,9.7nm,0.8s
GSC Goldstone, Bar 78.56 47 P **P 00 48 42.6 +0.4**
baz=239,SNR=8.7
GSC Goldstone, Bar 78.56 47 *e*P **P 00 48 42.9 +0.7**
GSC *e**PP **pP 00 50 36.6 +1.0**
GSC pmax pmax
comp=Z,34nm,1.5s
GSC Goldstone, Bar 78.56 47 *e*P **P 00 48 42.9 +0.7**
comp=Z,34nm,1.5s
GSC *e*pP **pP 00 50 36.6 +1.0**
LBCM Butte Creek Ri 78.61 40 *e*P **P 00 48 42.9 +0.5**
HEC Hector,Ludlow 78.65 48 P **P 00 48 43.1 +0.5**
baz=239,SNR=8.8
BEKR Beckworth 78.67 42 *e*P **P 00 48 43.4 +0.6**
comp=Z,21nm,0.9s
BEKR *e*pP **pP 00 50 35.4 -0.8**
BC3 Big Chuckawall 78.68 49 P **P 00 48 43.8 +0.9**
baz=240,SNR=12
HUMO Hull Mountain 78.68 38 *e*P **P 00 48 44.0 +1.4**
comp=Z,30nm,1.2s
PNTR Pine Nut 78.72 43 *e*P **P 00 48 44.0 +0.8**
comp=Z,64nm,0.9s
PNTR *e*pP **pP 00 50 36.6 +0.1**
TVH3 East Aurora ar 78.82 44 *e*P **P 00 48 44.5 +0.7**
comp=Z,18nm,0.9s
TVH3 *e*pP **pP 00 50 38.3 +1.2**
GLA Glamis 78.83 50 P **P 00 48 44.9 +1.2**
baz=240,SNR=18
GLA Glamis 78.83 50 *e*P **P 00 48 44.9 +1.2**
GLA *e**PP **pP 00 50 36.8 -0.3**
GLA pmax pmax
comp=Z,39nm,1.0s
GLA Glamis 78.83 50 *e*P **P 00 48 44.9 +1.2**
comp=Z,39nm,1.0s
GLA *e*pP **pP 00 50 36.8 -0.3**
M04C Macdoel 78.86 39 P **P 00 48 44.5 +0.7**
baz=234,SNR=5.6
TVH2 Borealis Mine 78.88 44 *e*P **P 00 48 44.7 +0.7**
comp=Z,19nm,0.8s
TVH2 *e*pP **pP 00 50 36.3 -1.2**
YERR Yerington 78.89 43 *e*P **P 00 48 44.7 +0.7**
comp=Z,44nm,0.8s
YERR *e*pP **pP 00 50 37.0 -0.5**
TVH1 TV Hill, Hawth 78.91 44 *e*P **P 00 48 45.0 +0.7**
comp=Z,34nm,1.0s
TVH1 *e*pP **pP 00 50 36.4 -1.5**
MYKOM Kota Tinggi 79.03 275 *e*P **P 00 48 44.6 -0.5**
comp=Z,54nm,0.6s
GRAC Grapevine Rang 79.06 45 P **P 00 48 45.8 +1.0**
baz=238,SNR=13
GMRC Granite Mounta 79.10 48 P **P 00 48 45.7 +0.5**
baz=239,SNR=11
FURC Furnace Creek, 79.13 46 P **P 00 48 45.7 +0.7**
baz=238,SNR=10
IRM Iron Mountain 79.15 49 P **P 00 48 46.2 +0.9**
baz=240,SNR=15
PAHR Pah Rah Range 79.20 42 *e*P **P 00 48 46.3 +0.7**
comp=Z,22nm,0.8s
PAHR *e*pP **pP 00 50 39.2 0.0**
SHOC Shoshone, Teco 79.24 47 P **P 00 48 46.2 +0.5**
baz=239,SNR=10
TUQ Turquoise Moun 79.25 47 P **P 00 48 46.5 +0.6**
baz=239,SNR=14
Y12C Blythe 79.40 49 P **P 00 48 47.6 +1.1**
baz=240,SNR=14
Y12C Blythe 79.40 49 *e*P **P 00 48 47.7 +1.1**
comp=Z,20nm,0.8s
Y12C *e*pP **pP 00 50 40.3 +0.1**
K04D Chiloquin, OR 79.40 39 P **P 00 48 47.2 +0.7**
baz=234
113A Mohawk Valley, 79.47 51 *e*P **P 00 48 48.1 +1.1**
comp=Z,44nm,1.3s
113A *e*pP **pP 00 50 40.1 -0.5**
J04D Umpqua Nationa 79.56 38 P **P 00 48 48.1 +0.7**
baz=234,SNR=9.3
LDFC Landfair 79.64 48 *e*P **P 00 48 49.1 +1.2**
comp=Z,54nm,1.0s
LDFC *e*pP **pP 00 50 44.7 +3.0**
I04A Tendick Farm, 79.71 38 P **P 00 48 48.1 +0.1**
baz=233
214A Organ Pipe Nat 79.79 52 P **P 00 48 49.9 +1.1**
baz=242,SNR=14
TPNV Topopah Spring 79.80 46 P **P 00 48 49.6 +0.7**
baz=239,SNR=18
TPNV Topopah Spring 79.80 46 *e*P **P 00 48 49.5 +0.7**
TPNV *e**PP **pP 00 50 42.4 -0.3**
TPNV *e* 00 51 55.9
TPNV pmax pmax
comp=Z,18nm,0.8s
TPNV Topopah Spring 79.80 46 *e*P **P 00 48 49.5 +0.7**
comp=Z,18nm,0.8s
TPNV *e*pP **pP 00 50 42.4 -0.3**
TPNV *e*PP **PP 00 51 55.9 -4.1**
HSIG 79.87 55 *e*P **P 00 48 49.9 +0.7**
comp=Z,16nm,0.8s
PDMCI Parker Dam,Lak 79.95 49 P **P 00 48 50.4 +1.0**
baz=240
K05A Summer Lake 79.98 39 *e*P **P 00 48 48.0 -1.6**
comp=Z,42nm,1.0s
CN2 Changchun 79.98 322 *e*P **P 00 48 50.0 +0.6**
CN2 pmax pmax
comp=Z,20nm,1.0s
KLR Kul'dur 80.05 329 ⇑*i*P **P 00 48 49.7 +0.1**
G03D McMinnville, O 80.08 36 P **P 00 48 50.3 +0.4**
baz=232
J05D Fort Rock, OR 80.10 38 P **P 00 48 51.2 +1.0**
baz=234,SNR=24
SHPR Sheep Range 80.32 47 *e*P **P 00 48 51.9 +0.3**
comp=Z,19nm,1.1s
SHPR *e*pP **pP 00 50 47.6 +2.1**
BRLK Bradley Lake 80.38 14 *e*P **P 00 48 50.6 -0.6**
comp=Z,19nm,0.8s
W13A Hualapai Mount 80.52 49 *e*P **P 00 48 53.6 +0.9**
comp=Z,9.3nm,1.0s
W13A *e*pP **pP 00 50 48.8 +2.0**
Y14A Wickenburg 80.59 50 *e*P **P 00 48 53.8 +0.9**
comp=Z,74nm,1.0s
Y14A *e*pP **pP 00 50 47.5 +0.5**
RSO Redoubt South 80.61 12 *e*P **P 00 48 52.2 -0.4**
I05D Terrebonne, OR 80.66 38 P **P 00 48 53.6 +0.6**
baz=234
TDH Tom, Dick, Har 80.96 37 *e*P **P 00 48 54.8 +0.1**
R11A Troy Canyon, C 80.97 45 P **P 00 48 55.4 +0.5**
baz=239,SNR=18
R11A Troy Canyon, C 80.97 45 *e*P **P 00 48 55.2 +0.3**
comp=Z,12nm,1.0s
R11A *e*pP **pP 00 50 50.1 +0.9**

BMN Battle Mountai 80.99 43 *e*P **P 00 48 55.6 +0.6**
BMN *e**PP **pP 00 50 49.0 -0.2**
BMN pmax pmax
comp=Z,28nm,1.0s
BMN Battle Mountai 80.99 43 *e*P **P 00 48 55.5 +0.6**
comp=Z,28nm,1.0s
BMN *e*pP **pP 00 50 49.0 -0.2**
WVOR Wild Horse Val 81.19 40 *e*P **P 00 48 56.5 +0.6**
WVOR pmax pmax
comp=Z,40nm,1.0s
WVOR Wild Horse Val 81.19 40 *e*P **P 00 48 56.5 +0.6**
comp=Z,40nm,1.0s
FL2 Flat Top 2 81.19 36 *e*P **P 00 48 56.9 +1.1**
G05D Wamic, OR 81.20 37 P **P 00 48 56.2 +0.4**
baz=234
BKNI Bangkinang 81.25 273 P **P 00 48 56.5 -0.2**
comp=Z,221nm,1.1s,comp=Z,2µm
BKNI Bangkinang 81.25 273 *e*P **P 00 48 57.0 +0.3**
comp=Z,180nm,1.0s
SPU Mount Spurr 81.41 12 *e*P **P 00 48 55.3 -1.2**
PDSI Padang 81.42 272 P **P 00 48 56.0 -1.6**
comp=Z,86nm,0.6s,comp=Z,9µm
TUC Tucson 81.48 52 P **P 00 48 59.0 +1.4**
baz=243
TUC Tucson 81.48 52 *e*P **P 00 48 59.0 +1.4**
TUC *e**PP **pP 00 50 50.6 -1.4**
TUC pmax pmax
comp=Z,35nm,0.9s
TUC Tucson 81.48 52 *e*P **P 00 48 59.0 +1.4**
comp=Z,35nm,0.9s
TUC *e*pP **pP 00 50 50.6 -1.4**
G06A Carlson Farm, 81.59 37 *e*P **P 00 48 58.0 +0.2**
comp=Z,37nm,1.3s
RC01 Rabbit Creek A 81.83 14 *e*P **P 00 48 57.8 -0.8**
comp=Z,11nm,1.0s
LCMT Little Creek M 81.91 47 *e*P **P 00 49 00.7 +0.9**
comp=Z,27nm,0.9s
LCMT *e*pP **pP 00 50 53.3 -1.0**
SUA Susitna One 81.94 13 *e*P **P 00 48 58.2 -1.1**
comp=Z,16nm,0.6s
SUA *e*pP **pP 00 50 53.1 -0.8**
X16A Lo Mia Camp, P 81.96 50 *e*P **P 00 49 01.4 +1.3**
comp=Z,36nm,0.9s
X16A *e*pP **pP 00 50 54.1 -0.6**
CCUT Cedar City 82.09 47 *e*P **P 00 49 00.9 +0.1**
comp=Z,25nm,0.9s
CCUT *e*pP **pP 00 50 55.2 -0.2**
KNB Kanab 82.21 47 *e*P **P 00 49 02.4 +1.1**
KNB *e**PP **pP 00 50 56.3 +0.4**
KNB pmax pmax
comp=Z,33nm,0.9s
KNB Kanab 82.21 47 *e*P **P 00 49 02.4 +1.1**
comp=Z,32nm,0.9s
KNB *e*pP **pP 00 50 56.3 +0.4**
319A Douglas 82.21 54 *e*P **P 00 49 02.6 +1.3**
comp=Z,70nm,1.0s
PSUT Pine Spring 82.24 46 *e*P **P 00 49 01.3 -0.2**
comp=Z,19nm,0.7s
GLI Glacier Island 82.26 15 *e*P **P 00 48 60.0 -0.8**
comp=Z,24nm,0.7s
TT01 Tatalina 82.26 10 *e*P **P 00 49 00.8 +0.1**
TTA Tatalina 82.29 10 *e*P **P 00 49 01.0 +0.1**
TTA pmax pmax
comp=Z,6.0nm,0.6s
TTA Tatalina 82.29 10 *e*P **P 00 49 01.0 +0.1**
comp=Z,5.5nm,0.6s
U15A North Rim 82.30 48 *e*P **P 00 49 03.0 +1.1**
comp=Z,60nm,0.8s
U15A *e*pP **pP 00 50 58.4 +1.8**
SZCU Shurtz Canyon 82.30 47 *e*P **P 00 49 02.8 +1.0**
comp=Z,24nm,1.0s
SZCU *e*pP **pP 00 50 54.2 -2.3**
WUAZ Wupatki 82.52 49 P **P 00 49 03.9 +1.0**
baz=242
WUAZ Wupatki 82.52 49 *e*P **P 00 49 03.8 +0.9**
comp=Z,37nm,1.0s
WUAZ *e*pP **pP 00 50 56.9 -0.8**
A04D Lummi Island 82.52 33 P **P 00 49 03.0 +0.7**
baz=232
IPM Ipoh 82.55 277 *e*P **P 00 49 03.9 +0.5**
comp=Z,130nm,0.7s
B05A Bryant 82.57 34 P **P 00 49 03.0 +0.4**
baz=233
LTY Liberty 82.75 35 *e*P **P 00 49 03.7 0.0**
comp=Z,15nm,0.9s
PKCU Pink Cliffs 82.77 47 *e*P **P 00 49 05.7 +1.3**
comp=Z,28nm,0.9s
E07A Sunnyside 82.80 36 *e*P **P 00 49 03.9 +0.1**
comp=Z,35nm,1.0s
DIV Divide 82.80 15 *e*P **P 00 49 02.8 -0.8**
comp=Z,15nm,0.7s
HAWA Hanford 82.88 37 *e*P **P 00 49 04.5 +0.3**
comp=Z,31nm,0.9s
BMRM Bremner River 82.96 16 *e*P **P 00 49 03.6 -0.8**
comp=Z,11nm,0.7s
C06D Leavenworth 83.02 35 P **P 00 49 05.1 +0.2**
baz=234
SCM Sheep Creek Mo 83.03 14 *e*P **P 00 49 03.9 -0.8**
SCM pmax pmax
comp=Z,26nm,0.7s
SCM Sheep Creek Mo 83.03 14 *e*P **P 00 49 03.9 -0.8**
comp=Z,26nm,0.7s
KLU Klutina 83.08 15 *e*P **P 00 49 04.4 -0.6**
comp=Z,6.4nm,1.0s
X18A Snowflake 83.11 51 *e*P **P 00 49 07.0 +1.1**
comp=Z,17nm,0.8s
X18A *e*pP **pP 00 51 01.2 +0.4**
MTPU Mount Pierson 83.14 47 *e*P **P 00 49 07.1 +0.8**
comp=Z,32nm,0.9s
KULM Kulim 83.16 278 *e*P **P 00 49 06.8 +0.4**
comp=Z,51nm,0.9s
CRQM Cirque 83.17 17 *e*P **P 00 49 05.4 -0.2**
comp=Z,18nm,1.0s
HPIG 83.21 59 *e*P **P 00 49 07.5 +0.9**
comp=Z,15nm,0.7s
TCRU Three Creeks R 83.23 46 *e*P **P 00 49 07.6 +1.1**
comp=Z,27nm,1.0s
BMO Blue Mountains 83.32 39 *e*P **P 00 49 06.8 +0.2**
BMO *e**PP **pP 00 51 01.5 -0.2**
BMO pmax pmax
comp=Z,11nm,0.8s
BMO Blue Mountains 83.32 39 *e*P **P 00 49 06.8 +0.2**
comp=Z,11nm,0.8s
BMO *e*pP **pP 00 51 01.5 -0.2**
MSU Marysvale 83.37 46 *e*P **P 00 49 08.5 +1.3**
MSU *e**PP **pP 00 51 04.6 +2.3**
MSU Marysvale 83.37 46 *e*P **P 00 49 08.4 +1.3**
MSU *e*pP **pP 00 51 04.6 +2.3**
WTV Waterville 83.40 35 *e*P **P 00 49 06.8 0.0**
CAST Castle Rocks 83.44 12 *e*P **P 00 49 05.0 -1.7**
comp=Z,18nm,0.8s
MFID Camas Ranch 83.45 41 *e*P **P 00 49 07.8 +0.4**
comp=Z,23nm,0.9s
W18A Petrified Fore 83.53 50 P **P 00 49 08.7 +0.7**
baz=243
W18A Petrified Fore 83.53 50 *e*P **P 00 49 08.3 +0.3**
comp=Z,17nm,0.8s
D08A Wollman Farm, 83.61 36 *e*P **P 00 49 08.4 +0.6**
comp=Z,24nm,0.9s
SEY Seymchan 83.65 347 ⇓*i*P **P 00 49 07.1 -0.6**
E09A Wood Farm, Sta 83.74 37 *e*P **P 00 49 08.7 +0.1**
comp=Z,63nm,1.8s
DUG Dugway, Tooele 83.76 44 P **P 00 49 09.3 +0.3**
baz=241
DUG Dugway, Tooele 83.76 44 *e*P **P 00 49 09.3 +0.3**
DUG *e**PP **pP 00 51 04.0 -0.2**
DUG pmax pmax
comp=Z,11nm,1.2s
DUG Dugway, Tooele 83.76 44 *e*P **P 00 49 09.2 +0.3**
comp=Z,11nm,1.2s
DUG *e*pP **pP 00 51 04.0 -0.2**
PBSI Pulau Batu 83.76 272 P **P 00 49 10.5 +1.1**
comp=Z,49nm,1.1s
BJI Beijing 83.78 315 P **P 00 49 09.5 +0.7**
BJI pmax pmax
comp=Z,21nm,0.8s
KTH Kantishna Hill 83.79 12 *e*P **P 00 49 06.9 -1.6**
comp=Z,10nm,0.9s
SKLT Songkhla 83.79 280 P **P 00 49 11.0 +1.5**
comp=Z,165nm,0.9s
TRF Thorofare Moun 83.82 12 *e*P **P 00 49 07.5 -1.2**
comp=Z,25nm,0.7s
121A Cookes Peak, D 83.85 53 P **P 00 49 11.0 +1.4**
baz=244
PMSA Palmer Station 83.90 157 *e*P **P 00 49 09.4 +0.4**
comp=Z,26nm,1.1s

BGU Big Grassy Mou 83.97 44 *e*P **P 00 49 09.9 -0.1**
comp=Z,3.5nm,0.9s
BGU *e*pP **pP 00 51 03.0 -2.3**
F10A Beach Ranch, E 83.98 38 *e*P **P 00 49 09.9 +0.1**
comp=Z,36nm,0.9s
F10A *e*pP **pP 00 51 05.6 +0.4**
HARP HAARP 84.05 15 *e*P **P 00 49 09.4 -0.2**
comp=Z,18nm,0.8s
MAW Mawson 84.06 200 P **P 00 49 10.5 +0.7**
comp=Z,22nm,0.7s,baz=125,slow=6.4,SNR=67
MAW Mawson 84.06 200 *e*P **P 00 49 10.3 +0.5**
comp=Z,6.6nm,0.9s
RND Reindeer 84.08 13 *e*P **P 00 49 09.0 -0.9**
RND pmax pmax
comp=Z,26nm,0.8s
RND Reindeer 84.08 13 *e*P **P 00 49 09.0 -0.9**
comp=Z,26nm,0.8s
RND *e*pP **pP 00 51 07.5 +2.2**
LLLB Lillooet 84.10 32 *e*P **P 00 49 09.8 -0.4**
comp=Z,19nm,1.2s
DHY Denali Highway 84.11 14 *e*P **P 00 49 09.3 -0.8**
comp=Z,6.6nm,0.6s
B08A Colville Reser 84.12 35 *e*P **P 00 49 10.2 -0.2**
comp=Z,17nm,0.8s
NLU North Lily Min 84.14 45 *e*P **P 00 49 11.4 +0.4**
comp=Z,4.5nm,1.0s
ZAIG Zacatecas 84.20 64 *e*P **P 00 49 13.3 +1.6**
comp=Z,22nm,0.9s
MOIG Morelia 84.28 67 *e*P **P 00 49 13.4 +1.3**
comp=Z,42nm,0.7s
ENH Enshi 84.31 304 *e*P **P 00 49 12.1 +0.4**
comp=Z,124nm,1.5s
MCK McKinley 84.35 13 *e*P **P 00 49 10.5 -0.6**
MCK pmax pmax
comp=Z,10.0nm,0.8s
MCK McKinley 84.35 13 *e*P **P 00 49 10.5 -0.6**
comp=Z,9.8nm,0.8s
MCK McKinley 84.35 13 *e*S **S 00 58 51.6 -0.9**
HLID Hailey 84.41 41 P **P 00 49 13.0 +0.8**
baz=239,SNR=26
HLID Hailey 84.41 41 *e*P **P 00 49 12.7 +0.6**
comp=Z,19nm,0.8s
HLID *e*pP **pP 00 51 08.8 +1.2**
TMUT Trail Mountain 84.41 46 *e*P **P 00 49 13.6 +1.2**
comp=Z,14nm,0.7s
TMUT *e*pP **pP 00 51 08.7 +0.9**
TMUT *e*PP **PP 00 52 33.6 -3.9**
PAX Paxson 84.46 14 *e*P **P 00 49 11.1 -0.7**
PAX pmax pmax
comp=Z,7.0nm,0.9s
PAX Paxson 84.46 14 *e*P **P 00 49 11.1 -0.7**
comp=Z,6.7nm,0.9s
SPUT South Promonto 84.54 44 *e*P **P 00 49 13.7 +0.8**
comp=Z,20nm,1.2s
SPUT *e*pP **pP 00 51 07.3 -1.0**
SPUT *e*PP **PP 00 52 33.8 -4.5**
HVU Hansel Valley 84.56 43 *e*P **P 00 49 13.4 +0.5**
HVU *e**PP **pP 00 51 07.9 -0.5**
HVU pmax pmax
comp=Z,26nm,1.4s
HVU Hansel Valley 84.56 43 *e*P **P 00 49 13.4 +0.5**
comp=Z,26nm,1.4s
HVU *e*pP **pP 00 51 07.9 -0.5**
SRU San Rafael Swe 84.80 46 *e*P **P 00 49 14.7 +0.6**
SRU *e**PP **pP 00 51 11.1 +1.4**
SRU pmax pmax
comp=Z,15nm,0.7s
SRU San Rafael Swe 84.80 46 *e*P **P 00 49 14.7 +0.6**
comp=Z,15nm,0.7s
SRU *e*pP **pP 00 51 11.1 +1.4**
P17A Butcher Ranch, 84.81 46 *e*P **P 00 49 14.8 +0.6**
P17A *e*PcP **PcP 00 49 15.3 -1.1**
P17A *e*pP **pP 00 51 09.7 -0.1**
JLU Jordanelle 84.87 45 *e*P **P 00 49 14.5 0.0**
comp=Z,6.6nm,0.9s
JLU *e*pP **pP 00 51 11.3 +1.2**
GYA Guiyang 85.09 300 *e*P **P 00 49 16.0 +0.2**
GYA pP pP 00 51 14.5 +3.1
GYA sP sP 00 52 07.0 +1.7
GYA PP **PP 00 52 45.5 +2.6**
GYA SKS **SKSac 00 58 48.3 -1.9**
GYA S **S 00 59 00.5 -1.0**
GYA pmax pmax
comp=Z,10.0nm,1.0s
LAZ Ladron 85.14 52 *e*P **P 00 49 16.9 +0.9**
LAZ *e*pP **pP 00 51 13.7 +2.1**
LAZ *e*PP **PP 00 52 42.7 -0.6**
WRH Wood River Hil 85.18 13 *e*P **P 00 49 14.4 -0.7**
comp=Z,26nm,1.3s
WRH *e*pP **pP 00 51 12.3 +1.4**
P18A Preston Nutter 85.22 46 *e*P **P 00 49 16.6 +0.2**
P18A *e*PcP **PcP 00 49 17.2 -1.3**
P18A *e*pP **pP 00 51 11.7 -0.4**
HWUT Hardware Ranch 85.27 44 *e*P **P 00 49 16.4 0.0**
comp=Z,5.3nm,0.7s
NEW Newport 85.29 36 pP pP 00 51 10.4 -1.5
comp=Z,3.1nm,0.9s,baz=271,slow=8.2,SNR=2.8
NEW Newport 85.29 36 P **P 00 49 16.0 -0.1**
baz=237
NEW Newport 85.29 36 *e*P **P 00 49 16.3 +0.1**
NEW pmax pmax
comp=Z,10.0nm,0.7s
NEW Newport 85.29 36 *e*P **P 00 49 16.2 +0.1**
comp=Z,10nm,0.7s
JRQG Juriquilla Cam 85.29 67 *e*P **P 00 49 18.6 +1.6**
PV05 Paradox Valley 85.32 48 *e*P **P 00 49 17.4 +0.7**
PV05 *e*pP **pP 00 51 14.4 +1.9**
KCSI Kotacane, Aceh 85.34 275 P **P 00 49 16.5 -0.6**
MVCO Mesa Verde 85.36 49 P **P 00 49 17.0 0.0**
baz=244
MNTX Cornudas Mount 85.36 55 P **P 00 49 17.8 +1.0**
baz=246
MNTX Cornudas Mount 85.36 55 *e*P **P 00 49 17.8 +1.0**
comp=Z,19nm,0.9s
MNTX *e*pP **pP 00 51 11.8 -0.8**
HDA Harding Lake 85.37 13 *e*P **P 00 49 15.4 -0.6**
comp=Z,26nm,1.2s
DOT Dot Lake 85.37 15 *e*P **P 00 49 15.6 -0.5**
comp=Z,27nm,0.8s
DOT *e*pP **pP 00 51 14.8 +2.8**
CHAI Chaiyaphum 85.39 288 P **P 00 49 17.7 +0.5**
comp=Z,11nm,0.7s
CCB Clear Creek Bu 85.39 13 *e*P **P 00 49 15.0 -1.2**
comp=Z,14nm,1.0s
CCB *e*pP **pP 00 51 14.4 +2.5**
BNM Barren Site 85.42 52 *e*P **P 00 49 18.0 +0.6**
BNM *e*pP **pP 00 51 17.0 +3.9**
PATY Pattaya 85.42 285 P **P 00 49 19.2 +1.8**
comp=Z,21nm,0.8s,comp=Z,3µm
KRAB Krabi 85.46 280 P **P 00 49 19.1 +1.5**
comp=Z,103nm,0.8s,comp=Z,889nm
PV09 Paradox Valley 85.48 47 *e*P **P 00 49 18.6 +0.9**
PV09 *e*pP **pP 00 51 14.8 +1.4**
PV10 Paradox Valley 85.49 47 *e*P **P 00 49 18.0 +0.4**
WHY Whitehorse 85.55 20 *e*P **P 00 49 16.8 -0.4**
comp=Z,8.4nm,0.8s
SLVN Son La 85.56 294 *e*P **P 00 49 18.7 +0.6**
comp=Z,27nm,1.2s
MDM Murphy Dome 85.58 12 *e*P **P 00 49 15.8 -1.3**
comp=Z,7.1nm,0.8s
MDM *e*pP **pP 00 51 12.8 -0.2**
COLA College 85.58 13 *i*P **P 00 49 16.5 -0.5**
COLA pmax pmax
comp=Z,12nm,1.1s
DLBC Dease Lake 85.62 23 P **P 00 49 17.4 -0.1**
comp=Z,3.0nm,0.3s,baz=246,slow=6.4,SNR=8.6
IL1 Eielson Array 85.69 13 *e*P **P 00 49 16.1 -1.6**
IL1 *e*pP **pP 00 51 12.8 -0.7**
ILAR Eielson Array 85.69 13 P **P 00 49 16.4 -1.3**
comp=Z,3.2nm,0.4s,baz=222,slow=5.2,SNR=46
ILAR pP **pP 00 51 12.5 -1.0**
comp=Z,5.7nm,1.1s,baz=226,slow=5.7,SNR=8.2
ILB Eielson Array 85.69 13 *e*P **P 00 49 16.6 -1.0**
ILB *e*pP **pP 00 51 15.7 +2.1**
PV01 Paradox Valley 85.72 48 *e*P **P 00 49 19.2 +0.5**
PV01 *e*pP **pP 00 51 14.5 0.0**
TX31 Lajitas Ar. Si 85.78 58 *e*P **P 00 49 20.5 +1.5**
TX31 *e*pP **pP 00 51 15.3 +0.4**
LTX Lajitas 85.78 58 *e*P **P 00 49 20.6 +1.6**
LTX *e**PP **pP 00 51 16.2 +1.3**
LTX Lajitas 85.78 58 *e*P **P 00 49 20.6 +1.6**
LTX *e*pP **pP 00 51 16.2 +1.3**
TXAR Lajitas Array 85.78 58 P **P 00 49 20.6 +1.6**
comp=Z,28nm,0.8s,baz=219,slow=6.0,SNR=362
TXAR pP **pP 00 51 16.2 +1.3**

comp=Z,2.3nm,1.0s,baz=226,slow=4.8,SNR=2.9
TPTI 85.82 275 P P 00 49 19.9 +0.5
TLIG Tlapa 85.87 70 eP P 00 49 20.3 +0.6
TLIG epP pP 00 51 17.9 +2.3
ANMO Albuquerque 85.88 51 P P 00 49 20.0 +0.5
baz=245
ANMO Albuquerque 85.88 51 ||/P P 00 49 20.4 +0.9
ANMO pmax pmax
comp=Z,11nm,0.9s
ANMO Albuquerque 85.88 51 eP P 00 49 20.0 +0.5
comp=Z,12nm,0.9s
ANMO epP pP 00 51 14.8 -0.6
MCMT McKenzie Canyo 86.02 40 eP P 00 49 20.8 +0.8
MCMT epP pP 00 51 17.9 +2.0
SURT Suratani 86.07 281 P P 00 49 23.2 +2.7
comp=Z,21nm,1.4s
XAN Xi'an 86.28 307 P P 00 49 21.5 +0.3
XAN pP pP 00 51 20.5 +3.2
XAN pmax pmax
comp=Z,28nm,1.1s
XAN pmax pmax
comp=Z,180nm,5.4s
MSO Missoula 86.36 38 P P 00 49 20.9 -0.5
baz=239
MSO Missoula 86.36 38 eP P 00 49 20.2 -1.1
comp=Z,7.1nm,1.0s
MSO epP pP 00 51 19.0 +1.5
BSMT Bassoo Peak 86.39 37 eP P 00 49 21.0 -0.6
BSMT epP pP 00 51 18.2 +0.5
DLMT Dillon 86.44 40 eP P 00 49 22.5 +0.7
comp=Z,19nm,0.9s
PBKT Sadao Pong 86.53 288 P P 00 49 25.8 +3.2
comp=Z,24nm,1.2s,comp=Z,2um
USHA Ushuaia 86.55 147 P P 00 49 22.6 +0.6
comp=Z,104nm,1.0s,baz=232,slow=5.0,SNR=5.7
TPAW Teton Pass 86.56 42 eP P 00 49 23.2 +0.6
comp=Z,14nm,0.8s
TPAW epP pP 00 51 20.2 +1.4
REDW Red Top Meadow 86.57 42 eP P 00 49 23.2 +0.7
comp=Z,27nm,1.0s
REDW epP pP 00 51 20.0 +1.2
SNOW Snow King Moun 86.68 42 eP P 00 49 23.6 +0.4
comp=Z,33nm,1.0s
SNOW epP pP 00 51 20.1 +0.7
LRM Limekiln Ridge 86.75 40 eP P 00 49 23.9 +0.5
LRM epP pP 00 51 20.4 +0.7
IMW Indian Meadow 86.76 42 eP P 00 49 24.5 +0.9
comp=Z,27nm,0.8s
IMW epP pP 00 51 21.7 +1.9
IMW ePP PP 00 52 55.2 -0.9
S22A 4UR Ranch, Cre 86.79 49 P P 00 49 24.6 +0.8
baz=245
S22A 4UR Ranch, Cre 86.79 49 eP P 00 49 24.6 +0.8
comp=Z,19nm,1.0s
S22A epP pP 00 51 20.2 +0.1
CHMT Chamberlain Mo 86.81 38 eP P 00 49 23.5 -0.2
CHMT epP pP 00 51 21.2 +1.3
CHMT ePP PP 00 52 53.0 -3.3
MOOW Moose Ponds 86.82 42 eP P 00 49 24.3 +0.5
comp=Z,9.8nm,1.0s
MOOW epP pP 00 51 20.8 +0.7
O20A White River Ci 86.83 46 P P 00 49 24.2 +0.3
baz=244
O20A White River Ci 86.83 46 eP P 00 49 24.6 +0.7
comp=Z,12nm,0.8s
LOHW Long Hollow 86.84 42 eP P 00 49 24.4 +0.6
comp=Z,9.9nm,0.8s
LOHW epP pP 00 51 21.4 +1.3
QLMT Earthquake Lak 86.90 41 eP P 00 49 25.4 +1.3
YHB Horse Butte 87.01 41 eP P 00 49 25.9 +1.3
comp=Z,33nm,1.0s
YPP Pitchstone Pla 87.03 42 eP P 00 49 26.0 +1.2
comp=Z,34nm,2.0s
CPRX Cap Rock 87.07 54 eP P 00 49 25.3 +0.3
YFT Old Faithful 87.09 41 eP P 00 49 27.1 +2.0
comp=Z,17nm,0.8s
YMR Madison River 87.11 41 eP P 00 49 26.8 +1.7
comp=Z,31nm,1.0s
YMR epP pP 00 51 24.7 +3.2
BW06 Boulder Array 87.13 43 P P 00 49 25.2 0.0
baz=243,SNR=18
BW06 Boulder Array 87.13 43 eP P 00 49 25.2 0.0
comp=Z,24nm,1.3s
BW06 epP pP 00 51 22.2 +0.5
BW06 ePP PP 00 52 56.0 -2.9
PD31 Pinedale Array 87.13 43 eP P 00 49 25.2 -0.1
PD31 epP pP 00 51 22.2 +0.6
PD31 ePP PP 00 52 56.7 -2.3
PDAR Pinedale Array 87.13 43 P P 00 49 25.2 -0.1
comp=Z,9.1nm,0.7s,baz=212,slow=3.2,SNR=64
PDAR pP pP 00 51 19.6 -2.1
comp=Z,3.4nm,1.0s,baz=242,slow=3.8,SNR=8.7
PDAR PP PP 00 52 56.7 -2.3
comp=Z,1.6nm,1.0s,baz=238,slow=8.2,SNR=4.8
BOZ Bozeman (W) 87.14 40 P P 00 49 25.7 +0.6
baz=241
BOZ Bozeman (W) 87.14 40 eP P 00 49 26.1 +0.9
BOZ e*PP pP 00 51 23.3 +1.7
BOZ pmax pmax
comp=Z,15nm,1.1s
BOZ Bozeman (W) 87.14 40 eP P 00 49 26.1 +0.9
comp=Z,15nm,1.1s
BOZ epP pP 00 51 23.2 +1.7
COLD Coldfoot 87.23 11 eP P 00 49 25.1 +0.3
comp=Z,7.7nm,0.8s
H17A Grant Village 87.23 42 P P 00 49 27.3 +1.6
baz=242,SNR=8.5
H17A Grant Village 87.23 42 eP P 00 49 27.4 +1.6
comp=Z,24nm,0.8s
YHH Holmes Hill 87.24 41 eP P 00 49 26.8 +1.0
comp=Z,11nm,1.0s
YHH epP pP 00 51 24.7 +2.4
HHC Hu-ho-hao-te 87.27 314 eP P 00 49 27.3 +1.5
HHC pmax pmax
comp=Z,13nm,1.0s
HHC pmax pmax
comp=Z,42nm,5.7s
UTTA Uttaradit 87.29 289 P P 00 49 27.7 +1.5
comp=Z,5.3nm,1.1s
SMCO Snowmass 87.29 47 eP P 00 49 26.8 +0.4
comp=Z,9.9nm,0.9s
YNR Norris Junctio 87.31 41 eP P 00 49 27.2 +1.1
comp=Z,580nm,1.2s
NANT Nan 87.51 291 P P 00 49 29.3 +2.0
comp=Z,4.1nm,0.7s
WALA Waterton Lakes 87.52 36 eP P 00 49 27.0 +0.2
comp=Z,9.4nm,0.7s
HRY Holter Researc 87.56 39 eP P 00 49 27.2 +0.2
HRY epP pP 00 51 23.7 +0.1
SDCO Great Sand Dun 87.74 49 P P 00 49 28.5 +0.2
baz=246
SDCO Great Sand Dun 87.74 49 eP P 00 49 28.0 -0.3
comp=Z,5.8nm,0.9s
KMI Kunming 87.89 297 P P 00 49 31.0 +1.8
KMI pmax pmax
comp=Z,17nm,1.5s
RWWY Rawlins 88.21 45 eP P 00 49 30.3 -0.1
comp=Z,17nm,1.1s
MSTX Muleshoe 88.27 54 P P 00 49 31.0 +0.3
baz=247
MSTX Muleshoe 88.27 54 eP P 00 49 30.9 +0.3
comp=Z,23nm,0.8s
MSTX epP pP 00 51 29.1 +1.7
T25A Trinidad 88.29 50 P P 00 49 30.9 +0.1
baz=246
T25A Trinidad 88.29 50 eP P 00 49 31.1 +0.4
comp=Z,7.7nm,0.8s
UMPA Umpang Tak 88.32 287 P P 00 49 33.4 +2.3
comp=Z,11nm,1.0s,comp=Z,979nm
LAMP Lampang 88.38 290 P P 00 49 33.1 +1.8
comp=Z,10nm,1.0s
RLMT Red Lodge 88.39 41 P P 00 49 32.0 +0.9
baz=243
RLMT Red Lodge 88.39 41 eP P 00 49 31.9 +0.8
comp=Z,15nm,0.9s
832A Faith Ranch, C 88.39 60 P P 00 49 31.9 +0.7
baz=249,SNR=16
GCMT Greycliff 88.45 41 eP P 00 49 31.9 +0.6
Q24A Divide 88.50 48 P P 00 49 32.1 +0.3
baz=246
Q24A Divide 88.50 48 eP P 00 49 31.8 0.0
comp=Z,8.1nm,1.0s
ISCO Idaho Springs 88.51 47 P P 00 49 32.1 +0.2
baz=245
ISCO Idaho Springs 88.51 47 eP P 00 49 31.6 -0.3
ISCO pmax pmax
comp=Z,4.0nm,0.8s
ISCO Idaho Springs 88.51 47 eP P 00 49 31.6 -0.3
comp=Z,3.7nm,0.8s
933A Laredo 88.74 61 P P 00 49 34.3 +1.5
baz=249
N23A Red Feather La 88.74 46 P P 00 49 33.6 +0.8
baz=245,SNR=9.1
N23A Red Feather La 88.74 46 eP P 00 49 33.7 +0.8
comp=Z,24nm,1.2s
833A Chaparral WMA, 88.89 60 P P 00 49 34.4 +0.9
baz=249,SNR=6.0
CM01 Chiang Mai Arr 88.95 290 eP P 00 49 34.9 +1.0
CM01 epP pP 00 51 31.7 +0.8
CM01 ePP PP 00 53 12.3 -1.2
CM31 Chiang Mai Arr 88.97 290 eP P 00 49 35.6 +1.5
CM31 epP pP 00 51 30.7 -0.3
CM31 ePP PP 00 53 12.4 -1.3
CMAR Chiang Mai Arr 88.97 290 P P 00 49 34.2 +0.1
comp=Z,19nm,0.9s,baz=107,slow=2.9,SNR=71
CMAR pP pP 00 51 30.7 -0.3
comp=Z,0.9nm,0.4s,baz=105,slow=5.7,SNR=2.4
CMAR PP PP 00 53 12.4 -1.3
comp=Z,0.7nm,0.3s,baz=119,slow=6.5,SNR=5.2
CMIG Matias Romero 89.04 72 P P 00 49 35.3 +0.9
comp=Z,12nm,0.8s,baz=258,slow=4.5,SNR=24
034A Hebbronville 89.04 61 P P 00 49 35.9 +1.7
baz=250
K22A Casper 89.08 44 P P 00 49 34.5 +0.2
baz=245,SNR=6.6
K22A Casper 89.08 44 eP P 00 49 33.6 -0.7
comp=Z,27nm,1.4s
CHTO Chiang Mai 89.09 290 P P 00 49 35.5 +0.9
comp=Z,120nm,1.0s
CHTO Chiang Mai 89.09 290 eP P 00 49 35.5 +0.9
CHTO pmax pmax
comp=Z,24nm,1.0s
CHTO Chiang Mai 89.09 290 eP P 00 49 35.5 +0.9
comp=Z,24nm,1.0s
CD2 Chengdu 89.11 303 eP P 00 49 34.5 0.0
CD2 pmax pmax
comp=Z,10.0nm,1.2s
733A Divot King Ran 89.11 60 P P 00 49 35.5 +1.0
baz=249,SNR=5.9
PHWY Pilot Hill 89.24 46 eP P 00 49 35.3 +0.1
comp=Z,18nm,1.3s
JCT Junction City 89.32 58 P P 00 49 35.6 +0.1
baz=249,SNR=6.8
JCT Junction City 89.32 58 eP P 00 49 35.2 -0.3
JCT pmax pmax
comp=Z,17nm,0.8s
JCT Junction City 89.32 58 eP P 00 49 35.2 -0.3
comp=Z,17nm,0.8s
035Z Hargill 89.34 62 P P 00 49 37.1 +1.4
baz=250
SYO Syowa Base 89.35 193 ||eX P 00 49 30.2 -4.6
SYO Syowa Base 89.35 193 ||ePcP P 00 49 34.8 0.0
934A Benavides 89.36 61 P P 00 49 37.6 +1.9
baz=250
EGMT Eagleton 89.43 39 P P 00 49 36.4 +0.7
baz=242
AMTX Amarillo 89.45 53 P P 00 49 36.3 +0.2
baz=248
AMTX Amarillo 89.45 53 eP P 00 49 35.6 -0.5
comp=Z,18nm,0.9s
633A Saathoff Ranch 89.47 59 P P 00 49 37.5 +1.3
baz=249,SNR=23
035A Encino 89.48 62 P P 00 49 37.9 +1.6
baz=250
834A Tilden 89.51 60 P P 00 49 37.9 +1.5
baz=250,SNR=6.9
533A Kerrville 89.80 58 P P 00 49 38.3 +0.5
baz=249,SNR=9.2
EDM Edmonton 89.94 33 eP P 00 49 36.8 -1.1
EDM pmax pmax
comp=Z,37nm,1.4s
EDM Edmonton 89.94 33 eP P 00 49 36.8 -1.1
comp=Z,37nm,1.4s
433A Art 89.99 58 P P 00 49 39.0 +0.4
baz=249,SNR=49
634A China Grove, S 90.11 59 P P 00 49 40.0 +0.9
baz=250
835A Beeville 90.17 60 P P 00 49 41.4 +2.0
baz=250
ABTX Abilene, Hawle 90.21 56 P P 00 49 40.0 +0.4
baz=249,SNR=24
534A Blanco 90.23 59 P P 00 49 40.5 +0.7
baz=250,SNR=32
333A Richland Sprin 90.28 57 P P 00 49 40.0 +0.1
baz=249,SNR=18
735A Kenedy 90.38 60 P P 00 49 41.8 +1.4
baz=250
233A Rising Star 90.58 57 P P 00 49 41.7 +0.4
baz=249,SNR=16
635A Leesville 90.59 59 P P 00 49 42.5 +1.1
baz=250,SNR=8.1
434A Burnet 90.67 58 P P 00 49 42.1 +0.3
baz=250,SNR=27
SNAA Sanae 90.76 179 P P 00 49 41.5 +0.1
SNAA Sanae 90.76 179 eP P 00 49 41.2 -0.3
SNAA pmax pmax
comp=Z,12nm,0.6s
SNAA Sanae 90.76 179 eP P 00 49 41.1 -0.3
comp=Z,12nm,0.6s
334A Lometa 90.88 57 P P 00 49 43.3 +0.6
baz=250,SNR=26
VNA3 Neumayer Olymp 90.89 176 P P 00 49 42.5 +0.5
LZH Lanzhou 90.91 308 eP P 00 49 44.3 +1.4
LZH pP pP 00 51 44.3 +4.2
LZH sP sP 00 52 36.8 +3.2
LZH pmax pmax
comp=Z,23nm,1.3s
LZH pmax pmax
comp=Z,87nm,4.5s
535A Dale 90.97 59 P P 00 49 44.2 +1.1
baz=250
LAO LASA Array 90.99 41 P P 00 49 44.2 +1.3
baz=245
LAO LASA Array 90.99 41 eP P 00 49 44.0 +1.1
comp=Z,27nm,0.8s
736A Circle Diamond 91.02 60 P P 00 49 45.2 +1.9
baz=250
234A Clairette 91.19 57 P P 00 49 44.6 +0.5
baz=250,SNR=10
636A Smothers Creek 91.21 60 P P 00 49 46.0 +1.8
baz=250,SNR=6.7
435B Jarrell 91.22 58 P P 00 49 44.8 +0.6
baz=250
VNA2 Neumayer--Watz 91.33 177 P P 00 49 44.6 +0.5
baz=180,slow=4.3
PLCA Paso Flores 91.33 134 P P 00 49 45.5 +0.7
comp=Z,7.6nm,0.9s,baz=265,slow=3.9,SNR=16
PLCA Paso Flores 91.33 134 eP P 00 49 46.1 +1.3
PLCA pmax pmax
comp=Z,21nm,1.1s
PLCA Paso Flores 91.33 134 eP P 00 49 46.1 +1.3
comp=Z,21nm,1.1s
RSSD Black Hills 91.34 44 P P 00 49 44.6 -0.1
baz=246
RSSD Black Hills 91.34 44 eP P 00 49 44.2 -0.6
RSSD pmax pmax
comp=Z,14nm,0.8s
RSSD Black Hills 91.34 44 eP P 00 49 44.2 -0.6
comp=Z,14nm,0.8s
536A Bastrop 91.40 59 P P 00 49 46.3 +1.2
baz=250
NVL N'lazarevskaya 91.44 183 eP P 00 49 45.3 +0.8
737A Port Lavaca 91.48 60 P P 00 49 45.1 -0.4
baz=251
335A Moody 91.51 58 P P 00 49 45.9 +0.4
baz=250
VNA1 Neumayer--Stat 91.56 177 P P 00 49 46.0 +1.0
WMOK Wichita Mounta 91.63 54 P P 00 49 46.7 +0.6
baz=250
WMOK Wichita Mounta 91.63 54 eP P 00 49 45.8 -0.3
WMOK pmax pmax
comp=Z,4.0nm,0.9s
WMOK Wichita Mounta 91.63 54 eP P 00 49 45.8 -0.3
comp=Z,4.4nm,0.9s
INK Inuvik 91.69 15 P P 00 49 45.0 -0.4
comp=Z,3.2nm,0.5s,baz=262,slow=9.9,SNR=3.7
WHTX Lake Whitney, 91.73 57 P P 00 49 46.8 +0.3
baz=250,SNR=6.0
WHTX Lake Whitney, 91.73 57 eP P 00 49 46.6 +0.1
comp=Z,15nm,0.8s
436A Wall Ranch, Ga 91.85 58 P P 00 49 47.6 +0.5
baz=250
537A Green Hill Far 92.01 59 P P 00 49 49.4 +1.5
baz=251
336A Riesel 92.02 58 P P 00 49 48.0 +0.2
baz=250
U32A Winter Ranch, 92.03 52 P P 00 49 48.3 +0.4
baz=250
CBKS Cedar Bluff 92.34 50 P P 00 49 50.2 +0.9
baz=249
236A Katherine and 92.47 57 P P 00 49 50.5 +0.5
baz=251
638A Rosharon 92.51 60 P P 00 49 50.6 +0.4
baz=251
136A Ennis 92.63 57 P P 00 49 51.0 +0.4
baz=251
Y35A Marietta 92.70 55 P P 00 49 52.0 +1.1
baz=250
337A Centerville 92.77 58 P P 00 49 52.3 +1.0
baz=251
X35A Drake 92.91 55 P P 00 49 52.1 +0.1
baz=251
438A Sam Houston St 92.92 59 P P 00 49 53.2 +1.2
baz=251
Z36A Blue Ridge 92.97 56 P P 00 49 52.3 +0.1
baz=251
DGMT Dagmar 92.97 40 P P 00 49 52.6 +0.7
baz=247
DGMT Dagmar 92.97 40 eP P 00 49 53.0 +1.0
comp=Z,36nm,0.6s
237A Washetta, Mont 93.05 58 P P 00 49 53.1 +0.5
baz=251
ULN Ulaanbaatar 93.13 319 ||/P P 00 49 52.8 0.0
ULN pmax pmax
comp=Z,4.0nm,0.9s
W35A Tecumseh 93.24 54 P P 00 49 53.7 +0.2
baz=251
Y36A Durant 93.29 56 P P 00 49 54.2 +0.5
baz=251,SNR=7.3
X36A Centrahoma 93.45 55 P P 00 49 54.3 -0.1
baz=251
SONA0 Songino Array 93.53 319 eP P 00 49 54.5 0.0
SONA0 epP pP 00 51 43.2 -8.8
SONM Songino Array 93.53 319 P P 00 49 54.6 0.0
comp=Z,0.4nm,0.4s,baz=110,slow=5.7,SNR=4.1
SONM pP pP 00 51 43.2 -8.8
comp=Z,0.8nm,0.5s,baz=117,slow=5.4,SNR=2.4
Z37A Pogue Cattle C 93.58 56 P P 00 49 56.0 +1.0
baz=251
238A Jacksonville 93.61 58 P P 00 49 56.6 +1.5
baz=251
T34A McClaskey Farm 93.62 52 P P 00 49 55.5 +0.4
baz=251
W36A Wetumka 93.74 54 P P 00 49 55.7 0.0
baz=251
U35A Pawnee 93.75 53 P P 00 49 56.1 +0.4
baz=251
Y37A Hugo 93.84 56 P P 00 49 57.4 +1.2
baz=251
S34A Willow Spring 93.90 52 P P 00 49 56.8 +0.4
baz=251
R34A Isabella, Hill 94.00 51 P P 00 49 57.1 +0.3
baz=251
T35A Sooner Cattle 94.09 53 P P 00 49 57.4 +0.1
baz=251
YKB5 Yellowknife Ar 94.12 25 eP P 00 49 56.1 -0.6
YKA Yellowknife Ar 94.12 25 P P 00 49 56.1 -0.6
comp=Z,5.2nm,0.7s,baz=248,slow=4.3,SNR=5.8
V36A Jenks 94.17 54 P P 00 49 57.7 +0.1
baz=251
X37A Clayton 94.23 55 P P 00 49 57.9 0.0
baz=251
TUL1 Leonard 94.32 54 P P 00 49 58.6 +0.2
baz=251
W37B Quinton 94.35 55 P P 00 49 58.5 0.0
baz=251
K31A O'Neill 94.37 47 P P 00 49 58.7 +0.3
baz=250
BGNE Belgrade 94.38 48 P P 00 49 59.2 +0.7
baz=250
BGNE Belgrade 94.38 48 eP P 00 49 59.6 +1.1
comp=Z,42nm,0.8s
Q34A Chapman 94.43 51 P P 00 49 59.3 +0.5
baz=251
S35A Otter Creek Ra 94.49 52 P P 00 49 59.3 +0.3
baz=251
U36A Ologah 94.52 53 P P 00 49 59.5 +0.2
baz=251
T36A Boggs Farm, Ca 94.62 53 P P 00 49 59.9 +0.3
baz=251
X38A Whitesboro 94.68 55 P P 00 50 00.4 +0.4
baz=252
P34A Walnut Farm, R 94.72 50 P P 00 50 00.6 +0.5
baz=251
KSU1 Kansas State U 94.73 51 P P 00 50 00.9 +0.8
baz=251
R35A Emporia Munici 94.78 51 P P 00 50 00.8 +0.4
baz=251
V37A Hulbert 94.81 54 P P 00 50 00.9 +0.3
baz=252
I31A Royce, Wessing 95.00 45 P P 00 50 01.9 +0.7
baz=250
U37A Salina 95.00 54 P P 00 50 01.7 +0.3
baz=252
O34A Beatrice 95.02 50 P P 00 50 01.9 +0.5
baz=251
W38A Poteau 95.04 55 P P 00 50 02.0 +0.4
baz=252
Q35A Mercer Eighty, 95.08 51 P P 00 50 02.2 +0.5
baz=251
X39A Fountain Ranch 95.19 56 P P 00 50 02.0 -0.3
baz=252
P35A Duane Minner, 95.30 50 P P 00 50 03.3 +0.6
baz=252
R36A Gordon, Harris 95.30 52 P P 00 50 02.9 +0.2
baz=252
N34A Lincoln 95.37 49 P P 00 50 03.2 +0.3
baz=251
T37A Cheneyville 18 95.37 53 P P 00 50 03.3 +0.2
baz=252
V38A Canehill 95.37 54 P P 00 50 03.1 0.0
baz=252
M34A Aspy Farms, Fr 95.52 48 P P 00 50 04.7 +1.0
baz=251
Q36A Arnold C. Orve 95.53 51 P P 00 50 04.1 +0.4
baz=252
U38A Gravette 95.57 54 P P 00 50 03.7 -0.3
baz=252
O35A Humboldt 95.61 50 P P 00 50 04.8 +0.7
baz=252
S37A Fort Scott 95.63 52 P P 00 50 04.7 +0.5
baz=252
W39A Magazine 95.66 55 P P 00 50 05.0 +0.7
baz=252
I32A Karley and Nic 95.72 46 P P 00 50 05.3 +0.8
baz=251
R37A Teagarden Farm 95.80 52 P P 00 50 05.2 +0.2
baz=252
T38A Diamond 95.82 53 P P 00 50 05.2 +0.1
baz=252
H32A Carlson Farm, 95.90 45 P P 00 50 05.1 -0.2
baz=251
P36A Good Intent, A 95.93 50 P P 00 50 06.0 +0.5
baz=252
V39A Pettigrew 95.96 54 P P 00 50 05.9 0.0
baz=252
TIXI Tiksi 96.04 345 P P 00 50 06.2 +1.0
comp=Z,4.9nm,0.8s,baz=90,slow=2.0,SNR=1.8
TIXI Tiksi 96.04 345 ||/P P 00 50 06.3 +1.1
TIXI pmax pmax
comp=Z,8.0nm,1.1s
G32A Webster 96.10 45 P P 00 50 06.0 -0.2
baz=251
ECSD EROS Data Cent 96.21 46 P P 00 50 06.2 -0.5
baz=252
ECSD EROS Data Cent 96.21 46 eP P 00 50 06.6 -0.1
comp=Z,5.2nm,0.8s
U39A Green Forest 96.25 54 P P 00 50 06.6 -0.4
baz=253
O36A Bolckow 96.26 50 P P 00 50 07.3 +0.3
baz=252
E31A Nome 96.27 43 P P 00 50 06.6 -0.3
baz=251
S38A Stockton 96.29 53 P P 00 50 07.0 -0.2
baz=253
H33A Prehn Over Nor 96.42 45 Pdiff P 00 50 08.0 +0.4
baz=252
R38A Fenwick Farm, 96.46 52 Pdiff P 00 50 08.3 +0.4
baz=253
T39A Clever 96.51 53 Pdiff P 00 50 08.0 -0.2
baz=253

P37A	**Lathrop**	**96.55**	**51**	Pdiff	**P**		00 50 08.4	+0.1	
	baz=252								
V40A	**Witts Springs**	**96.58**	**55**	Pdiff	**P**		00 50 08.5	-0.1	
	baz=253								
U40A	**Yellville**	**96.72**	**54**	Pdiff	**P**		00 50 08.6	-0.6	
	baz=253								
S39A	**Bolivar**	**96.75**	**53**	Pdiff	**P**		00 50 09.5	+0.2	
	baz=253								
C31A	**Landman Farms,**	**96.77**	**42**	Pdiff	**P**		00 50 08.8	-0.3	
	baz=251								
M36A	**Felix, Anita**	**96.78**	**49**	Pdiff	**P**		00 50 09.0	-0.3	
	baz=252								
G33A	**Ortonville**	**96.79**	**45**	Pdiff	**P**		00 50 08.6	-0.7	
	baz=252								
W41B	**Gary Mavity, V**	**96.85**	**55**	Pdiff	**P**		00 50 09.4	-0.4	
	baz=253								
K35A	**Storm Lake**	**96.86**	**47**	Pdiff	**P**		00 50 09.9	+0.2	
	baz=252								
Q38A	**Cooks Store, C**	**96.90**	**51**	Pdiff	**P**		00 50 10.1	+0.2	
	baz=253								
H34A	**Spellman Lake,**	**97.07**	**45**	Pdiff	**P**		00 50 10.4	-0.1	
	baz=252								
F33A	**5 Mile Ranch,**	**97.09**	**44**	Pdiff	**P**		00 50 10.5	-0.1	
	baz=252								
V41A	**Mountainview**	**97.10**	**55**	Pdiff	**P**		00 50 10.2	-0.7	
	baz=253								
P38A	**Dawn**	**97.16**	**51**	Pdiff	**P**		00 50 11.0	-0.1	
	baz=253								
T40A	**Mansfield**	**97.21**	**53**	Pdiff	**P**		00 50 11.3	0.0	
	baz=253								
M37A	**Trindle Farm,**	**97.30**	**49**	Pdiff	**P**		00 50 11.8	+0.2	
	baz=253								
O38A	**Galt**	**97.35**	**50**	Pdiff	**P**		00 50 12.3	+0.4	
	baz=253								
S40A	**Lebanon**	**97.35**	**53**	Pdiff	**P**		00 50 12.1	+0.2	
	baz=253								
Q39A	**Willow Grove F**	**97.41**	**51**	Pdiff	**P**		00 50 12.5	+0.4	
	baz=253								
U41A	**Viola**	**97.44**	**54**	Pdiff	**P**		00 50 12.8	+0.4	
	baz=254								
546A	**Slidell**	**97.50**	**61**	Pdiff	**P**		00 50 12.8	0.0	
	baz=254								
P39B	**Salisbury**	**97.70**	**51**	Pdiff	**P**		00 50 13.5	+0.1	
	baz=254								
V42A	**Cord**	**97.70**	**55**	Pdiff	**P**		00 50 13.7	+0.1	
	baz=254								
T41A	**Mountain View**	**97.76**	**54**	Pdiff	Pdif		00 50 13.6	-0.2	
	baz=253								
K37A	**Belmond**	**97.99**	**48**	Pdiff	Pdif		00 50 14.7	0.0	
	baz=253								
Q40A	**Laux Farm, Aux**	**98.06**	**52**	Pdiff	**P**		00 50 15.3	+0.2	
	baz=254								
D34A	**Park Rapids**	**98.19**	**43**	Pdiff	Pdif		00 50 15.1	-0.4	
	baz=253								
P40A	**Paris**	**98.23**	**51**	Pdiff	**P**		00 50 15.9	0.0	
	baz=254								
N39A	**Derby Farms, D**	**98.27**	**50**	Pdiff	Pdif		00 50 15.8	-0.1	
	baz=254								
I37A	**Lemond, Waseca**	**98.51**	**47**	Pdiff	**P**		00 50 17.4	+0.4	
	baz=254								
O40A	**La Belle**	**98.53**	**51**	Pdiff	**P**		00 50 17.4	+0.2	
	baz=254								
V44A	**Blytheville**	**98.88**	**55**	Pdiff	Pdif		00 50 18.7	0.0	
	baz=255								
F36A	**Milaca**	**98.94**	**45**	Pdiff	**P**		00 50 19.2	+0.3	
	baz=254								
P41A	**Barry, Barry**	**99.01**	**51**	Pdiff	**Pdif**		00 50 19.8	+0.5	
	baz=254								
M40A	**Post Highland**	**99.14**	**50**	Pdiff	**Pdif**		00 50 20.0	+0.2	
	baz=254								
K39A	**Oelwein**	**99.21**	**48**	Pdiff	**Pdif**		00 50 19.6	-0.5	
	baz=254								
SPMN	**Marine on St.**	**99.26**	**46**	Pdiff	**Pdif**		00 50 20.4	+0.2	
	baz=254								
I38A	**Scanlan Farm,**	**99.26**	**47**	Pdiff	**Pdif**		00 50 20.2	-0.1	
	baz=254								
J39A	**Decorah**	**99.51**	**48**	Pdiff	**Pdif**		00 50 21.7	+0.3	
	baz=255								
K40A	**Colesburg**	**99.75**	**48**	Pdiff	**Pdif**		00 50 22.5	+0.1	
	baz=255								
F38A	**Pierce - Schro**	**100.08**	**45**	Pdiff	**Pdif**		00 50 23.8	-0.1	
	baz=255								
J40A	**Soldiers Grove**	**100.21**	**48**	Pdiff	**Pdif**		00 50 24.9	+0.4	
	baz=255								
Q44A	**Meyer Farm, Va**	**100.34**	**52**	Pdiff	**Pdif**		00 50 25.4	+0.2	
	baz=256								
J41A	**Loganville**	**100.71**	**48**	Pdiff	**Pdif**		00 50 27.4	+0.6	
	baz=256								
H40A	**Chili**	**100.76**	**47**	Pdiff	**Pdif**		00 50 27.6	+0.7	
	baz=256								
ZAA1	**Zalesovo Array**	**108.20**	**322**	ePKiKP	**PKiKP**		00 55 02.0	-0.9	
ZALV	**Zalesovo Beam**	**108.20**	**322**	PKiKP	**PKiKP**		00 55 02.0	-0.9	
	comp=Z,0.6nm,0.5s,baz=96,slow=1.4,SNR=2.7								
MK32	**Makanchi Array**	**109.13**	**314**	ePKiKP	**PKiKP**		00 55 03.7	-1.3	
MK32				ePKKPbc	**PKKPbc**		01 06 13.3	-0.9	
MKAR	**Makanchi Array**	**109.13**	**314**	PKiKP	**PKiKP**		00 55 03.7	-1.3	
	comp=Z,0.5nm,0.5s,baz=92,slow=1.5,SNR=4.7								
MKAR				PKKPbc	**PKKPbc**		01 06 13.3	-0.9	
	comp=E,2.1nm,0.8s,baz=284,slow=3.6,SNR=9.9								
KURK	**Kurchatov**	**111.81**	**318**	ePKiKP	**PKiKP**		00 55 09.5	-0.3	
KURK				ePP	PP		00 55 49.4	-14	
KURBB	**Kurchatov Arra**	**111.86**	**318**	PKiKP	**PKiKP**		00 55 09.5	-0.4	
	comp=Z,1.1nm,0.7s,baz=94,slow=2.0,SNR=12								
KURBB				PP	PP		00 55 49.4	-14	
	comp=Z,1.5nm,1.1s,baz=91,slow=5.7,SNR=6.1								
KSH	**Kashi**	**113.11**	**306**	ePKP	**PKiKP**		00 55 11.0	-1.8	
KSH				PP	**PP**		00 56 17.0	+4.4	
KSH				SKS	**SKSdf**		01 01 33.5	-1.3	
KSH				SS	**SS**		01 11 21.3	+4.0	
KSH				AMB	AMB				
	comp=Z,98nm,5.8s								
BRVK	**Borovoye**	**116.88**	**321**	⇑*i* PKiKP	**PKPdf**		00 55 20.5	+1.0	
KKAR	**Karatay Array**	**117.33**	**310**	ePKiKP	**PKPdf**		00 55 19.7	-1.0	
KKAR	**Karatay Array**	**117.33**	**310**	ePKPdf	**PKPdf**		00 55 19.7	-1.0	
ARU	**Arti**	**122.80**	**326**	*i* PKiKP	**PKPdf**		00 55 29.7	-1.0	
ARU							00 57 13.8		
ARU							01 01 50.7		
ABKAR	**Akbulak array**	**123.92**	**318**	ePKPdf	**PKPdf**		00 55 33.1	0.0	
ARCES	**ARCESS Array B**	**126.18**	**350**	PKP	**PKPdf**		00 55 36.9	0.0	
	comp=Z,2.1nm,0.6s,baz=346,slow=0.5,SNR=5.4								
GEYT	**Alibeck**	**127.07**	**304**	PKP	**PKPdf**		00 55 40.3	+0.7	
	comp=Z,3.1nm,0.6s,baz=190,slow=2.6,SNR=9.2								
BOSA	**Boshof**	**128.61**	**207**	PKP	**PKPdf**		00 55 44.3	+1.3	
	comp=Z,1.0nm,0.5s,baz=171,slow=7.9,SNR=4.2								
FIA0	**FINESS Array S**	**133.07**	**344**	ePKPpre	PKPpre		00 55 46.5		
FIA0				ePKPdf	**PKPdf**		00 55 50.1	0.0	
FINES	**FINESS Array B**	**133.07**	**344**	PKHKP	PKPpre		00 55 46.5		
	comp=Z,1.2nm,0.6s,baz=93,slow=3.3,SNR=7.0								
FINES				PKP	**PKPdf**		00 55 50.1	0.0	
	comp=Z,0.9nm,0.5s,baz=18,slow=1.8,SNR=3.6								
NB200	**NORSAR Array S**	**136.23**	**353**	ePKPdf	**PKPdf**		00 55 57.3	+1.2	
NB200				eSKPbc	**SKPbc**		00 58 40.4	+1.9	
NOA	**NORSAR Array B**	**136.23**	**353**	PKP	**PKPdf**		00 55 57.3	+1.2	
	comp=Z,0.7nm,0.7s,baz=31,slow=2.2,SNR=3.1								
NOA				SKPbc	**SKPbc**		00 58 40.4	+1.9	
	comp=Z,2.1nm,0.8s,baz=16,slow=4.6,SNR=3.8								
LSZ	**Lusaka**	**138.11**	**220**	ePKHKP	PKPpre		00 55 50.9		
LSZ	**Lusaka**	**138.10**	**220**	ePKPpre	PKPpre		00 55 50.9		
KMBO	**Kilima Mbogo**	**140.34**	**245**	PKhKP	PKPpre		00 55 60.0		
	comp=Z,3.6nm,0.6s,baz=74,slow=3.6,SNR=12								
KMBO	**Kilima Mbogo**	**140.34**	**245**	ePKHKP	PKPpre		00 56 00.0		
AKASG	**Malin Array Be**	**140.49**	**333**	PKhKP	PKPpre		00 55 55.8		
	comp=Z,0.7nm,0.3s,baz=44,slow=3.9,SNR=5.3								
AKASG				SKKPbc	SKKPbc		01 07 24.7	+2.1	
	comp=Z,0.2nm,0.3s,baz=226,slow=3.2,SNR=4.3								
AKBB	**Malin Array Si**	**140.49**	**333**	ePKHKP	PKPpre		00 55 55.8		
AKBB	**Malin Array Si**	**140.49**	**333**	ePKPpre	PKPpre		00 55 55.8		
SORM	**Soroca**	**142.72**	**330**	⇓*i* P	PKPpre		00 56 05.2		
SORM	**Soroca**	**142.72**	**330**	⇓PKHKP	PKPpre		00 56 05.2		
LEOM	**Leova**	**143.94**	**328**	⇑*i* P	PKPab		00 56 10.0	+0.3	
LEOM	**Leova**	**143.94**	**328**	⇑PKIKP	PKPab		00 56 10.0	+0.3	
KWP	**Kalwaria Pacla**	**143.98**	**337**	ePKP	PKPbc		00 56 09.7	+0.1	
KWP	**Kalwaria Pacla**	**143.98**	**337**	ePKIKP	PKPbc		00 56 09.7	0.0	
ILGA	**Ilgaz**	**144.06**	**317**	ePKPbc	**PKPab**		00 56 10.7	0.0	
PRAR	**RASCA**	**144.27**	**331**	⇓*i* P	**PKPdf**		00 56 10.9	-0.1	
ROOS	**tl_alroos**	**144.32**	**304**	*e*P	**PKPab**		00 56 12.6	+0.8	
OJC	**Ojcow**	**144.51**	**340**	ePKP	**PKPdf**		00 56 11.3	0.0	
OJC	**Ojcow**	**144.51**	**340**	ePKIKP	**PKPdf**		00 56 11.3	0.0	
OJC	**Ojcow**	**144.51**	**340**	ePKPdf	**PKPab**		00 56 13.2	+1.4	
BUR08	**Bucovina Ar. S**	**144.53**	**332**	ePKPdf	**PKPab**		00 56 12.3	+0.2	
BURAR	**Bucovina Array**	**144.54**	**332**	⇓*i* P	**PKPab**		00 56 12.4	+0.3	
BURAR	**Bucovina Array**	**144.54**	**332**	⇓PKIKP	**PKPab**		00 56 12.4	+0.3	
TESR	**Tescani**	**144.69**	**330**	⇓*i* P	PKPbc		00 56 12.1	+0.1	
STHS	**Stebnicka Huta**	**144.70**	**338**	ePKIKP	**PKPab**		00 56 12.4	-0.2	
STHS	**Stebnicka Huta**	**144.70**	**338**	ePKP	**PKPab**		00 56 12.4	-0.2	
BR101	**Keskin Array S**	**144.78**	**315**	ePKPdf	**PKPdf**		00 56 12.4	+0.1	
BR131	**Keskin Array S**	**144.78**	**315**	*e*PKPdf	PKPbc		00 56 12.5	-0.2	
BRTR	**Keskin Array B**	**144.78**	**315**	PKP	**PKPdf**		00 56 12.4	+0.1	
	comp=Z,4.3nm,0.4s,baz=110,slow=2.6,SNR=41								
BRTR				SKKPab	SKKPab		01 07 05.8	+1.8	
	comp=Z,1.2nm,0.8s,baz=240,slow=4.2,SNR=4.9								
CFR	**Carcaliu**	**144.88**	**327**	⇑*i* P	**PKPab**		00 56 13.8	+0.5	
CFR	**Carcaliu**	**144.88**	**327**	⇑PKIKP	**PKPab**		00 56 13.8	+0.5	
UZH	**Uzhgorod**	**144.96**	**336**	*e i* PKIKP	PKPbc		00 56 12.8	+0.1	
PETR	**Petresti**	**144.97**	**328**	⇑*i* P	**PKPab**		00 56 14.3	+0.6	
KSIT	**Ksiaz**	**145.00**	**344**	*e*PKP	**PKPab**		00 56 13.2	-0.3	
KSP	**Ksiaz**	**145.00**	**344**	*e*PKIKP	**PKPab**		00 56 13.3	-0.3	
MARH	**Ras Al Marh**	**145.01**	**304**	*e*P	**PKPbc**		00 56 13.7	0.0	
NIE	**Niedzica**	**145.03**	**339**	*e*PKP	**PKPab**		00 56 13.5	-0.4	
NIE	**Niedzica**	**145.03**	**339**	*e*PKIKP	**PKPab**		00 56 13.5	-0.4	
CRVS	**Cervenica-Dubn**	**145.05**	**337**	*e*PKIKP	**PKPbc**		00 56 13.4	+0.4	
CRVS	**Cervenica-Dubn**	**145.05**	**337**	*e*PKP	**PKPbc**		00 56 13.4	+0.4	
VRI	**Vrincioaia**	**145.12**	**329**	⇑*i* P	**PKPdf**		00 56 12.3	-0.2	
VRI	**Vrincioaia**	**145.12**	**329**	⇑PKIKP	**PKPdf**		00 56 12.3	-0.2	
PLOR	**Plostina**	**145.17**	**329**	⇑*i* P	**PKPbc**		00 56 13.6	+0.1	
PLOR	**Plostina**	**145.17**	**329**	⇑PKIKP	**PKPbc**		00 56 13.6	+0.1	
SALA	**Sala**	**145.21**	**302**	*e*P	**PKPbc**		00 56 14.7	+0.4	
TOTH	**TOTAH**	**145.26**	**303**	*e*P	**PKPbc**		00 56 14.2	0.0	
ANTO	**Ankara**	**145.27**	**316**	*e*PKIKP	**PKPdf**		00 56 12.4	-0.6	
ANTO	**Ankara**	**145.27**	**316**	*e*PKPdf	**PKPdf**		00 56 12.3	-0.6	
BR231	**Keskin MP Arra**	**145.29**	**316**	*e*PKPdf	**PKPdf**		00 56 13.3	+0.2	
HARR	**Harsova**	**145.32**	**326**	⇓*i* P	**PKPab**		00 56 14.6	-0.5	
HARR	**Harsova**	**145.32**	**326**	⇓PKP2	**PKPab**		00 56 14.6	-0.5	
ARCR	**ARCALIA**	**145.32**	**333**	⇑*i* P	**PKPab**		00 56 14.6	-0.4	
TLB	**Topalu**	**145.33**	**326**	⇑*i* P	**PKPbc**		00 56 14.2	+0.3	
TLB	**Topalu**	**145.33**	**326**	⇑PKIKP	**PKPbc**		00 56 14.2	+0.3	
CLL	**Collm**	**145.34**	**348**	*i* PKIKP	**PKPbc**		00 56 13.6	-0.1	
CLL				*e*			00 58 16.0		
CLL				*e*			00 59 05.0		
CLL				pmax	pmax				
	comp=Z,13nm,0.6s								
CLL	**Collm**	**145.34**	**348**	*i* PKPbc	**PKPbc**		00 56 13.6	-0.1	
	comp=Z,13nm,0.6s								
CLL				*e*pPKPdf	pPKPbc		00 58 16.0	-0.5	
CLL				*e*SKPbc	**SKiKP**		00 59 05.0	+2.3	
CLL	**Collm**	**145.34**	**348**	*e*PKPdf	**PKPbc**		00 56 13.7	-0.1	
OKC	**Ostrava-Krasne**	**145.37**	**341**	*e*PKP	**PKPbc**		00 56 13.4	-0.5	
OKC	**Ostrava-Krasne**	**145.37**	**341**	*e*PKIKP	**PKPbc**		00 56 13.4	-0.5	
UPC	**Upice**	**145.38**	**344**	*e*PKP	**PKPbc**		00 56 14.2	+0.3	
UPC				*e*pPKP	**pPKPdf**		00 58 18.6	+0.8	
UPC	**Upice**	**145.38**	**344**	*e*PKP2	**PKPbc**		00 56 14.2	+0.3	
DPC	**Dobruska-Polom**	**145.44**	**343**	*i* PKP	**PKPbc**		00 56 14.6	+0.4	
DPC				*ex*	x		00 56 18.9		
DPC				*e*pPKP	**pPKPdf**		00 58 17.5	-0.5	
DPC	**Dobruska-Polom**	**145.44**	**343**	*i* PKP2	**PKPbc**		00 56 14.6	+0.4	
LANS	**Liptovska Anna**	**145.54**	**339**	*e*PKP2	**PKPab**		00 56 15.5	-0.4	
LANS	**Liptovska Anna**	**145.54**	**339**	*e*PKP	**PKPab**		00 56 15.5	-0.4	
LANS				*e*			00 58 21.4		
BRG	**Berggiesshubel**	**145.54**	**346**	*i* PKP	**PKPbc**		00 56 14.6	+0.2	
	comp=Z,6.5nm,0.7s								
BRG				*e*			00 56 24.7		
	comp=Z,3.6nm,0.7s								
BRG				*e*			00 58 25.2		
	comp=Z,1.8nm,0.6s								
BRG	**Berggiesshubel**	**145.54**	**346**	*i* PKIKP	**PKPbc**		00 56 14.6	+0.2	
BRG				pmax	pmax				
	comp=Z,7.0nm,0.7s								
KRLC	**Kraliky**	**145.56**	**343**	*e*PKP	**PKPbc**		00 56 14.7	+0.2	
KRLC	**Kraliky**	**145.56**	**343**	*e*PKIKP	**PKPbc**		00 56 14.7	+0.2	
MORC	**Moravsky Berou**	**145.60**	**342**	⇑*i* P	**PKPab**		00 56 16.5	+0.4	
MORC	**Moravsky Berou**	**145.60**	**342**	*e*PKIKP	**PKPbc**		00 56 14.5	-0.2	
MORC	**Moravsky Berou**	**145.60**	**342**	*e*PKPdf	**PKPbc**		00 56 14.5	-0.2	
BRBR	**Barbar**	**145.62**	**304**	*e*P	**PKPbc**		00 56 15.3	-0.1	
DOPR	**Dopca**	**145.69**	**330**	⇑*i* P	**PKPab**		00 56 15.9	-0.6	
PVCC	**Panska Ves**	**145.72**	**345**	*e*PKP	**PKPbc**		00 56 14.8	-0.1	
PVCC				*e*pPKP	**pPKPdf**		00 58 20.3	+1.9	
PVCC	**Panska Ves**	**145.72**	**345**	*e*PKIKP	**PKPbc**		00 56 14.8	-0.1	
ISR	**Istrita**	**145.74**	**328**	⇓*i* P	**PKPbc**		00 56 16.0	+0.8	
ISR	**Istrita**	**145.74**	**328**	⇓PKP2	**PKPbc**		00 56 16.1	+0.8	
KECS	**Kecovo**	**145.75**	**338**	*e*PKIKP	**PKPbc**		00 56 14.6	-0.5	
KECS	**Kecovo**	**145.75**	**338**	*e*PKP	**PKPbc**		00 56 14.6	-0.5	
KECS				*e*			00 58 19.7		
MLR	**Muntele Rosu**	**145.77**	**329**	⇓*i* P	**PKPbc**		00 56 15.1	-0.3	
MLR	**Muntele Rosu**	**145.77**	**329**	*e*PKPdf	**PKPdf**		00 56 11.3	-2.5	
TCHB	**Talchebab**	**145.83**	**302**	*i* P	**PKPbc**		00 56 15.0	-0.8	
CJR	**Cluj-Napoca**	**145.94**	**333**	⇓*i* P	**PKPbc**		00 56 16.2	+0.5	
CJR	**Cluj-Napoca**	**145.94**	**333**	⇓PKP2	**PKPbc**		00 56 16.2	+0.5	
PRA	**Prague**	**146.18**	**345**	*e*PKP	**PKPbc**		00 56 16.1	-0.1	
PRA				*e*pPKP	**pPKPdf**		00 58 20.7	+1.5	
PRA	**Prague**	**146.18**	**345**	*e*PKIKP	**PKPbc**		00 56 16.1	-0.1	
SULR		**146.19**	**328**	⇓*i* P	**PKPbc**		00 56 15.7	-0.7	
PRU	**Pruhonice**	**146.23**	**345**	*i* PKP	**PKPbc**		00 56 16.4	+0.1	
PRU				*ex*	x		00 56 20.0		
PRU				*e*pPKP	**pPKPdf**		00 58 20.9	+1.2	
PRU	**Pruhonice**	**146.23**	**345**	*i* PKP2	**PKPbc**		00 56 16.4	+0.1	
GOPC	**GO Pecny, Ondr**	**146.24**	**345**	*e*PKP	**PKPbc**		00 56 16.4	0.0	
GOPC				*e*pPKP	**pPKPdf**		00 58 21.9	+2.6	
GOPC	**GO Pecny, Ondr**	**146.24**	**345**	*e*PKIKP	**PKPbc**		00 56 16.4	0.0	
VOIR			**146.24**	**330**	⇓*i* P	**PKPbc**	00 56 17.0	+0.4	
VOIR			**146.24**	**330**	⇓PKP2	**PKPbc**	00 56 17.0	+0.4	
DRGR			**146.26**	**334**	⇓*i* P	**PKPbc**	00 56 16.7	+0.1	
DRGR			**146.26**	**334**	⇓PKP2	**PKPbc**	00 56 16.7	+0.1	
VYHS	**Vyhne**	**146.32**	**339**	*e*PKP2	**PKPbc**		00 56 16.9	+0.2	
VYHS	**Vyhne**	**146.32**	**339**	*e*PKP	**PKPbc**		00 56 16.9	+0.2	
VYHS				*e*			00 58 19.7		
PSZ	**Piszkesteto**	**146.44**	**338**	⇓*i* P	**PKPab**		00 56 18.6	-0.9	
PSZ	**Piszkesteto**	**146.44**	**338**	*e*PKIKP	**PKPbc**		00 56 16.9	-0.2	
PSZ	**Piszkesteto**	**146.44**	**338**	*e*PKPbc	**PKPbc**		00 56 16.9	-0.2	
NKC	**Novy Kostel**	**146.47**	**348**	*e*PKP	**PKPbc**		00 56 17.3	+0.3	
NKC				*e*pPKP	pPKPbc		00 58 23.2	+3.4	
NKC	**Novy Kostel**	**146.47**	**348**	*e*PKP2	**PKPbc**		00 56 17.3	+0.3	
ARR	**Arges**	**146.49**	**330**	⇓*i* P	**PKPbc**		00 56 16.3	-1.0	
TREC	**Trest**	**146.62**	**344**	*e*PKP	**PKPbc**		00 56 17.3	-0.2	
TREC				*e*pPKP	pPKPbc		00 58 22.2	+1.9	
TREC	**Trest**	**146.62**	**344**	*e*PKIKP	**PKPbc**		00 56 17.3	-0.2	
SMOL	**Smolenice**	**146.76**	**341**	*e*PKP2	**PKPbc**		00 56 18.4	+0.6	
SMOL	**Smolenice**	**146.76**	**341**	*e*PKP	**PKPbc**		00 56 18.4	+0.6	
LOT	**Lotru**	**146.83**	**331**	⇑*i* P	**PKPbc**		00 56 17.9	-0.4	
MEM	**Membach**	**147.04**	**355**	PKPbc	**PKPbc**		00 56 18.6	+0.1	
CSS	**Mathiatis**	**147.10**	**308**	*e*PKPdf	**PKPdf**		00 56 17.1	+0.9	
SIRR	**Siria**	**147.12**	**334**	⇑*i* P	**PKPbc**		00 56 19.4	+0.5	
KHC	**Kasperske Hory**	**147.26**	**346**	*i* PKP	**PKPbc**		00 56 19.4	+0.2	
KHC				*ex*	x		00 56 24.6		
KHC				*e*pPKP	**pPKPab**		00 58 24.7	+2.0	
KHC				*ex*	x		00 58 29.5		
KHC	**Kasperske Hory**	**147.26**	**346**	*i* PKP2	**PKPbc**		00 56 19.4	+0.2	
KHC	**Kasperske Hory**	**147.26**	**346**	*e*PKPdf	**PKPdf**		00 56 17.1	+1.1	
BCLA	**Clavier**	**147.28**	**356**	PKPbc	**PKPbc**		00 56 19.7	+0.6	
BCLA				PKPab	**PKPab**		00 56 23.2	+0.6	
GEC2	**GERESS Array S**	**147.49**	**345**	*e*PKIKP	**PKPab**		00 56 19.5	-0.4	
GEC2	**GERESS Array S**	**147.49**	**345**	*e*PKPbc	**PKPbc**		00 56 19.5	-0.4	
GERES	**GERESS Array B**	**147.49**	**345**	PKPbc	**PKPbc**		00 56 20.1	+0.2	
	comp=Z,3.3nm,0.5s,baz=25,slow=3.1,SNR=49								
GERES				pPKPbc	**pPKPdf**		00 58 15.4	-6.2	
	comp=Z,0.4nm,0.5s,baz=31,slow=2.6,SNR=1.3								
GEA0	**GERESS Array S**	**147.50**	**345**	*e*PKPbc	**PKPbc**		00 56 20.3	+0.4	
DOU	**Dourbes**	**147.65**	**357**	PKPbc	**PKPbc**		00 56 20.3	+0.2	
BZS	**Buzias**	**147.66**	**334**	⇓*i* P	**PKPbc**		00 56 20.2	-0.1	
BZS	**Buzias**	**147.66**	**334**	⇓PKP2	**PKPbc**		00 56 20.2	-0.1	
CONA	**Conrad Observa**	**147.76**	**342**	*i* PKiKP	**PKPbc**		00 56 20.9	+0.3	
	comp=Z,4.0nm,0.6s,SNR=10								
CONA				*e*pPKPab	**pPKPbc**		00 58 24.0	+0.1	
	comp=Z,14nm,1.4s								
WLF	**Walferdange**	**147.96**	**355**	*e*PKP2	**PKPbc**		00 56 21.6	+0.7	
WLF	**Walferdange**	**147.96**	**355**	*e*PKPbc	**PKPbc**		00 56 21.6	+0.7	
MOA	**Molln**	**148.27**	**344**	*i* PKPbc	**PKPbc**		00 56 21.8	0.0	
MOA				*e*pPKiKP	**pPKiKP**		00 58 29.4	+1.9	
	comp=Z,9.6nm,1.3s								
MDVR	**Moldovita**	**148.28**	**332**	⇑*i* P	**PKPbc**		00 56 21.9	-0.1	
ARSA	**Arzberg**	**148.47**	**342**	*i* PKPbc	**PKPbc**		00 56 22.0	-0.3	
	comp=Z,0.4nm,0.3s								
ARSA				*e*pPKiKP	**pPKPab**		00 58 27.5	+0.2	
	comp=Z,2.6nm,1.0s								
BFO	**Black Forest**	**149.03**	**351**	*e*PKPbc	**PKPbc**		00 56 22.5	-1.1	
SOKA	**Soboth**	**149.13**	**342**	*e*pPKiKP	pPKiKP		00 58 28.6	-0.9	
	comp=Z,2.4nm,0.8s								
KBA	**Koelnbreinsper**	**149.22**	**344**	*i* PKPbc	**PKPbc**		00 56 23.6	-0.8	
	comp=Z,2.4nm,0.3s								
KBA				*e*pPKPab	**pPKPab**		00 58 30.7	+0.3	
	comp=Z,4.9nm,0.8s								
VTS	**Vitosha**	**149.23**	**328**	⇓*i* P	**PKPbc**		00 56 24.4	-0.1	
VTS	**Vitosha**	**149.23**	**328**	*e*PKPbc	**PKPbc**		00 56 23.8	-0.7	
AKAS	**Kas**	**149.26**	**312**	*e*PKPbc	**PKPbc**		00 56 24.7	-0.1	
WATA	**Walderalm**	**149.40**	**347**	*i* PKiKP	**PKPbc**		00 56 24.7	-0.1	
	comp=Z,4.3nm,0.5s								
WATA				*e*pPKPab	**pPKPab**		00 58 31.9	+0.7	
	comp=Z,6.5nm,1.0s								
OBKA	**Obir**	**149.42**	**342**	*i* PKPbc	**PKPbc**		00 56 24.1	-0.6	
	comp=Z,0.5nm,0.3s								
RETA	**Reutte**	**149.43**	**348**	*i* PKiKP	**PKPbc**		00 56 24.7	0.0	
	comp=Z,1.9nm,0.4s								
RETA				*e*pPKPab	**pPKPab**		00 58 31.7	+0.

PFO					S	Sn	00 43 35.9	-1.9
	baz=146							
PFO	**Pinyon Flats O**	**1.75**	**325**	*e*Pn	**Pn**	**00 43 15.0**	**-0.8**
PFO				*e*S	**Sb**	**00 43 41.0**	**+1.3**
IRM	**Iron Mountain**	**1.99**	**3**	Pb	**Pn**	**00 43 20.4**	**+1.5**
	baz=182,SNR=36							
IRM				S	**Sn**	**00 43 40.2**	**-3.2**
	baz=182							
214A	**Organ Pipe Nat**	**2.10**	**95**	P	**Pn**	**00 43 19.3**	**-1.0**
	baz=273							
214A				Sb	**Sb**	**00 43 50.5**	**+1.1**
	baz=273							
214A	**Organ Pipe Nat**	**2.10**	**95**	*e*Pn	**Pn**	**00 43 19.2**	**-1.2**
214A				*e*S	**Sb**	**00 43 51.6**	**+2.3**
MURC	**Murrieta**	**2.16**	**312**	Pb	**Pb**	**00 43 26.0**	**+1.2**
	baz=133							
MURC				Sb	**Sg**	**00 43 54.5**	**-1.2**
	baz=133							
TUC	**Tucson**	**3.80**	**87**	Pn	**Pn**	**00 43 48.2**	**+4.3**
TUC				*e*Pg	**Pg**	**00 43 58.1**	**-0.9**
TUC				*e*S	**Sg**	**00 44 44.2**	**-4.0**
WUAZ	**Wupatki**	**4.65**	**43**	*e*Pn	**Pn**	**00 43 58.7**	**+3.0**
WUAZ				*e*S	**Sg**	**00 45 19.6**	**+4.1**

*ISCJB **27** 00:46:15.5±0.2, 4.°76S×0.°04×152.°69E±0.°05, h58km, mb4.7/69, MS3.5/12, Error ellipse: s-maj=6.9km s-min=4.6km az=28.4*

*NEIC **27** 00:46:17.8±0.7, 4.°70S×152.°61E, h65km±6km, mb4.8/45, Error ellipse: s-maj=7.8km s-min=4.3km az=113.0*

*BJI **27** 00:46:17.6, 4.°77S×152.°47E, h61km, mb4.6/14, mB4.9/9, Ms4.6/7, Ms7 4.5/6*

*IDC **27** 00:46:22.1±1.6, 4.°81S×152.°45E, h100km±14km, mb4.1/23, mb1 4.3/27, mb1mx4.2/42, mbtmp4.5/27, MS3.5/13, Ms1 3.5/13, ms1mx3.4/23, Error ellipse: s-maj=12.3km s-min=8.7km az=109.0*

ISC 27 00:46:17.5±0.4, 4.°71S±0.°04×152.°65E±0.°06, h58km, n118, σ1°73/124, mb4.8/68, MS3.5/13, 1D, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RABL	**Rabaul**	**0.70**	**317**	*e*Pn	**Pn**	**00 46 31.3**	**-0.4**
RABL				*e*Sn	**Sn**	**00 46 42.8**	**+0.8**
MANU	**Manus Island**	**5.90**	**297**	*e*Pn	**Pn**	**00 47 46.0**	**+3.7**
PMG	**Port Moresby**	**7.17**	**229**	P	**Pn**	**00 48 01.2**	**+1.5**
	7.4nm,0.3s,baz=34,slow=9.1,SNR=9.7						
PMG				S	**Sn**	**00 49 19.0**	**-0.8**
	7.7nm,0.3s,baz=323,slow=20,SNR=4.5						
PMG	**Port Moresby**	**7.17**	**229**	*e*Pn	**Pn**	**00 48 00.3**	**+0.6**
PMG				*e*Sn	Sn	00 49 04.5	-15
PMG				S	**Sn**	**00 49 19.0**	**-0.8**
HNR	**Honiara**	**8.63**	**123**	P	Pn	00 48 25.7	+6.0
	3.9nm,0.3s,baz=190,slow=12,SNR=3.0						
HNR				S	**Sn**	**00 50 02.5**	**+6.8**
	baz=161,slow=18,SNR=2.3						
HNR				LR	LR	00 52 00.2	
	comp=Z,461nm,19.4s,baz=338,slow=39						
PATS	**Pohnpei**	**12.79**	**26**	*e*Pn	**Pn**	**00 49 16.6**	**0.0**
PATS				*e*Sn	**Sn**	**00 51 29.2**	**-8.2**
CTA	**Charters Tower**	**16.50**	**202**	P	**Pn**	**00 50 05.8**	**+0.5**
	0.4nm,0.3s,baz=27,slow=13,SNR=5.3						
CTAO	**Charters Tower**	**16.50**	**202**	*e*Pn	**P**	**00 50 06.8**	**-0.3**
	10nm,0.8s						
GUMO	**Guam**	**19.75**	**337**	P	**Pn**	**00 50 45.0**	**+0.3**
	baz=52,slow=20,SNR=4.4						
GUMO				LR	LR	00 57 27.2	
	comp=Z,74nm,19.9s,baz=148,slow=34						
DZM	**Mont Dzumac**	**21.83**	**143**	P	**P**	**00 51 06.7**	**+1.5**
	11nm,1.0s,baz=328,slow=10,SNR=6.5						
DZM				LR	LR	00 58 49.8	
	comp=Z,130nm,21.0s,baz=293,slow=34						
DZM	**Mont Dzumac**	**21.83**	**143**	*e*P	**P**	**00 51 04.9**	**-0.3**
	18nm,1.0s						
MTN	**Manton Dam**	**22.73**	**248**	*e*P	**P**	**00 51 14.5**	**-0.4**
	14nm,0.8s						
WC3	**Warramunga Arr**	**23.37**	**228**	*e*P	**P**	**00 51 19.3**	**-2.0**
	14nm,0.9s						
WRAB	**Tennant Creek**	**23.38**	**228**	*e*P	**P**	**00 51 19.5**	**-1.8**
	22nm,1.1s						
WB2	**Warramunga Arr**	**23.38**	**228**	*e*P	**P**	**00 51 19.7**	**-1.6**
WRA	**Warramunga Arr**	**23.39**	**228**	P	**P**	**00 51 19.7**	**-1.7**
	8.0nm,0.7s,baz=52,slow=9.8,SNR=14						
WRA				S	**S**	**00 55 24.6**	**-5.7**
	0.7nm,0.7s,baz=49,slow=18,SNR=4.3						
AS01	**Alice Springs**	**26.08**	**222**	*e*P	**P**	**00 51 45.2**	**-0.7**
AS31	**Alice Springs**	**26.11**	**222**	*e*P	**P**	**00 51 46.6**	**+0.4**
	2.9nm,0.7s						
ASAR	**Alice Springs**	**26.11**	**222**	P	**P**	**00 51 45.8**	**-0.4**
	7.6nm,0.9s,baz=58,slow=8.8,SNR=15						
ASAR				S	**S**	**00 56 08.5**	**-5.2**
	0.7nm,0.8s,baz=53,slow=14,SNR=4.6						
STKA	**Stephens Creek**	**28.95**	**200**	P	**P**	**00 52 10.4**	**-1.0**
	4.9nm,0.8s,baz=50,slow=13,SNR=4.6						
STKA				LR	LR	01 03 41.5	
	comp=Z,116nm,21.5s,baz=23,slow=36						
STKA	**Stephens Creek**	**28.95**	**200**	P	**P**	**00 52 10.4**	**-1.0**
	4.0nm,1.5s						
FITZ	**Fitzroy Crossi**	**29.57**	**241**	P	**P**	**00 52 15.3**	**-1.7**
	3.5nm,0.3s,baz=0.0,slow=11						
BBOO	**Buckleboo**	**31.96**	**207**	*e*P	**P**	**00 52 37.6**	**-0.4**
	74nm,1.9s						
MBWA	**Marble Bar**	**35.88**	**240**	*e*P	**P**	**00 53 10.2**	**-1.9**
	20nm,1.1s						
URZ	**Urewera**	**40.14**	**150**	P	**P**	**00 53 48.7**	**+0.9**
	2.6nm,0.5s,baz=336,slow=10.0,SNR=2.0						
SMRI	**Semarang**	**42.04**	**265**	*e*P	**P**	**00 54 05.1**	**+1.3**
	93nm,0.9s						
RPZ	**Rata Peaks**	**42.11**	**160**	P	**P**	**00 54 04.6**	**+0.6**
	19nm,0.8s,baz=277,slow=3.0,SNR=5.5						
OXZ	**Oxford**	**42.11**	**159**	*e*P	**P**	**00 54 02.7**	**-1.3**
	69nm,1.5s						
JNU	**Nakatsue**	**42.91**	**333**	P	**P**	**00 54 10.8**	**+0.2**
	9.6nm,0.7s,baz=106,slow=3.8,SNR=6.5						
JNU	**Nakatsue**	**42.91**	**333**	*e*P	**P**	**00 54 09.3**	**-1.3**
	13nm,0.9s						
MJAR	**Matsushiro Arr**	**43.20**	**343**	LR	LR	01 10 07.8	
	comp=Z,54nm,21.6s,baz=170,slow=33						
KSRS	**Korea Array**	**47.85**	**333**	P	**P**	**00 54 49.7**	**+0.1**
	2.0nm,0.8s,baz=148,slow=8.0,SNR=7.0						
KSRS				LR	LR	01 13 43.5	
	comp=Z,25nm,18.9s,baz=201,slow=34						
KSAR	**Wonju Array Be**	**47.86**	**333**	P	**P**	**00 54 49.7**	**+0.1**
QIZ	**Qiongzhong**	**48.29**	**301**	P	**P**	**00 54 53.0**	**-0.3**
QIZ				S	**S**	**01 01 50.5**	**+1.2**
NJ2	**Nanjing**	**48.68**	**321**	*e*P	**P**	**00 54 55.5**	**-0.5**
NJ2				pmax	pmax		
	comp=Z,14nm,0.5s						
USRK	**Ussuriysk Ar.**	**52.11**	**341**	P	**P**	**00 55 22.8**	**+1.1**
	2.2nm,0.8s,baz=142,slow=10,SNR=3.8						
MDJ	**Mudanjiang**	**53.28**	**340**	P	**P**	**00 55 32.3**	**+1.9**
MDJ				pmax	pmax		
	comp=Z,6.0nm,0.9s						
MDJ				pmax	pmax		
	comp=Z,51nm,3.2s						
CMAR	**Chiang Mai Arr**	**57.70**	**295**	P	**P**	**00 56 03.0**	**+0.4**
	3.2nm,0.8s,baz=109,slow=5.5,SNR=9.7						
CMAR				LR	LR	01 22 02.5	
	comp=Z,36nm,19.1s,baz=174,slow=37						
PETK	**Petropavlovsk-**	**57.76**	**4**	LR	LR	01 16 19.5	
	comp=Z,44nm,21.9s,baz=175,slow=31						
CD2	**Chengdu**	**58.56**	**311**	*e*P	**P**	**00 56 10.3**	**+1.8**
CD2				pP	pP	00 56 22.5	-1.6
CD2				pmax	pmax		
	comp=Z,10.0nm,1.2s						
HHC	**Hu-ho-hao-te**	**58.88**	**324**	*e*P	**P**	**00 56 13.8**	**+3.2**
HHC				pmax	pmax		
	comp=Z,17nm,1.1s						
HHC				pmax	pmax		
	comp=Z,61nm,4.2s						
LZH	**Lanzhou**	**61.06**	**316**	*e*P	**P**	**00 56 28.0**	**+2.3**
LZH				pP	pP	00 56 44.3	+2.9
LZH				sP	sP	00 56 52.8	+4.9
LZH				pmax	pmax		
	comp=Z,13nm,1.0s						
VNDA	**Vanda**	**72.92**	**178**	P	**P**	**00 57 40.5**	**+0.4**
	1.7nm,1.1s,baz=346,slow=5.2,SNR=3.9						
WMQ	**Urumqi**	**75.57**	**317**	P	**P**	**00 57 56.5**	**+0.3**
WMQ				pP	pP	00 58 14.3	+1.9
WMQ				sP	sP	00 58 21.8	+3.0
WMQ				pmax	pmax		
	comp=Z,11nm,0.8s						
WMQ				pmax	pmax		
	comp=Z,120nm,4.3s						
WMQ				LR	LR		
	comp=N,29nm,16.7s						
WMQ				LR	LR		
	comp=E,37nm,21.1s						
KDAK	**Kodiak Island**	**76.17**	**27**	P	**P**	**00 57 59.4**	**+0.3**
	7.3nm,0.9s,baz=121,slow=5.0,SNR=4.5						
SVW2	**Sparrevohn**	**76.80**	**23**	*e*P	**P**	**00 58 01.4**	**-1.3**
	7.5nm,1.0s						
CNPM	**China Poot**	**77.70**	**26**	*e*P	**P**	**00 58 07.3**	**-0.5**
	28nm,0.9s						
TT01	**Tatalina**	**77.72**	**21**	*e*P	**P**	**00 58 07.4**	**-0.4**
TTA	**Tatalina**	**77.74**	**21**	*e*P	**P**	**00 58 06.5**	**-1.5**
	5.3nm,0.9s						
BRLK	**Bradley Lake**	**77.98**	**26**	*e*P	**P**	**00 58 09.1**	**-0.2**
	12nm,1.0s						
SUA	**Susitna One**	**78.94**	**24**	*e*P	**P**	**00 58 13.1**	**-1.6**
	12nm,0.8s						
PPLA	**Purkeypile**	**79.15**	**23**	*e*P	**P**	**00 58 15.6**	**-0.3**
	23nm,1.6s						
RC01	**Rabbit Creek A**	**79.16**	**25**	*e*P	**P**	**00 58 13.8**	**-2.0**
	15nm,1.0s						
CAST	**Castle Rocks**	**79.48**	**22**	*e*P	**P**	**00 58 17.3**	**-0.2**
	14nm,0.8s						
PMR	**Palmer**	**79.67**	**24**	*e*P	**P**	**00 58 17.1**	**-1.4**
	8.8nm,0.7s						
KTH	**Kantishna Hill**	**79.99**	**22**	*e*P	**P**	**00 58 19.3**	**-1.0**
	12nm,1.0s						
SML	**Sawmill**	**80.11**	**24**	*e*P	**P**	**00 58 20.2**	**-0.8**
	24nm,0.8s						
MK01	**Makanchi Array**	**80.14**	**319**	*e*P	**P**	**00 58 21.6**	**+0.1**
MK31	**Makanchi Array**	**80.16**	**319**	*e*P	**P**	**00 58 21.7**	**+0.1**
MKAR	**Makanchi Array**	**80.16**	**319**	P	**P**	**00 58 21.7**	**+0.1**
	1.8nm,0.8s,baz=104,slow=7.6,SNR=6.3						
MKAR	**Makanchi Array**	**80.16**	**319**	*e*P	**P**	**00 58 21.4**	**-0.2**
	18nm,1.0s						
GLI	**Glacier Island**	**80.17**	**26**	*e*P	**P**	**00 58 20.6**	**-0.7**
	16nm,0.9s						
TRF	**Thorofare Moun**	**80.18**	**23**	*e*P	**P**	**00 58 19.8**	**-1.7**
	7.6nm,0.8s						
FID	**Port Fidalgo**	**80.38**	**26**	*e*P	**P**	**00 58 21.3**	**-1.1**
	14nm,1.0s						
SCM	**Sheep Creek Mo**	**80.53**	**25**	*e*P	**P**	**00 58 23.9**	**+0.5**
	17nm,1.0s						
RND	**Reindeer**	**80.70**	**23**	*e*P	**P**	**00 58 23.6**	**-0.6**
	13nm,0.7s						
MCK	**McKinley**	**80.84**	**23**	*e*P	**P**	**00 58 24.1**	**-0.8**
	23nm,0.9s						
DIV	**Divide**	**80.86**	**26**	*e*P	**P**	**00 58 25.2**	**+0.2**
	12nm,1.0s						
KLU	**Klutina**	**80.96**	**25**	*e*P	**P**	**00 58 25.8**	**+0.2**
	17nm,1.0s						
ZAA0	**Zalesovo Array**	**80.99**	**326**	*e*P	**P**	**00 58 24.4**	**-1.4**
ZALV	**Zalesovo Beam**	**80.99**	**326**	P	**P**	**00 58 25.0**	**-0.8**
	3.4nm,0.6s,baz=117,slow=5.8,SNR=12						
ZALV				LR	LR	01 35 14.8	
	comp=Z,13nm,19.2s,baz=70,slow=36						
RAGM	**Ragged Mountai**	**81.00**	**27**	*e*P	**P**	**00 58 25.5**	**-0.3**
	17nm,1.0s						
DHY	**Denali Highway**	**81.12**	**24**	*e*P	**P**	**00 58 26.3**	**-0.2**
	7.8nm,0.8s						
BMRM	**Bremner River**	**81.29**	**26**	*e*P	**P**	**00 58 27.5**	**+0.2**
	23nm,1.5s						
WRH	**Wood River Hil**	**81.53**	**22**	*e*P	**P**	**00 58 27.5**	**-1.0**
	14nm,1.1s						
HARP	**HAARP**	**81.71**	**25**	*e*P	**P**	**00 58 29.6**	**+0.1**
	15nm,0.9s						
MDM	**Murphy Dome**	**81.73**	**22**	*e*P	**P**	**00 58 28.5**	**-1.1**
	4.4nm,0.8s						
CCB	**Clear Creek Bu**	**81.73**	**22**	*e*P	**P**	**00 58 28.6**	**-0.9**
	10nm,0.9s						
PAX	**Paxson**	**81.83**	**24**	*e*P	**P**	**00 58 29.8**	**-0.5**
	4.7nm,0.8s						
ILAR	**Eielson Array**	**82.13**	**22**	P	**P**	**00 58 30.6**	**-1.0**
	9.1nm,0.8s,baz=251,slow=5.2,SNR=42						
ILAR				LR	LR	01 30 45.7	
	comp=Z,34nm,20.0s,baz=236,slow=32						
ILB	**Eielson Array**	**82.13**	**22**	*e*P	**P**	**00 58 30.5**	**-1.1**
IL1	**Eielson Array**	**82.14**	**22**	*e*P	**P**	**00 58 30.1**	**-1.5**
COLD	**Coldfoot**	**82.22**	**19**	*e*P	**P**	**00 58 32.3**	**+0.2**
	5.9nm,1.0s						
DOT	**Dot Lake**	**82.71**	**24**	*e*P	**P**	**00 58 34.3**	**-0.4**
	37nm,0.8s						
KSH	**Kashi**	**82.76**	**311**	*e*P	**P**	**00 58 38.0**	**+2.4**
KSH				pP	pP	00 58 55.0	+3.0
KSH				PP	**PP**	**01 01 51.3**	**+4.9**
KSH				S	**S**	**01 08 49.0**	**-0.5**
KSH				sS	sS	01 09 18.0	+0.9
KSH				SS	**SS**	**01 14 17.0**	**+3.8**
KSH				pmax	pmax		
	comp=Z,4.0nm,0.9s						
KSH				pmax	pmax		
	comp=Z,48nm,6.0s						
KSH				LR	LR		
	comp=N,88nm,5.2s						
KSH				LR	LR		
	comp=E,98nm,10.1s						
KSH				LR	LR		
	comp=Z,130nm,5.8s						
KURK	**Kurchatov**	**83.60**	**322**	P	**P**	**00 58 38.8**	**-0.8**
KURBB	**Kurchatov Arra**	**83.63**	**322**	P	**P**	**00 58 38.8**	**-0.9**
	2.0nm,0.8s,baz=112,slow=4.1,SNR=7.0						
EGAK	**Eagle**	**84.34**	**23**	*e*P	**P**	**00 58 43.3**	**+0.3**
	9.2nm,0.8s						
AAK	**Ala-Archa**	**84.49**	**313**	P	**P**	**00 58 44.9**	**+0.4**
	2.3nm,0.8s,baz=110,slow=6.2,SNR=5.4						
AAK	**Ala-Archa**	**84.49**	**313**	*e*P	**P**	**00 58 43.8**	**-0.7**
	3.4nm,1.0s						
DAWY	**Dawson**	**84.77**	**24**	*e*P	**P**	**00 58 46.1**	**+0.8**
	18nm,1.6s						
MAW	**Mawson**	**85.59**	**203**	P	**P**	**00 58 49.4**	**+0.1**
	0.9nm,0.6s,baz=139,slow=9.3,SNR=3.1						
MAW				LR	LR	01 33 07.0	
	comp=Z,57nm,21.3s,baz=60,slow=33						
NRIK	**Noril'sk**	**85.83**	**341**	P	**P**	**00 58 50.1**	**-0.3**
	1.9nm,0.6s,baz=108,slow=4.9,SNR=2.8						
NRIK				LR	LR	01 35 58.5	
	comp=Z,13nm,21.1s,baz=59,slow=35						
DLBC	**Dease Lake**	**87.39**	**31**	P	**P**	**00 58 59.5**	**+1.2**
	5.2nm,0.5s,baz=227,slow=4.0,SNR=4.0						
INK	**Inuvik**	**88.43**	**21**	P	**P**	**00 59 02.8**	**-0.1**
	10nm,1.0s,baz=233,slow=9.5,SNR=6.3						
INK	**Inuvik**	**88.43**	**21**	*e*P	**P**	**00 59 02.4**	**-0.5**
	9.3nm,0.9s						
SYO	**Syowa Base**	**93.70**	**199**	∥*e*X	**P**	**00 59 24.0**	**-3.5**
PDAR	**Pinedale Array**	**98.90**	**48**	P	Pdif	00 59 53.1	+1.1
	0.5nm,0.9s,baz=310,slow=2.1,SNR=3.3						
PDAR				LR	LR	01 39 17.4	
	comp=Z,44nm,18.7s,baz=268,slow=32						
AKASG	**Malin Array Be**	**114.33**	**324**	PKP	PKPdf	01 04 49.8	-0.9
	0.7nm,0.5s,baz=66,slow=2.1,SNR=4.5						
VYHS	**Vyhne**	**121.32**	**326**	*e*PKP	**PKPdf**	**01 05 03.6**	**-0.7**
BRG	**Berggiesshubel**	**122.52**	**330**	*e*PKP	**PKPdf**	**01 05 06.2**	**-0.2**
	3.0nm,1.0s						
CLL	**Collm**	**122.70**	**331**	*i* PKiKP	**PKPdf**	**01 05 06.2**	**-0.6**
	comp=Z,4.0nm,0.9s						
CONA	**Conrad Observa**	**123.29**	**327**	*e*PKiKP	**PKPdf**	**01 05 07.2**	**-0.9**
	comp=Z,2.2nm,0.9s						
KHC	**Kasperske Hory**	**123.78**	**329**	*e*PKPdf	**PKPdf**	**01 05 09.0**	**0.0**
ARSA	**Arzberg**	**123.87**	**326**	*e*PKPdf	**PKPdf**	**01 05 06.9**	**-2.3**
	comp=Z,2.2nm,0.8s						
GERES	**GERESS Array B**	**123.90**	**328**	PKP	**PKPdf**	**01 05 09.0**	**-0.3**
	comp=Z,2.4nm,0.7s,baz=80,slow=1.5,SNR=24						
MOA	**Molln**	**124.20**	**327**	*e*PKiKP	**PKPdf**	**01 05 09.1**	**-0.7**
	comp=Z,3.9nm,1.2s						
MYKA	**Terra Mystica**	**125.28**	**326**	*e*PKPdf	**PKPdf**	**01 05 09.6**	**-2.4**
	comp=Z,4.4nm,1.0s						
ABTA	**Abfaltersbach**	**125.82**	**327**	*e*PKiKP	**PKPdf**	**01 05 12.0**	**-1.0**
	comp=Z,2.8nm,0.7s						
MOTA	**Moosalm**	**126.19**	**328**	*e*PKiKP	**PKPdf**	**01 05 13.1**	**-0.8**
	comp=Z,4.4nm,0.8s						
FETA	**Feichten**	**126.60**	**328**	*e*PKiKP	**PKPdf**	**01 05 14.0**	**-0.6**
	comp=Z,3.0nm,0.7s						
DAVA	**Damuels**	**126.87**	**329**	*e*PKPdf	**PKPdf**	**01 05 13.8**	**-1.3**
	comp=Z,2.7nm,0.7s						
LPAZ	**La Paz**	**134.60**	**118**	PKP	**PKPdf**	**01 05 32.4**	**+1.2**
	comp=Z,0.6nm,0.7s,baz=191,slow=5.2,SNR=3.7						
ESDC	**Sonseca Array**	**139.28**	**332**	PKP	**PKPdf**	**01 05 37.5**	**-1.0**
	comp=Z,0.2nm,0.5s,baz=31,slow=2.3,SNR=4.6						
SVB	**Belmont**	**145.49**	**73**	*e*PKPdf	**PKPdf**	**01 05 49.4**	**-0.7**
PTGA	**Pitinga**	**146.98**	**99**	*e*PKPbc	**PKPbc**	**01 05 54.6**	**-0.2**
TOA0	**Torodi Ar. Sit**	**150.13**	**288**	*e*PKPbc	**PKPbc**	**01 06 01.7**	**-1.2**
TORD	**Torodi Ar. Bea**	**150.13**	**288**	PKPbc	**PKPbc**	**01 06 01.7**	**-1.2**
	comp=Z,10nm,0.8s,baz=71,slow=2.4,SNR=46						

WEL 27 00:55:16.8±0.5, 35.°23S×178.°31E, h235km±14km, ML3.9/14, Error ellipse: s-maj=13.0km s-min=12.9km az=90.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MXZ	**Matakaoa Point**	**2.32**	**180**	PN	Pn	00 56 00.3	-0.8
MXZ				SN	S	00 56 32.7	-3.4
HAZ	**Te Kaha**	**2.55**	**189**	PN	Pn	00 56 03.4	-0.1
HAZ				SN	S	00 56 40.2	0.0
HAZ				AML	AML	00 56 41.4	
WMGZ	**Waiomatatini S**	**2.58**	**178**	PN	Pn	00 56 03.8	0.0
WMGZ				SN	S	00 56 40.3	-0.5
WMGZ				AML	AML	00 56 45.4	
PKGZ	**Pakihiroa**	**2.66**	**184**	PN	Pn	00 56 04.5	-0.1
PKGZ				SN	S	00 56 40.8	-1.5
RUGZ	**Raukumara Rang**	**2.77**	**190**	PN	Pn	00 56 05.9	-0.1
PUZ	**Puketiti**	**2.83**	**181**	PN	Pn	00 56 05.4	-1.1
PUZ				SN	S	00 56 44.1	-1.6
MWZ	**Matawai**	**3.16**	**191**	PN	Pn	00 56 11.0	+0.9
URZ	**Urewera**	**3.17**	**197**	PN	Pn	00 56 10.8	+0.6
URZ				SN	S	00 56 51.4	-0.9
URZ				SN		00 56 52.2	
CNGZ	**Carnagh Statio**	**3.24**	**181**	PN	Pn	00 56 11.5	+0.4
MUGZ	**Murupara**	**3.46**	**200**	PN	Pn	00 56 14.6	+1.0
MUGZ				SN	S	00 56 58.7	+0.3
RIGZ	**Rimuhau**	**3.49**	**187**	PN	Pn	00 56 13.8	-0.1
RIGZ				AML	AML	00 57 00.7	
RIGZ				AML	AML	00 57 00.8	
KNZ	**Kokohu**	**3.81**	**188**	PN	Pn	00 56 16.6	-1.1
MHGZ	**Mahia Peninsul**	**3.92**	**185**	PN	Pn	00 56 18.3	-0.6
NMHZ	**Naumai**	**4.04**	**197**	PN	Pn	00 56 20.8	+0.4
ARHZ	**Aropaoanui**	**4.16**	**194**	PN	Pn	00 56 22.0	+0.3
KAHZ	**Kahuranaki**	**4.69**	**194**	*e*PN	Pn	00 56 28.1	-0.2
PXZ	**Pawanui**	**4.92**	**193**	PN	Pn	00 56 29.6	-1.4
PNHZ	**Pukenui**	**4.96**	**199**	PN	Pn	00 56 30.7	-0.9
MRZ	**Mangatainoka R**	**5.83**	**201**	PN	Pn	00 56 41.3	-1.1
MRZ				SN	S	00 57 49.1	-1.6

JMA 27 00:55:33.7±0.4, 32.°18N×142.°14E, h32km, M3.7, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JHCJ	**Hachijojimakas**	**2.17**	**295**	P	Pn	00 56 08.8	+1.2
JHCJ				S	Sn	00 56 34.6	+1.3
JHJ2	**Mitsune**	**2.17**	**296**	P	Pn	00 56 09.0	+1.4
BSO1	**Boso 1**	**2.65**	**339**	P	Pn	00 56 15.7	+2.0
BSO1				S	Sn	00 56 46.2	+1.7
BSO2	**Boso 2**	**2.81**	**336**	*e*S	Sn	00 56 52.7	+3.8
BSO3	**Boso 3**	**2.95**	**333**	P	Pn	00 56 20.4	+2.3
BSO3				S	Sn	00 56 53.6	+1.4
JHO	**Hitachi**	**4.61**	**344**	P	Pn	00 56 42.4	+1.3
JFK	**Kawauchi**	**5.28**	**349**	S	Sn	00 57 47.6	-2.5

MAN 27 01:04:27, 16.°88N×119.°69E, h27km, mb4.2, ML3.0, MS2.7, 1C, Luzon

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BOLP	**Bolinao**	**0.54**	**157**	*e*P	Pn	01 04 38.9	-0.1
BOLP				*e*S	Sn	01 04 49.3	+2.2
SCZP	**Santa Cruz**	**1.12**	**169**	*e*P	Pb	01 04 47.6	0.0
SCZP				*e*S	Sb	01 05 01.9	+0.1
ABRA	**Dolores**	**1.24**	**52**	*e*P	Pn	01 04 49.0	+0.5
ABRA				*e*S	Sb	01 05 05.5	+0.1
PCPH	**Palayan**	**1.88**	**134**	*e*P	Pn	01 04 58.6	+1.2
CAUP	**Cauayan**	**2.04**	**88**	*e*P	Pb	01 05 02.3	-1.1

*IDC **27** 01:10:54.2±0.8, 15.°07S×173.°54W, h0km, mb3.9/9, mb1 4.1/9, mb1mx4.0/28, mbtmp3.9/9, MS3.4/10, Ms1 3.4/10, ms1mx3.2/28, Error ellipse: s-maj=34.9km s-min=19.5km az=131.0*

*NEIC **27** 01:10:55.6±0.4, 15.°09S×173.°57W, h10km, mb4.6/12, Error ellipse: s-maj=17.0km s-min=8.4km az=130.0*

*ISCJB **27** 01:10:57.3±0.5, 15.°1S±0.°1×173.°6W±0.°1, h30km, mb4.2/17, MS3.6/8, Error ellipse: s-maj=20.6km s-min=11.5km az=41.2*

ISC 27 01:10:58.9±0.7, 15.°1S±0.°2×173.°6W±0.°2, h30km, n41, σ0°84/27, mb4.4/17, MS3.7/8, 1D, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**2.12**	**56**	Pn	Pn	01 11 24.7	-7.8
	49nm,0.3s,baz=214,slow=11,SNR=18						
AFI				Sn	Sn	01 11 42.8	-15
	608nm,0.3s,baz=225,slow=20,SNR=54						
AFI				LR	LR	01 12 07.2	
	comp=Z,486nm,19.6s,baz=222,slow=36						
AFI	**Afiamalu**	**2.12**	**56**	*e*Pn	Pn	01 11 24.3	-8.2
AFI				*e*Sn	Sn	01 11 42.6	-15
RAR	**Rarotonga**	**14.47**	**117**	LR	LR	01 18 27.4	
	comp=Z,43nm,21.5s,baz=306,slow=31						
OUZ	**Omahuta**	**23.11**	**208**	*e*P	**P

TKL	**Tuckaleechee C**	**98.50**	**55**	LR	LR	02 02 34.7	
	comp=Z,26nm,18.7s,baz=329,slow=32						
BR101	**Keskin Array S**	**145.80**	**321**	*e*PKPdf	**PKPab**	**01 30 36.7**	**+0.6**
BRTR	**Keskin Array B**	**145.80**	**321**	PKPbc	**PKPab**	**01 30 36.7**	**+0.6**
	1.2nm,0.8s,baz=98,slow=4.4,SNR=6.5						

ISCJB ***27*** *01:25:18.0±0.6, 37.93N±0.03×29.06E±0.04, h2km±6km, Error ellipse: s-maj=5.6km s-min=4.6km az=167.5*
ISK ***27*** *01:25:17.8, 37.94N×29.09E, h5km, MD2.9*
CSEM ***27*** *01:25:18.2±0.1, 37.92N×29.10E, h5km, MD2.5, Error ellipse: s-maj=3.4km s-min=2.1km az=69.0*
DDA ***27*** *01:25:18.2, 37.90N×29.11E, h7km, Md2.5*

ISC 27 01:25:18.4±1.1, 37.93N±0.02×29.11E±0.03, h5km±12km, n33, σ0 74/40, Turkey

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time	Res
DNZL	**Cakiroluk**	**0.25**	**191**	*i* P		**Pg**		**01 25 23.1**	**-0.1**
DNZL				*i* S		**Sg**		**01 25 27.0**	**+0.5**
DNZL	**Cakiroluk**	**0.25**	**191**	P		**Pg**		**01 25 23.1**	**-0.1**
DNZL				S		**Sg**		**01 25 27.0**	**+0.5**
TAVA	**DENIZLI_Tavas**	**0.49**	**198**	*i* P		**Pg**		**01 25 26.9**	**-0.9**
TAVA				*i* S		**Sg**		**01 25 34.0**	**-0.3**
KULA	**Kula-Manisa**	**0.68**	**329**	*e*PG		**Pg**		**01 25 31.4**	**0.0**
KULA				*e*SG		**Sg**		**01 25 40.5**	**+0.3**
KULA	**Kula-Manisa**	**0.68**	**329**	*e*Pg		**Pg**		**01 25 31.4**	**0.0**
KULA				*e*Sg		**Sg**		**01 25 40.6**	**+0.3**
GOLH	**Golhisar**	**0.78**	**152**	*i* P		**Pg**		**01 25 32.6**	**-0.8**
GOLH	**Golhisar**	**0.78**	**152**	P		**Pg**		**01 25 32.6**	**-0.8**
BRDR	**BURDUR-Merkez**	**0.79**	**107**	*i* P		**Pg**		**01 25 33.0**	**-0.5**
BRDR				*i* S		**Sb**		**01 25 46.3**	**+0.5**
GLHS	**Glhisar (BURDU**	**0.84**	**158**	*e*PG		**Pg**		**01 25 34.4**	**0.0**
GLHS	**Glhisar (BURDU**	**0.84**	**158**	*e*Pg		**Pg**		**01 25 34.4**	**0.0**
KZIL	**AFYON_Kizioren**	**0.88**	**68**	*i* P		**Pg**		**01 25 35.5**	**+0.3**
KZIL				*i* S		**Sn**		**01 25 50.3**	**-0.5**
AYDB	**Zeytinkoy-Aydi**	**0.96**	**271**	*e*PG		**Pg**		**01 25 36.5**	**-0.3**
AYDB	**Zeytinkoy-Aydi**	**0.96**	**271**	*e*Pg		**Pg**		**01 25 36.5**	**-0.3**
TURN	**Turunc**	**1.13**	**201**	*i* P		**Pn**		**01 25 44.6**	**+3.7**
DEMI	**Demirci**	**1.15**	**345**	*i* P		**Pb**		**01 25 40.8**	**-0.1**
DEMI	**Demirci**	**1.15**	**345**	P		**Pb**		**01 25 40.8**	**-0.1**
SIMA	**Simav-Kutahya**	**1.15**	**355**	*e*PN		**Pg**		**01 25 40.5**	**+0.1**
DALY	**Dalyan (Mu˘la**	**1.17**	**198**	*e*PN		**Pg**		**01 25 40.3**	**-0.6**
DALY	**Dalyan (Mu˘la**	**1.17**	**198**	*e*Pn		**Pg**		**01 25 40.3**	**-0.6**
MLSB	**Milas**	**1.23**	**239**	*e*PN		**Pn**		**01 25 41.9**	**-0.5**
MLSB	**Milas**	**1.23**	**239**	*e*Pn		**Pn**		**01 25 41.9**	**-0.5**
SHUT	**Suhut-Afyon**	**1.29**	**61**	*e*PN		**Pn**		**01 25 43.0**	**-0.3**
SHUT	**Suhut-Afyon**	**1.29**	**61**	*e*Pn		**Pn**		**01 25 43.0**	**-0.3**
FETY	**Fethiye**	**1.30**	**181**	*e*PN		**Pb**		**01 25 43.0**	**-0.3**
FETY	**Fethiye**	**1.30**	**181**	*e*Pn		**Pb**		**01 25 43.0**	**-0.3**
ELL	**Elmali**	**1.34**	**151**	*e*PN		**Pg**		**01 25 44.3**	**+0.1**
ELL	**Elmali**	**1.34**	**151**	*e*Pn		**Pg**		**01 25 44.3**	**+0.1**
KORT	**Korkueli**	**1.36**	**133**	*e*PN		**Pb**		**01 25 44.0**	**-0.4**
KORT	**Korkueli**	**1.36**	**133**	*e*Pn		**Pb**		**01 25 44.0**	**-0.4**
TVSB	**Tavsanli**	**1.54**	**10**	*e*PN		**Pn**		**01 25 46.7**	**+0.1**
TVSB	**Tavsanli**	**1.54**	**10**	*e*Pn		**Pn**		**01 25 46.7**	**+0.1**
DAT	**Datca**	**1.71**	**226**	*e*PN		**Pn**		**01 25 48.9**	**-0.2**
DAT	**Datca**	**1.71**	**226**	*e*Pn		**Pn**		**01 25 48.9**	**-0.2**

CSEM ***27*** *01:33:23.8±0.3, 36.97N×42.75E, h2km, MD2.7, Error ellipse: s-maj=7.3km s-min=5.2km az=24.0*
ISK ***27*** *01:33:23.8, 37.03N×42.76E, h4km, MD3.0*
ISN ***27*** *01:33:23.0±0.3, 36.24N×42.43E, h0km, ML1.3*
DDA ***27*** *01:33:26.4, 37.20N×42.77E, h10km, Md2.7*

ISC 27 01:33:25.2±1.7, 37.09N±0.09×42.76E±0.03, h5km±14km, n18, σ0 44/28, Turkey

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time	Res
SIRN	**S¨¨rnak**	**0.49**	**326**	*i* P		**Pg**		**01 33 34.1**	**-0.6**
SIRN				*i* S		**Sg**		**01 33 41.2**	**+0.1**
SIRN	**S¨¨rnak**	**0.49**	**326**	P		**Pg**		**01 33 34.1**	**-0.6**
SIRN				S		**Sg**		**01 33 41.2**	**+0.1**
CUKT	**Cukurca**	**0.69**	**77**	*e*PG		**Pg**		**01 33 38.1**	**-0.4**
CUKT				*e*SG		**Sg**		**01 33 48.6**	**+1.0**
CUKT	**Cukurca**	**0.69**	**77**	*i* P		**Pb**		**01 33 39.8**	**-0.1**
CUKT				*i* S		**Sb**		**01 33 49.8**	**0.0**
CUKT	**Cukurca**	**0.69**	**77**	*e*Pg		**Pg**		**01 33 38.1**	**-0.4**
CUKT	**Cukurca**	**0.69**	**77**	P		**Pb**		**01 33 39.8**	**-0.1**
HAKT	**HAKKARI**	**0.89**	**58**	*i* P		**Pg**		**01 33 42.2**	**0.0**
HAKT				*i* S		**Sg**		**01 33 53.9**	**+0.1**
HAKT	**HAKKARI**	**0.89**	**58**	P		**Pg**		**01 33 42.2**	**0.0**
HAKT				S		**Sg**		**01 33 53.9**	**+0.1**
GEVA	**Gevas**	**1.24**	**11**	*i* P		**Pn**		**01 33 49.2**	**-0.2**
GEVA	**Gevas**	**1.24**	**11**	P		**Pn**		**01 33 49.2**	**-0.2**
BTMN	**Batman**	**1.43**	**304**	*i* P		**Pb**		**01 33 52.4**	**-0.1**
BTMN				*i* S		**Sg**		**01 34 12.2**	**+1.0**
BTMN	**Batman**	**1.43**	**304**	P		**Pb**		**01 33 52.3**	**-0.1**
BTMN				S		**Sg**		**01 34 12.2**	**+1.0**
SVAN	**Silvan-Diyarba**	**1.63**	**311**	*e*PN		**Pn**		**01 33 54.6**	**0.0**
SVAN				*e*SN		**Sb**		**01 34 16.9**	**+0.2**
SVAN	**Silvan-Diyarba**	**1.63**	**311**	*e*Pn		**Pn**		**01 33 54.6**	**0.0**
SVAN				*e*Sn		**Sb**		**01 34 16.9**	**+0.2**
MAZI	**Mazidag**	**1.88**	**282**	*e*PN		**Pn**		**01 33 57.8**	**-0.3**
MAZI	**Mazidag**	**1.88**	**282**	*e*Pn		**Pn**		**01 33 57.8**	**-0.3**
SVRC	**Sivrice-ELAZID**	**3.03**	**296**	*e*PN		**Pn**		**01 34 13.9**	**0.0**
SVRC	**Sivrice-ELAZID**	**3.03**	**296**	*e*Pn		**Pn**		**01 34 13.9**	**0.0**

IDC ***27*** *01:36:16.0±0.8, 13.18S×167.14E, h200km±6km, mb4.3/26, mb1 4.3/28, mb1mx4.3/32, mbtmp4.7/28, MS3.4/3, Ms1 3.4/3, ms1mx2.9/28, Error ellipse: s-maj=10.9km s-min=8.6km az=93.0*
ISCJB ***27*** *01:36:17.7±1.2, 13.16S±0.04×167.11E±0.04, h232km±11km, mb4.8/125, Error ellipse: s-maj=6.4km s-min=5.7km az=34.1*
BJI ***27*** *01:36:17.8, 12.58S×166.92E, h203km, mb4.7/45, mB5.1/24*
NEIC ***27*** *01:36:18.4±0.8, 13.13S×167.11E, h224km±7km, mb4.9/82, Error ellipse: s-maj=4.0km s-min=3.8km az=96.0*
MOS ***27*** *01:36:18.6±1.1, 13.06S×167.03E, h230km, mb5.0/28, Error ellipse: s-maj=9.1km s-min=7.5km az=117.9*

ISC 27 01:36:16.8±0.6, 13.16S±0.05×167.14E±0.05, h210km±5km, h210km; pP-P, n437, σ1 9 01/485, mb4.8/124, 22C-21D, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time	Res
HNR	**Honiara**	**7.97**	**297**	LR		LR	LR	01 41 33.7	
	comp=Z,84nm,21.3s,baz=42,slow=40								
DZM	**Mont Dzumac**	**8.89**	**184**	P			**Pn**	**01 38 21.6**	**-0.1**
	0.8nm,0.3s,baz=34,slow=17,SNR=4.7								
DZM				S			**S**	**01 40 02.9**	**+1.1**
	1.0nm,0.3s,baz=329,slow=19,SNR=1.9								
DZM				LR		LR	LR	01 41 15.3	
	comp=Z,190nm,18.3s,baz=32,slow=34								
DZM	**Mont Dzumac**	**8.89**	**184**	*e*Pn			**Pn**	**01 38 22.3**	**+0.6**
DZM				*e*S			**S**	**01 40 02.9**	**+1.1**
MSVF	**Nonsavu**	**11.46**	**115**	*e*P			**P**	**01 38 59.1**	**-0.8**
MSVF	**Nonsavu**	**11.46**	**115**	*e*Pn			**P**	**01 38 59.1**	**-0.8**
EIDS	**Eidsvold**	**19.40**	**229**	*e*P			**P**	**01 40 29.0**	**+1.8**
	22nm,1.0s								
PMG	**Port Moresby**	**19.94**	**279**	P			**P**	**01 40 33.3**	**+0.2**
	0.7nm,0.3s,baz=46,slow=4.8,SNR=4.6								
PMG	**Port Moresby**	**19.94**	**279**	*ce*P			**P**	**01 40 33.9**	**+0.8**
PMG					pmax	pmax			
	comp=Z,168nm,1.7s								
AFI	**Afiamalu**	**20.51**	**95**	P			**P**	**01 40 39.4**	**+0.2**
	comp=Z,22nm,0.3s,baz=100,slow=7.8,SNR=4.9								
AFI	**Afiamalu**	**20.51**	**95**	*e*P			**P**	**01 40 39.4**	**+0.2**
AFI					pmax	pmax			
	comp=Z,67nm,0.9s								
AFI	**Afiamalu**	**20.51**	**95**	*e*P			**P**	**01 40 39.4**	**+0.2**
	comp=Z,67nm,0.9s								
CTA	**Charters Tower**	**21.16**	**248**	P			**P**	**01 40 46.3**	**+0.4**
	comp=Z,9.5nm,0.6s,baz=80,slow=11,SNR=12								
CTAO	**Charters Tower**	**21.16**	**248**	*e*P			**P**	**01 40 46.7**	**+0.8**
CTAO					pmax	pmax			
	comp=Z,12nm,0.8s								
CTAO	**Charters Tower**	**21.16**	**248**	*e*P			**P**	**01 40 46.7**	**+0.8**
	comp=Z,12nm,0.8s								
RAO	**Raoul Island**	**21.19**	**141**	*e*P			**P**	**01 40 46.0**	**-0.1**
RAO					pmax	pmax			
	comp=Z,166nm,1.0s								
RAO	**Raoul Island**	**21.19**	**141**	*e*P			**P**	**01 40 46.0**	**-0.1**
	comp=Z,166nm,1.0s								
ARMA	**Armidale**	**22.37**	**217**	*e*P			**P**	**01 40 57.1**	**-0.7**
	comp=Z,16nm,0.8s								
OUZ	**Omahuta**	**22.73**	**166**	*e*P			**P**	**01 41 03.3**	**+2.5**
	comp=Z,22nm,0.8s								
COEN	**Coen**	**23.31**	**265**	*e*P			**P**	**01 41 08.0**	**+1.6**
	comp=Z,17nm,1.3s								
HIZ	**Hauiti**	**26.17**	**166**	*e*P			**P**	**01 41 34.4**	**+2.6**
	comp=Z,171nm,1.7s								
MXZ	**Matakaoa Point**	**26.27**	**160**	*e*P			**P**	**01 41 33.1**	**+0.3**
	comp=Z,187nm,1.8s								
URZ	**Urewera**	**26.53**	**162**	P			**P**	**01 41 35.4**	**+0.3**
	comp=Z,3.3nm,0.3s,baz=31,slow=1.1,SNR=5.5								
URZ	**Urewera**	**26.53**	**162**	*e*P			**P**	**01 41 35.4**	**+0.3**
	comp=Z,77nm,2.0s								
BKZ	**Black Stump Fm**	**27.20**	**164**	*e*P			**P**	**01 41 41.7**	**+0.6**
	comp=Z,28nm,1.2s								
CAN	**Canberra**	**27.48**	**213**	*e*P			**P**	**01 41 42.6**	**-1.1**
CAN					pmax	pmax			
	comp=Z,68nm,2.0s								
CAN	**Canberra**	**27.48**	**213**	*e*P			**P**	**01 41 42.6**	**-1.1**
	comp=Z,68nm,2.0s								
BFZ	**Birch Farm**	**28.56**	**165**	*e*P			**P**	**01 41 52.8**	**-0.3**
	comp=Z,81nm,1.4s								
THZ	**Tophouse**	**28.94**	**171**	*e*P			**P**	**01 41 57.5**	**+1.0**
	comp=Z,98nm,1.8s								
KHZ	**Kahutara**	**29.68**	**170**	*e*P			**P**	**01 42 02.8**	**-0.1**
	comp=Z,100nm,1.5s								
LTZ	**Lake Taylor**	**29.85**	**172**	*e*P			**P**	**01 42 05.5**	**+1.0**
	comp=Z,31nm,0.7s								
STKA	**Stephens Creek**	**29.94**	**227**	P			**P**	**01 42 05.2**	**-0.2**
	comp=Z,7.6nm,0.8s,baz=12,slow=6.9,SNR=12								
STKA					PcP		**PcP**	**01 45 03.1**	**+0.4**
	comp=Z,10nm,0.7s,baz=64,slow=3.4,SNR=11								
STKA	**Stephens Creek**	**29.94**	**227**	*e*P			**P**	**01 42 06.6**	**+1.2**
STKA				*e*				01 45 03.2	
STKA					pmax	pmax			
	comp=Z,2.0nm,0.7s								
STKA	**Stephens Creek**	**29.94**	**227**	*e*P			**P**	**01 42 06.5**	**+1.2**
	comp=Z,1.6nm,0.7s								
STKA					*e*PcP		**PcP**	**01 45 03.2**	**+0.4**
FOZ	**Fox Glacier**	**30.36**	**176**	*e*P			**P**	**01 42 10.2**	**+1.3**
	comp=Z,77nm,1.4s								
OXZ	**Oxford**	**30.36**	**173**	*e*P			**P**	**01 42 09.7**	**+0.7**
	comp=Z,49nm,0.9s								
RPZ	**Rata Peaks**	**30.64**	**174**	P			**P**	**01 42 11.1**	**-0.3**
	comp=Z,11nm,0.6s,baz=12,slow=3.1,SNR=9.1								
RPZ	**Rata Peaks**	**30.64**	**174**	*e*P			**P**	**01 42 12.7**	**+1.3**
MQZ	**McQueen's Vall**	**30.81**	**172**	*e*P			**P**	**01 42 13.4**	**+0.5**
	comp=Z,69nm,1.4s								
LBZ	**Lake Benmore**	**31.23**	**176**	*e*P			**P**	**01 42 16.8**	**+0.2**
	comp=Z,78nm,1.4s								
ODZ	**Otahua Downs**	**31.92**	**175**	*e*P			**P**	**01 42 22.5**	**-0.1**
	comp=Z,109nm,1.6s								
WB2	**Warramunga Arr**	**32.11**	**253**	*e*P			**P**	**01 42 24.4**	**-0.2**
WRAB	**Tennant Creek**	**32.11**	**253**	*ce*P			**P**	**01 42 24.3**	**-0.3**
WRAB					pmax	pmax			
	comp=Z,8.0nm,0.8s								
WR1	**Warramunga Arr**	**32.12**	**253**	*e*P			**P**	**01 42 24.2**	**-0.5**
WR1				*e*pP		**pP**		**01 43 05.2**	**-2.3**
WR1				*e*PcP		**PcP**		**01 45 08.9**	**+0.1**
WR1				*e*S		**S**		**01 47 18.6**	**-3.1**
WR1				*e*ScP		**ScP**		**01 48 33.8**	**+1.3**
WR1				*e*ScS		**ScS**		**01 52 35.0**	**+2.9**
WRA	**Warramunga Arr**	**32.12**	**253**	P			**P**	**01 42 24.2**	**-0.5**
	comp=Z,5.1nm,0.8s,baz=84,slow=8.7,SNR=27								
WRA					pP		**pP**	**01 43 05.2**	**-2.3**
	comp=Z,3.8nm,0.7s,baz=85,slow=8.5,SNR=5.0								
WRA					PcP		**PcP**	**01 45 08.9**	**+0.1**
	comp=Z,1.9nm,0.7s,baz=79,slow=3.9,SNR=5.8								
WRA					S		**S**	**01 47 18.6**	**-3.1**
	comp=Z,0.8nm,0.8s,baz=85,slow=14,SNR=4.6								
WRA					ScP		**ScP**	**01 48 33.8**	**+1.3**
	comp=Z,2.9nm,0.9s,baz=84,slow=3.5,SNR=13								
WRA					PKiKP		**PKiKP**	**01 52 35.0**	**-1.7**
	comp=Z,0.6nm,0.5s,baz=13,slow=0.5,SNR=17								
AS01	**Alice Springs**	**33.10**	**247**	*e*P			**P**	**01 42 32.5**	**-0.7**
AS01				*e*PcP		**PcP**		**01 45 10.6**	**-0.9**
AS31	**Alice Springs**	**33.14**	**247**	*e*P			**P**	**01 42 33.2**	**-0.4**
	comp=Z,3.6nm,0.7s								
AS31					*e*pP		**pP**	**01 43 14.6**	**-1.9**
AS31					*e*PcP		**PcP**	**01 45 11.4**	**-0.2**
ASAR	**Alice Springs**	**33.14**	**247**	P			**P**	**01 42 33.1**	**-0.5**
	comp=Z,8.8nm,0.7s,baz=73,slow=9.8,SNR=88								
ASAR					pP		**pP**	**01 43 14.6**	**-2.0**
	comp=Z,1.8nm,0.5s,baz=77,slow=9.9,SNR=2.6								
ASAR					PcP		**PcP**	**01 45 11.4**	**-0.2**
	comp=Z,2.8nm,0.6s,baz=82,slow=3.2,SNR=13								
ASAR					S		**S**	**01 47 35.2**	**-2.3**
	comp=Z,2.7nm,1.0s,baz=74,slow=16,SNR=9.8								
ASAR					ScP		**ScP**	**01 48 37.0**	**+1.0**
	comp=Z,4.2nm,0.8s,baz=88,slow=3.0,SNR=21								
ASAR					PKiKP		**PKiKP**	**01 52 35.8**	**-1.5**
	comp=Z,0.4nm,0.5s,baz=107,slow=1.8,SNR=5.3								
TAU	**Tasmania Unive**	**34.24**	**206**	*e*P			**P**	**01 42 43.7**	**+1.0**
TAU					pmax	pmax			
	comp=Z,108nm,1.8s								
TAU	**Tasmania Unive**	**34.24**	**206**	*e*P			**P**	**01 42 43.6**	**+1.0**
	comp=Z,108nm,1.8s								
BBOO	**Buckleboo**	**34.46**	**230**	*e*P			**P**	**01 42 45.3**	**+0.5**
	comp=Z,22nm,1.1s								
MBWA	**Marble Bar**	**45.85**	**253**	*e*P			**P**	**01 44 19.0**	**+0.6**
	comp=Z,49nm,1.5s								
AIN	**Ainahou**	**49.01**	**49**	*e*P			**P**	**01 44 40.5**	**-2.3**
	comp=Z,478nm,1.7s								
MLOA	**Mauna Loa Obse**	**49.02**	**49**	*e*P			**P**	**01 44 40.3**	**-3.0**
	comp=Z,153nm,1.3s								
SBLHI	**Steaming Bluff**	**49.18**	**50**	*e*P			**P**	**01 44 43.5**	**-0.6**
	comp=Z,981nm,1.7s								
NWAO	**Narrogin (SRO)**	**49.46**	**238**	*e*P			**P**	**01 44 45.8**	**-0.2**
NWAO					pmax	pmax			
	comp=Z,119nm,1.6s								
NWAO	**Narrogin (SRO)**	**49.46**	**238**	*e*P			**P**	**01 44 45.8**	**-0.2**
	comp=Z,119nm,1.6s								
MYLDM	**Lahad Datu**	**51.63**	**288**	*e*P			**P**	**01 45 01.2**	**-1.2**
	comp=Z,32nm,1.1s								
JOW	**Kunigami**	**54.82**	**317**	*e*P			**P**	**01 45 26.1**	**+0.6**
	comp=Z,176nm,1.9s								
SZP	**Santa**	**55.27**	**302**	*e*P			**P**	**01 45 27.2**	**-1.6**
	comp=Z,423nm,1.5s								
UGM	**Wanagama**	**55.81**	**269**	*e*P			**P**	**01 45 32.7**	**-0.1**
	comp=Z,454nm,1.8s								
MJA0	**Matsu Arr-Jizo**	**56.45**	**332**	*e*P			**P**	**01 45 36.6**	**-0.2**
MJA0					pmax	pmax			
	comp=Z,7.0nm,0.6s								
MJAR	**Matsushiro Arr**	**56.46**	**332**	P			**P**	**01 45 36.6**	**-0.3**
	comp=Z,7.3nm,0.7s,baz=158,slow=8.1,SNR=14								
MAJO	**Matsushiro**	**56.46**	**332**	*d i*P			**P**	**01 45 36.9**	**0.0**
MAJO					pmax	pmax			
	comp=Z,85nm,1.0s								
MAJO	**Matsushiro**	**56.46**	**332**	*e*P			**P**	**01 45 36.6**	**-0.4**
	comp=Z,14nm,0.8s								
MAT	**Matsushiro**	**56.46**	**332**	P			**P**	**01 45 36.5**	**-0.4**
MJB9	**Matsu-Tunnel**	**56.47**	**332**	*e*P			**P**	**01 45 36.9**	**-0.1**
	comp=Z,3.4nm,0.8s								
JNU	**Nakatsue**	**57.58**	**324**	P			**P**	**01 45 44.9**	**0.0**
	comp=Z,21nm,0.8s,baz=171,slow=1.4,SNR=11								
JNU	**Nakatsue**	**57.58**	**324**	*e*P			**P**	**01 45 45.1**	**+0.3**
	comp=Z,24nm,0.9s								
YULB	**Yu-li**	**57.71**	**309**	*e*P			**P**	**01 45 44.9**	**-1.0**
	comp=Z,107nm,1.8s								
SSLB	**Suanglung**	**58.19**	**309**	*e*P			**P**	**01 45 48.9**	**-0.4**
	comp=Z,110nm,1.8s								
ERM	**Erimo**	**59.18**	**339**	*e*P			**P**	**01 45 55.0**	**-0.6**
ERM					pmax	pmax			
	comp=Z,35nm,1.1s								
ERM	**Erimo**	**59.18**	**339**	*e*P			**P**	**01 45 55.0**	**-0.6**
	comp=Z,35nm,1.1s								
PTCN	**Pitcairn Islan**	**60.03**	**111**	*e*P			**P**	**01 46 03.1**	**+1.2**
	comp=Z,552nm,1.7s								
ASAJ	**Asahikawa**	**61.23**	**340**	*e*P			**P**	**01 46 09.3**	**-0.2**
	comp=Z,17nm,0.6s								
KSRS	**Korea Array**	**62.38**	**325**	P			**P**	**01 46 17.8**	**+0.4**
	comp=Z,4.9nm,0.8s,baz=140,slow=7.1,SNR=16								
KS15	**Wonju Array Si**	**62.39**	**325**	*e*P			**P**	**01 46 17.8**	**+0.3**
KSAR	**Wonju Array Be**	**62.39**	**325**	P			**P**	**01 46 17.8**	**+0.4**
KSAR	**Wonju Array Be**	**62.39**	**325**	P			**P**	**01 46 17.8**	**+0.4**
KS01	**Wonju Array Si**	**62.41**	**325**	*e*P			**P**	**01 46 17.7**	**+0.1**
YSS	**Yuzh-Sakhalins**	**63.70**	**342**	*e*P			**P**	**01 46 26.8**	**+1.0**
YSS					pmax	pmax			
	comp=Z,50nm,0.9s								
VNDA	**Vanda**	**64.42**	**181**	P			**P**	**01 46 30.7**	**+0.6**
	comp=Z,2.8nm,0.6s,baz=357,slow=7.1,SNR=21								
VNDA	**Vanda**	**64.42**	**181**	*e*P			**P**	**01 46 30.5**	**+0.4**
VNDA					pmax	pmax			
	comp=Z,4.0nm,0.8s								
VNDA	**Vanda**	**64.42**	**181**	*e*P			**P**	**01 46 30.5**	**+0.4**
	comp=Z,4.1nm,0.8s								
NJ2	**Nanjing**	**64.47**	**315**	*e*P			**P**	**01 46 31.5**	**+0.4**
NJ2					pmax	pmax			
	comp=Z,25nm,0.5s								
SBA	**Scott Base**	**64.70**	**180**	*e*P			**P**	**01 46 33.5**	**+1.6**
SBA					pmax	pmax			
	comp=Z,30nm,1.5s								
SBA	**Scott Base**	**64.70**	**180**	*e*P			**P**	**01 46 33.5**	**+1.6**
	comp=Z,30nm,1.5s								
USRK	**Ussuriysk Ar.**	**65.44**	**333**	P			**P**	**01 46 38.3**	**+1.2**
	comp=Z,8.9nm,0.8s,baz=133,slow=6.1,SNR=26								
PEA0	**Petropavlovsk-**	**66.49**	**354**	*e*P			**P**	**01 46 44.5**	**+0.8**
PETK	**Petropavlovsk-**	**66.49**	**354**	P			**P**	**01 46 44.6**	**+1.0**
	comp=Z,17nm,0.7s,baz=134,slow=8.4,SNR=10								
PEA1	**Petropavlovsk-**	**66.50**	**354**	*e*P			**P**	**01 46 44.6**	**+0.9**
MDJ	**Mudanjiang**	**66.84**	**332**	P			**P**	**01 46 46.3**	**+0.3**
MDJ					pmax	pmax			
	comp=Z,12nm,1.2s								
MDJ					pmax	pmax			
	comp=Z,57nm,4.4s								
DL2	**Dalian**	**66.98**	**323**	P			**P**	**01 46 47.0**	**0.0**
DL2					pmax	pmax			
	comp=Z,39nm,0.9s								
HABR	**Khabarovsk**	**67.64**	**338**	*e*P			**P**	**01 46 49.9**	**-1.1**
HABR				*e*				01 47 15.0	
HABR				*e*				01 49 21.4	
HABR				*e*S			**S**	**01 55 31.5**	**+0.7**
HABR				*e*				01 56 28.3	
HABR				*e*SS			**SS**	**01 59 57.3**	**+0.8**
HABR					pmax	pmax			
	comp=N,24nm,0.9s								
HABR					pmax	pmax			
	comp=E,18nm,0.9s								
HABR					pmax	pmax			
	comp=Z,25nm,0.9s								
HABR					MLR	MLR			
	comp=Z,25nm,19.0s								
CN2	**Changchun**	**68.24**	**329**	*e*P			**P**	**01 46 55.3**	**+0.5**
CN2					pmax	pmax			
	comp=Z,10.0nm,0.7s								
KLR	**Kul'dur**	**69.53**	**336**	*i* P			**P**	**01 47 03.2**	**+0.6**
GYA	**Guiyang**	**70.73**	**304**	*e*P			**P**	**01 47 11.8**	**+1.2**
GYA					pP	pP		01 48 00.5	+0.6
GYA					sP	sP		01 48 21.3	-1.1
GYA					PP	**PP**		**01 49 54.0**	**+3.6**
GYA					S	**S**		**01 56 09.5**	**+1.3**
GYA					pmax	pmax			
	comp=Z,10.0nm,1.0s								
BJI	**Beijing**	**70.97**	**321**	P			**P**	**01 47 12.0**	**+0.4**
BJI					pmax	pmax			
	comp=Z,10.0nm,1.4s								
SPIA	**Saint Paul Isl**	**72.54**	**13**	*e*P			**P**	**01 47 19.0**	**-1.5**
	comp=Z,554nm,1.5s								
XAN	**Xi'an**	**72.54**	**312**	P			**P**	**01 47 21.3**	**+0.1**
XAN					pP	pP		01 48 10.3	-0.5
XAN					pmax	pmax			
	comp=Z,12nm,0.9s								
XAN					pmax	pmax			
	comp=Z,220nm,5.0s								
KMI	**Kunming**	**73.38**	**301**	P			**P**	**01 47 27.5**	**+1.0**
KMI					pmax	pmax			
	comp=Z,19nm,1.1s								
CM01	**Chiang Mai Arr**	**74.18**	**294**	*e*P			**P**	**01 47 31.8**	**+0.9**
**C

comp=Z,18nm,0.7s
KTH Kantishna Hill 82.98 18 *e*P **P** 01 48 17.4 -0.7
comp=Z,9.1nm,0.8s
KLU Klutina 83.07 21 *e*P **P** 01 48 19.0 +0.4
comp=Z,11nm,0.8s
TRF Thorofare Moun 83.09 18 *e*P **P** 01 48 17.9 -0.8
comp=Z,8.6nm,0.6s
BMRM Bremner River 83.17 22 *e*P **P** 01 48 19.3 +0.2
comp=Z,8.1nm,0.8s
MAW Mawson 83.29 202 P **P** 01 48 19.2 -0.4
comp=Z,5.4nm,0.6s,baz=113,slow=4.2,SNR=17
MAW Mawson 83.29 202 *e*P **P** 01 48 20.1 +0.5
MAW pmax pmax
comp=Z,5.0nm,1.4s
MAW Mawson 83.29 202 *e*P **P** 01 48 20.1 +0.5
comp=Z,4.7nm,1.4s
RND Reindeer 83.49 18 *e*P **P** 01 48 20.4 -0.3
RND pmax pmax
comp=Z,24nm,0.6s
RND Reindeer 83.49 18 *e*P **P** 01 48 20.4 -0.3
comp=Z,24nm,0.6s
CRQM Cirque 83.56 22 *e*P **P** 01 48 21.3 +0.1
comp=Z,15nm,0.8s
MCK McKinley 83.70 18 *e*P **P** 01 48 21.3 -0.4
MCK pmax pmax
comp=Z,27nm,1.2s
MCK McKinley 83.70 18 *e*P **P** 01 48 21.3 -0.4
comp=Z,27nm,1.2s
DHY Denali Highway 83.71 19 *e*P **P** 01 48 21.8 -0.2
comp=Z,56nm,1.8s
ZAK Zakamensk 84.20 325 *e*P **P** 01 48 24.1 -0.5
ZAK pmax pmax
comp=Z,13nm,1.2s
PCA Pinnacle 84.22 24 *e*P **P** 01 48 24.6 +0.2
comp=Z,31nm,0.7s
WRH Wood River Hil 84.50 18 *e*P **P** 01 48 25.1 -0.5
comp=Z,20nm,0.9s
TLY Talaya 84.63 326 P **P** 01 48 26.5 -0.1
comp=Z,12nm,0.7s,baz=310,slow=1.2,SNR=8.3
TLY Talaya 84.63 326 *e*P **P** 01 48 26.2 -0.4
TLY pmax pmax
comp=Z,15nm,0.7s
CCB Clear Creek Bu 84.71 18 *e*P **P** 01 48 26.1 -0.6
comp=Z,13nm,0.7s
HDA Harding Lake 84.80 18 *e*P **P** 01 48 27.2 +0.1
comp=Z,35nm,0.9s
HDA *e*pP **pP** 01 49 18.6 +0.3
MDM Murphy Dome 84.81 17 *e*P **P** 01 48 26.5 -0.8
comp=Z,23nm,1.0s
COLA College 84.86 18 *i* P **P** 01 48 27.2 -0.2
COLA *i* AP **pP** 01 49 18.4 -0.2
COLA pmax pmax
comp=Z,17nm,0.9s
ILAR Eielson Array 85.08 18 P **P** 01 48 27.9 -0.7
comp=Z,14nm,0.6s,baz=237,slow=5.3,SNR=191
ILAR pP **pP** 01 49 19.1 -0.6
comp=Z,4.6nm,0.9s,baz=240,slow=6.0,SNR=5.0
ILAR Eielson Array 85.08 18 *e*P **P** 01 48 27.5 -1.1
ILAR pmax pmax
comp=Z,15nm,0.6s
ILB Eielson Array 85.08 18 *e*P **P** 01 48 27.8 -0.7
ILB *e*pP **pP** 01 49 19.1 -0.6
DOT Dot Lake 85.18 20 *e*P **P** 01 48 29.2 +0.1
comp=Z,29nm,0.8s
COLD Coldfoot 85.95 15 *e*P **P** 01 48 34.1 +1.3
comp=Z,11nm,1.0s
TAPN Taplejung 86.81 299 *e*P **P** 01 48 37.8 -0.5
comp=Z,12nm,0.7s
EGAK Eagle 86.89 20 *e*P **P** 01 48 37.2 -0.2
comp=Z,7.7nm,0.6s
EGAK *e*pP **pP** 01 49 31.6 +2.9
ODAN Odare 86.95 298 *e*P **P** 01 48 39.0 +0.1
comp=Z,37nm,0.7s
RAMN Ramite 87.65 298 *e*P **P** 01 48 41.8 -0.5
comp=Z,13nm,0.6s
JIRN Jiri 88.20 299 *e*P **P** 01 48 44.5 -0.5
comp=Z,18nm,0.5s
ETW Entiat 88.20 40 *e*P **P** 01 48 47.2 +3.0
PKI Pulchoki 88.84 299 *e*P **P** 01 48 47.3 -0.6
comp=Z,25nm,0.9s
PKIN Phulchoki 88.85 299 *e*P **P** 01 48 47.3 -0.6
comp=Z,17nm,0.8s
PKIN Phulchoki 88.85 299 *e*P **P** 01 48 47.9 0.0
comp=Z,10nm,0.5s
KKN Kakani 89.01 299 *e*P **P** 01 48 48.2 -0.4
comp=Z,24nm,0.8s
DMN Daman 89.11 298 *e*P **P** 01 48 48.9 -0.2
comp=Z,36nm,0.9s
GKN Gorkha 89.61 299 *e*P **P** 01 48 50.4 -0.9
comp=Z,5.0nm,0.3s
SYO Syowa Base 90.17 197⇑ *e*P **P** 01 48 51.4 -1.5
SYO Syowa Base 90.17 197⇓ *e*PcP **PcP** 01 48 54.0 +0.1
NEW Newport 90.45 40 LR LR 02 21 20.4
comp=Z,62nm,20.1s,baz=313,slow=30
INK Inuvik 91.45 19 P **P** 01 49 00.3 +1.6
comp=Z,1.5nm,0.8s,baz=113,slow=4.5,SNR=4.1
INK Inuvik 91.45 19 *e*P **P** 01 49 00.3 +1.6
INK pmax pmax
comp=Z,11nm,1.4s
INK Inuvik 91.45 19 *e*P **P** 01 49 00.3 +1.6
comp=Z,11nm,1.4s
WMQ Urumqi 91.54 315 P **P** 01 49 01.0 +1.2
WMQ pP pP 01 49 50.0 -1.5
WMQ sP sP 01 50 11.0 -2.4
WMQ pmax pmax
comp=Z,10.0nm,0.9s
WMQ pmax pmax
comp=Z,130nm,4.5s
WMQ LR LR
comp=Z,20nm,19.5s
WMQ LR LR
comp=Z,19nm,15.9s
WMQ LR LR
comp=Z,22nm,15.9s
DGZ Jazzator, Alta 93.38 320 *i* P **P** 01 49 08.2 -0.1
DGZ pmax pmax
comp=Z,4.0nm,1.0s
PD31 Pinedale Array 93.98 47 *e*P **P** 01 49 11.4 +0.2
PD31 *e*PKKPdf **PKKPdf** 02 06 11.4 -2.1
PDAR Pinedale Array 93.98 47 P **P** 01 49 11.4 +0.2
comp=Z,0.2nm,0.5s,baz=229,slow=6.9,SNR=2.7
PDAR PKKPbc **PKKPdf** 02 06 11.4 -2.1
comp=Z,0.4nm,0.6s,baz=102,slow=4.9,SNR=4.2
ANMO Albuquerque 94.52 55 ⇓P **P** 01 49 11.2 -2.7
SNAA Sanae 95.10 183 P **P** 01 49 14.2 -1.5
SNAA Sanae 95.10 183 PKiKP **PKiKP** 01 53 55.1 -0.6
SNAA Sanae 95.10 183 *e*P **P** 01 49 13.8 -1.9
SNAA pmax pmax
comp=Z,6.0nm,1.1s
SNAA Sanae 95.10 183 *e*P **P** 01 49 13.8 -1.9
comp=Z,6.2nm,1.1s
LTX Lajitas 95.64 61 *e*P **P** 01 49 19.0 0.0
LTX Lajitas 95.64 61 *e*P **P** 01 49 19.0 0.0
LTX *e*PKKPbc **PKKPbc** 02 06 09.6 +0.2
TXAR Lajitas Array 95.64 61 P **P** 01 49 19.0 0.0
comp=Z,0.2nm,0.7s,baz=212,slow=3.2,SNR=2.7
TXAR PKKPbc **PKKPbc** 02 06 09.6 +0.2
comp=Z,0.2nm,0.5s,baz=69,slow=5.8,SNR=5.0
TXAR Lajitas Array 95.64 61 P **P** 01 49 19.0 0.0
VNA3 Neumayer Olymp 95.78 181 P **P** 01 49 17.6 -1.0
VNA3 Neumayer Olymp 95.78 181 PKiKP **PKiKP** 01 53 57.2 +0.4
MK01 Makanchi Array 95.98 317 *e*P **P** 01 49 19.7 -0.3
MK31 Makanchi Array 95.98 317 *e*P **P** 01 49 20.2 +0.1
MK31 Makanchi Array 95.98 317 *e*P **P** 01 49 20.2 +0.1
MK32 Makanchi Array 95.98 317 *e*P **P** 01 49 20.1 +0.1
MKAR Makanchi Array 95.98 317 P **P** 01 49 20.1 +0.1
comp=Z,4.8nm,0.6s,baz=90,slow=6.4,SNR=44
MKAR PKiKP **PKiKP** 01 53 57.2 -0.6
comp=Z,0.6nm,0.5s,baz=149,slow=1.1,SNR=5.9
MKAR PKPbc **PKKPbc** 02 06 06.2 -2.9
comp=Z,0.7nm,0.6s,baz=296,slow=2.1,SNR=5.2
MKAR Makanchi Array 95.98 317 *e*P **P** 01 49 20.2 +0.1
comp=Z,34nm,0.6s
VNA2 Neumayer--Watz 96.04 182 P **P** 01 49 19.1 -0.8
baz=177,slow=4.6
VNA2 Neumayer--Watz 96.04 182 PKiKP **PKiKP** 01 53 57.6 +0.3
baz=186,slow=1.7
ZAA0 Zalesovo Array 96.06 324 *e*P **P** 01 49 19.3 -0.8
ZALV Zalesovo Beam 96.06 324 P **P** 01 49 19.3 -0.9
comp=Z,3.4nm,0.5s,baz=112,slow=4.3,SNR=18
ZALV PKiKP **PKiKP** 01 53 57.8 +0.2
comp=Z,0.6nm,0.3s,baz=172,slow=3.0,SNR=4.1
ZAA1 Zalesovo Array 96.06 324 *e*P **P** 01 49 19.3 -0.9
ZAA1 *e*PKiKP **PKiKP** 01 53 57.8 +0.2
MAKZ Makanchi 96.20 316 *e*P **P** 01 49 21.1 +0.1
MAKZ pmax pmax
comp=Z,12nm,1.3s
MAKZ Makanchi 96.20 316 *e*P **P** 01 49 21.1 +0.1
comp=Z,12nm,1.3s
YKA Yellowknife Ar 96.21 27 P **P** 01 49 19.4 -1.2
comp=Z,1.8nm,0.7s,baz=254,slow=4.9,SNR=3.3
YKB5 Yellowknife Ar 96.21 27 *e*P **P** 01 49 19.4 -1.2
VNA1 Neumayer--Stat 96.34 182 P **P** 01 49 20.4 -0.8
NRIK Noril'sk 98.57 339 P **P** 01 49 30.7 -0.4
comp=Z,3.7nm,0.6s,baz=80,slow=2.7,SNR=4.1
KURK Kurchatov 99.12 320 *e*P **Pdif** 01 49 31.9 -2.1
KURK Kurchatov 99.12 320 *e*Pdif **Pdif** 01 49 31.9 -2.1
KURK *e*PKiKP **PKiKP** 01 54 02.7 -0.5
KSH Kashi 99.13 308 *e*P **Pdif** 01 49 36.0 +1.5
KSH pP pP 01 50 27.0 +0.6
KSH PP **PP** 01 53 44.0 +4.0
KSH S **S** 02 00 43.0 -4.4
KSH sS sS 02 02 13.0 -6.0
KSH SS **SS** 02 07 42.0 +0.8
KSH pmax pmax
comp=Z,20nm,2.0s
KSH pmax pmax
comp=Z,94nm,5.1s
KSH LR LR
comp=Z,200nm,10.3s
KSH LR LR
comp=Z,130nm,7.5s
KSH LR LR
comp=Z,84nm,5.7s
KURBB Kurchatov Arra 99.17 320 P **Pdif** 01 49 31.9 -2.3
comp=Z,0.7nm,0.6s,baz=98,slow=4.4,SNR=6.8
KURBB PKiKP **PKiKP** 01 54 02.7 -0.5
comp=Z,0.5nm,0.6s,baz=106,slow=1.3,SNR=5.7
BVAR Borovoye Array 104.44 322 PKiKP **PKiKP** 01 54 12.2 -0.5
comp=Z,0.8nm,0.5s,baz=128,slow=2.4,SNR=4.6
ARU Arti 111.13 326 PKiKP **PKiKP** 01 54 24.5 -0.5
comp=Z,3.9nm,0.5s,baz=357,slow=2.6,SNR=9.0
ARU Arti 111.13 326 *i* PKiKP **PKiKP** 01 54 24.6 -0.5
ARU 01 55 07.9
ARU 02 01 17.5
ARU SP SP 02 04 12.1 -4.4
ARU SS **SS** 02 10 23.1 0.0
ARU Arti 111.13 326 *e*PKiKP **PKiKP** 01 54 24.4 -0.7
AKTO Aktyubinsk 112.21 319 PKiKP **PKiKP** 01 54 27.1 -0.2
comp=Z,2.2nm,0.6s,baz=126,slow=2.9,SNR=14
GEYT Alibeck 112.92 306 PKiKP **PKiKP** 01 54 29.8 +0.6
comp=Z,1.2nm,0.5s,baz=15,slow=6.0,SNR=3.1
SPA0 Spitsbergen Ar 113.36 354 *e*P **PKiKP** 01 54 24.4 -4.5
LPAZ La Paz 118.03 117 PKP **PKPdf** 01 54 40.2 -0.1
comp=Z,0.5nm,0.4s,baz=311,slow=4.3,SNR=3.4
KEV Kevo 118.18 345 *e*P **PKPdf** 01 54 37.9 -0.3
HAMF Hammerfest 118.31 347 *e*P **PKPdf** 01 54 37.9 -0.6
ARA0 ARCESS Array S 118.71 346 *e*PKPdf **PKPdf** 01 54 38.6 -0.7
ARA0 *e*PKPdf **PKiKP** 01 54 39.0 -0.4
ARCES ARCESS Array B 118.71 346 PKP **PKPdf** 01 54 39.0 -0.3
comp=Z,9.8nm,0.4s,baz=75,slow=2.0,SNR=54
ARCES ARCESS Array B 118.71 346 *e*PKiKP **PKPdf** 01 54 38.7 -0.6
ARCES pmax pmax
comp=Z,10.0nm,0.4s
ARE0 ARCESS Array S 118.71 346 *e*P **PKPdf** 01 54 39.0 -0.3
KLMR Klimovskoe 119.23 334 *e*PKiKP **PKPdf** 01 54 37.8 -2.7
KLMR *e* 01 55 32.1
KLMR pmax pmax
comp=Z,14nm,1.2s
KTK1 Kautokeino 119.64 346 *e*P **PKPdf** 01 54 40.2 -0.9
HEF Hetta 119.99 345 *e*P **PKPdf** 01 54 41.0 -0.8
TRO Tromso 120.11 348 *e*P **PKPdf** 01 54 44.6 +2.7
KIF Kilpisjarvi 120.21 347 *e*P **PKPdf** 01 54 41.5 -0.7
CPUP Villa Florida 121.61 132 PKP **PKPdf** 01 54 45.9 -0.3
comp=Z,1.6nm,0.4s,baz=116,slow=1.0,SNR=5.5
ZEI Tsey 123.10 313 *i* PKiKP **PKPdf** 01 54 48.7 -0.1
ZEI pmax pmax
comp=Z,10.0nm,0.6s
LPSR Galich'ya Gora 123.14 325 *e*PKiKP **PKPdf** 01 54 47.9 -0.4
LPSR pmax pmax
comp=Z,20nm,1.1s
OBN Obninsk 123.31 329 PKP **PKPdf** 01 54 48.4 -0.1
comp=Z,11nm,0.5s,baz=144,slow=18,SNR=4.3
OBN Obninsk 123.31 329⇓ *i* PKiKP **PKPdf** 01 54 48.1 -0.4
OBN *e* 01 55 43.6
OBN *e* 01 56 33.8
OBN *e*SS SS 02 13 06.1 +5.6
OBN pmax pmax
comp=Z,8.0nm,0.6s
VSR Storozhevoye 123.56 323 *e*PKiKP **PKPdf** 01 54 48.5 -0.6
VSR pmax pmax
comp=Z,10.0nm,0.6s
KBZ Khabaz 123.58 314 PKP **PKPdf** 01 54 49.5 +0.2
comp=Z,4.1nm,0.8s,baz=180,slow=2.1,SNR=9.3
AKH Akhalkalaki 123.71 311 ⇓ *i*P **PKPdf** 01 54 50.1 +0.1
NEY Neytrino 123.83 313 *e* PKiKP **PKPdf** 01 54 49.4 -0.8
KONS Konsrik 123.94 348 *e*P **PKPdf** 01 54 49.2 -0.2
FIA0 FINESS Array S 124.22 339 *e*PKiKP **PKPdf** 01 54 49.8 -0.3
FIA0 FINESS Array S 124.22 339 *e*PKPdf **PKPdf** 01 54 49.8 -0.3
FINES FINESS Array B 124.22 339 PKP **PKPdf** 01 54 49.8 -0.3
comp=Z,5.5nm,0.5s,baz=54,slow=1.9,SNR=55
BOSA Boshof 124.48 221 PKP **PKPdf** 01 54 51.9 +0.1
comp=Z,6.7nm,0.8s,baz=158,slow=2.2,SNR=9.3
ARTV Artvin 124.91 311 *e*PKPdf **PKPdf** 01 54 53.1 +0.7
VSU Vasula 125.94 336 *e* PKiKP **PKPdf** 01 54 53.5 +0.1
VSU pmax pmax
comp=Z,51nm,1.7s
KMBO Kilima Mbogo 128.33 258 PKP **PKPdf** 01 55 00.0 +0.3
comp=Z,1.2nm,0.4s,baz=101,slow=1.8,SNR=3.9
NC303 NORSAR Array S 128.88 345 *e*PKPdf **PKPdf** 01 54 59.4 +0.4
NB2 NORSAR Subarra 129.08 345 PKPdf **PKPdf** 01 54 59.4 -0.1
baz=31,slow=1.9
NB2 NORSAR Subarra 129.08 345 PKPdf **PKPdf** 01 54 59.4 -0.1
comp=Z,3.6nm,0.8s,baz=31,slow=1.9
NB200 NORSAR Array S 129.08 345 *e*PKPdf **PKPdf** 01 54 59.6 +0.1
NOA NORSAR Array B 129.08 345 PKP **PKPdf** 01 54 59.6 +0.1
comp=Z,4.4nm,0.6s,baz=32,slow=2.0,SNR=17
NBO02 NORSAR Array S 129.16 345 *e*PKPdf **PKPdf** 01 55 00.0 +0.4
AKASG Malin Array Be 129.37 327 PKP **PKPdf** 01 54 59.9 -0.3
comp=Z,2.4nm,0.5s,baz=63,slow=2.7,SNR=10
AKBB Malin Array Si 129.37 327 *e*PKiKP **PKPdf** 01 54 59.9 -0.3
AKBB Malin Array Si 129.37 327 *e*PKPdf **PKPdf** 01 54 59.9 -0.3
AK11 Malin Array Si 129.41 327 *e*PKPdf **PKPdf** 01 54 60.0 -0.4
SUW Suwalki 130.35 333 *e*PKP **PKPdf** 01 55 02.0 0.0
SUW Suwalki 130.35 333 *e*PKiKP **PKPdf** 01 55 02.0 0.0
SORM Soroca 131.21 324⇑ *i*P **PKPdf** 01 55 02.9 -0.9
SORM Soroca 131.21 324⇑⇑PKiKP **PKPdf** 01 55 02.9 -0.9
PTGA Pitinga 131.31 103 PKP **PKPdf** 01 55 04.6 -0.4
comp=Z,0.5nm,0.3s,baz=228,slow=4.0,SNR=3.3
BR101 Keskin Array S 131.38 312 *e*PKPdf **PKPdf** 01 55 04.2 -0.4
BR101 *e*SKPbc **SKPab** 01 58 11.6 +0.8
BRTR Keskin Array B 131.38 312 PKP **PKPdf** 01 55 04.2 -0.4
comp=Z,1.5nm,0.6s,baz=137,slow=3.8,SNR=8.7
BRTR SKPbc **SKPab** 01 58 11.6 +0.8
comp=Z,1.3nm,0.7s,baz=93,slow=4.1,SNR=6.8
BRTR Keskin Array B 131.38 312 *e*PKiKP **PKPdf** 01 55 04.8 +0.2
BRTR pmax pmax
comp=Z,2.0nm,0.6s
ANTO Ankara 131.95 312 *e*PKiKP **PKPdf** 01 55 05.7 +0.1
ANTO Ankara 131.95 312 *e*PKPdf **PKPdf** 01 55 05.7 +0.1
BR231 Keskin MP Arra 131.97 312 *e*PKPdf **PKPdf** 01 55 04.9 -0.8
CFR Carcaliu 132.83 321⇑ *i*P **PKPdf** 01 55 06.8 -0.2
CFR Carcaliu 132.83 321⇑⇑PKiKP **PKPdf** 01 55 06.8 -0.2
TESR Tescani 133.05 323⇑ *i*P **PKPdf** 01 55 08.2 +0.8
HARR Harsova 133.20 320 ⇓ *i*P **PKPdf** 01 55 07.7 0.0
HARR Harsova 133.20 320 ⇓⇓PKiKP **PKPdf** 01 55 07.7 0.0
BUR08 Bucovina Ar. S 133.25 325 *e*PKPdf **PKPdf** 01 55 09.0 +1.1
BURAR Bucovina Array 133.26 325⇑ *i*P **PKPdf** 01 55 09.0 +1.1
BURAR Bucovina Array 133.26 325⇑⇑PKiKP **PKPdf** 01 55 09.0 +1.1
VRI Vrincioaia 133.34 322 ⇓ *i*P **PKPdf** 01 55 08.6 +0.6
VRI Vrincioaia 133.34 322 ⇓⇓PKiKP **PKPdf** 01 55 08.6 +0.6
KWP Kalwaria Pacla 133.40 329 *e*PKP **PKPdf** 01 55 07.9 0.0
KWP Kalwaria Pacla 133.40 329 *e*PKiKP **PKPdf** 01 55 07.9 0.0
MLR Muntele Rosu 134.00 322 ⇓ *i*P **PKPdf** 01 55 09.3 -0.1
MLR Muntele Rosu 134.00 322 *e*PKiKP **PKPdf** 01 55 09.4 +0.1
MLR Muntele Rosu 134.00 322 *e*PKPdf **PKPdf** 01 55 09.4 +0.1
DOPR Dopca 134.08 323⇑ *i*P **PKPdf** 01 55 10.3 +1.0
STHS Stebnicka Huta 134.27 329 *e*PKiKP **PKPdf** 01 55 10.0 +0.4
STHS Stebnicka Huta 134.27 329 *e*PKP **PKPdf** 01 55 10.0 +0.4
OJC Ojcow 134.44 331 *e*PKP **PKPdf** 01 55 10.1 +0.3
OJC Ojcow 134.44 331 *e*PKiKP **PKPdf** 01 55 10.2 +0.3
OJC Ojcow 134.44 331 *e*PKPdf **PKPdf** 01 55 10.2 +0.3
CRVS Cervenica-Dubn 134.49 329 *e*PKiKP **PKPdf** 01 55 11.1 +1.1
CRVS Cervenica-Dubn 134.49 329 *e*PKP **PKPdf** 01 55 11.1 +1.1
VOIR 134.56 323⇑ *i*P **PKPdf** 01 55 10.4 +0.1
VOIR 134.56 323⇑⇑PKiKP **PKPdf** 01 55 10.4 +0.1
NIE Niedzica 134.73 330 *e*PKP **PKPdf** 01 55 11.4 +0.9
NIE Niedzica 134.73 330 *e*PKiKP **PKPdf** 01 55 11.4 +0.9
ARR Arges 134.85 323⇑ *i*P **PKPdf** 01 55 11.6 +0.7
DRGR 135.13 325⇓ *i*P **PKPdf** 01 55 11.5 +0.1
DRGR 135.13 325⇓⇓PKiKP **PKPdf** 01 55 11.5 +0.1
LANS Liptovska Anna 135.32 330 *e*PKiKP **PKPdf** 01 55 13.0 +1.4
LANS Liptovska Anna 135.32 330 *e*PKP **PKPdf** 01 55 13.0 +1.4
OKC Ostrava-Krasne 135.47 332 *e*PKPdf **PKPdf** 01 55 10.5 -1.3
OKC Ostrava-Krasne 135.47 332 *e*PKiKP **PKPdf** 01 55 10.5 -1.3
KSP Ksiaz 135.58 334 *e*PKP **PKPdf** 01 55 14.0 +2.0
KSP Ksiaz 135.58 334 *e*PKiKP **PKPdf** 01 55 14.0 +2.0
MORC Moravsky Berou 135.80 332⇓ *i*P **PKPdf** 01 55 12.9 +0.4
MORC Moravsky Berou 135.80 332 *e*PKiKP **PKPdf** 01 55 13.1 +0.6
MORC Moravsky Berou 135.80 332 *e*PKPdf **PKPdf** 01 55 13.1 +0.6
GZR Gura Zlata 135.92 324⇑ *i*P **PKPdf** 01 55 12.4 -0.5
GZR Gura Zlata 135.92 324⇑⇑PKiKP **PKPdf** 01 55 12.4 -0.5
PSZ Piszkesteto 135.92 328⇓ *i*P **PKPdf** 01 55 14.3 +1.5
PSZ Piszkesteto 135.92 328⇓⇓PKiKP **PKPdf** 01 55 14.3 +1.5
KRLC Kraliky 135.93 333 *e*PKPdf **PKPdf** 01 55 14.8 +2.1
KRLC Kraliky 135.93 333 *e*PKiKP **PKPdf** 01 55 14.8 +2.1
DPC Dobruska-Polom 135.93 333 *e*PKPdf **PKPdf** 01 55 12.9 +0.2
DPC Dobruska-Polom 135.93 333 *e*PKiKP **PKPdf** 01 55 12.9 +0.2
SIRR Siria 136.03 326⇓ *i*P **PKPdf** 01 55 13.3 +0.3
VYHS Vyhne 136.07 330 *e*PKiKP **PKPdf** 01 55 13.1 +0.1
VYHS Vyhne 136.07 330 *e*PKP **PKPdf** 01 55 13.1 +0.1
BZS Buzias 136.44 325⇓ *i*P **PKPdf** 01 55 13.8 +0.1
BZS Buzias 136.44 325⇓⇓PKiKP **PKPdf** 01 55 13.8 +0.1
BRG Berggiesshubel 136.54 335 *e*PKP **PKPdf** 01 55 14.2 +0.5
comp=Z,8.7nm,0.8s
BRG Berggiesshubel 136.54 335 *e*PKiKP **PKPdf** 01 55 14.2 +0.5
BRG pmax pmax
comp=Z,9.0nm,0.8s
PVCC Panska Ves 136.55 335 *e*PKPdf **PKPdf** 01 55 15.4 +1.6
PVCC Panska Ves 136.55 335 *e*PKiKP **PKPdf** 01 55 15.4 +1.6
CLL Collm 136.57 337⇓ *i*PKiKP **PKPdf** 01 55 14.0 +0.3
CLL pmax pmax
comp=Z,9.0nm,1.2s
CLL Collm 136.57 337⇓ *i*PKPdf **PKPdf** 01 55 14.0 +0.3
comp=Z,9.0nm,1.2s
CLL Collm 136.57 337 *e*PKPdf **PKPdf** 01 55 14.1 +0.3
MDVR Moldovita 136.88 324⇑ *i*P **PKPdf** 01 55 14.2 -0.4
GOPC GO Pecny, Ondr 136.92 334 *e*PKPdf **PKPdf** 01 55 16.5 +2.0
GOPC GO Pecny, Ondr 136.92 334 *e*PKiKP **PKPdf** 01 55 16.5 +2.0
PRU Pruhonice 136.97 334 *e*PKPdf **PKPdf** 01 55 14.5 -0.1
PRU Pruhonice 136.97 334 *e*PKiKP **PKPdf** 01 55 14.5 -0.1
VTS Vitosha 137.22 320⇓ *i*P **PKPdf** 01 55 15.5 0.0
VTS Vitosha 137.22 320 *e*PKiKP **PKPdf** 01 55 15.5 0.0
VTS Vitosha 137.22 320 *e*PKPdf **PKPdf** 01 55 15.5 0.0
CONA Conrad Observa 137.89 331 *i* PKiKP **PKPdf** 01 55 16.8 +0.4
comp=Z,4.1nm,0.5s
KHC Kasperske Hory 138.03 334 *e*PKPdf **PKPdf** 01 55 16.5 -0.1
KHC Kasperske Hory 138.03 334 *e*PKiKP **PKPdf** 01 55 16.9 +0.3
KHC Kasperske Hory 138.03 334 *e*PKPdf **PKPdf** 01 55 16.9 +0.3
GEC2 GERESS Array S 138.19 334 *e*PKHKP PKPpre 01 55 09.3
GEC2 *e* 01 55 17.2
GEC2 GERESS Array S 138.19 334 *e*PKPpre PKPpre 01 55 09.3
GEC2 *e*PKPdf **PKPdf** 01 55 17.2 +0.2
GERES GERESS Array B 138.19 334 PKhKP PKPpre 01 55 09.3
comp=Z,0.6nm,0.5s,baz=25,slow=3.5,SNR=8.3
GERES PKP **PKPdf** 01 55 17.1 +0.1
comp=Z,2.5nm,0.7s,baz=77,slow=1.8,SNR=16
GERES SKPbc **SKiKP** 01 58 33.9 -1.4
comp=Z,1.1nm,1.0s,baz=45,slow=5.8,SNR=4.1
GEA0 GERESS Array S 138.20 334 *e*PKPpre PKPpre 01 55 10.1
ARSA Arzberg 138.54 331 *e*PKPdf **PKPdf** 01 55 16.3 -1.3
comp=Z,2.1nm,0.8s
MOA Molln 138.69 332 *i* PKPdf **PKPdf** 01 55 17.9 0.0
comp=Z,2.4nm,0.5s
GCIS Gornji Grlnik 139.47 329 *e*PKPbc **PKPdf** 01 55 19.1 -0.2
MEM Membach 139.61 341 PKP **PKPdf** 01 55 20.0 +0.6
PDG Podgorica 139.72 323⇑ *i*P **PKPdf** 01 55 19.5 -0.3
MYKA Terra Mystica 139.88 332 *e*PKPdf **PKPdf** 01 55 18.9 -1.2
comp=Z,1.4nm,0.4s
CRNS Crni Vrh 139.98 330 *e*PKPbc **PKPdf** 01 55 19.7 -0.6
BCLA Clavier 139.99 342 PKP **PKPdf** 01 55 19.5 -0.5
SNF Seneffe 140.21 343 PKP **PKPdf** 01 55 23.2 +2.7
WATA Walderalm 140.26 334 *i* PKPdf **PKPdf** 01 55 19.8 -1.1
comp=Z,4.4nm,0.5s
WTTA Wattenberg 140.29 334 *e*PKPdf **PKPdf** 01 55 20.5 -0.5
comp=Z,3.2nm,0.3s
ABTA Abfaltersbach 140.30 333 *e*PKPdf **PKPdf** 01 55 20.3 -0.6
comp=Z,4.0nm,0.5s
WLF Walferdange 140.38 341 PKP **PKPdf** 01 55 24.4 +3.6
MOTA Moosalm 140.46 334 *i* PKPdf **PKPdf** 01 55 20.3 -0.9
comp=Z,2.3nm,0.3s
DOU Dourbes 140.49 342 PKP **PKPdf** 01 55 23.6 +2.6
RETA Reutte 140.49 335 *e*PKPdf **PKPdf** 01 55 21.3 +0.1
comp=Z,0.9nm,0.4s
FETA Feichten 140.87 334 *e*PKPdf **PKPdf** 01 55 20.9 -1.2
comp=Z,4.2nm,0.9s
DAVA Damuels 141.01 335 *e*PKPdf **PKPdf** 01 55 20.7 -1.6
comp=Z,3.1nm,0.6s
FUORN Ofenpass-Fuorn 141.38 334 *e*PKPpre PKPpre 01 55 18.2
MOF Molkenrain 141.60 338 PKP **PKPdf** 01 55 23.0 -0.2
THEF They Montfort 141.68 340 PKP **PKPdf** 01 55 22.8 -0.4
TUE Stuetta 141.88 335 *e*PKPpre PKPpre 01 55 19.4
LOMF Lomont 142.14 338 PKP **PKPdf** 01 55 23.2 -1.0
BNI Bardonecchia 144.12 336 *e*PKiKP **PKPab** 01 55 25.8 -0.1
BNI Bardonecchia 144.12 336 *e*PKPdf **PKPab** 01 55 25.8 -0.1
CEL Celeste 144.27 320 *e*PKPdf **PKPab** 01 55 26.8 +0.2
PLDF La Plantade 144.44 340 PKP **PKPdf** 01 55 27.9 -0.4
AGO Saint Agoulin 144.53 341 PKP PKPbc 01 55 27.7 +0.2
SSB Saint Sauveur 144.73 339 PKP **PKPdf** 01 55 28.6 -0.2
SSB Saint Sauveur 144.73 339 *e*PKiKP **PKPdf** 01 55 28.5 -0.2
SSB Saint Sauveur 144.73 339 *e*PKPbc **PKPdf** 01 55 28.5 -0.2
COLF Collangettes 144.82 340 PKP **PKPdf** 01 55 29.0 +0.1
PYM Petit Puy Mans 144.84 341 PKP **PKPdf** 01 55 29.0 +0.1
OG26 St-Nazaire-De 145.05 337 PKP **PKPab** 01 55 29.9 +0.5
LBIL Lubilhac 145.22 340 PKP **PKPab** 01 55 30.7 +0.7
VSL Villasalto 147.24 327 *e*PKPbc **PKPbc** 01 55 35.8 +0.1
LRDF Laroque-de-Fa 147.48 339 PKP **PKPbc** 01 55 36.7 +0.5
SJAF Saint Jean de 147.75 338 PKP **PKPbc** 01 55 36.8 -0.2
FILF Fillols 147.80 338 PKP **PKPbc** 01 55 37.4 +0.2
KEST Kesra 149.91 322 PKPbc **PKPbc** 01 55 43.2 +0.5
comp=Z,22nm,0.7s,baz=99,slow=0.9,SNR=47
PBRG Braganca 150.96 351 *e*PKPbc **PKPbc** 01 55 45.0 0.0
PGAV Gavieira, Arco 151.02 353 *e*PKPbc **PKPbc** 01 55 45.6 +0.4
PCAB Cabril 151.24 352 *e*PKPbc **PKPbc** 01 55 46.0 +0.4
POLO Lamas de Olo 151.54 352 *e*PKPbc **PKPbc** 01 55 46.9 +0.5
PVRL Vila Real 151.63 352 *e*PKPbc **PKPbc** 01 55 47.1 +0.6
PVRL Vila Real 151.63 352 *e*PKPab **PKPab** 01 55 55.1 -0.7
MVO Moncorvo 151.63 351 *e*PKPbc **PKPbc** 01 55 47.2 +0.6
PTO Porto 151.88 353 *e*PKPbc **PKPbc** 01 55 47.3 +0.3
PVIS Viseu 152.20 352 *e*PKPbc **PKPbc** 01 55 47.9 +0.1
PVIS Viseu 152.20 352 *e*PKPab **PKPab** 01 55 59.1 +0.8
ES19 SONSECA Array 152.40 345 *e*PKPdf **PKPdf** 01 55 41.9 +0.6
ES19 *e*PKPbc **PKiKP** 01 55 48.6 0.0
ESDC Sonseca Array 152.44 345 PKP **PKPdf** 01 55 41.3 -0.1
comp=Z,0.5nm,0.7s,baz=358,slow=3.2,SNR=5.0
ESDC PKPbc **PKiKP** 01 55 48.6 0.0
comp=Z,7.5nm,0.6s,baz=13,slow=3.4,SNR=68
ESDC PKPab **PKPab** 01 55 59.7 +0.3
comp=Z,2.3nm,0.5s,baz=12,slow=4.8,SNR=9.5
ESLA Sonseca Array 152.44 345 *e*PKPbc **PKPbc** 01 55 48.7 +0.3
PAB San Pablo 152.66 346 *e*PKiKP **PKPbc** 01 55 49.3 +0.4
PAB San Pablo 152.66 346 *e*PKPbc **PKPbc** 01 55 49.3 +0.4
PCAS Casmilo, Conde 152.93 353 *e*PKPbc **PKPbc** 01 55 49.6 +0.2
PCBR Castelo Branco 153.00 351 *e*PKPdf **PKPdf** 01 55 42.3 +0.2
PCBR Castelo Branco 153.00 351 *e*PKPbc **PKPbc** 01 55 49.9 +0.4
PCBR Castelo Branco 153.00 351 *e*PKPab **PKPab** 01 56 02.6 +1.0
PTOM Tomar 153.35 352 *e*PKPbc **P

comp=Z,2.9nm,0.8s,baz=200,slow=4.7,SNR=3.7
DBIC PKPab **PKPab 01 57 15.2 -0.5**
comp=Z,2.0nm,0.7s,baz=95,slow=4.3,SNR=4.4

CSEM ***27*** *01:38:28.5, 36.˚94N× 33.˚99E, h7km, MD2.4*
DDA 27 01:38:28.5, 36.˚94N× 33.˚99E, h7km, Md2.4, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KIZK	**Mersin**	**0.47**	**165**	*i* P	Pg	01 38 38.3	+0.6
KIZK				*i* S	Sg	01 38 44.8	+0.9
KIZK	**Mersin**	**0.47**	**165**	P	Pg	01 38 38.3	+0.6
KIZK				S	Sg	01 38 44.8	+0.9
KERG	**Konya-Eregli**	**0.49**	**13**	*i* P	Pg	01 38 38.2	+0.2
KERG				*i* S	Sg	01 38 45.3	+0.9
KERG	**Konya-Eregli**	**0.49**	**13**	P	Pg	01 38 38.2	+0.2
KERG				S	Sg	01 38 45.3	+0.9
DED	**Mersin**	**0.65**	**88**	*i* P	Pg	01 38 41.2	+0.1
DED				*i* S	Sb	01 38 50.7	-0.7
YURE	**YUREGIR**	**1.32**	**94**	*i* P	Pg	01 38 55.2	+1.3
YURE	**YUREGIR**	**1.32**	**94**	P	Pg	01 38 55.2	+1.3
YAHY	**KAYSERI_Yahyal**	**1.59**	**43**	*i* P	Pg	01 38 58.7	-0.3
YAHY				*i* S	Sb	01 39 18.8	+0.2
YAHY	**KAYSERI_Yahyal**	**1.59**	**43**	P	Pg	01 38 58.7	-0.3
YAHY				S	Sb	01 39 18.8	+0.2

ISCJB ***27*** *01:56:58.5±0.5, 24.˚63S±0.˚07× 179.˚81E±0.˚09, h500km, mb4.0/14, Error ellipse: s-maj=11.6km s-min=8.4km az=165.2*
IDC ***27*** *01:56:59.4±1.1, 24.˚73S× 179.˚85E, h502km±11km, mb3.6/13, mb1 3.8/15, mb1mx3.7/30, mbtmp4.5/15, Error ellipse: s-maj=14.2km s-min=11.6km az=161.0*
ISC 27 01:56:59.2±0.6, 24.˚71S±0.˚08× 179.˚90E±0.˚10, h500km, n33, σ1§07/40, mb3.9/14, 5C-3D, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**4.92**	**157**	P	**P**	**01 58 26.4**	**+1.0**
	49nm,0.3s,baz=111,slow=7.0,SNR=11						
RAO				S	**S**	**01 59 36.0**	**+0.1**
	93nm,0.3s,baz=92,slow=19,SNR=4.9						
DZM	**Mont Dzumac**	**12.63**	**279**	P	**P**	**01 59 47.1**	**+2.4**
	1.1nm,0.3s,baz=77,slow=19,SNR=11						
AFI	**Afiamalu**	**13.30**	**38**	S	S	02 02 04.1	-10
	baz=261,slow=19,SNR=2.4						
URZ	**Urewera**	**13.72**	**189**	P	**P**	**01 59 57.0**	**+1.3**
	0.7nm,0.3s,baz=357,slow=1.9,SNR=5.1						
URZ				S	**S**	**02 02 20.7**	**-0.6**
	2.0nm,0.3s,baz=205,slow=21,SNR=15						
RPZ	**Rata Peaks**	**20.30**	**199**	P	**P**	**02 00 59.8**	**-0.6**
	7.1nm,0.5s,baz=57,slow=1.9,SNR=6.1						
STKA	**Stephens Creek**	**34.35**	**249**	P	**P**	**02 03 04.2**	**+0.5**
	11nm,0.4s,baz=92,slow=9.8,SNR=62						
ASAR	**Alice Springs**	**41.82**	**262**	P	**P**	**02 04 04.7**	**-0.2**
	5.8nm,0.4s,baz=102,slow=8.0,SNR=84						
ASAR				PcP	**PcP**	**02 05 48.3**	**-1.2**
	0.8nm,0.5s,baz=96,slow=6.7,SNR=4.7						
ASAR				ScP	**ScP**	**02 08 52.5**	**+0.5**
	0.4nm,0.7s,baz=111,slow=4.1,SNR=3.7						
ASAR				S	**S**	**02 09 45.0**	**-1.2**
	0.4nm,0.3s,baz=219,slow=39,SNR=3.6						
WRA	**Warramunga Arr**	**42.27**	**267**	P	**P**	**02 04 07.7**	**-0.8**
	30nm,0.5s,baz=101,slow=8.1,SNR=409						
WRA				PcP	**PcP**	**02 05 50.6**	**-0.4**
	0.7nm,0.4s,baz=103,slow=6.6,SNR=3.7						
WRA				ScP	**ScP**	**02 08 55.4**	**+1.6**
	4.3nm,0.8s,baz=100,slow=4.0,SNR=19						
WRA				S	**S**	**02 09 50.9**	**-1.8**
	0.4nm,0.3s,baz=103,slow=15,SNR=13						
VNDA	**Vanda**	**53.57**	**185**	P	**P**	**02 05 30.5**	**-1.7**
	0.3nm,0.5s,baz=320,slow=5.9,SNR=4.2						
VNDA				ScP	**ScP**	**02 09 39.9**	**-0.7**
	0.4nm,0.5s,baz=345,slow=3.8,SNR=3.7						
MJAR	**Matsushiro Arr**	**72.51**	**326**	P	**P**	**02 07 33.8**	**-1.0**
	2.8nm,0.6s,baz=158,slow=5.4,SNR=6.2						
MAW	**Mawson**	**76.97**	**201**	P	**P**	**02 07 59.2**	**-0.2**
	2.0nm,0.5s,baz=122,slow=7.7,SNR=9.3						
KSRS	**Korea Array**	**78.81**	**320**	P	**P**	**02 08 10.1**	**+0.3**
	1.9nm,0.6s,baz=133,slow=5.8,SNR=9.2						
PETK	**Petropavlovsk-**	**79.86**	**347**	P	**P**	**02 08 14.4**	**-0.6**
	3.0nm,0.6s,baz=111,slow=4.1,SNR=3.5						
USRK	**Ussuriysk Ar.**	**81.39**	**327**	P	**P**	**02 08 23.6**	**+0.4**
	2.5nm,0.6s,baz=109,slow=3.2,SNR=6.2						
PLCA	**Paso Flores**	**87.77**	**134**	P	**P**	**02 08 55.3**	**+0.5**
	1.2nm,1.0s,baz=254,slow=2.3,SNR=3.0						
CMAR	**Chiang Mai Arr**	**89.72**	**290**	P	**P**	**02 09 05.5**	**+1.4**
	2.1nm,0.6s,baz=116,slow=2.1,SNR=11						
TXAR	**Lajitas Array**	**90.93**	**58**	P	**P**	**02 09 09.6**	**0.0**
	1.5nm,0.8s,baz=214,slow=6.5,SNR=20						
ANMO	**Albuquerque**	**91.52**	**52**	P	**P**	**02 09 13.0**	**+0.6**
	0.5nm,0.5s,baz=151,slow=3.9,SNR=4.0						
PDAR	**Pinedale Array**	**93.33**	**44**	P	**P**	**02 09 19.6**	**-1.0**
	0.4nm,0.8s,baz=234,slow=4.8,SNR=3.5						
FINES	**FINESS Array B**	**139.18**	**341**	PKhKP	PKPpre	02 15 17.8	
	1.6nm,0.8s,baz=64,slow=4.4,SNR=9.1						
FINES				PKP	**PKPdf**	**02 15 28.5**	**+0.3**
	1.3nm,0.5s,baz=45,slow=2.6,SNR=8.1						
FINES				SKPbc	**SKPbc**	**02 18 14.8**	**-1.3**
	3.3nm,0.7s,baz=4.9,slow=3.3,SNR=7.8						
NB2	**NORSAR Subarra1**	**42.86**	**351**	PKP	PKPpre	02 15 30.5	
	comp=Z,1.6nm,0.9s,baz=11,slow=3.5						
NOA	**NORSAR Array B**	**42.86**	**351**	PKhKP	PKPpre	02 15 31.1	
	comp=Z,1.6nm,0.7s,baz=12,slow=2.4,SNR=4.2						
AKASG	**Malin Array Be**	**145.60**	**327**	PKPbc	**PKPdf**	**02 15 39.5**	**-0.4**
	comp=Z,1.3nm,0.3s,baz=44,slow=4.4,SNR=13						
BRTR	**Keskin Array B**	**147.99**	**306**	PKPbc	**PKPbc**	**02 15 47.0**	**-1.3**
	comp=Z,2.1nm,0.7s,baz=142,slow=5.1,SNR=14						
CFR	**Carcaliu**	**149.38**	**319**	↑*i* P	**PKPbc**	**02 15 50.7**	**-0.6**
TESR	**Tescani**	**149.49**	**322**	*i* P	**PKPab**	**02 15 58.1**	**-0.5**
BURAR	**Bucovina Array**	**149.58**	**325**	↓*i* P	**PKPbc**	**02 15 51.8**	**-0.1**
MLR	**Muntele Rosu**	**150.49**	**321**	↑*i* P	**PKPbc**	**02 15 51.5**	**-2.6**
DOPR	**Dopca**	**150.52**	**322**	↑*i* P	**PKPbc**	**02 15 53.8**	**-0.2**
ARR	**Arges**	**151.30**	**322**	↓*i* P	**PKPbc**	**02 15 55.8**	**-0.1**
DRGR		**151.41**	**326**	↑*i* P	**PKPbc**	**02 15 55.2**	**-0.9**
GZR	**Gura Zlata**	**152.30**	**324**	↓*i* P	**PKPbc**	**02 15 57.7**	**-0.4**
GERES	**GERESS Array B**	**153.58**	**339**	PKPbc	**PKPbc**	**02 16 02.5**	**+1.7**
	comp=Z,0.2nm,0.4s,baz=90,slow=3.9,SNR=2.7						

NIED ***27*** *03:04:00, 37.˚80N× 142.˚00E, h32km, Mw3.9 Best double couple: M0 7.22000×10^14 NP1:ϕ=288.00000°, δ10.00000°, λ=-169.00000°. NP2:ϕ=187.00000°, δ88.00000°, λ=-80.00000°.*
IDC ***27*** *03:04:16.7±0.7, 37.˚73N× 142.˚20E, h0km, mb3.9/9, mb1 4.1/12, mb1mx3.9/36, mbtmp4.0/12, ML3.7/2, MS2.9/5, Ms1 2.9/5, ms1mx2.7/35, Error ellipse: s-maj=20.8km s-min=17.1km az=131.0*
JMA ***27*** *03:04:20.7±0.2, 37.˚77N× 142.˚02E, h37km±4km, M3.9*
JMA Felt I J1.
NEIC ***27*** *03:04:22.4±0.8, 37.˚73N× 142.˚15E, h41km±7km, mb4.9/11, Error ellipse: s-maj=8.5km s-min=5.1km az=120.0*
NEIC Recorded [1 JMA] in Fukushima and Miyagi.
ISC 27 03:04:18.5±2.4, 37.˚74N±0.˚04× 142.˚11E±0.˚05, h14km±14km, n61, σ1§46/66, mb4.4/20, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIO	**Ouri**	**0.94**	**320**	P	**Pb**	**03 04 36.7**	**+0.2**
JIO				S	**Sg**	**03 04 47.5**	**-1.4**
JFK	**Kawauchi**	**1.05**	**250**	P	**Pb**	**03 04 38.5**	**0.0**
JFK				S	**Sb**	**03 04 50.9**	**-1.3**
JMM	**Marumori**	**1.05**	**277**	P	**Pb**	**03 04 38.4**	**-0.1**
JMM				S	**Sb**	**03 04 50.0**	**-2.2**
ONAJ	**Iwakimizuishiy**	**1.22**	**239**	P	**Pn**	**03 04 41.0**	**-0.3**
ONAJ				S	**Sb**	**03 04 55.3**	**-1.9**
JOU	**Okura**	**1.30**	**299**	P	**Pn**	**03 04 42.2**	**-0.2**
JOU				S	**Sb**	**03 04 57.7**	**-1.8**
JMK	**Ichinoseki**	**1.40**	**330**	P	**Pn**	**03 04 43.6**	**-0.1**
JMK				*eS*	**Sn**	**03 04 59.7**	**-2.3**
JFT	**Otama**	**1.43**	**262**	P	**Pb**	**03 04 44.8**	**-0.1**
JFT				S	**Sn**	**03 05 01.7**	**-1.0**
JYS	**Shirataka**	**1.69**	**287**	S	**Sn**	**03 05 09.3**	**+0.2**
JYK	**Kaneyama**	**1.81**	**311**	P	**Pn**	**03 04 49.9**	**+0.5**
JOM	**Ohasama**	**1.85**	**340**	P	**Pn**	**03 04 50.1**	**+0.3**
JFY	**Yanaizu**	**1.94**	**261**	P	**Pn**	**03 04 51.9**	**+0.8**
JFY				S	**Sn**	**03 05 16.4**	**+1.0**
MJAR	**Matsushiro Arr**	**3.34**	**250**	Pn	**Pn**	**03 05 11.8**	**+1.5**
	5.7nm,0.3s,baz=55,slow=11,SNR=32						
MJAR				Sn	**Sb**	**03 05 55.3**	**-2.8**
	3.5nm,0.3s,baz=100,slow=14,SNR=5.0						
MJAR				LR	LR	03 06 37.6	
	comp=Z,200nm,20.1s,baz=75,slow=42						
MAJO	**Matsushiro**	**3.34**	**250**	*e*Pn	**Pn**	**03 05 12.7**	**+2.3**
MAJO				*e*Sn	**Sn**	**03 05 48.0**	**-1.9**
MAT	**Matsushiro**	**3.34**	**250**	P	**Pn**	**03 05 12.1**	**+1.7**
MAT				S	**Sb**	**03 05 55.3**	**-2.8**
MJB9	**Matsu-Tunnel**	**3.34**	**250**	*e*Pn	**Pn**	**03 05 12.7**	**+2.3**
ERM	**Erimo**	**4.35**	**10**	*e*Pn	**Pn**	**03 05 25.2**	**+1.0**
ERM				*e*Sn	**Sn**	**03 06 12.0**	**-2.7**
INU	**Inuyama**	**4.75**	**241**	*e*Pn	**Pn**	**03 05 33.6**	**+3.9**
JHJ	**Hachijo jima 2**	**4.99**	**203**	Pn	**Pn**	**03 05 33.5**	**+0.5**
	9.6nm,0.3s,baz=45,slow=19,SNR=2.6						
JHJ				Sn	**Sn**	**03 06 28.8**	**-1.6**
	25nm,0.3s,baz=225,slow=20,SNR=3.1						
ASAJ	**Asahikawa**	**6.38**	**3**	*e*Pn	**Pn**	**03 05 52.6**	**+0.4**
USRK	**Ussuriysk Ar.**	**10.01**	**313**	Pn	**Pn**	**03 06 46.0**	**+4.1**
	0.3nm,0.3s,baz=128,slow=13,SNR=11						
USRK				LR	LR	03 10 39.1	
	comp=Z,93nm,18.6s,baz=104,slow=38						
KSRS	**Korea Array**	**11.26**	**273**	Pn	**Pn**	**03 07 02.3**	**+3.2**
	baz=86,slow=13,SNR=9.5						
KSRS				LR	LR	03 11 12.1	
	comp=Z,83nm,18.4s,baz=80,slow=36						
KSAR	**Wonju Array Be**	**11.30**	**273**	Pn	**Pn**	**03 07 02.3**	**+2.8**
PETK	**Petropavlovsk-**	**18.80**	**30**	LR	LR	03 16 48.7	
	comp=Z,14nm,18.8s,baz=237,slow=40						
SONA1	**Songino Array**	**27.86**	**303**	*e*P	**P**	**03 10 08.2**	**+0.4**
SONA0	**Songino Array**	**27.86**	**303**	*e*P	**P**	**03 10 08.6**	**+0.8**
	3.4nm,0.9s						
SONM	**Songino Array**	**27.86**	**303**	P	**P**	**03 10 08.6**	**+0.8**
	2.7nm,0.8s,baz=107,slow=9.3,SNR=8.9						
H11N2	**WAKE ISLAND Hy**	**28.05**	**123**	T	T	03 39 39.0	
	baz=315,slow=75,SNR=256						
H11N1	**WAKE ISLAND Hy**	**28.05**	**123**	T	T	03 39 45.3	
	baz=315,slow=75,SNR=219						
H11N3	**WAKE ISLAND Hy**	**28.06**	**123**	T	T	03 39 40.4	
	baz=315,slow=75,SNR=215						
H11S1	**WAKE ISLAND Hy**	**28.79**	**125**	T	T	03 40 38.6	
	baz=317,slow=76,SNR=194						
H11S3	**WAKE ISLAND Hy**	**28.79**	**125**	T	T	03 40 45.2	
	baz=317,slow=76,SNR=199						
H11S2	**WAKE ISLAND Hy**	**28.80**	**125**	T	T	03 40 35.0	
	baz=317,slow=76,SNR=145						
ZAA1	**Zalesovo Array**	**41.86**	**312**	*e*P	**P**	**03 12 07.8**	**-0.2**
ZALV	**Zalesovo Beam**	**41.86**	**312**	P	**P**	**03 12 07.8**	**-0.1**
	1.0nm,0.4s,baz=97,slow=6.0,SNR=3.4						
CMAR	**Chiang Mai Arr**	**42.21**	**255**	LR	LR	03 30 46.3	
	comp=Z,12nm,18.1s,baz=180,slow=38						
MK01	**Makanchi Array**	**44.22**	**302**	*e*P	**P**	**03 12 26.3**	**-0.9**
MK32	**Makanchi Array**	**44.22**	**302**	*e*P	**P**	**03 12 27.7**	**+0.5**
MKAR	**Makanchi Array**	**44.22**	**302**	P	**P**	**03 12 27.7**	**+0.5**
	1.3nm,0.8s,baz=90,slow=9.0,SNR=6.9						
KDAK	**Kodiak Island**	**46.20**	**42**	P	**P**	**03 12 43.4**	**+0.7**
	2.6nm,0.8s,baz=258,slow=10,SNR=4.1						
KDAK	**Kodiak Island**	**46.20**	**42**	*e*P	**P**	**03 12 43.4**	**+0.7**
	34nm,1.8s						
SAUI	**Saumlaki**	**46.59**	**195**	*e*P	**P**	**03 12 45.7**	**-0.5**
	278nm,0.9s						
PMG	**Port Moresby**	**47.13**	**173**	*e*P	**P**	**03 12 48.6**	**-1.8**
	34nm,1.3s						
MDM	**Murphy Dome**	**48.02**	**32**	*e*P	**P**	**03 12 58.0**	**+1.0**
	13nm,1.7s						
IL1	**Eielson Array**	**48.60**	**33**	*e*P	**P**	**03 13 01.9**	**+0.6**
ILAR	**Eielson Array**	**48.60**	**33**	P	**P**	**03 13 01.9**	**+0.6**
	0.8nm,0.8s,baz=264,slow=5.6,SNR=13						
ILB	**Eielson Array**	**48.60**	**33**	*e*P	**P**	**03 13 01.9**	**+0.6**
GLI	**Glacier Island**	**48.76**	**38**	*e*P	**P**	**03 13 03.2**	**+0.5**
	30nm,1.5s						
IPM	**Ipoh**	**49.98**	**239**	*e*P	**P**	**03 13 12.9**	**+0.4**
	118nm,2.0s						
COEN	**Coen**	**51.43**	**179**	*e*P	**P**	**03 13 22.6**	**-0.6**
	16nm,1.4s						
WB2	**Warramunga Arr**	**57.84**	**189**	*e*P	**P**	**03 14 09.7**	**0.0**
	19nm,1.8s						
WR1	**Warramunga Arr**	**57.84**	**189**	*e*P	**P**	**03 14 09.4**	**-0.3**
	9.1nm,1.4s						
WRA	**Warramunga Arr**	**57.84**	**189**	P	**P**	**03 14 09.4**	**-0.3**
	1.7nm,0.6s,baz=5.5,slow=7.2,SNR=20						
AS31	**Alice Springs**	**61.56**	**189**	*e*P	**P**	**03 14 36.0**	**+0.6**
	2.2nm,1.4s						
ASAR	**Alice Springs**	**61.56**	**189**	P	**P**	**03 14 36.0**	**+0.6**
	0.8nm,0.8s,baz=12,slow=6.1,SNR=8.4						
LLLB	**Lillooet**	**65.36**	**44**	*e*P	**P**	**03 15 00.7**	**+0.4**
	45nm,1.8s						
PD31	**Pinedale Array**	**76.78**	**46**	*e*P	**P**	**03 16 09.2**	**-0.7**
PDAR	**Pinedale Array**	**76.78**	**46**	P	**P**	**03 16 09.2**	**-0.7**
	0.6nm,0.6s,baz=286,slow=1.1,SNR=6.5						
LTX	**Lajitas**	**89.25**	**53**	*e*P	**P**	**03 17 15.1**	**+0.6**
TXAR	**Lajitas Array**	**89.25**	**53**	P	**P**	**03 17 15.1**	**+0.6**
	0.4nm,0.5s,baz=288,slow=2.6,SNR=11						
LPAZ	**La Paz**	**145.86**	**60**	PKPbc	**PKPdf**	**03 23 58.2**	**+0.2**
	1.4nm,0.7s,baz=355,slow=3.3,SNR=8.1						
LPAZ	**La Paz**	**145.86**	**60**	*e*PKPdf	**PKPbc**	**03 23 58.8**	**+0.1**

NIED ***27*** *03:56:00, 36.˚80N× 140.˚70E, h5km, Mw3.9 Best double couple: M0 7.77000×10^14 NP1:ϕ=350.00000°, δ41.00000°, λ=-101.00000°. NP2:ϕ=184.00000°, δ50.00000°, λ=-81.00000°.*
IDC ***27*** *03:56:52.8±0.9, 36.˚77N× 140.˚64E, h0km, mb3.7/6, mb1 4.0/6, mb1mx3.7/31, mbtmp3.7/6, MS3.1/2, Ms1 3.1/2, ms1mx2.5/36, Error ellipse: s-maj=23.0km s-min=14.8km az=172.0*
ISCJB ***27*** *03:56:53.5±0.8, 36.˚82N±0.˚03× 140.˚79E±0.˚06, h15km±4km, mb3.6/6, MS3.2/1, Error ellipse: s-maj=9.0km s-min=4.6km az=22.2*
JMA ***27*** *03:56:54.3, 36.˚86N× 140.˚66E, h7km, M4.0 Broadband fault plane solution: P waves. NP1:ϕ=197.00000°, δ47.00000°, λ=-79.00000°. NP2:ϕ=2.00000°, δ44.00000°, λ=-101.00000°. Principal axes: T Plg2.0000°, Azm280.0000°; N Plg8.0000°, Azm10.0000°; P Plg82.0000°, Azm176.0000°;*
JMA Felt II J1.
ISC 27 03:56:54.5±1.0, 36.˚84N±0.˚03× 140.˚67E±0.˚06, h9km±7km, n23, σ1§33/23, mb3.6/6, 4C, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHO	**Hitachi**	**0.24**	**200**	↑↑P	**Pg**	**03 56 59.6**	**+0.2**
JHO				S	**Sg**	**03 57 03.6**	**+0.9**
ONAJ	**Iwakimizuishiy**	**0.28**	**21**	↑↑P	**Pg**	**03 56 59.8**	**-0.3**
ONAJ				S	**Sg**	**03 57 03.8**	**-0.1**
JFK	**Kawauchi**	**0.55**	**17**	↑↑P	**Pg**	**03 57 04.5**	**-0.6**
JFK				S	**Sg**	**03 57 11.9**	**-0.4**
JSB	**Shiboa**	**0.62**	**282**	↑↑P	**Pb**	**03 57 06.7**	**-0.7**
JSB				S	**Sb**	**03 57 15.3**	**-0.9**
JYT	**Yasato**	**0.72**	**212**	P	**Pb**	**03 57 08.2**	**-1.0**
JYT				S	**Sb**	**03 57 18.2**	**-1.0**
JFT	**Otama**	**0.73**	**338**	P	**Pg**	**03 57 08.0**	**-0.5**
JFT				S	**Sg**	**03 57 17.9**	**-0.1**
MJAR	**Matsushiro Arr**	**2.00**	**262**	Pn	**Pn**	**03 57 28.1**	**-0.4**
	35nm,0.3s,baz=80,slow=16,SNR=149						
MJAR				Lg	Lg	03 57 54.9	
	74nm,0.3s,baz=77,slow=30,SNR=19						
MJAR				LR	LR	03 58 20.7	
	comp=Z,266nm,18.2s,baz=85,slow=45						
MAT	**Matsushiro**	**2.00**	**262**	P	**Pb**	**03 57 29.2**	**-1.9**
MAT				S	**Sb**	**03 57 56.1**	**0.0**
USRK	**Ussuriysk Ar.**	**9.88**	**321**	Pn	**Pn**	**03 59 21.3**	**+4.7**
	0.1nm,0.3s,baz=141,slow=12,SNR=6.1						
KSRS	**Korea Array**	**10.20**	**277**	Pn	Pn	03 59 25.4	+4.5
	0.3nm,0.3s,baz=95,slow=14,SNR=11						
KSRS				LR	LR	04 02 59.9	
	comp=Z,80nm,18.9s,baz=90,slow=36						
SONM	**Songino Array**	**27.40**	**304**	P	**P**	**04 02 39.7**	**-0.7**
	0.9nm,0.7s,baz=110,slow=7.8,SNR=2.9						
H11N2	**WAKE ISLAND Hy**	**28.57**	**119**	T	T	04 32 37.3	
	baz=313,slow=75,SNR=718						
H11N1	**WAKE ISLAND Hy**	**28.57**	**120**	T	T	04 32 37.8	
	baz=313,slow=75,SNR=714						
H11N3	**WAKE ISLAND Hy**	**28.58**	**119**	T	T	04 32 38.5	
	baz=313,slow=75,SNR=694						
H11S1	**WAKE ISLAND Hy**	**29.26**	**122**	T	T	04 33 29.9	
	baz=314,slow=76,SNR=505						
H11S3	**WAKE ISLAND Hy**	**29.26**	**122**	T	T	04 33 27.5	
	baz=314,slow=76,SNR=314						
H11S2	**WAKE ISLAND Hy**	**29.27**	**122**	T	T	04 33 29.9	
	baz=314,slow=76,SNR=277						
MKAR	**Makanchi Array**	**43.72**	**302**	P	**P**	**04 04 59.2**	**-0.7**
	0.4nm,0.8s,baz=97,slow=6.2,SNR=2.8						
MKAR				LR	LR	04 23 16.2	
	comp=Z,25nm,18.0s,baz=170,slow=36						
ILAR	**Eielson Array**	**49.97**	**32**	P	**P**	**04 05 49.1**	**+0.6**
	0.4nm,0.8s,baz=256,slow=6.4,SNR=3.3						
WRA	**Warramunga Arr**	**56.79**	**187**	P	**P**	**04 06 37.8**	**-1.2**
	1.7nm,0.7s,baz=6.0,slow=7.5,SNR=14						
ASAR	**Alice Springs**	**60.52**	**187**	P	**P**	**04 07 04.4**	**-0.6**
	0.6nm,0.7s,baz=10,slow=7.7,SNR=7.9						
TXAR	**Lajitas Array**	**90.71**	**52**	P	**P**	**04 09 58.3**	**+0.3**
	0.2nm,0.6s,baz=287,slow=2.3,SNR=5.6						
LPAZ	**La Paz**	**147.30**	**59**	PKPbc	**PKPbc**	**04 16 39.3**	**-0.3**
	0.6nm,0.7s,baz=316,slow=3.2,SNR=3.7						

IDC ***27*** *04:29:36.2±3.2, 48.˚95S× 164.˚91E, h0km, mb3.9/2, mb1 4.1/3, mb1mx3.7/21, mbtmp3.8/3, ML3.5/1, Error ellipse: s-maj=69.8km s-min=32.6km az=157.0*
ISCJB ***27*** *04:29:39.7±1.3, 49.˚2S±0.˚1× 164.˚9E±0.˚2, h49km, mb3.8/2, Error ellipse: s-maj=24.6km s-min=7.8km az=145.4*
ISC 27 04:29:42.0±1.5, 49.˚1S±0.˚2× 164.˚9E±0.˚1, h49km, n25, σ1§35/25, Auckland Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
APZ	**The Paps**	**3.08**	**43**	PN	**Pn**	**04 30 28.2**	**+0.1**
APZ				SN	**Sn**	**04 31 03.3**	**-0.3**
WHZ	**Wether Hill Ro**	**3.82**	**33**	PN	**Pn**	**04 30 37.8**	**-0.5**
WHZ				SN	**Sn**	**04 31 22.7**	**+0.8**
SYZ	**Scrubby Hill**	**3.83**	**49**	PN	**Pn**	**04 30 39.3**	**+0.8**
SYZ				SN	**Sn**	**04 31 23.3**	**+1.1**
MLZ	**Mavora Lakes**	**4.34**	**31**	PN	**Pn**	**04 30 45.6**	**+0.2**
MLZ				SN	**Sn**	**04 31 35.9**	**+1.3**
TUZ	**Tuapeka**	**4.49**	**47**	PN	**Pn**	**04 30 48.0**	**+0.6**
TUZ				SN	**Sn**	**04 31 39.6**	**+1.3**
EAZ	**Earnscleugh**	**4.90**	**39**	PN	**Pn**	**04 30 53.0**	**-0.1**
EAZ				SN	**Sn**	**04 31 50.5**	**+2.0**
WKZ	**Wanaka**	**5.12**	**35**	PN	**Pn**	**04 30 57.1**	**+0.9**
WKZ				SN	**Sn**	**04 31 55.3**	**+1.3**
ODZ	**Otahua Downs**	**5.64**	**46**	*e*PN	**Pn**	**04 31 02.7**	**-0.6**
JCZ	**Jackson Bay**	**5.70**	**29**	PN	**Pn**	**04 31 04.5**	**+0.3**
LBZ	**Lake Benmore**	**5.95**	**39**	*e*PN	**Pn**	**04 31 05.8**	**-1.7**
LBZ				SN	**Sn**	**04 32 12.1**	**-2.3**
FOZ	**Fox Glacier**	**6.53**	**33**	PN	**Pn**	**04 31 15.5**	**+0.1**
RPZ	**Rata Peaks**	**6.86**	**40**	Pn	**Pn**	**04 31 16.6**	**-3.4**
	1.0nm,0.3s,baz=204,slow=7.3,SNR=5.2						
RPZ				Sn	**Sn**	**04 32 35.0**	**-1.7**
	2.0nm,0.3s,baz=213,slow=23,SNR=5.5						
ASAR	**Alice Springs**	**35.20**	**305**	P	**P**	**04 36 31.4**	**-0.1**
	1.3nm,0.9s,baz=141,slow=8.1,SNR=10						
WRA	**Warramunga Arr**	**38.03**	**309**	P	**P**	**04 36 54.6**	**-0.9**
	1.9nm,0.9s,baz=140,slow=8.3,SNR=8.7						
H01W1	**Cape Leeuwin H**	**39.57**	**272**	T	T	05 18 48.9	
	baz=127,slow=76,SNR=49						
H01W2	**Cape Leeuwin H**	**39.58**	**272**	T	T	05 18 49.7	
	baz=127,slow=76,SNR=55						
H01W3	**Cape Leeuwin H**	**39.59**	**272**	T	T	05 18 50.2	
	baz=127,slow=76,SNR=53						
H08S2	**Diego Garcia H**	**85.87**	**263**	T	T	06 16 31.4	
	baz=139,slow=76,SNR=39						
H08S1	**Diego Garcia H**	**85.89**	**263**	T	T	06 16 28.0	
	baz=139,slow=76,SNR=46						
H08S3	**Diego Garcia H**	**85.89**	**263**	T	T	06 16 32.0	
	baz=139,slow=76,SNR=45						
H08N1	**Diego Garcia H**	**87.81**	**263**	T	T	06 19 21.8	
	baz=144,slow=75,SNR=4.0						
H08N3	**Diego Garcia H**	**87.83**	**263**	T	T	06 19 17.0	
	baz=144,slow=75,SNR=8.9						
H08N2	**Diego Garcia H**	**87.84**	**263**	T	T	06 19 20.5	
	baz=144,slow=75,SNR=4.2						
TORD	**Torodi Ar. Bea**	**141.55**	**207**	PKP	**PKPdf**	**04 49 07.5**	**-0.3**
	0.6nm,0.8s,baz=163,slow=2.7,SNR=2.0						
BRTR	**Keskin Array B**	**144.51**	**273**	PKP	**PK

comp=Z,0.1nm,0.4s,baz=168,slow=1.6,SNR=6.0

*ISCJB **27** 05:48:38.7±0.5, 10°.97S±0°.09×166°.34E±0°.09, h146km, mb4.2/16, Error ellipse: s-maj=13.4km s-min=11.2km az=37.9*

*IDC **27** 05:48:41.1±4.7, 11°.08S×166°.49E, h159km±43km, mb3.8/12, mb1 4.0/13, mb1mx3.9/28, mbtmp4.2/13, MS3.0/1, Ms1 3.0/1, ms1mx2.6/22, Error ellipse: s-maj=28.2km s-min=20.4km az=149.0*

*NEIC **27** 05:48:44.1±2.8, 11°.21S×166°.49E, h189km±29km, mb4.7/5, Error ellipse: s-maj=25.6km s-min=8.7km az=163.0*

ISC 27 05:48:39.9±0.6, **11°.05S**±0°.1×**166°.5E**±0°.1, **h146**km, **n30, σ1s23/29, mb4.2**/16, **Santa Cruz Islands**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**11.05**	**180**	P			**Pn**	**05 51 13.7**	**-0.3**
	0.5nm,0.3s,baz=36,slow=20,SNR=9.4								
DZM				LR			LR	05 55 09.8	
	comp=Z,75nm,18.3s,baz=242,slow=36								
MSVF	**Nonsavu**	**13.08**	**122**	*e*Pn			**Pn**	**05 51 41.3**	**+0.8**
	49nm,1.3s								
CTA	**Charters Tower**	**21.47**	**243**	P			**P**	**05 53 17.6**	**+0.5**
	1.2nm,0.3s,baz=75,slow=11,SNR=3.9								
CTAO	**Charters Tower**	**21.47**	**243**	P			**P**	**05 53 17.0**	**-0.1**
H11S2	**WAKE ISLAND Hy**	**29.27**	**0**	T			T	06 25 35.7	
	baz=188,slow=74,SNR=3.9								
H11S3	**WAKE ISLAND Hy**	**29.27**	**0**	T			T	06 25 38.2	
	baz=188,slow=74,SNR=4.5								
H11S1	**WAKE ISLAND Hy**	**29.28**	**0**	T			T	06 25 36.6	
	baz=188								
H11N1	**WAKE ISLAND Hy**	**30.48**	**1**	T			T	06 27 02.6	
	baz=183,slow=74,SNR=4.6								
H11N3	**WAKE ISLAND Hy**	**30.49**	**1**	T			T	06 27 14.6	
	baz=183,slow=74,SNR=3.3								
H11N2	**WAKE ISLAND Hy**	**30.50**	**1**	T			T	06 27 03.5	
	baz=183								
STKA	**Stephens Creek**	**30.99**	**224**	P			**P**	**05 54 43.5**	**-0.2**
	2.0nm,0.7s,baz=74,slow=13,SNR=4.0								
WRAB	**Tennant Creek**	**32.17**	**250**	*e*P			**P**	**05 54 53.2**	**-1.0**
WRA	**Warramunga Arr**	**32.18**	**250**	P			**P**	**05 54 53.4**	**-0.9**
	3.2nm,0.9s,baz=82,slow=8.8,SNR=20								
WRA				pP			**pP**	**05 55 29.2**	**+3.8**
	2.9nm,1.1s,baz=82,slow=7.7,SNR=3.7								
WRA				PcP			**PcP**	**05 57 39.0**	**-0.8**
	1.1nm,0.9s,baz=77,slow=3.0,SNR=5.6								
ASAR	**Alice Springs**	**33.47**	**244**	P			**P**	**05 55 03.9**	**-1.5**
	0.6nm,0.8s,baz=70,slow=9.4,SNR=5.8								
ASAR				pP			**pP**	**05 55 38.8**	**+2.1**
	1.8nm,0.9s,baz=73,slow=8.9,SNR=8.7								
ASAR				PcP			**PcP**	**05 57 42.5**	**-0.9**
	1.3nm,0.9s,baz=83,slow=3.2,SNR=7.4								
USRK	**Ussuriysk Ar.**	**63.19**	**333**	P			**P**	**05 58 52.3**	**-0.2**
	2.2nm,0.8s,baz=94,slow=5.7,SNR=7.4								
CMAR	**Chiang Mai Arr**	**72.73**	**293**	P			**P**	**05 59 54.1**	**+1.4**
	3.2nm,0.7s,baz=119,slow=4.1,SNR=16								
SONM	**Songino Array**	**79.02**	**324**	P			**P**	**06 00 28.8**	**+0.9**
	2.0nm,0.8s,baz=145,slow=6.7,SNR=10								
MCK	**McKinley**	**81.84**	**18**	*e*P			**P**	**06 00 42.6**	**+0.1**
	9.0nm,1.0s								
COLA	**College**	**82.99**	**18**	*e*P			**P**	**06 00 48.6**	**+0.3**
	9.7nm,0.8s								
ILAR	**Eielson Array**	**83.21**	**18**	P			**P**	**06 00 49.8**	**+0.3**
	2.8nm,0.7s,baz=230,slow=6.3,SNR=25								
DOT	**Dot Lake**	**83.35**	**20**	*e*P			**P**	**06 00 51.0**	**+0.7**
	48nm,1.0s								
EGAK	**Eagle**	**85.05**	**20**	*e*P			**P**	**06 00 59.7**	**+0.9**
	12nm,0.9s								
PDAR	**Pinedale Array**	**92.97**	**47**	P			**P**	**06 01 36.4**	**-0.7**
	0.7nm,0.8s,baz=151,slow=3.4,SNR=5.8								
ZALV	**Zalesovo Beam**	**93.90**	**324**	P			**P**	**06 01 39.4**	**-1.4**
	1.1nm,0.3s,baz=95,slow=3.6,SNR=3.7								
MKAR	**Makanchi Array**	**93.95**	**317**	P			**P**	**06 01 40.8**	**-0.4**
	4.2nm,0.8s,baz=108,slow=6.5,SNR=24								
TXAR	**Lajitas Array**	**95.16**	**61**	P			**P**	**06 01 48.1**	**+0.8**
	0.4nm,0.8s,baz=224,slow=7.0,SNR=4.1								
GERES	**GERESS Array B**	**135.94**	**334**	PKP			**PKPdf**	**06 07 43.7**	**0.0**
	0.2nm,0.3s,baz=86,slow=5.9,SNR=3.5								
KEST	**Kesra**	**147.78**	**324**	PKPbc			**PKPbc**	**06 08 07.6**	**-0.5**
	8.4nm,1.0s,baz=344,slow=2.6,SNR=4.9								
ESDC	**Sonseca Array**	**150.17**	**345**	PKPbc			**PKPbc**	**06 08 13.8**	**-0.2**
	0.2nm,0.3s,baz=15,slow=2.5,SNR=5.7								
TORD	**Torodi Ar. Bea**	**164.95**	**280**	PKP			**PKPdf**	**06 08 25.3**	**-2.3**
	0.7nm,1.0s,baz=96,slow=3.0,SNR=3.9								
TORD				PKPab			**PKPab**	**06 09 24.0**	**-0.9**
	0.8nm,0.9s,baz=150,slow=1.6,SNR=3.6								

*ISK **27** 06:09:14.7, 37°.02N×35°.59E, h18km, ML2.1*

*ISCJB **27** 06:09:15.6±0.4, 36°.99N±0°.04×35°.60E±0°.03, h19km±6km, Error ellipse: s-maj=6.8km s-min=3.9km az=155.3*

*CSEM **27** 06:09:15.5±0.2, 36°.99N×35°.60E, h15km, ML2.1, Error ellipse: s-maj=6.1km s-min=4.3km az=146.0*

*DDA **27** 06:09:15.0, 37°.03N×35°.56E, h7km, Md2.7*

ISC 27 06:09:15.1±0.9, **37°.05N**±0°.03×**35°.58E**±0°.02, **h16**km±7km, **n27, σ0s84/42, Turkey**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
CEYT	**Ceyhan**	**0.14**	**105**	*e*PG			**Pg**	**06 09 18.8**	**-0.1**
CEYT				*e*SG			**Sb**	**06 09 22.1**	**0.0**
CEYT	**Ceyhan**	**0.14**	**105**	*e*Pg			**Pg**	**06 09 18.8**	**-0.1**
CEYT				*e*Sg			**Sb**	**06 09 22.1**	**0.0**
YURE	**YUREGIR**	**0.22**	**170**	*i* P			**Pg**	**06 09 19.9**	**-0.3**
YURE				*i* S			**Sb**	**06 09 24.1**	**-0.6**
YURE	**YUREGIR**	**0.22**	**170**	P			**Pg**	**06 09 19.9**	**-0.3**
YURE				S			**Sb**	**06 09 24.1**	**-0.6**
AKO	**Adana**	**0.43**	**345**	*i* P			**Pg**	**06 09 19.9**	**-3.8**
KRTD	**Karatas-Adana**	**0.47**	**197**	*e*PG			**Pg**	**06 09 24.1**	**-0.4**
KOZT	**Kozan**	**0.47**	**24**	*e*PG			**Pg**	**06 09 25.1**	**+0.5**
KOZT				*e*SG			**Sb**	**06 09 32.9**	**+1.0**
KOZT	**Kozan**	**0.47**	**24**	*e*Pg			**Pg**	**06 09 25.1**	**+0.5**
KOZT				*e*Sg			**Sb**	**06 09 32.9**	**+1.0**
KRTS	**Karatas**	**0.50**	**199**	*e*PG			**Pb**	**06 09 25.1**	**-0.4**
KRTS	**Karatas**	**0.50**	**199**	*e*Pg			**Pb**	**06 09 25.1**	**-0.4**
DED	**Mersin**	**0.63**	**263**	*i* P			**Pg**	**06 09 26.4**	**-1.1**
DED				*i* S			**Sg**	**06 09 36.2**	**+0.3**
ANDN	**Andirin**	**0.81**	**49**	*i* P			**Pn**	**06 09 32.8**	**+0.8**
ANDN				*i* S			**Sn**	**06 09 44.2**	**+0.5**
ANDN	**Andirin**	**0.81**	**49**	P			**Pn**	**06 09 32.8**	**+0.8**
ANDN				S			**Sn**	**06 09 44.2**	**+0.5**
TAHT	**Tahtakopru-Hat**	**0.83**	**144**	*e*PG			**Pg**	**06 09 30.1**	**-1.0**
TAHT	**Tahtakopru-Hat**	**0.83**	**144**	*e*Pg			**Pg**	**06 09 30.1**	**-1.0**
MERS	**Mersin**	**0.87**	**258**	*e*PG			**Pb**	**06 09 31.9**	**+0.1**
MERS	**Mersin**	**0.87**	**258**	*e*Pg			**Pb**	**06 09 31.9**	**+0.1**
KAMA	**Osmaniye**	**0.88**	**81**	*i* P			**Pb**	**06 09 31.6**	**-0.5**
KAMA				*i* S			**Sg**	**06 09 44.4**	**+0.6**
HCB	**Kahramanmara¯**	**1.10**	**74**	*i* P			**Pb**	**06 09 35.0**	**-0.7**
HCB				*i* S			**Sb**	**06 09 49.1**	**-0.8**
KERG	**Konya-Eregli**	**1.22**	**288**	*i* P			**Pn**	**06 09 38.0**	**+0.3**
KERG				*i* S			**Sg**	**06 09 55.1**	**+0.5**
KERG	**Konya-Eregli**	**1.22**	**288**	P			**Pn**	**06 09 38.0**	**+0.3**
KERG				S			**Sg**	**06 09 55.1**	**+0.5**
KIZK	**Mersin**	**1.29**	**244**	*e*PN			**Pb**	**06 09 38.7**	**-0.2**
KIZK	**Mersin**	**1.29**	**244**	*i* P			**Pg**	**06 09 40.2**	**+0.4**
KIZK				*i* S			**Sn**	**06 09 55.7**	**+0.3**
KIZK	**Mersin**	**1.29**	**244**	P			**Pg**	**06 09 40.2**	**+0.4**
KIZK				S			**Sn**	**06 09 55.7**	**+0.3**
GAZ	**Gaziantep**	**1.31**	**84**	*e*PN			**Pn**	**06 09 38.7**	**-0.1**
GAZ	**Gaziantep**	**1.31**	**84**	*e*Pn			**Pn**	**06 09 38.7**	**-0.1**
SARI	**SarD1z-Kayseri**	**1.51**	**26**	*e*PN			**Pn**	**06 09 41.6**	**-0.1**

IDC 27 06:14:55.5±4.1, **29°.96S×138°.73E, h0km, mb1 2.8**/3, **mb1mx2.8**/28, **mbtmp2.6**/3, **ML2.5**/3, **Error ellipse: s-maj=156.0km s-min=18.6km az=46.0, South Australia**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**3.12**	**128**	Pn			Pn	06 15 44.7	-1.2
	0.3nm,0.3s,baz=308,slow=9.3,SNR=3.5								
STKA				Sn			Sn	06 16 21.6	-2.3
	0.6nm,0.3s,baz=282,slow=17,SNR=3.8								
STKA				Lg			Lg	06 16 35.5	
	1.3nm,0.3s,baz=23,slow=21,SNR=6.6								
ASAR	**Alice Springs**	**7.61**	**324**	Pn			Pn	06 16 47.4	-0.3
	0.1nm,0.3s,baz=149,slow=13,SNR=3.4								
WRA	**Warramunga Arr**	**10.74**	**337**	Pn			Pn	06 17 31.5	+0.9
	0.0nm,0.3s,baz=152,slow=13,SNR=4.9								

*IDC **27** 06:16:09.6±1.1, 38°.38N×22°.16E, h0km, mb3.9/8,*

mb1 3.9/12, mb1mx3.7/43, mbtmp3.8/12, ML3.5/4, MS2.6/2, Ms1 2.6/2, ms1mx2.2/49, Error ellipse: s-maj=18.8km s-min=18.1km az=45.0

*ATH **27** 06:16:09.9, 38°.36N×22°.08E, h12km±1km, ML3.7/6, Error ellipse: s-maj=1.3km s-min=0.6km az=184.0*

*ISCJB **27** 06:16:10.1±0.2, 38°.35N±0°.01×22°.06E±0°.02, h10km±1km, mb3.9/7, Error ellipse: s-maj=2.2km s-min=2.2km az=146.0*

*CSEM **27** 06:16:10.2±0.1, 38°.34N×22°.08E, h5km, ML3.7, Error ellipse: s-maj=2.1km s-min=2.1km az=30.0*

*IASPEI **27** 06:16:10.3±0.8, 38°.37N±0°.02×22°.07E±0°.01, h10km±3km, mb4.0/7, Error ellipse: s-maj=2.3km s-min=1.9km az=153.7, GT5 selection from ISC bulletin GT5 identified by Bond¨jr and McLaughlin (2009) selection criteria Bond¨jr and McLaughlin, A new ground truth data set for seismic studies, Seism. Res. Let., 80, 465-472, 2009*

*THE **27** 06:16:10.4, 38°.35N×22°.08E, h9km, ML3.6/28, Error ellipse: s-maj=0.5km s-min=0.3km az=219.0*

ISC 27 06:16:10.4±0.7, **38°.36N**±0°.01×**22°.08E**±0°.01, **h9**km±3km, **n214, σ1s02**/303, **mb4.0**/7, **6C-10D, Greece**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
TRIZ	**Trizonia**	**0.01**	**343**	P			**Pg**	**06 16 11.6**	**-0.4**
TRIZ				S			**Sg**	**06 16 12.8**	**-0.2**
TRIZ	**Trizonia**	**0.01**	**343**	P			**Pg**	**06 16 11.6**	**-0.4**
TRIZ				S			**Sg**	**06 16 12.8**	**-0.2**
SERG	**Sergoula**	**0.06**	**345**	P			**Pg**	**06 16 12.3**	**-0.1**
SERG				S			**Sg**	**06 16 13.8**	**0.0**
SERG	**Sergoula**	**0.06**	**345**	P			**Pg**	**06 16 12.3**	**-0.1**
SERG				S			**Sg**	**06 16 13.6**	**-0.2**
KALE	**Kalithea**	**0.06**	**57**	P			**Pg**	**06 16 12.2**	**-0.3**
KALE				S			**Sg**	**06 16 14.0**	**0.0**
KALE	**Kalithea**	**0.06**	**57**	P			**Pg**	**06 16 12.2**	**-0.3**
KALE				S			**Sg**	**06 16 13.9**	**0.0**
KALE	**Kalithea**	**0.06**	**57**	P			**Pg**	**06 16 12.6**	**+0.1**
KALE				S			**Sg**	**06 16 13.9**	**0.0**
KALE				AML			AML	06 16 14.7	
KALE				AML			AML	06 16 14.7	
LAKA	**Lakka**	**0.14**	**213**	P			**Pg**	**06 16 13.5**	**0.0**
LAKA				S			**Sg**	**06 16 15.9**	**+0.2**
LAKA	**Lakka**	**0.14**	**213**	P			**Pg**	**06 16 13.7**	**+0.1**
LAKA				S			**Sg**	**06 16 15.9**	**+0.2**
LAKA	**Lakka**	**0.14**	**213**	P			**Pg**	**06 16 13.7**	**+0.1**
LAKA				AML			AML	06 16 16.4	
	comp=E,19509µm,0.3s								
LAKA				S			**Sg**	**06 16 16.4**	**+0.8**
LAKA				AML			AML	06 16 20.4	
	comp=N,17935µm,0.3s								
UPR	**University Cam**	**0.24**	**252**	P			**Pg**	**06 16 15.3**	**0.0**
UPR				S			**Sg**	**06 16 18.6**	**+0.1**
UPR	**University Cam**	**0.24**	**252**	P			**Pg**	**06 16 15.3**	**0.0**
UPR				S			**Sg**	**06 16 18.6**	**+0.1**
UPR	**University Cam**	**0.24**	**252**	P			**Pg**	**06 16 15.6**	**+0.4**
UPR				S			**Sg**	**06 16 16.9**	**-1.6**
KLV	**Kalavryta, Ach**	**0.32**	**169**	P			**Pg**	**06 16 16.2**	**-0.6**
KLV				S			**Sg**	**06 16 20.9**	**-0.1**
KLV	**Kalavryta, Ach**	**0.32**	**169**	P			**Pg**	**06 16 16.3**	**-0.6**
KLV				S			**Sg**	**06 16 21.3**	**+0.3**
KLV	**Kalavryta, Ach**	**0.32**	**169**	P			**Pg**	**06 16 16.2**	**-0.6**
KLV				S			**Sg**	**06 16 21.9**	**+0.8**
DSF	**Desfina**	**0.36**	**81**	P			**Pg**	**06 16 16.9**	**-0.6**
DSF				S			**Sg**	**06 16 22.6**	**+0.3**
DSF	**Desfina**	**0.36**	**81**	P			**Pg**	**06 16 17.0**	**-0.6**
DSF				S			**Sg**	**06 16 22.6**	**+0.3**
DSF	**Desfina**	**0.36**	**81**	P			**Pg**	**06 16 16.9**	**-0.6**
DSF				S			**Sb**	**06 16 23.5**	**-1.3**
DSF				AML			AML	06 16 23.5	
	comp=N,32571µm,0.4s								
DSF				AML			AML	06 16 24.2	
	comp=E,19518µm,0.3s								
DRO	**Drossia**	**0.50**	**215**	P			**Pg**	**06 16 19.6**	**-0.5**
DRO				S			**Sg**	**06 16 27.1**	**+0.5**
DRO	**Drossia**	**0.50**	**215**	P			**Pg**	**06 16 19.9**	**-0.2**
DRO				S			**Sg**	**06 16 27.1**	**+0.5**
DRO	**Drossia**	**0.50**	**215**	P			**Pg**	**06 16 19.9**	**-0.2**
DRO				S			**Sb**	**06 16 27.9**	**-0.8**
PVO	**Paravola**	**0.50**	**301**	P			**Pg**	**06 16 19.8**	**-0.4**
PVO				S			**Sg**	**06 16 27.6**	**+0.8**
PVO	**Paravola**	**0.50**	**301**	P			**Pg**	**06 16 19.8**	**-0.4**
PVO				S			**Sg**	**06 16 25.8**	**-1.0**
PVO	**Paravola**	**0.50**	**301**	P			**Pg**	**06 16 20.1**	**-0.1**
PVO				S			**Sg**	**06 16 25.8**	**-1.0**
PVO				AML			AML	06 16 32.0	
	comp=N,15105µm,0.4s								
PVO				AML			AML	06 16 33.4	
	comp=E,21460µm,0.3s								
THAL	**Thalero**	**0.56**	**125**	P			**Pg**	**06 16 21.2**	**-0.1**
THAL				S			**Sg**	**06 16 29.0**	**+0.3**
THAL	**Thalero**	**0.56**	**125**	P			**Pg**	**06 16 21.2**	**-0.1**
THAL				S			**Sg**	**06 16 29.0**	**+0.3**
THAL	**Thalero**	**0.56**	**125**	P			**Pg**	**06 16 21.6**	**+0.2**
THAL				S			**Sg**	**06 16 29.1**	**+0.4**
RLS	**Riolos of Patr**	**0.57**	**238**	P			**Pg**	**06 16 21.0**	**-0.4**
RLS				S			**Sg**	**06 16 29.1**	**+0.3**
RLS	**Riolos of Patr**	**0.57**	**238**	P			**Pg**	**06 16 21.0**	**-0.4**
RLS				S			**Sg**	**06 16 29.1**	**+0.3**
RLS	**Riolos of Patr**	**0.57**	**238**	P			**Pg**	**06 16 21.1**	**-0.4**
RLS				S			**Sb**	**06 16 30.2**	**-0.5**
RLS				AML			AML	06 16 31.4	
	comp=E,6999µm,0.3s								
RLS				AML			AML	06 16 32.7	
	comp=N,7670µm,0.3s								
AXS	**Araxos**	**0.57**	**254**	P			**Pg**	**06 16 21.1**	**-0.4**
AXS				S			**Sg**	**06 16 29.8**	**+0.7**
AXS	**Araxos**	**0.57**	**254**	P			**Pg**	**06 16 21.4**	**-0.1**
AXS				S			**Sg**	**06 16 29.1**	**0.0**
AXS	**Araxos**	**0.57**	**254**	P			**Pg**	**06 16 21.4**	**-0.1**
AXS				S			**Sg**	**06 16 29.1**	**0.0**
EVR	**Evrytania**	**0.59**	**340**	P			**Pg**	**06 16 21.4**	**-0.5**
EVR				S			**Sb**	**06 16 30.9**	**-0.8**
EVR	**Evrytania**	**0.59**	**340**	P			**Pg**	**06 16 21.5**	**-0.5**
EVR				S			**Sb**	**06 16 30.9**	**-0.8**
EVR	**Evrytania**	**0.59**	**340**	P			**Pg**	**06 16 21.5**	**-0.5**
PROD	**Prodromos**	**0.66**	**98**	P			**Pb**	**06 16 24.3**	**+0.2**
PROD	**Prodromos**	**0.66**	**98**	P			**Pb**	**06 16 24.3**	**+0.2**
AGG	**Agios Georgios**	**0.69**	**17**	P			**Pg**	**06 16 22.7**	**-1.1**
AGG				S			**Sb**	**06 16 33.9**	**-0.5**
AGG	**Agios Georgios**	**0.69**	**17**	P			**Pg**	**06 16 22.7**	**-1.1**
AGG				S			**Sg**	**06 16 33.2**	**+0.3**
AGG	**Agios Georgios**	**0.69**	**17**	P			**Pg**	**06 16 22.2**	**-1.6**
AGG				S			**Sg**	**06 16 33.2**	**+0.3**
AGG				AML			AML	06 16 36.2	
	comp=E,49315µm,0.2s								
AGG				AML			AML	06 16 36.9	
	comp=N,42621µm,0.4s								
LTK	**Loutraki**	**0.78**	**115**	P			**Pg**	**06 16 25.1**	**-0.3**
LTK				S			**Sb**	**06 16 36.1**	**-0.8**
LTK	**Loutraki**	**0.78**	**115**	P			**Pg**	**06 16 25.1**	**-0.3**
LTK				S			**Sb**	**06 16 36.1**	**-0.8**
LTK	**Loutraki**	**0.78**	**115**	P			**Pg**	**06 16 25.4**	**0.0**
LKR	**Lokris**	**0.78**	**68**	P			**Pg**	**06 16 24.3**	**-1.2**
LKR				S			**Sb**	**06 16 36.9**	**0.0**
LKR	**Lokris**	**0.78**	**68**	P			**Pg**	**06 16 24.6**	**-0.9**
LKR				S			**Sb**	**06 16 36.9**	**0.0**
LKR	**Lokris**	**0.78**	**68**	P			**Pg**	**06 16 24.6**	**-0.9**
LOUT	**Loutraki**	**0.80**	**117**	P			**Pg**	**06 16 25.6**	**-0.2**
LOUT				S			**Sb**	**06 16 37.5**	**0.0**
LOUT	**Loutraki**	**0.80**	**117**	P			**Pg**	**06 16 25.6**	**-0.2**
LOUT				S			**Sb**	**06 16 37.5**	**0.0**
VTN	**Vitineika**	**0.83**	**238**	P			**Pb**	**06 16 27.4**	**+0.4**
VTN	**Vitineika**	**0.83**	**238**	P			**Pb**	**06 16 27.4**	**+0.4**
TRIP	**Tripoli**	**0.84**	**169**	P			**Pg**	**06 16 24.9**	**-1.8**
AMT	**Artemida-Makis**	**0.87**	**199**	P			**Pg**	**06 16 26.6**	**-0.7**
AMT				S			**Sb**	**06 16 39.3**	**-0.3**
AMT	**Artemida-Makis**	**0.87**	**199**	P			**Pg**	**06 16 27.0**	**-0.2**
AMT				S			**Sb**	**06 16 39.3**	**-0.3**
AMT	**Artemida-Makis**	**0.87**	**199**	P			**Pg**	**06 16 27.1**	**-0.2**
VIL2	**Platees**	**0.95**	**99**	P			**Pn**	**06 16 29.6**	**-0.4**
VILL	**Villia**	**0.99**	**101**	P			**Pg**	**06 16 29.2**	**-0.3**
VILL				S			**Sn**	**06 16 44.1**	**-0.7**
VILL	**Villia**	**0.99**	**101**	P			**Pg**	**06 16 29.2**	**-0.3**
VILL				S			**Sn**	**06 16 44.1**	**-0.7**
VLX	**Vlachokerasia**	**1.02**	**166**	P			**Pg**	**06 16 28.9**	**-1.1**
VLX				S			**Sb**	**06 16 43.4**	**-0.4**
VLX	**Vlachokerasia**	**1.02**	**166**	P			**Pg**	**06 16 28.9**	**-1.1**
VLX				S			**Sb**	**06 16 43.4**	**-0.4**
VLX	**Vlachokerasia**	**1.02**	**166**	P			**Pg**	**06 16 28.3**	**-1.7**
SMIA	**Simia**	**1.03**	**59**	P			**Pg**	**06 16 29.4**	**-0.8**
SMIA				S			**Sb**	**06 16 44.3**	**+0.2**
SMIA	**Simia**	**1.03**	**59**	P			**Pg**	**06 16 29.6**	**-0.6**
SMIA				S			**Sb**	**06 16 44.3**	**+0.2**
SMIA	**Simia**	**1.03**	**59**	P			**Pg**	**06 16 29.6**	**-0.6**
KFL	**Anninata**	**1.04**	**257**	P			**Pg**	**06 16 29.7**	**-0.8**
KFL	**Anninata**	**1.04**	**257**	P			**Pg**	**06 16 29.7**	**-0.8**
KFL	**Anninata**	**1.04**	**257**	P			**Pg**	**06 16 29.3**	**-1.2**
ITM	**Ithomi**	**1.18**	**186**	P			**Pb**	**06 16 31.5**	**-1.6**
ITM	**Ithomi**	**1.18**	**186**	P			**Pb**	**06 16 31.5**	**-1.6**
ITM	**Ithomi**	**1.18**	**186**	P			**Pb**	**06 16 31.3**	**-1.7**
VLS	**Valsamata**	**1.18**	**262**	P			**Pb**	**06 16 31.5**	**-1.6**
VLS				S			**Sn**	**06 16 49.7**	**+0.2**
VLS	**Valsamata**	**1.18**	**262**	P			**Pb**	**06 16 31.5**	**-1.6**
VLS				S			**Sn**	**06 16 49.7**	**+0.2**
VLS	**Valsamata**	**1.18**	**262**	P			**Pb**	**06 16 30.7**	**-2.4**
LKD2	**Lefkada island**	**1.19**	**292**	P			**Pb**	**06 16 32.4**	**-0.8**
LKD2	**Lefkada island**	**1.19**	**292**	P			**Pb**	**06 16 32.5**	**-0.8**
LKD2	**Lefkada island**	**1.19**	**292**	P			**Pb**	**06 16 32.5**	**-0.8**
THL	**Klokotos Trika**	**1.21**	**358**	P			**Pb**	**06 16 31.2**	**-2.2**
THL	**Klokotos Trika**	**1.21**	**358**	P			**Pg**	**06 16 34.3**	**+0.7**
THL	**Klokotos Trika**	**1.21**	**358**	P			**Pg**	**06 16 34.3**	**+0.7**
FYTO	**Fytoko, Volos**	**1.25**	**32**	P			**Pn**	**06 16 32.8**	**-1.3**
FYTO				S			**Sg**	**06 16 50.4**	**-0.2**
FYTO	**Fytoko, Volos**	**1.25**	**32**	P			**Pg**	**06 16 34.2**	**-0.2**
FYTO				S			**Sg**	**06 16 50.4**	**-0.2**
FYTO	**Fytoko, Volos**	**1.25**	**32**	P			**Pn**	**06 16 34.2**	**-0.2**
NEO	**Neokhori**	**1.30**	**43**	P			**Pn**	**06 16 33.6**	**-1.3**
NEO				S			**Sn**	**06 16 52.7**	**+0.2**
NEO	**Neokhori**	**1.30**	**43**	P			**Pn**	**06 16 34.1**	**-0.8**
NEO				S			**Sn**	**06 16 52.7**	**+0.2**
NEO	**Neokhori**	**1.30**	**43**	P			**Pn**	**06 16 34.1**	**-0.8**
XOR	**Xorichti**	**1.33**	**41**	P			**Pn**	**06 16 34.8**	**-0.5**
XOR				S			**Sg**	**06 16 53.6**	**+0.3**
XOR	**Xorichti**	**1.33**	**41**	P			**Pn**	**06 16 34.8**	**-0.5**
XOR				S			**Sg**	**06 16 53.6**	**+0.3**
XOR	**Xorichti**	**1.33**	**41**	P			**Pn**	**06 16 34.7**	**-0.5**
ATH	**Athens Observa**	**1.35**	**106**	P			**Pn**	**06 16 35.3**	**-0.2**
ATH				S			**Sn**	**06 16 53.3**	**-0.2**
ATH	**Athens Observa**	**1.35**	**106**	P			**Pn**	**06 16 35.3**	**-0.2**
ATH				S			**Sn**	**06 16 53.3**	**-0.2**
ATH	**Athens Observa**	**1.35**	**106**	P			**Pn**	**06 16 35.0**	**-0.5**
SKIA	**Skiathos**	**1.35**	**53**	P			**Pn**	**06 16 35.2**	**-0.4**
SKIA	**Skiathos**	**1.35**	**53**	P			**Pn**	**06 16 35.2**	**-0.4**
SKIA	**Skiathos**	**1.35**	**53**	P			**Pn**	**06 16 35.1**	**-0.5**
ATHU	**Athens Univers**	**1.40**	**106**	P			**Pn**	**06 16 35.4**	**-0.8**
ATHU				S			**Sb**	**06 16 53.6**	**-1.2**
ATHU	**Athens Univers**	**1.40**	**106**	P			**Pn**	**06 16 35.4**	**-0.8**
ATHU				S			**Sb**	**06 16 53.6**	**-1.2**
ATHU	**Athens Univers**	**1.40**	**106**	P			**Pn**	**06 16 34.8**	**-1.4**
PTL	**Penteli**	**1.44**	**102**	P			**Pn**	**06 16 36.1**	**-0.7**
PTL				S			**Sn**	**06 16 55.4**	**-0.5**
PTL	**Penteli**	**1.44**	**102**	P			**Pn**	**06 16 36.1**	**-0.7**
PTL				S			**Sn**	**06 16 55.4**	**-0.5**
**P

DIVS	**Divibare**	**5.95**	**345**	⇑*i*Pn	**Pn**	**06 17 39.9**	**+1.2**
TRUS	**Trudelj**	**5.99**	**348**	⇓*i*Pn	**Pn**	**06 17 41.0**	**+1.7**
TEKS	**Tekeris**	**6.47**	**344**	*i* Pn	**Pn**	**06 17 47.2**	**+1.3**
GZR	**Gura Zlata**	**7.05**	**4**	⇓*i*P	**Pn**	**06 17 56.9**	**+3.0**
VOIR		**7.41**	**16**	⇓*i*P	**Pn**	**06 18 00.9**	**+2.0**
VOIR		**7.41**	**16**	⇓*i*P	**Pn**	**06 18 00.9**	**+2.0**
MLR	**Muntele Rosu**	**7.69**	**21**	Pn	**Pn**	**06 18 03.9**	**+1.2**
	comp=N,0.1nm,0.3s,baz=226,slow=9.0,SNR=7.2						
MLR				LR	LR	06 21 44.3	
	comp=N,24nm,19.6s,baz=204,slow=44						
MLR	**Muntele Rosu**	**7.69**	**21**	⇑P	**Pn**	**06 18 03.8**	**+1.2**
UDBI	**Udbina**	**7.77**	**324**	*e*Pn	**Pn**	**06 18 03.3**	**-0.5**
UDBI				Sn	**Sn**	**06 19 29.9**	**-2.1**
UDBI	**Udbina**	**7.77**	**324**	*e*Pn	**Pn**	**06 18 03.3**	**-0.5**
UDBI				Sn	**Sn**	**06 19 29.8**	**-2.1**
PLOR	**Plostina**	**8.22**	**23**	⇓*i*P	**Pn**	**06 18 12.2**	**+2.3**
PLOR	**Plostina**	**8.22**	**23**	⇓*i*P	**Pn**	**06 18 12.2**	**+2.3**
NVLJ	**Novalja**	**8.22**	**321**	*e*Pn	**Pn**	**06 18 09.1**	**-0.8**
NVLJ				Sn	**Sn**	**06 19 42.0**	**-1.0**
NVLJ	**Novalja**	**8.22**	**321**	*e*Pn	**Pn**	**06 18 09.1**	**-0.8**
NVLJ				Sn	**Sn**	**06 19 41.9**	**-1.0**
VRI	**Vrincioaia**	**8.26**	**23**	⇓*i*P	**Pn**	**06 18 12.5**	**+2.1**
VRI	**Vrincioaia**	**8.26**	**23**	⇓*i*P	**Pn**	**06 18 12.5**	**+2.1**
BRTR	**Keskin Array B**	**9.10**	**78**	Pn	**Pn**	**06 18 24.3**	**+2.2**
	comp=N,0.5nm,0.3s,baz=260,slow=11,SNR=8.5						
KECS	**Kecovo**	**10.19**	**354**	*e*PN	**Pn**	**06 18 41.3**	**+4.5**
GERES	**GERESS Array B**	**12.10**	**333**	Pn	**Pn**	**06 19 05.4**	**+2.3**
	comp=N,0.2nm,0.3s,baz=150,slow=20,SNR=2.5						
GERES				LR	LR	06 24 45.9	
	comp=N,52nm,21.2s,baz=148,slow=43						
CLL	**Collm**	**14.44**	**337**	*e*PP	**P**	**06 19 44.0**	**+2.2**
ESDC	**Sonseca Array**	**20.26**	**282**	P	Pn	06 20 47.5	-0.6
	comp=N,1.6nm,0.5s,baz=76,slow=11,SNR=12						
HFS	**Hagfors**	**22.43**	**349**	P	**P**	**06 21 08.5**	**-0.8**
	comp=N,1.6nm,0.5s,baz=154,slow=17,SNR=7.3						
FINES	**FINESS Array B**	**23.24**	**5**	P	**P**	**06 21 19.6**	**+1.9**
	comp=N,5.6nm,1.0s,baz=204,slow=17,SNR=3.1						
NB2	**NORSAR Subarra**	**23.70**	**347**	P	**P**	**06 21 21.3**	**-1.1**
	comp=N,4.3nm,1.0s,SNR=5.2						
NB2	**NORSAR Subarra**	**23.70**	**347**	P	**P**	**06 21 21.3**	**-1.1**
	comp=Z,4.3nm,1.0s,baz=150,slow=10						
NOA	**NORSAR Array B**	**23.70**	**347**	P	**P**	**06 21 22.4**	**0.0**
	comp=Z,1.2nm,0.7s,baz=153,slow=9.1,SNR=5.0						
EKA	**Eskdalemuir Ar**	**24.00**	**323**	P	**P**	**06 21 25.3**	**+0.1**
	comp=Z,3.0nm,0.7s,baz=122,slow=11,SNR=8.3						
TORD	**Torodi Ar. Bea**	**30.96**	**221**	P	**P**	**06 22 29.0**	**+1.0**
	comp=Z,0.5nm,0.5s,baz=29,slow=8.3,SNR=5.5						
MKAR	**Makanchi Array**	**44.16**	**59**	P	**P**	**06 24 18.8**	**-0.7**
	comp=Z,1.7nm,0.5s,baz=274,slow=7.7,SNR=17						
ZALV	**Zalesovo Beam**	**44.66**	**48**	P	**P**	**06 24 22.3**	**-0.9**
	comp=Z,1.3nm,0.3s,baz=261,slow=9.1,SNR=3.5						

IDC 27 06:20:15.9±3.0, 8.36°S×119.78°E, h218km±32km, mb3.2/3, mb1 3.3/5, mb1mx3.1/38, mbtmp3.8/5, Error ellipse: s-maj=128.5km s-min=16.4km az=54.0, Flores region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**11.24**	**150**	P	**Pn**	06 22 49.5	-1.3
	0.3nm,0.3s,baz=337,slow=12,SNR=14						
FITZ				S		06 24 48.9	-6.1
	0.5nm,0.3s,baz=161,slow=21,SNR=6.7						
WRA	**Warramunga Arr**	**18.20**	**131**	P	P	06 24 12.7	-0.3
	0.5nm,0.3s,baz=304,slow=12,SNR=25						
ASAR	**Alice Springs**	**20.37**	**140**	P	P	06 24 36.4	+0.2
	1.0nm,0.4s,baz=315,slow=9.6,SNR=28						
ASAR				S	S	06 28 12.3	+0.1
	0.7nm,0.9s,baz=315,slow=18,SNR=5.7						
STKA	**Stephens Creek**	**30.97**	**142**	P	P	06 26 14.4	+1.5
	1.6nm,0.4s,baz=306,slow=8.7,SNR=5.0						
MKAR	**Makanchi Array**	**64.24**	**332**	P	P	06 30 27.4	-0.4
	0.3nm,0.5s,baz=150,slow=6.4,SNR=3.6						

DDA 27 06:41:59.9, 40.88N×41.74E, h7km, Md2.4, Suspected Mining explosion., Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DDEM	**Demirkent**	**0.01**	**48**	*i* P	Pg	06 42 01.9	+0.5
DAGI	**Agillar**	**0.23**	**34**	*i* P	Pg	06 42 03.9	-0.7
ARTV	**Artvin**	**0.33**	**25**	*i* P	Pg	06 42 06.3	-0.2
ARTV				*i* S	Sb	06 42 12.8	-1.1

*IDC **27** 06:41:57.8±2.0, 8.94S×123.06E, h0km, mb3.4/1, mb1 3.5/3, mb1mx3.4/29, mbtmp3.3/3, ML3.2/2, Error ellipse: s-maj=217.4km s-min=30.8km az=55.0*
*ISCJB **27** 06:42:07.6±0.8, 9.2S±0.1×123.05E±0.07, h92km, mb3.2/1, Error ellipse: s-maj=17.0km s-min=6.2km az=31.8*
*DJA **27** 06:42:08.8±0.8, 9°S±7°×12°3E±°, h84km±10km, M3.7/7, mb3.9/1, MLv3.6/7*

ISC 27 06:42:07.9±1.1, 9.1S±0.1×123.10E±0.07, h92km, n10, σ1§30/12, Timor region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MMRI	**Maumere**	**0.98**	**300**	P	**Pn**	**06 42 27.6**	**0.0**
MMRI				S	**Sn**	**06 42 42.7**	**+0.4**
BATI	**Baumata**	**1.20**	**152**	P	**Pn**	**06 42 30.6**	**+0.5**
BATI				S	**Sn**	**06 42 47.3**	**+0.4**
SOEI	**Soe**	**1.31**	**118**	P	**Pn**	**06 42 32.3**	**+0.8**
BASI	**Baing, Sumba**	**2.71**	**246**	P	**Pn**	**06 42 49.8**	**+0.2**
KDI	**Kendari**	**5.17**	**355**	P	Pn	06 43 31.7	+8.8
PLAI	**Plampang**	**5.26**	**273**	P	**Pn**	**06 43 24.6**	**+0.4**
PLAI				S	**Sn**	**06 44 23.3**	**-0.3**
TWSI	**Taliwang, Sumb**	**6.15**	**273**	P	**Pn**	**06 43 37.1**	**+0.8**
WRA	**Warramunga Arr**	**15.28**	**136**	Pn	**Pn**	**06 45 35.2**	**-3.4**
	0.1nm,0.3s,baz=313,slow=12,SNR=7.6						
WRA				Sn	Sn	06 48 12.7	-15
	0.6nm,0.3s,baz=316,slow=24,SNR=14						
ASAR	**Alice Springs**	**17.77**	**146**	P	**Pn**	**06 46 10.4**	**+1.0**
	0.1nm,0.3s,baz=326,slow=14,SNR=7.3						
ASAR				S	Sn	06 49 11.4	-16
	0.3nm,0.3s,baz=320,slow=24,SNR=9.7						
MKAR	**Makanchi Array**	**66.49**	**331**	P	**P**	**06 52 48.0**	**+0.3**
	0.3nm,0.7s,baz=145,slow=5.3,SNR=2.9						

*IDC **27** 06:46:11.4±0.4, 50.08N×178.76E, h0km, mb5.0/29, mb1 5.1/32, mb1mx5.1/41, mbtmp5.0/32, ML5.1/3, MS3.9/39, Ms1 3.9/39, ms1mx3.9/48, Error ellipse: s-maj=13.3km s-min=11.3km az=149.0*
*MOS **27** 06:46:12.6±1.0, 50.11N×178.70E, h15km, mb5.4/127, MS4.0/29, Error ellipse: s-maj=6.2km s-min=4.3km az=93.8*
*ISCJB **27** 06:46:12.9±0.8, 50.14N±0.03×178.76E±0.02, h17km±5km, mb5.1/356, MS4.1/52, Error ellipse: s-maj=4.6km s-min=2.1km az=178.8*
*BJI **27** 06:46:14.4, 50.22N×178.60E, h31km, mb5.2/71, mB5.2/53, Ms4.9/43, Ms7 4.6/11*
*NEIC **27** 06:46:17.0±0.0, 50.28N×178.76E, h35km, mb5.2/256, ML4.6(AEIC), After AEIC.*
*GCMT **27** 06:46:17.0±0.2, 50.15N×178.58E, h12km, MW5.1/124, Moment Tensor Solution. s74,c101; s124,c206; Duration: 0 Moment tensor: Scale 10^16 Nm; Mrr=5.64±.10; Mθθ=5.36±.10; Mϕϕ=0.28±.09; Mrθ=1.02±.29; Mϕθ=-2.19±.09; Mϕr=1.16±.32; Best double couple: M=6.12100×10^16 NP1:ϕ=276.00000°, δ=49.00000°, λ=-109.00000°. NP2: ϕ=125.00000°, δ=44.00000°, λ=-69.00000°. Principal axes: T 6.2000, Plg3.0000°, Azm20.0000°; N -0.1570, Plg15.0000°, Azm289.0000°; P -6.0430, Plg75.0000°, Azm120.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

ISC 27 06:46:15.4±0.6, 50.11N±0.05×178.85E±0.03, h24km±3km, n1209, σ1§32/1280, mb5.2/358, MS4.1/54, 28C-26D, Rat Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GALAA	**Gareloi Lava P**	**2.23**	**41**	P	**Pn**	**06 46 52.0**	**+1.1**
GAEA	**Gareloi East**	**2.26**	**41**	P	**Pn**	**06 46 52.1**	**+0.8**
TAFL	**Tanaga Flats**	**2.63**	**50**	P	**Pn**	**06 46 57.3**	**+0.9**
TAFP	**Tanaga Falls P**	**2.69**	**47**	P	**Pn**	**06 46 58.1**	**+0.9**
TAFP				S	**Sn**	**06 47 29.1**	**+0.3**
TAPA	**Tanaga Point A**	**2.71**	**50**	P	**Pn**	**06 46 58.7**	**+1.1**
KIKV	**Kanaga Island**	**3.07**	**53**	P	**Pn**	**06 47 03.5**	**+1.0**
KICM	**Kanaga Island**	**3.08**	**53**	P	**Pn**	**06 47 04.0**	**+1.5**
KIRH	**Kanaga Island**	**3.12**	**53**	P	**Pn**	**06 47 04.3**	**+1.1**
ADK	**Adak**	**3.33**	**56**	P	**Pn**	**06 47 06.5**	**+0.5**
ADK				S	**Sn**	**06 47 44.5**	**-0.3**
ADK	**Adak**	**3.33**	**56**	*e*Pn	**Pn**	**06 47 06.8**	**+0.9**
ADAG	**Mount Adagdak**	**3.43**	**55**	P	**Pn**	**06 47 08.8**	**+1.6**
ETKA	**Kagalaska Isla**	**3.47**	**58**	P	**Pn**	**06 47 08.8**	**+0.8**
GSCK	**Great Sitkin C**	**3.68**	**57**	P	**Pn**	**06 47 12.1**	**+1.3**
GSTD	**Great Sitkin T**	**3.71**	**56**	P	**Pn**	**06 47 12.2**	**+1.0**
GSTD				S	**Sn**	**06 47 54.1**	**-0.1**
GSTR	**Great Sitkin T**	**3.77**	**56**	*e*Pn	**Pn**	**06 47 13.6**	**+1.5**
SMY	**Shemya**	**3.97**	**313**	*e*P	**Pn**	**06 47 13.6**	**-1.1**
SMY	**Shemya**	**3.97**	**313**	*e*Pn	**Pn**	**06 47 13.6**	**-1.1**
ATKA	**Atka Island**	**4.85**	**62**	*e*Pn	**Pn**	**06 47 27.3**	**+0.5**
KOKL	**Mount Kliuchef**	**4.90**	**60**	P	**Pn**	**06 47 29.6**	**+2.0**
KOFP	**Korovin Flat P**	**4.94**	**61**	P	**Pn**	**06 47 30.1**	**+2.1**
KOSE	**Korovin Southe**	**4.99**	**61**	P	**Pn**	**06 47 30.9**	**+2.1**
NIKH	**Nikolski High**	**8.18**	**65**	*e*Pn	**Pn**	**06 48 13.8**	**+1.2**
OKSO	**Okmok South**	**8.69**	**63**	P	**Pn**	**06 48 21.0**	**+1.5**
OKTU	**Okmok Mt. Tuli**	**8.77**	**63**	P	**Pn**	**06 48 22.5**	**+1.9**
OKFG	**Magazine Ridge**	**8.85**	**63**	P	**Pn**	**06 48 23.0**	**+1.3**
OKFG				S	**Sn**	**06 50 01.1**	**+0.6**
SPIA	**Saint Paul Isl**	**9.58**	**38**	*e*Pn	**Pn**	**06 48 33.7**	**+2.0**
MSW	**Makushin Switc**	**9.64**	**61**	P	**Pn**	**06 48 33.3**	**+0.8**
UNV	**Unalaska Valle**	**9.78**	**62**	*e*Pn	**Pn**	**06 48 35.2**	**+0.8**
AKUT	**Akutan**	**10.28**	**61**	*e*Pn	**Pn**	**06 48 42.5**	**+1.3**
PET	**Petropavlovsk**	**12.89**	**291**	*e*P	**Pn**	**06 49 15.1**	**-1.9**
PET				pmax	pmax		
	comp=Z,68nm,1.2s						
PET				pmax	pmax		
	comp=Z,100nm,12.7s						
PET				MLR	MLR		
	comp=Z,600nm,14.0s						
PET				MLR	MLR		
	comp=Z,1μm,13.0s						
PEA0	**Petropavlovsk-**	**13.47**	**291**	*e*Pn	**Pn**	**06 49 24.0**	**-0.9**
PEA0B	**Petropavlovsk-**	**13.47**	**291**	*e*Pn	**Pn**	**06 49 25.5**	**+0.6**
PETK	**Petropavlovsk-**	**13.47**	**291**	Pn	**Pn**	**06 49 23.2**	**-1.7**
	comp=Z,5.6nm,0.3s,baz=102,slow=18,SNR=28						
PETK				Sn	Sn	06 51 40.0	-14
	comp=Z,0.9nm,0.3s,baz=94,slow=13,SNR=4.4						
PETK				LR	LR	06 55 55.1	
	comp=Z,145nm,18.2s,baz=92,slow=44						
SDPT	**Sand Point**	**13.56**	**59**	*e*Pn	**Pn**	**06 49 24.3**	**-1.7**
SKR	**Severo-Kuril's**	**14.51**	**281**	*e*P	**Pn**	**06 49 37.5**	**-1.5**
SKR				*e*S	**Sn**	**06 52 26.5**	**+7.7**
SKR				pmax	pmax		
	comp=Z,500nm,6.0s						
SKR				MLR	MLR		
	comp=Z,300nm,14.0s						
SKR				MLR	MLR		
	comp=Z,700nm,14.0s						
GAMB	**Gambell**	**14.61**	**17**	*e*Pn	**Pn**	**06 49 40.6**	**+0.3**
CHGN	**Chignik**	**14.93**	**57**	*e*Pn	**Pn**	**06 49 42.3**	**-2.3**
OHAK	**Old Harbor**	**17.88**	**56**	*e*Pn	**Pn**	**06 50 18.4**	**-3.8**
	comp=Z,64nm,0.6s						
OHAK				*e*Sn	**Sn**	**06 53 34.8**	**-5.9**
SVW2	**Sparrevohn**	**18.02**	**43**	*e*Pn	**Pn**	**06 50 23.9**	**-0.1**
	comp=Z,47nm,1.0s						
KDAK	**Kodiak Island**	**18.37**	**54**	P	**P**	**06 50 24.0**	**-4.1**
	comp=Z,2.8nm,0.3s,baz=237,slow=4.3,SNR=48						
KDAK				S	**Sn**	**06 53 43.4**	**-9.1**
	comp=Z,1.3nm,0.3s,baz=108,slow=20,SNR=11						
KDAK	**Kodiak Island**	**18.37**	**54**	*e*P	**P**	**06 50 24.4**	**-3.8**
KDAK				*e*		06 53 48.5	
KDAK				pmax	pmax		
	comp=Z,44nm,0.9s						
KDAK	**Kodiak Island**	**18.37**	**54**	*e*P	**P**	**06 50 24.4**	**-3.8**
	comp=Z,44nm,0.9s						
KDAK				S	**Sn**	**06 53 43.4**	**-9.1**
KDAK				*e*Sn	**S**	**06 53 48.5**	**-8.0**
MA2	**Magadan**	**18.61**	**311**	P	**Pn**	**06 50 31.3**	**+0.2**
	comp=Z,2.1nm,0.3s,baz=108,slow=12,SNR=6.2						
MA2				LR	LR	06 57 53.2	
	comp=Z,322nm,18.4s,baz=113,slow=38						
TT01	**Tatalina**	**18.71**	**37**	*e*P	**Pn**	**06 50 33.4**	**+1.0**
TTA	**Tatalina**	**18.73**	**37**	*e*P	**P**	**06 50 32.4**	**+0.3**
TTA				pmax	pmax		
	comp=Z,48nm,1.0s						
TTA	**Tatalina**	**18.73**	**37**	*e*P	**P**	**06 50 32.4**	**+0.3**
	comp=Z,48nm,1.0s						
BILL	**Bilibino**	**19.03**	**345**	*d* iP	**P**	**06 50 35.8**	**+0.4**
BILL				pmax	pmax		
	comp=Z,113nm,1.0s						
BILL				MLR	MLR		
	comp=Z,774nm,16.0s						
RSO	**Redoubt South**	**19.04**	**46**	*e*P	**Pn**	**06 50 37.0**	**+0.4**
SEY	**Seymchan**	**19.26**	**322**	P	**P**	**06 50 37.5**	**-0.4**
	comp=Z,3.0nm,0.3s,baz=124,slow=10,SNR=48						
HOM	**Homer**	**19.32**	**49**	*e*P	**Pn**	**06 50 39.5**	**-0.1**
	comp=Z,106nm,0.8s						
CNPM	**China Poot**	**19.48**	**50**	*e*P	**Pn**	**06 50 41.7**	**+0.1**
	comp=Z,76nm,1.2s						
SPU	**Mount Spurr**	**19.62**	**45**	*e*P	**P**	**06 50 41.6**	**-0.3**
SPU				*e*S	**Sn**	**06 54 25.8**	**+3.1**
BRLK	**Bradley Lake**	**19.72**	**49**	*e*P	**P**	**06 50 43.4**	**+0.5**
	comp=Z,26nm,0.7s						
PPLA	**Purkeypile**	**20.25**	**40**	*e*P	**P**	**06 50 49.4**	**+0.5**
	comp=Z,145nm,1.1s						
SUA	**Susitna One**	**20.31**	**44**	*e*P	**P**	**06 50 49.5**	**+0.1**
	comp=Z,46nm,0.8s						
SUA				*e*S	Sn	06 54 39.0	-0.4
SEW	**Seward**	**20.50**	**49**	*e*P	Pn	06 50 52.8	-0.8
	comp=Z,50nm,0.9s						
CAST	**Castle Rocks**	**20.52**	**39**	*e*P	**P**	**06 50 52.2**	**+0.5**
	comp=Z,81nm,0.8s						
RC01	**Rabbit Creek A**	**20.65**	**46**	*e*P	**P**	**06 50 53.2**	**+0.2**
	comp=Z,26nm,0.9s						
RC01				*e*S	Sn	06 54 47.3	0.0
KTH	**Kantishna Hill**	**21.05**	**39**	*e*P	**P**	**06 50 57.3**	**-0.1**
	comp=Z,145nm,0.9s						
KTH				*e*S	**S**	**06 54 51.9**	**+1.5**
PMR	**Palmer**	**21.08**	**45**	*e*P	**P**	**06 50 55.9**	**-1.7**
PMR				*e*S	**S**	**06 54 54.0**	**+3.2**
PMR				pmax	pmax		
	comp=Z,23nm,0.8s						
PMR	**Palmer**	**21.08**	**45**	*e*P	**P**	**06 50 55.9**	**-1.7**
	comp=Z,23nm,0.8s						
PMR				*e*S	**S**	**06 54 54.0**	**+3.2**
TRF	**Thorofare Moun**	**21.27**	**39**	*e*P	**P**	**06 50 59.4**	**-0.4**
	comp=Z,54nm,0.9s						
KUR	**Kuril'sk**	**21.34**	**269**	*d* iP	**P**	**06 51 00.0**	**-0.5**
KUR				*e*		06 51 17.7	
KUR				*e*S	Sn	06 55 00.8	-3.3
KUR				pmax	pmax		
	comp=Z,627nm,3.3s						
KUR				pmax	pmax		
	comp=Z,293nm,1.1s						
SML	**Sawmill**	**21.51**	**45**	*e*P	**P**	**06 51 01.4**	**-0.9**
SML				*e*S	**S**	**06 55 02.2**	**+2.7**
SML				pmax	pmax		
	comp=Z,67nm,0.9s						
SML	**Sawmill**	**21.51**	**45**	*e*P	**P**	**06 51 01.4**	**-0.9**
	comp=Z,67nm,0.9s						
SML				*e*S	**S**	**06 55 02.1**	**+2.7**
GLI	**Glacier Island**	**21.83**	**47**	*e*P	**P**	**06 51 03.6**	**-2.1**
	comp=Z,33nm,0.7s						
RND	**Reindeer**	**21.84**	**40**	*e*P	**P**	**06 51 04.9**	**-0.9**
RND				*e*S	**S**	**06 55 05.1**	**-0.8**
RND				pmax	pmax		
	comp=Z,43nm,0.9s						
RND	**Reindeer**	**21.84**	**40**	*e*P	**P**	**06 51 04.9**	**-0.9**
	comp=Z,43nm,0.9s						
RND				*e*S	**S**	**06 55 05.1**	**-0.8**
MCK	**McKinley**	**21.93**	**39**	*e*P	**P**	**06 51 06.4**	**-0.4**
MCK				*e*S	**S**	**06 55 08.9**	**+1.3**
MCK				pmax	pmax		
	comp=Z,45nm,1.0s						
MCK	**McKinley**	**21.93**	**39**	*e*P	**P**	**06 51 06.4**	**-0.4**
	comp=Z,45nm,1.0s						
MCK				*e*S	**S**	**06 55 08.9**	**+1.3**
SCM	**Sheep Creek Mo**	**21.98**	**45**	*e*P	**P**	**06 51 06.0**	**-1.3**
SCM				*e*S	**S**	**06 55 07.6**	**-0.9**
SCM				pmax	pmax		
	comp=Z,76nm,1.0s						
SCM	**Sheep Creek Mo**	**21.98**	**45**	*e*P	**P**	**06 51 06.0**	**-1.3**
	comp=Z,76nm,1.0s						
SCM				*e*S	**S**	**06 55 07.6**	**-0.9**
FID	**Port Fidalgo**	**22.09**	**48**	*e*P	**P**	**06 51 06.5**	**-2.0**
	comp=Z,40nm,0.9s						
FID				*e*S	**S**	**06 55 09.0**	**-1.6**
DHY	**Denali Highway**	**22.35**	**42**	*e*P	**P**	**06 51 10.1**	**-1.3**
	comp=Z,114nm,0.9s						
DHY				*e*S	**S**	**06 55 11.8**	**-3.8**
EYAK	**Cordova Ski Ar**	**22.40**	**49**	*e*P	**P**	**06 51 11.9**	**+0.2**
	comp=Z,50nm,1.0s						
DIV	**Divide**	**22.52**	**47**	*e*P	**P**	**06 51 11.8**	**-1.3**
	comp=Z,47nm,1.0s						
DIV				*e*S	**S**	**06 55 19.6**	**+1.0**
KLU	**Klutina**	**22.53**	**46**	*e*P	**P**	**06 51 12.5**	**-0.8**
	comp=Z,36nm,0.9s						
KLU				*e*S	**S**	**06 55 18.7**	**-0.2**
WRH	**Wood River Hil**	**22.57**	**38**	*e*P	**P**	**06 51 11.4**	**-2.2**
	comp=Z,21nm,0.8s						
MDM	**Murphy Dome**	**22.72**	**37**	*e*P	**P**	**06 51 13.8**	**-1.4**
	comp=Z,51nm,0.9s						
CCB	**Clear Creek Bu**	**22.75**	**38**	*e*P	**P**	**06 51 13.1**	**-2.4**
	comp=Z,28nm,1.0s						
COLA	**College**	**22.83**	**37**	*e*P	**P**	**06 51 15.8**	**-0.4**
COLA				pmax	pmax		
	comp=Z,33nm,0.8s						
COLA	**College**	**22.83**	**37**	*e*P	**P**	**06 51 15.8**	**-0.4**
	comp=Z,33nm,0.8s						
RAGM	**Ragged Mountai**	**22.89**	**49**	*e*P	**P**	**06 51 18.5**	**+1.5**
	comp=Z,56nm,1.0s						
HDA	**Harding Lake**	**23.00**	**39**	*e*P	**P**	**06 51 16.7**	**-1.4**
	comp=Z,26nm,0.9s						
BMRM	**Bremner River**	**23.04**	**48**	*e*P	**P**	**06 51 18.0**	**-0.6**
	comp=Z,137nm,1.1s						
COLD	**Coldfoot**	**23.11**	**31**	*e*P	**P**	**06 51 18.2**	**-0.9**
	comp=Z,27nm,1.0s						
HARP	**HAARP**	**23.12**	**44**	*e*P	**P**	**06 51 19.0**	**-0.4**
	comp=Z,135nm,1.2s						
PAX	**Paxson**	**23.14**	**43**	*e*P	**P**	**06 51 18.5**	**-1.1**
PAX				*e*S	**S**	**06 55 28.4**	**-1.0**
PAX				pmax	pmax		
	comp=Z,31nm,0.8s						
PAX	**Paxson**	**23.14**	**43**	*e*P	**P**	**06 51 18.5**	**-1.1**
	comp=Z,31nm,0.8s						
PAX				*e*S	**S**	**06 55 28.4**	**-1.0**
YUK	**Yuzh-Kuril'sk**	**23.15**	**268**	*i* P	**P**	**06 51 17.5**	**-2.2**
YUK				*i*		06 51 44.6	
YUK				*i* PPP	PPP	06 51 53.6	
YUK				*e*S	**S**	**06 55 33.7**	**+4.1**
YUK				*e*SS	**SnSn**	**06 56 06.0**	**+2.7**
YUK				*e*SSS	SSS	06 56 18.9	
YUK				pmax	pmax		
	comp=Z,783nm,2.2s						
YUK				pmax	pmax		
	comp=Z,506nm,1.3s						
YUK				pmax	pmax		
	comp=E,22nm,0.9s						
YUK				pmax	pmax		
	comp=N,193nm,1.3s						
IL1	**Eielson Array**	**23.16**	**38**	*e*P	**P**	**06 51 17.9**	**-1.9**
IL1				*e*PcP	**PcP**	**06 55 06.4**	**-0.8**
ILAR	**Eielson Array**	**23.16**	**38**	P	**P**	**06 51 16.4**	**-3.3**
	comp=N,4.8nm,0.7s,baz=240,slow=7.8,SNR=32						
ILAR				PcP	**PcP**	**06 55 06.8**	**-0.5**
	comp=N,1.4nm,0.7s,baz=269,slow=3.2,SNR=4.6						
ILB	**Eielson Array**	**23.16**	**38**	*e*P	**P**	**06 51 18.0**	**-1.8**
DOT	**Dot Lake**	**23.94**	**42**	*e*P	**P**	**06 51 26.5**	**-0.9**
	comp=N,87nm,0.9s						
DOT				*e*PcP	**PcP**	**06 55 10.0**	**+1.0**
YSS	**Yuzh-Sakhalins**	**23.96**	**276**	⇑*e*P	**P**	**06 51 28.2**	**+0.6**
YSS				PcP	**PcP**		
	comp=Z,40nm,0.9s						
YSS				MLR	MLR		
	comp=Z,4μm,16.0s						
YSS	**Yuzh-Sakhalins**	**23.96**	**276**	*e*P	**P**	**06 51 26.8**	**-0.8**
	comp=Z,30nm,0.8s						
TOLK	**Toolik Lake Re**	**24.09**	**28**	P	**P**	**06 51 28.5**	**-0.2**
	baz=236,SNR=17						
FYU	**Fort Yukon**	**24.52**	**34**	*e*P	**P**	**06 51 32.6**	**+0.1**
	comp=Z,100nm,1.0s						
PCA	**Pinnacle**	**25.04**	**51**	*e*P	**P**	**06 51 37.9**	**+0.5**
	comp=Z,86nm,0.8s						
ASAJ	**Asahikawa**	**25.21**	**270**	*e*P	**P**	**06 51 39.0**	**-0.1**
	comp=Z,102nm,0.9s						
EGAK	**Eagle**	**25.48**	**40**	*e*P	**P**	**06 51 41.1**	**-0.2**
	comp=Z,113nm,1.1s						
ERM	**Erimo**	**25.86**	**266**	*ce*P	**P**	**06 51 45.9**	**+1.0**
ERM				pmax	pmax		
	comp=Z,106nm,1.7s						
ERM	**Erimo**	**25.86**	**266**	*e*P	**P**	**06 51 45.5**	**+0.6**
	comp=Z,58nm,0.9s						
DAWY	**Dawson**	**26.05**	**42**	*e*P	**P**	**06 51 46.5**	**0.0**
	comp=Z,43nm,0.9s						
SKAG	**Skagway**	**27.50**	**52**	*e*P	**P**	**06 52 00.5**	**+1.0**
	comp=Z,12nm,1.0s						
YAK	**Yakutsk**	**29.16**	**313**	P	**P**	**06 52 12.5**	**-1.8**
	comp=Z,42nm,0.6s,baz=311,slow=1.0,SNR=10						
YAK				LR	LR	07 04 18.5	
	comp=Z,170nm,18.1s,baz=91,slow=37						
YAK	**Yakutsk**	**29.16**	**313**	*e*P	**P**	**06 52 10.9**	**-3.4**
YAK				pmax	pmax		
	comp=Z,53nm,0.9

MDJ LR LR
comp=Z,180nm,17.1s
KIP Kipapa 33.95 139 ⇑*i*P **P 06 52 56.3 -0.5**
KIP pmax pmax
comp=Z,165nm,1.1s
CN2 Changchun 36.32 281 *e*P **P 06 53 16.3 -0.7**
CN2 PP **PnPn 06 54 38.3 -0.9**
CN2 pmax pmax
comp=Z,20nm,1.0s
CN2 pmax pmax
comp=Z,200nm,3.0s
CN2 LR LR
comp=Z,300nm,16.0s
CN2 LR LR
comp=Z,400nm,16.0s
LLLB Lillooet 36.93 66 *e*P **P 06 53 24.6 +2.4**
comp=Z,24nm,0.9s
YKA Yellowknife Ar 37.19 45 P **P 06 53 24.7 +0.6**
comp=Z,28nm,1.0s,baz=283,slow=8.6,SNR=18
YKA PcP **PcP 06 55 43.7 +0.1**
comp=Z,1.4nm,0.7s,baz=307,slow=2.7,SNR=4.2
YKA LR LR 07 11 11.6
comp=Z,91nm,18.7s,baz=0.0,slow=40
A04D Lummi Island 37.20 69 P **P 06 53 26.3 +1.9**
baz=295
BOD Bodaibo 37.55 307 *e*P **P**
BOD pmax pmax
comp=Z,48nm,0.9s
B05A Bryant 37.77 69 P **P 06 53 31.2 +1.9**
baz=296
D05A Enumclaw 38.31 71 *e*P **P 06 53 35.4 +1.6**
comp=Z,59nm,1.1s
SNY Shenyang 38.51 279 ⇓P **P 06 53 35.5 -0.1**
SNY pmax pmax
comp=Z,32nm,1.5s
JNU Nakatsue 38.94 263 *e*P **P 06 53 39.8 +0.5**
comp=Z,46nm,0.9s
LTY Liberty 39.08 70 *e*P **P 06 53 41.5 +1.1**
comp=Z,17nm,1.0s
ETW Entiat 39.12 69 P **P 06 53 42.4 +1.6**
TBM Table Mountain 39.16 70 P **P 06 53 42.7 +1.6**
WTV Waterville 39.31 69 P **P 06 53 43.5 +1.3**
B08A Colville Reser 39.38 68 *e*P **P 06 53 44.2 +1.3**
comp=Z,28nm,0.9s
VFP Flag Point 39.51 73 P **P 06 53 46.0 +1.9**
G05D Wamic, OR 39.64 73 P **P 06 53 47.0 +2.0**
baz=300
SAW Saint Andrews 39.64 69 P **P 06 53 46.2 +1.2**
I04A Tendick Farm, 39.68 76 P **P 06 53 47.3 +1.9**
baz=301,SNR=5.8
L02D Cave Junction, 39.77 79 P **P 06 53 48.4 +2.2**
baz=302
E07A Sunnyside 39.90 71 *e*P **P 06 53 49.1 +2.0**
comp=Z,19nm,1.0s
MDW Midway 39.93 71 P **P 06 53 49.1 +1.7**
MDW Midway 39.93 71 P **P 06 53 49.1 +1.7**
HUMO Hull Mountain 39.95 78 *e*P **P 06 53 50.2 +2.6**
comp=Z,23nm,1.3s
I05D Terrebonne, OR 40.07 74 P **P 06 53 50.3 +1.7**
baz=300
J04D Umpqua Nationa 40.15 76 P **P 06 53 52.0 +2.5**
baz=302
HAWA Hanford 40.17 71 *e*P **P 06 53 50.9 +1.5**
comp=Z,29nm,1.2s
D08A Wollman Farm, 40.23 70 *e*P **P 06 53 50.9 +1.0**
comp=Z,16nm,1.0s
KHMM Horse Mountain 40.38 80 *e*P **P 06 53 54.5 +3.1**
comp=Z,29nm,1.0s
YBH Yreka Blue Hor 40.57 79 *e*P **P 06 53 55.4 +2.6**
YBH pmax pmax
comp=Z,14nm,0.9s
YBH Yreka Blue Hor 40.57 79 *e*P **P 06 53 55.4 +2.6**
comp=Z,14nm,0.9s
M02C Callahan 40.66 79 P **P 06 53 56.2 +2.6**
baz=303,SNR=9.0
J05D Fort Rock, OR 40.67 76 P **P 06 53 55.9 +2.1**
baz=302,SNR=8.6
K04D Chiloquin, OR 40.69 77 P **P 06 53 56.1 +2.2**
baz=302
NEW Newport 40.74 67 LR LR 07 07 59.3
comp=Z,320nm,20.1s,baz=288,slow=32
NEW Newport 40.74 67 P **P 06 53 55.1 +1.0**
baz=298,SNR=19
NEW Newport 40.74 67 *e*P **P 06 53 55.5 +1.4**
NEW pmax pmax
comp=Z,30nm,0.9s
NEW Newport 40.74 67 *e*P **P 06 53 55.5 +1.4**
comp=Z,30nm,0.9s
EDM Edmonton 40.74 59 *e*P **P 06 53 55.8 +1.7**
EDM pmax pmax
comp=Z,160nm,0.9s
EDM Edmonton 40.74 59 *e*P **P 06 53 55.8 +1.7**
comp=Z,156nm,0.9s
KMRM Mail Ridge 40.76 81 *e*P **P 06 53 57.2 +2.8**
comp=Z,34nm,1.0s
E09A Wood Farm, Sta 40.95 70 *e*P **P 06 53 57.1 +1.3**
comp=Z,21nm,1.0s
N02D Trinity Center 40.98 80 P **P 06 53 58.7 +2.5**
baz=304,SNR=7.9
M04C Macdoel 41.09 78 P **P 06 53 59.3 +2.2**
baz=303,SNR=13
KCPM Cahto Peak 41.14 82 *e*P **P 06 54 00.4 +2.8**
comp=Z,49nm,0.9s
K05A Summer Lake 41.18 76 *e*P **P 06 54 00.2 +2.2**
comp=Z,48nm,1.3s
WDC Whiskeytown Da 41.30 80 *e*P **P 06 54 01.1 +2.3**
WDC pmax pmax
comp=Z,20nm,1.0s
WDC Whiskeytown Da 41.30 80 *e*P **P 06 54 01.1 +2.3**
comp=Z,20nm,1.0s
DL2 Dalian 41.36 277 P **P 06 53 58.0 -1.3**
DL2 pmax pmax
comp=Z,39nm,1.1s
F10A Beach Ranch, E 41.77 70 *e*P **P 06 54 03.6 +0.9**
comp=Z,25nm,1.3s
HOPS Hopland Field 41.86 82 *e*P **P 06 54 05.8 +2.4**
comp=Z,48nm,1.1s
LBCM Butte Creek Ri 41.91 79 P **P 06 54 06.0 +2.0**
O03D Paynes Creek 41.93 80 P **P 06 54 05.5 +1.4**
baz=304,SNR=32
MOD Modoc Plateau 41.99 77 *e*P **P 06 54 06.6 +2.0**
comp=Z,22nm,0.9s
WALA Waterton Lakes 42.25 64 *e*P **P 06 54 08.1 +1.5**
comp=Z,53nm,1.1s
BMO Blue Mountains 42.29 72 *e*P **P 06 54 08.2 +1.2**
BMO pmax pmax
comp=Z,10.0nm,0.8s
BMO Blue Mountains 42.29 72 *e*P **P 06 54 08.2 +1.2**
comp=Z,9.6nm,0.8s
BSMT Bassoo Peak 42.31 66 *e*P **P 06 54 08.2 +0.9**
BLMT Blacktail Moun 42.49 66 *e*P **P 06 54 10.0 +1.4**
ORV Oroville 42.54 81 *e*P **P 06 54 10.2 +1.3**
ORV pmax pmax
comp=Z,14nm,0.9s
ORV Oroville 42.54 81 *e*P **P 06 54 10.2 +1.3**
comp=Z,14nm,0.9s
JTMT Jette 42.66 66 *e*P **P 06 54 10.8 +0.8**
WVOR Wild Horse Val 42.74 75 *e*P **P 06 54 12.2 +1.5**
WVOR pmax pmax
comp=Z,29nm,1.0s
WVOR Wild Horse Val 42.74 75 *e*P **P 06 54 12.2 +1.5**
comp=Z,29nm,1.0s
YBMT Yellow Bay 42.77 66 *e*P **P 06 54 11.5 +0.7**
SWMT Swartz Lake 42.95 66 *e*P **P 06 54 13.2 +0.9**
BEKR Beckworth 43.08 80 *e*P **P 06 54 15.0 +1.5**
comp=Z,21nm,0.9s
AFDM Forest Hills D 43.22 81 *e*P **P 06 54 16.3 +1.9**
comp=Z,10.0nm,1.0s
MSO Missoula 43.32 67 P **P 06 54 16.0 +0.7**
baz=300,SNR=21
MSO Missoula 43.32 67 *e*P **P 06 54 16.0 +0.7**
comp=Z,24nm,0.8s
SLMT Seeley Lake 43.38 67 *e*P **P 06 54 16.7 +0.8**
CHMT Chamberlain Mo 43.69 67 *e*P **P 06 54 18.6 +0.3**
PAHR Pah Rah Range 43.79 79 *e*P **P 06 54 20.9 +1.7**
comp=Z,46nm,1.0s
MFID Camas Ranch 43.95 73 *e*P **P 06 54 21.3 +0.9**
comp=Z,13nm,1.2s
PNTR Pine Nut 44.01 80 *e*P **P 06 54 23.1 +2.1**
comp=Z,56nm,0.7s
CMB Columbia Colle 44.13 82 *e*P **P 06 54 23.7 +1.9**
CMB pmax pmax
comp=Z,32nm,1.2s
CMB Columbia Colle 44.13 82 *e*P **P 06 54 23.7 +1.9**
comp=Z,32nm,1.2s
BJI Beijing 44.18 282 P **P 06 54 21.8 -0.3**
BJI S **S 07 00 52.8 -0.8**
BJI pmax pmax
comp=Z,24nm,1.1s
BJI pmax pmax
comp=Z,98nm,4.3s
BJI LR LR
comp=Z,350nm,20.6s
BJI LR LR
comp=Z,280nm,16.9s
SAO San Andreas Ge 44.21 84 *e*P **P 06 54 24.4 +2.0**
SAO pmax pmax
comp=Z,35nm,1.2s
SAO San Andreas Ge 44.21 84 *e*P **P 06 54 24.4 +2.0**
comp=Z,35nm,1.3s
YERR Yerington 44.30 80 *e*P **P 06 54 25.2 +1.9**
comp=Z,30nm,1.0s
WAKR Walker 44.45 81 *e*P **P 06 54 26.7 +2.1**
comp=Z,27nm,1.0s
HRY Holter Researc 44.63 66 *e*P **P 06 54 26.5 +0.7**
LRM Limekiln Ridge 44.72 68 *e*P **P 06 54 27.4 +0.7**
BMN Battle Mountai 44.74 77 *e*P **P 06 54 28.5 +1.7**
BMN pmax pmax
comp=Z,21nm,0.9s
BMN Battle Mountai 44.74 77 *e*P **P 06 54 28.5 +1.7**
comp=Z,21nm,0.9s
HLID Hailey 44.74 72 P **P 06 54 28.0 +1.1**
baz=303,SNR=25
HLID Hailey 44.74 72 *e*P **P 06 54 27.9 +1.1**
comp=Z,23nm,1.1s
NRIK Noril'sk 44.75 330 P **P 06 54 25.8 -0.5**
comp=Z,15nm,0.9s,baz=78,slow=7.4,SNR=12
NRIK PcP **PcP 06 56 08.5 +0.4**
comp=Z,11nm,0.9s,baz=68,slow=5.7,SNR=4.8
NRIK LR LR 07 15 17.1
comp=Z,102nm,18.8s,baz=90,slow=39
NRIK PKKP **PKKPdf 07 17 42.2 +4.6**
comp=Z,1.3nm,0.4s,baz=317,slow=2.3,SNR=6.5
DLMT Dillon 44.88 68 *e*P **P 06 54 28.4 +0.6**
comp=Z,28nm,1.1s
TVH1 TV Hill, Hawth 44.91 80 *e*P **P 06 54 30.6 +2.2**
comp=Z,57nm,1.1s
TVH3 East Aurora ar 44.93 80 *e*P **P 06 54 30.4 +1.9**
comp=Z,24nm,1.0s
PMPB Monarch Peak 44.95 84 *e*P **P 06 54 30.7 +2.2**
comp=Z,46nm,1.0s
TVH2 Borealis Mine 44.96 80 *e*P **P 06 54 30.4 +1.7**
comp=Z,14nm,1.0s
MCMT McKenzie Canyo 45.01 69 *e*P **P 06 54 29.6 +0.6**
EGMT Eagleton 45.17 64 P **P 06 54 30.6 +0.6**
baz=301,SNR=11
EGMT Eagleton 45.17 64 *e*P **P 06 54 30.9 +0.9**
comp=Z,24nm,0.8s
BOZ Bozeman (W) 45.33 68 P **P 06 54 32.1 +0.7**
baz=302,SNR=30
BOZ Bozeman (W) 45.33 68 *e*P **P 06 54 31.9 +0.5**
BOZ pmax pmax
comp=Z,24nm,0.8s
BOZ Bozeman (W) 45.33 68 *e*P **P 06 54 31.9 +0.5**
comp=Z,24nm,0.8s
ULN Ulaanbaatar 45.48 296 *e*P **P 06 54 32.6 0.0**
ULN pmax pmax
comp=Z,26nm,1.2s
ULN Ulaanbaatar 45.48 296 *e*P **P 06 54 32.6 0.0**
comp=Z,26nm,1.2s
ULN Ulaanbaatar 45.48 296 P **P 06 54 33.0 +0.4**
SNR=7.2
ULN Ulaanbaatar 45.48 296 P **P 06 54 33.0 +0.4**
SNR=7.2
ULN P **P 06 54 33.0 +0.4**
SNR=7.2
TLY Talaya 45.48 302 *e*P **P 06 54 29.6 -2.8**
TLY pmax pmax
comp=Z,27nm,1.4s
TLY MLR MLR
comp=Z,180nm,17.0s
PAGB Antelope Grade 45.60 84 *e*P **P 06 54 36.0 +2.4**
comp=Z,41nm,0.9s
TIA Tai'an 45.84 277 ⇓P **P 06 54 35.3 -0.1**
TIA pmax pmax
comp=Z,60nm,0.9s
QLMT Earthquake Lak 45.86 68 *e*P **P 06 54 36.8 +1.1**
SONA1 Songino Array 45.87 297 *e*P **P 06 54 35.1 -0.6**
SONA1 *e*PcP **PcP 06 56 12.2 -0.3**
SONM Songino Array 45.88 297 P **P 06 54 36.0 +0.3**
comp=Z,18nm,1.1s,baz=59,slow=7.4,SNR=37
SONM PcP **PcP 06 56 12.3 -0.2**
comp=Z,11nm,0.7s,baz=67,slow=2.4,SNR=14
SONM LR LR 07 13 35.2
comp=Z,133nm,20.8s,baz=62,slow=36
RCTC Rector, Farmer 45.89 83 P **P 06 54 37.2 +1.4**
baz=308,SNR=15
SMMC Simmler 46.02 85 P **P 06 54 38.8 +1.9**
baz=309
YHB Horse Butte 46.04 68 *e*P **P 06 54 38.3 +1.1**
comp=Z,30nm,0.9s
TIN Tinemaha, Big 46.09 81 P **P 06 54 39.2 +1.8**
baz=308,SNR=7.6
FFC Flin Flon 46.10 52 *e*PcP **PcP 06 56 13.4 +0.5**
YMR Madison River 46.23 68 *e*P **P 06 54 39.5 +0.9**
comp=Z,26nm,0.9s
YHH Holmes Hill 46.23 68 *e*P **P 06 54 39.5 +0.8**
comp=Z,25nm,0.9s
VES Vestal, Richgr 46.28 83 P **P 06 54 40.2 +1.3**
baz=308,SNR=21
ZAK Zakamensk 46.33 301 *e*P **P 06 54 38.6 -0.6**
ZAK *e* 06 56 13.6
ZAK pmax pmax
comp=Z,33nm,1.4s
YNR Norris Junctio 46.37 68 *e*P **P 06 54 41.6 +1.8**
comp=Z,788nm,0.9s
GCMT Greycliff 46.39 66 *e*P **P 06 54 41.0 +1.2**
PKM Mcpherson Peak 46.40 85 P **P 06 54 41.9 +1.8**
baz=309,SNR=11
YFT Old Faithful 46.42 69 *e*P **P 06 54 42.5 +2.3**
comp=Z,23nm,0.9s
SSE Sheshan 46.48 268 P **P 06 54 40.8 +0.4**
SSE S **S 07 01 28.8 +1.8**
SSE pmax pmax
comp=Z,39nm,0.6s
SSE pmax pmax
comp=Z,170nm,3.8s
YPP Pitchstone Pla 46.54 69 *e*P **P 06 54 43.0 +1.8**
comp=Z,15nm,0.9s
CWC Cottonwood Cre 46.55 82 P **P 06 54 42.8 +1.6**
baz=308
HHC Hu-ho-hao-te 46.60 286 *e*P **P 06 54 41.8 +0.4**
HHC pP sP 06 54 52.0 +0.2
HHC PP **PP 06 56 32.5 +1.6**
HHC S **S 07 01 26.3 -2.5**
HHC pmax pmax
comp=Z,32nm,1.2s
HHC pmax pmax
comp=Z,190nm,8.1s
HHC LR LR
comp=Z,340nm,14.3s
HHC LR LR
comp=Z,300nm,12.2s
H17A Grant Village 46.61 68 P **P 06 54 43.8 +2.1**
baz=308,SNR=17
H17A Grant Village 46.61 68 *e*P **P 06 54 44.0 +2.3**
comp=Z,20nm,0.8s
LKWY Lake 46.62 68 *e*P **P 06 54 44.2 +2.5**
LKWY pmax pmax
comp=Z,20nm,0.9s
LKWY Lake 46.62 68 *e*P **P 06 54 44.2 +2.5**
comp=Z,20nm,0.8s
IMW Indian Meadow 46.66 69 *e*P **P 06 54 43.4 +1.2**
comp=Z,14nm,0.9s
GRAC Grapevine Rang 46.67 81 P **P 06 54 43.8 +1.8**
baz=308,SNR=19
HVU Hansel Valley 46.73 73 *e*P **P 06 54 43.9 +1.3**
HVU pmax pmax
comp=Z,14nm,0.9s
HVU Hansel Valley 46.73 73 *e*P **P 06 54 43.9 +1.3**
comp=Z,14nm,0.9s
SBC Santa Barbara 46.75 85 P **P 06 54 44.6 +2.1**
baz=309
ISA Isabella, Lake 46.78 83 P **P 06 54 43.9 +1.0**
baz=309,SNR=12
ISA Isabella, Lake 46.78 83 *e*P **P 06 54 43.3 +0.4**
ISA pmax pmax
comp=Z,37nm,1.0s
ISA Isabella, Lake 46.78 83 *e*P **P 06 54 43.3 +0.4**
comp=Z,37nm,0.9s
MOOW Moose Ponds 46.86 69 *e*P **P 06 54 44.9 +1.3**
comp=Z,4.8nm,0.8s
TPAW Teton Pass 46.88 70 *e*P **P 06 54 45.5 +1.7**
comp=Z,7.7nm,0.8s
ARVC Arvin 46.88 84 P **P 06 54 44.8 +1.2**
baz=309,SNR=6.3
DAC Darwin (Calif) 46.96 82 *e*P **P 06 54 45.5 +1.0**
DAC pmax pmax
comp=Z,20nm,1.0s
DAC Darwin (Calif) 46.96 82 *e*P **P 06 54 45.5 +1.0**
comp=Z,20nm,1.0s
R11A Troy Canyon, C 46.98 78 P **P 06 54 45.8 +1.2**
baz=307,SNR=47
R11A Troy Canyon, C 46.98 78 *e*P **P 06 54 45.7 +1.1**
comp=Z,28nm,1.0s
RLMT Red Lodge 46.99 67 P **P 06 54 45.6 +1.0**
baz=304,SNR=11
RLMT Red Lodge 46.99 67 *e*P **P 06 54 44.5 -0.1**
comp=Z,34nm,0.8s
REDW Red Top Meadow 47.01 70 *e*P **P 06 54 46.1 +1.3**
comp=Z,14nm,1.0s
SNOW Snow King Moun 47.02 70 *e*P **P 06 54 46.1 +1.2**
comp=Z,9.3nm,0.8s
LOHW Long Hollow 47.02 69 *e*P **P 06 54 45.8 +0.9**
comp=Z,23nm,1.8s
BGU Big Grassy Mou 47.07 74 *e*P **P 06 54 46.7 +1.6**
comp=Z,17nm,1.1s
BSC Santa Cruz Isl 47.08 86 P **P 06 54 46.2 +1.1**
baz=310
MPMC Manual Prospec 47.16 82 P **P 06 54 47.5 +1.5**
baz=308,SNR=28
SPUT South Promonto 47.20 73 *e*P **P 06 54 47.6 +1.4**
comp=Z,21nm,1.2s
OSI Osito Audit: C 47.27 84 P **P 06 54 48.3 +1.6**
baz=309
OSI Osito Audit: C 47.27 84 *e*P **P 06 54 48.8 +2.1**
comp=Z,62nm,1.0s
FURC Furnace Creek, 47.31 81 P **P 06 54 48.5 +1.6**
baz=308,SNR=33
NJ2 Nanjing 47.35 271 *e*P **P 06 54 47.3 0.0**
NJ2 pmax pmax
comp=Z,47nm,0.8s
BLG Laguna Peak, P 47.37 85 P **P 06 54 48.8 +1.4**
baz=310,SNR=10
LRMC Laurel Mtn Rad 47.40 83 P **P 06 54 49.0 +1.2**
baz=309,SNR=18
TPNV Topopah Spring 47.41 80 P **P 06 54 49.4 +1.5**
baz=308,SNR=91
TPNV Topopah Spring 47.41 80 *e*P **P 06 54 48.7 +0.8**
TPNV pmax pmax
comp=Z,61nm,0.9s
TPNV Topopah Spring 47.41 80 *e*P **P 06 54 48.6 +0.8**
comp=Z,61nm,0.8s
EDW2 Edwards Air Fo 47.57 84 P **P 06 54 50.4 +1.3**
baz=309,SNR=25
HWUT Hardware Ranch 47.58 72 *e*P **P 06 54 50.6 +1.5**
comp=Z,12nm,0.9s
DUG Dugway, Tooele 47.63 74 P **P 06 54 50.9 +1.3**
baz=306,SNR=44
DUG Dugway, Tooele 47.63 74 *e*P **P 06 54 50.8 +1.3**
DUG pmax pmax
comp=Z,41nm,1.1s
DUG Dugway, Tooele 47.63 74 *e*P **P 06 54 50.8 +1.3**
comp=Z,41nm,1.1s
SNCC San Nicolas Is 47.63 86 P **P 06 54 51.0 +1.6**
baz=310
BTO Baotou 47.69 286 *e*P **P 06 54 49.5 -0.5**
DECC Green Verdugo 47.75 84 P **P 06 54 51.8 +1.4**
baz=310
PASC Pasadena Art C 47.90 84 *e*P **P 06 54 52.8 +1.3**
comp=Z,28nm,1.0s
LAO LASA Array 47.91 64 P **P 06 54 52.5 +0.9**
baz=303,SNR=6.7
LAO LASA Array 47.91 64 *e*P **P 06 54 52.7 +1.2**
comp=Z,19nm,0.8s
MWC Mount Wilson 47.95 84 *e*P **P 06 54 53.4 +1.3**
MWC pmax pmax
comp=Z,67nm,1.1s
MWC Mount Wilson 47.95 84 *e*P **P 06 54 53.4 +1.3**
comp=Z,67nm,1.1s
SHOC Shoshone, Teco 48.04 81 P **P 06 54 54.1 +1.5**
baz=309,SNR=10
GSC Goldstone, Bar 48.07 82 P **P 06 54 54.4 +1.5**
baz=309,SNR=55
GSC Goldstone, Bar 48.07 82 *e*P **P 06 54 54.4 +1.5**
GSC pmax pmax
comp=Z,67nm,1.0s
GSC Goldstone, Bar 48.07 82 *e*P **P 06 54 54.4 +1.5**
comp=Z,67nm,0.9s
DGMT Dagmar 48.10 61 P **P 06 54 53.5 +0.6**
baz=303,SNR=6.5
DGMT Dagmar 48.10 61 *e*P **P 06 54 53.8 +0.8**
comp=Z,36nm,1.3s
FMP Fort Macarthur 48.12 85 P **P 06 54 54.5 +1.3**
baz=310
BW06 Boulder Array 48.13 70 P **P 06 54 54.2 +0.7**
baz=305,SNR=30
BW06 Boulder Array 48.13 70 *e*P **P 06 54 54.2 +0.7**
PD31 Pinedale Array 48.13 70 *e*P **P 06 54 54.1 +0.6**
PDAR Pinedale Array 48.13 70 P **P 06 54 54.1 +0.6**
comp=Z,16nm,0.9s,baz=298,slow=3.7,SNR=96
PDAR LR LR 07 13 50.1
comp=Z,107nm,20.2s,baz=325,slow=34
BFSC Mount Baldy Ra 48.19 84 P **P 06 54 55.4 +1.4**
baz=310,SNR=34
RRX Edison Barstow 48.22 83 P **P 06 54 55.6 +1.6**
baz=309
NLU North Lily Min 48.23 74 *e*P **P 06 54 55.7 +1.5**
comp=Z,14nm,1.1s
CIS Catalina Islan 48.24 85 P **P 06 54 55.4 +1.2**
baz=310
SHPR Sheep Range 48.37 80 *e*P **P 06 54 56.6 +1.3**
comp=Z,22nm,1.3s
TUQ Turquoise Moun 48.55 82 P **P 06 54 57.9 +1.3**
baz=309,SNR=28
BBRC Big Bear Solar 48.65 83 P **P 06 54 59.1 +1.6**
baz=310,SNR=35
HEC Hector,Ludlow 48.67 82 P **P 06 54 58.9 +1.3**
baz=310,SNR=14
CCUT Cedar City 48.87 78 *e*P **P 06 54 59.7 +0.5**
comp=Z,26nm,1.3s
MURC Murrieta 48.90 84 P **P 06 55 00.6 +1.3**
baz=310,SNR=13
SZCU Shurtz Canyon 49.01 77 *e*P **P 06 55 01.5 +1.2**
comp=Z,20nm,1.2s
MSU Marysvale 49.02 76 *e*P **P 06 55 01.9 +1.5**
MSU Marysvale 49.02 76 *e*P **P 06 55 01.9 +1.5**
GMRC Granite Mounta 49.12 82 P **P 06 55 02.4 +1.3**
baz=310,SNR=43
TMUT Trail Mountain 49.16 74 *e*P **P 06 55 02.9 +1.4**
comp=Z,23nm,1.2s
LCMT Little Creek M 49.27 78 *e*P **P 06 55 03.7 +1.5**
comp=Z,42nm,1.0s
LDFC Landfair 49.29 81 *e*P **P 06 55 03.3 +1.0**
comp=Z,75nm,1.0s
MTPU Mount Pierson 49.30 76 *e*P **P 06 55 04.0 +1.3**
comp=Z,26nm,1.0s
PFO Pinyon Flats O 49.36 84 P **P 06 55 04.0 +1.1**
baz=310,SNR=22
PFO Pinyon Flats O 49.36 84 *e*P **P 06 55 04.0 +1.1**
PFO pmax pmax
comp=Z,36nm,1.0s
PFO Pinyon Flats O 49.36 84 *e*P **P 06 55 04.0 +1.1**
comp=Z,36nm,1.0s
BELC Belle Mtn. Jos 49.41 83 P **P 06 55 04.2 +0.9**
baz=310,SNR=35
109C Camp Elliot, M 49.41 85 P **P 06 55 04.7 +1.5**
baz=311,SNR=6.4
KNB Kanab 49.53 78 *e*P **P 06 55 06.0 +1.7**
KNB pmax pmax
comp=Z,45nm,1.0s
KNB Kanab 49.53 78 *e*P **P 06 55 06.0 +1.7**
comp=Z,45nm,1.0s
PKCU Pink Cliffs 49.59 77 *e*P **P 06 55 06.9 +2.1**
comp=Z,18nm,1.0s
SRU San Rafael Swe 49.69 74 *e*P **P 06 55 06.9 +1.4**
SRU pmax pmax
comp=Z,15nm,0.9s
SRU San Rafael Swe 49.69 74 *e*P **P 06 55 06.8 +1.4**
comp=Z,15nm,0.9s
NEE2 Needles Airpor 49.80 81 P **P 06 55 07.2 +1.1**
baz=310,SNR=6.5
BAR Barrett 49.82 85 *e*P **P 06 55 07.7 +1.4**
comp=Z,41nm,0.9s
MONP Monument Peak, 49.85 85 P **P 06 55 08.0 +1.2**
baz=311,SNR=24
IRM Iron Mountain 49.85 82 P **P 06 55 07.8 +1.3**
baz=310,SNR=47
BC3 Big Chuckawall 49.98 83 P **P 06 55 08.4 +0.8**
baz=310,SNR=21
K22A Casper 50.02 68 P **P 06 55 08.1 +0.2**
baz=306,SNR=6.5

K22A	**Casper**	**50.02**	**68**	*e*P		**P**	**06 55 08.5**	**+0.6**
	comp=Z,13nm,0.9s								
W13A	**Hualapai Mount**	**50.06**	**81**	*e*P		**P**	**06 55 09.4**	**+1.2**
	comp=Z,28nm,0.8s								
RWWY	**Rawlins**	**50.18**	**70**	*e*P		**P**	**06 55 09.8**	**+0.6**
	comp=Z,26nm,1.1s								
IKP	**In-Ko-Pah, Jac**	**50.20**	**85**	P		**P**	**06 55 10.5**	**+1.3**
	baz=311,SNR=16								
SWSC	**Sam W. Stewart**	**50.21**	**84**	P		**P**	**06 55 10.2**	**+1.0**
	baz=311,SNR=12								
U15A	**North Rim**	**50.23**	**78**	*e*P		**P**	**06 55 11.2**	**+1.5**
	comp=Z,56nm,0.9s								
PDMCI	**Parker Dam,Lak**	**50.40**	**82**	P		**P**	**06 55 11.8**	**+1.2**
	baz=310,SNR=37								
O20A	**White River Ci**	**50.48**	**72**	P		**P**	**06 55 12.0**	**+0.6**
	baz=307,SNR=11								
O20A	**White River Ci**	**50.48**	**72**	*e*P		**P**	**06 55 12.0**	**+0.6**
	comp=Z,17nm,0.8s								
Y12C	**Blythe**	**50.51**	**82**	P		**P**	**06 55 12.7**	**+1.2**
	baz=310,SNR=41								
Y12C	**Blythe**	**50.51**	**82**	*e*P		**P**	**06 55 12.7**	**+1.2**
	comp=Z,61nm,0.9s								
RSSD	**Black Hills**	**50.63**	**65**	P		**P**	**06 55 12.8**	**+0.3**
	baz=306								
RSSD	**Black Hills**	**50.63**	**65**	*e*P		**P**	**06 55 13.0**	**+0.5**
RSSD					pmax	pmax			
	comp=Z,7.0nm,1.0s								
RSSD	**Black Hills**	**50.63**	**65**	*e*P		**P**	**06 55 13.0**	**+0.5**
	comp=Z,7.4nm,0.9s								
GLA	**Glamis**	**50.76**	**83**	P		**P**	**06 55 14.7**	**+1.3**
	baz=311,SNR=21								
GLA	**Glamis**	**50.76**	**83**	*e*P		**P**	**06 55 13.8**	**+0.4**
GLA					pmax	pmax			
	comp=Z,75nm,0.9s								
GLA	**Glamis**	**50.76**	**83**	*e*P		**P**	**06 55 13.8**	**+0.4**
	comp=Z,75nm,0.8s								
PV09	**Paradox Valley**	**50.92**	**74**	*e*P		**P**	**06 55 15.7**	**+0.8**
KBS	**Kingsbay**	**50.99**	**357**	*i* P		**P**	**06 55 15.7**	**+1.2**
KBS					pmax	pmax			
	comp=Z,207nm,1.9s								
MDND	**Maddock**	**51.00**	**59**	P		**P**	**06 55 16.0**	**+0.9**
	baz=305,SNR=6.4								
MDND	**Maddock**	**51.00**	**59**	*e*P		**P**	**06 55 16.3**	**+1.3**
	comp=Z,75nm,1.1s								
PV04	**Paradox Valley**	**51.13**	**74**	*e*P		**P**	**06 55 16.9**	**+0.5**
PV05	**Paradox Valley**	**51.20**	**74**	*e*P		**P**	**06 55 18.1**	**+1.2**
WHN	**Wuhan**	**51.24**	**273**	ǁP		**P**	**06 55 16.3**	**-0.7**
Y14A	**Wickenburg**	**51.35**	**81**	*e*P		**P**	**06 55 18.9**	**+1.0**
WUAZ	**Wupatki**	**51.38**	**78**	P		**P**	**06 55 19.8**	**+1.6**
	baz=310,SNR=44								
WUAZ	**Wupatki**	**51.38**	**78**	*e*P		**P**	**06 55 19.6**	**+1.4**
	comp=Z,49nm,0.9s								
N23A	**Red Feather La**	**51.42**	**70**	P		**P**	**06 55 19.5**	**+1.0**
	baz=308,SNR=9.9								
N23A	**Red Feather La**	**51.42**	**70**	*e*P		**P**	**06 55 19.8**	**+1.2**
	comp=Z,24nm,1.2s								
PV01	**Paradox Valley**	**51.50**	**74**	*e*P		**P**	**06 55 19.8**	**+0.6**
SPA0	**Spitsbergen Ar**	**51.53**	**355**	*e*P		**P**	**06 55 19.6**	**+1.0**
113A	**Mohawk Valley,**	**51.63**	**83**	*e*P		**P**	**06 55 21.1**	**+1.2**
	comp=Z,22nm,1.0s								
ULM	**Lac du Bonnet**	**51.63**	**55**	P		**P**	**06 55 20.0**	**+0.4**
	comp=Z,10nm,0.5s,baz=296,slow=7.0,SNR=19								
ULM					PcP	**PcP**	**06 56 33.0**	**0.0**
	comp=Z,7.3nm,0.5s,baz=315,slow=3.6,SNR=8.3								
ULM					LR	LR	07 18 27.3		
	comp=Z,94nm,20.5s,baz=300,slow=37								
ULM	**Lac du Bonnet**	**51.63**	**55**	*e*P		**P**	**06 55 20.1**	**+0.5**
	comp=Z,14nm,0.7s								
ULM					PcP	**PcP**	**06 56 33.0**	**0.0**
SSLB	**Suanglung**	**51.66**	**262**	*e*P		**P**	**06 55 19.8**	**-0.4**
	comp=Z,104nm,1.7s								
A31A	**Linda, St. Vin**	**51.69**	**57**	P		**P**	**06 55 20.7**	**+0.5**
	baz=306								
B31A	**Greenbush Farm**	**51.74**	**57**	P		**P**	**06 55 21.2**	**+0.8**
	baz=306,SNR=8.8								
SMCO	**Snowmass**	**51.84**	**72**	*e*P		**P**	**06 55 22.8**	**+1.0**
	comp=Z,24nm,1.7s								
X16A	**Lo Mia Camp, P**	**52.04**	**80**	*e*P		**P**	**06 55 24.0**	**+0.8**
C31A	**Landman Farms,**	**52.06**	**58**	P		**P**	**06 55 23.1**	**+0.2**
	baz=306,SNR=10								
A32A	**Rocking H Ranc**	**52.08**	**56**	P		**P**	**06 55 23.5**	**+0.5**
	baz=306,SNR=6.3								
MVCO	**Mesa Verde**	**52.12**	**75**	P		**P**	**06 55 24.6**	**+0.8**
	baz=309,SNR=13								
MVCO	**Mesa Verde**	**52.12**	**75**	*e*P		**P**	**06 55 24.9**	**+1.1**
	comp=Z,34nm,1.2s								
ISCO	**Idaho Springs**	**52.28**	**71**	P		**P**	**06 55 26.2**	**+1.2**
	baz=308,SNR=11								
ISCO	**Idaho Springs**	**52.28**	**71**	*e*P		**P**	**06 55 26.1**	**+1.0**
ISCO					pmax	pmax			
	comp=Z,15nm,1.2s								
ISCO	**Idaho Springs**	**52.28**	**71**	*e*P		**P**	**06 55 26.1**	**+1.0**
	comp=Z,16nm,1.3s								
B32A	**Ashes, Strandq**	**52.36**	**57**	P		**P**	**06 55 25.3**	**+0.2**
	baz=306,SNR=14								
XAN	**Xi'an**	**52.42**	**280**	P		**P**	**06 55 24.8**	**-1.1**
XAN				pP		sP	06 55 34.3	-2.0
XAN					pmax	pmax			
	comp=Z,48nm,1.2s								
XAN					pmax	pmax			
	comp=Z,100nm,4.9s								
D31A	**Mcclaflin, Tow**	**52.51**	**59**	P		**P**	**06 55 26.2**	**0.0**
	baz=307								
A33A	**Warroad**	**52.65**	**56**	P		**P**	**06 55 27.9**	**+0.7**
	baz=306,SNR=21								
W18A	**Petrified Fore**	**52.67**	**78**	P		**P**	**06 55 29.1**	**+1.2**
	baz=310,SNR=22								
W18A	**Petrified Fore**	**52.67**	**78**	*e*P		**P**	**06 55 29.2**	**+1.4**
	comp=Z,42nm,1.1s								
C32A	**Crookston**	**52.70**	**58**	P		**P**	**06 55 28.0**	**+0.4**
	baz=307								
E31A	**Nome**	**52.70**	**59**	P		**P**	**06 55 27.8**	**+0.1**
	baz=307								
214A	**Organ Pipe Nat**	**52.77**	**83**	P		**P**	**06 55 29.5**	**+1.1**
	baz=312,SNR=19								
214A	**Organ Pipe Nat**	**52.77**	**83**	*e*P		**P**	**06 55 28.9**	**+0.5**
	comp=Z,107nm,1.0s								
AGMN	**Agassiz Nation**	**52.78**	**57**	P		**P**	**06 55 28.5**	**+0.3**
	baz=307,SNR=7.0								
AGMN	**Agassiz Nation**	**52.78**	**57**	*e*P		**P**	**06 55 28.6**	**+0.4**
	comp=Z,41nm,1.4s								
S22A	**4UR Ranch, Cre**	**52.81**	**73**	P		**P**	**06 55 30.5**	**+1.5**
	baz=309,SNR=25								
S22A	**4UR Ranch, Cre**	**52.81**	**73**	*e*P		**P**	**06 55 30.5**	**+1.5**
	comp=Z,33nm,1.3s								
D32A	**Dogwood Acres,**	**52.84**	**58**	P		**P**	**06 55 28.3**	**-0.4**
	baz=307								
DAG	**Danmarks Havn**	**52.90**	**5**	*i* P		**P**	**06 55 29.3**	**+0.6**
	comp=Z,10nm,1.0s								
DAG	**Danmarks Havn**	**52.90**	**5**	*i* P		**P**	**06 55 29.3**	**+0.6**
DAG					pmax	pmax			
	comp=Z,10.0nm,1.0s								
X18A	**Snowflake**	**52.91**	**78**	*e*P		**P**	**06 55 31.1**	**+1.4**
	comp=Z,34nm,1.0s								
F31A	**Hecla**	**52.92**	**60**	P		**P**	**06 55 29.1**	**-0.2**
	baz=307								
B33A	**Robert and Kas**	**52.94**	**57**	P		**P**	**06 55 29.8**	**+0.4**
	baz=307,SNR=5.6								
E32A	**Braaten, Kindr**	**53.14**	**59**	P		**P**	**06 55 30.8**	**0.0**
	baz=307								
B34A	**Aery, Baudette**	**53.31**	**56**	P		**P**	**06 55 32.6**	**+0.4**
	baz=307,SNR=18								
G31A	**Conde**	**53.32**	**61**	P		**P**	**06 55 32.2**	**-0.1**
	baz=308								
SUSD	**Miller**	**53.38**	**62**	P		**P**	**06 55 32.6**	**-0.1**
	baz=308								
F32A	**Veblen**	**53.54**	**60**	P		**P**	**06 55 33.3**	**-0.6**
	baz=308								
H31A	**Wolsey**	**53.62**	**62**	P		**P**	**06 55 34.6**	**+0.1**
	baz=308,SNR=7.6								
SDCO	**Great Sand Dun**	**53.63**	**73**	P		**P**	**06 55 36.2**	**+1.1**
	baz=310,SNR=17								
SDCO	**Great Sand Dun**	**53.63**	**73**	*e*P		**P**	**06 55 36.0**	**+1.0**
	comp=Z,21nm,1.3s								
C34A	**RKJ Ranch, Bem**	**53.68**	**57**	P		**P**	**06 55 34.8**	**0.0**
	baz=307								
G32A	**Webster**	**53.70**	**61**	P		**P**	**06 55 34.9**	**-0.2**
	baz=308,SNR=7.0								
OGNE	**Ogallala**	**53.73**	**67**	P		**P**	**06 55 36.3**	**+0.9**
	baz=309,SNR=11								
OGNE	**Ogallala**	**53.73**	**67**	*e*P		**P**	**06 55 36.9**	**+1.5**
	comp=Z,66nm,1.3s								
E33A	**Westby DABS, E**	**53.78**	**59**	P		**P**	**06 55 35.8**	**+0.2**
	baz=308								
ZAA0	**Zalesovo Array**	**53.81**	**313**	*e*P		**P**	**06 55 34.5**	**-1.2**
ZAA0				*e*P		**P**	**06 55 34.7**	**-1.0**
ZALV	**Zalesovo Beam**	**53.81**	**313**	P		**P**	**06 55 34.6**	**-1.1**
	comp=Z,6.1nm,0.6s,baz=47,slow=7.1,SNR=9.8								
ZALV					PcP	**PcP**	**06 56 41.6**	**+0.3**
	comp=Z,5.4nm,0.8s,baz=22,slow=5.4,SNR=5.5								
ZALV					LR	LR	07 19 34.6		
	comp=Z,79nm,20.2s,baz=70,slow=37								
TUC	**Tucson**	**53.83**	**81**	P		**P**	**06 55 37.5**	**+1.2**
	baz=312								
TUC	**Tucson**	**53.83**	**81**	*e*P		**P**	**06 55 37.5**	**+1.2**
TUC					pmax	pmax			
	comp=Z,34nm,1.0s								
TUC	**Tucson**	**53.83**	**81**	*e*P		**P**	**06 55 37.5**	**+1.2**
	comp=Z,34nm,0.9s								
D34A	**Park Rapids**	**53.87**	**58**	P		**P**	**06 55 36.2**	**0.0**
	baz=308,SNR=14								
I31A	**Royce, Wessing**	**53.87**	**62**	P		**P**	**06 55 36.4**	**+0.1**
	baz=308								
B35A	**Bob, Littlefor**	**53.88**	**56**	P		**P**	**06 55 36.7**	**+0.4**
	baz=308,SNR=12								
NVS	**Novosibirsk**	**54.01**	**315**	*e*P		**P**	**06 55 36.8**	**-0.3**
NVS				*e*			06 56 41.0		
NVS					pmax	pmax			
	comp=Z,24nm,0.7s								
NVS					pmax	pmax			
	comp=N,10.0nm,0.8s								
NVS					pmax	pmax			
	comp=E,10.0nm,0.7s								
F33A	**5 Mile Ranch,**	**54.02**	**59**	P		**P**	**06 55 37.6**	**+0.2**
	baz=308								
C35A	**Jirik Farms, M**	**54.15**	**56**	P		**P**	**06 55 38.5**	**+0.2**
	baz=308,SNR=10								
H32A	**Carlson Farm,**	**54.20**	**61**	P		**P**	**06 55 38.8**	**+0.1**
	baz=308								
J31A	**Geddes**	**54.20**	**63**	P		**P**	**06 55 39.2**	**+0.4**
	baz=308,SNR=6.5								
E34A	**Wadena**	**54.23**	**58**	P		**P**	**06 55 39.3**	**+0.4**
	baz=308								
LZH	**Lanzhou**	**54.30**	**286**	*e*P		**P**	**06 55 40.3**	**+0.6**
LZH				pP		sP	06 55 52.5	+2.3
LZH				sP		pP	06 55 56.8	+10
LZH				PcP		**PcP**	**06 56 44.3**	**+0.7**
LZH				*e*S		**S**	**07 03 14.0**	**-2.0**
LZH				sS		sS	07 03 30.8	+2.4
LZH				SS		**SKiKP**	**07 06 49.3**	**+0.7**
LZH					pmax	pmax			
	comp=E,69nm,1.2s								
LZH					pmax	pmax			
	comp=E,200nm,4.8s								
LZH					LR	LR			
	comp=E,1μm,11.9s								
LZH					LR	LR			
	comp=E,1μm,13.7s								
LZH					LR	LR			
	comp=E,1μm,15.5s								
G33A	**Ortonville**	**54.34**	**60**	P		**P**	**06 55 39.7**	**0.0**
	baz=308								
H33A	**Prehn Over Nor**	**54.48**	**61**	P		**P**	**06 55 40.8**	**0.0**
	baz=308,SNR=8.0								
D35A	**Remer**	**54.49**	**57**	P		**P**	**06 55 41.2**	**+0.4**
	baz=308,SNR=10								
ENH	**Enshi**	**54.54**	**276**	*e*P		**P**	**06 55 40.5**	**-0.9**
KSCO	**Kaye Shedlock'**	**54.58**	**70**	P		**P**	**06 55 42.6**	**+0.9**
	baz=310								
KSCO	**Kaye Shedlock'**	**54.58**	**70**	*e*P		**P**	**06 55 44.0**	**+2.3**
	comp=E,40nm,1.0s								
K31A	**O'Neill**	**54.61**	**64**	P		**P**	**06 55 42.2**	**+0.5**
	baz=309								
E35A	**Pequot Lakes**	**54.62**	**58**	P		**P**	**06 55 42.2**	**+0.4**
	baz=308,SNR=6.4								
GTA	**Gaotai**	**54.64**	**291**	ǁP		**P**	**06 55 42.0**	**-0.2**
GTA				pP		sP	06 55 51.5	-1.1
GTA				sP		pP	06 55 55.3	+5.6
GTA				PcP		**PcP**	**06 56 44.5**	**-0.4**
GTA				S		**S**	**07 03 21.5**	**+0.9**
GTA				sS		sS	07 03 38.8	+5.8
GTA					pmax	pmax			
	comp=E,36nm,1.4s								
GTA					pmax	pmax			
	comp=E,150nm,4.9s								
GTA					LR	LR			
	comp=E,210nm,17.1s								
GTA					LR	LR			
	comp=E,260nm,16.6s								
J32A	**Parkston**	**54.66**	**63**	P		**P**	**06 55 42.2**	**+0.1**
	baz=309								
T25A	**Trinidad**	**54.69**	**72**	P		**P**	**06 55 43.9**	**+1.2**
	baz=310,SNR=24								
T25A	**Trinidad**	**54.69**	**72**	*e*P		**P**	**06 55 44.3**	**+1.6**
	comp=E,38nm,1.1s								
C36A	**Pine Crest Far**	**54.72**	**56**	P		**P**	**06 55 43.1**	**+0.6**
	baz=308,SNR=13								
G34A	**Benson**	**54.75**	**60**	P		**P**	**06 55 43.0**	**+0.3**
	baz=308								
LAZ	**Ladron**	**54.76**	**77**	*e*P		**P**	**06 55 44.7**	**+1.6**
ANMO	**Albuquerque**	**54.83**	**76**	P		**P**	**06 55 44.8**	**+1.1**
	baz=311								
ANMO	**Albuquerque**	**54.83**	**76**	ǁ*i*P		**P**	**06 55 44.9**	**+1.2**
ANMO					pmax	pmax			
	comp=Z,16nm,1.1s								
ANMO	**Albuquerque**	**54.83**	**76**	*e*P		**P**	**06 55 44.6**	**+0.9**
	comp=Z,14nm,1.0s								
SUMG	**Summit**	**54.88**	**13**	*i* P		**P**	**06 55 44.6**	**+0.9**
	comp=Z,30nm,1.2s								
SUMG	**Summit**	**54.88**	**13**	*i* P		**P**	**06 55 44.6**	**+0.9**
SUMG					pmax	pmax			
	comp=Z,30nm,1.2s								
SUMG	**Summit**	**54.88**	**13**	*e*P		**P**	**06 55 44.5**	**+0.8**
	comp=Z,26nm,1.0s								
D36A	**Goodland**	**54.91**	**56**	P		**P**	**06 55 44.4**	**+0.6**
	baz=308								
F35A	**Swanville**	**54.96**	**58**	P		**P**	**06 55 44.6**	**+0.4**
	baz=309								
H34A	**Spellman Lake,**	**55.03**	**60**	P		**P**	**06 55 44.7**	**0.0**
	baz=309								
K32A	**Verdigre**	**55.04**	**63**	P		**P**	**06 55 45.0**	**+0.2**
	baz=309								
C37A	**Embarrass**	**55.09**	**55**	P		**P**	**06 55 45.7**	**+0.6**
	baz=309,SNR=14								
Y22D	**IRIS PASSCAL I**	**55.11**	**77**	P		**P**	**06 55 47.4**	**+1.8**
	baz=311								
LPM	**Los Pinos Moun**	**55.14**	**76**	*e*P		**P**	**06 55 47.7**	**+1.8**
DGZ	**Jazzator, Alta**	**55.14**	**308**	*i* P		**P**	**06 55 45.6**	**-0.1**
DGZ					pmax	pmax			
	comp=Z,13nm,0.9s								
ECSD	**EROS Data Cent**	**55.14**	**62**	P		**P**	**06 55 45.5**	**-0.1**
	baz=309								
ECSD	**EROS Data Cent**	**55.14**	**62**	*e*P		**P**	**06 55 45.4**	**-0.2**
	comp=Z,14nm,1.2s								
BNM	**Barren Site**	**55.24**	**77**	*e*P		**P**	**06 55 48.2**	**+1.5**
E36A	**McGregor**	**55.27**	**57**	P		**P**	**06 55 46.9**	**+0.5**
	baz=309,SNR=6.0								
D37A	**Cotton**	**55.31**	**56**	P		**P**	**06 55 47.1**	**+0.4**
	baz=309,SNR=7.4								
EYMN	**Ely**	**55.32**	**55**	P		**P**	**06 55 47.4**	**+0.7**
	baz=309,SNR=10								
EYMN	**Ely**	**55.32**	**55**	*e*P		**P**	**06 55 47.5**	**+0.7**
	comp=Z,30nm,0.8s								
319A	**Douglas**	**55.40**	**81**	*e*P		**P**	**06 55 49.0**	**+1.3**
	comp=Z,41nm,1.0s								
L32A	**Elgin**	**55.43**	**64**	P		**P**	**06 55 48.3**	**+0.6**
	baz=309								
F36A	**Milaca**	**55.53**	**58**	P		**P**	**06 55 48.3**	**0.0**
	baz=309								
H35A	**Sunnyside Ranc**	**55.54**	**60**	P		**P**	**06 55 48.7**	**+0.3**
	baz=309								
C38A	**Sawbill Land.**	**55.58**	**55**	P		**P**	**06 55 49.0**	**+0.4**
	baz=309,SNR=8.6								
121A	**Cookes Peak, D**	**55.58**	**79**	P		**P**	**06 55 50.4**	**+1.3**
	baz=312,SNR=23								
121A	**Cookes Peak, D**	**55.58**	**79**	*e*P		**P**	**06 55 50.2**	**+1.1**
	comp=Z,34nm,1.1s								
K33A	**Hardington**	**55.63**	**63**	P		**P**	**06 55 49.2**	**+0.1**
	baz=309								
BGNE	**Belgrade**	**55.72**	**65**	P		**P**	**06 55 50.2**	**+0.4**
	baz=310								
J34A	**George**	**55.80**	**62**	P		**P**	**06 55 50.1**	**-0.2**
	baz=309								
K34A	**Le Mars**	**56.09**	**62**	P		**P**	**06 55 52.8**	**+0.4**
	baz=310,SNR=10								
F37A	**Hinrichs Farm,**	**56.10**	**58**	P		**P**	**06 55 52.9**	**+0.5**
	baz=310								
C39A	**Grand Marais**	**56.11**	**54**	P		**P**	**06 55 52.8**	**+0.4**
	baz=309								
H36A	**Jessenland, He**	**56.12**	**59**	P		**P**	**06 55 53.2**	**+0.7**
	baz=310								
E38A	**The Farm, Brul**	**56.12**	**56**	P		**P**	**06 55 53.0**	**+0.5**
	baz=310,SNR=11								
M33A	**Taylor Creek F**	**56.17**	**64**	P		**P**	**06 55 53.1**	**+0.1**
	baz=310								
SPMN	**Marine on St.**	**56.32**	**58**	*e*P		**P**	**06 55 55.6**	**+1.6**
	comp=Z,58nm,1.8s								
F38A	**Pierce - Schro**	**56.36**	**57**	P		**P**	**06 55 55.4**	**+1.1**
	baz=310,SNR=26								
L34A	**Svendsen Farm,**	**56.39**	**63**	P		**P**	**06 55 54.8**	**+0.2**
	baz=310,SNR=9.0								
I36A	**Fitzsimmons Fa**	**56.42**	**60**	P		**P**	**06 55 54.8**	**+0.1**
	baz=310								
CBKS	**Cedar Bluff**	**56.44**	**68**	P		**P**	**06 55 55.8**	**+0.8**
	baz=310,SNR=6.6								
CBKS	**Cedar Bluff**	**56.44**	**68**	*e*P		**P**	**06 55 56.2**	**+1.2**
CBKS					pmax	pmax			
	comp=Z,40nm,1.0s								
CBKS	**Cedar Bluff**	**56.44**	**68**	*e*P		**P**	**06 55 56.2**	**+1.2**
	comp=Z,40nm,0.9s								
K35A	**Storm Lake**	**56.56**	**62**	P		**P**	**06 55 56.2**	**+0.5**
	baz=310								
H37A	**Dierke Farm, C**	**56.67**	**59**	P		**P**	**06 55 57.6**	**+1.1**
	baz=310								
J36A	**Seneca 1, Swea**	**56.68**	**61**	P		**P**	**06 55 56.8**	**+0.3**
	baz=310,SNR=5.5								
I37A	**Lemond, Waseca**	**56.77**	**60**	P		**P**	**06 55 58.0**	**+0.9**
	baz=310								
E39A	**Mellen**	**56.80**	**56**	P		**P**	**06 55 58.0**	**+0.6**
	baz=310								
G38A	**Ridgeland**	**56.88**	**58**	P		**P**	**06 55 58.4**	**+0.5**
	baz=310,SNR=8.5								
O33A	**Hebron**	**56.90**	**66**	P		**P**	**06 55 58.7**	**+0.4**
	baz=310								
F39A	**Loretta**	**56.91**	**56**	P		**P**	**06 55 59.1**	**+1.0**
	baz=310,SNR=6.7								
H38A	**Maiden Rock**	**56.96**	**58**	P		**P**	**06 55 59.6**	**+1.0**
	baz=310,SNR=11								
N34A	**Lincoln**	**57.04**	**64**	P		**P**	**06 55 59.2**	**0.0**
	baz=310								
K36A	**Gilmore City**	**57.06**	**61**	P		**P**	**06 55 59.6**	**+0.3**
	baz=310								
M35A	**Neola**	**57.10**	**63**	P		**P**	**06 56 00.3**	**+0.7**
	baz=310,SNR=6.1								
E40A	**Wakefield**	**57.11**	**55**	P		**P**	**06 56 00.8**	**+1.3**
	baz=310,SNR=13								
J37A	**Redenius Farm,**	**57.13**	**60**	P		**P**	**06 56 00.2**	**+0.4**
	baz=310								
G39A	**Holcombe**	**57.17**	**57**	P		**P**	**06 56 00.7**	**+0.6**
	baz=310,SNR=11								
L36A	**Harm Buss Farm**	**57.28**	**62**	P		**P**	**06 56 01.1**	**+0.2**
	baz=310								
F40A	**Park Falls**	**57.33**	**56**	P		**P**	**06 56 01.9**	**+0.7**
	baz=310,SNR=11								
I38A	**Scanlan Farm,**	**57.34**	**59**	P		**P**	**06 56 02.0**	**+0.7**
	baz=310,SNR=5.6								
O34A	**Beatrice**	**57.35**	**65**	P		**P**	**06 56 01.3**	**-0.1**
	baz=310,SNR=15								
SFJD	**Kangerlussuaq**	**57.37**	**21**	LR		LR	07 19 44.8		
	comp=Z,252nm,20.2s,baz=323,slow=35								
D41A	**Chassel**	**57.41**	**54**	P		**P**	**06 56 02.9**	**+1.2**
	baz=310,SNR=5.7								
K37A	**Belmond**	**57.43**	**61**	P		**P**	**06 56 02.2**	**+0.2**
	baz=311,SNR=6.6								
H39A	**Augusta**	**57.50**	**58**	P		**P**	**06 56 03.0**	**+0.7**
	baz=311,SNR=8.4								
N35A	**Tabor**	**57.52**	**64**	P		**P**	**06 56 03.2**	**+0.6**
	baz=311,SNR=14								
M36A	**Felix, Anita**	**57.62**	**63**	P		**P**	**06 56 03.9**	**+0.6**
	baz=311								
MNTX	**Cornudas Mount**	**57.65**	**78**	P		**P**	**06 56 04.9**	**+1.3**
	baz=313,SNR=58								
MNTX	**Cornudas Mount**	**57.65**	**78**	*e*P		**P**	**06 56 04.9**	**+1.3**
	comp=Z,35nm,0.9s								
P34A	**Walnut Farm, R**	**57.69**	**66**	P		**P**	**06 56 03.8**	**0.0**
	baz=311								
G40A	**Rib Lake**	**57.71**	**57**	P		**P**	**06 56 04.6**	**+0.8**
	baz=311,SNR=8.1								
J38A	**Wedel Dairy, R**	**57.73**	**60**	P		**P**	**06 56 04.4**	**+0.4**
	baz=311,SNR=8.3								
O35A	**Humboldt**	**57.76**	**64**	P		**P**	**06 56 04.2**	**0.0**
	baz=311								
CD2	**Chengdu**	**57.76**	**281**	P		**P**	**06 56 03.8**	**-0.6**
CD2				pP		sP	06 56 13.8	-1.1
CD2				sP		pP	06 56 23.0	+11
CD2				PcP		**PcP**	**06 56 56.8**	**-0.2**
CD2				S		**S**	**07 03 58.8**	**-3.2**
CD2				ScS		**ScS**	**07 05 46.0**	**-6.4**
CD2				SS		**SS**	**07 07 52.3**	**+0.1**
CD2					pmax	pmax			
	comp=Z,20nm,0.6s								
CD2					pmax	pmax			
	comp=Z,250nm,7.2s								
CD2					LR	LR			
	comp=Z,340nm,12.3s								
MSTX	**Muleshoe**	**57.77**	**74**	P		**P**	**06 56 05.2**	**+0.7**
	baz=312,SNR=17								
MSTX	**Muleshoe**	**57.77**	**74**	*e*P		**P**	**06 56 05.0**	**+0.5**
	comp=Z,73nm,1.5s								
L37A	**Phoenix Point,**	**57.78**	**61**	P		**P**	**06 56 04.9**	**+0.5**
	baz=311,SNR=7.9								
AMTX	**Amarillo**	**57.83**	**73**	P		**P**	**06 56 05.6**	**+0.7**
	baz=312								
AMTX	**Amarillo**	**57.83**	**73**	*e*P		**P**	**06 56 05.9**	**+1.0**
	comp=Z,

KURK pmax pmax
comp=Z,290nm,1.2s
KURK Kurchatov 58.81 313 *eP* **P 06 56 11.0 -0.4**
comp=Z,69nm,1.0s
KURK Kurchatov 58.81 313 P **P 06 56 11.3 0.0**
SNR=31
O37A Wolven Farm, M 58.84 63 P **P 06 56 12.0 +0.2**
baz=312,SNR=9.6
R35A Emporia Munici 58.86 66 P **P 06 56 12.0 +0.1**
baz=312
K40A Colesburg 58.87 59 P **P 06 56 12.0 0.0**
baz=312,SNR=6.5
Q36A Arnold C. Orve 58.87 65 P **P 06 56 11.8 -0.2**
baz=312
F43A Flat Rock, Esc 58.95 55 P **P 06 56 13.3 +0.9**
baz=312,SNR=10
N38A Joes South For 58.95 62 P **P 06 56 12.6 0.0**
baz=312
GYA Guiyang 58.96 275↑ *iP* **P 06 56 12.3 -0.6**
GYA pP sP 06 56 24.0 +0.6
GYA sP pP 06 56 30.3 +10
GYA PP **PP 06 58 25.8 +2.7**
GYA S **S 07 04 14.8 -3.1**
GYA sS sS 07 04 31.0 +0.7
GYA pmax pmax
comp=Z,20nm,1.0s
GYA pmax pmax
comp=Z,120nm,5.8s
J41A Loganville 59.05 58 P **P 06 56 13.6 +0.4**
baz=312,SNR=15
G43A Wallace 59.06 55 P **P 06 56 14.1 +0.9**
baz=312,SNR=5.6
E44A Grand Marais A 59.07 53 P **P 06 56 14.9 +1.6**
baz=312
ARCES ARCESS Array B 59.08 349 P **P 06 56 11.6 -1.4**
comp=Z,4.0nm,0.7s,baz=32,slow=7.1,SNR=6.2
ARCES PcP **PcP 06 57 00.6 -0.9**
comp=Z,5.6nm,0.8s,baz=12,slow=5.0,SNR=3.8
ARCES LR LR 07 22 17.3
comp=Z,83nm,21.6s,baz=17,slow=37
M39A Webster 59.10 61 P **P 06 56 14.0 +0.4**
baz=312,SNR=6.9
P37A Lathrop 59.11 64 P **P 06 56 13.3 -0.3**
baz=312,SNR=5.4
T34A McClaskey Farm 59.14 68 P **P 06 56 14.0 +0.1**
baz=312,SNR=6.8
S35A Otter Creek Ra 59.22 67 P **P 06 56 14.4 0.0**
baz=312,SNR=5.9
JFWS Jewell Farm 59.22 59 *eP* **P 06 56 14.5 +0.1**
JFWS pmax pmax
comp=Z,54nm,1.0s
JFWS Jewell Farm 59.22 59 *eP* **P 06 56 14.5 +0.1**
comp=Z,54nm,1.0s
F44A Big Bay de Noc 59.24 54 P **P 06 56 15.4 +0.9**
baz=312,SNR=7.1
L40A Anamosa 59.25 60 P **P 06 56 14.8 +0.2**
baz=312,SNR=6.5
O38A Galt 59.26 63 P **P 06 56 14.6 -0.1**
baz=312,SNR=8.4
R36A Gordon, Harris 59.27 66 P **P 06 56 14.8 0.0**
baz=312,SNR=6.5
LVZ Lovozero 59.29 345 *diP* **P 06 56 14.1 -0.4**
LVZ pmax pmax
comp=Z,36nm,0.7s
LVZ Lovozero 59.29 345 *eP* **P 06 56 14.2 -0.4**
comp=Z,35nm,0.7s
N39A Derby Farms, D 59.31 62 P **P 06 56 15.2 +0.1**
baz=312,SNR=9.2
K41A Shullsburg 59.40 59 P **P 06 56 15.9 +0.3**
baz=312,SNR=14
Q37A Longview Farm, 59.52 65 P **P 06 56 16.4 -0.1**
baz=312
M40A Post Highland 59.52 61 P **P 06 56 16.6 +0.2**
baz=312
P38A Dawn 59.55 64 P **P 06 56 16.4 -0.3**
baz=312
T35A Sooner Cattle 59.61 68 P **P 06 56 17.0 -0.2**
baz=312
S36A Lake Cedric, C 59.62 66 P **P 06 56 17.0 -0.2**
baz=312
E45A Wooded Hills, 59.63 53 P **P 06 56 18.4 +1.2**
baz=312,SNR=5.3
L41A Preston 59.64 60 P **P 06 56 17.3 0.0**
baz=312,SNR=7.4
MK31 Makanchi Array 59.64 308 *eP* **P 06 56 16.3 -1.0**
MK31 Makanchi Array 59.64 308 *eP* **P 06 56 16.3 -1.0**
MKAR Makanchi Array 59.64 308 P **P 06 56 16.2 -1.0**
comp=Z,11nm,0.7s,baz=54,slow=6.7,SNR=90
MKAR LR LR 07 23 23.8
comp=Z,155nm,19.1s,baz=14,slow=37
MKAR Makanchi Array 59.64 308 *eP* **P 06 56 16.3 -1.0**
comp=Z,74nm,0.7s
MK01 Makanchi Array 59.65 308 *eP* **P 06 56 16.2 -1.1**
R37A Teagarden Farm 59.67 65 P **P 06 56 16.5 -1.1**
baz=312
O39A Kirksville 59.70 62 P **P 06 56 17.6 -0.1**
baz=312
WMOK Wichita Mounta 59.70 71 P **P 06 56 18.6 +0.8**
baz=313,SNR=22
WMOK Wichita Mounta 59.70 71 *eP* **P 06 56 18.8 +0.9**
WMOK pmax pmax
comp=Z,20nm,1.0s
WMOK Wichita Mounta 59.70 71 *eP* **P 06 56 18.8 +0.9**
comp=Z,20nm,0.9s
MAKZ Makanchi 59.79 308 *eP* **P 06 56 17.1 -1.2**
MAKZ pmax pmax
comp=Z,16nm,0.7s
MAKZ Makanchi 59.79 308 *eP* **P 06 56 17.1 -1.2**
comp=Z,16nm,0.7s
N40A Mertquake, Sal 59.83 61 P **P 06 56 18.7 +0.1**
baz=312
U35A Pawnee 59.85 68 P **P 06 56 19.1 +0.3**
baz=312,SNR=5.1
T36A Boggs Farm, Ca 59.89 67 P **P 06 56 18.9 -0.2**
baz=312
F45A CMU Biological 59.91 54 P **P 06 56 18.4 -0.7**
baz=312
Q38A Cooks Store, C 59.95 64 P **P 06 56 18.8 -0.6**
baz=312
S37A Fort Scott 60.04 66 P **P 06 56 19.8 -0.3**
baz=312,SNR=6.1
M41A Milan 60.09 60 P **P 06 56 20.5 +0.2**
baz=312,SNR=6.4
P39B Salisbury 60.09 63 P **P 06 56 20.1 -0.3**
baz=312,SNR=10
O40A La Belle 60.17 62 P **P 06 56 21.0 0.0**
baz=312,SNR=13
V35A Meyer Ranch, C 60.19 69 P **P 06 56 21.4 +0.2**
baz=313
Q39A Willow Grove F 60.26 64 P **P 06 56 21.2 -0.4**
baz=312,SNR=12
R38A Fenwick Farm, 60.30 65 P **P 06 56 21.5 -0.4**
baz=313,SNR=5.4
TX31 Lajitas Ar. Si 60.34 79 *eP* **P 06 56 23.0 +0.6**
TX31 *eP* **P 06 56 23.4 +1.0**
TXAR Lajitas Array 60.34 79 P **P 06 56 23.3 +0.9**
comp=Z,28nm,0.8s,baz=300,slow=5.0,SNR=182
TXAR LR LR 07 20 34.5
comp=Z,102nm,20.4s,baz=0.0,slow=34
TXAR PKP2bc 07 25 55.4
comp=Z,1.9nm,1.1s,baz=103,slow=2.9,SNR=5.8
N41A Harden Midland 60.36 61 P **P 06 56 22.4 +0.2**
baz=312
T37A Chenevville 18 60.42 67 P **P 06 56 22.4 -0.3**
baz=313,SNR=8.5
U36A Oologah 60.43 68 P **P 06 56 22.8 +0.1**
baz=313
P40A Paris 60.47 63 P **P 06 56 22.8 -0.2**
baz=313,SNR=14
L43A Garden Prairie 60.54 59 P **P 06 56 23.6 +0.2**
baz=313
W35A Tecumseh 60.58 69 P **P 06 56 24.7 +0.9**
baz=313,SNR=8.6
ABTX Abilene, Hawle 60.61 73 P **P 06 56 25.0 +0.9**
baz=313,SNR=13
ABTX Abilene, Hawle 60.61 73 *eP* **P 06 56 24.9 +0.9**
comp=Z,38nm,1.0s
S38A Stockton 60.67 65 P **P 06 56 23.5 -0.9**
baz=313,SNR=10
V36A Jenks 60.71 68 P **P 06 56 25.3 +0.5**
baz=313,SNR=8.4
R39A Chumby, Stover 60.72 64 P **P 06 56 24.4 -0.3**
baz=313
TUL1 Leonard 60.72 68 P **P 06 56 25.2 +0.4**
baz=313,SNR=7.9
TUL1 Leonard 60.72 68 *eP* **P 06 56 25.5 +0.8**
comp=Z,23nm,0.9s
N42A Yates City 60.73 60 P **P 06 56 24.7 -0.1**
baz=313
O41A Passleys Farm, 60.74 62 P **P 06 56 25.0 +0.1**
baz=313,SNR=6.3
U37A Salina 60.78 67 P **P 06 56 25.2 0.0**
baz=313,SNR=5.3
Q40A Laux Farm, Aux 60.81 63 P **P 06 56 25.3 -0.1**
baz=313,SNR=8.8
T38A Diamond 60.85 66 P **P 06 56 25.4 -0.2**
baz=313
BRVK Borovoye 60.90 319 *diP* **P 06 56 25.8 +0.1**
BRVK pmax pmax
comp=Z,134nm,1.4s
BRVK Borovoye 60.90 319 P P 06 56 14.5 -11
SNR=27
P41A Barry, Barry 60.94 62 P **P 06 56 26.0 -0.2**
baz=313
GLMI Grayling 60.96 54 *eP* **P 06 56 27.7 +1.4**
comp=Z,74nm,0.9s
S39A Bolivar 60.97 65 P **P 06 56 25.6 -0.9**
baz=313
W36A Wetumka 60.98 69 P **P 06 56 27.5 +1.0**
baz=313,SNR=9.6
SOKR Solikamsk 60.99 330 *diP* **P 06 56 24.6 -1.6**
SOKR pmax pmax
comp=Z,69nm,1.1s
X35A Drake 61.03 70 P **P 06 56 27.5 +0.6**
baz=313,SNR=11
V37A Hulbert 61.12 68 P **P 06 56 27.6 +0.1**
baz=313,SNR=5.7
O42A Bath 61.14 61 P **P 06 56 27.5 0.0**
baz=313
R40A Maddies Statio 61.18 64 P **P 06 56 27.1 -0.7**
baz=313,SNR=6.6
U38A Gravette 61.20 67 P **P 06 56 27.6 -0.5**
baz=313
X36A Centrahoma 61.29 70 P **P 06 56 29.5 +0.8**
baz=313,SNR=8.9
Q41A Truxton 61.33 63 P **P 06 56 28.7 -0.1**
baz=313
Y35A Marietta 61.33 71 P **P 06 56 30.0 +1.1**
baz=314,SNR=12
T39A Clever 61.39 66 P **P 06 56 28.8 -0.5**
baz=313,SNR=8.4
P42A Winchester 61.40 62 P **P 06 56 29.4 0.0**
baz=313,SNR=6.6
W37B Quinlan 61.46 68 P **P 06 56 30.6 +0.8**
baz=313,SNR=13
233A Rising Star 61.48 73 P **P 06 56 30.6 +0.6**
baz=314,SNR=13
O43A Sugar Creek Fa 61.51 60 P **P 06 56 30.1 0.0**
baz=313
S40A Lebanon 61.51 65 P **P 06 56 29.1 -1.1**
baz=313
V38A Canehill 61.57 67 P **P 06 56 30.7 +0.1**
baz=313,SNR=9.5
R41A Rosebud 61.69 63 P **P 06 56 30.9 -0.4**
baz=313,SNR=6.5
Q42A Golden Eagle 61.75 62 P **P 06 56 32.0 +0.3**
baz=313
U39A Green Forest 61.77 66 P **P 06 56 31.8 -0.1**
baz=313,SNR=7.4
Y36A Durant 61.79 70 P **P 06 56 32.8 +0.8**
baz=314,SNR=5.5
T40A Mansfield 61.81 65 P **P 06 56 31.4 -0.8**
baz=313,SNR=6.7
P43A Skaggs, Pawnee 61.83 61 P **P 06 56 32.2 0.0**
baz=313,SNR=7.3
SVE Sverdlovsk 61.85 327↑ *eP* **P 06 56 32.8 +0.7**
SVE pmax pmax
comp=Z,35nm,1.5s
X37A Clayton 61.87 69 P **P 06 56 33.2 +0.6**
baz=314,SNR=7.5
333A Richland Sprin 61.90 74 P **P 06 56 33.4 +0.5**
baz=314,SNR=14
SCHQ Schefferville 61.92 37 P **P 06 56 32.8 +0.2**
comp=Z,16nm,0.9s,baz=317,slow=7.0,SNR=6.2
SCHQ LR LR 07 26 05.7
comp=Z,463nm,18.8s,baz=306,slow=39
SCHQ Schefferville 61.92 37 *eP* **P 06 56 33.4 +0.8**
comp=Z,38nm,1.2s
234A Clairette 61.96 73 P **P 06 56 34.1 +0.8**
baz=314
S41A Jillco Farms, 61.96 64 P **P 06 56 32.3 -0.8**
baz=314,SNR=15
JCT Junction City 61.98 75 P **P 06 56 33.4 +0.1**
baz=314,SNR=18
JCT Junction City 61.98 75 *eP* **P 06 56 33.5 +0.1**
JCT pmax pmax
comp=Z,53nm,1.2s
JCT Junction City 61.98 75 *eP* **P 06 56 33.5 +0.1**
comp=Z,53nm,1.3s
MSF Maaselka 62.01 346 P **P 06 56 33.3 +0.3**
MSF pmax pmax
comp=Z,43nm,0.8s
TMCR Tamitsa 62.02 342 *eP* **P 06 56 32.8 -0.3**
R42A Luebbering 62.03 63 P **P 06 56 33.5 -0.1**
baz=314
V39A Pettigrew 62.04 67 P **P 06 56 33.7 -0.1**
baz=314,SNR=12
W38A Poteau 62.05 68 P **P 06 56 34.6 +0.8**
baz=314,SNR=10
Z36A Blue Ridge 62.13 71 P **P 06 56 35.0 +0.6**
baz=314,SNR=8.9
X38A Whitesboro 62.14 68 P **P 06 56 34.8 +0.5**
baz=314
U40A Yellville 62.16 66 P **P 06 56 34.1 -0.4**
baz=314,SNR=12
Q43A New Douglas 62.21 62 P **P 06 56 34.8 +0.1**
baz=314,SNR=6.2
QIZ Qiongzhong 62.21 267 P **P 06 56 32.8 -2.3**
QIZ S **S 07 04 59.0 -0.3**
433A Art 62.23 74 P **P 06 56 35.3 +0.3**
baz=314,SNR=19
VLDQ Val d'Or 62.24 47 *eP* **P 06 56 33.6 -1.2**
comp=Z,30nm,1.3s
T41A Mountain View 62.32 65 P **P 06 56 34.8 -0.8**
baz=314,SNR=6.3
334A Lometa 62.36 73 P **P 06 56 36.7 +0.8**
baz=314,SNR=27
S42A Caledonia 62.38 63 P **P 06 56 35.5 -0.5**
baz=314,SNR=18
WHTX Lake Whitney, 62.38 72 P **P 06 56 37.1 +1.1**
baz=314,SNR=12
WHTX Lake Whitney, 62.38 72 *eP* **P 06 56 37.2 +1.1**
comp=Z,35nm,0.8s
W39A Magazine 62.40 67 P **P 06 56 36.6 +0.5**
baz=314,SNR=10.0
KMI Kunming 62.41 277 P **P 06 56 36.3 -0.3**
KMI pP sP 06 56 48.3 +1.2
KMI sP pP 06 56 53.0 +8.8
KMI pmax pmax
comp=Z,28nm,1.4s
KMI pmax pmax
comp=Z,230nm,5.3s
P44A Sand Creek, Wi 62.45 61 P **P 06 56 36.8 +0.4**
baz=314
R43A Red Bud 62.53 62 P **P 06 56 36.8 -0.1**
baz=314
V40A Witts Springs 62.55 66 P **P 06 56 36.7 -0.4**
baz=314,SNR=13
136A Ennis 62.62 71 P **P 06 56 38.2 +0.6**
baz=314
Q44A Meyer Farm, Va 62.62 61 P **P 06 56 37.1 -0.4**
baz=314
Z37A Pogue Cattle C 62.67 70 P **P 06 56 38.4 +0.5**
baz=314
X39A Fountain Ranch 62.67 68 P **P 06 56 38.8 +0.8**
baz=314,SNR=15
SFIN Lafayette 62.68 59 P **P 06 56 38.5 +0.7**
baz=314,SNR=6.7
SFIN Lafayette 62.68 59 *eP* **P 06 56 38.8 +1.0**
comp=Z,50nm,1.1s
434A Burnet 62.70 74 P **P 06 56 38.7 +0.5**
baz=314,SNR=26
U41A Viola 62.71 65 P **P 06 56 37.7 -0.5**
baz=314,SNR=13
533A Kerrville 62.74 75 P **P 06 56 38.7 +0.2**
baz=314,SNR=16
W40A Ferguson Farm, 62.83 67 P **P 06 56 39.4 +0.5**
baz=314,SNR=17
ARU Arti 62.88 327 *diP* **P 06 56 39.4 +0.4**
ARU 06 57 19.6
ARU 06 58 54.0
ARU PPP PPP 07 00 24.4
ARU S **S 07 05 10.4 +3.6**
ARU SS **SS 07 09 10.2 -0.9**
ARU pmax pmax
comp=Z,98nm,1.7s
ARU Arti 62.88 327 *eP* **P 06 56 39.6 +0.6**
comp=Z,43nm,0.8s
335A Moody 62.89 73 P **P 06 56 40.2 +0.7**
baz=314
S43A Fulton Ridge, 62.93 63 P **P 06 56 39.6 -0.1**
baz=314,SNR=9.2
236A Katherine and 62.95 72 P **P 06 56 41.0 +1.2**
baz=314,SNR=14
V41A Mountainview 62.96 66 P **P 06 56 39.5 -0.3**
baz=314,SNR=16
MIAR Mount Ida 62.97 68 P **P 06 56 40.6 +0.7**
baz=314,SNR=24
MIAR Mount Ida 62.97 68 *eP* **P 06 56 40.6 +0.7**
MIAR pmax pmax
comp=Z,41nm,1.0s
MIAR Mount Ida 62.97 68 *eP* **P 06 56 40.6 +0.7**
comp=Z,41nm,1.0s
137A Heron Place, G 63.01 71 P **P 06 56 40.7 +0.5**
baz=314
Z38A Mt. Pleasant 63.02 70 P **P 06 56 40.8 +0.5**
baz=314
R44A Waltonville 63.04 62 P **P 06 56 40.1 -0.2**
baz=314
633A Saathoff Ranch 63.08 76 P **P 06 56 40.9 +0.2**
baz=315
Y39A Lockesburg 63.08 69 P **P 06 56 41.1 +0.5**
baz=314,SNR=5.5
U42A Revenden 63.10 65 P **P 06 56 40.1 -0.6**
baz=314,SNR=7.6
534A Blanco 63.12 75 P **P 06 56 41.5 +0.5**
baz=315,SNR=16
435B Jarrell 63.14 73 P **P 06 56 42.1 +1.0**
baz=314,SNR=5.3
T43A Greenville 63.15 64 P **P 06 56 40.9 -0.1**
baz=314,SNR=43
336A Riesel 63.18 72 P **P 06 56 42.4 +1.1**
baz=314,SNR=11
X301 Greenbrier Sit 63.19 66 *eP* **P 06 56 41.7 +0.3**
comp=Z,28nm,0.8s
WHAR Wooly Hollow 63.22 66 *eP* **P 06 56 41.9 +0.3**
comp=Z,25nm,0.9s
OLIL Olney 63.26 61 *eP* **P 06 56 42.2 +0.5**
comp=Z,47nm,1.1s
PBMO Poplar Bluff 63.28 64 *eP* **P 06 56 41.7 -0.2**
comp=Z,41nm,1.0s
S44A Carbondale 63.32 63 P **P 06 56 42.2 0.0**
baz=314
W41B Gary Mavity, V 63.33 66 P **P 06 56 42.3 0.0**
baz=314,SNR=12
138A Matatall Enter 63.37 70 P **P 06 56 43.5 +0.9**
baz=314
237A Washetta, Mont 63.39 71 P **P 06 56 43.4 +0.7**
baz=314
V42A Cord 63.39 65 P **P 06 56 42.2 -0.4**
baz=314
832A Faith Ranch, C 63.40 77 P **P 06 56 43.6 +0.7**
baz=315,SNR=20
X40A Basin Creek Fa 63.45 67 P **P 06 56 43.8 +0.7**
baz=314,SNR=7.2
PDGK Podgornoye 63.47 306 P **P 06 56 42.7 -0.6**
PDGK pmax pmax
comp=Z,28nm,1.1s
Y40A Okolona 63.52 68 P **P 06 56 43.8 +0.2**
baz=314
733A Divot King Ran 63.52 76 P **P 06 56 44.7 +1.0**
baz=315,SNR=9.1
UALR University of 63.55 67 *eP* **P 06 56 44.4 +0.7**
comp=Z,21nm,1.1s
T44A Benton 63.55 63 P **P 06 56 43.8 +0.1**
baz=314
U43A Rector 63.58 64 P **P 06 56 43.6 -0.2**
baz=314,SNR=5.4
436A Wall Ranch, Ga 63.64 73 P **P 06 56 46.0 +1.6**
baz=315,SNR=9.2
X41A Kaden, Bauxite 63.64 67 P **P 06 56 44.7 +0.4**
baz=314,SNR=8.5
634A China Grove, S 63.64 75 P **P 06 56 45.5 +1.0**
baz=315
535A Dale 63.68 74 P **P 06 56 45.8 +1.1**
baz=315,SNR=7.1
W42A Bald Knob 63.68 66 P **P 06 56 45.0 +0.4**
baz=314
S45A Carrier Mills 63.72 62 P **P 06 56 44.8 0.0**
baz=314
833A Chaparral WMA, 63.73 77 P **P 06 56 46.2 +1.1**
baz=315
PARMO Parma 63.75 64 *eP* **P 06 56 45.7 +0.7**
139A Bunkhouse Ranc 63.77 70 P **P 06 56 46.2 +1.0**
baz=315
SADO Sadowa 63.79 51 *eP* **P 06 56 45.9 +0.7**
comp=Z,33nm,1.1s
238A Jacksonville 63.80 71 P **P 06 56 46.7 +1.2**
baz=315
337A Centerville 63.82 72 P **P 06 56 47.1 +1.6**
baz=315
BLO Bloomington 63.83 60 *eP* **P 06 56 46.7 +1.1**
BLO pmax pmax
comp=Z,41nm,1.2s
BLO Bloomington 63.83 60 *eP* **P 06 56 46.7 +1.1**
comp=Z,41nm,1.2s
WLAR White Oak Lake 63.84 68 *eP* **P 06 56 46.9 +1.2**
comp=Z,48nm,0.9s
734A La Parita Cree 63.89 76 P **P 06 56 47.4 +1.3**
baz=315,SNR=6.2
U44A Portageville 63.90 64 P **P 06 56 46.5 +0.5**
baz=314
536A Bastrop 63.96 74 P **P 06 56 48.0 +1.5**
baz=315
Z40A Long Farm, Mag 63.97 69 P **P 06 56 47.7 +1.1**
baz=315
635A Leesville 64.00 75 P **P 06 56 48.1 +1.3**
baz=315,SNR=19
437A Phantom Ranch, 64.00 72 P **P 06 56 48.7 +2.0**
baz=315
Y41A Eaglette Beard 64.01 68 P **P 06 56 47.5 +0.7**
baz=315
USIN University of 64.03 61 *eP* **P 06 56 48.1 +1.2**
comp=Z,76nm,1.2s
X42A Stuttgart 64.12 67 P **P 06 56 48.2 +0.7**
baz=315
U44B Burton Farm, H 64.21 64 P **P 06 56 49.0 +0.9**
baz=315
W43A Forest City 64.29 66 P **P 06 56 49.9 +1.3**
baz=315
140A Cam and Jess, 64.30 69 P **P 06 56 50.1 +1.5**
baz=315
933A Laredo 64.31 77 P **P 06 56 50.4 +1.6**
baz=315,SNR=13
735A Kenedy 64.35 75 P **P 06 56 50.9 +1.8**
baz=315
SLVN Son La 64.36 273 *eP* **P 06 56 49.1 -0.3**
comp=Z,36nm,1.0s
636A Smothers Creek 64.38 74 P **P 06 56 51.1 +1.9**
baz=315,SNR=9.2
834A Tilden 64.40 76 P **P 06 56 51.1 +1.6**
baz=315,SNR=6.3
BORG Borgarnes 64.41 9 LR LR 07 25 58.6
comp=Z,78nm,19.1s,baz=6.6,slow=37
537A Green Hill Far 64.42 73 P **P 06 56 51.4 +1.9**
baz=315
JOF Joensuu 64.43 344 P **P 06 56 49.3 +0.2**
JOF pmax pmax
comp=Z,41nm,0.8s
438A Sam Houston St 64.46 72 P **P 06 56 51.8 +2.0**
baz=315,SNR=6.2
UTMT University of 64.48 63 *eP* **P 06 56 51.4 +1.6**
comp=Z,100nm,1.0s
U45A Rockin P Farm, 64.54 63 P **P 06 56 51.0 +0.8**
baz=315,SNR=8.3
X43A Marvell 64.59 66 P **P 06 56 51.1 +0.6**
baz=315
240A Hunter Patters 64.60 70 P **P 06 56 51.7 +1.0**
baz=315
339A Huntington 64.61 71 P **P 06 56 52.1 +1.3**
baz=315
WCI Wyandotte Cave 64.62 60 *eP* **P 06 56 51.5 +0.7**
WCI pmax pmax
comp=Z,32nm,1.2s
WCI Wyandotte Cave 64.62 60 *eP* **P 06 56 51.5 +0.7**
comp=Z,32nm,1.3s
PLVO Plevna 64.62 50 *eP* **P 06 56 51.0 +0.4**
comp=Z,12nm,0.8s
KLMR Klimovskoe 64.65 339 *eP* **P 06 56 48.4 -2.1**
KLMR *e* 06 57 23.1
KLMR *e* 06 59 11.0
KLMR pmax pmax
comp=Z,53nm,1.5s
141A Papa Simpson, 64.72 69 P **P 06 56 52.6 +1.1**

baz=315
835A Beeville 64.74 76 P P 06 56 54.0 +2.4
baz=315,SNR=10
736A Circle Diamond 64.74 75 P P 06 56 54.1 +2.5
baz=315,SNR=9.9
W44A Shelby Farms P 64.78 65 P P 06 56 52.5 +0.7
baz=315
934A Benavides 64.79 77 P P 06 56 54.2 +2.2
baz=316,SNR=13
538A Harpers Hosp 64.82 72 P P 06 56 54.6 +2.4
baz=315
Z42A Norrel Spur, H 64.83 68 P P 06 56 52.6 +0.5
baz=315
V45A Humboldt 64.85 64 P P 06 56 52.6 +0.3
baz=315
637A Eagle Lake 64.86 74 P P 06 56 54.7 +2.3
baz=315,SNR=6.2
439A Center Grove, 64.87 72 P P 06 56 54.2 +1.8
baz=315
340A Bronson 64.96 70 P P 06 56 54.2 +1.2
baz=315,SNR=6.5
TRQ Mont Tremblant 64.97 47 *e*P P 06 56 52.7 -0.3
ACSO Alum Creek Sta 65.02 57 *e*P P 06 56 54.2 +0.9
comp=Z,37nm,1.4s
X44A Crenshaw 65.03 66 P P 06 56 53.9 +0.4
baz=315
034A Hebbronville 65.06 77 P P 06 56 55.5 +1.7
baz=316,SNR=6.2
W45A Hickory Valley 65.13 65 P P 06 56 54.9 +0.8
baz=315,SNR=6.7
WVT Waverly 65.23 63 *e*P P 06 56 55.5 +0.8
WVT pmax pmax
comp=Z,22nm,1.0s
WVT Waverly 65.23 63 *e*P P 06 56 55.5 +0.8
comp=Z,22nm,1.0s
ERPA Erie 65.26 53 *e*P P 06 56 56.1 +1.3
comp=Z,38nm,1.1s
BUF Buffalo 65.26 52 *e*P P 06 56 56.3 +1.5
Y44A Strider, Charl 65.37 66 P P 06 56 56.3 +0.7
baz=315
440A Kirbyville 65.39 71 P P 06 56 57.3 +1.4
baz=315
OXF Oxford 65.45 65 *e*P P 06 56 56.7 +0.5
OXF Oxford 65.45 65 *e*P P 06 56 56.7 +0.5
341A Kurthwood 65.46 70 P P 06 56 57.4 +1.1
baz=315,SNR=6.2
ALLY Alegheny Colle 65.51 54 *e*P P 06 56 57.6 +1.1
comp=Z,51nm,1.0s
035A Encino 65.52 77 P P 06 56 58.5 +1.8
baz=316,SNR=5.0
X45A UM Field Stati 65.53 65 P P 06 56 57.0 +0.4
baz=315
143A Socs Landing, 65.55 68 P P 06 56 57.8 +0.9
baz=315
242A Grayson 65.56 69 P P 06 56 57.7 +0.8
baz=315
Y45A Yeager Farm, C 65.83 66 P P 06 56 59.4 +0.7
baz=316,SNR=9.0
441A DeRidder 65.86 71 P P 06 56 59.9 +1.0
baz=316
M54A Oil Creek Stat 65.86 54 P P 06 56 59.2 +0.4
baz=317
035Z Hargill 65.88 77 P P 06 57 00.6 +1.6
baz=316,SNR=6.6
MMNY Mt. Morris Dam 65.88 52 *e*P P 06 56 59.9 +1.0
LMQ La Malbaie 65.93 44 *e*P P 06 56 59.2 +0.1
342A Flagon Creek P 65.94 69 P P 06 57 01.3 +1.9
baz=316
243A Waterproof 66.09 69 P P 06 57 01.5 +1.2
baz=316
N54A Moraine State 66.09 54 P P 06 57 00.6 +0.4
baz=317,SNR=5.3
LNIG Linares 66.11 79 *e*P P 06 57 00.0 -0.6
comp=Z,15nm,1.0s
LONY Lake Ozonia 66.14 48 *e*P P 06 57 00.1 -0.4
comp=Z,27nm,1.3s
144A Alexander Plac 66.19 67 P P 06 57 02.1 +1.2
baz=316
Y46A Houston 66.22 65 P P 06 57 01.6 +0.4
baz=316,SNR=14
FRU Bishkek 66.31 309 *e*P P 06 57 00.0 -1.6
FRU pmax pmax
comp=Z,80nm,1.4s
VBMS Vicksburg 66.42 68 P P 06 57 03.3 +0.8
baz=316
LSA Lhasa 66.44 288 P P 06 57 03.5 +0.3
LSA pmax pmax
comp=Z,31nm,0.9s
244A Avery, Jackson 66.45 68 P P 06 57 03.7 +1.1
baz=316,SNR=7.7
145A Houston Renfro 66.50 67 P P 06 57 03.6 +0.6
baz=316
AAK Ala-Archa 66.51 309 *d i*P P 06 57 03.1 0.0
AAK pmax pmax
comp=Z,65nm,0.7s
AAK Ala-Archa 66.51 309 *e*P P 06 57 03.3 +0.2
comp=Z,27nm,0.7s
AAK Ala-Archa 66.51 309 P P 06 57 03.7 +0.6
SNR=15
AAK Ala-Archa 66.51 309 P P 06 57 03.7 +0.6
SNR=15
AAK P P 06 57 03.7 +0.6
SNR=15
Z46A Louisville 66.66 66 P P 06 57 04.6 +0.6
baz=316
FIA1 FINESS Array S 66.67 346 *e*P P 06 57 03.0 -0.6
FINES FINESS Array B 66.68 346 P P 06 57 03.2 -0.4
comp=Z,9.6nm,0.6s,baz=18,slow=6.6,SNR=20
FINES LR LR 07 27 49.4
comp=Z,105nm,21.6s,baz=48,slow=38
NCB Newcomb 66.79 49 *e*P P 06 57 04.8 +0.1
comp=Z,0.2nm,0.8s
Y47A UCPARC, Winfie 66.80 65 P P 06 57 04.9 0.0
baz=316,SNR=12
344A Westbrook Farm 66.84 68 P P 06 57 06.5 +1.4
baz=316,SNR=5.6
245A Little AP, Sta 66.92 67 P P 06 57 06.5 +0.8
baz=316,SNR=8.3
SWET Sewanee 66.96 62 *e*P P 06 57 06.6 +0.7
comp=Z,13nm,1.5s
146A Union 66.99 66 P P 06 57 07.0 +0.9
baz=316,SNR=7.7
MCWV Mont Chateau 67.11 55 *e*P P 06 57 07.8 +1.0
comp=Z,18nm,1.3s
543A St. Martinvill 67.14 70 P P 06 57 07.5 +0.5
baz=316
Z47A Carrollton 67.17 65 P P 06 57 07.3 +0.1
baz=316,SNR=9.1
BINY Binghamton 67.24 51 *e*P P 06 57 08.2 +0.7
comp=Z,67nm,1.1s
O56A Blue Knob Stat 67.34 54 P P 06 57 08.3 +0.1
baz=317,SNR=5.6
Z48A Northport 67.34 65 P P 06 57 08.2 -0.1
baz=316,SNR=7.4
444A Pine Grove 67.36 69 P P 06 57 09.8 +1.4
baz=316
345A Thompson Farm, 67.36 68 P P 06 57 09.7 +1.3
baz=316
SSPA Standing Stone 67.42 53 *e*P P 06 57 09.3 +0.6
comp=Z,24nm,0.9s
147A Livingston 67.43 66 P P 06 57 09.6 +0.8
baz=316,SNR=6.0
ACCN Adirondack Com 67.50 49 *e*P P 06 57 09.3 +0.2
comp=Z,35nm,1.0s
CPCT Cooper Cave 67.59 61 *e*P P 06 57 10.4 +0.5
comp=Z,16nm,1.4s
MNAS Manas 67.61 310 P P 06 57 10.3 +0.2
MNAS pmax pmax
comp=Z,32nm,0.9s
PQI Presque Isle 67.63 43 *e*P P 06 57 09.7 -0.2
comp=Z,18nm,0.8s
346A Big Creek Wild 67.64 68 P P 06 57 11.3 +1.0
baz=316,SNR=5.3
247A Quitman 67.67 67 P P 06 57 11.2 +0.8
baz=316
LBNH Lisbon 67.69 47 *e*P P 06 57 10.6 +0.2
LBNH pmax pmax
comp=Z,26nm,1.0s
LBNH Lisbon 67.69 47 *e*P P 06 57 10.6 +0.2
comp=Z,26nm,1.0s
KSPA Keystone Colle 67.82 51 *e*P P 06 57 11.4 +0.2
comp=Z,28nm,0.9s
TKL Tuckaleechee C 67.87 61 *e*P P 06 57 12.4 +0.8
TKL pmax pmax
comp=Z,18nm,1.0s
TKL Tuckaleechee C 67.87 61 *e*P P 06 57 12.3 +0.8
comp=Z,18nm,1.0s
LRAL Lakeview Retre 67.91 65 *e*P P 06 57 12.0 +0.1
LRAL *e*pP **sP** 06 57 22.3 -0.2
HNH Hanover 67.92 48 *e*P P 06 57 12.4 +0.6
comp=Z,24nm,1.0s
TRY Troy 67.99 49 *e*P P 06 57 12.8 +0.6
comp=Z,26nm,1.0s
ABKAR Akbulak array 68.03 322 *e*P P 06 57 11.5 -0.9
KSH Kashi 68.04 306 *i*P P 06 57 16.5 +3.7
KSH PcP **PcP** 06 57 42.5 +3.6
KSH PP **PP** 06 59 49.0 +6.5
KSH S **S** 07 06 11.5 +0.8
KSH sS sS 07 06 28.5 +5.1
KSH SS **SS** 07 10 35.5 +3.2
KSH pmax pmax
comp=Z,43nm,0.8s
KSH pmax pmax
comp=Z,150nm,3.9s
KSH LR LR
comp=Z,260nm,9.1s
KSH LR LR
comp=Z,220nm,9.7s
KKAR Karatay Array 68.12 311 *e*P P 06 57 13.1 0.0
KKAR Karatay Array 68.12 311 *e*P P 06 57 13.1 0.0
446A Poplarville 68.13 68 P P 06 57 14.5 +1.2
baz=316
PKME Peaks-Kenny Pk 68.13 45 *e*P P 06 57 13.6 +0.5
comp=Z,30nm,1.1s
248A Dixon Mills 68.16 66 P P 06 57 13.9 +0.4
baz=316
347A Saraland 68.18 67 P P 06 57 14.7 +1.1
baz=316,SNR=8.0
N59A State Game Lan 68.30 52 P P 06 57 15.1 +0.8
baz=318,SNR=14
FFD Franklin Falls 68.40 48 *e*P P 06 57 15.5 +0.7
comp=Z,28nm,0.8s
WVL Waterville 68.50 46 *e*P P 06 57 15.2 -0.2
comp=Z,27nm,0.8s
NC204 NORSAR Array S 68.55 354 *e*P P 06 57 16.4 +0.9
NC303 NORSAR Array S 68.56 354 *e*P P 06 57 16.2 +0.7
BLA Blacksburg 68.59 57 *e*P P 06 57 17.2 +1.0
BLA pmax pmax
comp=Z,45nm,1.4s
BLA Blacksburg 68.59 57 *e*P P 06 57 17.2 +1.0
comp=Z,45nm,1.4s
NC405 NORSAR Array S 68.65 353 *e*P P 06 57 16.6 +0.5
MVL Millersville 68.68 53 *e*P P 06 57 17.4 +0.8
comp=Z,14nm,0.9s
NB201 NORSAR Array S 68.74 354 *e*P P 06 57 17.1 +0.5
NB2 NORSAR Subarra 68.76 354 P P 06 57 17.0 +0.2
baz=9.4,slow=6.2
NB2 NORSAR Subarra 68.76 354 P P 06 57 17.0 +0.2
comp=Z,32nm,0.8s,baz=9.4,slow=6.2
NOA NORSAR Array B 68.76 354 P P 06 57 17.1 +0.3
comp=Z,25nm,0.7s,baz=9.6,slow=6.3,SNR=72
NOA LR LR 07 29 57.4
comp=Z,44nm,18.1s,baz=345,slow=38
NOA NORSAR Array B 68.76 354 P P 06 57 17.1 +0.3
NOA pmax pmax
comp=Z,24nm,0.7s
NOA MLR MLR
comp=Z,45nm,18.1s
ODNJ Ogdensburg 68.76 51 *e*P P 06 57 17.8 +0.7
comp=Z,22nm,1.0s
NBO02 NORSAR Array S 68.77 354 *e*P P 06 57 17.4 +0.5
NBO00 NORSAR Array S 68.80 354 *e*P P 06 57 18.1 +1.1
SDMD Soldier's Deli 68.87 54 *e*P P 06 57 18.4 +0.6
comp=Z,11nm,1.1s
QUA2 Belchertown 68.97 49 *e*P P 06 57 18.8 +0.4
comp=Z,22nm,1.1s
NC602 NORSAR Array S 69.03 353 *e*P P 06 57 18.8 +0.3
BRNJ Basking Ridge 69.08 51 *e*P P 06 57 20.1 +1.0
comp=Z,41nm,1.0s
UTTA Uttaradit 69.13 273 P P 06 57 19.0 -0.7
comp=Z,11nm,0.8s,comp=Z,96nm
PAL Palisades 69.16 51 *e*P P 06 57 20.1 +0.5
PAL pmax pmax
comp=Z,40nm,0.9s
PAL Palisades 69.16 51 *e*P P 06 57 20.1 +0.5
comp=Z,40nm,0.8s
HRV Adam Dziewonsk 69.18 48 *e*P P 06 57 19.4 -0.2
HRV pmax pmax
comp=Z,18nm,1.0s
HRV Adam Dziewonsk 69.18 48 *e*P P 06 57 19.4 -0.2
comp=Z,18nm,0.9s
CPNY Central Park 69.30 51 *e*P P 06 57 21.4 +1.0
comp=Z,38nm,0.9s
GGN Saint George 69.35 44 *e*P P 06 57 20.7 +0.1
comp=Z,29nm,0.9s
CHTO Chiang Mai 69.38 275 P P 06 57 20.7 -0.6
comp=Z,59nm,1.3s
CHTO Chiang Mai 69.38 275 *e*P P 06 57 20.6 -0.7
CHTO pmax pmax
comp=Z,64nm,1.9s
CHTO Chiang Mai 69.38 275 *e*P P 06 57 20.6 -0.7
comp=Z,64nm,1.9s
WES Weston 69.38 48 *e*P P 06 57 21.2 +0.3
WES pmax pmax
comp=Z,46nm,0.8s
WES Weston 69.38 48 *e*P P 06 57 21.2 +0.3
comp=Z,46nm,0.8s
EMMW East Machias 69.39 44 *e*P P 06 57 21.2 +0.3
comp=Z,51nm,0.8s
VSU Vasula 69.40 345 *ce*P P 06 57 20.7 0.0
VSU pmax pmax
comp=Z,73nm,1.0s
HFS Hagfors 69.46 352 LR LR 07 26 01.9
comp=Z,91nm,21.2s,baz=2.0,slow=34
CHAI Chaiyaphum 69.57 270 P P 06 57 21.8 -0.6
comp=Z,9.2nm,1.1s
JSRW J. Sargeant Re 69.59 55 *e*P P 06 57 23.1 +0.8
KMSC Kings Mountain 69.60 59 P P 06 57 23.0 +0.6
baz=318,SNR=12
KMSC Kings Mountain 69.60 59 *e*P P 06 57 23.1 +0.6
comp=Z,30nm,0.9s
BRYW Bryant College 69.64 49 *e*P P 06 57 22.7 +0.2
comp=Z,38nm,0.9s
CMAR Chiang Mai Arr 69.64 275 P P 06 57 22.2 -0.6
comp=Z,8.6nm,0.6s,baz=31,slow=6.9,SNR=36
CMAR PcP **PcP** 06 57 45.4 -0.4
comp=Z,10.0nm,0.8s,baz=13,slow=3.7,SNR=13
CMAR LR LR 07 27 36.9
comp=Z,54nm,20.6s,baz=60,slow=36
CMAR Chiang Mai Arr 69.64 275 P P 06 57 22.3 -0.6
CMAR 06 57 45.4
CMAR pmax pmax
comp=Z,8.0nm,0.6s
CMAR pmax pmax
comp=Z,10.0nm,0.8s
CMAR MLR MLR
comp=Z,54nm,20.6s
CM01 Chiang Mai Arr 69.66 275 *e*P P 06 57 22.1 -0.9
CM01 *e*PcP **PcP** 06 57 44.5 -1.3
LMN Caledonia Moun 69.66 42 *e*P P 06 57 22.8 +0.2
comp=Z,33nm,0.9s
GOGA Godfrey 69.67 62 *e*P P 06 57 23.1 +0.2
GOGA pmax pmax
comp=Z,24nm,1.3s
GOGA Godfrey 69.67 62 *e*P P 06 57 23.1 +0.2
comp=Z,24nm,1.4s
MOS Moscow 69.69 338 *e*P P 06 57 21.8 -0.8
MOS *e*S **S** 07 06 30.9 +1.6
MOS pmax pmax
comp=Z,75nm,0.8s
PBKT Sadao Pong 69.73 272 P P 06 57 22.7 -0.7
comp=Z,20nm,1.2s
URVA University of 69.87 55 *e*P P 06 57 24.7 +0.8
TAPN Taplejung 70.23 289 *e*P P 06 57 26.6 -0.2
comp=Z,122nm,1.0s
JSC Jenkinsville 70.28 60 *e*P P 06 57 27.5 +0.9
JSC pmax pmax
comp=Z,19nm,1.0s
JSC Jenkinsville 70.28 60 *e*P P 06 57 27.5 +0.9
comp=Z,19nm,1.1s
OBN Obninsk 70.51 338 LR LR 07 32 11.5
comp=Z,132nm,19.3s,baz=42,slow=39
OBN Obninsk 70.51 338 *d i*P P 06 57 27.8 +0.2
OBN *e* 06 57 50.8
OBN *e* 07 00 05.1
OBN *i* S **S** 07 06 34.6 -4.4
OBN *i* SS **SS** 07 11 12.0 +2.9
OBN pmax pmax
comp=Z,55nm,1.1s
OBN MLR MLR
comp=Z,149nm,18.0s
ODAN Odare 70.78 289 *e*P P 06 57 29.8 -0.3
comp=Z,30nm,0.7s
JIRN Jiri 70.92 290 *e*P P 06 57 31.3 +0.2
comp=Z,229nm,0.9s
GUN Gumba 70.93 291 *e*P P 06 57 31.2 +0.1
comp=Z,206nm,0.9s
COEN Coen 71.07 217 *e*P P 06 57 34.5 +3.0
comp=Z,30nm,1.4s
PMOR Pomariorio Ree 71.13 146 *e*T T 08 16 10.8
comp=Z,1.9nm,0.3s
RAMN Ramite 71.19 290 *e*P P 06 57 32.5 -0.1
comp=Z,153nm,0.6s
UMPA Umpang Tak 71.35 273 P P 06 57 34.0 +0.6
comp=Z,13nm,1.0s,comp=Z,1μm
KKN Kakani 71.38 291 *e*P P 06 57 33.8 +0.2
comp=Z,134nm,0.8s
PKI Pulchoki 71.46 291 *e*P P 06 57 34.2 -0.1
comp=Z,105nm,0.9s
PKIN Phulchoki 71.46 291 *e*P P 06 57 34.0 -0.2
comp=Z,61nm,0.9s
GKN Gorkha 71.61 292 *e*P P 06 57 34.8 -0.1
comp=Z,130nm,0.8s
DMN Daman 71.61 291 *e*P P 06 57 35.3 +0.2
comp=Z,153nm,1.0s
DANN Dangsing 71.88 293 *e*P P 06 57 37.2 +0.5
TLIG Tlapa 72.01 84 *e*P P 06 57 39.0 +1.6
comp=Z,54nm,1.7s
LPSR Galich'ya Gora 72.19 336 *e*P P 06 57 37.5 -0.3
LPSR pmax pmax
comp=Z,30nm,0.8s
KOLN Koldanda 72.40 292 *e*P P 06 57 39.6 -0.1
comp=Z,69nm,0.9s
PATY Pattaya 72.50 269 P P 06 57 40.5 +0.3
comp=Z,16nm,0.9s
PYUN Piuthan 72.52 293 *e*P P 06 57 40.4 -0.1
comp=Z,227nm,1.0s
DZM Mont Dzumac 72.70 192 P P 06 57 41.0 -0.2
comp=Z,10.0nm,0.9s,baz=28,slow=8.9,SNR=4.9
DZM Mont Dzumac 72.70 192 *e*LR LR 07 19 52.0
comp=Z,794nm,30.1s
DZM Mont Dzumac 72.70 192 *e*P P 06 57 41.0 -0.2
comp=Z,18nm,1.1s
PPT Papeete 72.92 148 LR LR 07 21 04.8
comp=Z,152nm,20.2s,baz=336,slow=29
PPT2 Papeete2 72.94 149 *e*S S 07 07 01.5 -6.3
comp=Z,360nm,27.2s
PPT2 Papeete2 72.94 149 *e*LR LR 07 19 40.4
comp=Z,425nm,31.8s,baz=341
MICGM Minsk 72.95 343 *e* P 06 57 42.0 -0.3
MNK Minsk 72.95 343 *e*P P 06 57 42.0 -0.3
TTSI Tana Toraja 73.11 243 P P 06 57 43.1 -0.7
comp=Z,55nm,1.0s
SBUM Sibu 73.28 253 *e*P P 06 57 44.8 -0.1
comp=Z,14nm,0.8s
VSR Storozhevoye 73.38 335 *e*P P 06 57 44.9 0.0
VSR pmax pmax
comp=Z,60nm,1.4s
MUD Monsted U'grnd 73.46 354 *i*P P 06 57 46.5 +1.3
comp=Z,38nm,1.1s
MUD Monsted U'grnd 73.46 354 *i*P P 06 57 46.5 +1.3
MUD pmax pmax
comp=Z,38nm,1.1s
SPSI Sidrap Palu 73.89 243 P P 06 57 47.1 -1.3
comp=Z,23nm,1.4s
KLNR Kaliningrad 74.13 347⇑ *i*P P 06 57 49.5 +0.3
KLNR pmax pmax
comp=Z,111nm,1.0s
SUW Suwalki 74.25 345 *e*P P 06 57 49.6 -0.4
SUW Suwalki 74.25 345 *e*P P 06 57 49.6 -0.4
BSD Bornholm Skovb 74.29 350 *i*P P 06 57 52.3 +2.2
comp=Z,26nm,1.1s
BSD Bornholm Skovb 74.29 350 *i*P P 06 57 52.3 +2.2
BSD pmax pmax
comp=Z,26nm,1.1s
ESK Eskdalemuir 74.93 1 *i*P P 06 57 55.4 +1.5
KSM Kuching 75.23 254 *e*P P 06 57 56.4 +0.2
MTN Manton Dam 75.32 228 *e*P P 06 57 55.6 -0.9
comp=Z,84nm,1.1s
KBL Kabul 75.42 307 *e*P P 06 57 56.5 -0.9
KBL pmax pmax
comp=Z,51nm,0.9s
KBL Kabul 75.42 307 *e*P P 06 57 56.5 -0.9
comp=Z,51nm,0.8s
CTA Charters Tower 75.61 212 P P 06 57 57.6 -0.5
comp=Z,28nm,0.8s,baz=20,slow=7.1,SNR=30
CTAO Charters Tower 75.61 212 *e*P P 06 57 57.6 -0.5
CTAO pmax pmax
comp=Z,34nm,0.9s
CTAO Charters Tower 75.61 212 *e*P P 06 57 57.6 -0.5
comp=Z,34nm,0.8s
SOEI Soe 76.17 236 P P 06 58 00.2 -1.4
comp=Z,40nm,1.0s
SOEI Soe 76.17 236 *e*P P 06 58 00.8 -0.9
comp=Z,41nm,1.0s
AKASG Malin Array Be 76.27 341 P P 06 58 01.7 0.0
comp=Z,14nm,0.7s,baz=24,slow=6.0,SNR=50
AKASG LR LR 07 35 12.3
comp=Z,48nm,18.7s,baz=25,slow=39
AKBB Malin Array Si 76.27 341 *e*P P 06 58 01.7 +0.1
AKBB Malin Array Si 76.27 341 *e*P P 06 58 01.7 +0.1
AK11 Malin Array Si 76.31 341 *e*P P 06 58 01.7 -0.2
CCIG Comitan 77.06 80 *e*P P 06 58 09.3 +2.4
GOF Gofitskoye 77.73 330⇑ *e*P P 06 58 10.7 +0.8
GOF pmax pmax
comp=Z,185nm,1.0s
GEYT Alibeck 77.98 316 P P 06 58 11.5 -0.1
comp=Z,9.3nm,0.9s,baz=348,slow=4.9,SNR=14
GEYT LR LR 07 35 48.3
comp=Z,155nm,19.6s,baz=45,slow=38
LVV L'vov 78.14 344 *e*P P 06 58 13.9 +1.8
LVV MLR MLR
comp=Z,100nm,19.0s
CLL Collm 78.24 351 *i*P P 06 58 12.8 +0.1
CLL pmax pmax
comp=Z,8.0nm,0.7s
CLL Collm 78.24 351 *i*P P 06 58 12.8 +0.1
comp=Z,8.0nm,0.7s
CLL *e*PP **PP** 07 01 06.0 -2.7
CLL *e*S **S** 07 08 00.0 -5.8
CLL *e*SS **SS** 07 13 06.0 -0.6
OJC Ojcow 78.45 346 *e*P P 06 58 14.6 +0.8
OJC Ojcow 78.45 346 *e*P P 06 58 14.7 +0.8
OJC Ojcow 78.45 346 *e*P P 06 58 14.7 +0.8
KWP Kalwaria Pacla 78.56 344 *e*P P 06 58 15.7 +1.2
KWP Kalwaria Pacla 78.56 344 *e*P P 06 58 15.7 +1.2
BRG Berggiesshubel 78.57 350 *i*P P 06 58 14.6 +0.1
comp=Z,10nm,0.9s
BRG *i* 06 58 18.8
comp=Z,12nm,1.0s
BRG Berggiesshubel 78.57 350 *i*P P 06 58 14.6 +0.1
BRG *i* 06 58 18.8
BRG pmax pmax
comp=Z,10.0nm,0.9s
UPC Upice 78.69 349 *e*P P 06 58 19.0 +3.8
UPC Upice 78.69 349 *e*P P 06 58 19.0 +3.8
DPC Dobruska-Polom 78.81 349 *e*P P 06 58 16.7 +0.8
DPC *ex* x 06 58 20.0
DPC AMS AMS 07 36 10.0
comp=Z,200nm,19.3s
DPC Dobruska-Polom 78.81 349 *e*P P 06 58 16.7 +0.8
DPC *e* 06 58 20.0
DPC MLR MLR
comp=Z,200nm,19.3s
KIV Kislovodsk 78.82 329 *e*P P 06 58 16.9 +0.7
KIV *e*S **S** 07 08 14.8 +2.3
KIV pmax pmax
comp=Z,30nm,1.0s
KIV pmax pmax
comp=Z,30nm,2.7s
KIV MLR MLR
comp=Z,76nm,18.0s
KIV Kislovodsk 78.82 329 *e*P P 06 58 17.4 +1.3
comp=Z,50nm,1.2s
KIV Kislovodsk 78.82 329 P P 06 58 17.3 +1.1
SNR=7.0
KIV Kislovodsk 78.82 329 P P 06 58 17.3 +1.1
SNR=7.0
KIV P P 06 58 17.3 +1.1
SNR=7.0
SORM Soroca 78.89 340 *i*P P 06 58 16.7 +0.4
NCK Nalchik 78.93 329 *e*P P 06 58 17.7 +1.0
NCK pmax pmax
comp=Z,32nm,0.3s
KBZ Khabaz 78.96 329 P P 06 58 17.8 +1.1
comp=Z,23nm,0.9s,baz=67,slow=2.8,SNR=25
KBZ LR LR 07 35 51.3
comp=Z,71nm,21.9s,baz=13,slow=38
PLAI Plampang 78.98 242 P P 06 58 14.9 -2.3
comp=Z,76nm,0.9s

STHS	**Stebnicka Huta**	**79.01 345**	*e*P		**P**	**06 58 18.6**	**+1.6**
STHS			pmax		pmax		
	comp=Z,16nm,0.9s						
STHS	**Stebnicka Huta**	**79.01 345**	*e*P		**P**	**06 58 18.6**	**+1.6**
KRLC	**Kraliky**	**79.02 348**	*e*P		**P**	**06 58 17.5**	**+0.4**
KRLC			*ex*		x	06 58 21.1	
KRLC	**Kraliky**	**79.02 348**	*e*P		**P**	**06 58 17.5**	**+0.4**
KRLC			*e*			06 58 21.1	
MOX	**Moxa**	**79.03 352**	P		**P**	**06 58 17.4**	**+0.3**
MOX			pmax		pmax		
	comp=Z,17nm,1.0s						
OKC	**Ostrava-Krasne**	**79.07 347**	*e*P		**P**	**06 58 18.0**	**+0.7**
OKC	**Ostrava-Krasne**	**79.07 347**	*e*P		**P**	**06 58 18.0**	**+0.7**
NIE	**Niedzica**	**79.16 346**	*e*P		**P**	**06 58 19.0**	**+1.2**
NIE	**Niedzica**	**79.16 346**	*e*P		**P**	**06 58 19.0**	**+1.2**
MORC	**Moravsky Berou**	**79.21 348** ⇑	*i*P		**P**	**06 58 19.1**	**+1.0**
MORC	**Moravsky Berou**	**79.21 348**	*e*P		**P**	**06 58 18.2**	**+0.1**
MORC	**Moravsky Berou**	**79.21 348**	*e*P		**P**	**06 58 18.2**	**+0.1**
NKC	**Novy Kostel**	**79.36 351**	*e*P		**P**	**06 58 19.4**	**+0.5**
NKC	**Novy Kostel**	**79.36 351**	*e*P		**P**	**06 58 19.4**	**+0.5**
PRU	**Pruhonice**	**79.38 350**	*e*P		**P**	**06 58 19.4**	**+0.4**
PRU			AMS		AMS	07 35 10.0	
	comp=Z,200nm,20.4s						
PRU	**Pruhonice**	**79.38 350**	*e*P		**P**	**06 58 19.4**	**+0.4**
PRU			MLR		MLR		
	comp=Z,200nm,20.4s						
GOPC	**GO Pecny, Ondr**	**79.42 350**	*e*P		**P**	**06 58 19.8**	**+0.6**
GOPC			*ex*		x	06 58 23.0	
GOPC			AMS		AMS	07 35 20.0	
	comp=Z,100nm,21.8s						
GOPC	**GO Pecny, Ondr**	**79.42 350**	*e*P		**P**	**06 58 19.8**	**+0.6**
GOPC			*e*			06 58 23.0	
GOPC			MLR		MLR		
	comp=Z,100nm,21.8s						
NEY	**Neytrino**	**79.44 329**	*e*P		**P**	**06 58 21.3**	**+1.6**
NEY			pmax		pmax		
	comp=Z,6.0nm,1.2s						
ZEI	**Tsey**	**79.45 328**	*e*P		**P**	**06 58 18.1**	**-1.7**
ZEI			pmax		pmax		
	comp=Z,59nm,0.7s						
CRVS	**Cervenica-Dubn**	**79.47 345**	*e*P		**P**	**06 58 20.9**	**+1.4**
CRVS	**Cervenica-Dubn**	**79.47 345**	*e*P		**P**	**06 58 20.9**	**+1.4**
MEM	**Membach**	**79.47 355**	P		**P**	**06 58 20.4**	**+1.0**
	comp=Z,12nm,1.2s						
LANS	**Liptovska Anna**	**79.55 346**	*e*P		**P**	**06 58 21.8**	**+1.9**
LANS	**Liptovska Anna**	**79.55 346**	*e*P		**P**	**06 58 21.8**	**+1.9**
UZH	**Uzhgorod**	**79.59 344**	*ce*P		**P**	**06 58 20.2**	**+0.1**
UZH			*i*			06 58 24.0	
SNF	**Seneffe**	**79.65 356**	P		**P**	**06 58 21.1**	**+0.7**
ANN	**Anapa**	**79.69 333**	*e*P		**P**	**06 58 20.2**	**-0.5**
ANN			pmax		pmax		
	comp=Z,41nm,0.9s						
BCLA	**Clavier**	**79.70 356**	P		**P**	**06 58 21.2**	**+0.6**
	comp=Z,11nm,1.4s						
KIS	**Kishinev**	**79.86 340** ⇓	*e*P		**P**	**06 58 20.0**	**-1.6**
	comp=Z,200nm,2.0s						
KIS			LRM		MLR	07 38 25.0	
	comp=Z,200nm,18.0s						
KIS	**Kishinev**	**79.86 340** ⇓	*e*P		**P**	**06 58 20.0**	**-1.6**
KIS			pmax		pmax		
	comp=Z,210nm,2.0s						
TREC	**Trest**	**79.95 349**	*e*P		**P**	**06 58 22.6**	**+0.5**
TREC	**Trest**	**79.95 349**	*e*P		**P**	**06 58 22.6**	**+0.5**
BUR08	**Bucovina Ar. S**	**80.00 342**	*e*P		**P**	**06 58 23.6**	**+1.0**
BURAR	**Bucovina Array**	**80.03 342** ⇓	*i*P		**P**	**06 58 23.4**	**+0.7**
BURAR	**Bucovina Array**	**80.03 342**	P		**P**	**06 58 23.3**	**+0.6**
TRPA	**Tarpa**	**80.03 344** ⇓	*e*PKPPKPKPdf		**P**	**06 58 23.8**	**+1.3**
KECS	**Kecovo**	**80.04 346**	*e*P		**P**	**06 58 23.3**	**+0.7**
KECS			pmax		pmax		
	comp=Z,10.0nm,1.1s						
KECS	**Kecovo**	**80.04 346**	*e*P		**P**	**06 58 23.3**	**+0.7**
DOU	**Doubres**	**80.05 356**	P		**P**	**06 58 23.1**	**+0.5**
	comp=Z,14nm,1.7s						
WRAB	**Tennant Creek**	**80.05 222**	*e*P		**P**	**06 58 21.5**	**-1.4**
WRAB			pmax		pmax		
	comp=Z,16nm,0.8s						
WRAB	**Tennant Creek**	**80.05 222**	*e*P		**P**	**06 58 21.5**	**-1.4**
	comp=Z,16nm,0.8s						
WRA	**Warramunga Arr**	**80.07 222**	P		**P**	**06 58 21.5**	**-1.4**
	comp=Z,12nm,0.6s,baz=32,slow=6.1,SNR=130						
WRA			PKKPbc		**PKKPbc**	**07 17 06.8**	**+0.6**
	comp=Z,0.3nm,0.6s,baz=235,slow=1.9,SNR=5.8						
WRA			LR		LR	07 31 26.2	
	comp=Z,75nm,20.2s,baz=215,slow=34						
SOC	**Sochi**	**80.11 331**	*e*P		**P**	**06 58 22.6**	**-0.4**
SOC			*e*			07 01 22.5	
SOC			*e*PPP		PPP	07 03 16.2	
SOC			*e*S		**S**	**07 08 26.5**	**+0.7**
SOC			*e*SSS		SSS	07 16 57.9	
SOC			pmax		pmax		
	comp=Z,31nm,0.9s						
SOC			MLR		MLR		
	comp=Z,130nm,16.0s						
VYHS	**Vyhne**	**80.28 347**	*e*P		**P**	**06 58 24.8**	**+0.9**
VYHS			pmax		pmax		
	comp=Z,8.0nm,1.1s						
VYHS	**Vyhne**	**80.28 347**	*e*P		**P**	**06 58 24.8**	**+0.9**
KHC	**Kasperske Hory**	**80.33 350**	*e*P		**P**	**06 58 24.8**	**+0.6**
KHC			*e*PCP		**PcP**	**06 58 28.2**	**-3.1**
KHC			AMS		AMS	07 41 20.0	
	comp=Z,100nm,17.8s						
KHC	**Kasperske Hory**	**80.33 350**	*e*P		**P**	**06 58 24.8**	**+0.6**
KHC			*e*			06 58 28.2	
KHC			MLR		MLR		
	comp=Z,100nm,17.8s						
KHC	**Kasperske Hory**	**80.33 350**	*e*P		**P**	**06 58 24.6**	**+0.3**
WLF	**Walferdange**	**80.41 355**	P		**P**	**06 58 25.5**	**+1.0**
GEC2	**GERESS Array S**	**80.60 350**	*e*P		**P**	**06 58 26.5**	**+0.8**
GEC2	**GERESS Array S**	**80.60 350**	*e*P		**P**	**06 58 26.5**	**+0.8**
GERES	**GERESS Array B**	**80.60 350**	P		**P**	**06 58 26.1**	**+0.4**
	comp=Z,4.2nm,0.6s,baz=32,slow=5.2,SNR=36						
GERES			LR		LR	07 36 27.1	
	comp=Z,74nm,20.3s,baz=3.0,slow=37						
GEA0	**GERESS Array S**	**80.61 350**	*e*P		**P**	**06 58 25.9**	**+0.2**
PSZ	**Piszkesteto**	**80.68 346**	*e*P		**P**	**06 58 27.6**	**+1.5**
PSZ	**Piszkesteto**	**80.68 346** ⇓	*e*PKPPKPdf		**P**	**06 58 27.2**	**+1.1**
PSZ	**Piszkesteto**	**80.68 346**	*e*P		**P**	**06 58 27.6**	**+1.5**
ARCR	**ARCALIA**	**80.70 343** ⇑	*i*P		**P**	**06 58 27.7**	**+1.5**
TESR	**Tescani**	**80.79 341** ⇑	*i*P		**P**	**06 58 27.3**	**+0.6**
AKH	**Akhalkalaki**	**80.82 328** ⇑	*i*P		**P**	**06 58 28.6**	**+1.5**
AKH	**Akhalkalaki**	**80.82 328**	P		**P**	**06 58 28.6**	**+1.5**
CONA	**Conrad Observa**	**81.25 349**	*i* PcP		**P**	**06 58 30.3**	**+1.2**
	comp=Z,14nm,0.8s,SNR=14						
DRGR		**81.30 344** ⇑	*i*P		**P**	**06 58 30.5**	**+1.1**
DRGR		**81.30 344**	P		**P**	**06 58 30.0**	**+0.6**
DRGR			pmax		pmax		
	comp=Z,82nm,1.5s						
VRI	**Vrincioaia**	**81.39 341** ⇑	*i*P		**P**	**06 58 30.2**	**+0.3**
VRI	**Vrincioaia**	**81.39 341**	P		**P**	**06 58 29.9**	**0.0**
VRI			pmax		pmax		
	comp=Z,88nm,1.8s						
PLOR	**Plostina**	**81.42 341** ⇑	*i*P		**P**	**06 58 31.1**	**+1.0**
PLOR	**Plostina**	**81.42 341**	P		**P**	**06 58 31.1**	**+1.0**
GNI	**Garni**	**81.49 326**	*d*P		**P**	**06 58 32.4**	**+1.7**
GNI			pmax		pmax		
	comp=Z,83nm,1.3s						
GNI	**Garni**	**81.49 326**	P		**P**	**06 58 32.5**	**+1.8**
	SNR=6.5						
GNI	**Garni**	**81.49 326**	P		**P**	**06 58 32.5**	**+1.8**
	SNR=6.5						
MOA	**Molln**	**81.52 350**	*i*P		**P**	**06 58 30.8**	**+0.2**
ARTV	**Artvin**	**81.55 329**	*e*P		**P**	**06 58 32.1**	**+1.0**
CDF	**Champ du Feu**	**81.59 354**	*e*P		**P**	**06 58 30.5**	**-0.5**
CDF			pmax		pmax		
	comp=Z,12nm,0.8s						
BFO	**Black Forest**	**81.60 354**	*i*P		**P**	**06 58 31.6**	**+0.6**
BFO	**Black Forest**	**81.60 354**	*e*P		**P**	**06 58 31.3**	**+0.3**
LDF	**La Druitiere**	**81.67 359**	*e*P		**P**	**06 58 30.6**	**-0.7**
LDF			pmax		pmax		
	comp=Z,13nm,0.7s						
CFR	**Carcaliu**	**81.74 340** ⇑	*i*P		**P**	**06 58 32.2**	**+0.6**
CFR	**Carcaliu**	**81.74 340**	*e*P		**P**	**06 58 32.3**	**+0.6**
CFR			pmax		pmax		
	comp=Z,8.0nm,1.1s						
ECH	**Echery**	**81.79 354**	*e*P		**P**	**06 58 32.3**	**+0.3**
PWJI	**Pagerwojo**	**81.80 247**	P		**P**	**06 58 30.2**	**-2.2**
	comp=Z,63nm,1.1s						
TGUH	**Tegucigalpa,Un**	**81.81 78**	*e*P		**P**	**06 58 34.8**	**+2.3**
THEF	**They Montfort**	**81.85 355**	*e*P		**P**	**06 58 32.8**	**+0.5**
MLR	**Muntele Rosu**	**81.91 341** ⇑	*i*P		**P**	**06 58 34.8**	**+2.0**
MLR	**Muntele Rosu**	**81.91 341**	*e*P		**P**	**06 58 33.9**	**+1.1**
MLR	**Muntele Rosu**	**81.91 341**	*e*P		**P**	**06 58 33.9**	**+1.1**
ROSF	**Rostrenen**	**81.92 1**	*e*P		**P**	**06 58 32.5**	**-0.1**
ROSF			pmax		pmax		
	comp=Z,30nm,1.2s						
ARSA	**Arzberg**	**81.95 349**	*e*PcP		**P**	**06 58 34.2**	**+1.4**
	comp=Z,14nm,1.1s						
SIRR	**Siria**	**81.99 344** ⇑	*i*P		**P**	**06 58 34.3**	**+1.3**
VOIR		**82.15 342** ⇓	*i*P		**P**	**06 58 35.5**	**+1.5**
VOIR		**82.15 342**	P		**P**	**06 58 35.1**	**+1.1**
VOIR			pmax		pmax		
	comp=Z,35nm,1.3s						
MOF	**Molkenrain**	**82.16 354**	*e*P		**P**	**06 58 34.0**	**0.0**
RETA	**Reutte**	**82.24 352**	*i* PcP		**P**	**06 58 35.4**	**+1.0**
	SNR=5.7						
ARR	**Arges**	**82.30 342** ⇑	*i*P		**P**	**06 58 36.4**	**+1.7**
WATA	**Walderalm**	**82.31 351**	*i* PcP		**P**	**06 58 36.0**	**+1.1**
	SNR=6.4						
TLB	**Topalu**	**82.32 339** ⇑	*i*P		**P**	**06 58 35.5**	**+0.8**
MOTA	**Moosalm**	**82.35 352**	*i* PcP		**P**	**06 58 36.0**	**+1.0**
	SNR=6.3						
WTTA	**Wattenberg**	**82.38 351**	*i* PcP		**P**	**06 58 36.4**	**+1.1**
	SNR=6.2						
KBA	**Koelnbreinsper**	**82.38 350**	*i* PcP		**P**	**06 58 36.7**	**+1.5**
	SNR=15						
FITZ	**Fitzroy Crossi**	**82.51 230**	P		**P**	**06 58 35.6**	**-0.3**
	comp=Z,21nm,0.5s,baz=17,slow=5.2,SNR=94						
FITZ			LR		LR	07 32 00.3	
	comp=Z,52nm,19.0s,baz=1.0,slow=33						
DAVA	**Damuels**	**82.52 352**	*i* PcP		**P**	**06 58 36.9**	**+1.0**
BEHE	**Becsehely**	**82.56 348**	*e*P		**P**	**06 58 37.5**	**+1.5**
SOKA	**Soboth**	**82.58 349**	*i* PcP		**P**	**06 58 37.3**	**+1.1**
	SNR=11						
PERS	**Pernice**	**82.61 349**	*i* P		**P**	**06 58 37.3**	**+1.0**
BZS	**Buzias**	**82.63 344** ⇓	*i*P		**P**	**06 58 36.9**	**+0.6**
GZR	**Gura Zlata**	**82.63 343** ⇑	*i*P		**P**	**06 58 37.5**	**+1.0**
LOMF	**Lomont**	**82.68 355**	*e*P		**P**	**06 58 37.3**	**+0.6**
FETA	**Feichten**	**82.71 352**	*i* PcP		**P**	**06 58 37.8**	**+0.9**
	SNR=12						
MYKA	**Terra Mystica**	**82.79 350**	*i* PcP		**P**	**06 58 37.9**	**+0.6**
ABTA	**Abfaltersbach**	**82.80 351**	*i* PcP		**P**	**06 58 38.0**	**+0.7**
OBKA	**Obir**	**82.81 349**	*i* PcP		**P**	**06 58 38.2**	**+0.8**
LOR	**Lormes**	**82.91 357**	*e*P		**P**	**06 58 37.4**	**-0.4**
LOR			pmax		pmax		
	comp=Z,12nm,0.9s						
SSF	**Saint Saulge**	**83.13 357**	*e*P		**P**	**06 58 39.4**	**+0.5**
SSF			pmax		pmax		
	comp=Z,11nm,0.7s						
FUORN	**Ofenpass-Fuorn**	**83.14 352**	*e*P		**P**	**06 58 40.5**	**+1.2**
HYB	**Hyderabad**	**83.24 289**	*i* P		**P**	**06 58 39.0**	**-1.0**
HYB			*e*			06 58 43.0	
HYB			*e*pP		**sP**	**06 58 50.0**	**-0.7**
GCIS	**Gornji Cirnik**	**83.30 348**	*i* P		**P**	**06 58 40.5**	**+0.7**
TUE	**Stuetta**	**83.37 353**	*e*P		**P**	**06 58 41.3**	**+0.8**
MDVR	**Moldovita**	**83.42 344** ⇑	*i*P		**P**	**06 58 41.2**	**+0.7**
AS01	**Alice Springs**	**83.53 221**	*e*P		**P**	**06 58 40.2**	**-0.9**
SMF	**Signal de Mont**	**83.53 357**	*e*P		**P**	**06 58 40.6**	**-0.4**
SMF			pmax		pmax		
	comp=Z,12nm,0.7s						
AS31	**Alice Springs**	**83.55 221**	*e*P		**P**	**06 58 40.5**	**-0.8**
ASAR	**Alice Springs**	**83.55 221**	P		**P**	**06 58 40.5**	**-0.8**
	comp=Z,12nm,0.9s,baz=24,slow=5.6,SNR=71						
ASAR			LR		LR	07 32 23.9	
	comp=Z,86nm,20.1s,baz=30,slow=33						
SENIN	**Lac Senin/Sane**	**83.63 354**	*e*P		**P**	**06 58 42.8**	**+1.0**
MFF	**Saint Martin d**	**83.67 359**	*e*P		**P**	**06 58 41.5**	**-0.2**
MFF			pmax		pmax		
	comp=Z,27nm,1.0s						
ARMA	**Armidale**	**83.74 203**	*e*P		**P**	**06 58 43.2**	**+1.1**
AGO	**Saint Agoulin**	**84.15 357**	*e*P		**P**	**06 58 45.4**	**+1.2**
ILGA	**Ilgaz**	**84.20 334**	*e*P		**P**	**06 58 46.6**	**+1.8**
PLDF	**La Plantade**	**84.21 357**	*e*P		**P**	**06 58 45.8**	**+1.2**
RSL	**Roselend**	**84.34 355**	*e*P		**P**	**06 58 46.7**	**+1.3**
PYM	**Petit Puy Mans**	**84.45 357**	*e*P		**P**	**06 58 46.8**	**+1.0**
LPL	**La Plagne**	**84.51 354**	*e*P		**P**	**06 58 46.9**	**+0.6**
LPL			pmax		pmax		
	comp=Z,28nm,1.4s						
LPG	**La Plagne**	**84.53 354**	*e*P		**P**	**06 58 48.3**	**+1.8**
LPG			pmax		pmax		
	comp=Z,27nm,1.2s						
MTDJ	**Mount Denham**	**84.62 68**	*e*P		**P**	**06 58 48.7**	**+1.6**
GRN	**Grenoble**	**84.84 355**	*e*P		**P**	**06 58 49.0**	**+1.2**
GDM	**Grand'Maison**	**84.86 355**	*e*P		**P**	**06 58 49.1**	**+1.1**
SSB	**Saint Sauveur**	**84.86 356**	*e*P		**P**	**06 58 48.7**	**+0.8**
SSB	**Saint Sauveur**	**84.86 356**	*e*P		**P**	**06 58 48.6**	**+0.8**
SSB	**Saint Sauveur**	**84.86 356**	*e*P		**P**	**06 58 48.6**	**+0.8**
LBL	**Lubilhac**	**84.96 357**	*e*P		**P**	**06 58 49.4**	**+1.0**
BNI	**Bardonecchia**	**84.97 354**	*e*P		**P**	**06 58 50.3**	**+1.8**
BNI	**Bardonecchia**	**84.97 354**	*e*P		**P**	**06 58 50.3**	**+1.8**
ORIF	**Oris-en-Rattie**	**85.16 355**	*e*P		**P**	**06 58 49.9**	**+0.5**
ORIF			pmax		pmax		
	comp=Z,22nm,0.9s						
VTS	**Vitosha**	**85.25 342** ⇑	*i*P		**P**	**06 58 50.4**	**+0.4**
VTS	**Vitosha**	**85.25 342**	*e*P		**P**	**06 58 50.6**	**+0.6**
VTS	**Vitosha**	**85.25 342**	*e*P		**P**	**06 58 50.6**	**+0.6**
CAF	**Calviac**	**85.31 358**	*e*P		**P**	**06 58 50.1**	**0.0**
CAF			pmax		pmax		
	comp=Z,29nm,1.2s						
LFF	**La Frestale**	**85.32 359**	*e*P		**P**	**06 58 49.9**	**-0.2**
LFF			pmax		pmax		
	comp=Z,34nm,1.2s						
MARD	**Mardin**	**85.42 328**	*e*P		**P**	**06 58 52.4**	**+1.5**
BR131	**Keskin MP Arra**	**85.45 334**	*e*P		**P**	**06 58 51.4**	**+0.3**
BRTR	**Keskin Array B**	**85.45 334**	P		**P**	**06 58 51.2**	**+0.1**
	comp=Z,17nm,0.7s,baz=55,slow=3.0,SNR=64						
BRTR			LR		LR	07 40 10.6	
	comp=Z,43nm,22.0s,baz=354,slow=38						
OG26	**St.-Nazaire-De**	**85.53 355**	*e*P		**P**	**06 58 52.6**	**+1.4**
ANTO	**Ankara**	**85.56 334**	*e*P		**P**	**06 58 51.1**	**-0.4**
ANTO			pmax		pmax		
	comp=Z,83nm,1.1s						
ANTO	**Ankara**	**85.56 334**	*e*P		**P**	**06 58 51.1**	**-0.4**
	comp=Z,83nm,1.1s						
VLC	**Villacollemand**	**85.58 352**	*e*P		**P**	**06 58 52.0**	**+0.6**
BR231	**Keskin MP Arra**	**85.59 334**	*e*P		**P**	**06 58 51.7**	**0.0**
SDDR	**Presa de Saban**	**87.68 63**	*e*P		**P**	**06 59 02.8**	**+0.7**
STKA	**Stephens Creek**	**88.06 211**	P		**P**	**06 59 02.9**	**-0.4**
	comp=Z,10nm,0.9s,baz=335,slow=6.2,SNR=15						
STKA			LR		LR	07 37 10.4	
	comp=Z,162nm,18.2s,baz=26,slow=35						
STKA	**Stephens Creek**	**88.06 211**	*e*P		**P**	**06 59 03.5**	**+0.1**
IDE	**Isla Desecheo**	**90.32 60**	*e*P		**P**	**06 59 15.7**	**+1.2**
ES19	**SONSECA Array**	**90.53 2**	*e*P		**P**	**06 59 14.7**	**-0.5**
ES19			*e*pP		**sP**	**06 59 24.9**	**-1.1**
ESDC	**Sonseca Array**	**90.56 2**	P		**P**	**06 59 14.8**	**-0.6**
	comp=Z,1.9nm,0.7s,baz=355,slow=4.7,SNR=14						
BBOO	**Buckleboo**	**90.85 215**	*e*P		**P**	**06 59 15.9**	**-0.5**
KARP	**Karpathos**	**91.11 337**	*e*P		**P**	**06 59 16.1**	**-1.8**
SJG	**San Juan**	**91.28 60**	*e*P		**P**	**06 59 19.9**	**+1.0**
SJG	**San Juan**	**91.28 60**	*e*P		**P**	**06 59 19.9**	**+1.0**
HUMP	**Col San Antoni**	**91.42 59**	*e*P		**P**	**06 59 20.3**	**+0.7**
STVI	**Saint Thomas**	**91.75 58**	*e*P		**P**	**06 59 21.9**	**+0.8**
KEST	**Kesra**	**94.03 351**	LR		LR	07 45 14.8	
	comp=Z,29nm,18.8s,baz=270,slow=38						
RUSC	**La Rusia**	**96.92 72**	*e*P		**P**	**06 59 45.8**	**+0.3**
ROSC	**El Rosal**	**96.98 74**	LR		LR	07 50 22.8	
	comp=Z,11nm,18.2s,baz=124,slow=40						
TORD	**Torodi Ar. Bea**	**116.97 357**	PKP		**PKPdf**	**07 04 56.8**	**-1.5**
	comp=Z,1.5nm,0.5s,baz=324,slow=1.6,SNR=18						
TORD			PKKPbc		**PKKPbc**	**07 15 26.0**	**+4.3**
	comp=Z,1.0nm,0.8s,baz=172,slow=3.5,SNR=6.0						
LPAZ	**La Paz**	**117.07 83**	PKP		**PKPdf**	**07 04 57.9**	**-1.1**
	comp=Z,1.0nm,0.7s,baz=349,slow=5.4,SNR=4.5						
KMBO	**Kilima Mbogo**	**121.29 313**	PKP		**PKPdf**	**07 05 06.3**	**-0.6**
	comp=Z,4.4nm,1.0s,baz=221,slow=2.2,SNR=3.7						
DBIC	**Dimbokro**	**123.36 4**	PKP		**PKPdf**	**07 05 09.7**	**-0.9**
	comp=Z,4.4nm,0.4s,baz=326,slow=4.2,SNR=23						
TIC	**Toumodi**	**123.38 5**	*e*PKP1		**PKPdf**	**07 05 09.5**	**-1.2**
KIC	**Kosan Boka**	**123.67 4**	*e*PKP1		**PKPdf**	**07 05 09.9**	**-1.3**
	comp=Z,19nm,0.9s						
LIC	**Lamto**	**123.80 5**	*e*PKP1		**PKPdf**	**07 05 10.5**	**-0.9**
	comp=Z,20nm,0.9s						
VNDA	**Vanda**	**127.80 185**	PKP		**PKPdf**	**07 05 16.9**	**-0.2**
	comp=Z,2.1nm,0.9s,baz=341,slow=4.2,SNR=7.4						
CPUP	**Villa Florida**	**131.23 83**	PKP		**PKPdf**	**07 05 25.1**	**0.0**
	comp=Z,5.1nm,0.9s,baz=344,slow=4.7,SNR=11						
PLCA	**Paso Flores**	**132.03 107**	PKP		**PKPdf**	**07 05 27.1**	**+0.8**
	comp=Z,8.3nm,1.1s,baz=321,slow=2.4,SNR=11						
MAW	**Mawson**	**144.57 216**	PKP		**PKPab**	**07 05 46.3**	**-0.5**
	comp=Z,50nm,0.7s,baz=93,slow=3.6,SNR=175						
BOSA	**Boshof**	**150.64 307**	PKPbc		**PKPbc**	**07 06 04.9**	**-0.3**
	comp=Z,29nm,0.7s,baz=35,slow=2.2,SNR=53						
SYO	**Syowa Base**	**152.81 211** ⇑	*e*X		**PKPbc**	**07 06 06.7**	**-2.0**
SYO	**Syowa Base**	**152.81 211** ⇓	*e*pPKPdf		**PKPab**	**07 06 16.6**	**-3.3**

*IDC **27** 07:09:04.2±3.6, 35°.68N×143°.87E, h0km, mb3.6/3, mb1 3.8/4, mb1mx3.5/54, mbtmpb3.6/4, ML3.5/1, MS2.5/1, Ms1 2.5/1, ms1mx2.3/38, Error ellipse: s-maj=103.4km s-min=29.3km az=57.0*

*ISCJB **27** 07:09:13.4±1.1, 34°.90N±0°.09×142°.80E±0°.08, h33km, mb3.7/3, Error ellipse: s-maj=13.1km s-min=8.9km az=26.0*

*JMA **27** 07:09:13.2±0.1, 34°.82N×142°.76E, h82km±4km, M3.3*

ISC 27 07:09:14.6±1.6, 34°.93N±0°.10×142°.8E±0°.1, h35km, n17, σ1§13/16, mb3.8/3, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BSO1	**Boso 1**	**1.52**	**260**	P	**Pn**	**07 09 38.5**	**-0.2**
BSO1				S	**Sn**	**07 09 57.9**	**+0.9**
CHOJ	**Chosi**	**1.76**	**297**	P	**Pn**	**07 09 42.8**	**+0.2**
CHOJ				*e*S	**Sn**	**07 10 04.9**	**+1.2**
BSO3	**Boso 3**	**1.88**	**267**	P	**Pn**	**07 09 43.8**	**-0.2**
BSO3				*e*S	**Sn**	**07 10 06.6**	**+0.3**
JOD2	**Odawara 2**	**3.06**	**277**	P	**Pn**	**07 10 00.2**	**-0.2**
JOD2				S	**Sn**	**07 10 35.7**	**-0.1**
JAG	**Ashikaga**	**3.10**	**300**	P	**Pn**	**07 10 01.9**	**+0.9**
JFT	**Otama**	**3.26**	**323**	P	**Pn**	**07 10 03.6**	**+0.4**
MJAR	**Matsushiro Arr**	**4.06**	**295**	Pn	**Pn**	**07 10 15.6**	**+1.4**
	2.0nm,0.3s,baz=98,slow=9.9,SNR=19						
MJAR				LR	LR	07 12 38.7	
	comp=Z,48nm,18.6s,baz=115,slow=46						
MAT	**Matsushiro**	**4.06**	**295**	P	**Pn**	**07 10 14.9**	**+0.6**
MAT				*e*S	**Sn**	**07 11 00.6**	**0.0**
H11N2	**WAKE ISLAND Hy 26.13**	**119**		T	T	07 41 53.6	
	baz=310,slow=75,SNR=6.2						
H11N1	**WAKE ISLAND Hy 26.14**	**119**		T	T	07 41 53.0	
	baz=310,slow=75,SNR=5.3						
H11N3	**WAKE ISLAND Hy 26.15**	**119**		T	T	07 41 54.7	
	baz=310,slow=75,SNR=6.3						
H11S1	**WAKE ISLAND Hy 26.79**	**121**		T	T	07 42 44.1	
	baz=312,slow=75,SNR=11						
H11S3	**WAKE ISLAND Hy 26.79**	**121**		T	T	07 42 44.1	
	baz=312,slow=75,SNR=12						
H11S2	**WAKE ISLAND Hy 26.81**	**121**		T	T	07 42 44.5	
	baz=312,slow=75,SNR=9.8						
MKAR	**Makanchi Array**	**46.20**	**304**	P	**P**	**07 17 33.2**	**-2.8**
	0.2nm,0.5s,baz=87,slow=6.2,SNR=3.1						
WRA	**Warramunga Arr**	**55.15**	**190**	P	**P**	**07 18 45.2**	**+1.6**
	1.2nm,0.8s,baz=9.5,slow=7.5,SNR=4.6						
ASAR	**Alice Springs**	**58.88**	**190**	P	**P**	**07 19 10.7**	**+0.8**
	0.5nm,0.6s,baz=15,slow=12,SNR=5.9						

IDC 27 07:12:50.0±1.9, 3°.93N×127°.39E, h0km, mb3.7/5, mb1 3.9/5, mb1mx3.6/43, mbtmpb3.7/5, Error ellipse: s-maj=98.7km s-min=27.1km az=69.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**21.96**	**184**	P	P	07 17 46.4	+0.8
	2.4nm,1.0s,baz=330,slow=8.1,SNR=3.3						
WRA	**Warramunga Arr**	**24.68**	**164**	P	P	07 18 12.8	-0.1
	3.9nm,0.7s,baz=343,slow=10,SNR=23						
ASAR	**Alice Springs**	**28.15**	**167**	P	P	07 18 44.4	+0.1
	0.3nm,0.5s,baz=341,slow=7.9,SNR=3.7						
STKA	**Stephens Creek**	**38.08**	**160**	P	P	07 20

PDKS *e*Sg Sg 07 38 46.4 +0.7
comp=Z,6.0nm,0.1s
VISS Visnje 0.41 255 ⇓*i*Pg Pg 07 38 43.5 +0.4
comp=Z,4.0nm,0.1s
VISS Visnje 0.41 255 ⇓*i*Pg Pg 07 38 43.5 +0.3
comp=Z,4.0nm,0.1s
SOKA Soboth 0.81 342 Sg Sg 07 39 01.0 -0.3
comp=Z,1.1nm,0.2s
OBKA Obir 0.84 316 Pn Pn 07 38 53.9 -0.1
comp=Z,1.1nm,0.1s
OBKA Sg Sg 07 39 03.2 +0.8
comp=Z,3.9nm,0.2s
MYKA Terra Mystica 1.42 301 Sg Sn 07 39 22.7 +1.7
comp=Z,0.2nm,0.1s

IDC 27 07:39:59.2±2.1, 1°.19N×126°.38E, h0km, mb3.5/3, mb1 3.7/3, mb1mx3.5/38, mbtmp3.5/3, Error ellipse: s-maj=182.8km s-min=25.4km az=65.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**22.40**	**160**	P	P	07 44 59.8	+0.3
	0.6nm,0.4s,baz=339,slow=11,SNR=7.5						
ASAR	**Alice Springs**	**25.76**	**164**	P	P	07 45 31.6	-0.3
	0.5nm,0.7s,baz=344,slow=9.6,SNR=6.5						
MKAR	**Makanchi Array**	**59.45**	**326**	P	P	07 50 04.0	0.0
	0.4nm,0.5s,baz=116,slow=7.7,SNR=6.6						

IDC 27 07:47:56.6±60.0, 13°.56S×166°.98E, h0km, mb3.8/3, mb1 4.0/3, mb1mx3.6/38, mbtmp3.8/3, Error ellipse: s-maj=1013.0km s-min=115.8km az=64.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**29.55**	**228**	P	P	07 54 03.7	+0.5
	2.0nm,0.5s,baz=39,slow=11,SNR=3.6						
WRA	**Warramunga Arr**	**31.85**	**254**	P	P	07 54 23.6	-0.1
	0.3nm,0.6s,baz=87,slow=8.5,SNR=3.9						
ASAR	**Alice Springs**	**32.84**	**247**	P	P	07 54 31.9	-0.4
	0.5nm,0.5s,baz=74,slow=9.4,SNR=16						

IDC 27 07:52:01.8±1.3, 24°.75S×175°.37W, h0km, mb3.6/5, mb1 4.0/5, mb1mx3.8/30, mbtmp3.6/5, MS3.4/2, Ms1 3.4/2, ms1mx2.8/21, Error ellipse: s-maj=51.0km s-min=23.8km az=139.0
ISCJB 27 07:52:03.5±0.9, 24°.85S±0°.1×175°.4W±0°.2, h19km, mb3.7/5, MS3.4/2, Error ellipse: s-maj=32.3km s-min=10.5km az=27.1
ISC 27 07:52:04.8±1.0, 24°.7S±0°.2×175°.4W±0°.3, h19km, n11, σ0°.67/8, mb3.6/5, South of Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**5.03**	**206**	Pn	**Pn**	**07 53 19.2**	**0.0**
	baz=30,slow=20						
RAO				Sn	**Sn**	**07 54 16.7**	**0.0**
	81nm,0.3s,baz=72,slow=20,SNR=3.7						
RAR	**Rarotonga**	**14.81**	**79**	Pn	Pn	07 55 23.3	-10
	3.3nm,0.3s,baz=218,slow=6.3,SNR=10						
URZ	**Urewera**	**14.91**	**203**	Sn	Sn	07 58 07.2	-12
	0.7nm,0.3s,baz=123,slow=5.1,SNR=7.3						
PPT	**Papeete**	**25.09**	**79**	LR	LR	08 06 00.6	
	comp=Z,42nm,19.1s,baz=70,slow=34						
ASAR	**Alice Springs**	**46.03**	**260**	P	**P**	**08 00 27.8**	**+0.2**
	0.5nm,0.7s,baz=96,slow=8.1,SNR=8.5						
WRA	**Warramunga Arr**	**46.53**	**265**	P	**P**	**08 00 31.6**	**+0.2**
	0.9nm,0.6s,baz=103,slow=8.1,SNR=10						
MAW	**Mawson**	**78.40**	**199**	LR	LR	08 39 44.0	
	comp=Z,47nm,18.3s,baz=242,slow=36						
TXAR	**Lajitas Array**	**87.36**	**56**	P	**P**	**08 04 51.8**	**+0.8**
	0.1nm,0.5s,baz=203,slow=6.6,SNR=3.2						
PDAR	**Pinedale Array**	**90.43**	**42**	P	**P**	**08 05 04.5**	**-0.8**
	0.2nm,0.6s,baz=222,slow=3.6,SNR=2.4						
ILAR	**Eielson Array**	**91.92**	**12**	P	**P**	**08 05 11.8**	**+0.4**
	0.5nm,0.7s,baz=212,slow=4.7,SNR=4.6						
AKASG	**Malin Array Be**	**147.87**	**330**	PKPbc	**PKPbc**	**08 11 47.5**	**-0.9**
	0.6nm,0.4s,baz=29,slow=3.1,SNR=3.6						

KRNET 27 07:57:26.9±0.1, 41°.03N×69°.46E, mb2.9
SOME 27 07:57:27.4, 40°.95N×69°.53E, h20km
NNC 27 07:57:29.6±0.9, 41°.04N×69°.81E, h0km, mb3.4, mpv3.0, Error ellipse: s-maj=17.7km s-min=5.6km az=118.0
ISC 27 07:57:29.6±2.1, 41°.04N±0°.04×69°.57E±0°.05, h13km±17km, n18, σ1°.76/32, 19C-6D, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IUG	**Iuzhnay**	**1.16**	**17**	*e*P	**Pb**	**07 57 50.8**	**-0.9**
	19nm,0.2s						
IUG				*e*S	**Sb**	**07 58 07.7**	**+1.0**
	227nm,0.6s						
CHM	**Chimkent**	**1.28**	**1**	*e*P	**Pn**	**07 57 52.1**	**-1.2**
	57nm,0.1s						
CHM				*e*S	**Sb**	**07 58 10.2**	**+0.2**
	148nm,0.2s						
BTK	**Batken**	**1.36**	**135**	⇑*i*P	**Pn**	**07 57 53.6**	**-0.8**
	baz=133						
BTK				⇑*i*S	**Sg**	**07 58 12.8**	**-0.7**
	baz=133						
ARK	**Arkit**	**1.95**	**66**	⇓*i*P	**Pn**	**07 58 03.0**	**+0.5**
	baz=68						
ARK				⇓*i*S	**Sb**	**07 58 30.2**	**+0.8**
	baz=68						
KK31	**Karatay Array**	**2.18**	**18**	Pg	**Pb**	**07 58 08.8**	**-0.1**
	2.3nm,0.2s,baz=196,slow=16,SNR=139						
KK31				⇓Lg	Lg	07 58 38.4	
	10nm,0.3s,baz=204,slow=28,SNR=18						
DZET	**Dzherino**	**2.30**	**195**	⇓Pg	**Pb**	**07 58 11.2**	**+0.2**
	5.3nm,0.5s						
DZET				⇑Sn	**Sb**	**07 58 41.0**	**+1.6**
	17nm,0.4s						
OHH	**Osh**	**2.49**	**101**	⇓*i*P	**Pn**	**07 58 11.3**	**+1.4**
	baz=100						
OHH				⇓*i*S	**Sb**	**07 58 42.9**	**-2.0**
	baz=100						
ARSB	**Arslanbob**	**2.59**	**82**	⇑*i*P	**Pn**	**07 58 12.5**	**+1.2**
	baz=82						
ARSB				⇑*i*S	**Sb**	**07 58 45.4**	**-2.3**
	baz=82						
MNAS	**Manas**	**2.63**	**56**	⇑*i*P	**Pn**	**07 58 12.8**	**+0.9**
	baz=56						
MNAS				⇑*i*S	**Sb**	**07 58 46.5**	**-2.4**
	baz=56						
MNAS	**Manas**	**2.63**	**56**	⇑Pg	**Pn**	**07 58 13.7**	**+1.8**
	2.9nm,0.5s						
MNAS				⇑Lg	Lg	07 58 48.7	
	7.4nm,0.5s						
TOKL	**Toktogul**	**2.64**	**69**	⇑*i*P	**Pn**	**07 58 13.2**	**+1.3**
	baz=69						
TOKL				⇑*i*S	**Sb**	**07 58 47.5**	**-1.5**
	baz=69						
MRKS	**Merke**	**3.22**	**57**	*e*P	**Pb**	**07 58 26.4**	**-0.3**
	8.3nm,0.5s						
MRKS				*e*S	**Sb**	**07 59 08.3**	**+2.6**
	14nm,0.5s						
AML	**Almayashu**	**3.28**	**69**	⇑*e*P	**Pn**	**07 58 21.2**	**+0.2**
	baz=69						
AML				⇑*e*S	**Sn**	**07 58 59.5**	**-0.6**
	baz=69						
UCH	**Uchtor**	**3.89**	**71**	⇑*i*P	**Pn**	**07 58 30.6**	**+1.1**
	baz=71						
UCH				⇑*i*S	**Sn**	**07 59 13.8**	**-1.4**
	baz=71						
AAK	**Ala-Archa**	**4.01**	**65**	Pg	**Pb**	**07 58 40.2**	**+0.1**
	3.5nm,0.7s						
AAK				⇑Lg	Lg	07 59 33.7	
	5.2nm,0.7s						
KZA	**Kyzart**	**4.38**	**74**	⇑*e*P	**Pn**	**07 58 36.4**	**+0.2**
	baz=75						
KZA				⇑*e*S	**Sn**	**07 59 26.2**	**-1.2**
	baz=75						
TKM2	**Tokmak 2**	**4.87**	**65**	⇑Pg	**Pb**	**07 58 53.7**	**-1.1**
	1.7nm,0.5s						
TKM2				Lg	Lg	08 00 00.6	
	5.6nm,0.6s						
KST	**Kastek**	**5.16**	**65**	*e*P	**Pb**	**07 59 01.1**	**+1.3**
	0.9nm,0.2s						
KST				*e*S	**Sb**	**08 00 08.0**	**+6.2**
	4.5nm,0.5s						

IDC 27 07:57:41.6±13.0, 35°.62N×143°.82E, h0km, mb3.3/2, mb1 3.5/3, mb1mx3.3/47, mbtmp3.3/3, ML3.0/1, MS2.3/1, Ms1 2.3/1, ms1mx2.1/22, Error ellipse: s-maj=306.5km s-min=43.3km az=40.0
ISCJB 27 07:57:49.8±1.1, 34°.91N±0°.06×142°.94E±0°.08, h33km, mb3.4/2, Error ellipse: s-maj=9.7km s-min=8.8km az=139.4
JMA 27 07:57:49.0±0.2, 34°.83N×142°.97E, h52km, M3.6
ISC 27 07:57:52.4±1.6, 34°.89N±0°.08×142°.9E±0°.1, h35km, n11, σ0°.72/12, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSO1	**Boso 1**	**1.57**	**262**	P	**Pn**	**07 58 16.2**	**-1.1**
BSO1				S	**Sn**	**07 58 36.6**	**+0.5**
BSO3	**Boso 3**	**1.94**	**268**	*e*S	**Sn**	**07 58 46.1**	**+0.6**
BSO4	**Boso 4**	**2.08**	**273**	*e*S	**Sn**	**07 58 49.4**	**+0.2**
JFT	**Otama**	**3.32**	**323**	P	**Pn**	**07 58 41.2**	**-0.7**
JRY	**Ryogami san**	**3.42**	**290**	*e*S	**Sn**	**07 59 23.4**	**+0.8**
MJAR	**Matsushiro Arr**	**4.13**	**295**	Pn	**Pn**	**07 58 52.5**	**-0.5**
	0.6nm,0.3s,baz=96,slow=9.6,SNR=7.3						
JMK	**Ichinoseki**	**4.26**	**342**	P	**Pn**	**07 58 54.3**	**-0.4**
JYK	**Kaneyama**	**4.49**	**334**	P	**Pn**	**07 58 57.4**	**-0.5**
JYK				*e*S	**Sn**	**07 59 49.1**	**+0.2**
KSRS	**Korea Array**	**12.34**	**286**	LR	LR	08 05 28.4	
	comp=Z,14nm,19.9s,baz=190,slow=36						
WRA	**Warramunga Arr**	**55.13**	**190**	P	**P**	**08 07 20.9**	**-0.3**
	0.3nm,0.7s,baz=6.8,slow=7.3,SNR=5.2						
ASAR	**Alice Springs**	**58.86**	**190**	P	**P**	**08 07 48.7**	**+1.1**
	0.2nm,0.6s,baz=15,slow=14,SNR=5.0						

ISCJB 27 08:11:22.6±0.6, 6°.85N±0°.04×73°.03W±0°.04, h158km±6km, Error ellipse: s-maj=8.8km s-min=4.5km az=43.4
FUNV 27 08:11:24.6, 6°.84N×73°.14W, h145km, MW2.6
RSNC 27 08:11:25.1±0.8, 6°.79N×73°.11W, h148km±5km, ML2.7
ISC 27 08:11:22.2±1.4, 6°.84N±0°.05×73°.03W±0°.05, h163km±8km, n19, σ1°.36/35, 1C-2D, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BTLC	**Betulia, Santa**	**0.24**	**288**	*e*P	**Pn**	**08 11 45.2**	**+0.7**
BARC	**Barichara**	**0.29**	**211**	⇓*e*P	**Pn**	**08 11 45.1**	**+0.5**
BARC				*e*S	**Sn**	**08 12 00.2**	**-1.6**
BARC				*i*		08 12 01.4	
	comp=Z,99nm,0.3s						
PAMC	**Pamplona, Colo**	**0.60**	**34**	*e*P	**Pn**	**08 11 47.7**	**+1.5**
PAMC				*i*		08 11 48.0	
	comp=Z,68nm,0.2s						
PAMC				*e*S	**Sn**	**08 12 04.6**	**+0.1**
BRRC	**Barranca, Sant**	**0.72**	**292**	⇑*i*P	**Pn**	**08 11 46.9**	**+0.6**
BRRC				*e*S	**Sn**	**08 12 04.0**	**-0.7**
BRRC				*i*		08 12 07.9	
	comp=Z,168nm,0.1s						
RUSC	**La Rusia**	**0.94**	**183**	*e*P	**Pn**	**08 11 49.0**	**+0.5**
RUSC				*e*S	**Sn**	**08 12 07.1**	**-1.4**
RUSC				*i*		08 12 08.7	
	comp=Z,24nm,0.3s						
CAPV	**Capacho**	**1.24**	**35**	*e*P	**Pn**	**08 11 52.1**	**+1.5**
CAPV				*e*S	**Sn**	**08 12 10.6**	**-1.9**
OCAC	**Ocana**	**1.42**	**348**	*e*P	**Pn**	**08 11 53.4**	**+1.2**
OCAC				*e*S	**Sn**	**08 12 16.6**	**+1.2**
OCAC				*i*		08 12 20.2	
	comp=Z,117nm,0.2s						
ZARC	**Zaragoza, Cauc**	**1.92**	**290**	*e*P	**Pn**	**08 11 57.4**	**+0.1**
ZARC				*e*S	**Sn**	**08 12 23.5**	**-0.8**
ZARC				*i*		08 12 29.1	
	comp=Z,113nm,0.2s						
NORC	**Norcasia**	**2.22**	**235**	*e*P	**Pn**	**08 12 01.2**	**+0.4**
NORC				*e*S	**Sn**	**08 12 28.7**	**-1.9**
CHIC	**Chingaza**	**2.30**	**198**	*e*P	**Pn**	**08 12 03.0**	**+0.8**
CHIC				*e*S	**Sn**	**08 12 32.6**	**-0.4**
CHIC				*i*		08 12 40.8	
	comp=Z,12nm,0.4s						
HELC	**Santa Helena**	**2.56**	**256**	*e*P	**Pn**	**08 12 05.9**	**+0.8**
HELC				*e*S	**Sn**	**08 12 38.2**	**0.0**
HELC				*i*		08 12 45.2	
	comp=Z,21nm,0.3s						
SOCV	**Socops**	**2.59**	**56**	*e*P	**Pn**	**08 12 06.6**	**+1.5**
SOCV				*e*S	**Sn**	**08 12 38.2**	**-0.2**
PRAC	**Prado**	**3.61**	**211**	*e*P	**Pn**	**08 12 18.9**	**+1.0**
PRAC				*e*S	**Sn**	**08 13 01.4**	**+0.1**
PRAC				*i*		08 13 05.6	
	comp=Z,50nm,0.1s						
VIRV	**Villa del Rosa**	**3.69**	**10**	*e*P	**Pn**	**08 12 19.5**	**+0.6**
VIRV				*e*S	**Sn**	**08 13 00.4**	**-2.7**
QARV	**Quebrada Arrib**	**4.17**	**36**	*e*P	**Pn**	**08 12 26.1**	**+1.0**
SANV	**Sanarito**	**4.36**	**52**	*e*P	**Pn**	**08 12 29.1**	**+1.5**
SANV				*e*S	**Sn**	**08 13 16.4**	**-2.2**
CURV	**Curarigua**	**4.38**	**44**	*e*P	**Pn**	**08 12 29.6**	**+1.8**
CURV				*e*S	**Sn**	**08 13 17.3**	**-1.7**
BAUV	**El Baul**	**5.37**	**67**	*e*P	**Pn**	**08 12 41.5**	**+0.8**
BAUV				⇓*e*S	**Sn**	**08 13 39.8**	**-2.4**
MAPV	**Macapo**	**5.42**	**56**	*e*P	**Pn**	**08 12 42.7**	**+1.3**

ISCJB 27 08:30:07.3±0.3, 7°.24S±0°.03×129°.03E±0°.06, h131km, mb4.5/18, Error ellipse: s-maj=8.1km s-min=4.4km az=160.0
BJI 27 08:30:07.2, 7°.69S×129°.10E, h140km, mb4.5/16, mB5.0/9
NEIC 27 08:30:09.7±1.1, 7°.24S×129°.04E, h138km±12km, mb4.6/13, Error ellipse: s-maj=12.8km s-min=10.4km az=79.0
IDC 27 08:30:13.0±2.4, 7°.34S×128°.99E, h177km±24km, mb3.7/7, mb1 3.8/10, mb1mx3.6/30, mbtmp4.3/10, MS3.5/2, Ms1 3.5/2, ms1mx2.8/31, Error ellipse: s-maj=25.9km s-min=13.9km az=53.0
ISC 27 08:30:08.6±0.4, 7°.31S±0°.05×129°.13E±0°.06, h131km, n53, σ2°.55/63, mb4.7/17, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FAKI	**Fak Fak**	**5.35**	**36**	*e*Pn	**Pn**	**08 31 26.2**	**-0.2**
FAKI				*e*Sn	**Sn**	**08 32 23.8**	**-3.3**
SOEI	**Soe**	**5.39**	**243**	*e*Pn	**Pn**	**08 31 29.1**	**+2.0**
SOEI				*e*Sn	Sn	08 32 36.0	+7.8
MTN	**Manton Dam**	**5.84**	**160**	*e*Pn	**Pn**	**08 31 37.6**	**+4.5**
MTN				*e*Sn	**Sn**	**08 32 40.4**	**+1.4**
FITZ	**Fitzroy Crossi**	**11.26**	**197**	P	**Pn**	**08 32 46.6**	**+0.9**
	0.2nm,0.3s,baz=37,slow=9.2,SNR=6.7						
FITZ				S	**Sn**	**08 34 47.0**	**-2.9**
	1.0nm,0.3s,baz=103,slow=12,SNR=4.2						
WRAB	**Tennant Creek**	**13.54**	**159**	*e*Pn	**Pn**	**08 33 15.5**	**+0.1**
WRAB				*e*Sn	**Sn**	**08 35 38.3**	**-6.6**
WRA	**Warramunga Arr**	**13.54**	**159**	P	**Pn**	**08 33 15.2**	**-0.3**
	0.4nm,0.3s,baz=342,slow=13,SNR=20						
WRA				S	**Sn**	**08 35 38.5**	**-6.5**
	0.8nm,0.3s,baz=326,slow=22,SNR=9.1						
WRA				ScP	**ScP**	**08 41 47.8**	**-5.7**
	0.2nm,0.3s,baz=323,slow=1.6,SNR=15						
WB2	**Warramunga Arr**	**13.54**	**159**	*e*Pn	**Pn**	**08 33 14.9**	**-0.6**
WB2				*e*Sn	**Sn**	**08 35 38.5**	**-6.7**
WC3	**Warramunga Arr**	**13.57**	**159**	*e*Pn	**Pn**	**08 33 15.8**	**0.0**
COEN	**Coen**	**15.30**	**117**	*e*P	**P**	**08 33 40.9**	**+1.3**
	26nm,1.3s						
COEN				*e*Sn	Sn	08 36 17.5	-10
AS31	**Alice Springs**	**16.90**	**165**	*e*P	**Pn**	**08 34 00.3**	**+2.9**
	5.0nm,0.6s						
ASAR	**Alice Springs**	**16.90**	**165**	P	**Pn**	**08 34 00.4**	**+3.0**
	1.4nm,0.3s,baz=345,slow=10,SNR=238						
ASAR				S	**Sn**	**08 37 01.5**	**-4.5**
	0.3nm,0.3s,baz=348,slow=24,SNR=8.6						
ASAR				ScP	**ScP**	**08 41 54.0**	**-5.6**
	0.3nm,0.3s,baz=359,slow=1.8,SNR=14						
AS01	**Alice Springs**	**16.91**	**165**	*e*P	**Pn**	**08 34 00.2**	**+2.7**
PMG	**Port Moresby**	**17.95**	**98**	P	**Pn**	**08 34 12.3**	**+2.1**
	1.1nm,0.3s,baz=235,slow=21,SNR=5.8						
PMG	**Port Moresby**	**17.95**	**98**	*e*P	**Pn**	**08 34 12.2**	**+2.1**
	37nm,0.8s						
MANU	**Manus Island**	**18.90**	**75**	*e*P	**Pn**	**08 34 21.9**	**+0.6**
	208nm,1.8s						
SBUM	**Sibu**	**19.46**	**299**	*e*P	**Pn**	**08 34 28.2**	**+0.3**
	12nm,0.7s						
CTA	**Charters Tower**	**20.90**	**129**	P	**P**	**08 34 42.9**	**+2.2**
	7.2nm,0.7s,baz=300,slow=12,SNR=6.7						
CTAO	**Charters Tower**	**20.90**	**129**	*e*P	**P**	**08 34 42.7**	**+2.0**
	7.7nm,0.8s						
BBOO	**Buckleboo**	**26.18**	**167**	*e*P	**P**	**08 35 32.6**	**+1.7**
	63nm,1.8s						
STKA	**Stephens Creek**	**27.07**	**156**	P	**P**	**08 35 38.8**	**-0.1**
	2.2nm,0.7s,baz=327,slow=9.7,SNR=6.0						
STKA	**Stephens Creek**	**27.07**	**156**	*e*P	**P**	**08 35 39.3**	**+0.4**
	3.6nm,1.5s						
PSI	**Prapat**	**31.77**	**287**	P	**P**	**08 36 20.8**	**-0.2**
	10nm,0.7s,baz=192,slow=3.2,SNR=4.3						
CMAR	**Chiang Mai Arr**	**39.27**	**311**	P	**P**	**08 37 24.8**	**-0.1**
	1.7nm,0.7s,baz=146,slow=7.3,SNR=8.5						
CMAR				LR	LR	08 55 00.6	
	comp=Z,35nm,18.9s,baz=184,slow=38						
NJ2	**Nanjing**	**40.35**	**346**	*e*P	**P**	**08 37 33.0**	**-0.4**
NJ2				pmax	pmax		
	comp=Z,28nm,0.5s						
KSRS	**Korea Array**	**44.54**	**359**	P	**P**	**08 38 07.7**	**+0.5**
	0.4nm,0.4s,baz=177,slow=8.5,SNR=3.2						
CD2	**Chengdu**	**45.11**	**329**	*e*P	**P**	**08 38 13.5**	**+1.5**
CD2				pmax	pmax		
	comp=Z,10.0nm,1.0s						
HHC	**Hu-ho-hao-te**	**50.57**	**343**	*e*P	**P**	**08 38 56.0**	**+2.0**
HHC				pmax	pmax		
	comp=Z,17nm,1.0s						
HHC				pmax	pmax		
	comp=Z,66nm,4.6s						
RPZ	**Rata Peaks**	**51.52**	**142**	*e*P	**P**	**08 39 02.7**	**+1.7**
	158nm,1.7s						
ODAN	**Odare**	**52.81**	**312**	*e*P	**P**	**08 39 10.0**	**-1.0**
	15nm,0.5s						
ODAN	**Odare**	**52.81**	**312**	*e*P	**P**	**08 39 10.0**	**-1.0**
	15nm,0.5s						
TAPN	**Taplejung**	**52.85**	**312**	*e*P	**P**	**08 39 10.3**	**-1.1**
	11nm,0.4s						
TAPN	**Taplejung**	**52.85**	**312**	*e*P	**P**	**08 39 10.4**	**-1.0**
	11nm,0.4s						
RAMN	**Ramite**	**53.45**	**311**	*e*P	**P**	**08 39 15.1**	**-0.6**
	30nm,0.6s						
RAMN	**Ramite**	**53.45**	**311**	*e*P	**P**	**08 39 15.1**	**-0.6**
	30nm,0.6s						
JIRN	**Jiri**	**54.14**	**312**	*e*P	**P**	**08 39 19.8**	**-1.1**
	16nm,0.4s						
GUN	**Gumba**	**54.51**	**312**	*e*P	**P**	**08 39 22.4**	**-1.1**
	26nm,0.6s						
GKN	**Gorkha**	**55.48**	**311**	*e*P	**P**	**08 39 29.2**	**-1.1**
	13nm,0.4s						
GKN	**Gorkha**	**55.48**	**311**	*e*P	**P**	**08 39 29.2**	**-1.1**
	13nm,0.4s						
KOLN	**Koldanda**	**56.14**	**310**	*e*P	**P**	**08 39 34.1**	**-0.9**
	9.2nm,0.6s						
WMQ	**Urumqi**	**63.19**	**328**	P	**P**	**08 40 24.0**	**+1.2**
WMQ				pP	pP	08 40 55.5	+1.0
WMQ				sP	sP	08 41 13.5	+4.8
WMQ				pmax	pmax		
	comp=Z,9.0nm,0.6s						
WMQ				pmax	pmax		
	comp=Z,76nm,3.7s						
WMQ				LR	LR		
	comp=N,39nm,17.5s						
WMQ				LR	LR		
	comp=Z,25nm,15.5s						
KSH	**Kashi**	**67.67**	**318**	*e*P	**P**	**08 40 52.0**	**+0.1**
KSH				pP	pP	08 41 23.0	-0.9
KSH				PP	**PP**	**08 43 25.0**	**+2.1**
KSH				S	**S**	**08 49 32.3**	**-6.6**
KSH				pmax	pmax		
	comp=Z,7.0nm,1.1s						
KSH				pmax	pmax		
	comp=Z,76nm,6.8s						
KSH				LR	LR		
	comp=N,53nm,5.7s						
KSH				LR	LR		
	comp=E,47nm,6.4s						
KSH				LR	LR		
	comp=Z,90nm,5.4s						
MK01	**Makanchi Array**	**67.99**	**327**	*e*P	**P**	**08 40 52.3**	**-1.3**
MK31	**Makanchi Array**	**68.01**	**327**	*e*P	**P**	**08 40 53.4**	**-0.4**
MKAR	**Makanchi Array**	**68.01**	**327**	P	**P**	**08 40 52.7**	**-1.1**
	1.2nm,0.6s,baz=123,slow=7.9,SNR=12						
MKAR	**Makanchi Array**	**68.01**	**327**	*e*P	**P**	**08 40 53.5**	**-0.2**
	10nm,0.8s						
ZALV	**Zalesovo Beam**	**71.48**	**334**	P	**P**	**08 41 12.6**	**-2.1**
	0.7nm,0.4s,baz=101,slow=6.0,SNR=3.4						
RER	**Riviere de l'E**	**71.94**	**250**	*e*P	**P**	**08 41 18.0**	**-0.3**
	242nm,1.2s						
VNDA	**Vanda**	**72.25**	**173**	*e*P	**P**	**08 41 19.8**	**+0.8**
	12nm,1.9s						
ARU	**Arti**	**85.51**	**328**	LR	LR	09 23 46.3	
	comp=Z,38nm,20.7s,baz=192,slow=38						
CNPM	**China Poot**	**91.01**	**30**	*e*P	**P**	**08 42 57.9**	**+0.1**
	48nm,1.7s						
SUA	**Susitna One**	**91.67**	**28**	*e*P	**P**	**08 43 01.9**	**+1.0**
	7.3nm,0.6s						
SNAA	**Sanae**	**95.17**	**194**	P	**P**	**08 43 16.3**	**-0.5**
VNA3	**Neumayer Olymp**	**97.00**	**192**	P	**P**	**08 43 24.2**	**-0.9**

GUC 27 08:55:51.4±0.5, 31°.54S×70°.91W, h107km±30km, ML3.1
SJA 27 08:55:53.1±0.6, 31°.42S×70°.74W, h68km±12km, ML2.8, MW3.3
ISC 27 08:55:50.8±2.6, 31°.45S±0°.09×70°.9W±0°.1, h10km±13km, n12, σ0°.55/20, 1C, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RTLS	**Leoncito**	**1.39**	**105**	*e*P	**Pg**	**08 56 17.4**	**-0.1**
RTLS				*e*S	**Sn**	**08 56 34.9**	**-0.1**
RTLS				IAML		08 56 36.2	
	comp=Z,151nm,0.3s						
AUSP	**Uspallata**	**1.48**	**122**	*e*P	**Pb**	**08 56 18.4**	**-0.1**
ROCH	**El Roble**	**1.52**	**184**	⇑*i*P	**Pn**	**08 56 18.4**	**+0.2**
ROCH				*i* S	**Sg**	**08 56 39.7**	**0.0**
ROCH				IAML		08 56 46.1	
	comp=N,451nm,0.3s						
PEL	**Peldehue**	**1.69**	**175**	*i* P	**Pn**	**08 56 20.5**	**+0.1**
PEL				*i* S	**Sn**	**08 56 42.3**	**0.0**
PEL				IAML		08 56 45.8	
	comp=N,158nm,0.3s						
FCH	**Farellones**	**1.93**	**165**	*i* P	**Pn**	**08 56 24.4**	**+0.3**
FCH				*i* S	**Sn**	**08 56 49.1**	**+0.5**
FCH				IAML		08 56 52.3	
	comp=E,194nm,0.1s						
CLCH	**Cerro Calan**	**1.96**	**172**	*i* P	**Pn**	**08 56 23.8**	**-0.4**
CLCH				*i* S	**Sn**	**08 56 48.4**	**-0.4**
CLCH				IAML		08 56 54.0	
	comp=E,183nm,0.6s						
RTCV	**Cerro Valdivia**	**2.03**	**102**	*e*P	**Pn**	**08 56 25.4**	**+0.3**
RTCV				*e*S	**Sn**	**08 56 49.2**	**-1.4**
RTLL	**Cerro Villicun**	**2.06**	**87**	*e*P	**Pn**	**08 56 25.5**	**+0.1**
ASAL	**Salagasta**	**2.07**	**124**	*e*P	**Pn**	**08 56 26.5**	**+0.8**
ASAL				*e*S	**Sn**	**08 56 51.5**	**0.0**
AMOG	**MOGNA**	**2.10**	**77**	*e*P	**Pn**	**08 56 26.8**	**+0.7**
**ARC

TURN	**Turunc**	**0.55**	**134**	P		**Pg**	08 58 44.5	**-1.8**
BDRM	**Kayabasi**	**0.56**	**251**	*i* P		**Pg**	08 58 46.6	**0.0**
BDRM				*i* S		**Sb**	08 58 57.1	**-0.1**
BDRM	**Kayabasi**	**0.56**	**251**	P		**Pg**	08 58 46.6	**0.0**
BDRM				S		**Sb**	08 58 57.1	**-0.1**
DALY	**Dalyan (Mu˘la**	**0.62**	**135**	*e*PG		**Pg**	08 58 46.5	**-1.2**
DALY	**Dalyan (Mu˘la**	**0.62**	**135**	*i* P		**Pg**	08 58 46.9	**-0.7**
DALY	**Dalyan (Mu˘la**	**0.62**	**135**	*e*Pg		**Pg**	08 58 46.5	**-1.2**
DALY	**Dalyan (Mu˘la**	**0.62**	**135**	P		**Pg**	08 58 46.9	**-0.7**
BODT	**Bodrum**	**0.67**	**253**	*e*PG		**Pb**	08 58 50.0	**-0.4**
BODT				*e*SG		**Sb**	08 59 01.4	**+1.2**
BODT	**Bodrum**	**0.67**	**253**	*e*Pg		**Pb**	08 58 50.0	**-0.4**
BODT				*e*Sg		**Sb**	08 59 01.4	**+1.2**
DAT	**Datca**	**0.68**	**219**	*e*PG		**Pb**	08 58 50.0	**-0.6**
DAT	**Datca**	**0.68**	**219**	*i* P		**Pn**	08 58 51.4	**-1.3**
DAT	**Datca**	**0.68**	**219**	*e*Pg		**Pb**	08 58 50.0	**-0.6**
DAT	**Datca**	**0.68**	**219**	P		**Pn**	08 58 51.4	**-1.3**
TAVA	**DENIZLI_Tavas**	**0.68**	**72**	*i* P		**Pg**	08 58 48.1	**-0.7**
AYDB	**Zeytinkoy-Aydi**	**0.71**	**346**	*e*PG		**Pg**	08 58 48.9	**-0.6**
AYDB	**Zeytinkoy-Aydi**	**0.71**	**346**	*e*Pg		**Pg**	08 58 48.9	**-0.6**
GCAM	**G?zelcaml?**	**0.83**	**303**	*i* P		**Pn**	08 58 54.4	**-0.4**
GCAM	**G?zelcaml?**	**0.83**	**303**	P		**Pn**	08 58 54.4	**-0.4**
NIS1	**Nisyros Isl.**	**0.99**	**229**	*e*PG		**Pb**	08 58 55.5	**-0.4**
NIS1	**Nisyros Isl.**	**0.99**	**229**	*e*Pg		**Pb**	08 58 55.5	**-0.4**
FETY	**Fethiye**	**1.00**	**128**	*e*PG		**Pg**	08 58 53.9	**-1.0**
FETY	**Fethiye**	**1.00**	**128**	P		**Pg**	08 58 53.0	**-1.9**
FETY	**Fethiye**	**1.00**	**128**	*e*Pg		**Pg**	08 58 53.9	**-1.0**
ELL	**Elmali**	**1.53**	**109**	*e*PN		**Pn**	08 59 03.5	**-1.0**
ELL	**Elmali**	**1.53**	**109**	*e*Pn		**Pn**	08 59 03.5	**-1.0**
AKAS	**Kas**	**1.58**	**130**	*e*PN		**Pn**	08 59 04.9	**-0.3**
AKAS	**Kas**	**1.58**	**130**	*i* P		**Pb**	08 59 05.8	**-0.2**
AKAS				*i* S		**Sg**	08 59 30.8	**+4.3**
AKAS	**Kas**	**1.58**	**130**	*e*Pn		**Pn**	08 59 04.9	**-0.3**
AKAS	**Kas**	**1.58**	**130**	P		**Pb**	08 59 05.8	**-0.2**
AKAS				S		**Sg**	08 59 30.8	**+4.3**
CAND	**Candarli**	**1.98**	**329**	*e*PN		**Pn**	08 59 10.6	**-0.1**

MOS **27** *08:58:51.5±1.2,41˚.18N×43˚.87E,h9km,mb4.3/14,Error ellipse: s-maj=4.6km s-min=3.5km az=104.0*

NSSP **27** *08:58:51.5,41˚.25N×44˚.00E,h10km,Ms4.3*

TIF **27** *08:58:51.9,41˚.29N×43˚.99E,h15km*

DDA **27** *08:58:52.3,41˚.28N×43˚.94E,h7km,Ml4.1*

IDC **27** *08:58:52.2±0.5,41˚.29N×44˚.05E,h0km,mb4.0/15, mb1 4.2/23,mb1mx4.0/44,mbtmp4.1/23,ML3.8/7,MS3.4/24, Ms1 3.4/24,ms1mx3.2/48,Error ellipse: s-maj=10.4km s-min=7.0km az=55.0*

ISCJB **27** *08:58:52.6±0.3,41˚.31N±0˚.01×43˚.97E±0˚.01,h1km±2km, mb4.2/30,MS3.4/19,Error ellipse: s-maj=1.9km s-min=1.6km az=3.3*

ISK **27** *08:58:53.4,41˚.40N×43˚.94E,h11km,ML4.0*

CSEM **27** *08:58:53.6±0.1,41˚.31N×43˚.98E,h2km,mb4.3/7,Mw4.2, Error ellipse: s-maj=2.9km s-min=2.3km az=8.0*

AZER **27** *08:58:54.5±0.2,41˚.31N×44˚.23E,h10km±1km,Error ellipse: s-maj=5.6km s-min=2.3km az=15.0*

NEIC **27** *08:58:54.2±0.4,41˚.33N×44˚.11E,h10km,mb4.3/7,MW4.2, Error ellipse: s-maj=7.8km s-min=5.0km az=171.0. Moment Tensor Solution. s10 Moment tensor: Scale 10¹⁵Nm; Mrr0.46; Mθθ-2.26; Mφφ1.80; Mrθ-0.54; Mrφ1.76; Mθφ-0.96; Best double couple: Mo2.90000×10¹⁵ NP1: φs248.00000°,δ76.00000°,λ19.00000°. NP2: φs153.00000°,δ71.00000°,λ165.00000°. Principal axes: T 2.9300, Plg24.0000°, Azm111.0000°; N -0.0100, Plg66.0000°, Azm283.0000°; P -2.9300, Plg3.0000°, Azm20.0000°;*

NEIC Felt at Kazret'i and Tbilisi. Also felt at Ijevan, Armenia.

TEH **27** *08:58:55.0,41˚.34N×44˚.07E,h10km,ML4.3*

ISC 27 08:58:53.5±0.7,**41˚.29N**±0˚.01×**44˚.01E**±0˚.01,**h7**km±4km, **n395,σ1§62**/489,**mb4.2**/35,**MS3.3**/19,**41C-52D, Western Caucasus**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
BAW	**Bavra**	**0.23**	**222**	*e*P		**Pg**	08 58 57.5	**-0.7**
BAW				*e*S		**Sg**	08 59 02.5	**+1.1**
BGD	**Bogdanovka**	**0.31**	**265**	P		**Pg**	08 58 58.9	**-0.8**
BGD				S		**Sg**	08 59 03.4	**-0.4**
BGD	**Bogdanovka**	**0.31**	**265**	P		**Pg**	08 58 59.0	**-0.7**
BGD				S		**Sg**	08 59 03.5	**-0.3**
KZR	**Kazreti**	**0.32**	**74**	P		**Pg**	08 58 59.5	**-0.3**
KZR				S		**Sg**	08 59 04.5	**+0.4**
KZR	**Kazreti**	**0.32**	**74**	P		**Pg**	08 58 59.5	**-0.3**
KZR				S		**Sg**	08 59 04.2	**+0.1**
AKH	**Akhalkalaki**	**0.40**	**287**	PG		**Pg**	08 59 00.5	**-1.0**
AKH				*e*SG		**Sg**	08 59 05.8	**-0.9**
AKH	**Akhalkalaki**	**0.40**	**287**	P		**Pg**	08 59 00.2	**-1.2**
AKH				S		**Sg**	08 59 06.0	**-0.7**
AKH	**Akhalkalaki**	**0.40**	**287**	*e*PG		**Pg**	08 59 00.4	**-1.0**
AKH				*e*S		**Sg**	08 59 06.0	**-0.7**
AKH	**Akhalkalaki**	**0.40**	**287**	P		**Pg**	08 59 00.5	**-1.0**
AKH				*e*Sg		**Sg**	08 59 05.8	**-0.9**
AKH				S		**Sg**	08 59 06.1	**-0.7**
STEZ	**Stepenevan**	**0.42**	**134**	*e*P		**Pg**	08 59 01.0	**-0.7**
STEZ				*e*S		**Sg**	08 59 06.0	**-1.1**
GMRZ	**Gyumri**	**0.50**	**195**	*e*P		**Pg**	08 59 02.0	**-1.2**
GMRZ				*e*S		**Sg**	08 59 11.0	**+1.3**
SPIZ	**Spitak**	**0.51**	**157**	*i*P		**Pg**	08 59 02.0	**-1.4**
SPIZ				*i*S		**Sg**	08 59 08.3	**-1.7**
SPIZ	**Spitak**	**0.51**	**157**	‖P		**Pg**	08 59 02.0	**-1.4**
SPIZ				S		**Sg**	08 59 08.3	**-1.7**
EAK	**Akyaka**	**0.68**	**207**	*i* P		**Pg**	08 59 05.2	**-1.3**
EAK	**Akyaka**	**0.68**	**207**	P		**Pg**	08 59 05.2	**-1.3**
TBLG	**Delisi**	**0.70**	**51**	PG		**Pg**	08 59 07.2	**+0.1**
TBLG				*e*SG		**Sb**	08 59 17.1	**-0.9**
TBLG	**Delisi**	**0.70**	**51**	P		**Pg**	08 59 06.2	**-0.8**
TBLG				S		**Sg**	08 59 16.8	**+0.5**
TBLG	**Delisi**	**0.70**	**51**	*e*PG		**Pg**	08 59 06.2	**-0.8**
TBLG				*e*S		**Sg**	08 59 16.3	**+0.1**
TBLG	**Delisi**	**0.70**	**51**	P		**Pg**	08 59 06.4	**-0.7**
TBLG	**Delisi**	**0.70**	**51**	*i* Pg		**Pg**	08 59 07.2	**+0.1**
TBLG				S		**Sg**	08 59 16.3	**+0.1**
TBLG				*e*Sg		**Sb**	08 59 17.1	**-0.9**
SEAG	**Tbilisi Sea**	**0.76**	**52**	P		**Pg**	08 59 07.4	**-0.8**
SEAG				S		**Sg**	08 59 18.5	**+0.4**
DUS	**Dusheti**	**0.95**	**33**	P		**Pg**	08 59 11.7	**-0.1**
DUS				S		**Sb**	08 59 26.0	**+0.8**
DUS	**Dusheti**	**0.95**	**33**	*e*PG		**Pg**	08 59 11.7	**-0.1**
DUS				*e*S		**Sb**	08 59 26.0	**+0.8**
DUS	**Dusheti**	**0.95**	**33**	P		**Pg**	08 59 11.7	**-0.1**
DUS				S		**Sb**	08 59 26.0	**+0.8**
EPOS	**Posof**	**0.98**	**283**	*i* P		**Pg**	08 59 10.9	**-1.5**
EPOS				*i* S		**Sg**	08 59 24.2	**-1.0**
EPOS	**Posof**	**0.98**	**283**	P		**Pg**	08 59 10.9	**-1.5**
EPOS				S		**Sg**	08 59 24.2	**-1.0**
DIGO	**Kars**	**1.00**	**209**	*i* P		**Pg**	08 59 11.2	**-1.5**
DIGO				*i* S		**Sg**	08 59 24.4	**-1.3**
DIGO	**Kars**	**1.00**	**209**	P		**Pg**	08 59 11.2	**-1.5**
DIGO				S		**Sg**	08 59 24.4	**-1.3**
DGRG	**David-gareji**	**1.04**	**81**	P		**Pg**	08 59 12.9	**-0.7**
DGRG				S		**Sn**	08 59 28.6	**-0.7**
DGRG	**David-gareji**	**1.04**	**81**	*e*PG		**Pg**	08 59 12.8	**-0.7**
DGRG	**David-gareji**	**1.04**	**81**	*e*Pg		**Pg**	08 59 12.8	**-0.7**
DGRG	**David-gareji**	**1.04**	**81**	P		**Pg**	08 59 13.2	**-0.3**
QZX	**Qazax, Azerbai** SNR=6307	**1.06**	**102**	⇑P		**Pg**	08 59 12.5	**-1.3**
QZX				⇓S		**Sg**	08 59 27.0	**-0.5**
QZX	**Qazax, Azerbai** SNR=1000	**1.06**	**102**	P		**Pg**	08 59 12.5	**-1.3**
QZX				S		**Sg**	08 59 27.0	**-0.5**
GUDG	**Gudauri**	**1.22**	**17**	P		**Pg**	08 59 15.7	**-1.3**
GUDG				S		**Sg**	08 59 32.8	**-0.1**
GUDG	**Gudauri**	**1.22**	**17**	P		**Pg**	08 59 15.7	**-1.3**
GUDG				S		**Sg**	08 59 32.8	**-0.1**
GNI	**Garni** 231nm,0.3s,baz=333,slow=3.4,SNR=69	**1.27**	**154**	Pg		**Pn**	08 59 17.2	**-0.6**
GNI	364nm,0.3s,baz=201,slow=23,SNR=17			Lg		Lg	08 59 35.5	
GNI	comp=Z,799nm,20.0s,baz=5.0,slow=56			LR		LR	09 00 02.3	
GNI	**Garni**	**1.27**	**154**	⇓*i*P		**Pn**	08 59 16.8	**-1.0**
GNI				⇑*i*S		**Sn**	08 59 35.0	**-0.2**
GNI	**Garni**	**1.27**	**154**	⇓P		**Pn**	08 59 16.8	**-1.0**
GNI	**Garni** 231nm,0.3s	**1.27**	**154**	Pg		**Pn**	08 59 17.2	**-0.6**
GNI				S		**Sn**	08 59 35.0	**-0.2**
ONI	**Oni**	**1.36**	**343**	P		**Pn**	08 59 17.5	**-1.5**
ONI				S		**Sb**	08 59 36.3	**-0.7**
ONI	**Oni**	**1.36**	**343**	*e*PG		**Pn**	08 59 17.4	**-1.5**
ONI				*e*S		**Sb**	08 59 35.6	**-1.3**
GDB	**GEDABAY** SNR=734	**1.44**	**113**	⇑P		**Pn**	08 59 18.5	**-1.6**
GDB				⇓S		**Sb**	08 59 37.4	**-1.9**
GDB	**GEDABAY** SNR=734	**1.44**	**113**	P		**Pn**	08 59 18.5	**-1.6**
GDB				S		**Sb**	08 59 37.4	**-1.9**
SENK	**Senkaya-Erzuru**	**1.45**	**240**	PN		**Pn**	08 59 19.7	**-0.6**
SENK				*e*SN		**Sg**	08 59 40.3	**+0.1**
ZEI	**Tsey**	**1.50**	**357**	⇓*i*PG		**Pn**	08 59 20.4	**-0.5**
ZEI				*i* S		**Sb**	08 59 41.2	**+0.2**
ARRZ	**Ararat**	**1.53**	**160**	*e*P		Pg	08 59 30.0	+7.2
LACR	**Lac**	**1.55**	**8**	⇓*i*PN		**Pn**	08 59 21.5	**-0.1**
LACR	**Lac**	**1.55**	**8**	*i* Pn		**Pn**	08 59 21.5	**-0.1**
ARTV	**Artvin**	**1.57**	**267**	*i* P		**Pn**	08 59 21.1	**-0.8**
ARTV				*i* S		**Sn**	08 59 41.6	**-1.0**
ARTV	**Artvin**	**1.57**	**267**	P		**Pn**	08 59 21.1	**-0.8**
ARTV				S		**Sn**	08 59 41.6	**-1.0**
ARTV				*e*Sn		**Sn**	08 59 42.3	**-0.3**
ARTV	**Artvin**	**1.57**	**267**	*e*Pn		**Pn**	08 59 21.1	**-0.8**
ARTV				*e*Sn		**Sn**	08 59 42.3	**-0.3**
DAGI	**Agillar**	**1.59**	**263**	*i* P		**Pn**	08 59 21.5	**-0.6**
DAGI				*i* S		**Sn**	08 59 42.8	**-0.2**
DIGR	**Digorskoe uzhe**	**1.64**	**349**	⇓*i*PN		**Pn**	08 59 22.9	**0.0**
DIGR				*i* S		**Sg**	08 59 45.8	**-0.3**
DIGR	**Digorskoe uzhe**	**1.64**	**349**	*i* Pn		**Pn**	08 59 22.9	**0.0**
DIGR				*i* Sg		**Sg**	08 59 45.8	**-0.3**
VADZ	**Vardenis**	**1.73**	**130**	⇓*i*P		**Pg**	08 59 27.0	**+0.3**
VADZ				⇓S		**Sg**	08 59 50.0	**+0.8**
VADZ	**Vardenis**	**1.73**	**130**	⇓P		**Pg**	08 59 27.0	**+0.3**
DDEM	**Demirkent**	**1.75**	**258**	*i* P		**Pn**	08 59 23.8	**-0.5**
DDEM	**Demirkent**	**1.75**	**258**	P		**Pn**	08 59 23.8	**-0.5**
DBOC	**Borcka**	**1.76**	**272**	*i* P		**Pn**	08 59 24.2	**-0.2**
DBOC				*i* S		**Sn**	08 59 47.0	**-0.1**
DBOC	**Borcka**	**1.76**	**272**	P		**Pn**	08 59 24.2	**-0.2**
DBOC				S		**Sn**	08 59 47.0	**-0.1**
DYDN	**Diyadin**	**1.76**	**188**	*i* P		**Pb**	08 59 26.4	**+0.1**
DYDN	**Diyadin**	**1.76**	**188**	P		**Pb**	08 59 26.4	**+0.1**
KORR	**Kora**	**1.79**	**1**	⇓*i*PN		**Pn**	08 59 25.6	**+0.7**
KORR	**Kora**	**1.79**	**1**	*i* Pn		**Pn**	08 59 25.6	**+0.7**
VLKR	**Vladikavkaz**	**1.82**	**16**	⇓*i*PN		**Pb**	08 59 27.0	**-0.2**
VLKR				*i* S		**Sg**	08 59 53.3	**+1.2**
VLKR	**Vladikavkaz**	**1.82**	**16**	*i* Pn		**Pb**	08 59 27.0	**-0.2**
VLKR				*i* Sg		**Sg**	08 59 53.3	**+1.2**
GANJ	**Ganja** SNR=444	**1.87**	**109**	⇓P		**Pn**	08 59 25.5	**-0.4**
GANJ				⇑S		**Sn**	08 59 50.3	**+0.6**
GANJ	**Ganja** SNR=444	**1.87**	**109**	P		**Pn**	08 59 25.5	**-0.4**
GANJ				S		**Sn**	08 59 50.3	**+0.6**
KMGR	**Komgaron**	**1.88**	**20**	⇓*i*PN		**Pb**	08 59 27.9	**-0.2**
KMGR				*i* S		**Sg**	08 59 54.9	**+1.1**
AGRB	**Hanur-Agry**	**1.88**	**205**	*e*PN		**Pn**	08 59 27.2	**+1.0**
AGRB	**Hanur-Agry**	**1.88**	**205**	*e*Pn		**Pn**	08 59 27.2	**+1.0**
ARNR	**Ardon**	**1.90**	**6**	⇑*i*PN		**Pb**	08 59 28.4	**0.0**
ARNR				*e*S		**Sg**	08 59 55.0	**+0.5**
LSNR	**Lesken**	**1.99**	**356**	⇓*i*PN		**Pb**	08 59 29.1	**-0.9**
LSNR				*e*S		**Sg**	08 59 56.2	**-1.2**
LSNR	**Lesken**	**1.99**	**356**	*i* Pn		**Pb**	08 59 29.1	**-0.9**
LSNR				*e*Sb		**Sg**	08 59 56.2	**-1.2**
ZKTA	**Zakatala** SNR=317	**2.00**	**79**	⇑P		**Pn**	08 59 27.6	**-0.1**
ZKTA				⇑S		**Sb**	08 59 55.7	**+0.5**
ZKTA	**Zakatala**	**2.00**	**79**	PN		**Pn**	08 59 27.5	**-0.1**
ZKTA	**Zakatala**	**2.00**	**79**	Pn		**Pn**	08 59 27.5	**-0.1**
HOMI	**Horasan**	**2.03**	**233**	*i* P		**Pn**	08 59 29.1	**+0.9**
STDR	**Stavd-Durt**	**2.08**	**1**	⇓*i*PN		**Pb**	08 59 30.6	**-0.9**
STDR				*e*S		**Sg**	08 59 59.3	**-0.9**
STDR	**Stavd-Durt**	**2.08**	**1**	*i* Pn		**Pb**	08 59 30.6	**-0.9**
STDR				*e*Sn		**Sg**	08 59 59.3	**-0.9**
BTKR	**Batakoyurt**	**2.12**	**11**	*e*PN		**Pb**	08 59 31.4	**-0.8**
BTKR	**Batakoyurt**	**2.12**	**11**	*e*Pn		**Pb**	08 59 31.4	**-0.8**
CLDR	**Caldiran**	**2.15**	**182**	*e*PN		**Pn**	08 59 31.3	**+1.4**
CLDR	**Caldiran**	**2.15**	**182**	*i* P		**Pb**	08 59 32.4	**-0.4**
CLDR	**Caldiran**	**2.15**	**182**	*e*Pn		**Pn**	08 59 31.3	**+1.4**
CLDR	**Caldiran**	**2.15**	**182**	P		**Pb**	08 59 32.4	**-0.4**
NEY	**Neytrino**	**2.17**	**334**	⇓*i*PN		**Pb**	08 59 32.0	**-1.3**
NEY				*i* S		**Sb**	09 00 00.3	**-0.2**
NEY	**Neytrino**	**2.17**	**334**	*i* Pn		**Pb**	08 59 32.0	**-1.3**
NCK	**Nalchik**	**2.22**	**352**	⇓*i*PN		**Pb**	08 59 32.6	**-1.4**
NCK				*e*S		**Sb**	09 00 02.8	**+1.1**
NCK	**Nalchik**	**2.22**	**352**	*i* Pn		**Pb**	08 59 32.6	**-1.4**
VMUR	**Van-Muradiye**	**2.33**	**188**	*i* P		**Pb**	08 59 35.4	**-0.4**
VMUR	**Van-Muradiye**	**2.33**	**188**	P		**Pb**	08 59 35.4	**-0.4**
GROC	**Groznyy**	**2.33**	**34**	⇑*i*PN		**Pb**	08 59 35.4	**-0.3**
GROC				*i* S		**Sg**	09 00 08.9	**+0.7**
XNZR	**Khunzakh**	**2.37**	**57**	⇓*i*PN		**Pb**	08 59 35.1	**-1.5**
XNZR				*e*			09 00 06.9	
XNZR	**Khunzakh**	**2.37**	**57**	*i* Pn		**Pb**	08 59 35.1	**-1.5**
MNGR	**Mingechevir, A** SNR=117	**2.39**	**102**	⇑P		**Pb**	08 59 35.1	**-1.6**
MNGR				⇑S		**Sb**	09 00 05.2	**-1.1**
MNGR	**Mingechevir, A**	**2.39**	**102**	PN		**Pb**	08 59 35.1	**-1.6**
MNGR	**Mingechevir, A** SNR=117	**2.39**	**102**	P		**Pb**	08 59 35.1	**-1.6**
MNGR				S		**Sb**	09 00 05.2	**-1.1**
NAX	**Nakhchivan**	**2.40**	**151**	⇓P		**Pn**	08 59 33.8	**+0.5**
NAX				⇑S		**Sb**	09 00 06.8	**-0.2**
NAX	**Nakhchivan**	**2.40**	**151**	PN		**Pn**	08 59 33.8	**+0.5**
NAX	**Nakhchivan**	**2.40**	**151**	P		**Pn**	08 59 33.8	**+0.5**
NAX				S		**Sb**	09 00 06.8	**-0.2**
SEKA	**Sheki** SNR=146	**2.41**	**91**	⇓P		**Pn**	08 59 33.6	**+0.2**
SEKA				⇑S		**Sb**	09 00 05.2	**-1.9**
SEKA	**Sheki**	**2.41**	**91**	PN		**Pn**	08 59 33.5	**+0.2**
SEKA	**Sheki** SNR=146	**2.41**	**91**	P		**Pn**	08 59 33.6	**+0.2**
SEKA				S		**Sb**	09 00 05.2	**-1.9**
ERZM	**Erzurum**	**2.44**	**236**	*i* P		**Pn**	08 59 35.1	**+1.1**
ERZM	**Erzurum**	**2.44**	**236**	P		**Pn**	08 59 35.1	**+1.1**
KMKR	**Kumukh**	**2.46**	**69**	⇑*i*PN		**Pn**	08 59 35.0	**+0.8**
KMKR				*e*S		**Sg**	09 00 11.5	**-1.1**
KMKR	comp=Z,339nm,0.6s			pmax		pmax		
KMKR	**Kumukh** comp=Z,339nm,0.6s	**2.46**	**69**	*i* Pn		**Pn**	08 59 35.0	**+0.8**
GNBR	**Gunib**	**2.47**	**63**	⇑*i*PN		**Pn**	08 59 35.8	**+1.7**
GNBR				*e*S		**Sb**	09 00 09.2	**+0.4**
GNBR	**Gunib**	**2.47**	**63**	*i* Pn		**Pn**	08 59 35.8	**+1.7**
TRKR	**Terskaya**	**2.49**	**12**	*e*PN		**Pb**	08 59 36.4	**-2.1**
TRKR				*e*S		**Sb**	09 00 10.1	**+0.8**
TRKR	**Terskaya**	**2.49**	**12**	*e*Pn		**Pb**	08 59 36.4	**-2.1**
EKAR	**Karacoban**	**2.52**	**217**	*i* P		**Pn**	08 59 37.1	**+2.1**
EKAR	**Karacoban**	**2.52**	**217**	P		**Pn**	08 59 37.1	**+2.1**
GRS	**Goris**	**2.52**	**134**	⇑P		**Pn**	08 59 35.0	**0.0**
GRS				S		**Sb**	09 00 09.0	**-1.4**
KBZ	**Khabaz** comp=Z,66nm,0.3s,baz=153,slow=11,SNR=323	**2.57**	**342**	Pn		**Pn**	08 59 37.0	**+1.6**
KBZ	comp=Z,119nm,18.9s,baz=147,slow=31			LR		LR	09 00 13.1	
KBZ	comp=Z,31nm,0.3s,baz=150,slow=20,SNR=3.4			Lg		Lg	09 00 16.9	
ARKR	**Arakani**	**2.58**	**59**	*e*PN		**Pn**	08 59 37.6	**+1.8**
ARKR				*e*S		**Sg**	09 00 14.6	**-1.9**
ARKR	comp=Z,516nm,0.4s			pmax		pmax		
ARKR	**Arakani** comp=Z,516nm,0.4s	**2.58**	**59**	*e*Pn		**Pn**	08 59 37.6	**+1.8**
BRDA	**Brd** SNR=104	**2.62**	**112**	⇓P		**Pn**	08 59 37.1	**+1.0**
BRDA				⇑S		**Sb**	09 00 11.7	**-1.4**
BRDA	**Brd** SNR=104	**2.62**	**112**	P		**Pn**	08 59 37.1	**+1.0**
BRDA				S		**Sb**	09 00 11.7	**-1.4**
AKT	**Akhty**	**2.81**	**85**	⇓*i*PN		**Pn**	08 59 39.4	**+0.5**
AKT				*e*S		**Sb**	09 00 17.3	**-1.3**
AKT	**Akhty**	**2.81**	**85**	*i* Pn		**Pn**	08 59 39.4	**+0.5**
KVAR	**Kislovodsk Arr** baz=280,slow=4.6,SNR=66	**2.83**	**340**	Pn		**Pn**	08 59 40.4	**+1.2**
KVAR	comp=Z,128nm,19.1s,baz=300,slow=30			LR		LR	09 00 18.2	
KIV	**Kislovodsk**	**2.83**	**340**	*e*PN		**Pn**	08 59 40.6	**+1.4**
KIV				*e*S		**Sb**	09 00 17.5	**-1.8**
KIV	comp=Z,784nm,1.0s			pmax		pmax		
KIV	comp=Z,51nm,6.0s			MLR		MLR		
KIV	**Kislovodsk** comp=Z,784nm,1.0s	**2.83**	**340**	*e*Pn		**Pn**	08 59 40.6	**+1.4**
KIV	**Kislovodsk**	**2.83**	**340**	*e*Pn		**Pn**	08 59 40.6	**+1.4**
URKR	**Urkarakh**	**2.85**	**71**	*i* PN		**Pn**	08 59 41.0	**+1.5**
URKR	**Urkarakh**	**2.85**	**71**	*i* Pn		**Pn**	08 59 41.0	**+1.5**
VRTB	**Varto-Mus**	**2.89**	**223**	*e*PN		**Pn**	08 59 42.2	**+2.2**
VRTB	**Varto-Mus**	**2.89**	**223**	*e*Pn		**Pn**	08 59 42.2	**+2.2**
QBL	**Gabala** SNR=12	**2.92**	**96**	⇓P		**Pn**	08 59 41.4	**+1.1**
QBL				⇑S		**Sb**	09 00 22.6	**+0.9**
KOPT	**Kop Dagi**	**2.96**	**246**	*i* P		**Pb**	08 59 45.5	**-1.2**
KOPT	**Kop Dagi**	**2.96**	**246**	*e*Pn		**Pb**	08 59 45.1	**-1.5**
KOPT	**Kop Dagi**	**2.96**	**246**	P		**Pb**	08 59 45.5	**-1.2**
KOPT	**Kop Dagi**	**2.96**	**246**	*e*Pn		**Pb**	08 59 45.1	**-1.5**
SGKR	**Sergokala**	**2.97**	**66**	*i* PN		**Pb**	08 59 44.0	**-2.7**
SGKR	**Sergokala**	**2.97**	**66**	*i* Pn		**Pb**	08 59 44.0	**-2.7**
ZRD	**Zardab** SNR=44	**2.97**	**109**	⇓P		**Pn**	08 59 42.1	**+1.1**
ZRD	**Zardab** SNR=44	**2.97**	**109**	P		**Pn**	08 59 42.1	**+1.1**
GEVA	**Gevas**	**3.06**	**194**	*i* P		**Pb**	08 59 48.8	**+0.4**
MAK	**Makhachkala**	**3.09**	**56**	*e*PN		**Pb**	08 59 47.4	**-1.3**
MAK				*e*			08 59 54.3	
MAK				*e*			09 00 32.4	
MAK				*e*			09 00 40.1	
MAK	comp=Z,181nm,0.7s			pmax		pmax		
MAK	comp=N,4μm,1.8s			smax		smax		
MAK	comp=E,2μm,0.8s			smax		smax		
MAK	**Makhachkala** comp=E,181nm,0.7s	**3.09**	**56**	*e*Pn		**Pb**	08 59 47.4	**-1.3**
MAK	**Makhachkala**	**3.09**	**56**	*e*Pg		**Pg**	08 59 54.3	**+1.6**
KSMR	**Kasumkent**	**3.11**	**83**	*i* PN		**Pn**	08 59 44.0	**+1.0**
KSMR	**Kasumkent**	**3.11**	**83**	*i* Pn		**Pn**	08 59 44.0	**+1.0**
XNQ	**Khinaliq** SNR=58	**3.12**	**91**	⇓P		**Pn**	08 59 44.4	**+1.2**
XNQ	**Khinaliq** SNR=58	**3.12**	**91**	P		**Pn**	08 59 44.4	**+1.2**
IML	**Ismayilli** SNR=35	**3.20**	**98**	⇓P		**Pn**	08 59 45.2	**+1.0**
IML	**Ismayilli** SNR=35	**3.20**	**98**	P		**Pn**	08 59 45.2	**+1.0**
BNGL	**BINGOL**	**3.20**	**224**	*i* P		**Pn**	08 59 46.1	**+1.7**
QSAR	**Qusar** SNR=33	**3.21**	**85**	⇑P		**Pn**	08 59 45.8	**+1.5**
QSAR				⇓S		**Sn**	09 00 23.9	**+1.1**
KTUT	**Trabzon**	**3.22**	**266**	*e*PN		**Pn**	08 59 44.5	**+0.1**
KTUT	**Trabzon**	**3.22**	**266**	*e*Pn		**Pn**	08 59 44.5	**+0.1**
YEDI	**Yedisu-Bingol**	**3.23**	**236**	*e*PN		**Pn**	08 59 46.0	**+1.3**
DRN	**Derbent**	**3.32**	**76**	⇓*i*PN		**

SNOP Sinop 6.63 279 *e*PN Pn 09 00 32.0 +0.8
SNOP Sinop 6.63 279 *e*Pn Pn 09 00 32.1 +0.8
CORM Corum 7.21 264 *e*PN Pn 09 00 40.9 +1.6
CORM Corum 7.21 264 *e*Pn Pn 09 00 40.9 +1.6
SUDU Sudak 7.51 302 *e*P Pn 09 00 43.8 +0.5
SUDU *e*S Sn 09 02 10.3 +1.7
SUDU Sudak 7.51 302 *e*P Pn 09 00 43.8 +0.5
SUDU *e*S Sn 09 02 10.3 +1.7
BZK Bozkurt 7.52 278 *e*PN Pn 09 00 44.6 +1.1
BZK Bozkurt 7.52 278 *e*Pn Pn 09 00 44.6 +1.1
ILGA Ilgaz 7.77 272 *e*Pn Pn 09 00 48.8 +1.7
ILGA Ilgaz 7.77 272 *e*Pn Pn 09 00 48.8 +1.7
ALU Alushta 7.81 299 *e*P Pn 09 00 46.8 -0.6
ALU *e*S Sn 09 02 13.6 -2.5
ALU Alushta 7.81 299 *e*P Pn 09 00 46.8 -0.6
BR131 Keskin Array S 8.05 262 *e*Pn Pn 09 00 52.9 +2.0
BR131 Keskin Array S 8.05 262 *e*Pn Pn 09 00 52.9 +2.0
BRTR Keskin Array B 8.05 262 Pn Pn 09 00 54.0 +3.1
comp=E,0.0nm,0.3s,baz=78,slow=10.0,SNR=3.5
BRTR LR LR 09 04 28.8
comp=E,187nm,19.4s,baz=72,slow=42
BRTR Keskin Array B 8.05 262 P Pn 09 00 54.0 +3.1
BRTR MLR MLR
comp=Z,187nm,19.4s
SIM Simferopol' 8.10 300 *e*P Pn 09 00 53.8 +2.3
SIM S Sn 09 02 23.0 -0.3
SIM pmax pmax
comp=Z,28nm,0.7s
SIM MLR MLR
comp=Z,280nm,15.2s
SIM Simferopol' 8.10 300 *e*P Pn 09 00 53.8 +2.3
comp=Z,28nm,0.7s
SIM S Sn 09 02 23.0 -0.3
comp=Z,280nm,15.2s
IPRN Peran 8.23 125 *e*P Pn 09 00 57.0 +3.6
SEV Sevastopol' 8.25 297 *e*P Pn 09 00 52.7 -0.8
SEV *e*S Sn 09 02 24.6 -2.3
SEV Sevastopol' 8.25 297 *e*P Pn 09 00 52.7 -0.8
IALA Alasht 8.63 124 *e*P Pn 09 01 02.2 +3.2
IALA Alasht 8.63 124 *e*P Pn 09 01 02.2 +3.2
BR231 Keskin MP Arra 8.67 264 *e*Pn Pn 09 00 59.3 -0.1
BR231 Keskin MP Arra 8.67 264 *e*Pn Pn 09 00 59.3 -0.1
IGLO Ghaloghah 9.03 119 *e*P Pn 09 01 05.8 +1.4
IANJ Anjilo 9.71 124 *e*P Pn 09 01 16.6 +2.8
IANJ Anjilo 9.71 124 *e*P Pn 09 01 16.6 +2.8
VSR Storozhevoye 10.47 343 *e*P Pn 09 01 24.5 +0.6
VSR pmax pmax
comp=Z,8.0nm,0.5s
VSR Storozhevoye 10.47 343 *e*P Pn 09 01 24.5 +0.6
comp=Z,8.0nm,0.5s
IZEF Zefreh 10.69 139 *e*P Pn 09 01 30.6 +3.4
IZEF Zefreh 10.69 139 *e*P Pn 09 01 30.6 +3.4
MMAI Mount Meron Ar 10.73 222 LR LR 09 05 37.7
comp=Z,105nm,19.9s,baz=45,slow=38
GEYT Alibeck 11.39 103 Pn Pn 09 01 34.8 -1.8
comp=Z,1.0nm,0.3s,baz=292,slow=16,SNR=11
ISFR Sfrayin 11.66 107 *e*P Pn 09 01 37.7 -2.7
TLCR 11.74 294 ⇓ *i*P Pn 09 01 40.5 -0.8
TLCR 11.74 294 ⇓P Pn 09 01 40.5 -0.8
TLCR 11.74 294 P Pn 09 01 40.5 -0.8
LPSR Galich'ya Gora 11.83 345 *e*P Pn 09 01 40.8 -1.6
LPSR pmax pmax
comp=Z,8.0nm,0.6s
TIRR Tirgusor 11.87 291 ⇑ *i*P Pn 09 01 41.1 -2.0
TIRR Tirgusor 11.87 291 *e*P Pn 09 01 41.0 -2.0
TIRR *e* 09 03 53.6
TIRR Tirgusor 11.87 291 *e*Pn Pn 09 01 41.0 -2.0
TIRR Tirgusor 11.87 291 *e*Pn Pn 09 01 41.0 -2.0
TIRR *e*Sn Sn 09 03 53.5 -2.1
IEMG Emamgholi 11.98 104 *e*P Pn 09 01 42.4 -2.5
TLB Topalu 12.15 291 ⇑ *i*P Pn 09 01 45.4 -1.5
TLB Topalu 12.15 291 ⇑P Pn 09 01 45.4 -1.5
TLB Topalu 12.15 291 P Pn 09 01 45.4 -1.5
CFR Carcaliu 12.21 294 ⇑ *i*P Pn 09 01 46.5 -1.1
CFR Carcaliu 12.21 294 ⇑P Pn 09 01 46.5 -1.1
CFR Carcaliu 12.21 294 P Pn 09 01 46.5 -1.1
HARR Harsova 12.25 291 ⇓ *i*P Pn 09 01 45.8 -2.4
HARR Harsova 12.25 291 ⇓P Pn 09 01 45.8 -2.4
IAKL Akhelmad 12.40 107 *e*P Pn 09 01 48.9 -1.7
SORM Soroca 13.05 307 ⇓ *i*P Pn 09 01 59.3 +0.1
SORM Soroca 13.05 307 ⇓P Pn 09 01 59.3 +0.1
SORM Soroca 13.05 307 P Pn 09 01 59.3 +0.1
VRI Vrincioaia 13.33 296 ⇓ *i*P Pn 09 02 01.8 -1.2
VRI Vrincioaia 13.33 296 ⇓P Pn 09 02 01.8 -1.2
VRI Vrincioaia 13.33 296 P Pn 09 02 01.8 -1.2
AKTO Aktyubinsk 13.36 42 Pn Pn 09 02 00.1 -3.2
comp=Z,0.4nm,0.3s,baz=232,slow=12,SNR=12
AKTO Sn Sn 09 04 29.0 -2.9
comp=Z,0.4nm,0.3s,baz=322,slow=13,SNR=3.1
AKTO LR LR 09 09 04.2
comp=Z,128nm,18.2s,baz=234,slow=46
PLOR Plostina 13.38 296 ⇓ *i*P Pn 09 02 03.6 -0.1
PLOR Plostina 13.38 296 ⇓P Pn 09 02 03.6 -0.1
PLOR Plostina 13.38 296 P Pn 09 02 03.6 -0.1
TESR Tescani 13.55 298 ⇓ *i*P Pn 09 02 06.6 +0.6
TESR Tescani 13.55 298 ⇓ *i*P Pn 09 02 06.6 +0.6
ABKAR Akbulak array 13.74 49 *e*Pn Pn 09 02 07.3 -1.3
ABKAR Akbulak array 13.74 49 *e*Pn Pn 09 02 07.3 -1.3
MLR Muntele Rosu 13.78 294 Pn Pn 09 02 09.4 0.0
comp=Z,0.2nm,0.3s,baz=10,slow=7.4,SNR=9.1
MLR Muntele Rosu 13.78 294 ⇓ *i*P Pn 09 02 09.3 0.0
MLR Muntele Rosu 13.78 294 *e*Pn Pn 09 02 10.8 +1.5
MLR Muntele Rosu 13.78 294 *e*Pn Pn 09 02 10.8 +1.5
AKASG Malin Array Be 13.91 318 Pn Pn 09 02 09.7 -1.1
comp=Z,0.6nm,0.3s,baz=123,slow=14,SNR=4.8
AKASG Malin Array Be 13.91 318 *i*P Pn 09 02 09.5 -1.3
AKASG pmax pmax
comp=Z,1.0nm,0.4s
AKBB Malin Array Si 13.91 318 *e*P Pn 09 02 10.5 -0.3
AKBB Malin Array Si 13.91 318 *e*P Pn 09 02 10.5 -0.3
AKBB Malin Array Si 13.91 318 *e*Pn Pn 09 02 10.5 -0.3
DOPR Dopca 14.26 295 ⇓ *i*P Pn 09 02 15.3 -0.5
VOIR 14.39 293 ⇑ *i*P Pn 09 02 17.3 -0.3
VOIR 14.39 293 ⇑P Pn 09 02 17.3 -0.3
OBN Obninsk 14.68 343 *ce*P Pn 09 02 20.9 -0.4
OBN *e*S Sn 09 05 02.1 -2.0
OBN pmax pmax
comp=Z,9.0nm,1.0s
OBN MLR MLR
comp=Z,102nm,13.0s
BURAR Bucovina Array 14.82 302 ⇑ *i*P Pn 09 02 22.5 -0.9
BURAR Bucovina Array 14.82 302 ⇑P Pn 09 02 22.5 -0.9
BUR08 Bucovina Ar. S 14.84 302 *e*Pn Pn 09 02 22.6 -1.1
BUR08 Bucovina Ar. S 14.84 302 *e*Pn Pn 09 02 22.6 -1.1
VTS Vitosha 15.53 282 *e*P Pn 09 02 33.8 +0.9
VTS pmax pmax
comp=Z,13nm,1.1s
VTS Vitosha 15.53 282 *e*Pn Pn 09 02 33.8 +0.9
comp=Z,13nm,1.1s
VTS Vitosha 15.53 282 *e*Pn Pn 09 02 33.8 +0.9
comp=Z,13nm,1.1s
UZH Uzhgorod 16.99 303 *e*P Pn 09 02 47.8 -3.7
UZH *e*S Sn 09 05 52.0 -8.4
CRVS Cervenica-Dubn 17.60 303 *e*P Pn 09 02 59.0 -0.1
CRVS Cervenica-Dubn 17.60 303 *e*P Pn 09 02 59.0 -0.1
CRVS Cervenica-Dubn 17.60 303 *e*P Pn 09 02 59.0 -0.1
ARU Arti 17.86 27 Pn Pn 09 02 58.4 -3.8
comp=Z,0.0nm,0.3s,baz=181,slow=3.9,SNR=7.3
ARU LR LR 09 11 30.8
comp=Z,63nm,18.6s,baz=171,slow=42
ARU Arti 17.86 27 *d i*P P 09 03 03.0 +0.1
ARU S Sn 09 06 24.3 +3.0
ARU pmax pmax
comp=Z,13nm,1.2s
ARU Arti 17.86 27 *i* P P 09 03 03.0 +0.1
comp=Z,13nm,1.2s
STHS Stebnicka Huta 17.89 305 *e*P P 09 03 03.3 -0.1
STHS pmax pmax
comp=Z,4.0nm,1.0s
STHS Stebnicka Huta 17.89 305 *e*P P 09 03 03.3 -0.1
comp=Z,4.0nm,1.0s
STHS Stebnicka Huta 17.89 305 *e*P P 09 03 03.3 -0.1
KECS Kecovo 18.11 301 *e*P P 09 03 06.5 +0.8
KECS pmax pmax
comp=Z,3.0nm,1.1s
KECS Kecovo 18.11 301 *e*P P 09 03 06.5 +0.8
comp=Z,3.0nm,1.1s
KECS Kecovo 18.11 301 *e*P P 09 03 06.5 +0.8
SVE Sverdlovsk 18.90 29 *e*P P 09 03 12.2 -2.2
SVE pmax pmax
comp=Z,28nm,1.0s
VYHS Vyhne 19.18 301 *e*P Pn 09 03 22.9 +4.6
VYHS pmax pmax
comp=Z,3.0nm,1.1s
VYHS Vyhne 19.18 301 *e*P Pn 09 03 22.9 +4.6
KKAR Karatay Array 19.70 76 *e*P P 09 03 23.0 -0.2
KKAR pmax pmax
comp=Z,4.0nm,0.8s
KKAR Karatay Array 19.70 76 *e*P P 09 03 23.0 -0.2
comp=Z,4.2nm,0.8s
KKAR Karatay Array 19.70 76 *e*P P 09 03 23.0 -0.2
comp=Z,4.2nm,0.8s
KLMR Klimovskoe 19.78 354 *e*P P 09 03 24.0 +0.1
KLMR pmax pmax
comp=Z,23nm,1.0s
KLMR Klimovskoe 19.78 354 *e*P P 09 03 24.0 +0.1
comp=Z,23nm,1.0s
OKC Ostrava-Krasne 19.94 304 AMS AMS 09 13 30.0
comp=Z,100nm,10.3s
SOKR Solikamsk 19.98 19 *c i*P P 09 03 24.0 -2.1
SOKR pmax pmax
comp=Z,13nm,0.9s
VRAC Vranov 20.80 302 LR LR 09 13 19.5
comp=Z,64nm,18.2s,baz=92,slow=42
KRLC Kraliky 20.85 304 *e*P P 09 03 36.6 +0.8
KRLC Kraliky 20.85 304 *e*P P 09 03 36.6 +0.8
KRLC Kraliky 20.85 304 *e*P P 09 03 36.6 +0.8
CONA Conrad Observa 21.03 298 *i* P P 09 03 43.5 +5.8
comp=Z,7.3nm,1.5s
ARSA Arzberg 21.18 296 *i* sP P 09 03 44.3 +5.1
comp=Z,7.2nm,1.4s
DPC Dobruska-Polom 21.21 305 *e*P P 09 03 40.3 +0.7
DPC *ep*P sP 09 03 44.1 +1.4
DPC Dobruska-Polom 21.21 305 *e*P P 09 03 40.3 +0.7
DPC *e* 09 03 44.1
DPC Dobruska-Polom 21.21 305 *e*P P 09 03 40.3 +0.7
BRVK Borovoye 21.26 47 *c i*P P 09 03 40.0 +0.1
BRVK pmax pmax
comp=Z,60nm,1.2s
BRVK Borovoye 21.26 47 *e*P P 09 03 40.1 +0.1
comp=Z,14nm,0.8s
BRVK Borovoye 21.26 47 *e*P P 09 03 40.1 +0.1
comp=Z,14nm,0.8s
BVAR Borovoye Array 21.30 48 P P 09 03 40.4 -0.1
comp=Z,6.0nm,0.7s,baz=248,slow=7.8,SNR=32
BVAR S S 09 07 32.5 -4.7
comp=Z,1.4nm,0.5s,baz=234,slow=27,SNR=5.3
BVAR LR LR 09 13 32.2
comp=Z,115nm,20.6s,baz=80,slow=41
SOKA Soboth 21.46 294 *i* pP P 09 03 45.4 +3.0
comp=Z,16nm,1.1s
WSAR Wadi Sarin 21.78 141 LR LR 09 12 50.4
comp=Z,116nm,20.1s,baz=326,slow=38
GEA0 GERESS Array S 22.58 300 *e*P P 09 03 55.9 +1.5
GEC2 GERESS Array S 22.59 300 *e*P P 09 03 55.5 +1.1
GEC2 pmax pmax
comp=Z,7.0nm,0.9s
GEC2 GERESS Array S 22.59 300 *e*P P 09 03 55.5 +1.1
comp=Z,7.1nm,0.9s
GERES GERESS Array B 22.59 300 P P 09 03 56.5 +2.0
comp=Z,3.0nm,0.6s,baz=103,slow=10,SNR=14
GERES LR LR 09 14 29.4
comp=Z,52nm,19.2s,baz=93,slow=41
KBA Koelnbreinsper 22.64 295 *i* pP P 09 03 58.0 +2.8
comp=Z,3.0nm,0.6s
KBA Koelnbreinsper 22.64 295 Pn P 09 03 58.0 +2.8
comp=Z,3.0nm,0.6s
AAK Ala-Archa 22.66 76 P P 09 03 55.0 -0.3
comp=Z,1.6nm,0.5s,baz=248,slow=9.3,SNR=11
AAK Ala-Archa 22.66 76 *c i*P P 09 03 55.2 -0.1
AAK pmax pmax
comp=Z,18nm,1.2s
AAK Ala-Archa 22.66 76 *e*P P 09 03 54.8 -0.5
comp=Z,9.5nm,1.2s
KHC Kasperske Hory 22.71 300 *e*P P 09 03 59.3 +3.6
KHC *ex* x 09 04 08.1
KHC Kasperske Hory 22.71 300 *e*P P 09 03 58.4 +2.7
KHC pmax pmax
comp=Z,1.0nm,0.8s
KHC Kasperske Hory 22.71 300 *e*P P 09 03 58.4 +2.7
comp=Z,0.6nm,0.8s
FRU Bishkek 22.72 76 *e*P P 09 03 56.0 +0.1
FRU *e* 09 04 02.0
FINES FINESS Array B 22.92 338 P P 09 03 57.3 -0.4
comp=Z,8.5nm,0.9s,baz=156,slow=15,SNR=5.9
FINES LR LR 09 12 55.7
comp=Z,72nm,19.4s,baz=180,slow=37
FINES FINESS Array B 22.92 338 P P 09 03 57.3 -0.4
FINES pmax pmax
comp=Z,7.0nm,0.8s
FINES MLR MLR
comp=Z,72nm,19.4s
FIA1 FINESS Array S 22.92 338 *e*P P 09 03 59.5 +1.8
comp=Z,43nm,1.5s
CLL Collm 23.48 306 *e*P P 09 04 07.0 +3.5
CLL *e*S S 09 08 20.0 +2.7
CLL pmax pmax
comp=Z,10.0nm,0.9s
CLL Collm 23.48 306 *e*S S 09 08 20.0 +2.7
CLL Collm 23.48 306 *e*(P) P 09 04 07.0 +3.5
comp=Z,10.0nm,0.9s
CLL *e*S S 09 08 20.0 +2.7
WTTA Wattenberg 23.82 295 *i* P P 09 04 05.6 -1.5
comp=Z,15nm,1.1s
WTTA Wattenberg 23.82 295 P P 09 04 05.6 -1.5
comp=Z,15nm,1.1s
MOTA Moosalm 24.18 296 *i* pP P 09 04 14.3 +3.8
comp=Z,2.1nm,0.4s
RETA Reutte 24.42 296 *i* sP P 09 04 17.4 +4.8
comp=Z,4.3nm,1.0s
FETA Feichten 24.43 295 *i* pP P 09 04 16.5 +3.7
comp=Z,4.6nm,0.8s
DAVOX Davos/Dischmat 25.01 294 P P 09 04 18.9 +0.9
comp=Z,3.3nm,0.6s,baz=156,slow=20,SNR=3.3
DAVOX LR LR 09 15 56.7
comp=Z,112nm,20.9s,baz=83,slow=41
DAVA Damuels 25.01 295 *i* P P 09 04 20.4 +2.4
comp=Z,8.0nm,0.8s
DAVA Damuels 25.01 295 P P 09 04 20.4 +2.4
comp=Z,8.0nm,0.8s
KURBB Kurchatov Arra 25.55 57 P P 09 04 23.1 +0.5
comp=Z,6.0nm,0.7s,baz=267,slow=9.2,SNR=47
KURK Kurchatov 25.62 57 *e*P P 09 04 23.5 +0.3
KURK pmax pmax
comp=Z,33nm,0.9s
KURK Kurchatov 25.62 57 *e*P P 09 04 23.5 +0.3
comp=Z,33nm,0.9s
HFS Hagfors 26.53 326 P P 09 04 31.5 +0.1
comp=Z,5.8nm,0.8s,baz=129,slow=11,SNR=5.8
HFS LR LR 09 16 31.0
comp=Z,87nm,20.7s,baz=122,slow=40
MK31 Makanchi Array 27.86 66 *e*P P 09 04 44.1 +0.5
MK31 Makanchi Array 27.86 66 *e*P P 09 04 44.1 +0.5
MKAR Makanchi Array 27.86 66 P P 09 04 43.4 -0.2
comp=Z,0.6nm,0.6s,baz=283,slow=6.1,SNR=5.2
MKAR LR LR 09 17 51.1
comp=Z,68nm,18.5s,baz=217,slow=41
MK01 Makanchi Array 27.87 66 *e*P P 09 04 44.6 +0.9
NOA NORSAR Array B 28.04 326 P P 09 04 45.2 +0.1
comp=Z,2.0nm,0.9s,baz=121,slow=8.8,SNR=3.0
NOA LR LR 09 16 44.3
comp=Z,65nm,19.8s,baz=135,slow=38
ZAA0 Zalesovo Array 29.85 51 *e*P P 09 04 59.9 -1.2
ZALV Zalesovo Beam 29.85 51 P P 09 05 00.6 -0.5
comp=Z,3.4nm,0.7s,baz=269,slow=9.1,SNR=10
ZALV LR LR 09 17 59.1
comp=Z,62nm,20.0s,baz=250,slow=38
DGZ Jazzator, Alta 31.20 59 *e*P P 09 05 12.7 -0.6
DGZ pmax pmax
comp=Z,1.0nm,1.5s
WMQ Urumqi 32.01 71 P P 09 05 22.0 +1.7
WMQ pP sP 09 05 27.0 +3.4
WMQ sP pP 09 05 31.0 +8.4
WMQ pmax pmax
comp=Z,11nm,0.7s
WMQ pmax pmax
comp=Z,120nm,4.1s
WMQ LR LR
comp=N,74nm,24.3s
WMQ LR LR
comp=Z,58nm,22.3s
NRIK Noril'sk 36.06 25 LR LR 09 22 38.8
comp=Z,53nm,18.8s,baz=118,slow=40
ESDC Sonseca Array 36.16 284 P P 09 05 57.9 +1.5
comp=Z,0.2nm,0.3s,baz=65,slow=8.6,SNR=7.0
ESDC LR LR 09 24 45.3
comp=Z,21nm,18.9s,baz=10.0,slow=43
GTA Gaotai 41.95 73 *e*P P 09 06 45.8 +0.8
GTA pP sP 09 06 50.8 +2.6
GTA sP pP 09 06 53.8 +6.5
GTA pmax pmax
comp=Z,4.0nm,0.9s
SONM Songino Array 43.85 60 LR LR 09 27 13.0
comp=Z,110nm,18.3s,baz=257,slow=39
ULN Ulaanbaatar 44.27 59 *c i*P P 09 07 04.0 +0.3
ULN pmax pmax
comp=Z,2.0nm,0.5s
ULN Ulaanbaatar 44.27 59 *i* P P 09 07 04.0 +0.3
comp=Z,2.0nm,0.5s
TORD Torodi Ar. Bea 46.26 245 P P 09 07 19.9 +0.3
comp=Z,1.0nm,0.9s,baz=53,slow=5.6,SNR=6.5
HHC Hu-ho-hao-te 49.72 67 *e*P P 09 07 45.8 -0.5
HHC pmax pmax
comp=Z,17nm,0.9s
HHC pmax pmax
comp=Z,100nm,4.6s
KMI Kunming 50.80 89 P P 09 07 58.5 +3.7
KMI pmax pmax
comp=Z,5.0nm,0.7s
CMAR Chiang Mai Arr 51.85 99 P P 09 08 02.6 +0.2
comp=Z,1.3nm,0.3s,baz=302,slow=7.9,SNR=6.1
CMAR LR LR 09 35 51.7
comp=Z,55nm,20.1s,baz=190,slow=43
USRK Ussuriysk Ar. 61.59 55 P P 09 09 09.8 -1.5
comp=Z,0.9nm,0.6s,baz=252,slow=6.6,SNR=2.7
USRK LR LR 09 38 10.8
comp=Z,42nm,19.3s,baz=140,slow=38
KSAR Wonju Array Be 62.49 63 P P 09 09 16.7 -0.8
KSAR Wonju Array Be 62.49 63 P P 09 09 16.7 -0.8
KSAR Wonju Array Be 62.49 63 P P 09 09 16.7 -0.8
KSRS Korea Array 62.51 63 P P 09 09 16.7 -0.9
comp=Z,1.0nm,0.6s,baz=294,slow=5.8,SNR=4.8
KSRS LR LR 09 39 28.7
comp=Z,36nm,19.1s,baz=207,slow=39
MA2 Magadan 62.92 33 LR LR 09 41 32.2
comp=Z,62nm,18.0s,baz=298,slow=41
PDAR Pinedale Array 92.99 341 LR LR 09 53 26.1
comp=Z,98nm,18.0s,baz=318,slow=35

NEIC ***27*** *09:11:42.2±0.0, 19°.36N×67°.14W, h44km, MD3.3(RSPR), After RSPR.*

RSPR 27 09:11:42.2, 19°.36N×67°.14W, h44km±6km, MD3.3/13, 20C-6D, Mona Passage

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
AGPR	**Aguadilla, PR**	**0.89**	**179**	⇓ *e*P		Pn	09 11 57.5	-0.8
AGPR	**Aguadilla, PR**	**0.89**	**179**	*e*S		Sn	09 12 08.9	-1.1
AGPR	**Aguadilla, PR**	**0.89**	**179**	⇓ *e*P		Pn	09 11 57.5	-0.8
AGPR				*e*S		Sn	09 12 08.9	-1.1
IDE	**Isla Desecheo**	**1.02**	**198**	⇑ *e*P		Pn	09 11 59.1	-1.0
IDE	**Isla Desecheo**	**1.02**	**198**	*e*S		Sn	09 12 12.4	-0.9
IDE	**Isla Desecheo**	**1.02**	**198**	⇑ *e*P		Pn	09 11 59.1	-1.0
IDE				*e*S		Sn	09 12 12.4	-0.9
AOPR	**Arecibo Observ**	**1.07**	**160**	⇑ *e*P		Pn	09 11 59.6	-1.2
AOPR	**Arecibo Observ**	**1.07**	**160**	*e*S		Sn	09 12 13.1	-1.4
AOPR	**Arecibo Observ**	**1.07**	**160**	⇑ *e*P		Pn	09 11 59.6	-1.2
AOPR				*e*S		Sn	09 12 13.1	-1.4
LSP	**Las Mesas**	**1.18**	**178**	⇑ *e*P		Pn	09 12 01.1	-1.2
LSP	**Las Mesas**	**1.18**	**178**	*e*S		Sn	09 12 15.9	-1.3
LSP	**Las Mesas**	**1.18**	**178**	⇑ *e*P		Pn	09 12 01.1	-1.2
LSP				*e*S		Sn	09 12 15.9	-1.3
CRPR	**Cabo Rojo, PR**	**1.35**	**179**	*e*S		Sn	09 12 20.4	-0.8
CRPR	**Cabo Rojo, PR**	**1.35**	**179**	⇓ *e*P		Pn	09 12 03.7	-0.8
CRPR	**Cabo Rojo, PR**	**1.35**	**179**	⇓ *e*P		Pn	09 12 03.7	-0.8
CRPR				*e*S		Sn	09 12 20.4	-0.8
CELP	**Cerrillos**	**1.38**	**158**	⇓ *e*P		Pn	09 12 04.1	-0.9
CELP				*e*S		Sn	09 12 21.2	-1.0
CELP	**Cerrillos**	**1.38**	**158**	⇓ *e*P		Pn	09 12 04.1	-0.9
OBIP	**Obispado Ponce**	**1.40**	**159**	*e*S		Sn	09 12 21.3	-1.4
OBIP	**Obispado Ponce**	**1.40**	**159**	⇓ *e*P		Pn	09 12 04.0	-1.3
OBIP	**Obispado Ponce**	**1.40**	**159**	⇓ *e*P		Pn	09 12 04.0	-1.3
OBIP				*e*S		Sn	09 12 21.3	-1.4
SJG	**San Juan**	**1.55**	**143**	*e*Pn		Pn	09 12 06.6	-0.7
SJG				*e*Sn		Sn	09 12 26.8	+0.4
ICMP	**Isla Caja de M**	**1.58**	**158**	⇑ *e*P		Pn	09 12 06.9	-0.8
ICMP				*e*S		Sn	09 12 25.4	-1.4
ICMP	**Isla Caja de M**	**1.58**	**158**	⇑ *e*P		Pn	09 12 06.9	-0.8
CBYP	**Canovanas**	**1.62**	**132**	*e*S		Sn	09 12 26.9	-1.2
CBYP	**Canovanas**	**1.62**	**132**	⇑ *e*P		Pn	09 12 07.1	-1.3
CBYP	**Canovanas**	**1.62**	**132**	⇑ *e*P		Pn	09 12 07.1	-1.3
CBYP				*e*S		Sn	09 12 26.9	-1.2
HUMP	**Col San Antoni**	**1.72**	**135**	*e*S		Sn	09 12 29.0	-1.4
HUMP	**Col San Antoni**	**1.72**	**135**	⇑ *e*P		Pn	09 12 08.9	-0.7
HUMP	**Col San Antoni**	**1.72**	**135**	⇑ *e*P		Pn	09 12 08.9	-0.7
HUMP				*e*S		Sn	09 12 29.0	-1.4
MTP	**Monte Pirata**	**1.96**	**130**	⇓ *e*P		Pn	09 12 12.1	-0.8
MTP	**Monte Pirata**	**1.96**	**130**	*e*S		Sn	09 12 35.4	-0.9
MTP	**Monte Pirata**	**1.96**	**130**	⇓ *e*P		Pn	09 12 12.1	-0.8
MTP				*e*S		Sn	09 12 35.4	-0.9
DR12	**Loma Pena Alta**	**2.20**	**255**	⇑ *e*P		Pn	09 12 15.2	-1.1
DR12				*e*S		Sn	09 12 41.1	-1.2
DR12	**Loma Pena Alta**	**2.20**	**255**	⇑ *e*P		Pn	09 12 15.2	-1.1
STVI	**Saint Thomas**	**2.30**	**116**	⇑ *e*P		Pn	09 12 16.7	-0.8
STVI	**Saint Thomas**	**2.30**	**116**	*e*S		Sn	09 12 43.8	-0.9
STVI	**Saint Thomas**	**2.30**	**116**	⇑ *e*P		Pn	09 12 16.7	-0.8
STVI				*e*S		Sn	09 12 43.8	-0.9
SDDR	**Presa de Saban**	**3.94**	**265**	*e*Pn		Pn	09 12 43.5	+3.3
SDDR				*e*Sn		Sn	09 13 25.8	+0.5

KRSC 27 09:11:51.6±1.1, 54°.52N×164°.20E, h41km±25km, ML3.7, Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
BKI	**Bering**	**1.23**	**56**	*e*P		Pn	09 12 13.4	+1.1
BKI				*e*S		Sn	09 12 28.5	+0.8
KBG	**Krutoberegovo**	**1.93**	**334**	*e*S		Sn	09 12 45.1	+0.2
ZLN	**Zelenaya**	**2.45**	**309**	*e*P		Pn	09 12 32.1	+3.0
ZLN				*e*S		Sn	09 13 01.4	+3.5
TUMR	**Tumrok**	**2.46**	**290**	*e*P		Pn	09 12 32.7	+3.4
CIRR	**Tsirk**	**2.54**	**310**	*e*P		Pn	09 12 33.2	+2.9
CIRR				*e*S		Sn	09 13 03.3	+3.3
LGNR	**Loginova**	**2.54**	**309**	*e*P		Pn	09 12 34.3	+3.7
LGNR				*e*S		Sn	09 13 04.8	+4.4
BZMR	**Bezymyannaya**	**2.55**	**305**	*e*S		Sn	09 13 04.9	+4.5
SMKR	**Semkarok**	**2.58**	**324**	*e*P		Pn	09 12 34.5	+3.6
SMKR				*e*S		Sn	09 13 05.6	+4.5
KMNR	**Kamenistaya**	**2.59**	**300**	*e*P		Pn	09 12 34.3	+3.3
KMNR				*e*S		Sn	09 13 04.7	+3.5
KRSR	**Krestovskiy**	**2.68**	**311**	*e*S		Sn	09 13 06.8	+3.3
KLY	**Klyuchi**	**2.70**	**313**	*e*S		Sn	09 13 04.7	+0.8
SRKR	**Sorokina**	**2.74**	**322**	*e*P		Pn	09 12 35.8	+2.7
SPN	**Mys Shipunski**	**2.86**	**242**	*e*S		Sn	09 13 09.8	+2.1
KOZ	**Kozyrevsk**	**2.91**	**304**	*e*S		Sn	09 13 14.1	+5.0
NLC	**Nalychevo**	**3.18**	**247**	*e*S		Sn	09 13 18.8	+3.2
SDLR	**Sedlovina**	**3.38**	**251**	*e*P		Pn	09 12 46.3	+4.4
UGLR	**Uglovaya**	**3.44**	**250**	*e*P		Pn	09 12 48.2	+5.4
AVH	**Avacha**	**3.47**	**251**	*e*P		Pn	09 12 47.2	+4.1
AVH				*e*S		Sn	09 13 27.3	+4.4
KRX	**Arik**	**3.48**	**253**	*e*P		Pn	09 12 47.8	+4.5
DALK	**Dalny**	**3.56**	**247**	*e*S		Sn	09 13 27.6	+2.6
GNL	**Ganaly**	**3.77**	**260**	*e*P		Pn	09 12 52.2	+4.9
KRMR	**Karymshinskiy**	**3.99**	**247**	*e*S		Sn	09 13 39.2	+3.7
RUS	**Russkaya**	**3.99**	**241**	*e*P		Pn	09 12 54.3	+4.2

SJA 27 09:12:24.3±1.0, 31°.85S×67°.18W, h115km±6km, ML3.4, MW3.6, 1D, San Juan Province

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
ACAN	**Cantantal**	**0.42**	**181**	*e*S		Sn	09 12 54.8	+0.7
AVFE	**Valle Fertil**	**1.21**	**349**	⇓ *e*P		Pn	09 12 49.8	+1.6
AVFE				IAML			09 12 49.9	
AVFE	comp=Z,88nm,0.2s			*e*S		Sn	09 13 07.4	+1.0
MRA	**San Martin**	**1.36**	**115**	*e*P		Pn	09 12 50.8	+0.8
MRA				*e*S		Sn	09 13 10.4	+0.9
AMOG	**MOGNA**	**1.45**	**309**	*e*P		Pn	09 12 52.0	+1.1
AMOG				*e*S		Sn	09 13 11.8	+0.8
APLL	**PUNTA DE LOS L**	**1.56**	**21**	*e*P		Pn	09 12 53.3	+1.1
APLL				*e*S		Sn	09 13 15.1	+1.7
ASAL	**Salagasta**	**1.58**	**242**	*e*P		Pn	09 12 54.0	+1.5
ASAL				*e*S		Sn	09 13 15.1	+1.2
ARCO	**CERRO ARCO**	**1.78**	**236**	*e*P		Pn	09 12 56.2	+1.2
ARCO				*e*S		Sn	09 13 19.3	+1.0
ARCO				IAML			09 13 21.2	

ACLC	**CERRO LA CRUZ**	**2.43**	**5**	*e*P	Pn	09 13 03.8	+0.6
ACLC				*e*S	Sn	09 13 33.4	+0.5
ACLC				IAML		09 13 36.1	
	comp=Z,9µm,0.2s						

*ISCJB **27** 09:24:47.9±0.5,37°.29N±0°.03×28°.23E±0°.03, h0km, Error ellipse: s-maj=5.2km s-min=3.3km az=24.4*
*ISK **27** 09:24:47.8, 37°.25N×28°.16E, h22km, MD2.8*
*CSEM **27** 09:24:48.1±0.3,37°.27N×28°.21E, h10km, MD2.8, Error ellipse: s-maj=7.0km s-min=4.3km az=25.0*
*DDA **27** 09:24:48.4, 37°.24N×28°.20E, h7km, Md2.7, Suspected Mining explosion.*

ISC 27 09:24:46.5±0.9, 37°.30N±0°.03×28°.18E±0°.03, h0km, n32, σ0§67/45, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MLSB	**Milas**	**0.32**	**269**	*e*PG	**Pb**	**09 24 55.0**	**-0.1**
MLSB				*e*SG	**Sb**	**09 25 00.5**	**-0.3**
MLSB	**Milas**	**0.32**	**269**	*e*Pg	**Pb**	**09 24 55.0**	**-0.1**
MLSB				*e*Sg	**Sb**	**09 25 00.5**	**-0.3**
AYDN	**Tasoluk**	**0.43**	**327**	*i* P	**Pb**	**09 24 57.6**	**+0.6**
AYDN				*i* S	**Sb**	**09 25 04.2**	**+0.1**
AYDN	**Tasoluk**	**0.43**	**327**	P	**Pb**	**09 24 57.6**	**+0.6**
AYDN				S	**Sb**	**09 25 04.2**	**+0.1**
TURN	**Turunc**	**0.55**	**141**	*i* P	**Pg**	**09 24 56.9**	**-0.1**
TURN	**Turunc**	**0.55**	**141**	P	**Pg**	**09 24 56.9**	**-0.1**
TAVA	**DENIZLI_Tavas**	**0.61**	**74**	*i* P	**Pb**	**09 24 59.8**	**-0.3**
DALY	**Dalyan (Mu¨la**	**0.62**	**141**	*e*PG	**Pb**	**09 24 59.9**	**-0.3**
DALY				*e*SG	**Sb**	**09 25 08.9**	**-0.4**
DALY	**Dalyan (Mu¨la**	**0.62**	**141**	*i* P	**Pg**	**09 24 58.5**	**+0.2**
DALY	**Dalyan (Mu¨la**	**0.62**	**141**	P	**Pg**	**09 24 58.5**	**+0.2**
DALY	**Dalyan (Mu¨la**	**0.62**	**141**	*e*Pg	**Pb**	**09 24 59.9**	**-0.3**
DALY				*e*Sg	**Sb**	**09 25 08.9**	**-0.4**
BDRM	**Kayabasi**	**0.63**	**248**	*i* P	**Pb**	**09 24 60.0**	**-0.4**
BDRM				*i* S	**Sb**	**09 25 10.0**	**+0.3**
BDRM	**Kayabasi**	**0.63**	**248**	P	**Pb**	**09 25 00.0**	**-0.4**
BDRM				S	**Sb**	**09 25 10.0**	**+0.3**
AYDB	**Zeytinkoy-Aydi**	**0.68**	**341**	*e*PG	**Pn**	**09 25 02.8**	**-0.8**
AYDB	**Zeytinkoy-Aydi**	**0.68**	**341**	*e*Pg	**Pn**	**09 25 02.8**	**-0.8**
BODT	**Bodrum**	**0.73**	**251**	*e*PG	**Pb**	**09 25 02.3**	**+0.2**
BODT	**Bodrum**	**0.73**	**251**	*e*Pg	**Pb**	**09 25 02.3**	**+0.2**
DAT	**Datca**	**0.74**	**220**	*e*PG	**Pb**	**09 25 02.1**	**-0.3**
DAT	**Datca**	**0.74**	**220**	*i* P	**Pb**	**09 25 02.5**	**+0.1**
DAT				*i* S	**Sb**	**09 25 14.2**	**+1.0**
DAT	**Datca**	**0.74**	**220**	*e*Pg	**Pb**	**09 25 02.1**	**-0.3**
DAT	**Datca**	**0.74**	**220**	P	**Pb**	**09 25 02.5**	**+0.1**
DAT				S	**Sb**	**09 25 14.2**	**+1.0**
FETY	**Fethiye**	**0.98**	**132**	*e*PG	**Pb**	**09 25 06.6**	**+0.1**
FETY	**Fethiye**	**0.98**	**132**	*e*Pg	**Pb**	**09 25 06.6**	**+0.1**
FETY	**Fethiye**	**0.98**	**132**	P	**Pn**	**09 25 07.5**	**-0.1**
FETY				S	**Sn**	**09 25 22.8**	**+0.5**
ELL	**Elmali**	**1.49**	**111**	*e*PN	**Pn**	**09 25 13.8**	**-0.9**
ELL	**Elmali**	**1.49**	**111**	*e*Pn	**Pn**	**09 25 13.8**	**-0.9**
AKAS	**Kas**	**1.57**	**132**	*e*PN	**Pn**	**09 25 14.6**	**-1.1**
AKAS	**Kas**	**1.57**	**132**	*i* P	**Pg**	**09 25 17.8**	**+1.3**
AKAS				*i* S	**Sb**	**09 25 37.9**	**+1.0**
AKAS	**Kas**	**1.57**	**132**	*e*Pn	**Pn**	**09 25 14.6**	**-1.1**
AKAS	**Kas**	**1.57**	**132**	P	**Pg**	**09 25 17.8**	**+1.3**
AKAS				S	**Sb**	**09 25 37.9**	**+1.0**
KORT	**Korkueli**	**1.76**	**99**	*e*PN	**Pn**	**09 25 17.2**	**-1.2**
KORT	**Korkueli**	**1.76**	**99**	*e*Pn	**Pn**	**09 25 17.2**	**-1.2**

MEX 27 09:35:55.3±0.4, 15°.51N×95°.67W, h13km±8km, MD3.8, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HUIG	**Huatulco**	**0.50**	**302**	*e*P	Pg	09 36 04.1	-1.0
HUIG				*i* S	Sg	09 36 11.0	-0.8
CMIG	**Matias Romero**	**1.75**	**25**	*e*P	Pn	09 36 22.0	-3.4
CMIG				*i* S	Sn	09 36 42.9	-4.6
VHO	**Vista Hermosa**	**1.86**	**327**	*i* P	Pn	09 36 23.6	-3.5
VHO				*i* S	Sn	09 36 45.6	-5.0
PCIG		**2.37**	**85**	*i* P	Pn	09 36 30.5	-3.4
PCIG				*e*S	Sn	09 36 58.2	-4.6

*JMA **27** 09:49:21.6±0.2, 43°.49N×147°.56E, h56km, M2.5*
*SKHL **27** 09:49:22.3±0.1, 43°.71N×147°.68E, h56km, mb4.0/2*

ISC 27 09:49:18.1±2.6, 43°.6N±0°.1×147°.8E±0°.1, h32km±14km, n10, σ1§60/18, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SHO	**Shikotan**	**0.79**	**293**	*e*P	**Pb**	**09 49 34.9**	**+1.5**
SHO				AMB	AMB	09 49 35.3	
	60nm,0.2s						
SHO				*e*S	**Sb**	**09 49 44.3**	**+0.5**
SHO				A	A	09 49 45.6	
	720nm,0.2s						
SHO				A	A	09 49 45.6	
	410nm,0.2s						
YUK	**Yuzh-Kuril'sk**	**1.50**	**289**	*e*P	**Pb**	**09 49 43.7**	**-1.7**
YUK				AMB	AMB	09 49 45.6	
	40nm,0.2s						
YUK				*e*S	**Sn**	**09 49 59.9**	**-1.4**
YUK				A	A	09 50 02.4	
	110nm,0.2s						
YUK				A	A	09 50 02.4	
	150nm,0.2s						
NEM2	**Nemuro 2**	**1.54**	**263**	P	**Pb**	**09 49 44.3**	**-1.6**
NEM2				*e*S	**Sn**	**09 50 01.2**	**-0.9**
KUR	**Kuril'sk**	**1.67**	**1**	*e*P	**Pb**	**09 49 46.7**	**-1.5**
KUR				*i* S	**Sn**	**09 50 05.0**	**-0.4**
KUR				A	A	09 50 06.8	
	30nm,0.2s						
KUR				A	A	09 50 06.8	
	80nm,0.2s						
JRA	**Rausu**	**2.00**	**282**	P	**Pb**	**09 49 51.4**	**-2.4**
JRA				*e*S	**Sn**	**09 50 13.3**	**-0.3**
JNK	**Nakash**	**2.26**	**272**	P	**Pn**	**09 49 54.3**	**+1.0**
JNK				*e*S	**Sn**	**09 50 18.7**	**-1.4**
JAK	**Akkeshi**	**2.36**	**257**	P	**Pn**	**09 49 55.9**	**+1.3**
JAK				*e*S	**Sn**	**09 50 21.6**	**-0.9**
JAR	**Ashorobuto**	**2.97**	**266**	P	**Pn**	**09 50 05.0**	**+1.9**
JAR				*e*S	**Sn**	**09 50 37.7**	**+0.1**
JMP	**Maruseppu**	**3.27**	**279**	P	**Pn**	**09 50 09.3**	**+2.1**
JCH	**Churui**	**3.41**	**255**	P	**Pn**	**09 50 10.8**	**+1.7**

*IDC **27** 09:51:40.8±0.8, 15°.98S×173°.23W, h0km, mb4.0/9, mb1 4.2/9, mb1mx4.1/28, mbtmp4.0/9, MS3.3/5, Ms1 3.3/5, ms1mx3.1/29, Error ellipse: s-maj=37.1km s-min=19.5km az=131.0*

ISC 27 09:51:41.7±0.7, 15°.8S±0°.2×173°.1W±0°.2, h10km, n19, σ1§57/14, mb4.0/9, MS3.3/4, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**2.27**	**36**	Pn	**Pn**	**09 52 18.3**	**-1.0**
	21nm,0.3s,baz=201,slow=2.7,SNR=31						
AFI				Sn	**Sn**	**09 52 44.6**	**-2.9**
	78nm,0.3s,baz=28,slow=22,SNR=18						
RAR	**Rarotonga**	**13.78**	**115**	Pn	Pn	09 54 47.7	-9.5
	2.5nm,0.3s,baz=303,slow=10,SNR=7.4						
RAR				Sn	Sn	09 57 08.8	-22
	0.3nm,0.3s,baz=111,slow=19,SNR=2.2						
RAR				LR	LR	09 59 45.5	
	comp=Z,56nm,18.9s,baz=316,slow=35						
DZM	**Mont Dzumac**	**20.30**	**249**	*e*P	Pn	09 56 23.0	+3.1
	27nm,1.1s						
DZM				*e*LR	LR	10 01 14.0	
	214nm,22.7s						
PPT	**Papeete**	**22.64**	**98**	LR	LR	10 03 13.9	
	comp=Z,88nm,19.1s,baz=240,slow=90						
PPT2	**Papeete2**	**22.64**	**98**	*e*LR	LR	10 02 02.8	
	86nm,22.8s						
URZ	**Urewera**	**23.99**	**199**	P	**P**	**09 56 54.9**	**-1.6**
	2.0nm,0.5s,baz=109,slow=18,SNR=3.0						
STKA	**Stephens Creek**	**44.07**	**240**	P	**P**	**09 59 49.1**	**-1.0**
	1.2nm,0.7s,baz=74,slow=9.6,SNR=2.8						
WRA	**Warramunga Arr**	**50.01**	**257**	P	**P**	**10 00 35.8**	**-0.9**
	0.8nm,0.8s,baz=94,slow=6.4,SNR=6.5						
ASAR	**Alice Springs**	**50.24**	**252**	P	**P**	**10 00 37.6**	**-0.8**
	4.0nm,0.7s,baz=88,slow=7.6,SNR=36						
ASAR				LR	LR	10 20 56.2	
	comp=Z,66nm,18.2s,baz=116,slow=35						
VNDA	**Vanda**	**63.03**	**186**	P	**P**	**10 02 08.2**	**-0.2**
	0.8nm,0.9s,baz=6.2,slow=4.7,SNR=4.9						
MJAR	**Matsushiro Arr**	**69.39**	**320**	LR	LR	10 28 59.2	
	comp=Z,19nm,20.6s,baz=75,slow=32						
MA2	**Magadan**	**80.59**	**342**	LR	LR	10 35 20.8	
	comp=Z,15nm,19.4s,baz=122,slow=32						
TXAR	**Lajitas Array**	**80.61**	**56**	P	**P**	**10 03 56.2**	**+1.2**
	0.6nm,1.0s,baz=226,slow=6.7,SNR=5.1						
PDAR	**Pinedale Array**	**82.37**	**42**	P	**P**	**10 04 06.0**	**+1.7**
	1.6nm,0.8s,baz=211,slow=3.9,SNR=13						
ILAR	**Eielson Array**	**82.76**	**11**	P	**P**	**10 04 07.4**	**+1.9**
	1.1nm,0.7s,baz=232,slow=6.2,SNR=13						
MAW	**Mawson**	**87.52**	**199**	P	**P**	**10 04 29.3**	**-0.1**
	1.6nm,0.8s,baz=153,slow=11,SNR=2.7						
KHC	**Kasperske Hory**	**146.28**	**352**	*e*P	**PKPab**	**10 11 25.0**	**+1.7**
GERES	**GERESS Array B**	**146.54**	**352**	PKPbc	**PKPab**	**10 11 24.0**	**-0.4**
	0.5nm,0.5s,baz=9.5,slow=1.6,SNR=7.4						
BRTR	**Keskin Array B**	**146.60**	**321**	PKPbc	**PKPab**	**10 11 26.2**	**+1.2**
	2.6nm,0.9s,baz=127,slow=3.7,SNR=12						

IDC 27 10:02:54.7±2.2, 7°.97S×121°.68E, h0km, mb3.3/1, mb1 3.5/3, mb1mx3.4/23, mbtmp3.3/3, ML3.3/2, Error ellipse: s-maj=289.9km s-min=27.9km az=55.0, Flores Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**17.09**	**135**	P	P	10 06 56.2	-0.9
	0.1nm,0.3s,baz=312,slow=13,SNR=6.2						
WRA				S	Sn	10 09 54.1	-12
	0.1nm,0.3s,baz=310,slow=25,SNR=5.7						
ASAR	**Alice Springs**	**19.52**	**144**	P	P	10 07 23.4	-0.4
	0.1nm,0.3s,baz=327,slow=12,SNR=14						
ASAR				S	Sn	10 10 49.6	-15
	0.0nm,0.3s,baz=324,slow=21,SNR=4.2						
MKAR	**Makanchi Array**	**64.79**	**331**	P	P	10 13 35.3	0.0
	0.4nm,0.9s,baz=132,slow=6.4,SNR=2.4						

*DDA **27** 10:30:31.7, 39°.66N×38°.68E, h4km, Ml3.5*
*ISK **27** 10:30:33.5, 39°.72N×38°.77E, h5km, ML3.5*
*CSEM **27** 10:30:34.6±0.2, 39°.77N×38°.72E, h2km, ML3.5, Error ellipse: s-maj=6.9km s-min=5.9km az=5.0*

ISC 27 10:30:33.1±1.1, 39°.67N±0°.02×38°.74E±0°.02, h8km±10km, n77, σ1§51/89, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
REFA	**Refahiye_ERZ¨**	**0.28**	**176**	*i* P	**Pg**	**10 30 37.5**	**-1.2**
REFA				*i* S	**Sg**	**10 30 41.0**	**-1.5**
KEMA	**Kemaliye**	**0.45**	**205**	*i* P	**Pg**	**10 30 40.5**	**-1.4**
EZC	**Erzincan**	**0.48**	**80**	*e*Pg	**Pn**	**10 30 48.6**	**+2.1**
KELT	**Kelkit**	**0.62**	**40**	*i* P	**Pg**	**10 30 44.5**	**-0.6**
KELT	**Kelkit**	**0.62**	**40**	P	**Pg**	**10 30 44.5**	**-0.6**
EUZM	**Uzumlu**	**0.74**	**87**	*i* P	**Pg**	**10 30 47.3**	**-0.1**
EUZM	**Uzumlu**	**0.74**	**87**	P	**Pg**	**10 30 47.3**	**-0.1**
ERZN	**Erzincan**	**0.76**	**96**	*e*PG	**Pb**	**10 30 48.6**	**-0.2**
ERZN				*e*SG	**Sb**	**10 30 59.9**	**+0.5**
CUZAR	**Zara_SIVAS**	**0.78**	**286**	*i* P	**Pg**	**10 30 46.4**	**-1.7**
TNCL	**Tunceli-Merkez**	**0.83**	**132**	*i* P	**Pg**	**10 30 48.2**	**-1.0**
PTK	**Pertek**	**0.93**	**147**	*e*PG	**Pn**	**10 30 52.6**	**-0.1**
PTK	**Pertek**	**0.93**	**147**	*e*Pg	**Pn**	**10 30 52.6**	**-0.1**
CUKAN	**kangal_SIVAS**	**1.05**	**251**	*i* P	**Pg**	**10 30 50.7**	**-2.6**
ELZG	**Elazig**	**1.19**	**171**	*i* P	**Pb**	**10 30 54.2**	**-1.8**
GRSN	**GIRESUNGRSN**	**1.30**	**344**	*i* P	**Pn**	**10 30 56.6**	**-1.1**
GRSN	**GIRESUNGRSN**	**1.30**	**344**	P	**Pn**	**10 30 56.6**	**-1.1**
RSDY	**Resadiye-TOKAT**	**1.30**	**304**	*e*PN	**Pg**	**10 30 59.4**	**+1.2**
RSDY				*e*SN	**Sg**	**10 31 18.4**	**+3.3**
RSDY	**Resadiye-TOKAT**	**1.30**	**304**	*e*Pn	**Pg**	**10 30 59.4**	**+1.2**
RSDY				*e*Sn	**Sg**	**10 31 18.4**	**+3.3**
SVSK	**Karacayir**	**1.36**	**281**	*e*PN	**Pg**	**10 31 00.7**	**+1.4**
SVSK	**Karacayir**	**1.36**	**281**	*e*Pn	**Pg**	**10 31 00.7**	**+1.4**
SVRC	**Sivrice-ELAZID**	**1.37**	**161**	*e*PN	**Pg**	**10 31 00.8**	**+1.5**
SVRC	**Sivrice-ELAZID**	**1.37**	**161**	*e*Pn	**Pg**	**10 31 00.8**	**+1.5**
YEDI	**Yedisu-Bingol**	**1.41**	**99**	*e*PN	**Pg**	**10 31 01.1**	**+0.8**
DARE	**Darende-Malaty**	**1.47**	**222**	*e*PN	**Pg**	**10 31 02.7**	**+1.3**
DARE	**Darende-Malaty**	**1.47**	**222**	*e*Pn	**Pg**	**10 31 02.7**	**+1.3**
ORDU	**Ordu-Boztepe**	**1.48**	**333**	*i* P	**Pn**	**10 30 59.0**	**-1.1**
ORDU				*i* S	**Sn**	**10 31 18.7**	**-1.0**
ORDU	**Ordu-Boztepe**	**1.48**	**333**	P	**Pn**	**10 30 59.0**	**-1.1**
ORDU				S	**Sn**	**10 31 18.7**	**-1.0**
CUGUR	**Gurin_S¨VAS**	**1.48**	**231**	*i* P	**Pn**	**10 31 00.2**	**-0.1**
MACK	**Trabzon**	**1.49**	**31**	*i* P	**Pg**	**10 31 01.0**	**-0.8**
MACK				*i* S	**Sb**	**10 31 20.1**	**-0.3**
MACK	**Trabzon**	**1.49**	**31**	P	**Pg**	**10 31 01.0**	**-0.8**
MACK				S	**Sb**	**10 31 20.0**	**-0.3**
KTUT	**Trabzon**	**1.53**	**31**	*e*PN	**Pg**	**10 31 02.6**	**+0.1**
KTUT	**Trabzon**	**1.53**	**31**	*e*Pn	**Pg**	**10 31 02.6**	**+0.1**
BINT	**Bingol**	**1.57**	**120**	*e*Pn	**Pg**	**10 31 04.8**	**+1.5**
CUALT	**Altinyayla-SIV**	**1.58**	**256**	*i* P	**Pn**	**10 31 01.1**	**-0.6**
BNGB	**Bing¶l**	**1.65**	**114**	*e*PN	**Pg**	**10 31 04.8**	**0.0**
TOKA	**Tokat**	**1.85**	**291**	*i* P	**Pn**	**10 31 05.2**	**-0.1**
TOKA				*i* S	**Sn**	**10 31 29.2**	**+0.2**
TOKA	**Tokat**	**1.85**	**291**	P	**Pn**	**10 31 05.2**	**-0.1**
TOKA				S	**Sn**	**10 31 29.2**	**+0.2**
CUSAR	**Sarkisla-SIVAS**	**1.95**	**263**	*i* P	**Pn**	**10 31 07.4**	**+0.8**
CUSAR	**Sarkisla-SIVAS**	**1.95**	**263**	P	**Pn**	**10 31 07.4**	**+0.8**
BNGL	**BINGOL**	**2.00**	**110**	*i* P	**Pg**	**10 31 11.1**	**-0.5**
BNGL				*i* S	**Sg**	**10 31 41.1**	**+3.6**
ERZM	**Erzurum**	**2.04**	**83**	*i* P	**Pg**	**10 31 11.1**	**-1.1**
ERZM				*i* S	**Sg**	**10 31 42.0**	**+3.4**
ERZM	**Erzurum**	**2.04**	**83**	P	**Pg**	**10 31 11.1**	**-1.1**
SARI	**SarD1z-Kayseri**	**2.21**	**236**	*e*PN	**Pb**	**10 31 13.1**	**-0.3**
BNN	**Bunyan**	**2.39**	**251**	*e*PN	**Pb**	**10 31 15.3**	**-1.3**
BNN	**Bunyan**	**2.39**	**251**	*e*Pn	**Pb**	**10 31 15.3**	**-1.3**
SVAN	**Silvan-Diyarba**	**2.45**	**128**	*e*PN	**Pb**	**10 31 16.5**	**-0.9**
SVAN	**Silvan-Diyarba**	**2.45**	**128**	*e*Pn	**Pb**	**10 31 16.5**	**-0.9**
GZT	**Gaziantep**	**2.49**	**202**	*i* P	**Pb**	**10 31 17.2**	**-1.1**
KVT	**Kavak**	**2.49**	**305**	*e*PN	**Pb**	**10 31 17.0**	**-1.2**
KVT	**Kavak**	**2.49**	**305**	*e*Pn	**Pb**	**10 31 17.0**	**-1.2**
MAZI	**Mazidag**	**2.58**	**148**	*e*PN	**Pb**	**10 31 19.0**	**-0.8**
MAZI	**Mazidag**	**2.58**	**148**	*e*Pn	**Pb**	**10 31 19.0**	**-0.8**
KMRS	**Kahramanmaras**	**2.60**	**214**	*e*PN	**Pb**	**10 31 19.5**	**-0.6**
KMRS	**Kahramanmaras**	**2.60**	**214**	*e*Pn	**Pb**	**10 31 19.5**	**-0.6**
DDEM	**Demirkent**	**2.60**	**61**	*i* P	**Pb**	**10 31 19.8**	**-0.4**
DDEM	**Demirkent**	**2.60**	**61**	P	**Pb**	**10 31 19.8**	**-0.4**
EKAR	**Karacoban**	**2.61**	**98**	*i* P	**Pg**	**10 31 21.4**	**-1.7**
HCB	**Kahramanmara¨**	**2.73**	**212**	*i* P	**Pn**	**10 31 19.4**	**+2.0**
GAZ	**Gaziantep**	**2.77**	**206**	*e*PN	**Pb**	**10 31 21.6**	**-1.4**
GAZ	**Gaziantep**	**2.77**	**206**	*e*Pn	**Pb**	**10 31 21.6**	**-1.4**
SURC	**SANLIURFA_SURC**	**2.79**	**182**	*i* P	**Pn**	**10 31 15.2**	**-3.0**
DAGI	**Agillar**	**2.80**	**59**	*i* P	**Pb**	**10 31 24.1**	**+0.6**
ANDN	**Andirin**	**2.81**	**223**	*i* P	**Pb**	**10 31 23.6**	**0.0**
ANDN	**Andirin**	**2.81**	**223**	P	**Pb**	**10 31 23.6**	**0.0**
MARD	**Mardin**	**2.85**	**145**	*i* P	**Pn**	**10 31 20.0**	**+0.9**
ARTV	**Artvin**	**2.86**	**57**	*i* P	**Pb**	**10 31 23.5**	**-1.1**
ARTV	**Artvin**	**2.86**	**57**	P	**Pb**	**10 31 23.5**	**-1.1**
COAL	**Corum-Alaca**	**2.94**	**283**	*i* P	**Pb**	**10 31 23.5**	**-2.4**
COAL	**Corum-Alaca**	**2.94**	**283**	P	**Pb**	**10 31 23.5**	**-2.4**
KAMA	**Osmaniye**	**2.97**	**214**	*i* P	**Pn**	**10 31 21.0**	**+0.3**
YAHY	**KAYSERI_Yahyal**	**3.07**	**240**	*i* P	**Pb**	**10 31 28.0**	**-0.1**
KOZT	**Kozan**	**3.16**	**227**	*e*PN	**Pb**	**10 31 27.1**	**-2.5**
KOZT	**Kozan**	**3.16**	**227**	*e*Pn	**Pb**	**10 31 27.1**	**-2.5**
AGRB	**Hanur-Agry**	**3.29**	**90**	*e*PN	**Pb**	**10 31 27.9**	**-3.9**
AGRB	**Hanur-Agry**	**3.29**	**90**	*e*Pn	**Pb**	**10 31 27.9**	**-3.9**
CDAG	**Cicekdag**	**3.37**	**271**	*i* P	**Pn**	**10 31 27.0**	**+0.7**
CDAG	**Cicekdag**	**3.37**	**271**	P	**Pn**	**10 31 27.0**	**+0.7**

IDC 27 10:31:19.0±1.8, 22°.81S×171°.96E, h0km, mb3.9/3, mb1 4.2/4, mb1mx3.8/31, mbtmp4.0/4, ML3.5/1, MS3.5/1, Ms1 3.5/1, ms1mx2.7/24, Error ellipse: s-maj=83.9km s-min=31.7km az=169.0, Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**5.16**	**277**	Pn	Pn	10 32 38.9	+1.3
	1.6nm,0.3s,baz=107,slow=19,SNR=42						
DZM				Sn	Sn	10 33 37.6	-0.2
	4.6nm,0.3s,baz=135,slow=19,SNR=7.9						
ASAR	**Alice Springs**	**34.91**	**261**	P	P	10 38 13.1	+0.3
	2.2nm,0.8s,baz=91,slow=9.8,SNR=27						
ASAR				PcP	PcP	10 40 45.1	-0.5
	0.3nm,0.8s,baz=103,slow=2.7,SNR=2.8						
WRA	**Warramunga Arr**	**35.09**	**267**	P	P	10 38 13.8	-0.5
	0.6nm,0.4s,baz=96,slow=8.5,SNR=8.6						
WRA				PcP	PcP	10 40 44.9	-1.2
	0.4nm,0.8s,baz=98,slow=3.7,SNR=2.6						
H11S2	**WAKE ISLAND Hy**	**41.37**	**352**	T	T	11 23 16.9	
	baz=175,slow=74,SNR=5.8						
H11S3	**WAKE ISLAND Hy**	**41.37**	**352**	T	T	11 23 16.9	
	baz=175,slow=74,SNR=3.8						
H11S1	**WAKE ISLAND Hy**	**41.38**	**352**	T	T	11 23 15.4	
	baz=175						
H11N1	**WAKE ISLAND Hy**	**42.55**	**353**	T	T	11 24 54.7	
	baz=175						
H11N3	**WAKE ISLAND Hy**	**42.55**	**353**	T	T	11 24 54.0	
	baz=175						
H11N2	**WAKE ISLAND Hy**	**42.57**	**353**	T	T	11 24 54.4	
	baz=175						
VNDA	**Vanda**	**54.98**	**183**	LR	LR	11 00 22.2	
	comp=Z,42nm,19.4s,baz=358,slow=32						
ILAR	**Eielson Array**	**92.89**	**16**	P	P	10 44 34.1	+0.8
	0.3nm,0.8s,baz=223,slow=7.4,SNR=4.2						

*IDC **27** 10:37:29.3±1.4, 32°.82N×133°.40E, h0km, mb3.3/3, mb1 3.5/4, mb1mx3.3/52, mbtmp3.3/4, ML3.2/1, MS3.5/1, Ms1 3.5/1, ms1mx2.5/26, Error ellipse: s-maj=42.3km s-min=28.1km az=76.0*
*ISCJB **27** 10:37:35.7±4.0, 37°.3N±0°.6×135°.0E±0°.5, h400km, mb2.8/2, Error ellipse: s-maj=98.5km s-min=13.8km az=145.5*
*JMA **27** 10:37:38.3±0.4, 37°.21N×134°.98E, h370km±5km, M3.2*

ISC 27 10:37:37.0±3.1, 37°.2N±0°.4×135°.1E±0°.3, h400km, n9, σ3§09/8, Sea of Japan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JKG	**Kaga**	**1.36**	**134**	*e*S	**S**	**10 39 07.4**	**-4.6**
JKY	**Yasaka**	**1.59**	**180**	P	**Pn**	**10 38 29.2**	**-1.6**
JKSM	**Kasumi**	**1.68**	**193**	P	**Pn**	**10 38 29.2**	**-2.0**
JWT	**Wachi**	**1.95**	**173**	P	**Pn**	**10 38 31.8**	**-1.0**
MJAR	**Matsushiro Arr**	**2.57**	**104**	Pn	Pn	10 38 51.8	+15
	0.8nm,0.3s,baz=225,slow=20,SNR=5.1						
JRY	**Ryogami san**	**3.27**	**110**	P	**Pn**	**10 38 42.2**	**-0.4**
JMK	**Ichinoseki**	**5.11**	**68**	*e*S	**S**	**10 40 07.0**	**-0.7**
WRA	**Warramunga Arr**	**56.87**	**181**	P	**P**	**10 46 44.6**	**+2.7**
	0.2nm,0.4s,baz=356,slow=7.7,SNR=4.9						
ASAR	**Alice Springs**	**60.58**	**181**	P	**P**	**10 47 10.5**	**+3.4**
	0.4nm,1.0s,baz=4.8,slow=5.6,SNR=2.7						
ASAR				LR	LR	11 12 25.4	
	comp=Z,40nm,18.0s,baz=158,slow=37						

IDC 27 10:39:31.3±2.1, 54°.23N×86°.05E, h0km, mb1 3.5/3, mb1mx3.2/47, mbtmp3.5/3, ML3.4/3, Error ellipse: s-maj=16.7km s-min=9.8km az=60.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**0.78**	**250**	*i*		10 44 06.1	
	baz=66,slow=320,SNR=10.0						
ZALV	**Zalesovo Beam**	**0.78**	**250**	Pg	Pg	10 39 44.4	-1.7
	3.4nm,0.3s,baz=67,slow=18,SNR=15						
ZALV				Lg	Lg	10 39 57.5	
	12nm,0.3s,baz=69,slow=32,SNR=16						
KURBB	**Kurchatov Arra**	**5.85**	**235**	Pn	Pn	10 40 59.5	+0.4
	0.5nm,0.3s,baz=52,slow=14,SNR=9.0						
KURBB				Lg	Lg	10 42 38.5	
	0.1nm,0.3s,baz=44,slow=31,SNR=3.4						
MKAR	**Makanchi Array**	**7.82**	**199**	Pn	Pn	10 41 26.9	+0.6
	0.8nm,0.3s,baz=24,slow=12,SNR=20						
MKAR				Sn	Sn	10 42 55.6	+0.2
	0.2nm,0.3s,baz=22,slow=20,SNR=4.0						
MKAR				Lg	Lg	10 43 37.2	
	0.2nm,0.3s,baz=23,slow=30,SNR=3.4						
BVAR	**Borovoye Array**	**9.39**	**269**	Pn	Pn	10 41 48.8	+1.1
	0.4nm,0.3s,baz=60,slow=16,SNR=3.5						
B

ROOS eS Sb 11 03 37.3 -0.4
comp=E,42nm,0.6s,SNR=62
HCB Kahramanmara 1.67 9 iP Pn 11 03 16.9 +0.7
HCB iS Sn 11 03 37.7 -0.4
GZT Gaziantep 1.83 25 iP Pb 11 03 19.6 -0.9
GZT iS Sb 11 03 44.5 +0.7
SURC SANLIURFA_SURC 2.02 53 iP Pn 11 03 20.9 -0.2
SURC iS Sn 11 03 46.3 -0.4
ATAB Bozova 2.24 37 iP Pb 11 03 28.0 +0.6
ATAB iS Sg 11 03 57.4 -1.0
ATAB Bozova 2.24 37 P Pb 11 03 28.0 +0.6
ATAB S Sg 11 03 57.4 -1.0

ISCJB **27** *11:02:57.7±0.1,36.°55N±0.°01×76.°73E±0.°02,h86km, mb4.8/158, Error ellipse: s-maj=2.6km s-min=1.9km az=170.8*
NEIC **27** *11:02:59.0±0.6,36.°59N×76.°70E,h82km±4km,mb5.0/74, Error ellipse: s-maj=5.3km s-min=3.0km az=163.0*
NEIC Felt at Leh and Pathankot, India.
MOS **27** *11:02:59.2±1.0,36.°62N×76.°72E,h97km,mb4.9/66, Error ellipse: s-maj=5.9km s-min=3.6km az=115.1*
IDC **27** *11:03:00.3±2.0,36.°59N×76.°71E,h94km±17km,mb4.4/42, mb1 4.5/48,mb1mx4.4/54,mbtmp4.7/48,MS3.2/13, Ms1 3.2/13,ms1mx3.0/35,Error ellipse: s-maj=11.6km s-min=7.5km az=1.0*
BJI **27** *11:03:01.2,36.°67N×76.°82E,h106km,mb4.6/36,mB4.6/23*
NNC **27** *11:03:16.1±2.6,37.°97N×76.°04E,h0km,mb5.2,mpv4.9, Error ellipse: s-maj=36.8km s-min=22.7km az=99.0*
ISC 27 11:02:58.8±0.3,**36.°55N**±0.°03×**76.°70E**±0.°03,**h86**km,**n475,** σ1**90**/521,**mb4.9**/163,**36C-27D, Kashmir-Xinjiang border region**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
SRNI	**Srinagar**	**2.88**	**212**	eP		**Pn**		**11 03 41.5**	**-1.0**
SRNI				eS		**Sn**		**11 04 20.0**	**+3.8**
KSH	**Kashi**	**3.01**	**349**	*i* P		**Pn**		**11 03 43.5**	**-1.0**
KSH				sP				11 04 06.5	
KSH				S		**Sn**		**11 04 10.8**	**-8.9**
	comp=N,5μm,0.5s								
KSH				smax		smax			
	comp=E,5μm,0.7s								
CHCP	**Chirah Chowk**	**4.03**	**225**	P		**Pn**		**11 04 01.5**	**+3.2**
JMU	**Jammu**	**4.10**	**202**	eP		**Pn**		**11 04 02.5**	**+3.3**
JMU				eS		**Sn**		**11 04 47.5**	**+1.5**
DHRM	**DHARAMSHALA**	**4.30**	**184**	eP		**Pn**		**11 04 05.3**	**+3.2**
DHRM				eS		**Sn**		**11 04 52.7**	**+1.4**
DHRM				AML		AML		11 04 55.4	
	comp=N,3μm,0.5s								
DHRM				AML		AML		11 04 56.7	
	comp=E,4μm,0.3s								
CEP	**Cherat**	**4.77**	**237**	⇓P		**Pn**		**11 04 10.1**	**+1.7**
CEP				S		**Sn**		**11 05 00.0**	**-2.6**
SDNR	**Sundarnagar**	**5.05**	**177**	eP		**Pn**		**11 04 14.0**	**+1.9**
SDNR				eS		**Sn**		**11 05 07.5**	**-1.6**
BHK	**Bhakra**	**5.13**	**183**	eP		**Pn**		**11 04 15.2**	**+2.0**
BHK				eS		**Sn**		**11 05 09.2**	**-1.9**
SMLA	**Simla**	**5.42**	**176**	eP		**Pn**		**11 04 19.0**	**+1.8**
SMLA				eS		**Sn**		**11 05 16.9**	**-1.4**
SMLA				AML		AML		11 05 17.8	
	comp=N,2μm,0.4s								
SMLA				AML		AML		11 05 27.2	
	comp=E,2μm,0.5s								
THW	**Thamme Wali**	**5.54**	**229**	P		**Pn**		**11 04 19.8**	**+1.0**
SARP	**Sargodha**	**5.70**	**217**	P		**Pn**		**11 04 21.8**	**+0.9**
AAK	**Ala-Archa**	**6.31**	**345**	P		**Pn**		**11 04 31.7**	**+2.4**
	comp=E,24nm,0.3s,baz=152,slow=8.3,SNR=102								
AAK				S		**Sn**		**11 05 40.5**	**+0.5**
	comp=E,33nm,0.3s,baz=9.4,slow=18,SNR=7.7								
AAK				LR		LR		11 06 41.4	
	comp=E,159nm,19.2s,baz=163,slow=35								
AAK	**Ala-Archa**	**6.31**	**345**	⇓Pn		**Pn**		**11 04 31.2**	**+1.8**
	comp=E,112nm,0.7s								
AAK				Lg		Lg		11 05 47.5	
	comp=E,345nm,0.9s								
AAK	**Ala-Archa**	**6.31**	**345**	ePn		**Pn**		**11 04 31.1**	**+1.8**
AAK				eSn		**Sn**		**11 05 40.5**	**+0.5**
DDI	**Dehra Dun**	**6.32**	**169**	eP		**Pn**		**11 04 31.2**	**+1.8**
DDI				eS		**Sn**		**11 05 36.8**	**-3.4**
TKM2	**Tokmak 2**	**6.42**	**353**	⇓Pn		**Pn**		**11 04 32.2**	**+1.4**
	comp=E,151nm,0.8s								
TKM2				⇑Lg		Lg		11 05 53.4	
	comp=E,139nm,0.6s								
TKM2	**Tokmak 2**	**6.42**	**353**	P		**Pn**		**11 04 32.2**	**+1.4**
TKM2				e				11 05 53.4	
JOSI	**Joshimath**	**6.44**	**157**	eP		**Pn**		**11 04 32.6**	**+1.3**
JOSI				eS		**Sn**		**11 05 37.2**	**-6.2**
JOSI				IAML				11 05 49.8	
	comp=N,2μm,0.6s								
JOSI				IAML				11 05 51.4	
	comp=E,2μm,0.9s								
FRU	**Bishkek**	**6.47**	**346**	eP		**Pn**		**11 04 35.0**	**+3.6**
FRU				*i* S		**Sn**		**11 05 44.0**	**+0.2**
FRU				pmax		pmax			
	comp=Z,120nm,1.4s								
FRU				smax		smax			
	comp=E,660nm,1.6s								
KBL	**Kabul**	**6.55**	**254**	eP		**Pn**		**11 04 33.0**	**+0.3**
KBL				e				11 05 41.1	
KBL	**Kabul**	**6.55**	**254**	ePn		**Pn**		**11 04 33.0**	**+0.3**
KBL				eSn		**Sn**		**11 05 41.1**	**-5.0**
KKR	**Kurukshetra**	**6.58**	**179**	eP		**Pn**		**11 04 33.5**	**+0.6**
MDOK	**Medeo**	**6.61**	**2**	⇓Pn		**Pn**		**11 04 35.0**	**+1.6**
MDOK				⇑Lg		Lg		11 06 03.0	
DZET	**Dzherino**	**6.63**	**292**	⇑Pn		**Pn**		**11 04 32.7**	**-1.0**
	comp=E,17nm,0.3s								
DZET				⇓Sn		**Sn**		**11 05 43.1**	**-4.8**
	comp=E,619nm,0.4s								
DZET	**Dzherino**	**6.63**	**292**	P		**Pn**		**11 04 32.7**	**-1.0**
DZET				SN		**Sn**		**11 05 43.6**	**-4.3**
AAA	**Alma-Ata**	**6.65**	**1**	*i* P		**Pn**		**11 04 36.6**	**+2.7**
AAA				pmax		pmax			
	comp=Z,500nm,0.9s								
AAA				MLR		MLR			
	comp=Z,700nm,2.0s								
KNDC	**Almaty**	**6.66**	**2**	⇑Pn		**Pn**		**11 04 36.1**	**+2.1**
	comp=Z,254nm,0.8s								
KNDC				⇑Lg		Lg		11 06 05.6	
	comp=Z,347nm,0.7s								
MNAS	**Manas**	**6.75**	**333**	⇓Pn		**Pn**		**11 04 35.4**	**0.0**
	comp=Z,44nm,0.5s								
MNAS				⇓Lg		Lg		11 05 48.2	
	comp=Z,414nm,1.0s								
MNAS	**Manas**	**6.75**	**333**	P		**Pn**		**11 04 35.0**	**-0.4**
MNAS				SN		**Sn**		**11 05 50.0**	**-0.8**
PDGK	**Podgornoye**	**7.10**	**17**	⇑Pn		**Pn**		**11 04 41.3**	**+1.2**
	comp=Z,174nm,0.5s								
PDGK				⇑Lg		Lg		11 06 00.9	
	comp=Z,468nm,0.7s								
PDGK	**Podgornoye**	**7.10**	**17**	P		**Pn**		**11 04 41.3**	**+1.2**
PDGK				e				11 06 00.9	
KALG	**Kalgarh**	**7.24**	**166**	eP		Pn		11 04 36.9	-4.9
KALG				eS		Sn		11 05 51.7	-11
PTH	**Pithoragarh**	**7.58**	**156**	eP		**Pn**		**11 04 46.8**	**0.0**
PTH				eS		**Sn**		**11 06 06.8**	**-4.5**
BHGR	**Bahadurgarh**	**7.85**	**178**	eP		**Pn**		**11 04 50.8**	**+0.6**
NDI	**New Delhi**	**7.86**	**177**	eP		**Pn**		**11 04 50.0**	**-0.4**
NDI				ex		**Sn**		**11 06 10.0**	**-7.8**
BISR	**Bishrakh**	**7.98**	**175**	eP		**Pn**		**11 04 51.6**	**-0.5**
AYAN	**Aya Nagar**	**8.06**	**177**	eP		**Pn**		**11 04 53.1**	**0.0**
KK31	**Karatay Array**	**8.09**	**326**	⇓Pn		**Pn**		**11 04 52.9**	**-0.6**
	comp=Z,16nm,0.3s,baz=154,slow=14								
KK31				⇓Lg		Lg		11 06 20.3	
	comp=Z,81nm,0.3s,baz=180,slow=28								
KK31	**Karatay Array**	**8.09**	**326**	P		**Pn**		**11 04 52.0**	**-1.4**
KK31				SN		**Sn**		**11 06 20.0**	**-3.2**
KKAR	**Karatay Array**	**8.09**	**326**	eP		**Pn**		**11 04 52.9**	**-0.5**
KKAR				e				11 06 19.3	
KKAR	**Karatay Array**	**8.09**	**326**	ePn		**Pn**		**11 04 52.9**	**-0.5**
KKAR				eSn		**Sn**		**11 06 19.3**	**-3.9**
SONA	**Sohna**	**8.29**	**178**	eP		**Pn**		**11 04 56.8**	**+0.6**
SONA				eS		**Sn**		**11 06 21.7**	**-6.4**
SONA				IAML				11 06 26.4	
	comp=E,652nm,0.8s								
SONA				IAML				11 06 27.4	
	comp=N,914nm,0.5s								
KHET	**Khetri**	**8.49**	**185**	eP		**Pn**		**11 04 58.2**	**-0.7**
PYUN	**Piuthan**	**9.97**	**146**	eP		**Pn**		**11 05 16.7**	**-2.6**
	comp=N,770nm,0.4s								
PYUN	**Piuthan**	**9.97**	**146**	eP		**Pn**		**11 05 16.8**	**-2.6**
	comp=N,770nm,0.4s								
DANN	**Dangsing**	**10.12**	**142**	eP		**Pn**		**11 05 18.9**	**-2.6**
KOLN	**Koldanda**	**10.53**	**144**	eP		**Pn**		**11 05 24.5**	**-2.4**
	comp=N,466nm,0.6s								
KOLN	**Koldanda**	**10.53**	**144**	eP		**Pn**		**11 05 24.6**	**-2.4**
	comp=N,466nm,0.6s								
JASL	**Jaisalmer**	**10.79**	**209**	ex		**Pn**		**11 05 28.0**	**-2.4**
GKN	**Gorkha**	**10.85**	**140**	eP		**Pn**		**11 05 28.3**	**-3.0**
	comp=N,330nm,0.5s								
GKN	**Gorkha**	**10.85**	**140**	eP		**Pn**		**11 05 28.5**	**-2.8**
MAKZ	**Makanchi**	**10.98**	**19**	⇓Pn		**Pn**		**11 05 32.6**	**-0.2**
	comp=N,30nm,1.1s								
MAKZ				⇓Lg		Lg		11 07 28.6	
	comp=N,62nm,1.2s								
MAKZ	**Makanchi**	**10.98**	**19**	eP		**Pn**		**11 05 32.9**	**+0.1**
MAKZ				e				11 07 30.1	
MAKZ	**Makanchi**	**10.98**	**19**	ePn		**Pn**		**11 05 32.9**	**+0.1**
MAKZ				eSn		**Sn**		**11 07 30.1**	**-3.5**
MK01	**Makanchi Array**	**11.03**	**21**	ePn		**Pn**		**11 05 32.4**	**-1.1**
MK01				eSn		**Sn**		**11 07 31.4**	**-3.5**
MK31	**Makanchi Array**	**11.05**	**20**	⇓Pn		**Pn**		**11 05 33.3**	**-0.5**
	comp=N,4.2nm,0.4s,baz=202,slow=14,SNR=147								
MK31				⇓Lg		Lg		11 07 30.6	
	comp=N,108nm,1.1s,baz=154,slow=14								
MK31	**Makanchi Array**	**11.05**	**20**	eP		**Pn**		**11 05 33.6**	**-0.2**
MK31				e				11 07 30.5	
MK31	**Makanchi Array**	**11.05**	**20**	ePn		**Pn**		**11 05 33.6**	**-0.2**
MK31				eSn		**Sn**		**11 07 30.5**	**-4.9**
MK32	**Makanchi Array**	**11.05**	**20**	ePn		**Pn**		**11 05 33.4**	**-0.3**
MK32				eSn		**Sn**		**11 07 30.3**	**-5.1**
MKAR	**Makanchi Array**	**11.05**	**20**	P		**Pn**		**11 05 33.4**	**-0.4**
	comp=N,5.5nm,0.3s,baz=202,slow=13,SNR=124								
MKAR				S		**Sn**		**11 07 30.3**	**-5.1**
	comp=N,2.4nm,0.3s,baz=198,slow=23,SNR=9.7								
MKAR				LR		LR		11 09 20.2	
	comp=N,42nm,20.3s,baz=232,slow=34								
MKAR	**Makanchi Array**	**11.05**	**20**	eP		**Pn**		**11 05 33.6**	**-0.2**
MKAR				e				11 07 32.4	
MKAR	**Makanchi Array**	**11.05**	**20**	ePn		**Pn**		**11 05 33.6**	**-0.2**
MKAR				eSn		**Sn**		**11 07 32.4**	**-3.0**
WMQ	**Urumqi**	**11.11**	**46**	P		**Pn**		**11 05 33.3**	**-1.3**
WMQ				PP				11 05 47.3	
WMQ				sP				11 06 05.0	
WMQ				S		**Sn**		**11 07 35.8**	**-1.0**
WMQ				pmax		pmax			
	comp=N,49nm,0.9s								
WMQ				pmax		pmax			
	comp=N,150nm,4.1s								
WMQ				LR		LR			
	comp=N,300nm,5.9s								
WMQ				LR		LR			
	comp=N,250nm,6.5s								
WMQ				LR		LR			
	comp=N,100nm,20.5s								
JHNI	**Jhansi**	**11.16**	**171**	ex		Pn		11 05 29.0	-6.5
JHNI				ex		Sn		11 07 27.0	-11
KKN	**Kakani**	**11.36**	**138**	eP		**Pn**		**11 05 35.3**	**-3.0**
	comp=N,183nm,0.6s								
KKN	**Kakani**	**11.36**	**138**	eP		**Pn**		**11 05 35.4**	**-2.9**
	comp=N,183nm,0.6s								
DMN	**Daman**	**11.41**	**139**	eP		**Pn**		**11 05 35.9**	**-3.1**
	comp=N,179nm,0.5s								
DMN	**Daman**	**11.41**	**139**	eP		**Pn**		**11 05 36.0**	**-3.1**
	comp=N,179nm,0.5s								
PKIN	**Phulchoki**	**11.59**	**138**	eP		**Pn**		**11 05 38.5**	**-2.9**
	comp=N,137nm,0.6s								
PKIN	**Phulchoki**	**11.59**	**138**	eP		**Pn**		**11 05 38.6**	**-2.9**
	comp=N,156nm,0.5s								
GUN	**Gumba**	**11.60**	**135**	eP		**Pn**		**11 05 38.3**	**-3.4**
	comp=N,96nm,0.5s								
GUN	**Gumba**	**11.60**	**135**	eP		**Pn**		**11 05 38.5**	**-3.2**
	comp=N,96nm,0.5s								
PKI	**Pulchoki**	**11.61**	**138**	eP		**Pn**		**11 05 38.2**	**-3.5**
	comp=N,105nm,0.4s								
PKI	**Pulchoki**	**11.61**	**138**	eP		**Pn**		**11 05 38.3**	**-3.5**
	comp=N,105nm,0.4s								
JIRN	**Jiri**	**11.97**	**135**	eP		**Pn**		**11 05 43.2**	**-3.4**
	comp=N,461nm,0.5s								
JIRN	**Jiri**	**11.97**	**135**	eP		**Pn**		**11 05 43.7**	**-2.9**
	comp=N,461nm,0.5s								
RAMN	**Ramite**	**12.75**	**136**	eP		**Pn**		**11 05 52.5**	**-4.5**
	comp=N,254nm,0.8s								
RAMN	**Ramite**	**12.75**	**136**	eP		**Pn**		**11 05 52.8**	**-4.2**
	comp=N,254nm,0.8s								
TAPN	**Taplejung**	**13.09**	**131**	eP		Pn		11 05 56.9	-4.8
	comp=N,200nm,0.6s								
TAPN	**Taplejung**	**13.09**	**131**	eP		**Pn**		**11 05 57.5**	**-4.2**
	comp=N,200nm,0.6s								
ODAN	**Odare**	**13.27**	**134**	eP		**Pn**		**11 05 59.4**	**-4.5**
	comp=N,110nm,0.5s								
ODAN	**Odare**	**13.27**	**134**	eP		**Pn**		**11 05 59.7**	**-4.2**
	comp=N,110nm,0.5s								
BHPL	**Bhopal**	**13.28**	**177**	eP		**Pn**		**11 06 03.4**	**-0.5**
BHPL				ex		x		11 06 04.7	
BHPL				AML		AML		11 08 22.5	
	comp=E,132nm,0.5s								
BHPL				AML		AML		11 08 22.7	
	comp=N,105nm,0.4s								
JBP	**Jabalpur**	**13.64**	**167**	⇑eP		**Pn**		**11 06 09.6**	**+1.0**
JBP				ex		x		11 08 22.3	
KURBB	**Kurchatov Arra**	**14.13**	**5**	P		**Pn**		**11 06 13.2**	**-1.5**
	comp=N,0.3nm,0.3s,baz=196,slow=12,SNR=53								
KURK	**Kurchatov**	**14.22**	**5**	eP		**Pn**		**11 06 14.2**	**-1.8**
KURK				e				11 08 49.0	
KURK	**Kurchatov**	**14.22**	**5**	ePn		**Pn**		**11 06 14.2**	**-1.8**
KURK				eSn		**Sn**		**11 08 49.0**	**-3.3**
GEYT	**Alibeck**	**14.87**	**281**	P		**Pn**		**11 06 25.2**	**+0.9**
	comp=N,3.0nm,0.3s,baz=112,slow=12,SNR=14								
GEYT				S		Sn		11 08 55.0	-13
	comp=N,4.4nm,0.3s,baz=270,slow=25,SNR=5.7								
GEYT				LR		LR		11 13 13.5	
	comp=N,114nm,19.7s,baz=60,slow=41								
NGP	**Nagpur**	**15.48**	**172**	ex		**Pn**		**11 06 28.7**	**-3.6**
NGP				IAmb		IAmb		11 06 31.3	
	comp=Z,168nm,0.8s								
NGP				ex		x		11 09 07.8	
SHL	**Shillong**	**16.98**	**126**	eP		**Pn**		**11 06 51.0**	**-0.1**
BVAR	**Borovoye Array**	**17.05**	**347**	P		**Pn**		**11 06 51.0**	**-0.6**
	comp=Z,2.2nm,0.3s,baz=156,slow=11,SNR=59								
BRVK	**Borovoye**	**17.11**	**347**	eP		**P**		**11 06 52.8**	**+0.2**
BRVK				e				11 10 04.2	
BRVK				pmax		pmax			
	comp=Z,39nm,0.8s								
BRVK	**Borovoye**	**17.11**	**347**	ePn		**P**		**11 06 52.8**	**+0.2**
	comp=Z,38nm,0.8s								
BRVK				eSn		**S**		**11 10 04.2**	**-2.0**
ABKAR	**Akbulak array**	**17.61**	**321**	eP		**P**		**11 06 56.4**	**-1.8**
	comp=Z,180nm,0.6s								
SRSP	**Sriramsagar**	**17.62**	**175**	eP		**P**		**11 06 54.3**	**-4.3**
SRSP				IAmb		IAmb		11 07 00.1	
	comp=Z,50nm,0.7s								
SRSP				eS		Sn		11 09 59.7	-15
RPR	**Rampur**	**17.78**	**172**	eP		**P**		**11 06 57.0**	**-3.3**
RPR				IAmb		IAmb		11 07 01.1	
	comp=Z,39nm,0.7s								
RPR				eS		Sn		11 10 06.7	-12
POO	**Poona**	**18.13**	**189**	ex		**P**		**11 07 04.7**	**+0.5**
POO				ex		x		11 10 13.2	
ZAA0	**Zalesovo Array**	**18.29**	**15**	eP		**P**		**11 07 05.0**	**-0.6**
ZALV	**Zalesovo Beam**	**18.29**	**15**	P		**P**		**11 07 04.6**	**-1.0**
	comp=Z,2.3nm,0.3s,baz=206,slow=11,SNR=25								
ZALV				S		**S**		**11 10 25.2**	**-4.4**
	baz=221,slow=9.7,SNR=2.3								
ZALV	**Zalesovo Beam**	**18.29**	**15**	eP		**P**		**11 07 04.5**	**-1.2**
ZAA1	**Zalesovo Array**	**18.29**	**15**	eP		**P**		**11 07 04.6**	**-1.1**
ZAA1				eS		**S**		**11 10 25.2**	**-4.5**
KLRI	**Killari**	**18.41**	**180**	eP		**P**		**11 07 06.8**	**-0.5**
KLRI				IAmb		IAmb		11 07 11.3	
	comp=Z,67nm,0.6s								
KLRI				eS		S		11 10 17.6	-15
GTA	**Gaotai**	**18.44**	**74**	eP		**Pn**		**11 07 09.5**	**+0.9**
GTA				pP		sP		11 07 29.8	-5.3
GTA				sP		pP		11 07 44.3	+20
GTA				S		**Sn**		**11 10 34.8**	**+0.4**
GTA				pmax		pmax			
	comp=Z,59nm,4.2s								
NVS	**Novosibirsk**	**18.84**	**12**	⇓*i*P		**Pn**		**11 07 12.6**	**-0.4**
NVS				*i* S		**S**		**11 10 34.6**	**-6.3**
NVS				pmax		pmax			
	comp=Z,20nm,0.8s								
NVS				pmax		pmax			
	comp=N,18nm,0.9s								
NVS				pmax		pmax			
	comp=E,10.0nm,0.9s								
NVS				smax		smax			
	comp=N,29nm,1.7s								
NVS				smax		smax			
	comp=E,32nm,1.5s								
CHLP	**Challavanipeta**	**19.11**	**158**	eP		**Pn**		**11 07 16.1**	**-0.6**
CHLP				IAmb		IAmb		11 07 18.1	
	comp=Z,51nm,1.4s								
CHLP				eS		S		11 10 34.1	-13
HYBB	**Hyderabad (bro**	**19.13**	**175**	eP		**Pn**		**11 07 17.0**	**+0.1**
HYBB				IAmb		IAmb		11 07 18.1	
	comp=Z,71nm,0.6s								
HYBB				eS		S		11 10 36.5	-11
HYB	**Hyderabad**	**19.13**	**175**	*i* P		**Pn**		**11 07 17.0**	**+0.1**
HYB				eS		**S**		**11 10 48.0**	**+0.3**
AKTO	**Aktyubinsk**	**19.32**	**322**	P		**P**		**11 07 17.6**	**+0.6**
	comp=Z,6.1nm,0.3s,baz=117,slow=11,SNR=86								
AKTO				LR		LR		11 14 45.7	
	comp=Z,91nm,20.5s,baz=131,slow=36								
PVM	**Polavaram**	**19.72**	**166**	eP		**P**		**11 07 22.3**	**+0.8**
PVM				IAmb		IAmb		11 07 25.9	
	comp=Z,27nm,0.7s								
PVM				eS		**S**		**11 10 50.0**	**-9.3**
NJS	**Nagarjunasagar**	**20.05**	**173**	eP		**P**		**11 07 26.2**	**+1.1**
NJS				IAmb		IAmb		11 07 28.8	
	comp=Z,40nm,0.6s								
NJS				eS		**S**		**11 10 56.7**	**-9.2**
SRLM	**Srisailam**	**20.46**	**174**	eP		**P**		**11 07 29.5**	**-0.1**
SRLM				IAmb		IAmb		11 07 34.2	
	comp=Z,62nm,0.6s								
SRLM				eS		**S**		**11 11 06.9**	**-7.1**
WSAR	**Wadi Sarin**	**20.48**	**235**	P		Pn		11 07 32.2	-0.4
	comp=Z,8.5nm,0.6s,baz=94,slow=6.7,SNR=9.9								
WSAR				S		S		11 11 03.2	-11
	comp=Z,2.3nm,0.4s,baz=310,slow=16,SNR=7.2								
UOSS	**Minazif**	**21.02**	**242**	eP		**P**		**11 07 35.5**	**-0.1**
	comp=Z,21nm,1.3s								
URV	**Uravakonda**	**21.52**	**179**	eP		**P**		**11 07 40.7**	**-0.2**
URV				IAmb		IAmb		11 07 45.7	
	comp=Z,36nm,0.9s								
URV				eS		**S**		**11 11 29.2**	**-5.7**
LZH	**Lanzhou**	**21.86**	**83**	eP		**P**		**11 07 46.3**	**+1.7**
LZH				pP		pP		11 08 04.5	+2.7
LZH				sP		sP		11 08 15.8	+3.3
LZH				eS		**S**		**11 11 37.3**	**-4.0**
LZH				PcP		**PcP**		**11 11 43.5**	**+2.5**
LZH				sS		sS		11 12 10.3	+0.4
LZH				SS		**SnSn**		**11 12 22.3**	**+8.8**
LZH				pmax		pmax			
	comp=Z,32nm,1.3s								
LZH				pmax		pmax			
	comp=Z,95nm,4.6s								
SKHT	**Srikalahasti**	**22.88**	**172**	eP		**P**		**11 07 55.5**	**+0.3**
SKHT				IAmb		IAmb		11 07 57.8	
	comp=Z,24nm,0.9s								
SVE	**Sverdlovsk**	**22.97**	**337**	eP		**P**		**11 07 56.2**	**+0.4**
CD2	**Chengdu**	**23.16**	**96**	eP		**P**		**11 07 57.5**	**-0.5**
ARU	**Arti**	**23.34**	**334**	P		**P**		**11 07 59.7**	**+0.4**
	comp=Z,13nm,0.4s,baz=128,slow=5.4,SNR=24								
ARU				LR		LR		11 18 38.6	
	comp=Z,55nm,18.4s,baz=164,slow=40								
ARU	**Arti**	**23.34**	**334**	*c i*P		**P**		**11 07 59.5**	**+0.2**
ARU								11 08 35.4	
ARU				S		**S**		**11 12 05.7**	**+0.6**
ARU				SS		**SnSn**		**11 12 48.3**	**-0.8**
ARU				pmax		pmax			
	comp=Z,19nm,0.8s								
ARU	**Arti**	**23.34**	**334**	eP		**P**		**11 07 59.6**	**+0.3**
	comp=Z,104nm,1.0s								
SEKA	**Sheki**	**23.37**	**291**	P		**P**		**11 08 01.4**	**+1.6**
ZAK	**Zakamensk**	**23.58**	**46**	eP		**P**		**11 08 02.1**	**+0.5**
ZAK				e				11 08 24.2	
ZAK				pmax		pmax			
	comp=Z,13nm,0.9s								
ZKTA	**Zakatala**	**23.82**	**292**	P		**P**		**11 08 05.1**	**+1.3**
GANJ	**Ganja**	**24.02**	**289**	P		**P**		**11 08 07.4**	**+1.7**
TLY	**Talaya**	**24.37**	**43**	P		**P**		**11 08 10.8**	**+2.1**
	comp=Z,4.6nm,0.6s,baz=234,slow=7.7,SNR=4.0								
SONA0	**Songino Array**	**24.57**	**53**	eP		**P**		**11 08 12.4**	**+1.8**
	comp=Z,34nm,0.8s								
SONM	**Songino Array**	**24.57**	**53**	P		**P**		**11 08 12.4**	**+1.8**
	comp=Z,31nm,0.8s,baz=252,slow=9.3,SNR=69								
SONM				LR		LR		11 19 06.7	
	comp=Z,63nm,20.6s,baz=256,slow=39								
SONA1	**Songino Array**	**24.58**	**53**	eP		**P**		**11 08 12.3**	**+1.5**
DGRG	**David-gareji**	**24.75**	**291**	P		**P**		**11 08 15.1**	**+2.8**
DGRG	**David-gareji**	**24.75**	**291**	eP		**P**		**11 08 15.1**	**+2.8**
ULN	**Ulaanbaatar**	**25.01**	**54**	eP		**P**		**11 08 16.0**	**+1.3**
ULN				pmax		pmax			
	comp=Z,24nm,0.8s								
ULN	**Ulaanbaatar**	**25.01**	**54**	eP		**P**		**11 08 16.0**	**+1.3**
	comp=Z,24nm,0.8s								
KMI	**Kunming**	**25.02**	**110**	P		**P**		**11 08 17.0**	**+1.9**
KMI				sP		sP		11 08 48.0	+3.4
KMI				pmax		pmax			
	comp=Z,21nm,0.5s								

NRIK Noril'sk 33.38 7 P P 11 09 29.1 +0.6
comp=Z,8.5nm,0.4s,baz=190,slow=6.3,SNR=12
NRIK LR LR 11 24 48.3
comp=Z,44nm,20.3s,baz=347,slow=39
ILGA Ilgaz 33.54 291 *eP* **P 11 09 31.7 +1.1**
comp=Z,17nm,0.9s
BR101 Keskin Array S 33.77 289 *eP* **P 11 09 33.9 +1.4**
BR131 Keskin Array S 33.77 289 *eP* **P 11 09 34.0 +1.6**
BRTR Keskin Array B 33.77 289 P P 11 09 33.9 +1.4
comp=Z,5.5nm,0.6s,baz=108,slow=8.9,SNR=21
BRTR Keskin Array B 33.77 289 P P 11 09 33.9 +1.4
BRTR pmax pmax
comp=Z,5.0nm,0.6s
KLMR Klimovskoe 33.78 328 *eP* **P 11 09 29.3 -2.8**
KLMR *e* 11 10 45.2
KLMR *e* 11 12 07.7
QIZ Qiongzhong 33.90 112 P P 11 09 35.5 +1.9
QIZ S S **11 14 55.5 +3.5**
MMAI Mount Meron Ar 33.91 276 P P 11 09 35.9 +2.3
comp=Z,1.0nm,0.4s,baz=67,slow=16,SNR=3.0
BR231 Keskin MP Arra 34.41 289 *eP* **P 11 09 34.6 -3.4**
NJ2 Nanjing 34.91 85 *eP* **P 11 09 44.0 +1.8**
NJ2 pmax pmax
comp=Z,9.0nm,0.5s
AKASG Malin Array Be 36.51 308 P P 11 09 55.8 +0.2
comp=Z,5.7nm,0.5s,baz=80,slow=6.7,SNR=16
AKASG PcP **PcP 11 12 17.0 -0.5**
comp=Z,3.5nm,0.6s,baz=81,slow=3.4,SNR=7.7
AKASG LR LR 11 26 11.1
comp=Z,25nm,19.4s,baz=105,slow=38
AKASG Malin Array Be 36.51 308 P P 11 09 55.8 +0.2
AKASG 11 12 17.0
AKASG pmax pmax
comp=Z,3.0nm,0.4s
AKASG MLR MLR
comp=Z,25nm,19.4s
AKBB Malin Array Si 36.51 308 *eP* **P 11 09 55.8 +0.2**
AKBB pmax pmax
comp=Z,15nm,0.8s
AKBB Malin Array Si 36.51 308 *eP* **P 11 09 55.8 +0.2**
comp=Z,15nm,0.8s
KIEV Kiev 36.52 308 *eP* **P 11 09 55.8 +0.1**
KIEV pmax pmax
comp=Z,14nm,0.7s
KIEV Kiev 36.52 308 *eP* **P 11 09 55.8 +0.1**
comp=Z,14nm,0.7s
CFR Carcaliu 37.24 299⇓ *iP* **P 11 10 02.8 +0.9**
CFR Carcaliu 37.24 299⇓ *iP* **P 11 10 02.8 +0.9**
TLB Topalu 37.35 298⇑ *iP* **P 11 10 04.0 +1.2**
TLB Topalu 37.35 298⇑ *iP* **P 11 10 04.0 +1.2**
CN2 Changchun 37.50 63 *eP* **P 11 10 05.5 +1.4**
CN2 pmax pmax
comp=Z,10.0nm,0.6s
AKAS Kas 37.61 284 *eP* **P 11 10 05.6 +0.3**
comp=Z,21nm,0.7s
VRI Vrincioaia 38.18 300⇓ *iP* **P 11 10 12.2 +2.4**
VRI Vrincioaia 38.18 300⇓ *iP* **P 11 10 12.2 +2.4**
JOF Joensuu 38.18 328 P P 11 10 10.4 +0.8
JOF pmax pmax
comp=Z,90nm,1.0s
TESR Tescani 38.19 301⇑ *iP* **P 11 10 11.1 +1.2**
PLOR Plostina 38.23 300⇑ *iP* **P 11 10 12.3 +2.0**
PLOR Plostina 38.23 300⇑ *iP* **P 11 10 12.3 +2.0**
NACGM Naroch 38.41 315 *e* **P 11 10 12.0 +0.4**
MLR Muntele Rosu 38.75 300 P P 11 10 17.1 +2.3
comp=Z,8.6nm,0.7s,baz=5.3,slow=2.0,SNR=50
MLR Muntele Rosu 38.75 300⇑ *iP* **P 11 10 17.1 +2.3**
MLR Muntele Rosu 38.75 300 P P 11 10 17.1 +2.3
MLR pmax pmax
comp=Z,33nm,0.7s
MLR Muntele Rosu 38.75 300 *eP* **P 11 10 17.1 +2.3**
comp=Z,32nm,0.7s
VSU Vasula 39.04 320*ceP* **P 11 10 17.1 +0.3**
VSU pmax pmax
comp=Z,83nm,0.7s
DOPR Dopca 39.10 300⇓ *iP* **P 11 10 19.8 +2.2**
BURAR Bucovina Array 39.11 303⇑ *iP* **P 11 10 18.6 +0.9**
BURAR Bucovina Array 39.11 303⇑ *iP* **P 11 10 18.6 +0.9**
BUR08 Bucovina Ar. S 39.12 303 *eP* **P 11 10 18.7 +0.9**
LVZ Lovozero 39.18 336*dP* **P 11 10 18.5 +0.6**
LVZ pmax pmax
comp=Z,32nm,0.9s
VOIR 39.39 300⇓ *iP* **P 11 10 21.5 +1.5**
VOIR 39.39 300⇓ *iP* **P 11 10 21.6 +1.5**
ARR Arges 39.69 299⇑ *iP* **P 11 10 24.3 +1.8**
KARP Karpathos 39.70 284 *eP* **P 11 10 23.6 +0.9**
comp=Z,61nm,0.9s
FIA1 FINESS Array S 40.05 325 *eP* **P 11 10 25.9 +0.8**
FIA0 FINESS Array S 40.05 325 *eP* **P 11 10 25.8 +0.7**
FIA0 FINESS Array S 40.05 325 *eP* **P 11 10 25.8 +0.7**
FINES FINESS Array B 40.05 325 P P 11 10 25.8 +0.7
comp=Z,56nm,0.5s,baz=111,slow=9.0,SNR=329
LOT Lotru 40.28 300⇑ *iP* **P 11 10 28.7 +1.2**
SUF Sumiainen 40.35 327 P P 11 10 28.9 +1.3
SUF pmax pmax
comp=Z,40nm,0.9s
MDJ Mudanjiang 40.36 62 P P 11 10 28.5 +0.5
MDJ pmax pmax
comp=Z,13nm,1.1s
MDJ pmax pmax
comp=Z,20nm,2.7s
KS01 Wonju Array Si 40.48 73 *eP* **P 11 10 29.5 +0.5**
KSRS Korea Array 40.50 73 P P 11 10 29.9 +0.8
comp=Z,3.1nm,0.8s,baz=274,slow=7.7,SNR=13
KSRS Korea Array 40.50 73 P P 11 10 30.0 +0.8
KSRS pmax pmax
comp=Z,3.0nm,0.9s
DRGR 40.87 302⇑ *iP* **P 11 10 33.8 +1.5**
DRGR 40.87 302 P P 11 10 33.7 +1.5
DRGR pmax pmax
comp=Z,39nm,0.8s
GZR Gura Zlata 40.98 300⇓ *iP* **P 11 10 34.4 +1.2**
UZH Uzhgorod 41.01 305*cP* **P 11 10 33.8 +0.6**
UZH *e* 11 10 57.8
VTS Vitosha 41.09 295⇓ *iP* **P 11 10 35.7 +1.5**
VTS Vitosha 41.09 295⇓ *iP* **P 11 10 35.7 +1.5**
YAK Yakutsk 41.28 35 P P 11 10 35.6 +0.3
comp=Z,23nm,0.4s,baz=295,slow=2.2,SNR=9.7
YAK Yakutsk 41.28 35 *eP* **P 11 10 34.2 -1.1**
YAK pmax pmax
comp=Z,20nm,0.8s
YAK pmax pmax
comp=N,6.0nm,1.0s
YAK Yakutsk 41.28 35 *eP* **P 11 10 35.5 +0.3**
comp=N,40nm,0.6s
IDI Anoyia 41.55 284 P P 11 10 36.9 -1.1
comp=N,14nm,0.9s,baz=109,slow=16,SNR=3.4
IDI Anoyia 41.55 284 *eP* **P 11 10 37.1 -0.9**
comp=N,192nm,1.9s
STHS Stebnicka Huta 41.64 306 *eP* **P 11 10 39.0 +0.5**
STHS pmax pmax
comp=Z,7.0nm,0.6s
STHS Stebnicka Huta 41.64 306 *eP* **P 11 10 39.0 +0.5**
SIRR Siria 41.65 301⇑ *iP* **P 11 10 40.7 +2.1**
BZS Buzias 41.76 300⇑ *iP* **P 11 10 40.8 +1.3**
BZS Buzias 41.76 300⇑ *iP* **P 11 10 40.8 +1.3**
MDVR Moldovita 41.81 299⇑ *iP* **P 11 10 41.3 +1.4**
VAF Ylistaro 41.98 327 P P 11 10 42.0 +1.1
VAF pmax pmax
comp=Z,63nm,0.9s
USRK Ussuriysk Ar. 42.12 62 P P 11 10 42.9 +0.5
comp=Z,1.8nm,0.5s,baz=261,slow=8.2,SNR=3.9
KECS Kecovo 42.21 305 *eP* **P 11 10 43.6 +0.5**
KECS pmax pmax
comp=Z,3.0nm,0.6s
KECS Kecovo 42.21 305 *eP* **P 11 10 43.6 +0.5**
NIE Niedzica 42.26 306 *eP* **P 11 10 45.2 +1.7**
NIE Niedzica 42.26 306 *eP* **P 11 10 45.2 +1.7**
KEV Kevo 42.50 337 *eP* **P 11 10 45.9 +0.7**
OJC Ojcow 42.53 307 *eP* **P 11 10 46.0 +0.4**
OJC Ojcow 42.53 307 *eP* **P 11 10 46.5 +0.8**
OJC pmax pmax
comp=Z,22nm,0.5s
OJC Ojcow 42.53 307 *eP* **P 11 10 46.5 +0.8**
comp=Z,22nm,0.5s
LANS Liptovska Anna 42.82 306 *eP* **P 11 10 49.4 +1.3**
LANS Liptovska Anna 42.82 306 *eP* **P 11 10 49.4 +1.3**
HEF Hetta 43.11 334 *eP* **P 11 10 50.6 +0.5**
KTK1 Kautokeino 43.46 335 *eP* **P 11 10 53.5 +0.6**
KTK1 IAmb IAmb 11 10 53.8
comp=Z,18nm,0.6s
HAMF Hammerfest 43.90 337 *eP* **P 11 10 57.4 +1.1**
PDG Podgorica 43.99 296⇑ *iP* **P 11 10 57.7 +0.2**

MORC Moravsky Berou 44.02 307⇑ *iP* **P 11 10 58.6 +0.9**
MORC Moravsky Berou 44.02 307⇑P P 11 10 58.6 +0.9
MORC Moravsky Berou 44.02 307 *eP* **P 11 10 58.6 +0.9**
comp=Z,32nm,0.6s
TIXI Tiksi 44.04 21 P P **11 10 57.9 +0.5**
comp=Z,11nm,0.6s,baz=252,slow=4.8,SNR=10.0
TIXI Tiksi 44.04 21*ceP* **P 11 10 57.5 +0.1**
TIXI pmax pmax
comp=Z,10.0nm,0.7s
TIXI MLR MLR
comp=Z,86nm,20.0s
JNU Nakatsue 44.12 78 P P **11 10 59.7 +1.0**
comp=Z,7.6nm,0.6s,baz=313,slow=2.0,SNR=8.1
JNU Nakatsue 44.12 78 *eP* **P 11 11 00.2 +1.6**
comp=Z,9.6nm,0.7s
KIF Kilpisjarvi 44.29 335 *eP* **P 11 10 59.9 +0.5**
VRAC Vranov 44.68 306 P P **11 11 03.7 +0.8**
comp=Z,8.0nm,0.8s,baz=78,slow=7.4,SNR=10
KSP Ksiaz 44.71 308 *eP* **P 11 11 04.0 +0.9**
KSP Ksiaz 44.71 308 *eP* **P 11 11 04.0 +0.9**
DPC Dobruska-Polom 44.74 308 *eP* **P 11 11 04.8 +1.4**
DPC *ex* x 11 11 29.2
DPC Dobruska-Polom 44.74 308 *eP* **P 11 11 04.8 +1.4**
DPC *e* 11 11 29.2
UPC Upice 44.92 308 *eP* **P 11 11 06.1 +1.3**
UPC Upice 44.92 308 *eP* **P 11 11 06.1 +1.3**
STON Ston 45.02 297 P P **11 11 05.9 +0.3**
CONA Conrad Observa 45.35 304 *iP* **P 11 11 09.6 +1.3**
comp=Z,15nm,0.6s,SNR=9.4
ARSA Arzberg 45.69 303 *iP* **P 11 11 12.0 +1.1**
comp=Z,7.5nm,0.8s
GOLS Golise 45.84 302 *iP* **P 11 11 13.3 +1.1**
GROS Grobnik 45.84 302 *iP* **P 11 11 12.9 +0.8**
HFS Hagfors 45.87 322 P P **11 11 12.6 +0.5**
comp=Z,27nm,0.7s,baz=98,slow=10,SNR=33
PRU Pruhonice 45.92 307 *eP* **P 11 11 13.8 +1.1**
PRU Pruhonice 45.92 307 *eP* **P 11 11 13.8 +1.1**
OZLJ Ozalj 46.02 301 P P **11 11 14.7 +1.2**
MOR8 Moi Rana 46.04 330 *eP* **P 11 11 13.4 0.0**
MOR8 IAmb IAmb 11 11 13.7
comp=Z,44nm,0.7s
PERS Pernice 46.07 303 *iP* **P 11 11 15.1 +1.1**
SOKA Soboth 46.12 303 *iP* **P 11 11 15.6 +1.2**
comp=Z,20nm,0.5s,SNR=9.3
BRG Berggiesshubel 46.18 309 *iP* **P 11 11 15.8 +1.1**
comp=Z,14nm,0.5s
BRG *e* 11 11 50.7
comp=Z,25nm,1.6s
BRG Berggiesshubel 46.18 309 *iP* **P 11 11 15.8 +1.1**
BRG *e* 11 11 50.7
BRG pmax pmax
comp=Z,14nm,0.5s
PDKS Podkum 46.26 302 *iP* **P 11 11 16.6 +1.2**
MOA Molln 46.42 304 *iP* **P 11 11 17.3 +0.6**
comp=Z,12nm,0.8s
OBKA Obir 46.48 303 *iP* **P 11 11 19.2 +1.9**
comp=Z,12nm,0.6s
LJU Ljubljana 46.58 302 *iP* **P 11 11 19.4 +1.4**
KONS Konsvik 46.61 330 *eP* **P 11 11 18.9 +1.0**
GEC2 GERESS Array S 46.63 306 *eP* **P 11 11 19.7 +1.3**
GEC2 pmax pmax
comp=Z,9.0nm,1.0s
GEC2 GERESS Array S 46.63 306 *eP* **P 11 11 19.7 +1.3**
comp=Z,8.8nm,1.0s
GERES GERESS Array B 46.63 306 P P 11 11 19.4 +1.0
comp=Z,2.2nm,0.4s,baz=69,slow=7.3,SNR=26
GERES LR LR 11 32 00.6
comp=Z,45nm,18.6s,baz=74,slow=37
GEA0 GERESS Array S 46.63 306 *eP* **P 11 11 19.1 +0.8**
NVLJ Novalja 46.65 300 P P **11 11 18.6 +0.2**
KHC Kasperske Hory 46.66 306 *eP* **P 11 11 19.8 +1.2**
KHC *ex* x 11 11 43.8
KHC Kasperske Hory 46.66 306 *eP* **P 11 11 19.8 +1.2**
KHC *e* 11 11 43.8
CLL Collm 46.72 309 *eP* **P 11 11 19.1 +0.2**
CLL pmax pmax
comp=Z,8.0nm,0.7s
CLL Collm 46.72 309 *eP* **P 11 11 19.0 +0.2**
comp=Z,12nm,1.1s
CLL *e* 11 11 44.0
CLL Collm 46.72 309 *eP* **P 11 11 19.1 +0.2**
comp=Z,7.6nm,0.7s
NC405 NORSAR Array S 46.86 323 *eP* **P 11 11 20.4 +0.5**
NC303 NORSAR Array S 47.03 323 *eP* **P 11 11 21.8 +0.6**
MYKA Terra Mystica 47.07 303 *iP* **P 11 11 22.7 +0.9**
comp=Z,3.9nm,0.5s
NB201 NORSAR Array S 47.07 323 *eP* **P 11 11 21.7 +0.1**
NB2 NORSAR Subarra 47.10 323 P **P 11 11 21.8 -0.1**
baz=92,slow=7.9
NB2 NORSAR Subarra 47.10 323 P **P 11 11 21.8 -0.1**
comp=Z,11nm,0.5s,baz=92,slow=7.9
NB200 NORSAR Array S 47.10 323 *eP* **P 11 11 22.1 +0.3**
NOA NORSAR Array B 47.10 323 P **P 11 11 22.1 +0.3**
comp=Z,16nm,0.7s,baz=91,slow=7.6,SNR=48
NOA LR LR 11 33 11.8
comp=Z,26nm,18.6s,baz=100,slow=38
CUC Castrococco 47.11 294 *eP* **P 11 11 23.1 +0.9**
comp=Z,31nm,0.7s
TRI Trieste 47.17 302 *eP* **P 11 11 23.3 +0.8**
TRI pmax pmax
comp=Z,43nm,1.2s
TRI Trieste 47.17 302 *eP* **P 11 11 23.3 +0.8**
comp=Z,43nm,1.2s
KBA Koelnbreinsper 47.18 304 *iP* **P 11 11 23.5 +0.7**
comp=Z,4.6nm,0.4s
NAO01 NORSAR Array S 47.27 323 *eP* **P 11 11 23.2 +0.2**
NBO00 NORSAR Array S 47.32 323 *eP* **P 11 11 23.7 +0.2**
NC204 NORSAR Array S 47.33 323 *eP* **P 11 11 23.5 -0.1**
ABTA Abfaltersbach 47.80 303 *iP* **P 11 11 26.9 -0.7**
comp=Z,6.2nm,0.5s
WTTA Wattenberg 48.28 304 *iP* **P 11 11 31.2 -0.2**
comp=Z,4.1nm,0.6s
WATA Walderalm 48.31 304 *iP* **P 11 11 31.5 0.0**
comp=Z,4.9nm,0.5s
SPA0 Spitsbergen Ar 48.51 346 *eP* **P 11 11 33.8 +1.3**
SPA0 IAmb IAmb 11 11 34.3
comp=Z,32nm,1.4s
MOTA Moosalm 48.62 304 *iP* **P 11 11 34.0 +0.1**
comp=Z,13nm,0.9s
MJB9 Matsu-Tunnel 48.63 71 *eP* **P 11 11 34.2 +0.2**
comp=Z,2.8nm,0.7s
MAJO Matsushiro 48.64 71 *eP* **P 11 11 34.2 +0.2**
MAJO pmax pmax
comp=Z,11nm,0.7s
MAJO Matsushiro 48.64 71 *eP* **P 11 11 34.1 +0.2**
comp=Z,11nm,0.7s
MAT Matsushiro 48.64 71 P **P 11 11 33.9 -0.1**
MJAR Matsushiro Arr 48.64 71 P **P 11 11 34.5 +0.5**
comp=Z,8.9nm,0.7s,baz=288,slow=9.4,SNR=18
RETA Reutte 48.82 305 *iP* **P 11 11 35.8 +0.5**
comp=Z,5.5nm,0.5s
FETA Feichten 48.94 304 *iP* **P 11 11 36.2 -0.1**
comp=Z,8.3nm,0.5s,SNR=6.8
YSS Yuzh-Sakhalins 49.02 56⇓ *eP* **P 11 11 37.2 +0.5**
YSS pmax pmax
comp=Z,20nm,1.0s
FUORN Ofenpass-Fuorn 49.34 304 *eP* **P 11 11 39.9 +0.4**
comp=Z,12nm,0.6s
DAVA Damuels 49.45 305 *iP* **P 11 11 40.6 +0.4**
comp=Z,38nm,0.7s,SNR=14
DAVOX Davos/Dischmat 49.56 304 P **P 11 11 41.3 +0.2**
comp=Z,28nm,0.4s,baz=107,slow=4.0,SNR=40
VLC Villacollemand 49.87 300 *eP* **P 11 11 44.1 +0.8**
comp=Z,24nm,0.6s
TUE Stuetta 49.99 304 *eP* **P 11 11 44.1 -0.4**
comp=Z,9.3nm,0.7s
BFO Black Forest 50.23 306 *iP* **P 11 11 46.9 +1.0**
LANF Langenberg 50.42 307 *eP* **P 11 11 48.5 +1.1**
CDF Champ du Feu 50.89 307 *eP* **P 11 11 50.9 -0.1**
CDF pmax pmax
comp=Z,3.0nm,0.6s
ECH Echery 51.02 306 *eP* **P 11 11 52.5 +0.6**
MOF Molkenrain 51.12 306 *eP* **P 11 11 53.0 +0.3**
SENIN Lac Senin/Sane 51.39 304 *eP* **P 11 11 55.1 +0.2**
comp=Z,12nm,0.8s
LOMF Lomont 51.45 305 *eP* **P 11 11 55.1 -0.1**
THEF They Montfort 51.77 307 *eP* **P 11 11 57.9 +0.4**
SEY Seymchan 51.80 34*ceP* **P 11 11 59.2 +1.7**
SBF Sospel 52.00 301 *eP* **P 11 11 59.6 +0.3**
SBF pmax pmax
comp=Z,33nm,0.7s
LPL La Plagne 52.00 303 *eP* **P 11 11 59.9 +0.4**
LPL pmax pmax
comp=Z,28nm,0.6s
RSL Roselend 52.02 303 *eP* **P 11 12 00.1 +0.5**

GIVF Givet 52.05 309 *eP* **P 11 11 59.9 +0.4**
GIVF pmax pmax
comp=Z,8.0nm,0.7s
BNI Bardonecchia 52.17 302 *eP* **P 11 12 01.2 +0.5**
BNI pmax pmax
comp=Z,13nm,1.1s
BNI Bardonecchia 52.17 302 *eP* **P 11 12 01.2 +0.5**
comp=Z,13nm,1.1s
KMBO Kilima Mbogo 52.40 233 P P 11 12 04.2 +1.4
comp=Z,2.1nm,0.5s,baz=36,slow=16,SNR=7.4
KUR Kuril'sk 52.90 57 *iP* **P 11 12 06.7 +0.9**
KEST Kesra 53.34 291 P P 11 12 09.6 +0.3
comp=Z,3.8nm,0.6s,baz=358,slow=8.9,SNR=4.6
KEST Kesra 53.34 291 *eP* **P 11 12 09.6 +0.3**
comp=Z,10nm,1.1s
SSB Saint Sauveur 53.55 303 *eP* **P 11 12 11.0 +0.4**
SSB Saint Sauveur 53.55 303 *eP* **P 11 12 11.1 +0.4**
SSB pmax pmax
comp=Z,15nm,0.5s
SSB Saint Sauveur 53.55 303 *eP* **P 11 12 11.1 +0.4**
comp=Z,14nm,0.5s
VIVF Saint-Julien-l 53.59 303 *eP* **P 11 12 11.0 0.0**
VIVF pmax pmax
comp=Z,5.0nm,0.4s
SSF Saint Saulge 53.70 306 *eP* **P 11 12 11.3 -0.4**
SSF pmax pmax
comp=Z,11nm,0.6s
PLDF La Plantade 53.95 304 *eP* **P 11 12 13.7 0.0**
AGO Saint Agoulin 54.25 305 *eP* **P 11 12 16.3 +0.5**
LBL Lubilhac 54.43 304 *eP* **P 11 12 17.6 +0.5**
EKA Eskdalemuir Ar 55.41 317 P P 11 12 24.3 +0.4
comp=Z,7.9nm,0.7s,baz=87,slow=6.9,SNR=17
EKA PcP **PcP 11 13 24.2 +1.0**
comp=Z,2.4nm,0.5s,baz=85,slow=5.2,SNR=5.4
EKA Eskdalemuir Ar 55.41 317 P P 11 12 24.3 +0.4
EKA 11 13 24.2
EKA pmax pmax
comp=Z,7.0nm,0.6s
LDF La Druitiere 55.57 308 *eP* **P 11 12 24.7 -0.5**
LDF pmax pmax
comp=Z,13nm,0.5s
DAG Danmarks Havn 55.96 344⇑ *iP* **P 11 12 27.8 +0.3**
comp=Z,5.3nm,0.7s
DAG Danmarks Havn 55.96 344⇑ *iP* **P 11 12 27.8 +0.3**
DAG pmax pmax
comp=Z,4.0nm,0.7s
MFF Saint Martin d 56.23 306 *eP* **P 11 12 29.3 -0.6**
MFF pmax pmax
comp=Z,4.0nm,0.5s
BILL Bilibino 56.52 27⇓ *eP* **P 11 12 33.0 +1.4**
BILL *e* 11 14 36.7
BILL *eS* **S 11 20 15.3 -0.8**
BILL pmax pmax
comp=Z,26nm,1.7s
PEA1 Petropavlovsk- 56.70 45 *eP* **P 11 12 33.4 +0.2**
PETK Petropavlovsk- 56.70 45 P P 11 12 33.4 +0.2
comp=Z,5.2nm,1.0s,baz=269,slow=6.9,SNR=3.6
PETK LR LR 11 37 04.3
comp=Z,27nm,21.0s,baz=169,slow=36
PET Petropavlovsk 57.27 45 *iP* **P 11 12 36.8 -0.4**
PET pmax pmax
comp=Z,90nm,3.7s
ES19 SONSECA Array 61.39 300 *eP* **P 11 13 06.5 +0.6**
ESDC Sonseca Array 61.45 300 P P 11 13 06.6 +0.3
comp=Z,2.8nm,0.5s,baz=58,slow=7.4,SNR=16
PAB San Pablo 61.77 300 *eP* **P 11 13 08.8 +0.3**
PAB pmax pmax
comp=Z,13nm,1.4s
PAB San Pablo 61.77 300 *eP* **P 11 13 08.8 +0.3**
comp=Z,13nm,1.4s
SUMG Summit 62.46 342 *iP* **P 11 13 13.5 +0.6**
comp=Z,20nm,1.1s
SUMG Summit 62.46 342 *iP* **P 11 13 13.5 +0.6**
SUMG pmax pmax
comp=Z,20nm,1.1s
SUMG Summit 62.46 342 *eP* **P 11 13 13.5 +0.6**
comp=Z,19nm,1.1s
TOLK Toolik Lake Re 69.64 16 P P 11 13 59.3 +0.7
baz=322
TOA1 Torodi Ar. Sit 70.30 272 *eP* **P 11 14 02.9 -0.5**
TOA0 Torodi Ar. Sit 70.30 272 *eP* **P 11 14 02.8 -0.5**
TORD Torodi Ar. Bea 70.30 272 P P 11 14 02.9 -0.5
comp=Z,7.4nm,0.5s,baz=47,slow=5.7,SNR=146
COLD Coldfoot 70.61 18 *eP* **P 11 14 05.2 +0.8**
comp=Z,21nm,1.1s
IMAR Indian Mountai 70.66 20 *eP* **P 11 14 05.0 +0.3**
TTA Tatalina 72.30 22 P P 11 14 16.1 +1.4
FYU Fort Yukon 72.31 16 *eP* **P 11 14 16.3 +1.7**
comp=Z,24nm,1.0s
TT01 Tatalina 72.31 22 *eP* **P 11 14 15.7 +1.0**
MDM Murphy Dome 72.91 18 *eP* **P 11 14 18.7 +0.5**
comp=Z,15nm,1.2s
INK Inuvik 73.03 11 *eP* **P 11 14 19.5 +0.6**
INK pmax pmax
comp=Z,28nm,1.1s
INK Inuvik 73.03 11 *eP* **P 11 14 19.4 +0.6**
comp=Z,28nm,1.1s
COLA College 73.07 18 *eP* **P 11 14 19.9 +0.8**
COLA pmax pmax
comp=Z,25nm,0.9s
COLA College 73.07 18 *eP* **P 11 14 19.9 +0.8**
comp=Z,25nm,0.9s
CAST Castle Rocks 73.09 21 *eP* **P 11 14 20.2 +0.9**
comp=Z,36nm,1.1s
CCB Clear Creek Bu 73.27 18 *eP* **P 11 14 20.8 +0.5**
comp=Z,11nm,1.2s
KTH Kantishna Hill 73.31 20 *eP* **P 11 14 21.6 +0.9**
comp=Z,29nm,1.0s
WRH Wood River Hil 73.33 19 *eP* **P 11 14 20.8 +0.1**
comp=Z,12nm,1.2s
IL1 Eielson Array 73.39 18 *eP* **P 11 14 20.7 -0.3**
ILAR Eielson Array 73.39 18 P P 11 14 20.8 -0.3
comp=Z,6.7nm,0.9s,baz=314,slow=4.5,SNR=48
ILAR PP **PP 11 17 06.6 +1.6**
comp=Z,1.4nm,0.8s,baz=312,slow=8.6,SNR=5.3
ILB Eielson Array 73.39 18 *eP* **P 11 14 20.9 -0.2**
PPLA Purkeypile 73.47 21 *eP* **P 11 14 22.2 +0.5**
comp=Z,25nm,1.3s
MCK McKinley 73.71 19 *eP* **P 11 14 23.3 +0.3**
MCK pmax pmax
comp=Z,6.0nm,0.6s
MCK McKinley 73.71 19 *eP* **P 11 14 23.3 +0.3**
comp=Z,6.4nm,0.6s
SVW2 Sparrevohn 73.80 24 *eP* **P 11 14 24.4 +0.9**
comp=Z,11nm,1.2s
RND Reindeer 73.99 20 *eP* **P 11 14 24.8 +0.1**
RND pmax pmax
comp=Z,9.0nm,0.5s
RND Reindeer 73.99 20 *eP* **P 11 14 24.8 +0.1**
comp=Z,9.2nm,0.5s
DHY Denali Highway 74.66 19 *eP* **P 11 14 29.2 +0.6**
comp=Z,14nm,0.6s
EGAK Eagle 74.73 16 *eP* **P 11 14 29.5 +0.7**
comp=Z,24nm,1.4s
SUA Susitna One 75.01 21 *eP* **P 11 14 31.1 +0.5**
comp=Z,9.3nm,0.6s
DOT Dot Lake 75.02 18 *eP* **P 11 14 31.0 +0.4**
comp=Z,30nm,0.8s
PAX Paxson 75.24 18 *eP* **P 11 14 32.4 +0.5**
PAX pmax pmax
comp=Z,15nm,0.8s
PAX Paxson 75.24 18 *eP* **P 11 14 32.4 +0.5**
comp=Z,15nm,0.8s
PMR Palmer 75.38 21 *eP* **P 11 14 32.7 +0.1**
PMR pmax pmax
comp=Z,22nm,1.4s
PMR Palmer 75.38 21 *eP* **P 11 14 32.7 +0.1**
comp=Z,22nm,1.4s
SML Sawmill 75.43 20 *eP* **P 11 14 33.3 +0.3**
SML pmax pmax
comp=Z,23nm,0.8s
SML Sawmill 75.43 20 *eP* **P 11 14 33.2 +0.3**
comp=Z,23nm,0.8s
RC01 Rabbit Creek A 75.61 21 *eP* **P 11 14 34.5 +0.5**
comp=Z,12nm,0.6s
SCM Sheep Creek Mo 75.69 20 *eP* **P 11 14 34.9 +0.4**
SCM pmax pmax
comp=Z,15nm,0.7s
SCM Sheep Creek Mo 75.69 20 *eP* **P 11 14 34.9 +0.4**
comp=Z,15nm,0.7s
DAWY Dawson 75.73 16 *eP* **P 11 14 34.9 +0.2**
comp=Z,9.5nm,0.6s
HARP HAARP 75.79 19 *eP* **P 11 14 36.5 +1.5**
comp=Z,81nm,0.7s
BRLK Bradley Lake 76.32 23 *eP* **P 11 14 38.2 +0.1**
comp=Z,11nm,0.7s

KLU	**Klutina**	**76.35**	**20**	*e*P		**P**	**11 14 39.0**	**+0.8**
	comp=Z,6.9nm,0.8s								
KDAK	**Kodiak Island**	**77.33**	**25**	*e*P		**P**	**11 14 44.6**	**+0.9**
KDAK				pmax	pmax				
	comp=Z,24nm,0.7s								
KDAK	**Kodiak Island**	**77.33**	**25**	*e*P		**P**	**11 14 44.6**	**+0.9**
	comp=Z,24nm,0.7s								
CRQM	**Cirque**	**77.70**	**19**	*e*P		**P**	**11 14 46.9**	**+0.9**
	comp=Z,46nm,1.4s								
WR1	**Warramunga Arr**	**78.21**	**126**	*e*P		**P**	**11 14 49.5**	**+0.4**
	comp=Z,7.9nm,1.1s								
WRA	**Warramunga Arr**	**78.21**	**126**	P		**P**	**11 14 49.5**	**+0.4**
	comp=Z,2.5nm,0.8s,baz=326,slow=5.6,SNR=46								
WRAB	**Tennant Creek**	**78.21**	**126**	*e*P		**P**	**11 14 49.6**	**+0.5**
WRAB				pmax	pmax				
	comp=Z,18nm,1.6s								
WRAB	**Tennant Creek**	**78.21**	**126**	*e*P		**P**	**11 14 49.6**	**+0.5**
	comp=Z,18nm,1.6s								
WB2	**Warramunga Arr**	**78.22**	**126**	*e*P		**P**	**11 14 49.8**	**+0.6**
	comp=Z,7.6nm,1.0s								
DBIC	**Dimbokro**	**79.28**	**270**	P		**P**	**11 14 55.6**	**+0.4**
	comp=Z,13nm,0.8s,baz=24,slow=6.4,SNR=14								
DBIC	**Dimbokro**	**79.28**	**270**	*e*P		**P**	**11 14 55.6**	**+0.4**
	comp=Z,14nm,0.8s								
KIC	**Kosan Boka**	**79.37**	**270**	*e*PKP2		**P**	**11 14 56.2**	**+0.5**
	comp=Z,36nm,0.9s								
TIC	**Toumodi**	**79.43**	**270**	*e*PKP2		**P**	**11 14 56.3**	**+0.3**
LIC	**Lamto**	**79.68**	**270**	*e*PKP2		**P**	**11 14 57.4**	**0.0**
	comp=Z,24nm,0.7s								
WHY	**Whitehorse**	**79.73**	**15**	*e*P		**P**	**11 14 56.8**	**-0.3**
	comp=Z,5.8nm,0.6s								
ASAR	**Alice Springs**	**80.61**	**129**	P		**P**	**11 15 02.6**	**+0.5**
	comp=Z,2.2nm,0.7s,baz=316,slow=5.8,SNR=30								
AS01	**Alice Springs**	**80.64**	**129**	*e*P		**P**	**11 15 01.8**	**-0.5**
SKAG	**Skagway**	**80.72**	**16**	*e*P		**P**	**11 15 03.5**	**+1.3**
	comp=Z,14nm,0.7s								
BOSA	**Boshof**	**80.86**	**224**	P		**P**	**11 15 04.1**	**+0.6**
	comp=Z,3.4nm,0.8s,baz=45,slow=2.9,SNR=5.7								
YKA	**Yellowknife Ar**	**80.88**	**5**	P		**P**	**11 15 03.2**	**+0.2**
	comp=Z,20nm,0.6s,baz=345,slow=5.3,SNR=56								
YKB5	**Yellowknife Ar**	**80.88**	**5**	*e*P		**P**	**11 15 03.2**	**+0.2**
DLBC	**Dease Lake**	**82.76**	**14**	*e*P		**P**	**11 15 14.0**	**+0.9**
	comp=Z,26nm,1.2s								
SCHQ	**Schefferville**	**83.74**	**340**	P		**P**	**11 15 18.1**	**0.0**
	comp=Z,8.9nm,0.6s,baz=321,slow=7.5,SNR=3.9								
FFC	**Flin Flon**	**89.08**	**359**	*e*P		**P**	**11 15 44.5**	**+0.3**
FFC				pmax	pmax				
	comp=Z,13nm,0.8s								
FFC	**Flin Flon**	**89.08**	**359**	*e*P		**P**	**11 15 44.5**	**+0.3**
	comp=Z,13nm,0.8s								
EDM	**Edmonton**	**90.17**	**6**	*e*P		**P**	**11 15 49.6**	**+0.3**
EDM				pmax	pmax				
	comp=Z,24nm,0.7s								
EDM	**Edmonton**	**90.17**	**6**	*e*P		**P**	**11 15 49.6**	**+0.3**
	comp=Z,24nm,0.7s								
STKA	**Stephens Creek**	**91.21**	**130**	P		**P**	**11 15 54.1**	**-0.2**
	comp=Z,0.7nm,0.5s,baz=274,slow=14,SNR=2.7								
STKA	**Stephens Creek**	**91.21**	**130**	*e*P		**P**	**11 15 53.8**	**-0.4**
STKA				pmax	pmax				
	comp=Z,2.0nm,1.4s								
STKA	**Stephens Creek**	**91.21**	**130**	*e*P		**P**	**11 15 53.8**	**-0.4**
	comp=Z,2.2nm,1.4s								
VLDQ	**Val d'Or**	**92.61**	**343**	*e*P		**P**	**11 16 01.8**	**+1.1**
	comp=Z,12nm,0.8s								
ULM	**Lac du Bonnet**	**93.32**	**355**	P		**P**	**11 16 03.5**	**-0.4**
	comp=Z,8.8nm,0.9s,baz=13,slow=6.6,SNR=8.4								
ULM	**Lac du Bonnet**	**93.32**	**355**	*e*P		**P**	**11 16 04.1**	**+0.2**
ULM				pmax	pmax				
	comp=Z,17nm,1.0s								
ULM	**Lac du Bonnet**	**93.32**	**355**	*e*P		**P**	**11 16 04.1**	**+0.2**
	comp=Z,17nm,1.0s								
NEW	**Newport**	**94.66**	**9**	P		**P**	**11 16 10.5**	**+0.3**
	baz=349								
B34A	**Aery, Baudette**	**94.98**	**354**	P		**P**	**11 16 11.6**	**0.0**
	baz=7.0								
B35A	**Bob, Littlefor**	**95.03**	**354**	P		**P**	**11 16 11.8**	**0.0**
	baz=7.7								
LONY	**Lake Ozonia**	**95.12**	**340**	*e*P		**P**	**11 16 13.0**	**+0.7**
	comp=Z,8.0nm,0.9s								
B32A	**Ashes, Strandq**	**95.21**	**355**	P		**P**	**11 16 12.8**	**+0.2**
	baz=5.4								
EYMN	**Ely**	**95.22**	**352**	P		**P**	**11 16 12.9**	**+0.3**
	baz=9.5								
EYMN	**Ely**	**95.22**	**352**	*e*P		**P**	**11 16 13.3**	**+0.6**
	comp=Z,11nm,0.9s								
B31A	**Greenbush Farm**	**95.25**	**356**	P		**P**	**11 16 12.6**	**-0.1**
	baz=4.5								
AGMN	**Agassiz Nation**	**95.26**	**355**	P		**P**	**11 16 12.9**	**+0.1**
	baz=6.0								
PANH	**Panhandle Gap,**	**95.35**	**13**	*e*P		**P**	**11 16 13.2**	**-0.3**
EGMT	**Eagleton**	**95.60**	**4**	P		**P**	**11 16 14.8**	**+0.3**
	baz=355								
TDL	**Tradedollar La**	**95.73**	**13**	*e*P		**P**	**11 16 16.6**	**+1.4**
C34A	**RKJ Ranch, Bem**	**95.84**	**354**	P		**P**	**11 16 15.5**	**0.0**
	baz=6.8								
C31A	**Landman Farms,**	**95.88**	**356**	P		**P**	**11 16 15.6**	**-0.1**
	baz=4.5								
MDND	**Maddock**	**95.91**	**357**	P		**P**	**11 16 15.9**	**+0.1**
	baz=3.0								
D34A	**Park Rapids**	**96.42**	**354**	P		**P**	**11 16 18.2**	**0.0**
	baz=6.5								
E40A	**Wakefield**	**96.50**	**351**	P		**P**	**11 16 18.9**	**+0.4**
	baz=11								
F41A	**Three Lakes**	**97.09**	**350**	P		Pdif	11 16 21.4	+0.1
	baz=11								
PDAR	**Pinedale Array**	**100.85**	**5**	P		**Pdif**	**11 16 38.7**	**+0.3**
	comp=Z,0.3nm,0.6s,baz=64,slow=3.4,SNR=4.8								
MAW	**Mawson**	**104.37**	**185**	Pdiff		**Pdif**	**11 16 51.5**	**-1.2**
	comp=Z,0.3nm,0.2s,baz=29,slow=19,SNR=3.0								
LTX	**Lajitas**	**114.46**	**0**	*e*PKIKP		PKPdf	11 21 29.6	+0.5
LTX	**Lajitas**	**114.46**	**0**	*e*PKiKP		PKPdf	11 21 29.6	+0.4
TXAR	**Lajitas Array**	**114.46**	**0**	PKP		PKPdf	11 21 29.6	+0.4
	comp=Z,0.2nm,0.5s,baz=181,slow=1.0,SNR=12								
SNAA	**Sanae**	**121.08**	**201**	PKP		**PKPdf**	**11 21 40.3**	**0.0**
VNA3	**Neumayer Olymp**	**123.00**	**203**	PKP		**PKPdf**	**11 21 44.6**	**+0.6**
VNDA	**Vanda**	**124.33**	**165**	PKP		**PKPdf**	**11 21 46.4**	**0.0**
	comp=Z,0.6nm,0.8s,baz=283,slow=4.7,SNR=4.1								
NNA	**Nana**	**145.86**	**309**	*e*PKP2		**PKPab**	**11 22 29.5**	**+0.2**
NNA	**Nana**	**145.86**	**309**	*e*PKPdf		**PKPab**	**11 22 29.5**	**+0.2**
PB11	**IPOC Station P**	**146.16**	**290**	*e*PKPdf		**PKPbc**	**11 22 30.1**	**+0.4**
LVC	**Limon Verde**	**147.21**	**285**	*e*PKPbc		**PKPab**	**11 22 34.0**	**-0.8**
TRQA	**Tornquist**	**147.28**	**255**	*e*PKPbc		**PKPbc**	**11 22 32.8**	**+0.6**
LCO	**Las Campanas**	**151.67**	**276**	*e*PKPdf		**PKPdf**	**11 22 39.4**	**+2.0**
LCO				*e*PKPbc		**PKiKP**	**11 22 44.7**	**+0.6**
LCO				*e*PKPab		**PKPab**	**11 22 53.9**	**+1.1**

*CSEM **27** 11:18:30.5±0.8,51°55.N×16°17.E,h1km,ML2.9/6,Error ellipse: s-maj=11.4km s-min=6.3km az=178.0*
*WAR **27** 11:18:32.7,51°50.N×16°13.E,h1km,Mw2.2*
*PRU **27** 11:18:35.0,51°41.N×16°15.E,h0km*
ISC 27 11:18:31.2±1.9,51°54.N±0°09×16°22.E±0°04,h0km,n23, σ0s77/38,Poland

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KSP	**Ksiaz**	**0.70**	**176**	*e*Pg	**Pg**	**11 18 45.2**	**+0.6**
KSP				*e*Sg	**Sg**	**11 18 54.1**	**+0.4**
KSP	**Ksiaz**	**0.70**	**176**	*e*Pg	**Pg**	**11 18 45.2**	**+0.6**
KSP				*e*Sg	**Sg**	**11 18 54.1**	**+0.4**
KSP	**Ksiaz**	**0.70**	**176**	*e*Pg	**Pg**	**11 18 45.2**	**+0.6**
KSP				*e*Sg	**Sg**	**11 18 54.1**	**+0.4**
UPC	**Upice**	**1.04**	**187**	*e*PG	**Pg**	**11 18 51.4**	**+0.2**
UPC				*e*SG	**Sg**	**11 19 04.4**	**-0.3**
	comp=Z,13nm,0.2s						
UPC	**Upice**	**1.04**	**187**	Pg	**Pg**	**11 18 51.4**	**+0.2**
UPC				Sg	**Sg**	**11 19 04.4**	**-0.3**
	13nm,0.2s						
DPC	**Dobruska-Polom**	**1.20**	**177**	*e*PG	**Pg**	**11 18 54.0**	**-0.1**
DPC				*e*SG	**Sg**	**11 19 09.3**	**-0.2**
	comp=Z,6.1nm,0.3s						
DPC	**Dobruska-Polom**	**1.20**	**177**	Pg	**Pg**	**11 18 54.0**	**-0.1**
DPC				Sg	**Sg**	**11 19 09.3**	**-0.2**
	6.1nm,0.3s						
PVCC	**Panska Ves**	**1.46**	**226**	*e*PG	**Pn**	**11 18 58.4**	**-0.3**
PVCC				*e*SG	**Sg**	**11 19 17.6**	**-0.3**
	comp=Z,31nm,0.2s						
PVCC	**Panska Ves**	**1.46**	**226**	Pg	**Pn**	**11 18 58.4**	**-0.3**
PVCC				Sg	**Sg**	**11 19 17.6**	**-0.3**
	31nm,0.2s						
KRLC	**Kraliky**	**1.51**	**166**	*e*PG	**Pn**	**11 19 00.2**	**+0.7**
KRLC				*e*SG	**Sg**	**11 19 18.9**	**-0.8**
KRLC	**Kraliky**	**1.51**	**166**	Pg	**Pn**	**11 19 00.2**	**+0.7**
KRLC				Sg	**Sg**	**11 19 18.9**	**-0.8**
BRG	**Berggiesshubel**	**1.58**	**246**	PG	**Pn**	**11 19 01.1**	**+0.6**
BRG				SG	**Sg**	**11 19 21.4**	**-0.5**
	8.5nm,0.5s						
GOPC	**GO Pecny, Ondr**	**1.87**	**210**	*e*SG	**Sb**	**11 19 29.5**	**-0.5**
GOPC	**GO Pecny, Ondr**	**1.87**	**210**	Sg	**Sb**	**11 19 29.5**	**-0.5**
PRU	**Pruhonice**	**1.89**	**215**	*e*SG	**Sb**	**11 19 30.4**	**-0.1**
	comp=Z,7.7nm,0.3s						
PRU	**Pruhonice**	**1.89**	**215**	Sg	**Sb**	**11 19 30.4**	**-0.1**
	7.7nm,0.3s						
MORC	**Moravsky Berou**	**1.96**	**154**	*e*Pn	**Pn**	**11 19 05.6**	**-0.1**
MORC				*e*Sg	**Sb**	**11 19 33.5**	**+0.8**
NKC	**Novy Kostel**	**2.72**	**243**	*e*SG	**Sg**	**11 19 59.0**	**+0.3**
	comp=Z,4.5nm,0.3s						
NKC	**Novy Kostel**	**2.72**	**243**	Sg	**Sg**	**11 19 59.0**	**+0.3**
	4.5nm,0.3s						
KHC	**Kasperske Hory**	**2.95**	**216**	*e*PG	**Pb**	**11 19 25.2**	**+0.6**
KHC				*e*SG	**Sg**	**11 20 03.5**	**-2.3**
	comp=Z,2.5nm,0.3s						
KHC	**Kasperske Hory**	**2.95**	**216**	Pg	**Pb**	**11 19 25.2**	**+0.6**
KHC				Sg	**Sg**	**11 20 03.5**	**-2.3**
	2.5nm,0.3s						
KECS	**Kecovo**	**4.12**	**136**	*e*Pg	**Pg**	**11 19 48.9**	**-1.1**
KECS	**Kecovo**	**4.12**	**136**	*e*PG	**Pg**	**11 19 48.9**	**-1.1**

*ISCJB **27** 11:27:17.7±0.7,36°33.N±0°04×33°54.E±0°05,h10km±8km, Error ellipse: s-maj=6.8km s-min=6.7km az=157.5*
*ISK **27** 11:27:17.3,36°33.N×33°54.E,h2km, MD2.5*
ISC 27 11:27:17.4±1.1,36°34.N±0°04×33°53.E±0°04,h11km±8km, n13,σ0s40/17,Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TEVE	**Tevekalti-Mers**	**0.12**	**323**	*e*PG	**Pg**	**11 27 20.5**	**0.0**
TEVE				*e*SG	**Sg**	**11 27 23.0**	**+0.3**
OREN	**Orenkoy-Mersin**	**0.15**	**204**	*e*PG	**Pg**	**11 27 20.7**	**-0.1**
OREN				*e*SG	**Sg**	**11 27 23.5**	**+0.2**
IKL	**Isikli**	**0.16**	**130**	*e*PG	**Pg**	**11 27 21.2**	**+0.2**
YESI	**Yesilovacik-Me**	**0.17**	**148**	*e*PG	**Pg**	**11 27 20.9**	**-0.3**
AKKU	**Akkuyu-Mersin**	**0.18**	**175**	*e*PG	**Pg**	**11 27 21.7**	**+0.3**
AKK2	**Akkuyu-Mersin**	**0.20**	**176**	*e*PG	**Pg**	**11 27 21.9**	**+0.1**
BERE	**Bereket-Mersin**	**0.25**	**271**	*e*PG	**Pb**	**11 27 23.6**	**-0.4**
SILI	**Silifke-Mersin**	**0.32**	**85**	*e*PG	**Pb**	**11 27 24.6**	**-0.4**
TEKE	**Tekeli-Mersin**	**0.39**	**240**	*e*PG	**Pg**	**11 27 25.9**	**+0.7**
KIZK	**Mersin**	**0.51**	**74**	*e*PG	**Pg**	**11 27 27.9**	**+0.4**
KIZK	**Mersin**	**0.51**	**74**	*i* P	**Pg**	**11 27 27.8**	**+0.4**
KIZK				*i* S	**Sb**	**11 27 35.5**	**-0.3**
MERS	**Mersin**	**0.95**	**56**	*e*PG	**Pb**	**11 27 36.5**	**+0.5**
KERG	**Konya-Eregli**	**1.17**	**24**	*i* P	**Pg**	**11 27 40.0**	**0.0**
KERG				*i* S	**Sg**	**11 27 54.7**	**-0.5**

*ISCJB **27** 11:31:30.9±0.3,24°28S±0°04×67°18W±0°04,h185km±4km, mb3.6/8,Error ellipse: s-maj=7.4km s-min=4.4km az=43.8*
*SJA **27** 11:31:30.8±0.8,24°31S×67°16W,h189km±8km,ML2.8, MW3.4*
*IDC **27** 11:31:31.1±1.2,24°21S×66°96W,h170km±11km,mb3.4/8, mb1 3.6/12,mb1mx3.5/27,mbtmp3.9/12,Error ellipse: s-maj=16.2km s-min=14.4km az=48.0*
*GUC **27** 11:31:33.3±0.6,24°22S×67°61W,h202km±31km,ML4.8*
ISC 27 11:31:31.6±0.7,24°26S±0°05×67°14W±0°05,h179km±7km, n34,σ1s20/46,mb3.8/8,7C-1D,Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SLA	**San Lorenzo**	**1.56**	**108**	*e*P	**Pn**	**11 32 05.7**	**+1.5**
SLA				*e*S	**Sn**	**11 32 30.3**	**+0.9**
SLA				IAML		11 32 33.4	
	comp=Z,168nm,0.6s						
HJA	**Humahuaca**	**1.90**	**57**	*e*P	**Pn**	**11 32 09.4**	**+1.4**
FSA	**Cafayete**	**2.12**	**151**	*e*P	**Pn**	**11 32 10.3**	**+0.1**
FSA				*e*S	**Sn**	**11 32 39.5**	**-0.7**
FSA				IAML		11 32 41.1	
	comp=Z,24nm,0.5s						
LVC	**Limon Verde**	**2.31**	**315**	P	**Pn**	**11 32 13.5**	**+1.1**
	comp=Z,2μm,0.3s,baz=142,slow=6.0,SNR=450						
LVC				S	**Sn**	**11 32 44.3**	**+0.2**
	comp=Z,6μm,0.3s,baz=261,slow=22,SNR=88						
LVC	**Limon Verde**	**2.31**	**315**	⇑*i*P	**Pn**	**11 32 13.5**	**+1.1**
LVC	**Limon Verde**	**2.31**	**315**	*e*P	**Pn**	**11 32 13.6**	**+1.1**
LVC				*e*S	**Sn**	**11 32 44.3**	**+0.2**
ASTB	**Santa Barbara**	**2.47**	**83**	*e*P	**Pn**	**11 32 14.9**	**+0.8**
YJA	**Yavi**	**2.55**	**36**	*e*P	**Pn**	**11 32 16.7**	**+1.3**
PB06	**IPOC Station P**	**2.72**	**304**	⇑*i*P	**Pn**	**11 32 17.7**	**+0.7**
PB06				*e*S	**Sn**	**11 32 50.8**	**-1.4**
PB06				IAML		11 32 53.4	
	comp=N,1μm,0.3s						
ALOL	**LOMAS DE OLMED**	**2.92**	**82**	*e*P	**Pn**	**11 32 19.8**	**+0.5**
AHML	**Horco Molle**	**3.00**	**147**	*e*P	**Pn**	**11 32 20.1**	**-0.1**
AHML				IAML		11 32 21.5	
	comp=Z,13nm,0.3s						
AHML				*e*S	**Sn**	**11 32 56.6**	**-1.6**
PB14	**IPOC Station P**	**3.00**	**262**	*i* P	**Pn**	**11 32 20.2**	**-0.3**
PB14				*i* S	**Sn**	**11 32 55.9**	**-2.6**
ANCH	**Antofagasta**	**3.05**	**280**	⇑*i*P	**Pn**	**11 32 22.1**	**+1.3**
ANCH				*e*S	**Sn**	**11 32 58.0**	**-1.0**
PB09	**IPOC Station P**	**3.12**	**321**	⇑*i*P	**Pn**	**11 32 23.1**	**+1.1**
PB09				*i* S	**Sn**	**11 33 01.3**	**+0.2**
PB09				IAML		11 33 01.6	
	comp=N,3μm,0.2s						
PB10	**IPOC Station P**	**3.21**	**283**	*i* P	**Pn**	**11 32 22.6**	**-0.3**
PB10				IAML		11 33 05.8	
	comp=E,2μm,0.2s						
PB04	**IPOC Station P**	**3.37**	**304**	⇓*i*P	**Pn**	**11 32 25.2**	**+0.3**
PB07	**IPOC Station P**	**3.57**	**314**	⇑*i*P	**Pn**	**11 32 27.7**	**+0.2**
PB01	**IPOC Station P**	**3.87**	**325**	⇑*i*P	**Pn**	**11 32 30.8**	**-0.3**
PB01				*i* S	**Sn**	**11 33 15.3**	**-2.3**
PB08	**IPOC Station P**	**4.50**	**335**	⇑*i*P	**Pn**	**11 32 40.0**	**+0.5**
PB08				*e*S	**Sn**	**11 33 31.7**	**-1.0**
LPAZ	**La Paz**	**7.98**	**353**	P	**Pn**	**11 33 26.0**	**+0.6**
	comp=E,4.4nm,0.3s,baz=169,slow=7.3,SNR=86						
LPAZ				S	**Sn**	**11 34 53.2**	**-2.1**
	comp=E,0.3nm,0.3s,baz=6.0,slow=19,SNR=3.1						
CPUP	**Villa Florida**	**9.11**	**105**	P	**Pn**	**11 33 36.1**	**-3.4**
	comp=E,0.1nm,0.3s,baz=271,slow=12,SNR=8.4						
SIV	**San Ignacio**	**10.00**	**36**	P	**Pn**	**11 33 49.5**	**-1.9**
	comp=E,0.5nm,0.3s,baz=222,slow=14,SNR=9.9						
SIV				S	Sn	11 35 31.1	-12
	comp=E,0.3nm,0.3s,baz=198,slow=16,SNR=2.4						
PLCA	**Paso Flores**	**16.68**	**189**	P	**P**	**11 35 14.7**	**+0.3**
	comp=E,0.1nm,0.3s,baz=26,slow=15,SNR=4.5						
PTGA	**Pitinga**	**24.40**	**18**	P	**P**	**11 36 33.0**	**-0.7**
	comp=E,1.2nm,0.3s,baz=225,slow=5.7,SNR=3.7						
TXAR	**Lajitas Array**	**63.81**	**325**	P	**P**	**11 41 45.5**	**+0.5**
	comp=E,0.2nm,0.5s,baz=150,slow=7.3,SNR=3.2						
DBIC	**Dimbokro**	**68.00**	**72**	P	**P**	**11 42 11.8**	**-0.2**
	comp=E,1.6nm,0.6s,baz=264,slow=6.1,SNR=3.3						
VNDA	**Vanda**	**74.43**	**190**	P	**P**	**11 42 51.2**	**+1.6**
	comp=E,0.5nm,0.6s,baz=28,slow=2.0,SNR=5.5						
TORD	**Torodi Ar. Bea**	**76.78**	**69**	P	**P**	**11 43 03.1**	**-0.8**
	comp=E,0.8nm,0.4s,baz=253,slow=5.3,SNR=14						
PDAR	**Pinedale Array**	**77.30**	**329**	P	**P**	**11 43 07.4**	**+0.8**
	comp=E,0.1nm,0.5s,baz=113,slow=6.9,SNR=3.1						
BOSA	**Boshof**	**80.73**	**117**	P	**P**	**11 43 25.1**	**-0.4**
	comp=E,3.1nm,1.0s,baz=214,slow=3.6,SNR=3.4						
MAW	**Mawson**	**81.23**	**163**	P	**P**	**11 43 27.8**	**+0.6**
	comp=E,1.2nm,0.5s,baz=226,slow=1.6,SNR=3.5						
ASAR	**Alice Springs**	**128.17**	**205**	PKP	**PKPdf**	**11 50 17.1**	**-0.2**
	comp=E,0.3nm,0.5s,baz=108,slow=1.6,SNR=5.9						
WRA	**Warramunga Arr**	**131.34**	**207**	PKP	**PKPdf**	**11 50 23.4**	**0.0**
	comp=E,0.3nm,0.4s,baz=160,slow=1.7,SNR=12						
MKAR	**Makanchi Array**	**146.80**	**40**	PKPbc	**PKPbc**	**11 50 52.0**	**-0.6**
	comp=E,0.8nm,0.6s,baz=307,slow=2.9,SNR=8.2						

*CSEM **27** 11:40:31.7,38°41N×34°13E,h5km,MD2.5*
DDA 27 11:40:31.7,38°41N×34°13E,h5km,Md2.5,Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AKSY	**AKSARAY - Alti**	**0.38**	**310**	*i* P	Pg	11 40 36.2	-2.8
AKSY				*i* S	Sg	11 40 45.0	+1.0
AKSY	**AKSARAY - Alti**	**0.38**	**310**	P	Pg	11 40 36.2	-2.8
AKSY				S	Sg	11 40 45.0	+1.0
AVNS	**Nevsehir-Avano**	**0.69**	**54**	*i* P	Pg	11 40 45.2	+0.2
AVNS				*i* S	Sb	11 40 55.5	-0.8
AVNS	**Nevsehir-Avano**	**0.69**	**54**	P	Pg	11 40 45.2	+0.2
AVNS				S	Sb	11 40 55.5	-0.8
YAHY	**KAYSERI_Yahyal**	**1.02**	**107**	*i* P	Pg	11 40 51.2	-0.1
YAHY	**KAYSERI_Yahyal**	**1.02**	**107**	P	Pg	11 40 51.2	-0.1
KKUL	**Konya-Kulu**	**1.22**	**309**	*i* P	Pb	11 40 55.2	-0.1
KKUL				*i* S	Sn	11 41 13.7	+1.3
KKUL	**Konya-Kulu**	**1.22**	**309**	P	Pb	11 40 55.2	-0.1
KKUL				S	Sn	11 41 13.7	+1.3

CDAG	**Cicekdag**	**1.23**	**9**	*i* P		Pn	11 40 56.1	+0.4
CDAG				*i* S		Sn	11 41 14.5	+1.7
CDAG	**Cicekdag**	**1.23**	**9**	P		Pn	11 40 56.1	+0.4
CDAG				S		Sn	11 41 14.5	+1.7
AKO	**Adana**	**1.41**	**132**	*i* P		Pb	11 40 58.5	0.0
AKO				*i* S		Sn	11 41 17.1	+0.1
COAL	**Corum-Alaca**	**1.96**	**20**	*i* P		Pb	11 41 07.9	-0.1
COAL				*i* S		Sg	11 41 36.4	+1.6
COAL	**Corum-Alaca**	**1.96**	**20**	P		Pb	11 41 07.9	-0.1
COAL				S		Sg	11 41 36.3	+1.5

*ISCJB **27** 11:45:11.9±0.7,6°85N±0°05×73°10W±0°06,h151km±6km, Error ellipse: s-maj=10.4km s-min=5.9km az=32.3*
*RSNC **27** 11:45:14.0±0.7,6°81N×73°14W,h142km±4km,ML2.6*
*FUNV **27** 11:45:15.1,6°97N×72°94W,h159km,MW2.4*
ISC 27 11:45:10.3±1.4,6°85N±0°05×73°03W±0°05,h163km±8km, n19,σ1s73/31,1C,Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BTLC	**Betulia, Santa**	**0.24**	**285**	*e*P	**Pn**	**11 45 33.3**	**+0.8**
GIRC	**Giron, Santand**	**0.27**	**325**	*e*P	**Pn**	**11 45 33.1**	**+0.7**
GIRC				*e*S	**Sn**	**11 45 47.7**	**-1.7**
BARC	**Barichara**	**0.30**	**210**	*i* P	**Pn**	**11 45 33.1**	**+0.5**
BARC				*e*S	**Sn**	**11 45 47.4**	**-2.3**
BARC				*i*		11 45 51.7	
	comp=Z,82nm,0.6s						
PAMC	**Pamplona, Colo**	**0.58**	**34**	*e*P	**Pn**	**11 45 36.0**	**+1.9**
PAMC				*e*S	**Sn**	**11 45 52.5**	**+0.2**
BRRC	**Barranca, Sant**	**0.72**	**291**	⇑*i*P	**Pn**	**11 45 34.9**	**+0.7**
BRRC				*i*		11 45 35.3	
	comp=Z,85nm,0.1s						
BRRC				*e*S	**Sn**	**11 45 51.5**	**-1.1**
CBRI	**Barrientos, No**	**0.89**	**15**	*e*P	**Pn**	**11 45 37.6**	**+1.9**
RUSC	**La Rusia**	**0.96**	**183**	*e*P	**Pn**	**11 45 37.0**	**+0.5**
RUSC				*e*S	**Sn**	**11 45 55.7**	**-1.0**
GUEC	**Guerrero, Nort**	**0.98**	**6**	*e*P	**Pn**	**11 45 38.2**	**+1.7**
CAPV	**Capacho**	**1.23**	**35**	*e*P	**Pn**	**11 45 41.0**	**+2.5**
CAPV				*e*S	**Sn**	**11 46 00.3**	**+0.1**
OCAC	**Ocana**	**1.41**	**348**	*e*P	**Pn**	**11 45 41.5**	**+1.5**
OCAC				*i*		11 46 08.1	
	comp=Z,57nm,0.2s						
ZARC	**Zaragoza, Cauc**	**1.92**	**289**	*e*P	**Pn**	**11 45 46.0**	**+0.7**
ZARC				*e*S	**Sn**	**11 46 11.1**	**-1.1**
ZARC				*i*		11 46 17.0	
	comp=Z,58nm,0.3s						
NORC	**Norcasia**	**2.23**	**235**	*e*P	**Pn**	**11 45 49.3**	**+0.4**
CHIC	**Chingaza**	**2.32**	**198**	*e*P	**Pn**	**11 45 51.6**	**+1.3**
CHIC				*e*S	**Sn**	**11 46 21.3**	**+0.1**
CHIC				*i*		11 46 23.9	
	comp=Z,12nm,0.3s						
HELC	**Santa Helena**	**2.57**	**255**	*e*P	**Pn**	**11 45 54.4**	**+1.2**
HELC				*i*		11 46 32.4	
	comp=Z,18nm,0.4s						
SOCV	**Socops**	**2.58**	**57**	*e*P	**Pn**	**11 45 55.4**	**+2.3**
SOCV				*e*S	**Sn**	**11 46 24.0**	**-2.3**
PRAC	**

FOZ	**Fox Glacier**	**1.88**	**270**	PN	Pn	11 58 00.6	+0.3		
FOZ				AML	AML	11 58 33.0			
FOZ				AML	AML	11 58 33.0			
FOZ				AML	AML	11 58 34.9			
FOZ				AML	AML	11 58 34.9			
ODZ	**Otahua Downs**	**1.95**	**220**	Pn	Pn	11 57 59.9	-1.5		
ODZ	**Otahua Downs**	**1.95**	**220**	⇑PN	Pn	11 57 59.9	-1.5		
ODZ				AML	AML	11 58 34.9			
ODZ				AML	AML	11 58 34.9			
ODZ				AML	AML	11 58 35.2			
ODZ				AML	AML	11 58 35.2			
BSWZ	**Blackbirch Sta**	**2.14**	**31**	Pn	Pn	11 58 02.9	-1.1		
BSWZ	**Blackbirch Sta**	**2.14**	**31**	PN	Pn	11 58 02.9	-1.1		
BSWZ				AML	AML	11 58 32.1			
BSWZ				AML	AML	11 58 33.3			
TUWZ	**Tuamarina**	**2.42**	**29**	Pn	Pn	11 58 07.1	-0.7		
TUWZ	**Tuamarina**	**2.42**	**29**	AML	AML	11 58 44.4			
JCZ	**Jackson Bay**	**2.66**	**258**	Pn	Pn	11 58 10.6	-0.7		
JCZ	**Jackson Bay**	**2.66**	**258**	⇑PN	Pn	11 58 10.6	-0.7		
JCZ				AML	AML	11 59 00.4			
JCZ				AML	AML	11 59 01.4			
TCW	**Tory Channel**	**2.73**	**31**	Pn	Pn	11 58 10.8	-1.3		
TCW	**Tory Channel**	**2.73**	**31**	*e*PN	Pn	11 58 10.8	-1.3		
TCW				AML	AML	11 58 44.5			
TCW				AML	AML	11 58 58.0			
QRZ	**Quartz Range**	**2.73**	**2**	AML	AML	11 58 23.6			
QRZ				AML	AML	11 58 23.6			
QRZ				AML	AML	11 58 59.9			
QRZ				AML	AML	11 58 60.0			
WKZ	**Wanaka**	**2.74**	**241**	Pn	Pn	11 58 11.0	-1.3		
WKZ	**Wanaka**	**2.74**	**241**	PN	Pn	11 58 11.0	-1.3		
WKZ				AML	AML	11 59 02.6			
WKZ				AML	AML	11 59 06.9			
EAZ	**Earnscleugh**	**2.77**	**232**	Pn	Pn	11 58 11.3	-1.4		
EAZ	**Earnscleugh**	**2.77**	**232**	⇑PN	Pn	11 58 11.3	-1.4		
EAZ				AML	AML	11 58 59.4			
EAZ				AML	AML	11 58 59.4			
EAZ				AML	AML	11 59 06.0			
EAZ				AML	AML	11 59 06.0			
WEL	**Wellington**	**2.87**	**39**	AML	AML	11 58 46.4			
WEL				AML	AML	11 58 46.4			
WEL				AML	AML	11 58 46.5			
WEL				AML	AML	11 58 46.6			
PLWZ	**Palliser**	**2.90**	**48**	Pn	Pn	11 58 12.3	-2.2		
PLWZ	**Palliser**	**2.90**	**48**	*e*PN	Pn	11 58 11.9	-2.6		
DUWZ	**D'Urville Isla**	**2.98**	**23**	AML	AML	11 58 56.1			
DUWZ				AML	AML	11 59 08.8			
TUZ	**Tuapeka**	**3.10**	**218**	Pn	Pn	11 58 15.7	-1.5		
TUZ	**Tuapeka**	**3.10**	**218**	⇓PN	Pn	11 58 15.7	-1.5		
TUZ				AML	AML	11 59 13.1			
TUZ				AML	AML	11 59 13.1			
TUZ				AML	AML	11 59 18.2			
TUZ				AML	AML	11 59 18.3			
CAW	**Cannon Point**	**3.15**	**40**	Pn	Pn	11 58 15.5	-2.4		
CAW	**Cannon Point**	**3.15**	**40**	PN	Pn	11 58 15.5	-2.4		
CAW				AML	AML	11 58 52.7			
CAW				AML	AML	11 58 53.2			
MTW	**Mount Morrison**	**3.32**	**45**	Pn	Pn	11 58 17.9	-2.4		
MTW	**Mount Morrison**	**3.32**	**45**	*e*PN	Pn	11 58 17.7	-2.6		
MSZ	**Milford Sound**	**3.41**	**249**	*e*PN	Pn	11 58 19.9	-1.5		
MSZ				AML	AML	11 59 16.1			
MSZ				AML	AML	11 59 22.8			
MLZ	**Mavora Lakes**	**3.56**	**238**	Pn	Pn	11 58 21.9	-1.7		
MLZ	**Mavora Lakes**	**3.56**	**238**	PN	Pn	11 58 21.8	-1.7		
MLZ				AML	AML	11 59 33.5			
MLZ				AML	AML	11 59 35.5			
MRZ	**Mangatainoka R**	**3.74**	**40**	Pn	Pn	11 58 23.8	-2.2		
MRZ	**Mangatainoka R**	**3.74**	**40**	PN	Pn	11 58 23.8	-2.2		
MRZ				AML	AML	11 59 08.8			
MRZ				AML	AML	11 59 09.9			
SYZ	**Scrubby Hill**	**3.77**	**217**	AML	AML	11 59 37.9			
SYZ				AML	AML	11 59 42.9			
TIWZ	**Tintock**	**3.80**	**44**	AML	AML	11 59 11.9			
TIWZ				AML	AML	11 59 13.1			
KHEZ	**Kahui Hut**	**4.43**	**16**	Pn	Pn	11 58 36.0	+0.4		
NEZ	**North Egmont**	**4.47**	**17**	Pn	Pn	11 58 36.3	+0.2		
DREZ	**Durham Road**	**4.57**	**18**	*e*Pn	Pn	11 58 37.5	0.0		
VRZ	**Vera Road**	**4.77**	**23**	PN	Pn	11 58 39.4	-0.8		
HIZ	**Hauiti**	**5.37**	**21**	Pn	Pn	11 58 47.8	-0.6		
HIZ	**Hauiti**	**5.37**	**21**	*e*Pn	Pn	11 58 47.6	-0.8		
TLZ	**Tolley Road**	**5.74**	**26**	Pn	Pn	11 58 52.8	-0.8		
MWZ	**Matawai**	**6.50**	**38**	Pn	Pn	11 59 01.4	-2.7		

IDC 27 12:00:23.4±589.0, 47°32N×49°15E, h0km, Error ellipse: s-maj=218.7km s-min=132.3km az=47.0, Western Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I31KZ	**AKTYUBINSK INF**	**6.63**	**59**	*i*		12 42 30.0	
	baz=247,slow=317,SNR=6.9						
I43RU	**DUBNA INFRASON1**	**2.92**	**327**	*i*		13 18 20.0	
	baz=138,slow=332,SNR=9.9						
I46RU	**ZALESOVO INFRA**	**23.39**	**60**	*i*		14 22 10.0	
	baz=266,slow=329,SNR=4.0						

ISCJB ***27*** *12:08:17.2±0.4, 34°.30N±0°.01×23°.68E±0°.01, h5km±2km, mb5.2/269, MS5.0/79, Error ellipse: s-maj=2.3km s-min=1.6km az=167.3*

IDC ***27*** *12:08:17.6±0.4, 34°.40N×23°.74E, h0km, mb4.9/44, mb1 4.9/55, mb1mx4.9/62, mbtmp4.9/55, ML4.3/9, MS4.9/40, Ms1 4.9/40, ms1mx4.8/53, Error ellipse: s-maj=9.9km s-min=9.2km az=149.0*

MOS ***27*** *12:08:18.5±1.2, 34°.39N×23°.70E, h13km, mb5.4/94, MS5.0/56, Error ellipse: s-maj=4.3km s-min=2.4km az=92.8*

HLW ***27*** *12:08:19.1, 34°.42N×23°.96E, h20km±12km, Md5.0, Ml5.1*

PDG ***27*** *12:08:20.3±0.3, 34°.50N×23°.42E, h11km±8km, ML5.0/10, Error ellipse: s-maj=9.1km s-min=4.4km az=90.0*

THE ***27*** *12:08:21.6, 34°.40N×23°.78E, h0km±1km, ML4.7/17, Error ellipse: s-maj=2.5km s-min=0.7km az=193.0*

BJI ***27*** *12:08:21.8, 34°.68N×24°.00E, h20km, mb5.1/65, mB5.3/49, Ms5.2/53, Ms7 4.9/53*

CSEM ***27*** *12:08:21.0±0.1, 34°.38N×23°.66E, h18km, mb5.3/99, Ms5.1, Mw5.3*

ATH ***27*** *12:08:23.0, 34°.52N×23°.78E, h28km, ML4.7/12, Error ellipse: s-maj=1.9km s-min=0.7km az=21.0*

NIC ***27*** *12:08:22.1±0.1, 34°.88N×23°.94E, h25km, mb5.2, ML4.7*

GCMT ***27*** *12:08:22.9±0.1, 34°.36N×23°.69E, h17km, MW5.3/126, Moment Tensor Solution. s92,c133; s126,c224; Duration: 1s1 Moment tensor: Scale 10^17 Nm; Mrr=0.07±.02; Mtt=0.93±.02; Mpp=0.99±.02; Mrt=0.57±.06; Mrp=0.48±.01; Mtp=0.45±.05; Best double couple: M=1.28600×10^17 NP1:ϕs=330.00000°, δ=83.00000°, λ=-148.00000°. NP2:ϕs=235.00000°, δ=59.00000°, λ=-9.00000°. Principal axes: T 1.1940, Plg16.0000°, Azm98.0000°; N 0.1820, Plg58.0000°, Azm342.0000°; P -1.3770, Plg27.0000°, Azm197.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

NEIC ***27*** *12:08:22.9±0.0, 34°.52N×23°.78E, h28km, mb5.3/155, ML4.7(ATH), ML4.7(THE), After ATH.*

SFS ***27*** *12:08:23.0, 34°.37N×23°.67E, h0km, ML4.7*

ISK ***27*** *12:08:27.0, 34°.63N×24°.09E, h38km, ML4.6*

DDA ***27*** *12:08:48.6, 34°.33N×24°.18E, h40km, Ml4.5*

ISC 27 12:08:20.2±0.5, 34°.36N±0°.02×23°.69E±0°.02, h15km±2km, n1867, σ1ᵍ74/2078, mb5.2/272, MS5.0/85, 79C-38D, Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GVD	**Gavdhos**	**0.58**	**34**	P	**Pb**	**12 08 31.9**	**-0.2**
GVD				S	**Sg**	**12 08 38.8**	**-0.6**
GVD	**Gavdhos**	**0.58**	**34**	P	**Pb**	**12 08 31.9**	**-0.2**
GVD				*e*Sg	**Sg**	**12 08 39.0**	**-0.4**
GVD	**Gavdhos**	**0.58**	**34**	P	**Pb**	**12 08 32.0**	**-0.1**
GVD				S	**Sg**	**12 08 38.6**	**-0.7**
GVD				AML	AML	12 08 50.6	
GVD				AML	AML	12 08 52.1	
GVD	**Gavdhos**	**0.58**	**34**	*e*Pg	**Pb**	**12 08 31.9**	**-0.2**
GVD				*e*Sg	**Sg**	**12 08 39.0**	**-0.4**
IMMV	**Iera Moni Meta**	**1.13**	**12**	P	**Pn**	**12 08 41.5**	**0.0**
IMMV				S	**Sn**	**12 08 57.4**	**+0.7**
IMMV	**Iera Moni Meta**	**1.13**	**12**	P	**Pn**	**12 08 41.5**	**0.0**
IMMV				S	**Sb**	**12 08 55.9**	**0.0**
IMMV	**Iera Moni Meta**	**1.13**	**12**	P	**Pb**	**12 08 40.1**	**-1.3**
IMMV				S	**Sb**	**12 08 55.9**	**0.0**
IMMV				AML	AML	12 09 09.6	
IMMV				AML	AML	12 09 11.0	
VAM	**Vamos**	**1.13**	**21**	P	**Pb**	**12 08 41.2**	**-0.2**
VAM	**Vamos**	**1.13**	**21**	*e*P	**Pb**	**12 08 41.2**	**-0.2**
VAM	**Vamos**	**1.13**	**21**	P	**Pb**	**12 08 41.3**	**-0.2**
VAM				S	**Sb**	**12 08 54.4**	**-1.5**
VAM	**Vamos**	**1.13**	**21**	P	**Pb**	**12 08 41.3**	**-0.1**
VAM				S	**Sb**	**12 08 54.4**	**-1.5**
VAM				AML	AML	12 09 11.5	
VAM				AML	AML	12 09 12.5	
VAM	**Vamos**	**1.13**	**21**	*e*Pg	**Pb**	**12 08 41.2**	**-0.2**
SIVA	**Sivas**	**1.13**	**54**	P	**Pg**	**12 08 41.9**	**-0.1**
SIVA				S	**Sg**	**12 08 56.7**	**-0.1**
SIVA	**Sivas**	**1.13**	**54**	P	**Pg**	**12 08 41.9**	**-0.1**
SIVA				S	**Sg**	**12 08 56.7**	**-0.1**
SIVA	**Sivas**	**1.13**	**54**	P	**Pg**	**12 08 43.2**	**+1.2**
SIVA				S	**Sb**	**12 08 55.8**	**-0.3**
SIVA				AML	AML	12 09 10.3	
SIVA				AML	AML	12 09 12.0	
SIVA	**Sivas**	**1.13**	**54**	*e*Pn	**Pg**	**12 08 41.9**	**-0.1**
TMBK	**Timbaki Herakl**	**1.14**	**51**	P	**Pg**	**12 08 42.5**	**+0.4**
TMBK				S	**Sg**	**12 08 57.7**	**+0.8**
TMBK	**Timbaki Herakl**	**1.14**	**51**	P	**Pg**	**12 08 42.5**	**+0.4**
TMBK				S	**Sg**	**12 08 57.7**	**+0.8**
IDI	**Anoyia**	**1.35**	**46**	Pg	**Pb**	**12 08 45.2**	**-0.1**
	71nm,0.3s,baz=226,slow=12,SNR=108						
IDI				Lg	Lg	12 09 06.6	
	523nm,0.3s,baz=323,slow=20,SNR=9.0						
IDI	**Anoyia**	**1.35**	**46**	P	**Pb**	**12 08 45.4**	**+0.1**
IDI				S	**Sg**	**12 09 03.5**	**-0.4**
IDI	**Anoyia**	**1.35**	**46**	*e*Pn	**Pb**	**12 08 45.2**	**-0.1**
IDI				*e*Sn	**Sn**	**12 09 01.1**	**-1.3**
IDI				S	**Sg**	**12 09 03.5**	**-0.4**
IDI	**Anoyia**	**1.35**	**46**	P	**Pn**	**12 08 44.7**	**+0.1**
IDI				S	**Sn**	**12 09 01.6**	**-0.8**
IDI				AML	AML	12 09 17.1	
	comp=E,27945μm,1.2s						
IDI				AML	AML	12 09 17.6	
	comp=N,27520μm,1.2s						
IDI	**Anoyia**	**1.35**	**46**	*e*Pn	**Pb**	**12 08 45.2**	**-0.1**
IDI				*e*Sn	**Sn**	**12 09 01.1**	**-1.3**
IACM	**Heraklion**	**1.48**	**50**	P	**Pg**	**12 08 48.3**	**-0.3**
IACM				S	**Sg**	**12 09 07.2**	**-0.6**
IACM	**Heraklion**	**1.48**	**50**	P	**Pg**	**12 08 48.3**	**-0.3**
IACM				S	**Sg**	**12 09 07.2**	**-0.6**
IACM	**Heraklion**	**1.48**	**50**	P	**Pg**	**12 08 50.7**	**+2.1**
IACM				AML	AML	12 09 27.4	
IACM				AML	AML	12 09 40.7	
ANKY	**Antikythira Is**	**1.54**	**348**	P	**Pg**	**12 08 49.3**	**-0.5**
ANKY				S	**Sg**	**12 09 10.1**	**+0.2**
ANKY	**Antikythira Is**	**1.54**	**348**	P	**Pg**	**12 08 49.3**	**-0.5**
ANKY				S	**Sg**	**12 09 10.1**	**+0.2**
ANKY	**Antikythira Is**	**1.54**	**348**	P	**Pg**	**12 08 50.0**	**+0.2**
ANKY				AML	AML	12 09 29.6	
	comp=E,50199μm,0.9s						
ANKY				AML	AML	12 09 33.0	
	comp=N,37884μm,1.6s						
ANKY	**Antikythira Is**	**1.54**	**348**	*e*Pn	**Pg**	**12 08 49.3**	**-0.5**
ANKY				*e*Sn	**Sg**	**12 09 10.1**	**+0.2**
LAST	**Lasithi**	**1.67**	**61**	P	**Pn**	**12 08 49.5**	**+0.4**
LAST				S	**Sg**	**12 09 13.0**	**-1.1**
LAST	**Lasithi**	**1.67**	**61**	P	**Pb**	**12 08 50.7**	**-0.1**
LAST				S	**Sb**	**12 09 11.9**	**+0.2**
LAST	**Lasithi**	**1.67**	**61**	P	**Pb**	**12 08 50.7**	**-0.1**
LAST				S	**Sb**	**12 09 11.9**	**+0.2**
LAST				AML	AML	12 09 26.9	
	comp=N,23886μm,1.2s						
LAST				AML	AML	12 09 39.1	
	comp=E,20943μm,1.7s						
LAST	**Lasithi**	**1.67**	**61**	*e*Pn	**Pn**	**12 08 49.5**	**+0.4**
LAST				*e*Sn	**Sg**	**12 09 13.0**	**-1.1**
NPS	**Neapolis**	**1.82**	**60**	P	**Pb**	**12 08 52.4**	**-0.8**
NPS				S	**Sb**	**12 09 15.9**	**+0.1**
NPS	**Neapolis**	**1.82**	**60**	*e*P	**Pb**	**12 08 52.4**	**-0.8**
NPS				*e*		12 09 15.9	
NPS	**Neapolis**	**1.82**	**60**	P	**Pb**	**12 08 52.4**	**-0.8**
NPS				S	**Sb**	**12 09 15.9**	**+0.1**
NPS	**Neapolis**	**1.82**	**60**	P	**Pb**	**12 08 53.6**	**+0.4**
NPS				AML	AML	12 09 34.2	
	comp=E,27708μm,0.8s						
NPS				AML	AML	12 09 34.7	
	comp=N,19744μm,1.0s						
NPS	**Neapolis**	**1.82**	**60**	*e*Pn	**Pb**	**12 08 52.4**	**-0.8**
NPS				*e*Sn	**Sb**	**12 09 15.9**	**+0.1**
KYTH	**Kithira**	**1.98**	**345**	P	**Pb**	**12 08 55.3**	**-0.6**
KYTH				S	**Sb**	**12 09 21.1**	**+0.7**
KYTH	**Kithira**	**1.98**	**345**	P	**Pg**	**12 08 57.3**	**-0.8**
KYTH				AML	AML	12 09 44.1	
	comp=N,22647μm,0.9s						
KYTH				AML	AML	12 09 47.0	
	comp=E,41420μm,1.9s						
KYTH	**Kithira**	**1.98**	**345**	*e*Pn	**Pb**	**12 08 55.3**	**-0.6**
KYTH				*e*Sn	**Sb**	**12 09 21.1**	**+0.7**
ZKR	**Zakros**	**2.21**	**69**	P	**Pn**	**12 08 57.8**	**+1.4**
ZKR	**Zakros**	**2.21**	**69**	P	**Pn**	**12 08 57.8**	**+1.4**
ZKR				AML	AML	12 09 55.7	
	comp=E,15993μm,0.9s						
ZKR				AML	AML	12 10 02.2	
	comp=N,6273μm,1.0s						
MHLO	**Agia Marina, M**	**2.40**	**14**	P	**Pn**	**12 09 00.6**	**+1.6**
MHLO	**Agia Marina, M**	**2.40**	**14**	P	**Pn**	**12 09 00.6**	**+1.6**
MHLO	**Agia Marina, M**	**2.40**	**14**	P	**Pn**	**12 09 00.8**	**+1.8**
THR6	**Thira Island,**	**2.43**	**34**	P	**Pn**	**12 09 00.3**	**+0.9**
THR6	**Thira Island,**	**2.43**	**34**	P	**Pn**	**12 09 00.3**	**+0.9**
THR6	**Thira Island,**	**2.43**	**34**	*e*Pn	**Pn**	**12 09 00.3**	**+0.9**
VLI	**Veliai**	**2.44**	**346**	P	**Pb**	**12 09 02.0**	**-1.7**
VLI				S	**Sb**	**12 09 32.3**	**-1.3**
VLI	**Veliai**	**2.44**	**346**	P	**Pb**	**12 09 02.0**	**-1.7**
VLI				S	**Sb**	**12 09 32.3**	**-1.3**
VLI				*e*Sn	**Sb**	**12 09 33.8**	**+0.2**
VLI	**Veliai**	**2.44**	**346**	P	**Pb**	**12 09 02.6**	**-1.1**
VLI	**Veliai**	**2.44**	**346**	*e*Pn	**Pb**	**12 09 02.0**	**-1.7**
VLI				*e*Sn	**Sb**	**12 09 33.8**	**+0.2**
MHLA	**Plaka, Milos I**	**2.46**	**14**	P	**Pn**	**12 09 01.0**	**+1.2**
THR5	**Thira Island,**	**2.46**	**33**	P	**Pn**	**12 09 00.4**	**+0.6**
THR5	**Thira Island,**	**2.46**	**33**	P	**Pn**	**12 09 00.4**	**+0.6**
THT1	**Athinios (Pele**	**2.47**	**35**	P	**Pn**	**12 09 01.1**	**+1.1**
SANT	**Santorini**	**2.47**	**35**	P	**Pn**	**12 09 00.9**	**+0.8**
SANT				S	**Sb**	**12 09 32.6**	**-2.1**
SANT	**Santorini**	**2.47**	**35**	*e*Pn	**Pn**	**12 09 00.5**	**+0.5**
SANT				*e*Sn	**Sn**	**12 09 31.4**	**+1.3**
SANT				S	**Sb**	**12 09 32.6**	**-2.1**
SANT	**Santorini**	**2.47**	**35**	P	**Pn**	**12 09 00.6**	**+0.5**
SANT	**Santorini**	**2.47**	**35**	*e*Pn	**Pn**	**12 09 00.5**	**+0.5**
SANT				*e*Sn	**Sn**	**12 09 31.4**	**+1.3**
THR3	**Thira Island,**	**2.48**	**34**	P	**Pn**	**12 09 01.1**	**+1.1**
THR3	**Thira Island,**	**2.48**	**34**	P	**Pn**	**12 09 01.1**	**+1.1**
THR3	**Thira Island,**	**2.48**	**34**	*e*Pn	**Pn**	**12 09 01.1**	**+1.1**
THR8	**Santorini-Mono**	**2.51**	**35**	P	**Pn**	**12 09 01.2**	**+0.7**
THR2	**Thira island,**	**2.52**	**34**	P	**Pn**	**12 09 01.8**	**+1.1**
THR2	**Thira island,**	**2.52**	**34**	P	**Pn**	**12 09 01.8**	**+1.1**
THR2	**Thira island,**	**2.52**	**34**	*e*Pn	**Pn**	**12 09 01.8**	**+1.1**
CMBO	**Columbo, Santo**	**2.53**	**33**	P	**Pn**	**12 09 01.8**	**+1.0**
CMBO				S	**Sn**	**12 09 32.9**	**+1.5**
CMBO	**Columbo, Santo**	**2.53**	**33**	P	**Pn**	**12 09 01.8**	**+1.0**
CMBO				S	**Sn**	**12 09 32.9**	**+1.5**
CMBO	**Columbo, Santo**	**2.53**	**33**	P	**Pn**	**12 09 02.4**	**+1.6**
SERI	**Serifos**	**2.87**	**13**	P	**Pn**	**12 09 06.5**	**+1.0**
SERI	**Serifos**	**2.87**	**13**	P	**Pn**	**12 09 06.5**	**+1.0**
PYL	**PYLOS**	**2.99**	**328**	P	**Pn**	**12 09 08.8**	**+1.7**
PYL				S	**Sb**	**12 09 47.4**	**-2.2**
PYL	**PYLOS**	**2.99**	**328**	P	**Pn**	**12 09 07.8**	**+0.7**
PYL	**PYLOS**	**2.99**	**328**	*e*Pn	**Pn**	**12 09 08.5**	**+1.4**
PYL	**PYLOS**	**2.99**	**328**	P	**Pn**	**12 09 07.8**	**+0.7**
PYL	**PYLOS**	**2.99**	**328**	*e*Pn	**Pn**	**12 09 08.5**	**+1.4**
KARP	**Karpathos**	**3.08**	**66**	*e*PN	**Pn**	**12 09 09.5**	**+1.0**
KARP				*e*SN	**Sn**	**12 09 40.0**	**-5.1**
KARP	**Karpathos**	**3.08**	**66**	P	**Pn**	**12 09 10.2**	**+1.7**
KARP	**Karpathos**	**3.08**	**66**	P	**Pn**	**12 09 09.4**	**+1.0**
KARP	**Karpathos**	**3.08**	**66**	*e*Pn	**Pn**	**12 09 09.9**	**+1.5**
KARP				*e*Sn	**Sn**	**12 09 46.0**	**+0.9**
KARP	**Karpathos**	**3.08**	**66**	P	**Pn**	**12 09 09.4**	**+1.0**
KARP	**Karpathos**	**3.08**	**66**	*e*Pn	**Pn**	**12 09 09.9**	**+1.5**
KARP				*e*Sn	**Sn**	**12 09 46.0**	**+0.9**
APE	**Apeiranthos**	**3.09**	**28**	*e*PN	**Pn**	**12 09 09.3**	**+0.8**
APE				*e*SN	**Sn**	**12 09 40.3**	**-5.0**
APE	**Apeiranthos**	**3.09**	**28**	P	**Pn**	**12 09 09.2**	**+0.6**
APE				S	**Sn**	**12 09 48.2**	**+2.9**
APE	**Apeiranthos**	**3.09**	**28**	⇑*i*P	**Pn**	**12 09 08.8**	**+0.2**
APE	**Apeiranthos**	**3.09**	**28**	*d i*P	**Pn**	**12 09 08.9**	**+0.3**
APE				MLR	MLR		
	comp=Z,36μm,16.0s						
APE	**Apeiranthos**	**3.09**	**28**	P	**Pn**	**12 09 09.2**	**+0.6**
APE				S	**Sn**	**12 09 48.2**	**+2.9**
APE	**Apeiranthos**	**3.09**	**28**	P	**Pn**	**12 09 07.3**	**-1.3**
SLUM	**Salum**	**3.13**	**156**	P	**Pn**	**12 09 06.7**	**-2.3**
	baz=159						
SLUM				AMP		12 09 00.0	
	comp=N,8200μm,0.7s,logA/T=7.1,baz=159						
SLUM				S	**Sn**	**12 09 41.4**	**-4.8**
	baz=159						
SLUM	**Salum**	**3.13**	**156**	P	**Pn**	**12 09 06.7**	**-2.3**
VLX	**Vlachokerasia**	**3.19**	**341**	P	**Pb**	**12 09 14.0**	**-2.7**
VLX	**Vlachokerasia**	**3.19**	**341**	P	**Pb**	**12 09 14.0**	**-2.7**
VLX	**Vlachokerasia**	**3.19**	**341**	P	**Pb**	**12 09 14.8**	**-1.9**
VLX	**Vlachokerasia**	**3.19**	**341**	*e*Pn	**Pb**	**12 09 14.0**	**-2.7**
VLY	**Voula,Athens**	**3.49**	**1**	P	**Pn**	**12 09 15.3**	**+1.3**
VLY				S	**Sn**	**12 09 58.8**	**+3.8**
VLY	**Voula,Athens**	**3.49**	**1**	P	**Pn**	**12 09 14.5**	**+0.5**
VLY	**Voula,Athens**	**3.49**	**1**	*e*Pn	**Pn**	**12 09 14.8**	**+0.8**
VLY				S	**Sn**	**12 09 58.8**	**+3.8**
VLY	**Voula,Athens**	**3.49**	**1**	P	**Pn**	**12 09 14.5**	**+0.5**
VLY	**Voula,Athens**	**3.49**	**1**	*e*Pn	**Pn**	**12 09 14.8**	**+0.8**
AMT	**Artemida-Makis**	**3.56**	**334**	P	**Pn**	**12 09 17.0**	**+2.1**
AMT	**Artemida-Makis**	**3.56**	**334**	P	**Pn**	**12 09 17.0**	**+2.1**
AMT	**Artemida-Makis**	**3.56**	**334**	P	**Pn**	**12 09 17.7**	**+2.8**
NISR	**Nisiros**	**3.59**	**50**	P	**Pn**	**12 09 18.3**	**+2.9**
NISR	**Nisiros**	**3.59**	**50**	P	**Pn**	**12 09 18.3**	**+2.9**
ATHU	**Athens Univers**	**3.60**	**1**	P	**Pn**	**12 09 14.3**	**-1.3**
ATHU	**Athens Univers**	**3.60**	**1**	P	**Pn**	**12 09 14.3**	**-1.3**
ATH	**Athens Observa**	**3.61**	**0**	P	**Pn**	**12 09 17.4**	**+1.8**
ATH				S	**Sn**	**12 10 01.7**	**+3.8**
ATH	**Athens Observa**	**3.61**	**0**	P	**Pn**	**12 09 17.0**	**+1.4**
ATH				S	**Sn**	**12 10 01.7**	**+3.8**
ATH	**Athens Observa**	**3.61**	**0**	P	**Pn**	**12 09 17.0**	**+1.4**
ATH				AML	AML	12 10 30.9	
	comp=N,5060μm,1.3s						
ATH				AML	AML	12 10 32.7	
	comp=E,5179μm,2.4s						
NIS1	**Nisyros Isl.**	**3.62**	**51**	*e*PN	**Pn**	**12 09 16.7**	**+0.9**
NIS1	**Nisyros Isl.**	**3.62**	**51**	P	**Pn**	**12 09 16.9**	**+1.1**
NIS1	**Nisyros Isl.**	**3.62**	**51**	*e*Pn	**Pn**	**12 09 16.7**	**+0.9**
NIS1	**Nisyros Isl.**	**3.62**	**51**	P	**Pn**	**12 09 17.8**	**+2.0**
NIS1	**Nisyros Isl.**	**3.62**	**51**	*e*Pn	**Pn**	**12 09 16.9**	**+1.1**
LOUT	**Loutraki**	**3.67**	**351**	P	**Pn**	**12 09 18.2**	**+1.7**
LOUT	**Loutraki**	**3.67**	**351**	P	**Pn**	**12 09 18.2**	**+1.7**
PTL	**Penteli**	**3.69**	**2**	P	**Pn**	**12 09 16.1**	**-0.6**
PTL	**Penteli**	**3.69**	**2**	*e*Pn	**Pn**	**12 09 19.9**	**+3.2**
PTL	**Penteli**	**3.69**	**2**	P	**Pn**	**12 09 16.1**	**-0.6**
PTL	**Penteli**	**3.69**	**2**	*e*Pn	**Pn**	**12 09 19.9**	**+3.2**
LTK	**Loutraki**	**3.71**	**351**	P	**Pn**	**12 09 18.4**	**+1.4**
LTK	**Loutraki**	**3.71**	**351**	P	**Pn**	**12 09 18.4**	**+1.4**
LTK	**Loutraki**	**3.71**	**351**	P	**Pn**	**12 09 18.7**	**+1.7**
LTK	**Loutraki**	**3.71**	**351**	*e*Pn	**Pn**	**12 09 18.4**	**+1.4**
KARY	**Karystos**	**3.72**	**9**	P	**Pn**	**12 09 18.7**	**+1.6**
THAL	**Thalero**	**3.77**	**348**	P	**Pn**	**12 09 20.8**	**+3.0**
THAL	**Thalero**	**3.77**	**348**	P	**Pn**	**12 09 20.8**	**+3.0**
THAL	**Thalero**	**3.77**	**348**	P	**Pn**	**12 09 21.8**	**+4.0**
VILL	**Villia**	**3.81**	**355**	P	**Pn**	**12 09 19.2**	**+0.7**
VIL2	**Platees**	**3.86**	**355**	P	**Pn**	**12 09 19.2**	**+0.1**
KLV	**Kalavryta, Ach**	**3.89**	**342**	P	**Pn**	**12 09 21.4**	**+1.9**
KLV	**Kalavryta, Ach**	**3.89**	**342**	P	**Pn**	**12 09 20.8**	**+1.3**
KLV	**Kalavryta, Ach**	**3.89**	**342**	*e*Pn	**Pn**	**12 09 23.3**	**+3.8**
KLV	**Kalavryta, Ach**	**3.89**	**342**	P	**Pn**	**12 09 20.9**	**+1.3**
KLV	**Kalavryta, Ach**	**3.89**	**342**	*e*Pn	**Pn**	**12 09 23.3**	**+3.8**
DRO	**Drossia**	**3.93**	**336**	P	**Pn**	**12 09 22.0**

AGG e 12 10 37.5
AGG Agios Georgios 4.78 347 P Pn 12 09 33.0 +1.2
AGG Agios Georgios 4.78 347 ePn Pn 12 09 33.3 +1.5
AGG eSn Sb 12 10 37.5 -3.7
AGG Agios Georgios 4.78 347 P Pn 12 09 33.0 +1.2
AGG Agios Georgios 4.78 347 ePn Pn 12 09 33.3 +1.5
AGG eSn Sb 12 10 37.5 -3.7
EVR Evrytania 4.80 342 P Pn 12 09 36.0 +4.0
SKIA Skiathos 4.80 358 P Pn 12 09 32.9 +0.8
SKIA Skiathos 4.80 358 P Pn 12 09 32.9 +0.8
AYDB Zeytinkoy-Aydi 4.94 42 ePN Pn 12 09 35.4 +1.5
AYDB Zeytinkoy-Aydi 4.94 42 ePn Pn 12 09 35.4 +1.5
FETY Fethiye 4.95 61 ePN Pn 12 09 35.1 +1.0
FETY Fethiye 4.95 61 P Pn 12 09 33.9 -0.2
FETY Fethiye 4.95 61 ePn Pn 12 09 35.1 +1.0
FETY Fethiye 4.95 61 ePn Pn 12 09 33.4 -0.7
NEO Neokhori 4.96 356 P Pn 12 09 34.0 -0.1
NEO Neokhori 4.96 356 P Pn 12 09 34.0 -0.1
XOR Xorichti 5.02 356 P Pn 12 09 36.9 +1.9
XOR Xorichti 5.02 356 P Pn 12 09 36.9 +1.9
LKD2 Lefkada island 5.05 332 P Pn 12 09 36.8 +1.3
LKD2 Lefkada island 5.05 332 P Pn 12 09 36.8 +1.3
KSL Kastellorizon 5.14 68 P Pn 12 09 38.2 +1.6
KSL S Sn 12 10 39.1 +3.4
KSL Kastellorizon 5.14 68 ePn Pn 12 09 36.5 -0.1
KSL Kastellorizon 5.14 68 P Pn 12 09 38.2 +1.6
KSL S Sn 12 10 39.1 +3.4
KSL Kastellorizon 5.14 68 P Pn 12 09 34.3 -2.4
KSL Kastellorizon 5.14 68 ePn Pn 12 09 36.5 -0.1
AKAS Kas 5.18 67 ePN Pn 12 09 38.6 +1.3
AKAS Kas 5.18 67 iP Pn 12 09 36.4 -1.0
AKAS Kas 5.18 67 P Pn 12 09 36.4 -1.0
AKAS Kas 5.18 67 ePn Pn 12 09 38.0 +0.6
AKAS eSn Sn 12 10 36.4 -0.6
AKAS Kas 5.18 67 ePn Pn 12 09 38.0 +0.6
AKAS eSn Sn 12 10 36.4 -0.6
TAVA DENIZLI_Tavas 5.25 52 iP Pn 12 09 41.0 +2.7
PRK Paraskevi 5.30 22 P Pn 12 09 37.9 -0.9
PRK Paraskevi 5.30 22 P Pn 12 09 37.9 -0.9
SWA2 5.31 163 P Pn 12 09 37.5 -1.5
baz=165
SWA2 AMP 12 10 00.0
comp=N,5970µm,0.6s,logA/T=7.0,baz=165
SWA2 S Sn 12 10 34.4 -5.6
baz=165
SWA2 5.31 163 P Pn 12 09 37.5 -1.5
THL Klokotos Trika 5.37 346 P Pn 12 09 40.8 +1.0
THL Klokotos Trika 5.37 346 P Pn 12 09 40.8 +1.0
DNZL Cakiroluk 5.46 51 iP Pn 12 09 42.1 +0.8
DNZL Cakiroluk 5.46 51 P Pn 12 09 42.1 +0.8
GLHS Glhisar (BURDU 5.48 58 ePN Pn 12 09 43.1 +1.6
GLHS Glhisar (BURDU 5.48 58 ePn Pn 12 09 43.1 +1.6
AYVA Ayvalik 5.50 25 iP Pn 12 09 45.0 +3.5
GOLH Golhisar 5.57 57 iP Pn 12 09 44.0 +1.4
GOLH Golhisar 5.57 57 P Pn 12 09 44.0 +1.4
ELL Elmali 5.60 63 ePN Pn 12 09 44.9 +1.8
ELL Elmali 5.60 63 P Pn 12 09 44.9 +1.8
ELL Elmali 5.60 63 ePn Pn 12 09 44.9 +1.8
LIA Limnos Island 5.66 12 P Pn 12 09 46.5 +2.7
MANT Manisa 5.69 42 ePn Pn 12 09 42.5 -1.9
MANT Manisa 5.69 42 ePn Pn 12 09 42.5 -1.9
JAN Janina 5.76 338 P Pn 12 09 47.8 +2.6
JAN Janina 5.76 338 P Pn 12 09 45.0 -0.2
JAN Janina 5.76 338 P Pn 12 09 45.0 -0.2
KULA Kula-Manisa 5.76 43 ePN Pn 12 09 47.0 +1.8
KULA Kula-Manisa 5.76 43 ePn Pn 12 09 47.1 +1.8
LIT Litokhoron 5.81 351 P Pn 12 09 44.5 -1.4
LIT Litokhoron 5.81 351 P Pn 12 09 44.5 -1.4
EZN Ezine 5.85 20 ePN Pn 12 09 48.4 +2.0
EZN Ezine 5.85 20 ePn Pn 12 09 48.4 +2.0
KPRO Kipourio 5.89 342 P Pn 12 09 47.0 -0.1
OUR Ouranopolis 5.97 2 P Pn 12 09 49.7 +1.6
OUR Ouranopolis 5.97 2 P Pn 12 09 49.7 +1.6
KORT Korkueli 6.03 62 ePN Pn 12 09 50.4 +1.5
KORT Korkueli 6.03 62 iP Pn 12 09 47.9 -1.0
KORT Korkueli 6.03 62 P Pn 12 09 47.9 -1.0
KORT Korkueli 6.03 62 ePn Pn 12 09 50.4 +1.5
KZN Kozani 6.13 346 P Pn 12 09 49.3 -1.1
KZN Kozani 6.13 346 P Pn 12 09 49.3 -1.1
BRDR BURDUR-Merkez 6.14 55 iP Pn 12 09 50.6 +0.1
DEMI Demirci 6.18 39 iP Pn 12 09 53.5 +2.6
DEMI Demirci 6.18 39 P Pn 12 09 53.5 +2.6
KEK Kerkira 6.19 331 P Pn 12 09 48.6 -2.4
KEK Kerkira 6.19 331 P Pn 12 09 48.6 -2.4
ANTB Antalya 6.21 64 ePN Pn 12 09 53.4 +2.1
ANTB Antalya 6.21 64 ePn Pn 12 09 53.4 +2.1
BALY Balya 6.22 29 iP Pn 12 09 55.5 +3.9
HORT Hortiatis 6.25 356 P Pn 12 09 50.5 -1.4
HORT Hortiatis 6.25 356 P Pn 12 09 50.5 -1.4
SIMA Simav-Kutahya 6.35 40 ePN Pn 12 09 56.0 +2.7
BCK Bucak 6.39 59 ePN Pn 12 09 56.0 +2.0
BCK Bucak 6.39 59 P Pn 12 09 56.0 +2.0
BCK Bucak 6.39 59 ePn Pn 12 09 56.0 +2.0
KZIL AFYON_Kizioren 6.50 51 iP Pn 12 09 56.3 +0.9
GRG Griva 6.67 352 P Pn 12 09 55.9 -1.8
GRG Griva 6.67 352 P Pn 12 09 55.9 -1.8
FNA Florina 6.67 345 P Pn 12 09 57.9 +0.1
FNA Florina 6.67 345 P Pn 12 09 57.9 +0.1
FNA Florina 6.67 345 P Pn 12 09 55.8 -2.0
SUTC Sutluce-Ispart 6.70 60 ePN Pn 12 10 00.0 +1.9
SUTC Sutluce-Ispart 6.70 60 ePn Pn 12 10 00.0 +1.9
SRS Serrai 6.75 359 P Pn 12 09 58.6 -0.2
SRS Serrai 6.75 359 P Pn 12 09 58.6 -0.2
BAGO Egridir - ISPA 6.79 56 iP Pn 12 09 58.3 -1.1
ALN Alexandroupoli 6.79 15 P Pn 12 10 01.0 +1.7
ALN Alexandroupoli 6.79 15 P Pn 12 10 01.0 +1.7
ALN Alexandroupoli 6.79 15 P Pn 12 10 01.2 +1.9
TVSB Tavsanli 6.87 41 ePN Pn 12 10 02.9 +2.4
TVSB Tavsanli 6.87 41 ePn Pn 12 10 02.9 +2.4
BIA Bitola 6.91 345 iPn Pn 12 10 02.0 +1.0
BIA Bitola 6.91 345 iPn Pn 12 10 02.0 +1.0
SHUT Suhut-Afyon 6.93 51 ePN Pn 12 10 03.2 +1.9
SHUT Suhut-Afyon 6.93 51 ePn Pn 12 10 03.3 +1.9
VAY Valandovo 7.01 353 iPn Pn 12 10 04.0 +1.7
VAY Valandovo 7.01 353 P Pn 12 10 05.1 +2.8
VAY Valandovo 7.01 353 iPn Pn 12 10 04.0 +1.7
OHR Ohrid 7.12 342 iPn Pn 12 10 05.2 +1.2
OHR Ohrid 7.12 342 iPn Pn 12 10 05.1 +1.2
AKMC Akamas 7.14 82 P Pn 12 10 01.0 -3.2
AKMC Akamas 7.14 82 P Pn 12 10 01.0 -3.2
baz=271
PPCY Paphos 7.15 83 P Pn 12 10 01.5 -2.8
PPCY Paphos 7.15 83 P Pn 12 10 01.5 -2.8
baz=272
SOI Samo 7.20 303 P Pn 12 10 04.5 -0.5
SOI Samo 7.20 303 P Pn 12 10 04.5 -0.5
MMB Musomiste 7.22 0 iP Pn 12 10 05.9 +0.6
KRUS Krusevo 7.26 345 iPn Pn 12 10 06.8 +0.9
KRUS Krusevo 7.26 345 iPn Pn 12 10 06.7 +0.9
BOLV Bolvadin 7.28 51 iP Pn 12 10 07.7 +1.5
BOLV Bolvadin 7.28 51 ePn Pn 12 10 06.9 +0.7
BOLV Bolvadin 7.28 51 P Pn 12 10 07.7 +1.5
BOLV Bolvadin 7.28 51 ePn Pn 12 10 06.9 +0.7
RZN Rozhen 7.36 6 iP Pn 12 10 09.7 +2.3
ALFC Alefka 7.37 81 P Pn 12 10 04.4 -3.0
ALFC S Sn 12 11 24.6 -6.2
ALFC Alefka 7.37 81 P Pn 12 10 04.4 -3.0
baz=270
ALFC S Sn 12 11 24.6 -6.2
CEL Celeste 7.40 304 ePn Pn 12 10 06.9 -0.9
CEL eSn Sn 12 11 30.1 -1.4
CEL Celeste 7.40 304 ePn Pn 12 10 06.9 -0.9
CEL eSn Sn 12 11 30.1 -1.4
KDZ Kurdzhali 7.41 10 iP Pn 12 10 11.6 +3.8
KKB Krupnik 7.51 357 iP Pn 12 10 11.1 +1.8
HMYD Mayadein 7.55 125 P Pn 12 10 06.5 -3.3
baz=126
SZAC Souni 7.59 84 P Pn 12 10 08.6 -1.8
SZAC S Sn 12 11 32.1 -4.1
SZAC Souni 7.59 84 P Pn 12 10 08.6 -1.8
baz=273
SZAC S Sn 12 11 32.1 -4.1
TIR Tirane 7.61 338 eP Pn 12 10 10.8 +0.3
TIR e 12 11 37.5
TIR Tirane 7.61 338 ePn Pn 12 10 10.8 +0.3
TIR eS Sn 12 11 37.5 +1.0
TIR Tirane 7.61 338 ePn Pn 12 10 10.8 +0.3
TIR eSn Sn 12 11 37.5 +1.0
WDD Wied Dalam 7.66 284 ePn Pn 12 10 10.6 -0.6
WDD eSn Sn 12 11 37.0 -0.8
WDD Wied Dalam 7.66 284 ePn Pn 12 10 10.6 -0.6
WDD eSn Sn 12 11 37.0 -0.8
PLD Plovdiv 7.78 6 iP Pn 12 10 16.0 +3.2
KMER Konya-Meram 7.80 62 iP Pn 12 10 12.8 -0.6
KMER Konya-Meram 7.80 62 P Pn 12 10 12.8 -0.6
SKO Skopje 7.81 348 iPn Pn 12 10 14.6 +1.3
SKO Skopje 7.81 348 P Pn 12 10 12.9 -0.4
SKO Skopje 7.81 348 P Pn 12 10 12.9 -0.4
SKO Skopje 7.81 348 iPn Pn 12 10 14.6 +1.3
DIM Dimitrovgrad 7.82 10 iP Pn 12 10 17.7 +4.3
ISK Istanbul-Kandi 7.93 31 P Pn 12 10 17.0 +2.0
ISK Istanbul-Kandi 7.93 31 P Pn 12 10 17.0 +2.0
CSS Mathiatis 7.96 83 ePn Pn 12 10 12.0 -3.5
CSS Mathiatis 7.96 83 P Pn 12 10 12.7 -2.8
CSS S Sn 12 11 39.6 -5.7
CSS eSn Sn 12 11 40.9 -4.4
CSS Mathiatis 7.96 83 ePn Pn 12 10 12.0 -3.5
CSS eSn Sn 12 11 40.9 -4.4
CSS Mathiatis 7.96 83 P Pn 12 10 12.7 -2.8
baz=272
CSS S Sn 12 11 39.6 -5.7
TAR1 Taranto 7.99 322 ePn Pn 12 10 15.8 0.0
ORI Oriolo Calabro 8.11 317 P Pn 12 10 17.4 -0.1
ORI Oriolo Calabro 8.11 317 P Pn 12 10 17.4 -0.1
VAE Valguarnera 8.15 295 Pn Pn 12 10 19.9 +1.9
comp=N,18nm,0.3s,baz=148,slow=2.5,SNR=14
VAE Sn Sn 12 11 49.7 -0.2
comp=N,0.4nm,0.3s,baz=149,slow=2.7,SNR=2.2
KOT Kottamia 8.19 120 P Pn 12 10 15.6 -3.0
baz=121
HFRF Wahat Farafira 8.21 150 P Pn 12 10 16.6 -2.2
baz=151
VTS Vitosha 8.23 357 ⇓iP Pn 12 10 21.5 +2.3
VTS Vitosha 8.23 357 eP Pn 12 10 19.4 +0.2
VTS Vitosha 8.23 357 iP Pn 12 10 24.4 +5.2
VTS Vitosha 8.23 357 eP Pn 12 10 19.4 +0.2
VTS Vitosha 8.23 357 ePn Pn 12 10 19.4 +0.2
GLL Jalalah 8.31 123 P Pn 12 10 17.2 -3.0
baz=124
ULC Ulcinj 8.36 337 ⇑iPn Pn 12 10 20.0 -0.9
ULC eSn Sn 12 11 50.7 -4.4
ULC Ulcinj 8.36 337 ⇑iPn Pn 12 10 20.0 -0.9
JMB Yambol 8.41 15 iP Pn 12 10 23.4 +1.9
CUC Castrocucco 8.44 314 ePn Pn 12 10 20.8 -1.1
CUC eSn Sn 12 11 52.6 -4.3
CUC Castrocucco 8.44 314 ePn Pn 12 10 20.8 -1.1
CUC eSn Sn 12 11 52.6 -4.3
DRME Dracevica, Mon 8.58 337 ⇑iPn Pn 12 10 23.4 -0.5
DRME eSn Sn 12 11 56.2 -4.3
DRME Dracevica, Mon 8.58 337 ⇑iPn Pn 12 10 23.4 -0.5
BAI Bari 8.63 323 ePn Pn 12 10 24.1 -0.5
PVY Plav 8.73 342 ⇑iPn Pn 12 10 25.2 -0.8
PVY eSn Sn 12 11 59.1 -5.2
PVY Plav 8.73 342 ⇑iPn Pn 12 10 25.2 -0.8
PDG Podgorica 8.78 338 ⇑iP Pn 12 10 25.5 -1.1
PDG Podgorica 8.78 338 ⇑iP Pn 12 10 25.5 -1.1
PDG Podgorica 8.78 338 ⇑iPn Pn 12 10 26.4 -0.2
TTG Podgorica 8.78 338 ⇑iPn Pn 12 10 26.4 -0.2
TTG eSn Sn 12 12 00.6 -4.7
BUM Brajici-Budva 8.78 336 ⇓iPn Pn 12 10 26.4 -0.3
BUM eSn Sn 12 12 00.7 -4.7
BUM Brajici-Budva 8.78 336 ⇓iPn Pn 12 10 26.4 -0.3
KIZK Mersin 8.79 73 iP Pn 12 10 24.5 -2.3
CDT Castel del Mon 8.92 321 ePn Pn 12 10 28.2 -0.4
MPEP Malo Peshtene 8.99 0 iP Pn 12 10 33.8 +4.4
CEME Cevo 8.99 337 ⇓iPn Pn 12 10 29.0 -0.6
CEME eSn Sn 12 12 06.1 -4.5
CEME Cevo 8.99 337 ⇓iPn Pn 12 10 29.0 -0.6
BEY Berane 9.01 342 ⇑iPn Pn 12 10 29.7 -0.1
IVA Berane 9.01 342 ⇑iPn Pn 12 10 29.7 -0.1
IVA eSn Sn 12 12 06.6 -4.4
HCY Herceg Novi 9.05 335 ⇓iPn Pn 12 10 28.9 -1.4
HCY eSn Sn 12 12 06.8 -5.1
HCY Herceg Novi 9.05 335 ⇓iPn Pn 12 10 28.9 -1.4
ZAF Zafarana 9.07 121 P Pn 12 10 27.8 -2.8
baz=122
BR231 Keskin MP Arra 9.09 50 ePn Pn 12 10 31.5 +0.6
BR231 eSn Sn 12 12 10.2 -2.8
BR231 Keskin MP Arra 9.09 50 ePn Pn 12 10 31.5 +0.6
BR231 eSn Sn 12 12 10.2 -2.8
KOME Kolasin 9.09 340 ⇑iPn Pn 12 10 30.5 -0.4
KOME eSn Sn 12 12 08.1 -4.9
ANTO Ankara 9.11 50 eP Pn 12 10 32.9 +1.6
ANTO e 12 12 12.7
ANTO Ankara 9.11 50 eP Pn 12 10 32.9 +1.6
ANTO eS Sn 12 12 12.7 -0.9
ANTO Ankara 9.11 50 ePn Pn 12 10 32.9 +1.6
ANTO eSn Sn 12 12 12.7 -0.9
ANTO Ankara 9.11 50 Pn Pn 12 10 36.8 +5.5
SNR=12
ANTO Ankara 9.11 50 P Pn 12 10 36.8 +5.5
SNR=12
NKME Niksic 9.18 338 ⇑iPn Pn 12 10 31.7 -0.4
NKME eSn Sn 12 12 10.2 -5.0
NKME Niksic 9.18 338 ⇑iPn Pn 12 10 31.7 -0.4
NKY Niksic 9.21 338 ⇑iPn Pn 12 10 32.8 +0.2
NKY eSn Sn 12 12 10.5 -5.5
NKY Niksic 9.21 338 ⇑iPn Pn 12 10 32.8 +0.2
PRD Provadia 9.29 17 iP Pn 12 10 35.6 +2.0
DED Mersin 9.40 71 iP Pn 12 10 35.2 0.0
BRY Bratogost 9.44 336 ⇓iPn Pn 12 10 34.7 -1.0
BRY eSn Sn 12 12 15.9 -5.7
BRY Bratogost 9.44 336 ⇓iPn Pn 12 10 34.7 -1.0
MS1 Monte Sant'Ang 9.55 322 ePn Pn 12 10 35.6 -1.6
PLE Pljevlja 9.57 341 ⇓iPn Pn 12 10 35.8 -1.7
PLE eSn Sn 12 12 19.2 -5.6
BR101 Keskin Array S 9.58 53 ePn Pn 12 10 37.8 0.0
BR101 eSn Sn 12 12 23.3 -2.0
BR101 Keskin Array S 9.58 53 ePn Pn 12 10 37.9 0.0
BR101 eSn Sn 12 12 23.3 -2.0
BR131 Keskin Array S 9.58 53 ePn Pn 12 10 38.7 +0.9
BR131 Keskin Array B 9.58 53 ePn Pn 12 10 38.7 +0.9
BRTR Keskin Array B 9.58 53 Pn Pn 12 10 37.8 +0.1
comp=N,1.3nm,0.3s,baz=228,slow=13,SNR=43
BRTR Sn Sn 12 12 23.3 -2.0
baz=240,slow=12,SNR=2.0
BRTR LR LR 12 15 14.2
comp=N,10µm,20.1s,baz=232,slow=44
UPM Unac-Piva 9.59 339 ⇓iPn Pn 12 10 37.8 -0.1
UPM eSn Sn 12 12 19.8 -5.7
UPM Unac-Piva 9.59 339 ePn Pn 12 10 37.9 0.0
STON Ston 9.71 333 ePn Pn 12 10 37.2 -2.1
STON Sn Sn 12 12 21.4 -6.6
MMAI Mount Meron Ar 9.85 95 Pn Pn 12 10 38.1 -3.3
comp=N,11nm,0.3s,baz=266,slow=12,SNR=18
MMAI Sn Sn 12 12 23.8 -8.0
comp=N,14nm,0.3s,baz=266,slow=23,SNR=4.9
MMAI LR LR 12 16 45.8
comp=N,4µm,18.8s,baz=280,slow=52
YURE YUREGIR 10.03 72 iP Pn 12 10 42.0 -1.7
RCY Rachaya 10.13 91 eP Pn 12 10 41.1 -4.1
HWQ Hawqa 10.13 87 eP Pn 12 10 41.9 -3.5
ARNB Al Arnab 10.17 78 eP Pn 12 10 43.2 -2.6
ARNB eS Sn 12 12 28.5 -11
ARNB AML AML 12 12 46.1
comp=N,101nm,0.5s
ARNB AML AML 12 13 01.9
comp=E,85nm,0.6s
ARNB Al Arnab 10.17 78 eP Pn 12 10 43.2 -2.6
SNR=45
ARNB eS Sn 12 12 28.5 -11
comp=E,85nm,0.6s,SNR=40
BRBR Barbar 10.23 92 eP Pn 12 10 42.9 -3.8
BRBR eS Sn 12 12 29.9 -11
BRBR AML AML 12 12 39.1
comp=N,209nm,0.6s
BRBR AML AML 12 12 55.0
comp=E,204nm,0.6s
BRBR Barbar 10.23 92 eP Pn 12 10 42.9 -3.8
SNR=45
BRBR eS Sn 12 12 29.9 -11
comp=E,204nm,0.6s,SNR=40
YAYL Yayladag 10.30 77 iP Pn 12 10 43.0 -4.6
ILGA Ilgaz 10.37 47 ePn Pn 12 10 51.2 +2.5
ILGA Ilgaz 10.37 47 ePn Pn 12 10 51.2 +2.5
TCHB Talchebab 10.38 96 eP Pn 12 10 45.5 -3.2
TCHB eS Sn 12 12 33.3 -11
TCHB AML AML 12 12 51.4
comp=E,147nm,0.6s
TCHB AML AML 12 13 02.0
comp=N,356nm,0.6s
TCHB Talchebab 10.38 96 eP Pn 12 10 45.5 -3.2
SNR=45
TCHB eS Sn 12 12 33.3 -12
comp=N,356nm,0.6s,SNR=40
HAWK Haweek 10.50 86 eP Pn 12 10 47.0 -3.3
HAWK eS Sn 12 12 36.1 -12
HAWK AML AML 12 12 44.2
comp=N,61nm,0.5s
HAWK AML AML 12 12 46.5
comp=E,122nm,0.5s
HAWK Haweek 10.50 86 eP Pn 12 10 47.0 -3.3
SNR=45
HAWK eS Sn 12 12 36.1 -12
comp=E,122nm,0.5s,SNR=40
MDVR Moldovita 10.52 352 ⇑iP Pn 12 10 50.8 +0.3
MDVR Moldovita 10.52 352 ⇑iP Pn 12 10 50.8 +0.3
BTCH Batrach 10.58 77 eP Pn 12 10 49.0 -2.4
BTCH eS Sn 12 12 39.4 -10
BTCH AML AML 12 13 02.5
comp=N,140nm,0.5s
BTCH AML AML 12 13 07.0
comp=E,109nm,0.5s
BTCH Batrach 10.58 77 eP Pn 12 10 49.0 -2.4
SNR=45
BTCH eS Sn 12 12 39.4 -10
comp=E,109nm,0.5s,SNR=40
TOTH TOTAH 10.64 92 eP Pn 12 10 48.8 -3.3
TOTH eS Sn 12 12 39.5 -12
TOTH AML AML 12 12 49.9
comp=E,78nm,0.7s
TOTH AML AML 12 12 53.6
comp=N,91nm,0.5s
TOTH TOTAH 10.64 92 eP Pn 12 10 48.8 -3.3
SNR=45
TOTH eS Sn 12 12 39.5 -12
comp=N,91nm,0.5s,SNR=40
TIRR Tirgusor 10.72 18 ⇑iP Pn 12 10 55.8 +2.6
TIRR Tirgusor 10.72 18 eP Pn 12 10 55.5 +2.3
TIRR Tirgusor 10.72 18 ePn Pn 12 10 55.5 +2.3
TIRR Tirgusor 10.72 18 ⇑iP Pn 12 10 55.8 +2.6
TIRR Tirgusor 10.72 18 ePn Pn 12 10 55.5 +2.3
TLB Topalu 10.75 17 ⇓iP Pn 12 10 56.5 +2.9
DRWC Darouich 10.82 74 eP Pn 12 10 52.2 -2.4
DRWC eS Sn 12 12 45.0 -10
DRWC AML AML 12 13 00.2
comp=N,58nm,0.6s
DRWC AML AML 12 13 00.6
comp=E,55nm,0.6s
DRWC Darouich 10.82 74 eP Pn 12 10 52.2 -2.4
SNR=45
DRWC eS Sn 12 12 45.0 -10
comp=E,55nm,0.6s,SNR=40
SECR 10.82 9 ⇑iP Pn 12 10 58.4 +3.8
HARR Harsova 10.82 16 ⇑iP Pn 12 10 58.1 +3.5
MTUR Matau 10.91 5 ⇓iP Pn 12 11 02.2 +6.4
ISR Istrita 10.97 11 ⇑iP Pn 12 11 00.2 +3.6
SALA Sala 11.01 95 eP Pn 12 10 55.3 -2.0
SALA eS Sn 12 12 49.2 -11
SALA Sala 11.01 95 eP Pn 12 10 55.3 -2.0
SNR=45
SALA eS Sn 12 12 49.2 -11
SNR=40
ARR Arges 11.02 3 ⇓iP Pn 12 11 00.1 +2.7
ARR Arges 11.02 3 ⇓iP Pn 12 11 00.1 +2.7
GZR Gura Zlata 11.05 357 ⇓iP Pn 12 10 59.3 +1.6
GZR Gura Zlata 11.05 357 ⇓iP Pn 12 10 59.3 +1.6
LOT Lotru 11.08 0 ⇓iP Pn 12 10 59.5 +1.3
LOT Lotru 11.08 0 ⇓iP Pn 12 10 59.5 +1.3
VOIR 11.12 5 ⇑iP Pn 12 11 01.6 +2.9
FGSL Fruska Gora 11.19 346 ePn Pn 12 10 59.1 -0.5
ROOS tl_alroos 11.25 87 eP Pn 12 10 58.6 -2.0
ROOS eS Sn 12 12 54.5 -12
ROOS AML AML 12 13 09.2
comp=N,109nm,0.6s
ROOS AML AML 12 13 20.0
comp=E,128nm,0.6s
ROOS tl_alroos 11.25 87 eP Pn 12 10 58.6 -2.0
SNR=45
ROOS eS Sn 12 12 54.5 -12
comp=E,128nm,0.6s,SNR=40
MLR Muntele Rosu 11.25 8 Pn Pn 12 11 02.7 +2.1
comp=E,0.2nm,0.3s,baz=178,slow=11,SNR=18
MLR LR LR 12 16 07.9
comp=E,2µm,19.7s,baz=188,slow=42
MLR Muntele Rosu 11.25 8 ⇓iP Pn 12 11 03.2 +2.6
ASF Jabal al Asfar 11.27 97 Pn Pn 12 10 57.6 -3.2
comp=E,1.7nm,0.3s,baz=237,slow=14,SNR=18
ASF Sn Sn 12 13 01.4 -5.2
comp=E,3.1nm,0.3s,baz=42,slow=16,SNR=4.6
ASF LR LR 12 17 51.4
comp=E,2µm,18.2s,baz=237,slow=51
GRER 11.29 12 ⇑iP Pn 12 11 10.2 +9.2
CFR Carcaliu 11.33 16 ⇓iP Pn 12 11 05.0 +3.5
AQU L'Aquila 11.35 318 eP Pn 12 11 00.5 -1.4
AQU L'Aquila 11.35 318 eP Pn 12 11 00.5 -1.4
AQU L'Aquila 11.35 318 ePn Pn 12 11 00.5 -1.4
BZS Buzias 11.36 353 ⇓iP Pn 12 11 02.0 +0.1
BZS Buzias 11.36 353 ⇓iP Pn 12 11 02.0 +0.1
BLY Banja Luka 11.53 336 ePn Pn 12 11 02.9 -1.3
BLY Banja Luka 11.53 336 ePn Pn 12 11 02.9 -1.3
DEV Deva 11.53 357 ⇑iP Pn 12 11 05.2 +1.0
DEV Deva 11.53 357 ⇑iP Pn 12 11 05.2 +1.0
DOPR Dopca 11.67 6 ⇑iP Pn 12 11 08.8 +2.6
DOPR Dopca 11.67 6 ⇑iP Pn 12 11 08.8 +2.6
PLOR Plostina 11.70 10 ⇑iP Pn 12 11 11.6 +5.0
VRI Vrincioaia 11.73 10 ⇑iP Pn 12 11 10.6 +3.6
KEST Kesra 11.84 281 Pn Pn 12 11 05.4 -3.2
comp=E,0.3nm,0.3s,baz=60,slow=4.5,SNR=2.4
KEST Sn Sn 12 13 15.2 -5.4
comp=E,0.3nm,0.3s,baz=119,slow=19,SNR=2.2
KEST Kesra 11.84 281 ePn Pn 12 11 09.9 +1.3
KEST eSn Sn 12 13 13.1 -7.5
KEST Kesra 11.84 281 ePn Pn 12 11 09.9 +1.3
KEST eSn Sn 12 13 13.1 -7.5
UDBI Udbina 11.86 331 ePn Pn 12 11 09.0 +0.2
UDBI Sn Sn 12 13 15.0 -5.9
UDBI Udbina 11.86 331 ePn Pn 12 11 08.9 +0.2
SIRR Siria 12.00 353 ⇑iP Pn 12 11 10.7 0.0
SIRR Siria 12.00 353 ⇑iP Pn 12 11 10.7 0.0
NVLJ Novalja 12.25 329 ePn Pn 12 11 13.2 -1.0
NVLJ Sn Sn 12 13 23.9 -6.5
NVLJ Novalja 12.25 329 ePn Pn 12 11 13.1 -1.0
DRGR 12.44 357 ⇑iP Pn 12 11 18.1 +1.3
DRGR 12.44 357 P Pn 12 11 18.6 +1.8
DRGR 12.44 357 P Pn 12 11 18.6 +1.8
VSL Villasalto 12.55 298 ePn Pn 12 11 19.2 +1.0
VSL Villasalto 12.55 298 ePn Pn 12 11 19.2 +1.0
OZLJ Ozalj 12.88 333 ePn Pn 12 11 21.3 -1.4
PRAR RASCA 13.13 8 ⇑iP Pn 12 11 30.8 +4.7
BEHE Becsehely 13.19 339 ⇓ePn Pn 12 11 24.0 -2.9
KIS Kishinev 13.21 16 eP Pn 12 11 30.0 +2.8
comp=E,200nm,1.9s
KIS Kishinev 13.21 16 ePP P 12 11 40.0 +2.9
KIS eS Sn 12 13 59.0 +5.3
KIS eLi 12 14 52.0
KIS eLR LR 12 16 24.0
comp=E,11µm,14.0s
KIS Kishinev 13.21 16 eP Pn 12 11 30.0 +2.8
KIS eS Sn 12 13 59.0 +5.3
KIS pmax pmax
comp=Z,200nm,1.9s
KIS MLR MLR
comp=Z,11µm,14.0s
KIS MLR MLR
comp=Z,13µm,14.0s
KIS Kishinev 13.21 16 eP Pn 12 11 30.0 +2.8
comp=Z,200nm,1.9s
SFI Santa Sofia 13.23 320 P Pn 12 11 31.0 +3.4
SIM Simferopol' 13.27 34 eP P 12 11 34.0 -3.8
SIM S Sn 12 14 05.0 +10
SIM pmax pmax
comp=Z,32nm,1.0s
SIM MLR MLR
comp=Z,4µm,15.1s
BURAR Bucovina Array 13.29 4 ⇓iP Pn 12 11 31.6 +3.1
BUR08 Bucovina Ar. S 13.32 4 ePn Pn 12 11 33.6 +4.7
BUR08 Bucovina Ar. S 13.32 4 ePn Pn 12 11 33.6 +4.7
ABSA Djebel Ababsia 13.38 283 P Pn 12 11 34.2 +4.5
ABSA Djebel Ababsia 13.38 283 P Pn 12 11 34.2 +4.5
CEY Cerknica 13.39 331 ⇓iPn Pn 12 11 27.4 -2.3
SKDS Skadanscina 13.40 329 iPn Pn 12 11 28.1 -1.8
SKDS eSn Sn 12 13 46.1 -13
comp=Z,6µm,9.6s
SKDS Skadanscina 13.40 329 Pn Pn 12 11 28.1 -1.8
CMAH Djebel Manchou 13.46 284 P Pn 12 11 32.3 +1.6

CMAH Djebel Manchou 13.46 284 P **Pn** **12 11 32.3 +1.6**
LJU Ljubljana 13.60 332 *e*Pn **Pn** **12 11 31.3 -1.3**
LJU Ljubljana 13.60 332 *e*Pn **Pn** **12 11 30.4 -2.2**
CSKK Cs˙itkako 13.62 344 *e*P **Pn** **12 11 31.2 -1.6**
CSKK Cs˙itkako 13.62 344 *e*Pn **Pn** **12 11 31.2 -1.6**
TRI Trieste 13.64 329 *e*P **Pn** **12 11 32.7 -0.3**
TRI *e* 12 14 03.5
TRI Trieste 13.64 329 *e*P **Pn** **12 11 32.7 -0.3**
TRI *e*S **Sn** **12 14 03.5 -0.8**
TRI Trieste 13.64 329 *e*Pn **Pn** **12 11 32.7 -0.3**
TRI *e*Sn **Sn** **12 14 03.5 -0.8**
PSZ Piszkesteto 13.85 349⇑ *i*P **Pn** **12 11 34.7 -1.2**
PSZ Piszkesteto 13.85 349 *e*P **Pn** **12 11 36.7 +0.7**
PSZ Piszkesteto 13.85 349 *e*Pn **Pn** **12 11 36.7 +0.7**
PSZ Piszkesteto 13.85 349 *e*Pn **Pn** **12 11 36.6 +0.7**
SOKA Soboth 13.95 335 *i* Pn **Pn** **12 11 34.5 -2.8**
comp=Z,82nm,1.3s,SNR=24
OBKA Obir 13.98 333 *i* Pn **Pn** **12 11 36.7 -1.1**
comp=Z,30nm,0.6s
OBKA *i* Sn **Sn** **12 14 07.6 -5.2**
comp=Z,39nm,0.8s
OBKA Obir 13.98 333 Pn **Pn** **12 11 36.7 -1.1**
comp=Z,30nm,0.6s
CKFL Kef-Lekhel 14.00 283 P **Pn** **12 11 35.1 -3.1**
CKFL Kef-Lekhel 14.00 283 P **Pn** **12 11 35.1 -3.1**
MARD Mardin 14.17 73 *e*Pn **Pn** **12 11 41.7 +1.2**
MARD Mardin 14.17 73 *e*Pn **Pn** **12 11 41.6 +1.2**
VLC Villacollemand 14.20 318 *e*Pn **Pn** **12 11 43.0 +2.2**
VLC Villacollemand 14.20 318 *e*Pn **Pn** **12 11 43.0 +2.2**
SORM Soroca 14.20 13⇓ *i*P **Pn** **12 11 43.7 +3.0**
ARSA Arzberg 14.28 337 *i* Pn **Pn** **12 11 39.9 -1.9**
comp=Z,90nm,1.0s,SNR=13
ARSA Arzberg 14.28 337 Pn **Pn** **12 11 39.9 -1.9**
comp=Z,90nm,1.0s,SNR=13
UZH Uzhgorod 14.30 356 *e*P **Pn** **12 11 41.4 -0.7**
UZH *e*S **Sn** **12 14 20.4 0.0**
UZH MLR MLR
comp=N,10µm,11.0s
UZH MLR MLR
comp=E,7µm,11.0s
UZH MLR MLR
comp=Z,3µm,11.0s
KECS Kecovo 14.32 351 *e*P **Pn** **12 11 38.9 -3.4**
KECS Kecovo 14.32 351 *e*PN **Pn** **12 11 38.9 -3.4**
MYKA Terra Mystica 14.43 331 *i* Pn **Pn** **12 11 44.2 +0.2**
comp=Z,31nm,0.8s
MYKA Terra Mystica 14.43 331 Pn **Pn** **12 11 44.2 +0.2**
comp=Z,31nm,0.8s
KOPT Kop Dagi 14.53 62 *e*Pn **Pn** **12 11 46.3 +0.7**
KOPT Kop Dagi 14.53 62 *e*Pn **Pn** **12 11 46.3 +0.7**
VYHS Vyhne 14.58 347 *e*P **Pn** **12 11 43.0 -3.0**
VYHS MLR MLR
comp=Z,8µm,11.8s
VYHS Vyhne 14.58 347 *e*PN **Pn** **12 11 43.0 -3.0**
VYHS *e*L L **12 18 30.1**
CRVS Cervenica-Dubn 14.63 354 *e*P **Pn** **12 11 46.1 -0.5**
CRVS Cervenica-Dubn 14.63 354 *e*Pn **Pn** **12 11 46.1 -0.5**
CRVS Cervenica-Dubn 14.63 354 *e*PN **Pn** **12 11 46.1 -0.5**
DFRA Djebel Bou Aff 14.69 284 P **Pn** **12 11 48.7 +1.1**
DFRA Djebel Bou Aff 14.69 284 P **Pn** **12 11 48.7 +1.1**
CONA Conrad Observa 14.78 339 *i* Pn **Pn** **12 11 46.8 -1.9**
comp=Z,89nm,1.4s
CONA Conrad Observa 14.78 339 Pn **Pn** **12 11 46.8 -1.9**
comp=Z,89nm,1.4s
ANN Anapa 14.85 41 *e*P **Pn** **12 11 48.9 -0.6**
ANN *e*S **Sn** **12 14 35.4 +1.8**
ANN pmax pmax
comp=Z,82nm,1.5s
SMOL Smolenice 14.90 344 P **P** **12 11 54.7 -1.2**
SMOL Smolenice 14.90 344 P **P** **12 11 54.7 -1.2**
SMOL Smolenice 14.90 344 *e*P **P** **12 11 56.8 +0.9**
KBA Koelnbreinsper 14.92 332 *i* Pn **Pn** **12 11 50.0 -0.7**
comp=Z,210nm,0.9s,SNR=7.3
KBA Koelnbreinsper 14.92 332 Pn **Pn** **12 11 50.0 -0.7**
comp=Z,210nm,0.9s,SNR=7.3
ABTA Abfaltersbach 14.99 329 *i* Pn **Pn** **12 11 50.7 -0.9**
comp=Z,94nm,0.8s,SNR=14
ABTA *e*Sn **Sn** **12 14 28.5 -8.9**
comp=Z,11nm,0.6s
ABTA Abfaltersbach 14.99 329 Pn **Pn** **12 11 50.7 -0.9**
comp=Z,94nm,0.8s,SNR=14
SET Setif 15.06 282 P **Pn** **12 11 55.0 +2.5**
SET Setif 15.06 282 P **Pn** **12 11 55.0 +2.5**
LANS Liptovska Anna 15.11 349 *e*P **P** **12 11 59.2 +0.9**
LANS Liptovska Anna 15.11 349 *e*P **P** **12 11 59.2 +0.9**
LANS Liptovska Anna 15.11 349 *e*P **P** **12 11 59.2 +0.9**
STHS Stebnicka Huta 15.16 354 *e*P **P** **12 11 59.2 +0.4**
STHS Stebnicka Huta 15.16 354 *e*P **P** **12 11 59.2 +0.4**
STHS Stebnicka Huta 15.16 354 *e*P **P** **12 11 59.2 +0.4**
MOA Molln 15.22 335 *i* Pn **Pn** **12 11 52.7 -1.9**
comp=Z,140nm,0.7s,SNR=12
MOA Molln 15.22 335 Pn **Pn** **12 11 52.7 -1.9**
comp=Z,140nm,0.7s,SNR=12
NIE Niedzica 15.26 352 *e*P **P** **12 11 58.7 -1.2**
NIE *e*S **S** **12 15 00.1 -0.3**
NIE Niedzica 15.26 352 *e*P **P** **12 11 58.7 -1.2**
NIE Niedzica 15.26 352 *e*P **P** **12 11 58.7 -1.2**
NIE *e*S **S** **12 15 00.1 -0.3**
KWP Kalwaria Pacla 15.28 358 *e*P **P** **12 11 58.9 -1.2**
KWP Kalwaria Pacla 15.28 358 *e*P **P** **12 11 58.9 -1.2**
KWP Kalwaria Pacla 15.28 358 *e*P **P** **12 11 58.9 -1.2**
LVV L'vov 15.45 1 *e*P **Pn** **12 11 57.3 -0.3**
LVV *e*S **Sn** **12 14 49.6 +1.2**
LVV MLR MLR
comp=Z,6µm,13.0s
SOC Sochi 15.48 49 *e*P **Pn** **12 11 55.0 -2.9**
SOC *e* 12 14 46.4
SOC pmax pmax
comp=Z,10.0nm,0.4s
SOC MLR MLR
comp=Z,4µm,12.0s
WTTA Wattenberg 15.77 328 *i* Pn **Pn** **12 12 03.4 +1.5**
comp=Z,101nm,1.0s,SNR=11
WTTA Wattenberg 15.77 328 Pn **Pn** **12 12 03.4 +1.5**
comp=Z,101nm,1.0s,SNR=11
VRAC Vranov 15.84 343 Pn **Pn** **12 12 02.3 -0.3**
comp=Z,1.5nm,0.3s,baz=171,slow=14,SNR=12
VRAC LR LR 12 20 21.0
comp=Z,13µm,19.4s,baz=171,slow=46
VRAC Vranov 15.84 343 P **Pn** **12 12 02.3 -0.3**
VRAC pmax pmax
comp=Z,2.0nm,0.3s
VRAC MLR MLR
comp=Z,13µm,19.4s
WATA Walderalm 15.85 328 *i* Pn **Pn** **12 12 02.9 0.0**
comp=Z,52nm,0.8s,SNR=15
WATA Walderalm 15.85 328 Pn **Pn** **12 12 02.9 0.0**
comp=Z,52nm,0.8s,SNR=15
FUORN Ofenpass-Fuorn 15.92 324 *e*Pn **Pn** **12 12 04.5 +0.6**
comp=Z,173nm,1.2s
FUORN Ofenpass-Fuorn 15.92 324 *e*Pn **Pn** **12 12 04.5 +0.6**
comp=Z,173nm,1.2s
ARTV Artvin 15.94 59 *e*Pn **Pn** **12 12 04.1 0.0**
comp=Z,48nm,1.0s
ARTV Artvin 15.94 59 *e*Pn **Pn** **12 12 04.1 0.0**
comp=Z,48nm,1.0s
ATAF Djebel Tarf 15.96 281 P **Pn** **12 12 03.5 -0.9**
ATAF Djebel Tarf 15.96 281 P **Pn** **12 12 03.5 -0.9**
FETA Feichten 15.99 326 *i* Pn **Pn** **12 12 05.8 +1.0**
comp=Z,132nm,1.0s,SNR=25
FETA Feichten 15.99 326 Pn **Pn** **12 12 05.8 +1.0**
comp=Z,132nm,1.0s,SNR=25
OKC Ostrava-Krasne 16.00 347 *e*P **Pn** **12 12 05.7 +1.1**
OKC *e*x x 12 12 09.0
OKC *e*S **S** **12 15 15.1 -0.4**
OKC AMS AMS 12 19 40.0
comp=Z,12µm,14.1s
OKC Ostrava-Krasne 16.00 347 *e*P **Pn** **12 12 05.7 +1.1**
OKC MLR MLR
comp=Z,12µm,14.1s
OKC Ostrava-Krasne 16.00 347 *e*P **Pn** **12 12 05.7 +1.1**
comp=Z,12µm,14.1s
OKC S **S** **12 15 15.1 -0.4**
MORC Moravsky Berou 16.06 345⇑ *i*P **Pn** **12 12 05.1 -0.4**
MORC Moravsky Berou 16.06 345 *e*P **Pn** **12 12 04.9 -0.6**
MORC pmax pmax
comp=Z,471nm,1.1s
MORC Moravsky Berou 16.06 345 *e*Pn **Pn** **12 12 04.9 -0.6**
comp=Z,471nm,1.1s
MORC Moravsky Berou 16.06 345 *e*Pn **Pn** **12 12 04.9 -0.6**
comp=Z,471nm,1.1s
MOTA Moosalm 16.07 328 *i* Pn **Pn** **12 12 06.2 +0.5**
comp=Z,49nm,0.7s,SNR=20
MOTA Moosalm 16.07 328 Pn **Pn** **12 12 06.2 +0.5**
comp=Z,49nm,0.7s,SNR=20
OJC Ojcow 16.11 351 *e*P **P** **12 12 07.7 -1.5**
OJC *e*S **S** **12 15 15.1 -2.6**
OJC Ojcow 16.11 351 *e*P **P** **12 12 07.7 -1.5**
OJC Ojcow 16.11 351 *e*Pn **P** **12 12 07.8 -1.5**
comp=Z,56nm,1.1s
OJC *e*S **S** **12 15 15.1 -2.6**
OJC Ojcow 16.11 351 *e*Pn **P** **12 12 07.8 -1.5**
comp=Z,56nm,1.1s
FRF La Foret Royal 16.11 310 *e*P **Pn** **12 12 07.6 +1.5**
FRF La Foret Royal 16.11 310 *e*P **Pn** **12 12 07.6 +1.5**
TREC Trest 16.11 340 *e*P **Pn** **12 12 06.1 -0.1**
TREC *e*x x 12 12 10.4
TREC *e*S **S** **12 15 16.3 -1.6**
TREC AMS AMS 12 19 50.0
comp=Z,14µm,13.5s
TREC Trest 16.11 340 *e*P **Pn** **12 12 06.1 -0.1**
TREC MLR MLR
comp=Z,14µm,13.5s
ISO Isola 16.17 312 P **Pn** **12 12 08.6 +1.6**
ISO Isola 16.17 312 P **Pn** **12 12 08.6 +1.6**
DAVOX Davos/Dischmat 16.22 324 Pn **Pn** **12 12 07.6 -0.1**
comp=Z,1.0nm,0.3s,baz=151,slow=14,SNR=23
DAVOX Sn **Sn** **12 14 60.0 -7.5**
comp=Z,0.5nm,0.3s,baz=143,slow=20,SNR=2.5
DAVOX LR LR 12 19 30.3
comp=Z,4µm,21.8s,baz=118,slow=42
RAC Raciborz 16.23 347 *e*P **Pn** **12 12 08.3 +0.8**
RAC MLR MLR
comp=Z,15µm,15.5s
RAC Raciborz 16.23 347 *e*P **Pn** **12 12 08.3 +0.8**
comp=Z,15µm,15.5s
RAC *e*S **S** **12 15 19.7 -0.4**
GEA0 GERESS Array S 16.26 336 *e*Pn **Pn** **12 12 07.2 -0.9**
GEA0 GERESS Array S 16.26 336 *e*Pn **Pn** **12 12 07.2 -0.9**
GEC2 GERESS Array S 16.27 336 *e*P **Pn** **12 12 07.5 -0.8**
GEC2 pmax pmax
comp=Z,176nm,1.1s
GEC2 GERESS Array S 16.27 336 *e*Pn **Pn** **12 12 07.4 -0.8**
comp=Z,176nm,1.1s
GEC2 GERESS Array S 16.27 336 *e*Pn **Pn** **12 12 07.5 -0.8**
comp=Z,176nm,1.1s
GERES GERESS Array B 16.27 336 Pn **Pn** **12 12 05.2 -3.0**
comp=Z,0.6nm,0.3s,baz=154,slow=13,SNR=39
GERES ScP **ScP** **12 20 35.6 -0.2**
comp=Z,0.2nm,0.3s,baz=183,slow=2.7,SNR=13
GERES LR LR 12 20 42.9
comp=Z,4µm,20.3s,baz=144,slow=46
TUE Stuetta 16.27 322 *e*Pn **Pn** **12 12 08.2 -0.2**
comp=Z,111nm,0.9s
TUE Stuetta 16.27 322 *e*Pn **Pn** **12 12 08.2 -0.2**
comp=Z,111nm,0.9s
RETA Reutte 16.33 327 *i* Pn **Pn** **12 12 08.9 0.0**
comp=Z,61nm,1.1s,SNR=19
RETA Reutte 16.33 327 Pn **Pn** **12 12 08.9 0.0**
comp=Z,61nm,1.1s,SNR=19
MAHO Mahon 16.44 295 *i* P **Pn** **12 12 10.6 +0.3**
KRLC Kraliky 16.51 344 *e*P **Pn** **12 12 11.6 +0.4**
KRLC *e*x x 12 12 14.9
KRLC Kraliky 16.51 344 *e*P **Pn** **12 12 11.6 +0.4**
KRLC Kraliky 16.51 344 *e*P **Pn** **12 12 11.6 +0.4**
KHC Kasperske Hory 16.56 336 *e*P **Pn** **12 12 09.0 -2.8**
KHC *e*x x 12 12 15.9
KHC *e*S **S** **12 15 24.3 -2.6**
KHC AMS AMS 12 20 00.0
comp=Z,10µm,11.9s
KHC Kasperske Hory 16.56 336 *e*P **Pn** **12 12 09.0 -2.8**
KHC *e*S **S** **12 15 24.3 -2.6**
KHC MLR MLR
comp=Z,10µm,11.9s
KHC Kasperske Hory 16.56 336 *e*Pn **Pn** **12 12 11.3 -0.5**
comp=Z,120nm,0.9s
KHC *e*S **S** **12 15 24.3 -2.6**
comp=Z,10µm,11.9s
KHC Kasperske Hory 16.56 336 *e*Pn **Pn** **12 12 11.3 -0.5**
comp=Z,120nm,0.9s
DAVA Damuels 16.58 325 *i* P **P** **12 12 13.8 -0.9**
comp=Z,80nm,0.7s,SNR=29
DAVA Damuels 16.58 325 P **P** **12 12 13.8 -0.9**
comp=Z,80nm,0.7s,SNR=29
ADJB Djebel Djouab 16.64 282 P **Pn** **12 12 12.9 -0.2**
ADJB Djebel Djouab 16.64 282 P **Pn** **12 12 12.9 -0.2**
AK11 Malin Array Si 16.80 12 *e*Pn **Pn** **12 12 13.8 -1.0**
AK11 Malin Array Si 16.80 12 *e*Pn **Pn** **12 12 13.8 -1.0**
KIEV Kiev 16.82 12 *e*P **Pn** **12 12 13.3 -1.7**
KIEV *e* 12 15 20.3
KIEV pmax pmax
comp=Z,116nm,1.0s
KIEV Kiev 16.82 12 *e*Pn **Pn** **12 12 13.3 -1.7**
comp=Z,116nm,1.0s
KIEV Kiev 16.82 12 P **Pn** **12 12 15.2 +0.2**
SNR=11
KIEV *e*Sn **Sn** **12 15 20.3 -1.2**
KIEV Kiev 16.82 12 *e*Pn **Pn** **12 12 13.3 -1.7**
comp=Z,116nm,1.0s
KIEV *e*Sn **Sn** **12 15 20.3 -1.2**
AKASG Malin Array Be 16.83 12 Pn **Pn** **12 12 11.5 -3.6**
comp=Z,14nm,0.3s,baz=205,slow=10.0,SNR=33
AKASG Sn **Sn** **12 15 24.4 +2.7**
comp=Z,0.2nm,0.3s,baz=198,slow=21,SNR=4.4
AKASG LR LR 12 19 17.2
comp=Z,3µm,21.0s,baz=185,slow=39
AKASG ScP **ScP** **12 20 35.7 -1.0**
comp=Z,0.5nm,0.3s,baz=209,slow=1.6,SNR=6.5
AKBB Malin Array Si 16.83 12 *e*P **Pn** **12 12 13.2 -1.9**
AKBB pmax pmax
comp=Z,109nm,0.9s
AKBB Malin Array Si 16.83 12 *e*Pn **Pn** **12 12 13.2 -1.9**
comp=Z,109nm,0.9s
AKBB Malin Array Si 16.83 12 *e*Pn **Pn** **12 12 13.2 -1.9**
comp=Z,109nm,0.9s
BNI Bardonecchia 16.86 314 *e*P **Pn** **12 12 16.7 +0.9**
BNI pmax pmax
comp=Z,69nm,1.2s
BNI Bardonecchia 16.86 314 *e*Pn **Pn** **12 12 16.6 +0.8**
comp=Z,69nm,1.2s
BNI Bardonecchia 16.86 314 *e*Pn **Pn** **12 12 16.6 +0.8**
comp=Z,69nm,1.2s
DPC Dobruska-Polom 16.87 344 *e*P **Pn** **12 12 15.2 -0.6**
DPC *e*x x 12 12 18.8
DPC AMS AMS 12 20 20.0
comp=Z,11µm,14.2s
DPC Dobruska-Polom 16.87 344 *e*P **Pn** **12 12 15.2 -0.6**
DPC MLR MLR
comp=Z,11µm,14.2s
GOPC GO Pecny, Ondr 16.87 340 *e*P **Pn** **12 12 13.3 -2.5**
GOPC *e*x x 12 12 18.7
GOPC AMS AMS 12 20 20.0
comp=Z,14µm,13.2s
GOPC GO Pecny, Ondr 16.87 340 *e*P **Pn** **12 12 13.3 -2.5**
GOPC MLR MLR
comp=Z,14µm,13.2s
ABA Alger-Bouzarea 16.98 284 P **Pn** **12 12 14.9 -2.3**
ABA Alger-Bouzarea 16.98 284 P **Pn** **12 12 14.9 -2.3**
PRU Pruhonice 17.01 339 *e*P **Pn** **12 12 15.2 -2.3**
PRU *e*x x 12 12 20.3
PRU AMS AMS 12 20 20.0
comp=Z,15µm,12.5s
PRU Pruhonice 17.01 339 *e*P **Pn** **12 12 15.2 -2.3**
PRU MLR MLR
comp=Z,15µm,12.5s
UPC Upice 17.09 343 *e*P **Pn** **12 12 18.5 0.0**
UPC AMS AMS 12 20 30.0
comp=Z,12µm,15.2s
UPC Upice 17.09 343 *e*P **Pn** **12 12 18.5 0.0**
UPC MLR MLR
comp=Z,12µm,15.2s
UPC Upice 17.09 343 *e*P **Pn** **12 12 18.5 0.0**
comp=Z,12µm,15.2s
LPL La Plagne 17.09 316 *e*P **Pn** **12 12 18.6 -0.2**
LPL pmax pmax
comp=Z,26nm,1.2s
LPL La Plagne 17.09 316 *e*P **Pn** **12 12 18.6 -0.2**
comp=Z,26nm,1.2s
PRA Prague 17.11 339 *e*P **Pn** **12 12 18.7 -0.1**
PRA AMS AMS 12 20 30.0
comp=Z,15µm,12.5s
PRA Prague 17.11 339 *e*P **Pn** **12 12 18.7 -0.1**
PRA MLR MLR
comp=Z,15µm,12.5s
PRA Prague 17.11 339 *e*P **Pn** **12 12 18.7 -0.1**
comp=Z,15µm,12.5s
AKH Akhalkalaki 17.12 60 P **P** **12 12 23.3 +2.5**
AKH Akhalkalaki 17.12 60 *e*P **P** **12 12 23.3 +2.5**
BGD Bogdanovka 17.16 60 P **P** **12 12 23.5 +2.3**
RSL Roselend 17.25 316⇑ *e*P **Pn** **12 12 21.5 +0.8**
RSL Roselend 17.25 316⇑ *e*P **Pn** **12 12 21.5 +0.8**
NEY Neytrino 17.26 53 *e*P **Pn** **12 12 21.0 +0.2**
NEY MLR MLR
comp=Z,1µm,16.0s
NEY Neytrino 17.26 53 *e*P **Pn** **12 12 21.0 +0.2**
comp=Z,1µm,16.0s
ORIF Oris-en-Rattie 17.27 313 *e*P **Pn** **12 12 20.7 -0.2**
ORIF Oris-en-Rattie 17.27 313 *e*P **Pn** **12 12 20.7 -0.2**
SENIN Lac Senin/Sane 17.28 319 *e*Pn **Pn** **12 12 21.4 +0.3**
comp=Z,36nm,0.8s
SENIN Lac Senin/Sane 17.28 319 *e*Pn **Pn** **12 12 21.4 +0.3**
comp=Z,36nm,0.8s
GDM Grand'Maison 17.28 314 *e*P **Pn** **12 12 21.2 +0.1**
GDM Grand'Maison 17.28 314 *e*P **Pn** **12 12 21.2 +0.1**
KSP Ksiaz 17.34 344 *e*P **P** **12 12 22.4 -0.5**
KSP *e*S **S** **12 15 41.5 -1.3**
KSP Ksiaz 17.34 344 *e*P **P** **12 12 22.4 -0.5**
KSP *e*S **S** **12 15 41.5 -1.3**
KSP Ksiaz 17.34 344 *e*P **P** **12 12 22.4 -0.5**
KSP *e*S **S** **12 15 41.5 -1.3**
OG26 St.-Nazaire-De 17.45 311⇑ *e*P **Pn** **12 12 23.0 -0.1**
OG26 St.-Nazaire-De 17.45 311⇑ *e*P **Pn** **12 12 23.0 -0.1**
PVCC Panska Ves 17.48 340 *e*P **P** **12 12 24.1 -0.4**
PVCC AMS AMS 12 20 40.0
comp=Z,12µm,13.3s
PVCC Panska Ves 17.48 340 *e*P **P** **12 12 24.1 -0.4**
PVCC MLR MLR
comp=Z,12µm,13.3s
PVCC Panska Ves 17.48 340 *e*P **P** **12 12 24.1 -0.4**
comp=Z,12µm,13.3s
ONI Oni 17.49 56 P **Pn** **12 12 22.2 -1.5**
ONI Oni 17.49 56 *e*P **Pn** **12 12 22.1 -1.5**
GRN Grenoble 17.52 314 *e*P **Pn** **12 12 23.8 -0.2**
GRN Grenoble 17.52 314 *e*P **Pn** **12 12 23.8 -0.2**
KIV Kislovodsk 17.54 51 *i* P **P** **12 12 25.0 -0.3**
SNR=20
KIV Kislovodsk 17.54 51 *e*P **Pn** **12 12 24.5 +0.3**
KIV *e*S **Sn** **12 15 39.8 +0.5**
KIV pmax pmax
comp=Z,71nm,1.1s
KIV MLR MLR
comp=Z,3µm,14.0s
KIV Kislovodsk 17.54 51 Pn **Pn** **12 12 24.7 +0.5**
SNR=34
KIV Kislovodsk 17.54 51 P **P** **12 12 25.0 -0.3**
SNR=20
KIV Kislovodsk 17.54 51 *e*Pn **Pn** **12 12 23.3 -0.9**
comp=Z,123nm,1.0s
KIV Kislovodsk 17.54 51 Pn **Pn** **12 12 24.7 +0.5**
SNR=34
KIV Kislovodsk 17.54 51 P **Pn** **12 12 24.7 +0.5**
SNR=34
KVAR Kislovodsk Arr 17.55 51 P **Pn** **12 12 21.4 -2.9**
baz=88,slow=6.7,SNR=10
KVAR LR LR 12 21 11.6
comp=Z,5µm,18.6s,baz=232,slow=44
KBZ Khabaz 17.58 52 P **Pn** **12 12 24.3 -0.2**
comp=Z,0.5nm,0.3s,baz=253,slow=7.6,SNR=18
KBZ LR LR 12 21 14.9
comp=Z,6µm,18.5s,baz=252,slow=44
KBZ Khabaz 17.58 52 P **Pn** **12 12 24.3 -0.2**
KBZ pmax pmax
comp=Z,1.0nm,0.3s
KBZ MLR MLR
comp=Z,6µm,18.5s
KBZ Khabaz 17.58 52 P **Pn** **12 12 24.3 -0.2**
comp=Z,6µm,18.5s
BEL Belsk 17.60 354 *e*P **P** **12 12 28.9 +3.2**
BEL *e*S S **12 16 04.1 +16**
BEL Belsk 17.60 354 *e*P **P** **12 12 28.9 +3.2**
SPAK Spaichingen-Ko 17.68 325⇑ *e*P **Pn** **12 12 26.3 +0.3**
GNI Garni 17.71 65 P **Pn** **12 12 24.4 -2.1**
comp=Z,1.8nm,0.3s,baz=280,slow=6.1,SNR=2.8
GNI LR LR 12 20 40.0
comp=Z,8µm,20.1s,baz=268,slow=42
GNI Garni 17.71 65 P **P** **12 12 27.7 +0.4**
GNI Garni 17.71 65 *e*P **Pn** **12 12 26.2 -0.3**
GNI pmax pmax
comp=Z,204nm,1.5s
GNI Garni 17.71 65 *e*Pn **Pn** **12 12 26.2 -0.3**
comp=Z,204nm,1.5s
GNI Garni 17.71 65 P **P** **12 12 27.7 +0.4**
GNI Garni 17.71 65 *e*Pn **Pn** **12 12 26.2 -0.3**
comp=Z,204nm,1.5s
ZEI Tsey 17.87 56 *e*P **Pn** **12 12 27.1 -1.4**
ZEI pmax pmax
comp=Z,82nm,0.6s
NKC Novy Kostel 17.88 336 *e*P **Pn** **12 12 27.9 -0.4**
NKC AMS AMS 12 20 50.0
comp=Z,10µm,12.1s
NKC Novy Kostel 17.88 336 *e*P **Pn** **12 12 27.9 -0.4**
NKC MLR MLR
comp=Z,10µm,12.1s
NKC Novy Kostel 17.88 336 *e*P **Pn** **12 12 27.9 -0.4**
comp=Z,10µm,12.1s
FELD Feldberg im Sc 17.90 324⇑ *e*P **Pn** **12 12 28.5 -0.2**
NCK Nalchik 17.94 54⇑ *i*P **P** **12 12 29.7 +0.1**
NCK pmax pmax
comp=Z,42nm,1.0s
NCK MLR MLR
comp=Z,3µm,17.0s
NCK Nalchik 17.94 54 *i* P **P** **12 12 29.7 +0.1**
comp=Z,3µm,17.0s
BRG Berggiesshubel 17.97 340⇑ *i*P **P** **12 12 30.2 +0.3**
comp=Z,215nm,1.6s
BRG S **Sn** **12 15 51.0 +1.5**
comp=Z,16µm,12.9s
comp=N,12µm,13.1s
comp=E,6µm,13.1s
BRG Berggiesshubel 17.97 340⇑ *i*P **P** **12 12 30.2 +0.3**
BRG S **Sn** **12 15 51.0 +1.5**
BRG pmax pmax
comp=Z,215nm,1.6s
BRG MLR MLR
comp=Z,16µm,12.9s
BRG MLR MLR
comp=N,12µm,13.1s
BRG MLR MLR
comp=E,6µm,13.1s
BRG Berggiesshubel 17.97 340 *i* P **P** **12 12 30.2 +0.3**
comp=E,215nm,1.6s
STU Stuttgart 17.98 328 *e*P **P** **12 12 30.6 +0.5**
STU pmax pmax
comp=Z,109nm,1.2s
STU Stuttgart 17.98 328 *e*P **P** **12 12 30.6 +0.5**
comp=Z,109nm,1.2s
STU Stuttgart 17.98 328 *e*Pn **P** **12 12 30.6 +0.5**
comp=Z,109nm,1.2s
BFO Black Forest 18.06 325 *i* P **P** **12 12 31.5 +0.6**
BFO Black Forest 18.06 325 *e*Pn **P** **12 12 31.0 +0.1**
comp=Z,180nm,1.6s
BFO Black Forest 18.06 325 *i* P **P** **12 12 31.5 +0.6**
BFO Black Forest 18.06 325 *e*Pn **P** **12 12 31.1 +0.1**
comp=Z,180nm,1.6s
CABF La Chapelle 18.09 318 *e*P **Pn** **12 12 29.0 -2.1**
CABF La Chapelle 18.09 318 *e*P **Pn** **12 12 29.0 -2.1**
TBLG Delisi 18.11 60 P **Pn** **12 12 29.1 -2.2**
TBLG Delisi 18.11 60 *e*P **Pn** **12 12 29.0 -2.2**
LOMF Lomont 18.15 321⇑ *e*P **Pn** **12 12 30.4 -1.3**
LOMF Lomont 18.15 321⇑ *e*P **Pn** **12 12 30.4 -1.3**
GUDG Gudauri 18.16 57 P **P** **12 12 35.7 +3.4**
SJAF Saint Jean de 18.18 303 *e*P **Pn** **12 12 31.0 -1.1**
SJAF Saint Jean de 18.18 303 *e*P **Pn** **12 12 31.0 -1.1**
DUS Dusheti 18.19 59 P **P** **12 12 39.2 +6.7**
DUS Dusheti 18.19 59 *e*P **P** **12 12 39.2 +6.7**
SSB Saint Sauveur 18.27 312 *e*P **Pn** **12 12 32.1 -1.1**
SSB Saint Sauveur 18.27 312 *e*P **Pn** **12 12 32.4 -0.8**
SSB pmax pmax
comp=Z,24nm,0.9s
SSB Saint Sauveur 18.27 312 *e*P **Pn** **12 12 32.4 -0.8**
comp=Z,24nm,0.9s
SSB Saint Sauveur 18.27 312 *e*Pn **Pn** **12 12 32.4 -0.8**
comp=Z,24nm,0.9s
GOF Gofitskoye 18.28 48⇑ *e*P **P** **12 12 35.1 +1.7**
GOF pmax pmax
comp=Z,199nm,1.1s
GOF Gofitskoye 18.28 48 *e*P **P** **12 12 35.1 +1.7**
comp=Z,199nm,1.1s
MOF Molkenrain 18.32 322⇑ *e*P **Pn** **12 12 33.3 -0.5**
MOF Molkenrain 18.32 322 P **Pn** **12 12 33.8 0.0**
MOF Molkenrain 18.32 322 P **Pn** **12 12 33.8 0.0**
FILF Fillols 18.43 303⇑ *e*P **Pn** **12 12 35.5 +0.3**
DGRG David-gareji 18.49 61 P **Pn** **12 12 36.6 +0.6**
DGRG David-gareji 18.49 61 *e*P **Pn** **12 12 36.5 +0.6**

DGRG **David-gareji** 18.49 61 *eP* **Pn** **12 12 36.5 +0.6**
MOX **Moxa** 18.51 335 P **Pn** **12 12 36.6 +0.5**
MOX **Moxa** 18.51 335 P **Pn** **12 12 36.6 +0.5**
ECH **Echery** 18.55 323 *eP* **Pn** **12 12 37.1 +0.6**
ECH **Echery** 18.55 323 *eP* **Pn** **12 12 37.1 +0.6**
LRDF **Laroque-de-Fa** 18.58 304⇑ *eP* **P** **12 12 35.7 -1.0**
LRDF **Laroque-de-Fa** 18.58 304⇓ *eP* **P** **12 12 35.7 -1.0**
CLL **Collm** 18.63 339⇓ *iP* **Pn** **12 12 38.1 +0.6**
CLL pmax pmax
comp=Z,107nm,1.4s
CLL **Collm** 18.63 339 *eP* **Pn** **12 12 38.0 +0.6**
comp=Z,173nm,1.1s
CLL **Collm** 18.63 339⇓ *iP* **Pn** **12 12 38.1 +0.6**
comp=Z,107nm,1.4s
CLL *eP*max 12 12 40.0
CLL *i* pP **pP** **12 12 42.1 +0.8**
comp=Z,280nm,1.4s
CLL *i* PPP PPP 12 12 56.1
CLL *eS* **S** **12 16 18.0 +9.0**
CLL *i* ScP **ScP** **12 20 40.9 +0.4**
CLL *es*ScP 12 20 55.0
CLL *e*Lmax 12 21 24.0
CLL **Collm** 18.63 339 *eP* **Pn** **12 12 38.0 +0.6**
comp=Z,173nm,1.1s
VALF **Valcebollere** 18.76 302 *eP* **Pn** **12 12 39.5 +0.2**
VALF **Valcebollere** 18.76 302 *eP* **Pn** **12 12 39.5 +0.2**
LANF **Langenberg** 18.77 326 *eP* **Pn** **12 12 41.9 +2.7**
LBL **Lubilhac** 19.05 311 *eP* **Pn** **12 12 44.0 +1.3**
LBL **Lubilhac** 19.05 311 *eP* **Pn** **12 12 44.0 +1.3**
THEF **They Montfort** 19.15 322⇑ *eP* **Pn** **12 12 43.9 +0.1**
THEF **They Montfort** 19.15 322⇑ *eP* **Pn** **12 12 43.9 +0.1**
PLDF **La Plantade** 19.17 313⇑ *eP* **P** **12 12 42.7 -0.6**
PLDF **La Plantade** 19.17 313⇑ *eP* **P** **12 12 42.7 -0.6**
GKP **Gorka Klasztor** 19.46 348 *eP* **Pn** **12 12 46.9 -0.5**
GKP *eS* **S** **12 16 30.5 +4.9**
GKP **Gorka Klasztor** 19.46 348 *eP* **Pn** **12 12 46.9 -0.5**
GKP **Gorka Klasztor** 19.46 348 *eP* **Pn** **12 12 46.9 -0.5**
AGO **Saint Agoulin** 19.51 313 *eP* **P** **12 12 47.4 +0.5**
AGO **Saint Agoulin** 19.51 313 *eP* **P** **12 12 47.4 +0.5**
RUP **Ruppelstein** 19.62 326⇑ *eP* **Pn** **12 12 49.2 -0.3**
TAM **Tamanrasset** 19.65 239 *eP* **Pn** **12 12 50.3 +0.2**
TAM pmax pmax
comp=Z,83nm,1.2s
TAM **Tamanrasset** 19.65 239 *eP* **Pn** **12 12 50.3 +0.2**
comp=Z,83nm,1.2s
TAM **Tamanrasset** 19.65 239 *eP* **Pn** **12 12 50.3 +0.2**
comp=Z,83nm,1.2s
SUW **Suwalki** 19.66 359 *eP* **P** **12 12 46.8 -1.5**
SUW *eS* **S** **12 16 25.8 -3.7**
SUW **Suwalki** 19.66 359 *eP* **P** **12 12 46.8 -1.5**
SUW *eS* **S** **12 16 25.8 -3.7**
SUW **Suwalki** 19.66 359 *eP* **P** **12 12 46.8 -1.5**
CAF **Calviac** 19.66 309 *eP* **P** **12 12 47.8 -0.8**
CAF pmax pmax
comp=Z,19nm,0.9s
CAF **Calviac** 19.66 309 *eP* **P** **12 12 47.8 -0.8**
comp=Z,19nm,0.9s
MELF **Melles** 19.79 302 *eP* **Pn** **12 12 51.9 +0.3**
MELF **Melles** 19.79 302 *eP* **Pn** **12 12 51.9 +0.3**
SSF **Saint Saulge** 19.81 316 *eP* **P** **12 12 49.9 -0.2**
SSF pmax pmax
comp=Z,33nm,0.9s
SSF **Saint Saulge** 19.81 316 *eP* **P** **12 12 49.9 -0.2**
comp=Z,33nm,0.9s
WLF **Walferdange** 20.02 325 P Pn 12 12 54.0 -0.1
comp=Z,144nm,1.2s
WLF **Walferdange** 20.02 325 *eP* Pn 12 12 53.5 -0.6
WLF pmax pmax
comp=Z,197nm,1.0s
WLF **Walferdange** 20.02 325 *eP* Pn 12 12 53.5 -0.6
comp=Z,197nm,1.0s
WLF **Walferdange** 20.02 325 *eP* Pn 12 12 53.5 -0.6
comp=Z,197nm,1.0s
RESF **Ens** 20.07 302⇑ *eP* Pn 12 12 54.4 -0.5
RESF **Ens** 20.07 302⇑ *eP* Pn 12 12 54.4 -0.5
TCF **Toulx Ste Croi** 20.18 313 *eP* **P** **12 12 53.9 -0.3**
TCF pmax pmax
comp=Z,24nm,0.9s
TCF **Toulx Ste Croi** 20.18 313 *eP* **P** **12 12 53.9 -0.3**
comp=Z,24nm,0.9s
CART **Cartagena** 20.23 286 *eS* **S** **12 16 41.4 +0.1**
VSR **Storozhevoye** 20.25 29 *eP* **P** **12 12 53.6 -1.2**
VSR *eS* **S** **12 16 39.6 -1.8**
VSR pmax pmax
comp=Z,20nm,0.4s
VSR smax smax
comp=N,290nm,2.2s
VSR MLR MLR
comp=Z,2µm,8.0s
VSR **Storozhevoye** 20.25 29 *eP* **P** **12 12 53.6 -1.2**
comp=Z,20nm,0.4s
VSR *eS* **S** **12 16 39.6 -1.8**
comp=Z,2µm,8.0s
VIEF **Viey** 20.31 302⇑ *eP* **P** **12 12 56.3 +0.6**
VIEF **Viey** 20.31 302⇑ *eP* **P** **12 12 56.3 +0.6**
MICGM **Minsk** 20.36 7⇓ *eP* **P** **12 12 52.0 -4.0**
MICGM PM 12 12 53.0
comp=Z,0.3nm,1.0s
MICGM *e*PP PnPn 12 13 26.0 +13
MICGM *e*PPP PPP 12 13 33.0
MICGM *eS* **S** **12 16 34.0 -9.5**
MICGM *e*SS **SnSn** **12 17 08.0 +6.4**
MICGM *e*SSS SSS 12 17 32.0
MICGM *e*LQ LQ 12 19 56.0
MICGM *e*LR LR 12 21 06.0
MICGM LRM MLR 12 22 02.0
comp=Z,6.6nm,12.0s
MNK **Minsk** 20.36 7⇓ *eP* **P** **12 12 52.0 -4.0**
MNK *e* 12 13 26.0
MNK *eS* **S** **12 16 34.0 -9.5**
MNK *e*SS **SnSn** **12 17 08.0 +6.4**
MNK pmax pmax
comp=Z,340nm,1.0s
MNK MLR MLR
comp=Z,7µm,12.0s
KLNR **Kaliningrad** 20.39 354 *i* P **P** **12 12 57.4 +1.1**
KLNR pmax pmax
comp=Z,150nm,0.6s
KLNR MLR MLR
comp=Z,6µm,16.0s
MAK **Makhachkala** 20.43 58 *eP* Pn 12 12 57.9 -1.1
MAK pmax pmax
comp=Z,431nm,0.9s
MAK MLR MLR
comp=Z,3µm,18.0s
MAK **Makhachkala** 20.43 58 *eP* Pn 12 12 57.9 -1.1
comp=Z,3µm,18.0s
LFF **La Frestale** 20.53 308 *eP* **P** **12 12 57.7 -0.2**
LFF pmax pmax
comp=Z,65nm,1.0s
LFF **La Frestale** 20.53 308 *eP* **P** **12 12 57.7 -0.2**
comp=Z,65nm,1.0s
VORR **Voronezh** 20.62 28 *eP* **P** **12 12 59.0 +0.2**
VORR pmax pmax
comp=Z,500nm,1.4s
NACGM **Naroch** 20.66 5 *eP* **P** **12 12 56.0 -3.2**
NACGM PM 12 13 02.0
comp=Z,1.1nm,0.9s
NACGM *e*PP PnPn 12 13 30.0 +13
NACGM *eS* **S** **12 16 44.0 -5.5**
NACGM *e*PcP **PcP** **12 17 06.0 -3.0**
NACGM *e*SS SnSn 12 17 28.0 +19
NACGM *e*LQ LQ 12 19 03.0
NACGM *e*LR LR 12 20 47.0
NACGM LRM MLR 12 22 26.0
comp=Z,16nm,13.0s
MEM **Membach** 20.75 327 P Pn 12 13 01.6 -1.0
comp=Z,70nm,1.2s
MEM **Membach** 20.75 327 P Pn 12 13 02.1 -0.5
MEM pmax pmax
comp=Z,146nm,0.8s
MEM **Membach** 20.75 327 P Pn 12 13 02.1 -0.5
comp=Z,146nm,0.8s
ATE **Arette** 20.88 302 *eP* **P** **12 13 02.3 +0.5**
ATE **Arette** 20.88 302 *eP* **P** **12 13 02.3 +0.5**
HGN **Heimansgroeve** 20.89 327 *eP* Pn 12 13 03.1 -1.1
comp=Z,166nm,1.0s
HGN *eS* Sn 12 17 14.9 +15
HGN *eL* L 12 24 25.6
comp=Z,3µm,18.4s
BCLA **Clavier** 20.94 326 P **P** **12 13 03.6 +1.3**
BCLA **Clavier** 20.94 326 P **P** **12 13 03.6 +1.3**
BEBN **Eben Emael** 21.03 327 P **P** **12 13 04.7 +1.5**
comp=Z,47nm,1.4s

BEBN **Eben Emael** 21.03 327 P **P** **12 13 04.7 +1.5**
comp=Z,47nm,1.4s
DOU **Dourbes** 21.06 324 P **P** **12 13 04.3 +0.6**
comp=Z,128nm,1.0s
DOU **Dourbes** 21.06 324 P **P** **12 13 04.2 +0.6**
comp=Z,128nm,1.0s
IDID **Didziasalis** 21.06 5 *eP* **P** **12 13 02.8 -0.8**
IDID IAmb IAmb 12 13 13.0
comp=Z,123nm,1.1s
IDID **Didziasalis** 21.06 5 *eP* **P** **12 13 02.8 -0.8**
SNR=34
IIGN **Ignalina** 21.07 4 *eP* **P** **12 13 02.9 -0.8**
IIGN IAmb IAmb 12 13 13.3
comp=Z,87nm,0.8s
IIGN **Ignalina** 21.07 4 *eP* **P** **12 13 02.9 -0.8**
SNR=34
LARF **Larrau** 21.07 302⇑ *eP* **P** **12 13 04.2 +0.4**
LARF **Larrau** 21.07 302⇑ *eP* **P** **12 13 04.2 +0.4**
ORDF **Ordiarp** 21.08 302 *eP* **P** **12 13 03.6 -0.3**
ORDF **Ordiarp** 21.08 302 *eP* **P** **12 13 03.6 -0.3**
LPSR **Galich'ya Gora** 21.25 26 *eP* **P** **12 13 05.4 -0.2**
LPSR *eS* **S** **12 16 56.0 -5.1**
LPSR pmax pmax
comp=Z,60nm,0.9s
LPSR smax smax
comp=E,240nm,5.8s
LPSR MLR MLR
comp=Z,520nm,7.0s
ISAL **Salakas** 21.28 4 *eP* **P** **12 13 05.1 -0.8**
ISAL IAmb IAmb 12 13 13.1
comp=Z,49nm,0.8s
ISAL **Salakas** 21.28 4 *eP* **P** **12 13 05.1 -0.8**
SNR=34
OSSF **Osses** 21.32 302⇑ *eP* **P** **12 13 05.7 -0.8**
OSSF **Osses** 21.32 302⇑ *eP* **P** **12 13 05.7 -0.8**
WTSB **Winterswijk** 21.39 330 *eP* **P** **12 13 07.8 +0.6**
comp=Z,116nm,1.0s
WTSB **Winterswijk** 21.39 330 *eP* **P** **12 13 07.8 +0.6**
comp=Z,116nm,1.0s
IZAR **Zarasai** 21.47 4 *eP* **P** **12 13 07.2 -0.7**
IZAR IAmb IAmb 12 13 14.1
comp=Z,33nm,0.6s
IZAR **Zarasai** 21.47 4 *eP* **P** **12 13 07.2 -0.7**
SNR=34
SNF **Seneffe** 21.48 325 P **P** **12 13 08.2 +0.1**
SNF **Seneffe** 21.48 325 P **P** **12 13 08.2 +0.1**
BSD **Bornholm Skovb** 21.64 346 *i* P **P** **12 13 07.9 -1.8**
comp=Z,131nm,1.0s
BSD **Bornholm Skovb** 21.64 346 *eP* **P** **12 13 07.9 -1.8**
BSD pmax pmax
comp=Z,130nm,1.0s
BSD **Bornholm Skovb** 21.64 346 *eP* **P** **12 13 08.0 -1.8**
SNR=34
MFF **Saint Martin d** 21.78 311 *eP* **P** **12 13 10.5 -0.9**
MFF pmax pmax
comp=Z,54nm,0.8s
MFF **Saint Martin d** 21.78 311 *eP* **P** **12 13 10.5 -0.9**
comp=Z,54nm,0.8s
LLD **Lille Linde** 22.44 343 *i* P **P** **12 13 17.1 -1.3**
comp=Z,244nm,1.1s
LLD **Lille Linde** 22.44 343 *eP* **P** **12 13 17.1 -1.3**
LLD pmax pmax
comp=Z,240nm,1.1s
LLD **Lille Linde** 22.44 343 *eP* **P** **12 13 17.1 -1.3**
comp=Z,244nm,1.1s
OBN **Obninsk** 22.61 19 P **P** **12 13 20.3 +0.2**
comp=Z,94nm,0.6s,baz=256,slow=1.6,SNR=22
OBN LR LR 12 22 46.6
comp=Z,5µm,20.5s,baz=210,slow=38
OBN **Obninsk** 22.61 19*c* *i* P **P** **12 13 20.7 +0.6**
OBN *e* 12 13 45.0
OBN *eS* **S** **12 17 24.4 -2.8**
OBN pmax pmax
comp=Z,248nm,1.0s
OBN MLR MLR
comp=Z,5µm,17.0s
OBN **Obninsk** 22.61 19 *i* P **P** **12 13 20.7 +0.6**
comp=Z,248nm,1.0s
OBN **Obninsk** 22.61 19 *eP* **P** **12 13 21.2 +1.0**
comp=Z,422nm,1.3s
ES19 **SONSECA Array** 22.62 292 *eP* **P** **12 13 20.5 0.0**
ES19 **SONSECA Array** 22.62 292 *eP* **P** **12 13 20.5 0.0**
ESDC **Sonseca Array** 22.67 292 P **P** **12 13 20.5 -0.6**
comp=Z,5.0nm,0.6s,baz=90,slow=11,SNR=25
ESDC ScP **ScP** **12 20 50.6 +0.1**
comp=Z,0.3nm,0.3s,baz=68,slow=2.2,SNR=6.6
ESDC LR LR 12 24 10.5
comp=Z,1µm,18.6s,baz=115,slow=42
ESLA **Sonseca Array** 22.67 292 *eP* **P** **12 13 20.9 -0.2**
comp=Z,40nm,0.9s
ESLA **Sonseca Array** 22.67 292 *eP* **P** **12 13 20.9 -0.2**
comp=Z,40nm,0.9s
LDF **La Druitiere** 22.70 316 *eP* **P** **12 13 20.0 -1.2**
LDF pmax pmax
comp=Z,207nm,1.2s
LDF **La Druitiere** 22.70 316 *eP* **P** **12 13 20.0 -1.2**
comp=Z,207nm,1.2s
COP **Copenhagen** 22.71 343 *i* P **P** **12 13 23.7 +2.5**
comp=Z,107nm,1.1s
COP **Copenhagen** 22.71 343 *i* P **P** **12 13 23.7 +2.5**
COP pmax pmax
comp=Z,110nm,1.1s
COP **Copenhagen** 22.71 343 *i* P **P** **12 13 23.7 +2.5**
comp=Z,110nm,1.1s
PAB **San Pablo** 22.95 291 *eP* **P** **12 13 23.8 -0.3**
PAB pmax pmax
comp=Z,87nm,1.3s
PAB **San Pablo** 22.95 291 *eP* **P** **12 13 23.8 -0.3**
comp=Z,87nm,1.3s
PAB **San Pablo** 22.95 291 *eP* **P** **12 13 23.8 -0.3**
comp=Z,87nm,1.3s
SLIT **Sitere, Latvi** 23.30 358 *eP* **P** **12 13 28.2 +1.0**
SNR=147
ELSH **Elham, Standar** 23.43 323 *eP* **P** **12 13 29.0 +0.3**
ELSH AMB AMB 12 13 35.7
comp=Z,216nm,1.4s
ELSH AMS AMS 12 24 48.4
comp=Z,5µm,13.4s
ELSH **Elham, Standar** 23.43 323 *eP* **P** **12 13 29.0 +0.3**
MOS **Moscow** 23.45 20 *eP* **P** **12 13 27.9 -0.9**
MOS *e* 12 14 08.6
MOS *eS* **S** **12 17 39.0 -2.6**
MOS pmax pmax
comp=Z,213nm,0.9s
MOS pmax pmax
comp=Z,200nm,1.0s
MOS MLR MLR
comp=N,5µm,14.0s
MOS MLR MLR
comp=Z,5µm,14.0s
MOS **Moscow** 23.45 20 *eP* **P** **12 13 27.9 -0.9**
comp=Z,200nm,1.0s
ZFT **Errachidia** 23.56 272 *i* P **P** **12 13 31.0 +0.6**
MDT **Midelt** 23.61 274 P **P** **12 13 31.0 +0.3**
comp=Z,21nm,1.0s,baz=85,slow=12,SNR=16
JSA **Saint Aubin** 24.17 316 *eP* **P** **12 13 35.1 -0.6**
JSA AMB AMB 12 13 39.9
comp=Z,89nm,1.4s
JSA AMS AMS 12 24 46.5
comp=Z,3µm,17.2s
JSA **Saint Aubin** 24.17 316 *eP* **P** **12 13 35.1 -0.6**
VSU **Vasula** 24.20 4*c* *i*P **P** **12 13 34.5 -1.4**
VSU pmax pmax
comp=Z,345nm,1.2s
VSU MLR MLR
comp=Z,8µm,15.0s
VSU **Vasula** 24.20 4 *eP* **P** **12 13 35.4 -0.5**
SNR=152
MTSE **Matsula** 24.37 0 *eP* **P** **12 13 37.8 +0.4**
SNR=152
ROSF **Rostrenen** 24.44 313 *eP* **P** **12 13 37.6 -0.7**
ROSF pmax pmax
comp=Z,74nm,1.0s
ROSF **Rostrenen** 24.44 313 *eP* **P** **12 13 37.6 -0.7**
comp=Z,74nm,1.0s
WACR **West Acre** 24.65 325 *eP* **P** **12 13 40.3 +0.1**
WACR AMB AMB 12 13 45.5
comp=Z,180nm,1.0s
WACR AMS AMS 12 24 17.2
comp=Z,4µm,15.6s
WOL **Wolverton** 24.74 321 *eP* **P** **12 13 41.1 +0.2**
WOL AMS AMS 12 25 53.9
comp=Z,7µm,13.2s
WOL **Wolverton** 24.74 321 *eP* **P** **12 13 41.1 +0.2**
PBRG **Braganca** 24.99 296 *eP* **P** **12 13 43.3 -0.1**
comp=Z,90nm,1.5s

PBRG *eS* **S** **12 18 09.5 +2.7**
PBRG A A 12 25 45.4
comp=Z,2µm,18.0s
PBRG **Braganca** 24.99 296 *eP* **P** **12 13 43.3 -0.1**
comp=Z,90nm,1.5s
PBAR **Barrancos** 25.01 288 *eP* **P** **12 13 43.7 +0.1**
comp=Z,177nm,1.4s
PBAR *eS* **S** **12 18 08.5 +1.4**
PBAR A A 12 29 44.0
comp=Z,2µm,16.0s
PBAR **Barrancos** 25.01 288 *eP* **P** **12 13 43.7 +0.1**
comp=Z,177nm,1.4s
PBAR *eS* **S** **12 18 08.5 +1.4**
comp=Z,2µm,16.0s
MVO **Moncorvo** 25.14 295 *eP* **P** **12 13 45.0 +0.3**
comp=Z,143nm,1.5s
MVO *eS* **S** **12 18 13.6 +4.5**
MVO *e*LR LR 12 21 27.3
comp=Z,2µm,20.0s
MVO **Moncorvo** 25.14 295 *eP* **P** **12 13 45.0 +0.3**
comp=Z,143nm,1.5s
PMRV **Marv??o** 25.30 291 *eP* **P** **12 13 45.9 -0.3**
comp=Z,90nm,1.3s
PMRV *eS* **S** **12 18 16.1 +4.4**
PMRV *e*LR LR 12 21 17.5
PMRV **Marv??o** 25.30 291 *eP* **P** **12 13 45.9 -0.3**
comp=Z,90nm,1.3s
PCBR **Castelo Branco** 25.38 292 *eP* **P** **12 13 47.3 +0.4**
comp=Z,71nm,1.2s
PCBR **Castelo Branco** 25.38 292 *eP* **P** **12 13 47.3 +0.4**
comp=Z,71nm,1.2s
PESTR **Estremoz** 25.44 289 *eP* **P** **12 13 47.5 0.0**
comp=Z,81nm,1.2s
PESTR *eS* **S** **12 18 15.7 +1.7**
PESTR A A 12 26 11.0
comp=Z,1µm,18.0s
PESTR **Estremoz** 25.44 289 *eP* **P** **12 13 47.5 0.0**
comp=Z,81nm,1.2s
MTE **Manteigas** 25.46 293 *eP* **P** **12 13 47.7 0.0**
comp=Z,34nm,1.2s
MTE *eS* **S** **12 18 19.2 +4.9**
MTE *e*LR LR 12 21 35.4
comp=Z,1µm,18.0s
MTE **Manteigas** 25.46 293 *eP* **P** **12 13 47.7 0.0**
comp=Z,40nm,1.0s
MTE **Manteigas** 25.46 293 *eP* **P** **12 13 47.7 0.0**
comp=Z,40nm,1.0s
STRD **Stroud** 25.48 321 *eP* **P** **12 13 47.5 -0.1**
STRD AMB AMB 12 13 49.7
comp=Z,194nm,0.9s
STRD AMS AMS 12 26 25.6
comp=Z,5µm,15.3s
STRD **Stroud** 25.48 321 *eP* **P** **12 13 47.5 -0.1**
PVAQ **Vaqueiros** 25.57 286 *eP* **P** **12 13 48.9 +0.3**
comp=Z,48nm,1.2s
PVAQ *eS* **S** **12 18 15.7 -0.3**
PVAQ *e*LR LR 12 21 26.9
comp=Z,794nm,20.0s
PVAQ **Vaqueiros** 25.57 286 *eP* **P** **12 13 48.9 +0.3**
comp=Z,48nm,1.2s
PVAQ *eS* **S** **12 18 15.7 -0.3**
PVRL **Vila Real** 25.66 295 *eP* **P** **12 13 49.6 +0.1**
comp=Z,33nm,1.1s
PVRL **Vila Real** 25.66 295 *eP* **P** **12 13 49.6 +0.1**
comp=Z,33nm,1.1s
PBEJ **Beja** 25.67 287 *eP* **P** **12 13 49.5 0.0**
comp=Z,43nm,1.5s
PBEJ **Beja** 25.67 287 *eP* **P** **12 13 49.5 0.0**
comp=Z,43nm,1.5s
POLO **Lamas de Olo** 25.73 295 *eP* **P** **12 13 49.8 -0.4**
comp=Z,46nm,1.4s
POLO *eS* **S** **12 18 26.3 +7.7**
POLO A A 12 26 07.7
comp=Z,927nm,18.0s
POLO **Lamas de Olo** 25.73 295 *eP* **P** **12 13 49.8 -0.4**
comp=Z,46nm,1.4s
HGH **Gray Hill** 25.75 320 *eP* **P** **12 13 50.3 +0.2**
HGH **Gray Hill** 25.75 320 *eP* **P** **12 13 50.3 +0.2**
PBDV **Barranco-do-Ve** 25.75 286 *eP* **P** **12 13 50.1 -0.2**
comp=Z,72nm,1.3s
PBDV *eS* **S** **12 18 26.3 +7.4**
PBDV **Barranco-do-Ve** 25.75 286 *eP* **P** **12 13 50.1 -0.2**
comp=Z,72nm,1.3s
PVIS **Viseu** 25.75 294 *eP* **P** **12 13 50.2 -0.1**
comp=Z,48nm,1.0s
PVIS **Viseu** 25.75 294 *eP* **P** **12 13 50.2 -0.1**
comp=Z,48nm,1.0s
DYA **Yadsworthy** 25.76 317 *eP* **P** **12 13 49.7 -0.5**
DYA AMB AMB 12 13 52.2
comp=Z,60nm,1.1s
DYA AMS AMS 12 27 07.2
comp=Z,3µm,12.4s
DYA **Yadsworthy** 25.76 317 *eP* **P** **12 13 50.3 +0.1**
comp=Z,71nm,1.0s
DYA **Yadsworthy** 25.76 317 *eP* **P** **12 13 50.3 +0.1**
comp=Z,71nm,1.0s
EVO **Evora** 25.77 289 *eP* **P** **12 13 50.7 +0.2**
comp=Z,87nm,1.5s
EVO **Evora** 25.77 289 *eS* **P** **12 13 50.4 -0.1**
EVO **Evora** 25.77 289 S **P** **12 13 50.4 -0.1**
EVO **Evora** 25.77 289 S **P** **12 13 50.4 -0.1**
EVO **Evora** 25.77 289 *eP* **P** **12 13 50.7 +0.2**
comp=Z,87nm,1.5s
PUL **Pulkovo** 25.79 8 *eP* **P** **12 13 52.4 +2.0**
PUL pmax pmax
comp=Z,468nm,0.9s
PUL MLR MLR
comp=Z,2µm,16.0s
PUL **Pulkovo** 25.79 8 *eP* **P** **12 13 52.4 +2.0**
comp=Z,2µm,16.0s
PCVE **Castro Verde** 25.82 286 *eP* **P** **12 13 50.8 -0.1**
comp=Z,102nm,1.6s
PCVE *eS* **S** **12 18 27.1 +7.2**
PCVE A A 12 30 20.1
comp=Z,972nm,18.0s
PCVE **Castro Verde** 25.82 286 *eP* **P** **12 13 50.8 -0.1**
comp=Z,102nm,1.6s
MONM **Monmouth** 25.85 321 *eP* **P** **12 13 50.4 -0.6**
MONM AMS AMS 12 26 46.6
comp=Z,4µm,18.1s
MONM **Monmouth** 25.85 321 *eP* **P** **12 13 50.4 -0.6**
MEF **Metsahovi** 25.88 1 *eP* **P** **12 13 49.9 -1.2**
SNR=31
PCAB **Cabril** 25.94 296 *eP* **P** **12 13 52.2 +0.2**
comp=Z,89nm,1.1s
PCAB **Cabril** 25.94 296 *eP* **P** **12 13 52.2 +0.2**
comp=Z,89nm,1.1s
MESJ **Messejana** 25.95 287 *eP* **P** **12 13 52.0 -0.2**
MESJ *eS* **S** **12 18 23.3 +1.2**
MESJ AMS AMS 12 28 02.1
comp=N,2µm,12.3s
MESJ **Messejana** 25.95 287 *eP* **P** **12 13 52.1 0.0**
comp=N,58nm,1.5s
MESJ **Messejana** 25.95 287 *eP* **P** **12 13 51.9 -0.2**
MESJ *eS* **S** **12 18 23.2 +1.2**
MESJ **Messejana** 25.95 287 *eP* **P** **12 13 51.9 -0.2**
MESJ *eS* **S** **12 18 23.2 +1.2**
MCH1 **Michaelchurch** 26.04 321 *eP* **P** **12 13 52.9 +0.2**
MCH1 AMB AMB 12 13 54.9
comp=Z,105nm,1.4s
MCH1 AMS AMS 12 26 44.6
comp=Z,5µm,13.6s
MCH1 **Michaelchurch** 26.04 321 *eP* **P** **12 13 52.9 +0.2**
PTOM **Tomar** 26.09 291 *eP* **P** **12 13 53.4 +0.1**
comp=Z,44nm,1.2s
PTOM **Tomar** 26.09 291 *eP* **P** **12 13 53.4 +0.1**
comp=Z,44nm,1.2s
PGAV **Gavieira, Arco** 26.15 296 *eP* **P** **12 13 53.9 0.0**
comp=Z,42nm,0.8s
PGAV *eS* **S** **12 18 32.2 +7.0**
PGAV A A 12 30 11.9
comp=Z,1µm,16.0s
PGAV **Gavieira, Arco** 26.15 296 *eP* **P** **12 13 53.9 0.0**
comp=Z,42nm,0.8s
PCAS **Casmilo, Conde** 26.18 292 *eP* **P** **12 13 56.3 +2.2**
comp=Z,32nm,1.5s
PCAS *eS* **S** **12 18 32.5 +7.0**
PCAS A A 12 29 58.8
comp=Z,1µm,18.0s
PCAS **Casmilo, Conde** 26.18 292 *eP* **P** **12 13 56.3 +2.2**
comp=Z,32nm,1.5s
PNCL **Nicolau / Gran** 26.19 288 *eP* **P** **12 13 55.9 +1.7**
comp=Z,39nm,1.4s
PNCL *eS* **S** **12 18 34.7 +9.0**
PNCL A A 12 30 19.1
comp=Z,2µm,18.0s

PNCL Nicolau / Gran 26.19 288 *e*P P 12 13 55.9 +1.7
comp=Z,39nm,1.4s
HLM1 Long Mynd 26.26 322 *e*P P 12 13 54.6 -0.1
HLM1 AMB AMB 12 14 03.9
comp=Z,74nm,1.1s
HLM1 AMS AMS 12 26 27.4
comp=Z,4µm,13.6s
HLM1 Long Mynd 26.26 322 *e*P P 12 13 54.6 -0.1
HTL Hartland 26.34 318 *e*P P 12 13 55.0 -0.4
HTL AMB AMB 12 13 58.4
comp=Z,27nm,0.8s
HTL AMS AMS 12 27 16.4
comp=Z,3µm,13.2s
HTL Hartland 26.34 318 *e*P P 12 13 55.0 -0.4
PTEO Sao Teotonio 26.37 286 *e*P P 12 13 56.0 +0.2
comp=Z,132nm,1.4s
PTEO Sao Teotonio 26.37 286 *e*P P 12 13 56.0 +0.2
comp=Z,132nm,1.4s
SNART Snartemo 26.40 340 *e*P P 12 13 56.9 +1.0
SNART Snartemo 26.40 340 *e*P P 12 13 56.9 +1.0
SNR=28
PFVI Vila Bisbo 26.47 285 *e*P P 12 13 56.9 +0.1
PFVI *e*S S 12 18 47.1 +17
PFVI A A 12 26 51.6
comp=Z,793nm,20.0s
PFVI Vila Bisbo 26.47 285 *e*P P 12 13 56.9 +0.1
HFS Hagfors 26.61 349 P P 12 13 56.9 -0.9
comp=Z,36nm,0.5s,baz=162,slow=12,SNR=42
HFS LR LR 12 27 21.1
comp=Z,7µm,18.2s,baz=168,slow=43
FOEL Foel Wylfa 26.63 322 *e*P P 12 13 58.6 +0.6
FOEL AMB AMB 12 14 01.1
comp=Z,231nm,0.9s
FOEL AMS AMS 12 26 37.1
comp=Z,4µm,14.6s
FOEL Foel Wylfa 26.63 322 *e*P P 12 13 58.6 +0.6
LIS Lisbon 26.66 289 *e*S S 12 18 34.5 +1.3
LIS AMS AMS 12 29 47.8
comp=N,2µm,16.1s
LPW Lampeter 26.66 320 AMS AMS 12 27 12.2
comp=Z,4µm,15.8s
RAF Rauma 26.71 358 *e*P P 12 13 57.9 -0.7
SNR=152
PMAFR Mafra 26.76 290 *e*S S 12 18 37.9 +3.1
LLW Llanuwchllyn 26.84 322 AMS AMS 12 26 47.8
comp=Z,36µm,15.1s
FIA0 FINESS Array S 27.15 3 *e*P P 12 14 01.0 -1.6
FIA0 FINESS Array S 27.15 3 *e*P P 12 14 01.0 -1.6
FIA0 FINESS Array S 27.15 3 *e*P P 12 14 00.9 -1.6
FINES FINESS Array B 27.15 3 P P 12 14 01.0 -1.6
comp=Z,7.1nm,0.5s,baz=162,slow=11,SNR=24
FINES LR LR 12 26 12.8
comp=Z,8µm,18.0s,baz=187,slow=40
FINES FINESS Array B 27.15 3 *i* P P 12 14 02.9 +0.3
FINES pmax pmax
comp=Z,15nm,0.7s
FINES FINESS Array B 27.15 3 *i* P P 12 14 02.9 +0.3
comp=Z,15nm,0.7s
FIA1 FINESS Array S 27.15 3 *e*P P 12 14 01.3 -1.3
FIA1 FINESS Array S 27.15 3 *e*P P 12 14 01.3 -1.3
DAMY Dhamar 27.15 131 *e*P P 12 14 00.7 -2.7
comp=Z,24nm,1.0s
WPM1 Pennaenmawr 27.18 322 *e*P P 12 14 03.5 +0.4
WPM1 Penmaenmawr 27.18 322 *e*P P 12 14 03.5 +0.4
CIA Chichaoua 27.31 273 *i* P P 12 14 06.0 +1.6
WLF1 Llynfaes 27.45 322 AMS AMS 12 27 09.8
comp=Z,6µm,16.0s
NC602 NORSAR Array S 27.54 347 *e*P P 12 14 05.7 -0.5
NC602 NORSAR Array S 27.54 347 *e*P P 12 14 05.7 -0.5
KESW Keswick, Cumbr 27.55 325 *e*P P 12 14 06.5 +0.2
KESW AMB AMB 12 14 13.9
comp=Z,109nm,0.9s
KESW AMS AMS 12 26 31.2
comp=Z,3µm,13.8s
KESW Keswick, Cumbr 27.55 325 *e*P P 12 14 06.5 +0.2
NAO01 NORSAR Array S 27.77 347 *e*P P 12 14 07.8 -0.4
NAO01 NORSAR Array S 27.77 347 *e*P P 12 14 07.8 -0.4
NC405 NORSAR Array S 27.86 348 *e*P P 12 14 09.2 +0.1
NC405 NORSAR Array S 27.86 348 *e*P P 12 14 09.2 +0.1
NB201 NORSAR Array S 27.88 347 *e*P P 12 14 08.7 -0.6
NB201 NORSAR Array S 27.88 347 *e*P P 12 14 08.7 -0.6
NB2 NORSAR Subarra 27.89 347 P P 12 14 08.7 -0.6
baz=156,slow=9.3
NB2 NORSAR Subarra 27.89 347 P P 12 14 08.7 -0.6
baz=156,slow=9.3
NB2 NORSAR Subarra 27.89 347 P P 12 14 08.7 -0.6
comp=Z,54nm,1.1s,baz=156,slow=9.3
NB200 NORSAR Array S 27.89 347 *e*P P 12 14 08.1 -1.2
NB200 NORSAR Array S 27.89 347 *e*P P 12 14 08.1 -1.2
NOA NORSAR Array B 27.89 347 P P 12 14 08.1 -1.2
comp=Z,7.5nm,0.7s,baz=150,slow=9.5,SNR=20
NOA LR LR 12 27 53.8
comp=Z,3µm,18.3s,baz=155,slow=42
GEYT Alibeck 27.93 73 P P 12 14 10.1 +0.1
comp=Z,5.7nm,0.5s,baz=284,slow=6.0,SNR=9.2
NBO00 NORSAR Array S 27.96 347 *e*P P 12 14 09.4 -0.6
NBO00 NORSAR Array S 27.96 347 *e*P P 12 14 09.4 -0.6
NBO02 NORSAR Array S 27.96 347 *e*P P 12 14 09.7 -0.3
NBO02 NORSAR Array S 27.96 347 *e*P P 12 14 09.7 -0.3
EKA Eskdalemuir Ar 28.02 327 P P 12 14 09.8 -0.7
comp=Z,35nm,0.7s,baz=127,slow=8.8,SNR=30
EKA LR LR 12 28 08.9
comp=Z,3µm,19.1s,baz=125,slow=42
NC303 NORSAR Array S 28.03 347 *e*P P 12 14 10.1 -0.4
NC303 NORSAR Array S 28.03 347 *e*P P 12 14 10.2 -0.4
ESK Eskdalemuir 28.03 327 *e*P P 12 14 10.6 0.0
ESK AMB AMB 12 14 18.6
comp=Z,96nm,1.1s
ESK AMS AMS 12 27 52.1
comp=Z,3µm,21.7s
ESK Eskdalemuir 28.03 327 *e*P P 12 14 10.2 -0.4
ESK pmax pmax
comp=Z,100nm,0.9s
ESK Eskdalemuir 28.03 327 *e*P P 12 14 10.6 0.0
ESK Eskdalemuir 28.03 327 *e*P P 12 14 10.2 -0.4
comp=Z,100nm,0.9s
NC204 NORSAR Array S 28.19 347 *e*P P 12 14 12.7 +0.7
NC204 NORSAR Array S 28.19 347 *e*P P 12 14 12.7 +0.7
EDI Edinburgh 28.40 328 *e*P P 12 14 13.8 0.0
EDI Edinburgh 28.40 328 *e*P P 12 14 13.8 0.0
YBT Youssef Ben Ta 28.40 270 *e*P P 12 14 12.0 -2.1
KLMR Klimovskoe 28.42 16 *e*P P 12 14 12.4 -1.6
KLMR *e*S S 12 18 58.6 -1.8
KLMR pmax pmax
comp=Z,97nm,1.3s
KLMR MLR MLR
comp=Z,1µm,13.0s
KLMR Klimovskoe 28.42 16 *e*P P 12 14 12.4 -1.6
comp=Z,97nm,1.3s
KLMR *e*S S 12 18 58.6 -1.8
comp=Z,1µm,13.0s
SUF Sumiainen 28.43 2 P P 12 14 14.1 +0.1
SUF pmax pmax
comp=Z,38nm,0.9s
SUF Sumiainen 28.43 2 P P 12 14 14.1 +0.1
comp=Z,38nm,0.9s
DSB Dublin 28.45 321 *e*P P 12 14 14.2 -0.1
comp=Z,53nm,1.2s
DSB Dublin 28.45 321 *e*P P 12 14 14.2 -0.1
comp=Z,53nm,1.2s
ATD Arta Tunnel 28.66 138 P P 12 14 18.1 +1.5
comp=Z,5.0nm,0.4s,baz=327,slow=5.7,SNR=5.5
ATD LR LR 12 25 53.0
comp=Z,2µm,20.2s,baz=342,slow=37
VAF Ylistaro 28.72 359 P P 12 14 15.4 -1.2
VAF pmax pmax
comp=Z,55nm,0.9s
VAF Ylistaro 28.72 359 P P 12 14 15.4 -1.2
comp=Z,55nm,0.9s
JOF Joensuu 28.98 7 P P 12 14 18.0 -0.9
JOF pmax pmax
comp=Z,25nm,0.8s
JOF Joensuu 28.98 7 P P 12 14 18.0 -0.9
comp=Z,25nm,0.8s
TOA1 Torodi Ar. Sit 29.05 229 *e*P P 12 14 19.6 -0.4
TOA1 Torodi Ar. Sit 29.05 229 *e*P P 12 14 19.6 -0.4
TOA0 Torodi Ar. Sit 29.05 229 *e*P P 12 14 19.8 -0.2
TOA0 Torodi Ar. Sit 29.05 229 *e*P P 12 14 19.8 -0.2
TORD Torodi Ar. Bea 29.05 229 P P 12 14 19.6 -0.5
comp=Z,12nm,0.7s,baz=39,slow=8.8,SNR=78
TORD LR LR 12 28 21.8
comp=Z,3µm,18.4s,baz=30,slow=41
EAB Aberfoyle 29.07 327 *e*P P 12 14 20.0 +0.2
EAB Aberfoyle 29.07 327 *e*P P 12 14 20.0 +0.2
NAZ Nazwa, Dubai 29.20 100 P P 12 14 22.7 +1.4
NAZ Nazwa, Dubai 29.20 100 P P 12 14 22.7 +1.4
FAQ Al Faqa, Dubai 29.25 101 P P 12 14 23.5 +1.7
FAQ Al Faqa, Dubai 29.25 101 P P 12 14 23.5 +1.7
BANOM Banah 29.33 98 P P 12 14 23.4 +0.9
BANOM Banah 29.33 98 P P 12 14 23.4 +0.9
HATD Hatta, Dubai 29.66 100 P P 12 14 26.4 +1.0
HATD Hatta, Dubai 29.66 100 P P 12 14 26.4 +1.0
ASHO Ashiyiah 29.66 100 *i* P P 12 14 26.4 +0.9
SNR=6.7
ASHO Ashiyiah 29.66 100 P P 12 14 26.4 +0.9
SNR=6.7
UOSS Minazif 29.66 100 P P 12 14 25.5 +0.1
UOSS Minazif 29.66 100 *e*P P 12 14 25.2 -0.3
comp=Z,41nm,0.9s
AKTK Aktyubinsk 29.68 47 P P 12 14 24.4 -0.9
comp=Z,25nm,0.6s
AKTO Aktyubinsk 29.68 47 P P 12 14 24.4 -0.9
comp=Z,24nm,0.6s,baz=252,slow=9.2,SNR=75
LRW Lerwick 30.46 335 *e*P P 12 14 33.2 +1.1
LRW Lerwick 30.46 335 *e*P P 12 14 33.2 +1.1
SNR=28
AB31 Akbulak array 30.51 50 *e*P P 12 14 31.6 -1.1
AB31 pmax pmax
comp=Z,4.0nm,0.5s
AB31 Akbulak array 30.51 50 *e*P P 12 14 31.6 -1.1
comp=Z,4.0nm,0.5s
ABKAR Akbulak array 30.51 50 *e*P P 12 14 31.9 -0.8
comp=Z,171nm,0.8s
ABKAR Akbulak array 30.51 50 *e*P P 12 14 31.9 -0.8
comp=Z,171nm,0.8s
TMCR Tamitsa 31.11 12 *e*P P 12 14 38.8 +1.1
TMCR pmax pmax
comp=Z,67nm,1.2s
TMCR Tamitsa 31.11 12 *e*P P 12 14 38.8 +1.1
comp=Z,67nm,1.2s
WSAR Wadi Sarin 32.41 101 P P 12 14 49.8 +0.1
comp=Z,2.9nm,0.6s,baz=319,slow=3.2,SNR=3.8
WSAR LR LR 12 31 23.2
comp=Z,877nm,19.4s,baz=322,slow=43
ARU Arti 32.41 36 P P 12 14 48.0 -1.3
comp=Z,20nm,0.5s,baz=253,slow=8.0,SNR=21
ARU Arti 32.41 36 *c i*P P 12 14 48.8 -0.5
ARU 12 15 53.4
ARU 12 17 36.6
ARU S S 12 20 04.6 +1.5
ARU SS SnSn 12 21 51.5 -4.3
ARU SSS SSS 12 22 17.1
ARU pmax pmax
comp=Z,80nm,1.7s
ARU MLR MLR
comp=Z,2µm,17.0s
ARU Arti 32.41 36 *e*P P 12 14 48.8 -0.5
comp=Z,38nm,0.8s
ARU Arti 32.41 36 PcP PcP 12 17 36.6 +0.2
ARU S S 12 20 04.6 +1.5
ARU Arti 32.41 36 *e*P P 12 14 48.8 -0.5
comp=Z,38nm,0.8s
KONS Konsvik 32.78 352 *e*P P 12 14 52.4 0.0
KONS *ep*P pP 12 14 57.8 +0.9
KONS Konsvik 32.78 352 *e*P P 12 14 52.4 0.0
SNR=27
KONS *ep*P pP 12 14 57.8 +0.9
SNR=153
SVE Sverdlovsk 33.62 37 *i*P P 12 14 58.9 -0.9
SVE *e*S S 12 20 18.7 -3.1
SVE pmax pmax
comp=Z,92nm,0.8s
SVE MLR MLR
comp=Z,2µm,15.0s
SVE Sverdlovsk 33.62 37 *e*P P 12 14 58.9 -0.9
comp=Z,92nm,0.8s
APA Apatity 33.73 7 *i*P P 12 14 59.5 -1.2
APA *i* 12 16 15.9
APA *i*S S 12 20 15.0 -8.2
APA *i*SS SnSn 12 22 21.0 -6.4
APA MLR MLR
comp=Z,4µm,12.0s
APA Apatity 33.73 7 *i* P P 12 14 59.5 -1.2
PMOZ Porto Moniz, M 33.94 279 *e*S S 12 20 37.0 +10
PMOZ *e*LR LR 12 25 17.2
comp=Z,497nm,18.0s
STEI Steigen 33.97 354 *e*P P 12 15 03.4 +0.7
LVZ Lovozero 34.17 7 *i* P P 12 15 04.4 -0.2
LVZ pmax pmax
comp=Z,22nm,0.8s
LVZ MLR MLR
comp=Z,2µm,16.0s
LVZ Lovozero 34.17 7 *e*P P 12 15 04.8 +0.2
comp=Z,41nm,0.9s
LVZ Lovozero 34.17 7 *e*P P 12 15 04.8 +0.2
comp=Z,41nm,0.9s
KTK1 Kautokeino 34.71 360 *e*P P 12 15 09.7 +0.6
KEV Kevo 35.50 2 *e*P P 12 15 16.2 +0.3
KEV pmax pmax
comp=Z,95nm,1.5s
KEV Kevo 35.50 2 *e*P P 12 15 16.2 +0.3
comp=Z,95nm,1.5s
KEV Kevo 35.50 2 *e*P P 12 15 16.2 +0.3
comp=Z,95nm,1.5s
BRLS Boroldoy 36.65 62 *i* P P 12 15 24.1 -2.1
comp=Z,11nm,0.7s
IUG Iuzhnay 36.84 64 *i* P P 12 15 26.6 -1.3
comp=Z,289nm,1.2s
IUG *e*S S 12 21 11.7 -0.2
IUG LR LR 12 29 59.3
comp=Z,115nm,11.6s
KK31 Karatay Array 37.14 62 *i* P P 12 15 30.2 -0.2
KK31 pmax pmax
comp=Z,41nm,0.8s
KK31 Karatay Array 37.14 62 *i* P P 12 15 30.2 -0.2
comp=Z,41nm,0.8s
KKAR Karatay Array 37.14 62 *e*P P 12 15 30.0 -0.4
KKAR pmax pmax
comp=Z,331nm,0.7s
KKAR Karatay Array 37.14 62 *e*P P 12 15 30.0 -0.4
comp=Z,331nm,0.7s
KKAR Karatay Array 37.14 62 *e*P P 12 15 30.0 -0.4
comp=Z,331nm,0.7s
KBL Kabul 37.15 76 *e*P P 12 15 30.6 -0.2
KBL pmax pmax
comp=Z,10.0nm,0.8s
KBL Kabul 37.15 76 *e*P P 12 15 30.6 -0.2
comp=Z,10nm,0.8s
KBL Kabul 37.15 76 *e*P P 12 15 30.6 -0.2
comp=Z,10nm,0.8s
KMBO Kilima Mbogo 37.52 157 P P 12 15 34.1 +0.1
comp=Z,14nm,1.2s,baz=357,slow=11,SNR=9.6
KMBO Kilima Mbogo 37.52 157 *i* P P 12 15 35.0 +1.0
KMBO pmax pmax
comp=Z,6.0nm,1.0s
KMBO Kilima Mbogo 37.52 157 *i* P P 12 15 35.0 +1.0
comp=Z,6.0nm,1.0s
KMBO Kilima Mbogo 37.52 157 P P 12 15 36.6 +2.5
SNR=6.0
KMBO Kilima Mbogo 37.52 157 P P 12 15 36.6 +2.5
SNR=6.0
BRVK Borovoye 37.72 46 *ce*P P 12 15 36.1 +1.0
BRVK pmax pmax
comp=Z,23nm,0.9s
BRVK MLR MLR
comp=Z,5µm,17.0s
BRVK Borovoye 37.72 46 *e*P P 12 15 35.0 -0.1
comp=Z,69nm,1.4s
BRVK Borovoye 37.72 46 *e*P P 12 15 35.0 -0.1
comp=Z,69nm,1.4s
BRVK Borovoye 37.72 46 P P 12 15 36.8 +1.7
SNR=22
BRVK Borovoye 37.72 46 P P 12 15 36.8 +1.7
SNR=22
BRVK P P 12 15 36.8 +1.7
SNR=22
BVAR Borovoye Array 37.77 46 P P 12 15 34.7 -0.8
comp=Z,6.3nm,0.8s,baz=240,slow=5.0,SNR=22
BVAR LR LR 12 35 30.1
comp=Z,1µm,19.1s,baz=262,slow=43
BVAR Borovoye Array 37.77 46 P P 12 15 34.7 -0.8
BVAR pmax pmax
comp=Z,7.0nm,0.9s
BVAR MLR MLR
comp=Z,1µm,19.1s
DBIC Dimbokro 38.12 230 P P 12 15 38.3 -0.6
comp=Z,44nm,1.0s,baz=16,slow=11,SNR=14
DBIC LR LR 12 32 39.9
comp=Z,2µm,20.3s,baz=10,slow=38
DBIC Dimbokro 38.12 230 *e*P P 12 15 38.2 -0.6
comp=Z,70nm,1.1s
TIC Toumodi 38.25 230 *e*P P 12 15 39.3 -0.7
KIC Kosan Boka 38.29 230 *e*P P 12 15 38.7 -1.6
comp=Z,146nm,1.0s
LIC Lamto 38.58 230 *e*P P 12 15 41.0 -1.7
comp=Z,128nm,0.7s
MNAS Manas 38.64 63 P P 12 15 42.6 -0.6
MNAS pmax pmax
comp=Z,24nm,1.3s
MNAS Manas 38.64 63 P P 12 15 42.6 -0.6
comp=Z,24nm,1.3s
AAK Ala-Archa 40.10 63 P P 12 15 55.5 +0.2
comp=Z,18nm,0.9s,baz=247,slow=5.4,SNR=32
AAK LR LR 12 36 32.9
AAK Ala-Archa 40.10 63 *e*P P 12 15 55.7 +0.4
AAK pmax pmax
comp=Z,39nm,0.9s
AAK Ala-Archa 40.10 63 *e*P P 12 15 55.7 +0.4
comp=Z,39nm,0.9s
AAK Ala-Archa 40.10 63 *e*P P 12 15 55.7 +0.4
comp=Z,39nm,0.9s
AAK Ala-Archa 40.10 63 P P 12 15 55.8 +0.4
SNR=26
AAK Ala-Archa 40.10 63 P P 12 15 55.8 +0.4
SNR=26
AAK P P 12 15 55.8 +0.4
SNR=26
FRU Bishkek 40.17 62 *e*P P 12 15 55.0 -0.8
FRU *e* 12 22 11.0
FRU pmax pmax
comp=Z,200nm,2.0s
FRU MLR MLR
comp=E,1µm,14.0s
FRU Bishkek 40.17 62 *e*P P 12 15 55.0 -0.8
comp=E,200nm,2.0s
JMIC Jan Mayen 40.52 344 LR LR 12 33 51.1
comp=E,1µm,19.5s,baz=96,slow=38
BORG Borgarnes 40.69 332 P P 12 16 01.5 +1.8
comp=E,19nm,0.9s,baz=136,slow=6.6,SNR=3.9
BORG Borgarnes 40.69 332 *e*P P 12 16 00.0 +0.3
BORG pmax pmax
comp=Z,376nm,1.9s
BORG Borgarnes 40.69 332 *e*P P 12 16 00.0 +0.3
comp=Z,376nm,1.9s
BORG Borgarnes 40.69 332 *e*P P 12 15 60.0 +0.3
comp=Z,376nm,1.9s
BBTS Babate 41.18 252 P P 12 16 05.8 +1.4
comp=Z,14nm,0.3s,baz=5.4,slow=1.2,SNR=4.8
BBTS LR LR 12 35 27.3
comp=Z,1µm,19.5s,slow=40
KSH Kashi 41.62 67 ⇓ *i*P P 12 16 06.3 -1.6
KSH sP sP 12 16 15.0 +0.7
KSH PP PP 12 17 45.0 +1.0
KSH S S 12 22 17.8 -6.1
KSH sS pS 12 22 26.8 -2.3
KSH SS SS 12 25 15.8 -13
KSH pmax pmax
comp=Z,23nm,1.0s
KSH pmax pmax
comp=Z,180nm,5.1s
KSH LR LR
comp=Z,490nm,12.9s
KSH LR LR
comp=Z,450nm,13.1s
KSH LR LR
comp=Z,1µm,21.1s
AAA Alma-Ata 41.81 61 *e*P P 12 16 07.0 -2.3
AAA *i* S S 12 22 26.0 -0.4
AAA pmax pmax
comp=Z,300nm,2.2s
AAA smax smax
comp=N,700nm,8.9s
AAA MLR MLR
comp=Z,700nm,22.0s
MDOK Medeo 41.91 62 *i* P P 12 16 09.3 -1.0
comp=Z,100nm,1.0s
MDOK *e*S S 12 22 28.1 0.0
MDOK LRM MLR 12 36 50.2
comp=Z,270nm,19.5s
KURBB Kurchatov Arra 42.56 50 P P 12 16 14.5 -0.8
comp=Z,36nm,0.7s,baz=278,slow=8.5,SNR=61
KURK Kurchatov 42.62 50 *e*P P 12 16 15.1 -0.7
KURK pmax pmax
comp=Z,29nm,0.7s
KURK Kurchatov 42.62 50 P P 12 16 15.4 -0.4
SNR=18
KURK Kurchatov 42.62 50 *e*P P 12 16 15.1 -0.7
comp=Z,29nm,0.7s
KURK Kurchatov 42.62 50 P P 12 16 15.4 -0.4
SNR=18
KURK Kurchatov 42.62 50 P P 12 16 15.4 -0.4
SNR=18
KURK P P 12 16 15.4 -0.4
SNR=18
SATY Saty 42.91 61 *i* P P 12 16 16.8 -1.6
comp=Z,452nm,1.0s
SATY *e*S S 12 22 42.1 -0.7
SATY LR LR 12 34 17.7
comp=Z,125nm,12.2s
ZHN Zhinishke 42.91 61 *i* P P 12 16 17.0 -1.4
comp=Z,165nm,0.9s
ZHN *i* S S 12 22 43.0 +0.1
KPKS Kokpek 43.06 61 *i* P P 12 16 18.1 -1.4
comp=Z,133nm,0.8s
KPKS *e*S S 12 22 44.6 -0.3
KPKS LRM MLR 12 36 07.4
comp=Z,195nm,11.5s
UZB Uzynbulak 43.34 61 *i* P P 12 16 20.5 -1.4
comp=Z,100nm,0.8s
UZB *e*S S 12 22 49.0 -0.2
PDGK Podgornoye 43.66 61 P P 12 16 22.8 -1.6
PDGK pmax pmax
comp=Z,19nm,0.7s
PDGK Podgornoye 43.66 61 P P 12 16 22.8 -1.6
comp=Z,19nm,0.7s
SCO Scoresbysund 43.66 340 *i* P P 12 16 25.4 +1.6
comp=Z,81nm,1.3s
SCO Scoresbysund 43.66 340 *e*P P 12 16 25.4 +1.6
SCO pmax pmax
comp=Z,81nm,1.3s
SCO Scoresbysund 43.66 340 *e*P P 12 16 25.5 +1.6
SNR=25
SEM Semipalatinsk 43.66 51 *i* P P 12 16 23.4 -1.1
SEM *e*S S 12 22 54.0 +0.2
SEM LRM MLR 12 36 28.5
comp=Z,359nm,19.4s
BHK Bhakra 43.96 79 *e*P P 12 16 28.1 +1.2
SPA0 Spitsbergen Ar 44.04 358 *e*P P 12 16 27.2 +0.3
SPA0 Spitsbergen Ar 44.04 358 *e*P P 12 16 27.2 +0.3
SDNR Sundarnagar 44.38 78 *e*P P 12 16 30.0 -0.3
KBS Kingsbay 44.95 357 *e*P P 12 16 34.3 +0.2
KBS pmax pmax
comp=Z,62nm,1.3s
KBS Kingsbay 44.95 357 *e*P P 12 16 33.5 -0.6
SNR=25
KBS Kingsbay 44.95 357 *e*P P 12 16 34.3 +0.2
comp=Z,62nm,1.3s
MAKZ Makanchi 45.01 56 *e*P P 12 16 34.8 -0.3
MAKZ pmax pmax
comp=Z,27nm,0.8s
MAKZ Makanchi 45.01 56 *e*P P 12 16 34.8 -0.3
comp=Z,27nm,0.8s
MAKZ Makanchi 45.01 56 *e*P P 12 16 34.8 -0.3
comp=Z,27nm,0.8s
MK31 Makanchi Array 45.22 56 *i* P P 12 16 36.2 -0.6
MK31 pmax pmax
comp=Z,41nm,0.7s
MK31 Makanchi Array 45.22 56 *i* P P 12 16 36.2 -0.6
comp=Z,41nm,0.7s
MK31 Makanchi Array 45.22 56 *e*P P 12 16 36.0 -0.8
MK32 Makanchi Array 45.22 56 *e*P P 12 16 36.0 -0.8
MK32 Makanchi Array 45.22 56 *e*P P 12 16 36.0 -0.8
MKAR Makanchi Array 45.22 56 P P 12 16 36.0 -0.7
comp=Z,27nm,0.7s,baz=271,slow=7.7,SNR=144
MKAR LR LR 12 37 07.1
comp=Z,742nm,21.0s,baz=268,slow=38
MKAR Makanchi Array 45.22 56 *e*P P 12 16 36.3 -0.5
MKAR Makanchi Array 45.22 56 *e*P P 12 16 36.3 -0.5
comp=Z,319nm,0.8s
MKAR Makanchi Array 45.22 56 *e*P P 12 16 36.3 -0.5
comp=Z,319nm,0.8s
MK01 Makanchi Array 45.23 56 *e*P P 12 16 35.9 -1.0
MK01 Makanchi Array 45.23 56 *e*P P 12 16 35.9 -1.0
NVS Novosibirsk 45.51 44 ⇓ *i*P P 12 16 37.9 -0.9
NVS *i* 12 18 23.0
NVS *e*S S 12 23 19.6 -0.4

NVS pmax pmax
comp=Z,118nm,1.6s
NVS pmax pmax
comp=N,37nm,1.4s
NVS pmax pmax
comp=E,54nm,1.4s
NVS smax smax
comp=E,45nm,2.3s
NVS Novosibirsk 45.51 44 *i* P **P 12 16 37.9 -0.9**
comp=E,118nm,1.6s
ZAA0 Zalesovo Array 46.43 46 *e*P **P 12 16 45.0 -1.1**
ZAA0 Zalesovo Array 46.43 46 *e*P **P 12 16 45.0 -1.1**
ZAA1 Zalesovo Array 46.43 46 *e*P **P 12 16 44.9 -1.2**
ZAA1 Zalesovo Array 46.43 46 *e*P **P 12 16 44.9 -1.2**
ZALV Zalesovo Beam 46.43 46 P **P 12 16 44.9 -1.2**
comp=E,14nm,0.4s,baz=268,slow=9.2,SNR=50
ZALV LR LR 12 38 43.3
comp=E,1μm,20.7s,baz=250,slow=39
ZALV Zalesovo Beam 46.43 46 *e*P **P 12 16 44.4 -1.7**
DAG Danmarks Havn 46.57 348 *i* P **P 12 16 46.8 -0.1**
comp=E,10nm,0.7s
comp=Z,2μm,24.0s
DAG Danmarks Havn 46.57 348 *i* P **P 12 16 46.8 -0.1**
DAG pmax pmax
comp=Z,7.0nm,0.7s
DAG MLR MLR
comp=Z,2μm,24.0s
ZSN Zaisan 46.90 55 *i* P **P 12 16 46.7 -3.2**
comp=Z,32nm,0.9s
ZSN *e*S **S 12 23 36.5 -3.8**
ZSN LRM MLR 12 38 21.4
comp=Z,122nm,15.3s
NRIK Noril'sk 49.12 25 P **P 12 17 06.3 -0.5**
comp=Z,12nm,0.6s,baz=232,slow=2.4,SNR=12
NRIK LR LR 12 40 25.3
comp=Z,2μm,18.9s,baz=258,slow=39
SUMG Summit 49.30 339 *i* P **P 12 17 09.8 +1.2**
comp=Z,42nm,1.0s
SUMG Summit 49.30 339 *e*P **P 12 17 09.2 +0.6**
SUMG pmax pmax
comp=Z,52nm,1.1s
SUMG Summit 49.30 339 *e*P **P 12 17 09.2 +0.6**
comp=Z,52nm,1.1s
SUMG Summit 49.30 339 *e*P **P 12 17 09.2 +0.6**
comp=Z,52nm,1.1s
WMQ Urumqi 49.45 59 P **P 12 17 10.3 +0.5**
WMQ pP sP 12 17 17.0 +0.8
WMQ sP pP 12 17 19.5 +5.1
WMQ S **S 12 24 16.5 -0.1**
WMQ sS sS 12 24 26.0 +1.8
WMQ pmax pmax
comp=Z,41nm,0.9s
WMQ pmax pmax
comp=Z,230nm,5.1s
WMQ LR LR
comp=Z,1μm,18.7s
WMQ LR LR
comp=Z,2μm,18.7s
WMQ LR LR
comp=Z,2μm,19.9s
LSZ Lusaka 49.54 174 P **P 12 17 10.2 -0.6**
comp=Z,5.6nm,0.8s,baz=356,slow=8.7,SNR=9.1
LSZ LR LR 12 37 11.0
comp=Z,344nm,19.1s,baz=358,slow=35
LSZ Lusaka 49.54 174 *e*P **P 12 17 10.1 -0.6**
comp=Z,14nm,1.1s
LSZ Lusaka 49.54 174 *e*P **P 12 17 10.1 -0.6**
comp=Z,14nm,1.1s
PYUN Piuthan 50.48 80 *e*P **P 12 17 17.2 -0.8**
comp=Z,167nm,0.6s
DANN Dangsing 51.01 79 *e*P **P 12 17 21.9 -0.2**
comp=Z,42nm,0.9s
KOLN Koldanda 51.10 80 *e*P **P 12 17 21.7 -1.0**
comp=Z,68nm,0.7s
HYB Hyderabad 51.56 95 *i* P **P 12 17 26.5 +0.5**
GKN Gorkha 51.85 79 *e*P **P 12 17 27.4 -0.9**
comp=Z,84nm,0.5s
DMN Daman 52.39 80 *e*P **P 12 17 31.7 -0.7**
comp=Z,108nm,0.6s
KKN Kakani 52.46 79 *e*P **P 12 17 31.9 -0.9**
comp=Z,120nm,0.8s
PKIN Phulchoki 52.64 80 *e*P **P 12 17 33.3 -0.9**
comp=Z,80nm,0.6s
PKI Pulchoki 52.65 80 *e*P **P 12 17 33.3 -1.1**
comp=Z,149nm,0.9s
SFJD Kangerlussuaq 52.81 332 *i* P **P 12 17 34.9 +0.4**
SFJD Kangerlussuaq 52.81 332 *e*P **P 12 17 37.0 +2.5**
SFJD pmax pmax
comp=Z,98nm,1.5s
SFJD Kangerlussuaq 52.81 332 *i* P **P 12 17 34.9 +0.4**
SNR=23
SFJD Kangerlussuaq 52.81 332 *e*P **P 12 17 37.0 +2.5**
comp=Z,98nm,1.5s
GUN Gumba 52.90 79 *e*P **P 12 17 35.6 -0.6**
comp=Z,158nm,0.6s
ILULI Ilulissat 52.97 334 *i* P **P 12 17 35.3 -0.4**
ILULI Ilulissat 52.97 334 *e*P **P 12 17 35.3 -0.4**
ILULI Ilulissat 52.97 334 *e*P **P 12 17 35.4 -0.3**
SNR=23
JIRN Jiri 53.25 79 *e*P **P 12 17 38.1 -0.8**
comp=Z,168nm,0.8s
TSUM Tsumeb 53.58 187 *e*P **P 12 17 40.5 -0.4**
comp=Z,30nm,1.3s
TSUM Tsumeb 53.58 187 *e*P **P 12 17 40.5 -0.4**
comp=Z,30nm,1.3s
RAMN Ramite 53.87 80 *e*P **P 12 17 41.8 -1.5**
comp=Z,68nm,0.8s
ODAN Odare 54.55 79 *e*P **P 12 17 47.5 -0.7**
TAPN Taplejung 54.61 79 *e*P **P 12 17 47.8 -0.9**
comp=Z,86nm,0.9s
LSA Lhasa 56.44 75 P **P 12 18 02.0 0.0**
LSA Lhasa 56.44 75 *e*P **P 12 18 02.3 +0.3**
LSA pmax pmax
comp=Z,27nm,0.8s
LSA Lhasa 56.44 75 *e*P **P 12 18 02.3 +0.3**
comp=Z,27nm,0.8s
LSA Lhasa 56.44 75 *e*P **P 12 18 02.3 +0.3**
comp=Z,27nm,0.8s
MOY Mondy 56.44 47 *e*P **P 12 18 04.2 +2.9**
MOY Mondy 56.44 47 *e*P **P 12 18 04.2 +2.9**
TULEG Thule 57.48 344 *i* P **P 12 18 10.7 +2.6**
SNR=22
TLY Talaya 58.03 46 *e*P **P 12 18 14.4 +2.0**
TLY *e*S S 12 26 02.1 -10
TLY pmax pmax
comp=Z,40nm,1.5s
TLY Talaya 58.03 46 *e*P **P 12 18 14.4 +2.0**
comp=Z,40nm,1.5s
ZAK Zakamensk 58.18 48 *e*P **P 12 18 12.8 -0.8**
ZAK pmax pmax
comp=Z,18nm,1.5s
ZAK Zakamensk 58.18 48 *e*P **P 12 18 12.8 -0.8**
comp=Z,18nm,1.5s
IRK Irkutsk 58.24 46 *e*P **P 12 18 15.3 +1.4**
IRK pmax pmax
comp=Z,58nm,2.5s
IRK Irkutsk 58.24 46 *e*P **P 12 18 15.3 +1.4**
comp=Z,58nm,2.5s
SHL Shillong 58.75 79 *e*P **P 12 18 18.0 -0.1**
PALK Pallekele 58.83 103 P **P 12 18 18.6 +0.1**
comp=Z,4.5nm,0.7s,baz=297,slow=7.2,SNR=5.8
PALK Pallekele 58.83 103 *e*P **P 12 18 18.6 +0.1**
comp=Z,32nm,1.1s
PALK Pallekele 58.83 103 *e*P **P 12 18 18.6 +0.1**
comp=Z,32nm,1.1s
GTA Gaotai 59.41 61 P **P 12 18 22.0 -0.3**
GTA pP sP 12 18 28.3 -0.5
GTA sP pP 12 18 31.0 +3.9
GTA S **S 12 26 29.8 -1.1**
GTA sS sS 12 26 39.8 +1.1
GTA SS **SS 12 30 27.3 +1.8**
GTA pmax pmax
comp=Z,7.0nm,1.1s
GTA pmax pmax
comp=Z,96nm,4.9s
GTA LR LR
comp=Z,560nm,19.5s
GTA LR LR
comp=Z,690nm,18.9s
GTA LR LR
comp=Z,940nm,21.6s
SONA0 Songino Array 60.93 50 *e*P **P 12 18 32.4 -0.2**
comp=Z,33nm,1.2s
SONA0 Songino Array 60.93 50 *e*P **P 12 18 32.4 -0.2**
comp=Z,33nm,1.2s
SONM Songino Array 60.93 50 P **P 12 18 32.4 -0.2**
comp=Z,8.8nm,0.8s,baz=284,slow=7.0,SNR=21
SONA1 Songino Array 60.93 50 *e*P **P 12 18 31.8 -0.8**
SONA1 Songino Array 60.93 50 *e*P **P 12 18 31.8 -0.8**
ULN Ulaanbaatar 61.33 50*c i*P **P 12 18 35.0 -0.3**
ULN pmax pmax
comp=Z,36nm,1.7s
ULN MLR MLR
comp=Z,1μm,18.0s
ULN Ulaanbaatar 61.33 50 *e*P **P 12 18 35.1 -0.3**
comp=Z,17nm,0.7s
ULN Ulaanbaatar 61.33 50 *e*P **P 12 18 35.1 -0.3**
comp=Z,17nm,0.7s
ULN Ulaanbaatar 61.33 50 P **P 12 18 38.3 +2.9**
SNR=8.2
ULN Ulaanbaatar 61.33 50 P **P 12 18 38.3 +2.9**
SNR=8.2
ULN P **P 12 18 38.3 +2.9**
SNR=8.2
BOD Bodaibo 61.83 37 *e*P **P 12 18 36.1 -2.2**
BOD pmax pmax
comp=Z,21nm,1.3s
TIXI Tiksi 62.34 20*ce*P **P 12 18 43.9 +2.4**
TIXI pmax pmax
comp=Z,15nm,0.9s
TIXI MLR MLR
comp=Z,3μm,16.0s
TIXI Tiksi 62.34 20 *e*P **P 12 18 43.4 +1.9**
comp=Z,16nm,1.0s
TIXI Tiksi 62.34 20 *e*P **P 12 18 43.4 +1.9**
comp=Z,16nm,1.0s
BOSA Boshof 62.65 178 P **P 12 18 44.0 -0.2**
comp=Z,5.7nm,0.6s,baz=354,slow=7.0,SNR=11
BOSA LR LR 12 48 11.2
comp=Z,3μm,18.0s,baz=0.0,slow=38
BOSA Boshof 62.65 178 *e*P **P 12 18 44.5 +0.3**
BOSA Boshof 62.65 178 *e*P **P 12 18 44.5 +0.3**
SCHQ Schefferville 63.01 320 P **P 12 18 45.7 -0.7**
comp=Z,18nm,0.8s,baz=91,slow=4.4,SNR=5.6
SCHQ LR LR 12 45 23.2
comp=Z,1μm,22.0s,baz=71,slow=35
SCHQ Schefferville 63.01 320 *e*P **P 12 18 46.9 +0.5**
comp=Z,22nm,0.9s
SCHQ Schefferville 63.01 320 *e*P **P 12 18 46.9 +0.5**
comp=Z,22nm,0.9s
LZH Lanzhou 63.64 63 *e*P **P 12 18 52.0 +1.0**
LZH pP sP 12 18 57.5 0.0
LZH sP pP 12 19 00.0 +4.2
LZH PcP **PcP 12 19 29.3 +2.0**
LZH *e*S **S 12 27 22.8 -2.0**
LZH sS sS 12 27 32.3 -0.3
LZH pmax pmax
comp=Z,42nm,1.1s
LZH pmax pmax
comp=Z,110nm,5.7s
LZH LR LR
comp=Z,2μm,13.1s
LZH LR LR
comp=Z,2μm,14.7s
LZH LR LR
comp=Z,1μm,16.8s
LMN Caledonia Moun 65.36 310 *e*P **P 12 19 01.9 0.0**
comp=Z,56nm,1.4s
LMN Caledonia Moun 65.36 310 *e*P **P 12 19 01.9 0.0**
comp=Z,56nm,1.4s
PQI Presque Isle 67.03 312 *e*P **P 12 19 12.9 +0.3**
comp=Z,30nm,1.3s
PQI Presque Isle 67.03 312 *e*P **P 12 19 12.9 +0.3**
comp=Z,30nm,1.3s
HHC Hu-ho-hao-te 67.09 55 *e*P **P 12 19 14.0 +0.8**
HHC sP sP 12 19 25.5 +5.7
HHC S **S 12 28 06.0 -0.8**
HHC sS sS 12 28 18.8 +4.1
HHC pmax pmax
comp=Z,22nm,1.0s
HHC pmax pmax
comp=Z,230nm,5.2s
HHC LR LR
comp=Z,760nm,15.5s
HHC LR LR
comp=Z,710nm,16.9s
HHC LR LR
comp=Z,720nm,18.6s
YAK Yakutsk 67.17 29 P **P 12 19 11.8 -1.4**
comp=Z,17nm,0.6s,baz=172,slow=2.3,SNR=7.5
YAK Yakutsk 67.17 29 *e*P **P 12 19 11.6 -1.6**
YAK pmax pmax
comp=N,10.0nm,1.4s
YAK pmax pmax
comp=Z,26nm,0.9s
YAK MLR MLR
comp=N,2μm,17.0s
YAK MLR MLR
comp=Z,2μm,21.0s
YAK Yakutsk 67.17 29 *e*P **P 12 19 13.5 +0.3**
comp=Z,32nm,0.8s
YAK Yakutsk 67.17 29 *e*P **P 12 19 13.5 +0.3**
comp=Z,32nm,0.8s
KMI Kunming 67.69 74 P **P 12 19 17.8 +0.4**
KMI pP sP 12 19 24.5 +0.6
KMI sP pP 12 19 28.0 +5.8
KMI PP **PP 12 21 48.8 +2.3**
KMI S **S 12 28 12.0 -2.7**
KMI sS sS 12 28 24.5 +1.9
KMI SS **SS 12 32 36.5 +1.0**
KMI pmax pmax
comp=Z,26nm,1.5s
KMI pmax pmax
comp=Z,87nm,3.1s
KMI LR LR
comp=Z,650nm,26.1s
KMI LR LR
comp=Z,370nm,20.5s
KMI LR LR
comp=Z,640nm,25.3s
CHTO Chiang Mai 67.69 82 P **P 12 19 18.0 +0.8**
comp=Z,129nm,1.6s
CHTO Chiang Mai 67.69 82 *e*P **P 12 19 17.0 -0.2**
CHTO pmax pmax
comp=Z,77nm,1.6s
CHTO Chiang Mai 67.69 82 *e*P **P 12 19 17.0 -0.2**
comp=Z,77nm,1.6s
CHTO Chiang Mai 67.69 82 *e*P **P 12 19 17.0 -0.2**
comp=Z,77nm,1.6s
CHTO Chiang Mai 67.69 82 P **P 12 19 18.1 +0.9**
SNR=8.4
CHTO Chiang Mai 67.69 82 P **P 12 19 18.1 +0.9**
SNR=8.4
CHTO P **P 12 19 18.1 +0.9**
SNR=8.4
CMAR Chiang Mai Arr 67.87 82 P **P 12 19 17.7 -0.7**
comp=Z,7.3nm,0.8s,baz=298,slow=7.6,SNR=22
CMAR LR LR 12 55 03.3
comp=Z,353nm,21.0s,baz=284,slow=41
CM01 Chiang Mai Arr 67.90 82 *e*P **P 12 19 17.1 -1.4**
CM01 Chiang Mai Arr 67.90 82 *e*P **P 12 19 17.1 -1.4**
XAN Xi'an 68.27 63 P **P 12 19 21.0 +0.2**
XAN sP sP 12 19 29.5 +2.2
XAN PcP **PcP 12 19 47.5 +1.1**
XAN PP **PP 12 21 51.8 +0.6**
XAN S **S 12 28 15.8 -5.3**
XAN ScS **SKiKP 12 29 14.0 -1.0**
XAN pmax pmax
comp=Z,25nm,1.1s
XAN pmax pmax
comp=Z,170nm,6.6s
XAN LR LR
comp=Z,370nm,19.1s
XAN LR LR
comp=Z,670nm,21.5s
XAN LR LR
comp=Z,730nm,22.2s
LAMP Lampang 68.40 82 P **P 12 19 24.7 +3.0**
comp=Z,14nm,0.8s
HIA Hailar 68.45 44 *e*P **P 12 19 22.0 +0.5**
HIA pmax pmax
comp=Z,51nm,1.1s
HIA Hailar 68.45 44 *e*P **P 12 19 22.0 +0.5**
comp=Z,51nm,1.1s
HIA Hailar 68.45 44 *e*P **P 12 19 22.0 +0.5**
comp=Z,51nm,1.1s
RCBR Riachuelo 68.91 247 *e*P **P 12 19 25.0 +0.1**
comp=Z,22nm,0.9s
RCBR Riachuelo 68.91 247 *e*P **P 12 19 25.0 +0.1**
comp=Z,22nm,0.9s
UMPA Umpang Tak 68.94 84 P P 12 19 29.9 +4.8
comp=Z,14nm,1.1s,comp=Z,818nm
NANT Nan 69.14 81 P **P 12 19 29.2 +2.9**
comp=Z,8.0nm,1.0s
UTTA Uttaradit 69.55 82 P **P 12 19 29.5 +0.7**
comp=Z,8.2nm,0.9s,comp=Z,91nm
SRDT SRDT 70.12 86 P P 12 19 40.7 +8.4
comp=Z,93nm,1.5s
GYA Guiyang 70.14 71 *e*P **P 12 19 34.5 +2.0**
GYA PP **PP 12 22 11.8 +4.2**
GYA S **S 12 28 41.8 -1.8**
GYA pmax pmax
comp=Z,20nm,1.0s
GYA pmax pmax
comp=Z,120nm,6.2s
SLVN Son La 70.47 77 *e*P **P 12 19 35.1 +0.6**
comp=Z,100nm,2.0s
SLVN Son La 70.47 77 *e*P **P 12 19 35.1 +0.6**
comp=Z,100nm,2.0s
ENH Enshi 70.47 66 *e*P **P 12 19 34.7 +0.3**
comp=Z,50nm,1.3s
ENH Enshi 70.47 66 *e*P **P 12 19 34.7 +0.3**
comp=Z,50nm,1.3s
PBKT Sadao Pong 70.49 83 P **P 12 19 35.7 +1.1**
comp=Z,28nm,1.4s
BJI Beijing 70.58 54 P **P 12 19 36.0 +1.2**
BJI PP **PP 12 22 09.5 -1.3**
BJI S **S 12 28 48.5 +0.5**
BJI SS **SS 12 33 18.8 -0.1**
BJI pmax pmax
comp=Z,12nm,0.7s
BJI pmax pmax
comp=Z,76nm,3.0s
BJI LR LR
comp=Z,1μm,20.7s
LBNH Lisbon 70.59 311 *e*P **P 12 19 36.8 +2.0**
LBNH pmax pmax
comp=Z,9.0nm,0.8s
LBNH Lisbon 70.59 311 *e*P **P 12 19 36.8 +2.0**
comp=Z,9.3nm,0.8s
LBNH Lisbon 70.59 311 *e*P **P 12 19 36.8 +2.0**
comp=Z,9.3nm,0.8s
HNH Hanover 71.08 310 *e*P **P 12 19 38.8 +1.0**
comp=Z,31nm,1.3s
HNH Hanover 71.08 310 *e*P **P 12 19 38.9 +1.0**
comp=Z,31nm,1.3s
WES Weston 71.11 309 *e*P **P 12 19 38.2 +0.2**
WES pmax pmax
comp=Z,17nm,1.0s
WES Weston 71.11 309 *e*P **P 12 19 38.2 +0.2**
comp=Z,17nm,1.0s
WES Weston 71.11 309 *e*P **P 12 19 38.2 +0.2**
comp=Z,17nm,1.0s
TRQ Mont Tremblant 71.22 313 *e*P **P 12 19 39.3 +0.6**
TRQ Mont Tremblant 71.22 313 *e*P **P 12 19 39.3 +0.6**
FRNY Flat Rock 71.33 312 *e*P **P 12 19 39.6 +0.3**
comp=Z,18nm,1.3s
FRNY Flat Rock 71.33 312 *e*P **P 12 19 39.6 +0.3**
comp=Z,18nm,1.3s
CHAI Chaiyaphum 71.67 83 P **P 12 19 42.6 +0.8**
comp=Z,14nm,0.8s
VLDQ Val d'Or 71.96 316 *e*P **P 12 19 44.3 +1.3**
comp=Z,13nm,0.8s
VLDQ Val d'Or 71.96 316 *e*P **P 12 19 44.3 +1.3**
comp=Z,13nm,0.8s
LONY Lake Ozonia 72.05 312 *e*P **P 12 19 45.1 +1.4**
comp=Z,15nm,1.1s
LONY Lake Ozonia 72.05 312 *e*P **P 12 19 45.1 +1.4**
comp=Z,15nm,1.1s
ACCN Adirondack Com 72.11 311 *e*P **P 12 19 45.8 +1.7**
comp=Z,14nm,0.9s
ACCN Adirondack Com 72.11 311 *e*P **P 12 19 45.8 +1.7**
comp=Z,14nm,0.9s
TIA Tai'an 73.12 58 *e*P **P 12 19 51.3 +1.1**
TIA pmax pmax
comp=Z,20nm,0.9s
PLVO Plevna 73.35 313 *e*P **P 12 19 52.8 +1.4**
comp=Z,53nm,1.5s
PLVO Plevna 73.35 313 *e*P **P 12 19 52.8 +1.4**
comp=Z,53nm,1.5s
WHN Wuhan 73.98 64 ⇓P **P 12 19 57.3 +2.0**
WHN S **S 12 29 28.0 +0.7**
WHN LR LR
comp=Z,1μm,16.9s
BILL Bilibino 74.14 14⇓*e*P **P 12 19 56.9 +1.3**
BILL *e* 12 22 42.6
BILL *e*S **SKiKP 12 29 19.8 -2.9**
BILL pmax pmax
comp=Z,36nm,1.6s
BILL MLR MLR
comp=Z,1μm,20.0s
BILL Bilibino 74.14 14 *e*P **P 12 19 56.9 +1.3**
comp=Z,36nm,1.6s
CN2 Changchun 74.61 47 *e*P **P 12 20 00.0 +1.3**
CN2 *e*S **S 12 29 32.0 -1.9**
CN2 pmax pmax
comp=Z,10.0nm,0.7s
CN2 pmax pmax
comp=Z,200nm,4.0s
CN2 LR LR
comp=Z,300nm,18.0s
CN2 LR LR
comp=Z,700nm,18.0s
CN2 LR LR
comp=Z,600nm,19.0s
N59A State Game Lan 74.73 309 P **P 12 19 59.9 +0.4**
baz=58
SADO Sadowa 74.73 314 *e*P **P 12 20 00.5 +1.1**
comp=Z,72nm,1.8s
SADO Sadowa 74.73 314 *e*P **P 12 20 00.5 +1.1**
comp=Z,72nm,1.8s
SEY Seymchan 74.75 22 P **P 12 19 59.2 0.0**
comp=Z,25nm,0.8s,baz=310,slow=4.9,SNR=34
DL2 Dalian 74.80 53 P **P 12 20 02.0 +2.1**
DL2 S **S 12 29 32.5 -3.6**
DL2 pmax pmax
comp=Z,48nm,1.5s
DL2 pmax pmax
comp=Z,200nm,8.9s
DL2 LR LR
comp=Z,1μm,22.6s
DL2 LR LR
comp=Z,780nm,22.6s
DL2 LR LR
comp=Z,1μm,20.0s
SSPA Standing Stone 76.23 310 *e*P **P 12 20 09.2 +1.1**
comp=Z,35nm,1.4s
SSPA Standing Stone 76.23 310 *e*P **P 12 20 09.2 +1.1**
comp=Z,35nm,1.4s
PSI Prapat 76.23 96 P **P 12 20 09.7 +1.0**
comp=Z,15nm,0.8s,baz=323,slow=4.5,SNR=7.9
INK Inuvik 76.24 351 P **P 12 20 07.7 +0.1**
comp=Z,11nm,1.0s,baz=37,slow=7.9,SNR=16
INK Inuvik 76.24 351 *e*P **P 12 20 07.7 +0.1**
comp=Z,20nm,0.9s
INK Inuvik 76.24 351 *e*P **P 12 20 07.7 +0.1**
comp=Z,20nm,0.9s
KULM Kulim 76.27 93 *e*P **P 12 20 08.6 -0.1**
comp=Z,57nm,1.2s
KULM Kulim 76.27 93 *e*P **P 12 20 08.7 -0.1**
comp=Z,57nm,1.2s
QIZ Qiongzhong 76.43 76 P **P 12 20 11.8 +2.2**
QIZ S **S 12 29 57.8 +3.0**
QIZ sS **sS 12 30 03.5 +0.7**
QIZ LR LR
comp=Z,600nm,21.2s
QIZ LR LR
comp=Z,600nm,21.2s
NJ2 Nanjing 76.50 60 *e*P **P 12 20 11.3 +1.5**
NJ2 pmax pmax
comp=Z,21nm,0.5s
MDJ Mudanjiang 76.62 45 P **P 12 20 09.0 -1.3**
MDJ S **S 12 29 52.5 -3.7**
MDJ pmax pmax
comp=Z,3.0nm,0.7s
MDJ pmax pmax
comp=Z,31nm,3.8s
MDJ LR LR
comp=Z,630nm,26.1s
MDJ LR LR
comp=Z,680nm,25.4s
MDJ LR LR
comp=Z,640nm,18.9s
MA2 Magadan 76.72 25 P **P 12 20 10.7 +0.2**
comp=Z,27nm,0.7s,baz=347,slow=23,SNR=10
M54A Oil Creek Stat 76.86 311 P **P 12 20 11.7 0.0**
baz=56
O56A Blue Knob Stat 76.86 310 P **P 12 20 12.1 +0.3**
baz=56
TOLK Toolik Lake Re 77.19 357 P **P 12 20 14.1 +1.0**

baz=5.6
E45A **Wooded Hills,** 77.30 318 P P 12 20 14.2 +0.1
baz=53
PBSI **Pulau Batu** 77.33 99 P P 12 20 15.5 +0.8
HABR **Khabarovsk** 77.36 39 *ce*P P 12 20 13.0 -1.3
HABR *e**PP **pP** 12 20 16.2 -3.0
HABR *e**SP **sP** 12 20 17.4 -3.5
HABR *e* 12 23 06.7
HABR *e*PPP PPP 12 24 53.8
HABR *e*S **S** **12 30 03.6 -0.4**
HABR *e* 12 30 30.5
HABR *e*SS **SS** **12 35 02.4 +0.9**
HABR *e*SSS SSS 12 38 26.4
HABR pmax pmax
comp=N,69nm,2.3s
HABR pmax pmax
comp=E,96nm,2.3s
HABR pmax pmax
comp=Z,85nm,2.3s
HABR MLR MLR
comp=Z,262nm,18.0s
HABR **Khabarovsk** 77.36 39 *e*P P 12 20 13.0 -1.3
comp=Z,85nm,2.3s
N54A **Moraine State** 77.37 311 P P 12 20 14.7 +0.1
baz=55
E44A **Grand Marais A** 77.55 318 P P 12 20 13.3 -2.1
baz=53
IP01 **Cuckoo** 77.73 308 *e*P P 12 20 18.0 +1.4
comp=Z,15nm,1.2s
IP06 **Yanceyville** 77.79 308 *e*P P 12 20 18.9 +1.9
comp=Z,15nm,1.1s
YKA **Yellowknife Ar** 77.83 342 P P 12 20 17.2 +0.5
comp=Z,5.3nm,0.9s,baz=37,slow=5.2,SNR=8.4
YKA LR LR 12 57 28.0
comp=Z,64nm,18.3s,baz=0.0,slow=38
F45A **CMU Biological** 77.89 317 P P 12 20 18.0 +0.6
baz=53
MNSI **Mandailing Nat** 77.91 97 P P 12 20 18.3 +0.4
MCWV **Mont Chateau** 78.02 310 *e*P P 12 20 18.9 +0.7
comp=Z,20nm,1.1s
MCWV **Mont Chateau** 78.02 310 *e*P P 12 20 18.9 +0.7
comp=Z,20nm,1.1s
F44A **Big Bay de Noc** 78.22 318 P P 12 20 19.8 +0.6
baz=52
USRK **Ussuriysk Ar.** 78.26 44 P P 12 20 18.7 -0.7
comp=Z,14nm,0.5s,baz=291,slow=4.4,SNR=38
USRK LR LR 12 59 07.4
comp=Z,464nm,21.4s,baz=303,slow=39
E43A **Lone Tree Farm** 78.29 319 P P 12 20 18.9 -0.7
baz=52
COLD **Coldfoot** 78.63 358 *e*P P 12 20 22.1 +1.0
comp=Z,52nm,1.5s
COLD **Coldfoot** 78.63 358 *e*P P 12 20 22.1 +1.0
comp=Z,52nm,1.5s
D41A **Chassel** 78.71 320 P P 12 20 23.0 +1.1
baz=51
F43A **Flat Rock, Esc** 78.72 318 P P 12 20 22.3 +0.3
baz=52
MSHR **Mys Shultsa** 78.73 46 *i*P P 12 20 22.1 0.0
E42A **Champion** 78.76 319 P P 12 20 22.5 +0.3
baz=51
FYU **Fort Yukon** 79.04 356 *e*P P 12 20 25.0 +1.7
comp=Z,139nm,1.7s
FYU **Fort Yukon** 79.04 356 *e*P P 12 20 25.1 +1.7
comp=Z,139nm,1.7s
C39A **Grand Marais** 79.06 321 P P 12 20 23.6 -0.2
baz=50
F42A **Maple Grove Fa** 79.29 319 P P 12 20 25.3 +0.2
baz=51
G43A **Wallace** 79.36 318 P P 12 20 25.1 -0.3
baz=51
CBYP **Canovanas** 79.56 285 *e*P P 12 20 27.2 +0.2
comp=Z,22nm,0.8s
CBYP **Canovanas** 79.56 285 *e*P P 12 20 27.2 +0.2
comp=Z,22nm,0.8s
PDSI **Padang** 79.60 98 P P 12 20 28.2 +0.9
HUMP **Col San Antoni** 79.62 285 *e*P P 12 20 28.1 +0.8
comp=Z,55nm,1.2s
HUMP **Col San Antoni** 79.62 285 *e*P P 12 20 28.1 +0.8
comp=Z,55nm,1.2s
ACSO **Alum Creek Sta** 79.65 312 *e*P P 12 20 27.2 0.0
comp=Z,28nm,1.0s
ACSO **Alum Creek Sta** 79.65 312 *e*P P 12 20 27.2 0.0
comp=Z,28nm,1.0s
KS01 **Wonju Array Si** 79.69 52 *e*P P 12 20 27.0 -0.4
KS01 **Wonju Array Si** 79.69 52 *e*P P 12 20 27.0 -0.4
KS15 **Wonju Array Si** 79.71 52 *e*P P 12 20 27.5 0.0
KS15 **Wonju Array Si** 79.71 52 *e*P P 12 20 27.5 0.0
KSRS **Korea Array** 79.73 52 P P 12 20 27.4 -0.2
comp=Z,12nm,0.6s,baz=309,slow=4.6,SNR=64
KSRS LR LR 13 00 49.0
comp=Z,1μm,18.2s,baz=308,slow=40
FFC **Flin Flon** 79.76 331 *e*P P 12 20 27.8 +0.3
FFC pmax pmax
comp=Z,40nm,1.3s
FFC **Flin Flon** 79.76 331 *e*P P 12 20 27.8 +0.3
comp=Z,40nm,1.3s
FFC **Flin Flon** 79.76 331 *e*P P 12 20 27.8 +0.3
comp=Z,40nm,1.3s
E40A **Wakefield** 79.81 320 P P 12 20 27.7 -0.2
baz=50
F41A **Three Lakes** 79.83 319 P P 12 20 29.9 +1.8
baz=50
IMAR **Indian Mountai** 79.96 359 *e*P P 12 20 29.0 +0.7
IMAR **Indian Mountai** 79.96 359 *e*P P 12 20 29.0 +0.7
C37A **Embarrass** 80.18 322 P P 12 20 30.7 +0.8
baz=49
E39A **Mellen** 80.21 320 P P 12 20 30.6 +0.5
baz=50
F40A **Park Falls** 80.27 320 P P 12 20 30.6 +0.2
baz=50
ULM **Lac du Bonnet** 80.29 325 P P 12 20 29.9 -0.5
comp=Z,6.6nm,0.6s,baz=44,slow=5.9,SNR=10
ULM LR LR 12 57 22.4
comp=Z,1μm,20.7s,baz=40,slow=37
ULM **Lac du Bonnet** 80.29 325 P P 12 20 30.0 -0.5
ULM pmax pmax
comp=Z,7.0nm,0.6s
ULM MLR MLR
comp=Z,1μm,20.7s
ULM **Lac du Bonnet** 80.29 325 *e*P P 12 20 29.9 -0.5
comp=Z,15nm,1.0s
ULM **Lac du Bonnet** 80.29 325 *e*P P 12 20 29.9 -0.5
comp=Z,15nm,1.0s
EGAK **Eagle** 80.48 353 *e*P P 12 20 32.7 +1.5
comp=Z,86nm,1.9s
EGAK **Eagle** 80.48 353 *e*P P 12 20 32.6 +1.5
comp=Z,86nm,1.9s
C36A **Pine Crest Far** 80.49 322 P P 12 20 31.2 -0.3
baz=48
B35A **Bob, Littlefor** 80.53 323 P P 12 20 32.2 +0.4
baz=48
E38A **The Farm, Brul** 80.58 321 P P 12 20 31.9 -0.2
baz=49
MPR **Mayaguez** 80.62 286 *e*P P 12 20 33.2 +0.5
comp=Z,39nm,0.6s
MPR **Mayaguez** 80.62 286 *e*P P 12 20 33.2 +0.5
comp=Z,39nm,0.6s
D37A **Cotton** 80.67 322 P P 12 20 32.6 0.0
baz=49
F39A **Loretta** 80.70 320 P P 12 20 32.9 +0.2
baz=49
G40A **Rib Lake** 80.73 319 P P 12 20 33.1 +0.2
baz=50
IDE **Isla Desecheo** 80.79 286 *e*P P 12 20 34.2 +0.6
IDE **Isla Desecheo** 80.79 286 *e*P P 12 20 34.2 +0.6
MDM **Murphy Dome** 80.81 357 *e*P P 12 20 33.4 +0.4
comp=Z,27nm,1.0s
MDM **Murphy Dome** 80.81 357 *e*P P 12 20 33.4 +0.4
comp=Z,27nm,1.0s
H41A **Junction City** 80.85 318 P P 12 20 33.7 +0.2
baz=50
COLA **College** 80.87 356 *e*P P 12 20 34.7 +1.5
COLA pmax pmax
comp=Z,29nm,1.4s
COLA **College** 80.87 356 *e*P P 12 20 34.7 +1.5
comp=Z,29nm,1.4s
COLA **College** 80.87 356 *e*P P 12 20 34.7 +1.5
comp=Z,29nm,1.4s
B34A **Aery, Baudette** 80.90 324 P P 12 20 34.2 +0.4
baz=47
IL1 **Eielson Array** 80.92 356 *e*P P 12 20 33.0 -0.5
IL1 **Eielson Array** 80.92 356 *e*P P 12 20 33.0 -0.5
ILAR **Eielson Array** 80.92 356 P P 12 20 33.8 +0.2
comp=Z,3.8nm,0.7s,baz=343,slow=3.7,SNR=21
ILAR PKKPbc **PKKPbc** 12 39 11.1 -0.6
comp=Z,0.7nm,0.6s,baz=220,slow=2.3,SNR=7.6
ILAR LR LR 12 59 05.2
comp=Z,694nm,20.5s,baz=10.0,slow=38
ILB **Eielson Array** 80.92 356 *e*P P 12 20 33.2 -0.4
ILB **Eielson Array** 80.92 356 *e*P P 12 20 33.2 -0.4
DAWY **Dawson** 81.00 353 *e*P P 12 20 34.6 +0.6
comp=Z,39nm,1.2s
DAWY **Dawson** 81.00 353 *e*P P 12 20 34.6 +0.6
comp=Z,39nm,1.2s
D36A **Goodland** 81.04 322 P P 12 20 34.5 0.0
baz=48
CCB **Clear Creek Bu** 81.10 356 *e*P P 12 20 34.9 +0.5
comp=Z,19nm,1.0s
CCB **Clear Creek Bu** 81.10 356 *e*P P 12 20 34.9 +0.5
comp=Z,19nm,1.0s
C35A **Jirik Farms, M** 81.10 323 P P 12 20 34.5 -0.3
baz=48
F38A **Pierce - Schro** 81.18 320 P P 12 20 35.3 0.0
baz=49
G39A **Holcombe** 81.24 320 P P 12 20 35.0 -0.6
baz=49
H40A **Chili** 81.25 319 P P 12 20 35.3 -0.3
baz=50
HDA **Harding Lake** 81.29 356 *e*P P 12 20 35.8 +0.3
comp=Z,32nm,0.9s
HDA **Harding Lake** 81.29 356 *e*P P 12 20 35.8 +0.3
comp=Z,32nm,0.9s
WRH **Wood River Hil** 81.29 356 *e*P P 12 20 35.5 0.0
comp=Z,41nm,0.9s
WRH **Wood River Hil** 81.29 356 *e*P P 12 20 35.5 0.0
comp=Z,41nm,0.9s
E36A **McGregor** 81.53 322 P P 12 20 37.5 +0.4
baz=48
D35A **Remer** 81.55 322 P P 12 20 36.9 -0.4
baz=48
AGMN **Agassiz Nation** 81.62 324 P P 12 20 38.0 +0.4
baz=46
AGMN **Agassiz Nation** 81.62 324 *e*P P 12 20 40.9 +3.3
comp=Z,8.3nm,1.0s
G38A **Ridgeland** 81.68 320 P P 12 20 38.1 +0.2
baz=49
H39A **Augusta** 81.70 319 P P 12 20 38.0 -0.1
baz=49
DOT **Dot Lake** 81.84 355 *e*P P 12 20 39.2 +0.7
comp=Z,70nm,1.0s
DOT **Dot Lake** 81.84 355 *e*P P 12 20 39.1 +0.7
comp=Z,70nm,1.0s
J41A **Loganville** 81.85 318 P P 12 20 38.8 -0.1
baz=50
SFIN **Lafayette** 82.06 314 P P 12 20 40.2 +0.2
baz=51
MCK **McKinley** 82.07 357 *e*P P 12 20 40.6 +0.9
MCK pmax pmax
comp=Z,35nm,1.0s
MCK **McKinley** 82.07 357 *e*P P 12 20 40.5 +0.9
comp=Z,36nm,1.0s
MCK **McKinley** 82.07 357 *e*P P 12 20 40.5 +0.9
comp=Z,36nm,1.0s
F36A **Milaca** 82.10 321 P P 12 20 39.8 -0.3
baz=48,SNR=5.6
D34A **Park Rapids** 82.13 323 P P 12 20 39.7 -0.6
baz=47
J40A **Soldiers Grove** 82.23 318 P P 12 20 40.2 -0.7
baz=49
H38A **Maiden Rock** 82.24 320 P P 12 20 40.3 -0.6
baz=48
YSS **Yuzh-Sakhalins** 82.30 37 *e*P P 12 20 43.6 +2.5
YSS pmax pmax
comp=Z,30nm,0.3s
YSS MLR MLR
comp=Z,300nm,16.0s
YSS **Yuzh-Sakhalins** 82.30 37 *e*P P 12 20 41.7 +0.5
YSS **Yuzh-Sakhalins** 82.30 37 *e*P P 12 20 41.7 +0.5
KTH **Kantishna Hill** 82.33 358 *e*P P 12 20 42.0 +0.9
comp=Z,38nm,1.3s
KTH **Kantishna Hill** 82.33 358 *e*P P 12 20 42.0 +0.9
comp=Z,38nm,1.3s
MASI **Maura Aman, Be** 82.33 99 P P 12 20 44.2 +2.3
RND **Reindeer** 82.39 357 *e*P P 12 20 41.4 0.0
RND pmax pmax
comp=Z,14nm,0.9s
RND **Reindeer** 82.39 357 *e*P P 12 20 41.4 0.0
comp=Z,14nm,0.9s
RND **Reindeer** 82.39 357 *e*P P 12 20 41.4 0.0
comp=Z,14nm,0.9s
TRF **Thorofare Moun** 82.41 357 *e*P P 12 20 42.5 +0.9
comp=Z,41nm,1.2s
TRF **Thorofare Moun** 82.41 357 *e*P P 12 20 42.5 +0.9
comp=Z,41nm,1.2s
CAST **Castle Rocks** 82.50 358 *e*P P 12 20 41.6 -0.3
comp=Z,20nm,1.0s
CAST **Castle Rocks** 82.50 358 *e*P P 12 20 41.6 -0.3
comp=Z,20nm,1.0s
DHY **Denali Highway** 82.64 356 *e*P P 12 20 43.5 +0.7
comp=Z,36nm,0.8s
DHY **Denali Highway** 82.64 356 *e*P P 12 20 43.5 +0.7
comp=Z,36nm,0.8s
I38A **Scanlan Farm,** 82.68 319 P P 12 20 42.8 -0.5
baz=48
J39A **Decorah** 82.81 318 P P 12 20 43.4 -0.5
baz=49
C31A **Landman Farms,** 82.88 325 P P 12 20 43.6 -0.6
baz=45
WCI **Wyandotte Cave** 82.91 312 *e*P P 12 20 46.8 +2.2
WCI pmax pmax
comp=Z,56nm,1.3s
WCI **Wyandotte Cave** 82.91 312 *e*P P 12 20 46.8 +2.2
comp=Z,56nm,1.3s
WCI **Wyandotte Cave** 82.91 312 *e*P P 12 20 46.8 +2.2
comp=Z,56nm,1.3s
K40A **Colesburg** 82.91 318 P P 12 20 44.0 -0.4
baz=49
E33A **Westby DABS, E** 82.93 323 P P 12 20 44.2 -0.2
baz=46
L41A **Preston** 82.96 317 P P 12 20 44.6 -0.1
baz=49
PPLA **Purkeypile** 83.03 358 *e*P P 12 20 45.2 +0.4
comp=Z,35nm,0.8s
PPLA **Purkeypile** 83.03 358 *e*P P 12 20 45.1 +0.4
comp=Z,35nm,0.8s
TT01 **Tatalina** 83.07 360 *e*P P 12 20 46.6 +1.7
TT01 **Tatalina** 83.07 360 *e*P P 12 20 46.6 +1.7
J38A **Wedel Dairy, R** 83.24 319 P P 12 20 45.9 -0.2
baz=48
K39A **Oelwein** 83.32 318 P P 12 20 46.2 -0.3
baz=48
L40A **Anamosa** 83.37 317 P P 12 20 47.1 +0.3
baz=49
CPCT **Cooper Cave** 83.50 309 *e*P P 12 20 47.6 0.0
comp=Z,13nm,0.9s
CPCT **Cooper Cave** 83.50 309 *e*P P 12 20 47.6 0.0
comp=Z,13nm,0.9s
F33A **5 Mile Ranch,** 83.53 322 P P 12 20 47.1 -0.5
baz=46
P44A **Sand Creek, Wi** 83.54 314 P P 12 20 48.1 +0.3
baz=50
H35A **Sunnyside Ranc** 83.57 321 P P 12 20 47.7 -0.1
baz=47
OLIL **Olney** 83.69 313 *e*P P 12 20 48.8 +0.3
comp=Z,37nm,1.1s
OLIL **Olney** 83.69 313 *e*P P 12 20 48.8 +0.3
comp=Z,37nm,1.1s
WHY **Whitehorse** 83.71 350 *e*P P 12 20 49.2 +0.9
comp=Z,9.3nm,0.9s
WHY **Whitehorse** 83.71 350 *e*P P 12 20 49.2 +0.9
comp=Z,9.3nm,0.9s
MDND **Maddock** 83.73 326 P P 12 20 48.4 -0.1
baz=44
L39A **Vinton** 83.77 318 P P 12 20 48.2 -0.7
baz=48
J37A **Redenius Farm,** 83.83 319 P P 12 20 48.4 -0.7
baz=48
K38A **Parkersburg** 83.85 318 P P 12 20 48.9 -0.3
baz=48
SCM **Sheep Creek Mo** 83.87 356 *e*P P 12 20 50.4 +1.3
SCM pmax pmax
comp=Z,26nm,0.9s
SCM **Sheep Creek Mo** 83.87 356 *e*P P 12 20 50.4 +1.3
comp=Z,26nm,0.9s
SCM **Sheep Creek Mo** 83.87 356 *e*P P 12 20 50.4 +1.3
comp=Z,26nm,0.9s
SML **Sawmill** 83.96 356 *e*P P 12 20 50.5 +1.0
SML pmax pmax
comp=Z,33nm,0.9s
SML **Sawmill** 83.96 356 *e*P P 12 20 50.5 +1.0
comp=Z,33nm,0.9s
SML **Sawmill** 83.96 356 *e*P P 12 20 50.5 +1.0
comp=Z,33nm,0.9s
P43A **Skaggs, Pawnee** 83.97 314 P P 12 20 50.0 +0.1
baz=50
GOGA **Godfrey** 84.05 307 *e*P P 12 20 51.0 +0.6
GOGA pmax pmax
comp=Z,23nm,1.4s
GOGA **Godfrey** 84.05 307 *e*P P 12 20 51.0 +0.6
comp=Z,23nm,1.4s
GOGA **Godfrey** 84.05 307 *e*P P 12 20 51.0 +0.6
comp=Z,23nm,1.4s
H34A **Spellman Lake,** 84.08 321 P P 12 20 50.4 0.0
baz=46
KLU **Klutina** 84.12 355 *e*P P 12 20 52.1 +1.7
comp=Z,17nm,1.1s
KLU **Klutina** 84.12 355 *e*P P 12 20 52.1 +1.7
comp=Z,17nm,1.1s
Q44A **Meyer Farm, Va** 84.14 314 P P 12 20 50.3 -0.5
baz=50
PEA1 **Petropavlovsk-** 84.16 26 *e*P P 12 20 49.1 -1.5
PEA1 **Petropavlovsk-** 84.16 26 *e*P P 12 20 49.1 -1.5
ASAJ **Asahikawa** 84.16 39 *e*P P 12 20 51.1 +0.3
comp=Z,21nm,0.8s
ASAJ **Asahikawa** 84.16 39 *e*P P 12 20 51.1 +0.3
comp=Z,21nm,0.8s
PETK **Petropavlovsk-** 84.16 26 P P 12 20 49.1 -1.5
comp=Z,2.9nm,0.8s,baz=343,slow=1.5,SNR=2.7
PETK LR LR 13 03 40.0
comp=Z,509nm,18.4s,baz=325,slow=40
PMR **Palmer** 84.21 357 *e*P P 12 20 52.0 +1.3
PMR pmax pmax
comp=Z,32nm,1.0s
PMR **Palmer** 84.21 357 *e*P P 12 20 52.0 +1.3
comp=Z,32nm,1.0s
PMR **Palmer** 84.21 357 *e*P P 12 20 52.0 +1.3
comp=Z,32nm,1.0s
JNU **Nakatsue** 84.24 54 P P 12 20 51.0 -0.4
comp=Z,6.7nm,0.5s,baz=210,slow=4.3,SNR=16
JNU **Nakatsue** 84.24 54 *e*P P 12 20 52.8 +1.3
JNU **Nakatsue** 84.24 54 *e*P P 12 20 52.8 +1.3
J36A **Seneca 1, Swea** 84.24 320 P P 12 20 50.9 -0.4
baz=47,SNR=6.4
K37A **Belmond** 84.24 319 P P 12 20 51.0 -0.2
baz=47
L38A **Oak Wood Farm,** 84.29 318 P P 12 20 50.8 -0.7
baz=48
M39A **Webster** 84.29 317 P P 12 20 50.5 -1.1
baz=48
N40A **Mertquake, Sal** 84.35 316 P P 12 20 51.2 -0.7
baz=48
SUA **Susitna One** 84.41 357 *e*P P 12 20 52.2 +0.3
comp=Z,36nm,0.8s
SUA **Susitna One** 84.41 357 *e*P P 12 20 52.2 +0.3
comp=Z,36nm,0.8s
O41A **Passleys Farm,** 84.45 316 P P 12 20 51.4 -0.9
baz=49
P42A **Winchester** 84.48 315 P P 12 20 52.6 +0.1
baz=49
Q43A **New Douglas** 84.52 314 P P 12 20 52.8 +0.1
baz=49
BMRM **Bremner River** 84.53 354 *e*P P 12 20 55.2 +2.7
comp=Z,38nm,1.2s
BMRM **Bremner River** 84.53 354 *e*P P 12 20 55.2 +2.7
comp=Z,38nm,1.2s
G32A **Webster** 84.55 323 P P 12 20 53.1 +0.3
baz=45
I34A **Hadley** 84.56 321 P P 12 20 52.6 -0.3
baz=46
H33A **Prehn Over Nor** 84.57 322 P P 12 20 52.4 -0.5
baz=46
PET **Petropavlovsk** 84.57 25 *i* P P 12 20 53.0 +0.3
PET pmax pmax
comp=Z,31nm,1.4s
R44A **Waltonville** 84.60 313 P P 12 20 53.1 0.0
baz=50
CRQM **Cirque** 84.62 354 *e*P P 12 20 53.9 +0.8
comp=Z,30nm,1.0s
CRQM **Cirque** 84.62 354 *e*P P 12 20 53.9 +0.8
comp=Z,30nm,1.0s
S45A **Carrier Mills** 84.66 312 P P 12 20 53.4 0.0
baz=50
J35A **Milford** 84.68 320 P P 12 20 52.9 -0.6
baz=46
L37A **Phoenix Point,** 84.74 318 P P 12 20 53.7 -0.1
baz=47
SPU **Mount Spurr** 84.74 358 *e*P P 12 20 53.1 -0.4
SPU **Mount Spurr** 84.74 358 *e*P P 12 20 53.1 -0.4
RC01 **Rabbit Creek A** 84.75 357 *e*P P 12 20 54.8 +1.3
comp=Z,46nm,1.1s
RC01 **Rabbit Creek A** 84.75 357 *e*P P 12 20 54.8 +1.3
comp=Z,46nm,1.1s
K36A **Gilmore City** 84.77 319 P P 12 20 54.2 +0.3
baz=47
P41A **Barry, Barry** 84.85 315 P P 12 20 54.8 +0.4
baz=49
N39A **Derby Farms, D** 84.88 317 P P 12 20 54.7 +0.2
baz=48
SVW2 **Sparrevohn** 84.89 360 *e*P P 12 20 54.8 +0.6
comp=Z,12nm,0.6s
SVW2 **Sparrevohn** 84.89 360 *e*P P 12 20 54.8 +0.6
comp=Z,12nm,0.6s
M38A **Pleasantville** 84.91 318 P P 12 20 54.8 +0.2
baz=48
PCA **Pinnacle** 84.96 352 *e*P P 12 20 56.4 +1.7
comp=Z,34nm,0.9s
PCA **Pinnacle** 84.96 352 *e*P P 12 20 56.4 +1.7
comp=Z,34nm,0.9s
O40A **La Belle** 85.02 316 P P 12 20 55.4 +0.2
baz=48
I33A **Coleman** 85.04 321 P P 12 20 55.3 0.0
baz=45
H32A **Carlson Farm,** 85.05 322 P P 12 20 55.4 +0.1
baz=45
S44A **Carbondale** 85.06 313 P P 12 20 55.7 +0.2
baz=50
R43A **Red Bud** 85.09 314 P P 12 20 55.6 0.0
baz=49
J34A **George** 85.13 320 P P 12 20 56.1 +0.4
baz=46
K35A **Storm Lake** 85.13 320 P P 12 20 56.0 +0.2
baz=46
EDM **Edmonton** 85.14 336 *e*P P 12 20 56.3 +0.7
EDM pmax pmax
comp=Z,19nm,0.6s
EDM **Edmonton** 85.14 336 *e*P P 12 20 56.3 +0.7
comp=Z,20nm,0.6s
EDM **Edmonton** 85.14 336 *e*P P 12 20 56.3 +0.7
comp=Z,20nm,0.6s
ECSD **EROS Data Cent** 85.16 321 P P 12 20 55.9 0.0
baz=46,SNR=7.0
ECSD **EROS Data Cent** 85.16 321 *e*P P 12 20 56.3 +0.4
comp=Z,17nm,0.7s
ECSD **EROS Data Cent** 85.16 321 *e*P P 12 20 56.3 +0.4
comp=Z,17nm,0.7s
PTGA **Pitinga** 85.17 266 *e*P P 12 20 57.2 +0.8
comp=Z,18nm,1.1s
PTGA **Pitinga** 85.17 266 *e*P P 12 20 57.2 +0.8
comp=Z,18nm,1.1s
WVT **Waverly** 85.18 311 *e*P P 12 20 56.3 +0.2
WVT pmax pmax
comp=Z,11nm,0.9s
WVT **Waverly** 85.18 311 *e*P P 12 20 56.3 +0.2
comp=Z,11nm,0.9s
WVT **Waverly** 85.18 311 *e*P P 12 20 56.3 +0.2
comp=Z,11nm,0.9s
L36A **Harm Buss Farm** 85.25 319 P P 12 20 56.3 -0.1
baz=47
O39A **Kirksville** 85.32 316 P P 12 20 56.8 0.0
baz=48
TIGA **Tifton** 85.33 305 P P 12 20 57.7 +0.8
baz=52
DGMT **Dagmar** 85.34 328 P P 12 20 56.1 -0.7
baz=41
N38A **Joes South For** 85.35 317 P P 12 20 57.3 +0.4
baz=48
M37A **Trindle Farm,** 85.39 318 P P 12 20 57.1 0.0
baz=47
Q41A **Truxton** 85.42 315 P P 12 20 57.6 +0.3
baz=48
RSO **Redoubt South** 85.48 358 *e*P P 12 20 58.0 +0.6
RSO **Redoubt South** 85.48 358 *e*P P 12 20 58.0 +0.6
P40A **Paris** 85.51 316 P P 12 20 57.9 +0.2
baz=48
H31A **Wolsey** 85.59 323 P P 12 20 58.0 0.0
baz=44
R42A **Luebbering** 85.60 314 P P 12 20 58.9 +0.7
baz=49
K34A **Le Mars** 85.62 320 P P 12 20 57.9 -0.3
baz=46
S43A **Fulton Ridge,** 85.63 313 P P 12 20 58.1 -0.3
baz=49,SNR=7.7

J33A **Davis** 85.64 321 P P 12 20 58.0 -0.3
baz=45
T44A **Benton** 85.65 313 P P 12 20 57.7 -0.8
baz=49
SEW **Seward** 85.72 357 eP P 12 20 59.3 +1.1
comp=Z,25nm,1.0s
SEW **Seward** 85.72 357 eP P 12 20 59.3 +1.1
comp=Z,25nm,1.0s
L35A **Bielow Farm, R** 85.72 319 P P 12 20 57.8 -0.9
baz=46
M36A **Felix, Anita** 85.77 319 P P 12 20 59.2 +0.2
baz=46
SUSD **Miller** 85.86 323 P P 12 20 59.2 -0.2
baz=44
Q40A **Laux Farm, Aux** 85.88 315 P P 12 20 59.5 -0.1
baz=48
N37A **Lee Faris, Mou** 85.92 318 P P 12 20 60.0 +0.3
baz=47
O38A **Galt** 85.93 317 P P 12 20 59.6 -0.2
baz=47
S42A **Caledonia** 85.94 314 P P 12 21 00.4 +0.5
baz=49,SNR=8.2
R41A **Rosebud** 85.94 314 P P 12 21 00.7 +0.8
baz=48,SNR=7.2
I31A **Royce, Wessing** 85.94 322 P P 12 20 59.6 -0.2
baz=44
P39B **Salisbury** 85.95 316 P P 12 21 00.1 +0.2
baz=48
U44B **Burton Farm, H** 85.99 312 P P 12 20 60.0 -0.2
baz=50
KUR **Kuril'sk** 86.03 36 P P 12 21 10.6 +10
KUR eS S 12 31 31.9 -1.8
J32A **Parkston** 86.05 321 P P 12 20 60.0 -0.4
baz=45
T43A **Greenville** 86.08 313 P P 12 21 00.3 -0.3
baz=49
U44A **Portageville** 86.09 312 P P 12 21 01.0 +0.3
baz=49
BRLK **Bradley Lake** 86.12 357 eP P 12 21 01.0 +0.6
comp=Z,26nm,1.0s
BRLK **Bradley Lake** 86.12 357 eP P 12 21 01.0 +0.6
comp=Z,26nm,1.0s
V45A **Humboldt** 86.13 311 P P 12 21 01.2 +0.4
baz=50
K33A **Hardington** 86.15 320 P P 12 21 01.1 +0.2
baz=45
JOW **Kunigami** 86.21 60 P P 12 21 01.4 0.0
comp=Z,20nm,0.5s,baz=334,slow=7.1,SNR=16
JOW **Kunigami** 86.21 60 eP P 12 21 01.4 0.0
comp=Z,106nm,1.4s
JOW **Kunigami** 86.21 60 eP P 12 21 01.4 0.0
comp=Z,106nm,1.4s
M35A **Neola** 86.25 319 P P 12 21 01.6 +0.3
baz=46
L34A **Svendsen Farm,** 86.27 320 P P 12 21 01.2 -0.3
baz=46
O37A **Wolven Farm, M** 86.28 317 P P 12 21 01.3 -0.2
baz=47
N36A **Muff Farm, Cla** 86.29 318 P P 12 21 01.2 -0.4
baz=46
P38A **Dawn** 86.30 317 P P 12 21 01.8 +0.2
baz=47
PBMO **Poplar Bluff** 86.36 313 eP P 12 21 03.0 +1.0
comp=Z,74nm,1.7s
PBMO **Poplar Bluff** 86.36 313 eP P 12 21 03.0 +1.0
comp=Z,74nm,1.7s
Q39A **Willow Grove F** 86.37 316 P P 12 21 02.4 +0.4
baz=48
R40A **Maddies Statio** 86.47 315 P P 12 21 02.3 -0.2
baz=48,SNR=16
J31A **Geddes** 86.57 322 P P 12 21 02.7 -0.2
baz=44
LRAL **Lakeview Retre** 86.60 308 eP P 12 21 03.6 +0.4
comp=Z,79nm,1.6s
LRAL **Lakeview Retre** 86.60 308 eP P 12 21 03.6 +0.4
comp=Z,79nm,1.6s
Y47A **UCPARC, Winfie** 86.61 309 P P 12 21 03.1 -0.1
baz=50
U43A **Rector** 86.62 312 P P 12 21 03.8 +0.6
baz=49
K32A **Verdigre** 86.62 321 P P 12 21 03.3 +0.1
baz=45
S41A **Jillco Farms,** 86.62 314 P P 12 21 02.9 -0.3
baz=48,SNR=20
N35A **Tabor** 86.64 319 P P 12 21 03.6 +0.4
baz=46
W45A **Hickory Valley** 86.65 311 P P 12 21 03.4 0.0
baz=50
M34A **Aspy Farms, Fr** 86.70 319 P P 12 21 03.7 +0.1
baz=45
Z48A **Northport** 86.75 309 P P 12 21 02.8 -1.1
baz=50,SNR=5.1
MJB9 **Matsu-Tunnel** 86.75 47 eP P 12 21 04.5 +0.6
comp=Z,8.4nm,1.4s
MJB9 **Matsu-Tunnel** 86.75 47 eP P 12 21 04.5 +0.6
comp=Z,8.4nm,1.4s
MAJO **Matsushiro** 86.75 47 ⇑iP P 12 21 05.1 +1.2
MAJO MLR MLR
comp=Z,1μm,20.0s
MAJO **Matsushiro** 86.75 47 eP P 12 21 04.2 +0.3
MAJO **Matsushiro** 86.75 47 eP P 12 21 04.2 +0.3
MAT **Matsushiro** 86.75 47 P P 12 21 03.9 0.0
MAT S S 12 31 27.8 -13
MJAR **Matsushiro Arr** 86.76 47 P P 12 21 03.0 -0.9
comp=Z,5.4nm,0.8s,baz=309,slow=4.5,SNR=15
O36A **Bolckow** 86.76 318 P P 12 21 03.8 -0.1
baz=46
P37A **Lathrop** 86.79 317 P P 12 21 03.7 -0.3
baz=47
Q38A **Cooks Store, C** 86.80 316 P P 12 21 04.0 -0.1
baz=47
M33A **Taylor Creek F** 86.98 320 P P 12 21 04.4 -0.5
baz=45
T41A **Mountain View** 86.99 314 P P 12 21 05.5 +0.4
baz=48,SNR=15
K31A **O'Neill** 87.05 321 P P 12 21 04.9 -0.4
baz=44
S40A **Lebanon** 87.06 314 P P 12 21 04.5 -1.0
baz=48,SNR=12
V43A **Jonesboro** 87.08 312 P P 12 21 05.7 +0.2
baz=49
L32A **Elgin** 87.11 321 P P 12 21 05.0 -0.5
baz=44
N34A **Lincoln** 87.12 319 P P 12 21 05.1 -0.5
baz=46
U42A **Revenden** 87.14 313 P P 12 21 05.5 -0.3
baz=48,SNR=14
O35A **Humboldt** 87.19 318 P P 12 21 05.9 -0.1
baz=46
OXF **Oxford** 87.20 310 eP P 12 21 06.6 +0.5
OXF pmax pmax
comp=Z,60nm,1.2s
OXF **Oxford** 87.20 310 eP P 12 21 06.6 +0.5
comp=Z,60nm,1.2s
OXF **Oxford** 87.20 310 eP P 12 21 06.6 +0.5
comp=Z,60nm,1.2s
P36A **Good Intent, A** 87.25 317 P P 12 21 05.8 -0.5
baz=46
X45A **UM Field Stati** 87.25 310 P P 12 21 05.7 -0.6
baz=49
Y46A **Houston** 87.26 310 P P 12 21 05.2 -1.2
baz=50,SNR=12
Q37A **Longview Farm,** 87.33 316 P P 12 21 06.8 +0.2
baz=47
T40A **Mansfield** 87.37 314 P P 12 21 06.8 -0.1
baz=48,SNR=14
S39A **Bolivar** 87.48 315 P P 12 21 07.2 -0.2
baz=47
R38A **Fenwick Farm,** 87.49 316 P P 12 21 07.7 +0.3
baz=47,SNR=9.5
U41A **Viola** 87.55 313 P P 12 21 08.1 +0.3
baz=48,SNR=6.5
V42A **Cord** 87.59 313 P P 12 21 07.5 -0.4
baz=48
LAO **LASA Array** 87.59 328 P P 12 21 07.6 -0.3
baz=39
LAO **LASA Array** 87.59 328 eP P 12 21 09.2 +1.4
comp=Z,36nm,1.0s
LAO **LASA Array** 87.59 328 eP P 12 21 09.2 +1.4
comp=Z,36nm,1.0s
BGNE **Belgrade** 87.60 320 P P 12 21 07.4 -0.5
baz=44
W43A **Forest City** 87.64 312 P P 12 21 08.1 -0.1
baz=49
147A **Livingston** 87.66 308 P P 12 21 07.7 -0.6
baz=50
O34A **Beatrice** 87.68 319 P P 12 21 08.1 -0.3
baz=45

Y45A **Yeager Farm, C** 87.71 310 P P 12 21 09.0 +0.5
baz=49
P35A **Duane Minner,** 87.77 318 P P 12 21 09.3 +0.5
baz=46
Q36A **Arnold C. Orve** 87.85 317 P P 12 21 09.4 +0.3
baz=46
S38A **Stockton** 87.87 315 P P 12 21 09.3 0.0
baz=47
R37A **Teagarden Farm** 87.93 316 P P 12 21 09.1 -0.5
baz=46
T39A **Clever** 87.97 315 P P 12 21 09.2 -0.6
baz=47
W42A **Bald Knob** 88.02 312 P P 12 21 10.0 0.0
baz=48
EGMT **Eagleton** 88.03 331 P P 12 21 09.5 -0.4
baz=37
EGMT **Eagleton** 88.03 331 eP P 12 21 11.2 +1.3
comp=Z,39nm,1.1s
EGMT **Eagleton** 88.03 331 eP P 12 21 11.2 +1.3
comp=Z,39nm,1.1s
V41A **Mountainview** 88.07 313 P P 12 21 09.2 -1.1
baz=48
Y44A **Strider, Charl** 88.07 311 P P 12 21 10.2 0.0
baz=49
U40A **Yellville** 88.10 314 P P 12 21 10.5 0.0
baz=48
Z45A **Winona** 88.12 310 P P 12 21 10.2 -0.4
baz=49
KDAK **Kodiak Island** 88.16 358 eP P 12 21 10.8 +0.6
KDAK pmax pmax
comp=Z,31nm,1.0s
KDAK **Kodiak Island** 88.16 358 eP P 12 21 10.8 +0.6
comp=Z,31nm,1.0s
KDAK **Kodiak Island** 88.16 358 eP P 12 21 10.8 +0.6
comp=Z,31nm,1.0s
P34A **Walnut Farm, R** 88.20 318 P P 12 21 11.1 +0.2
baz=45
348A **Jackson** 88.22 307 P P 12 21 11.7 +0.6
baz=50
Q35A **Mercer Eighty,** 88.24 317 P P 12 21 11.4 +0.4
baz=46
O33A **Hebron** 88.24 319 P P 12 21 11.5 +0.5
baz=45
247A **Quitman** 88.28 308 P P 12 21 11.8 +0.5
baz=50
R36A **Gordon, Harris** 88.31 317 P P 12 21 11.4 0.0
baz=46
S37A **Fort Scott** 88.31 316 P P 12 21 11.3 -0.1
baz=46
V40A **Witts Springs** 88.46 313 P P 12 21 12.2 0.0
baz=48
U39A **Green Forest** 88.46 314 P P 12 21 11.7 -0.5
baz=47
WHAR **Wooly Hollow** 88.48 313 eP P 12 21 13.7 +1.5
comp=Z,36nm,1.5s
WHAR **Wooly Hollow** 88.48 313 eP P 12 21 13.7 +1.5
comp=Z,36nm,1.5s
T38A **Diamond** 88.50 315 P P 12 21 11.7 -0.6
baz=47
448A **Bay Minette** 88.50 307 P P 12 21 12.9 +0.5
baz=50
W41B **Gary Mavity, V** 88.53 313 P P 12 21 12.5 +0.1
baz=48
Y43A **Makula and Ka** 88.55 311 P P 12 21 13.3 +0.7
baz=48
RSSD **Black Hills** 88.56 325 P P 12 21 11.7 -1.1
baz=41
RSSD **Black Hills** 88.56 325 eP P 12 21 13.0 +0.3
RSSD pmax pmax
comp=Z,10.0nm,1.1s
RSSD **Black Hills** 88.56 325 eP P 12 21 13.0 +0.3
comp=Z,9.9nm,1.1s
RSSD **Black Hills** 88.56 325 eP P 12 21 13.0 +0.3
comp=Z,9.9nm,1.1s
SDV **Santo Domingo** 88.59 280 eP P 12 21 14.0 +0.7
comp=Z,14nm,0.9s
SDV **Santo Domingo** 88.59 280 eP P 12 21 14.0 +0.7
comp=Z,14nm,0.9s
347A **Saraland** 88.65 308 P P 12 21 13.7 +0.6
baz=50
Z44A **Pea Ridge, Bel** 88.65 310 P P 12 21 12.8 -0.3
baz=49
Q34A **Chapman** 88.70 318 P P 12 21 13.5 +0.2
baz=45
R35A **Emporia Munici** 88.70 317 P P 12 21 13.2 0.0
baz=49
OHAK **Old Harbor** 88.74 358 eP P 12 21 14.2 +1.2
comp=Z,39nm,0.9s
OHAK **Old Harbor** 88.74 358 eP P 12 21 14.2 +1.2
comp=Z,39nm,0.9s
SPB **Sao Paulo** 88.74 240 eP P 12 21 15.3 +1.9
comp=Z,33nm,1.1s
SPB **Sao Paulo** 88.74 240 eP P 12 21 15.3 +1.9
comp=Z,33nm,1.1s
145A **Houston Renfro** 88.77 309 P P 12 21 14.0 +0.4
baz=49
S36A **Lake Cedric, C** 88.78 316 P P 12 21 13.6 0.0
baz=46
T37A **Cheneyville 18** 88.80 315 P P 12 21 14.0 +0.3
baz=46
V39A **Pettigrew** 88.93 314 P P 12 21 14.7 +0.3
baz=47
U38A **Gravette** 88.96 315 P P 12 21 15.2 +0.8
baz=47
245A **Little AP, Sta** 89.12 309 P P 12 21 16.3 +1.0
baz=49
Y42A **Garnett, Star** 89.14 311 P P 12 21 16.3 +1.0
baz=48
S35A **Otter Creek Ra** 89.22 317 P P 12 21 16.3 +0.6
baz=46
R34A **Isabella, Hill** 89.31 318 P P 12 21 16.6 +0.5
baz=45
X40A **Basin Creek Fa** 89.35 312 P P 12 21 15.0 -1.3
baz=48
V38A **Canehill** 89.36 314 P P 12 21 15.4 -1.0
baz=47
T36A **Boggs Farm, Ca** 89.40 316 P P 12 21 15.8 -0.7
baz=46
VBMS **Vicksburg** 89.40 309 P P 12 21 16.1 -0.5
baz=49
U37A **Salina** 89.41 315 P P 12 21 16.0 -0.6
baz=46
244A **Avery, Jackson** 89.62 309 P P 12 21 17.2 -0.4
baz=49
143A **Socs Landing,** 89.64 310 P P 12 21 17.8 +0.1
baz=48
MIAR **Mount Ida** 89.76 313 P P 12 21 17.2 -1.1
baz=47
MIAR **Mount Ida** 89.76 313 eP P 12 21 19.2 +1.0
MIAR pmax pmax
comp=Z,36nm,1.5s
MIAR **Mount Ida** 89.76 313 eP P 12 21 19.2 +1.0
comp=Z,36nm,1.5s
MIAR **Mount Ida** 89.76 313 eP P 12 21 19.2 +1.0
comp=Z,36nm,1.5s
GCMT **Greycliff** 89.78 329 eP P 12 21 19.3 +1.0
GCMT **Greycliff** 89.78 329 eP P 12 21 19.3 +1.0
U36A **Oologah** 89.78 315 P P 12 21 17.7 -0.6
baz=46
V37A **Hulbert** 89.78 315 P P 12 21 18.1 -0.2
baz=46
T35A **Sooner Cattle** 89.86 316 P P 12 21 19.2 +0.5
baz=45
Y40A **Okolona** 89.94 312 P P 12 21 19.3 +0.2
baz=47
OGNE **Ogallala** 89.95 322 P P 12 21 18.7 -0.4
baz=42
W38A **Poteau** 89.97 314 P P 12 21 19.1 -0.1
baz=46
JTMT **Jette** 90.01 333 eP P 12 21 20.3 +1.0
JTMT **Jette** 90.01 333 eP P 12 21 20.3 +1.0
SWMT **Swartz Lake** 90.10 333 eP P 12 21 19.5 -0.2
SWMT **Swartz Lake** 90.10 333 eP P 12 21 19.6 -0.2
X39A **Fountain Ranch** 90.11 313 P P 12 21 20.3 +0.4
baz=47
BSMT **Bassoo Peak** 90.11 333 eP P 12 21 19.4 -0.5
BSMT **Bassoo Peak** 90.11 333 eP P 12 21 19.4 -0.5
RLMT **Red Lodge** 90.14 329 eP P 12 21 21.6 +1.5
comp=Z,22nm,1.3s
RLMT **Red Lodge** 90.14 329 eP P 12 21 21.6 +1.5
comp=Z,22nm,1.3s
TUL1 **Leonard** 90.15 315 P P 12 21 20.3 +0.3
baz=46
Z41A **Richland Creek** 90.15 311 P P 12 21 21.1 +1.1
baz=48
T34A **McClaskey Farm** 90.17 317 P P 12 21 20.9 +0.7
baz=45
CBKS **Cedar Bluff** 90.31 319 P P 12 21 21.5 +0.7
baz=43
V36A **Jenks** 90.32 315 P P 12 21 21.5 +0.6
baz=46
X38A **Whitesboro** 90.43 314 P P 12 21 21.6 +0.3
baz=46
W37B **Quinton** 90.47 314 P P 12 21 21.7 +0.1
baz=46
242A **Grayson** 90.54 310 P P 12 21 22.1 +0.2
baz=48
NEW **Newport** 90.60 335 P P 12 21 21.8 -0.2
baz=31
NEW **Newport** 90.60 335 eP P 12 21 22.1 +0.1
NEW pmax pmax
comp=Z,18nm,1.1s
NEW **Newport** 90.60 335 eP P 12 21 22.1 +0.1
comp=Z,18nm,1.1s
NEW **Newport** 90.60 335 eP P 12 21 22.1 +0.1
comp=Z,18nm,1.1s
BOZ **Bozeman (W)** 90.75 330 P P 12 21 22.6 -0.2
baz=35
X37A **Clayton** 90.81 314 P P 12 21 23.3 +0.1
baz=46
K22A **Casper** 90.85 326 P P 12 21 23.2 -0.2
baz=39
K22A **Casper** 90.85 326 eP P 12 21 22.6 -0.8
comp=Z,26nm,1.3s
K22A **Casper** 90.85 326 eP P 12 21 22.6 -0.8
comp=Z,26nm,1.3s
V35A **Meyer Ranch, C** 90.86 316 P P 12 21 24.1 +0.7
baz=45
Y38A **Idabel** 90.88 313 P P 12 21 24.6 +1.2
baz=46
YHH **Holmes Hill** 91.08 329 eP P 12 21 26.6 +2.0
comp=Z,9.4nm,1.3s
YHH **Holmes Hill** 91.08 329 eP P 12 21 26.6 +2.0
comp=Z,9.4nm,1.3s
YHB **Horse Butte** 91.25 330 eP P 12 21 25.4 +0.1
comp=Z,10nm,1.2s
YHB **Horse Butte** 91.25 330 eP P 12 21 25.4 +0.1
comp=Z,10nm,1.2s
W35A **Tecumseh** 91.31 315 P P 12 21 26.7 +1.2
baz=45
Y37A **Hugo** 91.38 314 P P 12 21 26.6 +0.8
baz=46
PHWY **Pilot Hill** 91.39 324 eP P 12 21 25.9 -0.2
comp=Z,14nm,0.9s
PHWY **Pilot Hill** 91.39 324 eP P 12 21 25.9 -0.2
comp=Z,14nm,0.9s
X36A **Centrahoma** 91.41 314 P P 12 21 26.4 +0.5
baz=46
YPP **Pitchstone Pla** 91.48 329 eP P 12 21 30.2 +3.7
Z38A **Mt. Pleasant** 91.50 313 P P 12 21 27.2 +0.9
baz=46
U32A **Winter Ranch,** 91.66 317 P P 12 21 27.9 +0.8
baz=44
Y36A **Durant** 91.83 314 P P 12 21 28.1 +0.3
baz=46
IMW **Indian Meadow** 91.84 329 eP P 12 21 29.4 +1.3
comp=Z,5.4nm,0.9s
IMW **Indian Meadow** 91.84 329 eP P 12 21 29.4 +1.3
comp=Z,5.4nm,0.9s
MOOW **Moose Ponds** 91.87 329 eP P 12 21 28.7 +0.5
comp=Z,20nm,1.8s
MOOW **Moose Ponds** 91.87 329 eP P 12 21 28.7 +0.5
comp=Z,20nm,1.8s
X35A **Drake** 91.89 315 P P 12 21 28.8 +0.6
baz=45
RWWY **Rawlins** 91.92 326 eP P 12 21 29.0 +0.5
comp=Z,14nm,1.3s
RWWY **Rawlins** 91.92 326 eP P 12 21 29.0 +0.5
comp=Z,14nm,1.3s
N23A **Red Feather La** 91.93 324 P P 12 21 29.5 +0.9
baz=39
N23A **Red Feather La** 91.93 324 eP P 12 21 30.2 +1.6
comp=Z,16nm,1.1s
N23A **Red Feather La** 91.93 324 eP P 12 21 30.2 +1.6
comp=Z,16nm,1.1s
BW06 **Boulder Array** 92.14 328 P P 12 21 29.4 0.0
baz=37
BW06 **Boulder Array** 92.14 328 eP P 12 21 29.5 0.0
comp=Z,24nm,2.0s
BW06 **Boulder Array** 92.14 328 eP P 12 21 29.5 0.0
comp=Z,24nm,2.0s
PD31 **Pinedale Array** 92.14 328 eP P 12 21 29.6 +0.1
PD31 **Pinedale Array** 92.14 328 eP P 12 21 29.6 +0.1
PDAR **Pinedale Array** 92.14 328 P P 12 21 29.5 0.0
comp=Z,1.5nm,1.0s,baz=45,slow=2.8,SNR=5.1
PDAR LR LR 13 05 28.4
comp=Z,651nm,18.4s,baz=30,slow=37
PDAR **Pinedale Array** 92.14 328 eP P 12 21 29.0 -0.5
PDAR **Pinedale Array** 92.14 328 eP P 12 21 29.0 -0.5
TPAW **Teton Pass** 92.17 329 eP P 12 21 31.9 +2.2
comp=Z,4.9nm,1.0s
TPAW **Teton Pass** 92.17 329 eP P 12 21 31.9 +2.2
comp=Z,4.9nm,1.0s
Y35A **Marietta** 92.28 314 P P 12 21 30.9 +1.0
baz=45
Z36A **Blue Ridge** 92.36 314 P P 12 21 31.7 +1.4
baz=45
ISCO **Idaho Springs** 92.61 323 P P 12 21 32.8 +1.0
baz=40
ISCO **Idaho Springs** 92.61 323 eP P 12 21 33.5 +1.7
ISCO pmax pmax
comp=Z,17nm,1.8s
ISCO **Idaho Springs** 92.61 323 eP P 12 21 33.5 +1.7
comp=Z,17nm,1.8s
ISCO **Idaho Springs** 92.61 323 eP P 12 21 33.5 +1.7
comp=Z,17nm,1.8s
WMOK **Wichita Mounta** 92.70 316 P P 12 21 33.0 +1.0
baz=44
WMOK **Wichita Mounta** 92.70 316 eP P 12 21 33.5 +1.5
WMOK pmax pmax
comp=Z,9.0nm,1.3s
WMOK **Wichita Mounta** 92.70 316 eP P 12 21 33.5 +1.5
comp=Z,8.5nm,1.3s
WMOK **Wichita Mounta** 92.70 316 eP P 12 21 33.5 +1.5
comp=Z,8.5nm,1.3s
Q24A **Divide** 93.02 323 P P 12 21 34.3 +0.6
baz=40
BMO **Blue Mountains** 93.58 333 eP P 12 21 35.9 0.0
BMO pmax pmax
comp=Z,4.0nm,0.8s
BMO **Blue Mountains** 93.58 333 eP P 12 21 35.9 0.0
comp=Z,4.1nm,0.8s
BMO **Blue Mountains** 93.58 333 eP P 12 21 35.9 0.0
comp=Z,4.1nm,0.8s
O20A **White River Ci** 93.62 325 P P 12 21 36.8 +0.5
baz=38
SMCO **Snowmass** 93.76 324 eP P 12 21 38.4 +1.2
comp=Z,3.7nm,1.0s
SMCO **Snowmass** 93.76 324 eP P 12 21 38.4 +1.2
comp=Z,3.7nm,1.0s
HWUT **Hardware Ranch** 93.96 328 eP P 12 21 39.1 +1.3
comp=Z,9.1nm,1.0s
HWUT **Hardware Ranch** 93.96 328 eP P 12 21 39.1 +1.3
comp=Z,9.1nm,1.0s
SDCO **Great Sand Dun** 94.13 322 P P 12 21 38.3 -0.5
baz=40
SDCO **Great Sand Dun** 94.13 322 eP P 12 21 38.3 -0.5
comp=Z,3.8nm,1.1s
SDCO **Great Sand Dun** 94.13 322 eP P 12 21 38.3 -0.5
comp=Z,3.8nm,1.1s
MHTCO **State Highway** 94.18 321 eP P 12 21 39.7 +0.7
comp=Z,23nm,1.6s
MFID **Camas Ranch** 94.23 332 eP P 12 21 40.3 +1.4
comp=Z,12nm,1.4s
MFID **Camas Ranch** 94.23 332 eP P 12 21 40.3 +1.4
comp=Z,12nm,1.4s
234A **Clairette** 94.27 314 P P 12 21 40.0 +0.8
baz=44
537A **Green Hill Far** 94.50 311 P P 12 21 39.6 -0.6
baz=46
S22A **4UR Ranch, Cre** 94.80 323 P P 12 21 41.6 -0.3
baz=39
S22A **4UR Ranch, Cre** 94.80 323 eP P 12 21 43.7 +1.8
comp=Z,9.8nm,1.6s
S22A **4UR Ranch, Cre** 94.80 323 eP P 12 21 43.6 +1.8
comp=Z,9.8nm,1.6s
434A **Burnet** 95.19 313 P P 12 21 43.8 +0.4
baz=44
PV01 **Paradox Valley** 95.36 324 eP P 12 21 45.3 +1.0
PV01 **Paradox Valley** 95.36 324 eP P 12 21 45.3 +1.0
WVOR **Wild Horse Val** 96.15 333 eP P 12 21 49.4 +1.7
WVOR pmax pmax
comp=Z,29nm,2.0s
WVOR **Wild Horse Val** 96.15 333 eP P 12 21 49.4 +1.7
comp=Z,29nm,2.0s
WVOR **Wild Horse Val** 96.15 333 eP P 12 21 49.4 +1.7

comp=Z,29nm,2.0s
LPM Los Pinos Moun 97.35 320 *e*P Pdif 12 21 53.7 +0.2
LPM Los Pinos Moun 97.35 320 *e*P Pdif 12 21 53.7 +0.3
CPUP Villa Florida 97.58 243 LR LR 13 06 22.3
comp=Z,624nm,20.0s,baz=60,slow=36
LTX Lajitas 99.47 315 *e*P **Pdif 12 22 03.2 +0.3**
LTX Lajitas 99.47 315 *e*P **Pdif 12 22 03.2 +0.3**
LTX Lajitas 99.47 315 *e*P **Pdif 12 22 03.2 +0.3**
TXAR Lajitas Array 99.47 315 P **Pdif 12 22 03.2 +0.3**
comp=Z,0.8nm,0.9s,baz=74,slow=3.9,SNR=3.4
TXAR PKKP **PKKPdf 12 38 31.6 +3.9**
comp=Z,0.5nm,0.8s,baz=204,slow=2.0,SNR=4.3
TXAR LR LR 13 06 45.1
comp=Z,410nm,21.0s,baz=0.0,slow=35
SYO Syowa Base 103.73 174 ‖ *e*Pdiff **Pdif 12 22 24.0 +3.6**
WR1 Warramunga Arr 117.70 96 *e*PKIKP **PKPdf 12 27 04.8 -1.5**
WR1 Warramunga Arr 117.70 96 *e*PKPdf **PKPdf 12 27 04.8 -1.5**
WRA Warramunga Arr 117.70 96 PKP **PKPdf 12 27 04.8 -1.5**
comp=Z,1.0nm,0.6s,baz=314,slow=1.7,SNR=17
WB2 Warramunga Arr 117.71 96 *e*PKIKP **PKPdf 12 27 05.5 -0.8**
WB2 Warramunga Arr 117.71 96 *e*PKPdf **PKPdf 12 27 05.5 -0.8**
AS31 Alice Springs 119.10 100 *e*PKIKP **PKPdf 12 27 08.2 -0.7**
AS31 Alice Springs 119.10 100 *e*PKPdf **PKPdf 12 27 08.2 -0.7**
ASAR Alice Springs 119.10 100 PKP **PKPdf 12 27 07.7 -1.3**
comp=Z,1.1nm,0.6s,baz=307,slow=1.3,SNR=26
ASAR PKKPab **PKKPab 12 37 27.1 +3.0**
comp=Z,0.3nm,0.5s,baz=118,slow=3.8,SNR=7.8
QSPA South Pole Qui 124.22 180 *e*PKIKP **PKPdf 12 27 17.5 +0.1**
QSPA South Pole Qui 124.22 180 *e*PKPdf **PKPdf 12 27 17.5 +0.1**
CTA Charters Tower 127.61 90 PKP **PKPdf 12 27 24.3 -1.0**
comp=Z,2.3nm,0.6s,baz=248,slow=5.4,SNR=3.3
STKA Stephens Creek 128.65 106 PKP **PKPdf 12 27 26.2 -0.7**
comp=Z,1.1nm,0.9s,baz=355,slow=7.1,SNR=3.4
STKA Stephens Creek 128.65 106 *e*PKIKP **PKPdf 12 27 26.9 0.0**
STKA Stephens Creek 128.65 106 *e*PKPdf **PKPdf 12 27 26.9 0.0**
VNDA Vanda 133.03 169 PKP **PKPdf 12 27 34.2 +0.3**
comp=Z,1.2nm,1.1s,baz=289,slow=6.6,SNR=3.8
VNDA Vanda 133.03 169 *e*PKIKP **PKPdf 12 27 34.4 +0.5**
VNDA Vanda 133.03 169 *e*PKPdf **PKPdf 12 27 34.4 +0.5**
SBA Scott Base 133.56 170 *e*PKIKP **PKPdf 12 27 37.1 +2.2**
SBA Scott Base 133.56 170 *e*PKPdf **PKPdf 12 27 37.1 +2.2**
SBA Scott Base 133.56 170 *e*PKPdf **PKPdf 12 27 37.1 +2.2**
DZM Mont Dzumac 145.16 79 *e*PKPbc **PKPdf 12 27 58.9 +1.2**
comp=Z,84nm,1.4s
DZM Mont Dzumac 145.16 79 *e*LR LR 13 15 27.1
comp=Z,676nm,24.5s
DZM Mont Dzumac 145.16 79 *e*PKPbc **PKPbc 12 27 57.0 -0.2**
DZM Mont Dzumac 145.16 79 *e*PKPbc **PKPbc 12 27 57.0 -0.2**
RKT Rikitea 158.25 295 *e*LR LR 13 21 34.9
comp=Z,355nm,31.8s
PPT2 Papeete2 162.25 338 *e*LR LR 13 23 25.7
comp=Z,706nm,23.0s

MDD ***27*** *12:12:26.0±2.0, 36.60N×10.96W, h0km, mb4.0/1, mbLg2.0/4, Error ellipse: s-maj=21.1km s-min=16.3km az=135.0, PRXIMO*
IGIL ***27*** *12:12:26.2, 36.44N×11.13W, h23km, ML1.6*
CSEM ***27*** *12:12:26.3±0.5, 36.56N×10.88W, h10km, ML2.0, Error ellipse: s-maj=10.0km s-min=7.3km az=107.0*
INMG ***27*** *12:12:26.2±0.8, 36.41N×11.21W, h31km±15km, ML2.2, Error ellipse: s-maj=12.1km s-min=3.7km az=74.0*

ISC 27 12:12:23.7±3.4, 36.5N±0.1×11.0W±0.2, h10km, n45, σ1§09/79, Azores-Cape St. Vincent Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PFVI	**Vila Bisbo**	**1.88**	**70**	*e*P	**Pn**	**12 12 56.7**	**+0.8**
PFVI				*e*S	**Sn**	**12 13 20.1**	**+0.5**
PFVI	**Vila Bisbo**	**1.88**	**70**	P	**Pn**	**12 12 56.7**	**+0.8**
	6.2nm,0.1s,SNR=7.9						
PFVI				S	**Sn**	**12 13 18.4**	**-1.2**
	1.5nm,0.1s,SNR=7.9						
PFVI	**Vila Bisbo**	**1.88**	**70**	P	**Pn**	**12 12 56.7**	**+0.8**
	6.2nm,0.1s,SNR=7.9						
PFVI				*e*S	**Sn**	**12 13 20.1**	**+0.5**
PTEO	**Sao Teotonio**	**2.11**	**61**	*e*P	**Pn**	**12 13 00.3**	**+1.2**
PTEO				*e*S	**Sn**	**12 13 25.9**	**+0.5**
PTEO	**Sao Teotonio**	**2.11**	**61**	P	**Pn**	**12 13 00.3**	**+1.2**
PTEO				S	**Sn**	**12 13 25.9**	**+0.5**
PTEO	**Sao Teotonio**	**2.11**	**61**	P	**Pn**	**12 13 00.3**	**+1.2**
PTEO				S	**Sn**	**12 13 25.9**	**+0.5**
PNCL	**Nicolau / Gran**	**2.55**	**51**	*e*P	**Pn**	**12 13 06.2**	**+1.1**
PNCL				*e*S	**Sn**	**12 13 36.3**	**0.0**
PNCL				A	A	12 13 39.5	
	2.7nm,0.3s						
PNCL	**Nicolau / Gran**	**2.55**	**51**	*e*P	**Pn**	**12 13 06.2**	**+1.1**
PNCL				*e*S	**Sn**	**12 13 36.3**	**0.0**
	2.7nm,0.3s						
PBDV	**Barranco-do-Ve**	**2.59**	**73**	*e*P	**Pn**	**12 13 06.9**	**+1.1**
PBDV	**Barranco-do-Ve**	**2.59**	**73**	P	**Pn**	**12 13 06.9**	**+1.1**
PBDV	**Barranco-do-Ve**	**2.59**	**73**	P	**Pn**	**12 13 06.9**	**+1.1**
MESJ	**Messejana**	**2.60**	**59**	*e*P	**Pn**	**12 13 06.9**	**+1.0**
MESJ				*e*S	**Sn**	**12 13 36.7**	**-0.9**
MESJ				AML	AML	12 13 38.3	
	comp=E,2.3nm,0.5s						
MESJ	**Messejana**	**2.60**	**59**	*e*P	**Pn**	**12 13 06.9**	**+1.0**
MESJ				*e*S	**Sn**	**12 13 37.3**	**-0.3**
MESJ				A	A	12 13 53.2	
	comp=E,4.6nm,0.7s						
MESJ	**Messejana**	**2.60**	**59**	P	**Pn**	**12 13 06.9**	**+1.0**
MESJ				S	**Sn**	**12 13 37.3**	**-0.3**
	comp=E,4.6nm,0.7s						
MESJ	**Messejana**	**2.60**	**59**	P	**Pn**	**12 13 06.9**	**+1.0**
MESJ				*e*S	**Sn**	**12 13 37.3**	**-0.3**
	comp=E,4.6nm,0.7s						
PCVE	**Castro Verde**	**2.64**	**64**	*e*P	**Pn**	**12 13 07.4**	**+1.0**
PCVE				*e*S	**Sn**	**12 13 38.5**	**0.0**
PCVE				A	A	12 14 05.5	
	comp=E,8.7nm,0.9s						
PCVE	**Castro Verde**	**2.64**	**64**	P	**Pn**	**12 13 07.4**	**+1.0**
PCVE				S	**Sn**	**12 13 38.5**	**0.0**
	comp=E,8.7nm,0.9s						
PCVE	**Castro Verde**	**2.64**	**64**	P	**Pn**	**12 13 07.4**	**+1.0**
PCVE				*e*S	**Sn**	**12 13 38.5**	**0.0**
	comp=E,8.7nm,0.9s						
PMAFR	**Mafra**	**2.80**	**29**	*e*S	**Sn**	**12 13 41.8**	**-0.5**
PMAFR				A	A	12 13 42.6	
	comp=E,20nm,0.2s						
PMAFR	**Mafra**	**2.80**	**29**	S	**Sn**	**12 13 40.4**	**-1.9**
	comp=E,13nm,0.2s,SNR=9.9						
PMAFR	**Mafra**	**2.80**	**29**	*e*S	**Sn**	**12 13 41.8**	**-0.5**
	comp=E,20nm,0.2s						
PVAQ	**Vaqueiros**	**2.80**	**71**	*e*P	**Pn**	**12 13 09.7**	**+1.1**
PVAQ				*e*S	**Sn**	**12 13 42.2**	**-0.2**
PVAQ				A	A	12 14 02.4	
	comp=E,7.7nm,0.7s						
PVAQ	**Vaqueiros**	**2.80**	**71**	P	**Pn**	**12 13 09.7**	**+1.1**
PVAQ				S	**Sn**	**12 13 42.2**	**-0.2**
	comp=E,7.7nm,0.7s						
PVAQ	**Vaqueiros**	**2.80**	**71**	P	**Pn**	**12 13 09.7**	**+1.1**
PVAQ				*e*S	**Sn**	**12 13 42.2**	**-0.2**
	comp=E,7.7nm,0.7s						
EGRO	**El Granado**	**3.02**	**69**	P	**Pn**	**12 13 12.3**	**+0.7**
	comp=E,0.5nm,0.1s,SNR=6.6						
EGRO				S	**Sn**	**12 13 46.7**	**-1.1**
	comp=E,0.5nm,0.1s,SNR=6.4						
EGRO	**El Granado**	**3.02**	**69**	P	**Pn**	**12 13 12.3**	**+0.7**
	comp=E,0.5nm,0.1s,SNR=6.6						
EGRO				S	**Sn**	**12 13 46.7**	**-1.1**
	comp=E,0.5nm,0.1s,SNR=6.4						
PBAR	**Barrancos**	**3.59**	**61**	*e*P	**Pn**	**12 13 20.6**	**+1.2**
PBAR				*e*S	**Sn**	**12 14 01.2**	**-0.6**
PBAR				A	A	12 14 07.0	
	comp=E,19nm,0.7s						
PBAR	**Barrancos**	**3.59**	**61**	P	**Pn**	**12 13 20.6**	**+1.2**
PBAR				S	**Sn**	**12 14 01.2**	**-0.6**
	comp=E,19nm,0.7s						
PBAR	**Barrancos**	**3.59**	**61**	P	**Pn**	**12 13 20.6**	**+1.2**
PBAR				*e*S	**Sn**	**12 14 01.2**	**-0.6**
	comp=E,19nm,0.7s						
EMIN	**Mina Concepcio**	**3.70**	**69**	P	**Pn**	**12 13 21.8**	**+0.8**
	comp=E,0.4nm,0.1s,SNR=13						
EMIN				S	**Sn**	**12 14 03.7**	**-0.9**
	comp=E,0.4nm,0.2s,SNR=9.4						
EMIN	**Mina Concepcio**	**3.70**	**69**	P	**Pn**	**12 13 21.8**	**+0.8**
	comp=E,0.4nm,0.1s,SNR=13						
EMIN				S	**Sn**	**12 14 03.7**	**-0.9**
	comp=E,0.4nm,0.2s,SNR=9.4						
EBAD	**Badajoz**	**3.89**	**54**	P	**Pn**	**12 13 24.5**	**+0.9**
	comp=E,0.8nm,0.1s,SNR=18						
EBAD				S	**Sn**	**12 14 08.6**	**-0.8**
	comp=E,2.9nm,0.2s,SNR=6.1						
EBAD	**Badajoz**	**3.89**	**54**	P	**Pn**	**12 13 24.5**	**+0.9**
	comp=E,0.8nm,0.1s,SNR=18						
EBAD				S	**Sn**	**12 14 08.6**	**-0.8**
	comp=E,2.9nm,0.2s,SNR=6.1						
PCAS	**Casmilo, Conde**	**4.05**	**29**	*e*S	**Sn**	**12 14 12.0**	**-1.2**
PCAS	**Casmilo, Conde**	**4.05**	**29**	*e*S	**Sn**	**12 14 12.0**	**-1.2**
PMRV	**Marv??o**	**4.09**	**44**	*e*P	**Pn**	**12 13 26.8**	**+0.5**
PMRV				*e*S	**Sn**	**12 14 12.6**	**-1.6**
PMRV	**Marv??o**	**4.09**	**44**	P	**Pn**	**12 13 26.8**	**+0.5**
PMRV				S	**Sn**	**12 14 12.6**	**-1.6**
PMRV	**Marv??o**	**4.09**	**44**	P	**Pn**	**12 13 26.8**	**+0.5**
PMRV				S	**Sn**	**12 14 12.6**	**-1.6**
ESPR	**Espera**	**4.18**	**84**	P	**Pn**	**12 13 28.6**	**+1.1**
	comp=E,3.3nm,0.2s,SNR=18						
ESPR				S	**Sn**	**12 14 14.2**	**-2.2**
	comp=E,5.0nm,0.2s,SNR=7.9						
ESPR	**Espera**	**4.18**	**84**	P	**Pn**	**12 13 28.6**	**+1.1**
	comp=E,3.3nm,0.2s,SNR=18						
ESPR				S	**Sn**	**12 14 14.2**	**-2.2**
	comp=E,5.0nm,0.2s,SNR=7.9						
TSY	**Tnine Yamani**	**4.27**	**104**	*i* P	**Pn**	**12 13 28.0**	**-0.8**
EJIF	**Jimena Fronter**	**4.49**	**89**	P	**Pn**	**12 13 33.7**	**+1.9**
	comp=E,1.3nm,0.1s,SNR=7.9						
EJIF	**Jimena Fronter**	**4.49**	**89**	P	**Pn**	**12 13 33.7**	**+1.9**
	comp=E,1.3nm,0.1s,SNR=7.9						
ECAB	**El Cabril**	**4.74**	**69**	P	**Pn**	**12 13 35.5**	**+0.2**
	comp=E,1.2nm,0.3s,SNR=11						
ECAB				S	**Sn**	**12 14 27.9**	**-2.4**
	comp=E,0.1nm,0.1s,SNR=7.9						
ECAB	**El Cabril**	**4.74**	**69**	P	**Pn**	**12 13 35.5**	**+0.2**
	comp=E,1.2nm,0.3s,SNR=11						
ECAB				S	**Sn**	**12 14 27.9**	**-2.4**
	comp=E,0.1nm,0.1s,SNR=7.9						

HLW ***27*** *12:25:08.8, 34.53N×23.66E, h20km±12km, Md4.5, Ml4.6*
MOS ***27*** *12:25:10.9±1.3, 34.24N×23.71E, h18km, mb4.6/34, Error ellipse: s-maj=6.2km s-min=3.6km az=89.0*
IDC ***27*** *12:25:10.3±0.6, 34.46N×23.69E, h0km, mb4.3/28, mb1 4.3/36, mb1mx4.3/55, mbtmp4.3/36, ML4.0/8, Error ellipse: s-maj=14.7km s-min=11.8km az=144.0*
ISCJB ***27*** *12:25:11.3±0.6, 34.21N±0.02×23.75E±0.02, h23km±4km, mb4.4/53, MS3.9/1, Error ellipse: s-maj=3.4km s-min=2.7km az=11.5*
CSEM ***27*** *12:25:12.5±0.2, 34.22N×23.75E, h20km, mb4.4/24, Error ellipse: s-maj=4.8km s-min=3.1km az=11.0*
THE ***27*** *12:25:15.7, 34.42N×23.80E, h7km±1km, ML3.8/7, Error ellipse: s-maj=2.7km s-min=1.8km az=28.0*
NEIC ***27*** *12:25:16.1±0.0, 34.56N×23.81E, h28km, mb4.2/21, ML3.7(ATH), After ATH.*
ATH ***27*** *12:25:16.2, 34.56N×23.81E, h28km, ML3.7/11, Error ellipse: s-maj=1.9km s-min=0.8km az=28.0*
NIC ***27*** *12:25:17.7±0.2, 34.33N×24.31E, h25km, mb4.7, ML4.1*
DDA ***27*** *12:25:40.5, 33.50N×26.92E, h15km, Ml3.9*

ISC 27 12:25:13.4±0.7, 34.29N±0.03×23.79E±0.03, h23km±4km, h24km; pP-P, n498, σ1§68/556, mb4.4/53, 16C-18D, Crete

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GVD	**Gavdhos**	**0.60**	**24**	P	**Pb**	**12 25 24.7**	**-0.6**
GVD				S	**Sb**	**12 25 32.4**	**-1.0**
GVD	**Gavdhos**	**0.60**	**24**	P	**Pb**	**12 25 24.7**	**-0.6**
GVD				S	**Sb**	**12 25 32.4**	**-1.0**
GVD	**Gavdhos**	**0.60**	**24**	P	**Pb**	**12 25 25.0**	**-0.3**
GVD				S	**Sb**	**12 25 30.8**	**-2.6**
GVD				AML	AML	12 25 41.8	
	comp=N,37591μm,0.9s						
GVD				AML	AML	12 25 42.2	
	comp=E,45401μm,0.4s						
SIVA	**Sivas**	**1.11**	**49**	P	**Pb**	**12 25 35.0**	**+1.0**
SIVA	**Sivas**	**1.11**	**49**	P	**Pb**	**12 25 35.0**	**+1.0**
SIVA	**Sivas**	**1.11**	**49**	P	**Pb**	**12 25 35.1**	**+1.1**
SIVA				S	**Sb**	**12 25 46.5**	**-1.5**
SIVA				AML	AML	12 25 58.0	
	comp=N,22224μm,0.9s						
SIVA				AML	AML	12 26 05.5	
	comp=E,28350μm,0.8s						
TMBK	**Timbaki Herakl**	**1.12**	**46**	P	**Pb**	**12 25 35.4**	**+1.3**
TMBK				S	**Sn**	**12 25 49.5**	**+1.1**
TMBK	**Timbaki Herakl**	**1.12**	**46**	P	**Pb**	**12 25 35.4**	**+1.3**
TMBK				S	**Sn**	**12 25 49.5**	**+1.1**
VAM	**Vamos**	**1.16**	**17**	P	**Pb**	**12 25 34.1**	**-0.2**
VAM				S	**Sb**	**12 25 50.7**	**+1.1**
VAM	**Vamos**	**1.16**	**17**	P	**Pn**	**12 25 34.1**	**-0.2**
VAM				S	**Sb**	**12 25 50.7**	**+1.1**
VAM	**Vamos**	**1.16**	**17**	P	**Pn**	**12 25 33.1**	**-1.2**
VAM				S	**Sn**	**12 25 47.2**	**-2.3**
VAM				AML	AML	12 25 55.5	
	comp=N,5612μm,0.6s						
VAM				AML	AML	12 26 10.7	
	comp=E,18566μm,1.3s						
IMMV	**Iera Moni Meta**	**1.18**	**8**	P	**Pn**	**12 25 34.5**	**0.0**
IMMV				S	**Sb**	**12 25 50.5**	**+0.5**
IMMV	**Iera Moni Meta**	**1.18**	**8**	P	**Pn**	**12 25 34.5**	**0.0**
IMMV				S	**Sb**	**12 25 50.5**	**+0.5**
IMMV	**Iera Moni Meta**	**1.18**	**8**	P	**Pn**	**12 25 52.1**	**-1.3**
IMMV				S	**Sn**	**12 25 46.2**	**-3.6**
IMMV				AML	AML	12 26 02.8	
	comp=E,25776μm,0.8s						
IMMV				AML	AML	12 26 03.2	
	comp=N,18525μm,0.7s						
IDI	**Anoyia**	**1.35**	**42**	Pg	**Pb**	**12 25 38.6**	**+0.6**
	comp=N,28nm,0.3s,baz=224,slow=16,SNR=36						
IDI				Lg	Lg	12 25 58.6	
	comp=N,60nm,0.3s,baz=238,slow=23,SNR=7.9						
IDI	**Anoyia**	**1.35**	**42**	P	**Pb**	**12 25 38.5**	**+0.5**
IDI				S	**Sb**	**12 25 56.6**	**+1.7**
IDI	**Anoyia**	**1.35**	**42**	P	**Pb**	**12 25 38.3**	**+0.3**
IDI	**Anoyia**	**1.35**	**42**	*e*Pn	**Pb**	**12 25 39.0**	**+1.0**
IDI				*e*Sn	**Sb**	**12 25 55.9**	**+1.0**
IDI				S	**Sb**	**12 25 55.9**	**+1.0**
IDI	**Anoyia**	**1.35**	**42**	P	**Pb**	**12 25 38.3**	**+0.3**
IDI				AML	AML	12 26 08.1	
	comp=N,4416μm,1.2s						
IDI				AML	AML	12 26 14.2	
	comp=E,4663μm,0.7s						
IDI	**Anoyia**	**1.35**	**42**	*e*Pn	**Pb**	**12 25 39.0**	**+1.0**
IDI				*e*Sn	**Sb**	**12 25 55.9**	**+1.0**
IACM	**Heraklion**	**1.46**	**46**	P	**Pn**	**12 25 38.4**	**0.0**
IACM	**Heraklion**	**1.46**	**46**	P	**Pn**	**12 25 38.4**	**0.0**
ANKY	**Antikythira Is**	**1.62**	**346**	P	**Pb**	**12 25 42.7**	**+0.9**
ANKY				S	**Sb**	**12 26 03.3**	**+0.6**
ANKY	**Antikythira Is**	**1.62**	**346**	P	**Pb**	**12 25 41.5**	**+0.9**
ANKY				S	**Sn**	**12 26 00.3**	**-0.5**
ANKY	**Antikythira Is**	**1.62**	**346**	P	**Pn**	**12 25 41.5**	**+0.9**
ANKY				S	**Sn**	**12 26 00.3**	**-0.5**
ANKY				AML	AML	12 26 16.9	
	comp=N,3292μm,0.9s						
ANKY				AML	AML	12 26 24.4	
	comp=E,5798μm,1.5s						
LAST	**Lasithi**	**1.64**	**58**	P	**Pb**	**12 25 42.7**	**-0.4**
LAST				S	**Sb**	**12 26 03.4**	**+0.1**
LAST	**Lasithi**	**1.64**	**58**	P	**Pb**	**12 25 42.7**	**-0.4**
LAST				S	**Sb**	**12 26 03.1**	**-0.2**
LAST	**Lasithi**	**1.64**	**58**	P	**Pb**	**12 25 43.6**	**+0.5**
LAST				S	**Sb**	**12 26 03.1**	**-0.2**
LAST				AML	AML	12 26 20.8	
	comp=N,2294μm,0.8s						
LAST				AML	AML	12 26 32.2	
	comp=E,2065μm,0.7s						
NPS	**Neapolis**	**1.79**	**57**	P	**Pb**	**12 25 45.5**	**0.0**
NPS				S	**Sb**	**12 26 07.1**	**-0.4**
NPS	**Neapolis**	**1.79**	**57**	P	**Pb**	**12 25 45.5**	**0.0**
NPS				S	**Sb**	**12 26 07.1**	**-0.4**
NPS	**Neapolis**	**1.79**	**57**	P	**Pb**	**12 25 45.5**	**0.0**
NPS				S	**Sn**	**12 26 05.4**	**+0.5**
NPS	**Neapolis**	**1.79**	**57**	P	**Pb**	**12 25 45.8**	**+0.3**
NPS				S	**Sn**	**12 26 05.4**	**+0.5**
NPS				AML	AML	12 26 27.3	
	comp=E,2340μm,0.9s						
NPS				AML	AML	12 26 39.9	
	comp=N,3385μm,0.9s						
KYTH	**Kithira**	**2.06**	**343**	P	**Pb**	**12 25 48.8**	**-1.4**
KYTH				AML	AML	12 26 29.5	
	comp=N,2186μm,1.2s						
KYTH				AML	AML	12 26 36.4	
	comp=E,3424μm,1.0s						
ZKR	**Zakros**	**2.16**	**67**	P	**Pb**	**12 25 50.5**	**-1.4**
ZKR	**Zakros**	**2.16**	**67**	P	**Pb**	**12 25 50.5**	**-1.4**
ZKR				AML	AML	12 26 47.8	
	comp=E,2330μm,0.8s						
ZKR				AML	AML	12 26 54.4	

	comp=N,1219μm,1.1s						
THR6	**Thira Island,**	**2.44**	**32**	P	**Pn**	**12 25 52.9**	**+1.0**
THR6	**Thira Island,**	**2.44**	**32**	P	**Pn**	**12 25 52.9**	**+1.0**
MHLO	**Agia Marina, M**	**2.45**	**12**	P	**Pn**	**12 25 51.8**	**-0.1**
MHLO	**Agia Marina, M**	**2.45**	**12**	P	**Pn**	**12 25 51.8**	**-0.1**
THR5	**Thira Island,**	**2.48**	**31**	P	**Pn**	**12 25 53.2**	**+0.9**
THR5	**Thira Island,**	**2.48**	**31**	P	**Pn**	**12 25 53.2**	**+0.9**
SANT	**Santorini**	**2.48**	**33**	P	**Pn**	**12 25 53.4**	**+0.9**
SANT				*e*Sn	**Sn**	**12 26 23.2**	**+1.1**
SANT	**Santorini**	**2.48**	**33**	*e*Pn	**Pn**	**12 25 53.4**	**+0.9**
SANT	**Santorini**	**2.48**	**33**	*e*Pn	**Pn**	**12 25 53.4**	**+0.9**
SANT				*e*Sn	**Sn**	**12 26 23.2**	**+1.1**
THR3	**Thira Island,**	**2.49**	**31**	P	**Pn**	**12 25 53.4**	**+0.9**
THR3	**Thira Island,**	**2.49**	**31**	P	**Pn**	**12 25 53.4**	**+0.9**
MHLA	**Plaka, Milos I**	**2.50**	**12**	P	**Pn**	**12 25 54.7**	**+2.0**
VLI	**Veliai**	**2.52**	**344**	P	**Pn**	**12 25 55.3**	**+2.4**
VLI				S	**Sn**	**12 26 22.9**	**0.0**
VLI	**Veliai**	**2.52**	**344**	P	**Pn**	**12 25 54.8**	**+1.9**
VLI				S	**Sn**	**12 26 22.9**	**0.0**
VLI	**Veliai**	**2.52**	**344**	P	**Pn**	**12 25 54.8**	**+1.9**
VLI				S	**Sn**	**12 26 22.1**	**-0.8**
VLI				AML	AML	12 26 41.4	
	comp=N,1351μm,1.7s						
VLI				AML	AML	12 26 59.8	
	comp=E,1689μm,1.0s						
SLUM	**Salum**	**3.04**	**156**	P	**Pn**	**12 25 58.8**	**-1.2**
	baz=156						
SLUM				AMP		12 26 00.0	
	comp=E,1400μm,0.7s,logA/T=6.3,baz=156						
SLUM				S	**Sn**	**12 26 35.8**	**+0.1**
	baz=156						
SLUM	**Salum**	**3.04**	**156**	P	**Pn**	**12 25 58.8**	**-1.2**
KARP	**Karpathos**	**3.04**	**65**	*e*PN	**Pn**	**12 26 02.6**	**+2.4**
KARP	**Karpathos**	**3.04**	**65**	P	**Pn**	**12 26 02.5**	**+2.4**
KARP	**Karpathos**	**3.04**	**65**	P	**Pn**	**12 26 02.5**	**+2.4**
KARP	**Karpathos**	**3.04**	**65**	P	**Pn**	**12 26 02.5**	**+2.4**
KARP	**Karpathos**	**3.04**	**65**	*e*Pn	**Pn**	**12 26 02.6**	**+2.4**
PYL	**PYLOS**	**3.09**	**328**	P	**Pn**	**12 26 00.4**	**-0.4**
PYL	**PYLOS**	**3.09**	**328**	P	**Pn**	**12 26 00.4**	**-0.4**
APE	**Apeiranthos**	**3.11**	**27**	*c*P	**Pn**	**12 26 02.3**	**+1.2**
APE	**Apeiranthos**	**3.11**	**27**	*i* P	**Pn**	**12 26 02.3**	**+1.2**
APE	**Apeiranthos**	**3.11**	**27**	P	**Pn**	**12 26 01.9**	**+0.7**
ITM	**Ithomi**	**3.26**	**333**	P	**Pn**	**12 26 05.4**	**+2.3**
ITM	**Ithomi**	**3.26**	**333**	P	**Pn**	**12 26 05.4**	**+2.3**
VLX	**Vlachokerasia**	**3.28**	**340**	P	**Pn**	**12 26 05.1**	**+1.6**
VLX	**Vlachokerasia**	**3.28**	**340**	P	**Pn**	**12 26 05.1**	**+1.6**
VLY	**Voula,Athens**	**3.55**	**0**	P	**Pn**	**12 26 06.3**	**-0.8**
VLY	**Voula,Athens**	**3.55**	**0**	P	**Pn**	**12 26 06.3**	**-0.8**
NIS1	**Nisyros Isl.**	**3.60**	**49**	*e*PN	**Pn**	**12 26 07.7**	**-0.1**
NIS1	**Nisyros Isl.**	**3.60**	**49**	*e*Pn	**Pn**	**12 26 07.7**	**-0.1**
AMT	**Artemida-Makis**	**3.65**	**333**	P	**Pn**	**12 26 12.6**	**+4.1**
ATH	**Athens Observa**	**3.67**	**359**	P	**Pn**	**12 26 10.6**	**+1.8**
ATH	**Athens Observa**	**3.67**	**359**	P	**Pn**	**12 26 10.6**	**+1.8**
PTL	**Penteli**	**3.75**	**1**	P	**Pn**	**12 26 10.3**	**+0.4**
PTL	**Penteli**	**3.75**	**1**	P	**Pn**	**12 26 10.3**	**+0.4**
LTK	**Loutraki**	**3.78**	**350**	P	**Pn**	**12 26 10.5**	**+0.2**
LTK	**Loutraki**	**3.78**	**350**	P	**Pn**	**12 26 10.5**	**+0.2**
VILL	**Villia**	**3.88**	**354**	P	**Pn**	**12 26 10.8**	**-0.9**
DAT	**Datca**	**3.93**	**51**	*e*PN	**Pn**	**12 26 12.2**	**-0.3**
DAT	**Datca**	**3.93**	**51**	*i* P	**Pn**	**12 26 13.5**	**+1.0**
DAT				*i* S	**Sn**	**12 26 59.7**	**+1.8**
DAT	**Datca**	**3.93**	**51**	*e*Pn	**Pn**	**12 26 12.2**	**-0.3**
DAT	**Datca**	**3.93**	**51**	P	**Pn**	**12 26 13.5**	**+1.0**
DAT				S	**Sn**	**12 26 59.7**	**+1.8**
VIL2	**Platees**	**3.94**	**354**	P	**Pn**	**12 26 10.8**	**-1.6**
KLV	**Kalavryta, Ach**	**3.97**	**341**	P	**Pn**	**12 26 13.6**	**+0.6**
KLV	**Kalavryta, Ach**	**3.97**	**341**	P	**Pn**	**12 26 13.6**	**+0.6**
BODT	**Bodrum**	**3.98**	**45**	*e*PN	**Pn**	**12 26 13.6**	**+0.5**
BODT	**Bodrum**	**3.98**	**45**	*e*Pn	**Pn**	**12 26 13.6**	**+0.5**
DRO	**Drossia**	**4.02**	**336**	P	**Pn**	**12 26 17.1**	**+3.5**
PROD	**Prodromos**	**4.03**	**350**	P	**Pn**	**12 26 13.8**	**+0.2**
PROD	**Prodromos**	**4.03**	**350**	P	**Pn**	**12 26 13.8**	**+0.2**
ARG	**Arkhangelos**	**4.04**	**60**	P	**Pn**	**12 26 15.9**	**+2.1**
ARG	**Arkhangelos**	**4.04**	**60**	P	**Pn**	**12 26 14.3**	**+0.6**
ARG	**Arkhangelos**	**4.04**	**60**	P	**Pn**	**12 26 14.3**	**+0.6**
EREA	**Eretria**	**4.12**	**2**	P	**Pn**	**12 26 16.1**	**+1.1**
EREA	**Eretria**	**4.12**	**2**	P	**Pn**	**12 26 16.1**	**+1.1**
LAKA	**Lakka**	**4.20**	**

CEL Celeste 7.50 304 *e*Pn **Pn** 12 27 00.8 -0.6
CEL Celeste 7.50 304 *e*Pn **Pn** 12 27 00.8 -0.6
CEL *e*Sn **Sn** 12 28 22.7 -3.1
TIR Tirane 7.70 337 *e*P **Pn** 12 27 03.4 -0.6
TIR Tirane 7.70 337 *e*Pn **Pn** 12 27 03.4 -0.6
WDD Wied Dalam 7.75 284 *e*Pn **Pn** 12 27 03.8 -0.9
WDD *e*Sn **Sn** 12 28 26.6 -5.3
CSS Mathiatis 7.89 82 P **Pn** 12 27 04.7 -2.1
CSS S **Sn** 12 28 29.2 -6.2
CSS Mathiatis 7.89 82 *e*Pn **Pn** 12 27 04.8 -2.0
CSS *e*Sn **Sn** 12 28 32.3 -3.1
CSS Mathiatis 7.89 82 P **Pn** 12 27 04.7 -2.1
baz=267
CSS S **Sn** 12 28 29.2 -6.2
KOT Kottamia 8.09 120 P **Pn** 12 27 09.1 -0.4
baz=121
KOT Kottamia 8.09 120 P **Pn** 12 27 09.1 -0.4
GLL Jalalah 8.21 123 P **Pn** 12 27 10.7 -0.4
baz=123
GLL Jalalah 8.21 123 P **Pn** 12 27 10.7 -0.4
VAE Valguarnera 8.25 295 Pn **Pn** 12 27 12.2 +0.5
comp=E,4.0nm,0.3s,baz=355,slow=21,SNR=6.4
VAE Sn **Sn** 12 28 45.1 +1.0
comp=E,11nm,0.3s,baz=171,slow=17,SNR=5.1
VTS Vitosha 8.30 357 ⇑*i*P **Pn** 12 27 16.3 +3.8
VTS Vitosha 8.30 357 ⇑P **Pn** 12 27 16.3 +3.8
VTS Vitosha 8.30 357 *e*Pn **Pn** 12 27 14.8 +2.3
VTS Vitosha 8.30 357 *e*Pn **Pn** 12 27 14.8 +2.3
CUC Castrocucco 8.54 314 *e*Pn **Pn** 12 27 15.8 +0.2
CUC Castrocucco 8.54 314 *e*Pn **Pn** 12 27 15.8 +0.2
PDG Podgorica 8.87 338 ⇓*i*P **Pn** 12 27 19.4 -0.7
KERG Konya-Eregli 8.95 67 *e*P Pn 12 27 13.2 -8.2
ANTO Ankara 9.10 50 *e*P **Pn** 12 27 24.9 +1.6
ANTO Ankara 9.10 50 *e*P **Pn** 12 27 24.9 +1.6
ANTO Ankara 9.10 50 *e*Pn **Pn** 12 27 24.9 +1.6
BR131 Keskin Array S 9.56 53 *e*Pn **Pn** 12 27 31.2 +1.4
BR131 Keskin Array S 9.56 53 *e*Pn **Pn** 12 27 31.2 +1.4
BRTR Keskin Array B 9.56 53 Pn **Pn** 12 27 30.8 +1.1
comp=E,0.2nm,0.3s,baz=236,slow=15,SNR=9.8
BRTR Sn Sn 12 29 06.9 -10
comp=E,0.3nm,0.3s,baz=115,slow=34,SNR=4.5
BR101 Keskin Array S 9.56 53 *e*Pn **Pn** 12 27 30.8 +1.1
BR101 Keskin Array S 9.56 53 *e*Pn **Pn** 12 27 30.8 +1.1
BR101 *e*Sn Sn 12 29 06.9 -10
MMAI Mount Meron Ar 9.77 94 Pn **Pn** 12 27 30.0 -2.6
comp=E,3.7nm,0.3s,baz=277,slow=12,SNR=5.6
MMAI Sn **Sn** 12 29 15.3 -6.2
comp=E,1.8nm,0.3s,baz=289,slow=14,SNR=2.6
STON Ston 9.80 333 *e*Pn **Pn** 12 27 29.7 -3.2
STON Sn Sn 12 29 13.9 -8.2
ARNB Al Arnab 10.11 78 *e*P **Pn** 12 27 35.1 -2.1
ARNB *e*S Sn 12 29 20.4 -9.4
ARNB AML AML 12 29 32.2
comp=N,28nm,0.6s
ARNB AML AML 12 29 35.7
comp=E,22nm,0.5s
BRBR Barbar 10.15 92 *e*P **Pn** 12 27 34.3 -3.6
BRBR *e*S Sn 12 29 20.6 -11
BRBR AML AML 12 29 28.6
comp=N,58nm,0.6s
BRBR AML AML 12 29 28.9
comp=E,72nm,0.7s
TCHB Talchebab 10.30 96 *e*P **Pn** 12 27 36.7 -3.1
TCHB *e*S Sn 12 29 22.0 -13
TCHB AML AML 12 29 36.6
comp=N,110nm,0.7s
TCHB AML AML 12 29 53.8
comp=E,45nm,0.5s
HAWK Haweek 10.43 85 *e*P **Pn** 12 27 39.3 -2.3
HAWK *e*S Sn 12 29 27.4 -10
BTCH Batrach 10.52 77 *e*P **Pn** 12 27 41.2 -1.6
BTCH *e*S **Sn** 12 29 31.6 -8.3
BTCH AML AML 12 29 45.4
comp=E,37nm,0.6s
BTCH AML AML 12 29 45.7
comp=N,41nm,0.8s
BTCH Batrach 10.52 77 *e*P **Pn** 12 27 41.2 -1.6
SNR=90
MARH Ras Al Marh 10.52 88 *e*P **Pn** 12 27 40.6 -2.5
MARH *e*S Sn 12 29 30.1 -10
MARH AML AML 12 29 44.2
comp=E,31nm,0.5s
MARH AML AML 12 29 49.6
comp=N,25nm,0.7s
MDVR Moldovita 10.60 352 ⇑*i*P **Pn** 12 27 45.9 +2.1
DRWC Darouich 10.76 74 *e*P **Pn** 12 27 45.7 -0.4
DRWC *e*S Sn 12 29 36.8 -9.1
DRWC AML AML 12 29 49.5
comp=N,24nm,0.6s
DRWC AML AML 12 29 53.5
comp=E,15nm,0.6s
DRWC Darouich 10.76 74 *e*P **Pn** 12 27 45.7 -0.4
SNR=90
SALA Sala 10.92 95 *e*P **Pn** 12 27 44.7 -3.7
SALA *e*S Sn 12 29 37.9 -12
SALA AML AML 12 29 54.1
comp=N,37nm,0.7s
ARR Arges 11.08 3 ⇓*i*P Pn 12 27 55.3 +4.8
GZR Gura Zlata 11.12 356 ⇓*i*P **Pn** 12 27 54.9 +4.0
GZR Gura Zlata 11.12 356 ⇓P **Pn** 12 27 54.9 +4.0
VOIR 11.18 5 ⇑*i*P Pn 12 27 57.7 +5.9
VOIR 11.18 5 ⇑P Pn 12 27 57.7 +5.9
ROOS tl_alroos 11.18 87 *e*P **Pn** 12 27 50.4 -1.5
ROOS *e*S Sn 12 29 45.6 -11
ROOS tl_alroos 11.18 87 *e*P **Pn** 12 27 50.4 -1.5
SNR=90
ASF Jabal al Asfar 11.18 97 Pn **Pn** 12 27 47.7 -4.2
comp=N,0.3nm,0.3s,baz=236,slow=7.4,SNR=3.8
ASF Sn **Sn** 12 29 54.1 -2.1
comp=N,1.0nm,0.3s,baz=318,slow=22,SNR=5.7
MLR Muntele Rosu 11.31 8 Pn **Pn** 12 27 51.4 -2.2
comp=N,0.1nm,0.3s,baz=198,slow=20,SNR=3.4
MLR Muntele Rosu 11.31 8 ⇑*i*P Pn 12 28 00.0 +6.4
MLR Muntele Rosu 11.31 8 ⇑P Pn 12 28 00.0 +6.4
MLR Muntele Rosu 11.31 8 *e*Pn **Pn** 12 27 52.0 -1.6
BZS Buzias 11.43 352 ⇓*i*P **Pn** 12 27 56.6 +1.4
BZS Buzias 11.43 352 ⇓P **Pn** 12 27 56.6 +1.4
BZS Buzias 11.43 352 P **Pn** 12 27 56.6 +1.4
PLOR Plostina 11.75 10 ⇑*i*P Pn 12 28 06.1 +6.5
PLOR Plostina 11.75 10 ⇑P Pn 12 28 06.1 +6.5
VRI Vrincioaia 11.78 10 ⇓*i*P Pn 12 28 06.8 +6.9
VRI Vrincioaia 11.78 10 ⇓P Pn 12 28 06.8 +6.9
NVLJ Novalja 12.35 329 *e*Pn **Pn** 12 28 06.2 -1.5
NVLJ Sn **Sn** 12 30 18.3 -6.2
NVLJ Novalja 12.35 329 *e*Pn **Pn** 12 28 06.2 -1.5
DRGR 12.52 357 ⇓*i*P **Pn** 12 28 14.1 +4.0
DRGR 12.52 357 ⇓P **Pn** 12 28 14.1 +4.0
BURAR Bucovina Array 13.36 4 ⇑*i*P **P** 12 28 27.5 -3.4
BURAR Bucovina Array 13.36 4 ⇑P **P** 12 28 27.5 -3.4
BUR08 Bucovina Ar. S 13.38 4 *e*Pn **Pn** 12 28 23.2 +1.3
BUR08 Bucovina Ar. S 13.38 4 *e*Pn **Pn** 12 28 23.2 +1.3
OBKA Obir 14.07 333 *i*Pn **Pn** 12 28 30.6 -0.8
comp=N,3.1nm,0.5s
OBKA Obir 14.07 333 Pn **Pn** 12 28 30.6 -0.8
comp=N,3.1nm,0.5s
SORM Soroca 14.25 13 ⇓*i*P **P** 12 28 41.0 +0.3
SORM Soroca 14.25 13 ⇓P **P** 12 28 41.0 +0.3
SORM Soroca 14.25 13 P **P** 12 28 41.0 +0.3
ARSA Arzberg 14.37 337 *i*Pn **Pn** 12 28 35.1 -0.3
comp=N,4.8nm,0.6s
ARSA Arzberg 14.37 337 Pn **Pn** 12 28 35.1 -0.3
comp=N,4.8nm,0.6s
UZH Uzhgorod 14.37 356 *e*P **Pn** 12 28 35.8 +0.5
VYHS Vyhne 14.66 347 *e*P **P** 12 28 43.9 -1.5
VYHS Vyhne 14.66 347 *e*P **P** 12 28 43.9 -1.5
VYHS Vyhne 14.66 347 *e*PN **P** 12 28 43.9 -1.5
CONA Conrad Observa 14.86 339 *i*Pn **Pn** 12 28 44.2 +2.1
comp=N,3.6nm,0.9s
CONA Conrad Observa 14.86 339 Pn **Pn** 12 28 44.2 +2.1
comp=N,3.8nm,0.9s
KBA Koelnbreinsper 15.01 331 *i*Pn **Pn** 12 28 46.1 +1.9
comp=N,5.4nm,0.6s
KBA Koelnbreinsper 15.01 331 Pn **Pn** 12 28 46.1 +1.9
comp=N,5.4nm,0.6s
ABTA Abfaltersbach 15.09 329 *i*P **P** 12 28 48.9 -1.4
comp=N,11nm,0.6s
MOA Molln 15.31 335 *i*Pn **Pn** 12 28 48.5 +0.5
comp=N,0.2nm,0.1s
MOA Molln 15.31 335 Pn **Pn** 12 28 48.5 +0.5
comp=N,0.2nm,0.1s
NIE Niedzica 15.34 351 P **P** 12 28 54.9 +2.0
NIE Niedzica 15.34 351 P **P** 12 28 54.9 +2.0
VRAC Vranov 15.92 343 Pn **Pn** 12 28 56.2 +0.3
comp=N,1.1nm,0.3s,baz=133,slow=11,SNR=8.8

FUORN Ofenpass-Fuorn 16.02 324 *e*Pn **Pn** 12 28 59.0 +1.6
comp=N,20nm,1.0s
FUORN Ofenpass-Fuorn 16.02 324 *e*Pn **Pn** 12 28 59.0 +1.6
comp=N,20nm,1.0s
OKC Ostrava-Krasne 16.08 347 *e*P **P** 12 29 00.5 -0.6
OKC *ex* x 12 29 03.6
OKC Ostrava-Krasne 16.08 347 *e*P **P** 12 29 00.5 -0.6
OKC Ostrava-Krasne 16.08 347 *e*P **P** 12 29 00.5 -0.6
FETA Feichten 16.09 326 *i*P **P** 12 29 00.7 -0.7
comp=N,7.7nm,0.7s
MORC Moravsky Berou 16.14 345 ⇓*i*P **P** 12 29 00.4 -1.4
MORC Moravsky Berou 16.14 345 ⇓P **P** 12 29 00.5 -1.4
MORC Moravsky Berou 16.14 345 *e*Pn **Pn** 12 29 00.0 +1.2
MORC Moravsky Berou 16.14 345 P **P** 12 29 00.5 -1.4
MORC Moravsky Berou 16.14 345 *e*Pn **Pn** 12 28 60.0 +1.2
MOTA Moosalm 16.16 328 *i*Pn **Pn** 12 28 59.7 +0.6
comp=N,7.4nm,0.8s
MOTA Moosalm 16.16 328 Pn **Pn** 12 28 59.7 +0.6
comp=N,7.4nm,0.8s
TREC Trest 16.20 340 P **P** 12 29 03.1 +0.6
TREC Trest 16.20 340 P **P** 12 29 03.1 +0.6
ISO Isola 16.27 312 P **P** 12 29 03.7 +0.4
ISO Isola 16.27 312 P **P** 12 29 03.7 +0.4
DAVOX Davos/Dischmat 16.32 324 Pn **Pn** 12 28 57.0 -4.2
comp=N,0.1nm,0.3s,baz=130,slow=16,SNR=2.2
GEA0 GERESS Array S 16.35 336 *e*Pn **Pn** 12 28 59.6 -1.9
GEA0 GERESS Array S 16.35 336 *e*Pn **Pn** 12 28 59.6 -1.9
GEC2 GERESS Array S 16.36 336 *e*P **Pn** 12 29 02.7 +1.1
GEC2 pmax pmax
comp=Z,14nm,1.0s
GEC2 GERESS Array S 16.36 336 *e*P **Pn** 12 29 02.7 +1.1
comp=Z,14nm,1.0s
GEC2 GERESS Array S 16.36 336 *e*Pn **Pn** 12 29 02.7 +1.1
comp=Z,14nm,1.0s
GERES GERESS Array B 16.36 336 Pn **Pn** 12 28 59.3 -2.3
comp=Z,0.2nm,0.3s,baz=146,slow=14,SNR=12
TUE Stuetta 16.37 322 *e*Pn **Pn** 12 29 02.4 +0.5
comp=Z,10nm,0.9s
TUE Stuetta 16.37 322 *e*Pn **Pn** 12 29 02.4 +0.5
comp=Z,10nm,0.9s
RETA Reutte 16.42 327 *i*Pn **Pn** 12 29 03.4 +1.0
comp=Z,3.9nm,0.5s
RETA Reutte 16.42 327 Pn **Pn** 12 29 03.4 +1.0
comp=Z,3.9nm,0.5s
KRLC Kraliky 16.59 344 *e*P **P** 12 29 09.7 +2.9
KRLC *ep*P **pP** 12 29 13.9 +0.7
KRLC Kraliky 16.59 344 *e*P **P** 12 29 09.7 +2.9
KHC Kasperske Hory 16.65 336 *e*P **Pn** 12 29 05.4 +0.2
KHC *ex* x 12 29 08.5
KHC Kasperske Hory 16.65 336 *e*P **Pn** 12 29 05.4 +0.2
KHC Kasperske Hory 16.65 336 *e*Pn **Pn** 12 29 05.6 +0.5
comp=Z,5.0nm,0.7s
KHC Kasperske Hory 16.65 336 *e*Pn **Pn** 12 29 05.6 +0.5
comp=Z,5.0nm,0.7s
DAVA Damuels 16.68 325 *i*Pn **Pn** 12 29 06.6 +0.9
comp=Z,10.0nm,0.7s
DAVA Damuels 16.68 325 Pn **Pn** 12 29 06.6 +0.9
comp=Z,10.0nm,0.7s
AK11 Malin Array Si 16.84 12 *e*Pn **P** 12 29 08.8 -0.7
AK11 Malin Array Si 16.84 12 *e*Pn **P** 12 29 08.8 -0.7
KIEV Kiev 16.86 12 *e*P **Pn** 12 29 07.4 -0.4
KIEV *e*S **S** 12 32 24.5 0.0
KIEV *pmax* pmax
comp=Z,11nm,0.8s
KIEV Kiev 16.86 12 *e*Pn **Pn** 12 29 07.4 -0.4
comp=Z,11nm,0.8s
KIEV *e*S **S** 12 32 24.5 0.0
KIEV Kiev 16.86 12 *e*Pn **Pn** 12 29 07.4 -0.4
comp=Z,11nm,0.8s
KIEV *e*S **S** 12 32 24.5 0.0
AKASG Malin Array Be 16.88 12 Pn **Pn** 12 29 06.8 -1.1
comp=Z,2.6nm,0.3s,baz=204,slow=11,SNR=15
AKASG Sn **Sn** 12 32 15.0 +0.4
comp=Z,0.3nm,0.3s,baz=200,slow=23,SNR=2.5
AKBB Malin Array Si 16.88 12 *e*P **Pn** 12 29 07.3 -0.6
AKBB *e* 12 32 15.0
AKBB *pmax* pmax
comp=Z,12nm,0.8s
AKBB Malin Array Si 16.88 12 *e*Pn **Pn** 12 29 07.3 -0.6
comp=Z,12nm,0.8s
AKBB *e*Sn **Sn** 12 32 15.0 +0.4
AKBB Malin Array Si 16.88 12 *e*Pn **Pn** 12 29 07.3 -0.6
comp=Z,12nm,0.8s
AKBB *e*Sn **Sn** 12 32 15.0 +0.4
DPC Dobruska-Polom 16.96 343 *e*P **P** 12 29 10.9 +0.1
DPC *ep*P **pP** 12 29 17.6 +0.3
DPC Dobruska-Polom 16.96 343 *e*P **P** 12 29 10.9 +0.1
DPC Dobruska-Polom 16.96 343 *e*P **P** 12 29 10.9 +0.1
GOPC GO Pecny, Ondr 16.96 340 *e*P **P** 12 29 12.5 +1.7
GOPC *ep*P **pP** 12 29 16.9 -0.4
GOPC GO Pecny, Ondr 16.96 340 *e*P **P** 12 29 12.5 +1.7
GOPC GO Pecny, Ondr 16.96 340 *e*P **P** 12 29 12.5 +1.7
PRU Pruhonice 17.10 339 *e*P **Pn** 12 29 11.4 +0.7
PRU Pruhonice 17.10 339 *e*P **Pn** 12 29 11.4 +0.7
PRU Pruhonice 17.10 339 *e*P **Pn** 12 29 11.4 +0.7
LPL La Plagne 17.19 316 *e*P **P** 12 29 14.3 +0.6
LPL La Plagne 17.19 316 *e*P **P** 12 29 14.3 +0.6
PRA Prague 17.20 339 *e*P **P** 12 29 14.2 +0.7
PRA Prague 17.20 339 *e*P **P** 12 29 14.2 +0.7
PRA Prague 17.20 339 *e*P **P** 12 29 14.2 +0.7
NEY Neytrino 17.23 53 ⇑*i*P **P** 12 29 13.8 -0.3
NEY *pmax* pmax
comp=Z,5.0nm,1.0s
NEY Neytrino 17.23 53 *i*P **P** 12 29 13.8 -0.3
comp=Z,5.0nm,1.0s
SENIN Lac Senin/Sane 17.38 319 *e*Pn **Pn** 12 29 14.0 -0.5
comp=Z,4.9nm,0.8s
SENIN Lac Senin/Sane 17.38 319 *e*Pn **Pn** 12 29 14.0 -0.5
comp=Z,4.9nm,0.8s
KIV Kislovodsk 17.52 51 *e*P **P** 12 29 17.4 +0.2
KIV *pmax* pmax
comp=Z,13nm,1.1s
KIV Kislovodsk 17.52 51 *e*Pn **Pn** 12 29 15.4 -0.7
comp=Z,14nm,0.7s
KIV Kislovodsk 17.52 51 *e*P **P** 12 29 17.4 +0.2
comp=Z,13nm,1.1s
KIV Kislovodsk 17.52 51 *e*Pn **Pn** 12 29 15.4 -0.7
comp=Z,14nm,0.7s
KVAR Kislovodsk Arr 17.52 51 P **Pn** 12 29 15.8 -0.4
baz=272,slow=12,SNR=4.0
KBZ Khabaz 17.55 52 P **Pn** 12 29 16.6 +0.1
comp=Z,0.2nm,0.3s,baz=251,slow=8.3,SNR=12
GNI Garni 17.67 65 *e*P **P** 12 29 19.3 +0.4
GNI *pmax* pmax
comp=Z,56nm,1.1s
GNI Garni 17.67 65 *e*P **P** 12 29 19.3 +0.4
comp=Z,56nm,1.1s
ZEI Tsey 17.84 56 *e*P **Pn** 12 29 19.5 -0.8
ZEI *pmax* pmax
comp=Z,26nm,0.9s
NCK Nalchik 17.91 53 *e*P **P** 12 29 22.0 +0.5
NCK *pmax* pmax
comp=Z,10.0nm,0.7s
NCK Nalchik 17.91 53 *e*P **P** 12 29 22.0 +0.5
comp=Z,10.0nm,0.7s
BRG Berggiesshubel 18.06 340 *e*P **P** 12 29 23.2 +0.2
comp=Z,8.0nm,0.8s
BRG *e* 12 29 33.3
comp=Z,34nm,1.5s
BRG Berggiesshubel 18.06 340 *e*P **P** 12 29 23.2 +0.2
BRG *pmax* pmax
comp=Z,8.0nm,0.8s
BRG *pmax* pmax
comp=Z,35nm,1.5s
BRG MLR MLR
comp=Z,1µm,15.1s
BRG MLR MLR
comp=N,1µm,15.4s
BRG MLR MLR
comp=E,430nm,15.4s
BRG Berggiesshubel 18.06 340 *e*P **P** 12 29 23.2 +0.2
comp=E,1µm,15.1s
BFO Black Forest 18.16 325 *e*P **P** 12 29 24.1 0.0
BFO *pmax* pmax
comp=Z,5.0nm,0.7s
BFO Black Forest 18.16 325 *e*P **P** 12 29 24.1 0.0
comp=Z,5.0nm,0.7s
BFO Black Forest 18.16 325 *e*Pn **P** 12 29 24.1 0.0
comp=Z,5.1nm,0.7s
HINF Hinteralfeld 18.54 322 *e*P **P** 12 29 26.4 -1.9
HINF Hinteralfeld 18.54 322 *e*P **P** 12 29 26.4 -1.9
MOX Moxa 18.61 335 P **Pn** 12 29 30.9 +1.6
MOX Moxa 18.61 335 P **Pn** 12 29 30.9 +1.6
CDF Champ du Feu 18.72 324 *e*P **Pn** 12 29 31.1 +0.2
CDF Champ du Feu 18.72 324 *e*P **Pn** 12 29 31.1 +0.2

CLL Collm 18.72 339 *e*P **Pn** 12 29 30.6 -0.1
CLL *pmax* pmax
comp=Z,20nm,1.1s
CLL Collm 18.72 339 *e*P **Pn** 12 29 30.6 -0.1
comp=Z,20nm,1.1s
CLL Collm 18.72 339 *e*P **P** 12 29 30.0 -0.2
comp=Z,8.0nm,0.9s
CLL *ep*P **pP** 12 29 36.0 -0.7
CLL *es*P **sP** 12 29 41.0 +1.3
CLL *e*PPP PPP 12 29 49.0
CLL Collm 18.72 339 *e*P **Pn** 12 29 30.6 -0.1
comp=Z,20nm,1.1s
TAM Tamanrasset 19.68 239 P **Pn** 12 29 42.6 0.0
TAM *pmax* pmax
comp=Z,5.0nm,0.8s
SUW Suwalki 19.72 359 P **Pn** 12 29 44.9 +2.2
SUW *pmax* pmax
comp=Z,805nm,0.9s
AVF Avril sur Loir 19.86 315 *e*P **Pn** 12 29 44.5 +0.1
AVF *pmax* pmax
comp=Z,4.0nm,0.8s
AVF Avril sur Loir 19.86 315 *e*P **Pn** 12 29 44.5 +0.1
comp=Z,4.0nm,0.8s
WLF Walferdange 20.12 325 P Pn 12 29 48.7 +1.2
comp=Z,30nm,1.9s
WLF Walferdange 20.12 325 *e*P **P** 12 29 43.9 -1.6
WLF *pmax* pmax
comp=Z,30nm,1.0s
WLF Walferdange 20.12 325 *e*P **P** 12 29 43.9 -1.6
comp=Z,30nm,1.0s
WLF Walferdange 20.12 325 *e*P **P** 12 29 43.9 -1.6
comp=Z,30nm,1.0s
VSR Storozhevoye 20.27 29 *i*P **P** 12 29 47.7 +0.6
VSR Storozhevoye 20.27 29 *i*P **P** 12 29 47.7 +0.6
RJF Les Rejaudoux 20.28 309 *e*P **P** 12 29 46.5 -0.8
RJF *pmax* pmax
comp=Z,6.0nm,0.8s
RJF Les Rejaudoux 20.28 309 *e*P **P** 12 29 46.5 -0.8
comp=Z,6.0nm,0.8s
LFF La Frestale 20.63 308 *e*P **P** 12 29 50.4 -0.7
LFF La Frestale 20.63 308 *e*P **P** 12 29 50.4 -0.7
MEM Membach 20.84 327 P **P** 12 29 54.6 +1.3
comp=Z,10.0nm,1.2s
MEM Membach 20.84 327 P Pn 12 29 54.9 -1.0
MEM Membach 20.84 327 P Pn 12 29 54.9 -1.0
GIVF Givet 21.05 324 *e*P **P** 12 29 55.8 +0.2
GIVF *pmax* pmax
comp=Z,11nm,0.6s
GIVF Givet 21.05 324 *e*P **P** 12 29 55.8 +0.2
comp=Z,11nm,0.6s
IDID Didziasalis 21.12 5 *e*P **P** 12 29 55.4 -0.9
IDID Didziasalis 21.12 5 *e*P **P** 12 29 55.4 -0.9
SNR=40
IIGN Ignalina 21.13 4 *e*P **P** 12 29 55.3 -1.1
IIGN Ignalina 21.13 4 *e*P **P** 12 29 55.3 -1.1
SNR=40
DOU Dourbes 21.16 324 P **P** 12 29 56.8 0.0
comp=Z,14nm,0.8s
ISAL Salakas 21.34 4 *e*P **P** 12 29 57.7 -0.9
ISAL Salakas 21.34 4 *e*P **P** 12 29 57.7 -0.9
SNR=35
IZAR Zarasai 21.53 4 *e*P **P** 12 29 59.7 -0.9
IZAR Zarasai 21.53 4 *e*P **P** 12 29 59.7 -0.9
SNR=35
MFF Saint Martin d 21.88 311 *e*P **P** 12 30 03.4 -1.1
MFF *pmax* pmax
comp=Z,9.0nm,0.7s
MFF Saint Martin d 21.88 311 *e*P **P** 12 30 03.4 -1.1
comp=Z,9.0nm,0.7s
OBN Obninsk 22.64 19 P **P** 12 30 11.0 -1.6
comp=Z,22nm,0.4s,baz=180,slow=19,SNR=2.5
OBN Obninsk 22.64 19 ⇓*e*P **P** 12 30 12.7 +0.1
OBN *e* 12 30 35.6
OBN *eS* **S** 12 34 12.7 -6.4
OBN *pmax* pmax
comp=Z,7.0nm,0.7s
OBN MLR MLR
comp=Z,389nm,17.0s
OBN Obninsk 22.64 19 *e*P **P** 12 30 12.7 +0.1
comp=Z,7.0nm,0.7s
ES19 SONSECA Array 22.72 292 *e*P **P** 12 30 12.8 -0.8
ES19 SONSECA Array 22.72 292 *e*P **P** 12 30 12.8 -0.8
ESDC Sonseca Array 22.77 292 P **P** 12 30 12.7 -1.5
comp=Z,1.0nm,0.5s,baz=85,slow=10,SNR=9.2
LDF La Druitiere 22.80 316 *e*P **P** 12 30 12.7 -1.6
LDF *pmax* pmax
comp=Z,16nm,0.9s
LDF La Druitiere 22.80 316 *e*P **P** 12 30 12.7 -1.6
comp=Z,16nm,0.9s
FLN La Foliniere 23.09 316 *e*P **P** 12 30 15.8 -1.5
FLN *pmax* pmax
comp=Z,14nm,0.5s
FLN La Foliniere 23.09 316 *e*P **P** 12 30 15.8 -1.5
comp=Z,14nm,0.5s
MOS Moscow 23.48 20 *e*P **P** 12 30 22.0 +0.8
MOS *e* 12 30 48.5
MOS *e* 12 35 16.9
MOS *pmax* pmax
comp=Z,58nm,0.9s
MOS Moscow 23.48 20 *e*P **P** 12 30 22.0 +0.8
comp=Z,58nm,0.9s
MDT Midelt 23.69 274 P **P** 12 30 22.9 -0.7
comp=Z,3.9nm,0.8s,baz=81,slow=12,SNR=8.3
VSU Vasula 24.26 4 *ce*P **P** 12 30 30.4 +2.0
VSU *pmax* pmax
comp=Z,52nm,1.0s
VSU Vasula 24.26 4 *e*P **P** 12 30 30.4 +2.0
comp=Z,52nm,1.0s
ROSF Rostrenen 24.54 313 *e*P **P** 12 30 29.5 -1.7
ROSF *pmax* pmax
comp=Z,9.0nm,0.7s
ROSF Rostrenen 24.54 313 *e*P **P** 12 30 29.5 -1.7
comp=Z,9.0nm,0.7s
PBRG Braganca 25.09 296 *e*P **P** 12 30 37.0 +0.7
MVO Moncorvo 25.23 295 *e*P **P** 12 30 37.5 -0.1
comp=Z,16nm,1.2s
PMRV Marv??o 25.40 291 *e*P **P** 12 30 39.8 +0.8
PVIS Viseu 25.85 294 *e*P **P** 12 30 39.1 -4.1
HFS Hagfors 26.69 349 P **P** 12 30 49.2 -1.2
comp=Z,3.7nm,0.5s,baz=158,slow=12,SNR=15
FIA0 FINESS Array S 27.21 2 *e*P **P** 12 30 52.5 -2.7
FIA0 FINESS Array S 27.21 2 *e*P **P** 12 30 52.5 -2.7
FINES FINESS Array B 27.21 2 P **P** 12 30 52.4 -2.7
comp=Z,1.3nm,0.5s,baz=156,slow=11,SNR=12
FINES FINESS Array B 27.21 2 *i*P **P** 12 30 54.2 -0.9
FINES *pmax* pmax
comp=Z,1.0nm,0.4s
FINES FINESS Array B 27.21 2 *i*P **P** 12 30 54.2 -0.9
comp=Z,1.0nm,0.4s
NB2 NORSAR Subarra 27.97 347 P **P** 12 31 00.9 -1.0
comp=Z,2.5nm,0.8s,baz=156,slow=9.3
NB2 NORSAR Subarra 27.97 347 P **P** 12 31 00.9 -1.0
comp=Z,2.5nm,0.8s,baz=156,slow=9.3
NB200 NORSAR Array S 27.97 347 *e*P **P** 12 31 01.0 -1.0
NB200 NORSAR Array S 27.97 347 *e*P **P** 12 31 01.0 -1.0
NOA NORSAR Array B 27.97 347 P **P** 12 31 01.0 -1.0
comp=Z,1.6nm,0.6s,baz=151,slow=9.7,SNR=6.9
NOA NORSAR Array B 27.97 347 P **P** 12 31 01.0 -1.0
NOA *pmax* pmax
comp=Z,2.0nm,0.6s
NOA NORSAR Array B 27.97 347 P **P** 12 31 01.0 -1.0
comp=Z,2.0nm,0.6s
EKA Eskdalemuir Ar 28.12 327 P **P** 12 31 03.0 -0.3
comp=Z,6.9nm,0.6s,baz=126,slow=9.3,SNR=10
KLMR Klimovskoe 28.46 16 P **P** 12 31 06.9 +0.6
KLMR *pmax* pmax
comp=Z,9.0nm,1.4s
KLMR Klimovskoe 28.46 16 P **P** 12 31 06.9 +0.6
comp=Z,9.0nm,1.4s
TOA1 Torodi Ar. Sit 29.07 229 *e*P **P** 12 31 12.0 -0.1
TOA1 Torodi Ar. Sit 29.07 229 *e*P **P** 12 31 12.0 -0.1
TOA0 Torodi Ar. Sit 29.07 229 *e*P **P** 12 31 11.9 -0.3
comp=Z,4.2nm,0.7s
TOA0 Torodi Ar. Sit 29.07 229 *e*P **P** 12 31 11.9 -0.3
comp=Z,4.2nm,0.7s
TORD Torodi Ar. Bea 29.07 229 P **P** 12 31 12.0 -0.2
comp=Z,3.6nm,0.6s,baz=40,slow=9.1,SNR=21
AKTK Aktyubinsk 29.67 47 P **P** 12 31 16.1 -1.1
comp=Z,3.0nm,0.5s
AKTO Aktyubinsk 29.67 47 P **P** 12 31 16.1 -1.1
comp=Z,3.1nm,0.5s,baz=254,slow=11,SNR=13
ABKAR Akbulak array 30.50 50 *e*P **P** 12 31 25.1 +0.6
comp=Z,1.3nm,0.5s
ABKAR Akbulak array 30.50 50 *e*P **P** 12 31 25.1 +0.6
comp=Z,1.3nm,0.5s
ARU Arti 32.42 36 *d*i*P* **P** 12 31 40.3 -1.1

ARU 12 32 47.0
ARU S **S** **12 36 55.5 +1.2**
ARU pmax pmax
comp=Z,4.0nm,0.6s
ARU **Arti** **32.42 36** *e*P **P** **12 31 40.6 -0.8**
comp=Z,7.3nm,0.7s
ARU **Arti** **32.42 36** *e*P **P** **12 31 40.6 -0.8**
comp=Z,7.3nm,0.7s
LVZ **Lovozero** **34.23 7** *i*P **P** **12 31 58.2 +1.2**
LVZ **Lovozero** **34.23 7** *i*P **P** **12 31 58.2 +1.2**
KKAR **Karatay Array** **37.10 62** *e*P **P** **12 32 23.0 +1.0**
KKAR pmax pmax
comp=Z,4.0nm,0.6s
KKAR **Karatay Array** **37.10 62** *e*P **P** **12 32 23.0 +1.0**
comp=Z,3.6nm,0.6s
KKAR **Karatay Array** **37.10 62** *e*P **P** **12 32 23.0 +1.0**
comp=Z,3.6nm,0.6s
BRVK **Borovoye** **37.71 46** *ce*P **P** **12 32 27.3 +0.4**
BRVK pmax pmax
comp=Z,6.0nm,1.2s
BRVK **Borovoye** **37.71 46** *e*P **P** **12 32 27.3 +0.4**
comp=Z,6.0nm,1.2s
BVAR **Borovoye Array** **37.76 46** P **P** **12 32 26.3 -1.2**
comp=Z,0.9nm,0.7s,baz=262,slow=8.4,SNR=5.5
DBIC **Dimbokro** **38.14 230** P **P** **12 32 31.0 0.0**
comp=Z,9.2nm,1.0s,baz=51,slow=8.0,SNR=5.3
DBIC **Dimbokro** **38.14 230** *e*P **P** **12 32 31.0 0.0**
comp=Z,23nm,1.4s
DBIC **Dimbokro** **38.14 230** *e*P **P** **12 32 31.0 0.0**
comp=Z,23nm,1.4s
TIC **Toumodi** **38.27 231** *e*P **P** **12 32 30.9 -1.2**
KIC **Kosan Boka** **38.31 230** *e*P **P** **12 32 31.9 -0.5**
comp=Z,13nm,0.7s
LIC **Lamto** **38.59 230** *e*P **P** **12 32 34.3 -0.5**
comp=Z,56nm,1.4s
AAK **Ala-Archa** **40.06 63** P **P** **12 32 47.6 +0.6**
comp=Z,1.7nm,0.4s,baz=230,slow=6.0,SNR=6.3
AAK **Ala-Archa** **40.06 63** *e*P **P** **12 32 48.2 +1.2**
AAK pmax pmax
comp=Z,6.0nm,0.9s
AAK **Ala-Archa** **40.06 63** *e*P **P** **12 32 48.2 +1.2**
comp=Z,6.1nm,0.9s
AAK **Ala-Archa** **40.06 63** *e*P **P** **12 32 48.2 +1.2**
comp=Z,6.1nm,0.9s
FRU **Bishkek** **40.13 62** *e*P **P** **12 32 50.0 +2.6**
FRU *e* 12 32 57.0
KSH **Kashi** **41.58 67** *e*P **P** **12 33 01.0 +1.5**
KSH pP sP 12 33 42.0 +32
KSH PP **PnPn** **12 34 41.3 +0.8**
KSH S S 12 38 52.5 -22
KSH sS sS 12 40 03.5 +37
KSH SS SS 12 41 53.8 -26
KURBB **Kurchatov Arra** **42.54 50** P **P** **12 33 06.9 -0.2**
comp=Z,2.8nm,0.5s,baz=277,slow=8.7,SNR=27
KURK **Kurchatov** **42.60 50** *ci*P **P** **12 33 07.8 +0.3**
KURK pmax pmax
comp=Z,12nm,1.0s
KURK **Kurchatov** **42.60 50** *e*P **P** **12 33 07.8 +0.3**
comp=Z,4.7nm,0.8s
MAKZ **Makanchi** **44.98 56** *e*P **P** **12 33 27.1 +0.3**
MAKZ pmax pmax
comp=Z,4.0nm,0.9s
MAKZ **Makanchi** **44.98 56** *e*P **P** **12 33 27.1 +0.3**
comp=Z,4.4nm,0.9s
MKAR **Makanchi Array** **45.20 56** P **P** **12 33 28.8 +0.3**
comp=Z,4.9nm,0.5s,baz=278,slow=6.9,SNR=31
MK32 **Makanchi Array** **45.20 56** *e*P **P** **12 33 28.8 +0.3**
MK01 **Makanchi Array** **45.20 56** *e*P **P** **12 33 28.5 -0.1**
NVS **Novosibirsk** **45.50 44**⇓ *i*P **P** **12 33 31.8 +1.1**
NVS pmax pmax
comp=Z,10.0nm,0.8s
NVS pmax pmax
comp=N,6.0nm,0.9s
NVS pmax pmax
comp=E,8.0nm,0.9s
ZAA0 **Zalesovo Array** **46.42 46** *e*P **P** **12 33 37.7 -0.3**
ZALV **Zalesovo Beam** **46.42 46** P **P** **12 33 37.2 -0.7**
comp=E,1.4nm,0.4s,baz=267,slow=10.0,SNR=9.0
ZALV **Zalesovo Beam** **46.42 46** *e*P **P** **12 33 37.1 -0.9**
ZAA1 **Zalesovo Array** **46.42 46** *e*P **P** **12 33 37.2 -0.7**
DGZ **Jazzator, Alta** **48.30 51** *i*P **P** **12 33 53.7 +0.8**
DGZ pmax pmax
comp=Z,1.0nm,0.4s
WMQ **Urumqi** **49.42 59** P **P** **12 34 04.0 +2.5**
LSZ **Lusaka** **49.47 174** P **P** **12 34 05.5 +3.4**
comp=Z,1.1nm,0.4s,baz=55,slow=12,SNR=3.3
PYUN **Piuthan** **50.41 80** *e*P **P** **12 34 09.5 +0.1**
comp=Z,20nm,0.5s
DANN **Dangsing** **50.94 79** *e*P **P** **12 34 14.3 +0.8**
comp=Z,5.4nm,0.9s
KOLN **Koldanda** **51.04 80** *e*P **P** **12 34 13.8 -0.3**
comp=Z,5.9nm,0.5s
GKN **Gorkha** **51.79 79** *e*P **P** **12 34 19.5 -0.2**
comp=Z,20nm,0.7s
DMN **Daman** **52.33 80** *e*P **P** **12 34 23.7 -0.1**
comp=Z,26nm,0.8s
KKN **Kakani** **52.40 79** *e*P **P** **12 34 24.1 -0.2**
PKIN **Phulchoki** **52.58 80** *e*P **P** **12 34 25.4 -0.3**
comp=Z,10nm,0.6s
PKI **Pulchoki** **52.59 80** *e*P **P** **12 34 25.6 -0.2**
comp=Z,19nm,0.8s
GUN **Gumba** **52.84 79** *e*P **P** **12 34 27.1 -0.6**
comp=Z,11nm,0.3s
JIRN **Jiri** **53.19 79** *e*P **P** **12 34 30.0 -0.3**
comp=Z,26nm,0.8s
RAMN **Ramite** **53.81 80** *e*P **P** **12 34 33.7 -1.0**
TAPN **Taplejung** **54.55 79** *e*P **P** **12 34 39.2 -1.0**
comp=Z,15nm,0.9s
ZAK **Zakamensk** **58.16 48** *e*P **P** **12 35 03.7 -1.7**
ZAK pmax pmax
comp=Z,4.0nm,1.6s
ZAK **Zakamensk** **58.16 48** *e*P **P** **12 35 03.7 -1.7**
comp=Z,4.0nm,1.6s
GTA **Gaotai** **59.37 61** *e*P **P** **12 35 14.3 +0.3**
GTA pP pP 12 35 20.5 -0.9
GTA sP sP 12 35 23.0 -1.2
SONA0 **Songino Array** **60.91 50** *e*P **P** **12 35 24.7 +0.3**
comp=Z,7.3nm,1.2s
SONM **Songino Array** **60.91 50** P **P** **12 35 24.7 +0.3**
comp=Z,2.6nm,0.9s,baz=299,slow=6.1,SNR=4.7
SONM **Songino Array** **60.91 50** P **P** **12 35 24.7 +0.3**
SONM pmax pmax
comp=Z,2.0nm,0.7s
ULN **Ulaanbaatar** **61.31 50**⇓ *i*P **P** **12 35 27.6 +0.4**
ULN pmax pmax
comp=Z,4.0nm,0.9s
BOSA **Boshof** **62.58 179** P **P** **12 35 36.6 +0.9**
comp=Z,1.9nm,0.7s,baz=332,slow=4.4,SNR=3.3
SCHQ **Schefferville** **63.11 320** P **P** **12 35 37.7 -1.2**
comp=Z,5.3nm,0.6s,baz=70,slow=8.3,SNR=2.7
HHC **Hu-ho-hao-te** **67.06 55** *e*P **P** **12 36 05.0 +0.1**
KMI **Kunming** **67.63 74** P **P** **12 36 10.5 +1.6**
KMI sP sP 12 36 20.0 +0.8
CMAR **Chiang Mai Arr** **67.80 82** P **P** **12 36 10.8 +1.0**
comp=Z,1.0nm,0.4s,baz=302,slow=7.8,SNR=4.3
INK **Inuvik** **76.31 352** P **P** **12 36 60.0 +0.1**
comp=Z,3.4nm,0.9s,baz=30,slow=7.0,SNR=3.8
INK **Inuvik** **76.31 352** P **P** **12 37 00.0 +0.1**
INK pmax pmax
comp=Z,3.0nm,0.9s
INK **Inuvik** **76.31 352** *e*P **P** **12 36 60.0 +0.1**
comp=Z,8.1nm,1.1s
USRK **Ussuriysk Ar.** **78.25 44** P **P** **12 37 11.1 -0.2**
comp=Z,2.4nm,0.6s,baz=270,slow=5.5,SNR=4.3
KS15 **Wonju Array Si** **79.69 52** *e*P **P** **12 37 20.2 +1.0**
KSRS **Korea Array** **79.71 52** P **P** **12 37 19.9 +0.5**
comp=Z,2.1nm,0.8s,baz=306,slow=5.5,SNR=8.5
ILAR **Eielson Array** **80.99 356** P **P** **12 37 26.4 +0.6**
comp=Z,0.6nm,0.7s,baz=4.0,slow=4.6,SNR=8.1
ILB **Eielson Array** **80.99 356** *e*P **P** **12 37 25.1 -0.7**
PEA1 **Petropavlovsk-** **84.19 26** *e*P **P** **12 37 43.9 +1.2**
PETK **Petropavlovsk-** **84.19 26** P **P** **12 37 43.9 +1.2**
comp=Z,2.1nm,0.6s,baz=338,slow=11,SNR=4.3
PETK **Petropavlovsk-** **84.19 26** P **P** **12 37 43.9 +1.2**
PETK pmax pmax
comp=Z,3.0nm,0.8s
DLBC **Dease Lake** **85.06 347** P **P** **12 37 48.3 +1.3**
comp=Z,2.3nm,0.9s,baz=42,slow=3.0,SNR=3.1
DLBC **Dease Lake** **85.06 347** *e*P **P** **12 37 48.3 +1.3**
comp=Z,51nm,1.9s
MJAR **Matsushiro Arr** **86.74 47** P **P** **12 37 56.9 +1.2**
comp=Z,1.8nm,0.7s,baz=309,slow=5.8,SNR=4.5
KDAK **Kodiak Island** **88.23 358** P **P** **12 38 02.6 +0.2**
comp=Z,3.3nm,0.8s,baz=354,slow=7.1,SNR=4.5
KDAK **Kodiak Island** **88.23 358** *e*P **P** **12 38 03.0 +0.6**
KDAK pmax pmax
comp=Z,27nm,1.5s
KDAK **Kodiak Island** **88.23 358** *e*P **P** **12 38 03.0 +0.6**
comp=Z,27nm,1.5s

IDC ***27*** *12:34:27.5±0.5,24°.65S×175°.49W,h0km,mb4.6/19, mb1 4.7/20,mb1mx4.7/33,mbtmp4.6/20,ML5.1/1,MS3.8/4, Ms1 3.8/4,ms1mx3.4/24,Error ellipse: s-maj=19.4km s-min=15.5km az=133.0*
ISCJB ***27*** *12:34:29.9±0.2,24°.85S±0°.04×175°.53W±0°.04,h27km, mb4.8/88,MS4.2/8,Error ellipse: s-maj=6.1km s-min=4.1km az=138.3*
MOS ***27*** *12:34:30.2±0.9,24°.74S×175°.57W,h25km,mb5.0/39, MS4.3/4,Error ellipse: s-maj=11.5km s-min=9.6km az=84.6*
NEIC ***27*** *12:34:31.0±2.3,24°.86S×175°.52W,h26km±15km,mb4.9/74, Error ellipse: s-maj=7.9km s-min=5.8km az=137.0*
BJI ***27*** *12:34:32.7,24°.47S×175°.12W,h42km,mb5.0/15,mB5.4/3, Ms4.9/2,Ms7 4.8/4*
ISC 27 12:34:31.4±0.3,25°.00S±0°.04×175°.50W±0°.06,h27km, n314,σ1§65/326,mb4.9/87,MS4.3/8,11C-4D,South of Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
RAO	**Raoul Island**	**4.75**	**206**	Pn		**Pn**	**12 35 44.0**	**+2.8**
	68nm,0.3s,baz=224,slow=22,SNR=8.8							
RAO				Sn		**Sn**	**12 36 40.7**	**+5.3**
	180nm,0.3s,baz=52,slow=22,SNR=5.0							
RAO	**Raoul Island**	**4.75**	**206**	*e*Pn		**Pn**	**12 35 43.3**	**+2.1**
RAO				*e*Sn		**Sn**	**12 36 37.2**	**+1.8**
NIUE	**Niue**	**7.84**	**42**	P		Pn	12 36 12.0	-12
	baz=6.8,SNR=47							
MSVF	**Nonsavu**	**9.40**	**319**	*e*P		**Pn**	**12 36 44.4**	**-0.9**
MSVF				*e*			12 38 30.5	
MSVF	**Nonsavu**	**9.40**	**319**	*e*Pn		**Pn**	**12 36 44.4**	**-0.9**
MSVF				*e*Sn		**Sn**	**12 38 30.5**	**+0.3**
AFI	**Afiamalu**	**11.58**	**18**	Pn		Pn	12 37 03.3	-12
	6.3nm,0.3s,baz=66,slow=3.0,SNR=17							
AFI				Sn		Sn	12 38 58.1	-25
	7.1nm,0.3s,baz=41,slow=20,SNR=3.7							
AFI	**Afiamalu**	**11.58**	**18**	*e*Pn		Pn	12 37 03.7	-11
URZ	**Urewera**	**14.63**	**204**	Pn		Pn	12 37 50.7	-5.8
	0.2nm,0.3s,baz=283,slow=4.4,SNR=6.7							
URZ				Sn		**Sn**	**12 40 31.9**	**-5.9**
	2.0nm,0.3s,baz=181,slow=23,SNR=9.2							
URZ	**Urewera**	**14.63**	**204**	*e*Pn		**Pn**	**12 37 54.6**	**-1.9**
URZ				*e*Sn		**Sn**	**12 40 31.9**	**-5.9**
RAR	**Rarotonga**	**14.95**	**79**	Pn		Pn	12 37 50.4	-11
	30nm,0.3s,baz=235,slow=8.3,SNR=79							
RAR				Sn		Sn	12 40 17.6	-28
	3.1nm,0.3s,baz=33,slow=14,SNR=4.0							
RAR				LR		LR	12 43 49.3	
	comp=Z,298nm,18.2s,baz=258,slow=38							
BKZ	**Black Stump Fm**	**15.66**	**204**	*e*Pn		**Pn**	**12 38 07.6**	**-2.6**
	25nm,1.2s							
HIZ	**Hauiti**	**15.76**	**209**	*e*Pn		**Pn**	**12 38 12.0**	**+0.6**
	137nm,1.7s							
DZM	**Mont Dzumac**	**16.82**	**276**	Pn		**P**	**12 38 28.3**	**+1.2**
	1.5nm,0.3s,baz=94,slow=18,SNR=20							
DZM	**Mont Dzumac**	**16.82**	**276**	*e*P		**P**	**12 38 32.5**	**+5.4**
	78nm,0.9s							
DZM				*e*LR		LR	12 42 36.5	
	614nm,27.1s							
DZM	**Mont Dzumac**	**16.82**	**276**	*e*Pn		**Pn**	**12 38 24.2**	**-0.9**
	60nm,1.2s							
SNZO	**South Karori**	**18.19**	**204**	*e*P		**Pn**	**12 38 40.6**	**-1.3**
	119nm,1.3s							
THZ	**Tophouse**	**19.29**	**207**	*e*P		**P**	**12 38 50.2**	**-3.9**
	104nm,1.9s							
KHZ	**Kahutara**	**19.59**	**205**	*e*P		**P**	**12 38 53.1**	**-4.2**
	154nm,1.9s							
LTZ	**Lake Taylor**	**20.40**	**207**	*e*P		**P**	**12 39 03.2**	**-3.0**
	66nm,1.8s							
OXZ	**Oxford**	**20.94**	**206**	*e*P		**P**	**12 39 11.4**	**-0.7**
	57nm,1.5s							
MQZ	**McQueen's Vall**	**21.03**	**205**	*e*P		**P**	**12 39 14.4**	**+1.4**
	82nm,1.4s							
RPZ	**Rata Peaks**	**21.67**	**207**	P		**P**	**12 39 18.6**	**-1.2**
	17nm,1.1s,baz=33,slow=3.2,SNR=6.8							
RPZ				S		**S**	**12 43 09.4**	**-9.0**
	7.9nm,1.1s,baz=300,slow=20,SNR=2.9							
RPZ	**Rata Peaks**	**21.67**	**207**	*e*P		**P**	**12 39 22.7**	**+2.8**
RPZ				*e*S		**S**	**12 43 09.4**	**-9.0**
ODZ	**Otahua Downs**	**22.93**	**206**	*e*P		**P**	**12 39 37.0**	**+3.8**
	100nm,1.7s							
WHZ	**Wether Hill Ro**	**24.73**	**208**	*e*P		**P**	**12 39 54.2**	**+3.8**
	70nm,1.4s							
PAE	**Paea**	**25.19**	**78**	*e*T		T	13 06 18.0	
	3.1nm,0.3s							
PPT2	**Papeete2**	**25.22**	**78**	*e*LQ		LQ	12 44 36.8	
	367nm,27.5s							
PPT2				*e*LR		LR	12 45 47.7	
	649nm,28.8s,baz=254							
PPT2	**Papeete2**	**25.22**	**78**	*e*T		T	13 06 21.9	
	1.8nm,0.3s							
PPT	**Papeete**	**25.23**	**78**	LR		LR	12 48 53.1	
	comp=Z,232nm,18.6s,baz=236,slow=34							
HNR	**Honiara**	**28.03**	**299**	LR		LR	12 49 54.1	
	comp=Z,156nm,18.4s,baz=186,slow=33							
CNB	**Canberra Magne**	**31.93**	**243**	P		**P**	**12 40 59.2**	**+4.3**
	baz=33,SNR=5.6							
RMQ	**Roma**	**32.17**	**260**	P		**P**	**12 40 60.0**	**+2.9**
	baz=33,SNR=4.6							
CMSA	**Cobar Meteorol**	**34.67**	**250**	P		**P**	**12 41 20.6**	**+1.8**
	baz=36,SNR=7.7							
TOO	**Toolangi**	**35.37**	**240**	P		**P**	**12 41 27.6**	**+2.8**
	baz=36,SNR=6.0							
CTAO	**Charters Tower**	**35.58**	**270**	*e*P		**P**	**12 41 27.3**	**+0.5**
CTAO				pmax		pmax		
	comp=Z,26nm,1.1s							
CTAO	**Charters Tower**	**35.58**	**270**	*e*P		**P**	**12 41 27.3**	**+0.5**
	comp=Z,26nm,1.1s							
QLP	**Quilpie**	**36.19**	**259**	P		**P**	**12 41 33.3**	**+1.4**
	baz=37,SNR=8.1							
RKT	**Rikitea**	**36.95**	**96**	*e*LR		LR	12 50 59.3	
	comp=Z,294nm,33.2s							
RKT	**Rikitea**	**36.95**	**96**	*e*T		T	13 21 23.4	
	comp=Z,1.2nm,0.3s							
MTSU	**Mount Surprise**	**37.89**	**272**	P		**P**	**12 41 47.0**	**+0.5**
	baz=38,SNR=23							
STKA	**Stephens Creek**	**38.16**	**250**	P		**P**	**12 41 49.2**	**+0.6**
	comp=Z,4.4nm,0.5s,baz=98,slow=12,SNR=20							
STKA				LR		LR	12 56 41.9	
	comp=Z,216nm,18.3s,baz=152,slow=35							
STKA	**Stephens Creek**	**38.16**	**250**	P		**P**	**12 41 50.0**	**+1.5**
	baz=39,SNR=15							
STKA	**Stephens Creek**	**38.16**	**250**	*e*P		**P**	**12 41 49.9**	**+1.4**
	comp=Z,3.6nm,1.4s							
PMG	**Port Moresby**	**38.74**	**287**	P		**P**	**12 41 52.9**	**-0.7**
	comp=Z,28nm,1.0s,baz=80,slow=6.2,SNR=3.8							
PMG	**Port Moresby**	**38.74**	**287**	*e*P		**P**	**12 41 51.9**	**-1.7**
PMG				pmax		pmax		
	comp=Z,42nm,1.3s							
PMG	**Port Moresby**	**38.74**	**287**	*e*P		**P**	**12 41 51.9**	**-1.7**
	comp=Z,42nm,1.3s							
COEN	**Coen**	**40.34**	**278**	P		**P**	**12 42 07.6**	**+0.6**
	baz=41,SNR=7.6							
HTT	**Hallett**	**40.40**	**247**	P		**P**	**12 42 09.2**	**+1.8**
	baz=41,SNR=5.4							
BBOO	**Buckleboo**	**42.82**	**248**	P		**P**	**12 42 27.4**	**+0.3**
	baz=44,SNR=8.2							
AS01	**Alice Springs**	**45.86**	**261**	*e*P		**P**	**12 42 50.8**	**-0.9**
AS31	**Alice Springs**	**45.91**	**261**	*e*P		**P**	**12 42 51.8**	**-0.1**
	comp=Z,3.7nm,1.3s							
ASAR	**Alice Springs**	**45.91**	**261**	P		**P**	**12 42 51.4**	**-0.6**
	comp=Z,3.4nm,0.5s,baz=94,slow=6.8,SNR=115							
ASAR				S		**S**	**12 49 31.2**	**-3.9**
	comp=Z,0.7nm,1.0s,baz=89,slow=16,SNR=3.4							
WB2	**Warramunga Arr**	**46.41**	**266**	*e*P		**P**	**12 42 55.1**	**-0.9**
WRAB	**Tennant Creek**	**46.42**	**266**	*di*P		**P**	**12 42 55.9**	**-0.1**
WRAB				pmax		pmax		
	comp=Z,14nm,0.6s							
WRAB	**Tennant Creek**	**46.42**	**266**	*e*P		**P**	**12 42 54.6**	**-1.4**
	comp=Z,7.8nm,0.8s							
WR1	**Warramunga Arr**	**46.42**	**266**	*e*P		**P**	**12 42 54.8**	**-1.3**
	comp=Z,12nm,0.6s							
WR1				*e*S		**S**	**12 49 38.5**	**-4.0**
WRA	**Warramunga Arr**	**46.42**	**266**	P		**P**	**12 42 54.8**	**-1.3**
	comp=Z,7.9nm,0.6s,baz=104,slow=8.0,SNR=117							
WRA				S		**S**	**12 49 38.5**	**-4.1**
	comp=Z,0.5nm,0.8s,baz=92,slow=14,SNR=5.1							
FORT	**Forrest**	**49.78**	**250**	*e*P		**P**	**12 43 22.0**	**+0.2**
	comp=Z,296nm,0.6s							
WRKA	**Warakurna**	**50.60**	**257**	P		**P**	**12 43 27.9**	**-0.4**
	baz=51,SNR=39							
KNRA	**Kununurra**	**52.78**	**269**	P		**P**	**12 43 44.4**	**-0.1**
	baz=54,SNR=15							
SBA	**Scott Base**	**53.57**	**185**	*e*P		**P**	**12 43 53.8**	**+4.3**
SBA				pmax		pmax		
	comp=Z,14nm,0.9s							
SBA	**Scott Base**	**53.57**	**185**	*e*P		**P**	**12 43 53.8**	**+4.3**
	comp=Z,14nm,0.9s							
VNDA	**Vanda**	**53.67**	**186**	P		**P**	**12 43 54.4**	**+4.2**
	comp=Z,4.2nm,0.9s,baz=7.7,slow=6.0,SNR=23							
VNDA	**Vanda**	**53.67**	**186**	*e*P		**P**	**12 43 54.1**	**+3.9**
	comp=Z,5.5nm,0.9s							
KLBR	**Kellerberrin**	**58.35**	**247**	P		**P**	**12 44 24.8**	**+0.4**
	baz=59,SNR=11							
BLDU	**Ballidu**	**59.43**	**248**	P		**P**	**12 44 31.9**	**-0.1**
	baz=60,SNR=13							
MORW	**Morawa**	**60.35**	**250**	P		**P**	**12 44 39.3**	**+1.1**
	baz=61,SNR=3.7							
QSPA	**South Pole Qui**	**65.09**	**180**	*e*P		**P**	**12 45 12.3**	**+2.9**
MJAR	**Matsushiro Arr**	**75.18**	**323**	P		**P**	**12 46 10.9**	**-0.5**
	comp=Z,4.7nm,0.7s,baz=143,slow=6.2,SNR=14							
MAJO	**Matsushiro**	**75.19**	**323**⇑	*i*P		**P**	**12 46 11.1**	**-0.3**
MAT	**Matsushiro**	**75.19**	**323**	P		**P**	**12 46 11.1**	**-0.3**
YUK	**Yuzh-Kuril'sk**	**77.29**	**333**	*di*P		**P**	**12 46 22.8**	**-0.4**
YUK				S		**S**	**12 56 10.3**	**-1.0**
YUK				MLR		MLR		
	comp=Z,241nm,19.0s							
MAW	**Mawson**	**78.12**	**199**	P		**P**	**12 46 30.6**	**+3.0**
	comp=Z,9.3nm,0.8s,baz=137,slow=6.9,SNR=29							
MAW	**Mawson**	**78.12**	**199**	*e*P		**P**	**12 46 30.9**	**+3.3**
	comp=Z,2.1nm,0.8s							
MONP	**Monument Peak,**	**80.49**	**47**	P		**P**	**12 46 40.8**	**-0.6**
	baz=232							
EDW2	**Edwards Air Fo**	**80.70**	**45**	P		**P**	**12 46 41.5**	**-0.8**
	baz=231							
BBSC	**Beaumont Base**	**80.76**	**46**	*e*P		**P**	**12 46 44.7**	**+2.2**
PFO	**Pinyon Flats O**	**80.91**	**46**	P		**P**	**12 46 42.8**	**-0.7**
	comp=Z,1.2nm,0.4s,baz=303,slow=5.3,SNR=3.6							
PFO	**Pinyon Flats O**	**80.91**	**46**	*e*P		**P**	**12 46 42.6**	**-0.8**
PFO				pmax		pmax		
	comp=Z,9.0nm,1.3s							
PFO	**Pinyon Flats O**	**80.91**	**46**	*e*P		**P**	**12 46 42.6**	**-0.8**
	comp=Z,9.3nm,1.3s							
YSS	**Yuzh-Sakhalins**	**80.94**	**332**⇑	*e*P		**P**	**12 46 43.8**	**+0.8**
YSS				pmax		pmax		
	comp=Z,20nm,1.1s							
YSS				MLR		MLR		
	comp=Z,200nm,20.0s							
PETK	**Petropavlovsk-**	**81.20**	**344**	P		**P**	**12 46 43.5**	**-0.9**
	comp=Z,8.2nm,0.9s,baz=109,slow=8.2,SNR=4.6							
PEA1	**Petropavlovsk-**	**81.21**	**344**	*e*P		**P**	**12 46 43.5**	**-0.9**
CMB	**Columbia Colle**	**81.26**	**41**	*e*P		**P**	**12 46 44.3**	**-0.8**
CMB				pmax		pmax		
	comp=Z,5.0nm,1.0s							
CMB	**Columbia Colle**	**81.26**	**41**	*e*P		**P**	**12 46 44.3**	**-0.8**
	comp=Z,5.4nm,1.0s							
LRMC	**Laurel Mtn Rad**	**81.28**	**44**	P		**P**	**12 46 44.8**	**-0.6**
	baz=231							
BELC	**Belle Mtn. Jos**	**81.45**	**46**	P		**P**	**12 46 45.6**	**-0.7**
	baz=232							
AFDM	**Forest Hills D**	**81.52**	**40**	*e*P		**P**	**12 46 45.8**	**-0.6**
	comp=Z,6.6nm,1.3s							
ORV	**Oroville**	**81.62**	**39**	*e*P		**P**	**12 46 46.5**	**-0.4**
ORV				pmax		pmax		
	comp=Z,26nm,1.9s							
ORV	**Oroville**	**81.62**	**39**	*e*P		**P**	**12 46 46.5**	**-0.4**
	comp=Z,26nm,1.9s							
GSC	**Goldstone, Bar**	**81.73**	**45**	P		**P**	**12 46 47.0**	**-0.7**
	baz=232							
MPMC	**Manual Prospec**	**81.77**	**44**	P		**P**	**12 46 47.3**	**-0.7**
	baz=231							
KSRS	**Korea Array**	**81.77**	**318**	P		**P**	**12 46 48.3**	**+0.6**
	comp=Z,1.6nm,0.9s,baz=116,slow=2.9,SNR=7.4							
KS01	**Wonju Array Si**	**81.80**	**318**	*e*P		**P**	**12 46 48.2**	**+0.3**
O03D	**Paynes Creek**	**81.94**	**39**	P		**P**	**12 46 47.8**	**-0.9**
	baz=228							
M02C	**Callahan**	**82.10**	**37**	P		**P**	**12 46 48.6**	**-0.9**
	baz=227							
IRM	**Iron Mountain**	**82.11**	**47**	P		**P**	**12 46 49.2**	**-0.5**
	baz=233							
WAKR	**Walker**	**82.13**	**41**	*e*P		**P**	**12 46 48.5**	**-1.4**
	comp=Z,10nm,1.2s							
TUQ	**Turquoise Moun**	**82.38**	**45**	P		**P**	**12 46 50.7**	**-0.5**
	baz=232							
TVH3	**East Aurora ar**	**82.41**	**42**	*e*P		**P**	**12 46 51.0**	**-0.3**
	comp=Z,5.3nm,1.1s							
PNTR	**Pine Nut**	**82.42**	**41**	*e*P		**P**	**12 46 51.1**	**-0.3**
	comp=Z,2.2nm,0.9s							
TVH2	**Borealis Mine**	**82.46**	**42**	*e*P		**P**	**12 46 51.1**	**-0.5**
	comp=Z,10.0nm,0.2s							
BEKR	**Beckworth**	**82.48**	**40**	*e*P		**P**	**12 46 51.0**	**-0.6**
	comp=Z,13nm,1.5s							
YERR	**Yerington**	**82.56**	**41**	*e*P		**P**	**12 46 51.5**	**-0.6**
	comp=Z,10nm,1.2s							
LDFC	**Landfair**	**82.69**	**46**	*e*P		**P**	**12 46 52.4**	**-0.4**
	comp=Z,14nm,1.0s							
SYO	**Syowa Base**	**82.84**	**192**⇓	*e*P		**P**	**12 46 52.5**	**-0.4**
SYO	**Syowa Base**	**82.84**	**192**⇓	*e*PcP		**PcP**	**12 46 56.0**	**-1.7**
SYO	**Syowa Base**	**82.84**	**192**⇓	*e*pP		pP	12 47 01.2	-0.4
PDMCI	**Parker Dam,Lak**	**82.86**	**47**	P		**P**	**12 46 53.1**	**-0.4**
	baz=233							
PAHR	**Pah Rah Range**	**82.94**	**40**	*e*P		**P**	**12 46 51.8**	**-2.2**
	comp=Z,6.0nm,1.2s							
TPNV	**Topopah Spring**	**83.10**	**44**	P		**P**	**12 46 54.6**	**-0.3**
	baz=232							
TPNV	**Topopah Spring**	**83.10**	**44**	*e*P		**P**	**12 46 54.6**	**-0.3**
TPNV				pmax		pmax		
	comp=Z,10.0nm,1.4s							
TPNV	**Topopah Spring**	**83.10**	**44**	*e*P		**P**	**12 46 54.6**	**-0.3**
	comp=Z,9.9nm,1.4s							
MSHR	**Mys Shultsa**	**83.30**	**323**	*e*P		**P**	**12 46 56.1**	**+0.6**
Y14A	**Wickenburg**	**83.41**	**48**	*e*P		**P**	**12 46 56.0**	**-0.5**
	comp=Z,23nm,1.0s							
SNAA	**Sanae**	**83.45**	**178**	P		**P**	**12 46 56.5**	**+0.3**
SNAA	**Sanae**	**83.45**	**178**	*e*P		**P**	**12 46 57.6**	**+1.4**
SNAA				pmax		pmax		
	comp=Z,9.0nm,1.0s							
SNAA	**Sanae**	**83.45**	**178**	*

CCUT	Cedar City	85.30	45	*e*P		P	12 47 05.0	-1.2	
	comp=Z,7.2nm,1.1s								
U15A	North Rim	85.33	46	*e*P		P	12 47 06.4	0.0	
	comp=Z,36nm,1.8s								
WUAZ	Wupatki	85.41	47	P		P	12 47 06.6	-0.1	
	baz=235								
WUAZ	Wupatki	85.41	47	*e*P		P	12 47 06.8	+0.1	
	comp=Z,16nm,1.5s								
SZCU	Shurtz Canyon	85.50	45	*e*P		P	12 47 07.2	0.0	
	comp=Z,9.1nm,1.2s								
W18A	Petrified Fore	86.29	49	P		P	12 47 11.1	0.0	
	baz=236								
MSU	Marysvale	86.62	45	*e*P		P	12 47 12.8	+0.1	
MSU	Marysvale	86.62	45	*e*P		P	12 47 12.8	+0.1	
MNTX	Cornudas Mount	87.52	53	P		P	12 47 16.4	-0.5	
	baz=239								
MNTX	Cornudas Mount	87.52	53	*e*P		P	12 47 16.4	-0.5	
	comp=Z,7.0nm,1.1s								
LTX	Lajitas	87.58	56	*e*P		P	12 47 16.6	-0.8	
LTX	Lajitas	87.58	56	*e*P		P	12 47 16.6	-0.8	
TX31	Lajitas Ar. Si	87.58	56	*e*P		P	12 47 16.8	-0.6	
TXAR	Lajitas Array	87.58	56	P		P	12 47 16.6	-0.9	
	comp=Z,2.6nm,1.0s,baz=211,slow=7.0,SNR=14								
TMUT	Trail Mountain	87.69	44	*e*P		P	12 47 17.7	-0.3	
	comp=Z,8.4nm,1.2s								
LAZ	Ladron	87.69	50	*e*P		P	12 47 18.4	+0.4	
SRU	San Rafael Swe	88.02	45	*e*P		P	12 47 18.7	-0.7	
SRU					pmax	pmax			
	comp=Z,10.0nm,1.4s								
SRU	San Rafael Swe	88.02	45	*e*P		P	12 47 18.7	-0.7	
	comp=Z,10nm,1.4s								
ANMO	Albuquerque	88.45	50	P		P	12 47 21.1	-0.4	
	comp=Z,4.4nm,1.0s,baz=223,slow=3.6,SNR=9.2								
ANMO	Albuquerque	88.45	50	P		P	12 47 21.2	-0.4	
	baz=238								
ANMO	Albuquerque	88.45	50	*e*P		P	12 47 21.2	-0.4	
ANMO					pmax	pmax			
	comp=Z,6.0nm,1.0s								
ANMO	Albuquerque	88.45	50	*e*P		P	12 47 21.2	-0.4	
	comp=Z,6.3nm,1.0s								
LNIG	Linares	88.69	62	*e*P		P	12 47 21.2	-1.5	
	comp=Z,8.1nm,1.2s								
PMR	Palmer	88.87	12	*e*P		P	12 47 21.8	-0.8	
PMR					pmax	pmax			
	comp=Z,8.0nm,1.1s								
PMR	Palmer	88.87	12	*e*P		P	12 47 21.8	-0.8	
	comp=Z,8.1nm,1.1s								
TT01	Tatalina	88.97	9	*e*P		P	12 47 22.7	-0.3	
BMRM	Bremner River	89.26	15	*e*P		P	12 47 23.9	-0.6	
	comp=Z,53nm,1.8s								
S22A	4UR Ranch, Cre	89.69	48	P		P	12 47 27.0	-0.4	
	baz=238								
S22A	4UR Ranch, Cre	89.69	48	*e*P		P	12 47 27.1	-0.3	
	comp=Z,5.8nm,1.1s								
NEW	Newport	89.70	35	P		P	12 47 25.5	-1.4	
	comp=Z,1.4nm,0.7s,baz=272,slow=2.1,SNR=3.8								
CAST	Castle Rocks	90.05	10	*e*P		P	12 47 26.2	-1.9	
	comp=Z,12nm,1.4s								
TRF	Thorofare Moun	90.38	11	*e*P		P	12 47 28.6	-1.3	
	comp=Z,16nm,1.3s								
DLMT	Dillon	90.38	39	*e*P		P	12 47 29.5	-0.8	
	comp=Z,14nm,1.4s								
IMW	Indian Meadow	90.49	41	*e*P		P	12 47 30.9	-0.1	
	comp=Z,10nm,1.6s								
SDCO	Great Sand Dun	90.58	48	P		P	12 47 30.7	-0.9	
	baz=238								
SDCO	Great Sand Dun	90.58	48	*e*P		P	12 47 30.8	-0.8	
	comp=Z,15nm,2.0s								
RND	Reindeer	90.59	12	*e*P		P	12 47 29.6	-1.1	
RND					pmax	pmax			
	comp=Z,12nm,1.1s								
RND	Reindeer	90.59	12	*e*P		P	12 47 29.6	-1.1	
	comp=Z,12nm,1.1s								
PD31	Pinedale Array	90.68	42	*e*P		P	12 47 30.2	-1.6	
PDAR	Pinedale Array	90.68	42	P		P	12 47 30.2	-1.6	
	comp=Z,0.6nm,0.8s,baz=242,slow=3.2,SNR=5.5								
H17A	Grant Village	90.99	40	*e*P		P	12 47 30.4	-2.9	
	comp=Z,7.6nm,1.2s								
YHH	Holmes Hill	91.06	40	*e*P		P	12 47 33.0	-0.7	
	comp=Z,17nm,1.8s								
BOZ	Bozeman (W)	91.07	39	P		P	12 47 33.2	-0.3	
	baz=235								
BOZ	Bozeman (W)	91.07	39	*e*P		P	12 47 33.6	+0.1	
BOZ					pmax	pmax			
	comp=Z,14nm,1.4s								
BOZ	Bozeman (W)	91.07	39	*e*P		P	12 47 33.6	+0.1	
	comp=Z,14nm,1.4s								
SEY	Seymchan	91.27	346	*e*P		P	12 47 32.6	-1.2	
DLBC	Dease Lake	91.31	22	P		P	12 47 32.4	-1.8	
	comp=Z,1.9nm,0.7s,baz=321,slow=5.6,SNR=3.6								
DLBC	Dease Lake	91.31	22	*e*P		P	12 47 32.4	-1.8	
	comp=Z,42nm,1.9s								
WRH	Wood River Hil	91.70	12	*e*P		P	12 47 34.8	-1.0	
	comp=Z,6.9nm,0.9s								
433A	Art	91.73	57	P		P	12 47 35.3	-1.4	
	baz=242								
DOT	Dot Lake	91.76	13	*e*P		P	12 47 35.5	-0.6	
	comp=Z,13nm,0.8s								
HDA	Harding Lake	91.86	12	*e*P		P	12 47 35.6	-0.9	
	comp=Z,4.1nm,0.8s								
534A	Blanco	91.86	58	P		P	12 47 35.7	-1.7	
	baz=242								
WALA	Waterton Lakes	91.86	35	*e*P		P	12 47 33.5	-3.5	
	comp=Z,13nm,0.9s								
COLA	College	92.11	11	*i* P		P	12 47 36.6	-1.0	
COLA					pmax	pmax			
	comp=Z,10.0nm,1.2s								
MDM	Murphy Dome	92.12	11	*e*P		P	12 47 36.4	-1.4	
	comp=Z,8.0nm,1.2s								
ILAR	Eielson Array	92.20	12	P		P	12 47 36.7	-1.3	
	comp=Z,1.8nm,0.9s,baz=218,slow=5.1,SNR=10								
ILB	Eielson Array	92.20	12	*e*P		P	12 47 36.4	-1.6	
IL1	Eielson Array	92.20	12	*e*P		P	12 47 35.6	-2.4	
334A	Lometa	92.65	57	P		P	12 47 39.7	-1.3	
	baz=242								
KMI	Kunming	93.42	296	P		P	12 47 46.0	+1.1	
KMI				pP		sP	12 47 59.8	+3.0	
KMI				sP		pP	12 48 06.5	+13	
KMI					pmax	pmax			
	comp=Z,8.0nm,1.1s								
CM01	Chiang Mai Arr	93.73	288	*e*P		P	12 47 46.4	+0.2	
BILL	Bilibino	93.74	353	*e*P		P	12 47 44.7	-0.4	
BILL				*e*			12 51 32.8		
BILL				*e*S		SKSac	12 58 19.3	+2.0	
BILL					pmax	pmax			
	comp=Z,4.0nm,0.9s								
BILL					MLR	MLR			
	comp=Z,122nm,20.0s								
CMAR	Chiang Mai Arr	93.76	288	P		P	12 47 47.4	+1.1	
	comp=Z,3.5nm,0.8s,baz=129,slow=3.4,SNR=15								
CHTO	Chiang Mai	93.91	289	*e*P		P	12 47 46.9	-0.1	
CHTO					pmax	pmax			
	comp=Z,8.0nm,0.9s								
CHTO	Chiang Mai	93.91	289	*e*P		P	12 47 46.9	-0.1	
	comp=Z,8.0nm,0.9s								
HHC	Hu-ho-hao-te	94.12	313	*e*P		P	12 47 49.5	+1.8	
HHC					pmax	pmax			
	comp=Z,18nm,0.9s								
LAO	LASA Array	94.81	40	*e*P		P	12 47 48.5	-2.1	
	comp=Z,17nm,0.8s								
YAK	Yakutsk	97.14	337	*e*P		Pdif	12 48 00.9	+0.1	
YAK					pmax	pmax			
	comp=Z,5.0nm,0.9s								
LZH	Lanzhou	97.31	306	*e*P		Pdif	12 48 03.0	+0.6	
LZH				pP		sP	12 48 13.3	-1.0	
LZH				sP		pP	12 48 18.8	+7.7	
LZH					pmax	pmax			
	comp=Z,16nm,1.0s								
ULN	Ulaanbaatar	100.25	318	*e*P		Pdif	12 48 13.7	-1.5	
ULN					pmax	pmax			
	comp=Z,3.0nm,1.5s								
GTA	Gaotai	101.58	308	*e*P		Pdif	12 48 22.0	+0.7	
GTA				pP		sPdif	12 48 32.5	-0.7	
GTA				sP		pP	12 48 36.5	+6.2	
GTA					pmax	pmax			
	comp=Z,2.0nm,1.3s								
WMQ	Urumqi	111.58	309		PKP	PKiKP	12 53 02.8	-0.6	
WMQ					LR	LR			
	comp=Z,47nm,17.7s								
WMQ					LR	LR			
	comp=Z,67nm,19.7s								
WMQ					LR	LR			
	comp=Z,53nm,21.7s								
ZAA1	Zalesovo Array	115.42	320	*e*PKPdf		PKPdf	12 53 09.4	-0.8	
ZALV	Zalesovo Beam	115.42	320	PKP		PKPdf	12 53 09.4	-0.9	
	comp=Z,1.7nm,0.6s,baz=32,slow=1.0,SNR=5.7								
ZALV	Zalesovo Beam	115.42	320	PKIKP		PKPdf	12 53 09.4	-0.9	
ZALV					pmax	pmax			
	comp=Z,1.0nm,0.5s								
MK01	Makanchi Array	115.92	312	*e*PKPdf		PKPdf	12 53 10.5	-1.1	
MK31	Makanchi Array	115.93	312	*e*PKIKP		PKPdf	12 53 10.7	-0.9	
MK31	Makanchi Array	115.93	312	*e*PKPdf		PKPdf	12 53 10.7	-0.9	
MK32	Makanchi Array	115.93	312	*e*PKPdf		PKPdf	12 53 10.8	-0.8	
MKAR	Makanchi Array	115.93	312	PKP		PKPdf	12 53 10.8	-0.8	
	comp=Z,1.2nm,0.6s,baz=95,slow=1.5,SNR=12								
MKAR	Makanchi Array	115.93	312	*e*PKPdf		PKPdf	12 53 10.9	-0.7	
KURK	Kurchatov	118.84	316	*i* PKIKP		PKPdf	12 53 16.3	-0.6	
KSH	Kashi	119.31	303	*e*PKP		PKPdf	12 53 20.3	+1.9	
KSH				sPKP			12 53 35.3		
KSH				PP		PP	12 54 45.3	+5.4	
KSH				PKS		PKSdf	12 56 56.3	+1.1	
KSH				SKS		SKSdf	13 00 26.8	-2.0	
KSH				SS		SS	13 11 03.0	+2.2	
KSH				AMB		AMB			
	comp=Z,150nm,6.8s								
KSH				LR		LR			
	comp=Z,130nm,11.1s								
AAK	Ala-Archa	120.85	306	*i* PKIKP		PKPdf	12 53 21.2	-0.1	
KKAR	Karatay Array	123.81	306	*e*PKIKP		PKPdf	12 53 26.7	-0.1	
KKAR	Karatay Array	123.81	306	*e*PKPdf		PKPdf	12 53 26.7	-0.1	
BVAR	Borovoye Array	123.98	318	PKP		PKPdf	12 53 26.5	-0.3	
	comp=Z,1.9nm,0.5s,baz=48,slow=2.2,SNR=13								
BRVK	Borovoye	124.04	318	*e*PKIKP		PKPdf	12 53 26.7	-0.2	
BRVK	Borovoye	124.04	318	*e*PKPdf		PKPdf	12 53 26.7	-0.2	
ARU	Arti	130.19	324	PKP		PKPdf	12 53 39.0	+0.5	
	comp=Z,2.8nm,0.5s,baz=114,slow=3.2,SNR=5.4								
ARU	Arti	130.19	324	*i* PKIKP		PKPdf	12 53 38.8	+0.3	
ARU							12 55 51.3		
ARU				SS		SS	13 13 12.0	-4.4	
AKTO	Aktyubinsk	131.93	316	PKP		PKPdf	12 53 42.0	0.0	
	comp=Z,1.2nm,0.6s,baz=309,slow=2.5,SNR=5.5								
GEYT	Alibeck	133.07	299	PKP		PKPdf	12 53 45.7	+1.0	
	comp=Z,2.1nm,0.7s,baz=11,slow=1.5,SNR=4.5								
KLMR	Klimovskoe	136.91	336	*e*PKIKP		PKPdf	12 53 47.0	-4.0	
KLMR					pmax	pmax			
	comp=Z,8.0nm,1.3s								
FIA0	FINESS Array S	140.72	344	*e*PKIKP		PKPdf	12 53 58.3	+0.3	
FIA0	FINESS Array S	140.72	344	*e*PKPdf		PKPdf	12 53 58.3	+0.3	
FINES	FINESS Array B	140.72	344	PKhKP		PKPpre	12 53 47.6		
	comp=Z,2.4nm,0.8s,baz=64,slow=6.3,SNR=2.9								
FINES				PKP		PKPdf	12 53 58.3	+0.3	
	comp=Z,3.3nm,0.8s,baz=318,slow=2.6,SNR=4.0								
OBN	Obninsk	141.80	330	PKP		PKPdf	12 54 01.2	+1.1	
	comp=Z,37nm,0.4s,baz=138,slow=22,SNR=3.3								
OBN	Obninsk	141.80	330	*e*PKIKP		PKPdf	12 53 59.6	-0.5	
OBN				*e*			12 57 03.5		
OBN				*e*			13 00 13.0		
OBN					pmax	pmax			
	comp=Z,14nm,0.4s								
KBZ	Khabaz	143.62	311	PKhKP		PKPpre	12 54 01.0		
	comp=Z,2.8nm,0.8s,baz=188,slow=1.8,SNR=5.3								
NB200	NORSAR Array S	143.69	354	*e*PKPpre		PKPbc	12 54 00.9	0.0	
NOA	NORSAR Array B	143.69	354	PKP		PKPbc	12 54 00.9	0.0	
	comp=Z,1.5nm,0.8s,baz=4.4,slow=2.3,SNR=3.4								
KIV	Kislovodsk	143.69	311	*e*PKIKP		PKPbc	12 54 02.3	+0.8	
KIV					pmax	pmax			
	comp=Z,8.0nm,1.0s								
HFS	Hagfors	144.31	352	PKP		PKPab	12 54 01.7	-0.7	
	comp=Z,3.4nm,0.8s,baz=20,slow=4.6,SNR=5.0								
ARTV	Artvin	145.05	307	*e*PKPbc		PKPdf	12 54 06.9	+0.3	
NACGM	Naroch	145.90	337	*e*		PKPdf	12 54 07.0	-0.3	
MARD	Mardin	146.82	300	*e*PKPbc		PKPab	12 54 12.1	-0.6	
AKASG	Malin Array Be	148.05	330	PKPbc		PKPbc	12 54 13.4	-0.8	
	comp=Z,11nm,0.8s,baz=42,slow=3.7,SNR=18								
AKBB	Malin Array Si	148.05	330	*e*PKP2		PKPbc	12 54 13.4	-0.8	
AKBB	Malin Array Si	148.05	330	*e*PKPbc		PKPbc	12 54 13.4	-0.8	
KIEV	Kiev	148.06	330	*e*PKP2		PKPbc	12 54 13.6	-0.6	
KIEV	Kiev	148.06	330	*e*PKPbc		PKPbc	12 54 13.6	-0.6	
KIEV				*e*PKPab		PKiKP	12 54 16.3	+0.3	
AK11	Malin Array Si	148.09	330	*e*PKPbc		PKPbc	12 54 13.5	-0.8	
KSRV	Kasrt alli	148.49	298	*e*P		PKPbc	12 54 16.5	+0.7	
EKA	Eskdalemuir Ar	149.18	9	PKPbc		PKPbc	12 54 15.6	-1.3	
	comp=Z,1.1nm,0.3s,baz=330,slow=2.9,SNR=8.5								
SLMH	Al Salmeh	149.28	299	*e*P		PKPbc	12 54 18.6	+0.7	
ROOS	tl_alroos	150.17	296	*e*P		PKPbc	12 54 22.7	+2.5	
DRWC	Darouich	150.18	301	*e*P		PKPbc	12 54 20.3	+0.2	
BEL	Belsk	150.46	339	*e*PKP		PKPbc	12 54 20.5	+0.3	
BEL	Belsk	150.46	339	*e*PKIKP		PKPbc	12 54 20.5	+0.3	
BTCH	Batrach	150.48	299	*e*P		PKPbc	12 54 21.0	+0.1	
ASF	Jabal al Asfar	150.75	292	PKPbc		PKPbc	12 54 22.5	+0.9	
	comp=Z,6.8nm,0.9s,baz=351,slow=1.4,SNR=10								
HAWK	Haweek	150.83	296	*e*P		PKPbc	12 54 22.4	+0.7	
SALA	Sala	150.83	293	*e*P		PKPbc	12 54 22.6	+0.6	
MARH	Ras Al Marh	150.85	295	*e*P		PKPbc	12 54 23.1	+1.0	
ARNB	Al Arnab	150.90	299	*e*P		PKPbc	12 54 21.5	-0.4	
ILGA	Ilgaz	150.92	311	*e*PKPbc		PKPbc	12 54 22.9	+1.0	
BRBR	Barbar	151.38	294	*e*P		PKPbc	12 54 23.7	+0.5	
BR101	Keskin Array S	151.50	308	*e*PKPbc		PKPbc	12 54 23.0	-0.2	
BR131	Keskin Array S	151.50	308	*e*PKPbc		PKPbc	12 54 23.3	+0.1	
BRTR	Keskin Array B	151.50	308	PKPbc		PKPbc	12 54 23.0	-0.2	
	comp=Z,6.5nm,0.8s,baz=123,slow=2.1,SNR=23								
KWP	Kalwaria Pacla	151.62	335	*e*PKP		PKPbc	12 54 22.8	-0.2	
KWP	Kalwaria Pacla	151.62	335	*e*PKIKP		PKPbc	12 54 22.8	-0.2	
MMAI	Mount Meron Ar	151.90	294	PKPbc		PKPbc	12 54 25.2	+0.9	
	comp=Z,6.4nm,0.7s,baz=79,slow=4.3,SNR=9.8								
ANTO	Ankara	152.04	309	*e*PKIKP		PKPbc	12 54 24.6	+0.2	
ANTO	Ankara	152.04	309	*e*PKPbc		PKPbc	12 54 24.6	+0.2	
BR231	Keskin MP Arra	152.07	309	*e*PKPbc		PKPbc	12 54 23.7	-0.7	
BUR08	Bucovina Ar. S	152.08	329	*e*PKPbc		PKPbc	12 54 24.7	+0.5	
OJC	Ojcow	152.17	339	*e*PKP		PKPbc	12 54 24.3	0.0	
OJC	Ojcow	152.17	339	*e*PKIKP		PKPdf	12 54 17.6	+0.1	
OJC				*e*			12 54 24.2		
OJC	Ojcow	152.17	339	*e*PKPdf		PKPdf	12 54 17.6	+0.1	
OJC				*e*PKPbc		PKPbc	12 54 24.2	0.0	
OJC				*e*PKPab		PKPab	12 54 34.3	+0.4	
STHS	Stebnicka Huta	152.35	336	*e*PKIKP		PKPbc	12 54 25.4	+0.7	
STHS	Stebnicka Huta	152.35	336	*e*PKP		PKPbc	12 54 25.4	+0.7	
UZH	Uzhgorod	152.58	334	*e*PKIKP		PKPbc	12 54 22.0	-3.2	
UZH				*e*			12 54 28.0		
UZH				*e*			12 54 32.6		
KSP	Ksiaz	152.65	344	*e*PKP		PKPbc	12 54 25.6	+0.3	
KSP	Ksiaz	152.65	344	*e*PKIKP		PKPbc	12 54 25.6	+0.3	
NIE	Niedzica	152.69	337	*e*PKP		PKPbc	12 54 26.2	+0.8	
NIE	Niedzica	152.69	337	*e*PKIKP		PKPbc	12 54 26.2	+0.8	
CRVS	Cervenica-Dubn	152.69	335	*e*PKIKP		PKPbc	12 54 26.1	+0.7	
CRVS	Cervenica-Dubn	152.69	335	*e*PKP		PKPbc	12 54 26.1	+0.7	
CLL	Collm	152.94	348	*e*PKIKP		PKPdf	12 54 18.6	0.0	
CLL				*e*			12 54 25.8		
CLL				*e*			12 54 36.1		
CLL	Collm	152.94	348	*e*PKPdf		PKPdf	12 54 19.0	+0.4	
CLL				*i* PKPbc		PKPbc	12 54 25.2	-0.7	
	comp=Z,18nm,1.2s								
CLL				*e*(PKiKP)			12 54 29.0		
CLL				*e*PKPab		PKPab	12 54 36.0	-1.0	
CLL				*es*PKiKP		sPKiKP	12 54 39.0	+0.9	
CLL				*ep*PKPab		pPKPab	12 54 42.0	-3.9	
CLL	Collm	152.94	348	*e*PKPdf		PKPdf	12 54 18.6	0.0	
CLL				*e*PKPbc		PKPbc	12 54 25.8	-0.1	
CLL				*e*PKPab		PKPab	12 54 36.1	-0.9	
UPC	Upice	153.03	344	*e*PKP		PKPbc	12 54 26.3	+0.2	
UPC	Upice	153.03	344	*e*PKIKP		PKPbc	12 54 26.3	+0.2	
DPC	Dobruska-Polom	153.09	343	*e*PKP		PKPbc	12 54 26.9	+0.6	
DPC				*e*PKPAB		pPKPbc	12 54 36.3	+1.0	
DPC	Dobruska-Polom	153.09	343	*e*PKIKP		PKPbc	12 54 26.9	+0.6	
DPC				*e*			12 54 36.3		
BRG	Berggiesshubel	153.16	347	*i* PKP		PKPbc	12 54 26.6	+0.2	
	comp=Z,12nm,1.1s								
BRG				*e*			12 54 33.0		
	comp=Z,7.3nm,1.2s								
BRG	Berggiesshubel	153.16	347	*i* PKIKP		PKPbc	12 54 26.6	+0.2	
BRG				*e*			12 54 33.0		
BRG					pmax	pmax			
	comp=Z,13nm,1.1s								
BRG					pmax	pmax			
	comp=Z,7.0nm,1.2s								
KRLC	Kraliky	153.22	342	*e*PKP		PKPbc	12 54 26.9	+0.3	
KRLC	Kraliky	153.22	342	*e*PKIKP		PKPbc	12 54 26.9	+0.3	
PRU	Pruhonice	153.87	345	*e*PKP		PKPbc	12 54 28.1	+0.2	
PRU	Pruhonice	153.87	345	*e*PKIKP		PKPbc	12 54 28.1	+0.2	
VYHS	Vyhne	153.98	338	*e*PKIKP		PKPbc	12 54 28.1	-0.2	
VYHS				*e*			12 54 41.7		
VYHS	Vyhne	153.98	338	*e*PKP		PKPbc	12 54 28.0	-0.2	
VYHS				*e*			12 54 41.7		
KHC	Kasperske Hory	154.89	346	*e*PKP		PKPbc	12 54 29.9	-0.3	
KHC	Kasperske Hory	154.89	346	*e*PKIKP		PKPbc	12 54 29.9	-0.3	
GERES	GERESS Array B	155.13	345	PKP		PKPdf	12 54 21.2	-0.8	
	comp=Z,0.3nm,0.2s,baz=73,slow=4.6,SNR=4.2								
GERES				PKPbc		pPKPdf	12 54 30.0	-1.0	
	comp=Z,0.4nm,0.4s,baz=42,slow=2.2,SNR=5.1								
GERES				PKPab		PKPbc	12 54 45.9	-0.7	
	comp=Z,0.3nm,0.3s,baz=333,slow=1.5,SNR=4.5								
ESDC	Sonseca Array	163.73	24	PKP		PKPdf	12 54 31.8	-0.2	
	comp=Z,0.1nm,0.3s,baz=343,slow=3.1,SNR=4.4								
TOA0	Torodi Ar. Sit	167.91	167	*e*PKPdf		PKPdf	12 54 35.3	-0.8	
TOA0				*e*PKPab		PKPab	12 55 43.8	+0.8	
TORD	Torodi Ar. Bea	167.91	167	PKP		PKPdf	12 54 35.6	-0.5	
	comp=Z,1.5nm,1.1s,baz=199,slow=1.8,SNR=4.7								
TORD				PKPab		PKPab	12 55 44.4	+1.4	
	comp=Z,1.3nm,0.9s,baz=194,slow=3.5,SNR=5.5								
TOA1	Torodi Ar. Sit	167.92	167	*e*PKPdf		PKPdf	12 54 35.6	-0.5	
TOA1				*e*PKPab		PKPab	12 55 44.4	+1.4	

ATH ***27*** *12:40:07.0,34.30N×23.46E,h19km±1km, ML3.1/4, Error ellipse: s-maj=4.6km s-min=1.9km az=286.0*
IDC ***27*** *12:40:06.9±1.5,34.20N×23.79E, h0km, mb3.8/5, mb1 3.8/9, mb1mx3.6/42, mbtmp3.7/9, ML3.5/3, Error ellipse: s-maj=33.6km s-min=21.8km az=149.0*
ISCJB ***27*** *12:40:09.7±1.3,34.23N±0.06×23.72E±0.07, h29km±9km, mb3.7/5, Error ellipse: s-maj=11.4km s-min=8.3km az=142.4*
CSEM ***27*** *12:40:11.1±0.6,34.34N×23.80E, h10km, ML2.9, Error ellipse: s-maj=11.6km s-min=7.6km az=71.0*
THE ***27*** *12:40:13.9,34.47N×23.89E, h3km±2km, ML2.9/5, Error ellipse: s-maj=3.0km s-min=1.5km az=268.0*

ISC 27 12:40:10.0±1.8, 34.31N±0.07×23.77E±0.05, h17km±9km, n41, σ1§60/63, mb3.9/5, Crete

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GVD	Gavdhos	0.59	27	P	Pg	12 40 21.1	-0.6
GVD				S	Sg	12 40 27.5	-2.1
GVD	Gavdhos	0.59	27	P	Pg	12 40 22.0	+0.3
GVD				S	Sg	12 40 27.5	-2.1
GVD	Gavdhos	0.59	27	P	Pg	12 40 22.0	+0.3
GVD				S	Sb	12 40 31.3	+1.3
SIVA	Sivas	1.11	50	P	Pb	12 40 31.9	+1.1
SIVA				S	Sg	12 40 45.2	-0.9
SIVA	Sivas	1.11	50	P	Pb	12 40 31.9	+1.1
SIVA				S	Sg	12 40 45.2	-0.9
SIVA	Sivas	1.11	50	P	Pn	12 40 32.3	+1.5
TMBK	Timbaki Herakl	1.12	47	P	Pg	12 40 32.1	+0.4
TMBK				S	Sg	12 40 46.0	-0.3
TMBK	Timbaki Herakl	1.12	47	P	Pg	12 40 32.1	+0.4
TMBK				S	Sg	12 40 46.0	-0.3
VAM	Vamos	1.15	18	P	Pn	12 40 32.7	+1.4
VAM				S	Sg	12 40 46.4	-0.9
VAM	Vamos	1.15	18	P	Pn	12 40 32.7	+1.4
VAM				S	Sg	12 40 46.4	-0.9
VAM	Vamos	1.15	18	P	Pb	12 40 30.2	-1.3
VAM				AML	AML	12 40 54.4	
	comp=E,2473μm,0.8s						
VAM				AML	AML	12 40 56.8	
	comp=N,1437μm,0.8s						
IMMV	Iera Moni Meta	1.16	9	P	Pb	12 40 32.4	+0.8
IMMV				S	Sg	12 40 47.6	0.0
IMMV	Iera Moni Meta	1.16	9	P	Pb	12 40 32.4	+0.8
IMMV				S	Sg	12 40 47.6	0.0
IMMV	Iera Moni Meta	1.16	9

GUC ***27*** *13:00:36.5±0.5, 23˚.07S×67˚.44W, h247km±13km, ML3.8*
IDC ***27*** *13:00:37.4±10.0, 22˚.73S×66˚.06W, h194km, 80km, mb3.0/1, mb1 3.0/2, mb1mx2.9/24, mbtmp3.4/2, Error ellipse: s-maj=132.4km s-min=79.1km az=48.0*
ISC 27 13:00:34.5±1.3, 23˚.11S±0˚.07×66˚.85W±0˚.09, h200km, n15, σ1§45/28, 9C-3D, Jujuy Province

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
PB06	**IPOC Station P**	**2.54**	**279**	⇑*iP*		**Pn**	**13 01 20.5**	**+1.4**
PB06				*i* S		**Sn**	**13 01 54.3**	**+0.5**
PB06				IAML			13 01 56.3	
	comp=E,230nm,0.3s							
PB09	**IPOC Station P**	**2.57**	**300**	⇑*iP*		**Pn**	**13 01 21.4**	**+2.0**
PB09				*i* S		**Sn**	**13 01 56.7**	**+2.3**
PB09				IAML			13 02 00.3	
	comp=N,192nm,0.7s							
PB07	**IPOC Station P**	**3.13**	**295**	⇑*iP*		**Pn**	**13 01 27.0**	**+1.0**
PB07				*i* S		**Sn**	**13 02 05.6**	**-0.5**
PB04	**IPOC Station P**	**3.15**	**284**	⇑*iP*		**Pn**	**13 01 27.1**	**+1.0**
PB04				*i* S		**Sn**	**13 02 05.3**	**-1.0**
PB04				IAML			13 02 10.4	
	comp=N,162nm,0.2s							
PB01	**IPOC Station P**	**3.20**	**309**	⇑*iP*		**Pn**	**13 01 27.7**	**+1.1**
PB01				*e*S		**Sn**	**13 02 07.6**	**+0.3**
PB01				IAML			13 02 10.4	
	comp=N,147nm,0.2s							
PB10	**IPOC Station P**	**3.43**	**263**	⇑*iP*		**Pn**	**13 01 30.2**	**+0.9**
PB10				*i* S		**Sn**	**13 02 10.0**	**-2.2**
PB14	**IPOC Station P**	**3.59**	**244**	⇓*iP*		**Pn**	**13 01 32.1**	**+0.5**
PB14				*e*S		**Sn**	**13 02 14.6**	**-1.7**
PB08	**IPOC Station P**	**3.65**	**324**	⇑*iP*		**Pn**	**13 01 34.4**	**+2.0**
PB08				*i* S		**Sn**	**13 02 19.3**	**+1.5**
PB08				IAML			13 02 19.8	
	comp=N,66nm,0.3s							
HMBC	**Humberstone**	**3.99**	**314**	⇓*iP*		**Pn**	**13 01 36.3**	**-0.1**
HMBC				*i* S		**Sn**	**13 02 23.2**	**-1.7**
PB11	**IPOC Station P**	**4.24**	**321**	⇑*iP*		**Pn**	**13 01 39.6**	**+0.1**
PB11				*e*S		**Sn**	**13 02 29.1**	**-1.4**
PSGC	**Pisagua**	**4.64**	**318**	⇓*iP*		**Pn**	**13 01 43.8**	**-0.7**
PSGC				*e*S		**Sn**	**13 02 37.0**	**-2.5**
MNMC	**Minye Minye**	**4.72**	**327**	⇑*iP*		**Pn**	**13 01 46.3**	**+0.6**
MNMC				*e*S		**Sn**	**13 02 40.5**	**-1.1**
LPAZ	**La Paz**	**6.89**	**350**	P		**Pn**	**13 02 15.2**	**+1.1**
	comp=N,0.5nm,0.3s,baz=168,slow=12,SNR=10							
LPAZ				S		**Sn**	**13 03 30.7**	**-2.1**
	comp=N,0.1nm,0.3s,baz=255,slow=20,SNR=2.1							
TORD	**Torodi Ar. Bea**	**76.12**	**69**	P		**P**	**13 11 59.7**	**-1.0**
	comp=N,0.2nm,0.4s,baz=238,slow=4.9,SNR=2.3							
MKAR	**Makanchi Array**	**145.75**	**39**	PKPbc		**PKPdf**	**13 19 50.4**	**+1.3**
	comp=N,0.4nm,0.5s,baz=302,slow=2.2,SNR=4.3							

IDC ***27*** *13:06:30.9±0.7, 34˚.26N×23˚.84E, h0km, mb4.2/17, mb1 4.2/26, mb1mx4.2/46, mbtmp4.1/26, ML3.8/9, MS3.7/11, Ms1 3.7/11, ms1mx3.4/48, Error ellipse: s-maj=17.4km s-min=11.8km az=160.0*
CSEM ***27*** *13:06:33.9±0.2, 34˚.20N×23˚.78E, h20km, mb4.4/28, Error ellipse: s-maj=4.5km s-min=3.0km az=18.0*
NEIC ***27*** *13:06:33.4±0.0, 34˚.27N×23˚.63E, h26km, mb4.3/14, ML3.9(ATH), After ATH.*
ATH ***27*** *13:06:33.5, 34˚.27N×23˚.63E, h26km±1km, ML3.9/8, Error ellipse: s-maj=2.3km s-min=1.7km az=17.0*
MOS ***27*** *13:06:33.5±1.4, 34˚.18N×23˚.85E, h27km, mb4.5/27, Error ellipse: s-maj=6.3km s-min=3.6km az=92.0*
ISCJB ***27*** *13:06:33.1±0.7, 34˚.19N±0˚.02×23˚.82E±0˚.02, h26km±5km, mb4.3/40, MS3.8/7, Error ellipse: s-maj=3.7km s-min=2.9km az=23.3*
HLW ***27*** *13:06:35.2, 34˚.35N×24˚.23E, h23km±9km, Md4.2, Ml4.3*
THE ***27*** *13:06:37.4, 34˚.43N×23˚.77E, h8km±1km, ML3.7/7, Error ellipse: s-maj=2.5km s-min=1.6km az=36.0*
DDA ***27*** *13:07:13.0, 34˚.15N×24˚.11E, h19km, Ml4.1*
ISC 27 13:06:34.8±0.5, 34˚.21N±0˚.03×23˚.74E±0˚.03, h28km±3km, h28km:pP-P, n476, σ1§37/514, mb4.4/40, MS3.7/7, 15C-16D, Crete

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
GVD	**Gavdhos**	**0.69**	**24**	P		**Pb**	**13 06 46.6**	**-1.7**
GVD				S		**Sb**	**13 06 54.1**	**-3.4**
GVD	**Gavdhos**	**0.69**	**24**	P		**Pb**	**13 06 46.6**	**-1.7**
GVD				S		**Sb**	**13 06 57.9**	**+0.4**
GVD	**Gavdhos**	**0.69**	**24**	P		**Pb**	**13 06 46.6**	**-1.7**
GVD				S		**Sb**	**13 06 57.9**	**+0.4**
SIVA	**Sivas**	**1.19**	**47**	P		**Pb**	**13 06 56.8**	**0.0**
SIVA				S		**Sb**	**13 07 11.7**	**-0.1**
SIVA	**Sivas**	**1.19**	**47**	P		**Pb**	**13 06 56.8**	**0.0**
SIVA				S		**Sb**	**13 07 11.7**	**-0.1**
SIVA	**Sivas**	**1.19**	**47**	P		**Pb**	**13 06 57.5**	**+0.7**
SIVA				S		**Sb**	**13 07 13.3**	**+1.4**
SIVA				AML	AML		13 07 23.1	
	comp=E,19334μm,0.8s							
SIVA				AML	AML		13 07 24.1	
	comp=N,14838μm,0.6s							
TMBK	**Timbaki Herakl**	**1.21**	**44**	P		**Pb**	**13 06 57.3**	**+0.3**
TMBK				S		**Sb**	**13 07 12.4**	**+0.2**
TMBK	**Timbaki Herakl**	**1.21**	**44**	P		**Pb**	**13 06 57.3**	**+0.3**
TMBK				S		**Sb**	**13 07 12.4**	**+0.2**
VAM	**Vamos**	**1.25**	**17**	P		**Pn**	**13 06 56.0**	**-0.4**
VAM				S		**Sn**	**13 07 11.7**	**-0.7**
VAM	**Vamos**	**1.25**	**17**	P		**Pn**	**13 06 56.0**	**-0.4**
VAM				S		**Sn**	**13 07 11.7**	**-0.7**
VAM	**Vamos**	**1.25**	**17**	P		**Pn**	**13 06 56.0**	**-0.4**
VAM				S		**Sn**	**13 07 11.7**	**-0.7**
VAM	**Vamos**	**1.25**	**17**	P		**Pn**	**13 06 55.6**	**-0.9**
VAM				S		**Sb**	**13 07 14.2**	**+0.6**
VAM				AML	AML		13 07 20.5	
	comp=E,13214μm,1.4s							
VAM				AML	AML		13 07 23.9	
	comp=N,11644μm,0.6s							
IMMV	**Iera Moni Meta**	**1.27**	**9**	P		**Pn**	**13 06 56.1**	**-0.5**
IMMV				S		**Sn**	**13 07 11.7**	**-0.9**
IMMV	**Iera Moni Meta**	**1.27**	**9**	P		**Pn**	**13 06 56.1**	**-0.5**
IMMV				S		**Sn**	**13 07 11.7**	**-0.9**
IMMV	**Iera Moni Meta**	**1.27**	**9**	P		**Pn**	**13 06 55.5**	**-1.1**
IMMV				S		**Sb**	**13 07 13.7**	**-0.1**
IMMV				AML	AML		13 07 21.8	
	comp=N,13798μm,1.0s							
IMMV				AML	AML		13 07 22.1	
	comp=E,22621μm,0.7s							
IDI	**Anoyia**	**1.43**	**41**	Pn		**Pn**	**13 06 59.0**	**0.0**
	comp=E,19nm,0.3s,baz=239,slow=7.3,SNR=57							
IDI				Sn		**Sb**	**13 07 22.0**	**+3.2**
	comp=E,62nm,0.3s,baz=294,slow=20,SNR=8.7							
IDI	**Anoyia**	**1.43**	**41**	P		**Pb**	**13 07 00.2**	**-0.7**
IDI				S		**Sb**	**13 07 17.8**	**-0.9**
IDI	**Anoyia**	**1.43**	**41**	P		**Pn**	**13 06 59.6**	**+0.7**
IDI	**Anoyia**	**1.43**	**41**	*e*Pn		**Pn**	**13 06 59.9**	**-1.0**
IDI				S		**Sb**	**13 07 17.8**	**-0.9**
IDI	**Anoyia**	**1.43**	**41**	P		**Pn**	**13 06 59.6**	**+0.7**
IDI				S		**Sb**	**13 07 19.2**	**+0.5**
IDI				AML	AML		13 07 28.2	
	comp=N,3874μm,0.8s							
IDI				AML	AML		13 07 30.2	
	comp=E,1929μm,0.6s							
IDI	**Anoyia**	**1.43**	**41**	*e*Pn		**Pb**	**13 06 59.9**	**-1.0**
IDI				Sn		**Sb**	**13 07 22.0**	**+3.2**
ANKY	**Antikythira Is**	**1.69**	**348**	P		**Pb**	**13 07 04.5**	**-0.8**
ANKY				S		**Sn**	**13 07 23.8**	**+0.6**
ANKY	**Antikythira Is**	**1.69**	**348**	P		**Pn**	**13 07 03.1**	**+0.6**
ANKY				S		**Sn**	**13 07 23.8**	**+0.6**
ANKY	**Antikythira Is**	**1.69**	**348**	P		**Pn**	**13 07 03.1**	**+0.6**
ANKY				AML	AML		13 07 36.7	
	comp=N,3601μm,0.8s							
ANKY				AML	AML		13 07 40.2	
	comp=E,4214μm,1.4s							
LAST	**Lasithi**	**1.72**	**56**	P		**Pb**	**13 07 04.7**	**-1.0**
LAST				S		**Sb**	**13 07 26.1**	**-0.8**
LAST	**Lasithi**	**1.72**	**56**	P		**Pb**	**13 07 04.7**	**-1.0**
LAST	**Lasithi**	**1.72**	**56**	P		**Pb**	**13 07 05.6**	**-0.2**
NPS	**Neapolis**	**1.86**	**55**	P		**Pn**	**13 07 06.2**	**+1.4**
NPS	**Neapolis**	**1.86**	**55**	P		**Pn**	**13 07 06.2**	**+1.4**
NPS	**Neapolis**	**1.86**	**55**	P		**Pn**	**13 07 06.2**	**+1.4**
NPS	**Neapolis**	**1.86**	**55**	P		**Pb**	**13 07 07.2**	**-0.9**
NPS				AML	AML		13 07 46.5	
	comp=E,1771μm,0.7s							
NPS				AML	AML		13 07 52.9	
	comp=N,1447μm,0.6s							
KYTH	**Kithira**	**2.13**	**345**	P		**Pb**	**13 07 11.4**	**-1.3**
ZKR	**Zakros**	**2.23**	**65**	P		**Pb**	**13 07 12.6**	**-1.8**
ZKR	**Zakros**	**2.23**	**65**	P		**Pb**	**13 07 12.6**	**-1.8**
ZKR				AML	AML		13 08 01.7	
	comp=E,1714μm,0.7s							
ZKR				AML	AML		13 08 04.5	
	comp=N,512μm,0.7s							
MHLO	**Agia Marina, M**	**2.53**	**12**	P		**Pn**	**13 07 15.2**	**+1.2**
MHLO	**Agia Marina, M**	**2.53**	**12**	P		**Pn**	**13 07 14.7**	**+0.7**
MHLO	**Agia Marina, M**	**2.53**	**12**	P		**Pn**	**13 07 14.7**	**+0.7**
MHLO				AML	AML		13 07 51.5	
	comp=E,6421μm,0.9s							
MHLO				AML	AML		13 07 54.8	
	comp=N,4729μm,0.7s							
THR6	**Thira Island,**	**2.54**	**32**	P		**Pn**	**13 07 14.8**	**+0.8**
THR6	**Thira Island,**	**2.54**	**32**	P		**Pn**	**13 07 14.8**	**+0.8**
THR6	**Thira Island,**	**2.54**	**32**	P		**Pn**	**13 07 14.8**	**+0.8**
THR5	**Thira Island,**	**2.56**	**30**	P		**Pn**	**13 07 14.6**	**+0.1**
THR5	**Thira Island,**	**2.56**	**30**	P		**Pn**	**13 07 14.5**	**+0.1**
THR5	**Thira Island,**	**2.56**	**30**	P		**Pn**	**13 07 14.5**	**+0.1**
SANT	**Santorini**	**2.57**	**33**	*e*Pn		**Pn**	**13 07 14.4**	**-0.2**
SANT	**Santorini**	**2.57**	**33**	P		**Pn**	**13 07 14.5**	**-0.2**
SANT	**Santorini**	**2.57**	**33**	*e*Pn		**Pn**	**13 07 14.4**	**-0.2**
VLI	**Veliai**	**2.59**	**346**	P		**Pn**	**13 07 17.0**	**+2.2**
VLI				S		**Sn**	**13 07 44.5**	**-0.8**
VLI	**Veliai**	**2.59**	**346**	P		**Pn**	**13 07 15.6**	**+0.8**
VLI				S		**Sn**	**13 07 44.5**	**-0.8**
VLI	**Veliai**	**2.59**	**346**	P		**Pn**	**13 07 15.7**	**+0.8**
THR2	**Thira island,**	**2.63**	**31**	P		**Pn**	**13 07 15.4**	**+0.1**
THR2	**Thira island,**	**2.63**	**31**	P		**Pn**	**13 07 15.4**	**+0.1**
THR2	**Thira island,**	**2.63**	**31**	P		**Pn**	**13 07 16.3**	**+1.0**
SLUM	**Salum**	**2.98**	**155**	P		**Pn**	**13 07 20.7**	**+0.6**
	baz=163							
SLUM				S		**Sn**	**13 07 53.8**	**-1.1**
	baz=163							
SLUM				AMP			13 08 00.0	
	comp=E,1030μm,0.6s,logA/T=6.2,baz=163							
SLUM	**Salum**	**2.98**	**155**	P		**Pn**	**13 07 20.7**	**+0.6**
SLUM				S		**Sn**	**13 07 53.8**	**-1.1**
KARP	**Karpathos**	**3.11**	**64**	*e*PN		**Pn**	**13 07 24.2**	**+2.2**
KARP	**Karpathos**	**3.11**	**64**	P		**Pn**	**13 07 24.3**	**+2.2**
KARP	**Karpathos**	**3.11**	**64**	*e*Pn		**Pn**	**13 07 24.2**	**+2.2**
KARP	**Karpathos**	**3.11**	**64**	P		**Pn**	**13 07 24.6**	**+2.6**
KARP	**Karpathos**	**3.11**	**64**	P		**Pn**	**13 07 24.6**	**+2.6**
KARP	**Karpathos**	**3.11**	**64**	*e*Pn		**Pn**	**13 07 24.2**	**+2.2**
PYL	**PYLOS**	**3.14**	**329**	P		**Pn**	**13 07 23.5**	**+1.2**
PYL	**PYLOS**	**3.14**	**329**	P		**Pn**	**13 07 23.5**	**+1.2**
APE	**Apeiranthos**	**3.20**	**27**	*e*PN		**Pn**	**13 07 22.3**	**-1.0**
APE	**Apeiranthos**	**3.20**	**27**	*c* P		**Pn**	**13 07 22.7**	**-0.6**
APE	**Apeiranthos**	**3.20**	**27**	*e*Pn		**Pn**	**13 07 22.3**	**-1.0**
APE	**Apeiranthos**	**3.20**	**27**	*i* P		**Pn**	**13 07 22.7**	**-0.6**
APE	**Apeiranthos**	**3.20**	**27**	P		**Pn**	**13 07 21.5**	**-1.8**
VLY	**Voula,Athens**	**3.64**	**1**	P		**Pn**	**13 07 29.1**	**-0.1**
VLY	**Voula,Athens**	**3.64**	**1**	P		**Pn**	**13 07 29.1**	**-0.1**
NIS1	**Nisyros Isl.**	**3.69**	**49**	*e*PN		**Pn**	**13 07 29.3**	**-0.6**
NIS1	**Nisyros Isl.**	**3.69**	**49**	*e*Pn		**Pn**	**13 07 29.3**	**-0.6**
PTL	**Penteli**	**3.83**	**1**	P		**Pn**	**13 07 31.8**	**-0.2**
PTL	**Penteli**	**3.83**	**1**	P		**Pn**	**13 07 31.8**	**-0.2**
LTK	**Loutraki**	**3.86**	**351**	P		**Pn**	**13 07 31.9**	**-0.4**
LTK	**Loutraki**	**3.86**	**351**	P		**Pn**	**13 07 31.9**	**-0.4**
VILL	**Villia**	**3.96**	**355**	P		**Pn**	**13 07 33.8**	**+0.1**
VIL2	**Platees**	**4.01**	**355**	P		**Pn**	**13 07 33.9**	**-0.5**
DAT	**Datca**	**4.01**	**50**	*e*PN		**Pn**	**13 07 33.5**	**-1.0**
DAT	**Datca**	**4.01**	**50**	*i* P		**Pn**	**13 07 35.1**	**+0.6**
DAT				*i* S		**Sn**	**13 08 20.2**	**-0.4**
DAT	**Datca**	**4.01**	**50**	*e*Pn		**Pn**	**13 07 33.5**	**-1.0**
DAT	**Datca**	**4.01**	**50**	P		**Pn**	**13 07 35.1**	**+0.6**
DAT				S		**Sn**	**13 08 20.2**	**-0.4**
KLV	**Kalavryta, Ach**	**4.04**	**342**	P		**Pn**	**13 07 36.5**	**+1.8**
KLV	**Kalavryta, Ach**	**4.04**	**342**	P		**Pn**	**13 07 36.5**	**+1.8**
BODT	**Bodrum**	**4.07**	**45**	*e*PN		**Pn**	**13 07 34.4**	**-0.7**
BODT	**Bodrum**	**4.07**	**45**	*e*Pn		**Pn**	**13 07 34.4**	**-0.7**
ARG	**Arkhangelos**	**4.11**	**60**	P		**Pn**	**13 07 37.0**	**+1.3**
ARG	**Arkhangelos**	**4.11**	**60**	P		**Pn**	**13 07 36.5**	**-0.1**
ARG	**Arkhangelos**	**4.11**	**60**	P		**Pn**	**13 07 35.6**	**-0.8**
MLSB	**Milas**	**4.50**	**46**	*e*PN		**Pn**	**13 07 40.4**	**-0.7**
MLSB	**Milas**	**4.50**	**46**	*e*Pn		**Pn**	**13 07 40.4**	**-0.7**
CHOS	**Chios island**	**4.57**	**23**	*e*PN		**Pn**	**13 07 42.1**	**0.0**
CHOS	**Chios island**	**4.57**	**23**	*e*Pn		**Pn**	**13 07 42.1**	**0.0**
VLS	**Valsamata**	**4.71**	**328**	P		**Pn**	**13 07 43.5**	**-0.5**
VLS	**Valsamata**	**4.71**	**328**	P		**Pn**	**13 07 43.5**	**-0.5**
URLA	**Izmir**	**4.74**	**28**	*e*PN		**Pn**	**13 07 43.5**	**-0.9**
URLA	**Izmir**	**4.74**	**28**	*e*Pn		**Pn**	**13 07 43.5**	**-0.9**
TURN	**Turunc**	**4.77**	**55**	*i* P		**Pn**	**13 07 41.6**	**-3.2**
TURN				*i* S		Sn	13 08 29.7	-9.4
TURN	**Turunc**	**4.77**	**55**	P		**Pn**	**13 07 41.6**	**-3.2**
DALY	**Dalyan (Mu¨la**	**4.78**	**56**	*e*PN		**Pn**	**13 07 45.8**	**+1.0**
DALY	**Dalyan (Mu¨la**	**4.78**	**56**	*i* P		**Pn**	**13 07 46.2**	**+1.4**
DALY				*i* S		**Sn**	**13 08 38.6**	**-0.5**
DALY	**Dalyan (Mu¨la**	**4.78**	**56**	*e*Pn		**Pn**	**13 07 45.8**	**+1.0**
DALY	**Dalyan (Mu¨la**	**4.78**	**56**	P		**Pn**	**13 07 46.2**	**+1.4**
DALY				S		**Sn**	**13 08 38.7**	**-0.5**
AGG	**Agios Georgios**	**4.94**	**347**	*e*P		**Pn**	**13 07 48.0**	**+0.9**
AGG	**Agios Georgios**	**4.94**	**347**	*e*P		**Pn**	**13 07 48.0**	**+0.9**
AGG	**Agios Georgios**	**4.94**	**347**	*e*PN		**Pn**	**13 07 48.0**	**+0.9**
FETY	**Fethiye**	**4.99**	**59**	*e*PN		**Pn**	**13 07 48.0**	**+0.2**
FETY	**Fethiye**	**4.99**	**59**	P		**Pn**	**13 07 48.0**	**+0.2**
FETY				S		**Sn**	**13 08 43.0**	**-1.5**
AYDB	**Zeytinkoy-Aydi**	**5.02**	**41**	*e*PN		**Pn**	**13 07 48.0**	**-0.3**
AYDB	**Zeytinkoy-Aydi**	**5.02**	**41**	*e*Pn		**Pn**	**13 07 48.0**	**-0.3**
SWA2		**5.16**	**163**	P		**Pn**	**13 07 51.6**	**+1.4**
	baz=168							
SWA2				S		**Sn**	**13 08 47.3**	**-1.4**
	baz=168							
SWA2		**5.16**	**163**	P		**Pn**	**13 07 51.6**	**+1.4**
SWA2				S		**Sn**	**13 08 47.3**	**-1.4**
AKAS	**Kas**	**5.21**	**66**	*e*PN		**Pn**	**13 07 50.7**	**-0.2**
AKAS	**Kas**	**5.21**	**66**	*i* P		**Pn**	**13 07 51.3**	**+0.4**
AKAS				*i* S		**Sn**	**13 08 47.8**	**-2.2**
AKAS	**Kas**	**5.21**	**66**	*e*Pn		**Pn**	**13 07 51.2**	**+0.4**
AKAS				S		**Sn**	**13 08 47.8**	**-2.2**
AKAS	**Kas**	**5.21**	**66**	*e*Pn		**Pn**	**13 07 51.2**	**+0.4**
DSL	**Palaion Diasel**	**5.36**	**337**	P		**Pn**	**13 07 53.4**	**+0.5**
DSL	**Palaion Diasel**	**5.36**	**337**	P		**Pn**	**13 07 53.4**	**+0.5**
GLHS	**Glhisar (BURDU**	**5.53**	**56**	*e*PN		**Pn**	**13 07 56.3**	**+1.0**
GLHS	**Glhisar (BURDU**	**5.53**	**56**	*e*Pn		**Pn**	**13 07 56.3**	**+1.0**
GOLH	**Golhisar**	**5.62**	**56**	*i* P		**Pn**	**13 07 57.7**	**+1.2**
GOLH	**Golhisar**	**5.62**	**56**	P		**Pn**	**13 07 57.7**	**+1.2**
ELL	**Elmali**	**5.63**	**62**	*e*PN		**Pn**	**13 07 56.8**	**+0.1**
ELL	**Elmali**	**5.63**	**62**	*e*Pn		**Pn**	**13 07 56.8**	**+0.1**
KULA	**Kula-Manisa**	**5.85**	**41**	*e*PN		**Pn**	**13 07 58.8**	**-0.9**
KULA	**Kula-Manisa**	**5.85**	**41**	*e*Pn		**Pn**	**13 07 58.8**	**-0.9**
JAN	**Janina**	**5.91**	**338**	P		**Pn**	**13 08 03.2**	**+2.7**
KORT	**Korkueli**	**6.06**	**61**	*e*PN		**Pn**	**13 08 03.8**	**+1.2**
KORT	**Korkueli**	**6.06**	**61**	*i* P		**Pn**	**13 08 04.5**	**+1.9**
KORT				*i* S		**Sn**	**13 09 09.4**	**-1.7**
KORT	**Korkueli**	**6.06**	**61**	*e*Pn		**Pn**	**13 08 03.8**	**+1.2**
KORT	**Korkueli**	**6.06**	**61**	P		**Pn**	**13 08 04.5**	**+1.9**
KORT				S		**Sn**	**13 09 09.4**	**-1.7**
FNA	**Florina**	**6.83**	**345**	P		**Pn**	**13 08 14.1**	**+1.0**
FNA	**Florina**	**6.83**	**345**	P		**Pn**	**13 08 14.1**	**+1.0**
BIA	**Bitola**	**7.07**	**345**	*i* Pn		**Pn**	**13 08 16.9**	**+0.6**
BIA	**Bitola**	**7.07**	**345**	*i* Pn		**Pn**	**13 08 16.9**	**+0.6**
VAY	**Valandovo**	**7.16**	**353**	*i* Pn		Pn	13 08 27.0	+9.4
OHR	**Ohrid**	**7.28**	**342**	*i* Pn		**Pn**	**13 08 20.3**	**+1.0**
OHR	**Ohrid**	**7.28**	**342**	*i* Pn		**Pn**	**13 08 20.2**	**+1.0**
KRUS	**Krusevo**	**7.42**	**345**	*i* Pn		**Pn**	**13 08 21.2**	**0.0**
KRUS	**Krusevo**	**7.42**	**345**	*i* Pn		**Pn**	**13 08 21.2**	**0.0**
CEL	**Celeste**	**7.52**	**305**	*e*Pn		**Pn**	**13 08 21.8**	**-0.8**
CEL	**Celeste**	**7.52**	**305**	*e*Pn		**Pn**	**13 08 21.8**	**-0.8**
WDD	**Wied Dalam**	**7.74**	**285**	*e*Pn		**Pn**	**13 08 24.6**	**-0.9**
WDD	**Wied Dalam**	**7.74**	**285**	*e*Pn		**Pn**	**13 08 24.6**	**-0.9**
CSS	**Mathiatis**	**7.94**	**82**	*e*Pn		**Pn**	**13 08 26.1**	**-2.2**
CSS	**Mathiatis**	**7.94**	**82**	*e*Pn		**Pn**	**13 08 26.1**	**-2.2**
SKO	**Skopje**	**7.96**	**348**	*i* Pn		**Pn**	**13 08 28.1**	**-0.4**
SKO	**Skopje**	**7.96**	**348**	*i* Pn		**Pn**	**13 08 28.1**	**-0.4**
HFRF	**Wahat Farafira**	**8.06**	**150**	P		**Pn**	**13 08 30.5**	**+0.5**
	baz=152							
HFRF	**Wahat Farafira**	**8.06**	**150**	P		**Pn**	**13 08 30.5**	**+0.5**
KOT	**Kottamia**	**8.08**	**120**	P		**Pn**	**13 08 28.2**	**-2.1**
	baz=122							
KOT	**Kottamia**	**8.08**	**120**	P		**Pn**	**13 08 28.2**	**-2.1**
VAE	**Valguarnera**	**8.25**	**296**	Pn		**Pn**	**13 08 33.2**	**+0.7**
	comp=E,4.6nm,0.3s,baz=181,slow=5.6,SNR=4.6							
VAE				Sn		**Sn**	**13 10 04.0**	**-0.8**
	comp=E,3.6nm,0.3s,baz=212,slow=15,SNR=2.8							
VTS	**Vitosha**	**8.38**	**357**	⇓*iP*		**Pn**	**13 08 36.1**	**+1.6**
VTS	**Vitosha**	**8.38**	**357**	*e*P		**Pn**	**13 08 35.3**	**+0.8**
VTS	**Vitosha**	**8.38**	**357**	*e*P		**Pn**	**13 08 35.3**	**+0.8**
VTS	**Vitosha**	**8.38**	**357**	*e*Pn		**Pn**	**13 08 35.3**	**+0.8**
CUC	**Castrocucco**	**8.57**	**315**	*e*Pn		**Pn**	**13 08 36.0**	**-0.9**
CUC	**Castrocucco**	**8.57**	**315**	*e*Pn		**Pn**	**13 08 36.0**	**-0.9**
BARS	**Barje**	**8.73**	**351**	*e*Pn		**Pn**	**13 08 38.4**	**-0.7**
PDG	**Podgorica**	**8.93**	**338**	⇑*iP*		**Pn**	**13 08 41.4**	**-0.5**
PDG	**Podgorica**	**8.93**	**338**	⇑*iP*		**Pn**	**13 08 41.4**	**-0.5**
RSH		**9.02**	**108**	P		**Pn**	**13 08 40.3**	**-2.9**
	baz=110							
RSH		**9.02**	**108**	P		**Pn**	**13 08 40.3**	**-2.9**
BR231	**Keskin MP Arra**	**9.15**	**49**	*e*Pn		**Pn**	**13 08 44.5**	**-0.5**
BR231	**Keskin MP Arra**	**9.15**	**49**	*e*Pn		**Pn**	**13 08 44.5**	**-0.5**
ANTO	**Ankara**	**9.18**	**49**	*e*P		**Pn**	**13 08 45.2**	**-0.1**
ANTO	**Ankara**	**9.18**	**49**	*e*P		**Pn**	**13 08 45.2**	**-0.1**
ANTO	**Ankara**	**9.18**	**49**	*e*Pn		**Pn**	**13 08 45.2**	**-0.1**
BR131	**Keskin Array S**	**9.64**	**52**	*e*Pn		**Pn**	**13 08 52.3**	**+0.5**
BR131	**Keskin Array S**	**9.64**	**52**	*e*Pn		**Pn**	**13 08 52.3**	**+0.5**
BRTR	**Keskin Array B**	**9.64**	**52**	Pn		**Pn**	**13 08 51.8**	**0.0**
	comp=E,0.2nm,0.3s,baz=228,slow=14,SNR=9.7							
BRTR	**Keskin Array B**	**9.64**	**52**	*i* P		**Pn**	**13 08 52.5**	**+0.7**
BRTR				pmax		pmax		
	comp=Z,3.0nm,0.7s							
BRTR	**Keskin Array B**	**9.64**	**52**	*i* P		**Pn**	**13 08 52.5**	**+0.7**
	comp=Z,3.0nm,0.7s							
ZAGS	**Zajecar**	**9.66**	**353**	*e*Pn		**Pn**	**13 08 51.0**	**-0.9**
HNKL	**Nakhl**	**9.68**	**113**	P		**Pn**	**13 08 50.2**	**-1.9**
	baz=115							
HNKL	**Nakhl**	**9.68**	**113**	P		**Pn**	**13 08 50.2**	**-1.9**
MMAI	**Mount Meron Ar**	**9.80**	**94**	Pn		**Pn**	**13 08 51.4**	**-2.5**
	comp=Z,3.5nm,0.3s,baz=282,slow=13,SNR=9.4							
MMAI				Sn		**Sn**	**13 10 37.1**	**-5.8**
	comp=Z,2.6nm,0.3s,baz=261,slow=29,SNR=3.0							
MMAI				LR		LR	13 14 38.1	
	comp=Z,206nm,20.4s,baz=270,slow=50							
STON	**Ston**	**9.86**	**333**	*e*Pn		**Pn**	**13 08 52.3**	**-2.2**
STON				Sn		Sn	13 10 34.8	-9.4
STON	**Ston**	**9.86**	**333**	*e*Pn		**Pn**	**13 08 52.3**	**-2.2**
ARNB	**Al Arnab**	**10.16**	**77**	*e*P		**Pn**	**13 08 57.4**	**-1.4**
ARNB	**Al Arnab**

OKC	**Ostrava-Krasne**	**16.15**	**347**	*e*P		**P**	**13 10 23.4**	**+0.7**
OKC				MLR		MLR		
	comp=Z,500nm,16.2s							
OKC	**Ostrava-Krasne**	**16.15**	**347**	*e*P		**P**	**13 10 23.4**	**+0.7**
	comp=Z,500nm,16.2s							
MOTA	**Moosalm**	**16.21**	**328**	*i* P		**P**	**13 10 22.7**	**-0.9**
	comp=Z,5.6nm,0.6s							
MOTA	**Moosalm**	**16.21**	**328**	P		**P**	**13 10 22.7**	**-0.9**
	comp=Z,5.6nm,0.6s							
MORC	**Moravsky Berou**	**16.21**	**345**	⇑*i*P		**P**	**13 10 23.8**	**+0.4**
MORC	**Moravsky Berou**	**16.21**	**345**	*e*P		**Pn**	**13 10 21.4**	**+0.9**
MORC				pmax		pmax		
	comp=Z,45nm,0.9s							
MORC	**Moravsky Berou**	**16.21**	**345**	*e*P		**Pn**	**13 10 21.4**	**+0.9**
	comp=Z,45nm,0.9s							
MORC	**Moravsky Berou**	**16.21**	**345**	*e*Pn		**Pn**	**13 10 21.4**	**+0.9**
	comp=Z,45nm,0.9s							
TREC	**Trest**	**16.27**	**340**	*e*P		**P**	**13 10 22.6**	**-1.4**
TREC				AMS		AMS	13 18 10.0	
	comp=Z,700nm,17.6s							
TREC	**Trest**	**16.27**	**340**	*e*P		**P**	**13 10 22.6**	**-1.4**
TREC				MLR		MLR		
	comp=Z,700nm,17.6s							
TREC	**Trest**	**16.27**	**340**	*e*P		**P**	**13 10 22.6**	**-1.4**
	comp=Z,700nm,17.6s							
DAVOX	**Davos/Dischmat**	**16.37**	**324**	Pn		**P**	**13 10 26.8**	**+1.5**
	comp=Z,0.8nm,0.3s,baz=185,slow=11,SNR=4.4							
GEA0	**GERESS Array S**	**16.41**	**336**	*e*Pn		**Pn**	**13 10 21.8**	**-1.3**
GEA0	**GERESS Array S**	**16.41**	**336**	*e*Pn		**Pn**	**13 10 21.8**	**-1.3**
TUE	**Stuetta**	**16.41**	**323**	*e*Pn		**Pn**	**13 10 23.1**	**-0.1**
	comp=Z,15nm,1.0s							
TUE	**Stuetta**	**16.41**	**323**	*e*Pn		**Pn**	**13 10 23.1**	**-0.1**
	comp=Z,15nm,1.0s							
GEC2	**GERESS Array S**	**16.42**	**336**	*e*P		**Pn**	**13 10 21.8**	**-1.4**
GEC2				pmax		pmax		
	comp=Z,17nm,1.0s							
GEC2	**GERESS Array S**	**16.42**	**336**	*e*Pn		**Pn**	**13 10 21.8**	**-1.4**
	comp=Z,17nm,1.0s							
GEC2	**GERESS Array S**	**16.42**	**336**	*e*Pn		**Pn**	**13 10 21.8**	**-1.4**
	comp=Z,17nm,1.0s							
GERES	**GERESS Array B**	**16.42**	**336**	Pn		**Pn**	**13 10 21.8**	**-1.4**
	comp=Z,0.5nm,0.3s,baz=149,slow=12,SNR=6.7							
GERES				LR		LR	13 18 33.6	
	comp=Z,382nm,18.6s,baz=140,slow=44							
RETA	**Reutte**	**16.47**	**328**	*i* P		**P**	**13 10 25.7**	**-0.6**
	comp=Z,3.7nm,0.8s							
RETA	**Reutte**	**16.47**	**328**	P		**P**	**13 10 25.7**	**-0.6**
	comp=Z,3.7nm,0.8s							
KRLC	**Kraliky**	**16.66**	**344**	*e*P		**P**	**13 10 29.9**	**+1.6**
KRLC				*e*pP		**pP**	**13 10 33.6**	**-2.3**
KRLC	**Kraliky**	**16.66**	**344**	*e*P		**P**	**13 10 29.9**	**+1.6**
KRLC	**Kraliky**	**16.66**	**344**	*e*P		**P**	**13 10 29.9**	**+1.6**
KHC	**Kasperske Hory**	**16.71**	**336**	*e*P		**P**	**13 10 28.9**	**0.0**
KHC				*e*pP		**pP**	**13 10 34.7**	**-1.7**
KHC				AMS		AMS	13 18 10.0	
	comp=Z,600nm,15.2s							
KHC	**Kasperske Hory**	**16.71**	**336**	*e*P		**P**	**13 10 28.9**	**0.0**
KHC				MLR		MLR		
	comp=Z,600nm,15.2s							
KHC	**Kasperske Hory**	**16.71**	**336**	*e*Pn		**Pn**	**13 10 25.9**	**-0.9**
	comp=Z,9.8nm,0.9s							
KHC	**Kasperske Hory**	**16.71**	**336**	*e*P		**P**	**13 10 28.9**	**0.0**
	comp=Z,600nm,15.2s							
KHC	**Kasperske Hory**	**16.71**	**336**	*e*Pn		**Pn**	**13 10 25.9**	**-0.9**
	comp=Z,9.8nm,0.9s							
AK11	**Malin Array Si**	**16.93**	**12**	*e*Pn		**Pn**	**13 10 28.2**	**-1.3**
AK11	**Malin Array Si**	**16.93**	**12**	*e*Pn		**Pn**	**13 10 28.2**	**-1.3**
KIEV	**Kiev**	**16.95**	**12**	⇑*i*P		**Pn**	**13 10 30.1**	**+0.3**
KIEV				pmax		pmax		
	comp=Z,4.0nm,0.6s							
KIEV	**Kiev**	**16.95**	**12**	*i* P		**Pn**	**13 10 30.1**	**+0.3**
	comp=Z,4.0nm,0.6s							
AKASG	**Malin Array Be**	**16.96**	**12**	Pn		**Pn**	**13 10 27.4**	**-2.5**
	comp=Z,2.9nm,0.3s,baz=210,slow=11,SNR=10.0							
AKASG	**Malin Array Be**	**16.96**	**12**	*ce*P		**Pn**	**13 10 29.7**	**-0.2**
AKASG				pmax		pmax		
	comp=Z,4.0nm,0.5s							
AKASG	**Malin Array Be**	**16.96**	**12**	*e*P		**Pn**	**13 10 29.7**	**-0.2**
	comp=Z,4.0nm,0.5s							
GOPC	**GO Pecny, Ondr**	**17.02**	**340**	*e*P		**P**	**13 10 33.2**	**+0.9**
GOPC				AMS		AMS	13 18 40.0	
	comp=Z,800nm,15.2s							
GOPC	**GO Pecny, Ondr**	**17.02**	**340**	*e*P		**P**	**13 10 33.2**	**+0.9**
GOPC				MLR		MLR		
	comp=Z,800nm,15.2s							
GOPC	**GO Pecny, Ondr**	**17.02**	**340**	*e*P		**P**	**13 10 33.2**	**+0.9**
	comp=Z,800nm,15.2s							
DPC	**Dobruska-Polom**	**17.02**	**344**	*e*P		**P**	**13 10 33.0**	**+0.6**
DPC				*e*pP		**pP**	**13 10 37.5**	**-2.4**
DPC				AMS		AMS	13 19 20.0	
	comp=Z,500nm,16.3s							
DPC	**Dobruska-Polom**	**17.02**	**344**	*e*P		**P**	**13 10 33.0**	**+0.6**
DPC				MLR		MLR		
	comp=Z,500nm,16.3s							
DPC	**Dobruska-Polom**	**17.02**	**344**	*e*P		**P**	**13 10 33.0**	**+0.6**
	comp=Z,500nm,16.3s							
PRU	**Pruhonice**	**17.16**	**340**	*e*P		**P**	**13 10 35.4**	**+1.6**
PRU				*e*pP		**pP**	**13 10 39.6**	**-1.8**
PRU				AMS		AMS	13 18 40.0	
	comp=Z,700nm,15.6s							
PRU	**Pruhonice**	**17.16**	**340**	*e*P		**P**	**13 10 35.4**	**+1.6**
PRU				MLR		MLR		
	comp=Z,700nm,15.6s							
PRU	**Pruhonice**	**17.16**	**340**	*e*P		**P**	**13 10 35.4**	**+1.6**
	comp=Z,700nm,15.6s							
UPC	**Upice**	**17.24**	**343**	AMS		AMS	13 19 00.0	
	comp=Z,600nm,17.0s							
PRA	**Prague**	**17.27**	**339**	*e*P		**P**	**13 10 36.8**	**+1.8**
PRA				AMS		AMS	13 18 40.0	
	comp=Z,600nm,13.9s							
PRA	**Prague**	**17.27**	**339**	*e*P		**P**	**13 10 36.8**	**+1.8**
PRA				MLR		MLR		
	comp=Z,600nm,13.9s							
PRA	**Prague**	**17.27**	**339**	*e*P		**P**	**13 10 36.8**	**+1.8**
	comp=Z,600nm,13.9s							
NEY	**Neytrino**	**17.31**	**53**	*i* P		**P**	**13 10 35.6**	**-0.2**
NEY				pmax		pmax		
	comp=Z,3.0nm,0.9s							
NEY	**Neytrino**	**17.31**	**53**	*i* P		**P**	**13 10 35.6**	**-0.2**
	comp=Z,3.0nm,0.9s							
KIV	**Kislovodsk**	**17.60**	**51**	*e*P		**P**	**13 10 38.6**	**-0.2**
KIV				pmax		pmax		
	comp=Z,15nm,1.1s							
KIV				MLR		MLR		
	comp=Z,84nm,14.0s							
KIV	**Kislovodsk**	**17.60**	**51**	*e*Pn		**Pn**	**13 10 37.4**	**-0.6**
KIV	**Kislovodsk**	**17.60**	**51**	*e*P		**P**	**13 10 38.6**	**-0.2**
	comp=Z,84nm,14.0s							
KIV	**Kislovodsk**	**17.60**	**51**	*e*Pn		**Pn**	**13 10 37.4**	**-0.6**
KVAR	**Kislovodsk Arr**	**17.61**	**51**	P		**Pn**	**13 10 37.8**	**-0.3**
	baz=215,slow=16,SNR=4.4							
KBZ	**Khabaz**	**17.64**	**52**	P		**Pn**	**13 10 38.5**	**+0.2**
	comp=Z,0.3nm,0.3s,baz=258,slow=9.3,SNR=14							
PVCC	**Panska Ves**	**17.64**	**340**	*e*P		**P**	**13 10 41.6**	**+2.5**
PVCC				*e*pP		**pP**	**13 10 45.4**	**-1.2**
PVCC				AMS		AMS	13 19 00.0	
	comp=Z,600nm,14.9s							
PVCC	**Panska Ves**	**17.64**	**340**	*e*P		**P**	**13 10 41.6**	**+2.5**
PVCC				MLR		MLR		
	comp=Z,600nm,14.9s							
PVCC	**Panska Ves**	**17.64**	**340**	*e*P		**P**	**13 10 41.6**	**+2.5**
	comp=Z,600nm,14.9s							
GNI	**Garni**	**17.74**	**64**	LR		LR	13 18 53.6	
	comp=Z,274nm,20.7s,baz=272,slow=42							
GNI	**Garni**	**17.74**	**64**	*e*P		**Pn**	**13 10 38.8**	**-1.0**
GNI				pmax		pmax		
	comp=Z,40nm,1.3s							
GNI	**Garni**	**17.74**	**64**	*e*P		**Pn**	**13 10 38.8**	**-1.0**
	comp=Z,40nm,1.3s							
ZEI	**Tsey**	**17.92**	**56**	*e*P		**Pn**	**13 10 42.1**	**0.0**
ZEI				pmax		pmax		
	comp=Z,22nm,1.1s							
NCK	**Nalchik**	**18.00**	**53**	*e*P		**P**	**13 10 43.2**	**+0.1**
NCK				pmax		pmax		
	comp=Z,13nm,0.3s							
NCK	**Nalchik**	**18.00**	**53**	*e*P		**P**	**13 10 43.2**	**+0.1**
	comp=Z,13nm,0.3s							
NKC	**Novy Kostel**	**18.03**	**336**	*e*P		**Pn**	**13 10 42.6**	**-0.6**
NKC				AMS		AMS	13 19 00.0	
	comp=Z,500nm,16.1s							
NKC	**Novy Kostel**	**18.03**	**336**	*e*P		**Pn**	**13 10 42.6**	**-0.6**
NKC				MLR		MLR		
	comp=Z,500nm,16.1s							
NKC	**Novy Kostel**	**18.03**	**336**	*e*P		**Pn**	**13 10 42.6**	**-0.6**
	comp=Z,500nm,16.1s							
VIVF	**Saint-Julien-l**	**18.11**	**312**	*e*P		**P**	**13 10 44.9**	**+0.6**
VIVF	**Saint-Julien-l**	**18.11**	**312**	*e*P		**P**	**13 10 44.9**	**+0.6**
BRG	**Berggiesshubel**	**18.12**	**340**	*e*P		**P**	**13 10 44.6**	**+0.2**
	comp=Z,10nm,0.9s							
BRG	**Berggiesshubel**	**18.12**	**340**	*e*P		**P**	**13 10 44.6**	**+0.2**
BRG				pmax		pmax		
	comp=Z,11nm,0.9s							
BRG				MLR		MLR		
	comp=Z,663nm,14.8s							
BRG				MLR		MLR		
	comp=N,545nm,16.2s							
BRG				MLR		MLR		
	comp=E,258nm,16.2s							
BRG	**Berggiesshubel**	**18.12**	**340**	*e*P		**P**	**13 10 44.6**	**+0.2**
	comp=E,663nm,14.8s							
BFO	**Black Forest**	**18.21**	**325**	*e*P		**P**	**13 10 46.1**	**+0.7**
BFO				pmax		pmax		
	comp=Z,12nm,1.1s							
BFO	**Black Forest**	**18.21**	**325**	*e*P		**P**	**13 10 46.1**	**+0.7**
	comp=Z,12nm,1.1s							
BFO	**Black Forest**	**18.21**	**325**	*e*Pn		**P**	**13 10 46.1**	**+0.7**
	comp=Z,12nm,1.1s							
HINF	**Hinteralfeld**	**18.58**	**322**	*e*P		**Pn**	**13 10 50.2**	**+0.3**
HINF	**Hinteralfeld**	**18.58**	**322**	*e*P		**Pn**	**13 10 50.2**	**+0.3**
CLL	**Collm**	**18.79**	**339**	*e*P		**P**	**13 10 50.9**	**-0.8**
CLL				pmax		pmax		
	comp=Z,21nm,1.3s							
CLL	**Collm**	**18.79**	**339**	*e*P		**P**	**13 10 50.9**	**-0.8**
	comp=Z,21nm,1.3s							
CLL	**Collm**	**18.79**	**339**	*e*P		**P**	**13 10 52.0**	**+0.3**
	comp=Z,7.0nm,0.9s							
CLL				*i* pP		**pP**	**13 10 55.5**	**-3.8**
CLL				*i* sP		**sP**	**13 11 01.4**	**-1.5**
CLL				Lm		MLR	13 19 00.0	
	comp=N,500nm,18.6s							
CLL				Lm		MLR	13 19 00.0	
	comp=E,200nm,21.3s							
CLL				Lm		MLR	13 19 00.0	
	comp=Z,600nm,18.0s							
CLL	**Collm**	**18.79**	**339**	*e*P		**P**	**13 10 50.9**	**-0.8**
	comp=Z,21nm,1.3s							
TNS	**Taunus Mts**	**19.54**	**330**	P		**Pn**	**13 11 03.6**	**+2.1**
AVF	**Avril sur Loir**	**19.89**	**315**	*e*P		**Pn**	**13 11 06.6**	**+1.1**
AVF				pmax		pmax		
	comp=Z,7.0nm,1.2s							
AVF	**Avril sur Loir**	**19.89**	**315**	*e*P		**Pn**	**13 11 06.6**	**+1.1**
	comp=Z,7.0nm,1.2s							
SSF	**Saint Saulge**	**19.95**	**316**	*e*P		**Pn**	**13 11 07.0**	**+0.8**
SSF				pmax		pmax		
	comp=Z,3.0nm,0.6s							
SSF	**Saint Saulge**	**19.95**	**316**	*e*P		**Pn**	**13 11 07.0**	**+0.8**
	comp=Z,3.0nm,0.6s							
RJF	**Les Rejaudoux**	**20.30**	**310**	*e*P		Pn	13 11 10.4	0.0
RJF				pmax		pmax		
	comp=Z,4.0nm,0.6s							
RJF	**Les Rejaudoux**	**20.30**	**310**	*e*P		Pn	13 11 10.4	0.0
	comp=Z,4.0nm,0.6s							
TCF	**Toulx Ste Croi**	**20.32**	**313**	*e*P		Pn	13 11 12.2	+1.6
TCF				pmax		pmax		
	comp=Z,11nm,1.5s							
VSR	**Storozhevoye**	**20.36**	**29**	*e*P		**P**	**13 11 06.2**	**-2.6**
VSR				pmax		pmax		
	comp=Z,10.0nm,0.5s							
LFF	**La Frestale**	**20.65**	**308**	*e*P		Pn	13 11 15.1	+0.6
LFF				pmax		pmax		
	comp=Z,4.0nm,0.5s							
MEM	**Membach**	**20.89**	**327**	P		Pn	13 11 16.4	-0.8
	comp=Z,11nm,1.3s							
MEM	**Membach**	**20.89**	**327**	P		Pn	13 11 16.4	-0.8
	comp=Z,11nm,1.3s							
BCLA	**Clavier**	**21.08**	**326**	P		**P**	**13 11 16.1**	**-0.6**
	comp=Z,15nm,1.9s							
BCLA	**Clavier**	**21.08**	**326**	P		**P**	**13 11 16.1**	**-0.6**
	comp=Z,15nm,1.9s							
DOU	**Dourbes**	**21.20**	**324**	P		**P**	**13 11 18.6**	**+0.7**
	comp=Z,12nm,0.8s							
DOU	**Dourbes**	**21.20**	**324**	P		**P**	**13 11 18.6**	**+0.7**
	comp=Z,12nm,0.8s							
IDID	**Didziasalis**	**21.21**	**5**	*e*P		**P**	**13 11 17.7**	**-0.3**
IDID	**Didziasalis**	**21.21**	**5**	*e*P		**P**	**13 11 17.7**	**-0.3**
	SNR=35							
IIGN	**Ignalina**	**21.21**	**4**	*e*P		**P**	**13 11 17.7**	**-0.3**
IIGN	**Ignalina**	**21.21**	**4**	*e*P		**P**	**13 11 17.7**	**-0.3**
	SNR=35							
ISAL	**Salakas**	**21.43**	**4**	*e*P		**P**	**13 11 20.0**	**-0.3**
ISAL	**Salakas**	**21.43**	**4**	*e*P		**P**	**13 11 20.0**	**-0.3**
	SNR=35							
IZAR	**Zarasai**	**21.61**	**4**	*e*P		**P**	**13 11 22.1**	**-0.2**
IZAR	**Zarasai**	**21.61**	**4**	*e*P		**P**	**13 11 22.1**	**-0.2**
	SNR=35							
SNF	**Seneffe**	**21.62**	**325**	P		**P**	**13 11 24.0**	**+1.5**
SNF	**Seneffe**	**21.62**	**325**	P		**P**	**13 11 24.0**	**+1.5**
MFF	**Saint Martin d**	**21.91**	**312**	*e*P		**P**	**13 11 25.9**	**+0.3**
MFF				pmax		pmax		
	comp=Z,5.0nm,0.7s							
MFF	**Saint Martin d**	**21.91**	**312**	*e*P		**P**	**13 11 25.9**	**+0.3**
	comp=Z,5.0nm,0.7s							
OBN	**Obninsk**	**22.73**	**19**	LR		LR	13 21 01.0	
	comp=Z,199nm,21.2s,baz=279,slow=38							
OBN	**Obninsk**	**22.73**	**19**	‖*e*P		**P**	**13 11 33.4**	**-0.9**
OBN				*e*			13 12 00.3	
OBN				*e*S		**S**	**13 15 39.1**	**-1.9**
OBN				pmax		pmax		
	comp=Z,48nm,1.3s							
OBN				MLR		MLR		
	comp=Z,179nm,16.0s							
OBN	**Obninsk**	**22.73**	**19**	*e*P		**P**	**13 11 33.6**	**-0.7**
OBN	**Obninsk**	**22.73**	**19**	*e*P		**P**	**13 11 33.6**	**-0.7**
ESDC	**Sonseca Array**	**22.76**	**292**	P		**P**	**13 11 35.2**	**+0.3**
	comp=Z,0.4nm,0.4s,baz=83,slow=9.9,SNR=4.8							
LDF	**La Druitiere**	**22.83**	**316**	*e*P		**P**	**13 11 35.6**	**+0.2**
LDF				pmax		pmax		
	comp=Z,13nm,0.7s							
LDF	**La Druitiere**	**22.83**	**316**	*e*P		**P**	**13 11 35.6**	**+0.2**
	comp=Z,13nm,0.7s							
MOS	**Moscow**	**23.57**	**20**	*e*P		**P**	**13 11 44.6**	**+1.8**
MOS	**Moscow**	**23.57**	**20**	*e*P		**P**	**13 11 44.6**	**+1.8**
MDT	**Midelt**	**23.66**	**275**	P		**P**	**13 11 45.3**	**+1.3**
	comp=Z,1.4nm,0.7s,baz=76,slow=15,SNR=4.2							
VSU	**Vasula**	**24.34**	**4**	*i* P		**P**	**13 11 49.3**	**-0.6**
VSU	**Vasula**	**24.34**	**4**	*i* P		**P**	**13 11 49.3**	**-0.6**
HFS	**Hagfors**	**26.76**	**349**	P		**P**	**13 12 10.8**	**-1.0**
	comp=Z,4.1nm,0.4s,baz=154,slow=11,SNR=23							
FINES	**FINESS Array B**	**27.29**	**2**	P		**P**	**13 12 14.8**	**-1.8**
	comp=Z,1.1nm,0.6s,baz=152,slow=13,SNR=6.6							
NB2	**NORSAR Subarra**	**28.04**	**347**	P		**P**	**13 12 22.9**	**-0.5**
	comp=Z,1.0nm,0.5s,SNR=6.8							
NB2	**NORSAR Subarra**	**28.04**	**347**	P		**P**	**13 12 22.9**	**-0.5**
	comp=Z,1.0nm,0.5s,baz=156,slow=9.3							
NOA	**NORSAR Array B**	**28.04**	**347**	P		**P**	**13 12 22.7**	**-0.7**
	comp=Z,0.8nm,0.5s,baz=158,slow=9.9,SNR=9.1							
NOA				LR		LR	13 26 37.9	
	comp=Z,168nm,18.9s,baz=165,slow=43							
EKA	**Eskdalemuir Ar**	**28.17**	**327**	P		**P**	**13 12 24.6**	**+0.2**
	comp=Z,3.9nm,0.6s,baz=128,slow=8.3,SNR=18							
KLMR	**Klimovskoe**	**28.55**	**16**	*e*P		**P**	**13 12 25.0**	**-2.8**
KLMR				pmax		pmax		
	comp=Z,12nm,1.2s							
TOA0	**Torodi Ar. Sit**	**28.98**	**229**	*e*P		**P**	**13 12 31.5**	**-0.6**
TOA0	**Torodi Ar. Sit**	**28.98**	**229**	*e*P		**P**	**13 12 31.5**	**-0.6**
TORD	**Torodi Ar. Bea**	**28.98**	**229**	P		**P**	**13 12 33.7**	**+1.6**
	comp=Z,1.8nm,0.6s,baz=35,slow=9.1,SNR=13							
TORD				LR		LR	13 25 09.5	
	comp=Z,118nm,19.5s,baz=85,slow=38							
AKTK	**Aktyubinsk**	**29.75**	**47**	P		**P**	**13 12 37.8**	**-0.8**
	comp=Z,3.0nm,0.6s							
AKTO	**Aktyubinsk**	**29.75**	**47**	P		**P**	**13 12 37.8**	**-0.8**
	comp=Z,2.9nm,0.6s,baz=257,slow=11,SNR=8.0							
ABKAR	**Akbulak array**	**30.58**	**50**	*e*P		**P**	**13 12 45.2**	**-0.7**
	comp=Z,0.9nm,0.4s							
ABKAR	**Akbulak array**	**30.58**	**50**	*e*P		**P**	**13 12 45.2**	**-0.7**
	comp=Z,0.9nm,0.4s							
ARU	**Arti**	**32.51**	**36**	*d i*P		**P**	**13 13 02.5**	**-0.3**
ARU							13 14 09.7	
ARU							13 15 43.9	
ARU				S		**S**	**13 18 18.1**	**+2.1**
ARU				SS		**SnSn**	**13 20 11.5**	**+0.9**
ARU				pmax		pmax		
	comp=Z,10.0nm,1.2s							
ARU	**Arti**	**32.51**	**36**	*i* P		**P**	**13 13 02.5**	**-0.3**
	comp=Z,10.0nm,1.2s							
ARU				S		**S**	**13 18 18.1**	**+2.1**
ARU	**Arti**	**32.51**	**36**	*e*P		**P**	**13 13 01.9**	**-0.9**
	comp=Z,8.5nm,0.9s							
SVE	**Sverdlovsk**	**33.71**	**36**	⇑*e*P		**P**	**13 13 13.1**	**-0.2**
SVE				pmax		pmax		
	comp=Z,20nm,1.0s							
SVE	**Sverdlovsk**	**33.71**	**36**	*e*P		**P**	**13 13 13.1**	**-0.2**
	comp=Z,20nm,1.0s							
KKAR	**Karatay Array**	**37.18**	**62**	*e*P		**P**	**13 13 43.5**	**+0.2**
KKAR				pmax		pmax		
	comp=Z,4.0nm,0.6s							
KKAR	**Karatay Array**	**37.18**	**62**	*e*P		**P**	**13 13 43.5**	**+0.2**
	comp=Z,4.1nm,0.6s							
KKAR	**Karatay Array**	**37.18**	**62**	*e*P		**P**	**13 13 43.5**	**+0.2**
	comp=Z,4.1nm,0.6s							
KMBO	**Kilima Mbogo**	**37.37**	**157**	LR		LR	13 30 48.2	
	comp=Z,108nm,18.2s,baz=86,slow=39							
BRVK	**Borovoye**	**37.79**	**46**	*ce*P		**P**	**13 13 49.3**	**+1.0**
BRVK				pmax		pmax		
	comp=Z,15nm,2.5s							
BRVK	**Borovoye**	**37.79**	**46**	*e*P		**P**	**13 13 49.3**	**+1.0**
	comp=Z,15nm,2.5s							
DBIC	**Dimbokro**	**38.06**	**230**	P		**P**	**13 13 52.2**	**+1.2**
	comp=Z,2.8nm,0.6s,baz=20,slow=9.5,SNR=6.3							
TIC	**Toumodi**	**38.19**	**231**	*e*P		**P**	**13 13 53.6**	**+1.5**
KIC	**Kosan Boka**	**38.23**	**230**	*e*P		**P**	**13 13 54.3**	**+1.9**
	comp=Z,5.6nm,0.2s							
LIC	**Lamto**	**38.51**	**230**	*e*P		**P**	**13 13 56.7**	**+1.9**
	comp=Z,42nm,1.6s							
AAK	**Ala-Archa**	**40.13**	**62**	*i* P		**P**	**13 14 09.6**	**+1.3**
AAK				pmax		pmax		
	comp=Z,14nm,1.0s							
AAK	**Ala-Archa**	**40.13**	**62**	*e*P		**P**	**13 14 09.0**	**+0.7**
	comp=Z,6.0nm,1.0s							
AAK	**Ala-Archa**	**40.13**	**62**	*e*P		**P**	**13 14 09.0**	**+0.7**
	comp=Z,6.0nm,1.0s							
KURK	**Kurchatov**	**42.69**	**50**	*ce*P		**P**	**13 14 29.0**	**+0.1**
KURK				pmax		pmax		
	comp=Z,27nm,1.2s							
KURK	**Kurchatov**	**42.69**	**50**	*e*P		**P**	**13 14 29.0**	**+0.1**
	comp=Z,27nm,1.2s							
KURK	**Kurchatov**	**42.69**	**50**	*e*P		**P**	**13 14 27.6**	**-1.3**
	comp=Z,5.0nm,0.7s							
MAKZ	**Makanchi**	**45.06**	**56**	*e*P		**P**	**13 14 48.2**	**+0.1**
MAKZ				pmax		pmax		
	comp=Z,8.0nm,1.3s							
MAKZ	**Makanchi**	**45.06**	**56**	*e*P		**P**	**13 14 48.2**	**+0.1**
	comp=Z,7.8nm,1.3s							
MAKZ	**Makanchi**	**45.06**	**56**	*e*P		**P**	**13 14 48.2**	**+0.1**
	comp=Z,7.8nm,1.3s							
MK31	**Makanchi Array**	**45.27**	**56**	*e*P		**P**	**13 14 50.0**	**+0.2**
MK31	**Makanchi Array**	**45.27**	**56**	*e*P		**P**	**13 14 50.0**	**+0.2**
MK31	**Makanchi Array**	**45.27**	**56**	*e*P		**P**	**13 14 50.0**	**+0.2**
MKAR	**Makanchi Array**	**45.27**	**56**	P		**P**	**13 14 50.2**	**+0.5**
	comp=Z,4.9nm,0.5s,baz=276,slow=7.2,SNR=62							
MKAR	**Makanchi Array**	**45.27**	**56**	*e*P		**P**	**13 14 50.0**	**+0.2**
MKAR				pmax		pmax		
	comp=Z,52nm,0.6s							
MKAR	**Makanchi Array**	**45.27**	**56**	*e*P		**P**	**13 14 50.0**	**+0.2**
	comp=Z,52nm,0.6s							
MKAR	**Makanchi Array**	**45.27**	**56**	*e*P		**P**	**13 14 50.0**	**+0.2**
	comp=Z,52nm,0.6s							
MK01	**Makanchi Array**	**45.28**	**56**	*e*P		**P**	**13 14 50.0**	**+0.1**
MK01	**Makanchi Array**	**45.28**	**56**	*e*P		**P**	**13 14 50.0**	**+0.1**
NVS	**Novosibirsk**	**45.58**	**44**	‖*i*P		**P**	**13 14 52.7**	**+0.6**
NVS				pmax		pmax		
	comp=Z,12nm,1.3s							
NVS				pmax		pmax		
	comp=N,8.0nm,1.1s							
NVS	**Novosibirsk**	**45.58**	**44**	*i* P		**P**	**13 14 52.7**	**+0.6**
	comp=N,8.0nm,1.1s							
ZAA0	**Zalesovo Array**	**46.50**	**45**	*e*P		**P**	**13 14 58.8**	**-0.5**
ZAA0	**Zalesovo Array**	**46.50**	**45**	*e*P		**P**	**13 14 58.9**	**-0.5**
ZALV	**Zalesovo Beam**	**46.50**	**45**	P		**P**	**13 14 58.5**	**-0.8**
	comp=N,1.4nm,0.3s,baz=274,slow=9.3,SNR=9.1							
DGZ	**Jazzator, Alta**	**48.38**	**51**	*i* P		**P**	**13 15 14.6**	**+0.4**
DGZ				pmax		pmax		
	comp=Z,3.0nm,1.4s							
WMQ	**Urumqi**	**49.49**	**59**	P		**P**	**13 15 24.3**	**+1.6**
WMQ				pP		**sP**	**13 15 34.3**	**-0.4**
WMQ				sP		**pP**	**13 15 38.3**	**+7.0**
PYUN	**Piuthan

PMG				Sn		Sb	13 09 48.0	+0.7
	13nm,0.3s,baz=18,slow=20,SNR=13							
WRA	**Warramunga Arr**	**17.75**	**224**	P		Pn	13 12 52.4	-1.5
	0.1nm,0.3s,baz=51,slow=12,SNR=7.4							
ASAR	**Alice Springs**	**20.70**	**217**	P		P	13 13 25.8	-1.3
	0.8nm,0.8s,baz=46,slow=10,SNR=12							
TORD	**Torodi Ar. Bea**	**145.80**	**282**	PKPbc		PKPbc	13 28 27.2	-0.1
	0.4nm,0.6s,baz=73,slow=2.8,SNR=2.8							

SCB ***27*** *13:17:07.2±0.5,20°.45S×72°.26W,h32km,Ml3.7/2,Error ellipse: s-maj=11.9km s-min=6.0km az=70.0*
IDC ***27*** *13:17:12.8±2.9,20°.92S×71°.44W,h0km,mb3.6/1, mb1 3.5/2,mb1mx3.4/17,mbtmp3.5/2,ML3.2/1,Error ellipse: s-maj=130.0km s-min=46.4km az=119.0*
GUC ***27*** *13:17:22.0±0.7,20°.11S×70°.85W,h24km±4km,ML3.7*
ISC 27 13:17:19.0±1.8,20°.01S±0'.04×70°.92W±0'.08,h16km±10km, n19,σ1°35/32,12C-4D,Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PSGC	**Pisagua**	**0.86**	**61**	⇓*iP*	**Pn**	**13 17 36.9**	**+0.4**
PSGC				*i* S	**Sn**	**13 17 48.9**	**0.0**
HMBC	**Humberstone**	**1.00**	**105**	⇓*iP*	**Pn**	**13 17 38.4**	**-0.2**
HMBC				*i* S	**Sg**	**13 17 50.5**	**-1.2**
HMBC				IAML		13 17 53.0	
	comp=N,2μm,0.5s						
PB11	**IPOC Station P**	**1.22**	**78**	⇓*iP*	**Pg**	**13 17 42.4**	**-0.1**
PB11				*i* S	**Sn**	**13 17 58.4**	**+0.6**
PB11				IAML		13 17 59.8	
	comp=E,7μm,0.7s						
PB12	**IPOC Station P**	**1.50**	**22**	⇑*iP*	**Pg**	**13 17 48.9**	**+1.0**
PB12				*i* S	**Sg**	**13 18 09.5**	**+2.1**
PB12				IAML		13 18 13.2	
	comp=N,3μm,0.7s						
MNMC	**Minye Minye**	**1.53**	**55**	⇑*iP*	**Pg**	**13 17 48.4**	**0.0**
MNMC				*i* S	**Sg**	**13 18 09.1**	**+0.8**
MNMC				IAML		13 18 10.2	
	comp=N,3μm,0.5s						
PB08	**IPOC Station P**	**1.67**	**95**	⇑*iP*	**Pb**	**13 17 49.7**	**+0.2**
PB08				*i* S	**Sb**	**13 18 10.7**	**+0.3**
PB08				IAML		13 18 16.7	
	comp=N,691nm,0.5s						
PB01	**IPOC Station P**	**1.69**	**128**	⇑*iP*	**Pb**	**13 17 49.3**	**-0.5**
PB01				*i* S	**Sn**	**13 18 09.5**	**+0.1**
PB01				IAML		13 18 18.2	
	comp=N,535nm,0.7s						
PB07	**IPOC Station P**	**1.96**	**151**	*eP*	**Pn**	**13 17 52.1**	**+0.3**
PB07				*i* S	**Sb**	**13 18 18.1**	**-0.7**
PB13	**IPOC Station P**	**2.14**	**39**	⇓*iP*	**Pg**	**13 17 59.7**	**-0.4**
PB13				*i* S	**Sg**	**13 18 28.9**	**+1.0**
PB09	**IPOC Station P**	**2.37**	**139**	⇑*iP*	**Pn**	**13 17 59.4**	**+2.0**
PB09				*i* S	**Sb**	**13 18 29.9**	**-0.7**
PB09				IAML		13 18 38.8	
	comp=E,2μm,0.8s						
BBOJ	**La Paz, Jacaqu**	**3.98**	**41**	⇑*i*Pn	**Pb**	**13 18 29.5**	**+0.4**
BBOD	**La Paz, Gloria**	**4.02**	**34**	⇑*i*Pn	**Pb**	**13 18 29.8**	**0.0**
BBOD				⇑*i*Sn	**Sg**	**13 19 28.6**	**+0.5**
	comp=E,59nm,0.8s						
BBOE	**La Paz, Chanca**	**4.23**	**42**	⇑*i*Pn	**Pb**	**13 18 33.2**	**-0.2**
LPAZ	**La Paz**	**4.55**	**36**	Pn	**Pb**	**13 18 36.9**	**-2.1**
	comp=E,0.4nm,0.3s,baz=219,slow=7.7,SNR=7.1						
LPAZ				Sn	**Sg**	**13 19 45.4**	**0.0**
	comp=E,0.2nm,0.3s,baz=68,slow=19,SNR=1.9						
LPAZ	**La Paz**	**4.55**	**36**	⇑*i*Pn	**Pb**	**13 18 37.0**	**-2.0**
BBOB	**La Paz, Bander**	**4.67**	**35**	⇑*i*Pn	**Pb**	**13 18 38.4**	**-2.6**
BBOB				⇑*i*Sn	**Sg**	**13 19 45.2**	**-4.0**
	comp=E,19nm,0.6s						
MOCB	**Mochara**	**5.10**	**105**	*eP*	Pn	13 18 40.2	+5.0
MOCB				*eS*	**Sb**	**13 19 51.1**	**+1.7**
TORD	**Torodi Ar. Bea**	**78.65**	**71**	P	**P**	**13 29 21.4**	**+0.5**
	comp=E,0.4nm,0.7s,baz=235,slow=4.5,SNR=3.0						
MKAR	**Makanchi Array**	**145.48**	**33**	PKPbc	**PKPbc**	**13 36 55.4**	**-1.1**
	comp=E,0.6nm,1.0s,baz=331,slow=1.8,SNR=2.4						

ISCJB ***27*** *13:24:11.6±0.8,21°.60S±0'.04×68°.6W±0°.1,h140km±11km, mb3.2/1,Error ellipse: s-maj=21.4km s-min=6.3km az=5.2*
GUC ***27*** *13:24:11.8±0.6,21°.58S×68°.58W,h131km±4km,ML3.2*
IDC ***27*** *13:24:13.0±9.0,21°.57S×67°.68W,h110km±69km,mb3.3/1, mb1 3.2/2,mb1mx3.1/15,mbtmp3.6/2,Error ellipse: s-maj=127.2km s-min=65.9km az=74.0*
ISC 27 13:24:12.3±1.2,21°.59S±0'.05×68°.6W±0°.1,h134km±11km, n14,σ0°49/25,9C,Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PB09	**IPOC Station P**	**0.65**	**252**	⇑*iP*	**Pn**	**13 24 32.7**	**-0.2**
PB09				*i* S	**Sn**	**13 24 48.4**	**-0.2**
PB01	**IPOC Station P**	**1.01**	**302**	⇑*iP*	**Pn**	**13 24 35.5**	**-0.3**
PB01				*i* S	**Sn**	**13 24 53.1**	**-0.4**
PB01				IAML		13 24 54.5	
	comp=N,273nm,0.6s						
PB07	**IPOC Station P**	**1.23**	**263**	⇑*iP*	**Pn**	**13 24 38.0**	**+0.1**
PB07				*i* S	**Sn**	**13 24 58.1**	**+0.6**
PB07				IAML		13 24 59.8	
	comp=E,709nm,0.2s						
PB06	**IPOC Station P**	**1.45**	**220**	⇑*iP*	**Pn**	**13 24 40.2**	**-0.1**
PB06				*i* S	**Sn**	**13 25 01.7**	**+0.2**
PB06				IAML		13 25 02.6	
	comp=E,330nm,0.7s						
PB08	**IPOC Station P**	**1.54**	**339**	⇑*iP*	**Pn**	**13 24 42.2**	**+0.6**
PB08				*i* S	**Sn**	**13 25 04.5**	**+0.7**
PB04	**IPOC Station P**	**1.64**	**243**	⇑*iP*	**Pn**	**13 24 42.5**	**+0.1**
PB04				*eS*	**Sn**	**13 25 06.1**	**+0.7**
HMBC	**Humberstone**	**1.79**	**317**	⇑*iP*	**Pn**	**13 24 44.2**	**0.0**
HMBC				*i* S	**Sn**	**13 25 08.6**	**+0.1**
HMBC				IAML		13 25 09.2	
	comp=E,214nm,0.6s						
PB11	**IPOC Station P**	**2.08**	**331**	⇑*iP*	**Pn**	**13 24 47.5**	**-0.2**
PB11				*i* S	**Sn**	**13 25 15.0**	**+0.2**
PSGC	**Pisagua**	**2.46**	**324**	⇑*iP*	**Pn**	**13 24 51.7**	**-0.5**
PSGC				*i* S	**Sn**	**13 25 22.7**	**-0.2**
MNMC	**Minye Minye**	**2.63**	**338**	*eP*	**Pn**	**13 24 54.6**	**0.0**
MNMC				*eS*	**Sn**	**13 25 27.6**	**+0.5**
MNMC				IAML		13 25 30.0	
	comp=N,189nm,0.2s						
PB10	**IPOC Station P**	**2.65**	**223**	*eP*	**Pn**	**13 24 55.2**	**+0.6**
LPAZ	**La Paz**	**5.29**	**5**	P	**Pn**	**13 25 30.6**	**+0.6**
	comp=N,0.8nm,0.3s,baz=179,slow=4.4,SNR=14						
LPAZ				S	**Sn**	**13 26 30.6**	**+0.2**
	comp=N,0.1nm,0.3s,baz=198,slow=20,SNR=1.3						
TORD	**Torodi Ar. Bea**	**77.09**	**70**	P	**P**	**13 35 50.3**	**-1.0**
	comp=N,0.4nm,0.6s,baz=248,slow=5.1,SNR=3.4						
MKAR	**Makanchi Array**	**145.52**	**36**	PKPbc	**PKPab**	**13 43 35.9**	**+0.6**
	comp=N,0.1nm,0.4s,baz=280,slow=2.7,SNR=4.2						

NNC ***27*** *13:26:06.3±15.0,42°.66N×82°.76E,h0km,mb3.0,mpv2.5, Error ellipse: s-maj=117.8km s-min=35.2km az=136.0*
SOME ***27*** *13:26:17.9,43°.08N×82°.50E,h25km*
ISC 27 13:26:26.0±3.2,43°.1N±0°.1×82°.5E±0°.1,h35km,n9, σ3°04/16,3C-2D,Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PDGK	**Podgornoye**	**2.19**	**277**	⇑Pg	Pn	13 26 51.9	-8.0
	3.5nm,1.2s						
PDGK				⇓Lg	Lg	13 27 25.9	
	24nm,0.7s						
DJR	**Jarkent**	**2.29**	**303**	*eP*	**Pn**	**13 26 59.8**	**-1.6**
	3.4nm,0.3s						
DJR				*eS*	**Sn**	**13 27 30.8**	**+2.4**
	6.1nm,0.2s						
UZB	**Uzynbulak**	**2.52**	**272**	*eP*	**Pn**	**13 27 01.1**	**-3.4**
	1.5nm,0.3s						
UZB				*eS*	**Sn**	**13 27 33.3**	**-0.9**
	5.9nm,0.4s						
KPKS	**Kokpek**	**2.79**	**279**	*eP*	**Pn**	**13 27 07.3**	**-0.8**
	3.0nm,0.2s						
KPKS				*eS*	**Sn**	**13 27 43.9**	**+3.3**
	16nm,0.3s						
SATY	**Saty**	**2.98**	**270**	*eP*	**Pn**	**13 27 11.4**	**+0.7**
	2.2nm,0.2s						
SATY				*eS*	**Sn**	**13 27 51.1**	**+5.8**
	6.8nm,0.1s						
MNBS	**Baschi**	**3.11**	**290**	*eP*	**Pn**	**13 27 09.0**	**-3.6**
	1.7nm,0.3s						
MNBS				*eS*	**Sn**	**13 27 46.8**	**-1.8**
	4.5nm,0.3s						
KAPS	**Kapalarasan**	**3.12**	**315**	*eP*	**Pn**	**13 27 11.6**	**-1.1**
	0.7nm,0.2s						
KAPS				*eS*	**Sn**	**13 27 51.1**	**+2.3**
	2.5nm,0.3s						
MK31	**Makanchi Array**	**3.69**	**358**	Pg	**Pn**	**13 27 20.9**	**+0.4**
	0.3nm,0.3s,baz=167,slow=17,SNR=14						
MK31				Sn	**Sn**	**13 28 05.6**	**+2.9**
	0.4nm,0.3s,baz=175,slow=14,SNR=8.5						
MK31				⇑Lg	Lg	13 28 14.0	
	1.4nm,0.5s,baz=172,slow=28,SNR=4.8						
MAKZ	**Makanchi**	**3.71**	**355**	⇓Pg	**Pn**	**13 27 21.7**	**+0.9**
	1.0nm,0.7s						
MAKZ				⇑Sn	**Sn**	**13 27 58.8**	**-4.6**
	1.9nm,1.1s						

ATH ***27*** *13:31:01.4,34°.18N×23°.13E,h14km±2km,ML3.1/4,Error ellipse: s-maj=9.4km s-min=2.6km az=325.0*
CSEM ***27*** *13:31:02.3±1.0,34°.28N×23°.07E,h2km,ML2.9,Error ellipse: s-maj=26.9km s-min=20.3km az=148.0*
THE ***27*** *13:31:04.5,34°.38N×23°.16E,h0km±3km,ML2.9/6,Error ellipse: s-maj=7.7km s-min=2.6km az=299.0*
IDC ***27*** *13:31:06.0±1.6,34°.04N×24°.04E,h0km,mb3.3/2, mb1 3.3/3,mb1mx3.2/35,mbtmp3.3/3,ML3.9/1,Error ellipse: s-maj=92.8km s-min=27.3km az=136.0*
ISC 27 13:31:11.0±1.3,34°.5N±0°.1×23°.28E±0°.1,h35km,n21, σ2°11/24,Crete

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GVD	**Gavdhos**	**0.75**	**62**	P	Pn	13 31 20.7	-4.4
GVD				S	**Sn**	**13 31 35.2**	**0.0**
GVD	**Gavdhos**	**0.75**	**62**	P	Pn	13 31 20.7	-4.4
GVD				S	**Sn**	**13 31 35.2**	**0.0**
GVD	**Gavdhos**	**0.75**	**62**	P	Pn	13 31 20.6	-4.4
GVD				S	**Sn**	**13 31 35.1**	**0.0**
GVD				AML	AML	13 31 40.1	
	comp=N,2995μm,0.7s						
GVD				AML	AML	13 31 40.5	
	comp=E,2486μm,0.7s						
IMMV	**Iera Moni Meta**	**1.12**	**31**	P	**Pn**	**13 31 27.8**	**-2.4**
IMMV	**Iera Moni Meta**	**1.12**	**31**	P	**Pn**	**13 31 27.8**	**-2.4**
IMMV	**Iera Moni Meta**	**1.12**	**31**	P	**Pn**	**13 31 27.5**	**-2.7**
VAM	**Vamos**	**1.18**	**39**	P	**Pn**	**13 31 30.2**	**-0.8**
VAM	**Vamos**	**1.18**	**39**	P	**Pn**	**13 31 30.2**	**-0.8**
VAM	**Vamos**	**1.18**	**39**	P	**Pn**	**13 31 30.6**	**-0.4**
VAM				AML	AML	13 31 59.6	
	comp=N,923μm,0.6s						
VAM				AML	AML	13 32 03.0	
	comp=E,946μm,0.7s						
SIVA	**Sivas**	**1.36**	**67**	P	**Pn**	**13 31 31.9**	**-1.6**
SIVA	**Sivas**	**1.36**	**67**	P	**Pn**	**13 31 31.9**	**-1.6**
SIVA	**Sivas**	**1.36**	**67**	P	**Pn**	**13 31 31.9**	**-1.6**
SIVA				AML	AML	13 31 54.7	
	comp=E,1690μm,0.6s						
SIVA				AML	AML	13 31 57.8	
	comp=N,1219μm,0.8s						
IDI	**Anoyia**	**1.54**	**59**	P	**Pn**	**13 31 34.5**	**-1.6**
IDI				S	**Sn**	**13 31 58.2**	**+3.3**
IDI	**Anoyia**	**1.54**	**59**	P	**Pn**	**13 31 34.4**	**-1.6**
IDI				S	**Sn**	**13 31 58.6**	**+3.7**
IDI	**Anoyia**	**1.54**	**59**	P	**Pn**	**13 31 34.4**	**-1.6**
IDI				S	**Sn**	**13 31 58.6**	**+3.7**
IDI				AML	AML	13 32 03.9	
	comp=N,226μm,1.0s						
IDI				AML	AML	13 32 20.7	
	comp=E,218μm,0.9s						
LAST	**Lasithi**	**1.93**	**69**	P	**Pn**	**13 31 39.6**	**-1.7**
LAST	**Lasithi**	**1.93**	**69**	P	**Pn**	**13 31 39.6**	**-1.7**
LAST	**Lasithi**	**1.93**	**69**	P	**Pn**	**13 31 39.1**	**-2.3**
AKASG	**Malin Array Be**	**16.77**	**13**	P	**P**	**13 35 06.2**	**+1.4**
	comp=E,0.4nm,0.3s,baz=205,slow=10,SNR=2.5						
TORD	**Torodi Ar. Bea**	**28.89**	**228**	P	**P**	**13 37 08.2**	**+1.6**
	comp=E,0.3nm,0.8s,baz=33,slow=9.5,SNR=2.4						
MKAR	**Makanchi Array**	**45.43**	**56**	P	**P**	**13 39 24.3**	**-2.0**
	comp=E,0.2nm,0.5s,baz=273,slow=7.6,SNR=3.4						

CSEM ***27*** *13:38:28.5±0.1,47°.21N×14°.64E,h2km,ML3.0/16,Error ellipse: s-maj=2.1km s-min=1.7km az=97.0*
VIE ***27*** *13:38:28.6±0.1,47°.18N×14°.63E,h4km±3km,mb2.0/9, ML2.5/11,Error ellipse: s-maj=1.3km s-min=1.1km az=1.0*
BGR ***27*** *13:38:29.3±0.3,47°.21N×14°.66E,h10km,ML2.4/11,Error ellipse: s-maj=5.6km s-min=4.4km az=63.0*
PRU ***27*** *13:38:29.1,47°.23N×14°.64E,h0km*
ISC 27 13:38:29.0±0.9,47°.17N±0°.02×14°.66E±0°.02,h16km±8km, n69,σ1°50/105,1C-6D,Austria

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SOKA	**Soboth**	**0.55**	**153**	Pg	**Pb**	**13 38 40.2**	**-0.2**
	3.1nm,0.1s,SNR=7.5						
SOKA				Sg	**Sb**	**13 38 47.6**	**-0.6**
	32nm,0.1s						
ARSA	**Arzberg**	**0.59**	**82**	*eP*g	**Pg**	**13 38 40.5**	**-0.2**
	SNR=16						
ARSA				*eS*g	**Sg**	**13 38 48.5**	**-0.1**
	SNR=5.4						
ARSA	**Arzberg**	**0.59**	**82**	Pg	**Pg**	**13 38 40.5**	**-0.2**
	22nm,0.2s,SNR=22						
ARSA				Sg	**Sg**	**13 38 48.5**	**-0.1**
	17nm,0.1s						
PERS	**Pernice**	**0.62**	**150**	*i* Pg	**Pg**	**13 38 41.2**	**0.0**
PERS				*eS*g	**Sb**	**13 38 49.6**	**-0.4**
	comp=Z,65nm,0.1s						
PERS	**Pernice**	**0.62**	**150**	*i* Pg	**Pg**	**13 38 41.2**	**0.0**
PERS				*eS*g	**Sb**	**13 38 49.6**	**-0.4**
	comp=Z,65nm,0.1s						
OBKA	**Obir**	**0.67**	**187**	*eP*g	**Pb**	**13 38 42.4**	**0.0**
OBKA	SNR=50						
	SNR=5.0			*eS*g	**Sb**	**13 38 52.2**	**+0.8**
OBKA	**Obir**	**0.67**	**187**	Pg	**Pb**	**13 38 42.4**	**0.0**
	comp=Z,48nm,0.2s,SNR=67						
OBKA				Sg	**Sb**	**13 38 51.6**	**+0.2**
	comp=Z,14nm,0.1s						
MOA	**Molln**	**0.73**	**338**	*eP*g	**Pb**	**13 38 42.7**	**-0.8**
	SNR=17						
MOA				*eS*g	**Sg**	**13 38 52.9**	**-0.1**
	SNR=4.7						
MOA	**Molln**	**0.73**	**338**	Pg	**Pb**	**13 38 42.7**	**-0.8**
	SNR=14						
MYKA	**Terra Mystica**	**0.89**	**233**	Pg	**Pb**	**13 38 45.7**	**-0.4**
	comp=Z,1.7nm,0.1s,SNR=5.0						
MYKA				Sg	**Sb**	**13 38 57.1**	**-0.6**
	comp=Z,8.6nm,0.1s,SNR=12						
MOZS	**Mozjanca**	**0.89**	**190**	⇓*i*Pg	**Pg**	**13 38 46.4**	**+0.1**
MOZS				*eS*g	**Sg**	**13 38 58.3**	**+0.3**
MOZS	**Mozjanca**	**0.89**	**190**	⇓*i*Pg	**Sg**	**13 38 46.4**	**+0.1**
MOZS				*eS*g	**Sg**	**13 38 58.3**	**+0.3**
KBA	**Koelnbreinsper**	**0.91**	**265**	*eP*g	**Pb**	**13 38 45.2**	**-1.3**
	SNR=10						
KBA				*eS*g	**Sb**	**13 38 57.7**	**-0.7**
	SNR=3.0						
KBA	**Koelnbreinsper**	**0.91**	**265**	Pg	**Pb**	**13 38 45.2**	**-1.3**
	comp=Z,5.8nm,0.1s,SNR=11						
KBA				Sg	**Sb**	**13 38 57.5**	**-0.9**
	comp=Z,16nm,0.2s						
GROS	**Grobnik**	**0.91**	**141**	*eP*g	**Pg**	**13 38 46.7**	**-0.1**
GROS	**Grobnik**	**0.91**	**141**	*eP*g	**Pg**	**13 38 46.7**	**-0.1**
GORS	**Gorjuse**	**0.97**	**209**	⇓*i*Pg	**Pg**	**13 38 47.6**	**-0.2**
GORS				*eS*g	**Sg**	**13 39 00.2**	**-0.3**
GORS	**Gorjuse**	**0.97**	**209**	⇓*i*Pg	**Pg**	**13 38 47.6**	**-0.2**
GORS				*eS*g	**Sg**	**13 39 00.2**	**-0.3**
ACOM	**Acomizza, Ital**	**1.01**	**232**	*eP*g	**Pb**	**13 38 48.1**	**-0.1**
ACOM				*eS*g	**Sb**	**13 39 01.1**	**-0.2**
ACOM	**Acomizza, Ital**	**1.01**	**232**	*eP*g	**Pb**	**13 38 48.1**	**-0.1**
ACOM				*eS*g	**Sb**	**13 39 01.1**	**-0.2**
LSR	**Lussari**	**1.04**	**229**	*eP*g	**Pg**	**13 38 49.7**	**+0.4**
LSR	**Lussari**	**1.04**	**229**	*eP*g	**Pg**	**13 38 49.7**	**+0.4**
VNDS	**Vrh nad Dolski**	**1.07**	**179**	⇓*i*Pg	**Pg**	**13 38 49.8**	**+0.1**
VNDS				*eS*g	**Sn**	**13 39 03.6**	**-0.3**
VNDS	**Vrh nad Dolski**	**1.07**	**179**	⇓*i*Pg	**Pg**	**13 38 49.8**	**+0.1**
VNDS				*eS*g	**Sn**	**13 39 03.7**	**-0.3**
CONA	**Conrad Observa**	**1.11**	**46**	Pg	**Pb**	**13 38 50.1**	**+0.1**
	comp=Z,4.3nm,0.2s						
CONA				Sg	**Sn**	**13 39 05.4**	**+0.3**
	comp=Z,18nm,0.2s						
CRNS	**Crni Vrh**	**1.12**	**194**	*i* Pg	**Pg**	**13 38 50.8**	**0.0**
CRNS	**Crni Vrh**	**1.12**	**194**	*i* Pg	**Pg**	**13 38 50.8**	**0.0**
CADS	**Cadrg**	**1.14**	**214**	*i* Pg	**Pn**	**13 38 50.5**	**+0.1**
CADS				*eS*g	**Sn**	**13 39 05.4**	**-0.3**
	comp=Z,42nm,0.3s						
CADS	**Cadrg**	**1.14**	**214**	*i* Pg	**Pn**	**13 38 50.5**	**+0.1**
CADS				*eS*g	**Sn**	**13 39 05.4**	**-0.3**
	comp=Z,42nm,0.3s						
PLRO	**Paularo**	**1.21**	**240**	*eP*g	**Pg**	**13 38 52.5**	**+0.1**
PLRO	**Paularo**	**1.21**	**240**	*eP*g	**Pg**	**13 38 52.5**	**+0.1**
DRE	**Drenchia**	**1.22**	**216**	*eP*g	**Pg**	**13 38 52.7**	**+0.1**
DRE				*eS*g	**Sn**	**13 39 07.7**	**-0.1**
DRE	**Drenchia**	**1.22**	**216**	*eP*g	**Pg**	**13 38 52.7**	**+0.1**
DRE				*eS*g	**Sn**	**13 39 07.7**	**-0.1**
ZOU	**Zoufplan**	**1.31**	**243**	*eP*g	**Pg**	**13 38 54.1**	**-0.3**
ZOU	**Zoufplan**	**1.31**	**243**	*eP*g	**Pg**	**13 38 54.1**	**-0.3**
ZOU	**Zoufplan**	**1.31**	**243**	*eP*g	**Pg**	**13 38 54.1**	**-0.3**
RJOB	**Jochberg**	**1.39**	**295**	*eP*n	**Pb**	**13 38 55.2**	**+0.5**
	SNR=4.9						
RJOB				*eP*g	**Pg**	**13 38 56.6**	**+0.8**
	SNR=13						
RJOB				*eS*n	**Sg**	**13 39 14.0**	**+0.1**
	SNR=1.3						
RJOB				*eS*g	**Sb**	**13 39 15.4**	**+3.2**
	SNR=5.9						
RJOB	**Jochberg**	**1.39**	**295**	Pn	**Pb**	**13 38 55.2**	**+0.5**
	SNR=4.9						
RJOB	**Jochberg**	**1.39**	**295**	Pg	**Pg**	**13 38 56.6**	**+0.8**
	SNR=13						
RJOB				Sn	**Sg**	**13 39 14.0**	**+0.1**
	SNR=1.3						
SABO	**M.te Sabotino**	**1.40**	**212**	*eP*g	**Pb**	**13 38 55.2**	**+0.4**
SABO	**M.te Sabotino**	**1.40**	**212**	*eP*g	**Pb**	**13 38 55.2**	**+0.4**
ABTA	**Abfaltersbach**	**1.53**	**255**	Pg	**Pb**	**13 38 57.4**	**+0.2**
	comp=Z,3.3nm,0.2s						
ABTA				Sg	**Sg**	**13 39 17.8**	**-0.7**
	comp=Z,4.8nm,0.2s						
GEC2	**GERESS Array S**	**1.80**	**339**	*eP*g	**Pb**	**13 39 01.6**	**0.0**
	SNR=6.9						
GEC2				*eS*g	**Sb**	**13 39 24.6**	**+0.6**
	SNR=6.5						
GEC2	**GERESS Array S**	**1.80**	**339**	Pg	**Pb**	**13 39 01.6**	**0.0**
	SNR=6.9						
GEC2				Sg	**Sb**	**13 39 24.6**	**+0.6**
	SNR=6.5						
WTTA	**Wattenberg**	**2.07**	**274**	*eP*g	**Pb**	**13 39 07.7**	**+1.4**
	SNR=7.6						
WTTA				*eS*n	**Sn**	**13 39 24.0**	**-4.8**
	SNR=1.6						
WTTA	**Wattenberg**	**2.07**	**274**	Pg	**Pb**	**13 39 07.7**	**+1.4**
	comp=Z,5.3nm,0.2s						
WTTA				Sg	**Sg**	**13 39 36.5**	**+1.0**
	comp=Z,5.4nm,0.3s						
KHC	**Kasperske Hory**	**2.09**	**340**	*eP*G	**Pn**	**13 39 04.9**	**+1.4**
KHC				*eS*N	**Sn**	**13 39 30.5**	**+1.2**
	comp=Z,22nm,0.4s						
KHC	**Kasperske Hory**	**2.09**	**340**	Sn	**Sn**	**13 39 30.5**	**+1.2**
	comp=Z,22nm,0.4s						
WATA	**Walderalm**	**2.11**	**276**	Pg	**Pb**	**13 39 08.2**	**+1.2**
	comp=Z,8.4nm,0.3s						
WET	**Wettzell**	**2.31**	**329**	*eS*g	**Sg**	**13 39 41.6**	**-1.7**
	SNR=3.2						
WET	**Wettzell**	**2.31**	**329**	Sg	**Sg**	**13 39 41.6**	**-1.7**
	SNR=3.2						
PRU	**Pruhonice**	**2.82**	**358**	*eS*G	**Sb**	**13 39 56.5**	**+3.1**
	comp=Z,8.4nm,0.4s						
PRU	**Pruhonice**	**2.82**	**358**	Sg	**Sb**	**13 39 56.5**	**+3.1**
	comp=Z,8.4nm,0.4s						
PRA	**Prague**	**2.91**	**357**	*eS*G	**Sg**	**13 40 00.0**	**-2.4**
	comp=Z,8.8nm,0.4s						
PRA	**Prague**	**2.91**	**357**	Sg	**Sg**	**13 40 00.0**	**-2.4**
	comp=Z,8.8nm,0.4s						
ROTZ	**Rotzenmuhle**	**3.07**	**329**	*eS*g	**Sg**	**13 40 05.2**	**-2.5**
	SNR=6.6						
ROTZ	**Rotzenmuhle**	**3.07**	**329**	Sg	**Sg**	**13 40 05.2**	**-2.5**
	SNR=6.6						
VYHS	**Vyhne**	**3.11**	**63**	*eP*g	**Pg**	**13 39 27.2**	**-1.4**
VYHS				*eS*g	**Sg**	**13 40 10.6**	**+1.8**
VYHS	**Vyhne**	**3.11**	**63**	*eP*G	**Pg**	**13 39 27.2**	**-1.4**
VYHS				*eS*G	**Sg**	**13 40 10.6**	**+1.8**
DPC	**Dobruska-Polom**	**3.37**	**18**	*eS*G	**Sg**	**13 40 13.7**	**-3.4**
	comp=Z,3.7nm,0.4s						
DPC	**Dobruska-Polom**	**3.37**	**18**	Sg	**Sg**	**13 40 13.7**	**-3.4**
	comp=Z,3.7nm,0.4s						
NKC	**Novy Kostel**	**3.40**	**335**	*eS*G	**Sb**	**13 40 14.2**	**+4.2**
	comp=Z,9.1nm,0.3s						
NKC	**Novy Kostel**	**3.40**	**335**	Sg	**Sb**	**13 40 14.2**	**+4.2**
	comp=Z,9.1nm,0.3s						
UPC	**Upice**	**3.46**	**14**	*eS*G	**Sg**	**13 40 17.6**	**-2.4**
	comp=Z,13nm,0.4s						
UPC	**Upice**	**3.46**	**14**	Sg	**Sg**	**13 40 17.6**	**-2.4**
	comp=Z,13nm,0.4s						
WERN	**Wernitzgruen**	**3.47**	**335**	*eS*g	**Sg**	**13 40 17.5**	**-2.9**
	SNR=4.6						
WERN	**Wernitzgruen**	**3.47**	**335**	Sg	**Sg**	**13 40 17.5**	**-2.9**
	SNR=4.6						
WERD	**Werda**	**3.63**	**335**	*eS*g	**Sg**	**13 40 22.1**	**-3.5**
	SNR=3.0						
WERD	**Werda**

APE	**Apeiranthos**	**1.17**	**242**	P	**Pg**	**13 59 50.6**	**-0.2**
APE	**Apeiranthos**	**1.17**	**242**	*e*Pn	**Pn**	**13 59 52.0**	**+0.3**
APE				S	**Sg**	**14 00 05.9**	**0.0**
PRK	**Paraskevi**	**1.67**	**345**	P	**Pn**	**13 59 58.8**	**+0.3**
PRK				S	**Sb**	**14 00 21.1**	**0.0**
PRK	**Paraskevi**	**1.67**	**345**	P	**Pn**	**13 59 58.8**	**+0.3**
PRK				S	**Sb**	**14 00 21.1**	**0.0**
DALY	**Dalyan (Mu˘la**	**1.68**	**118**	*e*PN	**Pn**	**13 59 59.0**	**+0.3**
DALY	**Dalyan (Mu˘la**	**1.68**	**118**	*e*Pn	**Pn**	**13 59 59.0**	**+0.3**
KULA	**Kula-Manisa**	**1.70**	**58**	*e*PN	**Pn**	**13 59 59.0**	**-0.1**
KULA	**Kula-Manisa**	**1.70**	**58**	*e*Pn	**Pn**	**13 59 59.0**	**-0.1**
SIGR	**SIGRI**	**1.75**	**335**	P	**Pn**	**13 59 59.4**	**-0.2**
SIGR				S	**Sn**	**14 00 22.8**	**+0.4**
SIGR	**SIGRI**	**1.75**	**335**	P	**Pn**	**13 59 59.4**	**-0.2**
SIGR				S	**Sn**	**14 00 22.8**	**+0.4**

*ISCJB **27** 14:06:44.6±1.3,24°.4S±0°.2×179°.8E±0°.2, h517km, mb3.7/4, Error ellipse: s-maj=28.8km s-min=22.5km az=19.8*
*IDC **27** 14:06:46.3±4.4,24°.41S×179°.76E, h533km±52km, mb3.2/4, mb1 3.4/6, mb1mx3.0/32, mbtmp4.1/6, Error ellipse: s-maj=58.0km s-min=29.0km az=2.0*

ISC 27 14:06:45.1±1.3,**24°.4S**±0°.2×**179°.8E**±0°.2,**h517**km,**n7,**
σ0°75/7, mb3.5/4, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**12.50**	**278**	P	**P**	**14 09 29.4**	**+0.4**
	0.4nm,0.3s,baz=119,slow=18,SNR=4.8						
URZ	**Urewera**	**14.03**	**189**	P	**P**	**14 09 44.8**	**+0.1**
	1.0nm,0.3s,baz=15,slow=10,SNR=9.8						
CTA	**Charters Tower**	**31.30**	**271**	P	**P**	**14 12 23.1**	**+0.3**
	4.9nm,0.3s,baz=97,slow=10,SNR=14						
ASAR	**Alice Springs**	**41.78**	**261**	P	**P**	**14 13 49.2**	**0.0**
	0.8nm,0.7s,baz=91,slow=7.8,SNR=35						
WRA	**Warramunga Arr**	**42.20**	**267**	P	**P**	**14 13 51.7**	**-0.9**
	1.3nm,0.5s,baz=105,slow=8.3,SNR=22						
TXAR	**Lajitas Array**	**90.83**	**58**	P	**P**	**14 18 53.9**	**+0.4**
	0.3nm,0.7s,baz=213,slow=6.5,SNR=3.9						
AKASG	**Malin Array Be**	**145.27**	**327**	PKPbc	**PKPdf**	**14 25 22.4**	**-1.0**
	0.3nm,0.3s,baz=31,slow=3.4,SNR=4.4						

*ISCJB **27** 14:10:22.8±0.3,6°.84N±0°.03×73°.08W±0°.03, h158km±4km, mb3.6/4, Error ellipse: s-maj=6.6km s-min=3.6km az=42.3*
*FUNV **27** 14:10:24.4,6°.80N×73°.14W, h164km, MW3.6*
*IDC **27** 14:10:24.8±1.4,6°.79N×73°.02W, h164km±13km, mb3.4/4, mb1 3.8/6, mb1mx3.3/32, mbtmp4.0/6, Error ellipse: s-maj=30.0km s-min=19.8km az=110.0*
*RSNC **27** 14:10:25.8±0.7,6°.78N×73°.14W, h143km±4km, ML3.7*

ISC 27 14:10:23.7±0.7,**6°.83N**±0°.04×**73°.07W**±0°.04,**h155**km±5km,
n42,σ1§12/64, mb3.8/4, 5C-9D, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BTLC	**Betulia, Santa**	**0.22**	**294**	*e*P	**Pn**	**14 10 45.3**	**+0.4**
BARC	**Barichara**	**0.26**	**206**	⇓*i*P	**Pn**	**14 10 45.2**	**+0.1**
BARC				*i*		14 10 45.4	
	comp=Z,1μm,0.2s						
BARC				*e*S	**Sn**	**14 10 59.5**	**-1.9**
GIRC	**Giron, Santand**	**0.28**	**333**	*i* P	**Pn**	**14 10 45.2**	**+0.2**
PAMC	**Pamplona, Colo**	**0.62**	**36**	*e*P	**Pn**	**14 10 47.9**	**+1.1**
PAMC				*i*		14 10 48.3	
	comp=Z,525nm,0.2s						
PAMC				*e*S	**Sn**	**14 11 04.8**	**+0.2**
BRRC	**Barranca, Sant**	**0.70**	**293**	⇑*i*P	**Pn**	**14 10 47.0**	**+0.3**
BRRC				*i*		14 10 47.4	
	comp=Z,1μm,0.1s						
BRRC				*e*S	**Sn**	**14 11 03.8**	**-0.6**
RUSC	**La Rusia**	**0.93**	**181**	⇑*i*P	**Pn**	**14 10 49.1**	**+0.1**
RUSC				*e*S	**Sn**	**14 11 06.8**	**-1.5**
RUSC				*i*		14 11 09.0	
	comp=Z,521nm,0.3s						
CAPV	**Capacho**	**1.27**	**36**	⇑*e*P	**Pn**	**14 10 53.1**	**+1.5**
CAPV				*e*S	**Sn**	**14 11 14.0**	**+0.9**
OCAC	**Ocana**	**1.42**	**350**	*e*P	**Pn**	**14 10 53.9**	**+0.8**
OCAC				*i*		14 11 20.9	
	comp=Z,464nm,0.2s						
YOPC	**Yopal, Colombi**	**1.60**	**156**	*e*P	**Pn**	**14 10 55.8**	**+0.9**
YOPC				*e*S	**Sn**	**14 11 18.9**	**+0.1**
YOPC				*i*		14 11 22.6	
	comp=Z,296nm,0.4s						
ZARC	**Zaragoza, Cauc**	**1.90**	**290**	*e*P	**Pn**	**14 10 57.9**	**-0.1**
ZARC				*e*S	**Sn**	**14 11 23.3**	**-1.0**
NORC	**Norcasia**	**2.19**	**235**	*e*P	**Pn**	**14 11 01.1**	**-0.3**
NORC				*e*S	**Sn**	**14 11 28.8**	**-1.7**
CHIC	**Chingaza**	**2.28**	**197**	*e*P	**Pn**	**14 11 03.3**	**+0.4**
CHIC				*e*S	**Sn**	**14 11 32.0**	**-1.1**
CHIC				*i*		14 11 40.7	
	comp=Z,257nm,0.4s						
ROSC	**El Rosal**	**2.34**	**212**	P	**Pn**	**14 11 05.1**	**+1.6**
	comp=Z,27nm,0.3s,baz=114,slow=20,SNR=41						
ROSC				S	**Sn**	**14 11 31.6**	**-2.6**
	comp=Z,32nm,0.3s,baz=55,slow=17,SNR=10						
HELC	**Santa Helena**	**2.53**	**256**	*e*P	**Pn**	**14 11 05.3**	**-0.5**
HELC				*e*S	**Sn**	**14 11 37.3**	**-0.9**
HELC				*i*		14 11 44.3	
	comp=Z,455nm,0.4s						
SOCV	**Socops**	**2.62**	**56**	⇓*e*P	**Pn**	**14 11 07.7**	**+1.1**
SOCV				*e*S	**Sn**	**14 11 39.5**	**-0.3**
VILC	**Villavicencio,**	**2.77**	**193**	*e*P	**Pn**	**14 11 08.5**	**0.0**
VILC				*e*S	**Sn**	**14 11 42.2**	**-1.1**
VILC				*i*		14 11 49.0	
	comp=Z,191nm,0.4s						
DBBC	**Dabeiba**	**3.13**	**274**	*e*P	**Pn**	**14 11 13.4**	**+0.5**
SDV	**Santo Domingo**	**3.16**	**50**	P	**Pn**	**14 11 14.7**	**+1.3**
	comp=Z,43nm,0.3s,baz=195,slow=2.6,SNR=77						
SDV				S	**Sn**	**14 11 51.4**	**-0.7**
	comp=Z,37nm,0.3s,baz=248,slow=22,SNR=21						
SDV	**Santo Domingo**	**3.16**	**50**	⇓*i*P	**Pn**	**14 11 14.8**	**+1.3**
SDV				*e*S	**Sn**	**14 11 50.9**	**-1.2**
TOLC	**Tolima**	**3.16**	**225**	*e*P	**Pn**	**14 11 13.9**	**+0.3**
ELOV	**Elorza**	**3.56**	**87**	⇓*e*P	**Pn**	**14 11 19.5**	**+1.1**
PRAC	**Prado**	**3.59**	**210**	*e*P	**Pn**	**14 11 18.6**	**-0.2**
PRAC				*e*S	**Sn**	**14 12 01.3**	**-0.4**
VIRV	**Villa del Rosa**	**3.71**	**10**	⇓*e*P	**Pn**	**14 11 20.0**	**-0.3**
VIRV				*e*S	**Sn**	**14 12 02.3**	**-2.1**
QARV	**Quebrada Arrib**	**4.19**	**37**	*e*P	**Pn**	**14 11 27.3**	**+0.7**
QARV				*e*S	**Sn**	**14 12 13.1**	**-2.6**
SANV	**Sanarito**	**4.39**	**53**	*e*P	**Pn**	**14 11 29.6**	**+0.3**
CURV	**Curarigua**	**4.41**	**44**	⇓*e*P	**Pn**	**14 11 29.9**	**+0.4**
CURV				*e*S	**Sn**	**14 12 19.7**	**-2.4**
DABV	**Dabajuro**	**4.72**	**30**	*e*P	**Pn**	**14 11 34.1**	**+0.6**
TEPV	**Terepaima**	**4.94**	**51**	⇓*e*P	**Pn**	**14 11 36.8**	**+0.4**
BAUV	**El Baul**	**5.40**	**67**	*e*P	**Pn**	**14 11 41.6**	**-0.9**
BAUV				*e*S	**Sn**	**14 12 41.0**	**-3.1**
MAPV	**Macapo**	**5.45**	**57**	⇓*i*P	**Pn**	**14 11 43.2**	**0.0**
MONV	**Montecano**	**5.94**	**31**	*e*P	**Pn**	**14 11 49.5**	**-0.2**
TURV	**Turiamo**	**6.29**	**55**	⇑*e*P	**Pn**	**14 11 53.8**	**-0.6**
BIRV	**Birongo**	**7.63**	**61**	⇑*i*P	**Pn**	**14 12 11.1**	**-1.2**
CUPV	**Cœpira**	**7.88**	**65**	⇓*e*P	**Pn**	**14 12 14.2**	**-1.4**
TXAR	**Lajitas Array**	**36.50**	**312**	P	**P**	**14 17 15.1**	**+0.8**
	comp=Z,0.4nm,0.4s,baz=125,slow=9.6,SNR=9.4						
TXAR				PcP	**PcP**	**14 19 36.5**	**+1.8**
	comp=Z,0.3nm,0.6s,baz=116,slow=4.1,SNR=4.3						
ULM	**Lac du Bonnet**	**47.30**	**340**	P	**P**	**14 18 41.5**	**+0.1**
	comp=Z,2.2nm,0.4s,baz=151,slow=5.4,SNR=6.2						
YKA	**Yellowknife Ar**	**63.27**	**340**	P	**P**	**14 20 35.8**	**+0.4**
	comp=Z,1.9nm,0.5s,baz=132,slow=6.7,SNR=7.0						
ILAR	**Eielson Array**	**76.98**	**335**	P	**P**	**14 21 59.3**	**+0.4**
	comp=Z,0.2nm,0.7s,baz=96,slow=4.2,SNR=2.8						
MKAR	**Makanchi Array**	**122.30**	**20**	PKP	**PKPdf**	**14 29 00.1**	**-0.4**
	comp=Z,0.2nm,0.4s,baz=314,slow=2.4,SNR=4.3						
ASAR	**Alice Springs**	**149.16**	**234**	PKP	**PKPdf**	**14 29 49.9**	**-0.4**
	comp=Z,1.1nm,0.6s,baz=128,slow=2.9,SNR=5.4						
ASAR				PKPbc	**PKPbc**	**14 29 53.8**	**-0.8**
	comp=Z,1.1nm,0.5s,baz=114,slow=3.6,SNR=6.2						
WRA	**Warramunga Arr**	**150.39**	**241**	PKPbc	**PKPbc**	**14 29 57.1**	**-0.6**
	comp=Z,1.2nm,0.4s,baz=108,slow=2.6,SNR=31						
CMAR	**Chiang Mai Arr**	**153.66**	**17**	PKPbc	**PKPbc**	**14 30 05.5**	**+0.4**
	comp=Z,0.7nm,0.6s,baz=300,slow=2.0,SNR=3.5						

IDC 27 14:11:57.6±3.3,**22°.43S**×**172°.01E**,**h0**km,**mb3.8**/3,
mb1 4.0/4,**mb1mx3.6**/26,**mbtmp3.8**/4,**ML4.0**/1,**MS3.4**/1,
Ms1 3.4/1,**ms1mx2.8**/20,**Error ellipse: s-maj=104.9km**
s-min=43.1km az=161.0,Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**5.17**	**273**	Pn	Pn	14 13 18.3	+1.9
	5.9nm,0.3s,baz=139,slow=16,SNR=47						
DZM				Sn	Sn	14 14 16.4	-0.3
	1.2nm,0.3s,baz=107,slow=20,SNR=4.1						
HNR	**Honiara**	**17.35**	**316**	LR	LR	14 22 21.2	
	comp=Z,108nm,18.4s,baz=168,slow=36						
ASAR	**Alice Springs**	**35.02**	**260**	P	P	14 18 52.0	-0.3
	1.1nm,0.8s,baz=89,slow=9.2,SNR=10.0						
WRA	**Warramunga Arr**	**35.15**	**267**	P	P	14 18 52.6	-0.7
	0.4nm,0.5s,baz=97,slow=8.4,SNR=6.6						
SONM	**Songino Array**	**91.32**	**322**	P	P	14 25 05.4	+0.2
	0.5nm,0.7s,baz=121,slow=5.6,SNR=2.3						

*IDC **27** 14:31:39.4±1.6,34°.09N×25°.26E, h0km, mb3.6/2, mb1 3.5/5, mb1mx3.4/34, mbtmp3.4/5, ML4.0/3, MS2.2/1, Ms1 2.2/1, ms1mx1.9/40, Error ellipse: s-maj=27.8km s-min=25.9km az=109.0*
*HLW **27** 14:31:40.9, 34°.32N×25°.41E, h22km±8km, Md3.7, Ml3.8*
*ISK **27** 14:31:42.4, 34°.22N×25°.23E, h25km, ML3.4*
*CSEM **27** 14:31:42.7±0.2, 34°.12N×25°.23E, h20km, ML2.9, Error ellipse: s-maj=5.4km s-min=4.0km az=62.0*
*ISCJB **27** 14:31:43.1±0.4, 34°.15N±0°.03×25°.31E±0°.04, h53km±9km, mb3.4/2, Error ellipse: s-maj=5.2km s-min=4.8km az=24.8*
*ATH **27** 14:31:43.2, 34°.21N×25°.21E, h27km±1km, ML3.0/5, Error ellipse: s-maj=3.0km s-min=1.6km az=351.0*
*THE **27** 14:31:47.0, 34°.37N×25°.22E, h19km±2km, ML2.9/7, Error ellipse: s-maj=2.9km s-min=1.1km az=140.0*
*DDA **27** 14:32:33.0, 34°.65N×26°.10E, h69km, Md3.3*

ISC 27 14:31:44.2±1.1,**34°.15N**±0°.04×**25°.27E**±0°.04,**h44**km±16km,
n73,σ1§37/109, Crete

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SIVA	**Sivas**	**0.94**	**337**	P	**Pn**	**14 32 00.5**	**-0.5**
SIVA				S	**Sn**	**14 32 10.9**	**-2.3**
SIVA	**Sivas**	**0.94**	**337**	P	**Pn**	**14 32 01.1**	**+0.1**
SIVA				S	**Sn**	**14 32 13.3**	**+0.1**
SIVA	**Sivas**	**0.94**	**337**	P	**Pn**	**14 32 01.1**	**+0.1**
SIVA				S	**Sn**	**14 32 13.3**	**+0.1**
SIVA				AML	AML	14 32 19.8	
	comp=E,8774μm,0.5s						
SIVA				AML	AML	14 32 21.7	
	comp=N,6154μm,0.7s						
TMBK	**Timbaki Herakl**	**1.00**	**336**	P	**Pn**	**14 32 02.0**	**+0.2**
TMBK				S	**Sn**	**14 32 13.1**	**-1.7**
TMBK	**Timbaki Herakl**	**1.00**	**336**	P	**Pn**	**14 32 02.0**	**+0.2**
TMBK				S	**Sn**	**14 32 13.1**	**-1.7**
LAST	**Lasithi**	**1.02**	**10**	P	**Pn**	**14 32 01.9**	**-0.2**
LAST				S	**Sn**	**14 32 13.0**	**-2.3**
LAST	**Lasithi**	**1.02**	**10**	P	**Pn**	**14 32 02.7**	**+0.6**
LAST				S	**Sn**	**14 32 14.4**	**-0.9**
LAST	**Lasithi**	**1.02**	**10**	P	**Pn**	**14 32 02.7**	**+0.6**
LAST				S	**Sn**	**14 32 14.4**	**-0.9**
LAST				AML	AML	14 32 19.4	
	comp=N,944μm,0.8s						
LAST				AML	AML	14 32 25.6	
	comp=E,1183μm,0.7s						
NPS	**Neapolis**	**1.14**	**14**	P	**Pn**	**14 32 04.5**	**+0.8**
NPS				S	**Sn**	**14 32 16.5**	**-1.7**
NPS	**Neapolis**	**1.14**	**14**	P	**Pn**	**14 32 04.5**	**+0.8**
NPS				S	**Sn**	**14 32 20.6**	**+2.4**
NPS	**Neapolis**	**1.14**	**14**	P	**Pn**	**14 32 04.5**	**+0.8**
NPS				S	**Sn**	**14 32 20.6**	**+2.4**
NPS				AML	AML	14 32 26.0	
	comp=N,986μm,0.5s						
NPS				AML	AML	14 32 27.4	
	comp=E,1086μm,0.9s						
IDI	**Anoyia**	**1.17**	**345**	Pn	**Pn**	**14 32 04.4**	**+0.1**
	comp=E,17nm,0.3s,baz=172,slow=12,SNR=32						
IDI				Sn	**Sn**	**14 32 18.3**	**-0.8**
	comp=E,29nm,0.3s,baz=233,slow=22,SNR=10						
IDI				LR	LR	14 32 33.5	
	comp=E,43nm,18.8s,baz=266,slow=44						
IDI	**Anoyia**	**1.17**	**345**	P	**Pn**	**14 32 04.3**	**+0.1**
IDI				S	**Sn**	**14 32 18.2**	**-0.8**
IDI	**Anoyia**	**1.17**	**345**	P	**Pn**	**14 32 04.7**	**+0.5**
IDI				S	**Sn**	**14 32 19.6**	**+0.6**
IDI	**Anoyia**	**1.17**	**345**	P	**Pn**	**14 32 04.7**	**+0.5**
IDI				S	**Sn**	**14 32 19.6**	**+0.6**
IDI				AML	AML	14 32 25.1	
	comp=N,595μm,0.8s						
IDI				AML	AML	14 32 25.1	
	comp=E,1037μm,0.5s						
GVD	**Gavdhos**	**1.19**	**305**	P	**Pn**	**14 32 04.4**	**0.0**
GVD				S	**Sn**	**14 32 19.4**	**0.0**
GVD	**Gavdhos**	**1.19**	**305**	P	**Pn**	**14 32 04.4**	**0.0**
GVD				S	**Sn**	**14 32 19.4**	**0.0**
GVD	**Gavdhos**	**1.19**	**305**	P	**Pn**	**14 32 04.9**	**+0.5**
GVD				S	**Sn**	**14 32 21.1**	**+1.7**
GVD				AML	AML	14 32 30.3	
	comp=N,1967μm,0.6s						
GVD				AML	AML	14 32 31.5	
	comp=E,2357μm,0.4s						
ZKR	**Zakros**	**1.24**	**39**	P	**Pn**	**14 32 06.7**	**+1.6**
ZKR				S	**Sn**	**14 32 24.0**	**+3.4**
ZKR	**Zakros**	**1.24**	**39**	P	**Pn**	**14 32 06.7**	**+1.6**
ZKR				S	**Sn**	**14 32 24.0**	**+3.4**
VAM	**Vamos**	**1.53**	**325**	P	**Pn**	**14 32 09.6**	**+0.6**
VAM				S	**Sn**	**14 32 27.0**	**-0.7**
VAM	**Vamos**	**1.53**	**325**	P	**Pn**	**14 32 09.1**	**+0.1**
VAM				S	**Sn**	**14 32 27.0**	**-0.7**
VAM	**Vamos**	**1.53**	**325**	P	**Pn**	**14 32 09.1**	**+0.1**
IMMV	**Iera Moni Meta**	**1.68**	**321**	P	**Pn**	**14 32 11.4**	**+0.3**
IMMV				S	**Sn**	**14 32 30.5**	**-0.9**
IMMV	**Iera Moni Meta**	**1.68**	**321**	P	**Pn**	**14 32 11.1**	**0.0**
IMMV				S	**Sn**	**14 32 30.5**	**-0.9**
IMMV	**Iera Moni Meta**	**1.68**	**321**	P	**Pn**	**14 32 11.0**	**0.0**
KARP	**Karpathos**	**2.09**	**48**	*e*PN	**Pn**	**14 32 16.8**	**+0.1**
KARP	**Karpathos**	**2.09**	**48**	P	**Pn**	**14 32 18.5**	**+1.8**
KARP				S	**Sn**	**14 32 42.9**	**+1.4**
KARP	**Karpathos**	**2.09**	**48**	*e*Pn	**Pn**	**14 32 16.8**	**+0.1**
KARP	**Karpathos**	**2.09**	**48**	P	**Pn**	**14 32 18.5**	**+1.8**
KARP				S	**Sn**	**14 32 42.9**	**+1.4**
KARP	**Karpathos**	**2.09**	**48**	P	**Pn**	**14 32 18.6**	**+1.9**
MHLO	**Agia Marina, M**	**2.63**	**345**	P	**Pn**	**14 32 23.2**	**-0.9**
MHLO	**Agia Marina, M**	**2.63**	**345**	P	**Pn**	**14 32 23.2**	**-0.9**
SLUM	**Salum**	**2.66**	**181**	P	**Pn**	**14 32 24.6**	**+0.1**
	baz=184						
SLUM				AMP		14 32 00.0	
	comp=N,240μm,0.3s,logA/T=5.8,baz=184						
SLUM				S	**Sn**	**14 32 56.1**	**+0.7**
	baz=184						
SLUM	**Salum**	**2.66**	**181**	P	**Pn**	**14 32 24.6**	**+0.1**
APE	**Apeiranthos**	**2.92**	**4**	*e*PN	**Pn**	**14 32 27.7**	**-0.4**
APE				*e*SN	**Sn**	**14 33 00.7**	**-1.2**
APE	**Apeiranthos**	**2.92**	**4**	*e*Pn	**Pn**	**14 32 27.7**	**-0.4**
APE				*e*Sn	**Sn**	**14 33 00.7**	**-1.2**
DAT	**Datca**	**3.19**	**36**	*e*PN	**Pn**	**14 32 31.9**	**0.0**
DALY	**Dalyan (Mu˘la**	**3.83**	**45**	*e*PN	**Pn**	**14 32 41.3**	**+0.6**
DALY	**Dalyan (Mu˘la**	**3.83**	**45**	*i* P	**Pn**	**14 32 40.8**	**+0.2**
DALY				*i* S	**Sn**	**14 33 23.3**	**-1.1**
DALY	**Dalyan (Mu˘la**	**3.83**	**45**	P	**Pn**	**14 32 40.8**	**+0.2**
DALY				S	**Sn**	**14 33 23.3**	**-1.1**
TURN	**Turunc**	**3.84**	**44**	*i* P	**Pn**	**14 32 36.7**	**-4.1**
TURN				*i* S	Sn	14 33 15.6	-9.1
FETY	**Fethiye**	**3.98**	**50**	*e*PN	**Pn**	**14 32 43.7**	**+1.0**
FETY	**Fethiye**	**3.98**	**50**	P	**Pn**	**14 32 43.1**	**+0.4**
FETY	**Fethiye**	**3.98**	**50**	*e*Pn	**Pn**	**14 32 43.7**	**+1.0**
FETY				S	**Sn**	**14 33 25.6**	**-2.5**
AYDN	**Tasoluk**	**4.09**	**30**	*i* P	**Pn**	**14 32 45.2**	**+0.9**
AYDN				*i* S	**Sn**	**14 33 25.7**	**-5.2**
AYDN	**Tasoluk**	**4.09**	**30**	P	**Pn**	**14 32 45.2**	**+0.9**
AKAS	**Kas**	**4.11**	**59**	*e*PN	**Pn**	**14 32 45.5**	**+0.9**
AKAS	**Kas**	**4.11**	**59**	*i* P	**Pn**	**14 32 44.4**	**-0.3**
AKAS				*i* S	**Sn**	**14 33 29.9**	**-1.7**
AKAS	**Kas**	**4.11**	**59**	P	**Pn**	**14 32 44.3**	**-0.3**
AKAS	**Kas**	**4.11**	**59**	*e*Pn	**Pn**	**14 32 45.6**	**+0.9**
AKAS				S	**Sn**	**14 33 29.9**	**-1.7**
TAVA	**DENIZLI_Tavas**	**4.44**	**41**	*i* P	**Pn**	**14 32 49.9**	**+0.8**
TAVA				*i* S	**Sn**	**14 33 39.5**	**0.0**
ELL	**Elmali**	**4.59**	**54**	*e*PN	**Pn**	**14 32 51.9**	**+0.8**
ELL	**Elmali**	**4.59**	**54**	*e*Pn	**Pn**	**14 32 51.9**	**+0.8**
GOLH	**Golhisar**	**4.66**	**47**	*i* P	**Pn**	**14 32 52.9**	**+0.8**
GOLH	**Golhisar**	**4.66**	**47**	P	**Pn**	**14 32 52.9**	**+0.8**
SWA2		**4.90**	**178**	P	**Pn**	**14 32 55.5**	**+0.2**
	baz=179						
SWA2		**4.90**	**178**	P	**Pn**	**14 32 55.5**	**+0.2**
KORT	**Korkueli**	**5.02**	**54**	*e*PN	**Pn**	**14 32 58.3**	**+1.2**
SUTC	**Sutluce-Ispart**	**5.72**	**53**	*e*PN	**Pn**	**14 33 08.5**	**+1.9**
SUTC	**Sutluce-Ispart**	**5.72**	**53**	*e*Pn	**Pn**	**14 33 08.5**	**+1.9**
GLL	**Jalalah**	**7.13**	**128**	P	**Pn**	**14 33 24.6**	**-1.4**
	baz=129						
GLL	**Jalalah**	**7.13**	**128**	P	**Pn**	**14 33 24.6**	**-1.4**
HFRF	**Wahat Farafira**	**7.46**	**159**	P	**Pn**	**14 33 30.2**	**-0.2**
	baz=160						
HFRF	**Wahat Farafira**	**7.46**	**159**	P	**Pn**	**14 33 30.2**	**-0.2**
HNKL	**Nakhl**	**8.51**	**117**	P	**Pn**	**14 33 43.3**	**-1.6**
	baz=118						
HNKL	**Nakhl**	**8.51**	**117**	P	**Pn**	**14 33 43.3**	**-1.6**
MMAI	**Mount Meron Ar**	**8.54**	**95**	Pn	**Pn**	**14 33 45.0**	**-0.2**
	comp=N,0.7nm,0.3s,baz=280,slow=13,SNR=3.3						
MMAI				Sn	**Sn**	**14 35 16.0**	**-4.2**
	comp=N,1.0nm,0.3s,baz=236,slow=28,SNR=2.6						
MLR	**Muntele Rosu**	**11.34**	**2**	LR	LR	14 39 57.7	
	comp=N,11nm,18.4s,baz=234,slow=44						
AKASG	**Malin Array Be**	**16.79**	**9**	Pn	**Pn**	**14 35 35.7**	**-0.2**
	comp=N,1.0nm,0.3s,baz=194,slow=11,SNR=4.1						
GERES	**GERESS Array B**	**17.01**	**333**	P	**P**	**14 35 39.2**	**-1.1**
	comp=N,0.3nm,0.3s,baz=138,slow=13,SNR=2.3						
TORD	**Torodi Ar. Bea**	**29.92**	**231**	P	**P**	**14 37 48.9**	**+0.8**
	comp=N,0.3nm,0.4s,baz=37,slow=8.1,SNR=4.1						
MKAR	**Makanchi Array**	**44.26**	**56**	P	**P**	**14 39 50.3**	**+1.0**
	comp=N,0.3nm,0.4s,baz=264,slow=7.5,SNR=5.2						

IDC 27 14:32:42.1±5.4,**60°.09N**×**30°.20E**,**h0**km,**Error ellipse:**
s-maj=43.1km s-min=31.9km az=35.0,Baltic
States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FINES	**FINESS Array B**	**2.44**	**306**	Pg	Pb	14 33 25.2	-1.5
	0.1nm,0.3s,baz=121,slow=17,SNR=3.2						
FINES				Lg	Lg	14 33 58.6	
	0.4nm,0.3s,baz=123,slow=31,SNR=7.0						
I43RU	**DUBNA INFRASON**	**5.00**	**129**	*i*		15 04 58.8	
	baz=317,slow=311,SNR=2.1						
I31KZ	**AKTYUBINSK INF**	**18.45**	**109**	*i*		16 21 30.0	
	baz=312,slow=323,SNR=0.8						

*NNC **27** 14:32:00.8±37.0, 33°.54N×67°.10E, h0km, mb4.0, Error ellipse: s-maj=240.7km s-min=156.4km az=13.0*
*IDC **27** 14:33:20.4±1.5, 36°.25N×69°.01E, h0km, mb3.5/3, mb1 3.5/5, mb1mx3.3/42, mbtmp3.4/5, ML2.9/2, Error ellipse: s-maj=41.7km s-min=26.1km az=151.0*
*ISCJB **27** 14:33:24.4±1.0, 36°.50N±0°.08×68°.81E±0°.08, h43km, mb3.7/2, Error ellipse: s-maj=13.8km s-min=7.0km az=146.4*

ISC 27 14:33:26.2±1.2,**36°.4N**±0°.1×**68°.90E**±0°.09,**h43**km,**n8,**
σ1§00/12, 1C-3D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MNAS	**Manas**	**6.69**	**24**	⇑Pg	**Pn**	**14 35 01.9**	**0.0**
	2.0nm,0.4s						
MNAS				⇓Sn	**Sn**	**14 36 15.4**	**-1.4**
	5.5nm,1.0s						
KK31	**Karatay Array**	**6.81**	**10**	Pg	**Pn**	**14 35 04.5**	**+1.1**
	0.6nm,0.4s,baz=192,slow=16,SNR=7.7						
KK31				⇓Sn	**Sn**	**14 36 20.4**	**+0.8**
	0.6nm,0.3s,baz=203,slow=22						
AAK	**Ala-Archa**	**7.58**	**33**	Pg	**Pn**	**14 35 14.2**	**0.0**
	3.1nm,0.6s						
AAK				⇓Sn	**Sn**	**14 36 38.8**	**-0.1**
	2.8nm,0.6s						
GEYT	**Alibeck**	**8.74**	**283**	Pn	**Pn**	**14 35 29.6**	**-0.4**
	0.3nm,0.3s,baz=95,slow=18,SNR=2.4						
GEYT				Sn	**Sn**	**14 37 06.1**	**-1.1**
	0.5nm,0.3s,baz=105,slow=21,SNR=2.7						
MKAR	**Makanchi Array**	**14.41**	**40**	Pn	**Pn**	**14 36 46.1**	**-1.2**
	0.0nm,0.3s,baz=224,slow=12,SNR=2.7						
ZALV	**Zalesovo Beam

TREB	**Trebinje**	**2.01**	**310**	*e*Pn		**Pn**	**14 36 07.6**	**+1.2**
TREB				*e*Sg		**Sg**	**14 36 37.5**	**+0.5**
BRY	**Bratogost**	**2.03**	**316**	*i*Pn		**Pn**	**14 36 07.5**	**+0.8**
BRY				*e*Sn		**Sb**	**14 36 34.5**	**-0.3**
UPM	**Unac-Piva**	**2.09**	**327**	*i*Pn		**Pn**	**14 36 08.3**	**+0.6**
UPM				*e*Sn		**Sn**	**14 36 35.6**	**+1.7**
UPM	**Unac-Piva**	**2.09**	**327**	*i*Pn		**Pn**	**14 36 08.3**	**+0.6**
UPM				*e*Sn		**Sn**	**14 36 35.6**	**+1.7**
IVAS	**Ivanjica**	**2.14**	**354**	*e*Pn		**Pn**	**14 36 08.4**	**+0.3**
IVAS				*e*Sn		**Sn**	**14 36 33.9**	**-0.8**
IVAS	**Ivanjica**	**2.14**	**354**	*e*Pn		**Pn**	**14 36 08.4**	**+0.3**
IVAS				*e*Sn		**Sn**	**14 36 33.9**	**-0.8**
ZAPS	**Zavoj**	**2.44**	**41**	*e*Pn		**Pn**	**14 36 13.7**	**+1.4**
DIVS	**Divibare**	**2.67**	**353**	*e*Pn		**Pn**	**14 36 15.6**	**+0.1**
DIVS				*e*Sn		**Sn**	**14 36 47.0**	**-0.9**
DIVS	**Divibare**	**2.67**	**353**	*e*Pn		**Pn**	**14 36 15.6**	**+0.1**
DIVS				*e*Sn		**Sn**	**14 36 47.0**	**-0.9**
ZAGS	**Zajecar**	**2.70**	**29**	*e*Pn		**Pn**	**14 36 17.3**	**+1.4**

CSEM ***27*** *14:43:05.5±0.6, 49.˚73N× 18.˚42E, h1km, Error ellipse: s-maj=23.6km s-min=5.8km az=39.0*

PRU 27 14:43:06.3, 49.76N×18.43E, h0km, 1D, Czech and Slovak Republics

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OKC	**Ostrava-Krasne**	**0.20**	**293**	*i*Pg	Pg	14 43 09.9	-0.2
OKC				*e*SG	Sg	14 43 13.1	+0.4
	comp=Z,7.1nm,0.4s						
OKC	**Ostrava-Krasne**	**0.20**	**293**	Pg	Pg	14 43 09.9	-0.2
OKC				Sg	Sg	14 43 13.1	+0.4
	7.1nm,0.4s						
MORC	**Moravsky Berou**	**0.58**	**272**	*e*Pg	Pg	14 43 17.2	-0.1
LANS	**Liptovska Anna**	**0.91**	**132**	*e*Pg	Pg	14 43 23.6	-0.1
LANS				*e*Sg	Sn	14 43 39.2	-1.1
LANS	**Liptovska Anna**	**0.91**	**132**	*e*PG	Pg	14 43 23.6	-0.1
LANS				*e*SG	Sn	14 43 39.2	-1.1
VYHS	**Vyhne**	**1.29**	**168**	*e*Pg	Pg	14 43 29.8	-1.3
VYHS				*e*Sn	Sg	14 43 47.3	-0.6
VYHS	**Vyhne**	**1.29**	**168**	*e*PG	Pg	14 43 29.8	-1.3
VYHS				*e*SN	Sg	14 43 47.3	-0.6
DPC	**Dobruska-Polom**	**1.48**	**294**	*e*PG	Pn	14 43 32.7	-1.6
DPC				*e*SG	Sg	14 43 52.8	-1.1
	comp=Z,1.9nm,0.3s						
DPC	**Dobruska-Polom**	**1.48**	**294**	Pg	Pn	14 43 32.7	-1.6
DPC				Sg	Sg	14 43 52.8	-1.1
	1.9nm,0.3s						
KECS	**Kecovo**	**1.86**	**133**	*e*Sn	Sn	14 44 00.9	-2.7
KECS	**Kecovo**	**1.86**	**133**	*e*SN	Sn	14 44 00.9	-2.7
KECS				*e*LG	Lg	14 44 05.7	

IDC 27 14:46:02.1±1.5, 5.˚24S×146.˚27E, h0km, mb3.5/3, mb1 3.9/6, mb1mx3.6/27, mbtmp3.7/6, ML3.7/2, Error ellipse: s-maj=49.9km s-min=25.9km az=114.0, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**4.23**	**168**	Pn	Pn	14 47 06.5	-1.4
	9.8nm,0.3s,baz=24,slow=6.8,SNR=35						
PMG				Sn	Sn	14 47 48.2	-10
	6.9nm,0.3s,baz=323,slow=20,SNR=5.6						
CTA	**Charters Tower**	**14.76**	**180**	Pn	Pn	14 49 33.8	+1.5
	0.4nm,0.3s,baz=356,slow=15,SNR=3.0						
WRA	**Warramunga Arr**	**18.67**	**217**	P	P	14 50 21.3	-0.6
	0.2nm,0.3s,baz=45,slow=12,SNR=14						
ASAR	**Alice Springs**	**21.86**	**212**	P	P	14 50 56.4	-0.2
	0.5nm,0.5s,baz=29,slow=11,SNR=12						
FITZ	**Fitzroy Crossi**	**23.87**	**236**	P	P	14 51 18.6	+1.1
	3.3nm,1.1s,baz=55,slow=6.7,SNR=5.7						
ILAR	**Eielson Array**	**85.07**	**23**	P	P	14 58 39.8	+0.2
	0.4nm,0.6s,baz=250,slow=5.2,SNR=6.0						
TORD	**Torodi Ar. Bea**	**144.20**	**285**	PKP	PKPab	15 05 39.0	+0.1
	0.2nm,0.6s,baz=90,slow=2.4,SNR=2.3						

IDC ***27*** *14:51:48.4±1.5, 24.˚46N× 121.˚54E, h0km, mb3.1/3, mb1 3.3/4, mb1mx3.2/35, mbtmp3.2/4, ML2.9/1, Error ellipse: s-maj=43.8km s-min=29.9km az=63.0*

ISCJB ***27*** *14:51:57.9±0.4, 24.˚80N±0.˚03× 121.˚92E±0.˚02, h96km±3km, mb3.0/3, Error ellipse: s-maj=4.9km s-min=2.9km az=159.1*

JMA ***27*** *14:51:58.3±0.2, 24.˚71N× 121.˚87E, h90km±2km, M2.9*

TAP ***27*** *14:51:58.9, 24.˚81N× 121.˚89E, h90km, ML4.0, B*

ISC 27 14:51:58.4±0.9, 24.˚79N±0.˚04× 121.˚92E±0.˚03, h93km±5km, n50, σ962/92, mb3.0/3, 5D, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EGS		**0.06**	**13**	P	**Pn**	**14 52 11.8**	**+0.4**
	baz=59						
EGS				S	**Sn**	**14 52 21.1**	**+0.1**
	baz=59						
ILA	**Ilan**	**0.15**	**262**	*e*P	**Pn**	**14 52 12.1**	**+0.5**
	baz=248						
ILA				S	**Sn**	**14 52 21.3**	**-0.1**
	baz=248						
TWC	**Suao**	**0.19**	**199**	P	**Pn**	**14 52 12.2**	**+0.5**
	baz=186						
TWC				S	**Sn**	**14 52 21.6**	**+0.1**
	baz=186						
TWB1	**Santiao Chiao**	**0.23**	**16**	P	**Pn**	**14 52 11.9**	**+0.1**
	baz=27						
TWB1				*e*S	**Sn**	**14 52 21.3**	**-0.6**
	baz=27						
TWE	**Neicheng**	**0.24**	**254**	P	**Pn**	**14 52 12.4**	**+0.6**
	baz=243						
TWE				S	**Sn**	**14 52 21.7**	**-0.2**
	baz=243						
NWF	**Wu-fen Shan**	**0.31**	**336**	P	**Pn**	**14 52 12.4**	**0.0**
	baz=340						
NWF				S	**Sn**	**14 52 22.0**	**-0.7**
	baz=340						
ENTT	**Nioudou**	**0.35**	**245**	*i*P	**Pn**	**14 52 13.1**	**+0.6**
	baz=238						
ENTT				*e*S	**Sn**	**14 52 23.1**	**+0.1**
	baz=238						
TWA	**Mucha**	**0.36**	**302**	P	**Pn**	**14 52 12.7**	**+0.2**
	baz=302						
TWA				S	**Sn**	**14 52 22.8**	**-0.2**
	baz=302						
ENA	**Nanau**	**0.39**	**204**	P	**Pn**	**14 52 13.2**	**+0.5**
	baz=197						
ENA				*e*S	**Sn**	**14 52 24.0**	**+0.6**
	baz=197						
TAP1	**Taipei**	**0.44**	**305**	P	**Pn**	**14 52 13.1**	**+0.1**
	baz=303						
TAP1				S	**Sn**	**14 52 23.4**	**-0.4**
	baz=303						
TAP	**Taipei**	**0.45**	**304**	*e*P	**Pn**	**14 52 13.1**	**0.0**
	baz=303						
TAP				*e*S	**Sn**	**14 52 23.7**	**-0.3**
	baz=303						
NSK	**Sanguang**	**0.52**	**258**	*i*P	**Pn**	**14 52 13.6**	**-0.1**
	baz=253						
NSK				*e*S	**Sn**	**14 52 24.1**	**-1.0**
	baz=253						
TWS1	**Kuangyinshan**	**0.55**	**305**	*i*P	**Pn**	**14 52 14.3**	**+0.4**
	baz=304						
TWS1				*e*S	**Sn**	**14 52 25.6**	**+0.2**
	baz=304						
TWY	**Chenhua**	**0.56**	**329**	P	**Pn**	**14 52 14.1**	**+0.2**
	baz=331						
TWY				*e*S	**Sn**	**14 52 25.6**	**0.0**
	baz=331						
NNS	**Nan Shan**	**0.60**	**235**	*i*P	**Pn**	**14 52 14.8**	**+0.3**
	baz=230						
NNS				*e*S	**Sn**	**14 52 26.4**	**0.0**
	baz=230						
NCU	**National Centr**	**0.69**	**285**	P	**Pn**	**14 52 15.3**	**+0.3**
	baz=284						
NCU				*e*S	**Sn**	**14 52 27.6**	**+0.1**
	baz=284						
TWD	**Chiawan**	**0.76**	**203**	*e*P	**Pn**	**14 52 15.6**	**-0.2**
	baz=199						
TWD				*e*S	**Sn**	**14 52 28.7**	**-0.1**
	baz=199						
NSTT	**Nanjuang**	**0.85**	**260**	*i*P	**Pn**	**14 52 16.7**	**+0.1**
	baz=257						
NSTT				*e*S	**Sn**	**14 52 29.4**	**-0.9**
	baz=257						
TWT	**Tachien**	**0.86**	**232**	P	**Pn**	**14 52 18.0**	**+1.0**
	baz=229						
TWT				*e*S	**Sn**	**14 52 31.5**	**+0.6**
	baz=229						
HSN	**Hsinchu**	**0.86**	**271**	P	**Pn**	**14 52 16.7**	**0.0**
	baz=271						
HSN				*e*S	**Sn**	**14 52 29.7**	**-0.9**
	baz=271						
WHF	**Hehuan Shan**	**0.87**	**223**	P	**Pn**	**14 52 17.7**	**+0.3**
	baz=220						
WHF				S	**Sn**	**14 52 31.4**	**-0.2**
	baz=220						
JYNG	**Yonagunijimaku**	**0.99**	**109**	P	**Pn**	**14 52 18.5**	**+0.3**
JYNG				S	**Sn**	**14 52 32.9**	**-0.2**
YOJ	**Yonaguni jima**	**1.05**	**108**	P	**Pn**	**14 52 19.1**	**+0.3**
YOJ				S	**Sn**	**14 52 34.1**	**-0.1**
NSY	**Sanyi**	**1.11**	**251**	P	**Pn**	**14 52 20.2**	**+0.6**
	baz=248						
NSY				*e*S	**Sn**	**14 52 35.7**	**+0.1**
	baz=248						
TWQ1	**Liyutan**	**1.13**	**247**	P	**Pn**	**14 52 20.2**	**+0.4**
	baz=245						
TWQ1				S	**Sn**	**14 52 35.6**	**-0.3**
	baz=245						
SMLT	**Sun Moon Lake**	**1.29**	**226**	*e*P	**Pn**	**14 52 22.9**	**+1.1**
	baz=223						
SMLT				*e*S	**Sn**	**14 52 40.7**	**+1.2**
	baz=223						
TCU	**Taichung**	**1.30**	**241**	*e*P	**Pn**	**14 52 22.2**	**+0.4**
	baz=238						
TCU				*e*S	**Sn**	**14 52 39.3**	**-0.2**
	baz=238						
TYC	**Yuchr**	**1.31**	**228**	*e*P	**Pn**	**14 52 22.7**	**+0.8**
	baz=225						
TYC				*e*S	**Sn**	**14 52 40.5**	**+0.9**
	baz=225						
EHY	**Hungye**	**1.39**	**203**	*e*P	**Pn**	**14 52 23.3**	**+0.3**
	baz=201						
EHY				*e*S	**Sn**	**14 52 41.8**	**+0.4**
	baz=201						
WNT	**Mingjian**	**1.44**	**231**	P	**Pn**	**14 52 24.4**	**+0.8**
	baz=229						
WNT				S	**Sn**	**14 52 43.4**	**+0.7**
	baz=229						
TWF1	**Yuli**	**1.54**	**202**	*e*P	**Pn**	**14 52 25.5**	**+0.7**
	baz=200						
TWF1				*e*S	**Sn**	**14 52 44.4**	**-0.4**
	baz=200						
CHN5	**Tsauling**	**1.64**	**224**	*e*P	**Pn**	**14 52 27.0**	**+0.8**
	baz=222						
CHN5				*e*S	**Sn**	**14 52 47.5**	**+0.3**
	baz=222						
WGK	**Gukeng**	**1.65**	**229**	*e*P	**Pn**	**14 52 27.1**	**+0.9**
	baz=226						
WGK				S	**Sn**	**14 52 48.6**	**+1.2**
	baz=226						
IRIF	**Iriomote-Funau**	**1.71**	**105**	P	**Pn**	**14 52 27.2**	**+0.2**
IRIF				*e*S	**Sn**	**14 52 48.9**	**+0.2**
WTCT	**Ta-ch'eng**	**1.75**	**239**	*e*S	**Sn**	**14 52 49.4**	**-0.3**
	baz=237						
CHKT	**Chengkung**	**1.75**	**197**	*e*P	**Pn**	**14 52 26.4**	**-1.2**
	baz=195						
CHKT				*e*S	**Sn**	**14 52 49.0**	**-0.7**
	baz=195						
ELDTW	**Lidau**	**1.79**	**208**	*e*P	**Pn**	**14 52 28.7**	**+0.6**
	baz=205						
ELDTW				*e*S	**Sn**	**14 52 50.8**	**+0.1**
	baz=205						
JKRS	**Kuro-shima**	**1.98**	**106**	*e*S	**Sn**	**14 52 55.6**	**+0.7**
JIJ	**Ishigaki jima**	**2.07**	**101**	P	**Pn**	**14 52 32.1**	**+0.5**
JIJ				S	**Sn**	**14 52 56.3**	**-0.7**
TWG	**Pinlang**	**2.10**	**202**	*e*P	**Pn**	**14 52 33.0**	**+0.9**
	baz=200						
TWG				*e*S	**Sn**	**14 52 57.5**	**-0.4**
	baz=200						
JISG	**Ishigakijimahi**	**2.19**	**95**	P	**Pn**	**14 52 34.0**	**+0.9**
JISG				S	**Sn**	**14 53 00.1**	**+0.4**
ECL	**Taimali**	**2.35**	**202**	*e*P	**Pn**	**14 52 36.0**	**+0.6**
	baz=200						
ECL				*e*S	**Sn**	**14 53 02.8**	**-0.9**
	baz=200						
JTJ	**Tarama**	**2.54**	**93**	*e*S	**Sn**	**14 53 08.8**	**+0.8**
LAY	**Lan-yu**	**2.76**	**187**	*e*P	**Pn**	**14 52 40.1**	**-0.7**
	baz=186						
LAY				*e*S	**Sn**	**14 53 11.0**	**-2.3**
	baz=186						
JIRB	**Irabujima**	**2.96**	**89**	*e*S	**Sn**	**14 53 18.5**	**+0.4**
JIKM	**Ikemajima**	**3.03**	**87**	*e*S	**Sn**	**14 53 20.8**	**+1.0**
JOW	**Kunigami**	**6.08**	**69**	Pn	**Pn**	**14 53 25.6**	**-0.2**
	0.5nm,0.3s,baz=180,slow=20,SNR=7.0						
JOW				Sn	**Sn**	**14 54 33.3**	**-0.6**
	baz=345,slow=19						
MKAR	**Makanchi Array**	**38.38**	**315**	P	**P**	**14 59 11.1**	**+0.5**
	0.1nm,0.4s,baz=105,slow=10.0,SNR=2.6						
WRA	**Warramunga Arr**	**46.08**	**164**	P	**P**	**15 00 12.7**	**-0.5**
	0.3nm,0.8s,baz=345,slow=8.7,SNR=5.2						
ASAR	**Alice Springs**	**49.55**	**166**	P	**P**	**15 00 39.2**	**-0.8**
	0.1nm,0.6s,baz=357,slow=6.8,SNR=3.0						

BJI ***27*** *15:06:03.8, 51.˚64N× 179.˚60W, h71km, mb5.4/76, mB5.2/46, Ms4.8/44, Ms7 4.5/21*

MOS ***27*** *15:06:05.0±1.0, 51.˚66N× 179.˚56W, h70km, mb5.3/130, Error ellipse: s-maj=6.0km s-min=4.3km az=88.4*

ISCJB ***27*** *15:06:06.9±0.3, 51.˚64N±0.˚03× 179.˚49W±0.˚02, h92km±2km, mb5.2/360, Error ellipse: s-maj=4.8km s-min=1.9km az=179.4*

IDC ***27*** *15:06:06.4±0.4, 51.˚62N× 179.˚52W, h74km±3km, mb4.6/47, mb1 4.7/51, mb1mx4.7/61, mbtmp5.0/51, MS3.8/30, Ms1 3.8/30, ms1mx3.7/36, Error ellipse: s-maj=10.2km s-min=6.5km az=159.0*

NEIC ***27*** *15:06:07.3±0.0, 51.˚79N× 179.˚50W, h78km, mb5.4/269, After AEIC.*

GCMT ***27*** *15:06:07.3±0.2, 51.˚52N× 179.˚54W, h76km±2km, MW5.1/112, Moment Tensor Solution. s72,c102; s112,c177; Duration: 0 Moment tensor: Scale 10^16 Nm; Mrr-1.96±.14; Mθθ2.66±.16; Mφφ-0.70±.15; Mrθ0.37±.10; Mθφ-3.63±.11; Mφr-3.81±.07; Best double couple: M±5.79100×10^16 NP1:φ340.00000°, δ76.00000°, λ-46.00000°. NP2:φ85.00000°, δ45.00000°, λ-160.00000°. Principal axes: T 5.8060, Plg19.0000°, Azm39.0000°; N -0.0330, Plg42.0000°, Azm148.0000°; P -5.7760, Plg42.0000°, Azm291.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

ISC 27 15:06:06.5±0.3, 51.˚56N±0.˚05× 179.˚49W±0.˚03, h75km±2km, h75km:pP-P, n1204, σ918/1285, mb5.2/368, 16C-50D, Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GALAA	**Gareloi Lava P**	**0.49**	**66**	P	**Pn**	**15 06 20.8**	**+1.1**
GAEA	**Gareloi East**	**0.52**	**64**	P	**Pn**	**15 06 20.8**	**+0.8**
GANE	**Gareloi Northe**	**0.52**	**60**	P	**Pn**	**15 06 21.0**	**+1.0**
TANO	**Tanaga North**	**0.92**	**67**	P	**Pn**	**15 06 25.7**	**+1.3**
TASE	**Tanaga Southea**	**0.95**	**73**	P	**Pn**	**15 06 25.9**	**+1.2**
TAFP	**Tanaga Falls P**	**1.00**	**69**	P	**Pn**	**15 06 26.2**	**+0.9**
TAFL	**Tanaga Flats**	**1.01**	**78**	P	**Pn**	**15 06 26.4**	**+1.0**
TAPA	**Tanaga Point A**	**1.08**	**76**	P	**Pn**	**15 06 27.2**	**+0.9**
KICM	**Kanaga Island**	**1.47**	**75**	P	**Pn**	**15 06 32.7**	**+1.5**
KIKV	**Kanaga Island**	**1.48**	**77**	P	**Pn**	**15 06 32.4**	**+1.0**
KIRH	**Kanaga Island**	**1.53**	**76**	P	**Pn**	**15 06 33.2**	**+1.2**
ADK	**Adak**	**1.78**	**78**	P	**Pn**	**15 06 36.1**	**+0.8**
ADK				S	**Sn**	**15 06 58.4**	**+1.3**
ADK	**Adak**	**1.78**	**78**	P	**Pn**	**15 06 36.1**	**+0.8**
ADK				S	**Sn**	**15 06 58.4**	**+1.3**
ADAG	**Mount Adagdak**	**1.84**	**76**	P	**Pn**	**15 06 37.5**	**+1.3**
ETKA	**Kagalaska Isla**	**1.94**	**80**	P	**Pn**	**15 06 38.6**	**+1.1**
GSCK	**Great Sitkin C**	**2.12**	**76**	P	**Pn**	**15 06 41.0**	**+1.2**
GSTD	**Great Sitkin T**	**2.14**	**75**	P	**Pn**	**15 06 41.0**	**+0.9**
GSTR	**Great Sitkin T**	**2.20**	**75**	*e*Pn	**Pn**	**15 06 41.8**	**+0.9**
ATKA	**Atka Island**	**3.34**	**77**	P	**Pn**	**15 06 57.5**	**+1.1**
ATKA				S	**Sn**	**15 07 36.3**	**+1.4**
KOKL	**Mount Kliuchef**	**3.36**	**75**	P	**Pn**	**15 06 58.4**	**+1.7**
KOFP	**Korovin Flat P**	**3.42**	**76**	P	**Pn**	**15 06 59.6**	**+2.2**
KONE	**Korovin Northe**	**3.43**	**74**	P	**Pn**	**15 06 59.7**	**+2.2**
KOSE	**Korovin Southe**	**3.46**	**75**	P	**Pn**	**15 07 00.2**	**+2.2**
SMY	**Shemya**	**4.12**	**289**	P	**Pn**	**15 07 07.9**	**+1.0**
SMY				S	**Sn**	**15 07 53.8**	**0.0**
SMY	**Shemya**	**4.12**	**289**	P	**Pn**	**15 07 07.9**	**+1.0**
SMY				S	**Sn**	**15 07 53.8**	**0.0**
NIKH	**Nikolski High**	**6.68**	**74**	P	**Pn**	**15 07 43.7**	**+1.8**
NIKH				S	**Sn**	**15 08 59.5**	**+3.0**

OKSO	**Okmok South**	**7.16**	**71**	P		**Pn**	**15 07 50.8**	**+2.4**
OKCE	**Okmok Cone E**	**7.17**	**70**	P		**Pn**	**15 07 51.4**	**+2.9**
OKTU	**Okmok Mt. Tuli**	**7.23**	**71**	P		**Pn**	**15 07 52.5**	**+3.1**
OKFG	**Magazine Ridge**	**7.31**	**71**	P		**Pn**	**15 07 52.8**	**+2.3**
OKFG				S		**Sn**	**15 09 17.6**	**+5.8**
SPIA	**Saint Paul Isl**	**7.79**	**40**	P		**Pn**	**15 08 00.0**	**+3.0**
MGOD	**Makushin Gods**	**7.99**	**69**	P		**Pn**	**15 08 01.8**	**+2.0**
MCIR	**Makushin Cirqu**	**8.01**	**68**	P		**Pn**	**15 08 02.8**	**+2.7**
MSW	**Makushin Switc**	**8.07**	**68**	P		**Pn**	**15 08 03.0**	**+2.1**
MTBL	**Makushin Table**	**8.14**	**68**	P		**Pn**	**15 08 04.6**	**+2.7**
UNV	**Unalaska Valle**	**8.22**	**69**	P		**Pn**	**15 08 04.9**	**+2.1**
AKRB	**Akutan Reef Bi**	**8.52**	**67**	P		**Pn**	**15 08 09.9**	**+2.8**
AKMO	**Akutan Morgan**	**8.55**	**67**	P		**Pn**	**15 08 10.1**	**+2.7**
AKGG	**Akutan Green G**	**8.58**	**67**	P		**Pn**	**15 08 10.5**	**+2.7**
AKLV	**Akutan Long Va**	**8.60**	**67**	P		**Pn**	**15 08 11.0**	**+3.0**
AKUT	**Akutan**	**8.70**	**67**	P		**Pn**	**15 08 11.9**	**+2.6**
AKSA	**Akutan Strait**	**8.74**	**67**	P		**Pn**	**15 08 12.6**	**+2.6**
WESP	**Westdahl Peak**	**9.37**	**66**	P		**Pn**	**15 08 21.3**	**+2.7**
WESE	**West Dahl East**	**9.45**	**66**	P		**Pn**	**15 08 22.2**	**+2.6**
WESN	**West Dahl Nort**	**9.47**	**66**	P		**Pn**	**15 08 22.3**	**+2.3**
SSLW	**Shishaldin Wes**	**9.77**	**65**	P		**Pn**	**15 08 26.6**	**+2.5**
SSLN	**Shishaldin Nor**	**9.85**	**65**	P		**Pn**	**15 08 27.8**	**+2.6**
SDPT	**Sand Point**	**11.94**	**64**	*e*Pn		**Pn**	**15 08 53.0**	**-0.6**
GAMB	**Gambell**	**12.92**	**16**	*e*Pn		**Pn**	**15 09 06.4**	**-0.4**
CHGN	**Chignik**	**13.27**	**61**	*e*Pn		**Pn**	**15 09 10.5**	**-1.0**
PET	**Petropavlovsk**	**13.45**	**285**	*e*P		**P**	**15 09 19.7**	**-0.8**
PET				*e*S		**Sn**	**15 11 49.5**	**+8.1**
PET				pmax	pmax			
	comp=Z,147nm,1.1s							
PET				pmax	pmax			
	comp=Z,400nm,5.5s							
PET				MLR	MLR			
	comp=Z,900nm,21.0s							
PET				MLR	MLR			
	comp=Z,700nm,21.0s							
PET	**Petropavlovsk**	**13.45**	**285**	*e*Pn		**Pn**	**15 09 16.2**	**+2.3**
PEA0	**Petropavlovsk-**	**14.02**	**285**	*e*Pn		**Pn**	**15 09 22.4**	**+1.0**
PEA0B	**Petropavlovsk-**	**14.02**	**285**	*e*Pn		**Pn**	**15 09 22.5**	**+1.1**
PETK	**Petropavlovsk-**	**14.02**	**285**	P		**Pn**	**15 09 21.2**	**-0.2**
	comp=Z,4.1nm,0.3s,baz=90,slow=16,SNR=57							
PETK				S		**Sn**	**15 11 48.9**	**-6.5**
	comp=Z,0.7nm,0.3s,baz=76,slow=24,SNR=3.6							
PETK				LR	LR	15 14 39.0		
	comp=Z,407nm,21.2s,baz=93,slow=37							
PETK				ScP		**ScP**	**15 18 03.4**	**+0.5**
	comp=Z,0.3nm,0.3s,baz=342,slow=2.2,SNR=6.5							
OHAK	**Old Harbor**	**16.22**	**59**	*e*Pn		**Pn**	**15 09 46.4**	**-3.1**
	comp=Z,452nm,0.3s							
SVW2	**Sparrevohn**	**16.24**	**45**	*e*Pn		**P**	**15 09 51.6**	**+0.1**
	comp=Z,184nm,1.4s							
KDAK	**Kodiak Island**	**16.69**	**58**	P		**Pn**	**15 09 53.1**	**-2.2**
	comp=Z,45nm,0.3s,baz=242,slow=6.2,SNR=466							
KDAK				S		**Sn**	**15 12 55.3**	**-4.5**
	comp=Z,1.2nm,0.3s,baz=345,slow=20,SNR=7.6							
KDAK	**Kodiak Island**	**16.69**	**58**	P		**Pn**	**15 09 53.1**	**-2.2**
	comp=Z,36nm,0.6s							
KDAK				S		**Sn**	**15 12 55.3**	**-4.5**
TT01	**Tatalina**	**16.92**	**39**	*e*Pn		**P**	**15 10 00.4**	**+1.4**
TTA	**Tatalina**	**16.94**	**39**	*e*P		**P**	**15 10 00.6**	**+1.4**
TTA				pmax	pmax			
	comp=Z,120nm,1.2s							
TTA	**Tatalina**	**16.94**	**39**	*e*Pn		**P**	**15 10 00.6**	**+1.4**
	comp=Z,119nm,1.3s							
RSO	**Redoubt South**	**17.29**	**49**	*e*Pn		**P**	**15 10 05.4**	**+2.1**
HOM	**Homer**	**17.58**	**52**	*e*Pn		**P**	**15 10 07.8**	**+1.5**
	comp=Z,142nm,0.6s							
CNPM	**China Poot**	**17.75**	**52**	*e*P		**Pn**	**15 10 08.8**	**+0.5**
	comp=Z,186nm,1.3s							
SPU	**Mount Spurr**	**17.86**	**47**	*e*P		**Pn**	**15 10 10.9**	**+1.3**
BILL	**Bilibino**	**17.93**	**343**	*de*P		**Pn**	**15 10 12.6**	**+2.2**
BILL				pmax	pmax			
	comp=Z,189nm,1.7s							
BILL				MLR	MLR			
	comp=Z,284nm,21.0s							
BRLK	**Bradley Lake**	**17.98**	**52**	*e*P		**Pn**	**15 10 11.5**	**+0.4**
	comp=Z,119nm,0.4s							
PPLA	**Purkeypile**	**18.46**	**42**	*e*P		**Pn**	**15 10 17.9**	**+0.9**
	comp=Z,171nm,0.6s							
MA2	**Magadan**	**18.50**	**307**	P		**P**	**15 10 16.0**	**-0.3**
	comp=Z,1.3nm,0.3s,baz=89,slow=14,SNR=6.3							
SUA	**Susitna One**	**18.55**	**47**	*e*P		**P**	**15 10 17.4**	**+0.4**
	comp=Z,180nm,1.1s							
CAST	**Castle Rocks**	**18.74**	**40**	*e*P		**Pn**	**15 10 20.9**	**+0.8**
	comp=Z,79nm,0.6s							
SEW	**Seward**	**18.77**	**51**	*e*P		**Pn**	**15 10 20.2**	**-0.2**
	comp=Z,118nm,0.8s							
SEY	**Seymchan**	**18.82**	**318**	P		**P**	**15 10 20.0**	**+0.2**
	comp=Z,1.1nm,0.3s,baz=105,slow=12,SNR=14							
RC01	**Rabbit Creek A**	**18.89**	**48**	*e*P		**P**	**15 10 20.5**	**-0.1**
	comp=Z,486nm,2.0s							
KTH	**Kantishna Hill**	**19.26**	**40**	*e*P		**Pn**	**15 10 26.3**	**-0.1**
	comp=Z,656nm,1.6s							
PMR	**Palmer**	**19.32**	**47**	*e*P		**P**	**15 10 24.5**	**-0.7**
PMR				pmax	pmax			
	comp=Z,180nm,1.9s							
PMR	**Palmer**	**19.32**	**47**	*e*P		**P**	**15 10 25.0**	**-0.2**
	comp=Z,178nm,1.9s							
TRF	**Thorofare Moun**	**19.48**	**41**	*e*P		**P**	**15 10 27.9**	**+0.7**
	comp=Z,140nm,1.2s							
SML	**Sawmill**	**19.75**	**47**	*e*P		**P**	**15 10 29.3**	**-0.7**
SML				pm

ILB	**Eielson Array**	21.38	39	*e*P		**P**	15 10 45.7	-1.7
CRQM	**Cirque**	21.96	51	*e*P		**P**	15 10 53.0	-1.0
	comp=Z,196nm,1.4s							
DOT	**Dot Lake**	22.16	43	*e*P		**P**	15 10 54.8	-1.2
	comp=Z,153nm,0.5s							
TOLK	**Toolik Lake Re**	22.31	29	P		**P**	15 10 58.6	+1.1
	baz=235,SNR=41							
KUR	**Kuril'sk**	22.45	267	*d* iP		**P**	15 10 58.9	-0.1
KUR				*e*			15 11 26.4	
KUR				*e*S		**S**	15 15 01.6	+1.4
KUR				*e*SS		**SnSn**	15 15 28.5	-6.4
KUR				pmax		pmax		
	comp=Z,1μm,3.6s							
KUR				pmax		pmax		
	comp=N,410nm,2.9s							
KUR				pmax		pmax		
	comp=E,703nm,3.6s							
KUR				pmax		pmax		
	comp=N,78nm,1.2s							
KUR				pmax		pmax		
	comp=Z,342nm,1.2s							
KUR				pmax		pmax		
	comp=E,102nm,1.3s							
FYU	**Fort Yukon**	22.73	36	*e*P		**P**	15 11 01.9	+0.1
	comp=E,139nm,1.3s							
PCA	**Pinnacle**	23.31	53	*e*P		**P**	15 11 07.0	-0.7
	comp=E,343nm,1.5s							
EGAK	**Eagle**	23.70	41	*e*P		**P**	15 11 10.8	-0.2
	comp=E,134nm,1.2s							
SHO	**Shikotan**	23.76	264	*d* iP		**P**	15 11 10.8	-1.0
SHO				S		**S**	15 15 22.5	+1.0
SHO				pmax		pmax		
	comp=Z,544nm,2.5s							
SHO				pmax		pmax		
	comp=E,399nm,2.2s							
SHO				pmax		pmax		
	comp=N,213nm,1.5s							
DAWY	**Dawson**	24.27	44	*e*P		**P**	15 11 16.0	-0.3
	comp=N,23nm,0.6s							
YUK	**Yuzh-Kuril'sk**	24.28	266	*d* iP		**P**	15 11 16.4	-0.1
YUK				S		**S**	15 15 36.0	+6.2
YUK				pmax		pmax		
	comp=Z,633nm,1.2s							
YUK				pmax		pmax		
	comp=E,12nm,0.5s							
YUK				pmax		pmax		
	comp=N,170nm,1.1s							
YUK				MLR		MLR		
	comp=Z,323nm,19.0s							
YUK				MLR		MLR		
	comp=N,371nm,14.0s							
YSS	**Yuzh-Sakhalins**	24.87	274	κ iP		**P**	15 11 22.9	+1.1
YSS				*e*S		**S**	15 15 42.7	+3.4
YSS				pmax		pmax		
	comp=N,60nm,1.2s							
YSS				pmax		pmax		
	comp=E,150nm,1.2s							
YSS				pmax		pmax		
	comp=Z,180nm,1.2s							
YSS				pmax		pmax		
	comp=Z,300nm,1.6s							
YSS				MLR		MLR		
	comp=Z,100nm,19.0s							
YSS	**Yuzh-Sakhalins**	24.87	274	*e*P		**P**	15 11 22.5	+0.7
	comp=Z,191nm,0.9s							
WHY	**Whitehorse**	26.00	52	*e*P		**P**	15 11 31.7	-0.4
	comp=Z,46nm,1.6s							
ASAJ	**Asahikawa**	26.27	269	*e*P		**P**	15 11 34.8	+0.3
	comp=Z,232nm,1.2s							
ERM	**Erimo**	27.03	264	*d* iP		**P**	15 11 42.7	+1.3
ERM				pmax		pmax		
	comp=Z,19nm,0.4s							
INK	**Inuvik**	27.56	35	P		**P**	15 11 45.9	+0.1
	comp=Z,3.9nm,0.3s,baz=239,slow=9.4,SNR=26							
INK				ScP		**ScP**	15 18 34.4	-0.8
	comp=Z,9.9nm,1.0s,baz=250,slow=2.4,SNR=7.2							
INK				LR		LR	15 22 53.3	
	comp=Z,206nm,18.8s,baz=250,slow=37							
DLBC	**Dease Lake**	28.62	57	P		**P**	15 11 56.0	+0.5
	comp=Z,2.6nm,0.5s,baz=293,slow=9.4,SNR=4.3							
DLBC				ScP		**ScP**	15 18 38.3	-0.5
	comp=Z,3.7nm,0.9s,baz=158,slow=3.0,SNR=3.3							
DLBC				LR		LR	15 22 45.1	
	comp=Z,533nm,20.1s,baz=272,slow=35							
YAK	**Yakutsk**	28.97	311	P		**P**	15 11 56.4	-2.0
	comp=Z,14nm,0.3s,baz=86,slow=3.9,SNR=18							
YAK				PcP		**PcP**	15 15 04.5	-0.7
	comp=Z,12nm,0.5s,baz=229,slow=1.1,SNR=8.2							
YAK	**Yakutsk**	28.97	311	*e*P		**P**	15 11 56.4	-2.0
YAK				*e**PP		**pP**	15 12 13.4	-2.7
YAK				*e*			15 12 57.0	
YAK				*e*			15 15 04.2	
YAK				*e*S		**S**	15 16 40.7	-2.9
YAK				*e*SS		**SnSn**	15 18 15.6	+2.1
YAK				pmax		pmax		
	comp=N,3.0nm,0.9s							
YAK				pmax		pmax		
	comp=Z,16nm,0.9s							
YAK				pmax		pmax		
	comp=N,122nm,2.7s							
YAK				pmax		pmax		
	comp=Z,564nm,3.9s							
YAK				smax		smax		
	comp=N,170nm,2.1s							
YAK				MLR		MLR		
	comp=N,455nm,22.0s							
YAK				MLR		MLR		
	comp=Z,231nm,21.0s							
YAK	**Yakutsk**	28.97	311	*e*P		**P**	15 11 57.1	-1.3
YAK				PcP		**PcP**	15 15 04.5	-0.7
HABR	**Khabarovsk**	29.01	282	*ce*P		**P**	15 11 58.3	-0.6
HABR				*e**PP		**pP**	15 12 15.8	-0.8
HABR				*e**SP		**sP**	15 12 24.9	-0.5
HABR				*e*			15 12 54.0	
HABR							15 15 04.9	
HABR				*e*S		**S**	15 16 45.0	+0.5
HABR				*e**SS		**sS**	15 17 15.9	+1.1
HABR				*e*SS		**SnSn**	15 18 16.5	+1.7
HABR				*e*			15 18 39.3	
HABR				*e*			15 22 33.5	
HABR				pmax		pmax		
	comp=E,67nm,1.6s							
HABR				pmax		pmax		
	comp=Z,135nm,1.6s							
HABR				pmax		pmax		
	comp=N,44nm,1.6s							
HABR				MLR		MLR		
	comp=Z,38nm,18.0s							
TIXI	**Tiksi**	30.26	330	P		**P**	15 12 07.5	-2.3
	comp=Z,2.9nm,0.4s,baz=112,slow=11,SNR=5.6							
TIXI				PcP		**PcP**	15 15 08.3	0.0
	comp=Z,2.7nm,0.4s,baz=117,slow=4.2,SNR=6.5							
TIXI	**Tiksi**	30.26	330	⇓ iP		**P**	15 12 10.7	+0.9
TIXI				pmax		pmax		
	comp=Z,3.0nm,0.9s							
TIXI				MLR		MLR		
	comp=Z,220nm,16.0s							
BBB	**Bella Bella**	31.19	68	LR		LR	15 22 50.1	
	comp=Z,197nm,21.3s,baz=262,slow=32							
USRK	**Ussuriysk Ar.**	32.84	277	P		**P**	15 12 32.3	-0.4
	comp=Z,14nm,0.6s,baz=56,slow=10.0,SNR=28							
USRK				pP		**pP**	15 12 49.4	-1.0
	comp=Z,3.8nm,0.6s,baz=65,slow=5.3,SNR=3.0							
USRK				PcP		**PcP**	15 15 16.4	+0.7
	comp=Z,2.2nm,0.5s,baz=27,slow=1.1,SNR=4.6							
USRK				ScP		**ScP**	15 18 53.7	+0.8
	comp=Z,1.9nm,0.9s,baz=113,slow=4.4,SNR=4.4							
USRK				LR		LR	15 25 04.1	
	comp=Z,117nm,21.6s,baz=49,slow=35							
MJAR	**Matsushiro Arr**	33.39	260	P		**P**	15 12 38.0	+0.4
	comp=Z,13nm,0.7s,baz=50,slow=7.9,SNR=36							
MJAR				PcP		**PcP**	15 15 18.1	+0.6
	comp=Z,3.8nm,0.5s,baz=56,slow=2.1,SNR=8.7							
MJAR				ScP		**ScP**	15 18 55.4	+0.5
	comp=Z,6.3nm,1.2s,baz=58,slow=1.7,SNR=8.0							
MJAR				LR		LR	15 24 15.0	
	comp=Z,245nm,21.9s,baz=60,slow=33							
MAJO	**Matsushiro**	33.39	260	*e*P		**P**	15 12 38.1	+0.5
MAJO				pmax		pmax		
	comp=Z,120nm,1.3s							
MAJO	**Matsushiro**	33.39	260	*e*P		**P**	15 12 37.5	-0.1
	comp=Z,121nm,1.3s							
MAT	**Matsushiro**	33.39	260	P		**P**	15 12 38.0	+0.4
MAT				S		**S**	15 17 55.6	+2.5
MJB9	**Matsu-Tunnel**	33.39	260	*e*P		**P**	15 12 37.6	0.0
	comp=Z,31nm,1.3s							
H11N2	**WAKE ISLAND Hy**	33.52	204	T		T	15 48 27.5	
	baz=16,slow=76,SNR=364							
H11N3	**WAKE ISLAND Hy**	33.53	204	T		T	15 48 38.6	
	baz=16,slow=76,SNR=465							
H11N1	**WAKE ISLAND Hy**	33.54	204	T		T	15 48 28.9	
	baz=16,slow=76,SNR=462							
MDJ	**Mudanjiang**	34.12	279	P		**P**	15 12 42.5	-1.3
MDJ				pP		pP	15 12 59.3	-2.3
MDJ				sP		sP	15 13 07.8	-2.6
MDJ				S		**S**	15 18 02.5	-1.6
MDJ				sS		sS	15 18 31.8	-2.9
MDJ				pmax		pmax		
	comp=Z,28nm,1.2s							
MDJ				pmax		pmax		
	comp=Z,73nm,3.8s							
MDJ	**Mudanjiang**	34.12	279	*e*P		**P**	15 12 42.7	-1.0
	comp=Z,34nm,1.0s							
MSHR	**Mys Shultsa**	34.21	275	*d* iP		**P**	15 12 45.2	+0.6
H11S1	**WAKE ISLAND Hy**	34.74	203	T		T	15 50 42.9	
	baz=20							
H11S2	**WAKE ISLAND Hy**	34.76	203	T		T	15 51 18.1	
	baz=20,slow=74							
H11S3	**WAKE ISLAND Hy**	34.76	203	T		T	15 49 46.6	
	baz=20,slow=74							
INU	**Inuyama**	34.90	260	*e*P		**P**	15 12 49.9	-0.7
	comp=Z,40nm,1.3s							
LLLB	**Lillooet**	35.40	68	*e*P		**P**	15 12 55.8	+1.0
	comp=Z,25nm,0.4s							
YKA	**Yellowknife Ar**	35.42	47	P		**P**	15 12 55.0	+0.2
	comp=Z,9.6nm,0.3s,baz=280,slow=9.3,SNR=86							
YKA				pP		**pP**	15 13 12.8	+0.1
	comp=Z,2.2nm,0.5s,baz=284,slow=8.0,SNR=4.1							
YKA				ScP		**ScP**	15 19 00.9	-0.7
	comp=Z,9.4nm,0.6s,baz=286,slow=3.6,SNR=20							
YKA				LR		LR	15 28 23.5	
	comp=Z,37nm,18.9s,baz=0.0,slow=38							
A04D	**Lummi Island**	35.73	72	P		**P**	15 12 59.6	+2.1
	baz=297							
E03A	**Lebam**	36.23	75	*e*P		**P**	15 13 03.7	+1.9
	comp=Z,93nm,0.8s							
B05A	**Bryant**	36.30	72	P		**P**	15 13 04.2	+1.8
	baz=298,SNR=11							
B06A	**Marblemount**	36.54	71	*e*P		**P**	15 13 05.3	+0.8
	comp=Z,84nm,1.8s							
F04D	**Rainier, OR**	36.79	76	P		**P**	15 13 08.8	+2.1
	baz=300,SNR=5.3							
D05A	**Enumclaw**	36.86	74	*e*P		**P**	15 13 09.1	+1.8
	comp=Z,614nm,1.8s							
G03D	**McMinnville, O**	37.07	77	P		**P**	15 13 11.2	+2.2
	baz=301							
CN2	**Changchun**	37.09	280	*e*P		**P**	15 13 08.3	-0.9
CN2				*e*pP		pP	15 13 26.5	-0.7
CN2				pmax		pmax		
	comp=Z,20nm,0.9s							
CN2				pmax		pmax		
	comp=Z,200nm,3.0s							
CN2				LR		LR		
	comp=Z,300nm,21.0s							
CN2				LR		LR		
	comp=Z,300nm,21.0s							
LVP	**Lakeview Peak**	37.16	75	P		**P**	15 13 11.9	+2.0
C06D	**Leavenworth**	37.17	72	P		**P**	15 13 11.9	+2.0
	baz=299							
LON	**Longmire**	37.18	74	*e*P		**P**	15 13 11.7	+1.6
LON				pmax		pmax		
	comp=Z,52nm,0.7s							
LON	**Longmire**	37.18	74	*e*P		**P**	15 13 11.3	+1.2
	comp=Z,52nm,0.6s							
F04A	**Amboy**	37.22	76	*e*P		**P**	15 13 11.9	+1.6
	comp=Z,84nm,0.5s							
COR	**Corvallis**	37.37	78	*e*P		**P**	15 13 14.4	+2.8
COR				pmax		pmax		
	comp=Z,440nm,1.8s							
COR	**Corvallis**	37.37	78	*e*P		**P**	15 13 13.8	+2.3
	comp=Z,439nm,1.8s							
BOD	**Bodaibo**	37.52	306	*e*P		**P**	15 13 11.7	-1.0
BOD				pmax		pmax		
	comp=Z,65nm,1.5s							
TWW	**Teanaway**	37.56	73	P		**P**	15 13 15.2	+1.9
LTY	**Liberty**	37.62	73	*e*P		**P**	15 13 14.6	+0.8
	comp=Z,29nm,0.6s							
KEBM	**Edson Butte**	37.65	81	*e*P		**P**	15 13 16.3	+2.2
	comp=Z,110nm,1.0s							
ETW	**Entiat**	37.65	72	P		**P**	15 13 15.4	+1.2
TBM	**Table Mountain**	37.70	73	P		**P**	15 13 15.9	+1.3
NAC	**Naches**	37.78	74	P		**P**	15 13 16.8	+1.7
HIA	**Hailar**	37.81	291	*e*P		**P**	15 13 14.7	-0.7
HIA				pmax		pmax		
	comp=Z,174nm,1.3s							
HIA	**Hailar**	37.81	291	*e*P		**P**	15 13 14.7	-0.7
	comp=Z,174nm,1.3s							
WTV	**Waterville**	37.83	72	P		**P**	15 13 16.4	+0.8
B08A	**Colville Reser**	37.88	70	*e*P		**P**	15 13 16.5	+0.5
	comp=Z,34nm,0.6s							
GL2	**New Goldendale**	38.17	75	P		**P**	15 13 20.3	+1.9
G05D	**Wamic, OR**	38.24	76	P		**P**	15 13 20.9	+1.9
	baz=302,SNR=13							
I04A	**Tendick Farm,**	38.33	79	P		**P**	15 13 21.9	+2.1
	baz=303,SNR=33							
E07A	**Sunnyside**	38.45	73	*e*P		**P**	15 13 21.9	+1.2
	comp=Z,45nm,0.6s							
L02D	**Cave Junction,**	38.49	82	P		**P**	15 13 23.5	+2.4
	baz=304,SNR=10.0							
HUMO	**Hull Mountain**	38.64	81	*e*P		**P**	15 13 24.6	+2.2
	comp=Z,127nm,1.8s							
G06A	**Carlson Farm,**	38.65	76	*e*P		**P**	15 13 23.7	+1.2
	comp=Z,92nm,1.7s							
KRMB	**Red Mountain**	38.66	83	*e*P		**P**	15 13 24.8	+2.1
	comp=Z,232nm,2.0s							
I05D	**Terrebonne, OR**	38.70	77	P		**P**	15 13 24.9	+2.0
	baz=302,SNR=9.3							
HAWA	**Hanford**	38.73	73	*e*P		**P**	15 13 24.2	+1.2
	comp=Z,93nm,0.6s							
D08A	**Wollman Farm,**	38.76	72	*e*P		**P**	15 13 24.0	+0.7
	comp=Z,39nm,0.6s							
J04D	**Umpqua Nationa**	38.81	79	P		**P**	15 13 26.3	+2.3
	baz=303,SNR=12							
JBO	**Jordan Butte**	39.02	75	P		**P**	15 13 27.0	+1.5
EDM	**Edmonton**	39.10	61	*e*P		**P**	15 13 26.1	0.0
EDM				pmax		pmax		
	comp=Z,30nm,0.6s							
EDM	**Edmonton**	39.10	61	*e*P		**P**	15 13 25.6	-0.4
	comp=Z,30nm,0.6s							
KHMM	**Horse Mountain**	39.14	83	*e*P		**P**	15 13 29.1	+2.4
	comp=Z,194nm,1.8s							
KSRS	**Korea Array**	39.20	270	P		**P**	15 13 28.0	+1.0
	comp=Z,32nm,0.9s,baz=60,slow=8.1,SNR=83							
KSRS				PcP		**PcP**	15 15 35.5	+0.8
	comp=Z,4.1nm,1.0s,baz=70,slow=4.3,SNR=6.3							
KSRS				LR		LR	15 28 43.5	
	comp=Z,59nm,20.8s,baz=58,slow=35							
KS01	**Wonju Array Si**	39.21	270	*e*P		**P**	15 13 26.7	-0.4
NEW	**Newport**	39.23	69	P		**P**	15 13 28.2	+1.0
	comp=Z,37nm,0.5s,baz=298,slow=8.6,SNR=71							
NEW				pP		**pP**	15 13 44.8	-0.5
	comp=Z,16nm,0.6s,baz=289,slow=7.8,SNR=5.3							
NEW				ScP		**ScP**	15 19 14.3	-2.0
	comp=Z,2.3nm,0.5s,baz=287,slow=6.8,SNR=4.7							
NEW	**Newport**	39.23	69	P		**P**	15 13 27.8	+0.6
	baz=299,SNR=35							
NEW	**Newport**	39.23	69	*e*P		**P**	15 13 27.4	+0.2
NEW				*PP		**pP**	15 13 44.9	-0.5
NEW							15 19 14.3	
NEW				pmax		pmax		
	comp=Z,43nm,0.6s							
NEW	**Newport**	39.23	69	*e*P		**P**	15 13 27.4	+0.2
	comp=Z,43nm,0.6s							
NEW				pP		**pP**	15 13 44.9	-0.5
NEW				ScP		**ScP**	15 19 14.3	-2.0
KS15	**Wonju Array Si**	39.23	270	*e*P		**P**	15 13 27.5	+0.2
KSAR	**Wonju Array Be**	39.23	270	P		**P**	15 13 28.0	+0.7
KSAR							15 15 35.6	
KSAR	**Wonju Array Be**	39.23	270	P		**P**	15 13 28.0	+0.7
KSAR				PcP		**PcP**	15 15 35.5	+0.7
YBH	**Yreka Blue Hor**	39.28	81	*e*P		**P**	15 13 30.4	+2.6
YBH				pmax		pmax		
	comp=Z,40nm,1.1s							
YBH	**Yreka Blue Hor**	39.28	81	*e*P		**P**	15 13 29.9	+2.1
	comp=Z,40nm,1.1s							
SNY	**Shenyang**	39.32	279	⇓P		**P**	15 13 28.3	+0.3
SNY				S		**S**	15 19 27.3	+4.0
SNY				pmax		pmax		
	comp=Z,99nm,1.2s							
SNY				pmax		pmax		
	comp=Z,220nm,6.4s							
SNY				LR		LR		
	comp=Z,190nm,7.8s							
SNY				LR		LR		
	comp=Z,260nm,23.9s							
J05D	**Fort Rock, OR**	39.33	79	P		**P**	15 13 30.7	+2.4
	baz=304,SNR=23							
K04D	**Chiloquin, OR**	39.37	80	P		**P**	15 13 30.8	+2.2
	baz=304,SNR=5.4							
M02C	**Callahan**	39.39	82	P		**P**	15 13 31.1	+2.5
	baz=305,SNR=12							
E09A	**Wood Farm, Sta**	39.49	72	*e*P		**P**	15 13 29.6	+0.3
	comp=Z,109nm,1.4s							
KMRM	**Mail Ridge**	39.53	84	*e*P		**P**	15 13 32.1	+2.2
	comp=Z,135nm,0.7s							
N02D	**Trinity Center**	39.72	82	P		**P**	15 13 33.8	+2.4
	baz=306,SNR=14							
RES	**Resolute Bay**	39.76	24	P		**P**	15 13 31.8	+0.6
	comp=Z,16nm,1.0s,baz=256,slow=5.5,SNR=5.1							
M04C	**Macdoel**	39.79	81	P		**P**	15 13 34.3	+2.2
	baz=305,SNR=24							
K05A	**Summer Lake**	39.84	79	*e*P		**P**	15 13 35.0	+2.4
	comp=Z,64nm,0.8s							
KCPM	**Cahto Peak**	39.92	85	*e*P		**P**	15 13 35.1	+1.9
	comp=Z,188nm,0.3s							
INCN	**Inchon**	39.99	271	*e*P		**P**	15 13 33.8	+0.2
	comp=Z,162nm,1.3s							
WDC	**Whiskeytown Da**	40.05	83	*e*P		**P**	15 13 36.3	+2.3
WDC				pmax		pmax		
	comp=Z,28nm,1.0s							
WDC	**Whiskeytown Da**	40.05	83	*e*P		**P**	15 13 35.9	+1.8
	comp=Z,28nm,1.0s							
CIT	**Chita**	40.07	298	*e*P		**P**	15 13 34.5	+0.3
CIT				*e*			15 13 50.9	
CIT				pmax		pmax		
	comp=Z,246nm,1.2s							
JNU	**Nakatsue**	40.16	262	P		**P**	15 13 36.0	+0.8
	comp=Z,38nm,0.8s,baz=24,slow=4.8,SNR=32							
JNU				PcP		**PcP**	15 15 36.7	-1.3
	comp=Z,4.4nm,0.7s,baz=252,slow=6.4,SNR=4.1							
JNU	**Nakatsue**	40.16	262	*e*P		**P**	15 13 35.6	+0.4
	comp=Z,65nm,1.0s							
JNU				PcP		**PcP**	15 15 36.7	-1.3
F10A	**Beach Ranch, E**	40.31	73	*e*P		**P**	15 13 36.6	+0.3
	comp=Z,20nm,0.7s							
MOD	**Modoc Plateau**	40.67	80	*e*P		**P**	15 13 41.1	+1.7
	comp=Z,55nm,0.6s							
O03D	**Paynes Creek**	40.67	83	P		**P**	15 13 40.7	+1.4
	baz=306,SNR=22							
WALA	**Waterton Lakes**	40.70	67	*e*P		**P**	15 13 39.6	+0.1
	comp=Z,23nm,0.8s							
BSMT	**Bassoo Peak**	40.79	69	*e*P		**P**	15 13 40.5	+0.2
BMO	**Blue Mountains**	40.86	74	*e*P		**P**	15 13 42.2	+1.4
BMO				pmax		pmax		
	comp=Z,31nm,0.7s							
BMO	**Blue Mountains**	40.86	74	*e*P		**P**	15 13 41.8	+0.9
	comp=Z,31nm,0.6s							
BLMT	**Blacktail Moun**	40.96	68	*e*P		**P**	15 13 42.0	+0.3
JTMT	**Jette**	41.14	69	*e*P		**P**	15 13 43.3	+0.2
YBMT	**Yellow Bay**	41.24	68	*e*P		**P**	15 13 43.3	-0.6
ORV	**Oroville**	41.30	83	*e*P		**P**	15 13 45.4	+1.1
ORV				pmax		pmax		
	comp=Z,15nm,0.7s							
ORV	**Oroville**	41.30	83	*e*P		**P**	15 13 44.3	0.0
	comp=Z,15nm,0.7s							
WVOR	**Wild Horse Val**	41.39	78	*e*P		**P**	15 13 46.9	+1.7
WVOR				pmax		pmax		
	comp=Z,43nm,0.6s							
WVOR	**Wild Horse Val**	41.39	78	*e*P		**P**	15 13 46.9	+1.7
	comp=Z,43nm,0.6s							
SWMT	**Swartz Lake**	41.42	69	*e*P		**P**	15 13 44.9	-0.5
MSO	**Missoula**	41.81	70	P		**P**	15 13 49.1	+0.5
	baz=302,SNR=28							
MSO	**Missoula**	41.81	70	*e*P		**P**	15 13 48.4	-0.2
	comp=Z,33nm,0.4s							
BEKR	**Beckworth**	41.82	82	*e*P		**P**	15 13 49.8	+1.0
	comp=Z,26nm,0.6s							
SLMT	**Seeley Lake**	41.86	69	*e*P		**P**	15 13 49.3	+0.3
AFDM	**Forest Hills D**	41.99	84	*e*P		**P**	15 13 50.5	+0.4
	comp=Z,21nm,1.3s							
CHMT	**Chamberlain Mo**	42.17	69	*e*P		**P**	15 13 51.2	-0.5
DL2	**Dalian**	42.24	276	P		**P**	15 13 52.3	+0.3
DL2				pmax		pmax		
	comp=Z,86nm,1.0s							
PAHR	**Pah Rah Range**	42.52	82	*e*P		**P**	15 13 55.5	+1.1
	comp=Z,36nm,0.6s							
MFID	**Camas Ranch**	42.54	75	*e*P		**P**	15 13 55.3	+0.7
	comp=Z,124nm,1.8s							
PNTR	**Pine Nut**	42.75	83	*e*P		**P**	15 13 57.9	+1.4
	comp=Z,130nm,0.6s							
CMB	**Columbia Colle**	42.91	84	*e*P		**P**	15 13 59.4	+1.9
CMB				pmax		pmax		
	comp=Z,27nm,1.2s							
CMB	**Columbia Colle**	42.91	84	*e*P		**P**	15 13 59.2	+1.6
	comp=Z,27nm,1.3s							
YERR	**Yerington**	43.04	83	*e*P		**P**	15 14 00.3	+1.6
	comp=Z,55nm,1.2s							
HRY	**Holter Researc**	43.10	69	*e*P		**P**	15 13 59.1	0.0
WAKR	**Walker**	43.21	83	*e*P		**P**	15 14 01.7	+1.6
	comp=Z,29nm,0.7s							
LRM	**Limekiln Ridge**	43.22	70	*e*P		**P**	15 13 60.0	-0.2
HLID	**Hailey**	43.31	74	P		**P**	15 14 02.1	+1.2
	baz=305,SNR=64							
HLID	**Hailey**	43.31	74	*e*P		**P**	15 14 01.7	+0.9
	comp=Z,232nm,1.8s							
DLMT	**Dillon**	43.39	71	*e*P		**P**	15 14 01.4	-0.1
	comp=Z,41nm,1.5s							
BMN	**Battle Mountai**	43.41	79	*e*P		**P**	15 14 03.4	+1.7
BMN				pmax		pmax		
	comp=Z,58nm,0.6s							
BMN	**Battle Mountai**	43.41	79	*e*P		**P**	15 14 03.1	+1.4
	comp=Z,58nm,0.6s							
MCMT	**McKenzie Canyo**	43.53	72	*e*P		**P**	15 14 03.1	+0.4
EGMT	**Eagleton**	43.60	66	P		**P**	15 14 02.8	-0.2
	baz=302,SNR=13							
EGMT	**Eagleton**	43.60	66	*e*P		**P**	15 14 02.5	-0.5
	comp=Z,22nm,0.6s							
TVH1	**TV Hill, Hawth**	43.66	83	*e*P		**P**	15 14 05.2	+1.2
	comp=Z,44nm,0.5s							
TVH3	**East Aurora ar**	43.68	83	*e*P		**P**	15 14 05.5	+1.5
	comp=Z,37nm,1.2s							

YPP **Pitchstone Pla** 45.05 71 *eP* P 15 14 16.0 +1.0
comp=Z,17nm,0.7s
VES **Vestal, Richgr** 45.10 86 P P 15 14 15.6 +0.6
baz=310,SNR=12
H17A **Grant Village** 45.12 71 P P 15 14 17.5 +2.1
baz=305,SNR=79
H17A **Grant Village** 45.12 71 *eP* P 15 14 17.1 +1.7
comp=Z,68nm,0.6s
LKWY **Lake** 45.12 70 *eP* P 15 14 17.5 +2.1
LKWY pmax pmax
comp=Z,79nm,1.2s
LKWY **Lake** 45.12 70 *eP* P 15 14 17.0 +1.5
comp=Z,79nm,1.3s
IMW **Indian Meadow** 45.19 72 *eP* P 15 14 16.7 +0.7
comp=Z,31nm,0.8s
PKM **Mcpherson Peak** 45.26 87 P P 15 14 18.0 +1.5
baz=311
HVU **Hansel Valley** 45.32 75 *eP* P 15 14 18.1 +1.2
HVU pmax pmax
comp=Z,61nm,0.5s
HVU **Hansel Valley** 45.32 75 *eP* P 15 14 18.1 +1.2
comp=Z,61nm,0.5s
CWC **Cottonwood Cre** 45.34 85 P P 15 14 18.4 +1.2
baz=310
MOOW **Moose Ponds** 45.39 72 *eP* P 15 14 18.1 +0.6
comp=Z,14nm,0.8s
TPAW **Teton Pass** 45.41 72 *eP* P 15 14 18.5 +0.7
comp=Z,42nm,0.6s
GRAC **Grapevine Rang** 45.43 83 P P 15 14 19.2 +1.5
baz=310,SNR=26
RLMT **Red Lodge** 45.47 69 P P 15 14 18.9 +0.7
baz=305,SNR=38
RLMT **Red Lodge** 45.47 69 *eP* P 15 14 18.6 +0.5
comp=Z,49nm,0.6s
REDW **Red Top Meadow** 45.55 72 *eP* P 15 14 19.6 +0.8
comp=Z,24nm,0.7s
SNOW **Snow King Moun** 45.55 72 *eP* P 15 14 19.9 +1.0
comp=Z,28nm,0.6s
LOHW **Long Hollow** 45.55 72 *eP* P 15 14 19.5 +0.7
comp=Z,23nm,0.6s
ISA **Isabella, Lake** 45.59 86 P P 15 14 19.5 +0.5
baz=311,SNR=9.2
ISA **Isabella, Lake** 45.59 86 *eP* P 15 14 19.6 +0.6
ISA pmax pmax
comp=Z,12nm,0.8s
ISA **Isabella, Lake** 45.59 86 *eP* P 15 14 19.3 +0.2
comp=Z,12nm,0.8s
TLY **Talaya** 45.60 302 P P 15 14 19.5 +0.7
comp=Z,31nm,0.6s,baz=36,slow=6.2,SNR=70
TLY **Talaya** 45.60 302 *eP* P 15 14 19.1 +0.3
TLY pmax pmax
comp=Z,61nm,1.1s
TLY **Talaya** 45.60 302 *eP* P 15 14 18.9 +0.1
comp=Z,38nm,0.6s
TLY **Talaya** 45.60 302 P P 15 14 19.8 +1.0
SNR=9.9
TLY **Talaya** 45.60 302 P P 15 14 19.8 +1.0
SNR=9.9
TLY **Talaya** 45.60 302 P P 15 14 19.8 +1.0
SNR=9.9
SBC **Santa Barbara** 45.61 88 P P 15 14 20.3 +1.2
baz=311
BGU **Big Grassy Mou** 45.68 76 *eP* P 15 14 20.6 +0.9
comp=Z,29nm,0.7s
R11A **Troy Canyon, C** 45.69 81 P P 15 14 20.9 +1.1
baz=309,SNR=97
R11A **Troy Canyon, C** 45.69 81 *eP* P 15 14 20.8 +0.9
comp=Z,69nm,1.3s
DAC **Darwin (Calif)** 45.75 84 *eP* P 15 14 21.3 +0.9
DAC pmax pmax
comp=Z,11nm,0.7s
DAC **Darwin (Calif)** 45.75 84 *eP* P 15 14 21.3 +0.9
comp=Z,11nm,0.7s
ULN **Ulaanbaatar** 45.79 296 *eP* P 15 14 21.2 +0.7
ULN pmax pmax
comp=Z,86nm,1.1s
ULN **Ulaanbaatar** 45.79 296 *eP* P 15 14 20.9 +0.3
comp=Z,86nm,1.1s
ULN **Ulaanbaatar** 45.79 296 P P 15 14 21.5 +0.9
SNR=26
ULN **Ulaanbaatar** 45.79 296 P P 15 14 21.5 +0.9
SNR=26
ULN **Ulaanbaatar** 45.79 296 P P 15 14 21.5 +0.9
SNR=26
SPUT **South Promonto** 45.80 75 *eP* P 15 14 21.7 +1.0
comp=Z,126nm,1.6s
MPMC **Manual Prospec** 45.95 85 P P 15 14 23.1 +1.1
baz=310,SNR=22
BSC **Santa Cruz Isl** 45.96 88 P P 15 14 22.8 +0.9
baz=312
FURC **Furnace Creek,** 46.08 84 P P 15 14 24.1 +1.4
baz=310,SNR=17
OSI **Osito Audit: C** 46.12 87 P P 15 14 24.4 +1.3
baz=311
OSI **Osito Audit: C** 46.12 87 *eP* P 15 14 23.9 +0.7
comp=Z,26nm,0.5s
TPNV **Topopah Spring** 46.15 83 P P 15 14 24.9 +1.3
baz=310,SNR=71
TPNV **Topopah Spring** 46.15 83 *eP* P 15 14 25.0 +1.5
TPNV pmax pmax
comp=Z,58nm,0.8s
TPNV **Topopah Spring** 46.15 83 *eP* P 15 14 24.5 +1.0
comp=Z,58nm,0.8s
HWUT **Hardware Ranch** 46.16 74 *eP* P 15 14 24.2 +0.7
comp=Z,177nm,1.8s
SONA1 **Songino Array** 46.17 296 *eP* P 15 14 23.9 +0.5
SONM **Songino Array** 46.18 296 P P 15 14 24.4 +0.9
comp=Z,24nm,0.6s,baz=55,slow=9.0,SNR=115
SONM pP **pP** 15 14 41.7 -0.4
comp=Z,5.3nm,0.5s,baz=90,slow=11,SNR=3.4
SONM PcP **PcP** 15 15 58.8 +0.7
comp=Z,2.3nm,0.5s,baz=98,slow=1.9,SNR=3.2
SONM ScP **ScP** 15 19 44.2 -0.2
comp=Z,4.8nm,0.7s,baz=48,slow=3.3,SNR=17
SONM LR LR 15 34 08.3
comp=Z,265nm,21.9s,baz=66,slow=36
JOW **Kunigami** 46.18 258 P P 15 14 23.7 +0.1
comp=Z,64nm,0.9s,baz=104,slow=11,SNR=21
JOW PcP **PcP** 15 15 58.3 0.0
comp=Z,10nm,0.5s,baz=118,slow=3.0,SNR=5.9
JOW **Kunigami** 46.18 258 *eP* P 15 14 23.7 +0.1
comp=Z,121nm,1.2s
JOW PcP **PcP** 15 15 58.3 0.0
LRMC **Laurel Mtn Rad** 46.20 85 P P 15 14 24.6 +0.7
baz=311,SNR=13
BLG **Laguna Peak, P** 46.24 88 P P 15 14 24.8 +0.8
baz=312
DUG **Dugway, Tooele** 46.25 77 P P 15 14 25.8 +1.6
baz=308,SNR=69
DUG **Dugway, Tooele** 46.25 77 *eP* P 15 14 25.8 +1.6
DUG pmax pmax
comp=Z,68nm,0.5s
DUG **Dugway, Tooele** 46.25 77 *eP* P 15 14 25.4 +1.2
comp=Z,68nm,0.5s
LAO **LASA Array** 46.34 66 P P 15 14 25.1 +0.4
baz=305,SNR=18
LAO **LASA Array** 46.34 66 *eP* P 15 14 24.9 +0.2
comp=Z,51nm,0.6s
EDW2 **Edwards Air Fo** 46.40 86 P P 15 14 26.2 +0.8
baz=311,SNR=9.8
DGMT **Dagmar** 46.48 63 P P 15 14 25.6 -0.2
baz=304
ZAK **Zakamensk** 46.49 301 *eP* P 15 14 26.5 +0.6
ZAK *e* 15 15 59.3
ZAK pmax pmax
comp=Z,65nm,1.4s
PSUT **Pine Spring** 46.64 79 *eP* P 15 14 28.1 +0.8
comp=Z,41nm,0.5s
BW06 **Boulder Array** 46.66 72 P P 15 14 28.4 +0.8
baz=307,SNR=198
BW06 **Boulder Array** 46.66 72 *eP* P 15 14 28.1 +0.6
comp=Z,129nm,0.6s
PD31 **Pinedale Array** 46.66 72 *eP* P 15 14 28.4 +0.8
PDAR **Pinedale Array** 46.66 72 P P 15 14 28.4 +0.8
comp=Z,108nm,0.5s,baz=301,slow=3.4,SNR=1131
PDAR pP **pP** 15 14 45.4 -0.8
comp=Z,15nm,0.6s,baz=313,slow=3.2,SNR=3.0
PDAR ScP **ScP** 15 19 44.7 -2.0
comp=Z,0.8nm,0.5s,baz=304,slow=1.5,SNR=5.3
PDAR LR LR 15 32 20.6
comp=Z,189nm,19.0s,baz=308,slow=34
TIA **Tai'an** 46.71 277 ||P P 15 14 27.8 +0.1
TIA pmax pmax
comp=Z,60nm,1.0s
MWC **Mount Wilson** 46.79 87 *eP* P 15 14 29.9 +1.3
MWC pmax pmax
comp=Z,140nm,1.8s
MWC **Mount Wilson** 46.79 87 *eP* P 15 14 29.7 +1.2
comp=Z,136nm,1.8s
SHOC **Shoshone, Teco** 46.81 84 P P 15 14 29.6 +1.2
baz=311,SNR=12
JLU **Jordanelle** 46.83 76 *eP* P 15 14 29.9 +1.1
comp=Z,102nm,1.5s
NLU **North Lily Min** 46.84 77 *eP* P 15 14 29.8 +0.8
comp=Z,31nm,0.6s
GSC **Goldstone, Bar** 46.86 85 P P 15 14 30.0 +1.0
baz=311,SNR=34
GSC **Goldstone, Bar** 46.86 85 *eP* P 15 14 30.2 +1.2
GSC pmax pmax
comp=Z,29nm,0.9s
GSC **Goldstone, Bar** 46.86 85 *eP* P 15 14 29.9 +0.9
comp=Z,29nm,0.8s
MOY **Mondy** 47.00 303 *eP* P
MOY pmax pmax
comp=Z,73nm,3.0s
BFSC **Mount Baldy Ra** 47.03 87 P P 15 14 31.2 +0.8
baz=312,SNR=12
CIS **Catalina Islan** 47.11 88 P P 15 14 31.1 +0.2
baz=312
SHPR **Sheep Range** 47.11 82 *eP* P 15 14 31.6 +0.6
comp=Z,34nm,1.6s
HHC **Hu-ho-hao-te** 47.22 285 *eP* P 15 14 32.3 +0.5
HHC pP pP 15 14 47.8 -2.6
HHC sP sP 15 14 56.0 -2.9
HHC PP **PP** 15 16 27.8 +4.7
HHC S **S** 15 21 22.3 +3.2
HHC sS sS 15 21 53.0 +2.3
HHC pmax pmax
comp=Z,51nm,0.9s
HHC pmax pmax
comp=Z,120nm,5.6s
HHC LR LR
comp=Z,250nm,12.8s
HHC LR LR
comp=Z,310nm,16.3s
TUQ **Turquoise Moun** 47.33 84 P P 15 14 33.6 +0.9
baz=311,SNR=26
HEC **Hector,Ludlow** 47.46 85 P P 15 14 34.7 +1.0
baz=311
GUMO **Guam** 47.49 230 P P 15 14 32.1 -1.9
comp=Z,41nm,0.4s,baz=20,slow=23,SNR=4.6
CCUT **Cedar City** 47.55 80 *eP* P 15 14 34.7 +0.2
comp=Z,25nm,0.6s
MSU **Marysvale** 47.68 78 *eP* P 15 14 37.1 +1.6
MSU **Marysvale** 47.68 78 *eP* P 15 14 36.7 +1.2
SZCU **Shurtz Canyon** 47.70 80 *eP* P 15 14 36.2 +0.6
comp=Z,28nm,1.3s
MURC **Murrieta** 47.74 87 P P 15 14 36.5 +0.8
baz=312
TMUT **Trail Mountain** 47.78 77 *eP* P 15 14 37.1 +0.8
comp=Z,93nm,0.6s
GMRC **Granite Mounta** 47.91 85 P P 15 14 38.0 +0.8
baz=311,SNR=33
MTPU **Mount Pierson** 47.97 79 *eP* P 15 14 38.9 +1.1
comp=Z,21nm,0.8s
LCMT **Little Creek M** 47.97 81 *eP* P 15 14 38.8 +1.2
comp=Z,47nm,0.9s
LDFC **Landfair** 48.06 84 *eP* P 15 14 38.9 +0.5
comp=Z,53nm,0.7s
PFO **Pinyon Flats O** 48.19 86 P P 15 14 39.3 -0.1
comp=Z,5.2nm,0.6s,baz=338,slow=6.4,SNR=11
PFO **Pinyon Flats O** 48.19 86 P P 15 14 39.9 +0.6
baz=312,SNR=7.3
PFO **Pinyon Flats O** 48.19 86 *eP* P 15 14 40.4 +1.1
PFO pmax pmax
comp=Z,11nm,0.9s
BELC **Belle Mtn. Jos** 48.22 86 P P 15 14 39.9 +0.3
baz=312,SNR=16
PKCU **Pink Cliffs** 48.27 79 *eP* P 15 14 41.5 +1.4
comp=Z,30nm,0.5s
BTO **Baotou** 48.30 286 *eP* P 15 14 39.8 -0.3
BTO pmax pmax
comp=Z,15nm,0.6s
SRU **San Rafael Swe** 48.31 77 *eP* P 15 14 41.5 +1.2
SRU pmax pmax
comp=Z,95nm,0.5s
SRU **San Rafael Swe** 48.31 77 *eP* P 15 14 41.2 +0.9
comp=Z,95nm,0.5s
NJ2 **Nanjing** 48.37 271 *eP* P 15 14 40.5 -0.1
NJ2 pmax pmax
comp=Z,30nm,1.2s
K22A **Casper** 48.53 70 P P 15 14 41.9 0.0
baz=308,SNR=21
K22A **Casper** 48.53 70 *eP* P 15 14 41.7 -0.2
comp=Z,41nm,0.6s
IRM **Iron Mountain** 48.65 85 P P 15 14 43.5 +0.8
baz=312,SNR=20
BAR **Barrett** 48.68 87 *eP* P 15 14 43.1 +0.1
comp=Z,18nm,1.0s
MONP **Monument Peak,** 48.69 87 P P 15 14 44.1 +0.8
baz=313,SNR=7.2
RWWY **Rawlins** 48.71 72 *eP* P 15 14 43.4 0.0
comp=Z,267nm,1.8s
BC3 **Big Chuckawall** 48.79 85 P P 15 14 44.0 +0.1
baz=312
W13A **Hualapai Mount** 48.81 83 *eP* P 15 14 44.6 +0.4
comp=Z,14nm,0.6s
U15A **North Rim** 48.93 80 *eP* P 15 14 46.4 +1.2
comp=Z,53nm,0.6s
IKP **In-Ko-Pah, Jac** 49.05 87 P P 15 14 46.8 +0.9
baz=313,SNR=7.1
O20A **White River Ci** 49.05 74 P P 15 14 46.7 +0.8
baz=309,SNR=35
O20A **White River Ci** 49.05 74 *eP* P 15 14 46.5 +0.5
comp=Z,93nm,0.6s
RSSD **Black Hills** 49.09 67 P P 15 14 45.8 -0.4
baz=307
RSSD **Black Hills** 49.09 67 *eP* P 15 14 46.0 -0.2
RSSD pmax pmax
comp=Z,10.0nm,0.5s
RSSD **Black Hills** 49.09 67 *eP* P 15 14 45.2 -1.0
comp=Z,10nm,0.5s
PDMCI **Parker Dam,Lak** 49.17 84 P P 15 14 47.3 +0.6
baz=312,SNR=6.2
Y12C **Blythe** 49.30 85 P P 15 14 48.4 +0.7
baz=312,SNR=7.8
Y12C **Blythe** 49.30 85 *eP* P 15 14 48.1 +0.4
comp=Z,19nm,0.7s
MDND **Maddock** 49.37 61 P P 15 14 47.8 -0.3
baz=306,SNR=5.2
MDND **Maddock** 49.37 61 *eP* P 15 14 47.6 -0.4
comp=Z,45nm,0.8s
PV09 **Paddox Valley** 49.54 76 *eP* P 15 14 48.9 -0.9
GLA **Glamis** 49.58 86 P P 15 14 50.7 +0.8
baz=313,SNR=21
GLA **Glamis** 49.58 86 *eP* P 15 14 50.8 +0.9
GLA pmax pmax
comp=Z,33nm,0.6s
GLA **Glamis** 49.58 86 *eP* P 15 14 50.0 +0.1
comp=Z,32nm,0.6s
KBS **Kingsbay** 49.59 357 *eP* P 15 14 50.8 +1.5
KBS pmax pmax
comp=Z,25nm,0.5s
KBS **Kingsbay** 49.59 357 *eP* P 15 14 50.4 +1.1
comp=Z,25nm,0.4s
PV10 **Paradox Valley** 49.67 76 *eP* P 15 14 51.8 +1.0
PV04 **Paradox Valley** 49.74 76 *eP* P 15 14 51.9 +0.6
PV05 **Paradox Valley** 49.83 77 *eP* P 15 14 51.2 -0.7
ULM **Lac du Bonnet** 49.94 56 P P 15 14 51.7 -0.7
comp=Z,11nm,0.5s,baz=304,slow=7.5,SNR=31
ULM ScP **ScP** 15 19 58.3 -1.9
comp=Z,3.1nm,0.5s,baz=306,slow=5.2,SNR=4.7
ULM **Lac du Bonnet** 49.94 56 P P 15 14 51.7 -0.7
comp=Z,9.8nm,0.6s
ULM ScP **ScP** 15 19 58.3 -1.9
N23A **Red Feather La** 49.95 72 P P 15 14 53.7 +0.9
baz=309,SNR=39
N23A **Red Feather La** 49.95 72 *eP* P 15 14 53.3 +0.5
comp=Z,67nm,1.2s
PHWY **Pilot Hill** 49.98 71 *eP* P 15 14 52.5 -0.7
comp=Z,16nm,0.5s
B31A **Greenbush Farm** 50.08 59 P P 15 14 52.8 -0.6
baz=307
WUAZ **Wupatki** 50.09 81 P P 15 14 55.3 +1.4
baz=311,SNR=45
WUAZ **Wupatki** 50.09 81 *eP* P 15 14 55.0 +1.1
comp=Z,48nm,0.6s
PV01 **Paradox Valley** 50.11 76 *eP* P 15 14 54.7 +0.6
Y14A **Wickenburg** 50.12 83 *eP* P 15 14 54.5 +0.5
comp=Z,144nm,1.4s
SPA0 **Spitsbergen Ar** 50.16 356 *eP* P 15 14 53.9 +0.2
A32A **Rocking H Ranc** 50.41 58 P P 15 14 54.6 -1.3
baz=307
SMCO **Snowmass** 50.41 74 *eP* P 15 14 56.6 +0.1
comp=Z,19nm,0.6s
C31A **Landman Farms,** 50.41 60 P P 15 14 54.9 -1.0
baz=307
113A **Mohawk Valley,** 50.43 85 *eP* P 15 14 56.2 0.0
comp=Z,49nm,1.8s
MVCO **Mesa Verde** 50.75 77 P P 15 14 59.6 +0.7
baz=311,SNR=14
MVCO **Mesa Verde** 50.75 77 *eP* P 15 14 59.2 +0.3
comp=Z,107nm,1.5s
X16A **Lo Mia Camp, P** 50.77 82 *eP* P 15 15 00.1 +1.1
comp=Z,17nm,0.7s
ISCO **Idaho Springs** 50.83 73 P P 15 15 00.4 +0.8
baz=310,SNR=26
ISCO **Idaho Springs** 50.83 73 *eP* P 15 15 00.6 +1.0
ISCO pmax pmax
comp=Z,23nm,0.8s
ISCO **Idaho Springs** 50.83 73 *eP* P 15 15 00.2 +0.6
comp=Z,23nm,0.8s
D31A **Mcclaflin, Tow** 50.87 61 P P 15 14 58.5 -0.9
baz=308,SNR=5.7
A33A **Warroad** 50.98 58 P P 15 14 59.3 -0.9
baz=307,SNR=11
C32A **Crookston** 51.04 59 P P 15 14 59.5 -1.1
baz=308
E31A **Nome** 51.07 61 P P 15 15 00.1 -0.9
baz=308,SNR=16
F31A **Hecla** 51.30 62 P P 15 15 01.3 -1.4
baz=308
W18A **Petrified Fore** 51.36 80 P P 15 15 04.7 +1.2
baz=312,SNR=22
W18A **Petrified Fore** 51.36 80 *eP* P 15 15 04.4 +1.0
comp=Z,36nm,0.7s
DAG **Danmarks Havn** 51.36 6 *i* P P 15 15 03.1 +0.5
comp=Z,3.3nm,0.6s
DAG **Danmarks Havn** 51.36 6 *eP* P 15 15 03.1 +0.5
DAG pmax pmax
comp=Z,2.0nm,0.6s
S22A **4UR Ranch, Cre** 51.41 75 P P 15 15 05.4 +1.4
baz=311,SNR=46
S22A **4UR Ranch, Cre** 51.41 75 *eP* P 15 15 05.1 +1.1
comp=Z,102nm,1.5s
E32A **Braaten, Kindr** 51.50 61 P P 15 15 02.8 -1.3
baz=308
214A **Organ Pipe Nat** 51.57 85 P P 15 15 05.7 +0.8
baz=313,SNR=13
214A **Organ Pipe Nat** 51.57 85 *eP* P 15 15 05.3 +0.4
comp=Z,34nm,0.5s
X18A **Snowflake** 51.62 81 *eP* P 15 15 06.3 +1.0
comp=Z,32nm,0.6s
Q24A **Divide** 51.64 73 P P 15 15 06.6 +1.0
baz=310,SNR=11
Q24A **Divide** 51.64 73 *eP* P 15 15 06.3 +0.7
comp=Z,17nm,0.7s
B34A **Aery, Baudette** 51.64 58 P P 15 15 04.2 -1.0
baz=308,SNR=21
G31A **Conde** 51.72 63 P P 15 15 04.6 -1.1
baz=308
SUSD **Miller** 51.78 64 P P 15 15 05.6 -0.7
baz=309
D33A **AnnSam, Waubun** 51.83 60 P P 15 15 05.5 -1.1
baz=308,SNR=11
H31A **Wolsey** 52.03 64 P P 15 15 07.2 -0.8
baz=309
G32A **Webster** 52.09 62 P P 15 15 07.4 -1.2
baz=309,SNR=6.4
E33A **Westby DABS, E** 52.13 60 P P 15 15 07.8 -1.1
baz=309
B35A **Bob, Littlefor** 52.20 57 P P 15 15 08.2 -1.1
baz=308,SNR=9.4
D34A **Park Rapids** 52.21 59 P P 15 15 08.4 -1.0
baz=308,SNR=18
WHN **Wuhan** 52.21 273 P P 15 15 09.3 -0.3
WHN pmax pmax
comp=Z,140nm,1.2s
SDCO **Great Sand Dun** 52.22 75 P P 15 15 11.1 +1.2
baz=311,SNR=64
SDCO **Great Sand Dun** 52.22 75 *eP* P 15 15 10.7 +0.7
comp=Z,68nm,1.3s
OGNE **Ogallala** 52.22 69 P P 15 15 10.3 +0.7
baz=310,SNR=5.4
OGNE **Ogallala** 52.22 69 *eP* P 15 15 09.9 +0.3
comp=Z,267nm,1.8s
I31A **Royce, Wessing** 52.28 64 P P 15 15 09.3 -0.6
baz=309
C35A **Jirik Farms, M** 52.48 58 P P 15 15 10.2 -1.2
baz=309,SNR=18
TUC **Tucson** 52.59 83 P P 15 15 13.4 +1.0
baz=313
TUC **Tucson** 52.59 83 *eP* P 15 15 13.5 +1.0
TUC pmax pmax
comp=Z,68nm,1.7s
TUC **Tucson** 52.59 83 *eP* P 15 15 13.1 +0.6
comp=Z,68nm,1.7s
H32A **Carlson Farm,** 52.59 63 P P 15 15 11.3 -1.0
baz=309,SNR=6.7
J31A **Geddes** 52.62 65 P P 15 15 12.1 -0.4
baz=310,SNR=27
G33A **Ortonville** 52.71 62 P P 15 15 11.9 -1.2
baz=309,SNR=14
D35A **Remer** 52.83 59 P P 15 15 13.1 -0.8
baz=309,SNR=22
H33A **Prehn Over Nor** 52.87 63 P P 15 15 13.2 -1.1
baz=309,SNR=5.4
I32A **Karley and Nic** 52.88 64 P P 15 15 13.2 -1.2
baz=310,SNR=5.4
SSLB **Suanglung** 52.91 262 *eP* P 15 15 14.5 -0.4
comp=Z,52nm,1.0s
E35A **Pequot Lakes** 52.97 59 P P 15 15 14.1 -0.9
baz=309,SNR=8.1
F34A **Alexandria** 52.98 61 P P 15 15 14.1 -1.0
baz=309,SNR=6.7
C36A **Pine Crest Far** 53.05 57 P P 15 15 14.6 -1.0
baz=309,SNR=15
J32A **Parkston** 53.08 64 P P 15 15 15.0 -0.9
baz=310,SNR=6.6
FRB **Frobisher Bay** 53.10 31 P P 15 15 15.4 -0.2
comp=Z,11nm,0.4s,baz=306,slow=8.3,SNR=13
KSCO **Kaye Shedlock'** 53.11 72 P P 15 15 17.4 +1.1
baz=311,SNR=5.6
XAN **Xi'an** 53.20 280 P P 15 15 16.5 -0.4
XAN pP pP 15 15 34.3 -1.5
XAN sP sP 15 15 43.3 -1.0
XAN pmax pmax
comp=Z,42nm,1.3s
XAN pmax pmax
comp=Z,170nm,4.7s
SUMG **Summit** 53.22 14 *i* P P 15 15 18.0 +1.0
SUMG **Summit** 53.22 14 *eP* P 15 15 18.2 +1.2
SUMG pmax pmax
comp=Z,20nm,1.1s
SUMG **Summit** 53.22 14 *eP* P 15 15 17.2 +0.2
comp=Z,20nm,1.1s
D36A **Goodland** 53.24 58 P P 15 15 16.2 -0.8
baz=309
T25A **Trinidad** 53.27 74 P P 15 15 18.8 +1.2
baz=312,SNR=36
T25A **Trinidad** 53.27 74 *eP* P 15 15 17.8 +0.2
comp=Z,118nm,1.3s
F35A **Swanville** 53.31 60 P P 15 15 16.7 -0.8
baz=310,SNR=9.6
C37A **Embarrass** 53.41 57 P P 15 15 17.6 -0.7
baz=309,SNR=14
H34A **Spellman Lake,** 53.41 62 P P 15 15 17.7 -0.6
baz=310
LAZ **Ladron** 53.43 79 *eP* P 15 15 20.0 +1.2
K32A **Verdigre** 53.46 65 P P 15 15 18.1 -0.6
baz=310
ANMO **Albuquerque** 53.48 78 P P 15 15 19.6 +0.5
comp=Z,3.2nm,0.6s,baz=319,slow=9.1,SNR=13
ANMO **Albuquerque** 53.48 78 P P 15 15 20.0 +0.9
baz=312
ANMO **Albuquerque** 53.48 78 *eP* P 15 15 20.1 +0.9
ANMO pmax pmax
comp=Z,42nm,1.5s
ANMO **Albuquerque** 53.48 78 *eP* P 15 15 19.5 +0.4
comp=Z,42nm,1.5s
ECSD **EROS Data Cent** 53.54 63 P P 15 15 18.2 -1.1
baz=310,SNR=10.0
ECSD **EROS Data Cent** 53.54 63 *eP* P 15 15 17.8 -1.4
comp=Z,10nm,0.5s
ZAA0 **Zalesovo Array** 53.59 313 *eP* P 15 15 18.2 -1.2
ZALV **Zalesovo Beam** 53.59 313 P P 15 15 18.4 -1.0
comp=Z,3.3nm,0.4s,baz=44,slow=6.1,SNR=19
ZALV PcP **PcP** 15 16 25.5 +0.5
comp=Z,2.3nm,0.4s,baz=45,slow=4.4,SNR=5.4
ZALV ScP **ScP** 15 20 14.2 -1.7
comp=Z,0.6nm,0.3s,baz=20,slow=4.7,SNR=5.6
ZALV LR LR 15 41 23.1
comp=Z,38nm,18.7s,baz=70,slow=40

E36A **McGregor** 53.61 59 P P 15 15 19.2 -0.4
baz=310,SNR=10
EYMN **Ely** 53.63 57 P P 15 15 19.2 -0.7
baz=310,SNR=9.5
EYMN **Ely** 53.63 57 *eP* P 15 15 19.0 -0.8
comp=Z,68nm,1.4s
D37A **Cotton** 53.64 58 P P 15 15 19.1 -0.9
baz=310,SNR=6.5
NVS **Novosibirsk** 53.73 315 *eP* P 15 15 18.9 -1.5
G35A **Watkins** 53.77 61 P P 15 15 20.0 -0.9
baz=310
L32A **Elgin** 53.86 66 P P 15 15 21.6 0.0
baz=310
F36A **Milaca** 53.88 60 P P 15 15 20.9 -0.8
baz=310,SNR=7.0
C38A **Sawbill Land.** 53.89 57 P P 15 15 20.9 -0.8
baz=310,SNR=9.1
BNM **Barren Site** 53.91 79 *eP* P 15 15 23.0 +0.7
K33A **Hardington** 54.05 65 P P 15 15 22.6 -0.3
baz=310
G36A **St. Michael** 54.16 60 P P 15 15 23.2 -0.5
baz=310
BGNE **Belgrade** 54.16 67 P P 15 15 23.9 0.0
baz=311,SNR=6.1
BGNE **Belgrade** 54.16 67 *eP* P 15 15 23.6 -0.3
comp=Z,74nm,0.4s
121A **Cookes Peak, D** 54.29 81 P P 15 15 26.2 +1.1
baz=314,SNR=21
121A **Cookes Peak, D** 54.29 81 *eP* P 15 15 26.0 +1.0
comp=Z,17nm,0.6s
I35A **Creekview Farm** 54.37 62 P P 15 15 24.9 -0.3
baz=310
C39A **Grand Marais** 54.42 56 P P 15 15 24.7 -0.9
baz=310,SNR=6.6
F37A **Hinrichs Farm,** 54.45 59 P P 15 15 25.2 -0.6
baz=310,SNR=9.4
E38A **The Farm, Brul** 54.45 58 P P 15 15 25.1 -0.8
baz=310,SNR=12
H36A **Jessenland, He** 54.48 61 P P 15 15 25.6 -0.4
baz=310,SNR=7.3
K34A **Le Mars** 54.50 64 P P 15 15 25.5 -0.8
baz=311
J35A **Milford** 54.56 63 P P 15 15 25.9 -0.8
baz=311
M33A **Taylor Creek F** 54.60 66 P P 15 15 26.6 -0.4
baz=311,SNR=9.2
SPMN **Marine on St.** 54.68 60 P P 15 15 26.9 -0.6
baz=310,SNR=6.2
SPMN **Marine on St.** 54.68 60 *eP* P 15 15 26.6 -0.8
comp=Z,17nm,0.6s
F38A **Pierce - Schro** 54.70 59 P P 15 15 27.5 -0.1
baz=310,SNR=42
I36A **Fitzsimmons Fa** 54.80 62 P P 15 15 27.5 -0.8
baz=311
L34A **Svendsen Farm,** 54.81 65 P P 15 15 27.9 -0.6
baz=311,SNR=14
LZH **Lanzhou** 54.92 286 *eP* P 15 15 30.5 +1.0
LZH pP pP 15 15 48.5 -0.1
LZH sP sP 15 15 56.0 -1.0
LZH PcP **PcP** **15 16 31.5 +0.9**
LZH pmax pmax
comp=Z,63nm,1.0s
LZH pmax pmax
comp=Z,210nm,4.0s
LZH LR LR
comp=Z,200nm,11.5s
LZH LR LR
comp=Z,380nm,16.8s
LZH LR LR
comp=Z,310nm,16.8s
CBKS **Cedar Bluff** 54.94 70 P P 15 15 30.3 +0.8
baz=312
CBKS **Cedar Bluff** 54.94 70 *eP* P 15 15 30.4 +0.8
CBKS pmax pmax
comp=Z,130nm,0.7s
CBKS **Cedar Bluff** 54.94 70 *eP* P 15 15 30.0 +0.5
comp=Z,128nm,0.7s
K35A **Storm Lake** 54.96 64 P P 15 15 28.7 -0.8
baz=311,SNR=5.7
M34A **Aspy Farms, Fr** 55.00 66 P P 15 15 29.5 -0.4
baz=311
H37A **Dierke Farm, C** 55.03 61 P P 15 15 30.0 0.0
baz=311
J36A **Seneca 1, Swea** 55.06 62 P P 15 15 29.5 -0.8
baz=311,SNR=7.4
DGZ **Jazzator, Alta** 55.08 308 *i* P P 15 15 31.3 +0.8
DGZ pmax pmax
comp=Z,14nm,1.2s
GTA **Gaotai** 55.10 291 ⇓P P **15 15 31.3 +0.6**
GTA pP pP 15 15 48.5 -1.3
GTA sP sP 15 15 57.0 -1.2
GTA ScP **ScP** **15 20 23.3 +0.4**
GTA PcS **PcS** **15 20 32.5 +1.2**
GTA S S **15 23 08.0 +0.3**
GTA sS sS 15 23 40.8 +0.7
GTA ScS **ScS** **15 25 10.8 -2.0**
GTA SS **SS** **15 26 54.5 +2.6**
GTA pmax pmax
comp=Z,58nm,1.2s
GTA pmax pmax
comp=Z,230nm,4.7s
GTA LR LR
comp=Z,140nm,19.0s
GTA LR LR
comp=Z,190nm,19.0s
E39A **Mellen** 55.13 58 P P 15 15 29.8 -0.9
baz=311,SNR=9.3
I37A **Lemond, Waseca** 55.14 61 P P 15 15 30.6 -0.2
baz=311,SNR=7.8
L35A **Bielow Farm, R** 55.19 64 P P 15 15 30.3 -0.9
baz=311
G38A **Ridgeland** 55.22 59 P P 15 15 30.7 -0.7
baz=311,SNR=8.6
F39A **Loretta** 55.24 58 P P 15 15 31.3 -0.2
baz=311
H38A **Maiden Rock** 55.31 60 P P 15 15 31.8 -0.2
baz=311,SNR=9.9
O33A **Hebron** 55.36 67 P P 15 15 32.1 -0.4
baz=312,SNR=10
ENH **Enshi** 55.42 277 *eP* P 15 15 32.1 -0.9
comp=Z,60nm,1.4s
E40A **Wakefield** 55.43 57 P P 15 15 32.6 -0.3
baz=311,SNR=17
K36A **Gilmore City** 55.45 63 P P 15 15 32.3 -0.8
baz=311,SNR=11
N34A **Lincoln** 55.48 66 P P 15 15 32.6 -0.7
baz=312,SNR=8.0
J37A **Redenius Farm,** 55.51 62 P P 15 15 32.9 -0.6
baz=311,SNR=13
G39A **Holcombe** 55.51 59 P P 15 15 32.7 -0.8
baz=311,SNR=9.1
M35A **Neola** 55.52 65 P P 15 15 33.5 -0.1
baz=312,SNR=15
SFJD **Kangerlussuaq** 55.64 22 P P 15 15 33.8 -0.2
comp=Z,6.3nm,0.7s,baz=258,slow=20,SNR=2.9
F40A **Park Falls** 55.66 58 P P 15 15 33.9 -0.7
baz=311,SNR=9.4
L36A **Harm Buss Farm** 55.69 64 P P 15 15 34.1 -0.7
baz=312
I38A **Scanlan Farm,** 55.70 61 P P 15 15 34.4 -0.5
baz=311,SNR=5.7
D41A **Chassel** 55.72 56 P P 15 15 34.8 -0.1
baz=311
O34A **Beatrice** 55.80 67 P P 15 15 35.3 -0.3
baz=312,SNR=24
K37A **Belmond** 55.82 63 P P 15 15 34.9 -0.8
baz=312,SNR=11
N35A **Tabor** 55.95 66 P P 15 15 36.9 +0.2
baz=312,SNR=26
M36A **Felix, Anita** 56.04 64 P P 15 15 36.9 -0.4
baz=312,SNR=7.2
G40A **Rib Lake** 56.04 58 P P 15 15 37.1 -0.2
baz=312
P34A **Walnut Farm, R** 56.15 67 P P 15 15 37.6 -0.6
baz=312,SNR=6.8
L37A **Phoenix Point,** 56.18 63 P P 15 15 37.8 -0.5
baz=312,SNR=11
O35A **Humboldt** 56.20 66 P P 15 15 37.9 -0.5
baz=312,SNR=7.3
I39A **Houston** 56.26 60 P P 15 15 38.3 -0.6
baz=312,SNR=12
F41A **Three Lakes** 56.31 57 P P 15 15 39.0 -0.2
baz=312,SNR=24
MNTX **Cornudas Mount** 56.35 80 P P 15 15 40.6 +0.9
baz=314,SNR=42
MNTX **Cornudas Mount** 56.35 80 *eP* P 15 15 40.5 +0.9
comp=Z,21nm,0.8s

H40A **Chili** 56.37 59 P P 15 15 39.3 -0.3
baz=312,SNR=7.9
N36A **Muff Farm, Cla** 56.37 65 P P 15 15 39.6 -0.1
baz=312,SNR=5.3
MSTX **Muleshoe** 56.38 76 P P 15 15 40.6 +0.6
baz=314
MSTX **Muleshoe** 56.38 76 *eP* P 15 15 40.2 +0.3
comp=Z,96nm,1.4s
AMTX **Amarillo** 56.42 75 P P 15 15 40.9 +0.6
baz=313
AMTX **Amarillo** 56.42 75 *eP* P 15 15 40.8 +0.6
comp=Z,111nm,1.8s
E42A **Champion** 56.47 56 P P 15 15 40.1 -0.2
baz=312,SNR=9.2
M37A **Trindle Farm,** 56.49 64 P P 15 15 40.5 0.0
baz=312,SNR=13
Q34A **Chapman** 56.50 68 P P 15 15 40.5 -0.1
baz=312,SNR=6.7
J39A **Decorah** 56.51 61 P P 15 15 39.8 -0.8
baz=312,SNR=33
KSU1 **Kansas State U** 56.57 68 P P 15 15 40.8 -0.3
baz=312
L38A **Oak Wood Farm,** 56.61 63 P P 15 15 40.8 -0.5
baz=312,SNR=25
G41A **Antigo** 56.62 58 P P 15 15 40.9 -0.5
baz=312
SCIA **State Center** 56.62 63 *eP* P 15 15 41.4 -0.1
comp=Z,57nm,0.4s
P35A **Duane Minner,** 56.63 67 P P 15 15 40.9 -0.6
baz=312,SNR=12
I40A **Norwalk** 56.73 60 P P 15 15 41.6 -0.6
baz=312,SNR=12
R34A **Isabella, Hill** 56.74 69 P P 15 15 42.2 -0.2
baz=313,SNR=13
H41A **Junction City** 56.77 59 P P 15 15 41.8 -0.6
baz=312,SNR=5.3
F42A **Maple Grove Fa** 56.80 57 P P 15 15 42.3 -0.4
baz=312,SNR=6.2
O36A **Bolckow** 56.83 66 P P 15 15 42.5 -0.4
baz=312
K39A **Oelwein** 56.83 62 P P 15 15 41.8 -1.1
baz=312,SNR=7.6
N37A **Lee Faris, Mou** 56.83 65 P P 15 15 43.0 0.0
baz=312,SNR=14
M38A **Pleasantville** 56.96 64 P P 15 15 43.4 -0.4
baz=312,SNR=14
E43A **Lone Tree Farm** 56.98 56 P P 15 15 43.7 -0.2
baz=312,SNR=14
J40A **Soldiers Grove** 56.99 60 P P 15 15 43.2 -0.8
baz=312,SNR=10
U32A **Winter Ranch,** 57.00 72 P P 15 15 44.6 +0.3
baz=313,SNR=12
I41A **Arkdale** 57.02 59 P P 15 15 43.9 -0.4
baz=312,SNR=7.7
P36A **Good Intent, A** 57.03 66 P P 15 15 43.7 -0.7
baz=313,SNR=7.2
Q35A **Mercer Eighty,** 57.06 68 P P 15 15 43.8 -0.8
baz=313,SNR=6.5
L39A **Vinton** 57.15 62 P P 15 15 44.5 -0.6
baz=312,SNR=6.2
S34A **Willow Spring** 57.22 69 P P 15 15 45.2 -0.5
baz=313,SNR=6.3
K40A **Colesburg** 57.24 61 P P 15 15 44.8 -1.0
baz=312,SNR=6.7
F43A **Flat Rock, Esc** 57.26 56 P P 15 15 45.6 -0.3
baz=312,SNR=11
O37A **Wolven Farm, M** 57.27 65 P P 15 15 45.7 -0.3
baz=313,SNR=14
Q36A **Arnold C. Orve** 57.33 67 P P 15 15 45.8 -0.7
baz=313,SNR=5.9
R35A **Emporia Munici** 57.33 68 P P 15 15 46.3 -0.2
baz=313
N38A **Joes South For** 57.36 64 P P 15 15 46.1 -0.5
baz=313,SNR=9.7
E44A **Grand Marais A** 57.37 55 P P 15 15 46.9 +0.2
baz=313
G43A **Wallace** 57.38 57 P P 15 15 46.3 -0.3
baz=312
J41A **Loganville** 57.41 60 P P 15 15 46.3 -0.7
baz=312,SNR=10
M39A **Webster** 57.49 63 P P 15 15 47.1 -0.5
baz=313,SNR=14
P37A **Lathrop** 57.54 66 P P 15 15 47.2 -0.7
baz=313,SNR=16
F44A **Big Bay de Noc** 57.55 56 P P 15 15 47.6 -0.3
baz=313
JFWS **Jewell Farm** 57.58 60 *eP* P 15 15 47.6 -0.6
JFWS pmax pmax
comp=Z,29nm,0.7s
JFWS **Jewell Farm** 57.58 60 *eP* P 15 15 47.2 -1.0
comp=Z,29nm,0.6s
L40A **Anamosa** 57.62 62 P P 15 15 47.7 -0.8
baz=313
T34A **McClaskey Farm** 57.64 70 P P 15 15 48.6 -0.1
baz=313,SNR=30
O38A **Galt** 57.68 65 P P 15 15 48.5 -0.4
baz=313,SNR=29
S35A **Otter Creek Ra** 57.70 69 P P 15 15 48.8 -0.3
baz=313,SNR=14
N39A **Derby Farms, D** 57.71 64 P P 15 15 48.6 -0.6
baz=313,SNR=22
R36A **Gordon, Harris** 57.73 68 P P 15 15 49.1 -0.3
baz=313,SNR=32
K41A **Shullsburg** 57.76 61 P P 15 15 48.8 -0.7
baz=313,SNR=30
M40A **Post Highland** 57.91 63 P P 15 15 49.7 -0.8
baz=313,SNR=5.9
Q37A **Longview Farm,** 57.96 67 P P 15 15 49.9 -1.1
baz=313
P38A **Dawn** 57.98 65 P P 15 15 50.4 -0.6
baz=313,SNR=20
L41A **Preston** 58.01 61 P P 15 15 50.3 -1.0
baz=313,SNR=9.2
S36A **Lake Cedric, C** 58.09 68 P P 15 15 51.3 -0.5
baz=313,SNR=11
T35A **Sooner Cattle** 58.10 70 P P 15 15 51.9 0.0
baz=314,SNR=9.2
O39A **Kirksville** 58.11 64 P P 15 15 51.3 -0.6
baz=313,SNR=5.2
R37A **Teagarden Farm** 58.13 67 P P 15 15 51.0 -1.1
baz=313,SNR=8.3
LVZ **Lovozero** 58.16 346 *i* P P 15 15 51.1 -0.8
LVZ pmax pmax
comp=Z,25nm,0.8s
LVZ **Lovozero** 58.16 346 *eP* P 15 15 51.0 -0.8
comp=Z,20nm,0.6s
F45A **CMU Biological** 58.21 55 P P 15 15 52.1 -0.5
baz=3
N40A **Mertquake, Sal** 58.22 63 P P 15 15 51.9 -0.8
baz=313,SNR=6.1
WMOK **Wichita Mounta** 58.26 73 P P 15 15 53.8 +0.7
baz=314,SNR=43
WMOK **Wichita Mounta** 58.26 73 *eP* P 15 15 53.8 +0.7
WMOK pmax pmax
comp=Z,30nm,0.9s
WMOK **Wichita Mounta** 58.26 73 *eP* P 15 15 53.3 +0.3
comp=Z,30nm,0.8s
U35A **Pawnee** 58.35 70 P P 15 15 53.6 0.0
baz=314,SNR=10
TRO **Tromso** 58.37 353 *eP* P 15 15 56.8 +3.6
T36A **Boggs Farm, Ca** 58.38 69 P P 15 15 53.4 -0.4
baz=314,SNR=8.3
Q38A **Cooks Store, C** 58.38 66 P P 15 15 52.9 -1.0
baz=313,SNR=18
M41A **Milan** 58.46 62 P P 15 15 53.6 -0.7
baz=313,SNR=11
S37A **Fort Scott** 58.51 68 P P 15 15 54.0 -0.7
baz=314,SNR=10
CD2 **Chengdu** 58.51 281 ⇓*i* P P 15 15 55.0 +0.1
CD2 sP sP 15 16 20.8 -1.7
CD2 PcP **PcP** **15 16 47.3 +2.7**
CD2 pmax pmax
comp=Z,60nm,1.1s
CD2 pmax pmax
comp=Z,430nm,7.2s
P39B **Salisbury** 58.51 65 P P 15 15 54.2 -0.5
baz=313,SNR=63
O40A **La Belle** 58.58 64 P P 15 15 54.8 -0.4
baz=313,SNR=32
KTK1 **Kautokeino** 58.58 351 *eP* P 15 15 54.6 -0.1
KURK **Kurchatov** 58.58 313 *eP* P 15 15 54.2 -0.8
KURK pmax pmax
comp=Z,26nm,0.8s
KURK **Kurchatov** 58.58 313 *eP* P 15 15 54.2 -0.8
comp=Z,26nm,0.8s
KURK **Kurchatov** 58.58 313 P P 15 15 55.7 +0.7
SNR=8.4
KURK **Kurchatov** 58.58 313 P P 15 15 55.7 +0.7
SNR=8.4
Q39A **Willow Grove F** 58.69 65 P P 15 15 55.1 -0.8
baz=314,SNR=49
V35A **Meyer Ranch, C** 58.70 71 P P 15 15 56.4 +0.2
baz=314,SNR=11
N41A **Hardin Midland** 58.75 63 P P 15 15 55.8 -0.5
baz=314,SNR=5.3
R38A **Fenwick Farm,** 58.75 67 P P 15 15 54.8 -1.6
baz=314,SNR=12
KIF **Kilpisjarvi** 58.82 352 *eP* P 15 15 55.6 -0.7
M42A **Sheffield** 58.84 61 P P 15 15 55.9 -1.1
baz=314
WMQ **Urumqi** 58.88 302 P P 15 15 58.0 +0.7
WMQ pP pP 15 16 17.8 +1.3
WMQ PcP **PcP** **15 16 46.8 +0.9**
WMQ ScP **ScP** **15 20 41.0 +1.6**
WMQ S **S** **15 23 58.8 +1.6**
WMQ pmax pmax
comp=Z,49nm,1.1s
WMQ pmax pmax
comp=Z,280nm,3.6s
WMQ LR LR
comp=Z,350nm,19.3s
WMQ LR LR
comp=Z,190nm,20.3s
P40A **Paris** 58.88 64 P P 15 15 56.9 -0.4
baz=314,SNR=81
T37A **Cheneyville 18** 58.89 68 P P 15 15 56.9 -0.5
baz=314,SNR=32
L43A **Garden Prairie** 58.90 60 P P 15 15 56.4 -0.9
baz=314
U36A **Oologah** 58.92 69 P P 15 15 57.4 -0.2
baz=314,SNR=5.7
TX31 **Lajitas Ar. Si** 59.05 81 *eP* P 15 15 59.1 +0.4
TXAR **Lajitas Array** 59.05 81 P P 15 15 59.3 +0.6
comp=Z,13nm,0.6s,baz=306,slow=5.3,SNR=219
TXAR pP **pP** **15 16 16.8 -1.2**
comp=Z,5.4nm,0.6s,baz=300,slow=5.1,SNR=4.4
TXAR ScP **ScP** **15 20 39.2 -1.3**
comp=Z,0.4nm,0.5s,baz=286,slow=2.0,SNR=3.9
TXAR LR LR 15 40 34.8
comp=Z,55nm,18.4s,baz=0.0,slow=35
W35A **Tecumseh** 59.10 71 P P 15 15 59.7 +0.8
baz=314,SNR=52
N42A **Yates City** 59.12 62 P P 15 15 58.3 -0.6
baz=314,SNR=11
S38A **Stockton** 59.13 67 P P 15 15 57.8 -1.2
baz=314,SNR=53
O41A **Passleys Farm,** 59.14 63 P P 15 15 58.6 -0.4
baz=314,SNR=18
ABTX **Abilene, Hawle** 59.20 75 P P 15 16 00.4 +0.7
baz=315,SNR=12
V36A **Jenks** 59.21 70 P P 15 16 00.0 +0.4
baz=314,SNR=16
TUL1 **Leonard** 59.22 70 P P 15 15 59.9 +0.2
baz=314,SNR=8.6
TUL1 **Leonard** 59.22 70 *eP* P 15 15 59.5 -0.2
comp=Z,39nm,0.8s
Q40A **Laux Farm, Aux** 59.24 65 P P 15 15 59.1 -0.7
baz=314,SNR=10
U37A **Salina** 59.27 69 P P 15 15 59.9 -0.1
baz=314,SNR=16
T38A **Diamond** 59.31 68 P P 15 15 59.6 -0.7
baz=314,SNR=14
P41A **Barry, Barry** 59.34 64 P P 15 16 00.0 -0.5
baz=314,SNR=12
S39A **Bolivar** 59.42 67 P P 15 15 59.4 -1.6
baz=314,SNR=13
W36A **Wetumka** 59.49 71 P P 15 16 02.3 +0.7
baz=314,SNR=21
X35A **Drake** 59.57 72 P P 15 16 02.6 +0.5
baz=314,SNR=16
MK31 **Makanchi Array** 59.58 308 *eP* P 15 16 01.6 -0.5
MK31 pmax pmax
comp=Z,4.0nm,0.3s
MK31 **Makanchi Array** 59.58 308 *eP* P 15 16 00.7 -1.4
MKAR **Makanchi Array** 59.58 308 P P 15 16 01.6 -0.4
comp=Z,14nm,0.3s,baz=47,slow=6.9,SNR=410
MKAR pP **pP** **15 16 21.1 -0.2**
comp=Z,3.7nm,0.4s,baz=63,slow=5.8,SNR=3.4
MKAR ScP **ScP** **15 20 41.5 -1.0**
comp=Z,1.6nm,1.0s,baz=35,slow=3.0,SNR=4.1
MKAR LR LR 15 42 55.9
comp=Z,100nm,21.5s,baz=33,slow=37
MKAR **Makanchi Array** 59.58 308 *eP* P 15 16 00.8 -1.3
comp=Z,227nm,0.3s
MKAR pP **pP** **15 16 21.1 -0.2**
MKAR ScP **ScP** **15 20 41.5 -1.0**
MK01 **Makanchi Array** 59.59 308 *eP* P 15 16 00.6 -1.6
R40A **Maddies Statio** 59.61 66 P P 15 16 01.1 -1.2
baz=314,SNR=67
V37A **Hulbert** 59.62 70 P P 15 16 02.3 -0.1
baz=314,SNR=18
U38A **Gravette** 59.67 69 P P 15 16 02.3 -0.5
baz=314,SNR=9.1
MAKZ **Makanchi** 59.72 308 *eP* P 15 16 02.2 -0.8
MAKZ pmax pmax
comp=Z,15nm,0.5s
MAKZ **Makanchi** 59.72 308 *eP* P 15 16 01.8 -1.2
comp=Z,14nm,0.4s
Q41A **Truxton** 59.74 64 P P 15 16 02.7 -0.5
baz=314,SNR=22
P42A **Winchester** 59.80 63 P P 15 16 03.1 -0.5
baz=314,SNR=9.9
X36A **Centrahoma** 59.81 71 P P 15 16 04.7 +0.9
baz=315,SNR=17
T39A **Clever** 59.85 67 P P 15 16 03.0 -1.0
baz=314,SNR=23
Y35A **Marietta** 59.87 72 P P 15 16 05.0 +0.8
baz=315
GYA **Guiyang** 59.87 275 *eP* P 15 16 05.0 +0.6
GYA pP pP 15 16 24.3 +0.6
GYA sP sP 15 16 32.0 -0.1
GYA PP **PP** **15 18 20.0 +3.0**
GYA S **S** **15 24 09.8 -0.7**
GYA sS sS 15 24 41.0 -2.3
GYA pmax pmax
comp=Z,20nm,1.0s
GYA pmax pmax
comp=Z,120nm,5.8s
O43A **Sugar Creek Fa** 59.89 62 P P 15 16 03.6 -0.6
baz=314
S40A **Lebanon** 59.96 66 P P 15 16 03.3 -1.4
baz=314,SNR=11
W37B **Quinton** 59.96 70 P P 15 16 05.6 +0.8
baz=315,SNR=28
V38A **Canehill** 60.06 69 P P 15 16 05.3 -0.2
baz=314,SNR=18
233A **Rising Star** 60.08 75 P P 15 16 06.3 +0.7
baz=315,SNR=11
R41A **Rosebud** 60.11 65 P P 15 16 04.9 -0.9
baz=314,SNR=25
SCHQ **Schefferville** 60.13 38 P P 15 16 05.4 -0.3
comp=Z,8.6nm,0.5s,baz=253,slow=15,SNR=5.3
SCHQ LR LR 15 43 41.5
comp=Z,193nm,18.2s,baz=296,slow=38
SCHQ **Schefferville** 60.13 38 *eP* P 15 16 05.2 -0.4
comp=Z,59nm,1.4s
Q42A **Golden Eagle** 60.16 64 P P 15 16 06.0 -0.1
baz=314,SNR=17
P43A **Skaggs, Pawnee** 60.22 63 P P 15 16 06.3 -0.2
baz=314,SNR=16
U39A **Green Forest** 60.24 68 P P 15 16 05.9 -0.8
baz=314,SNR=18
T40A **Mansfield** 60.26 67 P P 15 16 05.7 -1.1
baz=314,SNR=20
STEI **Steigen** 60.32 354 *eP* P 15 16 06.7 0.0
STEI lAmb lAmb 15 16 07.8
comp=Z,15nm,0.8s
Y36A **Durant** 60.32 72 P P 15 16 08.0 +0.7
baz=315,SNR=9.3
X37A **Clayton** 60.38 71 P P 15 16 08.3 +0.7
baz=315,SNR=18
S41A **Jillco Farms,** 60.40 66 P P 15 16 06.8 -1.0
baz=314,SNR=57
R42A **Luebbering** 60.45 65 P P 15 16 07.5 -0.6
baz=314,SNR=14
BRVK **Borovoye** 60.49 319 *eP* P 15 16 07.6 -0.5
BRVK pmax pmax
comp=Z,10.0nm,1.0s
BRVK **Borovoye** 60.49 319 *eP* P 15 16 07.2 -1.0
comp=Z,10nm,0.9s
BRVK **Borovoye** 60.49 319 P P 15 16 10.2 +2.1
SNR=6.7
BRVK **Borovoye** 60.49 319 P P 15 16 10.2 +2.1

SNR=6.7
BRVK **Borovoye** 60.49 319 P P 15 16 10.2 +2.1
SNR=6.7
VLDQ **Val d'Or** 60.49 49 eP P 15 16 05.6 -2.5
comp=Z,59nm,1.4s
333A **Richland Sprin** 60.51 76 P P 15 16 08.8 +0.1
baz=315,SNR=5.5
SLM **Saint Louis** 60.52 64 eP P 15 16 08.5 0.0
SLM pmax pmax
comp=Z,47nm,0.6s
SLM **Saint Louis** 60.52 64 eP P 15 16 07.8 -0.8
comp=Z,47nm,0.6s
V39A **Pettigrew** 60.52 69 P P 15 16 08.2 -0.5
baz=315,SNR=14
234A **Clairette** 60.55 75 P P 15 16 09.7 +0.9
baz=315,SNR=18
W38A **Poteau** 60.55 70 P P 15 16 09.4 +0.6
baz=315,SNR=36
Q43A **New Douglas** 60.61 64 P P 15 16 09.0 -0.2
baz=315,SNR=9.9
JCT **Junction City** 60.61 77 P P 15 16 09.4 0.0
baz=316,SNR=14
JCT **Junction City** 60.61 77 eP P 15 16 09.5 +0.2
JCT pmax pmax
comp=Z,32nm,1.1s
JCT **Junction City** 60.61 77 eP P 15 16 08.3 -1.0
comp=Z,32nm,1.1s
U40A **Yellville** 60.62 68 P P 15 16 08.6 -0.7
baz=315,SNR=26
X38A **Whitesboro** 60.65 70 P P 15 16 10.2 +0.8
baz=315,SNR=21
Y37A **Hugo** 60.66 71 P P 15 16 10.0 +0.4
baz=315
Z36A **Blue Ridge** 60.67 73 P P 15 16 10.0 +0.3
baz=315
T41A **Mountain View** 60.76 66 P P 15 16 09.0 -1.2
baz=315,SNR=6.8
S42A **Caledonia** 60.81 65 P P 15 16 09.8 -0.7
baz=315,SNR=50
P44A **Sand Creek, Wi** 60.84 62 P P 15 16 10.5 -0.3
baz=315,SNR=11
433A **Art** 60.85 76 P P 15 16 11.0 0.0
baz=316,SNR=14
W39A **Magazine** 60.89 69 P P 15 16 11.3 +0.2
baz=315,SNR=31
R43A **Red Bud** 60.94 64 P P 15 16 10.8 -0.6
baz=315,SNR=13
334A **Lometa** 60.96 75 P P 15 16 12.4 +0.7
baz=316,SNR=18
WHTX **Lake Whitney,** 60.96 74 P P 15 16 12.5 +0.8
baz=315,SNR=7.1
WHTX **Lake Whitney,** 60.96 74 eP P 15 16 11.5 -0.1
comp=Z,55nm,0.6s
TMCR **Tamitsa** 60.97 342 eP P 15 16 10.8 -0.3
Q44A **Meyer Farm, Va** 61.02 63 P P 15 16 11.4 -0.5
baz=315,SNR=6.1
V40A **Witts Springs** 61.02 68 P P 15 16 11.5 -0.5
baz=315,SNR=40
SFIN **Lafayette** 61.04 61 P P 15 16 12.2 +0.1
baz=315,SNR=23
SFIN **Lafayette** 61.04 61 eP P 15 16 11.6 -0.5
comp=Z,104nm,0.5s
U41A **Viola** 61.16 67 P P 15 16 12.1 -0.8
baz=315,SNR=20
X39A **Fountain Ranch** 61.18 70 P P 15 16 13.7 +0.7
baz=315,SNR=53
136A **Ennis** 61.18 73 P P 15 16 13.7 +0.6
baz=315
SVE **Sverdlovsk** 61.21 327 eP P 15 16 12.4 -0.5
Z37A **Pogue Cattle C** 61.21 72 P P 15 16 13.6 +0.3
baz=315
434A **Burnet** 61.30 76 P P 15 16 14.6 +0.6
baz=316,SNR=14
W40A **Fergusson Farm,** 61.31 69 P P 15 16 14.2 +0.2
baz=315,SNR=22
S43A **Fulton Ridge,** 61.35 65 P P 15 16 13.6 -0.6
baz=315,SNR=18
533A **Kerrville** 61.37 77 P P 15 16 14.4 0.0
baz=316,SNR=9.1
V41A **Mountainview** 61.42 68 P P 15 16 14.1 -0.7
baz=315,SNR=42
R44A **Waltonville** 61.44 64 P P 15 16 14.3 -0.5
baz=315,SNR=5.9
MIAR **Mount Ida** 61.47 70 P P 15 16 15.5 +0.5
baz=315,SNR=38
MIAR **Mount Ida** 61.47 70 eP P 15 16 15.5 +0.5
MIAR pmax pmax
comp=Z,200nm,1.5s
MIAR **Mount Ida** 61.47 70 eP P 15 16 15.1 +0.1
comp=Z,200nm,1.5s
335A **Moody** 61.48 75 P P 15 16 15.6 +0.5
baz=316
236A **Katherine and** 61.51 74 P P 15 16 16.4 +1.1
baz=316,SNR=5.4
U42A **Revenden** 61.55 67 P P 15 16 14.4 -1.1
baz=315,SNR=12
Z38A **Mt. Pleasant** 61.55 72 P P 15 16 15.9 +0.3
baz=315
T43A **Greenville** 61.58 65 P P 15 16 15.3 -0.4
baz=315,SNR=54
Y39A **Lockesburg** 61.59 70 P P 15 16 16.4 +0.5
baz=315
OLIL **Olney** 61.64 63 eP P 15 16 15.7 -0.5
comp=Z,37nm,0.8s
X301 **Greenbrier Sit** 61.66 68 eP P 15 16 15.7 -0.6
comp=Z,34nm,0.7s
WHAR **Wooly Hollow** 61.69 68 eP P 15 16 15.7 -0.8
comp=Z,64nm,1.3s
PBMO **Poplar Bluff** 61.71 66 eP P 15 16 15.6 -1.0
comp=Z,158nm,1.6s
633A **Seathoff Ranch** 61.72 77 P P 15 16 16.9 +0.1
baz=316,SNR=6.0
S44A **Carbondale** 61.73 64 P P 15 16 16.2 -0.5
baz=315,SNR=9.6
534A **Blanco** 61.74 77 P P 15 16 17.1 +0.1
baz=316,SNR=12
336A **Riesel** 61.76 74 P P 15 16 17.7 +0.7
baz=316
W41B **Gary Mavity, V** 61.80 68 P P 15 16 17.0 -0.2
baz=315,SNR=30
V42A **Cord** 61.85 67 P P 15 16 16.6 -0.9
baz=315,SNR=8.1
KONS **Konsvik** 61.88 354 eP P 15 16 17.9 +0.7
138A **Matatall Enter** 61.91 72 P P 15 16 19.1 +1.1
baz=316,SNR=7.0
X40A **Basin Creek Fa** 61.94 69 P P 15 16 18.3 +0.1
baz=315,SNR=13
237A **Washetta, Mont** 61.94 73 P P 15 16 18.8 +0.5
baz=316
T44A **Benton** 61.97 65 P P 15 16 17.9 -0.5
baz=315,SNR=7.7
U43A **Rector** 62.01 66 P P 15 16 18.1 -0.5
baz=315,SNR=6.1
Y40A **Okolona** 62.02 70 P P 15 16 18.8 +0.1
baz=316
UALR **University of** 62.02 69 eP P 15 16 18.4 -0.4
comp=Z,25nm,0.6s
SADO **Sadowa** 62.07 52 P P 15 16 18.4 -0.5
comp=Z,10nm,0.5s,baz=338,slow=7.2,SNR=15
SADO **Sadowa** 62.07 52 eP P 15 16 18.4 -0.5
comp=Z,14nm,0.6s
832A **Faith Ranch, C** 62.07 79 P P 15 16 19.7 +0.5
baz=316,SNR=12
S45A **Carrier Mills** 62.12 64 P P 15 16 18.9 -0.4
baz=315,SNR=6.8
X41A **Kaden, Bauxite** 62.12 69 P P 15 16 19.3 -0.1
baz=316
W42A **Bald Knob** 62.15 68 P P 15 16 19.5 -0.1
baz=316
733A **Divot King Ran** 62.17 78 P P 15 16 21.1 +1.2
baz=316
ARU **Arti** 62.22 328 *d iP P 15 16 19.1 -0.6
ARU 15 16 58.1
ARU 15 18 33.9
ARU S S 15 24 39.7 +0.4
ARU SS SS 15 28 41.5 -1.0
ARU pmax pmax
comp=Z,6.0nm,0.5s
ARU **Arti** 62.22 328 eP P 15 16 18.8 -0.9
comp=Z,9.4nm,0.5s
436A **Wall Ranch, Ga** 62.23 75 P P 15 16 21.4 +1.3
baz=316,SNR=5.9
535A **Dale** 62.28 76 P P 15 16 21.5 +0.9
baz=316
139A **Bunkhouse Ranc** 62.30 72 P P 15 16 21.5 +0.9
baz=316
U44A **Portageville** 62.33 65 P P 15 16 21.7 +0.9
baz=316
WLAR **White Oak Lake** 62.34 70 eP P 15 16 20.5 -0.4
comp=Z,86nm,0.6s
833A **Chaparral WMA,** 62.40 79 P P 15 16 22.4 +1.1
baz=316
USIN **University of** 62.43 63 eP P 15 16 21.0 -0.4
comp=Z,75nm,0.6s
Y41A **Eaglette Beard** 62.50 69 P P 15 16 22.4 +0.5
baz=316,SNR=7.6
GNAR **Gosnell** 62.52 66 eP P 15 16 19.2 -2.8
X42A **Stuttgart** 62.60 68 P P 15 16 23.0 +0.4
baz=316
635A **Leesville** 62.62 77 P P 15 16 24.0 +1.2
baz=316,SNR=5.4
U44B **Burton Farm, H** 62.63 65 P P 15 16 23.4 +0.6
baz=316
239A **Gary** 62.73 72 P P 15 16 24.3 +0.8
baz=316
W43A **Forest City** 62.75 67 P P 15 16 23.5 -0.1
baz=316
BORG **Borgarnes** 62.80 10 P P 15 16 23.5 +0.1
comp=Z,18nm,1.0s,baz=262,slow=15,SNR=2.0
140A **Cam and Jess,** 62.82 71 P P 15 16 25.0 +1.0
baz=316
Z41A **Richland Creek** 62.83 70 P P 15 16 25.0 +0.9
baz=316
PLVO **Plevna** 62.89 51 eP P 15 16 23.5 -0.8
comp=Z,18nm,0.7s
CCAR **Cane Creek** 62.96 69 eP P 15 16 26.4 +1.4
comp=Z,60nm,0.6s
933A **Laredo** 62.98 79 P P 15 16 26.4 +1.1
baz=317,SNR=6.1
636A **Smothers Creek** 62.99 76 P P 15 16 26.8 +1.5
baz=316
WCI **Wyandotte Cave** 63.00 62 eP P 15 16 25.4 +0.1
WCI pmax pmax
comp=Z,24nm,0.9s
WCI **Wyandotte Cave** 63.00 62 eP P 15 16 24.8 -0.5
comp=Z,24nm,0.9s
537A **Green Hill Far** 63.01 75 P P 15 16 26.8 +1.4
baz=316
Y42A **Garnett, Star** 63.01 69 P P 15 16 26.3 +0.9
baz=316
438A **Sam Houston St** 63.03 74 P P 15 16 26.9 +1.4
baz=316
240A **Hunter Patters** 63.13 72 P P 15 16 27.3 +1.1
baz=316
339A **Huntington** 63.17 73 P P 15 16 27.4 +1.0
baz=316
TRQ **Mont Tremblant** 63.22 49 eP P 15 16 24.5 -2.1
141A **Papa Simpson,** 63.24 71 P P 15 16 27.9 +1.1
baz=316
KMI **Kunming** 63.27 277 P P 15 16 27.5 0.0
KMI pmax pmax
comp=Z,25nm,1.1s
V45A **Humboldt** 63.28 66 P P 15 16 28.0 +0.9
baz=316
HNR **Honiara** 63.29 203 P P 15 16 27.3 +0.1
comp=Z,52nm,1.0s,baz=135,slow=2.9,SNR=3.3
JOF **Joensuu** 63.31 345 P P 15 16 26.0 -0.8
JOF pmax pmax
comp=Z,22nm,1.0s
Z42A **Norrel Spur, H** 63.32 70 P P 15 16 27.9 +0.5
baz=316
QIZ **Qiongzhong** 63.34 267 P P 15 16 26.8 -0.9
QIZ S S 15 24 53.0 -1.2
QIZ SS SS 15 29 03.5 +1.8
ACSO **Alum Creek Sta** 63.36 58 eP P 15 16 27.0 -0.5
comp=Z,15nm,0.6s
736A **Circle Diamond** 63.36 76 P P 15 16 29.7 +2.0
baz=317
835A **Beeville** 63.38 77 P P 15 16 29.7 +1.9
baz=317
439A **Center Grove,** 63.43 73 P P 15 16 29.4 +1.3
baz=316
PDGK **Podgornoye** 63.44 307 P P 15 16 27.8 -0.4
PDGK pmax pmax
comp=Z,7.0nm,0.4s
934A **Benavides** 63.45 78 P P 15 16 30.2 +1.8
baz=317
X44A **Crenshaw** 63.49 67 P P 15 16 29.0 +0.5
baz=316
340A **Bronson** 63.50 72 P P 15 16 29.4 +0.8
baz=316
W45A **Hickory Valley** 63.57 66 P P 15 16 29.4 +0.4
baz=316
JAY **Jayapura** 63.57 226 P P 15 16 29.2 0.0
comp=Z,1.4nm,0.9s,baz=312,slow=23,SNR=5.6
WVT **Waverly** 63.64 65 eP P 15 16 29.6 +0.1
WVT pmax pmax
comp=Z,19nm,0.9s
WVT **Waverly** 63.64 65 eP P 15 16 29.2 -0.3
comp=Z,19nm,0.8s
KLMR **Klimovskoe** 63.66 340 eP P 15 16 26.3 -2.8
KLMR pmax pmax
comp=Z,36nm,1.2s
034A **Hebbronville** 63.74 79 P P 15 16 31.8 +1.6
baz=317,SNR=8.1
Z43A **Armstrong Fami** 63.78 69 P P 15 16 30.9 +0.6
baz=316
ALLY **Alegheny Colle** 63.82 55 eP P 15 16 29.4 -1.2
comp=Z,34nm,0.6s
142A **Monroe** 63.84 70 P P 15 16 31.7 +0.9
baz=316
GENI **Genyem** 63.88 226 P P 15 16 32.6 +1.4
OXF **Oxford** 63.91 67 eP P 15 16 31.6 +0.4
OXF pmax pmax
comp=Z,270nm,1.4s
OXF **Oxford** 63.91 67 eP P 15 16 30.9 -0.3
comp=Z,272nm,1.4s
X45A **UM Field Stati** 63.98 67 P P 15 16 31.8 +0.1
baz=316
341A **Kurthwood** 63.99 72 P P 15 16 32.9 +1.1
baz=316
143A **Socs Landing,** 64.05 70 P P 15 16 32.8 +0.6
baz=316
242A **Grayson** 64.07 71 P P 15 16 32.8 +0.5
baz=316
LMQ **La Malbaie** 64.16 45 eP P 15 16 31.7 -1.0
MMNY **Mt. Morris Dam** 64.16 53 eP P 15 16 31.9 -0.9
M54A **Oil Creek Stat** 64.17 55 P P 15 16 32.6 -0.2
baz=317
035A **Encino** 64.19 79 P P 15 16 33.9 +0.8
baz=317,SNR=8.0
Z44A **Pea Ridge, Bel** 64.20 68 P P 15 16 33.6 +0.4
baz=316
SUF **Sumiainen** 64.28 347 P P 15 16 33.1 -0.1
SUF pmax pmax
comp=Z,37nm,1.4s
Y45A **Yeager Farm, C** 64.29 67 P P 15 16 34.2 +0.5
baz=316
N54A **Moraine State** 64.40 56 P P 15 16 34.0 -0.4
baz=317,SNR=13
342A **Flagon Creek P** 64.46 71 P P 15 16 35.8 +0.9
baz=317
035Z **Hargill** 64.55 79 P P 15 16 36.8 +1.2
baz=317
Z45A **Winona** 64.56 68 P P 15 16 35.9 +0.4
baz=317
243A **Waterproof** 64.59 70 P P 15 16 36.5 +0.7
baz=317
144A **Alexander Plac** 64.67 69 P P 15 16 36.9 +0.6
baz=317
Y46A **Houston** 64.67 67 P P 15 16 36.5 +0.2
baz=317,SNR=10.0
FRNY **Flat Rock** 64.71 49 eP P 15 16 34.2 -2.1
comp=Z,8.0nm,0.6s
LNIG **Linares** 64.83 81 eP P 15 16 36.7 -0.7
comp=Z,5.8nm,0.7s
244A **Avery, Jackson** 64.94 70 P P 15 16 39.0 +1.0
baz=317
145A **Houston Renfro** 64.98 69 P P 15 16 38.5 +0.3
baz=317
NCB **Newcomb** 65.05 50 eP P 15 16 36.9 -1.7
comp=Z,0.1nm,0.6s
Z46A **Louisville** 65.12 68 P P 15 16 39.3 +0.2
baz=317,SNR=7.2
Y47A **UCPARC, Winfie** 65.24 66 P P 15 16 39.7 -0.2
baz=317,SNR=14
SLVN **Son La** 65.33 274 eP P 15 16 40.5 -0.2
comp=Z,83nm,1.5s
344A **Westbrook Farm** 65.34 70 P P 15 16 41.7 +1.0
baz=317
SWET **Sewanee** 65.37 64 eP P 15 16 40.0 -0.8
comp=Z,5.3nm,0.5s
245A **Little AP, Sta** 65.41 69 P P 15 16 41.8 +0.8
baz=317
146A **Union** 65.46 68 P P 15 16 42.0 +0.6
baz=317,SNR=5.8
FINES **FINESS Array B** 65.51 347 P P 15 16 40.5 -0.6
comp=Z,3.1nm,0.3s,baz=4.2,slow=7.8,SNR=54
FINES pP pP 15 16 59.9 -0.8
comp=Z,3.3nm,0.5s,baz=46,slow=5.5,SNR=3.0
FINES LR LR 15 50 09.6
comp=Z,54nm,18.6s,baz=29,slow=40
BINY **Binghamton** 65.51 53 eP P 15 16 41.3 -0.3
comp=Z,109nm,1.6s
Z47A **Carrollton** 65.62 67 P P 15 16 42.3 -0.1
baz=317,SNR=30
O56A **Blue Knob Stat** 65.64 56 P P 15 16 41.9 -0.6
baz=318
SSPA **Standing Stone** 65.72 55 eP P 15 16 42.5 -0.4
comp=Z,18nm,0.6s
ACCN **Adirondack Com** 65.76 50 eP P 15 16 42.2 -0.9
comp=Z,15nm,0.5s
Z48A **Northport** 65.79 66 P P 15 16 43.1 -0.3
baz=317,SNR=33
345A **Thompson Farm,** 65.86 70 P P 15 16 44.8 +0.8
baz=317
147A **Livingston** 65.89 67 P P 15 16 44.3 +0.2
baz=317,SNR=12
LBNH **Lisbon** 65.94 49 eP P 15 16 43.8 -0.5
LBNH pmax pmax
comp=Z,50nm,1.6s
LBNH **Lisbon** 65.94 49 eP P 15 16 43.2 -1.0
comp=Z,50nm,1.6s
CPCT **Cooper Cave** 65.99 63 eP P 15 16 44.3 -0.4
comp=Z,11nm,0.5s
KSPA **Keystone Colle** 66.10 53 eP P 15 16 45.2 -0.1
comp=Z,18nm,0.6s
247A **Quitman** 66.14 68 P P 15 16 46.8 +1.0
baz=317
TKL **Tuckaleechee C** 66.25 62 P P 15 16 46.4 -0.1
comp=Z,14nm,0.8s,baz=186,slow=3.6,SNR=9.8
TKL **Tuckaleechee C** 66.25 62 eP P 15 16 46.6 +0.2
TKL pmax pmax
comp=Z,55nm,1.5s
TKL **Tuckaleechee C** 66.25 62 eP P 15 16 45.7 -0.7
comp=Z,55nm,1.5s
LRAL **Lakeview Retre** 66.36 66 eP P 15 16 46.6 -0.5
comp=Z,14nm,0.8s
AAK **Ala-Archa** 66.41 309 *d iP P 15 16 47.5 -0.1
AAK pmax pmax
comp=Z,24nm,1.1s
AAK **Ala-Archa** 66.41 309 eP P 15 16 47.3 -0.2
comp=Z,12nm,0.6s
AAK **Ala-Archa** 66.41 309 P P 15 16 48.2 +0.7
SNR=6.8
AAK **Ala-Archa** 66.41 309 P P 15 16 48.2 +0.7
SNR=6.8
AAK **Ala-Archa** 66.41 309 P P 15 16 48.2 +0.7
SNR=6.8
N59A **State Game Lan** 66.58 53 P P 15 16 48.3 -0.1
baz=319,SNR=17
446A **Poplarville** 66.63 70 P P 15 16 49.8 +0.9
baz=318
347A **Saraland** 66.66 69 P P 15 16 50.0 +0.9
baz=318
BLA **Blacksburg** 66.93 59 eP P 15 16 51.2 +0.4
BLA pmax pmax
comp=Z,16nm,0.7s
BLA **Blacksburg** 66.93 59 eP P 15 16 50.7 -0.1
comp=Z,16nm,0.6s
LSA **Lhasa** 66.97 289 P P 15 16 53.3 +1.6
LSA pmax pmax
comp=Z,38nm,0.6s
LSA **Lhasa** 66.97 289 eP P 15 16 52.6 +0.9
LSA pmax pmax
comp=Z,32nm,0.7s
LSA **Lhasa** 66.97 289 eP P 15 16 52.6 +0.9
comp=Z,32nm,0.7s
MVL **Millersville** 66.97 54 eP P 15 16 50.4 -0.5
comp=Z,11nm,0.6s
348A **Jackson** 67.02 68 P P 15 16 52.2 +0.8
baz=318
ODNJ **Ogdensburg** 67.03 53 eP P 15 16 51.1 -0.2
comp=Z,38nm,1.7s
447A **Lucedale** 67.04 69 P P 15 16 52.4 +0.9
baz=318
NC204 **NORSAR Array S** 67.22 355 eP P 15 16 52.6 +0.4
NC303 **NORSAR Array S** 67.23 354 eP P 15 16 52.4 +0.2
646A **Port Sulphur** 67.24 71 P P 15 16 53.0 +0.2
baz=318
NC405 **NORSAR Array S** 67.32 354 eP P 15 16 52.8 0.0
BRNJ **Basking Ridge** 67.36 53 eP P 15 16 52.8 -0.5
comp=Z,26nm,0.5s
448A **Bay Minette** 67.40 68 P P 15 16 54.5 +0.7
baz=318
NB201 **NORSAR Array S** 67.41 354 eP P 15 16 53.8 +0.4
NB2 **NORSAR Subarra** 67.42 354 P P 15 16 53.5 0.0
baz=7.9,slow=6.5
NB2 **NORSAR Subarra** 67.42 354 P P 15 16 53.5 0.0
comp=Z,6.7nm,0.3s,baz=7.9,slow=6.5
NOA **NORSAR Array B** 67.42 354 P P 15 16 53.8 +0.3
comp=Z,6.9nm,0.6s,baz=3.2,slow=5.0,SNR=65
NOA pP pP 15 17 12.8 -0.3
NOA comp=Z,2.4nm,0.6s,baz=7.1,slow=6.2,SNR=3.3
NOA LR LR 15 47 55.6
comp=Z,18nm,19.5s,baz=330,slow=37
PAL **Palisades** 67.44 52 eP P 15 16 53.8 0.0
PAL pmax pmax
comp=Z,21nm,0.6s
PAL **Palisades** 67.44 52 eP P 15 16 52.6 -1.2
comp=Z,21nm,0.6s
MNAS **Manas** 67.48 310 P P 15 16 54.2 -0.1
MNAS pmax pmax
comp=Z,13nm,1.0s
AB31 **Akbulak array** 67.53 322 P P 15 16 53.7 -0.6
AB31 pmax pmax
comp=Z,2.0nm,0.4s
ABKAR **Akbulak array** 67.53 322 eP P 15 16 53.8 -0.6
comp=Z,65nm,0.5s
GGN **Saint George** 67.57 45 eP P 15 16 53.4 -1.2
comp=Z,27nm,1.3s
EMMW **East Machias** 67.62 46 eP P 15 16 53.7 -1.2
comp=Z,24nm,0.6s
WES **Weston** 67.64 50 eP P 15 16 54.5 -0.6
WES pmax pmax
comp=Z,32nm,0.5s
WES **Weston** 67.64 50 eP P 15 16 54.2 -0.8
comp=Z,32nm,0.5s
BRYW **Bryant College** 67.89 50 eP P 15 16 55.6 -1.1
comp=Z,26nm,0.4s
JSRW **J. Sargeant Re** 67.92 57 eP P 15 16 55.0 -1.9
KK31 **Karatay Array** 67.94 312 *i P P 15 16 56.2 -0.8
KK31 pmax pmax
comp=Z,4.0nm,0.5s
KKAR **Karatay Array** 67.94 312 eP P 15 16 56.0 -1.1
KKAR pmax pmax
comp=Z,73nm,0.4s
KKAR **Karatay Array** 67.94 312 eP P 15 16 56.0 -1.1
comp=Z,73nm,0.4s
KMSC **Kings Mountain** 67.97 61 P P 15 16 57.2 -0.1
baz=318,SNR=8.3
KMSC **Kings Mountain** 67.97 61 eP P 15 16 56.6 -0.7
comp=Z,29nm,0.8s
KSH **Kashi** 68.04 306 P P 15 17 00.8 +2.9
KSH pP PcP 15 17 20.8 -2.8
KSH PP PP 15 19 34.8 +6.6
KSH S S 15 25 51.8 +0.5
KSH sS sS 15 26 26.0 +1.2
KSH SS SS 15 30 18.0 +4.0
KSH pmax pmax
comp=Z,23nm,0.6s
KSH pmax pmax
comp=Z,150nm,10.2s
KSH LR LR
comp=Z,100nm,4.5s
KSH LR LR
comp=Z,60nm,4.9s
GOGA **Godfrey** 68.08 64 eP P 15 16 57.8 -0.2
GOGA pmax pmax
comp=Z,13nm,1.0s
GOGA **Godfrey** 68.08 64 eP P 15 16 57.3 -0.7
comp=Z,13nm,1.0s
URVA **University of** 68.19 57 eP P 15 16 58.0 -0.5
JSC **Jenkinsville** 68.65 62 eP P 15 17 02.1 +0.5
JSC pmax pmax
comp=Z,19nm,0.9s
JSC **Jenkinsville** 68.65 62 eP P 15 17 01.2 -0.4
comp=Z,19nm,0.9s
MOS **Moscow** 68.73 339 eP P 15 16 58.6 -3.1
MYLDM **Lahad Datu** 68.78 251 eP P 15 17 04.3 +1.7
comp=Z,74nm,1.1s
TAOE **Nuku Hiva Isla** 69.05 138 eT T 16 32 01.5
comp=Z,60nm,0.2s

OBN Obninsk 69.54 339 *de*P **P** 15 17 06.4 -0.3
OBN *e* 15 19 37.9
OBN pmax pmax
comp=Z,37nm,0.9s
SHL Shillong 69.58 286 *e*P **P** 15 17 10.0 +2.3
UTTA Uttaradit 70.10 274 P **P** 15 17 10.4 -0.3
comp=Z,18nm,1.1s,comp=Z,152nm
CHTO Chiang Mai 70.30 276 P **P** 15 17 11.7 -0.2
comp=Z,131nm,1.5s
CHTO Chiang Mai 70.30 276 *e*P **P** 15 17 11.6 -0.3
CHTO pmax pmax
comp=Z,32nm,1.1s
CHTO Chiang Mai 70.30 276 *e*P **P** 15 17 11.6 -0.3
comp=Z,32nm,1.1s
CHTO Chiang Mai 70.30 276 P **P** 15 17 12.4 +0.5
SNR=5.3
CHTO Chiang Mai 70.30 276 P **P** 15 17 12.4 +0.5
SNR=5.3
CHTO Chiang Mai 70.30 276 P **P** 15 17 12.4 +0.5
SNR=5.3
CM31 Chiang Mai Arr 70.56 275 *e*P **P** 15 17 13.5 0.0
CMAR Chiang Mai Arr 70.56 275 P **P** 15 17 13.6 0.0
comp=Z,13nm,0.9s,baz=26,slow=6.9,SNR=52
CMAR pP **pP** 15 17 31.5 -1.8
comp=Z,5.2nm,0.9s,baz=28,slow=7.0,SNR=4.2
CMAR PP **PP** 15 19 49.5 -0.9
comp=Z,1.4nm,1.0s,baz=27,slow=10,SNR=4.0
CMAR LR LR 15 50 22.2
comp=Z,52nm,20.0s,baz=58,slow=38
CM01 Chiang Mai Arr 70.58 275 *e*P **P** 15 17 13.4 -0.3
CHAI Chaiyaphum 70.59 271 P **P** 15 17 14.0 +0.3
comp=Z,5.4nm,1.1s
MRSI Marisa 70.61 245 P **P** 15 17 13.2 -0.6
TAPN Taplejung 70.74 290 *e*P **P** 15 17 15.7 +0.8
comp=Z,97nm,0.7s
ODAN Odare 71.29 290 *e*P **P** 15 17 18.8 +0.7
comp=Z,26nm,0.5s
GUN Gumba 71.39 291 *e*P **P** 15 17 19.9 +1.1
comp=Z,487nm,0.4s
JIRN Jiri 71.39 291 *e*P **P** 15 17 20.0 +1.1
comp=Z,412nm,0.6s
RAMN Ramite 71.69 290 *e*P **P** 15 17 21.3 +0.8
comp=Z,308nm,0.5s
PMOR Pomariorio Ree 71.77 148 *e*T T 16 35 27.7
comp=Z,28nm,0.2s
KKN Kakani 71.82 292 *e*P **P** 15 17 22.2 +0.9
comp=Z,72nm,0.4s
PKI Pulchoki 71.92 292 *e*P **P** 15 17 22.6 +0.6
comp=Z,68nm,0.4s
PKIN Phulchoki 71.92 292 *e*P **P** 15 17 22.4 +0.5
comp=Z,52nm,0.4s
GKN Gorkha 72.04 292 *e*P **P** 15 17 23.2 +0.7
DMN Daman 72.06 292 *e*P **P** 15 17 23.6 +0.8
comp=Z,30nm,0.4s
DANN Dangsing 72.28 293 *e*P **P** 15 17 24.9 +0.8
comp=Z,17nm,0.9s
UMPA Umpang Tak 72.31 274 *e*P **P** 15 17 25.8 +1.7
comp=Z,16nm,1.1s,comp=Z,904nm
VSR Storozhevoye 72.50 336 *i*P **P** 15 17 24.2 -0.4
VSR pmax pmax
comp=Z,14nm,0.6s
KOLN Koldanda 72.81 293 *e*P **P** 15 17 27.8 +0.6
comp=Z,23nm,0.4s
PYUN Piuthan 72.91 294 *e*P **P** 15 17 28.4 +0.6
comp=Z,356nm,1.2s
PCI Palu 72.93 246 P **P** 15 17 27.5 -0.2
BSD Bornholm Skovb 73.02 351 *i*P **P** 15 17 27.5 -0.2
BSD Bornholm Skovb 73.02 351 *i*P **P** 15 17 27.5 -0.2
PPT Papeete 73.63 150 LR LR 15 41 00.1
comp=Z,81nm,21.4s,baz=338,slow=28
PPT2 Papeete2 73.65 150 *e*LR LR 15 40 00.5
comp=Z,225nm,29.2s
PPT2 Papeete2 73.65 150 *e*T T 16 37 49.8
comp=Z,10nm,0.2s
SDNR Sundarnagar 73.66 300 *e*P **P** 15 17 32.0 +0.1
TIAR Tiarei 73.69 150 *e*T T 16 37 52.7
comp=Z,3.8nm,0.3s
PAE Paea 73.72 150 *e*T T 16 37 54.2
comp=Z,2.1nm,0.2s
TVO Taravao 73.94 150 *e*T T 16 38 10.9
comp=Z,0.9nm,0.3s
DZM Mont Dzumac 74.35 194 *e*LR LR 15 40 32.4
comp=Z,192nm,23.9s
TTSI Tana Toraja 74.69 245 P **P** 15 17 38.1 +0.1
SBUM Sibu 74.70 254 *e*P **P** 15 17 37.4 -0.7
comp=Z,11nm,0.9s
AKASG Malin Array Be 75.24 342 P **P** 15 17 40.2 -0.4
comp=Z,12nm,0.4s,baz=21,slow=6.7,SNR=58
AKASG pP **pP** 15 18 00.1 -0.5
comp=Z,4.3nm,0.4s,baz=20,slow=6.6,SNR=3.8
AKASG LR LR 15 56 27.4
comp=Z,51nm,18.1s,baz=30,slow=40
AKBB Malin Array Si 75.24 342 *e*P **P** 15 17 40.3 -0.4
AKBB pmax pmax
comp=Z,26nm,0.5s
AKBB Malin Array Si 75.24 342 *e*P **P** 15 17 40.3 -0.4
comp=Z,26nm,0.5s
KIEV Kiev 75.25 342 *d*↓*i*P **P** 15 17 40.2 -0.5
KIEV pmax pmax
comp=Z,47nm,1.4s
KIEV Kiev 75.25 342 *e*P **P** 15 17 40.1 -0.6
comp=Z,25nm,0.5s
AK11 Malin Array Si 75.27 342 *e*P **P** 15 17 39.9 -0.9
KBL Kabul 75.38 307 *e*P **P** 15 17 41.3 -0.8
KBL pmax pmax
comp=Z,25nm,1.0s
KBL Kabul 75.38 307 *e*P **P** 15 17 40.9 -1.2
comp=Z,25nm,0.9s
KSM Kuching 76.62 255 *e*P **P** 15 17 48.6 -0.4
comp=Z,46nm,1.3s
CLL Collm 76.96 352↓*i*P **P** 15 17 50.1 -0.3
CLL pmax pmax
comp=Z,20nm,1.6s
CLL Collm 76.96 352↓*i*P **P** 15 17 50.1 -0.3
comp=Z,20nm,1.6s
GOF Gofitskoye 76.99 331↑*e*P **P** 15 17 51.4 +0.7
LVV L'vov 77.03 345 P **P** 15 17 52.1 +1.2
MTN Manton Dam 77.06 229 *e*P **P** 15 17 50.9 -0.5
comp=Z,29nm,0.6s
OJC Ojcow 77.28 347 *e*P **P** 15 17 52.8 +0.6
OJC Ojcow 77.28 347 *e*P **P** 15 17 52.1 -0.1
OJC pmax pmax
comp=Z,25nm,1.2s
OJC Ojcow 77.28 347 *e*P **P** 15 17 52.1 -0.1
comp=Z,25nm,1.2s
BRG Berggiesshubel 77.31 351 *e*P **P** 15 17 52.2 -0.2
comp=Z,7.3nm,0.7s
BRG Berggiesshubel 77.31 351 *e*P **P** 15 17 52.2 -0.2
BRG pmax pmax
comp=Z,7.0nm,0.7s
CTA Charters Tower 77.39 213 P **P** 15 17 53.1 0.0
comp=Z,2.6nm,0.4s,baz=20,slow=6.8,SNR=7.0
KWP Kalwaria Pacla 77.42 345 *e*P **P** 15 17 53.7 +0.6
KWP Kalwaria Pacla 77.42 345 *e*P **P** 15 17 53.7 +0.6
DPC Dobruska-Polom 77.58 350 *e*P **P** 15 17 54.4 +0.4
DPC Dobruska-Polom 77.58 350 *e*P **P** 15 17 54.4 +0.4
GEYT Alibeck 77.66 317 P **P** 15 17 54.3 -0.4
comp=Z,3.5nm,0.9s,baz=356,slow=6.5,SNR=4.9
GEYT LR LR 15 56 53.3
comp=Z,114nm,18.2s,baz=325,slow=39
MOX Moxa 77.73 353 P **P** 15 17 55.8 +1.0
MOX pmax pmax
comp=Z,10.0nm,1.1s
STHS Stebnicka Huta 77.86 346 *e*P **P** 15 17 56.9 +1.4
STHS pmax pmax
comp=Z,34nm,1.5s
STHS Stebnicka Huta 77.86 346 *e*P **P** 15 17 56.9 +1.4
SORM Soroca 77.86 341↓*i*P **P** 15 17 55.3 -0.2
SORM Soroca 77.86 341 ↓P **P** 15 17 55.3 -0.2
NIE Niedzica 77.99 347 *e*P **P** 15 17 56.9 +0.6
NIE Niedzica 77.99 347 *e*P **P** 15 17 56.9 +0.6
MORC Moravsky Berou 78.00 349↓*i*P **P** 15 17 56.5 +0.1
MORC Moravsky Berou 78.00 349 *e*P **P** 15 17 56.2 -0.2
MORC pmax pmax
comp=Z,14nm,0.8s
MORC Moravsky Berou 78.00 349 *e*P **P** 15 17 55.9 -0.4
comp=Z,14nm,0.8s
NKC Novy Kostel 78.08 352 *e*P **P** 15 17 56.9 +0.2
NKC Novy Kostel 78.08 352 *e*P **P** 15 17 56.9 +0.2
KIV Kislovodsk 78.10 330 *e*P **P** 15 17 56.9 -0.1
KIV pmax pmax
comp=Z,9.0nm,1.1s
KIV MLR MLR
comp=Z,65nm,18.0s
MEM Membach 78.10 356 P **P** 15 17 57.2 +0.5
comp=Z,10nm,1.4s
MEM Membach 78.10 356 P **P** 15 17 58.2 +1.4
MEM pmax pmax
comp=Z,13nm,0.6s
PRU Pruhonice 78.12 351 *e*P **P** 15 17 55.8 -1.2
PRU Pruhonice 78.12 351 *e*P **P** 15 17 55.8 -1.2
GOPC GO Pecny, Ondr 78.17 351 *e*P **P** 15 17 57.3 0.0
GOPC GO Pecny, Ondr 78.17 351 *e*P **P** 15 17 57.3 0.0
NCK Nalchik 78.23 329 *e*P **P** 15 17 57.9 +0.2
NCK pmax pmax
comp=Z,17nm,1.4s
KBZ Khabaz 78.24 330 P **P** 15 17 57.4 -0.2
comp=Z,2.6nm,0.5s,baz=56,slow=1.4,SNR=5.6
KBZ LR LR 15 56 42.9
comp=Z,47nm,18.3s,baz=24,slow=39
SNF Seneffe 78.26 358 P **P** 15 17 57.2 -0.5
BCLA Clavier 78.31 357 P **P** 15 17 58.3 +0.4
CRVS Cervenica-Dubn 78.33 346 *e*P **P** 15 17 58.5 +0.4
CRVS Cervenica-Dubn 78.33 346 *e*P **P** 15 17 58.5 +0.4
LANS Liptovska Anna 78.37 347 *e*P **P** 15 17 59.7 +1.3
LANS Liptovska Anna 78.37 347 *e*P **P** 15 17 59.7 +1.3
TNS Taunus Mts 78.37 355 P **P** 15 17 59.8 +1.4
TNS pmax pmax
comp=Z,22nm,1.1s
UZH Uzhgorod 78.46 345 *e*P **P** 15 18 02.2 +3.4
UZH *e* 15 18 07.2
GIVF Givet 78.65 357 *e*P **P** 15 17 59.8 0.0
GIVF pmax pmax
comp=Z,11nm,0.8s
DOU Dourbes 78.66 357 P **P** 15 18 00.3 +0.4
TREC Trest 78.71 350 *e*P **P** 15 18 00.0 -0.2
TREC Trest 78.71 350 *e*P **P** 15 18 00.0 -0.2
NEY Neytrino 78.72 330↑*i*P **P** 15 17 59.4 -1.2
NEY pmax pmax
comp=Z,2.0nm,1.8s
ZEI Tsey 78.77 329 *e*P **P** 15 17 59.4 -1.5
ZEI pmax pmax
comp=Z,15nm,0.4s
KECS Kecovo 78.88 347 *e*P **P** 15 18 01.4 +0.3
KECS pmax pmax
comp=Z,10.0nm,1.3s
KECS Kecovo 78.88 347 *e*P **P** 15 18 01.4 +0.3
TRPA Tarpa 78.91 345↓*e*P **P** 15 18 02.1 +0.8
BUR08 Bucovina Ar. S 78.93 343 *e*P **P** 15 18 01.7 +0.2
BURAR Bucovina Array 78.95 343↓*i*P **P** 15 18 02.5 +0.8
BURAR Bucovina Array 78.95 343 P **P** 15 18 02.3 +0.6
WLF Walferdange 79.04 356 P **P** 15 18 01.1 -0.8
comp=Z,9.0nm,1.3s
KHC Kasperske Hory 79.07 351 *e*P **P** 15 18 02.5 +0.3
KHC Kasperske Hory 79.07 351 *e*P **P** 15 18 01.9 -0.3
KHC pmax pmax
comp=Z,12nm,1.5s
KHC Kasperske Hory 79.07 351 *e*P **P** 15 18 01.9 -0.3
comp=Z,12nm,1.5s
VYHS Vyhne 79.10 348 *e*P **P** 15 18 02.7 +0.3
VYHS pmax pmax
comp=Z,6.0nm,0.9s
VYHS Vyhne 79.10 348 *e*P **P** 15 18 02.7 +0.3
WET Wettzell 79.12 352 P **P** 15 18 02.9 +0.4
WET pmax pmax
comp=Z,10.0nm,1.4s
SOC Sochi 79.33 332 *e*P **P** 15 18 02.6 -1.1
SOC *e* 15 21 05.7
SOC *e*PPP PPP 15 22 50.8
SOC *e*S **S** 15 27 51.1 -6.8
SOC pmax pmax
comp=Z,17nm,0.7s
SOC MLR MLR
comp=Z,81nm,15.0s
GEC2 GERESS Array S 79.34 351 *e*P **P** 15 18 03.7 -0.1
GEC2 pmax pmax
comp=Z,22nm,1.5s
GEC2 GERESS Array S 79.34 351 *e*P **P** 15 18 03.7 -0.1
comp=Z,22nm,1.5s
GERES GERESS Array B 79.34 351 P **P** 15 18 03.8 -0.1
comp=Z,4.5nm,0.5s,baz=24,slow=6.2,SNR=47
GERES LR LR 15 58 22.6
comp=Z,21nm,18.2s,baz=8.0,slow=40
GEA0 GERESS Array S 79.35 351 *e*P **P** 15 18 03.3 -0.5
PSZ Piszkesteto 79.52 347↑*i*P **P** 15 18 05.9 +1.2
PSZ Piszkesteto 79.52 347 *e*P **P** 15 18 04.7 0.0
PSZ pmax pmax
comp=Z,31nm,1.3s
PSZ Piszkesteto 79.52 347↓*e*P **P** 15 18 05.5 +0.8
PSZ Piszkesteto 79.52 347 *e*P **P** 15 18 04.7 0.0
comp=Z,31nm,1.3s
ARCR ARCALIA 79.62 344↓*i*P **P** 15 18 06.6 +1.4
TESR Tescani 79.75 342↓*i*P **P** 15 18 06.1 +0.2
CONA Conrad Observa 80.02 350 *i*P **P** 15 18 07.8 +0.4
comp=Z,12nm,0.9s,SNR=6.1
CJR Cluj-Napoca 80.11 344↓*i*P **P** 15 18 08.6 +0.7
CJR Cluj-Napoca 80.11 344 ↓P **P** 15 18 08.7 +0.8
DRGR 80.18 345↑*i*P **P** 15 18 08.7 +0.4
DRGR 80.18 345 ↑P **P** 15 18 08.7 +0.4
LDF La Druitiere 80.22 0 *e*P **P** 15 18 07.8 -0.6
LDF pmax pmax
comp=Z,13nm,0.8s
BFO Black Forest 80.26 355*ce*P **P** 15 18 09.6 +0.9
MOA Molln 80.27 351 *i*P **P** 15 18 09.0 +0.3
comp=Z,3.4nm,0.7s
CSKK Cs˙tkako 80.28 348↓*e*P **P** 15 18 09.8 +1.0
VRI Vrincioaia 80.35 342↓*i*P **P** 15 18 09.8 +0.6
VRI Vrincioaia 80.35 342 ↓P **P** 15 18 09.8 +0.6
PLOR Plostina 80.38 342↑*i*P **P** 15 18 09.3 -0.1
PLOR Plostina 80.38 342 ↑P **P** 15 18 09.3 -0.1
ROSF Rostrenen 80.43 3 *e*P **P** 15 18 10.1 +0.6
ROSF pmax pmax
comp=Z,82nm,1.9s
DOPR Dopca 80.51 343↑*i*P **P** 15 18 11.6 +1.5
TLCR 80.58 340↓*i*P **P** 15 18 10.6 +0.2
TLCR 80.58 340 ↓P **P** 15 18 10.6 +0.2
ARSA Arzberg 80.73 350 *i*P **P** 15 18 12.1 +0.9
comp=Z,11nm,1.1s,SNR=5.1
CFR Carcaliu 80.73 341↑*i*P **P** 15 18 12.3 +1.1
CFR Carcaliu 80.73 341 ↑P **P** 15 18 12.3 +1.1
HINF Hinteralfeld 80.85 356 *e*P **P** 15 18 12.6 +0.7
HINF pmax pmax
comp=Z,5.0nm,0.9s
QUIF Quistinic 80.85 3 *e*P **P** 15 18 12.6 +0.8
QUIF pmax pmax
comp=Z,6.0nm,0.5s
SIRR Siria 80.86 345↓*i*P **P** 15 18 12.6 +0.7
MLR Muntele Rosu 80.87 342↓*i*P **P** 15 18 12.9 +0.8
MLR Muntele Rosu 80.87 342 *e*P **P** 15 18 12.2 +0.1
MLR pmax pmax
comp=Z,19nm,0.6s
MLR Muntele Rosu 80.87 342 *e*P **P** 15 18 12.2 +0.1
comp=Z,19nm,0.6s
RETA Reutte 80.94 353 *i*P **P** 15 18 12.8 +0.5
comp=Z,4.3nm,0.5s
WATA Walderalm 81.03 352 *i*P **P** 15 18 13.4 +0.4
comp=Z,6.4nm,0.4s
MOTA Moosalm 81.05 353 *i*P **P** 15 18 13.6 +0.5
comp=Z,5.1nm,0.6s,SNR=6.4
VOIR 81.09 343↓*i*P **P** 15 18 14.2 +1.0
VOIR 81.09 343 ↓P **P** 15 18 14.2 +1.0
WTTA Wattenberg 81.09 352 *i*PcP **P** 15 18 14.1 +0.7
comp=Z,8.9nm,0.5s,SNR=6.6
KBA Koelnbreinsper 81.12 351 *i*PcP **P** 15 18 14.4 +0.9
comp=Z,28nm,0.5s,SNR=22
ARR Arges 81.23 343↓*i*P **P** 15 18 14.9 +1.0
LOT Lotru 81.31 344↑*i*P **P** 15 18 14.0 -0.4
TLB Topalu 81.31 340↓*i*P **P** 15 18 14.6 +0.3
TLB Topalu 81.31 340 ↓P **P** 15 18 14.6 +0.3
SOKA Soboth 81.35 350 *i*PcP **P** 15 18 15.7 +1.2
comp=Z,40nm,1.2s,SNR=17
TIRR Tirgusor 81.36 340↓*i*P **P** 15 18 14.7 +0.2
TIRR Tirgusor 81.36 340 ↓P **P** 15 18 14.7 +0.2
PERS Pernice 81.38 350 *i*P **P** 15 18 15.2 +0.5
FETA Feichten 81.41 353 *i*PcP **P** 15 18 15.6 +0.6
comp=Z,15nm,1.0s,SNR=7.5
BZS Buzias 81.50 345↓*i*P **P** 15 18 15.8 +0.5
BZS Buzias 81.50 345 ↓P **P** 15 18 15.8 +0.5
ABTA Abfaltersbach 81.53 352 *i*P **P** 15 18 15.4 -0.1
comp=Z,12nm,0.8s,SNR=5.4
GZR Gura Zlata 81.53 344↓*i*P **P** 15 18 15.9 +0.4
GZR Gura Zlata 81.53 344 ↓P **P** 15 18 15.9 +0.4
MYKA Terra Mystica 81.54 351 *i*P **P** 15 18 16.1 +0.5
comp=Z,4.0nm,0.5s
OBKA Obir 81.56 350 *i*PcP **P** 15 18 16.7 +1.0
comp=Z,10.0nm,0.4s,SNR=5.6
SSF Saint Saulge 81.72 358 *e*P **P** 15 18 16.1 -0.3
SSF pmax pmax
comp=Z,12nm,1.1s
WRAB Tennant Creek 81.83 223↓*i*P **P** 15 18 16.5 -0.7
WRAB pmax pmax
comp=Z,76nm,1.4s
WRAB Tennant Creek 81.83 223 *e*P **P** 15 18 15.8 -1.4
comp=Z,36nm,1.4s
FUORN Ofenpass-Fuorn 81.84 353 *e*P **P** 15 18 17.8 +0.4
comp=Z,11nm,0.6s
WB2 Warramunga Arr 81.84 223 *e*P **P** 15 18 16.1 -1.1
WRA Warramunga Arr 81.85 223 P **P** 15 18 16.5 -0.8
comp=Z,10nm,1.0s,baz=35,slow=6.2,SNR=36
WRA pP **pP** 15 18 38.5 +0.9
comp=Z,2.0nm,0.4s,baz=32,slow=5.7,SNR=3.6
WRA PKiKP **PKiKP** 15 23 39.2 -0.8
comp=Z,0.3nm,0.5s,baz=358,slow=1.8,SNR=5.3
WRA PKP2bc 15 44 08.5
comp=Z,0.1nm,0.5s,baz=208,slow=4.3,SNR=2.8
WRA LR LR 15 53 36.6
comp=Z,46nm,19.6s,baz=285,slow=35
CADS Cadrg 81.93 351 *i*P **P** 15 18 16.8 -0.8
AVF Avril sur Loir 82.00 358 *e*P **P** 15 18 18.6 +0.7
AVF pmax pmax
comp=Z,10.0nm,1.0s
TUE Stuetta 82.05 354 *e*P **P** 15 18 17.8 -0.7
comp=Z,51nm,1.7s
CABF La Chapelle 82.09 356 *e*P **P** 15 18 18.3 -0.2
CABF pmax pmax
comp=Z,27nm,1.5s
MFF Saint Martin d 82.22 0 *e*P **P** 15 18 18.8 -0.2
MFF pmax pmax
comp=Z,8.0nm,0.9s
MDVR Moldovita 82.30 345↓*i*P **P** 15 18 19.8 +0.2
CEY Cerknica 82.34 350 *i*P **P** 15 18 19.4 -0.3
TCF Toulx Ste Croi 82.52 359 *e*P **P** 15 18 22.2 +1.5
TCF pmax pmax
comp=Z,3.0nm,0.5s
PSI Prapat 82.58 265 P **P** 15 18 21.2 -0.3
comp=Z,13nm,0.4s,baz=357,slow=2.9,SNR=14
LPL La Plagne 83.15 356 *e*P **P** 15 18 28.0 +3.8
LPL pmax pmax
comp=Z,2.0nm,0.5s
LPG La Plagne 83.17 356 *e*P **P** 15 18 24.9 +0.5
LPG pmax pmax
comp=Z,10.0nm,1.1s
UDBI Udbina 83.39 349 P **P** 15 18 25.0 -0.2
NVLJ Novalja 83.45 350 P **P** 15 18 24.9 -0.5
SSB Saint Sauveur 83.48 357 *e*P **P** 15 18 25.0 -0.6
SSB pmax pmax
comp=Z,14nm,1.3s
SSB Saint Sauveur 83.48 357 *e*P **P** 15 18 25.0 -0.6
comp=Z,14nm,1.3s
BNI Bardonecchia 83.62 356 *e*P **P** 15 18 27.7 +1.2
BNI Bardonecchia 83.62 356 *e*P **P** 15 18 27.7 +1.2
HYB Hyderabad 83.74 290 *i*P **P** 15 18 27.0 -0.4
HYB *e* 15 18 47.0
ORIF Oris-en-Rattie 83.79 356 *e*P **P** 15 18 28.0 +0.7
ORIF pmax pmax
comp=Z,4.0nm,0.6s
LFF La Frestale 83.88 360 *e*P **P** 15 18 27.5 -0.1
LFF pmax pmax
comp=Z,76nm,1.6s
CAF Calviac 83.88 359 *e*P **P** 15 18 27.9 +0.2
CAF pmax pmax
comp=Z,38nm,1.6s
VTS Vitosha 84.17 343↑*i*P **P** 15 18 29.5 +0.1
VTS Vitosha 84.17 343 *e*P **P** 15 18 28.3 -1.1
VTS pmax pmax
comp=Z,28nm,1.5s
VTS Vitosha 84.17 343 *e*P **P** 15 18 28.3 -1.1
comp=Z,28nm,1.5s
FITZ Fitzroy Crossi 84.24 231 P **P** 15 18 29.8 +0.2
comp=Z,13nm,0.5s,baz=41,slow=5.2,SNR=14
VLC Villacollemand 84.28 353 *e*P **P** 15 18 30.0 +0.3
comp=Z,15nm,0.6s
ISO Isola 84.47 355 P **P** 15 18 31.8 +1.1
BR131 Keskin Array S 84.60 335 *e*P **P** 15 18 31.2 -0.4
BRTR Keskin Array B 84.60 335 P **P** 15 18 31.6 0.0
comp=Z,5.2nm,0.7s,baz=46,slow=3.6,SNR=17
BRTR LR LR 16 00 37.7
comp=Z,21nm,19.4s,baz=353,slow=39
BR231 Keskin MP Arra 84.71 336 *e*P **P** 15 18 31.6 -0.5
MARD Mardin 84.73 329 *e*P **P** 15 18 31.8 -0.5
comp=Z,84nm,1.7s
STON Ston 84.77 347 P **P** 15 18 31.5 -0.6
PDG Podgorica 84.98 346↓*i*P **P** 15 18 33.4 +0.2
AS01 Alice Springs 85.31 222 *e*P **P** 15 18 34.2 -0.8
AS31 Alice Springs 85.33 222 *e*P **P** 15 18 34.5 -0.6
comp=Z,2.8nm,0.5s
ASAR Alice Springs 85.33 222 P **P** 15 18 35.0 -0.1
comp=Z,4.9nm,0.5s,baz=24,slow=5.4,SNR=90
ASAR PKiKP **PKiKP** 15 23 44.6 -1.0
comp=Z,0.2nm,0.6s,baz=28,slow=0.3,SNR=4.2
ASAR PKP2bc 15 43 54.2
comp=Z,0.2nm,0.5s,baz=203,slow=4.5,SNR=7.3
ASAR LR LR 15 53 33.4
comp=Z,75nm,19.8s,baz=22,slow=33
ES19 SONSECA Array 89.03 3 *e*P **P** 15 18 51.8 -1.2
APE Apeiranthos 89.06 340 *e*P **P** 15 18 52.6 -0.5
APE pmax pmax
comp=Z,18nm,0.9s
ESDC Sonseca Array 89.06 3 P **P** 15 18 52.2 -0.9
comp=Z,0.8nm,0.4s,baz=347,slow=5.8,SNR=7.5
URZ Urewera 89.50 183 LR LR 15 55 33.0
comp=Z,88nm,18.6s,baz=236,slow=33
MBWA Marble Bar 89.76 235 *e*P **P** 15 18 55.4 -1.0
STKA Stephens Creek 89.85 212 P **P** 15 18 57.1 +0.7
comp=Z,15nm,0.9s,baz=345,slow=6.1,SNR=24
STKA pP **pP** 15 19 17.5 +0.5
comp=Z,7.9nm,1.0s,baz=3.2,slow=6.6,SNR=3.5
STKA LR LR 15 54 42.3
comp=Z,90nm,19.6s,baz=25,slow=32
STKA Stephens Creek 89.85 212 *e*P **P** 15 18 56.8 +0.3
comp=Z,13nm,1.5s
STKA pP **pP** 15 19 17.5 +0.5
STVI Saint Thomas 90.10 60 *e*P **P** 15 18 58.2 0.0
comp=Z,19nm,0.6s
PALK Pallekele 90.41 282 P **P** 15 18 60.0 +0.2
comp=Z,5.7nm,0.6s,baz=55,slow=0.2,SNR=4.9
PALK Pallekele 90.41 282 P **P** 15 19 00.0 +0.2
PALK pmax pmax
comp=Z,6.0nm,0.6s
KEST Kesra 92.73 353 P **P** 15 19 08.3 -1.9
comp=Z,1.7nm,0.7s,baz=197,slow=15,SNR=2.8
ROSC El Rosal 95.58 75 LR LR 16 07 31.5
comp=Z,31nm,18.2s,baz=258,slow=39
TORD Torodi Ar. Bea 115.56 359 PKP **PKPdf** 15 24 39.2 -0.7
comp=Z,0.9nm,0.4s,baz=354,slow=2.2,SNR=18
TORD SKP 15 28 06.3
comp=Z,0.8nm,0.4s,baz=347,slow=2.2,SNR=12
TORD PKKPbc **PKKPbc** 15 35 11.7 +0.7
comp=Z,0.4nm,0.3s,baz=177,slow=3.5,SNR=6.5
TORD PKKP **PKKPdf** 15 35 32.1 -2.2
comp=Z,0.5nm,0.7s,baz=181,slow=3.5,SNR=2.4
DBIC Dimbokro 121.82 6 PKP **PKPdf** 15 24 51.6 -0.4
comp=Z,3.4nm,0.4s,baz=27,slow=1.6,SNR=16
TIC Toumodi 121.83 6 *e*P **PKPdf** 15 24 51.2 -0.9
KIC Kosan Boka 122.13 6 *e*P **PKPdf** 15 24 50.8 -1.9
comp=Z,35nm,1.3s
LIC Lamto 122.25 7 *e*P **PKPdf** 15 24 52.9 0.0
comp=Z,52nm,1.5s
RER Riviere de l'E 127.78 284 *e*PKPdf **PKPdf** 15 25 04.8 +1.6
VNDA Vanda 129.34 185 PKP **PKPdf** 15 25 05.7 +1.2
comp=Z,0.7nm,0.9s,baz=18,slow=2.6,SNR=5.3
CPUP Villa Florida 130.01 83 SKPbc **SKPab** 15 28 21.9 -0.9
comp=Z,3.6nm,1.0s,baz=251,slow=7.9,SNR=3.6
PLCA Paso Flores 131.44 107 SKPbc **SKPbc** 15 28 28.3 +0.3
comp=Z,1.9nm,0.7s,baz=318,slow=2.5,SNR=5.2
MAW Mawson 146.36 218 PKPbc **PKPbc** 15 25 37.1 -0.1
comp=Z,12nm,0.5s,baz=93,slow=2.9,SNR=63
MAW Mawson 146.36 218 *e*PKPdf **PKPbc** 15 25 36.8 -0.4
MAW PKPbc **PKPbc** 15 25 37.1 -0.1
LBTB Lobatse 147.29 315 *e*PKP2 **PKPbc** 15 25 41.5 +0.2
LBTB Lobatse 147.29 315 *e*PKPbc **PKPbc** 15 25 41.5 +0.2
BOSA Boshof 150.53 312 PKPbc **PKPbc** 15 25 49.8 +0.4
comp=Z,29nm,0.5s,baz=24,slow=2.3,SNR=101
BOSA pPKPbc **pPKPbc** 15 26 08.8 -1.9
comp=Z,9.5nm,0.6s,baz=123,slow=3.6,SNR=3.4
SYO Syowa Base 154.60 212↑*e*PKPdf **PKPbc** 15 25 52.8 -4.2
SYO Syowa Base 154.60 212↑*e*X **PKPab** 15 26 06.9 -5.2
VNA3 Neumayer Olymp 159.72 171 PKP PKPpre 15 25 38.4
SNAA Sanae 159.76 177 PKP PKPpre 15 25 50.4
VNA2 Neumayer--Watz 160.23 172 PKP PKPpre 15 25 47.1
baz=298,slow=1.5

*CSEM **27** 15:09:20.5±0.2,34˚44N×36˚74E,h5km,ML2.1,Error ellipse: s-maj=5.5km s-min=3.0km az=102.0*

*GRAL **27** 15:09:20.0±0.4,34°.57N×36°.77E,h2km±7km,MD2.9*
NSSC 27 15:09:21.2±0.9,34°.45N×36°.71E,h9km±6km,ML2.1, Jordan-Syria region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HAWK	**Haweek**	**0.27**	**287**	*e*P	Pg	15 09 26.3	-0.3
HAWK				*e*S	Sg	15 09 30.8	+0.7
HAWK	comp=E,1μm,0.3s			AML	AML	15 09 33.4	
HAWK	comp=N,523nm,0.2s			AML	AML	15 09 33.7	
HAWK	**Haweek** SNR=106	**0.27**	**287**	*e*P	Pg	15 09 26.3	-0.3
HAWK	comp=N,523nm,0.2s,SNR=102			*e*S	Sg	15 09 30.8	+0.6
FKH	**Fakeheh**	**0.32**	**232**	*e*P	Pg	15 09 26.5	-1.1
FKH				*e*S	Sg	15 09 28.9	-3.0
HWQ	**Hawqa**	**0.66**	**255**	*e*P	Pg	15 09 33.3	-0.6
HWQ				*e*S	Sg	15 09 42.9	+0.4
HWQ	**Hawqa**	**0.66**	**255**	*e*P	Pg	15 09 32.5	-1.4
HWQ	**Hawqa**	**0.66**	**255**	*e*P	Pg	15 09 32.5	-1.4
HWQ	**Hawqa**	**0.66**	**255**	*e*P	Pg	15 09 33.3	-0.6
HWQ				*e*S	Sg	15 09 42.9	+0.4
BHL	**Bhannes**	**1.03**	**239**	*e*P	Pg	15 09 40.3	-0.7
BHL				*e*S	Sb	15 09 55.5	+0.5
BHL	**Bhannes**	**1.03**	**239**	*e*P	Pg	15 09 39.1	-1.9
BHL	**Bhannes**	**1.03**	**239**	*e*P	Pg	15 09 39.2	-1.8
BHL	**Bhannes**	**1.03**	**239**	*e*P	Pg	15 09 40.3	-0.7
BHL				*e*S	Sb	15 09 55.5	+0.5
DQRL	**Deir Qamar**	**1.20**	**232**	*e*P	Pb	15 09 43.2	-1.0
DQRL	**Deir Qamar**	**1.20**	**232**	*e*P	Pb	15 09 42.3	-1.9
DQRL				*e*S	Sg	15 09 55.9	-4.0
DQRL	**Deir Qamar**	**1.20**	**232**	*e*P	Pb	15 09 42.3	-1.9
DQRL				*e*S	Sg	15 09 55.9	-4.0
DQRL	**Deir Qamar**	**1.20**	**232**	*e*P	Pb	15 09 43.2	-1.0
BRBR	**Barbar**	**1.21**	**212**	*e*P	Pb	15 09 44.0	-0.4
BRBR				*e*S	Sg	15 09 59.6	-0.5
BRBR	comp=E,30nm,0.5s			AML	AML	15 10 11.3	
BRBR	comp=N,30nm,0.6s			AML	AML	15 10 37.9	
BRBR	**Barbar** SNR=61	**1.21**	**212**	*e*P	Pb	15 09 44.0	-0.4
BRBR	comp=N,30nm,0.6s,SNR=62			*e*S	Sg	15 09 59.7	-0.5
ARNB	**Al Arnab**	**1.54**	**337**	*e*P	Pn	15 09 48.5	-0.4
ARNB				*e*S	Sn	15 10 08.4	-0.6
ARNB	comp=E,75nm,0.4s			AML	AML	15 10 15.6	
ARNB	comp=N,74nm,0.3s			AML	AML	15 10 15.8	
ARNB	**Al Arnab** SNR=61	**1.54**	**337**	*e*P	Pn	15 09 48.5	-0.4
ARNB	comp=N,74nm,0.3s,SNR=62			*e*S	Sn	15 10 08.4	-0.7
BTCH	**Batrach**	**1.60**	**353**	*e*P	Pn	15 09 50.4	+0.6
BTCH				*e*S	Sn	15 10 10.3	-0.4
BTCH	comp=N,69nm,0.3s			AML	AML	15 10 15.8	
BTCH	comp=E,38nm,0.3s			AML	AML	15 10 17.6	
BTCH	**Batrach** SNR=47	**1.60**	**353**	*e*P	Pn	15 09 50.4	+0.6
BTCH	comp=E,38nm,0.3s,SNR=49			*e*S	Sn	15 10 10.3	-0.4
SALA	**Sala**	**1.73**	**179**	*e*P	Pn	15 09 51.7	0.0
SALA				*e*S	Sn	15 10 13.4	-0.5
SALA	comp=E,4.2nm,0.5s			AML	AML	15 10 16.8	
SALA	comp=N,24nm,0.5s			AML	AML	15 10 20.1	
SALA	**Sala** SNR=47	**1.73**	**179**	*e*P	Pn	15 09 51.7	+0.1
SALA	comp=N,24nm,0.5s,SNR=49			*e*S	Sn	15 10 13.4	-0.5

IDC 27 15:12:05.0±2.2,5°.53S×129°.85E,h0km,mb3.7/1, mb1 4.1/4,mb1mx3.6/33,mbtmp3.9/4,ML3.8/3,Error ellipse: s-maj=87.1km s-min=28.7km az=76.0,Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**13.16**	**198**	Pn	Pn	15 15 13.1	-0.2
FITZ	0.5nm,0.3s,baz=21,slow=10,SNR=13			Sn	Sn	15 17 24.7	-16
WRA	**Warramunga Arr**	**14.98**	**163**	Pn	Pn	15 15 39.5	+1.3
ASAR	**Alice Springs**	**18.45**	**168**	P	Pn	15 16 21.5	-0.9
MKAR	**Makanchi Array**	**66.92**	**327**	P	P	15 22 59.5	+0.1

0.7nm,0.3s,baz=181,slow=20,SNR=5.1
0.2nm,0.3s,baz=344,slow=12,SNR=14
1.1nm,0.3s,baz=344,slow=10,SNR=79
0.2nm,0.3s,baz=118,slow=7.6,SNR=4.5

*NNC **27** 15:18:43.2±10.0,45°.64N×77°.68E,h0km,mb3.2,mpv2.9, Error ellipse: s-maj=78.4km s-min=36.1km az=179.0*
*KRNET **27** 15:18:46.1±0.1,40°.90N×78°.26E,h30km,mb2.5*
SOME 27 15:18:43.6,40°.67N×78°.33E,h20km,16C-8D,Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KDJ	**Kajisay** baz=327	**1.70**	**330**	⇓*e*P	Pb	15 19 14.3	0.0
KDJ	baz=327			⇓*i*S	Sb	15 19 35.2	-0.1
PRZ	**Przheval'sk** baz=4.0	**1.82**	**2**	⇓*i*P	Pb	15 19 16.3	0.0
PRZ	baz=4.0			⇓*i*S	Sb	15 19 38.5	-0.1
NRN	**Naryn** baz=288	**1.92**	**294**	⇓*i*P	Pb	15 19 19.7	+1.5
NRN	baz=288			⇓*i*S	Sb	15 19 44.2	+2.3
ANVS	**Anan'yevo** baz=347	**2.17**	**347**	⇑*i*P	Pb	15 19 21.9	-0.4
ANVS	baz=347			⇑*i*S	Sb	15 19 48.4	-0.5
ULHL	**Ulahol** baz=312	**2.23**	**316**	⇑*i*P	Pb	15 19 23.7	+0.4
ULHL	baz=312			⇑*i*S	Sb	15 19 51.1	+0.6
SATY	**Saty** 30nm,0.4s	**2.39**	**1**	*e*P	Pb	15 19 26.6	+0.6
SATY	26nm,0.4s			*e*S	Sb	15 19 57.6	+2.4
UZB	**Uzynbulak** 2.9nm,0.3s	**2.53**	**11**	*e*P	Pb	15 19 27.8	-0.6
UZB	12nm,0.5s			*e*S	Sb	15 19 59.7	+0.5
BOOM	**Boomskoye usch** baz=313	**2.56**	**316**	⇑*i*P	Pb	15 19 28.2	-0.7
BOOM	baz=313			⇑*i*S	Sb	15 19 59.5	-0.5
TNSS	**Tian-Shan** 14nm,0.2s	**2.58**	**337**	*e*P	Pb	15 19 29.1	-0.4
TNSS	19nm,0.4s			*e*S	Sb	15 20 01.8	+0.8
MDOK	**Medeo**	**2.67**	**339**	Pg	Pb	15 19 31.4	+0.6
MDOK				Lg	Lg	15 20 02.6	
MDOK	**Medeo** 5.6nm,0.3s	**2.67**	**339**	*e*P	Pb	15 19 31.4	+0.6
MDOK	13nm,0.4s			*e*S	Sb	15 20 05.7	+2.5
IZV	**Izvestkoviy** 7.8nm,0.5s	**2.69**	**332**	*e*P	Pb	15 19 31.4	+0.2
IZV	17nm,0.4s			*e*S	Sb	15 20 05.9	+2.0
KZA	**Kyzart** baz=299	**2.71**	**302**	⇑*i*P	Pb	15 19 31.2	-0.5
KZA	baz=299			⇑*i*S	Sb	15 20 04.9	+0.2
PDGK	**Podgornoye** baz=20	**2.80**	**18**	⇑*i*P	Pb	15 19 31.4	-1.5
PDGK	baz=20			⇑*i*S	Sb	15 20 05.3	-1.5
PDGK	**Podgornoye** 3.2nm,0.6s	**2.80**	**18**	⇑Pg	Pb	15 19 31.5	-1.5
PDGK	14nm,0.7s			⇑Lg	Lg	15 20 05.8	
KPKS	**Kokpek** 22nm,0.4s	**2.81**	**5**	*e*P	Pb	15 19 33.5	+0.3
KPKS				*e*S	Sb	15 20 09.2	+2.1
KURS	**Kuram** 2.6nm,0.3s	**2.82**	**358**	*e*P	Pb	15 19 33.8	+0.5
KURS	7.5nm,0.6s			*e*S	Sb	15 20 10.3	+2.8
MTBS	**Maitube** 5.4nm,0.1s	**2.84**	**331**	*e*P	Pb	15 19 34.2	+0.5
MTBS	7.9nm,0.3s			*e*S	Sb	15 20 10.5	+2.5
KST	**Kastek** 3.9nm,0.6s	**2.96**	**324**	*e*P	Pb	15 19 36.4	+0.7
KST	6.6nm,0.5s			*e*S	Sb	15 20 14.3	+2.8
TKM2	**Tokmak 2** baz=316	**3.04**	**319**	⇑*i*P	Pb	15 19 34.9	-2.3
TKM2	baz=316			⇑*i*S	Sb	15 20 11.5	-2.5
TKM2	**Tokmak 2** 1.9nm,0.5s	**3.04**	**319**	⇑Pg	Pb	15 19 38.5	+1.3
TKM2	5.0nm,0.4s			⇓Lg	Lg	15 20 18.5	
DGS	**Degeres** 3.0nm,0.4s	**3.20**	**324**	*e*P	Pb	15 19 39.8	-0.1
DGS	12nm,0.5s			*e*S	Sb	15 20 20.5	+1.9
CHKK	**Chushkaly** 6.1nm,0.3s	**3.34**	**343**	*e*P	Pb	15 19 42.8	+0.7
CHKK	14nm,0.2s			*e*S	Sb	15 20 25.5	+3.3
MNBS	**Baschi** 15nm,0.2s	**3.41**	**1**	*e*P	Pb	15 19 43.4	0.0
MNBS	14nm,0.3s			*e*S	Sb	15 20 26.8	+2.3
AAK	**Ala-Archa** 1.1nm,0.4s	**3.48**	**306**	⇓Pg	Pb	15 19 47.8	+3.1
AAK	5.6nm,0.8s			⇑Sn	Sb	15 20 30.8	+4.1
DJR	**Jarkent** 2.1nm,0.2s	**3.82**	**16**	*e*P	Pb	15 19 51.3	+1.0
DJR	4.5nm,0.4s			*e*S	Sb	15 20 39.8	+3.7
MRKS	**Merke** 1.7nm,0.4s	**4.35**	**300**	*e*P	Pb	15 20 02.5	+3.1
MRKS	2.9nm,0.4s			*e*S	Sb	15 20 59.2	+7.7
KAPS	**Kapalarasan** 1.1nm,0.8s	**4.68**	**9**	*e*P	Pb	15 20 07.5	+2.6
KAPS	2.2nm,0.6s			*e*S	Sb	15 21 07.6	+6.8

*ISCJB **27** 15:19:53.7±0.7,36°.73N±0°.04×140°.66E±0°.06,h15km±5km, mb3.5/3,MS3.8/1,Error ellipse: s-maj=8.7km s-min=5.3km az=21.3*
*IDC **27** 15:19:53.1±1.4,36°.61N×140°.60E,h0km,mb3.5/3, mb1 3.9/3,mb1mx3.4/31,mbtmp3.5/3,MS3.8/1,Ms1 3.8/1, ms1mx2.9/28,Error ellipse: s-maj=26.4km s-min=26.3km az=38.0*
*JMA **27** 15:19:54.4,36°.77N×140°.57E,h9km,M3.6 Broadband fault plane solution: P waves. NP1:φ=206.00000°, δ56.00000°,λ-58.00000°. NP2:φ=338.00000°,δ45.00000°, λ-128.00000°. Principal axes: T Plg6.0000°, Azm274.0000°; N Plg26.0000°, Azm7.0000°; P Plg63.0000°, Azm172.0000°;*
JMA Felt II J1.
ISC 27 15:19:53.9±1.1,36°.76N±0°.04×140°.62E±0°.06,h10km±7km, n17,σ0°81/17,mb3.6/3,3C-1D,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JHO	**Hitachi**	**0.15**	**194**	P	Pg	15 19 57.7	+0.4
JHO				*e*S	Sg	15 19 59.9	+0.2
ONAJ	**Iwakimizuishiy**	**0.38**	**23**	⇑P	Pb	15 20 02.0	-0.7
ONAJ				S	Sb	15 20 07.5	-1.1
JSB	**Shiboa**	**0.60**	**291**	⇑P	Pb	15 20 05.7	-0.8
JSB				S	Sg	15 20 13.4	0.0
JYT	**Yasato**	**0.63**	**213**	⇓P	Pb	15 20 06.0	-0.9
JYT				S	Sb	15 20 14.5	-1.2
JFT	**Otama**	**0.79**	**344**	⇑P	Pb	15 20 09.3	-0.5
JFT				S	Sg	15 20 19.4	-0.2
MJAR	**Matsushiro Arr**	**1.95**	**264**	Pn	Pn	15 20 27.2	+0.2
MJAR	24nm,0.3s,baz=84,slow=15,SNR=213			Sn	Sn	15 20 51.8	+0.2
MAT	**Matsushiro**	**1.95**	**264**	P	Pn	15 20 27.4	+0.4
MAT				S	Sn	15 20 52.6	+1.0
H11N2	**WAKE ISLAND Hy** baz=315	**28.56**	**119**	T	T	15 55 36.1	
H11N1	**WAKE ISLAND Hy** baz=315	**28.57**	**119**	T	T	15 55 36.6	
H11N3	**WAKE ISLAND Hy** baz=315	**28.58**	**119**	T	T	15 55 35.9	
H11S1	**WAKE ISLAND Hy** baz=314,slow=76,SNR=13	**29.25**	**121**	T	T	15 56 28.4	
H11S3	**WAKE ISLAND Hy** baz=314,slow=76,SNR=14	**29.25**	**121**	T	T	15 56 28.4	
H11S2	**WAKE ISLAND Hy** baz=314,slow=76,SNR=12	**29.27**	**121**	T	T	15 56 27.2	
FITZ	**Fitzroy Crossi** comp=Z,76nm,19.2s,slow=34	**56.37**	**197**	LR	LR	15 51 32.7	
WRA	**Warramunga Arr** 0.3nm,0.5s,baz=3.7,slow=7.2,SNR=9.7	**56.70**	**187**	P	**P**	**15 29 37.0**	**-0.6**
ASAR	**Alice Springs** 0.5nm,1.0s,baz=12,slow=9.5,SNR=3.9	**60.43**	**187**	P	**P**	**15 30 03.5**	**-0.1**
TXAR	**Lajitas Array** 0.1nm,0.5s,baz=328,slow=3.2,SNR=2.8	**90.80**	**52**	P	**P**	**15 32 59.0**	**+1.3**

*ISCJB **27** 15:21:31.7±0.5,51°.49N±0°.02×6°.45E±0°.04,h0km,Error ellipse: s-maj=3.8km s-min=2.5km az=136.4*
*CSEM **27** 15:21:32.5±0.3,51°.49N×6°.49E,h1km,ML3.3/7,Error ellipse: s-maj=6.5km s-min=4.2km az=140.0*
*BUG **27** 15:21:32.5,51°.46N×6°.57E,h1km,ML2.2*
BUG Felt IV EMS.
*BGR **27** 15:21:33.6±0.7,51°.49N×6°.52E,h1km,ML2.3/4,Error ellipse: s-maj=8.9km s-min=3.3km az=113.0*
*LDG **27** 15:21:33.4±0.2,51°.49N×6°.53E,h1km,Md2.7/1,Ml2.9/3, Error ellipse: s-maj=3.8km s-min=2.0km az=151.0, Suspected Mining induced.*
*BNS **27** 15:21:34.2±1.0,51°.44N×6°.60E,h1km,ML2.3*
ISC 27 15:21:32.1±0.8,51°.48N±0°.02×6°.42E±0°.02,h0km,n75, σ1°39/113,Germany

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BRHE	**Rheinberg**	**0.10**	**68**	Pg	**Pg**	**15 21 33.6**	**-0.4**
BRHE				Sg	**Sg**	**15 21 34.6**	**-0.7**
BRHE	**Rheinberg**	**0.10**	**68**	Pg	**Pg**	**15 21 33.6**	**-0.4**
BRHE				Sg	**Sg**	**15 21 34.6**	**-0.7**
LAUG	**Laupendahl**	**0.35**	**111**	*e*Pg	**Pg**	**15 21 38.5**	**-0.3**
LAUG	**Laupendahl**	**0.35**	**111**	Pg	**Pg**	**15 21 38.5**	**-0.3**
HES	**Velbert-Hesper**	**0.41**	**106**	*e*Pg	**Pg**	**15 21 38.7**	**-1.1**
HES	**Velbert-Hesper**	**0.41**	**106**	Pg	**Pg**	**15 21 38.7**	**-1.1**
RWB	**Wassenberg**	**0.41**	**204**	*e*Pg	**Pb**	**15 21 42.3**	**+0.1**
RWB	153nm,0.2s			*e*Sg	**Sb**	**15 21 49.6**	**+0.6**
RWB	**Wassenberg**	**0.41**	**204**	Pg	**Pb**	**15 21 42.3**	**+0.1**
RWB	153nm,0.2s			Sg	**Sb**	**15 21 49.6**	**+0.6**
BUG	**Bochum--Univer**	**0.53**	**94**	*e*Pg	**Pg**	**15 21 41.7**	**-0.6**
BUG				Sg	**Sg**	**15 21 48.3**	**-0.9**
PLH	**Pulheim**	**0.54**	**152**	*e*Pg	**Pg**	**15 21 43.0**	**+0.7**
PLH	527nm,0.2s			*e*Sg	**Sg**	**15 21 50.2**	**+0.9**
PLH	**Pulheim**	**0.54**	**152**	Pg	**Pg**	**15 21 43.0**	**+0.7**
PLH	527nm,0.2s			Sg	**Sg**	**15 21 50.2**	**+0.9**
WTSB	**Winterswijk** 40nm,0.3s	**0.54**	**26**	*e*Pg	**Pg**	**15 21 43.0**	**+0.5**
WTSB				*e*Sg	**Sg**	**15 21 50.7**	**+1.2**
WTSB	**Winterswijk** 40nm,0.3s	**0.54**	**26**	*e*Pg	**Pg**	**15 21 43.0**	**+0.5**
WTSB				*e*Sg	**Sg**	**15 21 50.7**	**+1.2**
ENTS	**Ennepetalsperr**	**0.67**	**110**	*e*Pg	**Pg**	**15 21 44.0**	**-0.8**
ENTS				*e*Sg	**Sg**	**15 21 51.6**	**-1.8**
ENTS	**Ennepetalsperr**	**0.67**	**110**	Pg	**Pg**	**15 21 44.0**	**-0.8**
ENTS				Sg	**Sg**	**15 21 51.6**	**-1.8**
GSH	**Grosshau**	**0.74**	**182**	*e*Pg	**Pb**	**15 21 48.0**	**+0.1**
GSH				*e*Sg	**Sb**	**15 21 58.7**	**+0.1**
GSH	**Grosshau** 68nm,0.1s	**0.74**	**182**	Pg	**Pb**	**15 21 48.0**	**+0.1**
GSH				Sg	**Sb**	**15 21 58.7**	**+0.1**
HOBG	**Hohbusch**	**0.76**	**130**	*e*Pg	**Pg**	**15 21 46.9**	**+0.3**
HOBG	**Hohbusch**	**0.76**	**130**	Pg	**Pg**	**15 21 46.9**	**+0.3**
HGN	**Heimansgroeve** 54nm,0.2s	**0.78**	**203**	*e*Pg	**Pn**	**15 21 50.6**	**+0.4**
HGN				*e*Sg	**Sn**	**15 22 02.2**	**-0.4**
HGN	**Heimansgroeve** 54nm,0.2s	**0.78**	**203**	*e*Pg	**Pn**	**15 21 50.6**	**+0.4**
HGN				*e*Sg	**Sn**	**15 22 02.2**	**-0.4**
DREG	**Dreilaegerbach**	**0.82**	**188**	*e*Pg	**Pb**	**15 21 49.3**	**0.0**
DREG	**Dreilaegerbach**	**0.82**	**188**	Pg	**Pb**	**15 21 49.3**	**0.0**
KLL	**Kalltalsperre**	**0.83**	**185**	*e*Pg	**Pb**	**15 21 49.7**	**+0.2**
KLL	**Kalltalsperre**	**0.83**	**185**	Pg	**Pb**	**15 21 49.7**	**+0.2**
WBS	**Wahnbachtalspe** 40nm,0.2s	**0.87**	**141**	*e*Pg	**Pg**	**15 21 48.7**	**+0.1**
WBS				*e*Sg	**Sg**	**15 21 59.6**	**-0.2**
WBS	**Wahnbachtalspe** 40nm,0.2s	**0.87**	**141**	Pg	**Pg**	**15 21 48.7**	**+0.1**
WBS				Sg	**Sg**	**15 21 59.6**	**-0.2**
MEM	**Membach**	**0.91**	**197**	P	**Pb**	**15 21 51.3**	**+0.6**
STB	**Steinbach**	**0.92**	**163**	*e*Pg	**Pb**	**15 21 51.1**	**+0.2**
STB	87nm,0.3s			*e*Sg	**Sg**	**15 22 02.4**	**+0.7**
STB	**Steinbach**	**0.92**	**163**	Pg	**Pb**	**15 21 51.1**	**+0.2**
STB	87nm,0.3s			Sg	**Sg**	**15 22 02.4**	**+0.7**
OLFT	**Oleftalsperre**	**0.98**	**180**	*e*Pg	**Pb**	**15 21 52.4**	**+0.4**
OLFT				*e*Sg	**Sb**	**15 22 06.3**	**+0.8**
OLFT	**Oleftalsperre**	**0.98**	**180**	Pg	**Pb**	**15 21 52.4**	**+0.4**
OLFT				Sg	**Sb**	**15 22 06.3**	**+0.8**
AHRW	**Bad Neuenahr-A** SNR=7.1	**1.03**	**156**	*e*Pg	**Pn**	**15 21 53.8**	**+0.1**
AHRW	SNR=2.9			*e*Sg	**Sb**	**15 22 07.2**	**+0.5**
IBBN	**Ibbenburen** SNR=6.7	**1.17**	**44**	*e*Sg	**Sg**	**15 22 09.3**	**-0.5**
IBBN	**Ibbenburen** SNR=6.7	**1.17**	**44**	Sg	**Sg**	**15 22 09.3**	**-0.5**
HILG	**Hillesheim**	**1.20**	**172**	*e*Pg	**Pb**	**15 21 55.9**	**+0.2**
HILG	**Hillesheim**	**1.20**	**172**	Pg	**Pb**	**15 21 55.9**	**+0.2**
BCLA	**Clavier**	**1.27**	**214**	P	**Pn**	**15 21 58.2**	**+1.1**
BCLA	**Clavier**	**1.27**	**214**	P	**Pn**	**15 21 58.2**	**+1.1**
KOE	**Koeppel**	**1.34**	**141**	*e*Pg	**Pg**	**15 21 57.4**	**-0.3**
KOE	**Koeppel**	**1.34**	**141**	Pg	**Pg**	**15 21 57.4**	**-0.3**
GIVF	**Givet**	**1.71**	**217**	*e*Pg	**Pg**	**15 22 06.2**	**+1.4**
GIVF				*e*Sn	**Sn**	**15 22 23.8**	**-1.8**
GIVF	36nm,0.3s			*e*Sg	**Sg**	**15 22 27.8**	**+0.9**
GIVF	**Givet**	**1.71**	**217**	*e*Pg	**Pg**	**15 22 06.2**	**+1.4**
GIVF				*e*Sn	**Sn**	**15 22 23.8**	**-1.8**
GIVF	18nm,0.3s			*e*Sg	**Sg**	**15 22 27.8**	**+0.9**
TNS	**Taunus Mts** SNR=2.0	**1.80**	**134**	*e*Pn	**Pn**	**15 22 04.8**	**+0.4**
TNS	SNR=8.0			*e*Pg	**Pg**	**15 22 06.1**	**-0.4**
TNS	SNR=2.6			*e*Sg	**Sb**	**15 22 28.9**	**-0.1**
TNS	**Taunus Mts** SNR=2.0	**1.80**	**134**	Pn	**Pn**	**15 22 04.8**	**+0.4**
DOU	**Dourbes**	**1.80**	**221**	P	**Pb**	**15 22 05.9**	**0.0**
DOU	**Dourbes**	**1.80**	**221**	P	**Pb**	**15 22 05.9**	**0.0**
WLF	**Walferdange**	**1.82**	**185**	P	**Pg**	**15 22 07.6**	**+0.6**
WLF	**Walferdange** SNR=4.5	**1.82**	**185**	*e*Pg	**Pg**	**15 22 08.1**	**+1.1**
WLF	SNR=7.4			*e*Sg	**Sg**	**15 22 30.7**	**+0.1**
WLF	**Walferdange**	**1.82**	**185**	P	**Pg**	**15 22 07.6**	**+0.6**
WLF	**Walferdange** SNR=4.5	**1.82**	**185**	Pg	**Pg**	**15 22 08.1**	**+1.1**
WLF	SNR=7.4			Sg	**Sg**	**15 22 30.7**	**+0.1**
BAIF	**Baives** 12nm,0.4s	**2.00**	**226**	*e*Pn	**Pn**	**15 22 07.3**	**+0.3**
BAIF				*e*Sg	**Sg**	**15 22 37.7**	**+1.5**
BAIF	**Baives** 6.1nm,0.4s	**2.00**	**226**	*e*Pn	**Pn**	**15 22 07.3**	**+0.3**
BAIF				*e*Sg	**Sg**	**15 22 37.7**	**+1.5**
CLZ	**Clausthal** SNR=4.1	**2.49**	**80**	*e*Pg	**Pg**	**15 22 18.5**	**-1.3**
CLZ	**Clausthal** SNR=4.1	**2.49**	**80**	Pg	**Pg**	**15 22 18.5**	**-1.3**
LOR	**Lormes** baz=24	**4.53**	**203**	*e*Pn	**Pn**	**15 22 41.9**	**0.0**
LOR	**Lormes** 3.5nm,0.4s	**4.53**	**203**	*e*Pg	**Pg**	**15 22 57.9**	**-1.0**
LOR				*e*Sn	**Sn**	**15 23 33.3**	**-2.0**
LOR				*e*Sg	**Sg**	**15 23 56.5**	**-1.1**
LOR	**Lormes**	**4.53**	**203**	*e*Pn	**Pn**	**15 22 41.9**	**0.0**
LOR	**Lormes**	**4.53**	**203**	*e*Pg	**Pg**	**15 22 57.9**	**-1.0**
LOR				*e*Sn	**Sn**	**15 23 33.3**	**-2.0**
LOR	1.8nm,0.4s			*e*Sg	**Sg**	**15 23 56.5**	**-1.1**
BRG	**Berggiesshubel** 1.6nm,0.7s	**4.77**	**94**	SG	**Sg**	**15 24 13.7**	**+8.4**
SSF	**Saint Saulge**	**4.81**	**204**	*e*Pn	**Pn**	**15 22 45.7**	**-0.1**
SSF	**Saint Saulge**	**4.81**	**204**	*e*P	**Pn**	**15 22 48.4**	**+2.6**
SSF	**Saint Saulge**	**4.81**	**204**	*e*Pg	**Pg**	**15 23 03.1**	**-1.2**
SSF				*e*Sg	**Sg**	**15 24 04.7**	**-1.9**
SSF	**Saint Saulge**	**4.81**	**204**	*e*Pn	**Pn**	**15 22 45.7**	**-0.1**
SSF	**Saint Saulge**	**4.81**	**204**	*e*P	**Pn**	**15 22 48.4**	**+2.6**
SSF	**Saint Saulge**	**4.81**	**204**	*e*Pg	**Pg**	**15 23 03.1**	**-1.2**
SSF				*e*Sg	**Sg**	**15 24 04.7**	**-1.9**
AVF	**Avril sur Loir**	**5.11**	**204**	*e*Pn	**Pn**	**15 22 48.9**	**-0.8**
AVF	**Avril sur Loir**	**5.11**	**204**	*e*Pg	**Pg**	**15 23 08.6**	**-1.2**
AVF	**Avril sur Loir**	**5.11**	**204**	*e*Pn	**Pn**	**15 22 48.9**	**-0.8**
AVF	**Avril sur Loir**	**5.11**	**204**	*e*Pg	**Pg**	**15 23 08.6**	**-1.2**
SMF	**Signal de Mont**	**5.12**	**200**	*e*Pn	**Pn**	**15 22 49.5**	**-0.5**
SMF	**Signal de Mont**	**5.12**	**200**	*e*Pn	**Pn**	**15 22 49.5**	**-0.5**
KHC	**Kasperske Hory**	**5.15**	**114**	*e*SG	**Sg**	**15 24 24.5**	**+7.0**
TCF	**Toulx Ste Croi**	**5.89**	**210**	*e*Pn	**Pn**	**15 22 59.7**	**-0.8**
TCF	**Toulx Ste Croi**	**5.89**	**210**	*e*Pn	**Pn**	**15 22 59.7**	**-0.8**

MEX 27 15:38:24.1±0.6,16°.97N×100°.09W,h5km±7km,MD3.6,1D, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CAIG	**El Cayaco**	**0.19**	**295**	*e*P	Pg	15 38 27.9	+0.1
CAIG				*e*S	Sg	15 38 29.9	-0.4
ACP2	**Acapulco**	**0.22**	**115**	*i*P	Pg	15 38 28.7	+0.3
ACP2				*i*S	Sg	15 38 30.6	-0.6
MEIG	**Mezcala**	**1.05**	**25**	*e*P	Pg	15 38 41.3	-3.0
MEIG				*i*S	Sg	15 38 55.2	-2.9
ARIG	**Puente Sto Nin**	**1.33**	**349**	*e*P	Pn	15 38 46.1	-3.3
ARIG				*i*S	Sb	15 39 01.7	-5.2
ZIIG	**Zihuatanejo**	**1.46**	**296**	*i*P	Pn	15 38 47.1	-4.0
ZIIG				*i*S	Sn	15 39 05.5	-5.1
PLIG	**Platanillo**	**1.52**	**21**	*e*P	Pn	15 38 48.6	-3.4
PLIG				*e*S	Sn	15 39 07.5	-4.8
TLIG	**Tlapa**	**1.57**	**68**	*e*P	Pn	15 38 49.0	-3.8
TLIG				*i*S	Sn	15 39 08.8	-4.7
PNIG	**Pinotepa**	**1.97**	**107**	⇓*e*P	Pn	15 38 54.1	-4.0
PNIG				*i*S	Sn	15 39 19.1	-4.0
YAIG	**Yautepec**	**2.12**	**27**	*i*P	Pn	15 38 58.7	-1.6
YAIG				*i*S	Sn	15 39 22.8	-4.3

*IDC **27** 15:52:14.9±0.7,55°.66N×162°.88E,h0km,mb3.9/19, mb1 4.1/23,mb1mx4.0/51,mbtmp4.0/23,ML3.7/4,MS3.6/11, Ms1 3.6/11,ms1mx3.2/39,Error ellipse: s-maj=16.1km s-min=13.0km az=152.0*
*KRSC **27** 15:52:16.3±1.0,55°.55N×163°.33E,h60km±23km,ML4.8*
*MOS **27** 15:52:18.6±1.0,55°.63N×163°.19E,h51km,mb4.3/23,Error ellipse: s-maj=6.9km s-min=4.8km az=74.4*
*NEIC **27** 15:52:21.0±1.0,55°.66N×162°.83E,h45km±9km,mb4.5/5, Error ellipse: s-maj=9.4km s-min=7.3km az=

ZLN	**Zelenaya**	**1.40 289**	*i* P		**Pn**	15 52 43.0	**+1.0**		
CIRR	**Tsirk**	**1.46 292**	PN		**Pn**	15 52 43.9	**+1.0**		
CIRR	**Tsirk**	**1.46 292**	*e*P		**Pn**	15 52 43.9	**+1.0**		
BDR	**Baidarnaya**	**1.47 312**	PN		**Pn**	15 52 43.4	**+0.4**		
BDR	**Baidarnaya**	**1.47 312**	*e*P		**Pn**	15 52 43.4	**+0.4**		
LGNR	**Loginova**	**1.48 290**	PN		**Pb**	15 52 44.7	**-0.6**		
LGNR	**Loginova**	**1.48 290**	*i* P		**Pb**	15 52 44.7	**-0.6**		
SRKR	**Sorokina**	**1.54 314**	PN		**Pn**	15 52 45.1	**+1.1**		
SRKR	**Sorokina**	**1.54 314**	*e*P		**Pn**	15 52 45.1	**+1.1**		
BZMR	**Bezymyannaya**	**1.55 284**	PN		**Pn**	15 52 45.1	**+0.9**		
BZMR	**Bezymyannaya**	**1.55 284**	*e*P		**Pn**	15 52 45.1	**+0.9**		
KLY	**Klyuchi**	**1.59 298**	PN		**Pn**	15 52 44.4	**-0.1**		
KLY			S		**Sn**	15 53 04.7	**+0.6**		
KLY	**Klyuchi**	**1.59 298**	*e*P		**Pn**	15 52 44.4	**-0.1**		
KLY			*e*S		**Sn**	15 53 04.7	**+0.6**		
KRSR	**Krestovskiy**	**1.59 294**	PN		**Pn**	15 52 45.2	**+0.5**		
KRSR			S		**Sn**	15 53 05.9	**+1.5**		
KRSR	**Krestovskiy**	**1.59 294**	*e*P		**Pn**	15 52 45.2	**+0.5**		
KRSR			*e*S		**Sn**	15 53 05.9	**+1.5**		
TUMD	**Tumrok D**	**1.63 257**	*i* P		**Pn**	15 52 45.9	**+0.8**		
TUMD			*e*S		**Sb**	15 53 07.3	**-0.5**		
KIRR	**Kirishev**	**1.64 284**	PN		**Pn**	15 52 46.5	**+1.2**		
KIRR	**Kirishev**	**1.64 284**	*e*P		**Pn**	15 52 46.5	**+1.2**		
BKI	**Bering**	**1.64 103**	PN		**Pn**	15 52 44.0	**-1.2**		
BKI			S		**Sn**	15 53 03.8	**-1.6**		
BKI	**Bering**	**1.64 103**	*e*P		**Pn**	15 52 44.0	**-1.2**		
BKI			*e*S		**Sn**	15 53 03.8	**-1.6**		
KMNR	**Kamenistaya**	**1.67 277**	PN		**Pn**	15 52 46.0	**+0.3**		
KMNR			S		**Sn**	15 53 07.5	**+1.3**		
KMNR	**Kamenistaya**	**1.67 277**	*i* P		**Pn**	15 52 46.0	**+0.3**		
KMNR			*e*S		**Sn**	15 53 07.5	**+1.3**		
KPT	**Kopyto**	**1.71 284**	PN		**Pn**	15 52 47.6	**+1.4**		
KPT			S		**Sb**	15 53 10.0	**-0.1**		
KPT	**Kopyto**	**1.71 284**	*e*P		**Pn**	15 52 47.6	**+1.4**		
KPT			*e*S		**Sb**	15 53 10.0	**-0.1**		
KZV	**Kizimen**	**1.71 255**	PN		**Pn**	15 52 47.5	**+1.1**		
KZV	**Kizimen**	**1.71 255**	*e*P		**Pn**	15 52 47.5	**+1.1**		
TUMR	**Tumrok**	**1.75 261**	PN		**Pn**	15 52 48.2	**+1.3**		
TUMR			S		**Sb**	15 53 11.4	**0.0**		
TUMR	**Tumrok**	**1.75 261**	*e*P		**Pn**	15 52 48.2	**+1.3**		
TUMR			*e*S		**Sb**	15 53 11.4	**0.0**		
KOZ	**Kozyrevsk**	**1.92 285**	PN		**Pn**	15 52 51.1	**+2.1**		
KOZ			S		**Sb**	15 53 16.3	**+0.2**		
KOZ	**Kozyrevsk**	**1.92 285**	*e*P		**Pn**	15 52 51.1	**+2.1**		
KOZ			*e*S		**Sb**	15 53 16.3	**+0.2**		
ESO	**Esso**	**2.55 279**	PN		**Pn**	15 52 58.8	**+1.1**		
ESO	**Esso**	**2.55 279**	*e*P		**Pn**	15 52 58.8	**+1.1**		
KII	**Karymskiy**	**2.66 236**	PN		**Pn**	15 53 00.8	**+1.5**		
KII	**Karymskiy**	**2.66 236**	*e*P		**Pn**	15 53 00.8	**+1.5**		
SPN	**Mys Shipunski**	**3.11 218**	PN		**Pn**	15 53 04.3	**-1.1**		
SPN	**Mys Shipunski**	**3.11 218**	*e*P		**Pn**	15 53 04.3	**-1.1**		
SPN			*e*S		**Sn**	15 53 38.3	**-3.2**		
NLC	**Nalytchevo**	**3.30 224**	PN		**Pn**	15 53 08.8	**+0.8**		
NLC			S		**Sn**	15 53 46.8	**+0.5**		
NLC	**Nalytchevo**	**3.30 224**	*e*P		**Pn**	15 53 08.8	**+0.8**		
NLC			*e*S		**Sn**	15 53 46.8	**+0.5**		
SDLR	**Sedlovina**	**3.42 229**	PN		**Pn**	15 53 11.2	**+1.5**		
SDLR			S		**Sn**	15 53 50.2	**+0.9**		
SDLR	**Sedlovina**	**3.42 229**	*i* P		**Pn**	15 53 11.2	**+1.5**		
SDLR			*e*S		**Sn**	15 53 50.2	**+0.9**		
KRER	**Koryakskii**	**3.46 230**	PN		**Pn**	15 53 12.2	**+1.9**		
KRER			S		**Sn**	15 53 52.4	**+2.0**		
KRER	**Koryakskii**	**3.46 230**	*i* P		**Pn**	15 53 12.2	**+1.9**		
KRER			*e*S		**Sn**	15 53 52.4	**+2.0**		
KRX	**Arik**	**3.46 232**	PN		**Pn**	15 53 13.0	**+2.6**		
KRX	**Arik**	**3.46 232**	*i* P		**Pn**	15 53 13.0	**+2.6**		
AVH	**Avacha**	**3.49 230**	PN		**Pn**	15 53 12.4	**+1.7**		
AVH			S		**Sn**	15 53 52.2	**+1.2**		
AVH	**Avacha**	**3.49 230**	*e*P		**Pn**	15 53 12.2	**+1.5**		
AVH			*i* P		**Pn**	15 53 12.4	**+1.7**		
AVH			*e*S		**Sn**	15 53 52.2	**+1.2**		
UGLR	**Uglovaya**	**3.49 229**	PN		**Pn**	15 53 12.3	**+1.6**		
UGLR	**Uglovaya**	**3.49 229**	*i* P		**Pn**	15 53 12.3	**+1.6**		
KOK	**Koryaka**	**3.51 231**	PN		**Pn**	15 53 13.9	**+2.9**		
KOK	**Koryaka**	**3.51 231**	*e*P		**Pn**	15 53 13.9	**+2.9**		
GNL	**Ganaly**	**3.59 240**	PN		**Pn**	15 53 14.0	**+2.0**		
GNL	**Ganaly**	**3.59 240**	*e*P		**Pn**	15 53 14.0	**+2.0**		
DALK	**Dalny**	**3.65 227**	PN		**Pn**	15 53 13.4	**+0.7**		
DALK			S		**Sn**	15 53 54.6	**-0.2**		
DALK	**Dalny**	**3.65 227**	*e*P		**Pn**	15 53 13.4	**+0.7**		
DALK			*e*S		**Sn**	15 53 54.6	**-0.2**		
OSSR	**Ossora**	**3.67 359**	PN		**Pn**	15 53 14.2	**+1.2**		
OSSR	**Ossora**	**3.67 359**	*e*P		**Pn**	15 53 14.2	**+1.2**		
PET	**Petropavlovsk**	**3.69 228**	PN		**Pn**	15 53 14.3	**+0.9**		
PET			S		**Sn**	15 55 55.6	**-0.3**		
PET	**Petropavlovsk**	**3.69 228**	*e*Pn		**Pn**	15 53 14.2	**+0.8**		
KRMR	**Karymshinskiy**	**4.05 229**	PN		**Pn**	15 53 19.9	**+1.6**		
KRMR			S		**Sn**	15 54 06.2	**+1.4**		
KRMR	**Karymshinskiy**	**4.05 229**	*e*P		**Pn**	15 53 19.9	**+1.6**		
KRMR			*e*S		**Sn**	15 54 06.2	**+1.4**		
PETK	**Petropavlovsk-** 3.9nm,0.3s,baz=69,slow=16,SNR=48	**4.06 234**	Pn		**Pn**	15 53 18.9	**+0.5**		
PETK			Sn		**Sn**	15 54 08.4	**+3.5**		
	5.0nm,0.3s,baz=70,slow=18,SNR=5.4								
PETK			LR		LR	15 55 07.9			
	comp=Z,222nm,19.6s,baz=57,slow=44								
RUS	**Russkaya**	**4.19 223**	PN		**Pn**	15 53 21.6	**+1.3**		
RUS			S		**Sn**	15 54 08.4	**+0.1**		
RUS	**Russkaya**	**4.19 223**	*i* P		**Pn**	15 53 21.6	**+1.3**		
RUS			*e*S		**Sn**	15 54 08.4	**+0.1**		
MTVR	**Mutnovka**	**4.29 225**	PN		**Pn**	15 53 23.9	**+2.2**		
MTVR	**Mutnovka**	**4.29 225**	*e*P		**Pn**	15 53 23.9	**+2.2**		
APC	**Apacha**	**4.43 235**	PN		**Pn**	15 53 26.3	**+2.8**		
APC	**Apacha**	**4.43 235**	*e*P		**Pn**	15 53 26.3	**+2.8**		
ASAK	**Asacha**	**4.48 226**	PN		**Pn**	15 53 26.6	**+2.4**		
ASAK	**Asacha**	**4.48 226**	*e*P		**Pn**	15 53 26.6	**+2.4**		
KDTR	**Khodutka, Kamc**	**4.85 221**	*e*P		**Pn**	15 53 29.6	**+0.3**		
TILK	**Tilichiki**	**5.12 17**	PN		**Pn**	15 53 32.0	**-0.9**		
TILK	**Tilichiki**	**5.12 17**	*e*P		**Pn**	15 53 32.0	**-0.9**		
KMSK	**Kamenskaya**	**7.07 12**	PN		**Pn**	15 54 02.5	**+2.8**		
KMSK	**Kamenskaya**	**7.07 12**	*e*P		**Pn**	15 54 02.5	**+2.8**		
MA2	**Magadan** 0.3nm,0.3s,baz=45,slow=20,SNR=2.1	**7.76 306**	Pn		**Pn**	15 54 09.1	**-0.2**		
MA2			LR		LR	15 57 34.6			
	comp=Z,415nm,18.3s,baz=102,slow=42								
SEY	**Seymchan**	**9.19 328**	*e*PN		**Pn**	15 54 27.3	**-1.4**		
BILL	**Bilibino**	**12.57 5**⇓	*e*PN		**Pn**	15 55 19.7	**+4.7**		
BILL			pmax	pmax					
	comp=Z,4.0nm,2.5s								
BILL			MLR	MLR					
	comp=Z,75nm,18.0s								
YSS	**Yuzh-Sakhalins**	**15.38 244**	*e*P		**Pn**	15 55 50.9	**-2.2**		
SHO	**Shikotan**	**15.74 229**	P		**P**	15 56 01.2	**-0.3**		
SHO			*i* S		**Sn**	15 58 54.4	**+3.2**		
SHO			pmax	pmax					
	comp=E,28nm,0.7s								
SHO			pmax	pmax					
	comp=Z,7.0nm,0.7s								
SHO			pmax	pmax					
	comp=N,7.0nm,0.3s								
YUK	**Yuzh-Kuril'sk**	**16.03 231**	*d i*P		**Pn**	15 56 02.0	**+0.5**		
YUK			*i* S		**Sn**	15 58 55.0	**-3.1**		
YUK			pmax	pmax					
	comp=N,45nm,0.5s								
YUK			pmax	pmax					
	comp=Z,91nm,0.5s								
YUK			pmax	pmax					
	comp=E,4.0nm,0.1s								
ASAJ	**Asahikawa**	**17.47 237**	P		**Pn**	15 56 18.9	**-0.7**		
	comp=E,0.1nm,0.3s,baz=65,slow=12,SNR=2.4								
ASAJ	**Asahikawa**	**17.47 237**	*e*Pn		**Pn**	15 56 19.0	**-0.6**		
YAK	**Yakutsk**	**18.34 304**	P		**P**	15 56 27.7	**-2.3**		
	comp=E,0.0nm,0.3s,baz=273,slow=5.1,SNR=6.5								
YAK	**Yakutsk**	**18.34 304**	*e*P		**P**	15 56 28.0	**-2.1**		
HABR	**Khabarovsk**	**18.62 259**	*e*P		**P**	15 56 30.1	**-3.1**		
HABR			*e*S		**Sn**	15 59 52.6	**-8.2**		
HABR			pmax	pmax					
	comp=Z,49nm,2.2s								
HABR			pmax	pmax					
	comp=N,16nm,1.9s								
HABR			pmax	pmax					
	comp=E,40nm,1.7s								
ERM	**Erimo**	**18.84 232**⇑	*i*P		**Pn**	15 56 36.3	**0.0**		
ERM			pmax	pmax					
	comp=Z,55nm,2.0s								
TIXI	**Tiksi**	**21.66 331**	P		**P**	15 57 06.0	**0.0**		
	comp=Z,8.9nm,0.8s,baz=122,slow=15,SNR=8.2								
TIXI	**Tiksi**	**21.66 331**⇓	*i*P		**P**	15 57 06.9	**+0.9**		
TIXI			pmax	pmax					
	comp=Z,13nm,1.0s								
TIXI	**Tiksi**	**21.66 331**	*e*P		**P**	15 57 07.5	**+1.5**		

USRK	**Ussuriysk Ar.**	**22.89 253**	P		**P**	15 57 18.0	**-1.4**		
	comp=Z,0.7nm,0.5s,baz=44,slow=13,SNR=3.6								
KDAK	**Kodiak Island**	**24.07 66**	P		**P**	15 57 31.6	**+0.8**		
	comp=Z,2.3nm,0.6s,baz=302,slow=2.3,SNR=6.0								
COLD	**Coldfoot**	**24.48 43**	*e*P		**P**	15 57 36.0	**+1.5**		
COLA	**College**	**25.37 49**	*i* P		**P**	15 57 48.8	**+6.3**		
COLA			pmax	pmax					
	comp=Z,2.0nm,0.9s								
MJA0	**Matsu Arr-Jizo**	**25.50 232**	*e*P		**P**	15 57 46.8	**+2.8**		
MJA0			pmax	pmax					
	comp=Z,5.0nm,0.9s								
MAJO	**Matsushiro**	**25.51 232**	*e*P		**P**	15 57 44.3	**+0.2**		
MAJO			pmax	pmax					
	comp=Z,10.0nm,0.8s								
MAJO	**Matsushiro**	**25.51 232**	*e*P		**P**	15 57 44.3	**+0.2**		
	comp=Z,9.8nm,0.8s								
MJAR	**Matsushiro Arr**	**25.51 232**	P		**P**	15 57 44.3	**+0.1**		
	comp=Z,3.4nm,0.7s,baz=15,slow=8.8,SNR=9.3								
MJAR			LR		LR	16 08 29.4			
	comp=Z,65nm,21.1s,baz=55,slow=38								
ILAR	**Eielson Array**	**25.79 49**	P		**P**	15 57 47.4	**+1.0**		
	comp=Z,0.4nm,0.5s,baz=262,slow=9.1,SNR=5.2								
ULN	**Ulaanbaatar**	**34.74 281**	*i* P		**P**	15 59 03.7	**-2.1**		
ULN			pmax	pmax					
	comp=Z,1.0nm,2.0s								
NRIK	**Noril'sk**	**34.94 323**	LR		LR	16 14 36.4			
	comp=Z,119nm,19.4s,baz=100,slow=39								
SONM	**Songino Array**	**35.12 282**	P		**P**	15 59 08.2	**-0.9**		
	comp=Z,1.0nm,0.5s,baz=70,slow=7.7,SNR=5.4								
SONM			LR		LR	16 14 56.8			
	comp=Z,99nm,18.5s,baz=54,slow=39								
H11N2	**WAKE ISLAND Hy**	**35.92 174**	T		T	16 38 23.2			
	baz=357,slow=76,SNR=1475								
H11N3	**WAKE ISLAND Hy**	**35.93 174**	T		T	16 38 16.6			
	baz=357,slow=76,SNR=831								
H11N1	**WAKE ISLAND Hy**	**35.93 174**	T		T	16 38 16.8			
	baz=357,slow=76,SNR=885								
YKA	**Yellowknife Ar**	**40.11 46**	P		**P**	15 59 53.6	**+2.7**		
	comp=Z,1.3nm,0.7s,baz=299,slow=8.0,SNR=3.6								
ZALV	**Zalesovo Beam**	**42.96 302**	LR		LR	16 19 45.4			
	comp=Z,47nm,21.2s,baz=70,slow=39								
DGZ	**Jazzator, Alta**	**44.20 295**	*i* P		**P**	16 00 23.7	**-0.9**		
DGZ			pmax	pmax					
	comp=Z,5.0nm,0.7s								
KURK	**Kurchatov**	**47.95 302**	⇑Pn		**P**	16 00 52.3	**-1.6**		
	comp=Z,6.3nm,1.1s								
KURK			Lg	Lg		16 02 14.2			
	comp=Z,2.9nm,0.6s								
KURK	**Kurchatov**	**47.95 302**	*e*P		**P**	16 00 51.9	**-2.0**		
KURK	**Kurchatov**	**47.95 302**	*e*P		**P**	16 00 51.9	**-2.0**		
	comp=Z,24nm,0.4s								
KURBB	**Kurchatov Arra**	**48.05 301**	Pn		**P**	16 00 53.2	**-1.5**		
	comp=Z,2.6nm,0.5s								
KURBB			⇑Lg	Lg		16 02 15.4			
	comp=Z,7.5nm,0.6s								
MKAR	**Makanchi Array**	**48.70 295**	P		**P**	16 00 58.6	**-1.1**		
	comp=Z,1.4nm,0.6s,baz=66,slow=9.7,SNR=4.1								
MKAR			LR		LR	16 23 05.6			
	comp=Z,89nm,18.4s,baz=44,slow=38								
BRVK	**Borovoye**	**50.27 308**	*ce*P		**P**	16 01 10.4	**-1.2**		
BRVK			pmax	pmax					
	comp=Z,12nm,0.9s								
BRVK	**Borovoye**	**50.27 308**	*e*P		**P**	16 01 10.2	**-1.4**		
	comp=Z,7.3nm,0.7s								
ARCES	**ARCESS Array B**	**51.46 342**	P		**P**	16 01 20.2	**-0.2**		
	comp=Z,3.0nm,0.9s,baz=25,slow=11,SNR=3.2								
AAK	**Ala-Archa**	**55.58 297**⇑	*i*P		**P**	16 01 48.7	**-2.4**		
AAK			pmax	pmax					
	comp=Z,10.0nm,1.5s								
KKAR	**Karatay Array**	**57.23 300**	*e*P		**P**	16 02 01.6	**-1.1**		
KKAR			pmax	pmax					
	comp=Z,2.0nm,0.6s								
KKAR	**Karatay Array**	**57.23 300**	*e*P		**P**	16 02 01.6	**-1.1**		
	comp=Z,2.4nm,0.6s								
ABKAR	**Akbulak array**	**57.53 311**	*e*P		**P**	16 02 03.5	**-1.2**		
	comp=Z,1.0nm,0.4s								
FINES	**FINESS Array B**	**58.52 337**	P		**P**	16 02 11.6	**+0.2**		
	comp=Z,2.2nm,0.8s,baz=38,slow=7.0,SNR=5.0								
FINES			LR		LR	16 29 47.4			
	comp=Z,30nm,20.4s,baz=66,slow=39								
CMAR	**Chiang Mai Arr**	**60.44 259**	P		**P**	16 02 25.1	**-0.1**		
	comp=Z,1.3nm,0.8s,baz=16,slow=7.0,SNR=8.2								
CMAR			LR		LR	16 31 51.8			
	comp=Z,26nm,21.1s,baz=175,slow=39								
OBN	**Obninsk**	**61.35 328**⇓	*e*P		**P**	16 02 30.7	**-0.2**		
OBN			*e*			16 04 47.4			
OBN			pmax	pmax					
	comp=Z,5.0nm,1.3s								
OBN			MLR	MLR					
	comp=Z,50nm,15.0s								
NB2	**NORSAR Subarra**	**61.62 345**	P		**P**	16 02 32.8	**+0.1**		
	comp=Z,0.6nm,0.4s,baz=19,slow=6.9								
NOA	**NORSAR Array B**	**61.62 345**	P		**P**	16 02 31.9	**-0.8**		
	comp=Z,1.1nm,0.9s,baz=19,slow=6.1,SNR=4.7								
AKASG	**Malin Array Be**	**67.36 330**	P		**P**	16 03 10.0	**-0.3**		
	comp=Z,0.4nm,0.3s,baz=31,slow=6.5,SNR=4.3								
AKASG	**Malin Array Be**	**67.36 330**	*e*P		**P**	16 03 12.0	**+1.7**		
KIEV	**Kiev**	**67.37 330**	*i* P		**P**	16 03 10.6	**+0.2**		
KIEV			pmax	pmax					
	comp=Z,4.0nm,1.3s								
TXAR	**Lajitas Array**	**68.04 70**	P		**P**	16 03 17.5	**+2.4**		
	comp=Z,0.7nm,0.6s,baz=300,slow=4.4,SNR=9.0								
KBZ	**Khabaz**	**68.92 318**	P		**P**	16 03 20.8	**+0.6**		
	comp=Z,3.4nm,0.9s,baz=198,slow=8.8,SNR=8.2								
ZEI	**Tsey**	**69.33 317**	*e*P		**P**	16 03 22.0	**-1.1**		
ZEI			pmax	pmax					
	comp=Z,6.0nm,0.7s								
CLL	**Collm**	**70.62 341**	*e*P		**P**	16 03 31.0	**+0.5**		
CRVS	**Cervenica-Dubn**	**71.06 334**	*e*P		**P**	16 03 30.9	**-2.4**		
CRVS	**Cervenica-Dubn**	**71.06 334**	*e*P		**P**	16 03 30.9	**-2.4**		
GERES	**GERESS Array B**	**72.84 339**	P		**P**	16 03 44.2	**+0.2**		
	comp=Z,0.8nm,0.7s,baz=40,slow=4.4,SNR=6.1								
GERES			LR		LR	16 40 29.6			
	comp=Z,40nm,19.2s,baz=34,slow=40								
BRTR	**Keskin Array B**	**75.79 322**	P		**P**	16 04 00.6	**-0.8**		
	comp=Z,0.7nm,0.6s,baz=27,slow=10.0,SNR=3.9								
CTA	**Charters Tower**	**76.74 196**	LR		LR	16 31 05.2			
	comp=Z,207nm,20.3s,slow=30								
WRA	**Warramunga Arr**	**79.13 208**	P		**P**	16 04 20.4	**+0.4**		
	comp=Z,0.8nm,0.7s,baz=14,slow=5.8,SNR=8.6								
ASAR	**Alice Springs**	**82.80 207**	P		**P**	16 04 40.5	**+1.1**		
	comp=Z,1.3nm,0.9s,baz=16,slow=5.3,SNR=13								
ESDC	**Sonseca Array**	**84.47 350**	P		**P**	16 04 49.5	**+1.4**		
	comp=Z,0.6nm,0.7s,baz=337,slow=5.2,SNR=5.2								

ISCJB ***27*** *15:53:14.4±0.8, 5°.29S±0°.09×154°.1E±0°.1, h100km, mb3.7/13, Error ellipse: s-maj=19.4km s-min=9.7km az=29.9*

IDC ***27*** *15:53:19.7±4.8, 5°.36S×154°.06E, h134km±39km, mb3.5/13, mb1 3.6/15, mb1mx3.5/39, mbtmp3.9/15, Error ellipse: s-maj=34.3km s-min=14.7km az=91.0*

ISC 27 15:53:16.4±0.9, 5°.3S±0°.1×154°.2E±0°.2, h100km, n16, σ2s 03/16, mb3.6/13, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby** 3.9nm,0.3s,baz=46,slow=14,SNR=7.3	**8.09**	**239**	P		**Pn**	**Pn**	**15 55 14.1**	**+3.0**
PMG				S		**Sn**	**Sn**	**15 56 39.4**	**-1.5**
	2.6nm,0.3s,baz=307,slow=20,SNR=4.2								
CTA	**Charters Tower** 0.2nm,0.3s,baz=10,slow=12,SNR=3.1	**16.61**	**207**	P		**Pn**	**Pn**	**15 57 04.2**	**+0.9**
WRA	**Warramunga Arr** 2.2nm,0.7s,baz=56,slow=10,SNR=37	**24.19**	**231**	P		**P**	**P**	**15 58 22.3**	**-1.5**
ASAR	**Alice Springs** 0.3nm,0.6s,baz=56,slow=9.3,SNR=22	**26.75**	**225**	P		**P**	**P**	**15 58 45.6**	**-1.3**
STKA	**Stephens Creek** 0.8nm,0.6s,baz=355,slow=12,SNR=2.2	**28.96**	**203**	P		**P**	**P**	**15 59 07.2**	**+0.7**
FITZ	**Fitzroy Crossi** 0.5nm,0.3s	**30.66**	**243**	P		**P**	**P**	**15 59 19.2**	**-2.5**
JOW	**Kunigami** 13nm,1.0s,baz=292,slow=19,SNR=2.7	**40.62**	**323**	P		**P**	P	16 00 44.8	-1.8
JNU	**Nakatsue** 2.9nm,0.6s,baz=39,slow=20,SNR=8.5	**44.15**	**332**	P		**P**	**P**	**16 01 14.8**	**-0.4**
KSRS	**Korea Array** 0.5nm,0.6s,baz=140,slow=6.9,SNR=3.9	**49.08**	**332**	P		**P**	**P**	**16 01 54.1**	**+0.5**
CMAR	**Chiang Mai Arr** 0.7nm,0.6s,baz=139,slow=7.0,SNR=3.7	**59.35**	**295**	P		**P**	**P**	**16 03 08.5**	**0.0**
SONM	**Songino Array** 0.5nm,0.4s,baz=160,slow=5.0,SNR=4.2	**67.49**	**327**	P		**P**	**P**	**16 04 02.4**	**+0.5**
VNDA	**Vanda** 0.5nm,0.6s,baz=270,slow=20,SNR=3.6	**72.29**	**178**	P		**P**	**P**	**16 04 29.0**	**-1.5**
MKAR	**Makanchi Array** 0.5nm,0.6s,baz=100,slow=6.7,SNR=5.5	**81.61**	**319**	P		**P**	**P**	**16 05 23.4**	**-0.1**

ILAR	**Eielson Array** 0.6nm,0.6s,baz=240,slow=5.5,SNR=7.1	**82.10**	**22**	P		**P**	**P**	**16 05 24.8**	**-0.7**
ZALV	**Zalesovo Beam** 0.5nm,0.5s,baz=84,slow=15,SNR=3.5	**82.34**	**326**	P		**P**	**P**	**16 05 25.5**	**-1.5**
TORD	**Torodi Ar. Bea** 0.1nm,0.3s,baz=90,slow=2.6,SNR=2.9	**151.78**	**288**	PKPbc		**PKPdf**		**16 12 59.0**	**+5.0**

ISK ***27*** *15:53:38.8, 39°.78N×41°.20E, h5km, MD2.8*

CSEM ***27*** *15:53:39.7±0.2, 39°.88N×41°.21E, h2km, MD2.9, Error ellipse: s-maj=6.9km s-min=5.3km az=5.0*

DDA ***27*** *15:53:39.5, 39°.88N×41°.21E, h7km, Md2.9*

ISC 27 15:53:39.6±1.0, 39°.84N±0°.03×41°.20E±0°.03, h12km±8km, n22, σ1s 28/31, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
ERZM	**Erzurum**	**0.14**	**64**	*i* P		**Pg**	**Pg**	**15 53 42.8**	**-0.6**
ERZM	**Erzurum**	**0.14**	**64**	P		**Pg**	**Pg**	**15 53 42.8**	**-0.6**
KOPT	**Kop Dagi**	**0.56**	**288**	*i* P		**Pg**	**Pg**	**15 53 51.1**	**+0.4**
KOPT	**Kop Dagi**	**0.56**	**288**	P		**Pg**	**Pg**	**15 53 51.1**	**+0.4**
HOMI	**Horasan**	**0.58**	**69**	*i* P		**Pg**	**Pg**	**15 53 50.4**	**-0.7**
YEDI	**Yedisu-Bingol**	**0.65**	**231**	*e*PG		**Pg**	**Pg**	**15 53 51.7**	**-0.5**
YEDI				*e*SG		**Sg**	**Sg**	**15 54 01.3**	**+0.5**
BNGL	**BINGOL**	**0.89**	**182**	*i* P		**Pg**	**Pg**	**15 53 56.0**	**-0.8**
BNGL				*i* S		**Sb**	**Sb**	**15 54 10.3**	**+1.3**
EKAR	**Karacoban**	**0.89**	**131**	*i* P		**Pb**	**Pb**	**15 53 58.0**	**+0.8**
EKAR				*i* S		**Sn**	**Sn**	**15 54 12.1**	**+1.0**
EKAR	**Karacoban**	**0.89**	**131**	P		**Pb**	**Pb**	**15 53 58.0**	**+0.8**
BNGB	**Bing˜¶l**	**0.94**	**205**	*e*PG		**Pg**	**Pg**	**15 53 56.8**	**-1.0**
BNGB				*e*SG		**Sg**	**Sg**	**15 54 10.2**	**+0.1**
BINT	**Bingol**	**1.11**	**210**	*e*Pg		**Pg**	**Pg**	**15 53 56.8**	**-4.2**
DDEM	**Demirkent**	**1.13**	**22**	*i* P		**Pg**	**Pg**	**15 54 00.5**	**-0.9**
DDEM				*i* S		**Sb**	**Sb**	**15 54 15.4**	**-0.5**
DDEM	**Demirkent**	**1.13**	**22**	P		**Pg**	**Pg**	**15 54 00.5**	**-0.9**
DDEM				S		**Sb**	**Sb**	**15 54 15.4**	**-0.5**
ERZN	**Erzincan**	**1.17**	**258**	*e*PN		**Pg**	**Pg**	**15 54 02.1**	**0.0**
DAGI	**Agillar**	**1.35**	**24**	*i* P		**Pb**	**Pb**	**15 54 04.9**	**0.0**
DAGI				*i* S		**Sn**	**Sn**	**15 54 22.6**	**+0.3**
AGRB	**Hanur-Agry**	**1.41**	**100**	*e*PN		**Pg**	**

CRLZ				SG	Sg	16 10 49.7	+0.4	
CRLZ				SG		16 10 49.7		
CRLZ				AML	AML	16 10 49.9		
CRLZ				AML	AML	16 10 50.1		
MQZ	**McQueen's Vall**	**0.24**	**126** ⇓	PG	Pg	16 10 47.7	-0.3	
MQZ				SG	Sg	16 10 52.0	+0.7	
MQZ				SG		16 10 52.1		
MQZ				AML	AML	16 10 52.5		
OXZ	**Oxford**	**0.35**	**314**	PG	Pg	16 10 49.7	-0.4	
OXZ				AML	AML	16 10 55.1		
OXZ				AML	AML	16 10 55.1		
OXZ				AML	AML	16 10 58.0		
OXZ				AML	AML	16 10 58.0		
LTZ	**Lake Taylor**	**0.79**	**354**	P*	Pg	16 10 58.4	0.0	
LTZ				AML	AML	16 11 12.4		
RPZ	**Rata Peaks**	**0.98**	**261** ⇑	P*	Pg	16 11 01.9	-0.1	
RPZ				AML	AML	16 11 20.1		
RPZ				AML	AML	16 11 24.3		
INZ	**Inchbonnie**	**1.09**	**320**	P*	Pg	16 11 03.1	-1.0	
WVZ	**Waitaha Valley**	**1.30**	**292**	P*	Pn	16 11 06.9	-0.7	
WVZ				AML	AML	16 11 29.4		
WVZ				AML	AML	16 11 33.4		
KHZ	**Kahutara**	**1.43**	**37** ⇑	PN	Pn	16 11 07.8	-1.6	
KHZ				AML	AML	16 11 32.4		
KHZ				AML	AML	16 11 37.1		
LBZ	**Lake Benmore**	**1.79**	**242**	PN	Pn	16 11 13.7	-0.6	
LBZ				AML	AML	16 11 49.7		
LBZ				AML	AML	16 11 50.0		
THZ	**Tophouse**	**1.84**	**12** ⇑	PN	Pn	16 11 13.8	-1.4	
THZ				AML	AML	16 11 51.2		
THZ				AML	AML	16 11 52.4		
FOZ	**Fox Glacier**	**1.87**	**270**	PN	Pn	16 11 16.0	+0.6	
FOZ				AML	AML	16 11 49.6		
FOZ				AML	AML	16 11 55.6		
DSZ	**Denniston Nort**	**1.87**	**347**	PN	Pn	16 11 14.6	-0.9	
DSZ				AML	AML	16 11 46.1		
DSZ				AML	AML	16 11 46.6		
DSZ				AML	AML	16 11 46.6		
DSZ				AML	AML	16 11 48.4		
ODZ	**Otahua Downs**	**1.93**	**220**	PN	Pn	16 11 15.2	-1.1	
ODZ				AML	AML	16 11 56.5		
ODZ				AML	AML	16 11 56.5		
ODZ				AML	AML	16 12 00.4		
ODZ				AML	AML	16 12 00.4		
BSWZ	**Blackbirch Sta**	**2.15**	**31**	PN	Pn	16 11 18.3	-1.1	
TUWZ	**Tuamarina**	**2.43**	**29**	PN	Pn	16 11 22.2	-0.9	
JCZ	**Jackson Bay**	**2.65**	**258**	PN	Pn	16 11 25.9	-0.4	
JCZ				AML	AML	16 12 15.5		
JCZ				AML	AML	16 12 16.5		
WKZ	**Wanaka**	**2.73**	**241**	PN	Pn	16 11 26.7	-0.6	
WKZ				AML	AML	16 12 17.5		
WKZ				AML	AML	16 12 17.9		
QRZ	**Quartz Range**	**2.74**	**2**	PN	Pn	16 11 26.4	-1.1	
QRZ				AML	AML	16 11 36.4		
QRZ				AML	AML	16 12 14.0		
EAZ	**Earnscleugh**	**2.76**	**232**	PN	Pn	16 11 26.6	-1.1	
EAZ				AML	AML	16 12 22.6		
EAZ				AML	AML	16 12 23.0		
TUZ	**Tuapeka**	**3.09**	**218**	PN	Pn	16 11 31.2	-1.0	
TUZ				AML	AML	16 12 28.2		
TUZ				AML	AML	16 12 34.6		
OGWZ	**Otaki Gorge**	**3.44**	**38**	AML	AML	16 09 59.2		
OGWZ				AML	AML	16 09 59.2		
VRZ	**Vera Road**	**4.79**	**23**	*e*PN	Pn	16 11 55.6	+0.1	

KRSC 27 16:22:24.2±0.8, 55°.49N×163°.26E, h46km±22km, ML3.9, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBG	**Krutoberegovo**	**0.83**	**338**	*e*P	Pn	16 22 38.9	-0.6
KBG				*e*S	Sn	16 22 50.3	-0.3
SMKR	**Semkarok**	**1.49**	**318**	*e*P	Pn	16 22 50.3	+1.8
SMKR				*e*S	Sn	16 23 09.9	+3.1
ZLN	**Zelenaya**	**1.49**	**292**	*e*P	Pn	16 22 50.4	+1.8
CIRR	**Tsirk**	**1.55**	**295**	*e*P	Pn	16 22 51.1	+1.6
LGNR	**Loginova**	**1.57**	**293**	*e*P	Pn	16 22 51.8	+1.9
BKI	**Bering**	**1.57**	**99**	*e*P	Pn	16 22 52.3	+2.7
BKI				*e*S	Sn	16 23 12.2	+3.5
BZMR	**Bezymyannaya**	**1.63**	**287**	*e*P	Pn	16 22 52.5	+1.9
SRKR	**Sorokina**	**1.66**	**316**	*e*P	Pn	16 22 52.9	+2.1
TUMD	**Tumrok D**	**1.66**	**261**	*e*P	Pn	16 22 53.5	+2.6
KLY	**Klyuchi**	**1.69**	**300**	*e*P	Pn	16 22 51.1	-0.1
KLY				*e*S	Sn	16 23 11.1	-0.4
KRSR	**Krestovskiy**	**1.69**	**297**	*e*P	Pn	16 22 52.5	+1.2
KRSR				*e*S	Sn	16 23 13.3	+1.6
KIRR	**Kirishev**	**1.72**	**287**	*e*P	Pn	16 22 54.3	+2.6
KMNR	**Kamenistaya**	**1.74**	**280**	*e*P	Pn	16 22 54.7	+2.7
KZV	**Kizimen**	**1.74**	**259**	*e*P	Pn	16 22 54.7	+2.6
KPT	**Kopyto**	**1.79**	**287**	*e*P	Pn	16 22 55.0	+2.4
TUMR	**Tumrok**	**1.79**	**265**	*e*P	Pn	16 22 55.6	+2.9
KOZ	**Kozyrevsk**	**2.00**	**288**	*e*P	Pn	16 22 58.6	+3.1
KOZ				*e*S	Sn	16 23 28.8	+4.5
ESO	**Esso**	**2.62**	**281**	*e*P	Pn	16 23 06.9	+2.9
SPN	**Mys Shipunski**	**3.06**	**220**	*e*P	Pn	16 23 12.1	+2.1
SPN				*e*S	Sn	16 23 47.1	+1.8
NLC	**Nalytchevo**	**3.27**	**226**	*e*S	Sn	16 23 53.8	+3.4
SDLR	**Sedlovina**	**3.39**	**231**	*e*P	Pn	16 23 18.4	+3.8
KRER	**Koryakskii**	**3.43**	**232**	*e*P	Pn	16 23 19.5	+4.2
KRX	**Arik**	**3.44**	**233**	*e*P	Pn	16 23 19.4	+4.0
AVH	**Avacha**	**3.46**	**232**	*e*P	Pn	16 23 19.6	+4.0
GNL	**Ganaly**	**3.58**	**242**	*e*P	Pn	16 23 21.3	+4.0
DALK	**Dalny**	**3.62**	**229**	*e*P	Pn	16 23 21.0	+3.4
DALK				*e*S	Sn	16 24 02.6	+3.6
PET	**Petropavlovsk**	**3.66**	**229**	*e*P	Pn	16 23 21.8	+3.5
OSSR	**Ossora**	**3.77**	**358**	*e*P	Pn	16 23 23.1	+3.4
KRMR	**Karymshinskiy**	**4.03**	**231**	*e*P	Pn	16 23 28.1	+4.8
KRMR				*e*S	Sn	16 24 14.1	+5.0
RUS	**Russkaya**	**4.15**	**224**	*e*P	Pn	16 23 28.8	+3.8
KDTR	**Khodutka, Kamc**	**4.81**	**222**	*e*P	Pn	16 23 37.2	+3.2

*ROM **27** 16:44:34.9±0.1, 44°.90N×11°.22E, h2km, Md2.4/10, Ml2.2/8, Error ellipse: s-maj=3.2km s-min=1.4km az=102.0*
*CSEM **27** 16:44:35.7±0.2, 44°.90N×11°.20E, h2km, ML3.1/9, Error ellipse: s-maj=6.0km s-min=2.9km az=98.0*

ISC 27 16:44:35.3±0.9, 44°.89N±0°.02×11°.22E±0°.03, h8km±8km, n59, σ0°81/89, 2C, Northern Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAVA	**Ravarino**	**0.15**	**207**	Pg	**Pg**	**16 44 37.5**	**-1.0**
RAVA				Sg	**Sg**	**16 44 41.1**	**+0.5**
	8μm,0.2s						
RAVA	**Ravarino**	**0.15**	**207**	Pg	**Pg**	**16 44 37.5**	**-1.0**
RAVA				Sg	**Sg**	**16 44 41.1**	**+0.5**
	8μm,0.2s						
MTRZ	**Monterenzio**	**0.55**	**161**	Pg	**Pb**	**16 44 48.6**	**+1.4**
	78nm,0.5s						
MTRZ	**Monterenzio**	**0.55**	**161**	Pg	**Pb**	**16 44 48.6**	**+1.4**
	78nm,0.5s						
ZCCA	**Zocca**	**0.57**	**198**	Pg	**Pb**	**16 44 47.3**	**-0.3**
	60nm,0.8s						
ZCCA	**Zocca**	**0.57**	**198**	Pg	**Pb**	**16 44 47.3**	**-0.3**
	60nm,0.8s						
TEOL	**Teolo**	**0.57**	**34**	Pg	**Pg**	**16 44 46.8**	**+0.5**
TEOL				Sg	**Sb**	**16 44 55.9**	**0.0**
	166nm,0.2s						
TEOL	**Teolo**	**0.57**	**34** ⇑	*e*Pg	**Pg**	**16 44 46.8**	**+0.5**
TEOL				*e*Sg	**Sb**	**16 44 55.9**	**0.0**
TEOL	**Teolo**	**0.57**	**34**	Pg	**Pg**	**16 44 46.8**	**+0.5**
TEOL				Sg	**Sb**	**16 44 55.9**	**0.0**
	166nm,0.2s						
ERBM	**Eremo**	**0.74**	**231**	Pg	**Pb**	**16 44 50.5**	**-0.1**
	49nm,1.3s						
ERBM	**Eremo**	**0.74**	**231**	Pg	**Pb**	**16 44 50.5**	**-0.1**
	49nm,1.3s						
MARN	**Marana (Italy)**	**0.75**	**360** ⇑	*e*Pg	**Pg**	**16 44 49.9**	**+0.2**
MARN				*e*Sg	**Sb**	**16 45 02.6**	**+1.6**
MARN	**Marana (Italy)**	**0.75**	**360**	*e*Pg	**Pg**	**16 44 49.9**	**+0.2**
MARN				*e*Sg	**Sb**	**16 45 02.6**	**+1.6**
ROVR	**Rover˜¤ Verone**	**0.76**	**352**	Pg	**Pg**	**16 44 49.9**	**-0.1**
ROVR				Sg	**Sb**	**16 45 01.7**	**+0.1**
	85nm,0.2s						
ROVR	**Rover˜¤ Verone**	**0.76**	**352**	Pg	**Pg**	**16 44 49.9**	**-0.1**
ROVR				Sg	**Sb**	**16 45 01.7**	**+0.1**
	85nm,0.2s						
BALD	**Monte Baldo**	**0.84**	**341**	*e*Pg	**Pb**	**16 44 52.0**	**-0.3**
BALD				*e*Sg	**Sn**	**16 45 05.8**	**-0.6**
BALD	**Monte Baldo**	**0.84**	**341**	*e*Pg	**Pb**	**16 44 52.0**	**-0.3**
BALD				*e*Sg	**Sn**	**16 45 05.8**	**-0.6**
SEI	**Scarperia**	**0.84**	**173**	Pg	**Pb**	**16 44 52.5**	**+0.2**
SEI	**Scarperia**	**0.84**	**173**	Pg	**Pb**	**16 44 52.5**	**+0.2**
SALO	**Salr**	**0.88**	**326**	Pg	**Pb**	**16 44 53.1**	**+0.2**
SALO	**Salr**	**0.88**	**326**	Pg	**Pb**	**16 44 53.1**	**+0.2**
GRAM	**Graiana**	**0.91**	**244**	P	**Pg**	**16 44 52.5**	**-0.3**
SARO	**Sassorosso**	**0.92**	**220**	P	**Pg**	**16 44 53.1**	**+0.2**
PTF	**Prato**	**0.94**	**186**	Pg	**Pg**	**16 44 53.8**	**+0.5**
PTF	**Prato**	**0.94**	**186**	Pg	**Pg**	**16 44 53.8**	**+0.5**
VMG	**Vicchio**	**0.96**	**166**	Pg	**Pb**	**16 44 54.8**	**+0.6**
VMG	**Vicchio**	**0.96**	**166**	Pg	**Pb**	**16 44 54.8**	**+0.6**
MAGA	**Magasa**	**0.98**	**335**	Pg	**Pg**	**16 44 53.7**	**-0.4**
MAGA				Sg	**Sb**	**16 45 08.7**	**+1.0**
	228nm,0.3s						
MAGA	**Magasa**	**0.98**	**335**	Pg	**Pg**	**16 44 53.7**	**-0.4**
MAGA				Sg	**Sb**	**16 45 08.7**	**+1.0**
	228nm,0.3s						
CGRP	**Cima Grappa**	**1.07**	**22**	*e*Pg	**Pg**	**16 44 55.7**	**-0.2**
CGRP				*e*Sg	**Sb**	**16 45 11.4**	**+0.9**
CGRP	**Cima Grappa**	**1.07**	**22**	*e*Pg	**Pg**	**16 44 55.7**	**-0.2**
CGRP				*e*Sg	**Sb**	**16 45 11.4**	**+0.9**
SFI	**Santa Sofia**	**1.08**	**155**	Pg	**Pg**	**16 44 56.3**	**+0.2**
	25nm,0.7s						
SFI	**Santa Sofia**	**1.08**	**155**	Pg	**Pg**	**16 44 56.3**	**+0.2**
	25nm,0.7s						
MAIM	**Mastiano**	**1.11**	**208**	P	**Pg**	**16 44 56.9**	**+0.4**
PANI	**Panarotta**	**1.16**	**4**	*e*Pg	**Pg**	**16 44 57.1**	**-0.5**
PANI				*e*Sg	**Sn**	**16 45 14.8**	**+0.4**
PANI	**Panarotta**	**1.16**	**4**	*e*Pg	**Pg**	**16 44 57.1**	**-0.5**
PANI				*e*Sg	**Sn**	**16 45 14.8**	**+0.4**
RNI	**Roncone**	**1.17**	**339**	*e*Pg	**Pg**	**16 44 57.1**	**-0.6**
RNI				*e*Sg	**Sb**	**16 45 14.2**	**+0.9**
RNI	**Roncone**	**1.17**	**339**	*e*Pg	**Pg**	**16 44 57.1**	**-0.6**
RNI				*e*Sg	**Sb**	**16 45 14.2**	**+0.9**
VARN	**Col Varnada, M**	**1.27**	**29**	*e*Pg	**Pg**	**16 44 58.7**	**-0.9**
VARN	**Col Varnada, M**	**1.27**	**29**	*e*Pg	**Pg**	**16 44 58.7**	**-0.9**
MSSA	**Maissana**	**1.34**	**245**	Pg	**Pg**	**16 45 00.3**	**-0.8**
MSSA	**Maissana**	**1.34**	**245**	Pg	**Pg**	**16 45 00.3**	**-0.8**
OZOL	**Ozolo**	**1.52**	**356**	*e*Pg	**Pn**	**16 45 03.4**	**+0.4**
CARE	**Lago del Cares**	**1.58**	**347**	*e*Pg	**Pn**	**16 45 03.8**	**-0.1**
PCP	**Piancastagn**	**1.94**	**261**	P	**Pb**	**16 45 11.0**	**+0.1**
ABTA	**Abfaltersbach**	**2.07**	**26**	*e*Pg	**Pg**	**16 45 14.7**	**-0.2**
	0.7nm,0.2s						
ABTA				*e*Sg	**Sg**	**16 45 42.8**	**+1.1**
	1.4nm,0.2s						
ABTA	**Abfaltersbach**	**2.07**	**26**	Pg	**Pg**	**16 45 14.7**	**-0.2**
	0.7nm,0.2s						
ABTA				Sg	**Sg**	**16 45 42.8**	**+1.1**
	1.4nm,0.2s						
FETA	**Feichten**	**2.16**	**351**	*e*Pg	**Pb**	**16 45 15.2**	**+0.4**
	0.2nm,0.2s						
FETA				*e*Sn	**Sg**	**16 45 43.9**	**-0.7**
	1.0nm,0.2s						
FETA	**Feichten**	**2.16**	**351**	Pg	**Pb**	**16 45 15.2**	**+0.4**
	0.2nm,0.2s						
WTTA	**Wattenberg**	**2.39**	**7**	*e*Pn	**Pb**	**16 45 19.1**	**+0.3**
	2.1nm,0.4s						
WTTA				*e*Sg	**Sg**	**16 45 52.0**	**-0.2**
	14nm,0.4s						
WTTA	**Wattenberg**	**2.39**	**7**	Pn	**Pb**	**16 45 19.1**	**+0.3**
	2.1nm,0.4s						
WTTA				Sg	**Sg**	**16 45 52.0**	**-0.2**
	14nm,0.4s						
MOTA	**Moosalm**	**2.46**	**358**	*e*Pn	**Pb**	**16 45 19.1**	**-0.8**
	1.0nm,0.3s						
MOTA				*e*Sg	**Sg**	**16 45 54.6**	**+0.4**
	9.6nm,0.6s						
MOTA	**Moosalm**	**2.46**	**358**	Pn	**Pb**	**16 45 19.1**	**-0.8**
	1.0nm,0.3s						
MOTA				Sg	**Sg**	**16 45 54.6**	**+0.4**
	9.6nm,0.6s						
WATA	**Walderalm**	**2.46**	**6**	Pn	**Pb**	**16 45 19.0**	**-0.9**
	2.7nm,0.5s						
WATA				*e*Sg	**Sg**	**16 45 54.3**	**0.0**
	2.8nm,0.2s						
WATA	**Walderalm**	**2.46**	**6**	Pn	**Pb**	**16 45 19.0**	**-0.9**
	2.7nm,0.5s						
WATA				Sg	**Sg**	**16 45 54.3**	**0.0**
	2.8nm,0.2s						
DAVA	**Damuels**	**2.57**	**339**	Sn	**Sn**	**16 45 50.0**	**+1.0**
	1.2nm,0.2s						
DAVA	**Damuels**	**2.57**	**339**	Sn	**Sn**	**16 45 50.0**	**+1.0**
	1.2nm,0.2s						
NVLJ	**Novalja**	**2.63**	**96**	*e*Pn	**Pn**	**16 45 17.7**	**-0.4**
NVLJ				Sn	**Sn**	**16 45 46.9**	**-3.3**
NVLJ	**Novalja**	**2.63**	**96**	*e*Pn	**Pn**	**16 45 17.6**	**-0.4**
NVLJ				Sn	**Sn**	**16 45 46.8**	**-3.3**

JMA 27 16:55:01.9±0.2, 28°.94N×128°.64E, h147km±2km, M3.9, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTAJ	**Takarajima**	**0.54**	**67**	P	Pn	16 55 23.3	+0.2
JTAJ				*e*S	Sn	16 55 39.2	0.0
JAMN	**Amaminishikomi**	**0.84**	**146**	P	Pn	16 55 25.2	+0.1
JAMN				*e*S	Sn	16 55 42.4	-0.3
JAM	**Amami Oshima**	**1.00**	**122**	P	Pn	16 55 26.2	-0.1
JAM				*e*S	Sn	16 55 43.7	-1.2
JTK	**Tokunoshima**	**1.18**	**167**	P	Pn	16 55 28.4	+0.3
JTK				*e*S	Sn	16 55 48.4	+0.4
JZK	**Kikaishima**	**1.33**	**118**	P	Pn	16 55 30.5	+1.1
JZK				*e*S	Sn	16 55 51.5	+1.1
JNN	**Nakanoshima**	**1.40**	**50**	P	Pn	16 55 30.3	+0.1
JNN				*e*S	Sn	16 55 52.1	+0.2
JOKE	**Okinoerabujima**	**1.57**	**182**	P	Pn	16 55 32.3	+0.2
JOKE				*e*S	Sn	16 55 54.7	-0.4
JIH	**Iheya**	**1.99**	**198**	P	Pn	16 55 37.2	+0.5
JIH				*e*S	Sn	16 56 03.2	-0.2
JKC	**Kuchinoerabu**	**2.03**	**41**	P	Pn	16 55 37.3	+0.1
JKC				*e*S	Sn	16 56 04.6	+0.3
JYAK	**Yakushimahirau**	**2.08**	**51**	P	Pn	16 55 37.5	-0.2
JYAK				*e*S	Sn	16 56 03.4	-1.9
JOW	**Kunigami**	**2.12**	**189**	P	Pn	16 55 38.3	-0.1
JOW				*e*S	Sn	16 56 05.5	-0.9
JNTH	**Nagotoyohara**	**2.47**	**193**	P	Pn	16 55 42.6	0.0
JAGN	**Aguni-jima**	**2.65**	**208**	P	Pn	16 55 45.1	+0.4
JAGN				*e*S	Sn	16 56 16.8	-1.0
JTN	**Tanegashima 3**	**2.66**	**49**	P	Pn	16 55 43.8	-1.0
JTN				*e*S	Sn	16 56 16.2	-1.7
JSJ	**Shimokoshiki**	**2.88**	**19**	P	Pn	16 55 48.1	+0.5
JJT2	**Tamagusuku 2**	**2.90**	**196**	P	Pn	16 55 48.4	+0.5
JTSR	**Tashiro 2**	**2.97**	**41**	P	Pn	16 55 49.0	+0.2
JTSR				*e*S	Sn	16 56 22.9	-2.2

*ISCJB **27** 17:05:19.7±0.4, 21°.53N±0°.05×143°.1E±0°.1, h311km, mb3.8/24, Error ellipse: s-maj=13.5km s-min=6.8km az=171.1*
*IDC **27** 17:05:21.5±1.7, 21°.63N×143°.13E, h309km±16km, mb3.5/23, mb1 3.7/25, mb1mx3.6/41, mbtmp4.2/25, Error ellipse: s-maj=13.3km s-min=9.3km az=81.0*

ISC 27 17:05:21.2±0.5, 21°.53N±0°.06×143°.1E±0°.1, h311km, n32, σ1°33/36, mb3.8/23, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**8.07**	**168**	P	**Pn**	**17 07 19.3**	**+3.3**
	12nm,0.3s,baz=357,slow=1.6,SNR=7.6						
GUMO				S	**S**	**17 08 44.8**	**-4.4**
	6.4nm,0.3s,baz=143,slow=20,SNR=3.9						
MJAR	**Matsushiro Arr**	**15.55**	**345**	P	**P**	**17 08 43.2**	**-0.5**
	0.9nm,0.3s,baz=140,slow=8.2,SNR=16						
MAT	**Matsushiro**	**15.56**	**345**	P	**P**	**17 08 43.1**	**-0.7**
JNU	**Nakatsue**	**15.84**	**319**	P	**P**	**17 08 46.5**	**-0.5**
	0.3nm,0.3s,baz=40,slow=20,SNR=8.6						
KSRS	**Korea Array**	**20.61**	**324**	P	**P**	**17 09 37.6**	**+0.1**
	4.2nm,0.6s,baz=146,slow=8.8,SNR=29						
USRK	**Ussuriysk Ar.**	**24.41**	**340**	P	**P**	**17 10 12.7**	**+0.6**
	2.1nm,0.6s,baz=154,slow=11,SNR=5.9						
SONM	**Songino Array**	**39.43**	**321**	P	**P**	**17 12 23.0**	**+1.1**
	0.4nm,0.3s,baz=122,slow=10,SNR=4.6						
CMAR	**Chiang Mai Arr**	**41.52**	**274**	P	**P**	**17 12 39.2**	**0.0**
	0.4nm,0.6s,baz=308,slow=38,SNR=2.8						
WRA	**Warramunga Arr**	**42.11**	**192**	P	**P**	**17 12 44.3**	**+0.5**
	4.7nm,0.7s,baz=14,slow=8.2,SNR=68						
WRA				ScP	**ScP**	**17 17 54.5**	**+2.1**
	0.5nm,0.7s,baz=12,slow=4.5,SNR=6.9						
WRA				S	**S**	**17 18 37.5**	**-2.1**
	0.1nm,0.7s,baz=59,slow=35,SNR=3.7						
ASAR	**Alice Springs**	**45.81**	**192**	P	**P**	**17 13 13.4**	**+0.4**
	0.8nm,0.7s,baz=17,slow=11,SNR=20						
ASAR				ScP	**ScP**	**17 18 08.9**	**+1.4**
	0.4nm,1.0s,baz=19,slow=5.9,SNR=4.0						
ASAR				S	**S**	**17 19 31.8**	**-1.1**
	0.3nm,0.7s,baz=14,slow=19,SNR=5.4						
STKA	**Stephens Creek**	**53.13**	**182**	P	**P**	**17 14 08.0**	**+0.4**
	2.1nm,0.9s,baz=29,slow=5.1,SNR=3.5						
ZALV	**Zalesovo Beam**	**54.30**	**322**	P	**P**	**17 14 16.1**	**+0.2**
	0.6nm,0.4s,baz=108,slow=8.0,SNR=2.5						
MKAR	**Makanchi Array**	**54.76**	**313**	P	**P**	**17 14 19.9**	**+0.5**
	0.6nm,0.6s,baz=93,slow=8.7,SNR=7.0						
NRIK	**Noril'sk**	**58.13**	**340**	P	**P**	**17 14 40.6**	**-1.9**
	3.0nm,0.5s,baz=61,slow=6.1,SNR=3.1						
KDAK	**Kodiak Island**	**58.37**	**35**	P	**P**	**17 14 43.8**	**-0.6**
	3.2nm,0.7s,baz=319,slow=4.1,SNR=4.5						
ILAR	**Eielson Array**	**62.21**	**27**	P	**P**	**17 15 09.1**	**-1.1**
	3.4nm,0.7s,baz=255,slow=5.3,SNR=30						
INK	**Inuvik**	**67.74**	**24**	P	**P**	**17 15 44.9**	**-0.5**
	4.4nm,1.0s,baz=258,slow=6.4,SNR=3.3						
BBB	**Bella Bella**	**72.55**	**40**	P	**P**	**17 16 15.4**	**+0.8**
	42nm,0.9s,baz=195,slow=4.5,SNR=3.2						
GEYT	**Alibeck**	**73.29**	**305**	P	**P**	**17 16 20.2**	**+0.8**
	1.0nm,0.6s,baz=358,slow=39,SNR=3.1						
YKA	**Yellowknife Ar**	**76.63**	**28**	P	**P**	**17 16 37.7**	**-0.1**
	6.6nm,0.7s,baz=292,slow=6.0,SNR=14						
ARCES	**ARCESS Array B**	**79.06**	**341**	P	**P**	**17 16 51.0**	**0.0**
	6.6nm,0.7s,baz=71,slow=8.3,SNR=17						
NEW	**Newport**	**80.44**	**42**	P	**P**	**17 16 59.3**	**+0.4**
	4.0nm,0.6s,baz=246,slow=7.4,SNR=5.1						
KBZ	**Khabaz**	**82.44**	**314**	P	**P**	**17 17 09.9**	**+0.7**
	3.7nm,0.8s,baz=126,slow=4.3,SNR=13						
FINES	**FINESS Array B**	**83.30**	**334**	P	**P**	**17 17 12.4**	**-0.9**
	2.4nm,0.5s,baz=72,slow=4.2,SNR=26						
PFO	**Pinyon Flats O**	**86.53**	**55**	P	**P**	**17 17 30.1**	**0.0**
	1.3nm,0.4s,baz=268,slow=3.3,SNR=5.3						
PDAR	**Pinedale Array**	**87.55**	**45**	P	**P**	**17 17 34.7**	**-0.2**
	0.4nm,0.5s,baz=186,slow=2.5,SNR=7.4						
AKASG	**Malin Array Be**	**87.60**	**324**	P	**P**	**17 17 33.2**	**-1.4**
	0.6nm,0.5s,baz=54,slow=5.4,SNR=4.0						
BRTR	**Keskin Array B**	**90.41**	**313**	P	**P**	**17 17 47.4**	**-0.8**
	0.7nm,0.7s,baz=90,slow=5.7,SNR=4.0						
TXAR	**Lajitas Array**	**98.20**	**54**	P	Pdif	17 18 24.6	+0.8
	0.1nm,0.5s,baz=350,slow=4.9,SNR=2.9						
TORD	**Torodi Ar. Bea**	**128.80**	**309**	PKP	**PKPdf**	**17 23 52.0**	**-0.7**
	0.3nm,0.5s,baz=316,slow=1.1,SNR=3.1						
PLCA	**Paso Flores**	**145.69**	**132**	PKPbc	**PKPbc**	**17 24 25.1**	**+1.0**
	8.4nm,0.7s,baz=277,slow=3.3,SNR=22						
LPAZ	**La Paz**	**150.01**	**85**	PKPbc	**PKPbc**	**17 24 37.6**	**+0.9**
	6.4nm,0.6s,baz=335,slow=3.2,SNR=22						

IDC 27 17:19:24.1±1.9, 3°.50N×126°.44E, h0km, mb3.5/4, mb1 3.7/4, mb1mx3.4/41, mbtmp3.5/4, MS2.9/1, Ms1 3.1/1, ms1mx2.5/25, Error ellipse: s-maj=118.2km s-min=23.7km az=69.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**21.48**	**182**	P	P	17 24 16.1	+1.7
	2.5nm,0.9s,baz=2.9,slow=9.0,SNR=3.2						
WRA	**Warramunga Arr**	**24.55**	**162**	P	P	17 24 45.0	-0.7
	1.7nm,0.7s,baz=338,slow=11,SNR=22						
ASAR	**Alice Springs**	**27.96**	**165**	P	P	17 25 16.4	-0.1
	0.2nm,0.5s,baz=344,slow=10,SNR=9.9						
CMAR	**Chiang Mai Arr**	**30.74**	**301**	LR	LR	17 39 27.6	
	comp=Z,18nm,18.5s,baz=305,slow=39						
MKAR	**Makanchi Array**	**57.58**	**325**	P	P	17 29 15.6	-0.2
	0.1nm,0.4s,baz=110,slow=8.4,SNR=3.4						

*IDC **27** 17:19:56.9±1.3, 52°.19N×172°.20W, h0km, mb3.6/6, mb1 3.8/7, mb1mx3.5/48, mbtmp3.5/7, ML3.7/1, Error ellipse: s-maj=40.8km s-min=25.6km az=163.0*
*NEIC **27** 17:20:02.8±0.0, 52°.20N×171°.48W, h40km, ML3.6(AEIC), After AEIC.*
*ISCJB **27** 17:20:03.5±0.9, 52°.1N±0°.2×171°.52W±0°.08, h44km, mb3.5/6, Error ellipse: s-maj=24.2km s-min=3.4km az=165.3*

ISC 27 17:20:04.3±1.0, 52°.2N±0°.2×171°.54W±0°.06, h44km, n29, σ1°54/29, mb3.5/6, Fox Islands

|

H08S2	**Diego Garcia H**	**25.53**	**248**	T	T	18 00 45.2	
	baz=69,slow=76,SNR=35						
H08S3	**Diego Garcia H**	**25.53**	**248**	T	T	18 00 43.2	
	baz=69,slow=76,SNR=26						
H08S1	**Diego Garcia H**	**25.55**	**248**	T	T	18 00 44.2	
	baz=69,slow=76,SNR=34						
H01W3	**Cape Leeuwin H**	**40.12**	**157**	T	T	18 18 59.0	
	baz=332,slow=76,SNR=4.9						
H01W2	**Cape Leeuwin H**	**40.13**	**157**	T	T	18 18 51.0	
	baz=332,slow=76,SNR=5.0						
H01W1	**Cape Leeuwin H**	**40.13**	**157**	T	T	18 19 01.9	
	baz=332,slow=76,SNR=4.6						
WRA	**Warramunga Arr**	**43.10**	**122**	P	P	17 36 30.5	+0.9
	0.1nm,0.4s,baz=303,slow=8.9,SNR=3.5						
ASAR	**Alice Springs**	**44.45**	**127**	P	P	17 36 39.4	-1.2
	0.2nm,0.9s,baz=292,slow=7.7,SNR=2.6						
MKAR	**Makanchi Array**	**46.48**	**347**	P	P	17 36 56.2	+0.1
	0.3nm,0.baz=161,slow=8.7,SNR=5.0						
ZALV	**Zalesovo Beam**	**52.86**	**352**	P	P	17 37 44.4	-0.3
	0.8nm,0.3s,baz=180,slow=7.1,SNR=4.2						

*IDC **27** 17:42:26.6±0.5,22.˙79S×172.˙14E,h0km,mb4.5/19, mb1 4.6/23,mb1mx4.6/31,mbtmp4.5/23,ML4.4/4,MS4.5/16, Ms1 4.5/16,ms1mx4.4/25,Error ellipse: s-maj=16.5km s-min=16.1km az=104.0*

*GCMT **27** 17:42:28.8±0.1,22.˙99S×172.˙08E,h14km,MW5.2/101, Moment Tensor Solution. s96,c152; s101,c169; Duration: 1!0 Moment tensor: Scale 10^17^Nm; Mrr0.76±.02; Mθθ-0.77±.01; Mφφ0.01±.01; Mrθ0.54±.03; Mθφ-0.10±.01; Mφr0.00±.03; Best double couple: M=0.93700×10^17^ NP1:φs87.00000°,δ63.00000°, λ94.00000°. NP2:φs259.00000°,δ28.00000°,λ83.00000°. Principal axes: T 0.9270, Plg72.0000°, Azm6.0000°; N 0.0190, Plg3.0000°, Azm265.0000°; P -0.9460, Plg17.0000°, Azm174.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

*NEIC **27** 17:42:28.8±0.2,22.˙82S×172.˙00E,h10km,mb5.2/63 Error ellipse: s-maj=6.2km s-min=5.1km az=146.0*

*BJI **27** 17:42:29.5,23.˙18S×172.˙37E,h39km,mb4.9/39,mB5.4/25, Ms5.1/19,Ms7 4.8/16*

*MOS **27** 17:42:31.6±1.6,22.˙81S×172.˙01E,h34km,mb5.2/22, MS4.7/7,Error ellipse: s-maj=9.7km s-min=9.0km az=139.7*

*ISCJB **27** 17:42:32.6±0.2,22.˙91S±0.˙04×171.˙95E±0.˙04,h47km, mb5.1/89,MS4.7/27,Error ellipse: s-maj=5.5km s-min=4.4km az=153.4*

ISC 27 17:42:34.3±0.3,23.˙01S±0.˙05×172.˙02E±0.˙05,h47km,n296, σ2.906/315,mb5.1/89,MS4.7/30,17C-9D,Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
DZM	**Mont Dzumac**	**5.24**	**279**	Pn		**Pn**	**17 43 48.1**	**-2.2**
	7.7nm,0.3s,baz=120,slow=13,SNR=43							
DZM				Sn		**Sn**	**17 44 47.0**	**-2.5**
	18nm,0.3s,baz=184,slow=19,SNR=3.8							
DZM				LR		LR	17 45 26.0	
	comp=Z,2μm,18.7s,baz=110,slow=34							
DZM	**Mont Dzumac**	**5.24**	**279**	*e*Pn		**Pn**	**17 43 48.3**	**-2.0**
	172nm,0.3s							
DZM				*e*Sn		**Sn**	**17 44 43.1**	**-6.3**
	156nm,0.3s							
DZM				*e*S		**Sn**	**17 44 56.9**	**+7.5**
	3μm,22.1s							
DZM	**Mont Dzumac**	**5.24**	**279**	*e*Pn		**Pn**	**17 43 47.4**	**-2.9**
DZM				Sn		**Sn**	**17 44 47.0**	**-2.5**
MSVF	**Nonsavu**	**7.71**	**48**	*e*P		**Pn**	**17 44 22.1**	**-2.1**
MSVF	**Nonsavu**	**7.71**	**48**	*e*Pn		**Pn**	**17 44 22.1**	**-2.1**
RAO	**Raoul Island**	**10.97**	**127**	LR		LR	17 48 34.9	
	comp=Z,3μm,18.4s,baz=346,slow=34							
HIZ	**Hauiti**	**15.65**	**172**	*e*Pn		**Pn**	**17 46 13.5**	**+1.8**
	244nm,1.4s							
URZ	**Urewera**	**15.82**	**165**	Pn		**Pn**	**17 46 14.3**	**+0.4**
	0.2nm,0.3s,baz=329,slow=4.9,SNR=4.6							
URZ				LR		LR	17 51 18.9	
	comp=Z,2μm,19.3s,baz=356,slow=33							
URZ	**Urewera**	**15.82**	**165**	*e*Pn		**P**	**17 46 15.7**	**-1.2**
	147nm,1.3s							
BKZ	**Black Stump Fm**	**16.55**	**168**	*e*Pn		**Pn**	**17 46 24.3**	**+1.1**
	114nm,1.3s							
HNR	**Honiara**	**17.77**	**317**	P		**Pn**	**17 46 34.4**	**-4.1**
	5.8nm,0.3s,baz=220,slow=4.9,SNR=8.7							
HNR				LR		LR	17 53 01.5	
	comp=Z,2μm,18.4s,baz=156,slow=36							
HNR	**Honiara**	**17.77**	**317**	P		**Pn**	**17 46 32.0**	**-6.5**
HNR	**Honiara**	**17.77**	**317**	*e*P		**Pn**	**17 46 33.3**	**-5.1**
HNR				pmax		pmax		
	comp=Z,166nm,1.1s							
HNR	**Honiara**	**17.77**	**317**	*e*Pn		**Pn**	**17 46 33.3**	**-5.1**
	comp=Z,166nm,1.1s							
AFI	**Afiamalu**	**17.82**	**62**	P		**Pn**	**17 46 34.8**	**-4.3**
	comp=Z,3.2nm,0.3s,baz=84,slow=12,SNR=3.6							
AFI				LR		LR	17 52 30.5	
	comp=Z,2μm,18.4s,baz=220,slow=34							
EIDS	**Eidsvold**	**19.25**	**259**	P		**Pn**	**17 46 58.5**	**+2.2**
	baz=20,SNR=12							
EIDS	**Eidsvold**	**19.25**	**259**	*e*P		**P**	**17 46 53.2**	**-1.7**
	comp=Z,46nm,0.9s							
ARMA	**Armidale**	**19.64**	**244**	P		**Pn**	**17 47 01.6**	**+0.6**
	baz=20,SNR=5.1							
ARMA	**Armidale**	**19.64**	**244**	*e*P		**P**	**17 46 59.6**	**+0.4**
	comp=Z,61nm,1.4s							
LTZ	**Lake Taylor**	**19.72**	**179**	*e*P		**P**	**17 46 59.7**	**-0.3**
	comp=Z,45nm,0.9s							
OXZ	**Oxford**	**20.27**	**180**	*e*P		**P**	**17 47 05.6**	**-0.3**
	comp=Z,45nm,0.9s							
FOZ	**Fox Glacier**	**20.55**	**185**	*e*P		**P**	**17 47 08.9**	**0.0**
	comp=Z,498nm,2.0s							
RPZ	**Rata Peaks**	**20.67**	**182**	P		**P**	**17 47 10.7**	**+0.4**
	comp=Z,30nm,1.1s,baz=360,slow=20,SNR=4.4							
RPZ				LR		LR	17 54 51.0	
	comp=Z,2μm,18.9s,baz=336,slow=36							
RPZ	**Rata Peaks**	**20.67**	**182**	*e*P		**P**	**17 47 10.7**	**+0.4**
	comp=Z,106nm,1.3s							
RMQ	**Roma**	**21.40**	**256**	P		**P**	**17 47 22.5**	**+4.2**
	baz=22,SNR=19							
MLZ	**Mavora Lakes**	**22.53**	**187**	*e*P		**P**	**17 47 31.5**	**+1.3**
	comp=Z,272nm,1.7s							
CNB	**Canberra Magne**	**23.22**	**233**	P		**P**	**17 47 40.1**	**+2.7**
	baz=24,SNR=9.7							
CAN	**Canberra**	**23.49**	**233**	*e*P		**P**	**17 47 39.8**	**-0.2**
CAN				pmax		pmax		
	comp=Z,45nm,1.1s							
CAN	**Canberra**	**23.49**	**233**	*e*P		**P**	**17 47 39.8**	**-0.2**
	comp=Z,45nm,1.1s							
CTA	**Charters Tower**	**24.13**	**272**	P		**P**	**17 47 46.3**	**+0.3**
	comp=Z,16nm,0.8s,baz=98,slow=11,SNR=9.3							
CTAO	**Charters Tower**	**24.13**	**272**	*e*P		**P**	**17 47 44.1**	**-2.0**
CTAO				pmax		pmax		
	comp=Z,164nm,1.6s							
CTAO	**Charters Tower**	**24.13**	**272**	*e*P		**P**	**17 47 44.1**	**-2.0**
	comp=Z,164nm,1.6s							
CMSA	**Cobar Meteorol**	**24.85**	**244**	P		**P**	**17 47 54.2**	**+1.7**
	baz=25,SNR=23							
QLP	**Quilpie**	**25.45**	**256**	P		**P**	**17 47 59.8**	**+1.8**
	baz=26,SNR=24							
RAR	**Rarotonga**	**26.18**	**92**	LR		LR	17 57 52.5	
	comp=Z,456nm,18.1s,baz=260,slow=36							
MTSU	**Mount Surprise**	**26.37**	**275**	P		**P**	**17 48 08.0**	**+1.6**
	baz=26,SNR=22							
PMG	**Port Moresby**	**27.38**	**296**	P		**P**	**17 48 12.9**	**-2.5**
	comp=Z,12nm,0.8s,baz=130,slow=5.2,SNR=3.9							
PMG	**Port Moresby**	**27.38**	**296**	*i* P		**P**	**17 48 14.3**	**-1.1**
PMG				pmax		pmax		
	comp=Z,80nm,0.9s							
STKA	**Stephens Creek**	**28.34**	**245**	P		**P**	**17 48 25.3**	**+1.4**
	comp=Z,4.9nm,0.8s,baz=104,slow=9.0,SNR=5.4							
STKA				LR		LR	17 59 30.2	
	comp=Z,1μm,18.2s,baz=74,slow=36							
STKA	**Stephens Creek**	**28.34**	**245**	P		**P**	**17 48 27.5**	**+3.6**
	baz=29,SNR=5.2							
STKA	**Stephens Creek**	**28.34**	**245**	*e*P		**P**	**17 48 23.7**	**-0.2**
STKA				pmax		pmax		
	comp=Z,14nm,1.7s							
STKA	**Stephens Creek**	**28.34**	**245**	*e*P		**P**	**17 48 23.7**	**-0.2**
	comp=Z,14nm,1.7s							
COEN	**Coen**	**28.75**	**283**	*e*P		**P**	**17 48 26.5**	**-1.3**
	comp=Z,23nm,0.9s							
HTT	**Hallett**	**30.84**	**243**	P		**P**	**17 48 47.5**	**+1.4**
	baz=31,SNR=5.5							
PATS	**Pohnpei**	**32.55**	**334**	P		**P**	**17 48 59.2**	**-2.0**
	baz=32,SNR=3.4							

BBOO	**Buckleboo**	**33.11**	**245**	*e*P		**P**	**17 49 05.7**	**-0.3**
	comp=Z,44nm,1.1s							
AS01	**Alice Springs**	**34.90**	**261**	*e*P		**P**	**17 49 20.6**	**-1.1**
AS31	**Alice Springs**	**34.94**	**261**	*e*P		**P**	**17 49 21.0**	**-1.0**
	comp=Z,9.9nm,0.9s							
ASAR	**Alice Springs**	**34.94**	**261**	P		**P**	**17 49 20.9**	**-1.1**
	comp=Z,15nm,0.9s,baz=90,slow=8.0,SNR=124							
ASAR				LR		LR	18 03 41.8	
	comp=Z,737nm,19.5s,baz=99,slow=36							
WB2	**Warramunga Arr**	**35.13**	**268**	*e*P		**P**	**17 49 21.3**	**-2.3**
	comp=Z,20nm,1.1s							
WRAB	**Tennant Creek**	**35.13**	**268**	⇑*i*P		**P**	**17 49 22.8**	**-0.9**
WRAB				pmax		pmax		
	comp=Z,40nm,1.6s							
WRAB	**Tennant Creek**	**35.13**	**268**	*e*P		**P**	**17 49 21.6**	**-2.0**
	comp=Z,26nm,1.4s							
WRA	**Warramunga Arr**	**35.14**	**268**	P		**P**	**17 49 21.6**	**-2.1**
	comp=Z,3.0nm,0.4s,baz=95,slow=8.7,SNR=114							
WRA				LR		LR	18 04 22.4	
	comp=Z,1μm,18.6s,baz=105,slow=37							
PPT2	**Papeete2**	**36.35**	**89**	*e*S		**S**	**17 55 16.1**	**+3.8**
	comp=Z,164nm,25.0s							
PPT2				*e*LQ		LQ	17 57 39.0	
	comp=Z,831nm,25.5s							
PPT2				*e*LR		LR	17 59 28.7	
	comp=Z,457nm,22.2s							
PPT	**Papeete**	**36.35**	**89**	LR		LR	18 03 28.7	
	comp=Z,380nm,18.0s,baz=230,slow=35							
FORT	**Forrest**	**39.77**	**249**	*e*P		**P**	**17 50 04.0**	**+1.2**
	comp=Z,535nm,0.9s							
WRKA	**Warakurna**	**39.86**	**258**	P		**P**	**17 50 03.7**	**0.0**
	baz=40,SNR=39							
MTN	**Manton Dam**	**40.08**	**277**	P		**P**	**17 50 04.9**	**-0.6**
	baz=40,SNR=4.3							
MTN	**Manton Dam**	**40.08**	**277**	*e*P		**P**	**17 50 05.3**	**-0.2**
	comp=Z,18nm,0.7s							
KNRA	**Kununurra**	**41.35**	**272**	P		**P**	**17 50 15.4**	**-0.5**
	baz=42,SNR=3.8							
H11S2	**WAKE ISLAND Hy**	**41.57**	**352**	T		T	18 34 35.4	
	baz=171,slow=76,SNR=14							
H11S3	**WAKE ISLAND Hy**	**41.58**	**352**	T		T	18 34 32.4	
	baz=171,slow=76,SNR=12							
H11S1	**WAKE ISLAND Hy**	**41.59**	**352**	T		T	18 34 34.6	
	baz=171,slow=76,SNR=8.6							
GUMO	**Guam**	**45.05**	**321**	LR		LR	18 08 35.6	
	comp=Z,583nm,18.4s,baz=117,slow=35							
KMBL	**Kambalda**	**45.05**	**248**	P		**P**	**17 50 48.1**	**+2.3**
	baz=45,SNR=5.2							
SOEI	**Soe**	**47.46**	**278**	*e*P		**P**	**17 51 04.4**	**-0.6**
	comp=Z,73nm,1.0s							
TAOE	**Nuku Hiva Isla**	**47.88**	**81**	*e*LR		LR	18 04 45.2	
	comp=Z,646nm,23.9s							
MBWA	**Marble Bar**	**48.28**	**262**	*e*P		**P**	**17 51 10.7**	**-0.5**
	comp=Z,49nm,1.0s							
MEEK	**Meekatharra**	**48.32**	**254**	P		**P**	**17 51 11.7**	**+0.2**
	baz=45,SNR=13							
RKT	**Rikitea**	**48.53**	**101**	*e*S		**S**	**17 58 15.4**	**+4.0**
	comp=Z,254nm,39.2s							
RKT				*e*LQ		LQ	18 02 21.4	
	comp=Z,841nm,26.0s							
NWAO	**Narrogin (SRO)**	**48.92**	**246**	*e*P		**P**	**17 51 19.6**	**+3.7**
NWAO	**Narrogin (SRO)**	**48.92**	**246**	*e*P		**P**	**17 51 19.6**	**+3.7**
MMRI	**Maumere**	**49.74**	**278**	*e*P		**P**	**17 51 20.9**	**-1.5**
	comp=Z,66nm,1.1s							
MORW	**Morawa**	**50.27**	**251**	P		**P**	**17 51 26.5**	**+0.2**
	baz=50,SNR=3.3							
KAPI	**Kappang**	**53.45**	**281**	*e*P		**P**	**17 51 50.4**	**+0.2**
	comp=Z,60nm,1.3s							
VNDA	**Vanda**	**54.79**	**183**	P		**P**	**17 51 58.7**	**-0.3**
	comp=Z,1.6nm,0.8s,baz=357,slow=6.9,SNR=8.1							
VNDA	**Vanda**	**54.79**	**183**	*e*P		**P**	**17 51 59.5**	**+0.5**
VNDA				pmax		pmax		
	comp=Z,13nm,1.5s							
VNDA	**Vanda**	**54.79**	**183**	*e*P		**P**	**17 51 59.5**	**+0.5**
	comp=Z,13nm,1.5s							
SBA	**Scott Base**	**54.96**	**181**	*e*P		**P**	**17 52 01.3**	**+1.1**
SBA				pmax		pmax		
	comp=Z,116nm,1.9s							
SBA	**Scott Base**	**54.96**	**181**	*e*P		**P**	**17 52 01.3**	**+1.1**
	comp=Z,116nm,1.9s							
JAGI	**Jajag, Banyuwa**	**57.20**	**275**	*e*P		**P**	**17 52 16.2**	**-1.0**
	comp=Z,105nm,1.5s							
CISI	**Cisompet, Garu**	**63.37**	**273**	*e*P		**P**	**17 52 58.1**	**-1.3**
	comp=Z,67nm,1.1s							
KSM	**Kuching**	**64.75**	**283**	*e*P		**P**	**17 53 07.9**	**-0.5**
QSPA	**South Pole Qui**	**67.07**	**180**	*e*P		**P**	**17 53 22.2**	**-0.4**
	comp=Z,52nm,1.0s							
MJAR	**Matsushiro Arr**	**67.28**	**331**	P		**P**	**17 53 22.2**	**-2.0**
	comp=Z,3.6nm,0.9s,baz=133,slow=6.6,SNR=6.2							
MJAR				LR		LR	18 17 42.3	
	comp=Z,104nm,21.7s,baz=155,slow=32							
MAJO	**Matsushiro**	**67.29**	**331**	*e*P		**P**	**17 53 23.2**	**-1.0**
MAT	**Matsushiro**	**67.29**	**331**	P		**P**	**17 53 22.0**	**-2.2**
MAT				S		**S**	**18 02 18.6**	**+2.7**
ERM	**Erimo**	**69.99**	**337**	*e*P		**P**	**17 53 40.5**	**-0.3**
YUK	**Yuzh-Kuril'sk**	**70.89**	**340**	*d i*P		**P**	**17 53 47.1**	**+0.8**
YUK				*i*			17 54 05.8	
YUK				*i*			17 56 28.5	
YUK				S		**S**	**18 03 04.4**	**+6.3**
YUK				pmax		pmax		
	comp=Z,213nm,4.6s							
YUK				pmax		pmax		
	comp=Z,153nm,1.4s							
YUK				pmax		pmax		
	comp=N,86nm,1.3s							
YUK				pmax		pmax		
	comp=E,4.0nm,0.1s							
KUR	**Kuril'sk**	**71.39**	**342**	⇓*i*P		**P**	**17 53 47.6**	**-1.7**
SSE	**Sheshan**	**72.57**	**316**	P		**P**	**17 53 57.5**	**+0.8**
SSE				S		**S**	**18 03 20.8**	**+2.8**
SSE				sS		**sS**	**18 03 43.5**	**+2.7**
SSE				pmax		pmax		
	comp=E,31nm,0.8s							
SSE				pmax		pmax		
	comp=E,130nm,3.8s							
SSE				LR		LR		
	comp=E,67nm,19.1s							
SSE				LR		LR		
	comp=E,50nm,19.6s							
KSRS	**Korea Array**	**73.07**	**325**	P		**P**	**17 53 58.0**	**-1.5**
	comp=E,7.6nm,0.9s,baz=150,slow=6.3,SNR=11							
KSAR	**Wonju Array Be**	**73.08**	**325**	P		**P**	**17 53 58.0**	**-1.6**
KSAR	**Wonju Array Be**	**73.08**	**325**	P		**P**	**17 53 58.0**	**-1.6**
QIZ	**Qiongzhong**	**73.69**	**299**	P		**P**	**17 54 01.0**	**-2.6**
QIZ				S		**S**	**18 03 35.0**	**+3.8**
IPM	**Ipoh**	**74.40**	**282**	*e*P		**P**	**17 54 06.8**	**-1.2**
	comp=E,96nm,1.8s							
YSS	**Yuzh-Sakhalins**	**74.48**	**340**	*i* P		**P**	**17 54 07.3**	**-0.3**
YSS				pmax		pmax		
	comp=Z,5.0nm,0.5s							
YSS	**Yuzh-Sakhalins**	**74.48**	**340**	*e*P		**P**	**17 54 07.5**	**-0.1**
SKR	**Severo-Kuril's**	**74.70**	**350**	*i* P		**P**	**17 54 08.7**	**0.0**
NJ2	**Nanjing**	**74.70**	**315**	*e*P		**P**	**17 54 11.3**	**+2.1**
NJ2				pmax		pmax		
	comp=Z,26nm,0.5s							
ADK	**Adak**	**75.22**	**7**	*e*P		**P**	**17 54 13.6**	**+1.9**
ADK				pmax		pmax		
	comp=Z,87nm,1.4s							
ADK	**Adak**	**75.22**	**7**	*e*P		**P**	**17 54 13.6**	**+1.9**
	comp=Z,87nm,1.4s							
MAW	**Mawson**	**75.93**	**202**	P		**P**	**17 54 16.5**	**+0.7**
	comp=Z,3.0nm,0.8s,baz=107,slow=7.0,SNR=7.0							
MAW	**Mawson**	**75.93**	**202**	*e*P		**P**	**17 54 15.5**	**-0.3**
MAW				pmax		pmax		
	comp=Z,3.0nm,1.1s							
MAW	**Mawson**	**75.93**	**202**	*e*P		**P**	**17 54 15.5**	**-0.3**
	comp=Z,3.0nm,1.1s							
USRK	**Ussuriysk Ar.**	**76.26**	**332**	P		**P**	**17 54 16.3**	**-1.6**
	comp=Z,2.2nm,0.8s,baz=110,slow=6.3,SNR=2.9							
PET	**Petropavlovsk**	**76.60**	**352**	*i* P		**P**	**17 54 20.5**	**+1.0**
PET				pmax		pmax		
	comp=Z,39nm,1.1s							
WHN	**Wuhan**	**76.78**	**312**	⇑P		**P**	**17 54 25.0**	**+3.9**
PETK	**Petropavlovsk-**	**76.81**	**351**	P		**P**	**17 54 19.3**	**-1.5**
	comp=Z,5.1nm,0.9s,baz=142,slow=5.1,SNR=4.2							
PETK				LR		LR	18 25 31.4	
	comp=Z,562nm,19.0s,baz=153,slow=34							
DL2	**Dalian**	**77.57**	**322**	P		**P**	**17 54 27.5**	**+2.1**
DL2				S		**S**	**18 04 15.5**	**+2.2**
DL2				pmax		pmax		
	comp=Z,30nm,1.2s							
DL2				pmax		pmax		
	comp=Z,190nm,6.1s							
DL2				LR		LR		
	comp=Z,310nm,17.6s							
DL2				LR		LR		
	comp=Z,310nm,28.0s							
DL2				LR		LR		
	comp=Z,440nm,26.4s							
MDJ	**Mudanjiang**	**77.66**	**330**	P		**P**	**17 54 27.3**	**+1.6**
MDJ				pmax		pmax		
	comp=Z,5.0nm,0.9s							
MDJ				pmax		pmax		
	comp=Z,76nm,3.4s							
TIA	**Tai'an**	**78.47**	**318**	⇓P		**P**	**17 54 29.8**	**-0.6**
TIA				pmax		pmax		
	comp=Z,20nm,0.9s							
CN2	**Changchun**	**79.01**	**328**	*e*P		P	17 54 26.8	-6.4
CN2				*e*S		**S**	**18 04 21.5**	**-7.1**
CN2	**Changchun**	**79.01**	**328**	SKS		**S**	**18 04 33.5**	**+4.9**
CN2				pmax		pmax		
	comp=Z,10.0nm,0.9s							
CN2				pmax		pmax		
	comp=Z,200nm,3.0s							
CN2				LR		LR		
	comp=N,200nm,18.0s							
CN2				LR		LR		
	comp=E,200nm,18.0s							
CN2				LR		LR		
	comp=Z,300nm,17.0s							
ENH	**Enshi**	**80.05**	**309**	*e*P		**P**	**17 54 37.7**	**-1.6**
	comp=Z,26nm,1.1s							
GYA	**Guiyang**	**80.08**	**304**	*e*P		**P**	**17 54 40.3**	**+0.7**
GYA				pP		pP	17 54 52.0	-1.4
GYA				PP		**PP**	**17 57 44.5**	**+2.0**
GYA				S		**S**	**18 04 40.3**	**-0.6**
GYA				SKS		**SKSac**	**18 04 49.8**	**-3.8**
GYA				pmax		pmax		
	comp=Z,20nm,1.0s							
GYA				pmax		pmax		
	comp=Z,130nm,6.4s							
BJI	**Beijing**	**81.48**	**320**	P		**P**	**17 54 45.8**	**-0.8**
BJI				S		**S**	**18 05 01.5**	**+6.9**
BJI				SS		**SS**	**18 10 19.0**	**+6.4**
BJI				pmax		pmax		
	comp=Z,13nm,0.8s							
BJI				pmax		pmax		
	comp=Z,160nm,4.1s							
BJI				LR		LR		
	comp=Z,310nm,27.8s							
SYO	**Syowa Base**	**82.04**	**196**	⇑*e*P		**P**	**17 54 50.8**	**+1.6**
CM01	**Chiang Mai Arr**	**82.37**	**294**	*e*P		**P**	**17 54 51.9**	**+0.2**
CM31	**Chiang Mai Arr**	**82.40**	**294**	*e*P		**P**	**17 54 53.5**	**+1.6**
CMAR	**Chiang Mai Arr**	**82.40**	**294**	P		**P**	**17 54 52.2**	**+0.3**
	comp=Z,6.3nm,1.0s,baz=135,slow=4.2,SNR=24							
CMAR	**Chiang Mai Arr**	**82.40**	**294**	*i* P		**P**	**17 54 53.2**	**+1.3**
CMAR				pmax		pmax		
	comp=Z,4.0nm,0.8s							
KMI	**Kunming**	**82.45**	**301**	P		**P**	**17 54 54.0**	**+1.7**
KMI				pP		pP	17 55 04.3	-1.8
KMI				pmax		pmax		
	comp=Z,11nm,1.2s							
XAN	**Xi'an**	**82.55**	**312**	P		**P**	**17 54 51.8**	**-0.7**
XAN				sP		pP	17 55 04.0	-2.3
XAN				pmax		pmax		
	comp=Z,14nm,1.3s							
XAN				pmax		pmax		
	comp=Z,110nm,6.7s							
CHTO	**Chiang Mai**	**82.56**	**294**	*e*P		**P**	**17 54 53.8**	**+1.0**
CHTO				pmax		pmax		
	comp=Z,17nm,1.2s							
CHTO	**Chiang Mai**	**82.56**	**294**	*e*P		**P**	**17 54 53.8**	**+1.0**
	comp=Z,17nm,1.2s							
CD2	**Chengdu**	**84.57**	**307**	P		**P**	**17 55 01.5**	**-1.4**
CD2				sP		sP	17 55 23.3	+1.3
CD2				SKS		**SKSac**	**18 05 14.3**	**-8.9**
CD2				S		**S**	**18 05 25.5**	**-1.0**
CD2				SS		**SS**	**18 10 58.5**	**-0.4**
CD2				pmax		pmax		
	comp=Z,240nm,7.6s							
CD2				LR		LR		
	comp=Z,320nm,15.2s							
CD2				LR		LR		
	comp=Z,380nm,17.1s							
HHC	**Hu-ho-hao-te**	**84.75**	**318**	*e*P		**P**	**17 55 05.5**	**+1.8**
HHC				sP		sP	17 55 24.3	+1.6
HHC				S		**S**	**18 05 32.8**	**+4.7**
HHC				SS		**SS**	**18 11 02.8**	**+1.4**
HHC				pmax		pmax		
	comp=Z,20nm,0.9s							
HHC				pmax		pmax		
	comp=Z,280nm,6.0s							
HHC				LR		LR		
	comp=Z,170nm,15.5s							
HHC				LR		LR		
	comp=Z,180nm,19.0s							
HHC				LR		LR		
	comp=Z,210nm,19.2s							
NVL	**N'lazarevskaya**	**85.45**	**186**	*e*P		pP	17 55 23.2	+2.8
SNAA	**Sanae**	**85.51**	**182**	P		**P**	**17 55 05.5**	**-1.5**
SNAA	**Sanae**	**85.51**	**182**	*e*P		**P**	**17 55 05.9**	**-1.1**
SNAA				pmax		pmax		
	comp=Z,13nm,1.1s							
SNAA	**Sanae**	**85.51**	**182**	*e*P		**P**	**17 55 05.8**	**-1.1**
	comp=Z,13nm,1.1s							
VNA3	**Neumayer Olymp**	**86.00**	**179**	P		**P**	**17 55 08.4**	**-1.0**
PKM	**Mcpherson Peak**	**86.53**	**50**	P		**P**	**17 55 13.0**	**+0.2**
	baz=239							
LZH	**Lanzhou**	**87.16**	**311**	*e*P		**P**	**17 55 14.5**	**-1.2**
LZH				pP		pP	17 55 27.5	-2.1
LZH				sP		sP	17 55 31.5	-3.4
LZH				PP		**PP**	**17 58 40.0**	**-0.3**
LZH				*e*S		**S**	**18 05 46.5**	**-5.5**
LZH				pmax		pmax		
	comp=Z,56nm,1.3s							
LZH				pmax		pmax		
	comp=Z,290nm,4.1s							
LZH				LR		LR		
	comp=Z,1μm,12

	comp=Z,13nm,1.4s								
LDFC	**Landfair**	**89.98**	**52**	*e*P		**P**	**17 55 29.3**	**+0.3**
	comp=Z,23nm,1.3s								
J05D	**Fort Rock, OR**	**89.99**	**42**	P		**P**	**17 55 28.7**	**-0.2**
	baz=238								
TPNV	**Topopah Spring**	**90.07**	**50**	P		**P**	**17 55 28.5**	**-1.0**
	baz=241								
TPNV	**Topopah Spring**	**90.07**	**50**	*e*P		**P**	**17 55 28.9**	**-0.6**
TPNV					pmax	pmax			
	comp=Z,14nm,1.4s								
TPNV	**Topopah Spring**	**90.07**	**50**	*e*P		**P**	**17 55 28.9**	**-0.6**
	comp=Z,14nm,1.4s								
PDMCI	**Parker Dam,Lak**	**90.33**	**53**	P		**P**	**17 55 30.1**	**-0.4**
	baz=242								
SHPR	**Sheep Range**	**90.62**	**50**	*e*P		**P**	**17 55 32.2**	**+0.2**
	comp=Z,26nm,1.8s								
BILL	**Bilibino**	**90.87**	**358⇑**	*e*P		**P**	**17 55 29.4**	**-2.8**
BILL				*e*			17 59 05.8		
BILL				*e*S		S	18 06 13.2	-12	
BILL				*e*SS		**SS**	**18 12 36.2**	**+6.9**
BILL					pmax	pmax			
	comp=Z,6.0nm,1.2s								
BILL					MLR	MLR			
	comp=Z,229nm,18.0s								
W13A	**Hualapai Mount**	**90.88**	**52**	*e*P		**P**	**17 55 32.9**	**-0.5**
	comp=Z,14nm,1.5s								
CRQM	**Cirque**	**91.02**	**20**	*e*P		**P**	**17 55 32.0**	**-1.4**
	comp=Z,16nm,1.2s								
BMN	**Battle Mountai**	**91.10**	**46**	*e*P		**P**	**17 55 34.2**	**0.0**
BMN					pmax	pmax			
	comp=Z,9.0nm,1.0s								
BMN	**Battle Mountai**	**91.10**	**46**	*e*P		**P**	**17 55 34.2**	**0.0**
	comp=Z,9.0nm,1.0s								
R11A	**Troy Canyon, C**	**91.20**	**49**	P		**P**	**17 55 33.5**	**-1.3**
	baz=242								
R11A	**Troy Canyon, C**	**91.20**	**49**	*e*P		**P**	**17 55 33.6**	**-1.1**
	comp=Z,6.0nm,1.3s								
BBB	**Bella Bella**	**91.23**	**32**	LR		LR	18 31 37.7		
	comp=Z,352nm,18.1s,baz=186,slow=32								
YAK	**Yakutsk**	**91.24**	**341**	*i* P		**P**	**17 55 35.2**	**+1.2**
YAK					pmax	pmax			
	comp=Z,7.0nm,1.0s								
SHL	**Shillong**	**91.39**	**297**	*e*P		**P**	**17 55 38.0**	**+2.1**
ULN	**Ulaanbaatar**	**91.42**	**322⇑**	*i*P		**P**	**17 55 34.6**	**-0.9**
ULN					pmax	pmax			
	comp=Z,6.0nm,1.5s								
DHY	**Denali Highway**	**91.58**	**17**	*e*P		**P**	**17 55 34.7**	**-1.1**
	comp=Z,8.4nm,0.6s								
GTA	**Gaotai**	**91.58**	**312**	P		**P**	**17 55 36.3**	**-0.1**
GTA				pP		pP	17 55 47.3	-3.1	
GTA				sP		sP	17 55 50.8	-4.8	
GTA				S		**S**	**18 06 33.0**	**0.0**
GTA				sS		pS	18 06 49.3	-1.6	
GTA				SS		**SS**	**18 12 46.5**	**+5.5**
GTA					pmax	pmax			
	comp=Z,6.0nm,1.2s								
GTA					pmax	pmax			
	comp=Z,110nm,5.8s								
GTA					LR	LR			
	comp=Z,140nm,17.6s								
GTA					LR	LR			
	comp=Z,190nm,17.6s								
GTA					LR	LR			
	comp=Z,190nm,17.6s								
SONM	**Songino Array**	**91.77**	**322**	P		**P**	**17 55 35.5**	**-1.6**
	comp=Z,2.6nm,0.9s,baz=146,slow=6.4,SNR=5.4								
SONA1	**Songino Array**	**91.78**	**322**	*e*P		**P**	**17 55 37.1**	**0.0**
LCMT	**Little Creek M**	**92.22**	**51**	*e*P		**P**	**17 55 39.0**	**-0.4**
	comp=Z,8.4nm,1.1s								
X16A	**Lo Mia Camp, P**	**92.37**	**54**	*e*P		**P**	**17 55 40.0**	**-0.2**
	comp=Z,8.1nm,1.1s								
CCUT	**Cedar City**	**92.38**	**50**	*e*P		**P**	**17 55 39.4**	**-0.9**
	comp=Z,9.3nm,1.2s								
WRH	**Wood River Hil**	**92.51**	**16**	*e*P		**P**	**17 55 38.3**	**-1.6**
	comp=Z,20nm,0.4s								
KNB	**Kanab**	**92.52**	**51**	*e*P		**P**	**17 55 41.0**	**+0.1**
KNB					pmax	pmax			
	comp=Z,17nm,1.4s								
KNB	**Kanab**	**92.52**	**51**	*e*P		**P**	**17 55 41.0**	**+0.1**
	comp=Z,17nm,1.4s								
SZCU	**Shurtz Canyon**	**92.60**	**50**	*e*P		**P**	**17 55 42.0**	**+0.7**
	comp=Z,25nm,1.8s								
U15A	**North Rim**	**92.64**	**51**	*e*P		**P**	**17 55 40.5**	**-1.0**
	comp=Z,19nm,1.3s								
CCB	**Clear Creek Bu**	**92.73**	**16**	*e*P		**P**	**17 55 38.3**	**-2.6**
	comp=Z,21nm,0.6s								
HDA	**Harding Lake**	**92.76**	**17**	*e*P		**P**	**17 55 38.9**	**-2.2**
	comp=Z,198nm,0.4s								
MDM	**Murphy Dome**	**92.87**	**16**	*e*P		**P**	**17 55 39.0**	**-2.6**
MDM				*ep*P		**pP**	**17 55 53.8**	**-1.8**
COLA	**College**	**92.90**	**16**	*i* P		**P**	**17 55 38.6**	**-3.1**
COLA					pmax	pmax			
	comp=Z,10.0nm,1.1s								
WUAZ	**Wupatki**	**92.90**	**53**	P		**P**	**17 55 42.4**	**-0.2**
	baz=244								
WUAZ	**Wupatki**	**92.90**	**53**	*e*P		**P**	**17 55 42.5**	**-0.2**
	comp=Z,9.2nm,1.0s								
DOT	**Dot Lake**	**92.95**	**18**	*e*P		**P**	**17 55 39.7**	**-2.3**
	comp=Z,25nm,1.2s								
IL1	**Eielson Array**	**93.07**	**16**	*e*P		**P**	**17 55 39.0**	**-3.5**
ILAR	**Eielson Array**	**93.07**	**16**	P		**P**	**17 55 39.8**	**-2.7**
	comp=Z,3.0nm,1.0s,baz=227,slow=5.8,SNR=7.9								
ILB	**Eielson Array**	**93.07**	**16**	*e*P		**P**	**17 55 44.1**	**+1.6**
PLCA	**Paso Flores**	**94.01**	**137**	P		**P**	**17 55 45.8**	**-1.9**
	comp=Z,1.5nm,0.7s,baz=265,slow=4.7,SNR=4.2								
EGAK	**Eagle**	**94.64**	**18**	*e*P		**P**	**17 55 48.1**	**-1.6**
EGAK				*ep*P		**pP**	**17 56 02.8**	**-0.9**
MNTX	**Cornudas Mount**	**95.85**	**58**	P		**P**	**17 55 54.6**	**-1.5**
	baz=247								
MNTX	**Cornudas Mount**	**95.85**	**58**	*e*P		**P**	**17 55 54.6**	**-1.5**
	comp=Z,16nm,1.9s								
TX31	**Lajitas Ar. Si**	**96.30**	**61**	*e*P		**P**	**17 55 56.9**	**-1.4**
TXAR	**Lajitas Array**	**96.30**	**61**	P		**P**	**17 55 56.1**	**-2.2**
	comp=Z,1.2nm,1.0s,baz=302,slow=2.4,SNR=7.2								
TXAR					PP	**PP**	**17 59 54.6**	**+2.1**	
	comp=Z,0.4nm,0.9s,baz=264,slow=1.3,SNR=3.8								
ANMO	**Albuquerque**	**96.31**	**55**	P		**P**	**17 55 56.0**	**-2.4**
	comp=Z,1.3nm,0.9s,baz=256,slow=3.0,SNR=3.3								
ANMO	**Albuquerque**	**96.31**	**55**	P		**P**	**17 55 57.2**	**-1.1**
	baz=247								
ANMO	**Albuquerque**	**96.31**	**55**	P		**P**	**17 55 56.0**	**-2.4**
PDAR	**Pinedale Array**	**97.28**	**47**	P		**P**	**17 56 01.2**	**-1.4**
	comp=Z,0.2nm,0.6s,baz=316,slow=2.5,SNR=2.4								
CMIG	**Matias Romero**	**99.27**	**75**	LR		LR	18 34 40.9		
	comp=Z,153nm,18.4s,baz=192,slow=32								
WMQ	**Urumqi**	**101.67**	**313**	P		**Pdif**	**17 56 22.0**	**+0.1**
WMQ				pP		pPdif	17 56 32.5	-3.4	
WMQ				sP		pP	17 56 36.0	-0.1	
WMQ					pmax	pmax			
	comp=Z,13nm,0.7s								
WMQ					pmax	pmax			
	comp=Z,150nm,4.3s								
WMQ					LR	LR			
	comp=Z,170nm,17.1s								
WMQ					LR	LR			
	comp=Z,150nm,20.7s								
KSH	**Kashi**	**108.75**	**306**	*e*Pdif		**Pdif**	**17 56 59.0**	**+5.4**
KSH				PP		PP	18 01 35.0	+9.3	
KSH	**Kashi**	**108.75**	**306**	SKS		**SKSdf**	**18 08 09.0**	**+2.1**
KSH	**Kashi**	**108.75**	**306**	SS		SS	18 16 48.0	+7.6	
KSH				AMB		AMB			
	comp=Z,78nm,4.1s								
KSH				LR		LR			
	comp=N,76nm,6.8s								
KSH				LR		LR			
	comp=E,100nm,4.8s								
KSH				LR		LR			
	comp=Z,160nm,6.0s								
BRVK	**Borovoye**	**115.02**	**319⇑**	*i*PKIKP		**PKPdf**	**18 01 10.0**	**+0.1**
BOSA	**Boshof**	**119.50**	**214**	PKP		**PKPdf**	**18 01 19.5**	**0.0**
	comp=Z,2.1nm,0.6s,baz=184,slow=3.1,SNR=4.5								
ARU	**Arti**	**121.80**	**323**	*i* PKIKP		**PKPdf**	**18 01 24.3**	**+1.5**
ARU							18 02 58.0		
ARU							18 08 32.4		
ARU					SS	SS	18 19 26.1	-4.1	
LSZ	**Lusaka**	**128.04**	**226**	*e*PKIKP		**PKPdf**	**18 01 37.6**	**+1.4**
LSZ	**Lusaka**	**128.04**	**226**	*e*PKPdf		**PKPdf**	**18 01 37.6**	**+1.4**
KMBO	**Kilima Mbogo**	**129.88**	**248**	PKP		**PKPdf**	**18 01 40.6**	**+0.7**
	comp=Z,1.5nm,0.5s,baz=260,slow=1.3,SNR=7.2								
KIV	**Kislovodsk**	**133.68**	**309**	*i* PKIKP		**PKPdf**	**18 01 46.2**	**+0.2**
KIV					pmax	pmax			
	comp=Z,4.0nm,1.0s								
KIV					MLR	MLR			
	comp=Z,73nm,22.0s								
OBN	**Obninsk**	**134.05**	**326⇑**	*e*PKIKP		**PKPdf**	**18 01 46.7**	**+0.6**
OBN				*e*			18 04 20.0		
OBN					pmax	pmax			
	comp=Z,37nm,3.2s								
AKASG	**Malin Array Be**	**140.05**	**323**	PKP		**PKPdf**	**18 01 55.1**	**-2.3**
	comp=Z,0.2nm,0.3s,baz=42,slow=1.2,SNR=2.1								
BRTR	**Keskin Array B**	**141.13**	**305**	PKP		**PKPdf**	**18 01 59.3**	**-0.7**
	comp=Z,0.7nm,0.7s,baz=176,slow=3.2,SNR=5.1								
BRTR				PP		**PP**	**18 05 03.9**	**+1.7**	
	comp=Z,1.5nm,1.1s,baz=134,slow=7.1,SNR=4.2								
BURAR	**Bucovina Array**	**143.88**	**321**	*i*P		**PKPdf**	**18 02 07.3**	**+2.8**
BURAR	**Bucovina Array**	**143.88**	**321**	PKIKP		**PKPdf**	**18 02 07.3**	**+2.8**
MLR	**Muntele Rosu**	**144.49**	**317⇑**	*i*P		**PKPab**	**18 02 03.5**	**-0.6**
MLR	**Muntele Rosu**	**144.49**	**317⇑**	PKIKP		**PKPab**	**18 02 03.5**	**-0.6**
MLR	**Muntele Rosu**	**144.49**	**317**	*e*PKPdf		**PKPdf**	**18 02 07.5**	**+1.8**
DOPR	**Dopca**	**144.61**	**319⇑**	*i*P		PKPbc	18 02 04.7	+0.1	
UZH	**Uzhgorod**	**144.95**	**324**	*c i*PKIKP		**PKPab**	**18 02 04.2**	**-1.3**
UZH				*e*			18 02 10.0		
UZH				*i*			18 02 16.0		
AKAS	**Kas**	**144.99**	**301**	*e*PKPdf		**PKPdf**	**18 02 08.7**	**+1.9**
VOIR		**145.07**	**318⇑**	*i*P		**PKPab**	**18 02 06.3**	**+0.1**
VOIR		**145.07**	**318⇑**	PKIKP		**PKPab**	**18 02 06.3**	**+0.1**
CRVS	**Cervenica-Dubn**	**145.23**	**325**	*e*PKIKP		**PKPbc**	**18 02 05.7**	**-0.7**
CRVS	**Cervenica-Dubn**	**145.23**	**325**	*e*PKP		**PKPbc**	**18 02 05.7**	**-0.7**
ARR	**Arges**	**145.36**	**319**	*i*P		**PKPab**	**18 02 08.3**	**+1.1**
NIE	**Niedzica**	**145.51**	**327**	*e*PKP		**PKPdf**	**18 02 06.5**	**-0.7**
NIE	**Niedzica**	**145.51**	**327**	*e*PKIKP		**PKPdf**	**18 02 06.5**	**-0.7**
DRGR		**145.77**	**321⇑**	*i*P		**PKPdf**	**18 02 07.5**	**-0.3**
DRGR		**145.77**	**321⇑**	PKP2		**PKPdf**	**18 02 07.5**	**-0.3**
KECS	**Kecovo**	**146.00**	**325**	*e*PKP2		**PKPdf**	**18 02 07.8**	**-0.2**
KECS	**Kecovo**	**146.00**	**325**	*e*PKP		**PKPdf**	**18 02 07.8**	**-0.2**
LANS	**Liptovska Anna**	**146.10**	**327**	*e*PKP2		**PKPbc**	**18 02 09.2**	**0.0**
LANS	**Liptovska Anna**	**146.10**	**327**	*e*PKP		**PKPbc**	**18 02 09.2**	**0.0**
OKC	**Ostrava-Krasne**	**146.28**	**329**	AMS		AMS	19 10 40.0		
	comp=Z,300nm,24.0s								
MORC	**Moravsky Berou**	**146.61**	**330⇑**	*i*P		**PKPbc**	**18 02 10.3**	**-0.4**
MORC	**Moravsky Berou**	**146.61**	**330⇑**	PKP2		**PKPbc**	**18 02 10.3**	**-0.4**
MORC	**Moravsky Berou**	**146.61**	**330**	*e*PKPdf		**PKPbc**	**18 02 10.2**	**-0.4**
DPC	**Dobruska-Polom**	**146.76**	**331**	*e*PKP		**PKPdf**	**18 02 09.9**	**+0.6**
DPC				*ep*PKP		**PKiKP**	**18 02 15.0**	**+1.2**
DPC				AMS		AMS	19 05 50.0		
	comp=Z,200nm,22.5s								
DPC	**Dobruska-Polom**	**146.76**	**331**	*e*PKP2		**PKPdf**	**18 02 09.9**	**+0.6**
DPC				MLR		MLR			
	comp=Z,200nm,22.5s								
UPC	**Upice**	**146.78**	**332**	*e*PKP		**PKPbc**	**18 02 10.8**	**-0.3**
UPC				AMS		AMS	19 06 00.0		
	comp=Z,300nm,21.2s								
UPC	**Upice**	**146.78**	**332**	*e*PKP2		**PKPbc**	**18 02 10.8**	**-0.3**
UPC				MLR		MLR			
	comp=Z,300nm,21.2s								
VYHS	**Vyhne**	**146.84**	**327**	*e*PKP2		**PKPbc**	**18 02 10.7**	**-0.6**
VYHS	**Vyhne**	**146.84**	**327**	*e*PKP		**PKPbc**	**18 02 10.7**	**-0.6**
BRG	**Berggiesshubel**	**147.38**	**334**	*e*PKP		**PKPab**	**18 02 16.8**	**+2.1**
	comp=Z,4.9nm,0.7s								
BRG				*e*			18 02 33.8		
	comp=Z,16nm,1.5s								
BRG	**Berggiesshubel**	**147.38**	**334**	*e*PKP2		**PKPab**	**18 02 16.8**	**+2.1**
BRG				pmax		pmax			
	comp=Z,5.0nm,0.7s								
CLL	**Collm**	**147.41**	**335**	*e*PKIKP		**PKPdf**	**18 02 10.0**	**-0.3**
CLL				*e*			18 02 18.0		
CLL	**Collm**	**147.41**	**335**	*e*PKPbc		**PKPdf**	**18 02 10.0**	**-0.3**
CLL				*e*			18 02 18.0		
CLL				*e*			18 02 23.0		
CLL				*e*			18 02 45.0		
CLL				*e*PP		**PP**	**18 05 42.0**	**+3.6**
CLL				*e*SKKSac		SKKSac	18 12 35.0	+8.5	
CLL				*e*			18 13 20.0		
CLL				*e*PSKS			18 15 48.0		
CLL				*e*SS		**SS**	**18 24 36.0**	**-1.2**
CLL				*e*PSS		PSS	18 25 18.0		
CLL				*e*			18 27 06.0		
CLL				*e*SSS		SSS	18 30 06.0		
CLL				*e*SSSS			18 34 12.0		
CLL				Lm		MLR	19 07 00.0		
	comp=Z,200nm,20.2s								
MDVR	**Moldovita**	**147.44**	**319**	*i*P		**PKPbc**	**18 02 12.8**	**-0.4**
EKA	**Eskdalemuir Ar**	**147.51**	**355**	PKPbc		**PKPbc**	**18 02 12.1**	**-0.8**
	comp=Z,1.1nm,0.6s,baz=10,slow=5.9,SNR=4.4								
VTS	**Vitosha**	**147.58**	**315**	*i*P		**PKPab**	**18 02 20.1**	**+4.1**
VTS	**Vitosha**	**147.58**	**315**	PKP2		**PKPab**	**18 02 20.1**	**+4.1**
GOPC	**GO Pecny, Ondr**	**147.75**	**332**	*e*PKP		**PKPab**	**18 02 17.0**	**+0.8**
GOPC	**GO Pecny, Ondr**	**147.75**	**332**	*e*PKP2		**PKPab**	**18 02 17.0**	**+0.8**
PRU	**Pruhonice**	**147.80**	**332**	*e*PKP		**PKPbc**	**18 02 14.4**	**+0.5**
PRU				AMS		AMS	19 02 00.0		
	comp=Z,200nm,21.3s								
PRU	**Pruhonice**	**147.80**	**332**	*e*PKP2		**PKPbc**	**18 02 14.4**	**+0.5**
PRU				MLR		MLR			
	comp=Z,200nm,21.3s								
TREC	**Trest**	**147.90**	**331**	AMS		AMS	19 06 00.0		
	comp=Z,200nm,18.5s								
NKC	**Novy Kostel**	**148.47**	**335**	*e*PKP		**PKPbc**	**18 02 15.2**	**-0.5**
NKC				AMS		AMS	19 08 20.0		
	comp=Z,200nm,22.3s								
NKC	**Novy Kostel**	**148.47**	**335**	*e*PKP2		**PKPbc**	**18 02 15.2**	**-0.5**
NKC				MLR		MLR			
	comp=Z,200nm,22.3s								
CONA	**Conrad Observa**	**148.69**	**328**	*i* sPKPdf		**PKPbc**	**18 02 16.2**	**-0.2**
	comp=Z,5.5nm,1.1s								
KHC	**Kasperske Hory**	**148.86**	**332**	*e*PKP		**PKPbc**	**18 02 15.4**	**-1.4**
KHC				*ep*PKP		**PKiKP**	**18 02 19.0**	**+0.9**
KHC				*ex*		x	18 02 23.1		
KHC				AMS		AMS	19 00 50.0		
	comp=Z,300nm,27.2s								
KHC	**Kasperske Hory**	**148.86**	**332**	*e*PKP2		**PKPbc**	**18 02 15.4**	**-1.4**
KHC				MLR		MLR			
	comp=Z,300nm,27.2s								
KHC	**Kasperske Hory**	**148.86**	**332**	*e*PKPbc		**PKPbc**	**18 02 15.6**	**-1.2**
GEC2	**GERESS Array S**	**149.02**	**332**	*e*PKP2		**PKPbc**	**18 02 18.0**	**+0.7**
GEC2	**GERESS Array S**	**149.02**	**332**	*e*PKPbc		**PKPbc**	**18 02 18.0**	**+0.7**
GERES	**GERESS Array B**	**149.02**	**332**	PKPbc		**PKPbc**	**18 02 15.6**	**-1.6**
	comp=Z,2.1nm,0.9s,baz=36,slow=2.5,SNR=11								
GEA0	**GERESS Array S**	**149.03**	**332**	*e*PKPdf		**PKPdf**	**18 02 14.7**	**+1.5**
SKO	**Skopje**	**149.03**	**315**	*i* P		**PKPbc**	**18 02 17.7**	**+0.4**
ARSA	**Arzberg**	**149.33**	**328**	*i* pPKiKP		**PKPab**	**18 02 22.3**	**-0.4**
	comp=Z,3.2nm,0.9s								
MOA	**Molln**	**149.50**	**330**	*i* PKiKP		**PKiKP**	**18 02 19.4**	**-0.1**
	comp=Z,5.6nm,1.1s								
OHR	**Ohrid**	**149.86**	**314**	*i* P		**PKPab**	**18 02 27.1**	**+2.0**
SOKA	**Soboth**	**149.97**	**327**	*i* PKPbc		**PKPbc**	**18 02 18.8**	**-0.8**
	comp=Z,9.3nm,1.4s								
KBA	**Koelnbreinsper**	**150.49**	**330**	*i* PKiKP		**PKPbc**	**18 02 21.3**	**+0.3**
	comp=Z,6.2nm,0.8s								
MYKA	**Terra Mystica**	**150.68**	**329**	*i* PKPdf		**PKPdf**	**18 02 13.6**	**-2.2**
	comp=Z,1.8nm,0.8s								
WATA	**Walderalm**	**151.09**	**332**	*i* PKiKP		**PKiKP**	**18 02 22.9**	**0.0**
	comp=Z,3.7nm,0.7s								
ABTA	**Abfaltersbach**	**151.12**	**330**	*i* PKiKP		**PKPbc**	**18 02 21.9**	**-0.5**
	comp=Z,5.1nm,1.0s								
WTTA	**Wattenberg**	**151.12**	**332**	*i* PKiKP		**PKPbc**	**18 02 22.6**	**+0.1**
	comp=Z,4.8nm,0.9s								
MOTA	**Moosalm**	**151.29**	**332**	*i* PKiKP		**PKiKP**	**18 02 23.2**	**-0.2**
	comp=Z,4.3nm,0.9s								
RETA	**Reutte**	**151.32**	**333**	*i* PKiKP		**PKiKP**	**18 02 23.6**	**+0.2**
	comp=Z,4.4nm,1.0s								
FETA	**Feichten**	**151.70**	**332**	*i* PKPbc		**PKPbc**	**18 02 22.4**	**-1.4**
	comp=Z,5.9nm,1.0s								
DAVA	**Damuels**	**151.85**	**334**	*i* sPKiKP		**PKPab**	**18 02 29.9**	**-3.4**
	comp=Z,4.8nm,0.9s								
DAVOX	**Davos/Dischmat**	**152.25**	**333**	PKPbc		**PKPbc**	**18 02 25.3**	**+0.2**
	comp=Z,2.7nm,0.8s,baz=9.6,slow=5.1,SNR=4.7								
DBIC	**Dimbokro**	**163.48**	**191**	PKP		**PKPdf**	**18 02 31.1**	**-1.7**
	comp=Z,16nm,1.2s,baz=69,slow=3.6,SNR=3.7								
TOA0	**Torodi Ar. Sit**	**166.56**	**225**	*e*PKPdf		**PKPdf**	**18 02 35.7**	**+0.3**
TORD	**Torodi Ar. Bea**	**166.56**	**225**	PKP		**PKPdf**	**18 02 33.7**	**-1.7**
	comp=Z,2.2nm,0.9s,baz=308,slow=0.7,SNR=10								
TORD				PKPab		**PKPab**	**18 03 38.3**	**+0.7**	
	comp=Z,1.6nm,0.8s,baz=121,slow=4.4,SNR=5.2								

*IDC **27** 17:44:25.7±2.0,23°09S×172°06E,h0km,**mb4.2**/3,*
mb1 4.5**/4,**mb1mx3.9**/28,**mbtmp4.3**/4,**Error ellipse:
s-maj=104.2km s-min=40.1km az=5.0,Southeast of
Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**5.28**	**280**	Pn	Pn	17 45 47.8	+1.7
	baz=106,slow=20,SNR=1.0						
DZM				Sn	Sn	17 46 47.2	-0.6
	2.7nm,0.3s,baz=197,slow=19,SNR=3.4						
ASAR	**Alice Springs**	**34.96**	**261**	P	P	17 51 20.2	+0.4
	4.8nm,0.9s,baz=84,slow=8.2,SNR=4.9						
ASAR				PcP	PcP	17 53 51.4	-1.0
	0.4nm,0.7s,baz=118,slow=2.7,SNR=3.0						
WRA	**Warramunga Arr**	**35.16**	**268**	P	P	17 51 20.2	-1.4
	2.1nm,0.6s,baz=96,slow=8.5,SNR=7.1						
WRA				PcP	PcP	17 53 52.6	-0.5
	0.8nm,0.9s,baz=99,slow=2.0,SNR=2.4						
CMAR	**Chiang Mai Arr**	**82.46**	**294**	P	P	17 56 51.6	+1.0
	1.1nm,0.9s,baz=139,slow=4.9,SNR=3.2						

*IDC **27** 17:48:06.8±0.9,22°.75S×172°.08E,h0km,mb4.2/10,*
mb1 4.4/12,mb1mx4.2/28,mbtmp4.3/12,ML4.0/2,Error
ellipse: s-maj=24.4km s-min=23.2km az=93.0
*NEIC **27** 17:48:09.6±0.6,22°.84S×171°.87E,h10km,mb4.6/2,Error*
ellipse: s-maj=13.1km s-min=12.7km az=222.0
*ISCJB **27** 17:48:11.9±0.6,22°.83S±0°.09×171°.98E±0°.07,h47km,*
mb4.2/11,Error ellipse: s-maj=12.3km s-min=9.0km
az=7.5
ISC 27 17:48:13.9±0.6,22°.8S±0°.1×171°.97E±0°.08,h47km,n20,
σ1§26/21,mb4.2/11,1C,Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**5.17**	**277**	Pn	**Pn**	**17 49 27.4**	**-1.4**
	9.2nm,0.3s,baz=112,slow=14,SNR=16						
DZM				Sn	**Sn**	**17 50 28.8**	**+1.7**
	3.7nm,0.3s,baz=197,slow=19,SNR=4.0						
MSVF	**Nonsavu**	**7.64**	**49**	*e*Pn	**Pn**	**17 50 03.6**	**+0.9**
URZ	**Urewera**	**16.00**	**165**	Pn	**Pn**	**17 51 54.8**	**-0.9**
	0.3nm,0.3s,baz=43,slow=4.9,SNR=4.1						
RPZ	**Rata Peaks**	**20.84**	**182**	P	**P**	**17 52 52.7**	**+1.1**
	17nm,1.1s,baz=32,slow=6.9,SNR=3.1						
CTA	**Charters Tower**	**24.08**	**272**	P	**P**	**17 53 25.9**	**+0.8**
	3.5nm,0.7s,baz=126,slow=10,SNR=6.3						
ASAR	**Alice Springs**	**34.91**	**261**	P	**P**	**17 55 01.1**	**-0.3**
	6.0nm,1.0s,baz=89,slow=9.6,SNR=15						
WRAB	**Tennant Creek**	**35.09**	**267**	*e*P	**P**	**17 55 02.1**	**-0.7**
	4.4nm,0.9s						
WRA	**Warramunga Ar**	**35.09**	**267**	P	**P**	**17 55 01.6**	**-1.3**
	0.9nm,0.4s,baz=96,slow=8.6,SNR=18						
QSPA	**South Pole Qui**	**67.24**	**180**	*e*P	**P**	**17 59 04.2**	**+0.9**
	7.1nm,0.9s						
KSRS	**Korea Array**	**72.90**	**325**	P	**P**	**17 59 37.5**	**-0.6**
	1.5nm,0.9s,baz=138,slow=7.8,SNR=5.3						
KSAR	**Wonju Array Be**	**72.91**	**325**	P	**P**	**17 59 37.5**	**-0.7**
MAW	**Mawson**	**76.07**	**202**	P	**P**	**17 59 54.7**	**-1.4**
	3.1nm,1.1s,baz=137,slow=8.2,SNR=4.6						
PETK	**Petropavlovsk-**	**76.63**	**351**	P	**P**	**17 59 59.1**	**-0.2**
	2.0nm,1.1s,baz=116,slow=14,SNR=3.6						
SYO	**Syowa Base**	**82.19**	**196⇑**	*e*X	P	18 00 23.4	-6.1
CMAR	**Chiang Mai Arr**	**82.28**	**294**	P	**P**	**18 00 31.8**	**+0.9**
	1.9nm,0.9s,baz=139,slow=3.5,SNR=7.3						
SONM	**Songino Array**	**91.61**	**322**	P	**P**	**18 01 17.2**	**+1.3**
	0.3nm,0.6s,baz=119,slow=8.4,SNR=2.1						
ILAR	**Eielson Array**	**92.92**	**16**	P	**P**	**18 01 18.8**	**-2.6**
	1.1nm,1.0s,baz=230,slow=5.6,SNR=4.4						
KHC	**Kasperske Hory**	**148.68**	**332**	*e*PKP	**PKPbc**	**18 07 57.5**	**+1.6**
GERES	**GERESS Array B**	**148.85**	**332**	PKPbc	**PKPbc**	**18 07 55.8

0.9nm,0.5s,baz=170,slow=4.5,SNR=5.8
NRIK Noril'sk 150.97 44 PKPbc **PKPbc 18 37 08.3 -2.0**
3.6nm,0.7s,baz=180,slow=3.0,SNR=3.7
INK Inuvik 151.24 314 PKPbc **PKPbc 18 37 10.1 -0.8**
5.6nm,0.9s,baz=159,slow=3.4,SNR=6.4
ILAR Eielson Array 155.24 303 PKPab **PKPab 18 37 35.1 -1.0**
0.9nm,0.8s,baz=146,slow=2.0,SNR=5.1

SOME ***27*** *18:21:04.2, 45.°63N×83.°18E, h15km*
NNC ***27*** *18:21:05.6±1.0, 45.°67N×83.°18E, h0km, mb3.0, mpv3.0, Error ellipse: s-maj=9.1km s-min=5.8km az=57.0*
ISCJB ***27*** *18:21:11.0±1.0, 45.°80N±0.°05×83.°07E±0.°09, h10km, Error ellipse: s-maj=9.6km s-min=5.8km az=33.4*

ISC 27 18:21:05.3±1.4, 45.°68N±0.°07×83.°22E±0.°06, h10km, n9, σ0s97/14, 2C-4D, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MK31	**Makanchi Array**	**1.29**	**330**	⇓P	**Pg**	**18 21 29.6**	**-0.4**
	1.2nm,0.1s,baz=152,slow=17,SNR=664						
MK31				⇑S	**Sg**	**18 21 47.4**	**+0.7**
	38nm,0.4s,baz=149,slow=30,SNR=42						
MAKZ	**Makanchi**	**1.42**	**323**	⇑P	**Pg**	**18 21 31.8**	**-0.7**
	7.7nm,0.3s						
MAKZ				⇓S	**Sg**	**18 21 51.3**	**+0.4**
	8.2nm,0.2s						
ZSN	**Zaisan**	**2.11**	**32**	*e*P	**Pg**	**18 21 45.2**	**-0.5**
	0.9nm,0.1s						
ZSN				*e*S	**Sg**	**18 22 13.9**	**+1.0**
	20nm,0.5s						
KAPS	**Kapalarasan**	**2.74**	**263**	*e*P	**Pb**	**18 21 53.8**	**-0.7**
	2.0nm,0.3s						
KAPS				*e*S	**Sb**	**18 22 28.3**	**+0.2**
	9.1nm,0.3s						
DJR	**Jarkent**	**2.78**	**242**	*e*P	**Pb**	**18 21 53.8**	**-1.3**
	4.7nm,0.4s						
DJR				*e*S	**Sb**	**18 22 28.8**	**-0.4**
	8.9nm,0.6s						
MNBS	**Baschi**	**3.78**	**247**	*e*P	**Pb**	**18 22 12.3**	**+0.2**
	3.0nm,0.6s						
MNBS				*e*S	**Sb**	**18 22 59.9**	**+1.9**
	10nm,0.2s						
KPKS	**Kokpek**	**3.92**	**237**	*e*P	**Pb**	**18 22 14.3**	**-0.3**
	7.9nm,0.4s						
KPKS				*e*S	**Sb**	**18 23 03.3**	**+1.2**
	20nm,0.5s						
KURBB	**Kurchatov Arra**	**5.86**	**329**	⇓Lg	Lg	18 24 09.7	
	18nm,0.8s						
KURK	**Kurchatov**	**5.90**	**330**	⇓Lg	Lg	18 24 10.1	
	4.3nm,0.5s						

MEX 27 18:21:48.5±0.8, 15.°88N×95.°73W, h13km±49km, MD3.7, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HUIG	**Huatulco**	**0.38**	**254**	*e*P	Pg	18 21 55.2	-0.9
HUIG				*i* S	Sg	18 22 01.2	0.0
VHO	**Vista Hermosa**	**1.53**	**321**	*i* P	Pn	18 22 13.3	-2.4
VHO				*i* S	Sn	18 22 30.3	-5.3
PNIG	**Pinotepa**	**2.36**	**283**	*e*P	Pn	18 22 24.2	-2.8
PNIG				*i* S	Sn	18 22 51.0	-4.8

CSEM ***27*** *18:24:17.8±1.1, 36.°40N×25.°40E, h11km±6km, ML2.3, Error ellipse: s-maj=44.4km s-min=26.8km az=75.0*
ATH ***27*** *18:24:18.7, 36.°39N×25.°39E, h8km±3km, ML2.0/3, Error ellipse: s-maj=3.6km s-min=1.7km az=124.0*

THE 27 18:24:19.4, 36.°40N×25.°39E, h2km±1km, ML2.3/5, Error ellipse: s-maj=1.2km s-min=0.3km az=197.0, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
THR3	**Thira Island,**	**0.01**	**50**	P	Pg	18 24 20.0	+0.2
THR3	**Thira Island,**	**0.01**	**50**	P	Pg	18 24 20.0	+0.2
THR3	**Thira Island,**	**0.01**	**50**	P	Pg	18 24 19.8	-0.1
THR5	**Thira Island,**	**0.04**	**299**	P	Pg	18 24 20.2	+0.1
THR5	**Thira Island,**	**0.04**	**299**	P	Pg	18 24 20.2	+0.1
THR5	**Thira Island,**	**0.04**	**299**	P	Pg	18 24 19.9	-0.3
THT1	**Athinios (Pele**	**0.04**	**112**	P	Pg	18 24 20.2	+0.1
THT1				S	Sg	18 24 21.0	+0.3
THT1	**Athinios (Pele**	**0.04**	**112**	P	Pg	18 24 20.2	+0.1
THT1				S	Sg	18 24 20.6	-0.1
THT1				AML	AML	18 24 21.1	
	comp=E,2915μm,0.1s						
THT1				AML	AML	18 24 21.1	
	comp=N,2532μm,0.1s						
THR7	**Fira-Santorini**	**0.04**	**56**	P	Pg	18 24 20.5	+0.3
THR7	**Fira-Santorini**	**0.04**	**56**	P	Pg	18 24 20.5	+0.3
SAP1	**Santorini-Akro**	**0.04**	**170**	P	Pg	18 24 20.8	+0.5
SAP1				S	Sg	18 24 21.1	+0.3
THR6	**Thira Island,**	**0.04**	**169**	P	Pg	18 24 20.6	+0.3
THR6	**Thira Island,**	**0.04**	**169**	P	Pg	18 24 20.1	-0.2
THR6	**Thira Island,**	**0.04**	**169**	P	Pg	18 24 20.1	-0.2
SAP2K	**Karterados**	**0.05**	**77**	P	Pg	18 24 20.7	+0.3
SAP2K				S	Sg	18 24 21.9	+0.8
SAP2K				AML	AML	18 24 22.2	
	comp=E,6675μm,0.2s						
SAP2K				AML	AML	18 24 22.9	
	comp=N,8680μm,0.3s						
THR2	**Thira island,**	**0.06**	**40**	P	Pg	18 24 19.8	-0.8
THR2	**Thira island,**	**0.06**	**40**	P	Pg	18 24 19.8	-0.8
SANT	**Santorini**	**0.07**	**116**	P	Pg	18 24 20.9	+0.2
SANT				S	Sg	18 24 22.1	+0.5
SANT	**Santorini**	**0.07**	**116**	P	Pg	18 24 20.9	+0.2
SANT				S	Sg	18 24 22.2	+0.6
SANT	**Santorini**	**0.07**	**116**	P	Pg	18 24 21.2	+0.5
SANT				AML	AML	18 24 22.2	
	comp=N,1392μm,0.1s						
SANT				S	Sg	18 24 22.2	+0.6
SANT				AML	AML	18 24 22.3	
	comp=E,3604μm,0.1s						
CMBO	**Columbo, Santo**	**0.07**	**12**	P	Pg	18 24 21.0	+0.1
CMBO				S	Sg	18 24 22.7	+0.9
CMBO	**Columbo, Santo**	**0.07**	**12**	P	Pg	18 24 21.0	+0.1
CMBO				S	Sg	18 24 22.7	+0.9
CMBO	**Columbo, Santo**	**0.07**	**12**	P	Pg	18 24 21.3	+0.4
CMBO				S	Sg	18 24 23.1	+1.3
SAP4	**Santorini-Oia**	**0.07**	**351**	P	Pg	18 24 21.5	+0.6
THR8	**Santorini-Mono**	**0.07**	**84**	P	Pg	18 24 19.0	-1.8

ISCJB ***27*** *18:25:43.2±1.1, 21.°7N±0.°1×144.°4E±0.°3, h114km, mb3.5/6, Error ellipse: s-maj=40.9km s-min=15.7km az=173.9*
IDC ***27*** *18:25:50.0±6.6, 21.°75N×144.°29E, h163km±62km, mb3.1/6, mb1 3.3/7, mb1mx3.1/47, mbtmp3.6/7, Error ellipse: s-maj=39.8km s-min=15.7km az=91.0*

ISC 27 18:25:45.3±1.1, 21.°7N±0.°1×144.°3E±0.°3, h114km, n8, σ0s93/8, mb3.5/6, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MJAR	**Matsushiro Arr**	**15.69**	**342**	P	**Pn**	**18 29 20.5**	**+0.5**
	0.3nm,0.3s,baz=157,slow=13,SNR=3.4						
KSRS	**Korea Array**	**21.13**	**322**	P	**P**	**18 30 21.8**	**+0.9**
	2.3nm,0.8s,baz=142,slow=8.4,SNR=12						
WRA	**Warramunga Arr**	**42.53**	**194**	P	**P**	**18 33 30.0**	**+0.3**
	0.6nm,0.5s,baz=12,slow=8.7,SNR=24						
ASAR	**Alice Springs**	**46.23**	**193**	P	**P**	**18 33 58.9**	**-0.2**
	0.1nm,0.3s,baz=14,slow=6.5,SNR=7.5						
MKAR	**Makanchi Array**	**55.44**	**313**	P	**P**	**18 35 07.6**	**-0.4**
	0.3nm,0.5s,baz=93,slow=6.6,SNR=3.8						
ILAR	**Eielson Array**	**61.56**	**27**	P	**P**	**18 35 49.9**	**-0.2**
	0.3nm,0.8s,baz=270,slow=5.2,SNR=4.0						
FINES	**FINESS Array B**	**83.60**	**335**	P	**P**	**18 37 59.5**	**-1.2**
	1.6nm,0.7s,baz=44,slow=4.4,SNR=6.5						
LPAZ	**La Paz**	**148.92**	**86**	PKPbc	**PKPdf**	**18 45 18.5**	**+1.3**
	1.7nm,0.5s,baz=281,slow=4.4,SNR=5.5						

GUC 27 18:43:03.6±0.4, 23.°99S×67.°81W, h230km±11km, ML3.9, 5C-2D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PB06	**IPOC Station P**	**2.06**	**308**	⇑*i*P	Pn	18 43 46.6	+1.3
PB06				*i* S	S	18 44 19.6	+1.8
PB06				IAML		18 44 21.3	
	comp=N,304nm,0.1s						
PB09	**IPOC Station P**	**2.55**	**329**	⇑*i*P	Pn	18 43 52.5	+2.2
PB09				*i* S	S	18 44 29.7	+3.0
PB09				IAML		18 44 32.3	
	comp=E,314nm,0.6s						
PB10	**IPOC Station P**	**2.56**	**280**	⇓*i*P	Pn	18 43 51.9	+1.8
PB10				*i* S	S	18 44 28.4	+1.9
PB10				IAML		18 44 33.8	
	comp=E,201nm,0.3s						
PB04	**IPOC Station P**	**2.71**	**307**	⇓*i*P	Pn	18 43 54.1	+2.1
PB04				*i* S	S	18 44 33.0	+3.3
PB04				IAML		18 44 34.9	
	comp=N,158nm,0.2s						
PB07	**IPOC Station P**	**2.96**	**319**	⇑*i*P	Pn	18 43 56.6	+2.0
PB07				*i* S	S	18 44 37.2	+2.6
PB07				IAML		18 44 40.2	
	comp=N,133nm,0.1s						
PB02	**IPOC Station P**	**3.28**	**324**	⇑*i*P	Pn	18 44 00.2	+1.9
PB02				*i* S	S	18 44 43.7	+2.5
PB02				IAML		18 44 49.4	
	comp=E,141nm,0.1s						
PB01	**IPOC Station P**	**3.32**	**332**	⇑*i*P	Pn	18 44 00.8	+2.1
PB01				*i* S	S	18 44 44.4	+2.5
PB01				IAML		18 44 49.6	
	comp=E,59nm,0.3s						

TRN 27 18:44:31.7, 17.°18N×62.°22W, h19km, MD3.7, Leeward Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NEV	**Hard Times**	**0.34**	**263**	*e*P	Pn	18 44 40.8	-0.9
NEV				*e*S	Sn	18 44 47.0	-1.2
BPA	**Boggy Peak**	**0.37**	**111**	*e*P	Pn	18 44 42.0	-0.1
BPA				*e*S	Sn	18 44 47.2	-1.6
MLYT	**Lee's Yard**	**0.46**	**177**	*e*P	Pb	18 44 41.7	+0.4
MLYT				*e*S	Sn	18 44 51.3	+0.3
ANWB	**Willy Bob**	**0.64**	**40**	*e*P	Pn	18 44 46.8	+1.0
ANWB				*e*S	Sn	18 44 56.9	+1.5
SMRT	**St. Maarten**	**1.19**	**317**	*i* P	Pg	18 44 55.5	+0.7
SMRT				*e*S	Sg	18 45 11.7	+1.3
DEG	**La Desirade**	**1.40**	**128**	*e*P	Pb	18 44 57.9	+0.5
DEG				*e*S	Sg	18 45 17.1	0.0
MGG	**Marie-Galante**	**1.52**	**145**	*e*P	Pg	18 45 00.6	-0.4
MGG				*e*S	Sg	18 45 20.8	-0.1
BBL	**Barber's Block**	**1.79**	**156**	*i* P	Pb	18 45 03.9	-0.1
BBL				*e*S	Sb	18 45 26.5	+0.4
DWS	**Wesley**	**1.82**	**151**	*e*P	Pb	18 45 03.9	-0.6
DWS				*e*S	Sb	18 45 28.0	+1.0

KRNET ***27*** *19:01:27.6±0.1, 38.°33N×71.°91E, mb4.6*
BJI ***27*** *19:01:27.7, 38.°35N×71.°52E, h8km, mb4.4/27, mB4.7/12, ML4.7/3, Ms4.3/14, Ms7 4.0/13*
ISCJB ***27*** *19:01:28.6±0.2, 38.°31N±0.°02×71.°98E±0.°02, h10km, mb4.6/106, MS3.9/36, Error ellipse: s-maj=2.9km s-min=2.5km az=145.7*
IDC ***27*** *19:01:28.4±0.5, 38.°46N×71.°91E, h0km, mb4.5/32, mb1 4.6/39, mb1mx4.5/60, mbtmp4.5/39, ML4.0/7, MS3.8/28, Ms1 3.8/28, ms1mx3.7/53, Error ellipse: s-maj=10.8km s-min=7.7km az=8.0*
MOS ***27*** *19:01:34.4±1.4, 38.°58N×72.°03E, h49km, mb4.8/59, Error ellipse: s-maj=5.4km s-min=3.8km az=118.4*
NEIC ***27*** *19:01:35.4±0.9, 38.°54N×71.°95E, h48km±8km, mb4.8/20, Error ellipse: s-maj=7.2km s-min=4.6km az=181.0*
SOME ***27*** *19:01:37.6, 38.°82N×72.°25E, h5km*
NNC ***27*** *19:01:40.3±3.7, 39.°16N×72.°00E, h0km, mb5.1, mpv4.8, Error ellipse: s-maj=32.4km s-min=21.4km az=30.0*

ISC 27 19:01:31.1±0.3, 38.°30N±0.°02×71.°78E±0.°03, h10km, n321, σ2s30/345, mb4.6/107, MS3.9/37, 45C-39D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BTK	**Batken**	**1.82**	**336**	⇓*i*P	**Pn**	**19 02 03.5**	**+0.8**
	baz=334						
BTK				⇓*i*S	**Sg**	**19 02 31.8**	**+2.0**
	baz=334						
OHH	**Osh**	**2.27**	**20**	⇑*i*P	**Pn**	**19 02 08.5**	**-0.2**
	baz=17						
OHH				⇑*i*S	**Sb**	**19 02 38.1**	**-2.2**
	baz=17						
ARSB	**Arslanbob**	**3.07**	**17**	⇓*e*P	**Pn**	**19 02 20.1**	**+0.2**
	baz=15						
ARSB				⇓*i*S	**Sn**	**19 02 58.8**	**+2.1**
	baz=15						
KSH	**Kashi**	**3.45**	**70**	⇑*i*Pn	**Pn**	**19 02 22.0**	**-3.1**
KSH				Sn	**Sn**	**19 03 01.5**	**-4.7**
KSH				smax	smax		
	comp=N,1μm,0.9s						
KSH				smax	smax		
	comp=E,2μm,1.0s						
IUG	**Iuzhnay**	**3.98**	**341**	*e*P	**Pb**	**19 02 44.7**	**+3.2**
	1μm,0.7s						
IUG				*e*S	**Sb**	**19 03 33.2**	**+3.5**
	2μm,0.8s						
AML	**Almayashu**	**4.01**	**21**	⇓*i*P	**Pn**	**19 02 33.1**	**+0.1**
	baz=19						
AML				⇓*i*S	**Sn**	**19 03 20.8**	**+0.5**
	baz=19						
MNAS	**Manas**	**4.13**	**7**	⇑*i*P	**Pn**	**19 02 34.5**	**+0.1**
	baz=6.0						
MNAS				⇑*i*S	**Sn**	**19 03 22.9**	**+0.1**
	baz=6.0						
MNAS	**Manas**	**4.13**	**7**	⇑Pn	**Pn**	**19 02 34.5**	**+0.1**
	625nm,1.3s						
MNAS				⇑Lg	Lg	19 03 25.3	
	1μm,1.3s						
MNAS	**Manas**	**4.13**	**7**	*e*PN	**Pn**	**19 02 34.4**	**+0.1**
CHM	**Chimkent**	**4.26**	**338**	*e*P	**Pg**	**19 02 52.3**	**-0.5**
	140nm,0.4s						
CHM				*e*S	**Sg**	**19 03 46.2**	**-1.8**
	1μm,0.8s						
KBL	**Kabul**	**4.43**	**211**	PN	Pn	19 02 45.2	+6.6
MRKS	**Merke**	**4.49**	**14**	*e*P	**Pb**	**19 02 46.0**	**-4.0**
	232nm,0.7s						
MRKS				*e*S	**Sn**	**19 03 36.0**	**+4.5**
	1μm,0.6s						
DZA	**Taraz**	**4.51**	**356**	*e*P	**Pg**	**19 02 55.3**	**-2.2**
	506nm,0.6s						
DZA				*e*S	**Sg**	**19 03 51.9**	**-4.0**
	958nm,0.8s						
EKS2	**Erkin-Say**	**4.53**	**19**	⇓*i*P	**Pn**	**19 02 40.0**	**+0.1**
	baz=18						
EKS2				⇓*i*S	**Sn**	**19 03 32.7**	**+0.1**
	baz=18						
KZA	**Kyzart**	**4.54**	**35**	⇑*i*P	**Pn**	**19 02 40.4**	**+0.1**
	baz=33						
KZA				⇑*i*S	**Sn**	**19 03 33.6**	**+0.3**
	baz=33						
CEP	**Cherat**	**4.56**	**179**	P	Pn	19 02 45.8	+5.5
CEP				S	**Sb**	**19 03 53.0**	**+6.6**
AAK	**Ala-Archa**	**4.72**	**25**	Pn	**Pn**	**19 02 43.0**	**+0.4**
	8.1nm,0.3s,baz=190,slow=9.6,SNR=80						
AAK				Sn	**Sn**	**19 03 42.2**	**+4.8**
	11nm,0.3s,baz=298,slow=16,SNR=5.2						
AAK				LR	LR	19 04 36.5	
	comp=Z,1μm,20.1s,baz=204,slow=41						
AAK	**Ala-Archa**	**4.72**	**25**	⇓*i*P	**Pn**	**19 02 42.9**	**+0.4**
	baz=24						
AAK				⇓*i*S	**Sn**	**19 03 37.6**	**+0.2**
	baz=24						
AAK	**Ala-Archa**	**4.72**	**25**	⇓Pn	**Pn**	**19 02 44.1**	**+1.6**
	259nm,1.1s						
AAK				⇑Lg	Lg	19 03 41.9	
	371nm,0.8s						
AAK	**Ala-Archa**	**4.72**	**25**	*e*Pn	**Pn**	**19 02 42.4**	**-0.1**
AAK				Sn	**Sn**	**19 03 42.2**	**+4.8**
KK31	**Karatay Array**	**4.80**	**349**	Pn	**Pn**	**19 02 44.0**	**+0.4**
	142nm,0.6s,baz=174,slow=13,SNR=2046						
KK31				⇓Pg	**Pb**	**19 02 58.9**	**+3.5**
	70nm,0.5s,baz=156,slow=12,SNR=7.3						
KK31				⇓Sn	**Sn**	**19 03 33.0**	**-6.3**
	98nm,0.5s,baz=170,slow=23,SNR=4.8						
KK31				⇑Lg	Lg	19 03 54.4	
	137nm,0.6s						
KK31	**Karatay Array**	**4.80**	**349**	PN	**Pn**	**19 02 44.0**	**+0.4**
KKAR	**Karatay Array**	**4.80**	**349**	*e*PN	**Pn**	**19 02 43.8**	**+0.2**
KKAR	**Karatay Array**	**4.80**	**349**	*e*Pn	**Pn**	**19 02 43.8**	**+0.2**
CHCP	**Chirah Chowk**	**4.87**	**165**	P	Pn	19 02 49.6	+5.0
KBK	**Karagaybulak**	**4.89**	**29**	⇑*i*P	**Pn**	**19 02 45.0**	**0.0**
	baz=27						
KBK				⇑*i*S	**Sn**	**19 03 42.3**	**+0.6**
	baz=27						
FRU	**Bishkek**	**4.93**	**25**	*e*PN	**Pn**	**19 02 47.0**	**+1.7**
FRU				*e*S	**Sn**	**19 03 43.0**	**+0.5**
FRU				pmax	pmax		
	comp=Z,880nm,1.6s						
FRU				pmax	pmax		
	comp=N,920nm,1.6s						
FRU				MLR	MLR		
	comp=E,10μm,8.0s						
CHMS	**Chumysh**	**5.12**	**25**	⇓*i*P	**Pn**	**19 02 48.1**	**+0.1**
	baz=24						
CHMS				⇓*i*S	**Sn**	**19 03 47.4**	**+0.2**
	baz=24						
ULHL	**Ulahol**	**5.14**	**40**	⇑*i*P	**Pn**	**19 02 48.2**	**-0.2**
	baz=39						
ULHL				⇑*i*S	**Sn**	**19 03 47.7**	**-0.2**
	baz=39						
USP	**Ospenovka**	**5.29**	**22**	⇓*i*P	**Pn**	**19 02 49.9**	**-0.3**
	baz=21						
USP				⇓*i*S	**Sn**	**19 03 50.3**	**-0.9**
	baz=21						
TKM2	**Tokmak 2**	**5.37**	**31**	⇑*i*P	**Pn**	**19 02 51.6**	**0.0**
	baz=30						
TKM2				⇑*i*S	**Sn**	**19 03 53.4**	**-0.2**
	baz=30						
TKM2	**Tokmak 2**	**5.37**	**31**	⇑Pn	**Pn**	**19 02 52.2**	**+0.6**
	comp=E,270nm,1.1s						
TKM2				⇓Lg	Lg	19 04 09.4	
	comp=E,283nm,0.8s						
TKM2	**Tokmak 2**	**5.37**	**31**	PN	**Pn**	**19 02 52.2**	**+0.6**
THW	**Thamme Wali**	**5.58**	**180**	P	**Pn**	**19 02 58.1**	**+3.8**
KST	**Kastek**	**5.63**	**33**	*e*P	Pb	19 03 12.7	+3.2
	comp=E,25nm,0.8s						
KST				*e*S	**Sb**	**19 04 21.2**	**+4.2**
	comp=E,286nm,1.0s						
DGS	**Degeres**	**5.71**	**31**	*e*P	**Pb**	**19 03 14.0**	**+3.0**
	comp=E,111nm,0.7s						
DGS				*e*S	**Sb**	**19 04 23.7**	**+4.2**
	comp=E,320nm,1.3s						
MTBS	**Maitube**	**5.90**	**35**	*e*P	**Pg**	**19 03 19.8**	**-4.3**
	comp=E,57nm,0.8s						
MTBS				*e*S	**Sg**	**19 04 33.6**	**-6.9**
	comp=E,48nm,0.8s						
IZV	**Izvestkoviy**	**5.91**	**37**	*e*P	**Pb**	**19 03 17.2**	**+2.8**
	comp=E,96nm,0.5s						
IZV				*e*S	**Sb**	**19 04 28.8**	**+3.5**
	comp=E,339nm,0.8s						
MDOK	**Medeo**	**6.22**	**38**	⇓Pn	**Pn**	**19 03 03.4**	**+0.2**
MDOK				⇑Lg	Lg	19 04 33.4	
MDOK	**Medeo**	**6.22**	**38**	*e*P	Pb	19 03 23.8	+4.2
	comp=E,53nm,0.8s						
MDOK				*e*S	Sb	19 04 40.9	+6.8
	comp=E,187nm,1.0s						
SATY	**Saty**	**6.86**	**45**	*e*P	Pb	19 03 35.5	+5.0
	comp=E,168nm,1.1s						
SATY				*e*S	Sb	19 04 59.8	+7.4
	comp=E,279nm,1.8s						
DHRM	**DHARAMSHALA**	**7.15**	**148**	*e*P	**Pn**	**19 03 17.4**	**+1.4**
DHRM				*ex*	**Sn**	**19 04 40.0**	**+2.5**
UZB	**Uzynbulak**	**7.26**	**47**	*e*P	Pb	19 03 43.2	+5.9
	comp=E,33nm,1.1s						
UZB				*e*S	Sg	19 05 13.9	-10
	comp=E,149nm,1.7s						
KPKS	**Kokpek**	**7.28**	**44**	*e*P	Pb	19 03 42.8	+5.2
	comp=E,100nm,0.8s						
KPKS				*e*S	Sg	19 05 13.3	-11
	comp=E,120nm,1.0s						
PDGK	**Podgornoye**	**7.64**	**47**	⇓Pn	**Pn**	**19 03 21.7**	**-0.9**
	comp=E,24nm,1.0s						
PDGK				⇑Lg	Lg	19 05 20.8	
	comp=E,128nm,1.1s						
PDGK	**Podgornoye**	**7.64**	**47**	*e*P	**Pn**	**19 03 22.9**	**+0.3**
SDNR	**Sundarnagar**	**8.09**	**147**	*e*P	**Pn**	**19 03 30.0**	**+1.3**
SMLA	**Simla**	**8.49**	**147**	*e*P	**Pn**	**19 03 37.1**	**+2.9**
SMLA				*e*S	**Sn**	**19 05 05.1**	**-4.9**
GEYT	**Alibeck**	**10.77**	**272**	Pn	**Pn**	**19 04 03.5**	**-2.0**
	comp=E,2.4nm,0.3s,baz=91,slow=10,SNR=24						
GEYT				Sn	**Sn**	**19 06 02.4**	**-3.8**
	comp=E,3.6nm,0.3s,baz=100,slow=16,SNR=6.3						
GEYT				LR	LR	19 09 17.9	
	comp=E,848nm,19.5s,baz=110,slow=43						
MK31	**Makanchi Array**	**11.41**	**39**	⇑Pn	**Pn**	**19 04 13.6**	**-0.6**
	comp=E,58nm,1.2s,baz=227,slow=13,SNR=126						
MK31				⇓Lg	Lg	19 07 43.2	
	comp=E,38nm,1.4s						
MK31	**Makanchi Array**	**11.41**	**39**	*e*P	**Pn**	**19 04 13.6**	**-0.6**
MKAR	**Makanchi Array**	**11.41**	**39**	Pn	**Pn**	**19 04 13.3**	**-0.9**
	comp=E,1.1nm,0.3s,baz=224,slow=10,SNR=59						
MKAR				LR	LR	19 08 46.9	
	comp=E,666nm,20.3s,baz=224,slow=39						
KURBB	**Kurchatov Arra**	**13.13**	**19**	Pn	Pn	19 04 33.0	-4.6
	comp=E,0.1nm,0.3s,baz=216,slow=13,SNR=4.2						
WMQ	**Urumqi**	**13.16**	**61**	P	**Pn**	**19 04 41.0**	**+2.9**
WMQ				pP	P	19 04 44.3	-4.0
WMQ				sP		19 04 47.5	
WMQ				pmax	pmax		
	comp=E,15nm,1.1s						
WMQ				LR	LR		
	comp=E,1μm,9.7s						
WMQ				LR	LR		
	comp=E,910nm,6.5s						
WMQ				LR	LR		
	comp=E,860nm,25.5s						
KURK	**Kurchatov**	**13.24**	**19**	⇑*i*P	**Pn**	**19 04 34.9**	**-4.2**
KURK				pmax	pmax		
	comp=Z,92nm,1.7s						
KURK	**Kurchatov**	**13.24**	**19**	*e*Pn	Pn	19 04 34.5	-4.6
	comp=Z,77nm,0.8s						
AB31	**Akbulak array**	**13.80**	**326**	Pn	Pn	19 04 42.2	-4.5
	comp=Z,16nm,0.8s,baz=136,slow=12,SNR=112						
AB31				⇑Lg	Lg	19 07 09.1	
	comp=Z,23nm,0.7s						
AB31	**Akbulak array**	**13.80**	**326**	P	Pn	19 04 42.2	-4.5
ABKAR	**Akbulak array**	**13.80**	**326**	*e*Pn	Pn	19 04 42.6	-4.1
	comp=Z,12nm,0.6s						
PYUN	**Piuthan**	**13.89**	**134**	*e*P	**Pn**	**19 04 45.6**	**-2.7**
	comp=Z,63nm,0.7s						
DANN	**Dangsing**	**14.14**	**132**	*e*P	**Pn**	**19 04 48.6**	**-3.2**
	comp=Z,13nm,1.0s						
KOLN	**Koldanda**	**14.49**	**134**	*e*P	**Pn**	**19 04 54.5**	**-2.0**
	comp=Z,17nm,0.4s						
BVAR	**Borovoye Array**	**14.67**	**357**	Pn	**Pn**	**19 04 55.2**	**-3.4**
	comp=Z,1.0nm,0.3s,baz=164,slow=11,SNR=39						
BVAR				Sn	**Sn**	**19 07 32.7**	**-8.3**
	comp=Z,0.7nm,0.3s,baz=165,slow=30,SNR=8.7						
BRVK	**Borovoye**	**14.71**	**356**	*ce*P	**Pn**	**19 04 56.0**	**-3.1**
BRVK				pmax	pmax		
	comp=Z,133nm,1.2s						
BRVK	**Borovoye**	**14.71**	**356**	*e*Pn

NVS *i* 19 08 54.7
LSA Lhasa 18.22 113 P **Pn** **19 05 42.3 -2.3**
LSA Lhasa 18.22 113 *e*P **Pn** **19 05 42.9 -1.7**
LSA pmax pmax
comp=Z,15nm,0.9s
LSA Lhasa 18.22 113 *e*P **Pn** **19 05 42.9 -1.7**
comp=Z,15nm,0.9s
NGP Nagpur 18.29 158 *e*P **P** **19 05 48.4 +3.2**
NGP IAmb IAmb 19 05 55.7
comp=Z,158nm,2.2s
WSAR Wadi Sarin 18.83 220 P **Pn** **19 05 55.0 +3.3**
comp=Z,0.2nm,0.3s,baz=68,slow=16,SNR=5.3
WSAR LR LR 19 14 55.8
comp=Z,156nm,18.6s,baz=39,slow=43
BOK Bokaro 18.88 136 *e*P **P** **19 05 49.1 -2.5**
BOK IAmb IAmb 19 05 54.1
comp=Z,15nm,0.5s
MAK Makhachkala 18.95 292 *e*P **P** **19 05 50.0 -2.3**
MAK *e*S **Sn** **19 09 26.5 +1.5**
MAK pmax pmax
comp=Z,250nm,1.9s
MAK MLR MLR
comp=Z,1µm,15.0s
HATD Hatta, Dubai 18.95 229 P **Pn** **19 05 55.5 +2.4**
ASHO Ashiyiah 19.10 229 *i* P **P** **19 05 56.9 +2.7**
SNR=5.2
FAQ Al Faqa, Dubai 19.34 230 P **Pn** **19 06 00.3 +2.6**
SVE Sverdlovsk 19.87 342 ⇓*i*P **P** **19 06 00.5 -1.7**
SVE pmax pmax
comp=Z,21nm,0.9s
SVE MLR MLR
comp=Z,247nm,10.0s
POO Poona 19.87 174 *e*P **P** **19 06 04.5 +1.9**
ARU Arti 20.08 338 P **P** **19 06 01.7 -2.8**
comp=Z,23nm,0.7s,baz=140,slow=6.7,SNR=17
ARU LR LR 19 13 08.9
comp=Z,119nm,18.9s,baz=134,slow=35
ARU Arti 20.08 338 *e*P **P** **19 06 05.3 +0.8**
ARU Arti 20.08 338 *e*P **P** **19 06 03.2 -1.3**
comp=Z,57nm,1.0s
GROC Groznyy 20.22 292 *e*P **P** **19 06 07.5 +1.3**
GROC *e* 19 06 23.8
GROC pmax pmax
comp=Z,311nm,1.3s
TBLG Delisi 20.93 288 P **P** **19 06 14.7 +0.7**
TBLG Delisi 20.93 288 *e*P **P** **19 06 14.7 +0.7**
DUS Dusheti 20.97 289 P **P** **19 06 17.4 +3.0**
DUS Dusheti 20.97 289 *e*P **P** **19 06 17.4 +3.0**
GNI Garni 20.98 283 P **P** **19 06 17.0 +2.3**
comp=Z,40nm,0.9s,baz=39,slow=3.6,SNR=13
GNI LR LR 19 16 10.3
comp=Z,162nm,19.0s,baz=104,slow=42
GNI Garni 20.98 283 *i* P **P** **19 06 16.2 +1.5**
SNR=18
GUDG Gudauri 21.14 290 P **P** **19 06 17.5 +1.1**
SHL Shillong 21.26 121 *e*P **P** **19 06 15.9 -1.8**
SHL IAmb IAmb 19 06 24.4
comp=Z,52nm,0.2s
ZEI Tsey 21.58 291 *e*P **P** **19 06 19.2 -1.9**
ZEI pmax pmax
comp=Z,73nm,0.6s
HYB Hyderabad 21.72 162 *e*P **P** **19 06 25.4 +2.8**
HYB IAmb IAmb 19 06 27.9
comp=Z,16nm,0.8s
GTA Gaotai 21.81 79 P **P** **19 06 22.8 -0.7**
GTA pP sP 19 06 28.0 +0.3
GTA sP pP 19 06 30.8 +4.4
GTA S **S** **19 10 27.3 +2.6**
GTA sS Sn 19 10 32.5 -1.6
GTA pmax pmax
comp=Z,19nm,1.1s
GTA pmax pmax
comp=Z,130nm,4.4s
GTA LR LR
comp=Z,380nm,17.1s
GTA LR LR
comp=Z,480nm,17.1s
GTA LR LR
comp=Z,530nm,18.5s
NCK Nalchik 21.84 292 ⇑*i*P **P** **19 06 23.5 -0.2**
NCK pmax pmax
comp=Z,80nm,0.8s
AKH Akhalkalaki 21.87 287 P **P** **19 06 26.3 +2.1**
AKH Akhalkalaki 21.87 287 *e*P **P** **19 06 26.3 +2.1**
ONI Oni 21.90 290 P **P** **19 06 26.5 +2.0**
ONI Oni 21.90 290 *e*P **P** **19 06 26.4 +2.0**
KBZ Khabaz 22.36 293 P **P** **19 06 28.2 -1.0**
comp=Z,14nm,0.8s,baz=122,slow=5.1,SNR=17
KBZ S **S** **19 10 37.2 +2.3**
comp=Z,2.8nm,0.8s,baz=209,slow=9.9,SNR=2.9
KBZ LR LR 19 17 09.1
comp=Z,411nm,20.1s,baz=89,slow=42
GOF Gofitskoye 22.39 297 ⇑*e*P **P** **19 06 31.6 +2.1**
GOF pmax pmax
comp=Z,176nm,1.8s
NEY Neytrino 22.46 292 ⇑*i*P **P** **19 06 31.3 +0.7**
NEY pmax pmax
comp=Z,2.0nm,0.7s
KVAR Kislovodsk Arr 22.52 294 P **P** **19 06 30.8 -0.3**
comp=Z,21nm,0.7s,baz=81,slow=2.9,SNR=18
KVAR S **S** **19 10 39.7 +1.5**
comp=Z,6.2nm,0.8s,baz=25,slow=14,SNR=3.5
KVAR LR LR 19 17 22.2
comp=Z,442nm,18.5s,baz=74,slow=42
KIV Kislovodsk 22.53 294 *i* P **P** **19 06 30.5 -0.6**
SNR=12
KIV Kislovodsk 22.53 294 *e*P **P** **19 06 30.9 -0.3**
KIV *e*S **S** **19 10 39.4 +1.1**
KIV pmax pmax
comp=Z,35nm,1.1s
KIV MLR MLR
comp=Z,294nm,14.0s
KIV Kislovodsk 22.53 294 *e*P **P** **19 06 30.8 -0.4**
comp=Z,36nm,0.8s
VIS Vishakhapatnam 22.94 151 *e*P **P** **19 06 36.8 +1.3**
SOKR Solikamsk 23.28 341 *c i*P **P** **19 06 36.1 -2.6**
SOKR pmax pmax
comp=Z,20nm,1.3s
SOKR MLR MLR
comp=Z,312nm,17.0s
MOY Mondy 24.35 47 *e*P **P** **19 06 48.4 -0.8**
MOY pmax pmax
comp=Z,56nm,2.5s
SOC Sochi 24.66 292 *e*P P 19 06 45.8 -6.2
SOC *e*PPP PPP 19 07 32.9
SOC *e*S **S** **19 11 07.7 -5.7**
SOC MLR MLR
comp=Z,192nm,15.0s
ZAK Zakamensk 25.30 52 *e*P **P** **19 06 56.4 -1.4**
ZAK pmax pmax
comp=Z,72nm,1.0s
LZH Lanzhou 25.56 85 *e*P **P** **19 07 04.0 +3.6**
LZH pP sP 19 07 11.3 +6.6
LZH sP pP 19 07 14.5 +11
LZH pmax pmax
comp=Z,27nm,1.2s
LZH pmax pmax
comp=Z,87nm,4.5s
TLY Talaya 25.91 49 P **P** **19 07 01.7 -1.5**
comp=Z,3.7nm,0.6s,baz=236,slow=8.0,SNR=4.3
VSR Storozhevoye 26.22 310 *e*P **P** **19 07 04.9 -1.1**
VSR pmax pmax
comp=Z,10.0nm,0.7s
ANN Anapa 26.34 295 *e*P **P** **19 07 07.7 +0.6**
ANN *e*SS 19 12 48.8
ANN pmax pmax
comp=Z,65nm,1.4s
ANN MLR MLR
comp=Z,169nm,13.0s
SONM Songino Array 26.78 58 P **P** **19 07 08.6 -2.7**
comp=Z,1.4nm,0.8s,baz=263,slow=9.9,SNR=9.2
SONM PcP **PcP** **19 10 32.6 -1.4**
comp=Z,0.8nm,0.8s,baz=246,slow=1.0,SNR=3.7
SONM LR LR 19 18 46.7
comp=Z,902nm,21.5s,baz=259,slow=39
LPSR Galich'ya Gora 26.78 313 *e*P **P** **19 07 10.0 -1.0**
LPSR pmax pmax
comp=Z,10.0nm,0.6s
ULN Ulaanbaatar 27.22 58 *e*P **P** **19 07 13.5 -1.8**
ULN pmax pmax
comp=Z,20nm,1.6s
ULN Ulaanbaatar 27.22 58 *e*P **P** **19 07 13.5 -1.8**
comp=Z,20nm,1.6s
MOS Moscow 28.62 318 *e*P **P** **19 07 25.1 -2.3**
SIM Simferopol' 28.70 295 *e*P **P** **19 07 28.6 +0.3**
SIM pmax pmax
comp=Z,43nm,0.7s
SIM MLR MLR
comp=N,170nm,17.8s
OBN Obninsk 28.95 317 P **P** **19 07 28.9 -1.4**
comp=N,13nm,0.5s,baz=140,slow=9.3,SNR=5.1
OBN LR LR 19 19 36.3
comp=N,156nm,21.1s,baz=95,slow=38
OBN Obninsk 28.95 317 ⇑*e*P **P** **19 07 28.8 -1.5**
OBN *e* 19 08 25.2
OBN pmax pmax
comp=Z,17nm,0.7s
OBN MLR MLR
comp=Z,170nm,18.0s
ASF Jabal al Asfar 29.03 268 P **P** **19 07 31.6 +0.1**
comp=Z,0.7nm,0.3s,baz=42,slow=6.9,SNR=2.2
BRTR Keskin Array B 29.50 285 P **P** **19 07 35.7 0.0**
comp=Z,7.2nm,0.8s,baz=106,slow=9.1,SNR=19
BRTR LR LR 19 22 40.7
comp=Z,79nm,18.4s,baz=78,slow=43
BRTR Keskin Array B 29.50 285 *i* P **P** **19 07 36.7 +1.0**
BRTR pmax pmax
comp=Z,7.0nm,0.8s
MMAI Mount Meron Ar 29.89 271 LR LR 19 20 39.2
comp=Z,99nm,18.7s,baz=160,slow=38
KLMR Klimovskoe 30.16 329 *e*P P 19 07 37.4 -3.7
KLMR pmax pmax
comp=Z,14nm,0.9s
CMAR Chiang Mai Arr 30.88 122 P **P** **19 07 46.7 -1.1**
comp=Z,0.7nm,0.7s,baz=308,slow=10,SNR=3.4
CMAR PcP **PcP** **19 10 44.3 -0.3**
comp=Z,1.1nm,0.6s,baz=310,slow=4.3,SNR=4.8
CMAR LR LR 19 20 41.7
comp=Z,113nm,21.3s,baz=325,slow=37
PALK Pallekele 32.01 163 LR LR 19 21 26.4
comp=Z,122nm,20.1s,baz=296,slow=37
NRIK Noril'sk 32.16 10 P **P** **19 07 56.9 -1.6**
comp=Z,15nm,0.9s,baz=200,slow=7.5,SNR=11
NRIK LR LR 19 20 45.1
comp=Z,140nm,18.8s,baz=193,slow=36
AKASG Malin Array Be 32.29 306 P **P** **19 07 58.9 -1.0**
comp=Z,3.8nm,0.6s,baz=79,slow=7.5,SNR=17
AKASG PP **PnPn** **19 09 06.6 +0.6**
comp=Z,2.1nm,0.7s,baz=74,slow=11,SNR=3.4
AKASG LR LR 19 23 28.5
comp=Z,258nm,19.0s,baz=100,slow=41
AKASG Malin Array Be 32.29 306 P **P** **19 07 58.9 -1.0**
AKASG 19 09 06.6
AKASG pmax pmax
comp=Z,5.0nm,0.6s
AKASG pmax pmax
comp=Z,2.0nm,0.7s
AKASG MLR MLR
comp=Z,258nm,19.0s
KIEV Kiev 32.30 306 ⇑*i*P **P** **19 07 59.4 -0.6**
KIEV pmax pmax
comp=Z,18nm,0.8s
KIEV Kiev 32.30 306 *e*P **P** **19 07 59.2 -0.8**
comp=Z,15nm,0.7s
KIS Kishinev 32.38 299 *e*P **P** **19 08 03.0 +2.2**
KIS LRM MLR 19 25 29.0
comp=Z,400nm,13.0s
KIS Kishinev 32.38 299 *e*P **P** **19 08 03.0 +2.2**
KIS MLR MLR
comp=Z,400nm,13.0s
TMCR Tamitsa 32.62 333 *e*P **P** **19 08 04.0 +1.3**
TMCR pmax pmax
comp=Z,34nm,0.7s
SORM Soroca 32.70 302 ⇑*i*P **P** **19 08 03.6 0.0**
SORM Soroca 32.70 302 ⇑⇑P **P** **19 08 03.6 0.0**
CFR Carcaliu 32.92 296 ⇓*i*P **P** **19 08 06.0 +0.5**
CFR Carcaliu 32.92 296 ⇓⇓P **P** **19 08 06.0 +0.5**
BOD Bodaibo 33.50 41 *e*P **P** **19 08 07.7 -2.7**
BOD pmax pmax
comp=Z,13nm,1.2s
VRI Vrincioaia 33.87 297 ⇑*i*P **P** **19 08 16.2 +2.4**
VRI Vrincioaia 33.87 297 ⇑⇑P **P** **19 08 16.2 +2.4**
TESR Tescani 33.89 299 ⇑*i*P **P** **19 08 16.1 +2.1**
PLOR Plostina 33.92 297 ⇓*i*P **P** **19 08 16.3 +2.0**
PLOR Plostina 33.92 297 ⇓⇓P **P** **19 08 16.3 +2.0**
ISR Istrita 34.05 296 P P 19 08 20.7 +5.2
ISR pmax pmax
comp=Z,30nm,1.3s
NACGM Naroch 34.33 314 *e* **P** **19 08 17.0 -0.7**
MLR Muntele Rosu 34.44 297 ⇑*i*P **P** **19 08 20.8 +1.8**
MLR Muntele Rosu 34.44 297 ⇑⇑P **P** **19 08 20.8 +1.8**
JOF Joensuu 34.56 328 P **P** **19 08 19.9 +0.3**
JOF pmax pmax
comp=Z,37nm,0.9s
DOPR Dopca 34.79 298 ⇓*i*P **P** **19 08 24.2 +2.3**
BURAR Bucovina Array 34.82 301 ⇓*i*P **P** **19 08 24.8 +2.6**
BURAR Bucovina Array 34.82 301 ⇓⇓P **P** **19 08 24.8 +2.6**
VOIR 35.08 297 ⇓*i*P **P** **19 08 25.4 +1.0**
VOIR 35.08 297 ⇓⇓P **P** **19 08 25.4 +1.0**
VSU Vasula 35.12 320 *ce*P **P** **19 08 25.5 +1.1**
VSU pmax pmax
comp=Z,64nm,0.9s
ARCR ARCALIA 35.43 300 ⇑*i*P **P** **19 08 30.0 +2.7**
LVV L'vov 35.57 304 *e*P **P** **19 08 32.2 +3.8**
LVZ Lovozero 35.95 337 ⇑*i*P **P** **19 08 30.3 -1.2**
LOT Lotru 35.97 297 ⇑*i*P **P** **19 08 33.0 +0.9**
FINES FINESS Array B 36.29 324 P **P** **19 08 33.5 -0.9**
comp=Z,13nm,0.6s,baz=111,slow=8.8,SNR=41
FINES LR LR 19 24 06.2
comp=Z,178nm,19.7s,baz=100,slow=37
SUW Suwalki 36.30 312 *e*P **P** **19 08 35.4 +0.8**
SUW Suwalki 36.30 312 *e*P **P** **19 08 35.4 +0.8**
KWP Kalwaria Pacla 36.43 304 *e*P **P** **19 08 36.0 +0.1**
KWP Kalwaria Pacla 36.43 304 *e*P **P** **19 08 36.0 +0.1**
DRGR 36.58 299 ⇓*i*P **P** **19 08 38.0 +0.8**
DRGR 36.58 299 ⇓⇓P **P** **19 08 38.0 +0.8**
UZH Uzhgorod 36.73 303 *d i*P **P** **19 08 38.7 +0.3**
UZH *i* 19 09 01.5
VTS Vitosha 36.78 292 ⇓*i*P **P** **19 08 42.2 +3.1**
VTS Vitosha 36.78 292 ⇓⇓P **P** **19 08 42.2 +3.1**
MSF Maaselka 36.79 332 P **P** **19 08 40.0 +1.3**
MSF pmax pmax
comp=Z,34nm,0.7s
CRVS Cervenica-Dubn 37.27 303 *e*P **P** **19 08 44.6 +1.6**
CRVS *e* 19 10 09.0
CRVS Cervenica-Dubn 37.27 303 *e*P **P** **19 08 44.6 +1.6**
CRVS *e*PP **PP** **19 10 09.0 +1.2**
STHS Stebnicka Huta 37.39 304 *e*P **P** **19 08 45.5 +1.5**
STHS pmax pmax
comp=Z,5.0nm,0.8s
STHS Stebnicka Huta 37.39 304 *e*P **P** **19 08 45.5 +1.5**
BZS Buzias 37.45 298 ⇑*i*P **P** **19 08 48.4 +3.8**
BZS Buzias 37.45 298 ⇑⇑P **P** **19 08 48.4 +3.8**
MDVR Moldovita 37.50 296 ⇓*i*P **P** **19 08 46.6 +1.6**
KECS Kecovo 37.94 302 *e*P **P** **19 08 51.0 +2.3**
KECS pmax pmax
comp=Z,2.0nm,1.0s
KECS Kecovo 37.94 302 *e*P **P** **19 08 51.0 +2.3**
KECS *e*PP **PP** **19 10 16.1 +0.9**
NIE Niedzica 38.01 304 *e*P **P** **19 08 49.5 +0.2**
NIE Niedzica 38.01 304 *e*P **P** **19 08 49.5 +0.2**
OJC Ojcow 38.29 305 *e*P **P** **19 08 53.7 +2.1**
OJC Ojcow 38.29 305 *e*P **P** **19 08 53.7 +2.1**
LANS Liptovska Anna 38.57 304 *e*P **P** **19 08 57.3 +3.3**
LANS Liptovska Anna 38.57 304 *e*P **P** **19 08 57.3 +3.3**
VYHS Vyhne 39.04 303 *e*P **P** **19 09 00.6 +2.7**
VYHS pmax pmax
comp=Z,6.0nm,1.4s
VYHS Vyhne 39.04 303 *e*P **P** **19 09 00.6 +2.7**
VYHS *e*PP **PP** **19 10 27.4 +0.2**
ARCES ARCESS Array B 39.65 337 P **P** **19 09 00.6 -2.1**
comp=Z,8.1nm,0.7s,baz=109,slow=8.1,SNR=18
ARCES LR LR 19 26 04.1
comp=Z,130nm,20.7s,baz=124,slow=37
MORC Moravsky Berou 39.77 305 *e*P **P** **19 09 04.2 +0.1**
MORC pmax pmax
comp=Z,23nm,0.8s
MORC Moravsky Berou 39.77 305 *e*P **P** **19 09 04.2 +0.1**
comp=Z,24nm,0.8s
GKP Gorka Klasztor 39.80 310 *e*P **P** **19 09 04.5 +0.3**
GKP Gorka Klasztor 39.80 310 *e*P **P** **19 09 04.5 +0.3**
CN2 Changchun 40.21 65 *e*P **P** **19 09 09.8 +2.1**
CN2 pmax pmax
comp=Z,10.0nm,0.6s
CN2 pmax pmax
comp=Z,200nm,3.0s
CN2 LR LR
comp=Z,200nm,11.0s
CN2 LR LR
comp=Z,300nm,11.0s
CN2 LR LR
comp=Z,300nm,14.0s
KRLC Kraliky 40.24 305 *e*P **P** **19 09 08.9 +1.0**
KRLC Kraliky 40.24 305 *e*P **P** **19 09 08.9 +1.0**
KSP Ksiaz 40.49 306 *e*P **P** **19 09 12.1 +2.2**
KSP Ksiaz 40.49 306 *e*P **P** **19 09 12.1 +2.2**
DPC Dobruska-Polom 40.51 306 *e*P **P** **19 09 10.6 +0.4**
DPC *ex* x 19 09 13.1
DPC AMS AMS 19 28 10.0
comp=Z,200nm,16.8s
DPC Dobruska-Polom 40.51 306 *e*P **P** **19 09 10.6 +0.4**
DPC MLR MLR
comp=Z,200nm,16.8s
UPC Upice 40.69 306 *e*P **P** **19 09 12.1 +0.5**
UPC *ex* x 19 09 14.4
UPC AMS AMS 19 27 50.0
comp=Z,300nm,15.6s
UPC Upice 40.69 306 *e*P **P** **19 09 12.1 +0.5**
UPC MLR MLR
comp=Z,300nm,15.6s
CONA Conrad Observa 41.08 302 *i* P **P** **19 09 14.9 0.0**
comp=Z,10nm,0.9s
TREC Trest 41.15 304 *e*P **P** **19 09 15.6 +0.2**
TREC *ex* x 19 09 18.2
TREC Trest 41.15 304 *e*P **P** **19 09 15.6 +0.2**
ARSA Arzberg 41.40 301 *i* P **P** **19 09 18.4 +0.8**
comp=Z,4.2nm,0.9s
GOPC GO Pecny, Ondr 41.53 305 *e*P **P** **19 09 21.2 +2.6**
GOPC GO Pecny, Ondr 41.53 305 *e*P **P** **19 09 21.2 +2.6**
PRU Pruhonice 41.68 305 *e*P **P** **19 09 20.8 +1.0**
PRU *ex* x 19 09 22.4
PRU AMS AMS 19 28 50.0
comp=Z,200nm,17.1s
PRU Pruhonice 41.68 305 *e*P **P** **19 09 20.8 +1.0**
PRU MLR MLR
comp=Z,200nm,17.1s
PRA Prague 41.74 305 *e*P **P** **19 09 22.8 +2.6**
PRA Prague 41.74 305 *e*P **P** **19 09 22.8 +2.6**
SOKA Soboth 41.83 300 *i* P **P** **19 09 21.5 +0.4**
comp=Z,18nm,1.8s
BRG Berggiesshubel 41.97 307 *i* P **P** **19 09 22.6 +0.4**
comp=Z,7.0nm,0.9s
BRG *i* 19 09 24.8
comp=Z,19nm,1.0s
BRG Berggiesshubel 41.97 307 *i* P **P** **19 09 22.5 +0.4**
BRG pmax pmax
comp=Z,7.0nm,0.9s
YAK Yakutsk 42.07 37 *e*P **P** **19 09 20.1 -2.6**
YAK pmax pmax
comp=Z,19nm,1.0s
YAK pmax pmax
comp=N,10.0nm,1.5s
YAK Yakutsk 42.07 37 *e*P **P** **19 09 19.9 -2.8**
comp=N,11nm,0.6s
MOA Molln 42.15 302 *i* P **P** **19 09 25.1 +1.4**
comp=N,13nm,1.6s
OBKA Obir 42.18 300 *i* P **P** **19 09 25.5 +1.4**
comp=N,12nm,1.1s
GERES GERESS Array B 42.37 304 P **P** **19 09 25.7 +0.2**
comp=N,1.2nm,0.6s,baz=93,slow=12,SNR=14
GERES PP **PP** **19 11 03.5 0.0**
comp=N,2.1nm,0.9s,baz=64,slow=11,SNR=4.7
GERES LR LR 19 29 01.8
comp=N,160nm,20.2s,baz=86,slow=39
KHC Kasperske Hory 42.41 304 *e*P **P** **19 09 26.0 +0.2**
KHC *ex* x 19 09 28.5
KHC *ex* x 19 10 19.0
KHC AMS AMS 19 30 10.0
comp=N,200nm,16.5s
KHC Kasperske Hory 42.41 304 *e*P **P** **19 09 26.1 +0.2**
KHC pmax pmax
comp=Z,3.0nm,0.9s
KHC Kasperske Hory 42.41 304 *e*P **P** **19 09 26.1 +0.2**
comp=Z,2.9nm,0.9s
CLL Collm 42.51 307 *e*P **P** **19 09 26.0 -0.5**
CLL pmax pmax
comp=Z,14nm,1.0s
CLL Collm 42.51 307 *e*P **P** **19 09 26.0 -0.5**
comp=Z,14nm,1.0s
CLL *e*pP **sP** **19 09 38.0 +7.1**
CLL *e*PP **PP** **19 11 05.0 +0.1**
MYKA Terra Mystica 42.78 300 P **P** **19 09 27.2 -1.7**
comp=Z,8.5nm,1.8s
CUC Castrocucco 42.80 290 *e*P **P** **19 09 29.6 +0.6**
comp=Z,8.2nm,0.6s
KBA Koelnbreinsper 42.90 301 *i* P **P** **19 09 29.8 -0.1**
comp=Z,5.9nm,1.3s
NKC Novy Kostel 42.99 306 AMS AMS 19 30 50.0
comp=Z,200nm,14.2s
NB2 NORSAR Subarra 43.26 322 P **P** **19 09 30.9 -1.6**
comp=Z,13nm,0.9s,baz=92,slow=8.6
NOA NORSAR Array B 43.26 322 P **P** **19 09 31.1 -1.4**
comp=Z,8.0nm,0.8s,baz=93,slow=8.0,SNR=16
NOA PP **PP** **19 11 14.6 +1.8**
comp=Z,1.6nm,0.8s,baz=94,slow=8.3,SNR=3.3
NOA LR LR 19 29 35.8
comp=Z,48nm,20.2s,baz=105,slow=39
KSAR Wonju Array Be 43.68 73 P **P** **19 09 33.9 -2.2**
KSAR Wonju Array Be 43.68 73 P **P** **19 09 33.9 -2.2**
KSRS Korea Array 43.70 73 P **P** **19 09 33.9 -2.4**
comp=Z,0.6nm,0.4s,baz=295,slow=6.6,SNR=4.8
KSRS LR LR 19 30 07.1
comp=Z,289nm,20.7s,baz=294,slow=40
TIXI Tiksi 43.79 23 ⇑*i*P **P** **19 09 33.8 -2.7**
TIXI pmax pmax
comp=Z,11nm,0.9s
WATA Walderalm 44.03 302 *i* P **P** **19 09 39.5 +0.5**
comp=Z,3.4nm,0.5s
MOTA Moosalm 44.35 302 *e*P **P** **19 09 41.2 -0.4**
comp=Z,3.0nm,0.9s
RETA Reutte 44.55 302 *i* P **P** **19 09 41.7 -1.3**
comp=Z,4.7nm,1.1s
FETA Feichten 44.66 302 *i* P **P** **19 09 42.3 -1.8**
comp=Z,3.7nm,0.8s
USRK Ussuriysk Ar. 44.72 63 LR LR 19 30 11.3
comp=Z,261nm,18.6s,baz=284,slow=39
DAVA Damuels 45.17 302 *i* P **P** **19 09 47.1 -1.1**
comp=Z,5.1nm,0.6s
DAVOX Davos/Dischmat 45.28 301 P **P** **19 09 47.5 -1.5**
comp=Z,5.0nm,0.6s,baz=83,slow=4.8,SNR=9.9
CDF Champ du Feu 46.64 304 *e*P **P** **19 10 00.9 +1.2**
CDF pmax pmax
comp=Z,4.0nm,0.8s
SBF Sospel 47.69 298 *e*P **P** **19 10 09.6 +1.7**
SBF pmax pmax
comp=Z,18nm,1.1s
LPG La Plagne 47.70 300 *e*P **P** **19 10 10.7 +2.5**
LPG pmax pmax
comp=Z,5.0nm,0.8s
LPL La Plagne 47.71 300 *e*P **P** **19 10 07.9 -0.3**
LPL pmax pmax
comp=Z,3.0nm,0.5s
CABF La Chapelle 47.86 302 *e*P **P** **19 10 10.8 +1.6**
CABF pmax pmax
comp=Z,14nm,1.3s
BNI Bardonecchia 47.88 300 *e*P **P** **19 10 09.0 -0.4**
BNI pmax pmax
comp=Z,8.0nm,1.1s
BNI Bardonecchia 47.88 300 *e*P **P** **19 10 09.0 -0.4**
comp=Z,7.9nm,1.1s
MBDF Montbardon 47.90 299 *e*P **P** **19 10 10.5 +0.9**
MBDF pmax pmax
comp=Z,4.0nm,0.7s
JOW Kunigami 48.29 86 LR LR 19 32 25.6
comp=Z,4µm,21.7s,baz=157,slow=38
ORIF Oris-en-Rattie 48.46 300 *e*P **P** **19 10 17.2 +3.4**
ORIF pmax pmax
comp=Z,4.0nm,1.0s
KEST Kesra 49.05 287 P **P** **19 10 17.6 -0.9**
comp=Z,3.8nm,0.8s,baz=140,slow=16,SNR=3.2
VIVF Saint-Julien-l 49.30 300 *e*P **P** **19 10 20.8 +0.6**
VIVF pmax pmax
comp=Z,4.0nm,0.8s
SMF Signal de Mont 49.34 303 *e*P **P** **19 10 21.3 +0.8**
SMF pmax pmax
comp=Z,3.0nm,0.6s
SSF Saint Saulge 49.44 303 *e*P **P** **19 10 22.0 +0.8**
SSF pmax pmax
comp=Z,5.0nm,0.8s
AVF Avril sur Loir 49.62 303 *e*P **P** **19 10 20.9 -1.7**
AVF pmax pmax
comp=Z,8.0nm,0.7s
CAF Calviac 51.04 301 *e*P **P** **19 10 35.1 +1.7**
CAF pmax pmax
comp=Z,5.0nm,0.9s

ESK	Eskdalemuir	51.41	315	*i* P		P	19 10 35.7	-0.2
MJAR	Matsushiro Arr	51.70	70	P		P	19 10 36.2	-2.3
	comp=Z,3.5nm,1.0s,baz=304,slow=8.7,SNR=3.5							
MJAR				LR		LR	19 34 35.3	
	comp=Z,88nm,19.0s,baz=40,slow=38							
MJAR	Matsushiro Arr	51.70	70	P		P	19 10 36.2	-2.3
MJAR				pmax	pmax			
	comp=Z,3.0nm,1.0s							
MJAR				MLR	MLR			
	comp=Z,88nm,19.0s							
LFF	La Frestale	51.92	301	*e*P		P	19 10 41.6	+1.6
LFF				pmax	pmax			
	comp=Z,7.0nm,0.8s							
MFF	Saint Martin d	51.97	304	*e*P		P	19 10 41.9	+1.6
MFF				pmax	pmax			
	comp=Z,11nm,1.2s							
MA2	Magadan	52.50	39	LR		LR	19 35 08.7	
	comp=Z,63nm,20.9s,baz=289,slow=39							
SEY	Seymchan	52.51	35	P		P	19 10 41.4	-2.7
	comp=Z,3.6nm,0.9s,baz=42,slow=16,SNR=2.6							
DAG	Danmarks Havn	53.10	343	*i* P		P	19 10 46.0	-2.2
	comp=Z,4.3nm,0.9s							
DAG	Danmarks Havn	53.10	343	*i* P		P	19 10 46.0	-2.2
DAG				pmax	pmax			
	comp=Z,4.0nm,0.9s							
ROSF	Rostrenen	53.43	307	*e*P		P	19 10 51.8	+0.8
ROSF				pmax	pmax			
	comp=Z,16nm,1.1s							
BILL	Bilibino	56.64	27⇓	*e*P		P	19 11 14.3	+0.4
BILL				*e*			19 13 20.1	
BILL				pmax	pmax			
	comp=Z,7.0nm,1.1s							
BILL				MLR	MLR			
	comp=Z,226nm,17.0s							
ESDC	Sonseca Array	57.14	297	P		P	19 11 17.3	-0.7
	comp=Z,2.1nm,0.6s,baz=55,slow=7.3,SNR=20							
TAM	Tamanrasset	57.98	275	*e*P		P	19 11 25.7	+1.4
TAM				pmax	pmax			
	comp=Z,3.0nm,0.8s							
TAM	Tamanrasset	57.98	275	*e*P		P	19 11 25.7	+1.4
	comp=Z,3.3nm,0.8s							
PETK	Petropavlovsk-	58.19	45	LR		LR	19 37 56.6	
	comp=Z,88nm,19.1s,baz=290,slow=38							
SUMG	Summit	59.48	341	*i* P		P	19 11 33.6	-0.7
	comp=Z,9.8nm,0.9s							
SUMG	Summit	59.48	341	*e*P		P	19 11 33.7	-0.6
SUMG				pmax	pmax			
	comp=Z,11nm,0.9s							
SUMG	Summit	59.48	341	*e*P		P	19 11 33.6	-0.6
	comp=Z,11nm,0.9s							
MDT	Midelt	60.71	290	P		P	19 11 43.5	+0.4
	comp=Z,1.3nm,0.7s,baz=74,slow=10,SNR=4.5							
TORD	Torodi Ar. Bea	66.39	268	P		P	19 12 19.9	-0.7
	comp=Z,10nm,0.6s,baz=48,slow=5.5,SNR=52							
COLD	Coldfoot	69.98	16	*e*P		P	19 12 40.8	-1.6
	comp=Z,14nm,0.8s							
MATP	Matopo	71.22	223	P		P	19 12 50.0	-0.6
	comp=Z,3.1nm,0.8s,baz=86,slow=19,SNR=4.7							
INK	Inuvik	71.94	10	*e*P		P	19 12 52.6	-1.6
	comp=Z,7.8nm,0.7s,baz=11,slow=9.2,SNR=9.5							
INK	Inuvik	71.94	10	*e*P		P	19 12 52.8	-1.4
INK				pmax	pmax			
	comp=Z,11nm,0.8s							
INK	Inuvik	71.94	10	*e*P		P	19 12 52.8	-1.4
	comp=Z,11nm,0.8s							
COLA	College	72.49	17	*i* P		P	19 12 56.1	-1.4
COLA				pmax	pmax			
	comp=Z,23nm,0.9s							
ILAR	Eielson Array	72.79	16	P		P	19 12 56.8	-2.6
	comp=Z,4.4nm,0.8s,baz=322,slow=5.9,SNR=24							
KTH	Kantishna Hill	72.88	19	*e*P		P	19 12 58.2	-1.8
	comp=Z,15nm,0.9s							
DOT	Dot Lake	74.38	16	*e*P		P	19 13 06.8	-2.0
	comp=Z,15nm,1.0s							
PMR	Palmer	74.98	19	*e*P		P	19 13 10.2	-2.0
PMR				pmax	pmax			
	comp=Z,10.0nm,0.8s							
PMR	Palmer	74.98	19	*e*P		P	19 13 10.2	-2.0
	comp=Z,10.0nm,0.8s							
SML	Sawmill	75.00	18	*e*P		P	19 13 10.4	-2.0
SML				pmax	pmax			
	comp=Z,6.0nm,0.8s							
SML	Sawmill	75.00	18	*e*P		P	19 13 10.4	-2.0
	comp=Z,6.0nm,0.8s							
DBIC	Dimbokro	75.42	267	P		P	19 13 14.1	-1.4
	comp=Z,5.1nm,0.8s,baz=58,slow=7.1,SNR=5.8							
DBIC				LR		LR	19 51 42.3	
	comp=Z,160nm,18.1s,baz=24,slow=40							
FITZ	Fitzroy Crossi	75.53	128	P		P	19 13 16.0	+0.1
	comp=Z,3.1nm,1.0s,baz=331,slow=5.2,SNR=3.1							
BMRM	Bremner River	76.62	17	*e*P		P	19 13 20.2	-1.5
	comp=Z,36nm,1.6s							
KDAK	Kodiak Island	77.21	23	*i* P		P	19 13 23.3	-1.7
YKA	Yellowknife Ar	79.33	3	P		P	19 13 35.1	-1.5
	comp=Z,5.3nm,0.6s,baz=350,slow=5.6,SNR=14							
SCHQ	Schefferville	80.60	337	P		P	19 13 41.6	-2.0
	comp=Z,5.6nm,0.7s,baz=18,slow=9.6,SNR=3.6							
WRA	Warramunga Arr	82.47	123	P		P	19 13 51.9	-2.1
	comp=Z,4.2nm,0.7s,baz=324,slow=4.9,SNR=22							
WRAB	Tennant Creek	82.47	123	*i* P		P	19 13 52.4	-1.6
WRAB				pmax	pmax			
	comp=Z,18nm,0.8s							
WRAB	Tennant Creek	82.47	123	*e*P		P	19 13 52.2	-1.8
	comp=Z,7.5nm,0.8s							
ASAR	Alice Springs	84.83	126	P		P	19 14 03.9	-2.2
	comp=Z,2.1nm,0.8s,baz=317,slow=4.5,SNR=15							
VNDA	Vanda	127.15	164	PKP		PKPdf	19 20 33.9	-0.5
	comp=Z,0.6nm,0.8s,baz=266,slow=7.6,SNR=3.8							

IDC 27 19:06:53.1σ30.0,**20°19S**×**176°95W,h380**km△255**km,**
mb3.3/5,mb1 3.4/5,mb1mx3.1/28,mbtmp4.0/5,Error ellipse: s-maj=166.8km s-min=91.7km az=97.0,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CTA	Charters Tower	34.50	264	P	P	19 13 07.6	+0.3
	1.4nm,0.4s,baz=63,slow=14,SNR=3.6						
STKA	Stephens Creek	38.81	244	P	P	19 13 43.1	0.0
	1.7nm,0.7s,baz=96,slow=10,SNR=3.0						
ASAR	Alice Springs	45.55	256	P	P	19 14 36.7	-0.3
	2.8nm,0.8s,baz=89,slow=9.0,SNR=26						
ASAR				PcP	PcP	19 16 07.8	-0.6
	3.1nm,1.3s,baz=111,slow=4.1,SNR=4.9						
WRA	Warramunga Arr	45.62	262	P	P	19 14 37.0	-0.5
	0.8nm,0.3s,baz=97,slow=7.5,SNR=37						
FITZ	Fitzroy Crossi	54.05	262	P	P	19 15 40.2	0.0
	1.0nm,0.8s,baz=71,slow=4.1,SNR=6.3						
AKASG	Malin Array Be	143.21	332	PKP	PKPbc	19 25 40.1	-0.1
	0.7nm,0.4s,baz=33,slow=3.5,SNR=3.3						
BRTR	Keskin Array B	147.35	313	PKPbc	PKPbc	19 25 53.3	+0.2
	0.6nm,0.6s,baz=85,slow=3.5,SNR=3.2						

*TRN **27** 19:27:07.0, 18°.88N×64°.35W, h32km, MD5.2*
*ISCJB **27** 19:27:07.4*σ*0.2, 18°.86N*±*0°.02×64°.31W*±*0°.02, h33km, mb4.5/49, MS3.4/12, Error ellipse: s-maj=3.2km s-min=2.0km az=24.2*
*IDC **27** 19:27:09.3*σ*1.9, 18°.71N×64°.38W, h46km*△*20km, mb4.0/21, mb1 4.1/25, mb1mx4.0/54, mbtmp4.2/25, ML3.3/4, MS3.4/16, Ms1 3.4/16, ms1mx3.2/37, Error ellipse: s-maj=14.1km s-min=10.7km az=51.0*
*NEIC **27** 19:27:10.0*σ*0.0, 18°.92N×64°.35W, h19km, mb4.7/31, MW4.3, MD4.6(RSPR), Moment Tensor Solution. s9 Moment tensor: Scale 10^15^Nm; Mrr=1.43; Mθθ=0.86; Mφφ=0.57; Mrθ=-0.73; Mrφ=2.91; Mθφ=0.68; Best double couple: M=3.30000×10^15^ NP1=φ187.00000°, δ66.00000°, λ=-155.00000°. NP2=φ86.00000°, δ67.00000°, λ=-26.00000°. Principal axes: T 3.6300, Plg1.0000°, Azm137.0000°; N -0.7500, Plg55.0000°, Azm228.0000°; P -2.8800, Plg35.0000°, Azm46.0000°; After RSPR.*
NEIC Felt [IV] on Saint John, [III] on Tortola and [II] on Saint Thomas. Also felt at San Juan, Puerto Rico and on Saint Martin.
*RSPR **27** 19:27:10.0, 18°.92N×64°.35W, h19km△3km*

ISC 27 19:27:08.3σ0.9,**18°.77N**±0°.04×**64°.34W**±0°.02,**h34**km±2km,**
n207,σ**i§75/238,mb4.5/50,MS3.4/12,39C-10D,Virgin Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CDVI	St. Croix	1.09	202⇓	*e*P	Pb	19 27 29.4	+0.6
CDVI	St. Croix	1.09	202	*e*S	Sb	19 27 44.4	+1.6
CDVI	St. Croix	1.09	202⇓	*e*P	Pb	19 27 29.4	+0.6
CDVI				*e*S	Sb	19 27 44.4	+1.6
MTP	Monte Pirata	1.33	240⇑	*e*P	Pb	19 27 31.6	-1.2
MTP	Monte Pirata	1.33	240	*e*S	Sb	19 27 49.4	-0.3
MTP	Monte Pirata	1.33	240⇑	*e*P	Pb	19 27 31.6	-1.2
MTP				*e*S	Sb	19 27 49.4	-0.3
MTP	Monte Pirata	1.33	240⇑	*e*P	Pb	19 27 31.6	-1.2
MTP				*e*S	Sb	19 27 49.4	-0.3
SMRT	St. Maarten	1.40	121⇑	*i* P	Pn	19 27 32.7	+1.3
SMRT	St. Maarten	1.40	121	*e*S	Sb	19 27 51.0	-0.5
SMRT	St. Maarten	1.40	121	*i* P	Pn	19 27 32.6	+1.2
SMRT				*e*S	Sb	19 27 51.0	-0.5
SMRT	St. Maarten	1.40	121⇑	*e*P	Pn	19 27 32.7	+1.3
SMRT				*e*S	Sb	19 27 51.0	-0.5
CBYP	Canovanas	1.52	251⇑	*e*P	Pn	19 27 33.8	+0.6
CBYP	Canovanas	1.52	251⇑	*e*P	Pn	19 27 33.8	+0.6
CBYP	Canovanas	1.52	251⇑	*e*P	Pn	19 27 33.8	+0.6
SABA	Saba	1.55	138⇓	*e*P	Pb	19 27 35.9	-0.6
SABA	Saba	1.55	138	*e*S	Sb	19 27 55.9	+0.1
SABA	Saba	1.55	138	*e*P	Pn	19 27 34.9	+1.4
SABA				*e*S	Sb	19 27 56.9	+1.2
SABA	Saba	1.55	138⇓	*e*P	Pb	19 27 35.9	-0.6
SABA				*e*S	Sb	19 27 55.9	+0.1
HUMP	Col San Antoni	1.57	247⇑	*e*P	Pn	19 27 34.6	+0.9
HUMP	Col San Antoni	1.57	247	*e*S	Sn	19 27 54.0	+1.2
HUMP	Col San Antoni	1.57	247⇑	*e*P	Pn	19 27 34.6	+0.9
HUMP				*e*S	Sn	19 27 54.0	+1.2
HUMP	Col San Antoni	1.57	247⇑	*e*P	Pn	19 27 34.6	+0.9
HUMP				*e*S	Sn	19 27 54.0	+1.2
SEUS	St. Eustatius	1.81	134⇓	*e*P	Pb	19 27 39.4	-1.5
SEUS	St. Eustatius	1.81	134	*e*P	Pb	19 27 39.4	-1.5
SEUS	St. Eustatius	1.81	134⇓	*e*P	Pb	19 27 39.4	-1.5
SJG	San Juan	1.84	249⇑	*e*P	Pn	19 27 38.4	+0.9
SJG	San Juan	1.84	249	*e*S	Sn	19 28 01.0	+1.3
SJG	San Juan	1.84	249	P	Sn	19 27 38.4	+0.9
	144nm,0.3s,baz=69,slow=11,SNR=172						
SJG				S	Sn	19 27 59.1	-0.5
	281nm,0.3s,baz=65,slow=19,SNR=8.9						
SJG				LR	LR	19 28 36.2	
	comp=Z,890nm,18.9s,baz=44,slow=49						
SJG	San Juan	1.84	249⇑	*e*P	Pn	19 27 38.4	+0.9
SJG				*e*S	Sn	19 28 01.0	+1.3
SJG	San Juan	1.84	249⇑	*e*P	Pn	19 27 38.4	+0.9
SJG				*e*S	Sn	19 28 01.0	+1.3
CELP	Cerrillos	2.24	252⇑	*e*P	Pn	19 27 44.2	+1.2
CELP	Cerrillos	2.24	252⇑	*e*P	Pn	19 27 44.2	+1.2
CELP	Cerrillos	2.24	252⇑	*e*P	Pn	19 27 44.2	+1.2
ICMP	Isla Caja de M	2.26	247⇑	*e*P	Pn	19 27 45.0	+1.8
ICMP	Isla Caja de M	2.26	247⇑	*e*P	Pn	19 27 45.0	+1.8
OBIP	Obispado Ponce	2.27	252⇓	*e*P	Pn	19 27 44.2	+0.7
OBIP	Obispado Ponce	2.27	252	*e*S	Sn	19 28 11.5	+1.2
OBIP	Obispado Ponce	2.27	252⇓	*e*P	Pn	19 27 44.2	+0.7
OBIP				*e*S	Sn	19 28 11.5	+1.2
OBIP	Obispado Ponce	2.27	252⇓	*e*P	Pn	19 27 44.2	+0.7
OBIP				*e*S	Sn	19 28 11.5	+1.2
AOPR	Arecibo Observ	2.33	260⇑	*e*P	Pn	19 27 45.5	+1.2
AOPR	Arecibo Observ	2.33	260	*e*S	Sn	19 28 12.6	+0.8
AOPR	Arecibo Observ	2.33	260⇑	*e*P	Pn	19 27 45.5	+1.2
AOPR				*e*S	Sn	19 28 12.6	+0.8
AOPR	Arecibo Observ	2.33	260⇑	*e*P	Pn	19 27 45.5	+1.2
AOPR				*e*S	Sn	19 28 12.6	+0.8
NEV	Hard Times	2.34	134	*e*P	Pn	19 27 45.8	+1.4
NEV				*e*S	Sb	19 28 15.5	-2.9
NEV	Hard Times	2.34	134	*e*P	Pb	19 27 47.2	-2.6
GBPR	Guanica, Bosqu	2.54	252⇑	*e*P	Pn	19 27 49.4	+2.2
GBPR	Guanica, Bosqu	2.54	252	*e*S	Sn	19 28 19.6	+2.7
GBPR	Guanica, Bosqu	2.54	252⇑	*e*P	Pn	19 27 49.4	+2.2
GBPR				*e*S	Sn	19 28 19.6	+2.7
GBPR	Guanica, Bosqu	2.54	252⇑	*e*P	Pn	19 27 49.4	+2.2
GBPR				*e*S	Sn	19 28 19.6	+2.7
AGPR	Aguadilla, PR	2.65	264⇑	*e*P	Pn	19 27 49.6	+1.0
AGPR	Aguadilla, PR	2.65	264	*e*S	Sn	19 28 20.4	+0.8
AGPR	Aguadilla, PR	2.65	264⇑	*e*P	Pn	19 27 49.6	+1.0
AGPR				*e*S	Sn	19 28 20.4	+0.8
AGPR	Aguadilla, PR	2.65	264⇑	*e*P	Pn	19 27 49.6	+1.0
AGPR				*e*S	Sn	19 28 20.4	+0.8
ANWB	Willy Bob	2.66	114	*e*P	Pn	19 27 49.1	+0.7
ANWB				*e*S	Sn	19 28 21.8	+1.9
ANWB	Willy Bob	2.66	114	*e*Pn	Pn	19 27 49.1	+0.3
LSP	Las Mesas	2.67	258⇑	*e*P	Pn	19 27 50.6	+1.6
LSP	Las Mesas	2.67	258⇑	*e*P	Pn	19 27 50.6	+1.6
LSP	Las Mesas	2.67	258⇑	*e*P	Pn	19 27 50.6	+1.6
AGP	Aguadilla	2.68	263	*e*Pn	Pn	19 27 49.3	+0.2
MPR	Mayaguez	2.72	259	*e*Pn	Pn	19 27 50.8	+1.3
CRPR	Cabo Rojo, PR	2.74	254⇑	*e*P	Pn	19 27 51.4	+1.6
CRPR	Cabo Rojo, PR	2.74	254	*e*S	Sn	19 28 23.0	+1.2
CRPR	Cabo Rojo, PR	2.74	254⇑	*e*P	Pn	19 27 51.4	+1.6
CRPR				*e*S	Sn	19 28 23.0	+1.2
CRPR	Cabo Rojo, PR	2.74	254⇑	*e*P	Pn	19 27 51.4	+1.6
CRPR				*e*S	Sn	19 28 23.0	+1.2
BPA	Boggy Peak	2.92	126	*e*P	Pn	19 27 54.0	+1.6
BPA				*e*S	Sn	19 28 28.2	+1.9
BPA	Boggy Peak	2.92	126	*e*P	Pn	19 27 54.0	+1.6
IDE	Isla Desecheo	3.00	263⇑	*e*P	Pn	19 27 54.6	+1.2
IDE	Isla Desecheo	3.00	263	*e*S	Sn	19 28 29.5	+1.2
IDE	Isla Desecheo	3.00	263⇑	*e*P	Pn	19 27 54.6	+1.2
IDE				*e*S	Sn	19 28 29.5	+1.2
IDE	Isla Desecheo	3.00	263⇑	*e*P	Pn	19 27 54.6	+1.2
IDE				*e*S	Sn	19 28 29.5	+1.2
GDHS	Morne Mazeau,	3.49	135	*e*Pn	Pn	19 28 02.4	+2.0
SEG	Port Louis	3.58	131	*e*P	Pn	19 28 03.2	+1.7
TBG	Guadaloupe-3	3.88	138	*e*P	Pn	19 28 07.7	+2.1
TBG				*e*S	Sn	19 28 50.9	+0.9
DEG	La Desirade	3.97	128	*e*P	Pn	19 28 07.9	+1.1
DEG	La Desirade	3.97	128	*e*P	Pn	19 28 07.9	+1.1
H05N1	Guadeloupe/Mar	3.97	127	P	Pn	19 28 09.6	+2.8
H05N1				S	Sn	19 28 53.3	+1.0
BBL	Barber's Block	4.24	139	*e*P	Pn	19 28 12.7	+2.2
BBL	Barber's Block	4.24	139	*e*S	Sn	19 29 01.0	+2.2
BBL	Barber's Block	4.24	139	*e*P	Pn	19 28 12.7	+2.2
DWS	Wesley	4.30	137	*e*P	Pn	19 28 14.1	+2.7
DWS	Wesley	4.30	137	*e*	Pb	19 28 21.5	-1.8
DWS				*e*S	Sn	19 29 03.2	+2.8
DWS	Wesley	4.30	137	*e*P	Pn	19 28 14.1	+2.7
DBCT	Belle View Cho	4.51	140	*e*P	Pn	19 28 16.2	+1.9
DBCT	Belle View Cho	4.51	140	*e*	Pb	19 28 24.8	-2.0
DBCT	Belle View Cho	4.51	140	*e*P	Pn	19 28 18.2	+4.0
DLPL	La Plaine	4.52	139	*e*P	Pn	19 28 16.2	+1.7
DLPL	La Plaine	4.52	139	*e*P	Pn	19 28 17.8	+3.3
DR12	Loma Pena Alta	4.78	271⇑	*e*P	Pn	19 28 18.9	+1.0
DR12	Loma Pena Alta	4.78	271⇑	*e*P	Pn	19 28 18.9	+1.0
CXM	Morne La Croix	4.97	142	*e*P	Pn	19 28 22.0	+1.3
FDF	Fort de France	5.04	142	*e*P	Pn	19 28 23.1	+1.4
FDF	Fort de France	5.04	142	*e*Pn	Pn	19 28 23.3	+1.7
BIM	Bigot	5.26	143	*e*P	Pn	19 28 26.3	+1.7
SDD	Santo Domingo	5.30	268	*e*Pn	Pn	19 28 27.0	+2.0
H05S1	Guadeloupe/Mar	5.47	142	P	Pn	19 28 29.8	+2.3
H05S1				S	Sn	19 29 30.1	+0.8
MCLT	Moule a Chique	6.00	147	*e*P	Pn	19 28 36.4	+1.6
MCLT	Moule a Chique	6.00	147	*e*S	Sn	19 29 33.5	+1.2
MCLT	Moule a Chique	6.00	147	*e*P	Pn	19 28 38.3	+3.6
SVV	Soufriere Volc	6.20	151	*e*P	Pn	19 28 40.4	+2.9
SVV	Soufriere Volc	6.20	151	*e*	Pb	19 28 53.4	-2.1
SVV	Soufriere Volc	6.20	151	*e*S	Sn	19 29 48.3	+1.1
SVV	Soufriere Volc	6.20	151	*e*P	Pn	19 28 40.4	+2.9
SSV	Crater Summit	6.20	150	*e*P	Pn	19 28 40.4	+2.8
SSV	Crater Summit	6.20	150	*e*P	Pn	19 28 40.4	+2.8
SVB	Belmont	6.22	151	*e*P	Pn	19 28 40.0	+2.1
SVB				*e*T	T	19 28 53.8	
SVB	Belmont	6.22	151	*e*S	Sn	19 29 49.0	+1.2
SVB	Belmont	6.22	151	*e*Pn	Pn	19 28 38.9	+1.1
SDDR	Presa de Saban	6.58	273	*e*Pn	Pn	19 28 44.8	+2.0
GRTK	Grand Turk	6.94	294	*e*Pn	Pn	19 28 46.3	-1.3
GRGR	Grenville	7.09	158	*e*Pn	Pn	19 28 51.0	+1.3
TOSP	Speyside	8.29	153	*e*P	Pn	19 29 09.5	+3.4
TOSP	Speyside	8.29	153	*e*S	Sn	19 30 27.9	-11
TOSP	Speyside	8.29	153	*e*P	Pn	19 29 09.5	+3.4
PCRV	Puerto La Cruz	8.55	182	P	Pn	19 29 10.5	+0.7
	3.4nm,0.3s,baz=14,slow=5.2,SNR=11						
PCRV				S	Sn	19 30 38.6	-6.6
	1.8nm,0.3s,baz=24,slow=19,SNR=3.3						
PCRV				LR	LR	19 32 27.4	
	comp=Z,274nm,20.5s,baz=20,slow=37						
TRN	Trinidad (W)	8.56	160	*e*P	Pn	19 29 12.6	+2.7
TRN	Trinidad (W)	8.56	160	*e*P	Pn	19 29 12.6	+2.7
TBH	Brigand Hill	8.83	159	*e*P	Pn	19 29 16.6	+3.0
TBH	Brigand Hill	8.83	159	*e*P	Pn	19 29 16.6	+3.0
TPP	Pointe-a-Pierr	8.86	161	*e*P	Pn	19 29 15.9	+1.9
TPP	Pointe-a-Pierr	8.86	161	*e*P	Pn	19 29 15.9	+1.9
URIC	Uribia, Colomb	10.19	227	*e*P	Pn	19 29 29.2	-3.1
SDV	Santo Domingo	11.57	213	P	Pn	19 29 52.9	+1.6
	0.3nm,0.3s,baz=34,slow=11,SNR=2.3						
SDV				S	Sn	19 31 52.3	-7.2
	0.6nm,0.3s,baz=7.6,slow=15,SNR=2.3						
SDV				LR	LR	19 35 30.0	
	comp=Z,143nm,18.9s,baz=54,slow=44						
SDV	Santo Domingo	11.57	213	*e*P	Pn	19 29 53.8	+2.5
	19nm,0.6s						
SDV				S	Sn	19 31 52.3	-7.2
SDV				*e*Sn	Sn	19 32 09.5	+10
BBSR	BB Station	13.55	359	*e*Pn	Pn	19 30 14.3	-3.7
PAMC	Pamplona, Colo	13.97	217	*e*P	P	19 30 30.5	-1.6
BARC	Barichara	14.86	217	*e*P	Pn	19 30 37.9	+1.6
ZARC	Zaragoza, Cauc	15.18	224	*e*P	Pn	19 30 38.4	-1.9
RUSC	La Rusia	15.38	215	*e*P	Pn	19 30 45.2	+1.8
RUSC	La Rusia	15.38	215	*e*Pn	Pn	19 30 43.2	-0.2
	13nm,0.6s						
HELC	Santa Helena	16.59	223	*e*P	P	19 31 02.2	+1.2
HELC	Santa Helena	16.59	223	*e*Pn	P	19 31 00.1	-1.0
	44nm,0.9s						
NORC	Norcasia	16.67	219	*e*P	P	19 31 01.6	+0.1
CHIC	Chingaza	16.79	214	*e*P	P	19 31 03.3	+0.1
ROSC	El Rosal	16.93	216	P	Pn	19 31 03.1	-0.1
	0.4nm,0.3s,baz=108,slow=20,SNR=1.5						
ROSC				S	Sn	19 34 06.7	-3.9
	1.0nm,0.3s,baz=90,slow=20,SNR=1.6						
ROSC				LR	LR	19 38 18.0	
	comp=Z,159nm,19.7s,baz=289,slow=40						
PTGA	Pitinga	19.85	167	P	P	19 31 36.3	-0.3
	0.9nm,0.3s,baz=346,slow=13,SNR=11						
PTGA				LR	LR	19 39 05.5	
	comp=Z,121nm,21.1s,baz=342,slow=36						
PTGA	Pitinga	19.85	167	*e*P	P	19 31 35.8	-0.8
	6.3nm,0.4s						
TIGA	Tifton	21.47	310	*e*P	P	19 31 55.9	+1.9
	74nm,0.8s						
OTAV	Otavalo	23.05	219	*e*P	P	19 32 13.1	+1.8
	11nm,0.8s						
TKL	Tuckaleechee C	24.04	318	P	P	19 32 41.1	+21
	22nm,0.2s,baz=126,slow=14,SNR=35						
TKL				S	S	19 36 37.1	+1.8
	1.6nm,0.3s,baz=81,slow=13,SNR=2.6						
TKL				LR	LR	19 42 49.8	
	comp=Z,49nm,18.4s,baz=52,slow=39						
SAML	Samuel	27.57	178	*e*P	P	19 32 51.5	-0.9
	4.9nm,0.9s						
SADO	Sadowa	28.72	338	LR	LR	19 42 49.1	
	comp=Z,127nm,21.8s,baz=166,slow=33						
CMIG	Matias Romero	29.09	272	LR	LR	19 44 49.3	
	comp=Z,76nm,21.2s,baz=58,slow=36						
ATAH	Atahualpa	29.24	210	LR	LR	19 46 56.5	
	comp=Z,90nm,19.5s,baz=4.1,slow=41						
NNA	Nana	32.96	203	LR	LR	19 48 45.6	
	comp=Z,66nm,21.0s,baz=0.5,slow=39						
SIV	San Ignacio	34.69	174	P	P	19 33 54.7	-0.4
	6.3nm,0.7s,baz=18,slow=10,SNR=11						
SIV				LR	LR	19 47 20.3	
	comp=Z,117nm,18.1s,baz=3.5,slow=35						
LPAZ	La Paz	35.04	186	P	P	19 33 58.7	0.0
	1.0nm,0.7s,baz=36,slow=5.6,SNR=3.1						
LPAZ				LR	LR	19 49 12.5	
	comp=Z,66nm,19.2s,baz=13,slow=38						
SCHQ	Schefferville	36.05	358	LR	LR	19 48 37.7	
	comp=Z,77nm,19.8s,baz=96,slow=36						
ECSD	EROS Data Cent	36.77	320	*e*P	P	19 34 12.4	-0.3
	12nm,1.5s						
TXAR	Lajitas Array	37.27	294	P	P	19 34 17.8	+0.6
	1.4nm,0.7s,baz=101,slow=12,SNR=12						
TXAR				LR	LR	19 54 50.1	
	comp=Z,26nm,19.8s,baz=0.0,slow=45						
TX31	Lajitas Ar. Si	37.27	294	*e*P	P	19 34 17.3	0.0
PB11	I

comp=Z,5.5nm,0.8s,baz=242,slow=4.1,SNR=11
FINES LR LR 20 09 03.5
comp=Z,23nm,18.9s,baz=206,slow=34
BUR08 Bucovina Ar. S 76.06 44 *e*P **P 19 38 53.8 +1.2**
MLR Muntele Rosu 77.05 46 *e*P **P 19 38 59.4 +1.1**
comp=Z,5.7nm,0.9s
AKASG Malin Array Be 77.91 40 P **P 19 39 02.5 -0.3**
comp=Z,0.2nm,0.3s,baz=279,slow=5.2,SNR=4.2
BR231 Keskin MP Arra 83.47 50 *e*P **P 19 39 36.0 +3.2**
BRTR Keskin Array B 84.13 50 P **P 19 39 36.7 +0.4**
comp=Z,2.0nm,0.8s,baz=265,slow=5.9,SNR=9.3
LZH Lanzhou 124.31 12 *e*PKP **PKPdf 19 46 03.8 -0.5**
LZH sPKP 19 46 14.3
ASAR Alice Springs 162.31 251 PKPab **PKPab 19 47 53.6 -1.0**
comp=Z,0.9nm,0.5s,baz=112,slow=4.3,SNR=20
WRA Warramunga Arr 162.34 263 PKPab **PKPab 19 47 53.7 -1.1**
comp=Z,0.6nm,0.6s,baz=87,slow=4.0,SNR=8.5

*ISCJB **27** 19:33:57.8±1.2, 18°.93N±0°.07×64°.46W±0°.05, h10km, Error ellipse: s-maj=10.0km s-min=7.0km az=1.3*
*TRN **27** 19:33:57.6, 18°.75N×64°.35W, h24km*
*RSPR **27** 19:34:00.6, 18°.87N×64°.34W, h16km±5km, MD3.1/5*
*NEIC **27** 19:34:00.6±0.0, 18°.87N×64°.34W, h16km, MD3.1(RSPR), After RSPR.*
NEIC Felt [III] on Tortola.

ISC 27 19:33:57.6±1.5, 18°.83N±0°.09×64°.37W±0°.05, h10km, n41, σ0§84/57, 9C-21D, Virgin Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
STVI	**Saint Thomas**	**0.73**	**229**	⇓*e*P	**Pn**	**19 34 13.4**	**-0.6**
STVI	**Saint Thomas**	**0.73**	**229**	*e*S	**Sn**	**19 34 23.8**	**-1.3**
STVI	**Saint Thomas**	**0.73**	**229**	⇓*e*P	**Pn**	**19 34 13.4**	**-0.6**
STVI				*e*S	**Sn**	**19 34 23.8**	**-1.3**
STVI	**Saint Thomas**	**0.73**	**229**	⇓*e*P	**Pn**	**19 34 13.4**	**-0.6**
STVI				*e*S	**Sn**	**19 34 23.8**	**-1.3**
CDVI	**St. Croix**	**1.13**	**199**	⇓*e*P	**Pn**	**19 34 19.8**	**+0.2**
CDVI	**St. Croix**	**1.13**	**199**	*e*S	**Sn**	**19 34 35.2**	**0.0**
CDVI	**St. Croix**	**1.13**	**199**	⇓*e*P	**Pn**	**19 34 19.8**	**+0.2**
CDVI				*e*S	**Sn**	**19 34 35.2**	**0.0**
CDVI	**St. Croix**	**1.13**	**199**	⇓*e*P	**Pn**	**19 34 19.8**	**+0.2**
CDVI				*e*S	**Sn**	**19 34 35.2**	**0.0**
MTP	**Monte Pirata**	**1.34**	**237**	⇓*e*P	**Pn**	**19 34 22.1**	**-0.2**
MTP	**Monte Pirata**	**1.34**	**237**	*e*S	**Sn**	**19 34 39.5**	**-0.7**
MTP	**Monte Pirata**	**1.34**	**237**	⇓*e*P	**Pn**	**19 34 22.1**	**-0.2**
MTP				*e*S	**Sn**	**19 34 39.5**	**-0.7**
MTP	**Monte Pirata**	**1.34**	**237**	⇓*e*P	**Pn**	**19 34 22.1**	**-0.2**
MTP				*e*S	**Sn**	**19 34 39.5**	**-0.7**
SMRT	**St. Maarten**	**1.46**	**122**	⇑*e*P	**Pn**	**19 34 23.1**	**-0.9**
SMRT	**St. Maarten**	**1.46**	**122**	⇑*e*P	**Pn**	**19 34 23.1**	**-0.9**
SMRT	**St. Maarten**	**1.46**	**122**	⇑*e*P	**Pn**	**19 34 23.1**	**-0.9**
CBYP	**Canovanas**	**1.51**	**249**	⇑*e*P	**Pn**	**19 34 24.5**	**-0.3**
CBYP	**Canovanas**	**1.51**	**249**	*e*S	**Sn**	**19 34 43.3**	**-1.4**
CBYP	**Canovanas**	**1.51**	**249**	⇑*e*P	**Pn**	**19 34 24.5**	**-0.3**
CBYP				*e*S	**Sn**	**19 34 43.3**	**-1.4**
CBYP	**Canovanas**	**1.51**	**249**	⇑*e*P	**Pn**	**19 34 24.5**	**-0.3**
CBYP				*e*S	**Sn**	**19 34 43.3**	**-1.4**
HUMP	**Col San Antoni**	**1.56**	**244**	⇓*e*P	**Pn**	**19 34 25.2**	**-0.3**
HUMP	**Col San Antoni**	**1.56**	**244**	*e*S	**Sn**	**19 34 44.9**	**-0.8**
HUMP	**Col San Antoni**	**1.56**	**244**	⇓*e*P	**Pn**	**19 34 25.2**	**-0.3**
HUMP				*e*S	**Sn**	**19 34 44.9**	**-0.8**
HUMP	**Col San Antoni**	**1.56**	**244**	⇓*e*P	**Pn**	**19 34 25.2**	**-0.3**
HUMP				*e*S	**Sn**	**19 34 44.9**	**-0.8**
SEUS	**St. Eustatius**	**1.87**	**135**	*e*P	**Pg**	**19 34 34.0**	**+0.4**
SEUS	**St. Eustatius**	**1.87**	**135**	*e*P	**Pg**	**19 34 35.0**	**+1.4**
SEUS	**St. Eustatius**	**1.87**	**135**	*e*P	**Pg**	**19 34 35.0**	**+1.4**
CELP	**Cerrillos**	**2.23**	**251**	⇓*i*P	**Pn**	**19 34 35.3**	**+0.7**
CELP	**Cerrillos**	**2.23**	**251**	⇓*i*P	**Pn**	**19 34 35.3**	**+0.7**
CELP	**Cerrillos**	**2.23**	**251**	⇓*i*P	**Pn**	**19 34 35.3**	**+0.7**
OBIP	**Obispado Ponce**	**2.26**	**250**	⇓*e*P	**Pn**	**19 34 34.7**	**-0.3**
OBIP	**Obispado Ponce**	**2.26**	**250**	*e*S	**Sn**	**19 35 01.3**	**-1.7**
OBIP	**Obispado Ponce**	**2.26**	**250**	⇓*e*P	**Pn**	**19 34 34.7**	**-0.3**
OBIP				*e*S	**Sn**	**19 35 01.3**	**-1.7**
OBIP	**Obispado Ponce**	**2.26**	**250**	⇓*e*P	**Pn**	**19 34 34.7**	**-0.3**
OBIP				*e*S	**Sn**	**19 35 01.3**	**-1.7**
AOPR	**Arecibo Observ**	**2.31**	**258**	⇓*e*P	**Pn**	**19 34 36.5**	**+0.7**
AOPR	**Arecibo Observ**	**2.31**	**258**	*e*S	**Sn**	**19 35 04.4**	**+0.1**
AOPR	**Arecibo Observ**	**2.31**	**258**	⇓*e*P	**Pn**	**19 34 36.5**	**+0.7**
AOPR				*e*S	**Sn**	**19 35 04.4**	**+0.1**
AOPR	**Arecibo Observ**	**2.31**	**258**	⇓*e*P	**Pn**	**19 34 36.5**	**+0.7**
AOPR				*e*S	**Sn**	**19 35 04.4**	**+0.1**
CRPR	**Cabo Rojo, PR**	**2.73**	**253**	⇑*e*P	**Pn**	**19 34 42.3**	**+0.9**
CRPR	**Cabo Rojo, PR**	**2.73**	**253**	*e*S	**Sn**	**19 35 13.9**	**-0.6**
CRPR	**Cabo Rojo, PR**	**2.73**	**253**	⇑*e*P	**Pn**	**19 34 42.3**	**+0.9**
CRPR				*e*S	**Sn**	**19 35 13.9**	**-0.6**
CRPR	**Cabo Rojo, PR**	**2.73**	**253**	⇑*e*P	**Pn**	**19 34 42.3**	**+0.9**
CRPR				*e*S	**Sn**	**19 35 13.9**	**-0.6**

*TRN **27** 19:34:17.6, 17°.19N×62°.15W, h21km, MD4.2*
*IDC **27** 19:34:18.1±1.2, 17°.09N×62°.12W, h0km, mb3.3/3, mb1 3.7/3, mb1mx3.5/45, mbtmp3.3/3, Error ellipse: s-maj=49.3km s-min=15.8km az=40.0*

ISC 27 19:34:18.1±1.2, 17°.17N±0°.03×62°.13W±0°.03, h2km±9km, n33, σ1§14/50, mb3.6/3, Leeward Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BPA	**Boggy Peak**	**0.29**	**115**	*e*P	**Pb**	**19 34 26.6**	**+0.6**
BPA				*e*S	**Sb**	**19 34 32.2**	**+0.8**
NEV	**Hard Times**	**0.42**	**266**	*e*P	**Pg**	**19 34 26.3**	**+0.1**
NEV	**Hard Times**	**0.42**	**266**	*e*	**Pn**	**19 34 30.6**	**-0.7**
NEV				*e*S	**Sb**	**19 34 35.6**	**+0.5**
NEV	**Hard Times**	**0.42**	**266**	*e*S	**Sb**	**19 34 35.6**	**+0.5**
MLYT	**Lee's Yard**	**0.45**	**187**	*e*	**Pg**	**19 34 26.9**	**+0.2**
MLYT	**Lee's Yard**	**0.45**	**187**	*e*P	**Pb**	**19 34 28.6**	**-0.1**
MLYT	**Lee's Yard**	**0.45**	**187**	*e*	**Pn**	**19 34 32.1**	**+0.5**
MLYT				*e*S	**Sb**	**19 34 37.6**	**+1.8**
ANWB	**Willy Bob**	**0.60**	**33**	*e*P	**Pb**	**19 34 31.2**	**-0.2**
ANWB				*e*S	**Sb**	**19 34 41.6**	**+1.3**
ANWB	**Willy Bob**	**0.60**	**33**	*e*S	**Sb**	**19 34 41.6**	**+1.3**
SEUS	**St. Eustatius**	**0.87**	**292**	*e*	Pn	19 34 44.9	+7.4
SEUS				*e*S	**Sn**	**19 34 50.1**	**-0.7**
GDHS	**Morne Mazeau,**	**0.96**	**158**	*e*S	**Sn**	**19 34 51.9**	**-1.0**
SABA	**Saba**	**1.15**	**293**	*e*P	**Pg**	**19 34 38.9**	**-1.3**
SABA				*e*S	**Sg**	**19 34 56.0**	**+0.8**
SMRT	**St. Maarten**	**1.26**	**314**	*e*S	**Pn**	**19 34 41.1**	**-1.7**
SMRT	**St. Maarten**	**1.26**	**314**	*e*P	**Pn**	**19 34 40.6**	**-2.2**
SMRT				*e*S	**Pn**	**19 34 41.1**	**-1.7**
SMRT	**St. Maarten**	**1.26**	**314**	*e*	**Pb**	**19 34 43.9**	**+1.3**
SMRT				*e*S	**Sg**	**19 34 58.8**	**+0.2**
SMRT	**St. Maarten**	**1.26**	**314**	*e*S	**Pn**	**19 34 41.1**	**-1.7**
DEG	**La Desirade**	**1.33**	**129**	*e*P	**Pn**	**19 34 42.6**	**-1.2**
DEG				*e*S	**Sn**	**19 35 01.2**	**-0.9**
DEG	**La Desirade**	**1.33**	**129**	*e*S	**Sn**	**19 35 01.2**	**-0.9**
H05N1	**Guadeloupe/Mar**	**1.33**	**129**	Pn	**Pn**	**19 34 42.7**	**-1.1**
H05N1				Sn	**Sg**	**19 35 00.0**	**-0.9**
TBG	**Guadaloupe-3**	**1.39**	**160**	*i* P	**Pn**	**19 34 43.6**	**-0.9**
TBG				*e*S	**Sn**	**19 35 03.0**	**-0.5**
MGG	**Marie-Galante**	**1.47**	**148**	*e*P	**Pb**	**19 34 45.3**	**-0.8**
MGG				*e*S	**Sg**	**19 35 06.1**	**+0.8**
MGG	**Marie-Galante**	**1.47**	**148**	*e*S	**Sg**	**19 35 07.1**	**+1.9**
BBL	**Barber's Block**	**1.75**	**159**	*e*P	**Pn**	**19 34 48.7**	**-0.9**
BBL				*e*S	**Sn**	**19 35 11.2**	**-1.2**
DWS	**Wesley**	**1.77**	**154**	*e*P	**Pn**	**19 34 49.5**	**-0.3**
DWS				*e*S	**Sb**	**19 35 12.5**	**-1.6**
DLPL	**La Plaine**	**2.01**	**155**	*e*P	**Pn**	**19 34 52.1**	**-1.1**
DLPL				*e*S	**Sn**	**19 35 18.5**	**-0.4**
CXM	**Morne La Croix**	**2.52**	**158**	*e*P	**Pb**	**19 35 01.8**	**-2.3**
FDF	**Fort de France**	**2.60**	**159**	*e*P	**Pn**	**19 35 01.0**	**-0.3**
FDF				*e*S	**Sn**	**19 35 31.9**	**-1.6**
FDF	**Fort de France**	**2.60**	**159**	*e*	**Sb**	**19 35 39.1**	**+1.3**
H05S1	**Guadeloupe/Mar**	**3.00**	**155**	Pn	**Pn**	**19 35 06.8**	**+0.2**
H05S1				Sn	**Sg**	**19 35 44.3**	**+1.0**
MCLT	**Moule a Chique**	**3.62**	**161**	*e*P	**Pn**	**19 35 15.3**	**0.0**
MCLT				*e*S	**Sn**	**19 35 57.3**	**-1.4**
TXAR	**Lajitas Array**	**39.84**	**295**	P	**P**	**19 41 53.5**	**+0.1**
	0.2nm,0.7s,baz=95,slow=9.5,SNR=2.6						
PDAR	**Pinedale Array**	**47.57**	**313**	P	**P**	**19 42 56.4**	**+0.8**
	0.2nm,0.4s,baz=100,slow=10,SNR=3.0						
TORD	**Torodi Ar. Bea**	**61.51**	**84**	P	**P**	**19 44 38.1**	**+1.0**
	0.4nm,0.8s,baz=292,slow=7.8,SNR=3.6						

JMA 27 19:35:27.0±0.3, 36°.79N×143°.82E, h54km, M3.5, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JFK	**Kawauchi**	**2.42**	**285**	P	Pn	19 36 05.2	+1.0
JFK				*e*S	Sn	19 36 33.9	+1.2
ONAJ	**Iwakimizuishiy**	**2.44**	**278**	*e*S	Sn	19 36 34.0	+0.9
JIO	**Ouri**	**2.57**	**311**	P	Pn	19 36 07.5	+1.3
JIO				*e*S	Sn	19 36 36.6	+0.4
JMM	**Marumori**	**2.64**	**295**	P	Pn	19 36 08.9	+1.8
JMM				*e*S	Sn	19 36 39.2	+1.3
JFT	**Otama**	**2.88**	**286**	P	Pn	19 36 12.5	+2.1
JFT				*e*S	Sn	19 36 45.8	+2.0
JOU	**Okura**	**2.96**	**303**	P	Pn	19 36 13.2	+1.7
JOU				*e*S	Sn	19 36 47.7	+1.9
JMK	**Ichinoseki**	**2.98**	**317**	P	Pn	19 36 13.2	+1.4
JMK				*e*S	Sn	19 36 46.3	0.0
BSO1	**Boso 1**	**3.15**	**228**	P	Pn	19 36 14.1	+0.6
BSO1				*e*S	Sn	19 36 50.7	+1.1
JOM	**Ohasama**	**3.34**	**324**	*e*S	Sn	19 36 54.6	-0.5
JAG	**Ashikaga**	**3.53**	**265**	P	Pn	19 36 20.4	+1.1
JAG				*e*S	Sn	19 37 00.8	+0.9
JRG	**Rokugo**	**3.62**	**317**	P	Pn	19 36 24.8	+4.3
JRG				*e*S	Sn	19 37 04.9	+3.0
JRY	**Ryogami san**	**4.04**	**260**	P	Pn	19 36 26.2	-0.2
JRY				*e*S	Sn	19 37 12.8	+0.4
JOD2	**Odawara 2**	**4.13**	**250**	*e*S	Sn	19 37 15.2	+0.7
JCH	**Churui**	**5.83**	**357**	P	Pn	19 36 50.2	-0.6
JCH				*e*S	Sn	19 37 51.8	-4.4
NEM2	**Nemuro 2**	**6.73**	**12**	P	Pn	19 37 00.0	-3.1
NEM2				*e*S	Sn	19 38 09.6	-8.8
JTKR	**Abashiri--Toko**	**7.17**	**1**	P	Pn	19 37 08.3	-0.9
JTKR				*e*S	Sn	19 38 24.4	-4.8

NEIC 27 19:36:12.0±0.0, 18°.85N×64°.35W, h33km, MD3.6(RSPR), **10C-4D, After RSPR., Virgin Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
STVI	**Saint Thomas**	**0.76**	**230**	⇑*e*P	**Pn**	**19 36 24.8**	**-1.6**
STVI				*e*S	**Sn**	**19 36 35.0**	**-1.7**
CDVI	**St. Croix**	**1.16**	**200**	⇑*e*P	**Pn**	**19 36 30.6**	**-1.3**
CDVI				⇑*e*P	Pb	**19 36 30.8**	**-2.8**
CDVI				*e*S	Sn	19 36 44.7	-1.9
MTP	**Monte Pirata**	**1.37**	**237**	⇓*e*P	**Pn**	**19 36 33.4**	**-1.4**
MTP				*e*S	**Sn**	**19 36 50.4**	**-1.4**
SMRT	**St. Maarten**	**1.44**	**123**	⇓*e*P	**Pn**	**19 36 34.4**	**-1.4**
SMRT				*e*S	**Sn**	**19 36 52.1**	**-1.6**
CBYP	**Canovanas**	**1.54**	**249**	⇑*e*P	**Pn**	**19 36 35.8**	**-1.5**
HUMP	**Col San Antoni**	**1.59**	**244**	⇑*e*P	**Pn**	**19 36 36.8**	**-1.1**
HUMP				*e*S	**Sn**	**19 36 55.9**	**-1.4**
SJG	**San Juan**	**1.86**	**247**	⇑*e*P	**Pn**	**19 36 40.2**	**-1.4**
SJG				*e*S	**Sn**	**19 37 02.2**	**-1.8**
ICMP	**Isla Caja de M**	**2.28**	**246**	⇑*e*P	**Pn**	**19 36 47.1**	**-0.2**
ICMP				*e*S	**Sn**	**19 37 13.9**	**-0.4**
OBIP	**Obispado Ponce**	**2.29**	**250**	⇓*e*P	**Pn**	**19 36 46.0**	**-1.5**
OBIP				*e*S	**Sn**	**19 37 12.9**	**-1.6**
AOPR	**Arecibo Observ**	**2.34**	**258**	⇓*e*P	**Pn**	**19 36 47.8**	**-0.4**
AOPR				*e*S	**Sn**	**19 37 14.8**	**-1.0**
AGPR	**Aguadilla, PR**	**2.65**	**262**	⇑*e*P	**Pn**	**19 36 51.5**	**-0.9**
AGPR				*e*S	**Sn**	**19 37 22.2**	**-1.3**
CRPR	**Cabo Rojo, PR**	**2.75**	**253**	⇑*e*P	**Pn**	**19 36 53.0**	**-0.8**
CRPR				*e*S	**Sn**	**19 37 25.0**	**-1.0**
IDE	**Isla Desecheo**	**3.00**	**262**	⇑*e*P	**Pn**	**19 36 56.4**	**-0.9**
IDE				*e*S	**Sn**	**19 37 31.1**	**-1.1**

MEX 27 19:43:56.2±0.6, 16°.12N×93°.99W, h85km±8km, MD3.8, Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PCIG		**0.85**	**119**	*i* P	**Pn**	**19 44 12.5**	**-1.4**
PCIG				*e*S	**Sn**	**19 44 25.3**	**-1.7**
TGIG		**1.06**	**52**	*i* P	**Pn**	**19 44 15.7**	**-0.6**
TGIG				*i* S	**Sn**	**19 44 29.3**	**-2.1**
CCIG	**Comitan**	**1.79**	**85**	*e*P	**Pn**	**19 44 24.1**	**-1.5**
CCIG				*i* S	**Sn**	**19 44 45.9**	**-2.1**
HUIG	**Huatulco**	**2.06**	**261**	*i* P	**Pn**	**19 44 27.8**	**-1.3**
HUIG				*i* S	**Sn**	**19 44 52.6**	**-1.6**

SJA 27 19:44:14.7±0.3, 31°.59S×68°.57W, h105km±1km, ML2.6, MW3.6, San Juan Province

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RTCV	**Cerro Valdivia**	**0.27**	**175**	*e*P	**Pn**	**19 44 30.6**	**+0.7**
RTCV				*e*S	**Sn**	**19 44 42.1**	**+0.9**
AMOG	**MOGNA**	**0.66**	**5**	*e*P	**Pn**	**19 44 33.0**	**+0.7**
AMOG				*e*S	**Sn**	**19 44 46.5**	**+1.0**
AUSP	**Uspallata**	**0.94**	**228**	*e*P	**Pn**	**19 44 36.4**	**+1.1**
ASAL	**Salagasta**	**1.02**	**193**	*e*P	**Pn**	**19 44 36.7**	**+0.9**
ASAL				*e*S	**Sn**	**19 44 53.1**	**+1.3**
ACCO	**Cerro Coronel**	**1.09**	**337**	*e*P	**Pn**	**19 44 38.5**	**+1.6**
ACCO				*e*S	**Sn**	**19 44 55.6**	**+2.1**
ARCO	**CERRO ARCO**	**1.28**	**194**	IAML		**19 44 54.4**	
	comp=Z,358nm,0.3s						
AVFE	**Valle Fertil**	**1.33**	**46**	*e*P	**Pn**	**19 44 40.4**	**+1.1**
AVFE				IAML		**19 45 01.4**	
	comp=Z,18nm,0.2s						
ACAN	**Cantantal**	**1.35**	**120**	*e*P	**Pn**	**19 44 40.5**	**+1.0**
AAGR	**Agrelo**	**1.50**	**188**	*e*P	**Pn**	**19 44 42.5**	**+1.1**
AAGR				*e*S	**Sn**	**19 45 03.2**	**+1.5**
APLL	**PUNTA DE LOS L**	**2.12**	**56**	*e*P	**Pn**	**19 44 50.1**	**+1.1**

*KRNET **27** 19:45:30.6±0.1, 38°.30N×72°.04E, mb3.8*
*ISCJB **27** 19:45:32.1±1.2, 38°.06N±0°.07×72°.1E±0°.1, h35km, mb3.8/2, MS2.6/1, Error ellipse: s-maj=13.5km s-min=8.9km az=32.2*
*IDC **27** 19:45:39.2±6.7, 38°.44N×72°.11E, h70km±64km, mb3.5/2, mb1 3.4/7, mb1mx3.1/56, mbtmp3.6/7, ML3.2/5, MS2.7/1, Ms1 2.9/1, ms1mx2.4/30, Error ellipse: s-maj=63.9km s-min=53.3km az=149.0*

ISC 27 19:45:34.6±1.7, 38°.2N±0°.1×72°.0E±0°.1, h35km, n13, σ1§32/18, 6C-4D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BTK	**Batken**	**2.11**	**335**	⇓*e*P	**Pn**	**19 46 07.6**	**+0.2**
BTK	baz=332						
				⇓*i*S	**Sn**	**19 46 34.8**	**+2.3**
	baz=332						
OHH	**Osh**	**2.45**	**15**	⇓*i*P	**Pn**	**19 46 12.5**	**+0.3**
OHH	baz=14						
				⇓*i*S	**Sn**	**19 46 42.4**	**+1.4**
	baz=14						
ARSB	**Arslanbob**	**3.26**	**13**	⇑*e*P	**Pn**	**19 46 23.2**	**-0.2**
ARSB	baz=13						
				⇑*i*S	**Sn**	**19 47 02.8**	**+1.7**
	baz=13						
AML	**Almayashu**	**4.19**	**18**	⇑*i*P	**Pn**	**19 46 36.0**	**-0.3**
AML	baz=18						
				⇑*i*S	**Sn**	**19 47 23.7**	**-0.5**
	baz=18						
MNAS	**Manas**	**4.35**	**5**	⇑*i*P	**Pn**	**19 46 38.3**	**0.0**
MNAS	baz=5.0						
				⇑*i*S	**Sn**	**19 47 27.5**	**-0.4**
	baz=5.0						
AAK	**Ala-Archa**	**4.88**	**22**	P	**Pn**	**19 46 45.8**	**+0.3**
AAK	0.7nm,0.3s,baz=233,slow=20,SNR=2.4			S	**Sn**	**19 47 43.4**	**+2.5**
	0.3nm,0.3s,baz=315,slow=20,SNR=3.3						
MKAR	**Makanchi Array**	**11.51**	**38**	P	**Pn**	**19 48 16.7**	**+0.4**
	0.1nm,0.3s,baz=217,slow=13,SNR=4.6						
BVAR	**Borovoye Array**	**14.92**	**356**	P	**Pn**	**19 49 00.8**	**-1.9**
	0.2nm,0.3s,baz=172,slow=12,SNR=3.0						
AKTO	**Aktyubinsk**	**15.80**	**325**	P	**P**	**19 49 16.4**	**-1.3**
	0.2nm,0.3s,baz=125,slow=11,SNR=4.5						
ZALV	**Zalesovo Beam**	**18.09**	**25**	P	**Pn**	**19 49 42.0**	**-0.9**
	0.4nm,0.3s,baz=221,slow=12,SNR=6.7						
CMAR	**Chiang Mai Arr**	**30.62**	**122**	LR	LR	20 07 21.3	
	comp=Z,14nm,19.6s,baz=195,slow=42						
FINES	**FINESS Array B**	**36.57**	**325**	P	**P**	**19 52 36.3**	**-0.4**
	1.9nm,0.8s,baz=115,slow=9.3,SNR=3.5						
TORD	**Torodi Ar. Bea**	**66.53**	**268**	P	**P**	**19 56 22.7**	**+1.5**
	0.4nm,0.6s,baz=52,slow=6.2,SNR=3.2						

*IDC **27** 19:53:12.7±0.9, 22°.75S×172°.25E, h0km, mb4.4/14, mb1 4.6/15, mb1mx4.4/33, mbtmp4.4/15, ML4.1/1, MS3.9/19, Ms1 3.9/19, ms1mx3.8/37, Error ellipse: s-maj=23.7km s-min=19.2km az=81.0*
*NEIC **27** 19:53:14.0±0.6, 22°.68S×172°.31E, h10km, mb4.7/6, Error ellipse: s-maj=12.5km s-min=10.8km az=57.0*

*GCMT **27** 19:53:14.0±0.3, 22°.94S×172°.15E, h17km, MW5.0/77, Moment Tensor Solution. s45,c61; s77,c119; Duration: 0 Moment tensor: Scale 10^16 Nm; Mrr=3.06±.15; Mθθ=-3.07±.11; Mφφ=0.00±.09; Mrθ=2.51±.27; Mrφ=0.24±.07; Mθφ=0.47±.26; Best double couple: Mo=3.99700×10^16 NP1:φs=85.00000°, δ65.00000°, λ82.00000°. NP2: φs=284.00000°, δ26.00000°, λ107.00000°. Principal axes: T 4.0260, Plg69.0000°, Azm339.0000°; N -0.0660, Plg7.0000°, Azm88.0000°; P -3.9680, Plg20.0000°, Azm181.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*ISCJB **27** 19:53:18.4±0.5, 22°.78S±0°.07×172°.02E±0°.06, h47km, mb4.5/17, MS3.9/14 Error ellipse: s-maj=10.3km s-min=8.2km az=13.1*

ISC 27 19:53:20.3±0.5, 22°.85S±0°.10×172°.02E±0°.07, h47km, n60, σ1§12/52, mb4.6/17, MS3.9/14, 1C, Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**5.22**	**277**	Pn	**Pn**	**19 54 34.9**	**-1.0**
	6.3nm,0.3s,baz=143,slow=23,SNR=43						
DZM				Sn	**Sn**	**19 55 35.3**	**+0.5**
	13nm,0.3s,baz=181,slow=22,SNR=6.6						
DZM				LR	LR	19 56 12.3	
	comp=Z,632nm,18.6s,baz=136,slow=33						
DZM	**Mont Dzumac**	**5.22**	**277**	*e*Sn	**Sn**	**19 55 34.0**	**-0.9**
	110nm,0.3s						
MSVF	**Nonsavu**	**7.61**	**49**	*e*Pn	**Pn**	**19 55 10.2**	**+1.5**
	127nm,1.1s						
RAO	**Raoul Island**	**11.06**	**127**	LR	LR	19 59 20.7	
	comp=Z,798nm,18.6s,baz=14,slow=34						
URZ	**Urewera**	**15.97**	**165**	Pn	**P**	**19 57 04.3**	**-0.2**
	0.3nm,0.3s,baz=14,slow=6.7,SNR=7.0						
URZ				LR	LR	20 01 42.2	
	comp=Z,792nm,21.5s,baz=348,slow=32						
HNR	**Honiara**	**17.66**	**317**	LR	LR	20 03 47.3	
	comp=Z,516nm,18.9s,baz=156,slow=36						
AFI	**Afiamalu**	**17.75**	**63**	LR	LR	20 03 34.5	
	comp=Z,359nm,18.2s,baz=87,slow=36						
EIDS	**Eidsvold**	**19.28**	**258**	*e*P	**Pn**	**19 57 43.2**	**+0.6**
	20nm,0.8s						
ARMA	**Armidale**	**19.71**	**243**	*e*P	**Pn**	**19 57 49.1**	**+1.3**
	40nm,1.4s						
RPZ	**Rata Peaks**	**20.83**	**182**	P	**P**	**19 57 58.5**	**+0.6**
	15nm,1.0s,baz=331,slow=10,SNR=2.3						
RPZ				LR	LR	20 04 34.3	
	comp=Z,908nm,21.7s,baz=356,slow=33						
CAN	**Canberra**	**23.58**	**233**	*e*P	**P**	**19 58 28.6**	**+1.7**
	41nm,1.3s						
CTA	**Charters Tower**	**24.13**	**272**	P	**P**	**19 58 33.3**	**+1.3**
	7.3nm,0.6s,baz=92,slow=11,SNR=8.2						
CTA				LR	LR	20 08 08.4	
	comp=Z,507nm,18.0s,baz=104,slow=37						
CTAO	**Charters Tower**	**24.13**	**272**	*e*P	**P**	**19 58 32.8**	**+0.8**
	850nm,1.9s						
RAR	**Rarotonga**	**26.18**	**92**	LR	LR	20 08 55.5	
	comp=Z,158nm,18.7s,baz=294,slow=36						
STKA	**Stephens Creek**	**28.40**	**245**	P	**P**	**19 59 10.0**	**-0.5**
	4.8nm,0.7s,baz=92,slow=12,SNR=8.8						
STKA				LR	LR	20 10 16.9	
	comp=Z,228nm,18.4s,baz=68,slow=36						
ASAR	**Alice Springs**	**34.96**	**261**	P	**P**	**20 00 08.2**	**0.0**
	23nm,0.8s,baz=89,slow=9.2,SNR=212						
ASAR				PcP	**PcP**	**20 02 40.2**	**+0.3**
	2.4nm,0.9s,baz=100,slow=3.9,SNR=5.0						
ASAR				LR	LR	20 14 37.6	
	comp=Z,264nm,18.1s,baz=99,slow=36						
WRAB	**Tennant Creek**	**35.14**	**267**	*e*P	**P**	**20 00 08.9**	**-0.7**
	9.2nm,0.9s						
WRA	**Warramunga Arr**	**35.15**	**267**	P	**P**	**20 00 08.8**	**-0.9**
	5.6nm,0.7s,baz=96,slow=8.6,SNR=100						
WRA				PcP	**PcP**	**20 02 40.8**	**+0.3**
	2.2nm,0.9s,baz=102

ISCJB ***27*** *19:53:25.4±0.8, 44.°04N±0.°05×12.°69E±0.°05, h15km±7km, Error ellipse: s-maj=8.6km s-min=5.7km az=1.5*
CSEM ***27*** *19:53:25.7±0.3, 44.°02N×12.°66E, h10km, ML2.5/4, Error ellipse: s-maj=5.7km s-min=4.4km az=154.0*

ISC 27 19:53:25.7±1.1, 44°03N±0°04×12°70E±0°03, h17km±8km, n34, σ0957/47, Northern Italy

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PESA	**Pesaro**	**0.13**	**129**	Pg	**Pb**	**19 53 29.3**	**-0.6**
PESA				Sg	**Sg**	**19 53 32.8**	**+0.6**
	394nm,0.1s						
PESA	**Pesaro**	**0.13**	**129**	Pg	**Pb**	**19 53 29.3**	**-0.6**
PESA				Sg	**Sg**	**19 53 32.8**	**+0.6**
	394nm,0.1s						
FSSB	**Fossombrone**	**0.34**	**170**	Pg	**Pg**	**19 53 32.5**	**-0.3**
FSSB				Sg	**Sb**	**19 53 38.7**	**+0.2**
	90nm,0.2s						
FSSB	**Fossombrone**	**0.34**	**170**	Pg	**Pg**	**19 53 32.5**	**-0.3**
FSSB				Sg	**Sb**	**19 53 38.7**	**+0.2**
	90nm,0.2s						
MPAG	**Monte Paganucc**	**0.40**	**173**	Pg	**Pg**	**19 53 33.4**	**-0.5**
MPAG				Sg	**Sb**	**19 53 40.5**	**+0.2**
	36nm,0.1s						
T0502	**Localit` San**	**0.42**	**253**	Pg	**Pg**	**19 53 34.4**	**+0.1**
T0502				Sg	**Sb**	**19 53 41.5**	**+0.6**
	26µm,19.0s						
PARC	**Parchiule**	**0.50**	**221**	Pg	**Pg**	**19 53 35.1**	**-0.7**
PARC				Sg	**Sb**	**19 53 44.3**	**+1.1**
	12nm,0.2s						
PARC	**Parchiule**	**0.50**	**221**	Pg	**Pg**	**19 53 35.1**	**-0.7**
PIEI	**Pieia**	**0.50**	**193**	Pg	**Pg**	**19 53 35.1**	**-0.7**
PIEI				Sg	**Sb**	**19 53 43.9**	**+0.7**
	54nm,0.3s						
PIEI	**Pieia**	**0.50**	**193**	Pg	**Pg**	**19 53 35.1**	**-0.7**
PIEI				Sg	**Sb**	**19 53 43.9**	**+0.7**
	54nm,0.3s						
FRON	**Frontone**	**0.51**	**178**	Pg	**Pg**	**19 53 35.4**	**-0.5**
FRON				Sg	**Sb**	**19 53 44.4**	**+1.0**
	29nm,0.2s						
FRON	**Frontone**	**0.51**	**178**	Pg	**Pg**	**19 53 35.4**	**-0.5**
FRON				Sg	**Sb**	**19 53 44.4**	**+1.0**
	29nm,0.2s						
ARVD	**Arcevia**	**0.56**	**161**	Pg	**Pg**	**19 53 35.9**	**-0.9**
	31nm,1.4s						
ARVD	**Arcevia**	**0.56**	**161**	Pg	**Pg**	**19 53 35.9**	**-0.9**
	31nm,1.4s						
ATPC	**Poggio Castell**	**0.57**	**198**	Pg	**Pg**	**19 53 36.7**	**-0.4**
	35nm,0.3s						
ATPC	**Poggio Castell**	**0.57**	**198**	Pg	**Pg**	**19 53 36.7**	**-0.4**
	35nm,0.3s						
SSFR	**Montelago di S**	**0.59**	**174**	Pg	**Pg**	**19 53 36.9**	**-0.6**
	58nm,0.2s						
SSFR	**Montelago di S**	**0.59**	**174**	Pg	**Pg**	**19 53 36.9**	**-0.6**
	58nm,0.2s						
BADI	**Badiali**	**0.61**	**213**	Pg	**Pb**	**19 53 37.5**	**-0.5**
	20nm,0.3s						
BADI	**Badiali**	**0.61**	**213**	Pg	**Pb**	**19 53 37.5**	**-0.5**
	20nm,0.3s						
SFI	**Santa Sofia**	**0.62**	**259**	Pg	**Pb**	**19 53 37.6**	**-0.6**
SFI	**Santa Sofia**	**0.62**	**259**	Pg	**Pb**	**19 53 37.6**	**-0.6**
ATVO	**AVT- Monte Val**	**0.68**	**198**	Pg	**Pb**	**19 53 38.4**	**-0.7**
	20nm,0.3s						
ATVO	**AVT- Monte Val**	**0.68**	**198**	Pg	**Pb**	**19 53 38.4**	**-0.7**
	20nm,0.3s						
MURB	**Monte Urbino**	**0.77**	**189**	Pg	**Pg**	**19 53 41.0**	**+0.2**
	31nm,0.3s						
MURB	**Monte Urbino**	**0.77**	**189**	Pg	**Pg**	**19 53 41.0**	**+0.2**
	31nm,0.3s						
SNTG	**Esanatoglia**	**0.79**	**167**	Pg	**Pb**	**19 53 40.8**	**-0.3**
	13nm,0.3s						
SNTG	**Esanatoglia**	**0.79**	**167**	Pg	**Pb**	**19 53 40.8**	**-0.3**
	13nm,0.3s						
ATCC	**AVT- Casa Cast**	**0.84**	**183**	Pg	**Pb**	**19 53 41.7**	**-0.2**
	23nm,0.4s						
ATCC	**AVT- Casa Cast**	**0.84**	**183**	Pg	**Pb**	**19 53 41.7**	**-0.2**
	23nm,0.4s						
NRCA	**Norcia**	**1.23**	**165**	Pg	**Pb**	**19 53 48.4**	**-0.2**
	22nm,1.3s						
NRCA	**Norcia**	**1.23**	**165**	Pg	**Pb**	**19 53 48.4**	**-0.2**
	22nm,1.3s						
NVLJ	**Novalja**	**1.65**	**70**	*e*Pn	**Pb**	**19 53 55.8**	**0.0**
NVLJ				Sn	**Sb**	**19 54 16.5**	**+0.2**
NVLJ	**Novalja**	**1.65**	**70**	*e*Pn	**Pb**	**19 53 55.7**	**0.0**
NVLJ				Sn	**Sb**	**19 54 16.4**	**+0.2**

NEIC ***27*** *19:55:33.6±1.2, 4.°93N×95.°88E, h41km±12km, mb4.0/3, Error ellipse: s-maj=15.3km s-min=9.3km az=222.0*
IDC ***27*** *19:55:34.0±2.6, 4.°91N×95.°83E, h44km±27km, mb3.7/10, mb1 3.9/13, mb1mx3.6/51, mbtmp3.9/13, ML3.8/3, MS3.1/1, Ms1 3.1/1, ms1mx2.6/41, Error ellipse: s-maj=34.1km s-min=14.2km az=49.0*

ISC 27 19:55:30.8±0.7, 4°63N±0°09×95°86E±0°07, h31km, n28, σ2828/27, mb4.0/13, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LHMI	**Lhok Sumawe**	**1.24**	**61**	*e*Pn	**Pn**	**19 55 51.0**	**-0.9**
PSI	**Prapat**	**3.55**	**121**	P	**Pb**	**19 56 30.6**	**-2.4**
	11nm,0.3s,baz=311,slow=12,SNR=16						
PSI				S	**Sb**	**19 57 13.8**	**-2.1**
	11nm,0.3s,baz=208,slow=6.7,SNR=4.5						
PSI				LR	LR	19 58 17.7	
	comp=Z,232nm,19.9s,baz=227,slow=43						
KULM	**Kulim**	**4.82**	**82**	*e*Pn	**Pn**	**19 56 41.8**	**+0.6**
KRAB	**Krabi**	**4.87**	**43**	P	**Pn**	**19 56 40.2**	**-1.8**
TRTT	**Trang**	**4.97**	**50**	P	**Pn**	**19 56 41.8**	**-1.5**
IPM	**Ipoh**	**5.15**	**91**	*e*Pn	**Pn**	**19 56 44.0**	**-1.8**
	67nm,0.6s						
SURT	**Suratani**	**5.20**	**34**	P	**Pn**	**19 56 45.2**	**-1.2**
SKLT	**Songkhla**	**5.37**	**62**	P	**Pn**	**19 56 48.2**	**-0.6**
CMAR	**Chiang Mai Arr**	**14.07**	**12**	P	**Pn**	**19 58 48.5**	**+0.4**
	0.2nm,0.3s,baz=203,slow=14,SNR=6.5						
PALK	**Pallekele**	**15.30**	**281**	P	**Pn**	**19 59 06.0**	**+1.2**
	0.2nm,0.3s,baz=118,slow=14,SNR=2.4						
PALK				S	**Sn**	**20 01 46.7**	**-6.8**
	0.4nm,0.3s,baz=117,slow=14,SNR=3.3						
SHL	**Shillong**	**21.17**	**350**	*ex*	**P**	**20 00 18.0**	**+4.2**
LSA	**Lhasa**	**25.34**	**350**	*e*P	**P**	**20 00 54.5**	**-1.1**
	2.1nm,0.5s						
H08S2	**Diego Garcia H**	**26.31**	**243**	T	T	20 28 05.7	
	baz=62,slow=76,SNR=193						
H08S3	**Diego Garcia H**	**26.31**	**243**	T	T	20 28 06.3	
	baz=62,slow=76,SNR=136						
H08S1	**Diego Carcia H**	**26.33**	**243**	T	T	20 28 10.1	
	baz=62,slow=76,SNR=147						
MKAR	**Makanchi Array**	**43.62**	**346**	P	**P**	**20 03 31.2**	**-1.1**
	1.1nm,0.8s,baz=163,slow=8.9,SNR=7.0						
SONM	**Songino Array**	**43.99**	**10**	P	**P**	**20 03 35.4**	**0.0**
	1.3nm,0.7s,baz=190,slow=9.7,SNR=7.7						
WRA	**Warramunga Arr**	**45.01**	**124**	P	**P**	**20 03 46.9**	**+3.1**
	0.9nm,0.5s,baz=305,slow=9.6,SNR=6.2						
WRAB	**Tennant Creek**	**45.02**	**124**	*e*P	**P**	**20 03 46.4**	**+2.5**
	1.9nm,0.7s						
ASAR	**Alice Springs**	**46.54**	**129**	P	**P**	**20 03 59.3**	**+3.4**
	2.5nm,0.6s,baz=302,slow=7.7,SNR=24						
GEYT	**Alibeck**	**47.75**	**319**	P	**P**	**20 04 05.4**	**+0.3**
	2.9nm,0.5s,baz=148,slow=8.7,SNR=16						
ZALV	**Zalesovo Beam**	**49.99**	**352**	P	**P**	**20 04 21.1**	**-0.9**
	0.3nm,0.4s,baz=178,slow=7.5,SNR=2.1						
ABKAR	**Akbulak array**	**53.88**	**332**	*e*P	**P**	**20 04 50.6**	**-0.5**
	0.5nm,0.4s						
KBZ	**Khabaz**	**60.63**	**318**	P	**P**	**20 05 37.7**	**-1.1**
	1.1nm,0.7s,baz=125,slow=7.4,SNR=4.5						
BRTR	**Keskin Array B**	**65.84**	**312**	P	**P**	**20 06 13.4**	**-0.2**
	1.0nm,0.5s,baz=131,slow=7.3,SNR=5.7						
GERES	**GERESS Array B**	**81.38**	**319**	P	**P**	**20 07 46.2**	**+1.5**
	0.5nm,0.7s,baz=131,slow=6.2,SNR=5.0						
CLL	**Collm**	**81.94**	**321**	*e*P	**P**	**20 07 48.0**	**+0.5**
TORD	**Torodi Ar. Bea**	**93.01**	**283**	P	**P**	**20 08 44.0**	**+2.0**
	0.5nm,0.9s,baz=78,slow=5.5,SNR=2.1						

NEIC ***27*** *20:02:59.0±0.0, 17.°18N×62.°21W, h10km, MD4.5(TRN), After TRN.*

TRN 27 20:02:58.9, 17°19N×62°20W, h11km, MD4.5, 2C, Leeward Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BPA	**Boggy Peak**	**0.36**	**114**	*e*P	Pb	20 03 08.7	+1.4
BPA				*e*S	Sb	20 03 14.4	+1.4
BPA	**Boggy Peak**	**0.36**	**114**	*e*P	Pn	20 03 09.3	-0.8
BPA				*e*S	Sb	20 03 14.4	+1.4
NEV	**Hard Times**	**0.36**	**261**	*i* P	Pb	20 03 08.6	+1.2
NEV				*e*S	Sb	20 03 14.5	+1.4
NEV	**Hard Times**	**0.36**	**261**	*i* P	Pb	20 03 08.6	+1.2
NEV				*e*S	Sb	20 03 14.5	+1.4
MLYT	**Lee's Yard**	**0.47**	**179**	*e*P	Pb	20 03 09.9	+0.6
MLYT				*e*S	Sb	20 03 18.0	+1.7
ANWB	**Willy Bob**	**0.62**	**40**	*e*P	Pn	20 03 14.4	+0.7
ANWB				*e*S	Sn	20 03 24.5	+0.9
ANWB	**Willy Bob**	**0.62**	**40**	*e*P	Pn	20 03 14.4	+0.7
ANWB				*e*S	Sn	20 03 24.5	+0.9
SEUS	**St. Eustatius**	**0.81**	**292**	*e*P	Pn	20 03 16.8	+0.5
SEUS	**St. Eustatius**	**0.81**	**292**	*e*	Pn	20 03 28.2	+12
SEUS				*e*S	Sn	20 03 31.0	+2.7
SEUS	**St. Eustatius**	**0.81**	**292**	*e*P	Pn	20 03 16.8	+0.5
SEUS				*e*S	Sn	20 03 31.0	+2.7
GDHS	**Morne Mazeau,**	**1.00**	**156**	*e*P	Pn	20 03 19.5	+0.4
GDHS				*e*S	Sn	20 03 37.2	+4.0
SEG	**Port Louis**	**1.03**	**140**	⇑*i*P	Pn	20 03 20.3	+0.9
SABA	**Saba**	**1.08**	**293**	*e*P	Pn	20 03 21.8	+1.6
SABA				*e*S	Sn	20 03 38.8	+3.6
SABA	**Saba**	**1.08**	**293**	*e*P	Pn	20 03 21.8	+1.6
SABA				*e*S	Sn	20 03 38.8	+3.6
SMRT	**St. Maarten**	**1.20**	**316**	*e*P	Pg	20 03 23.8	+1.8
SMRT				*e*S	Sn	20 03 40.4	+2.4
SMRT	**St. Maarten**	**1.20**	**316**	*e*P	Pg	20 03 23.8	+1.8
SMRT				*e*S	Sn	20 03 40.4	+2.4
SFG	**Saint Francois**	**1.34**	**134**	⇑*i*P	Pg	20 03 25.5	+0.8
DEG	**La Desirade**	**1.40**	**129**	*e*P	Pg	20 03 26.1	+0.3
DEG				*e*S	Sg	20 03 44.9	+0.9
DEG	**La Desirade**	**1.40**	**129**	*e*P	Pg	20 03 26.1	+0.3
DEG				*e*S	Sg	20 03 44.9	+0.9
TBG	**Guadaloupe-3**	**1.43**	**158**	*e*P	Pg	20 03 26.4	-0.1
TBG				*e*S	Sg	20 03 47.7	+2.6
MGG	**Marie-Galante**	**1.52**	**146**	*e*P	Pg	20 03 28.4	+0.2
MGG				*e*S	Sg	20 03 49.3	+1.3
MGG	**Marie-Galante**	**1.52**	**146**	*e*P	Pg	20 03 28.4	+0.2
MGG				*e*S	Sg	20 03 49.3	+1.3
BBL	**Barber's Block**	**1.80**	**157**	*e*P	Pb	20 03 31.7	-0.2
BBL				*e*S	Sg	20 03 56.8	0.0
BBL	**Barber's Block**	**1.80**	**157**	*e*P	Pb	20 03 31.7	-0.2
BBL				*e*S	Sg	20 03 56.8	0.0
DWS	**Wesley**	**1.82**	**152**	*e*P	Pb	20 03 33.0	+0.6
DWS				*e*S	Sg	20 03 57.2	-0.5
DWS	**Wesley**	**1.82**	**152**	*e*P	Pb	20 03 33.0	+0.6
DWS				*e*S	Sg	20 03 57.2	-0.5
MDN	**Morne-Daniel**	**2.02**	**157**	*e*P	Pb	20 03 35.3	-0.4
MDN				*e*S	Sb	20 04 01.4	+0.6
MDN	**Morne-Daniel**	**2.02**	**157**	*e*P	Pn	20 03 33.5	+0.6
MDN				*e*S	Sb	20 04 01.4	+0.6
DLPL	**La Plaine**	**2.06**	**154**	*e*P	Pb	20 03 36.3	-0.1
DLPL				*e*S	Sb	20 04 02.1	0.0
DLPL	**La Plaine**	**2.06**	**154**	*e*P	Pb	20 03 36.3	-0.1
DLPL				*e*S	Sb	20 04 02.1	0.0
DPMT	**Pointe Michel**	**2.08**	**158**	*e*P	Pb	20 03 36.7	0.0
DPMT	**Pointe Michel**	**2.08**	**158**	*e*	Pb	20 03 37.5	+0.9
DPMT				*e*S	Sb	20 04 03.2	+0.8
DPMT	**Pointe Michel**	**2.08**	**158**	*e*P	Pb	20 03 36.7	0.0
DPMT				*e*S	Sb	20 04 03.2	+0.8
DBCT	**Belle View Cho**	**2.08**	**157**	*e*P	Pb	20 03 36.4	-0.4
DBCT				*e*S	Sb	20 04 03.0	+0.4
DBCT	**Belle View Cho**	**2.08**	**157**	*e*P	Pb	20 03 36.4	-0.4
DBCT				*e*S	Sb	20 04 03.0	+0.4
CXM	**Morne La Croix**	**2.57**	**157**	*e*P	Pn	20 03 42.1	+1.5
FDF	**Fort de France**	**2.64**	**157**	*e*P	Pb	20 03 44.3	-2.1
FDF				*e*S	Sn	20 04 16.3	+2.5
FDF	**Fort de France**	**2.64**	**157**	*e*P	Pb	20 03 44.3	-2.1
FDF				*e*S	Sg	20 04 21.8	-2.2
SSV	**Crater Summit**	**3.96**	**166**	*e*P	Pn	20 04 02.9	+3.1
SSV	**Crater Summit**	**3.96**	**166**	*e*S	Sn	20 04 49.1	+2.7
SSV	**Crater Summit**	**3.96**	**166**	*e*P	Pn	20 04 02.9	+3.1
SSV				*e*S	Sn	20 04 49.1	+2.7
SVV	**Soufriere Volc**	**3.97**	**166**	*e*P	Pn	20 04 02.7	+2.9
SVV	**Soufriere Volc**	**3.97**	**166**	*e*S	Sn	20 04 48.8	+2.4
SVV	**Soufriere Volc**	**3.97**	**166**	*e*P	Pn	20 04 02.7	+2.9
SVV				*e*S	Sn	20 04 48.8	+2.4
SVB	**Belmont**	**4.00**	**167**	*e*P	Pn	20 04 01.8	+1.5
SVB	**Belmont**	**4.00**	**167**	*e*S	Sn	20 04 49.4	+2.2
SVB	**Belmont**	**4.00**	**167**	*e*P	Pn	20 04 01.8	+1.5
SVB				*e*S	Sn	20 04 49.4	+2.2
FCV	**Fort Charlotte**	**4.12**	**167**	*e*P	Pn	20 04 04.4	+2.6
FCV	**Fort Charlotte**	**4.12**	**167**	*e*P	Pn	20 04 04.4	+2.6
GRGR	**Grenville**	**5.06**	**174**	*e*P	Pn	20 04 17.5	+2.7
GRGR	**Grenville**	**5.06**	**174**	*e*P	Pn	20 04 17.5	+2.7

KRNET ***27*** *20:07:19.9±0.1, 38.°07N×71.°94E, mb3.7*
NNC ***27*** *20:07:22.6±9.3, 38.°39N×71.°42E, h0km, mb4.0, mpv3.6, Error ellipse: s-maj=62.7km s-min=44.2km az=166.0*
ISCJB ***27*** *20:07:23.3±1.2, 38.°09N±0.°08×72.°0E±0.°1, h35km, mb3.8/2, Error ellipse: s-maj=15.2km s-min=9.0km az=31.1*
IDC ***27*** *20:07:31.9±10.0, 38.°38N×72.°23E, h94km±130km, mb3.6/2, mb1 3.5/4, mb1mx3.0/37, mbtmp3.7/4, ML3.0/2, Error ellipse: s-maj=118.5km s-min=64.9km az=107.0*

ISC 27 20:07:26.9±1.7, 38°2N±0°1×71°8E±0°1, h35km, n12, σ1961/19, 6C-11D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BTK	**Batken**	**1.96**	**338**	⇓*i*P	**Pn**	**20 07 57.1**	**-0.6**
	baz=337						
BTK				⇓*i*S	**Sn**	**20 08 25.0**	**+3.8**
	baz=337						
OHH	**Osh**	**2.41**	**18**	⇓*i*P	**Pn**	**20 08 02.3**	**-1.5**
	baz=15						
OHH				⇓*i*S	**Sn**	**20 08 33.4**	**+1.3**
	baz=15						
ARSB	**Arslanbob**	**3.21**	**16**	⇑*i*P	**Pn**	**20 08 14.2**	**-0.8**
	baz=13						
ARSB				⇑*i*S	**Sn**	**20 08 53.4**	**+1.3**
	baz=13						
AML	**Almayashu**	**4.15**	**20**	⇑*i*P	**Pn**	**20 08 27.5**	**-0.6**
	baz=18						
AML				⇑*i*S	**Sn**	**20 09 16.9**	**+1.4**
	baz=18						
MNAS	**Manas**	**4.28**	**7**	⇓*i*P	**Pn**	**20 08 28.6**	**-1.0**
	baz=5.0						
MNAS				⇓*i*S	**Sn**	**20 09 18.8**	**+0.5**
	baz=5.0						
MNAS	**Manas**	**4.28**	**7**	⇓Pg	Pn	20 08 35.1	+5.5
	5.3nm,0.4s						
MNAS				⇓Sn	**Sn**	**20 09 18.6**	**+0.3**
	37nm,0.6s						
MNAS				⇓Lg	Lg	20 09 40.6	
	28nm,1.0s						
AAK	**Ala-Archa**	**4.85**	**24**	⇓Pg	**Pn**	**20 08 38.7**	**+1.2**
	4.2nm,0.5s						
AAK				Sn	**Sn**	**20 09 34.6**	**+2.1**
	6.7nm,0.5s						
KK31	**Karatay Array**	**4.95**	**349**	⇑Pn	**Pn**	**20 08 37.8**	**-0.9**
	5.5nm,0.5s,baz=168,slow=13,SNR=55						
KK31				⇓Sn	**Sn**	**20 09 32.6**	**-2.1**
	15nm,0.8s,baz=174,slow=22						
KK31				⇑Lg	Lg	20 09 52.4	
	10nm,0.7s						
MKAR	**Makanchi Array**	**11.53**	**39**	P	**Pn**	**20 10 08.9**	**0.0**
	0.1nm,0.3s,baz=224,slow=15,SNR=4.8						
ZALV	**Zalesovo Beam**	**18.07**	**25**	P	**Pn**	**20 11 32.8**	**-2.2**
	0.5nm,0.3s,baz=222,slow=11,SNR=7.6						
FINES	**FINESS Array B**	**36.41**	**325**	P	**P**	**20 14 27.6**	**0.0**
	2.8nm,0.8s,baz=118,slow=8.0,SNR=3.8						
TORD	**Torodi Ar. Bea**	**66.39**	**268**	P	**P**	**20 18 13.4**	**+0.8**
	0.3nm,0.5s,baz=60,slow=5.9,SNR=5.4						

ISCJB ***27*** *20:26:37.0±0.4, 19.°96S±0.°09×178.°01W±0.°08, h450km, mb4.2/22, Error ellipse: s-maj=13.1km s-min=8.3km az=152.8*
NEIC ***27*** *20:26:36.9±0.9, 19.°85S×177.°98W, h438km±9km, mb4.6/7, Error ellipse: s-maj=12.9km s-min=8.5km az=154.0*
IDC ***27*** *20:26:37.7±1.8, 19.°85S×177.°99W, h444km±19km, mb3.8/16, mb1 3.9/18, mb1mx3.7/40, mbtmp4.6/18, Error ellipse: s-maj=16.0km s-min=9.2km az=157.0*

ISC 27 20:26:37.5±0.4, 20°00S±0°07×177°89W±0°08, h450km, n82, σ1951/93, mb4.1/22, 10C-9D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MSVF	**Nonsavu**	**4.46**	**300**	*e*Pn	**P**	**20 27 52.9**	**-4.0**
AFI	**Afiamalu**	**8.42**	**45**	S	S	20 29 57.5	-19
	14nm,0.3s,baz=198,slow=23,SNR=6.2						
RAO	**Raoul Island**	**9.21**	**180**	S	**S**	**20 30 25.5**	**-6.1**
	126nm,0.3s,baz=276,slow=23,SNR=6.4						
DZM	**Mont Dzumac**	**14.77**	**259**	P	**P**	**20 29 47.7**	**+1.4**
	0.3nm,0.3s,baz=72,slow=16,SNR=5.1						
RAR	**Rarotonga**	**17.01**	**97**	P	**P**	**20 30 10.4**	**+0.5**
	0.4nm,0.3s,baz=244,slow=3.8,SNR=4.0						
URZ	**Urewera**	**18.71**	**192**	P	**P**	**20 30 25.2**	**-1.7**
	2.2nm,0.3s,baz=252,slow=3.2,SNR=9.7						
URZ				S	**S**	**20 33 36.3**	**+2.0**
	1.6nm,0.3s,baz=98,slow=23,SNR=8.0						
CTA	**Charters Tower**	**33.64**	**264**	P	**P**	**20 32 39.7**	**+0.3**
	28nm,0.6s,baz=91,slow=10,SNR=38						
CTAO	**Charters Tower**	**33.64**	**264**	*e*P	**P**	**20 32 39.5**	**+0.1**
	162nm,0.8s						
STKA	**Stephens Creek**	**38.10**	**244**	P	**P**	**20 33 17.1**	**+0.6**
	17nm,0.7s,baz=88,slow=9.7,SNR=26						
BBOO	**Buckleboo**	**42.86**	**243**	*e*P	**P**	**20 33 54.8**	**+0.1**
	29nm,0.6s						
ASAR	**Alice Springs**	**44.73**	**256**	P	**P**	**20 34 09.4**	**-0.1**
	28nm,0.7s,baz=96,slow=8.1,SNR=395						
ASAR				S	**S**	**20 40 13.9**	**+1.3**
	2.4nm,0.8s,baz=95,slow=16,SNR=15						
WRAB	**Tennant Creek**	**44.76**	**262**	*e*P	**P**	**20 34 08.8**	**-1.0**
	3.6nm,0.6s						
WRA	**Warramunga Arr**	**44.77**	**262**	P	**P**	**20 34 08.9**	**-0.9**
	4.1nm,0.3s,baz=95,slow=7.3,SNR=238						
WRA				S	**S**	**20 40 13.4**	**+0.2**
	0.7nm,0.8s,baz=98,slow=14,SNR=3.5						
FITZ	**Fitzroy Crossi**	**53.20**	**262**	P	**P**	**20 35 12.9**	**+0.2**
	3.7nm,0.6s,baz=119,slow=3.0,SNR=26						
MBWA	**Marble Bar**	**58.06**	**257**	*e*P	**P**	**20 35 46.4**	**-0.2**
VNDA	**Vanda**	**58.41**	**185**	P	**P**	**20 35 50.3**	**+2.2**
	3.1nm,1.0s,baz=355,slow=8.7,SNR=6.4						
NWAO	**Narrogin (SRO)**	**58.69**	**243**	*e*P	**P**	**20 35 51.1**	**+0.4**
MJAR	**Matsushiro Arr**	**69.87**	**324**	P	**P**	**20 37 01.2**	**-0.7**
	3.3nm,0.6s,baz=138,slow=6.9,SNR=9.3						
QSPA	**South Pole Qui**	**70.07**	**180**	*e*P	**P**	**20 37 04.0**	**+1.2**
	134nm,1.1s						
PETK	**Petropavlovsk-**	**75.81**	**345**	P	**P**	**20 37 36.9**	**+1.0**
	5.6nm,0.6s,baz=118,slow=8.1,SNR=4.6						
DAC	**Darwin (Calif)**	**79.85**	**45**	*e*P	**P**	**20 37 59.5**	**+1.0**
	1.5nm,0.6s						
KDAK	**Kodiak Island**	**80.31**	**13**	P	**P**	**20 38 00.1**	**+0.1**
	3.9nm,0.8s,baz=184,slow=4.3,SNR=6.0						
MAW	**Mawson**	**82.07**	**200**	P	**P**	**20 38 10.3**	**+1.0**
	1.7nm,0.5s,baz=155,slow=5.2,SNR=14						
DIV	**Divide**	**84.88**	**15**	*e*P	**P**	**20 38 23.3**	**0.0**
	3.4nm,0.7s						
TRF	**Thorofare Moun**	**85.94**	**12**	*e*P	**P**	**20 38 27.6**	**-1.0**
	18nm,1.3s						
TXAR	**Lajitas Array**	**86.70**	**57**	P	**P**	**20 38 34.0**	**+1.1**
	2.0nm,0.6s,baz=219,slow=6.6,SNR=26						
TXAR				pP	**pP**	**20 40 10.4**	**-3.8**
	1.1nm,1.0s,baz=264,slow=5.3,SNR=4.0						
ANMO	**Albuquerque**	**87.01**	**51**	P	**P**	**20 38 36.2**	**+1.8**
	2.1nm,0.8s,baz=234,slow=6.0,SNR=5.1						
SYO	**Syowa Base**	**87.23**	**193**	⇑*e*P	**P**	**20 38 33.2**	**-1.4**
DLBC	**Dease Lake**	**87.55**	**23**	P	**P**	**20 38 38.0**	**+1.9**
	1.6nm,0.4s,baz=32,slow=1.3,SNR=3.1						
ILAR	**Eielson Array**	**87.81**	**13**	P	**P**	**20 38 36.1**	**-1.0**
	3.2nm,0.9s,baz=232,slow=4.9,SNR=21						
ILAR				pP	**pP**	**20 40 12.0**	**-6.9**
	2.1nm,1.0s,baz=222,slow=6.4,SNR=6.6						
PDAR	**Pinedale Array**	**88.53**	**43**	P	**P**	**20 38 42.5**	**+1.2**
	1.8nm,0.3s,baz=183,slow=3.0,SNR=5.8						
CMAR	**Chiang Mai Arr**	**90.04**	**290**	P	**P**	**20 38 50.5**	**+1.9**
	0.9nm,0.6s,baz=123,slow=3.3,SNR=5.8						
MKAR	**Makanchi Array**	**110.93**	**314**	PKiKP	**PKiKP**	**20 44 17.6**	**-1.0**
	0.4nm,0.7s,baz=64,slow=5.5,SNR=3.5						
KURK	**Kurchatov**	**113.70**	**318**	PKiKP	**PKiKP**	**20 44 23.0**	**-0.6**
KURBB	**Kurchatov Arra**	**113.75**	**317**	PKiKP	**PKiKP**	**20 44 23.0**	**-0.7**
	0.7nm,0.7s,baz=94,slow=1.8,SNR=8.0						
BVAR	**Borovoye Array**	**118.76**	**320**	PKP	**PKPdf**	**20 44 32.6**	**-0.8**
	0.7nm,0.4s,baz=242,slow=35,SNR=7.4						
ARCES	**ARCESS Array B**	**128.45**	**350**	PKP	**PKPdf**	**20 44 50.7**	**-0

$M_{\theta\theta}$-3.75±.12; $M_{\phi\phi}$-0.13±.11; $M_{r\theta}$2.78±.29; $M_{\theta\phi}$0.23±.07; $M_{\theta\theta}$0.53±.29; Best double couple: M_w4.75400×10^{16} NP1:ϕ_{θ}85.00000°,δ63.00000°,λ83.00000°. NP2: ϕ_{θ}281.00000°,δ28.00000°,λ104.00000°. Principal axes: T 4.8520, Plg71.0000°, Azm340.0000°; N -0.2020, Plg6.0000°, Azm89.0000°; P -4.6560, Plg18.0000°, Azm181.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.

ISCJB ***27*** *20:35:15.2±0.5,22°.73S×0°.08×172°.03E±0°.06, h40km, mb4.6/15, MS4.2/20 Error ellipse: s-maj=11.1km s-min=8.4km az=178.5*

IDC ***27*** *20:35:15.8±7.7, 22°.67S×172°.11E, h33km±56km, mb4.1/12, mb1 4.3/14, mb1mx4.1/37, mbtmp4.3/14, ML4.1/2, MS4.1/25, Ms1 4.1/25, ms1mx4.0/39, Error ellipse: s-maj=28.5km s-min=20.1km az=46.0*

ISC 27 20:35:16.0±0.6, 22°.79S±0°.09×172°.17E±0°.07, h40km, n55, σ1s77/38, mb4.5/15, MS4.1/20, Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**5.35**	**277**	Pn			**Pn**	**20 36 32.0**	**-1.5**
	6.6nm,0.3s,baz=154,slow=12,SNR=35								
DZM				Sn			**Sn**	**20 37 32.7**	**-1.2**
	11nm,0.3s,baz=191,slow=23,SNR=4.6								
DZM				LR			LR	20 38 32.7	
	comp=Z,2μm,18.2s,baz=186,slow=37								
DZM	**Mont Dzumac**	**5.35**	**277**	*e*Pn			**Pn**	**20 36 31.7**	**-1.7**
	65nm,0.3s								
DZM				*e*Sn			**Sn**	**20 37 28.8**	**-5.1**
	66nm,0.3s								
DZM				*e*LR			LR	20 37 42.0	
	1μm,23.9s								
NFK	**Norfolk Island**	**7.30**	**211**	P			**Pn**	**20 36 56.6**	**-3.5**
	baz=7.1,SNR=7.5								
MSVF	**Nonsavu**	**7.46**	**49**	*e*Pn			Pn	20 37 06.5	+4.0
	95nm,0.9s								
RAO	**Raoul Island**	**10.99**	**128**	LR			LR	20 40 45.1	
	comp=Z,889nm,20.9s,baz=22,slow=30								
URZ	**Urewera**	**15.99**	**166**	Pn			**P**	**20 39 01.6**	**+0.6**
	0.6nm,0.3s,baz=346,slow=7.1,SNR=12								
URZ				LR			LR	20 44 01.0	
	comp=Z,816nm,19.8s,baz=356,slow=33								
AFI	**Afiamalu**	**17.59**	**63**	LR			LR	20 45 23.4	
	comp=Z,397nm,18.6s,baz=168,slow=34								
HNR	**Honiara**	**17.71**	**317**	LR			LR	20 45 45.7	
	comp=Z,750nm,18.7s,baz=160,slow=36								
EIDS	**Eidsvold**	**19.43**	**258**	*e*P			**Pn**	**20 39 44.8**	**+4.4**
	91nm,1.5s								
ARMA	**Armidale**	**19.86**	**243**	*e*P			**Pn**	**20 39 46.0**	**+0.3**
	12nm,1.0s								
RPZ	**Rata Peaks**	**20.89**	**182**	P			**P**	**20 39 57.1**	**+2.3**
	10.0nm,0.8s,baz=20,slow=12,SNR=4.1								
RPZ				LR			LR	20 47 52.9	
	comp=Z,1μm,18.2s,baz=325,slow=36								
CTA	**Charters Tower**	**24.27**	**271**	P			**P**	**20 40 30.6**	**+1.0**
	6.7nm,0.7s,baz=106,slow=12,SNR=5.0								
CTAO	**Charters Tower**	**24.27**	**271**	*e*P			**P**	**20 40 31.6**	**+1.9**
	627nm,1.7s								
CMSA	**Cobar Meteorol**	**25.07**	**244**	P			**P**	**20 40 38.4**	**+1.6**
	baz=25,SNR=18								
QLP	**Quilpie**	**25.64**	**256**	P			**P**	**20 40 42.3**	**+0.3**
	baz=25,SNR=8.6								
RAR	**Rarotonga**	**26.04**	**92**	LR			LR	20 50 25.5	
	comp=Z,149nm,18.8s,baz=267,slow=35								
MTSU	**Mount Surprise**	**26.49**	**275**	P			**P**	**20 40 50.6**	**+0.8**
	baz=26,SNR=8.7								
STKA	**Stephens Creek**	**28.56**	**245**	P			**P**	**20 41 09.5**	**+1.3**
	2.0nm,0.6s,baz=89,slow=5.7,SNR=5.8								
STKA				LR			LR	20 52 04.5	
	comp=Z,449nm,18.4s,baz=70,slow=35								
ASAR	**Alice Springs**	**35.11**	**261**	P			**P**	**20 42 05.5**	**-0.4**
	8.3nm,0.8s,baz=85,slow=9.6,SNR=71								
ASAR				LR			LR	20 55 27.6	
	comp=Z,177nm,20.9s,baz=98,slow=34								
WRAB	**Tennant Creek**	**35.28**	**267**	*e*P			**P**	**20 42 05.8**	**-1.5**
	16nm,1.2s								
WRA	**Warramunga Arr**	**35.29**	**267**	P			**P**	**20 42 05.8**	**-1.5**
	3.9nm,0.6s,baz=96,slow=8.6,SNR=70								
WRA				LR			LR	20 56 48.0	
	comp=Z,291nm,19.8s,baz=105,slow=37								
PPT2	**Papeete2**	**36.20**	**89**	*e*S			**S**	**20 47 49.3**	**-3.6**
	78nm,23.8s								
PPT2				*e*LQ			LQ	20 50 34.7	
	231nm,24.5s								
PPT2				*e*LR			LR	20 52 08.9	
	188nm,22.5s								
PPT	**Papeete**	**36.21**	**89**	LR			LR	20 56 01.4	
	comp=Z,156nm,18.5s,baz=206,slow=34								
WRKA	**Warakurna**	**40.05**	**258**	P			**P**	**20 42 47.2**	**-0.3**
	baz=40,SNR=16								
H11S2	**WAKE ISLAND Hy**	**41.37**	**352**	T			T	21 27 18.5	
	baz=173,slow=76,SNR=3.4								
H11S3	**WAKE ISLAND Hy**	**41.38**	**352**	T			T	21 27 23.2	
	baz=173								
H11S1	**WAKE ISLAND Hy**	**41.39**	**352**	T			T	21 27 21.7	
	baz=173,slow=76,SNR=3.1								
H11N1	**WAKE ISLAND Hy**	**42.56**	**353**	T			T	21 28 53.0	
	baz=172,slow=76,SNR=5.1								
H11N3	**WAKE ISLAND Hy**	**42.56**	**353**	T			T	21 28 46.9	
	baz=172,slow=76,SNR=5.1								
H11N2	**WAKE ISLAND Hy**	**42.57**	**353**	T			T	21 28 51.9	
	baz=172,slow=76,SNR=5.6								
FITZ	**Fitzroy Crossi**	**43.72**	**267**	P			**P**	**20 43 18.0**	**+0.4**
	10.0nm,0.7s,baz=150,slow=8.4,SNR=16								
MBWA	**Marble Bar**	**48.45**	**261**	*e*P			**P**	**20 43 54.2**	**-0.6**
MEEK	**Meekatharra**	**48.52**	**254**	P			**P**	**20 43 55.0**	**-0.3**
	baz=48,SNR=5.0								
VNDA	**Vanda**	**55.01**	**183**	P			**P**	**20 44 43.8**	**+0.8**
	0.4nm,0.6s,baz=8.0,slow=11,SNR=3.3								
VNDA				LR			LR	21 04 34.0	
	comp=Z,345nm,21.9s,baz=17,slow=32								
SBA	**Scott Base**	**55.18**	**181**	*e*P			**P**	**20 44 45.4**	**+1.2**
	12nm,1.1s								
MJAR	**Matsushiro Arr**	**67.16**	**331**	LR			LR	21 15 57.4	
	comp=Z,36nm,18.7s,baz=85,slow=36								
QSPA	**South Pole Qui**	**67.28**	**180**	*e*P			**P**	**20 46 05.7**	**-0.8**
	62nm,1.3s								
KSRS	**Korea Array**	**72.97**	**324**	P			**P**	**20 46 41.8**	**+0.5**
	2.1nm,0.8s,baz=142,slow=6.6,SNR=7.6								
KSRS				LR			LR	21 19 21.4	
	comp=Z,80nm,18.1s,baz=127,slow=36								
KSAR	**Wonju Array Be**	**72.98**	**324**	P			**P**	**20 46 41.8**	**+0.4**
USRK	**Ussuriysk Ar.**	**76.14**	**331**	LR			LR	21 17 28.5	
	comp=Z,47nm,21.5s,baz=110,slow=33								
MAW	**Mawson**	**76.18**	**202**	P			**P**	**20 47 00.3**	**+0.7**
	2.1nm,0.8s,baz=109,slow=8.0,SNR=3.8								
MAW				LR			LR	21 18 37.2	
	comp=Z,171nm,18.1s,baz=65,slow=34								
PETK	**Petropavlovsk-**	**76.62**	**351**	LR			LR	21 18 05.9	
	comp=Z,235nm,19.1s,baz=139,slow=34								
CMAR	**Chiang Mai Arr**	**82.44**	**294**	P			**P**	**20 47 36.4**	**+1.8**
	2.2nm,0.9s,baz=127,slow=4.4,SNR=11								
CMAR				LR			LR	21 28 08.2	
	comp=Z,75nm,18.0s,baz=160,slow=38								
MA2	**Magadan**	**83.93**	**349**	LR			LR	21 20 10.5	
	comp=Z,175nm,19.8s,baz=138,slow=32								
SEY	**Seymchan**	**86.86**	**351**	LR			LR	21 24 10.2	
	comp=Z,218nm,19.1s,baz=155,slow=34								
YAK	**Yakutsk**	**91.08**	**341**	LR			LR	21 27 13.7	
	comp=Z,70nm,18.6s,baz=90,slow=34								
ILAR	**Eielson Array**	**92.82**	**16**	P			**P**	**20 48 22.7**	**-1.1**
	1.5nm,1.0s,baz=232,slow=5.6,SNR=4.0								
ILAR				LR			LR	21 27 23.5	
	comp=Z,231nm,18.5s,baz=222,slow=34								
PV01	**Paradox Valley**	**95.81**	**51**	*e*P			**P**	**20 48 37.8**	**-0.6**
	198nm,0.4s								
TXAR	**Lajitas Array**	**96.07**	**61**	P			**P**	**20 48 41.1**	**+1.4**
	0.3nm,0.8s,baz=270,slow=3.6,SNR=3.6								
TXAR				LR			LR	21 25 59.1	
	comp=Z,61nm,18.1s,baz=0.0,slow=32								
ANMO	**Albuquerque**	**96.08**	**55**	LR			LR	21 27 00.5	
	comp=Z,84nm,18.3s,baz=270,slow=32								
PDAR	**Pinedale Array**	**97.03**	**47**	LR			LR	21 27 30.3	
	comp=Z,153nm,18.0s,baz=260,slow=32								
CLL	**Collm**	**147.27**	**336**	*e*PKPbc			**PKPab**	**20 54 56.0**	**-0.7**
CLL				*e*				20 55 02.0	
CLL				LmV				21 59 00.0	
	comp=Z,100nm,21.2s								
KHC	**Kasperske Hory**	**148.73**	**332**	*e*PKP			**PKPab**	**20 55 02.0**	**-0.7**
GERES	**GERESS Array B**	**148.90**	**332**	PKPbc			**PKPbc**	**20 54 58.6**	**-0.8**
	comp=Z,0.8nm,0.8s,baz=4.4,slow=3.5,SNR=8.1								
TORD	**Torodi Ar. Bea**	**166.82**	**225**	PKP			**PKPdf**	**20 55 18.0**	**-0.1**
	comp=Z,0.9nm,0.9s,baz=283,slow=0.4,SNR=4.1								
TORD				PKPab			**PKPab**	**20 56 21.3**	**+0.1**
	comp=Z,0.9nm,0.8s,baz=131,slow=3.4,SNR=4.4								

ISK ***27*** *21:00:43.9, 39°.20N×26°.70E, h18km, MD2.7*

ISCJB ***27*** *21:00:44.6±0.6, 39°.19N±0°.03×26°.68E±0°.05, h7km±5km, Error ellipse: s-maj=6.4km s-min=5.2km az=152.3*

CSEM ***27*** *21:00:44.6±0.2, 39°.19N×26°.67E, h15km, MD2.7, Error ellipse: s-maj=6.4km s-min=5.3km az=25.0*

DDA ***27*** *21:00:45.2, 39°.17N×26°.71E, h7km, Md2.7*

ISC 27 21:00:44.5±1.2, 39°.19N±0°.03×26°.69E±0°.03, h15km±9km, n26, σ0s32/32, Turkey

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
AYVA	**Ayvalik**	**0.12**	**2**	*i* P			**Pb**	**21 00 48.8**	**+0.4**
AYVA	**Ayvalik**	**0.12**	**2**	P			**Pb**	**21 00 48.8**	**+0.4**
DKL	**Dikili**	**0.21**	**125**	*e*PG			**Pg**	**21 00 49.3**	**+0.1**
DKL				*e*SG			**Sb**	**21 00 53.3**	**-0.3**
DKL	**Dikili**	**0.21**	**125**	*e*Pg			**Pg**	**21 00 49.3**	**+0.1**
DKL				*e*Sg			**Sb**	**21 00 53.3**	**-0.3**
SIGR	**SIGRI**	**0.65**	**272**	*e*PG			**Pg**	**21 00 57.2**	**+0.1**
SIGR	**SIGRI**	**0.65**	**272**	*e*Pg			**Pg**	**21 00 57.2**	**+0.1**
EZN	**Ezine**	**0.69**	**336**	*e*PG			**Pg**	**21 00 58.1**	**+0.1**
EZN	**Ezine**	**0.69**	**336**	*e*Pg			**Pg**	**21 00 58.1**	**+0.1**
BOZC	**Bozcaada**	**0.81**	**323**	*e*PG			**Pb**	**21 00 60.0**	**-0.3**
BOZC	**Bozcaada**	**0.81**	**323**	*i* P			**Pn**	**21 01 01.3**	**0.0**
BOZC				*i* S			**Sn**	**21 01 13.5**	**+0.4**
BOZC	**Bozcaada**	**0.81**	**323**	*e*Pg			**Pb**	**21 01 00.0**	**-0.3**
URLA	**Izmir**	**0.83**	**185**	*e*PG			**Pg**	**21 01 00.8**	**+0.2**
URLA	**Izmir**	**0.83**	**185**	*e*Pg			**Pg**	**21 01 00.8**	**+0.2**
BALY	**Balya**	**0.91**	**52**	*i* P			**Pn**	**21 01 03.4**	**+0.7**
BALY				*i* S			**Sn**	**21 01 15.7**	**+0.2**
BALY	**Balya**	**0.91**	**52**	P			**Pn**	**21 01 03.4**	**+0.7**
BALY				S			**Sn**	**21 01 15.7**	**+0.2**
ZEY	**˜zmir**	**0.96**	**189**	*i* P			**Pb**	**21 01 02.7**	**0.0**
ZEY				*i* S			**Sn**	**21 01 16.9**	**+0.2**
BALB	**Balikesir**	**1.03**	**64**	*e*PG			**Pb**	**21 01 03.4**	**-0.5**
BALB	**Balikesir**	**1.03**	**64**	*e*Pg			**Pb**	**21 01 03.4**	**-0.5**
ERIK	**Erikli-Kesan**	**1.48**	**355**	*e*PN			**Pn**	**21 01 10.3**	**-0.3**
ERIK	**Erikli-Kesan**	**1.48**	**355**	*e*Pn			**Pn**	**21 01 10.3**	**-0.3**
DEMI	**Demirci**	**1.59**	**95**	*i* P			**Pb**	**21 01 13.7**	**+0.1**
DEMI	**Demirci**	**1.59**	**95**	P			**Pb**	**21 01 13.6**	**+0.1**
KCTX	**Karacabey (Bur**	**1.68**	**50**	*e*PN			**Pn**	**21 01 13.0**	**-0.3**
KCTX	**Karacabey (Bur**	**1.68**	**50**	*e*Pn			**Pn**	**21 01 13.0**	**-0.3**
TVSB	**Tavsanli**	**2.17**	**82**	*e*PN			**Pn**	**21 01 19.9**	**-0.2**
TVSB	**Tavsanli**	**2.17**	**82**	*e*Pn			**Pn**	**21 01 19.9**	**-0.2**

IDC 27 21:04:44.1±5.0, 22°.88S×171°.79E, h61km±39km, mb3.7/4, mb1 4.0/6, mb1mx3.6/35, mbtmp4.0/6, ML3.8/2, Error ellipse: s-maj=47.5km s-min=29.6km az=23.0, Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**5.01**	**278**	P			Pn	21 05 56.4	-0.4
	3.1nm,0.3s,baz=137,slow=18,SNR=15								
DZM				S			Sn	21 06 54.7	+1.2
	5.0nm,0.3s,baz=100,slow=14,SNR=8.1								
URZ	**Urewera**	**15.99**	**165**	P			Pn	21 08 25.3	+0.1
	0.4nm,0.3s,baz=16,slow=7.2,SNR=5.2								
ASAR	**Alice Springs**	**34.75**	**261**	P			P	21 11 28.8	0.0
	2.4nm,0.9s,baz=92,slow=9.4,SNR=16								
WRA	**Warramunga Arr**	**34.93**	**268**	P			P	21 11 29.2	-1.1
	0.9nm,0.4s,baz=96,slow=8.6,SNR=18								
CMAR	**Chiang Mai Arr**	**82.16**	**294**	P			P	21 16 59.6	+0.8
	0.7nm,0.7s,baz=138,slow=6.7,SNR=4.6								
ILAR	**Eielson Array**	**93.00**	**16**	P			P	21 17 50.4	+0.1
	0.6nm,0.9s,baz=228,slow=7.5,SNR=4.4								

ISCJB ***27*** *21:04:54.4±0.5, 23°.90N±0°.03×122°.79E±0°.02, h15km±5km, Error ellipse: s-maj=5.2km s-min=2.9km az=170.3*

JMA ***27*** *21:04:54.9±0.1, 23°.97N×122°.78E, h51km±4km, MD2.4*

TAP ***27*** *21:04:56.2, 24°.01N×122°.77E, h43km±1km, ML3.3, C*

ISC 27 21:04:53.4±1.2, 23°.91N±0°.03×122°.80E±0°.02, h20km±5km, n39, σ0s68/72, 1C, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
JYNG	**Yonagunijimaku**	**0.55**	**14**	P			**Pn**	**21 05 06.2**	**+0.1**
JYNG				S			**Sn**	**21 05 14.1**	**-0.6**
YOJ	**Yonaguni jima**	**0.58**	**20**	P			**Pn**	**21 05 06.7**	**+0.2**
YOJ				S			**Sn**	**21 05 14.6**	**-0.8**
HATJ	**Hateruma jima**	**0.93**	**81**	P			**Pg**	**21 05 12.2**	**+0.7**
HATJ				*e*S			**Sn**	**21 05 24.7**	**+0.6**
IRIF	**Iriomote-Funau**	**0.95**	**64**	P			**Pg**	**21 05 12.0**	**+0.1**
IRIF				S			**Sn**	**21 05 24.8**	**+0.3**
ENA	**Nanau**	**1.09**	**298**	P			**Pg**	**21 05 14.5**	**-0.1**
	baz=295								
ENA				*e*S			**Sg**	**21 05 29.2**	**+0.3**
	baz=295								
TWC	**Suao**	**1.11**	**309**	P			**Pg**	**21 05 14.7**	**-0.2**
	baz=306								
TWC				S			**Sn**	**21 05 28.1**	**-0.3**
	baz=306								
TWD	**Chiawan**	**1.11**	**279**	P			**Pg**	**21 05 14.5**	**-0.4**
	baz=274								
JKRS	**Kuro-shima**	**1.15**	**74**	P			**Pg**	**21 05 15.4**	**-0.3**
JKRS				S			**Sg**	**21 05 30.8**	**-0.1**
ESL	**Shilin**	**1.25**	**266**	*e*P			**Pb**	**21 05 16.1**	**-0.2**
	baz=262								
ESL				*e*S			**Sn**	**21 05 32.1**	**0.0**
	baz=262								
JIJ	**Ishigaki jima**	**1.31**	**70**	P			**Pn**	**21 05 16.8**	**+0.3**
JIJ				S			**Sn**	**21 05 32.4**	**-1.0**
TWE	**Neicheng**	**1.31**	**308**	P			**Pg**	**21 05 17.9**	**-0.8**
	baz=306								
TWE				*e*S			**Sb**	**21 05 34.2**	**+0.6**
	baz=306								
ENTT	**Nioudou**	**1.34**	**303**	P			**Pb**	**21 05 18.2**	**+0.5**
	baz=301								
ENTT				S			**Sb**	**21 05 34.6**	**+0.1**
	baz=301								
NNS	**Nan Shan**	**1.40**	**292**	P			**Pb**	**21 05 19.3**	**+0.4**
	baz=290								
NNS				*e*S			**Sb**	**21 05 36.5**	**0.0**
	baz=290								
EHY	**Hungye**	**1.41**	**254**	↑*e*P			**Pb**	**21 05 19.3**	**+0.2**
	baz=250								
EHY				*e*S			**Sb**	**21 05 36.4**	**-0.3**
	baz=250								
TWF1	**Yuli**	**1.49**	**248**	*e*P			**Pb**	**21 05 20.4**	**+0.1**
	baz=236								
TWF1				*e*S			**Sb**	**21 05 38.7**	**-0.1**
	baz=236								
NSK	**Sanguang**	**1.52**	**300**	P			**Pb**	**21 05 21.0**	**+0.1**
	baz=299								
NSK				*e*S			**Sn**	**21 05 38.5**	**-0.2**
	baz=299								
TWT	**Tachien**	**1.52**	**283**	*e*P			**Pg**	**21 05 21.7**	**-1.0**
	baz=281								
TWT				*e*S			**Sb**	**21 05 39.7**	**-0.3**
	baz=281								
JISG	**Ishigakijimahi**	**1.53**	**64**	P			**Pn**	**21 05 19.7**	**+0.1**
JISG				S			**Sn**	**21 05 38.2**	**-0.8**
CHKT	**Chengkung**	**1.55**	**239**	*e*S			**Sn**	**21 05 38.5**	**-0.8**
	baz=226								
SMLT	**Sun Moon Lake**	**1.74**	**269**	P			**Pb**	**21 05 24.6**	**-0.1**
	baz=266								
TYC	**Yuchr**	**1.78**	**270**	P			**Pb**	**21 05 25.1**	**-0.2**
	baz=267								
ELDTW	**Lidau**	**1.79**	**247**	*e*P			**Pb**	**21 05 24.4**	**-1.1**
	baz=244								
ELDTW				*e*S			**Sn**	**21 05 45.5**	**+0.1**
	baz=244								
NSTT	**Nanjuang**	**1.79**	**294**	P			**Pb**	**21 05 25.6**	**+0.1**
	baz=293								
NSTT				*e*S			**Sb**	**21 05 46.2**	**-1.3**
	baz=293								
ALS	**Alishan**	**1.87**	**258**	P			**Pb**	**21 05 27.0**	**0.0**
	baz=256								
ALS				*i* S			**Sb**	**21 05 49.3**	**-0.9**
	baz=256								
TWQ1	**Liyutan**	**1.90**	**284**	*e*P			**Pb**	**21 05 27.6**	**+0.2**
	baz=283								
TWQ1				*e*S			**Sb**	**21 05 50.7**	**0.0**
	baz=283								
TWG	**Pinlang**	**1.92**	**236**	*e*P			**Pb**	**21 05 26.4**	**-1.4**
	baz=225								
TWG				*e*S			**Sn**	**21 05 48.6**	**-0.1**
	baz=225								
WNT	**Mingjian**	**1.94**	**269**	*e*P			**Pb**	**21 05 28.6**	**+0.7**
	baz=268								
WNT				*e*S			**Sb**	**21 05 52.5**	**+0.8**
	baz=268								
CHN5	**Tsauling**	**1.97**	**261**	P			**Pb**	**21 05 28.7**	**+0.1**
	baz=251								
CHN5				*e*S			**Sb**	**21 05 52.8**	**0.0**
	baz=251								
STYT	**Tauyuan**	**2.02**	**249**	P			**Pb**	**21 05 29.0**	**-0.4**
	baz=239								
STYT				*e*S			**Sb**	**21 05 53.0**	**-1.1**
	baz=239								
WGK	**Gukeng**	**2.06**	**264**	*e*P			**Pb**	**21 05 30.4**	**+0.2**
	baz=262								
CHN4	**Tsaushan**	**2.10**	**255**	*e*P			**Pb**	**21 05 30.9**	**+0.1**
	baz=243								
CHN4				*e*S			**Sb**	**21 05 57.3**	**+0.9**
	baz=243								
WTP	**Ta-pu**	**2.11**	**252**	P			**Pb**	**21 05 30.9**	**-0.1**
	baz=243								
WTP				*e*S			**Sb**	**21 05 57.3**	**+0.5**
	baz=243								
ECL	**Taimali**	**2.14**	**233**	*e*P			**Pn**	**21 05 29.3**	**+1.3**
	baz=241								
ECL				*e*S			**Sn**	**21 05 53.4**	**-0.6**
	baz=241								
LAY	**Lan-yu**	**2.19**	**212**	*e*S			**Sn**	**21 05 53.1**	**-2.2**
	baz=209								
SGST	**Jiashian**	**2.20**	**248**	*e*P			**Pb**	**21 05 32.3**	**-0.1**
	baz=238								
SGST				*e*S			**Sb**	**21 06 00.6**	**+1.4**
	baz=238								
CHN1	**Nanshi**	**2.21**	**251**	P			**Pb**	**21 05 32.4**	**-0.2**
	baz=241								
CHN1				*e*S			**Sb**	**21 06 00.0**	**+0.5**
	baz=241								
TWK	**Hsinying**	**2.21**	**254**	*e*P			**Pb**	**21 05 32.2**	**-0.6**
	baz=252								
TWK				*e*S			**Sb**	**21 05 59.3**	**-0.5**
	baz=252								
EAST	**Anshuo**	**2.35**	**230**	*e*P			**Pn**	**21 05 32.5**	**+1.5**
	baz=235								
EAST				*e*S			**Sn**	**21 06 00.1**	**+0.8**
	baz=235								
SCZT	**Fangliau**	**2.52**	**233**	*e*P			**Pb**	**21 05 37.1**	**-1.0**
	baz=225								
SCZT				*e*S			**Sn**	**21 06 04.3**	**+0.9**
	baz=225								

GUC 27 21:05:15.8±0.5, 23°.99S×67°.62W, h210km±20km, ML3.6, 4C-2D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
PB06	**IPOC Station P**	**2.20**	**305**	↑*i*P			Pn	21 05 58.7	+1.4
PB06				*i* S			S	21 06 31.3	+2.1
PB06				IAML				21 06 33.2	
	comp=N,124nm,0.4s								
ANCH	**Antofagasta**	**2.58**	**276**	↓*i*P			Pn	21 06 03.5	+2.4
ANCH				*e*S			S	21 06 38.8	+2.8
PB09	**IPOC Station P**	**2.65**	**325**	↓*i*P			Pn	21 06 04.3	+2.1
PB09				*e*S			S	21 06 40.3	+2.5
PB09				IAML				21 06 42.0	
	comp=N,294nm,0.6s								
PB10	**IPOC Station P**	**2.73**	**279**	↑*i*P			Pn	21 06 04.2	+1.3
PB10				*i* S			S	21 06 41.9	+2.7
PB04	**IPOC Station P**	**2.85**	**305**	↑*i*P			Pn	21 06 06.3	+1.8
PB04				*i* S			S	21 06 44.6	+2.6
PB04				IAML				21 06 46.6	
	comp=E,73nm,0.4s								
PB07	**IPOC Station P**	**3.07**	**317**	↑*i*P			Pn	21 06 08.7	+1.7
PB02	**IPOC Station P**	**3.39**	**321**	*e*P			Pn	21 06 12.2	+1.5
PB01	**IPOC Station P**	**3.40**	**329**	*e*P			Pn	21 06 12.0	+1.2

IDC ***27*** *21:13:40.5±0.8, 22°.70S×172°.16E, h0km, mb4.4/14, mb1 4.6/15, mb1mx4.4/36, mbtmp4.4/15, ML3.9/1, MS4.1/24, Ms1 4.1/24, ms1mx4.0/32, Error ellipse: s-maj=21.5km s-min=19.4km az=102.0*

NEIC ***27*** *21:13:44.9±2.9, 22°.86S×171°.97E, h24km±20km, mb5.0/42, Error ellipse: s-maj=9.4km s-min=7.7km az=180.0*

GCMT ***27*** *21:13:44.8±0.2, 22°.95S×172°.12E, h18km, MW5.0/83, Moment Tensor Solution. s55,c76; s83,c123; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_r3.76±.17; $M_{\theta\theta}$-3.45±.12; $M_{\phi\phi}$-0.30±.10; $M_{r\theta}$2.57±.26; $M_{\theta\phi}$-0.28±.07; $M_{\theta\theta}$0.62±.28; Best double couple: M_w4.47900×10^{16} NP1:ϕ_{θ}80.00000°,δ63.00000°,λ86.00000°. NP2: ϕ_{θ}269.00000°,δ27.00000°,λ98.00000°. Principal axes: T 4.6340, Plg72.0000°, Azm341.0000°; N -0.3080, Plg4.0000°, Azm82.0000°; P -4.3230, Plg18.0000°, Azm173.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

ISCJB ***27*** *21:13:46.3±0.2, 22°.87S±0°.05×171°.94E±0°.04, h47km, mb4.9/57,

STKA	**Stephens Creek**	**28.30**	**245**	*e*P		**P**		**21 19 38.0**	**+0.7**
	12nm,1.8s								
STKA				*e*PP		**PnPn**		**21 20 31.2**	**+3.6**
COEN	**Coen**	**28.70**	**283**	*e*P		**P**		**21 19 41.9**	**+0.9**
	22nm,1.0s								
HTT	**Hallett**	**30.81**	**243**	P		**P**		**21 20 00.1**	**+0.5**
	baz=31,SNR=4.6								
BBOO	**Buckleboo**	**33.08**	**245**	*e*P		**P**		**21 20 23.1**	**+3.7**
	50nm,1.4s								
AS01	**Alice Springs**	**34.85**	**261**	*e*P		**P**		**21 20 34.8**	**-0.1**
AS01				*e*PP		**PnPn**		**21 21 46.9**	**-5.5**
AS31	**Alice Springs**	**34.89**	**261**	*e*P		**P**		**21 20 36.0**	**+0.7**
	4.7nm,0.7s								
ASAR	**Alice Springs**	**34.89**	**261**	P		**P**		**21 20 35.0**	**-0.3**
	8.6nm,0.7s,baz=89,slow=8.4,SNR=77								
ASAR				LR		LR		21 34 31.8	
	comp=Z,288nm,19.1s,baz=100,slow=36								
WB2	**Warramunga Arr**	**35.08**	**268**	*e*P		**P**		**21 20 35.9**	**-1.0**
WB2				*e*PcP		**PcP**		**21 23 09.5**	**+1.5**
WRAB	**Tennant Creek**	**35.08**	**268**	*e*P		**P**		**21 20 35.1**	**-1.8**
	15nm,1.3s								
WRA	**Warramunga Arr**	**35.09**	**268**	P		**P**		**21 20 35.5**	**-1.5**
	3.4nm,0.4s,baz=96,slow=8.5,SNR=41								
WRA				LR		LR		21 35 17.2	
	comp=Z,354nm,19.8s,baz=110,slow=37								
PPT2	**Papeete2**	**36.40**	**89**	*e*S		S		21 26 16.1	-11
	86nm,24.8s								
PPT2				*e*LQ		LQ		21 28 48.5	
	453nm,27.2s								
PPT2				*e*LR		LR		21 30 18.2	
	157nm,24.0s								
PPT	**Papeete**	**36.40**	**89**	LR		LR		21 31 54.8	
	comp=Z,122nm,20.2s,baz=212,slow=30								
MTN	**Manton Dam**	**40.02**	**277**	*e*P		**P**		**21 21 17.9**	**-0.8**
	42nm,1.5s								
H11S2	**WAKE ISLAND Hy**	**41.53**	**352**	T		T		22 05 50.6	
	baz=172								
H11S3	**WAKE ISLAND Hy**	**41.54**	**352**	T		T		22 05 50.5	
	baz=172								
H11S1	**WAKE ISLAND Hy**	**41.55**	**352**	T		T		22 05 51.2	
	baz=172								
H11N1	**WAKE ISLAND Hy**	**42.72**	**353**	T		T		22 07 17.6	
	baz=172,slow=76,SNR=3.5								
H11N3	**WAKE ISLAND Hy**	**42.72**	**353**	T		T		22 07 17.3	
	baz=172,slow=76,SNR=3.6								
H11N2	**WAKE ISLAND Hy**	**42.74**	**353**	T		T		22 07 18.6	
	baz=172,slow=76,SNR=4.1								
FITZ	**Fitzroy Crossi**	**43.52**	**268**	P		**P**		**21 21 47.6**	**+0.3**
	16nm,0.7s,baz=139,slow=6.3,SNR=21								
SOEI	**Soe**	**47.41**	**278**	*e*P		**P**		**21 22 16.6**	**-1.7**
	15nm,1.2s								
MEEK	**Meekatharra**	**48.28**	**254**	P		**P**		**21 22 24.9**	**+0.1**
	baz=48,SNR=8.1								
NWAO	**Narrogin (SRO)**	**48.89**	**246**	LR		LR		21 42 05.2	
	comp=Z,396nm,18.2s,baz=139,slow=35								
VNDA	**Vanda**	**54.81**	**183**	P		**P**		**21 23 13.0**	**+0.2**
	0.6nm,0.6s,baz=12,slow=9.0,SNR=5.5								
VNDA				LR		LR		21 45 02.0	
	comp=Z,311nm,18.1s,baz=18,slow=34								
VNDA	**Vanda**	**54.81**	**183**	*e*P		**P**		**21 23 13.3**	**+0.5**
SBA	**Scott Base**	**54.99**	**181**	*e*P		**P**		**21 23 16.2**	**+2.2**
	33nm,1.3s								
CISI	**Cisompet, Garu**	**63.31**	**273**	*e*P		**P**		**21 24 12.7**	**-0.1**
	45nm,0.9s								
SBUM	**Sibu**	**63.42**	**285**	*e*P		**P**		**21 24 12.8**	**-0.6**
	32nm,1.5s								
KSM	**Kuching**	**64.69**	**283**	*e*P		**P**		**21 24 21.1**	**-0.6**
	16nm,0.8s								
QSPA	**South Pole Qui**	**67.09**	**180**	*e*P		**P**		**21 24 39.0**	**+2.5**
MJAR	**Matsushiro Arr**	**67.24**	**331**	P		**P**		**21 24 35.3**	**-2.3**
	1.4nm,0.6s,baz=166,slow=6.9,SNR=4.7								
MJAR				LR		LR		21 55 04.2	
	comp=Z,41nm,18.6s,baz=125,slow=37								
KSRS	**Korea Array**	**73.01**	**325**	P		**P**		**21 25 11.6**	**-1.3**
	3.4nm,0.8s,baz=147,slow=6.0,SNR=17								
KSRS				LR		LR		21 54 49.3	
	comp=Z,71nm,20.9s,baz=138,slow=34								
KSAR	**Wonju Array Be**	**73.03**	**325**	P		**P**		**21 25 11.6**	**-1.4**
KS01	**Wonju Array Si**	**73.05**	**325**	*e*P		**P**		**21 25 11.9**	**-1.2**
NJ2	**Nanjing**	**74.65**	**315**	*e*P		**P**		**21 25 22.0**	**-0.6**
NJ2				pmax		pmax			
	comp=Z,11nm,0.5s								
MAW	**Mawson**	**75.94**	**202**	P		**P**		**21 25 32.1**	**+2.6**
	2.6nm,0.9s,baz=118,slow=8.5,SNR=4.8								
MAW				LR		LR		21 56 58.1	
	comp=Z,205nm,18.1s,baz=63,slow=34								
MAW	**Mawson**	**75.94**	**202**	*e*P		**P**		**21 25 30.6**	**+1.1**
	1.8nm,0.8s								
USRK	**Ussuriysk Ar.**	**76.22**	**332**	P		**P**		**21 25 29.9**	**-1.4**
	1.7nm,0.7s,baz=141,slow=3.2,SNR=5.1								
USRK				LR		LR		21 56 08.8	
	comp=Z,70nm,20.8s,baz=150,slow=34								
PETK	**Petropavlovsk-**	**76.78**	**351**	LR		LR		21 56 35.5	
	comp=Z,249nm,18.8s,baz=151,slow=34								
TIA	**Tai'an**	**78.41**	**318**	⇓P		**P**		**21 25 42.5**	**-1.3**
TIA				pmax		pmax			
	comp=Z,20nm,0.7s								
CN2	**Changchun**	**78.96**	**328**	*e*P		**P**		**21 25 46.0**	**-0.6**
CN2				pmax		pmax			
	comp=Z,10.0nm,0.6s								
GYA	**Guiyang**	**80.03**	**304**	*e*P		**P**		**21 25 54.0**	**+1.0**
GYA				pmax		pmax			
	comp=Z,10.0nm,1.0s								
BJI	**Beijing**	**81.43**	**320**	P		**P**		**21 26 00.5**	**+0.5**
BJI				S		**S**		**21 36 09.0**	**+1.2**
BJI				pmax		pmax			
	comp=Z,5.0nm,0.7s								
SYO	**Syowa Base**	**82.05**	**196**⇑	*e*X		pP		21 26 16.4	-0.3
CM01	**Chiang Mai Arr**	**82.31**	**294**	*e*P		**P**		**21 26 05.6**	**+0.5**
CM31	**Chiang Mai Arr**	**82.34**	**294**	*e*P		**P**		**21 26 01.6**	**-3.7**
CMAR	**Chiang Mai Arr**	**82.34**	**294**	P		**P**		**21 26 06.2**	**+0.9**
	2.7nm,0.8s,baz=136,slow=4.3,SNR=16								
CMAR				LR		LR		22 06 42.4	
	comp=Z,31nm,18.2s,baz=190,slow=39								
KMI	**Kunming**	**82.39**	**301**	P		**P**		**21 26 05.8**	**+0.1**
KMI				pmax		pmax			
	comp=Z,24nm,0.5s								
CHTO	**Chiang Mai**	**82.50**	**294**	*e*P		**P**		**21 26 05.8**	**-0.4**
	12nm,1.3s								
CD2	**Chengdu**	**84.51**	**307**	*e*P		**P**		**21 26 16.0**	**-0.3**
CD2				pmax		pmax			
	comp=Z,10.0nm,1.0s								
HHC	**Hu-ho-hao-te**	**84.70**	**319**	*e*P		**P**		**21 26 18.5**	**+1.4**
HHC				pmax		pmax			
	comp=Z,11nm,0.9s								
HHC				pmax		pmax			
	comp=Z,100nm,4.7s								
SNAA	**Sanae**	**85.53**	**182**	P		**P**		**21 26 19.2**	**-1.6**
SNAA	**Sanae**	**85.53**	**182**	*e*P		**P**		**21 26 21.6**	**+0.8**
	20nm,1.6s								
KDAK	**Kodiak Island**	**85.73**	**18**	*e*P		**P**		**21 26 19.6**	**-2.1**
	29nm,1.4s								
VNA3	**Neumayer Olymp**	**86.03**	**179**	P		**P**		**21 26 22.6**	**-0.6**
VNA2	**Neumayer--Watz**	**86.35**	**180**	P		**P**		**21 26 24.5**	**-0.3**
	baz=219,slow=1.8								
VNA1	**Neumayer--Stat**	**86.63**	**180**	P		**P**		**21 26 25.8**	**-0.3**
LZH	**Lanzhou**	**87.10**	**311**	*e*P		**P**		**21 26 29.0**	**-0.2**
LZH				pP		PcP		21 26 36.3	+5.0
LZH				sP		pP		21 26 38.8	-4.3
LZH				pmax		pmax			
	comp=Z,12nm,1.1s								
WAKR	**Walker**	**88.67**	**47**	*e*P		**P**		**21 26 35.4**	**-1.2**
	36nm,1.9s								
PNTR	**Pine Nut**	**88.86**	**46**	*e*P		**P**		**21 26 37.6**	**+0.1**
	6.6nm,0.8s								
GSC	**Goldstone, Bar**	**88.90**	**51**	*e*P		**P**		**21 26 35.0**	**-2.7**
	7.0nm,1.4s								
YERR	**Yerington**	**89.05**	**47**	*e*P		**P**		**21 26 36.7**	**-1.7**
	16nm,1.7s								
PAHR	**Pah Rah Range**	**89.32**	**46**	*e*P		**P**		**21 26 39.8**	**+0.2**
	7.8nm,1.1s								
Y12C	**Blythe**	**89.81**	**53**	*e*P		**P**		**21 26 39.3**	**-2.5**
	20nm,1.6s								
GLI	**Glacier Island**	**89.89**	**19**	*e*P		**P**		**21 26 42.5**	**+1.0**
	15nm,1.0s								
LDFC	**Landfair**	**90.01**	**52**	*e*P		**P**		**21 26 41.1**	**-1.8**
	7.6nm,0.9s								
TPNV	**Topopah Spring**	**90.09**	**50**	*e*P		**P**		**21 26 43.0**	**-0.3**
	29nm,2.0s								
KLU	**Klutina**	**90.72**	**19**	*e*P		**P**		**21 26 47.4**	**+1.9**
	4.4nm,0.9s								
R11A	**Troy Canyon, C**	**91.22**	**49**	*e*P		**P**		**21 26 47.9**	**-0.7**
	2.7nm,1.1s								
GTA	**Gaotai**	**91.53**	**312**	*e*P		**P**		**21 26 53.5**	**+3.7**
GTA				pP		pP		21 27 01.8	-2.0
GTA				sP		sP		21 27 05.0	-4.0
GTA				pmax		pmax			
	comp=Z,4.0nm,1.1s								
SONM	**Songino Array**	**91.72**	**322**	LR		LR		22 08 39.4	
	comp=Z,86nm,19.1s,baz=60,slow=36								
LCMT	**Little Creek M**	**92.24**	**51**	*e*P		**P**		**21 26 53.1**	**-0.2**
	4.7nm,1.0s								
X16A	**Lo Mia Camp, P**	**92.39**	**54**	*e*P		**P**		**21 26 54.0**	**0.0**
	3.0nm,0.8s								
CCUT	**Cedar City**	**92.41**	**50**	*e*P		**P**		**21 26 53.3**	**-0.8**
	17nm,1.9s								
KNB	**Kanab**	**92.55**	**51**	*e*P		**P**		**21 26 54.9**	**+0.2**
	21nm,1.7s								
U15A	**North Rim**	**92.66**	**51**	*e*P		**P**		**21 26 54.5**	**-0.9**
	6.8nm,0.7s								
HDA	**Harding Lake**	**92.75**	**17**	*e*P		**P**		**21 26 56.9**	**+2.1**
	14nm,1.4s								
MDM	**Murphy Dome**	**92.86**	**16**	*e*P		**P**		**21 26 56.3**	**+1.1**
	19nm,1.8s								
WUAZ	**Wupatki**	**92.93**	**53**	*e*P		**P**		**21 26 56.8**	**+0.3**
	5.8nm,1.1s								
DOT	**Dot Lake**	**92.95**	**18**	*e*P		**P**		**21 26 53.7**	**-2.0**
	10nm,0.9s								
ILAR	**Eielson Array**	**93.06**	**16**	P		**P**		**21 26 52.8**	**-3.3**
	3.1nm,1.0s,baz=243,slow=5.6,SNR=5.8								
ILAR				LR		LR		22 05 35.1	
	comp=Z,250nm,18.6s,baz=219,slow=34								
ILB	**Eielson Array**	**93.06**	**16**	*e*P		P		21 26 50.5	-5.6
IL1	**Eielson Array**	**93.06**	**16**	*e*P		**P**		**21 26 53.1**	**-3.0**
PLCA	**Paso Flores**	**94.06**	**137**	LR		LR		21 58 24.7	
	comp=Z,47nm,19.8s,baz=292,slow=28								
EGAK	**Eagle**	**94.64**	**18**	*e*P		**P**		**21 27 05.5**	**+2.1**
	15nm,0.2s								
TXAR	**Lajitas Array**	**96.33**	**61**	P		**P**		**21 27 11.3**	**-0.8**
	0.3nm,0.7s,baz=222,slow=3.4,SNR=4.9								
TXAR				LR		LR		22 02 58.4	
	comp=Z,106nm,19.1s,baz=0.0,slow=31								
PDAR	**Pinedale Array**	**97.30**	**47**	LR		LR		22 06 37.7	
	comp=Z,178nm,18.1s,baz=264,slow=33								
WMQ	**Urumqi**	**101.61**	**313**	P		**Pdif**		**21 27 36.5**	**+1.1**
WMQ				pP		pPdif		21 27 44.0	-5.4
WMQ				pmax		pmax			
	comp=Z,9.0nm,0.6s								
WMQ				pmax		pmax			
	comp=Z,94nm,4.7s								
WMQ				LR		LR			
	comp=N,64nm,20.7s								
WMQ				LR		LR			
	comp=E,54nm,23.7s								
KSH	**Kashi**	**108.69**	**306**	*e*Pdif		**Pdif**		**21 28 08.0**	**+1.0**
KSH				PP		**PP**		**21 32 44.0**	**+5.0**
KSH				S		**Sdif**		**21 40 11.5**	**-0.6**
KSH				SS		**SS**		**21 47 57.0**	**+3.7**
KSH				AMB		AMB			
	comp=E,65nm,6.1s								
KSH				LR		LR			
	comp=N,66nm,4.9s								
KSH				LR		LR			
	comp=E,44nm,5.3s								
KSH				LR		LR			
	comp=Z,100nm,6.2s								
GEYT	**Alibeck**	**122.16**	**301**	PKP		**PKPdf**		**21 32 36.7**	**-1.2**
	1.0nm,0.7s,baz=242,slow=3.2,SNR=4.4								
SJG	**San Juan**	**125.66**	**84**	*e*PKPdf		**PKPdf**		**21 32 45.6**	**+0.6**
KMBO	**Kilima Mbogo**	**129.84**	**248**	PKP		**PKPdf**		**21 32 54.3**	**+0.7**
	0.9nm,0.4s,baz=355,slow=3.2,SNR=4.8								
VRI	**Vrincioaia**	**143.78**	**318**⇑	*i*P		PKPab		21 33 14.9	0.0
BURAR	**Bucovina Array**	**143.83**	**321**⇓	*i*P		**PKPdf**		**21 33 20.3**	**+2.2**
PGOR	**Pogoanele**	**144.04**	**316**⇑	*i*P		PKPbc		21 33 16.3	-0.1
DOPR	**Dopca**	**144.55**	**319**⇓	*i*P		PKPab		21 33 08.1	-1.0
ARCR	**ARCALIA**	**144.61**	**321**⇓	*i*P		**PKPab**		**21 33 16.9**	**-1.1**
CRVS	**Cervenica-Dubn**	**145.18**	**325**	*e*PKP		**PKPdf**		**21 33 22.3**	**+2.0**
ARR	**Arges**	**145.31**	**318**⇓	*i*P		**PKPab**		**21 33 26.2**	**+5.5**
DRGR		**145.72**	**321**⇑	*i*P		**PKPdf**		**21 33 20.9**	**-0.5**
LOT	**Lotru**	**145.80**	**319**⇑	*i*P		**PKPdf**		**21 33 21.4**	**-0.2**
KECS	**Kecovo**	**145.95**	**325**	*e*PKP		**PKPdf**		**21 33 21.1**	**-0.5**
LANS	**Liptovska Anna**	**146.05**	**327**	*e*PKP		**PKPab**		**21 33 23.7**	**+0.4**
OKC	**Ostrava-Krasne**	**146.23**	**329**	AMS		AMS		22 43 00.0	
	comp=Z,100nm,17.1s								
GZR	**Gura Zlata**	**146.43**	**319**⇑	*i*P		**PKPdf**		**21 33 21.2**	**-1.4**
KRLC	**Kraliky**	**146.70**	**330**	*e*PKP		**PKPab**		**21 33 28.4**	**+2.6**
DPC	**Dobruska-Polom**	**146.71**	**331**	*e*PKP		**PKPab**		**21 33 27.7**	**+1.8**
DPC				*ex*		x		21 33 41.0	
UPC	**Upice**	**146.73**	**332**	*e*PKP		**PKPab**		**21 33 28.0**	**+2.1**
UPC				AMS		AMS		22 37 20.0	
	comp=Z,100nm,21.8s								
VYHS	**Vyhne**	**146.79**	**327**	*e*PKP		**PKPbc**		**21 33 24.4**	**-0.5**
VYHS				*e*				21 33 28.7	
BRG	**Berggiesshubel**	**147.33**	**334**	*e*(P)		**PKPab**		**21 33 28.2**	**0.0**
	3.9nm,0.9s								
CLL	**Collm**	**147.36**	**335**	*e*PKPbc		**PKPbc**		**21 33 27.0**	**+0.7**
CLL				*e*				21 33 33.0	
CLL				LmV				22 40 00.0	
	comp=Z,100nm,18.7s								
VTS	**Vitosha**	**147.52**	**314**⇓	*i*P		**PKPdf**		**21 33 25.6**	**+0.9**
PRU	**Pruhonice**	**147.75**	**332**	*e*PKP		**PKPab**		**21 33 29.3**	**-0.6**
TREC	**Trest**	**147.85**	**331**	*e*PKP		**PKPab**		**21 33 29.5**	**-0.8**
CONA	**Conrad Observa**	**148.64**	**328**	*i* PKPbc		**PKPbc**		**21 33 29.7**	**-0.3**
	comp=Z,9.7nm,2.0s								
KHC	**Kasperske Hory**	**148.81**	**332**	*e*PKP		**PKPbc**		**21 33 29.3**	**-1.0**
KHC				*ex*		x		21 33 45.5	
KHC				*ex*		x		21 34 10.5	
KHC	**Kasperske Hory**	**148.81**	**332**	*e*PKPbc		**PKPbc**		**21 33 29.2**	**-1.2**
GERES	**GERESS Array B**	**148.97**	**332**	PKPbc		**PKPdf**		**21 33 28.6**	**+1.8**
	comp=Z,0.9nm,0.8s,baz=66,slow=3.2,SNR=7.3								
GEA0	**GERESS Array S**	**148.98**	**332**	*e*PKPdf		**PKPbc**		**21 33 28.8**	**-2.0**
ARSA	**Arzberg**	**149.28**	**328**	*i* PKPbc		**PKPbc**		**21 33 29.3**	**-2.3**
	comp=Z,3.1nm,1.2s								
MOA	**Molln**	**149.45**	**330**	*i* pPKPbc		**PKPab**		**21 33 39.1**	**+2.3**
	comp=Z,2.0nm,0.6s								
SOKA	**Sopoth**	**149.92**	**327**	*i* pPKPdf		**PKPab**		**21 33 36.0**	**-2.8**
	comp=Z,5.3nm,1.2s								
KBA	**Koelnbreinsper**	**150.44**	**330**	*i* PKiKP		**PKPbc**		**21 33 34.5**	**-0.1**
	comp=Z,2.9nm,0.6s								
MYKA	**Terra Mystica**	**150.63**	**329**	*i* PKPbc		**PKPbc**		**21 33 34.2**	**-0.7**
	comp=Z,4.1nm,0.9s								
WATA	**Walderalm**	**151.05**	**332**	*i* PKiKP		**PKPbc**		**21 33 36.0**	**+0.1**
	comp=Z,2.1nm,0.7s								
ABTA	**Abfaltersbach**	**151.07**	**330**	*i* PKPdf		**PKPdf**		**21 33 28.9**	**-1.2**
	comp=Z,4.5nm,1.1s								
WTTA	**Wattenberg**	**151.08**	**332**	*i* pPKPdf		**PKPab**		**21 33 37.6**	**-6.2**
	comp=Z,1.0nm,0.3s								
MOTA	**Moosalm**	**151.24**	**332**	*i* PKPdf		**PKPdf**		**21 33 29.9**	**-0.6**
	comp=Z,2.6nm,0.9s								
RETA	**Reutte**	**151.28**	**333**	*i* pPKPbc		**PKPab**		**21 33 43.6**	**-0.9**
	comp=Z,8.5nm,2.0s								
FETA	**Feichten**	**151.66**	**332**	*i* pPKiKP		**PKPab**		**21 33 45.9**	**-0.3**
	comp=Z,3.1nm,0.8s								
DAVA	**Damuels**	**151.80**	**334**	*i* PKPdf		**PKPdf**		**21 33 32.6**	**+1.3**
	comp=Z,5.1nm,1.0s								
TOA0	**Torodi Ar. Sit**	**166.55**	**225**	*e*PKPdf		**PKPdf**		**21 33 48.7**	**-0.4**
TORD	**Torodi Ar. Bea**	**166.55**	**225**	PKP		**PKPdf**		**21 33 47.9**	**-1.2**
	comp=Z,1.5nm,1.0s,baz=352,slow=1.9,SNR=7.4								
TORD				PKPab		**PKPab**		**21 34 51.4**	**+0.2**
	comp=Z,0.5nm,0.7s,baz=151,slow=3.3,SNR=3.7								

*ISCJB **27** 21:14:26.3±0.6,23°.98N±0°.02×122°.43E±0°.02,h5km±4km,*
Error ellipse: s-maj=3.4km s-min=2.6km az=158.9
*JMA **27** 21:14:26.8±0.3,23°.97N×122°.42E,h11km±5km,M2.7*
*TAP **27** 21:14:27.2,24°.04N×122°.45E,h24km,ML3.1,D*

ISC 27 21:14:26.9±1.0,24°.00N±0°.03×122°.43E±0°.02,h18km±7km,
n44,σ0°67/83,Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
JYNG	**Yonagunijimaku**	**0.65**	**46**	P		**Pb**	**21 14 39.9**	**+0.2**
JYNG				*e*S		**Sg**	**21 14 48.3**	**-0.1**
YOJ	**Yonaguni jima**	**0.70**	**49**	P		**Pg**	**21 14 40.9**	**+0.2**
YOJ				*e*S		**Sg**	**21 14 49.8**	**-0.2**
ENA	**Nanau**	**0.76**	**304**	*e*P		**Pb**	**21 14 41.3**	**-0.3**
	baz=301							
ENA				*e*S		**Sb**	**21 14 50.2**	**-1.4**
	baz=301							
TWD	**Chiawan**	**0.77**	**276**	P		**Pb**	**21 14 41.8**	**+0.1**
	baz=272							
TWD				S		**Sg**	**21 14 52.9**	**+0.8**
	baz=272							
TWC	**Suao**	**0.80**	**319**	*i* P		**Pb**	**21 14 42.0**	**-0.4**
	baz=316							
TWC				*e*S		**Sb**	**21 14 51.4**	**-1.5**
	baz=316							
ESL	**Shilin**	**0.93**	**259**	*e*P		**Pb**	**21 14 43.9**	**-0.6**
	baz=244							
ESL				*e*S		**Sb**	**21 14 56.9**	**+0.3**
	baz=244							
ILA	**Ilan**	**0.98**	**321**	*e*P		**Pb**	**21 14 45.6**	**+0.2**
	baz=309							
ILA				*e*S		**Sg**	**21 14 59.1**	**+0.2**
	baz=309							
TWE	**Neicheng**	**1.00**	**316**	*e*P		**Pb**	**21 14 45.7**	**0.0**
	baz=313							
TWE				S		**Sg**	**21 14 59.3**	**-0.1**
	baz=313							
ENTT	**Nioudou**	**1.01**	**309**	P		**Pb**	**21 14 46.2**	**+0.3**
	baz=306							
ENTT				*e*S		**Sb**	**21 14 58.6**	**-0.4**
	baz=306							
NNS	**Nan Shan**	**1.06**	**294**	*e*P		**Pn**	**21 14 47.4**	**+0.3**
	baz=291							
NNS				S		**Sn**	**21 15 01.7**	**+0.3**
	baz=291							
WHF	**Hehuan Shan**	**1.07**	**278**	*e*P		**Pb**	**21 14 46.9**	**-0.3**
	baz=261							
WHF				*e*S		**Sg**	**21 15 01.9**	**-0.1**
	baz=261							
TWB1	**Santiao Chiao**	**1.08**	**338**	P		**Pg**	**21 14 47.7**	**-0.1**
	baz=354							
TWB1				S		**Sn**	**21 15 01.5**	**-0.2**
	baz=354							
EHY	**Hungye**	**1.13**	**244**	P		**Pn**	**21 14 47.6**	**-0.3**
	baz=241							
EHY				S		**Sb**	**21 15 02.2**	**-0.1**
	baz=241							
TWT	**Tachien**	**1.17**	**283**	*e*P		**Pb**	**21 14 49.0**	**+0.3**
	baz=265							
TWT				*e*S		**Sg**	**21 15 05.1**	**+0.1**
	baz=265							
NSK	**Sanguang**	**1.19**	**305**	P		**Pg**	**21 14 49.7**	**-0.1**
	baz=287							
NSK				*e*S		**Sn**	**21 15 04.6**	**+0.1**
	baz=287							
NWF	**Wu-fen Shan**	**1.22**	**331**	*e*P		**Pn**	**21 14 49.3**	**+0.1**
	baz=329							
NWF				*e*S		**Sg**	**21 15 06.0**	**-0.4**
	baz=329							
TWF1	**Yuli**	**1.22**	**238**	P		**Pn**	**21 14 49.1**	**-0.1**
	baz=235							
TWF1				S		**Sb**	**21 15 05.1**	**+0.1**
	baz=235							
IRIF	**Iriomote-Funau**	**1.23**	**74**	P		**Pg**	**21 14 50.3**	**-0.4**
IRIF				S		**Sg**	**21 15 06.8**	**0.0**
TWA	**Mucha**	**1.24**	**322**	*e*P		**Pn**	**21 14 49.0**	**-0.4**
	baz=320							
TWA				*e*S		**Sg**	**21 15 06.8**	**-0.4**
	baz=320							
CHKT	**Chengkung**	**1.33**	**228**	*e*P		**Pn**	**21 14 50.5**	**-0.1**
	baz=225							
CHKT				*e*S		**Sn**	**21 15 05.6**	**-2.3**
	baz=225							
SMLT	**Sun Moon Lake**	**1.41**	**265**	*e*P		**Pn**	**21 14 51.3**	**-0.4**
	baz=251							
SMLT				S		**Sb**	**21 15 10.5**	**+0.1**
	baz=251							
TYC	**Yuchr**	**1.44**	**266**	*e*P		**Pn**	**21 14 52.5**	**+0.3**
	baz=263							
NSTT	**Nanjuang**	**1.45**	**296**	*e*P		**Pg**	**21 14 54.6**	**-0.2**
	baz=293							
NSTT				*e*S		**Sb**	**21 15 12.6**	**+1.2**
	baz=293							
YUS	**Yu-Shan**	**1.45**	**250**	*e*P		**Pg**	**21 14 55.0**	**+0.1**
	baz=246							
YUS				*e*S		**Sn**	**21 15 11.2**	**-0.2**
	baz=246							
JKRS	**Kuro-shima**	**1.46**	**80**	*e*S		**Sg**	**21 15 14.2**	**+0.1**
TWY	**Chenhua**	**1.48**	**329**	*e*P		**Pg**	**21 14 54.7**	**-0.6**
	baz=328							
TWY				*e*S		**Sb**	**21 15 12.5**	**+0.2**
	baz=328							
ELDTW	**Lidau**	**1.53**	**238**	P		**Pn**	**21 14 53.0**	**-0.5**
	baz=235							
ELDTW				*e*S		**Sn**	**21 15 11.7**	**-1.3**
	baz=235							
TWQ1	**Liyutan**	**1.55**	**283**	P		**Pb**	**21 14 55.4**	**+0.2**
	baz=279							
TWQ1				S		**Sb**	**21 15 16.0**	**+1.5**
	baz=279							
ALS	**Alishan**	**1.57**	**252**	*e*P		**Pn**	**21 14 54.8**	**+0.7**
	baz=248

ENA				*e*S		**Sb**	**22 11 29.6**	**+0.2**
	baz=304								
TWD	**Chiawan**	**0.65**	**271**	P		**Pg**	**22 11 21.8**	**+0.7**
	baz=267								
TWD				*i* S		**Sn**	**22 11 31.2**	**-1.4**
	baz=267								
TWC	**Suao**	**0.68**	**322**	P		**Pb**	**22 11 21.5**	**-0.3**
	baz=323								
TWC				*i* S		**Sg**	**22 11 29.9**	**-0.9**
	baz=323								
JYNG	**Yonagunijimaku**	**0.70**	**57**	P		**Pb**	**22 11 21.4**	**-0.6**
YOJ	**Yonaguni jima**	**0.75**	**58**	P		**Pb**	**22 11 22.7**	**-0.3**
YOJ				S		**Sb**	**22 11 33.8**	**+0.9**
ESL	**Shilin**	**0.84**	**253**	P		**Pb**	**22 11 23.8**	**-0.7**
	baz=248								
ESL				S		**Sg**	**22 11 36.2**	**+0.5**
	baz=248								
ILA	**Ilan**	**0.86**	**324**	*e*P		**Pg**	**22 11 25.2**	**+0.1**
	baz=324								
ILA				S		**Sn**	**22 11 37.4**	**-0.4**
	baz=324								
TWE	**Neicheng**	**0.87**	**318**	P		**Pg**	**22 11 25.4**	**+0.1**
	baz=319								
TWE				S		**Sg**	**22 11 36.8**	**0.0**
	baz=319								
ENTT	**Nioudou**	**0.88**	**310**	P		**Pg**	**22 11 25.7**	**+0.1**
	baz=310								
ENTT				*e*S		**Sg**	**22 11 37.0**	**-0.2**
	baz=310								
NNS	**Nan Shan**	**0.93**	**294**	*i* P		**Pg**	**22 11 26.4**	**0.0**
	baz=292								
NNS				*e*S		**Sn**	**22 11 39.2**	**-0.5**
	baz=292								
WHF	**Hehuan Shan**	**0.95**	**275**	*e*P		**Pb**	**22 11 26.1**	**-0.6**
	baz=272								
WHF				*i* S		**Sg**	**22 11 39.8**	**+0.2**
	baz=272								
TWB1	**Santiao Chiao**	**0.98**	**343**	*i* P		**Pg**	**22 11 27.4**	**+0.1**
	baz=345								
TWB1				*i* S		**Sg**	**22 11 40.1**	**-0.1**
	baz=345								
TWT	**Tachien**	**1.05**	**280**	*e*P		**Pg**	**22 11 28.9**	**+0.2**
	baz=278								
TWT				*e*S		**Sn**	**22 11 42.9**	**+0.1**
	baz=278								
NSK	**Sanguang**	**1.06**	**305**	P		**Pn**	**22 11 28.5**	**+0.1**
	baz=304								
NSK				S		**Sn**	**22 11 42.9**	**+0.1**
	baz=304								
EHY	**Hungye**	**1.06**	**238**	*e*P		**Pb**	**22 11 27.4**	**-0.8**
	baz=235								
EHY				*e*S		**Sb**	**22 11 42.1**	**+0.3**
	baz=235								
NWF	**Wu-fen Shan**	**1.11**	**334**	P		**Pn**	**22 11 29.4**	**+0.2**
	baz=335								
NWF				*i* S		**Sg**	**22 11 43.9**	**-0.4**
	baz=335								
TWA	**Mucha**	**1.12**	**324**	*e*P		**Pg**	**22 11 29.9**	**-0.1**
	baz=325								
TWA				S		**Sg**	**22 11 44.5**	**-0.3**
	baz=325								
TWF1	**Yuli**	**1.17**	**233**	*e*P		**Pn**	**22 11 29.1**	**-0.8**
	baz=229								
TWF1				*e*S		**Sb**	**22 11 44.2**	**-0.7**
	baz=229								
TAP1	**Taipei**	**1.20**	**324**	*e*P		**Pg**	**22 11 31.1**	**-0.4**
	baz=323								
TAP1				*e*S		**Sg**	**22 11 46.6**	**-0.7**
	baz=323								
TAP	**Taipei**	**1.21**	**323**	*e*P		**Pb**	**22 11 31.2**	**+0.4**
	baz=323								
TAP				*e*S		**Sn**	**22 11 46.1**	**-0.4**
	baz=323								
CHKT	**Chengkung**	**1.29**	**222**	*e*P		**Pb**	**22 11 32.8**	**+0.6**
	baz=219								
CHKT				*e*S		**Sn**	**22 11 45.5**	**-3.1**
	baz=219								
SMLT	**Sun Moon Lake**	**1.30**	**262**	*i* P		**Pn**	**22 11 32.1**	**+0.2**
	baz=259								
SMLT				*i* S		**Sb**	**22 11 48.6**	**-0.3**
	baz=259								
NSTT	**Nanjuang**	**1.32**	**295**	P		**Pb**	**22 11 33.0**	**+0.5**
	baz=294								
NSTT				S		**Sn**	**22 11 48.9**	**-0.2**
	baz=294								
IRIF	**Iriomote-Funau**	**1.33**	**78**	P		**Pn**	**22 11 31.8**	**-0.2**
IRIF				S		**Sn**	**22 11 49.4**	**+0.1**
TYC	**Yuchr**	**1.34**	**263**	P		**Pn**	**22 11 32.4**	**+0.2**
	baz=261								
TYC				S		**Sb**	**22 11 49.5**	**-0.2**
	baz=261								
TWY	**Chenhua**	**1.36**	**332**	*e*P		**Pb**	**22 11 33.6**	**+0.3**
	baz=332								
TWY				*e*S		**Sb**	**22 11 50.7**	**+0.1**
	baz=332								
YUS	**Yu-Shan**	**1.37**	**245**	P		**Pn**	**22 11 33.4**	**+0.3**
	baz=242								
YUS				S		**Sn**	**22 11 50.0**	**-1.0**
	baz=242								
TWQ1	**Liyutan**	**1.43**	**282**	*e*P		**Pb**	**22 11 34.8**	**+0.3**
	baz=280								
TWQ1				*e*S		**Sb**	**22 11 52.2**	**-0.2**
	baz=280								
NSY	**Sanyi**	**1.45**	**284**	*e*P		**Pn**	**22 11 34.5**	**+0.6**
	baz=282								
NSY				*e*S		**Sb**	**22 11 52.5**	**-0.6**
	baz=282								
ELDTW	**Lidau**	**1.47**	**234**	*e*P		**Pn**	**22 11 33.1**	**-1.0**
	baz=231								
ELDTW				*e*S		**Sn**	**22 11 52.1**	**-1.0**
	baz=231								
ALS	**Alishan**	**1.48**	**248**	*i* P		**Pn**	**22 11 35.0**	**+0.5**
	baz=245								
ALS				*i* S		**Sn**	**22 11 53.6**	**-0.1**
	baz=245								
CHN5	**Tsauling**	**1.56**	**253**	P		**Pn**	**22 11 36.8**	**-0.1**
	baz=250								
CHN5				S		**Sb**	**22 11 56.4**	**0.0**
	baz=250								
JKRS	**Kuro-shima**	**1.56**	**83**	P		**Pn**	**22 11 36.4**	**+1.1**
JKRS				S		**Sn**	**22 11 56.5**	**+1.3**
WGK	**Gukeng**	**1.64**	**257**	*e*P		**Pn**	**22 11 37.3**	**+0.9**
	baz=254								
WGK				*e*S		**Sn**	**22 11 57.1**	**0.0**
	baz=254								
TWG	**Pinlang**	**1.68**	**223**	*e*P		**Pn**	**22 11 35.6**	**-1.3**
	baz=220								
TWG				*e*S		**Sn**	**22 11 56.0**	**-2.2**
	baz=220								
STYT	**Tauyuan**	**1.68**	**238**	*e*P		**Pn**	**22 11 37.3**	**+0.3**
	baz=235								
STYT				S		**Sn**	**22 11 58.5**	**+0.2**
	baz=235								
JIJ	**Ishigaki jima**	**1.70**	**80**	P		**Pn**	**22 11 36.8**	**-0.4**
JIJ				*e*S		**Sn**	**22 11 58.1**	**-0.5**
CHN4	**Tsaushan**	**1.73**	**246**	*e*P		**Pn**	**22 11 39.1**	**+1.5**
	baz=243								
CHN4				*e*S		**Sb**	**22 12 00.5**	**-0.5**
	baz=243								
WTP	**Ta-pu**	**1.75**	**243**	*e*P		**Pn**	**22 11 39.1**	**+1.0**
	baz=240								
WTP				*e*S		**Sn**	**22 12 00.9**	**+0.9**
	baz=240								
CHN2	**Minshiung**	**1.76**	**253**	*e*P		**Pn**	**22 11 39.5**	**+1.4**
	baz=250								
CHN2				*e*S		**Sb**	**22 12 01.1**	**-0.9**
	baz=250								
TWK	**Hsinying**	**1.85**	**245**	*e*P		**Pb**	**22 11 41.1**	**-0.6**
	baz=242								
TWK				*e*S		**Sb**	**22 12 04.9**	**+0.3**
	baz=242								
CHN1	**Nanshi**	**1.85**	**242**	*e*P		**Pn**	**22 11 41.0**	**+1.7**
	baz=240								
CHN1				*e*S		**Sn**	**22 12 03.5**	**+1.1**
	baz=240								
JISG	**Ishigakijimahi**	**1.90**	**74**	P		**Pn**	**22 11 39.6**	**-0.3**
JISG				S		**Sn**	**22 12 02.8**	**-0.7**
ECL	**Taimali**	**1.92**	**221**	*e*P		**Pn**	**22 11 38.9**	**-1.4**
	baz=218								
ECL				*e*S		**Sn**	**22 12 04.8**	**+0.7**
	baz=218								
LAY	**Lan-yu**	**2.14**	**199**	*e*P		**Pn**	**22 11 42.6**	**-0.6**
	baz=197								
LAY				*e*S		**Sn**	**22 12 09.1**	**-0.3**
	baz=197								
EAST	**Anshuo**	**2.15**	**219**	*e*P		**Pn**	**22 11 44.9**	**+1.5**
	baz=217								
EAST				*e*S		**Sn**	**22 12 10.9**	**+1.2**
	baz=217								
JTJ	**Tarama**	**2.26**	**75**	*e*S		**Sn**	**22 12 12.7**	**+0.4**
SCZT	**Fangliau**	**2.29**	**223**	*e*P		**Pn**	**22 11 47.1**	**+1.7**
	baz=221								
SCZT				*e*S		**Sn**	**22 12 14.9**	**+1.7**
	baz=221								
TWK1	**Hengchun**	**2.53**	**213**	*e*P		**Pn**	**22 11 50.3**	**+1.7**
	baz=211								
TWK1				*e*S		**Sn**	**22 12 20.2**	**+1.2**
	baz=211								

*SJA **27** 22:25:05.4±0.8,29.°35S×71.°46W,h40km,ML3.6,MW5.4*
*GUC **27** 22:25:07.8±0.7,29.°52S×71.°25W,h29km±7km,ML3.3*

ISC 27 22:25:09.0±1.8,**29.°50S**±0.°04×**71.°04W**±0.°07,**h12**km±13km,
n18,σ1**s54**/23,**1C,Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
LCO	**Las Campanas**	**0.56**	**31**	*e*P		**Pb**	**22 25 21.8**	**+0.8**
LCO				*e*S		**Sn**	**22 25 31.7**	**-0.8**
LCO				IAML			22 25 32.5	
	comp=E,2μm,0.3s							
TLL	**Tololo Astrono**	**0.70**	**163**	*e*P		**Pg**	**22 25 22.6**	**0.0**
TLL				*e*S		**Sb**	**22 25 33.5**	**+0.5**
TLL				IAML			22 25 34.4	
	comp=E,4μm,0.2s							
VACH	**Vallenar**	**0.95**	**15**⇑	*i* P		**Pn**	**22 25 29.6**	**+1.4**
VACH				*i* S		**Sn**	**22 25 43.1**	**+1.4**
CPCH	**Copiapo**	**2.21**	**16**	*e*P		**Pn**	**22 25 44.7**	**-0.9**
CPCH				*e*S		**Sn**	**22 26 13.6**	**+0.7**
AGUA	**GUANDACOL**	**2.22**	**90**	*e*P		**Pb**	**22 25 48.9**	**-0.1**
AGUA				*e*S		**Sg**	**22 26 20.7**	**+0.4**
VCA	**Vinchina**	**2.59**	**74**	*e*P		**Pb**	**22 25 54.6**	**-0.9**
AMOG	**MOGNA**	**2.63**	**124**	*e*P		**Pn**	**22 25 53.4**	**+2.1**
RTLS	**Leoncito**	**2.74**	**147**	*e*P		**Pn**	**22 25 54.3**	**+1.2**
RTLL	**Cerro Villicun**	**2.87**	**130**	*e*P		**Pn**	**22 25 55.8**	**+1.2**
RTLL				IAML			22 26 51.8	
	comp=Z,55nm,0.4s							
AUSP	**Uspallata**	**3.06**	**153**	*e*P		**Pn**	**22 25 58.7**	**+1.2**
RTCV	**Cerro Valdivia**	**3.19**	**138**	*e*P		**Pn**	**22 26 00.9**	**+1.9**
ROCH	**El Roble**	**3.46**	**180**	*e*P		**Pn**	**22 26 01.6**	**-1.4**
ROC1	**El Roble**	**3.47**	**180**	*e*P		**Pn**	**22 26 01.9**	**-1.2**
ACLC	**CERRO LA CRUZ**	**3.56**	**90**	*e*P		**Pn**	**22 26 05.4**	**+1.2**
ACLC				*e*S		**Sb**	**22 26 51.0**	**-4.3**
ASAL	**Salagasta**	**3.62**	**149**	*e*P		**Pn**	**22 26 05.8**	**+0.9**
ARCO	**CERRO ARCO**	**3.79**	**152**	IAML			22 26 41.9	
	comp=Z,209nm,0.6s							
APLL	**PUNTA DE LOS L**	**4.01**	**104**	*e*P		**Pn**	**22 26 11.3**	**+0.9**
ACAN	**Cantantal**	**4.31**	**131**	*e*P		**Pn**	**22 26 14.9**	**+0.5**

*IDC **27** 22:50:24.6±1.0,29.°53S×176.°27W,h0km,mb4.3/5,*
mb1 4.5/6,mb1mx4.1/25,mbtmp4.2/6,ML3.7/1,MS3.4/4,
Ms1 3.4/4,ms1mx3.0/28,Error ellipse: s-maj=35.9km
s-min=20.2km az=174.0
*ISCJB **27** 22:50:25.9±0.8,29.°76S±0.°07×176.°29W±0.°09,h21km,*
mb4.6/8,MS3.5/2,Error ellipse: s-maj=12.1km
s-min=10.4km az=22.6
*NEIC **27** 22:50:26.1±0.7,29.°54S×176.°33W,h10km,mb4.3/1,Error*
ellipse: s-maj=19.7km s-min=14.8km az=148.0

ISC 27 22:50:27.9±0.8,**29.°60S**±0.°09×**176.°33W**±0.°07,**h21**km,**n17,**
σ1**s30**/17,**mb4.4/8,Kermadec Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
RAO	**Raoul Island**	**1.43**	**284**	Pn		**Pb**	**22 50 54.3**	**+0.5**
	123nm,0.3s,baz=28,slow=14,SNR=13							
RAO				Sn		**Sb**	**22 51 13.0**	**+1.5**
	376nm,0.3s,baz=289,slow=23,SNR=19							
RAO	**Raoul Island**	**1.43**	**284**	*e*Pn		**Pn**	**22 50 52.7**	**+0.2**
RAO				*e*S		**Sn**	**22 51 08.6**	**-2.1**
URZ	**Urewera**	**10.21**	**210**	Pn		**Pn**	**22 52 51.6**	**-1.5**
	0.7nm,0.3s,baz=274,slow=5.4,SNR=4.6							
URZ				Sn		**Sn**	**22 54 46.1**	**-0.8**
	0.7nm,0.3s,baz=265,slow=22,SNR=4.0							
RAR	**Rarotonga**	**17.12**	**65**	LR		LR	23 00 41.3	
	comp=Z,56nm,19.1s,baz=254,slow=36							
DZM	**Mont Dzumac**	**17.21**	**292**	LR		LR	22 59 06.2	
	comp=Z,149nm,18.8s,baz=51,slow=30							
PPT	**Papeete**	**27.22**	**70**	LR		LR	23 06 07.4	
	comp=Z,51nm,18.4s,baz=190,slow=35							
STKA	**Stephens Creek**	**36.07**	**256**	P		**P**	**22 57 30.1**	**+1.9**
	4.6nm,0.7s,baz=102,slow=8.2,SNR=7.6							
ASAR	**Alice Springs**	**44.60**	**265**	P		**P**	**22 58 38.3**	**-0.7**
	2.5nm,0.6s,baz=95,slow=7.3,SNR=34							
ASAR				LR		LR	23 17 47.0	
	comp=Z,105nm,18.2s,baz=120,slow=37							
WRAB	**Tennant Creek**	**45.52**	**271**	*e*P		**P**	**22 58 46.1**	**-0.1**
	3.6nm,0.9s							
WRA	**Warramunga Arr**	**45.52**	**270**	P		**P**	**22 58 45.4**	**-0.9**
	5.7nm,0.8s,baz=109,slow=7.9,SNR=31							
POHA	**Pohakuloa**	**53.01**	**25**	*e*P		**P**	**22 59 42.3**	**-1.3**
	62nm,0.5s							
SNAA	**Sanae**	**78.90**	**178**	*e*P		**P**	**23 02 31.0**	**+1.6**
	39nm,0.8s							
TXAR	**Lajitas Array**	**90.74**	**56**	P		**P**	**23 03 30.4**	**+0.7**
	0.5nm,0.9s,baz=237,slow=4.3,SNR=3.8							
ILAR	**Eielson Array**	**96.83**	**12**	P		**P**	**23 03 56.1**	**-0.5**
	0.5nm,0.8s,baz=232,slow=4.4,SNR=3.4							
FINES	**FINESS Array B**	**144.87**	**341**	PKP		**PKPab**	**23 10 00.8**	**-0.9**
	2.3nm,0.7s,baz=46,slow=5.5,SNR=6.8							
AKASG	**Malin Array Be**	**151.51**	**325**	PKPbc		**PKPbc**	**23 10 19.4**	**-0.5**
	2.3nm,0.6s,baz=47,slow=3.1,SNR=10							
TORD	**Torodi Ar. Bea**	**163.52**	**173**	PKPab		**PKPab**	**23 11 22.5**	**+1.5**
	1.1nm,0.8s,baz=171,slow=4.6,SNR=7.1							

IDC 27 23:28:12.4±2.5,**12.°90N×143.°49E,h182**km±78km,**mb3.7/4,**
mb1 3.9/4,mb1mx3.3/43,mbtmp4.2/4,MS2.9/1,Ms1 2.9/1,
ms1mx2.4/30,Error ellipse: s-maj=122.7km
s-min=26.6km az=58.0,South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
GUMO	**Guam**	**1.51**	**63**	P		Pn	23 28 45.0	+0.4
	91nm,0.3s,baz=107,slow=2.6,SNR=34							
GUMO				S		Sn	23 29 09.6	0.0
	229nm,0.3s,baz=168,slow=23,SNR=27							
GUMO				LR		LR	23 29 10.7	
	comp=Z,64nm,20.3s,baz=87,slow=39							
PMG	**Port Moresby**	**22.46**	**170**	LR		LR	23 40 36.5	
	comp=Z,33nm,20.5s,baz=100,slow=33							
WRA	**Warramunga Arr**	**33.86**	**196**	P		P	23 34 37.8	0.0
	5.6nm,0.7s,baz=16,slow=9.4,SNR=45							
ASAR	**Alice Springs**	**37.53**	**195**	P		P	23 35 09.0	0.0
	2.8nm,0.5s,baz=18,slow=13,SNR=47							
CMAR	**Chiang Mai Arr**	**43.16**	**283**	P		P	23 35 55.3	-0.1
	1.0nm,0.5s,baz=78,slow=7.1,SNR=5.1							
STKA	**Stephens Creek**	**44.56**	**182**	P		P	23 36 05.5	-0.7
	1.3nm,0.4s,baz=349,slow=11,SNR=5.2							

IDC 27 23:29:59.3±1.9,**18.°75S×166.°50E,h0km,mb3.9/3,**
mb1 4.1/4,mb1mx3.7/30,mbtmp3.9/4,ML3.6/1,MS3.3/3,
Ms1 3.3/3,ms1mx2.8/24,Error ellipse: s-maj=40.5km
s-min=30.0km az=96.0,Vanuatu Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**3.31**	**181**	Pn		Pn	23 30 52.0	-0.5
	6.0nm,0.3s,baz=75,slow=9.7,SNR=80							
DZM				Sn		Sn	23 31 34.2	+1.6
	17nm,0.3s,baz=130,slow=23,SNR=16							
HNR	**Honiara**	**11.23**	**325**	LR		LR	23 36 10.0	
	comp=Z,77nm,20.8s,baz=170,slow=33							
STKA	**Stephens Creek**	**25.96**	**235**	LR		LR	23 44 15.2	
	comp=Z,82nm,19.0s,baz=113,slow=33							
WRA	**Warramunga Arr**	**30.34**	**262**	P		P	23 36 12.4	-0.6
	0.4nm,0.6s,baz=92,slow=9.1,SNR=4.4							
ASAR	**Alice Springs**	**30.74**	**255**	P		P	23 36 17.0	+0.5
	2.8nm,0.8s,baz=80,slow=8.8,SNR=16							
ASAR				LR		LR	23 48 16.1	
	comp=Z,81nm,20.1s,baz=86,slow=36							
ILAR	**Eielson Array**	**90.55**	**18**	P		P	23 43 02.9	0.0
	0.6nm,0.8s,baz=224,slow=5.7,SNR=4.9							

IDC 27 23:42:05.1±8.7,**22.°34S×171.°86E,h77**km±62km,**mb3.4/3,**
mb1 3.7/4,mb1mx3.4/22,mbtmp3.7/4,ML3.6/1,Error
ellipse: s-maj=109.2km s-min=41.4km az=156.0,
Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**5.02**	**272**	P		Pn	23 43 17.1	-1.0
	2.1nm,0.3s,baz=138,slow=12,SNR=20							
DZM				S		Sn	23 44 16.3	+1.4
	0.9nm,0.3s,baz=317,slow=23,SNR=3.4							
ASAR	**Alice Springs**	**34.90**	**260**	P		P	23 48 49.5	+0.1
	0.8nm,0.8s,baz=86,slow=9.0,SNR=7.1							
WRA	**Warramunga Arr**	**35.02**	**267**	P		P	23 48 49.6	-0.9
	0.2nm,0.3s,baz=95,slow=8.6,SNR=6.1							
ILAR	**Eielson Array**	**92.47**	**16**	P		P	23 55 07.6	+0.7
	0.4nm,0.9s,baz=206,slow=7.7,SNR=4.2							

MEX 28 00:13:54.4±0.3,**14.°21N×93.°21W,h42**km±37km,**MD3.6,**
Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
PCIG		**1.48**	**360**	*e*P		Pn	00 14 16.5	-2.1
PCIG				*i* S		Sn	00 14 34.7	-2.0
CCIG	**Comitan**	**2.30**	**27**	*i* P		Pn	00 14 28.5	-1.5
CCIG				*i* S		Sn	00 14 55.4	-1.9

*NIED **28** 00:16:00,33.°80N×140.°50E,h83km,Mw3.6 Best double*
couple: M0 2.71000×10^14 NP1:φs330.00000°,δ44.00000°,
λ-30.00000°. NP2:φs82.00000°,δ70.00000°,
λ-130.00000°.
*ISCJB **28** 00:16:09.1±0.8,33.°77N±0.°04×140.°52E±0.°09,h68km±8km,*
mb3.7/3,Error ellipse: s-maj=12.6km s-min=6.1km
az=177.7
*JMA **28** 00:16:09.9±0.1,33.°81N×140.°54E,h53km±4km,M3.5*
*IDC **28** 00:16:10.6±3.4,33.°71N×140.°46E,h62km±22km,mb3.4/3,*
mb1 3.7/4,mb1mx3.2/49,mbtmp3.6/4,ML3.6/1,Error
ellipse: s-maj=57.4km s-min=9.8km az=80.0

ISC 28 00:16:09.8±1.3,**33.°77N**±0.°04×**140.°55E**±0.°09,**h54**km±13km,
n20,σ0**s83**/21,**mb3.6/3,Southeast of Honshu**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
JHJ2	**Mitsune**	**0.90**	**223**	P		**Pn**	**00 16 26.6**	**+0.3**
JHJ2				S		**Sn**	**00 16 38.7**	**+0.3**
JHJ	**Hachijo jima 2**	**0.91**	**225**	P		**Pn**	**00 16 26.8**	**+0.3**
	111nm,0.3s,baz=80,slow=22,SNR=34							
JHJ				S		**Sn**	**00 16 38.7**	**-0.1**
	808nm,0.3s,baz=321,slow=22,SNR=53							
JHCJ	**Hachijojimakas**	**0.94**	**223**	P		**Pn**	**00 16 27.3**	**+0.4**
BSO1	**Boso 1**	**0.95**	**22**	P		**Pn**	**00 16 26.6**	**+0.1**
BSO3	**Boso 3**	**1.03**	**358**	P		**Pn**	**00 16 28.3**	**+0.4**
BSO4	**Boso 4**	**1.23**	**352**	P		**Pn**	**00 16 31.1**	**+0.4**
JKO	**Kozu shima**	**1.25**	**290**	P		**Pn**	**00 16 31.0**	**0.0**
JKO				S		**Sn**	**00 16 46.8**	**0.0**
JIM2	**Oshima 3**	**1.33**	**316**	P		**Pn**	**00 16 31.7**	**-0.4**
JIM2				S		**Sn**	**00 16 47.6**	**-1.2**
JOD2	**Odawara 2**	**1.92**	**321**	P		**Pn**	**00 16 40.1**	**-0.1**
JOD2				S		**Sn**	**00 17 01.6**	**-1.6**
MJAR	**Matsushiro Arr**	**3.37**	**326**	P		**Pn**	**00 17 01.2**	**+1.2**
	6.2nm,0.3s,baz=152,slow=13,SNR=30							
MJAR				S		**Sn**	**00 17 38.9**	**+0.1**
	5.3nm,0.3s,baz=354,slow=30,SNR=9.4							
MAT	**Matsushiro**	**3.37**	**326**	P		**Pn**	**00 17 01.5**	**+1.5**
MAT				S		**Sn**	**00 17 39.7**	**+0.9**
H11N2	**WAKE ISLAND Hy**	**27.27**	**114**	T		T	00 50 42.4	
	baz=306,slow=75,SNR=14							
H11N1	**WAKE ISLAND Hy**	**27.27**	**114**	T		T	00 50 44.2	
	baz=306,slow=75,SNR=9.4							
H11N3	**WAKE ISLAND Hy**	**27.29**	**114**	T		T	00 50 45.1	
	baz=306,slow=75,SNR=12							
H11S3	**WAKE ISLAND Hy**	**27.85**	**117**	T		T	00 51 27.0	
	baz=307,slow=75,SNR=6.9							
H11S1	**WAKE ISLAND Hy**	**27.86**	**116**	T		T	00 51 26.2	
	baz=307,slow=75,SNR=6.2							
H11S2	**WAKE ISLAND Hy**	**27.87**	**117**	T		T	00 51 28.4	
	baz=307,slow=75,SNR=5.2							
MKAR	**Makanchi Array**	**45.33**	**305**	P		**P**	**00 24 23.0**	**+0.6**
	0.2nm,0.4s,baz=85,slow=10,SNR=4.7							
WRA	**Warramunga Arr**	**53.74**	**187**	P		**P**	**00 25 25.2**	**-1.4**
	1.0nm,0.3s,baz=6.1,slow=7.5,SNR=19							
ASAR	**Alice Springs**	**57.46**	**187**	P		**P**	**00 25 53.1**	**-0.2**
	0.4nm,0.7s,baz=15,slow=13,SNR=5.0							

*NIED **28** 00:21:00,33.°50N×132.°40E,h44km,Mw3.7 Best double*
couple: M0 4.47000×10^14 NP1:φs324.00000°,δ23.00000°,
λ-107.00000°. NP2:φs162.00000°,δ68.00000°,
λ-83.00000°.
*ISCJB **28** 00:21:40.3±0.5,33.°54N±0.°05×132.°39E±0.°06,h56km±5km,*
mb3.9/4,MS3.0/1,Error ellipse: s-maj=8.0km s-min=7.3km
az=135.5
*JMA **28** 00:21:41.4,33.°54N×132.°38E,h44km,M3.8 Broadband*
fault plane solution: P waves. NP1:φs193.00000°,
δ85.00000°,λ-73.00000°. NP2:φs298.00000°,δ17.00000°,
λ-164.00000°. Principal axes: T Plg38.0000°,
Azm268.0000°; N Plg17.0000°, Azm11.0000°; P
Plg47.0000°, Azm120.0000°;
JMA Felt II J1.
*IDC **28** 00:21:42.6±2.0,33.°57N×132.°33E,h65km±17km,mb3.5/4,*
mb1 3.6/6,mb1mx3.2/62,mbtmp3.7/6,MS2.6/3,Ms1 2.6/3,
ms1mx2.4/35 Error ellipse: s-maj=20.8km s-min=15.5km
az=104.0

ISC 28 00:21:41.0±0.9,**33.°52N**±0.°05×**132.°40E**±0.°05,**h46**km±7km,
n15,σ0**s95**/21,**mb3.9/4,5C-1D,Shikoku**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
JNA	**Nagahama**	**0.07**	**60**	⇑P		**Pn**	**00 21 48.3**	**+0.1**
JNA				S		**Sn**	**00 21 53.2**	**-0.1**
UWA2	**Uwa jima 2**	**0.36**	**149**	⇑P		**Pn**	**00 21 50.6**	**+0.2**
UWA2				S		**Sn**	**00 21 57.4**	**+0.4**
JKU	**Kubokawa**	**0.59**	**111**	⇑P		**Pn**	**00 21 53.7**	**+0.5**
JKU				S		**Sn**	**00 22 02.9**	**+1.0**
JET	**Tanbara**	**0.60**	**64**	⇑P		**Pn**

ϕ=145.00000°,δ4.00000°,λ49.00000°. Principal axes: T 6.9300, Plg48.0000°, Azm280.0000°; N 0.7530, Plg3.0000°, Azm187.0000°; P -7.6840, Plg42.0000°, Azm94.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.

*MOS **28** 00:26:38.1±1.5,15.74S×173.07W,h33km,mb5.0/29 Error ellipse: s-maj=10.9km s-min=8.1km az=51.6*

ISC 28 00:26:38.3±0.3,**15.70S**±0.06×**172.92W**±0.07,**h29**km, **n391**,σ1**§44**/356,**mb4.9**/113,**MS4.0**/18,**14C-26D,Samoa Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**2.09**	**32**	Pn		**Pn**	**00 27 10.8**	**-0.7**
	514nm,0.3s,baz=161,slow=1.3,SNR=322							
AFI				LR		LR	00 27 26.1	
	comp=Z,338nm,19.8s,baz=225,slow=24							
AFI				Sn		**Sn**	**00 27 32.3**	**-4.4**
	2μm,0.3s,baz=69,slow=21,SNR=41							
AFI	**Afiamalu**	**2.09**	**32**	*e*P		**Pn**	**00 27 10.9**	**-0.7**
AFI				*e*			00 27 31.8	
AFI	**Afiamalu**	**2.09**	**32**	*e*Pn		**Pn**	**00 27 10.9**	**-0.7**
AFI				*e*Sn		**Sn**	**00 27 31.8**	**-4.8**
MSVF	**Nonsavu**	**8.89**	**256**	*e*P		Pn	00 28 53.0	+8.0
MSVF	**Nonsavu**	**8.89**	**256**	*e*Pn		Pn	00 28 53.0	+8.0
RAR	**Rarotonga**	**13.62**	**116**	Pn		**Pn**	**00 29 50.1**	**+0.4**
	2.4nm,0.3s,baz=293,slow=7.1,SNR=5.1							
RAR				Sn		Sn	00 32 09.7	-10
	2.1nm,0.3s,baz=104,slow=11,SNR=3.0							
RAR				LR		LR	00 33 51.9	
	comp=Z,409nm,18.9s,baz=298,slow=32							
RAR	**Rarotonga**	**13.62**	**116**	*e*P		**Pn**	**00 29 49.7**	**0.0**
RAR	**Rarotonga**	**13.62**	**116**	*e*Pn		**Pn**	**00 29 49.7**	**0.0**
RAR				*e*Sn		Sn	00 32 10.8	-9.3
RAO	**Raoul Island**	**14.26**	**198**	P		**Pn**	**00 29 56.0**	**-2.3**
DZM	**Mont Dzumac**	**20.52**	**249**	P		Pn	00 31 16.4	-0.4
	48nm,0.9s,baz=87,slow=16,SNR=4.5							
DZM				LR		LR	00 38 34.3	
	comp=Z,298nm,18.9s,baz=39,slow=35							
DZM	**Mont Dzumac**	**20.52**	**249**	*e*P		Pn	00 31 17.9	+1.1
	194nm,1.2s							
DZM				*e*LR		LR	00 36 24.2	
	2μm,28.6s							
DZM	**Mont Dzumac**	**20.52**	**249**	*e*P		**P**	**00 31 14.7**	**+0.1**
	81nm,1.0s							
PPT	**Papeete**	**22.44**	**98**	LR		LR	00 37 53.3	
	comp=Z,196nm,18.9s,baz=198,slow=30							
PPT2	**Papeete2**	**22.44**	**98**	*e*LR		LR	00 36 46.6	
	2μm,27.5s							
TVO	**Taravao**	**22.75**	**99**	*e*T		T	00 55 23.4	
	1.1nm,0.2s							
OUZ	**Omahuta**	**22.89**	**209**	*e*P		**P**	**00 31 39.6**	**-0.2**
	102nm,1.3s							
MXZ	**Matakaoa Point**	**23.12**	**198**	*e*P		**P**	**00 31 44.1**	**+2.0**
	25nm,0.7s							
URZ	**Urewera**	**24.13**	**199**	P		**P**	**00 31 52.0**	**+0.2**
	23nm,0.6s,baz=14,slow=5.6,SNR=20							
URZ	**Urewera**	**24.13**	**199**	*e*P		**P**	**00 31 52.8**	**+1.1**
	32nm,0.7s							
PMOR	**Pomariorio Ree**	**24.14**	**92**	*e*T		T	00 57 05.9	
	3.2nm,0.2s							
VAH	**Vaihoa**	**24.38**	**92**	*e*T		T	00 57 24.0	
	5.6nm,0.3s							
HIZ	**Hauiti**	**25.15**	**203**	*e*P		**P**	**00 32 00.9**	**-0.1**
	146nm,1.5s							
BKZ	**Black Stump Fm**	**25.16**	**200**	*e*P		**P**	**00 32 01.3**	**+0.1**
	59nm,1.7s							
BFZ	**Birch Farm**	**26.62**	**199**	*e*P		**P**	**00 32 14.2**	**-0.1**
	125nm,1.9s							
HNR	**Honiara**	**27.19**	**280**	LR		LR	00 41 33.7	
	comp=Z,600nm,21.9s,baz=151,slow=33							
THZ	**Tophouse**	**28.71**	**202**	*e*P		**P**	**00 32 32.4**	**-0.7**
	42nm,1.4s							
KHZ	**Kahutara**	**29.06**	**201**	*e*P		**P**	**00 32 37.2**	**+1.1**
	100nm,1.8s							
LTZ	**Lake Taylor**	**29.83**	**202**	*e*P		**P**	**00 32 40.4**	**-2.6**
	89nm,1.8s							
LHI	**Lord Howe Isla**	**30.00**	**233**	*e*P		**P**	**00 32 42.9**	**-1.7**
	312nm,1.5s							
TAOE	**Nuku Hiva Isla**	**32.70**	**82**	*e*LR		LR	00 41 42.5	
	1μm,26.2s							
MLZ	**Mavora Lakes**	**33.61**	**204**	*e*P		**P**	**00 33 16.0**	**-0.2**
	99nm,1.4s							
DCZ	**Deep Cove**	**34.08**	**205**	*e*P		**P**	**00 33 20.0**	**-0.2**
	206nm,1.9s							
WHZ	**Wether Hill Ro**	**34.11**	**204**	*e*P		**P**	**00 33 23.8**	**+3.3**
	66nm,1.1s							
ARMA	**Armidale**	**35.59**	**239**	*e*P		**P**	**00 33 30.6**	**-3.0**
	12nm,0.9s							
RKT	**Rikitea**	**36.46**	**108**	*e*LR		LR	00 43 20.2	
	901nm,29.2s							
RKT	**Rikitea**	**36.46**	**108**	*e*T		T	01 12 31.3	
	4.8nm,0.2s							
CAN	**Canberra**	**39.22**	**233**	*e*P		**P**	**00 34 04.0**	**-0.2**
CAN				pmax		pmax		
	comp=Z,16nm,1.0s							
CAN	**Canberra**	**39.22**	**233**	*e*P		**P**	**00 34 04.0**	**-0.2**
	comp=Z,16nm,1.0s							
PMG	**Port Moresby**	**39.42**	**274**	LR		LR	00 48 40.6	
	comp=Z,88nm,19.3s,baz=112,slow=34							
PMG	**Port Moresby**	**39.42**	**274**	*e*P		**P**	**00 34 02.7**	**-3.4**
PMG				pmax		pmax		
	comp=Z,135nm,1.3s							
H11S2	**WAKE ISLAND Hy**	**39.46**	**329**	T		T	01 16 06.1	
	baz=149,slow=76,SNR=41							
H11S3	**WAKE ISLAND Hy**	**39.47**	**329**	T		T	01 16 05.7	
	baz=149,slow=66,SNR=66							
H11S1	**WAKE ISLAND Hy**	**39.47**	**329**	T		T	01 16 07.5	
	baz=149,slow=76,SNR=41							
H11N3	**WAKE ISLAND Hy**	**40.40**	**330**	T		T	01 17 10.1	
	baz=151							
H11N1	**WAKE ISLAND Hy**	**40.40**	**330**	T		T	01 17 21.2	
	baz=151,SNR=6.8							
H11N2	**WAKE ISLAND Hy**	**40.42**	**330**	T		T	01 17 05.1	
	baz=151,slow=75							
COEN	**Coen**	**42.43**	**266**	*e*P		**P**	**00 34 29.6**	**-1.3**
	comp=Z,24nm,1.0s							
MIDW	**Midway**	**43.87**	**354**	*e*P		**P**	**00 34 41.2**	**-0.9**
	comp=Z,86nm,1.0s							
STKA	**Stephens Creek**	**44.29**	**240**	P		**P**	**00 34 44.7**	**-1.1**
	comp=Z,21nm,0.8s,baz=94,slow=8.9,SNR=28							
STKA				LR		LR	00 51 55.2	
	comp=Z,37nm,19.0s,baz=48,slow=34							
STKA	**Stephens Creek**	**44.29**	**240**	*e*P		**P**	**00 34 44.5**	**-1.3**
	comp=Z,4.4nm,0.8s							
JAY	**Jayapura**	**47.50**	**281**	P		**P**	**00 35 10.3**	**-1.0**
	comp=Z,0.9nm,0.8s,baz=37,slow=23,SNR=5.3							
BBOO	**Buckleboo**	**49.07**	**240**	*e*P		**P**	**00 35 21.3**	**-1.9**
	comp=Z,18nm,0.7s							
WB2	**Warramunga Arr**	**50.22**	**257**	*e*P		**P**	**00 35 29.9**	**-2.2**
	comp=Z,46nm,1.9s							
WRAB	**Tennant Creek**	**50.22**	**257**	*e*P		**P**	**00 35 29.4**	**-2.8**
WRAB				pmax		pmax		
	comp=Z,42nm,1.8s							
WRAB	**Tennant Creek**	**50.22**	**257**	*e*P		**P**	**00 35 29.4**	**-2.8**
	comp=Z,42nm,1.8s							
WRA	**Warramunga Arr**	**50.23**	**257**	P		**P**	**00 35 29.8**	**-2.4**
	comp=Z,4.4nm,0.9s,baz=92,slow=7.6,SNR=31							
WRA				PcP		**PcP**	**00 36 50.7**	**-0.4**
	comp=Z,3.9nm,1.0s,baz=92,slow=4.1,SNR=5.9							
WRA				LR		LR	00 55 22.6	
	comp=Z,162nm,19.4s,baz=105,slow=34							
WRA	**Warramunga Arr**	**50.23**	**257**	*e*P		**P**	**00 35 29.4**	**-2.8**
WRA				pmax		pmax		
	comp=Z,5.0nm,0.9s							
AS01	**Alice Springs**	**50.42**	**252**	*e*P		**P**	**00 35 31.1**	**-2.5**
AS31	**Alice Springs**	**50.46**	**252**	*e*P		**P**	**00 35 32.0**	**-1.9**
	comp=Z,6.8nm,0.7s							
ASAR	**Alice Springs**	**50.46**	**252**	P		**P**	**00 35 32.0**	**-2.0**
	comp=Z,25nm,0.7s,baz=86,slow=8.3,SNR=216							
ASAR	**Alice Springs**	**50.46**	**252**	P		**P**	**00 35 32.0**	**-2.0**
GUMO	**Guam**	**50.88**	**303**	LR		LR	00 53 45.3	
	comp=Z,71nm,19.9s,baz=124,slow=32							
MTN	**Manton Dam**	**54.17**	**265**	*e*P		**P**	**00 36 00.3**	**-1.3**
	comp=Z,51nm,1.7s							
SOEI	**Soe**	**61.38**	**267**	*e*P		**P**	**00 36 51.8**	**-0.6**
	comp=Z,16nm,0.6s							
SBA	**Scott Base**	**62.99**	**185**	*e*P		**P**	**00 37 04.3**	**+2.3**
SBA				pmax		pmax		
	comp=Z,35nm,1.8s							
SBA	**Scott Base**	**62.99**	**185**	*e*P		**P**	**00 37 04.3**	**+2.3**
	comp=Z,35nm,1.8s							
VNDA	**Vanda**	**63.13**	**186**	P		**P**	**00 37 05.3**	**+2.4**
	comp=Z,2.7nm,0.9s,baz=6.0,slow=5.6,SNR=17							
VNDA	**Vanda**	**63.13**	**186**	*e*P		**P**	**00 37 05.3**	**+2.4**
VNDA				pmax		pmax		
	comp=Z,5.0nm,0.9s							
VNDA	**Vanda**	**63.13**	**186**	*e*P		**P**	**00 37 05.2**	**+2.4**
	comp=Z,4.9nm,0.9s							
NWAO	**Narrogin (SRO)**	**64.88**	**241**	LR		LR	01 02 34.9	
	comp=Z,98nm,20.0s,baz=342,slow=33							
MJA0	**Matsu Arr-Jizo**	**69.44**	**320**	*e*P		**P**	**00 37 44.6**	**+0.6**
MJA0				pmax		pmax		
	comp=Z,2.0nm,0.8s							
MJAR	**Matsushiro Arr**	**69.47**	**320**	P		**P**	**00 37 43.4**	**-0.7**
	comp=Z,2.9nm,0.9s,baz=148,slow=5.7,SNR=5.0							
MAJO	**Matsushiro**	**69.47**	**320**	*d* /P		**P**	**00 37 43.1**	**-1.0**
MAJO				pmax		pmax		
	comp=Z,104nm,1.9s							
MAJO	**Matsushiro**	**69.47**	**320**	*e*P		**P**	**00 37 43.3**	**-0.8**
	comp=Z,6.1nm,0.7s							
JOW	**Kunigami**	**71.03**	**306**	LR		LR	01 02 34.9	
	comp=Z,133nm,19.9s,baz=148,slow=30							
MWC	**Mount Wilson**	**72.01**	**45**	*e*P		**P**	**00 38 01.0**	**+1.1**
MWC				pmax		pmax		
	comp=Z,12nm,0.9s							
MWC	**Mount Wilson**	**72.01**	**45**	*e*P		**P**	**00 38 01.0**	**+1.1**
	comp=Z,12nm,0.9s							
VES	**Vestal, Richgr**	**72.24**	**44**	P		**P**	**00 38 02.0**	**+1.0**
	baz=235							
MURC	**Murrieta**	**72.26**	**46**	P		**P**	**00 38 01.9**	**+0.6**
	baz=237							
BFSC	**Mount Baldy Ra**	**72.29**	**46**	P		**P**	**00 38 02.2**	**+0.7**
	baz=236							
MONP	**Monument Peak,**	**72.42**	**47**	P		**P**	**00 38 03.3**	**+0.9**
	baz=239							
EDW2	**Edwards Air Fo**	**72.42**	**45**	P		**P**	**00 38 03.1**	**+0.9**
	baz=236,SNR=9.3							
IKP	**In-Ko-Pah, Jac**	**72.52**	**48**	P		**P**	**00 38 04.0**	**+1.2**
	baz=238							
ISA	**Isabella, Lake**	**72.54**	**44**	P		**P**	**00 38 04.0**	**+1.1**
	baz=235							
ISA	**Isabella, Lake**	**72.54**	**44**	*e*P		**P**	**00 38 04.4**	**+1.5**
ISA				pmax		pmax		
	comp=Z,11nm,1.1s							
ISA	**Isabella, Lake**	**72.54**	**44**	*e*P		**P**	**00 38 04.4**	**+1.5**
	comp=Z,11nm,1.1s							
CMB	**Columbia Colle**	**72.68**	**41**	*e*P		**P**	**00 38 04.8**	**+1.2**
CMB				pmax		pmax		
	comp=Z,8.0nm,0.9s							
CMB	**Columbia Colle**	**72.68**	**41**	*e*P		**P**	**00 38 04.8**	**+1.2**
	comp=Z,7.6nm,0.9s							
PFO	**Pinyon Flats O**	**72.78**	**47**	P		**P**	**00 38 05.0**	**+0.6**
	comp=Z,4nm,0.8s,baz=187,slow=2.3,SNR=5.1							
PFO	**Pinyon Flats O**	**72.78**	**47**	P		**P**	**00 38 05.7**	**+1.2**
	baz=237							
PFO	**Pinyon Flats O**	**72.78**	**47**	*e*P		**P**	**00 38 05.6**	**+1.2**
PFO				pmax		pmax		
	comp=Z,6.0nm,1.1s							
PFO	**Pinyon Flats O**	**72.78**	**47**	*e*P		**P**	**00 38 05.6**	**+1.2**
	comp=Z,6.1nm,1.1s							
AFDM	**Forest Hills D**	**72.86**	**40**	*e*P		**P**	**00 38 05.8**	**+1.1**
	comp=Z,8.9nm,1.1s							
SWSC	**Sam W. Stewart**	**72.89**	**48**	P		**P**	**00 38 06.0**	**+1.0**
	baz=236							
LRMC	**Laurel Mtn Rad**	**72.97**	**45**	P		**P**	**00 38 06.7**	**+1.1**
	baz=236							
N02D	**Trinity Center**	**73.08**	**37**	P		**P**	**00 38 07.3**	**+1.3**
	baz=231							
CWC	**Cottonwood Cre**	**73.25**	**44**	P		**P**	**00 38 08.3**	**+1.1**
	baz=235							
M02C	**Callahan**	**73.26**	**37**	P		**P**	**00 38 08.5**	**+1.5**
	baz=231							
BELC	**Belle Mtn. Jos**	**73.32**	**47**	P		**P**	**00 38 08.5**	**+0.9**
	baz=238,SNR=5.4							
L02D	**Cave Junction,**	**73.32**	**36**	P		**P**	**00 38 08.9**	**+1.6**
	baz=230							
MPMC	**Manual Prospec**	**73.42**	**44**	P		**P**	**00 38 09.3**	**+1.1**
	baz=236,SNR=15							
GSC	**Goldstone, Bar**	**73.47**	**45**	P		**P**	**00 38 09.3**	**+0.8**
	baz=237,SNR=5.8							
GSC	**Goldstone, Bar**	**73.47**	**45**	*e*P		**P**	**00 38 09.2**	**+0.8**
GSC				pmax		pmax		
	comp=Z,17nm,1.3s							
GSC	**Goldstone, Bar**	**73.47**	**45**	*e*P		**P**	**00 38 09.2**	**+0.8**
	comp=Z,17nm,1.3s							
BC3	**Big Chuckawall**	**73.52**	**47**	P		**P**	**00 38 09.7**	**+0.9**
	baz=238							
HEC	**Hector,Ludlow**	**73.53**	**46**	P		**P**	**00 38 09.5**	**+0.7**
	baz=237,SNR=7.2							
YBH	**Yreka Blue Hor**	**73.56**	**37**	*e*P		**P**	**00 38 10.5**	**+1.7**
YBH				pmax		pmax		
	comp=Z,14nm,1.2s							
YBH	**Yreka Blue Hor**	**73.56**	**37**	*e*P		**P**	**00 38 10.5**	**+1.7**
	comp=Z,14nm,1.2s							
WAKR	**Walker**	**73.56**	**41**	*e*P		**P**	**00 38 10.6**	**+1.5**
	comp=Z,6.8nm,1.0s							
GLA	**Glamis**	**73.64**	**48**	P		**P**	**00 38 10.7**	**+1.3**
	baz=239							
GLA	**Glamis**	**73.64**	**48**	*e*P		**P**	**00 38 11.6**	**+2.2**
GLA				pmax		pmax		
	comp=Z,11nm,1.0s							
GLA	**Glamis**	**73.64**	**48**	*e*P		**P**	**00 38 11.6**	**+2.2**
	comp=Z,11nm,1.0s							
BEKR	**Beckworth**	**73.80**	**40**	*e*P		**P**	**00 38 11.7**	**+1.3**
	comp=Z,8.0nm,1.0s							
PNTR	**Pine Nut**	**73.80**	**41**	*e*P		**P**	**00 38 12.3**	**+1.8**
	comp=Z,17nm,1.1s							
TVH2	**Borealis Mine**	**73.92**	**42**	*e*P		**P**	**00 38 13.0**	**+1.8**
	comp=Z,6.2nm,0.6s							
TVH1	**TV Hill, Hawth**	**73.96**	**41**	*e*P		**P**	**00 38 12.8**	**+1.2**
	comp=Z,7.8nm,1.0s							
YERR	**Yerington**	**73.97**	**41**	*e*P		**P**	**00 38 12.7**	**+1.3**
	comp=Z,10nm,1.0s							
YSS	**Yuzh-Sakhalins**	**73.97**	**330**	||*e*P	**P**	**00 38 12.0**	**+1.1**
YSS				*e*			00 38 24.2	
YSS				pmax		pmax		
	comp=Z,40nm,1.6s							
GMRC	**Granite Mounta**	**73.97**	**46**	P		**P**	**00 38 12.0**	**+0.6**
	baz=238,SNR=7.5							
IRM	**Iron Mountain**	**74.00**	**47**	P		**P**	**00 38 12.4**	**+0.9**
	baz=238,SNR=7.8							
GRAC	**Grapevine Rang**	**74.03**	**43**	P		**P**	**00 38 12.9**	**+1.3**
	baz=236							
FURC	**Furnace Creek,**	**74.07**	**44**	P		**P**	**00 38 12.9**	**+1.2**
	baz=236							
M04C	**Macdoel**	**74.09**	**37**	P		**P**	**00 38 13.1**	**+1.2**
	baz=231							
TUQ	**Turquoise Moun**	**74.14**	**45**	P		**P**	**00 38 13.2**	**+0.8**
	baz=237,SNR=6.3							
SHOC	**Shoshone, Teco**	**74.16**	**45**	P		**P**	**00 38 13.2**	**+0.8**
	baz=237							
Y12C	**Blythe**	**74.22**	**48**	*e*P		**P**	**00 38 14.2**	**+1.5**
	comp=Z,11nm,1.2s							
PAHR	**Pah Rah Range**	**74.30**	**40**	*e*P		**P**	**00 38 14.6**	**+1.3**
	comp=Z,9.4nm,1.1s							
QSPA	**South Pole Qui**	**74.35**	**180**	*e*P		**P**	**00 38 13.8**	**+0.6**
LDFC	**Landfair**	**74.51**	**46**	*e*P		**P**	**00 38 15.8**	**+1.3**
	comp=Z,16nm,0.9s							
214A	**Organ Pipe Nat**	**74.55**	**50**	P		**P**	**00 38 15.8**	**+1.0**
	baz=240							
TPNV	**Topopah Spring**	**74.75**	**44**	P		**P**	**00 38 16.8**	**+0.8**
	baz=237,SNR=7.4							
TPNV	**Topopah Spring**	**74.75**	**44**	*e*P		**P**	**00 38 17.1**	**+1.1**
TPNV				pmax		pmax		
	comp=Z,6.0nm,0.8s							
TPNV	**Topopah Spring**	**74.75**	**44**	*e*P		**P**	**00 38 17.1**	**+1.1**
	comp=Z,6.3nm,0.8s							
PDMCI	**Parker Dam,Lak**	**74.78**	**47**	P		**P**	**00 38 16.9**	**+0.9**
	baz=239,SNR=6.2							
J04D	**Umpqua Nationa**	**74.86**	**36**	P		**P**	**00 38 17.5**	**+1.0**
	baz=231							
I04A	**Tendick Farm,**	**75.04**	**35**	P		**P**	**00 38 18.4**	**+1.1**
	baz=230							
MOD	**Modoc Plateau**	**75.07**	**38**	*e*P		**P**	**00 38 18.6**	**+0.9**
	comp=Z,9.5nm,0.9s							
K05A	**Summer Lake**	**75.23**	**37**	*e*P		**P**	**00 38 20.4**	**+1.7**
	comp=Z,25nm,1.1s							
SHPR	**Sheep Range**	**75.24**	**45**	*e*P		**P**	**00 38 20.3**	**+1.5**
	comp=Z,14nm,1.2s							
W13A	**Hualapai Mount**	**75.38**	**47**	*e*P		**P**	**00 38 21.1**	**+1.4**
	comp=Z,6.6nm,1.0s							
J05D	**Fort Rock, OR**	**75.38**	**36**	P		**P**	**00 38 20.9**	**+1.5**
	baz=232							
Y14A	**Wickenburg**	**75.40**	**48**	*e*P		**P**	**00 38 21.1**	**+1.4**
	comp=Z,42nm,1.1s							
R11A	**Troy Canyon, C**	**75.96**	**43**	P		**P**	**00 38 23.6**	**+0.7**
	baz=237,SNR=7.7							
R11A	**Troy Canyon, C**	**75.96**	**43**	*e*P		**P**	**00 38 24.0**	**+1.1**
	comp=Z,6.8nm,1.1s							
I05D	**Terrebonne, OR**	**75.98**	**35**	P		**P**	**00 38 24.0**	**+1.2**
	baz=231							
TUC	**Tucson**	**76.22**	**50**	P		**P**	**00 38 25.8**	**+1.5**
	baz=241							
TUC	**Tucson**	**76.22**	**50**	*e*P		**P**	**00 38 25.9**	**+1.5**
TUC				pmax		pmax		
	comp=Z,18nm,1.5s							
TUC	**Tucson**	**76.22**	**50**	*e*P		**P**	**00 38 25.9**	**+1.5**
	comp=Z,18nm,1.5s							
WVOR	**Wild Horse Val**	**76.38**	**38**	*e*P		**P**	**00 38 26.2**	**+1.1**
WVOR				pmax		pmax		
	comp=Z,5.0nm,0.4s							
WVOR	**Wild Horse Val**	**76.38**	**38**	*e*P		**P**	**00 38 26.2**	**+1.1**
	comp=Z,4.7nm,0.4s							
G05D	**Wamic, OR**	**76.56**	**35**	P		**P**	**00 38 27.3**	**+1.3**
	baz=231							
KSRS	**Korea Array**	**76.69**	**315**	P		**P**	**00 38 28.1**	**+1.2**
	comp=Z,2.5nm,0.8s,baz=120,slow=7.2,SNR=11							
KSRS				LR		LR	01 06 04.8	
	comp=Z,44nm,21.9s,baz=112,slow=31							
KSAR	**Wonju Array Be**	**76.72**	**315**	P		**P**	**00 38 28.1**	**+1.1**
KSAR	**Wonju Array Be**	**76.72**	**315**	P		**P**	**00 38 28.1**	**+1.1**
KS01	**Wonju Array Si**	**76.73**	**315**	*e*P		**P**	**00 38 27.5**	**+0.5**
X16A	**Lo Mia Camp, P**	**76.77**	**48**	*e*P		**P**	**00 38 29.3**	**+1.7**
	comp=Z,9.6nm,0.9s							
LCMT	**Little Creek M**	**76.81**	**45**	*e*P		**P**	**00 38 29.0**	**+1.2**
	comp=Z,6.1nm,1.0s							
319A	**Douglas**	**76.91**	**52**	*e*P		**P**	**00 38 30.1**	**+1.7**
	comp=Z,14nm,1.3s							
G06A	**Carlson Farm,**	**76.93**	**35**	*e*P		**P**	**00 38 27.3**	**-0.8**
	comp=Z,22nm,0.9s							
CCUT	**Cedar City**	**77.01**	**45**	*e*P		**P**	**00 38 29.8**	**+0.8**
	comp=Z,9.2nm,1.1s							
KNB	**Kanab**	**77.11**	**45**	*e*P		**P**	**00 38 31.2**	**+1.8**
KNB				pmax		pmax		
	comp=Z,38nm,1.8s							
KNB	**Kanab**	**77.11**	**45**	*e*P		**P**	**00 38 31.2**	**+1.8**
	comp=Z,38nm,1.8s							
U15A	**North Rim**	**77.17**	**46**	*e*P		**P**	**00 38 31.8**	**+1.8**
	comp=Z,11nm,1.0s							
SZCU	**Shurtz Canyon**	**77.22**	**45**	*e*P		**P**	**00 38 31.9**	**+1.8**
	comp=Z,9.8nm,1.2s							
WUAZ	**Wupatki**	**77.36**	**47**	P		**P**	**00 38 32.2**	**+1.3**
	baz=240							
WUAZ	**Wupatki**	**77.36**	**47**	*e*P		**P**	**00 38 32.5**	**+1.7**
	comp=Z,10nm,1.2s							
PKCU	**Pink Cliffs**	**77.67**	**45**	*e*P		**P**	**00 38 35.8**	**+3.0**
	comp=Z,19nm,1.3s							
USRK	**Ussuriysk Ar.**	**77.90**	**323**	P		**P**	**00 38 34.2**	**+0.7**
	comp=Z,3.7nm,0.9s,baz=120,slow=7.5,SNR=7.1							
USRK				LR		LR	01 06 20.5	
	comp=Z,95nm,21.2s,baz=114,slow=31							
MSU	**Marysvale**	**78.31**	**44**	*e*P		**P**	**00 38 38.3**	**+2.1**
MSU	**Marysvale**	**78.31**	**44**	*e*P		**P**	**00 38 38.2**	**+2.1**
121A	**Cookes Peak, D**	**78.57**	**51**	P		**P**	**00 38 38.8**	**+1.1**
	baz=243							
BMO	**Blue Mountains**	**78.58**	**37**	*e*P		**P**	**00 38 38.2**	**+0.8**
BMO				pmax		pmax		
	comp=Z,8.0nm,1.1s							
BMO	**Blue Mountains**	**78.58**	**37**	*e*P		**P**	**00 38 38.2**	**+0.8**
	comp=Z,8.0nm,1.1s							
MFID	**Camas Ranch**	**78.63**	**39**	*e*P		**P**	**00 38 38.7**	**+1.0**
	comp=Z,14nm,1.4s							
DUG	**Dugway, Tooele**	**78.76**	**43**	P		**P**	**00 38 39.8**	**+1.3**
	baz=238							
F10A	**Beach Ranch, E**	**79.28**	**36**	*e*P		**P**	**00 38 41.8**	**+0.6**
	comp=Z,57nm,1.9s							
TMUT	**Trail Mountain**	**79.36**	**44**	*e*P		**P**	**00 38 44.0**	**+1.9**
	comp=Z,12nm,1.0s							
HLID	**Hailey**	**79.56**	**39**	P		**P**	**00 38 44.2**	**+1.3**
	baz=237							
HLID	**Hailey**	**79.56**	**39**	*e*P		**P**	**00 38 43.5**	**+0.6**
	comp=Z,11nm,1.0s							
DIV	**Divide**	**79.58**	**13**	*e*P		**P**	**00 38 42.4**	**0.0**
	comp=Z,21nm,1.3s							
SRU	**San Rafael Swe**	**79.73**	**44**	*e*P		**P**	**00 38 45.4**	**+1.5**
SRU				pmax		pmax		
	comp=Z,11nm,1.2s							
SRU	**San Rafael Swe**	**79.73**	**44**	*e*P		**P**	**00 38 45.4**	**+1.5**
	comp=Z,11nm,1.2s							
LAZ	**Ladron**	**79.89**	**50**	*e*P		**P**	**00 38 46.7**	**+1.8**
MNTX	**Cornudas Mount**	**80.03**	**53**	P		**P**	**00 38 46.8**	**+1.3**
	baz=245							
MNTX	**Cornudas Mount**	**80.03**	**53**	*e*P		**P**	**00 38 46.8**	**+1.3**
	comp=Z,24nm,1.9s							
PV05	**Paradox Valley**	**80.20**	**46**	*e*P		**P**	**00 38 49.0**	**+2.5**
PV10	**Paradox Valley**	**80.38**	**46**	*e*P		**P**	**00 38 48.5**	**+1.0**
TX31	**Lajitas Ar. Si**	**80.39**	**56**	*e*P		**

Q24A	**Divide**	**83.36**	**47**	P		**P**	**00 39 04.1**	**+0.8**
	baz=244							
Q24A	**Divide**	**83.36**	**47**	*eP*		**P**	**00 39 05.0**	**+1.8**
	comp=Z,22nm,1.3s							
ISCO	**Idaho Springs**	**83.40**	**46**	P		**P**	**00 39 04.4**	**+0.9**
	baz=244							
ISCO	**Idaho Springs**	**83.40**	**46**	*eP*		**P**	**00 39 04.6**	**+1.1**
ISCO				pmax	pmax			
	comp=Z,13nm,1.4s							
ISCO	**Idaho Springs**	**83.40**	**46**	*eP*		**P**	**00 39 04.5**	**+1.1**
	comp=Z,13nm,1.4s							
QIZ	**Qiongzhong**	**83.45**	**292**	P		**P**	**00 39 02.0**	**-1.7**
QIZ				S		**S**	**00 49 24.0**	**+0.3**
RLMT	**Red Lodge**	**83.53**	**40**	P		**P**	**00 39 05.0**	**+1.2**
	baz=240							
034A	**Hebbronville**	**83.59**	**60**	P		**P**	**00 39 04.8**	**+0.5**
	baz=249							
N23A	**Red Feather La**	**83.67**	**45**	P		**P**	**00 39 05.3**	**+0.5**
	baz=243							
N23A	**Red Feather La**	**83.67**	**45**	*eP*		**P**	**00 39 06.2**	**+1.5**
	comp=Z,53nm,1.9s							
AMTX	**Amarillo**	**84.17**	**51**	*eP*		**P**	**00 39 07.9**	**+0.7**
	comp=Z,17nm,1.1s							
433A	**Art**	**84.60**	**56**	P		**P**	**00 39 09.8**	**+0.4**
	baz=248							
534A	**Blanco**	**84.83**	**57**	P		**P**	**00 39 10.9**	**+0.4**
	baz=249							
ABTX	**Abilene, Hawle**	**84.86**	**54**	P		**P**	**00 39 11.0**	**+0.3**
	baz=248							
ABTX	**Abilene, Hawle**	**84.86**	**54**	*eP*		**P**	**00 39 11.1**	**+0.4**
	comp=Z,12nm,0.8s							
BILL	**Bilibino**	**84.86**	**352**	⇑*iP*		**P**	**00 39 09.5**	**-0.3**
BILL				*i*			00 39 16.1	
BILL				pmax	pmax			
	comp=Z,18nm,1.8s							
333A	**Richland Sprin**	**84.89**	**56**	P		**P**	**00 39 11.7**	**+0.8**
	baz=248							
233A	**Rising Star**	**85.22**	**55**	P		**P**	**00 39 12.4**	**-0.1**
	baz=249							
434A	**Burnet**	**85.28**	**56**	P		**P**	**00 39 13.4**	**+0.6**
	baz=249							
334A	**Lometa**	**85.49**	**56**	P		**P**	**00 39 14.2**	**+0.4**
	baz=249							
BJI	**Beijing**	**86.01**	**313**	P		**P**	**00 39 15.0**	**-1.2**
BJI				pmax	pmax			
	comp=Z,18nm,2.1s							
IPM	**Ipoh**	**87.41**	**275**	*eP*		**P**	**00 39 23.3**	**-0.4**
	comp=Z,18nm,0.8s							
438A	**Sam Houston St**	**87.51**	**57**	P		**P**	**00 39 24.7**	**+1.0**
	baz=250							
MAW	**Mawson**	**87.66**	**198**	P		**P**	**00 39 24.7**	**+0.9**
	comp=Z,12nm,1.1s,baz=180,slow=3.9,SNR=17							
MAW				LR		LR	01 16 48.9	
	comp=Z,73nm,18.4s,baz=260,slow=34							
MAW	**Mawson**	**87.66**	**198**	*eP*		**P**	**00 39 24.6**	**+0.8**
MAW				pmax	pmax			
	comp=Z,3.0nm,1.1s							
MAW	**Mawson**	**87.66**	**198**	*eP*		**P**	**00 39 24.6**	**+0.8**
	comp=Z,3.0nm,1.1s							
HHC	**Hu-ho-hao-te**	**89.57**	**313**	*eP*		**P**	**00 39 33.0**	**-0.4**
HHC				pmax	pmax			
	comp=Z,10.0nm,1.1s							
HHC				pmax	pmax			
	comp=Z,43nm,5.4s							
YKA	**Yellowknife Ar**	**90.19**	**23**	LR		LR	01 14 29.6	
	comp=Z,7.1nm,18.6s,baz=180,slow=32							
KMI	**Kunming**	**91.57**	**296**	P		**P**	**00 39 42.8**	**-0.4**
KMI				pmax	pmax			
	comp=Z,10.0nm,0.5s							
CD2	**Chengdu**	**92.36**	**301**	*eP*		**P**	**00 39 47.5**	**+1.0**
SYO	**Syowa Base**	**92.40**	**191**⇑	*eP*		**P**	**00 39 44.8**	**-1.1**
NNA	**Nana**	**92.54**	**103**	*eP*		**P**	**00 39 48.3**	**+0.6**
NNA	**Nana**	**92.54**	**103**	*eP*		**P**	**00 39 48.3**	**+0.6**
CMAR	**Chiang Mai Arr**	**93.15**	**288**	P		**P**	**00 39 51.2**	**+0.8**
	comp=Z,0.6nm,0.3s,baz=111,slow=2.2,SNR=7.0							
LZH	**Lanzhou**	**93.77**	**306**	*eP*		**P**	**00 39 53.0**	**-0.1**
LZH				pP		PcP	00 39 56.0	+2.4
LZH				sP		pP	00 39 58.3	-4.2
LZH				pmax	pmax			
	comp=Z,25nm,1.1s							
LZH				pmax	pmax			
	comp=Z,89nm,4.5s							
ULM	**Lac du Bonnet**	**93.87**	**39**	LR		LR	01 14 39.3	
	comp=Z,103nm,20.4s,baz=224,slow=31							
ULN	**Ulaanbaatar**	**94.96**	**318**⇑	*iP*		**P**	**00 39 57.4**	**-0.8**
ULN				pmax	pmax			
	comp=Z,6.0nm,1.4s							
SONM	**Songino Array**	**95.38**	**318**	P		**P**	**00 40 01.9**	**+1.8**
	comp=Z,1.3nm,0.7s,baz=141,slow=9.3,SNR=3.6							
SONM				LR		LR	01 17 24.8	
	comp=Z,43nm,20.0s,baz=54,slow=32							
SONM	**Songino Array**	**95.38**	**318**	*eP*		**P**	**00 40 02.7**	**+2.6**
SONM				pmax	pmax			
	comp=Z,1.0nm,0.7s							
KURK	**Kurchatov**	**113.67**	**319**	*e*PKIKP		**PKiKP**	**00 45 13.2**	**-0.7**
KURK	**Kurchatov**	**113.67**	**319**	*e*PKPdf		**PKiKP**	**00 45 13.2**	**-0.7**
KSH	**Kashi**	**116.02**	**307**	*e*PKP		**PKPdf**	**00 45 22.0**	**+3.0**
KSH				PP		**PP**	**00 46 31.0**	**+7.2**
KSH				PKS		**PKSdf**	**00 48 57.0**	**+1.2**
KSH				SKS		**SKSdf**	**00 52 32.0**	**+2.7**
KSH				SS		**SS**	**01 02 30.3**	**+5.7**
KSH				AMB	AMB			
	comp=Z,50nm,4.6s							
KSH				LR	LR			
	comp=Z,48nm,5.9s							
KSH				LR	LR			
	comp=Z,44nm,4.8s							
KSH				LR	LR			
	comp=Z,110nm,5.2s							
BRVK	**Borovoye**	**118.46**	**322***c*	*i*PKIKP		**PKPdf**	**00 45 25.5**	**+2.5**
BRVK				pmax	pmax			
	comp=Z,17nm,2.5s							
ARU	**Arti**	**123.84**	**328**	*e*PKIKP		**PKPdf**	**00 45 32.8**	**-0.5**
ARU	**Arti**	**123.84**	**328**	*e*PKPdf		**PKPdf**	**00 45 32.8**	**-0.5**
ABKAR	**Akbulak array**	**125.74**	**320**	*e*PKPdf		**PKPdf**	**00 45 37.0**	**-0.1**
KLMR	**Klimovskoe**	**129.23**	**340**	*e*PKIKP		**PKPdf**	**00 45 40.8**	**-2.6**
KLMR				pmax	pmax			
	comp=Z,12nm,1.5s							
OBN	**Obninsk**	**134.57**	**337**	*e*PKIKP		**PKPdf**	**00 45 50.3**	**-3.4**
OBN				pmax	pmax			
	comp=Z,5.0nm,1.2s							
LSZ	**Lusaka**	**142.83**	**215**	*e*PKIKP		**PKPdf**	**00 46 08.3**	**-1.9**
LSZ	**Lusaka**	**142.83**	**215**	*e*PKPdf		**PKPdf**	**00 46 08.3**	**-1.9**
LVV	**L'vov**	**143.29**	**342**	*e*PKHKP		PKPpre	00 46 04.2	
CLL	**Collm**	**144.16**	**354**	*i* PKIKP		PKPbc	00 46 09.6	+0.2
CLL				pmax	pmax			
	comp=Z,4.0nm,0.9s							
CLL	**Collm**	**144.16**	**354**	*i* PKPdf		PKPbc	00 46 09.6	+0.2
	comp=Z,4.0nm,0.9s							
CLL				*e*			00 46 38.0	
CLL	**Collm**	**144.16**	**354**	*e*PKPdf		PKPbc	00 46 10.1	+0.7
DPC	**Dobruska-Polom**	**144.64**	**350**	*e*PKP		PKPbc	00 46 11.4	+0.4
DPC				*ex*		x	00 46 29.9	
DPC	**Dobruska-Polom**	**144.64**	**350**	*e*PKIKP		PKPbc	00 46 11.4	+0.4
OKC	**Ostrava-Krasne**	**144.78**	**348**	*e*PKP		**PKPab**	**00 46 11.1**	**-0.2**
OKC				*ex*		x	00 46 30.0	
OKC	**Ostrava-Krasne**	**144.78**	**348**	*e*PKIKP		**PKPab**	**00 46 11.1**	**-0.2**
BUR08	**Bucovina Ar. S**	**144.79**	**339**	*e*PKPdf		**PKPdf**	**00 46 12.3**	**-0.4**
BURAR	**Bucovina Array**	**144.81**	**339**⇑	*i*P		PKPbc	00 46 12.0	+0.3
BURAR	**Bucovina Array**	**144.81**	**339**⇑	*i*PKIKP		PKPbc	00 46 12.0	+0.3
CRVS	**Cervenica-Dubn**	**144.85**	**343**	*e*PKIKP		**PKPab**	**00 46 11.1**	**-0.5**
CRVS	**Cervenica-Dubn**	**144.85**	**343**	*e*PKP		**PKPab**	**00 46 11.1**	**-0.5**
UZH	**Uzhgorod**	**144.86**	**342***d*	*i*PKIKP		**PKPab**	**00 46 10.7**	**-0.9**
UZH				*e*			00 46 18.9	
MORC	**Moravsky Berou**	**144.96**	**348**	⇓*iP*		**PKPab**	**00 46 11.2**	**-0.8**
MORC	**Moravsky Berou**	**144.96**	**348**	*e*PKIKP		PKPbc	00 46 12.4	+0.3
MORC	**Moravsky Berou**	**144.96**	**348**	*e*PKPdf		PKPbc	00 46 12.3	+0.3
LANS	**Liptovska Anna**	**145.13**	**346**	*e*PKIKP		**PKPdf**	**00 46 13.7**	**+0.6**
LANS	**Liptovska Anna**	**145.13**	**346**	*e*PKP		**PKPdf**	**00 46 13.7**	**+0.6**
LANS				*e*			00 46 30.8	
KSRV	**Kasrt alli**	**145.17**	**311**	*eP*		**PKPab**	**00 46 13.4**	**+0.1**
TESR	**Tescani**	**145.21**	**336**⇑	*iP*		**PKPbc**	**00 46 12.4**	**-0.5**
PRU	**Pruhonice**	**145.27**	**352**	*e*PKP		**PKPbc**	**00 46 12.7**	**-0.3**
PRU				*ex*		x	00 46 31.2	
PRU	**Pruhonice**	**145.27**	**352**	*e*PKIKP		**PKPbc**	**00 46 12.7**	**-0.3**
GOPC	**GO Pecny, Ondr**	**145.30**	**351**	*e*PKP		**PKPbc**	**00 46 13.2**	**+0.1**
GOPC				*ex*		x	00 46 31.9	
GOPC	**GO Pecny, Ondr**	**145.30**	**351**	*e*PKIKP		**PKPbc**	**00 46 13.2**	**+0.1**
TLCR		**145.37**	**333**⇑	*i*P		**PKPbc**	**00 46 13.2**	**-0.2**
TLCR		**145.37**	**333**⇑	PKIKP		**PKPbc**	**00 46 13.2**	**-0.2**
KECS	**Kecovo**	**145.50**	**344**	*e*PKP2		**PKPab**	**00 46 14.1**	**+0.1**
KECS	**Kecovo**	**145.50**	**344**	*e*PKP		**PKPab**	**00 46 14.1**	**+0.1**
KECS				*e*			00 46 30.7	
ARCR	**ARCALIA**	**145.57**	**339**⇓	*i*P		**PKPab**	**00 46 15.0**	**+0.7**
JHLN	**Al Jahlan**	**145.67**	**311**	*eP*		**PKPab**	**00 46 18.4**	**+3.3**
CFR	**Carcaliu**	**145.67**	**333**⇓	*i*P		**PKPbc**	**00 46 14.6**	**+0.2**
CFR	**Carcaliu**	**145.67**	**333**	⇓PKP2		**PKPbc**	**00 46 14.6**	**+0.2**
VRI	**Vrincioaia**	**145.71**	**335**⇓	*i*P		**PKPdf**	**00 46 13.7**	**-0.5**
VRI	**Vrincioaia**	**145.71**	**335**	⇓PKP2		**PKPdf**	**00 46 13.7**	**-0.5**
PLOR	**Plostina**	**145.75**	**335**⇓	*i*P		**PKPbc**	**00 46 14.6**	**-0.1**
PLOR	**Plostina**	**145.75**	**335**	⇓PKP2		**PKPbc**	**00 46 14.6**	**-0.1**
SLMH	**Al Salmeh**	**145.78**	**312**	*eP*		**PKPbc**	**00 46 15.3**	**+0.2**
KMBO	**Kilima Mbogo**	**145.82**	**243**	PKPbc		**PKPab**	**00 46 17.0**	**+0.4**
	comp=Z,6.6nm,0.8s,baz=66,slow=4.9,SNR=21							
KMBO	**Kilima Mbogo**	**145.82**	**243**	*e*PKPbc		**PKPab**	**00 46 16.6**	**+0.1**
VYHS	**Vyhne**	**145.90**	**346**	*e*PKP2		**PKPbc**	**00 46 15.1**	**+0.1**
VYHS	**Vyhne**	**145.90**	**346**	*e*PKP		**PKPbc**	**00 46 15.1**	**+0.1**
VYHS				*e*			00 46 32.1	
WLF	**Walferdange**	**146.11**	**1**	*e*PKP2		**PKPbc**	**00 46 15.8**	**+0.2**
WLF	**Walferdange**	**146.11**	**1**	*e*PKPbc		**PKPbc**	**00 46 15.8**	**+0.2**
DOPR	**Dopca**	**146.15**	**337**⇑	*i*P		**PKPab**	**00 46 17.0**	**+0.5**
HARR	**Harsova**	**146.15**	**333**⇓	*i*P		**PKPbc**	**00 46 15.9**	**0.0**
HARR	**Harsova**	**146.15**	**333**	⇓PKP2		**PKPbc**	**00 46 15.9**	**0.0**
PSZ	**Piszkesteto**	**146.17**	**344**	*e*PKP2		**PKPdf**	**00 46 15.0**	**0.0**
PSZ	**Piszkesteto**	**146.17**	**344**	*e*PKPbc		**PKPdf**	**00 46 15.0**	**0.0**
TLB	**Topalu**	**146.18**	**333**⇓	*i*P		**PKPbc**	**00 46 16.3**	**+0.3**
TLB	**Topalu**	**146.18**	**333**	⇓PKP2		**PKPbc**	**00 46 16.3**	**+0.3**
KHC	**Kasperske Hory**	**146.24**	**352**	*e*PKP		**PKPbc**	**00 46 16.4**	**+0.3**
KHC				*ex*		x	00 46 32.9	
KHC	**Kasperske Hory**	**146.24**	**352**	*e*PKP2		**PKPbc**	**00 46 16.4**	**+0.3**
KHC	**Kasperske Hory**	**146.24**	**352**	*e*PKPbc		**PKPbc**	**00 46 16.1**	**0.0**
MLR	**Muntele Rosu**	**146.33**	**336**⇑	*i*P		**PKPab**	**00 46 17.1**	**-0.3**
MLR	**Muntele Rosu**	**146.33**	**336**	⇑PKP2		**PKPab**	**00 46 17.1**	**-0.3**
MLR	**Muntele Rosu**	**146.33**	**336**	*e*PKP		**PKPdf**	**00 46 15.6**	**+0.2**
DRGR		**146.38**	**340**⇓	*i*P		**PKPbc**	**00 46 16.8**	**+0.2**
DRGR		**146.38**	**340**	⇓PKP2		**PKPbc**	**00 46 16.8**	**+0.2**
DRWC	**Darouich**	**146.47**	**314**	*e*PKP		**PKPbc**	**00 46 17.2**	**0.0**
GEC2	**GERESS Array S**	**146.50**	**352**	*e*PKP2		**PKPab**	**00 46 18.6**	**+0.7**
GEC2	**GERESS Array S**	**146.50**	**352**	*e*PKPdf		**PKPab**	**00 46 18.6**	**+0.7**
GERES	**GERESS Array B**	**146.50**	**352**	PKPbc		**PKPbc**	**00 46 16.8**	**-0.1**
	comp=Z,1.6nm,0.9s,baz=40,slow=2.3,SNR=11							
GEA0	**GERESS Array S**	**146.51**	**352**	*e*PKPdf		**PKPbc**	**00 46 16.5**	**-0.5**
BR131	**Keskin Array S**	**146.68**	**321**	*e*PKPdf		**PKPbc**	**00 46 18.1**	**+0.2**
BRTR	**Keskin Array B**	**146.68**	**321**	PKPbc		**PKPbc**	**00 46 17.8**	**0.0**
	comp=Z,7.6nm,0.7s,baz=110,slow=2.6,SNR=40							
BRTR	**Keskin Array B**	**146.68**	**321**	*e*PKP2		**PKPbc**	**00 46 18.0**	**+0.2**
BRTR				pmax	pmax			
	comp=Z,8.0nm,0.7s							
VOIR		**146.72**	**337**⇓	*i*P		**PKPab**	**00 46 18.6**	**-0.2**
VOIR		**146.72**	**337**	⇓PKP2		**PKPab**	**00 46 18.6**	**-0.2**
BTCH	**Batrach**	**146.91**	**313**	*eP*		**PKPbc**	**00 46 17.9**	**-0.6**
ARR	**Arges**	**146.94**	**337**⇑	*i*P		**PKPbc**	**00 46 18.9**	**+0.6**
CONA	**Conrad Observa**	**147.05**	**349**	*e*PKPab		**PKPbc**	**00 46 19.1**	**+0.6**
	comp=Z,6.0nm,0.9s							
ANTO	**Ankara**	**147.09**	**322**	*e*PKP2		**PKPbc**	**00 46 19.0**	**+0.1**
ANTO	**Ankara**	**147.09**	**322**	*e*PKPbc		**PKPbc**	**00 46 19.0**	**+0.1**
BR231	**Keskin MP Arra**	**147.12**	**322**	*e*PKPdf		**PKPbc**	**00 46 18.3**	**-0.7**
ROOS	**tl_alroos**	**147.19**	**310**	*eP*		**PKPbc**	**00 46 19.7**	**+0.4**
ARNB	**Al Arnab**	**147.34**	**313**	*eP*		**PKPbc**	**00 46 19.6**	**-0.1**
MOA	**Molln**	**147.39**	**351**	*e*pPKPbc		**PKPbc**	**00 46 19.5**	**+0.1**
	comp=Z,4.8nm,1.4s							
BFO	**Black Forest**	**147.44**	**358**	*e*PKP2		**PKPbc**	**00 46 19.9**	**+0.4**
BFO	**Black Forest**	**147.44**	**358**	*e*PKPbc		**PKPbc**	**00 46 19.9**	**+0.4**
GZR	**Gura Zlata**	**147.58**	**339**⇓	*i*P		**PKPbc**	**00 46 19.9**	**-0.2**
GZR	**Gura Zlata**	**147.58**	**339**	⇓PKIKP		**PKPbc**	**00 46 19.9**	**-0.2**
ARSA	**Arzberg**	**147.77**	**349**	*e*pPKPbc		**PKPbc**	**00 46 21.1**	**+0.7**
	comp=Z,6.6nm,1.7s							
BZS	**Buzias**	**147.77**	**341**⇓	*i*P		**PKPbc**	**00 46 20.6**	**+0.1**
BZS	**Buzias**	**147.77**	**341**	⇓PKP2		**PKPbc**	**00 46 20.6**	**+0.1**
MARH	**Ras Al Marh**	**147.85**	**310**	*eP*		**PKPbc**	**00 46 22.2**	**+0.7**
RETA	**Reutte**	**148.16**	**355**	*e*PKPab		**PKPab**	**00 46 23.9**	**-0.5**
	comp=Z,5.3nm,1.1s							
SALA	**Sala**	**148.24**	**308**	*eP*		**PKPbc**	**00 46 22.7**	**+0.3**
MOTA	**Moosalm**	**148.27**	**355**	*e*PKPdf		**PKPdf**	**00 46 18.5**	**-0.1**
	comp=Z,1.3nm,0.7s							
KBA	**Koelnbreinsper**	**148.28**	**352**	*e*PKPbc		**PKPbc**	**00 46 20.8**	**-1.2**
	comp=Z,4.2nm,0.7s							
ASCN	**Ascension**	**148.34**	**136**	*e*PKPbc		**PKPdf**	**00 46 21.0**	**+1.4**
ASF	**Jabal al Asfar**	**148.34**	**307**	PKPbc		**PKPbc**	**00 46 23.0**	**+0.4**
	comp=Z,5.7nm,1.0s,baz=0.3,slow=1.4,SNR=8.1							
ASF	**Jabal al Asfar**	**148.34**	**307**	PKP2		**PKPbc**	**00 46 23.0**	**+0.4**
SOKA	**Soboth**	**148.41**	**350**	*e*PKPdf		**PKPdf**	**00 46 18.7**	**-0.1**
	comp=Z,4.4nm,0.8s							
BRBR	**Barbar**	**148.53**	**309**	*eP*		**PKPbc**	**00 46 23.2**	**+0.1**
FETA	**Feichten**	**148.62**	**355**	*e*pPKPdf		**PKPdf**	**00 46 19.5**	**+0.3**
	comp=Z,3.7nm,1.1s							
OBKA	**Obir**	**148.65**	**350**	*e*PKPbc		**PKPbc**	**00 46 21.6**	**-1.3**
	comp=Z,2.6nm,0.8s							
MYKA	**Terra Mystica**	**148.68**	**351**	*e*pPKPdf		**PKPdf**	**00 46 19.8**	**+0.6**
	comp=Z,3.5nm,1.3s							
ABTA	**Abfaltersbach**	**148.71**	**353**	*es*PKPdf		**PKPbc**	**00 46 21.6**	**-1.5**
	comp=Z,4.8nm,1.1s							
FUORN	**Ofenpass-Fuorn**	**149.06**	**356**	*e*PKPbc		**PKPbc**	**00 46 25.2**	**+1.1**
MMAI	**Mount Meron Ar**	**149.12**	**309**	PKPbc		**PKPbc**	**00 46 25.0**	**+0.5**
	comp=Z,8.4nm,0.7s,baz=62,slow=3.9,SNR=21							
MMAI				PKPab		**PKPab**	**00 46 29.3**	**+0.5**
	comp=Z,9.4nm,1.0s,baz=69,slow=4.6,SNR=13							
CSS	**Mathiatis**	**149.64**	**314**	*e*PKPbc		**PKPbc**	**00 46 25.8**	**+0.2**
VTS	**Vitosha**	**149.84**	**336**⇓	*i*P		**PKPdf**	**00 46 15.6**	**-5.7**
VTS	**Vitosha**	**149.84**	**336**	⇓PKIKP		**PKPdf**	**00 46 15.6**	**-5.7**
SSB	**Saint Sauveur**	**150.43**	**4**	*e*PKIKP		**PKPbc**	**00 46 27.9**	**+0.6**
SSB	**Saint Sauveur**	**150.43**	**4**	*e*PKPbc		**PKPbc**	**00 46 27.9**	**+0.6**
BNI	**Bardonecchia**	**150.74**	**1**	*e*PKIKP		**PKPbc**	**00 46 28.8**	**+0.7**
BNI	**Bardonecchia**	**150.74**	**1**	*e*PKPbc		**PKPbc**	**00 46 28.8**	**+0.7**
PCAB	**Cabril**	**150.98**	**24**	*e*PKPab		PKPab	00 46 57.0	+21
AKAS	**Kas**	**151.35**	**320**	*e*PKPab		**PKPab**	**00 46 38.0**	**0.0**
POLO	**Lamas de Olo**	**151.36**	**24**	*e*PKPab		PKPab	00 46 57.6	+20
PDG	**Podgorica**	**151.38**	**341**⇑	*i*P		**PKPdf**	**00 46 19.9**	**-4.5**
PBRG	**Braganca**	**151.38**	**22**	*e*PKPdf		PKPab	00 46 45.9	+8.2
PBRG	**Braganca**	**151.38**	**22**	*e*PKPab		PKPab	00 46 57.1	+19
MVO	**Moncorvo**	**151.83**	**23**	*e*PKPdf		PKPab	00 46 49.2	+10
MVO	**Moncorvo**	**151.83**	**23**	*e*PKPab		PKPab	00 46 58.9	+19
MTE	**Manteigas**	**152.29**	**25**	*e*PKPab		PKPab	00 46 59.4	+18
PTOM	**Tomar**	**152.59**	**27**	*e*PKPab		PKPab	00 47 00.4	+18
PCBR	**Castelo Branco**	**152.79**	**25**	*e*PKPab		PKPab	00 47 00.5	+17
PMRV	**Marv??o**	**153.18**	**25**	*e*PKPab		PKPab	00 47 01.5	+16

*IDC **28** 00:27:23.9±4.7, 36°23N×70°86E, h156km±41km, mb3.4/8, mb1 3.5/12, mb1mx3.2/60, mbtmp3.9/12, MS2.9/2, Ms1 2.9/2, ms1mx2.3/31, Error ellipse: s-maj=33.8km s-min=19.5km az=32.0*

*ISCJB **28** 00:27:27.6±0.8, 36°63N±0°06×70°96E±0°09, h188km, mb3.5/7, Error ellipse: s-maj=10.5km s-min=8.7km az=21.9*

*NNC **28** 00:27:33.6±2.6, 37°03N×70°87E, h205km±38km, mb3.1, mpv4.3, Error ellipse: s-maj=26.2km s-min=16.0km az=31.0*

ISC 28 00:27:28.6±1.0, 36°68N±0°09×70°8E±0°1, h188km, n22, σ1°73/26, mb3.6/7, 6C-5D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
MNAS	**Manas**	**5.94**	**12**	⇓P		**Pn**	**00 28 56.0**	**+1.0**
	15nm,0.5s							
MNAS				⇓S		**Sn**	**00 30 01.9**	**-1.2**
	43nm,0.5s							
KK31	**Karatay Array**	**6.42**	**358**	⇑P		**Pn**	**00 29 02.2**	**+1.2**
	7.3nm,0.5s,baz=184,slow=16,SNR=98							
KK31				S		**Sn**	**00 30 11.9**	**-2.3**
	6.3nm,0.4s,baz=172,slow=14,SNR=13							
AAK	**Ala-Archa**	**6.58**	**24**	P		**Pn**	**00 29 04.5**	**+1.1**
	8.2nm,0.3s,baz=157,slow=6.0,SNR=59							
AAK				S		**Sn**	**00 30 18.1**	**-0.2**
	1.0nm,0.3s,baz=344,slow=23,SNR=7.4							
AAK	**Ala-Archa**	**6.58**	**24**	⇓P		**Pn**	**00 29 04.2**	**+0.9**
	7.8nm,0.3s							
AAK				⇑S		**Sn**	**00 30 17.5**	**-0.8**
	13nm,1.1s							
TKM2	**Tokmak 2**	**7.23**	**29**	⇓P		**Pn**	**00 29 12.5**	**+0.7**
	31nm,0.6s							
TKM2				⇑S		**Sn**	**00 30 30.7**	**-3.0**
	2.6nm,0.6s							
MDOK	**Medeo**	**8.04**	**34**	⇑P		**Pn**	**00 29 23.3**	**+0.8**
MK31	**Makanchi Array**	**13.22**	**37**	P		**Pn**	**00 30 29.9**	**+0.8**
	0.8nm,0.6s,baz=219,slow=13,SNR=6.1							
MKAR	**Makanchi Array**	**13.22**	**37**	P		**Pn**	**00 30 29.6**	**+0.4**
	0.1nm,0.3s,baz=221,slow=12,SNR=7.7							
AB31	**Akbulak array**	**14.86**	**331**	⇑P		**Pn**	**00 30 50.1**	**+0.7**
	1.6nm,0.6s							
AB31				⇑S		**Sn**	**00 33 31.6**	**-3.7**
	0.7nm,0.5s,baz=158,slow=23,SNR=3.0							
BVAR	**Borovoye Array**	**16.35**	**359**	P		**Pn**	**00 31 08.9**	**+1.6**
	0.4nm,0.3s,baz=170,slow=11,SNR=5.8							
AKTO	**Aktyubinsk**	**16.56**	**330**	P		**Pn**	**00 31 11.5**	**+1.5**
	0.3nm,0.3s,baz=151,slow=12,SNR=5.2							
AKTO	**Aktyubinsk**	**16.56**	**330**	⇓P		**Pn**	**00 31 11.4**	**+1.5**
	3.1nm,0.9s							
ZALV	**Zalesovo Beam**	**19.81**	**25**	P		**P**	**00 31 45.5**	**+1.0**
	1.8nm,0.5s,baz=218,slow=13,SNR=7.9							
GNI	**Garni**	**20.71**	**288**	LR		LR	00 42 09.3	
	comp=Z,20nm,18.0s,baz=154,slow=42							
MMAI	**Mount Meron Ar**	**29.20**	**273**	LR		LR	00 47 19.9	
	comp=Z,34nm,18.1s,baz=115,slow=41							
FINES	**FINESS Array B**	**37.26**	**326**	P		**P**	**00 34 23.5**	**+1.7**
	4.3nm,1.0s,baz=116,slow=12,SNR=5.5							
ARCES	**ARCESS Array B**	**40.93**	**338**	P		**P**	**00 34 54.3**	**+2.2**
	2.7nm,1.0s,baz=119,slow=7.5,SNR=3.6							
NOA	**NORSAR Array B**	**44.15**	**323**	P		**P**	**00 35 19.6**	**+1.4**
	0.6nm,0.7s,baz=98,slow=7.7,SNR=3.0							
TORD	**Torodi Ar. Bea**	**65.59**	**268**	P		**P**	**00 37 50.9**	**-1.6**
	0.2nm,0.5s,baz=52,slow=5.8,SNR=5.9							
YKA	**Yellowknife Ar**	**81.07**	**3**	P		**P**	**00 39 23.5**	**+1.3**
	0.4nm,0.3s,baz=348,slow=5.1,SNR=3.3							
WRA	**Warramunga Arr**	**82.20**	**122**	P		**P**	**00 39 26.5**	**-2.3**
	0.4nm,0.4s,baz=327,slow=5.0,SNR=4.1							
ASAR	**Alice Springs**	**84.47**	**125**	P		**P**	**00 39 38.2**	**-2.1**
	0.6nm,0.5s,baz=306,slow=5.5,SNR=4.7							

*ISCJB **28** 00:28:58.4±0.5, 35°86N±0°02×36°29E±0°03, h10km±4km, Error ellipse: s-maj=4.6km s-min=3.9km az=25.1*

*CSEM **28** 00:28:58.9±0.2, 35°88N×36°25E, h9km±1km, MD3.1, Error ellipse: s-maj=4.2km s-min=3.4km az=98.0*

*ISK **28** 00:28:58.6, 35°89N×36°22E, h8km, MD3.1*

*NSSC **28** 00:28:58.6±1.9, 35°84N×36°33E, h6km±9km, ML2.3*

*DDA **28** 00:29:01.1, 36°12N×36°15E, h9

FINES	**FINESS Array B**	**86.93**	**335**	P		**P**	**00 42 40.8**	**-1.9**
	1.4nm,0.5s,baz=59,slow=5.1,SNR=5.9							
LPAZ	**La Paz**	**147.87**	**91**	PKPbc		**PKPbc**	**00 49 43.4**	**-0.2**
	0.9nm,0.5s,baz=208,slow=6.3,SNR=4.2							

NEIC ***28*** *00:31:23.6±0.0,52.75N×167.79W,h26km,mb4.2/14, ML3.7(AEIC),After AEIC.*

ISCJB ***28*** *00:31:24.2±0.4,52.82N±0.04×167.83W±0.05,h49km, mb4.1/18,MS3.4/4,Error ellipse: s-maj=6.4km s-min=4.2km az=165.5*

IDC ***28*** *00:31:25.5±10.0,53.06N×167.97W,h40km±73km,mb3.7/7, mb1 3.9/9,mb1mx3.5/63,mbtmp3.9/9,ML3.9/2,MS3.3/3, Ms1 3.3/3,ms1mx2.7/45,Error ellipse: s-maj=66.6km s-min=30.3km az=36.0*

ISC 28 00:31:26.2±0.7,52.88N±0.08×167.88W±0.05,h49km,n70, σ1§42/66,mb4.2/18,MS3.5/4,Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OKSP	**Okmok Steeple**	**0.44**	**327**	P	**Pn**	**00 31 35.9**	**-0.9**
OKSO	**Okmok South**	**0.50**	**341**	P	**Pn**	**00 31 36.1**	**-1.3**
OKTU	**Okmok Mt. Tuli**	**0.51**	**349**	P	**Pn**	**00 31 37.0**	**-0.5**
OKFG	**Magazine Ridge**	**0.53**	**358**	P	**Pn**	**00 31 36.6**	**-1.2**
OKFG				S	**Sn**	**00 31 45.5**	**-0.5**
OKCE	**Okmok Cone E**	**0.57**	**343**	P	**Pn**	**00 31 37.4**	**-0.8**
OKCE				S	**Sn**	**00 31 47.3**	**+0.3**
NIKH	**Nikolski High**	**0.59**	**279**	*e*Pn	**Pn**	**00 31 36.6**	**-2.0**
NIKH				*e*Sn	**Sn**	**00 31 45.1**	**-2.3**
MSOM	**Makushin Julie**	**1.09**	**31**	P	**Pn**	**00 31 43.6**	**-1.4**
MGOD	**Makushin Gods**	**1.09**	**33**	P	**Pn**	**00 31 43.6**	**-1.7**
MCIR	**Makushin Cirqu**	**1.22**	**29**	P	**Pn**	**00 31 46.6**	**-0.4**
MSW	**Makushin Switc**	**1.23**	**32**	P	**Pn**	**00 31 45.6**	**-1.3**
MSW				S	**Sn**	**00 32 03.0**	**+0.6**
UNV	**Unalaska Valle**	**1.27**	**40**	*e*Pn	**Pn**	**00 31 45.9**	**-1.6**
MTBL	**Makushin Table**	**1.30**	**33**	P	**Pn**	**00 31 47.2**	**-0.8**
AKMO	**Akutan Morgan**	**1.65**	**42**	P	**Pn**	**00 31 52.0**	**-0.7**
AKRB	**Akutan Reef Bi**	**1.65**	**40**	P	**Pn**	**00 31 52.4**	**-0.4**
AKLV	**Akutan Long Va**	**1.72**	**41**	P	**Pn**	**00 31 52.9**	**-0.8**
AKGG	**Akutan Green G**	**1.73**	**40**	P	**Pn**	**00 31 53.8**	**-0.1**
AKUT	**Akutan**	**1.78**	**44**	*e*Pn	**Pn**	**00 31 53.5**	**-0.9**
WESP	**Westdahl Peak**	**2.48**	**48**	P	**Pn**	**00 32 04.3**	**+0.2**
WESE	**West Dahl East**	**2.53**	**50**	P	**Pn**	**00 32 04.6**	**-0.1**
WESN	**West Dahl Nort**	**2.59**	**48**	P	**Pn**	**00 32 05.3**	**-0.2**
SSLN	**Shishaldin Nor**	**3.00**	**48**	P	**Pn**	**00 32 11.2**	**-0.1**
KOFP	**Korovin Flat P**	**3.84**	**263**	P	**Pn**	**00 32 23.4**	**+0.6**
ATKA	**Atka Island**	**3.91**	**262**	P	**Pn**	**00 32 23.0**	**-0.7**
DTNA	**Dutton South F**	**4.02**	**53**	P	**Pn**	**00 32 25.3**	**+0.1**
SDPT	**Sand Point**	**5.01**	**58**	*e*Pn	**Pn**	**00 32 35.5**	**-3.2**
GSCK	**Great Sitkin C**	**5.14**	**264**	P	**Pn**	**00 32 41.5**	**+0.9**
ADK	**Adak**	**5.48**	**263**	*e*Pn	**Pn**	**00 32 45.6**	**+0.4**
CHQN	**Chignik**	**6.48**	**54**	*e*Pn	**Pn**	**00 32 59.0**	**+0.2**
OHAK	**Old Harbor**	**9.43**	**57**	*e*Pn	**Pn**	**00 33 37.0**	**-2.2**
KDAK	**Kodiak Island**	**9.99**	**55**	P	**Pn**	**00 33 45.2**	**-1.8**
	2.1nm,0.3s,baz=242,slow=7.3,SNR=30						
KDAK				S	**Sn**	**00 35 35.6**	**-1.9**
	0.4nm,0.3s,baz=291,slow=22,SNR=10						
KDAK	**Kodiak Island**	**9.99**	**55**	*e*Pn	**Pn**	**00 33 45.5**	**-1.4**
SEW	**Seward**	**12.46**	**47**	*e*Pn	**Pn**	**00 34 18.6**	**-2.0**
CAST	**Castle Rocks**	**13.41**	**32**	*e*Pn	**Pn**	**00 34 33.4**	**-0.2**
SCM	**Sheep Creek Mo**	**14.20**	**43**	*e*Pn	**Pn**	**00 34 42.3**	**-2.0**
KLU	**Klutina**	**14.63**	**45**	*e*Pn	**Pn**	**00 34 47.7**	**-2.3**
CRQM	**Cirque**	**15.59**	**50**	*e*Pn	**Pn**	**00 35 01.7**	**-0.9**
	22nm,1.1s						
ILAR	**Eielson Array**	**16.02**	**34**	P	**Pn**	**00 35 07.3**	**-0.6**
	0.1nm,0.3s,baz=235,slow=11,SNR=7.3						
PCA	**Pinnacle**	**16.78**	**54**	*e*Pn	**Pn**	**00 35 15.8**	**-1.7**
	25nm,1.0s						
DAWY	**Dawson**	**18.45**	**42**	*e*P	**Pn**	**00 35 38.8**	**+0.8**
	7.1nm,1.3s						
SKAG	**Skagway**	**19.13**	**57**	*e*P	**Pn**	**00 35 46.3**	**+0.1**
	13nm,0.7s						
WHY	**Whitehorse**	**19.51**	**53**	*e*P	**Pn**	**00 35 51.2**	**+0.5**
	15nm,1.1s						
DLBC	**Dease Lake**	**21.84**	**60**	P	**P**	**00 36 19.0**	**+4.7**
	1.0nm,0.5s,baz=287,slow=9.8,SNR=4.4						
INK	**Inuvik**	**22.42**	**33**	P	**P**	**00 36 18.2**	**-2.0**
	3.7nm,0.7s,baz=216,slow=7.7,SNR=7.8						
INK	**Inuvik**	**22.42**	**33**	*e*P	**P**	**00 36 19.2**	**-1.0**
	6.8nm,1.0s						
YKA	**Yellowknife Ar**	**29.22**	**50**	P	**P**	**00 37 23.2**	**+0.4**
	0.4nm,0.5s,baz=275,slow=7.7,SNR=3.5						
NEW	**Newport**	**32.01**	**78**	*e*P	**P**	**00 37 47.3**	**-0.4**
	1.8nm,0.5s						
TPAW	**Teton Pass**	**38.17**	**81**	*e*P	**P**	**00 38 41.1**	**+0.2**
	4.6nm,1.2s						
H11N2	**WAKE ISLAND Hy**	**38.43**	**220**	T	T	01 19 42.6	
	baz=24,slow=76,SNR=34						
H11N3	**WAKE ISLAND Hy**	**38.43**	**220**	T	T	01 19 41.9	
	baz=24,slow=76,SNR=30						
H11N1	**WAKE ISLAND Hy**	**38.45**	**220**	T	T	01 19 44.4	
	baz=24,slow=76,SNR=42						
HWUT	**Hardware Ranch**	**38.90**	**84**	*e*P	**P**	**00 38 47.2**	**+0.2**
	2.0nm,0.8s						
BW06	**Boulder Array**	**39.42**	**81**	*e*P	**P**	**00 38 51.2**	**-0.1**
	3.1nm,0.9s						
PDAR	**Pinedale Array**	**39.42**	**81**	P	**P**	**00 38 51.5**	**+0.1**
	0.5nm,0.6s,baz=295,slow=2.1,SNR=6.0						
H11S1	**WAKE ISLAND Hy**	**39.61**	**220**	T	T	01 21 11.0	
	baz=23,slow=76,SNR=20						
H11S2	**WAKE ISLAND Hy**	**39.63**	**220**	T	T	01 21 10.5	
	baz=23,slow=76,SNR=13						
H11S3	**WAKE ISLAND Hy**	**39.63**	**220**	T	T	01 21 16.8	
	baz=23,slow=76,SNR=14						
TMUT	**Trail Mountain**	**40.53**	**86**	*e*P	**P**	**00 38 59.0**	**-1.7**
	9.9nm,1.0s						
NRIK	**Noril'sk**	**46.40**	**332**	LR	LR	01 01 52.7	
	comp=Z,13nm,20.4s,baz=144,slow=40						
MNTX	**Cornudas Mount**	**49.12**	**90**	*e*P	**P**	**00 40 09.1**	**+0.3**
	3.2nm,0.9s						
WMOK	**Wichita Mounta**	**51.01**	**82**	*e*P	**P**	**00 40 22.0**	**-1.0**
	1.7nm,0.9s						
TX31	**Lajitas Ar. Si**	**51.84**	**90**	*e*P	**P**	**00 40 29.6**	**+0.3**
TXAR	**Lajitas Array**	**51.84**	**90**	P	**P**	**00 40 29.7**	**+0.3**
	2.6nm,0.8s,baz=304,slow=5.6,SNR=8.0						
JCT	**Junction City**	**53.36**	**86**	*e*P	**P**	**00 40 39.8**	**-0.8**
	6.1nm,0.9s						
HHC	**Hu-ho-hao-te**	**53.58**	**292**	*e*P	**P**	**00 40 44.0**	**+1.9**
HHC				pmax	pmax		
	comp=Z,8.0nm,1.1s						
HHC				pmax	pmax		
	comp=Z,69nm,5.9s						
WMQ	**Urumqi**	**63.92**	**309**	P	**P**	**00 41 58.0**	**+4.2**
WMQ				pP	pP	00 42 02.5	-5.1
WMQ				sP	sP	00 42 05.0	-8.2
WMQ				pmax	pmax		
	comp=Z,12nm,0.7s						
WMQ				pmax	pmax		
	comp=Z,68nm,3.8s						
WMQ				LR	LR		
	comp=N,34nm,17.7s						
WMQ				LR	LR		
	comp=E,43nm,17.7s						
WMQ				LR	LR		
	comp=Z,16nm,16.1s						
FINES	**FINESS Array B**	**65.48**	**353**	P	**P**	**00 42 02.3**	**-1.2**
	comp=Z,1.8nm,0.9s,baz=19,slow=6.5,SNR=8.6						
JAY	**Jayapura**	**69.94**	**236**	LR	LR	01 05 46.5	
	comp=Z,23nm,21.8s,baz=162,slow=29						
GERES	**GERESS Array B**	**78.64**	**359**	LR	LR	01 17 47.2	
	comp=Z,64nm,20.3s,baz=242,slow=36						
BRTR	**Keskin Array B**	**85.89**	**344**	P	**P**	**00 44 00.6**	**-0.1**
	comp=Z,1.5nm,0.9s,baz=6.7,slow=4.2,SNR=5.1						
ESDC	**Sonseca Array**	**86.77**	**12**	P	**P**	**00 44 04.0**	**-0.9**
	comp=Z,0.1nm,0.3s,baz=344,slow=4.2,SNR=3.3						

ISCJB ***28*** *00:43:00.5±0.5,39.66N±0.03×38.69E±0.04,h6km±5km, Error ellipse: s-maj=5.0km s-min=4.2km az=142.0*

CSEM ***28*** *00:43:00.5±0.2,39.65N×38.69E,h10km,MD2.3,Error ellipse: s-maj=5.5km s-min=3.9km az=50.0*

DDA ***28*** *00:43:00.2,39.65N×38.75E,h7km,Md2.3*

ISK ***28*** *00:43:00.0,39.65N×38.66E,h9km,MD2.8*

ISC 28 00:43:00.3±1.1,39.64N±0.03×38.70E±0.03,h10km±9km, n29,σ0§43/42,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
REFA	**Refahiye_ERZ**	**0.25**	**168**	*i* P	**Pg**	**00 43 05.8**	**+0.3**
REFA	**Refahiye_ERZ**	**0.25**	**168**	P	**Pg**	**00 43 05.8**	**+0.3**
KEMA	**Kemaliye**	**0.41**	**203**	*i* P	**Pg**	**00 43 08.5**	**+0.2**
KEMA				*i* S	**Sb**	**00 43 15.1**	**-0.8**
KEMA	**Kemaliye**	**0.41**	**203**	P	**Pg**	**00 43 08.5**	**+0.2**
KEMA				S	**Sb**	**00 43 15.1**	**-0.8**
KELT	**Kelkit**	**0.66**	**40**	*i* P	**Pg**	**00 43 12.7**	**-0.5**
KELT				*i* S	**Sg**	**00 43 21.6**	**-0.4**
KELT	**Kelkit**	**0.66**	**40**	P	**Pg**	**00 43 12.7**	**-0.5**
KELT				S	**Sg**	**00 43 21.5**	**-0.4**
SUSE	**Susehri**	**0.68**	**326**	*i* P	**Pb**	**00 43 14.3**	**0.0**
SUSE				*i* S	**Sb**	**00 43 24.4**	**+0.4**
SUSE	**Susehri**	**0.68**	**326**	P	**Pb**	**00 43 14.4**	**0.0**
SUSE				S	**Sb**	**00 43 24.4**	**+0.4**
CUZAR	**Zara_SIVAS**	**0.76**	**289**	*i* P	**Pg**	**00 43 15.1**	**+0.2**
CUZAR				*i* S	**Sb**	**00 43 26.8**	**+0.7**
CUZAR	**Zara_SIVAS**	**0.76**	**289**	P	**Pg**	**00 43 15.1**	**+0.2**
CUZAR				S	**Sb**	**00 43 26.8**	**+0.7**
ERZN	**Erzincan**	**0.79**	**94**	*e*PG	**Pb**	**00 43 16.4**	**+0.2**
ERZN				*e*SG	**Sb**	**00 43 28.1**	**+1.1**
TNCL	**Tunceli-Merkez**	**0.84**	**129**	*i* P	**Pb**	**00 43 17.0**	**0.0**
TNCL	**Tunceli-Merkez**	**0.84**	**129**	P	**Pb**	**00 43 17.0**	**0.0**
PTK	**Pertek**	**0.92**	**144**	*e*PG	**Pb**	**00 43 18.6**	**+0.1**
PTK				*e*SG	**Sn**	**00 43 32.3**	**-0.5**
PTK	**Pertek**	**0.92**	**144**	*e*Pg	**Pb**	**00 43 18.6**	**+0.1**
PTK				*e*Sg	**Sn**	**00 43 32.3**	**-0.5**
CUKAN	**kangal_SIVAS**	**1.01**	**252**	*i* P	**Pg**	**00 43 19.1**	**-0.6**
CUKAN	**kangal_SIVAS**	**1.01**	**252**	P	**Pg**	**00 43 19.1**	**-0.6**
ELZG	**Elazig**	**1.16**	**169**	*i* P	**Pg**	**00 43 22.7**	**0.0**
ELZG				*i* S	**Sn**	**00 43 39.2**	**+0.4**
ELZG	**Elazig**	**1.16**	**169**	P	**Pg**	**00 43 22.7**	**0.0**
ELZG				S	**Sn**	**00 43 39.2**	**+0.4**
RSDY	**Resadiye-TOKAT**	**1.30**	**306**	*e*PN	**Pn**	**00 43 24.5**	**0.0**
RSDY	**Resadiye-TOKAT**	**1.30**	**306**	*e*Pn	**Pn**	**00 43 24.5**	**0.0**
SVSK	**Karacayir**	**1.34**	**282**	*e*PN	**Pn**	**00 43 25.0**	**0.0**
SVSK	**Karacayir**	**1.34**	**282**	*e*Pn	**Pn**	**00 43 25.0**	**0.0**
DARE	**Darende-Malaty**	**1.43**	**222**	*e*PN	**Pn**	**00 43 26.1**	**-0.2**
DARE	**Darende-Malaty**	**1.43**	**222**	*e*Pn	**Pn**	**00 43 26.1**	**-0.2**
YEDI	**Yedisu-Bingol**	**1.44**	**98**	*e*PN	**Pb**	**00 43 27.5**	**+0.2**
BINT	**Bingol**	**1.58**	**118**	*e*Pn	**Pg**	**00 43 30.7**	**0.0**
BNGB	**Bing¨l**	**1.67**	**112**	*e*PN	**Pb**	**00 43 30.7**	**-0.4**
SARI	**SarD1z-Kayseri**	**2.16**	**236**	*e*PN	**Pn**	**00 43 36.9**	**+0.3**

ISCJB ***28*** *00:49:59.6±0.4,6.90S±0.05×130.00E±0.05,h100km, mb4.4/8,Error ellipse: s-maj=7.9km s-min=6.1km az=30.0*

IDC ***28*** *00:49:59.1±2.6,6.98S×129.74E,h74km±25km,mb4.0/4, mb1 4.3/8,mb1mx3.8/33,mbtmp4.5/8,Error ellipse: s-maj=47.5km s-min=17.6km az=80.0*

DJA ***28*** *00:50:01.7±0.3,7.5±2.3×13.0E±°,h161km±7km,M4.6/9, mB5.1/2,mb4.5/6,MLv4.6/9,Mw(mB)4.4/2*

NEIC ***28*** *00:50:02.5±1.2,6.75S×129.87E,h113km±13km,mb4.6/6, Error ellipse: s-maj=15.1km s-min=11.8km az=51.0*

ISC 28 00:50:01.2±0.6,6.74S±0.05×129.93E±0.06,h100km,n34, σ1§55/29,mb4.3/8,1C,Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SAUI	**Saumlaki**	**1.83**	**132**	P	**Pn**	**00 50 33.7**	**+2.1**
SAUI				S	**Sn**	**00 50 54.3**	**-0.6**
BNDI	**Bandanaira**	**2.20**	**359**	P	Pn	00 50 43.8	+7.4
MSAI	**Masohi**	**3.52**	**343**	P	Pn	00 50 59.9	+6.0
FAKI	**Fak Fak**	**4.44**	**31**	P	**Pn**	**00 51 08.2**	**+1.8**
FAKI				S	**Sn**	**00 51 57.6**	**+0.5**
FAKI	**Fak Fak**	**4.44**	**31**	*e*Pn	**Pn**	**00 51 08.2**	**+1.8**
FAKI				*e*Sn	**Sn**	**00 51 53.2**	**-3.9**
NLAI	**Namlea**	**4.48**	**321**	P	Pn	00 51 14.5	+7.6
SIJI	**Sorong**	**5.98**	**13**	P	**Pn**	**00 51 29.6**	**+2.3**
	17nm,0.3s,baz=185,slow=4.4,SNR=1.9						
SIJI				S	**Sn**	**00 52 34.6**	**+0.1**
	13nm,0.3s,baz=269,slow=24,SNR=5.8						
SWI	**Sorong**	**5.99**	**13**	P	**Pn**	**00 51 28.5**	**+1.1**
SANI	**Sanana**	**6.10**	**320**	P	Pn	00 51 34.7	+5.9
	30nm,0.7s,0.1nm						
SOEI	**Soe**	**6.36**	**242**	P	**Pn**	**00 51 34.6**	**+2.2**
	47nm,0.7s,0.5nm						
SOEI				S	**Sn**	**00 52 43.1**	**-0.6**
	47nm,0.7s,0.5nm						
SOEI	**Soe**	**6.36**	**242**	*e*Pn	**Pn**	**00 51 34.3**	**+1.8**
	27nm,0.6s						
LBMI	**Labuha**	**6.53**	**338**	P	Pn	00 51 40.9	+6.2
	219nm,0.9s,2µm0.6nm						
BATI	**Baumata**	**7.09**	**241**	P	**Pn**	**00 51 43.1**	**+0.7**
FITZ	**Fitzroy Crossi**	**12.04**	**200**	P	Pn	00 52 44.1	-5.4
	3.8nm,0.3s,baz=360,slow=9.5,SNR=40						
FITZ				S	Sn	00 54 49.1	-13
PLAI	**Plampang**	**12.22**	**259**	P	**Pn**	**00 52 51.0**	**-0.9**
WRAB	**Tennant Creek**	**13.80**	**162**	*e*Pn	Pn	00 53 07.7	-4.9
	16nm,0.4s						
WRAB				*e*Sn	Sn	00 55 30.9	-14
WRA	**Warramunga Arr**	**13.80**	**162**	P	Pn	00 53 07.9	-4.8
	3.4nm,0.3s,baz=334,slow=13,SNR=108						
WRA				S	Sn	00 55 30.3	-14
	3.8nm,0.3s,baz=344,slow=22,SNR=9.4						
COEN	**Coen**	**14.87**	**120**	*e*Pn	**Pn**	**00 53 26.2**	**-0.2**
JAGI	**Jaig, Banyuwa**	**15.73**	**263**	P	**Pn**	**00 53 38.1**	**+0.8**
ASAR	**Alice Springs**	**17.26**	**168**	P	**P**	**00 53 53.1**	**-2.9**
	2.5nm,0.3s,baz=338,slow=8.9,SNR=45						
KKM	**Kota Kinabalu**	**18.67**	**313**	*e*P	**P**	**00 54 10.1**	**-1.6**
	45nm,1.1s						
CTA	**Charters Tower**	**20.66**	**132**	P	Pn	00 54 36.5	+0.1
	3.0nm,0.5s,baz=282,slow=12,SNR=3.7						
CTAO	**Charters Tower**	**20.66**	**132**	*e*P	Pn	00 54 35.7	-0.7
	20nm,0.7s						
FORT	**Forrest**	**23.98**	**184**	*e*P	**P**	**00 55 05.6**	**-0.8**
	84nm,0.5s						
BBOO	**Buckleboo**	**26.56**	**168**	*e*P	**P**	**00 55 28.3**	**-1.6**
	5.2nm,0.5s						
STKA	**Stephens Creek**	**27.28**	**158**	P	**P**	**00 55 35.5**	**-0.8**
	5.3nm,0.5s,baz=336,slow=11,SNR=10						
CAN	**Canberra**	**33.41**	**151**	*e*P	**P**	**00 56 30.7**	**+0.3**
	5.6nm,0.6s						
MKAR	**Makanchi Array**	**67.97**	**327**	P	**P**	**01 00 50.6**	**+1.1**
	1.2nm,0.3s,baz=112,slow=8.7,SNR=36						
KURK	**Kurchatov**	**72.26**	**329**	*e*P	**P**	**01 01 15.7**	**+0.1**
	7.5nm,0.6s						
VNDA	**Vanda**	**72.71**	**173**	P	**P**	**01 01 17.2**	**-0.7**
	0.6nm,0.6s,baz=331,slow=5.6,SNR=5.1						
MAW	**Mawson**	**75.16**	**201**	P	**P**	**01 01 32.2**	**-0.1**
	1.7nm,0.6s,baz=68,slow=8.8,SNR=4.9						
SYO	**Syowa Base**	**83.88**	**201**	*e*PcP	**PcP**	**01 02 24.9**	**+1.6**
CPUP	**Villa Florida**	**146.38**	**168**	PKPbc	**PKPbc**	**01 09 31.1**	**-0.1**
	1.0nm,0.5s,baz=198,slow=3.2,SNR=4.1						
LPAZ	**La Paz**	**150.96**	**142**	PKPbc	**PKPbc**	**01 09 44.9**	**+0.7**
	0.6nm,0.3s,baz=125,slow=3.1,SNR=4.5						

IDC ***28*** *01:01:27.3±1.0,26.92N×143.88E,h0km,mb3.8/5, mb1 4.0/6,mb1mx3.7/41,mbtmp3.8/6,ML4.0/1,Error ellipse: s-maj=39.6km s-min=22.1km az=96.0*

ISCJB ***28*** *01:01:29.6±0.9,27.1N±0.1×143.7E±0.3,h33km,mb3.9/5, Error ellipse: s-maj=33.2km s-min=14.5km az=171.1*

ISC 28 01:01:32.4±1.1,27.0N±0.1×143.8E±0.3,h35km,n8, σ1§14/8,mb3.9/5,Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MJAR	**Matsushiro Arr**	**10.61**	**335**	Pn	**Pn**	**01 04 01.0**	**-0.8**
	1.2nm,0.3s,baz=163,slow=12,SNR=9.9						
MAT	**Matsushiro**	**10.61**	**335**	P	**Pn**	**01 04 00.8**	**-1.1**
WRA	**Warramunga Arr**	**47.56**	**192**	P	**P**	**01 10 03.5**	**-1.1**
	2.3nm,1.0s,baz=14,slow=8.3,SNR=6.8						
ASAR	**Alice Springs**	**51.27**	**192**	P	**P**	**01 10 32.8**	**-0.2**
	0.4nm,0.8s,baz=18,slow=7.1,SNR=4.2						
MKAR	**Makanchi Array**	**51.60**	**310**	P	**P**	**01 10 36.8**	**+1.5**
	0.6nm,0.4s,baz=86,slow=11,SNR=10						
ILAR	**Eielson Array**	**57.12**	**29**	P	**P**	**01 11 14.5**	**-0.6**
	0.7nm,0.9s,baz=261,slow=6.8,SNR=4.5						
INK	**Inuvik**	**62.53**	**25**	P	**P**	**01 11 52.9**	**+0.8**
	3.5nm,1.1s,baz=292,slow=4.4,SNR=6.5						
LPAZ	**La Paz**	**148.59**	**77**	PKPbc	**PKPbc**	**01 21 17.7**	**+0.6**
	0.6nm,0.6s,baz=281,slow=3.2,SNR=3.6						

IDC 28 01:03:55.0±7.4,12.36S×15.04W,h0km,mb3.8/4, mb1 3.9/4,mb1mx3.6/25,mbtmp3.8/4,MS3.7/6,Ms1 3.7/6, ms1mx3.3/29,Error ellipse: s-maj=228.3km s-min=145.7km az=142.0,Southern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H10S2	**ASCENSION HYDR**	**3.40**	**7**	T	T	01 08 59.5	
	baz=179,slow=74,SNR=330						
H10S3	**ASCENSION HYDR**	**3.40**	**6**	T	T	01 09 03.7	
	baz=179,slow=74,SNR=264						
H10S1	**ASCENSION HYDR**	**3.42**	**7**	T	T	01 08 57.7	
	baz=179,slow=74,SNR=225						
H10N1	**ASCENSION HYDR**	**4.52**	**7**	T	T	01 10 27.4	
	baz=182,slow=73,SNR=31						
H10N3	**ASCENSION HYDR**	**4.52**	**7**	T	T	01 10 32.4	
	baz=182,slow=73,SNR=98						
H10N2	**ASCENSION HYDR**	**4.53**	**7**	T	T	01 10 25.3	
	baz=182,slow=73,SNR=32						
DBIC	**Dimbokro**	**21.44**	**29**	LR	LR	01 15 30.9	
	comp=Z,129nm,18.7s,baz=186,slow=32						
TORD	**Torodi Ar. Bea**	**30.29**	**34**	P	P	01 10 08.1	-0.1
	1.2nm,1.0s,baz=211,slow=9.0,SNR=5.3						
TORD				LR	LR	01 20 28.2	
	comp=Z,154nm,19.8s,baz=205,slow=33						
BOSA	**Boshof**	**40.84**	**120**	LR	LR	01 25 01.9	
	comp=Z,158nm,21.1s,baz=272,slow=31						
CPUP	**Villa Florida**	**42.05**	**244**	LR	LR	01 26 34.8	
	comp=Z,119nm,20.9s,baz=97,slow=32						
VAE	**Valguarnera**	**56.77**	**28**	LR	LR	01 37 03.0	
	comp=Z,87nm,18.1s,baz=38,slow=35						
DAVOX	**Davos/Dischmat**	**62.97**	**19**	LR	LR	01 40 33.4	
	comp=Z,54nm,20.6s,baz=180,slow=35						
GERES	**GERESS Array B**	**66.03**	**20**	P	P	01 14 43.7	+0.2
	0.8nm,0.9s,baz=188,slow=5.8,SNR=5.0						
BRTR	**Keskin Array B**	**68.77**	**38**	P	P	01 15 01.3	+0.2
	1.4nm,1.0s,baz=268,slow=3.2,SNR=6.1						
AKASG	**Malin Array Be**	**73.69**	**28**	P	P	01 15 30.3	-0.2
	0.2nm,0.3s,baz=227,slow=6.7,SNR=10						

NIED ***28*** *01:06:00,37.80N×143.30E,h8km,Mw3.8 Best double couple: M0 5.65000×10^14 NP1:φ=319.00000°,δ36.00000°, λ-119.00000°. NP2:φ=174.00000°,δ59.00000°, λ-70.00000°.*

JMA ***28*** *01:06:02.5±0.1,37.83N×143.29E,h41km,M3.9*

ISCJB ***28*** *01:06:03.7±1.0,37.79N±0.04×143.11E±0.07,h18km, mb3.7/7,Error ellipse: s-maj=8.4km s-min=5.7km az=172.0*

IDC ***28*** *01:06:09.7±5.4,37.36N×142.93E,h38km±45km,mb3.6/7, mb1 3.8/9,mb1mx3.5/46,mbtmp3.8/9,ML2.7/2,Error ellipse: s-maj=36.9km s-min=20.0km az=81.0*

ISC 28 01:06:06.8±1.0,37.79N±0.05×142.97E±0.07,h18km,n27, σ1§97/29,mb3.8/7,Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIO	**Ouri**	**1.44**	**298**	P	**Pn**	**01 06 30.0**	**-2.0**
JIO				*e*S	**Sb**	**01 06 50.1**	**-1.0**
OFUJ	**Ofunato**	**1.64**	**322**	P	**Pn**	**01 06 31.8**	**-3.0**
OFUJ				*e*S	**Sn**	**01 06 53.3**	**-2.2**
JFK	**Kawauchi**	**1.72**	**256**	P	**Pn**	**01 06 34.1**	**-1.8**
JFK				*e*S	**Sb**	**01 06 57.7**	**-1.5**
JMM	**Marumori**	**1.73**	**273**	P	**Pn**	**01 06 34.5**	**-1.4**
JMM				S	**Sb**	**01 06 57.9**	**-1.4**
JMK	**Ichinoseki**	**1.80**	**311**	*e*S	**Sn**	**01 06 57.9**	**-1.4**
JFT	**Otama**	**2.11**	**263**	P	**Pn**	**01 06 40.7**	**-0.5**
JFT				*e*S	**Sn**	**01 07 08.2**	**-2.2**
JOM	**Ohasama**	**2.13**	**322**	*e*S	**Sn**	**01 07 06.2**	**-1.4**
JYK	**Kaneyama**	**2.34**	**300**	P	**Pn**	**01 06 42.9**	**-1.5**
JYK				*e*S	**Sn**	**01 07 12.2**	**-0.5**
JNS	**Sasagawa**	**2.89**	**272**	P	**Pn**	**01 06 51.9**	**-0.1**
JNS				*e*S	**Sn**	**01 07 28.2**	**+1.9**
JAG	**Ashikaga**	**3.12**	**245**	P	**Pn**	**01 06 54.5**	**-0.7**
BSO1	**Boso 1**	**3.52**	**208**	P	**Pn**	**01 06 57.9**	**-2.2**
BSO1				S	**Sn**	**01 07 40.7**	**-0.3**
MJAR	**Matsushiro Arr**	**4.00**	**253**	Pn	**Pn**	**01 07 07.8**	**+0.5**
	1.8nm,0.3s,baz=76,slow=12,SNR=18						
MAT	**Matsushiro**	**4.00**	**253**	P	**Pn**	**01 07 08.1**	**+0.8**
MAT				*e*S	**Sn**	**01 07 55.4**	**+1.6**
USRK	**Ussuriysk Ar.**	**10.48**	**311**	Pn	**Pn**	**01 08 39.3**	**+3.2**
	0.1nm,0.3s,baz=124,slow=12

H10N2	**ASCENSION HYDR**	**5.09**	**359**	T	T	01 31 39.3		
	baz=189,slow=78,SNR=30							
LIC	**Lamto**	**21.19**	**26**	*e*PKP1	**P**	**01 29 57.1**	**+2.9**	
	68nm,1.6s							
KIC	**Kosan Boka**	**21.43**	**27**	*e*PKP1	**P**	**01 29 56.6**	**-0.2**	
	0.8nm,0.3s							
TIC	**Toumodi**	**21.57**	**26**	*e*PKP1	**P**	**01 29 57.8**	**-0.5**	
DBIC	**Dimbokro**	**21.66**	**26**	P	**P**	**01 29 59.9**	**+0.7**	
	4.4nm,0.8s,baz=196,slow=12,SNR=3.8							
DBIC				LR	LR	01 36 26.0		
	comp=Z,201nm,19.1s,baz=184,slow=31							
DBIC	**Dimbokro**	**21.66**	**26**	*e*P	**P**	**01 29 59.9**	**+0.7**	
	20nm,1.4s							
RCBR	**Riachuelo**	**22.39**	**286**	LR	LR	01 36 11.9		
	comp=Z,377nm,21.8s,baz=99,slow=30							
TOA0	**Torodi Ar. Sit**	**30.42**	**32**	*e*P	**P**	**01 31 20.9**	**-0.2**	
TORD	**Torodi Ar. Bea**	**30.42**	**32**	P	**P**	**01 31 20.4**	**-0.7**	
	1.9nm,0.8s,baz=215,slow=9.0,SNR=12							
TORD				LR	LR	01 41 41.6		
	comp=Z,242nm,19.7s,baz=215,slow=33							
TOA1	**Torodi Ar. Sit**	**30.43**	**32**	*e*P	**P**	**01 31 20.4**	**-0.7**	
TSUM	**Tsumeb**	**31.28**	**106**	LR	LR	01 41 36.4		
	comp=Z,147nm,19.4s,baz=330,slow=31							
SUR	**Sutherland**	**37.53**	**127**	*e*P	**P**	**01 32 21.8**	**-1.2**	
	136nm,1.9s							
BOSA	**Boshof**	**39.97**	**119**	LR	LR	01 45 43.5		
	comp=Z,161nm,20.7s,baz=286,slow=31							
LSZ	**Lusaka**	**41.28**	**98**	P	**P**	**01 32 56.8**	**+2.5**	
	1.7nm,0.7s,baz=289,slow=8.4,SNR=5.3							
LSZ	**Lusaka**	**41.28**	**98**	*e*P	**P**	**01 32 51.2**	**-3.2**	
	12nm,1.5s							
CPUP	**Villa Florida**	**42.41**	**245**	LR	LR	01 47 57.9		
	comp=Z,156nm,18.9s,baz=95,slow=32							
SAML	**Samuel**	**48.05**	**270**	*e*P	**P**	**01 33 48.9**	**+0.6**	
	6.5nm,1.6s							
KMBO	**Kilima Mbogo**	**52.43**	**81**	LR	LR	01 55 25.0		
	comp=Z,92nm,18.4s,baz=214,slow=34							
ESDC	**Sonseca Array**	**53.24**	**10**	P	**P**	**01 34 27.1**	**0.0**	
	0.2nm,0.4s,baz=206,slow=7.3,SNR=4.0							
ES19	**SONSECA Array**	**53.28**	**10**	*e*P	**P**	**01 34 26.4**	**-1.0**	
KEST	**Kesra**	**53.36**	**24**	P	**P**	**01 34 29.9**	**+1.8**	
	12nm,1.0s,baz=215,slow=12,SNR=7.0							
KEST				LR	LR	01 57 29.3		
	comp=Z,102nm,18.6s,baz=186,slow=36							
KEST	**Kesra**	**53.36**	**24**	*e*P	**P**	**01 34 27.6**	**-0.4**	
	26nm,1.1s							
PB10	**IPOC Station P**	**54.11**	**250**	*e*P	**P**	**01 34 32.8**	**-1.0**	
	12nm,0.9s							
PLCA	**Paso Flores**	**56.16**	**229**	LR	LR	01 55 26.7		
	comp=Z,74nm,21.1s,baz=156,slow=32							
SNAA	**Sanae**	**59.10**	**176**	P	**P**	**01 35 08.5**	**-0.1**	
	2.0nm,0.9s,baz=335,slow=7.8,SNR=7.1							
SNAA	**Sanae**	**59.10**	**176**	*e*P	**P**	**01 35 08.2**	**-0.4**	
	4.7nm,1.1s							
SDV	**Santo Domingo**	**59.96**	**288**	*e*P	**P**	**01 35 14.3**	**-1.2**	
	4.1nm,0.6s							
SSB	**Saint Sauveur**	**60.43**	**15**	*e*P	**P**	**01 35 16.7**	**-1.3**	
	7.4nm,1.2s							
BNI	**Bardonecchia**	**60.80**	**17**	*e*P	**P**	**01 35 18.3**	**-2.3**	
	16nm,1.6s							
IDE	**Isla Desecheo**	**60.94**	**300**	*e*P	**P**	**01 35 23.9**	**+2.0**	
PMSA	**Palmer Station**	**61.87**	**202**	LR	LR	01 55 17.6		
	comp=Z,37nm,20.4s,baz=123,slow=29							
PMSA	**Palmer Station**	**61.87**	**202**	*e*P	**P**	**01 35 28.2**	**+0.8**	
	65nm,1.7s							
ROSC	**El Rosal**	**62.12**	**283**	LR	LR	02 02 24.8		
	comp=Z,96nm,18.2s,baz=172,slow=36							
BFO	**Black Forest**	**64.25**	**17**	*e*P	**P**	**01 35 43.1**	**-0.4**	
	9.1nm,1.2s							
GEA0	**GERESS Array S**	**66.34**	**20**	*e*P	**P**	**01 35 56.7**	**-0.4**	
GEC2	**GERESS Array S**	**66.35**	**20**	*e*P	**P**	**01 35 57.2**	**0.0**	
	9.2nm,1.7s							
GERES	**GERESS Array B**	**66.35**	**20**	P	**P**	**01 35 57.2**	**0.0**	
	0.3nm,0.7s,baz=225,slow=3.6,SNR=6.2							
GERES				LR	LR	02 04 11.1		
	comp=Z,61nm,20.6s,baz=264,slow=35							
CWF	**Charnwood Fore**	**66.38**	**9**	*e*P	**P**	**01 35 56.0**	**-1.2**	
	21nm,1.5s							
ASF	**Jabal al Asfar**	**66.46**	**46**	P	**P**	**01 35 59.5**	**+1.3**	
	1.9nm,1.0s,baz=293,slow=7.1,SNR=3.8							
VYHS	**Vyhne**	**67.89**	**23**	*e*P	**P**	**01 36 07.5**	**+0.6**	
MLR	**Muntele Rosu**	**68.61**	**29**	*e*P	**P**	**01 36 11.2**	**-0.4**	
	12nm,1.3s							
EKA	**Eskdalemuir Ar**	**68.67**	**7**	P	**P**	**01 36 11.5**	**-0.1**	
	5.0nm,1.0s,baz=166,slow=3.9,SNR=5.1							
BRTR	**Keskin Array B**	**68.81**	**38**	P	**P**	**01 36 14.1**	**+1.0**	
	0.9nm,0.8s,baz=242,slow=3.2,SNR=5.8							
BRTR				LR	LR	02 05 45.0		
	comp=Z,23nm,21.5s,baz=222,slow=35							
BR101	**Keskin Array S**	**68.82**	**38**	*e*P	**P**	**01 36 14.1**	**+1.0**	
CRVS	**Cervenica-Dubn**	**69.25**	**24**	*e*P	**P**	**01 36 16.2**	**+0.8**	
MAW	**Mawson**	**73.24**	**157**	P	**P**	**01 36 40.1**	**+0.8**	
	1.6nm,0.5s,baz=309,slow=10,SNR=4.1							
MAW				LR	LR	02 02 46.7		
	comp=Z,45nm,19.6s,baz=238,slow=31							
MAW	**Mawson**	**73.24**	**157**	*e*P	**P**	**01 36 40.1**	**+0.8**	
	4.2nm,1.9s							
AK11	**Malin Array Si**	**73.86**	**27**	*e*P	**P**	**01 36 43.2**	**+0.1**	
KIEV	**Kiev**	**73.89**	**27**	*e*P	**P**	**01 36 43.3**	**0.0**	
	7.7nm,1.0s							
AKASG	**Malin Array Be**	**73.91**	**27**	P	**P**	**01 36 43.1**	**-0.3**	
	2.0nm,0.7s,baz=226,slow=6.2,SNR=14							
AKASG				LR	LR	02 10 31.9		
	comp=Z,49nm,19.7s,baz=85,slow=37							
AKBB	**Malin Array Si**	**73.91**	**27**	*e*P	**P**	**01 36 43.7**	**+0.4**	
	8.9nm,1.0s							
NOA	**NORSAR Array B**	**76.50**	**12**	LR	LR	02 12 21.6		
	comp=Z,19nm,18.1s,baz=140,slow=37							
KBZ	**Khabaz**	**76.77**	**39**	LR	LR	02 12 35.5		
	comp=Z,30nm,18.5s,baz=212,slow=37							
JSC	**Jenkinsville**	**78.94**	**309**	*e*P	P	01 37 17.1	+4.7	
	42nm,0.8s							
TIGA	**Tifton**	**79.64**	**306**	*e*P	**P**	**01 37 15.2**	**-1.0**	
	54nm,1.6s							
FIA0	**FINESS Array S**	**80.72**	**18**	*e*P	**P**	**01 37 20.5**	**-0.8**	
FINES	**FINESS Array B**	**80.72**	**18**	P	**P**	**01 37 20.5**	**-0.8**	
	2.4nm,0.8s,baz=242,slow=8.8,SNR=3.1							
FINES				LR	LR	02 13 56.4		
	comp=Z,36nm,18.9s,baz=189,slow=36							
GEYT	**Alibeck**	**84.50**	**49**	P	**P**	**01 37 42.3**	**+0.7**	
	1.3nm,0.7s,baz=336,slow=3.2,SNR=3.8							
GEYT				LR	LR	02 17 16.3		
	comp=Z,28nm,18.1s,baz=255,slow=37							
VNDA	**Vanda**	**89.67**	**179**	P	**P**	**01 38 06.6**	**+0.5**	
	1.0nm,1.0s,baz=218,slow=3.7,SNR=5.3							
ULM	**Lac du Bonnet**	**94.50**	**320**	LR	LR	02 14 56.7		
	comp=Z,40nm,18.1s,baz=287,slow=32							
TXAR	**Lajitas Array**	**95.64**	**299**	LR	LR	02 22 37.5		
	comp=Z,11nm,19.0s,baz=0.0,slow=36							

ISCJB ***28*** *01:26:09.1±1.6,34°.24N±0°.06×23°.50E±0°.07,h4km±10km, mb3.5/4,Error ellipse: s-maj=11.6km s-min=8.1km az=141.3*
CSEM ***28*** *01:26:09.0±0.4,34°.26N×23°.43E,h2km,ML3.5,Error ellipse: s-maj=8.9km s-min=5.1km az=89.0*
ATH ***28*** *01:26:09.5,34°.29N×23°.47E,h20km±3km,ML3.4/4,Error ellipse: s-maj=5.1km s-min=1.8km az=17.0*
IDC ***28*** *01:26:09.6±1.5,34°.37N×23°.58E,h0km,mb3.8/3, mb1 3.7/4,mb1mx3.3/51,mbtmp3.6/4,ML3.7/1,MS2.8/2, Ms1 2.8/2,ms1mx2.4/37,Error ellipse: s-maj=36.7km s-min=22.5km az=139.0*
THE ***28*** *01:26:12.0,34°.38N×23°.55E,h0km±4km,ML3.5/5,Error ellipse: s-maj=6.1km s-min=1.3km az=225.0*

ISC 28 01:26:10.8±1.9, 34°.32N±0°.07×23°.61E±0°.06, h6km±11km, n38, σ1s54/50, mb3.7/4, Crete

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
GVD	**Gavdhos**	**0.65**	**37**	P	P	**Pb**	**01 26 24.2**	**-0.4**
GVD				S	S	**Sb**	**01 26 34.6**	**+0.6**
GVD	**Gavdhos**	**0.65**	**37**	P	P	**Pb**	**01 26 24.5**	**-0.1**
GVD				S	S	**Sb**	**01 26 34.6**	**+0.6**
GVD	**Gavdhos**	**0.65**	**37**	P	P	**Pb**	**01 26 24.5**	**-0.1**
GVD				S	S	**Sb**	**01 26 35.6**	**+1.5**
GVD				AML	AML		01 26 41.4	
	comp=E,5378μm,0.5s							
GVD				AML	AML		01 26 42.5	
	comp=N,5479μm,0.5s							
IMMV	**Iera Moni Meta**	**1.18**	**15**	P	P	**Pg**	**01 26 33.0**	**-0.5**
IMMV				S	S	**Sb**	**01 26 50.4**	**+1.1**
IMMV	**Iera Moni Meta**	**1.18**	**15**	P	P	**Pg**	**01 26 33.0**	**-0.5**
IMMV				S	S	**Sb**	**01 26 50.4**	**+1.1**
IMMV	**Iera Moni Meta**	**1.18**	**15**	P	P	**Pg**	**01 26 33.0**	**-0.5**
IMMV				S	S	**Sb**	**01 26 50.3**	**+1.0**
IMMV				AML	AML		01 27 01.8	
	comp=N,2700μm,0.6s							
IMMV				AML	AML		01 27 02.2	
	comp=E,3249μm,0.8s							
VAM	**Vamos**	**1.19**	**24**	P	P	**Pg**	**01 26 33.4**	**-0.2**
VAM				S	S	**Sn**	**01 26 50.7**	**+0.1**
VAM	**Vamos**	**1.19**	**24**	P	P	**Pg**	**01 26 33.4**	**-0.2**
VAM				S	S	**Sn**	**01 26 50.9**	**+0.3**
VAM	**Vamos**	**1.19**	**24**	P	P	**Pg**	**01 26 32.5**	**-1.1**
VAM				S	S	**Sn**	**01 26 50.9**	**+0.3**
VAM				AML	AML		01 27 03.7	
	comp=N,2086μm,0.9s							
VAM				AML	AML		01 27 09.2	
	comp=E,2179μm,1.0s							
SIVA	**Sivas**	**1.21**	**54**	P	P	**Pn**	**01 26 34.6**	**+0.3**
SIVA				S	S	**Sn**	**01 26 51.8**	**+0.7**
SIVA	**Sivas**	**1.21**	**54**	P	P	**Pn**	**01 26 34.6**	**+0.3**
SIVA				S	S	**Sn**	**01 26 51.7**	**+0.7**
SIVA	**Sivas**	**1.21**	**54**	P	P	**Pn**	**01 26 34.8**	**+0.5**
SIVA				S	S	**Sn**	**01 26 51.7**	**+0.7**
SIVA				AML	AML		01 27 00.8	
	comp=N,2898μm,0.7s							
SIVA				AML	AML		01 27 06.5	
	comp=E,2975μm,0.7s							
IDI	**Anoyia**	**1.43**	**47**	Pn	**Pb**		**01 26 38.1**	**+0.2**
	comp=E,3.4nm,0.3s,baz=235,slow=8.4,SNR=34							
IDI	**Anoyia**	**1.43**	**47**	P	**Pb**		**01 26 38.2**	**+0.2**
IDI	**Anoyia**	**1.43**	**47**	P	**Pb**		**01 26 38.3**	**+0.4**
IDI	**Anoyia**	**1.43**	**47**	P	**Pb**		**01 26 38.3**	**+0.4**
LAST	**Lasithi**	**1.75**	**61**	P	**Pb**		**01 26 42.5**	**-0.9**
LAST	**Lasithi**	**1.75**	**61**	P	**Pb**		**01 26 42.6**	**-0.9**
LAST	**Lasithi**	**1.75**	**61**	P	**Pb**		**01 26 42.6**	**-0.9**
NPS	**Neapolis**	**1.90**	**60**	P	**Pb**		**01 26 45.1**	**-0.8**
NPS	**Neapolis**	**1.90**	**60**	P	**Pb**		**01 26 45.1**	**-0.8**
NPS	**Neapolis**	**1.90**	**60**	P	**Pb**		**01 26 45.1**	**-0.8**
ZKR	**Zakros**	**2.29**	**69**	P	**Pn**		**01 26 49.6**	**+0.4**
ZKR	**Zakros**	**2.29**	**69**	P	**Pn**		**01 26 49.6**	**+0.4**
KARP	**Karpathos**	**3.16**	**66**	P	**Pn**		**01 27 02.2**	**+1.0**
KARP	**Karpathos**	**3.16**	**66**	P	**Pn**		**01 27 02.2**	**+1.0**
KARP	**Karpathos**	**3.16**	**66**	P	**Pn**		**01 27 01.5**	**+0.3**
STON	**Ston**	**9.71**	**333**	*i* Pn	**Pn**		**01 28 29.7**	**-1.3**
STON				Sn	**Sn**		**01 30 13.5**	**-6.9**
MMAI	**Mount Meron Ar**	**9.91**	**94**	Pn	**Pn**		**01 28 29.9**	**-4.0**
	comp=E,0.9nm,0.3s,baz=270,slow=12,SNR=5.5							
MMAI				LR	LR		01 34 02.9	
	comp=E,37nm,18.9s,baz=160,slow=48							
UDBI	**Udbina**	**11.86**	**332**	*e*Pn	**Pn**		**01 29 01.4**	**+0.9**
GERES	**GERESS Array B**	**16.28**	**336**	Pn	**Pn**		**01 30 00.8**	**+0.7**
	comp=E,0.1nm,0.3s,baz=160,slow=12,SNR=2.9							
KHC	**Kasperske Hory**	**16.57**	**336**	*e*P	**P**		**01 30 09.5**	**+3.2**
KHC				*ex*	x		01 30 18.0	
KHC				*ex*	x		01 30 28.0	
DPC	**Dobruska-Polom**	**16.89**	**344**	*e*P	**P**		**01 30 10.9**	**+1.0**
DPC				*ex*	x		01 30 17.8	
GNI	**Garni**	**17.79**	**65**	LR	LR		01 39 03.4	
	comp=E,35nm,18.8s,baz=48,slow=44							
HFS	**Hagfors**	**26.63**	**349**	P	**P**		**01 31 49.3**	**-0.7**
	comp=E,1.1nm,0.5s,baz=139,slow=13,SNR=4.4							
EKA	**Eskdalemuir Ar**	**28.02**	**327**	P	**P**		**01 32 05.7**	**+3.2**
	comp=E,0.4nm,0.5s,baz=122,slow=9.3,SNR=4.1							
TORD	**Torodi Ar. Bea**	**28.97**	**229**	P	**P**		**01 32 11.5**	**+0.2**
	comp=E,0.4nm,0.6s,baz=39,slow=8.7,SNR=2.8							
MKAR	**Makanchi Array**	**45.30**	**56**	P	**P**		**01 34 27.8**	**-1.6**
	comp=E,0.7nm,0.5s,baz=277,slow=7.6,SNR=11							

ISCJB ***28*** *01:51:35.7±0.8,21°.74S±0°.04×68°.72W±0°.06,h125km±8km, Error ellipse: s-maj=9.2km s-min=5.3km az=160.0*
GUC ***28*** *01:51:36.4±0.6,21°.72S×68°.76W,h118km±4km,ML3.7*
SJA ***28*** *01:51:37.0±0.8,21°.71S×68°.56W,h91km±39km,ML2.2, MW2.7*

ISC 28 01:51:35.2±1.6, 21°.77S±0°.04×68°.76W±0°.06, h132km±12km, n16, σ1s36/31, 8C-2D, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
PB09	**IPOC Station P**	**0.45**	**266**	↑*i*P	P	**Pn**	**01 51 54.5**	**+0.1**
PB09				*i* S	S	**Sn**	**01 52 08.1**	**-0.9**
LVC	**Limon Verde**	**0.85**	**189**	*e*P	P	**Pn**	**01 51 57.2**	**-0.2**
LVC				*e*S	S	**Sn**	**01 52 13.2**	**-1.1**
PB01	**IPOC Station P**	**0.99**	**317**	↓*i*P	P	**Pn**	**01 51 58.5**	**+0.2**
PB01				*i* S	S	**Sn**	**01 52 15.0**	**-0.8**
PB01				IAML			01 52 16.9	
	comp=N,1μm,0.2s							
PB07	**IPOC Station P**	**1.05**	**272**	↑*i*P	P	**Pn**	**01 51 59.7**	**+0.8**
PB07				*i* S	S	**Sn**	**01 52 17.2**	**+0.3**
PB07				IAML			01 52 18.4	
	comp=N,2μm,0.2s							
PB02	**IPOC Station P**	**1.15**	**293**	*i* P	P	**Pn**	**01 52 00.6**	**+0.8**
PB02				*i* S	S	**Sn**	**01 52 18.5**	**0.0**
PB02				IAML			01 52 20.9	
	comp=E,3μm,0.2s							
PB06	**IPOC Station P**	**1.20**	**219**	↑*i*P	P	**Pn**	**01 52 01.4**	**+1.0**
PB06				*i* S	S	**Sn**	**01 52 20.4**	**+0.8**
PB06				IAML			01 52 21.7	
	comp=E,910nm,0.2s							
PB08	**IPOC Station P**	**1.66**	**347**	↓*i*P	P	**Pn**	**01 52 07.0**	**+1.3**
PB08				*i* S	S	**Sn**	**01 52 29.4**	**+0.6**
PB08				IAML			01 52 30.8	
	comp=E,568nm,0.5s							
HMBC	**Humberstone**	**1.82**	**324**	↑*i*P	P	**Pn**	**01 52 07.8**	**+0.6**
HMBC				*i* S	S	**Sn**	**01 52 31.8**	**0.0**
PB11	**IPOC Station P**	**2.17**	**337**	↑*i*P	P	**Pn**	**01 52 12.2**	**+0.7**
PB11				*i* S	S	**Sn**	**01 52 39.8**	**+0.5**
PB10	**IPOC Station P**	**2.40**	**223**	*e*P	P	**Pn**	**01 52 15.4**	**+1.1**
PB10				*i* S	S	**Sn**	**01 52 42.4**	**-1.9**
PB10				IAML			01 52 53.1	
	comp=E,367nm,0.3s							
PSGC	**Pisagua**	**2.51**	**329**	↑*i*P	P	**Pn**	**01 52 15.5**	**-0.2**
PSGC				*i* S	S	**Sn**	**01 52 43.6**	**-3.2**
PSGC				IAML			01 52 48.1	
	comp=E,243nm,0.6s							
MNMC	**Minye Minye**	**2.74**	**343**	↑*i*P	P	**Pn**	**01 52 19.7**	**+0.9**
MNMC				*i* S	S	**Sn**	**01 52 52.9**	**+0.6**
MNMC				IAML			01 53 02.4	
	comp=E,414nm,0.2s							
YJA	**Yavi**	**3.04**	**98**	*e*P	P	**Pn**	**01 52 23.8**	**+1.0**
YJA				IAML			01 52 27.5	
	comp=Z,8.2nm,0.4s							
YJA				*e*S	S	**Sn**	**01 52 57.3**	**-2.1**
HJA	**Humahuaca**	**3.41**	**115**	*e*P	P	**Pn**	**01 52 28.7**	**+1.1**
PB12	**IPOC Station P**	**3.47**	**335**	↑*i*P	P	**Pn**	**01 52 27.2**	**-0.9**
PB12				*i* S	S	**Sn**	**01 53 06.5**	**-2.4**
PB13	**IPOC Station P**	**3.48**	**348**	*e*P	P	**Pn**	**01 52 31.7**	**+2.9**
PB13				*i* S	S	**Sn**	**01 53 08.2**	**-1.9**

ISCJB ***28*** *01:57:37.4±0.5,6°.82N±0°.03×73°.10W±0°.04,h156km±5km, Error ellipse: s-maj=7.1km s-min=4.0km az=41.8*
FUNV ***28*** *01:57:39.2,6°.81N×73°.13W,h159km,MW3.0*
RSNC ***28*** *01:57:39.7±1.0,6°.77N×73°.15W,h145km±6km,ML3.3*

ISC 28 01:57:37.3±1.4, 6°.82N±0°.04×73°.10W±0°.04, h160km±8km, n27, σ0s98/43, 2C, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
BTLC	**Betulia, Santa**	**0.19**	**301**	*e*P	P	**Pn**	**01 57 59.4**	**+0.4**
BARC	**Barichara**	**0.24**	**200**	↑*i*P	P	**Pn**	**01 57 59.4**	**+0.2**
BARC				*e*S	S	**Sn**	**01 58 14.3**	**-1.5**
BARC				*i*			01 58 17.4	
	comp=Z,567nm,0.3s							
PAMC	**Pamplona, Colo**	**0.65**	**37**	*e*P	P	**Pn**	**01 58 02.2**	**+1.0**
PAMC				*e*S	S	**Sn**	**01 58 18.9**	**-0.5**
PAMC				*i*			01 58 21.6	
	comp=Z,321nm,0.3s							
BRRC	**Barranca, Sant**	**0.67**	**295**	↑*i*P	P	**Pn**	**01 58 01.3**	**+0.6**
BRRC				*e*S	S	**Sn**	**01 58 18.1**	**-0.4**
BRRC				*i*			01 58 21.5	
	comp=Z,674nm,0.2s							
RUSC	**La Rusia**	**0.92**	**179**	*e*P	P	**Pn**	**01 58 03.1**	**+0.2**
RUSC				*e*S	S	**Sn**	**01 58 21.8**	**-0.8**
RUSC				*i*			01 58 23.1	
	comp=Z,157nm,0.3s							
CAPV	**Capacho**	**1.30**	**37**	*e*P	P	**Pn**	**01 58 07.2**	**+1.3**
CAPV				*e*S	S	**Sn**	**01 58 28.3**	**+0.4**
OCAC	**Ocana**	**1.43**	**351**	*e*P	P	**Pn**	**01 58 07.8**	**+0.8**
OCAC				*e*S	S	**Sn**	**01 58 30.9**	**+0.9**
OCAC				*i*			01 58 38.6	
	comp=Z,212nm,0.4s							
YOPC	**Yopal, Colombi**	**1.60**	**155**	*e*P	P	**Pn**	**01 58 09.7**	**+0.9**
YOPC				*i*			01 58 10.6	
	comp=Z,96nm,0.4s							
YOPC				*e*S	S	**Sn**	**01 58 32.2**	**-0.9**
ZARC	**Zaragoza, Cauc**	**1.87**	**291**	*e*P	P	**Pn**	**01 58 11.5**	**0.0**
ZARC				*e*S	S	**Sn**	**01 58 37.4**	**-0.6**
ZARC				*i*			01 58 43.2	
	comp=Z,410nm,0.3s							
NORC	**Norcasia**	**2.15**	**235**	*e*P	P	**Pn**	**01 58 14.9**	**+0.1**
NORC				*e*S	S	**Sn**	**01 58 42.5**	**-1.4**
NORC				*i*			01 58 51.2	
	comp=Z,13nm,0.2s							
CHIC	**Chingaza**	**2.26**	**196**	*e*P	P	**Pn**	**01 58 16.9**	**+0.4**
CHIC				*e*S	S	**Sn**	**01 58 46.3**	**-0.5**
CHIC				*i*			01 58 54.6	
	comp=Z,152nm,0.4s							
HELC	**Santa Helena**	**2.49**	**256**	*e*P	P	**Pn**	**01 58 19.7**	**+0.6**
HELC				*e*S	S	**Sn**	**01 58 50.4**	**-1.0**
VIGV	**El Vigia**	**2.65**	**40**	*e*P	P	**Pn**	**01 58 21.6**	**+0.9**
VIGV				*e*S	S	**Sn**	**01 58 53.5**	**-0.8**
SOCV	**Socops**	**2.66**	**57**	*e*P	P	**Pn**	**01 58 21.6**	**+0.8**
SOCV				*e*S	S	**Sn**	**01 58 53.3**	**-1.3**
DBBC	**Dabeiba**	**3.09**	**274**	*e*P	P	**Pn**	**01 58 27.5**	**+1.2**
TOLC	**Tolima**	**3.13**	**225**	*e*P	P	**Pn**	**01 58 28.7**	**+1.7**
TOLC				*e*S	S	**Sn**	**01 59 05.9**	**+0.3**
PRAC	**Prado**	**3.56**	**210**	*e*P	P	**Pn**	**01 58 32.6**	**+0.4**
PRAC				*e*S	S	**Sn**	**01 59 15.0**	**+0.1**
PRAC				*i*			01 59 18.7	
	comp=Z,336nm,0.3s							
ELOV	**Elorza**	**3.60**	**87**	*e*P	P	**Pn**	**01 58 33.5**	**+0.9**
VIRV	**Villa del Rosa**	**3.73**	**11**	*e*P	P	**Pn**	**01 58 34.1**	**-0.2**
VIRV				*e*S	S	**Sn**	**01 59 15.7**	**-3.0**
QARV	**Quebrada Arrib**	**4.22**	**37**	*e*P	P	**Pn**	**01 58 42.1**	**+1.4**
CURV	**Curarigua**	**4.44**	**44**	*e*P	P	**Pn**	**01 58 44.4**	**+0.7**
DABV	**Dabajuro**	**4.75**	**31**	*e*P	P	**Pn**	**01 58 48.8**	**+1.2**
TEPV	**Terepaima**	**4.97**	**51**	*e*P	P	**Pn**	**01 58 51.2**	**+0.7**
BAUV	**El Baul**	**5.44**	**67**	*e*P	P	**Pn**	**01 58 56.2**	**-0.5**
MAPV	**Macapo**	**5.48**	**57**	*e*P	P	**Pn**	**01 58 57.4**	**+0.1**
MONV	**Montecano**	**5.97**	**31**	*e*P	P	**Pn**	**01 59 04.4**	**+0.8**
TURV	**Turiamo**	**6.33**	**55**	*e*P	P	**Pn**	**01 59 09.2**	**+0.7**

CASC 28 02:00:34.6±1.6, 9°.83N×82°.69W, h17km±6km, MD3.7, 3C-4D, Panama-Costa Rica border region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
BRU2	**Volcan**	**1.02**	**180**	↓*e*P	P	**Pb**	**02 00 53.7**	**-0.3**
BRU2				*e*S	S	**Sb**	**02 01 07.2**	**0.0**
TBS2		**1.03**	**178**	↑*e*P	P	**Pb**	**02 00 52.6**	**-1.5**
TBS2				*e*S	S	**Sb**	**02 01 05.7**	**-1.6**
URSC	**Urasca**	**1.07**	**271**	↓*i*P	P	**Pb**	**02 00 53.9**	**-0.9**
URSC				*e*S	S	**Sb**	**02 01 08.3**	**-0.3**
VTR0	**Volcan Turrial**	**1.07**	**280**	↑*i*P	P	**Pb**	**02 00 54.6**	**-0.4**
VTR0				*e*S	S	**Sn**	**02 01 10.5**	**+0.6**
BUS	**Buena Vista**	**1.09**	**256**	↓*i*P	P	**Pb**	**02 00 54.3**	**-0.9**
BUS				*e*S	S	**Sg**	**02 01 09.7**	**-0.4**
ACR	**Cerro Adams**	**1.26**	**202**	*e*P	P	**Pn**	**02 00 57.4**	**0.0**
ACR				*e*S	S	**Sn**	**02 01 14.4**	**+0.5**
QCR1	**Quepos**	**1.51**	**255**	↓*e*P	P	**Pn**	**02 01 01.3**	**+0.4**
QCR1				*e*S	S	**Sb**	**02 01 20.7**	**-0.3**
CGA2	**Cerro Gallo 2**	**1.76**	**276**	*e*P	P	**Pn**	**02 01 05.2**	**+0.7**
CGA2				*e*S	S	**Sn**	**02 01 27.3**	**+0.8**
CUI	**Cuipilapa**	**2.57**	**289**	*e*S	S	**Sn**	**02 01 44.1**	**-2.4**
BCIP	**Isla Barro Col**	**2.89**	**103**	↑*i*P	P	**Pn**	**02 01 20.2**	**+0.3**
BCIP				*e*S	S	**Sn**	**02 01 53.4**	**-0.8**
AZU	**Azuero**	**3.13**	**130**	*e*P	P	**Pn**	**02 01 23.7**	**+0.6**
AZU				*e

comp=Z,58nm,0.6s
KUR pmax pmax
comp=E,22nm,0.3s
KUR smax smax
comp=N,104nm,0.2s
INU Inuyama 6.46 224 *e*Pn **Pn 02 18 37.1 0.0**
YSS Yuzh-Sakhalins 6.82 1 *i* P **Pn 02 18 42.8 +0.8**
USRK Ussuriysk Ar. 8.80 301 P **Pn 02 19 12.2 +3.1**
comp=N,0.7nm,0.3s,baz=128,slow=12,SNR=6.9
USRK LR LR 02 22 26.8
comp=N,180nm,19.4s,baz=109,slow=36
KSRS Korea Array 11.69 261 P **Pn 02 19 52.7 +4.1**
comp=N,0.4nm,0.3s,baz=82,slow=13,SNR=7.1
KSRS LR LR 02 23 53.8
comp=N,131nm,19.0s,baz=96,slow=35
KS15 Wonju Array Si 11.72 261 *e*Pn **Pn 02 19 52.7 +3.6**
KSAR Wonju Array Be 11.72 261 P **Pn 02 19 52.7 +3.6**
KSAR Wonju Array Be 11.72 261 P **Pn 02 19 52.7 +3.6**
PEA0B Petropavlovsk- 16.61 34 *e*Pn **Pn 02 20 48.8 -5.2**
comp=N,62nm,1.3s
PETK Petropavlovsk- 16.61 34 LR LR 02 26 55.9
comp=N,52nm,19.6s,baz=205,slow=35
BJI Beijing 20.13 278 P **P 02 21 33.3 -1.3**
BJI pmax pmax
comp=N,7.0nm,1.0s
NJ2 Nanjing 20.70 255 *e*P **P 02 21 41.8 +0.9**
NJ2 pmax pmax
comp=N,19nm,1.0s
TATO Taipei 23.20 236 *e*P **P 02 22 05.7 -1.8**
comp=N,438nm,1.6s
HHC Hu-ho-hao-te 23.49 282 *e*P **P 02 22 08.3 -1.9**
HHC pmax pmax
comp=N,12nm,1.0s
HHC pmax pmax
comp=N,120nm,5.4s
SEY Seymchan 23.59 11 *e*P **P 02 22 10.6 -0.3**
TPUB Ta-pu 24.95 234 *e*P **P 02 22 21.1 -2.6**
comp=N,56nm,1.3s
BOD Bodaibo 25.46 324 *e*P **P 02 22 27.3 -0.6**
BOD pmax pmax
comp=Z,6.0nm,1.0s
ULN Ulaanbaatar 26.47 299 *i* P **P 02 22 37.5 +0.1**
ULN pmax pmax
comp=Z,1.0nm,0.5s
SONA0 Songino Array 26.91 299 *e*P **P 02 22 41.5 +0.1**
comp=Z,2.7nm,0.6s
SONM Songino Array 26.91 299 P **P 02 22 41.5 +0.1**
comp=Z,1.7nm,0.6s,baz=104,slow=7.7,SNR=4.9
SONM LR LR 02 34 09.2
comp=Z,80nm,18.4s,baz=356,slow=38
TLY Talaya 29.06 306 *e*P **P 02 22 59.3 -1.1**
TLY pmax pmax
comp=Z,6.0nm,1.0s
H11N2 WAKE ISLAND Hy 29.16 127 T T 02 53 52.2
baz=319,slow=75,SNR=508
H11N1 WAKE ISLAND Hy 29.17 127 T T 02 53 59.2
baz=319,slow=75,SNR=460
H11N3 WAKE ISLAND Hy 29.18 127 T T 02 53 53.5
baz=319,slow=75,SNR=293
H11S1 WAKE ISLAND Hy 29.98 129 T T 02 55 14.3
baz=321,slow=76,SNR=135
H11S3 WAKE ISLAND Hy 29.98 129 T T 02 55 00.1
baz=321,slow=76,SNR=73
H11S2 WAKE ISLAND Hy 30.00 129 T T 02 54 58.4
baz=321,slow=76,SNR=73
LZH Lanzhou 30.52 275 *e*P **P 02 23 17.3 +3.6**
LZH pP sP 02 23 29.0 -2.2
LZH sP pP 02 23 38.0 +12
LZH pmax pmax
comp=Z,14nm,1.0s
BILL Bilibino 30.82 17 *i* P **P 02 23 14.7 -1.0**
BILL *i* 02 24 27.5
BILL *i* 02 26 11.2
BILL pmax pmax
comp=Z,15nm,2.1s
TIXI Tiksi 32.33 352⇑ *e*P **P 02 23 27.9 -1.0**
TIXI pmax pmax
comp=Z,8.0nm,1.5s
GTA Gaotai 32.59 283 *e*P **P 02 23 32.3 +0.5**
GTA pP sP 02 23 47.0 -2.4
GTA sP pP 02 23 54.3 +10
GTA S **S 02 28 45.5 +1.2**
GTA pmax pmax
comp=Z,3.0nm,1.0s
GTA pmax pmax
comp=Z,140nm,6.0s
GTA LR LR
comp=Z,78nm,15.2s
GTA LR LR
comp=Z,120nm,14.7s
GTA LR LR
comp=Z,140nm,18.1s
CD2 Chengdu 32.64 266 *e*P **P 02 23 31.0 -1.1**
CD2 pmax pmax
comp=Z,10.0nm,1.0s
GYA Guiyang 32.68 256 *e*P **P 02 23 33.8 +1.1**
GYA pmax pmax
comp=Z,10.0nm,0.8s
DGZ Jazzator, Alta 39.35 303 *i* P **P 02 24 30.3 +0.8**
DGZ pmax pmax
comp=Z,11nm,0.7s
WMQ Urumqi 40.29 294 P **P 02 24 37.0 -0.2**
WMQ pP pP 02 24 52.0 +2.4
WMQ sP sP 02 24 58.8 +3.8
WMQ PP **PP 02 26 10.0 -0.4**
WMQ pmax pmax
comp=Z,12nm,0.8s
WMQ pmax pmax
comp=Z,110nm,4.7s
WMQ LR LR
comp=Z,130nm,5.3s
WMQ LR LR
comp=Z,110nm,5.9s
ZAA0 Zalesovo Array 40.53 310 *e*P **P 02 24 37.8 -1.2**
ZAA1 Zalesovo Array 40.53 310 *e*P **P 02 24 38.8 -0.2**
ZALV Zalesovo Beam 40.53 310 P **P 02 24 38.8 -0.2**
comp=Z,2.0nm,0.5s,baz=85,slow=7.3,SNR=8.2
NRIK Noril'sk 40.85 334 LR LR 02 42 38.1
comp=Z,53nm,19.7s,baz=158,slow=38
MK01 Makanchi Array 43.27 300 *e*P **P 02 25 00.9 -0.6**
MK31 Makanchi Array 43.27 300 *e*P **P 02 24 59.6 -1.9**
MK31 Makanchi Array 43.27 300 *e*P **P 02 24 59.6 -1.9**
MK32 Makanchi Array 43.27 300 *e*P **P 02 25 01.1 -0.4**
MKAR Makanchi Array 43.27 300 P **P 02 25 01.1 -0.4**
comp=Z,1.8nm,0.6s,baz=84,slow=9.5,SNR=18
MKAR Makanchi Array 43.27 300 *e*P **P 02 25 00.2 -1.3**
comp=Z,20nm,0.6s
KURK Kurchatov 44.76 306 *e*P **P 02 25 12.8 -0.5**
KURK pmax pmax
comp=Z,10.0nm,0.7s
KURK Kurchatov 44.76 306 *e*P **P 02 25 12.8 -0.5**
comp=Z,9.9nm,0.7s
ILAR Eielson Array 46.44 34 P **P 02 25 27.5 +1.1**
comp=Z,0.3nm,0.6s,baz=261,slow=6.3,SNR=6.0
ILB Eielson Array 46.44 34 *e*P **P 02 25 27.5 +1.1**
TAPN Taplejung 46.64 272 *e*P **P 02 25 27.9 -1.0**
comp=Z,9.0nm,0.5s
RAMN Ramite 47.70 272 *e*P **P 02 25 36.7 -0.3**
comp=Z,36nm,1.0s
GUN Gumba 47.76 273 *e*P **P 02 25 36.5 -1.1**
comp=Z,34nm,0.6s
KKN Kakani 48.28 274 *e*P **P 02 25 40.8 -0.7**
comp=Z,22nm,0.8s
PKI Pulchoki 48.29 273 *e*P **P 02 25 40.9 -0.8**
comp=Z,3.0nm,0.2s
PKIN Phulchoki 48.30 273 *e*P **P 02 25 40.7 -1.0**
comp=Z,2.1nm,0.3s
GKN Gorkha 48.67 274 *e*P **P 02 25 43.6 -0.8**
comp=Z,6.6nm,0.3s
DANN Dangsing 49.16 275 *e*P **P 02 25 48.4 0.0**
BRVK Borovoye 49.22 311 *c i*P **P 02 25 48.0 -0.1**
BRVK pmax pmax
comp=Z,8.0nm,0.7s
BRVK Borovoye 49.22 311 *e*P **P 02 25 48.2 +0.1**
comp=Z,3.3nm,0.6s
KOLN Koldanda 49.58 275 *e*P **P 02 25 51.4 0.0**
comp=Z,10nm,0.6s
PYUN Piuthan 49.88 275 *e*P **P 02 25 52.9 -0.8**
comp=Z,25nm,0.8s
KSH Kashi 49.98 292 *e*P **P 02 25 57.5 +3.3**
KSH sP sP 02 26 20.5 +8.2
KSH PP **PP 02 27 54.5 +5.2**
KSH S **S 02 33 02.5 +0.8**
KSH sS sS 02 33 29.3 +6.4
KSH SS **SS 02 36 32.5 -2.2**
KSH pmax pmax
comp=Z,6.0nm,1.3s
KSH pmax pmax
comp=Z,91nm,4.9s
KSH LR LR
comp=Z,93nm,5.4s
KSH LR LR
comp=Z,85nm,5.3s
KSH LR LR
comp=Z,98nm,4.6s
INK Inuvik 51.25 28 P **P 02 26 04.9 +1.7**
comp=Z,1.4nm,0.7s,baz=286,slow=4.8,SNR=4.5
INK Inuvik 51.25 28 *e*P **P 02 26 04.6 +1.4**
INK pmax pmax
comp=Z,21nm,1.6s
INK Inuvik 51.25 28 *e*P **P 02 26 04.6 +1.4**
comp=Z,21nm,1.6s
ARU Arti 54.64 317 *d i*P **P 02 26 28.0 -0.3**
ARU *PP **pP 02 26 43.8 +2.6**
ARU 02 27 29.0
ARU 02 28 28.7
ARU S **S 02 34 05.2 +0.6**
ARU SS **SS 02 37 42.1 -5.2**
ARU pmax pmax
comp=Z,9.0nm,1.0s
ARU Arti 54.64 317 *e*P **P 02 26 28.2 -0.1**
comp=Z,7.0nm,0.8s
ABKAR Akbulak array 56.63 309 *e*P **P 02 26 42.5 -0.3**
comp=Z,42nm,0.5s
KBL Kabul 57.15 290 *e*P **P 02 26 46.5 -0.4**
KBL pmax pmax
comp=Z,10.0nm,0.9s
KBL Kabul 57.15 290 *e*P **P 02 26 46.5 -0.4**
comp=Z,9.9nm,0.9s
WB2 Warramunga Arr 60.24 189 *e*P **P 02 27 08.1 0.0**
WR1 Warramunga Arr 60.24 189 *e*P **P 02 27 07.5 -0.7**
comp=Z,26nm,1.9s
WRA Warramunga Arr 60.24 189 P **P 02 27 07.5 -0.7**
comp=Z,1.9nm,0.6s,baz=6.4,slow=6.9,SNR=21
ARCES ARCESS Array B 61.41 339 P **P 02 27 15.8 +0.3**
comp=Z,1.4nm,0.9s,baz=45,slow=9.0,SNR=3.6
GEYT Alibeck 63.11 298 P **P 02 27 27.2 -0.3**
comp=Z,3.9nm,0.8s,baz=14,slow=3.0,SNR=6.8
AS31 Alice Springs 63.97 189 *e*P **P 02 27 33.1 0.0**
comp=Z,6.5nm,2.0s
ASAR Alice Springs 63.97 189 P **P 02 27 33.1 0.0**
comp=Z,1.2nm,0.7s,baz=7.6,slow=5.7,SNR=11
ASAR Alice Springs 63.97 189 *e*P **P 02 27 33.3 +0.2**
ASAR pmax pmax
comp=Z,1.0nm,0.7s
OBN Obninsk 66.14 323 *i* P **P 02 27 47.3 +0.5**
OBN *i* 02 30 13.5
OBN pmax pmax
comp=Z,4.0nm,1.0s
FIA1 FINESS Array S 66.48 332 *e*P **P 02 27 49.7 +0.8**
FIA0 FINESS Array S 66.48 332 *e*P **P 02 27 49.1 +0.2**
FIA0 FINESS Array S 66.48 332 *e*P **P 02 27 49.1 +0.2**
FINES FINESS Array B 66.48 332 P **P 02 27 49.1 +0.2**
comp=Z,1.5nm,0.7s,baz=64,slow=4.4,SNR=8.1
FINES LR LR 02 58 55.3
comp=Z,33nm,19.4s,baz=82,slow=38
ZEI Tsey 69.51 309 *e*P **P 02 28 07.5 -1.1**
ZEI pmax pmax
comp=Z,10.0nm,0.9s
KIV Kislovodsk 69.53 311 *e*P **P 02 28 09.8 +1.2**
KIV pmax pmax
comp=Z,9.0nm,0.9s
KIV MLR MLR
comp=Z,25nm,18.0s
KIV Kislovodsk 69.53 311 *e*P **P 02 28 09.4 +0.9**
comp=Z,12nm,1.1s
KBZ Khabaz 69.55 310 P **P 02 28 09.2 +0.8**
comp=Z,3.5nm,0.7s,baz=25,slow=4.8,SNR=9.2
NB2 NORSAR Subarra 71.66 337 P **P 02 28 20.6 -0.6**
comp=Z,5.4nm,1.2s,baz=40,slow=6.2
NB200 NORSAR Array S 71.66 337 *e*P **P 02 28 21.1 -0.1**
NOA NORSAR Array B 71.66 337 P **P 02 28 21.1 -0.1**
comp=Z,1.8nm,0.9s,baz=34,slow=6.1,SNR=4.5
AKASG Malin Array Be 72.38 322 P **P 02 28 25.1 -0.4**
comp=Z,1.5nm,0.6s,baz=43,slow=5.9,SNR=7.8
AKBB Malin Array Si 72.38 322 *e*P **P 02 28 25.1 -0.4**
AKBB pmax pmax
comp=Z,4.0nm,0.9s
AKBB Malin Array Si 72.38 322 *e*P **P 02 28 25.1 -0.4**
comp=Z,3.9nm,0.9s
PDAR Pinedale Array 74.90 47 LR LR 03 01 48.8
comp=Z,12nm,18.8s,baz=48,slow=36
BUR08 Bucovina Ar. S 76.40 322 *e*P **P 02 28 49.9 +0.8**
BR101 Keskin Array S 77.44 312 *e*P **P 02 28 55.5 +0.3**
BRTR Keskin Array B 77.44 312 P **P 02 28 55.5 +0.3**
comp=Z,0.7nm,0.7s,baz=99,slow=3.9,SNR=4.8
BRTR LR LR 03 07 25.7
comp=Z,11nm,18.9s,baz=196,slow=39
BR231 Keskin MP Arra 77.85 312 *e*P **P 02 28 56.2 -1.3**
KHC Kasperske Hory 80.35 329 *e*P **P 02 29 11.5 +0.7**
KHC Kasperske Hory 80.35 329 *e*P **P 02 29 11.5 +0.7**
GERES GERESS Array B 80.53 329 P **P 02 29 11.7 -0.2**
comp=Z,0.3nm,0.6s,baz=38,slow=6.8,SNR=4.2
GERES GERESS Array B 80.53 329 *e*P **P 02 29 13.3 +1.5**

*ISCJB **28** 02:48:13.5±0.5, 50°.27N±0°.04×18°.69E±0°.03, h0km, Error ellipse: s-maj=5.7km s-min=2.5km az=19.9*
*WAR **28** 02:48:14.7, 50°.27N×18°.83E, h1km, Mw2.7*
*PRU **28** 02:48:14.9, 50°.26N×18°.74E, h0km*
ISC 28 02:48:14.6±0.8, 50°.20N±0°.04×18°.74E±0°.02, h0km, n21, σ0s85/35, Poland

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OKC	**Ostrava-Krasne**	**0.53**	**227**	*e*PG	**Pb**	**02 48 26.4**	**-0.4**
OKC				*e*SG	**Sg**	**02 48 32.3**	**+0.7**
	comp=Z,24nm,0.3s						
OJC	**Ojcow**	**0.68**	**88**	*e*Pg	**Pg**	**02 48 26.5**	**-1.1**
OJC				*e*Sg	**Sg**	**02 48 36.6**	**+0.3**
OJC	**Ojcow**	**0.68**	**88**	*e*Pg	**Pg**	**02 48 26.5**	**-1.1**
OJC				*e*Sg	**Sg**	**02 48 36.6**	**+0.3**
LANS	**Liptovska Anna**	**1.16**	**156**	*e*PG	**Pb**	**02 48 37.4**	**0.0**
LANS				*e*SG	**Sn**	**02 48 54.2**	**-0.4**
KRLC	**Kraliky**	**1.27**	**265**	*e*PG	**Pg**	**02 48 38.2**	**-0.7**
KRLC				*e*SG	**Sg**	**02 48 55.2**	**-0.1**
NIE	**Niedzica**	**1.28**	**127**	*e*Pg	**Pg**	**02 48 38.9**	**-0.2**
NIE				*e*Sg	**Sn**	**02 48 57.6**	**0.0**
NIE	**Niedzica**	**1.28**	**127**	*e*Pg	**Pg**	**02 48 38.9**	**-0.2**
NIE				*e*Sg	**Sn**	**02 48 57.6**	**0.0**
DPC	**Dobruska-Polom**	**1.56**	**276**	*e*PG	**Pn**	**02 48 43.2**	**-0.4**
DPC				*e*SG	**Sn**	**02 49 04.5**	**-0.1**
	comp=Z,15nm,0.4s						
KSP	**Ksiaz**	**1.69**	**293**	*e*Pg	**Pb**	**02 48 46.4**	**-0.1**
KSP				*e*Sg	**Sg**	**02 49 09.3**	**+0.5**
KSP	**Ksiaz**	**1.69**	**293**	*e*Pg	**Pb**	**02 48 46.4**	**-0.1**
KSP				*e*Sg	**Sg**	**02 49 09.3**	**+0.5**
VYHS	**Vyhne**	**1.71**	**178**	*e*PN	**Pn**	**02 48 45.3**	**-0.4**
VYHS				*e*SN	**Sg**	**02 49 09.3**	**-0.3**
VYHS				*e*LG	Lg	02 49 22.7	
UPC	**Upice**	**1.77**	**281**	*e*SG	**Sg**	**02 49 11.8**	**+0.2**
	comp=Z,5.1nm,0.3s						
STHS	**Stebnicka Huta**	**1.80**	**115**	*e*PN	**Pb**	**02 48 48.1**	**-0.4**
STHS				*e*SN	**Sg**	**02 49 13.5**	**+1.1**
STHS				*e*LG	Lg	02 49 19.2	
CRVS	**Cervenica-Dubn**	**2.20**	**125**	*e*PN	**Pb**	**02 48 55.5**	**+0.3**
PVCC	**Panska Ves**	**2.69**	**279**	*e*SG	**Sg**	**02 49 40.1**	**-0.9**
	comp=Z,8.0nm,0.3s						
PRU	**Pruhonice**	**2.71**	**267**	*e*SG	**Sb**	**02 49 39.6**	**+1.8**
	comp=Z,2.7nm,0.4s						
CONA	**Conrad Observa**	**2.96**	**221**	Pn	**Pn**	**02 49 03.9**	**+0.9**
	0.2nm,0.2s						
CONA				Sn	**Sn**	**02 49 39.1**	**-0.1**
	1.1nm,0.3s						
BRG	**Berggiesshubel**	**3.13**	**284**	PG	**Pg**	**02 49 15.1**	**+0.4**
BRG				SG	**Sg**	**02 49 54.0**	**-1.2**
	3.8nm,0.4s						
KHC	**Kasperske Hory**	**3.52**	**254**	*e*SG	**Sg**	**02 50 06.2**	**-1.5**
	comp=Z,5.8nm,0.4s						
CLL	**Collm**	**3.81**	**289**	*e*Sg	**Sg**	**02 50 19.0**	**+2.1**
NKC	**Novy Kostel**	**4.04**	**273**	*e*SG	**Sg**	**02 50 22.4**	**-2.0**
	comp=Z,2.4nm,0.4s						

*IDC **28** 02:57:05.9±1.8, 37°.21S×179°.62E, h0km, mb4.1/2, mb1 4.4/3, mb1mx3.9/20, mbtmp4.2/3, ML4.4/1, Error ellipse: s-maj=50.4km s-min=32.6km az=156.0*
*NEIC **28** 02:57:06.9±0.0, 37°.42S×179°.98E, h21km, ML4.1(WEL), After WEL.*
*WEL **28** 02:57:08.8±0.3, 37°.41S×179°.91E, h33km, ML4.1/40, Error ellipse: s-maj=2.5km s-min=2.5km az=90.0*
ISC 28 02:57:06.9±2.7, 37°.64S±0°.07×180°.0E±0°.1, h21km±16km, n133, σ1s20/145, 6C-4D, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WMGZ	**Waiomatatini S**	**1.26**	**261**	Pn	**Pn**	**02 57 29.5**	**+0.3**
WMGZ				Sn	**Sb**	**02 57 46.9**	**+1.2**
WMGZ	**Waiomatatini S**	**1.26**	**261**	PN	**Pn**	**02 57 29.5**	**+0.3**
WMGZ				*e*SN	**Sn**	**02 57 44.9**	**-0.6**
WMGZ				AML	AML	02 57 46.3	
MXZ	**Matakaoa Point**	**1.34**	**273**	Pn	**Pn**	**02 57 29.8**	**-0.5**
MXZ				Sn	**Sn**	**02 57 45.7**	**-1.7**
MXZ	**Matakaoa Point**	**1.34**	**273**	⇓Pn	**Pn**	**02 57 29.7**	**-0.5**
MXZ				SN	**Sn**	**02 57 45.7**	**-1.7**
MXZ				AML	AML	02 57 46.4	
PUZ	**Puketiti**	**1.44**	**252**	Pn	**Pn**	**02 57 31.7**	**+0.1**
PUZ				Sn	**Sn**	**02 57 50.3**	**+0.4**
PUZ	**Puketiti**	**1.44**	**252**	PN	**Pn**	**02 57 31.7**	**+0.1**
PUZ				SN	**Sn**	**02 57 50.3**	**+0.4**
PUZ				AML	AML	02 57 57.2	
PKGZ	**Pakihiroa**	**1.53**	**260**	PN	**Pn**	**02 57 32.9**	**-0.1**
CNGZ	**Carnagh Statio**	**1.64**	**239**	Pn	**Pn**	**02 57 35.9**	**+1.5**
CNGZ	**Carnagh Statio**	**1.64**	**239**	PN	**Pn**	**02 57 35.9**	**+1.5**
CNGZ				AML	AML	02 58 04.9	
CNGZ				AML	AML	02 58 08.6	
TWGZ	**Tauwhareparae**	**1.68**	**251**	Pn	**Pn**	**02 57 35.5**	**+0.6**
TWGZ	**Tauwhareparae**	**1.68**	**251**	PN	**Pn**	**02 57 35.5**	**+0.6**
TWGZ				AML	AML	02 58 01.0	
TWGZ				AML	AML	02 58 04.6	
HAZ	**Te Kaha**	**1.75**	**266**	⇓PN	**Pn**	**02 57 36.2**	**+0.3**
HAZ				*e*SN	**Sn**	**02 57 55.1**	**-2.5**
HAZ				AML	AML	02 58 00.2	
HAZ				AML	AML	02 58 00.3	
HAZ				AML	AML	02 58 00.3	
RUGZ	**Raukumara Rang**	**1.86**	**259**	PN	**Pn**	**02 57 37.8**	**+0.2**
TKGZ	**Te Karaka**	**1.87**	**244**	Pn	**Pn**	**02 57 38.5**	**+0.9**
TKGZ				Sn	**Sn**	**02 58 00.5**	**0.0**
TKGZ	**Te Karaka**	**1.87**	**244**	⇑PN	**Pn**	**02 57 38.5**	**+0.9**
TKGZ				SN	**Sn**	**02 58 00.5**	**0.0**
TKGZ				AML	AML	02 58 10.4	
RIGZ	**Rimuhau**	**2.05**	**238**	PN	**Pn**	**02 57 41.2**	**+1.0**
RIGZ				SN	**Sn**	**02 58 06.5**	**+1.4**
RIGZ				AML	AML	02 58 08.6	
MWZ	**Matawai**	**2.06**	**250**	Pn	**Pn**	**02 57 40.4**	**+0.1**
MWZ	**Matawai**	**2.06**	**250**	*e*PN	**Pn**	**02 57 40.4**	**+0.1**
MWZ				AML	AML	02 58 05.9	
MWZ				AML	AML	02 58 06.6	
PRGZ	**Paritu Road**	**2.09**	**232**	Pn	**Pn**	**02 57 41.8**	**+1.0**
PRGZ	**Paritu Road**	**2.09**	**232**	⇑PN	**Pn**	**02 57 41.7**	**+1.0**
PRGZ				AML	AML	02 58 09.5	
PRGZ				AML	AML	02 58 13.5	
RAGZ	**Rawiri**	**2.20**	**246**	Pn	**Pn**	**02 57 42.7**	**+0.4**
RAGZ	**Rawiri**	**2.20**	**246**	PN	**Pn**	**02 57 42.7**	**+0.4**
RAGZ				AML	AML	02 58 14.9	
RAGZ				AML	AML	02 58 17.5	
MHGZ	**Mahia Peninsul**	**2.23**	**227**	Pn	**Pn**	**02 57 43.6**	**+1.1**
MHGZ	**Mahia Peninsul**	**2.23**	**227**	PN	**Pn**	**02 57 43.6**	**+1.1**
MHGZ				AML	AML	02 58 12.4	
MHGZ				AML	AML	02 58 14.4	
KNZ	**Kokohu**	**2.28**	**232**	Pn	**Pn**	**02 57 43.8**	**+0.5**
KNZ	**Kokohu**	**2.28**	**232**	⇓PN	**Pn**	**02 57 43.8**	**+0.5**
KNZ				AML	AML	02 58 14.5	
URZ	**Urewera**	**2.36**	**254**	Pn	**Pn**	**02 57 44.9**	**+0.7**
	96nm,0.3s,baz=46,slow=2.9,SNR=437						
URZ				Sn	**Sn**	**02 58 12.3**	**-0.2**
	84nm,0.3s,baz=214,slow=22,SNR=24						
URZ	**Urewera**	**2.36**	**254**	PN	**Pn**	**02 57 45.0**	**+0.7**
URZ				*e*SN	**Sn**	**02 58 11.8**	**-0.7**
URZ				AML	AML	02 58 14.7	
SNGZ	**Shannon Statio**	**2.38**	**241**	Pn	**Pn**	**02 57 45.5**	**+0.8**
SNGZ	**Shannon Statio**	**2.38**	**241**	PN	**Pn**	**02 57 45.4**	**+0.8**
SNGZ				AML	AML	02 58 20.1	
SNGZ				AML	AML	02 58 22.5	
WHRZ	**Whale Island**	**2.40**	**264**	*e*PN	**Pn**	**02 57 45.3**	**+0.4**
RTZ	**Ruatahuna**	**2.56**	**247**	⇓PN	**Pn**	**02 57 48.3**	**+1.1**
WHHZ	**Waihua**	**2.60**	**236**	PN	**Pn**	**02 57 48.7**	**+1.1**
WHHZ				AML	AML	02 58 21.1	
WHHZ				AML	AML	02 58 24.9	
MUGZ	**Murupara**	**2.67**	**251**	⇑PN	**Pn**	**02 57 49.2**	**+0.5**
OPRZ	**Ohinepanea**	**2.73**	**265**	Pn	**Pn**	**02 57 49.1**	**-0.3**
OPRZ	**Ohinepanea**	**2.73**	**265**	PN	**Pn**	**02 57 49.1**	**-0.3**
OPRZ				AML	AML	02 58 20.5	
OPRZ				AML	AML	02 58 37.4	
TARZ	**Mount Tarawera**	**2.81**	**257**	Pn	**Pn**	**02 57 51.1**	**+0.4**
TARZ	**Mount Tarawera**	**2.81**	**257**	PN	**Pn**	**02 57 51.1**	**+0.4**
TARZ				AML	AML	02 58 03.7	
TARZ				AML	AML	02 58 30.2	
RRRZ	**Republican Roa**	**2.83**	**255**	Pn	**Pn**	**02 57 51.8**	**+0.9**
RRRZ	**Republican Roa**	**2.83**	**255**	*e*PN	**Pn**	**02 57 51.8**	**+0.9**
RRRZ				AML	AML	02 58 02.6	
RRRZ				AML	AML	02 58 20.9	
ARHZ	**Aropaoanui**	**2.85**	**234**	Pn	**Pn**	**02 57 52.1**	**+0.9**
ARHZ	**Aropaoanui**	**2.85**	**234**	PN	**Pn**	**02 57 52.1**	**+0.9**
ARHZ				AML	AML	02 58 28.2	
ARHZ				AML	AML	02 58 28.3	
NMHZ	**Naumai**	**2.89**	**239**	Pn	**Pn**	**02 57 52.7**	**+1.0**
NMHZ	**Naumai**	**2.89**	**239**	⇑PN	**Pn**	**02 57 52.7**	**+1.0**
NMHZ				AML	AML	02 57 59.0	
NMHZ				AML	AML	02 58 31.4	
PRRZ	**Plateau Road**	**2.96**	**252**	Pn	**Pn**	**02 57 53.1**	**+0.5**
PRRZ	**Plateau Road**	**2.96**	**252**	PN	**Pn**	**02 57 53.1**	**+0.5**
PRRZ				AML	AML	02 58 26.4	
PRRZ				AML	AML	02 58 38.8	
ALRZ	**Allen Road**	**3.02**	**251**	Pn	**Pn**	**02 57 53.8**	**+0.4**
ALRZ	**Allen Road**	**3.02**	**251**	PN	**Pn**	**02 57 53.8**	**+0.4**
ALRZ				AML	AML	02 58 36.2	
ALRZ				AML	AML	02 58 40.2	
CKHZ	**Cape Kidnapper**	**3.04**	**228**	Pn	**Pn**	**02 57 54.3**	**+0.6**
CKHZ	**Cape Kidnapper**	**3.04**	**228**	PN	**Pn**	**02 57 54.3**	**+0.6**
MRHZ	**Matea Rd**	**3.05**	**246**	PN	**Pn**	**02 57 54.3**	**+0.4**
MRHZ				AML	AML	02 58 29.6	
MRHZ				AML	AML	02 58 30.7	
BKZ	**Black Stump Fm**	**3.14**	**240**	Pn	**Pn**	**02 57 55.8**	**+0.7**
BKZ	**Black Stump Fm**	**3.14**	**240**	PN	**Pn**	**02 57 55.8**	**+0.7**
MCHZ	**McNeill Hill**	**3.15**	**234**	Pn	**Pn**	**02 57 56.0**	**+0.8**
MCHZ	**McNeill Hill**	**3.15**	**234**	PN	**Pn**	**02 57 56.0**	**+0.8**
MCHZ				AML	AML	02 58 34.3	
MCHZ				AML	AML	02 58 34.3	
KAHZ	**Kahuranaki**	**3.25**	**228**	Pn	**Pn**	**02 57 57.1**	**+0.5**
KAHZ	**Kahuranaki**	**3.25**	**228**	⇑PN	**Pn**	**02 57 57.1**	**+0.5**
KAHZ				AML	AML	02 58 43.5	
KWHZ	**Kaweka Forest**	**3.31**	**236**	PN	**Pn**	**02 57 58.0**	**+0.4**
KWHZ				AML	AML	02 58 41.2	
KWHZ				AML	AML	02 58 41.3	
PXZ	**Pawanui**	**3.41**	**225**	Pn	**Pn**	**02 57 58.5**	**-0.3**
PXZ	**Pawanui**	**3.41**	**225**	PN	**Pn**	**02 57 58.5**	**-0.3**
PXZ				AML	AML	02 58 41.9	
PXZ				AML	AML	02 58 41.9	
PXZ				AML	AML	02 58 44.9	
PXZ				AML	AML	02 58 44.9	
KRHZ	**Kereru**	**3.47**	**234**	PN	**Pn**	**02 57 59.5**	**-0.2**
KRHZ				AML	AML	02 58 39.7	
KRHZ				AML	AML	02 58 48.0	
TOZ	**Tahuroa Road**	**3.56**	**267**	*e*PN	**Pn**	**02 58 00.5**	**-0.4**
BHHZ	**Black Hill Sta**	**3.59**	**238**	PN	**Pn**	**02 58 01.4**	**+0.1**
BHHZ				AML	AML	02 58 47.2	
WPHZ	**Waipukurau**	**3.68**	**228**	Pn	**Pn**	**02 58 02.3**	**-0.2**
WPHZ	**Waipukurau**	**3.68**	**228**	PN	**Pn**	**02 58 02.3**	**-0.2**
WPHZ				AML	AML	02 58 53.1	
WPHZ				AML	AML	02 58 58.3	
PRHZ	**Porangahau**	**3.70**	**224**	Pn	**Pn**	**02 58 02.3**	**-0.5**
PRHZ	**Porangahau**	**3.70**	**224**	*e*PN	**Pn**	**02 58 02.2**	**-0.6**
PRHZ				AML	AML	02 58 50.0	
PRHZ				AML	AML	02 58 55.6	
KRVZ	**Karewarewa**	**3.71**	**246**	Pn	**Pn**	**02 58 01.7**	**-1.4**
PNHZ	**Pukenui**	**3.73**	**231**	Pn	**Pn**	**02 58 02.9**	**-0.4**
PNHZ	**Pukenui**	**3.73**	**231**	PN	**Pn**	**02 58 02.9**	**-0.4**
PNHZ				AML	AML	02 58 46.8	
MOVZ	**Moawhango**	**3.76**	**241**	Pn	**Pn**	**02 58 03.6**	**-0.1**
MOVZ	**Moawhango**	**3.76**	**241**	PN	**Pn**	**02 58 03.6**	**-0.1**
MOVZ				AML	AML	02 58 47.3	
TUVZ	**Tukino**	**3.77**	**243**	*e*PN	**Pn**	**02 58 04.8**	**+0.9**
NGZ	**Ngauruhoe**	**3.77**	**245**	Pn	**Pn**	**02 58 04.0**	**+0.1**
WHVZ	**Whangaehu Hut**	**3.82**	**243**	Pn	**Pn**	**02 58 04.4**	**-0.3**
WHVZ	**Whangaehu Hut**	**3.82**	**243**	PN	**Pn**	**02 58 04.4**	**-0.3**
WNVZ	**Wahianoa**	**3.83**	**243**	Pn	**Pn**	**02 58 04.7**	**-0.1**
WNVZ	**

FWVZ				AML	AML	02 58 48.2	
MKAZ	**Moumakai**	**3.88**	**276**	Pn	**Pn**	**02 58 04.5**	**-0.8**
MKAZ	**Moumakai**	**3.88**	**276**	PN	**Pn**	**02 58 04.5**	**-0.8**
GRZ	**Great Barrier**	**3.88**	**290**	PN	**Pn**	**02 58 04.8**	**-0.5**
TSZ	**Takapari Road**	**3.96**	**231**	Pn	**Pn**	**02 58 06.0**	**-0.4**
DVHZ	**Dannevirke**	**3.99**	**227**	Pn	**Pn**	**02 58 06.2**	**-0.6**
DVHZ	**Dannevirke**	**3.99**	**227**	PN	**Pn**	**02 58 06.2**	**-0.6**
PKVZ	**Pokaka**	**4.00**	**244**	Pn	**Pn**	**02 58 07.2**	**+0.3**
PKVZ	**Pokaka**	**4.00**	**244**	PN	**Pn**	**02 58 07.2**	**+0.3**
BFZ	**Birch Farm**	**4.20**	**223**	Pn	**Pn**	**02 58 08.3**	**-1.4**
BFZ	**Birch Farm**	**4.20**	**223**	PN	**Pn**	**02 58 08.3**	**-1.4**
PRWZ	**Pori Road**	**4.27**	**226**	Pn	**Pn**	**02 58 10.3**	**-0.3**
PRWZ	**Pori Road**	**4.27**	**226**	PN	**Pn**	**02 58 10.3**	**-0.3**
POWZ	**Post Office Ro**	**4.28**	**229**	Pn	**Pn**	**02 58 10.6**	**-0.2**
POWZ	**Post Office Ro**	**4.28**	**229**	PN	**Pn**	**02 58 10.6**	**-0.2**
WAZ	**Wanganui**	**4.45**	**240**	Pn	**Pn**	**02 58 13.7**	**+0.7**
TIWZ	**Tintock**	**4.47**	**224**	Pn	**Pn**	**02 58 12.3**	**-1.1**
MRZ	**Mangatainoka R**	**4.56**	**227**	Pn	**Pn**	**02 58 13.6**	**-1.1**
MRZ	**Mangatainoka R**	**4.56**	**227**	⇑PN	**Pn**	**02 58 13.6**	**-1.1**
MRZ				AML	AML	02 59 05.6	
MRZ				AML	AML	02 59 09.0	
TMWZ	**Te Maipa**	**4.70**	**221**	Pn	**Pn**	**02 58 14.9**	**-1.6**
TMWZ	**Te Maipa**	**4.70**	**221**	PN	**Pn**	**02 58 14.9**	**-1.6**
TMWZ				AML	AML	02 59 10.2	
HOWZ	**Holdsworth Sta**	**4.76**	**225**	Pn	**Pn**	**02 58 15.8**	**-1.6**
HOWZ	**Holdsworth Sta**	**4.76**	**225**	PN	**Pn**	**02 58 15.7**	**-1.6**
HOWZ				AML	AML	02 59 10.5	
HOWZ				AML	AML	02 59 13.5	
OGWZ	**Otaki Gorge**	**4.90**	**228**	Pn	**Pn**	**02 58 18.1**	**-1.2**
OGWZ	**Otaki Gorge**	**4.90**	**228**	PN	**Pn**	**02 58 18.1**	**-1.2**
OGWZ				AML	AML	02 59 14.0	
OGWZ				AML	AML	02 59 14.7	
MTW	**Mount Morrison**	**4.94**	**223**	Pn	**Pn**	**02 58 17.9**	**-1.9**
MTW	**Mount Morrison**	**4.94**	**223**	PN	**Pn**	**02 58 17.9**	**-1.9**
KIW	**Kapiti Island**	**5.09**	**229**	Pn	**Pn**	**02 58 20.8**	**-1.1**
KIW	**Kapiti Island**	**5.09**	**229**	PN	**Pn**	**02 58 20.8**	**-1.1**
PAWZ	**Paruwai Farm**	**5.14**	**222**	Pn	**Pn**	**02 58 20.1**	**-2.5**
PAWZ	**Paruwai Farm**	**5.14**	**222**	PN	**Pn**	**02 58 20.0**	**-2.5**
CAW	**Cannon Point**	**5.15**	**226**	Pn	**Pn**	**02 58 21.2**	**-1.6**
CAW	**Cannon Point**	**5.15**	**226**	PN	**Pn**	**02 58 21.2**	**-1.6**
CAW				AML	AML	02 59 25.8	
CAW				AML	AML	02 59 27.5	
PLWZ	**Palliser**	**5.36**	**221**	Pn	**Pn**	**02 58 23.2**	**-2.5**
PLWZ	**Palliser**	**5.36**	**221**	PN	**Pn**	**02 58 23.2**	**-2.5**
DUWZ	**D'Urville Isla**	**5.67**	**234**	Pn	**Pn**	**02 58 28.0**	**-1.9**
DUWZ	**D'Urville Isla**	**5.67**	**234**	PN	**Pn**	**02 58 28.0**	**-1.9**
TCW	**Tory Channel**	**5.68**	**229**	Pn	**Pn**	**02 58 27.9**	**-2.0**
OUZ	**Omahuta**	**5.69**	**293**	Pn	**Pn**	**02 58 29.8**	**-0.3**
OUZ	**Omahuta**	**5.69**	**293**	PN	**Pn**	**02 58 29.8**	**-0.3**
TUWZ	**Tuamarina**	**6.01**	**229**	Pn	**Pn**	**02 58 32.0**	**-2.5**
TUWZ	**Tuamarina**	**6.01**	**229**	PN	**Pn**	**02 58 32.0**	**-2.5**
THZ	**Tophouse**	**6.84**	**231**	Pn	**Pn**	**02 58 43.8**	**-2.1**
THZ	**Tophouse**	**6.84**	**231**	PN	**Pn**	**02 58 43.8**	**-2.1**
KHZ	**Kahutara**	**6.87**	**224**	Pn	**Pn**	**02 58 43.9**	**-2.4**
KHZ	**Kahutara**	**6.87**	**224**	PN	**Pn**	**02 58 43.9**	**-2.4**
MQZ	**McQueen's Vall**	**8.23**	**220**	Pn	**Pn**	**02 59 01.9**	**-3.1**
MQZ	**McQueen's Vall**	**8.23**	**220**	PN	**Pn**	**02 59 01.9**	**-3.1**
INZ	**Inchbonnie**	**8.28**	**230**	PN	**Pn**	**02 59 02.9**	**-2.7**
RPZ	**Rata Peaks**	**9.10**	**225**	Pn	**Pn**	**02 59 14.8**	**-2.2**
	0.7nm,0.3s,baz=160,slow=2.4,SNR=4.0						
RPZ				Sn	Sn	03 00 49.8	-8.9
	1.5nm,0.3s,baz=137,slow=23,SNR=11						
ASAR	**Alice Springs**	**41.62**	**276**	P	**P**	**03 04 53.2**	**-0.4**
	3.1nm,0.8s,baz=121,slow=7.8,SNR=26						
WRA	**Warramunga Arr**	**43.26**	**281**	P	**P**	**03 05 06.0**	**-1.0**
	1.0nm,0.4s,baz=121,slow=7.9,SNR=18						
FINES	**FINESS Array B**	**151.15**	**334**	PKPbc	**PKPbc**	**03 16 59.0**	**+1.5**
	3.0nm,0.9s,baz=62,slow=3.3,SNR=4.7						
TORD	**Torodi Ar. Bea**	**155.56**	**184**	PKPab	**PKPab**	**03 17 28.3**	**+3.2**
	0.9nm,0.9s,baz=157,slow=3.6,SNR=4.5						

IDC 28 04:30:07.1±15.0, **6°.11S**×**113°.91E**, **h566**km±209km, **mb2.7/4, mb1 2.9/5, mb1mx2.7/34, mbtmp3.6/5, Error ellipse: s-maj=183.7km s-min=21.2km az=66.0, Jawa**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**16.52**	**137**	P	P	04 33 30.3	-0.6
	baz=330,slon=8.1						
WRA	**Warramunga Arr**	**24.14**	**127**	P	P	04 34 39.7	+0.1
	1.1nm,0.6s,baz=308,slow=9.3,SNR=11						
ASAR	**Alice Springs**	**25.97**	**134**	P	P	04 34 55.6	-0.1
	0.7nm,0.4s,baz=310,slow=8.2,SNR=11						
MKAR	**Makanchi Array**	**59.67**	**335**	P	P	04 39 17.4	-0.1
	0.2nm,0.3s,baz=143,slow=7.4,SNR=5.0						
VNDA	**Vanda**	**75.63**	**170**	P	P	04 40 54.1	0.0
	0.3nm,0.5s,baz=314,slow=4.9,SNR=4.3						

*ISK **28** 04:45:17.6, 39°.79N×38°.65E, h3km, MD2.7*
*ISCJB **28** 04:45:19.0±0.6, 39°.70N±0°.03×38°.64E±0°.05, h10km±7km, Error ellipse: s-maj=6.4km s-min=5.1km az=8.1*
*CSEM **28** 04:45:19.0±0.4, 39°.68N×38°.62E, h5km, MD2.7, Error ellipse: s-maj=9.5km s-min=6.6km az=68.0*
*DDA **28** 04:45:19.4, 39°.65N×38°.71E, h7km, Md2.7*
ISC 28 04:45:18.8±1.2, **39°.69N**±0°.02×**38°.62E**±0°.03, **h3**km±14km, **n20,σ0s99**/31, **Turkey**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
REFA	**Refahiye_ERZ˝**	**0.31**	**159**	*i* P	**Pg**	**04 45 21.6**	**-3.1**
REFA				*i* S	**Sg**	**04 45 29.4**	**+0.6**
KEMA	**Kemaliye**	**0.43**	**194**	*i* P	**Pg**	**04 45 27.3**	**+0.3**
KEMA				*i* S	**Sg**	**04 45 34.0**	**+1.4**
KEMA	**Kemaliye**	**0.43**	**194**	P	**Pg**	**04 45 27.3**	**+0.3**
KEMA				S	**Sg**	**04 45 34.0**	**+1.4**
SUSE	**Susehri**	**0.61**	**328**	*i* P	**Pb**	**04 45 32.9**	**+0.6**
SUSE				*i* S	**Sb**	**04 45 43.2**	**+1.8**
SUSE	**Susehri**	**0.61**	**328**	P	**Pb**	**04 45 32.9**	**+0.6**
KELT	**Kelkit**	**0.67**	**46**	*i* P	**Pg**	**04 45 31.8**	**+0.2**
KELT				*i* S	**Sg**	**04 45 41.3**	**+0.9**
KELT	**Kelkit**	**0.67**	**46**	P	**Pg**	**04 45 31.8**	**+0.2**
KELT				S	**Sg**	**04 45 41.3**	**+0.9**
CUZAR	**Zara_SIVAS**	**0.69**	**287**	*i* P	**Pb**	**04 45 33.4**	**-0.2**
CUZAR	**Zara_SIVAS**	**0.69**	**287**	P	**Pb**	**04 45 33.4**	**-0.2**
ERZN	**Erzincan**	**0.85**	**96**	*e*PG	**Pg**	**04 45 34.8**	**-0.3**
ERZN				*e*SG	**Sb**	**04 45 47.3**	**-0.9**
PTK	**Pertek**	**0.99**	**143**	*e*PG	**Pb**	**04 45 39.0**	**+0.3**
PTK	**Pertek**	**0.99**	**143**	*e*Pg	**Pb**	**04 45 39.0**	**+0.3**
ELZG	**Elazig**	**1.22**	**167**	*i* P	**Pg**	**04 45 41.7**	**-0.4**
ELZG				*i* S	**Sb**	**04 45 59.0**	**+0.2**
ELZG	**Elazig**	**1.22**	**167**	P	**Pg**	**04 45 41.7**	**-0.4**
ELZG				S	**Sb**	**04 45 59.0**	**+0.2**
RSDY	**Resadiye-TOKAT**	**1.22**	**306**	*e*PN	**Pg**	**04 45 40.9**	**-1.3**
RSDY				*e*SN	**Sg**	**04 45 58.1**	**0.0**
RSDY	**Resadiye-TOKAT**	**1.22**	**306**	*e*Pn	**Pg**	**04 45 40.9**	**-1.3**
RSDY				*e*Sn	**Sg**	**04 45 58.1**	**0.0**
SVSK	**Karacayir**	**1.27**	**281**	*e*PN	**Pn**	**04 45 42.7**	**-0.8**
SVSK	**Karacayir**	**1.27**	**281**	*e*Pn	**Pn**	**04 45 42.7**	**-0.8**
DARE	**Darende-Malaty**	**1.42**	**219**	*e*PN	**Pg**	**04 45 46.4**	**+0.4**
DARE	**Darende-Malaty**	**1.42**	**219**	*e*Pn	**Pg**	**04 45 46.4**	**+0.4**

*DDA **28** 05:07:26.8, 39°.10N×29°.03E, h2km, Ml3.5*
*ISK **28** 05:07:26.7, 39°.12N×29°.04E, h6km, ML3.6*
*CSEM **28** 05:07:27.4±0.1, 39°.09N×29°.02E, h5km, ML3.5, Error ellipse: s-maj=2.7km s-min=2.4km az=98.0*
*THE **28** 05:07:27.8, 39°.15N×28°.98E, h1km±1km, ML3.6/3, Error ellipse: s-maj=2.2km s-min=1.3km az=85.0*
ISC 28 05:07:27.6±1.0, **39°.12N**±0°.01×**29°.02E**±0°.01, **h5**km±9km, **n168,σ1s14**/220, **11C-2D, Turkey**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DEMI	**Demirci**	**0.25**	**252**	*i* P	**Pg**	**05 07 32.1**	**-0.3**
DEMI				*i* S	**Sg**	**05 07 35.8**	**+0.1**
DEMI	**Demirci**	**0.25**	**252**	P	**Pg**	**05 07 32.1**	**-0.3**
DEMI				S	**Sg**	**05 07 35.8**	**+0.1**
GEDZ	**Gediz**	**0.31**	**103**	*e*PG	**Pg**	**05 07 33.1**	**-0.6**
GEDZ				*e*SG	**Sg**	**05 07 37.6**	**-0.3**
GEDZ	**Gediz**	**0.31**	**103**	*e*Pg	**Pg**	**05 07 33.1**	**-0.6**
GEDZ				*e*Sg	**Sg**	**05 07 37.6**	**-0.3**
TVSB	**Tavsanli**	**0.48**	**46**	*e*PG	**Pg**	**05 07 36.1**	**-0.7**
TVSB				*e*SG	**Sg**	**05 07 42.9**	**-0.2**
TVSB	**Tavsanli**	**0.48**	**46**	*e*Pg	**Pg**	**05 07 36.1**	**-0.7**
TVSB				*e*Sg	**Sg**	**05 07 42.9**	**-0.2**
MANT	**Manisa**	**0.72**	**210**	*i* P	**Pg**	**05 07 40.5**	**-1.0**
MANT				*i* S	**Sg**	**05 07 49.8**	**-1.0**
MANT	**Manisa**	**0.72**	**210**	P	**Pg**	**05 07 40.5**	**-1.0**
MANT				S	**Sg**	**05 07 49.8**	**-1.0**
BALB	**Balikesir**	**1.02**	**301**	*e*PG	**Pb**	**05 07 48.1**	**+0.3**
BALB				*e*SG	**Sb**	**05 08 02.2**	**+0.7**
BALB	**Balikesir**	**1.02**	**301**	*e*Pg	**Pb**	**05 07 48.1**	**+0.3**
BALB				*e*Sg	**Sb**	**05 08 02.3**	**+0.7**
IGD	**Bursa**	**1.15**	**7**	*i* P	**Pg**	**05 07 49.0**	**-0.7**
IGD				*i* S	**Sn**	**05 08 06.1**	**-0.4**
KZIL	**AFYON_Kizioren**	**1.23**	**134**	*i* S	**Sn**	**05 08 08.2**	**-0.4**
BALY	**Balya**	**1.25**	**300**	*i* P	**Pg**	**05 07 51.2**	**-0.4**
BALY				*i* S	**Sb**	**05 08 08.2**	**+0.1**
BALY	**Balya**	**1.25**	**300**	P	**Pg**	**05 07 51.2**	**-0.4**
BALY				S	**Sb**	**05 08 08.2**	**+0.1**
MDNY	**Mudanya-Bursa**	**1.25**	**355**	*e*PN	**Pg**	**05 07 51.0**	**-0.6**
MDNY	**Mudanya-Bursa**	**1.25**	**355**	*e*Pn	**Pg**	**05 07 51.0**	**-0.6**
KCTX	**Karacabey (Bur**	**1.25**	**336**	*e*PN	**Pg**	**05 07 51.0**	**-0.7**
KCTX	**Karacabey (Bur**	**1.25**	**336**	*e*Pn	**Pg**	**05 07 51.0**	**-0.7**
GEMT	**Gemlik**	**1.32**	**6**	*e*PN	**Pg**	**05 07 53.2**	**+0.2**
GEMT	**Gemlik**	**1.32**	**6**	*e*Pn	**Pg**	**05 07 53.2**	**+0.2**
SHUT	**Suhut-Afyon**	**1.32**	**115**	*e*PN	**Pn**	**05 07 52.2**	**-0.6**
SHUT	**Suhut-Afyon**	**1.32**	**115**	*e*Pn	**Pn**	**05 07 52.2**	**-0.6**
ADVT	**Abdulvahap**	**1.43**	**23**	*e*PN	**Pb**	**05 07 54.2**	**-0.5**
ADVT	**Abdulvahap**	**1.43**	**23**	*e*Pn	**Pb**	**05 07 54.2**	**-0.5**
DNZL	**Cakiroluk**	**1.43**	**179**	*i* P	**Pn**	**05 07 53.1**	**-1.1**
DNZL				*i* S	**Sg**	**05 08 13.2**	**-0.2**
DNZL	**Cakiroluk**	**1.43**	**179**	P	**Pn**	**05 07 53.2**	**-1.1**
DNZL				S	**Sg**	**05 08 13.2**	**-0.2**
ARMT	**Armutlu**	**1.45**	**355**	*e*PN	**Pn**	**05 07 54.3**	**-0.2**
ARMT	**Armutlu**	**1.45**	**355**	*e*Pn	**Pn**	**05 07 54.3**	**-0.2**
AYDB	**Zeytinkoy-Aydi**	**1.47**	**217**	*e*PN	**Pn**	**05 07 54.7**	**-0.1**
AYDB	**Zeytinkoy-Aydi**	**1.47**	**217**	*e*Pn	**Pn**	**05 07 54.7**	**-0.1**
ESKT	**Eskisehir**	**1.48**	**74**	*i* P	**Pn**	**05 07 54.2**	**-0.8**
SEYT	**Eskypehyr**	**1.48**	**74**	P	**Pn**	**05 07 54.2**	**-0.7**
SBTS	**Esenkoy-Cinarc**	**1.52**	**356**	*e*PN	**Pn**	**05 07 55.1**	**-0.2**
BOLV	**Bolvadin**	**1.56**	**104**	*i* P	**Pb**	**05 07 56.3**	**-0.7**
BOLV				*i* S	**Sn**	**05 08 13.0**	**-3.7**
BOLV	**Bolvadin**	**1.56**	**104**	P	**Pb**	**05 07 56.3**	**-0.7**
KNL	**Bal˝–kesir**	**1.63**	**315**	*i* P	**Pb**	**05 07 58.0**	**-0.1**
KNL				*i* S	**Sg**	**05 08 20.7**	**+0.8**
BRDR	**BURDUR-Merkez**	**1.64**	**150**	*i* P	**Pb**	**05 07 58.1**	**-0.3**
BRDR				*i* S	**Sg**	**05 08 22.8**	**+2.6**
DKL	**Dikili**	**1.64**	**269**	*e*PN	**Pn**	**05 07 56.4**	**-0.7**
DKL	**Dikili**	**1.64**	**269**	*e*Pn	**Pn**	**05 07 56.4**	**-0.7**
TAVA	**DENIZLI_Tavas**	**1.65**	**183**	*i* P	Pn	05 07 50.9	-6.4
TAVA				*i* S	**Sn**	**05 08 16.9**	**-2.1**
LAFA	**Gebze-Kocaeli**	**1.66**	**9**	*e*PN	**Pn**	**05 07 56.8**	**-0.5**
TUZL	**Tuzla-Istanbul**	**1.70**	**6**	*e*PN	**Pn**	**05 07 57.2**	**-0.7**
AYDN	**Tasoluk**	**1.71**	**212**	*i* P	**Pn**	**05 07 57.1**	**-1.0**
AYDN				*i* S	**Sn**	**05 08 19.1**	**-1.2**
AYDN	**Tasoluk**	**1.71**	**212**	P	**Pn**	**05 07 57.1**	**-1.0**
AYDN				S	**Sn**	**05 08 19.1**	**-1.2**
CAND	**Candarli**	**1.73**	**265**	*e*PN	**Pn**	**05 07 58.1**	**-0.3**
BUY	**Buyukada**	**1.73**	**3**	*e*PN	**Pn**	**05 07 57.8**	**-0.6**
BUY	**Buyukada**	**1.73**	**3**	*i* P	**Pb**	**05 07 59.5**	**-0.4**
BUY				*i* S	**Sg**	**05 08 23.4**	**+0.1**
BUY	**Buyukada**	**1.73**	**3**	*e*Pn	**Pn**	**05 07 57.8**	**-0.6**
BUY	**Buyukada**	**1.73**	**3**	P	**Pb**	**05 07 59.5**	**-0.4**
BUY				S	**Sg**	**05 08 23.5**	**+0.1**
GULT	**Gulveren**	**1.75**	**41**	*e*PN	**Pn**	**05 07 58.2**	**-0.5**
GULT	**Gulveren**	**1.75**	**41**	*e*Pn	**Pn**	**05 07 58.2**	**-0.5**
HRT	**Hereke**	**1.77**	**16**	*e*PN	**Pn**	**05 07 57.6**	**-1.4**
HRT	**Hereke**	**1.77**	**16**	*e*Pn	**Pn**	**05 07 57.6**	**-1.4**
BAGO	**Egridir - ISPA**	**1.79**	**128**	*i* P	**Pn**	**05 07 59.2**	**0.0**
BAGO				*i* S	**Sn**	**05 08 22.3**	**0.0**
SBT2	**Guzelce-Avcila**	**1.80**	**348**	*e*PN	**Pn**	**05 07 58.9**	**-0.3**
AYVA	**Ayvalik**	**1.82**	**277**	*i* P	**Pg**	**05 08 02.2**	**-0.2**
AYVA				*i* S	**Sn**	**05 08 21.1**	**-1.8**
AYVA	**Ayvalik**	**1.82**	**277**	P	**Pg**	**05 08 02.2**	**-0.2**
AYVA				S	**Sn**	**05 08 21.1**	**-1.8**
FOCM	**Fo˜ša**	**1.83**	**258**	*e*PN	**Pn**	**05 07 59.8**	**+0.1**
CUND	**Cunda Adasi-Ba**	**1.84**	**278**	*e*PN	**Pn**	**05 08 00.2**	**+0.4**
KRBG	**Karabiga-Canak**	**1.84**	**314**	*e*PN	**Pn**	**05 08 00.3**	**+0.5**
KRBG	**Karabiga-Canak**	**1.84**	**314**	*e*Pn	**Pn**	**05 08 00.3**	**+0.5**
MRMT	**Marmara Adasi**	**1.84**	**324**	*e*PN	**Pn**	**05 08 00.6**	**+0.6**
MRMT	**Marmara Adasi**	**1.84**	**324**	*e*Pn	**Pn**	**05 08 00.6**	**+0.6**
GOLH	**Golhisar**	**1.93**	**167**	*i* P	**Pn**	**05 08 01.7**	**+0.6**
GOLH				*i* S	**Sn**	**05 08 23.9**	**-1.9**
GOLH	**Golhisar**	**1.93**	**167**	P	**Pn**	**05 08 01.7**	**+0.6**
GOLH				S	**Sn**	**05 08 23.9**	**-1.9**
SBT3	**Marmara-Eregli**	**1.94**	**336**	*e*PN	**Pn**	**05 08 01.4**	**+0.4**
KAVV	**Kandilli-Istan**	**1.94**	**1**	*e*PN	**Pn**	**05 08 01.0**	**-0.3**
ISK	**Istanbul-Kandi**	**1.95**	**1**	*e*PN	**Pn**	**05 08 01.4**	**+0.1**
ISK	**Istanbul-Kandi**	**1.95**	**1**	P	**Pn**	**05 07 59.7**	**-1.6**
ISK				S	**Sn**	**05 08 25.6**	**-0.5**
ISK	**Istanbul-Kandi**	**1.95**	**1**	P	**Pn**	**05 07 59.7**	**-1.6**
ISK	**Istanbul-Kandi**	**1.95**	**1**	*e*Pn	**Pn**	**05 08 01.4**	**+0.1**
ISK				S	**Sn**	**05 08 25.6**	**-0.5**
GMLD	**Gumuldur**	**1.95**	**238**	*e*PN	**Pn**	**05 08 02.4**	**-1.1**
DGB	**˜zmir**	**1.98**	**238**	*i* P	**Pb**	**05 08 04.2**	**+0.1**
DGB				*i* S	**Sb**	**05 08 29.2**	**+0.1**
GCAM	**G?zelcaml?**	**1.99**	**225**	*i* P	**Pb**	**05 08 04.8**	**+0.5**
GCAM				*i* S	**Sg**	**05 08 30.7**	**-0.9**
BOTS	**Marmara Eregli**	**2.03**	**337**	*e*PN	**Pn**	**05 08 02.7**	**+0.2**
URLA	**Izmir**	**2.04**	**249**	*e*PN	**Pn**	**05 08 02.7**	**+0.1**
URLA	**Izmir**	**2.04**	**249**	*i* P	**Pb**	**05 08 05.3**	**+0.2**
URLA				*i* S	**Sg**	**05 08 34.2**	**+1.1**
URLA	**Izmir**	**2.04**	**249**	*e*Pn	**Pn**	**05 08 02.7**	**+0.1**
MLSB	**Milas**	**2.07**	**209**	*e*PN	**Pn**	**05 08 03.1**	**+0.1**
MLSB	**Milas**	**2.07**	**209**	*e*Pn	**Pn**	**05 08 03.1**	**+0.1**
ELBA	**Catalca**	**2.08**	**348**	*i* P	**Pg**	**05 08 06.9**	**-0.5**
SILT	**Sile**	**2.09**	**13**	*e*PN	**Pn**	**05 08 03.5**	**+0.3**
SILT	**Sile**	**2.09**	**13**	*e*Pn	**Pn**	**05 08 03.5**	**+0.3**
BTAS	**Taskesti**	**2.11**	**46**	*i* P	**Pb**	**05 08 05.5**	**-0.8**
BTAS				*i* S	**Sg**	**05 08 35.5**	**+1.2**
BTAS	**Taskesti**	**2.11**	**46**	P	**Pb**	**05 08 05.5**	**-0.8**
KLYT	**Kilyos**	**2.13**	**0**	*e*PN	**Pn**	**05 08 04.3**	**+0.5**
KLYT	**Kilyos**	**2.13**	**0**	*e*Pn	**Pn**	**05 08 04.3**	**+0.5**
PRK	**Paraskevi**	**2.14**	**274**	P	**Pn**	**05 08 03.6**	**-0.3**
PRK				S	**Sn**	**05 08 29.9**	**-0.9**
PRK	**Paraskevi**	**2.14**	**274**	P	**Pn**	**05 08 03.6**	**-0.3**
PRK				S	**Sn**	**05 08 29.9**	**-0.9**
LPK	**Lapseki**	**2.15**	**306**	*e*PN	**Pn**	**05 08 03.9**	**-0.1**
LPK	**Lapseki**	**2.15**	**306**	*e*Pn	**Pn**	**05 08 03.9**	**-0.1**
CTKS	**Kestanelik-??a**	**2.15**	**350**	*e*PN	**Pn**	**05 08 03.9**	**-0.2**
CTKS	**Kestanelik-??a**	**2.15**	**350**	*e*Pn	**Pn**	**05 08 03.9**	**-0.2**
ZEY	**˜zmir**	**2.15**	**247**	*i* P	**Pg**	**05 08 08.5**	**-0.4**
ZEY				*i* S	**Sb**	**05 08 35.5**	**+1.5**
MDUB	**Mudurnu**	**2.16**	**50**	*e*PN	**Pn**	**05 08 04.3**	**0.0**
MDUB	**Mudurnu**	**2.16**	**50**	*e*Pn	**Pn**	**05 08 04.3**	**0.0**
KAND	**Kocaeli-Kandir**	**2.17**	**24**	*i* P	**Pb**	**05 08 07.8**	**+0.5**
KAND				*i* S	**Sn**	**05 08 29.8**	**-1.8**
TKR	**Tekirdag**	**2.19**	**329**	*e*PN	**Pn**	**05 08 05.6**	**+1.0**
TKR	**Tekirdag**	**2.19**	**329**	*e*Pn	**Pn**	**05 08 05.6**	**+1.0**
SLVT	**Silivri**	**2.20**	**344**	*e*PN	**Pn**	**05 08 05.6**	**+0.8**
SLVT	**Silivri**	**2.20**	**344**	*e*Pn	**Pn**	**05 08 05.6**	**+0.8**
EZN	**Ezine**	**2.20**	**290**	*e*PN	**Pn**	**05 08 04.3**	**-0.4**
EZN	**Ezine**	**2.20**	**290**	P	**Pn**	**05 08 04.6**	**-0.2**
EZN	**Ezine**	**2.20**	**290**	*e*Pn	**Pn**	**05 08 04.3**	**-0.4**
EZN	**Ezine**	**2.20**	**290**	P	**Pn**	**05 08 04.6**	**-0.2**
SMG	**Samos**	**2.22**	**231**	P	**Pn**	**05 08 03.9**	**-1.1**
SMG	**Samos**	**2.22**	**231**	P	**Pn**	**05 08 03.9**	**-1.1**
SAHE	**Sakarya_HENDEK**	**2.23**	**39**	*i* P	**Pn**	**05 08 05.2**	**-0.1**
SAHE				*i* S	**Sg**	**05 08 40.4**	**+1.0**
SAHE	**Sakarya_HENDEK**	**2.23**	**39**	P	**Pn**	**05 08 05.2**	**-0.1**
CRLT	**Corlu**	**2.24**	**334**	*e*PN	**Pn**	**05 08 05.6**	**+0.3**
CRLT	**Corlu**	**2.24**	**334**	*e*Pn	**Pn**	**05 08 05.6**	**+0.3**
TURN	**Turunc**	**2.27**	**188**	*i* P	**Pg**	**05 08 11.3**	**+0.3**
TURN				*i* S	**Sg**	**05 08 46.6**	**+6.3**
DALY	**Dalyan (Mu˜la**	**2.31**	**187**	*i* P	**Pb**	**05 08 09.0**	**-0.8**
KORT	**Korkueli**	**2.36**	**153**	*i* P	**Pg**	**05 08 06.9**	**-0.2**
KORT				*i* S	**Sg**	**05 08 47.5**	**+4.0**
KORT	**Korkueli**	**2.36**	**153**	P	**Pn**	**05 08 06.9**	**-0.2**
BDRM	**Kayabasi**	**2.40**	**212**	*i* P	**Pn**	**05 08 06.6**	**-0.9**
BDRM				*i* S	**Sg**	**05 08 43.1**	**-1.4**
BDRM	**Kayabasi**	**2.40**	**212**	P	**Pn**	**05 08 06.6**	**-0.9**
BOZC	**Bozcaada**	**2.41**	**288**	*e*PN	**Pn**	**05 08 07.0**	**-0.6**
BOZC	**Bozcaada**	**2.41**	**288**	*i* P	**Pn**	**05 08 06.4**	**-1.2**
BOZC				*i* S	**Sg**	**05 08 43.5**	**-1.4**
BOZC	**Bozcaada**	**2.41**	**288**	*e*Pn	**Pn**	**05 08 07.0**	**-0.6**
CTYL	**Yalikoy Yolu**	**2.42**	**347**	*e*PN	**Pn**	**05 08 07.7**	**-0.1**
CTYL	**Yalikoy Yolu**	**2.42**	**347**	*e*Pn	**Pn**	**05 08 07.7**	**-0.1**
CHOS	**Chios island**	**2.43**	**253**	*e*PN	**Pn**	**05 08 08.4**	**+0.4**
CHOS	**Chios island**	**2.43**	**253**	*e*Pn	**Pn**	**05 08 08.4**	**+0.4**
BODT	**Bodrum**	**2.46**	**214**	*e*PN	**Pn**	**05 08 08.1**	**-0.2**
BODT	**Bodrum**	**2.46**	**214**	P	**Pn**	**05 08 08.2**	**-0.1**
BODT	**Bodrum**	**2.46**	**214**	*e*Pn	**Pn**	**05 08 08.1**	**-0.2**
SIGR	**SIGRI**	**2.46**	**273**	*e*PN	**Pn**	**05 08 08.9**	**+0.5**
SIGR	**SIGRI**	**2.46**	**273**	P	**Pn**	**05 08 07.5**	**-0.8**
SIGR				S	**Sn**	**05 08 37.6**	**-1.2**
SIGR	**SIGRI**	**2.46**	**273**	P	**Pn**	**05 08 07.5**	**-0.8**
SIGR	**SIGRI**	**2.46**	**273**	*e*Pn	**Pn**	**05 08 08.8**	**+0.5**
SIGR				S	**Sn**	**05 08 37.6**	**-1.2**
ERIK	**Erikli-Kesan**	**2.47**	**310**	*e*PN	**Pn**	**05 08 08.9**	**+0.4**
ERIK	**Erikli-Kesan**	**2.47**	**310**	*e*Pn	**Pn**	**05 08 08.9**	**+0.4**
KESN	**Edirne-Kesan**	**2.48**	**314**	*i* P	**Pg**	**05 08 14.9**	**-0.1**
KESN				*i* S	**Sg**	**05 08 47.4**	**+0.2**
FETY	**Fethiye**	**2.48**	**179**	P	**Pn**	**05 08 08.6**	**0.0**
FETY				S	**Sn**	**05 08 41.0**	**+1.7**
FETY	**Fethiye**	**2.48**	**179**	P	**Pn**	**05 08 08.6**	**0.0**
FETY				S	**Sn**	**05 08 39.0**	**-0.3**
KDHN	**Kadinhani**	**2.49**	**103**	*i* P	**Pn**	**05 08 09.3**	**+0.4**
KDHN				*i* S	**Sg**	**05 08 47.0**	**-0.7**
KDHN	**Kadinhani**	**2

DZM	**Mont Dzumac**	**21.98**	**141**	P		**P**	**05 33 33.0**	**-0.2**
	6.1nm,0.7s,baz=300,slow=16,SNR=6.8							
WRAB	**Tennant Creek**	**22.25**	**228**	*e*P		**P**	**05 33 35.1**	**-0.8**
	38nm,0.9s							
WB2	**Warramunga Arr**	**22.25**	**228**	*e*P		**P**	**05 33 34.4**	**-1.6**
WB2				*e*P		**P**	**05 33 35.1**	**-0.8**
WB2				*e*S		**S**	**05 37 32.5**	**-2.0**
WB2				*e*S		**S**	**05 37 34.8**	**+0.4**
WRA	**Warramunga Arr**	**22.26**	**228**	P		**P**	**05 33 35.2**	**-0.8**
	14nm,0.5s,baz=50,slow=10,SNR=83							
WRA				S		**S**	**05 37 35.0**	**+0.4**
	18nm,1.0s,baz=55,slow=19,SNR=23							
WRA				ScP		**ScP**	**05 40 59.9**	**+2.6**
	3.3nm,1.0s,baz=56,slow=3.4,SNR=9.5							
AS01	**Alice Springs**	**24.98**	**221**	*e*P		**P**	**05 34 01.3**	**-0.3**
AS31	**Alice Springs**	**25.01**	**221**	*e*P		**P**	**05 34 02.0**	**+0.1**
	9.8nm,0.7s							
ASAR	**Alice Springs**	**25.01**	**221**	P		**P**	**05 34 01.9**	**-0.1**
	27nm,0.7s,baz=52,slow=9.3,SNR=130							
ASAR				S		**S**	**05 38 20.8**	**+2.0**
	1.5nm,0.8s,baz=33,slow=16,SNR=3.4							
ASAR				ScP		**ScP**	**05 41 08.1**	**+3.3**
	2.0nm,0.9s,baz=57,slow=4.2,SNR=7.9							
ASAR				LR		LR	05 44 01.5	
	comp=Z,73nm,19.1s,baz=112,slow=37							
SOEI	**Soe**	**27.50**	**259**	P		**P**	**05 34 25.3**	**+0.8**
STKA	**Stephens Creek**	**28.07**	**198**	P		**P**	**05 34 29.7**	**+0.5**
	5.9nm,0.9s,baz=29,slow=5.8,SNR=4.8							
STKA				LR		LR	05 45 06.3	
	comp=Z,69nm,20.4s,baz=24,slow=35							
FITZ	**Fitzroy Crossi**	**28.41**	**241**	P		**P**	**05 34 31.8**	**-0.6**
	16nm,0.7s,baz=53,slow=6.8,SNR=53							
MTKI	**Muara Teweh, K**	**36.94**	**275**	P		P	05 35 54.8	+8.0
MJAR	**Matsushiro Arr**	**43.48**	**344**	LR		LR	05 54 19.9	
	comp=Z,14nm,18.2s,baz=225,slow=35							
CM01	**Chiang Mai Arr**	**57.03**	**296**	*e*P		**P**	**05 38 23.8**	**+0.8**
CMAR	**Chiang Mai Arr**	**57.06**	**296**	P		**P**	**05 38 23.1**	**-0.1**
	3.4nm,0.7s,baz=107,slow=5.4,SNR=14							
CHTO	**Chiang Mai**	**57.17**	**296**	*e*P		**P**	**05 38 24.8**	**+0.8**
	7.4nm,1.1s							
HHC	**Hu-ho-hao-te**	**58.79**	**325**	*e*P		**P**	**05 38 37.5**	**+2.4**
HHC				pmax		pmax		
	comp=Z,7.0nm,1.0s							
HHC				pmax		pmax		
	comp=Z,43nm,5.0s							
VNDA	**Vanda**	**72.38**	**178**	P		**P**	**05 40 02.8**	**+1.0**
	comp=Z,0.8nm,0.6s,baz=316,slow=6.6,SNR=11							
WMQ	**Urumqi**	**75.33**	**318**	P		**P**	**05 40 20.8**	**+1.1**
WMQ				pP		pP	05 40 40.8	-4.5
WMQ				sP		sP	05 40 49.3	-6.8
WMQ				pmax		pmax		
	comp=Z,12nm,0.7s							
WMQ				pmax		pmax		
	comp=Z,67nm,4.7s							
WMQ				LR		LR		
	comp=N,84nm,25.9s							
WMQ				LR		LR		
	comp=E,57nm,23.9s							
WMQ				LR		LR		
	comp=Z,14nm,23.9s							
MK01	**Makanchi Array**	**79.94**	**319**	*e*P		**P**	**05 40 44.6**	**-0.5**
MKAR	**Makanchi Array**	**79.95**	**319**	P		**P**	**05 40 44.9**	**-0.4**
	comp=Z,0.9nm,0.5s,baz=101,slow=6.4,SNR=8.6							
MAKZ	**Makanchi**	**80.16**	**319**	*e*P		**P**	**05 40 46.3**	**-0.1**
	comp=Z,2.9nm,1.0s							
ZALV	**Zalesovo Beam**	**80.93**	**327**	P		**P**	**05 40 49.0**	**-1.3**
	comp=Z,0.9nm,0.3s,baz=124,slow=10,SNR=3.9							
KSH	**Kashi**	**82.39**	**311**	P		**P**	**05 41 00.3**	**+1.8**
KSH				sP		sP	05 41 30.0	-5.2
KSH				PP		**PP**	**05 44 14.0**	**+5.2**
KSH	**Kashi**	**82.39**	**311**	S		**S**	**05 51 09.0**	**+2.2**
KSH	**Kashi**	**82.39**	**311**	sS		sS	05 51 44.0	-7.4
KSH	**Kashi**	**82.39**	**311**	SS		SS	05 56 35.3	+5.5
KSH				pmax		pmax		
	comp=Z,4.0nm,0.8s							
KSH				pmax		pmax		
	comp=Z,88nm,6.6s							
KSH				LR		LR		
	comp=N,250nm,13.3s							
KSH				LR		LR		
	comp=E,160nm,11.5s							
KSH				LR		LR		
	comp=Z,110nm,7.6s							
ILAR	**Eielson Array**	**83.05**	**22**	P		**P**	**05 40 59.1**	**-2.0**
	comp=Z,0.8nm,0.7s,baz=247,slow=5.0,SNR=12							
KURK	**Kurchatov**	**83.46**	**322**	*e*P		**P**	**05 41 03.0**	**-0.5**
	comp=Z,3.7nm,1.1s							
AAK	**Ala-Archa**	**84.18**	**314**	*e*P		**P**	**05 41 07.3**	**-0.3**
	comp=Z,3.9nm,0.6s							
MAW	**Mawson**	**84.67**	**203**	P		**P**	**05 41 09.9**	**+0.5**
	comp=Z,2.9nm,0.7s,baz=104,slow=4.2,SNR=3.2							
KKAR	**Karatay Array**	**87.14**	**314**	*e*P		**P**	**05 41 23.3**	**+1.2**
	comp=Z,22nm,1.1s							
TVH3	**East Aurora ar**	**92.88**	**52**	*e*P		**P**	**05 41 50.8**	**+1.4**
	comp=Z,6.1nm,1.3s							
TPNV	**Topopah Spring**	**94.83**	**53**	*e*P		**P**	**05 41 59.2**	**+0.9**
	comp=Z,3.7nm,0.9s							
PDAR	**Pinedale Array**	**100.03**	**48**	P		**Pdif**	**05 42 21.2**	**-0.4**
	comp=Z,0.3nm,0.6s,baz=187,slow=3.9,SNR=3.5							
GERES	**GERESS Array B**	**123.87**	**328**	PKP		**PKPdf**	**05 47 33.2**	**-0.4**
	comp=Z,0.5nm,0.5s,baz=90,slow=1.6,SNR=4.1							
TORD	**Torodi Ar. Bea**	**149.36**	**287**	PKPbc		**PKPbc**	**05 48 25.0**	**-0.4**
	comp=Z,9.2nm,0.8s,baz=73,slow=2.4,SNR=38							

*GUC **28** 05:32:52.8±0.6, 33°.22S×72°.00W, h8km±42km, ML3.2*
*SJA **28** 05:32:54.4±1.2, 32°.82S×72°.00W, h10km±33km, ML3.1*
ISC 28 05:32:52.0±2.9, **33°.36S**±0°.07×**72°.21W**±0°.1, **h10**km±13km, **n13**, σ1°.17/20, **1C-1D, Off coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ROC1	**El Roble**	**1.00**	**68**	*e*P	**Pg**	**05 33 11.2**	**0.0**
ROC1				*e*S	**Sn**	**05 33 25.3**	**-1.2**
ROCH	**El Roble**	**1.00**	**68**	*e*P	**Pb**	**05 33 10.8**	**-0.7**
ROCH				*i* S	**Sg**	**05 33 23.8**	**-0.6**
ROCH				IAML		05 33 25.6	
	comp=E,2μm,0.6s						
PEL	**Peldehue**	**1.22**	**80**	*e*P	**Pb**	**05 33 14.5**	**-0.6**
PEL				*i* S	**Sg**	**05 33 31.1**	**-0.1**
PEL				IAML		05 33 33.2	
	comp=N,851nm,0.4s						
ANTU	**Antumapu**	**1.26**	**100**	*e*P	**Pb**	**05 33 15.7**	**-0.1**
ANTU				*i* S	**Sg**	**05 33 33.4**	**+0.9**
CLCH	**Cerro Calan**	**1.32**	**92**	*e*P	**Pb**	**05 33 16.6**	**-0.3**
CLCH				*i* S	**Sg**	**05 33 34.8**	**+0.3**
CLCH				IAML		05 33 36.0	
	comp=N,819nm,0.5s						
FCH	**Farellones**	**1.53**	**89**↑	*i* P	**Pb**	**05 33 19.9**	**-0.7**
FCH				*i* S	**Sb**	**05 33 38.9**	**-1.2**
FCH				IAML		05 33 41.2	
	comp=N,626nm,0.3s						
NICH	**Los Niches**	**1.80**	**156**	*e*P	**Pn**	**05 33 22.8**	**-0.2**
NICH				*i* S	**Sn**	**05 33 46.0**	**+0.2**
AUSP	**Uspallata**	**2.56**	**65**↓	*e*P	**Pb**	**05 33 36.2**	**-2.0**
ARCO	**CERRO ARCO**	**2.72**	**80**	*e*P	**Pb**	**05 33 40.3**	**-0.6**
ARCO				IAML		05 33 46.1	
	comp=Z,84nm,0.6s						
AAGR	**Agrelo**	**2.77**	**85**	*e*P	**Pb**	**05 33 42.2**	**+0.6**
ASAL	**Salagasta**	**2.86**	**75**	*e*P	**Pb**	**05 33 42.4**	**-0.8**
RTCV	**Cerro Valdivia**	**3.37**	**65**	*e*P	**Pn**	**05 33 47.6**	**+3.0**
AMOG	**MOGNA**	**3.91**	**53**	*e*P	**Pn**	**05 33 53.4**	**+1.3**

*IDC **28** 05:41:20.3±2.7, 6°.89S×128°.55E, h0km, mb3.9/1, mb1 4.5/3, mb1mx3.8/23, mbtmp4.2/3, ML4.5/2, Error ellipse: s-maj=292.6km s-min=30.8km az=66.0*
*ISCJB **28** 05:41:33.8±0.6, 6°.82S±0°.05×129°.51E±0°.06, h150km, mb3.6/1, Error ellipse: s-maj=8.0km s-min=7.4km az=178.1*
*DJA **28** 05:41:35.1±0.3, 7°.S±3°.×13°.0E±°., h158km±8km, M4.5/7, mb4.3/7, mB5.1/3, MLv4.6/7, Mw(mB)4.4/3*
ISC 28 05:41:32.9±0.8, **6°.98S**±0°.06×**129°.49E**±0°.06, **h150**km, **n12**, σ2°.72/12, **Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SAUI	**Saumlaki**	**2.05**	**119**	P	Pn	05 42 14.7	+6.0
SAUI				S	**Sn**	**05 42 39.0**	**+2.8**
MSAI	**Masohi**	**3.66**	**351**	P	Pn	05 42 33.1	+4.3
FAKI	**Fak Fak**	**4.88**	**34**	P	**Pn**	**05 42 46.1**	**+1.2**
FAKI				S	**Sn**	**05 43 37.5**	**-3.5**
SOEI	**Soe**	**5.86**	**242**	P	Pn	05 43 02.8	+4.9
	105nm,0.8s,0.4nm						
SWI	**Sorong**	**6.33**	**16**	P	**Pn**	**05 43 04.9**	**+0.8**
BATI	**Baumata**	**6.59**	**241**	P	Pn	05 43 11.4	+3.8
	34nm,1.2s,0.2nm						
MRSI	**Marisa**	**10.56**	**314**	P	**Pn**	**05 44 00.1**	**-0.4**
PLAI	**Plampang**	**11.74**	**260**	P	**Pn**	**05 44 16.9**	**+0.9**
	20nm,1.0s						
TWSI	**Taliwang, Sumb**	**12.61**	**261**	P	**P**	**05 44 29.3**	**-3.4**
	15nm,1.1s						
WRA	**Warramunga Arr**	**13.72**	**160**	Pn	**Pn**	**05 44 41.4**	**0.0**
	2.3nm,0.3s,baz=335,slow=14,SNR=54						
WRA				Sn	**Sn**	**05 47 08.7**	**-4.7**
	1.9nm,0.3s,baz=345,slow=22,SNR=6.5						
ASAR	**Alice Springs**	**17.12**	**166**	P	**Pn**	**05 45 25.9**	**+2.5**
	1.3nm,0.3s,baz=343,slow=9.8,SNR=58						
ASAR				S	**S**	**05 48 33.9**	**+0.2**
	0.4nm,0.3s,baz=347,slow=25,SNR=3.9						
MKAR	**Makanchi Array**	**67.93**	**327**	P	**P**	**05 52 17.4**	**+1.8**
	0.5nm,0.4s,baz=118,slow=6.5,SNR=8.7						

MEX 28 06:02:42.2±0.6, **14°.77N**×**92°.94W, h50**km±16km, **MD3.9, Near coast of Chiapas**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCIG		**0.96**	**344**	*i* P	Pn	06 02 57.9	-1.6
PCIG				*e*S	Sn	06 03 09.7	-2.4
CCIG	**Comitan**	**1.69**	**27**	*e*P	Pn	06 03 08.0	-1.5
CCIG				*i* S	Sn	06 03 27.8	-2.3
TGIG		**2.00**	**355**	*e*P	Pn	06 03 12.6	-1.1
TGIG				*i* S	Sn	06 03 35.6	-2.0

*SOME **28** 06:19:29.1, 44°.78N×78°.87E, h5km*
*NNC **28** 06:19:31.6±0.8, 44°.64N×78°.90E, h0km, mb2.6, mpv2.5, Error ellipse: s-maj=7.8km s-min=5.0km az=109.0*
ISC 28 06:19:29.0±1.3, **44°.81N**±0°.04×**78°.85E**±0°.04, **h7**km±11km, **n19**, σ0°.77/34, **1C-4D, Eastern Kazakhstan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAPS	**Kapalarasan**	**0.60**	**37**	*e*P	**Pb**	**06 19 42.1**	**+0.3**
	4.0nm,0.2s						
KAPS				*e*S	**Sb**	**06 19 51.7**	**+1.2**
	8.1nm,0.3s						
MNBS	**Baschi**	**0.80**	**204**	*e*P	**Pg**	**06 19 44.6**	**+0.3**
	9.0nm,0.4s						
MNBS				*e*S	**Sb**	**06 19 55.9**	**-0.3**
	13nm,0.4s						
ARXS	**Arharly**	**0.94**	**231**	*e*P	**Pg**	**06 19 47.2**	**+0.1**
	4.8nm,0.4s						
ARXS				*e*S	**Sb**	**06 20 00.5**	**0.0**
	10nm,0.4s						
KURS	**Kuram**	**1.41**	**201**	*e*P	**Pn**	**06 19 55.2**	**+0.2**
KURS				*e*S	**Sn**	**06 20 14.1**	**+0.2**
PDGK	**Podgornoye**	**1.55**	**162**	⇓P	**Pn**	**06 19 56.9**	**-0.2**
	3.1nm,0.4s						
PDGK				⇓S	**Sn**	**06 20 16.5**	**-1.0**
	11nm,0.4s						
CHKK	**Chushkaly**	**1.64**	**235**	*e*P	**Pg**	**06 20 00.1**	**-0.3**
	14nm,0.4s						
CHKK				*e*S	**Sg**	**06 20 22.4**	**+0.6**
	19nm,0.3s						
UZB	**Uzynbulak**	**1.66**	**176**	*e*P	**Pb**	**06 19 59.7**	**-0.3**
	5.5nm,0.3s						
UZB				*e*S	**Sg**	**06 20 21.5**	**-1.0**
	13nm,0.4s						
SHLS	**Shalkode**	**1.71**	**165**	*e*P	**Pg**	**06 20 02.2**	**+0.4**
	15nm,0.5s						
SHLS				*e*S	**Sg**	**06 20 25.8**	**+1.9**
	57nm,0.4s						
SATY	**Saty**	**1.78**	**191**	*e*P	**Pb**	**06 20 02.2**	**+0.2**
	16nm,0.2s						
SATY				*e*S	**Sg**	**06 20 25.7**	**-0.4**
	52nm,0.4s						
KTBS	**Karatobe**	**1.91**	**236**	*e*P	**Pb**	**06 20 04.7**	**+0.6**
KTBS				*e*S	**Sg**	**06 20 30.2**	**0.0**
MDOK	**Medeo**	**2.10**	**219**	Pg	**Pb**	**06 20 07.5**	**+0.1**
MDOK				⇑Lg	Lg	06 20 35.6	
MDOK	**Medeo**	**2.10**	**219**	*e*P	**Pb**	**06 20 07.6**	**+0.2**
	6.3nm,0.4s						
MDOK				*e*S	**Sg**	**06 20 35.1**	**-1.3**
	18nm,0.6s						
TNSS	**Tian-Shan**	**2.24**	**219**	*e*P	**Pb**	**06 20 09.3**	**-0.7**
	11nm,0.5s						
TNSS				*e*S	**Sb**	**06 20 38.0**	**-0.1**
	15nm,0.3s						
IZV	**Izvestkoviy**	**2.40**	**223**	*e*P	**Pb**	**06 20 12.5**	**-0.1**
	5.1nm,0.5s						
IZV				*e*S	**Sb**	**06 20 43.8**	**+1.4**
	9.8nm,0.6s						
MTBS	**Maitube**	**2.42**	**227**	*e*P	**Pb**	**06 20 13.6**	**+0.7**
	5.2nm,0.4s						
MTBS				*e*S	**Sg**	**06 20 45.6**	**-1.3**
	21nm,0.3s						
DGS	**Degeres**	**2.72**	**236**	*e*P	**Pb**	**06 20 17.8**	**-0.1**
	2.2nm,0.5s						
DGS				*e*S	**Sb**	**06 20 52.7**	**+1.2**
	3.4nm,0.5s						
TKM2	**Tokmak 2**	**3.02**	**232**	⇓Pg	**Pg**	**06 20 26.6**	**-0.2**
	0.4nm,0.3s						
MK31	**Makanchi Array**	**3.12**	**49**	Pn	**Pb**	**06 20 23.6**	**-1.2**
	0.3nm,0.2s,baz=220,slow=14,SNR=39						
MK31				Sn	**Sb**	**06 21 03.3**	**+0.3**
	0.5nm,0.3s,baz=224,slow=24,SNR=4.5						
AAK	**Ala-Archa**	**3.83**	**237**	⇓Lg	Lg	06 21 29.8	
	2.0nm,0.5s						

KRSC 28 06:21:13.0±0.5, **54°.81N**×**162°.45E, h48**km±11km, **ML3.7, Near east coast of Kamchatka Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKZ	**Mys Kozlova**	**0.49**	**239**	*e*P	Pn	06 21 25.1	+1.2
MKZ				*e*S	Sn	06 21 32.6	+0.9
KZV	**Kizimen**	**1.28**	**285**	*e*P	Pn	06 21 35.5	+0.9
KZV				*e*S	Sn	06 21 51.7	+1.1
TUMR	**Tumrok**	**1.41**	**291**	*e*P	Pn	06 21 37.4	+1.1
TUMR				*e*S	Sn	06 21 55.6	+1.9
KBG	**Krutoberegovo**	**1.46**	**6**	*e*P	Pn	06 21 38.9	+2.0
KBG				*e*S	Sn	06 21 57.9	+3.1
ZLN	**Zelenaya**	**1.53**	**323**	*e*P	Pn	06 21 39.9	+1.9
ZLN				*e*S	Sn	06 21 59.0	+2.2
KMNR	**Kamenistaya**	**1.58**	**308**	*e*P	Pn	06 21 40.6	+1.9
KMNR				*e*S	Sn	06 21 59.9	+1.9
BZMR	**Bezymyannaya**	**1.59**	**316**	*e*P	Pn	06 21 39.8	+1.0
LGNR	**Loginova**	**1.62**	**323**	*e*P	Pn	06 21 41.8	+2.4
LGNR				*e*S	Sn	06 22 01.7	+2.4
CIRR	**Tsirk**	**1.63**	**324**	*e*P	Pn	06 21 41.7	+2.3
KIRR	**Kirishev**	**1.66**	**315**	*e*P	Pn	06 21 42.1	+2.3
KPT	**Kopyto**	**1.72**	**313**	*e*P	Pn	06 21 42.7	+2.1
KLY	**Klyuchi**	**1.82**	**327**	*e*P	Pn	06 21 42.8	+1.0
KLY				*e*S	Sn	06 22 03.8	+0.1
SMKR	**Semkarok**	**1.86**	**343**	*e*P	Pn	06 21 44.5	+2.0
SMKR				*e*S	Sn	06 22 07.5	+2.6
KII	**Karymskiy**	**1.91**	**247**	*e*P	Pn	06 21 45.4	+2.2
KII				*e*S	Sn	06 22 08.5	+2.4
KOZ	**Kozyrevsk**	**1.93**	**312**	*e*P	Pn	06 21 45.7	+2.4
KOZ				*e*S	Sn	06 22 09.2	+2.8
SRKR	**Sorokina**	**1.99**	**339**	*e*P	Pn	06 21 46.3	+2.1
BKI	**Bering**	**2.07**	**77**	*e*P	Pn	06 21 47.5	+2.3
BKI				*e*S	Sn	06 22 12.2	+2.5
SPN	**Mys Shipunski**	**2.23**	**221**	*e*P	Pn	06 21 49.5	+2.0
SPN				*e*S	Sn	06 22 15.9	+2.1
ESO	**Esso**	**2.41**	**299**	*e*P	Pn	06 21 52.6	+2.6
ESO				*e*S	Sn	06 22 20.1	+1.8
NLC	**Nalytchevo**	**2.46**	**229**	*e*P	Pn	06 21 53.2	+2.7
NLC				*e*S	Sn	06 22 22.9	+3.6
SDLR	**Sedlovina**	**2.60**	**235**	*e*P	Pn	06 21 56.5	+3.9
SDLR				*e*S	Sn	06 22 27.0	+4.0
KRER	**Koryakskii**	**2.65**	**237**	*e*P	Pn	06 21 56.8	+3.4
KRER				*e*S	Sn	06 22 28.5	+4.2
KRX	**Arik**	**2.67**	**239**	*e*P	Pn	06 21 57.1	+3.5
UGLR	**Uglovaya**	**2.67**	**235**	*e*P	Pn	06 21 57.2	+3.6
UGLR				*e*S	Sn	06 22 28.5	+3.8
AVH	**Avacha**	**2.68**	**236**	*e*P	Pn	06 21 57.5	+3.8
AVH				*e*S	Sn	06 22 29.0	+4.1
KOK	**Koryaka**	**2.71**	**237**	*e*P	Pn	06 21 58.2	+4.1
DALK	**Dalny**	**2.82**	**232**	*e*P	Pn	06 21 58.9	+3.4
DALK				*e*S	Sn	06 22 32.2	+4.1
GNL	**Ganaly**	**2.87**	**249**	*e*P	Pn	06 21 59.7	+3.4
KRMR	**Karymshinskiy**	**3.24**	**234**	*e*P	Pn	06 22 05.3	+4.1
KRMR				*e*S	Sn	06 22 42.5	+4.1
RUS	**Russkaya**	**3.34**	**226**	*e*P	Pn	06 22 05.5	+2.9
RUS				*e*S	Sn	06 22 44.4	+3.4
KDTR	**Khodutka, Kamc**	**3.99**	**223**	*e*P	Pn	06 22 15.2	+3.7
KDTR				*e*S	Sn	06 22 59.5	+2.6

MEX 28 06:25:59.7±0.4, **16°.59N**×**100°.36W, h3**km±2km, **MD3.8, Near coast of Guerrero**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAIG	**El Cayaco**	**0.47**	**11**	*i* P	Pg	06 26 08.1	-0.6
CAIG				*i* S	Sg	06 26 15.5	+0.8
ACP2	**Acapulco**	**0.53**	**58**	*i* P	Pg	06 26 09.6	-0.4
ACP2				*i* S	Sg	06 26 17.2	+0.3
ZIIG	**Zihuatanejo**	**1.47**	**314**	*i* P	Pn	06 26 24.3	-2.8
ZIIG				*i* S	Sb	06 26 41.4	-5.3
MEIG	**Mezcala**	**1.50**	**28**	*i* P	Pn	06 26 24.2	-3.5
MEIG				*e*S	Sn	06 26 42.5	-5.4
ARIG	**Puente Sto Nin**	**1.68**	**0**	*e*P	Pn	06 26 26.7	-3.4
ARIG				*i* S	Sn	06 26 47.2	-5.0
TLIG	**Tlapa**	**1.97**	**60**	*e*P	Pn	06 26 30.9	-3.2
TLIG				*i* S	Sn	06 26 55.1	-4.3
PLIG	**Platanillo**	**1.97**	**24**	*e*P	Pn	06 26 31.0	-3.1
PLIG				*i* S	Sn	06 26 54.7	-4.7
PNIG	**Pinotepa**	**2.15**	**95**	*i* P	Pn	06 26 33.3	-3.2
PNIG				*i* S	Sn	06 26 59.0	-4.7
YAIG	**Yautepec**	**2.57**	**28**	*e*P	Pn	06 26 39.9	-2.5
YAIG				*i* S	Sn	06 27 10.4	-4.0

*NEIC **28** 06:31:20.6±0.0, 37°.90N×112°.07W, h0km, ML3.4(SLC), MW3.6(SLM), After SLC.*
NEIC Felt [II] at Escalante. Also felt at Panguitch.
*ISCJB **28** 06:31:21.3±0.2, 37°.90N±0°.02×112°.14W±0°.02, h10km, Error ellipse: s-maj=2.8km s-min=2.0km az=33.0*
ISC 28 06:31:20.8±0.7, **37°.89N**±0°.02×**112°.10W**±0°.02, **h10**km, **n96**, σ1°.75/108, **Utah**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MTPU	**Mount Pierson**	**0.16**	**337**	*e*Pg	**Pg**	**06 31 25.4**	**+0.8**
MTPU				*e*Sg	**Sg**	**06 31 25.6**	**-1.6**
PKCU	**Pink Cliffs**	**0.48**	**200**	*e*Pg	**Pb**	**06 31 31.1**	**-0.4**
PKCU				*e*Sg	**Sb**	**06 31 37.8**	**-0.9**
MSU	**Marysvale**	**0.62**	**355**	*e*Pg	**Pg**	**06 31 32.8**	**-0.1**
BHU	**Blowhard Mount**	**0.67**	**243**	*e*Pg	**Pg**	**06 31 34.4**	**+0.6**
MMU	**Miners Mountai**	**0.71**	**64**	*e*Pg	**Pb**	**06 31 35.2**	**-0.2**
DWU	**Dry Willow Pea**	**0.74**	**287**	*e*Pg	**Pb**	**06 31 35.9**	**+0.1**
TCRU	**Three Creeks R**	**0.76**	**339**	*e*Pg	**Pg**	**06 31 35.7**	**+0.1**
SZCU	**Shurtz Canyon**	**0.83**	**249**	*e*Pg	**Pg**	**06 31 37.3**	**+0.4**
SZCU				*e*Sg	**Sg**	**06 31 48.3**	**+0.5**
EKU	**East Kanab**	**0.88**	**201**	*e*Pg	**Pb**	**06 31 38.0**	**-0.1**
OWUT	**Old Woman Plat**	**1.03**	**31**	*e*Pg	**Pn**	**06 31 41.6**	**-0.1**
CCUT	**Cedar City**	**1.05**	**251**	*e*Pg	**Pg**	**06 31 40.5**	**-0.6**
ARUT	**Antelope Range**	**1.06**	**265**	*e*Pg	**Pn**	**06 31 42.0**	**+0.1**
WCU	**Willow Creek**	**1.07**	**1**	*e*Pg	**Pn**	**06 31 42.3**	**+0.2**
IMU	**Iron Mountain**	**1.11**	**312**	*e*Pn	**Pn**	**06 31 43.1**	**+0.5**
LCMT	**Little Creek M**	**1.26**	**226**	*e*Pg	**Pn**	**06 31 44.7**	**+0.1**
LCMT				*e*Sg	**Sb**	**06 32 00.9**	**-0.2**
SGU	**Sterling**	**1.34**	**16**	*e*Pg	**Pg**	**06 31 46.5**	**+0.1**
U15A	**North Rim**	**1.47**	**186**	*e*Pn	**Pn**	**06 31 47.7**	**+0.1**
FLU	**Fool Peak**	**1.48**	**358**	*e*Pn	**Pb**	**06 31 48.7**	**+0.2**
SNO	**Snow College**	**1.49**	**17**	*e*Pn	**Pg**	**06 31 48.8**	**-0.5**
PSUT	**Pine Spring**	**1.52**	**295**	*e*Pn	**Pb**	**06 31 49.1**	**0.0**
DBD	**Des Bee Dove**	**1.62**	**29**	*e*Pn	**Pb**	**06 31 50.7**	**-0.3**
ICU	**Indian Springs**	**1.63**	**243**	*e*Pn	**Pb**	**06 31 50.5**	**-0.4**
SRU	**San Rafael Swe**	**1.74**	**45**	*e*Pn	**Pb**	**06 31 52.4**	**-0.5**
SRU				*e*Sn	**Sg**	**06 32 15.3**	**-1.3**
P17A	**Butcher Ranch,**	**1.90**	**34**	*e*Pn	**Pb**	**06 31 54.8**	**-1.0**
P17A				*e*Sn	**Sg**	**06 32 20.4**	**-1.6**
NLU	**North Lily Min**	**2.06**	**1**	*e*Pn	**Pn**	**06 31 56.3**	**+0.6**
FSU	**Fish Springs**	**2.08**	**332**	*e*Pn	**Pb**	**06 31 57.6**	**-1.1**
MPU	**Maple Canyon**	**2.15**	**10**	*e*Pn	**Pn**	**06 31 57.9**	**+1.0**
DCM	**Dugout Coal Mi**	**2.15**	**33**	*e*Pn	**Pb**	**06 31 58.6**	**-1.5**
ROA	**Roan Cliffs**	**2.23**	**37**	*e*Pn	**Pb**	**06 31 59.6**	**-1.7**
P18A	**Preston Nutter**	**2.26**	**39**	*e*Pn	**Pb**	**06 32 00.1**	**-1.8**
R19A	**Curley Farm, L**	**2.28**	**79**	*e*Pn	**Pb**	**06 32 00.0**	**-2.1**
DUG	**Dugway, Tooele**	**2.36**	**347**	P	**Pn**	**06 31 59.3**	**-0.5**
	baz=165						
DUG				Sb	**Sg**	**06 32 34.8**	**-1.9**
	baz=165						
DUG	**Dugway, Tooele**	**2.36**	**347**	*e*Pn	**Pn**	**06 31 59.7**	**-0.1**
DUG				*e*Pn	**

WVOR	**Wild Horse Val**	**6.75**	**314**	*e*Pn		**Pn**	**06 33 02.0**	**+2.0**

NIED ***28*** *06:43:00, 38.20N×142.10E, h26km, Mw3.8 Best double couple: M₀5.46000×10¹⁴ NP1:φ=80.00000°, δ50.00000°, λ-48.00000°. NP2:φ=206.00000°, δ55.00000°, λ-128.00000°.*
ISCJB ***28*** *06:43:02.9±1.1, 38.22N±0.04×142.10E±0.09, h36km±11km, mb3.8/7, Error ellipse: s-maj=12.3km s-min=6.1km az=20.8*
JMA ***28*** *06:43:02.6±0.1, 38.24N×142.12E, h34km±1km, M4.1*
JMA Felt I J1.
IDC ***28*** *06:43:03.5±0.9, 38.15N×142.18E, h28km±6km, mb3.6/7, mb1 3.8/9, mb1mx3.6/37, mbtmp3.7/9, ML2.9/2, MS2.1/1, Ms1 2.1/1, ms1mx2.0/45, Error ellipse: s-maj=22.5km s-min=18.2km az=85.0*

ISC 28 06:43:03.2±1.0, 38°23N±0°05×142°10E±0°07, h28km±6km, n28, σ1§24/34, mb3.8/7, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIO	**Ouri**	**0.63**	**291**	P	**Pb**	**06 43 15.2**	**-0.6**
JIO				S	**Sb**	**06 43 23.5**	**-0.8**
OFUJ	**Ofunato**	**0.91**	**338**	P	**Pn**	**06 43 19.0**	**-1.2**
OFUJ				*e*S	**Sn**	**06 43 30.3**	**-2.1**
JMK	**Ichinoseki**	**1.00**	**316**	P	**Pn**	**06 43 20.6**	**-0.7**
JMK				*e*S	**Sn**	**06 43 33.5**	**-1.0**
JMM	**Marumori**	**1.09**	**251**	P	**Pn**	**06 43 21.7**	**-1.0**
JMM				S	**Sn**	**06 43 34.8**	**-2.0**
JOU	**Okura**	**1.14**	**277**	P	**Pn**	**06 43 23.1**	**-0.2**
JOU				S	**Sn**	**06 43 37.7**	**-0.3**
JFK	**Kawauchi**	**1.30**	**229**	P	**Pn**	**06 43 23.9**	**-1.6**
JFK				S	**Sn**	**06 43 38.9**	**-3.1**
JOM	**Ohasama**	**1.39**	**333**	P	**Pn**	**06 43 26.5**	**-0.3**
JYK	**Kaneyama**	**1.53**	**297**	P	**Pn**	**06 43 28.5**	**-0.1**
JFT	**Otama**	**1.57**	**244**	P	**Pn**	**06 43 29.4**	**+0.2**
JFT				S	**Sn**	**06 43 48.2**	**-0.3**
JYS	**Shirataka**	**1.60**	**270**	P	**Pn**	**06 43 29.6**	**-0.1**
JYS				*e*S	**Sn**	**06 43 49.1**	**-0.3**
JRG	**Rokugo**	**1.63**	**316**	P	**Pn**	**06 43 30.2**	**+0.1**
MJAR	**Matsushiro Arr**	**3.53**	**243**	Pn	**Pn**	**06 43 58.4**	**+2.3**
	2.1nm,0.3s,baz=226,slow=26,SNR=8.6						
MJAR				LR	LR	06 45 15.0	
	comp=Z,26nm,18.2s,baz=55,slow=37						
MAT	**Matsushiro**	**3.53**	**243**	P	**Pn**	**06 43 58.5**	**+2.3**
MAT				*e*S	**Sn**	**06 44 37.7**	**+0.7**
USRK	**Ussuriysk Ar.**	**9.67**	**311**	Pn	**Pn**	**06 45 22.6**	**+2.1**
	0.6nm,0.3s,baz=101,slow=15,SNR=4.9						
H11N2	**WAKE ISLAND Hy**	**28.32**	**124**	T	T	07 19 06.0	
	baz=316,slow=75,SNR=238						
H11N1	**WAKE ISLAND Hy**	**28.33**	**124**	T	T	07 19 06.6	
	baz=316,slow=75,SNR=280						
H11N3	**WAKE ISLAND Hy**	**28.34**	**124**	T	T	07 19 07.3	
	baz=316,slow=75,SNR=196						
H11S1	**WAKE ISLAND Hy**	**29.08**	**126**	T	T	07 20 05.4	
	baz=318,slow=76,SNR=131						
H11S3	**WAKE ISLAND Hy**	**29.08**	**126**	T	T	07 20 05.1	
	baz=318,slow=76,SNR=188						
H11S2	**WAKE ISLAND Hy**	**29.10**	**126**	T	T	07 20 07.2	
	baz=318,slow=76,SNR=136						
ZALV	**Zalesovo Beam**	**41.52**	**311**	P	**P**	**06 50 48.1**	**+0.3**
	1.4nm,0.4s,baz=82,slow=11,SNR=4.4						
ZALV				pP	**pP**	**06 50 56.6**	**+0.3**
	1.0nm,0.4s,baz=120,slow=5.3,SNR=2.0						
MKAR	**Makanchi Array**	**43.96**	**301**	P	**P**	**06 51 08.7**	**+1.0**
	0.5nm,0.5s,baz=86,slow=9.2,SNR=7.7						
MKAR				pP	**pP**	**06 51 17.1**	**+0.9**
	1.0nm,0.7s,baz=82,slow=8.7,SNR=6.7						
ILAR	**Eielson Array**	**48.19**	**33**	P	**P**	**06 51 41.4**	**+0.6**
	0.8nm,0.7s,baz=262,slow=6.4,SNR=8.7						
WRA	**Warramunga Arr**	**58.32**	**189**	P	**P**	**06 52 55.1**	**-0.5**
	0.5nm,0.6s,baz=6.7,slow=6.9,SNR=5.9						
WRA				pP	**pP**	**06 53 04.3**	**-0.1**
	1.2nm,0.7s,baz=7.5,slow=7.0,SNR=5.4						
ASAR	**Alice Springs**	**62.05**	**189**	P	**P**	**06 53 20.5**	**-0.6**
	0.2nm,0.3s,baz=14,slow=8.6,SNR=3.0						
PDAR	**Pinedale Array**	**76.44**	**46**	P	**P**	**06 54 51.2**	**+0.8**
	0.5nm,0.5s,baz=256,slow=1.7,SNR=7.9						
TXAR	**Lajitas Array**	**88.96**	**53**	P	**P**	**06 55 55.7**	**+0.2**
	0.4nm,0.5s,baz=265,slow=2.8,SNR=5.1						
LPAZ	**La Paz**	**145.61**	**59**	PKPbc	**PKPab**	**07 02 39.8**	**-0.7**
	0.7nm,0.5s,baz=356,slow=4.1,SNR=6.0						

IDC 28 06:57:33.1±3.6, 59.14S×159.67W, h0km, mb3.7/2, mb1 4.0/2, mb1mx3.5/36, mbtmp3.7/2, Error ellipse: s-maj=321.0km s-min=52.7km az=176.0, Pacific-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**57.92**	**277**	P	P	07 07 27.1	+0.2
	0.7nm,0.6s,baz=137,slow=6.6,SNR=8.6						
H01W1	**Cape Leeuwin H**	**58.92**	**253**	T	T	08 12 06.5	
	baz=143,slow=76,SNR=4.4						
H01W2	**Cape Leeuwin H**	**58.93**	**253**	T	T	08 11 48.6	
	baz=143,slow=76,SNR=7.5						
H01W3	**Cape Leeuwin H**	**58.94**	**253**	T	T	08 11 50.7	
	baz=143,slow=76,SNR=6.2						
WRA	**Warramunga Arr**	**60.80**	**280**	P	P	07 07 46.6	-0.2
	0.6nm,0.6s,baz=150,slow=5.9,SNR=6.5						
ILAR	**Eielson Array**	**123.97**	**7**	PKP	PKPdf	07 16 31.6	+0.1
	0.5nm,0.6s,baz=222,slow=1.8,SNR=8.9						
ZALV	**Zalesovo Beam**	**145.33**	**290**	PKPbc	PKPbc	07 17 10.2	-1.1
	0.6nm,0.4s,baz=149,slow=3.4,SNR=3.4						
BVAR	**Borovoye Array**	**151.99**	**280**	PKPbc	PKPbc	07 17 28.2	-0.5
	0.4nm,0.6s,baz=150,slow=3.2,SNR=3.8						

CSEM ***28*** *06:58:29.2, 37.46N×22.03E, h13km, ML2.0/7*

ATH 28 06:58:29.2, 37.46N×22.03E, h13km±3km, ML2.0/7, Error ellipse: s-maj=3.9km s-min=0.8km az=123.0, Southern Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TRIP	**Tripoli**	**0.20**	**71**	P	Pg	06 58 33.6	-0.1
TRIP				S	Sg	06 58 36.6	-0.3
TRIP				AML	AML	06 58 37.3	
	comp=N,1083μm,0.2s						
TRIP				AML	AML	06 58 39.4	
	comp=E,986μm,0.6s						
AMT	**Artemida-Makis**	**0.26**	**286**	P	Pg	06 58 33.3	-1.4
AMT				S	Sb	06 58 39.4	-0.9
AMT	**Artemida-Makis**	**0.26**	**286**	P	Pg	06 58 33.3	-1.4
AMT				S	Sg	06 58 39.4	+0.9
AMT				AML	AML	06 58 39.6	
	comp=N,1578μm,0.3s						
AMT				AML	AML	06 58 40.5	
	comp=E,1049μm,0.4s						
ITM	**Ithomi**	**0.29**	**196**	P	Pg	06 58 35.0	-0.3
ITM				S	Sg	06 58 39.8	+0.5
ITM	**Ithomi**	**0.29**	**196**	P	Pg	06 58 35.0	-0.2
ITM				S	Sg	06 58 39.8	+0.5
ITM				AML	AML	06 58 39.9	
	comp=E,1124μm,0.2s						
ITM				AML	AML	06 58 40.1	
	comp=N,980μm,0.2s						
VLX	**Vlachokerasia**	**0.29**	**108**	P	Pg	06 58 35.7	+0.4
VLX				S	Sg	06 58 40.2	+0.8
VLX	**Vlachokerasia**	**0.29**	**108**	P	Pg	06 58 35.7	+0.4
VLX				S	Sg	06 58 40.2	+0.8
VLX				AML	AML	06 58 40.5	
	comp=N,887μm,0.5s						
VLX				AML	AML	06 58 42.4	
	comp=E,942μm,0.4s						
DRO	**Drossia**	**0.55**	**333**	P	Pb	06 58 40.6	-0.1
DRO	**Drossia**	**0.55**	**333**	P	Pb	06 58 40.6	-0.2
KLV	**Kalavryta, Ach**	**0.59**	**9**	P	Pg	06 58 39.8	-0.9
KLV				S	Sb	06 58 49.7	0.0
KLV	**Kalavryta, Ach**	**0.59**	**9**	P	Pg	06 58 39.8	-0.9
KLV				S	Sb	06 58 49.7	0.0
KLV				AML	AML	06 58 50.8	
	comp=N,260μm,0.2s						
KLV				AML	AML	06 58 51.9	
	comp=E,333μm,0.4s						
PYL	**PYLOS**	**0.61**	**202**	P	Pg	06 58 40.4	-0.7
PYL				S	Sb	06 58 50.2	0.0
PYL	**PYLOS**	**0.61**	**202**	P	Pg	06 58 40.4	-0.7
PYL				S	Sb	06 58 50.2	0.0
PYL				AML	AML	06 58 50.8	
	comp=N,321μm,0.2s						
PYL				AML	AML	06 58 51.8	
	comp=E,285μm,0.2s						
RLS	**Riolos of Patr**	**0.74**	**323**	P	Pb	06 58 44.4	+0.4
RLS	**Riolos of Patr**	**0.74**	**323**	P	Pb	06 58 44.4	+0.5
THAL	**Thalero**	**0.76**	**41**	P	Pn	06 58 45.3	-0.4
THAL	**Thalero**	**0.76**	**41**	P	Pn	06 58 45.3	-0.4
LAKA	**Lakka**	**0.78**	**357**	P	Pg	06 58 43.8	-0.5
LAKA				S	Sb	06 58 55.3	+0.2
LAKA	**Lakka**	**0.78**	**357**	P	Pg	06 58 43.8	-0.5
LAKA				S	Sb	06 58 55.3	+0.2
KALE	**Kalithea**	**0.93**	**5**	P	Pg	06 58 46.0	-1.2
KALE				S	Sn	06 59 01.2	-0.1
KALE	**Kalithea**	**0.93**	**5**	P	Pg	06 58 46.0	-1.2
KALE				S	Sn	06 59 01.2	-0.2
KALE				AML	AML	06 59 02.5	
	comp=E,177μm,0.4s						
KALE				AML	AML	06 59 03.4	
	comp=N,212μm,0.2s						
LTK	**Loutraki**	**0.93**	**53**	P	Pb	06 58 47.5	+0.3
LTK	**Loutraki**	**0.93**	**53**	P	Pb	06 58 47.5	+0.2
EFP	**Efpalio**	**0.97**	**354**	P	Pb	06 58 47.1	-0.7
EFP	**Efpalio**	**0.97**	**354**	P	Pb	06 58 47.1	-0.7
VLI	**Veliai**	**1.04**	**135**	P	Pb	06 58 48.5	-0.5
VLI	**Veliai**	**1.04**	**135**	P	Pb	06 58 48.5	-0.6
ANX	**Ano Chora**	**1.13**	**356**	P	Pb	06 58 49.7	-1.0
ANX	**Ano Chora**	**1.13**	**356**	P	Pb	06 58 49.7	-1.0

ISCJB ***28*** *06:59:00.5±0.5, 37.64N±0.02×26.79E±0.04, h0km±4km, Error ellipse: s-maj=5.7km s-min=2.8km az=151.4*
DDA ***28*** *06:59:00.8, 37.68N×26.83E, h14km, Ml3.1*
ISK ***28*** *06:59:00.1, 37.65N×26.83E, h2km, ML2.7*
CSEM ***28*** *06:59:01.0±0.2, 37.63N×26.80E, h2km, ML3.1, Error ellipse: s-maj=6.2km s-min=3.7km az=59.0*

ISC 28 06:59:01.3±1.0, 37°65N±0°02×26°82E±0°03, h11km±8km, n58, σ0§74/81, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GCAM	**G?zelcaml?**	**0.33**	**81**	*i* P	**Pg**	**06 59 07.7**	**-0.3**
GCAM				*i* S	**Sg**	**06 59 13.1**	**+0.7**
GCAM	**G?zelcaml?**	**0.33**	**81**	P	**Pg**	**06 59 07.7**	**-0.3**
GCAM				S	**Sg**	**06 59 13.1**	**+0.7**
DGB	**¯zmir**	**0.41**	**7**	*i* P	**Pg**	**06 59 08.4**	**-1.0**
DGB				*i* S	**Sg**	**06 59 14.5**	**-0.3**
KUSD	**Kusadasi-Aydin**	**0.43**	**60**	*e*PG	**Pg**	**06 59 09.2**	**-0.5**
DIDI	**Didim-Aydin**	**0.43**	**129**	*e*PG	**Pg**	**06 59 09.4**	**-0.3**
DIDI				*e*SG	**Sb**	**06 59 16.2**	**-1.1**
GMLD	**Gumuldur**	**0.43**	**10**	*e*PG	**Pg**	**06 59 09.6**	**-0.3**
GMLD				*e*SG	**Sg**	**06 59 16.4**	**+0.7**
ZEY	**¯zmir**	**0.64**	**337**	*i* P	**Pg**	**06 59 12.6**	**-1.2**
ZEY				*i* S	**Sg**	**06 59 22.0**	**-0.3**
BODT	**Bodrum**	**0.70**	**146**	*e*PG	**Pg**	**06 59 14.5**	**-0.4**
BODT				*e*SG	**Sb**	**06 59 25.2**	**0.0**
BODT	**Bodrum**	**0.70**	**146**	*e*Pg	**Pg**	**06 59 14.5**	**-0.4**
BODT				*e*Sg	**Sb**	**06 59 25.2**	**0.0**
URLA	**Izmir**	**0.73**	**346**	*e*PG	**Pg**	**06 59 15.3**	**-0.3**
URLA				*e*SG	**Sb**	**06 59 26.4**	**+0.2**
URLA	**Izmir**	**0.73**	**346**	*i* P	**Pg**	**06 59 14.6**	**-0.9**
URLA				*i* S	**Sg**	**06 59 24.9**	**-0.3**
URLA	**Izmir**	**0.73**	**346**	P	**Pg**	**06 59 14.6**	**-0.9**
URLA				S	**Sg**	**06 59 24.9**	**-0.3**
URLA				*e*Sg	**Sb**	**06 59 26.4**	**+0.2**
BDRM	**Kayabasi**	**0.76**	**139**	*i* P	**Pg**	**06 59 15.8**	**-0.3**
BDRM				*i* S	**Sb**	**06 59 28.1**	**+1.0**
BDRM	**Kayabasi**	**0.76**	**139**	P	**Pg**	**06 59 15.8**	**-0.3**
BDRM				S	**Sb**	**06 59 28.0**	**+1.0**
CESE	**¯e¯me**	**0.80**	**329**	*e*PG	**Pg**	**06 59 16.5**	**-0.2**
MLSB	**Milas**	**0.84**	**115**	*e*PG	**Pg**	**06 59 17.1**	**-0.3**
MLSB	**Milas**	**0.84**	**115**	*e*Pg	**Pg**	**06 59 17.1**	**-0.3**
AYDN	**Tasoluk**	**0.84**	**89**	*i* P	**Pg**	**06 59 16.3**	**-1.2**
AYDN				*i* S	**Sg**	**06 59 28.7**	**+0.2**
AYDN	**Tasoluk**	**0.84**	**89**	P	**Pg**	**06 59 16.3**	**-1.2**
AYDN				S	**Sg**	**06 59 28.7**	**+0.2**
AYDB	**Zeytinkoy-Aydi**	**0.90**	**70**	*e*PG	**Pg**	**06 59 18.2**	**-0.4**
AYDB	**Zeytinkoy-Aydi**	**0.90**	**70**	*e*Pg	**Pg**	**06 59 18.2**	**-0.4**
CHOS	**Chios island**	**0.95**	**321**	*e*PG	**Pg**	**06 59 19.5**	**-0.3**
CHOS	**Chios island**	**0.95**	**321**	*e*Pg	**Pg**	**06 59 19.5**	**-0.3**
KRBN	**Karaburun**	**0.97**	**347**	*e*PG	**Pg**	**06 59 19.1**	**-0.9**
FOCM	**Fo¯ça**	**1.07**	**356**	*e*PG	**Pb**	**06 59 21.7**	**-0.1**
NIS1	**Nisyros Isl.**	**1.08**	**165**	*e*PN	**Pb**	**06 59 22.0**	**-0.1**
NIS1	**Nisyros Isl.**	**1.08**	**165**	*e*Pn	**Pb**	**06 59 22.0**	**-0.1**
DAT	**Datca**	**1.10**	**146**	*e*PN	**Pg**	**06 59 21.7**	**-0.7**
DAT	**Datca**	**1.10**	**146**	*i* P	**Pg**	**06 59 21.7**	**-0.7**
DAT				*i* S	**Sb**	**06 59 37.5**	**+0.8**
DAT	**Datca**	**1.10**	**146**	P	**Pg**	**06 59 21.7**	**-0.7**
DAT				S	**Sb**	**06 59 37.5**	**+0.8**
APE	**Apeiranthos**	**1.18**	**241**	*e*PN	**Pg**	**06 59 23.5**	**-0.5**
APE	**Apeiranthos**	**1.18**	**241**	*e*Pn	**Pg**	**06 59 23.5**	**-0.5**
CAND	**Candarli**	**1.30**	**359**	*e*PN	**Pn**	**06 59 26.1**	**+0.6**
DKL	**Dikili**	**1.42**	**3**	*e*PN	**Pn**	**06 59 27.7**	**+0.6**
DKL	**Dikili**	**1.42**	**3**	*e*Pn	**Pn**	**06 59 27.7**	**+0.6**
MRSB	**Marmaris-Mugla**	**1.44**	**130**	*e*PN	**Pn**	**06 59 28.0**	**+0.7**
MANT	**Manisa**	**1.61**	**58**	*i* P	**Pg**	**06 59 32.3**	**+0.1**
MANT				*i* S	**Sn**	**06 59 50.4**	**-0.3**
MANT	**Manisa**	**1.61**	**58**	P	**Pg**	**06 59 32.3**	**+0.1**
MANT				S	**Sn**	**06 59 50.4**	**-0.3**
TURN	**Turunc**	**1.62**	**118**	*i* P	**Pn**	**06 59 29.1**	**-0.7**
TURN				*i* S	**Sn**	**06 59 47.9**	**-2.6**
TURN	**Turunc**	**1.62**	**118**	P	**Pn**	**06 59 29.1**	**-0.7**
AYVA	**Ayvalik**	**1.66**	**356**	*i* P	**Pg**	**06 59 33.4**	**+0.1**
AYVA				*i* S	**Sg**	**06 59 54.8**	**0.0**
AYVA	**Ayvalik**	**1.66**	**356**	P	**Pg**	**06 59 33.3**	**+0.1**
AYVA				S	**Sg**	**06 59 54.8**	**0.0**
DALY	**Dalyan (Mu¯la**	**1.68**	**119**	*e*PN	**Pn**	**06 59 31.7**	**+1.1**
DALY	**Dalyan (Mu¯la**	**1.68**	**119**	*i* P	**Pb**	**06 59 32.1**	**-0.1**
DALY	**Dalyan (Mu¯la**	**1.68**	**119**	P	**Pb**	**06 59 32.1**	**-0.1**
SIGR	**SIGRI**	**1.74**	**334**	*e*PN	**Pn**	**06 59 32.4**	**+1.0**
SIGR	**SIGRI**	**1.74**	**334**	*e*Pn	**Pn**	**06 59 32.4**	**+1.0**
DEMI	**Demirci**	**2.04**	**46**	*i* P	**Pg**	**06 59 39.9**	**-0.5**
FETI	**Fethiye-Mugla**	**2.05**	**117**	*e*PN	**Pn**	**06 59 37.0**	**+1.2**
FETY	**Fethiye**	**2.07**	**119**	*e*PN	**Pn**	**06 59 37.2**	**+1.2**
FETY	**Fethiye**	**2.07**	**119**	P	**Pb**	**06 59 38.4**	**-0.5**
KARP	**Karpathos**	**2.11**	**172**	*e*PN	**Pn**	**06 59 37.7**	**+1.1**
KARP	**Karpathos**	**2.11**	**172**	*e*Pn	**Pn**	**06 59 37.7**	**+1.1**
BALB	**Balikesir**	**2.16**	**22**	*e*PN	**Pn**	**06 59 38.5**	**+1.3**
BALB	**Balikesir**	**2.16**	**22**	*e*Pn	**Pn**	**06 59 38.5**	**+1.3**
GLHS	**Glhisar (BURDU**	**2.19**	**102**	*e*PN	**Pn**	**06 59 38.3**	**+0.6**
GLHS	**Glhisar (BURDU**	**2.19**	**102**	*e*Pn	**Pn**	**06 59 38.3**	**+0.6**
AKAS	**Kas**	**2.64**	**121**	*e*PN	**Pn**	**06 59 45.0**	**+1.1**

ISCJB ***28*** *07:10:44.8±1.2, 31.51S±0.04×71.10W±0.06, h94km±19km, Error ellipse: s-maj=9.2km s-min=6.1km az=14.0*
SJA ***28*** *07:10:44.5±0.8, 31.47S×71.06W, h40km±999km, ML3.4, MW3.6*
GUC ***28*** *07:10:44.8±0.7, 31.54S×71.08W, h65km±28km, ML3.9*

ISC 28 07:10:46.1±2.7, 31°52S±0°05×71°09W±0°07, h73km±47km, n15, σ0§52/26, 1C-1D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TLL	**Tololo Astrono**	**1.37**	**10**	*e*P	**Pn**	**07 11 09.8**	**0.0**
TLL				*i* S	**Sn**	**07 11 28.0**	**+0.6**
TLL				IAML		07 11 30.9	
	comp=N,6μm,0.4s						
ROCH	**El Roble**	**1.45**	**177**	*e*P	**Pn**	**07 11 10.2**	**-0.5**
ROCH				*i* S	**Sn**	**07 11 29.3**	**+0.1**
ROCH				IAML		07 11 31.2	
	comp=N,2μm,0.4s						
ROC1	**El Roble**	**1.45**	**178**	*e*P	**Pn**	**07 11 10.4**	**-0.4**
ROC1				*e*S	**Sn**	**07 11 30.3**	**+0.9**
ROC1	**Leoncito**	**1.55**	**101**	*e*P	**Pn**	**07 11 11.7**	**-0.5**
RTLS				*e*S	**Sn**	**07 11 32.0**	**+0.3**
AUSP	**Uspallata**	**1.61**	**116**	*e*P	**Pn**	**07 11 12.5**	**-0.4**
AUSP				*e*S	**Sn**	**07 11 33.5**	**+0.4**
PEL	**Peldehue**	**1.65**	**168**	⇓*i*P	**Pn**	**07 11 12.6**	**-0.7**
PEL				*i* S	**Sn**	**07 11 33.7**	**-0.1**
PEL				IAML		07 11 34.7	
	comp=E,3μm,0.2s						
FCH	**Farellones**	**1.92**	**160**	*e*P	**Pn**	**07 11 17.3**	**+0.2**
FCH				*i* S	**Sn**	**07 11 41.2**	**+0.6**
FCH				IAML		07 11 43.3	
	comp=E,1μm,0.3s						
CLCH	**Cerro Calan**	**1.93**	**166**	⇓*i*P	**Pn**	**07 11 17.0**	**0.0**
CLCH				*i* S	**Sn**	**07 11 40.2**	**-0.2**
CLCH				IAML		07 11 41.2	
	comp=N,1μm,0.6s						
ANTU	**Antumapu**	**2.08**	**169**	*e*P	**Pn**	**07 11 18.5**	**-0.4**
ANTU				*i* S	**Sn**	**07 11 43.7**	**-0.3**
ANTU				IAML		07 11 46.2	
	comp=E,1μm,0.6s						
ASAL	**Salagasta**	**2.19**	**120**	*e*P	**Pn**	**07 11 20.7**	**+0.2**
ASAL				*e*S	**Sn**	**07 11 47.2**	**+0.5**
RTCV	**Cerro Valdivia**	**2.20**	**100**	*e*P	**Pn**	**07 11 19.9**	**-0.7**
RTCV				*e*S	**Sn**	**07 11 46.4**	**-0.4**
ARCO	**CERRO ARCO**	**2.25**	**126**	*e*P	**Pn**	**07 11 22.0**	**+0.6**
ARCO				IAML		07 11 23.2	
	comp=Z,260nm,0.2s						
ARCO				*e*S	**Sn**	**07 11 48.4**	**+0.1**
AMOG	**MOGNA**	**2.30**	**76**	*e*P	**Pn**	**07 11 21.2**	**-0.7**
AAGR	**Agrelo**	**2.47**	**130**	*e*P	**Pn**	**07 11 25.0**	**+0.8**
AVFE	**Valle Fertil**	**3.23**	**76**	IAML		07 12 10.1	
	comp=Z,69nm,0.6s						

ISCJB ***28*** *07:16:09.5±0.7, 49.99N±0.03×78.6E±0.1, h0km, Error ellipse: s-maj=9.7km s-min=3.8km az=166.2*
NNC ***28*** *07:16:09.9±0.5, 50.01N×78.67E, h0km, mb3.2, mpv2.9, Error ellipse: s-maj=11.2km s-min=2.2km az=76.0, Suspected Mining explosion.*
IDC ***28*** *07:16:11.3±0.9, 50.08N×78.73E, h0km, mb1 3.1/3, mb1mx3.0/37, mbtmp3.1/3, ML2.8/3, Error ellipse: s-maj=15.1km s-min=6.8km az=65.0*

ISC 28 07:16:10.9±0.9, 50°01N±0°05×78°69E±0°08, h0km, n20, σ0§82/30, 17C-11D, Eastern Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR07	**Kurchatov Arra**	**0.59**	**349**	⇓P	**Pg**	**07 16 21.5**	**-0.7**
KUR07				⇓S	**Sg**	**07 16 30.3**	**+0.5**
KUR06	**Kurchatov Arra**	**0.61**	**350**	⇓P	**Pg**	**07 16 21.8**	**-0.7**
KUR06				⇓S	**Sg**	**07 16 30.8**	**+0.4**
KUR14	**Kurchatov Arra**	**0.61**	**354**	⇑P	**Pg**	**07 16 21.8**	**-0.8**
KUR14				⇓S	**Sg**	**07 16 30.2**	**-0.3**
KUR15	**Kurchatov Arra**	**0.62**	**352**	⇑P	**Pg**	**07 16 21.6**	**-1.1**
KUR15				⇑S	**Sg**	**07 16 31.2**	**+0.5**
KURBB	**Kurchatov Arra**	**0.63**	**350**	Pg	**Pg**	**07 16 21.4**	**-1.5**
	4.1nm,0.3s,baz=168,slow=18,SNR=114						
KURBB				Lg	Lg	07 16 30.7	
	6.4nm,0.3s,baz=349,slow=24,SNR=53						
KURBB	**Kurchatov Arra**	**0.63**	**350**	⇑P	**Pg**	**07 16 22.1**	**-0.7**
	22nm,0.3s						
KURBB				⇓S	**Sg**	**07 16 30.8**	**-0.1**
	312nm,0.6s						
KUR16	**Kurchatov Arra**	**0.63**	**349**	⇓P	**Pg**	**07 16 22.2**	**-0.8**
KUR16				⇓S	**Sg**	**07 16 31.0**	**-0.2**
KUR17	**Kurchatov Arra**	**0.64**	**347**	⇑P	**Pg**	**07 16 22.3**	**-0.9**
KUR05	**Kurchatov Arra**	**0.65**	**351**	⇑P	**Pg**	**07 16 22.3**	**-0.9**
KUR05				⇓S	**Sg**	**07 16 31.3**	**-0.3**
KUR04	**Kurchatov Arra**	**0.66**	**352**	⇑P	**Pg**	**07 16 22.6**	**-1.0**
KUR04				⇑S	**Sg**	**07 16 32.0**	**-0.2**
KURK	**Kurchatov**	**0.71**	**356**	⇑P	**Pg**	**07 16 23.2**	**-1.3**
	16nm,0.5s						
KURK				⇑S	**Sg**	**07 16 33.5**	**-0.2**
	98nm,0.6s						
MAKZ	**Makanchi**	**3.88**	**144**	⇑Pn	**Pn**	**07 17 12.0**	**+0.4**
	0.4nm,0.2s						
MAKZ				⇑Pg	**Pb**	**07 17 19.4**	**-0.6**
	1.4nm,0.5s						
MAKZ				⇑Lg	Lg	07 18 12.9	
	14nm,0.7s						
MK31	**Makanchi Array**	**4.01**	**142**	⇑Pn	**Pn**	**07 17 14.3**	**+0.8**
	0.2nm,0.2s,baz=148,slow=33,SNR=61						
MK31				⇓Pg	**Pb**	**07 17 22.0**	**-0.3**
	2.6nm,0.5s,baz=324,slow=13,SNR=18						
MK31				Lg	Lg	07 18 17.7	
	14nm,0.6s,baz=333,slow=24,SNR=17						
MKAR	**Makanchi Array**	**4.01**	**142**	Pn	**Pn**	**07 17 14.4**	**+0.9**
	0.6nm,0.3s,baz=322,slow=10,SNR=53						
MKAR				Pg	**Pb**	**07 17 22.4**	**0.0**
	1.2nm,0.3s,baz=324,slow=15,SNR=18						
MKAR				Lg	Lg	07 18 15.8	
	2.5nm,0.3s,baz=320,slow=28,SNR=8.5						
ZAA0	**Zalesovo Array**	**5.47**	**41**	⇑Pn	**Pn**	**07 17 34.3**	**+0.8**
	0.4nm,0.5s						
ZAA0				⇑Lg	Lg	07 19 03.8	
	0.6nm,0.6s						
ZALV	**Zalesovo Beam**	**5.47**	**41**	Pn	**Pn**	**07 17 34.9**	**+1.4**
	1.8nm,0.3s,baz=233,slow=15,SNR=14						
ZALV				Lg	Lg	07 19 04.3	
	0.8nm,0.3s,baz=232,slow=27,SNR=4.2						
**I46RU

comp=E,37303µm,0.2s
KFL **Anninata** 0.30 90 P Pg 07 40 51.4 -0.2
KFL S Sg 07 40 56.1 +0.1
KFL **Anninata** 0.30 90 P Pg 07 40 51.1 -0.5
KFL S Sg 07 40 56.3 +0.3
KFL **Anninata** 0.30 90 P Pg 07 40 51.1 -0.5
KFL S Sg 07 40 57.0 +1.0
VTN **Vitineika** 0.65 107 P Pg 07 40 57.5 -0.3
VTN S Sb 07 41 05.6 -1.0
VTN **Vitineika** 0.65 107 P Pg 07 40 57.5 -0.3
VTN S Sb 07 41 05.6 -1.0
LKD2 **Lefkada island** 0.71 16 P Pg 07 40 58.9 -0.1
LKD2 S Sn 07 41 10.4 -0.5
LKD2 **Lefkada island** 0.71 16 P Pg 07 40 58.9 -0.1
LKD2 S Sn 07 41 10.4 -0.5
LKD2 **Lefkada island** 0.71 16 P Pg 07 40 58.6 -0.4
LKD2 S Sb 07 41 08.8 +0.3
LKD2 AML AML 07 41 15.8
comp=N,8408µm,0.3s
LKD2 AML AML 07 41 16.0
comp=E,4215µm,0.4s
AXS **Araxos** 0.77 83 P Pg 07 40 59.4 -0.7
AXS S Sn 07 41 11.4 -0.9
AXS **Araxos** 0.77 83 P Pb 07 40 59.6 -0.4
AXS S Sn 07 41 11.4 -0.9
AXS **Araxos** 0.77 83 P Pb 07 40 59.6 -0.4
RLS **Riolos of Patr** 0.84 93 P Pg 07 41 00.6 -0.8
RLS S Sn 07 41 13.1 -0.9
RLS **Riolos of Patr** 0.84 93 P Pg 07 41 00.6 -0.8
RLS S Sn 07 41 13.1 -0.9
RLS **Riolos of Patr** 0.84 93 P Pb 07 41 01.9 +0.7
RLS AML AML 07 41 20.9
comp=N,2000µm,0.6s
RLS AML AML 07 41 22.2
comp=E,2320µm,0.5s
PVO **Paravola** 1.02 60 P Pb 07 41 04.3 +0.1
PVO S Sn 07 41 19.7 +1.3
PVO **Paravola** 1.02 60 P Pn 07 41 05.4 +0.9
PVO S Sn 07 41 19.7 +1.3
PVO **Paravola** 1.02 60 P Pn 07 41 05.4 +0.9
DRO **Drossia** 1.04 98 P Pg 07 41 04.3 -1.0
DRO S Sn 07 41 19.8 +0.7
DRO **Drossia** 1.04 98 P Pg 07 41 04.3 -1.0
DRO S Sn 07 41 19.8 +0.7
DRO **Drossia** 1.04 98 P Pg 07 41 04.3 -1.0
DRO AML AML 07 41 26.5
comp=E,4784µm,0.4s
DRO AML AML 07 41 28.1
comp=N,3606µm,0.4s
UPR **University Cam** 1.10 80 P Pg 07 41 03.5 -2.9
UPR **University Cam** 1.10 80 P Pg 07 41 03.5 -2.9
VVK **Vomvokou** 1.15 74 P Pg 07 41 06.1 -1.2
VVK S Sn 07 41 24.4 +2.6
DSL **Palaion Diasel** 1.16 28 P Pn 07 41 07.6 +1.1
DSL S Sn 07 41 25.4 +3.4
DSL **Palaion Diasel** 1.16 28 P Pb 07 41 07.1 +0.5
DSL S Sn 07 41 25.4 +3.4
DSL **Palaion Diasel** 1.16 28 P Pb 07 41 07.1 +0.5
DSL S Sb 07 41 21.4 0.0
DSL AML AML 07 41 31.7
comp=N,3310µm,0.4s
DSL AML AML 07 41 33.0
comp=E,2949µm,0.5s
AMT **Artemida-Makis** 1.18 119 P Pb 07 41 07.6 +0.6
AMT **Artemida-Makis** 1.18 119 P Pb 07 41 07.6 +0.6
AMT **Artemida-Makis** 1.18 119 P Pn 07 41 09.5 +2.6
EFP **Efpalio** 1.22 74 P Pg 07 41 07.4 -1.3
EFP S Sn 07 41 25.6 +2.1
EFP **Efpalio** 1.22 74 P Pg 07 41 07.4 -1.3
EFP S Sn 07 41 25.6 +2.1
EFP **Efpalio** 1.22 74 P Pg 07 41 07.4 -1.3
LAKA **Lakka** 1.25 83 P Pb 07 41 07.8 -0.4
LAKA **Lakka** 1.25 83 P Pb 07 41 07.8 -0.4
LAKA **Lakka** 1.25 83 P Pb 07 41 07.5 -0.6
ANX **Ano Chora** 1.29 67 P Pn 07 41 08.9 +0.6
ANX S Sn 07 41 28.4 +3.2
ANX **Ano Chora** 1.29 67 P Pn 07 41 08.9 +0.6
ANX S Sn 07 41 28.4 +3.2
ANX **Ano Chora** 1.29 67 P Pb 07 41 07.8 -1.0
SERG **Sergoula** 1.33 76 P Pb 07 41 09.2 -0.5
SERG **Sergoula** 1.33 76 P Pb 07 41 09.2 -0.5
TRIZ **Trizonia** 1.34 78 P Pb 07 41 09.2 -0.5
TRIZ **Trizonia** 1.34 78 P Pb 07 41 08.9 -0.8
EVR **Evrytania** 1.36 53 P Pg 07 41 10.4 -1.0
EVR S Sn 07 41 31.6 +4.4
EVR **Evrytania** 1.36 53 P Pg 07 41 10.4 -1.0
EVR S Sn 07 41 31.6 +4.4
EVR **Evrytania** 1.36 53 P Pb 07 41 08.0 -2.2
EVR AML AML 07 41 46.5
comp=E,1105µm,0.8s
EVR AML AML 07 41 48.3
comp=N,708µm,0.6s
KLV **Kalavryta, Ach** 1.38 92 P Pn 07 41 10.1 +0.5
KLV **Kalavryta, Ach** 1.38 92 P Pn 07 41 09.7 +0.1
KLV **Kalavryta, Ach** 1.38 92 P Pn 07 41 09.7 +0.1
KALE **Kalithea** 1.39 78 P Pn 07 41 10.3 +0.5
KALE **Kalithea** 1.39 78 P Pn 07 41 10.3 +0.5
KALE **Kalithea** 1.39 78 P Pn 07 41 09.8 0.0
ITM **Ithomi** 1.52 127 P Pn 07 41 12.3 +0.8
ITM S Sg 07 41 33.6 -0.6
ITM **Ithomi** 1.52 127 P Pn 07 41 12.3 +0.8
ITM S Sg 07 41 33.6 -0.6
ITM **Ithomi** 1.52 127 P Pg 07 41 15.8 +1.5
JAN **Janina** 1.58 13 P Pn 07 41 14.1 +1.7
JAN S Sg 07 41 37.0 +0.8
JAN **Janina** 1.58 13 P Pn 07 41 14.1 +1.7
JAN S Sg 07 41 37.0 +0.8
JAN **Janina** 1.58 13 P Pg 07 41 15.8 +0.2
TRIP **Tripoli** 1.59 111 P Pg 07 41 16.2 +0.6
PYL **PYLOS** 1.61 138 P Pn 07 41 14.6 +1.8
KEK **Kerkira** 1.67 344 P Pn 07 41 14.4 +0.8
KEK S Sb 07 41 39.2 +3.1
KEK **Kerkira** 1.67 344 P Pn 07 41 14.4 +0.8
KEK S Sb 07 41 39.2 +3.1
DSF **Desfina** 1.70 79 P Pb 07 41 16.1 +0.2
DSF **Desfina** 1.70 79 P Pn 07 41 14.2 +0.2
DSF **Desfina** 1.70 79 P Pn 07 41 14.2 +0.2
VLX **Vlachokerasia** 1.73 115 P Pn 07 41 15.8 +1.4
VLX **Vlachokerasia** 1.73 115 P Pn 07 41 15.8 +1.4
VLX **Vlachokerasia** 1.73 115 P Pg 07 41 18.2 -0.1
AGG **Agios Georgios** 1.76 58 P Pg 07 41 17.4 -1.6
AGG **Agios Georgios** 1.76 58 P Pg 07 41 17.4 -1.6
AGG **Agios Georgios** 1.76 58 P Pg 07 41 18.5 -0.5
THL **Klokotos Trika** 1.92 40 P Pb 07 41 19.6 0.0
THL **Klokotos Trika** 1.92 40 P Pb 07 41 19.6 0.0
THL **Klokotos Trika** 1.92 40 P Pg 07 41 20.6 -1.4
THL AML AML 07 42 01.9
comp=E,563µm,0.5s
THL AML AML 07 42 02.2
comp=N,406µm,0.6s
KPRO **Kipourio** 1.99 22 P Pb 07 41 20.7 -0.2
KPRO **Kipourio** 1.99 22 P Pb 07 41 21.5 +0.6
LTK **Loutraki** 2.02 92 P Pn 07 41 19.3 +0.9
LTK **Loutraki** 2.02 92 P Pn 07 41 19.3 +0.9
LOUT **Loutraki** 2.03 93 P Pb 07 41 21.2 -0.3
LOUT **Loutraki** 2.03 93 P Pb 07 41 21.2 -0.3
LKR **Lokris** 2.11 74 P Pn 07 41 20.6 +1.0
LKR **Lokris** 2.11 74 P Pn 07 41 20.6 +1.0
PENT **Pentalofos** 2.16 15 P Pb 07 41 23.7 -0.1
PENT **Pentalofos** 2.16 15 P Pb 07 41 23.7 -0.1
VIL2 **Platees** 2.26 86 P Pb 07 41 24.1 -1.3
VILL **Villia** 2.29 88 P Pn 07 41 24.1 +2.0
FYTO **Fytoko, Volos** 2.37 56 P Pn 07 41 24.9 +1.8
FYTO **Fytoko, Volos** 2.37 56 P Pn 07 41 24.9 +1.8
KZN **Kozani** 2.44 25 P Pn 07 41 26.7 +2.5
KZN **Kozani** 2.44 25 P Pn 07 41 26.7 +2.5
VLI **Veliai** 2.45 124 P Pn 07 41 27.1 +2.9
NEO **Neokhori** 2.51 61 P Pn 07 41 26.3 +1.2
NEO **Neokhori** 2.51 61 P Pn 07 41 26.3 +1.2
XOR **Xorichti** 2.52 59 P Pn 07 41 27.9 -1.9
XOR **Xorichti** 2.52 59 P Pb 07 41 27.9 -1.9
VLY **Voula,Athens** 2.69 94 P Pn 07 41 28.1 +0.6
VLY **Voula,Athens** 2.69 94 P Pn 07 41 28.1 +0.6
FNA **Florina** 2.78 15 P Pn 07 41 30.9 +2.1
FNA **Florina** 2.78 15 P Pn 07 41 29.7 +0.9
FNA **Florina** 2.78 15 P Pn 07 41 29.7 +0.9
EREA **Eretria** 2.79 83 P Pn 07 41 29.6 +0.6
EREA **Eretria** 2.79 83 P Pn 07 41 29.6 +0.6
BIA **Bitola** 2.99 13 *i* Pn Pb 07 41 37.4 -0.5
BIA **Bitola** 2.99 13 *i* Pn Pb 07 41 37.4 -0.5
OHR **Ohrid** 3.02 6 *i* Pn Pn 07 41 34.1 +2.0
OHR **Ohrid** 3.02 6 *i* Pn Pn 07 41 34.1 +2.0
GRG **Griva** 3.24 28 P Pn 07 41 36.0 +0.9
GRG **Griva** 3.24 28 P Pn 07 41 36.0 +0.9
KRUS **Krusevo** 3.32 11 *i* Pn Pn 07 41 37.7 +1.3
KRUS **Krusevo** 3.32 11 *i* Pn Pn 07 41 37.6 +1.3
STON **Ston** 5.19 337 *e*Pn Pn 07 42 00.5 -1.4
STON Sn Sn 07 42 59.3 -1.9
STON **Ston** 5.19 337 *e*Pn Pn 07 42 00.4 -1.4
STON Sn Sn 07 42 59.3 -1.9
IVAS **Ivanjica** 5.47 358⇑ *i*Pn Pn 07 42 05.9 +0.1
BBLS **Lazići** 5.80 353⇑ *i*Pn Pn 07 42 10.7 +0.3
TEKS **Tekeris** 6.47 354 *i* Pn Pn 07 42 19.2 -0.3
NVLJ **Novalja** 7.67 329 *e*Pn Pn 07 42 33.7 -2.3
NVLJ Sn Sn 07 44 01.1 -1.4
NVLJ **Novalja** 7.67 329 *e*Pn Pn 07 42 33.6 -2.4
NVLJ Sn Sn 07 44 01.1 -1.4
FINES **FINES Array B** 23.63 7 P P 07 45 54.6 -0.3
comp=N,6.9nm,1.2s,baz=170,slow=12,SNR=6.0
GEYT **Alibeck** 29.58 78 LR LR 07 59 41.5
comp=N,37nm,18.3s,baz=70,slow=40
MKAR **Makanchi Array** 45.41 58 P P 07 49 01.2 -1.5
comp=N,0.5nm,0.4s,baz=278,slow=7.2,SNR=9.1
ZALV **Zalesovo Beam** 45.80 48 P P 07 49 04.3 -1.3
comp=N,1.0nm,0.3s,baz=295,slow=10,SNR=3.6

GUC 28 07:53:34.1±0.6, 21°20S×69°03W, h117km±4km, ML3.5, 6C-1D, Northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PB01	**IPOC Station P**	**0.45**	**290**	⇑*i*P	Pn	07 53 52.0	+0.5
PB01				*i* S	Sn	07 54 05.3	+0.6
PB01				IAML		07 54 07.3	
	comp=N,2µm,0.2s						
PB09	**IPOC Station P**	**0.63**	**198**	⇑*i*P	Pn	07 53 53.3	+0.4
PB09				*i* S	Sn	07 54 07.9	+0.9
PB09				IAML		07 54 09.1	
	comp=E,2µm,0.1s						
PB07	**IPOC Station P**	**0.95**	**236**	⇑*i*P	Pn	07 53 56.3	+0.7
PB07				*i* S	Sn	07 54 13.5	+1.6
PB07				IAML		07 54 14.2	
	comp=N,1µm,0.1s						
PB08	**IPOC Station P**	**1.06**	**354**	⇓*i*P	Pn	07 53 57.4	+0.5
PB08				*i* S	Sn	07 54 15.2	+1.1
HMBC	**Humberstone**	**1.22**	**319**	⇑*i*P	Pn	07 53 58.8	+0.7
HMBC				*i* S	Sn	07 54 17.6	+1.0
PB04	**IPOC Station P**	**1.54**	**222**	*e*P	Pn	07 54 02.8	+0.9
PB04				*i* S	Sn	07 54 23.9	+0.8
PB06	**IPOC Station P**	**1.58**	**198**	⇑*i*P	Pn	07 54 03.2	+0.7
PB06				*i* S	Sn	07 54 25.0	+0.9
PSGC	**Pisagua**	**1.89**	**327**	⇑*i*P	Pn	07 54 06.2	0.0
PSGC				*i* S	Sn	07 54 31.0	+0.3

*ISCJB **28** 07:56:58.0±0.9, 37°38N±0°03×141°36E±0°06, h24km±5km, mb3.9/5, MS3.1/1, Error ellipse: s-maj=8.6km s-min=4.8km az=23.6*
*JMA **28** 07:57:00.1±0.1, 37°41N×141°20E, h30km±1km, M3.8*
JMA Felt II J1.
*NIED **28** 07:57:00.37°40N×141°30E, h29km, Mw3.7 Best double couple: M0 3.69000×10^14 NP1:φ=278.00000°, δ=34.00000°, λ=180.00000°. NP2:φ=8.00000°, δ=90.00000°, λ=56.00000°.*
*IDC **28** 07:57:04.5±3.6, 37°36N×141°18E, h70km±31km, mb3.6/5, mb1 3.6/8, mb1mx3.3/43, mbtmp3.8/8, ML3.1/3, MS3.0/2, Ms1 3.0/2, ms1mx2.5/37, Error ellipse: s-maj=30.2km s-min=21.6km az=100.0*

ISC 28 07:56:57.2±1.6, 37°38N±0°04×141°35E±0°06, h6km±10km, n26, σ1°41/31, mb3.9/5, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JFK	**Kawauchi**	**0.38**	**268**	P	Pb	07 57 06.9	+0.6
JFK				S	Sb	07 57 11.4	-1.0
ONAJ	**Iwakimizuishiy**	**0.52**	**238**	P	Pb	07 57 09.3	+0.6
ONAJ				S	Sb	07 57 15.6	-0.8
JMM	**Marumori**	**0.66**	**318**	P	Pb	07 57 11.0	0.0
JMM				S	Sg	07 57 18.7	+0.3
JFT	**Otama**	**0.82**	**280**	P	Pb	07 57 13.8	+0.1
JFT				S	Sg	07 57 23.2	-0.3
JHO	**Hitachi**	**0.99**	**219**	P	Pg	07 57 15.9	-0.2
JHO				*e*S	Sg	07 57 28.1	-0.8
JIO	**Ouri**	**1.07**	**0**	P	Pb	07 57 18.2	+0.1
JIO				S	Sg	07 57 31.4	-0.4
JOU	**Okura**	**1.12**	**331**	P	Pb	07 57 19.1	+0.1
JOU				S	Sg	07 57 32.9	-0.5
JSB	**Shiboa**	**1.21**	**251**	P	Pg	07 57 20.3	-0.1
JSB				S	Sg	07 57 35.3	-0.8
JFY	**Yanaizu**	**1.31**	**272**	P	Pn	07 57 21.2	-0.8
JFY				S	Sb	07 57 36.8	-2.4
JYS	**Shirataka**	**1.32**	**310**	P	Pn	07 57 21.6	-0.5
JYS				S	Sb	07 57 37.8	-1.7
MJAR	**Matsushiro Arr**	**2.65**	**253**	P	Pn	07 57 41.2	+0.8
	8.5nm,0.3s,baz=81,slow=17,SNR=43						
MJAR				S	Sn	07 58 13.2	+0.4
	7.1nm,0.3s,baz=36,slow=2.9,SNR=6.5						
MAT	**Matsushiro**	**2.65**	**253**	P	Pn	07 57 41.0	+0.6
MAT				S	Sn	07 58 13.9	+1.1
USRK	**Ussuriysk Ar.**	**9.83**	**317**	P	Pn	07 59 22.6	+3.6
	0.3nm,0.3s,baz=140,slow=15,SNR=6.4						
KSRS	**Korea Array**	**10.68**	**274**	P	Pn	07 59 34.9	+4.3
	0.4nm,0.3s,baz=88,slow=13,SNR=7.3						
KSRS				LR	LR	08 03 29.3	
	comp=Z,52nm,18.3s,baz=95,slow=36						
H11N2	**WAKE ISLAND Hy**	**28.37**	**121**	T	T	08 33 01.5	
	baz=314,slow=75,SNR=207						
H11N1	**WAKE ISLAND Hy**	**28.38**	**121**	T	T	08 32 57.1	
	baz=314,slow=75,SNR=174						
H11N3	**WAKE ISLAND Hy**	**28.39**	**121**	T	T	08 32 56.5	
	baz=314,slow=75,SNR=187						
H11S1	**WAKE ISLAND Hy**	**29.09**	**123**	T	T	08 33 44.4	
	baz=316,slow=76,SNR=90						
H11S3	**WAKE ISLAND Hy**	**29.09**	**123**	T	T	08 33 55.9	
	baz=316,slow=76,SNR=91						
H11S2	**WAKE ISLAND Hy**	**29.11**	**123**	T	T	08 33 50.6	
	baz=316,slow=76,SNR=60						
TLY	**Talaya**	**30.07**	**311**	LR	LR	08 14 25.3	
	comp=Z,40nm,18.4s,baz=174,slow=35						
ZALV	**Zalesovo Beam**	**41.65**	**312**	P	P	08 04 44.5	-1.5
	1.0nm,0.3s,baz=91,slow=6.5,SNR=4.3						
MKAR	**Makanchi Array**	**43.89**	**302**	P	P	08 05 03.0	-1.4
	1.4nm,0.7s,baz=91,slow=8.9,SNR=6.5						
KURBB	**Kurchatov Arra**	**45.75**	**308**	P	P	08 05 17.7	-1.3
	3.3nm,0.5s,baz=83,slow=7.7,SNR=4.7						
ILAR	**Eielson Array**	**49.23**	**33**	P	P	08 05 46.3	+0.3
	0.4nm,0.8s,baz=257,slow=7.8,SNR=4.6						
WRA	**Warramunga Arr**	**57.39**	**188**	P	P	08 06 45.6	-0.8
	0.4nm,0.7s,baz=6.4,slow=7.5,SNR=2.8						

*NEIC **28** 08:06:50.2±0.0, 18°45N×101°68W, h54km, MD4.1(MEX), After MEX.*

MEX 28 08:06:50.2±0.5, 18°45N×101°68W, h54km±11km, MD4.1, Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ZIIG	**Zihuatanejo**	**0.86**	**166**	*i* P	Pn	08 07 04.0	-2.2
ZIIG				*i* S	Sn	08 07 16.4	-1.7
ZIIG	**Zihuatanejo**	**0.86**	**166**	*i* P	Pn	08 07 04.0	-2.2
ZIIG				*i* S	Sn	08 07 16.4	-1.7
ARIG	**Puente Sto Nin**	**1.28**	**97**	*i* P	Pn	08 07 10.5	-1.3
ARIG				*i* S	Sn	08 07 26.4	-1.6
MOIG	**Morelia**	**1.31**	**21**	*i* P	Pn	08 07 10.3	-2.1
MOIG				*e*S	Sn	08 07 26.9	-2.1
MOIG	**Morelia**	**1.31**	**21**	*i* P	Pn	08 07 10.3	-2.1
MOIG				*e*S	Sn	08 07 26.9	-2.1
MMIG	**Aquila**	**1.59**	**264**	*i* P	Pn	08 07 14.6	-1.4
MMIG				*e*S	Sn	08 07 34.0	-1.4
MMIG	**Aquila**	**1.59**	**264**	*i* P	Pn	08 07 14.6	-1.4
MMIG				*e*S	Sn	08 07 34.0	-1.4
CAIG	**El Cayaco**	**1.94**	**136**	*e*P	Pn	08 07 19.2	-1.6
CAIG				*e*S	Sn	08 07 41.5	-2.5
CAIG	**El Cayaco**	**1.94**	**136**	*e*P	Pn	08 07 19.2	-1.6
CAIG				*e*S	Sn	08 07 41.5	-2.5
MEIG	**Mezcala**	**2.03**	**105**	*e*P	Pn	08 07 21.0	-1.1
MEIG				*i* S	Sn	08 07 44.0	-2.3
MEIG	**Mezcala**	**2.03**	**105**	*e*P	Pn	08 07 21.0	-1.1
MEIG				*i* S	Sn	08 07 44.0	-2.3
PLIG	**Platanillo**	**2.07**	**91**	*e*P	Pn	08 07 21.6	-1.0
PLIG				*i* S	Sn	08 07 45.1	-2.3
PLIG	**Platanillo**	**2.07**	**91**	*e*P	Pn	08 07 21.6	-1.0
PLIG				*i* S	Sn	08 07 45.1	-2.3
IGIG	**Irapuato, Guan**	**2.31**	**8**	*i* P	Pn	08 07 25.3	-0.8
IGIG				*i* S	Sn	08 07 51.6	-1.9
YAIG	**Yautepec**	**2.51**	**80**	*e*P	Pn	08 07 27.8	-1.0
YAIG				*i* S	Sn	08 07 56.6	-1.7
YAIG	**Yautepec**	**2.51**	**80**	*e*P	Pn	08 07 27.8	-1.0
YAIG				*i* S	Sn	08 07 56.6	-1.7
PPM	**Popocatepetl**	**2.96**	**78**	*e*P	Pn	08 07 34.0	-1.2
PPM				*i* S	Sn	08 08 08.0	-1.8
PPM	**Popocatepetl**	**2.96**	**78**	*e*P	Pn	08 07 34.0	-1.2
PPM				*i* S	Sn	08 08 08.0	-1.8
TLIG	**Tlapa**	**3.09**	**106**	*i* P	Pn	08 07 35.1	-1.6
TLIG				*i* S	Sn	08 08 11.2	-1.4
PNIG	**Pinotepa**	**3.96**	**121**	*e*P	Pn	08 07 47.9	-0.6
PNIG				*i* S	Sn	08 08 32.4	-1.4
PNIG	**Pinotepa**	**3.96**	**121**	*e*P	Pn	08 07 47.9	-0.6
PNIG				*i* S	Sn	08 08 32.4	-1.4

IDC 28 08:14:21.2±4.5, 4°63S×148°45E, h0km, mb3.3/3, mb1 3.6/3, mb1mx3.4/21, mbtmp3.3/3, Error ellipse: s-maj=160.1km s-min=47.1km az=114.0, Bismarck Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**20.50**	**221**	P	P	08 19 00.8	-0.3
	0.4nm,0.4s,baz=39,slow=11,SNR=8.7						
ASAR	**Alice Springs**	**23.56**	**215**	P	P	08 19 33.4	-0.2
	0.4nm,0.7s,baz=46,slow=8.0,SNR=4.9						
FITZ	**Fitzroy Crossi**	**26.01**	**237**	P	P	08 19 56.7	+0.5
	1.3nm,0.9s,baz=32,slow=9.5,SNR=2.6						
TORD	**Torodi Ar. Bea**	**146.12**	**287**	PKPbc	PKPdf	08 34 03.4	-0.2
	0.2nm,0.5s,baz=62,slow=3.4,SNR=3.1						

MEX 28 08:16:34.1±0.7, 16°96N×100°14W, h5km, MD3.9, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CAIG	**El Cayaco**	**0.15**	**305**	*i* P	Pg	08 16 36.6	-0.5
CAIG				*e*S	Sg	08 16 38.9	-0.3
ACP2	**Acapulco**	**0.25**	**110**	*e*P	Pg	08 16 37.9	-1.1
ACP2				*i* S	Sg	08 16 42.0	-0.4
MEIG	**Mezcala**	**1.08**	**27**	*e*P	Pg	08 16 50.2	-4.6
MEIG				*i* S	Sg	08 17 04.2	-4.7
ARIG	**Puente Sto Nin**	**1.33**	**351**	*e*P	Pn	08 16 55.0	-4.3
ARIG				*i* S	Sg	08 17 11.7	-5.2
ZIIG	**Zihuatanejo**	**1.42**	**297**	*i* P	Pn	08 16 57.6	-3.0
ZIIG				*e*S	Sb	08 17 14.8	-4.8
PLIG	**Platanillo**	**1.55**	**23**	*e*P	Pn	08 16 59.0	-3.4
PLIG				*i* S	Sn	08 17 18.1	-4.8
TLIG	**Tlapa**	**1.61**	**68**	*i* P	Pn	08 17 00.4	-3.0
TLIG				*e*S	Sn	08 17 19.8	-4.9
PNIG	**Pinotepa**	**2.01**	**106**	*e*P	Pn	08 17 05.7	-3.0
PNIG				*e*S	Sn	08 17 29.8	-4.4
YAIG	**Yautepec**	**2.15**	**28**	*e*P	Pn	08 17 07.5	-3.3
YAIG				*i* S	Sn	08 17 32.9	-5.0

*ISCJB **28** 08:19:05.5±0.5, 6°83N±0°03×73°08W±0°04, h158km±5km, Error ellipse: s-maj=7.2km s-min=4.1km az=37.9*
*FUNV **28** 08:19:06.9, 6°73N×73°07W, h162km, MW2.8*
*RSNC **28** 08:19:08.5±0.9, 6°76N×73°13W, h142km±6km, ML2.7*

ISC 28 08:19:05.4±1.3, 6°80N±0°04×73°08W±0°04, h160km±8km, n36, σ0°96/58, 3C, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BTLC	**Betulia, Santa**	**0.22**	**301**	*e*P	Pn	08 19 28.1	+0.8
BARC	**Barichara**	**0.23**	**206**	*e*P	Pn	08 19 27.8	+0.5
BARC				*e*S	Sn	08 19 41.8	-2.4
BARC				*i*		08 19 45.5	
	comp=Z,123nm,0.3s						
BARC	**Barichara**	**0.23**	**206**	*e*P	Pn	08 19 27.9	+0.5
BARC				*i*		08 19 45.5	
	comp=Z,121nm,0.3s						
GIRC	**Giron, Santand**	**0.30**	**337**	*e*P	Pn	08 19 27.9	+0.6
PAMC	**Pamplona, Colo**	**0.65**	**35**	*e*P	Pn	08 19 30.5	+1.2
PAMC				*e*S	Sn	08 19 47.1	-0.5
PAMC				*i*		08 19 49.9	
	comp=Z,17nm,0.2s						
PAMC	**Pamplona, Colo**	**0.65**	**35**	*e*P	Pn	08 19 30.7	+1.3
PAMC				*i*		08 19 30.9	
	comp=Z,26nm,0.2s						
PAMC				*e*S	Sn	08 19 47.6	0.0
BRRC	**Barranca, Sant**	**0.70**	**296**	*e*P	Pn	08 19 29.7	+0.7
BRRC				*i*		08 19 31.4	
	comp=Z,134nm,0.1s						
BRRC				*e*S	Sn	08 19 46.5	-0.6
BRRC	**Barranca, Sant**	**0.70**	**296**	⇑*i*P	Pn	08 19 29.7	+0.7
BRRC				*i*		08 19 31.4	
	comp=Z,136nm,0.1s						
BRRC				*e*S	Sn	08 19 45.8	-1.3
RUSC	**La Rusia**	**0.91**	**180**	*e*P	Pn	08 19 31.7	+0.6
RUSC				*e*S	Sn	08 19 50.0	-0.7
RUSC				*i*		08 19 53.5	
	comp=Z,46nm,0.2s						
RUSC	**La Rusia**	**0.91**	**180**	*e*P	Pn	08 19 31.6	+0.6
RUSC				*e*S	Sn	08 19 49.5	-1.1
RUSC				*i*		08 19 51.7	
	comp=Z,44nm,0.2s						
CAPV	**Capacho**	**1.30**	**36**	⇑*i*P	Pn	08 19 35.7	+1.7
CAPV				*e*S	Sn	08 19 56.5	+0.4
OCAC	**Ocana**	**1.45**	**350**	*e*P	Pn	08 19 36.7	+1.2
OCAC				*i*		08 20 04.1	
	comp=Z,111nm,0.2s						
OCAC	**Ocana**	**1.45**	**350**	*e*P	Pn	08 19 36.4	+1.0
OCAC				*e*S	Sn	08 19 58.1	-0.5
OCAC				*i*		08 20 03.9	
	comp=Z,108nm,0.2s						
YOPC	**Yopal, Colombi**	**1.58**	**156**	*e*P	Pn	08 19 38.2	+1.5
YOPC				*e*S	Sn	08 20 01.1	+0.2
YOPC				*i*		08 20 05.4	
	comp=Z,34nm,0.3s						
ZARC	**Zaragoza, Cauc**	**1.90**	**291**	*e*P	Pn	08 19 40.2	+0.2
ZARC				*e*S	Sn	08 20 06.1	-0.6
ZARC				*i*		08 20 12.3	
	comp=Z,70nm,0.2s						
NORC	**Norcasia**	**2.17**	**235**	*e*P	Pn	08 19 43.7	+0.5
NORC				*e*S	Sn	08 20 11.3	-1.0
NORC				*i*		08 20 15.7	
	comp=Z,6.3nm,0.2s						
NORC	**Norcasia**	**2.17**	**235**	*e*P	Pn	08 19 43.5	+0.4
NORC				*e*S	Sn	08 20 11.3	-1.0
CHIC	**Chingaza**	**2.26**	**197**	*e*P	Pn	08 19 45.6	+1.0
CHIC				*i*		08 19 48.1	
	comp=Z,32nm,0.1s						
CHIC				*e*S	Sn	08 20 14.3	-0.6
CHIC	**Chingaza**	**2.26**	**197**	*e*P	Pn	08 19 45.3	+0.7
CHIC				*i*		08 19 48.1	
	comp=Z,30nm,0.1s						
CHIC				*e*S	Sn	08 20 15.1	+0.3
ROSC	**El Rosal**	**2.31**	**212**	*e*P	Pn	08 19 46.1	+1.0
ROSC				*i*		08 20 25.7	
	comp=Z,68nm,0.4s						
HELC	**Santa Helena**	**2.51**	**256**	*e*P	Pn	08 19 48.3	+0.8
HELC				*e*S

BAUV	**El Baul**	**5.42**	**67**	*eP*	**Pn**	**08 20 24.1**	**-0.5**
MAPV	**Macapo**	**5.47**	**56**	*eP*	**Pn**	**08 20 25.5**	**+0.2**
MONV	**Montecano**	**5.96**	**31**	*eP*	**Pn**	**08 20 32.8**	**+1.0**
TURV	**Turiamo**	**6.32**	**55**	*eP*	**Pn**	**08 20 36.6**	**+0.2**
CUPV	**Cœpira**	**7.90**	**65**	*eP*	**Pn**	**08 20 56.2**	**-1.4**

MEX 28 08:26:14.9±0.8, 17°02N×100°11W, h5km, MD3.8, Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAIG	**El Cayaco**	**0.15**	**282**	*eP*	Pg	08 26 17.5	-0.5
CAIG				*i* S	Sg	08 26 20.4	+0.3
ACP2	**Acapulco**	**0.26**	**123**	*i P*	Pg	08 26 19.0	-0.9
ACP2				*i* S	Sg	08 26 23.0	-0.3
MEIG	**Mezcala**	**1.02**	**27**	*eP*	Pg	08 26 30.9	-3.5
MEIG				*i* S	Sg	08 26 45.2	-2.5
ARIG	**Puente Sto Nin**	**1.28**	**350**	*eP*	Pg	08 26 36.0	-3.4
ARIG				*eS*	Sg	08 26 51.4	-4.7
ZIIG	**Zihuatanejo**	**1.42**	**295**	*i P*	Pn	08 26 37.8	-3.6
ZIIG				*i* S	Sb	08 26 56.0	-4.3
PLIG	**Platanillo**	**1.49**	**23**	*eP*	Pn	08 26 39.0	-3.4
PLIG				*eS*	Sn	08 26 57.5	-4.7
TLIG	**Tlapa**	**1.57**	**70**	*eP*	Pn	08 26 40.4	-3.2
TLIG				*eS*	Sn	08 27 00.2	-4.2
PNIG	**Pinotepa**	**2.00**	**108**	*eP*	Pn	08 26 46.5	-2.8
PNIG				*eS*	Sn	08 27 10.7	-4.1

*ISCJB **28** 08:28:31.8±1.1, 11°.9N±0°.1×92°.2E±0°.2, h10km, mb3.5/6, MS3.1/1, Error ellipse: s-maj=26.0km s-min=18.4km az=151.6*
*IDC **28** 08:28:31.9±1.3, 11°.83N×92°.08E, h0km, mb3.5/5, mb1 3.8/6, mb1mx3.5/38, mbtmp3.6/6, ML4.4/1, MS3.1/1, Ms1 3.1/1, ms1mx2.4/35, Error ellipse: s-maj=49.6km s-min=21.5km az=55.0*

ISC 28 08:28:33.2±1.3, 11°.9N±0°.2×92°.0E±0°.1, h10km, n9, σ1§12/8, mb3.5/6, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**9.36**	**45**	Pn	**Pn**	**08 30 47.6**	**-0.6**
	1.0nm,0.3s,baz=234,slow=15,SNR=8.2						
VIS	**Vishakhapatnam**	**10.17**	**306**	*i* P	Pn	08 31 11.6	+12
VIS				*i* S	**Sn**	**08 32 52.3**	**-1.1**
VIS				*i* S	**Sn**	**08 32 52.4**	**-1.0**
VIS				*ex*	x	08 32 54.6	
	comp=N,16nm,0.3s						
VIS				*ex*	x	08 32 55.5	
	comp=E,16nm,0.5s						
MKAR	**Makanchi Array**	**35.72**	**349**	P	**P**	**08 35 32.8**	**+0.8**
	comp=E,0.5nm,0.8s,baz=161,slow=9.2,SNR=3.1						
SONM	**Songino Array**	**37.80**	**16**	P	P	08 35 56.2	+6.4
	comp=E,1.0nm,0.7s,baz=188,slow=9.0,SNR=4.8						
KURBB	**Kurchatov Arra**	**40.15**	**347**	P	**P**	**08 36 10.3**	**+1.0**
	comp=E,0.3nm,0.6s,baz=167,slow=8.0,SNR=3.3						
WRA	**Warramunga Arr**	**52.35**	**127**	P	**P**	**08 37 44.8**	**-0.9**
	comp=E,0.3nm,0.8s,baz=300,slow=10.0,SNR=3.1						
ASAR	**Alice Springs**	**54.13**	**131**	P	**P**	**08 37 58.6**	**-0.3**
	comp=E,0.4nm,0.7s,baz=309,slow=6.1,SNR=4.2						
MMAI	**Mount Meron Ar**	**55.66**	**302**	LR	LR	09 07 23.6	
	comp=E,16nm,18.1s,baz=100,slow=42						
GERES	**GERESS Array B**	**73.43**	**318**	P	**P**	**08 40 06.9**	**+1.0**
	comp=E,0.5nm,0.2s,baz=109,slow=7.4,SNR=3.3						

*ISCJB **28** 08:59:43.6±0.5, 64°.80N±0°.02×30°.68E±0°.09, h0km, Error ellipse: s-maj=5.7km s-min=3.1km az=15.1*
*CSEM **28** 08:59:44.9±0.3, 64°.83N×30°.71E, h2km, ML2.0, Error ellipse: s-maj=6.7km s-min=3.4km az=97.0, Mining explosion.*
*HEL **28** 08:59:44.8±0.2, 64°.81N×30°.81E, h0km, ML1.9, Explosion*
*KOLA **28** 08:59:44.2, 64°.70N×30°.50E, h0km*
*IDC **28** 08:59:45.9±2.7, 64°.82N×30°.88E, h0km, mb1 3.2/4, mb1mx3.0/43, mbtmp3.2/4, ML2.4/4, Error ellipse: s-maj=40.8km s-min=10.0km az=98.0*
*NAO **28** 08:59:45.7±1.4, 64°.82N×30°.48E, ML2.2*
*BER **28** 08:59:46.7±3.4, 64°.84N×30°.43E, h0km, ML2.2(NAO), Suspected explosion*

ISC 28 08:59:44.6±0.9, 64°.82N±0°.02×30°.65E±0°.04, h0km, n40, σ1§16/77, Finland-Karelia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KU6	**Riekki**	**1.25**	**346**	*eP*	**Pg**	**09 00 07.8**	**-0.8**
KU6				*eS*	**Sg**	**09 00 24.8**	**0.0**
KU6	**Riekki**	**1.25**	**346**	P	**Pg**	**09 00 07.8**	**-0.8**
KU6				S	**Sg**	**09 00 24.8**	**0.0**
MSF	**Maaselka**	**1.29**	**329**	*eP*	**Pg**	**09 00 08.6**	**-0.7**
MSF				*eS*	**Sg**	**09 00 25.7**	**-0.2**
MSF	**Maaselka**	**1.29**	**329**	P	**Pg**	**09 00 08.5**	**-0.7**
MSF				S	**Sg**	**09 00 25.7**	**-0.2**
KJN	**Kajaani**	**1.47**	**241**	*eP*	**Pn**	**09 00 11.7**	**-0.7**
KJN				*eS*	**Sg**	**09 00 31.0**	**-0.8**
KJN	**Kajaani**	**1.47**	**241**	P	**Pn**	**09 00 11.6**	**-0.7**
KJN				S	**Sg**	**09 00 31.0**	**-0.8**
JOF	**Joensuu**	**1.93**	**171**	*eP*	**Pn**	**09 00 17.8**	**-0.9**
JOF				*eS*	**Sn**	**09 00 42.9**	**-0.7**
JOF				MSG		09 00 48.5	
	comp=Z,7.7nm,0.1s						
JOF	**Joensuu**	**1.93**	**171**	P	**Pn**	**09 00 17.7**	**-0.9**
JOF				S	**Sn**	**09 00 42.9**	**-0.7**
OUL	**Oulu**	**2.04**	**280**	*eP*	**Pn**	**09 00 20.6**	**+0.4**
OUL				*eS*	**Sn**	**09 00 47.2**	**+0.9**
OUL	**Oulu**	**2.04**	**280**	P	**Pn**	**09 00 20.6**	**+0.4**
OUL				S	**Sn**	**09 00 47.2**	**+0.9**
OUFX	**Oulainen**	**2.61**	**263**	*eP*	**Pn**	**09 00 28.7**	**+0.8**
OUFX				*eS*	**Sn**	**09 01 01.6**	**+1.3**
OUFX	**Oulainen**	**2.61**	**263**	P	**Pn**	**09 00 28.7**	**+0.8**
OUFX				S	**Sn**	**09 01 01.5**	**+1.3**
SUF	**Sumiainen**	**2.91**	**226**	*eP*	**Pn**	**09 00 33.4**	**+1.4**
SUF				*eS*	**Sn**	**09 01 08.4**	**+0.8**
SUF				MSG		09 01 14.3	
	comp=Z,5.1nm,0.1s						
SUF	**Sumiainen**	**2.91**	**226**	P	**Pn**	**09 00 33.4**	**+1.4**
SUF				S	**Sn**	**09 01 08.4**	**+0.8**
TOF	**Tornio**	**2.93**	**298**	*eP*	**Pn**	**09 00 33.8**	**+1.4**
TOF				*eS*	**Sn**	**09 01 09.5**	**+1.3**
TOF	**Tornio**	**2.93**	**298**	P	**Pn**	**09 00 33.7**	**+1.4**
TOF				S	**Sn**	**09 01 09.5**	**+1.3**
APA0	**Apatity Array**	**2.96**	**18**	Pn	**Pn**	**09 00 34.0**	**+1.2**
	baz=187,slow=14						
APA0				Sn	**Sn**	**09 01 08.6**	**-0.3**
	baz=198,slow=22						
APA0				Lg	Lg	09 01 17.6	
	baz=192,slow=37						
APA0	**Apatity Array**	**2.96**	**18**	Pn	**Pn**	**09 00 34.0**	**+1.2**
	baz=187,slow=14						
APA0				Sn	**Sn**	**09 01 08.6**	**-0.3**
	baz=198,slow=22						
APA0				Lg	Lg	09 01 17.6	
	baz=192,slow=37						
APA0	**Apatity Array**	**2.96**	**18**	P	**Pn**	**09 00 33.5**	**+0.8**
APA0				S	**Sn**	**09 01 10.4**	**+1.6**
APA0	**Apatity Array**	**2.96**	**18**	Pn	**Pn**	**09 00 34.0**	**+1.2**
	SNR=50						
APA0				Sn	**Sn**	**09 01 08.6**	**-0.3**
	SNR=50						
APA0				Lg	Lg	09 01 17.5	
	SNR=91						
APA	**Apatity**	**2.98**	**21**	P	**Pn**	**09 00 33.9**	**+0.9**
APA				S	**Sn**	**09 01 11.0**	**+1.6**
SGF	**Sodankyl**	**3.12**	**329**	*eP*	**Pn**	**09 00 35.0**	**-0.1**
SGF				*eS*	**Sn**	**09 01 13.2**	**+0.2**
SGF	**Sodankyl**	**3.12**	**329**	P	**Pn**	**09 00 34.9**	**-0.1**
SGF				S	**Sn**	**09 01 13.2**	**+0.2**
KAF	**Kangasniemi**	**3.34**	**218**	*eP*	**Pn**	**09 00 39.1**	**+1.0**
KAF				*eS*	**Sn**	**09 01 18.7**	**+0.3**
KAF	**Kangasniemi**	**3.34**	**218**	P	**Pn**	**09 00 39.1**	**+1.0**
KAF				S	**Sn**	**09 01 18.7**	**+0.3**
KEF	**Keuruu**	**3.71**	**227**	*eP*	**Pn**	**09 00 44.5**	**+1.3**
KEF				*eS*	**Sn**	**09 01 27.0**	**-0.6**
KEF	**Keuruu**	**3.71**	**227**	P	**Pn**	**09 00 44.4**	**+1.3**
KEF				S	**Sn**	**09 01 27.0**	**-0.6**
FIA0	**FINESS Array S**	**3.97**	**214**	Pn	**Pn**	**09 00 47.3**	**+0.6**
	baz=32,slow=14						
FIA0				Pg	**Pb**	**09 00 56.0**	**+0.6**
	baz=28,slow=16						
FIA0				Sn	**Sn**	**09 01 33.2**	**-0.8**
	baz=28,slow=22						
FIA0				Lg	Lg	09 01 45.1	
	baz=32,slow=28						
FIA0	**FINESS Array S**	**3.97**	**214**	Pn	**Pn**	**09 00 47.3**	**+0.6**
	SNR=50						
FIA0				Sn	**Sn**	**09 01 33.2**	**-0.8**
	SNR=50						
FIA0				Lg	Lg	09 01 45.1	
FINES	**FINESS Array B**	**3.97**	**214**	Pn	**Pn**	**09 00 47.3**	**+0.6**
	comp=Z,0.2nm,0.3s,baz=33,slow=13,SNR=8.0						
FINES				Pg	**Pb**	**09 00 56.2**	**+0.8**
	comp=Z,0.4nm,0.3s,baz=28,slow=13,SNR=9.7						
FINES				Lg	Lg	09 01 45.2	
	comp=Z,0.9nm,0.3s,baz=35,slow=27,SNR=6.3						
ARA0	**ARCESS Array S**	**5.14**	**339**	Pn	**Pn**	**09 01 02.8**	**0.0**
	baz=154,slow=14						
ARA0				Sn	**Sn**	**09 01 59.5**	**-3.2**
	baz=157,slow=28						
ARA0				Lg	Lg	09 02 21.1	
	baz=151,slow=28						
ARA0	**ARCESS Array S**	**5.14**	**339**	Pn	**Pn**	**09 01 02.8**	**0.0**
	baz=154,slow=14						
ARA0				Sn	**Sn**	**09 01 59.5**	**-3.2**
	baz=157,slow=28						
ARA0				Lg	Lg	09 02 21.1	
	baz=151,slow=28						
ARA0	**ARCESS Array S**	**5.14**	**339**	Pn	**Pn**	**09 01 02.8**	**0.0**
	SNR=50						
ARA0				Sn	**Sn**	**09 01 59.5**	**-3.2**
	SNR=50						
ARA0				Lg	Lg	09 02 21.1	
ARCES	**ARCESS Array B**	**5.14**	**339**	Pn	**Pn**	**09 01 02.9**	**+0.1**
	comp=Z,0.5nm,0.3s,baz=157,slow=13,SNR=42						
ARCES				Sn	**Sn**	**09 01 59.4**	**-3.3**
	comp=Z,0.3nm,0.3s,baz=159,slow=14,SNR=3.3						
ARCES				Lg	Lg	09 02 21.5	
	comp=Z,0.7nm,0.3s,baz=154,slow=27,SNR=7.9						
HFS	**Hagfors**	**9.13**	**247**	Pn	**Pn**	**09 01 57.2**	**-0.2**
	comp=Z,0.1nm,0.3s,baz=62,slow=13,SNR=3.3						
NB2	**NORSAR Subarra**	**9.62**	**256**	Pn	**Pn**	**09 02 05.0**	**+0.9**
NB2	**NORSAR Subarra**	**9.62**	**256**	Pn	**Pn**	**09 02 05.0**	**+0.9**
NB2	**NORSAR Subarra**	**9.62**	**256**	Pn	**Pn**	**09 02 05.1**	**+0.9**
	SNR=50						
NOA	**NORSAR Array B**	**9.62**	**256**	Pn	**Pn**	**09 02 01.4**	**-2.7**
	comp=Z,0.0nm,0.3s,baz=60,slow=14,SNR=2.6						

*ISCJB **28** 08:59:46.0±0.9, 10°.93N±0°.05×62°.13W±0°.04, h97km±8km, Error ellipse: s-maj=9.7km s-min=4.8km az=140.6*
*FUNV **28** 08:59:47.3, 10°.89N×62°.02W, h92km, MW2.6*
*TRN **28** 08:59:48.6, 10°.95N×61°.95W, h92km, MD3.0*

ISC 28 08:59:44.9±1.4, 10°.86N±0°.05×62°.07W±0°.04, h111km±10km, n16, σ1§68/27, 1C, Near coast of Venezuela

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUIV	**Guiria**	**0.26**	**215**	*eP*	**Pn**	**09 00 00.9**	**+0.3**
GUIV				*eS*	**Sn**	**09 00 10.4**	**-2.0**
TRN	**Trinidad (W)**	**0.69**	**108**	*i P*	**Pn**	**09 00 04.9**	**+1.7**
TRN				*eS*	**Sn**	**09 00 16.1**	**-0.9**
TPP	**Pointe-a-Pierr**	**0.81**	**131**	*eP*	**Pn**	**09 00 06.1**	**+1.8**
GUNV	**Guanoco**	**1.10**	**231**	*eP*	**Pn**	**09 00 09.2**	**+2.0**
GUNV				*eS*	**Sn**	**09 00 25.0**	**+0.8**
CRUV	**Carupano**	**1.16**	**261**	*eP*	**Pn**	**09 00 08.6**	**+0.7**
CRUV				*eS*	**Sn**	**09 00 23.9**	**-1.3**
GRGR	**Grenville**	**1.33**	**18**	*eP*	**Pn**	**09 00 10.2**	**+0.3**
GRGR				*eS*	**Sn**	**09 00 27.1**	**-1.6**
GRGR	**Grenville**	**1.33**	**18**	*eP*	**Pn**	**09 00 10.0**	**+0.2**
GRGR				*eS*	**Sn**	**09 00 27.0**	**-1.6**
GRW	**Mount Saint Ca**	**1.35**	**17**	*eP*	**Pn**	**09 00 12.3**	**+2.1**
GRW				*eS*	**Sn**	**09 00 28.8**	**-0.5**
BOT	**Bacolet**	**1.36**	**77**	*eP*	**Pn**	**09 00 11.8**	**+1.6**
TOSP	**Speyside**	**1.57**	**74**	*eP*	**Pn**	**09 00 12.9**	**+0.3**
TOSP				*eS*	**Sn**	**09 00 32.5**	**-1.1**
SVB	**Belmont**	**2.53**	**18**	*eP*	**Pn**	**09 00 27.2**	**+2.4**
SVB				*eS*	**Sn**	**09 00 53.8**	**-1.6**
PCRV	**Puerto La Cruz**	**2.61**	**255**	*eP*	**Pn**	**09 00 27.6**	**+1.7**
PRGV	**PARIAGUAN**	**3.28**	**231**	*eS*	**Sn**	**09 01 13.5**	**+0.3**
CUPV	**Cœpira**	**3.74**	**258**	*eP*	**Pn**	**09 00 42.5**	**+1.6**
CUPV				*eS*	**Sn**	**09 01 23.4**	**-0.9**
LUEV	**Luepa**	**5.02**	**173**	*eS*	**Sn**	**09 01 52.3**	**-3.0**
BAUV	**El Baul**	**6.18**	**253**	*eP*	**Pn**	**09 01 14.0**	**+0.2**
BAUV				*eS*	**Sn**	**09 02 20.1**	**-3.1**

*SOME **28** 09:12:35.6, 39°.98N×77°.02E, h5km*
*NNC **28** 09:12:35.2±1.9, 39°.98N×77°.05E, h0km, mb4.1, mpv3.8, Error ellipse: s-maj=16.6km s-min=8.8km az=136.0*
*KRNET **28** 09:12:36.8±0.1, 40°.03N×76°.87E, mb3.4*

ISC 28 09:12:38.7±1.6, 40°.10N±0°.07×76°.92E±0°.04, h10km, n39, σ2§07/72, 31C-14D, Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NRN	**Naryn**	**1.50**	**333**	*eP*	**Pb**	**09 13 06.3**	**-0.6**
	baz=334						
NRN				*eS*	**Sb**	**09 13 27.5**	**+1.3**
	baz=334						
KDJ	**Kajisay**	**2.04**	**5**	*eP*	**Pb**	**09 13 15.0**	**-0.9**
	baz=6.0						
KDJ				*iS*	**Sb**	**09 13 42.7**	**+1.3**
	baz=6.0						
ULHL	**Ulahol**	**2.21**	**347**	*i P*	**Pb**	**09 13 18.1**	**-0.7**
	baz=348						
ULHL				*eS*	**Sg**	**09 13 48.9**	**-0.7**
	baz=348						
KZA	**Kyzart**	**2.35**	**328**	*i P*	**Pb**	**09 13 20.1**	**-1.2**
	baz=330						
KZA				*eS*	**Sg**	**09 13 53.6**	**-0.5**
	baz=330						
BOOM	**Boomskoye usch**	**2.50**	**343**	*eP*	**Pb**	**09 13 21.9**	**-1.9**
	baz=344						
BOOM				*eS*	**Sb**	**09 13 53.9**	**-0.8**
	baz=344						
PRZ	**Przheval'sk**	**2.63**	**25**	*eP*	**Pb**	**09 13 23.5**	**-2.5**
	baz=25						
PRZ				*eS*	**Sb**	**09 13 57.3**	**-1.1**
	baz=25						
ARLS	**Aral**	**2.64**	**313**	*eP*	**Pb**	**09 13 23.2**	**-2.9**
	baz=315						
ARLS				*eS*	**Sn**	**09 13 56.6**	**+3.0**
	baz=315						
ANVS	**Anan'yevo**	**2.74**	**12**	*eP*	**Pb**	**09 13 25.0**	**-2.9**
	baz=12						
ANVS				*eS*	**Sb**	**09 13 59.7**	**-1.9**
	baz=12						
TNSS	**Tian-Shan**	**2.94**	**0**	*eP*	**Pb**	**09 13 31.7**	**+0.3**
	64nm,0.3s						
TNSS				*eS*	**Sg**	**09 14 12.1**	**-0.9**
	230nm,0.5s						
IZV	**Izvestkoviy**	**2.94**	**356**	*eP*	**Pb**	**09 13 31.7**	**+0.3**
	42nm,0.5s						
IZV				*eS*	**Sg**	**09 14 12.2**	**-1.1**
	146nm,0.9s						
KBK	**Karagaybulak**	**2.96**	**330**	*i P*	**Pb**	**09 13 28.5**	**-3.0**
	baz=332						
KBK				*iS*	**Sb**	**09 14 07.1**	**-0.7**
	baz=332						
TKM2	**Tokmak 2**	**2.99**	**341**	*i P*	**Pb**	**09 13 28.8**	**-3.3**
	baz=342						
TKM2				*eS*	**Sb**	**09 14 07.8**	**-1.0**
	baz=342						
TKM2	**Tokmak 2**	**2.99**	**341**	⇓Pn	**Pn**	**09 13 27.5**	**+1.2**
	14nm,0.5s						
TKM2				⇑Lg	Lg	09 14 15.4	
	54nm,0.8s						
KST	**Kastek**	**3.03**	**347**	*eP*	**Pb**	**09 13 33.5**	**+0.7**
	3.3nm,0.4s						
KST				*eS*	**Sg**	**09 14 15.2**	**-0.7**
	79nm,0.4s						
MTBS	**Maitube**	**3.05**	**353**	*eP*	**Pb**	**09 13 33.4**	**+0.3**
	21nm,0.4s						
MTBS				*eS*	**Sg**	**09 14 14.6**	**-2.0**
	144nm,0.4s						
MDOK	**Medeo**	**3.06**	**2**	⇓Pg	**Pb**	**09 13 33.3**	**0.0**
MDOK				⇑Lg	Lg	09 14 16.1	
MDOK	**Medeo**	**3.06**	**2**	*eP*	**Pb**	**09 13 33.8**	**+0.4**
	22nm,0.4s						
MDOK				*eS*	**Sg**	**09 14 15.6**	**-1.4**
	158nm,0.7s						
KNDC	**Almaty**	**3.12**	**1**	⇓Pg	**Pb**	**09 13 32.4**	**-1.8**
KNDC				⇑Lg	Lg	09 14 18.9	
AAK	**Ala-Archa**	**3.12**	**325**	⇓*iP*	**Pb**	**09 13 30.7**	**-3.7**
	baz=326						
AAK				⇓*iS*	**Sb**	**09 14 10.2**	**-2.4**
	baz=326						
AAK	**Ala-Archa**	**3.12**	**325**	⇓Pn	**Pn**	**09 13 28.2**	**+0.1**
	12nm,0.5s						
AAK				⇑Lg	Lg	09 14 19.7	
	86nm,0.7s						
SATY	**Saty**	**3.16**	**20**	*eP*	**Pb**	**09 13 33.8**	**-1.2**
	56nm,0.8s						
SATY				*eS*	**Sb**	**09 14 15.6**	**+2.0**
	206nm,0.5s						
AML	**Almayashu**	**3.17**	**311**	⇑*iP*	**Pb**	**09 13 31.6**	**-3.8**
	baz=312						
AML				⇑*iS*	**Sb**	**09 14 11.9**	**-2.3**
	baz=312						
ARSB	**Arslanbob**	**3.23**	**294**	⇓*eP*	**Pn**	**09 13 31.0**	**+1.4**
	baz=295						
ARSB				⇓*eS*	**Sn**	**09 14 10.5**	**+2.2**
	baz=295						
DGS	**Degeres**	**3.26**	**345**	*eP*	**Pb**	**09 13 37.5**	**+0.9**
	23nm,0.5s						
DGS				*eS*	**Sg**	**09 14 22.3**	**-1.0**
	74nm,0.4s						
ZHN	**Zhinishke**	**3.27**	**20**	*eP*	**Pb**	**09 13 37.2**	**+0.4**
	20nm,0.5s						
ZHN				*eS*	**Sg**	**09 14 21.5**	**-2.2**
	113nm,0.3s						
UZB	**Uzynbulak**	**3.43**	**27**	*eP*	**Pb**	**09 13 39.1**	**-0.5**
	15nm,0.7s						
UZB				*eS*	**Sg**	**09 14 24.8**	**-4.0**
	42nm,0.8s						
KURS	**Kuram**	**3.51**	**15**	*eP*	**Pb**	**09 13 41.0**	**0.0**
KURS				*eS*	**Sg**	**09 14 28.0**	**-3.5**
KPKS	**Kokpek**	**3.61**	**21**	*eP*	**Pb**	**09 13 42.4**	**-0.3**
	34nm,0.3s						
KPKS				*eS*	**Sg**	**09 14 30.5**	**-4.2**
	153nm,1.0s						
KTBS	**Karatobe**	**3.62**	**357**	*eP*	**Pb**	**09 13 42.5**	**-0.2**
KTBS				*eS*	**Sb**	**09 14 30.6**	**+4.0**
CHKK	**Chushkaly**	**3.75**	**1**	*eP*	**Pb**	**09 13 46.0**	**+1.0**
	32nm,0.4s						
CHKK				*eS*	**Sg**	**09 14 36.9**	**-2.2**
	186nm,0.5s						
PDGK	**Podgornoye**	**3.76**	**30**	⇑*eP*	**Pn**	**09 13 38.5**	**+1.7**
	baz=30						
PDGK				⇑*eS*	**Sn**	**09 14 24.1**	**+3.0**
	baz=30						
PDGK	**Podgornoye**	**3.76**	**30**	⇓Pg	**Pb**	**09 13 44.3**	**-0.9**
	16nm,0.6s						
PDGK				⇑Lg	Lg	09 14 34.9	
	48nm,0.6s						
MRKS	**Merke**	**3.83**	**315**	*eP*	**Pb**	**09 13 48.1**	**+1.6**
	20nm,0.8s						
MRKS				*eS*	**Sg**	**09 14 40.3**	**-1.5**
	46nm,0.6s						
MNAS	**Manas**	**4.09**	**307**	⇑Pn	**Pn**	**09 13 43.2**	**+1.8**
	3.6nm,0.5s						
MNAS				⇑Pg	**Pb**	**09 13 50.7**	**-0.2**
	5.7nm,0.5s						
MNAS				⇓Lg	Lg	09 14 51.2	
	21nm,0.8s						
MNBS	**Baschi**	**4.13**	**15**	*eP*	**Pb**	**09 13 50.6**	**-0.8**
	17nm,0.5s						
MNBS				*eS*	**Sb**	**09 14 44.8**	**+3.4**
	58nm,0.5s						
ARXS	**Arharly**	**4.17**	**9**	*eP*	**Pb**	**09 13 52.7**	**+0.6**
	19nm,0.8s						
ARXS				*eS*	**Sg**	**09 14 48.4**	**-4.0**
	41nm,0.6s						
DJR	**Jarkent**	**4.74**	**26**	*eP*	**Pb**	**09 14 03.1**	**+1.2**
	7.5nm,0.6s						
DJR				*eS*	**Sg**	**09 15 06.1**	**-4.6**
	41nm,0.6s						
KK31	**Karatay Array**	**5.67**	**304**	⇑Pg	**Pb**	**09 14 20.3**	**+2.7**
	5.5nm,0.7s,baz=118,slow=11,SNR=18						
KK31				⇑Lg	Lg	09 15 37.5	
	3.1nm,0.4s,baz=110,slow=28,SNR=5.2						
DZET	**Dzherino**	**6.40**	**261**	⇑Pn	**Pn**	**09 14 10.8**	**-2.3**
	14nm,0.4s						
DZET				⇑Sn	**Sn**	**09 15 27.0**	**+0.8**
	11nm,0.5s						

*IDC **28** 09:32:51.5±2.5, 26°.98S×176°.48W, h0km, mb3.9/3, mb1 4.1/4, mb1mx3.8/21, mbtmp4.0/4, ML4.5/1, MS3.0/2, Ms1 3.0/2, ms1mx2.6/25, Error ellipse: s-maj=47.2km s-min=35.2km az=71.0*

ISC 28 09:32:56.2±2.4, 27°.0S±0°.1×176°.4W±0°.3, h35km, n7, σ1§46/6, mb3.7/3, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**2.61**	**210**	Pn	**Pn**	**09 33 35.0**	**-1.0**
	98nm,0.3s,baz=262,slow=19,SNR=3.7						
RAO				Sn	**Sn**	**09 34 07.4**	**+1.0**
	257nm,0.3s,baz=92,slow=23,SNR=7.7						
AFI	**Afiamalu**	**13.72**	**19**	LR	LR	09 41 59.4	
	comp=Z,19nm,18.3s,baz=103,slow=40						
DZM	**Mont Dzumac**	**16.34**	**284**	LR	LR	09 41 37.4	
	comp=Z,139nm,19.9s,baz=210,slow=32						
CTA	**Charters Tower**	**34.81**	**273**	P	**P**	**09 39 45.3**	**+1.3**
	2.8nm,0.4s,baz=105,slow=12,SNR=3.2						
ASAR	**Alice Springs**	**44.80**	**263**	P	**P**	**09 41 06.1**	**-0.9**
	0.4nm,0.6s,baz=96,slow=6.6,SNR=8.6						
WRA	**Warramunga Arr**	**45.49**	**268**	P	**P**	**09 41 11.3**	**-1.2**
	0.7nm,0.6s,baz=108,slow=7.5,SNR=7.3						
TORD	**Torodi Ar. Bea**	**166.11**	**172**	PKPab	**PKPab**	**09 53 59.4**	**+0.8**
	0.6nm,0.9s,baz=188,slow=5.5,SNR=3.1						

*CSEM **28** 09:44:13.9, 38°.42N×21°.97E, h8km, ML0.6/3*

ATH 28 09:44:13.9, 38°.42N×21°.97E, h8km±3km, ML0.6/3, Error ellipse: s-maj=5.2km s-min=1.3km az=194.0, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EFP	**Efpalio**	**0.05**	**279**	P	Pg	09 44 16.1	+0.4
EFP	**Efpalio**	**0.05**	**279**	P	Pg	09 44 16.1	+0.4
EFP				S	Sg	09 44 16.8	-0.2
EFP				AML	AML	09 44 17.7	
	comp=E,158μm,0.2s						
EFP				AML	AML	09 44 17.9	
	comp=N,93μm,0.1s						
EFP	**Efpalio**	**0.05**	**279**	P	Pg	09 44 17.4	+1.7
EFP				S

KALE				AML	AML	09 44 20.2	
	comp=E,52µm,0.2s						
ANX	**Ano Chora**	**0.18 347**	P	Pg		09 44 18.2	+0.5
ANX			S	Sg		09 44 21.5	+1.2
ANX			AML	AML		09 44 21.6	
	comp=N,85µm,0.3s						
ANX			AML	AML		09 44 21.8	
	comp=E,77µm,0.3s						
LAKA	**Lakka**	**0.18 178**	P	Pg		09 44 17.7	0.0

*IDC **28** 09:47:53.7±1.0,26°.92N×144°.00E, h0km, mb4.0/10, mb1 4.1/12, mb1mx3.9/44, mbtmp4.0/12, ML4.0/2, Error ellipse: s-maj=30.4km s-min=19.2km az=81.0*
*NEIC **28** 09:47:55.2±0.6,26°.96N×143°.98E, h10km, mb4.3/2, Error ellipse: s-maj=14.5km s-min=9.1km az=75.0*
*ISCJB **28** 09:47:56.8±0.7,26°.88N±0°.09×143°.89E±0°.09, h33km, mb4.1/12, Error ellipse: s-maj=13.2km s-min=10.8km az=29.8*

ISC 28 09:47:59.4±1.0,27°.0N±0°.1×143°.8E±0°.1, h35km, n20, σ1§18/21, mb4.2/12, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CBIJ	**Chichi jima**	**1.45**	**275**	*e*Pn	**Pn**	**09 48 23.5**	**+0.4**
CBIJ				*e*Sn	**Sn**	**09 48 39.6**	**-1.3**
MJAR	**Matsushiro Arr**	**10.65**	**335**	Pn	**Pn**	**09 50 27.5**	**-2.0**
	2.0nm,0.3s,baz=163,slow=11,SNR=20						
MAJO	**Matsushiro**	**10.65**	**335**	*e*Pn	**Pn**	**09 50 27.9**	**-1.7**
	9.5nm,0.6s						
MAT	**Matsushiro**	**10.65**	**335**	P	**Pn**	**09 50 27.4**	**-2.1**
KSRS	**Korea Array**	**16.99**	**312**	P	**P**	**09 51 55.6**	**-0.3**
	0.3nm,0.3s,baz=119,slow=11,SNR=9.2						
KSAR	**Wonju Array Be**	**17.01**	**312**	P	**P**	**09 51 55.6**	**-0.5**
USRK	**Ussuriysk Ar.**	**19.65**	**334**	P	**Pn**	**09 52 27.8**	**+1.2**
	0.3nm,0.3s,baz=130,slow=13,SNR=3.9						
SONM	**Songino Array**	**35.80**	**316**	P	**P**	**09 54 57.2**	**+1.7**
	1.2nm,0.7s,baz=117,slow=8.7,SNR=2.4						
WRAB	**Tennant Creek**	**47.53**	**192**	*e*P	**P**	**09 56 30.5**	**-0.9**
	3.1nm,0.7s						
WRA	**Warramunga Arr**	**47.54**	**192**	P	**P**	**09 56 30.4**	**-1.1**
	3.0nm,0.9s,baz=13,slow=8.5,SNR=14						
ASAR	**Alice Springs**	**51.25**	**192**	P	**P**	**09 56 59.2**	**-0.6**
	0.4nm,0.6s,baz=10,slow=5.2,SNR=5.5						
MKAR	**Makanchi Array**	**51.66**	**310**	P	**P**	**09 57 03.6**	**+0.8**
	0.9nm,0.4s,baz=84,slow=10,SNR=12						
KURK	**Kurchatov**	**54.09**	**315**	P	**P**	**09 57 21.6**	**+1.0**
KURBB	**Kurchatov Arra**	**54.15**	**314**	P	**P**	**09 57 21.6**	**+0.6**
	1.5nm,0.5s,baz=90,slow=7.8,SNR=14						
ILAR	**Eielson Array**	**57.12**	**29**	P	**P**	**09 57 41.0**	**-1.2**
	0.8nm,1.0s,baz=250,slow=5.9,SNR=4.9						
BVAR	**Borovoye Array**	**59.10**	**318**	P	**P**	**09 57 56.4**	**+0.2**
	0.9nm,0.4s,baz=98,slow=7.1,SNR=5.6						
KKAR	**Karatay Array**	**60.32**	**306**	*e*P	**P**	**09 58 05.3**	**+0.6**
	0.7nm,0.4s						
INK	**Inuvik**	**62.54**	**25**	P	**P**	**09 58 19.2**	**0.0**
	1.4nm,0.6s,baz=286,slow=3.4,SNR=9.3						
ARU	**Arti**	**65.39**	**322**	P	**P**	**09 58 38.4**	**+0.1**
	2.1nm,0.4s,baz=140,slow=0.9,SNR=4.1						
KBZ	**Khabaz**	**79.14**	**314**	P	**P**	**10 00 01.4**	**+0.9**
	1.1nm,0.5s,baz=108,slow=1.9,SNR=4.0						

*IDC **28** 09:48:08.0±1.0,26°.99N×143°.99E, h0km, mb3.9/7, mb1 4.1/9, mb1mx3.8/44, mbtmp3.9/9, ML4.0/2, Error ellipse: s-maj=32.8km s-min=19.9km az=86.0*
*ISCJB **28** 09:48:10.7±0.8,27°.05N±0°.09×143°.9E±0°.1, h33km, mb4.0/7, Error ellipse: s-maj=18.9km s-min=12.8km az=6.5*

ISC 28 09:48:13.2±1.1,27°.1N±0°.1×143°.9E±0°.2, h35km, n13, σ1§01/13, mb4.2/7, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MJAR	**Matsushiro Arr**	**10.61**	**334**	Pn	**Pn**	**09 50 41.6**	**-1.2**
	2.2nm,0.3s,baz=166,slow=11,SNR=10.0						
JOW	**Kunigami**	**13.91**	**273**	Pn	**Pn**	**09 51 27.2**	**-0.7**
ERM	**Erimo**	**14.94**	**358**	*e*Pn	**Pn**	**09 51 40.7**	**-1.0**
KSRS	**Korea Array**	**16.98**	**312**	P	**P**	**09 52 10.6**	**+0.9**
	0.2nm,0.3s,baz=123,slow=11,SNR=6.9						
ASAJ	**Asahikawa**	**17.05**	**357**	*e*P	**Pn**	**09 52 08.0**	**-0.9**
WRA	**Warramunga Arr**	**47.62**	**192**	P	**P**	**09 56 44.8**	**-1.2**
	2.9nm,0.8s,baz=12,slow=8.2,SNR=8.4						
ASAR	**Alice Springs**	**51.34**	**192**	P	**P**	**09 57 14.7**	**+0.4**
	0.3nm,0.5s,baz=6.9,slow=5.3,SNR=8.4						
MKAR	**Makanchi Array**	**51.65**	**310**	P	**P**	**09 57 17.5**	**+1.0**
	1.1nm,0.4s,baz=88,slow=9.6,SNR=12						
KURBB	**Kurchatov Arra**	**54.14**	**314**	P	**P**	**09 57 35.0**	**+0.3**
	1.2nm,0.5s,baz=90,slow=8.0,SNR=9.3						
ILAR	**Eielson Array**	**57.03**	**29**	P	**P**	**09 57 54.6**	**-0.7**
	0.7nm,0.9s,baz=271,slow=5.5,SNR=4.7						
BVAR	**Borovoye Array**	**59.08**	**318**	P	**P**	**09 58 11.0**	**+1.1**
	0.6nm,0.3s,baz=92,slow=7.4,SNR=3.7						
INK	**Inuvik**	**62.45**	**25**	P	**P**	**09 58 33.3**	**+0.9**
	1.2nm,0.6s,baz=287,slow=7.2,SNR=7.8						
ABKAR	**Akbulak array**	**66.19**	**315**	*e*P	**P**	**09 58 58.1**	**+0.8**

IDC 28 10:00:41.7±8.2,21°.30N×145°.76E, h0km, mb3.5/3, mb1 3.7/3, mb1mx3.3/45, mbtmp3.5/3, Error ellipse: s-maj=304.5km s-min=28.9km az=77.0, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SONM	**Songino Array**	**41.19**	**320**	P	P	10 08 28.0	-0.1
	0.6nm,0.4s,baz=108,slow=4.7,SNR=3.0						
WRA	**Warramunga Arr**	**42.48**	**196**	P	P	10 08 38.6	-0.2
	0.3nm,0.3s,baz=18,slow=8.9,SNR=12						
ASAR	**Alice Springs**	**46.16**	**195**	P	P	10 09 08.3	0.0
	0.3nm,0.7s,baz=17,slow=7.3,SNR=4.7						

*NEIC **28** 10:42:11.1±0.0, 16°.58N×98°.40W, h8km, MD4.0(MEX), After MEX.*

MEX 28 10:42:11.1±0.5, 16°.58N×98°.40W, h8km±6km, MD4.0, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PNIG	**Pinotepa**	**0.32**	**125**	*i* P	Pg	10 42 16.7	-0.7
PNIG				*e*S	Sg	10 42 22.0	+0.4
PNIG	**Pinotepa**	**0.32**	**125**	*i* P	Pg	10 42 16.7	-0.7
PNIG				*e*S	Sg	10 42 22.0	+0.4
TLIG	**Tlapa**	**0.99**	**351**	*e*P	Pg	10 42 27.0	-3.2
TLIG				*i* S	Sg	10 42 40.1	-3.0
HMTT	**Tlapaneco**	**1.22**	**353**	*e*P	Pb	10 42 30.3	-4.3
HMTT				*e*S	Sg	10 42 47.0	-3.5
ACX	**Acapulco**	**1.43**	**282**	*e*P	Pn	10 42 35.4	-2.1
ACX				*i* S	Sn	10 42 52.8	-3.6
ACX	**Acapulco**	**1.43**	**282**	*e*P	Pn	10 42 35.4	-2.1
ACX				*i* S	Sn	10 42 52.8	-3.6
ACP2	**Acapulco**	**1.46**	**282**	*i* P	Pn	10 42 34.7	-3.1
ACP2				*e*S	Sn	10 42 51.8	-5.3
VHO	**Vista Hermosa**	**1.67**	**73**	*e*P	Pn	10 42 37.2	-3.7
VHO				*i* S	Sn	10 42 57.2	-5.4
VHO	**Vista Hermosa**	**1.67**	**73**	*e*P	Pn	10 42 37.2	-3.7
VHO				*i* S	Sn	10 42 57.2	-5.4
TPIG	**Tehuac#an**	**2.08**	**28**	*e*P	Pn	10 42 43.4	-3.1
TPIG				*i* S	Sn	10 43 08.7	-4.1
TPIG	**Tehuac#an**	**2.08**	**28**	*e*P	Pn	10 42 43.4	-3.1
TPIG				*i* S	Sn	10 43 08.7	-4.1
PLIG	**Platanillo**	**2.09**	**330**	*e*P	Pn	10 42 44.0	-2.6
PLIG				*i* S	Sn	10 43 08.3	-4.5
PLIG	**Platanillo**	**2.09**	**330**	*e*P	Pn	10 42 44.0	-2.6
PLIG				*i* S	Sn	10 43 08.3	-4.5
HUIG	**Huatulco**	**2.34**	**110**	*i* P	Pn	10 42 47.0	-2.9
HUIG				*i* S	Sn	10 43 13.9	-5.0
HUIG	**Huatulco**	**2.34**	**110**	*i* P	Pn	10 42 47.0	-2.9
HUIG				*i* S	Sn	10 43 13.9	-5.0
YAIG	**Yautepec**	**2.36**	**344**	*i* P	Pn	10 42 47.4	-3.0
YAIG				*i* S	Sn	10 43 16.0	-3.6
YAIG	**Yautepec**	**2.36**	**344**	*i* P	Pn	10 42 47.4	-3.0
YAIG				*i* S	Sn	10 43 16.0	-3.6
PPM	**Popocatepetl**	**2.49**	**355**	*e*P	Pn	10 42 50.0	-2.4
PPM				*i* S	Sn	10 43 18.1	-5.0
PPM	**Popocatepetl**	**2.49**	**355**	*e*P	Pn	10 42 50.0	-2.4
PPM				*i* S	Sn	10 43 18.1	-5.0
ARIG	**Puente Sto Nin**	**2.52**	**313**	*e*P	Pn	10 42 49.7	-2.6
ARIG				*e*S	Sn	10 43 18.9	-4.4
ZIIG	**Zihuatanejo**	**3.11**	**290**	*i* P	Pn	10 42 57.8	-2.6
ZIIG				*i* S	Sn	10 43 33.8	-4.0
ZIIG	**Zihuatanejo**	**3.11**	**290**	*i* P	Pn	10 42 57.8	-2.6
ZIIG				*i* S	Sn	10 43 33.8	-4.0

*NEIC **28** 10:51:18.8±0.0, 19°.76N×96°.64W, h23km, MD4.1(MEX), After MEX.*

MEX 28 10:51:18.8±0.6, 19°.76N×96°.64W, h23km±12km, MD4.1, Veracruz

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TPIG	**Tehuac#an**	**1.50**	**207**	*i* P	Pn	10 51 41.6	-2.9
TPIG				*e*S	Sn	10 52 00.4	-3.0
TPIG	**Tehuac#an**	**1.50**	**207**	*i* P	Pn	10 51 41.6	-2.9
TPIG				*e*S	Sn	10 52 00.4	-3.0
PHPU	**Puebla**	**1.61**	**244**	*i* P	Pn	10 51 42.5	-3.6
PPM	**Popocatepetl**	**2.00**	**250**	*i* P	Pn	10 51 49.2	-2.4
PPM				*i* S	Sn	10 52 12.5	-3.7
PPM	**Popocatepetl**	**2.00**	**250**	*i* P	Pn	10 51 49.2	-2.4
PPM				*i* S	Sn	10 52 12.5	-3.7
VTVM	**Tizayuca**	**2.01**	**271**	*i* P	Pn	10 51 48.7	-2.9
VTVM				*e*S	Sn	10 52 11.9	-4.2
ZUVM	**ZUMPANGO**	**2.29**	**272**	*i* P	Pn	10 51 54.3	-1.2
ZUVM				*e*S	Sn	10 52 20.0	-3.2
DEIG	**Demacu**	**2.31**	**284**	*i* P	Pn	10 51 53.4	-2.3
DEIG				*e*S	Sn	10 52 21.2	-2.4
DEIG	**Demacu**	**2.31**	**284**	*i* P	Pn	10 51 53.4	-2.3
DEIG				*e*S	Sn	10 52 21.2	-2.4
PTVM	**Pico Tres Padr**	**2.33**	**266**	*i* P	Pn	10 51 53.6	-2.5
PTVM				*e*S	Sn	10 52 21.4	-2.8
PTVM	**Pico Tres Padr**	**2.33**	**266**	*i* P	Pn	10 51 53.6	-2.5
PTVM				*e*S	Sn	10 52 21.4	-2.8
YAIG	**Yautepec**	**2.46**	**249**	*i* P	Pn	10 51 55.1	-2.6
YAIG				*i* S	Sn	10 52 23.7	-3.4
YAIG	**Yautepec**	**2.46**	**249**	*i* P	Pn	10 51 55.1	-2.6
YAIG				*i* S	Sn	10 52 23.7	-3.4
VHO	**Vista Hermosa**	**2.68**	**182**	*e*P	Pn	10 51 58.4	-2.3
VHO				*i* S	Sn	10 52 28.8	-3.7
VHO	**Vista Hermosa**	**2.68**	**182**	*e*P	Pn	10 51 58.4	-2.3
VHO				*i* S	Sn	10 52 28.8	-3.7
TLIG	**Tlapa**	**2.85**	**220**	*e*P	Pn	10 52 01.2	-1.8
TLIG				*i* S	Sn	10 52 33.7	-3.0
PLIG	**Platanillo**	**3.03**	**244**	*e*P	Pn	10 52 04.0	-1.5
PLIG				*i* S	Sn	10 52 38.4	-2.7
PLIG	**Platanillo**	**3.03**	**244**	*e*P	Pn	10 52 04.0	-1.5
PLIG				*i* S	Sn	10 52 38.4	-2.7
CMIG	**Matias Romero**	**3.14**	**148**	*e*P	Pn	10 52 04.7	-2.1
CMIG				*i* S	Sn	10 52 40.5	-3.1
CMIG	**Matias Romero**	**3.14**	**148**	*e*P	Pn	10 52 04.7	-2.1
CMIG				*i* S	Sn	10 52 40.5	-3.1
MEIG	**Mezcala**	**3.36**	**238**	*e*P	Pn	10 52 08.4	-1.6
MEIG				*i* S	Sn	10 52 45.5	-3.7
MEIG	**Mezcala**	**3.36**	**238**	*e*P	Pn	10 52 08.4	-1.6
MEIG				*i* S	Sn	10 52 45.5	-3.7
PNIG	**Pinotepa**	**3.64**	**203**	*e*P	Pn	10 52 12.4	-1.3
PNIG				*e*S	Sn	10 52 52.9	-3.1
PNIG	**Pinotepa**	**3.64**	**203**	*e*P	Pn	10 52 12.4	-1.3
PNIG				*e*S	Sn	10 52 52.9	-3.1
ARIG	**Puente Sto Nin**	**3.80**	**248**	*i* P	Pn	10 52 14.9	-1.1

*ISCJB **28** 10:51:29.8±0.5, 41°.94N±0°.01×22°.96E±0°.03, h7km±3km, Error ellipse: s-maj=4.0km s-min=2.3km az=163.6*
*CSEM **28** 10:51:30.3±0.1, 41°.93N×22°.95E, h5km, ML3.2, Error ellipse: s-maj=3.9km s-min=2.3km az=76.0*
*THE **28** 10:51:30.3, 41°.95N×22°.95E, h2km±1km, ML3.2/8, Error ellipse: s-maj=1.3km s-min=0.6km az=277.0*
*SKO **28** 10:51:30.1, 41°.96N×22°.97E, h18km, M2.6, ML2.8*
*BEO **28** 10:51:30.7±0.8, 41°.93N×22°.99E, h10km±3km, M2.8/8*
*ATH **28** 10:51:31.1, 41°.87N×23°.02E, h22km, ML2.9/13, Error ellipse: s-maj=1.9km s-min=1.0km az=162.0*

ISC 28 10:51:30.2±1.0, 41°.92N±0°.01×22°.96E±0°.02, h7km±9km, n99, σ0§99/158, 8C-10D, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VAY	**Valandovo**	**0.67**	**206**	P	**Pb**	**10 51 43.8**	**-0.4**
VAY				S	**Sb**	**10 51 53.5**	**-0.3**
VAY	**Valandovo**	**0.67**	**206**	⇑*i* Pg	**Pb**	**10 51 44.3**	**+0.1**
VAY				*i* Sg	**Sb**	**10 51 53.5**	**-0.3**
VAY				*e*Lg	Lg	10 51 54.0	
	comp=N,261nm,0.4s						
VAY				*e*Lg	Lg	10 51 54.4	
	comp=E,344nm,0.3s						
VAY	**Valandovo**	**0.67**	**206**	P	**Pb**	**10 51 43.8**	**-0.4**
VAY	**Valandovo**	**0.67**	**206**	⇑*i* Pg	**Pb**	**10 51 44.3**	**+0.1**
VAY				*i* Sg	**Sb**	**10 51 53.4**	**-0.3**
VAY				*e*Lg	Lg	10 51 54.0	
	comp=E,261nm,0.4s						
VTS	**Vitosha**	**0.69**	**15**	P	**Pg**	**10 51 43.0**	**-0.6**
VTS				S	**Sg**	**10 51 52.5**	**-0.1**
VTS	**Vitosha**	**0.69**	**15**	*e*Pg	**Pg**	**10 51 43.4**	**-0.2**
VTS				*e*Sg	**Sg**	**10 51 52.2**	**-0.4**
VTS	**Vitosha**	**0.69**	**15**	⇓*i* P	**Pg**	**10 51 43.0**	**-0.4**
VTS				S	**Sg**	**10 51 52.5**	**-0.1**
VTS	**Vitosha**	**0.69**	**15**	P	**Pg**	**10 51 43.0**	**-0.6**
VTS	**Vitosha**	**0.69**	**15**	*e*Pg	**Pg**	**10 51 43.4**	**-0.2**
VTS				*e*Sg	**Sg**	**10 51 52.2**	**-0.4**
KNT	**Kendrikon**	**0.76**	**184**	P	**Pg**	**10 51 45.2**	**+0.4**
KNT				S	**Sb**	**10 51 55.8**	**-0.6**
KNT	**Kendrikon**	**0.76**	**184**	P	**Pg**	**10 51 45.2**	**+0.4**
KNT				S	**Sg**	**10 51 55.5**	**+0.8**
KNT	**Kendrikon**	**0.76**	**184**	P	**Pg**	**10 51 45.4**	**+0.6**
KNT				S	**Sg**	**10 51 55.5**	**+0.8**
KNT				AML	AML	10 51 56.5	
	comp=E,3046µm,0.2s						
KNT				AML	AML	10 51 56.6	
	comp=N,2216µm,0.2s						
NVR	**Nevrokopi**	**0.88**	**130**	P	**Pg**	**10 51 47.0**	**-0.2**
NVR				S	**Sn**	**10 52 00.8**	**-1.4**
NVR	**Nevrokopi**	**0.88**	**130**	P	**Pg**	**10 51 47.2**	**0.0**
NVR				S	**Sg**	**10 51 58.0**	**-0.6**
NVR	**Nevrokopi**	**0.88**	**130**	P	**Pg**	**10 51 47.2**	**0.0**
NVR				S	**Sg**	**10 51 58.0**	**-0.6**
NVR				AML	AML	10 51 59.0	
	comp=N,1754µm,0.3s						
NVR				AML	AML	10 51 59.0	
	comp=E,1809µm,0.2s						
SRS	**Serrai**	**0.93**	**149**	P	**Pg**	**10 51 48.1**	**0.0**
SRS				S	**Sn**	**10 52 02.4**	**-1.0**
SRS	**Serrai**	**0.93**	**149**	P	**Pg**	**10 51 48.3**	**+0.2**
SRS				S	**Sg**	**10 51 59.5**	**-0.7**
SRS	**Serrai**	**0.93**	**149**	P	**Pg**	**10 51 48.3**	**+0.2**
SRS				S	**Sg**	**10 51 59.5**	**-0.7**
SRS				AML	AML	10 52 03.9	
	comp=N,1256µm,0.4s						
SRS				AML	AML	10 52 05.4	
	comp=E,871µm,0.3s						
GRG	**Griva**	**1.05**	**204**	P	**Pg**	**10 51 50.5**	**+0.1**
GRG				S	**Sn**	**10 52 06.6**	**+0.1**
GRG	**Griva**	**1.05**	**204**	P	**Pg**	**10 51 50.5**	**+0.1**
GRG				S	**Sb**	**10 52 05.2**	**+0.3**
GRG	**Griva**	**1.05**	**204**	P	**Pg**	**10 51 50.3**	**-0.1**
GRG				S	**Sb**	**10 52 05.2**	**+0.3**
GRG				AML	AML	10 52 08.9	
	comp=E,2062µm,0.4s						
GRG				AML	AML	10 52 09.2	
	comp=N,1487µm,0.4s						
BARS	**Barje**	**1.23**	**317**	*e*Pg	**Pn**	**10 51 53.3**	**-0.6**
BARS				*e*Sg	**Sb**	**10 52 09.1**	**-0.9**
BARS	**Barje**	**1.23**	**317**	*e*Pg	**Pn**	**10 51 53.3**	**-0.6**
BARS				*e*Sg	**Sb**	**10 52 09.1**	**-0.9**
THE	**Thessaloniki**	**1.29**	**180**	P	**Pb**	**10 51 54.8**	**0.0**
THE	**Thessaloniki**	**1.29**	**180**	P	**Pb**	**10 51 54.8**	**0.0**
THE				S	**Sb**	**10 52 11.5**	**-0.1**
THE	**Thessaloniki**	**1.29**	**180**	P	**Pb**	**10 51 54.8**	**0.0**
THE				S	**Sb**	**10 52 11.5**	**-0.1**
THE				AML	AML	10 52 15.6	
	comp=E,592µm,0.3s						
THE				AML	AML	10 52 16.2	
	comp=N,862µm,0.4s						
HORT	**Hortiatis**	**1.33**	**176**	P	**Pb**	**10 51 55.6**	**+0.1**
HORT				S	**Sg**	**10 52 14.0**	**+1.1**
HORT	**Hortiatis**	**1.33**	**176**	P	**Pb**	**10 51 55.6**	**+0.1**
HORT				S	**Sg**	**10 52 13.7**	**+0.8**
HORT	**Hortiatis**	**1.33**	**176**	P	**Pg**	**10 51 56.1**	**+0.5**
HORT				S	**Sg**	**10 52 13.7**	**+0.8**
HORT				AML	AML	10 52 15.8	
	comp=E,674µm,0.4s						
HORT				AML	AML	10 52 16.0	
	comp=N,790µm,0.5s						
ZAPS	**Zavoj**	**1.37**	**350**	*e*Pg	**Pb**	**10 51 55.7**	**-0.6**
ZAPS				*e*Sg	**Sg**	**10 52 15.9**	**+1.6**
KRUS	**Krusevo**	**1.40**	**247**	*i* Pg	**Pb**	**10 51 57.0**	**+0.2**
KRUS				*e*Lg	Lg	10 52 17.7	
	comp=N,12nm,0.2s						
KRUS				*e*Lg	Lg	10 52 18.4	
	comp=E,8.8nm,0.2s						
KRUS	**Krusevo**	**1.40**	**247**	*i* Pg	**Pb**	**10 51 56.9**	**+0.2**
KRUS				*e*Lg	Lg	10 52 17.6	
	comp=E,12nm,0.2s						
KAVA	**Kavala**	**1.49**	**128**	P	**Pn**	**10 51 57.5**	**+0.1**
KAVA				S	**Sg**	**10 52 18.5**	**+0.5**
KAVA	**Kavala**	**1.49**	**128**	P	**Pn**	**10 51 57.5**	**+0.1**
KAVA				S	**Sb**	**10 52 17.1**	**-0.2**
KAVA	**Kavala**	**1.49**	**128**	P	**Pn**	**10 51 56.9**	**-0.5**
KAVA				S	**Sb**	**10 52 17.1**	**-0.2**
KAVA				AML	AML	10 52 19.9	
	comp=E,933µm,0.3s						
KAVA				AML	AML	10 52 20.0	
	comp=N,926µm,0.2s						
PLG	**Polygyros**	**1.59**	**167**	P	**Pn**	**10 51 59.1**	**+0.3**
PLG	**Polygyros**	**1.59**	**167**	P	**Pn**	**10 51 59.1**	**+0.3**
PLG				S	**Sb**	**10 52 20.2**	**-0.1**
PLG	**Polygyros**	**1.59**	**167**	P	**Pg**	**10 52 00.7**	**+0.1**
PLG				S	**Sb**	**10 52 20.2**	**-0.1**
PLG				AML	AML	10 52 24.2	
	comp=E,413µm,0.4s						
PLG				AML	AML	10 52 26.0	
	comp=N,282µm,0.4s						
FNA	**Florina**	**1.65**	**227**	P	**Pg**	**10 52 01.8**	**0.0**
FNA	**Florina**	**1.65**	**227**	P	**Pg**	**10 52 01.8**	**0.0**
FNA				AML	AML	10 52 24.6	
	comp=N,130µm,0.5s						
FNA				AML	AML	10 52 25.0	
	comp=E,113µm,0.6s						
OUR	**Ouranopolis**	**1.76**	**154**	P	**Pn**	**10 52 01.1**	**-0.1**
OUR				S	**Sb**	**10 52 26.0**	**+0.8**
OUR	**Ouranopolis**	**1.76**	**154**	P	**Pn**	**10 52 01.1**	**-0.1**
OUR				S	**Sn**	**10 52 23.3**	**-0.6**
OUR	**Ouranopolis**	**1.76**	**154**	P	**Pn**	**10 52 00.7**	**-0.4**
OUR				S	**Sn**	**10 52 23.3**	**-0.6**
OUR				AML	AML	10 52 31.5	
	comp=N,1000µm,0.5s						
OUR				AML	AML	10 52 33.3	
	comp=E,648µm,0.4s						
LIT	**Litokhoron**	**1.86**	**191**	P	**Pn**	**10 52 01.8**	**-0.7**
LIT				S	**Sb**	**10 52 28.6**	**+0.7**
LIT	**Litokhoron**	**1.86**	**191**	P	**Pn**	**10 52 01.8**	**-0.7**
LIT				S	**Sb**	**10 52 28.6**	**+0.7**
SELS	**Selova**	**1.88**	**314**	*e*Pn	**Pn**	**10 52 02.0**	**-0.8**
SELS				*e*Sn	**Sn**	**10 52 26.7**	**-0.2**
BOVS	**Bovan**	**1.95**	**332**	*e*Pn	**Pn**	**10 52 03.4**	**-0.3**
ZAGS	**Zajecar**	**1.96**	**344**	*e*Pn	**Pn**	**10 52 03.6**	**-0.3**
ZAGS				*e*Sn	**Sn**	**10 52 29.0**	**+0.1**
RDO	**Rodhopi**	**2.08**	**111**	P	**Pn**	**10 52 05.8**	**+0.2**
RDO				S	**Sb**	**10 52 34.4**	**0.0**
RDO	**Rodhopi**	**2.08**	**111**	P	**Pn**	**10 52 05.8**	**+0.2**
RDO				S	**Sb**	**10 52 32.7**	**-1.7**
RDO	**Rodhopi**	**2.08**	**111**	P	**Pn**	**10 52 05.8**	**+0.2**
RDO				S	**Sb**	**10 52 32.7**	**-1.7**
RDO				AML	AML	10 52 39.5	
	comp=E,594µm,0.3s						
RDO				AML	AML	10 52 39.7	
	comp=N,724µm,0.4s						
KPRO	**Kipourio**	**2.31**	**212**	P	**Pn**	**10 52 10.3**	**+1.6**
SMTH	**Samothraki Isl**	**2.42**	**126**	P	**Pb**	**10 52 12.7**	**-1.4**
SMTH				S	**Sn**	**10 52 40.0**	**-0.1**
SMTH	**Samothraki Isl**	**2.42**	**126**	P	**Pb**	**10 52 12.7**	**-1.4**
SMTH				S	**Sn**	**10 52 40.0**	**-0.1**
THL	**Klokotos Trika**	**2.46**	**197**	P	**Pn**	**10 52 10.1**	**-0.7**
THL	**Klokotos Trika**	**2.46**	**197**	P	**Pn**	**10 52 10.1**	**-0.7**
FYTO	**Fytoko, Volos**	**2.51**	**180**	P	**Pn**	**10 52 12.2**	**+0.7**
FYTO				S	**Sn**	**10 52 40.3**	**-2.1**
FYTO	**Fytoko, Volos**	**2.51**	**180**	P	**Pn**	**10 52 12.2**	**+0.7**
FYTO				S	**Sn**	**10 52 40.3**	**-2.1**
ALN	**Alexandroupoli**	**2.53**	**113**	P	**Pn**	**10 52 12.1**	**+0.3**
ALN				S	**Sn**	**10 52 43.9**	**+1.0**
ALN	**Alexandroupoli**	**2.53**	**113**	P	**Pn**	**10 52 12.1**	**+0.3**
ALN				S	**Sn**	**10 52 43.9**	**+1.0**
ALN				AML	AML	10 52 53.2	
	comp=N,207µm,0.6s						
ALN				AML	AML	10 52 57.2	
	comp=E,243µm,0.6s						
XOR	**Xorichti**	**2.56**	**176**	P	**Pn**	**10 52 12.0**	**-0.2**
XOR				S	**Sn**	**10 52 42.2**	**-1.4**
XOR	**Xorichti**	**2.56**	**176**	P	**Pn**	**10 52 12.0**	**-0.2**
XOR				S	**Sn**	**10 52 42.2**	**-1.4**
GRUS	**Gruza**	**2.57**	**321**	*e*Pn	**Pn**	**10 52 11.7**	**-0.5**
GRUS	**Gruza**	**2.57**	**321**	*e*Pn	**Pn**	**10 52 11.7**	**-0.5**
SJES	**Sjenica**	**2.58**	**302**	*e*Pn	**Pn**	**10 52 14.2

JIE	**Ise**	**5.00**	**334**	P	**Pn**	**10 59 44.8**	**+3.4**
BSO4	**Boso 4**	**5.16**	**9**	P	**Pn**	**10 59 44.7**	**+1.8**
JOD2	**Odawara 2**	**5.36**	**358**	P	**Pn**	**10 59 47.0**	**+1.8**
JHU	**Hanno**	**5.94**	**360**	P	**Pn**	**10 59 52.1**	**+0.6**
JHU				*e*S	**S**	**11 01 04.1**	**-1.9**
JRY	**Ryogami san**	**6.12**	**357**	P	**Pn**	**10 59 54.7**	**+1.3**
JAG	**Ashikaga**	**6.52**	**1**	P	**Pn**	**10 59 57.8**	**0.0**
JAG				*e*S	**S**	**11 01 15.1**	**-2.5**
MJAR	**Matsushiro Arr**	**6.70**	**352**	P	**P**	**11 00 00.1**	**-0.5**
	1.0nm,0.3s,baz=164,slow=11,SNR=8.6						
KSRS	**Korea Array**	**12.11**	**311**	P	**P**	**11 01 01.1**	**-0.1**
	0.2nm,0.3s,baz=115,slow=11,SNR=4.8						
ZALV	**Zalesovo Beam**	**45.73**	**318**	P	**P**	**11 06 02.9**	**-1.1**
	0.5nm,0.3s,baz=126,slow=2.5,SNR=2.8						
MKAR	**Makanchi Array**	**46.76**	**308**	P	**P**	**11 06 11.6**	**-0.5**
	0.3nm,0.3s,baz=78,slow=12,SNR=5.8						
KURBB	**Kurchatov Arra**	**49.29**	**313**	P	**P**	**11 06 30.1**	**-1.0**
	1.5nm,0.4s,baz=91,slow=7.6,SNR=21						
WRA	**Warramunga Arr**	**49.78**	**186**	P	**P**	**11 06 34.9**	**-0.2**
	0.1nm,0.3s,baz=5.3,slow=7.7,SNR=4.3						
BVAR	**Borovoye Array**	**54.28**	**316**	P	**P**	**11 07 07.1**	**-0.4**
	2.3nm,0.5s,baz=99,slow=7.4,SNR=15						
AKTO	**Aktyubinsk**	**62.27**	**314**	P	**P**	**11 08 02.1**	**-0.1**
	0.6nm,0.4s,baz=93,slow=16,SNR=3.7						
ARCES	**ARCESS Array B**	**70.07**	**340**	P	**P**	**11 08 51.3**	**+0.5**
	1.7nm,0.9s,baz=67,slow=9.3,SNR=4.1						
FINES	**FINESS Array B**	**74.32**	**333**	P	**P**	**11 09 15.7**	**-0.1**
	2.3nm,0.9s,baz=83,slow=7.9,SNR=5.0						

IDC 28 10:58:48.4±1.6, 0.79N×125.66E, h0km, mb3.5/4, mb1 3.7/4, mb1mx3.5/46, mbtmp3.6/4, Error ellipse: s-maj=163.7km s-min=21.5km az=65.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**22.29**	**158**	P	P	11 03 47.3	-0.3
	0.7nm,0.4s,baz=336,slow=11,SNR=11						
ASAR	**Alice Springs**	**25.59**	**162**	P	P	11 04 19.8	+0.2
	0.3nm,0.4s,baz=342,slow=7.9,SNR=8.3						
MKAR	**Makanchi Array**	**59.38**	**327**	P	P	11 08 53.0	+0.4
	0.6nm,0.6s,baz=120,slow=8.7,SNR=5.8						
KURBB	**Kurchatov Arra**	**63.65**	**329**	P	P	11 09 21.1	-0.4
	0.2nm,0.2s,baz=129,slow=6.7,SNR=6.0						

NIED ***28*** *11:25:00,36.10N×139.90E,h56km,Mw3.8 Best double couple: M₀6.22000×10¹⁴ NP1:φs268.00000°,δ24.00000°, λ129.00000°. NP2:φs46.00000°,δ72.00000°,λ74.00000°.*
ISCJB ***28*** *11:25:55.4±0.5,36.04N±0.04×139.92E±0.07,h61km±4km, mb3.8/7,Error ellipse: s-maj=9.0km s-min=6.0km az=8.2*
IDC ***28*** *11:25:57.0±2.3,36.03N×139.83E,h58km±20km,mb3.5/7, mb1 3.7/8,mb1mx3.5/39,mbtmp3.8/8,ML4.0/1,MS3.5/2, Ms1 3.5/2,ms1mx2.8/28,Error ellipse: s-maj=32.5km s-min=11.2km az=70.0*
JMA ***28*** *11:25:56.9,36.08N×139.87E,h46km±1km,M3.5 Broadband fault plane solution: P waves. NP1: φs43.00000°,δ75.00000°,λ85.00000°. NP2:φs243.00000°, δ16.00000°,λ110.00000°. Principal axes: T Plg59.0000°, Azm305.0000°; N Plg5.0000°, Azm44.0000°; P Plg30.0000°, Azm137.0000°;*
JMA Felt II J1.

ISC 28 11:25:56.3±0.9, 36.06N±0.04×139.90E±0.06, h51km±8km, n19, σ0.55/25, mb3.7/7, 2C-5D, Eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JYT	**Yasato**	**0.30**	**55**	⇑P	**Pn**	**11 26 05.7**	**+0.2**
JYT				S	**Sn**	**11 26 12.0**	**-0.1**
JAG	**Ashikaga**	**0.51**	**316**	⇓P	**Pn**	**11 26 07.9**	**+0.1**
JHU	**Hanno**	**0.54**	**248**	⇑P	**Pn**	**11 26 08.1**	**0.0**
JHU				S	**Sn**	**11 26 16.2**	**-0.4**
JRY	**Ryogami san**	**0.81**	**268**	⇓P	**Pn**	**11 26 11.7**	**+0.2**
JRY				S	**Sn**	**11 26 22.4**	**-0.2**
JKT	**Katashina**	**0.88**	**324**	⇓P	**Pn**	**11 26 12.5**	**-0.1**
JKT				S	**Sn**	**11 26 24.9**	**+0.4**
JOD2	**Odawara 2**	**1.03**	**220**	P	**Pn**	**11 26 15.4**	**+0.9**
JOD2				S	**Sn**	**11 26 29.1**	**+1.2**
JFY	**Yanaizu**	**1.36**	**354**	⇓P	**Pn**	**11 26 19.4**	**+0.5**
JFY				S	**Sn**	**11 26 36.9**	**+1.0**
JHK	**Hiroka**	**1.38**	**330**	⇓P	**Pn**	**11 26 19.7**	**+0.4**
MJAR	**Matsushiro Arr**	**1.45**	**290**	P	**Pn**	**11 26 20.0**	**-0.1**
	25nm,0.3s,baz=93,slow=10.0,SNR=246						
MJAR				LR	LR	11 27 06.8	
	comp=Z,120nm,20.2s,baz=95,slow=51						
MAT	**Matsushiro**	**1.45**	**290**	P	**Pn**	**11 26 20.8**	**+0.7**
JHJ	**Hachijo jima 2**	**2.93**	**1**	P	**Pn**	**11 26 40.1**	**-0.3**
	54nm,0.3s,baz=124,slow=24,SNR=9.4						
JHJ				S	**Sn**	**11 27 14.9**	**+0.5**
	54nm,0.3s,baz=72,slow=19,SNR=4.9						
ZALV	**Zalesovo Beam**	**41.68**	**313**	P	**P**	**11 33 39.0**	**-0.6**
	2.2nm,0.5s,baz=82,slow=6.3,SNR=8.4						
ZALV				LR	LR	11 52 20.4	
	comp=Z,13nm,19.1s,baz=68,slow=38						
MKAR	**Makanchi Array**	**43.61**	**303**	P	**P**	**11 33 55.0**	**-0.5**
	0.7nm,0.6s,baz=89,slow=8.9,SNR=6.7						
KURBB	**Kurchatov Arra**	**45.65**	**309**	P	**P**	**11 34 11.3**	**-0.2**
	2.1nm,0.5s,baz=83,slow=7.9,SNR=26						
ILAR	**Eielson Array**	**50.97**	**32**	P	**P**	**11 34 52.9**	**+0.5**
	0.5nm,0.6s,baz=267,slow=6.0,SNR=8.2						
WRA	**Warramunga Arr**	**55.94**	**186**	P	**P**	**11 35 29.1**	**-0.2**
	0.3nm,0.3s,baz=1.2,slow=7.6,SNR=16						
CTA	**Charters Tower**	**56.16**	**173**	LR	LR	12 00 34.0	
	comp=Z,208nm,18.8s,slow=37						
ASAR	**Alice Springs**	**59.67**	**186**	P	**P**	**11 35 55.3**	**-0.1**
	0.3nm,0.8s,baz=20,slow=11,SNR=3.0						
NOA	**NORSAR Array B**	**74.61**	**337**	P	**P**	**11 37 29.2**	**-0.5**
	0.5nm,0.5s,baz=61,slow=4.8,SNR=2.9						

SOME ***28*** *11:27:49.0,44.63N×82.22E,h20km*
ISC 28 11:27:49.0±2.8, 44.6N±0.1×82.2E±0.1, h10km, n5, σ1.31/10, 4D, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DJR	**Jarkent**	**1.74**	**261**	*e*P	**Pb**	**11 28 21.3**	**+0.2**
	2.7nm,0.6s						
DJR				*e*S	**Sb**	**11 28 44.5**	**+1.4**
	3.4nm,0.7s						
KAPS	**Kapalarasan**	**2.11**	**289**	*e*P	**Pb**	**11 28 26.7**	**-0.7**
	1.2nm,0.5s						
KAPS				*e*S	**Sb**	**11 28 53.9**	**+0.3**
	4.1nm,0.5s						
MK31	**Makanchi Array**	**2.16**	**2**	⇓Pn	**Pb**	**11 28 27.2**	**-0.9**
	1.8nm,0.3s,baz=187,slow=15,SNR=24						
MK31				⇓Sn	**Sb**	**11 28 54.4**	**-0.5**
	0.8nm,0.3s,baz=190,slow=27,SNR=12						
MAKZ	**Makanchi**	**2.17**	**356**	⇓Pn	**Pn**	**11 28 26.7**	**+1.5**
	1.5nm,0.5s						
MAKZ				⇓Sn	**Sb**	**11 28 54.9**	**-0.5**
	4.0nm,0.5s						
MNBS	**Baschi**	**2.77**	**260**	*e*P	**Pb**	**11 28 36.7**	**-1.9**
	1.4nm,0.3s						
MNBS				*e*S	**Sb**	**11 29 11.2**	**-1.5**
	4.8nm,0.2s						

ISK ***28*** *11:43:30.8,39.36N×39.88E,h25km,MD2.4*
ISCJB ***28*** *11:43:32.9±0.6,39.47N±0.05×40.02E±0.06,h6km±9km, Error ellipse: s-maj=10.4km s-min=4.7km az=36.7*
CSEM ***28*** *11:43:32.1±0.5,39.51N×40.07E,h2km,MD2.5,Error ellipse: s-maj=11.9km s-min=6.3km az=55.0*
DDA ***28*** *11:43:35.0,39.53N×39.82E,h7km,Md2.5*
ISC 28 11:43:32.6±1.4, 39.43N±0.03×40.02E±0.03, h1km±16km, n21, σ1.08/24, Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ERZN	**Erzincan**	**0.28**	**304**	*e*PG	**Pg**	**11 43 37.6**	**-0.4**
ERZN				*e*SG	**Sg**	**11 43 42.5**	**+0.9**
EUZM	**Uzumlu**	**0.37**	**318**	*i* P	**Pg**	**11 43 39.2**	**-0.6**
EUZM	**Uzumlu**	**0.37**	**318**	P	**Pg**	**11 43 39.2**	**-0.6**
YEDI	**Yedisu-Bingol**	**0.40**	**89**	*e*PG	**Pb**	**11 43 41.9**	**-0.7**
YEDI				*e*SG	**Sb**	**11 43 50.1**	**+0.7**
TNCL	**Tunceli-Merkez**	**0.49**	**230**	*i* P	**Pb**	**11 43 44.2**	**+0.2**
TNCL	**Tunceli-Merkez**	**0.49**	**230**	P	**Pb**	**11 43 44.2**	**+0.2**
EZC	**Erzincan**	**0.61**	**302**	*e*Pg	Pg	11 43 37.6	-6.7
EZC				*e*Sg	Sg	11 43 42.5	-10
BINT	**Bingol**	**0.66**	**147**	*e*Pg	**Pg**	**11 43 45.5**	**+0.2**
BINT				*e*Sg	**Sb**	**11 43 56.3**	**-0.4**
BNGB	**Bingˆ¶l**	**0.67**	**130**	*e*PG	**Pg**	**11 43 45.5**	**0.0**
BNGB				*e*SG	**Sb**	**11 43 56.3**	**-0.7**
PTK	**Pertek**	**0.73**	**223**	*e*PG	**Pg**	**11 43 43.9**	**-2.6**
PTK	**Pertek**	**0.73**	**223**	*e*Pg	**Pg**	**11 43 43.9**	**-2.6**
KELT	**Kelkit**	**0.93**	**321**	*i* P	**Pg**	**11 43 49.3**	**-1.1**
KELT	**Kelkit**	**0.93**	**321**	P	**Pg**	**11 43 49.3**	**-1.1**
SVRC	**Sivrice-ELAZID**	**1.19**	**208**	*e*PN	Pg	11 43 50.7	-4.7
SVRC	**Sivrice-ELAZID**	**1.19**	**208**	*e*Pn	Pg	11 43 50.7	-4.7
KEMA	**Kemaliye**	**1.20**	**263**	*i* P	**Pg**	**11 43 55.4**	**-0.1**
KEMA				*i* S	**Sg**	**11 44 12.2**	**+1.2**
KEMA	**Kemaliye**	**1.20**	**263**	P	**Pg**	**11 43 55.4**	**-0.1**
KEMA				S	**Sg**	**11 44 12.2**	**+1.2**
ELZG	**Elazig**	**1.23**	**221**	*i* P	**Pg**	**11 43 56.5**	**+0.3**
ELZG	**Elazig**	**1.23**	**221**	P	**Pg**	**11 43 56.5**	**+0.3**
SUSE	**Susehri**	**1.60**	**300**	*i* P	**Pn**	**11 44 02.5**	**+0.3**
SUSE	**Susehri**	**1.60**	**300**	P	**Pn**	**11 44 02.5**	**+0.3**

GUC 28 11:52:22.9±0.7, 37.21S×73.71W, h10km±3km, ML3.8, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CCSP	**San Pedro de C**	**0.60**	**53**	*e*P	Pg	11 52 33.9	-0.7
CCSP				*i* S	Sg	11 52 42.3	-0.2
CCSP				IAML		11 52 44.5	
	comp=N,13μm,0.5s						
COCH	**Cobquecura**	**1.31**	**35**	*e*P	Pn	11 52 45.0	-2.2
COCH				*i* S	Sb	11 53 01.7	-2.7
CCHI	**Chillan**	**1.44**	**66**	*e*P	Pn	11 52 47.4	-1.7
CCHI				*i* S	Sn	11 53 05.8	-2.2
CCHI				IAML		11 53 12.1	
	comp=N,2μm,0.3s						
GO05	**HualaæØ**	**2.63**	**34**	*i* S	Sn	11 53 38.3	+0.9
GO05				IAML		11 53 50.4	
	comp=E,399nm,0.3s						

ISCJB ***28*** *11:52:25.7±0.4,24.40N±0.02×122.03E±0.02,h5km±3km, Error ellipse: s-maj=3.7km s-min=2.5km az=157.8*
JMA ***28*** *11:52:26.1±0.1,24.33N×121.93E,h27km±3km,M2.6*
TAP ***28*** *11:52:26.6,24.39N×121.92E,h19km,ML3.2,B*
ISC 28 11:52:26.2±0.9, 24.38N±0.02×121.98E±0.02, h15km±7km, n45, σ0.76/72, 7C-2D, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ENA	**Nanau**	**0.23**	**283**	⇑*i*P	**Pg**	**11 52 31.2**	**0.0**
	baz=285						
ENA				*e*S	**Sg**	**11 52 34.2**	**-0.4**
	baz=285						
EHP	**Heping Village**	**0.23**	**253**	*e*P	**Pg**	**11 52 31.7**	**+0.4**
	baz=246						
EHP				S	**Sb**	**11 52 35.8**	**-0.2**
	baz=246						
TWC	**Suao**	**0.26**	**332**	⇑*i*P	**Pg**	**11 52 32.2**	**+0.4**
	baz=349						
TWC				*i* S	**Sg**	**11 52 35.4**	**-0.2**
	baz=349						
ILA	**Ilan**	**0.44**	**331**	*i* P	**Pb**	**11 52 35.6**	**0.0**
	baz=337						
ILA				*i* S	**Sb**	**11 52 41.6**	**-0.4**
	baz=337						
TWE	**Neicheng**	**0.45**	**320**	⇑*i*P	**Pg**	**11 52 35.3**	**+0.2**
	baz=326						
TWE				*i* S	**Sg**	**11 52 40.8**	**-0.3**
	baz=326						
ENTT	**Nioudou**	**0.46**	**305**	⇑*i*P	**Pg**	**11 52 35.4**	**+0.1**
	baz=309						
ENTT				S	**Sg**	**11 52 41.1**	**-0.5**
	baz=309						
TWD	**Chiawan**	**0.46**	**230**	⇓*i*P	**Pg**	**11 52 35.1**	**-0.3**
	baz=229						
TWD				*e*S	**Sg**	**11 52 41.9**	**+0.3**
	baz=229						
HWA	**Hwalien**	**0.53**	**221**	*e*P	**Pb**	**11 52 37.9**	**+0.8**
	baz=226						
NNS	**Nan Shan**	**0.56**	**276**	⇑*i*P	**Pg**	**11 52 36.9**	**-0.4**
	baz=283						
NNS				*e*S	**Sg**	**11 52 43.5**	**-1.3**
	baz=283						
TWB1	**Santiao Chiao**	**0.63**	**1**	*e*P	**Pg**	**11 52 38.7**	**+0.3**
	baz=359						
NSK	**Sanguang**	**0.64**	**298**	⇑*i*P	**Pg**	**11 52 38.6**	**-0.2**
	baz=300						
NSK				*i* S	**Sg**	**11 52 46.1**	**-1.2**
	baz=300						
WHF	**Hehuan Shan**	**0.69**	**251**	*e*P	**Pg**	**11 52 39.2**	**-0.6**
	baz=256						
TWA	**Mucha**	**0.70**	**329**	*e*P	**Pg**	**11 52 39.4**	**-0.4**
	baz=323						
NWF	**Wu-fen Shan**	**0.71**	**345**	*e*P	**Pn**	**11 52 41.6**	**-0.2**
	baz=340						
NWF				S	**Sg**	**11 52 49.7**	**+0.2**
	baz=340						
TWT	**Tachien**	**0.75**	**261**	⇑*i*P	**Pg**	**11 52 40.7**	**-0.1**
	baz=264						
ESL	**Shilin**	**0.75**	**222**	*e*P	**Pg**	**11 52 40.5**	**-0.4**
	baz=225						
ESL				*e*S	**Sn**	**11 52 53.7**	**+0.2**
	baz=225						
JYNG	**Yonagunijimaku**	**0.88**	**85**	P	**Pg**	**11 52 43.5**	**+0.2**
JYNG				S	**Sb**	**11 52 55.6**	**+0.9**
NSTT	**Nanjuang**	**0.93**	**286**	P	**Pb**	**11 52 44.4**	**+0.4**
	baz=287						
NSTT				S	**Sg**	**11 52 55.8**	**-0.6**
	baz=287						
YOJ	**Yonaguni jima**	**0.94**	**85**	*e*P	**Pb**	**11 52 44.2**	**+0.1**
	baz=77						
YONJ	**Yonaguni jima**	**0.94**	**85**	P	**Pb**	**11 52 44.3**	**+0.1**
YOJ				S	**Sb**	**11 52 57.1**	**+0.6**
TWY	**Chenhua**	**0.96**	**339**	*e*P	**Pn**	**11 52 45.7**	**+0.6**
	baz=341						
TWY				*e*S	**Sg**	**11 52 56.8**	**-0.5**
	baz=341						
EHY	**Hungye**	**1.06**	**215**	*e*P	**Pb**	**11 52 45.2**	**-1.0**
	baz=212						
TWQ1	**Liyutan**	**1.10**	**269**	*e*P	**Pg**	**11 52 48.0**	**+0.6**
	baz=269						
SMLT	**Sun Moon Lake**	**1.10**	**244**	*e*P	**Pb**	**11 52 46.9**	**-0.1**
	baz=243						
NSY	**Sanyi**	**1.11**	**272**	*e*P	**Pg**	**11 52 49.0**	**+1.3**
	baz=280						
TYC	**Yuchr**	**1.13**	**246**	*e*P	**Pb**	**11 52 47.6**	**+0.2**
	baz=235						
TCU	**Taichung**	**1.21**	**259**	*e*P	**Pg**	**11 52 50.1**	**+0.5**
	baz=267						
TCU				*e*S	**Sg**	**11 53 08.8**	**+3.3**
	baz=267						
WNT	**Mingjian**	**1.29**	**247**	*e*P	**Pg**	**11 52 51.1**	**+0.1**
	baz=239						
ALS	**Alishan**	**1.38**	**231**	*e*P	**Pb**	**11 52 52.2**	**+0.3**
	baz=231						
CHN5	**Tsauling**	**1.42**	**237**	P	**Pb**	**11 52 53.0**	**+0.6**
	baz=239						
CHN5				*e*S	**Sg**	**11 53 13.3**	**+1.2**
	baz=239						
WGK	**Gukeng**	**1.47**	**242**	*e*P	**Pg**	**11 52 54.2**	**-0.2**
	baz=243						
ELDTW	**Lidau**	**1.48**	**217**	*e*P	**Pn**	**11 52 52.1**	**-0.3**
	baz=203						
IRIF	**Iriomote-Funau**	**1.59**	**91**	P	**Pn**	**11 52 53.6**	**-0.2**
IRIF				*e*S	**Sn**	**11 53 13.5**	**-0.7**
CHN4	**Tsaushan**	**1.63**	**231**	⇓P	**Pb**	**11 52 55.7**	**-0.3**
	baz=233						
CHN4				*e*S	**Sg**	**11 53 19.7**	**+0.9**
	baz=233						
STYT	**Tauyuan**	**1.65**	**223**	*e*P	**Pb**	**11 52 56.2**	**-0.1**
	baz=224						
STYT				*e*S	**Sg**	**11 53 19.1**	**-0.2**
	baz=224						
WTP	**Ta-pu**	**1.69**	**228**	*e*P	**Pb**	**11 52 56.6**	**-0.3**
	baz=230						
WTP				*e*S	**Sg**	**11 53 21.5**	**+1.0**
	baz=230						
TWK	**Hsinying**	**1.76**	**231**	*e*P	**Pb**	**11 52 58.1**	**-0.1**
	baz=233						
TWK				*e*S	**Sg**	**11 53 22.4**	**-0.5**
	baz=233						
TWG	**Pinlang**	**1.76**	**208**	*e*P	**Pn**	**11 52 54.1**	**-2.0**
	baz=194						
CHN1	**Nanshi**	**1.79**	**229**	*e*P	**Pb**	**11 52 58.8**	**+0.2**
	baz=230						
CHN1				*e*S	**Sg**	**11 53 23.1**	**-0.5**
	baz=230						
SGST	**Jiashian**	**1.82**	**225**	*e*P	**Pn**	**11 52 58.5**	**+1.5**
	baz=210						
JKRS	**Kuro-shima**	**1.85**	**94**	P	**Pn**	**11 52 57.9**	**+0.5**
JKRS				S	**Sn**	**11 53 20.7**	**+0.1**
JIJ	**Ishigaki jima**	**1.97**	**90**	P	**Pn**	**11 52 59.1**	**+0.1**
JIJ				*e*S	**Sn**	**11 53 22.3**	**-1.2**
SSD	**Sandimen**	**2.04**	**218**	*e*P	**Pb**	**11 53 02.2**	**-0.8**
	baz=219						
SSD				*e*S	**Sb**	**11 53 28.1**	**-0.1**
	baz=219						
JISG	**Ishigakijimahi**	**2.13**	**84**	P	**Pn**	**11 53 00.9**	**-0.3**
JISG				*e*S	**Sn**	**11 53 26.3**	**-1.1**
JTJ	**Tarama**	**2.49**	**83**	*e*S	**Sn**	**11 53 37.2**	**+0.9**

ISCJB ***28*** *11:54:05.9±0.2,39.90N±0.02×117.93W±0.03,h10km, Error ellipse: s-maj=3.4km s-min=3.3km az=156.8*
NEIC ***28*** *11:54:07.2±0.0,39.85N×118.03W,h3km,ML3.9(REN), After REN.*
NEIC Felt at Gerlach.
ISC 28 11:54:06.8±0.8, 39.87N±0.04×118.01W±0.03, h10km, n90, σ1.90/93, Nevada

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BMN	**Battle Mountai**	**0.82**	**47**	*e*Pg	Pg	11 54 17.6	-5.2
BMN				*e*Pn	**Pn**	**11 54 27.2**	**+2.6**
PAHR	**Pah Rah Range**	**1.07**	**262**	*e*Pn	**Pg**	**11 54 27.2**	**-0.3**
YERR	**Yerington**	**1.30**	**228**	*e*Pn	**Pn**	**11 54 30.9**	**-0.4**
PNTR	**Pine Nut**	**1.46**	**238**	*e*Pn	**Pn**	**11 54 33.2**	**-0.2**
TVH1	**TV Hill, Hawth**	**1.53**	**203**	*e*Pn	**Pn**	**11 54 34.4**	**-0.2**
TVH2	**Borealis Mine**	**1.60**	**202**	*e*Pn	**Pn**	**11 54 35.4**	**-0.1**
TVH3	**East Aurora ar**	**1.64**	**203**	*e*Pn	**Pn**	**11 54 36.1**	**+0.1**
WAKR	**Walker**	**1.76**	**220**	*e*Pn	**Pn**	**11 54 37.6**	**0.0**
BEKR	**Beckworth**	**1.81**	**271**	*e*Pn	**Pn**	**11 54 37.4**	**-0.9**
MLAC	**Mammoth, Mammo**	**2.33**	**196**	P	**Pn**	**11 54 46.1**	**+0.7**
	baz=16						
R11A	**Troy Canyon, C**	**2.42**	**128**	P	**Pn**	**11 54 44.3**	**-2.4**
	baz=312						
R11A					Sb	**Sb**	**11 55 20.2**	**-0.4**
	baz=312						
AFDM	**Forest Hills D**	**2.48**	**249**	*e*Pn	**Pn**	**11 54 47.6**	**+0.3**
WVOR	**Wild Horse Val**	**2.60**	**350**	*e*Pn	**Pn**	**11 54 46.2**	**-2.9**
CMB	**Columbia Colle**	**2.61**	**226**	*e*Pn	**Pn**	**11 54 49.5**	**+0.4**
MOD	**Modoc Plateau**	**2.67**	**320**	*e*Pn	**Pn**	**11 54 49.0**	**-1.1**
ORV	**Oroville**	**2.71**	**264**	*e*Pn	**Pn**	**11 54 50.8**	**+0.3**
TIN	**Tinemaha, Big**	**2.82**	**184**	P	**Pn**	**11 54 52.8**	**+0.8**
	baz=4.0						
GRAC	**Grapevine Rang**	**2.92**	**170**	P	**Pn**	**11 54 53.7**	**+0.4**
	baz=351						
TPNV	**Topopah Spring**	**3.23**	**154**	P	**Pn**	**11 54 57.0**	**-0.7**
	baz=337						
TPNV	**Topopah Spring**	**3.23**	**154**	*e*Pn	**Pn**	**11 54 57.4**	**-0.3**
CWC	**Cedarnwood Cre**	**3.43**	**181**	P	**Pn**	**11 55 01.1**	**+0.6**
	baz=1.4						
M04C	**Macdoel**	**3.48**	**305**	P	**Pn**	**11 55 02.6**	**+1.5**
	baz=120,SNR=22						
PSUT	**Pine Spring**	**3.49**	**111**	*e*Pg	**Pb**	**11 55 10.3**	**+1.4**
FURC	**Furnace Creek,**	**3.52**	**165**	P	**Pn**	**11 55 02.2**	**+0.7**
	baz=346						
WDC	**Whiskeytown Da**	**3.54**	**283**	*e*Pg	**Pb**	**11 55 10.4**	**+0.8**
K05A	**Summer Lake**	**3.59**	**324**	*e*Pn	**Pn**	**11 55 04.0**	**+1.3**
RCTC	**Rector, Farmer**	**3.69**	**196**	P	**Pn**	**11 55 05.6**	**+1.6**
	baz=15						
N02D	**Trinity Center**	**3.75**	**289**	P	**Pn**	**11 55 06.2**	**+1.4**
	baz=104,SNR=7.4						
MPMC	**Manual Prospec**	**3.83**	**174**	P	**Pn**	**11 55 06.4**	**+0.4**
	baz=355						
MFID	**Camas Ranch**	**3.90**	**24**	*e*Pn	**Pn**	**11 55 04.6**	**-2.3**
BGU	**Big Grassy Mou**	**3.94**	**73**	*e*Pn	**Pn**	**11 55 05.1**	**-2.4**
M02C	**Callahan**	**3.99**	**294**	P	**Pn**	**11 55 10.3**	**+2.2**
	baz=109,SNR=9.9						
DUG	**Dugway, Tooele**	**4.00**	**84**	P	**Pn**	**11 55 06.4**	**-2.0**
	baz=268						
DUG	**Dugway, Tooele**	**4.00**	**84**	*e*Pn	**Pn**	**11 55 06.6**	**-1.7**
YBH	**Yreka Blue Hor**	**4.02**	**299**	*e*Pg	**Pb**	**11 55 15.0**	**-2.9**
SHPR	**Sheep Range**	**4.04**	**145**	*e*Pn	**Pn**	**11 55 09.2**	**+0.3**
VES	**Vestal, Richgr**	**4.11**	**192**	P	**Pn**	**11 55 11.4**	**+1.7**
	baz=12						
SAO	**San Andreas Ge**	**4.12**	**222**	*e*Pn	**Pn**	**11 55 10.7**	**+0.9**
J05D	**Fort Rock, OR**	**4.18**	**326**	P	**Pn**	**11 55 12.3**	**+1.4**
	baz=142,SNR=6.4						
SHOC	**Shoshone, Teco**	**4.20**	**160**	P	**Pn**	**11 55 10.4**	**-0.5**
	baz=342						
ISA	**Isabella, Lake**	**4.22**	**185**	P	**Pn**	**11 55 12.3**	**+1.1**
	baz=5.2						
ISA	**Isabella, Lake**	**4.22**	**185**	*e*Pg	**Pb**	**11 55 23.7**	**+2.6**
PMPB	**Monarch Peak**	**4.26**	**212**	*e*Pg	**Pb**	**11 55 24.6**	**+2.7**
CCUT	**Cedar City**	**4.31**	**121**	*e*Pn	**Pn**	**11 55 12.8**	**+0.1**
LRMC	**Laurel Mtn Rad**	**4.39**	**177**	P	**Pn**	**11 55 13.8**	**+0.1**
	baz=357						
SPUT	**South Promonto**	**4.47**	**69**	*e*Pn	**Pn**	**11 55 12.7**	**-2.1**
SZCU	**Shurtz Canyon**	**4.47**	**119**	*e*Pn	**Pn**	**11 55 16.0**	**+1.1**
PAGB	**Antelope Grade**	**4.50**	**204**	*e*Pg	**Pg**	**11 55 31.4**	**-1.6**
J04D	**Umpqua Nationa**	**4.56**	**319**	P	**Pn**	**11 55 17.8**	**+1.8**
	baz=135						
NLU	**North Lily Min**	**4.56**	**87**	*e*Pn	**Pn**	**11 55 16.4**	**+0.2**
HLID	**Hailey**	**4.56**	**35**	P	**Pn**	**11 55 13.6**	**-2.5**
	baz=218						
**

PRMA	**PARMA**	**0.10**	**2**	Pg	Pb	12 02 19.7	-0.1
PRMA				Sg	Sb	12 02 24.2	+0.9
	311nm,0.5s						
PRMA	**PARMA**	**0.10**	**2**	Pg	Pb	12 02 19.7	-0.1
PRMA				Sg	Sb	12 02 24.2	+0.9
	311nm,0.5s						
ERBM	**Eremo**	**0.25**	**163**	Pg	Pb	12 02 21.5	+0.1
ERBM				Sg	Sb	12 02 26.1	+0.1
	176nm,0.6s						
ERBM	**Eremo**	**0.25**	**163**	Pg	Pb	12 02 21.5	+0.1
ERBM				Sg	Sb	12 02 26.1	+0.1
	176nm,0.6s						
SARO	**Sassorosso**	**0.48**	**172**	P	Pb	12 02 24.6	-0.1
SARO				S	Sb	12 02 31.2	-0.4
VLC	**Villacollemand**	**0.51**	**174**	Pg	Pb	12 02 25.0	-0.1
VLC				Sg	Sb	12 02 32.9	+0.7
	108nm,0.7s						
VLC	**Villacollemand**	**0.51**	**174**	Pg	Pb	12 02 25.0	-0.1
VLC				Sg	Sb	12 02 32.9	+0.7
	108nm,0.7s						
SC2M	**Scurtabo**	**0.61**	**245**	Pg	Pb	12 02 26.7	-0.1
SC2M				Sg	Sn	12 02 36.0	-0.3
	92nm,0.3s						
SC2M	**Scurtabo**	**0.61**	**245**	P	Pb	12 02 24.6	-2.2
SC2M	**Scurtabo**	**0.61**	**245**	Pg	Pb	12 02 26.7	-0.1
SC2M				S	Sb	12 02 35.3	+0.2
SC2M				Sg	Sn	12 02 36.0	-0.3
	92nm,0.3s						
BOB	**Bobbio (Coli)**	**0.62**	**280**	Pg	Pn	12 02 27.4	-0.2
BOB	**Bobbio (Coli)**	**0.62**	**280**	Pg	Pn	12 02 27.4	-0.2
BDI	**Bagni Di Lucca**	**0.63**	**161**	Pg	Pn	12 02 27.8	+0.1
BDI				Sg	Sn	12 02 37.0	+0.1
	57nm,0.6s						
BDI	**Bagni Di Lucca**	**0.63**	**161**	Pg	Pn	12 02 27.8	+0.1
BDI				Sg	Sn	12 02 37.0	+0.1
	57nm,0.6s						
POPM	**Popiglio**	**0.69**	**152**	P	Pn	12 02 28.9	+0.4
POPM				S	Sn	12 02 39.7	+1.4
MAIM	**Mastiano**	**0.76**	**170**	P	Pn	12 02 30.4	+1.0
MAIM				S	Sn	12 02 40.5	+0.7
PCP	**Piancastagn**	**1.27**	**265**	P	Pb	12 02 38.9	+1.1
PCP				S	Sb	12 02 56.5	+2.7

*IDC **28** 12:38:52.4±2.3, 40°.50S×174°.65E, h0km, mb3.6/2, mb1 3.7/4, mb1mx3.6/29, mbtmp3.4/4, ML2.8/2, Error ellipse: s-maj=59.9km s-min=23.4km az=143.0*
*ISCJB **28** 12:38:56.8±0.3, 40°.88S±0°.03×175°.07E±0°.04, h86km±4km, mb3.6/2, Error ellipse: s-maj=6.3km s-min=3.1km az=33.7*
*WEL **28** 12:38:59.7±0.1, 40°.81S×174°.99E, h58km±1km, ML3.7/47, Error ellipse: s-maj=0.9km s-min=0.6km az=90.0, MM 4.*
WEL Felt between Whanganui, Marlborough and Manawatu, maximum reported intensity.

ISC 28 12:38:57.5±1.0, 40°.85S±0°.03×175°.03E±0°.04, h77km±6km, n112, σ1s02/115, 12C-14D, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KIW	**Kapiti Island**	**0.09**	**265**	⇓PN	**Pn**	**12 39 08.3**	**-0.3**
KIW				SN	**Sn**	**12 39 14.6**	**-2.2**
KIW				AML	AML	12 39 15.4	
OGWZ	**Otaki Gorge**	**0.12**	**71**	⇓PN	**Pn**	**12 39 08.6**	**0.0**
OGWZ				SN	**Sn**	**12 39 15.1**	**-1.6**
OGWZ				AML	AML	12 39 16.4	
CAW	**Cannon Point**	**0.26**	**173**	⇓PN	**Pn**	**12 39 09.7**	**+0.5**
CAW				SN	**Sn**	**12 39 17.0**	**-0.8**
CAW				AML	AML	12 39 18.3	
HOWZ	**Holdsworth Sta**	**0.37**	**97**	⇓PN	**Pn**	**12 39 10.6**	**+0.6**
HOWZ				SN	**Sn**	**12 39 18.6**	**-0.5**
HOWZ				AML	AML	12 39 19.4	
MRZ	**Mangatainoka R**	**0.46**	**65**	⇑PN	**Pn**	**12 39 10.8**	**+0.2**
MRZ				SN	**Sn**	**12 39 19.1**	**-1.2**
MRZ				AML	AML	12 39 21.6	
MTW	**Mount Morrison**	**0.47**	**130**	⇓PN	**Pn**	**12 39 11.8**	**+1.1**
MTW				SN	**Sn**	**12 39 21.0**	**+0.6**
MTW				AML	AML	12 39 22.0	
WEL	**Wellington**	**0.47**	**204**	⇓PN	**Pn**	**12 39 11.3**	**+0.6**
WEL				AML	AML	12 39 21.4	
WEL				AML	AML	12 39 21.9	
WEL				AML	AML	12 39 22.0	
WEL				AML	AML	12 39 22.0	
BHW	**Baring Head**	**0.57**	**192**	PN	**Pn**	**12 39 12.5**	**+1.0**
BHW				AML	AML	12 39 23.3	
BHW				AML	AML	12 39 23.3	
MSWZ	**Moikau Station**	**0.59**	**163**	⇓PN	**Pn**	**12 39 13.1**	**+1.4**
MSWZ				AML	AML	12 39 24.1	
MSWZ				AML	AML	12 39 24.6	
PAWZ	**Paruwai Farm**	**0.61**	**150**	PN	**Pn**	**12 39 13.5**	**+1.4**
PAWZ				AML	AML	12 39 24.7	
PAWZ				AML	AML	12 39 24.9	
TIWZ	**Tintock**	**0.66**	**83**	⇓PN	**Pn**	**12 39 13.8**	**+1.0**
TIWZ				AML	AML	12 39 24.8	
TIWZ				AML	AML	12 39 24.9	
TCW	**Tory Channel**	**0.67**	**238**	⇓PN	**Pn**	**12 39 12.9**	**+0.3**
TCW				AML	AML	12 39 24.3	
TCW				AML	AML	12 39 24.3	
OHWZ	**Ohakea**	**0.68**	**19**	⇑PN	**Pn**	**12 39 13.3**	**+0.6**
TMWZ	**Te Maipa**	**0.70**	**111**	⇓PN	**Pn**	**12 39 14.4**	**+1.4**
TMWZ				AML	AML	12 39 26.7	
TMWZ				AML	AML	12 39 26.9	
POWZ	**Post Office Ro**	**0.73**	**51**	PN	**Pn**	**12 39 13.6**	**+0.3**
POWZ				AML	AML	12 39 30.9	
POWZ				AML	AML	12 39 32.5	
PLWZ	**Palliser**	**0.73**	**167**	PN	**Pn**	**12 39 14.7**	**+1.4**
PLWZ				AML	AML	12 39 26.8	
PLWZ				AML	AML	12 39 27.9	
TRWZ	**Traveller**	**0.74**	**138**	PN	**Pn**	**12 39 14.9**	**+1.5**
TRWZ				AML	AML	12 39 28.5	
TRWZ				AML	AML	12 39 33.8	
PRWZ	**Pori Road**	**0.78**	**68**	PN	**Pn**	**12 39 14.7**	**+1.0**
PRWZ				AML	AML	12 39 27.7	
PRWZ				AML	AML	12 39 28.5	
DUWZ	**D'Urville Isla**	**0.84**	**273**	⇑PN	**Pn**	**12 39 14.1**	**-0.3**
CPWZ	**Castlepoint**	**0.89**	**94**	PN	**Pn**	**12 39 17.1**	**+2.1**
CPWZ				AML	AML	12 39 32.4	
CPWZ				AML	AML	12 39 33.1	
BFZ	**Birch Farm**	**0.94**	**80**	PN	**Pn**	**12 39 16.6**	**+0.9**
BFZ				AML	AML	12 39 30.6	
BFZ				AML	AML	12 39 30.6	
BFZ				AML	AML	12 39 30.8	
BFZ				AML	AML	12 39 30.8	
TUWZ	**Tuamarina**	**1.00**	**235**	⇓PN	**Pn**	**12 39 16.9**	**+0.5**
TUWZ				AML	AML	12 39 31.7	
TUWZ				AML	AML	12 39 33.0	
DVHZ	**Dannevirke**	**1.03**	**58**	PN	**Pn**	**12 39 17.2**	**+0.4**
DVHZ				AML	AML	12 39 37.4	
DVHZ				AML	AML	12 39 38.1	
TSZ	**Takapari Road**	**1.07**	**42**	⇑PN	**Pn**	**12 39 17.6**	**+0.4**
TSZ				AML	AML	12 39 32.9	
TSZ				AML	AML	12 39 33.7	
CMWZ	**Cape Campbell**	**1.08**	**214**	PN	**Pn**	**12 39 19.1**	**+1.7**
CMWZ				AML	AML	12 39 38.6	
CMWZ				AML	AML	12 39 41.5	
WAZ	**Wanganui**	**1.10**	**358**	PN	**Pn**	**12 39 18.5**	**+0.9**
ANWZ	**Angora Road**	**1.17**	**71**	AML	AML	12 39 36.8	
ANWZ				AML	AML	12 39 37.1	
BSWZ	**Blackbirch Sta**	**1.22**	**225**	PN	**Pn**	**12 39 20.0**	**+0.9**
BSWZ				AML	AML	12 39 37.9	
BSWZ				AML	AML	12 39 38.0	
NNZ	**Nelson**	**1.30**	**253**	⇓PN	**Pn**	**12 39 20.6**	**+0.5**
PNHZ	**Pukenui**	**1.30**	**44**	⇑PN	**Pn**	**12 39 20.4**	**+0.3**
PNHZ				AML	AML	12 39 38.4	
PNHZ				AML	AML	12 39 38.8	
WPHZ	**Waipukurau**	**1.34**	**54**	PN	**Pn**	**12 39 21.3**	**+0.7**
WPHZ				AML	AML	12 39 49.6	
WPHZ				AML	AML	12 39 56.7	
PRHZ	**Porangahau**	**1.36**	**65**	PN	**Pn**	**12 39 21.5**	**+0.7**
PRHZ				AML	AML	12 40 03.2	
PRHZ				AML	AML	12 40 09.9	
LREZ	**Lake Rotokare**	**1.47**	**341**	PN	**Pn**	**12 39 23.3**	**+1.0**
MTVZ	**Mangateitei**	**1.51**	**13**	PN	**Pn**	**12 39 23.5**	**+0.7**
MOVZ	**Moawhango**	**1.55**	**21**	PN	**Pn**	**12 39 23.6**	**+0.2**
BHHZ	**Black Hill Sta**	**1.58**	**31**	PN	**Pn**	**12 39 24.1**	**+0.4**
BHHZ				AML	AML	12 39 45.3	
BHHZ				AML	AML	12 39 47.5	
PKVZ	**Pokaka**	**1.58**	**9**	PN	**Pn**	**12 39 24.5**	**+0.7**
WNVZ	**Wahianoa**	**1.59**	**16**	PN	**Pn**	**12 39 24.6**	**+0.6**
KRHZ	**Kereru**	**1.59**	**41**	PN	**Pn**	**12 39 24.0**	**+0.1**
KRHZ				AML	AML	12 39 44.9	
KRHZ				AML	AML	12 39 49.1	
PXZ	**Pawanui**	**1.62**	**60**	AML	AML	12 40 07.5	
PXZ				AML	AML	12 40 07.6	
WHVZ	**Whangaehu Hut**	**1.63**	**16**	⇑PN	**Pn**	**12 39 25.2**	**+0.6**
DRZ	**Dome Shelter**	**1.63**	**15**	PN	**Pn**	**12 39 25.5**	**+0.8**
FWVZ	**Far West T-bar**	**1.65**	**14**	⇑PN	**Pn**	**12 39 25.4**	**+0.5**
PREZ	**Palmer Road**	**1.65**	**336**	PN	**Pn**	**12 39 26.1**	**+1.4**
NMEZ	**Namu Road**	**1.69**	**328**	PN	**Pn**	**12 39 26.1**	**+1.0**
NGZ	**Ngauruhoe**	**1.73**	**15**	⇓PN	**Pn**	**12 39 26.8**	**+0.9**
NEZ	**North Egmont**	**1.74**	**335**	PN	**Pn**	**12 39 27.0**	**+1.1**
VRZ	**Vera Road**	**1.74**	**353**	⇑PN	**Pn**	**12 39 26.6**	**+0.8**
KHEZ	**Kahui Hut**	**1.74**	**333**	PN	**Pn**	**12 39 27.1**	**+1.1**
OTVZ	**Oturere**	**1.76**	**16**	PN	**Pn**	**12 39 27.1**	**+0.8**
KAHZ	**Kahuranaki**	**1.77**	**54**	PN	**Pn**	**12 39 26.8**	**+0.6**
KAHZ				AML	AML	12 40 02.5	
KAHZ				AML	AML	12 40 15.9	
DREZ	**Durham Road**	**1.78**	**339**	PN	**Pn**	**12 39 27.7**	**+1.3**
KWHZ	**Kaweka Forest**	**1.79**	**37**	PN	**Pn**	**12 39 26.5**	**0.0**
KWHZ				AML	AML	12 39 54.7	
KWHZ				AML	AML	12 39 56.5	
WTVZ	**West Tongariro**	**1.79**	**14**	PN	**Pn**	**12 39 27.4**	**+0.8**
TWVZ	**Taurewa**	**1.81**	**10**	PN	**Pn**	**12 39 27.3**	**+0.4**
NWEZ	**Newall Road**	**1.81**	**330**	PN	**Pn**	**12 39 27.8**	**+1.0**
KRVZ	**Karewarewa**	**1.82**	**15**	PN	**Pn**	**12 39 27.9**	**+0.8**
THZ	**Tophouse**	**1.84**	**240**	PN	**Pn**	**12 39 27.9**	**+0.7**
PKE	**Pukeiti**	**1.84**	**334**	PN	**Pn**	**12 39 28.2**	**+1.0**
MHEZ	**Mangahewa**	**1.86**	**343**	PN	**Pn**	**12 39 29.0**	**+1.6**
QRZ	**Quartz Range**	**1.90**	**270**	⇑PN	**Pn**	**12 39 27.8**	**0.0**
MCHZ	**McNeill Hill**	**1.90**	**43**	PN	**Pn**	**12 39 28.3**	**+0.3**
MCHZ				AML	AML	12 40 23.9	
MCHZ				AML	AML	12 40 27.1	
KHZ	**Kahutara**	**1.92**	**215**	⇑PN	**Pn**	**12 39 29.0**	**+0.8**
KHZ				AML	AML	12 39 51.8	
KHZ				AML	AML	12 39 51.8	
KHZ				AML	AML	12 39 52.6	
KHZ				AML	AML	12 39 52.6	
KATZ	**Kakaramea**	**1.95**	**16**	PN	**Pn**	**12 39 29.5**	**+0.7**
RITZ	**Rihia Road**	**1.98**	**19**	PN	**Pn**	**12 39 29.6**	**+0.6**
BKZ	**Black Stump Fm**	**2.03**	**34**	⇑PN	**Pn**	**12 39 29.6**	**-0.2**
BKZ				AML	AML	12 40 05.9	
BKZ				AML	AML	12 40 05.9	
RATZ	**Rangitukua**	**2.07**	**16**	PN	**Pn**	**12 39 30.9**	**+0.7**
ARHZ	**Aropaoanui**	**2.19**	**44**	AML	AML	12 40 00.1	
ARHZ				AML	AML	12 40 00.2	
WATZ	**Wairara**	**2.21**	**14**	PN	**Pn**	**12 39 32.7**	**+0.6**
NMHZ	**Naumai**	**2.23**	**39**	PN	**Pn**	**12 39 32.3**	**-0.1**
NMHZ				AML	AML	12 40 01.5	
NMHZ				AML	AML	12 40 08.2	
MRHZ	**Matea Rd**	**2.28**	**28**	PN	**Pn**	**12 39 32.6**	**-0.5**
MRHZ				AML	AML	12 40 00.4	
MRHZ				AML	AML	12 40 00.9	
HIZ	**Hauiti**	**2.34**	**357**	PN	**Pn**	**12 39 35.6**	**+1.7**
ALRZ	**Allen Road**	**2.50**	**24**	⇓PN	**Pn**	**12 39 35.7**	**-0.4**
TLZ	**Tolley Road**	**2.55**	**9**	PN	**Pn**	**12 39 36.9**	**+0.2**
DSZ	**Denniston Nort**	**2.58**	**249**	PN	**Pn**	**12 39 37.8**	**+0.6**
RTZ	**Ruatahuna**	**2.70**	**35**	PN	**Pn**	**12 39 37.9**	**-0.8**
MUGZ	**Murupara**	**2.73**	**30**	PN	**Pn**	**12 39 37.9**	**-1.3**
SNGZ	**Shannon Statio**	**2.73**	**41**	PN	**Pn**	**12 39 38.3**	**-0.9**
SNGZ				AML	AML	12 40 12.5	
SNGZ				AML	AML	12 40 13.1	
KNZ	**Kokohu**	**2.74**	**49**	PN	**Pn**	**12 39 38.1**	**-1.0**
LTZ	**Lake Taylor**	**2.82**	**226**	PN	**Pn**	**12 39 39.9**	**-0.4**
RAGZ	**Rawiri**	**2.99**	**39**	AML	AML	12 40 19.6	
RAGZ				AML	AML	12 40 20.1	
RIGZ	**Rimuhau**	**3.01**	**45**	PN	**Pn**	**12 39 41.6**	**-1.3**
RIGZ				AML	AML	12 40 18.0	
RIGZ				AML	AML	12 40 18.5	
URZ	**Urewera**	**3.05**	**33**	PN	**Pn**	**12 39 42.1**	**-1.4**
	1.1nm,0.3s,baz=251,slow=4.8,SNR=29						
URZ				Sn	**Sn**	**12 40 17.1**	**-1.8**
	9.8nm,0.3s,baz=92,slow=21,SNR=15						
URZ	**Urewera**	**3.05**	**33**	PN	**Pn**	**12 39 42.1**	**-1.4**
URZ				AML	AML	12 40 19.4	
TOZ	**Tahuroa Road**	**3.14**	**7**	PN	**Pn**	**12 39 44.9**	**+0.2**
MWZ	**Matawai**	**3.17**	**38**	PN	**Pn**	**12 39 43.9**	**-1.3**
MWZ				AML	AML	12 40 21.3	
MWZ				AML	AML	12 40 21.6	
TKGZ	**Te Karaka**	**3.25**	**43**	AML	AML	12 40 23.2	
TKGZ				AML	AML	12 40 23.2	
CRLZ	**Canterbury Las**	**3.25**	**212**	PN	**Pn**	**12 39 45.6**	**-0.6**
INZ	**Inchbonnie**	**3.27**	**234**	PN	**Pn**	**12 39 46.7**	**+0.3**
OXZ	**Oxford**	**3.32**	**221**	PN	**Pn**	**12 39 46.2**	**-1.0**
MQZ	**McQueen's Vall**	**3.35**	**211**	PN	**Pn**	**12 39 46.4**	**-1.0**
RUGZ	**Raukumara Rang**	**3.54**	**36**	PN	**Pn**	**12 39 48.4**	**-1.8**
MKAZ	**Moumakai**	**3.75**	**2**	PN	**Pn**	**12 39 53.3**	**+0.4**
HAZ	**Te Kaha**	**3.76**	**36**	PN	**Pn**	**12 39 50.8**	**-2.3**
HAZ				AML	AML	12 40 40.9	
AWAZ	**Awhitu Peninsu**	**3.80**	**355**	⇑PN	**Pn**	**12 39 54.8**	**+1.2**
WVZ	**Waitaha Valley**	**3.89**	**234**	PN	**Pn**	**12 39 55.2**	**+0.3**
ETAZ	**East Tamaki Re**	**3.90**	**359**	PN	**Pn**	**12 39 56.1**	**+1.1**
WTAZ	**Waiatarua**	**3.93**	**355**	PN	**Pn**	**12 39 56.9**	**+1.5**
WMGZ	**Waiomatatini S**	**4.01**	**42**	*e*PN	**Pn**	**12 39 54.4**	**-2.1**
WMGZ				AML	AML	12 40 41.4	
WMGZ				AML	AML	12 40 41.6	
WIAZ	**Waiheke Island**	**4.06**	**1**	PN	**Pn**	**12 39 57.7**	**+0.6**
RVAZ	**Riverhead Bore**	**4.09**	**355**	PN	**Pn**	**12 39 58.6**	**+1.0**
RPZ	**Rata Peaks**	**4.11**	**225**	Pn	**Pn**	**12 39 58.5**	**+0.6**
	0.7nm,0.3s,baz=256,slow=2.7,SNR=9.3						
RPZ				Sn	**Sn**	**12 40 41.6**	**-3.0**
	8.2nm,0.3s,baz=150,slow=23,SNR=21						
RPZ	**Rata Peaks**	**4.11**	**225**	PN	**Pn**	**12 39 58.4**	**+0.6**
KUZ	**Kuaotunu**	**4.14**	**8**	PN	**Pn**	**12 39 58.2**	**-0.1**
FOZ	**Fox Glacier**	**4.71**	**234**	PN	**Pn**	**12 40 06.6**	**+0.7**
WCZ	**Waipu Caves**	**4.94**	**354**	PN	**Pn**	**12 40 10.1**	**+0.9**
LBZ	**Lake Benmore**	**5.02**	**224**	PN	**Pn**	**12 40 10.9**	**+0.6**
ODZ	**Otahua Downs**	**5.28**	**216**	PN	**Pn**	**12 40 12.6**	**-1.2**
TUZ	**Tuapeka**	**6.43**	**216**	PN	**Pn**	**12 40 29.5**	**-0.1**
ASAR	**Alice Springs**	**38.37**	**284**	P	**P**	**12 46 12.0**	**+0.7**
	0.7nm,0.8s,baz=107,slow=7.0,SNR=7.0						
WRA	**Warramunga Arr**	**40.35**	**289**	P	**P**	**12 46 29.2**	**+1.4**
	0.6nm,0.6s,baz=125,slow=8.3,SNR=15						
ARCES	**ARCESS Array B**	**147.13**	**341**	PKPbc	**PKPab**	**12 58 32.3**	**-0.1**
	2.0nm,1.0s,baz=60,slow=2.2,SNR=5.1						

*ISCJB **28** 12:53:04.0±0.3, 38°.41N±0°.02×22°.00E±0°.02, h8km±2km, Error ellipse: s-maj=3.1km s-min=2.8km az=177.7*
*CSEM **28** 12:53:03.8±0.1, 38°.42N×22°.00E, h5km, ML2.6, Error ellipse: s-maj=2.7km s-min=2.3km az=170.0*
*ATH **28** 12:53:03.5, 38°.43N×22°.01E, h12km±1km, ML2.2/10, Error ellipse: s-maj=1.6km s-min=0.8km az=134.0*
*THE **28** 12:53:04.1, 38°.41N×22°.01E, h9km±1km, ML2.3/16, Error ellipse: s-maj=1.0km s-min=0.4km az=111.0*

ISC 28 12:53:03.8±0.8, 38°.41N±0°.02×22°.00E±0°.02, h10km±4km, n68, σ0s57/113, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SERG	**Sergoula**	**0.05**	**91**	P	**Pg**	**12 53 05.8**	**0.0**
SERG				S	**Sg**	**12 53 07.2**	**-0.1**
SERG	**Sergoula**	**0.05**	**91**	P	**Pg**	**12 53 05.8**	**0.0**
SERG				S	**Sg**	**12 53 07.1**	**-0.2**
SERG	**Sergoula**	**0.05**	**91**	P	**Pg**	**12 53 05.8**	**0.0**
SERG				AML	AML	12 53 08.2	
	comp=E,15387μm,0.2s						
SERG				AML	AML	12 53 08.4	
	comp=N,12080μm,0.2s						
EFP	**Efpalio**	**0.07**	**280**	P	**Pg**	**12 53 05.8**	**-0.3**
EFP				S	**Sg**	**12 53 07.6**	**-0.1**
EFP	**Efpalio**	**0.07**	**280**	P	**Pg**	**12 53 05.9**	**-0.2**
EFP				S	**Sg**	**12 53 07.6**	**-0.1**
EFP	**Efpalio**	**0.07**	**280**	P	**Pg**	**12 53 05.8**	**-0.3**
EFP				S	**Sg**	**12 53 07.4**	**-0.3**
TRIZ	**Trizonia**	**0.08**	**130**	P	**Pg**	**12 53 06.1**	**0.0**
TRIZ				S	**Sg**	**12 53 07.7**	**-0.1**
TRIZ	**Trizonia**	**0.08**	**130**	P	**Pg**	**12 53 06.1**	**0.0**
TRIZ				S	**Sg**	**12 53 07.9**	**+0.1**
KALE	**Kalithea**	**0.11**	**102**	P	**Pg**	**12 53 06.7**	**0.0**
KALE				S	**Sg**	**12 53 09.0**	**+0.2**
KALE	**Kalithea**	**0.11**	**102**	P	**Pg**	**12 53 06.7**	**0.0**
KALE				S	**Sg**	**12 53 08.9**	**+0.2**
KALE	**Kalithea**	**0.11**	**102**	P	**Pg**	**12 53 07.0**	**+0.3**
KALE				S	**Sg**	**12 53 09.5**	**+0.8**
LAKA	**Lakka**	**0.17**	**185**	P	**Pg**	**12 53 07.6**	**0.0**
LAKA				S	**Sg**	**12 53 10.1**	**-0.1**
LAKA	**Lakka**	**0.17**	**185**	P	**Pg**	**12 53 07.6**	**0.0**
LAKA				S	**Sg**	**12 53 10.1**	**-0.1**
LAKA	**Lakka**	**0.17**	**185**	P	**Pg**	**12 53 07.5**	**0.0**
LAKA				S	**Sg**	**12 53 09.6**	**-0.6**
ANX	**Ano Chora**	**0.19**	**341**	P	**Pg**	**12 53 08.0**	**+0.1**
ANX				S	**Sg**	**12 53 11.4**	**+0.7**
ANX	**Ano Chora**	**0.19**	**341**	P	**Pg**	**12 53 08.0**	**+0.1**
ANX				S	**Sg**	**12 53 11.1**	**+0.4**
UPR	**University Cam**	**0.21**	**232**	P	**Pg**	**12 53 08.4**	**+0.2**
UPR				S	**Sg**	**12 53 12.0**	**+0.8**
UPR	**University Cam**	**0.21**	**232**	P	**Pg**	**12 53 08.4**	**+0.2**
UPR				S	**Sg**	**12 53 11.8**	**+0.6**
UPR	**University Cam**	**0.21**	**232**	P	**Pg**	**12 53 08.3**	**+0.2**
UPR				S	**Sg**	**12 53 12.3**	**+1.1**
KLV	**Kalavryta, Ach**	**0.39**	**162**	P	**Pg**	**12 53 11.0**	**-0.5**
KLV				S	**Sg**	**12 53 17.8**	**+1.1**
KLV	**Kalavryta, Ach**	**0.39**	**162**	P	**Pg**	**12 53 11.0**	**-0.5**
KLV				S	**Sg**	**12 53 16.8**	**+0.2**
KLV	**Kalavryta, Ach**	**0.39**	**162**	P	**Pg**	**12 53 10.7**	**-0.8**
KLV				S	**Sg**	**12 53 17.7**	**+1.1**
KLV				AML	AML	12 53 19.6	
	comp=N,296μm,0.1s						
KLV				AML	AML	12 53 20.1	
	comp=E,324μm,0.2s						
DSF	**Desfina**	**0.41**	**90**	P	**Pg**	**12 53 11.6**	**-0.4**
DSF				S	**Sg**	**12 53 18.4**	**+0.9**
DSF	**Desfina**	**0.41**	**90**	P	**Pg**	**12 53 11.6**	**-0.4**
DSF				S	**Sg**	**12 53 18.1**	**+0.6**
DSF	**Desfina**	**0.41**	**90**	P	**Pg**	**12 53 11.5**	**-0.4**
DSF				AML	AML	12 53 19.6	
	comp=E,948μm,0.2s						
DSF				AML	AML	12 53 21.2	
	comp=N,1050μm,0.1s						
PVO	**Paravola**	**0.42**	**299**	P	**Pg**	**12 53 12.1**	**0.0**
PVO				S	**Sb**	**12 53 18.9**	**-0.9**
PVO	**Paravola**	**0.42**	**299**	P	**Pg**	**12 53 12.1**	**0.0**
PVO				S	**Sb**	**12 53 18.9**	**-0.9**
PVO	**Paravola**	**0.42**	**299**	P	**Pg**	**12 53 12.3**	**+0.2**
PVO				AML	AML	12 53 23.0	
	comp=N,494μm,0.5s						
PVO				AML	AML	12 53 24.1	
	comp=E,782μm,0.3s						
DRO	**Drossia**	**0.51**	**206**	P	**Pg**	**12 53 13.5**	**-0.3**
DRO				S	**Sb**	**12 53 22.4**	**0.0**
DRO	**Drossia**	**0.51**	**206**	P	**Pg**	**12 53 13.5**	**-0.3**
DRO				S	**Sg**	**12 53 20.8**	**+0.2**
DRO	**Drossia**	**0.51**	**206**	P	**Pg**	**12 53 13.2**	**-0.6**
DRO				S	**Sg**	**12 53 21.1**	**+0.5**
DRO				AML	AML	12 53 25.8	
	comp=E,691μm,0.2s						
DRO				AML	AML	12 53 27.5	
	comp=N,657μm,0.3s						
EVR	**Evrytania**	**0.52**	**344**	P	**Pg**	**12 53 14.1**	**+0.1**
EVR				S	**Sb**	**12 53 22.9**	**+0.1**
EVR	**Evrytania**	**0.52**	**344**	P	**Pg**	**12 53 14.1**	**+0.1**
EVR				S	**Sb**	**12 53 22.9**	**+0.1**
EVR	**Evrytania**	**0.52**	**344**	P	**Pg**	**12 53 14.6**	**+0.6**
EVR				AML	AML	12 53 24.2	
	comp=N,489μm,0.2s						
EVR				AML	AML	12 53 24.9	
	comp=E,383μm,0.3s						
AXS	**Araxos**	**0.54**	**246**	P	**Pg**	**12 53 14.1**	**-0.1**
AXS				S	**Sg**	**12 53 22.1**	**+0.8**
AXS	**Araxos**	**0.54**	**246**	P	**Pg**	**12 53 13.9**	**-0.3**
AXS				S	**Sb**	**12 53 23.1**	**+0.1**
RLS	**Riolos of Patr**	**0.55**	**230**	P	**Pg**	**12 53 14.7**	**+0.2**
RLS				S	**Sb**	**12 53 22.8**	**-0.6**
RLS	**Riolos of Patr**	**0.55**	**230**	P	**Pg**	**12 53 14.7**	**+0.2**
RLS				S	**Sb**	**12 53 22.8**	**-0.6**
RLS	**Riolos of Patr**	**0.55**	**230**	P	**Pg**	**12 53 14.9**	**+0.4**
RLS				S	**Sb**	**12 53 22.9**	**-0.5**
RLS				AML	AML	12 53 23.9	
	comp=E,252μm,0.6s						
RLS				AML	AML	12 53 24.9	
	comp=N,367μm,0.3s						
AXAR	**Agios Charalam**	**0.63**	**56**	P	**Pg**	**12 53 14.0**	**-1.9**
AXAR	**Agios Charalam**	**0.63**	**56**	P	**Pg**	**12 53 14.0**	**-1.9**
AXAR				AML	AML	12 53 26.4	
	comp=N,1474μm,0.2s						
AXAR				AML	AML	12 53 27.5	
	comp=E,1060μm,0.3s						
THAL	**Thalero**	**0.65**	**126**	P	**Pg**	**12 53 16.2**	**-0.1**
THAL				S	**Sb**	**12 53 25.5**	**-0.7**
THAL	**Thalero**	**0.65**	**126**	P	**Pg**	**12 53 16.2**	**-0.1**
THAL				S	**Sb**	**12 53 25.5**	**-0.7**
THAL	**Thalero**	**0.65**	**126**	P	**Pg**	**12 53 16.4**	**+0.1**
AGG	**Agios Georgios**	**0.66**	**23

ROCH	**El Roble**	0.55	81	⇓	*i* P	Pg	13 51 48.6	-0.1
ROCH					*e* S	Sb	13 51 56.7	-0.8
PEL	**Peldehue**	0.82	96	⇑	*i* P	Pb	13 51 53.2	-0.9
PEL					*e* S	Sb	13 52 04.8	-0.4
PEL					IAML		13 52 10.7	
	comp=E,2µm,0.3s							
RCDM	**Rinconada Maip**	0.83	121		*e* P	Pb	13 51 52.6	-1.8
RCDM					*e* S	Sb	13 52 03.6	-1.9
RCDM					IAML		13 52 03.9	
	comp=N,6µm,0.1s							
ANTU	**Antumapu**	1.00	121	⇑	*i* P	Pb	13 51 56.8	-0.3
ANTU					*i* S	Sb	13 52 10.6	+0.3
ANTU					IAML		13 52 17.0	
	comp=N,1µm,0.4s							
CLCH	**Cerro Calan**	1.00	110	⇓	*i* P	Pb	13 51 56.7	-0.5
CLCH					*e* S	Sb	13 52 10.5	+0.2
CLCH					IAML		13 52 11.4	
	comp=N,1µm,0.2s							
FCH	**Farellones**	1.18	104	⇓	*i* P	Pb	13 51 59.3	-1.1
FCH					*i* S	Sn	13 52 16.3	-0.3
FCH					IAML		13 52 20.1	
	comp=E,2µm,0.3s							
YECH	**El Yeso**	1.45	115	⇑	*i* P	Pn	13 52 05.1	+0.8
YECH					*i* S	Sb	13 52 24.6	+1.0
AUSP	**Uspallata**	2.09	67		*e* P	Pn	13 52 14.3	+1.3
AUSP				⇓	*e* S	Sb	13 52 41.2	-0.7
ARCO	**CERRO ARCO**	2.30	85		*e* P	Pb	13 52 18.6	-0.8
ARCO					IAML		13 52 29.7	
	comp=Z,235nm,0.3s							
RTLS	**Leoncito**	2.36	58		*e* P	Pn	13 52 17.4	+0.7
AAGR	**Agrelo**	2.38	91		*e* P	Pb	13 52 19.9	-0.8
ASAL	**Salagasta**	2.42	80		*e* P	Pn	13 52 20.2	+2.8
RTCV	**Cerro Valdivia**	2.89	66	⇓	*e* P	Pn	13 52 26.3	+2.5
ACCO	**Cerro Coronel**	3.31	43	⇓	*e* P	Pn	13 52 31.3	+1.5
ACCO					IAML		13 53 25.5	
	comp=Z,58nm,0.4s							
AMOG	**MOGNA**	3.42	53	⇓	*e* P	Pn	13 52 32.1	+1.0
ACDV	**Cuesta del Vie**	3.60	38		*e* P	Pn	13 52 34.8	+1.1
ACAN	**Cantantal**	3.85	79		*e* P	Pn	13 52 38.5	+1.5
AVFE	**Valle Fertil**	4.30	57		*e* P	Pn	13 52 43.6	+0.3
AVFE					IAML		13 53 46.9	
	comp=Z,25nm,0.5s							
AGUA	**GUANDACOL**	4.47	38		*e* P	Pn	13 52 46.6	+0.9
ACHE	**Chepes**	4.64	67		*e* P	Pn	13 52 47.9	0.0
ACLC	**CERRO LA CRUZ**	5.42	49	⇓	*e* P	Pn	13 52 58.3	-0.3

MAN 28 13:54:18.8±7.6N×121°.97E.h35km,mb4.3,ML3.2,MS3.0, 6C-1D,Mindanao

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DCPH	**Dipolog City**	1.36	93	⇓ *i* P	Pn	13 54 41.8	+1.2
DCPH				*i* S	Sn	13 54 58.4	+1.0
SNPH	**Sibulan**	1.42	62	⇑ *i* P	Pn	13 54 42.5	+1.1
SNPH				*i* S	Sn	13 55 03.2	+4.4
PAGZ	**Pagadian**	1.61	120	*e* P	Pn	13 54 45.4	+1.4
PAGZ				*e* S	Sn	13 55 05.0	+1.4
GUIM	**Jordan**	2.04	17	*e* P	Pn	13 54 51.7	+1.9
GUIM				*e* S	Sn	13 55 15.4	+1.3
JAP	**San Jose, Anti**	2.07	359	⇑ *e* P	Pn	13 54 52.9	+2.3
TBP	**Tagbilaran**	2.12	61	⇑ *e* P	Pn	13 54 52.9	+1.9
LLP	**Lapu-Lapu**	2.56	50	⇑ *i* P	Pn	13 54 58.9	+1.9
LLP				*i* S	Sn	13 55 28.5	+1.5
CTBH	**Cotabato--PC H**	2.67	122	⇑ *e* P	Pn	13 55 00.3	+1.8
CTBH				*i* S	Sn	13 55 34.5	+4.8
RCP	**Roxas**	2.97	15	⇑ *e* P	Pn	13 55 05.9	+3.2
RCP				*e* S	Sn	13 55 39.8	+2.6
ENPP	**El Nido**	3.56	315	*e* P	Pn	13 55 12.7	+1.9
ENPP				*e* S	Sn	13 55 51.6	-0.1
OTRP	**Odiongan**	3.67	1	*e* P	Pn	13 55 14.1	+1.7
OTRP				*e* S	Sn	13 55 53.9	-0.5
BUSP	**Coron**	3.75	332	*e* P	Pn	13 55 14.9	+1.5
BUSP				*e* S	Sn	13 55 56.1	-0.1
SJMP	**San Jose**	3.86	348	*e* P	Pn	13 55 17.0	+2.0
SJMP				*e* S	Sn	13 55 58.4	-0.8

*ISCJB **28** 14:02:59.6±0.6,39°.36N±0°.03×28°.22E±0°.04,h7km±6km, Error ellipse: s-maj=5.7km s-min=4.2km az=35.4*
*CSEM **28** 14:02:59.8±0.2,39°.37N×28°.22E,h5km,ML2.5, Error ellipse: s-maj=4.3km s-min=3.5km az=15.0*
*DDA **28** 14:02:59.2,39°.36N×28°.16E,h7km,Md2.6*
*ISK **28** 14:02:59.4,39°.39N×28°.22E,h4km,ML2.5*

ISC 28 14:02:59.2±1.1,39°.33N±0°.02×28°.20E±0°.02,h8km±12km, n38,σ0°96°50,Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BALB	**Balikesir**	0.40	321	*e* PG	Pg	14 03 07.5	+0.5
BALB				*e* SG	Sb	14 03 13.4	-1.3
BALB	**Balikesir**	0.40	321	*e* Pg	Pg	14 03 07.5	+0.5
BALB				*e* Sg	Sb	14 03 13.4	-1.3
DEMI	**Demirci**	0.49	125	*i* P	Pg	14 03 10.0	+1.2
DEMI				*i* S	Sb	14 03 17.6	0.0
DEMI	**Demirci**	0.49	125	P	Pg	14 03 10.0	+1.2
DEMI				S	Sb	14 03 17.6	0.0
BALY	**Balya**	0.61	313	*i* P	Pg	14 03 10.4	-0.5
BALY	**Balya**	0.61	313	P	Pg	14 03 10.4	-0.5
MANT	**Manisa**	0.88	161	*i* P	Pg	14 03 13.1	-3.1
MANT				*i* S	Sg	14 03 27.6	-0.1
MANT	**Manisa**	0.88	161	P	Pg	14 03 13.1	-3.1
MANT				S	Sg	14 03 27.6	-0.1
KCTX	**Karacabey (Bur**	0.94	7	*e* PG	Pg	14 03 16.8	-0.5
KCTX				*e* SG	Sb	14 03 29.5	-1.0
KCTX	**Karacabey (Bur**	0.94	7	*e* Pg	Pg	14 03 16.8	-0.5
KCTX				*e* Sg	Sb	14 03 29.5	-1.0
TVSB	**Tavsanli**	0.98	83	*e* PG	Pb	14 03 18.4	-0.2
TVSB				*e* SG	Sb	14 03 32.2	+0.4
TVSB	**Tavsanli**	0.98	83	*e* Pg	Pb	14 03 18.4	-0.2
TVSB				*e* Sg	Sb	14 03 32.2	+0.4
DKL	**Dikili**	1.04	256	*e* PG	Pb	14 03 20.3	+0.8
DKL	**Dikili**	1.04	256	*e* Pg	Pb	14 03 20.3	+0.8
MDNY	**Mudanya-Bursa**	1.16	27	*e* PN	Pg	14 03 20.8	-0.7
MDNY	**Mudanya-Bursa**	1.16	27	*e* Pn	Pg	14 03 20.8	-0.7
AYVA	**Ayvalik**	1.17	269	*i* P	Pg	14 03 21.5	-0.2
AYVA				*i* S	Sg	14 03 36.9	0.0
AYVA	**Ayvalik**	1.17	269	P	Pg	14 03 21.5	-0.2
AYVA				S	Sg	14 03 36.9	0.0
CUND	**Cunda Adasi-Ba**	1.19	271	*e* PN	Pn	14 03 22.9	+0.8
KRBG	**Karabiga-Canak**	1.27	327	*e* PN	Pn	14 03 23.5	+0.2
KRBG	**Karabiga-Canak**	1.27	327	*e* Pn	Pn	14 03 23.5	+0.2
ARMT	**Armutlu**	1.33	22	*e* PN	Pb	14 03 24.5	0.0
ARMT	**Armutlu**	1.33	22	*e* Pn	Pb	14 03 24.5	0.0
MRMT	**Marmara Adasi**	1.35	340	*e* PN	Pg	14 03 24.8	-0.4
MRMT	**Marmara Adasi**	1.35	340	*e* Pn	Pg	14 03 24.8	-0.4
AYDB	**Zeytinkoy-Aydi**	1.40	190	*e* PN	Pn	14 03 26.5	+1.3
AYDB	**Zeytinkoy-Aydi**	1.40	190	*e* Pn	Pn	14 03 26.5	+1.3
EZN	**Ezine**	1.53	289	*e* PN	Pg	14 03 28.5	-0.1
EZN	**Ezine**	1.53	289	*e* Pn	Pg	14 03 28.5	-0.1
SBT3	**Marmara-Eregli**	1.56	354	*e* PN	Pb	14 03 27.7	-0.6
SIGR	**SIGRI**	1.82	267	*e* PN	Pb	14 03 32.6	-0.2
SIGR	**SIGRI**	1.82	267	*e* Pn	Pb	14 03 32.6	-0.2
CHOS	**Chios island**	1.92	241	*e* PN	Pb	14 03 34.7	+0.2
CHOS	**Chios island**	1.92	241	*e* Pn	Pb	14 03 34.7	+0.2
GULT	**Gulveren**	2.09	58	*e* PN	Pn	14 03 35.6	+1.0
GULT	**Gulveren**	2.09	58	*e* Pn	Pn	14 03 35.7	+1.0
ALN	**Alexandroupoli**	2.27	314	*e* PN	Pn	14 03 38.4	+1.3
ALN	**Alexandroupoli**	2.27	314	*e* Pn	Pn	14 03 38.4	+1.3

*IDC **28** 14:03:01.7±1.1,30°.36N×83°.64E,h0km,mb3.5/7, mb1 3.6/9,mb1mx3.5/54,mbtmp3.5/9,ML3.6/2,MS3.1/7, Ms1 3.1/7,ms1mx2.8/31,Error ellipse: s-maj=34.0km s-min=20.7km az=63.0*
*ISCJB **28** 14:03:04.2±0.8,30°.38N±0°.10×83°.7E±0°.2,h26km,mb3.4/6, MS3.0/5,Error ellipse: s-maj=22.3km s-min=11.3km az=155.2*

ISC 28 14:03:06.3±0.8,30°.41N±0°.09×83°.91E±0°.08,h26km,n16, σ1°77°13,mb3.5/6,MS2.9/5,1C,Xizang

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PTH	**Pithoragarh**	3.32	256	*e* P	Pb	14 04 02.9	-1.7
PTH				*e* S	Sb	14 04 46.9	+2.3
JBP	**Jabalpur**	8.02	207	⇑ *i* P	Pn	14 05 10.6	+9.4
JBP				*e* S	Sn	14 06 30.7	-0.3
AAK	**Ala-Archa**	14.35	331	Pn	Pn	14 06 30.6	+2.6
	0.2nm,0.3s,baz=129,slow=14,SNR=1.9						
AAK				LR	LR	14 12 01.9	
	comp=Z,51nm,20.4s,baz=120,slow=38						
MKAR	**Makanchi Array**	16.41	356	Pn	Pn	14 06 53.5	-1.3
	0.1nm,0.3s,baz=177,slow=12,SNR=6.2						
CMAR	**Chiang Mai Arr**	18.11	128	P	P	14 07 18.2	+1.8
	0.2nm,0.3s,baz=299,slow=11,SNR=5.0						
CMAR				LR	LR	14 14 44.4	
	comp=Z,41nm,19.1s,baz=90,slow=38						
KURBB	**Kurchatov Arra**	20.59	350	P	P	14 07 41.6	-1.7
	3.8nm,0.9s,baz=172,slow=10,SNR=34						
PALK	**Pallekele**	23.21	188	LR	LR	14 16 32.7	
	comp=Z,41nm,18.6s,baz=116,slow=35						
ZALV	**Zalesovo Beam**	23.54	1	P	P	14 08 13.3	-1.0
	1.0nm,0.7s,baz=187,slow=10,SNR=4.6						
ZALV				LR	LR	14 19 23.3	
	comp=Z,25nm,18.8s,baz=70,slow=42						
SONM	**Songino Array**	24.50	38	P	P	14 08 25.1	+1.5
	0.8nm,0.6s,baz=226,slow=10,SNR=5.0						
BVAR	**Borovoye Array**	24.67	340	P	P	14 08 23.5	-1.4
	0.2nm,0.4s,baz=138,slow=9.4,SNR=3.0						
AKTO	**Aktyubinsk**	27.85	323	LR	LR	14 21 10.7	
	comp=Z,55nm,18.2s,baz=137,slow=39						
FINES	**FINESS Array B**	48.50	327	LR	LR	14 34 57.2	
	comp=Z,43nm,18.3s,baz=254,slow=40						
ARCES	**ARCESS Array B**	50.91	337	LR	LR	14 35 20.3	
	comp=Z,11nm,20.6s,baz=184,slow=38						
WRA	**Warramunga Arr**	69.69	129	P	P	14 14 14.7	+0.6
	0.7nm,0.9s,baz=326,slow=6.5,SNR=3.0						
ASAR	**Alice Springs**	72.05	132	P	P	14 14 27.3	-1.0
	0.3nm,1.0s,baz=319,slow=6.8,SNR=2.8						
TORD	**Torodi Ar. Bea**	76.83	278	P	P	14 14 55.2	-1.2
	0.4nm,0.7s,baz=42,slow=6.7,SNR=2.9						

IDC 28 14:28:01.8±2.8,52°.70N×154°.88E,h488km±103km, mb2.9/3,mb1 3.1/3,mb1mx2.4/53,mbtmp3.7/3,Error ellipse: s-maj=354.0km s-min=23.2km az=83.0, Northwest of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PETK	**Petropavlovsk-**	1.75	76	P	P	14 29 04.5	0.0
	0.7nm,0.3s,baz=254,slow=4.1,SNR=34						
FINES	**FINESS Array B**	59.16	334	P	P	14 37 14.2	-0.1
	2.8nm,1.0s,baz=57,slow=5.1,SNR=3.3						
WRA	**Warramunga Arr**	74.51	200	P	P	14 38 49.4	-0.3
	0.4nm,0.9s,baz=15,slow=6.0,SNR=3.5						
ASAR	**Alice Springs**	78.22	200	P	P	14 39 10.6	+0.4
	0.3nm,0.5s,baz=13,slow=5.2,SNR=9.3						

*IDC **28** 14:32:55.0±6.0,60°.19N×29°.72E,h0km, Error ellipse: s-maj=46.4km s-min=33.5km az=37.0*
*HEL **28** 14:33:01.2±0.4,60°.11N×29°.43E,h0km,ML1.2, Explosion*

ISC 28 14:32:55.3±2.4,60°.1N±0°.1×29°.74E±0°.09,h0km,n11, σ1°04°15,Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
VJF	**Virojoki**	1.20	295	*e* P	Pn	14 33 19.6	+0.3
VJF				*e* S	Sg	14 33 32.5	-1.2
PVF	**Pernaja**	2.00	286	*e* P	Pg	14 33 33.8	+0.3
PVF				*e* S	Sn	14 33 56.3	+0.4
PVF				MSG		14 34 03.8	
	comp=Z,1.5nm,0.1s						
FIA0	**FINESS Array S**	2.28	309	*e* P	Pb	14 33 37.0	-0.2
FIA0				*e* S	Sb	14 34 05.0	-1.0
FIA0				MSG		14 34 06.7	
	comp=Z,0.6nm,0.1s						
FINES	**FINESS Array B**	2.28	309	Pg	Pn	14 33 34.0	-0.2
	comp=Z,0.1nm,0.3s,baz=127,slow=16,SNR=4.1						
FINES				Lg	Lg	14 34 03.5	
	comp=Z,0.6nm,0.3s,baz=126,slow=26,SNR=7.7						
KAF	**Kangasniemi**	2.66	323	*e* P	Pb	14 33 43.3	-0.5
KAF				*e* S	Sn	14 34 13.7	+1.3
MEF	**Metsahovi**	2.68	276	*e* P	Pb	14 33 43.8	-0.3
MEF				*e* S	Sn	14 34 13.7	+0.9
JOF	**Joensuu**	2.98	14	*e* P	Pb	14 33 48.6	-0.5
JOF				*e* S	Sb	14 34 25.5	-0.6
KEF	**Keuruu**	3.18	314	*e* S	Sn	14 34 26.5	+1.4
SUF	**Sumiainen**	3.19	329	*e* S	Sn	14 34 27.4	+2.1
I43RU	**DUBNA INFRASON**	5.15	127	*i*		15 04 20.0	
	baz=318,slow=376,SNR=3.0						
I31KZ	**AKTYUBINSK INF**	18.66	109	*i*		16 21 20.0	
	baz=313,slow=378,SNR=0.5						

*ISCJB **28** 14:37:40.3±0.9,38°.18N±0°.06×71°.75E±0°.06,h10km, mb3.7/4,MS4.1/2,Error ellipse: s-maj=8.6km s-min=6.1km az=149.5*
*IDC **28** 14:37:40.1±2.1,38°.11N×72°.17E,h0km,mb3.7/4, mb1 3.8/10,mb1mx3.6/56,mbtmp3.8/10,ML3.6/3,MS4.0/2, Ms1 4.0/2,ms1mx2.6/43,Error ellipse: s-maj=38.6km s-min=19.2km az=139.0*
*KRNET **28** 14:37:41.3±0.1,38°.24N×71°.54E,mb3.5*
*NNC **28** 14:37:43.0±1.8,38°.36N×71°.68E,h0km,mb4.0,mpv3.6, Error ellipse: s-maj=14.1km s-min=11.6km az=171.0*

ISC 28 14:37:44.2±1.2,38°.39N±0°.08×71°.69E±0°.06,h10km,n27, σ2°04°39,mb3.8/4,16C-16D,Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BTK	**Batken**	1.80	338	⇓ *i* P	Pb	14 38 15.7	-1.6
	baz=343						
BTK				⇓ *i* S	Sb	14 38 40.2	+0.2
	baz=343						
ARSB	**Arslanbob**	3.10	18	⇓ *e* P	Pn	14 38 33.7	+0.4
	baz=19						
ARSB				⇓ *e* S	Sb	14 39 14.0	-3.4
	baz=19						
TOKL	**Toktogul**	3.66	14	⇑ *e* P	Pn	14 38 43.0	+2.0
	baz=15						
TOKL				⇑ *i* S	Sb	14 39 28.5	-5.1
	baz=15						
AML	**Almayashu**	4.04	22	⇓ *e* P	Pn	14 38 47.1	+0.6
	baz=22						
AML				⇓ *e* S	Sn	14 39 32.8	-1.3
	baz=22						
MNAS	**Manas**	4.14	8	⇑ *e* P	Pn	14 38 48.3	+0.6
	baz=10.0						
MNAS				⇑ *i* S	Sn	14 39 39.0	+2.8
	baz=10.0						
MNAS	**Manas**	4.14	8	⇓ Pn	Pn	14 38 48.5	+0.8
	12nm,0.6s						
MNAS				⇑ Sn	Sn	14 39 38.6	+2.4
	81nm,0.7s						
KZA	**Kyzart**	4.58	35	⇑ *e* P	Pn	14 38 53.8	-0.2
	baz=35						
KZA				⇑ *i* S	Sn	14 39 45.8	-1.7
	baz=35						
AAK	**Ala-Archa**	4.75	26	Pn	Pn	14 38 57.5	+1.4
	1.3nm,0.3s,baz=208,slow=9.8,SNR=8.8						
AAK				Sn	Sn	14 39 56.0	+4.7
	2.1nm,0.3s,baz=318,slow=22,SNR=8.4						
AAK				LR	LR	14 40 29.6	
	comp=Z,45nm,18.6s,baz=204,slow=35						
AAK	**Ala-Archa**	4.75	26	⇓ Pn	Pn	14 38 56.1	0.0
	2.2nm,0.5s						
AAK				⇓ Pg	Pb	14 39 08.2	+0.5
	8.3nm,0.5s						
AAK				⇓ Sn	Sn	14 39 55.1	+3.8
	23nm,0.7s						
AAK				⇓ Lg	Lg	14 40 13.3	
	40nm,1.2s						
KK31	**Karatay Array**	4.79	350	⇓ Pn	Pn	14 38 57.6	+1.0
	14nm,0.6s,baz=172,slow=13,SNR=94						
KK31				⇓ Sn	Sn	14 39 55.4	+3.2
	7.3nm,0.5s,baz=169,slow=23,SNR=5.4						
KK31				⇑ Lg	Lg	14 40 15.0	
	10nm,0.6s						
TKM2	**Tokmak 2**	5.41	32	⇓ Pn	Pn	14 39 07.1	+1.9
	1.2nm,0.4s						
TKM2				⇑ Pg	Pb	14 39 19.9	+0.9
	10.0nm,0.9s						
TKM2				⇑ Lg	Lg	14 40 35.1	
	17nm,0.8s						
MDOK	**Medeo**	6.27	39	⇑ Pg	Pb	14 39 36.8	+3.3
MDOK				Lg	Lg	14 41 01.5	
PDGK	**Podgornoye**	7.70	48	⇓ Pn	Pn	14 39 36.5	0.0
	1.7nm,0.9s						
PDGK				⇓ Pg	Pb	14 40 02.1	+4.2
	4.0nm,0.9s						
PDGK				⇑ Lg	Lg	14 41 40.9	
	12nm,1.1s						
GEYT	**Alibeck**	10.70	272	Sn	Sn	14 42 17.7	+0.3
	0.4nm,0.3s,baz=54,slow=20,SNR=3.3						
MKAR	**Makanchi Array**	11.46	39	Pn	Pn	14 40 27.0	-0.9
	0.1nm,0.3s,baz=224,slow=13,SNR=8.0						
KURBB	**Kurchatov Arra**	13.16	19	Pn	Pn	14 40 50.0	-1.0
	0.2nm,0.3s,baz=210,slow=13,SNR=8.0						
AB31	**Akbulak array**	13.76	326	⇑ Pn	Pn	14 40 58.1	-1.2
	0.6nm,0.6s,baz=138,slow=12,SNR=10						
AB31				⇑ Sn	Sn	14 43 31.6	-0.6
	0.7nm,0.5s,baz=151,slow=22,SNR=5.0						
BVAR	**Borovoye Array**	14.67	357	Pn	Pn	14 41 10.5	-1.2
	0.2nm,0.3s,baz=147,slow=8.9,SNR=5.1						
AKTO	**Aktyubinsk**	15.47	325	Pn	Pn	14 41 23.4	+1.0
	0.1nm,0.3s,baz=129,slow=13,SNR=2.2						
AKTO	**Aktyubinsk**	15.47	325	⇑ Pn	Pn	14 41 23.0	+0.5
	7.0nm,1.1s						
AKTO				⇑ Sn	Sn	14 44 17.1	+3.2
	5.1nm,1.4s						
ZALV	**Zalesovo Beam**	17.98	26	P	Pn	14 41 52.5	-1.6
	0.7nm,0.3s,baz=218,slow=11,SNR=17						
FINES	**FINESS Array B**	36.24	324	P	P	14 44 47.4	+0.2
	1.9nm,0.9s,baz=128,slow=7.7,SNR=4.1						
ARCES	**ARCESS Array B**	39.62	337	P	P	14 45 15.1	-0.5
	1.2nm,0.8s,baz=111,slow=9.7,SNR=3.7						
KSRS	**Korea Array**	43.77	73	LR	LR	15 06 48.8	
	comp=Z,81nm,18.9s,baz=219,slow=40						
TORD	**Torodi Ar. Bea**	66.32	268	P	P	14 48 33.3	+0.1
	0.6nm,0.6s,baz=51,slow=5.7,SNR=5.0						
ILAR	**Eielson Array**	72.81	16	P	P	14 49 11.3	-1.3
	0.4nm,0.8s,baz=320,slow=4.8,SNR=4.6						
HNR	**Honiara**	94.42	98	LR	LR	15 34 33.6	
	comp=Z,170nm,21.5s,baz=130,slow=36						

*IDC **28** 14:39:56.2±0.7,13°.97N×93°.11E,h0km,mb4.0/17, mb1 4.1/19,mb1mx3.9/56,mbtmp4.0/19,ML3.8/2,MS3.5/9, Ms1 3.6/9,ms1mx3.3/35, Error ellipse: s-maj=20.4km s-min=13.9km az=56.0*
*ISCJB **28** 14:39:59.7±0.3,14°.14N±0°.04×92°.96E±0°.03,h32km, mb4.0/19,MS3.6/7,Error ellipse: s-maj=5.7km s-min=4.4km az=26.8*
*NEIC **28** 14:40:01.4±1.1,13°.93N×93°.09E,h36km±10km,mb4.2/2, Error ellipse: s-maj=9.9km s-min=8.8km az=139.0*
*BKK **28** 14:40:02.6±3.3,14°.N±7°.×9°.3E±2°.9,h0km,M4.1/7,mB4.5/4, mb4.3/7,MLv4.1/5,Mw(mB)3.7/4*

ISC 28 14:40:01.6±0.5,14°.08N±0°.06×93°.00E±0°.06,h32km,n65, σ1°87°57,mb4.1/19,MS3.6/7,Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DGPR	**DIGLIPUR**	0.90	184	*e* P	Pn	14 40 17.5	-0.5
DGPR				*e* S	Sn	14 40 28.3	-1.7
DGPR				IAML		14 40 38.5	
	comp=E,12µm,0.7s						
DGPR				IAML		14 40 38.7	
	comp=N,10µm,0.6s						
UMPA	**Umpang Tak**	6.04	69	P	Pn	14 41 29.0	+0.1
	comp=N,33nm,0.7s,comp=N,278nmcomp=N,0.1nm						
UTHA	**Uthaitani**	6.41	76	P	Pn	14 41 34.4	+0.5
	comp=N,14nm,0.9s,comp=N,152nmcomp=N,0.0nm						
PHET	**Taeng Krachan**	6.56	99	P	Pn	14 41 37.3	+1.4
	comp=N,21nm,0.9s,comp=N,309nmcomp=N,0.1nm						
CMAR	**Chiang Mai Arr**	7.18	52	P	Pn	14 41 44.1	-0.4
	comp=N,0.6nm,0.3s,baz=242,slow=15,SNR=15						
CMAR				Sn	Sn	14 43 03.4	-1.6
	comp=N,0.9nm,0.3s,baz=239,slow=29,SNR=7.5						
CMAR				LR	LR	14 45 09.7	
	comp=N,158nm,19.7s,baz=233,slow=44						
CHTO	**Chiang Mai**	7.40	50	P	Pn	14 41 47.9	+0.4
	comp=N,107nm,0.8s,comp=N,0.5nm						
CHTO	**Chiang Mai**	7.40	50	*e* Pn	Pn	14 41 47.9	+0.4
	comp=N,13nm,0.8s						
SURT	**Suratani**	7.63	131	P	Pn	14 41 54.3	+3.7
PBKT	**Sadao Pong**	8.08	71	P	Pn	14 41 59.1	+2.3
UTTA	**Uttaradit**	8.13	62	P	Pn	14 42 05.7	+8.2
SRAK	**Srakaew**	8.78	89	P	Pn	14 42 10.3	+3.9
CHAI	**Chaiyaphum**	8.88	77	P	Pn	14 42 10.0	+2.3
	comp=N,6.4nm,0.9s						
VIS	**Vishakhapatnam**	9.98	293	*i* P	Pn	14 42 22.0	-0.8
VIS				*i* S	Sn	14 44 02.3	-11
SHL	**Shillong**	11.47	355	*ex*	Pn	14 42 41.0	-2.5
BOK	**Bokaro**	11.77	326	*e* P	Pn	14 42 47.4	0.0
PSI	**Prapat**	12.64	152	LR	LR	14 47 47.2	
	comp=N,278nm,18.7s,baz=328,slow=37						
ODAN	**Odare**	13.75	338	*e* P	Pn	14 43 14.1	-0.6
	comp=N,25nm,0.5s						
PALK	**Pallekele**	13.84	242	Pn	Pn	14 43 14.7	-1.1
	comp=N,0.2nm,0.3s,baz=114,slow=12,SNR=2.3						
PALK				Sn	Sn	14 45 35.6	-13
	comp=N,0.5nm,0.3s,

ASAR	**Alice Springs**	**54.84**	**133**	P	**P**	**14 49 27.2**	**-2.0**
	comp=Z,3.2nm,0.8s,baz=309,slow=7.1,SNR=36						
BRTR	**Keskin Array B**	**57.63**	**308**	P	**P**	**14 49 50.0**	**+0.9**
	comp=Z,0.6nm,0.8s,baz=118,slow=7.8,SNR=3.3						
BRTR				LR	LR	15 17 59.8	
	comp=Z,28nm,18.6s,baz=90,slow=40						
FINES	**FINESS Array B**	**66.75**	**331**	P	**P**	**14 50 49.0**	**-0.6**
	comp=Z,3.0nm,1.0s,baz=120,slow=6.8,SNR=4.2						
FINES				LR	LR	15 23 30.3	
	comp=Z,62nm,18.6s,baz=98,slow=39						
GERES	**GERESS Array B**	**72.51**	**317**	P	**P**	**14 51 28.0**	**+2.5**
	comp=Z,0.3nm,0.4s,baz=81,slow=6.1,SNR=3.0						
NOA	**NORSAR Array B**	**73.82**	**330**	P	P	14 51 38.5	+5.6
	comp=Z,1.7nm,0.7s,baz=90,slow=5.8,SNR=4.0						
BOSA	**Boshof**	**77.99**	**236**	P	**P**	**14 51 57.9**	**+0.5**
	comp=Z,1.3nm,0.7s,baz=74,slow=4.1,SNR=2.9						
TORD	**Torodi Ar. Bea**	**88.10**	**283**	P	**P**	**14 52 50.1**	**+0.4**
	comp=Z,0.3nm,0.7s,baz=89,slow=4.1,SNR=2.6						
ILAR	**Eielson Array**	**89.44**	**22**	P	**P**	**14 52 54.0**	**-1.1**
	comp=Z,0.4nm,1.0s,baz=269,slow=4.5,SNR=3.2						
TXAR	**Lajitas Array**	**133.94**	**20**	PKP	**PKPdf**	**14 59 19.4**	**+3.0**
	comp=Z,0.4nm,1.1s,baz=224,slow=2.5,SNR=2.2						

*ISCJB **28** 14:46:33.5±1.0,38.°73N±0.°04×27.°01E±0.°07,h12km, Error ellipse: s-maj=7.9km s-min=6.3km az=171.2*
*ISK **28** 14:46:33.3,38.°73N×26.°97E,h5km,MD2.4*
*CSEM **28** 14:46:34.2±0.2,38.°73N×27.°00E,h10km,MD2.4, Error ellipse: s-maj=3.9km s-min=3.1km az=82.0*
*DDA **28** 14:46:34.9,38.°68N×26.°98E,h7km,Md2.5*

ISC 28 14:46:33.9±1.1,38.°73N±0.°04×26.°99E±0.°05,h12km,n16, σ0s24/21,Aegean Sea

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
FOCM	**Fo˜ša**	**0.20**	**266**	*e*PG		**Pg**	**14 46 38.0**	**-0.3**
FOCM				*e*SG		**Sg**	**14 46 41.2**	**-0.1**
DKL	**Dikili**	**0.35**	**350**	*e*PG		**Pg**	**14 46 41.0**	**0.0**
DKL	**Dikili**	**0.35**	**350**	*e*Pg		**Pg**	**14 46 41.0**	**0.0**
KRBN	**Karaburun**	**0.36**	**248**	*e*PG		**Pg**	**14 46 41.1**	**-0.1**
URLA	**Izmir**	**0.48**	**220**	*e*PG		**Pg**	**14 46 43.4**	**+0.1**
URLA	**Izmir**	**0.48**	**220**	*i* P		**Pg**	**14 46 43.8**	**+0.5**
URLA				*i* S		**Sb**	**14 46 51.0**	**-0.3**
URLA	**Izmir**	**0.48**	**220**	*e*Pg		**Pg**	**14 46 43.4**	**+0.1**
URLA	**Izmir**	**0.48**	**220**	P		**Pg**	**14 46 43.8**	**+0.5**
URLA				S		**Sb**	**14 46 51.0**	**-0.3**
ZEY	**˜zmir**	**0.62**	**218**	*i* P		**Pg**	**14 46 46.1**	**+0.1**
ZEY				*i* S		**Sb**	**14 46 55.2**	**-0.1**
DGB	**˜zmir**	**0.68**	**187**	*i* P		**Pg**	**14 46 46.8**	**-0.4**
DGB				*i* S		**Sg**	**14 46 56.2**	**+0.1**
CHOS	**Chios island**	**0.81**	**245**	*e*PG		**Pb**	**14 46 50.1**	**+0.2**
CHOS	**Chios island**	**0.81**	**245**	*e*Pg		**Pb**	**14 46 50.1**	**+0.2**
SIGR	**SIGRI**	**1.00**	**299**	*e*PG		**Pn**	**14 46 53.9**	**+0.1**
SIGR	**SIGRI**	**1.00**	**299**	*e*Pg		**Pn**	**14 46 53.9**	**+0.1**
AYDB	**Zeytinkoy-Aydi**	**1.06**	**137**	*e*PG		**Pn**	**14 46 54.7**	**0.0**
AYDB	**Zeytinkoy-Aydi**	**1.06**	**137**	*e*Pg		**Pn**	**14 46 54.7**	**0.0**

*IDC **28** 14:50:12.4±1.1,30.°44N×83.°83E,h0km,mb3.5/7, mb1 3.6/9,mb1mx3.4/51,mbtmp3.5/9,ML3.7/2,MS2.9/1, Ms1 3.1/1,ms1mx2.5/25,Error ellipse: s-maj=36.5km s-min=18.7km az=63.0*

ISC 28 14:50:16.2±0.9,30.°5N±0.°1×83.°86E±0.°08,h26km,n10, σ0s99/11,mb3.4/6,Xizang

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
PTH	**Pithoragarh**	**3.29**	**254**	*e*P		**Pb**	**14 51 12.9**	**-1.2**
PTH				*e*S		**Sb**	**14 51 54.9**	**+1.1**
MKAR	**Makanchi Array**	**16.32**	**356**	Pn		**Pn**	**14 54 03.1**	**-0.5**
	0.2nm,0.3s,baz=177,slow=11,SNR=7.9							
CMAR	**Chiang Mai Arr**	**18.20**	**128**	P		**Pn**	**14 54 26.6**	**-0.5**
	0.1nm,0.3s,baz=304,slow=13,SNR=2.7							
CMAR				LR		LR	15 01 54.9	
	comp=Z,31nm,18.1s,baz=85,slow=39							
KURBB	**Kurchatov Arra**	**20.50**	**350**	P		**P**	**14 54 51.2**	**-1.0**
	1.4nm,0.2s,baz=173,slow=10.0,SNR=9.8							
ZALV	**Zalesovo Beam**	**23.45**	**1**	P		**P**	**14 55 22.7**	**-0.7**
	0.8nm,0.5s,baz=187,slow=11,SNR=3.9							
SONM	**Songino Array**	**24.46**	**39**	P		**P**	**14 55 34.4**	**+1.3**
	0.9nm,0.7s,baz=233,slow=11,SNR=6.7							
BVAR	**Borovoye Array**	**24.57**	**340**	P		**P**	**14 55 35.1**	**+1.2**
	0.5nm,0.5s,baz=147,slow=8.2,SNR=2.4							
WRA	**Warramunga Arr**	**69.78**	**129**	P		**P**	**15 01 24.6**	**+0.1**
	0.6nm,1.0s,baz=326,slow=6.3,SNR=2.8							
ASAR	**Alice Springs**	**72.14**	**132**	P		**P**	**15 01 38.9**	**+0.2**
	0.2nm,0.7s,baz=302,slow=5.3,SNR=3.7							
TORD	**Torodi Ar. Bea**	**76.77**	**278**	P		**P**	**15 02 06.4**	**+0.5**
	0.2nm,0.5s,baz=63,slow=4.9,SNR=4.2							

*DDA **28** 14:58:22.6,37.°21N×28.°19E,h7km,Md2.5*
*ISK **28** 14:58:22.3,37.°30N×28.°22E,h5km,MD2.6*
*ISCJB **28** 14:58:23.2±0.6,37.°23N±0.°04×28.°20E±0.°05,h12km, Error ellipse: s-maj=7.0km s-min=4.7km az=45.0*
*CSEM **28** 14:58:23.3±0.3,37.°24N×28.°20E,h2km,MD2.6, Error ellipse: s-maj=8.7km s-min=6.5km az=42.0*

ISC 28 14:58:23.2±0.9,37.°23N±0.°03×28.°20E±0.°03,h12km,n24, σ0s99/30,Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
MLSB	**Milas**	**0.35**	**280**	*e*PG		**Pg**	**14 58 30.5**	**+0.3**
MLSB				*e*SG		**Sb**	**14 58 36.4**	**-0.4**
MLSB	**Milas**	**0.35**	**280**	*e*Pg		**Pg**	**14 58 30.5**	**+0.3**
MLSB				*e*Sg		**Sb**	**14 58 36.4**	**-0.4**
TURN	**Turunc**	**0.48**	**138**	*i* P		**Pg**	**14 58 31.3**	**-1.3**
TURN	**Turunc**	**0.48**	**138**	P		**Pg**	**14 58 31.3**	**-1.3**
AYDN	**Tasoluk**	**0.50**	**329**	*i* P		**Pg**	**14 58 32.9**	**-0.1**
AYDN				*i* S		**Sb**	**14 58 40.5**	**-0.7**
AYDN	**Tasoluk**	**0.50**	**329**	P		**Pg**	**14 58 32.9**	**-0.1**
AYDN				S		**Sb**	**14 58 40.5**	**-0.7**
DALY	**Dalyan (Mu˜la**	**0.55**	**139**	*e*PG		**Pb**	**14 58 34.9**	**+0.1**
DALY	**Dalyan (Mu˜la**	**0.55**	**139**	*e*Pg		**Pb**	**14 58 34.9**	**+0.1**
BDRM	**Kayabasi**	**0.63**	**255**	*i* P		**Pg**	**14 58 33.1**	**-2.3**
BDRM	**Kayabasi**	**0.63**	**255**	P		**Pg**	**14 58 33.1**	**-2.3**
DAT	**Datca**	**0.71**	**225**	*e*PG		**Pb**	**14 58 38.3**	**+0.7**
DAT	**Datca**	**0.71**	**225**	*i* P		**Pg**	**14 58 36.2**	**-0.8**
DAT				*i* S		**Sn**	**14 58 51.9**	**+1.8**
DAT	**Datca**	**0.71**	**225**	P		**Pg**	**14 58 36.2**	**-0.8**
DAT	**Datca**	**0.71**	**225**	*e*Pg		**Pb**	**14 58 38.3**	**+0.7**
DAT				S		**Sn**	**14 58 51.9**	**+1.8**
BODT	**Bodrum**	**0.73**	**257**	*e*PG		**Pb**	**14 58 38.0**	**+0.1**
BODT	**Bodrum**	**0.73**	**257**	*e*Pg		**Pb**	**14 58 38.0**	**+0.1**
AYDB	**Zeytinkoy-Aydi**	**0.75**	**341**	*e*PG		**Pg**	**14 58 36.9**	**-0.9**
AYDB	**Zeytinkoy-Aydi**	**0.75**	**341**	*e*Pg		**Pg**	**14 58 36.9**	**-0.9**
FETY	**Fethiye**	**0.92**	**130**	*e*PG		**Pn**	**14 58 42.0**	**0.0**
FETY	**Fethiye**	**0.92**	**130**	*e*Pg		**Pn**	**14 58 42.0**	**0.0**
MANT	**Manisa**	**1.29**	**12**	*i* P		**Pb**	**14 58 47.6**	**+0.1**
MANT	**Manisa**	**1.29**	**12**	P		**Pb**	**14 58 47.6**	**+0.1**
AKAS	**Kas**	**1.50**	**131**	*e*PN		**Pg**	**14 58 52.2**	**+0.1**
AKAS	**Kas**	**1.50**	**131**	*e*Pn		**Pg**	**14 58 52.2**	**+0.1**

*ISCJB **28** 14:58:27.2±0.8,72.°25N±0.°08×143.°8E±0.°3,h10km, mb3.4/5,MS2.6/1,Error ellipse: s-maj=13.0km s-min=10.2km az=35.4*
*IDC **28** 14:58:27.6±1.1,72.°39N×143.°92E,h0km,mb3.4/5, mb1 3.6/7,mb1mx3.4/47,mbtmp3.4/7,ML2.8/1,MS2.7/2, Ms1 2.7/2,ms1mx2.5/32,Error ellipse: s-maj=32.4km s-min=19.2km az=179.0*
*YARS **28** 14:58:29.3±1.5,72.°12N±0.°05×141.°2E±0.°2,h10km*

ISC 28 14:58:29.2±1.0,72.°31N±0.°10×143.°41E±0.°08,h10km,n11, σ1s83/12,mb3.4/5,Near north coast of eastern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
DEPR	**Deputatskiy**	**3.15**	**203**	*e*P		**Pn**	**14 59 18.7**	**0.0**
DEPR				Pmax			14 59 18.7	
	comp=Z,4.0nm,0.1s							
DEPR				*e*S		**Sn**	**14 59 55.5**	**-0.8**
DEPR				Smax			14 59 55.5	
	comp=E,11nm,0.2s							
TIXI	**Tiksi**	**4.56**	**269**	Pn		**Pn**	**14 59 39.2**	**+1.1**
	comp=E,2.5nm,0.3s,baz=90,slow=15,SNR=18							
TIXI				Sn		**Sn**	**15 00 27.8**	**-3.4**
	comp=E,7.8nm,0.3s,baz=156,slow=20,SNR=9.6							
TIXI				Lg		Lg	15 01 04.6	
	comp=E,2.3nm,0.3s,baz=74,slow=18,SNR=3.2							
TIXI	**Tiksi**	**4.56**	**269**	*e*P		**Pn**	**14 59 39.1**	**+1.0**
TIXI				Pmax			14 59 39.1	
	comp=Z,14nm,0.3s							
TIXI				*e*S		**Sn**	**15 00 28.5**	**-2.6**
TIXI				Smax			15 00 28.5	
	comp=N,28nm,0.2s							
SEY	**Seymchan**	**10.00**	**156**	Pn		**Pn**	**15 00 52.6**	**-0.1**
	comp=N,0.1nm,0.3s,baz=20,slow=16,SNR=2.1							
SEY				Lg		Lg	15 03 44.6	
	comp=N,0.2nm,0.3s,baz=355,slow=6.4,SNR=4.1							
MA2	**Magadan**	**13.12**	**163**	LR		LR	15 06 27.6	
	comp=N,34nm,21.4s,baz=76,slow=36							
ILAR	**Eielson Array**	**25.08**	**71**	P		**P**	**15 03 51.2**	**-2.1**
	comp=N,1.6nm,0.9s,baz=309,slow=9.4,SNR=9.2							
INK	**Inuvik**	**26.16**	**57**	LR		LR	15 16 51.7	
	comp=N,18nm,18.8s,baz=329,slow=42							
KURBB	**Kurchatov Arra**	**35.25**	**268**	P		**P**	**15 05 24.4**	**+1.0**
	comp=N,0.2nm,0.4s,baz=34,slow=9.2,SNR=3.0							
BVAR	**Borovoye Array**	**35.64**	**277**	P		**P**	**15 05 28.2**	**+1.5**
	comp=N,0.4nm,0.6s,baz=53,slow=5.7,SNR=3.7							
MKAR	**Makanchi Array**	**37.51**	**261**	P		**P**	**15 05 43.8**	**+1.1**
	comp=N,0.5nm,0.7s,baz=44,slow=7.6,SNR=5.5							
TXAR	**Lajitas Array**	**68.89**	**60**	P		**P**	**15 09 33.3**	**-0.5**
	comp=N,0.2nm,0.7s,baz=354,slow=3.6,SNR=2.8							

NIED 28 15:02:00,44.°70N×149.°10E,h110km,Mw4.2 Best double couple: M0 2.55000×10^15 **NP1:**φs159.00000°, δ61.00000°,λ0.00000°. **NP2:**φs249.00000°,δ90.00000°, λ-151.00000°.**,Kuril Islands**

*DDA **28** 15:35:51.0,37.°68N×26.°84E,h7km,Md2.4*
*ISCJB **28** 15:35:51.7±0.7,37.°69N±0.°03×26.°87E±0.°05,h12km±5km, Error ellipse: s-maj=8.0km s-min=4.2km az=143.1*
*CSEM **28** 15:35:51.7±0.4,37.°71N×26.°90E,h15km,MD2.4, Error ellipse: s-maj=10.2km s-min=5.6km az=52.0*
*ISK **28** 15:35:51.8,37.°71N×26.°96E,h14km,MD2.5*

ISC 28 15:35:51.2±1.5,37.°71N±0.°03×26.°90E±0.°04,h7km±15km, n20,σ0s56/32,Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
GCAM	**G?zelcaml?**	**0.27**	**92**	*i* P		**Pb**	**15 35 57.9**	**-0.4**
GCAM				*i* S		**Sb**	**15 36 03.0**	**-0.1**
GCAM	**G?zelcaml?**	**0.27**	**92**	P		**Pb**	**15 35 57.9**	**-0.4**
GCAM				S		**Sb**	**15 36 03.0**	**-0.1**
DGB	**˜zmir**	**0.34**	**358**	*i* P		**Pg**	**15 35 58.6**	**+0.7**
DGB				*i* S		**Sb**	**15 36 04.9**	**-0.4**
ZEY	**˜zmir**	**0.61**	**330**	*i* P		**Pg**	**15 36 03.8**	**+0.7**
ZEY				*i* S		**Sb**	**15 36 13.1**	**-0.1**
URLA	**Izmir**	**0.69**	**340**	*e*PG		**Pb**	**15 36 06.0**	**+0.4**
URLA	**Izmir**	**0.69**	**340**	*i* P		**Pg**	**15 36 03.2**	**-1.4**
URLA	**Izmir**	**0.69**	**340**	P		**Pg**	**15 36 03.2**	**-1.4**
URLA	**Izmir**	**0.69**	**340**	*e*Pg		**Pb**	**15 36 06.1**	**+0.4**
BODT	**Bodrum**	**0.72**	**153**	*e*PG		**Pb**	**15 36 05.8**	**-0.3**
BODT				*e*SG		**Sb**	**15 36 16.2**	**-0.1**
BODT	**Bodrum**	**0.72**	**153**	*e*Pg		**Pb**	**15 36 05.9**	**-0.3**
BODT				*e*Sg		**Sb**	**15 36 16.2**	**-0.1**
BDRM	**Kayabasi**	**0.78**	**146**	*i* P		**Pg**	**15 36 05.6**	**-0.5**
BDRM				*i* S		**Sb**	**15 36 17.6**	**-0.2**
BDRM	**Kayabasi**	**0.78**	**146**	P		**Pg**	**15 36 05.6**	**-0.5**
BDRM				S		**Sb**	**15 36 17.6**	**-0.2**
AYDN	**Tasoluk**	**0.78**	**93**	*i* P		**Pb**	**15 36 07.2**	**0.0**
AYDN				*i* S		**Sb**	**15 36 18.6**	**+0.6**
AYDN	**Tasoluk**	**0.78**	**93**	P		**Pb**	**15 36 07.2**	**0.0**
AYDN				S		**Sb**	**15 36 18.6**	**+0.6**
AYDB	**Zeytinkoy-Aydi**	**0.82**	**73**	*e*PG		**Pg**	**15 36 07.1**	**+0.1**
AYDB				*e*SG		**Sb**	**15 36 18.8**	**-0.4**
AYDB	**Zeytinkoy-Aydi**	**0.82**	**73**	*e*Pg		**Pg**	**15 36 07.1**	**+0.1**
AYDB				*e*Sg		**Sb**	**15 36 18.8**	**-0.4**
CHOS	**Chios island**	**0.95**	**316**	*e*PG		**Pn**	**15 36 11.3**	**+0.3**
CHOS	**Chios island**	**0.95**	**316**	*e*Pg		**Pn**	**15 36 11.4**	**+0.3**
DAT	**Datca**	**1.12**	**151**	*e*PN		**Pg**	**15 36 13.3**	**+0.6**
DAT	**Datca**	**1.12**	**151**	*e*Pn		**Pg**	**15 36 13.3**	**+0.6**

*NIED **28** 15:51:00,45.°20N×149.°10E,h135km,Mw4.2 Best double couple: M0 2.30000×10^15 NP1:*φs341.00000°, δ50.00000°,λ-2.00000°. *NP2:*φs72.00000°,δ89.00000°, λ-140.00000°.*
*MOS **28** 15:51:02.9±1.1,45.°74N×148.°83E,h147km,mb4.0/12, Error ellipse: s-maj=9.7km s-min=7.4km az=76.4*
*ISCJB **28** 15:51:02.9±0.5,45.°60N±0.°03×148.°88E±0.°07, h148km±4km,mb3.7/21,Error ellipse: s-maj=7.7km s-min=5.3km az=18.0*
*SKHL **28** 15:51:03.3±0.8,45.°57N×149.°07E,h141km±18km,mb5.1/2, msh5.2/5*
*IDC **28** 15:51:05.6±1.8,45.°79N×148.°81E,h153km±16km, mb3.5/19,mb1 3.7/25,mb1mx3.5/52,mbtmp4.0/25,Error ellipse: s-maj=14.3km s-min=11.0km az=135.0*
*JMA **28** 15:51:05.5±0.5,45.°15N×149.°07E,h146km,M4.1*

ISC 28 15:51:04.2±0.8,45.°55N±0.°05×148.°83E±0.°07,h149km±7km, n114,σ2s11/138,mb3.6/21,3C-2D,Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
KUR	**Kuril'sk**	**0.74**	**245**	*i* PN		**Pn**	**15 51 26.6**	**-0.2**
KUR				*i* S		**Sn**	**15 51 44.0**	**+0.1**
KUR				pmax		pmax		
	comp=Z,435nm,0.5s							
KUR				pmax		pmax		
	comp=N,84nm,0.3s							
KUR				pmax		pmax		
	comp=E,17nm,0.2s							
KUR				smax		smax		
	comp=N,10μm,0.3s							
KUR				smax		smax		
	comp=E,487nm,0.2s							
KUR	**Kuril'sk**	**0.74**	**245**	*i* P		**Pn**	**15 51 26.6**	**-0.2**
KUR				AMB		AMB	15 51 27.4	
	comp=E,800nm,0.6s							
KUR				AMB		AMB	15 51 27.7	
	comp=E,440nm,0.5s							
KUR				*i* S		**Sn**	**15 51 44.1**	**+0.1**
KUR				A		A	15 51 47.5	
	comp=E,2μm,0.9s							
KUR				A		A	15 51 47.5	
	comp=E,1μm,0.9s							
KUR				A		A	15 51 49.7	
	comp=E,2μm,0.3s							
KUR				A		A	15 51 49.7	
	comp=E,490nm,0.3s							
SHO	**Shikotan**	**2.20**	**221**	*i* PN		**Pn**	**15 51 41.5**	**0.0**
SHO				*i* S		**Sn**	**15 52 10.0**	**-0.2**
SHO				pmax		pmax		
	comp=Z,165nm,0.5s							
SHO				pmax		pmax		
	comp=E,75nm,0.2s							
SHO				pmax		pmax		
	comp=N,99nm,0.4s							
SHO				smax		smax		
	comp=N,10.0nm,0.4s							
SHO				smax		smax		
	comp=E,10.0nm,0.5s							
SHO	**Shikotan**	**2.20**	**221**	*e*P		**Pn**	**15 51 41.3**	**-0.2**
SHO				AMB		AMB	15 51 43.4	
	comp=E,130nm,0.4s							
SHO				*e*S		**Sn**	**15 52 09.5**	**-0.7**
SHO				A		A	15 52 11.4	
	comp=E,1μm,0.3s							
SHO				A		A	15 52 11.4	
	comp=E,670nm,0.3s							
YUK	**Yuzh-Kuril'sk**	**2.59**	**235**	*e*PN		**Pn**	**15 51 48.2**	**+1.9**
YUK				*i* S		**Sn**	**15 52 22.2**	**+3.4**
YUK				pmax		pmax		
	comp=Z,691nm,0.3s							
YUK				smax		smax		
	comp=N,875nm,0.4s							
YUK				smax		smax		
	comp=E,441nm,0.2s							
YUK	**Yuzh-Kuril'sk**	**2.59**	**235**	*i* P		**Pn**	**15 51 48.2**	**+1.9**
YUK				AMB		AMB	15 51 48.6	
	comp=E,690nm,0.3s							
YUK				*i* S		**Sn**	**15 52 21.1**	**+2.3**
YUK				A		A	15 52 24.2	
	comp=E,3μm,2.0s							
YUK				A		A	15 52 25.7	
	comp=E,880nm,0.5s							
YUK				A		A	15 52 25.7	
	comp=E,440nm,0.5s							
JRA	**Rausu**	**3.09**	**240**	P		**Pn**	**15 51 54.5**	**+1.9**
NEM2	**Nemuro 2**	**3.10**	**226**	P		**Pn**	**15 51 52.8**	**+0.1**
NEM2				*e*S		**Sn**	**15 52 29.7**	**-0.6**
JNK	**Nakash**	**3.53**	**238**	P		**Pn**	**15 52 00.0**	**+1.8**
JTKR	**Abashiri--Toko**	**3.84**	**248**	P		**Pn**	**15 52 04.4**	**+2.2**
JAK	**Akkeshi**	**3.91**	**231**	P		**Pn**	**15 52 03.4**	**+0.2**
JAK				*e*S		**Sn**	**15 52 49.0**	**+0.1**
JAR	**Ashorobuto**	**4.26**	**240**	P		**Pn**	**15 52 09.9**	**+2.1**
YSS	**Yuzh-Sakhalins**	**4.44**	**291**	⇑*i* PN		**Pn**	**15 52 11.7**	**+1.6**
YSS				*e*S		**Sn**	**15 53 03.9**	**+2.5**
YSS				pmax		pmax		
	comp=Z,90nm,0.9s							
YSS				pmax		pmax		
	comp=E,90nm,0.8s							
YSS				smax		smax		
	comp=E,90nm,1.2s							
YSS	**Yuzh-Sakhalins**	**4.44**	**291**	*e*P		**Pn**	**15 52 10.3**	**+0.2**
YSS				AMB		AMB	15 52 12.5	
	comp=E,90nm,0.9s							
YSS				AMB		AMB	15 52 15.0	
	comp=E,400nm,3.0s							
YSS				*e*S		**Sn**	**15 53 00.8**	**-0.6**
YSS				A		A	15 53 03.5	
	comp=E,300nm,3.0s							
YSS				A		A	15 53 03.5	
	comp=E,500nm,3.0s							
YSS				A		A	15 53 07.8	
	comp=E,70nm,0.8s							
JOB	**Onbets**	**4.45**	**235**	P		**Pn**	**15 52 11.4**	**+1.1**
JOB				*e*S		**Sn**	**15 53 01.9**	**+0.2**
JKK2	**Kamakawa 2**	**4.64**	**251**	P		**Pn**	**15 52 15.6**	**+2.8**
JKA	**Kamikawa-asahi**	**4.65**	**254**	*e*P		**Pn**	**15 52 15.9**	**+3.0**
ASAJ	**Asahikawa**	**4.66**	**254**	P		**Pn**	**15 52 15.9**	**+3.0**
	comp=E,8.4nm,0.3s,baz=78,slow=9.8,SNR=75							
ASAJ	**Asahikawa**	**4.66**	**254**	P		**Pn**		
JWK2	**Keihoku**	**4.88**	**270**	P		**Pn**	**15 52 19.6**	**+3.7**
JCH	**Churui**	**4.91**	**235**	P		**Pn**	**15 52 17.0**	**+0.7**
JCH				*e*S		**Sn**	**15 53 11.3**	**-1.2**
JFR	**Furan**	**5.06**	**244**	P		**Pn**	**15 52 21.4**	**+3.0**
JAB	**Ashibetsu**	**5.14**	**249**	P		**Pn**	**15 52 23.0**	**+3.6**
JBT2	**Biratori 2**	**5.41**	**242**	P		**Pn**	**15 52 24.3**	**+1.4**
JEM	**Erimo**	**5.41**	**231**	P		**Pn**	**15 52 24.3**	**+1.3**
ERM	**Erimo**	**5.41**	**231**	*ce*PN		**Pn**	**15 52 24.3**	**+1.3**
ERM				pmax		pmax		
	comp=Z,55nm,0.7s							
ERM	**Erimo**	**5.41**	**231**	*e*P		**Pn**	**15 52 24.3**	**+1.3**
JNBK	**Urakawa-nobuka**	**5.47**	**235**	P		**Pn**	**15 52 23.4**	**-0.3**
JNBK				*e*S		**Sn**	**15 53 23.2**	**-2.6**
UGL	**Uglegorsk**	**5.80**	**310**	PN		**Pn**	**15 52 25.3**	**-2.7**
UGL				*e*S		**Sn**	**15 53 30.2**	**-3.3**
UGL	**Uglegorsk**	**5.80**	**310**	*e*P		**Pn**	**15 52 28.6**	**+0.6**
UGL				AMB		AMB	15 52 29.5	
	comp=Z,90nm,0.8s							
UGL				*e*S		**Sn**	**15 53 31.6**	**-1.9**
UGL				A		A	15 53 33.8	
	comp=Z,1μm,4.0s							
UGL				A		A	15 53 33.8	
	comp=Z,600nm,4.0s							
JEW	**Eniwo**	**5.95**	**246**	P		**Pn**	**15 52 33.0**	**+2.8**
JNB	**Noboribetsu**	**6.40**	**244**	P		**Pn**	**15 52 36.9**	**+0.8**
JNB				*e*S		**Sn**	**15 53 48.4**	**+0.3**
JKB	**Kayabe**	**6.73**	**240**	P		**Pn**	**15 52 40.3**	**-0.2**
JKB				*e*S		**Sn**	**15 53 52.2**	**-3.7**
TYV	**Tymovskoe**	**6.73**	**324**	*e*P		**Pn**	**15 52 41.5**	**+1.1**
TYV				AMB		AMB	15 52 49.9	
	comp=Z,400nm,3.0s							
TYV				*e*S		**Sn**	**15 53 53.2**	**-2.7**
TYV				A		A	15 54 14.5	
	comp=Z,500nm,4.0s							
TYV				A		A	15 54 14.5	
	comp=Z,900nm,4.0s							
JSH	**Shimam**	**6.96**	**248**	P		**Pn**	**15 52 45.7**	**+2.2**
JYM2	**Yakumo 2**	**7.01**	**244**	P		**Pn**	**15 52 45.1**	**+0.8**
JSR	**Shiriuchi**	**7.31**	**240**	P		**Pn**	**15 52 48.1**	**-0.2**
JSR				*e*S		**Sn**	**15 54 06.4**	**-3.5**
JANG	**Nango**	**7.45**	**229**	P		**Pn**	**15 52 47.8**	**-2.3**
JANG				*e*S		**Sn**	**15 54 06.6**	**-6.7**
JTH	**Tanohata**	**7.59**	**225**	P		**Pn**	**15 52 50.0**	**-2.1**
JTH				*e*S		**Sn**	**15 54 10.7**	**-6.1**
JOSM	**Okushiri--Mats**	**7.60**	**246**	P		**Pn**	**15 52 52.8**	**+0.7**
OFUJ	**Ofunato**	**8.36**	**222**	P		**Pn**	**15 53 00.6**	**-1.7**
OFUJ				*e*S		**Sn**	**15 54 28.5**	**-6.7**
JRG	**Rokugo**	**8.62**	**227**	P		**Pn**	**15 53 04.9**	**-0.9**
JRG				*e*S		**Sn**	**15 54 37.9**	**-3.7**
JIO	**Ouri**	**9.01**	**221**	P		**Pn**	**15 53 08.6**	**-2.3**
JIO				*e*S		**Sn**	**15 54 44.5**	**-6.3**
PETK	**Petropavlovsk-**	**9.52**	**34**	P		**Pn**	**15 53 16.1**	**-1.6**
	comp=Z,0.8nm,0.3s,baz=196,slow=10,SNR=18							
JYA	**Atsumi**	**9.70**	**227**	P		**Pn**	**15 53 19.7**	**-0.4**
JYA				*e*S		**Sn**	**15 55 01.9**	**-5.6**
GRNR	**Gornyy**	**9.79**	**307**	*e*P		**Pn**

KURK	Kurchatov	45.53	303	*i* P		P	15 59 07.7	-0.9
KURK				pmax	pmax			
	comp=Z,9.0nm,1.4s							
KURK	Kurchatov	45.53	303	*e*P		P	15 59 07.7	-0.9
KURBB	Kurchatov Arra	45.62	303	P		P	15 59 07.9	-1.4
	comp=Z,0.6nm,0.4s,baz=73,slow=8.6							
CMAR	Chiang Mai Arr	49.18	254	P		P	15 59 39.1	+1.9
	comp=Z,0.5nm,0.6s,baz=45,slow=7.8,SNR=3.7							
BVAR	Borovoye Array	49.30	309	P		P	15 59 36.7	-1.0
	comp=Z,0.5nm,0.4s,baz=71,slow=11							
TAPN	Taplejung	51.17	271	*e*P		P	15 59 54.3	+1.9
	comp=Z,8.6nm,0.5s							
ODAN	Odare	51.69	271	*e*P		P	15 59 57.4	+1.2
JIRN	Jiri	52.05	273	*e*P		P	16 00 00.8	+1.8
	comp=Z,39nm,0.5s							
GUN	Gumba	52.11	273	*e*P		P	16 00 00.9	+1.4
	comp=Z,20nm,0.4s							
RAMN	Ramite	52.19	272	*e*P		P	16 00 01.4	+1.5
	comp=Z,25nm,0.5s							
KKN	Kakani	52.60	273	*e*P		P	16 00 04.7	+1.8
	comp=Z,12nm,0.5s							
PKI	Pulchoki	52.65	273	*e*P		P	16 00 04.8	+1.4
	comp=Z,10nm,0.5s							
PKIN	Phulchoki	52.65	273	*e*P		P	16 00 04.7	+1.3
	comp=Z,7.2nm,0.5s							
DMN	Daman	52.84	273	*e*P		P	16 00 06.5	+1.8
	comp=Z,14nm,0.5s							
GKN	Gorkha	52.93	274	*e*P		P	16 00 06.8	+1.6
	comp=Z,29nm,0.4s							
YKA	Yellowknife Ar	53.64	35	P		P	16 00 09.6	-0.2
	comp=Z,0.7nm,0.4s,baz=302,slow=6.6,SNR=3.8							
KOLN	Koldanda	53.79	274	*e*P		P	16 00 13.3	+1.7
	comp=Z,10nm,0.4s							
PYUN	Piuthan	54.02	275	*e*P		P	16 00 14.9	+1.6
	comp=Z,14nm,0.4s							
ARCES	ARCESS Array B	57.98	340	P		P	16 00 39.2	-1.3
	comp=Z,2.4nm,1.0s,baz=44,slow=7.8,SNR=2.7							
FINES	FINESS Array B	63.81	333	P		P	16 01 18.2	-1.8
	comp=Z,1.3nm,0.6s,baz=32,slow=9.0,SNR=4.4							
FINES				PcP		PcP	16 01 54.3	-0.2
	comp=Z,3.1nm,0.8s,baz=90,slow=3.8,SNR=3.9							
WRA	Warramunga Arr	66.49	195	P		P	16 01 39.2	+1.5
	comp=Z,1.6nm,0.5s,baz=11,slow=6.8,SNR=30							
NB2	NORSAR Subarra	68.35	339	P		P	16 01 47.5	-1.5
	comp=Z,1.4nm,0.6s,baz=30,slow=6.5							
NOA	NORSAR Array B	68.35	339	P		P	16 01 48.0	-1.0
	comp=Z,0.7nm,0.5s,baz=31,slow=6.6,SNR=6.9							
ASAR	Alice Springs	70.21	195	P		P	16 02 03.3	+2.5
	comp=Z,1.8nm,0.6s,baz=11,slow=6.2,SNR=62							
AKASG	Malin Array Be	70.83	324	P		P	16 02 03.1	-1.2
	comp=Z,0.4nm,0.4s,baz=37,slow=6.3,SNR=4.6							
AKASG	Malin Array Be	70.83	324	*e*P		P	16 02 05.7	+1.4
CLL	Collm	76.26	333	⇓*i* P		P	16 02 35.6	-0.4
CLL	Collm	76.26	333	*e*P		P	16 02 35.6	-0.4
CLL	Collm	76.26	333	⇓*i* P		P	16 02 35.6	-0.4
	comp=Z,5.0nm,0.4s							
BRTR	Keskin Array B	77.16	314	P		P	16 02 41.8	+0.4
	comp=Z,0.4nm,0.4s,baz=50,slow=1.0,SNR=4.3							
BRTR	Keskin Array B	77.16	314	*e*P		P	16 02 42.4	+0.9
GERES	GERESS Array B	78.16	332	P		P	16 02 46.6	-0.2
	comp=Z,0.4nm,0.4s,baz=52,slow=6.9,SNR=5.9							
TXAR	Lajitas Array	80.67	58	P		P	16 03 01.2	+0.5
	comp=Z,0.7nm,0.6s,baz=293,slow=4.5,SNR=14							
TXAR	Lajitas Array	80.67	58	*e*P		P	16 03 01.4	+0.7
TXAR				pmax	pmax			
	comp=Z,1.0nm,0.6s							
TXAR	Lajitas Array	80.67	58	*e*P		P	16 03 01.4	+0.7
PLCA	Paso Flores	151.07	95	PKPbc		PKPbc	16 10 40.4	+1.2
	comp=Z,3.8nm,0.7s,baz=330,slow=2.4,SNR=6.4							

*IDC **28** 15:59:15.0±2.9, 10˚.85S×118˚.90E, h0km, mb3.5/1, mb1 3.7/4, mb1mx3.4/32, mbtmp3.5/4, ML3.6/3, Error ellipse: s-maj=215.5km s-min=26.7km az=50.0*
*ISCJB **28** 15:59:15.8±0.6, 11˚.42S±0˚.07×118˚.26E±0˚.05, h33km, mb3.5/1, Error ellipse: s-maj=11.0km s-min=5.4km az=29.7*
*DJA **28** 15:59:18.4±0.5, 11˚S±4˚×11˚8E±˚, h10km, M4.2/13, mb4.3/6, MLv4.2/13*

ISC 28 15:59:17.6±1.0, 11˚.35S±0˚.09×118˚.30E±0˚.05, h33km, n18, σ1s69/22, South of Sumbawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLAI	Plampang	2.56	348	P	Pn	15 59 57.1	+0.2
PLAI				S	Sn	16 00 25.2	-1.7
WSI	Waingapu	2.58	50	P	Pn	15 59 59.1	+2.0
TWSI	Taliwang, Sumb	2.95	332	P	Pn	16 00 02.6	+0.4
IGBI	Denpasar	4.00	309	P	Pn	16 00 18.2	+1.6
DNP	Denpasar	4.04	311	S	Sn	16 01 03.5	+0.1
MMRI	Maumere	4.72	56	P	Pn	16 00 26.8	+0.2
MMRI				S	Sn	16 01 16.9	-3.4
JAGI	Jajag, Banyuwa	4.99	305	P	Pn	16 00 29.6	-0.7
JAGI				S	Sn	16 01 24.1	-2.8
ABJI	Asem Bagus	5.34	311	P	Pn	16 00 36.2	+1.1
	77nm,1.4s,0.5nm						
BSSI	Bau Bau, Buton	5.61	23	P	Pn	16 00 39.5	+0.7
	29nm,1.2s,0.2nm						
GMJI	Gumukmas	5.68	302	P	Pn	16 00 39.1	-0.7
	25nm,1.0s,0.2nm						
GMJI				S	Sn	16 01 42.9	-1.0
	25nm,1.0s,0.2nm						
BLJI	Banyuglugur	5.86	307	P	Pn	16 00 43.7	+1.4
	36nm,1.0s,0.3nm						
KMMI	Kalianget	6.05	315	P	Pn	16 00 47.3	+2.5
	46nm,1.4s,0.4nm						
SOEI	Soe	6.08	75	P	Pn	16 00 47.4	+2.1
PWJI	Pagerwojo	7.21	297	P	Pn	16 01 02.5	+1.7
	27nm,1.0s,0.2nm						
FITZ	Fitzroy Crossi	9.77	134	Pn	Pn	16 01 34.6	-1.3
	0.7nm,0.3s,baz=314,slow=11,SNR=25						
FITZ				Sn	Sn	16 03 13.8	-11
	0.5nm,0.3s,baz=166,slow=11,SNR=3.8						
WRA	Warramunga Arr	17.64	121	P	Pn	16 03 19.3	-1.7
	0.1nm,0.3s,baz=298,slow=15,SNR=12						
WRA				S	Sn	16 06 20.1	-17
	0.1nm,0.3s,baz=289,slow=23,SNR=3.4						
ASAR	Alice Springs	19.25	132	P	Pn	16 03 41.4	+0.8
	0.2nm,0.3s,baz=315,slow=13,SNR=18						
ASAR				S	Sn	16 06 56.1	-19
	baz=306,slow=22,SNR=2.7						
MKAR	Makanchi Array	66.24	334	P	P	16 10 03.5	+1.2
	0.3nm,0.7s,baz=160,slow=7.8,SNR=3.7						

*PGC **28** 16:12:18.9±1.2, 59˚.98N×141˚.55W, h1km, ML2.8/7, 138km Wnw of Yakutat, Ak Southeastern Alaska*
*NEIC **28** 16:12:20.6±0.0, 60˚.09N×141˚.32W, h8km, ML2.8(OTT), ML2.9(AEIC), After AEIC.*

ISC 28 16:12:19.9±1.0, 60˚.02N±0˚.03×141˚.39W±0˚.02, h12km±7km, n53, σ1s05/74, Southeastern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHX	Chaix Hills	0.14	74	P	Pg	16 12 23.4	0.0
RKAV	Rock Avalanche	0.28	4	P	Pg	16 12 25.3	-0.4
RKAV				S	Sg	16 12 29.6	0.0
MESA	MESA	0.32	299	P	Pb	16 12 27.3	-0.5
MESA				S	Sb	16 12 33.6	+0.6
SAMH	Samovar Hills	0.32	71	P	Pg	16 12 26.5	0.0
SAMH				S	Sg	16 12 32.0	+1.2
TABL	Table Mountain	0.43	16	P	Pg	16 12 28.0	-0.6
TABL				S	Sg	16 12 34.8	+0.4
PCA	Pinnacle	0.57	82	P	Pg	16 12 31.1	0.0
PCA				S	Sg	16 12 39.5	+0.8
PCA	Pinnacle	0.57	82	P	Pg	16 12 31.0	0.0
PCA				S	Sg	16 12 39.6	+1.0
BAGL	Bagley Icefiel	0.58	323	P	Pb	16 12 31.4	-0.7
BAGL				S	Sb	16 12 40.6	+0.3
BARK	Barkley Ridge	0.67	305	P	Pb	16 12 33.2	-0.4
KULT	Kultieth River	0.70	289	P	Pb	16 12 33.9	-0.3
KULT				S	Sb	16 12 44.8	+0.9
GRNC	Granite Creek	0.73	346	P	Pg	16 12 33.5	-0.7
GRNC				S	Sg	16 12 43.8	+0.1
ISLE	Juniper Island	0.75	321	P	Pg	16 12 34.3	-0.2
LOGN	Logan Glacier	0.82	13	P	Pg	16 12 34.5	-1.4
LOGN				S	Sg	16 12 46.1	-0.6
WAX	Waxell Ridge	0.85	301	P	Pg	16 12 36.0	-0.2
BCPM	Bancas Point	0.88	94	P	Pg	16 12 36.0	-1.0
BCPM				S	Sg	16 12 48.6	+0.1
CTGM	Chitina Glacie	0.94	2	P	Pg	16 12 36.8	-1.4
CTGM				S	Sg	16 12 49.7	-0.8
CTGM	Chitina Glacie	0.94	2	P	Pg	16 12 36.9	-1.3
GRIN	Grindle Hills	1.00	286	P	Pb	16 12 39.1	-0.1
YKU2	Yakutat	1.01	120	P	Pg	16 12 38.8	-0.5
KHIT	Khitrov Hills	1.02	295	P	Pg	16 12 38.9	-0.6
TGL	Tana Glacier	1.03	316	P	Pg	16 12 38.5	-1.2
PNL	Peninsula	1.07	109	P	Pg	16 12 38.8	-1.6
PNL				S	Sg	16 12 53.6	-0.7
PNL	Peninsula	1.07	109	P	Pg	16 12 38.8	-1.6
CRQM	Cirque	1.14	311	P	Pg	16 12 40.5	-1.3
BERG	Berg Lake	1.21	289	P	Pg	16 12 42.5	-0.7
PTPK	Patty Peak	1.28	336	P	Pg	16 12 42.5	-2.1
HMT	Hamilton	1.47	284	P	Pn	16 12 46.5	+0.2
MCARA	McCarthy VSAT	1.58	330	P	Pn	16 12 47.3	-0.5
GOAT	Goat Mountain	1.75	290	P	Pn	16 12 50.2	0.0
YUK2	White River	1.79	8	Pn	Pn	16 12 51.4	+0.6
YUK2				Sg	Sb	16 13 15.7	+0.6
YUK3	Moose Creek	1.81	14	Pn	Pn	16 12 51.5	+0.4
YUK3				Sg	Sb	16 13 16.4	+0.5
BMRM	Bremner River	1.85	302	P	Pn	16 12 51.5	0.0
DHAK	Deception Hill	1.87	119	P	Pn	16 12 50.7	-1.0
DHAK				S	Sn	16 13 16.2	+0.9
YUK1	Sand Pete Hill	2.18	11	Pn	Pn	16 12 57.2	+1.1
YUK1				Sg	Sb	16 13 26.7	+0.4
BVCY	Beaver Creek	2.41	6	Pn	Pn	16 13 00.4	+1.2
BVCY				Sg	Sb	16 13 34.4	+1.4
DIV	Divide	2.43	299	Pn	Pn	16 12 59.5	-0.1
DIV				Sg	Sn	16 13 30.2	+1.0
DIV	Divide	2.43	299	P	Pn	16 12 59.4	-0.1
PLBC	Pleasant Camp	2.61	100	Pn	Pn	16 13 01.6	-0.2
PLBC				Sn	Sn	16 13 34.0	+0.6
KLU	Klutina	2.67	305	P	Pn	16 13 03.0	+0.2
JPK	Jack Peak	2.77	294	P	Pn	16 13 04.1	-0.1
HARP	HAARP	3.01	324	Pg	Pb	16 13 11.2	-2.2
BCA3	Beaver Creek A	3.06	357	P	Pn	16 13 07.7	-0.4
WHY	Whitehorse	3.30	76	Pn	Pn	16 13 11.5	+0.1
WHY				Sn	Sn	16 13 50.8	+0.2
PAX	Paxson	3.54	328	Pn	Pn	16 13 17.6	+2.8
PAX	Paxson	3.54	328	*e*Pn	Pn	16 13 16.3	+1.4
SML	Sawmill	3.83	301	*e*Pn	Pn	16 13 23.0	+4.2
DOT	Dot Lake	3.85	342	Pn	Pn	16 13 19.5	+0.5
DOT	Dot Lake	3.85	342	*e*Pn	Pn	16 13 20.2	+1.2
DAWY	Dawson	4.16	12	Pn	Pn	16 13 24.5	+1.2
DAWY	Dawson	4.16	12	*e*Pn	Pn	16 13 23.7	+0.4
EGAK	Eagle	4.77	1	*e*Pn	Pn	16 13 32.2	+0.6
KTH	Kantishna Hill	5.74	312	*e*Pn	Pn	16 13 44.0	-0.9
	5.4nm,0.9s						
PPLA	Purkeypile	5.92	304	*e*P	Pn	16 13 49.1	+1.6

*GUC **28** 16:33:57.9±0.4, 29˚.55S×70˚.92W, h37km±3km, ML3.2*
*SJA **28** 16:33:59.8±1.7, 29˚.46S×70˚.65W, h43km±43km*
*ISCJB **28** 16:34:00.5±0.6, 29˚.53S±0˚.03×70˚.64W±0˚.10, h22km±11km, Error ellipse: s-maj=14.2km s-min=5.1km az=2.2*

ISC 28 16:33:59.5±1.3, 29˚.54S±0˚.03×70˚.63W±0˚.08, h12km±12km, n22, σ1s39/27, 1C-2D, Central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LCO	Las Campanas	0.53	353	⇓*i* P	Pg	16 34 10.0	+0.2
LCO				*i* S	Sb	16 34 19.6	+1.0
LCO				IAML		16 34 20.7	
	comp=E,2μm,0.2s						
LCO	Las Campanas	0.53	353	*e*P	Pg	16 34 10.1	+0.2
LCO				*e*S	Sn	16 34 20.2	-1.9
TLL	Tololo Astrono	0.65	193	⇓*i* P	Pg	16 34 10.8	-1.3
TLL				*i* S	Sg	16 34 20.6	-0.2
TLL				IAML		16 34 22.2	
	comp=E,3μm,0.4s						
VACH	Vallenar	0.96	353	⇑*i* P	Pb	16 34 17.8	-0.4
VACH				*i* S	Sb	16 34 31.1	+0.2
AROD	Rodeo	1.19	122	*e*P	Pn	16 34 22.7	+0.4
ACDV	Cuesta del Vie	1.46	116	*e*P	Pn	16 34 26.1	+0.2
ACCO	Cerro Coronel	1.72	128	*e*P	Pn	16 34 30.1	+0.5
AGUA	GUANDACOL	1.87	89	*e*P	Pn	16 34 31.3	-0.1
AGUA				*e*S	Sn	16 34 53.7	-1.3
CPCH	Copiapo	2.18	7	*e*S	Sn	16 35 01.2	-1.6
AMOG	MOGNA	2.32	128	*e*P	Pn	16 34 39.0	+1.3
RTLS	Leoncito	2.53	153	*e*P	Pn	16 34 41.5	+0.7
AUSP	Uspallata	2.88	159	*e*P	Pn	16 34 47.3	+1.7
AVFE	Valle Fertil	2.97	113	*e*P	Pn	16 34 49.4	+2.8
ACLC	CERRO LA CRUZ	3.21	89	*e*P	Pn	16 34 50.1	+0.1
ASAL	Salagasta	3.41	154	*e*P	Pn	16 34 54.4	+1.7
ROC1	El Roble	3.44	185	*e*P	Pn	16 34 54.4	+1.1
APLL	PUNTA DE LOS L	3.66	105	*e*P	Pn	16 34 57.1	+1.0
ACHE	Chepes	3.79	116	*e*P	Pn	16 34 59.3	+1.3
AAGR	Agrelo	3.86	157	*e*P	Pn	16 35 01.2	+2.4
ACAN	Cantantal	4.03	134	*e*P	Pn	16 35 02.8	+1.8
CYA	Choya	4.37	77	*e*P	Pn	16 35 07.3	+1.4
MRA	San Martin	5.11	125	*e*P	Pn	16 35 17.7	+1.7

DJA 28 16:34:09.8±0.8, 9˚S±6˚×11˚6E±˚, h38km±25km, M4.1/10, mb4.6/1, MLv3.8/10, Sumbawa region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TWSI	Taliwang, Sumb	1.00	45	P	Pn	16 34 27.0	-0.3
TWSI				S	Sn	16 34 40.5	+0.4
IGBI	Denpasar	1.19	302	P	Pn	16 34 29.4	-0.5
IGBI				S	Sn	16 34 44.6	-0.3
DNP	Denpasar	1.22	309	P	Pn	16 34 30.7	+0.4
DNP				S	Sn	16 34 47.4	+1.8
PLAI	Plampang	1.70	69	P	Pn	16 34 37.0	0.0
PLAI				S	Sn	16 34 57.4	-0.1
JAGI	Jajag, Banyuwa	2.22	296	P	Pn	16 34 43.1	-1.0
JAGI				S	Sn	16 35 09.3	-1.0
GMJI	Gumukmas	2.94	293	P	Pn	16 34 59.2	-0.7
GMJI				S	Sn	16 35 27.7	-0.3
BLJI	Banyuglugur	3.06	303	S	Sn	16 35 32.0	+1.0
KMMI	Kalianget	3.23	317	P	Pn	16 34 59.2	+1.2
PWJI	Pagerwojo	4.54	288	P	Pn	16 35 16.2	+0.2
PWJI				S	Sn	16 36 07.0	-0.6
UGM	Wanagama	5.79	285	P	Pn	16 35 34.3	+1.1

JMA 28 16:41:20.8±0.1, 43˚.42N×143˚.05E, h1km±1km, M0.8, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JFR	Furan	0.42	233	P	Pg	16 41 29.1	+0.3
JFR				*e*S	Sg	16 41 35.1	+0.8
JAR	Ashorobuto	0.54	103	S	Sg	16 41 39.1	+1.0
JTKR	Abashiri--Toko	0.83	48	P	Pg	16 41 36.7	0.0

JMA 28 16:43:09.6±0.1, 36˚.61N×137˚.85E, h17km±1km, M0.8, Eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JNG	Nsakai	0.29	135	P	Pg	16 43 15.4	-0.5
JNG				S	Sg	16 43 19.5	-0.7
MAT	Matsushiro	0.29	103	P	Pg	16 43 15.4	-0.6
MAT				S	Sg	16 43 19.4	-0.9
MAT	Matsushiro	0.29	103	P	Pg	16 43 15.4	-0.6
MAT				S	Sg	16 43 19.4	-0.9

*NIED **28** 16:43:00, 38˚.10N×144˚.60E, h5km, Mw4.0 Best double couple: M0=9.75000×10^14 NP1:φs=34.00000°, δ20.00000°, λ-87.00000°. NP2:φs=210.00000°, δ70.00000°, λ-91.00000°.*
*IDC **28** 16:43:52.5±0.6, 38˚.01N×144˚.89E, h0km, mb3.9/19, mb1 4.0/23, mb1mx3.8/75, mbtmp3.9/23, ML3.9/2, MS2.9/6, Ms1 2.9/6, ms1mx2.6/43, Error ellipse: s-maj=16.4km s-min=13.7km az=123.0*
*NEIC **28** 16:43:54.3±0.3, 38˚.04N×144˚.91E, h10km, mb4.5/1, Error ellipse: s-maj=8.0km s-min=6.2km az=134.0*
*MOS **28** 16:43:54.2±1.5, 38˚.12N×144˚.88E, h24km, mb4.2/15, Error ellipse: s-maj=12.0km s-min=8.0km az=86.9*
*ISCJB **28** 16:43:56.2±0.4, 38˚.20N±0˚.03×144˚.73E±0˚.04, h33km, mb3.9/21, MS2.9/4, Error ellipse: s-maj=4.7km s-min=3.8km az=151.7*
*JMA **28** 16:43:57.5±0.2, 38˚.14N×144˚.63E, h44km, M4.3*

ISC 28 16:43:58.1±0.6, 38˚.18N±0˚.06×144˚.76E±0˚.06, h35km, n64, σ1s74/76, mb4.0/21, MS2.9/4, 1C, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OFUJ	Ofunato	2.58	291	P	Pn	16 44 37.1	-0.4
OFUJ				S	Sn	16 45 06.4	-1.2
MIYJ	Miyakonagasawa	2.69	302	P	Pn	16 44 38.4	-0.5
MIYJ				*e*S	Sn	16 45 08.8	-1.4
JIO	Ouri	2.70	277	P	Pn	16 44 38.3	-0.7
JIO				S	Sn	16 45 08.6	-1.9
JMK	Ichinoseki	2.88	287	P	Pn	16 44 41.4	-0.1
JMK				S	Sn	16 45 14.0	-1.0
JOM	Ohasama	3.00	297	P	Pn	16 44 43.1	-0.1
JOM				*e*S	Sn	16 45 17.0	-0.9
JANG	Nango	3.34	312	P	Pn	16 44 48.0	+0.2
JANG				*e*S	Sn	16 45 24.8	-1.4
JYK	Kaneyama	3.53	283	P	Pn	16 44 50.8	+0.3
JYK				S	Sn	16 45 31.0	0.0
JFT	Otama	3.57	261	P	Pn	16 44 50.9	-0.1
JFT				S	Sn	16 45 30.4	-1.5
ERM	Erimo	4.02	343	*e*P	Pn	16 44 57.4	+0.2
ERM	Erimo	4.02	343	*e*Pn	Pn	16 44 57.4	+0.2
JOT	Ohata	4.29	319	P	Pn	16 45 02.3	+1.4
JCH	Churui	4.55	347	P	Pn	16 45 04.1	-0.4
JCH				S	Sn	16 45 53.8	-2.4
JKB	Kayabe	4.68	323	P	Pn	16 45 07.4	+1.2
JKB				*e*S	Sn	16 45 58.1	-1.2
JRY	Ryogami san	5.16	247	P	Pn	16 45 11.5	-1.4
JRY				S	Sn	16 46 06.9	-4.3
NEM2	Nemuro 2	5.23	8	P	Pn	16 45 11.2	-2.6
NEM2				S	Sn	16 46 07.6	-5.2
JOD2	Odawara 2	5.41	239	P	Pn	16 45 15.1	-1.2
JOD2				*e*S	Sn	16 46 11.1	-6.3
MJAR	Matsushiro Arr	5.47	255	Pn	Pn	16 45 17.0	-0.2
	1.8nm,0.3s,baz=80,slow=15,SNR=15						
MJAR				Sn	Sn	16 46 19.1	+0.2
	2.1nm,0.3s,baz=78,slow=17,SNR=5.0						
MAJO	Matsushiro	5.47	255	*e*P	Pn	16 45 17.4	+0.2
MAJO				pmax	pmax		
	comp=Z,14nm,0.5s						
MAJO	Matsushiro	5.47	255	*e*Pn	Pn	16 45 17.4	+0.2
	comp=Z,14nm,0.5s						
MAT	Matsushiro	5.47	255	P	Pn	16 45 17.7	+0.5
MAT				S	Sn	16 46 18.5	-0.4
JOSM	Okushiri--Mats	5.62	316	P	Pn	16 45 19.9	+0.7
JTKR	Abashiri--Toko	5.82	354	P	Pn	16 45 21.0	-0.9
JTKR				*e*S	Sn	16 46 23.6	-3.7
SHO	Shikotan	5.89	15	*e*P	Pn	16 45 19.7	-3.2
SHO				*e*S	Sn	16 46 22.0	-7.1
SHO				pmax	pmax		
	comp=Z,53nm,0.6s						
SHO				pmax	pmax		
	comp=N,15nm,0.2s						
SHO				pmax	pmax		
	comp=E,3μm,0.3s						
SHO				smax	smax		
	comp=N,206nm,0.4s						
SHO				smax	smax		
	comp=E,90nm,0.4s						
YUK	Yuzh-Kuril'sk	5.91	8	*e*P	Pn	16 45 21.6	-1.5
YUK				*e*S	Sn	16 46 24.5	-4.9
YUK				pmax	pmax		
	comp=Z,137nm,0.3s						
YUK				pmax	pmax		
	comp=N,47nm,0.3s						
YUK				pmax	pmax		
	comp=E,30nm,0.3s						
YUK				smax	smax		
	comp=E,73nm,0.3s						
YUK				smax	smax		
	comp=N,270nm,0.5s						
JHR	Hokuryu	6.01	338	P	Pn	16 45 26.2	+1.7
JHR				S	Sn	16 46 32.3	+0.2
ASAJ	Asahikawa	6.15	345	Pn	Pn	16 45 26.8	+0.3
	comp=N,3.7nm,0.3s,baz=196,slow=17,SNR=12						
ASAJ				Sn	Sn	16 46 34.6	-0.9
	baz=72,slow=20						
KUR	Kuril'sk	7.42	17	⇑*i* P	Pn	16 45 41.6	-2.2
KUR				*e*S	Sn	16 47 00.2	-6.4
KUR				pmax	pmax		
	comp=Z,26nm,0.8s						
KUR				pmax	pmax		
	comp=N,15nm,0.6s						
KUR				smax	smax		
	comp=E,55nm,0.4s						
KUR				smax	smax		
	comp=N,31nm,0.2s						
USRK	Ussuriysk Ar.	11.34	306	Pn	Pn	16 46 37.4	-0.2
	comp=N,0.1nm,0.3s,baz=105,slow=15,SNR=2.8						
USRK				LR	LR	16 50 58.6	
	comp=N,58nm,19.5s,baz=105,slow=37						
KSRS	Korea Array	13.34	272	Pn	Pn	16 47 05.2	+0.3
	baz=80,slow=14,SNR=3.9						
KSRS				LR	LR	16 51 03.7	
	comp=N,31nm,20.9s,baz=342,slow=32						
KSAR	Wonju Array Be	13.37	272	P	Pn	16 47 05.2	-0.2
KSAR	Wonju Array Be	13.37	272	Pn	Pn	16 47 05.2	-0.2
SEY	Seymchan	25.21	8	P	P	16 49 22.0	+1.8
	comp=N,1.7nm,0.7s,baz=203,slow=10,SNR=6.9						
YAK	Yakutsk	25.63	344	LR	LR	17 00 45.7	
	comp=N,25nm,19.3s,baz=90,slow=39						
H11N2	WAKE ISLAND Hy 26.59	128		T	T	17 16 59.5	
	baz=319,slow=72,SNR=8.5						
H11N1	WAKE ISLAND Hy 26.60	128		T	T	17 17 06.0	
	baz=319,slow=72,SNR=6.7						
H11N3	WAKE ISLAND Hy 26.61	128		T	T	17 17 04.8	
	baz=319,slow=72,SNR=5.0						
H11S1	WAKE ISLAND Hy 27.39	130		T	T	17 18 07.5	
	baz=322						
H11S3	WAKE ISLAND Hy 27.39	130		T	T	17 18 06.8	
	baz=322						
H11S2	WAKE ISLAND Hy 27.41	130		T	T	17 18 10.2	
	baz=322						
SONM	Songino Array	29.40	302	LR	LR	17 02 09.9	
	comp=N,29nm,18.4s,baz=58,slow=37						
TLY	Talaya	31.64	309	LR	LR	17 03 34.5	
	comp=N,19nm,18.8s,baz=172,slow=37						

comp=Z,2.5nm,0.8s,baz=323,slow=5.1,SNR=3.5
DAVOX **Davos/Dischmat 86.27 331** P **P** **16 56 37.8 +1.4**
comp=Z,1.8nm,0.5s,baz=306,slow=17,SNR=2.3
TXAR **Lajitas Array 87.30 54** P **P** **16 56 42.1 +0.5**
comp=Z,0.2nm,0.6s,baz=270,slow=1.8,SNR=2.6

IDC 28 17:07:36.0±7.9, 4.66S×152.45E, h116km±54km, mb3.6/3, mb1 3.7/4, mb1mx3.2/25, mbtmp3.9/4, MS2.8/1, Ms1 2.8/1, ms1mx2.4/23, Error ellipse: s-maj=92.6km s-min=51.1km az=123.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
PMG	**Port Moresby**	**7.05**	**228**	P		Pn	17 09 16.1	-0.6
	1.4nm,0.3s,baz=67,slow=21,SNR=6.4							
PMG				S		Sn	17 10 36.4	+0.9
	0.5nm,0.3s,baz=90,slow=20,SNR=1.9							
HNR	**Honiara**	**8.82**	**123**	LR		LR	17 12 56.5	
	comp=Z,56nm,18.6s,baz=320,slow=36							
WRA	**Warramunga Arr**	**23.27**	**228**	P		P	17 12 34.0	+0.4
	2.3nm,0.5s,baz=52,slow=9.9,SNR=45							
ASAR	**Alice Springs**	**26.02**	**222**	P		P	17 12 58.8	+0.2
	0.6nm,0.6s,baz=55,slow=9.2,SNR=19							
FITZ	**Fitzroy Crossi**	**29.42**	**241**	P		P	17 13 29.0	+0.1
	1.8nm,0.6s,baz=48,slow=9.2,SNR=12							
TORD	**Torodi Ar. Bea**	**149.93**	**289**	PKPbc		PKPbc	17 27 12.9	-1.0
	0.6nm,0.9s,baz=74,slow=3.8,SNR=3.2							

*NEIC **28** 17:07:57.4±2.2, 29.68S×71.10W, h40km±17km, mb4.9/2, Error ellipse: s-maj=23.9km s-min=14.0km az=65.0*
*GUC **28** 17:07:58.2±0.6, 29.52S×71.19W, h35km±4km, ML3.9*
*IDC **28** 17:07:58.4±1.0, 29.63S×71.10W, h50km±7km, mb4.0/5, mb1 4.0/8, mb1mx3.8/25, mbtmp4.1/8, MS3.0/2, Ms1 3.0/2, ms1mx2.8/22, Error ellipse: s-maj=27.2km s-min=25.5km az=14.0*
*ISCJB **28** 17:07:59.2±0.6, 29.58S±0.03×70.95W±0.10, h67km±4km, mb4.2/7, Error ellipse: s-maj=14.2km s-min=5.3km az=6.0*
ISC 28 17:07:59.0±0.8, 29.55S±0.04×71.0W±0.1, h51km±6km, n29, σ1ş41/37, mb4.3/7, 1C-1D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
LCO	**Las Campanas**	**0.60**	**27**	*e*P		**Pn**	**17 08 11.8**	**0.0**
LCO				*i* S		**Sn**	**17 08 21.8**	**+0.7**
LCO				IAML			17 08 22.6	
	comp=E,11μm,0.3s							
LCO	**Las Campanas**	**0.60**	**27**	*e*Pn		**Pn**	**17 08 11.5**	**-0.3**
LCO				*e*Sn		**Sn**	**17 08 21.1**	**0.0**
TLL	**Tololo Astrono**	**0.64**	**164**	*i*P		**Pn**	**17 08 12.7**	**+0.4**
TLL				*i* S		**Sn**	**17 08 23.3**	**+1.4**
TLL				IAML			17 08 24.1	
	comp=N,12μm,0.3s							
VACH	**Vallenar**	**1.00**	**13**	*i*P		**Pn**	**17 08 19.6**	**+2.9**
VACH				*i* S		**Sn**	**17 08 33.2**	**+3.4**
CPCH	**Copiapo**	**2.26**	**15**	*e*P		**Pn**	**17 08 34.6**	**+0.7**
CPCH				*e*S		**Sn**	**17 09 02.7**	**+2.0**
ROCH	**El Roble**	**3.41**	**180**	*e*P		**Pn**	**17 08 50.7**	**+0.8**
PEL	**Peldehue**	**3.59**	**176**	*e*P		**Pn**	**17 08 53.6**	**+1.4**
PEL				*i* S		**Sn**	**17 09 35.6**	**+2.2**
LVC	**Limon Verde**	**7.17**	**16**	P		**Pn**	**17 09 39.1**	**-2.4**
	comp=N,40nm,0.3s,baz=189,slow=9.5,SNR=3.5							
PLCA	**Paso Flores**	**11.16**	**178**	LR		LR	17 15 36.0	
	comp=N,65nm,18.2s,baz=343,slow=41							
CPUP	**Villa Florida**	**12.51**	**78**	P		**Pn**	**17 10 53.2**	**-1.1**
	comp=N,0.1nm,0.3s,baz=228,slow=12,SNR=2.0							
CPUP				S		**Sn**	**17 13 13.8**	**+1.5**
	comp=N,0.1nm,0.3s,baz=239,slow=14,SNR=2.1							
CPUP				LR		LR	17 16 31.5	
	comp=N,84nm,18.6s,baz=248,slow=41							
LPAZ	**La Paz**	**13.46**	**12**	P		**Pn**	**17 11 09.1**	**+1.1**
	comp=N,0.3nm,0.3s,baz=190,slow=2,SNR=13							
SIV	**San Ignacio**	**16.30**	**36**	P		**P**	**17 11 46.4**	**-0.3**
	comp=N,0.3nm,0.3s,baz=225,slow=11,SNR=9.0							
SAML	**Samuel**	**21.77**	**21**	*e*P		**P**	**17 12 47.5**	**+1.0**
	comp=N,2.8nm,1.1s							
SNAA	**Sanae**	**55.39**	**159**	*e*P		**P**	**17 17 27.4**	**-0.1**
	comp=N,234nm,1.1s							
TXAR	**Lajitas Array**	**66.33**	**329**	P		**P**	**17 18 42.1**	**-0.3**
	comp=N,0.4nm,0.6s,baz=156,slow=7.4,SNR=5.5							
DBIC	**Dimbokro**	**72.94**	**72**	P		**P**	**17 19 22.9**	**-0.5**
	comp=N,2.2nm,0.6s,baz=219,slow=5.1,SNR=3.2							
MAW	**Mawson**	**77.19**	**164**	P		**P**	**17 19 46.3**	**-0.6**
	comp=N,2.4nm,0.8s,baz=79,slow=1.3,SNR=5.4							
BOSA	**Boshof**	**81.36**	**118**	P		**P**	**17 20 10.9**	**+0.2**
	comp=N,1.4nm,0.7s,baz=260,slow=3.2,SNR=6.6							
TORD	**Torodi Ar. Bea**	**81.87**	**70**	P		**P**	**17 20 13.3**	**+0.1**
	comp=N,2.6nm,0.7s,baz=273,slow=5.1,SNR=18							
TORD				pP		**pP**	**17 20 29.4**	**+1.4**
	comp=N,0.9nm,0.7s,baz=260,slow=5.8,SNR=2.8							
WRA	**Warramunga Arr**	**125.06**	**209**	PKP		**PKPdf**	**17 26 53.1**	**-1.2**
	comp=N,0.3nm,0.7s,baz=164,slow=1.7,SNR=3.5							
H11S2	**WAKE ISLAND Hyd**	**26.61**	**272**	T		T	19 45 59.4	
	baz=115,slow=75,SNR=11							
H11S1	**WAKE ISLAND Hyd**	**26.62**	**272**	T		T	19 45 59.4	
	baz=115,slow=75,SNR=10							
H11S3	**WAKE ISLAND Hyd**	**26.63**	**272**	T		T	19 45 59.9	
	baz=115,slow=75,SNR=10							
YAK	**Yakutsk**	**144.79**	**343**	PKP		**PKPab**	**17 27 27.9**	**-0.5**
	comp=N,9.6nm,0.7s,baz=318,slow=3.5,SNR=9.2							
YAK				pPKP		**pPKPdf**	**17 27 42.6**	**-2.3**
	comp=N,5.6nm,0.7s,baz=56,slow=1.5,SNR=3.0							
YAK	**Yakutsk**	**144.79**	**343**	*e*PKPdf		**PKPab**	**17 27 27.5**	**-0.9**
YAK				PKP		PKPbc	17 27 27.9	-0.6
YAK				pPKP		**pPKPdf**	**17 27 42.6**	**-2.3**
KKAR	**Karatay Array**	**146.48**	**56**	*e*PKPdf		**PKPbc**	**17 27 34.3**	**-0.1**
AAK	**Ala-Archa**	**149.44**	**55**	*e*PKPbc		**PKPbc**	**17 27 43.4**	**+0.9**
ZALV	**Zalesovo Beam**	**149.96**	**29**	PKPbc		**PKPbc**	**17 27 43.3**	**+0.1**
	comp=N,8.8nm,0.7s,baz=304,slow=3.7,SNR=32							
ZALV				pPKPbc		**pPKPbc**	**17 27 57.2**	**-1.3**
	comp=N,1.1nm,0.5s,baz=302,slow=2.8,SNR=2.8							
MKAR	**Makanchi Array**	**153.04**	**43**	PKPbc		**PKPbc**	**17 27 50.3**	**-0.3**
	comp=N,1.2nm,0.8s,baz=333,slow=2.7,SNR=12							
MKAR				PKPab		**PKPab**	**17 28 01.3**	**-0.9**
	comp=N,0.8nm,0.8s,baz=287,slow=3.6,SNR=4.0							

JMA 28 17:11:26.2±0.1, 24.09N×123.59E, h19km±1km, M1.8, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
HATJ	**Hateruma jima**	**0.20**	**100**	P		Pg	17 11 31.1	-0.1
HATJ				S		Sg	17 11 34.7	0.0
IRIF	**Iriomote-Funau**	**0.28**	**28**	P		Pg	17 11 32.3	-0.1
IRIF				S		Sg	17 11 36.7	0.0
JKRS	**Kuro-shima**	**0.41**	**69**	P		Pg	17 11 34.7	0.0
JKRS				S		Sb	17 11 41.0	+0.1
JIJ	**Ishigaki jima**	**0.57**	**62**	P		Pb	17 11 37.1	-0.5
JIJ				S		Sb	17 11 45.2	-0.1
YOJ	**Yonaguni jima**	**0.65**	**305**	*e*S		Sb	17 11 47.5	+0.1
JISG	**Ishigakijimahi**	**0.82**	**53**	P		Pb	17 11 41.6	-0.3
JISG				S		Sb	17 11 52.8	+0.2
JTJ	**Tarama**	**1.15**	**61**	S		Sg	17 12 03.2	-0.5

TAP 28 17:11:45.9, 24.84N×121.66E, h78km, ML2.5, B, Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
TWE	**Neicheng**	**0.12**	**176**	*e*P		Pn	17 11 57.8	+0.6
	baz=169							
TWE				*e*S		Sn	17 12 06.7	+1.3
	baz=169							
ENTT	**Nioudou**	**0.22**	**203**	P		Pn	17 11 57.8	+0.2
	baz=200							
ENTT				*e*S		Sn	17 12 06.5	+0.4
	baz=200							
TAP	**Taipei**	**0.24**	**325**	*e*P		Pn	17 11 58.0	+0.3
	baz=326							
TAP				*e*S		Sn	17 12 06.7	+0.4
	baz=326							
NWF	**Wu-fen Shan**	**0.26**	**26**	*e*P		Pn	17 11 57.9	+0.1
	baz=25							
NWF				*e*S		Sn	17 12 06.8	+0.2
	baz=25							
TWC	**Suao**	**0.29**	**143**	P		Pn	17 11 58.2	+0.3
	baz=141							
TWC				S		Sn	17 12 07.3	+0.6
	baz=141							
NSK	**Sanguang**	**0.32**	**239**	*e*P		Pn	17 11 58.3	+0.2
	baz=237							
NSK				S		Sn	17 12 07.4	+0.2
	baz=237							
ENA	**Nanau**	**0.42**	**170**	*e*P		Pn	17 11 58.7	-0.1
	baz=168							
ENA				S		Sn	17 12 08.9	+0.6
	baz=168							
NNS	**Nan Shan**	**0.47**	**213**	*e*P		Pn	17 11 59.7	+0.3
	baz=212							
NNS				*e*S		Sn	17 12 09.5	+0.1
	baz=212							
TWT	**Tachien**	**0.73**	**217**	*e*P		Pn	17 12 02.8	+0.8
	baz=217							
TWT				*e*S		Sn	17 12 14.5	+0.7
	baz=217							

*NIED **28** 17:26:00, 35.60N×142.70E, h5km, Mw4.0 Best double couple: M0 1.18000×10^15 NP1:φs38.00000°, δ31.00000°, λ-81.00000°. NP2:φs207.00000°, δ60.00000°, λ-95.00000°.*
*IDC **28** 17:26:23.9±0.7, 35.49N×142.87E, h0km, mb4.1/16, mb1 4.2/20, mb1mx4.1/45, mbtmp4.1/20, ML3.4/4, MS3.0/4, Ms1 3.0/4, ms1mx2.7/47, Error ellipse: s-maj=17.5km s-min=14.8km az=122.0*
*JMA **28** 17:26:28.1±0.3, 35.58N×142.71E, h51km, M4.0*
*ISCJB **28** 17:26:29.6±0.5, 35.56N±0.04×142.61E±0.04, h59km, mb4.1/19, MS3.8/2, Error ellipse: s-maj=5.5km s-min=4.8km az=164.7*
*NEIC **28** 17:26:29.0±0.3, 35.46N×142.87E, h35km, mb4.7/3, Error ellipse: s-maj=7.8km s-min=6.3km az=152.0*
ISC 28 17:26:31.6±0.7, 35.57N±0.04×142.69E±0.07, h59km, n55, σ2ş31/59, mb4.0/19, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
CHOJ	**Chosi**	**1.50**	**276**	P		**Pn**	**17 26 53.4**	**-2.8**
CHOJ				*e*S		**Sn**	**17 27 11.5**	**-3.3**
BSO1	**Boso 1**	**1.68**	**238**	P		**Pn**	**17 26 55.2**	**-2.9**
BSO3	**Boso 3**	**1.94**	**248**	P		**Pn**	**17 27 00.6**	**-1.4**
JFT	**Otama**	**2.72**	**316**	P		**Pn**	**17 27 10.8**	**-2.1**
JFT				*e*S		**Sn**	**17 27 41.1**	**-3.5**
JAG	**Ashikaga**	**2.76**	**289**	P		**Pn**	**17 27 11.3**	**-2.2**
JAG				*e*S		**Sn**	**17 27 42.9**	**-2.7**
JOD2	**Odawara 2**	**2.96**	**265**	P		**Pn**	**17 27 14.0**	**-2.2**
JOD2				*e*S		**Sn**	**17 27 48.9**	**-1.6**
JRY	**Ryogami san**	**3.12**	**279**	P		**Pn**	**17 27 14.8**	**-3.5**
JRY				*e*S		**Sn**	**17 27 51.9**	**-2.4**
JYN	**Shimob**	**3.38**	**270**	P		**Pn**	**17 27 20.5**	**-1.5**
JYN				*e*S		**Sn**	**17 27 58.7**	**-2.3**
JHJ2	**Mitsune**	**3.42**	**225**	P		**Pn**	**17 27 19.1**	**-3.3**
JHJ2				*e*S		**Sn**	**17 27 57.9**	**-3.7**
JHJ2	**Mitsune**	**3.42**	**225**	*e*Pn		**Pn**	**17 27 19.6**	**-2.8**
JHJ	**Hachijo jima 2**	**3.43**	**225**	Pn		**Pn**	**17 27 19.9**	**-2.7**
	21nm,0.3s,baz=61,slow=15,SNR=4.3							
JHJ				Sn		**Sn**	**17 27 57.0**	**-4.9**
	110nm,0.3s,baz=112,slow=21,SNR=9.5							
JNS	**Sasagawa**	**3.52**	**311**	P		**Pn**	**17 27 20.6**	**-3.2**
JMK	**Ichinoseki**	**3.58**	**341**	P		**Pn**	**17 27 20.7**	**-3.9**
JMK				*e*S		**Sn**	**17 28 00.6**	**-5.0**
MJAR	**Matsushiro Arr**	**3.76**	**286**	Pn		**Pn**	**17 27 26.4**	**-0.7**
	5.7nm,0.3s,baz=103,slow=8.7,SNR=32							
MJAR				Sn		**Sn**	**17 28 10.8**	**+0.6**
	5.7nm,0.3s,baz=82,slow=11,SNR=5.8							
MJAR				LR		LR	17 29 10.6	
	comp=Z,162nm,21.9s,baz=105,slow=43							
MAJO	**Matsushiro**	**3.76**	**286**	*e*Pn		**Pn**	**17 27 25.9**	**-1.3**
MAT	**Matsushiro**	**3.76**	**286**	P		**Pn**	**17 27 26.8**	**-0.4**
MAT				S		**Sn**	**17 28 10.3**	**+0.1**
MAT	**Matsushiro**	**3.76**	**286**	P		**Pn**	**17 27 25.1**	**-2.1**
JYK	**Kaneyama**	**3.83**	**332**	P		**Pn**	**17 27 24.6**	**-3.4**
JYK				*e*S		**Sn**	**17 28 08.2**	**-3.6**
JAW	**Awa shima**	**3.99**	**317**	P		**Pn**	**17 27 28.4**	**-1.8**
JOM	**Ohasama**	**4.06**	**344**	P		**Pn**	**17 27 27.8**	**-3.3**
JOM				S		**Sn**	**17 28 12.6**	**-4.7**
JSD	**Sado**	**4.33**	**306**	P		**Pn**	**17 27 33.4**	**-1.5**
ERM	**Erimo**	**6.45**	**3**	*e*P		Pn	17 27 57.5	-6.4
	20nm,0.6s							
JNU	**Nakatsue**	**10.07**	**259**	Pn		**Pn**	**17 28 53.1**	**-0.4**
	0.2nm,0.3s,baz=358,slow=5.8,SNR=3.3							
USRK	**Ussuriysk Ar.**	**11.90**	**320**	Pn		**Pn**	**17 29 18.2**	**-0.3**
	0.4nm,0.3s,baz=138,slow=12,SNR=5.6							
USRK				LR		LR	17 33 42.0	
	comp=Z,112nm,20.1s,baz=143,slow=36							
KSRS	**Korea Array**	**12.04**	**283**	Pn		**Pn**	**17 29 22.2**	**+2.0**
	0.1nm,0.3s,baz=100,slow=14,SNR=6.6							
KSRS				LR		LR	17 33 49.3	
	comp=Z,69nm,19.3s,baz=115,slow=36							
KSAR	**Wonju Array Be**	**12.06**	**283**	Pn		**Pn**	**17 29 22.2**	**+1.6**
MA2	**Magadan**	**24.59**	**10**	LR		LR	17 41 57.4	
	comp=Z,22nm,20.1s,baz=324,slow=38							
H11N2	**WAKE ISLAND Hyd**	**26.51**	**120**	T		T	17 59 49.3	
	baz=312,slow=75,SNR=5.5							
H11N1	**WAKE ISLAND Hyd**	**26.52**	**120**	T		T	17 59 49.3	
	baz=312,slow=75,SNR=6.5							
H11N3	**WAKE ISLAND Hyd**	**26.53**	**120**	T		T	17 59 51.0	
	baz=312,slow=75,SNR=6.2							
H11S1	**WAKE ISLAND Hyd**	**27.20**	**122**	T		T	18 00 40.7	
	baz=314,slow=76,SNR=6.9							
H11S3	**WAKE ISLAND Hyd**	**27.20**	**122**	T		T	18 00 42.9	
	baz=314,slow=76,SNR=4.1							
H11S2	**WAKE ISLAND Hyd**	**27.21**	**122**	T		T	18 00 42.4	
	baz=314,slow=76,SNR=4.5							
YAK	**Yakutsk**	**27.73**	**347**	P		**P**	**17 32 14.3**	**+0.2**
	10nm,0.7s,baz=197,slow=1.6,SNR=9.8							
SEY	**Seymchan**	**28.05**	**9**	P		**P**	**17 32 17.1**	**+0.2**
	1.0nm,0.3s,baz=72,slow=23,SNR=6.2							
ULN	**Ulaanbaatar**	**29.04**	**306**	*e*P		**P**	**17 32 28.6**	**+2.3**
	1.5nm,0.4s							
SONM	**Songino Array**	**29.47**	**306**	P		**P**	**17 32 31.5**	**+1.5**
	1.0nm,0.7s,baz=114,slow=8.0,SNR=4.1							
CMAR	**Chiang Mai Arr**	**42.16**	**258**	P		**P**	**17 34 19.6**	**+1.0**
	0.7nm,0.7s,baz=65,slow=5.1,SNR=3.8							
ZALV	**Zalesovo Beam**	**43.67**	**314**	P		**P**	**17 34 31.4**	**+1.1**
	1.7nm,0.6s,baz=94,slow=6.8,SNR=7.3							
PMG	**Port Moresby**	**44.93**	**174**	LR		LR	17 51 42.8	
	comp=Z,2μm,19.1s,baz=148,slow=34							
MKAR	**Makanchi Array**	**45.78**	**304**	P		**P**	**17 34 48.3**	**+1.0**
	1.1nm,0.6s,baz=90,slow=9.2,SNR=14							
KDAK	**Kodiak Island**	**47.51**	**41**	P		**P**	**17 35 00.4**	**-0.1**
	6.2nm,0.7s,baz=222,slow=14,SNR=3.7							
KURK	**Kurchatov**	**47.66**	**309**	*e*P		**P**	**17 35 02.7**	**+0.9**
	15nm,0.6s							
ILAR	**Eielson Array**	**50.19**	**32**	P		**P**	**17 35 20.9**	**0.0**
	2.5nm,0.9s,baz=265,slow=6.1,SNR=17							
INK	**Inuvik**	**55.23**	**27**	P		**P**	**17 35 59.0**	**+1.0**
	1.9nm,0.6s,baz=297,slow=6.7,SNR=8.5							
WRAB	**Tennant Creek**	**55.76**	**190**	*e*P		**P**	**17 36 01.8**	**-0.6**
	10.0nm,1.1s							
WRA	**Warramunga Arr**	**55.77**	**190**	P		**P**	**17 36 01.8**	**-0.7**
	2.7nm,0.8s,baz=8.0,slow=7.5,SNR=23							
ASAR	**Alice Springs**	**59.49**	**189**	P		**P**	**17 36 28.3**	**-0.4**
	0.9nm,0.6s,baz=15,slow=10,SNR=17							
KBZ	**Khabaz**	**72.64**	**312**	P		**P**	**17 37 54.4**	**+1.6**
	1.4nm,0.7s,baz=91,slow=4.6,SNR=4.9							
NB2	**NORSAR Subarra**	**75.93**	**338**	P		**P**	**17 38 12.5**	**+0.8**
	comp=Z,1.1nm,0.7s,baz=38,slow=5.9							
NOA	**NORSAR Array B**	**75.93**	**338**	P		**P**	**17 38 12.2**	**+0.4**
	comp=Z,1.8nm,0.7s,baz=39,slow=5.8,SNR=5.1							
AKASG	**Malin Array Be**	**76.09**	**323**	P		**P**	**17 38 13.2**	**+0.5**
	comp=Z,1.0nm,0.5s,baz=48,slow=6.2,SNR=4.5							
BRTR	**Keskin Array B**	**80.60**	**312**	P		**P**	**17 38 38.7**	**+0.7**
	comp=Z,0.7nm,0.6s,baz=92,slow=3.7,SNR=5.1							
TXAR	**Lajitas Array**	**90.18**	**53**	P		**P**	**17 39 25.9**	**-0.1**
	comp=Z,0.3nm,0.6s,baz=301,slow=3.0,SNR=4.4							
LPAZ	**La Paz**	**146.49**	**63**	PKPbc		**PKPbc**	**17 46 08.2**	**+0.8**
	comp=Z,1.2nm,0.5s,baz=267,slow=2.2,SNR=7.5							

*IDC **28** 17:36:08.0±0.5, 22.82S×172.10E, h0km, mb4.6/18, mb1 4.7/21, mb1mx4.7/27, mbtmp4.7/21, ML4.2/3, MS4.6/24, Ms1 4.6/24, ms1mx4.6/25, Error ellipse: s-maj=15.9km s-min=13.8km az=171.0*
*NEIC **28** 17:36:10.0±0.2, 22.75S×172.10E, h10km, mb5.3/47, MS5.0/130, MW5.4, Error ellipse: s-maj=6.3km s-min=5.4km az=71.0, Moment Tensor Solution. s22 Moment tensor: Scale 10^17Nm; Mrr1.42; Mθθ-1.38; Mφφ-0.03; Mrθ1.00; Mrφ-0.05; Mθφ-0.19; Best double couple: M0 1.70000×10^17 NP1:φs95.00000°, δ63.00000°, λ97.00000°. NP2:φs261.00000°, δ28.00000°, λ77.00000°. Principal axes: T 1.7600, Plg71.0000°, Azm20.0000°; N -0.0500, Plg6.0000°, Azm272.0000°; P -1.7000, Plg18.0000°, Azm180.0000°;*
*GCMT **28** 17:36:10.0±0.1, 22.97S×171.96E, h14km, MW5.4/119, Moment Tensor Solution. s105,c190; s119,c226;*
Duration: 1ş2 Moment tensor: Scale 10^17Nm; Mrr1.29±.02; Mθθ-1.25±.02; Mφφ-0.04±.02; Mrθ0.62±.03; Mθφ-0.12±.01; Mrφ-0.03±.03; Best double couple: M0 1.42000×10^17 NP1:φs88.00000°, δ58.00000°, λ94.00000°. NP2:φs260.00000°, δ32.00000°, λ84.00000°. Principal axes: T 1.4370, Plg77.0000°, Azm10.0000°; N -0.0350, Plg3.0000°, Azm266.0000°; P -1.4040, Plg13.0000°, Azm175.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.
*BJI **28** 17:36:12.3, 22.30S×172.09E, h21km, mb5.0/42, mb5.6/28, Ms5.3/23, Ms7 5.0/22*
*ISCJB **28** 17:36:13.9±0.2, 22.89S±0.03×171.97E±0.03, h47km, mb5.2/72, MS4.9/165, Error ellipse: s-maj=4.8km s-min=4.0km az=162.4*
*MOS **28** 17:36:13.4±1.4, 22.79S×171.98E, h37km, mb5.5/15, MS4.8/22, Error ellipse: s-maj=10.0km s-min=9.2km az=160.3*
ISC 28 17:36:15.2±0.3, 22.94S±0.05×172.07E±0.04, h47km, n471, σ1ş94/360, mb5.2/72, MS5.0/166, 8C-8D, Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
DZM	**Mont Dzumac**	**5.27**	**278**	Pn		**Pn**	**17 37 29.1**	**-2.4**
	1.1nm,0.3s,baz=120,slow=12,SNR=7.5							
DZM				Sn		**Sn**	**17 38 28.7**	**-2.4**
	24nm,0.3s,baz=101,slow=12,SNR=5.1							
DZM				LR		LR	17 39 06.5	
	comp=Z,5μm,18.5s,baz=108,slow=34							
DZM	**Mont Dzumac**	**5.27**	**278**	*e*Pn		**Pn**	**17 37 28.0**	**-3.5**
	121nm,0.3s							
DZM				*e*Sn		**Sn**	**17 38 26.0**	**-5.1**
	172nm,0.3s							
DZM				*e*LR		LR	17 38 36.7	
	6μm,24.1s							
DZM	**Mont Dzumac**	**5.27**	**278**	*e*Pn		**Pn**	**17 37 28.4**	**-3.2**
DZM				Sn		**Sn**	**17 38 28.7**	**-2.4**
MSVF	**Nonsavu**	**7.63**	**48**	*e*P		**Pn**	**17 38 05.0**	**+1.0**
MSVF	**Nonsavu**	**7.63**	**48**	*e*Pn		**Pn**	**17 38 05.0**	**+1.0**
RAO	**Raoul Island**	**10.98**	**127**	LR		LR	17 42 16.2	
	comp=Z,4μm,19.3s,baz=328,slow=33							
HIZ	**Hauiti**	**15.71**	**172**	*e*Pn		**Pn**	**17 39 53.9**	**+0.5**
	266nm,1.3s							
URZ	**Urewera**	**15.87**	**165**	Pn		**P**	**17 39 57.4**	**-1.0**
	1.4nm,0.3s,baz=359,slow=6.3,SNR=21							
URZ				LR		LR	17 44 35.7	
	comp=Z,5μm,20.7s,baz=353,slow=32							
URZ	**Urewera**	**15.87**	**165**	*e*Pn		**Pn**	**17 39 56.5**	**+1.1**
	312nm,1.6s							
BKZ	**Black Stump Fm**	**16.61**	**168**	*e*Pn		**P**	**17 40 06.6**	**-0.1**
	226nm,1.3s							
AFI	**Afiamalu**	**17.75**	**62**	P		**Pn**	**17 40 16.9**	**-2.2**
	4.4nm,0.3s,baz=249,slow=9.5,SNR=4.2							
AFI				LR		LR	17 46 30.6	
	comp=Z,2μm,18.1s,baz=226,slow=35							
HNR	**Honiara**	**17.75**	**317**	P		**Pn**	**17 40 17.2**	**-1.8**
	1.1nm,0.3s,baz=150,slow=7.8,SNR=8.3							
HNR				LR		LR	17 45 54.1	
	comp=Z,3μm,20.1s,baz=152,slow=33							
HNR	**Honiara**	**17.75**	**317**	P		**Pn**	**17 40 17.0**	**-2.0**
HNR	**Honiara**	**17.75**	**317**	*e*P		**Pn**	**17 40 17.1**	**-2.0**
HNR				pmax		pmax		
	comp=Z,378nm,1.5s							
HNR	**Honiara**	**17.75**	**317**	*e*Pn		**Pn**	**17 40 17.1**	**-2.0**
	comp=Z,378nm,1.5s							
BFZ	**Birch Farm**	**18.04**	**170**	*e*Pn		**P**	**17 40 22.3**	**-0.1**
	comp=Z,184nm,1.4s							
THZ	**Tophouse**	**18.79**	**178**	*e*P		**Pn**	**17 40 32.5**	**+1.0**
	comp=Z,242nm,1.7s							
EIDS	**Eidsvold**	**19.30**	**259**	P		**Pn**	**17 40 37.8**	**+0.1**
	baz=19,SNR=13							
EIDS	**Eidsvold**	**19.30**	**259**	*e*P		**Pn**	**17 40 38.4**	**+0.6**
	comp=Z,75nm,1.0s							
ARMA	**Armidale**	**19.71**	**243**	*e*P		**Pn**	**17 40 43.5**	**+0.9**
	comp=Z,172nm,1.5s							
LTZ	**Lake Taylor**	**19.79**	**180**	*e*P		**P**	**17 40 41.9**	**+0.3**
	comp=Z,211nm,1.5s							
OXZ	**Oxford**	**20.34**	**180**	*e*P		**P**	**17 40 48.0**	**+0.5**
	comp=Z,155nm,1.4s							
FOZ	**Fox Glacier**	**20.63**	**185**	*e*P		**P**	**17 40 51.6**	**+1.0**
	comp=Z,165nm,1.2s							
RPZ	**Rata Peaks**	**20.74**	**182**	P		**P**	**17 40 52.8**	**+0.9**
	comp=Z,59nm,1.1s,baz=22,slow=5.2,SNR=7.7							
RPZ				LR		LR	17 47 50.1	
	comp=Z,4μm,

comp=Z,1µm,19.0s,baz=100,slow=36
WB2 Warramunga Arr 35.17 268 *e*P **P 17 43 03.0 -1.9**
WRAB Tennant Creek 35.17 268 *e*P **P 17 43 03.4 -1.5**
WRAB pmax pmax
comp=Z,97nm,1.8s
WRAB MLR MLR
comp=Z,2µm,19.0s
WRAB Tennant Creek 35.17 268 *e*P **P 17 43 03.4 -1.5**
comp=Z,97nm,1.8s
WRAB LR LR
comp=Z,2µm,19.0s
WRA Warramunga Arr 35.18 268 P **P 17 43 03.2 -1.8**
comp=Z,5.8nm,0.5s,baz=96,slow=8.6,SNR=149
WRA PcP **PcP 17 45 34.4 -1.1**
comp=Z,3.3nm,1.1s,baz=90,slow=2.7,SNR=5.0
WRA S **S 17 48 39.0 +3.8**
comp=Z,4.4nm,1.2s,baz=102,slow=15,SNR=5.9
WRA LR LR 17 57 44.2
comp=Z,2µm,18.9s,baz=100,slow=37
PPT2 Papeete2 36.30 89 *e*P **P 17 43 14.6 -0.1**
comp=Z,110nm,1.5s
PPT2 *e*S **S 17 48 55.0 +2.5**
comp=Z,350nm,24.5s
PPT2 *e*LQ LQ 17 51 09.4
comp=Z,1µm,26.2s
PPT2 *e*LR LR 17 53 10.3
comp=Z,349nm,22.2s
PPT Papeete 36.31 89 LR LR 17 57 45.5
comp=Z,671nm,18.1s,baz=254,slow=36
JAY Jayapura 36.55 299 P **P 17 43 15.2 -1.6**
comp=Z,1.8nm,0.8s,baz=221,slow=23,SNR=8.2
JAY LR LR 17 57 56.4
comp=Z,20nm,18.1s,baz=75,slow=36
JAY Jayapura 36.55 299 P **P 17 43 13.6 -3.2**
GENI Genyem 36.94 299 P **P 17 43 18.7 -1.3**
PMOR Pomariorio Ree 38.58 85 *e*P **P 17 43 33.9 0.0**
comp=Z,193nm,1.2s
WRKA Warakurna 39.92 258 P **P 17 43 44.4 -0.6**
baz=40,SNR=15
MTN Manton Dam 40.11 277 P **P 17 43 46.2 -0.4**
baz=40,SNR=6.0
MTN Manton Dam 40.11 277 *e*P **P 17 43 45.3 -1.3**
comp=Z,28nm,0.9s
KNRA Kununurra 41.38 272 P **P 17 43 57.2 0.0**
baz=41,SNR=4.7
H11S2 WAKE ISLAND Hy 41.51 352 T T 18 28 19.0
baz=174,slow=74,SNR=10
H11S3 WAKE ISLAND Hy 41.51 352 T T 18 28 18.7
baz=174,slow=74,SNR=4.4
H11S1 WAKE ISLAND Hy 41.52 352 T T 18 28 15.9
baz=174
WAKE Wake Island 42.29 352 PFAKE 17 44 10.0 +5.6
WAKE LR LR
comp=Z,2µm,19.0s
H11N1 WAKE ISLAND Hy 42.69 353 T T 18 29 43.6
baz=172,slow=76,SNR=15
H11N3 WAKE ISLAND Hy 42.69 353 T T 18 29 43.0
baz=172,slow=76,SNR=7.9
H11N2 WAKE ISLAND Hy 42.71 353 T T 18 29 43.0
baz=172,slow=76,SNR=6.0
SOEI Soe 47.50 278 P **P 17 44 42.9 -3.2**
SOEI Soe 47.50 278 *e*P **P 17 44 47.6 +1.5**
comp=Z,166nm,1.5s
NLAI Namlea 47.70 287 P **P 17 44 44.0 -3.6**
TAOE Nuku Hiva Isla 47.83 81 *e*LR LR 17 58 25.7
comp=Z,499nm,22.4s
MBWA Marble Bar 48.33 262 *e*P **P 17 44 52.3 -0.1**
comp=Z,85nm,1.1s
MEEK Meekatharra 48.38 254 P **P 17 44 52.9 +0.1**
baz=48,SNR=33
RKT Rikitea 48.51 101 *e*P **P 17 44 51.0 -2.7**
comp=Z,66nm,1.4s
RKT *e*S **S 17 51 48.4 -3.5**
comp=Z,446nm,27.8s
RKT *e*LQ LQ 17 56 04.2
comp=Z,1µm,27.0s
RKT *e*LR LR 17 58 34.7
comp=Z,435nm,33.2s
LBMI Labuha 48.62 291 P **P 17 44 52.1 -2.6**
KLBR Kellerberrin 48.63 247 P **P 17 44 55.2 +0.6**
baz=48,SNR=6.2
NWAO Narrogin (SRO) 48.99 246 P **P 17 44 57.4 0.0**
comp=Z,14nm,0.8s,baz=318,slow=5.4,SNR=8.2
NWAO Narrogin (SRO) 48.99 246 P **P 17 44 58.6 +1.2**
baz=49,SNR=6.9
NWAO P **P 17 44 58.6 +1.2**
baz=49,SNR=6.9
SANI Sanana 49.24 288 P **P 17 44 57.1 -2.4**
BLDU Ballidu 49.60 249 P **P 17 45 02.3 +0.3**
baz=50,SNR=6.4
MMRI Maumere 49.77 278 P P 17 44 56.1 -7.4
MMRI Maumere 49.77 278 *e*P **P 17 45 04.2 +0.6**
comp=Z,247nm,1.7s
EDFI Ende, Flores 50.23 278 P P 17 45 01.2 -5.9
BASI Baing, Sumba 50.70 276 P **P 17 45 10.3 -0.2**
BBSI Bau Bau 50.74 282 P **P 17 45 08.3 -2.5**
WSI Waingapu 51.16 276 P **P 17 45 10.3 -3.7**
KDI Kendari 51.35 284 P **P 17 45 12.4 -3.0**
MIDW Midway 51.87 12 PFAKE 17 45 30.0 +11
MIDW LR LR
comp=Z,876nm,19.0s
KAPI Kappang 53.48 281 *e*P **P 17 45 32.3 +1.1**
comp=Z,117nm,1.5s
KAPI LR LR
comp=Z,497nm,21.0s
SPSI Sidrap Palu 53.91 282 P **P 17 45 30.6 -3.7**
TTSI Tana Toraja 54.26 283 P **P 17 45 34.7 -2.2**
DAV Davao City (W) 54.37 298 PFAKE 17 45 50.0 +12
DAV LR LR
comp=Z,390nm,20.0s
VNDA Vanda 54.86 183 P **P 17 45 40.0 -0.3**
comp=Z,1.1nm,0.6s,baz=6.9,slow=6.8,SNR=8.8
VNDA LR LR 18 05 31.5
comp=Z,1µm,21.5s,baz=20,slow=32
VNDA Vanda 54.86 183 *e*P **P 17 45 41.7 +1.4**
VNDA pmax pmax
comp=Z,26nm,1.6s
VNDA Vanda 54.86 183 *e*P **P 17 45 41.7 +1.4**
comp=Z,26nm,1.6s
SBA Scott Base 55.03 181 *e*P **P 17 45 43.1 +1.5**
SBA pmax pmax
comp=Z,123nm,1.7s
SBA MLR MLR
comp=Z,2µm,20.0s
SBA Scott Base 55.03 181 *e*P **P 17 45 43.1 +1.5**
comp=Z,123nm,1.7s
SBA LR LR
comp=Z,2µm,20.0s
JAGI Jajag, Banyuwa 57.24 275 *e*P **P 17 45 58.2 -0.1**
comp=Z,132nm,1.5s
KKM Kota Kinabalu 61.70 291 *e*P **P 17 46 30.2 +1.1**
KKM LR LR
comp=Z,471nm,19.0s
CISI Cisompet, Garu 63.41 273 *e*P **P 17 46 40.6 +0.1**
KSM Kuching 64.77 283 *e*P **P 17 46 50.3 +0.9**
KSM LR LR
comp=Z,663nm,20.0s
MIR Mirnyy 64.84 206 *e*P **P 17 46 48.5 -0.4**
MIR pmax pmax
comp=Z,4.0nm,2.0s
QSPA South Pole Qui 67.14 180 *e*P **P 17 47 03.2 -0.8**
comp=Z,202nm,1.2s
QSPA LR LR
comp=Z,940nm,20.0s
MJAR Matsushiro Arr 67.24 331 P **P 17 47 02.5 -2.3**
comp=Z,1.3nm,0.5s,baz=155,slow=7.0,SNR=5.0
MJAR LR LR 18 11 24.5
comp=Z,189nm,21.5s,baz=160,slow=32
MAJO Matsushiro 67.25 331 PFAKE 17 47 20.0 +15
MAJO LR LR
comp=Z,512nm,20.0s
JNU Nakatsue 68.19 323 *e*P **P 17 47 10.2 -0.6**
YHNB Yeheng 68.25 311 PFAKE 17 47 20.0 +8.5
YHNB LR LR
comp=Z,729nm,20.0s
ERM Erimo 69.94 337 PFAKE 17 47 30.0 +8.6
ERM LR LR
comp=Z,598nm,20.0s
KUR Kuril'sk 71.34 342 *d* i P **P 17 47 31.9 +2.0**
KUR *i* 17 47 50.1
KUR *i* 17 50 03.9
KUR *e*PPP PPP 17 51 48.9
KUR *e*S **S 17 56 42.2 -1.9**
KUR *e*SS **SS 18 01 13.0 -6.8**
COCO West Island 71.88 264 PFAKE 17 47 50.0 +16
COCO LR LR
comp=Z,790nm,21.0s
SSE Sheshan 72.55 316 P **P 17 47 37.5 0.0**
SSE pmax pmax
comp=Z,66nm,0.6s
SSE pmax pmax
comp=Z,410nm,4.1s
SSE LR LR
comp=Z,170nm,19.4s
SSE LR LR
comp=Z,70nm,19.4s
KSRS Korea Array 73.03 325 P **P 17 47 39.4 -0.8**
comp=Z,5.9nm,0.8s,baz=142,slow=6.1,SNR=28
KSRS LR LR 18 17 17.5
comp=Z,207nm,21.4s,baz=132,slow=34
KSAR Wonju Array Be 73.05 325 P **P 17 47 39.4 -0.9**
KSAR Wonju Array Be 73.05 325 P **P 17 47 39.4 -0.9**
QIZ Qiongzhong 73.69 299 P **P 17 47 47.5 +3.0**
QIZ S **S 17 57 18.8 +6.7**
INCN Inchon 73.75 324 PFAKE 17 48 00.0 +16
INCN LR LR
comp=Z,40nm,22.0s
IPM Ipoh 74.42 282 *e*P **P 17 47 48.1 -0.8**
comp=Z,38nm,1.1s
YSS Yuzh-Sakhalins 74.43 340 *e*P **P 17 47 49.7 +1.6**
YSS *e*S **S 17 57 20.0 +0.8**
YSS MLR MLR
comp=Z,720nm,19.0s
YSS Yuzh-Sakhalins 74.43 340 PFAKE 17 48 00.0 +12
YSS LR LR
comp=Z,338nm,19.0s
NJ2 Nanjing 74.68 315 *e*P **P 17 47 50.5 +0.5**
NJ2 pmax pmax
comp=Z,14nm,0.9s
KULM Kulim 75.10 282 *e*P **P 17 47 52.0 -0.8**
comp=Z,46nm,1.5s
KULM LR LR
comp=Z,663nm,20.0s
ADK Adak 75.15 7 *e*P **P 17 47 50.3 -1.9**
ADK pmax pmax
comp=Z,136nm,1.6s
ADK MLR MLR
comp=Z,575nm,22.0s
ADK Adak 75.15 7 *e*P **P 17 47 50.2 -1.9**
comp=Z,136nm,1.6s
ADK LR LR
comp=Z,575nm,22.0s
SKLT Songkhla 75.94 284 P **P 17 48 00.8 +3.2**
comp=Z,87nm,1.2s
MAW Mawson 76.01 202 P **P 17 47 58.1 +1.1**
comp=Z,2.9nm,0.9s,baz=134,slow=5.4,SNR=7.4
MAW LR LR 18 16 20.5
comp=Z,145nm,21.8s,baz=74,slow=32
MAW Mawson 76.01 202 P **P 17 48 00.0 +2.9**
baz=76,SNR=5.5
USRK Ussuriysk Ar. 76.22 332 LR LR 18 18 46.8
comp=Z,190nm,20.7s,baz=133,slow=34
PET Petropavlovsk 76.53 352 *e*P **P 17 48 01.8 +1.8**
PET *e*S **S 17 57 49.9 +7.7**
PET *e*SS **SS 18 02 35.2 -3.5**
PET Petropavlovsk 76.53 352 PFAKE 17 48 10.0 +10
PET LR LR
comp=Z,671nm,20.0s
PETK Petropavlovsk- 76.75 351 P **P 17 48 01.6 +0.3**
comp=Z,5.3nm,0.8s,baz=214,slow=10,SNR=5.2
PETK LR LR 18 19 13.0
comp=Z,616nm,18.7s,baz=156,slow=34
MDJ Mudanjiang 77.62 330 P **P 17 48 09.8 +3.4**
MDJ PP **PP 17 51 04.5 +2.2**
MDJ S **S 17 58 01.8 +7.3**
MDJ pmax pmax
comp=Z,140nm,4.6s
MDJ LR LR
comp=Z,270nm,27.6s
MDJ LR LR
comp=Z,160nm,29.1s
MDJ LR LR
comp=Z,510nm,35.1s
MDJ Mudanjiang 77.62 330 PFAKE 17 48 20.0 +14
MDJ LR LR
comp=Z,350nm,20.0s
TIA Tai'an 78.44 317 ⇓P **P 17 48 10.8 -0.4**
TIA pmax pmax
comp=Z,40nm,0.8s
CN2 Changchun 78.98 328 *e*P **P 17 48 12.8 -1.1**
CN2 *es*P PcP 17 48 22.0 -0.3
CN2 *e*PP **PP 17 51 14.0 +0.4**
CN2 SKS **SKSac 17 58 22.5 -3.1**
CN2 pmax pmax
comp=Z,10.0nm,1.4s
CN2 pmax pmax
comp=Z,200nm,8.0s
CN2 LR LR
comp=Z,300nm,24.0s
CN2 LR LR
comp=Z,500nm,24.0s
CN2 LR LR
comp=Z,500nm,26.0s
PBKT Sadao Pong 79.83 293 P **P 17 48 20.9 +1.8**
comp=Z,59nm,0.8s
ENH Enshi 80.04 309 *e*P **P 17 48 18.3 -1.8**
comp=Z,82nm,1.6s
GYA Guiyang 80.08 304 *e*P **P 17 48 23.3 +2.8**
GYA pP PcP 17 48 30.5 +2.8
GYA PP **PP 17 51 27.0 +3.7**
GYA S **S 17 58 25.5 +3.7**
GYA SKS **SKSac 17 58 35.3 +0.9**
GYA pmax pmax
comp=Z,30nm,1.0s
GYA pmax pmax
comp=Z,140nm,6.2s
UTHA Uthaitani 80.67 291 P **P 17 48 25.8 +2.1**
comp=Z,9.8nm,0.9s,comp=Z,96nm
UTTA Uttaradit 80.72 294 P **P 17 48 26.4 +2.5**
comp=Z,4.1nm,1.1s
BJT Baijiatuau 81.45 320 PFAKE 17 48 40.0 +13
BJT LR LR
comp=Z,594nm,22.0s
BJI Beijing 81.45 320 P **P 17 48 26.0 -1.3**
BJI S **S 17 58 43.0 +7.8**
BJI pmax pmax
comp=Z,19nm,2.3s
BJI pmax pmax
comp=Z,350nm,5.0s
BJI LR LR
comp=Z,550nm,24.9s
SYO Syowa Base 82.12 196 ‖ *e*X **P 17 48 27.0 -3.4**
SYO Syowa Base 82.12 196 ‖ *e*X **P 17 48 30.2 -0.2**
CMAR Chiang Mai Arr 82.41 294 P **P 17 48 34.1 +1.3**
comp=Z,6.4nm,0.8s,baz=133,slow=4.1,SNR=32
CMAR LR LR 18 28 44.5
comp=Z,216nm,18.6s,baz=152,slow=38
KMI Kunming 82.45 301 P **P 17 48 34.3 +1.1**
KMI pP pP 17 48 43.8 -3.2
KMI sP sP 17 48 47.3 -5.0
KMI S **S 17 58 48.3 +1.7**
KMI SS **SS 18 04 03.5 -5.4**
KMI pmax pmax
comp=Z,20nm,1.7s
PMSA Palmer Station 82.54 159 *e*P **P 17 48 32.9 +0.2**
comp=Z,100nm,1.8s
PMSA LR LR
comp=Z,270nm,21.0s
CHTO Chiang Mai 82.57 294 P **P 17 48 34.7 +1.0**
comp=Z,104nm,1.3s
CHTO Chiang Mai 82.57 294 *e*P **P 17 48 35.3 +1.6**
CHTO pmax pmax
comp=Z,21nm,1.1s
CHTO MLR MLR
comp=Z,242nm,19.0s
CHTO Chiang Mai 82.57 294 *e*P **P 17 48 35.2 +1.6**
comp=Z,21nm,1.1s
CHTO LR LR
comp=Z,242nm,19.0s
CD2 Chengdu 84.56 307 *e*P **P 17 48 45.8 +2.1**
CD2 S **S 17 59 09.8 +2.5**
CD2 pmax pmax
comp=Z,30nm,0.6s
HHC Hu-ho-hao-te 84.73 318 *e*P **P 17 48 47.5 +3.1**
HHC sP pP 17 49 00.3 +2.0
HHC SKS **S 17 59 04.3 -4.4**
HHC S **ScS 17 59 16.5 -3.2**
HHC sS pS 17 59 24.3 -1.9
HHC pmax pmax
comp=Z,19nm,1.1s
HHC pmax pmax
comp=Z,350nm,6.4s
HHC LR LR
comp=Z,280nm,18.0s
HHC LR LR
comp=Z,410nm,16.3s
HHC LR LR
comp=Z,410nm,19.2s
NVL N'lazarevskaya 85.52 186 *e*P **P 17 48 50.1 +2.3**
NVL *e*S **S 17 59 11.6 -3.9**
SNAA Sanae 85.58 182 P **P 17 48 48.5 +0.3**
SNAA Sanae 85.58 182 *e*P **P 17 48 44.1 -4.1**
SNAA Sanae 85.58 182 *e*P **P 17 48 44.1 -4.1**
comp=Z,8µm,2.2s
HIA Hailar 85.62 329 PFAKE 17 49 00.0 +11
HIA LR LR
comp=Z,341nm,19.0s
KDAK Kodiak Island 85.67 18 PFAKE 17 49 00.0 +12
KDAK LR LR
comp=Z,373nm,20.0s
VNA3 Neumayer Olymp 86.07 179 P **P 17 48 49.0 -1.6**
VNA2 Neumayer--Watz 86.39 180 P **P 17 48 52.6 +0.5**
baz=185,slow=4.1
VNA1 Neumayer--Stat 86.67 180 P **P 17 48 55.2 +1.7**
SEY Seymchan 86.99 351 *e*P **P 17 48 53.7 -1.2**
LZH Lanzhou 87.14 311 *e*P **P 17 48 57.8 +1.3**
LZH pP PcP 17 49 04.0 +5.4
LZH sP pP 17 49 07.0 -3.4
LZH *e*S **S 17 59 37.0 +4.3**
LZH sS pS 17 59 47.0 -3.3
LZH pmax pmax
comp=Z,29nm,1.2s
LZH pmax pmax
comp=Z,210nm,4.6s
LZH LR LR
comp=Z,1µm,15.9s
LZH LR LR
comp=Z,1µm,16.5s
LZH LR LR
comp=Z,1µm,17.8s
BFSC Mount Baldy Ra 87.67 51 P **P 17 48 57.4 -1.7**
baz=240
EDW2 Edwards Air Fo 87.74 51 P **P 17 48 58.7 -0.6**
baz=240,SNR=6.0
N02D Trinity Center 87.74 43 P **P 17 48 59.0 -0.2**
baz=237
ISA Isabella, Lake 87.80 50 P **P 17 48 59.7 +0.2**
baz=240
M02C Callahan 87.88 43 P **P 17 49 00.5 +0.7**
baz=237
MONP Monument Peak, 87.91 53 P **P 17 48 59.9 -0.4**
baz=241,SNR=6.7
IKP In-Ko-Pah, Jac 88.02 53 P **P 17 49 00.9 +0.2**
baz=241
PFO Pinyon Flats O 88.23 52 P **P 17 49 01.2 -0.5**
baz=241
PFO Pinyon Flats O 88.23 52 PFAKE 17 49 10.0 +8.3
PFO LR LR
comp=Z,957nm,19.0s
LRMC Laurel Mtn Rad 88.26 50 P **P 17 49 02.2 +0.3**
baz=240,SNR=5.9
SWSC Sam W. Stewart 88.39 53 P **P 17 49 02.7 +0.4**
baz=241
CWC Cottonwood Cre 88.46 49 P **P 17 49 03.0 +0.2**
baz=240
MPMC Manual Prospec 88.69 50 P **P 17 49 04.1 +0.2**
baz=240,SNR=5.0
M04C Macdoel 88.73 43 P **P 17 49 04.7 +0.8**
baz=238
BELC Belle Mtn. Jos 88.75 52 P **P 17 49 04.3 +0.1**
baz=241,SNR=8.4
GSC Goldstone, Bar 88.80 51 P **P 17 49 04.6 +0.3**
baz=241
I03D Drain, OR 88.84 41 P **P 17 49 04.2 0.0**
baz=236
HEC Hector,Ludlow 88.91 51 P **P 17 49 04.8 -0.1**
baz=241,SNR=7.7
BC3 Big Chuckawall 88.98 53 P **P 17 49 05.7 +0.4**
baz=242,SNR=7.1
GLA Glamis 89.16 53 P **P 17 49 06.4 +0.4**
baz=242,SNR=6.5
GRAC Grapevine Rang 89.23 49 P **P 17 49 06.3 0.0**
baz=240,SNR=7.8
FURC Furnace Creek, 89.33 50 P **P 17 49 07.1 +0.5**
baz=241
GMRC Granite Mounta 89.37 52 P **P 17 49 06.6 -0.5**
baz=241,SNR=6.4
IRM Iron Mountain 89.45 52 P **P 17 49 06.8 -0.6**
baz=242,SNR=14
TUQ Turquoise Moun 89.49 51 P **P 17 49 08.2 +0.6**
baz=241
Y12C Blythe 89.71 53 P **P 17 49 09.2 +0.7**
baz=242
MOD Modoc Plateau 89.77 44 *e*P **P 17 49 09.3 +0.5**
comp=Z,13nm,1.1s
J05D Fort Rock, OR 89.91 42 P **P 17 49 10.0 +0.6**
baz=238
TPNV Topopah Spring 89.99 50 P **P 17 49 10.1 +0.1**
baz=241,SNR=9.9
214A Organ Pipe Nat 90.17 55 P **P 17 49 10.6 -0.1**
baz=243,SNR=7.2
214A Organ Pipe Nat 90.17 55 *e*P **P 17 49 10.2 -0.5**
comp=Z,178nm,1.7s
PDMCI Parker Dam,Lak 90.25 53 P **P 17 49 11.0 -0.1**
baz=242,SNR=8.9
I05D Terrebonne, OR 90.41 41 P **P 17 49 11.8 +0.2**
baz=238
NLWA Neilton Lookou 90.59 38 PFAKE 17 49 20.0 +7.6
NLWA LR LR
comp=Z,793nm,19.0s
BILL Bilibino 90.81 358 *i* P **P 17 49 11.5 -1.3**
BILL pmax pmax
comp=Z,14nm,1.4s
BILL MLR MLR
comp=Z,324nm,18.0s
BMN Battle Mountai 91.03 46 *e*P **P 17 49 15.4 +0.7**
BMN pmax pmax
comp=Z,41nm,1.4s
BMN Battle Mountai 91.03 46 *e*P **P 17 49 15.4 +0.7**
comp=Z,41nm,1.4s
TRF Thorofare Moun 91.04 16 *e*P **P 17 49 17.3 +3.1**
comp=Z,7.8nm,0.9s
WVOR Wild Horse Val 91.10 44 *e*P **P 17 49 15.5 +0.5**
WVOR pmax pmax
comp=Z,48nm,1.7s
WVOR MLR MLR
comp=Z,992nm,20.0s
WVOR Wild Horse Val 91.10 44 *e*P **P 17 49 15.5 +0.5**
comp=Z,48nm,1.7s
WVOR LR LR
comp=Z,992nm,20.0s
R11A Troy Canyon, C 91.12 49 P **P 17 49 14.5 -0.8**
baz=242,SNR=6.0
R11A Troy Canyon, C 91.12 49 *e*P **P 17 49 15.1 -0.1**
comp=Z,7.8nm,1.3s
YAK Yakutsk 91.19 341 *i* P **P 17 49 14.8 +0.1**
YAK pmax pmax
comp=Z,13nm,1.1s
YAK Yakutsk 91.19 341 PFAKE 17 49 30.0 +15
YAK LR LR
comp=Z,488nm,20.0s
ULN Ulaanbaatar 91.39 322 *e*P **P 17 49 14.5 -1.7**
ULN pmax pmax
comp=Z,17nm,1.4s
ULN MLR MLR
comp=Z,327nm,20.0s
ULN Ulaanbaatar 91.39 322 *e*P **P 17 49 14.5 -1.7**
comp=Z,17nm,1.4s
ULN LR LR
comp=Z,327nm,20.0s
GTA Gaotai 91.56 312 P **P 17 49 17.0 -0.2**
GTA pP PcP 17 49 23.5 +5.4
GTA sP pP 17 49 26.3 -4.9
GTA S **S 18 00 14.5 +0.7**
GTA sS pS 18 00 26.0 -5.6
GTA pmax pmax
comp=Z,11nm,1.8s
GTA pmax pmax
comp=Z,190nm,3.3s
GTA LR LR
comp=Z,200nm,16.6s
GTA LR LR
comp=Z,240nm,16.2s
GTA LR LR
comp=Z,310nm,16.2s
SONM Songino Array 91.75 322 P **P 17 49 17.0 -0.8**
comp=Z,1.5nm,0.8s,baz=151,slow=6.8,SNR=8.0
SONM LR LR 18 30 47.6
comp=Z,233nm,19.6s,baz=98,slow=36

SONM Songino Array 91.75 322 P **P** 17 49 17.0 -0.8
TUC Tucson 91.86 56 P **P** 17 49 19.5 +0.8
baz=244
TUC Tucson 91.86 56 *e*P **P** 17 49 19.9 +1.2
TUC pmax pmax
comp=Z,48nm,1.7s
TUC MLR MLR
comp=Z,720nm,19.0s
TUC Tucson 91.86 56 *e*P **P** 17 49 19.9 +1.2
comp=Z,48nm,1.7s
TUC LR LR
comp=Z,720nm,19.0s
WRAK Wrangell Islan 91.87 27 PFAKE 17 49 30.0 +12
WRAK LR LR
comp=Z,562nm,20.0s
A04D Lummi Island 91.98 37 P **P** 17 49 20.1 +1.5
baz=237
HAWA Hanford 92.57 40 PFAKE 17 49 30.0 +8.5
HAWA LR LR
comp=Z,706nm,19.0s
COLA College 92.82 16 PFAKE 17 49 30.0 +7.8
COLA LR LR
comp=Z,760nm,19.0s
WUAZ Wupatki 92.83 53 P **P** 17 49 23.8 +0.6
baz=244
WUAZ Wupatki 92.83 53 *e*P **P** 17 49 23.8 +0.6
comp=Z,17nm,1.2s
WUAZ LR LR
comp=Z,625nm,19.0s
DOT Dot Lake 92.88 18 *e*P **P** 17 49 21.7 -0.8
comp=Z,29nm,1.0s
ILAR Eielson Array 92.99 16 P **P** 17 49 21.4 -1.6
comp=Z,3.0nm,0.7s,baz=231,slow=6.4,SNR=14
ILAR LR LR 18 28 49.7
comp=Z,675nm,18.4s,baz=230,slow=34
BMO Blue Mountains 93.14 42 PFAKE 17 49 30.0 +5.7
BMO LR LR
comp=Z,698nm,19.0s
MFID Camas Ranch 93.38 44 *e*P **P** 17 49 25.9 +0.5
comp=Z,17nm,1.6s
LSA Lhasa 93.69 301 *e*P **P** 17 49 28.6 +0.9
LSA MLR MLR
comp=Z,250nm,22.0s
LSA Lhasa 93.69 301 *e*P **P** 17 49 28.6 +0.9
LSA LR LR
comp=Z,250nm,22.0s
EFI East Falkland 93.72 151 PFAKE 17 49 40.0 +13
EFI LR LR
comp=Z,731nm,21.0s
DUG Dugway, Tooele 93.89 48 P **P** 17 49 28.6 +0.7
baz=243
DUG Dugway, Tooele 93.89 48 PFAKE 17 49 40.0 +12
DUG LR LR
comp=Z,851nm,19.0s
PLCA Paso Flores 94.03 137 P **P** 17 49 27.4 -1.3
comp=Z,3.3nm,0.9s,baz=287,slow=8.3,SNR=4.1
PLCA LR LR 18 27 54.3
comp=Z,99nm,18.3s,baz=308,slow=33
COLD Coldfoot 94.19 14 *e*P **P** 17 49 28.3 -0.2
comp=Z,7.6nm,1.1s
121A Cookes Peak, D 94.25 57 P **P** 17 49 30.8 +1.0
baz=246
HLID Hailey 94.36 44 P **P** 17 49 31.5 +1.4
baz=242
HLID Hailey 94.36 44 PFAKE 17 49 40.0 +10
HLID LR LR
comp=Z,803nm,19.0s
EGAK Eagle 94.56 18 *e*P **P** 17 49 29.5 -0.8
comp=Z,8.0nm,0.9s
EGAK LR LR
comp=Z,501nm,20.0s
NEW Newport 94.92 39 PFAKE 17 49 40.0 +7.6
NEW LR LR
comp=Z,668nm,19.0s
TLY Talaya 95.29 324 PFAKE 17 49 40.0 +6.1
TLY LR LR
comp=Z,308nm,22.0s
HWUT Hardware Ranch 95.36 47 PFAKE 17 49 50.0 +15
HWUT LR LR
comp=Z,799nm,19.0s
TOLK Toolik Lake Re 95.49 13 P **P** 17 49 34.5 +0.1
baz=215
MVCO Mesa Verde 95.65 52 PFAKE 17 49 50.0 +14
MVCO LR LR
comp=Z,663nm,19.0s
MNTX Cornudas Mount 95.78 58 P **P** 17 49 36.7 0.0
baz=247
MNTX Cornudas Mount 95.78 58 PFAKE 17 49 50.0 +13
MNTX LR LR
comp=Z,663nm,19.0s
TXAR Lajitas Array 96.23 61 P **P** 17 49 39.0 +0.2
comp=Z,1.3nm,0.9s,baz=235,slow=4.4,SNR=10.0
TXAR PKKPbc **PKKPdf** 18 06 26.9 0.0
comp=Z,0.3nm,0.6s,baz=89,slow=3.3,SNR=3.6
TXAR LR LR 18 26 39.6
comp=Z,242nm,18.1s,baz=0.0,slow=32
ANMO Albuquerque 96.24 55 P **P** 17 49 38.6 -0.3
baz=247
ANMO Albuquerque 96.24 55 PFAKE 17 49 50.0 +11
ANMO LR LR
comp=Z,460nm,19.0s
BOZ Bozeman (W) 97.05 43 PFAKE 17 49 50.0 +7.7
BOZ LR LR
comp=Z,754nm,20.0s
BW06 Boulder Array 97.20 47 PFAKE 17 49 50.0 +6.8
BW06 LR LR
comp=Z,669nm,19.0s
PDAR Pinedale Array 97.20 47 LR LR 18 28 47.7
comp=Z,549nm,18.3s,baz=257,slow=32
LKWY Lake 97.40 45 PFAKE 17 49 50.0 +6.0
LKWY LR LR
comp=Z,1μm,19.0s
SDCO Great Sand Dun 98.05 53 PFAKE 17 50 00.0 +13
SDCO LR LR
comp=Z,526nm,20.0s
RLMT Red Lodge 98.36 45 PFAKE 17 50 00.0 +12
RLMT LR LR
comp=Z,686nm,20.0s
ISCO Idaho Springs 98.75 51 PFAKE 17 50 00.0 +10
ISCO LR LR
comp=Z,663nm,19.0s
TIXI Tiksi 98.90 347 PFAKE 17 50 00.0 +10
TIXI LR LR
comp=Z,349nm,22.0s
EGMT Eagleton 99.23 42 PFAKE 17 50 00.0 +8.1
EGMT LR LR
comp=Z,304nm,20.0s
JCT Junction City 99.77 61 PFAKE 17 50 10.0 +15
JCT LR LR
comp=Z,329nm,20.0s
KVTX Kingsville 100.30 64 PFAKE 17 50 10.0 +13
KVTX LR LR
comp=Z,442nm,19.0s
TRQA Tornquist 100.92 139 PFAKE 17 50 10.0 +10
TRQA LR LR
comp=Z,601nm,20.0s
LAO LASA Array 100.93 44 PFAKE 17 50 10.0 +11
LAO LR LR
comp=Z,788nm,19.0s
WMQ Urumqi 101.65 313 P **Pdif** 17 50 05.0 +2.3
WMQ pP pPdif 17 50 12.0 -4.7
WMQ LR LR
comp=Z,360nm,6.0s
WMQ LR LR
comp=Z,420nm,5.2s
OGNE Ogallala 101.72 51 PFAKE 17 50 10.0 +6.9
OGNE LR LR
comp=Z,440nm,20.0s
WMOK Wichita Mounta 102.04 57 PFAKE 17 50 20.0 +15
WMOK LR LR
comp=Z,678nm,19.0s
DGMT Dagmar 102.84 43 PFAKE 17 50 20.0 +12
DGMT LR LR
comp=Z,908nm,19.0s
NNA Nana 104.16 110 PFAKE 17 50 30.0 +15
NNA LR LR
comp=Z,149nm,20.0s
NATX Nacogdoches 104.35 61 PFAKE 17 50 30.0 +15
NATX LR LR
comp=Z,378nm,20.0s
KSU1 Kansas State U 105.07 54 PFAKE 17 50 30.0 +12
KSU1 LR LR
comp=Z,521nm,19.0s
MIAR Mount Ida 106.05 59 PFAKE 17 54 50.0
MIAR LR LR
comp=Z,461nm,19.0s

FFC Flin Flon 106.14 37 PFAKE 17 54 50.0
FFC LR LR
comp=Z,437nm,19.0s
MKAR Makanchi Array 106.20 314 Pdiff **Pdif** 17 50 23.1 +0.2
comp=Z,0.2nm,0.6s,baz=91,slow=7.2,SNR=2.3
MKAR PKiKP **PKiKP** 17 54 30.6 -3.7
comp=Z,0.4nm,0.7s,baz=105,slow=1.6,SNR=4.3
MKAR PP **PP** 17 54 46.2 -1.4
comp=Z,0.2nm,0.6s,baz=79,slow=6.3,SNR=3.6
MKAR PKKPbc **PKKPbc** 18 05 55.6 -1.4
comp=Z,0.7nm,0.8s,baz=269,slow=2.4,SNR=6.4
ECSD EROS Data Cent 106.40 49 PFAKE 17 54 50.0
ECSD LR LR
comp=Z,669nm,19.0s
OTAV Otavalo 108.00 98 PFAKE 17 54 50.0
OTAV LR LR
comp=Z,202nm,20.0s
AGMN Agassiz Nation 108.10 45 PFAKE 17 54 50.0
AGMN LR LR
comp=Z,536nm,20.0s
SCIA State Center 108.33 52 PFAKE 17 54 50.0
SCIA LR LR
comp=Z,711nm,19.0s
KSH Kashi 108.74 306 *e*Pdif **Pdif** 17 50 37.0 +2.6
KSH S **Sdif** 18 02 40.8 +1.1
KSH SS **SS** 18 10 26.3 +5.1
KSH AMB AMB
comp=Z,85nm,7.8s
KSH LR LR
comp=Z,83nm,5.0s
KSH LR LR
comp=Z,130nm,6.0s
KSH LR LR
comp=Z,160nm,6.5s
KURK Kurchatov 109.53 318 PFAKE 17 54 50.0
KURK LR LR
comp=Z,350nm,19.0s
BCIP Isla Barro Col 110.12 88 PFAKE 17 54 50.0
BCIP LR LR
comp=Z,139nm,19.0s
AAK Ala-Archa 110.56 309 PFAKE 17 54 50.0
AAK LR LR
comp=Z,248nm,19.0s
JFWS Jewell Farm 110.70 51 PFAKE 17 54 50.0
JFWS LR LR
comp=Z,506nm,20.0s
EYMN Ely 110.88 46 PFAKE 17 54 50.0
EYMN LR LR
comp=Z,211nm,19.0s
ABPO Ambohimpanom 111.89 237 PFAKE 17 55 00.0
ABPO LR LR
comp=Z,332nm,20.0s
COWI Conover 112.11 48 PFAKE 17 55 00.0
COWI LR LR
comp=Z,610nm,19.0s
MSEY Mahe Island 112.33 254 PFAKE 17 55 00.0
MSEY LR LR
comp=Z,489nm,19.0s
GOGA Godfrey 113.89 62 PFAKE 17 55 00.0
GOGA LR LR
comp=Z,324nm,19.0s
BRVK Borovoye 115.00 319 PFAKE 17 55 00.0 +9.3
BRVK LR LR
comp=Z,229nm,22.0s
MTDJ Mount Denham 115.21 80 PFAKE 17 55 00.0 +7.7
MTDJ LR LR
comp=Z,142nm,21.0s
AAM Ann Arbor 115.37 53 PFAKE 17 55 00.0 +8.2
AAM LR LR
comp=Z,509nm,19.0s
ACSO Alum Creek Sta 115.56 55 PFAKE 17 55 00.0 +7.8
ACSO LR LR
comp=Z,687nm,19.0s
NHSC New Hope 116.53 63 PFAKE 17 55 10.0 +16
NHSC LR LR
comp=Z,293nm,20.0s
BLA Blacksburg 117.05 59 PFAKE 17 55 10.0 +15
BLA LR LR
comp=Z,481nm,19.0s
SAML Samuel 117.34 114 PFAKE 17 55 10.0 +14
SAML LR LR
comp=Z,353nm,19.0s
GTBY Guantanamo Bay 117.89 79 PFAKE 17 55 10.0 +13
GTBY LR LR
comp=Z,135nm,19.0s
SDV Santo Domingo 118.51 92 PFAKE 17 55 10.0 +11
SDV LR LR
comp=Z,230nm,19.0s
CNNC Cliffs of the 118.77 61 PFAKE 17 55 10.0 +12
CNNC LR LR
comp=Z,269nm,19.0s
BOSA Boshof 119.58 214 PKP **PKPdf** 17 55 00.3 -0.3
comp=Z,1.3nm,0.5s,baz=165,slow=1.4,SNR=5.3
CBN Corbin Frederi 119.58 58 PFAKE 17 55 10.0 +10
CBN LR LR
comp=Z,610nm,19.0s
SPB Sao Paulo 119.89 138 PFAKE 17 55 10.0 +8.9
SPB LR LR
comp=Z,309nm,20.0s
BINY Binghamton 121.02 54 PFAKE 17 55 10.0 +7.3
BINY LR LR
comp=Z,687nm,19.0s
SDDR Presa de Saban 121.10 81 PFAKE 17 55 20.0 +16
SDDR LR LR
comp=Z,216nm,20.0s
ARU Arti 121.77 323 PKIKP **PKPdf** 17 55 03.3 -0.3
ARU Arti 121.77 323 PFAKE 17 55 20.0 +16
ARU LR LR
comp=Z,298nm,20.0s
GRTK Grand Turk 121.89 78 PFAKE 17 55 20.0 +15
GRTK LR LR
comp=Z,204nm,20.0s
LONY Lake Ozonia 122.15 51 PFAKE 17 55 20.0 +15
LONY LR LR
comp=Z,551nm,20.0s
GEYT Alibeck 122.22 301 PKP **PKPdf** 17 55 05.2 +0.1
comp=Z,1.9nm,0.7s,baz=121,slow=10,SNR=3.6
KBS Kingsbay 123.22 355 PFAKE 17 55 20.0 +14
KBS LR LR
comp=Z,255nm,21.0s
PTGA Pitinga 124.21 108 PFAKE 17 55 20.0 +10
PTGA LR LR
comp=Z,41μm,20.0s
SJG San Juan 125.56 84 PFAKE 17 55 20.0 +8.0
SJG LR LR
comp=Z,119nm,20.0s
GRGR Grenville 127.91 92 PFAKE 17 55 30.0 +13
GRGR LR LR
comp=Z,163nm,20.0s
LVZ Lovozero 127.99 341 PFAKE 17 55 30.0 +15
LVZ LR LR
comp=Z,338nm,20.0s
LSZ Lusaka 128.11 226 *e*PKIKP **PKPdf** 17 55 18.8 +1.6
LSZ MLR MLR
comp=Z,331nm,20.0s
LSZ Lusaka 128.11 226 *e*PKPdf **PKPdf** 17 55 18.8 +1.6
LSZ LR LR
comp=Z,331nm,20.0s
SFJD Kangerlussuaq 128.51 20 PFAKE 17 55 30.0 +14
SFJD LR LR
comp=Z,674nm,19.0s
KEV Kevo 128.78 345 PFAKE 17 55 30.0 +13
KEV LR LR
comp=Z,360nm,20.0s
FDF Fort de France 129.20 89 PFAKE 17 55 30.0 +11
FDF LR LR
comp=Z,114nm,19.0s
ARCES ARCESS Array B 129.29 345 PKP **PKPdf** 17 55 17.1 -0.6
comp=Z,2.5nm,0.9s,baz=98,slow=1.7,SNR=5.6
BBSR BB Station 129.35 66 PFAKE 17 55 30.0 +11
BBSR LR LR
comp=Z,1μm,22.0s
KMBO Kilima Mbogo 129.94 248 PKP **PKPdf** 17 55 22.1 +1.2
comp=Z,3.4nm,0.9s,baz=74,slow=4.6,SNR=8.9
KMBO Kilima Mbogo 129.94 248 PKIKP **PKPdf** 17 55 22.2 +1.2
KMBO MLR MLR
comp=Z,240nm,20.0s
KMBO Kilima Mbogo 129.94 248 PKP **PKPdf** 17 55 22.1 +1.2
KMBO LR LR
comp=Z,240nm,20.0s
KLMR Klimovskoe 130.02 332 *e*PKIKP **PKPdf** 17 55 19.2 0.0
KLMR pmax pmax
comp=Z,9.0nm,1.4s
GNI Garni 132.63 304 PFAKE 17 55 40.0 +15
GNI LR LR
comp=Z,223nm,20.0s

KIV Kislovodsk 133.66 309 *i* PKIKP **PKPdf** 17 55 26.7 -0.1
KIV pmax pmax
comp=Z,3.0nm,1.0s
KIV MLR MLR
comp=Z,124nm,22.0s
KIV Kislovodsk 133.66 309 PFAKE 17 55 40.0 +13
KIV LR LR
comp=Z,205nm,22.0s
OBN Obninsk 134.02 326 PFAKE 17 55 40.0 +13
OBN LR LR
comp=Z,255nm,21.0s
AKASG Malin Array Be 140.02 323 PKP **PKPdf** 17 55 37.7 -0.5
comp=Z,0.3nm,0.4s,baz=46,slow=2.1,SNR=4.1
KIEV Kiev 140.03 323 PFAKE 17 55 50.0 +12
KIEV LR LR
comp=Z,274nm,20.0s
RCBR Riachuelo 140.44 133 PFAKE 17 55 50.0 +10
RCBR LR LR
comp=Z,314nm,21.0s
BRTR Keskin Array B 141.13 305 PKP **PKPdf** 17 55 41.1 +0.3
comp=Z,0.6nm,0.5s,baz=134,slow=3.6,SNR=4.4
ANTO Ankara 141.73 306 PFAKE 17 55 50.0 +8.2
ANTO LR LR
comp=Z,168nm,19.0s
KIS Kishinev 142.00 318 *e*PKP **PKPdf** 17 55 40.0 -1.9
KIS Kishinev 142.00 318 *e*PP PP 17 59 30.0 +42
KIS LRM MLR 18 58 20.0
comp=Z,300nm,22.0s
KIS Kishinev 142.00 318 *e*PKIKP **PKPdf** 17 55 40.0 -1.9
KIS *e* 18 11 04.0
KIS MLR MLR
comp=Z,300nm,22.0s
CSS Mathiatis 142.20 298 PFAKE 17 55 50.0 +7.3
CSS LR LR
comp=Z,43nm,20.0s
VRI Vrincioaia 143.81 318 ⇑ *i*P PKPbc 17 55 42.6 -0.3
BURAR Bucovina Array 143.86 321 ⇑ *i*P **PKPdf** 17 55 50.2 +4.9
PLOR Plostina 143.86 318 ⇓ *i*P **PKPdf** 17 55 46.9 +1.6
ISR Istrita 144.26 317 ⇑ *i*P **PKPdf** 17 55 45.3 -0.8
MLR Muntele Rosu 144.47 318 PKP **PKPab** 17 55 44.6 -0.3
comp=Z,1.4nm,0.9s,baz=13,slow=3.0,SNR=7.1
MLR Muntele Rosu 144.47 318 ⇑ *i*P PKPbc 17 55 45.4 +0.3
PRD Provadia 144.51 313 P **PKPab** 17 55 44.2 -0.7
ARCR ARCALIA 144.63 321 ⇑ *i*P PKPbc 17 55 45.7 +0.3
UZH Uzhgorod 144.92 324 *e*PKIKP **PKPab** 17 55 45.5 -0.8
UZH *e* 17 56 02.7
VOIR 145.05 318 ⇓ *i*P **PKPdf** 17 55 48.0 +0.5
CRVS Cervenica-Dubn 145.20 325 *e*PKP2 **PKPbc** 17 55 45.9 -1.3
CRVS Cervenica-Dubn 145.20 325 *e*PKP **PKPbc** 17 55 45.9 -1.3
ARR Arges 145.34 318 ⇓ *i*P **PKPab** 17 55 49.7 +1.7
JMB Yambol 145.35 312 P **PKPbc** 17 55 45.8 -2.1
SZH Strazhica 145.47 314 P **PKPdf** 17 55 47.1 -1.0
KECS Kecovo 145.97 326 *e*PKP2 **PKPab** 17 55 49.9 -0.3
KECS Kecovo 145.97 326 *e*PKP **PKPab** 17 55 49.9 -0.3
LANS Liptovska Anna 146.06 327 *e*PKP2 **PKPab** 17 55 50.8 +0.2
LANS Liptovska Anna 146.06 327 *e*PKP **PKPab** 17 55 50.8 +0.2
OKC Ostrava-Krasne 146.24 329 *e*PKP **PKPdf** 17 55 48.6 -0.6
OKC AMS AMS 19 04 30.0
comp=Z,300nm,21.2s
OKC Ostrava-Krasne 146.24 329 *e*PKIKP **PKPdf** 17 55 48.6 -0.6
OKC MLR MLR
comp=Z,300nm,21.2s
GZR Gura Zlata 146.45 319 ⇓ *i*P **PKPdf** 17 55 49.1 -0.7
KDZ Kurdzhali 146.48 312 P **PKPdf** 17 55 48.4 -1.5
MORC Moravsky Berou 146.57 330 *e*PKP2 **PKPdf** 17 55 50.6 +0.7
MORC Moravsky Berou 146.57 330 *e*PKPdf **PKPdf** 17 55 50.6 +0.7
PSZ Piszkesteto 146.63 325 PFAKE 17 56 00.0 +7.2
PSZ LR LR
comp=Z,347nm,21.0s
DPC Dobruska-Polom 146.72 331 *e*PKP **PKPbc** 17 55 51.3 -0.5
DPC *ex* x 17 56 04.7
DPC Dobruska-Polom 146.72 331 *e*PKP2 **PKPbc** 17 55 51.3 -0.5
UPC Upice 146.74 332 *e*PKP **PKPbc** 17 55 51.2 -0.6
UPC *ex* x 17 56 04.6
UPC AMS AMS 18 59 40.0
comp=Z,300nm,21.1s
UPC Upice 146.74 332 *e*PKP2 **PKPbc** 17 55 51.2 -0.6
UPC MLR MLR
comp=Z,300nm,21.1s
VYHS Vyhne 146.81 327 *e*PKIKP **PKPdf** 17 55 50.3 0.0
VYHS Vyhne 146.81 327 *e*PKP **PKPdf** 17 55 50.3 0.0
PGB Panagyurishte 146.94 314 P **PKPbc** 17 55 52.5 -0.3
BRG Berggiesshubel 147.33 334 *e*PKP **PKPab** 17 55 55.1 -0.3
comp=Z,8.1nm,0.9s
BRG *e* 17 56 09.0
comp=Z,44nm,1.9s
BRG Berggiesshubel 147.33 334 *e*PKP2 **PKPab** 17 55 55.1 -0.3
BRG pmax pmax
comp=Z,8.0nm,0.9s
PVCC Panska Ves 147.34 333 AMS AMS 19 05 50.0
VRAC Vranov 147.34 330 PKPbc **PKPdf** 17 55 50.8 -0.3
comp=Z,2.5nm,0.7s,baz=134,slow=8.4,SNR=3.2
CLL Collm 147.36 335 *i* PKIKP **PKPdf** 17 55 51.6 +0.5
CLL *i* 17 55 57.1
CLL MLR MLR
comp=Z,200nm,21.6s
CLL Collm 147.36 335 *i* PKPbc **PKPdf** 17 55 51.6 +0.5
CLL *i* PKiKP **PKiKP** 17 55 57.1 +1.4
comp=Z,7.0nm,0.9s
CLL *i* 17 56 08.2
CLL *e*PP **PP** 17 59 12.0 -7.0
CLL *e*PPP PPP 18 02 48.0
CLL *e* 18 05 45.0
CLL *e*PSKS 18 09 33.0
CLL *e* 18 11 00.0
CLL *e*PPS PPS 18 12 00.0
CLL *e* 18 16 54.0
CLL *e*SS SS 18 18 36.0 +18
CLL *e*SSS SSS 18 24 06.0
MDVR Moldovita 147.42 319 ⇑ *i*P **PKPbc** 17 55 54.8 +0.8
EKA Eskdalemuir Ar 147.45 355 PKPbc **PKPdf** 17 55 51.9 +0.8
comp=Z,1.3nm,0.6s,baz=4.9,slow=2.8,SNR=5.8
VTS Vitosha 147.56 315 P **PKPbc** 17 55 53.4 -1.2
MMB Musomiste 147.66 313 P **PKPdf** 17 55 52.7 +0.8
GOPC GO Pecny, Ondr 147.71 332 *e*PKP **PKPbc** 17 55 54.1 -0.5
GOPC *ex* x 17 56 08.5
GOPC GO Pecny, Ondr 147.71 332 *e*PKP2 **PKPbc** 17 55 54.1 -0.5
PRU Pruhonice 147.76 332 *e*PKP **PKPbc** 17 55 55.7 +1.0
PRU *e*pPKP **PKPab** 17 55 58.9 +1.8
PRU AMS AMS 19 06 00.0
comp=Z,300nm,16.6s
PRU Pruhonice 147.76 332 *e*PKP2 **PKPbc** 17 55 55.7 +1.0
PRU MLR MLR
comp=Z,300nm,16.6s
TREC Trest 147.86 331 *e*PKP **PKPbc** 17 55 55.3 +0.3
TREC AMS AMS 18 59 50.0
comp=Z,300nm,23.6s
TREC Trest 147.86 331 *e*PKP2 **PKPbc** 17 55 55.3 +0.3
TREC MLR MLR
comp=Z,300nm,23.6s
KKB Krupnik 147.97 313 P **PKPdf** 17 55 53.7 +1.3
NKC Novy Kostel 148.43 335 *e*PKP **PKPbc** 17 55 56.7 +0.2
NKC Novy Kostel 148.43 335 *e*PKP2 **PKPbc** 17 55 56.7 +0.2
CONA Conrad Observa 148.66 329 *i* PKPab **PKPab** 17 56 00.2 -0.7
comp=Z,11nm,1.2s
ASCN Ascension 148.68 168 PFAKE 17 56 10.0 +8.3
ASCN LR LR
comp=Z,852nm,19.0s
KHC Kasperske Hory 148.82 332 *e*PKP **PKPdf** 17 55 53.6 0.0
KHC *ep*PKP **PKPbc** 17 55 57.1 -0.4
KHC *es*PKP 17 56 04.4
KHC AMS AMS 19 12 50.0
comp=Z,300nm,15.3s
KHC Kasperske Hory 148.82 332 *e*PKIKP **PKPdf** 17 55 53.6 0.0
KHC *e* 17 55 57.1
KHC *e* 17 56 04.4
KHC MLR MLR
comp=Z,300nm,15.3s
KHC Kasperske Hory 148.82 332 *e*PKPdf **PKPdf** 17 55 53.6 0.0
IDI Anoyia 148.94 301 PKPbc **PKPbc** 17 55 58.0 -0.3
comp=Z,11nm,0.6s,baz=15,slow=5.5,SNR=9.6
GERES GERESS Array B 148.98 332 PKPbc **PKPbc** 17 55 56.6 -1.4
comp=Z,1.2nm,0.8s,baz=50,slow=4.2,SNR=9.7
ARSA Arzberg 149.29 328 *i* PKiKP **PKPbc** 17 55 59.1 +0.3
comp=Z,4.6nm,1.1s
KRUS Krusevo 149.42 314 *e*PKP **PKPbc** 17 55 58.7 -0.7
MOA Molln 149.46 330 *i* PKPdf **PKPdf** 17 55 54.3 -0.3
comp=Z,3.2nm,0.9s
OHR Ohrid 149.84 314 *e*PKP **PKPbc** 17 55 58.8 -1.5
SOKA Soboth 149.93 328 *i* PKPdf **PKPdf** 17 55 55.3 -0.2
comp=Z,8.7nm,1.2s
PDG Podgorica 150.18 317 ⇓ *i*P **PKPdf** 17 55 58.1 +2.2
TIR Tirane 150.34 315 PFAKE 17 56 10.0 +2.1

TIR					LR	LR					
	comp=Z,307nm,20.0s										
KBA	**Koelnbreinsper**	**150.46**	**330**	*i* PKPbc	**PKPbc**	**PKPbc**	**17 56 01.3**	**-0.5**			
	comp=Z,8.3nm,1.0s										
MYKA	**Terra Mystica**	**150.64**	**329**	*i* PKPbc	**PKPbc**	**PKPbc**	**17 56 01.9**	**-0.2**			
	comp=Z,3.0nm,0.6s										
ABTA	**Abfaltersbach**	**151.08**	**330**	*i* PKPdf	**PKPdf**	**PKPdf**	**17 55 57.4**	**+0.1**			
	comp=Z,7.3nm,1.0s										
WTTA	**Wattenberg**	**151.08**	**332**	*i* PKiKP	**PKPbc**	**PKPbc**	**17 56 03.2**	**-0.1**			
	comp=Z,10nm,1.0s										
WLF	**Walferdange**	**151.11**	**341**	PFAKE			17 56 10.0	-0.7			
WLF				LR	LR						
	comp=Z,260nm,20.0s										
MOTA	**Moosalm**	**151.25**	**333**	*i* PKiKP	**PKiKP**	**PKiKP**	**17 56 04.8**	**+0.7**			
	comp=Z,6.4nm,0.8s										
RETA	**Reutte**	**151.28**	**333**	*i* PKiKP	**PKiKP**	**PKiKP**	**17 56 04.9**	**+0.8**			
	comp=Z,12nm,1.7s										
BFO	**Black Forest**	**151.54**	**337**	PFAKE			17 56 10.0	-2.6			
BFO				LR	LR						
	comp=Z,284nm,20.0s										
FETA	**Feichten**	**151.66**	**333**	*i* PKiKP	**PKiKP**	**PKiKP**	**17 56 05.8**	**+0.8**			
	comp=Z,8.9nm,1.2s										
DAVA	**Damuels**	**151.80**	**334**	*i* PKiKP	**PKiKP**	**PKiKP**	**17 56 06.2**	**+0.9**			
	comp=Z,5.7nm,1.0s										
DAVOX	**Davos/Dischmat**	**152.21**	**333**	PKPbc	**PKPbc**	**PKPbc**	**17 56 04.9**	**-1.0**			
	comp=Z,3.2nm,0.6s,baz=66,slow=8.0,SNR=4.8										
TUE	**Stuetta**	**152.68**	**333**	PFAKE			17 56 10.0	+3.0			
TUE				LR	LR						
	comp=Z,288nm,21.0s										
CUC	**Castrocucco**	**153.68**	**316**	PFAKE			17 56 10.0	+0.9			
CUC				LR	LR						
	comp=Z,198nm,20.0s										
AQU	**L'Aquila**	**153.71**	**322**	PFAKE			17 56 10.0	+0.8			
AQU				LR	LR						
	comp=Z,295nm,20.0s										
VLC	**Villacollemand**	**154.01**	**329**	PFAKE			17 56 10.0	+0.3			
VLC				LR	LR						
	comp=Z,244nm,20.0s										
CEL	**Celeste**	**154.53**	**312**	PFAKE			17 56 10.0	-1.0			
CEL				LR	LR						
	comp=Z,251nm,21.0s										
BNI	**Bardonecchia**	**154.91**	**335**	PFAKE			17 56 10.0	-1.7			
BNI				LR	LR						
	comp=Z,370nm,22.0s										
SSB	**Saint Sauveur**	**155.49**	**338**	PFAKE			17 56 10.0	+6.3			
SSB				LR	LR						
	comp=Z,338nm,22.0s										
WDD	**Wied Dalam**	**156.65**	**308**	PFAKE			17 56 20.0	+15			
WDD				LR	LR						
	comp=Z,343nm,19.0s										
VSL	**Villasalto**	**157.89**	**322**	PFAKE			17 56 20.0	+13			
VSL				LR	LR						
	comp=Z,289nm,22.0s										
KEST	**Kesra**	**160.30**	**314**	PKPab	**PKPab**	**PKPab**	**17 56 48.8**	**-1.9**			
	comp=Z,2.7nm,0.7s,baz=339,slow=8.6,SNR=3.5										
PGAV	**Gavieira, Arco**	**161.02**	**1**	*e*PKPdf	**PKPdf**	**PKPdf**	**17 56 14.1**	**+3.6**			
PGAV	**Gavieira, Arco**	**161.02**	**1**	*e*PKPab	**PKPab**	**PKPab**	**17 56 52.1**	**-1.4**			
PGAV	**Gavieira, Arco**	**161.02**	**1**	*e*PP	PP		18 00 40.6	+5.1			
PGAV	**Gavieira, Arco**	**161.02**	**1**	*e*LR	LR		18 52 21.2				
	comp=Z,281nm,20.0s										
POLO	**Lamas de Olo**	**161.62**	**360**	*e*PKPdf	**PKPdf**	**PKPdf**	**17 56 13.3**	**+2.1**			
POLO	**Lamas de Olo**	**161.62**	**360**	*e*PKPab	**PKPab**	**PKPab**	**17 56 53.2**	**-2.9**			
POLO	**Lamas de Olo**	**161.62**	**360**	*e*PP	PP		18 00 34.2	-4.5			
POLO	**Lamas de Olo**	**161.62**	**360**	*e*LR	LR		18 52 18.1				
	comp=Z,194nm,18.0s										
MVO	**Moncorvo**	**161.81**	**358**	*e*PKPdf	**PKPdf**	**PKPdf**	**17 56 14.3**	**+2.9**			
MVO	**Moncorvo**	**161.81**	**358**	*e*PKPab	**PKPab**	**PKPab**	**17 56 54.9**	**-2.0**			
MVO	**Moncorvo**	**161.81**	**358**	*e*PP	PP		18 00 38.8	-0.9			
MVO	**Moncorvo**	**161.81**	**358**	*e*LR	LR		18 53 06.9				
	comp=Z,310nm,18.0s										
MTE	**Manteigas**	**162.59**	**359**	*e*PKPdf	**PKPdf**	**PKPdf**	**17 56 15.8**	**+3.6**			
MTE	**Manteigas**	**162.59**	**359**	*e*PKPab	**PKPab**	**PKPab**	**17 56 59.3**	**-1.0**			
MTE	**Manteigas**	**162.59**	**359**	*e*PP	PP		18 00 50.8	+7.0			
MTE	**Manteigas**	**162.59**	**359**	*e*LQ	LQ		18 47 48.8				
MTE				*e*LR	LR		18 52 58.6				
	comp=Z,229nm,18.0s										
MTE	**Manteigas**	**162.59**	**359**	PFAKE			17 56 20.0	+7.8			
MTE				LR	LR						
	comp=Z,344nm,20.0s										
ESDC	**Sonseca Array**	**162.97**	**349**	PKPab	**PKPab**	**PKPab**	**17 57 01.9**	**-0.2**			
	comp=Z,0.2nm,0.4s,baz=25,slow=4.2,SNR=3.6										
LIC	**Lamto**	**163.15**	**190**	*e*PKIKP	**PKPdf**	**PKPdf**	**17 56 13.8**	**+0.4**			
	comp=Z,118nm,2.0s										
PAB	**San Pablo**	**163.16**	**350**	PFAKE			17 56 20.0	+7.2			
PAB				LR	LR						
	comp=Z,363nm,20.0s										
SACV	**Santiago Islan**	**163.20**	**115**	PFAKE			17 56 20.0	+6.6			
SACV				LR	LR						
	comp=Z,163nm,19.0s										
KIC	**Kosan Boka**	**163.24**	**191**	*e*PKIKP	**PKPdf**	**PKPdf**	**17 56 13.8**	**+0.3**			
	comp=Z,99nm,1.7s										
PMRV	**Marv??o**	**163.55**	**359**	*e*PKPdf	**PKPdf**	**PKPdf**	**17 56 15.9**	**+2.8**			
PMRV	**Marv??o**	**163.55**	**359**	*e*LR	LR		18 53 28.4				
	comp=Z,225nm,18.0s										
DBIC	**Dimbokro**	**163.56**	**191**	PKP	**PKPdf**	**PKPdf**	**17 56 12.9**	**-0.8**			
	comp=Z,5.4nm,0.9s,baz=304,slow=4.5,SNR=4.9										
DBIC	**Dimbokro**	**163.56**	**191**	PKIKP	**PKPdf**	**PKPdf**	**17 56 13.0**	**-0.8**			
TIC	**Toumodi**	**163.56**	**190**	*e*PKIKP	**PKPdf**	**PKPdf**	**17 56 13.2**	**-0.6**			
PMAFR	**Mafra**	**163.99**	**4**	*e*PKPdf	**PKPdf**	**PKPdf**	**17 56 18.8**	**+5.3**			
PMAFR	**Mafra**	**163.99**	**4**	*e*PP	PP		18 00 59.4	+8.2			
PESTR	**Estremoz**	**164.12**	**359**	*e*LR	LR		18 53 45.3				
	comp=Z,270nm,18.0s										
PBAR	**Barrancos**	**164.79**	**357**	*e*PKPab	**PKPab**	**PKPab**	**17 57 06.9**	**-3.1**			
PBAR	**Barrancos**	**164.79**	**357**	*e*PP	PP		18 01 02.6	+7.3			
PNCL	**Nicolau / Gran**	**164.86**	**2**	*e*PKPdf	**PKPdf**	**PKPdf**	**17 56 18.6**	**+4.4**			
PNCL	**Nicolau / Gran**	**164.86**	**2**	*e*SS	SS		18 21 32.6	+7.4			
PNCL	**Nicolau / Gran**	**164.86**	**2**	*e*LR	LR		18 53 49.4				
	comp=Z,408nm,18.0s										
PCVE	**Castro Verde**	**165.35**	**0**	*e*PKPdf	**PKPdf**	**PKPdf**	**17 56 17.7**	**+3.0**			
PCVE	**Castro Verde**	**165.35**	**0**	*e*PP	PP		18 00 52.5	-5.7			
PCVE	**Castro Verde**	**165.35**	**0**	*e*LR	LR		18 53 13.6				
	comp=Z,314nm,20.0s										
PVAQ	**Vaqueiros**	**165.58**	**359**	*e*PKPdf	**PKPdf**	**PKPdf**	**17 56 17.7**	**+2.8**			
PVAQ	**Vaqueiros**	**165.58**	**359**	*e*LR	LR		18 54 26.2				
	comp=Z,293nm,20.0s										
PBDV	**Barranco-do-Ve**	**165.74**	**360**	*e*PKPdf	**PKPdf**	**PKPdf**	**17 56 16.0**	**+1.0**			
PBDV	**Barranco-do-Ve**	**165.74**	**360**	*e*PP	PP		18 01 05.5	+5.2			
PBDV	**Barranco-do-Ve**	**165.74**	**360**	*e*LR	LR		18 54 21.0				
	comp=Z,310nm,20.0s										
PFVI	**Vila Bisbo**	**165.83**	**3**	*e*LR	LR		18 54 33.8				
	comp=Z,398nm,18.0s										
TORD	**Torodi Ar. Bea**	**166.64**	**225**	PKP	**PKPdf**	**PKPdf**	**17 56 15.7**	**-0.6**			
	comp=Z,3.5nm,1.0s,baz=303,slow=0.6,SNR=19										
TORD				PKPab	**PKPab**	**PKPab**	**17 57 16.7**	**-2.2**			
	comp=Z,1.9nm,0.9s,baz=139,slow=4.5,SNR=3.1										
TORD				PP	**PP**	**PP**	**18 01 05.3**	**-0.8**			
	comp=Z,0.9nm,1.0s,baz=117,slow=8.5,SNR=3.8										
TAM	**Tamanrasset**	**167.59**	**272**	PFAKE			17 56 30.0	+13			
TAM				LR	LR						
	comp=Z,312nm,20.0s										
RTC	**Rabat Centre**	**168.95**	**355**	PFAKE			17 56 30.0	+13			
RTC				LR	LR						
	comp=Z,1μm,21.0s										

IDC ***28*** *17:56:29.9±0.7,22°.76S×172°.14E,h0km,mb4.5/13, mb1 4.6/16,mb1mx4.5/24,mbtmp4.5/16,ML4.3/3,MS4.3/21, Ms1 4.3/21,ms1mx4.2/35,Error ellipse: s-maj=20.1km s-min=19.4km az=47.0*

NEIC ***28*** *17:56:32.5±0.2,22°.82S×172°.03E,h10km,mb5.1/62,Error ellipse: s-maj=7.1km s-min=6.6km az=116.0*

GCMT ***28*** *17:56:32.5±0.2,23°.03S×172°.07E,h17km±1km,MW5.1/82, Moment Tensor Solution. s41,c49; s82,c121; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr4.46±.24; Mθθ-4.48±.18; Mφφ0.02±.15; Mrθ4.26±.46; Mrφ1.58±.10; Mθφ-0.20±.43; Best double couple: M○6.36900×10¹⁶ NP1:φs97.00000°,δ66.00000°,λ81.00000°. NP2: φs299.00000°,δ25.00000°,λ110.00000°. Principal axes: T 6.1910, Plg67.0000°, Azm350.0000°; N 0.3590, Plg8.0000°, Azm101.0000°; P -6.5480, Plg21.0000°, Azm194.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

BJI ***28*** *17:56:35.2,22°.46S×171°.61E,h20km,mb5.0/25,mB5.6/19, Ms5.2/11,Ms7 4.9/11*

ISCJB ***28*** *17:56:36.2±0.2,22°.92S±0°.04×171°.94E±0°.04,h47km, mb5.0/76,MS4.4/22,Error ellipse: s-maj=5.2km s-min=4.6km az=159.5*

ISC 28 17:56:37.8±0.3,22°.92S±0°.06×171°.95E±0°.05,h47km,n206, σ1s63/201,mb5.1/76,MS4.4/22,5C-4D,Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**5.16**	**278**	Pn	**Pn**	**17 57 48.9**	**-3.7**
	5.2nm,0.3s,baz=130,slow=16,SNR=39						
DZM				Sn	**Sn**	**17 58 49.9**	**-1.0**
	9.6nm,0.3s,baz=152,slow=17,SNR=3.5						
DZM	**Mont Dzumac**	**5.16**	**278**	*e*Pn	**Pn**	**17 57 48.2**	**-4.4**
	189nm,0.3s						
DZM				*e*Sn	**Sn**	**17 58 45.8**	**-5.1**
	375nm,0.6s						
DZM				*e*LR	LR	17 59 00.2	
	1μm,21.1s						
DZM	**Mont Dzumac**	**5.16**	**278**	*e*Pn	**Pn**	**17 57 51.2**	**-1.4**
DZM				Sn	**Sn**	**17 58 49.9**	**-1.0**
NFK	**Norfolk Island**	**7.09**	**210**	P	**Pn**	**17 58 15.9**	**-3.1**
	baz=7.0,SNR=9.6						
MSVF	**Nonsavu**	**7.71**	**49**	*e*Pn	**Pn**	**17 58 27.9**	**+0.4**
OUZ	**Omahuta**	**12.35**	**174**	*e*Pn	**Pn**	**17 59 31.5**	**+0.5**
HIZ	**Hauiti**	**15.75**	**172**	*e*Pn	**P**	**18 00 18.9**	**-0.8**
	181nm,1.2s						
URZ	**Urewera**	**15.92**	**165**	Pn	**Pn**	**18 00 18.8**	**+0.2**
	1.2nm,0.3s,baz=336,slow=6.1,SNR=18						
URZ				LR	LR	18 05 29.7	
	comp=Z,2μm,19.0s,baz=352,slow=34						
URZ	**Urewera**	**15.92**	**165**	*e*Pn	**Pn**	**18 00 19.1**	**+0.4**
	74nm,0.9s						
BKZ	**Black Stump Fm**	**16.66**	**168**	*e*Pn	**Pn**	**18 00 27.6**	**-0.4**
	284nm,0.6s						
HNR	**Honiara**	**17.66**	**317**	P	**Pn**	**18 00 39.2**	**-1.4**
	1.4nm,0.3s,baz=196,slow=19,SNR=8.4						
HNR				LR	LR	18 06 25.6	
	comp=Z,1μm,18.3s,baz=158,slow=34						
HNR	**Honiara**	**17.66**	**317**	P	**Pn**	**18 00 39.0**	**-1.5**
HNR	**Honiara**	**17.66**	**317**	*e*Pn	**P**	**18 00 42.8**	**+1.8**
	570nm,1.9s						
AFI	**Afiamalu**	**17.84**	**63**	LR	LR	18 06 10.4	
	comp=Z,933nm,18.1s,baz=228,slow=33						
BFZ	**Birch Farm**	**18.08**	**169**	*e*Pn	**P**	**18 00 44.9**	**-0.6**
	71nm,1.1s						
THZ	**Tophouse**	**18.81**	**178**	*e*P	**P**	**18 00 53.5**	**0.0**
	52nm,1.0s						
EIDS	**Eidsvold**	**19.20**	**258**	*e*P	**Pn**	**18 00 59.1**	**-0.1**
	74nm,1.1s						
ARMA	**Armidale**	**19.62**	**243**	*e*P	**Pn**	**18 01 04.9**	**+0.7**
	81nm,1.5s						
LTZ	**Lake Taylor**	**19.81**	**179**	*e*P	**P**	**18 01 04.4**	**0.0**
	126nm,1.2s						
OXZ	**Oxford**	**20.36**	**180**	*e*P	**P**	**18 01 08.9**	**-1.4**
	50nm,0.8s						
RPZ	**Rata Peaks**	**20.76**	**182**	P	**P**	**18 01 14.2**	**-0.4**
	19nm,0.7s,baz=290,slow=3.8,SNR=9.7						
RPZ				LR	LR	18 08 13.7	
	comp=Z,2μm,18.5s,baz=352,slow=34						
RPZ	**Rata Peaks**	**20.76**	**182**	*e*P	**P**	**18 01 14.9**	**+0.2**
	78nm,1.2s						
ODZ	**Otahua Downs**	**22.10**	**182**	*e*P	**P**	**18 01 27.9**	**-1.1**
	79nm,1.3s						
MLZ	**Mavora Lakes**	**22.61**	**187**	*e*P	**P**	**18 01 34.7**	**+0.1**
	110nm,1.4s						
CNB	**Canberra Magne**	**23.22**	**233**	P	**P**	**18 01 42.3**	**+1.4**
	baz=23,SNR=11						
CAN	**Canberra**	**23.49**	**233**	*e*P	**P**	**18 01 44.4**	**+0.9**
	174nm,1.8s						
CTA	**Charters Tower**	**24.06**	**272**	P	**P**	**18 01 50.1**	**+1.2**
	11nm,0.7s,baz=97,slow=12,SNR=8.3						
CTAO	**Charters Tower**	**24.06**	**272**	*e*P	**P**	**18 01 50.5**	**+1.6**
	115nm,1.6s						
CMSA	**Cobar Meteorol**	**24.83**	**244**	P	**P**	**18 01 56.7**	**+1.0**
	baz=25,SNR=32						
QLP	**Quilpie**	**25.41**	**256**	P	**P**	**18 02 02.0**	**+0.9**
	baz=25,SNR=8.1						
RAR	**Rarotonga**	**26.25**	**92**	LR	LR	18 12 39.5	
	comp=Z,490nm,18.6s,baz=260,slow=37						
MTSU	**Mount Surprise**	**26.29**	**275**	P	**P**	**18 02 10.4**	**+1.2**
	baz=26,SNR=18						
RABL	**Rabaul**	**26.69**	**311**	*e*P	**P**	**18 02 12.5**	**-0.3**
	24nm,0.6s						
PMG	**Port Moresby**	**27.27**	**295**	P	**P**	**18 02 16.8**	**-1.2**
	7.9nm,0.8s,baz=133,slow=8.0,SNR=3.4						
STKA	**Stephens Creek**	**28.31**	**245**	P	**P**	**18 02 28.1**	**+0.9**
	5.5nm,0.8s,baz=84,slow=9.6,SNR=4.2						
STKA				LR	LR	18 12 27.0	
	comp=Z,904nm,19.9s,baz=73,slow=34						
COEN	**Coen**	**28.66**	**283**	P	**P**	**18 02 30.4**	**-0.1**
	baz=29,SNR=3.8						
COEN	**Coen**	**28.66**	**283**	*e*P	**P**	**18 02 31.0**	**+0.5**
	30nm,1.0s						
AS01	**Alice Springs**	**34.84**	**261**	*e*P	**P**	**18 03 22.9**	**-1.7**
AS31	**Alice Springs**	**34.88**	**261**	*e*P	**P**	**18 03 22.8**	**-2.3**
	9.3nm,0.9s						
ASAR	**Alice Springs**	**34.88**	**261**	P	**P**	**18 03 23.1**	**-2.0**
	5.1nm,0.5s,baz=90,slow=8.3,SNR=49						
ASAR				PcP	**PcP**	**18 05 57.5**	**+0.3**
	4.0nm,1.1s,baz=96,slow=3.3,SNR=3.8						
ASAR				ScP	**ScP**	**18 09 45.0**	**+6.0**
	0.8nm,0.8s,baz=92,slow=4.6,SNR=4.8						
ASAR				LR	LR	18 16 53.8	
	comp=Z,635nm,18.5s,baz=102,slow=35						
WB2	**Warramunga Arr**	**35.06**	**268**	*e*P	**P**	**18 03 25.4**	**-1.2**
WRAB	**Tennant Creek**	**35.06**	**268**	*e*P	**P**	**18 03 25.3**	**-1.3**
	33nm,1.4s						
WRA	**Warramunga Arr**	**35.07**	**268**	P	**P**	**18 03 25.6**	**-1.0**
	2.4nm,0.3s,baz=96,slow=8.6,SNR=60						
WRA				PcP	**PcP**	**18 05 57.8**	**0.0**
	2.7nm,1.0s,baz=100,slow=3.3,SNR=3.2						
WRA				LR	LR	18 18 43.1	
	comp=Z,594nm,18.4s,baz=130,slow=38						
PPT2	**Papeete2**	**36.41**	**89**	*e*S	**S**	**18 09 12.9**	**-3.9**
	115nm,24.8s						
PPT2				*e*LQ	LQ	18 11 36.7	
	596nm,26.5s						
PPT2				*e*LR	LR	18 13 23.9	
	413nm,25.5s						
PPT	**Papeete**	**36.42**	**89**	LR	LR	18 17 57.0	
	comp=Z,358nm,18.1s,baz=232,slow=36						
JAY	**Jayapura**	**36.44**	**299**	P	**P**	**18 03 38.0**	**-0.5**
	20nm,0.9s						
GENI	**Genyem**	**36.83**	**299**	P	**P**	**18 03 39.0**	**-2.7**
WRKA	**Warakurna**	**39.81**	**258**	P	**P**	**18 04 05.9**	**-1.0**
	baz=40,SNR=25						
MTN	**Manton Dam**	**39.99**	**277**	*e*P	**P**	**18 04 07.3**	**-1.0**
	77nm,1.9s						
H11S2	**WAKE ISLAND Hy**	**41.47**	**352**	T	T	18 48 37.3	
	baz=171,slow=76,SNR=15						
H11S3	**WAKE ISLAND Hy**	**41.48**	**352**	T	T	18 48 37.3	
	baz=171,slow=76,SNR=8.0						
H11S1	**WAKE ISLAND Hy**	**41.49**	**352**	T	T	18 48 36.7	
	baz=171,slow=76,SNR=5.5						
H11N1	**WAKE ISLAND Hy**	**42.66**	**353**	T	T	18 50 05.3	
	baz=172,slow=76,SNR=19						
H11N3	**WAKE ISLAND Hy**	**42.66**	**353**	T	T	18 50 07.6	
	baz=172,slow=76,SNR=8.8						
H11N2	**WAKE ISLAND Hy**	**42.67**	**353**	T	T	18 50 05.3	
	baz=172,slow=76,SNR=4.7						
SIJI	**Sorong**	**45.17**	**293**	LR	LR	18 25 12.1	
	comp=Z,43nm,18.2s,baz=216,slow=38						
SOEI	**Soe**	**47.38**	**278**	P	**P**	**18 05 09.6**	**+1.7**
	44nm,1.7s						
NLAI	**Namlea**	**47.59**	**288**	P	**P**	**18 05 09.9**	**+0.5**
	29nm,1.1s						
MBWA	**Marble Bar**	**48.22**	**262**	*e*P	**P**	**18 05 17.0**	**+2.8**
	38nm,0.9s						
MEEK	**Meekatharra**	**48.28**	**254**	P	**P**	**18 05 14.6**	**0.0**
	baz=48,SNR=14						
KLBR	**Kellerberrin**	**48.53**	**247**	P	**P**	**18 05 18.0**	**+1.5**
	baz=48,SNR=5.4						
NWAO	**Narrogin (SRO)**	**48.90**	**246**	LR	LR	18 24 53.8	
	comp=Z,670nm,19.5s,slow=35						
SANI	**Sanana**	**49.13**	**288**	P	**P**	**18 05 20.3**	**-0.9**
	42nm,0.7s						
BLDU	**Balidiu**	**49.50**	**249**	P	**P**	**18 05 25.5**	**+1.6**
	baz=49,SNR=4.9						
BBSI	**Bau Bau**	**50.62**	**282**	P	P	18 05 27.4	-5.2
KAPI	**Kappang**	**53.37**	**281**	*e*P	**P**	**18 05 54.4**	**+1.4**
	60nm,1.4s						
MRSI	**Marisa**	**53.89**	**289**	P	**P**	**18 05 55.3**	**-1.5**
	13nm,0.8s						
VNDA	**Vanda**	**54.88**	**183**	LR	LR	18 25 32.2	
	comp=Z,466nm,21.6s,baz=13,slow=32						
VNDA	**Vanda**	**54.88**	**183**	*e*P	**P**	**18 06 02.9**	**-0.1**
	15nm,0.9s						
SBA	**Scott Base**	**55.05**	**181**	*e*P	**P**	**18 06 05.0**	**+0.7**
	57nm,1.5s						
PCI	**Palu**	**55.09**	**286**	P	**P**	**18 06 07.2**	**+1.6**
SBUM	**Sibu**	**63.39**	**285**	*e*P	**P**	**18 07 03.6**	**+0.6**
	57nm,1.9s						
LEM	**Lembang**	**63.74**	**274**	P	P	18 07 12.9	+7.4
KSM	**Kuching**	**64.66**	**283**	*e*P	**P**	**18 07 10.8**	**-0.5**
	22nm,0.9s						
QSPA	**South Pole Qui**	**67.16**	**180**	*e*P	**P**	**18 07 25.2**	**-1.5**
	127nm,1.1s						
MJAR	**Matsushiro Arr**	**67.17**	**331**	P	**P**	**18 07 24.5**	**-2.5**
	1.2nm,0.5s,baz=128,slow=7.9,SNR=3.9						
MJAR				LR	LR	18 34 37.5	
	comp=Z,73nm,19.7s,baz=75,slow=34						
KSRS	**Korea Array**	**72.95**	**325**	P	**P**	**18 08 01.8**	**-0.5**
	2.1nm,0.8s,baz=141,slow=5.8,SNR=12						
KSRS				LR	LR	18 39 25.0	
	comp=Z,81nm,19.0s,baz=130,slow=35						
KSAR	**Wonju Array Be**	**72.96**	**325**	P	**P**	**18 08 01.8**	**-0.6**
KS01	**Wonju Array Si**	**72.98**	**325**	*e*P	**P**	**18 08 01.4**	**-1.1**
IPM	**Ipoh**	**74.31**	**282**	*e*P	**P**	**18 08 11.0**	**+0.1**
	83nm,1.9s						
NJ2	**Nanjing**	**74.59**	**315**	*e*P	**P**	**18 08 12.3**	**+0.2**
NJ2				pmax	pmax		
	comp=Z,13nm,0.6s						
ATKA	**Atka Island**	**75.77**	**9**	*e*P	**P**	**18 08 20.9**	**+2.6**
	55nm,1.0s						
MAW	**Mawson**	**75.99**	**202**	P	**P**	**18 08 19.7**	**+0.1**
	4.3nm,0.9s,baz=100,slow=7.7,SNR=10.0						
MAW				LR	LR	18 39 57.6	
	comp=Z,270nm,18.0s,baz=65,slow=34						
MAW	**Mawson**	**75.99**	**202**	P	**P**	**18 08 21.6**	**+2.0**
	baz=76,SNR=6.2						
MAW	**Mawson**	**75.99**	**202**	*e*P	**P**	**18 08 21.6**	**+2.0**
	3.2nm,1.0s						
USRK	**Ussuriysk Ar.**	**76.15**	**332**	LR	LR	18 39 09.4	
	comp=Z,87nm,20.3s,baz=158,slow=34						
PETK	**Petropavlovsk-**	**76.71**	**351**	LR	LR	18 39 25.6	
	comp=Z,390nm,19.0s,baz=152,slow=34						
NIKH	**Nikolski High**	**77.39**	**12**	*e*P	**P**	**18 08 29.7**	**+2.2**
	97nm,0.9s						
TIA	**Tai'an**	**78.35**	**318**	⇑P	**P**	**18 08 32.3**	**-1.0**
TIA				pmax	pmax		
	comp=Z,20nm,0.7s						
CN2	**Changchun**	**78.90**	**328**	*e*P	P	18 08 48.8	+13
CN2				*e*sP	sP	18 08 58.0	+2.9
CN2				*e*PP	PP	18 11 50.0	+14
CN2				*e*S	S	18 18 46.3	+15
CN2	**Changchun**	**78.90**	**328**	*e*SS	SS	18 23 55.5	+18
CN2				pmax	pmax		
	comp=Z,10.0nm,1.8s						
CN2				pmax	pmax		
	comp=Z,200nm,3.0s						
CN2				LR	LR		
	comp=N,200nm,22.0s						
CN2				LR	LR		
	comp=E,200nm,22.0s						
CN2				LR	LR		
	comp=Z,200nm,23.0s						
GYA	**Guiyang**	**79.98**	**304**	*e*P	**P**	**18 08 44.0**	**+1.4**
GYA				PP	**PP**	**18 11 48.5**	**+3.4**
GYA				S	**S**	**18 18 46.3**	**+3.0**
GYA				SKS	**SKSac**	**18 18 56.0**	**-0.3**
GYA				pmax	pmax		
	comp=Z,20nm,1.0s						
GYA				pmax	pmax		
	comp=Z,120nm,6.2s						
UTHA	**Uthaitani**	**80.56**	**291**	P	**P**	**18 08 48.5**	**+2.8**
	comp=Z,6.5nm,0.9s						
BJI	**Beijing**	**81.37**	**320**	P	**P**	**18 08 48.0**	**-1.5**
BJI				pmax	pmax		
	comp=Z,8.0nm,0.9s						
BJI				pmax	pmax		
	comp=Z,290nm,4.3s						
SYO	**Syowa Base**	**82.11**	**196**	*e*P	**P**	**18 08 55.3**	**+2.3**
CM01	**Chiang Mai Arr**	**82.27**	**294**	*e*P	**P**	**18 08 55.3**	**+0.6**
CMAR	**Chiang Mai Arr**	**82.30**	**294**	P	**P**	**18 08 56.1**	**+1.2**
	comp=Z,2.9nm,0.8s,baz=135,slow=4.1,SNR=14						
KMI	**Kunming**	**82.34**	**301**	P	**P**	**18 08 55.5**	**+0.2**
KMI				pP	PcP	18 09 03.0	+2.6

Y14A	**Wickenburg**	**91.00**	**53**	*e*P		**P**	18 09 37.0	**-0.3**
	comp=Z,42nm,1.4s								
BMN	**Battle Mountai**	**91.09**	**46**	*e*P		**P**	18 09 37.6	**0.0**
	comp=Z,16nm,1.4s								
WVOR	**Wild Horse Val**	**91.16**	**44**	*e*P		**P**	18 09 38.1	**+0.2**
	comp=Z,9.2nm,1.1s								
R11A	**Troy Canyon, C**	**91.19**	**49**	P		**P**	18 09 37.4	**-0.8**
	baz=241								
R11A	**Troy Canyon, C**	**91.19**	**49**	*e*P		**P**	18 09 37.3	**-0.9**
	comp=Z,4.6nm,1.2s								
SHL	**Shillong**	**91.29**	**297**	*e*P		**P**	18 09 39.5	**+0.6**
ULN	**Ulaanbaatar**	**91.31**	**322**	*e*P		**P**	18 09 38.9	**+0.4**
	comp=Z,4.6nm,0.9s								
GTA	**Gaotai**	**91.47**	**312**	P		**P**	18 09 38.5	**-0.9**
GTA				pP		PcP	18 09 46.0	+5.7
GTA				sP		pP	18 09 49.5	-3.8
GTA				SKS		**SKSac**	18 20 08.0	**-0.2**
GTA				S		**S**	18 20 35.3	**-0.2**
GTA				sS		pS	18 20 46.0	-7.4
GTA				pmax		pmax			
	comp=Z,150nm,6.5s								
SONM	**Songino Array**	**91.66**	**322**	P		**P**	18 09 39.7	**-0.3**
	comp=Z,0.5nm,0.4s,baz=225,slow=1.0,SNR=4.0								
SONA1	**Songino Array**	**91.66**	**322**	*e*P		**P**	18 09 39.8	**-0.3**
TUC	**Tucson**	**91.94**	**56**	P		**P**	18 09 41.5	**-0.2**
	baz=244								
TUC	**Tucson**	**91.94**	**56**	*e*P		**P**	18 09 41.9	**+0.2**
	comp=Z,12nm,1.4s								
LCMT	**Little Creek M**	**92.22**	**51**	*e*P		**P**	18 09 42.5	**-0.4**
	comp=Z,12nm,1.4s								
X16A	**Lo Mia Camp, P**	**92.37**	**54**	*e*P		**P**	18 09 43.4	**-0.4**
	comp=Z,7.2nm,1.2s								
CCUT	**Cedar City**	**92.38**	**50**	*e*P		**P**	18 09 43.0	**-0.7**
	comp=Z,12nm,1.4s								
KNB	**Kanab**	**92.52**	**51**	*e*P		**P**	18 09 44.1	**-0.2**
	comp=Z,35nm,1.9s								
U15A	**North Rim**	**92.64**	**51**	*e*P		**P**	18 09 44.2	**-0.8**
	comp=Z,9.7nm,0.8s								
319A	**Douglas**	**92.70**	**57**	*e*P		**P**	18 09 45.0	**-0.3**
	comp=Z,5.2nm,0.9s								
MDM	**Murphy Dome**	**92.81**	**16**	*e*P		**P**	18 09 46.4	**+1.6**
	comp=Z,27nm,1.8s								
DOT	**Dot Lake**	**92.89**	**18**	*e*P		**P**	18 09 47.4	**+2.2**
	comp=Z,11nm,0.9s								
WUAZ	**Wupatki**	**92.90**	**53**	P		**P**	18 09 45.8	**-0.4**
	baz=244								
WUAZ	**Wupatki**	**92.90**	**53**	*e*P		**P**	18 09 45.5	**-0.7**
	comp=Z,10nm,1.3s								
IL1	**Eielson Array**	**93.00**	**16**	*e*P		**P**	18 09 42.5	**-3.2**
ILAR	**Eielson Array**	**93.00**	**16**	P		**P**	18 09 42.6	**-3.1**
	comp=Z,0.6nm,0.8s,baz=238,slow=5.2,SNR=4.9								
ILAR				LR		LR	18 48 44.3		
	comp=Z,383nm,18.5s,baz=232,slow=34								
ILB	**Eielson Array**	**93.00**	**16**	*e*P		**P**	18 09 47.7	**+2.0**
X18A	**Snowflake**	**93.53**	**54**	*e*P		**P**	18 09 47.8	**-1.3**
	comp=Z,4.4nm,0.9s								
PLCA	**Paso Flores**	**94.12**	**137**	LR		LR	18 42 42.0		
	comp=Z,54nm,21.4s,baz=166,slow=30								
EGAK	**Eagle**	**94.58**	**18**	*e*P		**P**	18 09 56.1	**+3.1**
	comp=Z,7.6nm,0.9s								
MNTX	**Cornudas Mount**	**95.87**	**58**	P		**P**	18 09 58.3	**-1.4**
	baz=247								
MNTX	**Cornudas Mount**	**95.87**	**58**	*e*P		**P**	18 09 58.9	**-0.8**
	comp=Z,2.6nm,0.9s								
TX31	**Lajitas Ar. Si**	**96.31**	**61**	*e*P		**P**	18 10 01.9	**+0.1**
TXAR	**Lajitas Array**	**96.31**	**61**	P		**P**	18 10 00.8	**-1.0**
	comp=Z,1.5nm,1.1s,baz=180,slow=3.2,SNR=4.0								
TXAR				LR		LR	18 44 52.3		
	comp=Z,119nm,21.1s,baz=0.0,slow=30								
PDAR	**Pinedale Array**	**97.27**	**47**	LR		LR	18 49 19.0		
	comp=Z,263nm,18.3s,baz=268,slow=33								
WMQ	**Urumqi**	**101.55**	**313**	P		**Pdif**	18 10 26.5	**+1.6**
WMQ				LR		LR			
	comp=Z,310nm,5.0s								
WMQ				LR		LR			
	comp=Z,380nm,4.9s								
MKAR	**Makanchi Array**	**106.11**	**314**	PKKPbc		PKKPbc	18 26 18.1	-1.8	
	comp=Z,0.7nm,0.7s,baz=304,slow=2.8,SNR=5.0								
KSH	**Kashi**	**108.64**	**306**	*e*Pdif		**Pdif**	18 10 57.0	**+0.4**	
KSH				PP		**PP**	18 15 33.0	**+4.6**	
KSH				S		Sdif	18 23 00.0	-1.5	
KSH				SS		**SS**	18 30 45.8	**+3.4**	
KSH				AMB		AMB			
	comp=Z,61nm,4.2s								
KSH				LR		LR			
	comp=Z,79nm,8.9s								
KSH				LR		LR			
	comp=Z,93nm,8.3s								
KSH				LR		LR			
	comp=Z,160nm,16.4s								
AKTO	**Aktyubinsk**	**122.47**	**316**	PKP		**PKPdf**	18 15 25.1	**-2.6**	
	comp=Z,0.9nm,0.8s,baz=95,slow=14,SNR=2.5								
PTGA	**Pitinga**	**124.32**	**108**	PKP		**PKPdf**	18 15 29.7	**-2.8**	
	comp=Z,1.8nm,0.7s,baz=270,slow=20,SNR=3.4								
ARCES	**ARCESS Array B**	**129.25**	**345**	PKP		**PKPdf**	18 15 38.3	**-2.0**	
	comp=Z,1.0nm,0.8s,baz=46,slow=5.2,SNR=4.4								
KMBO	**Kilima Mbogo**	**129.85**	**248**	PKP		**PKPdf**	18 15 43.1	**-0.3**	
	comp=Z,0.6nm,0.3s,baz=191,slow=1.2,SNR=5.4								
VRI	**Vrinceioaia**	**143.72**	**318**	*i*P		**PKPdf**	18 16 09.0	**+1.3**	
BURAR	**Bucovina Array**	**143.77**	**321**	*i*P		**PKPdf**	18 16 13.2	**+5.4**	
MLR	**Muntele Rosu**	**144.38**	**318**	PKP		**PKPab**	18 16 05.8	**-1.4**	
	comp=Z,0.4nm,0.8s,baz=46,slow=16								
MLR	**Muntele Rosu**	**144.38**	**318**	↑*i*P		**PKPdf**	18 16 10.1	**+1.1**	
MLR	**Muntele Rosu**	**144.38**	**318**	*e*PKPdf		**PKPdf**	18 16 09.1	**+0.1**	
VOIR		**144.96**	**318**	↑*i*P		PKPbc	18 16 09.4	+0.1	
CRVS	**Cervenica-Dubn**	**145.12**	**325**	*e*PKP		**PKPbc**	18 16 08.1	**-1.5**	
DRGR		**145.65**	**321**	↑*i*P		**PKPbc**	18 16 11.4	**0.0**	
KECS	**Kecovo**	**145.89**	**325**	*e*PKP		**PKPdf**	18 16 10.2	**-1.1**	
LANS	**Liptovska Anna**	**145.98**	**327**	*e*PKP		**PKPbc**	18 16 12.2	**-0.1**	
DPC	**Dobruska-Polom**	**146.65**	**331**	*e*PKP		**PKPdf**	18 16 12.7	**+0.1**	
DPC				*ep*PKP		**PKiKP**	18 16 17.8	**+0.8**	
VYHS	**Vyhne**	**146.73**	**327**	*e*PKP		**PKPbc**	18 16 13.9	**-0.6**	
MDVR	**Moldovita**	**147.33**	**319**	*i*P		**PKPbc**	18 16 15.5	**-0.9**	
VTS	**Vitosha**	**147.46**	**315**	*i*P		**PKPbc**	18 16 16.8	**-0.1**	
PRU	**Pruhonice**	**147.69**	**332**	*e*PKP		**PKPab**	18 16 18.8	**-0.6**	
CONA	**Conrad Observa**	**148.58**	**328**	*i* pPKPdf		**PKPbc**	18 16 17.9	**-1.7**	
	comp=Z,5.3nm,1.1s								
KHC	**Kasperske Hory**	**148.75**	**332**	*e*PKP		**PKPbc**	18 16 18.3	**-1.7**	
KHC				*ep*PKP		**PKiKP**	18 16 21.9	**+0.5**	
KHC				*ex*		x	18 16 32.0		
GERES	**GERESS Array B**	**148.91**	**332**	PKPbc		**PKPbc**	18 16 19.7	**-0.8**	
	comp=Z,1.1nm,0.8s,baz=86,slow=1.5,SNR=9.0								
GEA0	**GERESS Array S**	**148.91**	**332**	*e*PKPbc		**PKPbc**	18 16 19.9	**-0.6**	
ARSA	**Arzberg**	**149.22**	**328**	*i* pPKPbc		**PKPab**	18 16 23.6	**-2.2**	
	comp=Z,1.3nm,0.5s								
SOKA	**Soboth**	**149.85**	**327**	*e*PKPdf		**PKPdf**	18 16 17.1	**-1.0**	
	comp=Z,4.2nm,1.3s								
KBA	**Koelnbreinsper**	**150.38**	**330**	*i* PKiKP		**PKiKP**	18 16 25.5	**+0.5**	
	comp=Z,7.7nm,0.9s								
WATA	**Walderalm**	**150.98**	**332**	*i* pPKPbc		**PKPbc**	18 16 27.3	**+1.7**	
	comp=Z,1.9nm,0.5s								
ABTA	**Abfaltersbach**	**151.01**	**330**	*i* PKPbc		**PKPbc**	18 16 24.6	**-1.0**	
	comp=Z,5.7nm,1.0s								
WTTA	**Wattenberg**	**151.01**	**332**	*i* PKPbc		**PKPbc**	18 16 25.1	**-0.7**	
	comp=Z,7.4nm,1.3s								
MOTA	**Moosalm**	**151.18**	**332**	*es*PKPdf		**PKPbc**	18 16 23.9	**-2.1**	
	comp=Z,2.6nm,0.9s								
RETA	**Reutte**	**151.21**	**333**	*i* PKPab		**PKPab**	18 16 32.5	**-1.5**	
	comp=Z,3.2nm,1.0s								
FETA	**Feichten**	**151.59**	**332**	*i* PKiKP		**PKiKP**	18 16 28.0	**+0.5**	
	comp=Z,6.8nm,1.0s								
DAVA	**Damuels**	**151.74**	**334**	*i* pPKPab		**PKPab**	18 16 37.4	**+1.1**	
	comp=Z,9.2nm,1.4s								
LIC	**Lamto**	**163.15**	**190**	*e*PKIKP		**PKPdf**	18 16 37.5	**+1.5**	
	comp=Z,34nm,1.2s								
KIC	**Kosan Boka**	**163.23**	**191**	*e*PKIKP		**PKPdf**	18 16 37.4	**+1.3**	
	comp=Z,62nm,1.4s								
TIC	**Toumodi**	**163.56**	**191**	*e*PKIKP		**PKPdf**	18 16 37.5	**+1.1**	
TOA0	**Torodi Ar. Sit**	**166.58**	**225**	*e*PKPdf		**PKPdf**	18 16 38.3	**-0.6**	
TORD	**Torodi Ar. Bea**	**166.58**	**225**	PKP		**PKPdf**	18 16 37.9	**-1.0**	
	comp=Z,4.5nm,1.1s,baz=303,slow=0.8,SNR=12								

*CSEM **28** 17:57:34.4±0.7,51.44N×16.18E, h1km, ML2.7/6, Error ellipse: s-maj=9.7km s-min=5.3km az=15.0*
*WAR **28** 17:57:39.1,50.47N×16.15E, h1km*

PRU 28 17:57:37.7, 51.35N×16.15E, h0km, Poland

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KSP	**Ksiaz**	**0.52**	**170**	*e*Pg	Pg	17 57 46.5	-1.0
KSP				*e*Sg	Sg	17 57 54.6	+0.3
KSP	**Ksiaz**	**0.52**	**170**	*e*Pg	Pg	17 57 46.5	-1.1
KSP				*e*Sg	Sg	17 57 54.6	+0.4
KSP	**Ksiaz**	**0.52**	**170**	*e*Pg	Pg	17 57 46.5	-1.1
KSP				*e*Sg	Sg	17 57 54.6	+0.4
UPC	**Upice**	**0.85**	**186**	*e*PG	Pg	17 57 52.8	-1.1
UPC				*e*SG	Sg	17 58 05.5	+0.6
	comp=Z,8.6nm,0.3s						
UPC	**Upice**	**0.85**	**186**	Pg	Pg	17 57 52.8	-1.1
UPC				Sg	Sg	17 58 05.5	+0.6
	8.6nm,0.3s						
DPC	**Dobruska-Polom**	**1.01**	**174**	*e*PG	Pg	17 57 56.5	-0.5
DPC				*e*SG	Sg	17 58 09.9	-0.1
	comp=Z,5.9nm,0.3s						
DPC	**Dobruska-Polom**	**1.01**	**174**	Pg	Pg	17 57 56.5	-0.5
DPC				Sg	Sg	17 58 09.9	-0.1
	5.9nm,0.3s						
PVCC	**Panska Ves**	**1.29**	**231**	*e*PG	Pg	17 58 01.2	-1.3
PVCC				*e*SG	Sg	17 58 19.2	-0.1
	comp=Z,14nm,0.2s						
PVCC	**Panska Ves**	**1.29**	**231**	Pg	Pg	17 58 01.2	-1.3
PVCC				Sg	Sg	17 58 19.2	-0.1
	14nm,0.2s						
KRLC	**Kraliky**	**1.34**	**162**	*e*PG	Pg	17 58 01.7	-1.6
KRLC				*e*SG	Sg	17 58 20.2	-0.4
KRLC	**Kraliky**	**1.34**	**162**	Pg	Pg	17 58 01.7	-1.6
KRLC				Sg	Sg	17 58 20.2	-0.4
BRG	**Berggiesshubel**	**1.47**	**252**	PG	Pn	17 58 03.5	-2.0
BRG				SG	Sg	17 58 23.4	-1.5
	5.6nm,0.3s						
GOPC	**GO Pecny, Ondr**	**1.68**	**212**	*e*PG	Pn	17 58 08.0	-0.3
GOPC				*e*SG	Sb	17 58 30.9	-0.3
GOPC	**GO Pecny, Ondr**	**1.68**	**212**	Pg	Pn	17 58 08.0	-0.3
GOPC				Sg	Sb	17 58 30.9	-0.3
PRU	**Pruhonice**	**1.71**	**218**	*e*SG	Sn	17 58 31.1	-0.1
	comp=Z,6.2nm,0.3s						
PRU	**Pruhonice**	**1.71**	**218**	Sg	Sn	17 58 31.1	-0.1
	6.2nm,0.3s						
MORC	**Moravsky Berou**	**1.81**	**150**	*e*PG	Pn	17 58 06.7	-3.4
MORC				*e*SG	Sn	17 58 34.0	+0.2
CLL	**Collm**	**1.98**	**270**	*e*PG	Pn	17 58 11.0	-1.4
CLL				*e*SG	Sn	17 58 38.0	+0.2
OKC	**Ostrava-Krasne**	**1.98**	**139**	*e*SG	Sg	17 58 40.7	-0.5
OKC	**Ostrava-Krasne**	**1.98**	**139**	Sg	Sg	17 58 40.7	-0.5
TREC	**Trest**	**2.10**	**192**	*e*PG	Pn	17 58 14.7	+0.6
TREC				*e*SG	Sb	17 58 43.5	+0.2
	comp=Z,2.9nm,0.2s						
TREC	**Trest**	**2.10**	**192**	Pg	Pn	17 58 14.7	+0.6
TREC				Sg	Sb	17 58 43.5	+0.2
	2.9nm,0.2s						
NKC	**Novy Kostel**	**2.60**	**246**	*e*PG	Pb	17 58 25.7	+0.5
NKC				*e*SG	Sg	17 58 59.9	-1.3
	comp=Z,4.6nm,0.3s						
NKC	**Novy Kostel**	**2.60**	**246**	Pg	Pb	17 58 25.7	+0.5
NKC				Sg	Sg	17 58 59.9	-1.3
	4.6nm,0.3s						
KHC	**Kasperske Hory**	**2.77**	**218**	*e*SN	Sn	17 58 56.9	-0.5
KHC				*e*SG	Sb	17 59 04.2	+1.7
KHC	**Kasperske Hory**	**2.77**	**218**	Sn	Sn	17 58 56.9	-0.5
KHC				Sg	Sb	17 59 04.2	+1.7

*IDC **28** 18:03:05.4±2.3,28.87S×176.16W, h0km, mb4.0/3, mb1 4.2/4, mb1mx3.8/21, mbtmp4.1/4, ML4.0/1, Error ellipse: s-maj=63.2km s-min=32.5km az=151.0*
*NEIC **28** 18:03:06.5±1.8,29.00S×176.05W, h10km, mb4.0/1, Error ellipse: s-maj=32.7km s-min=24.4km az=108.0*

ISC 28 18:03:10.7±1.9, 29.1S±0.2×176.1W±0.2, h38km, n7, σ1§04/8, mb3.9/4, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**1.62**	**265**	Pn	**Pn**	18 03 36.4	**-0.3**
	192nm,0.3s,baz=38,slow=17,SNR=4.2						
RAO				Sn	**Sn**	18 03 56.8	**+0.5**
	269nm,0.3s,baz=104,slow=23,SNR=7.3						
URZ	**Urewera**	**10.73**	**210**	Pn	**Pn**	18 05 41.7	**-0.1**
	1.1nm,0.3s,baz=41,slow=20,SNR=6.7						
URZ				Sn	Sn	18 07 30.6	-10
	0.9nm,0.3s,baz=108,slow=20,SNR=3.9						
STKA	**Stephens Creek**	**36.41**	**255**	P	**P**	18 10 12.8	**+1.1**
	3.2nm,1.0s,baz=86,slow=10,SNR=2.9						
ASAR	**Alice Springs**	**44.87**	**265**	P	**P**	18 11 21.1	**-0.6**
	0.7nm,0.6s,baz=103,slow=7.0,SNR=19						
WRAB	**Tennant Creek**	**45.74**	**270**	*e*P	**P**	18 11 28.3	**-0.3**
	0.9nm,0.6s						
WRA	**Warramunga Arr**	**45.75**	**270**	P	**P**	18 11 26.9	**-1.8**
	1.1nm,0.6s,baz=107,slow=8.1,SNR=13						
AKASG	**Malin Array Be**	**151.25**	**326**	PKPbc	**PKPbc**	18 23 00.3	**+0.6**
	1.0nm,0.5s,baz=45,slow=3.2,SNR=4.6						

*ISK **28** 18:16:21.8, 39.74N×27.85E, h20km, MD2.8*
*ISCJB **28** 18:16:22.2±0.5, 39.79N±0.02×27.92E±0.03, h6km±3km, Error ellipse: s-maj=3.5km s-min=3.5km az=165.5*
*CSEM **28** 18:16:22.5±0.2, 39.78N×27.86E, h15km, MD2.8, Error ellipse: s-maj=4.2km s-min=4.1km az=85.0*
*DDA **28** 18:16:22.6, 39.76N×27.86E, h7km, Md2.9*
*ATH **28** 18:16:24.6, 39.81N×27.74E, h8km±1km, ML2.0/3, Error ellipse: s-maj=3.4km s-min=1.6km az=276.0*

ISC 28 18:16:22.4±0.8, 39.78N±0.02×27.87E±0.02, h15km±5km, n70, σ0§59/92, Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BALB	**Balikesir**	**0.14**	**176**	*e*PG	**Pg**	18 16 26.2	**+0.1**
BALB				*e*SG	**Sg**	18 16 28.5	**-0.2**
BALB	**Balikesir**	**0.14**	**176**	*e*Pg	**Pg**	18 16 26.2	**+0.1**
BALB				*e*Sg	**Sg**	18 16 28.5	**-0.2**
BALY	**Balya**	**0.20**	**257**	*i* P	**Pg**	18 16 27.2	**+0.2**
BALY				*i* S	**Sg**	18 16 30.2	**+0.2**
BALY	**Balya**	**0.20**	**257**	P	**Pg**	18 16 27.2	**+0.2**
BALY				S	**Sg**	18 16 30.2	**+0.2**
KNL	**Bal¯–kesir**	**0.55**	**332**	*i* P	**Pg**	18 16 33.7	**+0.4**
KNL				*i* S	**Sb**	18 16 41.9	**+0.3**
KCTX	**Karacabey (Bur**	**0.61**	**38**	*e*PG	**Pb**	18 16 35.5	**+0.7**
KCTX	**Karacabey (Bur**	**0.61**	**38**	*e*Pg	**Pb**	18 16 35.5	**+0.7**
KRBG	**Karabiga-Canak**	**0.75**	**324**	*e*PG	**Pg**	18 16 37.2	**+0.2**
KRBG				*e*SG	**Sn**	18 16 48.7	**-0.9**
KRBG	**Karabiga-Canak**	**0.75**	**324**	*e*Pg	**Pg**	18 16 37.2	**+0.2**
MRMT	**Marmara Adasi**	**0.84**	**346**	*e*PG	**Pn**	18 16 39.6	**-0.3**
MRMT	**Marmara Adasi**	**0.84**	**346**	*e*Pg	**Pn**	18 16 39.6	**-0.3**
MDNY	**Mudanya-Bursa**	**0.97**	**53**	*e*PG	**Pg**	18 16 41.5	**+0.3**
MDNY	**Mudanya-Bursa**	**0.97**	**53**	*e*Pg	**Pg**	18 16 41.5	**+0.3**
DEMI	**Demirci**	**0.99**	**138**	*i* P	**Pb**	18 16 41.6	**+0.3**
DEMI				*i* S	**Sg**	18 16 54.6	**+0.2**
DEMI	**Demirci**	**0.99**	**138**	P	**Pb**	18 16 41.6	**+0.3**
DEMI				S	**Sg**	18 16 54.7	**+0.2**
AYVA	**Ayvalik**	**1.03**	**243**	*i* P	**Pn**	18 16 42.5	**+0.3**
AYVA				*i* S	**Sn**	18 16 56.2	**-0.2**
AYVA	**Ayvalik**	**1.03**	**243**	P	**Pn**	18 16 42.5	**+0.3**
AYVA				S	**Sn**	18 16 56.2	**-0.2**
DKL	**Dikili**	**1.03**	**227**	*e*PG	**Pb**	18 16 40.9	**-1.0**
DKL	**Dikili**	**1.03**	**227**	*e*Pg	**Pb**	18 16 40.9	**-1.0**
LPK	**Lapseki**	**1.03**	**305**	*e*PG	**Pb**	18 16 41.7	**-0.3**
LPK	**Lapseki**	**1.03**	**305**	*e*Pg	**Pb**	18 16 41.7	**-0.3**
ARMT	**Armutlu**	**1.09**	**44**	*e*PN	**Pb**	18 16 42.5	**-0.5**
ARMT	**Armutlu**	**1.09**	**44**	*e*Pn	**Pb**	18 16 42.5	**-0.5**
SBT3	**Marmara-Eregli**	**1.10**	**4**	*e*PN	**Pb**	18 16 43.0	**0.0**
IGD	**Bursa**	**1.13**	**64**	*i* P	**Pg**	18 16 44.5	**+0.3**
IGD				*i* S	**Sn**	18 16 59.2	**+0.2**
SBT5	**Esenkoy-Cinarc**	**1.15**	**42**	*e*PN	**Pn**	18 16 43.6	**-0.3**
EZN	**Ezine**	**1.19**	**273**	*e*PN	**Pn**	18 16 43.6	**-0.9**
EZN	**Ezine**	**1.19**	**273**	*e*Pn	**Pn**	18 16 43.6	**-0.9**
SBT2	**Guzelce-Avcila**	**1.20**	**24**	*e*PN	**Pn**	18 16 44.4	**-0.2**
TVSB	**Tavsanli**	**1.27**	**105**	*e*PN	**Pn**	18 16 45.4	**-0.4**
TVSB	**Tavsanli**	**1.27**	**105**	*e*Pn	**Pn**	18 16 45.4	**-0.4**
PRK	**Paraskevi**	**1.35**	**247**	P	**Pg**	18 16 49.7	**+1.4**
PRK				S	**Sg**	18 17 05.4	**-0.4**
PRK	**Paraskevi**	**1.35**	**247**	P	**Pg**	18 16 49.7	**+1.4**
PRK				S	**Sg**	18 17 05.4	**-0.4**
PRK				AML	AML	18 17 08.5	
	comp=E,109μm,0.4s						
PRK				AML	AML	18 17 13.1	
	comp=N,142μm,0.7s						
ERIK	**Erikli-Kesan**	**1.36**	**311**	*e*PN	**Pn**	18 16 46.5	**-0.4**
ERIK	**Erikli-Kesan**	**1.36**	**311**	*e*Pn	**Pn**	18 16 46.5	**-0.4**
KESN	**Edirne-Kesan**	**1.38**	**319**	*i* P	**Pg**	18 16 49.0	**0.0**
KESN				*i* S	**Sn**	18 17 05.7	**0.0**
KESN	**Edirne-Kesan**	**1.38**	**319**	P	**Pg**	18 16 49.0	**0.0**
KESN				S	**Sn**	18 17 05.7	**0.0**
MANT	**Manisa**	**1.40**	**157**	*i* P	**Pg**	18 16 49.3	**0.0**
MANT				*i* S	**Sb**	18 17 06.1	**0.0**
MANT	**Manisa**	**1.40**	**157**	P	**Pg**	18 16 49.3	**0.0**
MANT				S	**Sb**	18 17 06.1	**0.0**
BOZC	**Bozcaada**	**1.40**	**273**	*e*PN	**Pn**	18 16 46.5	**-0.9**
BOZC	**Bozcaada**	**1.40**	**273**	*e*Pn	**Pn**	18 16 46.5	**-0.9**
CTKS	**Kestanelik-??a**	**1.53**	**18**	*e*PN	**Pn**	18 16 49.4	**+0.2**
CTKS	**Kestanelik-??a**	**1.53**	**18**	*e*Pn	**Pn**	18 16 49.4	**+0.2**
GADA	**Gvkgeada**	**1.57**	**286**	*e*PN	**Pn**	18 16 48.9	**-0.8**
GADA	**Gvkgeada**	**1.57**	**286**	*e*Pn	**Pn**	18 16 48.9	**-0.8**
KAVV	**Kandilli-Istan**	**1.57**	**35**	*e*PN	**Pn**	18 16 50.0	**+0.2**
ISK	**Istanbul-Kandi**	**1.57**	**35**	*e*PN	**Pn**	18 16 49.4	**-0.3**
ISK	**Istanbul-Kandi**	**1.57**	**35**	*e*Pn	**Pn**	18 16 49.4	**-0.3**
ENEZ	**Enez**	**1.62**	**306**	*e*PN	**Pn**	18 16 50.2	**-0.2**
ENEZ	**Enez**	**1.62**	**306**	*e*Pn	**Pn**	18 16 50.2	**-0.2**
SIGR	**SIGRI**	**1.66**	**250**	*e*PN	**Pn**	18 16 50.5	**-0.5**
SIGR	**SIGRI**	**1.66**	**250**	*e*Pn	**Pn**	18 16 50.5	**-0.5**
SIGR	**SIGRI**	**1.66**	**250**	P	**Pb**	18 16 53.1	**+0.4**
SIGR				S	**Sg**	18 17 16.5	**+0.7**
SIGR	**SIGRI**	**1.66**	**250**	P	**Pb**	18 16 53.1	**+0.4**
SIGR				S	**Sg**	18 17 16.5	**+0.7**
ALN	**Alexandroupoli**	**1.78**	**309**	*e*PN	**Pn**	18 16 53.4	**+0.7**
ALN	**Alexandroupoli**	**1.78**	**309**	*e*Pn	**Pn**	18 16 53.4	**+0.7**
ALN	**Alexandroupoli**	**1.78**	**309**	P	**Pg**	18 16 55.9	**-0.7**
ALN	**Alexandroupoli**	**1.78**	**309**	P	**Pg**	18 16 55.9	**-0.7**
ALN				S	**Sg**	18 17 19.8	**+0.1**
ALN				AML	AML	18 17 20.0	
	comp=N,44μm,0.5s						
ALN				AML	AML	18 17 20.3	
	comp=E,44μm,0.3s						
AYDB	**Zeytinkoy-Aydi**	**1.83**	**179**	*e*PN	**Pn**	18 16 52.4	**-1.1**
AYDB	**Zeytinkoy-Aydi**	**1.83**	**179**	*e*Pn	**Pn**	18 16 52.4	**-1.1**
SMTH	**Samothraki Isl**	**1.92**	**292**	P	**Pb**	18 16 58.2	**+1.1**
SMTH	**Samothraki Isl**	**1.92**	**292**	P	**Pb**	18 16 58.2	**+1.1**
SMTH				S	**Sg**	18 17 23.4	**-0.7**
SMTH				AML	AML	18 17 24.9	
	comp=N,59μm,0.2s						
SMTH				AML	AML	18 17 25.6	
	comp=E,62μm,0.4s						
CHOS	**Chios island**	**1.98**	**226**	*e*PN	**Pn**	18 16 55.4	**-0.1**
CHOS	**Chios island**	**1.98**	**226**	*e*Pn	**Pn**	18 16 55.4	**-0.1**
CHOS	**Chios island**	**1.98**	**226**	P	**Pg**	18 17 00.7	**+0.3**
CHOS				S	**Sg**	18 17 25.5	**-0.8**
LIA	**Limnos Island**	**2.07**	**274**	P	**Pb**	18 17 00.6	**+0.9**
LIA	**Limnos Island**	**2.07**	**274**	P	**Pb**	18 17 00.6	**+0.9**
SMG	**Samos**	**2.22**	**202**	P	**Pg**	18 17 06.7	**+1.7**
RDO	**Rodhopi**	**2.24**	**308**	P	**Pb**	18 17 02.0	**-0.5**
RDO	**Rodhopi**	**2.24**	**308**	P	**Pb**	18 17 02.0	**-0.5**

**NNC 28 18:59:21.7±1.2, 39.05N×71.48E, h3km±7km, mb3.7, mpv3

Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**5.11**	**277**	Pn	**Pn**	**19 17 37.3**	**+0.1**
	3.8nm,0.3s,baz=107,slow=13,SNR=32						
DZM				Sn	**Sn**	**19 18 36.2**	**+1.2**
	3.6nm,0.3s,baz=143,slow=20,SNR=4.5						
DZM				LR	LR	19 19 16.1	
	comp=Z,671nm,18.9s,baz=100,slow=34						
DZM	**Mont Dzumac**	**5.11**	**277**	*e*Pn	**Pn**	**19 17 36.7**	**-0.5**
	84nm,0.6s						
DZM				*e*Sn	**Sn**	**19 18 33.9**	**-1.1**
	126nm,0.6s						
DZM				*e*LR	LR	19 18 44.0	
	855nm,24.9s						
DZM	**Mont Dzumac**	**5.11**	**277**	*e*Pn	**Pn**	**19 17 36.1**	**-1.0**
	29nm,0.4s						
DZM				Pn	Pn	19 17 37.3	+0.1
DZM				Sn	**Sn**	**19 18 36.2**	**+1.2**
MSVF	**Nonsavu**	**7.68**	**50**	*e*Pn	**Pn**	**19 18 13.4**	**+1.0**
	250nm,1.6s						
RAO	**Raoul Island**	**11.15**	**127**	LR	LR	19 22 22.9	
	comp=Z,585nm,19.7s,baz=324,slow=33						
URZ	**Urewera**	**16.01**	**165**	Pn	**Pn**	**19 20 04.9**	**-0.4**
	0.3nm,0.3s,baz=346,slow=8.3,SNR=3.8						
URZ				LR	LR	19 25 07.5	
	comp=Z,639nm,20.3s,baz=354,slow=33						
AFI	**Afiamalu**	**17.83**	**63**	LR	LR	19 26 12.2	
	comp=Z,350nm,19.8s,baz=112,slow=34						
EIDS	**Eidsvold**	**19.18**	**258**	*e*P	**Pn**	**19 20 45.0**	**+0.5**
	11nm,0.9s						
CTA	**Charters Tower**	**24.02**	**272**	P	**P**	**19 21 34.9**	**+0.5**
	2.8nm,0.7s,baz=93,slow=12,SNR=3.3						
CTAO	**Charters Tower**	**24.02**	**272**	*e*P	**P**	**19 21 35.2**	**+0.9**
STKA	**Stephens Creek**	**28.32**	**245**	P	**P**	**19 22 14.4**	**+1.4**
	3.8nm,0.8s,baz=94,slow=4.5,SNR=2.8						
STKA				LR	LR	19 34 11.0	
	comp=Z,268nm,18.4s,baz=66,slow=38						
ASAR	**Alice Springs**	**34.86**	**261**	P	**P**	**19 23 10.2**	**-0.5**
	1.9nm,0.5s,baz=90,slow=8.3,SNR=52						
ASAR				LR	LR	19 36 30.0	
	comp=Z,103nm,19.2s,baz=98,slow=35						
WRAB	**Tennant Creek**	**35.03**	**268**	*e*P	**P**	**19 23 10.1**	**-2.1**
WRA	**Warramunga Arr**	**35.04**	**267**	P	**P**	**19 23 10.7**	**-1.5**
	1.3nm,0.4s,baz=95,slow=8.6,SNR=30						
WRA				LR	LR	19 38 03.1	
	comp=Z,338nm,18.9s,baz=95,slow=37						
PPT2	**Papeete2**	**36.45**	**89**	*e*LR	LR	19 33 03.0	
	79nm,23.6s						
PPT	**Papeete**	**36.45**	**89**	LR	LR	19 35 46.1	
	comp=Z,344nm,18.3s,baz=214,slow=32						
VNDA	**Vanda**	**54.96**	**183**	LR	LR	19 47 37.6	
	comp=Z,150nm,18.5s,baz=22,slow=34						
SBA	**Scott Base**	**55.13**	**181**	*e*P	**P**	**19 25 52.2**	**+1.4**
	13nm,1.3s						
MJAR	**Matsushiro Arr**	**67.08**	**331**	LR	LR	19 56 51.8	
	comp=Z,28nm,18.8s,baz=195,slow=36						
KSRS	**Korea Array**	**72.87**	**325**	P	**P**	**19 27 47.2**	**-0.5**
	0.8nm,0.8s,baz=126,slow=7.7,SNR=4.2						
KSRS				LR	LR	19 59 58.4	
	comp=Z,40nm,18.1s,baz=156,slow=36						
KSAR	**Wonju Array Be**	**72.88**	**325**	P	**P**	**19 27 47.2**	**-0.6**
MAW	**Mawson**	**76.05**	**202**	LR	LR	19 59 33.9	
	comp=Z,100nm,18.1s,baz=235,slow=34						
USRK	**Ussuriysk Ar.**	**76.06**	**332**	LR	LR	19 59 04.6	
	comp=Z,32nm,20.0s,baz=78,slow=34						
PETK	**Petropavlovsk-**	**76.62**	**351**	LR	LR	19 58 52.1	
	comp=Z,144nm,18.5s,baz=121,slow=33						
SYO	**Syowa Base**	**82.18**	**196**⇑	*e*P	**P**	**19 28 38.4**	**-0.9**
CMAR	**Chiang Mai Arr**	**82.23**	**294**	P	**P**	**19 28 42.0**	**+1.5**
	0.9nm,0.8s,baz=134,slow=4.0,SNR=5.5						
SONM	**Songino Array**	**91.58**	**322**	P	**P**	**19 29 25.9**	**+0.3**
	0.3nm,0.6s,baz=115,slow=6.5,SNR=2.8						
ILAR	**Eielson Array**	**92.93**	**16**	P	**P**	**19 29 30.1**	**-1.2**
	0.3nm,0.7s,baz=232,slow=5.6,SNR=2.9						
BOSA	**Boshof**	**119.59**	**214**	PKP	**PKPdf**	**19 35 08.8**	**-0.5**
	1.6nm,0.9s,baz=121,slow=5.9,SNR=3.0						
TORD	**Torodi Ar. Bea**	**166.61**	**226**	PKPab	**PKPab**	**19 37 25.4**	**-1.8**
	0.3nm,0.8s,baz=137,slow=2.8,SNR=3.1						

NIED ***28*** *19:18:00,37.˚40N×141.˚40E,h35km,Mw4.2 Best double couple: M₀2.59000×10¹⁵ NP1:φ₁₈58.00000°,δ9.00000°, λ-88.00000°. NP2:φ₂236.00000°,δ81.00000°, λ-90.00000°.*

ISCJB ***28*** *19:18:08.5±0.6,37.˚37N±0.˚03×141.˚43E±0.˚05,h36km±4km, mb4.5/42,MS3.4/6,Error ellipse: s-maj=6.8km s-min=4.2km az=18.7*

MOS ***28*** *19:18:09.0±1.3,37.˚45N×141.˚46E,h38km,mb4.8/31,Error ellipse: s-maj=9.0km s-min=6.0km az=96.9*

JMA ***28*** *19:18:10.4±0.1,37.˚41N×141.˚30E,h36km±1km,M4.3 JMA Felt III J1.*

NEIC ***28*** *19:18:10.9±0.8,37.˚42N×141.˚28E,h38km±7km,mb4.7/6, Error ellipse: s-maj=10.0km s-min=6.5km az=111.0*

NEIC Recorded [3 JMA] in Fukushima and Miyagi.

IDC ***28*** *19:18:10.7±0.6,37.˚39N×141.˚13E,h33km±3km,mb4.2/21, mb1 4.3/23,mb1mx4.1/50,mbtmp4.4/23,ML4.4/1,MS3.4/8, Ms1 3.4/8,ms1mx3.1/42,Error ellipse: s-maj=16.2km s-min=11.6km az=95.0*

ISC 28 19:18:10.4±0.5,37.˚40N±0.˚04×141.˚41E±0.˚05,h36km±4km, h37km:pP-P,n110,σ1$65/130,mb4.5/42,MS3.4/6,7C-3D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JFK	**Kawauchi**	**0.43**	**265**	P	**Pn**	**19 18 18.7**	**-1.2**
JFK				S	**Sn**	**19 18 24.4**	**-2.4**
ONAJ	**Iwakimizuishiy**	**0.57**	**239**	P	**Pn**	**19 18 20.9**	**-1.4**
ONAJ				S	**Sn**	**19 18 27.9**	**-2.5**
JMM	**Marumori**	**0.67**	**314**	P	**Pn**	**19 18 22.3**	**-1.2**
JMM				S	**Sn**	**19 18 30.6**	**-2.2**
JFT	**Otama**	**0.86**	**278**	P	**Pn**	**19 18 25.2**	**-0.9**
JFT				*e*S	**Sn**	**19 18 35.4**	**-2.1**
JHO	**Hitachi**	**1.04**	**221**	P	**Pn**	**19 18 27.1**	**-1.3**
JHO				S	**Sn**	**19 18 39.0**	**-2.7**
JIO	**Ouri**	**1.05**	**357**	P	**Pn**	**19 18 28.3**	**-0.3**
JIO				S	**Sn**	**19 18 41.2**	**-0.8**
JOU	**Okura**	**1.13**	**329**	P	**Pn**	**19 18 29.5**	**-0.2**
JOU				S	**Sn**	**19 18 43.5**	**-0.5**
JYS	**Shirataka**	**1.34**	**308**	P	**Pn**	**19 18 32.7**	**+0.1**
JYS				*e*S	**Sn**	**19 18 48.3**	**-0.9**
JFY	**Yanaizu**	**1.36**	**271**	P	**Pn**	**19 18 32.6**	**-0.3**
JFY				S	**Sn**	**19 18 49.1**	**-0.5**
MJAR	**Matsushiro Arr**	**2.70**	**252**	Pn	**Pn**	**19 18 52.4**	**+1.0**
	8.5nm,0.3s,baz=82,slow=16,SNR=52						
MJAR				Sn	**Sn**	**19 19 27.0**	**+4.2**
	36nm,0.3s,baz=68,slow=20,SNR=9.8						
MAJO	**Matsushiro**	**2.71**	**252**	*c i*P	**Pn**	**19 18 52.4**	**+1.0**
MAJO	**Matsushiro**	**2.71**	**252**	*e*Pn	**Pn**	**19 18 52.3**	**+0.9**
MAT	**Matsushiro**	**2.71**	**252**	P	**Pn**	**19 18 52.4**	**+1.0**
MAT				S	**Sn**	**19 19 26.3**	**+3.4**
JHJ2	**Mitsune**	**4.47**	**197**	*e*Pn	**Pn**	**19 19 14.1**	**-1.6**
JHJ	**Hachijo jima 2**	**4.48**	**198**	Pn	**Pn**	**19 19 14.3**	**-1.4**
	59nm,0.3s,baz=148,slow=24,SNR=7.8						
JHJ				Sn	**Sn**	**19 20 05.4**	**-1.1**
	71nm,0.3s,baz=246,slow=20,SNR=4.5						
ERM	**Erimo**	**4.80**	**16**	*e*P	**Pn**	**19 19 20.2**	**+0.1**
ERM	**Erimo**	**4.80**	**16**	*e*Pn	**Pn**	**19 19 20.2**	**+0.1**
ASAJ	**Asahikawa**	**6.77**	**7**	Pn	**Pn**	**19 19 47.2**	**0.0**
	baz=270,slow=20						
ASAJ				Sn	**Sn**	**19 21 05.8**	**+3.0**
	baz=82,slow=18						
ASAJ	**Asahikawa**	**6.77**	**7**	*e*Pn	**Pn**	**19 19 46.8**	**-0.3**
	6.6nm,0.5s						
ASAJ				Sn	**Sn**	**19 21 05.8**	**+3.0**
YUK	**Yuzh-Kuril'sk**	**7.44**	**26**	*e*P	**Pn**	**19 19 55.3**	**-1.0**
YUK				*e*S	**Sn**	**19 21 15.9**	**-3.4**
YUK				pmax	pmax		
	comp=Z,114nm,0.2s						
YUK				pmax	pmax		
	comp=E,109nm,0.7s						
YUK				smax	smax		
	comp=N,285nm,0.3s						
YUK				smax	smax		
	comp=E,122nm,0.4s						
SHO	**Shikotan**	**7.66**	**31**	*i* P	**Pn**	**19 19 57.2**	**-2.2**
SHO				*e*S	**Sn**	**19 21 18.3**	**-6.5**
SHO				pmax	pmax		
	comp=Z,36nm,0.5s						
SHO				smax	smax		
	comp=N,151nm,0.6s						
SHO				smax	smax		
	comp=E,77nm,0.4s						
KUR	**Kuril'sk**	**9.21**	**30**	*c i*P	**Pn**	**19 20 20.0**	**-0.5**
KUR				*e*S	**Sn**	**19 21 58.2**	**-4.6**
KUR				pmax	pmax		
	comp=Z,27nm,0.5s						
KUR				smax	smax		
	comp=N,36nm,0.2s						
KUR				smax	smax		
	comp=E,10.0nm,0.4s						
YSS	**Yuzh-Sakhalins**	**9.60**	**6**	*e*P	**Pn**	**19 20 29.8**	**+3.9**
USRK	**Ussuriysk Ar.**	**9.85**	**317**	Pn	**Pn**	**19 20 30.3**	**+0.9**
	comp=E,0.5nm,0.3s,baz=40,slow=27,SNR=10						
USRK				LR	LR	19 23 55.5	
	comp=E,245nm,19.9s,baz=134,slow=36						
KSRS	**Korea Array**	**10.73**	**274**	Pn	Pn	19 20 45.6	+4.2
	comp=E,0.3nm,0.3s,baz=106,slow=16,SNR=4.0						
KSRS				LR	LR	19 24 43.6	
	comp=E,107nm,18.4s,baz=96,slow=37						
KSAR	**Wonju Array Be**	**10.76**	**274**	P	**Pn**	**19 20 45.6**	**+3.7**
KSAR	**Wonju Array Be**	**10.76**	**274**	Pn	**Pn**	**19 20 45.6**	**+3.7**
MA2	**Magadan**	**22.99**	**12**	P	**P**	**19 23 11.8**	**+0.1**
	comp=E,16nm,0.7s,baz=186,slow=6.9,SNR=6.2						
MA2				LR	LR	19 31 21.2	
	comp=E,70nm,21.0s,baz=263,slow=34						
GUMO	**Guam**	**23.92**	**172**	LR	LR	19 35 39.7	
	comp=E,38nm,18.1s,baz=0.0,slow=44						
YAK	**Yakutsk**	**25.71**	**347**	P	**P**	**19 23 36.4**	**-0.6**
	comp=E,8.6nm,0.3s,baz=4.9,slow=2.2,SNR=8.1						
YAK	**Yakutsk**	**25.71**	**347**	*e*P	**P**	**19 23 36.3**	**-0.6**
YAK				pmax	pmax		
	comp=Z,15nm,0.8s						
YAK	**Yakutsk**	**25.71**	**347**	*e*P	**P**	**19 23 36.3**	**-0.6**
	comp=Z,11nm,0.4s						
SEY	**Seymchan**	**26.43**	**11**	P	**P**	**19 23 45.4**	**+2.0**
	comp=Z,12nm,0.9s,baz=190,slow=8.6,SNR=18						
ULN	**Ulaanbaatar**	**27.15**	**304**	*c e*P	**P**	**19 23 49.4**	**-0.9**
ULN				pmax	pmax		
	comp=Z,3.0nm,0.8s						
ULN	**Ulaanbaatar**	**27.15**	**304**	*e*P	**P**	**19 23 49.2**	**-1.1**
	comp=Z,3.0nm,0.8s						
BOD	**Bodaibo**	**27.22**	**327**	*e*P	**P**	**19 23 49.6**	**-1.0**
BOD				pmax	pmax		
	comp=Z,7.0nm,0.8s						
SONM	**Songino Array**	**27.58**	**303**	P	**P**	**19 23 52.9**	**-1.2**
	comp=Z,4.5nm,0.8s,baz=105,slow=11,SNR=22						
SONM				LR	LR	19 35 42.5	
	comp=Z,60nm,19.0s,baz=76,slow=38						
H11N2	**WAKE ISLAND Hy**	**28.34**	**121**	T	T	19 54 07.4	
	baz=314,slow=75,SNR=1794						
H11N1	**WAKE ISLAND Hy**	**28.35**	**121**	T	T	19 53 59.8	
	baz=314,slow=75,SNR=2074						
H11N3	**WAKE ISLAND Hy**	**28.36**	**121**	T	T	19 54 08.7	
	baz=314,slow=75,SNR=1948						
H11S1	**WAKE ISLAND Hy**	**29.06**	**123**	T	T	19 55 05.4	
	baz=319,slow=74						
H11S3	**WAKE ISLAND Hy**	**29.06**	**123**	T	T	19 55 16.7	
	baz=319,slow=74						
H11S2	**WAKE ISLAND Hy**	**29.08**	**123**	T	T	19 55 21.4	
	baz=319						
GTA	**Gaotai**	**32.45**	**287**	*e*P	**P**	**19 24 36.0**	**-1.3**
GTA				pP	pP	19 24 39.5	-8.2
GTA				sP	sP	19 24 42.0	-10
GTA				pmax	pmax		
	comp=Z,4.0nm,1.0s						
DGZ	**Jazzator, Alta**	**40.17**	**306**	*i* P	**P**	**19 25 43.3**	**+0.2**
DGZ				pmax	pmax		
	comp=Z,8.0nm,0.8s						
ZALV	**Zalesovo Beam**	**41.66**	**312**	P	**P**	**19 25 54.9**	**-0.2**
	comp=Z,8.0nm,0.6s,baz=86,slow=6.7,SNR=45						
NVS	**Novosibirsk**	**42.58**	**313**	*e*P	**P**	**19 26 01.4**	**-1.2**
MKAR	**Makanchi Array**	**43.92**	**302**	P	**P**	**19 26 13.6**	**0.0**
	comp=Z,6.8nm,0.7s,baz=88,slow=9.8,SNR=71						
KURK	**Kurchatov**	**45.70**	**308**	*e*P	**P**	**19 26 27.0**	**-0.6**
KURK				pmax	pmax		
	comp=Z,173nm,0.9s						
KURK	**Kurchatov**	**45.70**	**308**	*e*P	**P**	**19 26 26.9**	**-0.6**
	comp=Z,173nm,0.9s						
PDGK	**Podgornoye**	**46.60**	**298**	P	**P**	**19 26 34.8**	**-0.2**
PDGK				pmax	pmax		
	comp=Z,7.0nm,1.2s						
ILAR	**Eielson Array**	**49.19**	**33**	P	**P**	**19 26 56.0**	**+1.5**
	comp=Z,1.1nm,0.6s,baz=266,slow=5.7,SNR=12						
ILAR				pP	**pP**	**19 27 06.0**	**+0.7**
	comp=Z,2.4nm,0.6s,baz=262,slow=5.8,SNR=12						
KSH	**Kashi**	**50.25**	**294**	*e*P	P	19 27 08.0	+4.8
KSH				pP	pP	19 27 12.0	-2.0
KSH				pmax	pmax		
	comp=Z,2.0nm,0.5s						
KSH				pmax	pmax		
	comp=Z,27nm,3.8s						
AAK	**Ala-Archa**	**50.31**	**298**	LR	LR	19 48 32.3	
	comp=Z,107nm,19.3s,baz=25,slow=36						
BRVK	**Borovoye**	**50.38**	**312**	*e*P	**P**	**19 27 03.5**	**-0.2**
BRVK				pmax	pmax		
	comp=Z,21nm,2.4s						
BRVK	**Borovoye**	**50.38**	**312**	*e*P	**P**	**19 27 03.2**	**-0.6**
MNAS	**Manas**	**51.76**	**299**	P	**P**	**19 27 15.6**	**+1.2**
MNAS				pmax	pmax		
	comp=Z,5.0nm,0.8s						
KKAR	**Karatay Array**	**52.94**	**300**	*e*P	**P**	**19 27 22.3**	**-0.8**
KKAR	**Karatay Array**	**52.94**	**300**	*e*P	**P**	**19 27 22.3**	**-0.8**
INK	**Inuvik**	**54.06**	**27**	P	**P**	**19 27 32.3**	**+1.5**
	comp=Z,1.3nm,0.5s,baz=292,slow=9.2,SNR=5.7						
INK				pP	**pP**	**19 27 42.8**	**+1.1**
	comp=Z,1.9nm,0.6s,baz=307,slow=3.3,SNR=3.5						
SVE	**Sverdlovsk**	**54.87**	**318**	*e*P	**P**	**19 27 36.9**	**0.0**
SVE				pmax	pmax		
	comp=Z,10.0nm,0.8s						
ARU	**Arti**	**56.08**	**318**	*c i*P	**P**	**19 27 45.2**	**-0.4**
ARU						19 28 41.1	
ARU						19 29 47.9	
ARU				S	**S**	**19 35 29.9**	**-1.7**
ARU				SS	**SS**	**19 39 11.3**	**-6.3**
ARU				pmax	pmax		
	comp=Z,7.0nm,0.8s						
ARU	**Arti**	**56.08**	**318**	*e*P	**P**	**19 27 45.3**	**-0.3**
	comp=Z,8.6nm,0.8s						
WRAB	**Tennant Creek**	**57.41**	**188**	*e*P	**P**	**19 27 55.3**	**-0.1**
WRAB	**Tennant Creek**	**57.41**	**188**	*e*P	**P**	**19 27 55.3**	**-0.1**
WRA	**Warramunga Arr**	**57.42**	**188**	P	**P**	**19 27 55.4**	**-0.1**
	comp=Z,2.6nm,0.6s,baz=6.4,slow=7.5,SNR=37						
ABKAR	**Akbulak array**	**57.70**	**310**	*e*P	**P**	**19 27 56.5**	**-0.6**
	comp=Z,2.3nm,0.5s						
ASAR	**Alice Springs**	**61.15**	**188**	P	**P**	**19 28 21.8**	**+0.5**
	comp=Z,1.0nm,0.4s,baz=360,slow=5.8,SNR=27						
KLMR	**Klimovskoe**	**63.44**	**328**	*e*P	**P**	**19 28 34.4**	**-1.7**
KLMR				pmax	pmax		
	comp=Z,12nm,1.4s						
YKA	**Yellowknife Ar**	**63.49**	**30**	P	**P**	**19 28 38.4**	**+2.0**
	comp=Z,0.9nm,0.8s,baz=305,slow=6.7,SNR=2.6						
YKA				pP	**pP**	**19 28 48.2**	**+0.7**
	comp=Z,2.0nm,0.8s,baz=305,slow=7.2,SNR=4.7						
ARCES	**ARCESS Array B**	**63.65**	**339**	P	**P**	**19 28 37.6**	**+0.2**
	comp=Z,2.4nm,0.7s,baz=57,slow=7.4,SNR=13						
ARCES				LR	LR	20 01 50.8	
	comp=Z,41nm,18.3s,baz=216,slow=41						
GEYT	**Alibeck**	**63.66**	**299**	P	**P**	**19 28 38.2**	**+0.2**
	comp=Z,3.0nm,0.8s,baz=46,slow=4.3,SNR=7.3						
OBN	**Obninsk**	**67.80**	**323**	*i* P	**P**	**19 29 03.5**	**-0.8**
OBN				*i*		19 29 31.6	
OBN				pmax	pmax		
	comp=Z,11nm,0.9s						
LPSR	**Galich'ya Gora**	**68.02**	**320**	*e*P	**P**	**19 29 04.9**	**-0.8**
LPSR				pmax	pmax		
	comp=Z,10.0nm,0.7s						
FINES	**FINESS Array B**	**68.49**	**332**	P	**P**	**19 29 08.4**	**-0.1**
	comp=Z,7.6nm,0.7s,baz=34,slow=8.4,SNR=46						
VSR	**Storozhevoye**	**68.65**	**319**	*e*P	**P**	**19 29 08.6**	**-1.1**
VSR				pmax	pmax		
	comp=Z,10.0nm,0.6s						
STKA	**Stephens Creek**	**68.92**	**180**	P	**P**	**19 29 12.0**	**+0.6**
	comp=Z,3.5nm,0.8s,baz=34,slow=3.6,SNR=2.8						
KBZ	**Khabaz**	**70.66**	**311**	P	**P**	**19 29 22.9**	**+0.6**
	comp=Z,3.6nm,0.7s,baz=79,slow=2.7,SNR=11						
KIV	**Kislovodsk**	**70.66**	**311**	*e*P	**P**	**19 29 22.5**	**+0.1**
KIV				pmax	pmax		
	comp=Z,16nm,1.1s						
KIV	**Kislovodsk**	**70.66**	**311**	*e*P	**P**	**19 29 22.4**	**0.0**
	comp=Z,11nm,0.9s						
NEY	**Neytrino**	**71.03**	**310**	‖*e*P	**P**	**19 29 25.6**	**+0.8**
NEY				pmax	pmax		
	comp=Z,1.0nm,0.7s						
NB2	**NORSAR Subarra**	**73.85**	**337**	P	**P**	**19 29 41.1**	**+0.1**
	comp=Z,2.9nm,0.6s,baz=38,slow=6.2						
NOA	**NORSAR Array B**	**73.85**	**337**	P	**P**	**19 29 41.2**	**+0.2**
	comp=Z,4.6nm,0.7s,baz=38,slow=6.0,SNR=18						
NOA				pP	**pP**	**19 29 51.5**	**-0.7**
	comp=Z,1.2nm,0.7s,baz=38,slow=6.1,SNR=2.4						
AKASG	**Malin Array Be**	**74.00**	**322**	P	**P**	**19 29 40.4**	**-1.7**
	comp=Z,3.7nm,0.5s,baz=46,slow=6.0,SNR=22						
AKASG				pP	**pP**	**19 29 52.0**	**-1.3**
	comp=Z,2.7nm,0.6s,baz=47,slow=6.0,SNR=5.0						
KIEV	**Kiev**	**74.02**	**322**	‖*e*P	**P**	**19 29 42.0**	**-0.1**
KIEV				pmax	pmax		
	comp=Z,28nm,2.6s						
KIEV	**Kiev**	**74.02**	**322**	*e*P	**P**	**19 29 40.2**	**-2.0**
	comp=Z,3.4nm,0.4s						
KWP	**Kalwaria Pacla**	**77.83**	**324**	P	**P**	**19 30 04.9**	**+1.0**
BURAR	**Bucovina Array**	**78.02**	**322**	‖*i*P	**P**	**19 30 06.1**	**+0.9**
BRTR	**Keskin Array B**	**78.61**	**311**	P	**P**	**19 30 08.0**	**-0.6**
	comp=Z,1.1nm,0.8s,baz=52,slow=6.4,SNR=5.6						
BRTR				pP	**pP**	**19 30 18.9**	**-0.9**
	comp=Z,1.3nm,0.9s,baz=90,slow=1.7,SNR=5.3						
BRTR	**Keskin Array B**	**78.61**	**311**	P	**P**	**19 30 08.0**	**-0.6**
BRTR				*PP	**pP**	**19 30 19.0**	**-0.9**
BRTR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
STHS	**Stebnicka Huta**	**78.66**	**325**	*e*P	**P**	**19 30 09.9**	**+1.4**
STHS				pmax	pmax		
	comp=Z,3.0nm,1.2s						
STHS	**Stebnicka Huta**	**78.66**	**325**	*e*P	**P**	**19 30 09.9**	**+1.4**
ARR	**Arges**	**79.86**	**320**	‖*i*P	**P**	**19 30 16.5**	**+1.3**
DPC	**Dobruska-Polom**	**80.14**	**328**	*e*P	**P**	**19 30 17.6**	**+0.9**
DPC				*e*pP	**pP**	**19 30 27.8**	**-0.2**
DPC	**Dobruska-Polom**	**80.14**	**328**	*e*P	**P**	**19 30 17.6**	**+0.9**
DPC				*e*		19 30 27.8	
CLL	**Collm**	**80.78**	**330**	*i* P	**P**	**19 30 20.4**	**+0.5**
CLL				*i*		19 30 30.6	
CLL				pmax	pmax		
	comp=Z,6.0nm,0.8s						
CLL	**Collm**	**80.78**	**330**	*i* P	**P**	**19 30 20.4**	**+0.5**
	comp=Z,6.0nm,0.8s						
CLL				*i* pP	**pP**	**19 30 30.6**	**-0.7**
PRU	**Pruhonice**	**81.17**	**328**	*e*P	**P**	**19 30 22.7**	**+0.6**
PRU	**Pruhonice**	**81.17**	**328**	*e*P	**P**	**19 30 22.7**	**+0.6**
TREC	**Trest**	**81.30**	**328**	*e*P	**P**	**19 30 23.4**	**+0.6**
TREC				*e*pP	**pP**	**19 30 34.3**	**+0.1**
TREC	**Trest**	**81.30**	**328**	*e*P	**P**	**19 30 23.4**	**+0.6**
TREC				*e*		19 30 34.3	
MDVR	**Moldovita**	**81.74**	**321**	‖*i*P	**P**	**19 30 25.9**	**+0.6**
KHC	**Kasperske Hory**	**82.23**	**328**	*e*P	**P**	**19 30 28.6**	**+0.9**
KHC				*e*pP	**pP**	**19 30 37.7**	**-1.4**
KHC	**Kasperske Hory**	**82.23**	**328**	*e*P	**P**	**19 30 28.6**	**+0.9**
KHC				*e*		19 30 37.7	
GERES	**GERESS Array B**	**82.40**	**328**	P	**P**	**19 30 28.9**	**+0.2**
	comp=Z,1.0nm,0.6s,baz=40,slow=6.9,SNR=7.4						
GERES				pP	**pP**	**19 30 39.1**	**-1.0**
	comp=Z,0.9nm,0.5s,baz=38,slow=6.2,SNR=5.2						
ANMO	**Albuquerque**	**84.35**	**50**	*c e*P	**P**	**19 30 42.8**	**+3.6**
ANMO				pmax	pmax		
	comp=Z,2.0nm,1.7s						
PPT	**Papeete**	**84.80**	**117**	LR	LR	19 59 37.4	
	comp=Z,32nm,21.9s,baz=186,slow=29						
TXAR	**Lajitas Array**	**89.90**	**52**	P	**P**	**19 31 07.6**	**+1.6**
	comp=Z,0.2nm,0.5s,baz=316,slow=3.8,SNR=2.1						
TXAR				pP	**pP**	**19 31 18.4**	**+0.9**
	comp=Z,0.6nm,0.6s,baz=292,slow=3.2,SNR=3.9						
H06E1	**SOCORRO T-PHAS**	**92.03**	**65**	T	T	21 13 24.3	
	SNR=9.3						
LPAZ	**La Paz**	**146.51**	**59**	PKPbc	**PKPbc**	**19 37 49.5**	**+0.5**
	comp=Z,0.8nm,0.6s,baz=38,slow=4.3,SNR=4.1						

JMA ***28*** *20:04:06.2±0.1,23.˚52N×122.˚26E,h41km*

TAP ***28*** *20:04:07.3,23.˚57N×122.˚19E,h15km±1km,ML2.7,D*

ISC 28 20:04:06.4±1.3,23.˚53N±0.˚04×122.˚26E±0.˚04,h28km±14km, n30,σ0$62/53,2C,Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ESL	**Shilin**	**0.81**	**290**	⇑P	**Pb**	**20 04 21.4**	**-0.6**
	baz=289						
ESL				S	**Sn**	**20 04 32.9**	**-0.2**
	baz=289						
TWD	**Chiawan**	**0.82**	**312**	P	**Pn**	**20 04 22.1**	**+0.1**
	baz=313						
TWD				S	**Sn**	**20 04 32.9**	**-0.4**
	baz=313						
EHY	**Hungye**	**0.86**	**268**	⇑P	**Pn**	**20 04 22.6**	**-0.1**
	baz=264						
EHY				S	**Sn**	**20 04 34.0**	**-0.4**
	baz=264						
ENA	**Nanau**	**1.01**	**332**	P	**Pb**	**20 04 25.6**	**+0.2**
	baz=334						
ENA				S	**Sb**	**20 04 38.8**	**+0.5**
	baz=334						
WHF	**Hehuan Shan**	**1.10**	**304**	P	**Pb**	**20 04 26.6**	**-0.5**
	baz=304						
WHF				*e*S	**Sb**	**20 04 41.0**	**-0.3**
	baz=304						
TWC	**Suao**	**1.14**	**341**	*e*P	**

baz=239
JKRS Kuro-shima 1.75 66 eS Sn 20 04 55.8 -0.3
JIJ Ishigaki jima 1.91 64 P Pn 20 04 37.3 +0.2
JIJ S Sn 20 04 59.0 -1.1
JISG Ishigakijimahi 2.15 60 P Pn 20 04 40.3 0.0
JISG eS Sn 20 05 06.0 0.0

MAN 28 20:06:46.9 47N×122.12E.h74km,mb4.1,ML2.9,MS2.6, 1D,Negros

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SNPH	Sibulan	1.11	96	iP	Pn	20 07 08.0	+1.8
SNPH				i S	Sn	20 07 23.7	+2.5
GUIM	Jordan	1.24	22	eP	Pn	20 07 09.6	+1.9
GUIM				eS	Sn	20 07 26.0	+1.9
PAGZ	Pagadian	2.04	142	eP	Pn	20 07 20.6	+2.3
PAGZ				eS	Sn	20 07 43.4	+0.5

*BJI **28** 20:13:09.9, 63.44N×150.80W, h125km, mb5.1/49, mB5.2/33*
*ISCJB **28** 20:13:12.2±0.1, 63.37N±0.01×150.73W±0.03, h135km±1km, mb4.8/189, Error ellipse: s-maj=2.6km s-min=1.9km az=34.8*
*MOS **28** 20:13:12.1±0.8, 63.40N×150.75W, h137km, mb5.0/86, Error ellipse: s-maj=10.5km s-min=4.0km az=94.3*
*NEIC **28** 20:13:13.6±0.0, 63.28N×150.60W, h136km, mb5.0/76, After AEIC.*
NEIC Felt at Anchorage, Eagle River, Fort Richardson, Girdwood, Palmer, Seward, Talkeetna and Wasilla.
*GCMT **28** 20:13:13.6±0.4, 63.44N×150.76W, h155km±5km, MW4.8/68, Moment Tensor Solution. s22,c24; s68,c89; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr=0.55±.16; Mθθ=0.50±.24; Mφφ=0.05±.23; Mrθ=1.29±.12; Mθφ=0.52±.18; Mφr=1.53±.10; Best double couple: M=2.12600×10^16 NP1:φ=220.00000°, δ=81.00000°, λ=-98.00000°. NP2: φ=83.00000°, δ=12.00000°, λ=-48.00000°. Principal axes: T 2.2320, Plg36.0000°, Azm317.0000°; N -0.2120, Plg8.0000°, Azm222.0000°; P -2.0200, Plg53.0000°, Azm120.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*IDC **28** 20:13:14.5±0.4, 63.44N×150.69W, h140km±2km, mb4.5/41, mb1 4.6/46, mb1mx4.5/63, mbtmp4.9/46, MS3.2/4, Ms1 3.3/4, ms1mx2.8/40 Error ellipse: s-maj=8.4km s-min=6.0km az=5.0*

ISC 28 20:13:13.9±0.3, 63°30N±0.03×150°66W±0.03, h141km±2km, h140km:pP-P,n915,σ1°14/995, mb4.9/193, 38C-14D, Central Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TRF	Thorofare Moun	0.23	47	P	Pn	20 13 32.6	-0.7
TRF				S	Sn	20 13 46.7	-1.4
KTH	Kantishna Hill	0.28	336	P	Pn	20 13 32.7	-0.6
KTH				S	Sn	20 13 46.7	-1.5
HUR	Hurricane	0.57	124	P	Pn	20 13 33.5	-1.0
CAST	Castle Rocks	0.65	281	P	Pn	20 13 34.3	-0.8
CAST				S	Sn	20 13 49.7	-1.5
PPLA	Purkeypile	0.80	241	P	Pn	20 13 35.6	-0.7
PPLA				S	Sn	20 13 53.1	-0.2
RND	Reindeer	0.82	82	P	Pn	20 13 35.4	-1.0
RND				S	Sn	20 13 51.7	-1.8
RND	Reindeer	0.82	82	P	Pn	20 13 35.4	-1.0
RND				S	Sn	20 13 51.7	-1.8
MCK	McKinley	0.89	60	P	Pn	20 13 36.1	-0.8
MCK				S	Sn	20 13 52.8	-1.5
MCK	McKinley	0.89	60	P	Pn	20 13 36.1	-0.8
MCK				S	Sn	20 13 52.8	-1.5
CUT	Chulitna	0.91	168	P	Pn	20 13 36.2	-0.9
CHUM	Lake Minchumin	0.94	309	P	Pn	20 13 36.6	-0.7
SKT	Skwentna	1.38	197	P	Pn	20 13 40.6	-0.9
SKT				S	Sn	20 14 02.5	0.0
DHY	Denali Highway	1.51	97	P	Pn	20 13 42.1	-0.9
DHY				S	Sn	20 14 04.0	-1.2
WRH	Wood River Hil	1.64	43	P	Pn	20 13 43.3	-0.9
WRH				S	Sn	20 14 05.2	-2.3
GHO	Glory Hole Cre	1.73	151	P	Pn	20 13 44.6	-0.8
GHO				S	Sn	20 14 09.1	-0.4
SUA	Susitna One	1.84	181	P	Pn	20 13 46.0	-0.7
SML	Sawmill	1.84	143	P	Pn	20 13 45.5	-1.2
SML				S	Sn	20 14 11.0	-0.7
SML	Sawmill	1.84	143	P	Pn	20 13 45.5	-1.2
SML				S	Sn	20 14 11.0	-0.7
CCB	Clear Creek Bu	1.85	42	P	Pn	20 13 45.7	-0.9
PMR	Palmer	1.85	157	P	Pn	20 13 45.5	-1.2
PMR	Palmer	1.85	157	P	Pn	20 13 45.5	-1.2
STLK	Strandline Lak	1.89	197	P	Pn	20 13 46.4	-0.8
MDM	Murphy Dome	1.98	32	P	Pn	20 13 47.4	-0.9
HDA	Harding Lake	1.99	54	P	Pn	20 13 47.2	-1.1
COLA	College	2.01	37	P	Pn	20 13 47.7	-0.8
COLA	College	2.01	37	P	Pn	20 13 47.7	-0.8
PS08	TAPS Pump Stn8	2.11	52	P	Pn	20 13 48.7	-1.0
SCM	Sheep Creek Mo	2.13	132	P	Pn	20 13 48.7	-1.4
SCM	Sheep Creek Mo	2.13	132	P	Pn	20 13 48.7	-1.4
FIB	Fire Island	2.15	174	P	Pn	20 13 50.1	-0.1
FIB	Fire Island	2.15	174	P	Pn	20 13 50.1	-0.1
KNK	Knik Glacier	2.15	150	P	Pn	20 13 49.2	-1.1
SPCP	Crater Peak Br	2.15	200	P	Pn	20 13 49.8	-0.7
SPNN	North Nagishla	2.16	207	P	Pn	20 13 49.9	-0.6
PS10	TAPS Pump St10	2.21	85	P	Pn	20 13 51.1	+0.1
SPWE	Spurr West	2.21	204	P	Pn	20 13 50.7	-0.4
SPCR	Spurr Chakacha	2.23	200	P	Pn	20 13 50.5	-0.8
ILAR	Eielson Array	2.23	47	P	Pn	20 13 50.0	-1.1
	62nm,0.3s,baz=228,slow=12,SNR=3364						
ILAR				S	Sn	20 14 18.5	-1.3
	108nm,0.3s,baz=220,slow=16,SNR=11						
ILB	Eielson Array	2.23	47	P	Pn	20 13 50.1	-1.1
CKL	Chakachamna La	2.25	201	P	Pn	20 13 51.0	-0.6
RC01	Rabbit Creek A	2.26	168	P	Pn	20 13 50.3	-1.3
PS09	TAPS Pump Stn9	2.28	72	P	Pn	20 13 51.5	-0.3
PAX	Paxson	2.38	96	P	Pn	20 13 52.4	-0.8
PAX	Paxson	2.38	96	P	Pn	20 13 52.4	-0.8
TTA	Tatalina	2.46	264	P	Pn	20 13 53.2	-0.9
TTA	Tatalina	2.46	264	P	Pn	20 13 53.2	-0.9
TT01	Tatalina	2.47	263	P	Pn	20 13 53.1	-1.0
PS06	TAPS Pump Stn6	2.60	8	P	Pn	20 13 55.3	-0.4
HARP	HAARP	2.68	107	P	Pn	20 13 56.0	-0.8
BGRM	Barrier Glacie	2.68	199	P	Pn	20 13 56.1	-0.7
PS11	TAPS Pump St11	2.69	115	P	Pn	20 13 56.6	-0.2
SLKM	Skilak Lake	2.81	176	P	Pn	20 13 57.4	-1.0
SLKM	Skilak Lake	2.81	176	P	Pn	20 13 57.4	-1.0
DFR	Drift River	2.88	200	P	Pn	20 13 58.8	-0.6
RDJH	Redoubt Jeurge	2.90	201	P	Pn	20 13 59.2	-0.5
JPK	Jack Peak	2.95	138	P	Pn	20 13 58.5	-1.7
GLI	Glacier Island	2.95	144	P	Pn	20 13 58.6	-1.6
VLZ	Valdez	2.97	135	P	Pn	20 13 58.6	-1.9
DOT	Dot Lake	2.98	80	P	Pn	20 13 59.4	-1.2
VMT	TAPS Tl Valdez	3.00	136	P	Pn	20 13 58.9	-1.9
RDWB	Redoubt West	3.00	201	P	Pn	20 14 00.6	-0.5
IM3	Indian Mountai	3.01	335	P	Pn	20 14 00.1	-0.7
RED	Redoubt Volcan	3.06	200	P	Pn	20 14 01.1	-0.6
DIV	Divide	3.16	131	P	Pn	20 14 01.0	-2.0
SVW2	Sparrevohn	3.19	228	P	Pn	20 14 02.5	-0.8
FID	Port Fidalgo	3.23	140	P	Pn	20 14 02.2	-1.6
SEW	Seward	3.26	169	P	Pn	20 14 03.0	-1.1
ILIM	Iliamna	3.41	200	P	Pn	20 14 05.7	-0.6
HIN	Hinchinbrook I	3.52	144	P	Pn	20 14 06.2	-1.4
PS05	TAPS Pump Stn5	3.53	0	P	Pn	20 14 07.5	-0.1
EYAK	Cordova Ski Ar	3.61	138	P	Pn	20 14 07.7	-0.9
BMRM	Bremner River	3.68	127	P	Pn	20 14 08.1	-1.6
CNPM	China Poot	3.79	184	P	Pn	20 14 10.5	-0.7
COLD	Coldfoot	3.95	3	P	Pn	20 14 12.7	-0.5
FYU	Fort Yukon	4.01	33	P	Pn	20 14 13.5	-0.5
BCA3	Beaver Creek A	4.03	89	P	Pn	20 14 12.7	-1.6
MCARA	McCarthy VSAT	4.05	115	P	Pn	20 14 13.9	-0.5
AUL	Augustine Lava	4.15	200	P	Pn	20 14 15.8	0.0
CRQM	Cirque	4.37	122	P	Pn	20 14 17.5	-1.4
PTPK	Patty Peak	4.38	115	P	Pn	20 14 18.2	-0.8
BERG	Berg Lake	4.40	128	P	Pn	20 14 17.6	-1.6
MID	Middleton Isla	4.40	150	P	Pn	20 14 18.8	-0.4
MID	Middleton Isla	4.40	150	P	Pn	20 14 18.8	-0.4
NICHA	Nichawak Mount	4.42	131	P	Pn	20 14 18.1	-1.3
EGAK	Eagle	4.43	66	P	Pn	20 14 18.2	-1.3
TGL	Tana Glacier	4.48	121	P	Pn	20 14 18.8	-1.6
KHIT	Khitrov Hills	4.53	126	P	Pn	20 14 19.2	-1.7
BVCY	Beaver Creek	4.58	97	P	Pn	20 14 20.7	-0.8
SUCK	Suckling Hills	4.61	132	P	Pn	20 14 20.7	-1.2
GRIN	Grindle Hills	4.62	128	P	Pn	20 14 21.1	-0.9
BARK	Barkley Ridge	4.84	123	P	Pn	20 14 24.0	-1.0
BM3	Burnt Mountain	4.85	29	P	Pn	20 14 24.2	-0.9
KULT	Kultieth River	4.86	125	P	Pn	20 14 23.9	-1.3
GRNC	Granite Creek	4.92	118	P	Pn	20 14 24.7	-1.6
BAGL	Bagley Icefiel	4.94	121	P	Pn	20 14 24.9	-1.2
CTGM	Chitina Glacie	4.96	114	P	Pn	20 14 25.9	-0.9
DAWY	Dawson	5.08	76	ePn	Pn	20 14 26.9	-1.3
	867nm,0.5s						
KAHC	Katmai Hardscr	5.12	206	P	Pn	20 14 27.9	-0.9
LOGH	Logan Glacier	5.18	114	P	Pn	20 14 28.5	-1.1
MESA	MESA	5.19	123	P	Pn	20 14 29.0	-0.8
KAWH	Katmai	5.33	204	P	Pn	20 14 30.8	-0.7
TABL	Table Mountain	5.34	118	P	Pn	20 14 30.3	-1.5
RKAV	Rock Avalanche	5.34	120	P	Pn	20 14 30.6	-1.2
TOLK	Toolik Lake Re	5.39	4	P	Pn	20 14 33.2	+1.0
	baz=185,SNR=108						
KVTA	Katmai Vly 10	5.43	207	P	Pn	20 14 32.7	-0.1
KAKN	Katmai Knife C	5.46	205	P	Pn	20 14 32.4	-0.9
KELA	Mount Kelaz	5.47	209	P	Pn	20 14 32.7	-0.7
KABU	Katmai Buttres	5.53	206	P	Pn	20 14 34.2	0.0
KABR	Katmai Barrier	5.60	204	P	Pn	20 14 34.5	-0.7
KDAK	Kodiak Island	5.61	191	P	Pn	20 14 32.4	-2.8
	27nm,0.3s,baz=27,slow=9.9,SNR=181						
KDAK				S	Sn	20 15 33.9	-4.8
	50nm,0.3s,baz=198,slow=20,SNR=17						
KDAK	Kodiak Island	5.61	191	P	Pn	20 14 33.5	-1.7
SAMH	Samovar Hills	5.67	120	P	Pn	20 14 35.3	-0.8
PCA	Pinnacle	5.90	118	P	Pn	20 14 38.5	-0.6
OHAK	Old Harbor	6.23	193	P	Pn	20 14 40.8	-2.8
BCPM	Bancas Point	6.23	118	P	Pn	20 14 42.4	-1.2
PLK1	Peulik 1	6.24	211	P	Pn	20 14 43.3	-0.4
PLK3	Peulik 3	6.27	209	P	Pn	20 14 43.2	-0.9
PNL	Peninsula	6.50	119	P	Pn	20 14 46.1	-1.1
DHAK	Deception Hill	7.34	119	P	Pn	20 14 57.8	-0.6
PLBC	Pleasant Camp	7.87	113	P	Pn	20 15 04.4	-1.0
WHY	Whitehorse	7.88	102	P	Pn	20 15 04.4	-1.4
SKAG	Skagway	8.30	111	P	Pn	20 15 10.2	-0.9
INK	Inuvik	8.63	47	P	Pn	20 15 12.9	-2.5
	3.2nm,0.3s,baz=247,slow=12,SNR=36						
INK				S	Sn	20 16 48.9	-2.2
	0.8nm,0.3s,baz=199,slow=18,SNR=2.8						
INK				LR	LR	20 18 48.2	
	comp=Z,58nm,20.6s,baz=324,slow=39						
INK	Inuvik	8.63	47	P	Pn	20 15 14.2	-1.2
BESE	Bessie Mountai	9.02	114	P	Pn	20 15 19.1	-1.8
DLBC	Dease Lake	11.15	106	P	Pn	20 15 49.4	+0.2
	1.1nm,0.3s,baz=307,slow=13,SNR=24						
WRAK	Wrangell Islan	11.47	119	ePn	Pn	20 15 53.5	+0.2
	54nm,0.4s						
H02N1	VAN INLET T-PH	13.80	128	P	Pn	20 16 24.6	+1.0
H02N1				S	Sn	20 18 50.4	-5.7
H02S1	DAWSON INLET T	13.87	128	P	Pn	20 16 25.1	+0.8
H02S1				S	Sn	20 18 51.1	-6.3
BBB	Bella Bella	16.29	123	P	P	20 16 55.1	+0.4
	1.7nm,0.3s,baz=319,slow=10.0,SNR=13						
YKA	Yellowknife Ar	16.32	77	P	Pn	20 16 53.8	-0.9
	2.0nm,0.3s,baz=210,slow=17,SNR=26						
YKA				PcP	PcP	20 21 42.5	+4.0
	0.2nm,0.3s,baz=309,slow=1.6,SNR=5.0						
YKA				ScP	ScP	20 24 59.9	+0.4
	0.1nm,0.3s,baz=285,slow=2.2,SNR=5.1						
ADK	Adak	17.88	242	eP	P	20 17 12.2	0.0
ADK				pmax	pmax		
	comp=Z,28nm,0.6s						
ADK	Adak	17.88	242	ePn	P	20 17 12.2	0.0
	comp=Z,28nm,0.6s						
PGC	Sidney	20.90	122	eP	P	20 17 46.6	+1.8
	comp=Z,80nm,1.0s						
A04D	Lummi Island	21.13	121	P	P	20 17 48.4	+1.0
	baz=324,SNR=7.4						
EDM	Edmonton	21.74	100	eP	P	20 17 54.5	+0.7
EDM				pmax	pmax		
	comp=Z,449nm,1.4s						
EDM	Edmonton	21.74	100	eP	P	20 17 54.5	+0.7
	comp=Z,449nm,1.4s						
B05A	Bryant	21.74	120	P	P	20 17 55.7	+1.9
	baz=324,SNR=5.5						
NLWA	Neilton Lookou	21.79	124	eP	P	20 17 56.1	+1.7
	comp=Z,79nm,1.3s						
RPW	Rockport	21.82	119	P	P	20 17 55.8	+1.0
PNT	Penticton	21.89	115	P	P	20 17 56.9	+1.4
PNT	Penticton	21.89	115	P	P	20 17 56.9	+1.4
RES	Resolute Bay	21.94	36	P	P	20 17 54.8	-0.8
	comp=Z,25nm,0.5s,baz=256,slow=9.0,SNR=15						
C06D	Leavenworth	22.49	119	P	P	20 18 02.9	+1.5
	baz=324						
WRW	Wenatchee Ridg	22.55	119	P	P	20 18 03.4	+1.3
ETW	Entiat	22.97	119	P	P	20 18 07.3	+1.2
F04D	Rainier, OR	23.21	125	P	P	20 18 09.1	+1.0
	baz=328						
MTMW	Mount Mitchell	23.55	124	P	P	20 18 13.3	+1.9
NEW	Newport	23.75	114	P	P	20 18 14.3	+1.3
	comp=Z,24nm,0.6s,baz=318,slow=7.6,SNR=18						
NEW	Newport	23.75	114	P	P	20 18 14.2	+1.3
	baz=322,SNR=7.5						
TRW	Toppenish Ridg	23.97	121	P	P	20 18 16.5	+1.5
HAWA	Hanford	24.28	120	eP	P	20 18 18.8	+1.0
	comp=Z,11nm,0.8s						
WALA	Waterton Lakes	24.49	108	eP	P	20 18 21.0	+1.2
	comp=Z,45nm,0.9s						
G05D	Wamic, OR	24.55	124	P	P	20 18 22.4	+2.0
	baz=328						
SEY	Seymchan	25.04	295	P	P	20 18 24.3	-0.3
	comp=Z,40nm,0.7s,baz=75,slow=7.7,SNR=94						
I03D	Drain, OR	25.14	128	P	P	20 18 27.5	+1.9
	baz=331,SNR=6.1						
IRO	Indian Ridge	25.26	126	P	P	20 18 28.5	+1.5
I05D	Terrebonne, OR	25.31	125	P	P	20 18 28.7	+1.4
	baz=329,SNR=6.6						
I04A	Tendick Farm,	25.39	127	P	P	20 18 29.1	+1.2
	baz=330,SNR=8.3						
FFC	Flin Flon	25.88	87	eP	P	20 18 31.3	-0.9
FFC				pmax	pmax		
	comp=Z,12nm,0.6s						
FFC	Flin Flon	25.88	87	eP	P	20 18 31.3	-0.9
	comp=Z,12nm,0.6s						
J04D	Umpqua Nationa	25.98	127	P	P	20 18 35.4	+1.9
	baz=331						
MSO	Missoula	26.20	112	P	P	20 18 36.2	+0.8
	baz=322,SNR=9.5						
HUMO	Hull Mountain	26.23	129	eP	P	20 18 37.8	+2.2
	comp=Z,84nm,0.8s						
J05D	Fort Rock, OR	26.26	126	P	P	20 18 37.8	+1.9
	baz=330,SNR=7.9						
L02D	Cave Junction,	26.40	130	P	P	20 18 39.2	+2.2
	baz=333						
BMO	Blue Mountains	26.43	119	eP	P	20 18 38.1	+0.7
BMO				pmax	pmax		
	comp=Z,22nm,1.0s						
BMO	Blue Mountains	26.43	119	eP	P	20 18 38.1	+0.7
	comp=Z,22nm,1.0s						
K04D	Chiloquin, OR	26.64	127	P	P	20 18 41.1	+1.8
	baz=331						
EGMT	Eagleton	27.07	105	P	P	20 18 44.0	+0.9
	baz=320						
EGMT	Eagleton	27.07	105	eP	P	20 18 44.1	+1.1
	comp=Z,50nm,1.0s						
M02C	Callahan	27.34	130	P	P	20 18 47.7	+2.2
	baz=333,SNR=8.2						
M04C	Macdoel	27.35	128	P	P	20 18 47.6	+2.0
	baz=332,SNR=6.1						
MA2	Magadan	27.40	289	P	P	20 18 46.2	+0.5
	comp=Z,23nm,0.8s,baz=87,slow=7.6,SNR=4.9						
MA2				LR	LR	20 30 01.0	
	comp=Z,49nm,19.9s,baz=114,slow=37						
N02D	Trinity Center	27.76	130	P	P	20 18 52.1	+2.8
	baz=333,SNR=25						
MOD	Modoc Plateau	27.80	126	eP	P	20 18 51.5	+1.9
	comp=Z,12nm,1.0s						
DLMT	Dillon	27.94	112	eP	P	20 18 52.0	+1.1
	comp=Z,24nm,1.1s						
WVOR	Wild Horse Val	27.96	123	eP	P	20 18 52.6	+1.5
WVOR				pmax	pmax		
	comp=Z,22nm,0.9s						
WVOR	Wild Horse Val	27.96	123	eP	P	20 18 52.6	+1.5
	comp=Z,22nm,0.9s						
BOZ	Bozeman (W)	28.16	110	P	P	20 18 54.1	+1.2
	baz=323,SNR=18						
BOZ	Bozeman (W)	28.16	110	eP	P	20 18 54.0	+1.2
BOZ				pmax	pmax		
	comp=Z,18nm,1.0s						
BOZ	Bozeman (W)	28.16	110	eP	P	20 18 54.0	+1.2
	comp=Z,18nm,1.0s						
MFID	Camas Ranch	28.21	118	eP	P	20 18 54.3	+1.0
	comp=Z,32nm,1.0s						
PETK	Petropavlovsk-	28.26	273	P	P	20 18 52.5	-0.9
	comp=Z,8.2nm,0.7s,baz=68,slow=14,SNR=8.4						
PETK	Petropavlovsk-	28.26	273	P	P	20 18 52.6	-0.9
PETK				pmax	pmax		
	comp=Z,9.0nm,0.8s						
HLID	Hailey	28.66	116	P	P	20 18 58.4	+1.1
	baz=326,SNR=20						
HLID	Hailey	28.66	116	eP	P	20 18 58.4	+1.1
	comp=Z,14nm,0.9s						
O03D	Paynes Creek	28.68	130	P	P	20 18 58.8	+1.4
	baz=333,SNR=19						
RLMT	Red Lodge	29.54	108	P	P	20 19 06.7	+1.5
	baz=323,SNR=33						
RLMT	Red Lodge	29.54	108	eP	P	20 19 06.6	+1.4
	comp=Z,60nm,1.1s						
TIXI	Tiksi	29.55	321	P	P	20 19 02.6	-2.1
	comp=Z,9.1nm,0.8s,baz=77,slow=6.3,SNR=4.7						
TIXI				PcP	PcP	20 22 05.4	-0.3
	comp=Z,4.9nm,0.6s,baz=158,slow=3.4,SNR=3.9						
TIXI	Tiksi	29.55	321	eP	P	20 19 03.7	-1.0
TIXI				pmax	pmax		
	comp=Z,6.0nm,0.7s						
H17A	Grant Village	29.57	111	P	P	20 19 08.7	+3.3
	baz=324						
H17A	Grant Village	29.57	111	eP	P	20 19 09.0	+3.5
	comp=Z,37nm,1.4s						
LAO	LASA Array	29.64	103	P	P	20 19 07.4	+1.6
	baz=320						
LAO	LASA Array	29.64	103	eP	P	20 19 07.5	+1.7
	comp=Z,30nm,0.8s						
FLWY	Flagg Ranch	29.77	111	eP	P	20 19 09.6	+2.4
	comp=Z,47nm,0.8s						
IMW	Indian Meadow	29.82	112	eP	P	20 19 10.1	+2.4
	comp=Z,34nm,0.7s						
MOOW	Moose Pond	30.02	112	eP	P	20 19 11.4	+2.0
	comp=Z,16nm,1.1s						
TPAW	Teton Pass	30.15	112	eP	P	20 19 12.8	+2.2
	comp=Z,17nm,0.7s						
LOHW	Long Hollow	30.19	112	eP	P	20 19 12.9	+2.0
	comp=Z,24nm,0.7s						
BMN	Battle Mountai	30.22	123	eP	P	20 19 12.6	+1.5
BMN				pmax	pmax		
	comp=Z,16nm,1.1s						
BMN	Battle Mountai	30.22	123	eP	P	20 19 12.6	+1.5
	comp=Z,16nm,1.1s						
REDW	Red Top Meadow	30.29	112	eP	P	20 19 14.0	+2.2
	comp=Z,27nm,1.1s						
BW06	Boulder Array	31.32	111	P	P	20 19 22.5	+1.7
	baz=325,SNR=55						
BW06	Boulder Array	31.32	111	eP	P	20 19 22.2	+1.3
	comp=Z,36nm,0.9s						
PDAR	Pinedale Array	31.32	111	P	P	20 19 22.6	+1.7
	comp=Z,25nm,0.7s,baz=316,slow=6.2,SNR=159						
PDAR				PcP	PcP	20 22 11.2	0.0
	comp=Z,1.8nm,0.5s,baz=104,slow=1.8,SNR=5.8						
PDAR				ScP	ScP	20 25 40.5	-0.2
	comp=Z,0.3nm,0.3s,baz=42,slow=1.5,SNR=4.1						
HWUT	Hardware Ranch	31.45	115	eP	P	20 19 23.2	+1.3
	comp=Z,14nm,1.0s						
ULM	Lac du Bonnet	31.65	88	P	P	20 19 23.8	+0.4
	comp=Z,18nm,0.7s,baz=305,slow=7.6,SNR=21						
ULM				PcP	PcP	20 22 11.5	-0.2
	comp=Z,4.5nm,0.5s,baz=278,slow=4.0,SNR=4.1						
MDND	Maddock	31.72	95	P	P	20 19 25.1	+1.0
	baz=318						
DUG	Dugway, Tooele	32.14	118	P	P	20 19 29.6	+1.6
	baz=329,SNR=25						
DUG	Dugway, Tooele	32.14	118	eP	P	20 19 29.3	+1.4
DUG				pmax	pmax		
	comp=Z,16nm,0.8s						
DUG	Dugway, Tooele	32.14	118	eP	P	20 19 29.3	+1.4
	comp=Z,16nm,0.8s						
B31A	Greenbush Farm	32.17	92	P	P	20 19 29.1	+1.1
	baz=317,SNR=7.6						
A32A	Rocking H Ranc	32.33	91	P	P	20 19 30.1	+0.7
	baz=317						
C31A	Landman Farms,	32.60	93	P	P	20 19 32.6	+0.9
	baz=318						
RSSD	Black Hills	32.61	104	P	P	20 19 33.2	+1.1
	baz=322						
RSSD	Black Hills	32.61	104	eP	P	20 19 33.0	+0.9
RSSD				pmax	pmax		
	comp=Z,32nm,0.6s						
RSSD	Black Hills	32.61	104	eP	P	20 19 33.0	+0.9
	comp=Z,32nm,0.6s						
R11A	Troy Canyon, C	32.66	123	P	P	20 19 34.1	+1.6
	baz=331,SNR=34						
R11A	Troy Canyon, C	32.66	123	eP	P	20 19 33.5	+1.0
	comp=Z,23nm,1.0s						
K22A	Casper	32.71	108	P	P	20 19 34.1	+1.2
	baz=324,SNR=8.2						
K22A	Casper	32.71	108	eP	P	20 19 34.0	+1.2
	comp=Z,31nm,0.9s						
A33A	Warroad	32.82	90	P	P	20 19 34.5	+1.0
	baz=317,SNR=7.7						
TIN	Tinemaha, Big	32.83	128	P	P	20 19 35.8	+1.9
	baz=334						
AGMN	Agassiz Nation	33.07	91	P	P	20 19 36.5	+0.7
	baz=318,SNR=7.2						
AGMN	Agassiz Nation	33.07	91	eP	P	20 19 36.5	+0.7
	comp=Z,10nm,0.6s						
C32A	Crookston	33.12	92	P	P	20 19 36.5	+0.3
	baz=318						
RCTC	Rector, Farmer	33.14	130	P	P	20 19 38.2	+1.7
	baz=335						
D31A	Mcclaflin, Tow	33.16	94	P	P	20 19 37.4	+0.8
	baz=319						
GRAC	Grapevine Rang	33.19	127	P	P	20 19 39.2	+2.2
	baz=333						
RWWY	Rawlins	33.20

YAK Yakutsk 34.41 305 *i* P P 20 19 46.3 -0.8
YAK pmax pmax
comp=Z,43nm,0.7s
LRMC Laurel Mtn Rad 34.43 128 P P 20 19 49.5 +1.7
baz=334,SNR=21
SHOC Shoshone, Teco 34.56 126 P P 20 19 50.9 +2.1
baz=333
SUSD Miller 34.61 98 P P 20 19 49.9 +0.8
baz=321
G32A Webster 34.63 96 P P 20 19 50.4 +1.1
baz=321
E34A Wadena 34.72 92 P P 20 19 51.0 +0.9
baz=319
F33A 5 Mile Ranch, 34.72 94 P P 20 19 50.8 +0.7
baz=320
H31A Wolsey 34.79 98 P P 20 19 51.5 +0.8
baz=321
D35A Remer 34.80 91 P P 20 19 51.5 +0.8
baz=319,SNR=17
C36A Pine Crest Far 34.84 89 P P 20 19 51.7 +0.6
baz=318,SNR=7.7
EDW2 Edwards Air Fo 34.86 129 P P 20 19 52.7 +1.3
baz=335
GSC Goldstone, Bar 34.91 127 P P 20 19 53.8 +2.0
baz=334,SNR=20
E35A Pequot Lakes 35.03 91 P P 20 19 53.6 +0.9
baz=319,SNR=10.0
TUQ Turquoise Moun 35.10 126 P P 20 19 55.9 +2.3
baz=334,SNR=7.4
I31A Royce, Wessing 35.12 98 P P 20 19 54.4 +0.9
baz=322
D36A Goodland 35.12 90 P P 20 19 54.1 +0.6
baz=319,SNR=14
G33A Ortonville 35.15 95 P P 20 19 54.4 +0.6
baz=320
C37A Embarrass 35.16 88 P P 20 19 54.3 +0.6
baz=318,SNR=8.6
H32A Carlson Farm, 35.24 97 P P 20 19 55.4 +0.8
baz=321
PV04 Paradox Valley 35.26 115 *e*P P 20 19 56.0 +1.0
EYMN Ely 35.30 87 P P 20 19 55.9 +0.9
baz=318,SNR=41
EYMN Ely 35.30 87 *e*P P 20 19 55.9 +0.9
comp=Z,66nm,0.7s
H33A Prehn Over Nor 35.41 96 P P 20 19 56.6 +0.6
baz=321
ISCO Idaho Springs 35.44 110 P P 20 19 58.3 +1.6
baz=327,SNR=11
ISCO Idaho Springs 35.44 110 *e*P P 20 19 58.5 +1.8
ISCO pmax pmax
comp=Z,7.0nm,0.7s
ISCO Idaho Springs 35.44 110 *e*P P 20 19 58.5 +1.8
comp=Z,7.0nm,0.7s
D37A Cotton 35.47 89 P P 20 19 57.1 +0.6
baz=319,SNR=12
F35A Swanville 35.49 92 P P 20 19 57.7 +1.1
baz=320,SNR=5.9
HEC Hector,Ludlow 35.50 127 P P 20 19 58.7 +1.8
baz=334,SNR=6.7
BFSC Mount Baldy Ra 35.56 129 P P 20 19 59.3 +1.9
baz=335,SNR=12
C38A Sawbill Land. 35.58 87 P P 20 19 58.0 +0.7
baz=318,SNR=24
E36A McGregor 35.58 91 P P 20 19 58.4 +1.0
baz=319,SNR=14
I32A Karley and Nic 35.60 97 P P 20 19 58.2 +0.6
baz=322,SNR=6.4
PV01 Paradox Valley 35.61 115 *e*P P 20 19 59.4 +1.3
comp=Z,3μm,0.8s
GMRC Granite Mounta 35.78 126 P P 20 20 01.3 +1.9
baz=334,SNR=14
H34A Spellman Lake, 35.86 95 P P 20 20 00.6 +0.8
baz=321
E37A Wrenshall 35.93 90 P P 20 20 01.4 +1.0
baz=319
J32A Parkston 35.95 98 P P 20 20 00.8 +0.3
baz=322
F36A Milaca 35.96 91 P P 20 20 01.4 +0.8
baz=320,SNR=14
C39A Grand Marais 36.02 86 P P 20 20 01.5 +0.4
baz=318,SNR=24
OGNE Ogallala 36.04 105 P P 20 20 02.7 +1.2
baz=325
CIS Catalina Islan 36.05 131 P P 20 20 02.9 +1.3
baz=336
ECSD EROS Data Cent 36.21 97 P P 20 20 03.2 +0.3
baz=322,SNR=19
E38A The Farm, Brul 36.28 89 P P 20 20 03.8 +0.4
baz=319,SNR=5.4
MURC Murrieta 36.30 129 P P 20 20 05.1 +1.4
baz=335
G36A St. Michael 36.34 92 P P 20 20 04.8 +0.9
baz=320
Q24A Divide 36.34 110 P P 20 20 06.0 +1.7
baz=327,SNR=13
BELC Belle Mtn. Jos 36.36 127 P P 20 20 06.0 +1.7
baz=334,SNR=16
J33A Davis 36.38 97 P P 20 20 04.8 +0.5
baz=322
SCI San Clemente I 36.39 131 P P 20 20 06.4 +1.9
baz=336,SNR=7.0
MVCO Mesa Verde 36.43 116 P P 20 20 06.1 +1.1
baz=329,SNR=12
MVCO Mesa Verde 36.43 116 *e*P P 20 20 06.1 +1.1
comp=Z,17nm,0.7s
K32A Verdigre 36.45 99 P P 20 20 05.4 +0.5
baz=323
IRM Iron Mountain 36.53 126 P P 20 20 07.7 +2.1
baz=334,SNR=19
PFO Pinyon Flats O 36.55 128 P P 20 20 07.2 +1.4
comp=Z,17nm,1.0s,baz=331,slow=5.4,SNR=14
PFO PcP PcP 20 22 27.1 +0.9
comp=Z,1.3nm,0.6s,baz=236,slow=3.6,SNR=2.6
PFO Pinyon Flats O 36.55 128 P P 20 20 07.3 +1.4
baz=335,SNR=10
F38A Pierce - Schro 36.63 90 P P 20 20 07.7 +1.4
baz=320,SNR=26
S22A 4UR Ranch, Cre 36.66 113 P P 20 20 08.9 +1.9
baz=328,SNR=27
WUAZ Wupatki 36.75 120 P P 20 20 09.7 +2.0
baz=332,SNR=28
H36A Jessenland, He 36.76 93 P P 20 20 08.9 +1.5
baz=321,SNR=7.3
SPMN Marine on St. 36.77 92 P P 20 20 08.6 +1.1
baz=320,SNR=8.6
SPMN Marine on St. 36.77 92 *e*P P 20 20 08.2 +0.7
comp=Z,20nm,0.5s
PDMCI Parker Dam,Lak 36.77 125 P P 20 20 09.1 +1.5
baz=333,SNR=7.4
I35A Creekview Farm 36.85 95 P P 20 20 08.4 +0.2
baz=322
J34A George 36.86 96 P P 20 20 08.7 +0.3
baz=322
BC3 Big Chuckawall 36.87 127 P P 20 20 10.1 +1.5
baz=334,SNR=11
E39A Mellen 36.91 88 P P 20 20 09.2 +0.5
baz=319,SNR=9.0
K33A Hardington 36.93 98 P P 20 20 09.6 +0.7
baz=323
SUMG Summit 36.94 28 *i* P P 20 20 08.8 -0.3
comp=Z,12nm,0.9s
SUMG Summit 36.94 28 *i* P P 20 20 08.8 -0.3
SUMG pmax pmax
comp=Z,12nm,0.9s
L32A Elgin 36.96 100 P P 20 20 10.0 +0.8
baz=323
DAG Danmarks Havn 37.01 17⇑ *i*P P 20 20 09.0 -0.2
comp=Z,64nm,0.5s
DAG Danmarks Havn 37.01 17⇑ *i*P P 20 20 09.0 -0.2
DAG pmax pmax
comp=Z,45nm,0.5s
F39A Loretta 37.09 89 P P 20 20 11.3 +1.1
baz=320,SNR=22
Y12C Blythe 37.12 125 P P 20 20 12.5 +1.9
baz=334,SNR=10
J35A Milford 37.13 96 P P 20 20 11.1 +0.5
baz=322
E40A Wakefield 37.15 88 P P 20 20 11.6 +0.9
baz=319,SNR=14
MONP Monument Peak, 37.21 128 P P 20 20 13.5 +1.9
baz=335,SNR=31
H37A Dierke Farm, C 37.22 92 P P 20 20 12.8 +1.5
baz=321
SDCO Great Sand Dun 37.22 112 P P 20 20 13.6 +1.9
baz=328,SNR=48
SDCO Great Sand Dun 37.22 112 *e*P P 20 20 13.4 +1.7
comp=Z,22nm,0.9s
G38A Ridgeland 37.24 91 P P 20 20 11.9 +0.4
baz=320
K34A Le Mars 37.27 97 P P 20 20 12.5 +0.7
baz=323,SNR=5.8
D41A Chassel 37.29 86 P P 20 20 12.8 +1.0
baz=319,SNR=6.7
BGNE Belgrade 37.38 101 P P 20 20 13.3 +0.6
baz=324
KSCO Kaye Shedlock' 37.38 107 P P 20 20 14.4 +1.5
baz=326
SWSC Sam W. Stewart 37.38 128 P P 20 20 14.4 +1.6
baz=335,SNR=5.5
H38A Maiden Rock 37.43 92 P P 20 20 14.2 +1.1
baz=321,SNR=5.4
I37A Lemond, Waseca 37.44 93 P P 20 20 14.3 +1.1
baz=321,SNR=11
F40A Park Falls 37.45 88 P P 20 20 14.0 +0.7
baz=320,SNR=25
G39A Holcombe 37.46 90 P P 20 20 14.1 +0.8
baz=320,SNR=11
IKP In-Ko-Pah, Jac 37.54 128 P P 20 20 16.2 +1.9
baz=335,SNR=12
K35A Storm Lake 37.63 96 P P 20 20 15.2 +0.3
baz=322
KBS Kingsbay 37.63 5 *e*P P 20 20 14.8 +0.4
KBS pmax pmax
comp=Z,57nm,0.7s
GLA Glamis 37.64 126 P P 20 20 16.8 +1.8
baz=334,SNR=12
L34A Svendsen Farm, 37.72 98 P P 20 20 15.8 +0.2
baz=323
W18A Petrified Fore 37.75 119 P P 20 20 17.7 +1.7
baz=331
COWI Conover 37.76 87 *e*P P 20 20 16.2 +0.4
comp=Z,17nm,0.8s
SFJD Kangerlussuaq 37.87 39 *i* P P 20 20 17.2 +0.7
comp=Z,13nm,0.7s
SFJD Kangerlussuaq 37.87 39 *i* P P 20 20 17.2 +0.7
SFJD pmax pmax
comp=Z,13nm,0.7s
SFJD Kangerlussuaq 37.87 39 *e*P P 20 20 17.7 +1.2
comp=Z,13nm,0.8s
H39A Augusta 37.88 91 P P 20 20 17.7 +0.9
baz=321,SNR=12
I38A Scanlan Farm, 37.90 92 P P 20 20 18.2 +1.1
baz=321,SNR=9.8
G40A Rib Lake 37.91 89 P P 20 20 17.8 +0.6
baz=320,SNR=26
J37A Redenius Farm, 37.92 94 P P 20 20 18.1 +0.8
baz=322
L35A Bielow Farm, R 37.98 97 P P 20 20 17.7 0.0
baz=323
F41A Three Lakes 38.05 88 P P 20 20 19.0 +0.7
baz=320
K36A Gilmore City 38.05 96 P P 20 20 19.0 +0.7
baz=322,SNR=6.8
E42A Champion 38.06 86 P P 20 20 19.2 +0.8
baz=319,SNR=8.3
T25A Trinidad 38.19 111 P P 20 20 21.0 +1.2
baz=328,SNR=5.3
N33A J Bar K, Exete 38.23 100 P P 20 20 20.3 +0.4
baz=324
K37A Belmond 38.31 95 P P 20 20 21.3 +0.8
baz=322,SNR=23
H40A Chili 38.33 90 P P 20 20 21.8 +1.2
baz=321,SNR=23
L36A Harm Buss Farm 38.38 96 P P 20 20 21.4 +0.4
baz=323
J38A Wedel Dairy, R 38.40 93 P P 20 20 22.4 +1.1
baz=322,SNR=16
I39A Houston 38.41 92 P P 20 20 21.9 +0.6
baz=321
G41A Antigo 38.42 88 P P 20 20 22.5 +1.1
baz=320
M35A Neola 38.42 98 P P 20 20 21.7 +0.2
baz=324
F42A Maple Grove Fa 38.47 87 P P 20 20 23.2 +1.4
baz=320
E43A Lone Tree Farm 38.51 85 P P 20 20 22.8 +0.7
baz=320,SNR=15
N34A Lincoln 38.57 99 P P 20 20 23.1 +0.4
baz=324,SNR=9.6
H41A Junction City 38.66 89 P P 20 20 23.9 +0.5
baz=321,SNR=6.6
O33A Hebron 38.71 101 P P 20 20 24.1 +0.2
baz=325,SNR=8.9
J39A Decorah 38.73 92 P P 20 20 24.6 +0.5
baz=322,SNR=7.0
L37A Phoenix Point, 38.77 96 P P 20 20 24.9 +0.6
baz=323
I40A Norwalk 38.79 91 P P 20 20 25.4 +0.9
baz=321,SNR=6.7
CBKS Cedar Bluff 38.80 105 P P 20 20 25.9 +1.3
baz=326,SNR=5.8
CBKS Cedar Bluff 38.80 105 *e*P P 20 20 25.9 +1.3
CBKS pmax pmax
comp=Z,90nm,1.2s
CBKS Cedar Bluff 38.80 105 *e*P P 20 20 25.9 +1.3
comp=Z,90nm,1.2s
K38A Parkersburg 38.80 94 P P 20 20 25.4 +0.9
baz=322,SNR=9.0
E44A Grand Marais A 38.81 84 P P 20 20 25.7 +1.1
baz=319,SNR=7.7
M36A Felix, Anita 38.84 97 P P 20 20 25.1 +0.2
baz=324
F43A Flat Rock, Esc 38.85 86 P P 20 20 25.8 +0.9
baz=320,SNR=8.6
I41A Arkdale 39.00 90 P P 20 20 27.0 +0.8
baz=321
O34A Beatrice 39.02 100 P P 20 20 26.6 +0.1
baz=325,SNR=9.9
G43A Wallace 39.06 87 P P 20 20 27.4 +0.7
baz=320,SNR=6.2
F44A Big Bay de Noc 39.08 85 P P 20 20 27.6 +0.8
baz=320,SNR=12
L38A Oak Wood Farm, 39.11 95 P P 20 20 27.9 +0.7
baz=323,SNR=20
J40A Soldiers Grove 39.12 92 P P 20 20 27.9 +0.6
baz=322,SNR=6.8
K39A Oelwein 39.15 93 P P 20 20 27.8 +0.3
baz=322,SNR=12
SCIA State Center 39.19 95 *e*P P 20 20 28.8 +1.0
comp=Z,21nm,0.6s
M37A Trindle Farm, 39.21 97 P P 20 20 28.7 +0.7
baz=323,SNR=5.1
ANMO Albuquerque 39.22 115 P P 20 20 29.4 +1.1
comp=Z,13nm,0.7s,baz=337,slow=9.0,SNR=35
ANMO PcP PcP 20 22 36.0 +1.5
comp=Z,2.6nm,0.7s,baz=327,slow=6.5,SNR=4.0
ANMO Albuquerque 39.22 115 P P 20 20 30.0 +1.7
baz=330
N36A Muff Farm, Cla 39.28 98 P P 20 20 29.2 +0.6
baz=324
O35A Humboldt 39.30 99 P P 20 20 28.8 +0.1
baz=324
E45A Wooded Hills, 39.34 84 P P 20 20 29.9 +0.8
baz=320
214A Organ Pipe Nat 39.37 125 P P 20 20 31.5 +2.0
baz=334,SNR=13
214A Organ Pipe Nat 39.37 125 *e*P P 20 20 31.1 +1.7
comp=Z,106nm,1.1s
YSS Yuzh-Sakhalins 39.38 278 *e*P P 20 20 29.3 0.0
YSS pmax pmax
comp=Z,91nm,1.7s
J41A Loganville 39.48 91 P P 20 20 31.0 +0.9
baz=322,SNR=9.1
P34A Walnut Farm, R 39.48 101 P P 20 20 30.5 +0.3
baz=325
K40A Colesburg 39.49 93 P P 20 20 30.7 +0.4
baz=322,SNR=13
L39A Vinton 39.56 94 P P 20 20 31.4 +0.5
baz=323,SNR=9.8
M38A Pleasantville 39.59 96 P P 20 20 31.7 +0.6
baz=323
N37A Lee Faris, Mou 39.66 97 P P 20 20 32.3 +0.6
baz=324
CLNS Chul'man 39.70 301 *e*P P 20 20 31.6 -0.4
CLNS pmax pmax
comp=Z,30nm,0.9s
CLNS pmax pmax
comp=N,15nm,0.9s
CLNS pmax pmax
comp=E,16nm,1.0s
F45A CMU Biological 39.71 85 P P 20 20 32.8 +0.7
baz=320,SNR=5.4
JFWS Jewell Farm 39.73 92 *e*P P 20 20 32.8 +0.6
JFWS pmax pmax
comp=Z,37nm,0.6s
JFWS Jewell Farm 39.73 92 *e*P P 20 20 32.8 +0.6
comp=Z,37nm,0.6s
O36A Bolckow 39.83 99 P P 20 20 33.8 +0.7
baz=324
P35A Duane Minner, 39.85 100 P P 20 20 33.7 +0.3
baz=325,SNR=8.2
KSU1 Kansas State U 39.94 101 P P 20 20 34.6 +0.6
baz=325,SNR=6.8
Q34A Chapman 39.94 102 P P 20 20 34.6 +0.6
baz=326,SNR=5.5
K41A Shullsburg 39.94 92 P P 20 20 34.4 +0.3
baz=322,SNR=10
L40A Anamosa 39.96 93 P P 20 20 34.5 +0.4
baz=323,SNR=19
M39A Webster 40.00 95 P P 20 20 34.9 +0.4
baz=323,SNR=8.4
N38A Joes South For 40.07 96 P P 20 20 35.2 +0.1
baz=324
P36A Good Intent, A 40.14 99 P P 20 20 36.1 +0.4
baz=325,SNR=7.8
O37A Wolven Farm, M 40.17 98 P P 20 20 36.6 +0.7
baz=324,SNR=8.2
L41A Preston 40.28 93 P P 20 20 36.9 +0.2
baz=323,SNR=13
R34A Isabella, Hill 40.31 102 P P 20 20 37.5 +0.3
baz=326,SNR=8.0
N39A Derby Farms, D 40.33 96 P P 20 20 37.6 +0.4
baz=324,SNR=19
M40A Post Highland 40.35 94 P P 20 20 37.5 +0.1
baz=323
Q35A Mercer Eighty, 40.39 101 P P 20 20 38.3 +0.5
baz=325,SNR=18
P37A Lathrop 40.55 98 P P 20 20 39.5 +0.5
baz=325,SNR=5.9
Q36A Arnold C. Orve 40.56 100 P P 20 20 39.6 +0.4
baz=325,SNR=11
N40A Mertquake, Sal 40.74 95 P P 20 20 40.6 +0.1
baz=324
R35A Emporia Munici 40.76 101 P P 20 20 41.5 +0.7
baz=326,SNR=8.6
121A Cookes Peak, D 40.79 118 P P 20 20 43.2 +1.9
baz=332
M41A Milan 40.81 93 P P 20 20 41.4 +0.2
baz=323,SNR=6.3
O39A Kirksville 40.81 96 P P 20 20 41.4 +0.2
baz=324,SNR=9.5
S34A Willow Spring 40.87 103 P P 20 20 42.0 +0.2
baz=326
P38A Dawn 40.88 98 P P 20 20 41.8 0.0
baz=325,SNR=8.5
R36A Gordon, Harris 41.07 101 P P 20 20 43.7 +0.4
baz=326,SNR=24
Q37A Longview Farm, 41.08 99 P P 20 20 43.5 +0.1
baz=325
U32A Winter Ranch, 41.15 106 P P 20 20 44.9 +0.8
baz=328,SNR=5.1
N41A Harden Midland 41.21 94 P P 20 20 44.4 -0.1
baz=324
O40A La Belle 41.22 96 P P 20 20 44.8 +0.3
baz=324,SNR=11
S35A Otter Creek Ra 41.24 102 P P 20 20 45.0 +0.3
baz=326,SNR=14
AMTX Amarillo 41.27 110 P P 20 20 46.1 +1.0
baz=329
AMTX Amarillo 41.27 110 *e*P P 20 20 46.2 +1.2
comp=Z,63nm,0.8s
P39B Salisbury 41.34 97 P P 20 20 45.4 -0.1
baz=325,SNR=8.5
R37A Teagarden Farm 41.38 100 P P 20 20 45.7 -0.1
baz=326,SNR=12
Q38A Cooks Store, C 41.38 98 P P 20 20 46.0 +0.1
baz=325,SNR=8.3
T34A McClaskey Farm 41.40 103 P P 20 20 46.4 +0.4
baz=327,SNR=9.8
NRIK Noril'sk 41.44 333 P P 20 20 46.1 +0.1
comp=Z,27nm,0.7s,baz=46,slow=7.2,SNR=33
NRIK pP pP 20 21 17.7 +0.6
comp=Z,20nm,0.9s,baz=27,slow=6.0,SNR=3.1
N42A Yates City 41.48 93 P P 20 20 46.8 +0.1
baz=324,SNR=7.6
S36A Lake Cedric, C 41.52 101 P P 20 20 47.0 -0.1
baz=326,SNR=5.1
MSTX Muleshoe 41.59 112 P P 20 20 49.1 +1.3
baz=330,SNR=37
MSTX Muleshoe 41.59 112 *e*P P 20 20 48.8 +1.0
comp=Z,86nm,0.8s
Q39A Willow Grove F 41.60 98 P P 20 20 47.8 +0.1
baz=325,SNR=10
P40A Paris 41.62 96 P P 20 20 48.1 +0.2
baz=325,SNR=11
O41A Passleys Farm, 41.67 95 P P 20 20 48.2 -0.1
baz=324,SNR=8.6
T35A Sooner Cattle 41.79 103 P P 20 20 49.5 +0.3
baz=327,SNR=14
S37A Fort Scott 41.83 101 P P 20 20 49.2 -0.4
baz=326,SNR=8.1
R38A Fenwick Farm, 41.89 99 P P 20 20 49.7 -0.3
baz=326,SNR=10
T36A Boggs Farm, Ca 41.95 102 P P 20 20 50.6 +0.1
baz=327,SNR=10
P41A Barry, Barry 41.95 95 P P 20 20 50.6 +0.1
baz=324,SNR=8.0
O42A Bath 41.97 94 P P 20 20 50.3 -0.3
baz=324
HDIL Hopedale 42.03 93 *e*P P 20 20 51.7 +0.5
comp=Z,52nm,0.6s
Q40A Laux Farm, Aux 42.05 97 P P 20 20 51.3 0.0
baz=325,SNR=12
U35A Pawnee 42.15 104 P P 20 20 52.4 +0.2
baz=327
R39A Chumby, Stover 42.17 98 P P 20 20 52.2 -0.1
baz=326,SNR=19
O43A Sugar Creek Fa 42.24 93 P P 20 20 53.1 +0.2
baz=324
T37A Cheneyville 18 42.32 101 P P 20 20 53.2 -0.3
baz=326,SNR=12
P42A Winchester 42.35 95 P P 20 20 53.5 -0.2
baz=324,SNR=8.2
S38A Stockton 42.35 100 P P 20 20 53.2 -0.5
baz=326,SNR=19
Q41A Truxton 42.46 96 P P 20 20 54.7 0.0
baz=325,SNR=11
MNTX Cornudas Mount 42.48 116 P P 20 20 56.7 +1.8
baz=332,SNR=24
MNTX Cornudas Mount 42.48 116 *e*P P 20 20 56.4 +1.4
comp=Z,18nm,1.0s
R40A Maddies Statio 42.54 98 P P 20 20 54.8 -0.4
baz=325,SNR=13
S39A Bolivar 42.56 99 P P 20 20 54.8 -0.7
baz=326,SNR=12
U36A Oologah 42.57 103 P P 20 20 55.8 +0.3
baz=327,SNR=6.6
V35A Meyer Ranch, C 42.61 104 P P 20 20 56.1 +0.2
baz=328,SNR=6.0
WMOK Wichita Mounta 42.63 107 P P 20 20 56.9 +0.8
baz=328,SNR=52
WMOK Wichita Mounta 42.63 107 *e*P P 20 20 56.6 +0.5
WMOK pmax pmax
comp=Z,36nm,0.8s
WMOK Wichita Mounta 42.63 107 *e*P P 20 20 56.6 +0.5
comp=Z,36nm,0.8s
P43A Skaggs, Pawnee 42.67 94 P P 20 20 56.2 -0.1
baz=324
T38A Diamond 42.67 101 P P 20 20 55.7 -0.7
baz=326,SNR=8.0
Q42A Golden Eagle 42.81 95 P P 20 20 57.8 +0.4
baz=325,SNR=11
U37A Salina 42.83 102 P P 20 20 57.7 0.0
baz=327,SNR=23
R41A Rosebud 42.93 97 P P 20 20 58.1 -0.3
baz=325,SNR=10
TUL1 Leonard 42.95 103 P P 20 20 58.6 +0.1
baz=327
TUL1 Leonard 42.95 103 *e*P P 20 20 59.0 +0.5
comp=Z,29nm,0.8s
V36A Jenks 42.98 103 P P 20 20 59.1 +0.2
baz=327,SNR=7.7
S40A Lebanon 43.00 98 P P 20 20 58.7 -0.3
baz=326,SNR=13
BOD Bodaibo 43.02 309 *e*P P 20 20 57.7 -1.2
BOD pmax pmax
comp=Z,36nm,1.1s
ERM Erimo 43.04 273⇑ *e*P P 20 21 00.3 +1.1
ERM pmax pmax
comp=Z,25nm,1.1s
T39A Clever 43.09 100 P P 20 20 59.1 -0.7
baz=326,SNR=10
W35A Tecumseh 43.11 105 P P 20 21 00.3 +0.4
baz=328,SNR=11

U38A	**Gravette** baz=327,SNR=20	43.13	101	P		**P**		20	20	59.7	-0.4
Q43A	**New Douglas** baz=325,SNR=8.4	43.16	95	P		**P**		20	21	00.7	+0.4
SFIN	**Lafayette** baz=324,SNR=8.2	43.17	91	P		**P**		20	21	00.6	+0.4
SFIN	**Lafayette** comp=Z,18nm,0.6s	43.17	91	*e*P		**P**		20	21	00.7	+0.4
R42A	**Luebbering** baz=325	43.21	96	P		**P**		20	21	00.6	-0.1
P44A	**Sand Creek, Wi** baz=324,SNR=6.5	43.22	93	P		**P**		20	21	00.9	+0.2
V37A	**Hulbert** baz=327,SNR=12	43.26	102	P		**P**		20	21	01.0	-0.1
S41A	**Jillco Farms,** baz=326,SNR=25	43.35	98	P		**P**		20	21	01.6	-0.2
T40A	**Mansfield** baz=326,SNR=17	43.37	99	P		**P**		20	21	01.5	-0.4
W36A	**Wetumka** baz=328,SNR=11	43.41	104	P		**P**		20	21	02.6	+0.4
Q44A	**Meyer Farm, Va** baz=325,SNR=5.9	43.50	94	P		**P**		20	21	03.2	+0.2
U39A	**Green Forest** baz=327,SNR=8.8	43.58	100	P		**P**		20	21	02.7	-0.9
V38A	**Canehill** baz=327,SNR=16	43.60	102	P		**P**		20	21	03.5	-0.3
R43A	**Red Bud** baz=325,SNR=12	43.60	95	P		**P**		20	21	03.8	+0.1
S42A	**Caledonia** baz=326,SNR=9.0	43.63	97	P		**P**		20	21	03.6	-0.4
X35A	**Drake** baz=328	43.70	105	P		**P**		20	21	05.0	+0.3
W37B	**Quinton** baz=328,SNR=18	43.75	103	P		**P**		20	21	05.5	+0.4
T41A	**Mountain View** baz=326,SNR=15	43.79	98	P		**P**		20	21	04.7	-0.6
X36A	**Centrahoma** baz=328,SNR=9.4	43.83	105	P		**P**		20	21	06.3	+0.6
U40A	**Yellville** baz=327,SNR=10	43.88	100	P		**P**		20	21	05.0	-1.0
V39A	**Pettigrew** baz=327,SNR=16	43.96	101	P		**P**		20	21	06.0	-0.8
R44A	**Waltonville** baz=325,SNR=6.1	44.01	95	P		**P**		20	21	07.0	0.0
ABTX	**Abilene, Hawle** baz=330,SNR=11	44.07	109	P		**P**		20	21	08.1	+0.5
ABTX	**Abilene, Hawle** comp=Z,26nm,0.8s	44.07	109	*e*P		**P**		20	21	07.9	+0.3
Y35A	**Marietta** baz=329,SNR=7.3	44.09	106	P		**P**		20	21	08.7	+0.9
S43A	**Fulton Ridge,** baz=326,SNR=22	44.11	96	P		**P**		20	21	07.9	0.0
W38A	**Poteau** baz=328	44.21	102	P		**P**		20	21	08.9	+0.2
X37A	**Clayton** baz=328,SNR=11	44.24	104	P		**P**		20	21	09.5	+0.5
U41A	**Viola** baz=326,SNR=6.9	44.30	99	P		**P**		20	21	08.7	-0.7
V40A	**Witts Springs** baz=327,SNR=19	44.35	100	P		**P**		20	21	09.0	-0.8
S44A	**Carbondale** baz=326,SNR=15	44.38	95	P		**P**		20	21	10.3	+0.3
X38A	**Whitesboro** baz=328,SNR=10.0	44.41	103	P		**P**		20	21	10.9	+0.6
T43A	**Greenville** baz=326	44.42	97	P		**P**		20	21	10.3	0.0
Y36A	**Durant** baz=328,SNR=12	44.43	105	P		**P**		20	21	11.2	+0.8
W39A	**Magazine** baz=327,SNR=9.3	44.43	102	P		**P**		20	21	10.2	-0.2
U42A	**Revenden** baz=326,SNR=8.3	44.60	98	P		**P**		20	21	11.1	-0.7
Y37A	**Hugo** baz=328,SNR=6.7	44.65	104	P		**P**		20	21	13.1	+1.0
V41A	**Mountainview** baz=327,SNR=19	44.66	99	P		**P**		20	21	11.5	-0.8
S45A	**Carrier Mills** baz=326,SNR=13	44.70	95	P		**P**		20	21	13.0	+0.5
T44A	**Benton** baz=326	44.73	96	P		**P**		20	21	12.7	0.0
W40A	**Fergusson Farm,** baz=327,SNR=5.8	44.75	101	P		**P**		20	21	12.7	-0.2
X39A	**Fountain Ranch** baz=328,SNR=15	44.86	102	P		**P**		20	21	14.1	+0.2
Z36A	**Blue Ridge** baz=329,SNR=6.9	44.90	106	P		**P**		20	21	14.5	+0.4
233A	**Rising Star** baz=330,SNR=20	44.91	109	P		**P**		20	21	14.8	+0.4
LMQ	**La Malbaie**	44.96	71	*e*P		**P**		20	21	14.2	-0.3
U43A	**Rector** baz=326,SNR=7.0	44.96	97	P		**P**		20	21	14.7	+0.1
V42A	**Cord** baz=327,SNR=7.0	44.99	99	P		**P**		20	21	14.0	-0.9
MIAR	**Mount Ida** baz=328,SNR=24	45.07	102	P		**P**		20	21	15.6	+0.1
MIAR	**Mount Ida** comp=Z,40nm,0.8s	45.07	102	*e*P	pmax	**P**	pmax	20	21	15.5	0.0
MIAR	**Mount Ida** comp=Z,40nm,0.8s	45.07	102	*e*P		**P**		20	21	15.5	0.0
Y38A	**Idabel** baz=328	45.09	103	P		**P**		20	21	15.8	+0.2
W41B	**Gary Mavity, V** baz=327	45.13	100	P		**P**		20	21	15.9	0.0
ACSO	**Alum Creek Sta** comp=Z,33nm,0.6s	45.15	87	*e*P		**P**		20	21	16.6	+0.6
U44A	**Portageville** baz=326	45.17	97	P		**P**		20	21	16.4	+0.1
234A	**Clairette** baz=330,SNR=5.7	45.25	108	P		**P**		20	21	17.4	+0.5
TXAR	**Lajitas Array** comp=Z,19nm,0.7s,baz=328,slow=6.1,SNR=234	45.26	116	P		**P**		20	21	18.8	+1.6
TXAR	comp=Z,3.1nm,0.8s,baz=294,slow=2.9,SNR=3.4			PcP		**PcP**		20	22	55.4	+0.8
TXAR	comp=Z,1.6nm,1.0s,baz=282,slow=6.0,SNR=6.2			ScP		**ScP**		20	26	34.8	+1.2
Z37A	**Pogue Cattle C** baz=329	45.31	105	P		**P**		20	21	17.7	+0.3
Y39A	**Lockesburg** baz=328,SNR=6.4	45.36	103	P		**P**		20	21	17.8	+0.1
V43A	**Jonesboro** baz=327	45.38	98	P		**P**		20	21	18.2	+0.3
LONY	**Lake Ozonia** comp=Z,13nm,0.6s	45.40	77	*e*P		**P**		20	21	17.2	-0.8
X40A	**Basin Creek Fa** baz=328,SNR=5.5	45.45	101	P		**P**		20	21	18.3	-0.2
U44B	**Burton Farm, H** baz=326	45.46	96	P		**P**		20	21	18.6	0.0
333A	**Richland Sprin** baz=330,SNR=28	45.47	110	P		**P**		20	21	19.2	+0.4
136A	**Ennis** baz=329	45.54	106	P		**P**		20	21	19.4	+0.2
WHTX	**Lake Whitney,** baz=330,SNR=7.6	45.55	108	P		**P**		20	21	19.8	+0.5
WHTX	**Lake Whitney,** comp=Z,20nm,0.7s	45.55	108	*e*P		**P**		20	21	19.9	+0.6
X41A	**Kaden, Bauxite** baz=328	45.59	101	P		**P**		20	21	19.3	-0.2
M54A	**Oil Creek Stat** baz=323,SNR=10	45.61	84	P		**P**		20	21	20.1	+0.4
Y40A	**Okolona** baz=328	45.65	102	P		**P**		20	21	20.1	0.0
U45A	**Rockin P Farm,** baz=326	45.71	96	P		**P**		20	21	21.0	+0.5
137A	**Heron Place, G** baz=329	45.77	105	P		**P**		20	21	21.4	+0.4
334A	**Lometa** baz=330,SNR=14	45.78	109	P		**P**		20	21	21.7	+0.6
JCT	**Junction City** baz=331,SNR=21	45.86	111	P		**P**		20	21	22.8	+1.0
JCT	**Junction City** comp=Z,50nm,0.7s	45.86	111	*e*P	pmax	**P**	pmax	20	21	22.6	+0.8
JCT	**Junction City** comp=Z,50nm,0.7s	45.86	111	*e*P		**P**		20	21	22.6	+0.8
W43A	**Forest City** baz=327	45.89	99	P		**P**		20	21	23.4	+1.4
N54A	**Moraine State** baz=324,SNR=5.7	45.91	84	P		**P**		20	21	22.4	+0.4
Z39A	**Irene McRaven,** baz=328	45.91	103	P		**P**		20	21	22.7	+0.6
433A	**Art** baz=331,SNR=12	45.92	110	P		**P**		20	21	22.7	+0.4
X42A	**Stuttgart** baz=328	45.93	100	P		**P**		20	21	22.6	+0.3
236A	**Katherine and** baz=330,SNR=7.4	45.94	107	P		**P**		20	21	22.9	+0.6
138A	**Matatall Enter**	46.01	105	P		**P**		20	21	23.7	+0.9
Y41A	**Eaglette Beard** baz=328	46.06	101	P		**P**		20	21	23.7	+0.4
V45A	**Humboldt** baz=327	46.13	96	P		**P**		20	21	24.1	+0.3
335A	**Moody** baz=330	46.17	108	P		**P**		20	21	24.6	+0.4
434A	**Burnet** baz=330,SNR=28	46.22	109	P		**P**		20	21	25.4	+0.8
Z40A	**Long Farm, Mag** baz=328,SNR=12	46.24	103	P		**P**		20	21	25.6	+1.0
237A	**Washetta, Mont** baz=329	46.26	106	P		**P**		20	21	25.2	+0.4
HAMF	**Hammerfest**	46.28	3	*e*P		**P**		20	21	24.1	-0.4
USRK	**Ussuriysk Ar.** comp=Z,2.1nm,0.6s,baz=51,slow=6.9,SNR=4.3	46.29	284	P		**P**		20	21	23.6	-1.4
X43A	**Marvell** baz=327	46.29	99	P		**P**		20	21	25.3	+0.2
139A	**Bunkhouse Ranc** baz=329	46.29	104	P		**P**		20	21	26.1	+1.0
336A	**Riesel** baz=330	46.33	107	P		**P**		20	21	25.8	+0.4
Y42A	**Garnett, Star** baz=328	46.46	101	P		**P**		20	21	27.2	+0.8
Z41A	**Richland Creek** baz=328	46.50	102	P		**P**		20	21	27.4	+0.6
W45A	**Hickory Valley** baz=327	46.52	97	P		**P**		20	21	27.4	+0.6
435B	**Jarrell** baz=330	46.54	109	P		**P**		20	21	27.6	+0.5
533A	**Kerrville** baz=331,SNR=14	46.54	111	P		**P**		20	21	28.1	+1.0
238A	**Jacksonville** baz=329	46.55	105	P		**P**		20	21	28.1	+1.0
X44A	**Crenshaw** baz=327	46.63	99	P		**P**		20	21	28.3	+0.6
140A	**Cam and Jess,** baz=329	46.69	103	P		**P**		20	21	29.5	+1.3
Y43A	**Makayla and Ka** baz=328	46.78	100	P		**P**		20	21	29.5	+0.6
337A	**Centerville** baz=330	46.81	106	P		**P**		20	21	29.8	+0.7
534A	**Blanco** baz=331,SNR=12	46.81	110	P		**P**		20	21	29.9	+0.7
239A	**Gary** baz=329,SNR=5.2	46.82	105	P		**P**		20	21	29.9	+0.7
Z42A	**Norrel Spur, H** baz=328	46.87	101	P		**P**		20	21	30.5	+0.9
436A	**Wall Ranch, Ga** baz=330	46.89	108	P		**P**		20	21	30.5	+0.8
OXF	**Oxford**	46.95	98	*e*P		**P**		20	21	30.6	+0.4
OXF	comp=Z,235nm,0.9s			pmax		pmax					
OXF	**Oxford** comp=Z,235nm,0.9s	46.95	98	*e*P		**P**		20	21	30.6	+0.4
NATX	**Nacogdoches** baz=329	46.96	105	P		**P**		20	21	31.2	+0.8
NATX	**Nacogdoches** comp=Z,18nm,0.6s	46.96	105	*e*P		**P**		20	21	31.4	+1.1
MDJ	**Mudanjiang**	47.01	286	P		**P**		20	21	30.8	+0.3
MDJ	comp=Z,14nm,1.6s			pmax		pmax					
MDJ	comp=Z,150nm,4.8s			pmax		pmax					
141A	**Papa Simpson,** baz=329	47.01	103	P		**P**		20	21	31.8	+1.1
633A	**Saathoff Ranch** baz=331,SNR=9.6	47.01	111	P		**P**		20	21	31.5	+0.8
338A	**Crockett** baz=330	47.02	106	P		**P**		20	21	31.8	+1.0
X45A	**UM Field Stati** baz=327	47.04	98	P		**P**		20	21	31.4	+0.5
Y44A	**Strider Charl** baz=328	47.06	99	P		**P**		20	21	31.6	+0.5
O56A	**Blue Knob Stat** baz=324,SNR=8.3	47.10	84	P		**P**		20	21	31.7	+0.2
240A	**Hunter Patters** baz=329	47.12	104	P		**P**		20	21	32.6	+1.1
437A	**Phantom Ranch,** baz=330	47.12	107	P		**P**		20	21	32.5	+1.0
TRO	**Tromso** comp=Z,29nm,0.8s	47.15	5	*e*P	IAmb	**P**	IAmb	20	21	34.8	+3.5
TRO								20	21	35.5	
535A	**Dale** baz=331	47.20	109	P		**P**		20	21	33.3	+1.1
KEV	**Kevo**	47.22	1	*e*P		**P**		20	21	31.5	-0.3
KEV	**Kevo**	47.22	1	*e*P		**P**		20	21	30.7	-1.1
KEV	comp=Z,27nm,0.6s			pmax		pmax					
KEV	**Kevo** comp=Z,27nm,0.6s	47.22	1	*e*P		**P**		20	21	30.7	-1.1
Z43A	**Armstrong Fami** baz=328	47.23	101	P		**P**		20	21	32.9	+0.5
536A	**Bastrop** baz=330	47.37	109	P		**P**		20	21	34.6	+1.1
339A	**Huntington** baz=330	47.37	105	P		**P**		20	21	34.4	+0.9
ARCES	**ARCESS Array B** comp=Z,21nm,0.6s,baz=6.4,slow=8.3,SNR=120	47.42	2	P		**P**		20	21	32.8	-0.7
ARCES	comp=Z,3.8nm,0.7s,baz=349,slow=11,SNR=2.0			pP		**pP**		20	22	06.1	+0.8
ARCES	comp=Z,3.1nm,0.7s,baz=14,slow=4.0,SNR=5.0			PcP		**PcP**		20	23	02.3	+0.8
ARE0	**ARCESS Array S**	47.42	2	*e*P		**P**		20	21	33.0	-0.4
ARE0	comp=Z,22nm,0.7s			IAmb		IAmb		20	21	33.3	
634A	**China Grove, S** baz=331	47.43	110	P		**P**		20	21	35.2	+1.2
Y45A	**Yeager Farm, C** baz=328,SNR=9.7	47.44	98	P		**P**		20	21	34.9	+0.9
HIA	**Hailar** comp=Z,44nm,0.9s	47.45	297	*e*P		**P**		20	21	33.5	-0.5
HIA				pmax		pmax					
HIA	**Hailar** comp=Z,44nm,0.9s	47.45	297	*e*P		**P**		20	21	33.5	-0.5
438A	**Sam Houston St** baz=330	47.48	106	P		**P**		20	21	35.5	+1.2
142A	**Monroe** baz=328	47.48	102	P		**P**		20	21	35.3	+0.9
241A	**Mo Tay, Goldon** baz=329	47.50	103	P		**P**		20	21	35.9	+1.4
Z44A	**Pea Ridge, Bel** baz=326	47.54	100	P		**P**		20	21	35.6	+0.8
143A	**Socs Landing,** baz=328,SNR=6.4	47.59	101	P		**P**		20	21	36.2	+1.1
340A	**Bronson** baz=329,SNR=5.4	47.59	104	P		**P**		20	21	35.8	+0.7
733A	**Divot King Ran** baz=332	47.61	112	P		**P**		20	21	36.6	+1.2
635A	**Leesville** baz=331	47.67	110	P		**P**		20	21	37.1	+1.4
537A	**Green Hill Far** baz=330	47.69	108	P		**P**		20	21	37.6	+1.6
832A	**Faith Ranch, C** baz=332	47.70	113	P		**P**		20	21	37.2	+1.1
Y46A	**Houston** baz=328,SNR=25	47.73	98	P		**P**		20	21	37.2	+0.9
Z45A	**Winona** baz=328	47.79	99	P		**P**		20	21	37.7	+1.0
242A	**Grayson** baz=329	47.80	102	P		**P**		20	21	37.9	+1.1
734A	**La Parita Cree** baz=331	47.81	111	P		**P**		20	21	38.6	+1.7
KIF	**Kilpisjarvi**	47.84	4	*e*P		**P**		20	21	36.0	-0.6
636A	**Smothers Creek** baz=331,SNR=17	47.89	109	P		**P**		20	21	39.5	+2.0
KTK1	**Kautokeino** comp=Z,28nm,0.7s	47.90	3	*e*P		**P**		20	21	36.7	-0.4
KTK1				IAmb		IAmb		20	21	37.1	
538A	**Harpers Horsep** baz=330	47.92	107	P		**P**		20	21	39.4	+1.7
341A	**Kurthwood** baz=329	47.98	104	P		**P**		20	21	39.4	+1.2
144A	**Alexander Plac** baz=328	48.09	100	P		**P**		20	21	40.3	+1.3
440A	**Kirbyville** baz=330	48.14	105	P		**P**		20	21	40.7	+1.3
Y47A	**UCPARC, Winfie** baz=328,SNR=16	48.16	97	P		**P**		20	21	40.1	+0.5
637A	**Eagle Lake** baz=331	48.24	108	P		**P**		20	21	42.2	+2.0
243A	**Waterproof** baz=329	48.26	102	P		**P**		20	21	41.4	+1.1
Z46A	**Louisville** baz=328	48.27	98	P		**P**		20	21	41.2	+0.8
342A	**Flagon Creek P** baz=329	48.31	103	P		**P**		20	21	42.0	+1.3
145A	**Houston Renfro** baz=328	48.33	100	P		**P**		20	21	41.2	+0.3
LOF	**Lofoten**	48.37	8	*e*P		**P**		20	21	40.8	+0.1
VBMS	**Vicksburg** baz=328	48.40	101	P		**P**		20	21	42.4	+1.0
834A	**Tilden** baz=332	48.44	111	P		**P**		20	21	43.8	+2.0
244A	**Avery, Jackson** baz=329	48.47	101	P		**P**		20	21	43.2	+1.2
441A	**DeRidder** baz=330	48.47	104	P		**P**		20	21	43.6	+1.6
HEF	**Hetta**	48.52	3	*e*P		**P**		20	21	41.6	-0.3
933A	**Laredo** baz=332	48.59	112	P		**P**		20	21	44.6	+1.8
835A	**Beeville** baz=331	48.60	110	P		**P**		20	21	45.1	+2.2
Z47A	**Carrollton** baz=328,SNR=9.3	48.66	98	P		**P**		20	21	43.8	+0.4
STEI	**Steigen**	48.67	7	*e*P		**P**		20	21	43.1	+0.1
STEI	comp=Z,31nm,0.8s			IAmb		IAmb		20	21	44.1	
146A	**Union** baz=328	48.69	99	P		**P**		20	21	44.8	+1.2
Z48A	**Northport** baz=328,SNR=12	48.74	97	P		**P**		20	21	44.2	+0.2
934A	**Benavides** baz=332	48.91	112	P		**P**		20	21	47.5	+2.1
344A	**Westbrook Farm** baz=329	48.95	101	P		**P**		20	21	47.3	+1.7
147A	**Livingston** baz=328,SNR=5.2	49.01	98	P		**P**		20	21	46.3	+0.3
LVZ	**Lovozero**	49.04	357‖	*e*P		**P**		20	21	44.7	-1.2
LVZ	comp=Z,40nm,1.0s			pmax		pmax					
LRAL	**Lakeview Retre** comp=Z,32nm,0.6s	49.28	97	*e*P		**P**		20	21	47.8	-0.2
247A	**Quitman** baz=328	49.39	99	P		**P**		20	21	49.9	+1.0
345A	**Thompson Farm,** baz=329	49.39	101	P		**P**		20	21	49.8	+0.9
CN2	**Changchun**	49.45	289	*e*P		**P**		20	21	48.8	-0.4
CN2				*e*PP		**PP**		20	23	41.0	-3.3
CN2	comp=Z,60nm,0.9s			pmax		pmax					
CN2	comp=Z,200nm,3.0s			pmax		pmax					
SGF	**Sodankyl**	49.54	1	P		**P**		20	21	49.4	-0.2
SGF	comp=Z,52nm,0.9s			pmax		pmax					
035A	**Encino** baz=332	49.67	112	P		**P**		20	21	53.1	+2.0
MAJO	**Matsushiro**	49.72	273*c*	*i*P		**P**		20	21	51.4	0.0
MAJO	comp=Z,59nm,0.6s			pmax		pmax					
MAJO	**Matsushiro** comp=Z,10nm,0.6s	49.72	273	*e*P		**P**		20	21	51.3	-0.1
MAT	**Matsushiro**	49.72	273	P		**P**		20	21	51.1	-0.3
MJAR	**Matsushiro Arr** comp=Z,3.3nm,0.7s,baz=14,slow=8.6,SNR=16	49.72	273	P		**P**		20	21	51.7	+0.3
MJAR	comp=Z,1.8nm,0.8s,baz=14,slow=7.9,SNR=2.7			pP		**pP**		20	22	24.6	+1.1
248A	**Dixon Mills** baz=328,SNR=5.6	49.74	98	P		**P**		20	21	52.0	+0.4
KONS	**Konsvik**	49.96	8	*e*P		**P**		20	21	52.7	-0.1
347A	**Saraland** baz=329	49.97	99	P		**P**		20	21	55.0	+1.7
KMSC	**Kings Mountain** baz=327	50.07	90	P		**P**		20	21	54.4	+0.4
348A	**Jackson** baz=329	50.24	99	P		**P**		20	21	56.6	+1.2
448A	**Bay Minette** baz=329	50.67	99	P		**P**		20	21	59.2	+0.6
MSF	**Maaselka** comp=Z,32nm,0.8s	51.09	0	P		**P**		20	22	01.1	-0.2
MSF				pmax		pmax					
TLY	**Talaya** comp=Z,15nm,0.9s	51.53	310	*e*P		**P**		20	22	05.4	+0.6
TLY				pmax		pmax					
TIGA	**Tifton** baz=328	52.16	95	P		**P**		20	22	09.6	0.0
MOY	**Mondy** comp=Z,30nm,1.7s	52.45	312	*e*P		**P**		20	22	12.7	+1.0
MOY				pmax		pmax					
TMCR	**Tamitsa** comp=Z,16nm,0.6s	52.68	355	*e*P		**P**		20	22	12.0	-1.0
TMCR				pmax		pmax					
ZAK	**Zakamensk** comp=Z,8.0nm,0.9s	52.75	309	*e*P		**P**		20	22	12.4	-1.5
ZAK				pmax		pmax					
ULN	**Ulaanbaatar** comp=Z,28nm,1.0s	53.50	305*c*	*i*P		**P**		20	22	19.9	+0.4
ULN				pmax		pmax					
ULN	**Ulaanbaatar** comp=Z,21nm,0.7s	53.50	305	*e*P		**P**		20	22	19.7	+0.2
KSRS	**Korea Array** comp=Z,8.1nm,0.7s,baz=27,slow=7.0,SNR=34	53.56	282	P		**P**		20	22	20.6	+0.7
KSRS	comp=Z,6.0nm,0.8s,baz=27,slow=6.8,SNR=6.8			pP		**pP**		20	22	53.2	+0.8
KSAR	**Wonju Array Be**	53.59	282	P		**P**		20	22	20.6	+0.5
KSAR				*PP		**pP**		20	22	53.2	+0.6
KSAR	**Wonju Array Be**	53.59	282	P		**P**		20	22	20.6	+0.5
KSAR				pP		**pP**		20	22	53.2	+0.6
SONM	**Songino Array** comp=Z,24nm,0.8s,baz=23,slow=6.4,SNR=126	53.77	306	P		**P**		20	22	22.4	+1.0
SONM	comp=Z,3.7nm,1.0s,baz=43,slow=6.9,SNR=2.0			pP		**pP**		20	22	54.6	+0.6
JOF	**Joensuu** comp=Z,28nm,0.8s	54.09	359	P		**P**		20	22	23.5	+0.2
JOF				pmax		pmax					
SUF	**Sumiainen** comp=Z,36nm,0.9s	54.27	2	P		**P**		20	22	24.4	-0.3
SUF				pmax		pmax					
NVS	**Novosibirsk**	54.99	325	*e*P		**P**		20	22	28.3	-1.6
NVS				*e*				20	23	00.8	
NVS	comp=Z,31nm,0.7s			pmax		pmax					
NVS	comp=N,12nm,0.6s			pmax		pmax					
NVS	comp=E,14nm,0.7s			pmax		pmax					
NB2	**NORSAR Subarra** baz=351,slow=7.4	55.22	11	P		**P**		20	22	30.5	-1.1
NB2	**NORSAR Subarra** comp=Z,8.4nm,0.7s,baz=351,slow=7.4	55.22	11	P		**P**		20	22	30.5	-1.1
NOA	**NORSAR Array B** comp=Z,6.8nm,0.7s,baz=351,slow=7.2,SNR=24	55.22	11	P		**P**		20	22	30.8	-0.8
NOA	comp=Z,2.4nm,0.8s,baz=351,slow=7.3,SNR=3.2			pP		**pP**		20	23	03.2	-1.1
ZALV	**Zalesovo Beam** comp=Z,43nm,0.8s,baz=25,slow=6.6,SNR=149	55.37	324	P		**P**		20	22	31.9	-0.8
ZALV	comp=Z,4.2nm,0.8s,baz=42,slow=4.1,SNR=1.9			PcP		**PcP**		20	23	32.3	+1.0
FINES	**FINESS Array B** comp=Z,13nm,0.8s,baz=5.8,slow=9.0,SNR=36	55.55	2	P		**P**		20	22	33.0	-0.9
FINES	comp=Z,4.0nm,0.8s,baz=353,slow=9.8,SNR=2.2			pP		**pP**		20	23	05.6	-1.0
SOKR	**Solikamsk** comp=Z,87nm,1.2s	55.65	344*c*	*i*P		**P**		20	22	32.9	-1.7
SOKR				pmax		pmax					
KLMR	**Klimovskoe**	55.93	354	*e*P		**P**		20	22	34.8	-1.7
KLMR				*e**PP		**pP**		20	23	07.2	-2.1
KLMR				*e*				20	23	31.0	
KLMR	comp=Z,48nm,0.8s			pmax		pmax					
HFS	**Hagfors** comp=Z,7.6nm,0.7s,baz=340,slow=7.2,SNR=53	56.32	9	P		**P**		20	22	38.4	-0.9
BJI	**Beijing** comp=Z,15nm,1.0s	56.46	293	P		**P**		20	22	40.5	-0.1
BJI				pmax		pmax					
BJI	comp=Z,100nm,5.1s			pmax		pmax					
HHC	**Hu-ho-hao-te** comp=Z,20nm,1.0s	57.66	297	*e*P		**P**		20	22	50.0	+0.8
HHC				pmax		pmax					
HHC	comp=Z,280nm,5.9s			pmax		pmax					
SVE	**Sverdlovsk** comp=Z,91nm,1.0s	57.79	340*d*	*i*P		**P**		20	22	49.8	+

ARU				*e*				20 23 41.9		
ARU								20 25 02.2		
ARU				S	**S**			**20 30 46.5**	**+0.1**	
ARU								20 32 26.8		
ARU				SS	**SS**			**20 34 34.7**	**-5.2**	
ARU				pmax	pmax					
	comp=Z,88nm,1.0s									
VSU	**Vasula**	**58.55**	**2**	*c*eP	**P**			**20 22 54.3**	**-0.7**	
VSU				pmax	pmax					
	comp=Z,62nm,1.2s									
EKA	**Eskdalemuir Ar**	**59.04**	**21**	P	**P**			**20 22 57.9**	**-0.5**	
	comp=Z,3.6nm,0.4s,baz=334,slow=5.3,SNR=56									
EKA				pP	**pP**			**20 23 32.3**	**+0.8**	
	comp=Z,5.2nm,0.8s,baz=338,slow=5.6,SNR=2.3									
BRVK	**Borovoye**	**59.65**	**333**	*c iP*	**P**			**20 23 01.8**	**-0.8**	
BRVK				pmax	pmax					
	comp=Z,94nm,1.0s									
BRVK	**Borovoye**	**59.65**	**333**	*e*P	**P**			**20 23 01.6**	**-1.0**	
	comp=Z,68nm,0.8s									
BVAR	**Borovoye Array**	**59.66**	**333**	P	**P**			**20 23 02.0**	**-0.7**	
	comp=Z,27nm,0.6s,baz=35,slow=7.6,SNR=192									
BVAR				pP	**pP**			**20 23 35.1**	**-0.7**	
	comp=Z,10.0nm,0.7s,baz=37,slow=7.6,SNR=6.1									
BVAR				ScP	**ScP**			**20 27 35.3**	**-0.1**	
	comp=Z,1.1nm,0.9s,baz=327,slow=2.4,SNR=3.6									
KURK	**Kurchatov**	**59.91**	**326**	P	**P**			**20 23 04.5**	**0.0**	
KURK				*PP	**pP**			**20 23 37.7**	**0.0**	
KURK								20 23 49.2		
KURK				pmax	pmax					
	comp=Z,16nm,0.6s									
KURK	**Kurchatov**	**59.91**	**326**	P	**P**			**20 23 04.5**	**0.0**	
KURK				pP	**pP**			**20 23 37.6**	**0.0**	
KURK				PcP	**PcP**			**20 23 49.2**	**-0.1**	
KURBB	**Kurchatov Arra**	**60.02**	**326**	P	**P**			**20 23 04.5**	**-0.7**	
	comp=Z,16nm,0.6s,baz=25,slow=6.9,SNR=61									
KURBB				pP	**pP**			**20 23 37.6**	**-0.8**	
	comp=Z,3.5nm,0.8s,baz=22,slow=6.7,SNR=2.4									
KURBB				PcP	**PcP**			**20 23 49.2**	**-0.5**	
	comp=Z,4.7nm,0.7s,baz=27,slow=4.0,SNR=7.2									
OBN	**Obninsk**	**61.79**	**355**	P	**P**			**20 23 17.0**	**-0.1**	
	comp=Z,88nm,0.5s,baz=177,slow=2.0,SNR=26									
OBN				pP	**pP**			**20 23 50.6**	**+0.2**	
	comp=Z,11nm,0.4s,baz=327,slow=12,SNR=1.8									
OBN	**Obninsk**	**61.79**	**355**	*c iP*	**P**			**20 23 16.7**	**-0.3**	
OBN				*i* *PP	**pP**			**20 23 49.5**	**-0.9**	
OBN				*i*				20 23 55.9		
OBN				pmax	pmax					
	comp=Z,44nm,0.8s									
NJ2	**Nanjing**	**62.10**	**286**	*e*P	**P**			**20 23 19.3**	**-0.2**	
NJ2				pmax	pmax					
	comp=Z,36nm,1.1s									
JOW	**Kunigami**	**62.40**	**275**	P	**P**			**20 23 21.8**	**+0.2**	
	comp=Z,29nm,0.8s,baz=359,slow=3.3,SNR=8.8									
MKAR	**Makanchi Array**	**62.53**	**322**	P	**P**			**20 23 21.1**	**-1.1**	
	comp=Z,15nm,0.5s,baz=43,slow=6.5,SNR=153									
MKAR				LR	LR			20 54 41.5		
	comp=Z,32nm,20.5s,baz=30,slow=40									
GTA	**Gaotai**	**63.44**	**305**	P	**P**			**20 23 28.8**	**+0.4**	
GTA				pP	PcP			20 24 03.3	-0.7	
GTA				sP	sP			20 24 17.5	+0.3	
GTA				pmax	pmax					
	comp=Z,42nm,1.1s									
WMQ	**Urumqi**	**63.64**	**317**	P	**P**			**20 23 30.8**	**+1.2**	
WMQ				pmax	pmax					
	comp=Z,12nm,0.7s									
WMQ				pmax	pmax					
	comp=Z,68nm,4.2s									
WMQ				LR	LR					
	comp=Z,45nm,14.5s									
WMQ				LR	LR					
	comp=Z,43nm,16.7s									
WMQ				LR	LR					
	comp=Z,45nm,18.9s									
LPSR	**Galich'ya Gora**	**64.20**	**354**	*e*P	**P**			**20 23 32.3**	**-0.7**	
LPSR				pmax	pmax					
	comp=Z,50nm,0.7s									
AKTO	**Aktyubinsk**	**64.38**	**340**	P	**P**			**20 23 33.9**	**-0.3**	
	comp=Z,33nm,0.7s,baz=22,slow=6.7,SNR=110									
AKTO				pP	**PcP**			**20 24 06.8**	**-0.7**	
	comp=Z,6.9nm,0.7s,baz=343,slow=4.6,SNR=2.2									
XAN	**Xi'an**	**64.58**	**295**	P	**P**			**20 23 35.0**	**-0.9**	
XAN				pP	PcP			20 24 08.8	+0.2	
XAN				sP	sP			20 24 25.5	+0.8	
XAN				pmax	pmax					
	comp=Z,8.0nm,0.8s									
XAN				pmax	pmax					
	comp=Z,590nm,5.8s									
LZH	**Lanzhou**	**64.82**	**300**	*e*P	**P**			**20 23 36.5**	**-1.1**	
LZH				pP	PcP			20 24 09.0	-0.8	
LZH				PcP	**pP**			**20 24 13.0**	**+1.8**	
LZH				sP	sP			20 24 23.3	-3.1	
LZH				pmax	pmax					
	comp=Z,70nm,1.4s									
LZH				pmax	pmax					
	comp=Z,460nm,4.1s									
CLL	**Collm**	**65.02**	**11**	*e*P	**P**			**20 23 39.0**	**+0.7**	
CLL	**Collm**	**65.02**	**11**	*e*P	**P**			**20 23 39.0**	**+0.7**	
CLL				*e*				20 23 42.0		
ABKAR	**Akbulak array**	**65.22**	**338**	*e*P	**P**			**20 23 39.2**	**-0.5**	
	comp=Z,37nm,0.8s									
BRG	**Berggiesshubel**	**65.53**	**11**	*e*P	**P**			**20 23 41.5**	**-0.1**	
	comp=Z,6.4nm,0.8s									
BRG	**Berggiesshubel**	**65.53**	**11**	*e*P	**P**			**20 23 41.5**	**-0.1**	
BRG				pmax	pmax					
	comp=Z,6.0nm,0.8s									
MOX	**Moxa**	**65.55**	**12**	P	**P**			**20 23 41.6**	**-0.2**	
MOX				pmax	pmax					
	comp=Z,10.0nm,0.8s									
VSR	**Storozhevoye**	**65.57**	**353**	*e*P	**P**			**20 23 41.3**	**-0.6**	
VSR				pmax	pmax					
	comp=Z,40nm,0.7s									
ROSF	**Rostrenen**	**65.76**	**23**	*e*P	**P**			**20 23 44.2**	**+1.0**	
ROSF				pmax	pmax					
	comp=Z,62nm,1.8s									
SGMF	**Saint Gilles**	**65.97**	**23**	*e*P	**P**			**20 23 45.7**	**+1.2**	
SGMF				pmax	pmax					
	comp=Z,44nm,1.8s									
NKC	**Novy Kostel**	**66.03**	**12**	*e*P	**P**			**20 23 44.7**	**-0.2**	
NKC	**Novy Kostel**	**66.03**	**12**	*e*P	**P**			**20 23 44.7**	**-0.2**	
NKC				MLR	MLR					
	comp=Z,1µm,18.5s									
LDF	**La Druitiere**	**66.05**	**21**	*e*P	**P**			**20 23 43.8**	**-1.2**	
LDF				pmax	pmax					
	comp=Z,42nm,1.8s									
UPC	**Upice**	**66.05**	**9**	*e*P	**P**			**20 23 45.0**	**0.0**	
UPC	**Upice**	**66.05**	**9**	*e*P	**P**			**20 23 45.0**	**0.0**	
DPC	**Dobruska-Polom**	**66.23**	**9**	*e*P	**P**			**20 23 46.5**	**+0.3**	
DPC				*e*pP	**pP**			**20 24 20.3**	**+0.3**	
DPC	**Dobruska-Polom**	**66.23**	**9**	*e*P	**P**			**20 23 46.5**	**+0.3**	
DPC				*e**PP	**pP**			**20 24 20.3**	**+0.3**	
AKASG	**Malin Array Be**	**66.34**	**0**	P	**P**			**20 23 46.0**	**-0.8**	
	comp=Z,7.6nm,0.4s,baz=3.2,slow=6.4,SNR=46									
AKASG				pP	**pP**			**20 24 19.3**	**-1.4**	
	comp=Z,10nm,0.9s,baz=0.2,slow=6.3,SNR=3.6									
KIEV	**Kiev**	**66.35**	**0**	*c iP*	**P**			**20 23 46.2**	**-0.7**	
KIEV				pmax	pmax					
	comp=Z,25nm,1.4s									
PRU	**Pruhonice**	**66.46**	**10**	*e*P	**P**			**20 23 47.4**	**-0.2**	
PRU				*e*pP	**pP**			**20 24 20.5**	**-0.9**	
PRU	**Pruhonice**	**66.46**	**10**	*e*P	**P**			**20 23 47.4**	**-0.2**	
PRU				*e**PP	**pP**			**20 24 20.5**	**-0.9**	
PDGK	**Podgornoye**	**66.50**	**322**	P	**P**			**20 23 47.7**	**-0.5**	
PDGK				pmax	pmax					
	comp=Z,40nm,1.0s									
KRLC	**Kraliky**	**66.54**	**9**	*e*P	**P**			**20 23 48.2**	**0.0**	
KRLC				*ex*	x			20 23 56.8		
KRLC				*e*pP	**pP**			**20 24 24.3**	**+2.3**	
KRLC	**Kraliky**	**66.54**	**9**	*e*P	**P**			**20 23 48.2**	**0.0**	
KRLC				*e**PP	**pP**			**20 24 24.3**	**+2.3**	
OKC	**Ostrava-Krasne**	**66.86**	**8**	*e*P	**P**			**20 23 50.1**	**-0.1**	
OKC	**Ostrava-Krasne**	**66.86**	**8**	*e*P	**P**			**20 23 50.1**	**-0.1**	
MORC	**Moravsky Berou**	**66.89**	**8**	⇓*iP*	**P**			**20 23 50.2**	**-0.2**	
MORC	**Moravsky Berou**	**66.89**	**8**	⇓P	**P**			**20 23 50.2**	**-0.2**	
H07S1	**FLORES T-PHASE**	**66.95**	**47**	P	**P**			**20 23 53.2**	**+2.3**	
LVV	**L'vov**	**67.15**	**4**	*e*P	**P**			**20 23 50.6**	**-1.4**	
TREC	**Trest**	**67.22**	**10**	*e*P	**P**			**20 23 52.2**	**-0.3**	
TREC	**Trest**	**67.22**	**10**	*e*P	**P**			**20 23 52.2**	**-0.3**	
KHC	**Kasperske Hory**	**67.23**	**11**	*e*P	**P**			**20 23 52.7**	**+0.2**	
KHC				*e*PCP	**PcP**			**20 24 21.1**	**+1.7**	
KHC				*e*pP	**pP**			**20 24 27.4**	**+1.0**	
KHC				*es*P	**sP**			**20 24 41.9**	**+0.3**	
KHC	**Kasperske Hory**	**67.23**	**11**	*e*P	**P**			**20 23 52.7**	**+0.2**	
KHC				*e*				20 24 21.1		
KHC				*e**PP	**pP**			**20 24 27.4**	**+1.0**	
KHC				*e*				20 24 41.9		
KHC	**Kasperske Hory**	**67.23**	**11**	*e*P	**P**			**20 23 51.5**	**-1.0**	
	comp=Z,1.6nm,0.8s									
VRAC	**Vranov**	**67.29**	**9**	P	**P**			**20 23 53.5**	**+0.6**	
	comp=Z,4.9nm,0.3s,baz=360,slow=8.3,SNR=5.7									
STHS	**Stebnicka Huta**	**67.45**	**6**	*e*P	**P**			**20 23 54.4**	**+0.5**	
STHS				pmax	pmax					
	comp=Z,6.0nm,0.7s									
STHS	**Stebnicka Huta**	**67.45**	**6**	*e*P	**P**			**20 23 54.4**	**+0.5**	
BFO	**Black Forest**	**67.48**	**15**	*i* P	**P**			**20 23 56.5**	**+2.4**	
GERES	**GERESS Array B**	**67.52**	**11**	P	**P**			**20 23 54.2**	**-0.2**	
	comp=Z,1.0nm,0.5s,baz=7.1,slow=5.4,SNR=11									
GERES				pP	**pP**			**20 24 28.4**	**0.0**	
	comp=Z,1.8nm,0.9s,baz=1.9,slow=4.0,SNR=4.0									
LANS	**Liptovska Anna**	**67.63**	**7**	*e*P	**P**			**20 23 55.6**	**+0.5**	
LANS	**Liptovska Anna**	**67.63**	**7**	*e*P	**P**			**20 23 55.6**	**+0.5**	
LOR	**Lormes**	**67.94**	**18**	*e*P	**P**			**20 23 56.1**	**-0.9**	
LOR				pmax	pmax					
	comp=Z,4.0nm,0.5s									
CRVS	**Cervenica-Dubn**	**67.97**	**6**	*e*P	**P**			**20 23 57.0**	**-0.2**	
CRVS	**Cervenica-Dubn**	**67.97**	**6**	*e*P	**P**			**20 23 57.0**	**-0.2**	
MFF	**Saint Martin d**	**67.97**	**21**	*e*P	**P**			**20 23 56.4**	**-0.8**	
MFF				pmax	pmax					
	comp=Z,3.0nm,0.6s									
VYHS	**Vyhne**	**68.25**	**8**	*e*P	**P**			**20 23 58.4**	**-0.5**	
VYHS				pmax	pmax					
	comp=Z,3.0nm,0.9s									
VYHS	**Vyhne**	**68.25**	**8**	*e*P	**P**			**20 23 58.4**	**-0.5**	
FRU	**Bishkek**	**68.25**	**326**	*e*P	**P**			**20 24 00.0**	**+0.9**	
FRU				*e*				20 24 33.0		
KECS	**Kecovo**	**68.34**	**6**	*e*P	**P**			**20 23 58.9**	**-0.6**	
KECS				pmax	pmax					
	comp=Z,3.0nm,0.7s									
KECS	**Kecovo**	**68.34**	**6**	*e*P	**P**			**20 23 58.9**	**-0.6**	
AAK	**Ala-Archa**	**68.47**	**326**	*e*P	**P**			**20 24 00.4**	**-0.2**	
AAK				pmax	pmax					
	comp=Z,23nm,0.9s									
AAK	**Ala-Archa**	**68.47**	**326**	*e*P	**P**			**20 24 00.4**	**-0.2**	
	comp=Z,23nm,0.9s									
SMF	**Signal de Mont**	**68.55**	**19**	*e*P	**P**			**20 23 59.4**	**-1.4**	
SMF				pmax	pmax					
	comp=Z,2.0nm,0.5s									
MOA	**Moln**	**68.56**	**11**	*i* P	**P**			**20 24 01.7**	**+0.8**	
	comp=Z,4.4nm,1.3s									
RETA	**Reutte**	**68.58**	**13**	*i* P	**P**			**20 24 01.2**	**+0.1**	
	comp=Z,2.0nm,0.5s									
CONA	**Conrad Observa**	**68.61**	**10**	*i* P	**P**			**20 24 01.4**	**+0.1**	
	comp=Z,5.1nm,0.9s									
TCF	**Toulx Ste Croi**	**68.66**	**20**	*e*P	**P**			**20 24 02.0**	**+0.5**	
TCF				pmax	pmax					
	comp=Z,43nm,2.0s									
SORM	**Soroca**	**68.91**	**1**	⇑*iP*	**P**			**20 24 02.2**	**-0.8**	
SORM	**Soroca**	**68.91**	**1**	⇑P	**P**			**20 24 02.2**	**-0.8**	
KKAR	**Karatay Array**	**69.00**	**329**	*e*P	**P**			**20 24 03.0**	**-0.7**	
KKAR				pmax	pmax					
	comp=Z,15nm,0.8s									
KKAR	**Karatay Array**	**69.00**	**329**	*e*P	**P**			**20 24 03.0**	**-0.7**	
	comp=Z,15nm,0.8s									
FETA	**Feichten**	**69.04**	**14**	*i* P	**P**			**20 24 04.2**	**+0.2**	
	comp=Z,4.1nm,1.3s									
MNAS	**Manas**	**69.11**	**327**	P	**P**			**20 24 04.2**	**-0.3**	
MNAS				pmax	pmax					
	comp=Z,31nm,0.9s									
DAVOX	**Davos/Dischmat**	**69.19**	**14**	P	**P**			**20 24 05.0**	**0.0**	
	comp=Z,3.1nm,0.8s,baz=319,slow=18,SNR=3.4									
DAVOX	**Davos/Dischmat**	**69.19**	**14**	P	**P**			**20 24 05.0**	**0.0**	
DAVOX				pmax	pmax					
	comp=Z,3.0nm,0.8s									
KBA	**Koelnbreinsper**	**69.24**	**12**	*i* P	**P**			**20 24 05.5**	**+0.3**	
	comp=Z,8.8nm,0.8s									
ARSA	**Arzberg**	**69.25**	**10**	*i* P	**P**			**20 24 00.6**	**-4.6**	
	comp=Z,4.0nm,0.8s									
BURAR	**Bucovina Array**	**69.39**	**3**	⇓*iP*	**P**			**20 24 05.7**	**-0.4**	
BURAR	**Bucovina Array**	**69.39**	**3**	⇓P	**P**			**20 24 05.7**	**-0.4**	
LFF	**La Frestale**	**69.74**	**21**	*e*P	**P**			**20 24 07.4**	**-0.7**	
LFF				pmax	pmax					
	comp=Z,6.0nm,0.8s									
OBKA	**Obir**	**69.91**	**11**	*i* P	**P**			**20 24 09.2**	**-0.1**	
	comp=Z,7.4nm,0.6s									
CAF	**Calviac**	**69.96**	**20**	*e*P	**P**			**20 24 08.5**	**-1.1**	
CAF				pmax	pmax					
	comp=Z,4.0nm,0.9s									
LPL	**La Plagne**	**70.05**	**17**	*e*P	**P**			**20 24 14.2**	**+3.9**	
LPL				pmax	pmax					
	comp=Z,9.0nm,1.4s									
MILM	**Milestii Mici**	**70.13**	**0**	⇑*iP*	**P**			**20 24 09.4**	**-1.1**	
DRGR		**70.13**	**5**	⇑*iP*	**P**			**20 24 10.1**	**-0.5**	
DRGR		**70.13**	**5**	⇑P	**P**			**20 24 10.1**	**-0.5**	
VIVF	**Saint-Julien-l**	**70.42**	**18**	*e*P	**P**			**20 24 11.6**	**-0.8**	
VIVF				pmax	pmax					
	comp=Z,4.0nm,0.7s									
ORIF	**Oris-en-Rattie**	**70.53**	**17**	*e*P	**P**			**20 24 12.5**	**-0.6**	
ORIF				pmax	pmax					
	comp=Z,17nm,1.8s									
KSH	**Kashi**	**71.01**	**324**	⇑*iP*	**P**			**20 24 18.8**	**+2.7**	
KSH				pP	pP			20 24 52.8	+2.5	
KSH				sP	sP			20 25 08.0	+2.6	
KSH				PP	**PP**			**20 27 00.0**	**+5.4**	
KSH				S	**S**			**20 33 20.0**	**-0.5**	
KSH				sS	sS			20 34 19.5	0.0	
KSH				SS	**SS**			**20 37 58.0**	**+2.9**	
KSH				pmax	pmax					
	comp=Z,27nm,0.9s									
KSH				pmax	pmax					
	comp=Z,120nm,11.1s									
KSH				LR	LR					
	comp=Z,74nm,5.4s									
KSH				LR	LR					
	comp=Z,160nm,5.2s									
KSH				LR	LR					
	comp=Z,190nm,6.0s									
DOPR	**Dopca**	**71.04**	**3**	⇓*iP*	**P**			**20 24 16.2**	**+0.2**	
VRI	**Vrincioaia**	**71.16**	**2**	⇑*iP*	**P**			**20 24 16.5**	**-0.3**	
VRI	**Vrincioaia**	**71.16**	**2**	⇑P	**P**			**20 24 16.5**	**-0.3**	
PLOR	**Plostina**	**71.18**	**2**	⇓*iP*	**P**			**20 24 16.9**	**0.0**	
PLOR	**Plostina**	**71.18**	**2**	⇓P	**P**			**20 24 16.9**	**0.0**	
BZS	**Buzias**	**71.26**	**6**	⇑*iP*	**P**			**20 24 16.8**	**-0.5**	
BZS	**Buzias**	**71.26**	**6**	⇑P	**P**			**20 24 16.8**	**-0.5**	
GOF	**Gofitskoye**	**71.44**	**350**	⇑*eP*	**P**			**20 24 18.4**	**-0.1**	
GOF				pmax	pmax					
	comp=Z,94nm,0.8s									
MLR	**Muntele Rosu**	**71.53**	**3**	P	**P**			**20 24 18.9**	**-0.2**	
	comp=Z,0.7nm,0.7s,baz=338,slow=16,SNR=11									
MLR	**Muntele Rosu**	**71.53**	**3**	⇑*iP*	**P**			**20 24 19.8**	**+0.7**	
GZR	**Gura Zlata**	**71.53**	**5**	⇑*iP*	**P**			**20 24 18.7**	**-0.4**	
GZR	**Gura Zlata**	**71.53**	**5**	⇑P	**P**			**20 24 18.7**	**-0.4**	
POLO	**Lamas de Olo**	**71.56**	**29**	*e*P	**P**			**20 24 21.0**	**+1.7**	
VOIR		**71.56**	**3**	⇓*iP*	**P**			**20 24 19.8**	**+0.5**	
VOIR		**71.56**	**3**	⇓P	**P**			**20 24 19.8**	**+0.5**	
ARR	**Arges**	**71.62**	**3**	⇓*iP*	**P**			**20 24 18.1**	**-1.5**	
CFR	**Carcaliu**	**71.87**	**1**	⇑*iP*	**P**			**20 24 20.5**	**-0.5**	
CFR	**Carcaliu**	**71.87**	**1**	⇑P	**P**			**20 24 20.5**	**-0.5**	
MVO	**Moncorvo**	**71.92**	**28**	*e*P	**P**			**20 24 23.2**	**+1.7**	
ANN	**Anapa**	**72.06**	**354**	*e*P	**P**			**20 24 20.7**	**-1.4**	
ANN				pmax	pmax					
	comp=Z,23nm,0.9s									
MDVR	**Moldovita**	**72.10**	**6**	⇓*iP*	**P**			**20 24 21.9**	**-0.5**	
GYA	**Guiyang**	**72.15**	**293**	P	**P**			**20 24 22.8**	**-0.3**	
GYA				pP	pP			20 24 58.5	+1.1	
GYA				sP	sP			20 25 13.0	+0.5	
GYA				PP	**PP**			**20 27 06.3**	**+1.5**	
GYA				S	**S**			**20 33 31.8**	**-2.1**	
GYA				SKS	**SKSac**			**20 34 08.5**	**-5.6**	
GYA				pmax	pmax					
	comp=Z,20nm,1.0s									
GYA				pmax	pmax					
	comp=Z,120nm,6.2s									
HARR	**Harsova**	**72.35**	**1**	⇑*iP*	**P**			**20 24 23.5**	**-0.4**	
HARR	**Harsova**	**72.35**	**1**	⇑P	**P**			**20 24 23.5**	**-0.4**	
TLB	**Topalu**	**72.46**	**1**	⇑*iP*	**P**			**20 24 23.9**	**-0.6**	
TLB	**Topalu**	**72.46**	**1**	⇑P	**P**			**20 24 23.9**	**-0.6**	
MTE	**Manteigas**	**72.54**	**29**	*e*P	**P**			**20 24 25.7**	**+0.5**	
KVAR	**Kislovodsk Arr**	**72.56**	**350**	P	**P**			**20 24 25.3**	**0.0**	
	comp=Z,18nm,0.4s,baz=279,slow=2.4,SNR=45									
KIV	**Kislovodsk**	**72.57**	**350**	*e*P	**P**			**20 24 24.7**	**-0.6**	
KIV				pmax	pmax					
	comp=Z,43nm,1.0s									
KIV	**Kislovodsk**	**72.57**	**350**	*e*P	**P**			**20 24 25.0**	**-0.3**	
	comp=Z,44nm,0.9s									
TIRR	**Tirgusor**	**72.59**	**1**	⇑*iP*	**P**			**20 24 24.5**	**-0.8**	
TIRR	**Tirgusor**	**72.59**	**1**	⇑P	**P**			**20 24 24.5**	**-0.8**	
PCAS	**Casmilo, Conde**	**72.67**	**30**	*e*P	**P**			**20 24 28.1**	**+2.3**	
KBZ	**Khabaz**	**72.77**	**350**	P	**P**			**20 24 26.6**	**+0.3**	
	comp=Z,17nm,0.9s,baz=341,slow=4.9,SNR=38									
NCK	**Nalchik**	**72.95**	**349**	⇑*iP*	**P**			**20 24 26.8**	**-0.7**	
NCK				pmax	pmax					
	comp=Z,92nm,1.0s									
PCBR	**Castelo Branco**	**73.09**	**29**	*e*P	**P**			**20 24 30.6**	**+2.3**	
NEY	**Neytrino**	**73.27**	**350**	⇓*eP*	**P**			**20 24 30.1**	**+0.6**	
NEY				pmax	pmax					
	comp=Z,3.0nm,0.9s									
ZEI	**Tsey**	**73.62**	**349**	*e*P	**P**			**20 24 30.8**	**-0.9**	
ZEI				pmax	pmax					
	comp=Z,32nm,1.0s									
ESDC	**Sonseca Array**	**73.99**	**26**	P	**P**			**20 24 33.7**	**0.0**	
	comp=Z,1.7nm,0.7s,baz=342,slow=5.7,SNR=7.6									
ESDC				pP	**pP**			**20 25 08.2**	**+0.1**	
	comp=Z,1.4nm,0.7s,baz=348,slow=5.4,SNR=2.3									
VTS	**Vitosha**	**74.34**	**5**	⇑*iP*	**P**			**20 24 34.5**	**-1.3**	
VTS	**Vitosha**	**74.34**	**5**	⇑P	**P**			**20 24 34.5**	**-1.3**	
PNCL	**Nicolau / Gran**	**74.52**	**30**	*e*P	**P**			**20 24 37.7**	**+1.1**	
PBAR	**Barrancos**	**74.79**	**29**	*e*P	**P**			**20 24 38.4**	**+0.2**	
KMI	**Kunming**	**74.95**	**296**	P	**P**			**20 24 39.5**	**-0.1**	
KMI				pP	pP			20 25 14.3	+0.1	
KMI				sP	sP			20 25 29.3	+0.1	
KMI				pmax	pmax					
	comp=Z,9.0nm,1.2s									
LSA	**Lhasa**	**75.28**	**308**	P	**P**			**20 24 42.5**	**+0.8**	
LSA	**Lhasa**	**75.28**	**308**	*e*P	**P**			**20 24 42.7**	**+0.9**	
LSA				pmax	pmax					
	comp=Z,14nm,0.9s									
LSA	**Lhasa**	**75.28**	**308**	*e*P	**P**			**20 24 42.7**	**+0.9**	
	comp=Z,14nm,0.9s									
PVAQ	**Vaqueiros**	**75.38**	**30**	*e*P	**P**			**20 24 43.9**	**+2.3**	
GNI	**Garni**	**76.17**	**348**	P	**P**			**20 24 47.1**	**+0.8**	
	comp=Z,10nm,1.0s,baz=180,slow=5.2,SNR=6.0									
GNI	**Garni**	**76.17**	**348**	*c*e*P*	**P**			**20 24 46.4**	**+0.2**	
GNI				pmax	pmax					
	comp=Z,74nm,1.2s									
GEYT	**Alibeck**	**76.53**	**337**	P	**P**			**20 24 48.5**	**+0.3**	
	comp=Z,9.4nm,0.8s,baz=309,slow=5.2,SNR=28									
GEYT				pP	**pP**			**20 25 23.4**	**+0.5**	
	comp=Z,4.1nm,0.8s,baz=317,slow=6.3,SNR=3.5									
BRTR	**Keskin Array B**	**77.26**	**357**	P	**P**			**20 24 52.4**	**-0.1**	
	comp=Z,3.3nm,0.6s,baz=353,slow=3.3,SNR=19									
BRTR				pP	**pP**			**20 25 26.4**	**-0.7**	
	comp=Z,2.4nm,1.0s,baz=25,slow=3.3,SNR=3.3									
BRTR				PP	**PP**			**20 27 45.9**	**-1.6**	
	comp=Z,2.2nm,1.0s,baz=12,slow=6.3,SNR=5.0									
KBL	**Kabul**	**77.49**	**327**	P	**P**			**20 24 52.6**	**-1.2**	
KBL				pmax	pmax					
	comp=Z,15nm,1.0s									
SLVN	**Son La**	**77.84**	**293**	*e*P	**P**			**20 24 55.9**	**+0.1**	
	comp=Z,17nm,0.8s									
SLVN				*e*pP	**pP**			**20 25 31.0**	**+0.4**	
PAMC	**Pamplona, Colo**	**78.07**	**97**	*e*P	**P**			**20 24 57.2**	**-0.4**	
BARC	**Barichara**	**78.52**	**98**	*e*P	**P**			**20 24 58.9**	**-0.8**	
TAPN	**Taplejung**	**78.64**	**309**	*e*P	**P**			**20 25 00.2**	**-0.2**	
	comp=Z,42nm,0.7s									
NORC	**Norcasia**	**78.68**	**100**	*e*P	**P**			**20 24 58.9**	**-1.5**	
GUYC

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB06	**IPOC Station P**	**0.28**	**291**↑	*iP*	Pn	20 34 56.0	-0.1
PB06				*i* S	Sn	20 35 06.2	+0.7
PB06				IAML		20 35 06.6	
	comp=E,12μm,0.1s						
PB04	**IPOC Station P**	**0.92**	**300**↑	*iP*	Pn	20 35 02.1	+0.2
PB04				*i* S	Sn	20 35 16.9	+1.2
PB09	**IPOC Station P**	**1.00**	**3**↑	*iP*	Pn	20 35 03.4	+0.6
PB09				*e*S	Sn	20 35 18.8	+1.4
PB09				IAML		20 35 19.9	
	comp=N,5μm,0.4s						
PB07	**IPOC Station P**	**1.21**	**333**↑	*iP*	Pn	20 35 05.7	+0.4
PB07				*i* S	Sn	20 35 22.8	+1.1
PB07				IAML		20 35 23.3	
	comp=E,2μm,0.4s						
PB10	**IPOC Station P**	**1.36**	**238**↓	*iP*	Pn	20 35 07.9	+0.9
PB10				*i* S	Sn	20 35 25.5	+0.6
PB02	**IPOC Station P**	**1.58**	**339**↓	*iP*	Pn	20 35 10.3	+0.4
PB02				*i* S	Sn	20 35 31.2	+1.1
PB02				IAML		20 35 35.6	
	comp=E,2μm,0.4s						
PB01	**IPOC Station P**	**1.76**	**354**↑	*iP*	Pn	20 35 12.8	+0.6
PB01				*i* S	Sn	20 35 35.5	+1.3
PB01				IAML		20 35 38.3	
	comp=E,1μm,0.3s						

*SOME **28** 21:04:32.2,44°.47N×80°.10E,h15km*
*NNC **28** 21:04:32.6±0.6,44°.41N×80°.06E,h0km,mb3.0,mpv2.7, Error ellipse: s-maj=12.0km s-min=3.6km az=115.0*
ISC 28 21:04:31.1±1.4,44°.47N±0°.04×80°.22E±0°.05,h10km±10km, n24,σ0°.93/43,11C-4D,Kazakhstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DJR	**Jarkent**	**0.33**	**246**↑	*iP*	**Pg**	**21 04 38.0**	**+0.2**
	127nm,0.1s						
DJR				*e*S	**Sg**	**21 04 41.9**	**-0.4**
	355nm,0.3s						
KAPS	**Kapalarasan**	**1.02**	**324**	*e*P	**Pg**	**21 04 50.8**	**+0.1**
	11nm,0.1s						
KAPS				↓*i*S	**Sg**	**21 05 03.7**	**-0.2**
	47nm,0.2s						
PDGK	**Podgornoye**	**1.25**	**205**	↓P	**Pn**	**21 04 54.5**	**-0.2**
	5.7nm,0.4s						
PDGK				↑S	**Sb**	**21 05 10.9**	**-0.2**
	71nm,0.5s						
MNBS	**Baschi**	**1.36**	**254**	*e*P	**Pn**	**21 04 55.1**	**-1.0**
	28nm,0.2s						
MNBS				*e*S	**Sb**	**21 05 11.7**	**-2.4**
	47nm,0.2s						
TDK	**Taldyqorghan**	**1.40**	**293**	*e*P	**Pb**	**21 04 57.2**	**0.0**
	23nm,0.2s						
TDK				*e*S	**Sb**	**21 05 15.1**	**0.0**
	34nm,0.1s						
SHLS	**Shalkode**	**1.42**	**203**	*e*P	**Pn**	**21 04 56.7**	**-0.3**
	27nm,0.1s						
SHLS				*e*S	**Sn**	**21 05 14.3**	**-1.5**
	34nm,0.2s						
KPKS	**Kokpek**	**1.49**	**228**	*e*P	**Pb**	**21 04 58.8**	**-0.1**
	62nm,0.1s						
KPKS				*e*S	**Sn**	**21 05 17.8**	**+0.3**
	165nm,0.2s						
UZB	**Uzynbulak**	**1.58**	**214**	*e*P	**Pb**	**21 05 00.2**	**-0.2**
	7.4nm,0.1s						
UZB				*e*S	**Sb**	**21 05 20.5**	**+0.1**
	86nm,0.3s						
ARXS	**Arharly**	**1.73**	**262**	*e*P	**Pb**	**21 05 02.8**	**-0.2**
	46nm,0.1s						
ARXS				*e*S	**Sb**	**21 05 24.8**	**-0.1**
	35nm,0.1s						
KURS	**Kuram**	**1.77**	**237**	*e*P	**Pb**	**21 05 03.2**	**-0.5**
KURS				*e*S	**Sn**	**21 05 25.5**	**+1.1**
ZHN	**Zhinishke**	**1.83**	**225**	*e*P	**Pb**	**21 05 04.4**	**-0.3**
	12nm,0.2s						
ZHN				*e*S	**Sb**	**21 05 27.8**	**+0.1**
	249nm,0.2s						
SATY	**Saty**	**1.92**	**224**↑	*iP*	**Pb**	**21 05 06.4**	**+0.1**
	17nm,0.3s						
SATY				↑*i*S	**Sb**	**21 05 31.3**	**+1.0**
	186nm,0.2s						
CHKK	**Chushkaly**	**2.40**	**256**	*e*P	**Pb**	**21 05 13.5**	**-0.9**
	38nm,0.2s						
CHKK				*e*S	**Sb**	**21 05 43.2**	**-0.8**
	42nm,0.1s						
MDOK	**Medeo**	**2.64**	**241**	↑Pg	**Pb**	**21 05 18.3**	**-0.1**
MDOK				↑Lg	Lg	21 05 51.8	
MDOK	**Medeo**	**2.64**	**241**	*e*P	**Pb**	**21 05 18.5**	**+0.1**
	4.2nm,0.1s						
MDOK				*e*S	**Sb**	**21 05 51.8**	**+0.9**
	35nm,0.4s						
AAA	**Alma-Ata**	**2.70**	**243**	*e*P	**Pb**	**21 05 20.0**	**+0.5**
	27nm,0.1s						
AAA				*e*S	**Sb**	**21 05 54.4**	**+1.8**
	98nm,0.3s						
MK31	**Makanchi Array**	**2.74**	**31**	↓Pn	**Pb**	**21 05 20.0**	**-0.2**
	0.1nm,0.1s,baz=190,slow=14,SNR=19						
MK31				Sn	**Sb**	**21 05 55.0**	**+1.1**
	0.9nm,0.2s,baz=214,slow=26,SNR=15						
TNSS	**Tian-Shan**	**2.77**	**240**	*e*P	**Pb**	**21 05 19.9**	**-1.0**
	7.1nm,0.1s						
TNSS				*e*S	**Sb**	**21 05 54.4**	**-0.5**
	29nm,0.2s						
MTBS	**Maitube**	**3.05**	**245**	*e*P	**Pb**	**21 05 25.6**	**+0.2**
	5.8nm,0.2s						
MTBS				*e*S	**Sb**	**21 06 04.2**	**+1.5**
	21nm,0.1s						
KST	**Kastek**	**3.39**	**247**	*e*P	**Pb**	**21 05 31.4**	**+0.1**
	2.1nm,0.1s						
KST				↑*i*S	**Sb**	**21 06 14.1**	**+1.5**
	24nm,0.5s						
DGS	**Degeres**	**3.44**	**251**	*e*P	**Pb**	**21 05 32.3**	**+0.2**
	3.9nm,0.3s						
DGS				*e*S	**Sb**	**21 06 15.1**	**+1.1**
	12nm,0.2s						
TKM2	**Tokmak 2**	**3.69**	**247**	↓Pg	**Pb**	**21 05 37.2**	**+0.8**
	1.7nm,0.5s						
TKM2				↑Lg	Lg	21 06 27.0	
	3.9nm,0.4s						
AAK	**Ala-Archa**	**4.54**	**248**	↑Pg	**Pb**	**21 05 53.5**	**+2.5**
	0.9nm,0.3s						
AAK				↑Lg	Lg	21 06 53.4	
	3.1nm,0.8s						
KURK	**Kurchatov**	**6.34**	**351**	↑Lg	Lg	21 07 55.6	
	4.0nm,0.9s						

*IDC **28** 21:44:25.9±4.9,5°.74S×68°.88E,h0km,mb3.8/7,mb1 3.9/7, mb1mx3.6/37,mbtmp3.8/7,MS3.3/6,Ms1 3.3/6, ms1mx3.0/36,Error ellipse: s-maj=117.7km s-min=34.7km az=160.0*
ISC 28 21:44:26.4±1.1,6°.0S±0°.2×68°.9E±0°.1,h10km,n21, σ2s29/15,mb4.1/8,MS3.3/6,Chagos Archipelago region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H08N3	**Diego Garcia H**	**2.12**	**100**		Pn	Pg	21 45 32.2	+25
H08N3					Sn	Sg	21 46 00.8	+26
H08N2	**Diego Garcia H**	**2.12**	**99**		Pn	Pg	21 45 32.7	+26
H08N2					Sn	Sg	21 46 00.7	+26
H08N1	**Diego Garcia H**	**2.14**	**100**		Pn	Pg	21 45 33.2	+26
H08N1					Sn	Sg	21 46 03.6	+28
H08S1	**Diego Garcia H**	**3.92**	**115**		Pn	**Pb**	**21 45 32.7**	**-2.8**
	baz=307,slow=16,SNR=26							
H08S1					Sn	**Sb**	**21 46 25.7**	**+2.7**
H08S3	**Diego Garcia H**	**3.92**	**115**		Pn	**Pb**	**21 45 32.7**	**-3.0**
	baz=307,slow=16,SNR=36							
H08S3					Sn	**Sb**	**21 46 25.6**	**+2.5**
H08S2	**Diego Garcia H**	**3.94**	**115**		Pn	**Pb**	**21 45 32.9**	**-3.0**
	baz=307,slow=16,SNR=31							
H08S2					Sn	**Sb**	**21 46 25.9**	**+2.3**
KMBO	**Kilima Mbogo**	**31.93**	**277**		P	**P**	**21 50 53.4**	**+0.4**
	0.7nm,0.3s,baz=57,slow=14,SNR=3.8							
KMBO					LR	LR	22 01 51.1	
	comp=Z,38nm,21.6s,baz=82,slow=33							
GEYT	**Alibeck**	**44.83**	**348**		LR	LR	22 09 23.2	
	comp=Z,85nm,20.5s,baz=120,slow=34							
H01W3	**Cape Leeuwin H**	**50.60**	**131**		T	T	22 48 13.8	
	baz=294							
H01W2	**Cape Leeuwin H**	**50.61**	**131**		T	T	22 48 16.4	
	baz=294							
H01W1	**Cape Leeuwin H**	**50.62**	**131**		T	T	22 48 16.1	
	baz=294							
GTA	**Gaotai**	**53.45**	**30**	*e*P		**P**	**21 53 47.8**	**+0.8**
GTA					pP	sP	21 53 52.0	+0.6
GTA					sP	pP	21 53 54.8	+4.6
GTA					pmax	pmax		
	comp=Z,3.0nm,1.1s							
MKAR	**Makanchi Array**	**53.88**	**11**	P		**P**	**21 53 48.6**	**-1.2**
	comp=Z,0.2nm,0.6s,baz=205,slow=7.3,SNR=1.6							
KBZ	**Khabaz**	**54.78**	**337**	P		**P**	**21 53 56.3**	**-0.1**
	comp=Z,2.9nm,1.0s,baz=113,slow=4.1,SNR=4.8							
BRTR	**Keskin Array B**	**55.91**	**327**	P		**P**	**21 54 03.9**	**-1.0**
	comp=Z,2.4nm,1.2s,baz=132,slow=2.1,SNR=6.5							
BRTR					LR	LR	22 16 03.5	
	comp=Z,28nm,21.2s,baz=136,slow=34							
ZALV	**Zalesovo Beam**	**61.20**	**11**	P		**P**	**21 54 39.8**	**-1.4**
	comp=Z,0.3nm,0.3s,baz=206,slow=9.6,SNR=3.5							
SONM	**Songino Array**	**62.93**	**27**	P		**P**	**21 54 53.3**	**+0.1**
	comp=Z,1.4nm,0.9s,baz=213,slow=6.4,SNR=6.8							
AKASG	**Malin Array Be**	**65.99**	**334**	P		**P**	**21 55 13.4**	**+0.4**
AKASG					LR	LR	22 26 28.4	
	comp=Z,15nm,18.6s,baz=260,slow=38							
GERES	**GERESS Array B**	**72.70**	**325**	LR	LR	LR	22 29 06.2	
	comp=Z,17nm,18.1s,baz=98,slow=37							
ARCES	**ARCESS Array B**	**80.95**	**346**	LR	LR	LR	22 32 44.3	
	comp=Z,20nm,22.0s,baz=214,slow=36							
TXAR	**Lajitas Array**	**155.73**	**344**	PKPab		**PKPab**	**22 04 51.3**	**+3.5**
	comp=Z,0.3nm,0.8s,baz=64,slow=3.2,SNR=3.8							

CASC 28 21:45:45.8±0.6,13°.18N×88°.80W,h78km±4km,MD3.9, ML3.9,5C-1D,El Salvador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SNVI	**San Vicente**	**0.43**	**355**↑	*e*P	Pn	21 45 59.0	0.0
SNVI				*i* S	Sn	21 46 09.4	+0.6
LFRS	**El Faro**	**0.51**	**330**↑	*i*P	Pn	21 45 59.5	-0.1
PACA	**Pacayal**	**0.54**	**58**	*e*P	Pn	21 46 00.2	+0.3
LCY	**Lacayo**	**0.55**	**63**↑	*i*P	Pn	21 46 00.1	+0.2
VSM	**San Miguel**	**0.57**	**64**	*e*P	Pn	21 46 00.1	-0.2
LBRS	**Las Brisas**	**0.61**	**337**↑	*e*P	Pn	21 46 00.5	0.0
UDBS	**Soyapango**	**0.65**	**327**	*e*P	Pn	21 46 01.0	+0.2
UDBS				AML	AML	21 46 14.9	
	comp=Z,4μm,0.3s						
SNET	**Serv Nac Est T**	**0.66**	**320**	*e*P	Pn	21 46 01.0	0.0
SNET				*i* S	Sn	21 46 12.7	+0.4
SNET				AML	AML	21 46 14.1	
	comp=Z,6μm,0.3s						
OPAM	**San Salvador**	**0.66**	**324**	AML	AML	21 46 16.5	
	comp=Z,3μm,0.4s						
CUSC	**San Salvador**	**0.67**	**325**	*e*P	Pn	21 46 01.2	+0.1
UEES	**San Salvador**	**0.70**	**322**	*e*P	Pn	21 46 01.4	0.0
UEES				AML	AML	21 46 23.7	
	comp=Z,3μm,0.5s						
BOQS	**Boqueron**	**0.73**	**320**	*e*P	Pn	21 46 02.3	+0.5
BOQS				*e*S	Sn	21 46 14.9	+1.2
BOQS				AML	AML	21 46 17.5	
	comp=Z,2μm,0.4s						
CAHU	**Cacaocuatique**	**0.82**	**44**↑	*i*P	Pn	21 46 03.0	+0.2
CAHU				*e*S	Sn	21 46 16.4	+1.0
CNCH	**Conchagua**	**0.94**	**84**	*e*P	Pn	21 46 04.3	+0.1
CNCH				*e*S	Sn	21 46 19.1	+1.3
SBLS	**San Blas**	**1.04**	**309**	*e*P	Pn	21 46 05.8	+0.4
SNJE	**San Jose**	**1.04**	**311**	*e*P	Pn	21 46 05.6	+0.1
MONT	**Ecomontaæa**	**1.07**	**309**	*e*P	Pn	21 46 06.4	+0.5
RBDL	**Robledal**	**1.27**	**317**	*e*P	Pn	21 46 08.3	0.0
MTO3	**Montecristo**	**1.33**	**336**↓	*i*P	Pn	21 46 09.2	+0.1
MTO3				AML	AML	21 46 30.5	
	comp=Z,160nm,0.5s						
CUS1	**Cusmapa**	**1.33**	**303**	*e*P	Pn	21 46 09.2	+0.2
TGUH	**Tegucigalpa,Un**	**1.72**	**59**	*e*P	Pn	21 46 14.3	+0.4
CNGN	**Cerro Negro**	**2.15**	**108**	*e*P	Pn	21 46 19.8	0.0
CNGN				*e*S	Sn	21 46 46.9	+1.1
CNGN				AML	AML	21 46 53.7	
	comp=N,640nm,0.6s						
MOMN	**Momotombo**	**2.33**	**109**	*e*P	Pn	21 46 22.3	+0.2
ESTN	**Estel**	**2.37**	**92**	*e*P	Pn	21 46 22.7	0.0
COPN	**Copaltepe**	**2.37**	**115**	*e*P	Pn	21 46 22.9	+0.3

*DDA **28** 22:13:01.5,39°.65N×38°.73E,h7km,Md2.5*
*CSEM **28** 22:13:02.2±0.2,39°.67N×38°.68E,h2km,MD2.5,Error ellipse: s-maj=5.2km s-min=3.8km az=60.0*
*ISK **28** 22:13:02.0,39°.66N×38°.69E,h6km,MD2.6*
ISC 28 22:13:01.9±1.1,39°.65N±0°.03×38°.72E±0°.03,h4km±13km, n18,σ0°.81/28,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
REFA	**Refahiye_ERZ**	**0.25**	**171**	*i*P	**Pg**	**22 13 04.1**	**-2.7**
REFA				*i* S	**Sg**	**22 13 10.8**	**+0.7**
KEMA	**Kemaliye**	**0.41**	**205**	*i*P	**Pg**	**22 13 09.9**	**0.0**
KEMA				*i* S	**Sg**	**22 13 16.4**	**+1.1**
KEMA	**Kemaliye**	**0.41**	**205**	P	**Pg**	**22 13 09.9**	**0.0**
KEMA				S	**Sg**	**22 13 16.4**	**+1.1**
KELT	**Kelkit**	**0.65**	**39**	*i*P	**Pg**	**22 13 14.5**	**+0.1**
KELT				*i* S	**Sg**	**22 13 23.2**	**+0.4**
KELT	**Kelkit**	**0.65**	**39**	P	**Pg**	**22 13 14.5**	**+0.1**
KELT				S	**Sg**	**22 13 23.2**	**+0.4**
SUSE	**Susehri**	**0.69**	**325**	*i*P	**Pg**	**22 13 14.9**	**-0.1**
SUSE				*i* S	**Sb**	**22 13 25.2**	**-1.2**
SUSE	**Susehri**	**0.69**	**325**	P	**Pg**	**22 13 14.9**	**-0.1**
SUSE				S	**Sb**	**22 13 25.2**	**-1.2**
CUZAR	**Zara_SIVAS**	**0.77**	**289**	*i*P	**Pg**	**22 13 16.4**	**-0.2**
CUZAR	**Zara_SIVAS**	**0.77**	**289**	P	**Pg**	**22 13 16.4**	**-0.2**
ERZN	**Erzincan**	**0.78**	**94**	*e*PG	**Pb**	**22 13 18.0**	**-0.1**
ERZN				*e*SG	**Sb**	**22 13 29.3**	**+0.2**
TNCL	**Tunceli-Merkez**	**0.83**	**129**	*i*P	**Pn**	**22 13 20.1**	**-0.3**
TNCL	**Tunceli-Merkez**	**0.83**	**129**	P	**Pn**	**22 13 20.1**	**-0.3**
PTK	**Pertek**	**0.92**	**145**	*e*PG	**Pb**	**22 13 20.6**	**+0.2**
PTK				*e*SG	**Sb**	**22 13 34.1**	**+1.0**
PTK	**Pertek**	**0.92**	**145**	*e*Pg	**Pb**	**22 13 20.6**	**+0.2**
PTK				*e*Sg	**Sb**	**22 13 34.1**	**+1.0**
SVSK	**Karacayir**	**1.35**	**282**	*e*PN	**Pg**	**22 13 27.9**	**+0.1**
SVSK	**Karacayir**	**1.35**	**282**	*e*Pn	**Pg**	**22 13 27.9**	**+0.1**
DARE	**Darende-Malaty**	**1.44**	**222**	*e*PN	**Pb**	**22 13 29.2**	**-0.1**
DARE	**Darende-Malaty**	**1.44**	**222**	*e*Pn	**Pb**	**22 13 29.2**	**-0.1**

IDC 28 22:13:52.8±1.9,12°.42S×168°.47E,h0km,mb3.9/4, mb1 4.1/5,mb1mx3.7/31,mbtmp3.9/5,ML3.9/1,MS3.4/4, Ms1 3.3/4,ms1mx3.0/31,Error ellipse: s-maj=62.2km s-min=29.7km az=126.0,Santa Cruz Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**9.79**	**191**		Pn	Pn	22 16 13.3	-1.8
	1.2nm,0.3s,baz=38,slow=19,SNR=9.4							
DZM					LR	LR	22 19 37.2	
	comp=Z,130nm,18.6s,baz=20,slow=35							
PMG	**Port Moresby**	**21.13**	**276**		LR	LR	22 26 05.1	
	comp=Z,104nm,18.7s,baz=129,slow=35							
H11S2	**WAKE ISLAND Hy 30.76**	**357**			T	T	22 52 27.5	
	baz=181,slow=76,SNR=22							
H11S3	**WAKE ISLAND Hy 30.77**	**357**			T	T	22 52 28.1	
	baz=181,slow=76,SNR=22							
H11S1	**WAKE ISLAND Hy 30.78**	**357**			T	T	22 52 29.8	
	baz=181,slow=76,SNR=16							
STKA	**Stephens Creek**	**31.39**	**228**		P	P	22 20 17.3	+1.7
	2.3nm,0.6s,baz=70,slow=8.5,SNR=2.1							
STKA					LR	LR	22 31 24.9	
	comp=Z,74nm,18.8s,baz=33,slow=34							
RAR	**Rarotonga**	**31.58**	**110**		LR	LR	22 29 59.0	
	comp=Z,51nm,18.5s,baz=294,slow=31							
H11N1	**WAKE ISLAND Hy 31.97**	**357**			T	T	22 53 59.8	
	baz=182,slow=77,SNR=28							
H11N3	**WAKE ISLAND Hy 31.97**	**357**			T	T	22 54 05.3	
	baz=182,slow=77,SNR=16							
H11N2	**WAKE ISLAND Hy 31.98**	**357**			T	T	22 54 01.0	
	baz=182,slow=77,SNR=12							
WRA	**Warramunga Arr**	**33.57**	**253**		P	P	22 20 34.0	-0.8
	0.5nm,0.3s,baz=86,slow=9.0,SNR=15							
ASAR	**Alice Springs**	**34.62**	**246**		P	P	22 20 43.5	-0.5
	0.3nm,0.5s,baz=73,slow=9.0,SNR=4.9							
ILAR	**Eielson Array**	**83.98**	**18**		P	P	22 26 24.6	0.0
	0.6nm,0.8s,baz=213,slow=6.1,SNR=5.3							

*CASC **28** 22:25:43.7±2.3,9°.37N×83°.85W,h8km±6km,MD4.3,ML4.2, mb4.3(NEIC)*
*ISCJB **28** 22:25:44.1±0.6,9°.37N±0°.03×83°.85W±0°.03,h12km±3km, mb3.9/13,MS3.4/5,Error ellipse: s-maj=6.0km s-min=2.5km az=40.3*
*IDC **28** 22:25:44.1±1.0,9°.54N×83°.78W,h0km,mb3.7/6, mb1 4.2/11,mb1mx4.0/36,mbtmp4.1/11,ML4.0/5,MS3.6/8, Ms1 3.6/8,ms1mx3.3/38,Error ellipse: s-maj=30.6km s-min=18.7km az=36.0*
*NEIC **28** 22:25:50.6±1.0,9°.38N×83°.76W,h42km±10km,mb4.3/12, MD4.4(HDC),Error ellipse: s-maj=12.9km s-min=7.6km az=216.0*
NEIC Felt [III] at Quepos and San Isidro and [II] at Escazu and San Jose. Also felt at Alajuela, Aserri, Atenas, Buenos Aires, Calle Blancos, Curridabat, Desamparados, Grecia, Guadalupe, Heredia, Palmar, Sabanilla, San Antonio, San Marcos, San Pedro, Santa Ana, Santiago, Tejar, Tres Rios and Turrialba.
ISC 28 22:25:44.9±1.1,9°.37N±0°.03×83°.80W±0°.03,h5km±6km,n93, σ2s29/108,mb4.1/13,MS3.3/5,4C-6D,Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BUS	**Buena Vista**	**0.19**	**11**	*e*P	**Pg**	**22 25 48.5**	**-0.2**
BUS				*e*S	**Sb**	**22 25 53.0**	**+1.7**
QCR1	**Quepos**	**0.37**	**279**↑	*i*P	**Pg**	**22 25 49.5**	**-2.5**
LCR2	**La Lucha 2**	**0.42**	**331**↓	*i*P	**Pg**	**22 25 51.6**	**-1.5**
LCR2				*e*S	**Sg**	**22 25 58.5**	**-0.2**
URSC	**Urasca**	**0.46**	**2**↓	*i*P	**Pg**	**22 25 52.9**	**-0.9**
URSC				*e*S	**Sb**	**22 26 02.3**	**-0.6**
SJS	**Escuela Geolog**	**0.62**	**336**↓	*e*P	**Pg**	**22 25 55.3**	**-1.5**
SJS				*e*S	**Sg**	**22 26 04.5**	**-0.4**
VTR0	**Volcan Turrial**	**0.65**	**3**↓	*i*P	**Pg**	**22 25 56.6**	**-0.7**
CVTR	**Volcan Turrial**	**0.65**	**3**↓	*i*P	**Pg**	**22 25 56.6**	**-0.8**
CVTR				*e*S	**Sb**	**22 26 06.1**	**-2.3**
CGA2	**Cerro Gallo 2**	**0.92**	**314**	*e*P	**Pg**	**22 25 59.7**	**-2.9**
ACR	**Cerro Adams**	**0.94**	**139**	*e*P	**Pb**	**22 26 01.3**	**-2.4**
TRT1	**Tortuguero**	**1.22**	**4**↑	*i*P	**Pb**	**22 26 05.9**	**-2.6**
BRU2	**Volcan**	**1.23**	**118**↑	*e*P	**Pn**	**22 26 07.1**	**-1.8**
BRU2				*e*S	**Sb**	**22 26 25.1**	**+0.1**
TBS2		**1.26**	**117**	*e*P	**Pn**	**22 26 07.4**	**-1.9**
TBS2				*e*S	**Sb**	**22 26 25.6**	**-0.2**
ARE1	**Arenal 1**	**1.42**	**320**	*e*S	**Sn**	**22 26 27.9**	**-2.4**
CUI	**Cuipilapa**	**1.86**	**314**	*e*P	**Pn**	**22 26 16.1**	**-1.3**
CUI				*e*S	**Sn**	**22 26 38.4**	**-2.9**
ACLS	**Los Chiles**	**1.89**	**331**	*e*S	**Sb**	**22 26 42.2**	**-1.4**
MESS	**Mesas**	**1.94**	**315**↑	*e*P	**Pn**	**22 26 16.8**	**-1.8**
MESS				*e*S	**Sn**	**22 26 40.2**	**-3.1**
VCR	**Vista de Mar**	**1.96**	**293**	*e*P	**Pn**	**22 26 15.7**	**-3.1**
BUEV	**Buena Vista**	**2.13**	**312**↓	*e*P	**Pn**	**22 26 19.9**	**-1.3**
BUEV				*e*S	**Sn**	**22 26 45.4**	**-2.6**
GB1A	**Borinquen Arri**	**2.14**	**313**	*e*P	**Pn**	**22 26 20.0**	**-1.3**
GB1A				*e*S	**Sn**	**22 26 46.1**	**-2.1**
CRZ1	**La Cruz**	**2.48**	**313**	*e*P	**Pn**	**22 26 25.9**	**-0.1**
CONN	**Concepcion**	**2.83**	**321**	*e*P	**Pn**	**22 26 29.8**	**-1.0**
ESPN	**Las Esperanzas**	**2.85**	**350**	*e*P	**Pn**	**22 26 29.1**	**-1.9**
ESPN				AML	AML	22 27 18.7	
	comp=N,2μm,0.7s						
ACON	**Acoyapa**	**2.92**	**332**	*e*P	**Pn**	**22 26 29.8**	**-2.1**
BOAB	**BOACO BROADBAN**	**2.57**	**329**	*e*P	**Pn**	**22 26 40.6**	**-0.3**
ZANG	**Zanguenga, Cho**	**3.90**	**96**	*e*P	**Pn**	**22 26 45.4**	**0.0**
ZANG				*e*S	**Sn**	**22 27 29.8**	**-1.8**
BCIP	**Isla Barro Col**	**3.91**	**93**	*e*Pn	**Pn**	**22 26 45.0**	**-0.6**
BCIP				*e*S	**Sn**	**22 27 23.8**	**-8.2**
BCIP	**Isla Barro Col**	**3.91**	**93**	*e*P	**Pn**	**22 26 45.0**	**-0.6**
COPN	**Copaltepe**	**3.92**	**316**	*e*P	**Pn**	**22 26 45.2**	**-0.5**
FRIJ	**El Hiral**	**4.02**	**92**	*e*P	**Pn**	**22 26 47.0**	**-0.1**
CNGN	**Cerro Negro**	**4.22**	**318**	*e*P	**Pn**	**22 26 49.4**	**-0.5**
FLAM	**Flamenco Islan**	**4.23**	**96**	*e*P	**Pn**	**22 26 51.0**	**+1.0**
ESTN	**Estel**	**4.49**	**326**	*e*P	**Pn**	**22 26 53.1**	**-0.6**
ICCO	**Coco Island**	**4.99**	**221**	*e*S	**Sn**	**22 27 54.9**	**-3.7**
TGUH	**Tegucigalpa,Un**	**5.77**	**324**	*e*Pn	**Pn**	**22 27 12.5**	**+1.3**
TGUH	**Tegucigalpa,Un**	**5.77**	**324**	*e*P	**Pn**	**22 27 11.7**	**+0.5**
CAPC	**Capurgana**	**6.41**	**96**	*e*P	**Pn**	**22 27 22.9**	**+3.0**
MOTC	**Monteria, Cord**	**8.05**	**94**	*e*P	**Pn**	**22 27 43.8**	**+1.3**
GRGC	**Isla de Gorgon**	**8.44**	**138**	*e*P	**Pn**	**22 27 47.5**	**-0.4**
SJCC	**San Jacinto, C**	**8.51**	**86**	*e*P	**Pn**	**22 27 50.4**	**+1.5**
HELC	**Santa Helena**	**8.78**	**110**	*e*P	**Pn**	**22 27 56.5**	**+3.6**
HELC	**Santa Helena**	**8.78**	**110**	*e*Pn	**Pn**	**22 27 56.1**	**+3.3**
TUMC	**Tumaco**	**9.03**	**146**	*e*P	**Pn**	22 28 02.7	+6.7
ZARC	**Zaragoza, Cauc**	**9.04**	**101**	*e*P	**Pn**	**22 27 56.9**	**+0.8**
NORC	**Norcasia**	**9.62**	**113**	*e*P	**Pn**	**22 28 07.6**	**+3.4**
POPC	**Popayan, Colom**	**9.80**	**133**	*e*P	**Pn**	**22 28 03.9**	**-2.9**
BRRC	**Barranca, Sant**	**10.23**	**102**	*e*P	**Pn**	**22 28 16.4**	**+4.0**
CRUC	**La Cruz**	**10.32**	**138**	*e*P	**Pn**	**22 28 17.2**	**+3.2**
OCAC	**Ocana**	**10.41**	**95**	*e*P	**Pn**	**22 28 15.0**	**-0.1**
ROSC	**El Rosal**	**10.42**	**115**	Pn	**Pn**	**22 28 20.0**	**+4.5**
	comp=N,1.2nm,0.3s,baz=289,slow=15,SNR=4.1						
PRAC	**Prado**	**10.48**	**122**	*e*P	**Pn**	**22 28 19.7**	**+3.8**
OTAV	**

comp=N,0.3nm,0.7s,baz=255,slow=4.2,SNR=3.3
KSH Kashi 127.86 20 *e*PKP **PKPdf** 22 44 55.0 +2.7
KSH PP **PP** 22 47 00.0 +6.9
KSH PKS **PKSdf** 22 48 31.0 +2.0
KSH SKS **SKSdf** 22 52 06.3 +1.2
KSH Kashi 127.86 20 SS SS 23 04 08.5 +2.8
KSH AMB AMB
comp=Z,95nm,4.6s
KSH LR LR
comp=N,66nm,5.5s
KSH LR LR
comp=E,79nm,4.9s
KSH LR LR
comp=Z,130nm,7.6s
ASAR Alice Springs 141.30 244 PKP **PKPdf** 22 45 15.8 -1.9
comp=Z,0.3nm,0.4s,baz=90,slow=1.1,SNR=3.1
WRA Warramunga Arr 141.73 250 PKP **PKPdf** 22 45 17.0 -1.5
comp=Z,0.7nm,0.7s,baz=99,slow=2.6,SNR=3.5
CMAR Chiang Mai Arr 152.22 354 PKP **PKPdf** 22 45 36.9 +0.9
comp=Z,0.9nm,0.3s,baz=328,slow=3.3,SNR=5.3
CMAR PKPab **PKPab** 22 45 51.5 -0.6
comp=Z,0.9nm,0.4s,baz=342,slow=3.6,SNR=4.2

*IDC **28** 22:29:37.9±1.0, 27.°61N×143.°87E, h0km, mb4.0/12, mb1 4.2/14, mb1mx3.9/51, mbtmp4.0/14, ML3.8/2, MS3.2/3, Ms1 3.2/3, ms1mx2.6/57, Error ellipse: s-maj=25.4km s-min=23.4km az=18.0*
*NEIC **28** 22:29:40.2±0.5, 27.°77N×143.°91E, h10km, mb4.3/5, Error ellipse: s-maj=11.0km s-min=9.9km az=107.0*
*ISCJB **28** 22:29:41.9±0.6, 27.°80N±0.°04×143.°74E±0.°07, h33km, mb4.1/17, MS4.1/1, Error ellipse: s-maj=9.0km s-min=5.6km az=22.9*
*JMA **28** 22:29:42.2±0.4, 27.°70N×143.°62E, h20km, M4.3*
ISC 28 22:29:43.8±0.7, 27.°74N±0.°06×143.°69E±0.°08, h35km, n30, σ1§65/32, **mb4.1**/17, **Bonin Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**1.48**	**245**	P	**Pn**	**22 30 07.5**	**-0.5**
CBIJ				*e*S	**Sn**	**22 30 25.5**	**-0.6**
CBIJ	**Chichi jima**	**1.48**	**245**	*e*Pn	**Pn**	**22 30 08.9**	**+0.9**
CBIJ				*e*S	**Sn**	**22 30 25.7**	**-0.4**
JHHJ	**Haha-jima-NKT**	**1.74**	**231**	P	**Pn**	**22 30 11.0**	**-0.5**
JHHJ				*e*S	**Sn**	**22 30 31.5**	**-0.9**
BSO4	**Boso 4**	**7.78**	**339**	*e*S	**Sn**	**22 33 02.2**	**+1.0**
JRY	**Ryogami san**	**9.20**	**335**	P	**Pn**	**22 31 52.6**	**-1.5**
JRY				*e*S	**Sn**	**22 33 37.6**	**+1.2**
MJAR	**Matsushiro Arr**	**9.93**	**334**	Pn	**Pn**	**22 32 02.4**	**-1.7**
	1.6nm,0.3s,baz=151,slow=11,SNR=8.1						
MJAR				Sn	**Sn**	**22 33 47.9**	**-6.4**
	0.6nm,0.3s,baz=159,slow=24,SNR=3.8						
MAJO	**Matsushiro**	**9.93**	**334**	*e*Pn	**Pn**	**22 32 03.3**	**-0.8**
JOW	**Kunigami**	**13.74**	**270**	LR	LR	22 38 31.1	
	comp=Z,37nm,18.1s,baz=73,slow=38						
ERM	**Erimo**	**14.25**	**358**	*e*Pn	**Pn**	**22 33 01.1**	**-1.9**
KSRS	**Korea Array**	**16.42**	**310**	Pn	**P**	**22 33 32.6**	**-1.4**
	0.2nm,0.3s,baz=127,slow=9.7,SNR=2.8						
KSRS				LR	LR	22 40 03.3	
	comp=Z,21nm,18.1s,baz=220,slow=38						
KSAR	**Wonju Array Be**	**16.44**	**310**	Pn	**Pn**	**22 33 32.6**	**+0.8**
SSLB	**Suanglung**	**20.84**	**264**	*e*Pn	Pn	22 34 29.2	+3.9
SONM	**Songino Array**	**35.19**	**315**	P	**P**	**22 36 35.8**	**+1.1**
	1.5nm,0.8s,baz=118,slow=5.4,SNR=6.4						
CHTO	**Chiang Mai**	**41.86**	**268**	*e*P	**P**	**22 37 33.0**	**+2.2**
	2.8nm,1.0s						
WRA	**Warramunga Arr**	**48.25**	**192**	P	**P**	**22 38 19.4**	**-2.1**
	2.8nm,0.7s,baz=13,slow=8.5,SNR=2.6						
ZALV	**Zalesovo Beam**	**49.89**	**319**	P	**P**	**22 38 34.5**	**+0.8**
	0.3nm,0.3s,baz=95,slow=8.7,SNR=2.6						
MKAR	**Makanchi Array**	**51.10**	**309**	P	**P**	**22 38 44.2**	**+1.2**
	0.8nm,0.6s,baz=96,slow=8.6,SNR=8.1						
KDAK	**Kodiak Island**	**53.05**	**37**	P	**P**	**22 38 56.7**	**-0.6**
	9.1nm,1.1s,baz=220,slow=3.9,SNR=5.3						
KURK	**Kurchatov**	**53.49**	**314**	*e*P	**P**	**22 39 00.7**	**+0.1**
	8.3nm,0.6s						
KURBB	**Kurchatov Arra**	**53.55**	**314**	P	**P**	**22 39 01.6**	**+0.6**
	1.0nm,0.7s,baz=90,slow=7.3,SNR=16						
MSVF	**Nonsavu**	**56.14**	**140**	*e*P	**P**	**22 39 20.0**	**-0.2**
	7.2nm,1.2s						
ILAR	**Eielson Array**	**56.51**	**29**	P	**P**	**22 39 20.8**	**-1.5**
	1.0nm,0.9s,baz=259,slow=6.2,SNR=7.8						
AAK	**Ala-Archa**	**56.99**	**305**	LR	LR	23 04 39.0	
	comp=Z,144nm,20.5s,baz=49,slow=37						
KKAR	**Karatay Array**	**59.79**	**306**	*e*P	**P**	**22 39 47.0**	**+1.5**
	0.8nm,0.4s						
INK	**Inuvik**	**61.90**	**25**	P	**P**	**22 39 59.5**	**+0.2**
	1.4nm,0.8s,baz=322,slow=8.1,SNR=3.2						
ABKAR	**Akbulak array**	**65.60**	**314**	*e*P	**P**	**22 40 25.0**	**+0.9**
	0.5nm,0.6s						
FINES	**FINESS Array B**	**77.96**	**334**	P	**P**	**22 41 38.2**	**+0.2**
	2.5nm,0.9s,baz=46,slow=5.5,SNR=6.4						
KBZ	**Khabaz**	**78.54**	**313**	P	**P**	**22 41 43.3**	**+1.6**
	3.5nm,0.7s,baz=84,slow=1.7,SNR=10						
NOA	**NORSAR Array B**	**83.50**	**339**	P	**P**	**22 42 08.0**	**+0.1**
	1.3nm,0.8s,baz=40,slow=4.7,SNR=3.6						
TXAR	**Lajitas Array**	**94.15**	**54**	P	**P**	**22 42 59.8**	**+0.3**
	0.3nm,0.8s,baz=304,slow=5.2,SNR=3.5						

*IDC **28** 22:30:12.3±0.6, 3.°22S×130.°70E, h0km, mb4.3/24, mb1 4.4/24, mb1mx4.3/46, mbtmp4.3/24, ML2.7/1, MS3.5/7, Ms1 3.5/7, ms1mx3.1/48, Error ellipse: s-maj=23.4km s-min=12.1km az=81.0*
*ISCJB **28** 22:30:15.5±0.2, 3.°22S±0.°03×130.°80E±0.°03, h35km, mb4.5/41, MS3.7/7, Error ellipse: s-maj=4.9km s-min=4.3km az=162.6*
*DJA **28** 22:30:16.6±1.1, 3.°S±2.°×13.°1E±.°, h20km±10km, M4.6/8, mB5.2/1, mb5.0/2, MLv4.4/8, Mw(mB)4.6/1*
*NEIC **28** 22:30:17.7±0.9, 3.°27S×130.°82E, h40km±10km, mb4.8/16, Error ellipse: s-maj=8.6km s-min=6.3km az=63.0*
*BJI **28** 22:30:17.3, 3.°30S×130.°88E, h46km, mb4.6/30, mB5.2/17, Ms4.8/8, Ms7 4.6/8*
ISC 28 22:30:17.4±0.4, 3.°19S±0.°04×130.°82E±0.°05, h35km, n99, σ1§68/105, **mb4.5**/41, **MS3.5**/7, **1C, Seram**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FAKI	**Fak Fak**	**1.46**	**79**	P	**Pn**	**22 30 42.6**	**+1.4**
FAKI	**Fak Fak**	**1.46**	**79**	*e*Pn	**Pn**	**22 30 42.6**	**+1.4**
FAKI				*e*S	**Sn**	**22 30 59.3**	**+0.2**
BNDI	**Bandanaira**	**1.61**	**214**	P	**Pn**	**22 30 44.2**	**+0.9**
MSAI	**Masohi**	**1.89**	**265**	P	**Pn**	**22 30 48.8**	**+1.6**
SIJI	**Sorong**	**2.35**	**11**	Pn	**Pn**	**22 30 52.4**	**-1.1**
	1.7nm,0.3s,baz=194,slow=22,SNR=63						
SIJI				Sn	**Sn**	**22 31 20.4**	**-0.8**
	4.3nm,0.3s,baz=196,slow=15,SNR=15						
SIJI				LR	LR	22 31 54.5	
	comp=Z,90nm,18.1s,baz=100,slow=42						
AAI	**Ambon**	**2.66**	**259**	P	**Pn**	**22 30 57.4**	**-0.4**
NLAI	**Namlea**	**3.71**	**269**	P	**Pn**	**22 31 12.5**	**+0.2**
LBMI	**Labuha**	**4.17**	**307**	P	**Pn**	**22 31 17.8**	**-0.8**
LBMI				S	**Sn**	**22 32 05.5**	**-0.7**
SAUI	**Saumlaki**	**4.79**	**174**	S	**Sn**	**22 32 25.4**	**+4.1**
SANI	**Sanana**	**4.96**	**283**	P	**Pn**	**22 31 26.7**	**-2.7**
BBSI	**Bau Bau**	**8.53**	**254**	P	**Pn**	**22 32 21.2**	**+2.6**
SOEI	**Soe**	**9.21**	**225**	P	**Pn**	**22 32 28.4**	**+0.4**
SOEI	**Soe**	**9.21**	**225**	*e*Pn	**Pn**	**22 32 28.9**	**+1.0**
MRSI	**Marisa**	**9.59**	**292**	P	Pn	22 32 43.5	+10
MTN	**Manton Dam**	**9.60**	**178**	*e*Pn	**Pn**	**22 32 30.9**	**-2.3**
SPSI	**Sidrap Palu**	**11.05**	**266**	P	**Pn**	**22 32 54.4**	**+1.3**
KAPI	**Kappang**	**11.18**	**260**	*e*Pn	**Pn**	**22 32 56.5**	**+1.6**
	41nm,0.9s						
TWSI	**Taliwang, Sumb**	**14.91**	**248**	P	**Pn**	**22 33 45.6**	**-0.1**
FITZ	**Fitzroy Crossi**	**15.66**	**199**	Pn	**Pn**	**22 33 50.0**	**-5.6**
	baz=39,slow=11,SNR=8.1						
FITZ				Sn	Sn	22 36 36.0	-12
	0.1nm,0.3s,baz=75,slow=20,SNR=2.3						
MTKI	**Muara Teweh, K**	**16.07**	**278**	P	**P**	**22 34 04.9**	**+1.1**
COEN	**Coen**	**16.23**	**132**	*e*Pn	**Pn**	**22 34 01.1**	**-1.7**
COEN				*e*S	Sn	22 36 49.4	-13
WRAB	**Tennant Creek**	**17.00**	**169**	*e*Pn	**Pn**	**22 34 11.7**	**-0.8**
	60nm,0.8s						
WRAB				*e*S	Sn	22 37 05.5	-15
WRA	**Warramunga Arr**	**17.00**	**169**	Pn	**Pn**	**22 34 08.7**	**-3.9**
	0.4nm,0.3s,baz=348,slow=12,SNR=11						
WRA				Sn	Sn	22 37 08.1	-13
	0.4nm,0.3s,baz=354,slow=23,SNR=3.8						
WB2	**Warramunga Arr**	**17.00**	**169**	*e*Pn	**Pn**	**22 34 11.3**	**-1.4**
	30nm,0.8s						
BLJI	**Banyuglugur**	**17.73**	**255**	P	**P**	**22 34 24.2**	**+2.0**
SBUM	**Sibu**	**19.41**	**287**	*e*P	**Pn**	**22 34 42.1**	**-0.1**
	21nm,1.2s						
NGJI	**Ngawi**	**19.71**	**257**	P	Pn	22 34 55.4	+10
AS31	**Alice Springs**	**20.57**	**172**	*e*P	**P**	**22 34 53.4**	**0.0**
	27nm,0.8s						
AS31				*e*S	**S**	**22 38 41.5**	**-0.2**
ASAR	**Alice Springs**	**20.57**	**172**	P	**P**	**22 34 53.3**	**-0.1**
	28nm,0.5s,baz=350,slow=9.7,SNR=201						
ASAR				S	**S**	**22 38 36.0**	**-5.7**
	2.3nm,0.9s,baz=356,slow=21,SNR=4.3						
AS01	**Alice Springs**	**20.58**	**172**	*e*P	**P**	**22 34 53.1**	**-0.4**
AS01				*e*S	**S**	**22 38 41.1**	**-0.8**
MBWA	**Marble Bar**	**20.87**	**210**	*e*P	**P**	**22 34 53.5**	**-3.0**
	121nm,1.2s						
KSM	**Kuching**	**21.02**	**282**	*e*P	**P**	**22 34 58.0**	**-0.2**
	29nm,0.7s						
GUMO	**Guam**	**21.73**	**40**	LR	LR	22 44 06.5	
	comp=Z,79nm,18.7s,baz=198,slow=38						
KPJI	**Karang Pucung**	**22.17**	**258**	P	**P**	**22 35 09.3**	**-1.4**
CTA	**Charters Tower**	**22.56**	**139**	P	**P**	**22 35 15.1**	**+0.4**
	4.7nm,0.6s,baz=9.7,slow=6.7,SNR=4.3						
TPRI	**Tanjung Pinang**	**26.59**	**278**	P	**P**	**22 35 56.0**	**+3.3**
MYKOM	**Kota Tinggi**	**27.41**	**280**	*e*P	**P**	**22 35 60.0**	**0.0**
	23nm,0.9s						
HNR	**Honiara**	**29.59**	**103**	LR	LR	22 49 47.8	
	comp=Z,89nm,20.0s,baz=166,slow=40						
JOW	**Kunigami**	**29.95**	**355**	LR	LR	22 47 54.0	
	comp=Z,145nm,19.2s,baz=121,slow=35						
STKA	**Stephens Creek**	**30.28**	**162**	P	**P**	**22 36 25.4**	**0.0**
	7.3nm,1.0s,baz=349,slow=12,SNR=3.2						
PDSI	**Padang**	**30.42**	**274**	P	**P**	**22 36 26.1**	**-0.7**
NWAO	**Narrogin (SRO)**	**32.20**	**202**	P	**P**	**22 36 40.2**	**-2.0**
	4.6nm,0.7s,baz=66,slow=20,SNR=3.8						
NWAO				LR	LR	22 50 07.4	
	comp=Z,82nm,18.2s,baz=250,slow=37						
NWAO	**Narrogin (SRO)**	**32.20**	**202**	*e*P	**P**	**22 36 40.6**	**-1.7**
	29nm,1.0s						
PSI	**Prapat**	**32.43**	**280**	P	**P**	**22 36 42.6**	**-2.0**
	10.0nm,0.7s,baz=122,slow=5.8,SNR=6.8						
NJ2	**Nanjing**	**36.84**	**343**	*e*P	**P**	**22 37 23.0**	**+0.6**
NJ2				pmax	pmax		
	comp=Z,12nm,0.7s						
GYA	**Guiyang**	**37.61**	**323**	*e*P	**P**	**22 37 30.0**	**+0.9**
GYA				pmax	pmax		
	comp=Z,10.0nm,0.8s						
CMAR	**Chiang Mai Arr**	**38.05**	**306**	P	**P**	**22 37 32.8**	**-0.1**
	1.4nm,0.3s,baz=130,slow=7.1,SNR=5.3						
CMAR				PcP	**PcP**	**22 39 49.8**	**+1.9**
	0.6nm,0.4s,baz=102,slow=1.3,SNR=4.5						
KMI	**Kunming**	**39.17**	**318**	P	**P**	**22 37 45.8**	**+3.4**
MJAR	**Matsushiro Arr**	**40.12**	**9**	P	**P**	**22 37 48.8**	**-1.1**
	1.0nm,0.5s,baz=176,slow=10.0,SNR=4.6						
KSAR	**Wonju Array Be**	**40.52**	**356**	P	**P**	**22 37 53.9**	**+0.7**
KSRS	**Korea Array**	**40.53**	**356**	P	**P**	**22 37 53.9**	**+0.7**
	2.0nm,0.7s,baz=176,slow=9.4,SNR=8.9						
KSRS				LR	LR	22 54 04.4	
	comp=Z,65nm,19.9s,baz=173,slow=35						
CD2	**Chengdu**	**42.61**	**325**	*e*P	**P**	**22 38 11.5**	**+1.0**
CD2				PP	**PP**	**22 39 54.5**	**+4.8**
CD2				pmax	pmax		
	comp=Z,10.0nm,0.8s						
BJI	**Beijing**	**45.07**	**344**	P	**P**	**22 38 30.5**	**+0.5**
BJI				pmax	pmax		
	comp=Z,5.0nm,0.8s						
LZH	**Lanzhou**	**46.50**	**330**	*e*P	**P**	**22 38 42.5**	**+0.9**
LZH				pP	sP	22 38 54.5	-1.6
LZH				sP	pP	22 38 58.8	+6.8
LZH				pmax	pmax		
	comp=Z,31nm,1.3s						
LZH				pmax	pmax		
	comp=Z,140nm,5.9s						
USRK	**Ussuriysk Ar.**	**47.19**	**1**	P	**P**	**22 38 46.5**	**-0.1**
	2.0nm,0.6s,baz=188,slow=4.5,SNR=4.6						
HHC	**Hu-ho-hao-te**	**47.23**	**340**	*e*P	**P**	**22 38 50.0**	**+2.9**
HHC				pmax	pmax		
	comp=Z,17nm,0.9s						
HHC				pmax	pmax		
	comp=Z,130nm,5.4s						
LSA	**Lhasa**	**50.10**	**314**	*e*P	**P**	**22 39 08.9**	**-1.0**
	2.6nm,0.6s						
GTA	**Gaotai**	**51.09**	**329**	*e*P	P	22 39 24.0	+7.2
GTA				pP	sP	22 39 36.0	+4.6
GTA				sP	pP	22 39 41.5	+14
GTA				pmax	pmax		
	comp=Z,7.0nm,1.0s						
RAMN	**Ramite**	**52.13**	**308**	*e*P	**P**	**22 39 24.6**	**-0.3**
	50nm,0.8s						
JIRN	**Jiri**	**52.79**	**309**	*e*P	**P**	**22 39 29.2**	**-0.7**
PKI	**Pulchoki**	**53.36**	**308**	*e*P	**P**	**22 39 33.1**	**-1.0**
PKIN	**Phulchoki**	**53.37**	**308**	*e*P	**P**	**22 39 33.6**	**-0.5**
KKN	**Kakani**	**53.56**	**308**	*e*P	**P**	**22 39 34.8**	**-0.6**
	21nm,0.9s						
DMN	**Daman**	**53.61**	**308**	*e*P	**P**	**22 39 35.3**	**-0.6**
	23nm,0.8s						
GKN	**Gorkha**	**54.16**	**308**	*e*P	**P**	**22 39 39.1**	**-0.6**
	31nm,0.9s						
KOLN	**Koldanda**	**54.88**	**307**	*e*P	**P**	**22 39 44.7**	**-0.3**
	37nm,0.8s						
ULN	**Ulaanbaatar**	**54.94**	**341**	*e*P	**P**	**22 39 46.2**	**+1.2**
	14nm,1.3s						
DANN	**Dangsing**	**55.01**	**308**	*e*P	**P**	**22 39 45.7**	**-0.4**
SONM	**Songino Array**	**55.13**	**340**	P	**P**	**22 39 45.4**	**-1.0**
	1.2nm,0.6s,baz=164,slow=8.5,SNR=8.8						
SONA1	**Songino Array**	**55.14**	**340**	*e*P	**P**	**22 39 45.7**	**-0.7**
PYUN	**Piuthan**	**55.51**	**307**	*e*P	**P**	**22 39 49.2**	**-0.3**
	57nm,1.0s						
WMQ	**Urumqi**	**60.70**	**325**	P	**P**	**22 40 26.5**	**+1.1**
WMQ				pP	sP	22 40 39.0	-1.2
WMQ				sP	pP	22 40 44.5	+8.4
WMQ				PcP	**PcP**	**22 41 09.5**	**+0.2**
WMQ				PcS	**PcS**	**22 45 08.3**	**-3.6**
WMQ				pmax	pmax		
	comp=Z,13nm,0.7s						
WMQ				pmax	pmax		
	comp=Z,230nm,6.7s						
WMQ				LR	LR		
	comp=N,52nm,12.5s						
WMQ				LR	LR		
	comp=E,52nm,18.5s						
WMQ				LR	LR		
	comp=Z,170nm,16.5s						
MK01	**Makanchi Array**	**65.51**	**326**	*e*P	**P**	**22 40 57.5**	**+0.2**
MK31	**Makanchi Array**	**65.53**	**326**	*e*P	**P**	**22 40 57.7**	**+0.3**
MKAR	**Makanchi Array**	**65.53**	**326**	P	**P**	**22 40 57.8**	**+0.3**
	3.4nm,0.7s,baz=123,slow=8.1,SNR=21						
MKAR	**Makanchi Array**	**65.53**	**326**	*e*P	**P**	**22 40 57.4**	**-0.1**
	48nm,1.2s						
MAKZ	**Makanchi**	**65.72**	**325**	*e*P	**P**	**22 40 58.7**	**+0.1**
	10nm,1.2s						
KSH	**Kashi**	**65.81**	**316**	*e*P	**P**	**22 41 00.3**	**+0.8**
KSH				pP	sP	22 41 13.0	-1.4
KSH				PP	**PP**	**22 43 28.0**	**+3.3**
KSH				S	**S**	**22 49 40.3**	**-3.8**
KSH				sS	sS	22 50 02.3	+0.4
KSH				SS	**SS**	**22 53 57.0**	**-2.3**
KSH				pmax	pmax		
	comp=Z,3.0nm,0.7s						
KSH				pmax	pmax		
	comp=Z,130nm,6.2s						
KSH				LR	LR		
	comp=N,140nm,6.1s						
KSH				LR	LR		
	comp=E,160nm,5.9s						
KSH				LR	LR		
	comp=Z,310nm,7.2s						
SEY	**Seymchan**	**67.94**	**10**	P	**P**	**22 41 14.4**	**+2.1**
	4.4nm,0.8s,baz=231,slow=4.0,SNR=7.8						
AAK	**Ala-Archa**	**68.21**	**319**	P	**P**	**22 41 14.9**	**+0.2**
	0.8nm,0.4s,baz=161,slow=6.4,SNR=4.5						
AAK	**Ala-Archa**	**68.21**	**319**	*e*P	**P**	**22 41 15.3**	**+0.6**
	2.5nm,1.0s						
ZAA0	**Zalesovo Array**	**68.57**	**333**	*e*P	**P**	**22 41 15.7**	**-0.8**
ZALV	**Zalesovo Beam**	**68.57**	**333**	P	**P**	**22 41 15.4**	**-1.1**
	1.5nm,0.6s,baz=112,slow=6.6,SNR=7.4						
KURBB	**Kurchatov Arra**	**69.73**	**328**	P	**P**	**22 41 23.9**	**+0.2**
	3.1nm,0.8s,baz=127,slow=5.6,SNR=32						
KURK	**Kurchatov**	**69.73**	**328**	*e*P	**P**	**22 41 24.3**	**+0.5**
	18nm,1.1s						
BVAR	**Borovoye Array**	**75.31**	**327**	P	**P**	**22 41 57.2**	**+0.2**
	3.8nm,0.9s,baz=116,slow=5.8,SNR=16						
BRVK	**Borovoye**	**75.38**	**327**	*e*P	**P**	**22 41 57.7**	**+0.4**
	14nm,1.1s						
VNDA	**Vanda**	**76.11**	**173**	P	**P**	**22 42 01.2**	**+0.1**
	1.3nm,0.8s,baz=317,slow=6.5,SNR=8.2						
NRIK	**Noril'sk**	**78.09**	**346**	P	**P**	**22 42 12.0**	**-0.3**
	1.4nm,0.3s,baz=142,slow=4.4,SNR=4.8						
GEYT	**Alibeck**	**78.41**	**310**	P	**P**	**22 42 15.2**	**+0.4**
	5.3nm,0.7s,baz=116,slow=3.4,SNR=17						
MAW	**Mawson**	**78.77**	**201**	P	**P**	**22 42 16.2**	**+0.1**
	1.3nm,0.6s,baz=90,slow=13,SNR=4.0						
ABKAR	**Akbulak array**	**80.06**	**321**	*e*P	**P**	**22 42 24.0**	**+0.5**
	28nm,0.8s						
AKTO	**Aktyubinsk**	**81.59**	**322**	P	**P**	**22 42 32.3**	**+0.6**
	1.3nm,0.8s,baz=71,slow=8.0,SNR=5.2						
AKTO				LR	LR	23 23 03.2	
	comp=Z,170nm,18.1s,slow=39						
ARU	**Arti**	**82.93**	**328**	P	**P**	**22 42 38.4**	**-0.1**
	0.6nm,0.3s,baz=184,slow=3.0,SNR=3.6						
QSPA	**South Pole Qui**	**86.76**	**180**	*e*P	**P**	**22 42 58.2**	**+0.3**
	40nm,1.4s						
SYO	**Syowa Base**	**87.48**	**201⇑**	*e*X	pP	22 43 10.7	-1.5
ILAR	**Eielson Array**	**89.58**	**25**	P	**P**	**22 43 11.2**	**+0.2**
	0.5nm,0.6s,baz=259,slow=4.5,SNR=4.4						
KMBO	**Kilima Mbogo**	**93.50**	**269**	P	**P**	**22 43 31.1**	**+0.4**
	1.5nm,0.7s,baz=139,slow=4.4,SNR=5.9						
TORD	**Torodi Ar. Bea**	**128.77**	**284**	PKP	**PKPdf**	**22 49 22.1**	**-0.2**
	0.6nm,0.7s,baz=87,slow=2.4,SNR=5.2						

MEX 28 22:33:33.8±1.0, 16.°71N×99.°67W, h11km±5km, MD3.7, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ACX	**Acapulco**	**0.25**	**311**	*e*P	Pg	22 33 39.2	+0.2
ACX				*i* S	Sg	22 33 42.8	+0.4
ACP2	**Acapulco**	**0.27**	**308**	*e*P	Pg	22 33 38.8	-0.6
ACP2				*e*S	Sg	22 33 43.0	-0.1
CAIG	**El Cayaco**	**0.67**	**301**	*e*P	Pg	22 33 45.0	-1.8
CAIG				*i* S	Sg	22 33 53.5	-2.1
MEIG	**Mezcala**	**1.21**	**2**	*e*P	Pn	22 33 52.8	-4.1
MEIG				*e*S	Sb	22 34 07.6	-5.0
TLIG	**Tlapa**	**1.35**	**51**	*e*P	Pn	22 33 55.2	-3.5
TLIG				*e*S	Sb	22 34 10.9	-5.7
PLIG	**Platanillo**	**1.68**	**5**	*e*P	Pn	22 34 00.2	-3.1
PLIG				*e*S	Sn	22 34 20.8	-4.1
ARIG	**Puente Sto Nin**	**1.70**	**338**	*e*P	Pn	22 34 00.8	-2.6
ARIG				*e*S	Sn	22 34 21.0	-4.1
ZIIG	**Zihuatanejo**	**1.94**	**298**	*e*P	Pn	22 34 03.5	-3.2
ZIIG				*i* S	Sn	22 34 26.8	-4.3

*GUC **28** 22:40:04.2±0.5, 37.°99S×74.°75W, h17km±9km, ML5.6*
*IDC **28** 22:40:10.8±0.5, 37.°98S×73.°94W, h0km, mb4.7/13, mb1 4.9/17, mb1mx4.8/23, mbtmp4.8/17, ML4.9/4, MS5.2/12, Ms1 5.1/12, ms1mx4.9/24, Error ellipse: s-maj=21.4km s-min=12.8km az=84.0*
*NEIC **28** 22:40:12.9±0.2, 37.°95S×73.°85W, h10km, mb5.2/110, MS5.2/138, MW5.6, ML5.6(GUC), Error ellipse: s-maj=6.6km s-min=4.2km az=78.0, Moment Tensor Solution. s39 Moment tensor: Scale 10^17 Nm; Mrr=0.89; Mθθ=0.01; Mϕϕ=0.88; Mrθ=-0.27; Mrϕ=0.04; Mθϕ=-3.04; Best double couple: M=3.20000×10^17 NP1:ϕs=185.00000°, δ82.00000°, λ92.00000°. NP2:ϕs=351.00000°, δ8.00000°, λ76.00000°. Principal axes: T 3.1900, Plg53.0000°, Azm97.0000°; N -0.0200, Plg2.0000°, Azm4.0000°; P -3.1700, Plg37.0000°, Azm273.0000°;*
NEIC Felt [IV] at Arauco, Canete and Talcahuano; [III] at Chiguayante, Concepcion, Hualpen, La Laja, Lebu and Penco; [II] at Los Angeles.
*GCMT **28** 22:40:12.9±0.1, 38.°05S×74.°45W, h12km, MW5.5/115, Moment Tensor Solution. s83,c125; s115,c211; Duration: 1s3 Moment tensor: Scale 10^17 Nm; Mrr=1.03±.01; Mθθ=0.03±.01; Mϕϕ=-1.06±.01; Mrθ=-0.44±.04; Mθϕ=-0.20±.01; Mrϕ=-1.74±.04; Best double couple: M=2.08700×10^17 NP1:ϕs=194.00000°, δ75.00000°, λ92.00000°. NP2:ϕs=6.00000°, δ15.00000°, λ82.00000°. Principal axes: T 2.0560, Plg60.0000°, Azm107.0000°; N 0.0590, Plg2.0000°, Azm13.0000°; P -2.1170, Plg30.0000°, Azm282.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*
*ISCJB **28** 22:40:12.4±0.1, 37.°91S±0.°03×73.°87W±0.°05, h18km, mb5.1/120, MS5.2/161 Error ellipse: s-maj=5.3km s-min=3.7km az=172.4*
*BJI **28** 22:40:13.5, 37.°90S×73.°90W, h13km, mB5.6/14, Ms5.5/4, Ms7 5.3/16*
*MOS **28** 22:40:13.7±1.1, 37.°91S×73.°85W, h22km, mb5.3/37, MS5.1/19, Error ellipse: s-maj=16.5km s-min=7.6km az=100.9*
ISC 28 22:40:14.0±0.3, 37.°95S±0.°04×73.°99W±0.°06, h18km, n781, σ1§27/658, **mb5.2**/120, **MS5.2**/162, **4C-8D, Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSCH	**Puerto Saavedr**	**0.97**	**151**	*e*P	**Pb**	**22 40 30.3**	**-1.9**
PSCH				*i* S	**Sn**	**22 40 49.3**	**+3.4**
CCSP	**San Pedro de C**	**1.31**	**33**	*e*P	**Pn**	**22 40 35.5**	**-1.9**
CCHI	**Chillan**	**2.03**	**49**	*e*P	**Pn**	**22 40 47.5**	**+0.1**
CCHI				*e*S	**Sg**	**22 41 19.7**	**+0.2**
CCHI				IAML		22 41 30.3	
	comp=E,42μm,0.9s						
COCH	**Cobquecura**	**2.06**	**28**	*e*P	**Pn**	**22 40 45.6**	**-2.1**

NNA Nana 25.98 354 *eP* **P 22 45 52.8 +7.0**
SPB Sao Paulo 26.82 65 *eP* **P 22 45 54.4 +1.1**
comp=Z,96nm,0.8s
SPB LR LR
comp=Z,4µm,20.0s
PMSA Palmer Station 27.50 171 P **P 22 45 59.3 +0.3**
comp=Z,8.6nm,0.9s,baz=33,slow=8.1,SNR=5.5
PMSA LR LR 22 57 49.2
comp=Z,7µm,18.1s,baz=340,slow=38
PMSA Palmer Station 27.50 171 *eP* **P 22 45 58.8 -0.1**
comp=Z,19nm,1.0s
HOPE Hope Point 30.25 135 *eP* **P 22 46 23.5 0.0**
comp=Z,66nm,0.9s
HOPE LR LR
comp=Z,2µm,19.0s
SAML Samuel 30.48 21 *eP* **P 22 46 25.8 -0.1**
comp=Z,83nm,2.0s
SAML LR LR
comp=Z,7µm,20.0s
RPN Rapa Nui 31.52 280 PFAKE 22 46 50.0 +15
RPN LR LR
comp=Z,1µm,20.0s
OTAV Otavalo 38.23 353 *eP* **P 22 47 35.0 +1.6**
comp=Z,52nm,1.3s
OTAV LR LR
comp=Z,2µm,19.0s
CMBC Cumbal 38.86 354 *eP* **P 22 47 41.1 +2.3**
PTGA Pitinga 39.23 23 *eP* **P 22 47 40.8 -0.5**
comp=Z,83nm,1.8s
PTGA LR LR
comp=Z,29µm,20.0s
PAYG Puerto Ayora 40.02 334 PFAKE 22 48 00.0 +12
PAYG LR LR
comp=Z,2µm,19.0s
POPC Popayan, Colom 40.37 356 *eP* **P 22 47 52.5 +1.4**
BETC Betania 40.45 358 *eP* **P 22 47 54.0 +2.4**
PRAC Prado 41.46 359 *eP* P 22 48 05.4 +5.5
PRAC Prado 41.46 359 *eP* **P 22 48 01.7 +1.8**
comp=Z,118nm,1.2s
VILC Villavicencio, 41.85 0 *eP* **P 22 48 05.2 +2.0**
CHIC Chingaza 42.37 0 *eP* **P 22 48 08.4 +0.7**
ROSC El Rosal 42.58 360 P **P 22 48 12.8 +3.4**
comp=Z,6.1nm,0.4s,baz=169,slow=6.1,SNR=6.1
NORC Norcasia 43.30 359 *eP* **P 22 48 14.5 -0.4**
RUSC La Rusia 43.63 1 *eP* **P 22 48 17.9 -0.2**
RUSC La Rusia 43.63 1 *eP* **P 22 48 17.8 -0.2**
comp=Z,31nm,1.0s
HELC Santa Helena 43.94 358 *eP* **P 22 48 20.9 +0.5**
HELC Santa Helena 43.94 358 *eP* **P 22 48 20.0 -0.4**
comp=Z,145nm,1.2s
ZARC Zaragoza, Cauc 45.22 359 *eP* **P 22 48 28.8 -1.3**
VNA3 Neumayer Olymp 46.34 156 P **P 22 48 39.1 +0.6**
SDV Santo Domingo 46.70 5 *eP* **P 22 48 41.4 -0.6**
comp=Z,33nm,1.1s
SDV LR LR
comp=Z,3µm,19.0s
VNA1 Neumayer--Stat 46.71 155 P **P 22 48 42.9 +1.6**
VNA2 Neumayer--Watz 47.03 156 P **P 22 48 43.4 -0.5**
baz=285,slow=6.1
RCBR Riachuelo 47.09 57 P **P 22 48 41.3 -3.8**
comp=Z,17nm,1.2s
RCBR LR LR
comp=Z,5µm,19.0s
BCIP Isla Barro Col 47.19 352 PFAKE 22 49 00.0 +14
BCIP LR LR
comp=Z,984nm,20.0s
SJCC San Jacinto, C 47.61 358 *eP* **P 22 48 51.2 +2.2**
SNAA Sanae 48.56 156 P **P 22 48 55.4 -0.5**
SNAA Sanae 48.56 156 P **P 22 48 55.1 -0.7**
comp=Z,30nm,0.9s,baz=278,slow=6.7,SNR=65
SNAA Sanae 48.56 156 *eP* **P 22 48 55.1 -0.7**
SNAA pmax pmax
comp=Z,58nm,1.1s
SNAA Sanae 48.56 156 *eP* **P 22 48 55.0 -0.7**
comp=Z,58nm,1.1s
PTCN Pitcairn Islan 48.86 268 PFAKE 22 49 10.0 +11
PTCN LR LR
comp=Z,2µm,19.0s
URIC Uribia, Colomb 49.43 3 *eP* **P 22 48 59.1 -3.8**
GRGR Grenville 51.15 16 *eP* **P 22 49 16.8 +0.8**
comp=Z,16nm,0.6s
GRGR LR LR
comp=Z,3µm,19.0s
QSPA South Pole Qui 52.29 180 *eP* **P 22 49 23.2 -0.9**
QSPA LR LR
comp=Z,2µm,19.0s
BBGH Gun Hill 52.60 18 PFAKE 22 49 40.0 +13
BBGH LR LR
comp=Z,5µm,22.0s
NVL N'lazarevskaya 53.35 156 *eP* **P 22 49 33.7 +2.0**
NVL *e* 22 50 40.7
NVL *e* 22 51 34.2
NVL *eS* **S 22 57 03.7 +1.4**
NVL *eSS* **SKiKP 23 00 45.4 -1.7**
NVL MLR MLR
comp=Z,2µm,19.0s
RKT Rikitea 53.69 267 *eS* **S 22 57 04.2 -4.0**
comp=Z,920nm,25.2s
RKT *eLQ* LQ 23 02 52.0
comp=Z,740nm,27.0s
RKT *eLR* LR 23 05 06.5
comp=Z,4µm,26.0s,baz=125
RKT Rikitea 53.69 267 *eT* T 23 47 07.9
comp=Z,2.2nm,0.2s
FDF Fort de France 53.77 15 PFAKE 22 49 50.0 +15
FDF LR LR
comp=Z,2µm,21.0s
MTDJ Mount Denham 55.98 356 PFAKE 22 50 00.0 +8.6
MTDJ LR LR
comp=Z,1µm,20.0s
CELP Cerrillos 56.16 8 *eP* **P 22 49 51.2 -1.4**
SJG San Juan 56.25 9 PFAKE 22 50 10.0 +17
SJG LR LR
comp=Z,2µm,19.0s
ANWB Willy Bob 56.50 14 PFAKE 22 50 10.0 +15
ANWB LR LR
comp=Z,2µm,19.0s
SDDR Presa de Saban 56.69 3 *eP* **P 22 49 56.6 +0.2**
comp=Z,12nm,0.2s
SDDR LR LR
comp=Z,1µm,20.0s
GTBY Guantanamo Bay 57.58 359 *eP* **P 22 50 03.0 +0.3**
comp=Z,30nm,0.9s
GTBY LR LR
comp=Z,960nm,19.0s
SBA Scott Base 58.89 192 *eP* **P 22 50 12.6 +1.4**
SBA pmax pmax
comp=Z,20nm,1.2s
SBA Scott Base 58.89 192 *eP* **P 22 50 12.6 +1.4**
comp=Z,20nm,1.3s
SBA LR LR
comp=Z,998nm,19.0s
GRTK Grand Turk 59.21 3 PFAKE 22 50 30.0 +16
GRTK LR LR
comp=Z,2µm,20.0s
VNDA Vanda 59.92 192 P **P 22 50 19.4 +1.1**
comp=Z,9.5nm,1.2s,baz=134,slow=6.0,SNR=7.1
ASCN Ascension 61.32 77 PFAKE 22 50 40.0 +11
ASCN LR LR
comp=Z,1µm,20.0s
SYO Syowa Base 62.78 158 *eP* **P 22 50 34.3 -3.5**
SYO Syowa Base 62.78 158 *epP* **P 22 50 35.9 -1.9**
SYO Syowa Base 62.78 158 *ePcP* **PcP 22 51 12.8 -3.3**
TAOE Nuku Hiva Isla 65.83 278 *eLR* LR 23 10 41.1
comp=Z,3µm,25.5s,baz=140
LNIG Linares 66.94 335 *eP* **P 22 51 04.7 -0.6**
comp=Z,7.6nm,1.0s
TVO Taravao 67.82 264 *eT* T 00 04 46.7
comp=Z,2.3nm,0.3s
TIAR Tiarei 68.02 264 *eT* T 00 05 03.5
comp=Z,6.2nm,0.2s
PPT2 Papeete2 68.19 264 *eS* **S 23 00 08.1 -5.2**
comp=Z,879nm,23.2s
PPT2 Papeete2 68.19 264 *eLR* LR 23 11 51.7
comp=Z,2µm,25.8s,baz=118
PPT Papeete 68.20 264 LR LR 23 13 16.1
comp=Z,948nm,18.9s,baz=162,slow=29
035A Encino 68.40 337 P **P 22 51 15.1 +0.7**
baz=160
645A Chauvin 68.84 344 P **P 22 51 18.7 +1.6**
baz=166
KVTX Kingsville 68.90 337 PFAKE 22 51 30.0 +12
KVTX LR LR
comp=Z,2µm,19.0s
544A White Castle 69.59 344 P **P 22 51 23.5 +1.7**
baz=166

737A Port Lavaca 69.62 339 P **P 22 51 23.6 +1.6**
baz=161
834A Tilden 69.65 337 P **P 22 51 23.3 +1.1**
baz=159
BRAL Brewton 69.84 348 PFAKE 22 51 30.0 +6.7
BRAL LR LR
comp=Z,607nm,20.0s
MAW Mawson 69.84 164 P **P 22 51 22.5 -0.5**
comp=Z,14nm,0.8s,baz=221,slow=6.1,SNR=13
MAW LR LR 23 22 23.2
comp=Z,2µm,18.6s,baz=231,slow=36
MAW Mawson 69.84 164 P **P 22 51 22.5 -0.5**
comp=Z,6.9nm,1.1s
736A Circle Diamond 69.98 339 P **P 22 51 25.9 +1.6**
baz=161
444A Pine Grove 70.08 345 P **P 22 51 25.7 +0.8**
baz=166
833A Chaparral WMA, 70.09 336 P **P 22 51 26.1 +1.1**
baz=159
735A Kenedy 70.10 338 P **P 22 51 26.0 +1.0**
baz=160
637A Eagle Lake 70.23 339 P **P 22 51 26.3 +0.6**
baz=161
832A Faith Ranch, C 70.25 336 P **P 22 51 26.8 +0.9**
baz=158
347A Saraland 70.32 347 P **P 22 51 27.0 +0.7**
baz=168
734A La Parita Cree 70.32 337 P **P 22 51 27.0 +0.7**
baz=160
540A Vidor 70.34 342 P **P 22 51 26.6 +0.2**
baz=163
443A Delano Plantat 70.35 344 P **P 22 51 28.1 +1.6**
baz=165
733A Divot King Ran 70.43 337 P **P 22 51 28.0 +1.0**
baz=159
442A Mamou 70.45 343 P **P 22 51 28.3 +1.3**
baz=164
636A Smothers Creek 70.47 339 P **P 22 51 28.4 +1.2**
baz=161
BBSR BB Station 70.50 8 PFAKE 22 51 40.0 +13
BBSR LR LR
comp=Z,578nm,21.0s
441A DeRidder 70.66 343 P **P 22 51 29.6 +1.3**
baz=164
SACV Santiago Islan 70.73 52 PFAKE 22 51 40.0 +11
SACV LR LR
comp=Z,898nm,19.0s
538A Harpers Horsep 70.74 340 P **P 22 51 29.8 +0.9**
baz=162
634A China Grove, S 70.76 338 P **P 22 51 29.7 +0.7**
baz=160
344A Westbrook Farm 70.80 345 P **P 22 51 30.0 +0.8**
baz=166
343A Vidalia 70.82 344 P **P 22 51 30.1 +0.8**
baz=165
537A Green Hill Far 70.83 340 P **P 22 51 30.0 +0.6**
baz=161
440A Kirbyville 70.84 342 P **P 22 51 30.4 +0.9**
baz=163
248A Dixon Mills 70.86 348 P **P 22 51 29.8 +0.3**
baz=168
NHSC New Hope 70.93 355 PFAKE 22 51 40.0 +10
NHSC LR LR
comp=Z,880nm,20.0s
247A Quitman 70.97 347 P **P 22 51 30.6 +0.4**
baz=168
536A Bastrop 71.03 339 P **P 22 51 31.4 +0.7**
baz=161
HPIG 71.06 330 *eP* **P 22 51 31.8 +0.6**
comp=Z,105nm,2.0s
342A Flagon Creek P 71.06 343 P **P 22 51 31.9 +1.1**
baz=165
633A Saathoff Ranch 71.08 337 P **P 22 51 31.8 +0.8**
baz=159
439A Center Grove, 71.09 341 P **P 22 51 31.8 +0.8**
baz=163
535A Dale 71.13 338 P **P 22 51 31.8 +0.6**
baz=160
245A Little AP, Sta 71.19 346 P **P 22 51 32.5 +1.0**
baz=167
341A Kurthwood 71.22 343 P **P 22 51 33.0 +1.3**
baz=164
438A Sam Houston St 71.23 341 P **P 22 51 32.6 +0.8**
baz=162
244A Avery, Jackson 71.36 345 P **P 22 51 33.4 +0.8**
baz=166
534A Blanco 71.40 338 P **P 22 51 32.5 -0.4**
baz=160
340A Bronson 71.47 342 P **P 22 51 33.5 +0.2**
baz=163
437A Phantom Ranch, 71.49 340 P **P 22 51 33.7 +0.3**
baz=162
VBMS Vicksburg 71.49 345 P **P 22 51 34.2 +0.9**
baz=166
147A Livingston 71.52 347 P **P 22 51 33.2 -0.3**
baz=168
GOGA Godfrey 71.55 352 *eP* **P 22 51 32.6 -1.1**
GOGA pmax pmax
comp=Z,42nm,1.6s
GOGA MLR MLR
comp=Z,855nm,21.0s
GOGA Godfrey 71.55 352 *eP* **P 22 51 32.6 -1.1**
comp=Z,42nm,1.6s
GOGA LR LR
comp=Z,855nm,21.0s
339A Huntington 71.55 342 P **P 22 51 33.7 -0.1**
baz=163
533A Kerrville 71.61 337 P **P 22 51 34.6 +0.3**
baz=159
436A Wall Ranch, Ga 71.61 339 P **P 22 51 34.6 +0.5**
baz=161
146A Union 71.62 347 P **P 22 51 34.2 +0.1**
baz=167
LRAL Lakeview Retre 71.66 349 *eP* **P 22 51 33.8 -0.5**
comp=Z,53nm,1.6s
242A Grayson 71.69 344 P **P 22 51 34.8 +0.2**
baz=165
145A Houston Renfro 71.75 346 P **P 22 51 35.2 +0.3**
baz=167
338A Crockett 71.77 341 P **P 22 51 35.7 +0.6**
baz=162
241A Mo Tay, Goldon 71.82 343 P **P 22 51 35.9 +0.5**
baz=164
435B Jarrell 71.85 339 P **P 22 51 35.8 +0.3**
baz=160
144A Alexander Plac 71.87 345 P **P 22 51 36.1 +0.4**
baz=166
337A Centerville 71.88 340 P **P 22 51 36.5 +0.8**
baz=162
NATX Nacogdoches 71.99 342 P **P 22 51 36.3 -0.1**
baz=163
NATX Nacogdoches 71.99 342 *eP* **P 22 51 37.3 +0.9**
comp=Z,50nm,1.8s
NATX LR LR
comp=Z,654nm,20.0s
Z47A Carrollton 71.99 348 P **P 22 51 36.5 +0.1**
baz=168
240A Hunter Patters 72.03 342 P **P 22 51 37.3 +0.7**
baz=164
434A Burnet 72.08 338 P **P 22 51 37.1 +0.1**
baz=160,SNR=17
Z48A Northport 72.08 348 P **P 22 51 36.8 -0.1**
baz=169
142A Monroe 72.11 344 P **P 22 51 37.3 +0.2**
baz=165
Z46A Louisville 72.14 347 P **P 22 51 37.8 +0.5**
baz=168
143A Socs Landing, 72.14 345 P **P 22 51 37.7 +0.4**
baz=166
239A Gary 72.19 342 P **P 22 51 38.2 +0.7**
baz=163
JSC Jenkinsville 72.19 354 *eP* **P 22 51 37.5 0.0**
JSC pmax pmax
comp=Z,15nm,1.0s
JSC Jenkinsville 72.19 354 *eP* **P 22 51 37.5 0.0**
comp=Z,15nm,1.1s
336A Riesel 72.21 340 P **P 22 51 38.3 +0.6**
baz=161
JCT Junction City 72.23 337 P **P 22 51 38.0 +0.1**
baz=159
JCT Junction City 72.23 337 *eP* **P 22 51 37.8 -0.1**
JCT pmax pmax
comp=Z,5.0nm,0.4s
JCT MLR MLR
comp=Z,2µm,20.0s
JCT Junction City 72.23 337 *eP* **P 22 51 37.8 -0.1**
comp=Z,5.0nm,0.4s
JCT LR LR
comp=Z,2µm,20.0s
433A Art 72.26 337 P **P 22 51 37.9 -0.2**
baz=159,SNR=15
335A Moody 72.27 339 P **P 22 51 38.3 +0.2**
baz=161
238A Jacksonville 72.33 341 P **P 22 51 38.9 +0.5**
baz=162
141A Papa Simpson, 72.38 343 P **P 22 51 38.9 +0.2**
baz=164
Z45A Winona 72.45 346 P **P 22 51 39.1 +0.1**
baz=167
TX31 Lajitas Ar. Si 72.47 333 *eP* **P 22 51 39.8 +0.3**
TXAR Lajitas Array 72.47 333 P **P 22 51 39.2 -0.2**
comp=Z,3.0nm,0.7s,baz=154,slow=8.4,SNR=37
Z44A Pea Ridge, Bel 72.50 346 P **P 22 51 39.5 +0.1**
baz=166
237A Washetta, Mont 72.51 341 P **P 22 51 40.3 +0.8**
baz=162
334A Lometa 72.55 338 P **P 22 51 39.8 0.0**
baz=160,SNR=21
140A Cam and Jess, 72.56 343 P **P 22 51 39.9 +0.1**
baz=164
Z43A Armstrong Fami 72.60 345 P **P 22 51 40.2 +0.3**
baz=166
Y47A UCPARC, Winfie 72.64 348 P **P 22 51 40.2 0.0**
baz=168
236A Katherine and 72.70 340 P **P 22 51 41.1 +0.5**
baz=161
333A Richland Sprin 72.76 338 P **P 22 51 40.7 -0.3**
baz=159,SNR=12
Y46A Houston 72.80 347 P **P 22 51 40.7 -0.4**
baz=168
Y45A Yeager Farm, C 72.90 346 P **P 22 51 41.8 +0.1**
baz=167
CNNC Cliffs of the 72.91 357 PFAKE 22 51 50.0 +8.2
CNNC LR LR
comp=Z,592nm,20.0s
WHTX Lake Whitney, 72.95 339 P **P 22 51 42.0 0.0**
baz=161
WHTX Lake Whitney, 72.95 339 *eP* **P 22 51 42.1 0.0**
comp=Z,30nm,0.9s
138A Matatall Enter 72.95 341 P **P 22 51 42.2 +0.1**
baz=163
Z41A Richland Creek 72.98 344 P **P 22 51 42.4 +0.1**
baz=164
KMSC Kings Mountain 73.05 354 P **P 22 51 42.2 -0.5**
baz=174
KMSC Kings Mountain 73.05 354 *eP* **P 22 51 42.3 -0.3**
comp=Z,13nm,0.9s
137A Heron Place, G 73.06 341 P **P 22 51 42.8 0.0**
baz=162
Z40A Long Farm, Mag 73.12 343 P **P 22 51 43.3 +0.2**
baz=164
Y44A Strider, Charl 73.12 346 P **P 22 51 42.9 -0.2**
baz=166
136A Ennis 73.15 340 P **P 22 51 43.2 0.0**
baz=161
234A Clairette 73.15 339 P **P 22 51 43.3 0.0**
baz=160
Z39A Irene McRaven, 73.28 342 P **P 22 51 44.9 +0.8**
baz=163
233A Rising Star 73.39 338 P **P 22 51 44.7 0.0**
baz=160
WLAR White Oak Lake 73.46 343 *eP* **P 22 51 44.9 -0.2**
comp=Z,35nm,1.2s
Z38A Mt. Pleasant 73.49 342 P **P 22 51 45.5 +0.2**
baz=163
OXF Oxford 73.51 347 *eP* **P 22 51 48.0 +2.7**
OXF pmax pmax
comp=Z,27nm,1.0s
OXF Oxford 73.51 347 *eP* **P 22 51 48.0 +2.7**
comp=Z,27nm,1.0s
Y41A Eaglette Beard 73.54 344 P **P 22 51 45.8 +0.2**
baz=165
Z37A Pogue Cattle C 73.60 341 P **P 22 51 46.6 +0.7**
baz=162
X44A Crenshaw 73.63 346 P **P 22 51 46.1 0.0**
baz=167
SWET Sewanee 73.64 350 *eP* **P 22 51 46.1 -0.1**
comp=Z,21nm,1.3s
CPCT Cooper Cave 73.69 351 *eP* **P 22 51 46.1 -0.3**
comp=Z,16nm,1.1s
TKL Tuckaleechee C 73.80 352 *eP* **P 22 51 46.7 -0.4**
TKL pmax pmax
comp=Z,20nm,1.1s
TKL Tuckaleechee C 73.80 352 *eP* **P 22 51 46.7 -0.4**
comp=Z,20nm,1.1s
Y40A Okolona 73.81 343 P **P 22 51 46.9 -0.3**
baz=164
Y39A Lockesburg 73.93 343 P **P 22 51 47.7 -0.1**
baz=164
X42A Stuttgart 73.98 345 P **P 22 51 48.2 +0.1**
baz=165
Y38A Idabel 74.07 342 P **P 22 51 48.6 -0.1**
baz=163
W45A Hickory Valley 74.10 347 P **P 22 51 48.3 -0.5**
baz=167
X40A Basin Creek Fa 74.17 344 P **P 22 51 49.6 +0.4**
baz=164
ABTX Abilene, Hawle 74.17 338 P **P 22 51 49.3 0.0**
baz=159,SNR=7.9
ABTX Abilene, Hawle 74.17 338 *eP* **P 22 51 49.1 -0.3**
comp=Z,28nm,0.9s
SUR Sutherland 74.31 119 PFAKE 22 52 00.0 +9.3
SUR LR LR
comp=Z,2µm,19.0s
Y37A Hugo 74.34 341 P **P 22 51 50.9 +0.7**
baz=162
MIAR Mount Ida 74.39 343 P **P 22 51 50.6 +0.1**
baz=164
MIAR Mount Ida 74.39 343 *eP* **P 22 51 51.2 +0.7**
MIAR pmax pmax
comp=Z,14nm,1.1s
MIAR MLR MLR
comp=Z,541nm,20.0s
MIAR Mount Ida 74.39 343 *eP* **P 22 51 51.2 +0.7**
comp=Z,14nm,1.1s
MIAR LR LR
comp=Z,541nm,20.0s
Y36A Durant 74.43 341 P **P 22 51 50.7 -0.1**
baz=162
X39A Fountain Ranch 74.48 343 P **P 22 51 51.3 +0.2**
baz=164,SNR=6.0
V45A Humboldt 74.62 347 P **P 22 51 51.7 -0.2**
baz=168
Y35A Marietta 74.64 340 P **P 22 51 50.7 -1.3**
baz=161
W42A Bald Knob 74.65 345 P **P 22 51 51.5 -0.5**
baz=166
W41B Gary Mavity, V 74.70 345 P **P 22 51 52.0 -0.3**
baz=165
X301 Greenbrier Sit 74.80 344 *eP* **P 22 51 52.7 -0.2**
comp=Z,27nm,1.0s
X38A Whitesboro 74.80 342 P **P 22 51 52.5 -0.4**
baz=163
WVT Waverly 74.82 348 *eP* **P 22 51 52.4 -0.6**
WVT pmax pmax
comp=Z,62nm,1.5s
WVT Waverly 74.82 348 *eP* **P 22 51 52.4 -0.6**
comp=Z,2nm,1.5s
WHAR Wooly Hollow 74.83 345 *eP* **P 22 51 52.8 -0.2**
comp=Z,28nm,1.1s
X37A Clayton 74.86 342 P **P 22 51 52.3 -1.0**
baz=162
W40A Ferguson Farm, 74.90 344 P **P 22 51 52.2 -1.2**
baz=164
BLA Blacksburg 75.03 355 PFAKE 22 52 10.0 +16
BLA LR LR
comp=Z,616nm,21.0s
W39A Magazine 75.06 343 P **P 22 51 54.3 -0.1**
baz=164
HSIG 75.07 327 *eP* **P 22 51 56.8 +2.2**
comp=Z,50nm,1.7s
X35A Drake 75.09 340 P **P 22 51 54.1 -0.5**
baz=161
X36A Centrahoma 75.09 341 P **P 22 51 53.9 -0.6**
baz=162
W38A Poteau 75.11 343 P **P 22 51 54.3 -0.4**
baz=163
V42A Cord 75.14 345 P **P 22 51 53.3 -1.5**
baz=166
U45A Rockin P Farm, 75.19 348 P **P 22 51 54.7 -0.4**
baz=168
MNTX Cornudas Mount 75.23 333 P **P 22 51 54.6 -0.9**
baz=155
MNTX Cornudas Mount 75.23 333 *eP* **P 22 51 54.2 -1.3**
comp=Z,7.7nm,0.9s
MNTX LR LR

V41A **Mountainview** 75.28 345 P P 22 51 55.0 -0.6
baz=165,SNR=9.9
U44B **Burton Farm, H** 75.28 347 P P 22 51 55.4 -0.2
baz=167
JSRW **J. Sargeant Re** 75.36 357 *eP* P 22 51 57.3 +1.3
W37B **Quinton** 75.40 342 P P 22 51 56.1 -0.2
baz=162
V40A **Witts Springs** 75.44 344 P P 22 51 56.0 -0.6
baz=165
W36A **Wetumka** 75.59 341 P P 22 51 56.6 -0.9
baz=162
U42A **Revenden** 75.64 346 P P 22 51 56.9 -0.7
baz=166
V39A **Pettigrew** 75.65 344 P P 22 51 57.4 -0.4
baz=164
U41A **Viola** 75.77 345 P P 22 51 57.9 -0.6
baz=165
W35A **Tecumseh** 75.77 341 P P 22 51 57.8 -0.7
baz=161
CBN **Corbin Frederi** 75.85 357 PFAKE 22 52 10.0 +11
CBN LR LR
comp=Z,803nm,21.0s
PBMO **Poplar Bluff** 75.90 346 *eP* P 22 51 58.7 -0.4
comp=Z,17nm,0.9s
WMOK **Wichita Mounta** 75.90 339 P P 22 51 58.8 -0.5
WMOK **Wichita Mounta** 75.90 339 *eP* P 22 51 58.6 -0.7
WMOK pmax pmax
comp=Z,15nm,1.0s
WMOK MLR MLR
comp=Z,836nm,19.0s
WMOK **Wichita Mounta** 75.90 339 *eP* P 22 51 58.6 -0.7
comp=Z,15nm,1.0s
WMOK LR LR
comp=Z,836nm,19.0s
U40A **Yellville** 75.97 344 P P 22 51 59.1 -0.5
baz=165,SNR=10
V37A **Hulbert** 76.03 342 P P 22 51 59.4 -0.5
baz=163
U39A **Green Forest** 76.13 344 P P 22 52 00.1 -0.5
baz=164
V36A **Jenks** 76.14 342 P P 22 52 00.3 -0.3
baz=162,SNR=13
T43A **Greenville** 76.17 347 P P 22 51 60.0 -0.7
baz=167
TUL1 **Leonard** 76.22 342 P P 22 52 00.6 -0.5
baz=162
V35A **Meyer Ranch, C** 76.34 341 P P 22 52 01.3 -0.5
baz=162
U38A **Gravette** 76.39 343 P P 22 52 01.6 -0.4
baz=163
MSTX **Muleshoe** 76.40 336 P P 22 52 01.8 -0.4
baz=157
MSTX **Muleshoe** 76.40 336 *eP* P 22 52 02.5 +0.2
comp=Z,21nm,1.0s
T41A **Mountain View** 76.41 345 P P 22 52 01.6 -0.5
baz=166
319A **Douglas** 76.43 329 *eP* P 22 52 03.7 +1.2
S45A **Carrier Mills** 76.45 348 P P 22 52 01.4 -0.9
baz=168
U37A **Salina** 76.53 343 P P 22 52 02.3 -0.4
baz=163
S44A **Carbondale** 76.58 348 P P 22 52 02.1 -0.9
baz=168
S43A **Fulton Ridge,** 76.61 347 P P 22 52 02.4 -0.8
baz=167,SNR=7.7
U36A **Oologah** 76.66 342 P P 22 52 03.1 -0.4
baz=162
T40A **Mansfield** 76.67 345 P P 22 52 02.9 -0.6
baz=165
T39A **Clever** 76.73 344 P P 22 52 03.4 -0.5
baz=164
121A **Cookes Peak, D** 76.87 331 P P 22 52 04.5 -0.6
baz=153
121A **Cookes Peak, D** 76.87 331 *eP* P 22 52 06.0 +0.9
comp=Z,13nm,1.0s
U35A **Pawnee** 76.89 341 P P 22 52 04.7 -0.2
baz=162,SNR=12
AMTX **Amarillo** 76.89 337 P P 22 52 04.8 -0.2
baz=158
AMTX **Amarillo** 76.89 337 *eP* P 22 52 04.8 -0.2
comp=Z,34nm,0.9s
S42A **Caledonia** 76.93 346 P P 22 52 04.3 -0.7
baz=166
S41A **Jillco Farms,** 76.93 346 P P 22 52 04.6 -0.4
baz=166,SNR=7.1
T38A **Diamond** 76.94 343 P P 22 52 04.8 -0.3
baz=164,SNR=10
R44A **Waltonville** 77.09 348 P P 22 52 04.9 -1.0
baz=168
S40A **Lebanon** 77.10 345 P P 22 52 05.4 -0.5
baz=165,SNR=9.9
T37A **Cheneyville 18** 77.17 343 P P 22 52 05.8 -0.6
baz=163,SNR=12
R43A **Red Bud** 77.27 347 P P 22 52 06.3 -0.6
baz=167
T36A **Boggs Farm, Ca** 77.33 342 P P 22 52 07.0 -0.3
baz=162
T35A **Sooner Cattle** 77.35 342 P P 22 52 07.2 -0.2
baz=162,SNR=11
S39A **Bolivar** 77.36 344 P P 22 52 07.0 -0.4
baz=164,SNR=9.8
R42A **Luebbering** 77.42 347 P P 22 52 07.2 -0.6
baz=166
S38A **Stockton** 77.42 344 P P 22 52 07.2 -0.6
baz=164,SNR=11
U32A **Winter Ranch,** 77.50 340 P P 22 52 08.1 -0.2
baz=160
LIC **Lamto** 77.52 72 *eP* P 22 52 09.1 +0.2
comp=Z,86nm,1.0s
R41A **Rosebud** 77.55 346 P P 22 52 08.0 -0.4
baz=166,SNR=8.8
T34A **McClaskey Farm** 77.62 341 P P 22 52 09.0 +0.1
baz=161
R40A **Maddies Statio** 77.72 345 P P 22 52 08.8 -0.6
baz=165
Q44A **Meyer Farm, Va** 77.72 348 P P 22 52 08.4 -1.0
baz=168
S37A **Fort Scott** 77.75 343 P P 22 52 09.1 -0.5
baz=163
TIC **Toumodi** 77.79 72 *eP* P 22 52 10.6 +0.1
KIC **Kosan Boka** 77.82 72 *eP* P 22 52 10.9 +0.3
comp=Z,237nm,1.6s
TUC **Tucson** 77.86 329 P P 22 52 10.7 +0.3
baz=151
TUC **Tucson** 77.86 329 *eP* P 22 52 11.0 +0.5
TUC pmax pmax
comp=Z,13nm,1.0s
TUC MLR MLR
comp=Z,1μm,19.0s
TUC **Tucson** 77.86 329 *eP* P 22 52 11.0 +0.5
comp=Z,13nm,1.0s
TUC LR LR
comp=Z,1μm,19.0s
Q43A **New Douglas** 77.87 348 P P 22 52 09.7 -0.5
baz=167
BNM **Barren Site** 77.89 333 *eP* P 22 52 11.6 +0.8
R39A **Chumby, Stover** 77.90 345 P P 22 52 09.7 -0.7
baz=165
S36A **Lake Cedric, C** 77.90 343 P P 22 52 09.7 -0.7
baz=163
DBIC **Dimbokro** 77.93 72 P P 22 52 11.0 -0.2
comp=Z,17nm,0.8s,baz=209,slow=6.5,SNR=19
DBIC LR LR 23 24 05.1
comp=Z,645nm,19.6s,baz=215,slow=34
R38A **Fenwick Farm,** 77.96 344 P P 22 52 10.1 -0.6
baz=164
Q42A **Golden Eagle** 77.99 347 P P 22 52 10.5 -0.4
baz=167
S35A **Otter Creek Ra** 78.03 342 P P 22 52 11.0 -0.2
baz=162
Q41A **Truxton** 78.16 346 P P 22 52 11.4 -0.4
baz=166,SNR=13
P44A **Sand Creek, Wi** 78.21 348 P P 22 52 11.3 -0.8
baz=168
ACSO **Alum Creek Sta** 78.24 353 *eP* P 22 52 12.0 -0.3
comp=Z,48nm,1.3s
ACSO LR LR
comp=Z,831nm,19.0s
S34A **Willow Spring** 78.25 341 P P 22 52 11.9 -0.4
baz=161
R37A **Teagarden Farm** 78.28 343 P P 22 52 11.8 -0.8
baz=163
LAZ **Ladron** 78.30 332 *eP* P 22 52 13.6 +0.6
Q40A **Laux Farm, Aux** 78.36 346 P P 22 52 12.7 -0.2
baz=165,SNR=14
214A **Organ Pipe Nat** 78.41 327 P P 22 52 13.9 +0.4
baz=150
214A **Organ Pipe Nat** 78.41 327 *eP* P 22 52 14.5 +1.1
comp=Z,83nm,0.9s
R36A **Gordon, Harris** 78.45 343 P P 22 52 12.8 -0.7
baz=163
N59A **State Game Lan** 78.51 359 P P 22 52 13.6 -0.1
baz=178
P43A **Skaggs, Pawnee** 78.53 348 P P 22 52 13.1 -0.8
baz=167
ANMO **Albuquerque** 78.54 333 P P 22 52 14.6 +0.2
baz=154
ANMO **Albuquerque** 78.54 333 *eP* P 22 52 14.8 +0.5
ANMO pmax pmax
comp=Z,20nm,1.0s
ANMO **Albuquerque** 78.54 333 PFAKE 22 52 30.0 +16
ANMO LR LR
comp=Z,891nm,20.0s
Q39A **Willow Grove F** 78.59 345 P P 22 52 13.5 -0.7
baz=165
P42A **Winchester** 78.61 347 P P 22 52 13.5 -0.8
baz=167
R35A **Emporia Munici** 78.61 342 P P 22 52 13.5 -0.8
baz=162
Q38A **Cooks Store, C** 78.64 345 P P 22 52 13.9 -0.6
baz=164
N54A **Moraine State** 78.73 355 P P 22 52 13.8 -1.2
baz=175
Q37A **Longview Farm,** 78.74 344 P P 22 52 13.9 -1.1
baz=164
P41A **Barry, Barry** 78.83 347 P P 22 52 15.0 -0.5
baz=166
R34A **Isabella, Hill** 78.85 342 P P 22 52 15.9 +0.2
baz=161,SNR=12
P40A **Paris** 78.87 346 P P 22 52 15.5 -0.2
baz=165,SNR=10
P39B **Salisbury** 78.97 345 P P 22 52 15.5 -0.8
baz=165
Q36A **Arnold C. Orve** 79.05 343 P P 22 52 16.1 -0.6
baz=163
Q35A **Mercer Eighty,** 79.08 343 P P 22 52 16.4 -0.6
baz=162
O43A **Sugar Creek Fa** 79.12 348 P P 22 52 16.3 -0.8
baz=168
O42A **Bath** 79.16 348 P P 22 52 16.5 -0.8
baz=167
O41A **Passleys Farm,** 79.22 347 P P 22 52 16.8 -0.8
baz=166
M54A **Oil Creek Stat** 79.25 356 P P 22 52 17.0 -0.8
baz=175
P38A **Dawn** 79.26 345 P P 22 52 17.3 -0.6
baz=164,SNR=15
HDIL **Hopedale** 79.38 348 *eP* P 22 52 18.3 -0.2
comp=Z,32nm,0.8s
HDIL LR LR
comp=Z,831nm,19.0s
O40A **La Belle** 79.41 346 P P 22 52 18.1 -0.5
baz=166
KSU1 **Kansas State U** 79.45 342 P P 22 52 18.7 -0.2
baz=162
KSU1 **Kansas State U** 79.45 342 PFAKE 22 52 30.0 +11
KSU1 LR LR
comp=Z,615nm,19.0s
113A **Mohawk Valley,** 79.52 327 *eP* P 22 52 21.1 +1.7
BOSA **Boshof** 79.62 118 P P 22 52 19.2 -1.4
comp=Z,22nm,0.8s,baz=214,slow=4.7,SNR=27
BOSA LR LR 23 23 39.0
comp=Z,737nm,19.3s,baz=220,slow=33
O39A **Kirksville** 79.67 346 P P 22 52 19.7 -0.4
baz=165
P35A **Duane Minner,** 79.72 343 P P 22 52 20.2 -0.2
baz=162
O38A **Galt** 79.73 345 P P 22 52 19.9 -0.5
baz=164
N42A **Yates City** 79.77 348 P P 22 52 20.0 -0.6
baz=167
N41A **Harden Midland** 79.79 347 P P 22 52 19.9 -0.8
baz=166
BINY **Binghamton** 79.80 358 PFAKE 22 52 30.0 +9.2
BINY LR LR
comp=Z,2μm,19.0s
T25A **Trinidad** 79.83 336 P P 22 52 21.4 +0.1
baz=156
T25A **Trinidad** 79.83 336 *eP* P 22 52 22.1 +0.8
comp=Z,36nm,1.0s
W18A **Petrified Fore** 79.91 331 P P 22 52 22.3 +0.5
baz=152
W18A **Petrified Fore** 79.91 331 *eP* P 22 52 23.4 +1.7
comp=Z,27nm,1.3s
O37A **Wolven Farm, M** 79.91 344 P P 22 52 20.7 -0.7
baz=164
P34A **Walnut Farm, R** 79.93 342 P P 22 52 20.8 -0.7
baz=162
CBKS **Cedar Bluff** 79.98 340 P P 22 52 21.9 0.0
baz=160
CBKS **Cedar Bluff** 79.98 340 PFAKE 22 52 30.0 +8.1
CBKS LR LR
comp=Z,1μm,21.0s
O36A **Bolckow** 80.05 344 P P 22 52 21.1 -1.1
baz=163
N40A **Mertquake, Sal** 80.09 347 P P 22 52 21.6 -0.8
baz=166
Y14A **Wickenburg** 80.20 328 *eP* P 22 52 24.3 +1.1
GLA **Glamis** 80.22 326 *eP* P 22 52 25.9 +2.6
GLA pmax pmax
comp=Z,30nm,1.4s
GLA **Glamis** 80.22 326 *eP* P 22 52 25.9 +2.6
comp=Z,30nm,1.4s
N39A **Derby Farms, D** 80.26 346 P P 22 52 22.6 -0.7
baz=165,SNR=14
N38A **Joes South For** 80.33 345 P P 22 52 23.2 -0.4
baz=165
M42A **Sheffield** 80.33 348 P P 22 52 22.9 -0.8
baz=167
AAM **Ann Arbor** 80.36 353 PFAKE 22 52 40.0 +16
AAM LR LR
comp=Z,951nm,20.0s
M41A **Milan** 80.39 347 P P 22 52 23.2 -0.7
baz=167
O35A **Humboldt** 80.39 343 P P 22 52 23.0 -1.0
baz=162
IKP **In-Ko-Pah, Jac** 80.46 325 P P 22 52 24.2 -0.5
baz=147
N37A **Lee Faris, Mou** 80.49 345 P P 22 52 23.7 -0.8
baz=164
O34A **Beatrice** 80.50 343 P P 22 52 24.2 -0.4
baz=162
O33A **Hebron** 80.61 342 P P 22 52 24.9 -0.3
baz=161
Y12C **Blythe** 80.68 327 P P 22 52 26.5 +0.8
baz=149
Y12C **Blythe** 80.68 327 *eP* P 22 52 27.2 +1.5
comp=Z,23nm,1.0s
SDCO **Great Sand Dun** 80.74 335 P P 22 52 26.5 +0.1
baz=155
SDCO **Great Sand Dun** 80.74 335 *eP* P 22 52 26.6 +0.3
comp=Z,16nm,1.1s
SDCO LR LR
comp=Z,664nm,20.0s
MONP **Monument Peak,** 80.80 325 P P 22 52 26.3 -0.3
baz=147
L43A **Garden Prairie** 80.88 349 P P 22 52 25.9 -0.7
baz=168
WUAZ **Wupatki** 80.90 330 P P 22 52 27.8 +0.8
baz=151
WUAZ **Wupatki** 80.90 330 *eP* P 22 52 28.3 +1.3
comp=Z,19nm,1.0s
WUAZ LR LR
comp=Z,1μm,20.0s
M38A **Pleasantville** 80.92 345 P P 22 52 26.2 -0.6
baz=165
BC3 **Big Chuckawall** 81.01 326 P P 22 52 27.8 +0.1
baz=148
L41A **Preston** 81.06 348 P P 22 52 26.6 -1.0
baz=167
N34A **Lincoln** 81.08 343 P P 22 52 27.1 -0.6
baz=162
L40A **Anamosa** 81.17 347 P P 22 52 27.8 -0.3
baz=166
S22A **4UR Ranch, Cre** 81.19 334 P P 22 52 28.8 +0.1
baz=154
S22A **4UR Ranch, Cre** 81.19 334 *eP* P 22 52 29.8 +1.0
comp=Z,23nm,1.4s
N33A **J Bar K, Exete** 81.21 342 P P 22 52 28.4 0.0
baz=161
M36A **Felix, Anita** 81.28 344 P P 22 52 28.4 -0.4
baz=163
MVCO **Mesa Verde** 81.30 333 P P 22 52 29.5 +0.3
baz=153
MVCO **Mesa Verde** 81.30 333 *eP* P 22 52 29.8 +0.6
MVCO LR LR
comp=Z,1μm,19.0s
L39A **Vinton** 81.37 347 P P 22 52 28.2 -0.9
baz=166
SCIA **State Center** 81.39 346 *eP* P 22 52 28.8 -0.6
comp=Z,39nm,1.2s
SCIA LR LR
comp=Z,596nm,19.0s
PFO **Pinyon Flats O** 81.42 325 LR LR 23 21 54.8
comp=Z,549nm,19.5s,baz=174,slow=31
PFO **Pinyon Flats O** 81.42 325 P P 22 52 30.1 +0.2
baz=147
PFO **Pinyon Flats O** 81.42 325 *eP* P 22 52 31.3 +1.5
PFO pmax pmax
comp=Z,23nm,1.1s
PFO **Pinyon Flats O** 81.42 325 *eP* P 22 52 30.1 +0.2
comp=Z,23nm,1.1s
BELC **Belle Mtn. Jos** 81.54 326 P P 22 52 30.7 +0.2
baz=148
K41A **Shullsburg** 81.55 348 P P 22 52 29.5 -0.6
baz=167
L38A **Oak Wood Farm,** 81.57 346 P P 22 52 29.6 -0.7
baz=165
Q24A **Divide** 81.73 336 P P 22 52 31.4 -0.2
baz=156
Q24A **Divide** 81.73 336 *eP* P 22 52 32.8 +1.2
comp=Z,22nm,1.0s
JFWS **Jewell Farm** 81.83 348 *eP* P 22 52 31.6 0.0
JFWS pmax pmax
comp=Z,13nm,0.8s
JFWS MLR MLR
comp=Z,1μm,22.0s
JFWS **Jewell Farm** 81.83 348 *eP* P 22 52 31.6 0.0
comp=Z,13nm,0.8s
JFWS LR LR
comp=Z,1μm,22.0s
L36A **Harm Buss Farm** 81.88 345 P P 22 52 31.6 -0.2
baz=164
K39A **Oelwein** 81.92 347 P P 22 52 31.5 -0.5
baz=166
M33A **Taylor Creek F** 81.94 343 P P 22 52 31.8 -0.4
baz=162
GMRC **Granite Mounta** 82.06 326 P P 22 52 32.4 -0.8
baz=148
U15A **North Rim** 82.06 330 *eP* P 22 52 34.2 +0.9
LBTB **Lobatse** 82.06 115 *eP* P 22 52 33.3 -0.3
LBTB pmax pmax
comp=Z,33nm,1.0s
LBTB **Lobatse** 82.06 115 *eP* P 22 52 33.3 -0.3
comp=Z,33nm,0.9s
L35A **Bielow Farm, R** 82.08 344 P P 22 52 32.8 -0.1
baz=163
PV01 **Paradox Valley** 82.15 333 *eP* P 22 52 34.2 +0.5
LONY **Lake Ozonia** 82.19 360 *eP* P 22 52 32.8 -0.7
comp=Z,21nm,1.1s
LONY LR LR
comp=Z,1μm,19.0s
J41A **Loganville** 82.24 348 P P 22 52 33.2 -0.5
baz=167
PV05 **Paradox Valley** 82.29 333 *eP* P 22 52 35.6 +1.2
K37A **Belmond** 82.31 346 P P 22 52 33.6 -0.5
baz=164
J40A **Soldiers Grove** 82.39 348 P P 22 52 33.9 -0.7
baz=167
FRNY **Flat Rock** 82.41 0 *eP* P 22 52 35.3 +0.7
comp=Z,25nm,1.1s
SADO **Sadowa** 82.47 356 LR LR 23 32 48.9
comp=Z,705nm,19.1s,baz=170,slow=38
BFSC **Mount Baldy Ra** 82.49 325 P P 22 52 34.0 -1.4
baz=147
J39A **Decorah** 82.49 347 P P 22 52 34.4 -0.7
baz=166
PV04 **Paradox Valley** 82.50 333 *eP* P 22 52 35.5 0.0
PV10 **Paradox Valley** 82.53 333 *eP* P 22 52 36.4 +0.6
K35A **Storm Lake** 82.59 344 P P 22 52 35.6 0.0
baz=163
OGNE **Ogallala** 82.61 339 PFAKE 22 52 50.0 +14
OGNE LR LR
comp=Z,551nm,20.0s
J38A **Wedel Dairy, R** 82.62 347 P P 22 52 35.2 -0.5
baz=165
ISCO **Idaho Springs** 82.64 336 *eP* P 22 52 36.6 +0.3
ISCO pmax pmax
comp=Z,14nm,1.2s
ISCO MLR MLR
comp=Z,638nm,21.0s
ISCO **Idaho Springs** 82.64 336 *eP* P 22 52 36.6 +0.3
comp=Z,14nm,1.2s
ISCO LR LR
comp=Z,638nm,21.0s
K34A **Le Mars** 82.74 344 P P 22 52 36.3 -0.1
baz=162
KNB **Kanab** 82.78 330 *eP* P 22 52 38.3 +1.4
KNB pmax pmax
comp=Z,28nm,1.0s
KNB **Kanab** 82.78 330 *eP* P 22 52 38.3 +1.4
comp=Z,28nm,1.0s
J37A **Redenius Farm,** 82.81 346 P P 22 52 36.4 -0.4
baz=164
LCMT **Little Creek M** 82.94 329 *eP* P 22 52 39.3 +1.5
comp=Z,13nm,1.4s
I39A **Houston** 82.97 347 P P 22 52 37.0 -0.5
baz=166
J36A **Seneca 1, Swea** 82.99 345 P P 22 52 37.4 -0.2
baz=164
GSC **Goldstone, Bar** 83.00 326 *eP* P 22 52 39.0 +1.0
GSC pmax pmax
comp=Z,18nm,1.3s
GSC **Goldstone, Bar** 83.00 326 *eP* P 22 52 39.0 +1.0
comp=Z,18nm,1.3s
EDW2 **Edwards Air Fo** 83.18 325 P P 22 52 38.8 -0.2
baz=146
I38A **Scanlan Farm,** 83.29 347 P P 22 52 38.6 -0.5
baz=165
SHPR **Sheep Range** 83.30 328 *eP* P 22 52 41.1 +1.4
comp=Z,14nm,1.0s
K31A **O'Neill** 83.31 342 P P 22 52 39.3 0.0
baz=160
SZCU **Shurtz Canyon** 83.38 330 *eP* P 22 52 42.1 +2.0
comp=Z,20nm,1.1s
CCUT **Cedar City** 83.45 330 *eP* P 22 52 42.3 +1.8
comp=Z,18nm,1.0s
H40A **Chili** 83.52 348 P P 22 52 40.3 -0.1
baz=167
LRMC **Laurel Mtn Rad** 83.53 325 P P 22 52 41.0 +0.2
baz=147
I35A **Creekview Farm** 83.62 345 P P 22 52 40.5 -0.4
baz=163
N23A **Red Feather La** 83.74 336 P P 22 52 42.1 +0.2
baz=155
G43A **Wallace** 83.75 350 P P 22 52 42.1 +0.6
baz=169
TRQ **Mont Tremblant** 83.80 360 *eP* P 22 52 43.2 +1.4
O20A **White River Ci** 83.82 334 *eP* P 22 52 43.4 +1.2
comp=Z,27nm,1.3s
MSU **Marysvale** 83.82 331 *eP* P 22 52 43.5 +1.1
MSU **Marysvale** 83.82 331 *eP* P 22 52 43.5 +1.1
ECSD **EROS Data Cent** 83.86 344 P P 22 52 42.3 +0.2
baz=162
ECSD **EROS Data Cent** 83.86 344 *eP* P 22 52 41.8 -0.4
comp=Z,52nm,0.9s
ECSD LR LR
comp=Z,594nm,20.0s
J31A **Geddes** 83.93 342 P P 22 52 42.2 -0.3
baz=160
PHWY **Pilot Hill** 83.95 337 *eP* P 22 52 43.0 -0.1
comp=Z,19nm,1.3s
I34A **Hadley** 83.98 344 P P 22 52 42.9 +0.2
baz=163
FURC **Furnace Creek,** 84.00 327 P P 22 52 42.2 -0.7
baz=147
ISA **Isabella, Lake** 84.04 325 P P 22 52 43.6 +0.3
baz=146
H36A **Jessenland, He** 84.11 346 P P 22 52 43.9 +0.5
baz=164
G40A **Rib Lake** 84.12 349 P P 22 52 43.2 -0.2
baz=167
TPNV **Topopah Spring** 84.14 327 P P 22 52 45.0 +1.1
baz=148
TPNV **Topopah Spring** 84.14 327 *eP* P 22 52 45.3 +1.3
TPNV pmax pmax
comp=Z,21nm,1.3s
TPNV **Topopah Spring** 84.14 327 *eP* P 22 52 45.2 +1.3
comp=Z,21nm,1.3s
DAC **Darwin (Calif)** 84.16 326 *eP* P 22 52 44.5 +0.4
DAC pmax pmax

comp=Z,12nm,1.0s
DAC Darwin (Calif) 84.16 326 *e*P P **22 52 44.5 +0.4**
comp=Z,12nm,1.0s
F43A Flat Rock, Esc 84.24 351 P P **22 52 44.1 +0.1**
baz=169
F44A Big Bay de Noc 84.29 351 P P **22 52 44.4 +0.1**
baz=170
G39A Holcombe 84.30 348 P P **22 52 44.1 -0.2**
baz=166
G38A Ridgeland 84.30 347 P P **22 52 43.6 -0.7**
baz=166
I32A Karley and Nic 84.33 343 P P **22 52 44.3 -0.2**
baz=161
H35A Sunnyside Ranc 84.40 345 P P **22 52 44.6 -0.3**
baz=163
F41A Three Lakes 84.42 349 P P **22 52 44.2 -0.7**
baz=168
CWC Cottonwood Cre 84.51 326 P P **22 52 45.8 0.0**
baz=146
SPMN Marine on St. 84.52 347 P P **22 52 44.4 -1.0**
baz=165
SPMN Marine on St. 84.52 347 *e*P P **22 52 44.1 -1.4**
comp=Z,18nm,0.8s
E45A Wooded Hills, 84.53 352 P P **22 52 45.1 -0.4**
baz=171
H34A Spellman Lake, 84.56 345 P P **22 52 45.0 -0.7**
baz=163
G36A St. Michael 84.70 346 P P **22 52 46.1 -0.2**
baz=164
F40A Park Falls 84.75 349 P P **22 52 46.6 0.0**
baz=167
E43A Lone Tree Farm 84.76 351 P P **22 52 46.7 +0.1**
baz=170
H32A Carlson Farm, 84.77 343 P P **22 52 46.9 +0.1**
baz=162
COWI Conover 84.78 349 *e*P P **22 52 46.8 +0.1**
COWI comp=Z,11nm,0.9s LR LR
comp=Z,751nm,22.0s
H33A Prehn Over Nor 84.79 344 P P **22 52 47.1 +0.3**
baz=162
RWWY Rawlins 84.86 336 *e*P P **22 52 48.6 +1.0**
comp=Z,42nm,1.4s
F39A Loretta 84.87 348 P P **22 52 46.6 -0.6**
baz=166
E44A Grand Marais A 84.87 352 P P **22 52 47.4 +0.2**
baz=170
E42A Champion 84.93 350 P P **22 52 47.7 +0.2**
baz=169
NLU North Lily Min 85.04 332 *e*P P **22 52 50.7 +2.2**
comp=Z,16nm,1.1s
R11A Troy Canyon, C 85.04 328 P P **22 52 49.4 +1.0**
baz=148
F38A Pierce - Schro 85.07 348 P P **22 52 48.1 -0.1**
baz=166
E41A Kenton 85.11 350 P P **22 52 48.4 0.0**
baz=168
LMQ La Malbaie 85.19 2 *e*P P **22 52 49.2 +0.5**
E40A Wakefield 85.22 349 P P **22 52 49.0 0.0**
baz=167
E39A Mellen 85.26 349 P P **22 52 48.4 -0.7**
baz=167
F36A Milaca 85.27 346 P P **22 52 48.5 -0.7**
baz=164
JLU Jordanelle 85.37 332 *e*P P **22 52 50.8 +0.6**
comp=Z,11nm,1.0s
F35A Swanville 85.46 346 P P **22 52 49.7 -0.4**
baz=164
K22A Casper 85.51 337 P P **22 52 51.4 +0.7**
baz=155
K22A Casper 85.51 337 *e*P P **22 52 50.6 -0.1**
comp=Z,112nm,2.0s
DUG Dugway, Tooele 85.53 331 P P **22 52 51.7 +0.9**
baz=150
DUG Dugway, Tooele 85.53 331 *e*P P **22 52 51.4 +0.6**
DUG pmax pmax
comp=Z,18nm,1.0s
DUG Dugway, Tooele 85.53 331 PFAKE **22 53 00.0 +9.2**
DUG LR LR
comp=Z,808nm,21.0s
F34A Alexandria 85.54 345 P P **22 52 50.7 +0.2**
baz=163
D41A Chassel 85.64 350 P P **22 52 51.0 +0.1**
baz=168
E36A McGregor 85.85 347 P P **22 52 51.8 -0.3**
baz=165
XMAS Kiritimati 86.08 276 PFAKE **22 53 10.0 +16**
XMAS LR LR
comp=Z,5.0nm,21.0s
RSSD Black Hills 86.11 339 P P **22 52 53.8 +0.1**
baz=156
RSSD Black Hills 86.11 339 *e*P P **22 52 53.1 -0.6**
RSSD pmax pmax
comp=Z,13nm,0.9s
RSSD Black Hills 86.11 339 *e*P P **22 52 53.1 -0.6**
comp=Z,13nm,0.9s
BGU Big Grassy Mou 86.24 331 *e*P P **22 52 55.5 +1.1**
comp=Z,18nm,1.5s
HWUT Hardware Ranch 86.29 333 *e*P P **22 52 55.0 +0.3**
comp=Z,36nm,1.1s
HWUT LR LR
comp=Z,836nm,20.0s
D37A Cotton 86.32 348 P P **22 52 54.1 -0.3**
baz=165
SPUT South Promonto 86.36 332 *e*P P **22 52 55.4 +0.5**
comp=Z,42nm,1.3s
E33A Westby DABS, E 86.37 345 P P **22 52 54.0 -0.6**
baz=163
D36A Goodland 86.47 347 P P **22 52 54.4 -0.7**
baz=165
TVH1 TV Hill, Hawth 86.49 326 *e*P P **22 52 57.7 +1.8**
comp=Z,58nm,1.8s
D35A Remer 86.54 346 P P **22 52 55.0 -0.4**
baz=164
C39A Grand Marais 86.60 349 P P **22 52 55.2 -0.6**
baz=167
BW06 Boulder Array 86.61 335 P P **22 52 55.9 -0.3**
baz=152
BW06 Boulder Array 86.61 335 *e*P P **22 52 55.5 -0.7**
comp=Z,14nm,1.2s
BW06 LR LR
comp=Z,1μm,19.0s
PD31 Pinedale Array 86.61 335 *e*P P **22 52 56.5 +0.3**
PDAR Pinedale Array 86.61 335 P P **22 52 55.9 -0.4**
comp=Z,3.0nm,0.9s,baz=132,slow=6.2,SNR=7.0
PDAR LR LR 23 28 03.1
comp=Z,1μm,18.1s,baz=154,slow=33
C38A Sawbill Land. 86.68 348 P P **22 52 55.7 -0.4**
baz=166
C37A Embarrass 86.84 348 P P **22 52 56.6 -0.3**
baz=166
HVU Hansel Valley 86.89 332 *e*P P **22 52 57.7 +0.2**
HVU pmax pmax
comp=Z,20nm,1.0s
HVU Hansel Valley 86.89 332 *e*P P **22 52 57.7 +0.2**
comp=Z,20nm,1.0s
EYMN Ely 86.93 348 P P **22 52 56.6 -0.7**
baz=166
EYMN Ely 86.93 348 *e*P P **22 52 56.8 -0.6**
comp=Z,32nm,1.4s
EYMN LR LR
comp=Z,712nm,21.0s
C36A Pine Crest Far 86.97 347 P P **22 52 57.0 -0.6**
baz=165
TORD Torodi Ar. Bea 87.02 71 P P **22 52 57.5 -1.1**
comp=Z,7.4nm,0.7s,baz=231,slow=3.9,SNR=35
C35A Jirik Farms, M 87.12 347 P P **22 52 57.7 -0.6**
baz=164
YERR Yerington 87.13 326 *e*P P **22 53 01.0 +2.1**
comp=Z,16nm,1.3s
C34A RKJ Ranch, Bem 87.25 346 P P **22 52 58.1 -0.8**
baz=163
PAF Port-aux-Franc 87.48 157 PFAKE **22 53 10.0 +10**
PAF LR LR
comp=Z,3μm,19.0s
AFI Afiamalu 87.58 254 PFAKE **22 53 10.0 +8.5**
AFI LR LR
comp=Z,800nm,21.0s
REDW Red Top Meadow 87.58 334 *e*P P **22 53 00.8 -0.1**
comp=Z,12nm,0.9s
CMLA Cha da Macela 87.60 36 PFAKE **22 53 10.0 +9.2**
CMLA LR LR
comp=Z,2μm,19.0s
SNOW Snow King Moun 87.63 334 *e*P P **22 53 01.4 +0.2**
comp=Z,20nm,1.2s
B35A Bob, Littlefor 87.71 347 P P **22 53 00.5 -0.6**
baz=164
LOHW Long Hollow 87.71 334 *e*P P **22 53 01.1 -0.5**
comp=Z,8.2nm,0.9s
TPAW Teton Pass 87.72 334 *e*P P **22 53 02.0 +0.3**
comp=Z,14nm,0.8s
MOOW Moose Ponds 87.88 334 *e*P P **22 53 02.7 +0.4**
comp=Z,6.7nm,0.9s
B33A Robert and Kas 87.97 346 P P **22 53 02.5 +0.1**
baz=163
B34A Aery, Baudette 88.00 346 P P **22 53 02.3 -0.2**
baz=164
PMOZ Porto Moniz, M 88.04 45 *e*LR LR 23 23 18.9
comp=Z,1μm,20.0s
AGMN Agassiz Nation 88.05 346 P P **22 53 02.4 -0.3**
baz=163
AGMN Agassiz Nation 88.05 346 *e*P P **22 53 02.6 -0.1**
comp=Z,25nm,1.0s
AGMN LR LR
comp=Z,940nm,21.0s
IMW Indian Meadow 88.08 334 *e*P P **22 53 03.3 -0.1**
comp=Z,14nm,0.9s
LKWY Lake 88.48 335 PFAKE **22 53 20.0 +15**
LKWY LR LR
comp=Z,1μm,19.0s
A33A Warroad 88.57 346 P P **22 53 05.0 -0.2**
baz=163
RLMT Red Lodge 88.60 336 P P **22 53 05.1 -0.6**
baz=153
RLMT Red Lodge 88.60 336 PFAKE **22 53 20.0 +14**
RLMT LR LR
comp=Z,1μm,19.0s
ORV Oroville 88.61 325 *e*P P **22 53 07.5 +1.9**
ORV pmax pmax
comp=Z,31nm,1.5s
ORV Oroville 88.61 325 *e*P P **22 53 07.5 +1.9**
comp=Z,31nm,1.5s
YHH Holmes Hill 88.83 335 *e*P P **22 53 07.8 +0.9**
comp=Z,18nm,1.1s
HLID Hailey 89.03 332 P P **22 53 08.2 +0.5**
baz=149
HLID Hailey 89.03 332 *e*P P **22 53 08.5 +0.8**
comp=Z,15nm,1.1s
HLID LR LR
comp=Z,788nm,19.0s
LAO LASA Array 89.08 338 PFAKE **22 53 20.0 +12**
LAO LR LR
comp=Z,309nm,20.0s
O03D Paynes Creek 89.34 325 P P **22 53 09.8 +0.6**
baz=144
MFID Camas Ranch 89.44 331 *e*P P **22 53 09.8 +0.2**
comp=Z,18nm,1.3s
MCMT McKenzie Canyo 89.56 333 *e*P P **22 53 11.2 +1.0**
WVOR Wild Horse Val 89.73 329 *e*P P **22 53 12.0 +1.0**
WVOR pmax pmax
comp=Z,13nm,1.2s
WVOR MLR MLR
comp=Z,591nm,19.0s
WVOR Wild Horse Val 89.73 329 *e*P P **22 53 12.0 +1.0**
comp=Z,13nm,1.2s
WVOR LR LR
comp=Z,591nm,19.0s
BOZ Bozeman (W) 89.81 335 P P **22 53 12.4 +1.1**
baz=151
BOZ Bozeman (W) 89.81 335 *e*P P **22 53 10.8 -0.5**
BOZ pmax pmax
comp=Z,5.0nm,1.1s
BOZ MLR MLR
comp=Z,783nm,19.0s
BOZ Bozeman (W) 89.81 335 *e*P P **22 53 10.8 -0.5**
comp=Z,5.1nm,1.1s
BOZ LR LR
comp=Z,783nm,19.0s
ULM Lac du Bonnet 89.92 346 P P **22 53 11.6 +0.1**
comp=Z,10.0nm,1.0s,baz=169,slow=6.0,SNR=2.7
DLMT Dillon 89.93 334 *e*P P **22 53 13.3 +1.4**
comp=Z,16nm,1.4s
MOD Modoc Plateau 89.99 327 *e*P P **22 53 13.1 +0.8**
comp=Z,19nm,1.5s
LSZ Lusaka 90.03 109 *e*P P **22 53 14.5 +1.4**
LSZ pmax pmax
comp=Z,22nm,1.2s
LSZ Lusaka 90.03 109 PFAKE **22 53 20.0 +6.9**
LSZ LR LR
comp=Z,928nm,19.0s
DGMT Dagmar 90.14 340 PFAKE **22 53 20.0 +7.4**
DGMT LR LR
comp=Z,606nm,19.0s
BMO Blue Mountains 91.22 331 *e*P P **22 53 21.8 +4.0**
BMO pmax pmax
comp=Z,10.0nm,1.4s
BMO MLR MLR
comp=Z,587nm,20.0s
BMO Blue Mountains 91.22 331 *e*P P **22 53 21.8 +4.0**
comp=Z,10nm,1.4s
BMO LR LR
comp=Z,587nm,20.0s
EGMT Eagleton 91.34 337 PFAKE **22 53 30.0 +12**
EGMT LR LR
comp=Z,466nm,19.0s
HAWA Hanford 93.37 330 PFAKE **22 53 40.0 +12**
HAWA LR LR
comp=Z,739nm,20.0s
WALA Waterton Lakes 93.58 335 *e*P P **22 53 29.1 +0.4**
comp=Z,2.1nm,0.8s
NEW Newport 94.03 333 PFAKE **22 53 40.0 +9.4**
NEW LR LR
comp=Z,721nm,19.0s
RTC Rabat Centre 94.91 50 PFAKE **22 53 50.0 +15**
RTC LR LR
comp=Z,4μm,20.0s
FFC Flin Flon 95.39 344 PFAKE **22 53 50.0 +13**
FFC LR LR
comp=Z,940nm,19.0s
TAM Tamanrasset 95.92 66 *e*P P **22 53 40.8 +0.8**
TAM Tamanrasset 95.92 66 *e*P P **22 53 40.8 +0.8**
TAM LR LR
comp=Z,886nm,20.0s
NLWA Neilton Lookou 95.93 329 PFAKE **22 53 50.0 +11**
NLWA LR LR
comp=Z,784nm,20.0s
PCVE Castro Verde 96.69 47 *e*SS SS 23 11 45.9 +6.7
PCVE A A 23 35 50.8
comp=Z,2μm,20.0s
PVAQ Vaqueiros 96.72 47 *e*PP PP 22 57 45.6 +7.1
PVAQ Vaqueiros 96.72 47 *e*LR LR 23 26 56.1
comp=Z,2μm,20.0s
PNCL Nicolau / Gran 96.74 46 *e*PP PP 22 57 41.6 +2.9
PNCL Nicolau / Gran 96.74 46 *e*SS SS 23 11 44.1 +4.3
PNCL A A 23 35 49.1
comp=Z,1μm,18.0s
PMAFR Mafra 96.90 45 *e*SS SS 23 11 43.6 +1.5
PMAFR A A 23 35 51.3
comp=Z,2μm,18.0s
CAN Canberra 96.91 214 PFAKE **22 54 00.0 +16**
CAN LR LR
comp=Z,998nm,19.0s
PBAR Barrancos 97.64 47 *e*SS SS 23 11 51.0 -1.6
PBAR Barrancos 97.64 47 *e*LR LR 23 27 27.8
comp=Z,4μm,18.0s
DZM Mont Dzumac 97.64 234 *e*SP SP 23 06 24.7 -10
DZM Mont Dzumac 97.64 234 *e*LR LR 23 25 28.5
comp=Z,804nm,24.4s
PESTR Estremoz 97.80 46 *e*PP PP 22 57 46.5 -0.3
PESTR Estremoz 97.80 46 *e*SS SS 23 12 00.7 +6.0
PESTR A A 23 38 55.4
comp=Z,1μm,20.0s
FUNA Funafuti 97.82 253 PFAKE **22 54 00.0 +11**
FUNA LR LR
comp=Z,4μm,19.0s
PCAS Casmilo, Conde 98.09 45 *e*SS SS 23 12 01.7 +2.8
PCAS A A 23 36 37.0
comp=Z,2μm,20.0s
PMRV Marv??o 98.29 46 *e*SS SS 23 12 00.7 -1.0
PMRV Marv??o 98.29 46 *e*LR LR 23 28 59.4
comp=Z,1μm,18.0s
MTE Manteigas 98.87 45 *e*SS SS 23 12 11.5 +1.7
MTE Manteigas 98.87 45 *e*LR LR 23 29 10.8
comp=Z,2μm,20.0s
MTE Manteigas 98.87 45 PFAKE **22 54 00.0 +7.2**
MTE LR LR
comp=Z,2μm,20.0s
POLO Lamas de Olo 99.39 44 *e*PP PP 22 58 00.6 +1.6
POLO A A 23 37 07.8
comp=Z,899nm,20.0s
PGAV Gavieira, Arco 99.53 44 *e*SS SS 23 12 18.2 -0.9
PGAV Gavieira, Arco 99.53 44 *e*LR LR 23 29 35.3
comp=Z,1μm,20.0s
MVO Moncorvo 99.67 45 *e*SS SS 23 12 20.1 -1.0
MVO Moncorvo 99.67 45 *e*LR LR 23 28 21.4
comp=Z,2μm,18.0s
PAB San Pablo 100.12 47 PFAKE **22 54 10.0 +12**
PAB LR LR
comp=Z,2μm,20.0s
ABPO Ambohimpanom 100.91 125 PFAKE **22 54 10.0 +7.3**
ABPO LR LR
comp=Z,426nm,19.0s
KMBO Kilima Mbogo 105.92 104 PFAKE **22 58 50.0**
KMBO LR LR
comp=Z,743nm,20.0s
SFJD Kangerlussuaq 106.14 9 PFAKE **22 58 50.0**
SFJD LR LR
comp=Z,800nm,19.0s
WRAK Wrangell Islan 106.18 330 PFAKE **22 58 50.0**
WRAK LR LR
comp=Z,596nm,19.0s
VSL Villasalto 108.50 54 PFAKE **22 58 50.0**
VSL LR LR
comp=Z,1μm,19.0s
NWAO Narrogin (SRO) 108.71 190 PFAKE **22 58 50.0**
NWAO LR LR
comp=Z,984nm,19.0s
SSB Saint Sauveur 108.83 47 PFAKE **22 58 50.0**
SSB LR LR
comp=Z,1μm,21.0s
WDD Wied Dalam 109.90 60 PFAKE **22 59 00.0**
WDD LR LR
comp=Z,2μm,19.0s
BNI Bardonecchia 109.94 48 PFAKE **22 59 00.0**
BNI LR LR
comp=Z,2μm,20.0s
ESK Eskdalemuir 110.72 35 PFAKE **22 59 00.0**
ESK LR LR
comp=Z,1μm,20.0s
CTAO Charters Tower 110.98 221 PFAKE **22 59 00.0**
CTAO LR LR
comp=Z,762nm,19.0s
HNR Honiara 111.07 239 PFAKE **22 59 00.0**
HNR LR LR
comp=Z,393nm,20.0s
VLC Villacollemand 111.68 50 PFAKE **22 59 00.0**
VLC LR LR
comp=Z,488nm,19.0s
CEL Celeste 112.11 58 PFAKE **22 59 00.0**
CEL LR LR
comp=Z,1μm,19.0s
WLF Walferdange 112.18 44 PFAKE **22 59 00.0**
WLF LR LR
comp=Z,1μm,20.0s
TUE Stuetta 112.28 48 PFAKE **22 59 00.0**
TUE LR LR
comp=Z,1μm,20.0s
AQU L'Aquila 112.61 53 PFAKE **22 59 00.0**
AQU LR LR
comp=Z,811nm,19.0s
BFO Black Forest 112.68 46 PFAKE **22 59 00.0**
BFO LR LR
comp=Z,835nm,19.0s
CUC Castrocucco 112.95 57 PFAKE **22 59 00.0**
CUC LR LR
comp=Z,542nm,20.0s
EGAK Eagle 114.96 334 PFAKE **22 59 00.0 +7.3**
EGAK LR LR
comp=Z,587nm,20.0s
KDAK Kodiak Island 115.68 324 PFAKE **22 59 10.0 +16**
KDAK LR LR
comp=Z,237nm,21.0s
NKC Novy Kostel 115.97 45 *e*PS PS 23 09 48.4 +7.3
NKC AMS AMS 23 45 30.0
comp=Z,1μm,18.5s
GERES GERESS Array B 116.02 47 PKP **PKPdf 22 58 54.0 -1.3**
comp=Z,0.9nm,0.8s,baz=204,slow=2.9,SNR=6.9
KHC Kasperske Hory 116.09 47 *e*PS PS 23 09 47.5 +5.3
KHC AMS AMS 23 49 00.0
comp=Z,700nm,22.0s
TIR Tirane 116.30 57 PFAKE **22 59 10.0 +14**
TIR LR LR
comp=Z,1μm,22.0s
WRA Warramunga Arr 116.55 210 PKP **PKPdf 22 58 54.9 -2.4**
comp=Z,0.7nm,0.9s,baz=151,slow=2.0,SNR=2.9
WRAB Tennant Creek 116.55 210 PFAKE **22 59 10.0 +13**
WRAB LR LR
comp=Z,1μm,19.0s
CLL Collm 116.79 45 *e*PP PP 23 00 03.0 -2.8
CLL *e*PPP PPP 23 02 48.0
CLL *e*SKKSac SKKSac 23 07 12.0 +7.1
CLL *e*Sdif **Sdif 23 07 59.0 +8.1**
CLL *e* 23 08 40.0
CLL *e*PS **PS 23 09 48.0 -0.4**
CLL *e*PPS PPS 23 11 03.0
CLL *e* 23 15 27.0
CLL *e*SS **SS 23 16 11.0 -0.9**
CLL *e*SSS SSS 23 20 30.0
CLL *e*SSSS 23 24 06.0
CLL Lm MLR 23 46 00.0
comp=Z,1μm,19.6s
MSEY Mahe Island 116.83 120 PFAKE **22 59 10.0 +12**
MSEY LR LR
comp=Z,1μm,19.0s
ILAR Eielson Array 116.98 333 PKP **PKPdf 22 58 54.9 -1.8**
comp=Z,0.5nm,0.7s,baz=190,slow=1.1,SNR=5.2
PRA Prague 117.02 46 *e*PS PS 23 09 58.4 +7.8
PRA AMS AMS 23 50 30.0
comp=Z,700nm,15.4s
PRU Pruhonice 117.04 46 *e*PS PS 23 09 54.8 +4.0
PRU AMS AMS 23 52 00.0
comp=Z,600nm,18.2s
GOPC GO Pecny, Ondr 117.15 47 *e*PS PS 23 10 00.5 +8.6
GOPC AMS AMS 23 51 40.0
comp=Z,800nm,16.0s
TREC Trest 117.27 47 AMS AMS 23 46 10.0
comp=Z,700nm,18.4s
PVCC Panska Ves 117.31 46 AMS AMS 23 46 10.0
comp=Z,1μm,22.8s
COLA College 117.39 332 PFAKE **22 59 10.0 +13**
COLA LR LR
comp=Z,448nm,20.0s
SANT Santorini 117.80 64 PFAKE **22 59 10.0 +11**
SANT LR LR
comp=Z,589nm,21.0s
UPC Upice 118.12 46 *e*PS PS 23 10 07.5 +6.9
UPC AMS AMS 23 51 40.0
comp=Z,1μm,16.0s
DPC Dobruska-Polom 118.23 47 AMS AMS 23 52 20.0
comp=Z,800nm,19.6s
MORC Moravsky Berou 118.69 48 ||*i*P PKPdf 22 59 09.0 +8.6
MORC Moravsky Berou 118.69 48 ||PKIKP PKPdf 22 59 09.0 +8.6
VYHS Vyhne 118.89 49 *e*PKIKP **PKPdf 22 59 01.6 +0.8**
VYHS Vyhne 118.89 49 *e*PKP **PKPdf 22 59 01.6 +0.8**
OKC Ostrava-Krasne 119.06 48 *e*PS PS 23 10 18.2 +9.1
OKC AMS AMS 23 56 10.0
comp=Z,700nm,17.0s
MDVR Moldovita 119.07 54 ||*i*P **PKPdf 22 59 00.2 -1.1**
PMG Port Moresby 119.20 228 PFAKE **22 59 10.0 +7.5**
PMG LR LR
comp=Z,418nm,19.0s
PSZ Piszkesteto 119.29 50 PFAKE **22 59 10.0 +8.3**
PSZ LR LR
comp=Z,779nm,20.0s
BZS Buzias 119.37 53 ⇑*i*P **PKPdf 22 59 02.0 +0.2**
BZS Buzias 119.37 53 ⇑PKIKP **PKPdf 22 59 02.0 +0.2**
MBWA Marble Bar 119.80 195 PFAKE **22 59 20.0 +16**
MBWA LR LR
comp=Z,684nm,19.0s
GZR Gura Zlata 120.01 54 ||*i*P **PKPdf 22 59 08.1 +5.0**
GZR Gura Zlata 120.01 54 ||PKIKP **PKPdf 22 59 08.1 +5.0**
DRGR 120.55 52 ||*i*P **PKPdf 22 59 03.9 -0.2**
DRGR 120.55 52 ||PKIKP **PKPdf 22 59 03.9 -0.2**
STHS Stebnicka Huta 120.72 49 *e*PKIKP **PKPdf 22 59 06.1 +1.8**
STHS Stebnicka Huta 120.72 49 *e*PKP **PKPdf 22 59 06.1 +1.8**
CSS Mathiatis 122.86 69 PFAKE **22 59 20.0 +11**
CSS LR LR
comp=Z,105nm,19.0s
H11S2 WAKE ISLAND Hyl 24.08 268 T T 01 15 16.7
baz=124
H11S1 WAKE ISLAND Hyl 24.09 268 T T 01 15 15.0
baz=124
H11S3 WAKE ISLAND Hyl 24.09 268 T T 01 15 18.8
baz=124
KIS Kishinev 124.50 54 *e*PP PP 23 00 52.0 -6.7
KIS *e*SKS 23 11 04.0
KIS *e*SKKS SKKPbc 23 13 20.0 +35
ANTO Ankara 124.52 63 PFAKE **22 59 20.0 +8.0**
ANTO LR LR

	comp=Z,576nm,19.0s							
H11N3	**WAKE ISLAND Hyl**	**24.58**	**269**		T	T	01 16 12.0	
	baz=122							
H11N1	**WAKE ISLAND Hyl**	**24.60**	**269**		T	T	01 16 11.4	
	baz=122							
H11N2	**WAKE ISLAND Hyl**	**24.60**	**269**		T	T	01 16 05.9	
	baz=122							
BRTR	**Keskin Array B**	**125.06**	**64**		PKP	**PKPdf**	**22 59 12.3**	**-0.8**
	comp=Z,1.7nm,0.7s,baz=197,slow=2.8,SNR=12							
KIEV	**Kiev**	**125.97**	**50**		PFAKE		22 59 30.0	+16
KIEV					LR	LR		
	comp=Z,584nm,19.0s							
AKASG	**Malin Array Be**	**125.98**	**50**		PKP	**PKPdf**	**22 59 13.6**	**-0.7**
	comp=Z,0.2nm,0.4s,baz=265,slow=1.9,SNR=3.5							
ADK	**Adak**	**126.04**	**312**		PFAKE		22 59 30.0	+16
ADK					LR	LR		
	comp=Z,561nm,21.0s							
KBS	**Kingsbay**	**126.16**	**14**		PFAKE		22 59 30.0	+16
KBS					LR	LR		
	comp=Z,411nm,20.0s							
KEV	**Kevo**	**128.80**	**26**		PFAKE		22 59 30.0	+11
KEV					LR	LR		
	comp=Z,691nm,20.0s							
COCO	**West Island**	**129.39**	**168**		PFAKE		22 59 30.0	+8.0
COCO					LR	LR		
	comp=Z,980nm,19.0s							
OBN	**Obninsk**	**131.36**	**46**		PFAKE		22 59 40.0	+16
OBN					LR	LR		
	comp=Z,1μm,20.0s							
LVZ	**Lovozero**	**131.49**	**29**		PFAKE		22 59 40.0	+16
LVZ					LR	LR		
	comp=Z,613nm,21.0s							
KIV	**Kislovodsk**	**132.84**	**62**		PFAKE		22 59 40.0	+12
KIV					LR	LR		
	comp=Z,355nm,19.0s							
KVAR	**Kislovodsk Arr**	**132.84**	**62**		PKP	**PKPdf**	**22 59 28.0**	**+0.2**
	comp=Z,2.5nm,0.8s,baz=225,slow=2.9,SNR=3.1							
KBZ	**Khabaz**	**132.92**	**62**		PKP	**PKPdf**	**22 59 27.9**	**+0.3**
	comp=Z,1.4nm,0.8s,baz=305,slow=1.3,SNR=3.9							
KBZ	**Khabaz**	**132.92**	**62**		PKIKP	**PKPdf**	**22 59 28.0**	**+0.3**
KBZ					pmax	pmax		
	comp=Z,1.0nm,0.8s							
GNI	**Garni**	**133.20**	**67**		PFAKE		22 59 40.0	+11
GNI					LR	LR		
	comp=Z,431nm,19.0s							
KAPI	**Kappang**	**135.38**	**200**		PFAKE		22 59 50.0	+17
KAPI					LR	LR		
	comp=Z,420nm,19.0s							
MAK	**Makhachkala**	**135.97**	**64**	*e*	P	Pdif	22 56 55.6	+18
MAK				*e*	PKIKP	**PKPdf**	**22 59 33.5**	**0.0**
MAK				*e*	SS	SS	23 20 07.7	-4.5
MAK					pmax	pmax		
	comp=Z,98nm,1.3s							
GEYT	**Alibeck**	**142.56**	**75**		PKhKP	PKPpre	22 59 42.1	
	comp=Z,2.9nm,0.8s,baz=234,slow=4.6,SNR=6.6							
KSM	**Kuching**	**143.48**	**187**		PFAKE		23 00 00.0	+12
KSM					LR	LR		
	comp=Z,425nm,20.0s							
ARU	**Arti**	**143.73**	**44**	*i*	PKIKP	PKPbc	22 59 45.3	+0.6
ARU							23 06 54.6	
ARU					MLR	MLR		
	comp=Z,969nm,20.0s							
ARU	**Arti**	**143.73**	**44**	*e*	PKPdf	PKPab	22 59 44.1	+0.1
ARU					LR	LR		
	comp=Z,953nm,20.0s							
TIXI	**Tiksi**	**144.26**	**348**	*e*	PKIKP	**PKPab**	**22 59 45.2**	**-0.3**
TIXI					MLR	MLR		
	comp=Z,456nm,20.0s							
TIXI	**Tiksi**	**144.26**	**348**	*e*	PKPdf	**PKPab**	**22 59 45.2**	**-0.3**
TIXI					LR	LR		
	comp=Z,456nm,20.0s							
DAV	**Davao City (W)**	**144.50**	**215**		PFAKE		23 00 00.0	+10
DAV					LR	LR		
	comp=Z,134nm,21.0s							
SVE	**Sverdlovsk**	**144.77**	**43**	*e*	PKIKP	PKPbc	22 59 48.2	+0.2
SVE					pmax	pmax		
	comp=Z,53nm,2.0s							
ABKAR	**Akbulak array**	**145.29**	**56**	*e*	PKPdf	**PKPbc**	**22 59 49.1**	**-0.7**
KKM	**Kota Kinabalu**	**146.91**	**199**		PFAKE		23 00 10.0	+13
KKM					LR	LR		
	comp=Z,298nm,21.0s							
NRIK	**Noril'sk**	**147.00**	**12**		PKPbc	**PKPbc**	**22 59 54.4**	**-0.1**
	comp=Z,2.6nm,0.4s,baz=357,slow=3.7,SNR=19							
KULM	**Kulim**	**147.12**	**170**	*e*	PKPbc	**PKPbc**	**22 59 55.8**	**-0.7**
KULM					LR	LR		
	comp=Z,764nm,19.0s							
HYB	**Hyderabad**	**148.42**	**123**	*i*	PKP	**PKPbc**	**23 00 01.0**	**+1.1**
BRVK	**Borovoye**	**151.12**	**47**	*e*	PKIKP	**PKPdf**	**22 59 59.5**	**0.0**
BRVK					MLR	MLR		
	comp=Z,665nm,19.0s							
BRVK	**Borovoye**	**151.12**	**47**	*e*	PKPdf	**PKPdf**	**22 59 59.5**	**0.0**
BRVK					LR	LR		
	comp=Z,665nm,19.0s							
ERM	**Erimo**	**151.40**	**290**		PFAKE		23 00 10.0	+3.7
ERM					LR	LR		
	comp=Z,708nm,22.0s							
YSS	**Yuzh-Sakhalins**	**151.66**	**300**	*e*	PKP2	**PKPab**	**23 00 20.4**	**+4.8**
YAK	**Yakutsk**	**151.82**	**336**	*e*	PKIKP	**PKPbc**	**23 00 04.6**	**-2.0**
YAK					pmax	pmax		
	comp=Z,21nm,1.0s							
YAK	**Yakutsk**	**151.82**	**336**		PFAKE		23 00 10.0	+3.4
YAK					LR	LR		
	comp=Z,419nm,19.0s							
KKAR	**Karatay Array**	**152.67**	**68**	*e*	PKIKP	**PKPdf**	**23 00 02.8**	**+0.6**
KKAR				*e*			23 00 08.6	
KKAR	**Karatay Array**	**152.67**	**68**	*e*	PKPdf	**PKPdf**	**23 00 02.8**	**+0.6**
KKAR				*e*	PKPbc	**pPKPdf**	**23 00 08.6**	**+0.2**
KKAR				*e*	PKPab	**PKPab**	**23 00 20.8**	**+0.7**
MJAR	**Matsushiro Arr**	**154.40**	**277**		PKP	**PKPdf**	**23 00 04.8**	**0.0**
	comp=Z,0.4nm,0.4s,baz=113,slow=8.1,SNR=2.6							
MJAR					PKPab	**PKPab**	**23 00 27.3**	**-0.3**
	comp=Z,4.0nm,1.1s,baz=124,slow=3.0,SNR=4.9							
MAJO	**Matsushiro**	**154.40**	**277**		PFAKE		23 00 20.0	+6.8
MAJO					LR	LR		
	comp=Z,421nm,19.0s							
AAK	**Ala-Archa**	**155.59**	**69**		PP	PP	23 04 10.8	+0.7
	comp=Z,0.4nm,0.3s,baz=229,slow=5.4,SNR=5.8							
AAK	**Ala-Archa**	**155.59**	**69**	*e*	PKIKP	**PKPdf**	**23 00 06.9**	**+0.4**
AAK				*e*			23 00 16.4	
AAK				*e*			23 00 31.9	
AAK							23 04 10.8	
AAK					MLR	MLR		
	comp=Z,545nm,19.0s							
AAK	**Ala-Archa**	**155.59**	**69**	*e*	PKPdf	**PKPdf**	**23 00 06.9**	**+0.4**
AAK				*e*	PKPbc	**pPKPdf**	**23 00 16.4**	**+3.7**
AAK				*e*	PKPab	**PKPab**	**23 00 31.9**	**-0.8**
AAK					PP	**PP**	**23 04 10.8**	**+0.7**
AAK					LR	LR		
	comp=Z,545nm,19.0s							
FRU	**Bishkek**	**155.68**	**68**	*e*	PKIKP	**PKPdf**	**23 00 05.0**	**-1.5**
FRU				*e*			23 00 32.0	
FRU				*e*			23 04 09.0	
KSH	**Kashi**	**156.56**	**77**		PKP	**PKPdf**	**23 00 08.8**	**+0.9**
KSH					PKS	**PKSdf**	**23 03 40.0**	**-1.8**
KSH					PP	**PP**	**23 04 15.8**	**+0.3**
KSH					SKS	**SKSdf**	**23 07 11.8**	**-1.4**
KSH					SS	**SS**	**23 24 03.5**	**-3.2**
KSH					AMB	AMB		
	comp=Z,220nm,5.3s							
KSH					LR	LR		
	comp=Z,230nm,13.4s							
KURK	**Kurchatov**	**156.77**	**48**		PFAKE		23 00 20.0	+12
KURK					LR	LR		
	comp=Z,936nm,21.0s							
NVS	**Novosibirsk**	**157.10**	**35**	*e*	PKIKP	**PKPdf**	**23 00 06.9**	**-0.9**
ZALV	**Zalesovo Beam**	**158.38**	**35**		PKP	**PKPdf**	**23 00 08.8**	**-0.6**
	comp=Z,1.3nm,0.7s,baz=281,slow=4.3,SNR=7.0							
ZALV					PKPab	**PKPab**	**23 00 43.2**	**-0.8**
	comp=Z,3.9nm,0.7s,baz=305,slow=5.1,SNR=9.1							
PYUN	**Piuthan**	**158.39**	**110**	*e*	P	**PKPab**	**23 00 44.4**	**-0.8**
	comp=Z,50nm,1.0s							
KOLN	**Koldanda**	**158.66**	**112**	*e*	P	**PKPab**	**23 00 44.5**	**-1.8**
	comp=Z,10.0nm,0.6s							
BOD	**Bodaibo**	**159.44**	**348**	*e*	PKP2	**PKPab**	**23 00 47.2**	**-1.2**
BOD					pmax	pmax		
	comp=Z,11nm,1.5s							
GKN	**Gorkha**	**159.55**	**113**	*e*	P	**PKPab**	**23 00 49.1**	**-1.0**
	comp=Z,40nm,0.9s							
CMAR	**Chiang Mai Arr**	**159.62**	**160**		PKP	**PKPdf**	**23 00 12.4**	**+0.4**
	comp=Z,0.5nm,0.6s,baz=191,slow=0.5,SNR=3.1							
CMAR					PKPab	**PKPab**	**23 00 50.2**	**0.0**
	comp=Z,2.8nm,1.0s,baz=211,slow=4.2,SNR=5.3							
DMN	**Daman**	**159.66**	**114**	*e*	P	**PKPab**	**23 00 49.5**	**-1.2**
	comp=Z,42nm,0.9s							
PKIN	**Phulchoki**	**159.85**	**115**	*e*	P	**PKPab**	**23 00 51.0**	**-0.6**
PKI	**Pulchoki**	**159.86**	**115**	*e*	P	**PKPab**	**23 00 50.3**	**-1.4**
	comp=Z,35nm,0.6s							
KKN	**Kakani**	**159.89**	**114**	*e*	P	**PKPab**	**23 00 50.7**	**-1.0**
	comp=Z,60nm,0.8s							
CHTO	**Chiang Mai**	**159.96**	**160**		PFAKE		23 00 20.0	+7.6
CHTO					LR	LR		
	comp=Z,706nm,19.0s							
RAMN	**Ramite**	**160.32**	**118**	*e*	P	**PKPab**	**23 00 52.3**	**-1.3**
	comp=Z,45nm,0.6s							
MKAR	**Makanchi Array**	**160.43**	**56**		PKP	**PKPdf**	**23 00 11.6**	**-0.5**
	comp=Z,0.9nm,0.8s,baz=249,slow=2.3,SNR=4.1							
MKAR					PKPab	**PKPab**	**23 00 53.0**	**-0.3**
	comp=Z,2.0nm,0.8s,baz=306,slow=2.9,SNR=6.7							
MKAR					PP	**PP**	**23 04 33.8**	**-2.3**
	comp=Z,0.3nm,0.7s,baz=290,slow=4.3,SNR=2.7							
JIRN	**Jiri**	**160.47**	**116**	*e*	P	**PKPab**	**23 00 52.8**	**-1.6**
ODAN	**Odare**	**160.81**	**120**	*e*	P	**PKPab**	**23 00 54.3**	**-1.4**
	comp=Z,41nm,0.7s							
MDJ	**Mudanjiang**	**161.10**	**298**		PFAKE		23 00 20.0	+7.1
MDJ					LR	LR		
	comp=Z,727nm,21.0s							
KSRS	**Korea Array**	**162.65**	**275**		PKP	**PKPdf**	**23 00 12.9**	**-1.8**
	comp=Z,0.7nm,0.6s,baz=63,slow=0.4,SNR=3.5							
KSRS					PKPab	**PKPab**	**23 01 02.3**	**-1.0**
	comp=Z,1.0nm,0.8s,baz=114,slow=1.6,SNR=3.4							
KSAR	**Wonju Array Be**	**162.68**	**275**		PKIKP	**PKPdf**	**23 00 12.9**	**-1.8**
KSAR							23 01 02.3	
KSAR	**Wonju Array Be**	**162.68**	**275**		PKP	**PKPdf**	**23 00 12.9**	**-1.8**
KSAR					PKPab	**PKPab**	**23 01 02.3**	**-1.1**
INCN	**Inchon**	**163.67**	**275**		PFAKE		23 00 30.0	+14
INCN					LR	LR		
	comp=Z,56nm,21.0s							
WMQ	**Urumqi**	**164.97**	**61**		PKP	**PKPdf**	**23 00 16.5**	**-0.2**
WMQ					PKPab	**PKPab**	**23 01 13.5**	**+0.1**
WMQ					PP	**PP**	**23 04 59.5**	**-0.8**
WMQ					SKKS		23 11 47.0	
WMQ					SS	**SS**	**23 25 28.3**	**-5.9**
WMQ					AMB	AMB		
	comp=Z,540nm,5.7s							
WMQ					LR	LR		
	comp=Z,470nm,19.9s							
HIA	**Hailar**	**164.97**	**323**		PFAKE		23 00 30.0	+14
HIA					LR	LR		
	comp=Z,552nm,20.0s							
LSA	**Lhasa**	**165.17**	**119**		PFAKE		23 00 30.0	+12
LSA					LR	LR		
	comp=Z,707nm,22.0s							
TLY	**Talaya**	**166.17**	**6**		PFAKE		23 00 30.0	+13
TLY					LR	LR		
	comp=Z,521nm,21.0s							
KMI	**Kunming**	**166.91**	**167**		PKP	**PKPdf**	**23 00 18.5**	**-0.6**
KMI					PP	**PP**	**23 05 15.0**	**+5.6**
KMI					SS	SS	23 25 56.5	+4.4
KMI					LR	LR		
	comp=Z,350nm,19.6s							
NJ2	**Nanjing**	**167.94**	**245**	*e*	PKP	**PKPdf**	**23 00 20.3**	**+1.0**
GYA	**Guiyang**	**168.53**	**183**		PKP	**PKPdf**	**23 00 20.0**	**0.0**
GYA					PKPab	**PKPab**	**23 01 31.5**	**+2.2**
GYA					PKS	**PKSdf**	**23 03 51.3**	**-1.5**
GYA					SKKS		23 12 05.8	
GYA					SS	**SS**	**23 26 10.3**	**+2.3**
GYA					AMB	AMB		
	comp=Z,130nm,8.0s							
GYA					LR	LR		
	comp=Z,160nm,23.2s							
GYA					LR	LR		
	comp=Z,140nm,25.0s							
GYA					LR	LR		
	comp=Z,150nm,24.2s							
ULN	**Ulaanbaatar**	**170.06**	**356**		PFAKE		23 00 30.0	+10
ULN					LR	LR		
	comp=Z,596nm,20.0s							
SONM	**Songino Array**	**170.12**	**358**		PKP	**PKPdf**	**23 00 19.3**	**-1.0**
	comp=Z,0.5nm,0.7s,baz=315,slow=1.4,SNR=3.5							
SONM					PKPab	**PKPab**	**23 01 36.2**	**+0.3**
	comp=Z,1.6nm,1.0s,baz=343,slow=3.1,SNR=4.5							
SONM					PP	**PP**	**23 05 26.4**	**+0.9**
	comp=Z,0.5nm,0.7s,baz=357,slow=7.3,SNR=2.9							
SONM	**Songino Array**	**170.12**	**358**		PKIKP	**PKPdf**	**23 00 19.3**	**-1.0**
SONM							23 01 36.2	
SONM							23 05 26.4	
SONM					pmax	pmax		
	comp=Z,1.0nm,0.7s							
SONM					pmax	pmax		
	comp=Z,2.0nm,1.0s							
SONM					pmax	pmax		
	comp=Z,1.0nm,0.7s							
BJI	**Beijing**	**171.82**	**288**		PKP	**PKPdf**	**23 00 19.0**	**-2.3**
BJT	**Baijiatuan**	**171.82**	**288**		PFAKE		23 00 30.0	+8.7
BJT					LR	LR		
	comp=Z,1μm,20.0s							
CD2	**Chengdu**	**172.73**	**165**		PKP	**PKPdf**	**23 00 21.3**	**-0.8**
HHC	**Hu-ho-hao-te**	**174.82**	**306**	*e*	PKP	**PKPdf**	**23 00 24.0**	**+1.4**
HHC					PP	**PP**	**23 05 56.8**	**+7.1**
HHC					SKKS		23 12 40.3	
HHC					AMB	AMB		
	comp=Z,170nm,7.1s							
HHC					LR	LR		
	comp=Z,680nm,17.6s							
GTA	**Gaotai**	**174.94**	**71**		PKP	**PKPdf**	**23 00 28.3**	**+5.6**
GTA					PKPab	**pPKPab**	**23 02 04.0**	**+0.2**
GTA					PP	**PP**	**23 05 57.5**	**+6.7**
GTA					AMB	AMB		
	comp=Z,420nm,7.1s							
GTA					LR	LR		
	comp=Z,500nm,20.4s							
GTA					LR	LR		
	comp=Z,440nm,18.1s							
GTA					LR	LR		
	comp=Z,600nm,20.4s							
LZH	**Lanzhou**	**177.46**	**136**	*e*	PKP	**PKPdf**	**23 00 18.3**	**-5.1**
LZH					pPKP	pPKPdf	23 00 24.3	-5.3
LZH					sPKP		23 00 28.3	
LZH					SKKS		23 12 45.5	
LZH					LR	LR		
	comp=Z,800nm,18.6s							

JMA 28 22:40:41.6±0.1, 24.09N×123.54E, h25km±1km, M3.8, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HATJ	**Hateruma jima**	**0.24**	**98**	P	Pb	22 40 47.7	-0.1
HATJ				S	Sb	22 40 52.2	+0.1
IRIF	**Iriomote-Funau**	**0.30**	**35**	P	Pb	22 40 48.5	-0.1
IRIF				*e*S	Sb	22 40 53.3	-0.1
JKRS	**Kuro-shima**	**0.45**	**71**	P	Pb	22 40 51.1	+0.1
JKRS				S	Sb	22 40 58.2	+0.8
YOJ	**Yonaguni jima**	**0.61**	**308**	P	Pb	22 40 53.4	-0.2
YOJ				*e*S	Sb	22 41 01.4	-0.4
JIJ	**Ishigaki jima**	**0.61**	**64**	P	Pb	22 40 53.3	-0.4
JIJ				S	Sb	22 41 01.8	-0.2
JYNG	**Yonagunijimaku**	**0.65**	**304**	P	Pb	22 40 54.2	-0.2
JYNG				S	Sb	22 41 03.2	+0.2
JISG	**Ishigakijimahi**	**0.86**	**55**	P	Pb	22 40 57.2	-0.7
JISG				S	Sb	22 41 09.2	+0.2
JTJ	**Tarama**	**1.19**	**62**	P	Pn	22 41 03.0	+0.3
JTJ				S	Sb	22 41 18.9	+0.3
JIRB	**Irabujima**	**1.66**	**63**	P	Pn	22 41 09.2	+0.1
JMJ	**Miyako jima 2**	**1.75**	**65**	P	Pb	22 41 12.1	-1.0
JIKM	**Ikemajima**	**1.76**	**62**	P	Pn	22 41 10.1	-0.4

BJI ***28*** *22:45:36.0, 2.30S×134.20E, h29km, mb4.5/9, mB5.0/5, Ms4.8/5, Ms7 4.5/5*
IDC ***28*** *22:45:39.2±1.0, 3.16S×130.83E, h0km, mb4.1/8, mb1 4.2/8, mb1mx4.0/28, mbtmp4.1/8, ML2.3/1, Error ellipse: s-maj=39.1km s-min=21.9km az=80.0*
ISCJB ***28*** *22:45:40.9±0.3, 3.29S±0.03×130.79E±0.05, h30km, mb4.4/19, MS4.3/2, Error ellipse: s-maj=6.8km s-min=4.4km az=166.7*
NEIC ***28*** *22:45:42.3±3.5, 3.29S×130.73E, h22km±27km, mb4.4/10, Error ellipse: s-maj=12.4km s-min=9.0km az=92.0*
DJA ***28*** *22:45:43.0±0.4, 3.3S×13.1E, h10km, M3.8/6, MLv3.8/6*
ISC 28 22:45:42.4±0.5, 3.31S±0.04×130.80E±0.04, h30km, n51, σ2°82/59, **mb4.4**/19, **2C-1D, Seram**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FAKI	**Fak Fak**	**1.50**	**75**	P	**Pb**	**22 46 09.7**	**+0.1**
FAKI	**Fak Fak**	**1.50**	**75**	*e*Pn	**Pb**	**22 46 09.6**	**0.0**
FAKI				*e*S	**Sn**	**22 46 26.6**	**+0.8**
BNDI	**Bandanaira**	**1.50**	**217**	P	**Pb**	**22 46 12.4**	**+2.7**
MSAI	**Masohi**	**1.87**	**269**	P	**Pb**	**22 46 14.6**	**-1.4**
MSAI				S	**Sb**	**22 46 41.1**	**+2.1**
SIJI	**Sorong**	**2.47**	**11**	Pn	**Pn**	**22 46 18.8**	**-1.8**
	0.7nm,0.3s,baz=47,slow=16,SNR=34						
SIJI				Sn	**Sn**	**22 46 46.8**	**-3.0**
	1.1nm,0.3s,baz=209,slow=16,SNR=7.2						
AAI	**Ambon**	**2.63**	**262**	P	**Pb**	**22 46 28.6**	**-0.3**
NLAI	**Namlea**	**3.70**	**271**	P	**Pn**	**22 46 39.5**	**+2.0**
LBMI	**Labuha**	**4.23**	**309**	P	**Pn**	**22 46 44.7**	**-0.2**
LBMI				S	**Sn**	**22 47 31.1**	**-2.3**
SANI	**Sanana**	**4.97**	**284**	P	**Pn**	**22 46 53.8**	**-1.2**
SANI				S	**Sn**	**22 47 47.2**	**-4.3**
MTN	**Manton Dam**	**9.48**	**178**	Pn	**Pn**	**22 47 58.9**	**+1.8**
MTN				*e*Sn	**Sn**	**22 49 43.7**	**+1.1**
FITZ	**Fitzroy Crossi**	**15.55**	**199**	Pn	**Pn**	**22 49 18.9**	**-0.7**
	0.2nm,0.3s,baz=39,slow=11,SNR=3.6						
FITZ				Sn	**Sn**	**22 52 03.1**	**-8.0**
	baz=34,slow=18						
COEN	**Coen**	**16.16**	**132**	*e*Pn	**Pn**	**22 49 25.8**	**-1.8**
WRAB	**Tennant Creek**	**16.88**	**168**	*e*Pn	**Pn**	**22 49 36.6**	**-0.1**
	6.5nm,0.7s						
WRAB				*e*S	**Sn**	**22 52 35.8**	**-7.7**
WRA	**Warramunga Arr**	**16.89**	**168**	Pn	**Pn**	**22 49 35.6**	**-1.1**
	0.6nm,0.3s,baz=347,slow=12,SNR=12						
WRA				Sn	**Sn**	**22 52 36.6**	**-7.1**
	0.2nm,0.3s,baz=350,slow=24,SNR=4.0						
WB2	**Warramunga Arr**	**16.89**	**168**	*e*Pn	**Pn**	**22 49 36.6**	**-0.2**
AS31	**Alice Springs**	**20.46**	**172**	*e*P	Pn	22 50 21.0	+1.0
	12nm,0.5s						
ASAR	**Alice Springs**	**20.46**	**172**	P	Pn	22 50 20.1	+0.1
	6.0nm,0.4s,baz=351,slow=11,SNR=71						
ASAR				S	**S**	**22 54 03.8**	**-1.7**
	0.5nm,0.5s,baz=353,slow=21,SNR=3.4						
AS01	**Alice Springs**	**20.47**	**172**	*e*P	Pn	22 50 20.0	-0.1
MBWA	**Marble Bar**	**20.76**	**210**	*e*P	**P**	**22 50 21.4**	**+0.4**
	10nm,0.5s						
KSM	**Kuching**	**21.03**	**283**	*e*P	**P**	**22 50 25.4**	**+1.4**
	5.0nm,0.6s						
NJ2	**Nanjing**	**36.95**	**343**	*e*P	**P**	**22 52 46.5**	**-2.5**
NJ2				pmax	pmax		
	comp=Z,16nm,1.0s						
CMAR	**Chiang Mai Arr**	**38.11**	**306**	P	**P**	**22 53 00.2**	**+1.2**
	0.9nm,0.3s,baz=138,slow=7.7,SNR=7.6						
CMAR				PcP	**PcP**	**22 55 15.9**	**+2.1**
	0.7nm,0.3s,baz=131,slow=3.7,SNR=3.4						
KSAR	**Wonju Array Be**	**40.63**	**356**	P	**P**	**22 53 20.1**	**+0.4**
KSRS	**Korea Array**	**40.64**	**356**	P	**P**	**22 53 20.1**	**+0.3**
	0.9nm,0.5s,baz=181,slow=10,SNR=3.9						
LZH	**Lanzhou**	**46.59**	**330**	*e*P	**P**	**22 54 08.3**	**+0.3**
LZH				pP	pP	22 54 15.5	-1.6
LZH				sP	sP	22 54 18.8	-1.9
LZH				pmax	pmax		
	comp=Z,17nm,1.1s						
CN2	**Changchun**	**47.14**	**355**	*e*P	P	22 54 03.5	-8.5
CN2				*e*pP	pP	22 54 11.0	-10
CN2				*e*PP	PcP	22 55 53.0	+10
CN2				*e*S	S	23 00 51.3	-11
CN2				*e*sS	pS	23 01 03.5	-10
CN2				*e*SS	**ScS**	**23 04 10.3**	**+6.2**
HHC	**Hu-ho-hao-te**	**47.33**	**340**	*e*P	**P**	**22 54 13.3**	**-0.4**
HHC				pmax	pmax		
	comp=Z,16nm,1.0s						
LSA	**Lhasa**	**50.17**	**314**	*e*P	**P**	**22 54 37.1**	**+1.0**
	0.7nm,0.3s						
GTA	**Gaotai**	**51.19**	**329**	*e*P	**P**	**22 54 43.8**	**+0.6**
GTA				pP	pP	22 54 53.8	+1.5
GTA				sP	sP	22 54 58.0	+2.1
GTA				pmax	pmax		
	comp=Z,3.0nm,1.0s						
ULN	**Ulaanbaatar**	**55.04**	**341**	*e*P	**P**	**22 55 12.1**	**+0.6**
	5.3nm,1.1s						
SONM	**Songino Array**	**55.24**	**340**	P	**P**	**22 55 13.3**	**+0.5**
	1.6nm,0.9s,baz=158,slow=8.3,SNR=7.7						
SONA1	**Songino Array**	**55.24**	**340**	*e*P	**P**	**22 55 09.7**	**-3.2**
WMQ	**Urumqi**	**60.79**	**325**	P	**P**	**22 55 55.0**	**+3.2**
WMQ				pP	sP	22 56 03.8	-0.8
WMQ				PcP	**PcP**	**22 56 34.8**	**-0.7**
WMQ				pmax	pmax		
	comp=Z,15nm,0.5s						
WMQ				pmax	pmax		
	comp=Z,140nm,4.1s						
WMQ				LR	LR		
	comp=N,66nm,19.3s						
WMQ				LR	LR		
	comp=E,140nm,21.3s						
WMQ				LR	LR		
	comp=Z,100nm,17.3s						
MK01	**Makanchi Array**	**65.60**	**326**	*e*P	**P**	**22 56 24.1**	**+0.5**
MK31	**Makanchi Array**	**65.62**	**326**	*e*P	**P**	**22 56 24.5**	**+0.7**
MKAR	**Makanchi Array**	**65.62**	**326**	P	**P**	**22 56 24.4**	**+0.6**
	3.2nm,0.8s,baz=124,slow=8.3,SNR=18						
MKAR	**Makanchi Array**	**65.62**	**326**	*e*P	**P**	**22 56 24.3**	**+0.6**
	17nm,0.8s						
KSH	**Kashi**	**65.89**	**316**	*e*P	P	22 56 32.5	+6.8
KSH				pP	sP	22 56 42.5	+3.9
KSH				PP	PP	22 59 03.5	+12
KSH				S	S	23 05 24.5	+13
KSH				sS	sS	23 05 41.5	+15
KSH				SS	SS	23 09 47.8	+21
KSH				pmax	pmax		
	comp=Z,110nm,5.1s						
KSH				LR	LR		
	comp=N,120nm,7.2s						
KSH				LR	LR		
	comp=E,100nm,9.3s						
KSH				LR	LR		
	comp=Z,150nm,11.1s						
AAK	**Ala-Archa**	**68.28**	**319**	*e*P	**P**	**22 56 40.9**	**-0.1**
	0.5nm,0.4s						
ZAA0	**Zalesovo Array**	**68.66**	**333**	*e*P	**P**	**22 56 43.0

EBAJ	**Bajamar**	**1.67**	**62**	P		**Pn**	**22 53 25.9**	**+1.1**
	2.4nm,0.1s,SNR=17							
EBAJ				S		**Sn**	**22 53 45.5**	**+0.3**
	106nm,0.3s							
EOSO	**Osorio**	**2.20**	**81**	P		**Pn**	**22 53 33.9**	**+1.8**
	5.5nm,0.2s,SNR=8.3							
EOSO				S		**Sn**	**22 53 55.6**	**-2.8**
	72nm,0.2s,SNR=14							
CFTV	**Fuerteventura**	**3.54**	**78**	P		**Pn**	**22 53 52.0**	**+1.5**
	1.4nm,0.2s,SNR=7.9							
CFTV				S		**Sn**	**22 54 27.3**	**-3.9**
	28nm,0.3s,SNR=7.9							
CFUE	**Fuerteventura**	**3.71**	**75**	P		**Pn**	**22 53 54.5**	**+1.7**
	5.4nm,0.2s,SNR=7.9							
CFUE				S		**Sn**	**22 54 32.1**	**-3.3**
	48nm,0.2s,SNR=7.9							
EFAM	**Famara**	**4.18**	**70**	P		**Pn**	**22 54 00.9**	**+1.6**
	2.0nm,0.2s,SNR=7.9							
EFAM				S		**Sn**	**22 54 44.0**	**-3.1**
	15nm,0.3s,SNR=7.9							
FUL	**Funchal**	**4.98**	**11**	*e*P		**Pn**	**22 54 10.6**	**+0.4**
FUL				*e*S		**Sn**	**22 55 04.3**	**-2.4**
FUL				A		A	22 55 07.3	
	47nm,0.2s							
PMAR	**Madeira**	**5.05**	**11**	*e*P		**Pn**	**22 54 11.4**	**+0.1**
PMAR				*e*S		**Sn**	**22 55 06.1**	**-2.6**
PMAR				A		A	22 55 17.2	
	63nm,0.3s							
PMAR	**Madeira**	**5.05**	**11**	*e*P		**Pn**	**22 54 11.4**	**+0.1**
PMAR				*e*S		**Sn**	**22 55 06.1**	**-2.6**
	63nm,0.3s							
PMOZ	**Porto Moniz, M**	**5.11**	**8**	*e*P		**Pn**	**22 54 12.1**	**0.0**
PMOZ				*e*S		**Sn**	**22 55 07.8**	**-2.2**
PMOZ				A		A	22 55 12.1	
	114nm,0.3s							
PMOZ	**Porto Moniz, M**	**5.11**	**8**	P		**Pn**	**22 54 12.1**	**0.0**
	43nm,0.3s,SNR=7.9							
PMOZ				*e*S		**Sn**	**22 55 07.8**	**-2.2**
	114nm,0.3s							
PMPS	**Porto Santo**	**5.49**	**15**	*e*P		**Pn**	**22 54 17.8**	**+0.6**
PMPS				*e*S		**Sn**	**22 55 17.0**	**-2.2**
PMPS	**Porto Santo**	**5.49**	**15**	*e*P		**Pn**	**22 54 17.8**	**+0.6**
PMPS				*e*S		**Sn**	**22 55 17.0**	**-2.2**

IDC ***28*** *23:12:58.2*$_{\pm}$*3.2, 14.°17N*$_{\times}$*91.°18W, h0*^{km}*, mb3.7/3, mb1 4.0/5, mb1mx3.7/50, mbtmp3.7/5, ML3.6/1, Error ellipse: s-maj=152.9km s-min=31.8km az=36.0*

MEX ***28*** *23:13:04.1*$_{\pm}$*0.4, 13.°94N*$_{\times}$*92.°62W, h16*^{km}$_{\pm}$*71*^{km}*, MD3.8*

ISC 28 23:13:02.2$_{\pm}$1.6**, 14.°1N**$_{\pm}$0.1$_{\times}$**92.°5W**$_{\pm}$0.1**, h10**^{km}**, n10, c2§18/13, mb3.7/3, Near coast of Chiapas**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCIG		**1.78**	**338**	*i* P	**Pn**	**23 13 31.9**	**-1.1**
PCIG				*i* S	**Sn**	**23 13 53.3**	**-2.3**
CCIG	**Comitan**	**2.25**	**10**	*i* P	**Pn**	**23 13 39.6**	**-0.1**
CCIG				*i* S	**Sn**	**23 14 07.0**	**-0.7**
TGIG		**2.77**	**348**	*i* P	**Pn**	**23 13 48.0**	**+1.2**
TGIG				*i* S	**Sn**	**23 14 20.2**	**-0.2**
CMIG	**Matias Romero**	**3.78**	**324**	Pn	**Pb**	**23 14 08.6**	**-0.4**
	baz=124,slow=12,SNR=2.6						
CMIG				Sn	**Sb**	**23 14 53.9**	**-1.0**
	1.7nm,0.3s,baz=177,slow=17,SNR=3.9						
TXAR	**Lajitas Array**	**18.38**	**328**	P	**Pn**	**23 17 21.5**	**+4.2**
	0.0nm,0.3s,baz=142,slow=12,SNR=12						
ANMO	**Albuquerque**	**24.31**	**331**	P	**P**	**23 18 23.2**	**+3.0**
	1.1nm,0.7s,baz=140,slow=7.9,SNR=4.0						
ILAR	**Eielson Array**	**62.59**	**337**	P	**P**	**23 23 26.3**	**0.0**
	0.5nm,0.9s,baz=144,slow=5.1,SNR=4.7						
TORD	**Torodi Ar. Bea**	**90.87**	**76**	P	P	23 25 58.2	-8.6
	0.7nm,1.0s,baz=290,slow=4.2,SNR=4.2						
MKAR	**Makanchi Array**	**119.26**	**4**	PKP	**PKPdf**	**23 31 49.3**	**-2.7**
	0.3nm,0.6s,baz=21,slow=2.0,SNR=2.5						
CMAR	**Chiang Mai Arr**	**145.78**	**340**	PKPbc	**PKPdf**	**23 32 40.1**	**-2.0**
	1.4nm,0.6s,baz=349,slow=3.2,SNR=7.3						

NIED ***28*** *23:13:00, 38.°90N*$_{\times}$*141.°90E, h53*^{km}*, Mw4.0 Best double couple: M*$_0$*1.13000*$_{\times}$*10*^{15} *NP1:*ϕ_S*245.00000°,* δ*46.00000°,* λ*136.00000°. NP2:*ϕ_S*9.00000°,* δ*60.00000°,* λ*53.00000°.*

ISCJB ***28*** *23:13:27.6*$_{\pm}$*0.7, 38.°91N*$_{\pm}$*0.°04*$_{\times}$*141.°98E*$_{\pm}$*0.°08, h59*^{km}$_{\pm}$*4*^{km}*, mb4.1/17, Error ellipse: s-maj=10.7km s-min=5.6km az=20.2*

JMA ***28*** *23:13:28.9*$_{\pm}$*0.1, 38.°92N*$_{\times}$*141.°93E, h51*^{km}$_{\pm}$*1*^{km}*, M3.8*

JMA Felt II J1.

IDC ***28*** *23:13:29.3*$_{\pm}$*6.2, 38.°94N*$_{\times}$*142.°15E, h63*^{km}$_{\pm}$*45*^{km}*, mb3.8/14, mb1 3.8/17, mb1mx3.6/69, mbtmp4.0/17, ML3.1/3, MS3.4/1, Ms1 3.4/1, ms1mx2.7/51, Error ellipse: s-maj=64.7km s-min=18.1km az=73.0*

NEIC ***28*** *23:13:30.5*$_{\pm}$*0.9, 38.°88N*$_{\times}$*142.°10E, h75*^{km}$_{\pm}$*7*^{km}*, mb4.4/3, Error ellipse: s-maj=12.7km s-min=8.0km az=107.0*

ISC 28 23:13:28.8$_{\pm}$1.1**, 38.°91N**$_{\pm}$0.°05$_{\times}$**141.°95E**$_{\pm}$0.°08**, h52**^{km}**, t**$_{7km}$**, n41,** σ**1§31/43, mb4.2/17, Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OFUJ	**Ofunato**	**0.28**	**307**	P	**Pn**	**23 13 37.9**	**0.0**
OFUJ				S	**Sn**	**23 13 44.0**	**-0.4**
JMK	**Ichinoseki**	**0.57**	**274**	P	**Pn**	**23 13 40.9**	**-0.1**
JMK				S	**Sn**	**23 13 49.4**	**-0.4**
JIO	**Ouri**	**0.66**	**226**	P	**Pn**	**23 13 41.8**	**-0.3**
JIO				S	**Sn**	**23 13 50.6**	**-1.1**
JOM	**Ohasama**	**0.76**	**318**	P	**Pn**	**23 13 43.3**	**-0.1**
JOM				S	**Sn**	**23 13 53.9**	**-0.1**
JRG	**Rokugo**	**1.13**	**296**	P	**Pn**	**23 13 48.2**	**-0.2**
JRG				*e*S	**Sn**	**23 14 02.1**	**-0.8**
JOU	**Okura**	**1.15**	**242**	P	**Pn**	**23 13 48.3**	**-0.3**
JOU				S	**Sn**	**23 14 02.7**	**-0.5**
JYK	**Kaneyama**	**1.24**	**271**	P	**Pn**	**23 13 49.8**	**0.0**
JYK				*e*S	**Sn**	**23 14 05.2**	**-0.3**
JMM	**Marumori**	**1.39**	**221**	P	**Pn**	**23 13 51.2**	**-0.6**
JMM				*e*S	**Sn**	**23 14 08.0**	**-1.0**
JANG	**Nango**	**1.50**	**347**	P	**Pn**	**23 13 53.0**	**-0.3**
ERM	**Erimo**	**3.23**	**16**	*e*Pn	**Pn**	**23 14 19.6**	**+2.6**
ERM				*e*S	**Sn**	**23 14 54.9**	**+0.7**
MJAR	**Matsushiro Arr**	**3.79**	**233**	P	**Pn**	**23 14 26.7**	**+1.9**
	1.8nm,0.3s,baz=36,slow=13,SNR=29						
MAJO	**Matsushiro**	**3.80**	**233**	*e*Pn	**Pn**	**23 14 26.9**	**+2.1**
MAJO				*e*S	Sn	23 14 43.4	-25
MAT	**Matsushiro**	**3.80**	**233**	P	**Pn**	**23 14 26.5**	**+1.7**
MAT				*e*S	**Sn**	**23 15 12.0**	**+3.8**
USRK	**Ussuriysk Ar.**	**9.15**	**308**	P	**Pn**	**23 15 39.4**	**+1.4**
	0.6nm,0.3s,baz=120,slow=14,SNR=12						
KSRS	**Korea Array**	**11.14**	**267**	P	Pn	23 16 09.9	+4.6
	0.3nm,0.3s,baz=85,slow=15,SNR=3.9						
KSAR	**Wonju Array Be**	**11.17**	**267**	P	**Pn**	**23 16 09.9**	**+4.1**
PETK	**Petropavlovsk-**	**17.86**	**32**	LR	LR	23 24 26.3	
	comp=Z,110nm,18.7s,baz=180,slow=37						
SONM	**Songino Array**	**27.14**	**301**	P	**P**	**23 19 07.7**	**+0.6**
	0.5nm,0.4s,baz=100,slow=8.4,SNR=3.3						
H11N2	**WAKE ISLAND Hy**	**28.80**	**124**	T	T	23 49 54.7	
	baz=317,slow=75,SNR=172						
H11N1	**WAKE ISLAND Hy**	**28.81**	**124**	T	T	23 49 48.3	
	baz=317,slow=75,SNR=171						
H11N3	**WAKE ISLAND Hy**	**28.82**	**124**	T	T	23 49 48.1	
	baz=317,slow=75,SNR=150						
H11S1	**WAKE ISLAND Hy**	**29.57**	**126**	T	T	23 50 54.8	
	baz=319,slow=76,SNR=65						
H11S3	**WAKE ISLAND Hy**	**29.58**	**126**	T	T	23 50 46.2	
	baz=319,slow=76,SNR=84						
H11S2	**WAKE ISLAND Hy**	**29.59**	**126**	T	T	23 50 46.8	
	baz=319,slow=76,SNR=75						
ZALV	**Zalesovo Beam**	**40.99**	**311**	P	**P**	**23 21 06.5**	**+0.1**
	2.5nm,0.5s,baz=87,slow=8.4,SNR=13						
MKAR	**Makanchi Array**	**43.51**	**301**	P	**P**	**23 21 26.9**	**-0.1**
	3.5nm,0.7s,baz=86,slow=10.0,SNR=25						
KURK	**Kurchatov**	**45.13**	**307**	P	**P**	**23 21 40.2**	**+0.3**
KURBB	**Kurchatov Arra**	**45.20**	**307**	P	**P**	**23 21 40.2**	**-0.3**
	4.0nm,0.6s,baz=82,slow=8.4,SNR=35						
BVAR	**Borovoye Array**	**49.64**	**311**	P	**P**	**23 22 14.8**	**-0.1**
	1.7nm,0.5s,baz=67,slow=8.0,SNR=17						
ARU	**Arti**	**55.25**	**318**	P	**P**	**23 22 56.2**	**-0.1**
	2.6nm,0.5s,baz=56,slow=2.2,SNR=8.4						
ABKAR	**Akbulak array**	**57.07**	**309**	*e*P	**P**	**23 23 08.9**	**-0.5**
	1.8nm,0.5s						
AKTO	**Aktyubinsk**	**57.75**	**311**	P	**P**	**23 23 14.0**	**-0.2**
	1.6nm,0.6s,baz=76,slow=12,SNR=5.1						
WRAB	**Tennant Creek**	**58.97**	**188**	*e*P	**P**	**23 23 22.6**	**-0.4**
	1.2nm,0.8s						
WRA	**Warramunga Arr**	**58.98**	**188**	P	**P**	**23 23 22.2**	**-0.8**
	0.8nm,0.6s,baz=2.1,slow=7.1,SNR=5.0						
ASAR	**Alice Springs**	**62.70**	**188**	P	**P**	**23 23 48.2**	**-0.1**
	0.6nm,0.8s,baz=2.7,slow=5.8,SNR=4.5						
FINES	**FINESS Array B**	**67.36**	**332**	P	**P**	**23 24 17.4**	**-0.7**
	2.1nm,0.7s,baz=39,slow=12,SNR=5.6						
KBZ	**Khabaz**	**70.01**	**310**	P	**P**	**23 24 35.7**	**+0.8**
	1.5nm,0.8s,baz=52,slow=12,SNR=4.1						
FFC	**Flin Flon**	**71.90**	**33**	*e*P	**P**	**23 24 43.3**	**-2.9**
	8.8nm,0.8s						
NOA	**NORSAR Array B**	**72.62**	**337**	P	**P**	**23 24 50.5**	**+0.1**
	1.2nm,0.9s,baz=28,slow=7.6,SNR=3.3						
AKASG	**Malin Array Be**	**73.08**	**322**	P	**P**	**23 24 52.8**	**-0.5**
	0.3nm,0.4s,baz=42,slow=6.7,SNR=4.1						
GERES	**GERESS Array B**	**81.34**	**328**	P	**P**	**23 25 39.4**	**-0.4**
	0.2nm,0.5s,baz=46,slow=6.0,SNR=3.7						

CSEM ***28*** *23:14:35.0, 39.°19N*$_{\times}$*24.°29E, h27*^{km}*, ML1.7/1*

ATH 28 23:14:35.0, 39.°19N$_{\times}$**24.°29E, h27**^{km}$_{\pm}$**2**^{km}**, ML1.7/1, Error ellipse: s-maj=3.1km s-min=1.3km az=212.0, Aegean Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKY	**Skiros Island**	**0.37**	**146**	P	Pb	23 14 43.4	+0.1
SKY	**Skiros Island**	**0.37**	**146**	P	Pb	23 14 43.4	+0.1
SKIA	**Skiathos**	**0.64**	**268**	P	Pb	23 14 47.5	-0.1
SKIA	**Skiathos**	**0.64**	**268**	P	Pb	23 14 47.5	-0.2
EREA	**Eretria**	**0.82**	**200**	P	Pb	23 14 50.3	-0.3
EREA	**Eretria**	**0.82**	**200**	P	Pb	23 14 50.3	-0.4
NEO	**Neokhori**	**0.83**	**278**	P	Pn	23 14 52.3	+1.3
NEO				S	Sn	23 15 02.9	+0.5
NEO	**Neokhori**	**0.83**	**278**	P	Pn	23 14 52.3	+1.3
NEO				S	Sn	23 15 02.9	+0.4
XOR	**Xorichti**	**0.87**	**282**	P	Pb	23 14 52.4	+0.9
XOR				S	Sn	23 15 03.7	+0.4
XOR	**Xorichti**	**0.87**	**282**	P	Pb	23 14 52.4	+0.8
XOR				S	Sn	23 15 03.7	+0.4
XOR				AML	AML	23 15 06.3	
	comp=N,90μm,0.8s						
XOR				AML	AML	23 15 07.9	
	comp=E,87μm,1.2s						
SMIA	**Simia**	**0.90**	**250**	P	Pb	23 14 52.9	+0.9
SMIA				S	Sn	23 15 05.0	+1.1
SMIA	**Simia**	**0.90**	**250**	P	Pb	23 14 52.9	+0.9
SMIA				S	Sn	23 15 05.0	+1.1
LIA	**Limnos Island**	**0.99**	**44**	P	Pb	23 14 53.4	-0.2
LIA	**Limnos Island**	**0.99**	**44**	P	Pb	23 14 53.4	-0.1
OUR	**Ouranopolis**	**1.17**	**348**	P	Pb	23 14 56.9	+0.3
OUR	**Ouranopolis**	**1.17**	**348**	P	Pb	23 14 56.9	+0.4
VLY	**Voula,Athens**	**1.39**	**196**	P	Pb	23 15 00.6	+0.3
VLY	**Voula,Athens**	**1.39**	**196**	P	Pb	23 15 00.6	+0.3

BJI ***28*** *23:17:37.0, 18.°10N*$_{\times}$*101.°70W, h8*^{km}*, mB5.5/3, Ms5.5/4, Ms7 5.2/5*

ISCJB ***28*** *23:17:40.5*$_{\pm}$*0.2, 18.°19N*$_{\pm}$*0.°02*$_{\times}$*101.°52W*$_{\pm}$*0.°02, h33*^{km}*, mb4.8/223, MS4.9/13, Error ellipse: s-maj=2.7km s-min=1.9km az=35.5*

NEIC ***28*** *23:17:42.7*$_{\pm}$*0.3, 18.°11N*$_{\times}$*101.°48W, mb4.8/184, MW4.8, MD4.9(MEX), Error ellipse: s-maj=6.7km s-min=3.7km az=219.0, Moment Tensor Solution. s14 Moment tensor: Scale 10*^{16}*Nm; M*$_{rr}$*-0.64; M*$_{\theta\theta}$*1.32; M*$_{\phi\phi}$*-0.68; M*$_{r\theta}$*-0.92; M*$_{\theta\phi}$*-0.11; M*$_{r\phi}$*0.88; Best double couple: M*$_0$*1.70000*$_{\times}$*10*^{16} *NP1:*ϕ_S*237.00000°,* δ*36.00000°,* λ*-156.00000°. NP2:* ϕ_S*127.00000°,* δ*77.00000°,* λ*-57.00000°. Principal axes: T 1.7700, Plg24.0000°, Azm192.0000°; N -0.1100, Plg32.0000°, Azm299.0000°; P -1.6600, Plg48.0000°, Azm72.0000°;*

NEIC Felt [III] at Zihuatanejo. Also felt at Apatzingan, El Ocotito, Huixquilucan, Ixtapa, La Union, Lazaro Cardenas, Mexico, Patzcuaro and Tenancingo.

GCMT ***28*** *23:17:42.0*$_{\pm}$*0.7, 18.°13N*$_{\times}$*101.°28W, h35*^{km}$_{\pm}$*1*^{km}*, MW5.0/55, Moment Tensor Solution. s32,c36; s55,c70; Duration: 0 Moment tensor: Scale 10*^{16}*Nm; M*$_{rr}$*-3.25*$_{\pm}$*.28; M*$_{\theta\theta}$*3.40*$_{\pm}$*.17; M*$_{\phi\phi}$*-0.14*$_{\pm}$*.16; M*$_{r\theta}$*0.36*$_{\pm}$*.20; M*$_{\theta\phi}$*-0.27*$_{\pm}$*.11; M*$_{r\phi}$*1.03*$_{\pm}$*.15; Best double couple: M*$_0$*3.50900*$_{\times}$*10*^{16} *NP1:*ϕ_S*258.00000°,* δ*50.00000°,* λ*-113.00000°. NP2:* ϕ_S*111.00000°,* δ*45.00000°,* λ*-66.00000°. Principal axes: T 3.4320, Plg3.0000°, Azm4.0000°; N 0.1570, Plg17.0000°, Azm273.0000°; P -3.5860, Plg73.0000°, Azm102.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

MEX ***28*** *23:17:44.0*$_{\pm}$*0.5, 18.°01N*$_{\times}$*101.°67W, h53*^{km}$_{\pm}$*5*^{km}*, MD4.9*

MOS ***28*** *23:17:44.8*$_{\pm}$*1.0, 18.°29N*$_{\times}$*101.°39W, h69*^{km}*, mb5.1/74, Error ellipse: s-maj=7.5km s-min=4.1km az=88.2*

IDC ***28*** *23:17:45.4*$_{\pm}$*0.8, 18.°17N*$_{\times}$*101.°48W, h69*^{km}$_{\pm}$*5*^{km}*, mb4.4/32, mb1 4.5/35, mb1mx4.4/49, mbtmp4.7/35, MS4.2/4, Ms1 4.2/4, ms1mx3.7/38, Error ellipse: s-maj=19.1km s-min=10.6km az=58.0*

ISC 28 23:17:42.4$_{\pm}$0.3**, 18.°09N**$_{\pm}$0.°04$_{\times}$**101.°63W**$_{\pm}$0.°03**, h45**^{km}$_{\pm}$**2**^{km}**, h46**^{km}**:pP-P, n827,** σ**1§40/912, mb4.9/233, MS5.1/13, 5C-2D, Guerrero**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZIIG	**Zihuatanejo**	**0.50**	**162**	*i* P	**Pn**	**23 17 53.2**	**-0.3**
ZIIG				*e*S	**Sn**	**23 18 01.3**	**+0.1**
ARIG	**Puente Sto Nin**	**1.23**	**81**	*e*P	**Pn**	**23 18 03.8**	**+0.5**
ARIG				*e*S	**Sn**	**23 18 19.3**	**+0.5**
URUA	**Uruapan**	**1.39**	**342**	*i* P	**Pn**	**23 18 06.8**	**+1.2**
URUA				*i* S	**Sn**	**23 18 24.2**	**+1.2**
MOIG	**Morelia**	**1.64**	**15**	*e*Pn	**Pn**	**23 18 09.8**	**+0.8**
MOIG				*e*Sn	**Sn**	**23 18 20.9**	**-8.0**
MOIG	**Morelia**	**1.64**	**15**	*e*P	**Pn**	**23 18 09.9**	**+0.9**
MOIG				*i* S	**Sn**	**23 18 30.3**	**+1.3**
MMIG	**Aquila**	**1.64**	**277**	*e*P	**Pn**	**23 18 08.7**	**-0.1**
MMIG				*i* S	**Sn**	**23 18 27.4**	**-1.4**
CAIG	**El Cayaco**	**1.66**	**128**	*e*P	**Pn**	**23 18 08.9**	**-0.2**
CAIG				*i* S	**Sn**	**23 18 28.6**	**-0.6**
MEIG	**Mezcala**	**1.92**	**94**	*e*P	**Pn**	**23 18 13.3**	**+0.7**
MEIG				*i* S	**Sn**	**23 18 37.2**	**+1.5**
PLIG	**Platanillo**	**2.04**	**81**	*e*P	**Pn**	**23 18 15.2**	**+0.8**
PLIG				*i* S	**Sn**	**23 18 40.4**	**+1.6**
ACP2	**Acapulco**	**2.05**	**126**	*e*P	**Pn**	**23 18 15.5**	**+1.0**
ACP2				*i* S	**Sn**	**23 18 38.8**	**-0.1**
ACX	**Acapulco**	**2.08**	**125**	*e*P	**Pn**	**23 18 16.7**	**+1.9**
ACX				*i* S	**Sn**	**23 18 40.3**	**+0.8**
EZ5V		**2.33**	**307**	*e*P	**Pn**	**23 18 18.9**	**+0.5**
EZ5V				*i* S	**Sn**	**23 18 45.8**	**-0.2**
R15V		**2.48**	**296**	*e*P	**Pn**	**23 18 20.6**	**+0.3**
R15V				*i* S	**Sn**	**23 18 49.3**	**-0.1**
YAIG	**Yautepec**	**2.55**	**72**	*e*P	**Pn**	**23 18 24.4**	**+0.9**
YAIG				*i* S	**Sn**	**23 18 52.3**	**+1.0**
UNM	**Universidad Na**	**2.63**	**62**	*e*P	**Pn**	**23 18 24.3**	**+1.7**
UNM				*e*		23 18 42.7	
UNM	**Universidad Na**	**2.63**	**62**	*e*Pn	**Pn**	**23 18 24.3**	**+1.7**
UNM				*e*Sn	Sn	23 18 42.6	-11
IGIG	**Irapuato, Guan**	**2.67**	**6**	*e*P	**Pn**	**23 18 24.1**	**+1.0**
IGIG				*e*S	**Sn**	**23 18 56.3**	**+2.0**
TLIG	**Tlapa**	**2.96**	**100**	*e*Pn	**Pn**	**23 18 28.5**	**+1.4**
TLIG	**Tlapa**	**2.96**	**100**	*e*P	**Pn**	**23 18 28.6**	**+1.4**
TLIG				*i* S	**Sn**	**23 19 01.6**	**+0.1**
PPM	**Popocatepetl**	**3.01**	**71**	*i* S	**Sn**	**23 19 04.6**	**+1.5**
DEIG	**Demacu**	**3.30**	**48**	*e*P	**Pn**	**23 18 32.8**	**+1.0**
DEIG				*i* S	**Sn**	**23 19 11.7**	**+1.9**
CJM	**Chamela**	**3.53**	**294**	*e*P	**Pn**	**23 18 35.3**	**+0.6**
CJM				*e*S	**Sn**	**23 19 15.2**	**+0.1**
PNIG	**Pinotepa**	**3.75**	**116**	*e*P	**Pn**	**23 18 38.4**	**+0.7**
TPIG	**Tehuac#an**	**4.07**	**85**	*e*P	**Pn**	**23 18 44.0**	**+1.6**
TPIG				*i* S	**Sn**	**23 19 29.4**	**+0.6**
ZAIG	**Zacatecas**	**4.74**	**349**	*e*Pn	**Pn**	**23 18 52.5**	**+0.8**
VHO	**Vista Hermosa**	**4.78**	**101**	*e*P	**Pn**	**23 18 54.1**	**+2.0**
VHO				*i* S	**Sn**	**23 19 47.9**	**+1.6**
LVIG	**Laguna Verde**	**5.20**	**71**	*e*Pn	**Pn**	**23 18 59.2**	**+1.6**
LVIG	**Laguna Verde**	**5.20**	**71**	*e*P	**Pn**	**23 18 58.7**	**+1.1**
HUIG	**Huatulco**	**5.76**	**113**	*i* P	**Pn**	**23 19 07.0**	**+1.6**
HUIG				*i* S	**Sn**	**23 20 10.9**	**+0.5**
CMIG	**Matias Romero**	**6.51**	**98**	P	**Pn**	**23 19 17.4**	**+1.8**
	18nm,0.3s,baz=255,slow=13,SNR=120						
CMIG				S	**Sn**	**23 20 29.7**	**+1.0**
	16nm,0.3s,baz=289,slow=16,SNR=4.3						
CMIG				LR	LR	23 21 55.0	
	comp=Z,2μm,21.0s,baz=278,slow=39						
TUIG	**Tuzandepetl**	**6.86**	**89**	*e*Pn	**Pn**	**23 19 21.3**	**+0.9**
LNIG	**Linares**	**7.07**	**16**	*e*Pn	**Pn**	**23 19 24.0**	**+0.7**
035Z	**Hargill**	**8.96**	**21**	P	**Pn**	**23 19 52.3**	**+3.0**
	baz=201						
CCIG	**Comitan**	**9.25**	**100**	*e*Pn	**Pn**	**23 19 55.4**	**+2.0**
034A	**Hebbronville**	**9.34**	**16**	P	**Pn**	**23 19 57.5**	**+3.0**
	baz=197						
035A	**Encino**	**9.39**	**20**	P	**Pn**	**23 19 57.8**	**+2.6**
	baz=200						
SLBS	**Sierra La Lagu**	**9.56**	**307**	*e*Pn	**Pn**	**23 20 02.0**	**+4.4**
HPIG		**9.56**	**338**	*e*Pn	**Pn**	**23 20 01.4**	**+3.7**
933A	**Laredo**	**9.73**	**12**	P	**Pn**	**23 20 02.1**	**+2.4**
	baz=192						
934A	**Benavides**	**9.89**	**16**	P	**Pn**	**23 20 05.1**	**+3.0**
	baz=197						
832A	**Faith Ranch, C**	**10.26**	**8**	P	**Pn**	**23 20 09.7**	**+2.6**
	baz=188						
834A	**Tilden**	**10.38**	**15**	P	**Pn**	**23 20 11.5**	**+2.8**
	baz=196						
833A	**Chaparral WMA,**	**10.39**	**11**	P	**Pn**	**23 20 11.6**	**+2.7**
	baz=191,SNR=11						
835A	**Beeville**	**10.74**	**18**	P	**Pn**	**23 20 14.8**	**+1.3**
	baz=199						
733A	**Divot King Ran**	**10.80**	**11**	P	**Pn**	**23 20 17.0**	**+2.6**
	baz=191						
734A	**La Parita Cree**	**11.07**	**14**	P	**Pn**	**23 20 20.4**	**+2.2**
	baz=195,SNR=5.8						
TXAR	**Lajitas Array**	**11.35**	**351**	P	**Pn**	**23 20 25.1**	**+3.1**
	0.7nm,0.3s,baz=165,slow=15,SNR=56						
TX31	**Lajitas Ar. Si**	**11.35**	**351**	*e*Pn	**Pn**	**23 20 25.4**	**+3.3**
633A	**Saathoff Ranch**	**11.54**	**11**	P	**Pn**	**23 20 26.9**	**+2.3**
	baz=191						
736A	**Circle Diamond**	**11.60**	**20**	P	**Pn**	**23 20 27.4**	**+2.1**
	baz=201,SNR=6.3						
634A	**China Grove, S**	**11.64**	**14**	P	**Pn**	**23 20 27.6**	**+1.7**
	baz=195						
737A	**Port Lavaca**	**11.64**	**23**	P	**Pn**	**23 20 27.1**	**+1.2**
	baz=204						
635A	**Leesville**	**11.79**	**17**	P	**Pn**	**23 20 29.8**	**+1.9**
	baz=198						
636A	**Smothers Creek**	**12.09**	**19**	P	**Pn**	**23 20 34.2**	**+2.2**
	baz=200,SNR=5.9						
533A	**Kerrville**	**12.16**	**11**	P	**Pn**	**23 20 34.7**	**+1.6**
	baz=191,SNR=16						
534A	**Blanco**	**12.23**	**13**	P	**Pn**	**23 20 36.1**	**+2.1**
	baz=194,SNR=33						
637A	**Eagle Lake**	**12.29**	**22**	P	**Pn**	**23 20 36.7**	**+1.9**
	baz=204						
JCT	**Junction City**	**12.45**	**7**	P	**Pn**	**23 20 38.4**	**+1.4**
	baz=187,SNR=7.1						
JCT	**Junction City**	**12.45**	**7**	*e*P	**Pn**	**23 20 38.0**	**+1.0**
JCT	**Junction City**	**12.45**	**7**	*e*Pn	**Pn**	**23 20 38.0**	**+1.0**
535A	**Dale**	**12.45**	**17**	P	**Pn**	**23 20 38.7**	**+1.7**
	baz=198						
638A	**Rosharon**	**12.62**	**25**	P	**Pn**	**23 20 40.0**	**+0.8**
	baz=207						
536A	**Bastrop**	**12.64**	**18**	P	**Pn**	**23 20 40.0**	**+0.4**
	baz=200						
433A	**Art**	**12.82**	**10**	P	**Pn**	**23 20 43.3**	**+1.2**
	baz=190,SNR=9.8						
537A	**Green Hill Far**	**12.88**	**21**	P	**Pn**	**23 20 43.8**	**+0.9**
	baz=203						
434A	**Burnet**	**13.03**	**13**	P	**Pn**	**23 20 46.3**	**+1.3**
	baz=194						
435B	**Jarrell**	**13.16**	**15**	P	**Pn**	**23 20 48.0**	**+1.3**
	baz=196						
538A	**Harpers Horsep**	**13.31**	**24**	P	**Pn**

344A	Westbrook Farm baz=219	16.57	35	P		Pn	23 21 31.0	-0.5
Y22D	IRIS PASSCAL I comp=Z,75nm,1.0s	16.61	344	*e*Pn		P	23 21 36.4	+2.3
BNM	Barren Site	16.61	345	*e*Pn		P	23 21 35.5	+1.3
Y37A	Hugo baz=200	16.71	18	P		Pn	23 21 33.1	-0.2
AMTX	Amarillo baz=179	16.73	360	P		Pn	23 21 33.5	-0.1
AMTX	Amarillo comp=Z,139nm,0.8s	16.73	360	*e*Pn		P	23 21 33.9	+0.3
X35A	Drake baz=195,SNR=5.5	16.77	13	P		Pn	23 21 33.1	-1.0
WMOK	Wichita Mounta baz=189,SNR=11	16.78	8	P		Pn	23 21 33.5	-0.7
WMOK	Wichita Mounta	16.78	8	*e*P		Pn	23 21 34.8	+0.6
WMOK	Wichita Mounta	16.78	8	*e*Pn		Pn	23 21 34.8	+0.6
142A	Monroe baz=213	16.84	29	P		Pn	23 21 34.2	-0.7
345A	Thompson Farm, baz=221	16.84	36	P		Pn	23 21 33.8	-1.2
Y38A	Idabel baz=203	16.94	20	P		Pn	23 21 35.2	-0.9
LAZ	Ladron	16.98	344	*e*Pn		P	23 21 39.6	+1.3
244A	Avery, Jackson baz=218	17.05	33	P		Pn	23 21 36.2	-1.3
Z41A	Richland Creek baz=209	17.06	26	P		Pn	23 21 37.3	-0.3
X36A	Centrahoma baz=197	17.08	15	P		Pn	23 21 37.7	-0.2
214A	Organ Pipe Nat baz=141	17.11	326	P		P	23 21 41.1	+1.6
214A	Organ Pipe Nat comp=Z,77nm,1.1s	17.11	326	*e*Pn		P	23 21 40.5	+1.0
Y39A	Lockesburg baz=204	17.17	22	P		Pn	23 21 38.6	-0.4
143A	Socs Landing, baz=214	17.22	30	P		Pn	23 21 39.3	-0.3
346A	Big Creek Wild baz=222	17.23	37	P		Pn	23 21 39.0	-0.7
WLAR	White Oak Lake comp=Z,401nm,1.2s	17.31	25	*e*Pn		P	23 21 41.8	+0.1
ANMO	Albuquerque comp=Z,0.2nm,0.3s,baz=164,slow=15,SNR=7.2	17.33	347	P		P	23 21 43.1	+0.9
ANMO	Albuquerque baz=164	17.33	347	P		P	23 21 42.1	-0.1
ANMO	Albuquerque comp=Z,42nm,1.3s	17.33	347	*e*Pn		P	23 21 44.3	+2.2
X37A	Clayton baz=200	17.36	18	P		Pn	23 21 41.3	0.0
Z42A	Norrel Spur, H baz=212	17.44	28	P		Pn	23 21 42.5	+0.1
W35A	Tecumseh baz=195	17.52	13	P		Pn	23 21 42.8	-0.5
Y40A	Okolona baz=207	17.53	24	P		Pn	23 21 43.7	+0.2
X38A	Whitesboro baz=201,SNR=12	17.59	19	P		Pn	23 21 43.9	-0.4
144A	Alexander Plac baz=217	17.65	33	P		Pn	23 21 44.3	-0.7
W36A	Wetumka baz=197	17.65	15	P		Pn	23 21 44.0	-1.0
X39A	Fountain Ranch baz=204,SNR=8.2	17.68	21	P		Pn	23 21 44.9	-0.4
Y41A	Eaglette Beard baz=209	17.68	25	P		Pn	23 21 44.5	-0.8
Z43A	Armstrong Fami baz=214	17.71	30	P		Pn	23 21 44.8	-1.0
W37B	Quinton baz=199	17.86	17	P		Pn	23 21 46.3	-1.1
MIAR	Mount Ida baz=205	17.90	22	P		Pn	23 21 46.5	-1.5
MIAR MIAR	Mount Ida comp=Z,131nm,1.2s	17.90	22	*e*P pmax		Pn pmax	23 21 46.5	-1.5
MIAR	Mount Ida comp=Z,131nm,1.2s	17.90	22	*e*Pn		Pn	23 21 46.5	-1.5
X18A	Snowflake comp=Z,20nm,0.9s	17.98	337	*e*P		P	23 21 52.6	+3.3
W38A	Poteau baz=202	18.06	19	P		P	23 21 48.8	-1.1
CCAR	Cane Creek comp=Z,125nm,1.1s	18.07	27	*e*P		Pn	23 21 52.4	+2.4
V35A	Meyer Ranch, C baz=194	18.11	13	P		P	23 21 49.2	-1.3
X40A	Basin Creek Fa baz=207	18.12	24	P		P	23 21 49.7	-0.9
Z44A	Pea Ridge, Bel baz=216	18.16	31	P		P	23 21 49.2	-1.8
247A	Quitman baz=223	18.21	38	P		P	23 21 50.3	-1.3
113A	Mohawk Valley, comp=Z,12nm,0.9s	18.25	326	*e*P		Pn	23 21 54.3	+2.0
X41A	Kaden, Bauxite baz=208	18.25	25	P		P	23 21 50.7	-1.4
V36A	Jenks baz=197	18.34	15	P		P	23 21 52.0	-1.0
U32A	Winter Ranch, baz=188	18.37	7	P		P	23 21 52.7	-0.7
W39A	Magazine baz=204,SNR=17	18.41	21	P		P	23 21 53.5	-0.4
X16A	Lo Mia Camp, P	18.47	334	*e*P		Pn	23 21 56.4	+1.2
TUL1	Leonard baz=197	18.49	15	*e*P		P	23 21 53.8	-0.9
TUL1	Leonard comp=Z,64nm,0.9s	18.49	15	*e*P		P	23 21 52.2	-2.5
UALR	University of comp=Z,46nm,1.0s	18.57	25	*e*P		P	23 21 54.4	-1.1
Z45A	Winona baz=218,SNR=5.7	18.61	33	P		P	23 21 55.2	-0.8
V37A	Hulbert baz=199,SNR=7.6	18.64	17	P		P	23 21 56.0	-0.3
W40A	Fergquson Farm, baz=206	18.66	22	P		P	23 21 55.7	-0.8
X42A	Stuttgart baz=211	18.67	27	P		P	23 21 55.4	-1.3
U35A	Pawnee baz=194,SNR=8.8	18.72	12	P		P	23 21 57.0	-0.3
248A	Dixon Mills baz=225	18.75	39	P		P	23 21 56.4	-1.2
Y14A	Wickenburg comp=Z,40nm,0.8s	18.78	329	*e*P		Pn	23 22 00.1	+1.3
HDC	Heredia comp=Z,71nm,0.5s	18.79	113	*e*P		Pn	23 21 59.9	+0.9
Y44A	Strider, Charl baz=215	18.82	31	P		P	23 21 57.8	-0.5
V38A	Canehill baz=201,SNR=18	18.83	18	P		P	23 21 57.5	-0.9
147A	Livingston baz=222	18.86	37	P		P	23 21 57.9	-0.9
X301	Greenbrier Sit comp=Z,46nm,0.8s	18.95	24	*e*P		P	23 21 59.8	0.0
W41B	Gary Mavity, V baz=208,SNR=8.6	18.95	24	P		P	23 21 58.6	-1.2
WHAR	Wooly Hollow comp=Z,47nm,0.8s	19.04	24	*e*P		P	23 22 00.0	-0.7
GLA	Glamis baz=138	19.04	324	P		Pn	23 22 01.8	-0.2
GLA GLA	Glamis comp=Z,19nm,1.0s	19.04	324	*e*P pmax		P pmax	23 21 59.6	-1.2
GLA	Glamis comp=Z,19nm,1.0s	19.04	324	*e*P		P	23 21 59.6	-1.2
V39A	Pettigrew baz=203,SNR=37	19.05	20	P		P	23 21 60.0	-0.9
Y45A	Yeager Farm, C baz=217,SNR=10	19.08	32	P		P	23 21 59.8	-1.4
U37A	Salina baz=199,SNR=7.1	19.14	16	P		P	23 22 00.6	-1.1
T25A	Trinidad baz=172,SNR=6.5	19.14	353	P		P	23 22 02.2	+0.2
T25A	Trinidad comp=Z,33nm,0.8s	19.14	353	*e*P		Pn	23 22 04.0	+0.8
T34A	McClaskey Farm baz=192	19.27	11	P		P	23 22 02.2	-1.0
T35A	Sooner Cattle baz=194	19.29	12	P		P	23 22 02.5	-1.0
V40A	Witts Springs baz=206,SNR=27	19.30	22	P		P	23 22 02.5	-1.1
Z47A	Carrollton baz=222	19.36	36	P		P	23 22 03.5	-0.7
HHAR	Hobbs comp=Z,48nm,0.8s	19.36	19	*e*P		P	23 21 59.6	-4.6
U38A	Gravette baz=201,SNR=8.6	19.37	18	P		P	23 22 03.7	-0.6
WUAZ	Wupatki baz=151,SNR=18	19.40	335	P		Pn	23 22 06.6	+0.4
WUAZ	Wupatki	19.40	335	*e*P		Pn	23 22 06.8	+0.6
	comp=Z,28nm,0.9s							
Y12C	Blythe baz=140	19.41	326	P		Pn	23 22 06.7	+0.5
Y12C	Blythe comp=Z,15nm,0.9s	19.41	326	*e*P		Pn	23 22 07.7	+1.5
Y46A	Houston baz=219,SNR=16	19.45	34	P		P	23 22 04.5	-0.6
IKP	In-Ko-Pah, Jac baz=134	19.50	321	P		Pn	23 22 07.7	+0.2
SWSC	Sam W. Stewart baz=136	19.52	322	P		Pn	23 22 07.6	0.0
V41A	Mountainview baz=208,SNR=35	19.53	24	P		P	23 22 05.2	-0.8
T36A	Boggs Farm, Ca baz=196	19.57	14	P		P	23 22 06.0	-0.5
U39A	Green Forest baz=203,SNR=23	19.60	20	P		P	23 22 05.5	-1.3
X45A	UM Field Stati baz=216,SNR=7.2	19.60	31	P		P	23 22 05.5	-1.3
PDMCI	Parker Dam,Lak baz=142	19.64	328	P		Pn	23 22 08.5	-0.5
OXF OXF	Oxford comp=Z,100nm,1.2s	19.66	31	*e*P pmax		P pmax	23 22 05.8	-1.7
OXF	Oxford comp=Z,100nm,1.2s	19.66	31	*e*P		P	23 22 05.8	-1.7
Z48A	Northport baz=223	19.78	37	P		P	23 22 07.3	-1.5
U40A	Yellville baz=205,SNR=17	19.78	21	P		P	23 22 07.7	-1.2
BC3	Big Chuckawall baz=138,SNR=8.5	19.84	324	P		Pn	23 22 11.0	-0.5
V42A	Cord baz=209,SNR=13	19.85	25	P		P	23 22 08.6	-0.9
MONP	Monument Peak, baz=134,SNR=9.0	19.86	321	P		Pn	23 22 11.5	-0.2
LRAL	Lakeview Retre comp=Z,59nm,1.4s	19.86	39	*e*P		P	23 22 08.6	-1.1
BAR	Barrett comp=Z,26nm,1.2s	19.86	320	*e*P		Pn	23 22 10.9	-0.8
T37A	Cheneyville 18 baz=199	19.86	16	P		P	23 22 08.1	-1.6
SDCO	Great Sand Dun baz=169,SNR=18	19.88	351	P		P	23 22 10.8	+0.7
SDCO	Great Sand Dun comp=Z,53nm,1.1s	19.88	351	*e*P		Pn	23 22 11.3	-0.8
HBAR	Harrisburg	19.94	27	*e*P		P	23 22 09.9	-0.6
S34A	Willow Spring baz=192	19.94	11	P		P	23 22 09.1	-1.4
T38A	Diamond baz=200,SNR=14	19.95	17	P		P	23 22 09.1	-1.5
MVCO	Mesa Verde baz=160,SNR=8.4	19.99	344	P		P	23 22 12.0	+0.7
MVCO	Mesa Verde	19.99	344	*e*P		P	23 22 11.5	+0.2
Y47A	UCPRC, Winfie baz=221,SNR=8.0	20.00	35	P		P	23 22 09.5	-1.7
IRM	Iron Mountain baz=139,SNR=20	20.05	326	P		Pn	23 22 13.1	-0.8
S35A	Otter Creek Ra baz=194,SNR=7.9	20.07	12	P		P	23 22 10.6	-1.3
U41A	Viola baz=207,SNR=14	20.11	23	P		P	23 22 11.1	-1.3
S22A	4UR Ranch, Cre baz=165,SNR=8.5	20.11	348	P		Pn	23 22 14.0	-0.8
S22A	4UR Ranch, Cre comp=Z,60nm,1.1s	20.11	348	*e*P		Pn	23 22 14.5	-0.4
W13A	Hualapai Mount comp=Z,8.9nm,0.8s	20.15	330	*e*P		Pn	23 22 15.6	+0.3
T39A	Clever baz=203,SNR=19	20.22	19	P		P	23 22 12.0	-1.5
S36A	Lake Cedric, C baz=196	20.27	14	P		P	23 22 12.6	-1.5
W45A	Hickory Valley baz=216	20.29	31	P		P	23 22 13.0	-1.3
U42A	Revenden baz=209,SNR=12	20.38	25	P		P	23 22 14.0	-1.2
PFO	Pinyon Flats O comp=Z,10nm,0.9s,baz=126,slow=8.0,SNR=14	20.39	322	P		Pn	23 22 17.8	-0.1
PFO	Pinyon Flats O baz=135,SNR=9.5	20.39	322	P		Pn	23 22 17.3	-0.6
PFO PFO	Pinyon Flats O comp=Z,23nm,0.9s	20.39	322	*e*P pmax		Pn pmax	23 22 18.0	0.0
PFO	Pinyon Flats O comp=Z,23nm,0.9s	20.39	322	*e*P		Pn	23 22 18.0	+0.1
BELC	Belle Mtn. Jos baz=137,SNR=12	20.40	324	P		Pn	23 22 17.1	-1.1
R34A	Isabella, Hill baz=192,SNR=9.3	20.50	10	P		P	23 22 15.4	-1.2
U15A	North Rim comp=Z,16nm,0.9s	20.55	335	*e*P		Pn	23 22 20.0	-0.1
T40A	Mansfield baz=205,SNR=9.1	20.61	21	P		P	23 22 16.2	-1.7
S38A	Stockton baz=201,SNR=16	20.62	18	P		P	23 22 16.3	-1.6
R35A	Emporia Munici baz=194	20.71	12	P		P	23 22 17.1	-1.8
CBKS	Cedar Bluff baz=185	20.72	4	P		P	23 22 18.5	-0.6
CBKS CBKS	Cedar Bluff comp=Z,70nm,0.9s	20.72	4	*e*P pmax		P pmax	23 22 18.3	-0.7
CBKS	Cedar Bluff comp=Z,70nm,0.9s	20.72	4	*e*P		P	23 22 18.3	-0.7
T41A	Mountain View baz=207,SNR=10	20.79	23	P		P	23 22 18.3	-1.4
GMRC	Granite Mounta baz=139,SNR=13	20.80	326	P		P	23 22 20.8	+0.7
MURC	Murrieta baz=134,SNR=5.8	20.81	321	P		P	23 22 20.9	+0.8
S39A	Bolivar baz=202,SNR=25	20.85	19	P		P	23 22 18.6	-1.7
R36A	Gordon, Harris baz=196	20.86	14	P		P	23 22 19.3	-1.3
PV01	Paradox Valley	20.88	344	*e*P		P	23 22 22.3	+1.4
PV05	Paradox Valley	20.96	343	*e*P		Pn	23 22 23.9	-1.0
R37A	Teagarden Farm baz=198	21.01	15	P		P	23 22 20.6	-1.5
S40A	Lebanon baz=204,SNR=15	21.02	21	P		P	23 22 21.0	-1.3
Q24A	Divide baz=170	21.03	352	P		P	23 22 22.6	-0.1
Q24A	Divide comp=Z,14nm,0.8s	21.03	352	*e*P		P	23 22 20.3	-2.4
DWPF	Disney Wildern comp=Z,44nm,0.6s	21.06	58	*e*P		P	23 22 21.4	-1.3
PBMO	Poplar Bluff comp=Z,44nm,0.9s	21.07	26	*e*P		P	23 22 22.8	0.0
R38A	Fenwick Farm, baz=200	21.14	17	P		P	23 22 22.2	-1.2
Q34A	Chapman baz=192	21.16	10	P		P	23 22 22.7	-1.0
HEC	Hector,Ludlow baz=138,SNR=22	21.20	325	P		P	23 22 26.1	+1.8
PV04	Paradox Valley	21.21	344	*e*P		P	23 22 25.0	+0.6
PV10	Paradox Valley	21.23	344	*e*P		P	23 22 25.0	+0.3
SCI	San Clemente I baz=130	21.24	318	P		P	23 22 26.5	+1.9
S41A	Jillco Farms, baz=206,SNR=6.0	21.28	22	P		P	23 22 23.9	-1.1
KNB KNB	Kanab comp=Z,44nm,1.1s	21.28	335	*e*P pmax		P pmax	23 22 27.3	+2.1
KNB	Kanab comp=Z,44nm,1.1s	21.28	335	*e*P		P	23 22 27.3	+2.1
PV09	Paradox Valley	21.37	344	*e*P		P	23 22 26.8	+0.5
T43A	Greenville baz=210	21.39	26	P		P	23 22 26.0	-0.2
CIS	Catalina Islan baz=131	21.43	319	P		P	23 22 28.6	+1.9
TUQ	Tuquoise Moun baz=140,SNR=7.2	21.44	327	P		P	23 22 28.9	+2.0
PKCU	Pink Cliffs comp=Z,48nm,1.4s	21.45	336	*e*P		P	23 22 29.6	+2.4
LCMT	Little Creek M comp=Z,9.7nm,0.8s	21.45	334	*e*P		P	23 22 29.2	+2.3
R39A	Chumby, Stover baz=202	21.51	19	P		P	23 22 25.8	-1.6
SMCO	Snowmass comp=Z,57nm,1.3s	21.52	349	*e*P		P	23 22 29.6	+1.5
BFSC	Mount Baldy Ra baz=134	21.53	321	P		P	23 22 30.1	+2.2
T44A	Benton baz=212	21.69	27	P		P	23 22 27.7	-1.7
WVT WVT	Waverly comp=Z,26nm,0.9s	21.73	31	*e*P pmax		P pmax	23 22 27.7	-2.1
WVT	Waverly	21.73	31	*e*P		P	23 22 27.7	-2.1
	comp=Z,26nm,0.9s							
R40A	Maddies Statio baz=204,SNR=11	21.73	20	P		P	23 22 28.0	-1.8
MWC MWC	Mount Wilson comp=Z,21nm,0.8s	21.76	321	*e*P pmax		P pmax	23 22 32.6	+2.2
MWC	Mount Wilson comp=Z,21nm,0.8s	21.76	321	*e*P		P	23 22 32.6	+2.2
S42A	Caledonia baz=208,SNR=7.9	21.79	24	P		P	23 22 29.3	-1.2
GSC	Goldstone, Bar baz=138,SNR=12	21.81	325	P		P	23 22 32.4	+1.5
GSC GSC	Goldstone, Bar comp=Z,23nm,1.0s	21.81	325	*e*P pmax		P pmax	23 22 32.8	+2.0
GSC	Goldstone, Bar comp=Z,22nm,1.0s	21.81	325	*e*P		P	23 22 32.8	+2.0
SZCU	Shurtz Canyon comp=Z,31nm,1.3s	21.88	335	*e*P		P	23 22 34.1	+2.4
SHPR	Sheep Range comp=Z,17nm,1.0s	21.89	330	*e*P		P	23 22 33.9	+2.1
S43A	Fulton Ridge, baz=210	21.90	25	P		P	23 22 30.8	-0.9
ISCO	Idaho Springs baz=170,SNR=16	21.91	352	P		P	23 22 32.0	0.0
ISCO ISCO	Idaho Springs comp=Z,42nm,0.8s	21.91	352	*e*P pmax		P pmax	23 22 32.7	+0.6
ISCO	Idaho Springs comp=Z,42nm,0.8s	21.91	352	*e*P		P	23 22 32.7	+0.6
MTPU	Mount Pierson comp=Z,35nm,1.0s	21.92	337	*e*P		P	23 22 35.5	+3.2
Q38A	Cooks Store, C baz=200,SNR=6.3	21.94	17	P		P	23 22 31.2	-0.8
DECC	Green Verdugo baz=133	21.95	320	P		P	23 22 34.1	+1.8
CCUT	Cedar City comp=Z,18nm,1.2s	21.95	334	*e*P		P	23 22 35.8	+3.3
SWET SWET	Sewanee comp=Z,29nm,1.7s	22.04	36	*e*P *e*S		P S	23 22 30.9 23 26 32.4	-2.3 -1.4
R41A	Rosebud baz=206,SNR=12	22.04	22	P		P	23 22 30.8	-2.3
EDW2	Edwards Air Fo baz=135,SNR=9.7	22.18	322	P		P	23 22 35.8	+1.1
Q39A	Willow Grove F baz=202	22.20	18	P		P	23 22 33.2	-1.6
R42A	Luebbering baz=208	22.24	23	P		P	23 22 33.8	-1.4
BLG	Laguna Peak, P baz=131	22.30	319	P		P	23 22 38.8	+2.8
GOGA GOGA	Godfrey comp=Z,44nm,1.4s	22.32	43	*e*P pmax		P pmax	23 22 33.2	-3.0
GOGA	Godfrey comp=Z,44nm,1.4s	22.32	43	*e*P		P	23 22 33.2	-3.0
SRU SRU	San Rafael Swe comp=Z,21nm,1.0s	22.33	342	*e*P pmax		P pmax	23 22 37.5	+1.0
SRU	San Rafael Swe comp=Z,21nm,1.0s	22.33	342	*e*P		P	23 22 37.5	+1.0
MSU	Marysvale	22.34	338	*e*P		P	23 22 37.9	+1.3
MSU	Marysvale	22.34	338	*e*P		P	23 22 37.9	+1.3
S44A	Carbondale baz=212	22.34	27	P		P	23 22 35.0	-1.4
LRMC	Laurel Mtn Rad baz=136,SNR=11	22.43	324	P		P	23 22 38.8	+1.3
Q40A	Laux Farm, Aux baz=204,SNR=7.7	22.43	20	P		P	23 22 35.0	-2.4
TCRU	Three Creeks R comp=Z,15nm,1.0s	22.52	337	*e*P		P	23 22 39.7	+1.1
R43A	Red Bud baz=210	22.56	25	P		P	23 22 37.0	-1.7
P38A	Dawn baz=200	22.58	16	P		P	23 22 37.7	-1.3
S45A	Carrier Mills baz=214,SNR=10	22.62	28	P		P	23 22 37.7	-1.8
P39B	Salisbury baz=202	22.67	18	P		P	23 22 37.6	-2.3
Q41A	Truxton baz=206,SNR=6.1	22.68	21	P		P	23 22 38.8	-1.1
O20A	White River Ci baz=163	22.70	347	P		P	23 22 39.9	-0.6
O20A	White River Ci comp=Z,71nm,1.5s	22.70	347	*e*P		P	23 22 41.6	+1.1
FURC	Furnace Creek, baz=139	22.72	327	P		P	23 22 41.8	+1.4
P18A	Preston Nutter comp=Z,25nm,0.9s	22.73	343	*e*P		P	23 22 41.7	+0.9
P17A	Butcher Ranch, comp=Z,13nm,0.9s	22.73	342	*e*P		P	23 22 39.0	-1.7
MPMC	Manual Prospec baz=138,SNR=20	22.74	325	P		P	23 22 41.8	+0.9
SLM SLM	Saint Louis comp=Z,41nm,0.8s	22.76	24	*e*P pmax		P pmax	23 22 39.1	-1.7
SLM	Saint Louis comp=Z,41nm,0.8s	22.76	24	*e*P		P	23 22 39.1	-1.7
TPNV	Topopah Spring baz=141,SNR=26	22.78	329	P		P	23 22 42.0	+0.8
TPNV TPNV	Topopah Spring comp=Z,34nm,1.2s	22.78	329	*e*P pmax		P pmax	23 22 43.0	+1.8
TPNV	Topopah Spring comp=Z,34nm,1.2s	22.78	329	*e*P		P	23 22 43.0	+1.8
OGNE	Ogallala baz=179	22.78	359	P		P	23 22 41.2	0.0
OGNE	Ogallala comp=Z,68nm,0.9s	22.78	359	*e*P		P	23 22 40.2	-0.9
N33A	J Bar K, Exete baz=190	22.86	8	P		P	23 22 40.5	-1.4
R44A	Waltonville baz=212	22.89	26	P		P	23 22 41.4	-0.7
Q42A	Golden Eagle baz=208,SNR=6.0	22.89	23	P		P	23 22 40.7	-1.5
MTDJ	Mount Denham comp=Z,74nm,0.9s	22.89	86	*e*P		P	23 22 43.5	+1.0
P40A	Paris baz=204,SNR=8.2	22.93	19	P		P	23 22 40.7	-1.8
O37A	Wolven Farm, M baz=198	22.93	15	P		P	23 22 41.5	-1.1
BCIP	Isla Bella Mto Col comp=Z,22nm,0.9s	22.94	110	*e*P		P	23 22 42.6	-0.3
DAC DAC	Darwin (Calif) comp=Z,9.0nm,0.9s	22.96	325	*e*P pmax		P pmax	23 22 41.6	-1.6
DAC	Darwin (Calif) comp=Z,9.2nm,0.9s	22.96	325	*e*P		P	23 22 41.6	-1.6
ISA	Isabella, Lake baz=135	23.01	323	P		P	23 22 44.6	+1.1
ISA ISA	Isabella, Lake comp=Z,17nm,0.9s	23.01	323	*e*P pmax		P pmax	23 22 45.5	+2.0
ISA	Isabella, Lake comp=Z,17nm,0.9s	23.01	323	*e*P		P	23 22 45.5	+2.0
CPCT	Cooper Cave comp=Z,21nm,1.2s	23.01	38	*e*P		P	23 22 40.6	-2.9
N23A	Red Feather La baz=169,SNR=7.3	23.03	352	P		P	23 22 43.5	-0.4
N23A	Red Feather La comp=Z,47nm,0.9s	23.03	352	*e*P		P	23 22 44.3	+0.3
O38A	Galt baz=200	23.06	16	P		P	23 22 42.9	-1.1
N34A	Lincoln baz=192	23.10	10	P		P	23 22 42.8	-1.5
Q43A	New Douglas baz=210,SNR=12	23.23	24	P		P	23 22 43.6	-2.0
USIN	University of comp=Z,55nm,0.8s	23.27	29	*e*P		P	23 22 45.3	-0.7
N35A	Tabor baz=194	23.27	12	P		P	23 22 45.2	-0.9
CWC	Cottonwood Cre baz=137	23.35	325	P		P	23 22 48.4	+1.4
PHWY	Pilot Hill comp=Z,41nm,0.8s	23.37	353	*e*P		P	23 22 47.7	+0.4
GRAC	Grapevine Rang baz=139,SNR=7.1	23.38	327	P		P	23 22 47.8	+0.7
BGNE	Belgrade baz=188	23.43	7	P		P	23 22 46.6	-1.0
BGNE	Belgrade comp=Z,95nm,0.9s	23.43	7	*e*P		P	23 22 46.9	-0.7
O39A	Kirksville baz=202	23.44	18	P		P	23 22 45.9	-1.8
Q44A	Meyer Farm, Va baz=211	23.47	25	P		P	23 22 46.3	-1.5
N37A	Lee Faris, Mou baz=198	23.48	14	P		P	23 22 46.7	-1.3
VES	Vestal, Richgr	23.49	322	P		P	23 22 49.2	+1.1

baz=134
O40A La Belle 23.52 19 P P 23 22 46.4 -2.0
baz=203,SNR=10.0
P42A Winchester 23.55 22 P P 23 22 46.3 -2.4
baz=207
R11A Troy Canyon, C 23.58 332 P P 23 22 49.8 +0.6
baz=145,SNR=19
R11A Troy Canyon, C 23.58 332 eP P 23 22 50.3 +1.1
comp=Z,8.2nm,0.8s
NLU North Lily Min 23.59 340 eP P 23 22 50.3 +1.0
comp=Z,16nm,1.3s
TKL Tuckaleechee C 23.60 39 P P 23 22 46.2 -3.0
comp=Z,14nm,0.5s,baz=197,slow=10,SNR=34
TKL Tuckaleechee C 23.60 39 eP P 23 22 46.4 -2.8
SMMC Simmler 23.67 320 P P 23 22 50.5 +0.6
baz=132
OLIL Olney 23.71 27 eP P 23 22 49.1 -1.0
comp=Z,57nm,1.0s
M33A Taylor Creek F 23.71 8 P P 23 22 49.6 -0.6
baz=190
M34A Aspy Farms, Fr 23.74 9 P P 23 22 49.2 -1.2
baz=192
N38A Joes South For 23.75 16 P P 23 22 49.2 -1.4
baz=200
O41A Passleys Farm, 23.84 21 P P 23 22 49.6 -1.8
baz=206,SNR=6.2
M35A Neola 23.85 11 P P 23 22 50.4 -1.0
baz=194
TIN Tinemaha, Big 23.88 326 P P 23 22 52.2 +0.2
baz=138
P43A Skaggs, Pawnee 23.91 24 P P 23 22 50.5 -1.4
baz=209,SNR=11
RWWY Rawlins 24.00 350 eP P 23 22 54.5 +1.3
comp=Z,29nm,0.9s
M36A Felix, Anita 24.01 13 P P 23 22 51.4 -1.6
baz=196
N39A Derby Farms, D 24.03 17 P P 23 22 51.6 -1.5
baz=201
DUG Dugway, Tooele 24.06 339 P P 23 22 53.4 -0.1
baz=153,SNR=11
DUG Dugway, Tooele 24.06 339 eP P 23 22 54.6 +1.0
DUG pmax pmax
comp=Z,8.0nm,0.9s
DUG Dugway, Tooele 24.06 339 eP P 23 22 54.6 +1.0
comp=Z,8.2nm,0.9s
P44A Sand Creek, Wi 24.11 25 P P 23 22 52.8 -1.0
baz=211,SNR=10
M37A Trindle Farm, 24.13 14 P P 23 22 52.8 -1.2
baz=198
WCI Wyandotte Cave 24.13 31 eP P 23 22 51.8 -2.3
WCI pmax pmax
comp=Z,43nm,0.9s
WCI Wyandotte Cave 24.13 31 eP P 23 22 51.8 -2.3
comp=Z,44nm,0.9s
O42A Bath 24.19 22 P P 23 22 52.5 -2.1
baz=207
L34A Svendsen Farm, 24.22 10 P P 23 22 54.1 -0.8
baz=192
L33A Hoskins 24.29 8 P P 23 22 54.5 -1.0
baz=190
JSC Jenkinsville 24.30 44 eP P 23 22 53.7 -2.0
JSC pmax pmax
comp=Z,40nm,1.4s
JSC Jenkinsville 24.30 44 eP P 23 22 53.7 -2.0
comp=Z,40nm,1.4s
N40A Mertquake, Sal 24.31 19 P P 23 22 54.2 -1.4
baz=203
M38A Pleasantville 24.35 16 P P 23 22 54.5 -1.5
baz=199,SNR=7.8
N41A Harden Midland 24.38 20 P P 23 22 54.9 -1.4
baz=205
NHSC New Hope 24.38 48 eP P 23 22 55.2 -1.2
comp=Z,68nm,1.0s
L35A Bielow Farm, R 24.50 11 P P 23 22 56.9 -0.6
baz=194
O43A Sugar Creek Fa 24.55 23 P P 23 22 56.6 -1.2
baz=209
K31A O'Neill 24.58 5 P P 23 22 57.7 -0.4
baz=186
MLAC Mammoth, Mammo 24.63 326 P P 23 22 59.1 +0.1
baz=137
M39A Webster 24.68 17 P P 23 22 57.7 -1.4
baz=202
K32A Verdigre 24.69 6 P P 23 22 58.6 -0.6
baz=188
PMPB Monarch Peak 24.76 321 eP P 23 23 03.1 +3.2
comp=Z,54nm,1.3s
N42A Yates City 24.76 21 P P 23 22 58.2 -1.6
baz=207,SNR=7.2
KMSC Kings Mountain 24.77 43 P P 23 22 57.9 -2.0
baz=232,SNR=10
KMSC Kings Mountain 24.77 43 eP P 23 22 58.0 -2.0
comp=Z,18nm,0.8s
BLO Bloomington 24.77 29 eP P 23 22 59.0 -0.9
BLO pmax pmax
comp=Z,27nm,0.8s
BLO Bloomington 24.77 29 eP P 23 22 59.0 -0.9
comp=Z,26nm,0.8s
BGU Big Grassy Mou 24.78 339 eP P 23 23 00.9 +0.8
comp=Z,12nm,1.1s
M40A Post Highland 24.81 18 P P 23 22 58.8 -1.4
baz=203
SCIA State Center 24.81 15 eP P 23 23 00.7 +0.5
comp=Z,48nm,0.9s
K22A Casper 24.84 351 P P 23 23 00.8 +0.2
baz=169,SNR=19
K22A Casper 24.84 351 eP P 23 23 01.2 +0.5
comp=Z,124nm,1.0s
L37A Phoenix Point, 24.89 14 P P 23 22 59.9 -1.0
baz=198
SPUT South Promonto 24.94 340 eP P 23 23 04.3 +2.8
comp=Z,32nm,1.8s
HWUT Hardware Ranch 24.94 342 eP P 23 23 02.1 +0.5
comp=Z,12nm,0.8s
M41A Milan 25.08 20 P P 23 23 02.1 -0.5
baz=205
L38A Oak Wood Farm, 25.09 15 P P 23 23 02.0 -0.7
baz=199
GTBY Guantanamo Bay 25.13 82 eP P 23 23 05.0 +1.6
comp=Z,92nm,1.2s
TVH2 Borealis Mine 25.14 327 eP P 23 23 04.7 +1.1
comp=Z,34nm,0.2s
TVH3 East Aurora ar 25.16 327 eP P 23 23 08.4 +4.7
comp=Z,13nm,1.4s
TVH1 TV Hill, Hawth 25.21 327 eP P 23 23 05.8 +1.4
comp=Z,14nm,0.9s
L39A Vinton 25.33 17 P P 23 23 03.4 -1.5
baz=202
M42A Sheffield 25.41 21 P P 23 23 04.3 -1.4
baz=207
J33A Davis 25.46 8 P P 23 23 04.9 -1.2
baz=190
HVU Hansel Valley 25.47 340 eP P 23 23 06.9 +0.6
HVU pmax pmax
comp=Z,9.0nm,0.8s
HVU Hansel Valley 25.47 340 eP P 23 23 06.9 +0.6
comp=Z,8.8nm,0.8s
L40A Anamosa 25.50 18 P P 23 23 05.3 -1.1
baz=203
PD31 Pinedale Array 25.51 346 eP P 23 23 07.5 +0.7
PDAR Pinedale Array 25.51 346 P P 23 23 07.2 +0.3
comp=Z,3.9nm,0.6s,baz=152,slow=11,SNR=30
PDAR PcP PcP 23 26 37.3 -0.3
comp=Z,1.7nm,0.8s,baz=132,slow=6.2,SNR=3.5
PDAR pPcP 23 26 51.0
comp=Z,3.1nm,1.0s,baz=147,slow=3.0,SNR=4.7
BW06 Boulder Array 25.51 346 P P 23 23 06.5 -0.3
baz=162,SNR=14
BW06 Boulder Array 25.51 346 eP P 23 23 06.3 -0.5
comp=Z,21nm,0.8s
BW06 ePcP PcP 23 26 35.8 -1.7
SFIN Lafayette 25.51 26 P P 23 23 04.9 -1.7
baz=213
SFIN Lafayette 25.51 26 eP P 23 23 06.2 -0.3
comp=Z,29nm,0.8s
K37A Belmond 25.52 14 P P 23 23 05.6 -1.1
baz=198
J34A George 25.57 10 P P 23 23 06.3 -0.9
baz=192
WAKR Walker 25.59 326 eP P 23 23 10.0 +2.4
comp=Z,16nm,0.9s
K38A Parkersburg 25.61 15 P P 23 23 06.5 -1.0
baz=199
L41A Preston 25.73 19 P P 23 23 07.3 -1.3
baz=205
CMB Columbia Colle 25.77 324 eP P 23 23 09.0 0.0
CMB pmax pmax
comp=Z,4.0nm,0.8s
CMB Columbia Colle 25.77 324 eP P 23 23 09.0 0.0
comp=Z,4.3nm,0.8s
YERR Yerington 25.85 327 eP P 23 23 12.3 +2.4
comp=Z,11nm,0.7s
K39A Oelwein 25.90 17 P P 23 23 08.7 -1.4
baz=201
J36A Seneca 1, Swea 25.91 12 P P 23 23 08.7 -1.5
baz=196
ECSD EROS Data Cent 25.92 8 P P 23 23 09.2 -1.1
baz=191,SNR=6.8
ECSD EROS Data Cent 25.92 8 eP P 23 23 09.0 -1.2
comp=Z,19nm,0.8s
BMN Battle Mountai 26.01 332 eP P 23 23 12.2 +0.9
BMN pmax pmax
comp=Z,14nm,1.2s
BMN Battle Mountai 26.01 332 eP P 23 23 12.2 +0.9
comp=Z,14nm,1.2s
RSSD Black Hills 26.04 356 eP P 23 23 11.1 -0.5
RSSD pmax pmax
comp=Z,15nm,0.8s
RSSD Black Hills 26.04 356 eP P 23 23 11.1 -0.5
comp=Z,14nm,0.8s
J37A Redenius Farm, 26.06 14 P P 23 23 10.4 -1.1
baz=197
K40A Colesburg 26.11 18 P P 23 23 10.7 -1.3
baz=203
PNTR Pine Nut 26.11 327 eP P 23 23 14.7 +2.4
comp=Z,18nm,1.0s
J38A Wedel Dairy, R 26.32 15 P P 23 23 12.7 -1.2
baz=200
REDW Red Top Meadow 26.38 345 eP P 23 23 15.2 +0.6
comp=Z,26nm,1.0s
SNOW Snow King Moun 26.45 345 eP P 23 23 16.2 +0.9
comp=Z,27nm,0.7s
PAHR Pah Rah Range 26.47 328 eP P 23 23 17.6 +2.2
comp=Z,5.8nm,1.0s
TPAW Teton Pass 26.52 345 eP P 23 23 17.9 +1.8
comp=Z,25nm,0.9s
J39A Decorah 26.53 16 P P 23 23 14.6 -1.2
baz=201
LOHW Long Hollow 26.55 345 eP P 23 23 16.8 +0.5
comp=Z,12nm,0.7s
JFWS Jewell Farm 26.57 19 eP P 23 23 15.1 -1.0
JFWS pmax pmax
comp=Z,24nm,0.8s
JFWS Jewell Farm 26.57 19 eP P 23 23 15.1 -1.0
comp=Z,24nm,0.8s
H32A Carlson Farm, 26.57 7 P P 23 23 15.9 -0.3
baz=189,SNR=8.1
BLA Blacksburg 26.65 40 eP P 23 23 15.0 -2.0
BLA pmax pmax
comp=Z,26nm,0.8s
BLA Blacksburg 26.65 40 eP P 23 23 15.0 -2.0
comp=Z,26nm,0.8s
MOOW Moose Ponds 26.71 345 eP P 23 23 18.6 +0.8
comp=Z,9.8nm,0.9s
MOOW ePcP PcP 23 26 38.6 -1.7
I37A Lemond, Waseca 26.76 13 P P 23 23 16.9 -0.9
baz=197
H33A Prehn Over Nor 26.83 8 P P 23 23 17.7 -0.8
baz=190
IMW Indian Meadow 26.90 345 eP P 23 23 18.5 -1.0
comp=Z,23nm,1.1s
H34A Spellman Lake, 26.95 9 P P 23 23 18.5 -1.1
baz=192
I38A Scanlan Farm, 27.03 15 P P 23 23 19.0 -1.3
baz=199
J41A Loganville 27.05 19 P P 23 23 19.0 -1.4
baz=205
I39A Houston 27.07 16 P P 23 23 19.3 -1.3
baz=201,SNR=7.3
H35A Sunnyside Ranc 27.14 11 P P 23 23 20.4 -0.9
baz=194
H36A Jessenland, He 27.19 12 P P 23 23 20.8 -0.9
baz=196
H17A Grant Village 27.29 346 P P 23 23 22.0 -0.9
baz=161
ACSO Alum Creek Sta 27.31 32 eP P 23 23 24.8 +1.9
comp=Z,27nm,1.0s
I40A Norwalk 27.35 17 P P 23 23 21.5 -1.6
baz=203
G33A Ortonville 27.38 8 P P 23 23 22.4 -0.9
baz=190
YFT Old Faithful 27.40 346 eP P 23 23 26.0 +2.1
comp=Z,12nm,0.8s
H37A Dierke Farm, C 27.41 14 P P 23 23 21.7 -1.9
baz=198
ORV Oroville 27.46 325 eP P 23 23 25.7 +1.5
ORV pmax pmax
comp=Z,16nm,1.5s
ORV Oroville 27.46 325 eP P 23 23 25.7 +1.5
comp=Z,16nm,1.5s
HLID Hailey 27.60 340 P P 23 23 24.9 -0.7
baz=153
HLID Hailey 27.60 340 eP P 23 23 26.1 +0.5
comp=Z,4.1nm,0.8s
YNR Norris Junctio 27.61 346 eP P 23 23 28.4 +2.6
comp=Z,249nm,1.1s
YMR Madison River 27.64 346 eP P 23 23 26.1 +0.1
comp=Z,25nm,1.3s
H38A Maiden Rock 27.64 14 P P 23 23 24.3 -1.5
baz=199
RLMT Red Lodge 27.70 348 eP P 23 23 28.3 +1.8
comp=Z,6.4nm,0.8s
YHH Holmes Hill 27.72 346 eP P 23 23 27.8 +1.0
comp=Z,4.6nm,0.7s
H39A Augusta 27.90 16 P P 23 23 26.7 -1.3
baz=201
MFID Camas Ranch 27.96 338 eP P 23 23 28.7 -0.1
comp=Z,11nm,1.4s
F33A 5 Mile Ranch, 28.03 8 P P 23 23 27.5 -1.7
baz=190
SPMN Marine on St. 28.05 13 P P 23 23 27.5 -1.8
baz=198
SPMN Marine on St. 28.05 13 eP P 23 23 27.9 -1.4
comp=Z,35nm,1.4s
HELC Santa Helena 28.07 112 eP P 23 23 30.3 0.0
comp=Z,71nm,1.7s
H40A Chili 28.09 17 P P 23 23 27.7 -2.0
baz=203
F34A Alexandria 28.13 9 P P 23 23 28.4 -1.7
baz=193
O03D Paynes Creek 28.15 326 P P 23 23 30.5 0.0
baz=136
G38A Ridgeland 28.21 15 P P 23 23 29.1 -1.7
baz=200
MCMT McKenzie Canyo 28.27 343 eP P 23 23 33.0 +1.3
F35A Swanville 28.31 10 P P 23 23 30.7 -1.0
baz=194
G39A Holcombe 28.49 16 P P 23 23 32.1 -1.2
baz=201
F36A Milaca 28.50 12 P P 23 23 31.9 -1.5
baz=196
JSRW J. Sargeant Re 28.53 42 eP P 23 23 31.6 -2.2
MOD Modoc Plateau 28.60 330 eP P 23 23 35.9 +1.4
comp=Z,7.4nm,0.8s
BOZ Bozeman (W) 28.67 345 P P 23 23 34.9 -0.1
baz=160,SNR=8.2
BOZ Bozeman (W) 28.67 345 eP P 23 23 34.7 -0.4
BOZ pmax pmax
comp=Z,9.0nm,0.8s
BOZ Bozeman (W) 28.67 345 eP P 23 23 34.7 -0.4
comp=Z,8.8nm,0.8s
DLMT Dillon 28.69 344 eP P 23 23 36.5 +1.2
comp=Z,21nm,0.9s
SDDR Presa de Saban 28.77 83 eP P 23 23 37.8 +1.7
comp=Z,24nm,0.9s
OTAV Otavalo 28.87 125 eP P 23 23 39.5 +2.0
comp=Z,17nm,1.1s
F38A Pierce - Schro 28.95 14 P P 23 23 35.7 -1.7
baz=199
E35A Pequot Lakes 29.01 10 P P 23 23 36.3 -1.6
baz=194
LRM Limekiln Ridge 29.08 344 eP P 23 23 39.7 +0.8
F40A Park Falls 29.35 17 P P 23 23 39.1 -1.9
baz=202
D35A Remer 29.58 11 P P 23 23 41.4 -1.6
baz=194
E38A The Farm, Brul 29.63 14 P P 23 23 41.6 -1.8
baz=199
E39A Mellen 29.66 16 P P 23 23 41.7 -2.0
baz=201
MDND Maddock 29.73 3 P P 23 23 42.8 -1.5
baz=184
BMO Blue Mountains 29.74 337 eP P 23 23 44.1 -0.4
BMO pmax pmax
comp=Z,4.0nm,1.0s
BMO Blue Mountains 29.74 337 eP P 23 23 44.1 -0.4
comp=Z,4.1nm,1.0s
HRY Holter Researc 29.76 346 eP P 23 23 46.0 +1.2
D36A Goodland 29.84 12 P P 23 23 43.4 -1.8
baz=196
K04D Chiloquin, OR 29.84 329 P P 23 23 44.7 -0.7
baz=139
E40A Wakefield 29.90 16 P P 23 23 43.7 -2.1
baz=202,SNR=6.3
D37A Cotton 29.97 13 P P 23 23 44.4 -2.0
baz=197,SNR=8.5
E41A Kenton 30.18 18 P P 23 23 46.8 -1.4
baz=204
C35A Jirik Farms, M 30.19 10 P P 23 23 47.0 -1.4
baz=194
CHMT Chamberlain Mo 30.30 344 eP P 23 23 50.3 +0.6
DGMT Dagmar 30.38 357 P P 23 23 49.1 -1.0
baz=175
DGMT Dagmar 30.38 357 eP P 23 23 49.3 -0.7
comp=Z,32nm,0.7s
RUSC La Rusia 30.38 110 eP P 23 23 52.3 +1.3
comp=Z,15nm,1.3s
MSO Missoula 30.41 343 P P 23 23 49.5 -0.9
baz=156
MSO Missoula 30.41 343 eP P 23 23 50.5 0.0
comp=Z,40nm,1.8s
C36A Pine Crest Far 30.46 12 P P 23 23 49.1 -1.6
baz=196,SNR=14
AGMN Agassiz Nation 30.50 8 P P 23 23 49.6 -1.4
baz=191,SNR=10
AGMN Agassiz Nation 30.50 8 eP P 23 23 50.0 -1.1
comp=Z,34nm,0.8s
B33A Robert and Kas 30.51 8 P P 23 23 49.6 -1.6
baz=191
B32A Ashes, Strandq 30.51 7 P P 23 23 49.4 -1.8
baz=189
F44A Big Bay de Noc 30.54 21 P P 23 23 49.4 -2.0
baz=209
C37A Embarrass 30.56 13 P P 23 23 50.2 -1.4
baz=198
SLMT Seeley Lake 30.67 344 eP P 23 23 53.6 +0.8
F10A Beach Ranch, E 30.67 338 eP P 23 23 51.9 -0.9
comp=Z,7.7nm,0.7s
D41A Chassel 30.83 18 P P 23 23 52.4 -1.6
baz=204
B34A Aery, Baudette 30.85 9 P P 23 23 52.4 -1.7
baz=193,SNR=5.5
B35A Bob, Littlefor 30.88 10 P P 23 23 52.9 -1.5
baz=194
EYMN Ely 30.91 13 P P 23 23 52.8 -1.9
baz=199
EYMN Ely 30.91 13 eP P 23 23 52.9 -1.9
comp=Z,15nm,1.2s
I05D Terrebonne, OR 30.96 332 P P 23 23 54.3 -1.0
baz=141
A32A Rocking H Ranc 31.03 7 P P 23 23 54.1 -1.6
baz=189
SWMT Swartz Lake 31.05 344 eP P 23 23 56.1 0.0
SWMT ePcP PcP 23 26 51.6 +0.7
C39A Grand Marais 31.11 15 P P 23 23 54.5 -2.0
baz=201
A33A Warroad 31.19 8 P P 23 23 55.6 -1.6
baz=191
YBMT Yellow Bay 31.38 344 eP P 23 23 59.2 +0.2
SDV Santo Domingo 31.45 103 eP P 23 24 01.6 +1.5
comp=Z,14nm,0.8s
ULM Lac du Bonnet 32.42 7 P P 23 24 05.8 -2.1
comp=Z,13nm,0.9s,baz=177,slow=9.8,SNR=8.7
ULM PcP PcP 23 26 53.6 -0.8
comp=Z,1.0nm,0.3s,baz=251,slow=2.3,SNR=3.2
ULM pPcP 23 27 07.3
comp=Z,6.8nm,0.8s,baz=225,slow=2.3,SNR=4.0
WALA Waterton Lakes 32.46 345 eP P 23 24 10.2 +1.8
comp=Z,8.8nm,0.6s
SADO Sadowa 32.58 30 P P 23 24 06.3 -3.1
comp=Z,5.6nm,0.4s,baz=242,slow=9.3,SNR=14
SADO pP sP 23 24 25.1 -1.9
comp=Z,8.5nm,0.7s,baz=248,slow=12,SNR=4.6
SADO Sadowa 32.58 30 eP P 23 24 06.3 -3.1
comp=Z,12nm,0.9s
SADO pP sP 23 24 25.1 -1.9
NEW Newport 32.64 341 P P 23 24 09.6 -0.3
comp=Z,6.8nm,1.0s,baz=141,slow=9.5,SNR=8.4
NEW LR LR 23 37 59.7
comp=Z,464nm,19.4s,baz=158,slow=37
NEW Newport 32.64 341 P P 23 24 09.2 -0.8
baz=152
NEW Newport 32.64 341 eP P 23 24 10.5 +0.5
comp=Z,5.5nm,0.8s
LON Longmire 33.08 334 eP P 23 24 14.3 +0.5
LON pmax pmax
comp=Z,10.0nm,1.1s
LON Longmire 33.08 334 eP P 23 24 14.2 +0.5
comp=Z,9.6nm,1.1s
B08A Colville Reser 33.46 338 eP P 23 24 16.9 -0.2
comp=Z,5.0nm,0.9s
SJG San Juan 33.69 84 P P 23 24 19.2 -0.3
comp=Z,20nm,0.8s,baz=266,slow=5.6,SNR=7.8
SJG San Juan 33.69 84 eP P 23 24 18.6 -0.8
SJG pmax pmax
comp=Z,28nm,0.9s
SJG San Juan 33.69 84 eP P 23 24 18.6 -0.8
comp=Z,28nm,0.9s
HUMP Col San Antoni 33.97 84 eP P 23 24 21.8 0.0
comp=Z,41nm,1.3s
MTP Monte Pirata 34.26 84 eP P 23 24 24.5 +0.2
comp=Z,127nm,1.7s
EDM Edmonton 36.24 348 eP P 23 24 41.3 +0.3
EDM pmax pmax
comp=Z,34nm,0.9s
EDM Edmonton 36.24 348 eP P 23 24 41.3 +0.3
comp=Z,34nm,0.9s
SVB Belmont 39.11 91 eP P 23 25 05.2 -0.6
comp=Z,52nm,0.6s
PTGA Pitinga 45.04 110 eP P 23 25 54.2 +0.2
comp=Z,10.0nm,0.8s
YKA Yellowknife Ar 45.28 352 P P 23 25 54.2 -1.1
comp=Z,5.6nm,0.7s,baz=160,slow=7.2,SNR=16
YKA PcP PcP 23 27 34.4 0.0
comp=Z,1.3nm,0.7s,baz=155,slow=3.7,SNR=3.9
YKA pPcP 23 27 48.3
comp=Z,2.2nm,0.7s,baz=153,slow=3.5,SNR=5.4
SCHQ Schefferville 45.28 28 P P 23 25 53.2 -2.2
comp=Z,4.5nm,0.6s,baz=248,slow=9.3,SNR=3.8
DLBC Dease Lake 45.37 339 P P 23 25 58.2 +2.0
comp=Z,6.4nm,0.8s,baz=159,slow=6.5,SNR=4.8
DLBC PcP PcP 23 27 35.3 +0.4
comp=Z,2.4nm,0.5s,baz=63,slow=2.3,SNR=2.7
DLBC pPcP 23 27 49.4
comp=Z,9.1nm,0.8s,baz=166,slow=5.1,SNR=5.4
SAML Samuel 46.50 122 eP P 23 26 04.0 -1.6
comp=Z,25nm,0.9s
SAML ePcP PcP 23 27 34.6 -5.0
LPAZ La Paz 47.49 134 P P 23 26 14.3 +0.4
comp=Z,5.9nm,0.6s,baz=328,slow=6.4,SNR=37
LPAZ La Paz 47.49 134 eP P 23 26 14.3 +0.4
LPAZ pmax pmax
comp=Z,8.0nm,0.8s
LPAZ La Paz 47.49 134 eP P 23 26 14.3 +0.4
comp=Z,8.4nm,0.8s
PB11 IPOC Station P 48.99 139 eP P 23 26 25.5 +0.6
comp=Z,36nm,0.9s
PB01 IPOC Station P 50.05 140 eP P 23 26 33.8 +0.9
comp=Z,48nm,1.6s
FRB Frobisher Bay 50.89 18 P P 23 26 38.3 -0.3
comp=Z,5.9nm,0.7s,baz=212,slow=16,SNR=5.0
FRB PcP PcP 23 27 54.5 -0.1
comp=Z,6.9nm,0.7s,baz=172,slow=7.1,SNR=2.9
FRB pPcP 23 28 07.9
comp=Z,28nm,1.1s,baz=214,slow=4.1,SNR=3.4
BMRM Bremner River 52.49 335 eP P 23 26 51.4 +0.7
comp=Z,14nm,0.8s
DAWY Dawson 52.57 340 eP P 23 26 53.7 +2.5
comp=Z,6.1nm,0.9s
DIV Divide 53.05 335 eP P 23 26 56.1 +1.2
comp=Z,17nm,1.0s
EGAK Eagle 53.62 340 eP P 23 26 59.7 +0.9
comp=Z,12nm,0.8s
DOT Dot Lake 53.88 338 eP P 23 27 02.3 +1.5
comp=Z,69nm,1.3s
DOT epP pP 23 27 14.0 +0.4
DOT esP sP 23 27 19.0 +0.1
PAX Paxson 53.99 337 eP P 23 27 03.4 +1.7
PAX pmax pmax
comp=Z,15nm,0.8s
PAX Paxson 53.99 337 eP P 23 27 03.4 +1.7
comp=Z,15nm,0.8s
INK Inuvik 54.08 346 P P 23 27 01.9 -0.1
comp=Z,13nm,0.8s,baz=124,slow=8.0,SNR=24

INK Inuvik 54.08 346 *e*P P 23 27 02.4 +0.3
INK pmax pmax
comp=Z,19nm,0.8s
INK Inuvik 54.08 346 *e*P P 23 27 02.4 +0.3
comp=Z,19nm,0.8s
SML Sawmill 54.45 335 *e*P P 23 27 08.5 +3.4
SML pmax pmax
comp=Z,19nm,1.0s
SML Sawmill 54.45 335 *e*P P 23 27 08.5 +3.4
comp=Z,19nm,1.0s
OHAK Old Harbor 54.56 328 *e*P P 23 27 06.9 +1.2
comp=Z,38nm,0.8s
PMR Palmer 54.67 334 *e*P P 23 27 07.6 +1.1
PMR *e**SP sP 23 27 24.6 +0.1
PMR pmax pmax
comp=Z,19nm,0.6s
PMR Palmer 54.67 334 *e*P P 23 27 07.6 +1.1
comp=Z,19nm,0.6s
PMR *ep*P pP 23 27 19.2 0.0
PMR *es*P sP 23 27 24.6 +0.1
DHY Denali Highway 54.77 336 *e*P P 23 27 10.9 +3.5
comp=Z,8.3nm,0.9s
SUA Susitna One 55.27 334 *e*P P 23 27 12.9 +1.8
comp=Z,48nm,0.6s
HDA Harding Lake 55.36 338 *e*P P 23 27 12.9 +1.4
comp=Z,18nm,0.8s
RND Reindeer 55.51 336 *e*P P 23 27 14.1 +1.4
RND pmax pmax
comp=Z,30nm,1.0s
RND Reindeer 55.51 336 *e*P P 23 27 14.1 +1.4
comp=Z,30nm,1.0s
IL1 Eielson Array 55.55 338 *e*P P 23 27 13.3 +0.5
ILAR Eielson Array 55.55 338 P P 23 27 13.4 +0.6
comp=Z,5.6nm,1.0s,baz=146,slow=6.3,SNR=27
ILAR PcP PcP 23 28 11.9 -0.3
comp=Z,1.8nm,0.6s,baz=149,slow=2.5,SNR=4.8
ILAR pPcP 23 28 26.1
comp=Z,3.3nm,0.6s,baz=152,slow=2.5,SNR=7.4
ILB Eielson Array 55.55 338 *e*P P 23 27 14.6 +1.7
RSO Redoubt South 55.68 332 *e*P P 23 27 15.1 +1.0
SPU Mount Spurr 55.70 333 *e*P P 23 27 15.2 +1.2
MCK McKinley 55.71 337 *e*P P 23 27 16.8 +2.7
MCK pmax pmax
comp=Z,20nm,0.8s
MCK McKinley 55.71 337 *e*P P 23 27 16.8 +2.7
comp=Z,20nm,0.8s
CCB Clear Creek Bu 55.80 338 *e*P P 23 27 15.3 +0.7
comp=Z,8.4nm,0.8s
WRH Wood River Hil 55.80 338 *e*P P 23 27 16.1 +1.4
comp=Z,12nm,0.9s
COLA College 55.94 338 *i*P P 23 27 19.3 +3.7
COLA pmax pmax
comp=Z,3.0nm,0.5s
FYU Fort Yukon 56.06 341 *e*P P 23 27 19.1 +2.6
comp=Z,46nm,1.4s
TRF Thorofare Moun 56.08 336 *e*P P 23 27 17.9 +1.0
comp=Z,58nm,0.8s
MDM Murphy Dome 56.12 338 *e*P P 23 27 17.9 +0.9
comp=Z,7.2nm,0.8s
KTH Kantishna Hill 56.38 336 *e*P P 23 27 20.1 +1.2
comp=Z,18nm,0.8s
PPLA Purkeypile 56.56 335 *e*P P 23 27 23.6 +3.4
comp=Z,26nm,0.9s
CAST Castle Rocks 56.77 335 *e*P P 23 27 22.1 +0.5
comp=Z,35nm,0.8s
SVW2 Sparrevohn 57.20 332 *e*P P 23 27 25.1 +0.4
comp=Z,29nm,0.7s
COLD Coldfoot 58.05 340 *e*P P 23 27 31.9 +1.4
comp=Z,9.7nm,0.8s
COLD *ep*P pP 23 27 43.8 +0.4
COLD *es*P sP 23 27 48.7 +0.1
TT01 Tatalina 58.13 334 *e*P P 23 27 31.1 -0.1
TTA Tatalina 58.14 334 *e*P P 23 27 31.4 +0.1
TTA pmax pmax
comp=Z,25nm,0.9s
TTA Tatalina 58.14 334 *e*P P 23 27 31.4 +0.1
comp=Z,25nm,0.9s
TOLK Toolik Lake Re 58.63 341 P P 23 27 35.6 +1.0
baz=124
PPT Papeete 58.99 236 LR LR 23 48 37.0
comp=Z,150nm,18.4s,baz=30,slow=31
GO05 HualaæØ 59.87 152 *e*P P 23 27 44.4 +0.8
comp=Z,26nm,0.9s
CPUP Villa Florida 61.65 135 P P 23 27 55.5 -0.3
comp=Z,22nm,0.8s,baz=326,slow=7.5,SNR=42
SUMG Summit 64.94 17 *i*P P 23 28 16.6 -0.8
comp=Z,13nm,0.8s
SUMG *e* 23 28 33.4
SUMG Summit 64.94 17 *i*P P 23 28 16.6 -0.8
SUMG *e* 23 28 33.4
SUMG pmax pmax
comp=Z,13nm,0.8s
SUMG Summit 64.94 17 *e*P P 23 28 16.4 -1.1
comp=Z,30nm,1.2s
PLCA Paso Flores 65.26 154 P P 23 28 20.3 +0.8
comp=Z,9.5nm,1.0s,baz=3.9,slow=6.4,SNR=10
PLCA Paso Flores 65.26 154 *e*P P 23 28 20.9 +1.4
BORG Borgarnes 69.67 27 P P 23 28 48.1 +1.2
comp=Z,28nm,1.0s,baz=225,slow=10.0,SNR=3.3
DAG Danmarks Havn 70.91 14 *i*P P 23 28 53.1 -1.3
comp=Z,8.1nm,0.7s
DAG *e* 23 29 10.4
DAG Danmarks Havn 70.91 14 *i*P P 23 28 53.1 -1.3
DAG *e* 23 29 10.4
DAG pmax pmax
comp=Z,6.0nm,0.7s
PMAR Madeira 76.12 60 *ep*P pP 23 29 46.2 +6.8
KBS Kingsbay 76.75 10 *i*P P 23 29 28.9 +0.4
KBS pmax pmax
comp=Z,26nm,0.7s
EKA Eskdalemuir Ar 80.03 35 P P 23 29 46.8 -0.2
comp=Z,9.3nm,0.9s,baz=260,slow=5.0,SNR=13
PMAFR Mafra 80.63 52 *e*P P 23 29 50.9 +0.3
PMAFR *ep*P sP 23 30 09.8 +0.7
PCAB Cabril 80.81 49 *e*P P 23 29 51.9 +0.3
PCAB *ep*P sP 23 30 10.5 +0.5
PCAS Casmilo, Conde 80.92 51 *e*P P 23 29 52.7 +0.6
comp=Z,45nm,1.7s
PCAS *ep*P sP 23 30 11.5 +0.9
POLO Lamas de Olo 81.07 49 *e*P P 23 29 53.1 +0.1
comp=Z,9.9nm,1.3s
POLO *ep*P sP 23 30 12.0 +0.5
PTOM Tomar 81.10 51 *e*P P 23 29 53.6 +0.5
comp=Z,22nm,1.5s
PTOM *ep*P sP 23 30 12.2 +0.6
SEY Seymchan 81.11 334 P P 23 29 53.6 +0.9
comp=Z,10nm,0.7s,baz=102,slow=5.8,SNR=17
PVRL Vila Real 81.15 50 *e*P P 23 29 53.6 +0.2
PVRL *ep*P sP 23 30 12.0 +0.1
PVIS Viseu 81.18 50 *e*P P 23 29 53.6 0.0
comp=Z,20nm,1.7s
PVIS *ep*P sP 23 30 12.4 +0.3
PNCL Nicolau / Gran 81.43 53 *e*P P 23 29 55.5 +0.6
comp=Z,34nm,1.8s
PNCL *ep*P sP 23 30 13.8 +0.4
PTEO Sao Teotonio 81.44 53 *e*P P 23 29 55.8 +0.9
comp=Z,53nm,2.5s
PTEO *ep*P sP 23 30 14.4 +1.0
PFVI Vila Bisbo 81.47 54 *e*P P 23 29 56.2 +1.1
PFVI *ep*P sP 23 30 14.8 +1.2
MTE Manteigas 81.52 50 *e*P P 23 29 55.4 0.0
MTE *ep*P sP 23 30 14.0 +0.1
MTE Manteigas 81.52 50 *e*P P 23 29 55.4 0.0
comp=Z,32nm,0.9s
MVO Moncorvo 81.68 50 *e*P P 23 29 56.6 +0.4
comp=Z,23nm,1.9s
MVO *ep*P sP 23 30 15.3 +0.5
EVO Evora 81.70 52 *e*P P 23 29 56.8 +0.5
comp=Z,25nm,1.5s
EVO *ep*P sP 23 30 15.2 +0.4
PBRG Braganca 81.70 49 *e*P P 23 29 56.5 +0.2
comp=Z,23nm,1.8s
PBRG *ep*P sP 23 30 15.1 +0.3
PCBR Castelo Branco 81.73 51 *e*P P 23 29 56.5 +0.1
PCBR *ep*P sP 23 30 15.3 +0.4
MESJ Messejana 81.74 53 *e*P P 23 29 57.0 +0.5
MESJ *ep*P sP 23 30 14.7 -0.3
CWF Charnwood Fore 81.87 37 *e*P P 23 29 58.1 +1.2
comp=Z,20nm,0.9s
PMRV Marv??o 81.91 51 *e*P P 23 29 57.7 +0.3
comp=Z,18nm,1.1s
PMRV *ep*P sP 23 30 16.2 +0.3
PESTR Estremoz 81.92 52 *e*P P 23 29 57.2 -0.3
comp=Z,17nm,1.6s
PESTR *ep*P sP 23 30 16.2 +0.2

PCVE Castro Verde 81.93 53 *e*P P 23 29 58.5 +0.9
comp=Z,28nm,2.1s
PCVE *ep*P sP 23 30 16.8 +0.7
PBEJ Beja 81.95 53 *e*P P 23 29 56.9 -0.8
PBEJ *ep*P sP 23 30 16.7 +0.5
PETK Petropavlovsk- 81.95 323 P P 23 29 58.5 +1.2
comp=Z,8.3nm,0.6s,baz=71,slow=10,SNR=4.9
ROSF Rostrenen 82.09 42 *e*P P 23 29 57.4 -0.8
ROSF pmax pmax
comp=Z,9.0nm,0.8s
PBDV Barranco-do-Ve 82.13 54 *e*P P 23 29 59.5 +0.9
comp=Z,32nm,1.7s
PBDV *ep*P sP 23 30 18.4 +1.3
PVAQ Vaqueiros 82.24 53 *e*P P 23 30 00.2 +1.0
comp=Z,29nm,1.9s
PVAQ *ep*P sP 23 30 18.7 +1.0
QUIF Quistinic 82.29 42 *e*P P 23 29 58.5 -0.7
QUIF pmax pmax
comp=Z,13nm,0.9s
PBAR Barrancos 82.53 52 *e*P P 23 30 01.6 +0.9
PBAR *ep*P sP 23 30 20.0 +0.8
GRR Gorron 83.60 41 *e*P P 23 30 06.1 +0.1
GRR pmax pmax
comp=Z,15nm,0.7s
LDF La Druitiere 83.98 41 *e*P P 23 30 08.5 +0.5
LDF pmax pmax
comp=Z,23nm,0.8s
PAB San Pablo 84.12 50 *e*P P 23 30 09.4 +0.4
PAB *e**SP sP 23 30 27.9 +0.4
PAB pmax pmax
comp=Z,17nm,0.9s
PAB San Pablo 84.12 50 *e*P P 23 30 09.4 +0.4
comp=Z,17nm,0.9s
PAB *ep*P pP 23 30 21.7 -0.7
PAB *es*P sP 23 30 27.9 +0.4
TIXI Tiksi 84.20 346 *ce*P P 23 30 08.4 -0.2
TIXI pmax pmax
comp=Z,26nm,1.2s
TIXI Tiksi 84.20 346 *e*P P 23 30 08.8 +0.2
comp=Z,18nm,0.9s
ESDC Sonseca Array 84.36 50 P P 23 30 09.8 -0.3
comp=Z,1.4nm,0.7s,baz=297,slow=4.9,SNR=11
ESDC pP sP 23 30 28.9 +0.2
comp=Z,5.3nm,0.8s,baz=301,slow=5.1,SNR=14
ES19 SONSECA Array 84.40 50 *e*P P 23 30 10.2 -0.1
MFF Saint Martin d 84.67 43 *e*P P 23 30 11.0 -0.5
MFF pmax pmax
comp=Z,23nm,1.1s
NBO02 NORSAR Array S 84.69 27 *e*P P 23 30 12.0 +0.7
NB2 NORSAR Subarra 84.85 27 P P 23 30 12.4 +0.3
comp=Z,4.1nm,0.7s,baz=297,slow=4.8
NOA NORSAR Array B 84.85 27 P P 23 30 12.7 +0.5
comp=Z,5.2nm,0.7s,baz=300,slow=4.8,SNR=21
NB201 NORSAR Array S 84.88 27 *e*P P 23 30 12.9 +0.7
ARCES ARCESS Array B 85.02 16 P P 23 30 11.9 -0.8
comp=Z,7.8nm,0.7s,baz=315,slow=4.2,SNR=14
ARCES ARCESS Array B 85.02 16 P P 23 30 12.0 -0.8
LFF La Frestale 85.84 44 *e*P P 23 30 16.9 -0.4
LFF pmax pmax
comp=Z,85nm,1.5s
BAIF Baives 86.06 38 *e*P P 23 30 18.2 -0.1
BAIF pmax pmax
comp=Z,17nm,1.2s
MDT Midelt 86.07 57 P P 23 30 19.4 +0.5
comp=Z,11nm,0.9s,baz=281,slow=5.4,SNR=19
VIEF Viey 86.10 46 *e*P P 23 30 19.7 +0.9
RJF Les Rejaudoux 86.22 44 *e*P P 23 30 18.6 -0.6
RJF pmax pmax
comp=Z,15nm,0.9s
EPF Esparros 86.26 46 *e*P P 23 30 18.9 -0.7
EPF pmax pmax
comp=Z,15nm,1.0s
DOU Dourbes 86.28 38 AP pP 23 30 37.5 +4.6
RESF Ens 86.34 46 *e*P P 23 30 21.2 +1.2
HFS Hagfors 86.36 27 P P 23 30 19.4 -0.2
comp=Z,4.5nm,1.0s,baz=281,slow=5.2,SNR=5.6
BCLA Clavier 86.56 38 P P 23 30 20.8 0.0
BCLA AP sP 23 30 41.1 +1.7
MSVF Nonsavu 86.62 250 *e*P P 23 30 24.1 +2.4
MSVF pmax pmax
comp=Z,26nm,1.2s
MSVF Nonsavu 86.62 250 *e*P P 23 30 24.1 +2.4
comp=Z,26nm,1.2s
CAF Calviac 86.72 44 *e*P P 23 30 21.1 -0.6
CAF pmax pmax
comp=Z,6.0nm,0.9s
SSF Saint Saulge 86.82 41 *e*P P 23 30 21.5 -0.7
SSF pmax pmax
comp=Z,11nm,0.8s
AVF Avril sur Loir 86.83 42 *e*P P 23 30 21.2 -1.0
AVF pmax pmax
comp=Z,7.0nm,0.8s
MEM Membach 86.89 37 P P 23 30 22.2 -0.2
comp=Z,5.5nm,0.9s
MEM AP sP 23 30 41.1 +0.1
SALF Salau 86.94 46 *e*P P 23 30 23.7 +0.8
LOR Lormes 86.96 41 *e*P P 23 30 21.5 -1.4
LOR pmax pmax
comp=Z,13nm,0.8s
PYM Petit Puy Mans 87.02 43 *e*P P 23 30 23.4 +0.2
SMF Signal de Mont 87.20 42 *e*P P 23 30 22.5 -1.5
SMF pmax pmax
comp=Z,3.0nm,0.6s
PLDF La Plantade 87.33 42 *e*P P 23 30 24.5 -0.2
WLF Walferdange 87.38 38 P P 23 30 25.1 +0.3
comp=Z,16nm,1.2s
WLF AP sP 23 30 43.8 +0.4
WLF Walferdange 87.38 38 *e*P P 23 30 25.3 +0.5
WLF *e**SP sP 23 30 43.7 +0.4
WLF pmax pmax
comp=Z,20nm,0.9s
WLF Walferdange 87.38 38 *e*P P 23 30 25.2 +0.5
comp=Z,20nm,0.9s
WLF *es*P sP 23 30 43.6 +0.3
LBL Lubilhac 87.38 43 *e*P P 23 30 25.8 +0.8
THEF They Montfort 87.88 40 *e*P P 23 30 26.6 -0.6
SSB Saint Sauveur 88.20 43 *e*P P 23 30 25.5 -3.3
SSB pmax pmax
comp=Z,9.0nm,0.9s
SSB Saint Sauveur 88.20 43 *e*P P 23 30 25.5 -3.3
comp=Z,9.2nm,0.9s
VIVF Saint-Julien-l 88.45 43 *e*P P 23 30 30.5 +0.4
VIVF pmax pmax
comp=Z,9.0nm,1.2s
ECH Echery 88.59 39 *e*P P 23 30 30.0 -0.6
CABF La Chapelle 88.63 41 *e*P P 23 30 30.2 -0.7
CABF pmax pmax
comp=Z,5.0nm,2.0s
MOF Molkenrain 88.74 40 *e*P P 23 30 30.6 -0.8
LOMF Lomont 88.77 40 *e*P P 23 30 31.1 -0.4
BFO Black Forest 89.25 39 *i*P P 23 30 33.7 0.0
LPL La Plagne 89.50 42 *e*P P 23 30 36.6 +1.4
LPL pmax pmax
comp=Z,16nm,1.8s
LPG La Plagne 89.52 42 *e*P P 23 30 35.4 0.0
LPG pmax pmax
comp=Z,19nm,1.5s
BNI Bardonecchia 89.66 42 *e*P P 23 30 35.5 -0.4
BNI pmax pmax
comp=Z,18nm,1.4s
BNI Bardonecchia 89.66 42 *e*P P 23 30 35.5 -0.4
comp=Z,18nm,1.4s
YAK Yakutsk 90.47 338 *e*P pP 23 30 52.7 +0.1
YAK pmax pmax
comp=Z,52nm,1.0s
CLL Collm 90.50 35 *i*P P 23 30 39.2 -0.2
CLL *i* *PP sP 23 30 57.7 -0.3
CLL pmax pmax
comp=Z,5.0nm,1.3s
CLL Collm 90.50 35 *i*P P 23 30 39.2 -0.2
comp=Z,5.0nm,1.3s
CLL *i* sP sP 23 30 57.7 -0.3
comp=Z,7.0nm,0.9s
FINES FINESS Array B 90.51 22 P P 23 30 38.1 -1.2
comp=Z,1.8nm,0.7s,baz=318,slow=2.6,SNR=7.4
DAVA Damuels 90.65 39 *i*PcP P 23 30 40.6 +0.1
comp=Z,5.4nm,0.7s
NKC Novy Kostel 90.73 36 *e*P P 23 30 41.0 +0.4
NKC *es*P sP 23 30 59.2 0.0
NKC Novy Kostel 90.73 36 *e*P P 23 30 41.0 +0.4
NKC *e**PP sP 23 30 59.2 0.0
DAVOX Davos/Dischmat 90.89 40 P P 23 30 40.7 -0.9
comp=Z,1.8nm,0.7s,baz=324,slow=14,SNR=3.5
RETA Reutte 91.09 39 *i*P P 23 30 41.5 -0.9
comp=Z,2.0nm,0.7s

FUORN Ofenpass-Fuorn 91.20 40 *e*P P 23 30 43.5 +0.4
comp=Z,9.8nm,0.8s
BRG Berggiesshubel 91.23 35 *i*P P 23 30 43.0 +0.2
comp=Z,6.5nm,1.0s
BRG *i* pP sP 23 31 01.6 +0.1
comp=Z,11nm,1.0s
BRG Berggiesshubel 91.23 35 *i*P P 23 30 43.0 +0.2
BRG *i* *PP sP 23 31 01.5 +0.1
BRG pmax pmax
comp=Z,7.0nm,1.0s
BRG MLR MLR
comp=Z,1μm,20.1s
BRG MLR MLR
comp=N,320nm,18.0s
BRG MLR MLR
comp=E,870nm,18.0s
FETA Feichten 91.29 39 *i*PcP P 23 30 43.6 +0.1
comp=E,3.2nm,0.7s
MOTA Moosalm 91.36 39 *i*PcP P 23 30 44.0 +0.2
comp=E,4.9nm,0.7s
PVCC Panska Ves 91.75 35 *e*P P 23 30 45.4 +0.2
PVCC *es*P sP 23 31 03.9 0.0
PVCC Panska Ves 91.75 35 *e*P P 23 30 45.4 +0.2
PVCC *e**PP sP 23 31 03.9 0.0
PRA Prague 91.91 35 *e*P P 23 30 46.4 +0.4
PRA *es*P sP 23 31 05.1 +0.5
PRA AMS AMS 00 01 40.0
comp=E,600nm,16.6s
PRA Prague 91.91 35 *e*P P 23 30 46.4 +0.4
PRA *e**PP sP 23 31 05.1 +0.5
KHC Kasperske Hory 91.92 36 *e*P P 23 30 46.4 +0.3
KHC *es*P sP 23 31 04.6 -0.2
KHC *ex* x 23 31 09.0
KHC AMS AMS 00 00 40.0
comp=E,700nm,16.6s
KHC Kasperske Hory 91.92 36 *e*P P 23 30 46.4 +0.3
KHC *e**PP sP 23 31 04.6 -0.2
KHC *e* 23 31 09.0
PRU Pruhonice 92.01 35 *e*P P 23 30 46.7 +0.2
PRU *es*P sP 23 31 05.0 -0.1
PRU *ex* x 23 31 11.8
PRU AMS AMS 00 02 20.0
comp=E,700nm,16.4s
PRU Pruhonice 92.01 35 *e*P P 23 30 46.7 +0.2
PRU *e**PP sP 23 31 05.0 -0.1
PRU *e* 23 31 11.8
GEC2 GERESS Array S 92.13 37 *e*P P 23 30 44.9 -2.3
GEC2 pmax pmax
comp=Z,7.0nm,0.9s
GEC2 GERESS Array S 92.13 37 *e*P P 23 30 44.9 -2.3
comp=Z,6.5nm,0.9s
GERES GERESS Array B 92.13 37 P P 23 30 46.9 -0.3
comp=Z,1.3nm,0.7s,baz=324,slow=3.6,SNR=13
GERES pP sP 23 31 05.5 -0.3
comp=Z,3.6nm,0.8s,baz=329,slow=3.7,SNR=13
GEA0 GERESS Array S 92.14 37 *e*P P 23 30 46.8 -0.4
GOPC GO Pecny, Ondr 92.19 35 AMS AMS 00 02 10.0
comp=Z,600nm,17.9s
ABTA Abfaltersbach 92.49 39 *i*PcP P 23 30 48.8 -0.1
comp=Z,6.5nm,0.8s
UPC Upice 92.54 34 AMS AMS 23 59 40.0
comp=Z,600nm,18.5s
NRIK Noril'sk 92.57 357 P P 23 30 48.5 -0.1
comp=Z,3.6nm,0.7s,baz=36,slow=2.5,SNR=6.6
NRIK pP sP 23 31 07.2 0.0
comp=Z,9.5nm,0.9s,baz=18,slow=2.3,SNR=7.9
DPC Dobruska-Polom 92.79 35 *e*P P 23 30 50.5 +0.4
DPC *es*P sP 23 31 08.7 -0.1
DPC AMS AMS 00 02 00.0
comp=Z,500nm,14.4s
DPC Dobruska-Polom 92.79 35 *e*P P 23 30 50.5 +0.4
DPC *e**PP sP 23 31 08.7 -0.1
KBA Koelnbreinsper 92.82 38 *i*PcP P 23 30 50.2 -0.3
comp=Z,3.2nm,0.8s
TREC Trest 92.90 36 *es*P sP 23 31 09.0 -0.3
TREC AMS AMS 00 04 20.0
comp=Z,400nm,18.4s
MOA Molln 92.97 37 *i*PcP P 23 30 50.6 -0.4
comp=Z,4.5nm,1.0s
VRAC Vranov 93.50 35 P P 23 30 53.1 -0.3
comp=Z,2.5nm,0.8s,baz=300,slow=3.1,SNR=4.4
VRAC pP sP 23 31 11.7 -0.3
comp=Z,4.3nm,0.8s,baz=275,slow=5.1,SNR=5.6
VRAC LR LR 00 13 01.4
comp=Z,98nm,20.6s,baz=230,slow=36
MORC Moravsky Berou 93.76 35 *i*P P 23 30 54.8 +0.2
MORC Moravsky Berou 93.76 35 *e*P P 23 30 54.3 -0.3
MORC pmax pmax
comp=Z,38nm,0.9s
MORC Moravsky Berou 93.76 35 *e*P P 23 30 54.3 -0.3
comp=Z,38nm,0.9s
OBKA Obir 93.82 38 *i*PcP P 23 30 54.5 -0.5
comp=Z,6.0nm,0.9s
CONA Conrad Observa 93.84 37 *i*PcP PcP 23 30 55.5 0.0
comp=Z,3.9nm,1.2s
ARSA Arzberg 94.00 37 *i*PcP P 23 30 55.5 -0.2
comp=Z,4.7nm,1.6s
OKC Ostrava-Krasne 94.06 34 *e*P P 23 30 56.2 +0.3
OKC *es*P sP 23 31 14.5 0.0
OKC Ostrava-Krasne 94.06 34 *e*P P 23 30 56.2 +0.3
OKC *e**PP sP 23 31 14.5 0.0
TIC Toumodi 94.20 82 *e*P P 23 30 56.2 -1.1
LIC Lamto 94.33 82 *e*P P 23 30 57.0 -0.9
comp=Z,31nm,0.9s
DBIC Dimbokro 94.35 82 P P 23 30 57.0 -0.9
comp=Z,5.2nm,0.7s,baz=265,slow=5.6,SNR=6.5
KIC Kosan Boka 94.56 82 *e*P P 23 30 58.1 -0.8
comp=Z,24nm,0.9s
LANS Liptovska Anna 95.15 34 *e* pP 23 31 20.6 +6.0
VYHS Vyhne 95.19 35 *e*P P 23 31 01.6 +0.5
VYHS *e* 23 31 19.8
VYHS pmax pmax
comp=Z,7.0nm,1.3s
VYHS Vyhne 95.19 35 *e*P P 23 31 01.6 +0.5
VYHS *e* 23 31 19.8
KLMR Klimovskoe 95.37 18 *e*P P 23 30 59.4 -2.2
KLMR *e**PP sP 23 31 18.3 -2.0
KLMR pmax pmax
comp=Z,14nm,1.2s
KEST Kesra 95.60 50 P P 23 31 03.5 +0.1
comp=Z,3.1nm,0.9s,baz=254,slow=7.4,SNR=3.5
STHS Stebnicka Huta 95.94 33 *e*P P 23 31 05.1 +0.5
STHS *e* 23 31 24.1
STHS pmax pmax
comp=Z,4.0nm,0.9s
STHS Stebnicka Huta 95.94 33 *e*P P 23 31 05.1 +0.5
STHS *e* 23 31 24.1
KECS Kecovo 96.09 35 *e*P P 23 31 05.0 -0.2
KECS *e* 23 31 24.2
KECS pmax pmax
comp=Z,5.0nm,0.9s
KECS Kecovo 96.09 35 *e*P P 23 31 05.0 -0.2
KECS *e* 23 31 24.1
PSZ Piszkesteto 96.10 35 *e*P P 23 31 03.7 -1.7
PSZ pmax pmax
comp=Z,17nm,1.1s
PSZ Piszkesteto 96.10 35 *e*P P 23 31 03.6 -1.7
comp=Z,17nm,1.1s
CRVS Cervenica-Dubn 96.36 34 *e*P P 23 31 07.0 +0.5
CRVS *e* 23 31 25.0
CRVS Cervenica-Dubn 96.36 34 *e*P P 23 31 07.0 +0.5
CRVS *e* 23 31 25.0
UZH Uzhgorod 96.97 34 *d i*P P 23 31 09.3 +0.1
UZH *i* 23 31 28.1
TAM Tamanrasset 98.05 63 *e*P Pdif 23 31 15.2 +0.3
TAM pmax pmax
comp=Z,3.0nm,1.1s
TAM Tamanrasset 98.05 63 *e*P Pdif 23 31 15.2 +0.3
comp=Z,3.0nm,1.1s
TOA0 Torodi Ar. Sit 98.27 73 *e*P P 23 31 14.1 -1.7
TORD Torodi Ar. Bea 98.27 73 P P 23 31 14.1 -1.6
comp=Z,1.8nm,0.9s,baz=291,slow=4.3,SNR=7.9
TORD PP PP 23 35 12.0 -3.8
comp=Z,0.8nm,1.0s,baz=284,slow=5.8,SNR=3.2
TORD PKKPbc PKKPbc 23 47 47.1 +0.5
comp=Z,0.8nm,0.7s,baz=103,slow=3.4,SNR=8.2
AKASG Malin Array Be 99.06 29 P Pdif 23 31 16.7 -1.8
comp=Z,0.5nm,0.4s,baz=294,slow=3.3,SNR=5.4
AKASG Malin Array Be 99.06 29 *ce*P Pdif 23 31 17.7 -0.9
AKASG pmax pmax
comp=Z,1.0nm,0.4s
LPSR Galich'ya Gora 101.74 23 *e*P Pdif 23 31 29.5 -0.9
LPSR pmax pmax
comp=Z,9.0nm,0.8s
VSR Storozhevoye 102.92 24 *e*P Pdif 23 31 34.3 -1.4

VSR					pmax	pmax			
	comp=Z,5.0nm,0.6s								
HHC	**Hu-ho-hao-te**	**113.75**	**333**	*e*PKP	**PKiKP**		**23**	**36**	**20.0 +3.5**
HHC				PP	**PP**		**23**	**37**	**14.8 +6.2**
HHC				SKKS			23	44	01.3
HHC				SS	**SS**		**23**	**52**	**59.0 +5.8**
HHC				LR	LR				
	comp=Z,520nm,21.0s								
HHC				LR	LR				
	comp=Z,490nm,20.6s								
HHC				LR	LR				
	comp=Z,580nm,18.9s								
MKAR	**Makanchi Array**	**115.33**	**357**	PKP	**PKPdf**		**23**	**36**	**18.1 -1.1**
	comp=Z,1.0nm,1.0s,baz=316,slow=3.3,SNR=3.8								
MKAR				PKKPab	**PKKPab**		**23**	**46**	**58.5 -3.1**
	comp=Z,1.4nm,0.9s,baz=205,slow=5.7,SNR=7.1								
MKAR	**Makanchi Array**	**115.33**	**357**	*c i*PKIKP	**PKPdf**		**23**	**36**	**18.7 -0.5**
MKAR				pmax	pmax				
	comp=Z,1.0nm,1.0s								
NJ2	**Nanjing**	**116.83**	**322**	*e*PKP	**PKPdf**		**23**	**36**	**22.5 0.0**
WMQ	**Urumqi**	**117.81**	**352**	PKP	**PKPdf**		**23**	**36**	**24.5 +0.4**
LZH	**Lanzhou**	**120.97**	**336**	*e*PKP	**PKPdf**		**23**	**36**	**34.8 +4.2**
GEYT	**Alibeck**	**121.12**	**19**	PKP	**PKPdf**		**23**	**36**	**30.6 0.0**
	comp=Z,3.6nm,0.8s,baz=251,slow=4.5,SNR=8.8								
STKA	**Stephens Creek**	**121.78**	**243**	PKP	**PKPdf**		**23**	**36**	**31.5 -0.5**
	comp=Z,6.9nm,0.8s,baz=30,slow=1.5,SNR=4.9								
KSH	**Kashi**	**122.66**	**2**	*e*PKP	**PKPdf**		**23**	**36**	**30.5 -3.2**
KSH				PP	**PP**		**23**	**38**	**12.5 +2.6**
KSH				PKS	**PKSdf**		**23**	**40**	**04.8 -5.7**
KSH				LR	LR				
	comp=Z,98nm,6.7s								
KSH				LR	LR				
	comp=Z,91nm,7.2s								
KSH				LR	LR				
	comp=Z,400nm,14.0s								
WRAB	**Tennant Creek**	**127.25**	**258**	*c i*PKIKP	**PKPdf**		**23**	**36**	**43.6 +0.9**
WRAB				pmax	pmax				
	comp=Z,32nm,2.5s								
WRAB	**Tennant Creek**	**127.25**	**258**	*e*PKPdf	**PKPdf**		**23**	**36**	**42.0 -0.8**
WRA	**Warramunga Arr**	**127.26**	**258**	PKP	**PKPdf**		**23**	**36**	**42.5 -0.2**
	comp=Z,4.6nm,0.7s,baz=79,slow=2.4,SNR=27								
WRA	**Warramunga Arr**	**127.26**	**258**	*c i*PKIKP	**PKPdf**		**23**	**36**	**42.9 +0.1**
WRA				pmax	pmax				
	comp=Z,5.0nm,0.7s								
GYA	**Guiyang**	**127.89**	**327**	*e*Pdif	**Pdif**		**23**	**33**	**25.8 -1.7**
GYA				PKP	**PKPdf**		**23**	**36**	**44.0 0.0**
GYA				PP	**PP**		**23**	**38**	**49.5 +4.1**
GYA				AMB	AMB				
	comp=Z,120nm,7.8s								
ASAR	**Alice Springs**	**128.08**	**254**	PKP	**PKPdf**		**23**	**36**	**43.9 -0.4**
	comp=Z,3.4nm,0.8s,baz=99,slow=1.8,SNR=25								
ASAR				SKKPbc	SKKPbc		23	49	53.9 -1.1
	comp=Z,0.3nm,0.3s,baz=291,slow=2.6,SNR=4.5								
MAW	**Mawson**	**129.51**	**172**	PKP	**PKPdf**		**23**	**36**	**45.9 +0.3**
	comp=Z,7.5nm,0.8s,baz=229,slow=1.8,SNR=26								
BOSA	**Boshof**	**130.47**	**112**	PKP	**PKPdf**		**23**	**36**	**48.1 -0.7**
	comp=Z,3.7nm,0.6s,baz=265,slow=2.6,SNR=9.7								
CMAR	**Chiang Mai Arr**	**138.43**	**330**	PKP	**PKPdf**		**23**	**37**	**04.1 +0.2**
	comp=Z,2.4nm,0.9s,baz=318,slow=2.0,SNR=8.4								
HYB	**Hyderabad**	**144.72**	**360**	*i* PKP	PKPbc		23	37	14.0 0.0
ABPO	**Ambohimpanom**	**150.48**	**97**	*e*PKIKP	**PKPbc**		**23**	**37**	**30.6 +0.5**
ABPO	**Ambohimpanom**	**150.48**	**97**	*e*PKPbc	**PKPbc**		**23**	**37**	**30.6 +0.5**

MEX 28 23:22:04.3±0.3, 15°.22N×93°.24W, h73km±5km, MD3.9, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID		Time			Res
				Op		ISC	h	m	s	ISC
PCIG		**0.48**	**3**	*i* P		Pn	23	22	15.8	-1.5
PCIG				*e*S		Sn	23	22	25.2	-1.5
CCIG	**Comitan**	**1.50**	**45**	*i* P		Pn	23	22	28.3	-1.2
CCIG				*i* S		Sn	23	22	45.8	-2.8
TGIG		**1.56**	**4**	*i* P		Pn	23	22	28.6	-1.5
TGIG				*e*S		Sn	23	22	47.7	-1.9

MEX 28 23:42:51.6±0.5, 18°.16N×101°.72W, h25km±25km, MD3.7, Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID		Time			Res
				Op		ISC	h	m	s	ISC
ZIIG	**Zihuatanejo**	**0.60**	**156**	*i* P		Pb	23	43	01.3	-2.3
ZIIG				*i* S		Sb	23	43	09.7	-2.0
ARIG	**Puente Sto Nin**	**1.31**	**85**	*i* P		Pn	23	43	11.8	-2.5
ARIG				*e*S		Sn	23	43	26.9	-4.2
MMIG	**Aquila**	**1.55**	**275**	*i* P		Pn	23	43	15.3	-2.3
MMIG				*i* S		Sn	23	43	33.1	-3.9
CAIG	**El Cayaco**	**1.77**	**129**	*i* P		Pn	23	43	17.9	-2.8
CAIG				*i* S		Sn	23	43	39.0	-3.5
MEIG	**Mezcala**	**2.01**	**96**	*i* P		Pn	23	43	21.9	-2.2
MEIG				*i* S		Sn	23	43	45.5	-3.0
PLIG	**Platanillo**	**2.12**	**83**	*i* P		Pn	23	43	23.1	-2.4
PLIG				*i* S		Sn	23	43	48.4	-2.8

MEX 28 23:45:40.6±0.3, 18°.02N×101°.63W, h28km±8km, MD3.6, Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID		Time			Res
				Op		ISC	h	m	s	ISC
ZIIG	**Zihuatanejo**	**0.45**	**159**	*i* P		Pb	23	45	48.3	-1.8
ZIIG				*e*S		Sb	23	45	55.0	-1.6
ARIG	**Puente Sto Nin**	**1.25**	**78**	*e*P		Pn	23	45	59.7	-2.5
ARIG				*e*S		Sn	23	46	15.0	-3.1
MMIG	**Aquila**	**1.65**	**279**	*i* P		Pn	23	46	05.6	-2.1
MMIG				*i* S		Sn	23	46	25.1	-2.8
MEIG	**Mezcala**	**1.92**	**93**	*i* P		Pn	23	46	10.0	-1.5
MEIG				*i* S		Sn	23	46	31.8	-2.9
PLIG	**Platanillo**	**2.06**	**79**	*i* P		Pn	23	46	11.5	-1.9
PLIG				*i* S		Sn	23	46	35.6	-2.6

*DDA **28** 23:58:11.1, 36°.04N×31°.38E, h9km, Ml3.3*
*ISCJB **28** 23:58:12.7±0.9, 36°.00N±0°.04×31°.34E±0°.03, h12km±6km, Error ellipse: s-maj=6.9km s-min=2.9km az=18.0*
*NIC **28** 23:58:13.8±0.2, 36°.78N×32°.23E, h25km, ML3.0*
*CSEM **28** 23:58:14.3±0.2, 35°.98N×31°.35E, h20km, MD3.4, Error ellipse: s-maj=6.1km s-min=3.3km az=14.0*
*ISK **28** 23:58:14.7, 36°.05N×31°.35E, h30km, MD3.4*
*ATH **28** 23:58:16.5, 36°.01N×31°.22E, h10km±31km, Error ellipse: s-maj=99.0km s-min=31.6km az=221.0*

ISC 28 23:58:11.4±1.1, 36°.03N±0°.03×31°.36E±0°.02, h10km±10km, n93, σ1♀73/114, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID		Time			Res
				Op		ISC	h	m	s	ISC
ANTB	**Antalya**	**1.04**	**327**	*e*PG		**Pn**	**23**	**58**	**33.1**	**+1.1**
ANTB				*e*SG		**Sn**	**23**	**58**	**46.8**	**+0.2**
ANTB	**Antalya**	**1.04**	**327**	*e*Pg		**Pn**	**23**	**58**	**33.1**	**+1.1**
ANTB				*e*Sg		**Sn**	**23**	**58**	**46.8**	**+0.2**
KORT	**Korkueli**	**1.26**	**320**	*e*PN		**Pg**	**23**	**58**	**36.2**	**+0.6**
KORT				*e*SN		**Sn**	**23**	**58**	**52.6**	**+0.2**
KORT	**Korkueli**	**1.26**	**320**	*i* P		**Pg**	**23**	**58**	**35.4**	**-0.3**
KORT				*i* S		**Sn**	**23**	**58**	**56.9**	**+4.5**
KORT	**Korkueli**	**1.26**	**320**	P		**Pg**	**23**	**58**	**35.4**	**-0.3**
KORT	**Korkueli**	**1.26**	**320**	*e*Pn		**Pg**	**23**	**58**	**36.3**	**+0.6**
KORT				*e*Sn		**Sn**	**23**	**58**	**52.6**	**+0.2**
KORT				S		**Sn**	**23**	**58**	**56.9**	**+4.5**
AKMC	**Akamas**	**1.28**	**141**	P		Pg	23	58	43.1	+7.1
	baz=357									
ALFC	**Alefka**	**1.34**	**130**	S		**Sg**	**23**	**58**	**59.9**	**+5.4**
	baz=349									
ELL	**Elmali**	**1.37**	**302**	*e*PN		**Pg**	**23**	**58**	**37.9**	**+0.2**
ELL				*e*SN		**Sb**	**23**	**58**	**55.0**	**+0.2**
ELL	**Elmali**	**1.37**	**302**	*e*Pn		**Pg**	**23**	**58**	**37.9**	**+0.2**
ELL				*e*Sn		**Sb**	**23**	**58**	**55.0**	**+0.2**
PPCY	**Paphos**	**1.40**	**144**	P		Pg	23	58	42.7	+4.4
PPCY	**Paphos**	**1.40**	**144**	P		Pg	23	58	42.7	+4.4
	baz=357									
TEKE	**Tekeli-Mersin**	**1.43**	**85**	*e*PN		**Pg**	**23**	**58**	**39.0**	**+0.2**
AKAS	**Kas**	**1.43**	**279**	*e*PN		**Pg**	**23**	**58**	**39.4**	**+0.5**
AKAS	**Kas**	**1.43**	**279**	*i* P		**Pg**	**23**	**58**	**39.5**	**+0.6**
AKAS				*i* S		**Sg**	**23**	**58**	**58.5**	**+1.0**
AKAS	**Kas**	**1.43**	**279**	*e*Pn		**Pg**	**23**	**58**	**39.4**	**+0.5**
AKAS				S		**Sg**	**23**	**58**	**58.5**	**+1.0**
KSL	**Kastellorizon**	**1.44**	**275**	P		**Pg**	**23**	**58**	**39.4**	**+0.3**
KSL	**Kastellorizon**	**1.44**	**275**	P		**Pn**	**23**	**58**	**37.0**	**-0.5**
SUTC	**Sutluce-Ispart**	**1.47**	**349**	*e*PN		**Pg**	**23**	**58**	**39.6**	**-0.1**
SUTC	**Sutluce-Ispart**	**1.47**	**349**	*e*Pn		**Pg**	**23**	**58**	**39.6**	**-0.1**
BERE	**Bereket-Mersin**	**1.54**	**78**	*e*PN		**Pg**	**23**	**58**	**40.5**	**-0.6**
LEF	**Lefka**	**1.55**	**126**	*e*PN		**Pg**	**23**	**58**	**39.6**	**-0.5**
LEF	**Lefka**	**1.55**	**126**	P		**Pb**	**23**	**58**	**39.2**	**-0.9**
LEF	**Lefka**	**1.55**	**126**	*e*Pn		**Pb**	**23**	**58**	**39.6**	**-0.5**
LEF				S		**Sn**	**23**	**58**	**56.9**	**-2.2**
BCK	**Bucak**	**1.56**	**337**	*e*PN		**Pg**	**23**	**58**	**40.8**	**-0.5**
BCK	**Bucak**	**1.56**	**337**	*e*Pn		**Pg**	**23**	**58**	**40.8**	**-0.5**
TEVE	**Tevekalti-Mers**	**1.74**	**76**	*e*PN		**Pg**	**23**	**58**	**43.7**	**-1.1**
MAMC	**Mammari**	**1.74**	**119**	P		**Pb**	**23**	**58**	**43.0**	**-0.5**
MAMC	**Mammari**	**1.74**	**119**	P		**Pb**	**23**	**58**	**43.0**	**-0.5**
	baz=333									
AKK1	**Akkuyu-Mersin**	**1.77**	**86**	*e*PN		**Pg**	**23**	**58**	**44.4**	**-1.1**
AKK2	**Akkuyu-Mersin**	**1.78**	**86**	*e*PN		**Pg**	**23**	**58**	**44.4**	**-1.2**
AKKU	**Akkuyu-Mersin**	**1.78**	**85**	*e*PN		**Pb**	**23**	**58**	**44.0**	**-0.2**
GLHS	**Glhisar (BURDU**	**1.87**	**308**	*e*PN		**Pb**	**23**	**58**	**45.2**	**-0.6**
GLHS	**Glhisar (BURDU**	**1.87**	**308**	*e*Pn		**Pb**	**23**	**58**	**45.2**	**-0.6**
GOLH	**Golhisar**	**1.88**	**310**	*i* P		**Pg**	**23**	**58**	**47.5**	**0.0**
GOLH				*i* S		**Sg**	**23**	**59**	**11.5**	**-0.4**
GOLH	**Golhisar**	**1.88**	**310**	P		**Pg**	**23**	**58**	**47.5**	**0.0**
GOLH				S		**Sg**	**23**	**59**	**11.5**	**-0.4**
IKL	**Isikli**	**1.90**	**83**	*e*PN		**Pb**	**23**	**58**	**46.1**	**0.0**
IKL	**Isikli**	**1.90**	**83**	*e*Pn		**Pb**	**23**	**58**	**46.1**	**0.0**
KMER	**Konya-Meram**	**1.92**	**25**	*i* P		**Pg**	**23**	**58**	**46.7**	**-1.5**
KMER	**Konya-Meram**	**1.92**	**25**	P		**Pg**	**23**	**58**	**46.7**	**-1.5**
LFK	**Lefkose**	**1.93**	**112**	*e*PN		**Pb**	**23**	**58**	**46.1**	**-0.5**
LFK	**Lefkose**	**1.93**	**112**	*e*Pn		**Pb**	**23**	**58**	**46.1**	**-0.5**
FETY	**Fethiye**	**1.93**	**289**	*e*PN		**Pb**	**23**	**58**	**46.1**	**-0.6**
FETY	**Fethiye**	**1.93**	**289**	*e*Pn		**Pb**	**23**	**58**	**46.1**	**-0.6**
FETY	**Fethiye**	**1.93**	**289**	P		**Pb**	**23**	**58**	**46.6**	**-0.1**
FETY				S		**Sb**	**23**	**59**	**10.3**	**-0.6**
CSS	**Mathiatis**	**1.93**	**123**	P		**Pn**	**23**	**58**	**45.0**	**+0.6**
CSS				S		**Sn**	**23**	**59**	**08.8**	**+0.1**
CSS	**Mathiatis**	**1.93**	**123**	P		**Pn**	**23**	**58**	**45.0**	**+0.6**
	baz=334									
CSS				S		**Sn**	**23**	**59**	**08.8**	**+0.1**
BRDR	**BURDUR-Merkez**	**1.96**	**328**	*i* P		**Pb**	**23**	**58**	**47.2**	**0.0**
KONT	**Konya--Tatoy**	**2.08**	**23**	*e*PN		**Pb**	**23**	**58**	**48.0**	**-1.2**
KONT	**Konya--Tatoy**	**2.08**	**23**	*i* P		**Pb**	**23**	**58**	**48.8**	**-0.4**
KONT	**Konya--Tatoy**	**2.08**	**23**	*e*Pn		**Pb**	**23**	**58**	**48.0**	**-1.2**
SILI	**Silifke-Mersin**	**2.10**	**80**	*e*PN		**Pb**	**23**	**58**	**48.8**	**-0.9**
KIZK	**Mersin**	**2.30**	**78**	*e*PN		**Pb**	**23**	**58**	**51.2**	**-1.8**
KIZK	**Mersin**	**2.30**	**78**	*i* P		**Pb**	**23**	**58**	**52.7**	**-0.3**
KIZK				*i* S		**Sb**	**23**	**59**	**20.6**	**-0.8**
KIZK	**Mersin**	**2.30**	**78**	P		**Pb**	**23**	**58**	**52.7**	**-0.3**
KIZK				S		**Sb**	**23**	**59**	**20.6**	**-0.8**
LADK	**Ladik-KONYA**	**2.31**	**20**	*e*PN		**Pb**	**23**	**58**	**51.7**	**-1.6**
LADK	**Ladik-KONYA**	**2.31**	**20**	*e*Pn		**Pb**	**23**	**58**	**51.7**	**-1.6**
DALY	**Dalyan (Mu¨la**	**2.32**	**291**	*e*PN		**Pb**	**23**	**58**	**51.7**	**-1.6**
DALY	**Dalyan (Mu¨la**	**2.32**	**291**	*i* P		**Pn**	**23**	**58**	**51.5**	**+1.9**
DALY				*i* S		**Sn**	**23**	**59**	**18.5**	**+0.4**
DALY	**Dalyan (Mu¨la**	**2.32**	**291**	P		**Pn**	**23**	**58**	**51.5**	**+1.9**
DALY				S		**Sn**	**23**	**59**	**18.5**	**+0.4**
TURN	**Turunc**	**2.37**	**292**	*i* P		**Pg**	**23**	**58**	**56.0**	**-0.9**
TURN				*i* S		**Sg**	**23**	**59**	**26.1**	**-1.5**
TURN	**Turunc**	**2.37**	**292**	P		**Pg**	**23**	**58**	**56.0**	**-0.9**
TAVA	**DENIZLI_Tavas**	**2.43**	**307**	*i* P		**Pb**	**23**	**58**	**53.5**	**-1.8**
TAVA				*i* S		**Sn**	**23**	**59**	**22.1**	**+1.0**
KERG	**Konya-Eregli**	**2.62**	**57**	*i* P		**Pb**	**23**	**58**	**56.9**	**-1.7**
KERG				*i* S		**Sb**	**23**	**59**	**27.8**	**-3.0**
KERG	**Konya-Eregli**	**2.62**	**57**	P		**Pb**	**23**	**58**	**56.9**	**-1.7**
KERG				S		**Sb**	**23**	**59**	**27.8**	**-3.0**
ARG	**Arkhangelos**	**2.62**	**275**	P		**Pn**	**23**	**58**	**55.2**	**+1.4**
ARG	**Arkhangelos**	**2.62**	**275**	P		**Pn**	**23**	**58**	**50.9**	**-2.9**
MERS	**Mersin**	**2.69**	**71**	*e*PN		**Pb**	**23**	**58**	**57.0**	**-2.7**
MERS	**Mersin**	**2.69**	**71**	*e*Pn		**Pb**	**23**	**58**	**57.0**	**-2.7**
CHBY	**Cihanbeyli**	**2.83**	**25**	*e*PN		**Pn**	**23**	**58**	**58.4**	**+1.7**
CHBY	**Cihanbeyli**	**2.83**	**25**	*e*Pn		**Pn**	**23**	**58**	**58.4**	**+1.7**
KRTS	**Karatas**	**3.29**	**79**	*e*PN		**Pn**	**23**	**59**	**05.3**	**+2.3**
KRTS	**Karatas**	**3.29**	**79**	*e*Pn		**Pn**	**23**	**59**	**05.3**	**+2.3**
MANT	**Manisa**	**3.32**	**319**	*i* P		**Pb**	**23**	**59**	**08.2**	**-2.3**
MANT	**Manisa**	**3.32**	**319**	P		**Pb**	**23**	**59**	**08.2**	**-2.3**
KARP	**Karpathos**	**3.44**	**263**	P		**Pn**	**23**	**59**	**07.1**	**+1.9**
KARP	**Karpathos**	**3.44**	**263**	P		**Pn**	**23**	**59**	**02.6**	**-2.6**
DEMI	**Demirci**	**3.67**	**326**	*i* P		**Pn**	**23**	**59**	**11.2**	**+2.9**
DEMI	**Demirci**	**3.67**	**326**	P		**Pn**	**23**	**59**	**11.2**	**+2.9**
AFSR	**Af˙ar-Bala (A**	**3.67**	**21**	*e*PN		**Pn**	**23**	**59**	**10.7**	**+2.3**
AFSR	**Af˙ar-Bala (A**	**3.67**	**21**	*e*Pn		**Pn**	**23**	**59**	**10.7**	**+2.3**
YAYL	**Yayladag**	**3.85**	**89**	*e*PN		**Pn**	**23**	**59**	**12.7**	**+1.9**
YAYL	**Yayladag**	**3.85**	**89**	*e*Pn		**Pn**	**23**	**59**	**12.7**	**+1.9**
KOZT	**Kozan**	**3.87**	**67**	*e*PN		**Pn**	**23**	**59**	**13.8**	**+2.8**
KOZT	**Kozan**	**3.87**	**67**	*e*Pn		**Pn**	**23**	**59**	**13.8**	**+2.8**
TAHT	**Tahtakopru-Hat**	**3.92**	**84**	*e*PN		**Pn**	**23**	**59**	**14.8**	**+3.1**
TAHT	**Tahtakopru-Hat**	**3.92**	**84**	*e*Pn		**Pn**	**23**	**59**	**14.8**	**+3.1**
NPS	**Neapolis**	**4.74**	**262**	P		**Pn**	**23**	**59**	**24.6**	**+1.7**
NPS	**Neapolis**	**4.74**	**262**	P		**Pn**	**23**	**59**	**19.8**	**-3.1**
LAST	**Lasithi**	**4.87**	**261**	P		**Pn**	**23**	**59**	**27.8**	**+3.0**
LAST	**Lasithi**	**4.87**	**261**	P		**Pn**	**23**	**59**	**22.9**	**-1.9**
IDI	**Anoyia**	**5.32**	**264**	P		**Pn**	**23**	**59**	**31.3**	**+0.4**
IDI	**Anoyia**	**5.32**	**264**	P		**Pn**	**23**	**59**	**26.4**	**-4.6**

MAN 29 00:00:15, 13°.91N×119°.88E, h28km, mb4.6, ML3.5, MS3.5, 1C, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time			Res
				Op		ISC	h	m	s	ISC
LUBP	**Lubang**	**0.40**	**116**	*e*P		Pn	00	00	25.8	+0.8
LUBP				*e*S		Sn	00	00	32.8	+1.2
TGY	**Tagaytay City**	**1.05**	**79**	*e*P		Pb	00	00	34.5	-0.1
TGY				*e*S		Sb	00	00	48.1	+0.2
PGP	**Puerto Galera**	**1.12**	**111**	*e*P		Pb	00	00	36.2	+0.4
PGP				*e*S		Sb	00	00	51.3	+1.2
SJMP	**San Jose**	**1.88**	**140**	*e*P		Pn	00	00	46.9	+1.6
SJMP				*e*S		Sn	00	01	09.2	+1.0
BUSP	**Coron**	**1.92**	**171**	*e*P		Pn	00	00	47.6	+1.7
BUSP				*e*S		Sb	00	01	11.1	-1.9
ENPP	**El Nido**	**2.73**	**189**	*e*P		Pn	00	00	58.8	+1.8
ENPP				*e*S		Sn	00	01	30.5	+1.5

*IDC **29** 00:08:02.3±0.4, 12°.97S×14°.54W, h0km, mb4.3/27, mb1 4.4/27, mb1mx4.4/34, mbtmp4.3/27, MS4.3/26, Ms1 4.3/26, ms1mx4.3/28, Error ellipse: s-maj=13.7km s-min=12.0km az=148.0*
*BJI **29** 00:08:02.2, 12°.47S×14°.99W, h7km, mb5.2/1, Ms5.3/4, Ms7 5.1/2*
*ISCJB **29** 00:08:03.4±0.2, 12°.93S±0°.04×14°.54W±0°.04, h16km, mb4.8/106, MS4.5/39, Error ellipse: s-maj=6.8km s-min=5.3km az=144.8*
*GCMT **29** 00:08:03.9±0.2, 12°.85S×14°.60W, h12km, MW5.1/102, Moment Tensor Solution. s60,c73; s102,c166; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr=4.91±.10; Mθθ0.72±.10; Mϕϕ4.18±.08; Mrθ1.21±.38; Mϕθ-0.59±.08; Mϕr-0.94±.27; Best double couple: M₀4.82300×10¹⁶ NP1:ϕs180.00000°, δ53.00000°, λ-102.00000°. NP2: ϕs180.00000°, δ39.00000°, λ-74.00000°. Principal axes: T 4.4190, Plg7.0000°, Azm79.0000°; N 0.8020, Plg10.0000°, Azm347.0000°; P -5.2270, Plg78.0000°, Azm204.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*MOS **29** 00:08:03.3±1.0, 12°.93S×14°.59W, h15km, mb5.1/41, MS4.6/10 Error ellipse: s-maj=11.1km s-min=5.9km az=67.4*
*NEIC **29** 00:08:03.9±0.2, 12°.95S×14°.52W, h10km, mb5.0/43, Error ellipse: s-maj=8.4km s-min=6.6km az=129.0*

ISC 29 00:08:05.0±0.3, 12°.90S±0°.06×14°.60W±0°.06, h16km, n280, σ1♀26/275, mb4.9/106, MS4.5/40, 5C-9D, Southern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase	ID		Time			Res
				Op		ISC	h	m	s	ISC
H10S2	**ASCENSION HYDR**	**3.92**	**359**	T		T	00	13	15.0	
	baz=178,slow=74,SNR=2162									
H10S3	**ASCENSION HYDR**	**3.92**	**359**	T		T	00	13	15.7	
	baz=178,slow=74,SNR=1687									
H10S1	**ASCENSION HYDR**	**3.94**	**359**	T		T	00	13	15.0	
	baz=178,slow=74,SNR=1116									
ASCN	**Ascension**	**4.94**	**3**	*e*Pn		**Pn**	**00**	**09**	**17.0**	**-1.7**
H10N1	**ASCENSION HYDR**	**5.03**	**1**	T		T	00	14	34.4	
	baz=181,slow=72,SNR=149									
H10N3	**ASCENSION HYDR**	**5.03**	**1**	T		T	00	14	34.4	
	baz=181,slow=72,SNR=487									
H10N2	**ASCENSION HYDR**	**5.04**	**1**	T		T	00	14	38.7	
	baz=181,slow=72,SNR=141									
SHEL	**Horse Pasture**	**9.10**	**111**	*e*P		**Pn**	**00**	**10**	**18.5**	**+2.6**
SHEL	**Horse Pasture**	**9.10**	**111**	*e*Pn		**Pn**	**00**	**10**	**18.5**	**+2.6**
DBIC	**Dimbokro**	**21.72**	**27**	P		**P**	**00**	**12**	**54.6**	**-1.1**
	9.0nm,0.8s,baz=192,slow=11,SNR=9.1									
DBIC					LR	LR	00	19	23.7	
	comp=Z,1μm,18.7s,baz=186,slow=31									
DBIC	**Dimbokro**	**21.72**	**27**	*e*P		**P**	**00**	**12**	**54.0**	**-1.8**
DBIC					pmax	pmax				
	comp=Z,73nm,1.7s									
DBIC	**Dimbokro**	**21.72**	**27**	*e*P		**P**	**00**	**12**	**54.0**	**-1.8**
	comp=Z,73nm,1.7s									
RCBR	**Riachuelo**	**22.15**	**287**	P		**P**	**00**	**13**	**00.8**	**+0.4**
	comp=Z,12nm,0.9s,baz=90,slow=13,SNR=2.9									
RCBR					LR	LR	00	19	20.8	
	comp=Z,1μm,21.4s,baz=98,slow=30									
RCBR	**Riachuelo**	**22.15**	**287**	*e*P		**P**	**00**	**13**	**04.9**	**+4.5**
	comp=Z,59nm,1.4s									
BBTS	**Babate**	**27.45**	**356**	LR		LR	00	23	13.3	
	comp=Z,578nm,18.7s,baz=160,slow=33									
TOA0	**Torodi Ar. Sit**	**30.51**	**33**	*e*P		**P**	**00**	**14**	**17.3**	**-0.4**
	comp=Z,15nm,1.3s									
TORD	**Torodi Ar. Bea**	**30.51**	**33**	P		**P**	**00**	**14**	**16.8**	**-0.9**
	comp=Z,3.6nm,0.8s,baz=220,slow=9.3,SNR=21									
TORD					LR	LR	00	24	39.7	
	comp=Z,1μm,20.3s,baz=215,slow=33									
TSUM	**Tsumeb**	**31.53**	**106**	LR		LR	00	24	24.6	
	comp=Z,676nm,20.4s,baz=288,slow=31									
BDFB	**Brasilia**	**32.48**	**261**	P		**P**	**00**	**14**	**36.2**	**+1.0**
	comp=Z,3μm,0.3s,baz=201,slow=0.0,SNR=2.7									
SUR	**Sutherland**	**37.76**	**127**	P		**P**	**00**	**15**	**20.2**	**-0.5**
	comp=Z,0.7nm,1.0s,baz=278,slow=14,SNR=2.8									
LBTB	**Lobatse**	**39.74**	**114**	P		**P**	**00**	**15**	**35.3**	**-2.0**
	comp=Z,3.0nm,0.8s,baz=267,slow=12,SNR=4.3									
BOSA	**Boshof**	**40.20**	**119**	P		**P**	**00**	**15**	**39.3**	**-1.8**
	comp=Z,5.5nm,1.0s,baz=286,slow=2.1,SNR=3.7									
BOSA					LR	LR	00	29	03.0	
	comp=Z,880nm,21.2s,baz=279,slow=31									
TAM	**Tamanrasset**	**40.58**	**29**	*e*P		**P**	**00**	**15**	**45.3**	**+1.0**
TAM					pmax	pmax				
	comp=Z,9.0nm,1.6s									
TAM	**Tamanrasset**	**40.58**	**29**	*e*P		**P**	**00**	**15**	**45.3**	**+1.0**
	comp=Z,9.1nm,1.6s									
LSZ	**Lusaka**	**41.52**	**99**	P		**P**	**00**	**15**	**51.6**	**-0.6**
	comp=Z,6.9nm,0.9s,baz=268,slow=8.1,SNR=13									
LSZ	**Lusaka**	**41.52**	**99

LPG	**La Plagne**	**61.25**	**17**	*e*P	**P**	**00 18 20.6**	**+0.9**
LPG				pmax	pmax		
	comp=Z,16nm,1.2s						
LPL	**La Plagne**	**61.26**	**17**	*e*P	**P**	**00 18 20.5**	**+0.8**
LPL				pmax	pmax		
	comp=Z,31nm,1.6s						
SMF	**Signal de Mont**	**61.55**	**14**	*e*P	**P**	**00 18 22.2**	**+0.9**
SMF				pmax	pmax		
	comp=Z,7.0nm,1.3s						
ROSF	**Rostrenen**	**61.79**	**9**	*e*P	**P**	**00 18 26.5**	**+3.6**
ROSF				pmax	pmax		
	comp=Z,67nm,1.9s						
ROSC	**El Rosal**	**61.88**	**283**	LR	LR	00 45 12.9	
	comp=Z,580nm,18.6s,baz=80,slow=36						
ROSC	**El Rosal**	**61.88**	**283**	*e*P	**P**	**00 18 25.5**	**+0.8**
	comp=Z,51nm,0.6s						
CABF	**La Chapelle**	**62.09**	**16**	*e*P	**P**	**00 18 25.1**	**0.0**
CABF				pmax	pmax		
	comp=Z,17nm,1.2s						
TUE	**Stuetta**	**62.90**	**18**	*e*P	**P**	**00 18 32.4**	**+1.7**
	comp=Z,20nm,1.5s						
LOMF	**Lomont**	**62.97**	**16**	*e*P	**P**	**00 18 32.0**	**+1.1**
MOF	**Molkenrain**	**63.51**	**16**	*e*P	**P**	**00 18 33.4**	**-1.1**
THEF	**They Montfort**	**63.55**	**15**	*e*P	**P**	**00 18 35.3**	**+0.6**
DAVA	**Damuels**	**63.79**	**18**	*e*P	**P**	**00 18 36.2**	**-0.3**
	comp=Z,20nm,1.2s						
FETA	**Feichten**	**63.82**	**19**	*e*P	**P**	**00 18 36.7**	**0.0**
	comp=Z,21nm,1.3s						
ECH	**Echery**	**63.85**	**16**	*e*P	**P**	**00 18 36.7**	**0.0**
ABTA	**Abfaltersbach**	**64.17**	**20**	*e*P	**P**	**00 18 39.3**	**+0.4**
	comp=Z,13nm,1.6s						
MOTA	**Moosalm**	**64.23**	**19**	*e*P	**P**	**00 18 39.6**	**+0.3**
	comp=Z,2.8nm,0.8s						
RETA	**Reutte**	**64.24**	**19**	*e*P	**P**	**00 18 39.1**	**-0.2**
	comp=Z,11nm,1.4s						
BFO	**Black Forest**	**64.28**	**17**	*e*P	**P**	**00 18 38.8**	**-0.7**
BFO				pmax	pmax		
	comp=Z,16nm,1.2s						
BFO	**Black Forest**	**64.28**	**17**	*e*P	**P**	**00 18 38.8**	**-0.7**
	comp=Z,16nm,1.2s						
WTTA	**Wattenberg**	**64.33**	**20**	*e*P	**P**	**00 18 41.6**	**+1.5**
	comp=Z,16nm,1.7s						
WATA	**Walderalm**	**64.37**	**19**	*e*P	**P**	**00 18 40.9**	**+0.6**
	comp=Z,7.6nm,1.3s						
MYKA	**Terra Mystica**	**64.46**	**21**	*e*P	**P**	**00 18 40.9**	**+0.1**
	comp=Z,7.1nm,1.2s						
OTAV	**Otavalo**	**64.61**	**276**	*e*P	**P**	**00 18 44.9**	**+2.0**
	comp=Z,13nm,1.3s						
LANF	**Langenberg**	**64.72**	**16**	*e*P	**P**	**00 18 41.7**	**-0.7**
KBA	**Koelnbreinsper**	**64.74**	**21**	*e*P	**P**	**00 18 43.5**	**+0.8**
	comp=Z,7.9nm,1.4s						
WLF	**Walferdange**	**64.92**	**15**	P	**P**	**00 18 45.6**	**+1.9**
	comp=Z,14nm,1.8s						
WLF	**Walferdange**	**64.92**	**15**	*e*P	**P**	**00 18 45.2**	**+1.5**
WLF				pmax	pmax		
	comp=Z,14nm,1.2s						
WLF	**Walferdange**	**64.92**	**15**	*e*P	**P**	**00 18 45.1**	**+1.5**
	comp=Z,14nm,1.2s						
SYO	**Syowa Base**	**65.64**	**161**⇑	*e*P	**P**	**00 18 45.9**	**-2.2**
SYO	**Syowa Base**	**65.64**	**161**⇓	*e*pP	**P**	**00 18 50.0**	**+1.9**
ARSA	**Arzberg**	**65.66**	**22**	*e*P	**P**	**00 18 49.8**	**+1.3**
	comp=Z,11nm,1.7s						
MOA	**Molln**	**65.72**	**21**	*e*P	**P**	**00 18 49.0**	**+0.1**
	comp=Z,6.5nm,1.1s						
MDVR	**Moldovita**	**66.19**	**27**⇓	*i*P	**P**	**00 18 53.3**	**+1.3**
CONA	**Conrad Observa**	**66.36**	**22**	*e*P	**P**	**00 18 53.3**	**+0.2**
	comp=Z,8.6nm,1.4s						
CWF	**Charnwood Fore**	**66.37**	**9**	*e*P	**P**	**00 18 52.6**	**-0.3**
	comp=Z,54nm,1.7s						
GEA0	**GERESS Array S**	**66.38**	**20**	*e*P	**P**	**00 18 53.2**	**0.0**
GEC2	**GERESS Array S**	**66.39**	**20**	*e*P	**P**	**00 18 53.0**	**-0.2**
GEC2				*e*		00 21 17.6	
GEC2	**GERESS Array S**	**66.39**	**20**	*e*P	**P**	**00 18 53.0**	**-0.2**
GEC2				*e*PP	**PP**	**00 21 17.6**	**-2.1**
GERES	**GERESS Array B**	**66.39**	**20**	P	**P**	**00 18 53.1**	**-0.2**
	comp=Z,1.2nm,0.8s,baz=190,slow=4.9,SNR=9.0						
GERES				LR	LR	00 47 40.3	
	comp=Z,349nm,20.1s,baz=229,slow=36						
KHC	**Kasperske Hory**	**66.59**	**20**	*e*P	**P**	**00 18 54.8**	**+0.3**
KHC				*e*pP	**pP**	**00 19 00.0**	**+0.3**
KHC				*e*PP	**PP**	**00 21 20.0**	**-1.5**
KHC				AMS	AMS	00 48 10.0	
	comp=Z,500nm,20.9s						
KHC	**Kasperske Hory**	**66.59**	**20**	*e*P	**P**	**00 18 54.8**	**+0.3**
KHC				*e*		00 19 00.0	
KHC				*e*		00 21 20.0	
KHC				MLR	MLR		
	comp=Z,500nm,20.9s						
KHC	**Kasperske Hory**	**66.59**	**20**	*e*P	**P**	**00 18 54.9**	**+0.4**
	comp=Z,8.4nm,1.7s						
BZS	**Buzias**	**66.79**	**27**⇓	*i*P	**P**	**00 18 56.2**	**+0.4**
BZS	**Buzias**	**66.79**	**27**	⇓P	**P**	**00 18 56.2**	**+0.4**
NKC	**Novy Kostel**	**67.19**	**18**	*e*P	**P**	**00 18 59.5**	**+1.2**
NKC				*e*pP	**sP**	**00 19 05.2**	**-0.2**
NKC				AMS	AMS	00 48 00.0	
	comp=Z,500nm,20.0s						
NKC	**Novy Kostel**	**67.19**	**18**	*e*P	**P**	**00 18 59.5**	**+1.2**
NKC				*e*		00 19 05.2	
NKC				MLR	MLR		
	comp=Z,500nm,20.0s						
MOX	**Moxa**	**67.30**	**18**	P	**P**	**00 19 00.1**	**+1.2**
MOX				pmax	pmax		
	comp=Z,8.0nm,1.4s						
TREC	**Trest**	**67.38**	**21**	*e*P	**P**	**00 18 59.7**	**+0.2**
TREC				AMS	AMS	00 50 30.0	
	comp=Z,400nm,16.1s						
TREC	**Trest**	**67.38**	**21**	*e*P	**P**	**00 18 59.7**	**+0.2**
TREC				MLR	MLR		
	comp=Z,400nm,16.1s						
PRU	**Pruhonice**	**67.65**	**20**	*e*P	**P**	**00 19 01.8**	**+0.7**
PRU				*e*pP	**pP**	**00 19 07.2**	**+0.9**
PRU				AMS	AMS	00 46 50.0	
	comp=Z,400nm,15.3s						
PRU	**Pruhonice**	**67.65**	**20**	*e*P	**P**	**00 19 01.8**	**+0.7**
PRU				*e*		00 19 07.2	
PRU				MLR	MLR		
	comp=Z,400nm,15.3s						
GOPC	**GO Pecny, Ondr**	**67.67**	**20**	AMS	AMS	00 51 10.0	
	comp=Z,300nm,15.1s						
PRA	**Prague**	**67.69**	**20**	*e*P	**P**	**00 19 02.2**	**+0.9**
PRA				*e*pP	**sP**	**00 19 08.4**	**-0.1**
PRA				AMS	AMS	00 51 10.0	
	comp=Z,300nm,18.5s						
PRA	**Prague**	**67.69**	**20**	*e*P	**P**	**00 19 02.2**	**+0.9**
PRA				*e*		00 19 08.4	
PRA				MLR	MLR		
	comp=Z,300nm,18.5s						
PSZ	**Piszkesteto**	**67.89**	**24**	*e*P	**P**	**00 19 04.1**	**+1.3**
PSZ				pmax	pmax		
	comp=Z,32nm,1.8s						
PSZ	**Piszkesteto**	**67.89**	**24**	*e*P	**P**	**00 19 04.1**	**+1.3**
	comp=Z,32nm,1.8s						
VYHS	**Vyhne**	**67.94**	**23**	*e*P	**P**	**00 19 03.6**	**+0.6**
VYHS				pmax	pmax		
	comp=Z,10.0nm,1.6s						
VYHS	**Vyhne**	**67.94**	**23**	*e*P	**P**	**00 19 03.6**	**+0.6**
ARR	**Arges**	**67.97**	**29**⇑	*i*P	**P**	**00 19 03.7**	**+0.3**
PVCC	**Panska Ves**	**68.12**	**20**	*e*P	**P**	**00 19 04.4**	**+0.3**
PVCC				*ex*	x	00 19 11.4	
PVCC	**Panska Ves**	**68.12**	**20**	*e*P	**P**	**00 19 04.4**	**+0.3**
PVCC				*e*		00 19 11.4	
DRGR		**68.18**	**27**⇓	*i*P	**P**	**00 19 05.3**	**+0.6**
DRGR		**68.18**	**27**	⇓P	**P**	**00 19 05.3**	**+0.6**
BRG	**Berggiesshubel**	**68.22**	**19**	*e*P	**P**	**00 19 04.4**	**-0.3**
	comp=Z,14nm,1.5s						
	comp=Z,433nm,17.7s						
	comp=N,303nm,23.3s						
	comp=E,277nm,23.3s						
BRG	**Berggiesshubel**	**68.22**	**19**	*e*P	**P**	**00 19 04.4**	**-0.3**
BRG				pmax	pmax		
	comp=Z,14nm,1.5s						
BRG				MLR	MLR		
	comp=Z,433nm,17.7s						
BRG				MLR	MLR		
	comp=N,303nm,23.3s						
BRG				MLR	MLR		
	comp=E,277nm,23.3s						
VOIR		**68.22**	**29**	P	**P**	**00 19 05.1**	**+0.2**
VOIR				pmax	pmax		
	comp=Z,5.0nm,1.3s						
CLL	**Collm**	**68.30**	**18**	*e*P	P	00 19 12.0	+6.8
CLL				pmax	pmax		
	comp=Z,22nm,2.0s						
CLL				MLR	MLR		
	comp=Z,300nm,18.4s						

BR231	**Keskin MP Arra**	**68.48**	**38**	*e*P	**P**	**00 19 07.2**	**+0.4**
MORC	**Moravsky Berou**	**68.51**	**22**⇑	*i*P	**P**	**00 19 06.5**	**-0.1**
MORC	**Moravsky Berou**	**68.51**	**22**	*e*P	**P**	**00 19 06.0**	**-0.6**
MORC				pmax	pmax		
	comp=Z,54nm,1.3s						
MORC	**Moravsky Berou**	**68.51**	**22**	*e*P	**P**	**00 19 06.0**	**-0.6**
	comp=Z,54nm,1.3s						
DPC	**Dobruska-Polom**	**68.56**	**21**	*e*P	**P**	**00 19 07.7**	**+0.8**
DPC				AMS	AMS	00 48 30.0	
	comp=Z,400nm,17.8s						
DPC	**Dobruska-Polom**	**68.56**	**21**	*e*P	**P**	**00 19 07.7**	**+0.8**
DPC				MLR	MLR		
	comp=Z,400nm,17.8s						
KECS	**Kecovo**	**68.58**	**24**	*e*P	**P**	**00 19 07.3**	**+0.3**
KECS				*e*		00 19 13.9	
KECS				pmax	pmax		
	comp=Z,4.0nm,1.0s						
KECS	**Kecovo**	**68.58**	**24**	*e*P	**P**	**00 19 07.3**	**+0.3**
KECS				*e*		00 19 13.9	
UPC	**Upice**	**68.59**	**20**	*e*P	**P**	**00 19 07.7**	**+0.7**
UPC				*e*pP	**sP**	**00 19 14.1**	**-0.1**
UPC				AMS	AMS	00 47 50.0	
	comp=Z,400nm,17.9s						
UPC	**Upice**	**68.59**	**20**	*e*P	**P**	**00 19 07.7**	**+0.7**
UPC				*e*		00 19 14.1	
UPC				MLR	MLR		
	comp=Z,400nm,17.9s						
MLR	**Muntele Rosu**	**68.69**	**29**⇑	*i*P	**P**	**00 19 08.1**	**+0.2**
MLR	**Muntele Rosu**	**68.69**	**29**	*e*P	**P**	**00 19 07.7**	**-0.2**
MLR				pmax	pmax		
	comp=Z,31nm,1.4s						
MLR	**Muntele Rosu**	**68.69**	**29**	*e*P	**P**	**00 19 07.7**	**-0.2**
	comp=Z,31nm,1.4s						
LANS	**Liptovska Anna**	**68.72**	**23**	*e*P	**P**	**00 19 10.0**	**+2.0**
LANS				*e*		00 19 15.7	
LANS	**Liptovska Anna**	**68.72**	**23**	*e*P	**P**	**00 19 09.9**	**+2.0**
LANS				*e*		00 19 15.7	
OKC	**Ostrava-Krasne**	**68.78**	**22**	AMS	AMS	00 50 30.0	
	comp=Z,300nm,15.8s						
BR131	**Keskin Array S**	**68.92**	**38**	*e*P	**P**	**00 19 10.3**	**+0.7**
BRTR	**Keskin Array B**	**68.92**	**38**	P	**P**	**00 19 10.3**	**+0.7**
	comp=Z,2.4nm,0.8s,baz=201,slow=6.6,SNR=15						
BRTR				LR	LR	00 50 20.4	
	comp=Z,84nm,19.0s,baz=226,slow=37						
CRVS	**Cervenica-Dubn**	**69.30**	**25**	*e*P	**P**	**00 19 12.4**	**+0.9**
CRVS	**Cervenica-Dubn**	**69.30**	**25**	*e*P	**P**	**00 19 12.4**	**+0.9**
STHS	**Stebnicka Huta**	**69.62**	**24**	*e*P	**P**	**00 19 16.2**	**+2.7**
STHS				pmax	pmax		
	comp=Z,3.0nm,1.0s						
STHS	**Stebnicka Huta**	**69.62**	**24**	*e*P	**P**	**00 19 16.2**	**+2.7**
OJC	**Ojcow**	**69.71**	**23**	*e*P	**P**	**00 19 14.4**	**+0.4**
OJC				pmax	pmax		
	comp=Z,13nm,1.3s						
OJC	**Ojcow**	**69.71**	**23**	*e*P	**P**	**00 19 14.4**	**+0.4**
	comp=Z,13nm,1.3s						
ILGA	**Ilgaz**	**69.80**	**37**	*e*P	**P**	**00 19 12.2**	**-2.9**
	comp=Z,10.0nm,1.0s						
LVV	**L'vov**	**71.07**	**25**	*e*P	**P**	**00 19 24.4**	**+2.1**
LVV				*e*		00 19 30.4	
KOPT	**Kop Dagi**	**73.36**	**41**	*e*P	**P**	**00 19 33.0**	**-3.6**
	comp=Z,25nm,1.6s						
MAW	**Mawson**	**73.38**	**157**	P	**P**	**00 19 35.7**	**-0.2**
	comp=Z,5.3nm,0.9s,baz=284,slow=4.9,SNR=12						
MAW				LR	LR	00 45 25.4	
	comp=Z,212nm,19.4s,baz=243,slow=31						
MAW	**Mawson**	**73.38**	**157**	*e*P	**P**	**00 19 33.6**	**-2.3**
MAW				pmax	pmax		
	comp=Z,2.0nm,1.1s						
MAW	**Mawson**	**73.38**	**157**	*e*P	**P**	**00 19 33.6**	**-2.3**
	comp=Z,2.2nm,1.1s						
AK11	**Malin Array Si**	**73.93**	**27**	*e*P	**P**	**00 19 37.7**	**-1.6**
KIEV	**Kiev**	**73.96**	**27**	*i* P	**P**	**00 19 39.1**	**-0.4**
KIEV				pmax	pmax		
	comp=Z,22nm,1.6s						
KIEV	**Kiev**	**73.96**	**27**	*e*P	**P**	**00 19 36.9**	**-2.6**
	comp=Z,13nm,1.1s						
AKASG	**Malin Array Be**	**73.97**	**27**	P	**P**	**00 19 39.1**	**-0.5**
	comp=Z,5.0nm,0.9s,baz=228,slow=6.5,SNR=20						
AKASG				LR	LR	00 53 19.7	
	comp=Z,182nm,19.5s,baz=270,slow=37						
AKASG	**Malin Array Be**	**73.97**	**27**	*c*e	**P**	**00 19 39.2**	**-0.4**
AKASG				pmax	pmax		
	comp=Z,4.0nm,0.7s						
AKBB	**Malin Array Si**	**73.97**	**27**	*e*P	**P**	**00 19 39.2**	**-0.4**
AKBB				pmax	pmax		
	comp=Z,12nm,1.0s						
AKBB	**Malin Array Si**	**73.97**	**27**	*e*P	**P**	**00 19 39.2**	**-0.4**
	comp=Z,12nm,1.0s						
ANN	**Anapa**	**74.26**	**36**	*e*P	**P**	**00 19 40.7**	**-0.7**
ANN				pmax	pmax		
	comp=Z,67nm,1.7s						
ARTV	**Artvin**	**74.91**	**41**	*e*P	**P**	**00 19 44.2**	**-1.3**
	comp=Z,16nm,1.4s						
GNI	**Garni**	**76.20**	**43**	*i* P	**P**	**00 19 53.4**	**+0.5**
GNI				pmax	pmax		
	comp=Z,38nm,1.1s						
GNI	**Garni**	**76.20**	**43**	*e*P	**P**	**00 19 53.1**	**+0.2**
	comp=Z,36nm,1.3s						
NB2	**NORSAR Subarra**	**76.50**	**13**	P	**P**	**00 19 54.6**	**+0.6**
	comp=Z,1.3nm,0.8s,baz=205,slow=6.2						
NOA	**NORSAR Array B**	**76.50**	**13**	P	**P**	**00 19 54.4**	**+0.4**
	comp=Z,2.4nm,0.8s,baz=205,slow=6.2,SNR=5.6						
NOA				LR	LR	00 55 18.3	
	comp=Z,77nm,18.1s,baz=165,slow=37						
KIV	**Kislovodsk**	**76.87**	**39**	*e*P	**P**	**00 19 57.1**	**+0.6**
KIV				pmax	pmax		
	comp=Z,13nm,1.1s						
KIV	**Kislovodsk**	**76.87**	**39**	*e*P	**P**	**00 19 56.5**	**-0.1**
	comp=Z,19nm,1.3s						
KBZ	**Khabaz**	**76.88**	**39**	P	**P**	**00 19 56.3**	**-0.1**
	comp=Z,2.6nm,1.0s,baz=234,slow=3.4,SNR=4.2						
KBZ				LR	LR	00 55 43.3	
	comp=Z,80nm,18.8s,baz=239,slow=37						
NCK	**Nalchik**	**77.19**	**39**	*e*P	**P**	**00 19 59.2**	**+1.0**
NCK				pmax	pmax		
	comp=Z,6.0nm,1.4s						
QSPA	**South Pole Qui**	**77.25**	**180**	*e*P	**P**	**00 19 59.2**	**+0.8**
UOSS	**Minazif**	**78.58**	**61**	*e*P	**P**	**00 20 05.8**	**-0.6**
	comp=Z,26nm,1.4s						
OBN	**Obninsk**	**80.23**	**27**	*e*P	**P**	**00 20 14.7**	**+0.1**
OBN				*e*		00 20 19.3	
OBN				*e*		00 23 16.2	
OBN				pmax	pmax		
	comp=Z,6.0nm,1.1s						
OBN				MLR	MLR		
	comp=Z,236nm,17.0s						
SCHQ	**Schefferville**	**80.53**	**332**	P	**P**	**00 20 17.3**	**+1.0**
	comp=Z,4.8nm,0.6s,baz=126,slow=8.7,SNR=2.5						
SCHQ				LR	LR	00 49 48.9	
	comp=Z,107nm,20.9s,baz=108,slow=31						
FINES	**FINESS Array B**	**80.75**	**19**	P	**P**	**00 20 17.0**	**-0.3**
	comp=Z,3.2nm,0.8s,baz=234,slow=3.3,SNR=6.7						
FINES				LR	LR	00 57 37.6	
	comp=Z,155nm,18.2s,baz=204,slow=37						
FINES	**FINESS Array B**	**80.75**	**19**	P	**P**	**00 20 17.0**	**-0.3**
FIA1	**FINESS Array S**	**80.75**	**19**	*e*P	**P**	**00 20 15.2**	**-2.1**
MOS	**Moscow**	**81.09**	**27**	*e*P	**P**	**00 20 19.1**	**-0.2**
TKL	**Tuckaleechee C**	**81.16**	**310**	*e*P	**P**	**00 20 22.1**	**+1.9**
TKL				pmax	pmax		
	comp=Z,29nm,1.7s						
TKL	**Tuckaleechee C**	**81.16**	**310**	*e*P	**P**	**00 20 22.1**	**+1.9**
	comp=Z,29nm,1.7s						
Z47A	**Carrollton**	**83.58**	**306**	P	**P**	**00 20 32.8**	**-0.1**
	baz=110						
Y47A	**UCPARC, Winfie**	**83.65**	**307**	P	**P**	**00 20 33.3**	**+0.1**
	baz=110						
WVT	**Waverly**	**84.40**	**309**	*e*P	**P**	**00 20 36.3**	**-0.7**
WVT				pmax	pmax		
	comp=Z,14nm,1.4s						
WVT	**Waverly**	**84.40**	**309**	*e*P	**P**	**00 20 36.3**	**-0.7**
	comp=Z,14nm,1.4s						
Y46A	**Houston**	**84.43**	**306**	P	**P**	**00 20 37.4**	**+0.3**
	baz=110						
GEYT	**Alibeck**	**84.65**	**49**	P	**P**	**00 20 38.6**	**+0.4**
	comp=Z,2.8nm,0.9s,baz=258,slow=7.4,SNR=8.2						
GEYT				LR	LR	00 59 27.8	
	comp=Z,180nm,18.1s,baz=270,slow=36						
KLMR	**Klimovskoe**	**85.05**	**23**	*e*P	**P**	**00 20 38.1**	**-1.5**
KLMR				pmax	pmax		
	comp=Z,11nm,1.5s						
DGAR	**Diego Garcia**	**85.52**	**97**	*i* P	**P**	**00 20 43.4**	**+0.3**
S43A	**Fulton Ridge,**	**86.58**	**310**	P	**P**	**00 20 47.0**	**-0.8**
	baz=109						
T43A	**Greenville**	**86.58**	**309**	P	**P**	**00 20 47.3**	**-0.5**
	baz=109						
SUMG	**Summit**	**86.72**	**353**	*i* P	**P**	**00 20 51.3**	**+3.1**

SUMG	**Summit**	**86.72**	**353**	*e*P	**P**	**00 20 51.3**	**+3.1**
ARCES	**ARCESS Array B**	**86.87**	**13**	LR	LR	01 00 39.8	
	comp=Z,151nm,18.2s,baz=208,slow=36						
V42A	**Cord**	**87.02**	**308**	P	**P**	**00 20 50.1**	**+0.1**
	baz=108						
U42A	**Revenden**	**87.08**	**308**	P	**P**	**00 20 49.6**	**-0.6**
	baz=108						
S42A	**Caledonia**	**87.18**	**310**	P	**P**	**00 20 50.2**	**-0.5**
	baz=109						
F43A	**Flat Rock, Esc**	**87.38**	**318**	P	**P**	**00 20 51.9**	**+0.3**
	baz=111						
P42A	**Winchester**	**87.43**	**311**	P	**P**	**00 20 51.6**	**-0.3**
	baz=109						
E43A	**Lone Tree Farm**	**87.47**	**319**	P	**P**	**00 20 52.4**	**+0.5**
	baz=112						
W41B	**Gary Mavity, V**	**87.50**	**307**	P	**P**	**00 20 52.3**	**0.0**
	baz=108						
V41A	**Mountainview**	**87.61**	**307**	P	**P**	**00 20 52.1**	**-0.8**
	baz=108						
R41A	**Rosebud**	**87.79**	**310**	P	**P**	**00 20 53.5**	**-0.1**
	baz=108						
S41A	**Jillco Farms,**	**87.84**	**309**	P	**P**	**00 20 53.7**	**-0.3**
	baz=108						
I42A	**Draeger Farm,**	**87.86**	**316**	P	**P**	**00 20 53.7**	**-0.1**
	baz=110						
Q40A	**Laux Farm, Aux**	**88.52**	**310**	P	**P**	**00 20 57.5**	**+0.4**
	baz=108						
I41A	**Arkdale**	**88.56**	**316**	P	**P**	**00 20 57.4**	**+0.2**
	baz=109						
H41A	**Junction City**	**88.60**	**316**	P	**P**	**00 20 57.7**	**+0.4**
	baz=110						
D41A	**Chassel**	**88.72**	**319**	P	**P**	**00 20 58.2**	**+0.4**
	baz=110						
X39A	**Fountain Ranch**	**88.77**	**306**	P	**P**	**00 20 58.4**	**0.0**
	baz=106						
E41A	**Kenton**	**88.77**	**318**	P	**P**	**00 20 57.8**	**-0.3**
	baz=110						
R39A	**Chumby, Stover**	**89.04**	**310**	P	**P**	**00 20 59.7**	**+0.1**
	baz=107						
H40A	**Chili**	**89.10**	**316**	P	**P**	**00 21 00.2**	**+0.5**
	baz=109						
F40A	**Park Falls**	**89.35**	**317**	P	**P**	**00 21 00.6**	**-0.3**
	baz=109						
E40A	**Wakefield**	**89.38**	**318**	P	**P**	**00 21 01.4**	**+0.4**
	baz=109						
SBA	**Scott Base**	**89.41**	**180**	*e*P	**P**	**00 21 02.3**	**+1.7**
SBA				pmax	pmax		
	comp=Z,17nm,1.3s						
SBA	**Scott Base**	**89.41**	**180**	*e*P	**P**	**00 21 02.2**	**+1.7**
	comp=Z,17nm,1.3s						
DAG	**Danmarks Havn**	**89.53**	**359**⇓	*i*P	**P**	**00 21 02.7**	**+1.7**
	comp=Z,8.9nm,1.2s						
DAG	**Danmarks Havn**	**89.53**	**359**⇓	*i*P	**P**	**00 21 02.7**	**+1.7**
DAG				pmax	pmax		
	comp=Z,14nm,1.2s						
Z37A	**Pogue Cattle C**	**89.61**	**304**	P	**P**	**00 21 03.2**	**+0.8**
	baz=106						
VNDA	**Vanda**	**89.72**	**179**	P	**P**	**00 21 02.5**	**+0.4**
	comp=Z,2.3nm,1.0s,baz=219,slow=4.7,SNR=10						
VNDA				LR	LR	00 55 21.5	
	comp=Z,101nm,18.5s,baz=262,slow=32						
VNDA	**Vanda**	**89.72**	**179**	*e*P	**P**	**00 21 02.5**	**+0.4**
VNDA				pmax	pmax		
	comp=Z,5.0nm,1.3s						
VNDA	**Vanda**	**89.72**	**179**	*e*P	**P**	**00 21 02.5**	**+0.4**
	comp=Z,5.2nm,1.3s						
ABKAR	**Akbulak array**	**89.85**	**39**	*e*P	**P**	**00 21 03.5**	**+0.4**
	comp=Z,14nm,0.8s						
S37A	**Fort Scott**	**90.23**	**309**	P	**P**	**00 21 05.4**	**+0.2**
	baz=106						
G38A	**Ridgeland**	**90.26**	**316**	P	**P**	**00 21 05.0**	**-0.1**
	baz=108						
534A	**Blanco**	**91.16**	**300**	P	**P**	**00 21 09.9**	**+0.2**
	baz=104						
434A	**Burnet**	**91.18**	**301**	P	**P**	**00 21 09.9**	**+0.2**
	baz=104						
ARU	**Arti**	**91.58**	**32**	P	**P**	**00 21 11.7**	**+0.7**
333A	**Richland Sprin**	**91.89**	**302**	P	**P**	**00 21 13.1**	**0.0**
	baz=104						
JCT	**Junction City**	**92.38**	**301**	*e*P	**P**	**00 21 14.4**	**-1.0**
JCT				pmax	pmax		
	comp=Z,29nm,1.8s						
JCT	**Junction City**	**92.38**	**301**	*e*P	**P**	**00 21 14.4**	**-1.0**
	comp=Z,29nm,1.8s						
ABTX	**Abilene, Hawle**	**92.75**	**303**	*e*P	**P**	**00 21 18.6**	**+1.6**
	comp=Z,5.5nm,1.0s						
ECSD	**EROS Data Cent**	**93.13**	**314**	P	**P**	**00 21 18.4**	**-0.1**
	baz=105						
ULM	**Lac du Bonnet**	**94.31**	**320**	LR	LR	00 55 38.3	
	comp=Z,157nm,21.9s,baz=87,slow=30						
TXAR	**Lajitas Array**	**95.41**	**299**	P	**P**	**00 21 29.6**	**+0.2**
	comp=Z,0.6nm,0.9s,baz=126,slow=6.4,SNR=5.5						
TXAR				LR	LR	01 06 06.7	
	comp=Z,35nm,18.4s,baz=0.0,slow=36						
KSH	**Kashi**	**98.52**	**51**	*e*P	Pdif	00 21 43.8	+0.5
KSH				sP	sP	00 21 50.8	+0.2
KSH				PP	**PP**	**00 25 45.8**	**+1.8**
KSH				S	**S**	**00 33 08.3**	**-3.6**
KSH				sS	pS	00 33 16.0	-2.8
KSH				SS	**SS**	**00 39 55.0**	**-2.1**
KSH				pmax	pmax		
	comp=Z,6.0nm,1.4s						
KSH				LR	LR		
	comp=Z,130nm,10.5s						
KSH				LR	LR		
	comp=Z,130nm,7.5s						
CMAR	**Chiang Mai Arr**	**116.08**	**76**	PKP	**PKPdf**	**00 26 48.2**	**-0.1**
	comp=Z,0.6nm,0.3s,baz=269,slow=3.7,SNR=4.0						
SONM	**Songino Array**	**120.15**	**

OCAC				*i*			00 18 18.2		
	comp=Z,183nm,0.5s								
ZARC	**Zaragoza, Cauc**	**1.89**	**292**	*e*P		**Pn**	**00 17 56.3**	**+0.5**
ZARC				*e*S		**Sn**	**00 18 21.7**	**-0.4**
ZARC				*i*			00 18 27.6		
	comp=Z,138nm,0.5s								
NORC	**Norcasia**	**2.14**	**236**	*e*P		**Pn**	**00 17 59.2**	**+0.4**
NORC				*e*S		**Sn**	**00 18 27.1**	**-0.4**
NORC				*i*			00 18 32.0		
	comp=Z,3.5nm,0.2s								
CHIC	**Chingaza**	**2.23**	**197**⇓	*e*			00 15 35.0		
CHIC				*e*P		**Pn**	**00 18 01.0**	**+0.8**
CHIC				*e*S		**Sn**	**00 18 30.4**	**+0.4**
CHIC				*i*			00 18 33.9		
	comp=Z,35nm,0.4s								
ROSC	**El Rosal**	**2.29**	**212**	*e*S		**Sn**	**00 18 31.1**	**+0.1**
HELC	**Santa Helena**	**2.49**	**256**	*e*P		**Pn**	**00 18 03.6**	**+0.4**
HELC				*e*S		**Sn**	**00 18 34.4**	**-0.9**
HELC				*i*			00 18 44.1		
	comp=Z,41nm,0.2s								
VIGV	**El Vigia**	**2.67**	**40**	*e*P		**Pn**	**00 18 06.3**	**+1.2**
VIGV				*e*S		**Sn**	**00 18 39.0**	**+0.3**
SOCV	**Socops**	**2.67**	**56**	*e*P		**Pn**	**00 18 06.2**	**+1.1**
SOCV				*e*S		**Sn**	**00 18 37.7**	**-1.1**
PRAC	**Prado**	**3.54**	**210**	*e*P		**Pn**	**00 18 17.3**	**+1.3**
PRAC				*e*S		**Sn**	**00 18 57.7**	**-0.7**
PRAC				*i*			00 19 04.5		
	comp=Z,103nm,0.3s								
VIRV	**Villa del Rosa**	**3.76**	**10**	*e*P		**Pn**	**00 18 19.0**	**+0.1**
VIRV				*e*S		**Sn**	**00 19 03.1**	**-0.3**
QARV	**Quebrada Arrib**	**4.24**	**37**	*e*P		**Pn**	**00 18 26.1**	**+0.9**
CURV	**Curarigua**	**4.46**	**44**	*e*P		**Pn**	**00 18 28.2**	**+0.1**
DABV	**Dabajuro**	**4.77**	**30**	*e*P		**Pn**	**00 18 32.7**	**+0.6**
BAUV	**El Baul**	**5.44**	**66**	*e*P		**Pn**	**00 18 40.3**	**-0.7**
MAPV	**Macapo**	**5.50**	**56**	*e*P		**Pn**	**00 18 41.7**	**0.0**
MONV	**Montecano**	**5.99**	**31**	*e*P		**Pn**	**00 18 47.8**	**-0.4**
TURV	**Turiamo**	**6.34**	**55**	*e*P		**Pn**	**00 18 52.4**	**-0.5**

*IDC **29** 00:27:05.3±0.6, 7.°70S×130.°58E, h0km, mb4.2/10, mb1 4.2/16, mb1mx4.1/31, mbtmp4.1/16, ML3.8/5, MS3.9/9, Ms1 3.9/9, ms1mx3.4/42, Error ellipse: s-maj=25.2km s-min=14.1km az=70.0*

*ISCJB **29** 00:27:08.1±0.3, 7.°74S±0.°03×130.°64E±0.°03, h33km, mb4.5/24, MS3.9/7, Error ellipse: s-maj=4.6km s-min=3.8km az=168.4*

*NEIC **29** 00:27:10.5±0.8, 7.°73S×130.°65E, h36km±9km, mb4.5/13, Error ellipse: s-maj=8.7km s-min=6.9km az=67.0*

*DJA **29** 00:27:11.5±0.3, 8.°S±2.°×13.°1E±.°, h109km±6km, M4.6/10, mb4.7/6, mB5.1/5, MLv4.7/10, Mw(mB)4.5/5*

*BJI **29** 00:27:12.7, 7.°47S×130.°29E, h29km, mb4.6/19, mB5.1/9, Ms4.9/6, Ms7 4.7/6*

ISC 29 00:27:10.6±0.4, 7.°78S±0.°04×130.°69E±0.°05, h35km, n78, σ2§48/86, mb4.4/25, MS3.9/7, 1D, Tanimbar Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
SAUI	**Saumlaki**	**0.64**	**109**	P		P	Pn	00 27 30.1	+7.0
SAUI				S			Sn	00 27 47.5	+15
SAUI	**Saumlaki**	**0.64**	**109**	*e*Pn			Pn	00 27 30.1	+7.0
SAUI				*e*Sn			Sn	00 27 43.2	+11
BNDI	**Bandanaira**	**3.33**	**346**	P			**Pn**	**00 28 00.4**	**+0.3**
BNDI				S			**Sn**	**00 28 35.0**	**-3.4**
MSAI	**Masohi**	**4.74**	**338**	P			**Pn**	**00 28 17.2**	**-2.4**
AAI	**Ambon**	**4.76**	**328**	P			**Pn**	**00 28 19.4**	**-0.5**
MTN	**Manton Dam**	**5.05**	**175**	*e*Pn			**Pn**	**00 28 26.8**	**+2.9**
MTN				*e*Sn			**Sn**	**00 29 14.9**	**-6.2**
FAKI	**Fak Fak**	**5.07**	**18**	P			**Pn**	**00 28 24.2**	**+0.1**
FAKI				S			**Sn**	**00 29 20.5**	**-1.0**
FAKI	**Fak Fak**	**5.07**	**18**	*e*Pn			**Pn**	**00 28 23.4**	**-0.8**
FAKI				*e*Sn			**Sn**	**00 29 14.9**	**-6.6**
NLAI	**Namlea**	**5.75**	**321**	P			**Pn**	**00 28 32.0**	**-1.5**
SOEI	**Soe**	**6.65**	**252**	P			**Pn**	**00 28 44.7**	**-1.2**
	78nm,0.7s								
SOEI				S			**Sn**	**00 29 59.7**	**-0.8**
	78nm,0.7s								
SOEI	**Soe**	**6.65**	**252**	*e*Pn			**Pn**	**00 28 46.2**	**+0.4**
SOEI				*e*Sn			**Sn**	**00 30 00.3**	**-0.2**
SIJI	**Sorong**	**6.89**	**5**	Pn			**Pn**	**00 28 47.1**	**-2.0**
	0.5nm,0.3s,baz=184,slow=16,SNR=8.8								
SIJI				Sn			**Sn**	**00 30 00.5**	**-5.8**
	0.3nm,0.3s,baz=253,slow=19,SNR=3.6								
SIJI				LR			LR	00 31 57.2	
	comp=Z,56nm,18.4s,baz=231,slow=43								
SWI	**Sorong**	**6.89**	**5**	P			**Pn**	**00 28 48.4**	**-0.8**
BATI	**Baumata**	**7.35**	**250**	P			Pn	00 29 09.5	+14
SANI	**Sanana**	**7.37**	**320**	P			**Pn**	**00 28 53.4**	**-2.3**
	102nm,1.4s,1μm								
LBMI	**Labuha**	**7.77**	**336**	P			**Pn**	**00 29 01.6**	**+0.3**
	134nm,1.5s								
BBSI	**Bau Bau**	**8.38**	**285**	P			**Pn**	**00 29 09.5**	**-0.1**
	12nm,0.9s								
WSI	**Waingapu**	**10.44**	**259**	P			**Pn**	**00 29 37.1**	**-0.8**
JAY	**Jayapura**	**11.26**	**63**	Pn			**Pn**	**00 29 50.0**	**+0.9**
	0.0nm,0.3s,baz=180,slow=20,SNR=2.0								
FITZ	**Fitzroy Crossi**	**11.38**	**205**	Pn			**Pn**	**00 29 48.5**	**-2.2**
	baz=7.4,slow=12								
SPSI	**Sidrap Palu**	**11.50**	**289**	P			Pn	00 30 02.4	+10
MRSI	**Marisa**	**11.97**	**313**	P			**Pn**	**00 30 03.3**	**+4.5**
WRAB	**Tennant Creek**	**12.60**	**164**	*e*Pn			**Pn**	**00 30 07.4**	**+0.1**
WRAB				*e*Sn			Sn	00 32 10.8	-16
WRA	**Warramunga Arr**	**12.60**	**164**	Pn			**Pn**	**00 30 06.3**	**-1.1**
	1.8nm,0.3s,baz=349,slow=13,SNR=34								
WRA				Sn			**Sn**	**00 32 23.6**	**-3.0**
	3.2nm,0.3s,baz=345,slow=24,SNR=6.2								
WRA				LR			LR	00 35 48.7	
	comp=Z,712nm,18.6s,baz=315,slow=41								
WB2	**Warramunga Arr**	**12.60**	**164**	*e*Pn			**Pn**	**00 30 07.0**	**-0.5**
WB2				*e*Sn			**Sn**	**00 32 21.3**	**-5.4**
COEN	**Coen**	**13.71**	**118**	*e*Pn			**Pn**	**00 30 24.9**	**+2.3**
COEN				*e*Sn			**Sn**	**00 32 54.8**	**+1.1**
AS31	**Alice Springs**	**16.10**	**169**	*e*Pn			**Pn**	**00 30 54.7**	**+0.4**
	6.1nm,0.6s								
AS31				*e*Sn			**Sn**	**00 33 43.2**	**-8.7**
ASAR	**Alice Springs**	**16.10**	**169**	Pn			**Pn**	**00 30 53.5**	**-0.8**
	0.8nm,0.3s,baz=343,slow=9.0,SNR=30								
ASAR				Sn			**Sn**	**00 33 46.8**	**-5.1**
	0.7nm,0.3s,baz=344,slow=22,SNR=4.4								
ASAR				LR			LR	00 37 55.6	
	comp=Z,335nm,18.2s,baz=342,slow=40								
AS01	**Alice Springs**	**16.11**	**169**	*e*Pn			**Pn**	**00 30 55.6**	**+1.2**
AS01				*e*Sn			**Sn**	**00 33 46.8**	**-5.3**
PMG	**Port Moresby**	**16.36**	**97**	Pn			**Pn**	**00 30 58.1**	**+0.3**
	1.5nm,0.3s,baz=288,slow=13,SNR=2.2								
PMG				LR			LR	00 38 18.4	
	comp=Z,443nm,20.7s,baz=268,slow=41								
JAGI	**Jajag, Banyuwa**	**16.39**	**266**	*e*Pn			**Pn**	**00 30 58.5**	**+0.5**
	38nm,1.2s								
MBWA	**Marble Bar**	**17.00**	**217**	*e*Pn			**Pn**	**00 31 02.0**	**-3.8**
MBWA				*e*Sn			Sn	00 33 56.6	-17
CTA	**Charters Tower**	**19.42**	**131**	P			**P**	**00 31 34.5**	**+0.5**
	0.4nm,0.3s,baz=298,slow=13,SNR=2.4								
CTA				LR			LR	00 39 55.1	
	comp=Z,457nm,19.6s,baz=290,slow=39								
CTAO	**Charters Tower**	**19.42**	**131**	*e*P			**P**	**00 31 34.4**	**+0.4**
	31nm,1.1s								
KKM	**Kota Kinabalu**	**19.92**	**313**	*e*P			**Pn**	**00 31 44.0**	**+2.6**
	100nm,1.7s								
SBUM	**Sibu**	**21.04**	**298**	*e*P			**P**	**00 31 52.6**	**+0.9**
	11nm,1.0s								
BBOO	**Buckleboo**	**25.40**	**169**	*e*P			**P**	**00 32 37.1**	**+2.2**
	230nm,1.8s								
STKA	**Stephens Creek**	**26.04**	**158**	P			**P**	**00 32 42.6**	**+1.9**
	5.0nm,0.7s,baz=341,slow=10,SNR=6.3								
STKA				LR			LR	00 44 13.9	
	comp=Z,424nm,20.4s,baz=343,slow=39								
STKA	**Stephens Creek**	**26.04**	**158**	*e*P			**P**	**00 32 41.1**	**+0.5**
	10nm,1.4s								
NWAO	**Narrogin (SRO)**	**27.96**	**205**	LR			LR	00 45 14.4	
	comp=Z,282nm,19.1s,baz=150,slow=39								
HNR	**Honiara**	**28.97**	**95**	LR			LR	00 45 55.8	
	comp=Z,183nm,19.9s,baz=306,slow=39								
CM01	**Chiang Mai Arr**	**40.72**	**310**	*e*P			**P**	**00 34 47.8**	**-0.4**
CMAR	**Chiang Mai Arr**	**40.75**	**310**	P			**P**	**00 34 46.7**	**-1.8**
	0.7nm,0.6s,baz=137,slow=6.9,SNR=3.7								
NJ2	**Nanjing**	**41.19**	**345**	*e*P			**P**	**00 34 52.3**	**+0.5**
NJ2				pmax		pmax			
	comp=Z,22nm,1.0s								
KMI	**Kunming**	**42.55**	**321**	P			**P**	**00 35 03.8**	**+0.4**
KMI				pmax		pmax			
	comp=Z,9.0nm,0.5s								
MJAR	**Matsushiro Arr**	**44.65**	**9**	P			**P**	**00 35 19.2**	**-0.7**
	3.0nm,0.7s,baz=186,slow=9.0,SNR=7.1								
MJAR				LR			LR	00 54 38.0	
	comp=Z,118nm,18.8s,baz=305,slow=37								
KSAR	**Wonju Array Be**	**45.06**	**357**	P			**P**	**00 35 21.3**	**-1.7**
KSRS	**Korea Array**	**45.07**	**357**	P			**P**	**00 35 21.3**	**-1.8**
	0.4nm,0.3s,baz=178,slow=9.1,SNR=3.2								
KSRS				LR			LR	00 54 47.9	
	comp=Z,68nm,19.7s,baz=220,slow=37								
HHC	**Hu-ho-hao-te**	**51.49**	**341**	*e*P			**P**	**00 36 14.5**	**+1.7**
HHC				pmax		pmax			
	comp=Z,21nm,1.1s								
HHC				pmax		pmax			
	comp=Z,320nm,8.2s								
CN2	**Changchun**	**51.55**	**355**	*e*P			**P**	**00 36 17.3**	**+4.2**
CN2				pmax		pmax			
	comp=Z,10.0nm,0.6s								
USRK	**Ussuriysk Ar.**	**51.75**	**1**	P			**P**	**00 36 13.6**	**-0.9**
	1.0nm,0.5s,baz=189,slow=8.1,SNR=2.7								
GTA	**Gaotai**	**54.98**	**331**	*e*P			**P**	**00 36 39.3**	**+0.8**
GTA				pP		pP		00 36 49.5	+0.4
GTA				sP		sP		00 36 53.5	+0.2
GTA				pmax		pmax			
	comp=Z,7.0nm,1.0s								
ULN	**Ulaanbaatar**	**59.21**	**342**	*e*P			**P**	**00 37 08.6**	**+0.3**
	3.3nm,0.5s								
SONM	**Songino Array**	**59.39**	**341**	P			**P**	**00 37 09.0**	**-0.5**
	0.9nm,0.5s,baz=158,slow=6.2,SNR=4.4								
WMQ	**Urumqi**	**64.41**	**327**	P			**P**	**00 37 44.5**	**+1.1**
WMQ				pP		pP		00 37 55.3	+1.2
WMQ				sP		sP		00 37 59.5	+1.3
WMQ				PP			**PP**	**00 40 05.0**	**-0.5**
WMQ				LR			LR		
	comp=N,74nm,36.5s								
WMQ				LR			LR		
	comp=E,130nm,35.9s								
WMQ				LR			LR		
	comp=Z,130nm,28.7s								
KSH	**Kashi**	**69.05**	**317**	*e*P			P	00 38 18.0	+4.9
KSH				sP			PcP	00 38 33.0	-4.1
KSH				PP			SP	00 40 54.0	+7.9
KSH				S			**S**	**00 47 20.3**	**+4.2**
KSH				sS			sS	00 47 37.3	+3.4
KSH				pmax		pmax			
	comp=Z,4.0nm,0.6s								
KSH				pmax		pmax			
	comp=Z,120nm,9.1s								
KSH				LR			LR		
	comp=N,100nm,7.8s								
KSH				LR			LR		
	comp=E,90nm,8.9s								
KSH				LR			LR		
	comp=Z,170nm,11.6s								
MK01	**Makanchi Array**	**69.23**	**327**	*e*P			**P**	**00 38 13.3**	**-0.6**
MK31	**Makanchi Array**	**69.25**	**327**	*e*P			**P**	**00 38 13.8**	**-0.2**
MKAR	**Makanchi Array**	**69.25**	**327**	P			**P**	**00 38 13.7**	**-0.3**
	12nm,0.5s,baz=122,slow=7.7,SNR=112								
MKAR	**Makanchi Array**	**69.25**	**327**	*e*P			**P**	**00 38 13.8**	**-0.3**
	85nm,0.6s								
MAKZ	**Makanchi**	**69.42**	**327**	*e*P			**P**	**00 38 15.1**	**0.0**
AAK	**Ala-Archa**	**71.57**	**320**	*e*P			**P**	**00 38 29.9**	**+1.3**
	4.3nm,1.1s								
VNDA	**Vanda**	**71.60**	**173**	P			**P**	**00 38 30.9**	**+3.0**
	1.4nm,0.5s,baz=321,slow=6.6,SNR=16								
VNDA	**Vanda**	**71.60**	**173**	*e*P			**P**	**00 38 31.4**	**+3.5**
	1.7nm,0.8s								
ZAA0	**Zalesovo Array**	**72.58**	**334**	*e*P			**P**	**00 38 32.8**	**-1.2**
ZALV	**Zalesovo Beam**	**72.58**	**334**	P			**P**	**00 38 32.8**	**-1.3**
	1.9nm,0.7s,baz=132,slow=5.0,SNR=5.0								
KKAR	**Karatay Array**	**74.37**	**319**	*e*P			**P**	**00 38 42.7**	**-2.2**
	9.7nm,0.7s								
MAW	**Mawson**	**74.48**	**202**	P			**P**	**00 38 48.0**	**+2.9**
	5.9nm,0.9s,baz=76,slow=7.6,SNR=12								
MAW	**Mawson**	**74.48**	**202**	*e*P			**P**	**00 38 48.2**	**+3.2**
	1.0nm,0.8s								
GEYT	**Alibeck**	**81.23**	**310**	P			**P**	**00 39 23.7**	**+0.4**
	1.1nm,0.7s,baz=162,slow=0.5,SNR=2.9								
QSPA	**South Pole Qui**	**82.20**	**180**	*e*P			**P**	**00 39 29.8**	**+1.8**
	37nm,1.4s								
SYO	**Syowa Base**	**83.19**	**201**⇓	*e*P			**P**	**00 39 33.0**	**+0.2**
ABKAR	**Akbulak array**	**83.54**	**322**	*e*P			**P**	**00 39 32.0**	**-2.9**
	12nm,0.7s								
ILAR	**Eielson Array**	**93.75**	**25**	P			**P**	**00 40 23.3**	**-0.3**
	0.5nm,0.8s,baz=282,slow=4.2,SNR=5.0								
ARCES	**ARCESS Array B**	**102.54**	**340**	P			**Pdif**	**00 41 04.4**	**+1.3**
	1.5nm,0.6s,baz=72,slow=5.8,SNR=7.2								
TORD	**Torodi Ar. Bea**	**129.63**	**281**	PKP			**PKPdf**	**00 46 17.5**	**+0.6**
	0.6nm,0.6s,baz=84,slow=1.7,SNR=4.5								
CPUP	**Villa Florida**	**145.21**	**167**	PKPbc			**PKPdf**	**00 46 45.7**	**+0.3**
	7.3nm,0.9s,baz=189,slow=3.5,SNR=13								
LPAZ	**La Paz**	**149.69**	**142**	PKPab			**PKPab**	**00 47 02.5**	**-1.0**
	3.7nm,0.4s,baz=10,slow=1.4,SNR=29								

*CSEM **29** 00:35:17.0±0.5, 27.°75N×18.°01W, h30km, ML3.6, Error ellipse: s-maj=10.0km s-min=7.1km az=53.0*

*INMG **29** 00:35:18.2±0.8, 27.°57N×18.°07W, h4km±3km, ML3.1, Error ellipse: s-maj=4.4km s-min=2.9km az=71.0*

ISC 29 00:35:16.9±2.2, 27.°8N±0.°1×17.°93W±0.°09, h30km±6km, n18, σ1§66/34, Canary Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
CHIE	**El Hierro**	**0.04**	**237**	P			**Pn**	**00 35 21.5**	**-0.4**
	159nm,0.2s,SNR=18								
CTIG	**El Hierro**	**0.04**	**6**	P			**Pn**	**00 35 22.3**	**+0.3**
	293nm,0.1s,SNR=18								
CTIG				S			**Sn**	**00 35 25.8**	**+0.4**
	1μm,0.1s,SNR=7.9								
EGOM	**La Gomera**	**0.76**	**57**	P			**Pb**	**00 35 32.5**	**+0.9**
	19nm,0.1s,SNR=7.9								
EGOM				S			**Sn**	**00 35 43.4**	**+1.4**
	116nm,0.1s,SNR=7.9								
EHIG	**Higuera**	**0.81**	**8**	P			**Pb**	**00 35 33.9**	**+1.3**
	152nm,0.1s,SNR=49								
EHIG				S			**Sn**	**00 35 45.5**	**+1.9**
	334nm,0.1s,SNR=24								
TBT	**Taburiente**	**0.93**	**1**	P			**Pn**	**00 35 34.7**	**+0.7**
	67nm,0.1s,SNR=18								
TBT				S			**Sb**	**00 35 47.1**	**+0.6**
	34nm,0.1s,SNR=7.9								
CCAN	**Las Canadas**	**1.26**	**68**	P			**Pn**	**00 35 39.4**	**+0.6**
	4.7nm,0.2s,SNR=7.9								
CCAN				S			**Sn**	**00 35 55.1**	**+0.2**
	4.4nm,0.2s,SNR=7.9								
CRAJ	**Montana Rajada**	**1.28**	**66**	S			**Sb**	**00 35 56.6**	**-0.3**
	55nm,0.1s,SNR=7.7								
EBAJ	**Bajamar**	**1.61**	**60**	P			**Pn**	**00 35 44.5**	**+1.2**
	1.9nm,0.1s,SNR=10								
EBAJ				S			**Sb**	**00 36 04.2**	**-1.6**
	20nm,0.2s,SNR=19								
EOSO	**Osorio**	**2.13**	**81**	P			**Pn**	**00 35 51.7**	**+1.2**
	0.2nm,0.1s,SNR=7.9								
EOSO				S			**Sn**	**00 36 13.2**	**-2.7**
	2.1nm,0.1s,SNR=12								
CFTV	**Fuerteventura**	**3.46**	**78**	P			**Pn**	**00 36 10.2**	**+1.4**
	0.9nm,0.2s,SNR=7.9								
CFTV				S			**Sn**	**00 36 45.9**	**-2.9**
	9.2nm,0.3s,SNR=7.9								
CFUE	**Fuerteventura**	**3.63**	**75**	P			**Pn**	**00 36 12.6**	**+1.4**
	0.3nm,0.1s,SNR=7.9								
CFUE				S			**Sn**	**00 36 50.5**	**-2.6**
	21nm,0.2s,SNR=7.9								
EFAM	**Famara**	**4.11**	**69**	P			**Pn**	**00 36 19.2**	**+1.5**
	2.5nm,0.2s,SNR=7.9								
EFAM				S			**Sn**	**00 37 02.9**	**-1.9**
	0.8nm,0.1s,SNR=7.9								
PMAR	**Madeira**	**5.04**	**10**	*e*Pn			**Pn**	**00 36 30.0**	**-0.6**
PMAR				*e*Sn			**Sn**	**00 37 25.4**	**-2.5**
PMAR				A			A	00 37 38.7	
	24nm,0.3s								
PMAR	**Madeira**	**5.04**	**10**	*e*Pn			**Pn**	**00 36 30.0**	**-0.6**
PMAR				*e*Sn			**Sn**	**00 37 25.4**	**-2.5**
	24nm,0.3s								
PMOZ	**Porto Moniz, M**	**5.10**	**7**	*e*Pn			**Pn**	**00 36 31.9**	**+0.5**
PMOZ				*e*Sn			**Sn**	**00 37 26.6**	**-2.7**
PMOZ				A			A	00 37 30.8	
	55nm,0.3s								
PMOZ	**Porto Moniz, M**	**5.10**	**7**	*e*Pn			**Pn**	**00 36 31.9**	**+0.5**
PMOZ				S			**Sn**	**00 37 26.3**	**-3.0**
	5.6nm,0.2s,SNR=7.9								
PMOZ				*e*Sn			Sb	00 37 26.6	-20
	55nm,0.3s								
PMPS	**Porto Santo**	**5.47**	**14**	*e*Pn			**Pn**	**00 36 37.1**	**+0.8**
PMPS				*e*Sn			**Sn**	**00 37 36.9**	**-1.3**
	9.4nm,0.3s								

*ISCJB **29** 00:36:27.9±1.4, 27.°47S±0.°07×69.°83W±0.°07, h121km±11km, Error ellipse: s-maj=12.0km s-min=9.7km az=2.2*

*SJA **29** 00:36:27.9±0.7, 27.°50S×69.°73W, h155km±10km, ML2.7, MW2.8*

*GUC **29** 00:36:29.9±0.4, 27.°60S×69.°87W, h98km±4km, ML3.9*

ISC 29 00:36:26.1±3.2, 27.°4S±0.°1×69.°86W±0.°07, h137km±21km, n11, σ1§90/21, 1C, Northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
CPCH	**Copiapo**	**0.44**	**271**	*i* P			**Pn**	**00 36 46.0**	**+0.4**
CPCH				*i* S			**Sn**	**00 36 58.0**	**-2.4**
CPCH				IAML				00 36 59.4	
	comp=N,12μm,0.1s								
VACH	**Vallenar**	**1.45**	**213**	*i* P			**Pn**	**00 36 57.6**	**+3.5**
VACH				*i* S			**Sn**	**00 37 16.0**	**+0.5**
VACH				IAML				00 37 17.2	
	comp=N,2μm,0.2s								
LCO	**Las Campanas**	**1.80**	**204**⇑	*i* P			**Pn**	**00 36 58.6**	**+0.3**
LCO				*i* S			**Sn**	**00 37 20.7**	**-2.3**
VCA	**Vinchina**	**2.00**	**133**	*e*P			**Pn**	**00 37 02.2**	**+1.7**
VCA				*i* S			**Sn**	**00 37 26.3**	**-0.7**
VCA	**Vinchina**	**2.00**	**133**	*e*P			**Pn**	**00 37 02.2**	**+1.7**
VCA				IAML				00 37 03.1	
	comp=Z,48nm,0.2s								
VCA				*e*S			**Sn**	**00 37 27.8**	**+0.8**
AGUA	**GUANDACOL**	**2.43**	**151**	*e*P			**Pn**	**00 37 07.5**	**+1.6**
AGUA				*e*S			**Sn**	**00 37 35.8**	**-0.6**
TLL	**Tololo Astrono**	**2.91**	**196**	*i* P			**Pn**	**00 37 12.7**	**+0.7**
TLL				*i* S			**Sn**	**00 37 45.6**	**-1.9**
ACLC	**CERRO LA CRUZ**	**3.28**	**129**	*e*P			**Pn**	**00 37 17.9**	**+1.2**
ACLC				*e*S			**Sn**	**00 37 54.9**	**-1.0**
CYA	**Choya**	**3.75**	**108**	*e*P			**Pn**	**00 37 23.7**	**+1.0**
CYA				IAML				00 38 06.1	
	comp=Z,4.1nm,0.5s								
AVFE	**Valle Fertil**	**3.90**	**148**	*e*P			**Pn**	**00 37 25.8**	**+1.0**
AVFE				IAML				00 37 26.4	
	comp=Z,26nm,0.3s								
AVFE				*e*S			**Sn**	**00 38 08.8**	**-1.5**
APLL	**PUNTA DE LOS L**	**4.20**	**137**	*e*P			**Pn**	**00 37 29.3**	**+0.7**
APLL				*e*S			**Sn**	**00 38 13.3**	**-4.0**

IDC 29 00:42:26.4±8.6, 27.°01N×144.°25E, h0km, mb3.8/3, mb1 4.1/4, mb1mx3.6/32, mbtmp3.9/4, ML4.0/1, Error ellipse: s-maj=326.3km s-min=29.6km az=75.0, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
MJAR	**Matsushiro Ar**	**10.81**	**333**	Pn			Pn	00 45 01.5	-0.9
	1.0nm,0.3s,baz=149,slow=10,SNR=7.2								
WRA	**Warramunga Arr**	**47.65**	**193**	P			P	00 51 04.3	-0.2
	1.2nm,0.7s,baz=12,slow=8.2,SNR=5.4								
MKAR	**Makanchi Array**	**51.95**	**310**	P			P	00 51 37.6	+0.4
	0.4nm,0.5s,baz=101,slow=12,SNR=4.4								
KURBB	**Kurchatov Arra**	**54.42**	**314**	P			P	00 51 54.9	-0.3
	0.8nm,0.6s,baz=90,slow=8.5,SNR=5.0								

*IDC **29** 00:55:31.8±0.7, 12.°83S×14.°40W, h0km, mb3.9/14, mb1 4.1/14, mb1mx3.9/35, mbtmp3.9/14, MS3.8/15, Ms1 3.8/15, ms1mx3.6/31, Error ellipse: s-maj=24.2km s-min=18.0km az=138.0*

*ISCJB **29** 00:55:32.9±0.6, 12.°9S±0.°1×14.°4W±0.°1, h16km, mb4.0/17, MS3.8/15, Error ellipse: s-maj=18.1km s-min=12.8km az=40.2*

ISC 29 00:55:34.6±0.7, 13.°0S±0.°1×14.°4W±0.°1, h16km, n32, σ1§52/21, mb4.0/17, MS3.8/15, Southern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
H10S2	**ASCENSION HYDR**	**3.99**	**357**	T		T	T	01 00 39.2	
	baz=180,slow=74,SNR=204								
H10S3	**ASCENSION HYDR**	**4.00**	**357**	T		T	T	01 00 52.2	
	baz=180,slow=74,SNR=127								
H10S1	**ASCENSION HYDR**	**4.01**	**357**	T		T	T	01 00 41.0	
	baz=180,slow=74,SNR=124								
H10N1	**ASCENSION HYDR**	**5.09**	**359**	T		T	T	01 02 08.0	
	baz=189,slow=79,SNR=18								
H10N3	**ASCENSION HYDR**	**5.09**	**359**	T		T	T	01 02 05.8	

*DDA **29** 00:56:11.2, 38.97N × 42.20E, h10 km, MI3.2*
ISC 29 00:56:11.2±1.2, 38.96N±0.02 × 42.17E±0.02, h4 km±11 km, n47, σ0.85/68, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EKAR	**Karacoban**	**0.31**	**344**	*i* P	**Pb**	**00 56 18.8**	**-0.7**
EKAR	**Karacoban**	**0.31**	**344**	P	**Pb**	**00 56 18.8**	**-0.7**
TATV	**Tatvan**	**0.46**	**170**	*i* P	**Pg**	**00 56 16.6**	**-3.4**
VRTB	**Varto-Mus**	**0.59**	**290**	*e*PG	**Pg**	**00 56 22.8**	**+0.1**
VRTB				*e*SG	**Sb**	**00 56 32.2**	**-0.8**
VRTB	**Varto-Mus**	**0.59**	**290**	*i* P	**Pg**	**00 56 23.0**	**+0.4**
VRTB				*i* S	**Sb**	**00 56 32.2**	**-0.8**
VRTB	**Varto-Mus**	**0.59**	**290**	P	**Pg**	**00 56 23.0**	**+0.4**
VRTB				S	**Sb**	**00 56 32.2**	**-0.8**
BNGL	**BINGOL**	**0.80**	**270**	*i* P	**Pg**	**00 56 26.4**	**-0.1**
BNGL				*i* S	**Sb**	**00 56 38.3**	**-0.7**
AGRB	**Hanur-Agry**	**0.89**	**46**	*e*PG	**Pb**	**00 56 28.5**	**-0.8**
AGRB	**Hanur-Agry**	**0.89**	**46**	*e*Pg	**Pb**	**00 56 28.5**	**-0.8**
GEVA	**Gevas**	**0.95**	**133**	*i* P	**Pg**	**00 56 29.2**	**-0.2**
GEVA				*i* S	**Sb**	**00 56 42.8**	**-0.5**
GEVA	**Gevas**	**0.95**	**133**	P	**Pg**	**00 56 29.2**	**-0.2**
GEVA				S	**Sb**	**00 56 42.8**	**-0.5**
VANB	**Van**	**1.02**	**110**	*e*PG	**Pn**	**00 56 32.1**	**-0.3**
VANB	**Van**	**1.02**	**110**	*e*Pg	**Pn**	**00 56 32.1**	**-0.3**
SVAN	**Silvan-Diyarba**	**1.11**	**224**	*e*PN	**Pg**	**00 56 32.5**	**+0.1**
SVAN	**Silvan-Diyarba**	**1.11**	**224**	*i* P	**Pg**	**00 56 32.6**	**+0.1**
SVAN				*i* S	**Sn**	**00 56 49.5**	**+0.2**
SVAN	**Silvan-Diyarba**	**1.11**	**224**	P	**Pg**	**00 56 32.6**	**+0.1**
SVAN				S	**Sn**	**00 56 49.5**	**+0.2**
ECAT	**Cat-ERZURUM**	**1.13**	**305**	*i* P	**Pg**	**00 56 32.6**	**-0.4**
ECAT				*i* S	**Sb**	**00 56 48.7**	**+0.1**
ECAT	**Cat-ERZURUM**	**1.13**	**305**	P	**Pg**	**00 56 32.6**	**-0.4**
ECAT				S	**Sb**	**00 56 48.7**	**+0.1**
ERZM	**Erzurum**	**1.13**	**327**	*i* P	**Pb**	**00 56 33.2**	**-0.3**
ERZM	**Erzurum**	**1.13**	**327**	P	**Pb**	**00 56 33.2**	**-0.3**
BNGB	**Bing ¶ll**	**1.16**	**272**	*e*PN	**Pg**	**00 56 32.8**	**-0.8**
BTMN	**Batman**	**1.28**	**214**	*i* P	**Pg**	**00 56 35.7**	**0.0**
BTMN				*i* S	**Sn**	**00 56 54.3**	**+0.8**
BTMN	**Batman**	**1.28**	**214**	P	**Pg**	**00 56 35.7**	**0.0**
BTMN				S	**Sn**	**00 56 54.3**	**+0.8**
BINT	**Bingol**	**1.31**	**267**	*e*Pn	**Pn**	**00 56 32.8**	**-3.7**
DYDN	**Diyadin**	**1.32**	**63**	*i* P	**Pn**	**00 56 36.3**	**-0.3**
DYDN				*i* S	**Sb**	**00 56 53.5**	**-0.4**
DYDN	**Diyadin**	**1.32**	**63**	P	**Pn**	**00 56 36.3**	**-0.3**
DYDN				S	**Sb**	**00 56 53.5**	**-0.4**
YEDI	**Yedisu-Bingol**	**1.35**	**291**	*e*PN	**Pn**	**00 56 36.7**	**-0.3**
CLDR	**Caldiran**	**1.37**	**82**	*e*PN	**Pg**	**00 56 38.0**	**+0.6**
CLDR	**Caldiran**	**1.37**	**82**	*e*Pn	**Pg**	**00 56 38.1**	**+0.6**
SIRN	**S¨–rnak**	**1.47**	**172**	*i* P	**Pg**	**00 56 39.5**	**+0.1**
SIRN				*i* S	**Sg**	**00 57 00.5**	**+2.0**
SIRN	**S¨–rnak**	**1.47**	**172**	P	**Pg**	**00 56 39.5**	**+0.1**
SIRN				S	**Sg**	**00 57 00.5**	**+2.0**
SENK	**Senkaya-Erzuru**	**1.61**	**5**	*e*PN	**Pb**	**00 56 41.2**	**-0.4**
KOPT	**Kop Dagi**	**1.67**	**310**	*i* P	**Pg**	**00 56 43.6**	**+0.3**
KOPT	**Kop Dagi**	**1.67**	**310**	P	**Pg**	**00 56 43.6**	**+0.3**
HAKT	**HAKKARI**	**1.85**	**139**	*i* P	**Pb**	**00 56 45.5**	**-0.2**
HAKT				*i* S	**Sg**	**00 57 10.8**	**+0.2**
HAKT	**HAKKARI**	**1.85**	**139**	P	**Pb**	**00 56 45.5**	**-0.2**
HAKT				S	**Sg**	**00 57 10.8**	**+0.2**
MARD	**Mardin**	**1.98**	**214**	*i* P	**Pn**	**00 56 46.0**	**+0.5**
MARD				*i* S	**Sn**	**00 57 11.0**	**+0.3**
MAZI	**Mazidag**	**2.02**	**223**	*e*PN	**Pn**	**00 56 46.0**	**-0.1**
MAZI	**Mazidag**	**2.02**	**223**	*e*Pn	**Pn**	**00 56 46.0**	**-0.1**
CUKT	**Cukurca**	**2.05**	**146**	*e*PN	**Pn**	**00 56 47.0**	**+0.5**
CUKT	**Cukurca**	**2.05**	**146**	*e*Pn	**Pn**	**00 56 47.0**	**+0.5**
TNCL	**Tunceli-Merkez**	**2.05**	**275**	*i* P	**Pb**	**00 56 48.8**	**-0.3**
TNCL				*i* S	**Sb**	**00 57 14.5**	**-0.5**
TNCL	**Tunceli-Merkez**	**2.05**	**275**	P	**Pb**	**00 56 48.8**	**-0.3**
TNCL				S	**Sb**	**00 57 14.5**	**-0.5**
PTK	**Pertek**	**2.17**	**269**	*e*PN	**Pn**	**00 56 48.9**	**+0.6**
PTK	**Pertek**	**2.17**	**269**	*e*Pn	**Pn**	**00 56 48.9**	**+0.6**
SVRC	**Sivrice-ELAZID**	**2.32**	**256**	*e*PN	**Pn**	**00 56 51.0**	**+0.7**
SVRC	**Sivrice-ELAZID**	**2.32**	**256**	*e*Pn	**Pn**	**00 56 51.0**	**+0.7**

IDC 29 00:56:31.9±2.1, 7.99S × 130.04E, h0 km, mb3.8/1, mb1 3.6/3, mb1mx3.4/37, mbtmp3.5/3, ML3.3/2, Error ellipse: s-maj=103.9km s-min=32.9km az=68.0, Tanimbar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**12.59**	**161**	Pn	Pn	00 59 32.3	-0.1
	0.2nm,0.3s,baz=340,slow=13,SNR=4.6						
WRA				Sn	Sn	01 01 49.8	-3.8
	0.3nm,0.3s,baz=338,slow=23,SNR=4.2						
ASAR	**Alice Springs**	**16.02**	**167**	Pn	Pn	01 00 19.0	+0.2
	0.1nm,0.3s,baz=352,slow=12,SNR=4.9						
ASAR				Sn	Sn	01 03 14.3	-3.0
	0.1nm,0.3s,baz=312,slow=38,SNR=2.8						
MKAR	**Makanchi Array**	**69.07**	**327**	P	P	01 07 39.7	0.0
	0.7nm,0.6s,baz=128,slow=7.7,SNR=5.2						

*ISCJB **29** 01:02:07.0±0.6, 13.82N±0.05 × 145.16E±0.06, h118 km±5 km, mb4.6/44, Error ellipse: s-maj=10.1km s-min=7.8km az=1.0*
*IDC **29** 01:02:07.2±0.5, 13.87N × 145.23E, h106 km±4 km, mb4.0/24, mb1 4.1/24, mb1mx3.9/63, mbtmp4.3/24, MS3.6/1, Ms1 3.6/1, ms1mx2.7/41, Error ellipse: s-maj=15.5km s-min=12.0km az=92.0*
*NEIC **29** 01:02:08.1±0.8, 13.81N × 145.21E, h115 km±7 km, mb4.8/25, Error ellipse: s-maj=8.0km s-min=6.3km az=99.0*
NEIC Felt at Barrigada, Hagatna Heights and Merizo.
ISC 29 01:02:07.9±0.8, 13.82N±0.08 × 145.24E±0.09, h114 km±7 km, n90, σ1.91/86, mb4.4/45, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**0.43**	**238**	P	**Pn**	**01 02 25.0**	**+0.3**
	656nm,0.3s,baz=289,slow=6.6,SNR=118						
GUMO				S	**Sn**	**01 02 36.8**	**-0.6**
	3µm,0.3s,baz=53,slow=20,SNR=135						
GUMO				LR	LR	01 02 43.1	
	comp=Z,100nm,21.2s,baz=58,slow=80						
PATS	**Pohnpei**	**14.61**	**117**	*e*Pn	**Pn**	**01 05 29.4**	**+0.2**
PATS				*e*Sn	Sn	01 07 58.9	-12
SIJI	**Sorong**	**20.11**	**225**	P	Pn	01 06 37.6	+1.8
	0.3nm,0.3s,baz=38,slow=6.4,SNR=3.9						
JOW	**Kunigami**	**20.48**	**312**	P	**P**	**01 06 37.6**	**+0.8**
	5.7nm,0.3s,baz=137,slow=29,SNR=4.6						
JOW	**Kunigami**	**20.48**	**312**	*e*P	**P**	**01 06 37.6**	**+0.8**
	150nm,2.0s						
FAKI	**Fak Fak**	**21.04**	**219**	*e*P	**P**	**01 06 41.8**	**-1.1**
	9.2nm,0.7s						
H11S3	**WAKE ISLAND Hy**	**21.11**	**74**	T	T	01 28 53.8	
	baz=261,slow=75,SNR=16						
H11S1	**WAKE ISLAND Hy**	**21.13**	**74**	T	T	01 28 54.1	
	baz=261,slow=75,SNR=15						
H11S2	**WAKE ISLAND Hy**	**21.13**	**74**	T	T	01 28 54.1	
	baz=261,slow=75,SNR=6.7						
H11N1	**WAKE ISLAND Hy**	**21.53**	**71**	T	T	01 29 56.1	
	baz=257,slow=75,SNR=16						
H11N2	**WAKE ISLAND Hy**	**21.54**	**71**	T	T	01 29 55.6	
	baz=257,slow=75,SNR=9.5						
H11N3	**WAKE ISLAND Hy**	**21.55**	**71**	T	T	01 29 55.9	
	baz=257,slow=75,SNR=14						
MJAR	**Matsushiro Arr**	**23.49**	**346**	P	**P**	**01 07 06.1**	**-1.4**
	2.0nm,0.6s,baz=168,slow=9.9,SNR=5.4						
KSRS	**Korea Array**	**28.15**	**330**	P	**P**	**01 07 51.8**	**+2.4**
	1.2nm,0.5s,baz=151,slow=9.5,SNR=2.9						
KS15	**Wonju Array Si**	**28.16**	**330**	*e*P	**P**	**01 07 49.2**	**-0.3**
KSAR	**Wonju Array Be**	**28.16**	**330**	P	**P**	**01 07 51.8**	**+2.3**
USRK	**Ussuriysk Ar.**	**32.33**	**342**	P	**P**	**01 08 27.1**	**+0.9**
	1.2nm,0.6s,baz=150,slow=9.9,SNR=4.0						
WB2	**Warramunga Arr**	**35.22**	**198**	*e*P	**P**	**01 08 51.9**	**+0.5**
WR1	**Warramunga Arr**	**35.22**	**198**	*e*P	**P**	**01 08 51.7**	**+0.2**
	5.2nm,0.7s						
WRA	**Warramunga Arr**	**35.22**	**198**	P	**P**	**01 08 51.7**	**+0.2**
	3.8nm,0.7s,baz=21,slow=9.4,SNR=33						
AS01	**Alice Springs**	**38.85**	**197**	*e*P	**P**	**01 09 19.2**	**-3.0**
AS31	**Alice Springs**	**38.87**	**197**	*e*P	**P**	**01 09 22.8**	**+0.4**
	1.1nm,0.6s						
ASAR	**Alice Springs**	**38.87**	**197**	P	**P**	**01 09 22.8**	**+0.4**
	1.1nm,0.4s,baz=21,slow=9.8,SNR=18						
EIDS	**Eidsvold**	**39.36**	**172**	*e*P	**P**	**01 09 26.4**	**+0.1**
	50nm,1.8s						
ARMA	**Armidale**	**44.41**	**172**	*e*P	**P**	**01 10 06.9**	**-0.5**
	63nm,1.7s						
CM01	**Chiang Mai Arr**	**44.61**	**282**	*e*PcP	**PcP**	**01 11 52.3**	**+2.0**
CM31	**Chiang Mai Arr**	**44.62**	**282**	*e*P	**P**	**01 10 10.9**	**+1.5**
CM31				*e*PcP	**PcP**	**01 11 50.4**	**0.0**
CMAR	**Chiang Mai Arr**	**44.62**	**282**	P	**P**	**01 10 10.9**	**+1.5**
	0.5nm,0.3s,baz=74,slow=9.6,SNR=3.0						
CMAR				PcP	**PcP**	**01 11 50.4**	**0.0**
	1.6nm,0.6s,baz=104,slow=1.5,SNR=9.5						
STKA	**Stephens Creek**	**45.56**	**184**	P	**P**	**01 10 16.6**	**+0.1**
	4.9nm,0.5s,baz=5.8,slow=6.8,SNR=7.8						
STKA	**Stephens Creek**	**45.56**	**184**	*e*P	**P**	**01 10 16.6**	**+0.1**
	11nm,1.9s						
BKNI	**Bangkinang**	**45.75**	**257**	*e*P	**P**	**01 10 18.1**	**-0.3**
	32nm,0.6s						
SONA0	**Songino Array**	**46.76**	**325**	*e*P	**P**	**01 10 24.9**	**-1.0**
	10nm,1.9s						
SONA0				*e*PcP	**PcP**	**01 11 56.3**	**-1.2**
SONM	**Songino Array**	**46.76**	**325**	P	**P**	**01 10 24.9**	**-1.0**
	0.7nm,0.6s,baz=111,slow=7.9,SNR=3.5						
SONM				PcP	**PcP**	**01 11 56.3**	**-1.2**
	0.4nm,0.4s,baz=194,slow=2.7,SNR=2.8						
BBOO	**Buckleboo**	**47.19**	**191**	*e*P	**P**	**01 10 29.6**	**+0.4**
	115nm,1.4s						
FORT	**Forrest**	**47.32**	**200**	*e*P	**P**	**01 10 30.7**	**+0.5**
	318nm,0.9s						
ADK	**Adak**	**48.69**	**31**	*e*P	**P**	**01 10 40.4**	**-0.1**
	49nm,1.1s						
NIKH	**Nikolski High**	**53.29**	**33**	*e*P	**P**	**01 11 14.6**	**-0.4**
	64nm,1.2s						
SPIA	**Saint Paul Isl**	**54.81**	**28**	*e*P	**P**	**01 11 26.0**	**+0.1**
	358nm,1.4s						
UNV	**Unalaska Valle**	**54.94**	**33**	*e*P	**P**	**01 11 26.5**	**-0.4**
	91nm,1.6s						
AKUT	**Akutan**	**55.46**	**33**	*e*P	**P**	**01 11 30.2**	**-0.4**
	264nm,1.6s						
MK01	**Makanchi Array**	**61.57**	**316**	*e*P	**P**	**01 12 13.4**	**+0.1**
MK32	**Makanchi Array**	**61.58**	**316**	*e*P	**P**	**01 12 13.6**	**+0.3**
MKAR	**Makanchi Array**	**61.58**	**316**	P	**P**	**01 12 13.6**	**+0.3**
	1.2nm,0.6s,baz=92,slow=9.3,SNR=12						
ZALV	**Zalesovo Beam**	**61.65**	**324**	P	**P**	**01 12 13.0**	**-0.6**
	0.6nm,0.4s,baz=109,slow=9.6,SNR=2.6						
ZALV				PcP	**PcP**	**01 12 53.6**	**-0.4**
	0.8nm,0.4s,baz=119,slow=4.9,SNR=3.5						
ZAA1	**Zalesovo Array**	**61.65**	**324**	*e*P	**P**	**01 12 13.0**	**-0.6**
ZAA1				*e*PcP	**PcP**	**01 12 53.6**	**-0.4**
KDAK	**Kodiak Island**	**63.69**	**32**	P	**P**	**01 12 27.7**	**+0.7**
	4.7nm,0.3s,baz=255,slow=2.0,SNR=21						
KDAK	**Kodiak Island**	**63.69**	**32**	*e*P	**P**	**01 12 27.7**	**+0.7**
	121nm,1.9s						
KURK	**Kurchatov**	**64.64**	**320**	*e*P	**P**	**01 12 33.3**	**-0.1**
	9.2nm,0.6s						
KURBB	**Kurkatov Arra**	**64.69**	**320**	P	**P**	**01 12 33.4**	**-0.3**
	3.9nm,0.6s,baz=101,slow=6.6,SNR=29						
NRIK	**Noril'sk**	**66.04**	**341**	P	**P**	**01 12 42.4**	**+0.3**
	1.9nm,0.4s,baz=100,slow=4.6,SNR=2.4						
ILAR	**Eielson Array**	**68.21**	**25**	P	**P**	**01 12 54.4**	**-1.6**
	1.5nm,0.4s,baz=249,slow=5.8,SNR=26						
ILB	**Eielson Array**	**68.21**	**25**	*e*P	**P**	**01 12 54.3**	**-1.6**
BVAR	**Borovoye Array**	**69.97**	**322**	P	**P**	**01 13 06.6**	**-0.5**
	1.8nm,0.3s,baz=101,slow=7.8,SNR=17						
INK	**Inuvik**	**74.02**	**22**	P	**P**	**01 13 30.3**	**-0.6**
	0.5nm,0.5s,baz=242,slow=5.7,SNR=5.1						
INK	**Inuvik**	**74.02**	**22**	*e*P	**P**	**01 13 30.3**	**-0.6**
	9.5nm,1.4s						
DLBC	**Dease Lake**	**75.60**	**33**	P	**P**	**01 13 41.8**	**+1.5**
	2.1nm,0.5s,baz=165,slow=10,SNR=4.4						
DLBC	**Dease Lake**	**75.60**	**33**	*e*P	**P**	**01 13 41.8**	**+1.5**
	33nm,1.8s						
ABKAR	**Akbulak array**	**76.62**	**318**	*e*P	**P**	**01 13 45.6**	**-0.5**
	91nm,0.6s						
BBB	**Bella Bella**	**77.17**	**39**	P	**P**	**01 13 49.1**	**0.0**
	5.0nm,0.9s,baz=277,slow=8.1,SNR=2.8						
BBB	**Bella Bella**	**77.17**	**39**	*e*P	**P**	**01 13 49.1**	**0.0**
	127nm,2.0s						
YKA	**Yellowknife Ar**	**82.49**	**27**	P	**P**	**01 14 17.5**	**-0.1**
	0.8nm,0.3s,baz=286,slow=5.3,SNR=13						
YKB5	**Yellowknife Ar**	**82.49**	**27**	*e*P	**P**	**01 14 17.6**	**-0.1**
B08A	**Colville Reser**	**83.37**	**42**	*e*P	**P**	**01 14 23.6**	**+1.1**
	6.5nm,0.6s						
HAWA	**Hanford**	**83.68**	**44**	*e*P	**P**	**01 14 25.9**	**+1.7**
	3.9nm,0.8s						
NEW	**Newport**	**84.82**	**42**	P	**P**	**01 14 30.9**	**+1.0**
	6.1nm,0.6s,baz=266,slow=3.1,SNR=15						
NEW	**Newport**	**84.82**	**42**	*e*P	**P**	**01 14 31.2**	**+1.3**
	5.8nm,0.6s						
BMO	**Blue Mountains**	**85.58**	**45**	*e*P	**P**	**01 14 34.9**	**+1.1**
	3.9nm,0.8s						
BSMT	**Bassoo Peak**	**86.44**	**42**	*e*P	**P**	**01 14 39.8**	**+1.7**
WALA	**Waterton Lakes**	**86.65**	**40**	*e*P	**P**	**01 14 40.8**	**+1.8**
	5.8nm,0.7s						
BLMT	**Blacktail Moun**	**86.67**	**41**	*e*P	**P**	**01 14 40.9**	**+1.6**
ARA0	**ARCESS Array S**	**86.98**	**342**	*e*P	**P**	**01 14 39.5**	**-0.6**
ARCES	**ARCESS Array B**	**86.98**	**342**	P	**P**	**01 14 39.5**	**-0.6**
	3.6nm,0.9s,baz=65,slow=5.8,SNR=7.3						
MFID	**Camas Ranch**	**86.98**	**46**	*e*P	**P**	**01 14 42.5**	**+1.7**
	6.1nm,0.7s						
SBI	**Santa Barbara**	**87.18**	**56**	*e*P	**P**	**01 14 41.9**	**+0.2**
HLID	**Hailey**	**87.93**	**46**	*e*P	**P**	**01 14 47.1**	**+1.7**
EML	**El Monte Cty P**	**89.10**	**56**	*e*P	**P**	**01 14 51.3**	**+0.5**
PFO	**Pinyon Flats O**	**89.21**	**56**	P	**P**	**01 14 51.5**	**0.0**
	1.1nm,0.6s,baz=281,slow=5.2,SNR=3.1						
PFO	**Pinyon Flats O**	**89.21**	**56**	*e*P	**P**	**01 14 51.5**	**0.0**
	14nm,1.8s						
TPC	**Twentynine Pal**	**89.41**	**55**	*e*P	**P**	**01 14 51.3**	**-1.1**
FIA0	**FINESS Array S**	**91.11**	**335**	*e*P	**P**	**01 14 58.7**	**-0.9**
FINES	**FINESS Array B**	**91.11**	**335**	P	**P**	**01 14 58.7**	**-0.9**
	0.7nm,0.3s,baz=68,slow=4.8,SNR=13						
PD31	**Pinedale Array**	**91.55**	**45**	*e*P	**P**	**01 15 02.2**	**-0.2**
PDAR	**Pinedale Array**	**91.55**	**45**	P	**P**	**01 15 02.2**	**-0.2**
	0.4nm,0.5s,baz=258,slow=1.7,SNR=4.0						
PDAR				LR	LR	01 54 24.8	
	comp=Z,25nm,18.2s,baz=33,slow=34						
TOA1	**Torodi Ar. Sit**	**135.03**	**305**	*e*PKPdf	**PKPdf**	**01 21 13.5**	**-1.3**
TORD	**Torodi Ar. Bea**	**135.03**	**305**	PKP	**PKPdf**	**01 21 13.5**	**-1.3**
	0.3nm,0.5s,baz=76,slow=1.7,SNR=5.1						
DBIC	**Dimbokro**	**144.01**	**303**	PKP	PKPbc	01 21 29.1	-0.2
	4.8nm,0.5s,baz=39,slow=3.7,SNR=23						
KIC	**Kosan Boka**	**144.09**	**302**	*e*PKP1	PKPbc	01 21 29.5	0.0
	8.5nm,0.5s						
TIC	**Toumodi**	**144.16**	**303**	*e*PKP1	PKPbc	01 21 29.7	-0.1
LIC	**Lamto**	**144.40**	**302**	*e*PKP1	PKPbc	01 21 30.5	0.0
	34nm,0.6s						
LPAZ	**La Paz**	**147.70**	**99**	PKPbc	**PKPbc**	**01 21 42.0**	**+1.0**
	0.4nm,0.5s,baz=333,slow=4.5,SNR=3.5						

*ISCJB **29** 01:03:55.2±1.1, 32.69S±0.05 × 70.17W±0.04, h108 km±9km, Error ellipse: s-maj=8.7km s-min=5.7km az=157.7*
*GUC **29** 01:03:55.6±0.6, 32.67S × 70.21W, h105 km±27 km, ML2.1*
*SJA **29** 01:03:55.1±1.2, 32.67S × 70.20W, h92 km±16 km, ML2.1, MW2.7*
ISC 29 01:03:55.9±2.4, 32.69S±0.07 × 70.18W±0.05, h103 km±19 km, n15, σ0.45/26, 1D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PEL	**Peldehue**	**0.63**	**223**	⇓*e*P	**Pn**	**01 04 12.7**	**-0.3**
PEL				*e*S	**Sn**	**01 04 25.6**	**-0.2**
PEL				IAML		01 04 27.5	
	comp=E,61nm,0.2s						
FCH	**Farellones**	**0.65**	**189**	*e*P	**Pn**	**01 04 13.2**	**-0.3**
FCH				*e*S	**Sn**	**01 04 27.4**	**+0.7**
ROCH	**El Roble**	**0.76**	**248**	*e*P	**Pn**	**01 04 14.1**	**-0.2**
ROCH				*e*S	**Sn**	**01 04 28.3**	**+0.1**
ROC1	**El Roble**	**0.77**	**247**	*e*P	**Pn**	**01 04 14.3**	**-0.1**
ROC1				*e*S	**Sn**	**01 04 28.3**	**0.0**
CLCH	**Cerro Calan**	**0.77**	**203**	*e*P	**Pn**	**01 04 14.3**	**0.0**
CLCH				*e*P	**Sn**	**01 04 28.5**	**+0.4**
CLCH				IAML		01 04 29.0	
	comp=N,97nm,0.3s						
AUSP	**Uspallata**	**0.81**	**56**	*e*P	**Pn**	**01 04 14.5**	**-0.4**
AUSP				*e*S	**Sn**	**01 04 28.2**	**-1.0**
ARCO	**CERRO ARCO**	**1.06**	**99**	*e*P	**Pn**	**01 04 17.2**	**-0.1**
ARCO				IAML		01 04 18.9	
	comp=Z,33nm,0.1s						
ARCO				*e*S	**Sn**	**01 04 33.6**	**+0.1**
ASAL	**Salagasta**	**1.13**	**86**	*e*P	**Pn**	**01 04 18.1**	**+0.1**
ASAL				*e*S	**Sn**	**01 04 35.5**	**+0.7**
RTLS	**Leoncito**	**1.16**	**40**	*e*P	**Pn**	**01 04 18.8**	**+0.2**
RTLS				*e*S	**Sn**	**01 04 36.8**	**+1.2**
AAGR	**Agrelo**	**1.20**	**110**	*e*P	**Pn**	**01 04 18.9**	**+0.1**
AAGR				*e*S	**Sn**	**01 04 36.1**	**-0.1**
RTCV	**Cerro Valdivia**	**1.61**	**60**	*e*P	**Pn**	**01 04 23.4**	**-0.3**
RTCV				*e*S	**Sn**	**01 04 44.5**	**-0.3**
ACCO	**Cerro Coronel**	**2.29**	**25**	*e*P	**Pn**	**01 04 32.9**	**+0.2**
ACCO				IAML		01 05 04.8	
	comp=Z,11nm,0.4s						
TLL	**Tololo Astrono**	**2.57**	**348**	*e*P	**Pn**	**01 04 36.4**	**+0.1**
TLL				*e*S	**Sn**	**01 05 06.9**	**-0.2**
ACDV	**Cuesta del Vie**	**2.66**	**20**	*e*P	Pn	01 04 23.8	-14
AVFE	**Valle Fertil**	**3.07**	**50**	*e*P	**Pn**	**01 04 42.2**	**-0.5**
AVFE				IAML		01 05 22.7	
	comp=Z,4.9nm,0.4s						

*IDC **29** 01:11:34.5±0.7, 38.44N × 69.65E, h0 km, mb4.0/22, mb1 4.2/28, mb1mx4.0/49, mbtmp4.0/28, ML3.6/5, MS3.4/2, Ms1 3.4/2, ms1mx2.6/47, Error ellipse: s-maj=16.8km s-min=10.1km az=166.0*
*ISCJB **29** 01:11:34.3±0.2, 38.39N±0.03 × 69.72E±0.03, h12 km, mb4.1/40, MS3.3/3, Error ellipse: s-maj=4.5km s-min=3.7km az=27.9*
*NNC **29** 01:11:37.9±7.3, 38.63N × 69.57E, h0 km, mb4.8, mpv4.5, Error ellipse: s-maj=72.8km s-min=43.0km az=161.0*
*NEIC **29** 01:11:40.8±0.8, 38.52N × 69.63E, h44 km±7 km, mb4.5/12, Error ellipse: s-maj=7.3km s-min=5.9km az=181.0*
*MOS **29** 01:11:40.3±1.1, 38.52N × 69.68E, h54 km, mb4.4/22, Error ellipse: s-maj=7.9km s-min=5.2km az=93.1*
*SOME **29** 01:11:40.1, 38.67N × 70.03E, h0 km*
ISC 29 01:11:36.3±0.4, 38.47N±0.03 × 69.69E±0.04, h12 km, n158, σ2.33/170, mb4.2/38, MS3.2/3, 14C-4D, Tajikistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IUG	**luzhnay**	**3.69**	**4**	*e*P	**Pg**	**01 12 44.7**	**-2.3**
	226nm,0.4s						
IUG				*e*S	**Sg**	**01 13 33.6**	**-1.0**
	1µm,0.4s						
CHM	**Chimkent**	**3.85**	**359**	*e*P	**Pg**	**01 12 48.5**	**-1.5**
	254nm,0.3s						
CHM				*e*S	**Sg**	**01 13 39.6**	**-0.3**
	2µm,0.4s						
KBL	**Kabul**	**3.95**	**188**	*e*PN	**Pn**	**01 12 41.0**	**+4.0**
KBL	**Kabul**	**3.95**	**188**	*e*Pn	**Pn**	**01 12 41.0**	**+4.0**
KBL				*e*Sn	**Sn**	**01 13 24.5**	**+1.1**
MNAS	**Manas**	**4.55**	**27**	⇑Pg	**Pn**	**01 12 50.0**	**+4.8**
	82nm,0.7s						
MNAS				⇑Lg	Lg	01 13 60.0	
	219nm,0.8s						
MNAS	**Manas**	**4.55**	**27**	PN	**Pn**	**01 12 49.9**	**+4.8**
BRLS	**Borolday**	**4.56**	**1**	*e*P	**Pb**	**01 12 56.9**	**+0.6**
	9.6nm,0.6s						
BRLS				*e*S	**Sb**	**01 13 53.6**	**+2.4**
	201nm,0.5s						
KK31	**Karatay Array**	**4.67**	**7**	Pn	**Pn**	**01 12 49.6**	**+2.9**
	49nm,0.9s,baz=194,slow=15,SNR=407						
KK31				⇑Pg	**Pg**	**01 13 02.4**	**-3.4**
	40nm,0.4s,baz=192,slow=17,SNR=19						
KK31				⇑Lg	Lg	01 14 05.2	
	252nm,0.3s,baz=189,slow=30,SNR=12						
KK31	**Karatay Array**	**4.67**	**7**	PN	**Pn**	**01 12 49.6**	**+2.9**
KKAR	**Karatay Array**	**4.67**	**7**	*e*PN	**Pn**	**01 12 50.4**	**+3.7**
KKAR	**Karatay Array**	**4.67**	**7**	*e*Pn	**Pn**	**01 12 50.4**	**+3.7**
KKAR				*e*Sn	**Sn**	**01 13 38.8**	**-2.1**
CEP	**Cherat**	**4.97**	**158**	P	**Pn**	**01 12 54.8**	**+3.9**
KSH	**Kashi**	**5.01**	**76**	Pn	**Pn**	**01 12 51.5**	**+0.1**
KSH				pP	pP	01 12 54.8	
KSH				Sn	**Sn**	**01 13 41.5**	**-7.8**
KSH				pmax	pmax		
	comp=Z,9.0nm,0.7s						

GKN	**Gorkha**	**16.27**	**125**	*e*P		**Pn**	**01 15 21.3**	**-3.5**
	comp=Z,43nm,0.6s							
KKN	**Kakani**	**16.83**	**125**	*e*P		**Pn**	**01 15 28.4**	**-3.6**
	comp=Z,23nm,0.5s							
DGZ	**Jazzator, Alta**	**16.94**	**43**	*i* P		**Pn**	**01 15 30.9**	**-2.3**
PKIN	**Phulchoki**	**17.05**	**125**	*e*P		**Pn**	**01 15 31.8**	**-3.0**
	comp=Z,28nm,0.6s							
GUN	**Gumba**	**17.14**	**123**	*e*P		**Pn**	**01 15 32.7**	**-3.3**
	comp=Z,38nm,0.5s							
JIRN	**Jiri**	**17.51**	**123**	*e*P		**Pn**	**01 15 37.3**	**-3.4**
	comp=Z,48nm,0.5s							
RAMN	**Ramite**	**18.26**	**124**	*e*P		**Pn**	**01 15 47.4**	**-2.4**
	comp=Z,42nm,0.5s							
ZAA0	**Zalesovo Array**	**18.63**	**29**	*e*P		**Pn**	**01 15 53.8**	**0.0**
ZALV	**Zalesovo Beam**	**18.63**	**29**	P		**P**	**01 15 53.7**	**+0.2**
	comp=Z,0.6nm,0.3s,baz=227,slow=12,SNR=12							
ZAA1	**Zalesovo Array**	**18.63**	**29**	*e*P		**P**	**01 15 53.7**	**+0.1**
TAPN	**Taplejung**	**18.72**	**121**	*e*P		**P**	**01 15 52.6**	**-2.6**
	comp=Z,26nm,0.6s							
NVS	**Novosibirsk**	**18.78**	**25**	*e*P		**Pn**	**01 15 58.6**	**+3.0**
NVS				*e*			01 19 28.6	
SVE	**Sverdlovsk**	**19.32**	**345**	*e*P		**Pn**	**01 16 03.5**	**+1.3**
SVE				*e*S		**Sn**	**01 19 34.7**	**-3.9**
SVE				pmax	pmax			
	comp=Z,15nm,1.0s							
GNI	**Garni**	**19.36**	**283**	P		**P**	**01 16 01.9**	**0.0**
	comp=Z,0.4nm,0.3s,baz=121,slow=5.9,SNR=4.5							
GNI	**Garni**	**19.36**	**283**	*ce*P		**Pn**	**01 16 03.9**	**+0.9**
GNI				pmax	pmax			
	comp=Z,5.0nm,0.6s							
GNI	**Garni**	**19.36**	**283**	*e*P		**Pn**	**01 16 08.9**	**+5.9**
ARU	**Arti**	**19.44**	**341**	P		**P**	**01 16 02.6**	**+0.2**
	comp=Z,0.0nm,0.3s,baz=147,slow=7.5,SNR=11							
ARU	**Arti**	**19.44**	**341**	*d* iP		**P**	**01 16 02.2**	**-0.2**
ARU				S		**Sn**	**01 19 37.3**	**-4.0**
ARU				pmax	pmax			
	comp=Z,6.0nm,1.0s							
ARU	**Arti**	**19.44**	**341**	*e*P		**P**	**01 16 02.4**	**0.0**
	comp=Z,9.1nm,0.6s							
ZEI	**Tsey**	**20.01**	**291**	*e*P		Pn	01 16 14.6	+3.8
ZEI				pmax	pmax			
	comp=Z,17nm,1.5s							
NCK	**Nalchik**	**20.29**	**293**	*i* P		Pn	01 16 14.0	+0.1
KBZ	**Khabaz**	**20.82**	**293**	P		**P**	**01 16 17.6**	**+0.1**
	comp=Z,3.1nm,0.9s,baz=121,slow=9.3,SNR=7.6							
GOF	**Gofitskoye**	**20.88**	**297**⇑	*e*P		Pn	01 16 20.9	+0.2
GOF				pmax	pmax			
	comp=Z,19nm,0.8s							
NEY	**Neytrino**	**20.91**	**292**⇑	*e*P		Pn	01 16 21.2	0.0
KVAR	**Kislovodsk Arr**	**20.98**	**294**	P		**P**	**01 16 19.5**	**0.0**
	comp=Z,2.4nm,0.5s,baz=117,slow=2.3,SNR=3.2							
KIV	**Kislovodsk**	**20.99**	**294**	*e*P		Pn	01 16 22.7	+0.6
KIV				pmax	pmax			
	comp=Z,8.0nm,0.9s							
KIV				MLR		MLR		
	comp=Z,46nm,14.0s							
KIV	**Kislovodsk**	**20.99**	**294**	*e*P		**P**	**01 16 19.5**	**-0.1**
	comp=Z,9.2nm,0.7s							
HYB	**Hyderabad**	**22.36**	**157**	*i* P		**P**	**01 16 37.0**	**+2.6**
VSR	**Storozhevoye**	**24.91**	**311**	*e*P		**P**	**01 16 58.5**	**-0.5**
VSR				pmax	pmax			
	comp=Z,6.0nm,0.5s							
LPSR	**Galich'ya Gora**	**25.53**	**314**	*e*P		**P**	**01 17 06.8**	**+2.2**
LPSR				pmax	pmax			
	comp=Z,10.0nm,1.0s							
ZAK	**Zakamensk**	**26.55**	**52**	*e*P		**P**	**01 17 18.1**	**+4.1**
ZAK				pmax	pmax			
	comp=Z,4.0nm,1.3s							
TLY	**Talaya**	**27.11**	**50**	P		**P**	**01 17 19.8**	**+0.9**
	comp=Z,2.8nm,0.3s,baz=235,slow=19,SNR=2.1							
ASF	**Jabal al Asfar**	**27.39**	**267**	LR		LR	01 29 04.5	
	comp=Z,72nm,21.4s,baz=170,slow=38							
OBN	**Obninsk**	**27.77**	**318**	*e*P		**P**	**01 17 25.0**	**+0.2**
OBN				pmax	pmax			
	comp=Z,4.0nm,0.6s							
BR101	**Keskin Array S**	**27.89**	**284**	*e*P		**P**	**01 17 25.2**	**-0.9**
BR131	**Keskin Array S**	**27.89**	**284**	*e*P		**P**	**01 17 27.0**	**+0.8**
BRTR	**Keskin Array B**	**27.89**	**284**	P		**P**	**01 17 25.2**	**-0.9**
	comp=Z,0.8nm,0.5s,baz=100,slow=9.1,SNR=7.0							
BRTR	**Keskin Array B**	**27.89**	**284**	*e*P		**P**	**01 17 26.9**	**+0.7**
BRTR				pmax	pmax			
	comp=Z,1.0nm,0.5s							
SONA0	**Songino Array**	**28.14**	**59**	*e*P		**P**	**01 17 28.7**	**+0.4**
	comp=Z,9.9nm,1.8s							
SONM	**Songino Array**	**28.14**	**59**	P		**P**	**01 17 28.7**	**+0.4**
	comp=Z,0.3nm,0.5s,baz=265,slow=8.5,SNR=2.0							
BR231	**Keskin MP Arra**	**28.53**	**284**	*e*P		P	01 17 27.0	-4.9
AKASG	**Malin Array Be**	**30.92**	**307**	P		**P**	**01 17 50.1**	**-2.6**
	comp=Z,0.9nm,0.5s,baz=80,slow=7.5,SNR=9.3							
AKASG	**Malin Array Be**	**30.92**	**307**	*e*P		**P**	**01 17 52.7**	**0.0**
AKASG				pmax	pmax			
	comp=Z,2.0nm,0.6s							
AKBB	**Malin Array Si**	**30.92**	**307**	*e*P		**P**	**01 17 50.1**	**-2.6**
AKBB				pmax	pmax			
	comp=Z,11nm,1.5s							
AKBB	**Malin Array Si**	**30.92**	**307**	*e*P		**P**	**01 17 50.1**	**-2.6**
	comp=Z,11nm,1.5s							
CM31	**Chiang Mai Arr**	**32.33**	**120**	*e*P		**P**	**01 18 06.0**	**+0.5**
CMAR	**Chiang Mai Arr**	**32.33**	**120**	P		**P**	**01 18 06.0**	**+0.5**
	comp=Z,0.5nm,0.3s,baz=313,slow=8.5,SNR=3.8							
CMAR	**Chiang Mai Arr**	**32.33**	**120**	P		**P**	**01 18 06.0**	**+0.5**
CMAR				pmax	pmax			
	comp=Z,1.0nm,0.3s							
NRIK	**Noril'sk**	**32.40**	**12**	P		**P**	**01 18 06.5**	**+0.9**
	comp=Z,2.0nm,0.4s,baz=235,slow=7.0,SNR=2.4							
TESR	**Tescani**	**32.40**	**298**⇑	*i*P		**P**	**01 18 06.6**	**+0.7**
MLR	**Muntele Rosu**	**32.94**	**297**	P		**P**	**01 18 11.5**	**+0.8**
	comp=Z,0.3nm,0.6s,baz=253,slow=22,SNR=5.5							
MLR	**Muntele Rosu**	**32.94**	**297**⇑	*i*P		**P**	**01 18 11.5**	**+0.8**
MLR	**Muntele Rosu**	**32.94**	**297**	*e*P		**P**	**01 18 11.5**	**+0.8**
	comp=Z,29nm,1.8s							
BURAR	**Bucovina Array**	**33.36**	**300**⇑	*i*P		**P**	**01 18 13.8**	**-0.6**
BURAR	**Bucovina Array**	**33.36**	**300** ⇑	P		**P**	**01 18 13.8**	**-0.6**
FIA0	**FINESS Array S**	**35.27**	**325**	*e*P		**P**	**01 18 30.7**	**+0.1**
FIA0	**FINESS Array S**	**35.27**	**325**	*e*P		**P**	**01 18 30.7**	**+0.1**
FINES	**FINESS Array B**	**35.27**	**325**	P		**P**	**01 18 30.7**	**+0.1**
	comp=Z,2.4nm,0.8s,baz=114,slow=11,SNR=7.2							
STHS	**Stebnicka Huta**	**35.98**	**304**	*e*P		**P**	**01 18 37.4**	**+0.5**
STHS				pmax	pmax			
	comp=Z,2.0nm,0.6s							
STHS	**Stebnicka Huta**	**35.98**	**304**	*e*P		**P**	**01 18 37.3**	**+0.4**
ARA0	**ARCESS Array S**	**38.93**	**337**	*e*P		**P**	**01 19 02.0**	**+0.4**
ARCES	**ARCESS Array B**	**38.93**	**337**	P		**P**	**01 19 02.0**	**+0.4**
	comp=Z,2.8nm,0.8s,baz=98,slow=7.5,SNR=9.0							
ARCES	**ARCESS Array B**	**38.93**	**337**	P		**P**	**01 19 02.0**	**+0.4**
ARCES				pmax	pmax			
	comp=Z,3.0nm,0.8s							
DPC	**Dobruska-Polom**	**39.12**	**305**	*e*P		**P**	**01 19 04.4**	**+0.9**
DPC	**Dobruska-Polom**	**39.12**	**305**	*e*P		**P**	**01 19 04.4**	**+0.9**
CONA	**Conrad Observa**	**39.64**	**302**	*e*P		**P**	**01 19 08.7**	**+0.8**
	comp=Z,1.3nm,0.5s							
ARSA	**Arzberg**	**39.95**	**301**	*e*P		**P**	**01 19 10.0**	**-0.4**
	comp=Z,0.3nm,0.2s							
PRU	**Pruhonice**	**40.29**	**305**	*e*P		**P**	**01 19 13.9**	**+0.7**
PRU	**Pruhonice**	**40.29**	**305**	*e*P		**P**	**01 19 13.9**	**+0.7**
BRG	**Berggiesshubel**	**40.60**	**306**	*i* P		**P**	**01 19 16.8**	**+1.1**
	comp=Z,4.7nm,0.7s							
BRG	**Berggiesshubel**	**40.60**	**306**	*i* P		**P**	**01 19 16.8**	**+1.1**
BRG				pmax	pmax			
	comp=Z,5.0nm,0.7s							
MOA	**Molln**	**40.71**	**302**	*e*P		**P**	**01 19 17.5**	**+0.8**
	comp=Z,0.8nm,0.6s							
OBKA	**Obir**	**40.72**	**300**	*e*P		**P**	**01 19 18.1**	**+1.3**
	comp=Z,2.2nm,0.8s							
GEC2	**GERESS Array S**	**40.96**	**303**	*e*P		**P**	**01 19 19.4**	**+0.6**
GEC2				pmax	pmax			
	comp=Z,10.0nm,1.7s							
GEC2	**GERESS Array S**	**40.96**	**303**	*e*P		**P**	**01 19 19.4**	**+0.6**
	comp=Z,10nm,1.7s							
GERES	**GERESS Array B**	**40.96**	**303**	P		**P**	**01 19 19.4**	**+0.6**
	comp=Z,0.7nm,0.6s,baz=83,slow=8.0,SNR=9.1							
KHC	**Kasperske Hory**	**41.01**	**304**	*e*P		**P**	**01 19 20.3**	**+1.2**
KHC	**Kasperske Hory**	**41.01**	**304**	*e*P		**P**	**01 19 20.3**	**+1.2**
CLL	**Collm**	**41.16**	**307**	*e*P		**P**	**01 19 20.0**	**-0.3**
CLL	**Collm**	**41.16**	**307**	*e*P		**P**	**01 19 20.0**	**-0.3**
CLL				*e*(pP)		**sP**	**01 19 29.0**	**+3.5**
ABTA	**Abfaltersbach**	**42.06**	**300**	*e*P		**P**	**01 19 28.4**	**+0.5**
	comp=Z,1.0nm,0.5s							
NB2	**NORSAR Subarra**	**42.19**	**322**	P		**P**	**01 19 28.0**	**-0.6**
	comp=Z,1.7nm,0.8s,baz=95,slow=8.6							
NB200	**NORSAR Array S**	**42.19**	**322**	*e*P		**P**	**01 19 28.3**	**-0.3**
NOA	**NORSAR Array B**	**42.19**	**322**	P		**P**	**01 19 28.3**	**-0.3**
	comp=Z,2.0nm,0.7s,baz=95,slow=8.2,SNR=6.3							
MOTA	**Moosalm**	**42.91**	**302**	*e*P		**P**	**01 19 34.6**	**-0.2**
	comp=Z,1.5nm,0.6s							

KEST	**Kesra**	**47.45**	**286**	P		**P**	**01 20 11.1**	**+0.1**
	comp=Z,3.2nm,1.0s,baz=45,slow=14,SNR=2.7							
KEST	**Kesra**	**47.45**	**286**	*e*P		**P**	**01 20 11.1**	**+0.1**
	comp=Z,24nm,1.6s							
DAG	**Danmarks Havn**	**52.55**	**343**	*i* P		**P**	**01 20 49.4**	**+0.4**
	comp=Z,2.9nm,0.7s							
DAG	**Danmarks Havn**	**52.55**	**343**	*i* P		**P**	**01 20 49.4**	**+0.4**
DAG				pmax	pmax			
	comp=Z,2.0nm,0.7s							
ESDC	**Sonseca Array**	**55.63**	**296**	P		**P**	**01 21 12.0**	**-0.1**
	comp=Z,0.4nm,0.4s,baz=57,slow=8.0,SNR=6.9							
SUMG	**Summit**	**58.86**	**340**	*i* P		**P**	**01 21 34.8**	**-0.1**
SUMG	**Summit**	**58.86**	**340**	*i* P		**P**	**01 21 34.8**	**-0.1**
TOA0	**Torodi Ar. Sit**	**64.75**	**267**	*e*P		**P**	**01 22 14.2**	**-0.6**
TOA1	**Torodi Ar. Sit**	**64.75**	**267**	*e*P		**P**	**01 22 14.2**	**-0.7**
TORD	**Torodi Ar. Bea**	**64.75**	**267**	P		**P**	**01 22 14.2**	**-0.7**
	comp=Z,1.3nm,0.6s,baz=48,slow=6.2,SNR=23							
INK	**Inuvik**	**72.13**	**9**	P		**P**	**01 23 00.7**	**+0.5**
	comp=Z,1.0nm,0.5s,baz=324,slow=9.0,SNR=8.0							
INK	**Inuvik**	**72.13**	**9**	*e*P		**P**	**01 23 00.7**	**+0.5**
	comp=Z,11nm,1.5s							
ILAR	**Eielson Array**	**73.17**	**15**	P		**P**	**01 23 06.8**	**+0.3**
	comp=Z,0.3nm,0.6s,baz=332,slow=5.5,SNR=3.4							
ILB	**Eielson Array**	**73.17**	**15**	*e*P		**P**	**01 23 06.8**	**+0.3**
DBIC	**Dimbokro**	**73.78**	**266**	P		**P**	**01 23 10.2**	**-0.6**
	comp=Z,1.7nm,0.5s,baz=32,slow=18,SNR=3.6							
DBIC	**Dimbokro**	**73.78**	**266**	*e*P		**P**	**01 23 10.2**	**-0.6**
	comp=Z,9.3nm,1.0s							
YKA	**Yellowknife Ar**	**79.33**	**2**	P		**P**	**01 23 42.0**	**+0.6**
	comp=Z,0.6nm,0.5s,baz=352,slow=5.7,SNR=4.2							
YKB5	**Yellowknife Ar**	**79.33**	**2**	*e*P		**P**	**01 23 42.0**	**+0.6**
SCHQ	**Schefferville**	**79.88**	**336**	P		**P**	**01 23 44.6**	**0.0**
	comp=Z,4.5nm,0.6s,baz=248,slow=10,SNR=4.7							
SCHQ	**Schefferville**	**79.88**	**336**	*e*P		**P**	**01 23 44.6**	**0.0**
	comp=Z,66nm,1.9s							
WRA	**Warramunga Arr**	**83.91**	**121**	P		**P**	**01 24 06.4**	**+0.1**
	comp=Z,1.2nm,0.5s,baz=327,slow=4.7,SNR=9.7							
WR1	**Warramunga Arr**	**83.91**	**121**	*e*P		**P**	**01 24 06.4**	**+0.1**
	comp=Z,22nm,1.6s							
AS31	**Alice Springs**	**86.23**	**124**	*e*P		**P**	**01 24 18.2**	**+0.4**
	comp=Z,5.2nm,1.6s							
ASAR	**Alice Springs**	**86.23**	**124**	P		**P**	**01 24 18.2**	**+0.4**
	comp=Z,1.0nm,0.7s,baz=320,slow=5.9,SNR=10							
ASAR				LR		LR	02 06 27.4	
	comp=Z,23nm,18.1s,baz=36,slow=38							

MEX 29 01:12:14.0±1.1, 17.65N×95.23W, h134km±11km, MD3.8, Oaxaca

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
CMIG	**Matias Romero**	**0.65**	**150**	*i* P		Pn	01 12 34.0	-0.5
CMIG				*i* S		Sn	01 12 48.2	-1.8
VHO	**Vista Hermosa**	**1.55**	**248**	*i* P		Pn	01 12 41.0	-2.2
VHO				*i* S		Sn	01 13 02.9	-2.5
HUIG	**Huatulco**	**2.06**	**204**	*e*P		Pn	01 12 47.9	-1.1
HUIG				*i* S		Sn	01 13 14.2	-1.5
TPIG	**Tehuac#an**	**2.17**	**291**	*i* P		Pn	01 12 49.9	-0.6
TPIG				*i* S		Sn	01 13 16.1	-2.3
TGIG		**2.19**	**113**	*i* P		Pn	01 12 49.0	-1.6
TGIG				*i* S		Sn	01 13 15.6	-3.0
PCIG		**2.73**	**135**	*i* P		Pn	01 12 56.7	-0.6
PCIG				*i* S		Sn	01 13 28.9	-1.7
PNIG	**Pinotepa**	**3.04**	**246**	*i* P		Pn	01 13 00.2	-1.1
PNIG				*e*S		Sn	01 13 37.0	-0.9

*MOS **29** 01:29:48.1±1.8, 54.13N×109.87E, h10km, mb4.3/1, Error ellipse: s-maj=46.8km s-min=20.6km az=82.9*

BYKL 29 01:29:47.4±0.2, 54.12N×109.81E, 3C, Lake Baikal region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
SYVR	**Suvo**	**0.48**	**166**⇑	*i*Pg		Pg	01 29 57.0	+0.5
SYVR				*e*Sg		Sg	01 30 04.1	+1.5
SYVR				Pmax				
	733nm,0.1s							
SYVR				Smax				
	4μm,0.2s							
SYVR	**Suvo**	**0.48**	**166**	*e*PG		Pg	01 29 56.6	+0.1
SYVR				*e*			01 30 04.0	
SYVR				pmax	pmax			
	comp=Z,745nm,0.1s							
SYVR				smax	smax			
	comp=E,4μm,0.2s							
MXMB	**Maximikha**	**1.07**	**217**⇑	*i*Pg		Pg	01 30 07.3	-0.5
MXMB				*e*Pb		Pn	01 30 10.1	+0.5
MXMB				*e*Sg		Sg	01 30 22.0	+0.4
YLYR	**Ulyunkhan**	**1.09**	**46**⇑	*i*Pg		Pg	01 30 07.3	-1.0
YLYR				*e*Sg		Sg	01 30 22.3	-0.2
YLYR				Pmax				
	comp=E,25nm,0.3s							
YLYR				Smax				
	comp=E,162nm,0.2s							
OGRR	**Ongureny**	**1.40**	**251**	*e*Pg		Pg	01 30 12.8	-1.3
OGRR				*e*Sg		Sg	01 30 32.1	-0.1
OGRR				Pmax				
	comp=E,29nm,0.1s							
OGRR				Smax				
	comp=E,207nm,0.3s							
OGRR	**Ongureny**	**1.40**	**251**	*e*PG		Pg	01 30 12.8	-1.3
OGRR				*e*			01 30 32.2	
OGRR				pmax	pmax			
	comp=Z,30nm,0.1s							
OGRR				smax	smax			
	comp=E,210nm,0.3s							
NIZ	**Nizh Angarsk**	**1.67**	**355**	*e*Pg		Pn	01 30 17.5	-0.4
NIZ				*e*Sg		Sn	01 30 40.0	+0.1
NIZ				Pmax				
	comp=E,132nm,0.2s							
NIZ				Smax				
	comp=E,369nm,0.4s							
NIZ	**Nizh Angarsk**	**1.67**	**355**	*e*PN		Pn	01 30 17.7	-0.2
NIZ				*e*			01 30 40.5	
NIZ				pmax	pmax			
	comp=Z,132nm,0.4s							
NIZ				smax	smax			
	comp=N,436nm,0.7s							
KELR	**Kotokel**	**1.71**	**218**	*e*Pg		Pn	01 30 17.9	-0.6
KELR				*e*Sg		Sn	01 30 41.0	0.0
KMO	**Kumora**	**1.94**	**24**	*e*Pg		Pn	01 30 22.2	+0.5
KMO				*e*			01 30 30.7	
KMO				*e*			01 30 36.7	
KMO				*e*Sg		Sb	01 30 48.7	+0.2
KMO				Pmax				
	comp=N,75nm,0.3s							
KMO				Smax				
	comp=N,284nm,1.1s							
KMO	**Kumora**	**1.94**	**24**	*e*PN		Pn	01 30 22.1	+0.4
KMO				*e*			01 30 48.3	
KMO				pmax	pmax			
	comp=Z,75nm,0.3s							
KMO				smax	smax			
	comp=E,258nm,0.9s							
ZRHB	**Zarechye**	**2.24**	**227**	*e*Pg		Pn	01 30 26.8	+1.1
ZRHB				*e*Sg		Sb	01 30 57.6	+0.7
ZRHB				Pmax				
	comp=E,52nm,0.2s							
ZRHB				Smax				
	comp=E,310nm,0.6s							
TRTB	**Turuntaevo**	**2.30**	**216**	*e*Pn		Pn	01 30 25.5	-1.1
TRTB				*e*Pg		Pb	01 30 28.4	-1.4
TRTB				*e*			01 30 34.7	
TRTB				*e*Sn		Sn	01 30 53.7	-2.0
TRTB				*e*Sg		Sb	01 30 58.5	-0.3
TRTB				max				
	comp=E,21nm,0.5s							
TRTB				Smax				
	comp=E,70nm,0.2s							
TRG	**Tyrgan**	**2.48**	**238**	*e*Pn		Pn	01 30 27.7	-1.3
TRG				*e*Pg		Pb	01 30 31.3	-1.5
TRG				*e*Sg		Sb	01 31 03.6	-0.3
TRG				Pmax				
	comp=E,10.0nm,0.1s							
TRG				Smax				
	comp=E,105nm,0.1s							
UKT	**Uakit**	**2.60**	**57**	*e*Pn		Pn	01 30 29.2	-1.6
UKT				*e*Pg		Pb	01 30 34.7	-0.2
UKT				*e*			01 30 39.5	
UKT				*e*Sn		Sn	01 31 01.1	-2.0
UKT				*e*Sg		Sb	01 31 07.6	+0.2
UKT				max				
	comp=E,12nm,0.3s							
UKT				Smax				
	comp=E,36nm,0.4s							
UUDB	**Ulan-Yde**	**2.60**	**211**	*e*Pg		Pb	01 30 33.3	-1.6
UUDB				*e*Sg		Sb	01 31 07.8	+0.4
UUDB				*e*SgSg		Sg	01 31 10.9	-0.1
UUDB				Pmax				
	comp=E,21nm,0.2s							
UUDB				max				
	comp=E,95nm,0.3s							
SVKR	**Severomuysk**	**2.94**	**46**	*e*Pn		Pn	01 30 35.6	+0.2
SVKR				*e*Sg		Sg	01 31 19.6	-2.2
SVKR				Smax				
	comp=E,192nm,0.6s							
HRMR	**Khuramsha**	**3.04**	**216**	*e*Pn		Pn	01 30 35.3	-1.4
HRMR				*e*Pg		Pb	01 30 41.1	-1.2
HRMR				*e*Sn		Sn	01 31 10.8	-3.0
HRMR				*e*Sg		Sb	01 31 22.1	+2.2
HRMR				Pmax				
	comp=E,28nm,0.3s							
HRMR				Smax				
	comp=E,299nm,0.4s							
CIT	**Chita**	**3.08**	**131**	*e*Pn		Pn	01 30 36.3	-1.1
CIT				*e*Pg		Pb	01 30 43.6	+0.5
CIT				*e*Sg		Sb	01 31 23.2	+1.9
CIT				Pmax				
	comp=E,88nm,0.1s							
CIT				Smax				
	comp=E,247nm,0.2s							
BGT	**Bolshoye Golou**	**3.37**	**234**	*e*Pn		Pn	01 30 39.9	-1.4
BGT				*e*Pg		Pb	01 30 47.5	-0.5
BGT				*e*Sn		Sn	01 31 20.5	-1.5
BGT				*e*Sg		Sb	01 31 32.3	+2.8
BGT				Pmax				
	comp=E,8.0nm,0.1s							
BGT				Smax				
	comp=E,34nm,0.3s							
IVK	**Ivanovka**	**4.00**	**237**	*e*Sn		Sn	01 31 33.9	-3.7
IVK				*e*Sg		Sb	01 31 50.6	+2.9
IVK				Smax				
	comp=E,22nm,0.2s							
NLYR	**Nelyaty**	**4.12**	**52**	*e*Pn		Pn	01 30 49.5	-2.1
NLYR				*e*Pg		Pb	01 31 01.2	+0.4
NLYR				*e*Sn		Sn	01 31 36.8	-3.7
NLYR				*e*Sg		Sb	01 31 54.0	+2.9
NLYR				Pmax				
	comp=E,6.0nm,0.5s							
NLYR				Smax				
	comp=E,69nm,1.1s							
BOD	**Bodaibo**	**4.39**	**31**	*e*Sn		Sn	01 31 42.8	-4.3
BOD				*e*Sg		Sb	01 32 02.6	+3.8
BOD				Smax				
	comp=E,51nm,0.9s							
TLY	**Talaya**	**4.46**	**239**	*e*Pg		Pb	01 31 07.4	+0.8
TLY				*e*Sg		Sb	01 32 03.6	+2.7
TLY				Pmax				
	comp=E,2.0nm,0.1s							
TLY				Smax				
	comp=E,17nm,0.2s							
KPC	**Khapcheranga**	**4.70**	**159**	*e*Pn		Pn	01 30 59.8	+0.2
KPC				*e*Pg		Pb	01 31 11.6	+0.9
KPC				*e*			01 31 14.7	
KPC				*e*Sn		Sn	01 31 51.2	-3.6
KPC				*e*Sg		Sb	01 32 12.5	+4.7
KPC				max				
	comp=E,8.0nm,0.3s							
KPC				Smax				
	comp=E,20nm,0.2s							
ARS	**Arshan**	**4.97**	**247**	*e*Pg		Pb	01 31 15.9	+0.6
ARS				*e*			01 31 25.8	
ARS				*e*Sn		Sn	01 31 57.3	-4.3
ARS				*e*Sg		Sb	01 32 20.5	+4.8
ARS				Pmax				
	comp=E,7.0nm,0.2s							
ARS				Smax				
	comp=E,51nm,0.4s							
CRS	**Chara**	**5.55**	**56**	*e*Pn		Pn	01 31 09.9	-1.4
CRS				*e*Pg		Pb	01 31 26.7	+1.5
CRS				*e*Sn		Sn	01 32 11.6	-4.2
CRS				*e*Sg		Sb	01 32 38.4	+6.1
CRS				Pmax				
	comp=E,2.0nm,0.1s							
CRS				Smax				
	comp=E,20nm,0.8s							
MOY	**Mondy**	**5.88**	**249**	*e*Pn		Pn	01 31 16.2	+0.4
MOY				*e*Sn		Sn	01 32 20.1	-3.7
MOY				*e*Sg		Sg	01 32 49.7	-6.3
MOY				Smax				
	comp=E,25nm,1.0s							
TUP	**Tupik**	**5.95**	**83**	*e*Sg		Sb	01 32 51.0	+7.3
TUP				Smax				
	comp=E,26nm,0.8s							
ORL	**Orlik**	**6.20**	**259**	*e*Pn		Pn	01 31 19.5	-0.7
ORL				*e*			01 31 29.7	
ORL				*e*			01 31 34.3	
ORL				*e*Pg		Pb	01 31 38.9	+2.7
ORL				*e*Sn		Sn	01 32 29.0	-2.8
ORL				*e*Sg		Sg	01 32 59.7	-6.6
ORL				Pmax				
	comp=E,7.0nm,1.1s							
ORL				Smax				
	comp=E,

2C-1D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHPI	**Pichilemu**	**0.39**	**340**	⇑*iP*	Pn	01 37 10.3	-0.6
CHPI				*iS*	Sn	01 37 17.1	-0.3
NICH	**Los Niches**	**0.56**	**116**	⇓*iP*	Pn	01 37 13.1	-0.1
NICH				*iS*	Sn	01 37 21.0	-0.4
NICH				IAML		01 37 22.6	
	comp=E,11μm,0.8s						
ANTU	**Antumapu**	**1.56**	**41**	*eP*	Pn	01 37 27.6	+0.7
ANTU				*iS*	Sn	01 37 47.1	+1.3
ANTU				IAML		01 37 53.1	
	comp=E,4μm,0.3s						
PEL	**Peldehue**	**1.88**	**31**	⇑*iP*	Pn	01 37 31.0	-0.3
PEL				*iS*	Sn	01 37 54.8	+1.1
PEL				IAML		01 38 02.1	
	comp=N,2μm,0.6s						
FCH	**Farellones**	**1.92**	**43**	*eP*	Pn	01 37 32.7	+0.6
FCH				*iS*	Sn	01 37 57.2	+1.9
FCH				IAML		01 38 03.5	
	comp=N,3μm,0.3s						

NIED ***29*** *01:48:00, 38.80N×141.60E, h62km, Mw3.8 Best double couple: M₀5.78000×10¹⁴ NP1:φs350.00000°, δ37.00000°, λ10.00000°. NP2:φs252.00000°, δ84.00000°, λ127.00000°.*
ISCJB ***29*** *01:48:35.4±0.5, 38.80N±0.03×141.67E±0.07, h77km±3km, mb3.9/12, Error ellipse: s-maj=9.1km s-min=4.7km az=15.5*
JMA ***29*** *01:48:36.8, 38.80N×141.57E, h71km±1km, M3.8 Broadband fault plane solution: P waves. NP1: φs227.00000°, δ69.00000°, λ93.00000°. NP2:φs39.00000°, δ21.00000°, λ83.00000°. Principal axes: T Plg66.0000°, Azm142.0000°; N Plg3.0000°, Azm46.0000°; P Plg24.0000°, Azm315.0000°;*
JMA Felt II J1.
IDC ***29*** *01:48:39.4±2.7, 38.74N×141.54E, h99km±24km, mb3.6/12, mb1 3.8/15, mb1mx3.6/41, mbtmp3.9/15 Error ellipse: s-maj=21.1km s-min=15.5km az=81.0*

ISC 29 01:48:36.4±0.8, 38.79N±0.04×141.68E±0.07, h70km±6km, n39, σ1s32/47, mb4.0/12, 7C-6D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OFUJ	**Ofunato**	**0.29**	**359**	⇑P	**Pn**	**01 48 48.1**	**+0.6**
OFUJ				S	**Sn**	**01 48 56.2**	**+0.6**
JMK	**Ichinoseki**	**0.39**	**294**	⇑P	**Pn**	**01 48 48.1**	**-0.1**
JMK				S	**Sn**	**01 48 56.6**	**-0.3**
JIO	**Ouri**	**0.42**	**217**	⇑P	**Pn**	**01 48 48.8**	**+0.3**
JIO				S	**Sn**	**01 48 57.5**	**+0.2**
JOM	**Ohasama**	**0.74**	**336**	⇑P	**Pn**	**01 48 51.9**	**+0.1**
JOM				S	**Sn**	**01 49 02.9**	**-0.2**
JOU	**Okura**	**0.90**	**242**	⇑P	**Pn**	**01 48 53.6**	**-0.1**
JOU				S	**Sn**	**01 49 06.2**	**-0.3**
JRG	**Rokugo**	**1.01**	**307**	⇑P	**Pn**	**01 48 54.8**	**-0.2**
JRG				S	**Sn**	**01 49 08.4**	**-0.5**
JYK	**Kaneyama**	**1.04**	**277**	⇑P	**Pn**	**01 48 55.0**	**-0.3**
JYK				*e*S	**Sn**	**01 49 08.8**	**-0.6**
JMM	**Marumori**	**1.16**	**217**	⇓P	**Pn**	**01 48 56.5**	**-0.4**
JMM				S	**Sn**	**01 49 11.2**	**-0.9**
JYS	**Shirataka**	**1.39**	**246**	⇓P	**Pn**	**01 48 59.9**	**0.0**
JYS				*e*S	**Sn**	**01 49 17.2**	**-0.3**
JYA	**Atsumi**	**1.55**	**263**	⇓P	**Pn**	**01 49 01.8**	**-0.2**
JYA				*e*S	**Sn**	**01 49 20.6**	**-0.7**
JFK	**Kawauchi**	**1.56**	**204**	⇓P	**Pn**	**01 49 02.3**	**+0.1**
JFK				S	**Sn**	**01 49 21.4**	**-0.2**
JANG	**Nango**	**1.58**	**356**	⇓P	**Pn**	**01 49 02.4**	**-0.1**
JANG				S	**Sn**	**01 49 21.8**	**-0.4**
JAH	**Hinai**	**1.61**	**330**	⇓P	**Pn**	**01 49 03.3**	**+0.5**
JAH				S	**Sn**	**01 49 22.9**	**+0.1**
JFT	**Otama**	**1.65**	**220**	P	**Pn**	**01 49 04.2**	**+0.8**
MAT	**Matsushiro**	**3.55**	**232**	P	**Pn**	**01 49 30.9**	**+1.7**
MAT				*e*S	**Sn**	**01 50 15.8**	**+5.8**
MJAR	**Matsushiro Arr**	**3.55**	**232**	P	**Pn**	**01 49 31.1**	**+2.0**
	3.3nm,0.3s,baz=40,slow=13,SNR=25						
ASAJ	**Asahikawa**	**5.36**	**7**	P	Pn	01 50 02.8	+8.9
	1.3nm,0.3s,baz=210,slow=16,SNR=2.9						
ASAJ				S	**Sn**	**01 50 53.0**	**-1.2**
	1.3nm,0.3s,baz=131,slow=18,SNR=2.7						
JHJ	**Hachijo jima 2**	**5.87**	**196**	P	Pn	01 50 08.7	+7.9
	10nm,0.3s,baz=66,slow=20,SNR=2.8						
JHJ				S	**Sn**	**01 51 02.7**	**-3.9**
	14nm,0.3s,baz=73,slow=19,SNR=2.9						
USRK	**Ussuriysk Ar.**	**9.05**	**310**	P	**Pn**	**01 50 46.7**	**+2.5**
	0.9nm,0.3s,baz=122,slow=14,SNR=20						
KSRS	**Korea Array**	**10.92**	**267**	P	**Pn**	**01 51 11.2**	**+1.5**
	0.4nm,0.3s,baz=85,slow=15,SNR=4.7						
SONM	**Songino Array**	**27.02**	**301**	P	**P**	**01 54 11.6**	**-0.3**
	0.5nm,0.4s,baz=96,slow=5.8,SNR=2.3						
H11N2	**WAKE ISLAND Hy**	**28.91**	**124**	T	T	02 25 04.3	
	baz=317,slow=75,SNR=133						
H11N1	**WAKE ISLAND Hy**	**28.92**	**124**	T	T	02 25 05.3	
	baz=317,slow=75,SNR=151						
H11N3	**WAKE ISLAND Hy**	**28.93**	**124**	T	T	02 25 06.0	
	baz=317,slow=75,SNR=87						
H11S1	**WAKE ISLAND Hy**	**29.68**	**126**	T	T	02 25 60.0	
	baz=318,slow=76,SNR=81						
H11S3	**WAKE ISLAND Hy**	**29.68**	**126**	T	T	02 25 60.0	
	baz=318,slow=76,SNR=102						
H11S2	**WAKE ISLAND Hy**	**29.70**	**126**	T	T	02 25 60.0	
	baz=318,slow=76,SNR=98						
ZALV	**Zalesovo Beam**	**40.90**	**311**	P	**P**	**01 56 10.8**	**-0.7**
	4.4nm,0.6s,baz=93,slow=7.6,SNR=15						
MKAR	**Makanchi Array**	**43.38**	**301**	P	**P**	**01 56 31.2**	**-0.7**
	5.8nm,0.7s,baz=86,slow=10,SNR=34						
ILAR	**Eielson Array**	**47.91**	**33**	P	**P**	**01 57 07.2**	**0.0**
	0.3nm,0.7s,baz=275,slow=6.0,SNR=4.3						
INK	**Inuvik**	**52.73**	**28**	P	**P**	**01 57 43.9**	**+0.4**
	1.4nm,0.8s,baz=296,slow=6.1,SNR=3.4						
WRA	**Warramunga Arr**	**58.83**	**188**	P	**P**	**01 58 26.9**	**-0.8**
	1.5nm,0.5s,baz=5.8,slow=7.1,SNR=16						
ARCES	**ARCESS Array B**	**62.43**	**339**	P	**P**	**01 58 51.4**	**-0.2**
	3.4nm,0.9s,baz=48,slow=8.6,SNR=3.3						
ASAR	**Alice Springs**	**62.56**	**188**	P	**P**	**01 58 52.0**	**-1.0**
	0.8nm,0.7s,baz=1.8,slow=4.2,SNR=5.9						
FINES	**FINESS Array B**	**67.36**	**332**	P	**P**	**01 59 22.8**	**-0.9**
	1.9nm,1.0s,baz=64,slow=4.4,SNR=3.4						
KBZ	**Khabaz**	**69.92**	**310**	P	**P**	**01 59 39.9**	**0.0**
	1.4nm,0.8s,baz=26,slow=8.4,SNR=3.9						
PDAR	**Pinedale Array**	**76.29**	**46**	P	**P**	**02 00 18.6**	**+0.7**
	0.4nm,0.5s,baz=96,slow=1.5,SNR=5.3						
BRTR	**Keskin Array B**	**77.84**	**311**	P	**P**	**02 00 26.1**	**-0.4**
	0.4nm,0.6s,baz=20,slow=4.7,SNR=3.3						
LPAZ	**La Paz**	**145.60**	**58**	PKPbc	**PKPbc**	**02 08 08.2**	**0.0**
	0.6nm,0.6s,baz=346,slow=2.2,SNR=4.9						

ISCJB ***29*** *01:56:14.9±0.6, 36.93N±0.03×33.92E±0.05, h6km±7km, Error ellipse: s-maj=7.1km s-min=4.8km az=39.8*
ISK ***29*** *01:56:15.2, 36.91N×33.95E, h10km, MD2.7*
DDA ***29*** *01:56:15.4, 36.95N×34.00E, h7km, Md2.7*
CSEM ***29*** *01:56:15.0±0.3, 36.94N×33.89E, h10km, MD2.7, Error ellipse: s-maj=7.1km s-min=3.8km az=101.0*

ISC 29 01:56:15.3±1.0, 36.94N±0.03×33.94E±0.04, h15km±10km, n24, σ0s44/33, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MERS	**Mersin**	**0.47**	**98**	*e*P	**Pg**	**01 56 24.6**	**-0.1**
MERS				*e*SG	**Sb**	**01 56 31.8**	**-0.3**
MERS	**Mersin**	**0.47**	**98**	*e*Pg	**Pg**	**01 56 24.6**	**-0.1**
MERS				*e*Sg	**Sb**	**01 56 31.8**	**-0.3**
KIZK	**Mersin**	**0.48**	**160**	*e*PG	**Pg**	**01 56 24.7**	**-0.2**
KIZK				*e*SG	**Sg**	**01 56 31.7**	**+0.3**
KIZK	**Mersin**	**0.48**	**160**	*i*P	**Pb**	**01 56 25.4**	**-0.1**
KIZK				*i*S	**Sg**	**01 56 31.8**	**+0.5**
KIZK	**Mersin**	**0.48**	**160**	P	**Pb**	**01 56 25.4**	**-0.1**
KIZK				S	**Sg**	**01 56 31.8**	**+0.5**
KERG	**Konya-Eregli**	**0.50**	**17**	*i*P	**Pg**	**01 56 25.1**	**-0.2**
KERG				*i*S	**Sg**	**01 56 32.0**	**0.0**
KERG	**Konya-Eregli**	**0.50**	**17**	P	**Pg**	**01 56 25.1**	**-0.2**
KERG				S	**Sg**	**01 56 32.0**	**0.0**
SLFK	**Silifke-Mersin**	**0.54**	**180**	*e*PG	**Pg**	**01 56 25.5**	**-0.5**
SILI	**Silifke-Mersin**	**0.57**	**181**	*e*PG	**Pg**	**01 56 26.2**	**-0.2**
TEVE	**Tevekalti-Mers**	**0.64**	**219**	*e*PG	**Pg**	**01 56 28.0**	**+0.2**
DED	**Mersin**	**0.69**	**88**	*i*P	**Pg**	**01 56 27.9**	**-0.9**
DED				*i*S	**Sg**	**01 56 37.6**	**-0.2**
IKL	**Isikli**	**0.72**	**197**	*e*PG	**Pg**	**01 56 28.5**	**-0.9**
IKL	**Isikli**	**0.72**	**197**	*e*Pg	**Pg**	**01 56 28.5**	**-0.9**
BERE	**Bereket-Mersin**	**0.82**	**225**	*e*PG	**Pg**	**01 56 31.2**	**-0.1**
AKKU	**Akkuyu-Mersin**	**0.84**	**202**	*e*PG	**Pg**	**01 56 31.2**	**-0.3**
TEKE	**Tekeli-Mersin**	**1.03**	**220**	*e*PG	**Pn**	**01 56 35.5**	**+0.2**
KRTS	**Karatas**	**1.21**	**107**	*e*PN	**Pg**	**01 56 38.3**	**-0.3**
KRTS	**Karatas**	**1.21**	**107**	*e*Pn	**Pg**	**01 56 38.3**	**-0.3**
AKO	**Adana**	**1.31**	**66**	*i*P	**Pn**	**01 56 39.0**	**-0.1**
AKO				*i*S	**Sg**	**01 56 58.6**	**+0.9**
KOZT	**Kozan**	**1.60**	**70**	*e*PN	**Pb**	**01 56 44.6**	**0.0**
KOZT	**Kozan**	**1.60**	**70**	*e*Pn	**Pb**	**01 56 44.6**	**0.0**
YAHY	**KAYSERI_Yahyal**	**1.62**	**44**	*i*P	**Pb**	**01 56 45.2**	**+0.2**
YAYL	**Yayladag**	**1.96**	**117**	*e*PN	**Pn**	**01 56 48.8**	**+0.6**
YAYL	**Yayladag**	**1.96**	**117**	*e*Pn	**Pn**	**01 56 48.8**	**+0.6**

WEL 29 02:08:47.4±0.1, 38.27S×176.82E, h71km±1km, ML3.5/31, 12C-9D, Error ellipse: s-maj=0.8km s-min=0.8km az=0.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EDRZ	**Edgecumbe**	**0.17**	**338**	⇑P*	Pn	02 08 58.1	0.0
MUGZ	**Murupara**	**0.22**	**191**	⇑P*	Pn	02 08 57.9	-0.4
MUGZ				S*	Sn	02 09 06.3	+0.1
URZ	**Urewera**	**0.23**	**89**	⇓P*	Pn	02 08 57.8	-0.5
URZ				S*	Sn	02 09 06.4	+0.2
URZ				AML	AML	02 09 07.1	
TARZ	**Mount Tarawera**	**0.25**	**277**	⇑P*	Pn	02 08 58.7	+0.2
RRRZ	**Republican Roa**	**0.25**	**253**	⇑P*	Pn	02 08 58.4	0.0
RRRZ				S*	Sn	02 09 07.4	+0.8
RTZ	**Ruatahuna**	**0.37**	**160**	P*	Pn	02 08 58.9	-0.4
RTZ				S*	Sn	02 09 08.8	+0.7
PRRZ	**Plateau Road**	**0.41**	**235**	⇑P*	Pn	02 08 59.3	-0.2
PRRZ				S*	Sn	02 09 08.6	+0.1
WHRZ	**Whale Island**	**0.43**	**17**	⇓P*	Pn	02 08 59.8	+0.1
HRRZ	**Handcock Road**	**0.44**	**253**	⇓P*	Pn	02 08 59.9	0.0
OPRZ	**Ohinepanea**	**0.47**	**333**	⇑P*	Pn	02 08 59.9	-0.1
ALRZ	**Allen Road**	**0.48**	**232**	⇑P*	Pn	02 08 60.0	-0.2
KARZ	**Kaharoa**	**0.52**	**298**	P*	Pn	02 09 00.5	0.0
RAGZ	**Rawiri**	**0.52**	**116**	⇑P*	Pn	02 09 00.5	-0.1
RAGZ				AML	AML	02 09 12.3	
RAGZ				AML	AML	02 09 12.5	
MWZ	**Matawai**	**0.56**	**97**	⇑P*	Pn	02 09 00.7	-0.2
MWZ				AML	AML	02 09 12.2	
MWZ				AML	AML	02 09 12.3	
MRHZ	**Matea Rd**	**0.65**	**209**	P*	Pn	02 09 01.3	-0.6
MRHZ				S*	Sn	02 09 12.0	-0.6
MRHZ				AML	AML	02 09 13.0	
SNGZ	**Shannon Statio**	**0.66**	**142**	⇓PN	Pn	02 09 02.2	+0.2
SNGZ				AML	AML	02 09 18.7	
SNGZ				AML	AML	02 09 20.6	
RUGZ	**Raukumara Rang**	**0.74**	**66**	P*	Pn	02 09 02.2	-0.8
TKGZ	**Te Karaka**	**0.83**	**103**	PN	Pn	02 09 04.2	+0.4
TKGZ				AML	AML	02 09 23.2	
TKGZ				AML	AML	02 09 23.6	
NMHZ	**Naumai**	**0.83**	**181**	⇑PN	Pn	02 09 04.2	+0.2
NMHZ				AML	AML	02 09 23.3	
NMHZ				AML	AML	02 09 25.2	
RIGZ	**Rimuhau**	**0.86**	**121**	PN	Pn	02 09 04.2	-0.1
RIGZ				AML	AML	02 09 23.5	
RIGZ				AML	AML	02 09 24.4	
WHHZ	**Waihua**	**0.87**	**158**	PN	Pn	02 09 04.3	-0.1
WHHZ				AML	AML	02 09 23.2	
WHHZ				AML	AML	02 09 28.1	
HAZ	**Te Kaha**	**0.91**	**57**	⇑P*	Pn	02 09 04.2	-0.6
HAZ				AML	AML	02 09 17.6	
HAZ				AML	AML	02 09 17.6	
HAZ				AML	AML	02 09 19.4	
HAZ				AML	AML	02 09 19.4	
TWGZ	**Tauwhareparae**	**0.92**	**85**	PN	Pn	02 09 05.6	+0.6
TWGZ				AML	AML	02 09 24.7	
TWGZ				AML	AML	02 09 27.7	
BKZ	**Black Stump Fm**	**0.94**	**196**	P*	Pn	02 09 04.6	-0.7
BKZ				AML	AML	02 09 18.5	
BKZ				AML	AML	02 09 22.2	
ARHZ	**Aropaoanui**	**1.01**	**172**	PN	Pn	02 09 06.0	-0.1
ARHZ				AML	AML	02 09 26.4	
ARHZ				AML	AML	02 09 27.1	
KNZ	**Kokohu**	**1.01**	**139**	PN	Pn	02 09 05.3	-0.7
KNZ				AML	AML	02 09 29.3	
TLZ	**Tolley Road**	**1.01**	**266**	P*	Pn	02 09 08.0	-0.2
PKGZ	**Pakihiroa**	**1.06**	**70**	PN	Pn	02 09 06.9	+0.2
PRGZ	**Paritu Road**	**1.06**	**129**	PN	Pn	02 09 06.1	-0.7
PRGZ				AML	AML	02 09 21.9	
PRGZ				AML	AML	02 09 30.8	
CNGZ	**Carnagh Statio**	**1.11**	**102**	⇑PN	Pn	02 09 07.6	+0.3
CNGZ				AML	AML	02 09 40.9	
PUZ	**Puketiti**	**1.15**	**81**	⇓PN	Pn	02 09 07.6	-0.3
PUZ				AML	AML	02 09 34.9	
PUZ				AML	AML	02 09 39.1	
TOZ	**Tahuroa Road**	**1.17**	**297**	⇓P*	Pn	02 09 08.2	+0.1
MCHZ	**McNeill Hill**	**1.18**	**185**	⇓PN	Pn	02 09 08.6	+0.3
MCHZ				AML	AML	02 09 32.7	
MCHZ				AML	AML	02 09 44.4	
KWHZ	**Kaweka Forest**	**1.20**	**195**	P*	Pn	02 09 08.5	-0.1
KWHZ				AML	AML	02 09 27.7	
KWHZ				AML	AML	02 09 29.1	
MHGZ	**Mahia Peninsul**	**1.23**	**137**	PN	Pn	02 09 08.2	-0.7
MHGZ				AML	AML	02 09 31.5	
OTVZ	**Oturere**	**1.27**	**225**	⇓P*	Pn	02 09 09.4	-0.2
WTVZ	**West Tongariro**	**1.28**	**228**	P*	Pn	02 09 09.5	-0.2
NGZ	**Ngauruhoe**	**1.32**	**226**	P*	Pn	02 09 10.2	0.0
WMGZ	**Waiomatatini S**	**1.33**	**71**	PN	Pn	02 09 10.2	0.0
WMGZ				AML	AML	02 09 37.0	
WMGZ				AML	AML	02 09 38.2	
TUVZ	**Tukino**	**1.35**	**222**	P*	Pn	02 09 10.4	-0.3
BHHZ	**Black Hill Sta**	**1.36**	**206**	P*	Pn	02 09 10.0	-0.6
BHHZ				AML	AML	02 09 30.1	
BHHZ				AML	AML	02 09 35.1	
MXZ	**Matakaoa Point**	**1.37**	**60**	P*	Pn	02 09 11.3	+0.6
MXZ				AML	AML	02 09 35.9	
MXZ				AML	AML	02 09 38.0	
WHVZ	**Whangaehu Hut**	**1.40**	**223**	P*	Pn	02 09 11.0	-0.3
MOVZ	**Moawhango**	**1.41**	**216**	P*	Pn	02 09 10.7	-0.7
KRHZ	**Kereru**	**1.42**	**194**	PN	Pn	02 09 13.3	-1.1
KRHZ				AML	AML	02 09 33.9	
KRHZ				AML	AML	02 09 36.2	
WNVZ	**Wahianoa**	**1.43**	**222**	P*	Pn	02 09 11.3	-0.4
KAHZ	**Kahuranaki**	**1.53**	**178**	PN	Pn	02 09 11.8	-1.0
PKVZ	**Pokaka**	**1.54**	**228**	P*	Pn	02 09 13.0	0.0
HIZ	**Hauiti**	**1.56**	**260**	⇓PN	Pn	02 09 14.2	+0.9
PNHZ	**Pukenui**	**1.72**	**196**	PN	Pn	02 09 13.6	-1.7
PNHZ				AML	AML	02 09 42.3	
PNHZ				AML	AML	02 09 44.8	
PXZ	**Pawanui**	**1.76**	**179**	PN	Pn	02 09 12.4	-3.5
WPHZ	**Waipukurau**	**1.82**	**189**	PN	Pn	02 09 16.8	+0.1
WPHZ				AML	AML	02 09 54.0	
PRHZ	**Porangahau**	**2.00**	**184**	PN	Pn	02 09 18.6	-0.6
PRHZ				AML	AML	02 10 06.7	
WAZ	**Wanganui**	**2.06**	**223**	PN	Pn	02 09 21.2	+1.3
DVHZ	**Dannevirke**	**2.09**	**194**	PN	Pn	02 09 18.2	-2.2
DVHZ				AML	AML	02 09 55.8	
DVHZ				AML	AML	02 09 56.3	
POWZ	**Post Office Ro**	**2.28**	**201**	AML	AML	02 09 58.8	
POWZ				AML	AML	02 09 59.3	
BFZ	**Birch Farm**	**2.46**	**190**	PN	Pn	02 09 23.8	-1.4
MRZ	**Mangatainoka R**	**2.58**	**202**	PN	Pn	02 09 24.7	-2.2
MRZ				AML	AML	02 10 12.3	
HOWZ	**Holdsworth Sta**	**2.82**	**201**	PN	Pn	02 09 26.8	-3.4
OGWZ	**Otaki Gorge**	**2.85**	**206**	PN	Pn	02 09 27.9	-2.7
OGWZ				AML	AML	02 10 12.7	
OGWZ				AML	AML	02 10 14.6	
TMWZ	**Te Maipa**	**2.93**	**194**	PN	Pn	02 09 28.7	-2.9
KIW	**Kapiti Island**	**2.98**	**209**	PN	Pn	02 09 29.3	-3.1
MTW	**Mount Morrison**	**3.06**	**199**	PN	Pn	02 09 30.0	-3.5
DUWZ	**D'Urville Isla**	**3.38**	**221**	PN	Pn	02 09 34.5	-3.3
PLWZ	**Palliser**	**3.51**	**200**	PN	Pn	02 09 35.2	-4.4

ISK ***29*** *02:21:49.8, 37.50N×38.71E, h7km, MD2.9*
ISCJB ***29*** *02:21:50.4±0.6, 37.52N±0.03×38.70E±0.03, h0km±5km, Error ellipse: s-maj=4.5km s-min=3.9km az=153.9*
CSEM ***29*** *02:21:50.5±0.3, 37.54N×38.73E, h2km, MD2.9, Error ellipse: s-maj=7.2km s-min=6.8km az=174.0*
DDA ***29*** *02:21:50.3, 37.48N×38.71E, h7km, Md2.8*
NSSC ***29*** *02:21:54.7±2.2, 36.83N×38.75E, h0km±9km, ML1.5*

ISC 29 02:21:50.4±0.8, 37.49N±0.02×38.73E±0.02, h10km±5km, n37, σ1s25/58, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URFA	**Urfa**	**0.09**	**122**	*e*PG	**Pg**	**02 21 52.4**	**-0.5**
URFA				*e*SG	**Sg**	**02 21 54.8**	**+0.1**
URFA	**Urfa**	**0.09**	**122**	*e*Pg	**Pg**	**02 21 52.4**	**-0.5**
URFA				*e*Sg	**Sg**	**02 21 54.8**	**+0.1**
ATAB	**Bozova**	**0.35**	**267**	*i*P	**Pg**	**02 21 56.5**	**-0.8**
ATAB	**Bozova**	**0.35**	**267**	P	**Pg**	**02 21 56.5**	**-0.8**
SURC	**SANLIURFA_SURC**	**0.61**	**189**	*i*P	**Pg**	**02 22 02.4**	**0.0**
SURC				*i*S	**Sb**	**02 22 12.0**	**0.0**
GZT	**Gaziantep**	**0.94**	**262**	*i*P	**Pb**	**02 22 09.0**	**+0.1**
GZT				*i*S	**Sb**	**02 22 22.8**	**+1.3**
SVRC	**Sivrice-ELAZID**	**1.00**	**27**	*e*PG	**Pg**	**02 22 09.4**	**-0.3**
SVRC				*e*SG	**Sb**	**02 22 23.5**	**+0.2**
SVRC	**Sivrice-ELAZID**	**1.00**	**27**	*e*Pg	**Pg**	**02 22 09.4**	**-0.3**
SVRC				*e*Sg	**Sb**	**02 22 23.5**	**+0.2**
ELZG	**Elazig**	**1.03**	**11**	*i*P	**Pb**	**02 22 10.6**	**+0.1**
ELZG				*i*S	**Sn**	**02 22 25.7**	**0.0**
ELZG	**Elazig**	**1.03**	**11**	P	**Pb**	**02 22 10.6**	**+0.1**
ELZG				S	**Sn**	**02 22 25.7**	**0.0**
GAZ	**Gaziantep**	**1.25**	**256**	*e*PN	**Pn**	**02 22 14.0**	**-0.1**
GAZ	**Gaziantep**	**1.25**	**256**	*e*Pn	**Pn**	**02 22 14.0**	**-0.1**
MAZI	**Mazidag**	**1.37**	**91**	*e*PN	**Pn**	**02 22 16.1**	**+0.4**
MAZI	**Mazidag**	**1.37**	**91**	*e*Pn	**Pn**	**02 22 16.1**	**+0.4**
KMRS	**Kahramanmaras**	**1.46**	**271**	*e*PN	**Pn**	**02 22 16.9**	**0.0**
KMRS	**Kahramanmaras**	**1.46**	**271**	*e*Pn	**Pn**	**02 22 16.9**	**0.0**
HCB	**Kahramanmara¯**	**1.46**	**265**	*i*P	**Pn**	**02 22 16.2**	**-0.7**
HCB				*i*S	**Sn**	**02 22 34.5**	**-1.6**
DARE	**Darende-Malaty**	**1.46**	**318**	*e*PN	**Pn**	**02 22 17.2**	**+0.1**
PTK	**Pertek**	**1.50**	**20**	*e*PN	**Pn**	**02 22 17.7**	**+0.1**
PTK	**Pertek**	**1.50**	**20**	*e*Pn	**Pn**	**02 22 17.7**	**+0.1**
KUZU	**Kuzuini**	**1.50**	**242**	*i*P	**Pb**	**02 22 18.9**	**+0.5**
KUZU				*i*S	**Sg**	**02 22 38.9**	**+0.1**
KUZU	**Kuzuini**	**1.50**	**242**	P	**Pb**	**02 22 18.9**	**+0.5**
KUZU				S	**Sg**	**02 22 38.9**	**+0.1**
KBSD	**Kabsdagh**	**1.52**	**108**	*e*P	**Pg**	**02 22 20.1**	**+0.4**
KBSD				*e*S	**Sg**	**02 22 41.0**	**+1.5**
KBSD				AML	AML	02 22 43.2	
	comp=Z,14nm,0.3s						
KBSD				AML	AML	02 22 45.6	
	comp=E,17nm,0.3s						
KBSD				AML	AML	02 22 46.5	
	comp=N,13nm,0.3s						
KBSD	**Kabsdagh** SNR=57	**1.52**	**108**	*e*P	**Pg**	**02 22 20.1**	**+0.4**
KBSD				*e*S	**Sg**	**02 22 41.0**	**+1.5**
	comp=N,13nm,0.3s,SNR=49						
SFNV	**Sufian**	**1.54**	**134**	*e*P	**Pn**	**02 22 18.1**	**+0.1**
SFNV				*e*S	**Sn**	**02 22 33.3**	**-4.7**
SFNV				AML	AML	02 22 44.0	
	comp=N,8.0nm,0.7s						
SFNV				AML	AML	02 22 45.7	
	comp=Z,20nm,0.5s						
SFNV				AML	AML	02 22 57.7	
	comp=E,15nm,0.8s						
SFNV	**Sufian** SNR=57	**1.54**	**134**	*e*P	**Pn**	**02 22 18.1**	**+0.1**
KSRV	**Kasrt alli**	**1.63**	**172**	*e*P	**Pg**	**02 22 21.9**	**+0.1**
KSRV				*e*S	**Sg**	**02 22 45.8**	**+2.8**
KSRV				AML	AML	02 22 46.1	
	comp=E,7.7nm,0.3s						
KSRV				AML	AML	02 22 46.2	
	comp=N,8.2nm,0.5s						
KSRV				AML	AML	02 22 47.8	
	comp=Z,4.8nm,0.4s						
KSRV	**Kasrt alli** SNR=57	**1.63**	**172**	*e*P	**Pg**	**02 22 21.9**	**+0.1**
KSRV				*e*S	**Sg**	**02 22 45.8**	**+2.8**
	comp=Z,4.8nm,0.4s,SNR=49						
DRWC	**Darouich**	**1.86**	**243**	*e*P	**Pg**	**02 22 26.0**	**-0.2**
DRWC				*e*S	**Sb**	**02 22 48.0**	**0.0**
DRWC				AML	AML	02 22 54.6	
	comp=N,6.7nm,0.4s						
DRWC				AML	AML	02 22 57.6	
	comp=Z,3.0nm,0.4s						
DRWC				AML	AML	02 22 58.6	
	comp=E,4.5nm,0.4s						
DRWC	**Darouich** SNR=45	**1.86**	**243**	*e*P	**Pg**	**02 22 26.0**	**-0.2**
DRWC				*e*S	**Sb**	**02 22 48.0**	**0.0**
	comp=E,4.5nm,0.4s,SNR=40						
ANDN	**Andirin**	**1.90**	**274**	*i*P	**Pb**	**02 22 26.1**	**+0.9**
ANDN	**Andirin**	**1.90**	**274**	P	**Pb**	**02 22 26.1**	**+0.9**
SARI	**SarD1z-Kayseri

PAMC				*i*			02 38 49.0	
	comp=Z,81nm,0.1s							
PAMC				*e*S		**Sn**	**02 39 05.5**	**-0.2**
BRRC	**Barranca, Sant**	**0.65**	**294**	*e*P		**Pn**	**02 38 47.7**	**+0.7**
BRRC				*e*S		**Sn**	**02 39 04.4**	**-0.2**
BRRC				*i*			02 39 08.0	
	comp=Z,100nm,0.2s							
RUSC	**La Rusia**	**0.94**	**178**	*e*P		**Pn**	**02 38 50.0**	**+0.5**
RUSC				*e*S		**Sn**	**02 39 07.9**	**-1.4**
RUSC				*i*			02 39 10.6	
	comp=Z,49nm,0.3s							
CAPV	**Capacho**	**1.29**	**38**⇑	*e*P		**Pn**	**02 38 53.9**	**+1.6**
CAPV				*e*S		**Sn**	**02 39 14.3**	**+0.2**
OCAC	**Ocana**	**1.41**	**352**	*e*P		**Pn**	**02 38 54.4**	**+1.0**
OCAC				*e*S		**Sn**	**02 39 16.8**	**+0.7**
OCAC				*i*			02 39 19.6	
	comp=Z,46nm,0.2s							
YOPC	**Yopal, Colombi**	**1.63**	**155**	*e*P		**Pn**	**02 38 56.7**	**+1.2**
ZARC	**Zaragoza, Cauc**	**1.85**	**291**	*e*S		**Sn**	**02 39 23.6**	**-0.4**
ZARC				*i*			02 39 29.8	
	comp=Z,41nm,0.2s							
NORC	**Norcasia**	**2.15**	**234**	*e*P		**Pn**	**02 39 02.1**	**+0.7**
NORC				*e*S		**Sn**	**02 39 29.3**	**-1.0**
CHIC	**Chingaza**	**2.28**	**196**	*e*P		**Pn**	**02 39 04.4**	**+1.2**
CHIC				*e*S		**Sn**	**02 39 32.7**	**-0.9**
CHIC				*i*			02 39 41.6	
	comp=Z,20nm,0.4s							
HELC	**Santa Helena**	**2.48**	**255**⇓	*e*P		**Pn**	**02 39 06.8**	**+1.3**
HELC				*i*			02 39 45.6	
	comp=Z,20nm,0.4s							
VIGV	**El Vigia**	**2.64**	**41**	*e*P		**Pn**	**02 39 08.5**	**+1.4**
VIGV				*e*S		**Sn**	**02 39 40.1**	**-0.5**
SOCV	**Socops**	**2.66**	**57**	*e*P		**Pn**	**02 39 08.8**	**+1.4**
SOCV				*e*S		**Sn**	**02 39 40.6**	**-0.5**
PRAC	**Prado**	**3.57**	**210**	*e*P		**Pn**	**02 39 20.2**	**+1.3**
PRAC				*e*S		**Sn**	**02 40 00.4**	**-1.2**
PRAC				*i*			02 40 09.0	
	comp=Z,65nm,0.2s							
VIRV	**Villa del Rosa**	**3.71**	**11**	*e*P		**Pn**	**02 39 21.3**	**+0.7**
VIRV				*e*S		**Sn**	**02 40 00.2**	**-4.6**
CURV	**Curarigua**	**4.44**	**44**	*e*P		**Pn**	**02 39 31.1**	**+1.0**
BAUV	**El Baul**	**5.44**	**67**	*e*P		**Pn**	**02 39 43.2**	**-0.1**
MONV	**Montecano**	**5.96**	**31**	*e*P		**Pn**	**02 39 50.3**	**+0.2**

*BJI **29** 02:44:46.3, 41°.92N×88°.33E, h8km, mb3.7/1, ML3.5/7*
*ISCJB **29** 02:44:48.4±1.4, 41°.82N±0°.09×88°.1E±0°.1, h44km, Error ellipse: s-maj=13.2km s-min=10.7km az=10.0*
*IDC **29** 02:44:48.5±7.0, 41°.84N×87°.75E, h0km, mb1 3.8/3, mb1mx3.4/33, mbtmp3.8/3, ML3.4/2, Error ellipse: s-maj=92.8km s-min=33.5km az=27.0*
*NNC **29** 02:44:52.1±3.3, 42°.11N×87°.81E, h0km, mb4.0, mpv3.6, Error ellipse: s-maj=24.5km s-min=22.5km az=126.0*

ISC 29 02:44:50.1±1.3, 41°.9N±0°.1×88°.22E±0°.08, h44km, n8, σ1°53/13, 6C-3D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WMQ	**Urumqi**	**2.00**	**349**	Pg	**Pn**	**02 45 21.3**	**-0.2**
WMQ				Sg	**Sn**	**02 45 46.5**	**+1.2**
WMQ				smax	smax		
	comp=N,560nm,0.5s						
WMQ				smax	smax		
	comp=E,380nm,0.7s						
MK31	**Makanchi Array**	**6.51**	**321**	⇑Pn	**Pn**	**02 46 22.9**	**-0.4**
	1.7nm,0.3s,baz=139,slow=14,SNR=76						
MK31				⇑Sn	**Sn**	**02 47 35.9**	**-0.3**
	0.5nm,0.2s,baz=136,slow=30,SNR=4.0						
MK31				⇑Lg	Lg	02 48 09.0	
	10.0nm,0.7s,baz=148,slow=29,SNR=4.0						
MKAR	**Makanchi Array**	**6.51**	**321**	Pn	**Pn**	**02 46 22.6**	**-0.7**
	1.1nm,0.3s,baz=139,slow=13,SNR=27						
MKAR				Sn	**Sn**	**02 47 33.8**	**-2.5**
	0.9nm,0.3s,baz=136,slow=19,SNR=2.7						
MKAR				Lg	Lg	02 48 08.8	
	2.1nm,0.3s,baz=144,slow=28,SNR=4.6						
PDGK	**Podgornoye**	**6.61**	**286**	⇑Pn	**Pn**	**02 46 25.1**	**+0.4**
	4.4nm,0.5s						
PDGK				⇓Sn	**Sn**	**02 47 39.2**	**+0.4**
	31nm,0.8s						
PDGK				⇓Lg	Lg	02 48 12.0	
	26nm,0.5s						
MAKZ	**Makanchi**	**6.67**	**320**	⇑Pn	**Pn**	**02 46 27.9**	**+2.5**
	3.1nm,0.6s						
MAKZ				⇓Sn	**Sn**	**02 47 38.3**	**-1.9**
	5.4nm,0.8s						
MAKZ				⇑Lg	Lg	02 48 14.2	
	7.7nm,0.7s						
GTA	**Gaotai**	**9.15**	**102**	*e*P	**Pn**	**02 46 59.3**	**-0.3**
GTA				pP		02 47 03.8	
GTA				sP		02 47 06.3	
GTA				pmax	pmax		
	comp=Z,3.0nm,1.0s						
ZALV	**Zalesovo Beam**	**12.31**	**351**	Pn	**Pn**	**02 47 44.8**	**+2.2**
	0.8nm,0.3s,baz=166,slow=14,SNR=6.0						
SONM	**Songino Array**	**14.20**	**59**	Pn	**P**	**02 48 14.6**	**-0.4**
	baz=251,slow=14,SNR=4.3						

*IDC **29** 03:06:40.9±3.6, 9°.42S×119°.27E, h0km, mb4.9/1, mb1 4.7/3, mb1mx3.7/34, mbtmp4.5/3, ML4.6/2, Error ellipse: s-maj=169.0km s-min=34.5km az=46.0*
*ISCJB **29** 03:06:50.7±1.0, 8°.4S±0°.1×119°.77E±0°.05, h172km, mb4.7/1, Error ellipse: s-maj=17.8km s-min=6.0km az=11.3*
*DJA **29** 03:06:52.7±0.6, 8°.S±6°×12°.0E±°, h146km±6km, M3.9/5, MLv3.9/5*

ISC 29 03:06:51.7±1.5, 8°.3S±0°.2×119°.76E±0°.06, h172km, n9, σ3°01/13, Flores region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WSI	**Waingapu**	**1.43**	**158**	S	**Sn**	**03 07 43.9**	**-2.3**
PLAI	**Plampang**	**2.02**	**256**	P	**Pn**	**03 07 28.6**	**+0.1**
PLAI				S	**Sn**	**03 07 55.6**	**-1.3**
BASI	**Baing, Sumba**	**2.04**	**157**	S	**Sn**	**03 07 56.3**	**-1.2**
MMRI	**Maumere**	**2.47**	**97**	S	**Sn**	**03 08 04.2**	**-2.0**
TWSI	**Taliwang, Sumb**	**2.87**	**262**	P	**Pn**	**03 07 38.6**	**+0.1**
TWSI				S	**Sn**	**03 08 13.5**	**-1.3**
BATI	**Baumata**	**4.28**	**116**	P	**Pn**	**03 07 57.0**	**+0.7**
WRA	**Warramunga Arr**	**18.23**	**131**	P	**P**	**03 10 52.1**	**0.0**
	1.8nm,0.3s,baz=303,slow=12,SNR=49						
WRA				S	**S**	**03 14 05.5**	**-6.4**
	0.6nm,0.3s,baz=308,slow=24,SNR=8.8						
ASAR	**Alice Springs**	**20.40**	**140**	P	**P**	**03 11 16.1**	**+0.6**
	2.0nm,0.3s,baz=315,slow=8.7,SNR=46						
ASAR				S	**S**	**03 15 00.5**	**+5.8**
	0.1nm,0.3s,baz=311,slow=23,SNR=3.3						
STKA	**Stephens Creek**	**31.00**	**142**	P	**P**	**03 12 54.6**	**+1.4**
	6.9nm,0.5s,baz=320,slow=9.1,SNR=14						

*IASPEI **29** 03:12:57.9±0.9, 39°.12N±0°.03×28°.97E±0°.02, h8km±7km, Error ellipse: s-maj=4.0km s-min=3.1km az=161.1, GT5 selection from ISC bulletin GT5 identified by Bond¨ir and McLaughlin (2009) selection criteria Bond¨ir and McLaughlin, A new ground truth data set for seismic studies, Seism. Res. Let., 80, 465-472, 2009*
*DDA **29** 03:12:57.7, 39°.12N×28°.93E, h7km, Md3.0*
*ISK **29** 03:12:57.7, 39°.15N×29°.03E, h2km, MD3.0*
*CSEM **29** 03:12:58.1±0.1, 39°.11N×29°.00E, h2km, MD3.0, Error ellipse: s-maj=3.3km s-min=3.0km az=161.0*

ISC 29 03:12:58.1±0.9, 39°.13N±0°.02×28°.97E±0°.02, h6km±8km, n52, σ0°57/70, Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SIMA	**Simav-Kutahya**	**0.05**	**167**	*e*PG	**Pg**	**03 12 59.6**	**0.0**
DEMI	**Demirci**	**0.21**	**246**	*i* P	**Pg**	**03 13 02.2**	**-0.1**
DEMI				*i* S	**Sg**	**03 13 05.4**	**+0.2**
DEMI	**Demirci**	**0.21**	**246**	P	**Pg**	**03 13 02.2**	**-0.1**
DEMI				S	**Sg**	**03 13 05.4**	**+0.2**
GEDZ	**Gediz**	**0.35**	**104**	*e*PG	**Pg**	**03 13 04.8**	**-0.2**
GEDZ				*e*SG	**Sg**	**03 13 10.1**	**+0.4**
GEDZ	**Gediz**	**0.35**	**104**	*e*Pg	**Pg**	**03 13 04.8**	**-0.2**
GEDZ				*e*Sg	**Sg**	**03 13 10.1**	**+0.4**
TVSB	**Tavsanli**	**0.50**	**50**	*e*PG	**Pg**	**03 13 07.3**	**-0.4**
TVSB				*e*SG	**Sg**	**03 13 13.6**	**-0.6**
TVSB	**Tavsanli**	**0.50**	**50**	*e*Pg	**Pg**	**03 13 07.3**	**-0.4**
TVSB				*e*Sg	**Sg**	**03 13 13.6**	**-0.6**
MANT	**Manisa**	**0.71**	**207**	*i* P	**Pg**	**03 13 11.2**	**-0.7**
MANT				*i* S	**Sg**	**03 13 20.4**	**-0.7**
MANT	**Manisa**	**0.71**	**207**	P	**Pg**	**03 13 11.1**	**-0.7**
MANT				S	**Sg**	**03 13 20.4**	**-0.7**
KHAL	**Karahalli**	**0.86**	**152**	*i* P	**Pg**	**03 13 14.2**	**-0.4**
KHAL				*i* S	**Sg**	**03 13 24.7**	**-1.1**
KHAL	**Karahalli**	**0.86**	**152**	P	**Pg**	**03 13 14.2**	**-0.4**
KHAL				S	**Sg**	**03 13 24.7**	**-1.1**
AKHS	**Akhisar**	**0.93**	**255**	*i* P	**Pg**	**03 13 15.4**	**-0.6**
AKHS				*i* S	**Sg**	**03 13 27.8**	**-0.3**
AKHS	**Akhisar**	**0.93**	**255**	P	**Pg**	**03 13 15.4**	**-0.6**
AKHS				S	**Sg**	**03 13 27.8**	**-0.3**
BALB	**Balikesir**	**0.98**	**301**	*e*PG	**Pn**	**03 13 18.4**	**-0.1**
BALB	**Balikesir**	**0.98**	**301**	*e*Pg	**Pn**	**03 13 18.4**	**-0.1**
IGD	**Bursa**	**1.15**	**9**	*i* P	**Pg**	**03 13 19.4**	**-0.6**
IGD				*i* S	**Sn**	**03 13 36.5**	**-0.2**
BALY	**Balya**	**1.21**	**301**	*i* P	**Pg**	**03 13 21.4**	**+0.1**
BALY				*i* S	**Sg**	**03 13 36.7**	**-0.3**
BALY	**Balya**	**1.21**	**301**	P	**Pg**	**03 13 21.4**	**+0.1**
BALY				S	**Sg**	**03 13 36.7**	**-0.3**
KCTX	**Karacabey (Bur**	**1.23**	**338**	*e*PN	**Pb**	**03 13 21.9**	**+0.2**
KCTX	**Karacabey (Bur**	**1.23**	**338**	*e*Pn	**Pb**	**03 13 21.9**	**+0.2**
MDNY	**Mudanya-Bursa**	**1.24**	**357**	*e*PN	**Pn**	**03 13 22.2**	**+0.2**
MDNY	**Mudanya-Bursa**	**1.24**	**357**	*e*Pn	**Pn**	**03 13 22.2**	**+0.2**
GEMT	**Gemlik**	**1.31**	**7**	*e*PN	**Pb**	**03 13 23.5**	**+0.3**
GEMT	**Gemlik**	**1.31**	**7**	*e*Pn	**Pb**	**03 13 23.5**	**+0.3**
SHUT	**Suhut-Afyon**	**1.36**	**115**	*e*PN	**Pb**	**03 13 24.3**	**+0.2**
SHUT	**Suhut-Afyon**	**1.36**	**115**	*e*Pn	**Pb**	**03 13 24.3**	**+0.2**
ADVT	**Abdulvahap**	**1.43**	**24**	*e*PN	**Pn**	**03 13 24.8**	**+0.2**
ADVT	**Abdulvahap**	**1.43**	**24**	*e*Pn	**Pn**	**03 13 24.8**	**+0.2**
ARMT	**Armutlu**	**1.44**	**357**	*e*PN	**Pg**	**03 13 25.4**	**-0.2**
ARMT	**Armutlu**	**1.44**	**357**	*e*Pn	**Pg**	**03 13 25.4**	**-0.2**
SBTS	**Esenkoy-Cinarc**	**1.50**	**357**	*e*PN	**Pg**	**03 13 26.7**	**-0.2**
DKL	**Dikili**	**1.61**	**269**	*e*PN	**Pb**	**03 13 28.5**	**+0.4**
DKL	**Dikili**	**1.61**	**269**	*e*Pn	**Pb**	**03 13 28.5**	**+0.4**
BRDR	**BURDUR-Merkez**	**1.67**	**149**	*i* P	**Pg**	**03 13 29.9**	**-0.2**
BRDR				*i* S	**Sg**	**03 13 53.3**	**+1.6**
AYDN	**Tasoluk**	**1.70**	**211**	*i* P	**Pg**	**03 13 30.1**	**-0.6**
AYDN	**Tasoluk**	**1.70**	**211**	P	**Pg**	**03 13 30.1**	**-0.6**
GULT	**Gulveren**	**1.76**	**42**	*e*PN	**Pn**	**03 13 29.3**	**0.0**
GULT	**Gulveren**	**1.76**	**42**	*e*Pn	**Pn**	**03 13 29.3**	**0.0**
HRT	**Hereke**	**1.77**	**17**	*e*PN	**Pn**	**03 13 29.8**	**+0.5**
HRT	**Hereke**	**1.77**	**17**	*e*Pn	**Pn**	**03 13 29.8**	**+0.5**
AYVA	**Ayvalik**	**1.78**	**276**	*i* P	**Pb**	**03 13 31.5**	**+0.4**
AYVA				*i* S	**Sb**	**03 13 54.1**	**+0.5**
AYVA	**Ayvalik**	**1.78**	**276**	P	**Pb**	**03 13 31.5**	**+0.4**
AYVA				S	**Sb**	**03 13 54.1**	**+0.5**
SBT2	**Guzelce-Avcila**	**1.78**	**349**	*e*PN	**Pb**	**03 13 30.6**	**-0.4**
KRBG	**Karabiga-Canak**	**1.80**	**315**	*e*PN	**Pb**	**03 13 31.2**	**-0.3**
KRBG	**Karabiga-Canak**	**1.80**	**315**	*e*Pn	**Pb**	**03 13 31.2**	**-0.3**
MRMT	**Marmara Adasi**	**1.81**	**325**	*e*PN	**Pb**	**03 13 31.2**	**-0.5**
MRMT	**Marmara Adasi**	**1.81**	**325**	*e*Pn	**Pb**	**03 13 31.2**	**-0.5**
KAVV	**Kandilli-Istan**	**1.93**	**2**	*e*PN	**Pn**	**03 13 32.5**	**+1.0**
ISK	**Istanbul-Kandi**	**1.93**	**2**	*e*PN	**Pb**	**03 13 32.8**	**-0.9**
ISK	**Istanbul-Kandi**	**1.93**	**2**	*e*Pn	**Pb**	**03 13 32.8**	**-0.9**
CTKS	**Kestanelik-??a**	**2.13**	**351**	*e*PN	**Pn**	**03 13 35.6**	**+1.4**
CTKS	**Kestanelik-??a**	**2.13**	**351**	*e*Pn	**Pn**	**03 13 35.6**	**+1.4**

*IDC **29** 03:15:29.4±1.8, 0°.19N×98°.15E, h0km, mb4.0/7, mb1 4.1/8, mb1mx3.7/40, mbtmp4.0/8, ML3.2/1, MS3.1/4, Ms1 3.2/4, ms1mx2.8/41, Error ellipse: s-maj=62.1km s-min=18.9km az=66.0*
*ISCJB **29** 03:15:31.6±0.9, 0°.23N±0°.07×98°.0E±0°.1, h30km, mb4.0/7, MS3.4/1, Error ellipse: s-maj=18.0km s-min=7.4km az=153.3*
*DJA **29** 03:15:32.6±1.3, 0°.N±5°×9°.8E±1°.2, h15km±5km, M4.2/7, MLv4.2/7*

ISC 29 03:15:33.4±1.0, 0°.24N±0°.06×98°.1E±0°.1, h30km, n23, σ0°92/16, mb3.9/7, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PBSI	**Pulau Batu**	**0.35**	**146**	P	**Pb**	**03 15 40.2**	**-1.4**
PBSI				S	**Sb**	**03 15 47.6**	**+0.5**
MNSI	**Mandailing Nat**	**1.59**	**70**	P	**Pn**	**03 16 00.1**	**+0.5**
SISI	**Saibi**	**1.85**	**147**	P	**Pn**	**03 16 03.4**	**+0.3**
PDSI	**Padang**	**2.63**	**116**	P	**Pn**	**03 16 14.2**	**+0.2**
PSI	**Prapat**	**2.68**	**18**	Pn	**Pn**	**03 16 14.8**	**+0.1**
	4.3nm,0.3s,baz=150,slow=22,SNR=11						
PSI				LR	LR	03 17 30.1	
	comp=Z,323nm,19.0s,baz=258,slow=46						
BKNI	**Bangkinang**	**2.95**	**88**	P	**Pn**	**03 16 19.5**	**+1.2**
PPSI	**Pulau Pagai**	**3.54**	**147**	P	**Pn**	**03 16 27.7**	**+1.2**
CMAR	**Chiang Mai Arr**	**18.13**	**3**	LR	LR	03 26 15.2	
	comp=Z,41nm,20.5s,baz=85,slow=36						
PALK	**Pakekele**	**18.69**	**292**	LR	LR	03 25 37.0	
	comp=Z,48nm,20.6s,baz=116,slow=32						
H08S2	**Diego Garcia H**	**26.69**	**252**	T	T	03 48 29.1	
	baz=74,slow=76,SNR=31						
H08S3	**Diego Garcia H**	**26.70**	**252**	T	T	03 48 28.6	
	baz=74,slow=76,SNR=46						
H08S1	**Diego Carcia H**	**26.71**	**252**	T	T	03 48 29.7	
	baz=74,slow=76,SNR=865						
H01W3	**Cape Leeuwin H**	**38.02**	**158**	T	T	04 02 52.0	
	baz=333,slow=76,SNR=5.6						
H01W2	**Cape Leeuwin H**	**38.04**	**158**	T	T	04 02 53.7	
	baz=333,slow=76,SNR=8.1						
H01W1	**Cape Leeuwin H**	**38.04**	**158**	T	T	04 02 53.7	
	baz=333,slow=76,SNR=8.7						
WRA	**Warramunga Arr**	**40.78**	**122**	P	**P**	**03 23 11.3**	**-1.0**
	0.7nm,0.7s,baz=300,slow=9.0,SNR=5.0						
ASAR	**Alice Springs**	**42.11**	**127**	P	**P**	**03 23 23.2**	**-0.1**
	0.4nm,0.5s,baz=295,slow=7.8,SNR=4.2						
ASAR				LR	LR	03 43 18.2	
	comp=Z,51nm,18.8s,baz=64,slow=40						
KSRS	**Korea Array**	**46.15**	**33**	P	**P**	**03 23 54.8**	**-0.5**
	0.9nm,0.6s,baz=223,slow=10,SNR=4.5						
SONM	**Songino Array**	**47.96**	**8**	P	**P**	**03 24 09.1**	**-0.3**
	0.6nm,0.6s,baz=187,slow=8.7,SNR=2.4						
MKAR	**Makanchi Array**	**48.39**	**346**	P	**P**	**03 24 14.1**	**+1.4**
	1.4nm,0.6s,baz=144,slow=8.0,SNR=4.3						
STKA	**Stephens Creek**	**52.06**	**132**	P	**P**	**03 24 41.2**	**+0.5**
	10nm,1.2s,baz=321,slow=9.0,SNR=2.4						
ZALV	**Zalesovo Beam**	**54.65**	**350**	P	**P**	**03 25 00.5**	**+1.2**
	2.4nm,0.3s,baz=175,slow=7.0,SNR=1.4						
TXAR	**Lajitas Array**	**144.00**	**33**	PKP	**PKPdf**	**03 35 06.1**	**-0.9**
	0.2nm,0.5s,baz=3.5,slow=1.1,SNR=5.5						

JMA 29 03:17:22.6±0.1, 36°.18N×141°.21E, h36km±2km, M3.5, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CHOJ	**Chosi**	**0.56**	**211**	P	Pn	03 17 34.1	0.0
CHOJ				S	Sn	03 17 42.4	+0.4
JHO	**Hitachi**	**0.67**	**310**	P	Pn	03 17 35.7	0.0
JHO				S	Sn	03 17 45.2	+0.3
JYT	**Yasato**	**0.82**	**274**	P	Pn	03 17 38.8	+1.2
JYT				S	Sn	03 17 49.3	+0.7
ONAJ	**Iwakimizuishiy**	**0.98**	**340**	P	Pn	03 17 38.9	-0.9
ONAJ				S	Sn	03 17 53.0	+0.5
JFK	**Kawauchi**	**1.21**	**347**	P	Pn	03 17 43.2	+0.1
JFK				S	Sn	03 17 58.3	0.0
MAT	**Matsushiro**	**2.45**	**279**	P	Pn	03 18 02.3	+2.3
MAT				*e*S	Sn	03 18 32.4	+3.6

IDC 29 03:22:52.1±11.0, 2°.25N×94°.46E, h0km, mb3.7/3, mb1 3.8/4, mb1mx3.4/44, mbtmp3.7/4, Error ellipse: s-maj=220.4km s-min=101.2km az=155.0, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CMAR	**Chiang Mai Arr**	**16.70**	**15**	Pn	Pn	03 26 47.8	+0.1
	baz=212,slow=11,SNR=4.2						
H08S2	**Diego Garcia H**	**24.02**	**246**	T	T	03 53 14.7	
	baz=67						
H08S3	**Diego Garcia H**	**24.02**	**246**	T	T	03 53 16.4	
	baz=67						
H08S1	**Diego Carcia H**	**24.03**	**246**	T	T	03 53 15.8	
	baz=67						
H01W3	**Cape Leeuwin H**	**41.29**	**155**	T	T	04 15 32.6	
	baz=331,slow=76,SNR=5.6						
H01W2	**Cape Leeuwin H**	**41.31**	**155**	T	T	04 15 32.0	
	baz=331,slow=76,SNR=4.7						
H01W1	**Cape Leeuwin H**	**41.31**	**155**	T	T	04 15 32.0	
	baz=331,slow=76,SNR=5.7						
MKAR	**Makanchi Array**	**45.62**	**348**	P	P	03 31 14.4	+0.1
	1.0nm,0.5s,baz=173,slow=9.2,SNR=3.2						
SONM	**Songino Array**	**46.57**	**11**	P	P	03 31 21.5	-0.4
	0.6nm,0.6s,baz=181,slow=11,SNR=2.3						
KURBB	**Kurchatov Arra**	**50.05**	**347**	P	P	03 31 48.4	-0.2
	0.4nm,0.6s,baz=173,slow=6.7,SNR=4.8						

IDC 29 03:39:12.7±2.1, 6°.16S×68°.57E, h0km, mb3.9/6, mb1 4.1/6, mb1mx3.6/44, mbtmp3.9/6, MS3.3/2, Ms1 3.3/2, ms1mx2.8/30, Error ellipse: s-maj=66.4km s-min=30.9km az=44.0, Chagos Archipelago region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
H08N3	**Diego Garcia H**	**2.42**	**95**	T	T	03 43 10.0	
	baz=277,slow=75,SNR=516						
H08N2	**Diego Garcia H**	**2.42**	**94**	T	T	03 43 10.0	
	baz=277,slow=75,SNR=514						
H08N1	**Diego Carcia H**	**2.44**	**94**	T	T	03 43 11.1	
	baz=277,slow=75,SNR=594						
H08S1	**Diego Carcia H**	**4.15**	**111**	T	T	03 45 14.1	
	baz=313						
H08S3	**Diego Garcia H**	**4.15**	**111**	T	T	03 45 13.5	
	baz=313						
H08S2	**Diego Garcia H**	**4.17**	**111**	T	T	03 45 14.6	
	baz=313						
GEYT	**Alibeck**	**44.93**	**348**	LR	LR	04 04 21.6	
	comp=Z,47nm,20.7s,baz=250,slow=34						
AAK	**Ala-Archa**	**48.86**	**6**	P	P	03 48 02.2	+1.8
	1.0nm,0.4s,baz=189,slow=11,SNR=4.6						
H01W3	**Cape Leeuwin H**	**50.73**	**131**	T	T	04 43 15.3	
	baz=294,slow=75,SNR=19						
H01W2	**Cape Leeuwin H**	**50.74**	**131**	T	T	04 43 17.5	
	baz=294,slow=75,SNR=17						
H01W1	**Cape Leeuwin H**	**50.75**	**131**	T	T	04 43 16.4	
	baz=294,slow=75,SNR=18						
MKAR	**Makanchi Array**	**54.11**	**12**	P	P	03 48 39.6	+0.2
	0.9nm,0.9s,baz=198,slow=9.1,SNR=2.3						
KBZ	**Khabaz**	**54.81**	**337**	P	P	03 48 44.7	+0.2
	0.6nm,0.4s,baz=162,slow=4.8,SNR=4.8						
BRTR	**Keskin Array B**	**55.88**	**328**	P	P	03 48 53.1	+0.5
	0.8nm,0.9s,baz=153,slow=11,SNR=5.2						
BRTR				LR	LR	04 10 49.2	
	comp=Z,22nm,18.9s,baz=174,slow=34						
SONM	**Songino Array**	**63.23**	**28**	P	P	03 49 41.4	-1.7
	1.6nm,0.9s,baz=224,slow=10,SNR=5.4						
WRA	**Warramunga Arr**	**65.17**	**109**	P	P	03 49 57.0	+0.7
	1.0nm,1.0s,baz=283,slow=5.7,SNR=5.0						
TXAR	**Lajitas Array**	**155.81**	**343**	PKPab	PKPab	03 59 33.9	-2.1
	0.3nm,0.9s,baz=45,slow=1.4,SNR=3.4						

RSPR 29 03:42:31.4, 18°.41N×68°.81W, h176km±4km, MD3.8/10, 8C-4D, Mona Passage

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DR12	**Loma Pena Alta**	**0.66**	**305**⇓	*i* P	Pn	03 42 56.3	-0.3
DR12				*e*S	Sn	03 43 14.7	-1.2
IDE	**Isla Desecheo**	**1.27**	**91**⇑	*e*P	Pn	03 43 02.2	+1.3
IDE	**Isla Desecheo**	**1.27**	**91**	*e*S	Sn	03 43 25.0	+1.5
AGPR	**Aguadilla, PR**	**1.61**	**88**	*e*S	Sn	03 43 30.4	+1.1
AGPR	**Aguadilla, PR**	**1.61**	**88**⇑	*e*P	Pn	03 43 05.1	+1.1
LSP	**Las Mesas**	**1.65**	**98**⇑	*e*P	Pn	03 43 06.5	+1.9
CRPR	**Cabo Rojo, PR**	**1.66**	**104**	*e*S	Sn	03 43 30.2	0.0
CRPR	**Cabo Rojo, PR**	**1.66**	**104**⇓	*e*P	Pn	03 43 05.4	+0.9
AOPR	**Arecibo Observ**	**1.95**	**92**	*e*S	Sn	03 43 36.3	+0.6
AOPR	**Arecibo Observ**	**1.95**	**92**⇑	*e*P	Pn	03 43 08.5	+0.9
OBIP	**Obispado Ponce**	**2.12**	**100**	*e*S	Sn	03 43 39.3	+0.2
OBIP	**Obispado Ponce**	**2.12**	**100**⇑	*e*P	Pn	03 43 09.1	-0.4
CELP	**Cerrillos**	**2.14**	**99**⇑	*e*P	Pn	03 43 10.5	+0.7
CELP				*e*S	Sn	03 43 40.0	+0.6
SJG	**San Juan**	**2.54**	**96**⇑	*e*P	Pn	03 43 14.4	+0.1
SJG	**San Juan**	**2.54**	**96**	*e*S	Sn	03 43 48.3	+0.6
CBYP	**Canovanas**	**2.81**	**92**⇓	*e*P	Pn	03 43 17.0	-0.5
HUMP	**Col San Antoni**	**2.82**	**95**⇓	*e*P	Pn	03 43 17.4	-0.2
HUMP	**Col San Antoni**	**2.82**	**95**	*e*S	Sn	03 43 53.1	-0.5
MTP	**Monte Pirata**	**3.11**	**95**⇑	*e*P	Pn	03 43 21.5	+0.3
MTP	**Monte Pirata**	**3.11**	**95**	*e*S	Sn	03 44 01.0	+1.1

*CSEM **29** 03:51:03.3±0.2, 33°.90N×60°.30E, h2km, ML3.5, Error ellipse: s-maj=8.8km s-min=2.9km az=93.0*

TEH 29 03:51:04.2, 33°.90N×60°.32E, h3km, ML3.5, Northern and central Iran

| Code | Station Name | Δ° | AZ°

mb4.0/12, Error ellipse: s-maj=17.0km s-min=11.8km az=152.4

ISC 29 04:29:56.8±0.6, **18°1**S±0.1×**178°5**W±0.1, **h579**km, **n40**, σ1§**03**/43, **mb4.0**/12, **5C-6D, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**7.69**	**58**	P	P	04 31 45.9	-6.6
	4.7nm,0.3s,baz=124,slow=14,SNR=5.3						
AFI				S	S	04 33 16.0	-11
	1.2nm,0.3s,baz=312,slow=19,SNR=2.0						
DZM	**Mont Dzumac**	**14.68**	**252**	P	**P**	**04 33 01.0**	**-1.6**
	0.5nm,0.3s,baz=46,slow=18,SNR=4.0						
URZ	**Urewera**	**20.48**	**190**	P	**P**	**04 33 53.9**	**-1.7**
	4.6nm,0.5s,baz=73,slow=1.8,SNR=6.1						
RPZ	**Rata Peaks**	**27.04**	**197**	P	**P**	**04 34 51.9**	**-1.8**
	5.2nm,0.8s,baz=27,slow=6.8,SNR=2.6						
PPT	**Papeete**	**27.55**	**93**	P	**P**	**04 34 57.9**	**-0.6**
	38nm,0.8s,baz=208,slow=17,SNR=4.7						
STKA	**Stephens Creek**	**38.46**	**241**	P	**P**	**04 36 32.0**	**+1.8**
	9.3nm,0.6s,baz=89,slow=9.5,SNR=12						
WRA	**Warramunga Arr**	**44.50**	**260**	P	**P**	**04 37 18.4**	**+0.4**
	6.5nm,0.7s,baz=94,slow=7.1,SNR=118						
WRA				PcP	**PcP**	**04 38 49.5**	**+0.8**
	1.8nm,0.8s,baz=88,slow=3.2,SNR=6.1						
WRA				S	**S**	**04 43 09.2**	**-2.9**
	0.4nm,0.9s,baz=93,slow=12,SNR=3.0						
ASAR	**Alice Springs**	**44.65**	**254**	P	**P**	**04 37 20.1**	**+1.0**
	56nm,0.6s,baz=88,slow=8.3,SNR=483						
ASAR				PcP	**PcP**	**04 38 49.9**	**+0.8**
	2.0nm,0.6s,baz=102,slow=4.6,SNR=6.0						
ASAR				S	**S**	**04 43 14.2**	**0.0**
	0.9nm,0.9s,baz=89,slow=16,SNR=6.4						
MJAR	**Matsushiro Arr**	**67.88**	**323**	P	**P**	**04 39 58.1**	**-0.9**
	2.3nm,0.5s,baz=149,slow=5.9,SNR=6.5						
KSRS	**Korea Array**	**74.75**	**318**	P	**P**	**04 40 39.3**	**+0.9**
	1.2nm,0.9s,baz=120,slow=7.3,SNR=4.2						
MAW	**Mawson**	**83.67**	**200**	P	**P**	**04 41 26.5**	**+1.6**
	1.7nm,0.6s,baz=110,slow=6.9,SNR=5.9						
ILAR	**Eielson Array**	**86.07**	**13**	P	**P**	**04 41 34.8**	**-1.6**
	0.5nm,0.4s,baz=223,slow=5.3,SNR=14						
TXAR	**Lajitas Array**	**86.17**	**58**	P	**P**	**04 41 38.9**	**+1.0**
	1.2nm,0.8s,baz=221,slow=5.7,SNR=13						
PDAR	**Pinedale Array**	**87.54**	**43**	P	**P**	**04 41 43.4**	**-0.7**
	0.1nm,0.4s,baz=224,slow=6.3,SNR=2.7						
CMAR	**Chiang Mai Arr**	**88.84**	**290**	P	**P**	**04 41 52.2**	**+1.8**
	1.7nm,0.6s,baz=94,slow=2.8,SNR=8.1						
MKAR	**Makanchi Array**	**109.17**	**314**	PKiKP	**PKiKP**	**04 47 20.9**	**-0.6**
	0.6nm,0.5s,baz=208,slow=0.8,SNR=3.9						
ARCES	**ARCESS Array B**	**126.46**	**350**	PKP	**PKPdf**	**04 47 53.4**	**-0.5**
	1.1nm,0.8s,baz=347,slow=2.8,SNR=5.3						
TLCR		**144.65**	**326**	*i*P	**PKPab**	**04 48 29.0**	**-0.2**
BURAR	**Bucovina Array**	**144.71**	**332**	*i*P	**PKPab**	**04 48 29.6**	**0.0**
BRTR	**Keskin Array B**	**144.82**	**315**	PKP	**PKPab**	**04 48 29.7**	**-0.6**
	4.1nm,0.8s,baz=117,slow=3.4,SNR=18						
CFR	**Carcaliu**	**145.01**	**326**	*i*P	**PKPbc**	**04 48 29.6**	**0.0**
ASF	**Jabal al Asfar**	**145.17**	**301**	PKPbc	**PKPab**	**04 48 31.0**	**-0.8**
	1.1nm,0.5s,baz=78,slow=7.0,SNR=3.6						
TLB	**Topalu**	**145.46**	**326**	*i*P	**PKPbc**	**04 48 31.3**	**+0.4**
CLL	**Collm**	**145.60**	**347**	*i*PKP	**PKPbc**	**04 48 31.4**	**+0.3**
	comp=Z,9.0nm,0.9s						
BRG	**Berggiesshubel**	**145.80**	**346**	*e*(P)	**PKPbc**	**04 48 32.1**	**+0.4**
	comp=Z,4.1nm,0.8s						
MLR	**Muntele Rosu**	**145.92**	**329**	*i*P	**PKPab**	**04 48 34.0**	**-0.4**
MMAI	**Mount Meron Ar**	**146.14**	**303**	PKPbc	**PKPbc**	**04 48 34.3**	**+0.9**
	comp=Z,4.2nm,0.6s,baz=64,slow=3.8,SNR=10						
DRGR		**146.44**	**333**	*i*P	**PKPbc**	**04 48 34.2**	**+0.5**
ARR	**Arges**	**146.65**	**330**	*i*P	**PKPbc**	**04 48 35.5**	**+1.2**
SIRR	**Siria**	**147.30**	**334**	*i*P	**PKPbc**	**04 48 36.9**	**+0.9**
GERES	**GERESS Array B**	**147.74**	**345**	PKPbc	**PKPbc**	**04 48 37.4**	**+0.3**
	comp=Z,2.3nm,0.5s,baz=22,slow=3.3,SNR=22						
CONA	**Conrad Observa**	**147.99**	**342**	*e*PKPbc	**PKPbc**	**04 48 38.3**	**+0.6**
	comp=Z,2.8nm,0.6s						
VTS	**Vitosha**	**149.37**	**328**	*i*P	**PKPbc**	**04 48 42.2**	**+0.8**
KBA	**Koelnbreinsper**	**149.47**	**344**	*i*PKPbc	**PKPbc**	**04 48 41.4**	**-0.1**
	comp=Z,2.0nm,0.5s						
RETA	**Reutte**	**149.69**	**347**	*i*PKPbc	**PKPbc**	**04 48 42.1**	**+0.2**
	comp=Z,1.3nm,0.4s						
WTTA	**Wattenberg**	**149.71**	**346**	*i*PKPbc	**PKPbc**	**04 48 42.3**	**+0.2**
	comp=Z,5.4nm,0.6s						
MYKA	**Terra Mystica**	**149.80**	**343**	*i*PKPbc	**PKPbc**	**04 48 41.4**	**-0.8**
	comp=Z,2.7nm,0.5s						
ABTA	**Abfaltersbach**	**149.99**	**345**	*i*PKPbc	**PKPbc**	**04 48 42.4**	**-0.3**
	comp=Z,4.7nm,0.6s						
DAVA	**Damuels**	**150.06**	**349**	*e*PKPbc	**PKPbc**	**04 48 43.2**	**+0.3**
	comp=Z,3.3nm,0.7s						
PDG	**Podgorica**	**151.39**	**332**	*i*P	**PKPbc**	**04 48 45.8**	**0.0**

*ISCJB **29** 04:36:09.7±0.3,51°.49N±0°.02×16°.23E±0°.03, h0km, Error ellipse: s-maj=2.4km s-min=2.1km az=146.0*
*CSEM **29** 04:36:12.2±0.1, 51°.46N×16°.18E, h2km, ML3.5/13, Error ellipse: s-maj=2.9km s-min=2.4km az=78.0*
*BGR **29** 04:36:13.4±0.6, 51°.42N×16°.16E, h1km, ML3.0/8, Error ellipse: s-maj=6.7km s-min=2.2km az=16.0*
*WAR **29** 04:36:13.7, 51°.44N×16°.19E, h1km, Mw3.0*
*IDC **29** 04:36:13.2±0.7, 51°.39N×16°.20E, h0km, mb1 3.3/7, mb1mx3.2/39, mbtmp3.2/7, ML3.0/7, Error ellipse: s-maj=10.5km s-min=6.1km az=105.0*
*PRU **29** 04:36:15.9, 51°.34N×16°.21E, h0km*
*VIE **29** 04:36:15.2±0.9, 51°.23N×16°.09E, h0km, mb2.5/9, ML2.8/10, Error ellipse: s-maj=7.2km s-min=6.9km az=13.0, Suspected Mining induced.*
*UPP **29** 04:36:18.2±3.3, 51°.84N×15°.93E, h0km, ML2.0, Suspected explosion*

ISC 29 04:36:11.1±0.6, **51°.50N**±0°.03×**16°.18E**±0°.02, **h0**km, **n97**, σ1§**47**/164, **Poland**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KSP	**Ksiaz**	**0.66**	**174**	*i* Pg	**Pb**	**04 36 25.0**	**-0.5**
KSP				*i* Sg	**Sg**	**04 36 32.9**	**+0.7**
KSP				*e*		04 36 36.1	
KSP	**Ksiaz**	**0.66**	**174**	*e*Pg	**Pb**	**04 36 25.0**	**-0.5**
KSP				*e*Sg	**Sg**	**04 36 32.2**	**0.0**
KSP	**Ksiaz**	**0.66**	**174**	Pg	**Pb**	**04 36 25.0**	**-0.5**
KSP				Sg	**Sg**	**04 36 32.2**	**0.0**
KSP	**Ksiaz**	**0.66**	**174**	*i* Pg	**Pb**	**04 36 25.0**	**-0.5**
KSP				*i* Sg	**Sg**	**04 36 32.9**	**+0.7**
KSP				*e*		04 36 36.1	
UPC	**Upice**	**1.00**	**186**	*e*PG	**Pg**	**04 36 31.1**	**+0.9**
UPC				*e*SG	**Sg**	**04 36 43.6**	**+0.5**
	comp=Z,329nm,0.4s						
UPC	**Upice**	**1.00**	**186**	Pg	**Pg**	**04 36 31.1**	**+0.9**
UPC				Sg	**Sg**	**04 36 43.6**	**+0.5**
	329nm,0.4s						
DPC	**Dobruska-Polom**	**1.15**	**176**	*e*PG	**Pg**	**04 36 33.7**	**+0.6**
DPC				*e*SG	**Sg**	**04 36 47.8**	**-0.2**
	comp=Z,82nm,0.5s						
DPC	**Dobruska-Polom**	**1.15**	**176**	*e*Pg	**Pb**	**04 36 33.9**	**0.0**
DPC				*e*Sg	**Sg**	**04 36 47.9**	**-0.2**
DPC	**Dobruska-Polom**	**1.15**	**176**	Pg	**Pg**	**04 36 33.7**	**+0.6**
DPC				Sg	**Sg**	**04 36 47.9**	**-0.1**
PVCC	**Panska Ves**	**1.41**	**227**	*e*PG	**Pb**	**04 36 39.0**	**+0.8**
PVCC				*e*SG	**Sn**	**04 36 58.5**	**+1.3**
	comp=Z,349nm,0.5s						
PVCC	**Panska Ves**	**1.41**	**227**	Pg	**Pb**	**04 36 39.0**	**+0.8**
PVCC				Sg	**Sn**	**04 36 58.5**	**+1.3**
	349nm,0.5s						
KRLC	**Kraliky**	**1.47**	**165**	*e*PG	**Pg**	**04 36 39.5**	**+0.2**
KRLC				*e*SG	**Sg**	**04 36 58.2**	**-0.2**
KRLC	**Kraliky**	**1.47**	**165**	Pg	**Pg**	**04 36 39.5**	**+0.2**
KRLC				Sg	**Sg**	**04 36 58.2**	**-0.2**
BRG	**Berggiesshubel**	**1.54**	**247**	PN	**Pn**	**04 36 37.4**	**-2.4**
BRG				PG	**Pg**	**04 36 42.3**	**+1.7**
BRG				SG	**Sg**	**04 37 02.2**	**+1.6**
	91nm,0.4s						
BRG	**Berggiesshubel**	**1.54**	**247**	*e*Pg	**Pg**	**04 36 42.0**	**+1.3**
BRG				*e*Sg	**Sg**	**04 37 01.5**	**+0.9**
BRG	**Berggiesshubel**	**1.54**	**247**	Pg	**Pg**	**04 36 42.0**	**+1.3**
BRG				Sg	**Sg**	**04 37 01.5**	**+0.9**
PRA	**Prague**	**1.81**	**219**	*e*PN	**Pb**	**04 36 45.1**	**0.0**
PRA				*e*PG	**Pg**	**04 36 47.1**	**+1.3**
PRA				*e*SG	**Sg**	**04 37 09.5**	**+0.3**
	comp=Z,35nm,0.4s						
PRA	**Prague**	**1.81**	**219**	Pn	**Pb**	**04 36 45.1**	**0.0**
PRA	**Prague**	**1.81**	**219**	Pg	**Pg**	**04 36 47.1**	**+1.3**
PRA				Sg	**Sg**	**04 37 09.5**	**+0.3**
	35nm,0.4s						
GOPC	**GO Pecny, Ondr**	**1.82**	**210**	*e*PN	**Pb**	**04 36 45.0**	**-0.2**
GOPC				*e*PG	**Pg**	**04 36 46.2**	**+0.3**
GOPC				*e*SG	**Sb**	**04 37 09.6**	**+1.1**
	comp=Z,54nm,0.3s						
GOPC	**GO Pecny, Ondr**	**1.82**	**210**	Pn	**Pb**	**04 36 45.0**	**-0.2**
GOPC	**GO Pecny, Ondr**	**1.82**	**210**	Pg	**Pg**	**04 36 46.2**	**+0.3**
GOPC				Sg	**Sb**	**04 37 09.6**	**+1.1**
	54nm,0.3s						
PRU	**Pruhonice**	**1.83**	**215**	*e*PG	**Pg**	**04 36 46.4**	**+0.1**
PRU				*e*SG	**Sb**	**04 37 09.9**	**+0.9**
	comp=Z,84nm,0.5s						
PRU	**Pruhonice**	**1.83**	**215**	Pg	**Pg**	**04 36 46.4**	**+0.1**
PRU				Sg	**Sb**	**04 37 09.9**	**+0.9**
	84nm,0.5s						
FBE	**Freiberg**	**1.87**	**253**	*e*Sg	**Sg**	**04 37 12.2**	**+1.0**
FBE	**Freiberg**	**1.87**	**253**	Sg	**Sg**	**04 37 12.2**	**+1.0**
MORC	**Moravsky Berou**	**1.93**	**153**	*e*Pn	**Pn**	**04 36 45.5**	**+0.3**
MORC				*e*Sg	**Sb**	**04 37 12.6**	**+0.9**
MORC	**Moravsky Berou**	**1.93**	**153**	Pn	**Pn**	**04 36 45.5**	**+0.3**
MORC				Sg	**Sb**	**04 37 12.6**	**+0.9**
CLL	**Collm**	**2.00**	**266**	*e*Pn	**Pn**	**04 36 47.0**	**+0.8**
CLL				*e*Pg	**Pg**	**04 36 50.0**	**+0.6**
CLL				*i*		04 36 51.7	
CLL				*i*		04 36 53.6	
CLL				*e*Sg	**Sg**	**04 37 18.0**	**+2.6**
	comp=Z,38nm,0.8s						
OKC	**Ostrava-Krasne**	**2.08**	**142**	*e*PG	**Pg**	**04 36 51.3**	**+0.4**
OKC				*e*SG	**Sb**	**04 37 16.4**	**+0.4**
	comp=Z,46nm,0.5s						
OKC	**Ostrava-Krasne**	**2.08**	**142**	*e*Pg	**Pg**	**04 36 51.1**	**+0.1**
OKC				*e*Sg	**Sb**	**04 37 16.6**	**+0.6**
OKC	**Ostrava-Krasne**	**2.08**	**142**	Pg	**Pg**	**04 36 51.3**	**+0.4**
OKC				Sg	**Sb**	**04 37 16.6**	**+0.6**
VRAC	**Vranov**	**2.21**	**173**	Pg	**Pb**	**04 36 50.9**	**-0.9**
	comp=Z,3.2nm,0.3s,baz=350,slow=17,SNR=12						
VRAC				Lg	Lg	04 37 19.6	
	comp=Z,8.7nm,0.3s,baz=350,slow=19,SNR=14						
VRAC	**Vranov**	**2.21**	**173**	*e*Pn	**Pb**	**04 36 50.8**	**-1.1**
VRAC				*e*Sg	**Sb**	**04 37 20.2**	**+0.5**
TREC	**Trest**	**2.25**	**192**	*e*PG	**Pb**	**04 36 53.8**	**+1.2**
TREC	**Trest**	**2.25**	**192**	Pg	**Pb**	**04 36 53.8**	**+1.2**
OJC	**Ojcow**	**2.62**	**118**	*e*Pg	**Pg**	**04 37 01.1**	**-0.3**
OJC				*e*Sg	**Sg**	**04 37 35.7**	**+0.4**
OJC	**Ojcow**	**2.62**	**118**	*e*Pg	**Pg**	**04 37 02.0**	**+0.6**
OJC				*e*Sg	**Sg**	**04 37 36.0**	**+0.7**
OJC	**Ojcow**	**2.62**	**118**	Pg	**Pg**	**04 37 02.0**	**+0.6**
OJC				*e*Sg	**Sg**	**04 37 35.7**	**+0.4**
OJC	**Ojcow**	**2.62**	**118**	*e*Pg	**Pg**	**04 37 01.1**	**-0.3**
OJC				*e*Sg	**Sg**	**04 37 35.7**	**+0.4**
WERD	**Werda**	**2.67**	**248**	*e*Pg	**Pg**	**04 37 03.0**	**+0.8**
WERD				*e*Sg	**Sg**	**04 37 36.3**	**-0.4**
WERD	**Werda**	**2.67**	**248**	Pg	**Pg**	**04 37 03.0**	**+0.8**
WERD				Sg	**Sg**	**04 37 36.3**	**-0.4**
NKC	**Novy Kostel**	**2.68**	**243**	*e*PN	**Pn**	**04 36 57.1**	**+1.5**
NKC				*e*PG	**Pg**	**04 37 03.3**	**+0.8**
NKC				*e*SG	**Sg**	**04 37 39.8**	**+2.5**
	comp=Z,61nm,0.4s						
NKC	**Novy Kostel**	**2.68**	**243**	Pn	**Pn**	**04 36 57.1**	**+1.5**
KHC	**Kasperske Hory**	**2.90**	**216**	*e*PN	**Pn**	**04 36 59.8**	**+1.3**
KHC				*e*PG	**Pg**	**04 37 05.7**	**-0.9**
KHC				*e*SG	**Sg**	**04 37 42.7**	**-1.4**
	comp=Z,23nm,0.3s						
KHC	**Kasperske Hory**	**2.90**	**216**	Pn	**Pn**	**04 36 59.8**	**+1.3**
KHC	**Kasperske Hory**	**2.90**	**216**	Pg	**Pg**	**04 37 05.7**	**-0.9**
KHC				Sg	**Sg**	**04 37 42.7**	**-1.4**
	comp=Z,23nm,0.3s						
MOX	**Moxa**	**3.00**	**255**	*e*Pg	**Pg**	**04 37 09.4**	**+0.7**
MOX	**Moxa**	**3.00**	**255**	Pg	**Pg**	**04 37 09.4**	**+0.7**
ROTZ	**Rotzenmuhle**	**3.07**	**237**	*e*Pn	**Pn**	**04 37 02.4**	**+1.6**
ROTZ	**Rotzenmuhle**	**3.07**	**237**	Pn	**Pn**	**04 37 02.4**	**+1.6**
SMOL	**Smolenice**	**3.09**	**164**	*e*Pg	**Pg**	**04 37 10.6**	**+0.3**
SMOL				*e*Sg	**Sg**	**04 37 50.1**	**-0.3**
SMOL	**Smolenice**	**3.09**	**164**	*e*PG	**Pg**	**04 37 10.6**	**+0.3**
SMOL				*e*SG	**Sg**	**04 37 50.1**	**-0.3**
GERES	**GERESS Array B**	**3.10**	**212**	Pn	**Pn**	**04 37 03.2**	**+1.9**
	comp=Z,0.5nm,0.3s,baz=34,slow=14,SNR=8.9						
GERES				Pg	**Pb**	**04 37 09.0**	**+1.9**
	comp=Z,5.1nm,0.3s,baz=30,slow=17,SNR=46						
GERES				Lg	Lg	04 37 47.0	
	comp=Z,9.2nm,0.3s,baz=34,slow=26,SNR=16						
LANS	**Liptovska Anna**	**3.15**	**137**	*e*Pg	**Pg**	**04 37 12.1**	**+0.6**
LANS				*e*Sg	**Sg**	**04 37 53.7**	**+1.3**
LANS	**Liptovska Anna**	**3.15**	**137**	*e*PG	**Pg**	**04 37 12.1**	**+0.6**
LANS				*e*SG	**Sg**	**04 37 53.7**	**+1.3**
NIE	**Niedzica**	**3.35**	**127**	*e*P	**Pg**	**04 37 16.3**	**+1.0**
NIE				*e*S	**Sg**	**04 38 00.2**	**+1.4**
NIE	**Niedzica**	**3.35**	**127**	*e*P	**Pg**	**04 37 16.3**	**+1.0**
NIE				*e*S	**Sg**	**04 38 00.2**	**+1.4**
VYHS	**Vyhne**	**3.46**	**149**	*e*Pg	**Pg**	**04 37 17.9**	**+0.5**
VYHS				*e*Sg	**Sg**	**04 38 04.5**	**+2.4**
VYHS	**Vyhne**	**3.46**	**149**	*e*PG	**Pg**	**04 37 17.9**	**+0.5**
VYHS				*e*SG	**Sg**	**04 38 04.5**	**+2.4**
VYHS				*e*LG	Lg	04 38 14.6	
CONA	**Conrad Observa**	**3.58**	**183**	Pn	**Pn**	**04 37 07.0**	**-0.9**
	comp=Z,0.8nm,0.1s						
CONA				Sg	**Sg**	**04 38 06.7**	**+0.7**
	comp=Z,19nm,0.4s						
BSD	**Bornholm Skovb**	**3.70**	**349**	*i* P	**Pn**	**04 37 10.4**	**+0.9**
BSD				*i* S	**Sn**	**04 37 52.5**	**-1.3**
BSD	**Bornholm Skovb**	**3.70**	**349**	*i* P	**Pn**	**04 37 10.4**	**+0.9**
BSD				*i* S	**Sn**	**04 37 52.6**	**-1.3**
	SNR=49						
STHS	**Stebnicka Huta**	**3.84**	**121**	*e*Pg	**Pg**	**04 37 27.1**	**+2.3**
STHS	**Stebnicka Huta**	**3.84**	**121**	*e*	**Pn**	**04 37 12.8**	**+1.3**
STHS	**Stebnicka Huta**	**3.84**	**121**	*e*PG	**Pg**	**04 37 27.1**	**+2.3**
STHS				*e*SG	**Sg**	**04 38 20.3**	**+5.7**
STHS				*e*LG	Lg	04 38 32.6	
MOA	**Molln**	**3.86**	**200**	Pn	**Pn**	**04 37 13.0**	**+1.3**
	comp=Z,0.6nm,0.1s						
MOA				Sg	**Sg**	**04 38 15.6**	**+0.6**
	comp=Z,12nm,0.4s						
KECS	**Kecovo**	**4.10**	**136**	*e*Pg	**Pg**	**04 37 32.0**	**+2.3**
KECS				*e*Sg	**Sg**	**04 38 24.1**	**+1.4**
KECS	**Kecovo**	**4.10**	**136**	*e*PG	**Pg**	**04 37 31.9**	**+2.3**
KECS				*e*SG	**Sg**	**04 38 24.1**	**+1.4**
KECS				*e*LG	Lg	04 38 27.6	
CRVS	**Cervenica-Dubn**	**4.27**	**125**	*e*SG	**Sg**	**04 38 35.0**	**+6.8**
ARSA	**Arzberg**	**4.27**	**186**	Pg	**Pg**	**04 37 31.1**	**-1.8**
	comp=Z,1.3nm,0.3s						
ARSA				Sg	**Sg**	**04 38 27.3**	**-1.0**
	comp=Z,7.3nm,0.4s						
KBA	**Koelnbreinsper**	**4.80**	**204**	Pn	**Pn**	**04 37 26.5**	**+1.8**
	comp=Z,1.2nm,0.3s						
KBA				Sg	**Sg**	**04 38 44.2**	**-0.9**
	comp=Z,14nm,0.8s						
BLEU	**Blekinge**	**4.82**	**358**	P	**Pn**	**04 37 26.1**	**+1.2**
BLEU				S	**Sn**	**04 38 18.9**	**-2.5**
BLEU	**Blekinge**	**4.82**	**358**	P	**Pn**	**04 37 26.1**	**+1.2**
BLEU				S	**Sn**	**04 38 18.9**	**-2.5**
SOKA	**Soboth**	**4.88**	**189**	Sg	**Sg**	**04 38 46.6**	**-1.2**
	comp=Z,1.7nm,0.3s						
DEL	**Delary**	**5.17**	**346**	P	**Pn**	**04 37 30.5**	**+0.9**
DEL	**Delary**	**5.17**	**346**	P	**Pn**	**04 37 30.5**	**+0.9**
ABTA	**Abfaltersbach**	**5.33**	**208**	Sg	**Sg**	**04 39 00.5**	**-1.7**
	comp=Z,4.3nm,0.6s						
VXJU	**Vaexsjoe**	**5.49**	**353**	P	**Pn**	**04 37 35.3**	**+1.3**
VXJU	**Vaexsjoe**	**5.49**	**353**	P	**Pn**	**04 37 35.3**	**+1.3**
OSKU	**Oskarshamn**	**5.71**	**360**	P	**Pn**	**04 37 38.4**	**+1.3**
OSKU	**Oskarshamn**	**5.71**	**360**	P	**Pn**	**04 37 38.3**	**+1.3**
BYXU	**Byxelkrok**	**5.83**	**4**	P	**Pn**	**04 37 40.4**	**+1.7**
BYXU	**Byxelkrok**	**5.83**	**4**	P	**Pn**	**04 37 40.3**	**+1.7**
FABU	**Falkenberg**	**5.88**	**341**	P	**Pn**	**04 37 39.8**	**+0.5**
FABU	**Falkenberg**	**5.88**	**341**	P	**Pn**	**04 37 39.8**	**+0.5**
GNOU	**Gnosjoe**	**5.98**	**347**	P	**Pn**	**04 37 41.8**	**+1.1**
GNOU	**Gnosjoe**	**5.98**	**347**	P	**Pn**	**04 37 41.8**	**+1.1**
DAVOX	**Davos/Dischmat**	**6.27**	**224**	Pn	**Pn**	**04 37 46.1**	**+1.1**
	comp=Z,0.2nm,0.3s,baz=46,slow=2.1,SNR=2.1						
DAVOX				Lg	Lg	04 39 29.7	
	comp=Z,0.5nm,0.3s,baz=37,slow=20,SNR=3.8						
FKPU	**Falk**	**6.83**	**349**	P	**Pn**	**04 37 54.4**	**+2.0**
FKPU	**Falk**	**6.83**	**349**	P	**Pn**	**04 37 54.4**	**+2.0**
AKASG	**Malin Array Be**	**8.25**	**90**	Pn	**Pn**	**04 38 11.4**	**-0.5**
	comp=Z,0.8nm,0.3s,baz=279,slow=12,SNR=4.1						
AKASG				Sn	**Sn**	**04 39 42.3**	**-3.4**
	comp=Z,0.8nm,0.3s,baz=275,slow=23,SNR=2.9						
AKASG				Lg	Lg	04 40 30.8	
	comp=Z,0.8nm,0.3s,baz=275,slow=32,SNR=4.0						
HFS	**Hagfors**	**8.77**	**352**	Pn	**Pn**	**04 38 19.6**	**+0.5**
	comp=Z,0.2nm,0.3s,baz=172,slow=15,SNR=5.3						
HFS				Sn	**Sn**	**04 39 56.8**	**-1.6**
	comp=Z,0.2nm,0.3s,baz=176,slow=23,SNR=3.0						
NOA	**NORSAR Array B**	**9.95**	**346**	Pn	**Pn**	**04 38 35.1**	**-0.2**
	comp=Z,0.2nm,0.3s,baz=155,slow=12,SNR=3.8						
FINES	**FINESS Array B**	**11.36**	**25**	Pn	**Pn**	**04 38 53.6**	**-0.8**
	comp=Z,0.2nm,0.3s,baz=207,slow=12,SNR=4.8						
FINES				Sn	**Sn**	**04 40 55.2**	**-6.6**
	comp=Z,0.3nm,0.3s,baz=206,slow=20,SNR=4.6						
EKA	**Eskdalemuir Ar**	**12.15**	**296**	Pn	**Pn**	**04 39 04.5**	**-0.8**
	baz=101,slow=14,SNR=2.8						
ARCES	**ARCESS Array B**	**18.63**	**10**	Pn	**P**	**04 40 27.8**	**-2.1**
	comp=Z,0.3nm,0.3s,baz=192,slow=12,SNR=9.1						

*DDA **29** 04:38:30.7, 39°.64N×38°.74E, h7km, Md2.6*
*ISCJB **29** 04:38:31.1±0.5, 39°.66N±0°.03×38°.72E±0°.04, h6km±6km, Error ellipse: s-maj=5.4km s-min=4.3km az=165.4*
*CSEM **29** 04:38:31.0±0.2, 39°.65N×38°.72E, h5km, MD2.6, Error ellipse: s-maj=5.5km s-min=3.8km az=75.0*
*ISK **29** 04:38:32.1, 39°.67N×38°.80E, h24km, MD2.7*

ISC 29 04:38:31.3±1.0, **39°.65N**±0°.02×**38°.73E**±0°.03, **h9**km±9km, **n17**, σ0§**65**/32, **Turkey**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
REFA	**Refahiye_ERZ**	**0.25**	**174**	*i* P	**Pg**	**04 38 35.5**	**-1.0**
REFA				*i* S	**Sg**	**04 38 41.0**	**+1.1**
REFA	**Refahiye_ERZ**	**0.25**	**174**	P	**Pg**	**04 38 35.5**	**-1.0**
REFA				S	**Sg**	**04 38 41.0**	**+1.1**
KEMA	**Kemaliye**	**0.42**	**206**	*i* P	**Pg**	**04 38 38.8**	**-0.8**
KEMA				*i* S	**Sg**	**04 38 45.8**	**+0.7**
KEMA	**Kemaliye**	**0.42**	**206**	P	**Pg**	**04 38 38.8**	**-0.8**
KEMA				S	**Sg**	**04 38 45.8**	**+0.7**
KELT	**Kelkit**	**0.65**	**39**	*i* P	**Pg**	**04 38 43.5**	**-0.3**
KELT				*i* S	**Sg**	**04 38 52.5**	**+0.2**
KELT	**Kelkit**	**0.65**	**39**	P	**Pg**	**04 38 43.5**	**-0.3**
KELT				S	**Sg**	**04 38 52.5**	**+0.2**
SUSE	**Susehri**	**0.69**	**324**	*i* P	**Pg**	**04 38 44.5**	**-0.3**
SUSE				*i* S	**Sg**	**04 38 54.4**	**+0.5**
SUSE	**Susehri**	**0.69**	**324**	P	**Pg**	**04 38 44.5**	**-0.3**
SUSE				S	**Sg**	**04 38 54.4**	**+0.5**
ERZN	**Erzincan**	**0.77**	**94**	*e*PG	**Pb**	**04 38 46.8**	**-0.1**
ERZN				*e*SG	**Sb**	**04 38 57.5**	**0.0**
PTK	**Pertek**	**0.91**	**145**	*e*PG	**Pb**	**04 38 49.7**	**+0.3**
PTK				*e*SG	**Sb**	**04 39 02.7**	**+1.0**
PTK	**Pertek**	**0.91**	**145**	*e*Pg	**Pb**	**04 38 49.7**	**+0.3**
PTK				*e*Sg	**Sb**	**04 39 02.7**	**+1.0**
ELZG	**Elazig**	**1.16**	**170**	*i* P	**Pg**	**04 38 52.9**	**-0.8**
ELZG				*i* S	**Sn**	**04 39 09.8**	**-0.2**
ELZG	**Elazig**	**1.16**	**170**	P	**Pg**	**04 38 52.9**	**-0.8**
ELZG				S	**Sn**	**04 39 09.8**	**-0.2**
SVSK	**Karacayir**	**1.36**	**282**	*e*PN	**Pb**	**04 38 57.1**	**+0.1**
SVSK				*e*SN	**Sg**	**04 39 15.1**	**-0.1**
SVSK	**Karacayir**	**1.36**	**282**	*e*Pn	**Pb**	**04 38 57.1**	**+0.1**
SVSK				*e*Sn	**Sg**	**04 39 15.1**	**-0.1**
**BIN

PWJI Pagerwojo 22.29 223 P **P** **05 21 31.2 +3.1**
SMRI Semarang 22.57 228 *e*P **P** **05 21 32.4 +1.2**
220nm,1.4s
MANU Manus Island 22.79 116 *e*P **P** **05 21 31.8 -1.7**
131nm,1.6s
MANU *e*Sn Sn 05 26 01.8 +5.1
CBIJ Chichi jima 23.48 36 *e*P **P** **05 21 37.2 -3.2**
264nm,1.6s
KPJI Karang Pucung 23.88 230 P P 05 21 55.0 +11
KTGM Kuala Trenggan 23.91 264 ⇑P **P** **05 21 45.6 +1.0**
MYKOM Kota Tinggi 23.99 255 *e*P **P** **05 21 45.2 -0.1**
30nm,1.2s
MYKOM Kota Tinggi 23.99 255 ⇑P **P** **05 21 47.1 +1.8**
KGM Kluang 24.44 256 ⇑P **P** **05 21 51.7 +2.2**
NJ2 Nanjing 24.71 343 *e*P **P** **05 21 51.0 -0.7**
NJ2 pmax pmax
comp=Z,30nm,1.3s
JNU Nakatsue 24.84 8 P **P** **05 21 55.3 +2.3**
10.0nm,1.0s,baz=146,slow=4.0,SNR=6.1
CISI Cisompet, Garu 24.87 231 *e*P **P** **05 21 53.6 +0.1**
65nm,1.1s
CHAI Chaiyaphum 25.56 289 P **P** **05 21 59.9 +0.3**
15nm,0.9s
SLVN Son La 25.72 302 *e*P **P** **05 22 01.1 0.0**
32nm,1.5s
KLSI 25.77 240 P **P** **05 22 02.9 +1.4**
FRIM Kepong 25.78 260 ⇓P **P** **05 22 03.9 +2.3**
IPM Ipoh 26.12 263 *e*P **P** **05 22 05.2 +0.4**
IPM Ipoh 26.12 263 ⇓P **P** **05 22 06.7 +1.9**
KULM Kulim 26.37 265 *e*P **P** **05 22 08.1 +1.1**
108nm,1.5s
KULM Kulim 26.37 265 ⇑P **P** **05 22 09.5 +2.5**
GYA Guiyang 26.37 315 *e*P **P** **05 22 07.5 +0.5**
GYA pP sP 05 22 18.5 +0.2
GYA PP **PnPn** **05 22 52.0 +5.0**
GYA S **S** **05 26 37.5 -1.3**
GYA pmax pmax
comp=Z,20nm,0.8s
GYA pmax pmax
comp=Z,120nm,4.8s
GYA LR LR
comp=N,460nm,16.0s
GYA LR LR
comp=E,420nm,15.6s
FITZ Fitzroy Crossi 26.39 183 P **P** **05 22 06.8 -0.3**
20nm,0.5s,baz=357,slow=6.4
LWLI Liwa 26.51 241 P P **05 22 09.2 +0.8**
PMG Port Moresby 26.75 131 *ce*P **P** **05 22 08.9 -1.5**
PMG pmax pmax
comp=Z,65nm,1.2s
PMG Port Moresby 26.75 131 *e*P **P** **05 22 08.7 -1.7**
comp=Z,20nm,1.0s
BKNI Bangkinang 27.11 254 *e*P **P** **05 22 14.1 +0.5**
comp=Z,68nm,0.4s
MNAI Manna 27.15 243 *e*P **P** **05 22 14.9 +0.8**
comp=Z,137nm,1.0s
UTTA Uttaradit 27.37 292 P **P** **05 22 16.0 +0.1**
comp=Z,5.7nm,0.7s
COEN Coen 27.41 144 *e*P **P** **05 22 15.5 -0.8**
comp=Z,165nm,1.9s
NANT Nan 27.55 295 P **P** **05 22 18.1 +0.5**
comp=Z,4.5nm,0.8s
UTHA Uthaitani 27.87 287 P **P** **05 22 22.9 +2.4**
comp=Z,11nm,1.0s,comp=Z,111nm
KMI Kunming 28.49 309 P **P** **05 22 28.3 +2.1**
KMI pmax pmax
comp=Z,10.0nm,0.7s
KMI LR LR
comp=Z,980nm,5.3s
KMI LR LR
comp=Z,1μm,5.3s
KMI LR LR
comp=Z,440nm,6.4s
PSI Prapat 28.50 260 P **P** **05 22 27.7 +1.4**
comp=Z,4.4nm,0.3s,baz=102,slow=4.3,SNR=8.6
UMPA Umpang Tak 28.56 288 P P 05 22 34.2 +7.6
comp=Z,9.8nm,1.1s,comp=Z,1μm
KS15 Wonju Array Si 28.90 1 *e*P **P** **05 22 27.9 -1.5**
KSAR Wonju Array Be 28.90 1 P **P** **05 22 31.2 +1.8**
KSAR Wonju Array Be 28.90 1 P P **05 22 31.2 +1.8**
KSRS Korea Array 28.92 1 P **P** **05 22 31.2 +1.7**
comp=Z,2.0nm,0.5s,baz=179,slow=9.2,SNR=7.8
KSRS LR LR 05 36 06.4
comp=Z,321nm,18.3s,baz=177,slow=40
KSRS Korea Array 28.92 1 P **P** **05 22 31.2 +1.7**
KSRS pmax pmax
comp=Z,3.0nm,0.7s
KSRS MLR MLR
comp=Z,321nm,18.3s
KS01 Wonju Array Si 28.94 1 *e*P **P** **05 22 27.1 -2.6**
CM01 Chiang Mai Arr 29.01 293 *e*P **P** **05 22 30.3 -0.3**
CM31 Chiang Mai Arr 29.04 293 *e*P **P** **05 22 30.6 -0.3**
CMAR Chiang Mai Arr 29.04 293 P **P** **05 22 30.8 -0.1**
comp=Z,4.7nm,0.5s,baz=112,slow=6.9,SNR=40
CMAR PcP **PcP** **05 25 40.4 +1.4**
comp=Z,2.2nm,0.8s,baz=128,slow=0.7,SNR=6.2
CMAR LR LR 05 34 26.2
comp=Z,474nm,18.5s,baz=100,slow=37
WRAB Tennant Creek 29.08 166 *i* P **P** **05 22 29.5 -1.7**
WRAB pmax pmax
comp=Z,37nm,1.3s
WRAB Tennant Creek 29.08 166 *e*P **P** **05 22 30.2 -0.9**
comp=Z,16nm,0.9s
WRA Warramunga Arr 29.09 166 P **P** **05 22 29.7 -1.5**
comp=Z,1.5nm,0.5s,baz=345,slow=8.0,SNR=21
WRA S **S** **05 27 17.4 -4.2**
comp=Z,3.0nm,1.2s,baz=347,slow=17,SNR=5.0
WRA LR LR 05 36 00.4
comp=Z,128nm,19.0s,baz=15,slow=40
WB2 Warramunga Arr 29.09 166 *e*P **P** **05 22 30.2 -1.0**
CHTO Chiang Mai 29.14 294 P **P** **05 22 31.6 -0.1**
comp=Z,213nm,1.4s
CHTO Chiang Mai 29.14 294 *e*P **P** **05 22 31.0 -0.7**
CHTO pmax pmax
comp=Z,16nm,1.0s
CHTO Chiang Mai 29.14 294 *e*P **P** **05 22 31.0 -0.7**
comp=Z,16nm,1.0s
MJAR Matsushiro Arr 29.79 18 LR LR 05 36 02.7
comp=Z,158nm,18.1s,baz=210,slow=39
MAJO Matsushiro 29.79 18 *e*P **P** **05 22 34.0 -3.3**
MAJO pmax pmax
comp=Z,13nm,1.3s
MAJO Matsushiro 29.79 18 *e*P **P** **05 22 34.0 -3.3**
comp=Z,14nm,1.3s
MJB9 Matsu-Tunnel 29.79 18 *e*P **P** **05 22 34.1 -3.2**
comp=Z,3.3nm,1.2s
MBWA Marble Bar 30.25 194 *e*P **P** **05 22 41.1 -0.4**
comp=Z,28nm,1.2s
CD2 Chengdu 31.18 319 *e*P **P** **05 22 50.8 +1.1**
AS31 Alice Springs 32.59 168 *e*P **P** **05 23 00.9 -1.3**
comp=Z,2.2nm,0.6s
ASAR Alice Springs 32.59 168 P **P** **05 23 01.2 -0.9**
comp=Z,1.3nm,0.3s,baz=15,slow=12,SNR=19
ASAR PcP **PcP** **05 25 48.0 -0.3**
comp=Z,1.5nm,0.7s,baz=348,slow=2.9,SNR=4.9
ASAR ScP **ScP** **05 29 29.6 -0.9**
comp=Z,0.8nm,0.8s,baz=328,slow=3.1,SNR=5.1
ASAR LR LR 05 37 23.6
comp=Z,181nm,19.0s,baz=343,slow=38
BJI Beijing 32.95 345 P **P** **05 23 05.0 0.0**
BJI S **S** **05 28 20.8 -0.7**
BJI pmax pmax
comp=Z,18nm,1.2s
BJI pmax pmax
comp=Z,290nm,4.4s
BJI LR LR
comp=Z,490nm,6.2s
SNY Shenyang 33.41 355 ⇑P **P** **05 23 11.0 +1.9**
SNY S S 05 28 18.8 -10
SNY pmax pmax
comp=Z,37nm,0.9s
SNY pmax pmax
comp=Z,430nm,4.7s
SNY LR LR
comp=Z,280nm,10.4s
SNY LR LR
comp=Z,630nm,11.7s
CTA Charters Tower 34.07 146 P **P** **05 23 16.7 +1.7**
comp=Z,4.7nm,0.5s,baz=320,slow=11,SNR=6.8
CTA pP **sP** **05 23 26.7 +0.3**
comp=Z,11nm,0.8s,baz=320,slow=12,SNR=6.5
CTAO Charters Tower 34.07 146 *e*P **P** **05 23 12.7 -2.4**
CTAO pmax pmax
comp=Z,15nm,0.8s
CTAO Charters Tower 34.07 146 *e*P **P** **05 23 12.7 -2.4**
comp=Z,14nm,0.8s

LZH Lanzhou 34.72 326 *e*P **P** **05 23 20.5 -0.2**
LZH pP sP 05 23 32.3 +0.3
LZH sP pP 05 23 37.0 +8.3
LZH PcP **PcP** **05 25 55.5 +1.2**
LZH pmax pmax
comp=Z,23nm,1.2s
LZH pmax pmax
comp=Z,660nm,4.8s
LZH LR LR
comp=Z,730nm,13.1s
LZH LR LR
comp=Z,870nm,14.9s
LZH LR LR
comp=Z,800nm,16.0s
HHC Hu-ho-hao-te 35.10 339 *e*P **P** **05 23 23.3 -0.6**
HHC pmax pmax
comp=Z,36nm,0.8s
HHC pmax pmax
comp=Z,330nm,4.9s
CN2 Changchun 35.27 358 *e*P **P** **05 23 25.5 +0.3**
CN2 *es*P sP 05 23 41.5 +5.0
CN2 *e*S **S** **05 28 55.5 -1.9**
CN2 pmax pmax
comp=Z,10.0nm,0.6s
CN2 pmax pmax
comp=Z,200nm,3.0s
CN2 LR LR
comp=Z,300nm,13.0s
CN2 LR LR
comp=Z,300nm,13.0s
CN2 LR LR
comp=Z,400nm,14.0s
USRK Ussuriysk Ar. 35.91 6 P **P** **05 23 32.2 +1.6**
comp=Z,9.9nm,0.7s,baz=184,slow=7.5,SNR=11
USRK pP **sP** **05 23 42.6 +0.7**
comp=Z,12nm,0.8s,baz=196,slow=8.3,SNR=8.9
USRK LR LR 05 37 39.1
comp=Z,122nm,21.4s,baz=167,slow=35
MDJ Mudanjiang 36.13 3 P **P** **05 23 34.8 +2.3**
MDJ pmax pmax
comp=Z,40nm,1.4s
MDJ pmax pmax
comp=Z,160nm,5.5s
MDJ Mudanjiang 36.13 3 *e*P **P** **05 23 35.0 +2.5**
comp=Z,37nm,1.0s
HNR Honiara 37.28 118 LR LR 05 37 18.0
comp=Z,164nm,20.3s,baz=300,slow=33
SHL Shillong 37.52 301 *e*P **P** **05 23 44.0 -0.9**
GTA Gaotai 39.32 326 P **P** **05 23 59.8 0.0**
GTA pP sP 05 24 12.3 +1.1
GTA sP pP 05 24 18.0 +10
GTA PcP **PcP** **05 26 09.0 +0.9**
GTA S **S** **05 29 58.0 -1.4**
GTA sS sS 05 30 18.5 +5.8
GTA pmax pmax
comp=Z,12nm,1.1s
GTA pmax pmax
comp=Z,300nm,6.0s
GTA LR LR
comp=Z,420nm,18.5s
GTA LR LR
comp=Z,380nm,16.6s
GTA LR LR
comp=Z,540nm,18.5s
H11S3 WAKE ISLAND Hy 39.77 71 T T 06 07 12.3
baz=262,slow=74,SNR=38
H11S1 WAKE ISLAND Hy 39.78 71 T T 06 07 13.4
baz=262,slow=74,SNR=23
H11S2 WAKE ISLAND Hy 39.78 71 T T 06 07 21.6
baz=262,slow=74,SNR=25
H11N1 WAKE ISLAND Hy 40.16 69 T T 06 07 55.3
baz=265,slow=74,SNR=31
H11N2 WAKE ISLAND Hy 40.17 69 T T 06 08 00.5
baz=265,slow=74,SNR=17
H11N3 WAKE ISLAND Hy 40.18 69 T T 06 08 02.4
baz=265,slow=74,SNR=32
TAPN Taplejung 41.64 302 *e*P **P** **05 24 19.1 -0.2**
ODAN Odare 41.75 301 *e*P **P** **05 24 20.0 -0.2**
NWAO Narrogin (SRO) 42.16 192 P **P** **05 24 23.1 +0.1**
comp=Z,9.0nm,0.6s,baz=250,slow=7.5,SNR=9.2
NWAO Narrogin (SRO) 42.16 192 *e*P **P** **05 24 23.1 +0.1**
NWAO pmax pmax
comp=Z,40nm,0.9s
NWAO Narrogin (SRO) 42.16 192 *e*P **P** **05 24 23.1 +0.1**
comp=Z,40nm,0.9s
STKA Stephens Creek 42.42 162 P **P** **05 24 25.1 0.0**
comp=Z,2.4nm,0.3s,baz=334,slow=8.7,SNR=8.5
STKA LR LR 05 47 25.9
comp=Z,88nm,18.2s,baz=10,slow=44
RAMN Ramite 42.45 301 *e*P **P** **05 24 25.6 -0.3**
comp=Z,122nm,1.2s
ULN Ulaanbaatar 42.81 340 ⇓*i*P **P** **05 24 28.6 +0.2**
ULN pmax pmax
comp=Z,5.0nm,0.5s
ULN Ulaanbaatar 42.81 340 *e*P **P** **05 24 27.9 -0.4**
comp=Z,7.5nm,0.6s
SONM Songino Array 43.00 340 P **P** **05 24 30.0 +0.1**
comp=Z,2.4nm,0.7s,baz=161,slow=11,SNR=12
SONM PcP **PcP** **05 26 20.1 +0.2**
comp=Z,3.3nm,0.7s,baz=158,slow=2.6,SNR=7.1
SONM LR LR 05 45 38.7
comp=Z,191nm,18.5s,baz=78,slow=41
SONA1 Songino Array 43.01 340 *e*P **P** **05 24 30.1 +0.1**
JIRN Jiri 43.02 302 *e*P **P** **05 24 30.3 -0.4**
comp=Z,43nm,0.5s
GUN Gumba 43.36 302 *e*P **P** **05 24 32.9 -0.5**
PKI Pulchoki 43.65 301 *e*P **P** **05 24 34.6 -1.1**
comp=Z,23nm,0.7s
PKIN Phulchoki 43.66 301 *e*P **P** **05 24 35.4 -0.3**
comp=Z,18nm,0.7s
KKN Kakani 43.83 302 *e*P **P** **05 24 36.1 -0.9**
DMN Daman 43.92 301 *e*P **P** **05 24 36.9 -0.9**
comp=Z,62nm,1.2s
GKN Gorkha 44.43 302 *e*P **P** **05 24 40.8 -1.0**
comp=Z,20nm,0.7s
KOLN Koldanda 45.24 301 *e*P **P** **05 24 47.3 -1.0**
comp=Z,59nm,0.7s
DANN Dangsing 45.27 302 *e*P **P** **05 24 47.7 -0.9**
comp=Z,3.9nm,0.8s
PYUN Piuthan 45.85 301 *e*P **P** **05 24 52.3 -0.8**
comp=Z,77nm,0.9s
DZM Mont Dzumac 49.11 129 LR LR 05 43 26.0
comp=Z,151nm,22.0s,baz=238,slow=33
WMQ Urumqi 49.13 323 P **P** **05 25 19.5 +1.3**
WMQ pP sP 05 25 28.5 -1.2
WMQ sP pP 05 25 32.3 +5.8
WMQ pmax pmax
comp=Z,16nm,0.7s
WMQ pmax pmax
comp=Z,170nm,4.3s
WMQ LR LR
comp=Z,450nm,20.9s
WMQ LR LR
comp=Z,250nm,18.7s
BOD Bodaibo 50.30 351 *e*P **P** **05 25 27.7 +0.9**
BOD pmax pmax
comp=Z,11nm,1.5s
PETK Petropavlovsk- 51.02 23 LR LR 05 49 30.8
comp=Z,106nm,18.3s,baz=210,slow=39
DGZ Jazzator, Alta 52.73 329 *i* P **P** **05 25 44.5 -0.7**
DGZ pmax pmax
comp=Z,5.0nm,1.9s
YAK Yakutsk 53.54 2 *e*P **P** **05 25 50.1 -0.7**
YAK pmax pmax
comp=Z,45nm,1.3s
YAK pmax pmax
comp=N,21nm,1.3s
MK01 Makanchi Array 53.93 323 *e*P **P** **05 25 53.0 -0.9**
MK31 Makanchi Array 53.95 323 *e*P **P** **05 25 53.5 -0.6**
MK31 Makanchi Array 53.95 323 *e*P **P** **05 25 53.5 -0.6**
MKAR Makanchi Array 53.95 323 P **P** **05 25 53.3 -0.8**
comp=N,5.0nm,0.5s,baz=123,slow=7.6,SNR=34
MKAR PcP **PcP** **05 26 59.2 -0.1**
comp=N,4.5nm,0.8s,baz=116,slow=5.5,SNR=5.3
MKAR LR LR 05 48 33.2
comp=N,176nm,18.4s,baz=122,slow=36
MKAR Makanchi Array 53.95 323 *e*P **P** **05 25 53.5 -0.6**
MKAR 05 26 59.2
MKAR pmax pmax
comp=Z,34nm,0.7s
MKAR Makanchi Array 53.95 323 *e*P **P** **05 25 53.5 -0.6**
comp=Z,34nm,0.7s
MKAR PcP **PcP** **05 26 59.2 -0.1**
PDGK Podgornoye 54.06 318 P **P** **05 25 55.4 +0.2**
PDGK pmax pmax
comp=Z,10.0nm,0.6s

KSH Kashi 55.02 313 P **P** **05 26 03.3 +1.1**
KSH sP sP 05 26 21.3 +7.5
KSH PP **PP** **05 28 08.5 +3.0**
KSH S **S** **05 33 40.5 -2.6**
KSH sS sS 05 34 01.5 +4.7
KSH SS **SS** **05 37 24.3 -2.7**
KSH pmax pmax
comp=Z,16nm,1.4s
KSH pmax pmax
comp=Z,110nm,6.4s
KSH LR LR
comp=Z,110nm,6.2s
KSH LR LR
comp=Z,180nm,6.6s
KSH LR LR
comp=Z,200nm,14.4s
ZALV Zalesovo Beam 56.60 332 P **P** **05 26 12.0 -1.1**
comp=Z,2.4nm,0.4s,baz=140,slow=6.8,SNR=8.1
ZALV LR LR 05 51 36.5
comp=Z,102nm,18.2s,baz=70,slow=37
ZALV Zalesovo Beam 56.60 332 P **P** **05 26 12.0 -1.1**
AAK Ala-Archa 57.16 316 *i* P **P** **05 26 16.7 -0.8**
AAK pmax pmax
comp=Z,13nm,1.5s
SEY Seymchan 57.43 13 *ce*P **P** **05 26 21.3 +2.5**
NVS Novosibirsk 57.88 332 *e*P **P** **05 26 20.7 -1.3**
KURK Kurchatov 58.01 326 *ce*P **P** **05 26 22.2 -0.8**
KURK pmax pmax
comp=Z,118nm,1.2s
KURK Kurchatov 58.01 326 *e*P **P** **05 26 22.3 -0.8**
comp=Z,19nm,0.7s
KURBB Kurchatov Arra 58.01 326 P **P** **05 26 22.4 -0.7**
comp=Z,11nm,0.6s,baz=124,slow=6.5,SNR=62
MNAS Manas 58.49 315 P **P** **05 26 26.9 +0.1**
MNAS pmax pmax
comp=Z,12nm,1.0s
KBL Kabul 58.99 305 *e*P **P** **05 26 29.4 -1.1**
KBL pmax pmax
comp=Z,18nm,1.4s
KBL Kabul 58.99 305 *e*P **P** **05 26 29.4 -1.1**
comp=Z,18nm,1.4s
KKAR Karatay Array 60.08 315 *e*P **P** **05 26 36.7 -0.9**
KKAR pmax pmax
comp=Z,4.0nm,0.5s
KKAR Karatay Array 60.08 315 *e*P **P** **05 26 36.7 -0.9**
comp=Z,4.1nm,0.5s
DZET Dzherino 60.12 310 P **P** **05 26 37.5 -0.6**
DZET pmax pmax
comp=Z,17nm,1.0s
TIXI Tiksi 63.18 1 *d i*P **P** **05 26 58.7 +0.7**
TIXI pmax pmax
comp=Z,60nm,1.4s
TIXI Tiksi 63.18 1 *e*P **P** **05 26 59.4 +1.4**
comp=Z,78nm,1.4s
BRVK Borovoye 63.67 326 *ce*P **P** **05 27 00.8 -0.8**
BRVK pmax pmax
comp=Z,82nm,1.0s
BRVK Borovoye 63.67 326 *e*P **P** **05 27 01.2 -0.4**
comp=Z,22nm,0.8s
RPZ Rata Peaks 65.44 146 P **P** **05 27 14.4 +1.1**
comp=Z,5.2nm,0.6s,baz=273,slow=2.0,SNR=5.4
BKZ Black Stump Fm 65.90 140 *e*P **P** **05 27 17.6 +1.3**
comp=Z,45nm,1.3s
NRIK Noril'sk 65.98 346 P **P** **05 27 17.0 +0.7**
comp=Z,16nm,0.7s,baz=128,slow=6.1,SNR=16
NRIK LR LR 05 57 57.0
comp=Z,123nm,20.5s,baz=128,slow=38
NRIK Noril'sk 65.98 346 P **P** **05 27 17.0 +0.7**
NRIK pmax pmax
comp=Z,16nm,0.7s
NRIK MLR MLR
comp=Z,123nm,20.5s
GEYT Alibeck 68.25 307 P **P** **05 27 31.0 -0.4**
comp=Z,3.5nm,0.7s,baz=151,slow=3.4,SNR=4.3
GEYT LR LR 06 01 48.3
comp=Z,175nm,19.2s,baz=100,slow=40
ABKAR Akbulak array 68.76 320 *e*P **P** **05 27 33.0 -1.3**
comp=Z,5.7nm,0.9s
UNV Unalaska Valle 69.44 35 *e*P **P** **05 27 40.8 +2.4**
SVE Sverdlovsk 70.16 328 ⇓*e*P **P** **05 27 42.6 -0.2**
SVE pmax pmax
comp=Z,27nm,1.1s
AKTO Aktyubinsk 70.22 321 LR LR 06 01 53.9
comp=Z,184nm,19.0s,slow=39
ARU Arti 71.17 327 *c i*P **P** **05 27 48.0 -1.0**
ARU 05 30 25.3
ARU S **S** **05 37 04.5 +0.3**
ARU SS **SS** **05 41 42.0 +4.0**
ARU pmax pmax
comp=Z,17nm,1.0s
ARU Arti 71.17 327 *e*P **P** **05 27 47.9 -1.0**
TT01 Tatalina 76.61 27 *e*P **P** **05 28 23.2 +2.5**
KDAK Kodiak Island 77.80 33 *e*P **P** **05 28 30.0 +2.6**
KDAK pmax pmax
comp=Z,43nm,0.8s
KDAK Kodiak Island 77.80 33 *e*P **P** **05 28 30.0 +2.6**
comp=Z,43nm,0.8s
GNI Garni 78.74 309 LR LR 06 07 55.2
comp=Z,61nm,19.6s,baz=88,slow=39
KTH Kantishna Hill 78.97 27 P **P** **05 28 34.2 +0.3**
comp=Z,26nm,1.2s
ZEI Tsey 79.30 312 *e*P **P** **05 28 34.1 -2.2**
ZEI pmax pmax
comp=Z,25nm,1.0s
COLD Coldfoot 79.49 23 *e*P **P** **05 28 35.4 -1.2**
comp=Z,21nm,1.1s
PMR Palmer 79.72 29 *e*P **P** **05 28 39.8 +1.9**
PMR Palmer 79.72 29 *e*P **P** **05 28 39.8 +1.9**
MCK McKinley 79.86 27 *e*P **P** **05 28 35.4 -3.3**
MCK pmax pmax
comp=Z,99nm,1.3s
MCK McKinley 79.86 27 *e*P **P** **05 28 35.4 -3.3**
comp=Z,99nm,1.3s
KIV Kislovodsk 80.15 313 *e*P **P** **05 28 37.9 -2.9**
KIV pmax pmax
comp=Z,12nm,1.1s
COLA College 80.36 26 *i* P **P** **05 28 42.6 +1.3**
COLA pmax pmax
comp=Z,14nm,1.4s
ILAR Eielson Array 80.77 26 P **P** **05 28 44.5 +0.9**
comp=Z,4.8nm,0.9s,baz=238,slow=2.0,SNR=29
ILAR LR LR 06 03 06.1
comp=Z,31nm,21.8s,baz=264,slow=34
KLMR Klimovskoe 81.50 330 *e*P **P** **05 28 44.9 -2.5**
KLMR *e* 05 31 52.1
KLMR pmax pmax
comp=Z,12nm,0.7s
VSR Storozhevoye 82.16 321 *e*P **P** **05 28 48.3 -2.9**
VSR pmax pmax
comp=Z,10.0nm,1.4s
LPSR Galich'ya Gora 82.22 322 *e*P **P** **05 28 49.7 -1.8**
LPSR pmax pmax
comp=Z,9.0nm,0.6s
LVZ Lovozero 83.16 338 *ce*P **P** **05 28 57.9 +1.8**
LVZ pmax pmax
comp=Z,19nm,1.2s
OBN Obninsk 83.42 325 LR LR 06 08 57.1
comp=Z,107nm,18.6s,baz=89,slow=38
JOF Joensuu 85.17 333 P **P** **05 29 06.4 +0.1**
JOF pmax pmax
comp=Z,36nm,1.0s
MSF Maaselka 85.63 336 P **P** **05 29 08.6 0.0**
MSF pmax pmax
comp=Z,20nm,1.1s
INK Inuvik 85.72 22 *e*P **P** **05 29 08.2 -0.8**
INK pmax pmax
comp=Z,35nm,1.3s
INK Inuvik 85.72 22 *e*P **P** **05 29 08.2 -0.8**
comp=Z,35nm,1.3s
SPITS Spitsbergen Ar 85.97 349 LR LR 06 14 37.8
comp=Z,96nm,18.3s,baz=35,slow=40
ARCES ARCESS Array B 86.18 340 P **P** **05 29 10.8 -0.5**
comp=Z,7.7nm,0.7s,baz=83,slow=5.8,SNR=22
ARCES LR LR 06 13 57.4
comp=Z,105nm,18.2s,baz=87,slow=40
PPT Papeete 86.28 108 LR LR 06 02 34.1
comp=Z,47nm,18.7s,baz=282,slow=32
PPT2 Papeete2 86.28 108 *e*LR LR 05 56 41.0
comp=Z,91nm,25.8s
BRTR Keskin Array B 87.28 310 P **P** **05 29 15.9 -1.5**
comp=Z,1.3nm,0.6s,baz=116,slow=5.1,SNR=6.9
BRTR Keskin Array B 87.28 310 *ce*P **P** **05 29 15.8 -1.6**
BRTR pmax pmax
comp=Z,1.0nm,0.6s
FINES FINESS Array B 87.86 332 P **P** **05 29 18.5 -1.1**
comp=Z,8.6nm,0.6s,baz=73,slow=5.1,SNR=44

VNDA	**Vanda**	**88.01**	**173**	P	**P**	**05**	**29**	**19.7 -0.2**
	comp=Z,3.3nm,1.0s,baz=297,slow=6.3,SNR=14							
VNDA				LR	LR	06	08	17.5
	comp=Z,40nm,19.6s,baz=331,slow=35							
MAW	**Mawson**	**88.23**	**200**	LR	LR	06	12	11.0
	comp=Z,29nm,18.1s,baz=58,slow=38							
VSU	**Vasula**	**88.23**	**329**	*ce*P	**P**	**05**	**29**	**21.4 0.0**
VSU				pmax	pmax			
	comp=Z,31nm,0.6s							
AKASG	**Malin Array Be**	**88.46**	**321**	P	**P**	**05**	**29**	**20.9 -1.7**
	comp=Z,0.5nm,0.4s,baz=64,slow=5.4,SNR=4.1							
AKASG	**Malin Array Be**	**88.46**	**321**	*i* P	**P**	**05**	**29**	**24.7 +2.1**
AKASG				pmax	pmax			
	comp=Z,1.0nm,0.4s							
KIEV	**Kiev**	**88.47**	**321**	*e*P	**P**	**05**	**29**	**21.2 -1.5**
KIEV				pmax	pmax			
	comp=Z,3.0nm,0.6s							
KIEV	**Kiev**	**88.47**	**321**	*e*P	**P**	**05**	**29**	**21.2 -1.5**
	comp=Z,2.6nm,0.6s							
SBA	**Scott Base**	**88.91**	**172**	P	**P**	**05**	**29**	**25.5 +1.4**
DAG	**Danmarks Havn**	**92.67**	**353**	*i* P	**P**	**05**	**29**	**41.2 -0.5**
	comp=Z,8.0nm,0.8s							
DAG	**Danmarks Havn**	**92.67**	**353**	⇓*i* P	**P**	**05**	**29**	**41.2 -0.5**
DAG				pmax	pmax			
	comp=Z,6.0nm,0.8s							
KWP	**Kalwaria Pacla**	**92.78**	**321**	P	**P**	**05**	**29**	**43.2 +0.4**
UZH	**Uzhgorod**	**93.33**	**320**	*d* P	**P**	**05**	**29**	**45.2 -0.1**
UZH				*i*		05	29	59.6
CRVS	**Cervenica-Dubn**	**93.78**	**320**	*e*P	**P**	**05**	**29**	**47.1 -0.3**
CRVS	**Cervenica-Dubn**	**93.78**	**320**	*e*P	**P**	**05**	**29**	**47.1 -0.3**
NIE	**Niedzica**	**94.35**	**321**	P	**P**	**05**	**29**	**50.2 +0.1**
NIE				pmax	pmax			
	comp=Z,3.0nm,1.2s							
NB2	**NORSAR Subarra**	**94.74**	**334**	P	**P**	**05**	**29**	**50.5 -1.1**
	baz=66,slow=4.6							
NB2	**NORSAR Subarra**	**94.74**	**334**	P	**P**	**05**	**29**	**50.5 -1.1**
	comp=Z,3.8nm,0.8s,baz=66,slow=4.6							
NOA	**NORSAR Array B**	**94.74**	**334**	P	**P**	**05**	**29**	**50.0 -1.6**
	comp=Z,3.0nm,0.8s,baz=64,slow=4.5,SNR=6.3							
NOA				LR	LR	06	16	29.2
	comp=Z,83nm,18.3s,baz=95,slow=38							
NOA	**NORSAR Array B**	**94.74**	**334**	P	**P**	**05**	**29**	**50.0 -1.6**
YKA	**Yellowknife Ar**	**95.13**	**24**	P	**P**	**05**	**29**	**55.0 +1.7**
	comp=Z,3.8nm,0.9s,baz=298,slow=4.5,SNR=8.4							
YKA				pP	**sP**	**05**	**30**	**05.3 +0.1**
	comp=Z,2.3nm,0.7s,baz=303,slow=4.8,SNR=6.4							
DPC	**Dobruska-Polom**	**96.45**	**323**	*e*P	**P**	**05**	**29**	**59.4 -0.3**
DPC	**Dobruska-Polom**	**96.45**	**323**	*e*P	**P**	**05**	**29**	**59.4 -0.3**
CLL	**Collm**	**98.02**	**325**	*e*P	**P**	**05**	**30**	**03.0 -3.7**
CLL	**Collm**	**98.02**	**325**	*e*(Pdif)	**P**	**05**	**30**	**03.0 -3.7**
CLL				Lm	MLR	06	20	00.0
	comp=Z,100nm,20.3s							
KHC	**Kasperske Hory**	**98.56**	**322**	*e*P	**P**	**05**	**30**	**09.1 -0.1**
KHC	**Kasperske Hory**	**98.56**	**322**	*e*P	**P**	**05**	**30**	**09.1 -0.1**
GERES	**GERESS Array B**	**98.60**	**322**	P	**P**	**05**	**30**	**08.9 -0.6**
	comp=Z,1.3nm,0.7s,baz=72,slow=4.3,SNR=8.3							
TXAR	**Lajitas Array**	**118.45**	**50**	PKP	**PKPdf**	**05**	**35**	**20.4 +1.6**
	comp=Z,0.5nm,0.8s,baz=240,slow=1.2,SNR=6.3							
TORD	**Torodi Ar. Bea**	**121.63**	**291**	PKP	**PKPdf**	**05**	**35**	**23.9 -1.1**
	comp=Z,1.8nm,0.7s,baz=45,slow=1.9,SNR=12							
TORD				pPKP	**pPKPdf**	**05**	**35**	**34.7 +0.6**
	comp=Z,0.4nm,0.4s,baz=63,slow=2.0,SNR=2.9							
PLCA	**Paso Flores**	**144.22**	**157**	PKP	**PKPdf**	**05**	**36**	**06.0 -0.7**
	comp=Z,8.4nm,1.1s,baz=236,slow=4.6,SNR=7.4							
PLCA	**Paso Flores**	**144.22**	**157**	PKIKP	**PKPdf**	**05**	**36**	**06.0 -0.7**
TRQA	**Tornquist**	**149.39**	**166**	*e*PKPbc	**PKPbc**	**05**	**36**	**21.2 +1.5**
OTAV	**Otavalo**	**153.20**	**73**	*e*PKPdf	**PKPdf**	**05**	**36**	**21.7 -0.7**
OTAV				*e*PKPbc	**sPKPdf**	**05**	**36**	**34.9 +0.4**
CPUP	**Villa Florida**	**161.71**	**167**	PKPab	**PKPab**	**05**	**37**	**18.8 +1.8**
	comp=Z,2.5nm,1.0s,baz=135,slow=12,SNR=2.9							
LPAZ	**La Paz**	**163.27**	**119**	PKP	**PKPdf**	**05**	**36**	**34.9 +0.3**
	comp=Z,1.1nm,0.6s,baz=60,slow=1.5,SNR=5.9							
LPAZ				PKPab	**PKPab**	**05**	**37**	**28.3 +3.2**
	comp=Z,4.8nm,1.1s,baz=278,slow=1.7,SNR=7.6							

IDC ***29*** *05:19:44.8±1.6,37.58N×144.98E,h0km,mb3.7/2, mb1 4.1/3,mb1mx3.5/46,mbtmp3.7/3,ML3.8/1,Error ellipse: s-maj=55.4km s-min=30.5km az=128.0*
ISCJB ***29*** *05:19:47.9±0.9,37.80N±0.05×144.68E±0.06,h33km, mb3.8/2,Error ellipse: s-maj=7.5km s-min=6.8km az=156.1*
JMA ***29*** *05:19:49.3±0.2,37.83N×144.60E,h43km,M4.1*
ISC 29 05:19:48.7±1.2,37.80N±0.05×144.79E±0.08,h35km,n22, σ1ş52/31,Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OFUJ	**Ofunato**	**2.76**	**298**	P	**Pn**	**05 20 30.6**	**+0.1**
OFUJ				S	**Sn**	**05 21 01.4**	**-1.2**
JIO	**Ouri**	**2.79**	**285**	P	**Pn**	**05 20 30.9**	**+0.1**
JIO				S	**Sn**	**05 21 01.6**	**-1.7**
MIYJ	**Miyakonagasawa**	**2.92**	**308**	P	**Pn**	**05 20 32.6**	**-0.1**
MIYJ				S	**Sn**	**05 21 05.3**	**-1.2**
JMK	**Ichinoseki**	**3.03**	**293**	P	**Pn**	**05 20 34.8**	**+0.7**
JMK				S	**Sn**	**05 21 08.6**	**-0.6**
JOM	**Ohasama**	**3.21**	**302**	P	**Pn**	**05 20 37.2**	**+0.6**
JOM				S	**Sn**	**05 21 13.6**	**0.0**
JFT	**Otama**	**3.54**	**267**	P	**Pn**	**05 20 42.1**	**+0.9**
JFT				S	**Sn**	**05 21 21.1**	**-0.8**
JANG	**Nango**	**3.62**	**316**	P	**Pn**	**05 20 43.0**	**+0.8**
JANG				S	**Sn**	**05 21 22.8**	**-0.9**
JYK	**Kaneyama**	**3.66**	**289**	P	**Pn**	**05 20 43.6**	**+0.8**
JYK				S	**Sn**	**05 21 24.5**	**-0.1**
BSO1	**Boso 1**	**4.40**	**226**	P	**Pn**	**05 20 51.6**	**-0.9**
JOT	**Ohata**	**4.60**	**322**	P	**Pn**	**05 20 56.9**	**+1.2**
JOT				S	**Sn**	**05 21 46.4**	**-1.4**
JCH	**Churui**	**4.93**	**348**	P	**Pn**	**05 21 00.3**	**+0.1**
JCH				S	**Sn**	**05 21 53.6**	**-2.4**
JKB	**Kayabe**	**5.00**	**326**	S	**Sn**	**05 21 54.3**	**-3.4**
JRY	**Ryogami san**	**5.04**	**251**	P	**Pn**	**05 21 01.4**	**-0.5**
JRY				S	**Sn**	**05 21 55.6**	**-3.3**
MJAR	**Matsushiro Arr**	**5.40**	**259**	Pn	**Pn**	**05 21 07.9**	**+1.1**
	2.9nm,0.3s,baz=85,slow=16,SNR=20						
MAT	**Matsushiro**	**5.40**	**259**	P	**Pn**	**05 21 08.1**	**+1.3**
MAT				*e*S	**Sn**	**05 22 06.6**	**-1.2**
JOSM	**Okushiri--Mats**	**5.91**	**318**	P	**Pn**	**05 21 14.6**	**+0.9**
JTKR	**Abashiri--Toko**	**6.20**	**354**	S	**Sn**	**05 22 23.7**	**-3.5**
H11N2	**WAKE ISLAND Hy**	**26.34**	**127**	T	T	05 52 51.9	
	baz=311						
H11N1	**WAKE ISLAND Hy**	**26.35**	**127**	T	T	05 52 36.4	
	baz=311						
H11N3	**WAKE ISLAND Hy**	**26.36**	**127**	T	T	05 53 01.5	
	baz=311						
ILAR	**Eielson Array**	**47.40**	**33**	P	**P**	**05 28 21.2**	**+2.0**
	0.3nm,0.7s,baz=267,slow=6.9,SNR=5.2						
WRA	**Warramunga Arr**	**58.27**	**192**	P	**P**	**05 29 39.8**	**0.0**
	1.1nm,0.5s,baz=8.8,slow=6.9,SNR=7.7						

IDC ***29*** *05:43:34.7±1.5,8.47N×127.00E,h0km,mb4.2/6, mb1 4.3/6,mb1mx3.9/33,mbtmp4.2/6,MS4.2/1,Ms1 4.2/1, ms1mx2.7/31,Error ellipse: s-maj=135.6km s-min=19.6km az=73.0*
MAN ***29*** *05:43:35,8.34N×127.21E,h97km,mb4.7,ML3.6,MS3.6*
ISCJB ***29*** *05:43:38.6±0.8,8.37N±0.05×127.09E±0.07,h39km, mb4.1/6,Error ellipse: s-maj=10.0km s-min=7.7km az=171.5*
ISC 29 05:43:40.7±1.0,8.36N±0.06×126.94E±0.09,h39km,n14, σ2ş20/17,mb4.2/6,1C-1D,Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BIPH	**Bislig**	**0.60**	**254**	⇓*i* P	**Pn**	**05 43 49.4**	**-3.4**
BIPH				*i* S	**Sn**	**05 43 56.7**	**-4.7**
MATI	**Mati**	**1.56**	**206**	*e*P	**Pn**	**05 44 04.3**	**-1.6**
MATI				*e*S	**Sn**	**05 44 25.7**	**+0.9**
SCPH	**Surigao**	**2.02**	**315**	*e*P	**Pn**	**05 44 10.9**	**-1.3**
SCPH				*e*S	**Sn**	**05 44 38.1**	**+1.9**
KCP	**Kidapawan**	**2.27**	**234**	⇑*e*P	**Pn**	**05 44 16.9**	**+1.1**
CTBH	**Cotabato--PC H**	**2.90**	**247**	*e*P	**Pn**	**05 44 24.4**	**+0.1**
CTBH				*i* S	**Sn**	**05 45 01.1**	**+3.1**
PAGZ	**Pagadian**	**3.56**	**262**	*e*P	**Pn**	**05 44 36.8**	**+3.3**
GUMO	**Guam**	**18.34**	**72**	LR	LR	05 53 34.7	
	comp=Z,795nm,21.9s,baz=20,slow=33						
FITZ	**Fitzroy Crossi**	**26.32**	**183**	P	**P**	**05 49 13.4**	**+0.4**
	4.1nm,0.5s,baz=0.5,slow=8.0,SNR=28						
WRA	**Warramunga Arr**	**29.05**	**166**	P	**P**	**05 49 36.7**	**-0.7**
	0.6nm,0.4s,baz=345,slow=9.4,SNR=10						
ASAR	**Alice Springs**	**32.54**	**168**	P	**P**	**05 50 09.8**	**+1.5**
	1.1nm,0.4s,baz=342,slow=7.2,SNR=16						
MKAR	**Makanchi Array**	**53.95**	**323**	P	**P**	**05 53 00.1**	**-0.5**
	0.5nm,0.5s,baz=131,slow=8.8,SNR=4.7						

ARCES	**ARCESS Array B**	**86.21**	**340**	P	**P**	**05**	**56**	**17.9 +0.2**
	2.3nm,0.8s,baz=86,slow=6.9,SNR=5.2							
FINES	**FINESS Array B**	**87.88**	**332**	P	**P**	**05**	**56**	**25.3 -0.6**
	0.7nm,0.4s,baz=87,slow=4.3,SNR=8.7							
TORD	**Torodi Ar. Bea**	**121.58**	**291**	PKP	**PKPdf**	**06**	**02**	**30.9 -0.3**
	0.3nm,0.7s,baz=45,slow=2.6,SNR=2.5							

ISCJB ***29*** *05:54:43.9±0.7,26.10N±0.08×124.62E±0.07, h196km±7km,mb3.2/2,Error ellipse: s-maj=15.4km s-min=5.0km az=144.3*
JMA ***29*** *05:54:46.5±0.2,25.86N×124.47E,h202km,M3.7*
IDC ***29*** *05:54:47.6±7.6,26.02N×124.98E,h208km±89km,mb3.3/2, mb1 3.4/4,mb1mx3.0/46,mbtmp3.8/4,Error ellipse: s-maj=115.0km s-min=30.0km az=68.0*
ISC 29 05:54:44.7±1.0,26.15N±0.09×124.57E±0.07, h195km±11km,n22,σ1ş52/36,Northeast of Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIKM	**Ikemajima**	**1.37**	**153**	P	**Pn**	**05 55 17.8**	**+1.0**
JIKM				*e*S	**Sn**	**05 55 42.0**	**+0.3**
JIRB	**Irabujima**	**1.43**	**157**	P	**Pn**	**05 55 18.1**	**+0.8**
JIRB				*e*S	**Sn**	**05 55 42.4**	**-0.2**
JMJ	**Miyako jima 2**	**1.48**	**154**	S	**Sn**	**05 55 42.8**	**-0.7**
JTJ	**Tarama**	**1.51**	**175**	P	**Pn**	**05 55 18.4**	**+0.3**
JTJ				S	**Sn**	**05 55 43.0**	**-0.9**
JISG	**Ishigakijimahi**	**1.58**	**189**	P	**Pn**	**05 55 18.4**	**-0.3**
JISG				*e*S	**Sn**	**05 55 43.4**	**-1.6**
JOGS	**Gusukube**	**1.58**	**151**	P	**Pn**	**05 55 20.1**	**+1.4**
JOGS				S	**Sn**	**05 55 45.6**	**+0.5**
JIJ	**Ishigaki jima**	**1.82**	**192**	P	**Pn**	**05 55 20.3**	**-0.8**
JIJ				S	**Sn**	**05 55 46.6**	**-2.7**
IRIF	**Iriomote-Funau**	**1.96**	**203**	P	**Pn**	**05 55 21.8**	**-0.7**
IRIF				*e*S	**Sn**	**05 55 49.6**	**-2.2**
JKRS	**Kuro-shima**	**1.97**	**195**	P	**Pn**	**05 55 22.2**	**-0.4**
JKRS				S	**Sn**	**05 55 49.8**	**-2.2**
YOJ	**Yonaguni jima**	**2.20**	**220**	P	**Pn**	**05 55 24.7**	**-0.3**
YOJ				*e*S	**Sn**	**05 55 55.7**	**-0.5**
HATJ	**Hateruma jima**	**2.20**	**199**	P	**Pn**	**05 55 24.5**	**-0.5**
HATJ				S	**Sn**	**05 55 54.3**	**-2.0**
JYNG	**Yonagunijimaku**	**2.25**	**221**	P	**Pn**	**05 55 25.2**	**-0.3**
JYNG				*e*S	**Sn**	**05 55 55.8**	**-1.3**
JAGN	**Aguni-jima**	**2.44**	**79**	S	**Sn**	**05 56 00.1**	**-0.7**
JNTH	**Nagotoyohara**	**3.12**	**83**	S	**Sn**	**05 56 13.4**	**-1.7**
JIH	**Iheya**	**3.17**	**73**	S	**Sn**	**05 56 15.5**	**-0.6**
JOW	**Kunigami**	**3.39**	**78**	P	**Pn**	**05 55 39.0**	**+0.2**
	4.9nm,0.3s,baz=184,slow=12,SNR=10						
JOW				S	**Sn**	**05 56 18.4**	**-2.6**
	17nm,0.3s,baz=130,slow=24,SNR=24						
JOW	**Kunigami**	**3.39**	**78**	P	**Pn**	**05 55 38.9**	**+0.2**
JOW				S	**Sn**	**05 56 18.3**	**-2.7**
JTK	**Tokunoshima**	**4.23**	**66**	P	**Pn**	**05 55 48.6**	**-0.6**
JAMN	**Amaminishikomi**	**4.60**	**62**	P	**Pn**	**05 55 52.7**	**-1.1**
JAMN				S	**Sn**	**05 56 44.6**	**-3.6**
KSRS	**Korea Array**	**11.62**	**13**	P	**Pn**	**05 57 27.5**	**+2.7**
	0.7nm,0.3s,baz=200,slow=12,SNR=14						
WRA	**Warramunga Arr**	**46.79**	**167**	P	**P**	**06 02 54.2**	**-0.7**
	1.3nm,0.5s,baz=349,slow=8.7,SNR=16						
ASAR	**Alice Springs**	**50.34**	**169**	P	**P**	**06 03 22.7**	**+0.8**
	0.4nm,0.6s,baz=356,slow=12,SNR=6.5						

GCMT 29 06:01:20.0±0.5,5.78N×61.15E,h23km±1km,MW4.8/67, Moment Tensor Solution. s22,c23; s67,c83; Duration: 0 Moment tensor: Scale 10^16^Nm; Mrr=2.59±.20; Mθθ=1.78±.13; Mφφ=0.81±.13; Mrθ=0.16±.17; Mθφ=-0.49±.08; Mφr=0.55±.20; **Best double couple:** M=2.34000×10^16^ **NP1:**ϕs123.00000°,δ47.00000°, λ-76.00000°. **NP2:**ϕs283.00000°,δ45.00000°, λ-104.00000°. **Principal axes:** T 1.9890, Plg1.0000°, Azm203.0000°; N 0.7070, Plg10.0000°, Azm293.0000°; P -2.6900, Plg80.0000°, Azm108.0000°; **nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Carlsberg Ridge**

DDA ***29*** *06:06:40.0,41.31N×43.96E,h7km,Md2.5*
TIF ***29*** *06:06:40.0,41.31N×44.01E,h14km*
ISCJB ***29*** *06:06:40.4±0.6,41.30N±0.05×43.98E±0.03,h3km±5km, Error ellipse: s-maj=7.9km s-min=3.2km az=163.5*
CSEM ***29*** *06:06:40.3±0.1,41.29N×43.98E,h5km,ML2.0,Error ellipse: s-maj=4.0km s-min=2.0km az=162.0*
ISC 29 06:06:40.5±0.9,41.30N±0.04×43.98E±0.02,h13km±7km, n24,σ0ş40/44,Turkey-Georgia-Armenia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BGD	**Bogdanovka**	**0.29**	**262**	P	**Pg**	**06 06 46.7**	**0.0**
BGD				S	**Sg**	**06 06 51.0**	**+0.1**
BGD	**Bogdanovka**	**0.29**	**262**	P	**Pg**	**06 06 46.7**	**0.0**
BGD				S	**Sg**	**06 06 51.0**	**+0.1**
KZR	**Kazreti**	**0.33**	**76**	P	**Pg**	**06 06 47.3**	**0.0**
KZR				S	**Sg**	**06 06 51.9**	**0.0**
KZR	**Kazreti**	**0.33**	**76**	P	**Pg**	**06 06 47.3**	**0.0**
KZR				S	**Sg**	**06 06 51.5**	**-0.4**
AKH	**Akhalkalaki**	**0.39**	**286**	P	**Pg**	**06 06 48.2**	**-0.1**
AKH				S	**Sg**	**06 06 53.7**	**+0.1**
AKH	**Akhalkalaki**	**0.39**	**286**	P	**Pg**	**06 06 48.2**	**-0.1**
AKH				S	**Sg**	**06 06 53.7**	**+0.1**
EAK	**Akyaka**	**0.68**	**205**	*i* P	**Pg**	**06 06 53.2**	**-0.6**
EAK	**Akyaka**	**0.68**	**205**	P	**Pg**	**06 06 53.2**	**-0.6**
TBLG	**Delisi**	**0.71**	**53**	P	**Pg**	**06 06 53.9**	**-0.3**
TBLG				S	**Sb**	**06 07 04.0**	**-0.4**
TBLG	**Delisi**	**0.71**	**53**	P	**Pg**	**06 06 54.0**	**-0.3**
TBLG				S	**Sg**	**06 07 03.8**	**+0.2**
SEAG	**Tbilisi Sea**	**0.77**	**53**	P	**Pg**	**06 06 54.9**	**-0.5**
SEAG				S	**Sb**	**06 07 05.9**	**-0.2**
SEAG	**Tbilisi Sea**	**0.77**	**53**	P	**Pg**	**06 06 54.9**	**-0.5**
SEAG				S	**Sb**	**06 07 05.9**	**-0.2**
DUS	**Dusheti**	**0.95**	**34**	P	**Pb**	**06 06 59.3**	**+0.4**
DUS				S	**Sn**	**06 07 12.9**	**-0.3**
DUS	**Dusheti**	**0.95**	**34**	P	**Pn**	**06 06 59.7**	**0.0**
DUS				S	**Sn**	**06 07 12.9**	**-0.3**
EPOS	**Posof**	**0.97**	**282**	*i* P	**Pg**	**06 06 58.5**	**-0.7**
EPOS				*i* S	**Sg**	**06 07 11.4**	**-0.4**
EPOS	**Posof**	**0.97**	**282**	P	**Pg**	**06 06 58.5**	**-0.7**
EPOS				S	**Sg**	**06 07 11.4**	**-0.4**
DGRG	**David-gareji**	**1.06**	**82**	P	**Pb**	**06 07 00.6**	**-0.1**
DGRG				S	**Sn**	**06 07 16.9**	**+1.2**
DGRG	**David-gareji**	**1.06**	**82**	P	**Pb**	**06 07 00.6**	**-0.1**
DGRG				S	**Sb**	**06 07 14.5**	**+0.1**
ONI	**Oni**	**1.34**	**343**	P	**Pn**	**06 07 05.2**	**+0.1**
ONI				S	**Sn**	**06 07 23.5**	**+0.6**
ARTV	**Artvin**	**1.56**	**266**	*i* P	**Pn**	**06 07 08.7**	**+0.6**
ARTV				*i* S	**Sn**	**06 07 28.0**	**-0.2**
ARTV	**Artvin**	**1.56**	**266**	P	**Pn**	**06 07 08.7**	**+0.6**
ARTV				S	**Sn**	**06 07 28.0**	**-0.2**
DAGI	**Agillar**	**1.58**	**262**	*i* P	**Pb**	**06 07 09.8**	**+0.2**
DAGI				*i* S	**Sg**	**06 07 31.3**	**0.0**
DDEM	**Demirkent**	**1.74**	**257**	*i* P	**Pb**	**06 07 12.3**	**0.0**
DDEM	**Demirkent**	**1.74**	**257**	P	**Pb**	**06 07 12.3**	**0.0**

IDC 29 06:14:57.8±4.4,30.63S×138.14E,h0km,mb1 3.0/3, mb1mx3.0/22,mbtmp2.8/3,ML2.6/3,Error ellipse: s-maj=99.7km s-min=23.2km az=43.0,South Australia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**3.21**	**114**	Pn	Pn	06 15 49.7	+0.2
	0.2nm,0.3s,baz=299,slow=14,SNR=3.8						
STKA				Sn	Sn	06 16 29.0	+0.6
	3.2nm,0.3s,baz=284,slow=14,SNR=8.0						
STKA				Lg	Lg	06 16 41.8	
	4.6nm,0.3s,baz=200,slow=22,SNR=7.1						
ASAR	**Alice Springs**	**7.90**	**330**	Pn	Pn	06 16 54.4	+0.4
	0.1nm,0.3s,baz=145,slow=12,SNR=5.9						
ASAR				Sn	Sn	06 18 24.6	+0.4
	0.2nm,0.3s,baz=154,slow=22,SNR=5.0						
WRA	**Warramunga Arr**	**11.19**	**341**	Pn	Pn	06 17 38.8	-0.3
	0.1nm,0.3s,baz=161,slow=12,SNR=4.7						
WRA				Sn	Sn	06 19 42.2	-2.8
	0.1nm,0.3s,baz=161,slow=24,SNR=4.3						

ISCJB ***29*** *06:26:24.3±1.1,12.19N±0.06×61.49W±0.09,h164km±8km, Error ellipse: s-maj=14.1km s-min=9.7km az=0.4*
TRN ***29*** *06:26:24.0,12.21N×61.49W,h165km,MD3.6*

FUNV ***29*** *06:26:30.1,11.99N×61.54W,h94km,MW2.5*
ISC 29 06:26:23.4±1.8,12.13N±0.06×61.59W±0.07, h168km±11km,n12,σ2ş89/22,1D,Windward Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GRGR	**Grenville**	**0.06**	**270**	⇓*i* P	**Pn**	**06 26 46.9**	**+1.1**
GRGR				*e*S	**Sn**	**06 27 04.0**	**+1.2**
GRW	**Mount Saint Ca**	**0.07**	**292**	*e*P	**Pn**	**06 26 46.8**	**+0.9**
GRW				*e*S	**Sn**	**06 27 04.4**	**+1.3**
SVB	**Belmont**	**1.18**	**16**	*e*P	**Pn**	**06 26 51.3**	**-0.2**
SVB				*e*S	**Sn**	**06 27 11.7**	**-1.6**
TOSP	**Speyside**	**1.33**	**129**	*e*P	**Pn**	**06 26 55.2**	**+2.4**
TOSP				*e*S	**Sn**	**06 27 15.1**	**-0.3**
TRN	**Trinidad (W)**	**1.49**	**173**	*e*P	**Pn**	**06 26 57.1**	**+2.7**
TRN				*e*S	**Sn**	**06 27 18.2**	**0.0**
GUIV	**Guiria**	**1.60**	**203**	*e*P	**Pn**	**06 26 56.2**	**+0.7**
GUIV				*e*S	**Sn**	**06 27 14.8**	**-5.5**
MCLT	**Moule a Chique**	**1.69**	**22**	*e*P	**Pn**	**06 26 55.8**	**-0.7**
CRUV	**Carupano**	**2.17**	**228**	*e*P	**Pn**	**06 27 02.9**	**+1.3**
CRUV				*e*S	**Sn**	**06 27 27.6**	**-3.5**
GUNV	**Guanoco**	**2.36**	**214**	*e*P	**Pn**	**06 27 06.0**	**+2.1**
GUNV				*e*S	**Sn**	**06 27 31.6**	**-3.8**
CUPV	**Cœpira**	**4.61**	**244**	*e*P	**Pn**	**06 27 36.6**	**+4.4**
LUEV	**Luepa**	**6.25**	**179**	*e*P	**Pn**	**06 27 55.9**	**+2.0**
LUEV				*e*S	**Sn**	**06 28 59.6**	**-5.4**
BAUV	**El Baul**	**7.09**	**244**	*e*P	**Pn**	**06 28 07.7**	**+2.9**
BAUV				*e*S	**Sn**	**06 29 22.2**	**-2.4**

MAN 29 06:33:37,8.16N×126.30E,h15km,mb4.2,ML3.0,MS2.8, 1C,Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BIPH	**Bislig**	**0.07**	**65**	⇑*i* P	**Pg**	06 33 41.8	+1.9
BIPH				*i* S	Sg	06 33 49.0	+7.1
MATI	**Mati**	**1.20**	**182**	*e*P	**Pn**	06 33 57.1	-2.2
MATI				*e*S	Sg	06 34 16.6	+0.6
SCPH	**Surigao**	**1.80**	**334**	*e*P	**Pn**	06 34 07.6	0.0
SCPH				*e*S	Sb	06 34 31.7	-0.6

NIED ***29*** *06:41:00,37.90N×142.20E,h11km,Mw3.7 Best double couple: M0 3.38000×10^14^ NP1:ϕs150.00000°,δ39.00000°, λ-103.00000°. NP2:ϕs347.00000°,δ52.00000°, λ-80.00000°.*
ISCJB ***29*** *06:41:22.1±1.3,37.93N±0.04×142.26E±0.08,h16km±7km, mb3.8/2,Error ellipse: s-maj=10.3km s-min=6.3km az=10.6*
JMA ***29*** *06:41:23.1±0.2,37.93N×142.24E,h33km±2km,M3.9*
IDC ***29*** *06:41:28.6±6.5,36.82N×142.06E,h0km,mb3.7/2, mb1 3.8/3,mb1mx3.4/37,mbtmp3.5/3,ML3.0/1,Error ellipse: s-maj=137.8km s-min=43.4km az=28.0*
ISC 29 06:41:22.2±3.7,37.96N±0.05×142.19E±0.09,h9km±24km, n20,σ1ş21/23,Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIO	**Ouri**	**0.83**	**307**	P	**Pb**	**06 41 39.3**	**+0.5**
JIO				S	**Sb**	**06 41 50.3**	**+0.2**
JMM	**Marumori**	**1.11**	**266**	P	**Pb**	**06 41 43.1**	**-0.6**
JMM				*e*S	**Sb**	**06 41 57.2**	**-1.1**
JFK	**Kawauchi**	**1.20**	**241**	P	**Pn**	**06 41 44.0**	**-1.3**
JFK				*e*S	**Sb**	**06 41 58.8**	**-2.1**
JMK	**Ichinoseki**	**1.25**	**323**	P	**Pn**	**06 41 45.6**	**-0.3**
JMK				*e*S	**Sb**	**06 42 01.9**	**-0.4**
JOU	**Okura**	**1.27**	**289**	P	**Pn**	**06 41 46.2**	**-0.1**
JFT	**Otama**	**1.54**	**254**	P	**Pn**	**06 41 50.3**	**+0.4**
JFT				S	**Sn**	**06 42 09.6**	**-0.4**
JOM	**Ohasama**	**1.67**	**335**	P	**Pn**	**06 41 51.6**	**-0.1**
JOM				*e*S	**Sn**	**06 42 12.5**	**-0.7**
JYK	**Kaneyama**	**1.73**	**304**	P	**Pn**	**06 41 53.0**	**+0.5**
JYK				*e*S	**Sn**	**06 42 14.8**	**0.0**
JRG	**Rokugo**	**1.88**	**320**	P	**Pn**	**06 41 55.6**	**+0.9**
JRG				*e*S	**Sn**	**06 42 18.8**	**+0.2**
JFY	**Yanaizu**	**2.05**	**255**	S	**Sn**	**06 42 22.5**	**-0.2**
MJAR	**Matsushiro Arr**	**3.48**	**247**	Pn	**Pn**	**06 42 18.7**	**+2.1**
	2.0nm,0.3s,baz=83,slow=16,

mb3.2/5,**mb1 3.4**/5,**mb1mx2.9**/30,**mbtmp4.2**/5,**Error ellipse: s-maj=181.2km s-min=56.9km az=154.0,South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**31.08**	**271**	P	P	07 26 49.7	+0.1
	6.4nm,0.3s,baz=92,slow=12,SNR=13						
ASAR	**Alice Springs**	**41.58**	**261**	P	P	07 28 15.7	+0.1
	0.7nm,0.4s,baz=94,slow=6.9,SNR=18						
WRA	**Warramunga Arr**	**41.98**	**267**	P	P	07 28 18.4	-0.3
	2.1nm,0.3s,baz=105,slow=7.9,SNR=87						
FITZ	**Fitzroy Crossi**	**50.40**	**266**	P	P	07 29 22.1	-0.1
	1.0nm,0.4s,baz=83,slow=6.2,SNR=7.2						
TXAR	**Lajitas Array**	**90.98**	**58**	P	P	07 33 19.7	-0.1
	0.2nm,0.6s,baz=203,slow=5.9,SNR=4.2						

DDA ***29*** *07:29:43.8,38.85N×30.27E,h7km,Md2.6*
ISK ***29*** *07:29:43.1,38.69N×30.14E,h13km,MD2.8*
CSEM ***29*** *07:29:44.3±0.3,38.80N×30.30E,h5km,MD2.8,Error ellipse: s-maj=7.0km s-min=5.2km az=10.0*

ISC 29 07:29:44.5±0.9,38.78N±0.03×30.30E±0.03,h16km±9km, n25,σ1.01/40,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHUT	**Suhut-Afyon**	**0.30**	**139**	*e*PG	**Pg**	**07 29 50.6**	**-0.4**
SHUT				*e*SG	**Sg**	**07 29 56.0**	**+0.6**
SHUT	**Suhut-Afyon**	**0.30**	**139**	*e*Pg	**Pg**	**07 29 50.6**	**-0.4**
SHUT				*e*Sg	**Sg**	**07 29 56.0**	**+0.6**
BOLV	**Bolvadin**	**0.51**	**97**	*i* P	**Pg**	**07 29 54.7**	**-0.1**
BOLV				*i* S	**Sg**	**07 30 02.2**	**+0.5**
BOLV	**Bolvadin**	**0.51**	**97**	P	**Pg**	**07 29 54.7**	**-0.1**
BOLV				S	**Sg**	**07 30 02.2**	**+0.5**
KZIL	**AFYON_Kizioren**	**0.54**	**193**	*i* P	**Pb**	**07 29 55.2**	**-0.5**
KZIL				*i* S	**Sb**	**07 30 03.3**	**+0.1**
KHAL	**Karahalli**	**0.75**	**237**	*i* P	**Pb**	**07 29 58.7**	**-0.7**
KHAL				*i* S	**Sb**	**07 30 08.7**	**-0.8**
KHAL	**Karahalli**	**0.75**	**237**	P	**Pb**	**07 29 58.7**	**-0.7**
KHAL				S	**Sb**	**07 30 08.6**	**-0.8**
ESKT	**Eskisehir**	**0.85**	**30**	*i* P	**Pg**	**07 29 59.3**	**-1.8**
ESKT				*i* S	**Sb**	**07 30 12.3**	**-0.1**
SEYT	**Eskypehyr**	**0.85**	**30**	P	**Pg**	**07 29 59.3**	**-1.8**
SEYT				S	**Sb**	**07 30 12.3**	**0.0**
BAGO	**Egridir - ISPA**	**0.88**	**154**	*i* P	**Pn**	**07 30 03.3**	**+1.0**
TVSB	**Tavsanli**	**0.93**	**316**	*e*PG	**Pg**	**07 30 01.3**	**-1.3**
TVSB				*e*SG	**Sb**	**07 30 14.8**	**+0.2**
TVSB	**Tavsanli**	**0.93**	**316**	*e*Pg	**Pg**	**07 30 01.3**	**-1.3**
TVSB				*e*Sg	**Sb**	**07 30 14.8**	**+0.2**
SVRH	**Sivrihisar-ESK**	**1.16**	**55**	*e*PN	**Pn**	**07 30 07.7**	**+1.4**
SVRH	**Sivrihisar-ESK**	**1.16**	**55**	*e*Pn	**Pn**	**07 30 07.7**	**+1.4**
DEMI	**Demirci**	**1.26**	**282**	*i* P	**Pn**	**07 30 08.9**	**+1.3**
DEMI				*i* S	**Sn**	**07 30 24.7**	**+0.4**
DEMI	**Demirci**	**1.26**	**282**	P	**Pn**	**07 30 08.9**	**+1.3**
DEMI				S	**Sn**	**07 30 24.7**	**+0.4**
MANT	**Manisa**	**1.39**	**259**	*i* P	**Pg**	**07 30 12.4**	**+1.0**
MANT	**Manisa**	**1.39**	**259**	P	**Pg**	**07 30 12.4**	**+1.0**
SUTC	**Sutluce-Ispart**	**1.42**	**157**	*e*PN	**Pn**	**07 30 08.8**	**-1.0**
SUTC	**Sutluce-Ispart**	**1.42**	**157**	*e*Pn	**Pn**	**07 30 08.8**	**-1.0**
KDHN	**Kadinhani**	**1.45**	**100**	*i* P	**Pn**	**07 30 10.9**	**+0.7**
KDHN				*i* S	**Sg**	**07 30 32.8**	**+1.5**
KDHN	**Kadinhani**	**1.45**	**100**	P	**Pn**	**07 30 10.9**	**+0.7**
KDHN				S	**Sg**	**07 30 32.8**	**+1.5**
GULT	**Gulveren**	**1.66**	**6**	*e*PN	**Pb**	**07 30 14.2**	**-0.5**
GULT	**Gulveren**	**1.66**	**6**	*e*Pn	**Pb**	**07 30 14.2**	**-0.5**
ELL	**Elmali**	**2.05**	**189**	*e*Pn	**Pn**	**07 30 16.7**	**-1.9**

IDC 29 07:51:38.5±5.7,25.35S×66.54W,h0km,mb3.9/1, mb1 3.6/2,mb1mx3.4/25,mbtmp3.6/2,ML3.4/1,MS3.6/2, Ms1 3.5/2,ms1mx2.8/21,Error ellipse: s-maj=168.1km s-min=53.2km az=57.0,Salta Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**9.13**	**350**	Pn	Pn	07 53 52.2	0.0
	0.2nm,0.3s,baz=170,slow=8.0,SNR=6.5						
PLCA	**Paso Flores**	**15.71**	**191**	LR	LR	08 02 14.7	
	comp=Z,33nm,20.7s,baz=266,slow=40						
TORD	**Torodi Ar. Bea**	**76.66**	**68**	P	P	08 03 31.8	+0.1
	0.5nm,0.4s,baz=253,slow=5.6,SNR=12						
RAO	**Raoul Island**	**94.67**	**235**	LR	LR	08 37 38.2	
	comp=Z,210nm,21.3s,baz=104,slow=29						
MKAR	**Makanchi Array**	**147.27**	**41**	PKPbc	PKPbc	08 11 23.1	-0.8
	0.4nm,0.6s,baz=320,slow=3.8,SNR=3.8						

MEX 29 07:57:15.7±0.4,14.02N×92.37W,h24km±20km,MD3.8, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCIG		**1.87**	**334**	*i* P	Pn	07 57 43.6	-2.6
PCIG				*e*S	Sn	07 58 05.9	-3.1
CCIG	**Comitan**	**2.26**	**6**	*i* P	Pn	07 57 50.3	-1.5
CCIG				*i* S	Sn	07 58 16.4	-2.6
TGIG		**2.84**	**345**	*i* P	Pn	07 57 57.5	-2.1
TGIG				*i* S	Sn	07 58 29.2	-3.9

MAN 29 08:27:00,17.55N×120.15E,h25km,mb4.3,ML3.2,MS3.0, 1C,Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ABRA	**Dolores**	**0.55**	**79**	*e*P	Pb	08 27 11.4	+0.3
ABRA				*e*S	Sb	08 27 19.4	+0.9
BOLP	**Bolinao**	**1.18**	**191**	*e*P	Pn	08 27 20.2	-0.7
BOLP				*e*S	Sb	08 27 36.6	0.0
CVP	**Callao Caves**	**1.61**	**84**	*i* P	Pn	08 27 26.6	-0.2
CVP				*i* S	Sn	08 27 45.2	-1.5
CAUP	**Cauayan**	**1.71**	**110**	*e*P	Pn	08 27 29.2	+0.9

CSEM ***29*** *08:34:25.9,39.64N×29.41E,h7km,MD2.6*
DDA 29 08:34:25.9,39.64N×29.41E,h7km,Md2.6,Suspected Mining explosion.,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IGD	**Bursa**	**0.65**	**346**	*i* P	Pg	08 34 38.7	+0.3
IGD				*i* S	Sg	08 34 45.7	-1.1
DEMI	**Demirci**	**0.80**	**222**	*i* P	Pg	08 34 39.5	-1.8
DEMI	**Demirci**	**0.80**	**222**	P	Pg	08 34 39.5	-1.8
ESKT	**Eskisehir**	**1.12**	**95**	*i* P	Pg	08 34 47.1	-0.4
SEYT	**Eskypehyr**	**1.12**	**95**	P	Pg	08 34 47.1	-0.3
KHAL	**Karahalli**	**1.27**	**177**	P	Pg	08 34 50.6	+0.4
KHAL	**Karahalli**	**1.27**	**177**	P	Pg	08 34 50.6	+0.4
MANT	**Manisa**	**1.32**	**210**	*i* P	Pn	08 34 51.0	0.0
MANT	**Manisa**	**1.32**	**210**	P	Pn	08 34 51.0	0.0
SAHE	**Sakarya_HENDEK**	**1.64**	**42**	*i* P	Pb	08 34 56.8	+0.2
SAHE	**Sakarya_HENDEK**	**1.64**	**42**	P	Pb	08 34 56.8	+0.3

CSEM ***29*** *08:36:08.6±0.1,40.19N×25.18E,h12km,ML2.0,Error ellipse: s-maj=3.6km s-min=2.9km az=27.0*
ISK ***29*** *08:36:08.4,40.18N×25.19E,h10km,ML2.6*

ATH 29 08:36:07.4,40.19N×25.19E,h27km±1km,ML2.0/5,Error ellipse: s-maj=1.9km s-min=1.0km az=353.0,Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LIA	**Limnos Island**	**0.29**	**182**	P	Pb	08 36 15.1	+0.7
LIA				S	Sb	08 36 18.2	-1.0
LIA	**Limnos Island**	**0.29**	**182**	P	Pn	08 36 15.1	-0.7
LIA				S	Sb	08 36 18.2	-1.0
LIA				AML	AML	08 36 19.3	
	comp=E,2015μm,0.2s						
LIA				AML	AML	08 36 20.1	
	comp=N,952μm,0.2s						
SMTH	**Samothraki Isl**	**0.38**	**42**	P	Pb	08 36 16.5	+0.6
SMTH				S	Sb	08 36 20.9	-0.8
SMTH	**Samothraki Isl**	**0.38**	**42**	P	Pb	08 36 16.5	+0.6
SMTH				S	Sb	08 36 20.9	-0.7
SMTH				AML	AML	08 36 22.5	
	comp=E,201μm,0.3s						
SMTH				AML	AML	08 36 23.0	
	comp=N,307μm,0.1s						
GADA	**Gvkgeada**	**0.54**	**89**	*e*PG	Pn	08 36 19.6	+0.3
GADA				*e*SG	Sn	08 36 27.5	0.0
GADA	**Gvkgeada**	**0.54**	**89**	*e*Pg	Pn	08 36 19.6	+0.3
GADA				*e*Sg	Sn	08 36 27.5	0.0
BOZC	**Bozcaada**	**0.74**	**117**	*e*PG	Pn	08 36 23.5	+1.4
BOZC				*e*SG	Sn	08 36 33.8	+1.3
BOZC	**Bozcaada**	**0.74**	**117**	*e*Pg	Pn	08 36 23.5	+1.4
BOZC				*e*Sg	Sn	08 36 33.8	+1.3
ENEZ	**Enez**	**0.92**	**53**	*e*PG	Pb	08 36 26.4	+1.7
ENEZ	**Enez**	**0.92**	**53**	*e*Pg	Pb	08 36 26.4	+1.7
OUR	**Ouranopolis**	**0.94**	**280**	*e*PG	Pb	08 36 26.8	+1.8
OUR	**Ouranopolis**	**0.94**	**280**	P	Pb	08 36 26.3	+1.3
OUR	**Ouranopolis**	**0.94**	**280**	*e*Pg	Pb	08 36 26.8	+1.8
OUR				S	Sn	08 36 38.0	+0.7
OUR	**Ouranopolis**	**0.94**	**280**	P	Pb	08 36 26.3	+1.3
OUR				S	Sn	08 36 38.0	+0.6
OUR				AML	AML	08 36 41.2	
	comp=E,210μm,0.5s						
OUR				AML	AML	08 36 41.8	
	comp=N,320μm,0.6s						
EZN	**Ezine**	**0.94**	**112**	*e*PG	Pb	08 36 26.8	+1.8
EZN	**Ezine**	**0.94**	**112**	*e*Pg	Pb	08 36 26.8	+1.7
KAVA	**Kavala**	**0.96**	**328**	P	Pb	08 36 27.1	+1.7
KAVA				S	Sn	08 36 39.3	+1.4
KAVA	**Kavala**	**0.96**	**328**	P	Pb	08 36 27.1	+1.7
KAVA				S	Sn	08 36 39.3	+1.4
KAVA				AML	AML	08 36 40.6	
	comp=N,151μm,0.2s						
KAVA				AML	AML	08 36 41.3	
	comp=E,316μm,0.1s						
ALN	**Alexandroupoli**	**0.96**	**42**	*e*PG	Pb	08 36 27.7	+2.2
ALN	**Alexandroupoli**	**0.96**	**42**	P	Pb	08 36 26.9	+1.4
ALN	**Alexandroupoli**	**0.96**	**42**	*e*Pg	Pb	08 36 27.7	+2.2
ALN				S	Sn	08 36 39.5	+1.6
ALN	**Alexandroupoli**	**0.96**	**42**	P	Pb	08 36 26.9	+1.4
ALN				S	Sn	08 36 39.5	+1.6
ALN				AML	AML	08 36 41.7	
	comp=E,116μm,0.4s						
ALN				AML	AML	08 36 42.3	
	comp=N,132μm,0.5s						
RDO	**Rodhopi**	**0.99**	**15**	P	Pb	08 36 25.9	-0.1
RDO				S	Sb	08 36 40.2	+1.5
RDO	**Rodhopi**	**0.99**	**15**	P	Pb	08 36 25.9	-0.1
RDO				S	Sb	08 36 40.2	+1.5
SIGR	**SIGRI**	**1.10**	**152**	*e*PN	Pb	08 36 29.5	+1.8
SIGR	**SIGRI**	**1.10**	**152**	*e*Pn	Pb	08 36 29.5	+1.8
SIGR	**SIGRI**	**1.10**	**152**	P	Pb	08 36 29.8	+2.1
SIGR				S	Sb	08 36 42.0	+0.3
SIGR	**SIGRI**	**1.10**	**152**	P	Pb	08 36 29.8	+2.0
SIGR				S	Sb	08 36 42.0	+0.3
ERIK	**Erikli-Kesan**	**1.12**	**64**	*e*PN	Pb	08 36 30.0	+2.0
ERIK	**Erikli-Kesan**	**1.12**	**64**	*e*Pn	Pb	08 36 30.0	+1.9
LPK	**Lapseki**	**1.21**	**81**	*e*PN	Pb	08 36 31.6	+1.9
LPK	**Lapseki**	**1.21**	**81**	*e*Pn	Pb	08 36 31.6	+1.9
PRK	**Paraskevi**	**1.25**	**138**	P	Pb	08 36 31.7	+1.3
PRK				S	Sb	08 36 47.5	+1.4
PRK	**Paraskevi**	**1.25**	**138**	P	Pb	08 36 31.7	+1.3
PRK				S	Sb	08 36 47.5	+1.4
SRS	**Serrai**	**1.53**	**308**	P	Pb	08 36 34.1	-1.1
SRS	**Serrai**	**1.53**	**308**	P	Pb	08 36 34.1	-1.1
NVR	**Nevrokopi**	**1.54**	**319**	P	Pb	08 36 34.5	-0.8
NVR	**Nevrokopi**	**1.54**	**319**	P	Pb	08 36 34.5	-0.9
HORT	**Hortiatis**	**1.65**	**285**	*e*PN	Pb	08 36 38.3	+1.1
HORT	**Hortiatis**	**1.65**	**285**	*e*Pn	Pb	08 36 38.3	+1.1
MRMT	**Marmara Adasi**	**1.88**	**76**	*e*PN	Pb	08 36 41.5	+0.4
MRMT	**Marmara Adasi**	**1.88**	**76**	*e*Pn	Pb	08 36 41.5	+0.4
CHOS	**Chios island**	**1.92**	**159**	*e*PN	Pb	08 36 41.7	0.0
CHOS	**Chios island**	**1.92**	**159**	*e*Pn	Pb	08 36 41.7	0.0
KNT	**Kendrikon**	**2.00**	**300**	*e*PN	Pb	08 36 43.5	+0.4
KNT	**Kendrikon**	**2.00**	**300**	*e*Pn	Pb	08 36 43.5	+0.4
EDRB	**Edirne**	**2.03**	**35**	*e*PN	Pb	08 36 43.8	+0.1
EDRB	**Edirne**	**2.03**	**35**	*e*Pn	Pb	08 36 43.8	+0.2

ISCJB ***29*** *08:53:31.7±0.5,37.23N±0.04×28.19E±0.04,h0km,Error ellipse: s-maj=5.9km s-min=3.8km az=35.4*
DDA ***29*** *08:53:31.6,37.23N×28.17E,h7km,Ml3.2,Suspected Mining explosion.*
ISK ***29*** *08:53:31.1,37.24N×28.18E,h18km,ML2.0*
CSEM ***29*** *08:53:32.0±0.1,37.23N×28.18E,h2km,ML2.0,Error ellipse: s-maj=3.3km s-min=2.4km az=36.0,Suspected Mining explosion.*

ISC 29 08:53:32.3±1.3,37.23N±0.03×28.19E±0.03,h0km,n26, σ0.63/34,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MLSB	**Milas**	**0.33**	**281**	*e*PG	**Pg**	**08 53 38.2**	**-0.5**
MLSB				*e*SG	**Sg**	**08 53 44.0**	**+1.0**
MLSB	**Milas**	**0.33**	**281**	*e*Pg	**Pg**	**08 53 38.2**	**-0.5**
MLSB				*e*Sg	**Sg**	**08 53 44.0**	**+1.0**
TURN	**Turunc**	**0.49**	**137**	*i* P	**Pg**	**08 53 40.7**	**-1.1**
TURN	**Turunc**	**0.49**	**137**	P	**Pg**	**08 53 40.7**	**-1.1**
AYDN	**Tasoluk**	**0.49**	**330**	*i* P	**Pg**	**08 53 41.4**	**-0.4**
AYDN				*i* S	**Sg**	**08 53 48.5**	**+0.3**
AYDN	**Tasoluk**	**0.49**	**330**	P	**Pg**	**08 53 41.4**	**-0.4**
AYDN				S	**Sg**	**08 53 48.5**	**+0.3**
DALY	**Dalyan (Mu¨la**	**0.56**	**138**	*e*PG	**Pg**	**08 53 42.5**	**-0.5**
DALY				*e*SG	**Sg**	**08 53 51.2**	**+0.9**
DALY	**Dalyan (Mu¨la**	**0.56**	**138**	*i* P	**Pg**	**08 53 42.3**	**-0.8**
DALY				*i* S	**Sg**	**08 53 51.1**	**+0.8**
DALY	**Dalyan (Mu¨la**	**0.56**	**138**	*e*Pg	**Pg**	**08 53 42.5**	**-0.5**
DALY				S	**Sg**	**08 53 51.1**	**+0.8**
BDRM	**Kayabasi**	**0.61**	**255**	*i* P	**Pg**	**08 53 44.0**	**-0.1**
BDRM				*i* S	**Sg**	**08 53 52.3**	**+0.2**
BDRM	**Kayabasi**	**0.61**	**255**	P	**Pg**	**08 53 44.0**	**-0.1**
BDRM				S	**Sg**	**08 53 52.3**	**+0.2**
TAVA	**DENIZLI_Tavas**	**0.63**	**68**	*i* P	Pg	08 53 37.3	-7.1
DAT	**Datca**	**0.70**	**224**	*e*PG	**Pg**	**08 53 45.3**	**-0.4**
DAT	**Datca**	**0.70**	**224**	*e*Pg	**Pg**	**08 53 45.3**	**-0.4**
BODT	**Bodrum**	**0.72**	**257**	*e*PG	**Pg**	**08 53 45.6**	**-0.5**
BODT	**Bodrum**	**0.72**	**257**	*e*Pg	**Pg**	**08 53 45.6**	**-0.5**
AYDB	**Zeytinkoy-Aydi**	**0.75**	**342**	*e*PG	**Pg**	**08 53 46.3**	**-0.5**
AYDB	**Zeytinkoy-Aydi**	**0.75**	**342**	*e*Pg	**Pg**	**08 53 46.3**	**-0.5**
FETY	**Fethiye**	**0.94**	**129**	*e*PG	**Pg**	**08 53 50.2**	**-0.1**
FETY	**Fethiye**	**0.94**	**129**	*e*Pg	**Pg**	**08 53 50.2**	**-0.1**
NIS1	**Nisyros Isl.**	**1.02**	**232**	*e*PG	**Pg**	**08 53 51.1**	**-0.8**
NIS1	**Nisyros Isl.**	**1.02**	**232**	*e*Pg	**Pg**	**08 53 51.1**	**-0.8**
MANT	**Manisa**	**1.29**	**13**	*i* P	**Pg**	**08 53 56.6**	**-0.5**
MANT	**Manisa**	**1.29**	**13**	P	**Pg**	**08 53 56.6**	**-0.5**
AKAS	**Kas**	**1.52**	**131**	*i* P	**Pg**	**08 54 01.0**	**-0.4**
AKAS	**Kas**	**1.52**	**131**	P	**Pg**	**08 54 01.0**	**-0.4**

SJA 29 08:56:57.8±0.3,29.63S×72.06W,h2km±3km,ML3.5, MW3.4,Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LCO	**Las Campanas**	**1.33**	**63**	*e*P	Pn	08 57 24.2	+0.4
LCO				*e*S	Sn	08 57 43.8	+1.5
AGUA	**GUANDACOL**	**3.11**	**88**	*e*P	Pb	08 57 51.0	-2.9
RTLS	**Leoncito**	**3.21**	**133**	*e*P	Pb	08 57 53.2	-2.6
AMOG	**MOGNA**	**3.35**	**114**	*e*P	Pn	08 57 54.4	+3.1
AMOG				*e*S	Sb	08 58 36.2	-3.0
ROC1	**El Roble**	**3.45**	**165**	*e*P	Pn	08 57 56.0	+3.1
AUSP	**Uspallata**	**3.46**	**139**	*e*P	Pb	08 57 56.8	-3.2
VCA	**Vinchina**	**3.48**	**76**	*e*P	Pn	08 57 56.3	+3.1
VCA				*e*S	Sb	08 58 39.8	-3.3
VCA				IAML		08 58 51.0	
	comp=Z,173nm,0.3s						
RTCV	**Cerro Valdivia**	**3.76**	**127**	*e*P	Pn	08 58 00.1	+3.2
RTCV				*i* S	Sn	08 58 46.3	+4.5
RTCV				*e*S	Sb	08 58 46.4	-4.5
ASAL	**Salagasta**	**4.04**	**138**	*e*P	Pn	08 58 04.4	+3.5
AVFE	**Valle Fertil**	**4.11**	**106**	IAML		08 59 00.0	
	comp=Z,63nm,0.6s						
ARCO	**CERRO ARCO**	**4.17**	**141**	IAML		08 59 08.5	
	comp=Z,58nm,0.4s						
AAGR	**Agrelo**	**4.41**	**142**	*e*P	Pn	08 58 09.5	+3.5
AAGR				*e*S	Sn	08 59 03.1	+5.0
ACLC	**CERRO LA CRUZ**	**4.45**	**89**	*e*P	Pn	08 58 10.5	+3.9
ACLC				*e*S	Sn	08 59 03.9	+4.8
APLL	**PUNTA DE LOS L**	**4.86**	**100**	*e*S	Sn	08 59 13.6	+4.7
ACAN	**Cantantal**	**4.94**	**123**	*e*P	Pn	08 58 17.1	+3.9
CYA	**Choya**	**5.60**	**79**	*e*P	Pn	08 58 26.1	+3.9
CYA				IAML		08 59 39.4	
	comp=Z,15nm,0.4s						

IDC 29 09:00:24.1±3.4,4.62N×32.51W,h0km,mb3.4/3, mb1 3.7/3,mb1mx3.4/43,mbtmp3.4/3,MS3.3/5,Ms1 3.4/5, ms1mx3.0/19,Error ellipse: s-maj=107.0km s-min=37.1km az=175.0,Central Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H10N3	**ASCENSION HYDR**	**21.82**	**125**	T	T	09 27 28.9	
	baz=303,slow=75,SNR=10						
H10N2	**ASCENSION HYDR**	**21.82**	**124**	T	T	09 27 22.4	
	baz=303,slow=75,SNR=9.8						
H10N1	**ASCENSION HYDR**	**21.84**	**124**	T	T	09 27 30.5	
	baz=303,slow=75,SNR=9.7						
H10S3	**ASCENSION HYDR**	**22.32**	**127**	T	T	09 28 01.2	
	baz=305,slow=74,SNR=10						
H10S1	**ASCENSION HYDR**	**22.33**	**127**	T	T	09 28 14.3	
	baz=305,slow=74,SNR=13						
H10S2	**ASCENSION HYDR**	**22.34**	**127**	T	T	09 27 59.1	
	baz=305,slow=74,SNR=10.0						
DBIC	**Dimbokro**	**27.59**	**84**	LR	LR	09 14 41.9	
	comp=Z,54nm,20.0s,baz=144,slow=31						
TORD	**Torodi Ar. Bea**	**34.80**	**74**	P	P	09 07 16.8	-0.1
	0.7nm,0.9s,baz=248,slow=9.4,SNR=3.6						
MDT	**Midelt**	**38.28**	**39**	LR	LR	09 21 25.5	
	comp=Z,52nm,22.0s,baz=194,slow=33						
LPAZ	**La Paz**	**40.90**	**239**	LR	LR	09 24 02.0	
	comp=Z,48nm,20.4s,baz=33,slow=35						
ESDC	**Sonseca Array**	**43.39**	**32**	P	P	09 08 28.4	-0.1
	0.1nm,0.3s,baz=237,slow=12,SNR=2.8						
PLCA	**Paso Flores**	**57.01**	**214**	LR	LR	09 34 17.0	
	comp=Z,36nm,18.2s,baz=49,slow=36						
BRTR	**Keskin Array B**	**68.79**	**49**	LR	LR	09 43 48.8	
	comp=Z,17nm,18.3s,baz=217,slow=38						
TXAR	**Lajitas Array**	**71.33**	**299**	P	P	09 11 46.3	+0.1
	0.3nm,0.9s,baz=116,slow=5.7,SNR=3.4						

MEX 29 09:08:28.6±1.0,17.43N×95.20W,h134km±8km,MD3.8, Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMIG	**Matias Romero**	**0.45**	**138**	*i* P	Pn	09 08 47.0	-0.9
CMIG				*e*S	Sn	09 09 00.7	-1.8
VHO	**Vista Hermosa**	**1.50**	**257**	*i* P	Pn	09 08 55.2	-2.0
VHO				*i* S	Sn	09 09 16.7	-2.3
HUIG	**Huatulco**	**1.87**	**208**	*e*P	Pn	09 09 00.4	-0.8
HUIG				*i* S	Sn	09 09 24.1	-2.1
TGIG		**2.09**	**108**	*e*P	Pn	09 09 02.8	-1.2
TGIG				*i* S	Sn	09 09 28.4	-2.7
PCIG		**2.56**	**132**	*i* P	Pn	09 09 09.0	-0.7
PCIG				*e*S	Sn	09 09 40.0	-1.4
PNIG	**Pinotepa**	**2.98**	**250**	*i* P	Pn	09 09 13.4	-1.8
PNIG				*i* S	Sn	09 09 49.6	-1.5

IDC ***29*** *09:13:33.3±1.5,13.14S×167.00E,h180km±12km, mb4.2/20,mb1 4.3/20,mb1mx4.1/35,mbtmp4.7/20,MS3.4/2, Ms1 3.4/2,ms1mx2.8/29,Error ellipse: s-maj=13.8km s-min=9.7km az=102.0*
NEIC ***29*** *09:13:34.1±0.2,13.08S×167.00E,mb4.7/31,Error ellipse: s-maj=5.5km s-min=4.4km az=109.0*
BJI ***29*** *09:13:35.6,13.10S×167.00E,h212km,mb4.7/20,mB5.1/9*
ISCJB ***29*** *09:13:36.1±1.5,13.20S±0.05×167.00E±0.05, h221km±14km,mb4.6/53,Error ellipse: s-maj=9.1km s-min=8.2km az=138.6*

ISC 29 09:13:34.7±0.6,13.17S±0.06×167.07E±0.08,h194km±5km, h195km:pP-P,n124,σ1.28/147,mb4.7/53,2D,Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**7.91**	**297**	LR	LR	09 18 27.5	
	comp=Z,212nm,19.8s,baz=130,slow=38						
DZM	**Mont Dzumac**	**8.87**	**184**	P	**Pn**	**09 15 41.8**	**+2.4**
	1.6nm,0.3s,baz=359,slow=3.8,SNR=50						
DZM				S	**Sn**	**09 17 16.2**	**-2.8**
	0.6nm,0.3s,baz=338,slow=19,SNR=2.7						
DZM	**Mont Dzumac**	**8.87**	**184**	*e*Pn	**Pn**	**09 15 40.0**	**+0.6**
DZM				*e*Sn	**Sn**	**09 17 20.3**	**+1.3**
MSVF	**Nonsavu**	**11.52**	**115**	*e*Pn	**P**	**09 16 17.4**	**-2.0**
EIDS	**Eidsvold**	**19.34**	**229**	*e*P	**P**	**09 17 46.3**	**+0.8**
	31nm,1.0s						
CTA	**Charters Tower**	**21.09**	**248**	P	**P**	**09 18 04.6**	**+0.5**
	20nm,1.0s,baz=72,slow=12,SNR=20						
CTAO	**Charters Tower**	**21.09**	**248**	*e*P	**P**	**09 18 04.7**	**+0.5**
	36nm,1.0s						
ARMA	**Armidale**	**22.32**	**217**	*e*P	**P**	**09 18 17.2**	**+0.7**
	222nm,1.8s						
OUZ	**Omahuta**	**22.73**	**166**	*e*P	**P**	**09 18 21.1**	**+1.0**
	44nm,1.0s						
COEN	**Coen**	**23.24**	**265**	*e*P	**P**	**09 18 25.6**	**+0.6**
	69nm,2.0s						
URZ	**Urewera**	**26.54**	**162**	P	**P**	**09 18 55.0**	**+0.6**
	6.3nm,0.3s,baz=262,slow=2.3,SNR=20						
BKZ	**Black Stump Fm**	**27.20**	**164**	*e*P	**P**	**09 19 00.7**	**+0.3**
	27nm,0.7s						
THZ	**Tophouse**	**28.94**	**171**	*e*P	**P**	**09 19 16.4

	comp=Z,10.0nm,0.7s							
GYA	**Guiyang**	**70.68**	**304**	*e*P		**P**	**09 24 31.0**	**+1.2**
GYA				pmax	pmax			
	comp=Z,10.0nm,1.0s							
KMI	**Kunming**	**73.33**	**301**	P		**P**	**09 24 46.5**	**+0.7**
KMI				pmax	pmax			
	comp=Z,18nm,1.1s							
CM01	**Chiang Mai Arr**	**74.12**	**294**	*e*P		**P**	**09 24 50.6**	**+0.4**
CM31	**Chiang Mai Arr**	**74.14**	**294**	*e*P		**P**	**09 24 49.9**	**-0.4**
CMAR	**Chiang Mai Arr**	**74.14**	**294**	P		**P**	**09 24 50.9**	**+0.5**
	3.7nm,0.9s,baz=130,slow=3.5,SNR=12							
HHC	**Hu-ho-hao-te**	**74.28**	**319**	*e*P		**P**	**09 24 52.5**	**+1.7**
HHC				pmax	pmax			
	comp=Z,28nm,1.2s							
HHC				pmax	pmax			
	comp=Z,340nm,7.6s							
SEY	**Seymchan**	**76.72**	**353**	P		**P**	**09 25 04.3**	**+0.3**
	8.0nm,0.6s,baz=185,slow=5.8,SNR=30							
QSPA	**South Pole Qui**	**76.85**	**180**	*e*P		**P**	**09 25 05.2**	**+0.2**
LZH	**Lanzhou**	**77.14**	**312**	*e*P		**P**	**09 25 09.3**	**+2.1**
LZH				pP	pP		09 25 57.8	+3.8
LZH				sP	sP		09 26 20.5	+5.9
LZH				pmax	pmax			
	comp=Z,21nm,1.0s							
LZH				pmax	pmax			
	comp=Z,89nm,4.8s							
YAK	**Yakutsk**	**80.49**	**343**	P		**P**	**09 25 24.7**	**+0.1**
	13nm,0.4s,baz=194,slow=1.9,SNR=4.0							
YAK	**Yakutsk**	**80.49**	**343**	*e*P		**P**	**09 25 24.6**	**+0.1**
	30nm,0.9s							
ULN	**Ulaanbaatar**	**80.77**	**324**	*e*P		**P**	**09 25 26.8**	**+0.1**
	12nm,1.3s							
SONA0	**Songino Array**	**81.14**	**324**	*e*P		**P**	**09 25 28.3**	**-0.3**
	2.2nm,0.8s							
SONM	**Songino Array**	**81.14**	**324**	P		**P**	**09 25 28.3**	**-0.3**
	1.7nm,0.6s,baz=151,slow=6.0,SNR=9.4							
SONA1	**Songino Array**	**81.14**	**324**	*e*P		**P**	**09 25 28.4**	**-0.2**
GTA	**Gaotai**	**81.45**	**314**	*e*P		**P**	**09 25 31.5**	**+1.1**
GTA				pP	pP		09 26 21.5	+3.8
GTA				sP	sP		09 26 42.3	+4.0
GTA				pmax	pmax			
	comp=Z,7.0nm,1.1s							
CAST	**Castle Rocks**	**82.57**	**17**	*e*P		**P**	**09 25 34.8**	**-0.8**
	4.1nm,0.8s							
MAW	**Mawson**	**83.25**	**202**	P		**P**	**09 25 39.1**	**+0.1**
	10nm,0.9s,baz=108,slow=7.0,SNR=22							
MAW	**Mawson**	**83.25**	**202**	*e*P		**P**	**09 25 39.2**	**+0.1**
	5.2nm,1.3s							
RND	**Reindeer**	**83.53**	**18**	*e*P		**P**	**09 25 40.0**	**-0.5**
	6.7nm,0.8s							
PTAM	**Tassajara Cree**	**83.54**	**52**	*e*P		**P**	**09 25 41.3**	**0.0**
MCK	**McKinley**	**83.74**	**18**	*e*P		**P**	**09 25 41.5**	**0.0**
	10nm,1.2s							
WRH	**Wood River Hil**	**84.53**	**18**	*e*P		**P**	**09 25 44.9**	**-0.6**
	15nm,1.3s							
CCB	**Clear Creek Bu**	**84.75**	**18**	*e*P		**P**	**09 25 45.8**	**-0.8**
	7.7nm,1.3s							
HDA	**Harding Lake**	**84.84**	**18**	*e*P		**P**	**09 25 46.5**	**-0.5**
	19nm,1.1s							
MDM	**Murphy Dome**	**84.85**	**17**	*e*P		**P**	**09 25 46.3**	**-0.7**
	17nm,1.4s							
IL1	**Eielson Array**	**85.11**	**18**	*e*P		**P**	**09 25 46.9**	**-1.4**
ILAR	**Eielson Array**	**85.11**	**18**	P		**P**	**09 25 47.0**	**-1.3**
	1.6nm,0.5s,baz=237,slow=5.1,SNR=34							
ILAR				pP		**pP**	**09 26 34.0**	**-2.1**
	2.0nm,0.7s,baz=244,slow=5.2,SNR=11							
ILAR				PKKP		**PKKPdf**	**09 43 51.0**	**+1.6**
	0.4nm,0.6s,baz=351,slow=3.1,SNR=5.6							
ILB	**Eielson Array**	**85.11**	**18**	*e*P		**P**	**09 25 47.3**	**-1.1**
WLHM	**Little Horse**	**85.63**	**52**	*e*P		**P**	**09 25 51.5**	**-0.5**
PAHR	**Pah Rah Range**	**86.06**	**48**	*e*P		**P**	**09 25 53.9**	**0.0**
	8.8nm,1.2s							
SHPR	**Sheep Range**	**88.16**	**52**	*e*P		**P**	**09 26 03.8**	**-0.2**
SHPR				*e*pP		**pP**	**09 26 55.3**	**+3.3**
SYO	**Syowa Base**	**90.13**	**197**	||*e*P		**P**	**09 26 10.2**	**-2.2**
WMQ	**Urumqi**	**91.50**	**315**	P		**P**	**09 26 19.0**	**-0.3**
WMQ				pP	pP		09 27 11.3	+3.8
WMQ				sP	sP		09 27 33.5	+5.7
WMQ				PP		**PP**	**09 29 58.5**	**-1.8**
WMQ				pmax	pmax			
	comp=Z,17nm,0.7s							
WMQ				pmax	pmax			
	comp=Z,110nm,5.3s							
WMQ				LR	LR			
	comp=N,75nm,15.7s							
WMQ				LR	LR			
	comp=Z,27nm,13.9s							
SRU	**San Rafael Swe**	**92.41**	**51**	*e*P		**P**	**09 26 28.2**	**+4.5**
ROA	**Roan Cliffs**	**92.67**	**50**	*e*P		**P**	**09 26 23.6**	**-1.6**
P18A	**Preston Nutter**	**92.75**	**50**	*e*P		**P**	**09 26 28.2**	**+2.7**
	5.9nm,1.2s							
SNAA	**Sanae**	**95.08**	**183**	P		**P**	**09 26 34.1**	**-1.1**
SNAA	**Sanae**	**95.08**	**183**	*e*P		**P**	**09 26 34.0**	**-1.2**
	12nm,1.3s							
TXAR	**Lajitas Array**	**95.71**	**61**	LR		LR	10 04 32.6	
	comp=Z,16nm,19.2s,baz=0.0,slow=32							
MK01	**Makanchi Array**	**95.94**	**317**	*e*P		**P**	**09 26 38.9**	**-0.6**
MK31	**Makanchi Array**	**95.95**	**317**	*e*P		**P**	**09 26 39.3**	**-0.2**
MK32	**Makanchi Array**	**95.95**	**317**	*e*P		**P**	**09 26 39.0**	**-0.5**
MK32				*e*pP		**pP**	**09 27 26.2**	**-1.6**
MKAR	**Makanchi Array**	**95.95**	**317**	P		**P**	**09 26 39.0**	**-0.5**
	1.5nm,0.7s,baz=91,slow=6.2,SNR=12							
MKAR				pP		**pP**	**09 27 26.2**	**-1.6**
	0.6nm,0.5s,baz=94,slow=4.9,SNR=3.6							
MKAR	**Makanchi Array**	**95.95**	**317**	*e*P		**P**	**09 26 39.3**	**-0.2**
	48nm,1.6s							
MKAR				pP		**pP**	**09 27 26.2**	**-1.6**
ZAA0	**Zalesovo Array**	**96.03**	**324**	*e*P		**P**	**09 26 38.3**	**-1.4**
ZALV	**Zalesovo Beam**	**96.03**	**324**	P		**P**	**09 26 38.4**	**-1.3**
	1.1nm,0.4s,baz=113,slow=3.9,SNR=5.4							
ZAA1	**Zalesovo Array**	**96.03**	**324**	*e*P		**P**	**09 26 38.4**	**-1.3**
YKA	**Yellowknife Ar**	**96.26**	**27**	P		**P**	**09 26 39.7**	**-0.8**
	0.8nm,0.7s,baz=261,slow=4.8,SNR=4.5							
YKB5	**Yellowknife Ar**	**96.26**	**27**	*e*P		**P**	**09 26 39.7**	**-0.8**
KSH	**Kashi**	**99.08**	**308**	*e*P		**Pdif**	**09 26 56.0**	**+2.0**
KSH				pP	pP		09 27 47.0	+4.6
KSH				sP	**PP**		**09 31 04.0**	**+5.0**
KSH				S	**S**		**09 38 02.3**	**-5.8**
KSH				LR	LR			
	comp=N,62nm,5.0s							
KSH				LR	LR			
	comp=E,62nm,5.4s							
KSH				LR	LR			
	comp=Z,74nm,8.8s							
ARCES	**ARCESS Array B**	**118.70**	**346**	PKP		**PKPdf**	**09 31 58.3**	**-0.8**
	7.4nm,0.7s,baz=68,slow=1.8,SNR=94							
FIA0	**FINESS Array S**	**124.21**	**339**	*e*PKPdf		**PKPdf**	**09 32 09.2**	**-0.7**
FINES	**FINESS Array B**	**124.21**	**339**	PKP		**PKPdf**	**09 32 09.2**	**-0.7**
	3.1nm,0.7s,baz=60,slow=2.8,SNR=11							
BOSA	**Boshof**	**124.42**	**221**	PKP		**PKPdf**	**09 32 11.1**	**-0.4**
	3.4nm,0.8s,baz=112,slow=5.4,SNR=4.2							
NB2	**NORSAR Subarra**	**129.08**	**345**	PKP		**PKPdf**	**09 32 18.7**	**-0.5**
	comp=Z,1.6nm,0.6s,baz=42,slow=2.6							
NB200	**NORSAR Array S**	**129.08**	**345**	*e*PKPdf		**PKPdf**	**09 32 19.1**	**-0.1**
NOA	**NORSAR Array B**	**129.08**	**345**	PKP		**PKPdf**	**09 32 19.1**	**-0.1**
	comp=Z,4.1nm,0.9s,baz=31,slow=1.9,SNR=7.4							
AKASG	**Malin Array Be**	**129.34**	**327**	PKP		**PKPdf**	**09 32 19.0**	**-0.9**
	comp=Z,0.2nm,0.3s,baz=59,slow=2.6,SNR=5.8							
AKBB	**Malin Array Si**	**129.34**	**327**	*e*PKPdf		**PKPdf**	**09 32 19.0**	**-0.9**
BR101	**Keskin Array S**	**131.34**	**312**	*e*PKPdf		**PKPdf**	**09 32 23.7**	**-0.6**
BRTR	**Keskin Array B**	**131.34**	**312**	PKP		**PKPdf**	**09 32 23.7**	**-0.6**
	comp=Z,0.3nm,0.4s,baz=340,slow=1.8,SNR=3.7							
BRTR				SKPbc		**SKPab**	**09 35 33.9**	**+2.1**
	comp=Z,0.8nm,0.7s,baz=92,slow=6.5,SNR=4.4							
VYHS	**Vyhne**	**136.05**	**330**	*e*PKP		**PKPdf**	**09 32 32.1**	**-0.6**
CLL	**Collm**	**136.56**	**336**	||*e*PKPdf		**PKPdf**	**09 32 34.9**	**+1.4**
	comp=Z,8.0nm,1.2s							
GERES	**GERESS Array B**	**138.17**	**334**	PKP		**PKPdf**	**09 32 36.5**	**-0.3**
	comp=Z,0.8nm,0.6s,baz=64,slow=3.1,SNR=6.8							
GERES				SKPbc		**SKPbc**	**09 35 54.5**	**+1.8**
	comp=Z,2.2nm,0.9s,baz=64,slow=3.1,SNR=9.2							
KEST	**Kesra**	**149.88**	**322**	PKPbc		**PKPbc**	**09 33 02.5**	**+0.1**
	comp=Z,7.8nm,0.6s,baz=304,slow=0.6,SNR=9.7							
PBRG	**Braganca**	**150.97**	**350**	*e*PKPbc		**PKPbc**	**09 33 04.6**	**-0.1**
PGAV	**Gavieira, Arco**	**151.03**	**353**	*e*PKPbc		**PKPbc**	**09 33 04.9**	**0.0**
PCAB	**Cabril**	**151.25**	**352**	*e*PKPbc		**PKPbc**	**09 33 05.5**	**+0.1**
POLO	**Lamas de Olo**	**151.55**	**352**	*e*PKPbc		**PKPbc**	**09 33 06.4**	**+0.3**
PVRL	**Vila Real**	**151.63**	**352**	*e*PKPbc		**PKPbc**	**09 33 06.6**	**+0.3**
MVO	**Moncorvo**	**151.64**	**351**	*e*PKPbc		**PKPbc**	**09 33 06.7**	**+0.4**
ESDC	**Sonseca Array**	**152.44**	**345**	PKPbc		**PKPbc**	**09 33 08.1**	**-0.1**
	comp=Z,4.4nm,0.8s,baz=11,slow=2.3,SNR=18							
ESDC				PKPab		**PKPab**	**09 33 19.4**	**+0.4**
	comp=Z,1.4nm,0.7s,baz=21,slow=4.6,SNR=5.5							
MTE	**Manteigas**	**152.47**	**351**	*e*PKPbc		**PKPbc**	**09 33 08.4**	**+0.2**
PCBR	**Castelo Branco**	**153.00**	**351**	*e*PKPbc		**PKPbc**	**09 33 09.4**	**+0.1**
PTOM	**Tomar**	**153.36**	**352**	*e*PKPbc		**PKPbc**	**09 33 10.6**	**+0.5**
PMRV	**Marv??o**	**153.39**	**350**	*e*PKPbc		**PKPbc**	**09 33 10.3**	**+0.1**
PNCL	**Nicolau / Gran**	**154.85**	**352**	*e*PKPbc		**PKPbc**	**09 33 13.6**	**+0.3**
TORD	**Torodi Ar. Bea**	**165.76**	**272**	PKP		**PKPdf**	**09 33 16.9**	**-0.2**
	comp=Z,5.2nm,1.2s,baz=33,slow=1.3,SNR=13							
TORD				PKPab		**PKPab**	**09 34 17.2**	**-0.4**
	comp=Z,1.9nm,0.9s,baz=86,slow=5.4,SNR=10.0							
TOA1	**Torodi Ar. Sit**	**165.76**	**272**	*e*PKPdf		**PKPdf**	**09 33 16.9**	**-0.2**
TOA1				*e*PKPab		**PKPab**	**09 34 17.2**	**-0.4**

IDC 29 09:22:58.0±2.0, 1°08N×126°63E, h0km, mb3.2/3, mb1 3.5/3, mb1mx3.3/38, mbtmp3.3/3, Error ellipse: s-maj=165.2km s-min=25.3km az=66.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**22.21**	**160**	P	P	09 27 56.7	+0.3
	0.6nm,0.6s,baz=339,slow=11,SNR=8.5						
ASAR	**Alice Springs**	**25.59**	**164**	P	P	09 28 28.9	-0.3
	0.3nm,0.7s,baz=344,slow=7.3,SNR=5.1						
MKAR	**Makanchi Array**	**59.68**	**326**	P	P	09 33 04.3	0.0
	0.3nm,0.5s,baz=123,slow=8.1,SNR=2.9						

MEX 29 09:42:25.7±0.4, 14°14N×92°38W, h16km±73km, MD3.9, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PCIG		**1.76**	**333**	*i* P	Pn	09 42 51.9	-3.7
PCIG				*i* S	Sn	09 43 12.8	-4.8
CCIG	**Comitan**	**2.15**	**6**	*e*P	Pn	09 42 57.1	-3.9
CCIG				*i* S	Sn	09 43 23.3	-4.2
TGIG		**2.72**	**345**	*i* P	Pn	09 43 06.4	-2.5
TGIG				*i* S	Sn	09 43 37.9	-3.7

MEX 29 09:54:54.9±0.4, 16°97N×100°29W, h19km±4km, MD3.8, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CAIG	**El Cayaco**	**0.08**	**18**	*i* P	Pg	09 54 57.4	-1.1
CAIG				*e*S	Sg	09 55 00.0	-0.9
ACP2	**Acapulco**	**0.40**	**104**	*i* P	Pg	09 55 02.0	-1.3
ACP2				*e*S	Sg	09 55 07.1	-1.8
MEIG	**Mezcala**	**1.14**	**34**	*i* P	Pn	09 55 12.8	-3.2
MEIG				*i* S	Sb	09 55 26.2	-4.5
ZIIG	**Zihuatanejo**	**1.29**	**300**	*i* P	Pn	09 55 14.2	-3.7
ZIIG				*e*S	Sn	09 55 30.4	-4.2
ARIG	**Puente Sto Nin**	**1.30**	**358**	*i* P	Pn	09 55 15.1	-3.1
ARIG				*e*S	Sn	09 55 30.3	-4.8
PLIG	**Platanillo**	**1.60**	**28**	*e*P	Pn	09 55 19.1	-3.2
PLIG				*i* S	Sn	09 55 38.0	-4.5
TLIG	**Tlapa**	**1.75**	**70**	*e*P	Pn	09 55 21.6	-2.7
TLIG				*e*S	Sn	09 55 42.0	-4.2
PNIG	**Pinotepa**	**2.15**	**105**	*i* P	Pn	09 55 25.6	-4.3
PNIG				*i* S	Sn	09 55 52.7	-3.4

DJA 29 09:57:11.9±0.4, 9°S±6°×117°4E±°, h49km±11km, M4.0/12, mB4.9/1, mb4.2/1, MLv3.9/12, Mw(mB)4.2/1, South of Jawa

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JAGI	**Jajag, Banyuwa**	**0.64**	**14**	P	Pn	09 57 25.5	+0.6
JAGI				S	Sn	09 57 36.1	+1.8
GMJI	**Gumukmas**	**0.99**	**326**	P	Pn	09 57 29.2	-0.3
GMJI				S	Sn	09 57 42.1	-0.3
IGBI	**Denpasar**	**1.17**	**76**	P	Pn	09 57 32.2	+0.4
IGBI				S	Sn	09 57 48.6	+1.9
DNP	**Denpasar**	**1.27**	**71**	P	Pn	09 57 34.5	+1.3
DNP				S	Sn	09 57 50.0	+0.9
ABJI	**Asem Bagus**	**1.32**	**10**	P	Pn	09 57 34.8	+0.9
BLJI	**Banyuglugur**	**1.41**	**343**	P	Pn	09 57 35.2	+0.1
BLJI				S	Sn	09 57 53.0	+0.5
KMMI	**Kalianget**	**2.04**	**359**	P	Pn	09 57 44.2	+0.4
PWJI	**Pagerwojo**	**2.42**	**296**	P	Pn	09 57 48.7	-0.3
PWJI				S	Sn	09 58 16.9	-0.6
TWSI	**Taliwang, Sumb**	**2.87**	**83**	P	Pn	09 57 55.6	+0.4
TWSI				S	Sn	09 58 28.4	-0.1
PCJI	**Pacitan**	**2.93**	**288**	P	Pn	09 57 55.9	-0.1
PCJI				S	Sn	09 58 28.8	-1.3
UGM	**Wanagama**	**3.64**	**289**	P	Pn	09 58 06.1	+0.4
PLAI	**Plampang**	**3.74**	**86**	P	Pn	09 58 08.1	+0.9

*NIED **29** 10:05:00, 37°10N×141°00E, h5km, Mw5.1 Best double couple: M₀5.67000×10¹⁶ NP1:φs69.00000°, δ27.00000°, λ-85.00000°. NP2:φs244.00000°, δ63.00000°, λ-92.00000°.*

*BJI **29** 10:05:03.1, 36°98N×140°96E, h5km, mb4.8/51, mB5.3/48, Ms5.1/63, Ms7.4 8/58*

*ISCJB **29** 10:05:06.0±0.5, 37°16N±0°02×140°74E±0°02, h8km±2km, mb5.0/279, MS4.8/70, Error ellipse: s-maj=3.2km s-min=2.2km az=148.3*

*IDC **29** 10:05:05.5±0.4, 37°15N×140°86E, h0km, mb4.8/33, mb1 4.9/38, mb1mx4.9/42, mbtmp4.8/38, ML4.2/5, MS4.6/45, Ms1 4.6/45, ms1mx4.5/58, Error ellipse: s-maj=13.2km s-min=9.3km az=103.0*

*JMA **29** 10:05:05.6, 37°13N×140°87E, h9km±1km, M5.4 Broadband fault plane solution: P waves. NP1: φs232.00000°, δ62.00000°, λ-86.00000°. NP2:φs43.00000°, δ28.00000°, λ-98.00000°. Principal axes: T Plg17.0000°, Azm319.0000°; N Plg4.0000°, Azm50.0000°; P Plg73.0000°, Azm152.0000°;*

*MOS **29** 10:05:07.2±0.9, 37°32N×140°73E, h12km, mb5.3/115, MS4.8/36 Error ellipse: s-maj=6.1km s-min=3.9km az=98.9*

*NEIC **29** 10:05:12.5±0.5, 37°15N×140°65E, h44km±4km, mb4.9/172, Error ellipse: s-maj=3.8km s-min=2.8km az=136.0*

NEIC Felt [II] at Tokyo. Also felt at Aikawa, Atsugi, Ichinoseki, Iwaki and Yokohama. Recorded [5U JMA] in Fukushima.

*GCMT **29** 10:05:12.5±0.2, 37°16N×140°71E, h12km, MW5.1/106, Moment Tensor Solution. s57,c78; s106,c177; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr=4.73±.09; Mθθ4.11±.08; Mϕϕ0.62±.09; Mrθ0.96±.24; Mϕ62.12±.07; Mϕ3.04±.29; Best double couple: M₀5.85600×10¹⁶ NP1:φs223.00000°, δ61.00000°, λ-113.00000°. NP2: φs84.00000°, δ37.00000°, λ-55.00000°. Principal axes: T 5.6090, Plg13.0000°, Azm330.0000°; N 0.5000, Plg20.0000°, Azm235.0000°; P -6.1040, Plg66.0000°, Azm90.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

ISC 29 10:05:07.8±0.5, 37°16N±0°02×140°83E±0°03, h12km±3km, n859, σ1§42/917, mb5.0/288, MS4.8/71, 39C-25D, Eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ONAJ	**Iwakimizuishiy**	**0.06**	**201**	||P	**Pg**	**10 05 07.4**	**-2.9**
JFK	**Kawauchi**	**0.21**	**11**	↑↑P	**Pg**	**10 05 10.4**	**-2.0**
JFT	**Otama**	**0.53**	**313**	P	**Pg**	**10 05 16.9**	**-1.3**
JHO	**Hitachi**	**0.58**	**201**	↑↑P	**Pg**	**10 05 16.5**	**-2.7**
JHO				S	**Sg**	**10 05 24.4**	**-2.5**
JMM	**Marumori**	**0.71**	**358**	↑↑P	**Pg**	**10 05 19.5**	**-2.0**
JSB	**Shiboa**	**0.75**	**256**	↑↑P	**Pg**	**10 05 21.1**	**-1.2**
JFY	**Yanaizu**	**0.93**	**286**	↑↑P	**Pb**	**10 05 24.1**	**-1.7**
JOU	**Okura**	**1.21**	**354**	P	**Pn**	**10 05 28.8**	**-1.7**
JYS	**Shirataka**	**1.22**	**331**	↑↑P	**Pn**	**10 05 29.2**	**-1.4**
JAG	**Ashikaga**	**1.32**	**237**	||P	**Pn**	**10 05 29.8**	**-2.2**
JAG				S	**Sb**	**10 05 47.7**	**-1.7**
JHK	**Hiroka**	**1.45**	**274**	↑↑P	**Pn**	**10 05 32.6**	**-1.1**
I30JP	**ISUMI INFRASON**	**1.89**	**193**	Pg	**Pn**	**10 05 41.0**	**+1.2**
	baz=17,slow=20,SNR=1.2						
I30JP				*i*		10 16 10.0	
	baz=16,slow=319,SNR=0.7						
MJAR	**Matsushiro Arr**	**2.19**	**254**	Pn	**Pn**	**10 05 43.8**	**-0.1**
	182nm,0.3s,baz=83,slow=16,SNR=290						
MJAR				LR	LR	10 06 09.2	
	comp=Z,961nm,21.1s,baz=75,slow=29						
MJAR				Sn	**Sb**	**10 06 13.4**	**-0.9**
	495nm,0.3s,baz=84,slow=29,SNR=30						
MAJO	**Matsushiro**	**2.19**	**254**	*e*P	**Pn**	**10 05 45.5**	**+1.5**
MAJO				*e*		10 06 09.0	
MAJO	**Matsushiro**	**2.19**	**254**	*e*Pn	**Pn**	**10 05 45.5**	**+1.5**
MAJO				*e*Sn	**Sn**	**10 06 09.0**	**-2.0**
MJB9	**Matsu-Tunnel**	**2.19**	**255**	*e*Pn	**Pn**	**10 05 45.3**	**+1.4**
MJB9				*e*Sn	**Sn**	**10 06 09.2**	**-1.8**
JNT	**Takato**	**2.52**	**240**	P	**Pn**	**10 05 49.0**	**+0.4**
HMMJ	**Hamamatsu 2**	**3.41**	**229**	P	**Pn**	**10 06 01.0**	**+0.3**
INU	**Inuyama**	**3.57**	**241**	*e*Pn	**Pn**	**10 06 04.3**	**+1.4**
JHJ	**Hachijo jima 2**	**4.12**	**192**	Pn	**Pn**	**10 06 10.4**	**-0.1**
	79nm,0.3s,baz=128,slow=22,SNR=6.8						
JHJ				Sn	**Sn**	**10 06 59.9**	**+1.3**
	216nm,0.3s,baz=69,slow=22,SNR=10						
JHJ				LR	LR	10 07 48.3	
	comp=Z,5μm,22.0s,baz=20,slow=40						
JHJ2	**Mitsune**	**4.12**	**192**	*e*Pn	**Pn**	**10 06 10.8**	**+0.3**
JFM	**Mihama**	**4.23**	**249**	P	**Pn**	**10 06 14.0**	**+1.9**
ERM	**Erimo**	**5.17**	**20**↑	*e*P	**Pn**	**10 06 25.0**	**+0.1**
ERM	**Erimo**	**5.17**	**20**	*e*Pn	**Pn**	**10 06 25.7**	**+0.8**
ASAJ	**Asahikawa**	**7.08**	**10**	Pn	**Pn**	**10 06 50.5**	**-0.7**
	10nm,0.3s,baz=210,slow=11,SNR=8.6						
ASAJ	**Asahikawa**	**7.08**	**10**	*e*Pn	**Pn**	**10 06 50.7**	**-0.4**
YUK	**Yuzh-Kuril'sk**	**7.86**	**28**	*i* P	**Pn**	**10 07 00.3**	**-1.5**
YUK				*i* S	**Sn**	**10 08 26.4**	**-4.3**
YUK				pmax	pmax		
	comp=N,49nm,0.3s						
YUK				pmax	pmax		
	comp=E,36nm,0.3s						
YUK				pmax	pmax		
	comp=Z,140nm,0.3s						
YUK				smax	smax		
	comp=N,497nm,0.5s						
YUK				smax	smax		
	comp=E,33nm,0.3s						
YUK				MLR	MLR		
	comp=Z,2μm,13.0s						
YUK				MLR	MLR		
	comp=N,2μm,14.0s						
YUK				MLR	MLR		
	comp=E,56nm,14.0s						
SHO	**Shikotan**	**8.11**	**32**	*e*P	**Pn**	**10 07 02.4**	**-2.9**
SHO				*e*S	**Sn**	**10 08 30.6**	**-6.3**
SHO				pmax	pmax		
	comp=E,8.0nm,0.6s						
SHO				pmax	pmax		
	comp=Z,28nm,0.6s						
SHO				pmax	pmax		
	comp=N,17nm,0.2s						
SHO				smax	smax		
	comp=E,117nm,0.6s						
SHO				smax	smax		
	comp=N,269nm,0.5s						
SHO				MLR	MLR		
	comp=Z,67μm,13.0s						
SHO				MLR	MLR		
	comp=N,88μm,14.0s						
SHO				MLR	MLR		
	comp=E,228μm,14.0s						
JNU	**Nakatsue**	**9.09**	**247**	Pn	**Pn**	**10 07 19.5**	**+0.7**
	comp=E,1.1nm,0.3s,baz=14,slow=7.5,SNR=16						
JNU				LR	LR	10 11 23.2	
	comp=E,3μm,18.6s,baz=83,slow=42						
JNU	**Nakatsue**	**9.09**	**247**	*e*Pn	**Pn**	**10 07 21.0**	**+2.3**
KUR	**Kuril'sk**	**9.65**	**31**	*i* P	**Pn**	**10 07 25.3**	**-1.1**
KUR				*i* S	**Sn**	**10 09 10.3**	**-4.3**
KUR				pmax	pmax		
	comp=Z,66nm,0.8s						
KUR				pmax	pmax		
	comp=E,16nm,0.2s						
KUR				pmax	pmax		
	comp=N,32nm,0.5s						
KUR				smax	smax		
	comp=N,55nm,0.6s						
KUR				smax	smax		
	comp=E,58nm,0.6s						
KUR				MLR	MLR		
	comp=Z,1μm,14.0s						
KUR				MLR	MLR		
	comp=E,817nm,12.0s						
KUR				MLR	MLR		
	comp=N,1μm,13.0s						
USRK	**Ussuriysk Ar.**	**9.72**	**319**	Pn	Pn	10 07 33.1	+5.8
	comp=N,1.7nm,0.3s,baz=128,slow=12,SNR=27						
USRK				LR	LR	10 10 57.4	
	comp=N,6μm,20.1s,baz=123,slow=36						
YSS	**Yuzh-Sakhalins**	**9.89**	**8**	*e*P	**Pn**	**10 07 31.2**	**+1.5**
YSS				*e*S	**Sn**	**10 09 22.9**	**+2.3**
YSS				pmax	pmax		
	comp=Z,40nm,0.6s						
YSS				MLR	MLR		
	comp=Z,4μm,12.0s						
YSS				MLR	MLR		
	comp=N,3μm,14.0s						
YSS				MLR	MLR		
	comp=E,4μm,16.0s						
YSS	**Yuzh-Sakhalins**	**9.89**	**8**	*e*Pn	**Pn**	**10 07 30.7**	**+1.0**
KSRS	**Korea Array**	**10.28**	**276**	Pn	**Pn**	**10 07 38.7**	**+3.6**
	comp=E,0.4nm,0.3s,baz=85,slow=13,SNR=4.7						
KSRS				LR	LR	10 11 14.8	
	comp=E,2μm,20.0s,baz=82,slow=36						
KS01	**Wonju Array Si**	**10.31**	**276**	*e*Pn	**Pn**	**10 07 38.0**	**+2.6**
KS15	**Wonju Array Si**	**10.31**	**275**	*e*

SSE LR LR
comp=Z,1μm,14.3s
SSE LR LR
comp=Z,2μm,14.2s
SKR Severo-Kuril's 17.39 34 *e*P **Pn 10 09 10.6 +0.5**
SKR *e*S **S 10 12 28.6 -3.2**
SKR pmax pmax
comp=Z,700nm,6.8s
SKR pmax pmax
comp=Z,203nm,1.1s
SKR pmax pmax
comp=Z,400nm,4.6s
SKR MLR MLR
comp=Z,1μm,18.0s
SKR MLR MLR
comp=Z,1μm,14.0s
NJ2 Nanjing 18.78 261 *e*P **P 10 09 26.5 -0.3**
TIA Tai'an 19.03 274 *e*P **P 10 09 29.0 -0.5**
TIA S **Sn 10 12 58.8 -4.4**
TIA LR LR
comp=Z,810nm,9.0s
TIA LR LR
comp=Z,2μm,13.0s
TIA LR LR
comp=Z,2μm,13.0s
BJI Beijing 19.46 286 P **P 10 09 31.0 -3.3**
BJI S **Sn 10 13 08.3 -5.4**
BJI LR LR
comp=Z,2μm,12.6s
BJI LR LR
comp=Z,2μm,11.2s
BJT Baijiatuau 19.47 286 *e*P **P 10 09 34.6 +0.2**
BJT pmax pmax
comp=Z,86nm,1.4s
BJT Baijiatuau 19.47 286 *e*P **P 10 09 34.6 +0.2**
comp=Z,86nm,1.4s
PETK Petropavlovsk- 19.82 31 P **Pn 10 09 39.1 -0.5**
comp=Z,0.2nm,0.3s,baz=199,slow=16,SNR=4.0
PETK LR LR 10 18 21.8
comp=Z,1μm,18.3s,baz=222,slow=40
PEA1 Petropavlovsk- 19.82 31 *e*P **Pn 10 09 39.1 -0.5**
PET Petropavlovsk 20.16 32 *e*P Pn 10 09 44.3 +0.7
PET *e*S **S 10 13 26.7 -1.0**
PET pmax pmax
comp=Z,400nm,9.4s
PET pmax pmax
comp=Z,62nm,1.2s
PET MLR MLR
comp=Z,1μm,16.0s
PET MLR MLR
comp=Z,1μm,13.0s
TPUB Ta-pu 22.19 237 *e*P **P 10 10 03.5 -0.4**
comp=Z,87nm,1.3s
CLNS Chul'man 22.38 337 *e*P **P 10 10 03.2 -2.5**
CLNS *e* 10 13 57.3
CLNS *e*S **S 10 14 05.8 -5.4**
CLNS *e*SS SnSn 10 14 58.0 +19
CLNS pmax pmax
comp=E,6.0nm,0.9s
CLNS pmax pmax
comp=Z,22nm,1.1s
CLNS pmax pmax
comp=N,17nm,1.1s
CLNS smax smax
comp=N,633nm,14.3s
CLNS smax smax
comp=E,283nm,10.8s
CLNS MLR MLR
comp=N,1μm,14.0s
CLNS MLR MLR
comp=Z,1μm,15.0s
CLNS MLR MLR
comp=E,902nm,11.0s
HHC Hu-ho-hao-te 22.99 288 *e*P **P 10 10 11.0 -1.3**
HHC PP **PnPn 10 10 38.5 +1.5**
HHC S **S 10 14 18.0 -4.6**
HHC SS **SnSn 10 15 02.5 +8.2**
HHC pmax pmax
comp=E,27nm,0.9s
HHC pmax pmax
comp=E,150nm,4.2s
HHC LR LR
comp=E,2μm,11.6s
HHC LR LR
comp=E,1μm,12.4s
HHC LR LR
comp=E,800nm,11.7s
MA2 Magadan 23.33 13 P **P 10 10 16.1 +0.5**
comp=E,28nm,0.8s,baz=207,slow=9.5,SNR=8.8
MA2 LR LR 10 19 22.0
comp=E,1μm,21.8s,baz=198,slow=37
GUMO Guam 23.75 170 P **P 10 10 20.8 +0.9**
comp=E,75nm,1.0s,baz=307,slow=5.1,SNR=2.4
GUMO Guam 23.75 170 *e*P **P 10 10 20.8 +0.9**
GUMO *e*P **P 10 10 21.3 +1.4**
YAK Yakutsk 25.85 348 P **P 10 10 37.8 -0.9**
comp=E,54nm,0.7s,baz=220,slow=1.4,SNR=13
YAK LR LR 10 20 52.3
comp=E,2μm,20.6s,baz=180,slow=37
YAK Yakutsk 25.85 348 *e*PP **P 10 10 37.1 -1.7**
YAK *e**PP **pP 10 10 41.1 -1.4**
YAK *e*PPP PPP 10 11 24.0
YAK *e* 10 14 07.7
YAK *e*S **S 10 15 10.5 +2.6**
YAK *e**SS **sS 10 15 19.0 +4.9**
YAK *e*SS **SnSn 10 16 02.0 -1.7**
YAK *e*SSS SSS 10 16 21.3
YAK *e* 10 21 37.1
YAK pmax pmax
comp=Z,53nm,0.9s
YAK pmax pmax
comp=N,28nm,1.3s
YAK smax smax
comp=N,2μm,8.8s
YAK MLR MLR
comp=Z,2μm,15.0s
YAK MLR MLR
comp=N,3μm,18.0s
YAK Yakutsk 25.85 348 *e*P **P 10 10 38.6 -0.2**
comp=N,128nm,1.0s
XAN Xi'an 26.06 273 P **P 10 10 40.5 -0.6**
XAN PP **PnPn 10 11 21.0 +1.9**
XAN PcP **PcP 10 14 03.8 -5.0**
XAN S **S 10 15 07.3 -4.7**
XAN pmax pmax
comp=N,7.0nm,0.6s
XAN pmax pmax
comp=N,540nm,6.4s
XAN LR LR
comp=N,2μm,13.6s
XAN LR LR
comp=N,820nm,15.8s
XAN LR LR
comp=N,2μm,11.8s
SZP Santa 26.52 228 *e*P **P 10 10 45.9 +0.7**
comp=N,583nm,1.3s
SEY Seymchan 26.76 12 P **P 10 10 47.4 +0.4**
comp=N,37nm,1.1s,baz=205,slow=7.9,SNR=16
SEY LR LR 10 22 34.1
comp=N,2μm,19.0s,baz=192,slow=39
SEY Seymchan 26.76 12 P **P 10 10 47.4 +0.4**
SEY pmax pmax
comp=Z,48nm,1.2s
SEY MLR MLR
comp=Z,2μm,19.0s
ENH Enshi 26.88 264 *e*P **P 10 10 48.3 -0.2**
comp=Z,28nm,0.6s
ULN Ulaanbaatar 26.89 304 *d i*P **P 10 10 49.3 +0.7**
ULN pmax pmax
comp=Z,26nm,1.2s
ULN Ulaanbaatar 26.89 304 *e*P **P 10 10 47.9 -0.8**
comp=Z,25nm,1.2s
BOD Bodaibo 27.17 328 *e*P **P 10 10 49.8 -1.0**
BOD pmax pmax
comp=Z,16nm,1.4s
SONA1 Songino Array 27.32 304 *e*P **P 10 10 51.2 -1.2**
SONA0 Songino Array 27.32 304 *e*P **P 10 10 52.7 +0.3**
comp=Z,11nm,0.8s
SONA0 *e*PcP **PcP 10 14 12.5 +0.9**
SONM Songino Array 27.32 304 P **P 10 10 52.7 +0.3**
comp=Z,10nm,0.8s,baz=105,slow=8.6,SNR=24
SONM PcP **PcP 10 14 12.5 +0.9**
comp=Z,2.9nm,0.6s,baz=129,slow=2.7,SNR=8.1
SONM LR LR 10 21 44.2
comp=Z,1μm,19.3s,baz=102,slow=36
H11N2 WAKE ISLAND Hy 28.62 120 T T 10 40 48.3
baz=313,slow=75,SNR=3260
H11N1 WAKE ISLAND Hy 28.62 120 T T 10 40 48.9
baz=313,slow=75,SNR=3003
H11N3 WAKE ISLAND Hy 28.63 120 T T 10 40 49.7
baz=313,slow=75,SNR=2280
TGY Tagaytay City 29.01 223 P **P 10 11 07.7 +0.1**
comp=Z,83nm,0.4s,baz=205,slow=14,SNR=2.0
H11S1 WAKE ISLAND Hy 29.32 122 T T 10 41 47.3
baz=314,slow=75,SNR=2247
H11S3 WAKE ISLAND Hy 29.32 122 T T 10 41 47.4
baz=314,slow=75,SNR=1428
H11S2 WAKE ISLAND Hy 29.34 122 T T 10 41 49.3
baz=314,slow=75,SNR=1056
LZH Lanzhou 29.58 279 *e*P **P 10 11 15.3 +2.6**
LZH pP sP 10 11 19.5 +1.5
LZH sP pP 10 11 22.5 +6.0
LZH PcP **PcP 10 14 20.8 +3.4**
LZH *e*S **S 10 16 06.3 -1.4**
LZH sS pS 10 16 13.0 +1.2
LZH SS **SnSn 10 17 40.5 +4.8**
LZH pmax pmax
comp=Z,43nm,1.2s
LZH pmax pmax
comp=Z,200nm,4.6s
LZH LR LR
comp=Z,3μm,13.8s
LZH LR LR
comp=Z,2μm,12.7s
LZH LR LR
comp=Z,3μm,16.2s
ZAK Zakamensk 29.82 308 *e*P **P 10 11 14.3 -0.3**
ZAK pmax pmax
comp=Z,5.0nm,1.0s
TLY Talaya 29.89 311 P **P 10 11 16.0 +0.8**
comp=Z,4.8nm,0.6s,baz=50,slow=3.2,SNR=4.1
TLY LR LR 10 23 15.5
comp=Z,1μm,20.1s,baz=106,slow=36
TLY Talaya 29.89 311 *e*P **P 10 11 18.2 +3.1**
TLY *e* 10 12 26.1
TLY *e*S **S 10 16 13.1 +1.1**
TLY pmax pmax
comp=Z,10.0nm,0.6s
TLY MLR MLR
comp=Z,2μm,16.0s
GYA Guiyang 30.78 260 *e*P **P 10 11 23.8 +0.5**
GYA PP **PnPn 10 12 24.0 +0.7**
GYA S **S 10 16 24.3 -2.2**
GYA ScP **ScP 10 18 03.8 +0.7**
GYA ScS **ScS 10 21 58.5 -1.4**
GYA pmax pmax
comp=Z,20nm,0.8s
GYA pmax pmax
comp=Z,120nm,5.2s
GYA LR LR
comp=Z,560nm,16.8s
GYA LR LR
comp=Z,520nm,16.2s
GYA LR LR
comp=Z,550nm,16.4s
CD2 Chengdu 31.20 270 *e*P **P 10 11 26.3 -0.7**
CD2 sP sP 10 11 32.3 +0.1
CD2 pmax pmax
comp=Z,830nm,5.8s
CD2 LR LR
comp=Z,3μm,16.1s
CD2 LR LR
comp=Z,3μm,13.3s
CD2 LR LR
comp=Z,2μm,14.2s
GTA Gaotai 32.08 287 *e*P **P 10 11 34.0 -0.7**
GTA pP pP 10 11 38.5 +0.1
GTA sP sP 10 11 41.0 +1.1
GTA PcP **PcP 10 14 25.0 +1.1**
GTA S **S 10 16 48.0 +1.4**
GTA sS sS 10 16 55.3 +2.5
GTA ScP **ScP 10 18 10.0 +2.8**
GTA SS **SnSn 10 18 45.0 +8.8**
GTA pmax pmax
comp=Z,6.0nm,0.7s
GTA pmax pmax
comp=Z,220nm,5.0s
GTA LR LR
comp=Z,1μm,14.3s
GTA LR LR
comp=Z,1μm,14.3s
GTA LR LR
comp=Z,1μm,14.3s
QIZ Qiongzhong 32.55 245 P **P 10 11 38.0 -0.8**
QIZ S **S 10 16 54.0 -0.1**
QIZ LR LR
comp=Z,450nm,16.2s
KMI Kunming 34.52 261 P **P 10 11 56.0 -0.2**
KMI pmax pmax
comp=Z,20nm,0.5s
KMI LR LR
comp=Z,2μm,13.7s
KMI LR LR
comp=Z,2μm,13.9s
KMI LR LR
comp=Z,2μm,14.2s
TIXI Tiksi 35.11 353 P **P 10 12 01.0 +0.5**
comp=Z,13nm,0.8s,baz=79,slow=5.6,SNR=6.8
TIXI Tiksi 35.11 353 *ce*P **P 10 12 01.3 +0.8**
TIXI pmax pmax
comp=Z,18nm,1.0s
TIXI MLR MLR
comp=Z,1μm,17.0s
TIXI Tiksi 35.11 353 *e*P **P 10 12 00.2 -0.3**
comp=Z,17nm,1.0s
TIXI *e*P **P 10 12 01.0 +0.5**
MYLDM Lahad Datu 37.81 218 *e*P **P 10 12 21.9 -2.2**
comp=Z,51nm,1.0s
SIJI Sorong 38.86 195 P **P 10 12 32.6 -0.3**
comp=Z,30nm,0.7s,baz=359,slow=8.5,SNR=7.2
JAY Jayapura 39.47 180 P **P 10 12 38.1 0.0**
comp=Z,2.2nm,0.8s,baz=337,slow=22,SNR=4.3
GENI Genyem 39.55 181 P **P 10 12 40.2 +1.5**
UTTA Uttaradit 40.26 252 P **P 10 12 45.9 +1.3**
comp=Z,3.1nm,0.8s
CHAI Chaiyaphum 40.31 249 P **P 10 12 45.1 0.0**
comp=Z,11nm,1.0s
WMQ Urumqi 40.36 297 P **P 10 12 47.3 +1.9**
WMQ pP sP 10 12 50.8 +0.1
WMQ sP pP 10 12 53.3 +4.1
WMQ PP **PnPn 10 14 22.5 +0.6**
WMQ S **S 10 18 55.8 +2.7**
WMQ SS **SS 10 21 50.5 -1.2**
WMQ pmax pmax
comp=Z,13nm,0.7s
WMQ pmax pmax
comp=Z,220nm,3.7s
WMQ LR LR
comp=Z,3μm,18.7s
WMQ LR LR
comp=Z,860nm,14.7s
WMQ LR LR
comp=Z,760nm,21.5s
MRSI Marisa 40.46 210 P **P 10 12 44.7 -1.6**
FAKI Fak Fak 40.66 193 *e*P **P 10 12 47.9 -0.1**
comp=Z,34nm,1.0s
CHTO Chiang Mai 40.87 255 P P 10 12 55.7 +6.0
comp=Z,42nm,3.8s
CHTO Chiang Mai 40.87 255 *e*P **P 10 12 49.9 +0.2**
CHTO pmax pmax
comp=Z,38nm,1.9s
CHTO Chiang Mai 40.87 255 *e*P **P 10 12 49.9 +0.2**
comp=Z,38nm,1.9s
CM31 Chiang Mai Arr 41.08 255 *e*P **P 10 12 51.7 +0.3**
CMAR Chiang Mai Arr 41.08 255 P **P 10 12 51.7 +0.3**
comp=Z,2.1nm,0.5s,baz=48,slow=6.5,SNR=12
CMAR PcP **PcP 10 14 51.7 +0.6**
comp=Z,1.8nm,0.5s,baz=348,slow=1.8,SNR=6.9
CMAR LR LR 10 32 07.7
comp=Z,537nm,18.9s,baz=53,slow=40
CM01 Chiang Mai Arr 41.08 255 *e*P **P 10 12 52.1 +0.6**
ZAA0 Zalesovo Array 41.48 312 *e*P **P 10 12 53.8 -0.6**
ZAA1 Zalesovo Array 41.48 312 *e*P **P 10 12 54.4 +0.1**
ZAA1 *e*PcP **PcP 10 14 52.2 +0.4**
ZALV Zalesovo Beam 41.48 312 P **P 10 12 54.4 +0.1**
comp=Z,15nm,0.5s,baz=100,slow=7.1,SNR=13
ZALV PcP **PcP 10 14 52.2 +0.4**
comp=Z,9.9nm,0.6s,baz=106,slow=2.6,SNR=8.3
ZALV LR LR 10 30 46.6
comp=Z,944nm,20.0s,baz=70,slow=37
LSA Lhasa 41.73 275 *e*P **P 10 12 57.8 +0.5**
LSA pmax pmax
comp=Z,11nm,0.8s
LSA Lhasa 41.73 275 *e*P **P 10 12 57.8 +0.5**
comp=Z,11nm,0.8s
MSAI Masohi 41.79 198 P **P 10 12 58.1 +0.9**
AAI Ambon 42.31 199 P **P 10 13 01.5 +0.1**
NVS Novosibirsk 42.41 314 *e*P **P 10 13 01.6 -0.3**
NVS *i* 10 14 55.4
NVS pmax pmax
comp=Z,31nm,1.6s
NVS pmax pmax
comp=N,1.0nm,0.4s
NVS pmax pmax
comp=E,3.0nm,0.4s
BNDI Bandanaira 42.70 196 P **P 10 13 06.6 +2.0**
SHL Shillong 42.94 269 *e*P **P 10 13 09.0 +2.2**
NRIK Noril'sk 42.96 335 P **P 10 13 05.9 -0.3**
comp=E,7.9nm,0.7s,baz=123,slow=5.6,SNR=11
NRIK PcP **PcP 10 14 56.9 +0.4**
comp=E,6.9nm,0.6s,baz=117,slow=7.5,SNR=3.6
NRIK LR LR 10 32 00.6
comp=E,1μm,18.4s,baz=99,slow=38
SBUM Sibu 43.42 224 *e*P **P 10 13 09.6 -1.0**
comp=E,9.5nm,1.0s
MK01 Makanchi Array 43.65 302 *e*P **P 10 13 11.3 -0.8**
MK31 Makanchi Array 43.65 302 *e*P **P 10 13 11.8 -0.4**
MK31 Makanchi Array 43.65 302 *e*P **P 10 13 11.8 -0.4**
MK32 Makanchi Array 43.65 302 *e*P **P 10 13 11.6 -0.6**
MK32 *e*PP **PcP 10 14 59.7 +0.4**
MKAR Makanchi Array 43.65 302 P **P 10 13 11.6 -0.6**
comp=E,9.5nm,0.6s,baz=84,slow=10.0,SNR=55
MKAR PcP **PcP 10 14 59.7 +0.4**
comp=E,5.6nm,0.8s,baz=75,slow=6.4,SNR=5.9
MKAR ScP **ScP 10 18 52.5 +1.9**
comp=E,0.5nm,0.5s,baz=79,slow=3.1,SNR=6.3
MKAR LR LR 10 31 31.3
comp=E,948nm,19.8s,baz=84,slow=36
MKAR Makanchi Array 43.65 302 *e*P **P 10 13 11.8 -0.4**
MKAR 10 14 59.7
MKAR pmax pmax
comp=Z,76nm,0.8s
MKAR Makanchi Array 43.65 302 *e*P **P 10 13 11.8 -0.4**
comp=Z,76nm,0.8s
MKAR PcP **PcP 10 14 59.7 +0.4**
MAKZ Makanchi 43.86 302 *e*P **P 10 13 13.5 -0.3**
MAKZ pmax pmax
comp=Z,11nm,0.7s
MAKZ Makanchi 43.86 302 *e*P **P 10 13 13.5 -0.3**
comp=Z,11nm,0.7s
TTSI Tana Toraja 44.52 211 P **P 10 13 16.2 -3.1**
MTKI Muara Teweh, K 44.88 218 P **P 10 13 22.4 +0.2**
KSM Kuching 45.30 226 *e*P **P 10 13 24.6 -1.0**
comp=Z,57nm,0.9s
KSM Kuching 45.30 226 ⇑P **P 10 13 25.4 -0.2**
SPSI Sidrap Palu 45.37 210 P **P 10 13 24.1 -2.0**
KURK Kurchatov 45.48 308 *c i*P **P 10 13 26.1 -0.5**
KURK pmax pmax
comp=Z,179nm,0.8s
KURK Kurchatov 45.48 308 *e*P **P 10 13 25.7 -1.0**
comp=Z,49nm,0.8s
TT01 Tatalina 45.58 35 *e*P **P 10 13 28.5 +1.2**
TTA Tatalina 45.59 35 *e*P **P 10 13 29.3 +1.9**
TTA pmax pmax
comp=Z,49nm,2.0s
TTA Tatalina 45.59 35 *e*P **P 10 13 29.3 +1.9**
comp=Z,49nm,2.0s
SVW2 Sparrevohn 45.71 37 *e*P **P 10 13 29.8 +1.5**
comp=Z,15nm,1.0s
PDGK Podgornoye 46.30 298 P **P 10 13 33.7 +0.3**
PDGK pmax pmax
comp=Z,28nm,1.0s
KAPI Kappang 46.34 210 *e*P **P 10 13 32.9 -0.8**
comp=Z,158nm,1.2s
PMG Port Moresby 46.70 171 LR LR 10 33 22.6
comp=Z,217nm,18.5s,baz=0.0,slow=36
PMG Port Moresby 46.70 171 ⇑*e*P **P 10 13 37.8 +1.3**
PMG pmax pmax
comp=Z,59nm,1.0s
KTGM Kuala Trenggan 46.77 237 ⇑P **P 10 13 37.7 +0.5**
RSO Redoubt South 47.10 38 *e*P **P 10 13 39.7 +0.2**
SKLT Songkhla 47.16 241 P **P 10 13 41.2 +1.0**
comp=Z,40nm,1.0s,comp=Z,1μm
PKI Pulchoki 47.20 275 *e*P **P 10 13 40.6 -0.2**
comp=Z,20nm,0.7s
KKN Kakani 47.20 275 *e*P **P 10 13 40.5 -0.3**
comp=Z,38nm,0.7s
PKIN Phulchoki 47.21 275 *e*P **P 10 13 40.6 -0.2**
comp=Z,48nm,0.8s
SURT Suratani 47.21 244 P P 10 13 47.3 +6.7
comp=Z,25nm,1.7s
KDAK Kodiak Island 47.32 42 *i*P **P 10 13 41.2 +0.3**
PPLA Purkeypile 47.34 35 *e*P **P 10 13 43.9 +2.7**
comp=Z,68nm,1.5s
CAST Castle Rocks 47.39 34 *e*P **P 10 13 42.4 +0.9**
comp=Z,48nm,1.8s
SPU Mount Spurr 47.42 37 *e*P **P 10 13 42.5 +0.8**
GKN Gorkha 47.62 276 *e*P **P 10 13 43.4 -0.5**
comp=Z,107nm,0.8s
KTH Kantishna Hill 47.91 34 *e*P **P 10 13 46.3 +0.7**
comp=Z,80nm,1.8s
SUA Susitna One 48.04 37 *e*P **P 10 13 47.8 +1.2**
comp=Z,10nm,0.8s
DANN Dangsing 48.17 277 *e*P **P 10 13 48.0 -0.3**
comp=Z,9.2nm,0.9s
TRF Thorofare Moun 48.19 34 *e*P **P 10 13 48.4 +0.5**
comp=Z,21nm,1.4s
COLD Coldfoot 48.27 29 *e*P **P 10 13 50.2 +2.0**
comp=Z,20nm,1.6s
KULM Kulim 48.48 239 ⇓P **P 10 13 51.8 +1.4**
RC01 Rabbit Creek A 48.55 37 *e*P **P 10 13 51.0 +0.6**
comp=Z,26nm,1.2s
KOLN Koldanda 48.55 276 *e*P **P 10 13 50.7 -0.5**
comp=Z,38nm,0.9s
TOLK Toolik Lake Re 48.58 27 P **P 10 13 50.5 -0.1**
baz=267
MCK McKinley 48.79 34 *e*P **P 10 13 53.9 +1.6**
MCK pmax pmax
comp=Z,28nm,1.4s
MCK McKinley 48.79 34 *e*P **P 10 13 53.9 +1.6**
comp=Z,28nm,1.4s
PMR Palmer 48.81 37 *e*P **P 10 13 51.8 -0.6**
PMR pmax pmax
comp=Z,9.0nm,0.9s
PMR Palmer 48.81 37 *e*P **P 10 13 51.8 -0.6**
comp=Z,8.9nm,0.9s
IPM Ipoh 48.81 238 *e*P **P 10 13 51.2 -1.8**
comp=Z,25nm,0.7s
IPM Ipoh 48.81 238 ⇓P **P 10 13 51.3 -1.6**
RND Reindeer 48.84 34 *e*P **P 10 13 52.9 +0.2**
RND pmax pmax
comp=Z,86nm,1.9s
RND Reindeer 48.84 34 *e*P **P 10 13 52.9 +0.2**
comp=Z,86nm,1.9s
PYUN Piuthan 48.89 277 *e*P **P 10 13 53.4 -0.4**
comp=Z,170nm,1.1s
MYKOM Kota Tinggi 48.96 233 ⇑P **P 10 13 52.6 -1.5**
MDM Murphy Dome 49.06 32 *e*P **P 10 13 55.0 +0.6**
comp=Z,40nm,1.3s
KGM Kluang 49.13 234 ⇓P **P 10 13 54.9 -0.5**
WRH Wood River Hil 49.13 33 *e*P **P 10 13 55.4 +0.5**
comp=Z,9.7nm,0.8s
SML Sawmill 49.17 36 *e*P **P 10 13 56.8 +1.5**
SML pmax pmax
comp=Z,18nm,0.8s
SML Sawmill 49.17 36 *e*P **P 10 13 56.8 +1.5**
comp=Z,18nm,0.8s
SOEI Soe 49.19 202 P **P 10 13 54.9 -1.0**
SOEI Soe 49.19 202 *e*P **P 10 13 56.5 +0.6**
comp=Z,86nm,1.0s
COLA College 49.22 32 *e*P **P 10 13 57.2 +1.7**
COLA pmax pmax
comp=Z,17nm,1.1s
COLA College 49.22 32 *e*P **P 10 13 57.2 +1.7**
comp=Z,17nm,1.1s
CCB Clear Creek Bu 49.25 33 *e*P **P 10 13 56.7 +0.9**
comp=Z,22nm,2.0s
DHY Denali Highway 49.53 35 *e*P **P 10 13 59.4 +1.3**
comp=Z,30nm,1.5s
HDA Harding Lake 49.63 33 *e*P **P 10 13 58.6 -0.1**
comp=Z,29nm,1.4s
IL1 Eielson Array 49.64 32 *e*P **P 10 13 58.1 -0.7**
ILAR Eielson Array 49.64 32 P **P 10 13 58.1 -0.6**
comp=Z,4.7nm,0.8s,baz=269,slow=5.6,SNR=34
ILAR LR LR 10 36 57.3
comp=Z,372nm,18.7s,baz=300,slow=38
ILB Eielson Array 49.64 32 *e*P **P 10 13 58.1 -0.6**
HNR Honiara 49.70 155 LR LR 10 33 36.5

comp=Z,365nm,20.5s,baz=330,slow=34
BATI Baumata 49.79 202 P P 10 14 05.3 +4.8
FRU Bishkek 49.87 298 *e*P **P** **10 14 00.0 -0.9**
KSH Kashi 49.92 294 *e*P **P** **10 14 05.8 +4.3**
KSH pP sP 10 14 09.8 +3.0
KSH PcP **PcP** **10 15 25.8 +4.1**
KSH PP **PP** **10 16 01.8 +5.7**
KSH S **S** **10 21 16.5 +4.9**
KSH sS sS 10 21 24.5 +6.5
KSH SS **SS** **10 24 45.5 +1.4**
KSH pmax pmax
comp=Z,7.0nm,0.8s
KSH pmax pmax
comp=Z,140nm,3.4s
KSH LR LR
comp=Z,440nm,11.6s
KSH LR LR
comp=Z,1µm,16.9s
KSH LR LR
comp=Z,740nm,21.6s
AAK Ala-Archa 50.02 298 LR LR 10 36 34.2
comp=Z,2µm,19.0s,baz=65,slow=38
AAK Ala-Archa 50.02 298*c i*P **P** **10 14 02.3 +0.2**
AAK pmax pmax
comp=Z,29nm,0.8s
AAK Ala-Archa 50.02 298 *e*P **P** **10 14 02.8 +0.7**
comp=Z,11nm,0.8s
BRVK Borovoye 50.20 312*c i*P **P** **10 14 03.2 +0.1**
BRVK pmax pmax
comp=Z,40nm,0.8s
BRVK Borovoye 50.20 312 *e*P **P** **10 14 03.0 -0.1**
comp=Z,17nm,0.9s
FYU Fort Yukon 50.24 30 *e*P **P** **10 14 04.9 +1.7**
comp=Z,45nm,1.4s
PAX Paxson 50.40 35 *e*P **P** **10 14 06.3 +1.6**
PAX pmax pmax
comp=Z,5.0nm,0.8s
PAX Paxson 50.40 35 *e*P **P** **10 14 06.2 +1.6**
comp=Z,5.1nm,0.8s
DIV Divide 50.46 37 *e*P **P** **10 14 06.8 +1.6**
comp=Z,58nm,1.6s
MTN Manton Dam 50.56 192 *e*P **P** **10 14 05.3 -0.9**
comp=Z,54nm,1.3s
PLAI Plampang 50.59 210 P P **10 14 06.6 +0.1**
comp=Z,45nm,0.9s,comp=Z,1µm
KMMI Kalianget 50.65 215 P **P** **10 14 08.4 +1.5**
comp=Z,92nm,1.0s
TWSI Taliwang, Sumb 50.87 211 P **P** **10 14 09.4 +0.8**
comp=Z,61nm,1.1s,comp=Z,2µm
COEN Coen 50.89 177 *e*P **P** **10 14 07.9 -0.8**
comp=Z,63nm,1.4s
DOT Dot Lake 50.96 34 *e*P **P** **10 14 10.0 +1.2**
comp=Z,91nm,1.7s
MNAS Manas 51.46 299 P **P** **10 14 13.7 +0.7**
MNAS pmax pmax
comp=Z,27nm,0.8s
BKNI Bangkinang 51.88 234 P **P** **10 14 15.7 -0.5**
BKNI Bangkinang 51.88 234 *e*P **P** **10 14 16.1 -0.1**
comp=Z,134nm,0.9s
GMJI Gumukmas 51.97 215 P **P** **10 14 17.1 +0.3**
EGAK Eagle 52.08 32 *e*P **P** **10 14 19.1 +1.9**
comp=Z,11nm,1.1s
SDSI Sungai Dareh 52.59 233 P **P** **10 14 22.7 +1.2**
KKAR Karatay Array 52.66 300 *e*P **P** **10 14 22.3 +0.5**
KKAR pmax pmax
comp=Z,142nm,1.2s
KKAR Karatay Array 52.66 300 *e*P **P** **10 14 22.2 +0.5**
comp=Z,142nm,1.2s
UGM Wanagama 53.06 219 *e*P **P** **10 14 25.5 +0.5**
comp=Z,184nm,1.2s
KPJI Karang Pucung 53.38 221 P **P** **10 14 26.7 -0.5**
KLSI 53.52 227 P **P** **10 14 26.2 -2.1**
MASI Maura Aman, Be 53.78 231 P **P** **10 14 30.0 -0.3**
INK Inuvik 54.49 27 *e*P **P** **10 14 35.3 +0.6**
INK pmax pmax
comp=Z,7.0nm,0.9s
INK Inuvik 54.49 27 *e*P **P** **10 14 35.3 +0.6**
comp=Z,7.3nm,0.9s
SVE Sverdlovsk 54.74 318⇑ *e*P **P** **10 14 37.8 +1.0**
SVE pmax pmax
comp=Z,34nm,1.3s
SVE MLR MLR
comp=Z,1µm,15.0s
SOKR Solikamsk 55.94 322*c i*P **P** **10 14 43.0 -2.3**
SOKR pmax pmax
comp=Z,7.0nm,0.6s
SOKR MLR MLR
comp=Z,854nm,19.0s
ARU Arti 55.95 318*c i*P **P** **10 14 44.7 -0.8**
ARU 10 15 43.0
ARU 10 16 48.9
ARU S **S** **10 22 31.5 -1.5**
ARU SS **SS** **10 26 14.5 -3.9**
ARU pmax pmax
comp=Z,43nm,1.2s
ARU MLR MLR
comp=Z,953nm,16.0s
ARU Arti 55.95 318 *e*P **P** **10 14 44.4 -1.1**
comp=Z,43nm,1.2s
WRAB Tennant Creek 57.11 187 *e*P **P** **10 14 53.1 -1.0**
WRAB pmax pmax
comp=Z,22nm,0.7s
WRAB Tennant Creek 57.11 187 *e*P **P** **10 14 53.1 -1.0**
comp=Z,22nm,0.7s
WB2 Warramunga Arr 57.12 187 *e*P **P** **10 14 52.8 -1.3**
WB2 *e*P **P** **10 14 53.5 -0.7**
WR1 Warramunga Arr 57.12 187 *e*P **P** **10 14 51.9 -2.3**
comp=Z,23nm,0.8s
WRA Warramunga Arr 57.12 187 P **P** **10 14 51.9 -2.3**
comp=Z,8.7nm,0.5s,baz=3.6,slow=7.3,SNR=85
CTAO Charters Tower 57.17 174 *e*P **P** **10 14 54.9 +0.4**
CTAO pmax pmax
comp=Z,69nm,1.9s
CTAO Charters Tower 57.17 174 *e*P **P** **10 14 54.9 +0.4**
comp=Z,69nm,1.9s
ABKAR Akbulak array 57.50 310 *e*P **P** **10 14 55.6 -1.0**
comp=Z,98nm,0.7s
HYB Hyderabad 57.74 268 *i*P **P** **10 14 59.0 +0.2**
SPA0 Spitsbergen Ar 60.31 349 *e*P **P** **10 15 15.7 -0.1**
KBS Kingsbay 60.45 350 *e*P **P** **10 15 18.2 +1.5**
KBS pmax pmax
comp=Z,45nm,1.0s
KBS Kingsbay 60.45 350 *e*P **P** **10 15 18.2 +1.5**
comp=Z,45nm,1.0s
AS01 Alice Springs 60.84 187 *e*P **P** **10 15 19.3 -0.6**
AS31 Alice Springs 60.85 187 *e*P **P** **10 15 19.8 -0.2**
comp=Z,3.4nm,0.8s
ASAR Alice Springs 60.85 187 P **P** **10 15 19.1 -1.0**
comp=Z,8.2nm,0.8s,baz=12,slow=6.8,SNR=40
ASAR LR LR 10 41 12.5
comp=Z,194nm,21.6s,baz=8.5,slow=36
MBWA Marble Bar 61.32 203 *e*P **P** **10 15 22.5 -0.7**
comp=Z,30nm,0.6s
LVZ Lovozero 61.80 336⇑ *e*P **P** **10 15 27.0 +1.0**
LVZ pmax pmax
comp=Z,45nm,1.5s
PALK Pallekele 61.94 257 LR LR 10 43 28.4
comp=Z,154nm,19.5s,baz=115,slow=37
BJO Bjornoya 62.18 345 *e*P **P** **10 15 29.3 +0.9**
APA Apatity 62.38 336⇓ *i*P **P** **10 15 28.8 -1.0**
APA *i* 10 16 11.0
APA *i*S **S** **10 23 51.0 -4.9**
APA pmax pmax
comp=Z,12nm,1.0s
TMCR Tamitsa 62.41 331 *e*P **P** **10 15 30.1 +0.1**
TMCR pmax pmax
comp=Z,37nm,0.9s
KEV Kevo 63.16 339 *e*P **P** **10 15 34.8 -0.2**
GEYT Alibeck 63.36 299 P **P** **10 15 36.2 -0.7**
comp=Z,8.7nm,0.8s,baz=66,slow=1.8,SNR=12
GEYT LR LR 10 44 57.2
comp=Z,408nm,18.2s,baz=60,slow=38
KLMR Klimovskoe 63.40 328 *e*P **P** **10 15 35.4 -1.3**
KLMR *e* 10 16 12.1
KLMR *e*SS SS 10 28 14.1 -0.7
KLMR pmax pmax
comp=Z,46nm,1.5s
DZM Mont Dzumac 63.67 153 *e*P **P** **10 15 40.7 +1.6**
comp=Z,50nm,1.2s
DZM *e*S **S** **10 24 11.7 -1.5**
comp=Z,918nm,28.4s
DZM Mont Dzumac 63.67 153 *e*LR LR 10 34 39.5
comp=Z,1µm,21.9s
DZM Mont Dzumac 63.67 153 *e*P **P** **10 15 40.6 +1.6**
comp=Z,45nm,1.4s
ARA0 ARCESS Array S 63.71 339 *e*P **P** **10 15 38.5 -0.2**
ARCES ARCESS Array B 63.71 339 P **P** **10 15 38.5 -0.2**
comp=Z,13nm,0.8s,baz=49,slow=6.5,SNR=28
ARCES LR LR 10 46 37.7
comp=Z,564nm,19.5s,baz=40,slow=39
ARE0 ARCESS Array S 63.71 339 *e*P **P** **10 15 39.0 +0.3**
ARE0 lAmb lAmb 10 15 41.1
comp=Z,27nm,1.1s
ARE0 ARCESS Array S 63.71 339 *e*P **P** **10 15 38.6 -0.1**
comp=Z,25nm,1.0s
YKA Yellowknife Ar 63.94 30 P **P** **10 15 40.0 -0.2**
comp=Z,1.7nm,0.7s,baz=303,slow=6.6,SNR=8.7
YKA LR LR 10 45 32.5
comp=Z,16nm,19.0s,baz=0.0,slow=38
YKB5 Yellowknife Ar 63.94 30 *e*P **P** **10 15 40.3 +0.1**
KTK1 Kautokeino 64.67 339 *e*P **P** **10 15 45.3 +0.3**
KTK1 lAmb lAmb 10 15 46.4
comp=Z,24nm,0.9s
MSVF Nonsavu 64.90 140 *e*P **P** **10 15 50.1 +3.0**
MSVF pmax pmax
comp=Z,37nm,1.3s
MSVF Nonsavu 64.90 140 *e*P **P** **10 15 50.1 +3.0**
comp=Z,37nm,1.3s
HEF Hetta 64.93 339 *e*P **P** **10 15 46.5 -0.2**
KIF Kilpisjarvi 65.36 340 *e*P **P** **10 15 48.8 -0.6**
DAG Danmarks Havn 65.61 355 *i*P **P** **10 15 51.2 +0.3**
comp=Z,28nm,0.7s
DAG Danmarks Havn 65.61 355 *i*P **P** **10 15 51.2 +0.3**
DAG pmax pmax
comp=Z,20nm,0.7s
LLLB Lillooet 66.49 44 *e*P **P** **10 15 59.2 +2.1**
comp=Z,15nm,1.2s
MOS Moscow 66.87 323 *e*P **P** **10 15 58.9 -0.4**
MOS pmax pmax
comp=Z,55nm,1.1s
STEI Steigen 67.59 341 *e*P **P** **10 16 04.3 +0.6**
STEI lAmb lAmb 10 16 05.7
comp=Z,72nm,1.3s
OBN Obninsk 67.71 323⇓ *e*P **P** **10 16 05.2 +0.5**
OBN *e* 10 16 12.8
OBN *e* 10 18 32.0
OBN *e*S **S** **10 24 59.9 -1.8**
OBN *e*SS **SS** **10 29 22.9 +0.9**
OBN pmax pmax
comp=Z,65nm,1.4s
OBN MLR MLR
comp=Z,1µm,16.0s
LPSR Galich'ya Gora 67.90 320 *e*P **P** **10 16 06.4 +0.5**
LPSR pmax pmax
comp=Z,90nm,1.5s
ALCT Alcott Element 67.91 46 *e*P **P** **10 16 07.9 +1.9**
FIA1 FINESS Array S 68.48 332 *e*P **P** **10 16 08.4 -1.0**
FIA1 *e*P **P** **10 16 08.6 -0.8**
FIA0 FINESS Array S 68.48 332 *e*P **P** **10 16 08.3 -1.1**
FIA0 FINESS Array S 68.48 332 *e*P **P** **10 16 08.3 -1.1**
FINES FINESS Array B 68.48 332 P **P** **10 16 08.3 -1.1**
comp=Z,42nm,0.9s,baz=83,slow=4.6,SNR=60
FINES LR LR 10 48 09.5
comp=Z,604nm,18.2s,baz=38,slow=38
VSR Storozhevoye 68.53 319 *e*P **P** **10 16 10.0 +0.1**
VSR pmax pmax
comp=Z,20nm,0.7s
FORT Forrest 68.63 192 *e*P **P** **10 16 10.8 +0.3**
comp=Z,284nm,0.7s
STKA Stephens Creek 68.68 179 P **P** **10 16 09.6 -1.3**
comp=Z,4.5nm,1.0s,baz=339,slow=8.6,SNR=3.3
STKA LR LR 10 45 32.3
comp=Z,280nm,21.1s,baz=9.2,slow=35
STKA Stephens Creek 68.68 179 *e*P **P** **10 16 09.6 -1.3**
comp=Z,8.0nm,1.8s
B08A Colville Reser 69.08 45 *e*P **P** **10 16 14.7 +1.2**
comp=Z,19nm,1.4s
I03D Drain, OR 69.19 51 P **P** **10 16 14.8 +0.6**
baz=302
EDM Edmonton 69.54 38 *e*P **P** **10 16 17.2 +1.0**
EDM pmax pmax
comp=Z,34nm,1.4s
EDM Edmonton 69.54 38 *e*P **P** **10 16 17.2 +1.0**
comp=Z,34nm,1.4s
G05D Wamic, OR 69.61 48 P **P** **10 16 17.8 +1.0**
baz=303
I04A Tendick Farm, 69.72 50 P **P** **10 16 18.4 +0.9**
baz=302
I05D Tetonne, OR 70.08 49 P **P** **10 16 20.9 +1.3**
baz=303
VSU Vasula 70.11 329*c i*P **P** **10 16 19.7 +0.2**
VSU pmax pmax
comp=Z,202nm,1.7s
NCK Nalchik 70.16 310⇑ *e*P **P** **10 16 21.4 +1.2**
NCK pmax pmax
comp=Z,17nm,0.4s
J04D Umpqua Nationa 70.20 50 P **P** **10 16 21.1 +0.5**
baz=303
ZEI Tsey 70.36 309 *e*P **P** **10 16 19.2 -2.4**
ZEI pmax pmax
comp=Z,17nm,0.8s
NEW Newport 70.37 44 P **P** **10 16 21.7 +0.3**
baz=304
NEW Newport 70.37 44 *e*P **P** **10 16 22.5 +1.1**
NEW pmax pmax
comp=Z,10.0nm,1.3s
NEW Newport 70.37 44 *e*P **P** **10 16 22.4 +1.1**
comp=Z,9.9nm,1.3s
KVAR Kislovodsk Arr 70.46 311 LR LR 10 51 37.9
comp=Z,545nm,18.1s,slow=40
KBZ Khabaz 70.46 310 P **P** **10 16 21.7 -0.2**
comp=Z,13nm,0.9s,baz=185,slow=0.3,SNR=17
KBZ LR LR 10 48 17.5
comp=Z,506nm,20.7s,baz=50,slow=37
KIV Kislovodsk 70.47 311 *e*P **P** **10 16 23.3 +1.2**
KIV pmax pmax
comp=Z,58nm,1.0s
KIV MLR MLR
comp=Z,425nm,17.0s
KIV Kislovodsk 70.47 311 *e*P **P** **10 16 23.1 +0.9**
comp=Z,48nm,0.9s
SUMG Summit 70.56 360 *i*P **P** **10 16 23.7 +1.1**
comp=Z,35nm,0.9s
SUMG Summit 70.56 360 *e*P **P** **10 16 23.2 +0.7**
SUMG pmax pmax
comp=Z,37nm,0.9s
SUMG Summit 70.56 360 *e*P **P** **10 16 23.2 +0.7**
comp=Z,37nm,0.9s
J05D Fort Rock, OR 70.71 50 P **P** **10 16 24.0 +0.3**
baz=303
M02C Callahan 70.73 52 P **P** **10 16 25.1 +1.3**
baz=303
E09A Wood Farm, Sta 70.77 46 *e*P **P** **10 16 25.6 +1.8**
comp=Z,12nm,1.3s
N02D Trinity Center 71.05 53 P **P** **10 16 26.5 +0.8**
baz=303
M04C Macdoel 71.16 52 P **P** **10 16 27.1 +0.7**
baz=303
K05A Summer Lake 71.23 50 *e*P **P** **10 16 28.9 +1.9**
comp=Z,63nm,1.8s
GNI Garni 71.25 306 LR LR 10 49 48.9
comp=Z,209nm,20.9s,baz=70,slow=38
GNI Garni 71.25 306*ce*P **P** **10 16 29.5 +2.4**
GNI pmax pmax
comp=Z,77nm,1.5s
F10A Beach Ranch, E 71.60 46 *e*P **P** **10 16 32.2 +3.3**
comp=Z,11nm,1.4s
WALA Waterton Lakes 71.66 42 *e*P **P** **10 16 30.9 +1.6**
comp=Z,9.9nm,1.1s
O03D Paynes Creek 72.00 53 P **P** **10 16 31.7 +0.3**
baz=304
MOD Modoc Plateau 72.05 51 *e*P **P** **10 16 33.7 +1.9**
comp=Z,6.9nm,1.1s
IZAR Zarasai 72.05 327 *e*P **P** **10 16 32.1 +0.8**
IZAR lAmb lAmb 10 16 34.3
comp=Z,13nm,0.6s
IDID Didziasalis 72.11 327 *e*P **P** **10 16 32.4 +0.7**
IDID lAmb lAmb 10 16 33.8
comp=Z,16nm,0.8s
MICGM Minsk 72.13 326 *e* **P** **10 16 32.0 +0.2**
MICGM *e*LR LR 10 50 10.0
MNK Minsk 72.13 326 *e*P **P** **10 16 32.0 +0.2**
BMO Blue Mountains 72.19 47 *e*P **P** **10 16 32.8 +0.3**
BMO pmax pmax
comp=Z,8.0nm,1.0s
BMO Blue Mountains 72.19 47 *e*P **P** **10 16 32.8 +0.3**
comp=Z,7.9nm,1.0s
ISAL Salakas 72.22 327 *e*P **P** **10 16 33.1 +0.8**
ISAL lAmb lAmb 10 16 34.5
comp=Z,25nm,0.8s
IIGN Ignalina 72.32 327 *e*P **P** **10 16 33.6 +0.6**
IIGN lAmb lAmb 10 16 35.0
comp=Z,18nm,0.8s
NACGM Naroch 72.36 326 *e* **P** **10 16 32.0 -1.2**
NACGM *e*LQ LQ 10 48 54.0
NACGM *e*LR LR 10 50 26.0
SWMT Swartz Lake 72.52 43 *e*P **P** **10 16 36.0 +1.5**
ORV Oroville 72.60 53 *e*P **P** **10 16 35.9 +0.9**
ORV pmax pmax
comp=Z,12nm,1.4s
ORV Oroville 72.60 53 *e*P **P** **10 16 35.9 +0.9**
comp=Z,12nm,1.4s
WVOR Wild Horse Val 72.77 50 *e*P **P** **10 16 37.0 +0.9**
WVOR pmax pmax
comp=Z,8.0nm,1.3s
WVOR Wild Horse Val 72.77 50 *e*P **P** **10 16 37.0 +0.9**
comp=Z,8.4nm,1.3s
MSO Missoula 72.95 44 P **P** **10 16 36.8 -0.3**
baz=306
MSO Missoula 72.95 44 *e*P **P** **10 16 38.5 +1.4**
comp=Z,7.9nm,1.3s
SLMT Seeley Lake 72.96 43 *e*P **P** **10 16 38.0 +0.9**
ANN Anapa 73.10 314 *e*P **P** **10 16 36.3 -1.5**
ANN *e* 10 19 21.1
ANN *e*PPP PPP 10 21 04.3
ANN *e*S **S** **10 26 01.5 -3.5**
ANN *e* 10 26 39.7
ANN pmax pmax
comp=Z,107nm,1.7s
ANN MLR MLR
comp=Z,573nm,17.0s
BEKR Beckworth 73.16 53 *e*P **P** **10 16 39.0 +0.5**
comp=Z,8.8nm,1.1s
NC405 NORSAR Array S 73.68 337 *e*P **P** **10 16 40.8 -0.1**
NC303 NORSAR Array S 73.70 337 *e*P **P** **10 16 41.5 +0.4**
HFS Hagfors 73.78 335 LR LR 10 51 48.9
comp=Z,1µm,18.4s,baz=30,slow=38
NC204 NORSAR Array S 73.85 337 *e*P **P** **10 16 41.0 -1.0**
FFC Flin Flon 73.85 32 *e*P **P** **10 16 43.1 +1.0**
FFC pmax pmax
comp=Z,18nm,1.3s
FFC Flin Flon 73.85 32 *e*P **P** **10 16 43.1 +1.0**
comp=Z,18nm,1.3s
NB201 NORSAR Array S 73.86 337 *e*P **P** **10 16 42.9 +0.9**
MFID Camas Ranch 73.89 48 *e*P **P** **10 16 44.7 +2.0**
comp=Z,12nm,1.3s
NB2 NORSAR Subarra 73.89 337 P **P** **10 16 40.9 -1.3**
baz=40,slow=6.2
NB2 NORSAR Subarra 73.89 337 P **P** **10 16 40.9 -1.3**
comp=Z,27nm,0.9s,baz=40,slow=6.2
NB200 NORSAR Array S 73.89 337 *e*P **P** **10 16 41.1 -1.1**
NOA NORSAR Array B 73.89 337 P **P** **10 16 41.1 -1.1**
comp=Z,23nm,0.9s,baz=39,slow=5.9,SNR=38
NOA LR LR 10 52 25.4
comp=Z,588nm,18.1s,baz=50,slow=38
AKASG Malin Array Be 73.91 322 P **P** **10 16 40.8 -1.7**
comp=Z,17nm,0.7s,baz=46,slow=6.1,SNR=57
AKASG LR LR 10 51 58.6
comp=Z,760nm,19.7s,baz=35,slow=38
AKBB Malin Array Si 73.91 322 *e*P **P** **10 16 41.4 -1.1**
AKBB pmax pmax
comp=Z,26nm,0.8s
AKBB Malin Array Si 73.91 322 *e*P **P** **10 16 41.4 -1.1**
comp=Z,26nm,0.8s
KIEV Kiev 73.92 322 *e*P **P** **10 16 41.4 -1.1**
KIEV pmax pmax
comp=Z,26nm,0.8s
KIEV Kiev 73.92 322 *e*P **P** **10 16 41.4 -1.1**
comp=Z,26nm,0.8s
AK11 Malin Array Si 73.95 322 *e*P **P** **10 16 41.9 -0.8**
NBO02 NORSAR Array S 73.99 337 *e*P **P** **10 16 42.7 -0.1**
NC602 NORSAR Array S 74.02 337 *e*P **P** **10 16 44.5 +1.6**
NBO00 NORSAR Array S 74.03 337 *e*P **P** **10 16 43.1 +0.1**
PNTR Pine Nut 74.08 53 *e*P **P** **10 16 45.6 +1.6**
comp=Z,7.1nm,1.0s
NAO01 NORSAR Array S 74.14 337 *e*P **P** **10 16 43.1 -0.5**
CMB Columbia Colle 74.18 54 *e*P **P** **10 16 45.9 +1.5**
CMB pmax pmax
comp=Z,10.0nm,1.1s
CMB Columbia Colle 74.18 54 *e*P **P** **10 16 45.9 +1.5**
comp=Z,10.0nm,1.1s
YERR Yerington 74.37 53 *e*P **P** **10 16 46.4 +0.7**
comp=Z,6.9nm,0.8s
EGMT Eagleton 74.49 41 P **P** **10 16 45.8 -0.2**
baz=309
EGMT Eagleton 74.49 41 *e*P **P** **10 16 47.3 +1.3**
comp=Z,11nm,0.8s
WAKR Walker 74.52 53 *e*P **P** **10 16 49.1 +2.6**
comp=Z,6.8nm,1.1s
SUW Suwalki 74.53 327 *e*P **P** **10 16 45.8 -0.2**
SUW Suwalki 74.53 327 *e*P **P** **10 16 45.8 -0.2**
DLMT Dillon 74.58 45 *e*P **P** **10 16 47.3 +0.6**
comp=Z,12nm,0.9s
HLID Hailey 74.63 47 P **P** **10 16 47.8 +0.8**
baz=307
HLID Hailey 74.63 47 *e*P **P** **10 16 48.0 +0.9**
comp=Z,4.7nm,1.0s
BMN Battle Mountai 74.80 51 *e*P **P** **10 16 50.0 +1.9**
BMN pmax pmax
comp=Z,11nm,1.2s
BMN Battle Mountai 74.80 51 *e*P **P** **10 16 50.0 +1.9**
comp=Z,11nm,1.2s
SIM Simferopol' 74.91 315 *e*P **P** **10 16 48.6 +0.2**
SIM *e*S **S** **10 26 20.0 -5.4**
SIM pmax pmax
comp=Z,17nm,1.0s
SIM MLR MLR
comp=Z,800nm,17.0s
BOZ Bozeman (W) 74.98 44 P **P** **10 16 48.8 -0.2**
baz=308
BOZ Bozeman (W) 74.98 44 *e*P **P** **10 16 49.6 +0.6**
BOZ pmax pmax
comp=Z,8.0nm,0.9s
BOZ Bozeman (W) 74.98 44 *e*P **P** **10 16 49.6 +0.6**
comp=Z,7.7nm,0.9s
TVH3 East Aurora ar 75.00 53 *e*P **P** **10 16 51.5 +2.2**
comp=Z,8.8nm,1.0s
TVH2 Borealis Mine 75.03 53 *e*P **P** **10 16 51.7 +2.2**
comp=Z,8.1nm,1.3s
MARD Mardin 75.41 306 *e*P **P** **10 16 52.6 +1.0**
comp=Z,91nm,1.9s
YHB Horse Butte 75.74 44 *e*P **P** **10 16 55.2 +1.7**
comp=Z,5.8nm,0.8s
YHH Holmes Hill 75.91 44 *e*P **P** **10 16 56.1 +1.5**
comp=Z,29nm,1.9s
YMR Madison River 75.92 44 *e*P **P** **10 16 56.4 +1.8**
comp=Z,8.6nm,1.2s
GCMT Greycliff 75.93 43 *e*P **P** **10 16 54.5 0.0**
SORM Soroca 76.00 320⇑ *i*P **P** **10 16 53.5 -1.0**
SORM Soroca 76.00 320⇑ P **P** **10 16 53.6 -1.0**
YFT Old Faithful 76.13 44 *e*P **P** **10 16 59.0 +3.2**
comp=Z,8.2nm,1.0s
YPP Pitchstone Pla 76.26 45 *e*P **P** **10 16 59.6 +3.0**
comp=Z,12nm,1.5s
H17A Grant Village 76.31 44 P **P** **10 16 57.6 +0.8**
baz=309
H17A Grant Village 76.31 44 *e*P **P** **10 16 58.1 +1.4**
comp=Z,12nm,1.0s
PKM Mcpherson Peak 76.37 57 P **P** **10 16 58.0 +0.8**
baz=306
IMW Indian Meadow 76.42 45 *e*P **P** **10 16 58.5 +1.1**
comp=Z,6.4nm,0.8s
RLMT Red Lodge 76.58 43 P **P** **10 16 58.5 +0.3**
baz=310
RLMT Red Lodge 76.58 43 *e*P **P** **10 17 00.1 +1.9**
comp=Z,9.2nm,1.0s
CWC Cottonwood Cre 76.60 54 P **P** **10 16 59.0 +0.5**
baz=306
MOOW Moose Ponds 76.62 45 *e*P **P** **10 17 00.5 +1.9**
comp=Z,14nm,1.4s
TPAW Teton Pass 76.67 45 *e*P **P** **10 17 00.8 +2.0**
comp=Z,12nm,1.3s
HVU Hansel Valley 76.67 48 *e*P **P** **10 16 59.4 +0.6**
HVU pmax pmax
comp=Z,9.0nm,1.2s
HVU Hansel Valley 76.67 48 *e*P **P** **10 16 59.4 +0.6**
comp=Z,8.9nm,1.2s
LOHW Long Hollow 76.78 45 *e*P **P** **10 17 01.2 +1.8**
comp=Z,4.2nm,1.1s
REDW Red Top Meadow 76.80 45 *e*P **P** **10 17 01.3 +1.8**
comp=Z,16nm,1.4s
LVV L'vov 77.00 324 *e*P **P** **10 17 01.3 +1.1**
LVV MLR MLR
comp=Z,800nm,16.0s
LVV comp=N,300nm,17.0s MLR MLR
LVV MLR MLR
comp=E,800nm,16.0s

DGMT **Dagmar** 77.03 38 P P 10 17 00.4 -0.1
baz=312
DGMT **Dagmar** 77.03 38 eP P 10 17 01.8 +1.3
comp=E,15nm,1.0s
BGU **Big Grassy Mou** 77.05 48 eP P 10 17 02.6 +1.7
comp=E,6.9nm,1.0s
R11A **Troy Canyon, C** 77.05 52 P P 10 17 01.5 +0.5
baz=307
R11A **Troy Canyon, C** 77.05 52 eP P 10 17 01.4 +0.3
comp=E,13nm,1.3s
BEL **Belsk** 77.08 327 eP P 10 17 01.7 +1.1
BEL **Belsk** 77.08 327 eP P 10 17 01.7 +1.1
BSD **Bornholm Skovb** 77.11 331 i P P 10 17 00.6 -0.1
comp=E,40nm,0.9s
BSD **Bornholm Skovb** 77.11 331 i P P 10 17 00.6 -0.1
BSD pmax pmax
comp=Z,40nm,0.9s
LAO **LASA Array** 77.19 41 P P 10 17 01.1 -0.3
baz=311
LAO **LASA Array** 77.19 41 eP P 10 17 02.9 +1.5
comp=Z,18nm,1.2s
MPMC **Manual Prospec** 77.21 54 P P 10 17 02.6 +0.6
baz=307
FURC **Furnace Creek,** 77.37 54 P P 10 17 02.8 +0.3
baz=307,SNR=12
KSRV **Kasrt alli** 77.42 305 eP P 10 17 04.5 +1.6
LRMC **Laurel Mtn Rad** 77.43 55 P P 10 17 03.4 +0.3
baz=307
TPNV **Topopah Spring** 77.48 53 P P 10 17 03.4 +0.1
baz=307,SNR=11
TPNV **Topopah Spring** 77.48 53 eP P 10 17 03.6 +0.2
TPNV pmax pmax
comp=Z,11nm,0.9s
TPNV **Topopah Spring** 77.48 53 eP P 10 17 03.6 +0.2
comp=Z,11nm,0.9s
HWUT **Hardware Ranch** 77.49 47 eP P 10 17 05.0 +1.6
comp=Z,11nm,1.1s
ILGA **Ilgaz** 77.54 312 eP P 10 17 04.8 +1.1
comp=Z,24nm,0.9s
EDW2 **Edwards Air Fo** 77.58 56 P P 10 17 04.4 +0.6
baz=307,SNR=6.2
COP **Copenhagen** 77.60 333 i P P 10 17 03.5 +0.1
comp=Z,33nm,0.8s
COP **Copenhagen** 77.60 333 eP P 10 17 03.5 +0.1
COP pmax pmax
comp=Z,33nm,0.8s
DUG **Dugway, Tooele** 77.63 49 P P 10 17 04.6 +0.4
baz=308
DUG **Dugway, Tooele** 77.63 49 eP P 10 17 05.9 +1.8
DUG pmax pmax
comp=Z,10.0nm,1.0s
DUG **Dugway, Tooele** 77.63 49 eP P 10 17 05.9 +1.8
comp=Z,9.8nm,1.0s
KWP **Kalwaria Pacla** 77.75 324 eP P 10 17 04.2 -0.3
KWP **Kalwaria Pacla** 77.75 324 eP P 10 17 04.2 -0.3
BUR08 **Bucovina Ar. S** 77.91 321 eP P 10 17 04.7 -0.8
BW06 **Boulder Array** 77.91 45 P P 10 17 05.7 -0.1
baz=310
BW06 **Boulder Array** 77.91 45 eP P 10 17 06.3 +0.5
BW06 eP pP 10 17 06.6 -3.2
PD31 **Pinedale Array** 77.91 45 eP P 10 17 06.7 +0.9
PDAR **Pinedale Array** 77.91 45 P P 10 17 05.6 -0.2
comp=Z,2.2nm,0.8s,baz=263,slow=1.8,SNR=20
BURAR **Bucovina Array** 77.92 321 ⇓ iP P 10 17 05.3 -0.3
BURAR **Bucovina Array** 77.92 321 ⇓P P 10 17 05.3 -0.3
TESR **Tescani** 77.94 320 ⇓ iP P 10 17 05.2 -0.3
CFR **Carcaliu** 78.04 318 ⇓ iP P 10 17 07.0 +0.9
CFR **Carcaliu** 78.04 318 ⇓P P 10 17 07.0 +0.9
SHOC **Shoshone, Teco** 78.09 54 P P 10 17 06.7 +0.1
baz=308
GSC **Goldstone, Bar** 78.11 55 P P 10 17 07.1 +0.3
baz=307
GSC **Goldstone, Bar** 78.11 55 eP P 10 17 08.1 +1.3
GSC pmax pmax
comp=Z,14nm,1.5s
GSC **Goldstone, Bar** 78.11 55 eP P 10 17 08.1 +1.3
comp=Z,14nm,1.5s
MUD **Monsted U'grnd** 78.14 335 i P P 10 17 05.9 -0.5
comp=Z,33nm,1.2s
MUD **Monsted U'grnd** 78.14 335 eP P 10 17 05.9 -0.5
MUD pmax pmax
comp=Z,33nm,1.2s
BFSC **Mount Baldy Ra** 78.19 56 P P 10 17 07.3 0.0
baz=307
JLU **Jordanelle** 78.19 48 eP P 10 17 08.8 +1.5
comp=Z,6.7nm,1.1s
NLU **North Lily Min** 78.22 49 eP P 10 17 09.1 +1.6
comp=Z,5.9nm,1.0s
VRI **Vrincioaia** 78.33 319 ⇓ iP P 10 17 09.1 +1.4
VRI **Vrincioaia** 78.33 319 ⇓P P 10 17 09.1 +1.4
PLOR **Plostina** 78.38 319 ⇑ iP P 10 17 08.6 +0.6
PLOR **Plostina** 78.38 319 ⇑P P 10 17 08.6 +0.6
BR101 **Keskin Array S** 78.42 311 eP P 10 17 08.1 -0.4
BR101 ePP PP 10 20 06.5 +1.2
BR131 **Keskin Array S** 78.42 311 eP P 10 17 09.0 +0.5
BRTR **Keskin Array B** 78.42 311 P P 10 17 08.1 -0.4
comp=Z,5.9nm,0.8s,baz=94,slow=5.0,SNR=23
BRTR PP PP 10 20 06.5 +1.2
comp=Z,1.3nm,0.9s,baz=54,slow=7.3,SNR=3.5
BRTR LR LR 10 56 32.8
comp=Z,171nm,18.0s,baz=45,slow=39
SHPR **Sheep Range** 78.44 53 eP P 10 17 09.4 +0.7
comp=Z,13nm,1.3s
MPU **Maple Canyon** 78.45 48 eP P 10 17 09.8 +1.0
comp=Z,14nm,1.3s
DRWC **Darouich** 78.46 307 eP P 10 17 08.6 -0.2
TLB **Topalu** 78.48 318 ⇓ iP P 10 17 08.6 0.0
TLB **Topalu** 78.48 318 ⇓P P 10 17 08.6 0.0
STHS **Stebnicka Huta** 78.58 325 eP P 10 17 10.1 +1.0
STHS pmax pmax
comp=Z,16nm,1.0s
STHS **Stebnicka Huta** 78.58 325 eP P 10 17 10.1 +1.0
TUQ **Turquoise Moun** 78.60 54 P P 10 17 09.7 +0.1
baz=308,SNR=6.5
UZH **Uzhgorod** 78.64 324 eP P 10 17 06.4 -3.0
UZH i 10 17 10.6
UZH e 10 17 14.8
UZH e 10 17 23.6
OJC **Ojcow** 78.67 326 eP P 10 17 09.3 -0.2
OJC **Ojcow** 78.67 326 eP P 10 17 08.9 -0.7
OJC pmax pmax
comp=Z,51nm,1.1s
OJC **Ojcow** 78.67 326 eP P 10 17 08.9 -0.7
comp=Z,51nm,1.1s
HEC **Hector,Ludlow** 78.70 55 P P 10 17 10.3 +0.2
baz=308,SNR=5.2
ARCR **ARCALIA** 78.71 321 ⇑ iP P 10 17 10.4 +0.6
CRVS **Cervenica-Dubn** 78.85 324 eP P 10 17 11.7 +1.1
CRVS **Cervenica-Dubn** 78.85 324 eP P 10 17 11.7 +1.1
BR231 **Keskin MP Arra** 78.86 312 eP P 10 17 08.9 -2.0
ISR **Istrita** 78.92 319 ⇓ iP P 10 17 10.6 -0.5
ISR **Istrita** 78.92 319 ⇓P P 10 17 10.6 -0.5
CCUT **Cedar City** 78.93 51 eP P 10 17 12.7 +1.2
comp=Z,8.4nm,1.3s
DOPR **Dopca** 78.95 320 ⇓ iP P 10 17 12.2 +1.0
MLR **Muntele Rosu** 78.98 319 LR LR 10 55 17.1
comp=Z,312nm,18.6s,baz=57,slow=38
MLR **Muntele Rosu** 78.98 319 eP P 10 17 12.2 +0.7
MLR pmax pmax
comp=Z,41nm,1.7s
MLR **Muntele Rosu** 78.98 319 eP P 10 17 12.2 +0.7
comp=Z,41nm,1.7s
NIE **Niedzica** 79.02 325 eP P 10 17 11.0 -0.5
NIE **Niedzica** 79.02 325 eP P 10 17 11.0 -0.5
MSU **Marysvale** 79.06 50 eP P 10 17 13.0 +0.8
MSU **Marysvale** 79.06 50 eP P 10 17 13.0 +0.8
SZCU **Shurtz Canyon** 79.07 51 eP P 10 17 13.4 +1.1
comp=Z,15nm,1.7s
GMRC **Granite Mounta** 79.17 55 P P 10 17 12.9 +0.2
baz=308
P17A **Butcher Ranch,** 79.32 48 eP P 10 17 14.2 +0.7
comp=Z,15nm,1.1s
LCMT **Little Creek M** 79.34 52 eP P 10 17 14.5 +0.9
LDFC **Landfair** 79.35 54 eP P 10 17 14.6 +0.9
comp=Z,14nm,1.2s
PFO **Pinyon Flats O** 79.36 56 P P 10 17 13.6 -0.1
baz=308
PFO **Pinyon Flats O** 79.36 56 eP P 10 17 14.9 +1.1
PFO pmax pmax
comp=Z,22nm,1.5s
PFO **Pinyon Flats O** 79.36 56 eP P 10 17 14.9 +1.1
comp=Z,22nm,1.5s
ARNB **Al Arnab** 79.37 307 eP P 10 17 14.4 +0.6
BELC **Belle Mtn. Jos** 79.43 55 P P 10 17 14.2 +0.1
baz=308

VOIR 79.48 320 ⇓ iP P 10 17 15.3 +1.1
VOIR 79.48 320 ⇓P P 10 17 15.3 +1.1
P18A **Preston Nutter** 79.52 48 eP P 10 17 16.7 +1.9
comp=Z,9.9nm,1.0s
LANS **Liptovska Anna** 79.59 325 eP P 10 17 16.1 +1.5
LANS **Liptovska Anna** 79.59 325 eP P 10 17 16.1 +1.5
KECS **Kecovo** 79.60 324 eP P 10 17 14.6 -0.1
KECS pmax pmax
comp=Z,4.0nm,0.9s
KECS **Kecovo** 79.60 324 eP P 10 17 14.6 -0.1
KNB **Kanab** 79.60 51 eP P 10 17 16.5 +1.4
KNB pmax pmax
comp=Z,60nm,1.9s
KNB **Kanab** 79.60 51 eP P 10 17 16.5 +1.4
comp=Z,60nm,1.9s
ULM **Lac du Bonnet** 79.66 33 P P 10 17 14.7 -0.2
comp=Z,3.5nm,0.7s,baz=329,slow=7.3,SNR=4.2
ULM LR LR 10 55 24.0
comp=Z,111nm,19.7s,baz=304,slow=38
SRU **San Rafael Swe** 79.68 49 eP P 10 17 16.3 +0.7
SRU pmax pmax
comp=Z,8.0nm,0.9s
SRU **San Rafael Swe** 79.68 49 eP P 10 17 16.3 +0.7
comp=Z,7.9nm,0.9s
OKC **Ostrava-Krasne** 79.69 326 eP P 10 17 16.2 +1.1
OKC AMS AMS 10 55 20.0
comp=Z,700nm,16.1s
OKC **Ostrava-Krasne** 79.69 326 eP P 10 17 16.2 +1.1
OKC MLR MLR
comp=Z,700nm,16.1s
K22A **Casper** 79.69 44 P P 10 17 15.5 0.0
baz=312
K22A **Casper** 79.69 44 eP P 10 17 17.2 +1.8
comp=Z,17nm,1.3s
DRGR 79.73 322 ⇑ iP P 10 17 15.9 +0.4
DRGR 79.73 322 ⇑P P 10 17 15.9 +0.4
ARR **Arges** 79.75 320 ⇑ iP P 10 17 15.9 +0.3
KSP **Ksiaz** 79.75 328 eP P 10 17 16.4 +1.0
KSP **Ksiaz** 79.75 328 eP P 10 17 16.4 +1.0
BAR **Barrett** 79.78 57 eP P 10 17 16.8 +0.8
comp=Z,8.0nm,1.2s
MONP **Monument Peak,** 79.82 56 P P 10 17 16.7 +0.3
baz=308
IRM **Iron Mountain** 79.89 55 P P 10 17 16.6 +0.1
baz=308
BC3 **Big Chuckawall** 80.00 55 P P 10 17 16.7 -0.5
baz=308
MORC **Moravsky Berou** 80.00 327 ⇓ iP P 10 17 17.0 +0.2
MORC **Moravsky Berou** 80.00 327 eP P 10 17 16.2 -0.6
MORC pmax pmax
comp=Z,87nm,0.9s
MORC **Moravsky Berou** 80.00 327 eP P 10 17 16.2 -0.6
comp=Z,87nm,0.9s
RSSD **Black Hills** 80.05 41 P P 10 17 16.8 -0.7
baz=313
DPC **Dobruska-Polom** 80.10 328 eP P 10 17 17.5 +0.1
DPC eS S 10 27 22.4 +0.8
DPC **Dobruska-Polom** 80.10 328 eP P 10 17 17.5 +0.1
DPC eS S 10 27 22.4 +0.8
KRLC **Kraliky** 80.11 327 eP P 10 17 16.6 -0.8
KRLC **Kraliky** 80.11 327 eP P 10 17 16.6 -0.8
UPC **Upice** 80.12 328 eP P 10 17 17.8 +0.4
UPC eS S 10 27 24.3 +2.7
UPC AMS AMS 10 55 50.0
comp=Z,900nm,16.0s
UPC **Upice** 80.12 328 eP P 10 17 17.8 +0.4
UPC eS S 10 27 24.3 +2.7
UPC MLR MLR
comp=Z,900nm,16.0s
MARH **Ras Al Marh** 80.18 305 eP P 10 17 18.9 +0.5
IKP **In-Ko-Pah, Jac** 80.18 57 P P 10 17 19.0 +0.8
baz=308
B31A **Greenbush Farm** 80.19 35 P P 10 17 17.3 -0.5
baz=316
PSZ **Piszkesteto** 80.28 324 ⇑ iP P 10 17 18.7 +0.3
PSZ **Piszkesteto** 80.28 324 eP P 10 17 18.5 0.0
PSZ pmax pmax
comp=Z,24nm,1.0s
PSZ **Piszkesteto** 80.28 324 eP P 10 17 18.5 0.0
comp=Z,24nm,1.0s
U15A **North Rim** 80.30 52 eP P 10 17 19.7 +0.7
comp=Z,42nm,1.9s
VYHS **Vyhne** 80.35 325 eP P 10 17 18.6 -0.2
VYHS pmax pmax
comp=Z,10.0nm,1.2s
VYHS **Vyhne** 80.35 325 eP P 10 17 18.6 -0.2
A32A **Rocking H Ranc** 80.36 34 P P 10 17 18.1 -0.7
baz=317
O20A **White River Ci** 80.37 47 P P 10 17 19.6 +0.4
baz=311
O20A **White River Ci** 80.37 47 eP P 10 17 20.6 +1.4
comp=Z,9.4nm,0.9s
PDMCI **Parker Dam,Lak** 80.45 54 P P 10 17 19.9 +0.4
baz=309
Y12C **Blythe** 80.55 55 P P 10 17 20.7 +0.6
baz=309
Y12C **Blythe** 80.55 55 eP P 10 17 21.4 +1.4
comp=Z,28nm,1.7s
C31A **Landman Farms,** 80.61 36 P P 10 17 20.1 0.0
baz=316
TOTH **TOTAH** 80.62 305 eP P 10 17 15.9 -4.6
GZR **Gura Zlata** 80.67 321 ⇑ iP P 10 17 19.8 -0.8
GZR **Gura Zlata** 80.67 321 ⇑P P 10 17 19.8 -0.8
BRG **Berggiesshubel** 80.70 329 i P P 10 17 20.2 -0.4
comp=Z,24nm,0.9s
comp=Z,1μm,14.9s
comp=N,820nm,17.5s
comp=E,878nm,17.5s
BRG **Berggiesshubel** 80.70 329 i P P 10 17 20.2 -0.4
BRG pmax pmax
comp=Z,24nm,0.9s
BRG MLR MLR
comp=Z,1μm,14.9s
BRG MLR MLR
comp=N,820nm,17.5s
BRG MLR MLR
comp=E,878nm,17.5s
PVCC **Panska Ves** 80.71 329 eP P 10 17 20.4 -0.2
PVCC eS S 10 27 28.0 +0.2
PVCC AMS AMS 10 56 00.0
comp=E,900nm,15.1s
PVCC **Panska Ves** 80.71 329 eP P 10 17 20.4 -0.2
PVCC eS S 10 27 28.0 +0.2
PVCC MLR MLR
comp=Z,900nm,15.1s
B32A **Ashes, Strandq** 80.72 35 P P 10 17 20.6 -0.1
baz=317,SNR=7.2
CLL **Collm** 80.75 330 eP P 10 17 20.0 -0.8
CLL eS S 10 27 21.0 -7.2
CLL pmax pmax
comp=Z,37nm,0.9s
CLL **Collm** 80.75 330 eP P 10 17 20.0 -0.8
comp=Z,37nm,0.9s
CLL ePP PP 10 20 21.0 -3.1
CLL ePPPP 10 23 24.0
CLL eS S 10 27 24.0 -4.2
CLL eSS SS 10 32 48.0 +7.8
CLL eSSS SSS 10 36 12.0
CLL LmH 10 55 00.0
comp=N,300nm,20.8s
CLL LmH 10 55 00.0
comp=E,800nm,21.1s
CLL **Collm** 80.75 330 eP P 10 17 19.6 -1.2
comp=E,49nm,1.1s
VRAC **Vranov** 80.76 327 LR LR 10 56 47.0
comp=E,878nm,18.4s,baz=33,slow=38
GLA **Glamis** 80.78 56 P P 10 17 21.8 +0.4
baz=309
GLA **Glamis** 80.78 56 eP P 10 17 23.8 +2.4
GLA pmax pmax
comp=Z,16nm,1.3s
GLA **Glamis** 80.78 56 eP P 10 17 23.8 +2.4
comp=Z,16nm,1.3s
A33A **Warroad** 80.84 34 P P 10 17 21.0 -0.3
baz=318
PV09 **Paradox Valley** 80.91 48 eP P 10 17 24.0 +1.7
SMOL **Smolenice** 80.98 326 P P 10 17 24.5 +2.4
PV10 **Paradox Valley** 81.04 48 eP P 10 17 24.1 +1.1
ASF **Jabal al Asfar** 81.05 304 LR LR 10 57 09.7
comp=Z,168nm,18.9s,slow=38
GOPC **GO Pecny, Ondr** 81.08 328 eP P 10 17 22.8 +0.2
GOPC eS S 10 27 32.9 +1.1
GOPC AMS AMS 10 56 20.0
comp=Z,1μm,17.6s
GOPC **GO Pecny, Ondr** 81.08 328 eP P 10 17 22.8 +0.2

GOPC eS S 10 27 32.9 +1.1
GOPC MLR MLR
comp=Z,1μm,17.6s
BZS **Buzias** 81.09 322 ⇑ iP P 10 17 23.4 +0.7
BZS **Buzias** 81.09 322 ⇑P P 10 17 23.4 +0.7
AGMN **Agassiz Nation** 81.10 34 P P 10 17 21.7 -1.0
baz=318
AGMN **Agassiz Nation** 81.10 34 eP P 10 17 22.9 +0.2
comp=Z,8.1nm,1.0s
PV04 **Paradox Valley** 81.11 48 eP P 10 17 23.4 +0.1
PRA **Prague** 81.11 328 eP P 10 17 22.1 -0.6
PRA AMS AMS 10 56 20.0
comp=Z,1μm,16.7s
PRA **Prague** 81.11 328 eP P 10 17 22.1 -0.6
PRA MLR MLR
comp=Z,1μm,16.7s
PRU **Pruhonice** 81.13 328 eP P 10 17 22.8 0.0
PRU eS S 10 27 32.9 +0.7
PRU AMS AMS 10 56 20.0
comp=Z,800nm,16.6s
PRU **Pruhonice** 81.13 328 eP P 10 17 22.8 0.0
PRU eS S 10 27 32.9 +0.7
PRU MLR MLR
comp=Z,800nm,16.6s
N23A **Red Feather La** 81.18 45 P P 10 17 24.1 +0.4
baz=312
N23A **Red Feather La** 81.18 45 eP P 10 17 24.9 +1.3
comp=Z,13nm,1.1s
PV05 **Paradox Valley** 81.20 49 eP P 10 17 25.1 +1.4
TREC **Trest** 81.25 327 eP P 10 17 23.0 -0.5
TREC AMS AMS 10 56 30.0
comp=Z,800nm,19.0s
TREC **Trest** 81.25 327 eP P 10 17 23.0 -0.5
TREC MLR MLR
comp=Z,800nm,19.0s
Y14A **Wickenburg** 81.42 54 eP P 10 17 25.7 +0.9
comp=Z,41nm,1.3s
E31A **Nome** 81.43 37 P P 10 17 24.4 -0.2
baz=316
WUAZ **Wupatki** 81.45 52 P P 10 17 25.9 +0.8
baz=310,SNR=6.3
WUAZ **Wupatki** 81.45 52 eP P 10 17 26.4 +1.3
comp=Z,12nm,1.1s
PV01 **Paradox Valley** 81.48 48 eP P 10 17 26.3 +1.1
B34A **Aery, Baudette** 81.50 34 P P 10 17 24.9 +0.1
baz=318
MMAI **Mount Meron Ar** 81.51 305 LR LR 10 56 54.2
comp=Z,356nm,21.5s,baz=310,slow=38
MDVR **Moldovita** 81.64 321 ⇑ iP P 10 17 24.7 -1.0
113A **Mohawk Valley,** 81.65 55 eP P 10 17 27.1 +1.1
comp=Z,5.7nm,1.1s
SMCO **Snowmass** 81.73 47 eP P 10 17 27.6 +0.8
comp=Z,6.0nm,1.1s
F31A **Hecla** 81.76 37 P P 10 17 26.5 +0.2
baz=316
NKC **Novy Kostel** 81.81 329 eP P 10 17 27.0 +0.5
NKC AMS AMS 10 57 10.0
comp=Z,1μm,17.0s
NKC **Novy Kostel** 81.81 329 eP P 10 17 27.0 +0.5
NKC MLR MLR
comp=Z,1μm,17.0s
D33A **AnnSam, Waubun** 81.96 35 P P 10 17 27.1 -0.2
baz=318
B35A **Bob, Littlefor** 82.00 33 P P 10 17 27.1 -0.5
baz=319
ISCO **Idaho Springs** 82.10 45 P P 10 17 28.2 -0.4
baz=312
ISCO **Idaho Springs** 82.10 45 eP P 10 17 29.5 +0.9
ISCO pmax pmax
comp=Z,14nm,1.6s
ISCO **Idaho Springs** 82.10 45 eP P 10 17 29.5 +0.9
comp=Z,14nm,1.6s
X16A **Lo Mia Camp, P** 82.11 53 eP P 10 17 29.9 +1.4
CONA **Conrad Observa** 82.11 326 i PcP P 10 17 29.9 +1.7
comp=Z,18nm,1.1s,SNR=7.6
MVCO **Mesa Verde** 82.13 49 P P 10 17 29.2 +0.5
baz=311,SNR=6.3
MVCO **Mesa Verde** 82.13 49 eP P 10 17 30.1 +1.4
comp=Z,31nm,1.8s
KHC **Kasperske Hory** 82.19 328 eP P 10 17 27.6 -0.9
KHC eS S 10 27 42.6 -0.7
KHC AMS AMS 10 57 40.0
comp=Z,1μm,15.4s
KHC **Kasperske Hory** 82.19 328 eP P 10 17 27.6 -0.9
KHC eS S 10 27 42.6 -0.7
KHC MLR MLR
comp=Z,1μm,15.4s
KHC **Kasperske Hory** 82.19 328 eP P 10 17 27.8 -0.7
comp=Z,8.6nm,0.8s
G31A **Conde** 82.24 38 P P 10 17 29.3 +0.5
baz=316
GEC2 **GERESS Array S** 82.36 328 eP P 10 17 29.7 +0.2
GEC2 pmax pmax
comp=Z,11nm,0.8s
GEC2 **GERESS Array S** 82.36 328 eP P 10 17 29.7 +0.2
comp=Z,11nm,0.8s
GERES **GERESS Array B** 82.36 328 P P 10 17 28.9 -0.6
comp=Z,8.1nm,0.7s,baz=44,slow=5.9,SNR=38
GERES LR LR 10 58 02.2
comp=Z,766nm,18.3s,baz=30,slow=39
GEA0 **GERESS Array S** 82.36 328 eP P 10 17 28.2 -1.3
C35A **Jirik Farms, M** 82.39 34 P P 10 17 29.3 -0.2
baz=319
VTS **Vitosha** 82.41 319 ⇓ iP P 10 17 29.8 -0.2
VTS **Vitosha** 82.41 319 eP P 10 17 29.7 -0.2
VTS pmax pmax
comp=Z,12nm,0.7s
VTS **Vitosha** 82.41 319 eP P 10 17 29.7 -0.2
comp=Z,12nm,0.7s
G32A **Webster** 82.56 37 P P 10 17 30.7 +0.2
baz=317
F33A **5 Mile Ranch,** 82.71 36 P P 10 17 31.6 +0.3
baz=318
S22A **4UR Ranch, Cre** 82.77 48 P P 10 17 32.6 +0.5
baz=312,SNR=8.5
S22A **4UR Ranch, Cre** 82.77 48 eP P 10 17 33.5 +1.4
comp=Z,9.2nm,1.3s
ARSA **Arzberg** 82.78 326 i P P 10 17 31.3 -0.3
comp=Z,12nm,1.2s
214A **Organ Pipe Nat** 82.79 55 P P 10 17 32.4 +0.4
baz=310
D35A **Remer** 82.82 34 P P 10 17 32.0 +0.2
baz=319
C36A **Pine Crest Far** 82.85 33 P P 10 17 32.0 0.0
baz=320
EKA **Eskdalemuir Ar** 82.86 340 LR LR 10 58 16.6
comp=Z,493nm,18.3s,baz=20,slow=38
MOA **Molln** 82.88 327 i P P 10 17 32.9 +0.8
comp=Z,16nm,1.3s,SNR=5.8
X18A **Snowflake** 82.98 52 eP P 10 17 35.1 +2.0
comp=Z,12nm,1.4s
G33A **Ortonville** 83.12 37 P P 10 17 33.6 +0.2
baz=318
D36A **Goodland** 83.15 34 P P 10 17 33.0 -0.5
baz=320
C37A **Embarrass** 83.16 33 P P 10 17 32.4 -1.1
baz=320
F34A **Alexandria** 83.23 36 P P 10 17 33.9 -0.1
baz=318
EYMN **Ely** 83.28 32 P P 10 17 34.1 -0.1
baz=321
EYMN **Ely** 83.28 32 eP P 10 17 34.5 +0.3
comp=Z,8.4nm,0.9s
H33A **Prehn Over Nor** 83.35 37 P P 10 17 34.7 +0.1
baz=317,SNR=8.1
GROS **Grobnik** 83.38 325 eP P 10 17 34.8 0.0
SOKA **Soboth** 83.43 326 i P P 10 17 34.8 -0.2
comp=Z,37nm,0.9s,SNR=12
G34A **Benson** 83.46 36 P P 10 17 35.5 +0.3
baz=318
D37A **Cotton** 83.49 33 P P 10 17 36.1 +0.9
baz=320
SDCO **Great Sand Dun** 83.55 47 P P 10 17 36.4 +0.3
baz=313
SDCO **Great Sand Dun** 83.55 47 eP P 10 17 37.9 +1.8
comp=Z,13nm,1.7s
C38A **Sawbill Land.** 83.56 32 P P 10 17 35.4 -0.2
baz=321
E36A **McGregor** 83.61 34 P P 10 17 35.9 0.0
baz=320
OBKA **Obir** 83.77 326 i PcP P 10 17 37.3 +0.5
comp=Z,8.8nm,1.1s
K31A **O'Neill** 83.84 40 P P 10 17 37.9 +0.7
baz=316
KBA **Koelnbreinsper** 83.87 327 i PcP P 10 17 38.5 +1.1
comp=Z,19nm,0.9s,SNR=6.8
TUC **Tucson** 83.89 54 P P 10 17 37.9 +0.2

baz=310
TUC Tucson 83.89 54 *e*P P 10 17 39.1 +1.4
TUC pmax pmax
comp=Z,9.0nm,1.4s
TUC Tucson 83.89 54 *e*P P 10 17 39.1 +1.4
comp=Z,8.8nm,1.4s
PDKS Podkum 83.91 325 *e*P P 10 17 37.5 0.0
F36A Milaca 83.98 35 P P 10 17 38.1 +0.3
baz=319
MEM Membach 83.99 333 P P 10 17 38.0 +0.3
comp=Z,9.0nm,1.0s
MYKA Terra Mystica 84.08 326 *i* P P 10 17 37.8 -0.6
comp=Z,9.6nm,0.8s
ECSD EROS Data Cent 84.11 38 P P 10 17 38.6 +0.1
baz=318,SNR=7.0
ECSD EROS Data Cent 84.11 38 *e*P P 10 17 39.0 +0.5
comp=Z,12nm,1.1s
H35A Sunnyside Ranc 84.25 36 P P 10 17 39.6 +0.4
baz=319
STU Stuttgart 84.27 330 *e*P P 10 17 39.3 +0.1
STU pmax pmax
comp=Z,38nm,0.9s
STU Stuttgart 84.27 330 *e*P P 10 17 39.3 +0.1
comp=Z,38nm,0.9s
E38A The Farm, Brul 84.29 33 P P 10 17 39.6 +0.3
baz=321
BCLA Clavier 84.40 333 P P 10 17 40.3 +0.5
CEY Cerknica 84.42 326 *i* P P 10 17 39.9 -0.2
WTTA Wattenberg 84.46 328 *i* P P 10 17 39.6 -0.8
comp=Z,4.5nm,0.6s
ABTA Abfaltersbach 84.49 327 *i* P P 10 17 39.5 -0.9
comp=Z,13nm,1.0s
T25A Trinidad 84.60 47 P P 10 17 41.6 +0.2
baz=313,SNR=5.9
T25A Trinidad 84.60 47 *e*P P 10 17 42.0 +0.6
comp=Z,20nm,1.4s
MOTA Moosalm 84.62 328 *i* P P 10 17 40.8 -0.4
comp=Z,11nm,0.8s
F38A Pierce - Schro 84.65 34 P P 10 17 41.0 -0.2
baz=320,SNR=10
RETA Reutte 84.65 329 *i* P P 10 17 40.8 -0.5
comp=Z,21nm,0.7s,SNR=10
PMOR Pomariorio Ree 84.66 113 *e*T T 11 50 48.0
comp=Z,22nm,0.2s
SNF Seneffe 84.69 334 P P 10 17 41.8 +0.6
WLF Walferdange 84.71 332 P P 10 17 42.4 +0.9
comp=Z,16nm,2.0s
OHR Ohrid 84.73 319 P P 10 17 42.6 +0.8
H36A Jessenland, He 84.77 36 P P 10 17 42.0 +0.2
baz=319
GIVF Givet 84.83 333 *e*P P 10 17 42.0 0.0
GIVF pmax pmax
comp=Z,16nm,1.0s
ANMO Albuquerque 84.86 50 P P 10 17 43.2 +0.4
baz=312
ANMO Albuquerque 84.86 50⇑ *e*P P 10 17 43.3 +0.6
ANMO pmax pmax
comp=Z,9.0nm,1.2s
ANMO Albuquerque 84.86 50 *e*P P 10 17 42.9 +0.1
comp=Z,10nm,1.3s
E39A Mellen 84.91 33 P P 10 17 42.0 -0.5
baz=321
DOU Dourbes 84.92 333 P P 10 17 42.7 +0.2
comp=Z,9.7nm,1.7s
BFO Black Forest 84.96 330 *e*P P 10 17 41.6 -1.2
BFO pmax pmax
comp=Z,29nm,0.8s
BFO Black Forest 84.96 330 *e*P P 10 17 41.6 -1.2
comp=Z,29nm,0.8s
FETA Feichten 85.03 328 *i* P P 10 17 42.6 -0.7
comp=Z,15nm,0.8s,SNR=8.6
F39A Loretta 85.11 33 P P 10 17 43.6 +0.1
baz=321
PPT Papeete 85.11 116 LR LR 10 48 56.6
comp=Z,258nm,20.7s,baz=316,slow=31
PPT2 Papeete2 85.12 116 *e*S S 10 28 10.1 -3.6
comp=Z,250nm,30.0s
PPT2 Papeete2 85.12 116 *e*LR LR 10 44 17.6
comp=Z,786nm,28.0s,baz=310
PPT2 Papeete2 85.12 116 *e*T T 11 51 22.6
comp=Z,4.0nm,0.3s
E40A Wakefield 85.14 32 P P 10 17 43.5 -0.1
baz=322,SNR=6.6
PAE Paea 85.17 116 *e*T T 11 51 24.0
comp=Z,0.8nm,0.3s
DAVA Damuels 85.17 329 *i* P P 10 17 43.4 -0.7
comp=Z,34nm,0.8s,SNR=8.7
H37A Dierke Farm, C 85.23 35 P P 10 17 43.8 -0.3
baz=320
G38A Ridgeland 85.27 34 P P 10 17 43.7 -0.6
baz=321
SCHQ Schefferville 85.34 16 P P 10 17 44.4 -0.1
comp=Z,9.0nm,0.8s,baz=263,slow=4.9,SNR=6.1
SCHQ LR LR 10 58 38.5
comp=Z,130nm,18.4s,baz=324,slow=38
SCHQ Schefferville 85.34 16 *e*P P 10 17 44.4 -0.1
comp=Z,15nm,1.0s
I37A Lemond, Waseca 85.44 36 P P 10 17 45.1 -0.1
baz=320,SNR=6.6
F40A Park Falls 85.45 33 P P 10 17 45.0 -0.3
baz=322
319A Douglas 85.46 54 *e*P P 10 17 46.9 +1.2
comp=Z,18nm,1.4s
G39A Holcombe 85.48 34 P P 10 17 44.9 -0.5
baz=321
J36A Seneca 1, Swea 85.51 37 P P 10 17 45.5 -0.1
baz=319
ECH Echery 85.52 331 *e*P P 10 17 45.1 -0.4
E41A Kenton 85.52 32 P P 10 17 45.5 -0.1
baz=322
L34A Svendsen Farm, 85.53 39 P P 10 17 45.0 -0.7
baz=318
FUORN Ofenpass-Fuorn 85.55 328 *e*P P 10 17 45.4 -0.6
comp=Z,29nm,0.8s
DAVOX Davos/Dischmat 85.58 329 LR LR 10 59 22.1
comp=Z,754nm,18.9s,baz=9.0,slow=38
121A Cookes Peak, D 85.65 52 P P 10 17 46.6 -0.1
baz=312
121A Cookes Peak, D 85.65 52 *e*P P 10 17 47.0 +0.3
comp=Z,19nm,1.5s
MOF Molkenrain 85.82 331 *e*P P 10 17 46.4 -0.7
J37A Redenius Farm, 85.90 37 P P 10 17 47.9 +0.4
baz=320
H39A Augusta 85.90 34 P P 10 17 47.1 -0.4
baz=321
I38A Scanlan Farm, 85.92 35 P P 10 17 47.9 +0.3
baz=320
G40A Rib Lake 85.93 33 P P 10 17 47.8 +0.2
baz=322
THEF They Montfort 85.95 332 *e*P P 10 17 47.2 -0.5
HINF Hinteralfeld 85.96 331 *e*P P 10 17 46.8 -1.0
HINF pmax pmax
comp=Z,10.0nm,0.8s
E42A Champion 85.99 31 P P 10 17 48.5 +0.6
baz=323
F41A Three Lakes 86.03 32 P P 10 17 46.1 -2.1
baz=322
TUE Stuetta 86.05 329 *e*P P 10 17 47.6 -0.9
comp=Z,25nm,1.2s
CBKS Cedar Bluff 86.06 43 P P 10 17 48.8 +0.3
baz=316
M35A Neola 86.24 39 P P 10 17 49.7 +0.5
baz=318
K37A Belmond 86.27 37 P P 10 17 49.4 0.0
baz=320
H40A Chili 86.35 34 P P 10 17 49.7 0.0
baz=322
LOMF Lomont 86.35 331 *e*P P 10 17 49.5 -0.3
J38A Wedel Dairy, R 86.41 36 P P 10 17 49.6 -0.4
baz=320
E43A Lone Tree Farm 86.41 31 P P 10 17 49.9 -0.1
baz=324
G41A Antigo 86.42 33 P P 10 17 50.0 0.0
baz=322
I39A Houston 86.43 35 P P 10 17 50.4 +0.2
baz=321
H41A Junction City 86.68 33 P P 10 17 51.7 +0.4
baz=322
O34A Beatrice 86.68 40 P P 10 17 51.5 +0.1
baz=318
M36A Felix, Anita 86.70 38 P P 10 17 51.9 +0.4
baz=319
N35A Tabor 86.72 39 P P 10 17 51.8 +0.2
baz=318
J39A Decorah 86.75 35 P P 10 17 50.8 -0.9
baz=321
F43A Flat Rock, Esc 86.78 31 P P 10 17 51.5 -0.3
baz=324

I40A Norwalk 86.82 34 P P 10 17 52.1 +0.1
baz=322
SENIN Lac Senin/Sane 86.97 330 *e*P P 10 17 52.8 -0.2
comp=Z,17nm,1.4s
F44A Big Bay de Noc 86.97 31 P P 10 17 52.8 +0.1
baz=324
G43A Wallace 87.02 32 P P 10 17 53.0 +0.1
baz=323
M37A Trindle Farm, 87.10 38 P P 10 17 53.3 -0.2
baz=319
K39A Oelwein 87.15 36 P P 10 17 53.6 -0.1
baz=321
CABF La Chapelle 87.25 331 *e*P P
CABF pmax pmax 10 17 54.2 0.0
comp=Z,4.0nm,0.7s
J41A Loganville 87.50 34 P P 10 17 54.3 -1.0
baz=322
K40A Coleburg 87.51 36 P P 10 17 55.1 -0.2
baz=321
M38A Pleasantville 87.51 38 P P 10 17 55.4 -0.1
baz=320
N37A Lee Faris, Mou 87.52 39 P P 10 17 55.8 +0.3
baz=319
P35A Duane Minner, 87.52 40 P P 10 17 55.2 -0.3
baz=318
L39A Vinton 87.55 36 P P 10 17 54.9 -0.7
baz=321
LOR Lormes 87.55 332 *e*P P
LOR pmax pmax 10 17 54.9 -0.6
comp=Z,21nm,1.0s
F45A CMU Biological 87.58 31 P P 10 17 55.7 +0.1
baz=325
O36A Bolckow 87.61 39 P P 10 17 56.0 +0.1
baz=319
MNTX Cornudas Mount 87.72 51 P P 10 17 56.9 +0.3
baz=313
MNTX Cornudas Mount 87.72 51 *e*P P 10 17 58.1 +1.4
comp=Z,12nm,1.8s
AMTX Amarillo 87.75 47 *e*P P 10 17 58.0 +1.2
comp=Z,17nm,1.4s
LDF La Druitiere 87.83 335 *e*P P
LDF pmax pmax 10 17 56.1 -0.7
comp=Z,9.0nm,0.8s
SSF Saint Saulge 87.86 332 *e*P P
SSF pmax pmax 10 17 56.5 -0.5
comp=Z,15nm,1.0s
LPL La Plagne 87.89 330 *e*P P
LPL pmax pmax 10 17 57.2 -0.2
comp=Z,7.0nm,0.8s
LPG La Plagne 87.90 330 *e*P P
LPG pmax pmax 10 17 56.8 -0.8
comp=Z,9.0nm,0.7s
L40A Anamosa 87.96 36 P P 10 17 57.4 -0.1
baz=321
M39A Webster 87.96 37 P P 10 17 58.0 +0.4
baz=320
K41A Shullsburg 87.96 35 P P 10 17 57.6 0.0
baz=322
Q35A Mercer Eighty, 88.00 41 P P 10 17 58.0 +0.2
baz=318
SMF Signal de Mont 88.08 332 *e*P P
SMF pmax pmax 10 17 58.4 +0.3
comp=Z,4.0nm,0.8s
AVF Avril sur Loir 88.14 332 *e*P P
AVF pmax pmax 10 17 57.9 -0.4
comp=Z,20nm,0.9s
N39A Derby Farms, D 88.26 37 P P 10 17 59.3 +0.3
baz=320
L41A Preston 88.29 36 P P 10 17 59.2 +0.1
baz=322
P37A Lathrop 88.33 39 P P 10 17 59.2 -0.2
baz=319
M40A Post Highland 88.33 37 P P 10 17 59.1 -0.2
baz=321
VLDQ Val d'Or 88.50 25 *e*P P 10 17 60.0 0.0
comp=Z,15nm,1.0s
P38A Dawn 88.71 39 P P 10 18 01.0 -0.2
baz=320
ORIF Oris-en-Rattie 88.72 330 *e*P P
ORIF pmax pmax 10 18 00.4 -0.8
comp=Z,6.0nm,0.9s
PLDF La Plantade 88.73 332 *e*P P 10 18 00.9 -0.3
T34A McClaskey Farm 88.75 43 P P 10 18 01.4 0.0
baz=318
M41A Milan 88.82 36 P P 10 18 01.9 +0.3
baz=322
SBF Sospel 88.95 328 *e*P P
SBF pmax pmax 10 18 01.8 -0.5
comp=Z,11nm,0.7s
TCF Toulx Ste Croi 88.99 333 *e*P P
TCF pmax pmax 10 18 02.2 -0.2
comp=Z,10.0nm,1.1s
L43A Garden Prairie 89.01 34 P P 10 18 02.6 +0.1
baz=323
ROSF Rostrenen 89.07 337 *e*P P
ROSF pmax pmax 10 18 02.6 -0.1
comp=Z,11nm,0.8s
PYM Petit Puy Mans 89.15 332 *e*P P 10 18 00.3 -2.9
O40A La Belle 89.15 38 P P 10 18 03.7 +0.5
baz=321
T35A Sooner Cattle 89.19 42 P P 10 18 03.9 +0.5
baz=318
VIVF Saint-Julien-l 89.26 330 *e*P P
VIVF pmax pmax 10 18 02.9 -0.8
comp=Z,10.0nm,0.8s
CEL Celeste 89.38 320 *e*P P 10 18 04.8 +0.3
comp=Z,26nm,1.0s
Q39A Willow Grove F 89.43 39 P P 10 18 04.3 -0.2
baz=320
S37A Fort Scott 89.46 41 P P 10 18 04.8 +0.1
baz=319
U35A Pawnee 89.47 43 P P 10 18 05.3 +0.5
baz=318
P40A Paris 89.52 38 P P 10 18 04.9 -0.1
baz=321
WMOK Wichita Mounta 89.53 45 P P 10 18 05.6 +0.5
baz=317
WMOK Wichita Mounta 89.53 45 *e*P P
WMOK pmax pmax 10 18 06.6 +1.5
comp=Z,11nm,1.4s
WMOK Wichita Mounta 89.53 45 *e*P P 10 18 06.6 +1.5
comp=Z,11nm,1.4s
FRF La Foret Royal 89.53 329 *e*P P
FRF pmax pmax 10 18 06.5 +1.6
comp=Z,9.0nm,0.9s
LPIG La Paz 89.53 60 P P 10 18 05.1 -0.2
comp=Z,14nm,0.3s,baz=101,slow=5.3,SNR=4.8
MFF Saint Martin d 89.56 334 *e*P P
MFF pmax pmax 10 18 05.7 +0.7
comp=Z,12nm,0.9s
P41A Barry, Barry 89.89 37 P P 10 18 06.4 -0.2
baz=321
Q40A Laux Farm, Aux 89.92 38 P P 10 18 07.1 +0.3
baz=321
R39A Chumby, Stover 89.96 39 P P 10 18 06.9 -0.1
baz=320
S38A Stockton 90.03 40 P P 10 18 07.2 -0.2
baz=320
RJF Les Rejaudoux 90.08 333 *e*P P
RJF pmax pmax 10 18 07.3 -0.2
comp=Z,9.0nm,0.9s
T38A Diamond 90.28 41 P P 10 18 08.4 -0.2
baz=319
S39A Bolivar 90.29 40 P P 10 18 08.4 -0.2
baz=320
TUL1 Leonard 90.32 43 P P 10 18 09.0 +0.2
baz=318
V36A Jenks 90.33 43 P P 10 18 08.9 +0.1
baz=318
R40A Maddies Statio 90.36 39 P P 10 18 09.0 0.0
baz=320
TX31 Lajitas Ar. Si 90.42 52 *e*P P 10 18 10.4 +1.0
LTX Lajitas 90.42 52 *e*P P 10 18 09.0 -0.5
LTX Lajitas 90.42 52 *e*P P 10 18 08.9 -0.5
TXAR Lajitas Array 90.42 52 P P 10 18 08.9 -0.5
comp=Z,1.7nm,0.7s,baz=297,slow=2.7,SNR=27
TXAR Lajitas Array 90.42 52 P P
TXAR pmax pmax 10 18 09.0 -0.5
comp=Z,2.0nm,0.7s
ABTX Abilene, Hawle 90.55 47 P P 10 18 10.0 0.0
baz=316
ABTX Abilene, Hawle 90.55 47 *e*P P 10 18 11.2 +1.3
comp=Z,7.4nm,1.1s
LFF La Frestale 90.68 333 *e*P P
LFF pmax pmax 10 18 06.9 -3.3
comp=Z,7.0nm,0.6s
U38A Gravette 90.68 41 P P 10 18 10.3 -0.2
baz=319
V37A Hulbert 90.69 42 P P 10 18 10.2 -0.3
baz=319
VAE Valguarnera 90.74 320 LR LR 11 02 27.9
comp=Z,320nm,18.7s,baz=26,slow=38
T39A Clever 90.77 40 P P 10 18 11.0 +0.2
baz=320
S40A Lebanon 90.78 40 P P 10 18 11.0 +0.1
baz=320
R41A Rosebud 90.80 38 P P 10 18 11.1 +0.1
baz=321
X36A Centrahoma 91.01 44 P P 10 18 12.2 +0.2
baz=318
HHAR Hobbs 91.03 41 *e*P P 10 18 13.1 +1.0
comp=Z,9.5nm,1.5s
W37B Quinton 91.09 43 P P 10 18 12.6 +0.2
baz=319
V38A Canehill 91.10 42 P P 10 18 12.5 +0.1
baz=319
U39A Green Forest 91.20 41 P P 10 18 13.0 +0.2
baz=320
233A Rising Star 91.42 47 P P 10 18 14.0 0.0
baz=317
S42A Caledonia 91.50 38 P P 10 18 14.0 -0.3
baz=321
V39A Pettigrew 91.53 41 P P 10 18 13.8 -0.6
baz=320
X37A Clayton 91.54 43 P P 10 18 15.2 +0.7
baz=319
Y36A Durant 91.54 44 P P 10 18 14.8 +0.4
baz=318
U40A Yellville 91.55 41 P P 10 18 14.4 -0.1
baz=320
T41A Mountain View 91.58 39 P P 10 18 15.0 +0.4
baz=321
W38A Poteau 91.64 42 P P 10 18 14.7 -0.2
baz=319
X38A Whitesboro 91.77 43 P P 10 18 15.6 +0.1
baz=319
333A Richland Sprin 91.87 48 P P 10 18 16.6 +0.5
baz=316
Z36A Blue Ridge 91.92 45 P P 10 18 16.5 +0.3
baz=318
JCT Junction City 91.99 49 P P 10 18 16.9 +0.3
baz=316
U41A Viola 92.04 40 P P 10 18 17.0 +0.3
baz=321
433A Art 92.22 48 P P 10 18 17.8 +0.2
baz=316
X39A Fountain Ranch 92.28 43 P P 10 18 18.2 +0.3
baz=319
WHTX Lake Whitney, 92.28 46 P P 10 18 18.4 +0.5
baz=317
T43A Greenville 92.29 39 P P 10 18 17.7 -0.1
baz=322
334A Lometa 92.31 47 P P 10 18 18.6 +0.5
baz=317
V41A Mountainview 92.35 41 P P 10 18 18.6 +0.4
baz=321
MIAR Mount Ida 92.54 42 P P 10 18 19.4 +0.3
baz=320
X40A Basin Creek Fa 92.98 42 P P 10 18 21.4 +0.3
baz=320
633A Saathoff Ranch 93.10 49 P P 10 18 22.7 +0.9
baz=316
534A Blanco 93.11 48 P P 10 18 22.3 +0.5
baz=317
N54A Moraine State 93.73 30 P P 10 18 24.6 +0.1
baz=329
KEST Kesra 94.64 322 P P 10 18 27.9 -0.9
comp=Z,5.3nm,1.0s,baz=303,slow=5.4,SNR=3.5
KEST LR LR 11 04 53.0
comp=Z,345nm,19.5s,baz=330,slow=38
KEST Kesra 94.64 322 *e*P P 10 18 27.9 -0.9
comp=Z,42nm,1.8s
ES19 SONSECA Array 96.92 333 *e*P P 10 18 39.0 -0.1
ESDC Sonseca Array 96.97 333 P P 10 18 38.7 -0.6
comp=Z,0.3nm,0.3s,baz=11,slow=3.2,SNR=6.4
ESDC LR LR 11 06 50.0
comp=Z,405nm,19.5s,baz=35,slow=38
RKT Rikitea 99.24 112 *e*LR LR 10 50 57.7
comp=Z,506nm,25.0s,baz=309
VNDA Vanda 115.14 175 PKP PKPdf 10 23 47.3 -0.2
comp=Z,0.4nm,0.8s,baz=316,slow=5.1,SNR=2.4
TOA1 Torodi Ar. Sit 116.91 314 *e*PKPdf PKPdf 10 23 52.5 -0.3
TOA1 *e*PP PP 10 25 00.2 -0.6
TORD Torodi Ar. Bea 116.91 314 PKP PKPdf 10 23 52.5 -0.3
comp=Z,0.7nm,0.6s,baz=10,slow=1.9,SNR=5.9
TORD PP PP 10 25 00.2 -0.7
comp=Z,2.0nm,1.0s,baz=30,slow=6.2,SNR=6.5
MAW Mawson 119.45 205 PKP PKPdf 10 23 56.1 +0.1
comp=Z,2.2nm,1.0s,baz=72,slow=3.2,SNR=4.1
SDV Santo Domingo 125.53 39 *e*PKPdf PKPdf 10 24 10.1 +0.4
DBIC Dimbokro 125.88 316 PKP PKPdf 10 24 10.2 +0.1
comp=Z,3.7nm,0.7s,baz=43,slow=2.2,SNR=6.3
BOSA Boshof 126.14 259 PKP PKPdf 10 24 10.7 +0.4
comp=Z,3.7nm,0.8s,baz=157,slow=3.7,SNR=4.4
RUSC La Rusia 126.74 44 *e*PKPdf PKPdf 10 24 13.1 +0.7
QSPA South Pole Qui 126.90 180 *e*PKPdf PKPdf 10 24 10.4 -0.1
SAML Samuel 144.49 44 *e*PKPdf PKPbc 10 24 43.3 +0.2
LPAZ La Paz 147.03 59 PKPbc PKPdf 10 24 50.4 +0.8
comp=Z,9.8nm,0.9s,baz=333,slow=2.9,SNR=15
PB11 IPOC Station P 148.28 65 *e*PKPbc PKPbc 10 24 55.4 +1.1
PB01 IPOC Station P 149.20 67 *e*PKPbc PKPbc 10 24 58.8 +2.2
LVC Limon Verde 150.57 69 *e*PKPbc PKPbc 10 25 01.6 +1.4

TRN 29 10:05:23.0, 15°01'N×61°18'W, h149km, MD3.6, 3C-2D, Leeward Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BAMF	**Morne Balai**	**0.19**	**171**	*e*P	Pn	10 05 44.5	+1.2
PCM	**Pelee Case Pet**	**0.19**	**189⇑**	*e*P	Pn	10 05 44.1	+0.8
PCM	**Pelee Case Pet**	**0.19**	**189||**	*e*P	Pn	10 05 44.4	+1.1
CXM	**Morne La Croix**	**0.19**	**177**	*e*P	Pn	10 05 44.5	+1.1
CXM				*e*S	Sn	10 06 00.0	+1.1
GBMF	**Grand Be**	**0.21**	**176**	*e*P	Pn	10 05 44.3	+0.9
PML	**Morne Lenard**	**0.22**	**181**	*e*P	Pn	10 05 45.0	+1.6
FDF	**Fort de France**	**0.27**	**174**	*e*P	Pn	10 05 44.4	+0.9
FDF				*e*S	Sn	10 05 59.9	+0.8
DLPL	**La Plaine**	**0.33**	**349**	*e*P	Pn	10 05 44.5	+0.9
DLPL				*e*S	Sn	10 06 00.3	+0.9
ZAM	**Aeronautique**	**0.46**	**161**	*e*P	Pn	10 05 44.9	+0.8
LPMF	**Morne Lapointe**	**0.48**	**154**	*e*P	Pn	10 05 44.8	+0.6
TRMF	**Trois Ilets**	**0.48**	**165**	*e*P	Pn	10 05 45.2	+1.0
BIM	**Bigot**	**0.50**	**168**	*e*P	Pn	10 05 45.8	+1.4
BIM				*e*S	Sn	10 06 01.1	+0.5
MVM	**Montagne Vaucl**	**0.53**	**148||**	*e*P	Pn	10 05 45.2	+0.7
DWS	**Wesley**	**0.57**	**347**	*e*P	Pn	10 05 45.8	+1.1
DWS				*e*S	Sn	10 06 01.6	+0.4
BBL	**Barber's Block**	**0.59**	**332⇑**	*i*P	Pn	10 05 46.0	+1.2
BBL				*e*S	Sn	10 06 02.6	+1.2
MGG	**Marie-Galante**	**0.92**	**352**	*e*P	Pn	10 05 47.9	+0.8
MGG				*e*S	Sn	10 06 06.2	+0.8
TBG	**Guadaloupe-3**	**0.95**	**332⇑**	*i*P	Pn	10 05 48.3	+1.0
TBG				*e*S	Sn	10 06 07.7	+1.7
MCLT	**Moule a Chique**	**1.31**	**170**	*e*P	Pn	10 05 51.0	+0.4
MCLT				*e*S	Sn	10 06 12.0	+0.3
SVB	**Belmont**	**1.73**	**182**	*e*P	Pn	10 05 56.0	+1.0
SVB				*e*S	Sn	10 06 19.9	+0.3
MLYT	**Lee's Yard**	**1.96**	**330**	*e*P	Pn	10 05 58.9	+1.1
BPA	**Boggy Peak**	**2.13**	**342**	*e*P	Pn	10 06 01.1	+1.4
BPA				*e*S	Sn	10 06 27.9	-0.1
BBGH	**Gun Hill**	**2.43**	**139**	*e*P	Pn	10 06 05.1	+1.8
BBGH				*e*S	Sn	10 06 35.9	+1.6
BBSP	**Saint Philip**	**2.52**	**138**	*e*P	Pn	10 06 05.8	+1.4
BBSP				*e*S	Sn	10 06 37.0	+0.7
ANWB	**Willy Bob**	**2.71**	**348**	*e*P	Pn	10 06 07.1	+0.3
ANWB				*e*S	Sn	10 06 40.1	-0.4
GRGR	**Grenville**	**2.89**	**189**	*e*P	Pn	10 06 10.7	+1.6
GRGR				*e*S	Sn	10 06 45.3	+0.6
SEUS	**St. Eustatius**	**3.02**	**325**	*e*P	Pn	10 06 11.7	+1.1
SABA	**Saba**	**3.27**	**323**	*e*P	Pn	10 06 14.6	+0.8
TOSP	**Speyside**	**3.74**	**170**	*e*P	Pn	10 06 20.6	+0.7
TOSP				*e*S	Sn	10 07 02.7	-1.3
TRN	**Trinidad (W)**	**4.34**	**183**	*e*P	Pn	10 06 29.7	+2.0
TRN	**Trinidad (W)**	**4.34**	**183**	*e*S	Sn	10 07 17.0	-1.1

*IDC **29** 10:05:36.1±1.1, 29°71S×176°03W, h0km, mb4.2/4, mb1 4.4/6, mb1mx4.0/37, mbtmp4.2/6, ML3.9/2, MS3.3/2, Ms1 3.3/2, ms1mx2.9/29, Error ellipse: s-maj=32.2km s-min=21.8km az=152.0*

*ISCJB **29** 10:05:38.2±1.3,29.°82S±0.°08×176.°0W±0.°1, h28km, mb4.1/4,MS4.2/1, Error ellipse: s-maj=15.1km s-min=10.7km az=167.0*

ISC 29 10:05:40.2±1.1,29.°7S±0.°1×176.°0W±0.°1, h28km,n13, σ0.68/13,mb4.1/4,Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**1.73**	**285**	Pn	**Pn**	**10 06 08.5**	**+0.1**
	344nm,0.3s,baz=89,slow=8.2,SNR=12						
RAO				Sn	**Sn**	**10 06 29.5**	**0.0**
	2μm,0.3s,baz=306,slow=21,SNR=18						
URZ	**Urewera**	**10.26**	**212**	Pn	**Pn**	**10 08 04.8**	**-0.7**
	0.6nm,0.3s,baz=273,slow=5.5,SNR=16						
URZ				Sn	**Sn**	**10 10 00.2**	**+0.7**
	3.9nm,0.3s,baz=221,slow=2.5,SNR=14						
AFI	**Afiamalu**	**16.21**	**15**	LR	LR	10 17 42.1	
	comp=Z,12nm,18.7s,baz=136,slow=45						
RPZ	**Rata Peaks**	**17.37**	**213**	P	**Pn**	**10 09 40.1**	**-0.5**
	0.8nm,0.3s,baz=39,slow=6.5,SNR=5.5						
RPZ				S	Sn	10 12 42.3	-11
	1.0nm,0.3s,baz=337,slow=22,SNR=6.4						
STKA	**Stephens Creek**	**36.32**	**256**	P	**P**	**10 12 42.5**	**+0.9**
	4.4nm,0.7s,baz=98,slow=8.4,SNR=6.8						
ASAR	**Alice Springs**	**44.88**	**265**	P	**P**	**10 13 52.1**	**-0.4**
	1.2nm,0.6s,baz=102,slow=7.6,SNR=32						
WRA	**Warramunga Arr**	**45.81**	**270**	P	**P**	**10 13 58.5**	**-1.3**
	1.5nm,0.5s,baz=110,slow=7.7,SNR=36						
PDAR	**Pinedale Array**	**94.45**	**43**	LR	LR	10 54 31.1	
	comp=Z,94nm,21.0s,baz=348,slow=31						
ILAR	**Eielson Array**	**96.88**	**12**	P	**P**	**10 19 08.1**	**0.0**
	0.4nm,0.9s,baz=220,slow=5.5,SNR=4.1						
MKAR	**Makanchi Array**	**118.66**	**310**	PKP	**PKPdf**	**10 24 26.0**	**+0.7**
	0.2nm,0.2s,baz=94,slow=4.6,SNR=2.8						
FINES	**FINESS Array B**	**145.07**	**342**	PKPbc	**PKPbc**	**10 25 13.4**	**-0.3**
	1.7nm,0.7s,baz=96,slow=4.2,SNR=4.2						
NOA	**NORSAR Array B**	**148.30**	**353**	PKPbc	**PKPbc**	**10 25 23.4**	**+0.3**
	1.4nm,0.8s,baz=13,slow=4.3,SNR=2.8						
AKASG	**Malin Array Be**	**151.76**	**325**	PKPbc	**PKPbc**	**10 25 31.8**	**+0.1**
	2.0nm,0.6s,baz=46,slow=2.9,SNR=8.1						

*ISCJB **29** 10:12:36.0±0.4,21.°61N±0.°06×143.°1E±0.°1, h311km, mb3.9/25, Error ellipse: s-maj=15.9km s-min=7.1km az=164.5*

*IDC **29** 10:12:38.8±1.9,21.°63N×143.°06E, h324km±19km, mb3.5/25,mb1 3.7/29, mb1mx3.6/43, mbtmp4.3/29, Error ellipse: s-maj=14.8km s-min=8.1km az=78.0*

ISC 29 10:12:37.2±0.5,21.°63N±0.°07×143.°1E±0.°1, h311km,n37, σ1.900/42,mb3.8/24,Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GUMO	**Guam**	**8.17**	**168**	P	**P**	**10 14 36.3**	**-1.6**
	11nm,0.3s,baz=210,slow=22,SNR=9.3						
JHJ	**Hachijo jima 2**	**11.82**	**346**	P	**P**	**10 15 19.3**	**+0.8**
	21nm,0.3s,baz=82,slow=23,SNR=3.6						
MJAR	**Matsushiro Arr**	**15.46**	**345**	P	**P**	**10 15 59.2**	**+0.6**
	2.5nm,0.3s,baz=140,slow=9.0,SNR=13						
MJAR				S	**S**	**10 18 44.3**	**-1.5**
	0.2nm,0.3s,baz=147,slow=18,SNR=4.8						
MAT	**Matsushiro**	**15.46**	**345**	P	**P**	**10 15 58.9**	**+0.2**
MAT				*e*S	**S**	**10 18 41.7**	**-4.1**
JNU	**Nakatsue**	**15.75**	**319**	P	**Pn**	**10 16 03.5**	**-0.5**
	0.9nm,0.3s,baz=54,slow=1.5,SNR=8.0						
KSRS	**Korea Array**	**20.52**	**324**	P	**P**	**10 16 52.4**	**-0.1**
	3.7nm,0.5s,baz=146,slow=9.0,SNR=23						
USRK	**Ussuriysk Ar.**	**24.32**	**340**	P	**P**	**10 17 28.1**	**+0.9**
	2.1nm,0.6s,baz=164,slow=11,SNR=5.5						
KLR	**Kul'dur**	**28.98**	**345**	P	**P**	**10 18 09.4**	**+0.8**
	0.6nm,0.6s,baz=154,slow=8.5,SNR=26						
MA2	**Magadan**	**28.30**	**6**	P	**P**	**10 19 29.3**	**+1.0**
	2.3nm,0.3s,baz=164,slow=18,SNR=3.8						
SONM	**Songino Array**	**39.34**	**321**	P	**P**	**10 19 37.3**	**+0.1**
	0.4nm,0.3s,baz=113,slow=3.3,SNR=2.7						
SEY	**Seymchan**	**41.76**	**6**	PcP	**PcP**	**10 21 46.6**	**+0.5**
	3.1nm,0.9s,baz=124,slow=3.5,SNR=3.6						
WRA	**Warramunga Arr**	**42.19**	**192**	P	**P**	**10 20 00.1**	**-0.3**
	4.9nm,0.6s,baz=8.2,slow=7.9,SNR=48						
WRA				PcP	**PcP**	**10 21 48.9**	**+0.6**
	0.5nm,0.6s,baz=5.4,slow=3.5,SNR=4.8						
ASAR	**Alice Springs**	**45.90**	**192**	P	**P**	**10 20 29.4**	**-0.2**
	0.9nm,0.4s,baz=15,slow=10,SNR=14						
STKA	**Stephens Creek**	**53.22**	**182**	P	**P**	**10 21 24.4**	**0.0**
	1.2nm,0.3s,baz=9.8,slow=7.4,SNR=5.0						
ZALV	**Zalesovo Beam**	**54.21**	**322**	P	**P**	**10 21 31.7**	**+0.5**
	0.9nm,0.5s,baz=111,slow=7.9,SNR=3.7						
ZALV				PcP	**PcP**	**10 22 30.8**	**-0.5**
	2.1nm,0.4s,baz=125,slow=4.3,SNR=5.7						
MKAR	**Makanchi Array**	**54.68**	**313**	P	**P**	**10 21 35.5**	**+0.7**
	0.6nm,0.4s,baz=91,slow=9.4,SNR=5.6						
MKAR				PcP	**PcP**	**10 22 33.4**	**+0.1**
	1.5nm,0.6s,baz=80,slow=5.1,SNR=6.7						
KDAK	**Kodiak Island**	**58.31**	**35**	P	**P**	**10 22 00.5**	**+0.7**
	4.8nm,0.9s,baz=260,slow=1.8,SNR=7.5						
ILAR	**Eielson Array**	**62.14**	**27**	P	**P**	**10 22 25.1**	**-0.5**
	1.1nm,0.6s,baz=256,slow=5.5,SNR=15						
RAO	**Raoul Island**	**63.01**	**142**	P	**P**	**10 22 32.6**	**+0.8**
	394nm,0.4s,baz=146,slow=8.1,SNR=3.4						
URZ	**Urewera**	**67.60**	**152**	P	**P**	**10 23 00.6**	**-0.2**
	2.9nm,0.4s						
INK	**Inuvik**	**67.67**	**24**	P	**P**	**10 23 01.1**	**+0.2**
	1.1nm,0.6s,baz=305,slow=3.4,SNR=6.0						
GEYT	**Alibeck**	**73.21**	**305**	P	**P**	**10 23 36.2**	**+1.3**
	3.3nm,0.4s,baz=59,slow=35,SNR=5.3						
YKA	**Yellowknife Ar**	**76.56**	**28**	P	**P**	**10 23 53.6**	**+0.2**
	1.9nm,0.5s,baz=292,slow=6.0,SNR=16						
ARCES	**ARCESS Array B**	**78.96**	**341**	P	**P**	**10 24 06.7**	**+0.3**
	1.6nm,0.5s,baz=75,slow=7.3,SNR=18						
KBZ	**Khabaz**	**82.35**	**314**	P	**P**	**10 24 25.6**	**+0.8**
	3.2nm,0.9s,baz=109,slow=5.6,SNR=4.9						
FINES	**FINESS Array B**	**83.20**	**334**	P	**P**	**10 24 27.9**	**-0.8**
	2.6nm,0.4s,baz=58,slow=4.7,SNR=20						
PDAR	**Pinedale Array**	**87.50**	**45**	P	**P**	**10 24 50.6**	**0.0**
	0.2nm,0.5s,baz=299,slow=1.3,SNR=4.3						
AKASG	**Malin Array Be**	**87.51**	**324**	P	**P**	**10 24 49.4**	**-0.7**
	0.2nm,0.3s,baz=44,slow=4.4,SNR=3.1						
NOA	**NORSAR Array B**	**88.98**	**339**	P	**P**	**10 24 55.9**	**-0.9**
	0.6nm,0.6s,baz=42,slow=4.9,SNR=2.9						
BRTR	**Keskin Array B**	**90.33**	**313**	P	**P**	**10 25 02.6**	**-1.2**
	0.5nm,0.7s,baz=36,slow=5.4,SNR=2.9						
ULM	**Lac du Bonnet**	**91.55**	**33**	P	**P**	**10 25 07.8**	**-1.1**
	3.3nm,0.8s,baz=0.0,slow=6.1,SNR=3.1						
TXAR	**Lajitas Array**	**98.17**	**54**	P	Pdif	10 25 41.0	+1.3
	0.1nm,0.6s,baz=305,slow=3.2,SNR=2.6						
BOSA	**Boshof**	**123.82**	**249**	PKP	**PKPdf**	**10 31 00.2**	**+1.3**
	5.1nm,1.0s,baz=288,slow=8.9,SNR=3.7						
TORD	**Torodi Ar. Bea**	**128.72**	**309**	PKP	**PKPdf**	**10 31 08.7**	**+0.1**
	0.1nm,0.4s,baz=85,slow=0.8,SNR=4.3						
PLCA	**Paso Flores**	**145.78**	**132**	PKPbc	**PKPab**	**10 31 41.1**	**-0.1**
	6.4nm,0.7s,baz=287,slow=3.2,SNR=12						
LPAZ	**La Paz**	**150.03**	**85**	PKPbc	**PKPbc**	**10 31 53.6**	**+0.9**
	3.8nm,0.5s,baz=312,slow=2.2,SNR=23						
LPAZ				PKPab	**PKPab**	**10 32 00.1**	**+0.3**
	2.2nm,0.5s,baz=7.4,slow=3.8,SNR=9.1						
CPUP	**Villa Florida**	**160.77**	**108**	PKPab	**PKPab**	**10 32 44.1**	**-0.7**
	2.1nm,1.0s,baz=315,slow=2.9,SNR=2.3						

*ISCJB **29** 10:23:51.9±0.2,15.°39S±0.°06×177.°45W±0.°06, h386km, mb4.3/97, Error ellipse: s-maj=9.8km s-min=5.8km az=144.0*

*IDC **29** 10:23:52.7±1.4,15.°30S×177.°42W, h381km±16km, mb3.7/14, mb1 3.9/15, mb1mx3.7/31, mbtmp4.5/15, Error ellipse: s-maj=18.2km s-min=11.0km az=138.0*

*NEIC **29** 10:23:54.0±0.5,15.°38S×177.°37W, h395km±5km, mb4.4/81, Error ellipse: s-maj=9.4km s-min=5.6km az=126.0*

ISC 29 10:23:53.2±0.4,15.°40S±0.°09×177.°29W±0.°08, h386km, n154, σ0.99/153,mb4.4/97,5C-1D,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MSVF	**Nonsavu**	**5.03**	**242**	*e*Pn	**Pn**	**10 25 18.5**	**+3.6**
AFI	**Afiamalu**	**5.54**	**75**	P	**Pn**	**10 25 19.6**	**-0.8**
	7.3nm,0.3s,baz=109,slow=4.7,SNR=12						
AFI				S	**S**	**10 26 32.0**	**+0.7**
	1.1nm,0.3s,baz=333,slow=23,SNR=5.7						
AFI	**Afiamalu**	**5.54**	**75**	*e*Pn	**Pn**	**10 25 20.1**	**-0.3**
FUNA	**Funafuti**	**7.65**	**333**	*e*Pn	**Pn**	**10 25 44.1**	**+0.1**
URZ	**Urewera**	**23.30**	**191**	P	**P**	**10 28 25.2**	**-3.3**
	24nm,0.6s,baz=70,slow=1.0,SNR=22						
URZ	**Urewera**	**23.30**	**191**	*e*P	**P**	**10 28 26.4**	**-2.0**
	31nm,0.8s						
LTZ	**Lake Taylor**	**28.72**	**196**	*e*P	**P**	**10 29 15.8**	**-0.8**
	66nm,1.8s						
OXZ	**Oxford**	**29.29**	**196**	*e*P	**P**	**10 29 19.3**	**-2.3**
	23nm,1.0s						
RPZ	**Rata Peaks**	**29.92**	**197**	P	**P**	**10 29 26.4**	**-0.7**
	5.4nm,0.5s,baz=32,slow=1.4,SNR=6.8						
PMG	**Port Moresby**	**35.19**	**276**	P	**P**	**10 30 11.9**	**-0.9**
	5.9nm,0.7s,baz=155,slow=17,SNR=2.2						
STKA	**Stephens Creek**	**40.80**	**239**	P	**P**	**10 30 57.6**	**-1.3**
	2.2nm,0.6s,baz=93,slow=11,SNR=6.0						
WRA	**Warramunga Arr**	**46.19**	**257**	P	**P**	**10 31 40.7**	**-0.8**
	1.6nm,0.7s,baz=95,slow=7.0,SNR=30						
WRA				PcP	**PcP**	**10 33 10.3**	**+0.1**
	0.4nm,0.6s,baz=101,slow=3.2,SNR=2.8						
AS01	**Alice Springs**	**46.50**	**252**	*e*P	**P**	**10 31 43.5**	**-0.5**
AS31	**Alice Springs**	**46.54**	**252**	*e*P	**P**	**10 31 44.1**	**-0.2**
	15nm,0.5s						
ASAR	**Alice Springs**	**46.54**	**252**	P	**P**	**10 31 44.0**	**-0.2**
	36nm,0.5s,baz=85,slow=8.2,SNR=665						
ASAR				S	**S**	**10 38 00.8**	**-2.5**
	1.4nm,1.0s,baz=83,slow=16,SNR=7.5						
SBA	**Scott Base**	**62.97**	**184**	*e*P	**P**	**10 33 41.1**	**+1.4**
	22nm,1.3s						
VNDA	**Vanda**	**63.02**	**185**	P	**P**	**10 33 41.2**	**+1.2**
	2.2nm,0.7s,baz=352,slow=7.5,SNR=13						
VNDA	**Vanda**	**63.02**	**185**	*e*P	**P**	**10 33 41.2**	**+1.2**
	8.3nm,1.3s						
MJAR	**Matsushiro Arr**	**66.58**	**322**	P	**P**	**10 34 02.6**	**-0.8**
	1.3nm,0.7s,baz=130,slow=6.6,SNR=4.7						
PETK	**Petropavlovsk-**	**71.56**	**344**	P	**P**	**10 34 32.4**	**-0.9**
	6.6nm,0.8s,baz=120,slow=5.8,SNR=5.1						
SBI	**Santa Barbara**	**73.79**	**48**	*e*P	**P**	**10 34 50.5**	**+3.9**
QSPA	**South Pole Qui**	**74.64**	**180**	*e*P	**P**	**10 34 52.1**	**+0.9**
AFDM	**Forest Hills D**	**75.41**	**42**	*e*P	**P**	**10 34 55.7**	**-0.1**
	4.4nm,1.0s						
ORV	**Oroville**	**75.42**	**41**	*e*P	**P**	**10 34 55.9**	**+0.1**
	11nm,1.5s						
SWSC	**Sam W. Stewart**	**75.86**	**50**	*e*P	**P**	**10 35 01.0**	**+2.5**
YBH	**Yreka Blue Hor**	**75.92**	**39**	*e*P	**P**	**10 34 59.2**	**+0.6**
	19nm,1.6s						
WAKR	**Walker**	**76.17**	**43**	*e*P	**P**	**10 35 00.5**	**+0.2**
	4.6nm,0.8s						
GSC	**Goldstone, Bar**	**76.30**	**47**	*e*P	**P**	**10 35 01.2**	**+0.2**
	15nm,1.8s						
BEKR	**Beckworth**	**76.32**	**42**	*e*P	**P**	**10 35 01.4**	**+0.3**
	5.8nm,1.0s						
PNTR	**Pine Nut**	**76.38**	**43**	*e*P	**P**	**10 35 02.2**	**+0.6**
	11nm,0.9s						
YERR	**Yerington**	**76.56**	**43**	*e*P	**P**	**10 35 02.6**	**+0.2**
	6.3nm,0.9s						
TVH1	**TV Hill, Hawth**	**76.59**	**44**	*e*P	**P**	**10 35 02.8**	**-0.1**
	5.4nm,1.0s						
GLA	**Glamis**	**76.63**	**50**	*e*P	**P**	**10 35 03.0**	**+0.2**
	5.5nm,1.0s						
PAHR	**Pah Rah Range**	**76.86**	**42**	*e*P	**P**	**10 35 04.2**	**+0.2**
	3.8nm,0.8s						
GMRC	**Granite Mounta**	**76.86**	**48**	*e*P	**P**	**10 35 04.5**	**+0.3**
113A	**Mohawk Valley,**	**77.29**	**51**	*e*P	**P**	**10 35 06.7**	**+0.4**
	14nm,2.0s						
MOD	**Modoc Plateau**	**77.49**	**40**	*e*P	**P**	**10 35 07.5**	**+0.1**
	35nm,1.9s						
TPNV	**Topopah Spring**	**77.52**	**46**	*e*P	**P**	**10 35 07.8**	**0.0**
	5.7nm,0.8s						
K05A	**Summer Lake**	**77.59**	**39**	*e*P	**P**	**10 35 08.8**	**+0.7**
	12nm,1.1s						
SHPR	**Sheep Range**	**78.06**	**47**	*e*P	**P**	**10 35 10.8**	**+0.1**
	8.8nm,1.5s						
W13A	**Hualapai Mount**	**78.29**	**48**	*e*P	**P**	**10 35 12.6**	**+0.6**
	3.2nm,1.1s						
Y14A	**Wickenburg**	**78.39**	**50**	*e*P	**P**	**10 35 13.0**	**+0.6**
	13nm,0.9s						
BMN	**Battle Mountai**	**78.65**	**42**	*e*P	**P**	**10 35 14.2**	**+0.4**
	6.3nm,0.8s						
R11A	**Troy Canyon, C**	**78.68**	**45**	*e*P	**P**	**10 35 14.1**	**+0.1**
	4.1nm,1.0s						
CN2	**Changchun**	**78.72**	**322**	*e*P	**P**	**10 35 17.3**	**+3.4**
WVOR	**Wild Horse Val**	**78.81**	**40**	*e*P	**P**	**10 35 14.7**	**+0.1**
	4.3nm,0.9s						
TUC	**Tucson**	**79.33**	**52**	*e*P	**P**	**10 35 18.3**	**+0.8**
	4.0nm,0.8s						
LCMT	**Little Creek M**	**79.65**	**47**	*e*P	**P**	**10 35 19.4**	**+0.2**
	2.9nm,1.0s						
TT01	**Tatalina**	**79.81**	**10**	*e*P	**P**	**10 35 19.2**	**-0.1**
CCUT	**Cedar City**	**79.82**	**46**	*e*P	**P**	**10 35 20.9**	**+0.6**
	3.0nm,0.9s						
TTA	**Tatalina**	**79.84**	**10**	*e*P	**P**	**10 35 19.2**	**-0.3**
	12nm,1.0s						
SZCU	**Shurtz Canyon**	**80.04**	**47**	*e*P	**P**	**10 35 21.9**	**+0.5**
	2.5nm,0.9s						
U15A	**North Rim**	**80.06**	**48**	*e*P	**P**	**10 35 22.4**	**+0.8**
	6.8nm,1.0s						
319A	**Douglas**	**80.09**	**54**	*e*P	**P**	**10 35 22.5**	**+0.8**
	8.4nm,0.9s						
WUAZ	**Wupatki**	**80.31**	**49**	*e*P	**P**	**10 35 23.7**	**+0.9**
	8.0nm,1.4s						
E07A	**Sunnyside**	**80.38**	**36**	*e*P	**P**	**10 35 22.9**	**+0.2**
	8.8nm,0.9s						
HAWA	**Hanford**	**80.47**	**36**	*e*P	**P**	**10 35 23.4**	**+0.3**
	9.5nm,0.9s						
BMO	**Blue Mountains**	**80.93**	**39**	*e*P	**P**	**10 35 25.4**	**-0.4**
	3.8nm,1.0s						
CAST	**Castle Rocks**	**80.98**	**11**	*e*P	**P**	**10 35 23.5**	**-1.9**
	5.5nm,0.8s						
MSU	**Marysvale**	**81.10**	**46**	*e*P	**P**	**10 35 27.5**	**+0.6**
D08A	**Wollman Farm,**	**81.19**	**36**	*e*P	**P**	**10 35 26.8**	**-0.1**
	11nm,1.2s						
KTH	**Kantishna Hill**	**81.32**	**12**	*e*P	**P**	**10 35 26.2**	**-1.1**
	8.2nm,0.9s						
TRF	**Thorofare Moun**	**81.35**	**12**	*e*P	**P**	**10 35 26.3**	**-1.3**
	13nm,0.8s						
DUG	**Dugway, Tooele**	**81.45**	**44**	*e*P	**P**	**10 35 28.5**	**-0.2**
	4.7nm,1.0s						
F10A	**Beach Ranch, E**	**81.58**	**38**	*e*P	**P**	**10 35 28.5**	**-0.6**
	6.0nm,0.8s						
RND	**Reindeer**	**81.61**	**13**	*e*P	**P**	**10 35 28.6**	**-0.2**
	11nm,0.8s						
B08A	**Colville Reser**	**81.69**	**35**	*e*P	**P**	**10 35 28.9**	**-0.6**
	4.9nm,1.0s						
MCK	**McKinley**	**81.88**	**12**	*e*P	**P**	**10 35 29.2**	**-0.9**
	8.3nm,0.8s						
HLID	**Hailey**	**82.05**	**41**	*e*P	**P**	**10 35 32.1**	**+0.4**
	7.1nm,0.8s						
MPU	**Maple Canyon**	**82.17**	**45**	*e*P	**P**	**10 35 32.9**	**+0.5**
	4.3nm,0.9s						
HVU	**Hasel Valley**	**82.23**	**43**	*e*P	**P**	**10 35 32.8**	**+0.2**
	7.1nm,0.9s						
SRU	**San Rafael Swe**	**82.52**	**46**	*e*P	**P**	**10 35 34.6**	**+0.4**
	10.0nm,0.8s						
JLU	**Jordanelle**	**82.56**	**44**	*e*P	**P**	**10 35 34.4**	**-0.1**
	6.6nm,0.8s						
WRH	**Wood River Hil**	**82.71**	**12**	*e*P	**P**	**10 35 33.5**	**-0.8**
	22nm,1.2s						
DOT	**Dot Lake**	**82.89**	**14**	*e*P	**P**	**10 35 34.3**	**-0.9**
	24nm,0.9s						
HDA	**Harding Lake**	**82.89**	**13**	*e*P	**P**	**10 35 34.5**	**-0.8**
	10nm,0.8s						
CCB	**Clear Creek Bu**	**82.92**	**12**	*e*P	**P**	**10 35 34.1**	**-1.3**
	16nm,0.7s						
P18A	**Preston Nutter**	**82.94**	**46**	*e*P	**P**	**10 35 36.8**	**+0.3**
	4.0nm,0.7s						
HWUT	**Hardware Ranch**	**82.95**	**44**	*e*P	**P**	**10 35 36.0**	**-0.3**
	3.7nm,0.8s						
PV05	**Paradox Valley**	**83.07**	**48**	*e*P	**P**	**10 35 37.5**	**+0.4**
COLA	**College**	**83.11**	**12**	*e*P	**P**	**10 35 35.1**	**-1.2**
	25nm,0.8s						
IL1	**Eielson Array**	**83.22**	**13**	*e*P	**P**	**10 35 35.7**	**-1.2**
ILAR	**Eielson Array**	**83.22**	**13**	P	**P**	**10 35 35.5**	**-1.4**
	10nm,0.9s,baz=227,slow=5.8,SNR=60						
ILB	**Eielson Array**	**83.22**	**13**	*e*P	**P**	**10 35 35.8**	**-1.1**
PV09	**Paradox Valley**	**83.23**	**47**	*e*P	**P**	**10 35 38.4**	**+0.5**
PV10	**Paradox Valley**	**83.24**	**47**	*e*P	**P**	**10 35 38.0**	**0.0**
MNTX	**Cornudas Mount**	**83.27**	**55**	*e*P	**P**	**10 35 38.4**	**+0.5**
	6.0nm,1.0s						
PV01	**Paradox Valley**	**83.47**	**48**	*e*P	**P**	**10 35 38.7**	**-0.4**
	29nm,1.0s						
MCMT	**McKenzie Canyo**	**83.65**	**40**	*e*P	**P**	**10 35 40.4**	**+0.5**
ANMO	**Albuquerque**	**83.71**	**51**	*e*P	**P**	**10 35 40.3**	**0.0**
	5.7nm,1.0s						
TX31	**Lajitas Ar. Si**	**83.75**	**57**	*e*P	**P**	**10 35 40.1**	**-0.5**
TX31				*e*P	**P**	**10 35 41.4**	**+0.9**
TXAR	**Lajitas Array**	**83.75**	**57**	P	**P**	**10 35 41.5**	**+0.9**
	4.8nm,0.8s,baz=221,slow=6.5,SNR=64						
DLMT	**Dillon**	**84.06**	**40**	*e*P	**P**	**10 35 41.8**	**0.0**
	11nm,1.2s						
TPAW	**Teton Pass**	**84.22**	**42**	*e*P	**P**	**10 35 43.0**	**+0.2**
	11nm,1.2s						
REDW	**Red Top Meadow**	**84.23**	**42**	*e*P	**P**	**10 35 42.6**	**-0.1**
	9.9nm,1.1s						
DAWY	**Dawson**	**84.40**	**16**	*e*P	**P**	**10 35 42.7**	**-0.2**
	9.6nm,0.8s						
IMW	**Indian Meadow**	**84.42**	**42**	*e*P	**P**	**10 35 44.3**	**+0.6**
	6.8nm,0.9s						
MOOW	**Moose Ponds**	**84.47**	**42**	*e*P	**P**	**10 35 44.2**	**+0.2**
	8.4nm,1.4s						
LOHW	**Long Hollow**	**84.50**	**42**	*e*P	**P**	**10 35 43.9**	**-0.2**
	19nm,1.8s						
EGAK	**Eagle**	**84.53**	**15**	*e*P	**P**	**10 35 43.2**	**-0.3**
	8.6nm,0.9s						
QLMT	**Earthquake Lak**	**84.54**	**41**	*e*P	**P**	**10 35 45.2**	**+0.9**
S22A	**4UR Ranch, Cre**	**84.56**	**49**	*e*P	**P**	**10 35 44.9**	**+0.2**
	6.6nm,1.3s						
YHB	**Horse Butte**	**84.65**	**41**	*e*P	**P**	**10 35 45.2**	**+0.4**
	13nm,1.1s						
YMR	**Madison River**	**84.76**	**41**	*e*P	**P**	**10 35 46.1**	**+0.8**
	8.0nm,0.9s						
COLD	**Coldfoot**	**84.77**	**10**	*e*P	**P**	**10 35 44.8**	**+0.2**
	5.4nm,0.9s						
BOZ	**Bozeman (W)**	**84.77**	**40**	*e*P	**P**	**10 35 45.2**	**-0.1**
	10nm,1.4s						
BW06	**Boulder Array**	**84.81**	**43**	*e*P	**P**	**10 35 44.8**	**-0.8**
BW06				*e*P	**P**	**10 35 45.1**	**-0.6**
PD31	**Pinedale Array**	**84.81**	**43**	*e*P	**P**	**10 35 45.2**	**-0.5**
PDAR	**Pinedale Array**	**84.81**	**43**	P	**P**	**10 35 45.0**	**-0.6**
	1.6nm,0.7s,baz=206,slow=3.2,SNR=15						
YHH	**Holmes Hill**	**84.88**	**41**	*e*P	**P**	**10 35 46.6**	**+0.6**
	5.7nm,1.2s						
SMCO	**Snowmass**	**85.04**	**47**	*e*P	**P**	**10 35 47.1**	**0.0**
	4.8nm,1.3s						
LNIG	**Linares**	**85.75**	**63**	*e*P	**P**	**10 35 49.7**	**-0.6**
	9.0nm,0.9s						
RLMT	**Red Lodge**	**86.04**	**41**	*e*P	**P**	**10 35 51.6**	**0.0**
	23nm,1.7s						
HHC	**Hu-ho-hao-te**	**86.30**	**314**	*e*P	**P**	**10 35 55.3**	**+2.5**
HHC				pmax	pmax		
	comp=Z,30nm,1.5s						
HHC				pmax	pmax		
	comp=Z,220nm,7.2s						
MAW	**Mawson**	**86.56**	**199**	P	**P**	**10 35 54.1**	**+0.7**
	comp=Z,4.7nm,0.7s,baz=124,slow=4.9,SNR=18						
EDM	**Edmonton**	**87.49**	**33**	*e*P	**P**	**10 35 57.6**	**-0.5**
	comp=Z,20nm,1.3s						
KMI	**Kunming**	**87.66**	**297**	P	**P**	**10 36 00.5**	**+0.8**
KMI				pmax	pmax		
	comp=Z,13nm,0.5s						
RSSD	**Black Hills**	**89.03**	**44**	*e*P	**P**	**10 36 05.2**	**-0.6**
	comp=Z,6.3nm,1.0s						
DGMT	**Dagmar**	**90.59**	**40**	*e*P	**P**	**10 36 12.8**	**+0.2**
	comp=Z,11nm,0.8s						
YKA	**Yellowknife Ar**	**91.62**	**24**	P	**P**	**10 36 16.3**	**-0.7**
	comp=Z,1.0nm,0.8s,baz=239,slow=4.6,SNR=4.1						
SONM	**Songino Array**	**92.37**	**319**	P	**P**	**10 36 20.6**	**-0.4**
	comp=Z,0.3nm,0.4s,baz=101,slow=2.9,SNR=2.6						
KSH	**Kashi**	**112.47**	**307**	*e*PKP	**PKiKP**	**10 41 42.0**	**-2.5**
ARCES	**ARCESS Array B**	**124.04**	**351**	PKP	**PKPdf**	**10 42 04.6**	**-1.1**
	comp=Z,1.4nm,0.7s,baz=20,slow=3.9,SNR=6.0						
FINES	**FINESS Array B**	**131.07**	**345**	PKP	**PKPdf**	**10 42 18.3**	**-1.0**
	comp=Z,1.6nm,0.9s,baz=170,slow=23,SNR=2.5						
NOA	**NORSAR Array B**	**134.02**	**354**	PKP	**PKPdf**	**10 42 24.5**	**-0.4**
	comp=Z,0.7nm,0.7s,baz=16,slow=3.8,SNR=3.0						
AKASG	**Malin Array Be**	**138.81**	**334**	PKP	**PKPdf**	**10 42 34.1**	**+0.1**
	comp=Z,0.2nm,0.3s,baz=24,slow=1.3,SNR=2.2				

JKE	**Kume jima 2**	**2.49**	**35**	P	**Pn**	**10 27 04.3**	**-0.2**
JAGN	**Aguni-jima**	**2.94**	**39**	P	**Pn**	**10 27 11.5**	**+0.7**
NACB	**Ninganchiao**	**3.27**	**269**	*e*Pn	**Pn**	**10 27 15.0**	**-0.3**
YHNB	**Yeheng**	**3.48**	**277**	*e*Pn	**Pn**	**10 27 20.2**	**+1.9**
YULB	**Yu-li**	**3.67**	**256**	*e*Pn	**Pn**	**10 27 19.4**	**-1.3**
YULB				*e*Sn	**Sn**	**10 27 59.4**	**-3.9**
JOW	**Kunigami**	**3.77**	**47**	Pn	**Pn**	**10 27 22.5**	**+0.3**
	2.2nm,0.3s,baz=136,slow=24,SNR=12						
JOW				Sn	**Sb**	**10 28 17.3**	**+1.0**
	3.8nm,0.3s,baz=287,slow=24,SNR=2.6						
JOW	**Kunigami**	**3.77**	**47**	P	**Pn**	**10 27 22.2**	**+0.1**
JOW	**Kunigami**	**3.77**	**47**	*e*Pn	**Pn**	**10 27 22.4**	**+0.3**
JOW				Pn	Pb	10 27 22.5	-8.7
JOW				Sn	**Sb**	**10 28 17.3**	**+1.0**
SSLB	**Suanglung**	**3.90**	**263**	*e*Pn	**Pn**	**10 27 23.9**	**0.0**
TPUB	**Ta-pu**	**4.28**	**257**	*e*Pn	**Pn**	**10 27 29.9**	**+0.7**
JOKE	**Okinoerabujima**	**4.32**	**44**	P	**Pn**	**10 27 29.1**	**-0.6**
JTK	**Tokunoshima**	**4.85**	**44**	P	**Pn**	**10 27 35.7**	**-1.4**
JAMN	**Amaminishikomi**	**5.32**	**42**	P	**Pn**	**10 27 41.6**	**-1.8**
JMZ	**Minamidaito 2**	**5.68**	**73**	P	**Pn**	**10 27 45.0**	**-3.5**
JAM	**Amami Oshima**	**5.70**	**43**	P	**Pn**	**10 27 47.3**	**-1.4**
KSAR	**Wonju Array Be**	**13.30**	**9**	Pn	**Pn**	**10 29 32.9**	**+0.1**
KSRS	**Korea Array**	**13.32**	**10**	Pn	**Pn**	**10 29 32.9**	**-0.1**
	0.0nm,0.3s,baz=197,slow=24,SNR=2.7						
MJAR	**Matsushiro Arr**	**16.57**	**40**	Pn	**P**	**10 30 18.1**	**-0.6**
	baz=229,slow=11,SNR=3.7						
MKAR	**Makanchi Array**	**40.83**	**314**	P	**P**	**10 34 04.8**	**-0.5**
	1.5nm,0.4s,baz=102,slow=9.3,SNR=16						
ZALV	**Zalesovo Beam**	**42.18**	**325**	P	**P**	**10 34 15.4**	**-0.8**
	1.3nm,0.4s,baz=131,slow=6.5,SNR=3.6						
KURK	**Kurchatov**	**44.38**	**319**	P	**P**	**10 34 33.0**	**-1.1**
KURBB	**Kurchatov Arra**	**44.40**	**319**	P	**P**	**10 34 33.0**	**-1.3**
	0.8nm,0.2s,baz=108,slow=7.9,SNR=4.4						
WRA	**Warramunga Arr**	**44.87**	**168**	P	**P**	**10 34 37.7**	**-0.6**
	0.8nm,0.7s,baz=350,slow=8.7,SNR=4.9						
ASAR	**Alice Springs**	**48.43**	**169**	P	**P**	**10 35 06.3**	**+0.2**
	0.1nm,0.3s,baz=354,slow=15,SNR=4.7						
ABKAR	**Akbulak array**	**55.97**	**314**	*e*P	**P**	**10 36 01.8**	**-0.1**
	3.9nm,0.6s						
GEYT	**Alibeck**	**57.88**	**301**	P	**P**	**10 36 15.9**	**+0.2**
	1.1nm,0.4s,baz=53,slow=5.6,SNR=3.1						
ILAR	**Eielson Array**	**67.43**	**28**	P	**P**	**10 37 20.3**	**+1.4**
	0.3nm,0.6s,baz=270,slow=6.3,SNR=4.5						
FINES	**FINESS Array B**	**73.17**	**330**	P	**P**	**10 37 54.0**	**-0.1**
	1.6nm,0.6s,baz=73,slow=4.7,SNR=7.6						
AKASG	**Malin Array Be**	**75.19**	**319**	P	**P**	**10 38 06.6**	**+0.5**
	0.3nm,0.3s,baz=52,slow=6.3,SNR=3.0						
NOA	**NORSAR Array B**	**79.80**	**333**	P	**P**	**10 38 31.7**	**-0.1**
	1.5nm,0.8s,baz=58,slow=5.4,SNR=4.2						
YKA	**Yellowknife Ar**	**81.42**	**24**	P	**P**	**10 38 42.2**	**+1.9**
	0.5nm,0.7s,baz=303,slow=5.6,SNR=3.0						

IDC ***29*** *10:35:22.4±2.7, 7.33S×128.50E, h152km±27km, mb3.6/10, mb1 3.6/13, mb1mx3.4/48, mbtmp4.1/13, Error ellipse: s-maj=39.0km s-min=13.9km az=83.0*

ISC 29 10:35:19.9±0.6, 7.47S±0.06×128.8E±0.1, h131km, n16, σ2.9s35/19, mb3.8/11, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SIJI	**Sorong**	**7.01**	**21**	P	**Pn**	**10 37 03.5**	**+3.3**
	5.0nm,0.3s,baz=225,slow=20,SNR=42						
SIJI				S	**Sn**	**10 38 19.2**	**+0.6**
	2.2nm,0.3s,baz=209,slow=23,SNR=4.6						
FITZ	**Fitzroy Crossi**	**11.00**	**196**	P	**Pn**	**10 37 54.4**	**+0.8**
	baz=22,slow=1						
WRA	**Warramunga Arr**	**13.53**	**157**	P	**Pn**	**10 38 27.4**	**+0.7**
	0.4nm,0.3s,baz=342,slow=12,SNR=19						
WRA				S	**Sn**	**10 40 53.0**	**-3.2**
	1.2nm,0.3s,baz=339,slow=21,SNR=8.9						
ASAR	**Alice Springs**	**16.85**	**164**	P	**Pn**	**10 39 11.7**	**+3.6**
	1.0nm,0.3s,baz=344,slow=10,SNR=93						
ASAR				S	**Sn**	**10 42 12.6**	**-3.4**
	0.2nm,0.3s,baz=324,slow=17,SNR=4.4						
STKA	**Stephens Creek**	**27.08**	**155**	P	**P**	**10 40 52.8**	**+2.5**
	1.8nm,0.5s,baz=326,slow=9.2,SNR=5.3						
SONM	**Songino Array**	**58.50**	**343**	P	**P**	**10 45 02.8**	**+0.3**
	0.4nm,0.4s,baz=174,slow=5.8,SNR=3.7						
MKAR	**Makanchi Array**	**67.95**	**327**	P	**P**	**10 46 02.9**	**-1.8**
	0.5nm,0.3s,baz=131,slow=6.7,SNR=7.9						
AAK	**Ala-Archa**	**70.11**	**320**	P	**P**	**10 46 16.9**	**-1.4**
	0.8nm,0.4s,baz=105,slow=11,SNR=2.9						
ZALV	**Zalesovo Beam**	**71.46**	**334**	P	**P**	**10 46 24.9**	**-1.1**
	0.8nm,0.4s,baz=121,slow=5.6,SNR=2.5						
VNDA	**Vanda**	**72.14**	**173**	P	**P**	**10 46 30.9**	**+1.2**
	0.4nm,0.7s,baz=331,slow=8.5,SNR=3.7						
KURBB	**Kurchatov Arra**	**72.27**	**329**	P	**P**	**10 46 29.0**	**-1.8**
	1.4nm,0.2s,baz=128,slow=5.1,SNR=5.2						
SEY	**Seymchan**	**72.49**	**11**	P	**P**	**10 46 30.4**	**-1.5**
	1.4nm,0.5s,baz=231,slow=10,SNR=6.8						
MAW	**Mawson**	**74.07**	**201**	P	**P**	**10 46 42.9**	**+1.7**
	0.3nm,0.3s,baz=27,slow=4.5,SNR=3.4						
BVAR	**Borovoye Array**	**77.80**	**328**	P	**P**	**10 47 01.5**	**-1.1**
	0.6nm,0.5s,baz=107,slow=5.9,SNR=3.7						
ILAR	**Eielson Array**	**94.29**	**25**	P	**P**	**10 48 19.9**	**-4.2**
	0.3nm,0.7s,baz=231,slow=4.3,SNR=4.3						
TORD	**Torodi Ar. Bea**	**127.69**	**281**	PKP	**PKPdf**	**10 54 10.3**	**-0.5**
	0.3nm,0.5s,baz=58,slow=2.6,SNR=3.2						

MEX 29 10:37:03.8±0.3, 14.46N×92.63W, h54km±40km, MD3.6, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PCIG		**1.36**	**335**	*i* P	Pn	10 37 24.6	-1.9
PCIG				*i* S	Sn	10 37 41.8	-1.7

NIED ***29*** *11:03:00, 37.10N×140.80E, h5km, Mw3.5 Best double couple: M0 2.18000×10^14 NP1:ϕ1=26.00000°, δ1=20.00000°, λ1=117.00000°. NP2:ϕ2=235.00000°, δ2=72.00000°, λ2=-80.00000°.*

ISCJB ***29*** *11:03:38.0±0.8, 37.07N±0.03×140.90E±0.06, h9km±4km, mb3.6/8, Error ellipse: s-maj=8.2km s-min=5.2km az=12.8*

IDC ***29*** *11:03:38.0±1.0, 37.06N×140.94E, h0km, mb3.7/8, mb1 3.8/9, mb1mx3.7/46, mbtmp3.7/9, ML3.1/1, Error ellipse: s-maj=24.1km s-min=19.9km az=85.0*

JMA ***29*** *11:03:39.3, 37.09N×140.81E, h4km±1km, M3.5*

JMA Felt II J1.

ISC 29 11:03:39.0±1.3, 37.08N±0.04×140.86E±0.06, h4km±7km, n22, σ0.962/24, mb3.7/8, 5C-1D, Eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ONAJ	**Iwakimizuishiy**	**0.06**	**294**	↑P	**Pg**	**11 03 40.1**	**-0.2**
ONAJ				S	**Sg**	**11 03 40.8**	**-0.5**
JFK	**Kawauchi**	**0.29**	**2**	↓P	**Pg**	**11 03 45.0**	**+0.4**
JFK				S	**Sg**	**11 03 49.4**	**+1.0**
JHO	**Hitachi**	**0.52**	**207**	P	**Pg**	**11 03 49.2**	**+0.1**
JHO				S	**Sg**	**11 03 56.1**	**+0.2**
JFT	**Otama**	**0.60**	**316**	↑P	**Pg**	**11 03 50.8**	**+0.2**
JFT				S	**Sg**	**11 03 58.9**	**+0.4**
JSB	**Shiboa**	**0.76**	**262**	↑P	**Pg**	**11 03 54.0**	**+0.4**
JSB				S	**Sg**	**11 04 04.4**	**+0.9**
JMM	**Marumori**	**0.79**	**356**	↑P	**Pg**	**11 03 53.9**	**-0.2**
JMM				S	**Sg**	**11 04 04.4**	**+0.1**
JFY	**Yanaizu**	**0.98**	**290**	↑P	**Pg**	**11 03 57.5**	**-0.3**
JFY				S	**Sg**	**11 04 10.1**	**-0.4**
MJAR	**Matsushiro Arr**	**2.19**	**257**	Pn	**Pn**	**11 04 17.3**	**+1.0**
	5.8nm,0.3s,baz=83,slow=16,SNR=36						
MJAR				Sn	**Sb**	**11 04 47.0**	**+0.2**
	10.0nm,0.3s,baz=80,slow=29,SNR=21						
SONM	**Songino Array**	**27.39**	**304**	P	**P**	**11 09 24.7**	**-0.8**
	0.5nm,0.7s,baz=101,slow=7.5,SNR=3.2						
H11N2	**WAKE ISLAND Hy**	**28.55**	**120**	T	T	11 39 19.8	
	baz=313,slow=75,SNR=27						
H11N1	**WAKE ISLAND Hy**	**28.56**	**120**	T	T	11 39 22.7	
	baz=313,slow=75,SNR=25						
H11N3	**WAKE ISLAND Hy**	**28.57**	**120**	T	T	11 39 21.5	
	baz=313,slow=75,SNR=23						
H11S1	**WAKE ISLAND Hy**	**29.26**	**122**	T	T	11 40 14.0	
	baz=314,slow=76,SNR=16						
H11S3	**WAKE ISLAND Hy**	**29.26**	**122**	T	T	11 40 13.0	
	baz=314,slow=76,SNR=12						
H11S2	**WAKE ISLAND Hy**	**29.27**	**122**	T	T	11 40 15.3	
	baz=314,slow=76,SNR=7.8						
MKAR	**Makanchi Array**	**43.72**	**302**	P	**P**	**11 11 45.7**	**+0.5**
	0.2nm,0.3s,baz=81,slow=10,SNR=2.7						
KURBB	**Kurchatov Arra**	**45.62**	**308**	P	**P**	**11 11 59.5**	**-0.8**
	1.5nm,0.7s,baz=84,slow=8.0,SNR=16						
ILAR	**Eielson Array**	**49.69**	**32**	P	**P**	**11 12 31.9**	**+0.2**
	0.7nm,0.8s,baz=263,slow=5.8,SNR=7.1						
WRA	**Warramunga Arr**	**57.05**	**187**	P	**P**	**11 13 24.9**	**-1.3**
	0.4nm,0.4s,baz=4.0,slow=7.2,SNR=14						
ASAR	**Alice Springs**	**60.77**	**187**	P	**P**	**11 13 52.0**	**0.0**
	0.5nm,1.0s,baz=210,slow=30,SNR=3.2						
FINES	**FINESS Array B**	**68.57**	**332**	P	**P**	**11 14 42.8**	**+0.3**
	0.7nm,0.7s,baz=57,slow=7.0,SNR=4.3						
NOA	**NORSAR Array B**	**73.97**	**337**	P	**P**	**11 15 14.9**	**-0.4**
	0.9nm,0.8s,baz=32,slow=3.1,SNR=3.2						

MAN 29 11:07:22, 13.67N×120.53E, h85km, mb4.4, ML3.2, MS3.0, 1C-1D, Mindoro

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LUBP	**Lubang**	**0.28**	**284**	*e*P	Pn	11 07 36.2	+1.5
LUBP				*e*S	Sn	11 07 47.8	+3.6
PGP	**Puerto Galera**	**0.45**	**111**	↑*e*P	Pn	11 07 36.8	+0.9
PGP				*i* S	Sn	11 07 48.6	+2.5
TGY	**Tagaytay City**	**0.59**	**43**	*e*P	Pn	11 07 37.9	+0.8
TGY				*i* S	Sn	11 07 51.5	+3.1
BOAC	**Boac**	**1.30**	**99**	*e*P	Pn	11 07 46.2	+1.2
BOAC				*e*S	Sn	11 08 04.3	+2.0
SJMP	**San Jose**	**1.33**	**154**	*e*P	Pn	11 07 46.2	+0.8
SJMP				*e*S	Sn	11 08 04.7	+1.7
BUSP	**Coron**	**1.68**	**191**	*e*P	Pn	11 07 50.2	+0.2
BUSP				*e*S	Sn	11 08 12.4	+1.3
GQP	**Guinayangan**	**1.88**	**83**	↓*e*P	Pn	11 07 52.5	0.0
OTRP	**Odiongan**	**1.95**	**131**	*e*P	Pn	11 07 54.9	+1.5
OTRP				*e*S	Sn	11 08 17.3	0.0
ENPP	**El Nido**	**2.67**	**204**	*e*P	Pn	11 08 03.5	+0.4
ENPP				*e*S	Sn	11 08 37.9	+3.3

IDC ***29*** *11:22:14.0±4.4, 29.64S×176.36W, h57km±30km, mb3.7/4, mb1 3.9/5, mb1mx3.6/19, mbtmp4.1/5, ML3.4/1, MS3.5/4, Ms1 3.5/4, ms1mx3.1/29, Error ellipse: s-maj=39.6km s-min=22.5km az=64.0*

ISC 29 11:22:09.4±1.3, 29.65S±0.1×176.2W±0.1, h21km, n14, σ1.956/11, mb4.0/4, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**1.52**	**283**	P	**Pb**	**11 22 36.9**	**+0.1**
	186nm,0.3s,baz=90,slow=20,SNR=3.8						
RAO				S	**Sn**	**11 22 55.1**	**+0.7**
	277nm,0.3s,baz=118,slow=22,SNR=3.8						
URZ	**Urewera**	**10.26**	**211**	P	**Pn**	**11 24 37.1**	**+1.7**
	0.3nm,0.3s,baz=40,slow=16,SNR=4.0						
URZ				S	**Sn**	**11 26 27.0**	**-2.7**
	0.8nm,0.3s,baz=79,slow=20,SNR=6.7						
DZM	**Mont Dzumac**	**17.30**	**292**	LR	LR	11 32 29.8	
	comp=Z,215nm,18.1s,baz=56,slow=36						
RPZ	**Rata Peaks**	**17.37**	**212**	LR	LR	11 33 10.6	
	comp=Z,106nm,20.5s,baz=215,slow=38						
PPT2	**Papeete2**	**27.11**	**70**	*e*LR	LR	11 34 21.3	
	160nm,27.8s						
STKA	**Stephens Creek**	**36.17**	**255**	P	**P**	**11 29 11.1**	**+0.7**
	2.7nm,0.6s,baz=103,slow=7.7,SNR=5.0						
ASAR	**Alice Springs**	**44.70**	**265**	P	**P**	**11 30 20.5**	**-0.7**
	0.8nm,0.6s,baz=106,slow=7.7,SNR=20						
WRA	**Warramunga Arr**	**45.62**	**270**	P	**P**	**11 30 26.8**	**-1.7**
	2.1nm,0.6s,baz=109,slow=7.8,SNR=27						
MAW	**Mawson**	**73.60**	**200**	P	**P**	**11 33 42.2**	**+1.6**
	1.1nm,1.0s,baz=143,slow=5.1,SNR=2.7						
KSRS	**Korea Array**	**84.75**	**319**	LR	LR	12 08 45.4	
	comp=Z,23nm,19.4s,baz=150,slow=33						
PSI	**Prapat**	**86.90**	**275**	LR	LR	12 15 54.2	
	comp=Z,38nm,18.7s,baz=125,slow=37						
FINES	**FINESS Array B**	**144.90**	**342**	PKP	**PKPab**	**11 41 41.9**	**-1.3**
	1.2nm,0.8s,baz=50,slow=7.4,SNR=2.9						
AKASG	**Malin Array Be**	**151.56**	**325**	PKPbc	**PKPbc**	**11 42 01.2**	**-0.4**
	0.2nm,0.3s,baz=47,slow=3.2,SNR=4.9						
TORD	**Torodi Ar. Bea**	**163.52**	**173**	PKPab	**PKPab**	**11 43 01.7**	**-0.6**
	0.7nm,0.9s,baz=166,slow=2.5,SNR=3.8						

IDC ***29*** *11:36:17.1±1.1, 11.26S×163.81E, h0km, mb4.1/9, mb1 4.3/12, mb1mx4.0/32, mbtmp4.1/12, ML4.5/2, MS3.6/8, Ms1 3.6/8, ms1mx3.2/31, Error ellipse: s-maj=26.9km s-min=18.2km az=98.0*

ISCJB ***29*** *11:36:20.4±0.7, 11.30S±0.06×163.66E±0.08, h33km, mb4.2/11, MS3.5/6, Error ellipse: s-maj=12.6km s-min=6.7km az=148.0*

NEIC ***29*** *11:36:22.4±0.7, 11.30S×163.74E, h35km, mb4.4/4, Error ellipse: s-maj=13.8km s-min=10.0km az=91.0*

ISC 29 11:36:22.5±0.8, 11.27S±0.08×163.7E±0.1, h35km, n30, σ1.935/25, mb4.2/11, MS3.5/6, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**4.15**	**296**	Pn	**Pn**	**11 37 22.3**	**-1.0**
	80nm,0.3s,baz=138,slow=10,SNR=23						
HNR				Sn	**Sn**	**11 38 13.1**	**+2.4**
	34nm,0.3s,baz=45,slow=22,SNR=6.4						
HNR				LR	LR	11 39 07.6	
	comp=Z,2μm,18.1s,baz=120,slow=40						
HNR	**Honiara**	**4.15**	**296**	*e*P	**Pn**	**11 37 21.0**	**-2.4**
HNR				*e*S	**Sn**	**11 38 08.0**	**-2.6**
HNR	**Honiara**	**4.15**	**296**	Pn	**Pn**	**11 37 22.3**	**-1.0**
HNR				*e*Pn	**Pn**	**11 37 22.5**	**-0.8**
HNR				Sn	**Sn**	**11 38 13.1**	**+2.4**
DZM	**Mont Dzumac**	**11.05**	**167**	Pn	**Pn**	**11 38 56.6**	**-1.6**
	0.1nm,0.3s,baz=342,slow=20,SNR=1.9						
DZM				Sn	**Sn**	**11 41 02.4**	**+1.7**
	0.4nm,0.3s,baz=330,slow=22,SNR=3.4						
PMG	**Port Moresby**	**16.41**	**275**	LR	LR	11 46 24.3	
	comp=Z,321nm,19.7s,baz=118,slow=37						
EIDS	**Eidsvold**	**18.44**	**219**	*e*P	**Pn**	**11 40 35.3**	**-0.1**
	14nm,1.1s						
CTA	**Charters Tower**	**18.96**	**240**	P	**Pn**	**11 40 41.8**	**+0.1**
	0.5nm,0.3s,baz=59,slow=12,SNR=8.9						
CTAO	**Charters Tower**	**18.96**	**240**	*e*P	**P**	**11 40 40.9**	**0.0**
	67nm,0.9s						
COEN	**Coen**	**20.23**	**260**	*e*P	**P**	**11 40 54.0**	**-0.8**
	18nm,1.0s						
AFI	**Afiamalu**	**24.05**	**99**	LR	LR	11 49 08.5	
	comp=Z,198nm,19.1s,baz=274,slow=32						
STKA	**Stephens Creek**	**28.94**	**221**	P	**P**	**11 42 19.3**	**+0.7**
	4.0nm,0.8s,baz=49,slow=14,SNR=3.8						
STKA				LR	LR	11 53 17.8	
	comp=Z,194nm,18.3s,baz=27,slow=35						
WRAB	**Tennant Creek**	**29.54**	**249**	*e*P	**P**	**11 42 23.3**	**-0.8**
	3.6nm,0.4s						
WRA	**Warramunga Arr**	**29.55**	**249**	P	**P**	**11 42 23.7**	**-0.5**
	4.5nm,0.5s,baz=80,slow=9.1,SNR=78						
H11S2	**WAKE ISLAND Hy**	**29.72**	**6**	T	T	12 13 04.4	
	baz=184,slow=76,SNR=10						
H11S3	**WAKE ISLAND Hy**	**29.72**	**6**	T	T	12 13 00.6	
	baz=184,slow=76,SNR=9.9						
H11S1	**WAKE ISLAND Hy**	**29.73**	**6**	T	T	12 13 06.8	
	baz=184,slow=76,SNR=9.1						
ASAR	**Alice Springs**	**30.93**	**243**	P	**P**	**11 42 36.0**	**-0.4**
	1.5nm,0.5s,baz=62,slow=10,SNR=43						
ASAR				LR	LR	11 53 44.0	
	comp=Z,82nm,21.9s,baz=82,slow=34						
H11N1	**WAKE ISLAND Hy**	**30.95**	**6**	T	T	12 14 33.3	
	baz=184,slow=76,SNR=10						
H11N3	**WAKE ISLAND Hy**	**30.95**	**6**	T	T	12 14 34.2	
	baz=184,slow=76,SNR=5.7						
H11N2	**WAKE ISLAND Hy**	**30.96**	**6**	T	T	12 14 32.2	
	baz=184,slow=76,SNR=6.0						
JOW	**Kunigami**	**51.18**	**318**	LR	LR	12 07 21.5	
	comp=Z,35nm,19.5s,baz=156,slow=36						
ASAJ	**Asahikawa**	**58.38**	**342**	P	**P**	**11 46 15.1**	**+0.7**
	43nm,0.5s,baz=270,slow=34,SNR=8.0						
KSRS	**Korea Array**	**58.97**	**327**	P	**P**	**11 46 19.0**	**+0.5**
	1.3nm,0.8s,baz=134,slow=11,SNR=4.6						
KSAR	**Wonju Array Be**	**58.98**	**327**	P	**P**	**11 46 19.0**	**+0.4**
CMAR	**Chiang Mai Arr**	**70.39**	**294**	P	**P**	**11 47 33.7**	**+0.2**
	0.7nm,0.4s,baz=108,slow=2.9,SNR=6.3						
SONM	**Songino Array**	**77.69**	**325**	P	**P**	**11 48 17.0**	**+1.3**
	0.3nm,0.3s,baz=111,slow=7.9,SNR=3.0						
SONM				LR	LR	12 20 28.9	
	comp=Z,25nm,21.6s,baz=66,slow=34						
MAW	**Mawson**	**83.77**	**202**	P	**P**	**11 48 48.5**	**+0.7**
	3.4nm,0.9s,baz=92,slow=2.0,SNR=2.2						
ILAR	**Eielson Array**	**84.36**	**19**	P	**P**	**11 48 49.3**	**-1.5**
	0.6nm,1.0s,baz=229,slow=3.5,SNR=3.4						
MKAR	**Makanchi Array**	**92.34**	**317**	P	**P**	**11 49 29.8**	**+0.4**
	0.4nm,0.4s,baz=93,slow=6.1,SNR=3.8						
TXAR	**Lajitas Array**	**97.67**	**62**	LR	LR	12 25 38.3	
	comp=Z,19nm,21.4s,baz=0.0,slow=30						

MEX 29 11:46:44.3±0.4, 15.67N×93.98W, h78km±6km, MD3.6, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PCIG		**0.74**	**87**	*e*P	Pn	11 46 58.7	-1.5
PCIG				*i* S	Sn	11 47 10.5	-1.5
TGIG		**1.38**	**37**	*i* P	Pn	11 47 07.1	-1.0
TGIG				*i* S	Sn	11 47 24.1	-1.9
HUIG	**Huatulco**	**2.05**	**273**	*i* P	Pn	11 47 15.1	-1.7
HUIG				*i* S	Sn	11 47 40.0	-1.6

IDC ***29*** *11:47:27.5±8.1, 34.75S×178.10E, h100km±71km, mb3.0/2, mb1 3.3/3, mb1mx3.1/26, mbtmp3.4/3, ML3.1/1, Error ellipse: s-maj=68.3km s-min=47.8km az=34.0*

WEL ***29*** *11:47:30.0±0.5, 35.51S×178.79E, h222km±8km, ML3.6/16, Error ellipse: s-maj=11.4km s-min=8.7km az=90.0*

ISC 29 11:47:31.7±1.7, 35.2S±0.1×178.1E±0.2, h150km, n34, σ1.966/38, 1C-2D, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MXZ	**Matakaoa Point**	**2.35**	**176**	PN	**Pn**	**11 48 10.7**	**-0.3**
HAZ	**Te Kaha**	**2.56**	**186**	PN	**Pn**	**11 48 14.0**	**+0.6**
HAZ				SN	**Sn**	**11 48 49.1**	**+3.4**
WMGZ	**Waiomatatini S**	**2.62**	**175**	PN	**Pn**	**11 48 13.8**	**-0.4**
WMGZ				AML	AML	11 49 01.3	
PKGZ	**Pakihiroa**	**2.67**	**180**	PN	**Pn**	**11 48 14.8**	**-0.2**
PKGZ				SN	**Sn**	**11 48 47.6**	**-0.9**
RUGZ	**Raukumara Rang**	**2.77**	**187**	PN	**Pn**	**11 48 16.7**	**+0.4**
PUZ	**Puketiti**	**2.86**	**178**	↓PN	**Pn**	**11 48 16.3**	**-1.0**
PUZ				SN	**Sn**	**11 48 51.3**	**-1.2**
TWGZ	**Tauwhareparae**	**2.96**	**182**	PN	**Pn**	**11 48 18.5**	**-0.1**
TWGZ				AML	AML	11 49 11.9	
TWGZ				AML	AML	11 49 16.4	
URZ	**Urewera**	**3.15**	**194**	P	**Pn**	**11 48 21.6**	**+0.7**
	1.6nm,0.3s,baz=14,slow=6.6,SNR=20						
URZ				S	**Sn**	**11 49 02.9**	**+3.9**
	1.1nm,0.3s,baz=41,slow=20,SNR=6.0						
URZ	**Urewera**	**3.15**	**194**	PN	**Pn**	**11 48 21.5**	**+0.7**
MWZ	**Matawai**	**3.15**	**188**	PN	**Pn**	**11 48 21.1**	**+0.1**
TKGZ	**Te Karaka**	**3.23**	**184**	↑PN	**Pn**	**11 48 21.2**	**-0.7**
TKGZ				AML	AML	11 49 08.0	
TKGZ				AML	AML	11 49 08.4	
CNGZ	**Carnagh Statio**	**3.27**	**179**	PN	**Pn**	**11 48 21.5**	**-1.0**
MUGZ	**Murupara**	**3.43**	**198**	PN	**Pn**	**11 48 25.6**	**+1.0**
RIGZ	**Rimuhau**	**3.50**	**184**	PN	**Pn**	**11 48 24.3**	**-1.2**
RTZ	**Ruatahuna**	**3.52**	**194**	↓PN	**Pn**	**11 48 25.6**	**-0.1**
SNGZ	**Shannon Statio**	**3.62**	**189**	PN	**Pn**	**11 48 26.6**	**-0.4**
KNZ	**Kokohu**	**3.82**	**185**	PN	**Pn**	**11 48 27.6**	**-2.0**
NMHZ	**Naumai**	**4.02**	**195**	PN	**Pn**	**11 48 31.0**	**-0.2**
BKZ	**Black Stump Fm**	**4.15**	**198**	PN	**Pn**	**11 48 33.8**	**-0.1**
MCHZ	**McNeill Hill**	**4.37**	**194**	PN	**Pn**	**11 48 36.0**	**-0.8**
KWHZ	**Kaweka Forest**	**4.42**	**197**	PN	**Pn**	**11 48 36.5**	**-0.9**
BHHZ	**Black Hill Sta**	**4.57**	**200**	PN	**Pn**	**11 48 39.2**	**-0.3**
KAHZ	**Kahuranaki**	**4.68**	**192**	PN	**Pn**	**11 48 39.5**	**-1.3**
PXZ	**Pawanui**	**4.91**	**191**	PN	**Pn**	**11 48 41.1**	**-2.8**
MRZ	**Mangatainoka R**	**5.80**	**199**	PN	**Pn**	**11 48 52.9**	**-2.7**
TIWZ	**Tintock**	**5.83**	**197**	PN	**Pn**	**11 48 53.4**	**-2.7**
KIW	**Kapiti Island**	**6.18**	**203**	PN	**Pn**	**11 48 58.4**	**-2.3**
CAW	**Cannon Point**	**6.36**	**201**	PN	**Pn**	**11 48 59.9**	**-3.1**
DUWZ	**D'Urville Isla**	**6.49**	**209**	PN	**Pn**	**11 49 02.8**	**-2.0**
NNZ	**Nelson**	**7.06**	**210**	PN	**Pn**	**11 49 09.8**	**-2.6**
THZ	**Tophouse**	**7.71**	**210**	PN	**Pn**	**11 49 19.0**	**-2.2**
ASAR	**Alice Springs**	**39.88**	**275**	P	**P**	**11 54 51.1**	**+0.1**
	0.

	baz=284								
TWC				*i* S		**Sg**	**11 59 40.9**	**-0.2**
	baz=284								
TWB1	**Santiao Chiao**	**0.55**	**325**	P		**Pb**	**11 59 38.4**	**+0.1**
	baz=336								
TWB1				*e*S		**Sg**	**11 59 44.5**	**+0.1**
	baz=336								
ENA	**Nanau**	**0.56**	**257**	P		**Pg**	**11 59 36.8**	**-0.4**
	baz=257								
ENA				S		**Sg**	**11 59 44.2**	**-0.3**
	baz=257								
JYNG	**Yonagunijimaku**	**0.56**	**100**	P		**Pb**	**11 59 38.7**	**+0.3**
JYNG				S		**Sb**	**11 59 47.7**	**+1.1**
YOJ	**Yonaguni jima**	**0.62**	**98**	P		**Pb**	**11 59 39.7**	**+0.3**
YOJ				S		**Sb**	**11 59 49.5**	**+1.3**
TWE	**Neicheng**	**0.63**	**286**	*i* P		**Pg**	**11 59 38.3**	**-0.3**
	baz=291								
TWE				S		**Sg**	**11 59 46.9**	**-0.1**
	baz=291								
ENTT	**Nioudou**	**0.71**	**277**	P		**Pg**	**11 59 39.6**	**-0.4**
	baz=280								
ENTT				S		**Sg**	**11 59 49.4**	**+0.1**
	baz=280								
NWF	**Wu-fen Shan**	**0.72**	**316**	P		**Pb**	**11 59 41.6**	**+0.4**
	baz=323								
NWF				S		**Sb**	**11 59 51.6**	**+0.4**
	baz=323								
TWA	**Mucha**	**0.81**	**302**	S		**Sb**	**11 59 53.4**	**-0.2**
	baz=307								
TWD	**Chiawan**	**0.82**	**235**	*e*P		**Pb**	**11 59 43.2**	**+0.4**
	baz=232								
NNS	**Nan Shan**	**0.88**	**263**	*e*S		**Sg**	**11 59 54.9**	**-0.1**
	baz=263								
NSK	**Sanguang**	**0.90**	**278**	*e*P		**Pg**	**11 59 43.4**	**-0.3**
	baz=280								
NSK				*e*S		**Sg**	**11 59 55.2**	**-0.2**
	baz=280								
TWY	**Chenhua**	**0.98**	**317**	*e*P		**Pn**	**11 59 47.1**	**+0.7**
	baz=322								
TWY				*e*S		**Sn**	**11 59 59.6**	**-0.8**
	baz=322								
WHF	**Hehuan Shan**	**1.06**	**248**	*e*P		**Pg**	**11 59 46.3**	**-0.4**
	baz=246								
NSTT	**Nanjuang**	**1.22**	**274**	*e*P		**Pg**	**11 59 50.4**	**+0.6**
	baz=275								
NSTT				*e*S		**Sg**	**12 00 05.2**	**-0.5**
	baz=275								
IRIF	**Iriomote-Funau**	**1.29**	**99**	*e*S		**Sb**	**12 00 07.2**	**-0.2**
TWQ1	**Liyutan**	**1.44**	**262**	*e*P		**Pg**	**11 59 55.3**	**+1.3**
	baz=262								
TWQ1				*e*S		**Sb**	**12 00 12.2**	**+0.4**
	baz=262								
SMLT	**Sun Moon Lake**	**1.47**	**243**	*e*P		**Pg**	**11 59 56.3**	**+1.7**
	baz=242								
TYC	**Yuchr**	**1.50**	**245**	*e*P		**Pg**	**11 59 55.1**	**0.0**
	baz=243								
JIJ	**Ishigaki jima**	**1.66**	**96**	S		**Sn**	**12 00 15.4**	**-1.6**
ALS	**Alishan**	**1.74**	**234**	*e*S		**Sn**	**12 00 19.4**	**-0.1**
	baz=232								
JISG	**Ishigakijimahi**	**1.80**	**88**	P		**Pn**	**11 59 57.1**	**-0.5**
JISG				*e*S		**Sn**	**12 00 19.7**	**-0.8**
CHN4	**Tsaushan**	**1.99**	**234**	*e*P		**Pb**	**12 00 02.0**	**-0.8**
	baz=232								

HLW ***29*** *12:07:13.1, 36˙49N×24˙37E, h18km±14km, Md3.9, Ml3.9*
ATH ***29*** *12:07:19.8, 36˙21N×24˙08E, h75km±3km, ML3.5/15, Error ellipse: s-maj=3.0km s-min=0.8km az=191.0*
ISCJB ***29*** *12:07:19.5±0.3, 36˙18N±0˙02×24˙07E±0˙02, h83km±4km, mb3.6/2, Error ellipse: s-maj=4.2km s-min=2.9km az=29.9*
CSEM ***29*** *12:07:20.3±0.1, 36˙18N×24˙06E, h80km, ML3.5, Error ellipse: s-maj=3.0km s-min=2.0km az=34.0*
THE ***29*** *12:07:21.0, 36˙20N×24˙09E, h70km±1km, ML3.8/13, Error ellipse: s-maj=1.8km s-min=0.4km az=170.0*
IDC ***29*** *12:07:21.9±1.5, 35˙89N×24˙40E, h102km±15km, mb3.4/2, mb1 3.5/5, mb1mx3.1/44, mbtmp3.8/5, MS2.7/1, Ms1 2.7/1, ms1mx2.0/32, Error ellipse: s-maj=38.6km s-min=21.5km az=142.0*

ISC 29 12:07:19.4±0.8, 36˚19N±0˙03×24˚08E±0˙03, h83km±7km, n168, σ1§37/220, Southern Greece

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
MHLO	**Agia Marina, M**	**0.56**	**28**	P		**Pn**	**12 07 34.3**	**+0.3**
MHLO				S		**Sn**	**12 07 44.0**	**-0.7**
MHLO	**Agia Marina, M**	**0.56**	**28**	P		**Pn**	**12 07 34.3**	**+0.3**
MHLO				S		**Sn**	**12 07 44.1**	**-0.7**
MHLO	**Agia Marina, M**	**0.56**	**28**	P		**Pn**	**12 07 34.7**	**+0.7**
MHLO				S		**Sn**	**12 07 44.1**	**-0.7**
MHLO				AML	AML		12 07 44.5	
	comp=N,26961μm,0.4s							
MHLO				AML	AML		12 07 46.2	
	comp=E,21946μm,0.4s							
MHLA	**Plaka, Milos I**	**0.62**	**27**	P		**Pn**	**12 07 35.5**	**+1.0**
MHLA				S		**Sn**	**12 07 45.4**	**-0.3**
MHLA				AML	AML		12 07 46.0	
	comp=E,7268μm,0.4s							
MHLA				AML	AML		12 07 46.3	
	comp=N,6321μm,0.4s							
ANKY	**Antikythira Is**	**0.71**	**243**	P		**Pn**	**12 07 36.3**	**+0.9**
ANKY				S		**Sn**	**12 07 47.3**	**+0.1**
ANKY	**Antikythira Is**	**0.71**	**243**	P		**Pn**	**12 07 36.3**	**+0.9**
ANKY				S		**Sn**	**12 07 47.3**	**+0.1**
ANKY	**Antikythira Is**	**0.71**	**243**	P		**Pn**	**12 07 36.6**	**+1.2**
ANKY				S		**Sn**	**12 07 46.0**	**-1.2**
ANKY				AML	AML		12 07 48.4	
	comp=E,5083μm,0.4s							
ANKY				AML	AML		12 07 48.8	
	comp=N,5926μm,0.4s							
IMMV	**Iera Moni Meta**	**0.73**	**186**	P		**Pn**	**12 07 36.7**	**+1.0**
IMMV				S		**Sn**	**12 07 48.0**	**+0.3**
IMMV	**Iera Moni Meta**	**0.73**	**186**	P		**Pn**	**12 07 36.7**	**+1.0**
IMMV				S		**Sn**	**12 07 48.0**	**+0.3**
IMMV	**Iera Moni Meta**	**0.73**	**186**	P		**Pn**	**12 07 37.3**	**+1.6**
IMMV				S		**Sn**	**12 07 47.2**	**-0.5**
IMMV				AML	AML		12 07 48.8	
	comp=E,4736μm,0.2s							
IMMV				AML	AML		12 07 49.4	
	comp=N,6531μm,0.2s							
VAM	**Vamos**	**0.79**	**173**	P		**Pn**	**12 07 37.0**	**+0.7**
VAM				S		**Sn**	**12 07 48.6**	**-0.2**
VAM	**Vamos**	**0.79**	**173**	P		**Pn**	**12 07 37.0**	**+0.7**
VAM				S		**Sn**	**12 07 48.6**	**-0.2**
VAM	**Vamos**	**0.79**	**173**	P		**Pn**	**12 07 37.0**	**+0.7**
VAM				S		**Sn**	**12 07 48.6**	**-0.2**
VAM				AML	AML		12 07 52.2	
	comp=E,6377μm,0.1s							
VAM				AML	AML		12 07 52.3	
	comp=N,9227μm,0.2s							
KYTH	**Kithira**	**0.84**	**275**	P		**Pn**	**12 07 37.5**	**+0.7**
KYTH				S		**Sn**	**12 07 49.6**	**-0.1**
KYTH	**Kithira**	**0.84**	**275**	P		**Pn**	**12 07 38.0**	**+1.2**
KYTH				S		**Sn**	**12 07 48.5**	**-1.2**
KYTH				AML	AML		12 07 51.0	
	comp=N,4723μm,0.1s							
KYTH				AML	AML		12 07 52.4	
	comp=E,6425μm,0.4s							
THR5	**Thira Island,**	**1.05**	**77**	P		**Pn**	**12 07 40.0**	**+0.7**
THR5	**Thira Island,**	**1.05**	**77**	P		**Pn**	**12 07 39.9**	**+0.7**
THR5	**Thira Island,**	**1.05**	**77**	P		**Pn**	**12 07 39.9**	**+0.7**
THR5				P		**Pn**	**12 07 40.1**	**+0.7**
VLI	**Veliai**	**1.06**	**300**	P		**Pn**	**12 07 40.1**	**+0.8**
VLI				S		**Sn**	**12 07 53.8**	**-0.4**
VLI	**Veliai**	**1.06**	**300**	P		**Pn**	**12 07 40.1**	**+0.8**
VLI				S		**Sn**	**12 07 53.8**	**-0.4**
VLI	**Veliai**	**1.06**	**300**	P		**Pn**	**12 07 40.4**	**+1.1**
VLI				S		**Sn**	**12 07 53.3**	**-1.0**
VLI				AML	AML		12 07 54.5	
	comp=N,3583μm,0.2s							
VLI				AML	AML		12 07 54.6	
	comp=E,3445μm,0.3s							
SAP1	**Santorini-Akro**	**1.08**	**81**	P		**Pn**	**12 07 40.8**	**+1.3**
THR6	**Thira Island,**	**1.08**	**81**	P		**Pn**	**12 07 40.3**	**+0.7**
THR6	**Thira Island,**	**1.08**	**81**	P		**Pn**	**12 07 40.3**	**+0.7**
THR6	**Thira Island,**	**1.08**	**81**	P		**Pn**	**12 07 40.8**	**+1.2**
THR6				P		**Pn**	**12 07 41.0**	**+1.4**
SAP4	**Santorini-Oia**	**1.08**	**75**	P		**Pn**	**12 07 40.6**	**+1.0**
THR3	**Thira Island,**	**1.09**	**78**	P		**Pn**	**12 07 40.3**	**+0.6**
THR3	**Thira Island,**	**1.09**	**78**	P		**Pn**	**12 07 40.3**	**+0.6**
THR3	**Thira Island,**	**1.09**	**78**	P		**Pn**	**12 07 40.9**	**+1.2**
THR3				P		**Pn**	**12 07 41.0**	**+1.3**
CMBO	**Columbo, Santo**	**1.11**	**75**	P		**Pn**	**12 07 40.8**	**+0.9**
CMBO				S		**Sn**	**12 07 55.9**	**+0.6**
CMBO	**Columbo, Santo**	**1.11**	**75**	P		**Pn**	**12 07 41.0**	**+1.1**
CMBO				P		**Pn**	**12 07 41.1**	**+1.2**
CMBO				S		**Sn**	**12 07 54.9**	**-0.4**
CMBO				AML	AML		12 07 56.7	
	comp=E,8272μm,0.3s							
CMBO				AML	AML		12 07 58.7	
	comp=N,5216μm,0.2s							
THT1	**Athinios (Pele**	**1.11**	**80**	P		**Pn**	**12 07 40.5**	**+0.6**
THT1				S		**Sn**	**12 07 55.2**	**-0.1**
THT1	**Athinios (Pele**	**1.11**	**80**	P		**Pn**	**12 07 40.2**	**+0.3**
THT1				P		**Pn**	**12 07 41.3**	**+1.4**
THT1				S		**Sn**	**12 07 55.1**	**-0.2**
THT1				AML	AML		12 07 56.0	
	comp=E,2311μm,0.4s							
THT1				AML	AML		12 07 56.5	
	comp=N,4479μm,0.1s							
THR7	**Fira-Santorini**	**1.11**	**78**	P		**Pn**	**12 07 40.6**	**+0.6**
THR7	**Fira-Santorini**	**1.11**	**78**	P		**Pn**	**12 07 40.2**	**+0.2**
THR7				P		**Pn**	**12 07 40.4**	**+0.4**
IDI	**Anoyia**	**1.12**	**144**	P		**Pn**	**12 07 40.4**	**+0.3**
	comp=N,32nm,0.3s,baz=289,slow=8.3,SNR=634							
IDI				S		**Sn**	**12 07 54.2**	**-1.4**
	comp=N,210nm,0.3s,baz=90,slow=20,SNR=58							
IDI				LR		LR	12 08 13.6	
	comp=N,63nm,19.2s,baz=336,slow=72							
IDI	**Anoyia**	**1.12**	**144**	P		**Pn**	**12 07 40.4**	**+0.3**
IDI	**Anoyia**	**1.12**	**144**	P		**Pn**	**12 07 39.8**	**-0.3**
IDI				S		**Sn**	**12 07 52.7**	**-3.0**
IDI				AML	AML		12 07 55.2	
	comp=N,2868μm,0.2s							
IDI				AML	AML		12 07 55.3	
	comp=E,4581μm,0.2s							
THR2	**Thira island,**	**1.13**	**77**	P		**Pn**	**12 07 41.0**	**+0.9**
THR2	**Thira island,**	**1.13**	**77**	P		**Pn**	**12 07 41.0**	**+0.9**
THR2	**Thira island,**	**1.13**	**77**	P		**Pn**	**12 07 41.5**	**+1.4**
THR2				P		**Pn**	**12 07 41.7**	**+1.6**
SAP2K	**Karterados**	**1.13**	**78**	P		**Pn**	**12 07 41.9**	**+1.8**
SANT	**Santorini**	**1.13**	**81**	P		**Pn**	**12 07 41.0**	**+0.8**
SANT				S		**Sn**	**12 07 55.9**	**0.0**
SANT	**Santorini**	**1.13**	**81**	P		**Pn**	**12 07 41.0**	**+0.8**
SANT				S		**Sn**	**12 07 55.9**	**0.0**
SANT	**Santorini**	**1.13**	**81**	P		**Pn**	**12 07 41.2**	**+1.0**
THR8	**Santorini-Mono**	**1.15**	**79**	P		**Pn**	**12 07 41.1**	**+0.7**
THR8	**Santorini-Mono**	**1.15**	**79**	P		**Pn**	**12 07 40.6**	**+0.2**
THR8				P		**Pn**	**12 07 41.0**	**+0.5**
IACM	**Heraklion**	**1.20**	**137**	P		**Pn**	**12 07 41.9**	**+0.9**
IACM				S		**Sn**	**12 07 57.4**	**+0.2**
IACM	**Heraklion**	**1.20**	**137**	P		**Pn**	**12 07 41.9**	**+0.9**
IACM				S		**Sn**	**12 07 57.4**	**+0.2**
IACM	**Heraklion**	**1.20**	**137**	P		**Pn**	**12 07 41.7**	**+0.7**
SIVA	**Sivas**	**1.32**	**153**	P		**Pn**	**12 07 43.6**	**+1.1**
SIVA	**Sivas**	**1.32**	**153**	P		**Pn**	**12 07 43.6**	**+1.1**
SIVA	**Sivas**	**1.32**	**153**	P		**Pn**	**12 07 44.2**	**+1.7**
GVD	**Gavdhos**	**1.35**	**180**	P		**Pn**	**12 07 43.7**	**+0.7**
GVD	**Gavdhos**	**1.35**	**180**	P		**Pn**	**12 07 44.2**	**+1.3**
GVD	**Gavdhos**	**1.35**	**180**	P		**Pn**	**12 07 44.2**	**+1.3**
APE	**Apeiranthos**	**1.46**	**53**	*e*PN		**Pn**	**12 07 44.7**	**+0.3**
APE	**Apeiranthos**	**1.46**	**53**	P		**Pn**	**12 07 44.9**	**+0.5**
APE				S		**Sn**	**12 08 03.2**	**0.0**
APE	**Apeiranthos**	**1.46**	**53**	P		**Pn**	**12 07 44.9**	**+0.5**
APE				S		**Sn**	**12 08 03.2**	**0.0**
APE	**Apeiranthos**	**1.46**	**53**	P		**Pn**	**12 07 44.4**	**0.0**
LAST	**Lasithi**	**1.54**	**132**	P		**Pn**	**12 07 46.5**	**+1.0**
LAST				S		**Sn**	**12 08 05.3**	**+0.3**
LAST	**Lasithi**	**1.54**	**132**	P		**Pn**	**12 07 46.4**	**+1.0**
LAST				S		**Sn**	**12 08 05.3**	**+0.3**
LAST	**Lasithi**	**1.54**	**132**	P		**Pn**	**12 07 46.4**	**+1.0**
LAST				S		**Sn**	**12 08 04.8**	**-0.2**
LAST				AML	AML		12 08 06.8	
	comp=N,2268μm,0.5s							
LAST				AML	AML		12 08 07.0	
	comp=E,1258μm,0.2s							
NPS	**Neapolis**	**1.56**	**126**	P		**Pn**	**12 07 46.2**	**+0.6**
NPS				S		**Sn**	**12 08 05.9**	**+0.5**
NPS	**Neapolis**	**1.56**	**126**	P		**Pn**	**12 07 46.2**	**+0.6**
NPS				S		**Sn**	**12 08 05.9**	**+0.5**
NPS	**Neapolis**	**1.56**	**126**	P		**Pn**	**12 07 46.1**	**+0.5**
NPS				S		**Sn**	**12 08 04.4**	**-1.0**
VLY	**Voula,Athens**	**1.67**	**352**	P		**Pn**	**12 07 47.7**	**+0.6**
VLY	**Voula,Athens**	**1.67**	**352**	P		**Pn**	**12 07 47.7**	**+0.6**
VLY	**Voula,Athens**	**1.67**	**352**	P		**Pn**	**12 07 47.6**	**+0.6**
ATH	**Athens Observa**	**1.80**	**351**	P		**Pn**	**12 07 49.5**	**+0.8**
ATH	**Athens Observa**	**1.80**	**351**	P		**Pn**	**12 07 49.7**	**+1.0**
ATH	**Athens Observa**	**1.80**	**351**	P		**Pn**	**12 07 49.7**	**+1.0**
VLX	**Vlachokerasia**	**1.80**	**311**	P		**Pn**	**12 07 50.1**	**+1.3**
VLX	**Vlachokerasia**	**1.80**	**311**	P		**Pn**	**12 07 50.1**	**+1.3**
VLX				S		**Sn**	**12 08 11.6**	**+0.4**
VLX	**Vlachokerasia**	**1.80**	**311**	P		**Pn**	**12 07 50.7**	**+1.9**
VLX				S		**Sn**	**12 08 11.6**	**+0.4**
VLX				AML	AML		12 08 15.4	
	comp=N,899μm,0.4s							
VLX				AML	AML		12 08 16.4	
	comp=E,801μm,0.3s							
PTL	**Penteli**	**1.86**	**355**	P		**Pn**	**12 07 50.6**	**+1.0**
PTL	**Penteli**	**1.86**	**355**	P		**Pn**	**12 07 50.2**	**+0.6**
PTL				S		**Sn**	**12 08 10.9**	**-1.6**
PTL	**Penteli**	**1.86**	**355**	P		**Pn**	**12 07 50.2**	**+0.6**
PTL				S		**Sn**	**12 08 10.9**	**-1.6**
PTL				AML	AML		12 08 13.3	
	comp=E,1838μm,0.5s							
PTL				AML	AML		12 08 16.4	
	comp=N,825μm,0.5s							
ITM	**Ithomi**	**1.99**	**300**	P		**Pn**	**12 07 52.6**	**+1.3**
ITM	**Ithomi**	**1.99**	**300**	P		**Pn**	**12 07 52.6**	**+1.3**
ITM	**Ithomi**	**1.99**	**300**	P		**Pn**	**12 07 53.5**	**+2.2**
PYL	**PYLOS**	**2.01**	**291**	P		**Pn**	**12 07 52.2**	**+0.7**
PYL	**PYLOS**	**2.01**	**291**	P		**Pn**	**12 07 52.2**	**+0.7**
PYL				S		**Sn**	**12 08 16.4**	**+0.5**
PYL	**PYLOS**	**2.01**	**291**	P		**Pn**	**12 07 51.7**	**+0.2**
PYL				S		**Sn**	**12 08 16.4**	**+0.5**
PYL				AML	AML		12 08 22.8	
	comp=E,477μm,0.2s							
PYL				AML	AML		12 08 25.1	
	comp=N,386μm,0.5s							
LTK	**Loutraki**	**2.03**	**334**	P		**Pn**	**12 07 52.8**	**+1.0**
LTK	**Loutraki**	**2.03**	**334**	P		**Pn**	**12 07 52.8**	**+1.0**
LTK				S		**Sn**	**12 08 16.2**	**-0.3**
LTK	**Loutraki**	**2.03**	**334**	P		**Pn**	**12 07 52.6**	**+0.7**
LTK				S		**Sn**	**12 08 16.2**	**-0.3**
LTK				AML	AML		12 08 20.7	
	comp=E,587μm,0.3s							
LTK				AML	AML		12 08 20.8	
	comp=N,808μm,0.5s							
ZKR	**Zakros**	**2.05**	**121**	P		**Pn**	**12 07 53.8**	**+1.8**
ZKR	**Zakros**	**2.05**	**121**	P		**Pn**	**12 07 53.8**	**+1.8**
AMT	**Artemida-Makis**	**2.32**	**306**	P		**Pn**	**12 07 57.2**	**+1.5**
AMT	**Artemida-Makis**	**2.32**	**306**	P		**Pn**	**12 07 57.2**	**+1.5**
AMT	**Artemida-Makis**	**2.32**	**306**	P		**Pn**	**12 07 58.5**	**+2.8**
KLV	**Kalavryta, Ach**	**2.41**	**321**	P		**Pn**	**12 07 57.9**	**+1.0**
KLV	**Kalavryta, Ach**	**2.41**	**321**	P		**Pn**	**12 07 57.9**	**+1.0**
KLV	**Kalavryta, Ach**	**2.41**	**321**	P		**Pn**	**12 07 57.6**	**+0.7**
NIS1	**Nisyros Isl.**	**2.54**	**80**	*e*PN		**Pn**	**12 07 59.5**	**+1.0**
NIS1	**Nisyros Isl.**	**2.54**	**80**	*e*Pn		**Pn**	**12 07 59.5**	**+1.0**
DSF	**Desfina**	**2.54**	**331**	P		**Pn**	**12 07 59.3**	**+0.7**
DSF	**Desfina**	**2.54**	**331**	P		**Pn**	**12 07 59.3**	**+0.7**
DSF	**Desfina**	**2.54**	**331**	P		**Pn**	**12 07 58.8**	**+0.2**
DRO	**Drossia**	**2.58**	**314**	P		**Pn**	**12 08 00.6**	**+1.4**
DRO	**Drossia**	**2.58**	**314**	P		**Pn**	**12 08 00.6**	**+1.4**
DRO	**Drossia**	**2.58**	**314**	P		**Pn**	**12 08 02.5**	**+3.3**
KARP	**Karpathos**	**2.59**	**104**	*e*PN		**Pn**	**12 07 60.0**	**+0.7**
KARP	**Karpathos**	**2.59**	**104**	P		**Pn**	**12 08 00.1**	**+0.8**
KARP	**Karpathos**	**2.59**	**104**	P		**Pn**	**12 08 00.1**	**+0.8**
KARP	**Karpathos**	**2.59**	**104**	P		**Pn**	**12 07 59.6**	**+0.3**
LKR	**Lokris**	**2.60**	**341**	P		**Pn**	**12 08 00.4**	**+1.0**
LKR	**Lokris**	**2.60**	**341**	P		**Pn**	**12 08 00.4**	**+1.0**
LKR	**Lokris**	**2.60**	**341**	P		**Pn**	**12 08 00.2**	**+0.8**
CHOS	**Chios island**	**2.70**	**35**	*e*PN		**Pn**	**12 08 01.1**	**+0.3**
CHOS	**Chios island**	**2.70**	**35**	*e*Pn		**Pn**	**12 08 01.1**	**+0.3**
BODT	**Bodrum**	**2.74**	**71**	*e*PN		**Pn**	**12 08 02.6**	**+1.3**
BODT	**Bodrum**	**2.74**	**71**	*e*Pn		**Pn**	**12 08 02.6**	**+1.3**
RLS	**Riolos of Patr**	**2.80**	**313**	P		**Pn**	**12 08 03.6**	**+1.6**
RLS	**Riolos of Patr**	**2.80**	**313**	P		**Pn**	**12 08 03.6**	**+1.6**
RLS	**Riolos of Patr**	**2.80**	**313**	P		**Pn**	**12 08 05.5**	**+3.4**
EFP	**Efpalio**	**2.82**	**323**	P		**Pn**	**12 08 03.6**	**+1.2**
EFP	**Efpalio**	**2.82**	**323**	P		**Pn**	**12 08 03.6**	**+1.2**
DAT	**Datca**	**2.87**	**78**	*e*PN		**Pn**	**12 08 04.4**	**+1.2**
DAT	**Datca**	**2.87**	**78**	*e*Pn		**Pn**	**12 08 04.4**	**+1.2**
ANX	**Ano Chora**	**2.95**	**325**	P		**Pn**	**12 08 05.2**	**+1.0**
ANX	**Ano Chora**	**2.95**	**325**	P		**Pn**	**12 08 05.2**	**+1.0**
ANX	**Ano Chora**	**2.95**	**325**	P		**Pn**	**12 08 05.0**	**+0.8**
URLA	**Izmir**	**2.95**	**42**	*e*PN		**Pn**	**12 08 05.0**	**+0.8**
URLA	**Izmir**	**2.95**	**42**	*e*Pn		**Pn**	**12 08 05.0**	**+0.8**
AGG	**Agios Georgios**	**3.15**	**334**	P		**Pn**	**12 08 08.0**	**+1.2**
AGG	**Agios Georgios**	**3.15**	**334**	P		**Pn**	**12 08 08.0**	**+1.2**
PVO	**Paravola**	**3.16**	**321**	P		**Pn**	**12 08 10.9**	**+4.0**
ARG	**Arkhangelos**	**3.27**	**88**	P		**Pn**	**12 08 09.9**	**+1.4**
ARG	**Arkhangelos**	**3.27**	**88**	P		**Pn**	**12 08 09.9**	**+1.4**
SIGR	**SIGRI**	**3.33**	**25**	*e*PN		**Pn**	**12 08 09.5**	**+0.3**
SIGR	**SIGRI**	**3.33**	**25**	*e*Pn		**Pn**	**12 08 09.5**	**+0.3**
DALY	**Dalyan (Mu¨la**	**3.74**	**79**	*e*PN		**Pn**	**12 08 16.9**	**+2.1**
DALY	**Dalyan (Mu¨la**	**3.74**	**79**	*e*Pn		**Pn**	**12 08 16.9**	**+2.1**
LKD2	**Lefkada island**	**3.76**	**315**	P		**Pn**	**12 08 16.1**	**+1.0**
LKD2	**Lefkada island**	**3.76**	**315**	P		**Pn**	**12 08 16.1**	**+1.0**
DSL	**Palaion Diasel**	**3.77**	**322**	P		**Pn**	**12 08 16.4**	**+1.1**
DSL	**Palaion Diasel**	**3.77**	**322**	P		**Pn**	**12 08 16.4**	**+1.1**
FETY	**Fethiye**	**4.06**	**82**	*e*PN		**Pn**	**12 08 20.8**	**+1.6**
FETY	**Fethiye**	**4.06**	**82**	*e*Pn		**Pn**	**12 08 20.8**	**+1.6**
AKAS	**Kas**	**4.47**	**88**	*e*PN		**Pn**	**12 08 26.9**	**+2.0**
AKAS	**Kas**	**4.47**	**88**	*e*Pn		**Pn**	**12 08 26.9**	**+2.0**
ELL	**Elmali**	**4.73**	**82**	*e*PN		**Pn**	**12 08 30.7**	**+2.2**
ELL	**Elmali**	**4.73**	**82**	*e*Pn		**Pn**	**12 08 30.7**	**+2.2**
SLUM	**Salum**	**4.78**	**168**	P		**Pn**	**12 08 27.9**	**-1.2**
	baz=171							
SLUM	**Salum**	**4.78**	**168**	P		**Pn**	**12 08 27.9**	**-1.2**
KORT	**Korkueli**	**5.11**	**79**	*e*PN		**Pn**	**12 08 35.9**	**+2.3**
KORT	**Korkueli**	**5.11**	**79**	*e*Pn		**Pn**	**12 08 35.9**	**+2.3**
MATC	**Matruh**	**5.50**	**151**	P		**Pn**	**12 08 36.1**	**-2.7**
	baz=154							
SWA2		**7.03**	**170**	P		**Pn**	**12 08 58.7**	**-0.9**
	baz=172							
SWA2		**7.03**	**170**	P		**Pn**	**12 08 58.7**	**-0.9**
BRTR	**Keskin Array B**	**8.33**	**62**	P		**Pn**	**12 09 20.9**	**+3.3**
	comp=N,0.4nm,0.3s,baz=242,slow=16,SNR=6.2							
KOT	**Kottamia**	**9.02**	**132**	P		**Pn**	**12 09 23.2**	**-3.7**
	baz=134							
HSAF	**As Saff**	**9.08**	**134**	P		**Pn**	**12 09 24.9**	**-2.8**
	baz=136							
HHAG	**Hagoal**	**9.16**	**130**	P		**Pn**	**12 09 25.5**	**-3.4**
	baz=133							
GLL	**Jalalah**	**9.20**	**134**	P		**Pn**	**12 09 26.5**	**-2.8**
	baz=136							
RSH		**9.59**	**120**	P		**Pn**	**12 09 30.6**	**-4.0**
	baz=122							
HFRF	**Wahat Farafira**	**9.71**	**157**	P		**Pn**	**12 09 34.8**	**-1.5**
	baz=159							
MMAI	**Mount Meron Ar**	**9.86**	**105**	P		**Pn**	**12 09 34.7**	**-3.6**
	comp=N,4.3nm,0.3s,baz=307,slow=13,SNR=11							
HNKL	**Nakhl**	**10.39**	**124**	P		**Pn**	**12 09 42.5**	**-3.1**
	baz=126							
HNKL				AMP			12 11 00.0	
	comp=N,30μm,0.6s,logA/T=4.7,baz=126							
HNKL				S		Sn	12 11 30.9	-9.3
	baz=126							
UDBI	**Udbina**	**10.46**	**325**	Sn		**Sn**	**12 11 36.1**	**-5.7**
NVLJ	**Novalja**	**10.91**	**323**	*e*Pn		**Pn**	**12 09 49.7**	**-2.8**
NVLJ				Sn		Sn	12 11 42.4	-10
GERES	**GERESS Array B**	**14.76**	**332**	P		**P**	**12 10 48.8**	**+1.1**
	comp=N,0.2nm,0.3s,baz=153,slow=12,SNR=10							
GNI	**Garni**	**16.72**	**70**	LR		LR	12 18 57.1	
	comp=N,24nm,20.3s,baz=264,slow=42							
TORD	**Torodi Ar. Bea**	**30.51**	**227**	P		**P**	**12 13 25.7**	**+0.8**
	comp=N,0.8nm,0.5s,baz=35,slow=9.3,SNR=6.9							
MKAR	**Makanchi Array**	**43.95**	**57**	P		**P**	**12 15 18.0**	**-0.1**
	comp=N,0.5nm,0.5s,baz=269,slow=7.5,SNR=4.6							

GUC ***29***

DGRG					S		Sg	12 12 54.9	+0.3
DGRG	**David-gareji**	**1.62**	**102**		P		**Pb**	12 12 32.4	0.0
DGRG					S		Sg	12 12 55.5	+0.9

*SJA **29** 12:17:02.3±0.4, 33.°45S×72.°61W, h4km±2km, ML4.6, MW4.2*
*IDC **29** 12:17:06.0±0.8, 33.°30S×72.°04W, h0km, mb4.2/7, mb1 4.3/12, mb1mx4.2/31, mbtmp4.2/12, ML4.2/4, MS3.7/5, Ms1 3.7/5, ms1mx3.3/20, Error ellipse: s-maj=33.0km s-min=17.0km az=94.0*
*NEIC **29** 12:17:08.0±0.0, 33.°35S×72.°10W, h28km, mb4.5/3, ML4.2(GUC), After GUC.*
NEIC Felt [III] at Casablanca, Navidad and San Antonio; [II] at Algarrobo, Curico, Rancagua, Talca, Valparaiso and Vina del Mar.
*GUC **29** 12:17:08.8±0.6, 33.°35S×72.°10W, h28km±10km, ML4.2*

ISC 29 12:17:06.1±1.7, 33.°30S±0.°04×72.°15W±0.°05, h4km±10km, n60, σ1°62/66, mb4.5/11, 2C, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
ROCH	**El Roble**	**1.01**	**71**	*eP*		**Pn**	**12 17 26.9**	**-0.3**
ROCH				*eS*		**Sn**	**12 17 40.7**	**-1.2**
ROCH				IAML			12 17 43.9	
	comp=N,12μm,0.3s							
CHPI	**Pichilemu**	**1.09**	**174**	*eP*		**Pb**	**12 17 27.2**	**-0.3**
CHPI				*eS*		**Sg**	**12 17 41.0**	**-0.2**
PEL	**Peldehue**	**1.23**	**83**	*eP*		**Pg**	**12 17 30.3**	**+0.6**
PEL				*eS*		**Sg**	**12 17 46.2**	**+0.5**
PEL				IAML			12 17 54.4	
	comp=N,10μm,0.6s							
ANTU	**Antumapu**	**1.29**	**102**	*eP*		**Pb**	**12 17 30.8**	**-0.1**
ANTU				*eS*		**Sn**	**12 17 47.2**	**-1.4**
ANTU				IAML			12 17 57.1	
	comp=N,7μm,0.4s							
FSR	**Penalolen**	**1.36**	**98**	*eP*		**Pb**	**12 17 32.2**	**0.0**
FSR				*eS*		**Sn**	**12 17 49.5**	**-1.0**
FCH	**Farellones**	**1.55**	**91**	*eP*		**Pb**	**12 17 35.3**	**-0.3**
FCH				*eS*		**Sg**	**12 17 56.2**	**+0.1**
GO05	**HualaæØ**	**1.71**	**174**	*eP*		**Pn**	**12 17 33.5**	**-3.2**
YECH	**El Yeso**	**1.76**	**102**	*eP*		**Pn**	**12 17 35.9**	**-1.8**
YECH				*eS*		**Sn**	**12 17 58.3**	**-2.4**
NICH	**Los Niches**	**1.86**	**156**	⇑*iP*		**Pn**	**12 17 38.0**	**-0.7**
NICH				*i S*		**Sn**	**12 18 01.3**	**-1.4**
AUSP	**Uspallata**	**2.56**	**66**	*eP*		**Pb**	**12 17 53.8**	**+1.0**
ARCO	**CERRO ARCO**	**2.74**	**81**	*eP*		**Pb**	**12 17 55.8**	**+0.2**
ARCO				IAML			12 17 59.3	
	comp=Z,2μm,0.5s							
ARCO				*eS*		**Sg**	**12 18 35.2**	**+1.1**
AAGR	**Agrelo**	**2.79**	**86**	*eP*		**Pb**	**12 17 56.3**	**-0.2**
AAGR				*eS*		**Sg**	**12 18 36.4**	**+0.6**
RTLS	**Leoncito**	**2.83**	**59**	*eP*		**Pb**	**12 17 57.7**	**+0.3**
RTLS				*eS*		**Sg**	**12 18 38.5**	**+1.3**
ASAL	**Salagasta**	**2.87**	**77**	*eP*		**Pb**	**12 17 57.7**	**-0.2**
ASAL				*eS*		**Sg**	**12 18 38.6**	**+0.2**
RTCV	**Cerro Valdivia**	**3.37**	**66**	*eP*		**Pb**	**12 18 04.6**	**-1.7**
SJA	**San Juan**	**3.51**	**61**	*eP*		**Pb**	**12 18 06.6**	**-2.2**
RTLL	**Cerro Villicun**	**3.68**	**59**	*eP*		**Pb**	**12 18 09.0**	**-2.6**
RTLL				*eS*		**Sb**	**12 18 58.5**	**+1.9**
ACCO	**Cerro Coronel**	**3.77**	**45**	*eP*		**Pb**	**12 18 10.6**	**-2.7**
ACCO				*eS*		**Sb**	**12 19 01.1**	**+1.7**
AROD	**Rodeo**	**3.87**	**37**	*eP*		**Pb**	**12 18 11.6**	**-3.4**
AROD				*eS*		**Sb**	**12 19 02.8**	**+0.5**
AMOG	**MOGNA**	**3.89**	**54**	*eP*		**Pb**	**12 18 12.1**	**-3.2**
AMOG				*eS*		**Sb**	**12 19 03.5**	**+0.7**
ACDV	**Cuesta del Vie**	**4.05**	**40**	*eP*		Pn	12 18 13.9	+5.0
ACDV				*eS*		**Sb**	**12 19 06.9**	**-0.5**
ACAN	**Cantantal**	**4.30**	**78**	*eP*		**Pb**	**12 18 17.9**	**-4.4**
LCO	**Las Campanas**	**4.45**	**17**	*ePn*		**Pn**	**12 18 14.8**	**+0.2**
LCO				*eSn*		**Sn**	**12 19 06.5**	**-0.5**
AVFE	**Valle Fertil**	**4.78**	**58**	*eP*		Pn	12 18 24.2	+5.4
AVFE				*eS*		**Sb**	**12 19 25.2**	**-3.1**
AVFE				IAML			12 19 33.1	
	comp=Z,226nm,0.6s							
AGUA	**GUANDACOL**	**4.92**	**40**	*eP*		Pn	12 18 25.9	+5.0
ACHE	**Chepes**	**5.11**	**67**	*eP*		Pn	12 18 29.2	+5.6
ACHE				*eS*		**Sb**	**12 19 34.2**	**-3.8**
MRA	**San Martin**	**5.48**	**83**	*eP*		Pn	12 18 34.1	+5.5
APLL	**PUNTA DE LOS L**	**5.59**	**60**	*eP*		Pn	12 18 35.5	+5.5
ACLC	**CERRO LA CRUZ**	**5.89**	**50**	*eP*		Pn	12 18 39.5	+5.3
ACLC				*eS*		Sb	12 19 51.3	-9.0
TCA	**Tanti**	**6.68**	**75**	*eP*		Pn	12 18 49.9	+4.8
TCA				IAML			12 18 51.4	
	comp=Z,118nm,0.3s							
CYA	**Choya**	**7.29**	**50**	*eP*		Pn	12 18 58.3	+4.9
PLCA	**Paso Flores**	**7.53**	**171**	Pn		**Pn**	**12 18 57.4**	**+0.8**
	comp=Z,1.5nm,0.3s,baz=356,slow=12,SNR=18							
PLCA				Lg		Lg	12 20 54.7	
	comp=Z,0.6nm,0.3s,baz=37,slow=8.0,SNR=2.8							
FSA	**Cafayete**	**8.95**	**38**	*eP*		**Pn**	**12 19 20.8**	**+4.6**
TRQA	**Tornquist**	**9.53**	**123**	*ePn*		**Pn**	**12 19 24.6**	**+0.6**
	comp=Z,14nm,0.8s							
LVC	**Limon Verde**	**11.03**	**16**	Pn		**Pn**	**12 19 43.3**	**-1.6**
	comp=Z,26nm,0.3s,baz=201,slow=7.5,SNR=3.6							
LVC				LR		LR	12 24 53.2	
	comp=Z,866nm,18.7s,baz=206,slow=42							
LVC	**Limon Verde**	**11.03**	**16**	Pn		**Pn**	**12 19 43.3**	**-1.6**
LVC				*ePn*		Pn	12 19 48.0	+3.0
CPUP	**Villa Florida**	**14.61**	**65**	Pn		**Pn**	**12 20 34.6**	**+1.1**
	comp=Z,0.2nm,0.3s,baz=232,slow=17,SNR=2.9							
CPUP				Lg		Lg	12 24 34.3	
	comp=Z,0.3nm,0.3s,baz=334,slow=19,SNR=4.6							
CPUP				LR		LR	12 26 34.6	
	comp=Z,329nm,19.7s,baz=248,slow=39							
LPAZ	**La Paz**	**17.32**	**13**	P		**P**	**12 21 11.1**	**+0.1**
	comp=Z,0.3nm,0.3s,baz=187,slow=7.3,SNR=17							
SIV	**San Ignacio**	**19.93**	**33**	P		**P**	**12 21 38.6**	**-0.4**
	comp=Z,0.4nm,0.3s,baz=228,slow=9.4,SNR=16							
SIV				LR		LR	12 30 45.7	
	comp=Z,206nm,19.2s,baz=260,slow=41							
EFI	**East Falkland**	**21.03**	**155**	*eP*		**P**	**12 21 50.4**	**-0.2**
NNA	**Nana**	**21.65**	**347**	LR		LR	12 28 11.6	
	comp=Z,49nm,19.1s,baz=185,slow=31							
USHA	**Ushuaia**	**21.68**	**174**	P		**P**	**12 21 58.7**	**+1.1**
	comp=Z,32nm,0.6s,baz=335,slow=9.1,SNR=6.7							
SPB	**Sao Paulo**	**23.74**	**72**	*eP*		**P**	**12 22 19.0**	**-0.3**
	comp=Z,6.3nm,0.5s							
SAML	**Samuel**	**25.61**	**21**	*eP*		**P**	**12 22 36.6**	**0.0**
	comp=Z,7.8nm,0.8s							
PTGA	**Pitinga**	**34.36**	**22**	P		**P**	**12 23 54.1**	**0.0**
	comp=Z,1.0nm,0.3s,baz=189,slow=8.2,SNR=5.6							
SNAA	**Sanae**	**52.26**	**158**	*eP*		**P**	**12 26 17.6**	**-0.4**
	comp=Z,251nm,0.8s							
QSPA	**South Pole Qui**	**56.93**	**180**	*eP*		**P**	**12 26 52.9**	**+0.7**
	comp=Z,26nm,1.1s							
SYO	**Syowa Base**	**66.55**	**159**	⇑*eP*		P	12 27 50.7	-6.0
TXAR	**Lajitas Array**	**69.08**	**331**	P		**P**	**12 28 14.7**	**+1.4**
	comp=Z,0.3nm,0.7s,baz=151,slow=7.4,SNR=4.7							
MAW	**Mawson**	**73.87**	**164**	P		**P**	**12 28 42.3**	**+0.7**
	comp=Z,1.6nm,0.6s,baz=227,slow=8.2,SNR=12							
DBIC	**Dimbokro**	**75.04**	**72**	P		**P**	**12 28 49.4**	**+0.1**
	comp=Z,2.7nm,0.6s,baz=164,slow=4.5,SNR=4.1							
DBIC				LR		LR	13 02 41.4	
	comp=Z,40nm,18.1s,baz=127,slow=36							
PDAR	**Pinedale Array**	**83.10**	**333**	P		**P**	**12 29 34.3**	**+1.3**
	comp=Z,0.5nm,0.8s,baz=85,slow=3.1,SNR=4.5							
TORD	**Torodi Ar. Bea**	**84.06**	**70**	P		**P**	**12 29 38.0**	**-0.2**
	comp=Z,3.1nm,0.7s,baz=287,slow=4.9,SNR=22							
WRA	**Warramunga Arr**	**121.33**	**209**	PKP		**PKPdf**	**12 35 59.8**	**-1.3**
	comp=Z,0.5nm,0.9s,baz=172,slow=1.5,SNR=6.1							
H11S2	**WAKE ISLAND Hyl**	**25.69**	**270**	T		T	14 54 56.3	
	baz=118,slow=74,SNR=21							
H11S1	**WAKE ISLAND Hyl**	**25.70**	**270**	T		T	14 55 02.3	
	baz=118,slow=74,SNR=18							
H11S3	**WAKE ISLAND Hyl**	**25.71**	**270**	T		T	14 54 57.7	
	baz=118,slow=74,SNR=16							
ZALV	**Zalesovo Beam**	**153.68**	**31**	PKPbc		**PKPbc**	**12 37 05.8**	**+0.1**
	comp=Z,1.9nm,0.5s,baz=321,slow=3.5,SNR=9.0							
MKAR	**Makanchi Array**	**156.37**	**48**	PKPab		**PKPab**	**12 37 30.4**	**+0.3**
	comp=Z,2.4nm,0.6s,baz=292,slow=4.2,SNR=9.6							
SONM	**Songino Array**	**165.44**	**4**	PKPab		**PKPab**	**12 38 10.5**	**+0.8**
	comp=Z,0.5nm,0.7s,baz=252,slow=3.0,SNR=4.1							

*IDC **29** 12:29:51.3±2.5, 37.°04N×141.°13E, h0km, mb3.4/2, mb1 3.5/3, mb1mx3.3/49, mbtmp3.3/3, ML3.0/1, MS2.4/2, Ms1 2.4/2, ms1mx2.2/29, Error ellipse: s-maj=46.1km s-min=32.0km az=43.0*
*ISCJB **29** 12:29:52.9±1.2, 37.°12N±0.°04×140.°92E±0.°07, h1km±6km, mb3.4/2, Error ellipse: s-maj=10.4km s-min=5.6km az=27.0*
*JMA **29** 12:29:53.5, 37.°13N×140.°86E, h7km±1km, M3.3*
JMA Felt II J1.

ISC 29 12:29:53.2±1.5, 37.°11N±0.°04×140.°91E±0.°06, h5km±8km, n12, σ0°66/19, 7C, Eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
ONAJ	**Iwakimizuishiy**	**0.09**	**265**	⇑P		**Pg**	**12 29 55.0**	**-0.2**
ONAJ				*eS*		**Sg**	**12 29 56.3**	**-0.3**
JFK	**Kawauchi**	**0.26**	**353**	⇑P		**Pg**	**12 29 58.4**	**+0.2**
JFK				*eS*		**Sg**	**12 30 02.2**	**+0.5**
JHO	**Hitachi**	**0.57**	**209**	⇑P		**Pg**	**12 30 04.3**	**+0.2**
JFT	**Otama**	**0.61**	**312**	⇑P		**Pg**	**12 30 04.9**	**-0.1**
JFT				*eS*		**Sg**	**12 30 13.0**	**0.0**
JMM	**Marumori**	**0.76**	**353**	⇑P		**Pg**	**12 30 07.6**	**-0.2**
JMM				*S*		**Sg**	**12 30 17.7**	**0.0**
JSB	**Shiboa**	**0.81**	**260**	⇑P		**Pg**	**12 30 09.0**	**+0.3**
JSB				*S*		**Sg**	**12 30 19.9**	**+0.7**
JFY	**Yanaizu**	**1.01**	**287**	⇑P		**Pg**	**12 30 12.0**	**-0.5**
JFY				*S*		**Sg**	**12 30 24.9**	**-0.7**
MJAR	**Matsushiro Arr**	**2.24**	**256**	Pn		**Pn**	**12 30 31.8**	**+0.9**
	3.8nm,0.3s,baz=76,slow=14,SNR=26							
MJAR				*S*		**Sb**	**12 31 02.1**	**-0.1**
	9.5nm,0.3s,baz=143,slow=35,SNR=12							
MJAR				LR		LR	12 31 39.1	
	comp=Z,52nm,21.3s,baz=135,slow=45							
MAT	**Matsushiro**	**2.24**	**256**	P		**Pn**	**12 30 32.1**	**+1.1**
MAT				*S*		**Sb**	**12 31 02.0**	**-0.2**
KSRS	**Korea Array**	**10.36**	**276**	LR		LR	12 35 49.4	
	comp=Z,28nm,18.5s,baz=210,slow=34							
SONM	**Songino Array**	**27.41**	**304**	P		**P**	**12 35 40.3**	**+0.6**
	0.3nm,0.4s,baz=99,slow=9.1,SNR=2.5							
WRA	**Warramunga Arr**	**57.08**	**187**	P		**P**	**12 39 38.9**	**-1.5**
	0.3nm,0.7s,baz=3.4,slow=7.6,SNR=5.6							

*IDC **29** 12:44:41.9±0.8, 7.°65S×130.°17E, h0km, mb4.3/6, mb1 4.3/8, mb1mx4.0/33, mbtmp4.3/8, ML4.1/2, MS3.4/6, Ms1 3.4/6, ms1mx3.0/27, Error ellipse: s-maj=46.3km s-min=17.9km az=83.0*
*ISCJB **29** 12:44:42.6±0.5, 7.°74S±0.°04×130.°48E±0.°07, h27km, mb4.2/6, MS3.2/3, Error ellipse: s-maj=9.9km s-min=6.3km az=6.2*
*NEIC **29** 12:44:42.9±0.7, 7.°77S×130.°51E, h10km, mb4.7/1, Error ellipse: s-maj=18.3km s-min=10.6km az=92.0*
*DJA **29** 12:44:47.2±0.6, 8.°S±4.°×13.°1E±.°, h76km±22km, M4.5/6, mB4.9/1, mb4.8/2, MLv4.4/6, Mw(mB)4.2/1*

ISC 29 12:44:44.8±0.6, 7.74S±0.°05×130.43E±0.°07, h27km, n27, σ2°41/28, mb4.3/6, MS3.1/3, 1D, Tanimbar Islands region

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
SAUI	**Saumlaki**	**0.90**	**106**	P		**Pb**	**12 45 05.2**	**+3.4**
BNDI	**Bandanaira**	**3.23**	**351**	P		**Pn**	**12 45 32.8**	**-1.0**
AAI	**Ambon**	**4.59**	**331**	P		**Pn**	**12 45 49.1**	**-3.4**
MSAI	**Masohi**	**4.61**	**341**	P		**Pn**	**12 45 52.4**	**-0.3**
FAKI	**Fak Fak**	**5.12**	**21**	P		**Pn**	**12 46 00.3**	**+0.6**
FAKI	**Fak Fak**	**5.12**	**21**	*ePn*		**Pn**	**12 46 00.2**	**+0.5**
	72nm,0.8s							
SOEI	**Soe**	**6.41**	**251**	P		**Pn**	**12 46 21.5**	**+3.9**
SOEI	**Soe**	**6.41**	**251**	*ePn*		**Pn**	**12 46 20.5**	**+2.9**
	44nm,0.8s							
SOEI				*eSn*		**Sn**	**12 47 31.6**	**+1.6**
SIJI	**Sorong**	**6.87**	**7**	Pn		**Pn**	**12 46 23.3**	**-0.6**
	2.6nm,0.3s,baz=256,slow=22,SNR=6.6							
SIJI				*S*		**Sn**	**12 47 37.8**	**-3.5**
	2.2nm,0.3s,baz=222,slow=22,SNR=6.1							
SIJI				LR		LR	12 49 33.2	
	comp=Z,195nm,19.2s,baz=256,slow=43							
SANI	**Sanana**	**7.17**	**322**	P		Pn	12 46 34.9	+6.9
LBMI	**Labuha**	**7.63**	**337**	P		Pn	12 46 40.2	+5.9
FITZ	**Fitzroy Crossi**	**11.31**	**204**	Pn		**Pn**	**12 47 23.2**	**-1.5**
	1.3nm,0.3s,baz=31,slow=10,SNR=81							
FITZ				*S*		**Sn**	**12 49 25.9**	**-4.4**
	1.6nm,0.3s,baz=98,slow=23,SNR=5.9							
WRAB	**Tennant Creek**	**12.71**	**163**	*ePn*		**Pn**	**12 47 42.5**	**-1.3**
	16nm,1.0s							
WRA	**Warramunga Arr**	**12.71**	**163**	Pn		**Pn**	**12 47 41.9**	**-2.1**
	1.1nm,0.3s,baz=348,slow=13,SNR=49							
WRA				*S*		**Sn**	**12 49 59.2**	**-5.5**
	1.0nm,0.3s,baz=338,slow=22,SNR=4.5							
WRA				LR		LR	12 53 32.0	
	comp=Z,298nm,19.6s,baz=330,slow=41							
ASAR	**Alice Springs**	**16.19**	**168**	Pn		**Pn**	**12 48 29.6**	**-1.0**
	0.5nm,0.3s,baz=338,slow=8.9,SNR=41							
ASAR				*S*		**Sn**	**12 51 31.0**	**+1.6**
	0.4nm,0.3s,baz=358,slow=23,SNR=4.5							
ASAR				LR		LR	12 55 38.0	
	comp=Z,193nm,19.6s,baz=355,slow=40							
MBWA	**Marble Bar**	**16.88**	**217**	*ePn*		**Pn**	**12 48 38.7**	**-0.5**
	71nm,1.1s							
STKA	**Stephens Creek**	**26.18**	**158**	P		**P**	**12 50 19.6**	**+2.5**
	2.8nm,0.7s,baz=332,slow=5.5,SNR=6.3							
STKA				LR		LR	13 01 15.6	
	comp=Z,198nm,20.7s,baz=23,slow=38							
CMAR	**Chiang Mai Arr**	**40.52**	**310**	LR		LR	13 10 04.9	
	comp=Z,13nm,18.6s,baz=125,slow=38							
MJAR	**Matsushiro Arr**	**44.64**	**9**	P		**P**	**12 52 55.2**	**0.0**
	3.8nm,0.9s,baz=177,slow=9.7,SNR=5.9							
KSRS	**Korea Array**	**45.01**	**357**	LR		LR	13 12 12.9	
	comp=Z,21nm,20.6s,baz=240,slow=37							
MKAR	**Makanchi Array**	**69.07**	**327**	P		**P**	**12 55 49.7**	**+1.4**
	3.6nm,0.6s,baz=124,slow=8.0,SNR=26							
ZALV	**Zalesovo Beam**	**72.42**	**334**	P		**P**	**12 56 07.3**	**-1.2**
	1.3nm,0.4s,baz=111,slow=7.9,SNR=9.7							
MAW	**Mawson**	**74.43**	**202**	P		**P**	**12 56 21.6**	**+1.5**
	3.1nm,1.0s,baz=73,slow=7.9,SNR=6.5							
BVAR	**Borovoye Array**	**78.91**	**328**	P		**P**	**12 56 46.2**	**+0.5**
	1.5nm,0.9s,baz=145,slow=5.4,SNR=6.6							
SYO	**Syowa Base**	**83.14**	**201**	⇓*eP*		**P**	**12 57 09.0**	**+1.1**
CPUP	**Villa Florida**	**145.31**	**168**	PKPbc		**PKPdf**	**13 04 21.1**	**+0.2**
	5.9nm,1.0s,baz=233,slow=5.3,SNR=5.7							
LPAZ	**La Paz**	**149.88**	**142**	PKPbc		**PKPab**	**13 04 37.4**	**-2.4**
	2.7nm,0.5s,baz=178,slow=1.2,SNR=14							

*SIGU **29** 12:46:02.7±0.1, 47.°26N×22.°74E±0.°01, h6km, mb2.4/6*
*BUC **29** 12:46:02.7±1.0, 47.°26N×22.°75E, h3km±7km, MD2.7/3, Error ellipse: s-maj=8.0km s-min=5.4km az=127.0*
*ISCJB **29** 12:46:03.3±0.5, 47.°27N±0.°02×22.°73E±0.°03, h2km±4km, Error ellipse: s-maj=4.0km s-min=2.8km az=169.6*
*CSEM **29** 12:46:04.2±0.2, 47.°24N×22.°75E, h2km, ML1.8, Error ellipse: s-maj=4.6km s-min=3.3km az=66.0*

ISC 29 12:46:03.8±1.0, 47.°24N±0.°02×22.°77E±0.°02, h8km±9km, n52, σ1°905/83, 21C-13D, Romania

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
DRGR		**0.45**	**185**	⇑*iP*		**Pg**	**12 46 12.7**	**0.0**
DRGR		**0.45**	**185**	*S*		**Sg**	**12 46 18.4**	**-0.2**
DRGR		**0.45**	**185**	⇑*iP*		**Pg**	**12 46 12.7**	**0.0**
DRGR				*i S*		**Sg**	**12 46 18.4**	**-0.2**
DRGR		**0.45**	**185**	⇑*iP*		**Pg**	**12 46 12.7**	**0.0**
DRGR				*S*		**Sg**	**12 46 18.4**	**-0.2**
BMR	**Baia Mare**	**0.66**	**49**	⇓*iP*		**Pg**	**12 46 16.1**	**-0.4**
BMR	**Baia Mare**	**0.66**	**49**	⇓*iP*		**Pg**	**12 46 16.1**	**-0.4**
BMR				*i S*		**Sg**	**12 46 24.9**	**-0.2**
BMR	**Baia Mare**	**0.66**	**49**	⇓*iP*		**Pg**	**12 46 16.1**	**-0.4**
BMR				*S*		**Sg**	**12 46 24.9**	**-0.2**
CJR	**Cluj-Napoca**	**0.78**	**133**	⇑*iP*		**Pg**	**12 46 18.2**	**-0.6**
CJR	**Cluj-Napoca**	**0.78**	**133**	⇑*iP*		**Pg**	**12 46 18.2**	**-0.6**
CJR				*i S*		**Sb**	**12 46 30.1**	**-0.3**
CJR	**Cluj-Napoca**	**0.78**	**133**	⇑*iP*		**Pg**	**12 46 18.2**	**-0.6**
CJR				*S*		**Sb**	**12 46 30.1**	**-0.3**
TRSU	**Trosnyk**	**0.86**	**9**	*ePg*		**Pg**	**12 46 19.8**	**-0.6**
TRSU				Pmg			12 46 21.4	
TRSU				*eSg*		**Sb**	**12 46 32.2**	**-0.6**
TRSU				Smg			12 46 34.6	
TRSU				Smg			12 46 34.6	
TRPA	**Tarpa**	**0.90**	**350**	⇓*iPg*		**Pb**	**12 46 21.8**	**+0.1**
KORU	**Korolevo**	**0.95**	**15**	*ePg*		**Pg**	**12 46 21.4**	**-0.7**
KORU				Pmg			12 46 23.2	
KORU				*eSg*		**Sb**	**12 46 35.2**	**0.0**
BERU	**Beregovo**	**0.99**	**355**	*ePg*		**Pg**	**12 46 22.3**	**-0.6**
BERU				*eSg*		**Sb**	**12 46 36.5**	**-0.1**
ARCR	**ARCALIA**	**1.09**	**98**	*S*		**Sb**	**12 46 40.1**	**+0.6**
ARCR	**ARCALIA**	**1.09**	**98**	*i S*		**Sb**	**12 46 40.1**	**+0.6**
ARCR	**ARCALIA**	**1.09**	**98**	*S*		**Sb**	**12 46 40.1**	**+0.6**
BRIU	**Brid**	**1.11**	**9**	*ePg*		**Pg**	**12 46 24.5**	**-0.6**
BRIU				Pmg			12 46 25.9	
BRIU				*eSg*		**Sn**	**12 46 40.4**	**-0.8**
BRIU				Smg			12 46 41.5	
SIRR	**Siria**	**1.24**	**218**	⇑*iP*		**Pg**	**12 46 27.4**	**-0.2**
SIRR	**Siria**	**1.24**	**218**	⇑*iP*		**Pg**	**12 46 27.4**	**-0.2**
SIRR				*i S*		**Sn**	**12 46 44.3**	**-0.1**
SIRR	**Siria**	**1.24**	**218**	⇑*iP*		**Pg**	**12 46 27.4**	**-0.2**
SIRR				*S*		**Sn**	**12 46 44.3**	**-0.1**
MEZ	**Mezhgor'ye**	**1.37**	**21**	*ePn*		**Pn**	**12 46 28.6**	**-0.7**
MEZ				Pmn			12 46 30.6	
MEZ				*eSn*		**Sb**	**12 46 47.1**	**-0.2**
UZH	**Uzhgorod**	**1.43**	**347**	*eSn*		**Sn**	**12 46 48.6**	**-0.3**
UZH				Smn			12 46 51.8	
NSLU	**Nyzhne Selyshc**	**1.49**	**49**	*ePg*		Pn	12 46 23.6	-7.3
NSLU				Pmg			12 46 24.5	
NSLU				*eSg*		Sn	12 46 38.9	-12
NSLU				Smg			12 46 39.5	
NSLU				Smg			12 46 39.5	
BURAR	**Bucovina Array**	**1.71**	**77**	⇑*iP*		**Pb**	**12 46 34.8**	**-0.7**
BURAR	**Bucovina Array**	**1.71**	**77**	⇑*iP*		**Pb**	**12 46 34.8**	**-0.7**
BURAR				*i S*		**Sb**	**12 46 57.2**	**+0.1**
BURAR	**Bucovina Array**	**1.71**	**77**	⇑*iP*		**Pb**	**12 46 34.8**	**-0.7**
BURAR				*S*		**Sb**	**12 46 57.2**	**+0.1**
BZS	**Buzias**	**1.81**	**206**	⇑*iP*		**Pn**	**12 46 35.8**	**+0.5**
BZS	**Buzias**	**1.81**	**206**	⇑*iP*		**Pn**	**12 46 35.8**	**+0.5**
BZS				*i S*		**Sb**	**12 46 59.9**	**-0.1**
BZS	**Buzias**	**1.81**	**206**	⇑*iP*		**Pn**	**12 46 35.8**	**+0.5**
BZS				*S*		**Sb**	**12 46 59.9**	**-0.1**
GZR	**Gura Zlata**	**1.85**	**180**	⇑*iP*		**Pb**	**12 46 37.8**	**-0.1**
GZR	**Gura Zlata**	**1.85**	**180**	⇑*iP*		**Pb**	**12 46 37.8**	**-0.1**
GZR				*i S*		**Sb**	**12 47 01.6**	**+0.3**
GZR	**Gura Zlata**	**1.85**	**180**	⇑*iP*		**Pb**	**12 46 37.8**	**-0.1**
GZR				*S*		**Sb**	**12 47 01.6**	**+0.3**
CRVS	**Cervenica-Dubn**	**1.88**	**333**	*ePg*		**Pg**	**12 46 41.7**	**+1.9**
CRVS				*eSg*		**Sb**	**12 47 02.3**	**+0.3**
CRVS	**Cervenica-Dubn**	**1.88**	**333**	*ePG*		**Pg**	**12 46 41.7**	**+1.9**
CRVS				*eSG*		**Sb**	**12 47 02.3**	**+0.3**
LOT	**Lotru**	**1.93**	**158**	⇑*iP*		**Pb**	**12 46 38.7**	**-0.6**
LOT	**Lotru**	**1.93**	**158**	⇑*iP*		**Pb**	**12 46 38.7**	**-0.6**
LOT				*i S*		**Sb**	**12 47 02.8**	**-0.7**
LOT	**Lotru**	**1.93**	**158**	⇑*iP*		**Pb**	**12 46 38.7**	**-0.6**
LOT				*S*		**Sb**	**12 47 02.8**	**-0.7**
KECS	**Kecovo**	**1.97**	**310**	*ePg*		**Pg**	**12 46 41.1**	**-0.6**
KECS				*eSg*		**Sg**	**12 47 06.9**	**-0.4**
KECS	**Kecovo**	**1.97**	**310**	*ePG*		**Pg**	**12 46 41.0**	**-0.6**
KECS				*eLG*		Lg	12 47 03.3	
PSZ	**Piszkesteto**	**2.06**	**290**	⇓*iP*		**Pn**	**12 46 38.4**	**-0.4**
PSZ	**Piszkesteto**	**2.06**	**290**	⇓*iP*		**Pn**	**12 46 38.4**	**-0.4**
PSZ				*i S*		**Sn**	**12 47 04.4**	**-0.3**
PSZ	**Piszkesteto**	**2.06**	**290**	⇓*iP*		**Pn**	**12 46 38.4**	**-0.4**
PSZ				*S*		**Sn**	**12 47 04.4**	**-0.3**
ARR	**Arges**	**2.28**	**145**	⇓*iP*		**Pn**	**12 46 43.0**	**+1.2**
ARR	**Arges**	**2.28**	**145**	⇓*iP*		**Pn**	**12 46 43.0**	**+1.2**
ARR				*i S*		**Sn**	**12 47 11.5**	**+1.4**
ARR	**Arges**	**2.28**	**145**	⇓

3.5nm,0.4s,baz=144,slow=2.6,SNR=21

MEX 29 13:11:24.6±0.4, 15°30N×93°28W, h45km±34km, MD3.6, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CCIG	**Comitan**	**1.47**	**48**	*e*P	Pn	13 11 47.4	-1.5
CCIG				*i* S	Sn	13 12 04.6	-2.4
TGIG		**1.48**	**6**	*i* P	Pn	13 11 47.1	-1.8
TGIG				*i* S	Sn	13 12 05.0	-2.0

IDC 29 13:19:30.1±9.1, 14°59S×167°48E, h108km±58km, mb3.6/5, mb1 3.8/6, mb1mx3.4/39, mbtmp4.0/6, Error ellipse: s-maj=77.3km s-min=29.2km az=38.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**7.50**	**187**	P	Pn	13 21 17.2	+0.3
	4.3nm,0.3s,baz=119,slow=20,SNR=33						
DZM				S	Sn	13 22 40.1	-0.3
	11nm,0.3s,baz=286,slow=18,SNR=11						
CTA	**Charters Tower**	**20.98**	**252**	P	P	13 24 05.8	+1.0
	1.6nm,0.5s,baz=52,slow=11,SNR=3.9						
STKA	**Stephens Creek**	**29.23**	**230**	P	P	13 25 22.4	+0.5
	6.3nm,0.5s,baz=49,slow=8.8,SNR=25						
WRA	**Warramunga Arr**	**32.05**	**256**	P	P	13 25 45.6	-1.2
	0.3nm,0.6s,baz=86,slow=9.4,SNR=6.0						
ASAR	**Alice Springs**	**32.91**	**249**	P	P	13 25 54.4	0.0
	0.8nm,0.6s,baz=79,slow=9.0,SNR=24						
VNDA	**Vanda**	**63.00**	**181**	P	P	13 29 45.0	0.0
	0.7nm,0.7s,baz=13,slow=6.8,SNR=7.0						

IDC 29 13:34:31.9±0.9, 7°68S×130°09E, h0km, mb4.1/6, mb1 4.2/8, mb1mx3.8/43, mbtmp4.1/8, ML4.2/2, MS3.1/1, Ms1 3.1/1, ms1mx2.5/32, Error ellipse: s-maj=52.2km s-min=18.8km az=78.0, Tanimbar Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SIJI	**Sorong**	**6.86**	**10**	Pn	Pn	13 36 13.4	-0.4
	4.7nm,0.3s,baz=242,slow=2.2,SNR=9.9						
SIJI				Sn	Sn	13 37 24.5	-8.3
	1.7nm,0.3s,baz=347,slow=19,SNR=4.3						
FITZ	**Fitzroy Crossi**	**11.23**	**202**	Pn	Pn	13 37 12.9	-0.9
	1.0nm,0.3s,baz=34,slow=8.6,SNR=34						
FITZ				Sn	Sn	13 39 13.1	-7.2
	1.1nm,0.3s,baz=101,slow=14,SNR=6.8						
WRA	**Warramunga Arr**	**12.87**	**162**	Pn	Pn	13 37 31.2	-5.0
	0.6nm,0.3s,baz=339,slow=13,SNR=22						
WRA				Sn	Sn	13 39 50.2	-10
	1.0nm,0.3s,baz=330,slow=22,SNR=8.5						
ASAR	**Alice Springs**	**16.32**	**167**	Pn	Pn	13 38 19.0	-3.5
	0.3nm,0.3s,baz=340,slow=9.4,SNR=24						
ASAR				Sn	Sn	13 41 12.5	-12
	0.2nm,0.3s,baz=320,slow=16,SNR=4.9						
ASAR				LR	LR	13 44 45.6	
	comp=Z,75nm,21.0s,baz=30,slow=38						
STKA	**Stephens Creek**	**26.36**	**158**	P	P	13 40 08.6	-1.3
	3.3nm,0.9s,baz=327,slow=10,SNR=3.8						
MKAR	**Makanchi Array**	**68.84**	**327**	P	P	13 45 38.9	+0.7
	4.4nm,0.7s,baz=122,slow=8.1,SNR=25						
ZALV	**Zalesovo Beam**	**72.23**	**334**	P	P	13 45 58.2	-0.5
	0.5nm,0.5s,baz=120,slow=2.3,SNR=3.0						
KURBB	**Kurchatov Arra**	**73.13**	**329**	P	P	13 46 03.9	-0.3
	1.0nm,0.6s,baz=129,slow=4.9,SNR=17						
MAW	**Mawson**	**74.36**	**202**	P	P	13 46 11.3	+0.2
	1.2nm,0.9s,baz=71,slow=6.7,SNR=4.8						
BVAR	**Borovoye Array**	**78.68**	**328**	P	P	13 46 35.5	-0.4
	0.3nm,0.4s,baz=106,slow=4.8,SNR=3.9						
CPUP	**Villa Florida**	**145.44**	**168**	PKPbc	PKPab	13 54 13.3	+0.5
	3.6nm,0.8s,baz=116,slow=1.3,SNR=6.0						
LPAZ	**La Paz**	**150.13**	**143**	PKPbc	PKPbc	13 54 26.4	-0.1
	1.5nm,0.4s,baz=181,slow=2.9,SNR=10						

*ISCJB **29** 13:41:28.8±1.1, 28°4S×0°2×176°3W±0°2, h29km, mb4.0/6, MS3.5/2, Error ellipse: s-maj=26.1km s-min=14.0km az=142.2*
*IDC **29** 13:41:36.5±4.1, 28°50S×176°64W, h67km±29km, mb3.7/6, mb1 3.8/6, mb1mx3.7/21, mbtmp4.0/6, MS3.4/2, Ms1 3.4/2, ms1mx2.8/32, Error ellipse: s-maj=37.0km s-min=27.1km az=62.0*

ISC 29 13:41:31.3±1.0, 28°5S±0°2×176°5W±0°1, h29km, n14, σ0°77/13, mb4.1/6, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**1.47**	**239**	P	**Pb**	**13 41 58.6**	**+0.6**
	134nm,0.3s,baz=79,slow=11,SNR=5.4						
RAO				S	**Sb**	**13 42 16.5**	**+0.1**
	233nm,0.3s,baz=300,slow=23,SNR=8.6						
RPZ	**Rata Peaks**	**18.19**	**210**	P	**Pn**	**13 45 39.9**	**-1.8**
	0.8nm,0.3s,baz=29,slow=3.9,SNR=5.7						
STKA	**Stephens Creek**	**36.24**	**254**	P	**P**	**13 48 32.1**	**+0.1**
	2.2nm,0.8s,baz=113,slow=12,SNR=3.1						
ASAR	**Alice Springs**	**44.58**	**264**	P	**P**	**13 49 40.8**	**-0.3**
	1.2nm,0.7s,baz=96,slow=8.8,SNR=4.2						
WRA	**Warramunga Arr**	**45.40**	**269**	P	**P**	**13 49 47.1**	**-0.6**
	2.7nm,1.0s,baz=108,slow=7.9,SNR=12						
VNDA	**Vanda**	**50.12**	**186**	P	**P**	**13 50 24.3**	**+0.9**
	0.6nm,0.9s,baz=45,slow=4.3,SNR=3.7						
GUMO	**Guam**	**56.11**	**313**	LR	LR	14 13 27.5	
	comp=Z,19nm,18.2s,baz=181,slow=34						
MAW	**Mawson**	**74.55**	**200**	P	**P**	**13 53 07.5**	**+0.5**
	2.4nm,1.0s,baz=126,slow=10,SNR=5.3						
MJAR	**Matsushiro Arr**	**77.46**	**324**	P	**P**	**13 53 24.0**	**0.0**
	1.4nm,0.8s,baz=123,slow=7.4,SNR=4.2						
NEW	**Newport**	**93.06**	**35**	LR	LR	14 29 21.7	
	comp=Z,28nm,19.2s,baz=184,slow=31						
BOSA	**Boshof**	**119.52**	**202**	PKP	**PKPdf**	**14 00 19.1**	**+0.2**
	5.0nm,0.8s,baz=143,slow=9.3,SNR=6.1						
NOA	**NORSAR Array B**	**147.05**	**353**	PKPbc	**PKPbc**	**14 01 10.5**	**-0.3**
	3.5nm,1.1s,baz=16,slow=4.4,SNR=3.6						
AKASG	**Malin Array Be**	**150.53**	**326**	PKPbc	**PKPbc**	**14 01 20.3**	**+0.4**
	0.9nm,0.5s,baz=48,slow=2.9,SNR=5.3						
TORD	**Torodi Ar. Bea**	**164.63**	**173**	PKPab	**PKPab**	**14 02 27.4**	**-0.7**
	0.8nm,1.0s,baz=219,slow=4.6,SNR=3.9						

WEL 29 13:46:43.0±0.1, 38°37S×177°51E, h39km±2km, ML3.6/37, 12C-11D, Error ellipse: s-maj=0.8km s-min=0.6km az=90.0, North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MWZ	**Matawai**	**0.04**	**24**	⇓P	Pn	13 46 48.5	-0.9
MWZ				SN	Sn	13 46 53.3	-0.5
MWZ				AML	AML	13 46 54.1	
RAGZ	**Rawiri**	**0.14**	**210**	⇑P	Pn	13 46 49.2	-1.8
RAGZ				SN	Sn	13 46 54.7	-2.6
RAGZ				AML	AML	13 46 55.3	
TKGZ	**Te Karaka**	**0.28**	**104**	PN	Pn	13 46 50.7	-0.3
TKGZ				AML	AML	13 46 58.1	
TKGZ				AML	AML	13 46 58.3	
URZ	**Urewera**	**0.33**	**290**	PN	Pn	13 46 51.4	-0.1
URZ				SN	Sn	13 46 57.9	+0.2
URZ				AML	AML	13 46 59.0	
RIGZ	**Rimuhau**	**0.39**	**149**	⇑P	Pn	13 46 52.1	-0.1
RIGZ				AML	AML	13 47 00.6	
RIGZ				AML	AML	13 47 00.8	
TWGZ	**Tauwhareparae**	**0.42**	**62**	⇓P	Pn	13 46 52.9	+0.2
TWGZ				AML	AML	13 47 03.1	
TWGZ				AML	AML	13 47 03.3	
SNGZ	**Shannon Statio**	**0.43**	**198**	⇑P	Pn	13 46 52.6	-0.1
SNGZ				AML	AML	13 47 01.1	
SNGZ				AML	AML	13 47 02.6	
RUGZ	**Raukumara Rang**	**0.43**	**18**	⇓P	Pn	13 46 52.4	-0.5
RTZ	**Ruatahuna**	**0.48**	**240**	⇑P	Pn	13 46 53.3	-0.2
CNGZ	**Carnagh Statio**	**0.56**	**101**	PN	Pn	13 46 54.8	+0.2
CNGZ				AML	AML	13 47 06.7	
CNGZ				AML	AML	13 47 06.8	
MUGZ	**Murupara**	**0.59**	**260**	PN	Pn	13 46 54.5	-0.4
PRGZ	**Paritu Road**	**0.62**	**152**	⇑P	Pn	13 46 54.8	-0.6
PRGZ				AML	AML	13 47 11.3	
PRGZ				AML	AML	13 47 11.4	
HAZ	**Te Kaha**	**0.66**	**20**	⇓P	Pn	13 46 55.7	0.0
HAZ				AML	AML	13 47 06.5	
HAZ				AML	AML	13 47 06.5	
HAZ				AML	AML	13 47 11.9	
EDRZ	**Edgecumbe**	**0.66**	**294**	PN	Pn	13 46 55.5	-0.4
KNZ	**Kokohu**	**0.66**	**168**	PN	Pn	13 46 55.2	-0.6
KNZ				AML	AML	13 47 06.1	
KNZ				AML	AML	13 47 09.0	
PKGZ	**Pakihiroa**	**0.66**	**43**	PN	Pn	13 46 55.8	-0.1
WHRZ	**Whale Island**	**0.67**	**321**	PN	Pn	13 46 55.9	0.0
WHHZ	**Waihua**	**0.73**	**197**	PN	Pn	13 46 57.1	+0.2
WHHZ				AML	AML	13 47 12.5	
WHHZ				AML	AML	13 47 12.6	
MARZ	**Manawahe**	**0.76**	**300**	⇓P	Pn	13 46 56.9	-0.4
RRRZ	**Republican Roa**	**0.78**	**272**	⇑P	Pn	13 46 57.3	-0.1
TARZ	**Mount Tarawera**	**0.80**	**280**	PN	Pn	13 46 57.8	0.0
MHGZ	**Mahia Peninsul**	**0.84**	**158**	⇑P	Pn	13 46 57.7	-0.6
MHGZ				AML	AML	13 47 12.6	
MHGZ				AML	AML	13 47 13.1	
PRRZ	**Plateau Road**	**0.88**	**262**	⇓P	Pn	13 46 58.6	-0.3
WIZ	**White Island**	**0.88**	**343**	P	Pn	13 46 58.1	-0.8
NMHZ	**Naumai**	**0.91**	**217**	⇓P	Pn	13 46 59.7	+0.5
NMHZ				AML	AML	13 47 15.7	
NMHZ				AML	AML	13 47 15.8	
WMGZ	**Waiomatatini S**	**0.91**	**53**	PN	Pn	13 46 59.1	-0.1
WMGZ				AML	AML	13 47 18.8	
WMGZ				AML	AML	13 47 19.4	
HLRZ	**Highlands Stat**	**0.92**	**277**	PN	Pn	13 46 59.4	0.0
OPRZ	**Ohinepanea**	**0.92**	**305**	PN	Pn	13 46 58.3	-1.0
ALRZ	**Allen Road**	**0.93**	**258**	PN	Pn	13 46 59.3	-0.3
HRRZ	**Handcock Road**	**0.96**	**269**	PN	Pn	13 46 59.7	-0.2
MRHZ	**Matea Rd**	**0.97**	**241**	PN	Pn	13 46 59.4	-0.7
MRHZ				AML	AML	13 47 16.2	
MRHZ				AML	AML	13 47 17.4	
ARHZ	**Aropaoanui**	**0.97**	**204**	PN	Pn	13 47 00.2	0.0
ARHZ				AML	AML	13 47 17.7	
ARHZ				AML	AML	13 47 31.1	
HSRZ	**Hossack Road**	**0.99**	**273**	PN	Pn	13 47 00.3	-0.1
MXZ	**Matakaoa Point**	**1.03**	**38**	PN	Pn	13 47 02.3	+1.4
MXZ				AML	AML	13 47 24.1	
MXZ				AML	AML	13 47 26.1	
KARZ	**Kaharoa**	**1.05**	**289**	⇑P	Pn	13 47 00.8	-0.5
WPRZ	**Whakapapatarin**	**1.06**	**262**	Pn	Pn	13 47 01.3	0.0
BKZ	**Black Stump Fm**	**1.12**	**225**	⇓P	Pn	13 47 02.1	0.0
BKZ				AML	AML	13 47 21.9	
BKZ				AML	AML	13 47 26.6	
TGRZ	**Tauranga**	**1.18**	**303**	PN	Pn	13 47 02.0	-0.9
MCHZ	**McNeill Hill**	**1.24**	**210**	⇑P	Pn	13 47 03.7	-0.1
MCHZ				AML	AML	13 47 33.6	
MCHZ				AML	AML	13 47 37.9	
CKHZ	**Cape Kidnapper**	**1.32**	**194**	PN	Pn	13 47 04.0	-1.0
CKHZ				AML	AML	13 47 22.7	
CKHZ				AML	AML	13 47 35.7	
KUTZ	**Kaahu Road**	**1.33**	**265**	PN	Pn	13 47 04.8	-0.2
KWHZ	**Kaweka Forest**	**1.35**	**219**	⇑P	Pn	13 47 05.0	-0.3
KWHZ				AML	AML	13 47 29.1	
KWHZ				AML	AML	13 47 31.5	
RITZ	**Rihia Road**	**1.42**	**244**	⇓P	Pn	13 47 06.4	0.0
KAHZ	**Kahuranaki**	**1.50**	**199**	PN	Pn	13 47 06.3	-1.1
KAHZ				AML	AML	13 47 46.7	
KAHZ				AML	AML	13 47 48.6	
KRHZ	**Kereru**	**1.54**	**215**	PN	Pn	13 47 07.0	-1.0
KRHZ				AML	AML	13 47 45.7	
KRHZ				AML	AML	13 47 48.9	
TLZ	**Tolley Road**	**1.55**	**271**	PN	Pn	13 47 07.5	-0.6
BHHZ	**Black Hill Sta**	**1.58**	**225**	⇑P	Pn	13 47 08.3	-0.2
BHHZ				AML	AML	13 47 41.9	
BHHZ				AML	AML	13 47 47.3	
OTVZ	**Oturere**	**1.64**	**241**	⇓P	Pn	13 47 09.2	-0.2
WTVZ	**West Tongariro**	**1.67**	**243**	PN	Pn	13 47 09.6	-0.2
NGZ	**Ngauruhoe**	**1.69**	**241**	PN	Pn	13 47 10.0	-0.1
TUVZ	**Tukino**	**1.70**	**238**	⇑P	Pn	13 47 10.1	-0.1
TOZ	**Tahuroa Road**	**1.71**	**291**	PN	Pn	13 47 09.1	-0.7
MOVZ	**Moawhango**	**1.71**	**232**	PN	Pn	13 47 09.9	-0.4
PXZ	**Pawanui**	**1.73**	**197**	PN	Pn	13 47 08.4	-2.1
PXZ				AML	AML	13 47 31.1	
PXZ				AML	AML	13 47 31.1	
PXZ				AML	AML	13 47 31.6	
PXZ				AML	AML	13 47 31.6	
WHVZ	**Whangaehu Hut**	**1.75**	**238**	PN	Pn	13 47 10.7	-0.3
WNVZ	**Wahianoa**	**1.77**	**237**	PN	Pn	13 47 10.9	-0.3
PNHZ	**Pukenui**	**1.84**	**213**	PN	Pn	13 47 10.5	-1.6
PNHZ				AML	AML	13 47 34.3	
PNHZ				AML	AML	13 47 36.4	
WPHZ	**Waipukurau**	**1.88**	**206**	PN	Pn	13 47 11.1	-1.5
WPHZ				AML	AML	13 47 37.3	
MTVZ	**Mangateitei**	**1.88**	**237**	PN	Pn	13 47 12.5	-0.2
PKVZ	**Pokaka**	**1.92**	**241**	PN	Pn	13 47 13.1	0.0
PRHZ	**Porangahau**	**2.01**	**199**	PN	Pn	13 47 12.2	-2.1
PRHZ				AML	AML	13 47 37.6	
PRHZ				AML	AML	13 47 40.0	
TSZ	**Takapari Road**	**2.07**	**215**	PN	Pn	13 47 13.3	-1.9
HIZ	**Hauiti**	**2.08**	**265**	PN	Pn	13 47 16.8	+1.4
DVHZ	**Dannevirke**	**2.18**	**208**	PN	Pn	13 47 14.2	-2.6
DVHZ				AML	AML	13 47 41.4	
DVHZ				AML	AML	13 47 41.8	
ANWZ	**Angora Road**	**2.23**	**201**	PN	Pn	13 47 14.4	-2.9
ANWZ				AML	AML	13 47 43.7	
ANWZ				AML	AML	13 47 45.4	
VRZ	**Vera Road**	**2.27**	**250**	PN	Pn	13 47 18.5	+0.5
WAZ	**Wanganui**	**2.40**	**234**	PN	Pn	13 47 20.0	+0.3
POWZ	**Post Office Ro**	**2.42**	**213**	PN	Pn	13 47 17.6	-2.4
POWZ				AML	AML	13 47 49.9	
POWZ				AML	AML	13 47 56.7	
PRWZ	**Pori Road**	**2.48**	**208**	PN	Pn	13 47 18.4	-2.5
PRWZ				AML	AML	13 47 49.3	
PRWZ				AML	AML	13 47 49.5	
OHWZ	**Ohakea**	**2.50**	**222**	PN	Pn	13 47 20.4	-0.6
BFZ	**Birch Farm**	**2.50**	**203**	AML	AML	13 47 48.6	
TIWZ	**Tintock**	**2.71**	**207**	PN	Pn	13 47 21.2	-2.7
TIWZ				AML	AML	13 47 56.6	
TIWZ				AML	AML	13 47 59.0	
MRZ	**Mangatainoka R**	**2.73**	**213**	PN	Pn	13 47 21.2	-3.0
MRZ				AML	AML	13 47 55.1	
MRZ				AML	AML	13 47 55.8	
NEZ	**North Egmont**	**2.81**	**250**	PN	Pn	13 47 26.9	+1.5
HOWZ	**Holdsworth Sta**	**2.95**	**211**	PN	Pn	13 47 23.7	-3.6
OGWZ	**Otaki Gorge**	**3.03**	**216**	PN	Pn	13 47 25.3	-3.1
OGWZ				AML	AML	13 48 03.1	
OGWZ				AML	AML	13 48 03.6	
MTW	**Mount Morrison**	**3.18**	**208**	PN	Pn	13 47 26.5	-3.9
KIW	**Kapiti Island**	**3.19**	**218**	PN	Pn	13 47 27.5	-3.1
CAW	**Cannon Point**	**3.31**	**214**	PN	Pn	13 47 28.4	-3.9
TRWZ	**Traveller**	**3.33**	**204**	PN	Pn	13 47 31.3	-1.2
PLWZ	**Palliser**	**3.63**	**208**	PN	Pn	13 47 31.8	-4.8
DUWZ	**D'Urville Isla**	**3.68**	**228**	PN	Pn	13 47 34.6	-2.6
TCW	**Tory Channel**	**3.77**	**220**	PN	Pn	13 47 34.6	-3.9
TUWZ	**Tuamarina**	**4.10**	**221**	PN	Pn	13 47 39.6	-3.5
NNZ	**Nelson**	**4.26**	**227**	PN	Pn	13 47 42.1	-3.2
QRZ	**Quartz Range**	**4.56**	**236**	PN	Pn	13 47 46.1	-3.2
THZ	**Tophouse**	**4.89**	**225**	⇓P	Pn	13 47 50.3	-3.7
KHZ	**Kahutara**	**5.05**	**216**	PN	Pn	13 47 51.7	-4.3
DSZ	**Denniston Nort**	**5.52**	**231**	PN	Pn	13 47 58.7	-3.9
LTZ	**Lake Taylor**	**5.94**	**220**	PN	Pn	13 48 03.5	-4.9
INZ	**Inchbonnie**	**6.34**	**225**	PN	Pn	13 48 08.9	-4.9

*ISCJB **29** 13:49:29.6±1.0, 33°75N±0°03×35°73E±0°08, h26km±6km, Error ellipse: s-maj=11.2km s-min=5.7km az=2.3*
*CSEM **29** 13:49:30.0±0.2, 33°77N×35°75E, h15km, ML2.8, Error ellipse: s-maj=6.6km s-min=4.2km az=103.0*
*NSSC **29** 13:49:31.7±1.0, 33°69N×35°92E, h27km±4km, ML1.7*
*GRAL **29** 13:49:31.6±0.3, 33°78N×35°76E, h6km±6km, MD2.8*

ISC 29 13:49:29.0±1.2, 33°74N±0°03×35°71E±0°07, h26km±9km, n17, σ0°89/30, Jordan-Syria region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DQRL	**Deir Qamar**	**0.12**	**254**	*e*P	**Pb**	**13 49 35.0**	**+0.9**
DQRL	**Deir Qamar**	**0.12**	**254**	*e*P	**Pb**	**13 49 35.0**	**+0.9**
BHL	**Bhannes**	**0.17**	**345**	*e*P	**Pb**	**13 49 34.5**	**-0.1**
BHL				*e*S	**Sb**	**13 49 36.7**	**-1.7**
BHL	**Bhannes**	**0.17**	**345**	*e*P	**Pb**	**13 49 34.5**	**-0.1**
BHL				*e*S	**Sb**	**13 49 36.7**	**-1.7**
RCY	**Rachaya**	**0.26**	**156**	*e*P	**Pb**	**13 49 36.9**	**+1.1**
RCY				*e*S	**Sb**	**13 49 41.0**	**+0.7**
BRBR	**Barbar**	**0.38**	**148**	*e*P	**Pn**	**13 49 39.1**	**0.0**
BRBR				*e*S	**Sb**	**13 49 43.4**	**0.0**
BRBR				AML	AML	13 49 48.9	
	comp=E,84nm,0.8s						
BRBR				AML	AML	13 49 50.2	
	comp=N,74nm,0.5s						
BRBR	**Barbar**	**0.38**	**148**	*e*P	**Pn**	**13 49 39.1**	**0.0**
	SNR=127						
BRBR				*e*S	**Sb**	**13 49 43.4**	**0.0**
	comp=N,74nm,0.5s,SNR=125						
HWQ	**Hawqa**	**0.57**	**20**	*e*P	**Pb**	**13 49 41.0**	**+0.4**
HWQ	**Hawqa**	**0.57**	**20**	*e*P	**Pb**	**13 49 41.0**	**+0.4**
MARH	**Ras Al Marh**	**0.70**	**66**	*e*P	**Pb**	**13 49 43.5**	**+0.6**
MARH				*e*S	**Sb**	**13 49 51.8**	**-0.6**
MARH				AML	AML	13 50 04.3	
	comp=N,50nm,0.5s						
MARH				AML	AML	13 50 05.1	
	comp=E,76nm,0.6s						
MARH	**Ras Al Marh**	**0.70**	**66**	*e*P	**Pb**	**13 49 43.5**	**+0.6**
	SNR=106						
MARH				*e*S	**Sb**	**13 49 51.8**	**-0.6**
	comp=E,76nm,0.6s,SNR=104						
HAWK	**Haweek**	**0.97**	**36**	*e*P	**Pn**	**13 49 48.6**	**+1.5**
HAWK				*e*S	**Sb**	**13 50 00.2**	**+0.4**
HAWK				AML	AML	13 50 08.4	
	comp=N,16nm,0.3s						
HAWK				AML	AML	13 50 10.3	
	comp=E,16nm,0.4s						
HAWK	**Haweek**	**0.97**	**36**	*e*P	**Pn**	**13 49 48.6**	**+1.5**
	SNR=97						
HAWK				*e*S	**Sb**	**13 50 00.2**	**+0.4**
	comp=E,16nm,0.4s,SNR=97						
SALA	**Sala**	**1.34**	**140**	*e*P	**Pb**	**13 49 53.5**	**0.0**
SALA				*e*S	**Sn**	**13 50 07.9**	**-1.3**
SALA	**Sala**	**1.34**	**140**	*e*P	**Pb**	**13 49 53.5**	**0.0**
	SNR=57						
SALA				*e*S	**Sn**	**13 50 07.9**	**-1.3**
	SNR=58						
ROOS	**tl_alroos**	**1.38**	**71**	*e*P	**Pb**	**13 49 54.3**	**+0.1**
ROOS				*e*S	**Sn**	**13 50 09.3**	**-0.9**
ROOS	**tl_alroos**	**1.38**	**71**	*e*P	**Pb**	**13 49 54.3**	**+0.1**
	SNR=57						
ROOS				*e*S	**Sn**	**13 50 09.3**	**-0.9**
	SNR=58						

*ISCJB **29** 13:53:52.5±0.7, 6°84N±0°04×73°11W±0°04, h153km±6km, Error ellipse: s-maj=7.7km s-min=4.5km az=38.2*
*FUNV **29** 13:53:52.7, 6°72N×73°14W, h163km, MW2.4*
*RSNC **29** 13:53:54.9±0.8, 6°79N×73°14W, h142km±4km, ML2.5*

ISC 29 13:53:52.1±1.4, 6°82N±0°04×73°08W±0°04, h159km±9km, n17, σ1°9±10/32, 1C, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BARC	**Barichara**	**0.25**	**204**	*e*P	**Pn**	**13 54 14.2**	**+0.2**
BARC				*i*		13 54 14.5	
	comp=Z,86nm,0.1s						
BARC				*e*S	**Sn**	**13 54 28.8**	**-1.8**
PAMC	**Pamplona, Colo**	**0.64**	**36**	*e*P	**Pn**	**13 54 16.9**	**+1.1**
PAMC				*e*S	**Sn**	**13 54 33.3**	**-0.7**
BRRC	**Barranca, Sant**	**0.69**	**294**	⇑*i*P	**Pn**	**13 54 15.9**	**+0.5**
BRRC				*e*S	**Sn**	**13 54 32.5**	**-0.8**
RUSC	**La Rusia**	**0.92**	**180**	*e*P	**Pn**	**13 54 18.1**	**+0.4**
RUSC				*e*S	**Sn**	**13 54 36.3**	**-1.0**
RUSC				*i*		13 54 40.3	
	comp=Z,24nm,0.2s						
CAPV	**Capacho**	**1.29**	**36**	*e*P	**Pn**	**13 54 22.1**	**+1.6**
CAPV				*e*S	**Sn**	**13 54 43.6**	**+1.2**
OCAC	**Ocana**	**1.43**	**351**	*e*P	**Pn**	**13 54 22.7**	**+0.8**
OCAC				*i*		13 54 48.8	
	comp=Z,53nm,0.3s						
YOPC	**Yopal, Colombi**	**1.60**	**156**	*e*P	**Pn**	**13 54 24.5**	**+1.0**
YOPC				*e*S	**Sn**	**13 54 47.5**	**-0.2**
YOPC				*i*		13 54 49.8	
	comp=Z,26nm,0.3s						
ZARC	**Zaragoza, Cauc**	**1.88**	**291**	*e*P	**Pn**	**13 54 26.9**	**+0.4**
ZARC				*e*S	**Sn**	**13 54 52.2**	**-0.8**
ZARC				*i*		13 54 57.9	
	comp=Z,57nm,0.3s						
NORC	**Norcasia**	**2.17**	**235**	*e*P	**Pn**	**13 54 30.2**	**+0.4**
NORC				*e*S	**Sn**	**13 54 57.6**	**-1.3**
CHIC	**Chingaza**	**2.27**	**197**	*e*P	**Pn**	**13 54 32.5**	**+1.1**
CHIC				*e*S	**Sn**	**13 55 00.8**	**-0.8**
CHIC				*i*		13 55 12.7	
	comp=Z,15nm,0.6s						
HELC	**Santa Helena**	**2.51**	**256**	*e*P	**Pn**	**13 54 34.9**	**+0.7**
HELC				*e*S	**Sn**	**13 55 06.1**	**-0.5**
HELC				*i*		13 55 13.3	
	comp=Z,18nm,0.4s						
VIGV	**El Vigia**	**2.63**	**40**	*e*P	**Pn**	**13 54 36.0**	**+0.7**
VIGV				*e*S	**Sn**	**13 55 08.5**	**-0.3**
SOCV	**Socops**	**2.64**	**57**	*e*P	**Pn**	**13 54 36.8**	**+1.3**
SOCV				*e*S	**Sn**	**13 55 08.5**	**-0.5**
PRAC	**Prado**	**3.57**	**210**	*e*P	**Pn**	**13 54 48.1**	**+0.9**
PRAC				*e*S	**Sn**	**13 55 30.5**	**+0.5**
VIRV	**Villa del Rosa**	**3.72**	**10**	*e*P	**Pn**	**13 54 49.6**	**+0.6**
VIRV				*e*S	**Sn**	**13 55 32.3**	**-1.0**
CURV	**Curarigua**	**4.43**	**44**	*e*P	**Pn**	**13 54 59.2**	**+1.0**
BAUV	**El Baul**	**5.42**	**67**	*e*P	**Pn**	**13 55 10.9**	**-0.3**

Mining explosion.
DDA 29 14:14:33.7, 39.65N×29.48E, h7km, Md2.5, Suspected Mining explosion., Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GDZ	**Gediz**	**0.56**	**180**	*i* P		Pg	14 14 44.6 +0.1
GDZ				*i* S		Sb	14 14 53.5 -0.7
GDZ	**Gediz**	**0.56**	**180**	P		Pg	14 14 44.6 +0.1
GDZ				S		Sb	14 14 53.5 -0.7
BORA	**Eskisehir**	**0.78**	**73**	*i* P		Pg	14 14 48.7 0.0
BORA	**Eskisehir**	**0.78**	**73**	P		Pg	14 14 48.7 0.0
DEMI	**Demirci**	**0.85**	**225**	*i* P		Pb	14 14 50.5 -0.4
DEMI				*i* S		Sn	14 15 06.5 +1.6
DEMI	**Demirci**	**0.85**	**225**	P		Pb	14 14 50.5 -0.3
DEMI				S		Sn	14 15 06.5 +1.6
ESKT	**Eskisehir**	**1.06**	**97**	*i* P		Pb	14 14 54.5 0.0
SEYT	**Eskypehyr**	**1.06**	**97**	P		Pb	14 14 54.5 0.0
KHAL	**Karahalli**	**1.28**	**180**	*i* P		Pn	14 14 57.1 -1.0
KHAL	**Karahalli**	**1.28**	**180**	P		Pn	14 14 57.1 -1.0
MANT	**Manisa**	**1.37**	**212**	*i* P		Pb	14 14 59.5 -0.1
MANT	**Manisa**	**1.37**	**212**	P		Pn	14 14 59.5 +0.2

JMA 29 14:16:08.4, 35.97N×137.31E, h7km±1km, M2.8, Eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JGN	**Niukaw**	**0.25**	**1**	P		Pg	14 14 13.5 +0.1
JGN				S		Sg	14 14 16 16.9 +0.1
JTT	**Ttatey**	**0.63**	**2**	P		Pg	14 14 16 20.7 +0.1
JTT				S		Sg	14 14 16 29.5 +0.6
JKG	**Kaga**	**0.85**	**291**	P		Pg	14 14 16 24.8 +0.1
JKG				S		Sg	14 14 16 36.3 +0.5
MAT	**Matsushiro**	**0.92**	**51**	P		Pg	14 14 16 26.2 +0.1
MAT				S		Sg	14 14 16 38.2 +0.1

*IDC **29** 14:21:06.4±5.2, 35.90N×141.43E, h0km, mb3.3/2, mb1 3.5/3, mb1mx3.2/55, mbtmp3.2/3, ML3.0/1, Error ellipse: s-maj=119.5km s-min=28.6km az=37.0*
*JMA **29** 14:21:10.5±0.1, 35.61N×140.93E, h17km±1km, M3.4*
JMA Felt I J1.
ISC 29 14:21:09.7±1.5, 35.62N±0.04×141.02E±0.08, h13km±7km, n18, σ1§05/18, 3C-2D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CHOJ	**Chosi**	**0.16**	**304**	⇓P		**Pg**	**14 21 14.0 +0.6**
CHOJ				S		**Sg**	**14 21 16.6 +0.5**
JCN	**Nagara**	**0.70**	**254**	⇑P		**Pg**	**14 21 22.7 -0.5**
JCN				*e*S		**Sg**	**14 21 31.2 -1.2**
KTR	**Katsuura**	**0.74**	**231**	⇑P		**Pg**	**14 21 23.7 -0.3**
KTR				*e*S		**Sg**	**14 21 33.0 -0.8**
BSO4	**Boso 4**	**0.84**	**222**	P		**Pg**	**14 21 25.5 -0.3**
JYT	**Yasato**	**0.91**	**313**	P		**Pg**	**14 21 26.4 -0.8**
JYT				S		**Sg**	**14 21 38.0 -1.1**
BSO3	**Boso 3**	**0.91**	**207**	⇓P		**Pb**	**14 21 27.1 -0.1**
BSO1	**Boso 1**	**0.96**	**182**	⇑P		**Pb**	**14 21 27.2 -0.6**
JHO	**Hitachi**	**1.06**	**340**	P		**Pn**	**14 21 29.0 -1.3**
MJAR	**Matsushiro Arr**	**2.46**	**293**	Pn		**Pn**	**14 21 50.4 +0.8**
	3.0nm,0.3s,baz=100,slow=14,SNR=19						
MJAR				Sn		**Sb**	**14 22 24.7 +0.7**
	4.8nm,0.3s,baz=54,slow=35,SNR=7.6						
MAT	**Matsushiro**	**2.46**	**293**	P		**Pn**	**14 21 50.4 +0.9**
MAT				*e*S		**Sn**	**14 22 19.4 -0.1**
H11N2	**WAKE ISLAND Hy**	**27.73**	**118**	T		T	14 55 58.0
	baz=310,slow=75,SNR=16						
H11N1	**WAKE ISLAND Hy**	**27.74**	**118**	T		T	14 56 07.9
	baz=310,slow=75,SNR=12						
H11N3	**WAKE ISLAND Hy**	**27.75**	**118**	T		T	14 56 06.5
	baz=310,slow=75,SNR=11						
H11S1	**WAKE ISLAND Hy**	**28.39**	**120**	T		T	14 56 48.4
	baz=312,slow=75,SNR=72						
H11S3	**WAKE ISLAND Hy**	**28.39**	**120**	T		T	14 56 55.0
	baz=312,slow=75,SNR=69						
H11S2	**WAKE ISLAND Hy**	**28.40**	**120**	T		T	14 56 47.6
	baz=312,slow=75,SNR=61						
WRA	**Warramunga Arr**	**55.62**	**188**	P		**P**	**14 30 44.6 -0.6**
	0.5nm,0.7s,baz=4.6,slow=7.5,SNR=8.4						
ASAR	**Alice Springs**	**59.34**	**188**	P		**P**	**14 31 14.0 +2.5**
	0.2nm,0.8s,baz=21,slow=10,SNR=4.0						

IDC 29 14:21:43.2±5.2, 13.36N×143.32E, h136km±80km, mb3.0/3, mb1 3.2/3, mb1mx3.0/55, mbtmp3.4/3, Error ellipse: s-maj=112.2km s-min=23.0km az=83.0, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GUMO	**Guam**	**1.53**	**81**	P		Pn	14 22 12.7 +0.7
	13nm,0.3s,baz=158,slow=5.4,SNR=34						
GUMO				S		Sn	14 22 33.9 -0.1
	37nm,0.3s,baz=325,slow=22,SNR=30						
WRA	**Warramunga Arr**	**34.25**	**195**	P		P	14 28 16.1 -0.3
	0.8nm,0.6s,baz=15,slow=9.0,SNR=15						
ASAR	**Alice Springs**	**37.93**	**194**	P		P	14 28 47.7 0.0
	0.3nm,0.9s,baz=16,slow=14,SNR=9.2						
MKAR	**Makanchi Array**	**60.61**	**316**	P		P	14 31 39.7 0.0
	0.2nm,0.6s,baz=96,slow=8.0,SNR=4.6						

*MOS **29** 14:26:49.8±0.8, 2.38N×128.34E, h209km, mb4.7/8, Error ellipse: s-maj=19.0km s-min=8.5km az=103.7*
*NEIC **29** 14:26:53.5±1.8, 2.38N×128.50E, h231km±20km, mb4.5/9, Error ellipse: s-maj=13.3km s-min=8.2km az=75.0*
*ISCJB **29** 14:26:54.0±0.3, 2.36N±0.04×128.58E±0.06, h250km, mb4.3/33, Error ellipse: s-maj=8.6km s-min=5.3km az=166.0*
*IDC **29** 14:26:54.7±1.3, 2.36N×128.64E, h238km±13km, mb4.0/23, mb1 4.0/25, mb1mx3.8/46, mbtmp4.5/25, Error ellipse: s-maj=16.3km s-min=7.1km az=80.0*
*DJA **29** 14:27:04.2±2.8, 2.1N±20.2×12.8E±1.8, h164km±16km, M4.0/6, mB4.3/2, mb4.3/4, MLv3.9/6, Mw(mB)3.4/2*
ISC 29 14:26:55.4±0.4, 2.36N±0.06×128.57E±0.08, h250km, n71, σ1§47/72, mb4.3/33, 2C-5D, Halmahera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LBMI	**Labuha**	**3.16**	**200**	P		**Pn**	**14 27 48.0 -1.7**
SIJI	**Sorong**	**4.19**	**140**	P		**Pn**	**14 28 01.1 -0.4**
	39nm,0.3s,baz=330,slow=18,SNR=18						
SANI	**Sanana**	**5.08**	**211**	P		**Pn**	**14 28 08.9 -3.3**
MSAI	**Masohi**	**5.67**	**176**	P		**Pn**	**14 28 21.5 +1.9**
NLAI	**Namlea**	**5.75**	**195**	P		**Pn**	**14 28 20.0 -0.5**
MRSI	**Marisa**	**6.88**	**254**	P		**Pn**	**14 28 33.2 -1.5**
SOEI	**Soe**	**12.77**	**200**	P		**P**	**14 29 52.6 +1.8**
SOEI	**Soe**	**12.77**	**200**	*e*Pn		**Pn**	**14 29 47.9 -0.9**
	20nm,0.8s						
JAY	**Jayapura**	**13.06**	**112**	P		**P**	**14 29 52.0 -2.0**
	0.1nm,0.3s,baz=330,slow=23,SNR=5.2						
JAY	**Jayapura**	**13.06**	**112**	P		**P**	**14 29 52.0 -2.0**
KSM	**Kuching**	**18.27**	**268**	*e*P		**P**	**14 30 49.5 -1.6**
	9.8nm,0.9s						
FITZ	**Fitzroy Crossi**	**20.53**	**188**	P		**P**	**14 31 14.6 -0.6**
	2.8nm,0.5s,baz=16,slow=8.9						
COEN	**Coen**	**21.73**	**139**	*e*P		**P**	**14 31 23.3 -3.8**
	7.0nm,0.7s						
YULB	**Yu-li**	**22.07**	**342**	*e*P		**P**	**14 31 28.0 -2.2**
	6.6nm,0.4s						
WRAB	**Tennant Creek**	**22.87**	**166**	*de*P		**P**	**14 31 37.3 -0.1**
WRAB				pmax	pmax		
	comp=Z,41nm,0.6s						
WRAB	**Tennant Creek**	**22.87**	**166**	*e*P		**P**	**14 31 35.8 -1.7**
	comp=Z,20nm,0.6s						
WRA	**Warramunga Arr**	**22.87**	**166**	P		**P**	**14 31 37.0 -0.5**
	comp=Z,10.0nm,0.4s,baz=344,slow=10,SNR=146						
WRA				ScP		**ScP**	**14 38 35.4 +1.2**
	comp=Z,1.1nm,0.6s,baz=340,slow=3.0,SNR=8.4						
YHNB	**Yeheng**	**23.25**	**343**	*e*P		**P**	**14 31 39.5 -1.4**
	comp=Z,10nm,0.3s						
JOW	**Kunigami**	**24.34**	**359**	P		**P**	**14 31 51.0 +0.2**
	comp=Z,21nm,0.7s,baz=152,slow=17,SNR=9.7						
ASAR	**Alice Springs**	**26.38**	**169**	P		**P**	**14 32 09.2 0.0**
	comp=Z,4.7nm,0.5s,baz=353,slow=7.6,SNR=210						
ASAR				PcP		**PcP**	**14 35 28.8 +0.8**
	comp=Z,0.7nm,0.6s,baz=0.6,slow=2.7,SNR=4.8						
ASAR				ScP		**ScP**	**14 38 45.5 +1.5**
	comp=Z,1.3nm,0.6s,baz=345,slow=2.8,SNR=11						
CTA	**Charters Tower**	**28.26**	**143**	P		**P**	**14 32 26.7 +0.8**
	comp=Z,4.0nm,0.7s,baz=320,slow=12,SNR=7.0						
CMAR	**Chiang Mai Arr**	**33.15**	**301**	P		**P**	**14 33 10.8 +2.0**
	comp=Z,4.2nm,0.8s,baz=118,slow=7.3,SNR=27						
CMAR				ScP		**ScP**	**14 39 08.9 +2.9**
	comp=Z,0.4nm,0.3s,baz=132,slow=2.1,SNR=4.0						
KSAR	**Wonju Array Be**	**34.92**	**359**	P		**P**	**14 33 24.1 +0.5**
KSAR	**Wonju Array Be**	**34.92**	**359**	P		**P**	**14 33 24.1 +0.5**
KSRS	**Korea Array**	**34.93**	**359**	P		**P**	**14 33 24.1 +0.4**
	comp=Z,4.9nm,0.4s,baz=176,slow=9.8,SNR=38						
MJAR	**Matsushiro Arr**	**35.16**	**14**	P		**P**	**14 33 24.3 -1.5**
	comp=Z,5.0nm,0.7s,baz=179,slow=9.0,SNR=20						
MAJO	**Matsushiro**	**35.16**	**14**	⇓*e*P		**P**	**14 33 24.5 -1.3**
MAJO				pmax	pmax		
	comp=Z,56nm,0.8s						
STKA	**Stephens Creek**	**36.22**	**161**	P		**P**	**14 33 34.4 -0.4**
	comp=Z,4.5nm,0.3s,baz=348,slow=7.7,SNR=49						
H11N1	**WAKE ISLAND Hy**	**41.22**	**62**	T		T	15 19 08.6
	baz=250,slow=75,SNR=5.6						
H11N2	**WAKE ISLAND Hy**	**41.23**	**62**	T		T	15 19 07.6
	baz=250,slow=75,SNR=2.8						
H11N3	**WAKE ISLAND Hy**	**41.24**	**62**	T		T	15 19 12.0
	baz=250,slow=75,SNR=6.4						
USRK	**Ussuriysk Ar.**	**41.78**	**4**	P		**P**	**14 34 20.1 -0.4**
	comp=Z,3.6nm,0.6s,baz=214,slow=7.6,SNR=7.3						
LSA	**Lhasa**	**44.72**	**311**	*e*P		**P**	**14 34 41.9 -2.9**
LSA				pmax	pmax		
	comp=Z,9.0nm,0.8s						
LSA	**Lhasa**	**44.72**	**311**	*e*P		**P**	**14 34 41.9 -2.9**
	comp=Z,8.6nm,0.8s						
TAPN	**Taplejung**	**46.30**	**306**	*e*P		**P**	**14 34 57.1 +0.1**
	comp=Z,8.2nm,0.3s						
ODAN	**Odare**	**46.36**	**306**	*e*P		**P**	**14 34 58.3 +0.9**
	comp=Z,27nm,0.6s						
RAMN	**Ramite**	**47.04**	**305**	*e*P		**P**	**14 35 03.7 +1.1**
	comp=Z,49nm,0.5s						
JIRN	**Jiri**	**47.66**	**306**	*e*P		**P**	**14 35 08.4 +0.8**
	comp=Z,30nm,0.3s						
GUN	**Gumba**	**48.01**	**306**	*e*P		**P**	**14 35 10.8 +0.6**
	comp=Z,28nm,0.5s						
PKIN	**Phulchoki**	**48.27**	**306**	*e*P		**P**	**14 35 12.6 +0.5**
	comp=Z,9.1nm,0.5s						
KKN	**Kakani**	**48.45**	**306**	*e*P		**P**	**14 35 13.8 +0.4**
	comp=Z,12nm,0.5s						
DMN	**Daman**	**48.52**	**305**	*e*P		**P**	**14 35 14.8 +0.8**
	comp=Z,13nm,0.6s						
ULN	**Ulaanbaatar**	**49.00**	**341**	*de*P		**P**	**14 35 17.7 +0.6**
ULN				pmax	pmax		
	comp=Z,7.0nm,0.8s						
ULN	**Ulaanbaatar**	**49.00**	**341**	*e*P		**P**	**14 35 14.7 -2.4**
	comp=Z,8.4nm,0.9s						
SONM	**Songino Array**	**49.19**	**340**	P		**P**	**14 35 19.2 +0.7**
	comp=Z,2.9nm,0.6s,baz=152,slow=7.6,SNR=16						
KOLN	**Koldanda**	**49.81**	**305**	*e*P		**P**	**14 35 24.6 +0.9**
	comp=Z,29nm,0.4s						
DANN	**Dangsing**	**49.90**	**306**	*e*P		**P**	**14 35 25.2 +0.7**
	comp=Z,2.2nm,0.6s						
PYUN	**Piuthan**	**50.43**	**305**	*e*P		**P**	**14 35 29.4 +1.1**
	comp=Z,28nm,0.5s						
PETK	**Petropavlovsk-**	**56.03**	**21**	P		**P**	**14 36 09.2 +1.0**
	comp=Z,2.7nm,0.9s,baz=214,slow=6.8,SNR=13						
YAK	**Yakutsk**	**59.54**	**1**	P		**P**	**14 36 32.1 -0.3**
	comp=Z,14nm,0.4s,baz=272,slow=0.9,SNR=12						
YAK	**Yakutsk**	**59.54**	**1**	*e*P		**P**	**14 36 32.6 +0.2**
YAK				pmax	pmax		
	comp=Z,19nm,1.0s						
MA2	**Magadan**	**59.60**	**13**	⇓*e*P		**P**	**14 36 33.9 +1.0**
MKAR	**Makanchi Array**	**59.73**	**325**	P		**P**	**14 36 34.5 +0.5**
	comp=Z,6.0nm,0.4s,baz=114,slow=8.2,SNR=147						
ZALV	**Zalesovo Beam**	**62.64**	**333**	P		**P**	**14 36 52.7 -0.6**
	comp=Z,1.9nm,0.4s,baz=112,slow=6.4,SNR=12						
SEY	**Seymchan**	**62.97**	**12**	P		**P**	**14 36 57.0 +1.7**
	comp=Z,2.3nm,0.5s,baz=208,slow=6.5,SNR=13						
KURK	**Kurchatov**	**63.88**	**327**	*e*P		**P**	**14 37 01.2 -0.3**
KURK				pmax	pmax		
	comp=Z,139nm,0.6s						
KURK	**Kurchatov**	**63.88**	**327**	*e*P		**P**	**14 37 01.2 -0.3**
	comp=Z,139nm,0.6s						
TIXI	**Tiksi**	**69.19**	**0**	⇑*e*P		**P**	**14 37 35.6 +0.9**
TIXI				pmax	pmax		
	comp=Z,3.0nm,0.9s						
BRVK	**Borovoye**	**69.54**	**327**	*d* P		**P**	**14 37 37.2 +0.1**
BRVK				pmax	pmax		
	comp=Z,17nm,1.0s						
BRVK	**Borovoye**	**69.54**	**327**	*e*P		**P**	**14 37 36.2 -1.0**
	comp=Z,17nm,1.0s						
NRIK	**Norilsk**	**72.20**	**346**	P		**P**	**14 37 53.1 +0.3**
	comp=Z,3.9nm,0.6s,baz=137,slow=6.8,SNR=4.6						
GEYT	**Alibeck**	**73.18**	**309**	P		**P**	**14 38 00.2 +0.9**
	comp=Z,2.4nm,0.6s,baz=172,slow=3.0,SNR=4.4						
VNDA	**Vanda**	**81.84**	**173**	P		**P**	**14 38 47.1 +0.8**
	comp=Z,3.1nm,0.7s,baz=320,slow=5.8,SNR=14						
KDAK	**Kodiak Island**	**82.07**	**32**	P		**P**	**14 38 47.7 0.0**
	comp=Z,3.5nm,0.4s,baz=220,slow=1.8,SNR=20						
KDAK	**Kodiak Island**	**82.07**	**32**	*i* P		**P**	**14 38 49.1 +1.4**
MAW	**Mawson**	**83.12**	**201**	P		**P**	**14 38 54.0 +1.1**
	comp=Z,1.1nm,0.7s,baz=70,slow=5.0,SNR=7.0						
ILAR	**Eielson Array**	**85.55**	**25**	P		**P**	**14 39 06.0 +0.7**
	comp=Z,0.3nm,0.4s,baz=246,slow=4.7,SNR=8.7						
ILAR	**Eielson Array**	**85.55**	**25**	P		**P**	**14 39 06.0 +0.7**
OBN	**Obninsk**	**89.23**	**325**	⇑*e*P		**P**	**14 39 23.3 +0.4**
OBN				pmax	pmax		
	comp=Z,9.0nm,0.5s						
ARCES	**ARCESS Array B**	**92.36**	**340**	P		**P**	**14 39 36.2 -1.0**
	comp=Z,2.0nm,0.8s,baz=65,slow=5.8,SNR=6.8						
COWI	**Conover**	**121.38**	**30**	*e*P		**Pdif**	**14 41 42.7 -4.7**

PRE 29 14:35:09.9±1.4, 26.43S×27.63E, h2km, ML2.1, South Africa

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KLOF	**Kloof**	**0.08**	**349**	*e*P		Pg	14 35 11.5 -0.1
KLOF				*e*S		Sg	14 35 12.3 -0.4
KLOF				AML	AML		14 35 14.1
	comp=Z,2μm,0.2s						
WDLM	**Western Deep L**	**0.18**	**272**	*e*P		Pg	14 35 13.6 0.0
WDLM				*e*S		Sg	14 35 15.5 -0.5
WDLM				AML	AML		14 35 15.7
	comp=Z,752nm,0.2s						
PRYS	**Parys**	**0.55**	**206**	*e*P		Pg	14 35 20.4 0.0
PRYS				*e*S		Sg	14 35 27.2 -0.4
PRYS				AML	AML		14 35 33.5
	comp=Z,85nm,0.7s						
ERPM	**east rand prop**	**0.56**	**81**	*e*P		Pb	14 35 21.7 -0.8
ERPM				*e*S		Sg	14 35 28.4 +0.6
ERPM				AML	AML		14 35 35.7
	comp=Z,45nm,0.9s						
KSR	**Koster**	**0.87**	**311**	*e*P		Pg	14 35 27.0 +0.3
KSR				*e*S		Sb	14 35 40.0 -0.1
KSR				AML	AML		14 35 43.4
	comp=Z,13nm,0.2s						
SEK	**Senekal**	**1.89**	**180**	*e*P		Pb	14 35 44.7 -0.4
SEK				*e*S		Sb	14 36 08.9 -0.3
SEK				AML	AML		14 36 10.8
	comp=Z,42nm,0.2s						
LBTB	**Lobatse**	**2.31**	**307**	*e*P		Pn	14 35 48.9 -0.2
LBTB				*e*S		Sn	14 36 18.0 -0.2
LBTB				AML	AML		14 36 21.1
	comp=Z,28nm,0.5s						
BOSA	**Boshof**	**3.03**	**224**	*i* P		Pn	14 35 53.0 -6.0
BOSA				*i* S		Sb	14 36 41.6 -0.5
BOSA	**Boshof**	**3.03**	**224**	*e*P		Pn	14 35 59.1 +0.1
BOSA				*e*S		Sn	14 36 36.1 +0.2
BOSA				AML	AML		14 36 44.2
	comp=Z,5.8nm,0.3s						
MATP	**Matopo**	**6.03**	**8**	*i* P		Pn	14 36 29.4 -11
MATP				*i* S		Sn	14 37 47.2 -2.8
BLWY	**Bulawayo**	**6.33**	**8**	*i* P		Pn	14 36 32.1 -12
BLWY				*i* S		Sn	14 37 53.9 -3.5

*IDC **29** 14:42:25.3±1.1, 38.02S×74.35W, h0km, mb3.9/5, mb1 4.0/7, mb1mx4.0/21, mbtmp3.8/7, ML4.0/2, MS4.2/14, Ms1 4.2/14, ms1mx4.0/27, Error ellipse: s-maj=30.6km s-min=17.6km az=64.0*
*GUC **29** 14:42:28.6±0.6, 38.08S×74.11W, h24km±5km, ML4.1*
ISC 29 14:42:28.0±1.0, 38.12S±0.05×73.9W±0.1, h18km, n36, σ1§52/23, mb4.0/5, MS4.3/13, 1C, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CCHI	**Chillan**	**2.07**	**44**	*e*P		**Pb**	**14 43 04.0 -1.0**
COCH	**Cobquecura**	**2.16**	**24**	*e*P		**Pn**	**14 43 01.5 -1.4**
COCH				*e*S		**Sn**	**14 43 28.6 -0.7**
GO05	**HualaæØ**	**3.46**	**27**	⇑*i* P		**Pn**	**14 43 20.0 -1.0**
GO05				*i* S		**Sn**	**14 44 01.5 -0.2**
GO05				IAML			14 44 27.8
	comp=E,609nm,3.1s						
PLCA	**Paso Flores**	**3.66**	**137**	Pn		**Pb**	**14 43 28.9 -3.3**
	comp=E,3.3nm,0.3s,baz=324,slow=12,SNR=24						
PLCA				Sn		**Sb**	**14 44 18.3 +2.1**
	comp=E,15nm,0.3s,baz=295,slow=9.3,SNR=5.4						
PLCA				Lg			14 44 32.4
	comp=E,16nm,0.3s,baz=67,slow=16,SNR=4.7						
ROC1	**El Roble**	**5.63**	**25**	*e*P		**Pn**	**14 43 50.1 -0.8**
ROC1				*e*S		**Sn**	**14 44 54.5 -0.7**
AUSP	**Uspallata**	**6.92**	**33**	*e*P		**Pn**	**14 44 09.5 +0.7**
RTLS	**Leoncito**	**7.33**	**32**	*e*P		**Pn**	**14 44 14.9 +0.5**
RTLS				IAML			14 44 17.9
	comp=Z,27nm,0.5s						
AMOG	**MOGNA**	**8.41**	**33**	*e*P		**Pn**	**14 44 27.8 -1.3**
ACCO	**Cerro Coronel**	**8.49**	**29**	*e*P		**Pn**	**14 44 28.8 -1.5**
ACCO				IAML			14 44 39.2
	comp=Z,12nm,0.5s						
AROD	**Rodeo**	**8.72**	**26**	*e*P		**Pn**	**14 44 32.4 -1.1**
AVFE	**Valle Fertil**	**9.12**	**37**	*e*P		**Pn**	**14 44 37.7 -1.1**
AVFE				IAML			14 44 52.9
	comp=Z,6.1nm,0.3s						
AGUA	**GUANDACOL**	**9.69**	**29**	*e*P		**Pn**	**14 44 45.3 -1.3**
APLL	**PUNTA DE LOS L**	**9.80**	**40**	*e*P		**Pn**	**14 44 46.4 -1.6**
CPUP	**Villa Florida**	**18.23**	**55**	P		**P**	**14 46 43.1 +2.9**
	comp=Z,0.1nm,0.3s,baz=225,slow=5.7,SNR=2.5						
CPUP				LR	LR		14 54 30.6
	comp=Z,691nm,20.4s,baz=232,slow=39						
LPAZ	**La Paz**	**22.32**	**15**	P		**P**	**14 47 26.5 +1.2**
	comp=Z,2.0nm,0.7s,baz=178,slow=5.4,SNR=6.4						
SIV	**San Ignacio**	**24.75**	**31**	LR	LR		14 59 31.9
	comp=Z,1μm,18.7s,baz=250,slow=41						
NNA	**Nana**	**26.16**	**353**	LR	LR		14 56 29.9
	comp=Z,368nm,18.5s,baz=180,slow=32						
PMSA	**Palmer Station**	**27.32**	**171**	LR	LR		14 58 06.8
	comp=Z,358nm,18.5s,baz=346,slow=34						
PTGA	**Pitinga**	**39.34**	**22**	LR	LR		15 08 16.9
	comp=Z,138nm,18.1s,baz=176,slow=39						
PCRV	**Puerto La Cruz**	**48.81**	**12**	LR	LR		15 14 32.0
	comp=Z,482nm,18.0s,slow=40						
RKT	**Rikitea**	**53.79**	**268**	*e*LR	LR		15 07 11.3
	comp=Z,196nm,22.2s,baz=119						
RKT	**Rikitea**	**53.79**	**268**	*e*T	T		15 49 21.9
	comp=Z,1.5nm,0.2s						
VNDA	**Vanda**	**59.78**	**192**	P	P		**14 52 32.0 +0.7**
	comp=Z,0.6nm,0.8s,baz=116,slow=6.2,SNR=3.5						
TBI	**Tubuai**	**65.01**	**259**	*e*T	T		16 03 26.5
	comp=Z,4.4nm,0.2s						
TVO	**Taravao**	**67.91**	**264**	*e*T	T		16 06 57.9
	comp=Z,0.9nm,0.2s						
TIAR	**Tiarei**	**68.11**	**264**	*e*T	T		16 07 16.4
	comp=Z,4.5nm,0.3s						
PPT2	**Papeete2**	**68.27**	**264**	*e*S	S		15 02 41.7 +13
	comp=Z,57nm,23.8s						
PPT2	**Papeete2**	**68.27**	**264**	*e*LR	LR		15 14 08.7
	comp=Z,164nm,24.2s						
PPT	**Papeete**	**68.28**	**264**	LR	LR		15 17 18.9
	comp=Z,168nm,18.4s,baz=146,slow=31						
MAW	**Mawson**	**69.65**	**164**	P	P		**14 53 37.2 +1.4**
	comp=Z,2.4nm,1.0s,baz=163,slow=5.1,SNR=5.1						
MAW				LR	LR		15 24 30.1
	comp=Z,242nm,18.5s,baz=238,slow=36						
LPIG	**La Paz**	**70.72**	**325**	LR	LR		15 18 03.8
	comp=Z,214nm,18.2s,baz=172,slow=30						
TXAR	**Lajitas Array**	**72.66**	**333**	P	P		**14 53 53.3 -1.2**
	comp=Z,0.9nm,0.7s,baz=155,slow=7.9,SNR=12						
TXAR				LR	LR		15 21 30.0
	comp=Z,163nm,18.1s,baz=0.0,slow=32						
BOSA	**Boshof**	**79.45**	**118**	LR	LR		15 31 24.8
	comp=Z,72nm,18.0s,baz=198,slow=37						
RPZ	**Rata Peaks**	**79.59**	**222**	LR	LR		15 22 04.2
	comp=Z,128nm,18.2s,baz=134,slow=30						
RAO	**Raoul Island**	**82.45**	**239**	LR	LR		15 20 48.1
	comp=Z,57nm,21.1s,baz=10,slow=28						
TORD	**Torodi Ar. Bea**	**86.97**	**71**	P	P		**14 55 12.6 +0.3**
	comp=Z,1.0nm,0.6s,baz=212,slow=3.4,SNR=5.7						
TORD				LR	LR		15 34 16.9
	comp=Z,148nm,18.0s,baz=160,slow=36						

*SCB **29** 15:00:02.2±0.2, 19.57S×64.06W, h36km, Ml3.9/3, Error ellipse: s-maj=4.5km s-min=3.5km az=134.0*
*IDC **29** 15:00:04.1±1.3, 19.47S×64.06W, h0km, mb4.4/1, mb1 4.4/5, mb1mx4.0/31, mbtmp4.3/5, ML4.3/3, MS3.1/1, Ms1 3.1/1, ms1mx2.7/25, Error ellipse: s-maj=22.1km s-min=18.6km az=179.0*
*ISCJB **29** 15:00:07.2±0.6, 19.53S±0.04×64.01W±0.05, h33km, mb4.3/1, Error ellipse: s-maj=6.4km s-min=5.2km az=171.4*
ISC 29 15:00:09.4±1.0, 19.52S±0.05×64.04W±0.06, h35km, n17, σ1§22/25, 9C, Southern Bolivia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MOCB	**Mochara**	**2.29**	**221**	⇑*i* Pn		**Pn**	**15 00

TLIG	**Tlapa**	**2.16**	**79**	*i* P	Pn	15 08 57.8	-1.9
TLIG				*i* S	Sn	15 09 23.1	-2.5

*ISCJB **29** 15:09:28.1±0.8,24˙.41S±0˙.09×178˙.0W±0˙.2, h250km, mb3.7/5, Error ellipse: s-maj=24.4km s-min=8.1km az=24.7.*
*IDC **29** 15:09:29.2±2.6,24˙.41S×178˙.11W, h236km±23km, mb3.5/5, mb1 3.6/7, mb1mx3.4/25, mbtmp4.3/7, Error ellipse: s-maj=25.7km s-min=23.5km az=55.0*
ISC 29 15:09:29.0±0.8,24˚.55S±0˚.1×177˚.8W±0˚.2, h250km, n9, σ3°38/12, mb3.8/5, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**11.96**	**29**	P			**Pn**	**15 12 14.8**	**+2.5**
	3.2nm,0.3s,baz=228,slow=12,SNR=7.7								
AFI				S			**S**	**15 14 19.6**	**-6.3**
	3.3nm,0.3s,baz=78,slow=22,SNR=4.2								
URZ	**Urewera**	**14.38**	**196**	P			**P**	**15 12 43.6**	**+1.7**
	5.8nm,0.3s,baz=21,slow=8.1,SNR=28								
URZ				S			**S**	**15 15 14.7**	**-6.1**
	1.7nm,0.3s,baz=37,slow=20,SNR=12								
DZM	**Mont Dzumac**	**14.71**	**276**	P			P	15 12 49.2	+3.4
	0.7nm,0.3s,baz=66,slow=19,SNR=14								
RPZ	**Rata Peaks**	**21.24**	**203**	P			**P**	**15 13 56.2**	**+0.5**
	7.7nm,0.6s,baz=21,slow=7.4,SNR=9.3								
STKA	**Stephens Creek**	**36.40**	**249**	P			**P**	**15 16 10.1**	**+0.2**
	1.3nm,0.4s,baz=86,slow=15,SNR=12								
ASAR	**Alice Springs**	**43.95**	**261**	P			**P**	**15 17 10.6**	**-1.2**
	0.4nm,0.7s,baz=92,slow=7.1,SNR=15								
WRA	**Warramunga Arr**	**44.40**	**266**	P			**P**	**15 17 13.7**	**-1.7**
	1.0nm,0.5s,baz=101,slow=8.1,SNR=24								
WRA				ScP			**ScP**	**15 22 25.1**	**+2.5**
	1.3nm,0.9s,baz=99,slow=3.7,SNR=6.4								
MAW	**Mawson**	**77.88**	**200**	P			**P**	**15 21 00.2**	**+1.5**
	2.1nm,0.6s,baz=144,slow=5.0,SNR=7.3								
TORD	**Torodi Ar. Bea**	**168.69**	**177**	PKP			**PKPdf**	**15 29 07.6**	**+0.9**
	0.3nm,0.5s,baz=345,slow=1.3,SNR=2.9								
TORD				PKPab			**PKPab**	**15 30 19.7**	**+1.8**
	1.5nm,0.6s,baz=186,slow=3.8,SNR=9.1								

*ISCJB **29** 15:25:35.8±0.5, 40˙.33N±0˙.03×27˙.86E±0˙.03, h0km±6km, Error ellipse: s-maj=4.8km s-min=3.9km az=13.4*
*CSEM **29** 15:25:35.9±0.2, 40˙.32N×27˙.84E, h5km, MD2.7, Error ellipse: s-maj=4.1km s-min=3.2km az=18.0*
*ISK **29** 15:25:35.1, 40˙.28N×27˙.82E, h7km, MD2.7*
*DDA **29** 15:25:36.6, 40˙.32N×27˙.91E, h7km, Md2.4*
ISC 29 15:25:35.8±1.1, 40˚.31N±0˚.03×27˚.82E±0˚.02, h6km±11km, n37, σ0°90/49, Turkey

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
KNL	**Bal˘–kesir**	**0.23**	**261**	*i* P			**Pg**	**15 25 36.4**	**-3.9**
KNL				*i* S			**Sg**	**15 25 45.8**	**+2.5**
MRMT	**Marmara Adasi**	**0.34**	**330**	*e*PG			**Pg**	**15 25 42.8**	**+0.3**
MRMT				*e*SG			**Sb**	**15 25 48.7**	**-1.5**
MRMT	**Marmara Adasi**	**0.34**	**330**	*e*Pg			**Pg**	**15 25 42.8**	**+0.3**
MRMT				*e*Sg			**Sb**	**15 25 48.7**	**-1.5**
KRBG	**Karabiga-Canak**	**0.41**	**282**	*e*PG			**Pg**	**15 25 43.7**	**0.0**
KRBG	**Karabiga-Canak**	**0.41**	**282**	*e*Pg			**Pg**	**15 25 43.7**	**0.0**
KCTX	**Karacabey (Bur**	**0.41**	**96**	*e*PG			**Pg**	**15 25 43.3**	**-0.5**
KCTX				*e*SG			**Sg**	**15 25 49.3**	**+0.1**
KCTX	**Karacabey (Bur**	**0.41**	**96**	*e*Pg			**Pg**	**15 25 43.3**	**-0.5**
KCTX				*e*Sg			**Sg**	**15 25 49.3**	**+0.1**
BALY	**Balya**	**0.59**	**195**	*i* P			**Pg**	**15 25 47.0**	**-0.2**
BALY				*i* S			**Sb**	**15 25 57.1**	**-0.1**
BALY	**Balya**	**0.59**	**195**	P			**Pg**	**15 25 47.0**	**-0.2**
BALY				S			**Sb**	**15 25 57.1**	**-0.1**
SBT3	**Marmara-Eregli**	**0.59**	**11**	*e*PG			**Pb**	**15 25 47.9**	**-0.5**
SBT2	**Guzelce-Avcila**	**0.78**	**43**	*e*PG			**Pg**	**15 25 50.7**	**0.0**
LPK	**Lapseki**	**0.81**	**275**	*e*PG			**Pg**	**15 25 51.3**	**-0.2**
LPK	**Lapseki**	**0.81**	**275**	*e*Pg			**Pg**	**15 25 51.3**	**-0.2**
ARMT	**Armutlu**	**0.83**	**72**	*e*PG			**Pg**	**15 25 51.7**	**-0.1**
ARMT	**Armutlu**	**0.83**	**72**	*e*Pg			**Pg**	**15 25 51.7**	**-0.1**
SBT5	**Esenkoy-Cinarc**	**0.87**	**68**	*e*PG			**Pg**	**15 25 52.3**	**-0.2**
SLVT	**Silivri**	**0.97**	**18**	*e*PG			**Pb**	**15 25 55.2**	**+0.2**
SLVT	**Silivri**	**0.97**	**18**	*e*Pg			**Pb**	**15 25 55.2**	**+0.2**
KESN	**Edirne-Kesan**	**1.01**	**301**	*i* P			**Pb**	**15 25 56.0**	**0.0**
KESN				*i* S			**Sb**	**15 26 10.7**	**+1.0**
KESN	**Edirne-Kesan**	**1.01**	**301**	P			**Pb**	**15 25 56.0**	**0.0**
KESN				S			**Sb**	**15 26 10.7**	**+1.0**
IGD	**Bursa**	**1.06**	**92**	*i* P			**Pg**	**15 25 55.0**	**-1.1**
IGD				*i* S			**Sb**	**15 26 11.0**	**+0.4**
ERIK	**Erikli-Kesan**	**1.06**	**290**	*e*PG			**Pg**	**15 25 55.9**	**-0.3**
ERIK	**Erikli-Kesan**	**1.06**	**290**	*e*Pg			**Pg**	**15 25 55.9**	**-0.3**
CTKS	**Kestanelik-??a**	**1.06**	**29**	*e*PN			**Pb**	**15 25 56.7**	**0.0**
CTKS	**Kestanelik-??a**	**1.06**	**29**	*e*Pn			**Pb**	**15 25 56.7**	**0.0**
KAVV	**Kandilli-Istan**	**1.21**	**51**	*e*PN			**Pn**	**15 25 59.0**	**-0.3**
ISK	**Istanbul-Kandi**	**1.21**	**51**	*e*PN			**Pg**	**15 25 58.7**	**-0.3**
ISK	**Istanbul-Kandi**	**1.21**	**51**	*e*Pn			**Pg**	**15 25 58.7**	**-0.3**
KLYT	**Kilyos**	**1.32**	**44**	*e*PN			**Pb**	**15 26 00.8**	**-0.3**
KLYT	**Kilyos**	**1.32**	**44**	*e*Pn			**Pb**	**15 26 00.8**	**-0.3**
DEMI	**Demirci**	**1.44**	**151**	*i* P			**Pg**	**15 26 03.6**	**+0.2**
DEMI				*i* S			**Sg**	**15 26 23.6**	**+1.5**
DEMI	**Demirci**	**1.44**	**151**	P			**Pg**	**15 26 03.6**	**+0.2**
DEMI				S			**Sg**	**15 26 23.6**	**+1.5**
HRT	**Hereke**	**1.50**	**69**	*e*PN			**Pb**	**15 26 03.6**	**-0.5**
HRT	**Hereke**	**1.50**	**69**	*e*Pn			**Pb**	**15 26 03.6**	**-0.5**
SIMA	**Simav-Kutahya**	**1.52**	**143**	*e*PN			**Pn**	**15 26 03.0**	**-0.6**
TVSB	**Tavsanli**	**1.52**	**124**	*e*PN			**Pn**	**15 26 03.6**	**-0.1**
TVSB	**Tavsanli**	**1.52**	**124**	*e*Pn			**Pn**	**15 26 03.6**	**-0.1**

*CSEM **29** 15:26:37.2, 38˙.62N×34˙.02E, h7km, MD2.4*
DDA 29 15:26:37.2, 38˚.62N×34˚.02E, h7km, Md2.4, Turkey

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
AKSY	**AKSARAY - Alti**	**0.21**	**278**	*i* P			Pg	15 26 40.9	-0.6
AKSY				*i* S			Sg	15 26 45.5	+1.2
AKSY	**AKSARAY - Alti**	**0.21**	**278**	P			Pg	15 26 40.8	-0.6
AKSY				S			Sg	15 26 45.5	+1.2
AVNS	**Nevsehir-Avano**	**0.67**	**74**	*i* P			Pg	15 26 47.5	-2.7
AVNS				*i* S			Sg	15 26 59.8	+0.8
AVNS	**Nevsehir-Avano**	**0.67**	**74**	P			Pg	15 26 47.5	-2.7
AVNS				S			Sg	15 26 59.8	+0.8
KKUL	**Konya-Kulu**	**1.02**	**303**	*i* P			Pg	15 26 56.9	0.0
KKUL				*i* S			Sn	15 27 13.6	+0.8
KKUL	**Konya-Kulu**	**1.02**	**303**	P			Pg	15 26 56.9	0.0
KKUL				S			Sn	15 27 13.6	+0.8
CDAG	**Cicekdag**	**1.04**	**15**	*i* P			Pn	15 26 58.1	-0.2
CDAG				*i* S			Sn	15 27 15.2	+2.0
CDAG	**Cicekdag**	**1.04**	**15**	P			Pn	15 26 58.1	-0.2
CDAG				S			Sn	15 27 15.2	+2.0

*DDA **29** 15:34:01.7, 39˙.67N×38˙.76E, h7km, Md2.4*
*CSEM **29** 15:34:02.5±0.4, 39˙.66N×38˙.79E, h5km, MD2.4, Error ellipse: s-maj=8.1km s-min=6.6km az=107.0*
*ISK **29** 15:34:03.0, 39˙.66N×38˙.70E, h6km, MD2.7*
ISC 29 15:34:01.3±1.2, 39˚.69N±0˚.03×38˚.80E±0˚.03, h9km±10km, n17, σ0°97/27, Turkey

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
KEMA	**Kemaliye**	**0.49**	**210**	*i* P			**Pg**	**15 34 10.2**	**-0.6**
KEMA				*i* S			**Sg**	**15 34 17.5**	**+0.3**
KEMA	**Kemaliye**	**0.49**	**210**	P			**Pg**	**15 34 10.2**	**-0.6**
KEMA				S			**Sg**	**15 34 17.5**	**+0.3**
KELT	**Kelkit**	**0.57**	**37**	*i* P			**Pb**	**15 34 13.8**	**+0.1**
KELT				*i* S			**Sn**	**15 34 23.5**	**-2.1**
KELT	**Kelkit**	**0.57**	**37**	P			**Pb**	**15 34 13.8**	**+0.1**
KELT				S			**Sn**	**15 34 23.5**	**-2.1**
SUSE	**Susehri**	**0.69**	**318**	*i* P			**Pg**	**15 34 13.5**	**-1.2**
SUSE				*i* S			**Sg**	**15 34 24.9**	**+1.1**
ERZN	**Erzincan**	**0.72**	**98**	*e*PG			**Pn**	**15 34 18.9**	**+1.0**
ERZN				*e*SG			**Sn**	**15 34 30.0**	**+0.9**
PTK	**Pertek**	**0.92**	**150**	*e*PG			**Pn**	**15 34 21.4**	**+0.7**
PTK	**Pertek**	**0.92**	**150**	*e*Pg			**Pn**	**15 34 21.4**	**+0.7**
CUKAN	**kangal_SIVAS**	**1.10**	**250**	*i* P			**Pn**	**15 34 24.3**	**+1.2**
CUKAN				*i* S			**Sn**	**15 34 38.4**	**-0.2**
CUKAN	**kangal_SIVAS**	**1.10**	**250**	P			**Pn**	**15 34 24.3**	**+1.2**
CUKAN				S			**Sn**	**15 34 38.4**	**-0.2**
ELZG	**Elazig**	**1.20**	**173**	*i* P			**Pg**	**15 34 24.2**	**-0.2**
ELZG				*i* S			**Sn**	**15 34 40.7**	**-0.4**
ELZG	**Elazig**	**1.20**	**173**	P			**Pg**	**15 34 24.2**	**-0.2**
ELZG				S			**Sn**	**15 34 40.7**	**-0.4**
SVSK	**Karacayir**	**1.41**	**280**	*e*PN			**Pg**	**15 34 28.8**	**+0.5**
SVSK	**Karacayir**	**1.41**	**280**	*e*Pn			**Pg**	**15 34 28.8**	**+0.5**
DARE	**Darende-Malaty**	**1.52**	**223**	*e*PN			**Pg**	**15 34 30.3**	**-0.2**
DARE	**Darende-Malaty**	**1.52**	**223**	*e*Pn			**Pg**	**15 34 30.3**	**-0.2**
SARI	**SarD1z-Kayseri**	**2.26**	**236**	*e*PN			**Pb**	**15 34 40.8**	**-1.6**

*GUC **29** 15:40:47.0±0.7, 38˙.08S×74˙.59W, h21km±8km, ML5.2*
*ISCJB **29** 15:40:50.8±0.2, 38˙.03S×73˙.90W±0˙.05, h18km, mb5.0/67, MS4.9/18, Error ellipse: s-maj=5.5km s-min=4.4km az=0.1*
*BJI **29** 15:40:52.9, 37˙.90S×74˙.00W, h29km, mB5.4/10, Ms5.4/7, Ms7 5.3/7*
*MOS **29** 15:40:53.3±1.2, 37˙.93S×73˙.91W, h39km, mb5.3/27, MS5.0/5, Error ellipse: s-maj=17.6km s-min=9.3km az=99.3*
*NEIC **29** 15:40:53.3±1.5, 37˚.93S×73˚.97W, h31km±10km, mb5.1/64, Error ellipse: s-maj=8.4km s-min=3.9km az=82.0*
*GCMT **29** 15:40:53.3±0.2, 38˚.06S×74˚.56W, h12km, MW5.2/98, Moment Tensor Solution. s53,c68; s98,c144; Duration: 1s0 Moment tensor: Scale 10^{17}Nm; M_{rr}0.59±.01; $M_{\theta\theta}$0.06±.01; $M_{\phi\phi}$-0.65±.01; $M_{r\theta}$-0.08±.04; $M_{\theta\phi}$-0.07±.01; $M_{\phi r}$-0.66±.04; Best double couple: M0.91000×10^{17} NP1:ϕ_s187.00000°, δ68.00000°, λ91.00000°. NP2: ϕ_s3.00000°, δ22.00000°, λ87.00000°. Principal axes: T 0.8760, Plg67.0000°, Azm99.0000°; N 0.0670, Plg1.0000°, Azm6.0000°; P -0.9430, Plg23.0000°, Azm276.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*IDC **29** 15:40:57.0±3.1, 38˙.04S×73˙.70W, h55km±26km, mb4.3/10, mb1 4.6/14, mb1mx4.4/24, mbtmp4.7/14, ML4.9/4, MS4.7/10, Ms1 4.6/10, ms1mx4.5/18 Error ellipse: s-maj=24.9km s-min=13.3km az=88.0*
ISC 29 15:40:51.3±0.3, 37˚.94S±0˚.04×74˚.10W±0˚.06, h18km, n402, σ2°16/392, mb5.1/67, MS5.0/18, 2C-3D, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
CCHI	**Chillan**	**2.10**	**51**	*e*P			**Pn**	**15 41 26.8**	**+1.2**
CCHI				*e*S			**Sg**	**15 41 57.3**	**-1.4**
CCHI				IAML				15 42 12.1	
	comp=E,16µm,0.7s								
GO05	**HualaæØ**	**3.41**	**32**	*e*P			**Pb**	**15 41 47.6**	**-3.6**
GO05				*e*S			**Sg**	**15 42 44.5**	**+3.7**
GO05	**HualaæØ**	**3.41**	**32**	*e*Pn			**Pn**	**15 41 43.5**	**-0.1**
PLCA	**Paso Flores**	**3.92**	**136**	P			**Pn**	**15 41 50.8**	**+0.1**
	comp=E,13nm,0.3s,baz=321,slow=8.3,SNR=13								
PLCA				S			**Sb**	**15 42 46.3**	**-0.8**
	comp=E,20nm,0.3s,baz=239,slow=18,SNR=4.3								
PLCA	**Paso Flores**	**3.92**	**136**	*e*P			**Pn**	**15 41 51.2**	**+0.6**
PLCA				*e*S			**Sb**	**15 42 50.8**	**+3.7**
PEL	**Peldehue**	**5.54**	**31**	P			**Pn**	**15 42 12.8**	**-0.1**
ROC1	**El Roble**	**5.56**	**28**	*e*P			**Pn**	**15 42 13.6**	**+0.3**
ROC1	**El Roble**	**5.56**	**28**	*e*Pn			**Pn**	**15 42 12.4**	**-0.9**
AAGR	**Agrelo**	**6.48**	**43**	*e*P			**Pn**	**15 42 29.5**	**+3.6**
AAGR				*e*S			**Sb**	**15 43 57.0**	**-3.6**
ARCO	**CERRO ARCO**	**6.61**	**41**	*e*P			**Pn**	**15 42 30.6**	**+2.9**
ARCO				IAML				15 43 01.9	
	comp=Z,99nm,0.6s								
ASAL	**Salagasta**	**6.86**	**40**	*e*P			**Pn**	**15 42 33.5**	**+2.5**
AUSP	**Uspallata**	**6.89**	**36**	*e*P			**Pn**	**15 42 33.3**	**+1.6**
RTLS	**Leoncito**	**7.29**	**34**	*e*P			**Pn**	**15 42 37.9**	**+0.7**
ACAN	**Cantantal**	**8.00**	**47**	*e*S			Sb	15 44 32.0	-12
AMOG	**MOGNA**	**8.38**	**35**	*e*P			**Pn**	**15 42 51.4**	**-0.5**
ACCO	**Cerro Coronel**	**8.43**	**31**	*e*P			**Pn**	**15 42 51.7**	**-1.2**
ACCO				*e*S			**Sn**	**15 44 35.9**	**+8.0**
AROD	**Rodeo**	**8.65**	**28**	*e*P			**Pn**	**15 42 53.3**	**-2.6**
AVFE	**Valle Fertil**	**9.11**	**39**	IAML				15 43 32.2	
	comp=Z,20nm,0.5s								
LCO	**Las Campanas**	**9.35**	**19**	*e*Pn			**Pn**	**15 43 03.6**	**-1.8**
CHRN	**Cochrane**	**9.37**	**174**	*e*Pn			**Pn**	**15 43 05.0**	**-0.4**
TRQA	**Tornquist**	**9.57**	**94**	*e*Pn			**Pn**	**15 43 09.0**	**+0.7**
AGUA	**GUANDACOL**	**9.64**	**31**	*e*P			**Pn**	**15 43 06.1**	**-3.1**
AGUA				*e*S			**Sn**	**15 45 00.8**	**+3.8**
GO09	**Cerro Castillo**	**13.39**	**175**	*e*Pn			**Pn**	**15 43 59.7**	**-0.7**
PB10	**IPOC Station P**	**14.70**	**13**	*e*Pn			**Pn**	**15 44 18.4**	**+0.1**
LVC	**Limon Verde**	**15.92**	**18**	P			**P**	**15 44 39.3**	**+1.0**
	comp=Z,24nm,0.3s,baz=201,slow=9.2,SNR=5.8								
LVC	**Limon Verde**	**15.92**	**18**	*e*Pn			**Pn**	**15 44 35.5**	**+0.7**
	comp=Z,21nm,0.8s								
PB04	**IPOC Station P**	**15.92**	**13**	*e*Pn			**P**	**15 44 38.4**	**+0.2**
	comp=Z,224nm,1.3s								
PB01	**IPOC Station P**	**17.30**	**15**	*e*Pn			**Pn**	**15 44 51.0**	**-1.0**
	comp=Z,107nm,1.5s								
USHA	**Ushuaia**	**17.33**	**169**	P			**Pn**	**15 44 52.4**	**+0.3**
	comp=Z,18nm,0.3s,baz=308,slow=9.1,SNR=11								
EFI	**East Falkland**	**17.78**	**146**	*e*P			**Pn**	**15 44 57.9**	**+0.2**
EFI				pmax			pmax		
	comp=Z,134nm,1.1s								
EFI	**East Falkland**	**17.78**	**146**	*e*Pn			**Pn**	**15 44 57.7**	**0.0**
	comp=Z,337nm,1.6s								
CPUP	**Villa Florida**	**18.29**	**56**	P			**Pn**	**15 45 04.1**	**0.0**
	comp=Z,0.2nm,0.3s,baz=231,slow=10.0,SNR=14								
CPUP				LR			LR	15 51 37.5	
	comp=Z,1µm,21.6s,baz=231,slow=35								
CPUP	**Villa Florida**	**18.29**	**56**	*e*P			**Pn**	**15 45 03.7**	**-0.4**
PB11	**IPOC Station P**	**18.52**	**13**	*e*P			**P**	**15 45 05.5**	**-1.4**
	comp=Z,179nm,1.1s								
LPAZ	**La Paz**	**22.20**	**15**	P			**P**	**15 45 49.3**	**+1.9**
	comp=Z,10nm,1.0s,baz=182,slow=7.6,SNR=20								
LPAZ	**La Paz**	**22.20**	**15**	*e*P			**P**	**15 45 47.9**	**+0.5**
LPAZ				pmax			pmax		
	comp=Z,64nm,1.2s								
LPAZ	**La Paz**	**22.20**	**15**	*e*P			**P**	**15 45 47.9**	**+0.5**
	comp=Z,64nm,1.2s								
SIV	**San Ignacio**	**24.70**	**31**	P			**P**	**15 46 11.9**	**+0.4**
	comp=Z,5.2nm,0.9s,baz=224,slow=12,SNR=9.7								
SPB	**Sao Paulo**	**26.90**	**66**	*e*P			**P**	**15 46 30.2**	**-1.1**
	comp=Z,18nm,1.0s								
HOPE	**Hope Point**	**30.32**	**135**	*e*P			**P**	**15 47 02.2**	**+0.7**
	comp=Z,45nm,0.8s								
SAML	**Samuel**	**30.50**	**22**	*e*P			**P**	**15 47 03.3**	**-0.1**
	comp=Z,26nm,1.5s								
PTGA	**Pitinga**	**39.25**	**23**	*e*P			**P**	**15 48 18.1**	**-0.8**
	comp=Z,32nm,1.5s								
PRAC	**Prado**	**41.45**	**359**	*e*P			**P**	**15 48 37.8**	**+0.7**
	comp=Z,46nm,1.3s								
RUSC	**La Rusia**	**43.62**	**1**	*e*P			**P**	**15 48 56.1**	**+0.9**
	comp=Z,54nm,1.9s								
HELC	**Santa Helena**	**43.92**	**358**	*e*P			**P**	**15 48 57.6**	**+0.1**
	comp=Z,86nm,1.5s								
SDV	**Santo Domingo**	**46.69**	**5**	*e*P			**P**	**15 49 18.9**	**-0.4**
	comp=Z,9.9nm,0.7s								
SNAA	**Sanae**	**48.61**	**156**	P			**P**	**15 49 33.4**	**-0.1**
	comp=Z,21nm,1.0s,baz=275,slow=6.3,SNR=54								
SNAA	**Sanae**	**48.61**	**156**	*c*P			**P**	**15 49 33.8**	**+0.3**
SNAA	**Sanae**	**48.61**	**156**	*e*P			**P**	**15 49 33.4**	**-0.1**
	comp=Z,41nm,1.1s								
QSPA	**South Pole Qui**	**52.30**	**180**	*e*P			**P**	**15 50 01.5**	**-0.1**
	comp=Z,115nm,1.0s								
NVL	**N'lazarevskaya**	**53.40**	**156**	*e*P			**P**	**15 50 11.8**	**+2.4**
NVL				*e*				15 51 17.3	
NVL				*e*S			**S**	**15 57 43.1**	**+2.8**
NVL				MLR			MLR		
	comp=Z,1µm,19.0s								
RKT	**Rikitea**	**53.60**	**268**	*e*S			**S**	**15 57 43.8**	**-0.5**
	comp=Z,432nm,25.0s								
RKT				*e*LR			LR	16 05 43.2	
	comp=Z,2µm,25.5s,baz=124								
RKT	**Rikitea**	**53.60**	**268**	*e*T			T	16 47 40.2	
	comp=Z,2.9nm,0.3s								
SBA	**Scott Base**	**58.88**	**192**	*e*P			**P**	**15 50 48.7**	**+0.2**
SBA				pmax			pmax		
	comp=Z,35nm,1.8s								
SBA	**Scott Base**	**58.88**	**192**	*e*P			**P**	**15 50 48.7**	**+0.2**
	comp=Z,34nm,1.8s								
VNDA	**Vanda**	**59.91**	**192**	P			**P**	**15 50 56.5**	**+0.9**
	comp=Z,1.5nm,1.0s,baz=136,slow=5.2,SNR=8.4								
VNDA				LR			LR	16 14 14.1	
	comp=Z,494nm,18.6s,baz=124,slow=33								
VNDA	**Vanda**	**59.91**	**192**	*e*P			**P**	**15 50 55.3**	**-0.3**
VNDA				pmax			pmax		
	comp=Z,15nm,1.4s								
VNDA	**Vanda**	**59.91**	**192**	*e*P			**P**	**15 50 55.3**	**-0.3**
	comp=Z,15nm,1.4s								
TAOE	**Nuku Hiva Isla**	**65.74**	**278**	*e*LR			LR	16 11 19.2	
	comp=Z,1µm,23.9s								
TVO	**Taravao**	**67.73**	**264**	*e*T			T	17 05 24.6	
	comp=Z,1.9nm,0.3s								
TIAR	**Tiarei**	**67.93**	**265**	*e*T			T	17 05 42.9	
	comp=Z,5.7nm,0.3s								
PAE	**Paea**	**68.06**	**264**	*e*T			T	17 05 45.7	
	comp=Z,1.1nm,0.3s								
PPT2	**Papeete2**	**68.09**	**264**	*e*S			**S**	**16 00 45.8**	**-3.7**
	comp=Z,819nm,26.5s								
PPT2	**Papeete2**	**68.09**	**264**	*e*LR			LR	16 12 28.1	
	comp=Z,1µm,26.0s								
PPT	**Papeete**	**68.11**	**264**	LR			LR	16 13 52.9	
	comp=Z,498nm,19.6s,baz=130,slow=29								
035A	**Encino**	**68.35**	**337**	P			**P**	**15 51 53.2**	**+1.7**
	baz=160								
034A	**Hebbronville**	**68.65**	**337**	P			**P**	**15 51 55.7**	**+2.3**
	baz=159								
933A	**Laredo**	**69.35**	**336**	P			**P**	**15 51 59.4**	**+1.7**
	baz=159								
835A	**Beeville**	**69.53**	**338**	P			**P**	**15 52 00.6**	**+1.8**
	baz=160								
834A	**Tilden**	**69.60**	**337**	P			**P**	**15 52 02.3**	**+3.1**
	baz=160								
MAW	**Mawson**	**69.88**	**164**	P			**P**	**15 52 00.2**	**-0.3**
	comp=Z,13nm,1.0s,baz=222,slow=7.1,SNR=24								
MAW				LR			LR	16 23 09.8	
	comp=Z,1µm,18.1s,baz=234,slow=36								
MAW	**Mawson**	**69.88**	**164**	*e*P			**P**	**15 52 00.1**	**-0.4**
	comp=Z,4.9nm,1.1s								
833A	**Chaparral WMA,**	**70.05**	**336**	P			**P**	**15 52 04.3**	**+2.3**
	baz=159								
832A	**Faith Ranch, C**	**70.19**	**336**	P			**P**	**15 52 05.5**	**+2.6**
	baz=158								
733A	**Divot King Ran**	**70.38**	**337**	P			**P**	**15 52 05.8**	**+1.7**
	baz=159								
248A	**Dixon Mills**	**70.83**	**348**	P			**P**	**15 52 08.7**	**+2.0**
	baz=169								
247A	**Quitman**	**70.94**	**347**	P			**P**	**15 52 10.6**	**+3.3**
	baz=168								
342A	**Flagon Creek P**	**71.02**	**344**	P			**P**	**15 52 11.7**	**+3.9**
	baz=165								
633A	**Saathoff Ranch**	**71.03**	**337**	P			**P**	**15 52 10.6**	**+2.6**
	baz=159								
341A	**Kurthwood**	**71.18**	**343**	P			**P**	**15 52 12.3**	**+3.5**
	baz=164								
340A	**Bronson**	**71.43**	**342**	P			**P**	**15 52 13.4**	**+3.1**
	baz=164								
147A	**Livingston**	**71.48**	**347**	P			**P**	**15 52 13.8**	**+3.2**
	baz=168								
339A	**Huntington**	**71.51**	**342**	P			**P**	**15 52 13.4**	**+2.6**
	baz=163								
533A	**Kerrville**	**71.56**	**337**	P			**P**	**15 52 14.6**	**+3.3**
	baz=159								
436A	**Wall Ranch, Ga**	**71.57**	**340**	P			**P**	**15 52 14.5**	**+3.3**
	baz=161								
146A	**Union**	**71.58**	**347**	P			**P**	**15 52 14.2**	**+2.9**
	baz=168								
338A	**Crockett**	**71.73**	**341**	P			**P**	**15 52 15.1**	**+3.0**
	baz=162								
435B	**Jarrell**	**71.80**	**339**	P			**P**	**15 52 15.8**	**+3.2**
	baz=161								
337A	**Centerville**	**71.84**	**340**	P			**P**	**15 52 15.4**	**+2.6**
	baz=162								
NATX	**Nacogdoches**	**71.94**	**342**	P			**P**	**15 52 16.7**	**+3.2**
	baz=163								
Z47A	**Carrollton**	**71.96**	**348**	P			**P**	**15 52 16.7**	**+3.2**
	baz=168								
434A	**Burnet**	**72.03**	**338**	P			**P**	**15 52 17.0**	**+3.0**
	baz=160								
Z48A	**Northport**	**72.05**	**348**	P			**P**	**15 52 17.2

baz=166
V39A Pettigrew 75.61 344 P P 15 52 36.9 +1.9
baz=164
U41A Viola 75.73 345 P P 15 52 37.3 +1.8
baz=166
W35A Tecumseh 75.73 341 P P 15 52 37.5 +1.9
baz=162
WMOK Wichita Mounta 75.85 339 P P 15 52 38.0 +1.7
baz=160
WMOK Wichita Mounta 75.85 339 *e*P P 15 52 37.1 +0.8
WMOK pmax pmax
comp=Z,39nm,1.8s
WMOK Wichita Mounta 75.85 339 *e*P P 15 52 37.1 +0.8
comp=Z,38nm,1.8s
PBMO Poplar Bluff 75.86 347 *e*P P 15 52 35.9 -0.4
comp=Z,30nm,1.5s
U40A Yellville 75.94 344 P P 15 52 38.6 +1.9
baz=165
V37A Hulbert 76.00 343 P P 15 52 38.8 +1.8
baz=163
U39A Green Forest 76.09 344 P P 15 52 39.0 +1.4
baz=164
V36A Jenks 76.10 342 P P 15 52 39.4 +1.8
baz=162
HHAR Hobbs 76.10 344 *e*P P 15 52 36.6 -1.0
comp=Z,12nm,1.1s
TUL1 Leonard 76.18 342 P P 15 52 39.5 +1.4
baz=162
TUL1 Leonard 76.18 342 *e*P P 15 52 38.1 0.0
comp=Z,34nm,1.1s
V35A Meyer Ranch, C 76.30 341 P P 15 52 40.3 +1.5
baz=162
MSTX Muleshoe 76.35 336 P P 15 52 40.3 +1.0
baz=157
T41A Mountain View 76.38 346 P P 15 52 41.4 +2.2
baz=166
U37A Salina 76.49 343 P P 15 52 41.5 +1.6
baz=163
S44A Carbondale 76.55 348 P P 15 52 41.7 +1.6
baz=168
S43A Fulton Ridge, 76.57 347 P P 15 52 42.0 +1.7
baz=167
T40A Mansfield 76.63 345 P P 15 52 42.6 +1.9
baz=165
T39A Clever 76.69 344 P P 15 52 43.1 +2.1
baz=164
AMTX Amarillo 76.84 337 P P 15 52 43.4 +1.4
baz=158
AMTX Amarillo 76.84 337 *e*P P 15 52 42.3 +0.3
comp=Z,90nm,1.8s
U35A Pawnee 76.85 341 P P 15 52 43.8 +1.9
baz=162
S42A Caledonia 76.89 346 P P 15 52 43.8 +1.7
baz=166
S41A Jillco Farms, 76.90 346 P P 15 52 43.8 +1.7
baz=166
T38A Diamond 76.90 344 P P 15 52 43.9 +1.8
baz=164,SNR=6.1
S40A Lebanon 77.06 345 P P 15 52 44.8 +1.8
baz=165
T37A Cheneyville 18 77.13 343 P P 15 52 45.2 +1.8
baz=163
R43A Red Bud 77.23 347 P P 15 52 45.7 +1.7
baz=167
S39A Bolivar 77.32 344 P P 15 52 47.0 +2.5
baz=164
S38A Stockton 77.39 344 P P 15 52 47.0 +2.2
baz=164,SNR=9.2
R42A Luebbering 77.39 347 P P 15 52 47.4 +2.6
baz=166
U32A Winter Ranch, 77.45 340 P P 15 52 48.5 +3.2
baz=160
R41A Rosebud 77.52 346 P P 15 52 48.3 +2.8
baz=166,SNR=7.2
T34A McClaskey Farm 77.58 341 P P 15 52 48.6 +2.6
baz=162
LIC Lamto 77.60 72 *e*P P 15 52 47.3 +0.6
comp=Z,165nm,1.7s
R40A Maddies Statio 77.68 345 P P 15 52 48.9 +2.4
baz=165,SNR=7.3
S37A Fort Scott 77.72 343 P P 15 52 49.2 +2.5
baz=163
TUC Tucson 77.80 329 P P 15 52 49.6 +2.1
baz=151
TUC Tucson 77.80 329 *e*P P 15 52 47.5 0.0
TUC pmax pmax
comp=Z,31nm,1.6s
TUC Tucson 77.80 329 *e*P P 15 52 47.5 0.0
comp=Z,31nm,1.6s
Q43A New Douglas 77.84 348 P P 15 52 49.1 +1.7
baz=167
S36A Lake Cedric, C 77.86 343 P P 15 52 48.9 +1.4
baz=163
R39A Chumby, Stover 77.86 345 P P 15 52 49.1 +1.6
baz=165
TIC Toumodi 77.88 72 *e*P P 15 52 49.0 +0.8
KIC Kosan Boka 77.90 72 *e*P P 15 52 48.9 +0.5
comp=Z,63nm,1.0s
Q42A Golden Eagle 77.96 347 P P 15 52 49.8 +1.8
baz=167
DBIC Dimbokro 78.02 72 P P 15 52 48.1 -0.9
comp=Z,20nm,0.9s,baz=193,slow=6.2,SNR=12
DBIC LR LR 16 25 59.4
comp=Z,327nm,18.0s,baz=216,slow=35
Q41A Truxton 78.12 346 P P 15 52 51.4 +2.4
baz=166,SNR=8.1
LAZ Ladron 78.24 333 *e*P P 15 52 49.7 -0.3
214A Organ Pipe Nat 78.35 327 P P 15 52 52.3 +1.9
baz=150
214A Organ Pipe Nat 78.35 327 P P 15 52 51.6 +1.2
comp=Z,98nm,1.4s
ANMO Albuquerque 78.49 333 P P 15 52 54.0 +2.7
baz=154
ANMO Albuquerque 78.49 333‖ *e*P P 15 52 53.8 +2.5
ANMO pmax pmax
comp=Z,16nm,1.3s
ANMO Albuquerque 78.49 333 *e*P P 15 52 53.1 +1.7
comp=Z,17nm,1.3s
P43A Skaggs, Pawnee 78.49 348 P P 15 52 53.0 +2.1
baz=168
R35A Emporia Munici 78.57 342 P P 15 52 54.1 +2.6
baz=162
P42A Winchester 78.58 347 P P 15 52 53.4 +2.0
baz=167
Q38A Cooks Store, C 78.60 345 P P 15 52 53.6 +2.1
baz=164
P41A Barry, Barry 78.79 347 P P 15 52 55.1 +2.5
baz=166
R34A Isabella, Hill 78.81 342 P P 15 52 56.0 +3.2
baz=162
P40A Paris 78.84 346 P P 15 52 55.8 +2.9
baz=166,SNR=7.8
P39B Salisbury 78.93 345 P P 15 52 55.6 +2.2
baz=165
Q35A Mercer Eighty, 79.04 343 P P 15 52 55.9 +1.9
baz=162
O43A Sugar Creek Fa 79.09 348 P P 15 52 57.1 +2.8
baz=168
O41A Passleys Farm, 79.19 347 P P 15 52 57.1 +2.3
baz=166
P38A Dawn 79.22 345 P P 15 52 57.4 +2.4
baz=164,SNR=7.1
Q34A Chapman 79.32 342 P P 15 52 57.3 +1.7
baz=162
HDIL Hopedale 79.35 348 *e*P P 15 52 57.8 +2.1
comp=Z,142nm,0.6s
O40A La Belle 79.38 346 P P 15 52 57.7 +1.9
baz=166
P36A Good Intent, A 79.58 344 P P 15 52 59.0 +2.0
baz=163
RPZ Rata Peaks 79.59 222 LR LR 16 20 05.7
comp=Z,453nm,19.9s,baz=146,slow=30
O39A Kirksville 79.63 346 P P 15 53 00.3 +3.0
baz=165
BOSA Boshof 79.71 118 P P 15 52 57.6 -0.7
comp=Z,17nm,0.9s,baz=218,slow=5.9,SNR=13
BOSA LR LR 16 24 17.0
comp=Z,229nm,18.7s,baz=228,slow=33
BOSA Boshof 79.71 118 *e*P P 15 52 58.2 -0.2
BOSA pmax pmax
comp=Z,33nm,1.1s
BOSA Boshof 79.71 118 *e*P P 15 52 58.2 -0.2
comp=Z,33nm,1.1s
T25A Trinidad 79.78 336 P P 15 53 01.3 +3.0
baz=156
T25A Trinidad 79.78 336 *e*P P 15 52 58.3 -0.1
comp=Z,37nm,1.3s
URZ Urewera 79.80 229 LR LR 16 20 30.2
comp=Z,349nm,19.7s,baz=137,slow=30
W18A Petrified Fore 79.85 331 P P 15 53 01.7 +2.9
baz=152
P34A Walnut Farm, R 79.89 342 P P 15 53 00.6 +1.9
baz=162
X16A Lo Mia Camp, P 79.91 329 *e*P P 15 52 59.2 +0.1
comp=Z,13nm,1.3s
N40A Mertquake, Sal 80.06 347 P P 15 53 01.5 +2.0
baz=166
GLA Glamis 80.16 326 P P 15 53 02.5 +2.2
baz=148
N39A Derby Farms, D 80.23 346 P P 15 53 02.2 +1.8
baz=165,SNR=5.4
N38A Joes South For 80.29 345 P P 15 53 02.8 +2.0
baz=165
M41A Milan 80.35 348 P P 15 53 01.2 +0.1
baz=167
O34A Beatrice 80.46 343 P P 15 53 04.9 +3.2
baz=162
O33A Hebron 80.57 342 P P 15 53 05.4 +3.1
baz=161
Y12C Blythe 80.62 327 P P 15 53 05.6 +2.9
baz=149
SDCO Great Sand Dun 80.69 335 P P 15 53 05.8 +2.5
baz=155
SDCO Great Sand Dun 80.69 335 *e*P P 15 53 03.5 +0.2
comp=Z,24nm,1.7s
MONP Monument Peak, 80.74 325 P P 15 53 05.6 +1.9
baz=147
WUAZ Wupatki 80.84 330 P P 15 53 06.8 +2.8
baz=151
WUAZ Wupatki 80.84 330 *e*P P 15 53 04.2 +0.2
comp=Z,34nm,1.6s
L43A Garden Prairie 80.85 349 P P 15 53 06.8 +3.1
baz=168
M38A Pleasantville 80.88 346 P P 15 53 06.5 +2.5
baz=165
BC3 Big Chuckawall 80.95 326 P P 15 53 07.5 +2.8
baz=148
L41A Preston 81.03 348 P P 15 53 07.6 +2.9
baz=167
M37A Trindle Farm, 81.04 345 P P 15 53 07.3 +2.5
baz=164
S22A 4UR Ranch, Cre 81.14 334 P P 15 53 08.0 +2.2
baz=154
S22A 4UR Ranch, Cre 81.14 334 *e*P P 15 53 10.1 +4.4
comp=Z,28nm,1.8s
L40A Anamosa 81.14 347 P P 15 53 08.3 +3.1
baz=166
IRM Iron Mountain 81.24 327 P P 15 53 09.0 +3.0
baz=148
MVCO Mesa Verde 81.25 333 P P 15 53 09.3 +3.0
baz=153
MVCO Mesa Verde 81.25 333 *e*P P 15 53 07.2 +1.0
comp=Z,16nm,1.3s
PFO Pinyon Flats O 81.36 325 P P 15 53 09.2 +2.4
baz=147
PFO Pinyon Flats O 81.36 325 *e*P P 15 53 07.0 +0.2
PFO pmax pmax
comp=Z,13nm,1.2s
PFO Pinyon Flats O 81.36 325 *e*P P 15 53 07.0 +0.2
comp=Z,13nm,1.2s
BELC Belle Mtn. Jos 81.48 326 P P 15 53 10.1 +2.7
baz=148
W13A Hualapai Mount 81.50 328 *e*P P 15 53 07.7 0.0
comp=Z,9.2nm,1.4s
K41A Shullsburg 81.51 348 P P 15 53 09.3 +2.1
baz=167
L38A Oak Wood Farm, 81.53 346 P P 15 53 09.4 +2.0
baz=165
Q24A Divide 81.68 336 P P 15 53 11.3 +2.7
baz=156
K40A Colesburg 81.74 347 P P 15 53 10.8 +2.3
baz=166
L36A Harm Buss Farm 81.84 345 P P 15 53 11.5 +2.5
baz=164
K39A Oelwein 81.88 347 P P 15 53 11.5 +2.3
baz=166
GMRC Granite Mounta 81.99 327 P P 15 53 13.2 +3.1
baz=148
U15A Korth Rim 82.00 330 *e*P P 15 53 09.2 -1.1
comp=Z,16nm,1.4s
CIS Catalina Islan 82.08 324 P P 15 53 12.0 +1.5
baz=146
LBTB Lobatse 82.15 115 *e*P P 15 53 10.3 -1.1
LBTB pmax pmax
comp=Z,30nm,1.1s
LBTB Lobatse 82.15 115 *e*P P 15 53 10.3 -1.1
comp=Z,30nm,1.1s
PV05 Paradox Valley 82.23 333 *e*P P 15 53 16.4 +5.0
HEC Hector,Ludlow 82.33 326 P P 15 53 14.6 +2.8
baz=155
RAO Raoul Island 82.38 239 LR LR 16 20 13.8
comp=Z,335nm,21.4s,baz=116,slow=28
BFSC Mount Baldy Ra 82.43 325 P P 15 53 13.7 +1.3
baz=147
PV10 Paradox Valley 82.48 333 *e*P P 15 53 17.6 +4.9
ISCO Idaho Springs 82.59 336 P P 15 53 14.6 +1.2
baz=155
ISCO Idaho Springs 82.59 336 *e*P P 15 53 18.8 +5.4
ISCO pmax pmax
comp=Z,12nm,1.3s
ISCO Idaho Springs 82.59 336 *e*P P 15 53 18.8 +5.4
comp=Z,12nm,1.3s
TUQ Turquoise Moun 82.66 327 P P 15 53 14.9 +1.3
baz=148
I38A Scanlan Farm, 83.25 347 P P 15 53 19.1 +2.8
baz=166
CCUT Cedar City 83.40 330 *e*P P 15 53 21.4 +3.9
comp=Z,34nm,1.7s
I37A Lemmond, Waseca 83.43 346 P P 15 53 19.2 +2.0
baz=165
LRMC Laurel Mtn Rad 83.47 326 P P 15 53 19.4 +1.5
baz=147
SRU San Rafael Swe 83.67 332 *e*P P 15 53 23.2 +4.4
SRU pmax pmax
comp=Z,33nm,1.8s
SRU San Rafael Swe 83.67 332 *e*P P 15 53 23.2 +4.4
comp=Z,33nm,1.8s
N23A Red Feather La 83.69 336 P P 15 53 21.1 +2.1
baz=155
N23A Red Feather La 83.69 336 *e*P P 15 53 23.9 +4.9
comp=Z,18nm,1.4s
MSU Marysvale 83.76 331 *e*P P 15 53 24.8 +5.4
MSU Marysvale 83.76 331 *e*P P 15 53 24.8 +5.4
ECSD EROS Data Cent 83.82 344 P P 15 53 20.8 +1.6
baz=162
ECSD EROS Data Cent 83.82 344 *e*P P 15 53 19.1 -0.2
comp=Z,34nm,1.3s
H38A Maiden Rock 83.86 347 P P 15 53 21.2 +1.8
baz=166
J31A Geddes 83.89 342 P P 15 53 21.7 +2.0
baz=161
PKM Mcpherson Peak 83.96 324 P P 15 53 22.5 +2.1
baz=145
ISA Isabella, Lake 83.98 325 P P 15 53 22.6 +2.2
baz=146
TPNV Topopah Spring 84.08 327 P P 15 53 23.8 +2.9
baz=148
TPNV Topopah Spring 84.08 327 *e*P P 15 53 26.3 +5.4
TPNV pmax pmax
comp=Z,29nm,1.9s
TPNV Topopah Spring 84.08 327 *e*P P 15 53 26.3 +5.4
comp=Z,29nm,1.9s
F43A Flat Rock, Esc 84.22 351 P P 15 53 24.0 +2.8
baz=170
G39A Holcombe 84.26 348 P P 15 53 24.1 +2.6
baz=166
F44A Big Bay de Noc 84.27 351 P P 15 53 24.7 +3.3
baz=170
G38A Ridgeland 84.27 347 P P 15 53 24.7 +3.2
baz=166
H35A Sunnyside Ranc 84.36 345 P P 15 53 24.9 +3.0
baz=164
VES Vestal, Richgr 84.41 325 P P 15 53 24.6 +2.2
baz=146
CWC Cottonwood Cre 84.45 326 P P 15 53 25.4 +2.6
baz=146
E43A Lone Tree Farm 84.73 351 P P 15 53 25.1 +1.3
baz=170
F39A Loretta 84.83 348 P P 15 53 26.4 +2.1
baz=167
E42A Champion 84.90 350 P P 15 53 27.9 +3.2
baz=169
R11A Troy Canyon, C 84.98 328 P P 15 53 28.3 +2.8
baz=148
R11A Troy Canyon, C 84.98 328 *e*P P 15 53 26.9 +1.4
comp=Z,39nm,1.9s
F38A Pierce - Schro 85.03 348 P P 15 53 28.4 +3.1
baz=166
E40A Wakefield 85.19 349 P P 15 53 29.1 +3.0
baz=168
F36A Milaca 85.23 347 P P 15 53 28.4 +2.1
baz=165
K22A Casper 85.46 337 P P 15 53 29.9 +2.1
baz=155
DUG Dugway, Tooele 85.47 331 P P 15 53 30.7 +2.9
baz=150
DUG Dugway, Tooele 85.47 331 *e*P P 15 53 29.8 +2.0
DUG pmax pmax
comp=Z,43nm,1.8s
DUG Dugway, Tooele 85.47 331 *e*P P 15 53 29.8 +2.0
comp=Z,43nm,1.8s
E36A McGregor 85.82 347 P P 15 53 31.1 +1.8
baz=165
HWUT Hardware Ranch 86.24 333 *e*P P 15 53 32.3 +0.6
comp=Z,69nm,1.7s
D35A Remer 86.50 346 P P 15 53 34.5 +1.9
baz=164
BW06 Boulder Array 86.56 335 P P 15 53 35.7 +2.4
baz=153
BW06 Boulder Array 86.56 335 *e*P P 15 53 33.9 +0.7
comp=Z,8.9nm,1.2s
PD31 Pinedale Array 86.56 335 *e*P P 15 53 34.0 +0.7
PDAR Pinedale Array 86.56 335 P P 15 53 35.6 +2.4
comp=Z,3.2nm,1.0s,baz=162,slow=6.1,SNR=11
HVU Hansel Valley 86.83 332 *e*P P 15 53 35.3 +0.8
HVU pmax pmax
comp=Z,12nm,1.3s
HVU Hansel Valley 86.83 332 *e*P P 15 53 35.3 +0.8
comp=Z,12nm,1.3s
TOA0 Torodi Ar. Sit 87.10 71 *e*P P 15 53 35.6 -0.7
TORD Torodi Ar. Bea 87.10 71 P P 15 53 36.1 -0.1
comp=Z,7.0nm,0.9s,baz=231,slow=4.3,SNR=34
TPAW Teton Pass 87.67 334 *e*P P 15 53 42.9 +4.2
comp=Z,6.0nm,0.9s
B35A Bob, Littlefor 87.68 347 P P 15 53 40.8 +2.5
baz=164
B33A Robert and Kas 87.94 346 P P 15 53 42.1 +2.6
baz=163
AGMN Agassiz Nation 88.02 346 *e*P P 15 53 44.4 +4.5
comp=Z,74nm,2.0s
IMW Indian Meadow 88.03 334 *e*P P 15 53 40.3 -0.1
comp=Z,28nm,1.7s
MDND Maddock 88.39 343 P P 15 53 44.2 +2.6
baz=160
A33A Warroad 88.54 346 P P 15 53 44.5 +2.2
baz=163
YHH Holmes Hill 88.78 335 *e*P P 15 53 43.8 -0.2
comp=Z,9.1nm,1.2s
HLID Hailey 88.98 332 P P 15 53 45.8 +1.0
baz=149
O03D Paynes Creek 89.28 326 P P 15 53 47.4 +1.3
baz=144
WVOR Wild Horse Val 89.68 329 *e*P P 15 53 47.5 -0.5
WVOR pmax pmax
comp=Z,22nm,1.6s
WVOR Wild Horse Val 89.68 329 *e*P P 15 53 47.5 -0.5
comp=Z,22nm,1.6s
MOD Modoc Plateau 89.93 327 *e*P P 15 53 48.8 -0.5
comp=Z,13nm,1.5s
LSZ Lusaka 90.12 109 *e*P P 15 53 50.5 -0.4
LSZ pmax pmax
comp=Z,9.0nm,0.9s
LSZ Lusaka 90.12 109 *e*P P 15 53 50.5 -0.4
comp=Z,9.0nm,0.9s
J05D Fort Rock, OR 91.46 328 P P 15 53 58.4 +2.1
baz=145
TAM Tamanrasset 96.00 66 *e*P P 15 54 16.1 -1.6
TAM pmax pmax
comp=Z,8.0nm,1.2s
TAM Tamanrasset 96.00 66 *e*P P 15 54 16.1 -1.6
comp=Z,7.8nm,1.2s
DZM Mont Dzumac 97.58 235 *e*LR LR 16 26 08.4
comp=Z,678nm,24.4s
BFO Black Forest 112.74 46 *i* PKIKP **PKiKP** 15 59 25.2 -1.1
GEA0 GERESS Array S 116.08 47 *e*PKPdf **PKPdf** 15 59 32.2 -0.6
KHC Kasperske Hory 116.14 47 *e*PKKP **PKKPdf** 16 10 33.0 +3.6
KHC AMS AMS 17 01 30.0
comp=Z,300nm,15.2s
CLL Collm 116.84 45 *e*SKKSac **SKSdf** 16 06 48.0 +3.1
CLL *e*Sdif **Sdif** 16 08 36.0 +7.3
CLL *e*PS PS 16 10 28.0 +1.8
CLL *e*PPS PPS 16 11 43.0
CLL *e*SS **SS** 16 16 48.0 -1.9
CLL *e*SSS SSS 16 21 06.0
CLL *e*SSSS 16 24 30.0
CLL LmV 16 47 00.0
comp=Z,500nm,20.2s
PRU Pruhonice 117.10 46 AMS AMS 17 03 00.0
comp=Z,300nm,18.0s
GOPC GO Pecny, Ondr 117.21 47 AMS AMS 17 02 20.0
comp=Z,300nm,18.3s
PVCC Panska Ves 117.36 46 AMS AMS 17 01 40.0
comp=Z,300nm,18.4s
UPC Upice 118.18 46 AMS AMS 17 00 30.0
comp=Z,300nm,14.2s
OKC Ostrava-Krasne 119.12 48 AMS AMS 16 56 40.0
comp=Z,300nm,17.8s
TOLK Toolik Lake Re 119.80 336 PKiKP **PKiKP** 15 59 40.3 +0.9
baz=118
OBN Obninsk 131.41 46‖ *e*PKIKP **PKPdf** 16 00 02.4 +0.6
OBN *e* 16 02 22.2
OBN pmax pmax
comp=Z,11nm,0.9s
OBN MLR MLR
comp=Z,436nm,18.0s
MAK Makhachkala 136.05 64 *e*PKIKP PKPdf 16 00 21.9 +11
SEY Seymchan 142.51 327 PKP **PKPdf** 16 00 22.6 +0.5
comp=Z,2.6nm,0.9s,baz=207,slow=2.3,SNR=3.5
GEYT Alibeck 142.65 75 PKhKP PKPpre 16 00 17.0
comp=Z,2.8nm,0.8s,baz=272,slow=5.3,SNR=4.7
KSM Kuching 143.49 187 *e*PKPpre PKPpre 16 00 21.8
ARU Arti 143.78 44 *i* PKIKP PKPpre 16 00 21.9
ARU Arti 143.78 44 *e*PKPpre PKPpre 16 00 21.4
TIXI Tiksi 144.22 348 PKhKP PKPpre 16 00 21.8
comp=Z,11nm,0.9s,baz=318,slow=0.7,SNR=5.2
TIXI Tiksi 144.22 348‖ *e*PKIKP PKPpre 16 00 22.6
PSI Prapat 144.45 168 PKP **PKPab** 16 00 25.1 -0.3
comp=Z,19nm,0.9s,baz=246,slow=3.5,SNR=10
SVE Sverdlovsk 144.82 43 *e*PKIKP PKPbc 16 00 25.8 +0.3
SVE pmax pmax
comp=Z,28nm,1.6s
ABKAR Akbulak array 145.35 56 *e*PKPbc **PKPbc** 16 00 27.4 -0.1
NRIK Noril'sk 147.01 12 PKPbc **PKPbc** 16 00 31.3 -0.5
comp=Z,7.3nm,0.9s,baz=38,slow=2.4,SNR=7.2
KULM Kulim 147.15 170 *e*PKPbc **PKPbc** 16 00 33.0 -0.8
HYB Hyderabad 148.50 123 *i* PKP **PKPbc** 16 00 38.0 +0.6
BRVK Borovoye 151.18 47 *e*PKIKP **PKPdf** 16 00 37.8 +0.9
BRVK Borovoye 151.18 47 *e*PKPdf **PKPdf** 16 00 37.8 +0.9
YAK Yakutsk 151.77 336 PKPbc **PKPbc** 16 00 44.0 +0.2
comp=Z,11nm,0.7s,baz=341,slow=0.7,SNR=8.9
YAK Yakutsk 151.77 336 *e*PKIKP **PKPbc** 16 00 44.1 +0.2
YAK pmax pmax
comp=Z,23nm,1.0s
YAK Yakutsk 151.77 336 *e*PKPbc **PKPbc** 16 00 43.8 -0.1
MJAR Matsushiro Arr 154.30 277 PKPab **PKPab** 16 01 07.3 +2.9
comp=Z,2.1nm,0.9s,baz=157,slow=3.6,SNR=4.3
KSH Kashi 156.65 77 *e*PKP **PKPdf** 16 00 43.3 -2.0
KSH sPKP 16 00 57.0
KSH PKS **PKSdf** 16 04 16.3 -2.9
KSH PP **PP** 16 04 53.0 -0.3
KSH SKS **SKSdf** 16 07 44.0 -6.6
KSH SS **SS** 16 24 38.0 -6.9
KSH AMB AMB
comp=Z,94nm,5.4s
KSH LR LR
comp=Z,59nm,5.3s
KSH LR LR
comp=Z,69nm,6.0s
KSH LR LR
comp=Z,160nm,14.5s
ZAA0 Zalesovo Array 158.42 35 *e*PKPdf **PKPdf** 16 00 45.0 -1.8
ZAA0 *e*PKPab **PKPab** 16 01 21.8 +0.2
ZALV Zalesovo Beam 158.42 35 PKP **PKPdf** 16 00 46.1 -0.7
comp=Z,0.3nm,0.3s,baz=320,slow=3.8,SNR=5.3
ZALV PKPab **PKPab** 16 01 22.3 +0.7
comp=Z,2.2nm,0.7s,baz=299,slow=6.1,SNR=9.6
BOD Bodaibo 159.41 348 *e*PKP2 **PKPab** 16 01 23.4 -2.2
BOD pmax pmax
comp=Z,7.0nm,1.8s
CM01 Chiang Mai Arr 159.63 161 *e*PKPab **PKPab** 16 01 26.0 -1.6
CMAR Chiang Mai Arr 159.66 161 PKP **PKPdf** 16 00 48.1 -1.3
comp=Z,0.5nm,0.4s,baz=266,slow=1.4,SNR=4.9

CMAR				PKPab	**PKPab**	**16 01 26.8**	**-1.0**
	comp=Z,2.3nm,1.0s,baz=216,slow=3.7,SNR=7.5						
PKIN	**Phulchoki**	**159.94**	**115**	*e*P	**PKPab**	**16 01 28.6**	**-0.7**
	comp=Z,19nm,0.8s						
PKI	**Pulchoki**	**159.95**	**115**	*e*P	**PKPab**	**16 01 28.7**	**-0.7**
KKN	**Kakani**	**159.98**	**114**	*e*P	**PKPab**	**16 01 28.8**	**-0.6**
	comp=Z,42nm,0.9s						
RAMN	**Ramite**	**160.41**	**118**	*e*P	**PKPab**	**16 01 30.7**	**-0.6**
	comp=Z,42nm,0.9s						
GUN	**Gumba**	**160.48**	**115**	*e*P	**PKPab**	**16 01 31.2**	**-0.5**
MKAR	**Makanchi Array**	**160.50**	**56**	PKP	**PKPdf**	**16 00 49.5**	**0.0**
	comp=Z,0.9nm,0.9s,baz=270,slow=2.4,SNR=4.9						
MKAR				PKPab	**PKPab**	**16 01 30.7**	**-0.2**
	comp=Z,1.8nm,0.8s,baz=285,slow=3.0,SNR=6.5						
MKAR				PP	**PP**	**16 05 13.9**	**+0.1**
	comp=Z,1.0nm,1.0s,baz=337,slow=5.8,SNR=4.0						
MK01	**Makanchi Array**	**160.51**	**56**	*e*PKPdf	**PKPdf**	**16 00 48.6**	**-1.0**
JIRN	**Jiri**	**160.56**	**116**	*e*P	**PKPab**	**16 01 31.6**	**-0.5**
	comp=Z,69nm,1.0s						
CN2	**Changchun**	**164.11**	**298**	*e*PKP	**PKPdf**	**16 00 51.8**	**-1.4**
WMQ	**Urumqi**	**165.04**	**61**	PKP	**PKPdf**	**16 00 52.8**	**-1.3**
WMQ				PKS	**PKSdf**	**16 04 22.0**	**-4.9**
WMQ				PP	**PP**	**16 05 37.8**	**-0.2**
WMQ				SKS	**SKSdf**	**16 07 52.5**	**-4.9**
WMQ				SS	**SS**	**16 26 09.0**	**-3.3**
WMQ				AMB	AMB		
	comp=Z,240nm,8.5s						
WMQ				LR	LR		
	comp=Z,220nm,20.1s						
WMQ				LR	LR		
	comp=Z,150nm,21.7s						
WMQ				LR	LR		
	comp=Z,210nm,20.1s						
LSA	**Lhasa**	**165.26**	**120**	*e*PKP2	**PKPab**	**16 01 52.9**	**+0.1**
LSA	**Lhasa**	**165.26**	**120**	*e*PKPab	**PKPab**	**16 01 52.9**	**+0.1**
ZAK	**Zakamensk**	**167.42**	**8**	*e*PKP2	**PKPab**	**16 02 00.7**	**-0.4**
ZAK				pmax	pmax		
	comp=Z,5.0nm,1.2s						
NJ2	**Nanjing**	**167.87**	**245**	*e*PKP	**PKPdf**	**16 00 55.8**	**-0.7**
GYA	**Guiyang**	**168.53**	**183**	PKP	**PKPdf**	**16 00 56.8**	**-0.6**
GYA				AMB	AMB		
	comp=Z,120nm,8.0s						
SONA1	**Songino Array**	**170.09**	**358**	*e*PKPab	**PKPab**	**16 02 13.6**	**+0.6**
SONM	**Songino Array**	**170.10**	**358**	PKP	**PKPdf**	**16 00 58.0**	**+0.4**
	comp=Z,0.2nm,0.5s,baz=248,slow=1.6,SNR=2.2						
SONM				PKPab	**PKPab**	**16 02 15.4**	**+2.3**
	comp=Z,2.4nm,1.1s,baz=349,slow=2.9,SNR=4.4						
CD2	**Chengdu**	**172.77**	**165**	*e*PKP	**PKPdf**	**16 00 59.0**	**-0.4**
HHC	**Hu-ho-hao-te**	**174.74**	**305**	*e*PKP	**PKPdf**	**16 01 01.5**	**+1.6**
GTA	**Gaotai**	**175.02**	**71**	*e*PKP	**PKPdf**	**16 00 59.5**	**-0.5**
GTA				pPKP	pPKPdf	16 01 06.0	-0.2
GTA				sPKP		16 01 08.5	
GTA				PP	**PP**	**16 06 29.5**	**+1.0**
LZH	**Lanzhou**	**177.53**	**138**	*e*PKP	**PKPdf**	**16 00 59.5**	**-1.2**
LZH				pPKP	sPKPdf	16 01 09.0	0.0
LZH				sPKP		16 01 13.3	

CSEM ***29*** *15:41:34.6±1.4,37.°77N×35.°59E,h5km,MD2.5, Error ellipse: s-maj=28.1km s-min=16.4km az=127.0*
ISCJB ***29*** *15:41:37.4±0.6,37.°56N±0.°03×35.°54E±0.°04,h9km±6km, Error ellipse: s-maj=6.0km s-min=5.5km az=25.6*
DDA ***29*** *15:41:37.2,37.°53N×35.°54E,h7km,Md2.5*
ISK ***29*** *15:41:38.3,37.°50N×36.°04E,h5km,MD2.5*
ISC 29 15:41:37.0±1.0,37.°57N±0.°03×35.°56E±0.°03,h9km±8km, n12,σ0s99/20,Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AKO	**Adana**	**0.14**	**218**	*i* P	**Pg**	**15 41 39.8**	**-0.3**
AKO				*i* S	**Sg**	**15 41 41.5**	**-0.8**
KOZT	**Kozan**	**0.23**	**113**	*e*PG	**Pg**	**15 41 42.2**	**+0.4**
KOZT				*e*SG	**Sg**	**15 41 45.5**	**+0.5**
KOZT	**Kozan**	**0.23**	**113**	*e*Pg	**Pg**	**15 41 42.2**	**+0.4**
KOZT				*e*Sg	**Sg**	**15 41 45.5**	**+0.5**
YAHY	**KAYSERI_Yahyal**	**0.54**	**344**	*i* P	**Pb**	**15 41 49.6**	**+0.8**
YAHY				*i* S	**Sb**	**15 41 56.9**	**+0.1**
CEYT	**Ceyhan**	**0.58**	**165**	*e*PG	**Pb**	**15 41 49.9**	**+0.5**
CEYT				*e*SG	**Sb**	**15 41 58.4**	**+0.7**
CEYT	**Ceyhan**	**0.58**	**165**	*e*Pg	**Pb**	**15 41 49.9**	**+0.5**
CEYT				*e*Sg	**Sb**	**15 41 58.4**	**+0.7**
ANDN	**Andirin**	**0.63**	**89**	*i* P	**Pg**	**15 41 46.9**	**-2.3**
ANDN				*i* S	**Sb**	**15 41 59.2**	**+0.1**
ANDN	**Andirin**	**0.63**	**89**	P	**Pg**	**15 41 46.8**	**-2.3**
DED	**Mersin**	**0.86**	**225**	*i* P	**Pg**	**15 41 52.9**	**-0.6**
DED				*i* S	**Sb**	**15 42 05.4**	**-0.3**
SARI	**SarD1z-Kayseri**	**1.08**	**39**	*e*PG	**Pg**	**15 41 58.0**	**+0.3**
TAHT	**Tahtakopru-Hat**	**1.30**	**157**	*e*PN	**Pn**	**15 42 01.1**	**-0.2**
TAHT	**Tahtakopru-Hat**	**1.30**	**157**	*e*Pn	**Pn**	**15 42 01.1**	**-0.2**

ISCJB ***29*** *15:43:37.3±0.4,44.°53N±0.°06×140.°74E±0.°09, h282km±4km,mb3.1/7, Error ellipse: s-maj=10.3km s-min=10.0km az=138.9*
JMA ***29*** *15:43:37.5±0.4,44.°54N×140.°64E,h281km±4km,M3.2*
IDC ***29*** *15:43:38.2±1.2,44.°59N×140.°67E,h272km±12km,mb2.9/7, mb1 3.1/9,mb1mx2.9/44,mbtmp3.6/9, Error ellipse: s-maj=16.6km s-min=13.4km az=107.0*
ISC 29 15:43:38.0±0.7,44.°51N±0.°07×140.°72E±0.°07,h276km±6km, n29,σ1s39/37,mb3.3/7,Eastern Sea of Japan

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JYG	**Yagishiri**	**0.51**	**99**	P	**Pn**	**15 44 14.3**	**+0.4**
JRR	**Rishiri**	**0.76**	**33**	P	**Pn**	**15 44 14.8**	**+0.1**
JSS	**Shosan**	**0.82**	**97**	P	**Pn**	**15 44 16.0**	**+1.0**
JHR	**Hokuryu**	**1.05**	**136**	P	**Pn**	**15 44 17.1**	**+0.9**
JHR				*e*S	**S**	**15 44 48.0**	**+1.7**
JWK2	**Keihoku**	**1.16**	**46**	P	**Pn**	**15 44 16.9**	**+0.3**
JWK2				*e*S	**S**	**15 44 47.2**	**0.0**
JSK	**Shakotan**	**1.17**	**189**	P	**Pn**	**15 44 17.0**	**+0.2**
JSK				*e*S	**S**	**15 44 47.3**	**-0.2**
ASAJ	**Asahikawa**	**1.40**	**106**	P	**Pn**	**15 44 18.5**	**+0.3**
	baz=90,slow=0.0						
ASAJ				S	**S**	**15 44 45.2**	**-4.8**
	baz=270,slow=20						
ASAJ	**Asahikawa**	**1.40**	**106**	P	**Pn**	**15 44 18.5**	**+0.3**
ASAJ				*e*S	**S**	**15 44 50.0**	**0.0**
JSE	**Soyaes**	**1.40**	**71**	P	**Pn**	**15 44 18.0**	**-0.1**
JSE				*e*S	**S**	**15 44 49.1**	**-0.8**
JKK2	**Kamakawa 2**	**1.59**	**113**	P	**Pn**	**15 44 20.1**	**+0.6**
JKK2				*e*S	**S**	**15 44 52.6**	**+0.2**
JFR	**Furan**	**1.91**	**134**	P	**Pn**	**15 44 22.2**	**+0.2**
JTKR	**Abashiri--Toko**	**2.35**	**102**	P	**Pn**	**15 44 26.9**	**+1.1**
JAR	**Ashorobuto**	**2.51**	**118**	P	**Pn**	**15 44 28.4**	**+1.1**
JAR				*e*S	**S**	**15 45 07.5**	**+1.0**
JOSM	**Okushiri--Mats**	**2.59**	**201**	P	**Pn**	**15 44 27.9**	**-0.2**
JKB	**Kayabe**	**2.63**	**175**	P	**Pn**	**15 44 28.5**	**0.0**
JNBK	**Urakawa-nobuka**	**2.67**	**146**	P	**Pn**	**15 44 30.1**	**+1.2**
JCH	**Churui**	**2.70**	**134**	*e*S	**S**	**15 45 07.0**	**-2.7**
JOT	**Ohata**	**3.13**	**175**	P	**Pn**	**15 44 33.2**	**-0.4**
JAK	**Akkeshi**	**3.25**	**116**	*e*S	**S**	**15 45 17.6**	**-2.4**
NEM2	**Nemuro 2**	**3.80**	**106**	*e*S	**S**	**15 45 27.3**	**-3.5**
USRK	**Ussuriysk Ar.**	**6.27**	**270**	P	**Pn**	**15 45 09.0**	**-0.9**
	0.7nm,0.3s,baz=84,slow=15,SNR=9.6						
SEY	**Seymchan**	**19.65**	**16**	P	**P**	**15 47 45.7**	**-0.5**
	0.2nm,0.3s,baz=221,slow=19,SNR=5.8						
SONM	**Songino Array**	**23.89**	**290**	P	**P**	**15 48 27.0**	**+0.1**
	0.5nm,0.5s,baz=79,slow=7.4,SNR=3.2						
MKAR	**Makanchi Array**	**40.10**	**295**	P	**P**	**15 50 47.3**	**+0.4**
	0.2nm,0.5s,baz=85,slow=9.3,SNR=3.2						
ILAR	**Eielson Array**	**43.62**	**36**	P	**P**	**15 51 14.9**	**-0.1**
	0.3nm,0.9s,baz=263,slow=6.9,SNR=3.5						
INK	**Inuvik**	**48.07**	**30**	P	**P**	**15 51 49.9**	**+0.4**
	0.5nm,0.3s,baz=293,slow=7.7,SNR=3.4						
FINES	**FINESS Array B**	**62.01**	**330**	P	**P**	**15 53 28.3**	**-0.4**
	0.9nm,0.6s,baz=56,slow=7.8,SNR=5.6						
WRA	**Warramunga Arr**	**64.40**	**187**	P	**P**	**15 53 45.5**	**+0.6**
	0.3nm,0.4s,baz=1.7,slow=6.8,SNR=12						
ASAR	**Alice Springs**	**68.13**	**187**	P	**P**	**15 54 09.8**	**+1.5**
	0.4nm,0.5s,baz=4.5,slow=6.5,SNR=12						

NIED ***29*** *15:44:00,36.°20N×142.°00E,h11km,Mw4.2 Best double couple: M0 1.99000×10^15 NP1:φ=325.00000°,δ40.00000°, λ77.00000°. NP2:φ=161.00000°,δ52.00000°,λ100.00000°.*
BJI ***29*** *15:44:43.5,36.°00N×142.°22E,h18km,mb4.5/30,mB5.1/19, Ms4.6/11,Ms7 4.3/12*
NEIC ***29*** *15:44:45.0±2.6,36.°06N×141.°98E,h2km±16km,mb4.6/12, Error ellipse: s-maj=7.6km s-min=5.6km az=123.0*
IDC ***29*** *15:44:45.4±0.6,36.°07N×141.°94E,h0km,mb4.2/24, mb1 4.3/28,mb1mx4.2/50,mbtmp4.2/28,ML3.9/3,MS3.3/2, Ms1 3.4/2,ms1mx2.8/41, Error ellipse: s-maj=15.4km s-min=12.0km az=121.0*
JMA ***29*** *15:44:46.6±0.3,36.°16N×141.°95E,h26km±5km,M4.3*
ISCJB ***29*** *15:44:46.6±0.3,36.°12N±0.°03×141.°95E±0.°04,h23km, mb4.3/40,MS4.0/4, Error ellipse: s-maj=5.1km s-min=3.8km az=145.7*
MOS ***29*** *15:44:47.6±1.4,36.°25N×141.°95E,h28km,mb4.5/24, Error ellipse: s-maj=9.5km s-min=6.6km az=92.8*
ISC 29 15:44:48.0±0.5,36.13N±0.05×142.02E±0.05,h23km,n113, σ1s86/122,mb4.3/40,MS4.0/4,Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CHOJ	**Chosi**	**1.03**	**246**	P	**Pn**	**15 45 04.8**	**-2.3**
CHOJ				S	**Sb**	**15 45 18.1**	**-2.2**
JHO	**Hitachi**	**1.27**	**293**	P	**Pn**	**15 45 07.7**	**-2.6**
JFK	**Kawauchi**	**1.54**	**324**	P	**Pn**	**15 45 12.5**	**-1.6**
BSO1	**Boso 1**	**1.70**	**210**	P	**Pn**	**15 45 16.4**	**-0.3**
BSO3	**Boso 3**	**1.81**	**223**	P	**Pn**	**15 45 17.2**	**-0.3**
JFT	**Otama**	**1.94**	**316**	P	**Pn**	**15 45 18.9**	**-0.6**
JFT				*e*S	**Sn**	**15 45 40.7**	**-2.5**
JAG	**Ashikaga**	**2.09**	**279**	P	**Pn**	**15 45 19.9**	**-1.8**
JAG				*e*S	**Sn**	**15 45 45.1**	**-1.9**
JFY	**Yanaizu**	**2.25**	**305**	P	**Pn**	**15 45 23.1**	**-0.8**
JKT	**Katashina**	**2.32**	**287**	P	**Pn**	**15 45 23.8**	**-1.1**
MJAR	**Matsushiro Arr**	**3.10**	**279**	Pn	**Pn**	**15 45 34.6**	**-1.0**
	27nm,0.3s,baz=94,slow=9.2,SNR=252						
MJAR				Sn	**Sn**	**15 46 14.2**	**+2.2**
	14nm,0.3s,baz=100,slow=14,SNR=5.5						
MAJO	**Matsushiro**	**3.10**	**279**	*e*P	**Pn**	**15 45 35.0**	**-0.6**
MAJO	**Matsushiro**	**3.10**	**279**	*e*Pn	**Pn**	**15 45 35.0**	**-0.6**
MAT	**Matsushiro**	**3.10**	**279**	P	**Pn**	**15 45 35.1**	**-0.5**
MAT				*e*S	**Sn**	**15 46 08.9**	**-3.1**
MJB9	**Matsu-Tunnel**	**3.11**	**279**	*e*Pn	**Pn**	**15 45 35.0**	**-0.7**
JHJ2	**Mitsune**	**3.51**	**212**	*e*Pn	**Pn**	**15 45 40.4**	**-0.8**
JHJ	**Hachijo jima 2**	**3.52**	**212**	Pn	**Pn**	**15 45 40.3**	**-1.0**
	120nm,0.3s,baz=92,slow=7.2,SNR=15						
JHJ				Sn	**Sn**	**15 46 19.6**	**-2.7**
	152nm,0.3s,baz=271,slow=22,SNR=6.5						
INU	**Inuyama**	**4.14**	**261**	*e*Pn	**Pn**	**15 45 49.9**	**+0.1**
ERM	**Erimo**	**5.95**	**8**	*e*P	**Pn**	**15 46 13.5**	**-1.1**
ERM	**Erimo**	**5.95**	**8**	*e*Pn	**Pn**	**15 46 13.4**	**-1.1**
ASAJ	**Asahikawa**	**7.99**	**3**	Pn	**Pn**	**15 46 42.4**	**-0.3**
	baz=270,slow=20						
ASAJ				Sn	**Sn**	**15 48 10.8**	**-1.6**
	baz=90,slow=20,SNR=2.1						
ASAJ	**Asahikawa**	**7.99**	**3**	*e*Pn	**Pn**	**15 46 41.8**	**-1.0**
ASAJ				Sn	**Sn**	**15 48 10.8**	**-1.6**
YUK	**Yuzh-Kuril'sk**	**8.43**	**19**	*e*P	**Pn**	**15 46 47.0**	**-1.7**
YUK				*e*S	**Sn**	**15 48 15.3**	**-7.7**
YUK				pmax	pmax		
	comp=Z,38nm,0.7s						
SHO	**Shikotan**	**8.57**	**24**	*e*P	**Pn**	**15 46 48.9**	**-1.7**
SHO				*e*S	**Sn**	**15 48 18.5**	**-8.0**
SHO				pmax	pmax		
	comp=Z,17nm,0.5s						
CBIJ	**Chichi jima**	**9.00**	**179**	*e*Pn	**Pn**	**15 46 52.7**	**-3.9**
JNU	**Nakatsue**	**9.66**	**255**	Pn	**Pn**	**15 47 05.5**	**-0.1**
	comp=Z,0.5nm,0.3s,baz=95,slow=9.3,SNR=4.6						
JNU				LR	LR	15 50 42.5	
	comp=Z,138nm,19.6s,baz=102,slow=37						
KUR	**Kuril'sk**	**10.12**	**24**	*e*P	**Pn**	**15 47 10.8**	**-1.0**
KUR				*e*S	**Sn**	**15 48 59.1**	**-5.5**
KUR				smax	smax		
	comp=E,23nm,0.5s						
KUR				smax	smax		
	comp=N,17nm,0.6s						
YSS	**Yuzh-Sakhalins**	**10.83**	**3**	*e*P	**Pn**	**15 47 21.0**	**-0.6**
YSS	**Yuzh-Sakhalins**	**10.83**	**3**	*e*Pn	**Pn**	**15 47 21.0**	**-0.6**
USRK	**Ussuriysk Ar.**	**11.12**	**320**	Pn	**Pn**	**15 47 29.7**	**+4.2**
	comp=N,0.6nm,0.3s,baz=126,slow=15,SNR=8.5						
KSRS	**Korea Array**	**11.38**	**281**	Pn	**Pn**	**15 47 31.7**	**+2.6**
	comp=N,0.3nm,0.3s,baz=93,slow=14,SNR=9.2						
KSAR	**Wonju Array Be**	**11.41**	**281**	P	**Pn**	**15 47 31.7**	**+2.1**
KSAR	**Wonju Array Be**	**11.41**	**281**	Pn	**Pn**	**15 47 31.7**	**+2.1**
MDJ	**Mudanjiang**	**12.70**	**316**	P	**Pn**	**15 47 47.5**	**+0.3**
MDJ				pmax	pmax		
	comp=N,11nm,1.2s						
MDJ				pmax	pmax		
	comp=N,280nm,6.5s						
CN2	**Changchun**	**14.82**	**306**	*e*P	**Pn**	**15 48 17.5**	**+1.4**
CN2				pmax	pmax		
	comp=N,10.0nm,0.5s						
NJ2	**Nanjing**	**19.60**	**265**	*e*P	**P**	**15 49 14.5**	**-0.1**
NJ2				pmax	pmax		
	comp=N,10.0nm,1.0s						
PETK	**Petropavlovsk-**	**20.24**	**28**	P	Pn	15 49 23.6	+0.1
	comp=N,4.3nm,0.9s,baz=201,slow=11,SNR=3.3						
BJI	**Beijing**	**20.69**	**289**	P	**P**	**15 49 25.0**	**-1.4**
BJI				pmax	pmax		
	comp=N,5.0nm,0.6s						
MA2	**Magadan**	**24.14**	**11**	P	**P**	**15 50 03.4**	**+1.3**
	comp=N,6.5nm,0.7s,baz=197,slow=14,SNR=4.3						
HHC	**Hu-ho-hao-te**	**24.23**	**290**	*e*P	**P**	**15 50 03.3**	**+0.1**
HHC				pmax	pmax		
	comp=N,25nm,0.7s						
HHC				pmax	pmax		
	comp=N,130nm,4.4s						
YAK	**Yakutsk**	**27.06**	**347**	P	**P**	**15 50 28.4**	**0.0**
	comp=N,6.0nm,0.4s,baz=218,slow=1.4,SNR=6.2						
YAK	**Yakutsk**	**27.06**	**347**	*e*P	**P**	**15 50 29.0**	**+0.6**
YAK				pmax	pmax		
	comp=Z,12nm,1.3s						
YAK	**Yakutsk**	**27.06**	**347**	*e*P	**P**	**15 50 27.8**	**-0.6**
	comp=Z,10nm,0.7s						
H11N2	**WAKE ISLAND Hy**	**27.27**	**120**	T	T	16 19 07.1	
	baz=314						
H11N1	**WAKE ISLAND Hy**	**27.28**	**120**	T	T	16 19 05.9	
	baz=314						
H11N3	**WAKE ISLAND Hy**	**27.29**	**120**	T	T	16 19 08.3	
	baz=314						
SEY	**Seymchan**	**27.59**	**10**	P	**P**	**15 50 34.7**	**+1.5**
	comp=Z,1.9nm,0.8s,baz=53,slow=4.5,SNR=3.9						
ENH	**Enshi**	**27.76**	**267**	*e*P	**P**	**15 50 32.8**	**-2.3**
	comp=Z,38nm,0.8s						
H11S1	**WAKE ISLAND Hy**	**27.96**	**122**	T	T	16 19 57.2	
	baz=312						
H11S3	**WAKE ISLAND Hy**	**27.96**	**122**	T	T	16 19 57.8	
	baz=312						
H11S2	**WAKE ISLAND Hy**	**27.98**	**122**	T	T	16 19 56.6	
	baz=312						
ULAN	**Ulaanbaatar**	**28.27**	**305**	*e*P	**P**	**15 50 39.0**	**-0.6**
ULN				pmax	pmax		
	comp=Z,3.0nm,0.7s						
ULAN	**Ulaanbaatar**	**28.27**	**305**	*e*P	**P**	**15 50 39.0**	**-0.6**
	comp=Z,3.3nm,0.7s						
BOD	**Bodaibo**	**28.55**	**328**	*e*P	**P**	**15 50 39.3**	**-2.5**
BOD				pmax	pmax		
	comp=Z,7.0nm,2.0s						
SONA1	**Songino Array**	**28.70**	**305**	*e*P	**P**	**15 50 42.6**	**-0.7**
SONM	**Songino Array**	**28.70**	**305**	P	**P**	**15 50 43.8**	**+0.4**
	comp=Z,1.7nm,0.6s,baz=101,slow=8.6,SNR=9.9						
LZH	**Lanzhou**	**30.71**	**281**	*e*P	**P**	**15 51 01.8**	**+0.4**
LZH				pP	pP	15 51 08.5	+0.2
LZH				sP	**S**	15 51 12.8	+1.7
LZH				*e*S	**S**	**15 55 59.0**	**-4.0**
LZH				pmax	pmax		
	comp=Z,22nm,1.2s						
LZH				pmax	pmax		
	comp=Z,79nm,4.8s						
LZH				LR	LR		
	comp=Z,1μm,15.6s						
ZAK	**Zakamensk**	**31.22**	**309**	*e*P	**P**	**15 51 04.9**	**-0.7**
ZAK				pmax	pmax		
	comp=Z,4.0nm,1.4s						
TLY	**Talaya**	**31.29**	**312**	P	**P**	**15 51 06.6**	**+0.4**
	comp=Z,0.9nm,0.3s,baz=104,slow=8.3,SNR=3.2						
CD2	**Chengdu**	**32.17**	**272**	*e*P	**P**	**15 51 13.8**	**-0.4**
GTA	**Gaotai**	**33.30**	**289**	*e*P	**P**	**15 51 24.5**	**+0.4**
GTA				pP	pP	15 51 32.0	+1.0
GTA				sP	**S**	15 51 35.3	+1.4
GTA				pmax	pmax		
	comp=Z,5.0nm,0.9s						
WMQ	**Urumqi**	**41.69**	**298**	P	**P**	**15 52 35.8**	**+0.9**
WMQ				pP	pP	15 52 40.3	-1.7
WMQ				sP	sP	15 52 42.8	-2.0
WMQ				S	**S**	**15 58 47.5**	**-2.9**
WMQ				SS	**SS**	**16 01 53.0**	**-2.9**
WMQ				pmax	pmax		
	comp=Z,14nm,0.5s						
WMQ				pmax	pmax		
	comp=Z,80nm,3.7s						
WMQ				LR	LR		
	comp=Z,110nm,21.1s						
WMQ				LR	LR		
	comp=Z,78nm,17.9s						
WMQ				LR	LR		
	comp=Z,82nm,17.9s						
CMAR	**Chiang Mai Arr**	**41.75**	**257**	P	**P**	**15 52 35.5**	**-0.1**
	comp=Z,0.4nm,0.4s,baz=55,slow=6.4,SNR=4.5						
CMAR				LR	LR	16 11 46.5	
	comp=Z,49nm,18.7s,baz=60,slow=39						
LSA	**Lhasa**	**42.78**	**276**	*e*P	**P**	**15 52 43.0**	**-1.5**
LSA				pmax	pmax		
	comp=Z,16nm,1.4s						
LSA	**Lhasa**	**42.78**	**276**	*e*P	**P**	**15 52 43.0**	**-1.5**
	comp=Z,16nm,1.4s						
ZAA0	**Zalesovo Array**	**42.89**	**313**	*e*P	**P**	**15 52 44.5**	**+0.1**
ZALV	**Zalesovo Beam**	**42.89**	**313**	P	**P**	**15 52 45.0**	**+0.6**
	comp=Z,1.8nm,0.6s,baz=92,slow=7.4,SNR=7.1						
ZALV				PcP	**PcP**	**15 54 35.6**	**+0.6**
	comp=Z,0.7nm,0.4s,baz=109,slow=3.8,SNR=3.2						
MK01	**Makanchi Array**	**45.01**	**303**	*e*P	**P**	**15 53 01.9**	**+0.2**
MKAR	**Makanchi Array**	**45.02**	**303**	P	**P**	**15 53 02.1**	**+0.4**
	comp=Z,1.5nm,0.6s,baz=85,slow=8.0,SNR=15						
MKAR	**Makanchi Array**	**45.02**	**303**	P	**P**	**15 53 02.1**	**+0.4**
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.5s						
MAKZ	**Makanchi**	**45.23**	**303**	*e*P	**P**	**15 53 02.3**	**-1.0**
MAKZ				pmax	pmax		
	comp=Z,8.0nm,1.1s						
MAKZ	**Makanchi**	**45.23**	**303**	*e*P	**P**	**15 53 02.3**	**-1.0**
	comp=Z,8.4nm,1.1s						
TAPN	**Taplejung**	**46.50**	**275**	*e*P	**P**	**15 53 14.7**	**+0.7**
	comp=Z,16nm,0.4s						
KURK	**Kurchatov**	**46.88**	**309**	*e*P	**P**	**15 53 15.4**	**-0.8**
KURK				pmax	pmax		
	comp=Z,8.0nm,0.8s						
KURK	**Kurchatov**	**46.88**	**309**	*e*P	**P**	**15 53 15.4**	**-0.8**
	comp=Z,8.0nm,0.8s						
KDAK	**Kodiak Island**	**47.45**	**41**	P	**P**	**15 53 22.1**	**+1.5**
	comp=Z,7.4nm,0.7s,baz=278,slow=7.4,SNR=9.0						
RAMN	**Ramite**	**47.56**	**275**	*e*P	**P**	**15 53 22.6**	**+0.4**
	comp=Z,81nm,0.7s						
JIRN	**Jiri**	**47.59**	**276**	*e*P	**P**	**15 53 24.3**	**+1.7**
	comp=Z,57nm,0.7s						
PKIN	**Phulchoki**	**48.27**	**277**	*e*P	**P**	**15 53 28.1**	**+0.4**
	comp=Z,16nm,0.7s						
KKN	**Kakani**	**48.27**	**277**	*e*P	**P**	**15 53 28.2**	**+0.6**
GKN	**Gorkha**	**48.70**	**278**	*e*P	**P**	**15 53 31.5**	**+0.6**
	comp=Z,35nm,0.8s						
DANN	**Dangsing**	**49.26**	**278**	*e*P	**P**	**15 53 36.8**	**+1.5**
MDM	**Murphy Dome**	**49.43**	**32**	*e*P	**P**	**15 53 37.5**	**+1.7**
	comp=Z,6.7nm,0.9s						
PYUN	**Piuthan**	**49.98**	**278**	*e*P	**P**	**15 53 41.5**	**+0.8**
	comp=Z,67nm,1.0s						
ILAR	**Eielson Array**	**50.00**	**32**	P	**P**	**15 53 41.7**	**+1.5**
	comp=Z,2.8nm,0.7s,baz=266,slow=6.4,SNR=37						
ILB	**Eielson Array**	**50.00**	**32**	*e*P	**P**	**15 53 41.5**	**+1.3**
IL1	**Eielson Array**	**50.00**	**32**	*e*P	**P**	**15 53 41.1**	**+0.9**
KSH	**Kashi**	**51.22**	**295**	*e*P	**P**	**15 53 52.0**	**+2.1**
KSH				pP	sP	15 53 59.0	-0.8
KSH				PP	**PP**	**15 55 50.0**	**+3.4**
KSH				S	**S**	**16 01 08.5**	**+1.3**
KSH				pmax	pmax		
	comp=Z,63nm,5.4s						
KSH				LR	LR		
	comp=Z,160nm,10.4s						
KSH				LR	LR		
	comp=Z,120nm,5.9s						
KSH				LR	LR		
	comp=Z,96nm,12.6s						
BRVK	**Borovoye**	**51.60**	**313**	*e*P	**P**	**15 53 52.6**	**+0.3**
BRVK				pmax	pmax		
	comp=Z,11nm,0.9s						
BRVK	**Borovoye**	**51.60**	**313**	*e*P	**P**	**15 53 52.6**	**+0.3**
	comp=Z,11nm,0.9s						
EGAK	**Eagle**	**52.45**	**32**	*e*P	**P**	**15 53 59.8**	**+1.3**
INK	**Inuvik**	**54.97**	**27**	P	**P**	**15 54 18.9**	**+2.0**
	comp=Z,3.6nm,0.6s,baz=317,slow=4.5,SNR=13						
FITZ	**Fitzroy Crossi**	**56.12**	**199**	P	**P**	**15 54 26.3**	**+0.7**
	comp=Z,1.8nm,0.7s,baz=17,slow=8.4,SNR=8.0						
WB2	**Warramunga Arr**	**56.23**	**189**	*e*P	**P**	**15 54 25.7**	**-0.8**
WRA	**Warramunga Arr**	**56.23**	**189**	P	**P**	**15 54 26.2**	**-0.3**
	comp=Z,4.4nm,0.7s,baz

288nm,0.3s,baz=63,slow=23,SNR=7.2
ERM Erimo 5.93 8 ⇓ *e*P **Pn** 15 48 32.3 -0.5
ERM Erimo 5.93 8 *e*Pn **Pn** 15 48 32.3 -0.5
YUK Yuzh-Kuril'sk 8.42 19 *e*P **Pn** 15 49 04.0 -2.9
YUK *e*S **Sn** 15 50 36.2 -5.0
YUK pmax pmax
comp=Z,54nm,0.6s
SHO Shikotan 8.56 24 *e*P Pn 15 49 04.7 -4.2
SHO *e*S **Sn** 15 50 37.6 -7.1
SHO pmax pmax
comp=Z,17nm,0.4s
CBIJ Chichi jima 9.02 179 *e*Pn **Pn** 15 49 13.6 -1.7
JNU Nakatsue 9.65 255 Pn **Pn** 15 49 23.3 -0.6
comp=Z,0.6nm,0.3s,baz=74,slow=9.4,SNR=3.7
KUR Kuril'sk 10.11 24 *e*P **Pn** 15 49 27.9 -2.2
KUR *e*S **Sn** 15 51 18.2 -4.5
KUR pmax pmax
comp=Z,12nm,0.4s
YSS Yuzh-Sakhalins 10.82 3 *e*P **Pn** 15 49 40.3 +0.5
YSS pmax pmax
comp=Z,19nm,0.8s
USRK Ussuriysk Ar. 11.10 320 Pn **Pn** 15 49 45.0 +1.3
comp=Z,0.4nm,0.3s,baz=139,slow=14,SNR=4.4
USRK LR LR 15 53 28.8
comp=Z,114nm,18.4s,baz=109,slow=35
KSRS Korea Array 11.37 281 Pn **Pn** 15 49 50.0 +2.7
comp=Z,0.3nm,0.3s,baz=92,slow=14,SNR=12
KSRS LR LR 15 53 54.2
comp=Z,110nm,20.7s,baz=86,slow=36
KSAR Wonju Array Be 11.39 281 P **Pn** 15 49 50.1 +2.3
KSAR Wonju Array Be 11.39 281 Pn **Pn** 15 49 50.0 +2.3
HABR Khabarovsk 13.34 340 *e*P **Pn** 15 50 17.9 +3.6
HABR *e*S Sn 15 52 32.6 -9.2
HABR pmax pmax
comp=Z,38nm,1.3s
HABR pmax pmax
comp=N,19nm,1.3s
HABR pmax pmax
comp=E,46nm,1.3s
HABR MLR MLR
comp=Z,122nm,10.0s
GUMO Guam 22.61 173 LR LR 16 01 05.2
comp=Z,54nm,20.3s,baz=360,slow=37
MA2 Magadan 24.13 11 P **P** 15 52 21.3 +1.0
comp=Z,14nm,1.1s,baz=180,slow=11,SNR=5.0
YAK Yakutsk 27.04 347 P **P** 15 52 47.0 +0.4
comp=Z,25nm,0.7s,baz=171,slow=1.8,SNR=16
YAK Yakutsk 27.04 347 *e*P **P** 15 52 46.9 +0.3
YAK pmax pmax
comp=Z,46nm,1.1s
YAK pmax pmax
comp=N,18nm,1.2s
H11N2 WAKE ISLAND Hy 27.29 120 T T 16 21 32.2
baz=311,slow=74,SNR=24
H11N1 WAKE ISLAND Hy 27.30 120 T T 16 21 25.6
baz=311,slow=74,SNR=25
H11N3 WAKE ISLAND Hy 27.31 120 T T 16 21 27.2
baz=311,slow=74,SNR=86
ENH Enshi 27.75 267 *e*P **P** 15 52 51.5 -1.9
comp=N,34nm,0.7s
H11S1 WAKE ISLAND Hy 27.98 122 T T 16 22 14.7
baz=314,slow=75,SNR=264
H11S3 WAKE ISLAND Hy 27.98 122 T T 16 22 12.9
baz=314,slow=75,SNR=265
H11S2 WAKE ISLAND Hy 28.00 122 T T 16 22 18.1
baz=314,slow=75,SNR=163
ULN Ulaanbaatar 28.25 305 ⇑ *i*P **P** 15 52 57.8 -0.1
ULN pmax pmax
comp=Z,12nm,1.1s
ULN Ulaanbaatar 28.25 305 *e*P **P** 15 52 57.7 -0.2
comp=Z,6.8nm,0.8s
BOD Bodaibo 28.54 328 *e*P **P** 15 53 00.0 -0.1
BOD pmax pmax
comp=Z,12nm,1.4s
SONM Songino Array 28.68 305 P **P** 15 53 01.6 -0.1
comp=Z,9.9nm,0.8s,baz=105,slow=8.1,SNR=26
SONM LR LR 16 04 54.8
comp=Z,82nm,18.9s,baz=78,slow=37
ZAK Zakamensk 31.20 309 *e*P **P** 15 53 23.1 -0.7
ZAK pmax pmax
comp=Z,9.0nm,1.1s
TLY Talaya 31.27 312 *e*P **P** 15 53 24.3 -0.1
TLY *e*S **S** 15 58 31.0 +1.3
TLY pmax pmax
comp=Z,26nm,1.0s
TLY MLR MLR
comp=Z,168nm,16.0s
CHTO Chiang Mai 41.54 257 *e*P **P** 15 54 51.5 -0.8
CHTO pmax pmax
comp=Z,2.0nm,0.8s
CHTO Chiang Mai 41.54 257 *e*P **P** 15 54 51.5 -0.8
comp=Z,1.7nm,0.8s
CMAR Chiang Mai Arr 41.74 257 P **P** 15 54 53.5 -0.5
comp=Z,1.9nm,0.8s,baz=46,slow=6.5,SNR=12
LSA Lhasa 42.77 276 *e*P **P** 15 55 00.9 -1.9
LSA pmax pmax
comp=Z,5.0nm,0.6s
LSA Lhasa 42.77 276 *e*P **P** 15 55 00.9 -1.9
comp=Z,4.9nm,0.6s
ZALV Zalesovo Beam 42.87 313 P **P** 15 55 02.7 +0.1
comp=Z,8.2nm,0.7s,baz=90,slow=6.5,SNR=17
ZALV PcP **PcP** 15 56 53.6 +0.3
comp=Z,1.9nm,0.5s,baz=100,slow=2.9,SNR=4.4
NRIK Noril'sk 44.27 336 P **P** 15 55 14.3 +0.5
comp=Z,1.5nm,0.3s,baz=145,slow=9.4,SNR=3.8
MKAR Makanchi Array 45.00 303 P **P** 15 55 20.0 +0.1
comp=Z,8.0nm,0.8s,baz=88,slow=9.4,SNR=15
MKAR PcP **PcP** 15 57 01.5 +0.7
comp=Z,0.7nm,0.6s,baz=83,slow=3.5,SNR=2.0
TAPN Taplejung 46.48 275 *e*P **P** 15 55 32.4 +0.1
KURK Kurchatov 46.86 309 *d i*P **P** 15 55 34.3 -0.2
KURK pmax pmax
comp=Z,107nm,1.7s
KURK Kurchatov 46.86 309 *e*P **P** 15 55 34.1 -0.4
comp=Z,95nm,0.8s
ODAN Odare 46.95 275 *e*P **P** 15 55 35.8 0.0
KDAK Kodiak Island 47.45 41 P **P** 15 55 40.2 +1.2
comp=Z,2.2nm,0.4s,baz=297,slow=5.2,SNR=6.9
RAMN Ramite 47.55 275 *e*P **P** 15 55 40.4 -0.1
comp=Z,88nm,0.7s
JIRN Jiri 47.58 276 *e*P **P** 15 55 41.2 +0.3
comp=Z,51nm,0.7s
GUN Gumba 47.72 277 *e*P **P** 15 55 42.0 0.0
PKI Pulchoki 48.24 277 *e*P **P** 15 55 45.6 -0.4
PKIN Phulchoki 48.25 277 *e*P **P** 15 55 45.9 -0.1
comp=Z,21nm,0.7s
KKN Kakani 48.25 277 *e*P **P** 15 55 45.8 -0.1
comp=Z,17nm,0.8s
GKN Gorkha 48.68 278 *e*P **P** 15 55 49.0 -0.2
comp=Z,34nm,0.9s
DANN Dangsing 49.24 278 *e*P **P** 15 55 53.7 +0.1
comp=Z,6.0nm,0.9s
COEN Coen 49.84 179 *e*P **P** 15 55 58.0 +0.2
comp=Z,10nm,0.9s
PYUN Piuthan 49.96 278 *e*P **P** 15 55 59.0 0.0
comp=Z,61nm,1.0s
ILAR Eielson Array 50.00 32 P **P** 15 55 59.7 +1.2
comp=Z,1.1nm,0.7s,baz=263,slow=6.1,SNR=9.3
AAK Ala-Archa 51.33 299 ⇑ *e*P **P** 15 56 11.6 +2.5
AAK pmax pmax
comp=Z,13nm,1.1s
BRVK Borovoye 51.58 313 ⇑ *i*P **P** 15 56 11.3 +0.7
BRVK pmax pmax
comp=Z,15nm,0.8s
BRVK Borovoye 51.58 313 *e*P **P** 15 56 10.9 +0.4
comp=Z,14nm,0.8s
KKAR Karatay Array 53.98 301 *e*P **P** 15 56 28.5 0.0
KKAR pmax pmax
comp=Z,8.0nm,0.9s
KKAR Karatay Array 53.98 301 *e*P **P** 15 56 28.5 0.0
comp=Z,7.5nm,0.9s
INK Inuvik 54.97 27 P **P** 15 56 36.6 +1.4
comp=Z,2.0nm,0.7s,baz=324,slow=8.2,SNR=6.7
SVE Sverdlovsk 56.13 319 *e*P **P** 15 56 44.3 +0.5
SVE pmax pmax
comp=Z,15nm,1.0s
WRAB Tennant Creek 56.24 189 ⇓ *e*P P 15 56 52.4 +7.5
WRAB pmax pmax
comp=Z,23nm,1.2s
WRA Warramunga Arr 56.25 189 P **P** 15 56 44.3 -0.7
comp=Z,2.3nm,1.0s,baz=8.0,slow=7.4,SNR=4.7
ARU Arti 57.34 319 *d i*P **P** 15 56 52.5 +0.1
ARU 15 57 46.4
ARU 15 58 56.4
ARU S **S** 16 04 45.7 -1.6
ARU SS **SS** 16 08 31.4 -4.9
ARU pmax pmax
comp=Z,19nm,1.7s
ARU Arti 57.34 319 *e*P **P** 15 56 52.3 -0.1
comp=Z,13nm,1.3s
ABKAR Akbulak array 58.88 311 *e*P **P** 15 57 02.9 -0.3
ASAR Alice Springs 59.98 189 P **P** 15 57 11.0 -0.1
comp=Z,0.7nm,0.5s,baz=0.8,slow=6.9,SNR=4.1
ASAR Alice Springs 59.98 189 P **P** 15 57 11.0 -0.1
ASAR pmax pmax
comp=Z,1.0nm,0.5s
KBS Kingsbay 61.61 350 *e*P **P** 15 57 24.5 +3.0
KBS pmax pmax
comp=Z,65nm,1.7s
GEYT Alibeck 64.68 300 P **P** 15 57 42.0 -0.6
comp=Z,1.7nm,0.5s,baz=54,slow=7.5,SNR=4.1
KLMR Klimovskoe 64.76 328 *e*P **P** 15 57 41.3 -1.3
KLMR pmax pmax
comp=Z,10.0nm,0.8s
ARCES ARCESS Array B 65.00 340 P **P** 15 57 44.3 +0.2
comp=Z,4.7nm,0.7s,baz=56,slow=8.2,SNR=14
OBN Obninsk 69.09 324 ⇑ *i*P **P** 15 58 09.9 -0.4
OBN pmax pmax
comp=Z,30nm,2.5s
PUL Pulkovo 69.20 330 ⇑ *e*P **P** 15 58 14.1 +3.2
LPSR Galich'ya Gora 69.29 321 *e*P **P** 15 58 11.2 -0.3
LPSR pmax pmax
comp=Z,10.0nm,0.6s
FINES FINESS Array B 69.82 333 P **P** 15 58 15.2 +0.5
comp=Z,3.1nm,0.4s,baz=50,slow=6.5,SNR=18
FINES FINESS Array B 69.82 333 *i* P **P** 15 58 15.3 +0.6
FINES pmax pmax
comp=Z,3.0nm,0.4s
VSR Storozhevoye 69.91 319 *e*P **P** 15 58 14.4 -1.0
VSR pmax pmax
comp=Z,9.0nm,0.5s
VSU Vasula 71.46 330 ⇓ *e*P **P** 15 58 25.1 +0.4
VSU pmax pmax
comp=Z,21nm,0.6s
KBZ Khabaz 71.84 311 P **P** 15 58 28.1 +0.8
comp=Z,4.1nm,0.9s,baz=199,slow=3.3,SNR=5.6
KIV Kislovodsk 71.85 311 *e*P **P** 15 58 28.8 +1.3
KIV pmax pmax
comp=Z,10.0nm,0.9s
NEY Neytrino 72.21 311 ⇑ *e*P **P** 15 58 31.3 +1.5
NEY pmax pmax
comp=Z,1.0nm,0.9s
GNI Garni 72.62 307 *de*P **P** 15 58 34.8 +2.6
GNI pmax pmax
comp=Z,22nm,1.1s
NB2 NORSAR Subarra 75.19 338 P **P** 15 58 47.2 +0.4
comp=Z,11nm,1.1s,baz=41,slow=5.9
NOA NORSAR Array B 75.19 338 P **P** 15 58 47.2 +0.4
comp=Z,4.1nm,0.7s,baz=39,slow=5.8,SNR=9.7
AKASG Malin Array Be 75.29 323 P **P** 15 58 47.6 +0.2
comp=Z,5.6nm,0.6s,baz=46,slow=6.0,SNR=20
KIEV Kiev 75.30 323 *de*P **P** 15 58 47.6 +0.1
KIEV pmax pmax
comp=Z,6.0nm,0.7s
KIEV Kiev 75.30 323 *e*P **P** 15 58 47.5 0.0
comp=Z,6.5nm,0.8s
BRTR Keskin Array B 79.80 312 P **P** 15 59 13.3 +0.3
comp=Z,2.5nm,0.9s,baz=106,slow=4.4,SNR=7.7
BRTR Keskin Array B 79.80 312 *i* P **P** 15 59 14.1 +1.1
BRTR pmax pmax
comp=Z,3.0nm,0.9s
DPC Dobruska-Polom 81.46 328 *e*P **P** 15 59 23.0 +1.4
CLL Collm 82.10 330 *e*P **P** 15 59 25.0 +0.1
comp=Z,4.0nm,0.7s
GOPC GO Pecny, Ondr 82.44 329 *e*P **P** 15 59 27.8 +1.0
PRU Pruhonice 82.49 329 *e*P **P** 15 59 27.9 +0.9
KHC Kasperske Hory 83.55 329 *e*P **P** 15 59 33.1 +0.6
GERES GERESS Array B 83.72 329 P **P** 15 59 33.0 -0.5
comp=Z,1.3nm,0.7s,baz=33,slow=5.1,SNR=6.9
ANMO Albuquerque 84.80 50 ⇓ *e*P **P** 15 59 42.5 +3.1
ANMO pmax pmax
comp=Z,2.0nm,1.1s
TXAR Lajitas Array 90.29 53 P **P** 16 00 07.2 +1.4
comp=Z,0.5nm,0.7s,baz=294,slow=3.4,SNR=4.9
TORD Torodi Ar. Bea 118.29 315 PKP **PKPdf** 16 05 51.6 -0.8
comp=Z,0.2nm,0.3s,baz=30,slow=2.2,SNR=2.4
LPAZ La Paz 146.72 61 PKPbc **PKPbc** 16 06 48.2 +0.6
comp=Z,2.1nm,0.5s,baz=360,slow=3.5,SNR=10

ISCJB ***29*** *15:52:26.7±0.6, 7°.41S±0°.04×128°.6E±0°.1, h151km, mb3.8/7, Error ellipse: s-maj=18.8km s-min=6.2km az=178.2*
IDC ***29*** *15:52:28.0±2.6, 7°.41S×128°.42E, h145km±24km, mb3.7/7, mb1 3.7/11, mb1mx3.5/33, mbtmp4.1/11, Error ellipse: s-maj=37.7km s-min=13.4km az=83.0*
ISC 29 15:52:28.0±0.7, 7°.53S±0°.06×128°.7E±0°.1, h151km, n12, σ2≥42/16, mb3.9/7, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
SIJI	**Sorong**	**7.11**	**22**	P		**Pn**	**15 54 09.8**	**+0.2**
	18nm,0.3s,baz=50,slow=21,SNR=50							
SIJI				S		**Sn**	15 55 26.1	-3.2
	35nm,0.3s,baz=245,slow=24,SNR=12							
FITZ	**Fitzroy Crossi**	**10.91**	**195**	P		**Pn**	**15 55 00.8**	**+0.8**
	0.7nm,0.3s,baz=18,slow=11,SNR=13							
FITZ				S		**Sn**	15 56 55.6	-5.2
	1.5nm,0.3s,baz=95,slow=19,SNR=5.6							
WRA	**Warramunga Arr**	**13.51**	**157**	P		**Pn**	**15 55 34.6**	**+0.8**
	0.3nm,0.3s,baz=336,slow=9.8,SNR=5.1							
WRA				S		**Sn**	15 58 00.8	-2.7
	1.1nm,0.3s,baz=323,slow=25,SNR=5.6							
ASAR	**Alice Springs**	**16.81**	**163**	P		**Pn**	**15 56 17.9**	**+3.2**
	0.5nm,0.3s,baz=342,slow=10,SNR=21							
ASAR				S		**S**	15 59 19.0	-2.7
	0.2nm,0.3s,baz=336,slow=20,SNR=4.2							
STKA	**Stephens Creek**	**27.06**	**155**	P		**P**	**15 57 59.0**	**+2.6**
	2.3nm,0.7s,baz=334,slow=8.7,SNR=5.1							
SONM	**Songino Array**	**58.53**	**343**	P		**P**	**16 02 08.5**	**-0.2**
	0.9nm,0.8s,baz=174,slow=7.4,SNR=4.6							
PETK	**Petropavlovsk-**	**65.25**	**19**	P		**P**	**16 02 53.6**	**+0.4**
	5.1nm,0.9s,baz=121,slow=1.2,SNR=5.1							
MKAR	**Makanchi Array**	**67.95**	**328**	P		**P**	**16 03 09.9**	**-0.6**
	0.4nm,0.3s,baz=116,slow=7.9,SNR=11							
ZALV	**Zalesovo Beam**	**71.48**	**334**	P		**P**	**16 03 30.7**	**-1.3**
	1.2nm,0.5s,baz=153,slow=4.9,SNR=4.1							
VNDA	**Vanda**	**72.08**	**173**	P		**P**	**16 03 36.8**	**+1.6**
	0.4nm,0.4s,baz=353,slow=8.1,SNR=9.7							
SEY	**Seymchan**	**72.58**	**11**	P		**P**	**16 03 38.4**	**+0.1**
	2.0nm,0.7s,baz=15,slow=20,SNR=8.3							
LPAZ	**La Paz**	**151.08**	**145**	PKPbc		**PKPbc**	**16 12 06.2**	**+1.2**
	0.4nm,0.4s,baz=315,slow=1.4,SNR=3.6							

IDC ***29*** *16:08:13.2±0.7, 79°.85N×123°.61E, h0km, mb3.8/13, mb1 3.9/16, mb1mx3.8/36, mbtmp3.8/16, ML3.4/2, MS3.6/15, Ms1 3.6/15, ms1mx3.4/45, Error ellipse: s-maj=18.1km s-min=16.3km az=150.0*
NEIC ***29*** *16:08:14.4±0.4, 79°.82N×123°.87E, h10km, mb4.4/9, Error ellipse: s-maj=9.1km s-min=7.9km az=85.0*
MOS ***29*** *16:08:19.0±2.2, 79°.20N×123°.59E, h10km, mb4.8/28, Error ellipse: s-maj=34.7km s-min=8.8km az=93.8*
ISC 29 16:08:14.1±0.5, 79.77N±0°.06×124°.07E±0°.08, h10km, n104, σ2≥01/49, mb4.5/50, MS3.7/15, 4C-4D, East of Severnaya Zemlya

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
TIXI	**Tiksi**	**8.24**	**169**	Pn		**Pn**	**16 10 13.9**	**+0.4**
	0.7nm,0.3s,baz=353,slow=8.1,SNR=3.7							
TIXI				Sn		**Sn**	16 11 45.8	-0.7
	1.1nm,0.3s,baz=119,slow=13,SNR=3.8							
TIXI	**Tiksi**	**8.24**	**169**	⇑ *e*P		**Pn**	**16 10 15.0**	**+1.5**
TIXI				pmax	pmax			
	comp=Z,9.0nm,1.4s							
NRIK	**Noril'sk**	**13.87**	**242**	Pn		**Pn**	**16 11 27.1**	**-3.3**
	comp=Z,1.0nm,0.3s,baz=33,slow=10,SNR=14							
NRIK				Sn		Sn	16 13 51.9	-12
	comp=Z,0.7nm,0.3s,baz=156,slow=20,SNR=4.6							
NRIK				LR		LR	16 17 23.9	
	comp=Z,335nm,18.0s,baz=47,slow=40							
YAK	**Yakutsk**	**17.90**	**171**	P		**P**	**16 12 24.1**	**+0.7**
	comp=Z,0.0nm,0.3s,baz=59,slow=1.1,SNR=8.1							
YAK				LR		LR	16 19 39.8	
	comp=Z,82nm,20.9s,baz=271,slow=38							
YAK	**Yakutsk**	**17.90**	**171**	*e*P		**P**	**16 12 23.8**	**+0.5**
YAK				*e*S		**Sn**	**16 15 41.7**	**-0.3**
YAK				pmax	pmax			
	comp=Z,18nm,0.8s							
YAK				pmax	pmax			
	comp=N,17nm,1.4s							
YAK	**Yakutsk**	**17.90**	**171**	*e*Pn		**Pn**	**16 12 22.9**	**+0.2**
	comp=N,22nm,0.8s							
SPITS	**Spitsbergen Ar**	**17.91**	**320**	P		**P**	**16 12 22.1**	**-1.3**
	baz=15,slow=6.3,SNR=2.3							
SPITS				LR		LR	16 17 52.7	
	comp=N,49nm,20.0s,baz=10.0,slow=33							
SEY	**Seymchan**	**18.75**	**138**	P		**Pn**	**16 12 36.9**	**+3.8**
	comp=N,0.1nm,0.3s,baz=336,slow=20,SNR=3.5							
MA2	**Magadan**	**21.84**	**142**	LR		LR	16 21 08.6	
	comp=N,91nm,18.1s,baz=2.5,slow=35							
BOD	**Bodaibo**	**22.28**	**194**	*e*P		**P**	**16 13 11.6**	**+0.7**
BOD				pmax	pmax			
	comp=Z,15nm,1.4s							
ARCES	**ARCESS Array B**	**24.27**	**302**	P		**P**	**16 13 29.7**	**-1.1**
	comp=Z,4.1nm,0.9s,baz=24,slow=9.7,SNR=6.0							
ARCES	**ARCESS Array B**	**24.27**	**302**	*e*P		**P**	**16 13 35.5**	**+4.7**
ARCES				pmax	pmax			
	comp=Z,8.0nm,0.9s							
RES	**Resolute Bay**	**24.28**	**24**	LR		LR	16 23 40.6	
	comp=Z,76nm,19.4s,baz=14,slow=38							
COLD	**Coldfoot**	**24.29**	**71**	*e*P		**P**	**16 13 26.9**	**-4.2**
	comp=Z,7.4nm,0.8s							
LVZ	**Lovozero**	**24.30**	**293**	⇓ *i*P		P	16 13 38.2	+7.0
LVZ				pmax	pmax			
	comp=Z,51nm,1.9s							
INK	**Inuvik**	**25.96**	**56**	P		P	16 13 54.5	+8.3
	comp=Z,1.3nm,0.6s,baz=6.6,slow=8.6,SNR=4.5							
INK				LR		LR	16 23 13.8	
	comp=Z,75nm,21.7s,baz=301,slow=35							
SGF	**Sodankyl**	**26.02**	**299**	P		**P**	**16 13 50.8**	**+4.2**
SGF				pmax	pmax			
	comp=Z,17nm,1.1s							
ILAR	**Eielson Array**	**27.10**	**70**	P		**P**	**16 13 57.9**	**+1.5**
	comp=Z,1.6nm,0.8s,baz=335,slow=8.5,SNR=16							
ILAR				LR		LR	16 25 48.1	
	comp=Z,79nm,18.1s,baz=3.5,slow=39							
ILAR	**Eielson Array**	**27.10**	**70**	*e*P		**P**	**16 13 58.4**	**+2.0**
ILAR				pmax	pmax			
	comp=Z,2.0nm,0.8s							
TMCR	**Tamitsa**	**27.15**	**287**	*e*P		P	16 14 03.6	+6.8
TMCR				pmax	pmax			
	comp=Z,12nm,0.7s							
ZALV	**Zalesovo Beam**	**28.90**	**231**	P		**P**	**16 14 13.3**	**+0.7**
	comp=Z,0.4nm,0.3s,baz=358,slow=8.9,SNR=2.9							
ZALV				LR		LR	16 26 37.4	
	comp=Z,189nm,19.3s,baz=246,slow=38							
TLY	**Talaya**	**29.04**	**207**	LR		LR	16 26 25.5	
	comp=Z,101nm,18.2s,baz=8.5,slow=38							
KLMR	**Klimovskoe**	**29.98**	**283**	*e*P		P	16 14 28.3	+6.3
KLMR				*e*			16 15 28.5	
KLMR				pmax	pmax			
	comp=Z,14nm,1.4s							
SVE	**Sverdlovsk**	**30.02**	**259**	*e*P		P	16 14 32.2	+10
SUF	**Sumiainen**	**30.48**	**296**	P		P	16 14 33.0	+6.6
SUF				pmax	pmax			
	comp=Z,14nm,1.4s							
FINES	**FINESS Array B**	**31.69**	**295**	LR		LR	16 29 21.1	
	comp=Z,2.4nm,21.1s,baz=36,slow=40							
BRVK	**Borovoye**	**31.98**	**247**	⇑ *e*P		P	16 14 46.7	+6.9
BRVK				pmax	pmax			
	comp=Z,5.0nm,1.0s							
ULN	**Ulaanbaatar**	**32.59**	**201**	⇓ *e*P		**P**	**16 14 48.2**	**+2.8**
SONM	**Songino Array**	**32.66**	**202**	P		**P**	**16 14 47.7**	**+1.7**
	comp=Z,0.9nm,0.8s,baz=357,slow=8.7,SNR=4.5							
SONM	**Songino Array**	**32.66**	**202**	*e*P		P	16 14 50.9	+4.9
SONM				pmax	pmax			
	comp=Z,1.0nm,0.8s							
NOA	**NORSAR Array B**	**34.34**	**307**	P		**P**	**16 14 59.9**	**-0.5**
	comp=Z,1.1nm,0.8s,baz=17,slow=8.4,SNR=2.7							
MDJ	**Mudanjiang**	**35.33**	**173**	P		P	16 15 02.5	-6.5
MDJ				pmax	pmax			
	comp=Z,14nm,1.4s							
MDJ				pmax	pmax			
	comp=Z,140nm,5.4s							
OBN	**Obninsk**	**35.93**	**282**	⇓ *e*P		P	16 15 21.0	+7.1
OBN				pmax	pmax			
	comp=Z,13nm,0.6s							
CN2	**Changchun**	**36.09**	**178**	*e*P		P	16 15 10.5	-5.0
MK31	**Makanchi Array**	**36.24**	**231**	*e*P		**P**	**16 15 17.1**	**+0.3**
MK31	**Makanchi Array**	**36.24**	**231**	*e*P		**P**	**16 15 17.1**	**+0.3**
MKAR	**Makanchi Array**	**36.24**	**231**	P		**P**	**16 15 17.3**	**+0.5**
	comp=Z,1.3nm,0.7s,baz=4.5,slow=7.8,SNR=12							
MKAR				LR		LR	16 31 13.2	
	comp=Z,164nm,20.4s,baz=34,slow=38							
MKAR	**Makanchi Array**	**36.24**	**231**	*e*P		**P**	**16 15 17.0**	**+0.1**
MKAR				pmax	pmax			
	comp=Z,15nm,1.0s							
MKAR	**Makanchi Array**	**36.24**	**231**	*e*P		**P**	**16 15 16.9**	**+0.1**
	comp=Z,15nm,1.0s							
MK01	**Makanchi Array**	**36.27**	**231**	*e*P		**P**	**16 15 17.4**	**+0.4**
MAKZ	**Makanchi**	**36.27**	**231**	*e*P		**P**	**16 15 17.5**	**+0.4**
MAKZ				pmax	pmax			
	comp=Z,8.0nm,0.8s							
MAKZ	**Makanchi**	**36.27**	**231**	*e*P		**P**	**16 15 17.5**	**+0.4**
	comp=Z,7.7nm,0.8s							
ABKAR	**Akbulak array**	**37.40**	**256**	*e*P		**P**	**16 15 27.7**	**+1.1**
	comp=Z,4.2nm,0.9s							
LPSR	**Galich'ya Gora**	**37.92**	**279**	*e*P		P	16 15 38.8	+7.9
LPSR				pmax	pmax			
	comp=Z,10.0nm,0.9s							
WMQ	**Urumqi**	**38.46**	**224**	P		**P**	**16 15 38.0**	**+2.4**
WMQ				pP		sP	16 15 42.5	+2.5
WMQ				sP		pP	16 15 45.0	+6.3
WMQ				pmax	pmax			
	comp=Z,13nm,0.6s							
WMQ				pmax	pmax			
	comp=Z,100nm,4.1s							
WMQ				LR	LR			
	comp=N,130nm,21.3s							
WMQ				LR	LR			
	comp=E,120nm,20.1s							
WMQ				LR	LR			
	comp=Z,180nm,20.1s							
VSR	**Storozhevoye**	**39.20**	**278**	*e*P		P	16 15 49.6	+7.9
VSR				pmax	pmax			
	comp=Z,10.0nm,0.7s							
HHC	**Hu-ho-hao-te**	**39.33**	**195**	*e*P		P	16 15 38.0	-5.0
HHC				pmax	pmax			
	comp=Z,33nm,0.9s							
HHC				pmax	pmax			
	comp=Z,94nm,5.0s							
PDGK	**Podgornoye**	**40.03**	**233**	P		**P**	**16 15 50.4**	**+1.5**
PDGK				pmax	pmax			
	comp=Z,13nm,0.8s							
AKASG	**Malin Array Be**	**41.44**	**287**	P		**P**	**16 15 59.7**	**-0.5**
	comp=Z,0.5nm,0.4s,baz=17,slow=9.0,SNR=2.9							
AKASG	**Malin Array Be**	**41.44**	**287**	*e*P		P	16 16 08.4	+8.2
AKASG				pmax	pmax			
	comp=Z,5.0nm,0.6s							
AKBB	**Malin Array Si**	**41.44**	**287**	*e*P		P	16 16 07.4	+7.2
AKBB				pmax	pmax			
	comp=Z,8.0nm,0.9s							
AKBB	**Malin Array Si**	**41.44**	**287**	*e*P		P	16 16 07.3	+7.2
	comp=Z,7.5nm,0.9s							
KIEV	**Kiev**	**41.44**	**287**	⇓ *e*P		P	16 16 08.2	+8.0
KIEV				pmax	pmax			
	comp=Z,8.0nm,0.9s							
KIEV	**Kiev**	**41.44**	**287**	*e*P		P	16 16 08.0	+7.8
	comp=Z,7.4nm,0.9s							
AAK	**Ala-Archa**	**41.45**	**238**	⇑ *e*P		P	16 16 06.6	+6.0
AAK				pmax	pmax			
	comp=Z,5.0nm,0.8s							
AK11	**Malin Array Si**	**41.47**	**287**	*e*P		P	16 16 06.8	+6.4
GTA	**Gaotai**	**41.55**	**209**	*e*P		**P**	**16 16 01.8**	**+0.4**
GTA				pP		sP	16 16 06.3	+0.6
GTA				sP		pP	16 16 08.8	+4.3
GTA				S		**S**	**16 22 15.5**	**-1.4**
GTA				pmax	pmax			
	comp=Z,3.0nm,1.2s							
GTA				pmax	pmax			
	comp=Z,190nm,4.7s							
GTA				LR	LR			
	comp=N,230nm,14.7s							
GTA				LR	LR			
	comp=E,250nm,14.3s							
GTA				LR	LR			
	comp=Z,210nm,14.6s							
KSRS	**Korea Array**	**42.46**	**175**	LR		LR	16 33 32.9	
	comp=Z,83nm,21.0s,baz=328,slow=36							
KSP	**Ksiaz**	**43.43**	**299**	*e*P		P	16 16 26.2	+10
KSP	**Ksiaz**	**43.43**	**299**	*e*P		P	16 16 26.2	+10
CLL	**Collm**	**43.48**	**302**	⇑ *i*P		P	16 16 25.5	+8.7
CLL				pmax	pmax			
	comp=Z,7.0nm,1.0s							
CLL	**Collm**	**43.48**	**302**	*e*P		P	16 16 23.0	+6.2

	comp=Z,5.3nm,0.9s						
KWP	**Kalwaria Pacla**	**43.57 292**	*e*P	P	16 16 27.1	+10	
KWP	**Kalwaria Pacla**	**43.57 292**	*e*P	P	16 16 27.1	+10	
DPC	**Dobruska-Polom**	**43.90 298**	*e*P	P	16 16 29.2	+8.9	
DPC			*ex*	x	16 16 34.1		
DPC	**Dobruska-Polom**	**43.90 298**	*e*P	P	16 16 29.2	+8.9	
DPC			*e*		16 16 34.1		
STHS	**Stebnicka Huta**	**44.02 294**	*e*P	P	16 16 31.0	+10	
STHS			pmax	pmax			
	comp=Z,8.0nm,0.8s						
STHS	**Stebnicka Huta**	**44.02 294**	*e*P	P	16 16 31.0	+10	
KRLC	**Kraliky**	**44.09 298**	*e*P	P	16 16 30.8	+9.0	
KRLC	**Kraliky**	**44.09 298**	*e*P	P	16 16 30.8	+9.0	
NIE	**Niedzica**	**44.17 294**	*e*P	P	16 16 31.8	+9.4	
NIE	**Niedzica**	**44.17 294**	*e*P	P	16 16 31.8	+9.4	
MORC	**Moravsky Berou**	**44.26 297**	P	P	16 16 27.7	+4.5	
MORC			pmax	pmax			
	comp=Z,23nm,2.7s						
KSH	**Kashi**	**44.28 236**	*e*P	P	16 16 29.3	+5.8	
KSH			sP	sP	16 16 36.0	+8.1	
KSH			PP	PcP	16 18 15.3	+7.7	
KSH			S	S	16 23 05.5	+8.5	
KSH			sS	sS	16 23 13.3	+11	
KSH			SS	**ScS**	**16 26 19.0**	**-2.5**	
KSH			pmax	pmax			
	comp=Z,16nm,2.0s						
KSH			pmax	pmax			
	comp=Z,83nm,5.4s						
KSH			LR	LR			
	comp=N,250nm,11.2s						
KSH			LR	LR			
	comp=E,220nm,6.6s						
KSH			LR	LR			
	comp=Z,140nm,12.0s						
LZH	**Lanzhou**	**44.53 204**	*e*P	**P**	**16 16 22.5**	**-3.1**	
LZH			pP	pP	16 16 26.5	-2.2	
LZH			sP	sP	16 16 29.0	-1.0	
LZH			pmax	pmax			
	comp=Z,19nm,1.0s						
LANS	**Liptovska Anna**	**44.56 295**	*e*P	P	16 16 35.4	+10	
LANS	**Liptovska Anna**	**44.56 295**	*e*P	P	16 16 35.4	+10	
TREC	**Trest**	**45.06 299**	P	P	16 16 34.2	+4.7	
TREC			pmax	pmax			
	comp=Z,6.0nm,1.0s						
VYHS	**Vyhne**	**45.30 295**	*e*P	P	16 16 40.9	+9.5	
VYHS			*e*		16 16 45.4		
VYHS			pmax	pmax			
	comp=Z,3.0nm,0.8s						
VYHS	**Vyhne**	**45.30 295**	*e*P	P	16 16 40.9	+9.5	
VYHS			*e*		16 16 45.4		
KHC	**Kasperske Hory**	**45.51 300**	*e*P	P	16 16 42.3	+9.2	
KHC			*ex*	x	16 16 46.7		
KHC	**Kasperske Hory**	**45.51 300**	*e*P	P	16 16 42.3	+9.2	
KHC			*e*		16 16 46.7		
KIV	**Kislovodsk**	**45.58 271**	*e*P	P	16 16 43.5	+10	
KIV			pmax	pmax			
	comp=Z,33nm,1.0s						
KIV	**Kislovodsk**	**45.58 271**	*e*P	P	16 16 38.2	+4.4	
	comp=Z,26nm,0.8s						
KBZ	**Khabaz**	**45.77 271**	P	**P**	**16 16 35.5**	**+0.4**	
	comp=Z,3.1nm,0.9s,baz=42,slow=6.8,SNR=3.6						
KBZ			LR	LR	16 37 24.7		
	comp=Z,126nm,21.9s,baz=310,slow=38						
GERES	**GERESS Array B**	**45.77 300**	P	**P**	**16 16 35.3**	**0.0**	
	comp=Z,0.4nm,0.7s,baz=5.6,slow=6.8,SNR=3.6						
DRGR		**46.32 291**	P	P	16 16 45.2	+5.7	
DRGR			pmax	pmax			
	comp=Z,21nm,1.0s						
CFR	**Carcaliu**	**46.96 286**	P	P	16 16 49.3	+4.8	
CFR			pmax	pmax			
	comp=Z,14nm,1.1s						
NJ2	**Nanjing**	**47.87 186**	*e*P	**P**	**16 16 47.8**	**-3.9**	
NJ2			pmax	pmax			
	comp=Z,17nm,1.2s						
GEYT	**Alibeck**	**48.71 254**	P	**P**	**16 17 01.3**	**+3.1**	
	comp=Z,0.6nm,0.5s,baz=306,slow=12,SNR=2.4						
KBL	**Kabul**	**50.21 242**	P	P	16 17 14.6	+4.7	
KBL			pmax	pmax			
	comp=Z,11nm,0.8s						
BR131	**Keskin Array S**	**51.30 279**	*e*P	P	16 17 22.4	+4.5	
BRTR	**Keskin Array B**	**51.30 279**	P	**P**	**16 17 18.6**	**+0.7**	
	comp=Z,1.6nm,0.8s,baz=15,slow=5.0,SNR=2.6						
BRTR	**Keskin Array B**	**51.30 279**	*e*P	P	16 17 23.3	+5.3	
BRTR			pmax	pmax			
	comp=Z,5.0nm,0.9s						
BR231	**Keskin MP Arra**	**51.34 280**	*e*P	P	16 17 22.1	+3.9	
PDAR	**Pinedale Array**	**54.02 47**	P	**P**	**16 17 40.1**	**+2.0**	
	comp=Z,0.1nm,0.3s,baz=18,slow=6.1,SNR=2.8						
KMI	**Kunming**	**55.50 204**	P	**P**	**16 17 48.3**	**-0.7**	
KMI			pmax	pmax			
	comp=Z,5.0nm,0.7s						
TVH2	**Borealis Mine**	**57.03 56**	*e*P	**P**	**16 17 55.9**	**-4.0**	
	comp=Z,13nm,0.3s						
GUMO	**Guam**	**66.91 158**	LR	LR	16 51 41.7		
	comp=Z,51nm,18.6s,baz=56,slow=39						
TX31	**Lajitas Ar. Si**	**68.00 44**	*e*P	**P**	**16 19 11.4**	**-1.7**	
TXAR	**Lajitas Array**	**68.00 44**	P	**P**	**16 19 13.1**	**0.0**	
	comp=Z,1.4nm,0.7s,baz=360,slow=4.4,SNR=18						
PALK	**Pallekele**	**75.36 225**	LR	LR	16 56 12.0		
	comp=Z,285nm,19.3s,baz=199,slow=38						
TORD	**Torodi Ar. Bea**	**82.58 304**	P	**P**	**16 20 36.3**	**-0.7**	
	comp=Z,0.5nm,0.6s,baz=7.2,slow=6.7,SNR=3.0						
MAW	**Mawson**	**151.14 224**	PKPbc	**PKPbc**	**16 28 05.9**	**+0.8**	
	comp=Z,2.2nm,0.8s,baz=290,slow=2.7,SNR=8.3						

CSEM ***29*** *16:14:22.9, 45.84N×26.84E, h83km, MD3.0/2*
BUC 29 16:14:22.9±0.6, 45.84N×26.84E, h83km±6km, MD3.0/2, 24C-15D, Error ellipse: s-maj=5.4km s-min=3.7km az=13.0, Romania

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
VRI	**Vrincioaia**	**0.09**	**291**	⇑*i*P	Pn	16 14 34.8	0.0
VRI	**Vrincioaia**	**0.09**	**291**	⇑*i*P	Pn	16 14 34.8	0.0
VRI				*i* S	Sn	16 14 42.5	-1.0
VRI	**Vrincioaia**	**0.09**	**291**	⇑*i*P	Pn	16 14 34.8	0.0
VRI				*i* S	Sn	16 14 42.5	-1.0
PLOR	**Plostina**	**0.14**	**277**	⇑*i*P	Pn	16 14 34.8	-0.1
PLOR	**Plostina**	**0.14**	**277**	⇑*i*P	Pn	16 14 34.8	-0.1
PLOR	**Plostina**	**0.14**	**277**	⇑*i*P	Pn	16 14 34.8	-0.1
ODBI	**Odobesti**	**0.17**	**116**	⇓*i*P	Pn	16 14 35.5	+0.6
ODBI	**Odobesti**	**0.17**	**116**	⇓*i*P	Pn	16 14 35.5	+0.6
ODBI				*i* S	Sn	16 14 44.0	+0.2
ODBI	**Odobesti**	**0.17**	**116**	⇓*i*P	Pn	16 14 35.5	+0.6
ODBI				*i* S	Sn	16 14 44.0	+0.2
PETR	**Petresti**	**0.29**	**112**	⇑*i*P	Pn	16 14 35.9	+0.4
PETR	**Petresti**	**0.29**	**112**	⇑*i*P	Pn	16 14 35.9	+0.4
PETR				*i* S	Sn	16 14 45.0	+0.2
PETR	**Petresti**	**0.29**	**112**	⇑*i*P	Pn	16 14 35.9	+0.4
PETR				*i* S	Sn	16 14 45.0	+0.2
TESR	**Tescani**	**0.69**	**349**	⇓*i*P	Pn	16 14 39.0	+0.3
TESR	**Tescani**	**0.69**	**349**	⇓*i*P	Pn	16 14 39.0	+0.3
TESR				*i* S	Sn	16 14 49.9	-0.6
TESR	**Tescani**	**0.69**	**349**	⇓*i*P	Pn	16 14 39.0	+0.3
TESR				*i* S	Sn	16 14 49.9	-0.6
MLR	**Muntele Rosu**	**0.72**	**242**	⇑*i*P	Pn	16 14 39.6	+0.5
MLR	**Muntele Rosu**	**0.72**	**242**	⇑*i*P	Pn	16 14 39.6	+0.5
MLR				*i* S	Sn	16 14 50.9	-0.3
MLR	**Muntele Rosu**	**0.72**	**242**	⇑*i*P	Pn	16 14 39.6	+0.5
MLR				*i* S	Sn	16 14 50.9	-0.3
SECR		**0.97**	**214**	S	Sn	16 14 55.4	-0.5
SECR		**0.97**	**214**	*i* S	Sn	16 14 55.4	-0.5
SECR		**0.97**	**214**	*i* S	Sn	16 14 55.4	-0.5
DOPR	**Dopca**	**1.02**	**278**	⇑*i*P	Pn	16 14 43.0	+0.6
DOPR	**Dopca**	**1.02**	**278**	⇑*i*P	Pn	16 14 43.0	+0.6
DOPR				*i* S	Sn	16 14 57.3	+0.3
DOPR	**Dopca**	**1.02**	**278**	⇑*i*P	Pn	16 14 43.0	+0.6
DOPR				*i* S	Sn	16 14 57.3	+0.3
CFR	**Carcaliu**	**1.12**	**125**	⇑*i*P	Pn	16 14 43.8	+0.2
CFR	**Carcaliu**	**1.12**	**125**	⇑*i*P	Pn	16 14 43.8	+0.2
CFR				*i* S	Sn	16 14 58.3	-0.8
CFR	**Carcaliu**	**1.12**	**125**	⇑*i*P	Pn	16 14 43.8	+0.2
CFR				*i* S	Sn	16 14 58.3	-0.8
SULR		**1.23**	**200**	S	Sn	16 15 02.1	+0.7
SULR		**1.23**	**200**	*i* S	Sn	16 15 02.1	+0.7
SULR		**1.23**	**200**	*i* S	Sn	16 15 02.1	+0.7
VOIR		**1.32**	**253**	⇑*i*P	Pn	16 14 46.4	+0.3
VOIR		**1.32**	**253**	⇑*i*P	Pn	16 14 46.4	+0.3
VOIR				*i* S	Sn	16 15 03.2	-0.4
VOIR		**1.32**	**253**	⇑*i*P	Pn	16 14 46.4	+0.3
VOIR				*i* S	Sn	16 15 03.2	-0.4
HARR	**Harsova**	**1.38**	**146**	⇓*i*P	Pn	16 14 48.3	+1.5
HARR	**Harsova**	**1.38**	**146**	⇓*i*P	Pn	16 14 48.3	+1.5
TLB	**Topalu**	**1.51**	**145**	⇑*i*P	Pn	16 14 48.7	+0.3
TLB	**Topalu**	**1.51**	**145**	⇑*i*P	Pn	16 14 48.7	+0.3
TLB				*i* S	Sn	16 15 07.2	-0.5
TLB	**Topalu**	**1.51**	**145**	⇑*i*P	Pn	16 14 48.7	+0.3
TLB				*i* S	Sn	16 15 07.2	-0.5
ARR	**Arges**	**1.62**	**254**	S	Sn	16 15 11.1	+0.7
ARR	**Arges**	**1.62**	**254**	*i* S	Sn	16 15 11.1	+0.7
ARR	**Arges**	**1.62**	**254**	*i* S	Sn	16 15 11.1	+0.7
TIRR	**Tirgusor**	**1.77**	**141**	⇓*i*P	Pn	16 14 52.2	+0.4
TIRR	**Tirgusor**	**1.77**	**141**	⇓*i*P	Pn	16 14 52.2	+0.4
TIRR				*i* S	Sn	16 15 12.3	-1.5
TIRR	**Tirgusor**	**1.77**	**141**	⇓*i*P	Pn	16 14 52.2	+0.4
HUMR	**Humele**	**1.85**	**226**	⇓*i*P	Pn	16 14 53.1	+0.2
HUMR	**Humele**	**1.85**	**226**	⇓*i*P	Pn	16 14 53.1	+0.2
HUMR	**Humele**	**1.85**	**226**	⇓*i*P	Pn	16 14 53.1	+0.2

IDC ***29*** *16:19:49.5±1.1, 29.07S×176.00W, h0km, mb4.2/5, mb1 4.4/5, mb1mx4.0/31, mbtmp4.2/5, MS3.7/2, Ms1 3.7/2, ms1mx3.1/32, Error ellipse: s-maj=43.4km s-min=23.1km az=175.0*
NEIC ***29*** *16:19:51.0±0.9, 29.09S×176.00W, h10km, mb4.5/1, Error ellipse: s-maj=28.2km s-min=16.9km az=195.0*
ISC 29 16:19:55.0±1.0, 29.05S±0.2×176.01W±0.10, h38km, n21, σ19/19, mb4.4/7, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**1.69**	**261**	Pn	**Pn**	**16 20 21.7**	**-0.3**
	466nm,0.3s,baz=88,slow=19,SNR=12						
RAO				Sn	**Sn**	**16 20 43.8**	**+1.4**
	479nm,0.3s,baz=104,slow=22,SNR=11						
RAO	**Raoul Island**	**1.69**	**261**	*e*Pn	**Pn**	**16 20 21.0**	**-1.0**
RAO				Sn	**Sn**	**16 20 43.8**	**+1.4**
URZ	**Urewera**	**10.87**	**210**	Pn	Pn	16 22 15.8	-12
	0.2nm,0.3s,baz=17,slow=14,SNR=10						
URZ				Sn	Sn	16 24 16.8	-11
	2.2nm,0.3s,baz=118,slow=23,SNR=10						
DZM	**Mont Dzumac**	**17.26**	**290**	P	**P**	**16 23 56.2**	**+1.7**
	0.2nm,0.3s,baz=115,slow=19,SNR=3.0						
DZM	**Mont Dzumac**	**17.26**	**290**	P	**P**	**16 23 55.8**	**+1.3**
RPZ	**Rata Peaks**	**17.97**	**212**	P	Pn	16 23 53.7	-8.2
	0.6nm,0.3s,baz=67,slow=16,SNR=4.9						
RPZ				S	Sn	16 26 57.2	-24
	0.2nm,0.3s,baz=94,slow=18,SNR=2.8						
PPT	**Papeete**	**26.75**	**71**	LR	LR	16 35 25.8	
	comp=Z,77nm,18.2s,baz=234,slow=35						
EIDS	**Eidsvold**	**29.44**	**269**	*e*P	**P**	**16 25 52.4**	**-2.9**
STKA	**Stephens Creek**	**36.50**	**255**	P	**P**	**16 26 56.9**	**+0.1**
	6.3nm,0.8s,baz=97,slow=7.9,SNR=11						
ASAR	**Alice Springs**	**44.94**	**265**	P	**P**	**16 28 06.0**	**-0.5**
	1.8nm,0.6s,baz=104,slow=7.4,SNR=39						
WRAB	**Tennant Creek**	**45.80**	**270**	*e*P	**P**	**16 28 12.6**	**-0.7**
	4.4nm,0.8s						
WRA	**Warramunga Arr**	**45.80**	**270**	P	**P**	**16 28 12.4**	**-1.0**
	4.2nm,0.8s,baz=109,slow=7.8,SNR=34						
FITZ	**Fitzroy Crossi**	**54.12**	**268**	P	**P**	**16 29 15.9**	**-0.6**
	1.6nm,0.7s,baz=104,slow=8.3,SNR=3.8						
QSPA	**South Pole Qui**	**61.11**	**180**	*e*P	**P**	**16 30 06.2**	**+1.0**
	19nm,1.0s						
MAW	**Mawson**	**74.22**	**200**	P	**P**	**16 31 27.4**	**-0.1**
	1.5nm,0.8s,baz=99,slow=5.4,SNR=4.7						
JOW	**Kunigami**	**77.03**	**311**	LR	LR	17 02 34.2	
	comp=Z,93nm,19.5s,baz=110,slow=33						
MKAR	**Makanchi Array**	**118.19**	**310**	PKP	**PKPdf**	**16 38 38.3**	**+0.4**
	0.7nm,1.1s,baz=48,slow=1.8,SNR=3.9						
FINES	**FINESS Array B**	**144.39**	**342**	PKP	**PKPdf**	**16 39 26.9**	**+0.5**
	1.5nm,0.5s,baz=82,slow=2.0,SNR=12						
NOA	**NORSAR Array B**	**147.59**	**353**	PKPbc	**PKPbc**	**16 39 35.4**	**+0.7**
	1.9nm,0.8s,baz=12,slow=4.4,SNR=4.2						
AKASG	**Malin Array Be**	**151.18**	**326**	PKPbc	**PKPbc**	**16 39 44.3**	**+0.4**
	2.0nm,0.6s,baz=43,slow=2.9,SNR=8.9						
TORD	**Torodi Ar. Bea**	**164.09**	**172**	PKPab	**PKPab**	**16 40 47.8**	**-0.3**
	0.9nm,0.8s,baz=178,slow=3.7,SNR=4.7						

IDC ***29*** *16:25:14.3±1.4, 9.62N×125.09E, h0km, mb3.8/5, mb1 4.0/5, mb1mx3.6/34, mbtmp3.8/5, Error ellipse: s-maj=166.9km s-min=21.6km az=68.0*
ISCJB ***29*** *16:25:19.0±1.6, 9.99N±0.05×126.22E±0.07, h24km±11km, mb3.9/5, Error ellipse: s-maj=11.8km s-min=7.0km az=158.1*
MAN ***29*** *16:25:21, 10.07N×126.00E, h13km, mb4.5, ML3.4, MS3.3*
ISC 29 16:25:15.7±1.6, 10.08N±0.05×126.29E±0.07, h11km±10km, n16, σ154/24, mb3.7/5, 4C-2D, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SCPH	**Surigao**	**0.84**	**250**	⇓*i*P	**Pb**	**16 25 33.1**	**+0.8**
SCPH				*i* S	**Sg**	**16 25 42.8**	**-0.2**
PLP	**Palo**	**1.68**	**310**	⇑*e*P	**Pg**	**16 25 46.8**	**-1.3**
PLP				*i* S	**Sg**	**16 26 08.9**	**-1.0**
BESP	**Borongan**	**1.73**	**331**	*e*P	**Pg**	**16 25 49.4**	**+0.4**
BESP				*e*S	**Sg**	**16 26 14.8**	**+3.3**
BIPH	**Bislig**	**1.88**	**178**	⇑*e*P	**Pb**	**16 25 50.2**	**+0.1**
BIPH				*i* S	**Sn**	**16 26 11.9**	**+0.3**
OCLP	**Ormoc**	**1.92**	**301**	*e*P	**Pg**	**16 25 51.2**	**-1.3**
OCLP				*e*S	**Sg**	**16 26 15.5**	**-1.9**
LLP	**Lapu-Lapu**	**2.30**	**276**	*e*P	**Pn**	**16 25 55.1**	**+1.5**
LLP				*e*S	**Sn**	**16 26 21.9**	**0.0**
TBP	**Tagbilaran**	**2.42**	**261**	⇑*i*P	**Pn**	**16 25 57.1**	**+1.8**
SNPH	**Sibulan**	**3.10**	**257**	⇓*i*P	**Pn**	**16 26 07.2**	**+2.5**
SNPH				*i* S	Sn	16 26 32.1	-10
MATI	**Mati**	**3.11**	**181**	*e*P	**Pb**	**16 26 10.8**	**-0.2**
MATI				*e*S	**Sb**	**16 26 50.2**	**+1.2**
DCPH	**Dipolog City**	**3.26**	**243**	⇑*i*P	**Pn**	**16 26 08.3**	**+1.6**
PAGZ	**Pagadian**	**3.63**	**233**	*e*P	**Pn**	**16 26 13.9**	**+2.0**
PAGZ				*e*S	**Sn**	**16 26 55.2**	**+0.6**
WRA	**Warramunga Arr**	**30.86**	**165**	P	**P**	**16 31 31.3**	**-0.9**
	0.2nm,0.5s,baz=341,slow=9.0,SNR=4.5						
ASAR	**Alice Springs**	**34.35**	**168**	P	**P**	**16 32 01.9**	**-0.9**
	0.5nm,0.5s,baz=350,slow=7.0,SNR=16						
MKAR	**Makanchi Array**	**52.19**	**323**	P	**P**	**16 34 25.2**	**-1.4**
	0.6nm,0.6s,baz=123,slow=8.8,SNR=6.2						
ARCES	**ARCESS Array B**	**84.38**	**340**	P	**P**	**16 37 48.6**	**+0.7**
	1.7nm,0.9s,baz=72,slow=6.7,SNR=4.3						
FINES	**FINESS Array B**	**86.07**	**332**	P	**P**	**16 37 54.6**	**-1.8**
	3.3nm,1.1s,baz=83,slow=5.7,SNR=5.8						

MEX 29 16:30:12.8±0.7, 13.87N×91.96W, h25km±34km, MD3.9, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PCIG		**2.19**	**326**	*e*P	Pn	16 30 45.9	-1.8
PCIG				*i* S	Sn	16 31 10.7	-3.4
CCIG	**Comitan**	**2.40**	**356**	*i* P	Pn	16 30 49.3	-1.5
CCIG				*i* S	Sn	16 31 15.8	-3.7

IASPEI ***29*** *16:37:57.8±0.9, 36.10N±0.03×117.58W±0.03, h11km±6km, Error ellipse: s-maj=4.2km s-min=3.3km az=125.0, GT5 selection from ISC bulletin GT5 identified by Bond¨jr and McLaughlin (2009) selection criteria Bond¨jr and McLaughlin, A new ground truth data set for seismic studies, Seism. Res. Let., 80, 465-472, 2009*
NEIC ***29*** *16:37:58.5±0.0, 36.11N×117.59W, h1km, ML2.8(PAS), After PAS.*
ISC 29 16:37:57.7±0.9, 36.11N±0.02×117.58W±0.02, h11km±6km, n38, σ19/51, California-Nevada border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MPMC	**Manual Prospec**	**0.09**	**125**	P	**Pg**	**16 38 00.5**	**+0.1**
	baz=302,SNR=1000						
MPMC				S	**Sg**	**16 38 02.1**	**-0.3**
	baz=302						
DAC	**Darwin (Calif)**	**0.17**	**356**	*e*Pg	**Pg**	**16 38 01.7**	**+0.2**
CWC	**Cottonwood Cre**	**0.52**	**309**	P	**Pg**	**16 38 08.4**	**+0.5**
	baz=130						
CWC				S	**Sb**	**16 38 15.8**	**-0.9**
	baz=130						
LRMC	**Laurel Mtn Rad**	**0.63**	**188**	P	**Pb**	**16 38 10.5**	**-0.4**
	baz=6.7,SNR=108						
LRMC				S	**Sb**	**16 38 19.2**	**-0.6**
	baz=6.7						
FURC	**Furnace Creek,**	**0.68**	**58**	P	**Pb**	**16 38 11.9**	**+0.3**
	baz=239,SNR=54						
FURC				S	**Sb**	**16 38 21.2**	**+0.2**
	baz=239						
ISA	**Isabella, Lake**	**0.85**	**239**	P	**Pb**	**16 38 14.6**	**0.0**
	baz=58,SNR=18						
ISA				S	**Sb**	**16 38 25.9**	**-0.2**
	baz=58						
ISA	**Isabella, Lake**	**0.85**	**239**	*e*Pg	**Pb**	**16 38 14.6**	**0.0**
ISA				*e*Sg	**Sg**	**16 38 24.5**	**-0.8**
GRAC	**Grapevine Rang**	**0.90**	**11**	P	**Pb**	**16 38 15.5**	**+0.1**
	baz=192,SNR=149						
GRAC				S	**Sb**	**16 38 28.0**	**+0.5**
	baz=192						
GSC	**Goldstone, Bar**	**1.02**	**142**	P	**Pn**	**16 38 17.8**	**-0.3**
	baz=322,SNR=73						
GSC				S	**Sn**	**16 38 31.7**	**-0.7**
	baz=322						
GSC	**Goldstone, Bar**	**1.02**	**142**	*e*Pg	**Pn**	**16 38 17.8**	**-0.3**
GSC				*e*Sg	**Sn**	**16 38 31.9**	**-0.6**
SHOC	**Shoshone, Teco**	**1.08**	**101**	P	**Pn**	**16 38 19.1**	**+0.3**
	baz=282,SNR=20						
VES	**Vestal, Richgr**	**1.25**	**258**	P	**Pg**	**16 38 21.8**	**+0.1**
	baz=77,SNR=16						
EDW2	**Edwards Air Fo**	**1.27**	**196**	P	**Pb**	**16 38 21.9**	**+0.1**
	baz=15,SNR=40						
EDW2				S	**Sg**	**16 38 38.7**	**0.0**
	baz=15						
RRX	**Edison Barstow**	**1.32**	**159**	P	**Pg**	**16 38 23.9**	**+0.8**
	baz=339						
TPNV	**Topopah Spring**	**1.36**	**52**	P	**Pg**	**16 38 23.9**	**+0.1**
	baz=232,SNR=108						
TPNV				S	**Sg**	**16 38 42.0**	**+0.5**
	baz=232						
TPNV	**Topopah Spring**	**1.36**	**52**	*e*Pn	**Pg**	**16 38 23.6**	**-0.2**
TPNV				*e*Sg	**Sg**	**16 38 41.9**	**+0.4**
TUQ	**Turquoise Moun**	**1.50**	**116**	P	**Pb**	**16 38 25.4**	**-0.3**
	baz=297,SNR=58						
HEC	**Hector,Ludlow**	**1.63**	**141**	P	**Pn**	**16 38 27.1**	**+0.7**
	baz=322						
OSI	**Osito Audit: C**	**1.76**	**212**	*e*Pn	**Pg**	**16 38 32.6**	**+1.1**
MWC	**Mount Wilson**	**1.92**	**192**	*e*Pn	**Pg**	**16 38 34.5**	**-0.1**
SHPR	**Sheep Range**	**1.99**	**78**	*e*Pn	**Pb**	**16 38 33.1**	**-1.0**
GMRC	**Granite Mounta**	**2.05**	**130**	P	**Pn**	**16 38 32.4**	**+0.1**
	baz=311,SNR=6.7						
SMMC	**Simmler**	**2.12**	**249**	Pb	**Pb**	**16 38 36.7**	**+0.5**
	baz=67						
PAGB	**Antelope Grade**	**2.20**	**261**	*e*Pn	**Pb**	**16 38 37.9**	**+0.3**
LDFC	**Landfair**	**2.26**	**116**	*e*Pn	**Pb**	**16 38 38.2**	**-0.4**
TVH3	**East Aurora ar**	**2.45**	**337**	*e*Pn	**Pg**	**16 38 43.4**	**-1.3**
TVH2	**Borealis Mine**	**2.45**	**338**	*e*Pn	**Pg**	**16 38 43.5**	**-1.3**
BELC	**Belle Mtn. Jos**	**2.47**	**148**	P	**Pn**	**16 38 38.7**	**+0.6**
	baz=329,SNR=6.0						
BELC				Sb	**Sg**	**16 39 16.7**	**-0.4**
	baz=329						
TVH1	**TV Hill, Hawth**	**2.53**	**338**	*e*Pn	**Pg**	**16 38 45.5**	**-0.7**
PMPB	**Monarch Peak**	**2.61**	**273**	*e*Pn	**Pb**	**16 38 43.9**	**-0.7**
PFO	**Pinyon Flats O**	**2.66**	**159**	*e*Pn	**Pg**	**16 38 47.3**	**-1.3**
R11A	**Troy Canyon, C**	**2.74**	**35**	*e*Pn	**Pb**	**16 38 46.6**	**-0.3**
CMB	**Columbia Colle**	**2.96**	**311**	*e*Pn	**Pb**	**16 38 49.6**	**-0.9**
PNTR	**Pine Nut**	**3.38**	**332**	*e*Pn	**Pb**	**16 38 54.2**	**-3.6**
CCUT	**Cedar City**	**3.67**	**66**	*e*Pn	**Pn**	**16 38 56.0**	**+1.3**
AFDM	**Forest Hills D**	**3.91**	**317**	*e*Pn	**Pn**	**16 39 00.9**	**+3.1**
KNB	**Kanab**	**3.93**	**75**	*e*Pn	**Pn**	**16 38 59.8**	**+1.6**
U15A	**North Rim**	**4.28**	**84**	*e*Pn	**Pn**	**16 39 06.3**	**+3.2**

ISCJB ***29*** *16:45:48.4±0.5, 7.87S±0.04×130.46E±0.09, h27km, mb4.0/6, Error ellipse: s-maj=12.7km s-min=6.4km az=174.7*
IDC ***29*** *16:45:48.2±0.9, 7.69S×130.25E, h0km, mb4.1/6, mb1 4.2/8, mb1mx3.9/37, mbtmp4.2/8, ML4.4/2, Error ellipse: s-maj=51.5km s-min=18.4km az=86.0*
NEIC ***29*** *16:45:49.0±0.5, 7.80S×130.45E, h10km, mb4.3/1, Error ellipse: s-maj=13.6km s-min=8.0km az=81.0*
ISC 29 16:45:50.6±0.6, 7.81S±0.05×130.44E±0.10, h27km, n17, σ2956/21, mb4.0/6, Tanimbar Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FAKI	**Fak Fak**	**5.18**	**20**	*e*Pn	**Pn**	**16 47 06.3**	**-0.1**
	38nm,0.6s						
SOEI	**Soe**	**6.40**	**252**	*e*Pn	**Pn**	**16 47 24.3**	**+1.1**
	14nm,0.7s						
SIJI	**Sorong**	**6.95**	**7**	Pn	**Pn**	**16 47 30.4**	**-0.2**
	14nm,0.3s,baz=187,slow=16,SNR=6.7						
SIJI				Sn	**Sn**	**16 48 42.5**	**-6.5**
	6.2nm,0.3s,baz=102,slow=20,SNR=3.5						
FITZ	**Fitzroy Crossi**	**11.24**	**204**	Pn	**Pn**	**16 48 30.0**	**+0.4

MAJO	**Matsushiro**	**2.23**	**256**	*e*Pn		**Pb**	**16 55 18.1**	**-1.5**
MAT	**Matsushiro**	**2.23**	**256**	P		**Pb**	**16 55 18.0**	**-1.6**
MAT				S		**Sb**	**16 55 48.0**	**+0.7**
ENH	**Enshi**	**26.92**	**265**	*e*P		**P**	**17 00 21.0**	**+0.2**
	3.0nm,0.4s							
SONM	**Songino Array**	**27.40**	**304**	P		**P**	**17 00 24.8**	**-0.2**
	0.8nm,0.7s,baz=109,slow=9.1,SNR=4.8							
H11N2	**WAKE ISLAND Hy**	**28.55**	**120**	T		T	17 30 21.4	
	baz=315							
H11N1	**WAKE ISLAND Hy**	**28.55**	**120**	T		T	17 30 21.8	
	baz=315							
H11N3	**WAKE ISLAND Hy**	**28.56**	**120**	T		T	17 30 22.7	
	baz=315							
ZALV	**Zalesovo Beam**	**41.55**	**312**	P		**P**	**17 02 27.2**	**+0.4**
	0.7nm,0.5s,baz=96,slow=8.0,SNR=3.9							
MKAR	**Makanchi Array**	**43.73**	**302**	P		**P**	**17 02 44.8**	**+0.2**
	0.9nm,0.7s,baz=85,slow=9.8,SNR=8.8							
KURK	**Kurchatov**	**45.56**	**308**	*e*P		**P**	**17 02 58.5**	**-0.7**
	16nm,0.6s							
KURBB	**Kurchatov Arra**	**45.63**	**308**	P		**P**	**17 02 59.5**	**-0.1**
	1.2nm,0.4s,baz=84,slow=8.2,SNR=17							
ILAR	**Eielson Array**	**49.65**	**32**	P		**P**	**17 03 30.2**	**-0.5**
	0.7nm,1.0s,baz=266,slow=5.6,SNR=4.6							
BVAR	**Borovoye Array**	**50.21**	**312**	PcP		**PcP**	**17 04 54.6**	**+0.4**
	0.7nm,0.6s,baz=85,slow=3.0,SNR=4.5							
WRA	**Warramunga Arr**	**57.08**	**187**	P		**P**	**17 04 25.2**	**-0.5**
	0.4nm,0.5s,baz=2.7,slow=7.2,SNR=12							
ASAR	**Alice Springs**	**60.81**	**187**	P		**P**	**17 04 51.2**	**-0.4**
	0.2nm,0.7s,baz=7.9,slow=8.1,SNR=5.5							
FINES	**FINESS Array B**	**68.55**	**332**	P		**P**	**17 05 42.0**	**+0.2**
	3.5nm,0.8s,baz=57,slow=5.1,SNR=7.2							
NOA	**NORSAR Array B**	**73.95**	**337**	P		**P**	**17 06 14.9**	**+0.4**
	0.6nm,0.7s,baz=40,slow=6.0,SNR=3.4							
AKASG	**Malin Array Be**	**73.98**	**322**	P		**P**	**17 06 14.8**	**0.0**
	0.5nm,0.4s,baz=47,slow=6.1,SNR=6.1							
GERES	**GERESS Array B**	**82.43**	**328**	P		**P**	**17 07 01.6**	**-0.2**
	0.4nm,0.5s,baz=34,slow=5.9,SNR=4.3							

*DDA **29** 16:55:20.3,35.67N×27.91E,h6km,Md2.9*
*ISCJB **29** 16:55:21.6±0.8,35.71N±0.03×27.91E±0.04,h7km±5km, Error ellipse: s-maj=6.8km s-min=3.5km az=141.8*
*CSEM **29** 16:55:21.9±0.2,35.72N×27.93E,h10km,ML2.3, Error ellipse: s-maj=6.0km s-min=3.1km az=146.0*
*ISK **29** 16:55:21.5,35.72N×27.96E,h15km, MD3.0*
*ATH **29** 16:55:22.2,35.78N×27.86E,h26km±1km,ML2.3/2, Error ellipse: s-maj=4.4km s-min=1.0km az=132.0*

ISC 29 16:55:22.0±1.1, 35.74N±0.03×27.93E±0.03, h13km±10km, n68, σ1θ02/95, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ARG	**Arkhangelos**	**0.50**	**19**	P	**Pb**	**16 55 32.6**	**-0.1**
ARG				S	**Sb**	**16 55 40.1**	**+0.2**
ARG	**Arkhangelos**	**0.50**	**19**	P	**Pb**	**16 55 32.5**	**-0.1**
ARG				S	**Sb**	**16 55 40.1**	**+0.2**
ARG				AML	AML	16 55 42.3	
	comp=E,901μm,0.3s						
ARG				AML	AML	16 55 44.4	
	comp=N,633μm,0.2s						
KARP	**Karpathos**	**0.66**	**253**	*e*PG	**Pb**	**16 55 35.1**	**-0.2**
KARP				*e*SG	**Sb**	**16 55 44.7**	**+0.3**
KARP	**Karpathos**	**0.66**	**253**	P	**Pg**	**16 55 33.3**	**-1.5**
KARP	**Karpathos**	**0.66**	**253**	*e*Pg	**Pb**	**16 55 35.2**	**-0.2**
KARP				S	**Sb**	**16 55 44.5**	**+0.1**
KARP	**Karpathos**	**0.66**	**253**	P	**Pg**	**16 55 33.3**	**-1.5**
KARP				S	**Sb**	**16 55 44.5**	**+0.1**
KARP				AML	AML	16 55 47.7	
	comp=E,624μm,0.2s						
KARP				AML	AML	16 55 48.4	
	comp=N,552μm,0.2s						
MRSB	**Marmaris-Mugla**	**0.99**	**13**	*e*PG	**Pg**	**16 55 41.5**	**+0.2**
DAT	**Datca**	**1.02**	**344**	*e*PG	**Pn**	**16 55 42.2**	**0.0**
DAT				*e*SG	**Sn**	**16 55 57.4**	**+0.9**
DAT	**Datca**	**1.02**	**344**	*i* P	**Pb**	**16 55 41.9**	**+0.2**
DAT				*i* S	**Sg**	**16 55 56.1**	**+0.9**
DAT	**Datca**	**1.02**	**344**	P	**Pb**	**16 55 41.9**	**+0.2**
DAT	**Datca**	**1.02**	**344**	*e*Pg	**Pn**	**16 55 42.2**	**0.0**
DAT				S	**Sg**	**16 55 56.1**	**+0.9**
DAT				*e*Sg	**Sn**	**16 55 57.4**	**+0.9**
NIS1	**Nisyros Isl.**	**1.05**	**325**	*e*PN	**Pg**	**16 55 42.8**	**+0.5**
NIS1	**Nisyros Isl.**	**1.05**	**325**	P	**Pb**	**16 55 41.5**	**-0.6**
NIS1	**Nisyros Isl.**	**1.05**	**325**	*e*Pn	**Pg**	**16 55 42.8**	**+0.5**
NIS1	**Nisyros Isl.**	**1.05**	**325**	P	**Pb**	**16 55 41.5**	**-0.6**
DALY	**Dalyan (Mu¨la**	**1.22**	**28**	*e*PN	**Pb**	**16 55 44.8**	**-0.2**
DALY	**Dalyan (Mu¨la**	**1.22**	**28**	*i* P	**Pb**	**16 55 44.4**	**-0.8**
DALY				*i* S	**Sg**	**16 56 05.5**	**+4.1**
DALY	**Dalyan (Mu¨la**	**1.22**	**28**	P	**Pb**	**16 55 44.0**	**-0.8**
DALY	**Dalyan (Mu¨la**	**1.22**	**28**	*e*Pn	**Pb**	**16 55 44.8**	**-0.2**
TURN	**Turunc**	**1.25**	**26**	*i* P	**Pn**	**16 55 42.5**	**-2.7**
TURN				*i* S	**Sb**	**16 55 58.6**	**-3.0**
TURN	**Turunc**	**1.25**	**26**	P	**Pn**	**16 55 42.5**	**-2.7**
TURN				S	**Sb**	**16 55 58.6**	**-3.0**
FETY	**Fethiye**	**1.29**	**46**	*e*PN	**Pn**	**16 55 45.6**	**-0.2**
FETY	**Fethiye**	**1.29**	**46**	*e*Pn	**Pn**	**16 55 45.6**	**-0.2**
FETY	**Fethiye**	**1.29**	**46**	P	**Pb**	**16 55 46.4**	**+0.2**
BDRM	**Kayabasi**	**1.38**	**344**	*i* P	**Pn**	**16 55 47.2**	**+0.2**
BDRM				*i* S	**Sg**	**16 56 06.3**	**-0.1**
BDRM	**Kayabasi**	**1.38**	**344**	P	**Pn**	**16 55 47.2**	**+0.2**
BDRM				S	**Sg**	**16 56 06.3**	**-0.1**
BODT	**Bodrum**	**1.41**	**339**	*e*PN	**Pn**	**16 55 47.5**	**+0.1**
BODT	**Bodrum**	**1.41**	**339**	*e*Pn	**Pn**	**16 55 47.5**	**+0.1**
AKAS	**Kas**	**1.45**	**70**	*e*PN	**Pn**	**16 55 47.5**	**-0.6**
AKAS	**Kas**	**1.45**	**70**	*i* P	**Pn**	**16 55 47.9**	**-0.1**
AKAS				*i* S	**Sg**	**16 56 09.7**	**+1.0**
AKAS	**Kas**	**1.45**	**70**	*e*Pn	**Pn**	**16 55 47.5**	**-0.6**
AKAS	**Kas**	**1.45**	**70**	P	**Pn**	**16 55 47.9**	**-0.1**
AKAS				S	**Sg**	**16 56 09.6**	**+1.0**
ZKR	**Zakros**	**1.53**	**246**	P	**Pb**	**16 55 49.8**	**-0.5**
ZKR				S	**Sb**	**16 56 09.8**	**+0.2**
ZKR	**Zakros**	**1.53**	**246**	P	**Pb**	**16 55 49.8**	**-0.5**
ZKR				S	**Sb**	**16 56 09.8**	**+0.2**
MLSB	**Milas**	**1.55**	**356**	*e*PN	**Pn**	**16 55 49.6**	**+0.1**
MLSB	**Milas**	**1.55**	**356**	*e*Pn	**Pn**	**16 55 49.6**	**+0.1**
ELL	**Elmali**	**1.89**	**57**	*e*PN	**Pn**	**16 55 54.1**	**-0.1**
ELL	**Elmali**	**1.89**	**57**	*e*Pn	**Pn**	**16 55 54.1**	**-0.1**
TAVA	**DENIZLI_Tavas**	**1.89**	**24**	*i* P	**Pb**	**16 55 57.5**	**+1.0**
TAVA				*i* S	**Sg**	**16 56 22.8**	**-0.2**
AYDN	**Tasoluk**	**1.91**	**359**	*i* P	**Pb**	**16 55 55.7**	**-1.2**
AYDN				*i* S	**Sb**	**16 56 19.9**	**-0.8**
AYDN	**Tasoluk**	**1.91**	**359**	P	**Pb**	**16 55 55.7**	**-1.2**
AYDN				S	**Sb**	**16 56 19.9**	**-0.8**
NPS	**Neapolis**	**1.95**	**256**	P	**Pn**	**16 55 55.3**	**+0.4**
NPS				S	**Sn**	**16 56 19.9**	**+0.7**
NPS	**Neapolis**	**1.95**	**256**	P	**Pn**	**16 55 55.3**	**+0.4**
NPS				S	**Sn**	**16 56 19.9**	**+0.7**
GOLH	**Golhisar**	**1.99**	**41**	*i* P	**Pb**	**16 55 58.1**	**-0.1**
GOLH				*i* S	**Sg**	**16 56 25.2**	**-0.7**
GOLH	**Golhisar**	**1.99**	**41**	P	**Pb**	**16 55 58.1**	**-0.1**
LAST	**Lasithi**	**2.08**	**255**	P	**Pn**	**16 55 57.1**	**+0.3**
LAST	**Lasithi**	**2.08**	**255**	P	**Pn**	**16 55 57.1**	**+0.3**
DNZL	**Cakiroluk**	**2.14**	**24**	*i* P	**Pb**	**16 56 01.7**	**+0.9**
DNZL				*i* S	**Sg**	**16 56 30.3**	**-0.6**
DNZL	**Cakiroluk**	**2.14**	**24**	P	**Pb**	**16 56 01.7**	**+0.9**
THR6	**Thira Island,**	**2.14**	**287**	P	**Pn**	**16 55 55.6**	**-1.9**
THR6	**Thira Island,**	**2.14**	**287**	P	**Pn**	**16 55 55.6**	**-1.9**
SMG	**Samos**	**2.15**	**336**	P	**Pn**	**16 55 57.9**	**+0.3**
SMG	**Samos**	**2.15**	**336**	P	**Pn**	**16 55 57.9**	**+0.3**
THR3	**Thira Island,**	**2.15**	**289**	P	**Pn**	**16 55 57.8**	**+0.1**
THR3	**Thira Island,**	**2.15**	**289**	P	**Pn**	**16 55 56.4**	**-1.2**
THR3				P	**Pn**	**16 55 57.8**	**+0.1**
THR5	**Thira Island,**	**2.19**	**289**	P	**Pn**	**16 55 58.2**	**-0.1**
THR5	**Thira Island,**	**2.19**	**289**	P	**Pn**	**16 55 58.2**	**-0.1**
THR5				P	**Pb**	**16 55 59.2**	**-2.5**
AYDB	**Zeytinkoy-Aydi**	**2.20**	**359**	*e*PN	**Pn**	**16 55 58.9**	**+0.5**
AYDB	**Zeytinkoy-Aydi**	**2.20**	**359**	*e*Pn	**Pn**	**16 55 58.9**	**+0.5**
APE	**Apeiranthos**	**2.34**	**305**	P	**Pn**	**16 56 00.6**	**+0.3**
APE	**Apeiranthos**	**2.34**	**305**	P	**Pn**	**16 56 00.6**	**+0.3**
IDI	**Anoyia**	**2.52**	**260**	P	**Pn**	**16 56 03.3**	**+0.5**
IDI	**Anoyia**	**2.52**	**260**	P	**Pn**	**16 56 03.3**	**+0.5**
MHLA	**Plaka, Milos I**	**3.00**	**290**	P	**Pn**	**16 56 10.7**	**+1.3**
VAM	**Vamos**	**3.06**	**265**	P	**Pn**	**16 56 11.2**	**+1.1**
VAM	**Vamos**	**3.06**	**265**	P	**Pn**	**16 56 11.2**	**+1.1**
IMMV	**Iera Moni Meta**	**3.23**	**266**	P	**Pn**	**16 56 13.3**	**+0.8**
IMMV	**Iera Moni Meta**	**3.23**	**266**	P	**Pn**	**16 56 13.3**	**+0.8**

*ISCJB **29** 17:02:14.8±0.5,67.08N±0.04×20.9E±0.1,h0km, Error ellipse: s-maj=7.2km s-min=5.0km az=173.0*
*CSEM **29** 17:02:15.3±0.2,67.11N×20.94E,h2km,ML1.9, Error ellipse: s-maj=8.1km s-min=5.0km az=74.0,Mining explosion.*
*UPP **29** 17:02:15.2±0.1,67.09N×20.92E,h0km,ML1.9, Explosion*
*IDC **29** 17:02:18.6±1.1,67.16N×21.94E,h0km,mb1 2.9/3, mb1mx2.7/33,mbtmp2.7/3,ML1.8/2, Error ellipse: s-maj=20.7km s-min=8.4km az=107.0*

ISC 29 17:02:15.3±0.9, 67.12N±0.03×20.97E±0.03, h0km, n27, σ0s73/28, Sweden

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DUNU	**Dundret**	**0.15**	**271**	P	**Pg**	**17 02 18.1**	**-0.2**
DUNU	**Dundret**	**0.15**	**271**	P	**Pg**	**17 02 18.1**	**-0.2**
ERTU	**Ertsjaerv**	**0.75**	**139**	P	**Pg**	**17 02 28.8**	**-0.8**
ERTU	**Ertsjaerv**	**0.75**	**139**	P	**Pg**	**17 02 28.8**	**-0.8**
PAJU	**Pajala**	**0.85**	**96**	P	**Pg**	**17 02 31.2**	**-0.4**
PAJU	**Pajala**	**0.85**	**96**	P	**Pg**	**17 02 31.2**	**-0.4**
KUA	**Kurravaara**	**0.87**	**344**	P	**Pb**	**17 02 32.5**	**-0.8**
KUA	**Kurravaara**	**0.87**	**344**	P	**Pb**	**17 02 32.5**	**-0.8**
HARU	**Harads**	**0.96**	**180**	P	**Pg**	**17 02 33.2**	**-0.5**
HARU	**Harads**	**0.96**	**180**	P	**Pg**	**17 02 33.2**	**-0.5**
LANU	**Lannavaara**	**1.01**	**22**	P	**Pb**	**17 02 34.9**	**-0.8**
LANU	**Lannavaara**	**1.01**	**22**	P	**Pb**	**17 02 34.9**	**-0.8**
NIKU	**Nikkaluokta**	**1.06**	**316**	P	**Pg**	**17 02 35.0**	**-0.6**
NIKU	**Nikkaluokta**	**1.06**	**316**	P	**Pg**	**17 02 35.0**	**-0.6**
KALU	**Kalix**	**1.59**	**142**	P	**Pb**	**17 02 44.9**	**-0.6**
KALU	**Kalix**	**1.59**	**142**	P	**Pb**	**17 02 44.9**	**-0.6**
SJUU	**Sjulsmark**	**1.64**	**171**	P	**Pn**	**17 02 45.0**	**-0.4**
SJUU	**Sjulsmark**	**1.64**	**171**	P	**Pn**	**17 02 45.0**	**-0.4**
HEF	**Hetta**	**1.65**	**37**	*e*P	**Pg**	**17 02 46.8**	**-0.1**
HEF	**Hetta**	**1.65**	**37**	*e*P	**Pg**	**17 02 46.8**	**-0.1**
LILU	**Lilltraesk**	**1.90**	**194**	P	**Pn**	**17 02 49.4**	**+0.5**
LILU	**Lilltraesk**	**1.90**	**194**	P	**Pn**	**17 02 49.4**	**+0.5**
KTK1	**Kautokeino**	**2.08**	**23**	*e*P	**Pg**	**17 02 55.0**	**-0.2**
KTK1	**Kautokeino**	**2.08**	**23**	*e*P	**Pg**	**17 02 55.0**	**-0.2**
ARCES	**ARCESS Array B**	**2.95**	**33**	Pn	**Pn**	**17 03 04.2**	**+0.7**
	0.2nm,0.3s,baz=208,slow=14,SNR=31						
ARCES				Lg	Lg	17 03 44.0	
	0.5nm,0.3s,baz=211,slow=22,SNR=7.2						
FINES	**FINESS Array B**	**6.12**	**156**	Pn	**Pn**	**17 03 48.6**	**+1.8**
	0.1nm,0.3s,baz=349,slow=12,SNR=6.4						
FINES				Sn	**Sn**	**17 04 58.8**	**+1.4**
	0.2nm,0.3s,baz=345,slow=20,SNR=5.9						
NOA	**NORSAR Array B**	**7.44**	**220**	Pn	Pn	17 04 10.5	+5.4
	baz=38,slow=12,SNR=1.6						
NOA				Sn	**Sn**	**17 05 30.7**	**+0.7**
	0.1nm,0.3s,baz=25,slow=19,SNR=2.5						

*ISCJB **29** 17:04:10.7±1.4,18.5S±0.1×169.1E±0.2,h201km,mb3.9/8, Error ellipse: s-maj=29.0km s-min=11.2km az=23.3*
*IDC **29** 17:04:14.0±2.8,18.52S×169.02E,h217km±26km,mb3.5/7, mb1 3.6/9,mb1mx3.4/26,mbtmp4.1/9, Error ellipse: s-maj=38.7km s-min=21.9km az=143.0*

ISC 29 17:04:12.4±1.3, 18.5S±0.1×169.1E±0.2, h201km, n12, σ1θ10/13, mb3.9/8, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**4.34**	**214**	P	**Pn**	**17 05 20.5**	**+2.0**
	8.6nm,0.3s,baz=49,slow=11,SNR=104						
DZM				S	**S**	**17 06 08.3**	**-1.8**
	2.8nm,0.3s,baz=30,slow=20,SNR=2.1						
HNR	**Honiara**	**12.60**	**314**	P	**Pn**	**17 07 04.9**	**+0.1**
	1.5nm,0.3s,baz=133,slow=17,SNR=2.4						
CTA	**Charters Tower**	**21.58**	**262**	P	**P**	**17 08 46.2**	**-0.3**
	3.1nm,0.8s,baz=85,slow=12,SNR=2.2						
WRA	**Warramunga Arr**	**32.78**	**262**	P	**P**	**17 10 25.9**	**-1.0**
	0.4nm,0.5s,baz=85,slow=8.3,SNR=14						
ASAR	**Alice Springs**	**33.15**	**255**	P	**P**	**17 10 29.9**	**-0.1**
	1.5nm,0.4s,baz=81,slow=8.7,SNR=110						
SIJI	**Sorong**	**41.00**	**291**	P	**P**	**17 11 36.2**	**+0.1**
	37nm,0.3s,baz=116,slow=13,SNR=5.0						
PETK	**Petropavlovsk-**	**71.95**	**353**	P	**P**	**17 15 14.1**	**+0.5**
	2.8nm,0.6s,baz=128,slow=5.7,SNR=9.5						
CMAR	**Chiang Mai Arr**	**78.03**	**294**	P	**P**	**17 15 49.7**	**+0.5**
	0.9nm,0.7s,baz=124,slow=5.8,SNR=7.2						
SONM	**Songino Array**	**86.50**	**323**	P	**P**	**17 16 32.9**	**+0.4**
	0.9nm,0.5s,baz=145,slow=6.3,SNR=7.4						
ILAR	**Eielson Array**	**89.55**	**17**	P	**P**	**17 16 45.5**	**-0.9**
	0.6nm,0.7s,baz=230,slow=6.2,SNR=6.2						
MKAR	**Makanchi Array**	**101.07**	**316**	P	**Pdif**	**17 17 40.0**	**+0.7**
	0.2nm,0.6s,baz=74,slow=5.2,SNR=3.6						
ARCES	**ARCESS Array B**	**124.28**	**345**	PKP	**PKPdf**	**17 22 45.2**	**-1.3**
	1.1nm,0.8s,baz=77,slow=1.9,SNR=3.8						

*ISCJB **29** 17:18:51.4±0.6,36.64N±0.04×71.23E±0.08,h200km, mb3.3/1, Error ellipse: s-maj=9.8km s-min=5.1km az=160.9*
*IDC **29** 17:18:52.3±5.4,36.62N×71.26E,h201km±30km,mb3.1/1, mb1 2.9/8,mb1mx2.7/50,mbtmp3.6/8,MS3.2/2,Ms1 3.1/2, ms1mx2.6/30, Error ellipse: s-maj=71.0km s-min=22.6km az=153.0*
*NNC **29** 17:18:57.5±2.4,36.98N×71.30E,h218km±35km,mb2.8, mpv4.0,Error ellipse: s-maj=24.5km s-min=17.3km az=3.0*

ISC 29 17:18:51.3±0.9, 36.60N±0.08×71.33E±0.09, h200km, n24, σ1θ85/24, 8C-2D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MNAS	**Manas**	**5.95**	**8**	⇑P	**Pn**	**17 20 19.8**	**+1.9**
	5.3nm,0.3s						
MNAS				⇑S	**Sn**	**17 21 24.9**	**-1.6**
	8.2nm,0.3s						
AAK	**Ala-Archa**	**6.51**	**21**	P	**Pn**	**17 20 27.6**	**+2.4**
	3.0nm,0.3s,baz=226,slow=12,SNR=40						
AAK				S	**Sn**	**17 21 40.7**	**+1.1**
	0.9nm,0.3s,baz=187,slow=7.8,SNR=4.0						
AAK	**Ala-Archa**	**6.51**	**21**	⇑P	**Pn**	**17 20 27.6**	**+2.4**
	7.9nm,0.6s						
AAK				⇑S	**Sn**	**17 21 39.6**	**0.0**
	21nm,0.7s						
KK31	**Karatay Array**	**6.53**	**355**	⇑P	**Pn**	**17 20 26.9**	**+1.6**
	6.3nm,0.5s,baz=174,slow=12,SNR=5.1						
KK31				⇑S	**Sn**	**17 21 38.0**	**-1.8**
	5.6nm,0.4s,baz=172,slow=21,SNR=4.6						
TKM2	**Tokmak 2**	**7.12**	**26**	⇓P	**Pn**	**17 20 34.6**	**+1.5**
	11nm,1.1s						
TKM2				⇑S	**Sn**	**17 21 54.2**	**+0.2**
	12nm,1.1s						
GEYT	**Alibeck**	**10.61**	**281**	P	**Pn**	**17 21 18.3**	**-0.1**
	0.4nm,0.3s,baz=102,slow=14,SNR=4.4						
PYUN	**Piuthn**	**12.99**	**127**	*e*P	**P**	**17 21 49.2**	**-2.9**
	8.3nm,0.3s						
MKAR	**Makanchi Array**	**13.06**	**35**	P	**P**	**17 21 50.2**	**-2.3**
	0.3nm,0.3s,baz=216,slow=12,SNR=7.9						
KOLN	**Koldanda**	**13.61**	**127**	*e*P	**P**	**17 21 57.6**	**-1.4**
	3.3nm,0.3s						
GKN	**Gorkha**	**14.14**	**124**	*e*P	P	17 22 05.9	+1.1
	6.8nm,0.4s						
KKN	**Kakani**	**14.71**	**123**	*e*P	P	17 22 12.9	+1.7
	4.6nm,0.4s						
PKIN	**Phulchoki**	**14.92**	**123**	*e*P	P	17 22 14.9	+1.3
	6.7nm,0.3s						
KURBB	**Kurchatov Arra**	**14.95**	**18**	P	**P**	**17 22 12.1**	**-1.3**
	0.0nm,0.3s,baz=209,slow=12,SNR=4.5						
AB31	**Akbulak array**	**15.13**	**330**	⇓P	**P**	**17 22 17.2**	**+1.9**
	0.4nm,0.3s,baz=167,slow=11,SNR=7.8						
JIRN	**Jiri**	**15.41**	**121**	*e*P	**P**	**17 22 22.0**	**+2.9**
RAMN	**Ramite**	**16.14**	**122**	*e*P	**Pn**	**17 22 29.0**	**+1.4**
	6.1nm,0.4s						
BVAR	**Borovoye Array**	**16.44**	**358**	P	**Pn**	**17 22 30.5**	**-0.1**
	0.3nm,0.3s,baz=182,slow=10,SNR=5.7						
TAPN	**Taplejung**	**16.66**	**119**	*e*P	**Pn**	**17 22 35.6**	**+1.7**
	4.6nm,0.3s						
AKTO	**Aktyubinsk**	**16.83**	**329**	P	**Pn**	**17 22 34.5**	**-0.7**
	0.3nm,0.3s,baz=135,slow=10.0,SNR=3.9						
AKTO	**Aktyubinsk**	**16.83**	**329**	⇑P	**Pn**	**17 22 34.9**	**-0.3**
	1.6nm,0.6s						
ZALV	**Zalesovo Beam**	**19.72**	**24**	P	**Pn**	**17 23 06.3**	**-3.0**
	0.2nm,0.3s,baz=206,slow=8.8,SNR=2.6						
KBZ	**Khabaz**	**22.79**	**297**	LR	LR	17 36 46.8	
	comp=Z,44nm,18.6s,baz=46,slow=47						
BRTR	**Keskin Array B**	**29.65**	**288**	LR	LR	17 39 17.2	
	comp=Z,45nm,18.2s,baz=67,slow=41						
ARCES	**ARCESS Array B**	**41.15**	**337**	P	**P**	**17 26 16.3**	**+0.8**
	1.2nm,0.9s,baz=106,slow=9.5,SNR=5.1						

*IDC **29** 17:25:25.5±0.4, 10.58S×114.00E, h0km, mb4.4/22, mb1 4.5/22, mb1mx4.4/37, mbtmp4.4/22, ML5.9/1, MS3.6/5, Ms1 3.7/5, ms1mx3.2/41, Error ellipse: s-maj=17.4km s-min=10.1km az=55.0*
*ISCJB **29** 17:25:27.7±0.2, 10.80S±0.03×113.81E±0.03, h33km, mb4.6/32, MS3.7/6, Error ellipse: s-maj=4.8km s-min=3.6km az=39.7*
*NEIC **29** 17:25:28.6±2.1, 10.66S×113.89E, h20km±15km, mb4.8/9, Error ellipse: s-maj=9.6km s-min=6.0km az=223.0*
*DJA **29** 17:25:28.1±1.0, 11°S±3'×11°4E±', h25km±10km, M4.9/20, mb4.9/20, mB5.4/9, MLv5.0/19, Mw(mB)4.8/9*

ISC 29 17:25:30.1±0.3, 10.86S±0.05×113.85E±0.05, h35km, n115, σ1θ97/119, mb4.6/32, MS3.7/6, 2C-1D, South of Jawa

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JAGI	**Jajag, Banyuwa**	**2.39**	**7**	P	**Pn**	**17 26 04.4**	**-2.4**
JAGI	**Jajag, Banyuwa**	**2.39**	**7**	*e*Pn	**Pn**	**17 26 04.3**	**-2.4**
IGBI	**Denpasar**	**2.39**	**32**	P	**Pn**	**17 26 05.8**	**-1.0**
DNP	**Denpasar**	**2.55**	**32**	P	**Pn**	**17 26 08.5**	**-0.4**
GMJI	**Gumukmas**	**2.60**	**351**	P	**Pn**	**17 26 07.2**	**-2.5**
ABJI	**Asem Bagus**	**3.06**	**7**	P	**Pn**	**17 26 16.0**	**-0.1**
ABJI				S	**Sn**	**17 26 52.8**	**+1.3**
BLJI	**Banyuglugur**	**3.10**	**355**	P	**Pn**	**17 26 15.8**	**-0.8**
TWSI	**Taliwang, Sumb**	**3.65**	**55**	P	**Pn**	**17 26 23.9**	**-0.3**
PCJI	**Pacitan**	**3.74**	**315**	P	**Pn**	**17 26 24.0**	**-1.3**
KMMI	**Kalianget**	**3.79**	**2**	P	**Pn**	**17 26 25.8**	**-0.2**
NGJI	**Ngawi**	**4.20**	**326**	P	**Pn**	**17 26 31.9**	**+0.3**
PLAI	**Plampang**	**4.36**	**63**	P	**Pn**	**17 26 33.0**	**-0.9**
UGM	**Wanagama**	**4.40**	**311**	P	**Pn**	**17 26 32.9**	**-1.6**
TBJI	**Tambak Boyo**	**4.47**	**334**	P	**Pn**	**17 26 34.8**	**-0.7**
SMRI	**Semarang**	**5.07**	**318**	P	**Pn**	**17 26 43.1**	**-0.5**
SMRI	**Semarang**	**5.07**	**318**	*e*Pn	**Pn**	**17 26 42.5**	**-1.2**
KPJI	**Karang Pucung**	**5.99**	**305**	P	**Pn**	**17 26 56.0**	**-0.3**
CMJI	**Cimerak**	**6.14**	**299**	P	**Pn**	**17 26 57.2**	**-1.2**
WSI	**Waingapu**	**6.45**	**80**	P	**Pn**	**17 27 03.7**	**+1.0**
CISI	**Cisompet, Garu**	**6.80**	**298**	P	**Pn**	**17 27 05.2**	**-2.4**
	123nm,0.6s,4μm1.6nm						
CISI	**Cisompet, Garu**	**6.80**	**298**	*e*Pn	**Pn**	**17 27 05.2**	**-2.4**
	76nm,0.4s						
CISI				*e*Sn	**Sn**	**17 28 16.7**	**-7.1**
CNJI	**Cibinong**	**7.52**	**297**	P	**Pn**	**17 27 15.1**	**-2.2**
EDFI	**Ende, Flores**	**8.00**	**76**	P	**Pn**	**17 27 24.0**	**-0.1**
BSSI	**Bau Bau, Buton**	**8.06**	**55**	P	**Pn**	**17 27 24.7**	**-0.1**
KAPI	**Kappang**	**8.23**	**46**	*e*Pn	**Pn**	**17 27 26.1**	**-1.0**
	16nm,0.4s						
PBKI	**Pangkalan Bun**	**8.38**	**345**	P	**Pn**	**17 27 29.9**	**+0.7**
	78nm,0.8s						
MMRI	**Maumere**	**8.55**	**76**	P	**Pn**	**17 27 32.3**	**+0.7**
	132nm,0.4s,2μm						
MMRI	**Maumere**	**8.55**	**76**	*e*Pn	**Pn**	**17 27 30.8**	**-0.8**
	108nm,0.4s						
SPSI	**Sidrap Palu**	**9.02**	**41**	P	**Pn**	**17 27 38.0**	**+0.1**
	16nm,0.9s,925nm						
CGJI	**Cibinong**	**9.10**	**297**	P	**Pn**	**17 27 37.4**	**-1.6**
	78nm,0.5s,2μm						
TTSI	**Tana Toraja**	**9.76**	**38**	P	**Pn**	**17 27 48.0**	**-0.1**
	26nm,1.0s						
MTKI	**Muara

KSRS	**Korea Array**	**49.84**	**15**	P		**P**		**17 34 17.2**	**-2.5**
	comp=Z,1.2nm,0.7s,baz=190,slow=6.9,SNR=4.8									
KSRS				LR		LR		17 58 28.4		
	comp=Z,19nm,18.0s,baz=225,slow=40									
GTA	**Gaotai**	**51.69**	**346**	*eP*		**P**		**17 34 36.3**	**+2.4**
GTA				pP		pP		17 34 39.8	-4.6	
GTA				sP		sP		17 34 42.3	-6.2	
GTA				pmax		pmax				
	comp=Z,3.0nm,1.2s									
MJAR	**Matsushiro Arr**	**52.43**	**25**	P		**P**		**17 34 36.2**	**-3.1**	
	comp=Z,2.2nm,0.9s,baz=196,slow=8.4,SNR=6.0									
USRK	**Ussuriysk Ar.**	**57.22**	**15**	P		**P**		**17 35 12.0**	**-1.8**	
	comp=Z,3.7nm,0.6s,baz=154,slow=7.2,SNR=10									
SONM	**Songino Array**	**58.80**	**354**	P		**P**		**17 35 23.7**	**-1.3**	
	comp=Z,2.2nm,0.6s,baz=172,slow=8.4,SNR=19									
SONM				PcP		**PcP**		**17 36 15.1**	**+0.8**	
	comp=Z,1.4nm,0.5s,baz=181,slow=4.1,SNR=2.5									
RPZ	**Rata Peaks**	**59.02**	**135**	P		**P**		**17 35 28.7**	**+2.1**	
	comp=Z,7.5nm,0.6s,baz=246,slow=8.0,SNR=3.6									
KSH	**Kashi**	**61.24**	**327**	*eP*		P		17 35 48.0	+6.1	
KSH				sP		sP		17 35 55.0	-1.7	
KSH				PP		**PP**		**17 38 04.0**	**+6.8**	
KSH				S		**S**		**17 44 05.5**	**+5.9**	
KSH				sS		pS		17 44 13.5	+0.9	
KSH	**Kashi**	**61.24**	**327**	SS		SS		17 48 07.3	+6.7	
KSH				pmax		pmax				
	comp=Z,13nm,1.6s									
KSH				pmax		pmax				
	comp=Z,100nm,5.0s									
KSH				LR		LR				
	comp=N,110nm,12.4s									
KSH				LR		LR				
	comp=E,95nm,6.2s									
KSH				LR		LR				
	comp=Z,93nm,10.2s									
URZ	**Urewera**	**62.40**	**128**	P		**P**		**17 35 50.7**	**+1.1**	
	comp=Z,3.8nm,0.4s,baz=270,slow=9.1,SNR=8.4									
MKAR	**Makanchi Array**	**63.95**	**336**	P		**P**		**17 35 59.0**	**-0.8**	
	comp=Z,1.6nm,0.3s,baz=149,slow=7.7,SNR=52									
MAW	**Mawson**	**65.81**	**199**	P		**P**		**17 36 12.6**	**+1.2**	
	comp=Z,1.9nm,0.9s,baz=50,slow=7.0,SNR=4.7									
KKAR	**Karatay Array**	**66.68**	**327**	*eP*		**P**		**17 36 16.6**	**-0.9**	
	comp=Z,1.0nm,0.4s									
KURK	**Kurchatov**	**68.55**	**337**	*eP*		**P**		**17 36 28.2**	**-0.9**	
	comp=Z,24nm,0.5s									
ZALV	**Zalesovo Beam**	**69.10**	**342**	P		**P**		**17 36 31.2**	**-1.2**	
	comp=Z,7.7nm,0.6s,baz=157,slow=4.3,SNR=33									
GEYT	**Alibeck**	**71.17**	**316**	P		**P**		**17 36 44.8**	**-0.7**	
	comp=Z,1.3nm,0.7s,baz=142,slow=4.9,SNR=4.2									
YAK	**Yakutsk**	**73.71**	**8**	*eP*		**P**		**17 36 59.0**	**-1.0**	
	comp=Z,19nm,0.9s									
BRVK	**Borovoye**	**73.72**	**334**	*eP*		**P**		**17 36 59.8**	**-0.5**	
PETK	**Petropavlovsk-**	**73.87**	**26**	P		**P**		**17 37 00.5**	**-0.7**	
	comp=Z,2.3nm,0.5s,baz=156,slow=1.6,SNR=20									
SYO	**Syowa Base**	**74.30**	**201**	*eX*		**P**		**17 37 03.2**	**-0.3**	
SYO	**Syowa Base**	**74.30**	**201**	*eS*		sP		17 37 16.2	-2.3	
SYO	**Syowa Base**	**74.30**	**201**	*eP*		**PcP**		**17 37 20.0**	**+1.8**	
ABKAR	**Akbulak array**	**76.25**	**327**	*eP*		**P**		**17 37 14.8**	**-0.2**	
	comp=Z,3.2nm,0.5s									
KMBO	**Kilima Mbogo**	**76.63**	**271**	P		**P**		**17 37 19.7**	**+1.4**	
	comp=Z,1.0nm,0.3s,baz=37,slow=9.3,SNR=7.0									
KMBO	**Kilima Mbogo**	**76.63**	**271**	*eP*		**P**		**17 37 20.4**	**+2.1**	
	comp=Z,0.7nm,0.4s									
NRIK	**Noril'sk**	**82.09**	**351**	P		**P**		**17 37 45.2**	**-1.3**	
	comp=Z,4.1nm,0.6s,baz=157,slow=7.7,SNR=3.2									
BOSA	**Boshof**	**83.67**	**242**	P		**P**		**17 37 59.7**	**+3.8**	
	comp=Z,4.6nm,1.1s,baz=96,slow=8.2,SNR=1.3									
ASF	**Jabal al Asfar**	**84.90**	**304**	P		**P**		**17 38 03.8**	**+1.9**	
	comp=Z,2.5nm,0.6s,baz=135,slow=4.9,SNR=6.4									
MMAI	**Mount Meron Ar**	**86.34**	**304**	P		**P**		**17 38 11.3**	**+2.2**	
	comp=Z,2.2nm,0.7s,baz=103,slow=4.6,SNR=5.8									
SNAA	**Sanae**	**87.83**	**196**	*eP*		**P**		**17 38 16.4**	**+0.8**	
	comp=Z,429nm,1.1s									
BRTR	**Keskin Array B**	**89.45**	**311**	P		**P**		**17 38 24.2**	**+0.4**	
	comp=Z,2.5nm,0.9s,baz=97,slow=5.8,SNR=10									
ARCES	**ARCESS Array B**	**99.51**	**339**	LR		LR		18 31 56.6		
	comp=Z,44nm,19.1s,baz=64,slow=40									
VYHS	**Vyhne**	**101.35**	**317**	*eP*	DIFF	**Pdif**		**17 39 18.8**	**+1.1**	
TORD	**Torodi Ar. Bea**	**113.78**	**280**	PKiKP		**PKiKP**		**17 44 06.3**	**+0.2**	
	comp=Z,0.3nm,0.5s,baz=92,slow=2.5,SNR=3.5									
TXAR	**Lajitas Array**	**140.49**	**57**	PKhKP		PKPpre		17 44 50.5		
	comp=Z,0.2nm,0.4s,baz=207,slow=2.5,SNR=4.4									
TXAR				PKP		**PKiKP**		**17 44 58.4**	**-0.7**	
	comp=Z,0.2nm,0.6s,baz=228,slow=2.3,SNR=3.2									
LONY	**Lake Ozonia**	**145.58**	**11**	*eP*		**PKPab**		**17 45 05.7**	**+0.3**	
MIAR	**Mount Ida**	**145.62**	**42**	*eP*		**PKPab**		**17 45 06.6**	**+0.8**	
ACSO	**Alum Creek Sta**	**147.16**	**24**	*eP*		**PKPdf**		**17 45 08.4**	**+0.7**	
LRAL	**Lakeview Retre**	**150.77**	**38**	*eP*		**PKPbc**		**17 45 19.9**	**+0.5**	
LPAZ	**La Paz**	**152.96**	**176**	PKPbc		**PKPbc**		**17 45 27.2**	**+1.7**	
	comp=Z,1.0nm,0.4s,baz=152,slow=3.3,SNR=4.8									
LPAZ				PKPab		**pPKPbc**		**17 45 38.5**	**+1.6**	
	comp=Z,2.9nm,0.6s,baz=200,slow=3.2,SNR=9.7									

IDC ***29*** *17:34:52.9±0.9, 26.57S×178.43W, h0km, mb4.1/7, mb1 4.3/8, mb1mx3.9/35, mbtmp4.0/8, ML4.5/1, MS3.5/7, Ms1 3.6/7, ms1mx3.2/29, Error ellipse: s-maj=26.8km s-min=25.1km az=122.0*

NEIC ***29*** *17:34:54.1±0.6, 26.60S×178.40W, h10km, mb4.2/1, Error ellipse: s-maj=17.4km s-min=16.5km az=94.0*

ISCJB ***29*** *17:34:56.4±0.7, 26.58S±0.08×178.5W±0.1, h33km, mb4.0/8, MS3.6/6, Error ellipse: s-maj=18.6km s-min=9.9km az=161.9*

ISC 29 17:34:57.8±0.8, 26.58S±0.10×178.4W±0.2, h35km, n23, σ1s25/12, mb4.1/8, MS3.6/6, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID			Time			Res
				Op		ISC	h	m	s	ISC
RAO	**Raoul Island**	**2.70**	**170**	Pn		**Pn**	**17**	**35**	**36.6**	**-2.1**
	76nm,0.3s,baz=354,slow=19,SNR=2.9									
RAO				Sn		**Sn**	**17**	**36**	**11.6**	**+1.4**
	148nm,0.3s,baz=267,slow=22,SNR=2.4									
RAO				LR		LR	17	36	31.0	
	comp=Z,781nm,21.3s,baz=112,slow=36									
DZM	**Mont Dzumac**	**14.49**	**285**	*e*LR		LR	17	41	25.2	
	263nm,29.0s									
HNR	**Honiara**	**26.63**	**306**	LR		LR	17	48	38.3	
	comp=Z,121nm,21.8s,baz=188,slow=31									
PAE	**Paea**	**28.12**	**78**	*e*T		T	17	40	39.0	
	1.9nm,0.3s									
PAE	**Paea**	**28.12**	**78**	*e*T		T	18	09	15.4	
	6.6nm,0.3s									
PPT2	**Papeete2**	**28.15**	**77**	*e*LQ		LQ	17	46	10.9	
	333nm,25.2s									
PPT2				*e*LR		LR	17	47	28.9	
	131nm,26.8s									
PPT	**Papeete**	**28.16**	**77**	LR		LR	17	50	07.9	
	comp=Z,24nm,18.8s,baz=249,slow=32									
TVO	**Taravao**	**28.36**	**78**	*e*T		T	17	40	35.9	
	2.4nm,0.3s									
TVO	**Taravao**	**28.36**	**78**	*e*T		T	18	09	32.7	
	3.7nm,0.3s									
VAH	**Vaihoa**	**30.84**	**75**	*e*T		T	18	12	39.7	
	9.0nm,0.2s									
STKA	**Stephens Creek**	**35.13**	**252**	LR		LR	17	54	48.8	
	comp=Z,126nm,18.2s,baz=26,slow=34									
RKT	**Rikitea**	**39.46**	**95**	*e*T		T	18	23	18.3	
	6.1nm,0.3s									
ASAR	**Alice Springs**	**43.05**	**263**	P		**P**	**17**	**42**	**54.5**	**+0.1**
	1.6nm,0.9s,baz=108,slow=8.8,SNR=11									
WRAB	**Tennant Creek**	**43.68**	**268**	*e*P		**P**	**17**	**42**	**59.8**	**+0.3**
	3.7nm,0.9s									
WRA	**Warramunga Arr**	**43.69**	**268**	P		**P**	**17**	**42**	**59.8**	**+0.2**
	2.9nm,0.7s,baz=105,slow=8.0,SNR=19									
FITZ	**Fitzroy Crossi**	**52.07**	**267**	P		**P**	**17**	**44**	**04.2**	**-0.2**
	3.3nm,1.1s,baz=108,slow=6.4,SNR=3.2									
MAW	**Mawson**	**75.74**	**200**	P		**P**	**17**	**46**	**41.0**	**+1.6**
	0.5nm,0.3s,baz=120,slow=6.8,SNR=6.5									
MAW				LR		LR	18	18	51.4	
	comp=Z,107nm,18.7s,baz=58,slow=35									
PLCA	**Paso Flores**	**85.40**	**133**	LR		LR	18	17	16.7	
	comp=Z,25nm,19.7s,baz=332,slow=30									
TXAR	**Lajitas Array**	**90.67**	**57**	P		**P**	**17**	**47**	**58.4**	**+1.3**
	0.6nm,1.0s,baz=208,slow=7.2,SNR=4.1									
PDAR	**Pinedale Array**	**93.64**	**44**	P		**P**	**17**	**48**	**09.8**	**-1.0**
	0.2nm,0.3s,baz=193,slow=3.6,SNR=2.7									
ILAR	**Eielson Array**	**94.31**	**13**	P		**P**	**17**	**48**	**13.5**	**+0.5**
	0.5nm,0.9s,baz=202,slow=6.8,SNR=3.9									
ILAR				LR		LR	18	25	52.8	
	comp=Z,23nm,18.6s,baz=290,slow=32									
NOA	**NORSAR Array B**	**144.93**	**352**	PKP		**PKPab**	**17**	**54**	**29.5**	**-0.4**
	0.3nm,0.6s,baz=16,slow=4.9,SNR=4.6									
AKASG	**Malin Array Be**	**147.98**	**326**	PKPbc		**PKPab**	**17**	**54**	**40.5**	**-1.3**
	0.2nm,0.3s,baz=40,slow=2.8,SNR=3.2									

NIED ***29*** *17:41:00, 36.10N×142.00E, h8km, Mw3.8 Best double couple: M0 5.12000×10^14 NP1:ϕs 282.00000°, δ34.00000°, λ28.00000°. NP2:ϕs 169.00000°, δ75.00000°, λ121.00000°.*

IDC ***29*** *17:41:27.2±0.9, 36.03N×141.93E, h0km, mb3.6/7, mb1 3.8/9, mb1mx3.6/44, mbtmp3.7/9, ML3.7/2, Error ellipse: s-maj=22.8km s-min=19.9km az=114.0*

ISCJB ***29*** *17:41:28.5±0.7, 36.00N±0.05×141.98E±0.06, h23km, mb3.6/7, Error ellipse: s-maj=7.8km s-min=7.2km az=41.5*

JMA ***29*** *17:41:29.5±0.4, 36.10N×141.95E, h53km, M3.8*

ISC 29 17:41:30.5±0.9, 36.03N±0.06×141.92E±0.08, h23km, n26, σ1s15/23, mb3.7/7, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID			Time			Res
				Op		ISC	h	m	s	ISC
CHOJ	**Chosi**	**0.92**	**250**	P		**Pb**	**17**	**41**	**47.1**	**-0.6**
CHOJ				*e*S		**Sn**	**17**	**42**	**00.9**	**+0.4**
JHO	**Hitachi**	**1.24**	**298**	P		**Pn**	**17**	**41**	**50.7**	**-1.7**
JFT	**Otama**	**1.96**	**320**	P		**Pn**	**17**	**42**	**01.7**	**-0.6**
JAG	**Ashikaga**	**2.03**	**282**	P		**Pn**	**17**	**42**	**02.7**	**-0.6**
JMM	**Marumori**	**2.04**	**334**	P		**Pn**	**17**	**42**	**02.8**	**-0.7**
JFY	**Yanaizu**	**2.25**	**308**	P		**Pn**	**17**	**42**	**05.4**	**-0.9**
JKT	**Katashina**	**2.28**	**290**	P		**Pn**	**17**	**42**	**06.4**	**-0.4**
MJAR	**Matsushiro Arr**	**3.04**	**281**	Pn		**Pn**	**17**	**42**	**17.2**	**0.0**
	7.1nm,0.3s,baz=94,slow=9.3,SNR=125									
MJAR				Sn		**Sn**	**17**	**42**	**52.7**	**-0.2**
	6.3nm,0.3s,baz=94,slow=16,SNR=5.7									
MAT	**Matsushiro**	**3.04**	**281**	P		**Pn**	**17**	**42**	**17.4**	**+0.2**
MAT				S		**Sn**	**17**	**42**	**52.3**	**-0.6**
JHJ	**Hachijo jima 2**	**3.40**	**212**	Pn		**Pn**	**17**	**42**	**22.0**	**-0.1**
	31nm,0.3s,baz=66,slow=18,SNR=4.2									
JHJ				Sn		**Sn**	**17**	**42**	**60.0**	**-1.6**
	47nm,0.3s,baz=273,slow=22,SNR=6.4									
USRK	**Ussuriysk Ar.**	**11.15**	**320**	Pn		Pn	17	44	13.7	+5.3
	0.1nm,0.3s,baz=123,slow=16,SNR=2.6									
KSRS	**Korea Array**	**11.32**	**281**	Pn		**Pn**	**17**	**44**	**14.9**	**+4.1**
	0.2nm,0.3s,baz=92,slow=13,SNR=3.1									
H11N2	**WAKE ISLAND Hy 27.29**	**120**		T		T	18	15	58.5	
	baz=312,slow=75,SNR=19									
H11N1	**WAKE ISLAND Hy 27.30**	**120**		T		T	18	15	51.7	
	baz=312,slow=75,SNR=6.6									
H11N3	**WAKE ISLAND Hy 27.31**	**120**		T		T	18	15	55.4	
	baz=312,slow=75,SNR=16									
H11S1	**WAKE ISLAND Hy 27.98**	**122**		T		T	18	16	41.2	
	baz=314,slow=75,SNR=28									
H11S3	**WAKE ISLAND Hy 27.98**	**122**		T		T	18	16	39.1	
	baz=314,slow=75,SNR=20									
H11S2	**WAKE ISLAND Hy 27.99**	**122**		T		T	18	16	40.3	
	baz=314,slow=75,SNR=23									
CMAR	**Chiang Mai Arr**	**41.65**	**257**	P		**P**	**17**	**49**	**16.6**	**-0.7**
	0.2nm,0.5s,baz=50,slow=8.4,SNR=2.9									
ZALV	**Zalesovo Beam**	**42.90**	**313**	P		**P**	**17**	**49**	**27.6**	**+0.6**
	0.7nm,0.4s,baz=95,slow=7.6,SNR=4.3									
MKAR	**Makanchi Array**	**45.00**	**303**	P		**P**	**17**	**49**	**44.1**	**+0.1**
	0.7nm,0.6s,baz=89,slow=9.6,SNR=8.0									
ILAR	**Eielson Array**	**50.13**	**32**	P		**P**	**17**	**50**	**23.4**	**-0.1**
	0.7nm,0.8s,baz=264,slow=6.9,SNR=6.9									
INK	**Inuvik**	**55.10**	**27**	P		**P**	**17**	**51**	**00.6**	**+0.4**
	0.8nm,0.7s,baz=315,slow=5.7,SNR=3.7									
WRA	**Warramunga Arr**	**56.12**	**189**	P		**P**	**17**	**51**	**08.3**	**+0.2**
	0.9nm,0.7s,baz=7.8,slow=7.7,SNR=7.7									
ASAR	**Alice Springs**	**59.85**	**189**	P		**P**	**17**	**51**	**34.5**	**+0.3**
	0.3nm,0.5s,baz=13,slow=8.9,SNR=6.9									
LPAZ	**La Paz**	**146.83**	**62**	PKPbc		**PKPbc**	**18**	**01**	**11.8**	**-0.2**
	0.9nm,0.5s,baz=90,slow=2.0,SNR=3.9									

IDC 29 17:43:32.5±1.5, 12.10N×143.09E, h0km, mb3.7/3, mb1 4.0/4, mb1mx3.4/45, mbtmp3.7/4, ML3.7/1, Error ellipse: s-maj=82.4km s-min=18.9km az=121.0, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID			Time			Res
				Op		ISC	h	m	s	ISC
GUMO	**Guam**	**2.28**	**49**	Pn		Pn	17	44	12.8	+1.3
	19nm,0.3s,baz=198,slow=13,SNR=17									
GUMO				Sn		Sn	17	44	40.1	-0.2
	23nm,0.3s,baz=210,slow=20,SNR=12									
H11N1	**WAKE ISLAND Hy 24.09**	**69**		T		T	18	13	42.2	
	baz=255									
H11N2	**WAKE ISLAND Hy 24.10**	**69**		T		T	18	13	44.9	
	baz=255,slow=74									
H11N3	**WAKE ISLAND Hy 24.11**	**69**		T		T	18	13	47.6	
	baz=255,slow=74									
WRA	**Warramunga Arr**	**32.99**	**195**	P		P	17	50	09.3	-0.2
	1.7nm,0.7s,baz=19,slow=9.6,SNR=13									
ASAR	**Alice Springs**	**36.67**	**194**	P		P	17	50	41.3	+0.1
	0.4nm,0.6s,baz=22,slow=10.0,SNR=11									
ILAR	**Eielson Array**	**70.64**	**25**	P		P	17	54	49.4	-0.4
	0.6nm,0.7s,baz=252,slow=5.6,SNR=2.9									

IDC ***29*** *17:57:09.8±1.5, 7.36S×13.58W, h0km, mb3.8/4, mb1 3.9/4, mb1mx3.6/31, mbtmp3.8/4, MS3.4/3, Ms1 3.4/3, ms1mx2.8/41, Error ellipse: s-maj=86.3km s-min=16.4km az=134.0*

ISC 29 17:57:11.2±1.0, 7.34S±0.2×13.36W±0.1, h10km, n12, σ0s82/13, mb3.9/4, Ascension Island region

Code	Station Name	Δ°	AZ°	Phase ID			Time			Res
				Op		ISC	h	m	s	ISC
H10N2	**ASCENSION HYDR**	**0.95**	**243**	Pn		**Pn**	**17**	**57**	**31.1**	**+0.7**
	baz=89,slow=15,SNR=7487									
H10N2				Sn		**Sg**	**17**	**57**	**41.5**	**-0.5**
H10N2				T		T	17	58	56.9	
	baz=55									
H10N1	**ASCENSION HYDR**	**0.95**	**242**	Pn		**Pn**	**17**	**57**	**31.1**	**+0.7**
	baz=89,slow=15,SNR=6356									
H10N1				Sn		**Sg**	**17**	**57**	**41.6**	**-0.5**
H10N1				T		T	17	58	52.1	
	baz=55									
H10N3	**ASCENSION HYDR**	**0.97**	**243**	Pn		**Pn**	**17**	**57**	**31.4**	**+0.7**
	baz=89,slow=15,SNR=7067									
H10N3				Sn		**Sg**	**17**	**57**	**41.9**	**-0.6**
H10N3				T		T	17	58	50.0	
	baz=55									
H10S1	**ASCENSION HYDR**	**1.84**	**213**	Pn		**Pn**	**17**	**57**	**43.0**	**+0.3**
	baz=41,slow=14,SNR=1434									
H10S2	**ASCENSION HYDR**	**1.85**	**213**	Pn		**Pn**	**17**	**57**	**43.2**	**+0.4**
	baz=41,slow=14,SNR=1259									
H10S3	**ASCENSION HYDR**	**1.85**	**213**	Pn		**Pn**	**17**	**57**	**43.2**	**+0.4**
	baz=41,slow=14,SNR=1332									
DBIC	**Dimbokro**	**16.49**	**32**	LR		LR	18	05	21.8	
	comp=Z,91nm,20.1s,baz=165,slow=30									
TORD	**Torodi Ar. Bea**	**25.46**	**37**	P		**P**	**18**	**02**	**39.0**	**-0.7**
	1.8nm,0.6s,baz=219,slow=10.0,SNR=14									
TORD				LR		LR	18	10	44.9	
	comp=Z,65nm,20.1s,baz=135,slow=32									
BOSA	**Boshof**	**42.29**	**125**	LR		LR	18	18	52.6	
	comp=Z,85nm,19.1s,baz=8.5,slow=31									
GERES	**GERESS Array B**	**60.92**	**20**	P		**P**	**18**	**07**	**22.9**	**-1.5**
	0.3nm,0.4s,baz=201,slow=5.2,SNR=2.9									
AKASG	**Malin Array Be**	**68.67**	**28**	P		**P**	**18**	**08**	**15.5**	**+0.7**
	0.3nm,0.3s,baz=225,slow=7.2,SNR=3.6									
FINES	**FINESS Array B**	**75.26**	**19**	P		**P**	**18**	**08**	**55.0**	**+1.0**
	1.3nm,0.9s,baz=212,slow=4.9,SNR=3.5									

NIED ***29*** *18:17:00, 38.10N×141.90E, h59km, Mw4.0 Best double couple: M0 1.15000×10^15 NP1:ϕs 64.00000°, δ48.00000°, λ144.00000°. NP2:ϕs 180.00000°, δ64.00000°, λ48.00000°.*

ISCJB ***29*** *18:17:38.7±0.8, 38.10N±0.04×141.97E±0.09, h56km±7km, mb3.9/12, MS2.8/1, Error ellipse: s-maj=11.4km s-min=5.3km az=13.6*

JMA ***29*** *18:17:40.1±0.1, 38.13N×141.86E, h53km±1km, M4.0*

JMA Felt II J1.

IDC ***29*** *18:17:40.5±0.7, 38.07N×141.84E, h55km±7km, mb3.6/12, mb1 3.8/16, mb1mx3.6/55, mbtmp3.9/16, MS2.9/5, Ms1 2.9/5, ms1mx2.6/46, Error ellipse: s-maj=17.3km s-min=11.2km az=103.0*

ISC 29 18:17:40.3±0.8, 38.12N±0.04×141.93E±0.07, h52km±7km, n41, σ1s00/46, mb4.0/12, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID			Time			Res
				Op		ISC	h	m	s	ISC
JIO	**Ouri**	**0.57**	**307**	P		**Pn**	**18**	**17**	**51.8**	**-0.7**
JIO				S		**Sn**	**18**	**17**	**59.9**	**-1.4**
JMM	**Marumori**	**0.93**	**255**	P		**Pn**	**18**	**17**	**56.2**	**-1.0**
JMM				S		**Sn**	**18**	**18**	**07.9**	**-1.7**
JMK	**Ichinoseki**	**1.00**	**326**	P		**Pn**	**18**	**17**	**57.7**	**-0.4**
JMK				*e*S		**Sn**	**18**	**18**	**10.3**	**-0.9**
JOU	**Okura**	**1.03**	**284**	P		**Pn**	**18**	**17**	**57.9**	**-0.5**
JOU				S		**Sn**	**18**	**18**	**11.2**	**-0.7**
JFK	**Kawauchi**	**1.12**	**228**	P		**Pn**	**18**	**17**	**59.1**	**-0.7**
JFK				S		**Sn**	**18**	**18**	**12.8**	**-1.4**
JFT	**Otama**	**1.40**	**245**	P		**Pn**	**18**	**18**	**03.3**	**-0.1**
JFT				S		**Sn**	**18**	**18**	**20.6**	**-0.2**
JOM	**Ohasama**	**1.44**	**340**	P		**Pn**	**18**	**18**	**04.0**	**0.0**
JOM				S		**Sn**	**18**	**18**	**21.8**	**-0.1**
JYK	**Kaneyama**	**1.47**	**303**	P		**Pn**	**18**	**18**	**03.9**	**-0.5**
JYS	**Shirataka**	**1.47**	**275**	P		**Pn**	**18**	**18**	**04.1**	**-0.4**
JYS				S		**Sn**	**18**	**18**	**22.0**	**-0.6**
JRG	**Rokugo**	**1.63**	**322**	P		**Pn**	**18**	**18**	**06.7**	**+0.1**
JRG				S		**Sn**	**18**	**18**	**27.5**	**+1.0**
JYA	**Atsumi**	**1.81**	**286**	P		**Pn**	**18**	**18**	**08.6**	**-0.4**
JFY	**Yanaizu**	**1.90**	**249**	P		**Pn**	**18**	**18**	**10.4**	**+0.1**
JNS	**Sasagawa**	**2.09**	**263**	P		**Pn**	**18**	**18**	**12.7**	**-0.1**
MJAR	**Matsushiro Arr**	**3.36**	**243**	P		**Pn**	**18**	**18**	**31.0**	**+0.8**
	3.6nm,0.3s,baz=67,slow=11,SNR=46									
MAT	**Matsushiro**	**3.36**	**243**	P		**Pn**	**18**	**18**	**31.4**	**+1.1**
MAT				*e*S		**Sn**	**18**	**19**	**11.9**	**+3.0**
JHJ	**Hachijo jima 2**	**5.28**	**200**	P		**Pn**	**18**	**18**	**57.0**	**+0.3**
	baz=49,slow=20,SNR=2.9									
JHJ				S		**Sn**	**18**	**19**	**54.5**	**-1.8**
	14nm,0.3s,baz=107,slow=19,SNR=4.5									
ASAJ	**Asahikawa**	**6.01**	**5**	P		**Pn**	**18**	**19**	**05.6**	**-1.1**
	1.3nm,0.3s,baz=231,slow=9.8,SNR=15									
USRK	**Ussuriysk Ar.**	**9.65**	**312**	P		**Pn**	**18**	**19**	**56.6**	**+0.3**
	0.5nm,0.3s,baz=120,slow=14,SNR=6.3									
USRK				LR		LR	18	24	00.3	
	comp=Z,51nm,18.9s,baz=170,slow=40									
JNU	**Nakatsue**	**10.28**	**244**	LR		LR	18	23	50.4	
	comp=Z,118nm,18.2s,baz=107,slow=36									
KSRS	**Korea Array**	**11.11**	**271**	P		**Pn**	**18**	**20**	**18.8**	**+2.4**
	0.2nm,0.3s,baz=73,slow=14,SNR=4.0									
KSRS				LR		LR	18	24	04.8	
	comp=Z,80nm,18.8s,baz=68,slow=35									
PETK	**Petropavlovsk-**	**18.55**	**31**	LR		LR	18	29	16.9	
	comp=Z,12nm,19.4s,baz=209,slow=37									
MA2	**Magadan**	**22.21**	**12**	LR		LR	18	30	35.8	
	comp=Z,36nm,19.9s,baz=149,slow=35									
SONM	**Songino Array**	**27.54**	**302**	P		**P**	**18**	**23**	**22.5**	**+0.4**
	0.5nm,0.6s,baz=94,slow=12,SNR=3.1									
H11N2	**WAKE ISLAND Hy 28.37**	**123**		T		T	18	53	35.7	
	baz=316,slow=75,SNR=428									
H11N1	**WAKE ISLAND Hy 28.38**	**123**		T		T	18	53	48.3	
	baz=316,slow=75,SNR=427									
H11N3	**WAKE ISLAND Hy 28.39**	**123**		T		T	18	53	48.4	
	baz=316,slow=75,SNR=410									
H11S1	**WAKE ISLAND Hy 29.12**	**125**		T		T	18	54	45.6	
	baz=318,slow=76,SNR=483									
H11S3

JTAJ Takarajima 2.84 27 P **Pn** **18 27 39.4 -0.1**
JTAJ S **Sn** **18 28 11.8 -0.7**
JMJ Miyako jima 2 2.85 232 P **Pn** **18 27 40.4 +0.9**
JMJ *e*S **Sn** **18 28 14.0 +1.4**
JIRB Irabujima 2.92 233 P **Pn** **18 27 41.2 +0.6**
JMZ Minamidaito 2 3.21 103 P **Pn** **18 27 41.8 -2.7**
JMZ S **Sn** **18 28 16.6 -5.0**
JTJ Tarama 3.38 235 P **Pn** **18 27 46.5 -0.3**
JISG Ishigakijimahi 3.70 238 P **Pn** **18 27 50.4 -0.8**
JIJ Ishigaki jima 3.95 236 P **Pn** **18 27 53.5 -1.2**
JKRS Kuro-shima 4.13 236 P **Pn** **18 27 57.7 +0.6**
IRIF Iriomote-Funau 4.28 239 P **Pn** **18 27 59.3 +0.1**
YOJ Yonaguni jima 4.79 245 P **Pn** **18 28 06.5 +0.4**
YOJ Yonaguni jima 4.79 245 *e*P **Pn** **18 28 06.6 +0.4**
YOJ Yonaguni jima 4.79 245 *e*Pn **Pn** **18 28 06.5 +0.4**
JYNG Yonagunijimaku 4.84 245 P **Pn** **18 28 08.0 +1.1**
TATO Taipei 5.88 255 *e*Pn **Pn** **18 28 21.8 +0.8**
YHNB Yeheng 6.07 253 *e*Pn **Pn** **18 28 25.2 +1.4**
NACB Ninganchiao 6.07 248 *e*Pn **Pn** **18 28 22.6 -1.2**
YULB Yu-li 6.67 243 *e*Pn **Pn** **18 28 28.9 -3.2**
SSLB Suanglung 6.77 247 *e*Pn **Pn** **18 28 31.5 -1.9**
JNU Nakatsue 7.04 22 Pn **Pn** **18 28 39.0 +2.0**
6.3nm,0.3s,baz=252,slow=2.1,SNR=61
JNU Sn **Sn** **18 29 57.1 +1.4**
baz=344,slow=20,SNR=1.9
TPUB Ta-pu 7.25 245 *e*Pn **Pn** **18 28 38.8 -1.3**
NJ2 Nanjing 9.47 307 *e*P **Pn** **18 29 09.3 -1.0**
NJ2 pmax pmax
comp=Z,9.0nm,1.0s
KSAR Wonju Array Be 10.80 1 P **Pn** **18 29 31.5 +3.0**
KSAR Wonju Array Be 10.80 1 Pn **Pn** **18 29 31.5 +3.0**
KSRS Korea Array 10.82 1 Pn **Pn** **18 29 31.5 +2.8**
0.3nm,0.3s,baz=177,slow=14,SNR=12
KSRS LR LR 18 33 51.3
comp=Z,192nm,18.6s,baz=190,slow=39
INCN Inchon 10.88 355 *e*Pn Pn 18 29 21.4 -8.3
JHJ Hachijo jima 2 12.29 55 LR LR 18 34 06.3
comp=Z,251nm,21.2s,baz=252,slow=35
MJAR Matsushiro Arr 13.31 39 Pn **P** **18 30 08.0 -3.1**
0.3nm,0.3s,baz=48,slow=41,SNR=3.9
MJAR LR LR 18 35 16.1
comp=Z,131nm,18.6s,baz=230,slow=38
MJAR Matsushiro Arr 13.31 39 Pn **P** **18 30 08.0 -3.1**
SNY Shenyang 15.57 348 ⇑P P 18 30 44.3 +8.3
SNY S **Sn** **18 33 28.5 +4.5**
ENH Enshi 16.48 287 *e*Pn **P** **18 30 47.5 +1.2**
18nm,0.9s
BJT Baijiatuau 16.49 327 *e*P **P** **18 30 47.5 +1.2**
BJT pmax pmax
comp=Z,20nm,0.7s
BJT Baijiatuau 16.49 327 *e*Pn **P** **18 30 47.5 +1.2**
comp=Z,20nm,0.7s
BJI Beijing 16.50 327 P **Pn** **18 30 43.5 -1.0**
BJI S **Sn** **18 33 46.8 +0.1**
BJI pmax pmax
comp=Z,6.0nm,0.8s
BJI LR LR
comp=Z,350nm,14.0s
BJI LR LR
comp=Z,200nm,10.8s
CN2 Changchun 17.26 354 *e*P **P** **18 30 55.8 +1.1**
CN2 *e*sP sP 18 31 11.0 -1.9
CN2 *e*S **Sn** **18 34 05.0 +0.1**
CN2 pmax pmax
comp=Z,10.0nm,0.7s
CN2 pmax pmax
comp=Z,200nm,4.0s
CN2 LR LR
comp=Z,200nm,13.0s
CN2 LR LR
comp=Z,300nm,13.0s
CN2 LR LR
comp=Z,500nm,14.0s
SNPH Sibulan 17.70 195 ⇑ *i*P **P** **18 31 00.8 +1.0**
XAN Xi'an 17.85 299 P **P** **18 31 02.3 +0.9**
XAN pP pP 18 31 12.5 -0.5
XAN pmax pmax
comp=Z,28nm,0.7s
XAN pmax pmax
comp=Z,370nm,4.9s
USRK Ussuriysk Ar. 17.89 10 P **P** **18 31 03.5 +1.8**
comp=Z,0.4nm,0.3s,baz=181,slow=9.4,SNR=6.8
USRK LR LR 18 37 42.0
comp=Z,84nm,20.0s,baz=175,slow=36
MDJ Mudanjiang 18.03 4 P **Pn** **18 31 03.5 +0.2**
MDJ pP pP 18 31 13.3 -1.6
MDJ sP sP 18 31 18.8 -2.6
MDJ S **Sn** **18 34 21.5 -2.1**
MDJ pmax pmax
comp=Z,6.0nm,1.3s
MDJ LR LR
comp=Z,97nm,24.0s
MDJ LR LR
comp=Z,140nm,25.8s
QIZ Qiongzhong 18.14 249 P **P** **18 31 03.5 -1.1**
QIZ S **Sn** **18 34 24.0 -2.5**
QIZ LR LR
comp=Z,160nm,26.3s
GYA Guiyang 18.87 274 P **Pn** **18 31 13.8 0.0**
GYA pP pP 18 31 24.3 -0.1
GYA PP **sP** **18 31 32.0 +1.1**
GYA S **Sn** **18 34 39.5 -4.9**
GYA sS sS 18 34 55.8 -7.7
GYA SS **SnSn** **18 35 05.5 +6.8**
GYA pmax pmax
comp=Z,20nm,0.8s
GYA pmax pmax
comp=Z,120nm,4.9s
GYA LR LR
comp=Z,580nm,12.8s
GYA LR LR
comp=Z,520nm,13.2s
GYA LR LR
comp=Z,550nm,12.4s
HHC Hu-ho-hao-te 19.53 321 *e*P **Pn** **18 31 21.5 0.0**
HHC S **S** **18 34 51.8 -5.9**
HHC pmax pmax
comp=Z,20nm,0.8s
HHC pmax pmax
comp=Z,150nm,4.4s
HHC LR LR
comp=Z,260nm,9.6s
HHC LR LR
comp=Z,340nm,10.0s
GUMO Guam 20.61 126 P **P** **18 31 32.2 +0.6**
comp=Z,55nm,0.8s,baz=191,slow=17,SNR=2.7
GUMO LR LR 18 37 56.0
comp=Z,90nm,21.4s,baz=298,slow=32
CD2 Chengdu 21.45 287 P **P** **18 31 39.5 -1.2**
CD2 pP pP 18 31 47.0 -5.5
CD2 sP sP 18 31 53.3 -5.7
CD2 PP **PnPn** **18 32 07.0 +4.5**
CD2 S **S** **18 35 26.8 -9.2**
CD2 pmax pmax
comp=Z,50nm,1.0s
CD2 pmax pmax
comp=Z,490nm,5.6s
LZH Lanzhou 22.45 301 *e*P **P** **18 31 51.0 -0.5**
LZH pP pP 18 31 59.5 -3.8
LZH sP sP 18 32 06.3 -3.5
LZH pmax pmax
comp=Z,28nm,1.2s
LZH pmax pmax
comp=Z,130nm,4.9s
KMI Kunming 22.55 272 P **P** **18 31 52.3 -0.4**
KMI pmax pmax
comp=Z,17nm,0.7s
KMI LR LR
comp=Z,620nm,5.2s
KMI LR LR
comp=Z,620nm,5.0s
KMI LR LR
comp=Z,300nm,5.6s
HABR Khabarovsk 22.56 13 P **P** **18 31 51.5 -0.8**
HABR *e**PP **pP** **18 32 04.5 +0.4**
HABR *e**SP **sP** **18 32 12.2 +1.6**
HABR *e* 18 35 42.6
HABR *e*S **S** **18 35 54.9 -1.1**
HABR *e**SS **sS** **18 36 18.4 +1.8**
HABR *e*SS **SnSn** **18 36 29.7 +0.9**
HABR *e* 18 43 00.5
HABR pmax pmax
comp=Z,75nm,2.5s
HABR MLR MLR
comp=Z,86nm,18.0s
YUK Yuzh-Kuril'sk 22.73 35 *e*P **P** **18 31 56.3 +2.1**
YSS Yuzh-Sakhalins 23.52 26 *e*P **P** **18 32 02.4 +0.5**
CHAI Chaiyaphum 26.22 251 P **P** **18 32 28.0 +1.2**
comp=Z,11nm,0.9s
GTA Gaotai 26.56 306 P **P** **18 32 28.3 -1.6**
GTA pP pP 18 32 38.5 -4.5
GTA sP sP 18 32 42.0 -7.1
GTA PP **PnPn** **18 33 13.5 +1.2**
GTA PcP **PcP** **18 35 54.8 +1.5**
GTA S **S** **18 36 58.5 -2.4**
GTA pmax pmax
comp=Z,11nm,1.0s
GTA pmax pmax
comp=Z,49nm,4.0s
GTA LR LR
comp=Z,200nm,15.2s
GTA LR LR
comp=Z,210nm,16.2s
GTA LR LR
comp=Z,260nm,14.7s
UTTA Uttaradit 26.64 256 P **P** **18 32 31.3 +0.7**
comp=Z,9.0nm,0.8s
ULN Ulaanbaatar 26.71 328 *e*P **P** **18 32 30.2 -0.9**
ULN pmax pmax
comp=Z,7.0nm,0.7s
ULN Ulaanbaatar 26.71 328 *e*P **P** **18 32 30.2 -0.9**
comp=Z,6.6nm,0.7s
SONM Songino Array 27.00 327 P **P** **18 32 33.4 -0.3**
comp=Z,7.7nm,0.5s,baz=142,slow=10.0,SNR=45
SONM PcP **PcP** **18 35 55.0 +0.8**
comp=Z,0.8nm,0.5s,baz=130,slow=3.2,SNR=3.6
SONM LR LR 18 44 50.7
comp=Z,155nm,19.3s,baz=135,slow=40
SONA1 Songino Array 27.01 327 *e*P **P** **18 32 32.0 -1.8**
SRAK Srakaew 27.11 248 P **P** **18 32 34.3 -0.5**
comp=Z,77nm,0.9s
LAMP Lampang 27.14 259 P **P** **18 32 36.5 +1.4**
comp=Z,16nm,0.9s
CHTO Chiang Mai 27.64 260 P **P** **18 32 40.0 +0.4**
comp=Z,134nm,0.9s
CHTO Chiang Mai 27.64 260 *e*P **P** **18 32 39.8 +0.2**
CHTO pmax pmax
comp=Z,22nm,0.8s
CHTO Chiang Mai 27.64 260 *e*P **P** **18 32 39.8 +0.2**
comp=Z,22nm,0.8s
CM01 Chiang Mai Arr 27.77 259 *e*P **P** **18 32 40.9 +0.1**
CM01 *e*PcP **PcP** **18 35 57.4 +1.1**
CM31 Chiang Mai Arr 27.77 259 *e*P **P** **18 32 41.0 +0.3**
CMAR Chiang Mai Arr 27.77 259 P **P** **18 32 41.7 +0.9**
comp=Z,8.8nm,0.9s,baz=54,slow=7.6,SNR=44
CMAR PcP **PcP** **18 35 58.0 +1.7**
comp=Z,2.4nm,0.8s,baz=35,slow=1.2,SNR=14
SBUM Sibu 28.27 214 *e*P **P** **18 32 44.4 -0.7**
comp=Z,8.4nm,0.9s
KSM Kuching 30.09 217 *e*P **P** **18 32 59.8 -1.6**
comp=Z,6.5nm,0.9s
TLY Talaya 30.98 330 P **P** **18 33 08.6 -0.2**
comp=Z,3.9nm,0.7s,baz=286,slow=1.1,SNR=5.0
TLY LR LR 18 47 17.0
comp=Z,128nm,18.7s,baz=134,slow=40
LSA Lhasa 32.34 284 *e*P **P** **18 33 21.1 -0.5**
LSA pmax pmax
comp=Z,9.0nm,0.4s
LSA Lhasa 32.34 284 *e*P **P** **18 33 21.1 -0.5**
comp=Z,9.5nm,0.4s
KULM Kulim 33.44 235 *e*P **P** **18 33 31.7 +0.9**
comp=Z,14nm,0.8s
IPM Ipoh 33.72 234 *e*P **P** **18 33 33.6 +0.4**
comp=Z,17nm,0.7s
PETK Petropavlovsk- 34.60 32 P **P** **18 33 39.9 -0.5**
comp=Z,5.4nm,0.8s,baz=212,slow=4.5,SNR=6.4
PETK LR LR 18 47 44.7
comp=Z,64nm,21.2s,baz=238,slow=36
PET Petropavlovsk 35.01 33 *e*P **P** **18 33 44.6 +0.7**
YAK Yakutsk 35.44 2 P **P** **18 33 46.5 -1.0**
comp=Z,22nm,0.6s,baz=291,slow=1.3,SNR=10.0
YAK Yakutsk 35.44 2 *e*P **P** **18 33 46.4 -1.1**
YAK pmax pmax
comp=N,7.0nm,1.0s
YAK pmax pmax
comp=Z,34nm,0.9s
YAK Yakutsk 35.44 2 *e*P **P** **18 33 46.3 -1.2**
comp=Z,32nm,0.7s
TAPN Taplejung 35.59 280 *e*P **P** **18 33 49.7 +0.1**
comp=Z,24nm,0.5s
ODAN Odare 35.94 280 *e*P **P** **18 33 52.2 -0.4**
comp=Z,159nm,0.5s
PSI Prapat 36.39 234 P **P** **18 33 57.1 +0.8**
comp=Z,6.9nm,0.6s,baz=312,slow=2.5,SNR=5.4
PSI Prapat 36.39 234 P **P** **18 33 57.1 +0.8**
PSI pmax pmax
comp=Z,8.0nm,0.5s
H11N2 WAKE ISLAND Hy 36.53 92 T T 19 12 24.5
baz=290,slow=74,SNR=7.7
H11N1 WAKE ISLAND Hy 36.53 92 T T 19 12 20.5
baz=290,slow=74,SNR=5.7
H11N3 WAKE ISLAND Hy 36.54 92 T T 19 12 33.0
baz=290,slow=74,SNR=8.3
WMQ Urumqi 36.55 309 P **P** **18 33 57.0 -0.4**
WMQ pP pP 18 34 11.0 +0.3
WMQ sP sP 18 34 16.3 -0.5
WMQ S **S** **18 39 37.3 +1.1**
WMQ pmax pmax
comp=Z,59nm,0.8s
WMQ pmax pmax
comp=Z,95nm,3.7s
WMQ LR LR
comp=Z,66nm,20.1s
WMQ LR LR
comp=Z,100nm,20.1s
MA2 Magadan 36.60 19 LR LR 18 49 39.6
comp=Z,40nm,18.1s,baz=225,slow=37
RAMN Ramite 36.62 280 *e*P **P** **18 33 58.1 -0.3**
comp=Z,53nm,0.6s
H11S3 WAKE ISLAND Hy 36.74 94 T T 19 12 48.6
baz=290,slow=75,SNR=7.7
H11S1 WAKE ISLAND Hy 36.75 94 T T 19 12 48.7
baz=290,slow=75,SNR=5.6
H11S2 WAKE ISLAND Hy 36.76 94 T T 19 12 49.5
baz=290,slow=75,SNR=3.9
JIRN Jiri 36.88 281 *e*P **P** **18 34 00.7 0.0**
comp=Z,31nm,0.4s
GUN Gumba 37.12 282 *e*P **P** **18 34 03.1 +0.4**
comp=Z,23nm,0.3s
PKI Pulchoki 37.58 281 *e*P **P** **18 34 06.1 -0.5**
comp=Z,38nm,0.3s
PKIN Phulchoki 37.59 281 *e*P **P** **18 34 06.4 -0.2**
comp=Z,54nm,0.5s
KKN Kakani 37.66 282 *e*P **P** **18 34 06.7 -0.5**
comp=Z,56nm,0.4s
DMN Daman 37.84 281 *e*P **P** **18 34 08.5 -0.2**
comp=Z,47nm,0.6s
GKN Gorkha 38.19 282 *e*P **P** **18 34 11.0 -0.6**
comp=Z,66nm,0.5s
DANN Dangsing 38.91 283 *e*P **P** **18 34 17.9 +0.1**
comp=Z,8.0nm,0.9s
KOLN Koldanda 39.13 282 *e*P **P** **18 34 19.6 +0.1**
comp=Z,56nm,0.8s
PYUN Piuthan 39.62 283 *e*P **P** **18 34 23.5 -0.1**
comp=Z,50nm,0.6s
SEY Seymchan 39.79 17 P **P** **18 34 24.3 +0.1**
comp=Z,3.4nm,0.7s,baz=299,slow=1.0,SNR=14
MK01 Makanchi Array 40.95 312 *e*P **P** **18 34 32.9 -1.2**
MK01 *e*PcP **PcP** **18 36 34.1 +0.4**
MK31 Makanchi Array 40.97 312 *i*P **P** **18 34 33.4 -0.9**
MK31 pmax pmax
comp=Z,21nm,1.0s
MK31 Makanchi Array 40.97 312 *e*P **P** **18 34 33.4 -0.9**
MKAR Makanchi Array 40.97 312 P **P** **18 34 33.9 -0.4**
comp=Z,13nm,0.7s,baz=95,slow=9.9,SNR=120
MKAR PcP **PcP** **18 36 34.0 +0.3**
comp=Z,2.4nm,0.7s,baz=90,slow=4.9,SNR=5.1
MKAR ScP **ScP** **18 40 25.4 +6.3**
comp=Z,0.4nm,0.6s,baz=97,slow=4.5,SNR=3.1
MKAR LR LR 18 52 38.5
comp=Z,58nm,20.2s,baz=74,slow=38
MKAR Makanchi Array 40.97 312 *e*P **P** **18 34 33.5 -0.8**
comp=Z,71nm,0.6s
MKAR ScP **ScP** **18 40 25.4 +6.3**
MAKZ Makanchi 41.18 312 *e*P **P** **18 34 35.1 -0.9**
MAKZ pmax pmax
comp=Z,27nm,1.0s
MAKZ Makanchi 41.18 312 *e*P **P** **18 34 35.1 -0.9**
comp=Z,27nm,1.0s
ZAA0 Zalesovo Array 41.69 323 *e*P **P** **18 34 38.3 -1.7**
ZALV Zalesovo Beam 41.69 323 P **P** **18 34 39.2 -0.9**
comp=Z,23nm,0.5s,baz=114,slow=8.3,SNR=108
ZALV PcP **PcP** **18 36 37.0 +1.1**
comp=Z,1.2nm,0.4s,baz=122,slow=4.3,SNR=4.2
PDGK Podgornoye 42.31 306 P **P** **18 34 44.8 -0.7**
PDGK pmax pmax
comp=Z,30nm,1.1s
NVS Novosibirsk 42.89 323 *e*P **P** **18 34 49.4 -0.4**
KURK Kurchatov 44.25 316 *d i*P **P** **18 35 00.0 -0.8**
KURK pmax pmax
comp=Z,84nm,0.6s
KURK Kurchatov 44.25 316 *e*P **P** **18 35 00.1 -0.7**
comp=Z,33nm,0.7s
KURBB Kurchatov Arra 44.28 316 P **P** **18 35 01.1 0.0**
comp=Z,37nm,0.5s,baz=104,slow=9.0,SNR=321
FITZ Fitzroy Crossi 44.49 183 P **P** **18 35 02.6 -0.4**
comp=Z,1.6nm,0.8s,baz=25,slow=10,SNR=4.9
KSH Kashi 44.70 300 P **P** **18 35 07.0 +2.3**
KSH pP pP 18 35 20.0 +1.6
KSH sP sP 18 35 25.0 +0.6
KSH PP **PP** **18 36 53.3 +3.6**
KSH S **S** **18 41 40.0 +2.1**
KSH sS sS 18 42 01.0 +0.2
KSH pmax pmax
comp=Z,9.0nm,0.6s
KSH pmax pmax
comp=Z,110nm,5.2s
KSH LR LR
comp=Z,410nm,14.3s
KSH LR LR
comp=Z,160nm,11.2s
KSH LR LR
comp=Z,170nm,7.7s
TIXI Tiksi 45.09 0 ⇓ *e*P **P** **18 35 06.3 -0.8**
TIXI pmax pmax
comp=Z,9.0nm,0.7s
TKM2 Tokmak 2 45.11 305 P **P** **18 35 08.3 +0.2**
TKM2 pmax pmax
comp=Z,24nm,0.7s
FRU Bishkek 45.82 305 *e*P **P** **18 35 15.0 +1.5**
AAK Ala-Archa 45.91 305 P **P** **18 35 14.6 +0.3**
comp=Z,8.4nm,0.5s,baz=117,slow=5.9,SNR=19
AAK PcP **PcP** **18 36 50.1 -0.6**
comp=Z,0.9nm,0.4s,baz=127,slow=4.4,SNR=4.0
AAK Ala-Archa 45.91 305 *e*P **P** **18 35 14.3 0.0**
comp=Z,7.4nm,0.6s
WRAB Tennant Creek 46.70 171 ⇓ *e*P **P** **18 35 21.8 +1.3**
WRAB pmax pmax
comp=Z,11nm,1.1s
WRA Warramunga Ar 46.71 171 P **P** **18 35 20.6 +0.1**
comp=Z,1.6nm,0.6s,baz=353,slow=8.5,SNR=18
WRA LR LR 18 54 33.8
comp=Z,70nm,21.7s,baz=80,slow=36
WB2 Warramunga Arr 46.71 171 *e*P **P** **18 35 20.1 -0.5**
MNAS Manas 47.37 304 P **P** **18 35 25.8 +0.1**
MNAS pmax pmax
comp=Z,11nm,0.7s
NRIK Noril'sk 48.76 342 P **P** **18 35 34.2 -1.7**
comp=Z,2.7nm,0.4s,baz=109,slow=6.6,SNR=4.9
NRIK PcP **PcP** **18 37 00.1 +0.1**
comp=Z,5.2nm,0.7s,baz=117,slow=3.0,SNR=3.8
KK31 Karatay Array 48.84 305 P **P** **18 35 36.6 -0.3**
KK31 pmax pmax
comp=Z,8.0nm,0.6s
KKAR Karatay Array 48.84 305 *e*P **P** **18 35 36.5 -0.4**
KKAR pmax pmax
comp=Z,108nm,0.6s
KKAR Karatay Array 48.84 305 *e*P **P** **18 35 36.5 -0.4**
comp=Z,108nm,0.6s
BVA0 Borovoye Array 49.71 318 *i*P **P** **18 35 43.2 -0.2**
BVA0 pmax pmax
comp=Z,21nm,0.8s
BVAR Borovoye Array 49.71 318 P **P** **18 35 42.1 -1.2**
comp=Z,16nm,0.5s,baz=104,slow=9.8,SNR=96
BVAR PcP **PcP** **18 37 04.1 +0.3**
comp=Z,2.5nm,0.4s,baz=107,slow=2.9,SNR=7.3
CTA Charters Tower 49.77 157 P **P** **18 35 45.2 +1.1**
comp=Z,1.1nm,0.7s,baz=58,slow=19,SNR=1.9
BRVK Borovoye 49.78 318 *de*P **P** **18 35 43.4 -0.5**
BRVK pmax pmax
comp=Z,96nm,0.8s
BRVK Borovoye 49.78 318 *e*P **P** **18 35 43.3 -0.5**
comp=Z,39nm,0.8s
ASAR Alice Springs 50.33 173 P **P** **18 35 49.4 +1.1**
comp=Z,1.0nm,0.6s,baz=1.5,slow=14,SNR=23
ASAR PcP **PcP** **18 37 06.8 +0.3**
comp=Z,0.9nm,0.7s,baz=340,slow=2.6,SNR=4.3
ASAR LR LR 18 56 18.5
comp=Z,58nm,20.7s,baz=51,slow=35
AS01 Alice Springs 50.34 173 *e*P **P** **18 35 49.0 +0.7**
KBL Kabul 50.56 294 *e*P **P** **18 35 50.7 +0.3**
KBL pmax pmax
comp=Z,35nm,0.8s
KBL Kabul 50.56 294 *e*P **P** **18 35 50.7 +0.3**
comp=Z,35nm,0.8s
SVE Sverdlovsk 55.70 322 *e*P **P** **18 36 26.6 -0.9**
SVE pmax pmax
comp=Z,12nm,0.8s
AB31 Akbulak array 56.08 313 *i*P **P** **18 36 29.9 -0.4**
AB31 pmax pmax
comp=Z,14nm,0.6s
ABKAR Akbulak array 56.08 313 *e*P **P** **18 36 30.0 -0.4**
comp=Z,224nm,0.6s
ARU Arti 56.83 322 P **P** **18 36 34.5 -1.1**
comp=Z,5.9nm,0.3s,baz=83,slow=4.0,SNR=14
ARU Arti 56.83 322 *d i*P **P** **18 36 34.5 -1.1**
ARU 18 37 29.5
ARU 18 38 38.8
ARU S **S** **18 44 24.1 -1.0**
ARU SS **SS** **18 48 07.8 -5.6**
ARU pmax pmax
comp=Z,17nm,1.2s
ARU Arti 56.83 322 *e*P **P** **18 36 33.5 -2.1**
comp=Z,25nm,1.4s
AKTO Aktyubinsk 57.26 315 P **P** **18 36 37.6 -1.1**
comp=Z,7.5nm,0.6s,baz=99,slow=9.7,SNR=26
AKTO Aktyubinsk 57.26 315 P **P** **18 36 37.9 -0.9**
AKTO pmax pmax
comp=Z,9.0nm,0.7s
GEYT Alibeck 58.73 300 P **P** **18 36 49.9 +0.6**
comp=Z,10nm,0.9s,baz=64,slow=3.4,SNR=22
GEYT PcP **PcP** **18 37 39.2 +0.5**
comp=Z,2.2nm,0.7s,baz=54,slow=7.3,SNR=2.5
GEYT LR LR 19 07 12.0
comp=Z,94nm,18.0s,baz=100,slow=41
STKA Stephens Creek 59.64 166 LR LR 19 02 27.3
comp=Z,38nm,21.5s,baz=23,slow=36
WSAR Wadi Sarin 62.08 283 P **P** **18 37 12.5 +0.1**
comp=Z,24nm,0.8s,baz=120,slow=5.9,SNR=20
RSO Redoubt South 62.11 33 *e*P **P** **18 37 14.7 +2.5**
CAST Castle Rocks 62.18 30 *e*P **P** **18 37 14.1 +1.7**
comp=Z,6.8nm,0.8s
KDAK Kodiak Island 62.47 36 P **P** **18 37 14.2 -0.2**
comp=Z,8.7nm,0.8s,baz=256,slow=8.1,SNR=5.3
TOLK Toolik Lake Re 62.85 24 P **P** **18 37 18.0 +1.2**
baz=274
SUA Susitna One 62.98 32 *e*P **P** **18 37 18.7 +0.8**
comp=Z,87nm,2.0s
SUA *e*pP **pP** **18 37 30.4 -1.8**
BANOM Banah 63.25 287 P **P** **18 37 21.4 +1.3**
MCK McKinley 63.56 30 *e*P **P** **18 37 22.3 +0.8**
MCK pmax pmax
comp=Z,8.0nm,0.7s
MCK McKinley 63.56 30 *e*P **P** **18 37 22.3 +0.8**
comp=Z,8.2nm,0.7s
RND Reindeer 63.63 30 *e*P **P** **18 37 22.7 +0.6**
RND pmax pmax
comp=Z,18nm,0.8s
RND Reindeer 63.63 30 *e*P **P** **18 37 22.7 +0.6**
comp=Z,18nm,0.8s
MDM Murphy Dome 63.72 28 *e*P **P** **18 37 24.1 +1.5**
comp=Z,20nm,0.7s
HATD Hatta, Dubai 63.74 286 P **P** **18 37 24.0 +0.7**
WRH Wood River Hil 63.84 29 *e*P **P** **18 37 25.3 +2.0**
comp=Z,19nm,1.6s
ASHO Ashiyiah 63.84 286 *i*P **P** **18 37 24.5 +0.4**
SNR=6.5
COLA College 63.89 28 *e*P **P** **18 37 25.7 +2.1**
NAZ Nazwa, Dubai 64.09 286 *i*P **P** **18 37 26.1 +0.4**
SNR=6.4
FAQ Al Faqa, Dubai 64.23 286 *i*P **P** **18 37 26.8 +0.3**
SNR=17
ILAR Eielson Array 64.31 28 P **P** **18 37 26.0 -0.4**
comp=Z,1.9nm,0.8s,baz=273,slow=5.0,SNR=20
ILB Eielson Array 64.31 28 *e*P **P** **18 37 26.5 +0.1**
IL1 Eielson Array 64.31 28 *e*P **P** **18 37 25.9 -0.5**
HDA Harding Lake 64.33 29 *e*P **P** **18 37 26.7 +0.1**

PAX **Paxson** 65.21 30 *e*P P 18 37 33.1 +0.7
PAX pmax pmax
comp=Z,5.0nm,0.8s
PAX **Paxson** 65.21 30 *e*P P 18 37 33.1 +0.7
comp=Z,5.0nm,0.8s
DOT **Dot Lake** 65.71 29 *e*P P 18 37 36.1 +0.5
comp=Z,27nm,0.8s
SEKA **Sheki** 66.22 306 P P 18 37 37.6 -1.7
TMCR **Tamitsa** 66.27 331 *e*P P 18 37 38.8 -0.3
TMCR pmax pmax
comp=Z,34nm,0.8s
KLMR **Klimovskoe** 66.30 328 *e*P P 18 37 36.5 -2.8
KLMR pmax pmax
comp=Z,10.0nm,1.1s
ZKTA **Zakatala** 66.53 306 P P 18 37 40.0 -1.2
LVZ **Lovozero** 66.80 336⇓*e*P P 18 37 42.1 -0.3
LVZ pmax pmax
comp=Z,8.0nm,0.6s
APA **Apatity** 67.34 336⇓*i*P P 18 37 44.9 -0.9
APA pmax pmax
comp=Z,18nm,0.7s
DGRG **David-gareji** 67.48 306 P P 18 37 47.9 +0.6
DGRG **David-gareji** 67.48 306 *e*P P 18 37 47.8 +0.6
DAWY **Dawson** 67.64 28 *e*P P 18 37 49.0 +1.1
comp=Z,6.8nm,0.9s
ZEI **Tsey** 68.16 308 *e*P P 18 37 50.7 -1.0
ZEI pmax pmax
comp=Z,58nm,0.9s
NCK **Nalchik** 68.17 309⇓*i*P P 18 37 51.5 0.0
NCK pmax pmax
comp=Z,6.0nm,0.3s
ONI **Oni** 68.53 308 P P 18 37 55.2 +1.3
ONI **Oni** 68.53 308 *e*P P 18 37 55.2 +1.3
KBZ **Khabaz** 68.59 309 P P 18 37 54.7 +0.6
comp=Z,29nm,0.9s,baz=83,slow=4.6,SNR=41
KBZ LR LR 19 10 37.9
comp=Z,64nm,21.3s,baz=44,slow=38
LPSR **Galich'ya Gora** 68.64 319 *e*P P 18 37 53.0 -1.2
LPSR pmax pmax
comp=Z,10.0nm,0.8s
KVAR **Kislovodsk Arr** 68.66 309 P P 18 37 55.3 +0.6
comp=Z,38nm,1.1s,baz=62,slow=1.4,SNR=13
KVAR LR LR 19 11 00.1
comp=Z,61nm,20.2s,baz=52,slow=39
KIV **Kislovodsk** 68.67 309 *i* P P 18 37 55.1 +0.4
SNR=13
KIV **Kislovodsk** 68.67 309 *e*P P 18 37 55.0 +0.2
KIV pmax pmax
comp=Z,50nm,1.1s
KIV MLR MLR
comp=Z,52nm,17.0s
KIV **Kislovodsk** 68.67 309 *e*P P 18 37 55.1 +0.4
comp=Z,38nm,0.9s
INK **Inuvik** 68.71 23 P P 18 37 55.2 +0.8
comp=Z,6.7nm,0.6s,baz=294,slow=6.5,SNR=38
INK **Inuvik** 68.71 23 *e*P P 18 37 55.5 +1.1
INK pmax pmax
comp=Z,18nm,1.2s
INK **Inuvik** 68.71 23 *e*P P 18 37 55.5 +1.1
comp=Z,18nm,1.2s
BGD **Bogdanovka** 68.81 306 P P 18 37 55.8 0.0
AKH **Akhalkalaki** 68.84 307 P P 18 37 57.1 +1.1
AKH **Akhalkalaki** 68.84 307⇑*i*P P 18 37 56.8 +0.8
AKH **Akhalkalaki** 68.84 307 *e*P P 18 37 57.1 +1.1
NEY **Neytrino** 68.85 309⇑*e*P P 18 37 57.0 +1.0
NEY pmax pmax
comp=Z,4.0nm,0.9s
VSR **Storozhevoye** 68.89 318 *e*P P 18 37 54.5 -1.3
VSR pmax pmax
comp=Z,20nm,1.1s
OBN **Obninsk** 69.27 322 P P 18 37 57.2 -0.9
comp=Z,10nm,0.5s,baz=177,slow=18,SNR=3.6
OBN **Obninsk** 69.27 322⇓*e*P P 18 37 57.5 -0.6
OBN pmax pmax
comp=Z,36nm,2.5s
OBN MLR MLR
comp=Z,131nm,19.0s
ARCES **ARCESS Array B** 69.50 338 P P 18 37 58.5 -0.8
comp=Z,2.1nm,0.4s,baz=63,slow=7.9,SNR=30
JOF **Joensuu** 69.51 331 P P 18 37 59.7 +0.3
JOF pmax pmax
comp=Z,24nm,0.8s
SGF **Sodankyl** 69.90 336 P P 18 38 01.8 +0.1
SGF pmax pmax
comp=Z,28nm,2.5s
ARTV **Artvin** 70.04 307 *e*P P 18 38 04.7 +1.3
comp=Z,7.7nm,1.1s
SUF **Sumiainen** 71.80 332 P P 18 38 13.2 -0.2
SUF pmax pmax
comp=Z,31nm,1.6s
MARD **Mardin** 72.15 303 *e*P P 18 38 16.8 +0.6
comp=Z,23nm,0.6s
FIA1 **FINESS Array S** 72.32 330 *e*P P 18 38 15.9 -0.6
FINES **FINESS Array B** 72.33 330 P P 18 38 16.2 -0.3
comp=Z,14nm,0.5s,baz=66,slow=5.5,SNR=145
VSU **Vasula** 73.20 327*d i*P P 18 38 21.8 0.0
VSU pmax pmax
comp=Z,92nm,1.0s
KSRV **Kasrt alli** 74.00 302 *e*P P 18 38 27.1 +0.2
NACGM **Naroch** 74.62 324 *e* P 18 38 30.0 -0.1
DAG **Danmarks Havn** 74.83 352 *i* P P 18 38 31.5 +0.5
comp=Z,4.4nm,0.6s
DAG **Danmarks Havn** 74.83 352 *i* P P 18 38 31.5 +0.5
DAG pmax pmax
comp=Z,3.0nm,0.6s
AKASG **Malin Array Be** 74.97 319 P P 18 38 31.8 -0.5
comp=Z,10nm,0.5s,baz=59,slow=6.7,SNR=30
AKBB **Malin Array Si** 74.97 319 *e*P P 18 38 31.4 -0.8
AKBB pmax pmax
comp=Z,15nm,0.6s
AKBB **Malin Array Si** 74.97 319 *e*P P 18 38 31.4 -0.8
comp=Z,15nm,0.6s
KIEV **Kiev** 74.98 319*d i*P P 18 38 31.8 -0.5
KIEV pmax pmax
comp=Z,12nm,0.6s
KIEV **Kiev** 74.98 319 *e*P P 18 38 31.2 -1.1
comp=Z,15nm,0.6s
AK11 **Malin Array Si** 75.01 319 *e*P P 18 38 31.9 -0.5
DRWC **Darouich** 75.47 304 *e*P P 18 38 35.7 +0.2
BTCH **Batrach** 75.84 303 *e*P P 18 38 37.5 -0.2
ARNB **Al Arnab** 76.28 303 *e*P P 18 38 39.8 -0.4
BR131 **Keskin Array S** 76.47 308 *e*P P 18 38 41.5 +0.3
BRTR **Keskin Array B** 76.47 308 P P 18 38 41.2 0.0
comp=Z,15nm,0.8s,baz=98,slow=4.8,SNR=55
BRTR LR LR 19 15 13.7
comp=Z,24nm,18.4s,baz=78,slow=38
SORM **Soroca** 76.54 317⇓*i*P P 18 38 40.6 -0.7
SORM **Soroca** 76.54 317 ⇓P P 18 38 40.6 -0.7
MARH **Ras Al Marh** 76.61 301 *e*P P 18 38 42.6 +0.3
SUW **Suwalki** 76.90 324 *e*P P 18 38 43.2 0.0
SUW **Suwalki** 76.90 324 *e*P P 18 38 43.2 0.0
TOTH **TOTAH** 76.91 301 *e*P P 18 38 43.3 -0.5
SALA **Sala** 76.93 300 *e*P P 18 38 44.3 +0.3
ANTO **Ankara** 77.00 308 *e*P P 18 38 44.6 +0.4
ANTO pmax pmax
comp=Z,26nm,1.2s
ANTO **Ankara** 77.00 308 *e*P P 18 38 44.6 +0.4
comp=Z,26nm,1.2s
ASF **Jabal al Asfar** 77.01 300 P P 18 38 45.5 +1.1
comp=Z,8.4nm,0.9s,baz=70,slow=5.0,SNR=13
BRBR **Barbar** 77.25 301 *e*P P 18 38 46.1 +0.2
MMAI **Mount Meron Ar** 77.83 301 P P 18 38 49.7 +0.8
comp=Z,3.3nm,0.6s,baz=70,slow=7.2,SNR=11
CFR **Carcaliu** 77.93 315⇓*i*P P 18 38 49.2 +0.1
CFR **Carcaliu** 77.93 315 ⇓P P 18 38 49.2 +0.1
TLB **Topalu** 78.24 314⇓*i*P P 18 38 51.3 +0.4
TLB **Topalu** 78.24 314 ⇓P P 18 38 51.3 +0.4
TESR **Tescani** 78.28 316⇓*i*P P 18 38 51.2 +0.1
YKA **Yellowknife Ar** 78.36 25 P P 18 38 50.3 -0.9
comp=Z,2.0nm,0.5s,baz=301,slow=5.7,SNR=4.2
VRI **Vrincioaia** 78.52 316⇓*i*P P 18 38 53.1 +0.7
VRI **Vrincioaia** 78.52 316 ⇓P P 18 38 53.1 +0.7
NC405 **NORSAR Array S** 78.55 334 *e*P P 18 38 51.8 -0.5
PLOR **Plostina** 78.57 316⇓*i*P P 18 38 53.4 +0.6
PLOR **Plostina** 78.57 316 ⇓P P 18 38 53.4 +0.6
CSS **Mathiatis** 78.61 303 *e*P P 18 38 53.3 +0.1
comp=Z,4.8nm,0.6s
NC303 **NORSAR Array S** 78.62 334 *e*P P 18 38 52.0 -0.6
BUR08 **Bucovina Ar. S** 78.66 318 *e*P P 18 38 53.7 +0.4
BURAR **Bucovina Array** 78.66 318⇑*i*P P 18 38 53.3 0.0
BURAR **Bucovina Array** 78.66 318 ⇑P P 18 38 53.3 0.0
NB201 **NORSAR Array S** 78.75 334 *e*P P 18 38 53.0 -0.4
NB2 **NORSAR Subarra** 78.79 334 P P 18 38 52.8 -0.8
comp=Z,9.1nm,0.7s,baz=52,slow=5.9

NOA **NORSAR Array B** 78.79 334 P P 18 38 52.8 -0.8
comp=Z,7.1nm,0.8s,baz=58,slow=5.1,SNR=27
NC204 **NORSAR Array S** 78.83 334 *e*P P 18 38 53.0 -0.9
MLR **Muntele Rosu** 79.18 315 P P 18 38 56.6 +0.4
comp=Z,2.2nm,0.8s,baz=332,slow=3.0,SNR=7.5
MLR **Muntele Rosu** 79.18 315⇑*i*P P 18 38 57.1 +0.9
MLR **Muntele Rosu** 79.18 315 *e*P P 18 38 56.6 +0.4
comp=Z,9.9nm,0.8s
KWP **Kalwaria Pacla** 79.20 320 *e*P P 18 38 56.3 +0.2
KWP **Kalwaria Pacla** 79.20 320 *e*P P 18 38 56.3 +0.2
DOPR **Dopca** 79.31 316⇓*i*P P 18 38 57.5 +0.7
UZH **Uzhgorod** 79.92 320 *e*P P 18 38 59.0 -1.0
UZH *e* 18 39 11.3
ARR **Arges** 80.06 316⇓*i*P P 18 39 01.6 +0.7
STHS **Stebnicka Huta** 80.14 321 *e*P P 18 39 01.3 0.0
STHS pmax pmax
comp=Z,4.0nm,1.2s
STHS **Stebnicka Huta** 80.14 321 *e*P P 18 39 01.2 0.0
HUMR **Humele** 80.23 315⇑*i*P P 18 39 01.8 +0.1
CRVS **Cervenica-Dubn** 80.27 320 *e*P P 18 39 02.3 +0.4
CRVS **Cervenica-Dubn** 80.27 320 *e*P P 18 39 02.3 +0.4
BSD **Bornholm Skovb** 80.50 328 *i* P P 18 39 02.4 -0.6
BSD **Bornholm Skovb** 80.50 328 *e*P P 18 39 02.4 -0.6
OJC **Ojcow** 80.55 322 *e*P P 18 39 03.6 +0.3
OJC **Ojcow** 80.55 322 *e*P P 18 39 03.7 +0.3
OJC pmax pmax
comp=Z,22nm,1.0s
OJC **Ojcow** 80.55 322 *e*P P 18 39 03.7 +0.3
comp=Z,22nm,1.0s
LOT **Lotru** 80.56 316⇓*i*P P 18 39 04.1 +0.5
DRGR 80.56 318⇓*i*P P 18 39 04.0 +0.4
DRGR 80.56 318 ⇓P P 18 39 04.0 +0.4
SUMG **Summit** 80.63 356 *i* P P 18 39 03.7 -0.2
comp=Z,36nm,1.2s
SUMG **Summit** 80.63 356 *e*P P 18 39 04.6 +0.8
SUMG pmax pmax
comp=Z,40nm,1.2s
SUMG **Summit** 80.63 356 *e*P P 18 39 04.6 +0.8
comp=Z,40nm,1.2s
NIE **Niedzica** 80.68 321 *e*P P 18 39 05.1 +1.0
NIE **Niedzica** 80.68 321 *e*P P 18 39 05.1 +1.0
KECS **Kecovo** 81.04 320 *e*P P 18 39 06.4 +0.4
KECS pmax pmax
comp=Z,2.0nm,0.8s
KECS **Kecovo** 81.04 320 *e*P P 18 39 06.4 +0.4
GZR **Gura Zlata** 81.19 316⇑*i*P P 18 39 07.9 +0.9
GZR **Gura Zlata** 81.19 316 ⇑P P 18 39 07.9 +0.9
LANS **Liptovska Anna** 81.28 321 *e*P P 18 39 10.1 +2.8
LANS **Liptovska Anna** 81.28 321 *e*P P 18 39 10.1 +2.8
SIRR **Siria** 81.45 318⇓*i*P P 18 39 08.8 +0.6
LLD **Lille Linde** 81.66 329 *i* P P 18 39 07.6 -1.5
LLD **Lille Linde** 81.66 329 *e*P P 18 39 07.6 -1.5
OKC **Ostrava-Krasne** 81.66 322 *e*P P 18 39 09.1 -0.2
OKC **Ostrava-Krasne** 81.66 322 *e*P P 18 39 09.1 -0.2
PSZ **Piszkesteto** 81.67 320⇑*i*P P 18 39 09.8 +0.4
PSZ **Piszkesteto** 81.67 320 ⇑P P 18 39 09.8 +0.4
BZS **Buzias** 81.80 317⇓*i*P P 18 39 09.8 -0.3
BZS **Buzias** 81.80 317 ⇓P P 18 39 09.8 -0.3
VYHS **Vyhne** 81.98 321 *e*P P 18 39 11.5 +0.5
VYHS pmax pmax
comp=Z,6.0nm,0.9s
VYHS **Vyhne** 81.98 321 *e*P P 18 39 11.5 +0.5
MORC **Moravsky Berou** 82.03 322⇓*i*P P 18 39 11.9 +0.6
MORC **Moravsky Berou** 82.03 322 *e*P P 18 39 11.5 +0.2
MORC pmax pmax
comp=Z,70nm,1.5s
MORC **Moravsky Berou** 82.03 322 *e*P P 18 39 11.5 +0.2
comp=Z,70nm,1.5s
KSP **Ksiaz** 82.14 323 *e*P P 18 39 12.4 +0.6
KSP **Ksiaz** 82.14 323 *e*P P 18 39 12.4 +0.6
MDVR **Moldovita** 82.15 316⇑*i*P P 18 39 12.1 +0.1
VTS **Vitosha** 82.28 314⇓*i*P P 18 39 13.6 +0.7
VTS **Vitosha** 82.28 314 ⇓P P 18 39 13.6 +0.7
VTS **Vitosha** 82.28 314 *e*P P 18 39 13.6 +0.7
comp=Z,36nm,1.9s
MUD **Monsted U'grnd** 82.37 331 *i* P P 18 39 12.7 -0.1
comp=Z,12nm,0.5s
MUD **Monsted U'grnd** 82.37 331 *e*P P 18 39 12.7 -0.1
MUD pmax pmax
comp=Z,12nm,0.5s
DPC **Dobruska-Polom** 82.39 323 *e*P P 18 39 13.8 +0.7
DPC *e*pP pP 18 39 24.6 -3.3
DPC **Dobruska-Polom** 82.39 323 *e*P P 18 39 13.8 +0.7
DPC *e* 18 39 24.6
UPC **Upice** 82.47 323 *e*P P 18 39 14.1 +0.6
UPC **Upice** 82.47 323 *e*P P 18 39 14.1 +0.6
SMOL **Smolenice** 82.76 321 P P 18 39 18.1 +3.0
PVCC **Panska Ves** 83.22 324 *e*P P 18 39 17.7 +0.3
PVCC **Panska Ves** 83.22 324 *e*P P 18 39 17.7 +0.3
BRG **Berggiesshubel** 83.36 324 *e*P P 18 39 18.4 +0.3
comp=Z,7.1nm,1.3s
BRG **Berggiesshubel** 83.36 324 *e*P P 18 39 18.4 +0.3
BRG pmax pmax
comp=Z,7.0nm,1.3s
TREC **Trest** 83.42 322 *e*P P 18 39 19.2 +0.7
TREC **Trest** 83.42 322 *e*P P 18 39 19.2 +0.7
PRU **Pruhonice** 83.54 323 *e*P P 18 39 19.5 +0.5
PRU **Pruhonice** 83.54 323 *e*P P 18 39 19.5 +0.5
CLL **Collm** 83.60 325⇑*i*P P 18 39 19.4 +0.1
CLL *e**PP pP 18 39 33.0 -1.1
CLL pmax pmax
comp=Z,17nm,1.0s
CLL **Collm** 83.60 325⇑*i*P P 18 39 19.4 +0.1
comp=Z,17nm,1.0s
CLL *e*pP pP 18 39 33.0 -1.1
CLL LmV 19 19 00.0
comp=Z,100nm,21.5s
CLL **Collm** 83.60 325 *e*P P 18 39 19.1 -0.2
comp=Z,13nm,0.7s
CONA **Conrad Observa** 83.96 321 *i* PcP P 18 39 22.2 +0.8
comp=Z,5.0nm,0.9s
B08A **Colville Reser** 84.29 38 *e*P P 18 39 24.4 +1.4
comp=Z,7.1nm,0.8s
I03D **Drain, OR** 84.47 44 P P 18 39 25.8 +1.9
baz=302
NKC **Novy Kostel** 84.51 324 *e*P P 18 39 24.3 +0.3
NKC *e*pP pP 18 39 38.2 -0.7
NKC **Novy Kostel** 84.51 324 *e*P P 18 39 24.3 +0.3
NKC *e* 18 39 38.2
ARSA **Arzberg** 84.53 321 *i* P P 18 39 24.0 -0.1
comp=Z,4.3nm,0.8s
KHC **Kasperske Hory** 84.55 323 *e*P P 18 39 24.3 +0.1
KHC *e*pP pP 18 39 38.3 -0.8
KHC **Kasperske Hory** 84.55 323 *e*P P 18 39 24.9 +0.7
KHC pmax pmax
comp=Z,3.0nm,1.1s
KHC **Kasperske Hory** 84.55 323 *e*P P 18 39 24.9 +0.7
comp=Z,2.5nm,1.1s
GEC2 **GERESS Array S** 84.64 323 *e*P P 18 39 25.3 +0.5
GEC2 *e**PP pP 18 39 39.0 -0.7
GEC2 pmax pmax
comp=Z,6.0nm,0.8s
GEC2 **GERESS Array S** 84.64 323 *e*P P 18 39 25.3 +0.5
comp=Z,5.5nm,0.8s
GEC2 *e*pP pP 18 39 39.0 -0.7
GERES **GERESS Array B** 84.64 323 P P 18 39 25.0 +0.2
comp=Z,4.1nm,0.7s,baz=50,slow=5.0,SNR=31
GEA0 **GERESS Array S** 84.65 323 *e*P P 18 39 24.8 0.0
MOA **Molln** 84.90 322 *i* PcP P 18 39 26.8 +0.8
comp=Z,8.2nm,1.0s
I04A **Tendick Farm,** 85.00 43 P P 18 39 27.2 +0.6
baz=302
SOKA **Soboth** 85.13 320 *i* P P 18 39 27.3 0.0
comp=Z,2.6nm,0.7s
D08A **Wollman Farm,** 85.26 39 *e*P P 18 39 29.0 +1.2
comp=Z,2.2nm,0.9s
J04D **Umpqua Nationa** 85.48 43 P P 18 39 31.0 +1.7
baz=303
PDKS **Podkum** 85.49 320 *i* P P 18 39 29.0 0.0
OBKA **Obir** 85.50 320 *i* P P 18 39 27.2 -1.9
comp=Z,5.6nm,0.8s
NEW **Newport** 85.56 37 P P 18 39 29.9 +0.6
comp=Z,3.1nm,0.6s,baz=108,slow=15,SNR=4.2
KBA **Koelnbreinsper** 85.85 321 *i* P P 18 39 30.7 -0.3
comp=Z,4.3nm,0.5s
CRNS **Crni Vrh** 85.90 320 *e*P P 18 39 30.7 -0.4
MYKA **Terra Mystica** 85.94 321 *e*P P 18 39 30.4 -0.9
comp=Z,3.1nm,0.5s
J05D **Fort Rock, OR** 85.99 43 P P 18 39 33.8 +2.0
baz=303
M02C **Callahan** 86.00 45 P P 18 39 33.5 +1.8
baz=302
E09A **Wood Farm, Sta** 86.00 39 *e*P P 18 39 33.3 +1.8
M04C **Macdoel** 86.43 45 P P 18 39 35.4 +1.5

baz=303
K05A **Summer Lake** 86.51 43 *e*P P 18 39 36.4 +2.1
K05A *e*pP pP 18 39 49.9 +0.7
ABTA **Abfaltersbach** 86.51 321 *i* P P 18 39 33.4 -0.7
comp=Z,3.3nm,0.6s
WATA **Walderalm** 86.68 322 *i* PcP P 18 39 35.6 +0.6
comp=Z,3.6nm,0.5s
WTTA **Wattenberg** 86.69 322 *i* PcP P 18 39 36.2 +1.1
comp=Z,5.6nm,0.9s
MOTA **Moosalm** 86.93 323 *i* P P 18 39 35.5 -0.8
comp=Z,2.9nm,0.6s
RETA **Reutte** 87.03 323 PcP P 18 39 37.0 +0.4
comp=Z,1.7nm,0.6s
FETA **Feichten** 87.33 322 *i* P P 18 39 37.7 -0.5
comp=Z,6.7nm,1.2s
BMO **Blue Mountains** 87.44 40 *e*P P 18 39 40.1 +1.4
BMO pmax pmax
comp=Z,3.0nm,0.9s
BMO **Blue Mountains** 87.44 40 *e*P P 18 39 40.1 +1.4
comp=Z,2.7nm,0.9s
DAVA **Damuels** 87.63 323 *i* PcP P 18 39 40.0 +0.3
DAVA *i* PcP P 18 39 40.0 +0.3
comp=Z,5.8nm,0.6s
FUORN **Ofenpass-Fuorn** 87.83 322 *e*P P 18 39 41.0 +0.3
comp=Z,22nm,1.4s
TUE **Stuetta** 88.42 323 *e*P P 18 39 45.6 +2.1
comp=Z,5.9nm,0.7s
FFC **Flin Flon** 88.44 26 *e*P P 18 39 43.7 +0.6
FFC pmax pmax
comp=Z,8.0nm,0.8s
FFC **Flin Flon** 88.44 26 *e*P P 18 39 43.7 +0.6
comp=Z,8.0nm,0.8s
DOU **Dourbes** 88.54 327 P P 18 39 44.1 +0.4
FRB **Frobisher Bay** 89.04 7 LR LR 19 20 11.8
comp=Z,23nm,21.9s,baz=4.0,slow=36
HLID **Hailey** 89.88 40 P P 18 39 52.2 +1.8
baz=308
HLID **Hailey** 89.88 40 *e*P P 18 39 52.5 +2.2
comp=Z,3.0nm,0.8s
HLID *e*pP pP 18 40 06.0 +0.7
BOZ **Bozeman (W)** 90.17 37 P P 18 39 53.0 +1.4
baz=310
YHB **Horse Butte** 90.95 38 *e*P P 18 39 58.4 +3.1
comp=Z,13nm,1.5s
RLMT **Red Lodge** 91.74 36 P P 18 40 00.6 +1.6
baz=312
R11A **Troy Canyon, C** 92.33 45 P P 18 40 03.2 +1.4
baz=307
MPMC **Manual Prospec** 92.45 47 P P 18 40 03.7 +1.3
baz=306
EDW2 **Edwards Air Fo** 92.80 49 P P 18 40 05.2 +1.3
baz=305
BW06 **Boulder Array** 93.14 38 P P 18 40 06.3 +0.8
baz=311
BW06 **Boulder Array** 93.14 38 *e*P P 18 40 06.1 +0.6
PDAR **Pinedale Array** 93.14 38 P P 18 40 06.2 +0.6
comp=Z,1.5nm,0.9s,baz=72,slow=0.5,SNR=6.8
GSC **Goldstone, Bar** 93.34 48 P P 18 40 07.9 +1.5
baz=306
GSC **Goldstone, Bar** 93.34 48 *e*P P 18 40 08.1 +1.7
GSC *e**PP pP 18 40 21.3 -0.1
GSC pmax pmax
comp=Z,4.0nm,0.9s
GSC **Goldstone, Bar** 93.34 48 *e*P P 18 40 08.1 +1.7
comp=Z,3.9nm,0.9s
GSC *e*pP pP 18 40 21.3 -0.1
TUQ **Turquoise Moun** 93.85 47 P P 18 40 10.6 +1.8
baz=307
GMRC **Granite Mounta** 94.41 48 P P 18 40 12.7 +1.3
baz=307
PFO **Pinyon Flats O** 94.56 49 P P 18 40 12.8 +0.7
comp=Z,4.6nm,1.0s,baz=257,slow=5.2,SNR=5.8
PFO **Pinyon Flats O** 94.56 49 P P 18 40 13.0 +0.9
baz=306
PFO **Pinyon Flats O** 94.56 49 *e*P P 18 40 13.6 +1.5
PFO *e**PP pP 18 40 26.9 -0.2
PFO **Pinyon Flats O** 94.56 49 *e*P P 18 40 13.6 +1.5
PFO *e*pP pP 18 40 26.9 -0.2
TPFO **Pinon Flats** 94.57 49 P P 18 40 13.1 +1.0
baz=306
MONP **Monument Peak,** 95.01 49 P P 18 40 15.1 +0.8
baz=306
IRM **Iron Mountain** 95.12 48 P P 18 40 16.2 +1.7
baz=307
SMCO **Snowmass** 96.98 40 *e*pP pP 18 40 37.0 -1.3
BLA **Blacksburg** 111.21 24 *e*P Pdif 18 41 28.3 +1.9
BLA **Blacksburg** 111.21 24 *e*Pdif Pdif 18 41 28.3 +1.9
TORD **Torodi Ar. Bea** 114.37 300 PKP PKPdf 18 45 30.6 -0.8
comp=Z,0.7nm,0.7s,baz=42,slow=1.8,SNR=5.2
TORD PP PP 18 46 21.9 -5.5
comp=Z,1.0nm,0.8s,baz=52,slow=5.9,SNR=5.7

*IDC **29** 18:29:52.9±0.9, 37.°11N×141.°34E, h0km, mb3.8/13, mb1 3.8/16, mb1mx3.7/56, mbtmp3.8/16, ML3.6/3, Error ellipse: s-maj=22.8km s-min=17.8km az=88.0*
*ISCJB **29** 18:29:58.8±0.7, 36.°94N×0.°04×141.°17E±0.°08, h58km±4km, mb3.8/13, Error ellipse: s-maj=10.7km s-min=5.7km az=14.4*
*NIED **29** 18:30:00, 37.°00N×141.°10E, h50km, Mw3.8 Best double couple: M₀5.13000×10¹⁴ NP1:φ₀200.00000°, δ13.00000°, λ79.00000°. NP2:φ₀31.00000°, δ77.00000°, λ92.00000°.*
*JMA **29** 18:30:00.5±0.1, 36.°95N×141.°07E, h51km±1km, M3.9*
JMA Felt II J1.
ISC 29 18:29:59.7±1.1, 36.°96N±0.°04×141.°17E±0.°08, h49km±8km, n33, σ0.°73/37, mb3.8/13, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
ONAJ	**Iwakimizuishiy**	0.33	296	P		Pn	18 30 09.3	+0.3
ONAJ				S		Sn	18 30 15.4	-0.2
JFK	**Kawauchi**	0.47	330	P		Pn	18 30 10.9	+0.4
JFK				S		Sn	18 30 18.1	-0.2
JHO	**Hitachi**	0.59	234	P		Pn	18 30 12.0	0.0
JHO				S		Sn	18 30 19.9	-0.9
JFT	**Otama**	0.87	310	P		Pn	18 30 16.5	+0.9
JFT				S		Sn	18 30 27.6	+0.4
JMM	**Marumori**	0.95	342	P		Pn	18 30 17.1	+0.4
JMM				S		Sn	18 30 29.1	-0.1
JSB	**Shiboa**	1.00	271	P		Pn	18 30 17.7	+0.3
JSB				S		Sn	18 30 30.3	-0.1
JFY	**Yanaizu**	1.25	291	P		Pn	18 30 21.0	+0.2
JOU	**Okura**	1.46	344	P		Pn	18 30 24.4	+0.8
JOU				S		Sn	18 30 42.8	+1.2
JAG	**Ashikaga**	1.48	249	P		Pn	18 30 23.8	0.0
JAG				S		Sn	18 30 40.9	-1.1
JKT	**Katashina**	1.55	263	P		Pn	18 30 25.5	+0.6
MJAR	**Matsushiro Arr**	2.41	261	Pn		Pn	18 30 37.5	+0.8
MJAR	12nm,0.3s,baz=85,slow=15,SNR=69					Sn	18 31 06.3	+1.3
MJAR	8.9nm,0.3s,baz=112,slow=16,SNR=7.3	2.41	261	Sn		Sn	18 31 06.3	+1.3
JHJ	**Hachijo jima 2**	4.00	197	Pn		Pn	18 30 59.5	+1.2
JHJ	25nm,0.3s,baz=180,slow=4.0,SNR=4.4					Sn	18 31 44.6	+0.7
KSRS	31nm,0.3s,baz=72,slow=22,SNR=5.9 **Korea Array**	10.58	277	Pn		Pn	18 32 29.1	+0.6
SONM	0.1nm,0.3s,baz=87,slow=15,SNR=2.3 **Songino Array**	27.66	304	P		P	18 35 43.8	+0.8
H11N2	0.9nm,0.7s,baz=111,slow=7.6,SNR=2.9 **WAKE ISLAND Hy**	28.28	120	T		T	19 05 42.7	
H11N1	baz=313,slow=75,SNR=26 **WAKE ISLAND Hy**	28.29	120	T		T	19 05 53.9	
H11N3	baz=313,slow=75,SNR=29 **WAKE ISLAND Hy**	28.30	120	T		T	19 05 54.7	
H11S1	baz=313,slow=75,SNR=26 **WAKE ISLAND Hy**	28.99	122	T		T	19 06 46.7	
H11S3	baz=314,slow=76,SNR=44 **WAKE ISLAND Hy**	28.99	122	T		T	19 06 46.2	
H11S2	baz=314,slow=76,SNR=30 **WAKE ISLAND Hy**	29.00	122	T		T	19 06 47.9	
ZALV	baz=314,slow=76,SNR=20 **Zalesovo Beam**	41.82	312	P		P	18 37 44.4	0.0
MKAR	1.5nm,0.6s,baz=86,slow=7.6,SNR=4.4 **Makanchi Array**	43.99	302	P		P	18 38 01.1	-1.0
KURBB	0.8nm,0.7s,baz=93,slow=8.6,SNR=4.0 **Kurchatov Arra**	45.89	308	P		P	18 38 17.1	0.0
ILAR	1.4nm,0.6s,baz=84,slow=7.9,SNR=5.2 **Eielson Array**	49.66	32	P		P	18 38 45.5	-0.6
BVAR	0.5nm,0.5s,baz=270,slow=6.1,SNR=3.1 **Borovoye Array**	50.48	312	P		P	18 38 51.5	-0.9
ARU	0.3nm,0.5s,baz=97,slow=7.4,SNR=1.9 **Arti**	56.28	319	P		P	18 39 33.9	-1.1

1.4nm,0.3s,baz=108,slow=20,SNR=3.3
WRA Warramunga Arr 56.96 188 P **P 18 39 40.5 +0.3**
0.4nm,0.5s,baz=4.6,slow=7.4,SNR=7.4
ASAR Alice Springs 60.69 188 P **P 18 40 06.9 +0.9**
0.3nm,0.8s,baz=9.5,slow=8.1,SNR=4.7
FINES FINESS Array B 68.79 332 P **P 18 40 57.9 -0.4**
0.4nm,0.4s,baz=42,slow=9.3,SNR=3.8
NOA NORSAR Array B 74.18 337 P **P 18 41 30.7 -0.1**
1.1nm,0.8s,baz=53,slow=8.1,SNR=2.3
AKASG Malin Array Be 74.23 322 P **P 18 41 31.0 -0.3**
0.7nm,0.3s,baz=45,slow=6.4,SNR=5.9
GERES GERESS Array B 82.67 328 P **P 18 42 17.9 0.0**
0.2nm,0.4s,baz=36,slow=8.5,SNR=3.2

*ISCJB **29** 18:37:17.8±0.7, 39.67°N±0.04°×38.71°E±0.04, h11km±7km, Error ellipse: s-maj=6.6km s-min=5.4km az=179.8*
*CSEM **29** 18:37:17.1±0.4, 39.69°N×38.69°E, h10km, MD2.5, Error ellipse: s-maj=9.2km s-min=7.0km az=65.0*
*DDA **29** 18:37:17.7, 39.67°N×38.76°E, h7km, Md2.5*
*ISK **29** 18:37:18.7, 39.69°N×38.75°E, h21km, MD2.8*
ISC 29 18:37:17.4±1.1, 39.68N±0.03°×38.76E±0.03°, h9km±9km, n19, σ0.79/31, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
REFA	**Refahiye_ERZ**	**0.28**	**179**	*i* P	**Pg**	**18 37 22.7**	**-0.4**
REFA				*i* S	**Sg**	**18 37 26.5**	**-0.3**
REFA	**Refahiye_ERZ**	**0.28**	**179**	P	**Pg**	**18 37 22.7**	**-0.4**
REFA				S	**Sg**	**18 37 26.5**	**-0.3**
KEMA	**Kemaliye**	**0.46**	**207**	*i* P	**Pg**	**18 37 26.4**	**+0.1**
KEMA				*i* S	**Sg**	**18 37 33.5**	**+1.2**
KEMA	**Kemaliye**	**0.46**	**207**	P	**Pg**	**18 37 26.4**	**+0.1**
KEMA				S	**Sg**	**18 37 33.5**	**+1.2**
KELT	**Kelkit**	**0.61**	**39**	*i* P	**Pg**	**18 37 29.7**	**+0.5**
KELT				*i* S	**Sb**	**18 37 38.6**	**-0.5**
KELT	**Kelkit**	**0.61**	**39**	P	**Pg**	**18 37 29.7**	**+0.5**
KELT				S	**Sb**	**18 37 38.6**	**-0.5**
SUSE	**Susehri**	**0.68**	**321**	*i* P	**Pg**	**18 37 30.9**	**+0.3**
SUSE				*i* S	**Sb**	**18 37 41.8**	**+0.6**
SUSE	**Susehri**	**0.68**	**321**	P	**Pg**	**18 37 30.9**	**+0.3**
ERZN	**Erzincan**	**0.75**	**97**	*e*PG	**Pn**	**18 37 33.9**	**-0.4**
ERZN				*e*SG	**Sn**	**18 37 45.1**	**-0.8**
CUZAR	**Zara_SIVAS**	**0.79**	**286**	*i* P	**Pg**	**18 37 30.6**	**-2.0**
CUZAR	**Zara_SIVAS**	**0.79**	**286**	P	**Pg**	**18 37 30.6**	**-2.0**
TNCL	**Tunceli-Merkez**	**0.83**	**132**	*i* P	**Pg**	**18 37 32.5**	**-0.8**
TNCL				*i* S	**Sb**	**18 37 45.7**	**+0.4**
TNCL	**Tunceli-Merkez**	**0.83**	**132**	P	**Pg**	**18 37 32.5**	**-0.8**
TNCL				S	**Sb**	**18 37 45.7**	**+0.4**
PTK	**Pertek**	**0.93**	**148**	*e*PG	**Pn**	**18 37 37.1**	**+0.4**
PTK				*e*SG	**Sn**	**18 37 50.5**	**+0.2**
PTK	**Pertek**	**0.93**	**148**	*e*Pg	**Pn**	**18 37 37.1**	**+0.4**
PTK				*e*Sg	**Sn**	**18 37 50.5**	**+0.2**
YEDI	**Yedisu-Bingol**	**1.40**	**99**	*e*PN	**Pn**	**18 37 43.1**	**-0.2**
DARE	**Darende-Malaty**	**1.48**	**222**	*e*PN	**Pb**	**18 37 45.0**	**-0.1**
DARE	**Darende-Malaty**	**1.48**	**222**	*e*Pn	**Pb**	**18 37 45.0**	**-0.1**
SARI	**SarD1z-Kayseri**	**2.22**	**236**	*e*PN	**Pn**	**18 37 55.4**	**+0.8**

IDC 29 18:40:09.1±1.7, 13.83N×144.83E, h117km±8km, mb3.2/4, mb1 3.4/4, mb1mx3.1/45, mbtmp3.6/4, Error ellipse: s-maj=69.8km s-min=22.2km az=77.0, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GUMO	**Guam**	**0.25**	**170**	P	Pn	18 40 26.5	+1.0
	695nm,0.3s,baz=303,slow=7.5,SNR=1382						
GUMO				S	Sn	18 40 39.3	+1.5
	605nm,0.3s,baz=13,slow=24,SNR=49						
WRA	**Warramunga Arr**	**35.11**	**197**	P	P	18 46 51.3	-0.2
	1.7nm,0.7s,baz=19,slow=9.5,SNR=8.6						
ASAR	**Alice Springs**	**38.77**	**196**	P	P	18 47 22.4	-0.1
	0.3nm,0.5s,baz=21,slow=6.6,SNR=11						
CMAR	**Chiang Mai Anr**	**44.23**	**282**	P	P	18 48 07.6	+0.5
	0.4nm,0.6s,baz=96,slow=8.3,SNR=3.2						
MKAR	**Makanchi Array**	**61.29**	**316**	P	P	18 50 11.6	-0.6
	0.2nm,0.5s,baz=95,slow=8.5,SNR=3.1						

IDC 29 18:41:26.2±3.8, 6.11S×149.93E, h0km, mb2.9/2, mb1 3.3/2, mb1mx3.1/31, mbtmp3.0/2, Error ellipse: s-maj=144.7km s-min=47.6km az=116.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**20.47**	**226**	P	Pn	18 46 06.8	-1.0
	0.2nm,0.4s,baz=52,slow=11,SNR=2.2						
ASAR	**Alice Springs**	**23.30**	**220**	P	P	18 46 34.8	-1.1
	0.3nm,0.9s,baz=54,slow=8.8,SNR=3.0						
TORD	**Torodi Ar. Bea**	**147.94**	**285**	PKPbc	PKPbc	19 01 14.1	-0.5
	0.2nm,0.3s,baz=95,slow=2.5,SNR=3.6						

*IDC **29** 18:42:34.0±1.3, 36.82N×140.94E, h0km, mb3.5/4, mb1 3.7/5, mb1mx3.4/46, mbtmp3.5/5, ML3.4/1, MS3.5/2, Ms1 3.5/2, ms1mx2.6/37, Error ellipse: s-maj=25.1km s-min=17.4km az=165.0*
*ISCJB **29** 18:42:34.5±0.9, 37.12N±0.04°×140.92E±0.07, h5km±4km, mb3.5/4, MS3.5/2, Error ellipse: s-maj=9.7km s-min=4.8km az=24.6*
*JMA **29** 18:42:35.0, 37.13N×140.88E, h8km±1km, M3.4 Broadband fault plane solution: P waves. NP1: φ=100.00000°, δ75.00000°, λ-30.00000°. NP2: φ=199.00000°, δ61.00000°, λ-162.00000°. Principal axes: T Plg9.0000°, Azm152.0000°; N Plg56.0000°, Azm256.0000°; P Plg32.0000°, Azm56.0000°;*
JMA Felt I J1.
ISC 29 18:42:34.4±1.4, 37.08N±0.06°×140.90E±0.06°, h5km±8km, n21, σ1.08/20, mb3.5/4, 4C-3D, Eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ONAJ	**Iwakimizuishiy**	**0.08**	**286**	⇓P	**Pg**	**18 42 36.8**	**+0.5**
ONAJ				eS	**Sg**	**18 42 38.1**	**+0.6**
JFK	**Kawauchi**	**0.29**	**356**	⇑P	**Pg**	**18 42 39.8**	**-0.2**
JFK				eS	**Sg**	**18 42 43.6**	**-0.3**
JHO	**Hitachi**	**0.54**	**210**	⇓P	**Pb**	**18 42 45.8**	**-0.4**
JHO				S	**Sb**	**18 42 53.7**	**-0.6**
JFT	**Otama**	**0.63**	**315**	⇑P	**Pg**	**18 42 46.5**	**+0.1**
JSB	**Shiboa**	**0.79**	**262**	⇓P	**Pb**	**18 42 50.6**	**0.0**
JSB				S	**Sb**	**18 43 01.7**	**+0.1**
JMM	**Marumori**	**0.79**	**354**	⇑P	**Pg**	**18 42 48.8**	**-0.8**
JMM				S	**Sg**	**18 42 59.0**	**-0.8**
JFY	**Yanaizu**	**1.01**	**289**	⇑P	**Pg**	**18 42 53.7**	**0.0**
JFY				S	**Sg**	**18 43 06.4**	**-0.4**
MJAR	**Matsushiro Arr**	**2.22**	**257**	Pn	**Pb**	**18 43 13.3**	**-1.7**
	12nm,0.3s,baz=81,slow=16,SNR=132						
MJAR				Lg	Lg	18 43 43.5	
	9.6nm,0.3s,baz=84,slow=29,SNR=15						
MAT	**Matsushiro**	**2.22**	**257**	P	**Pb**	**18 43 13.3**	**-1.8**
MAT				S	**Sb**	**18 43 42.8**	**-0.1**
SONM	**Songino Array**	**27.42**	**304**	LR	LR	18 58 54.0	
	comp=Z,184nm,20.3s,baz=274,slow=36						
H11N2	**WAKE ISLAND Hy**	**28.53**	**120**	T	T	19 18 15.2	
	baz=313,slow=75,SNR=52						
H11N1	**WAKE ISLAND Hy**	**28.53**	**120**	T	T	19 18 15.8	
	baz=313,slow=75,SNR=37						
H11N3	**WAKE ISLAND Hy**	**28.54**	**120**	T	T	19 18 16.6	
	baz=313,slow=75,SNR=44						
H11S1	**WAKE ISLAND Hy**	**29.23**	**122**	T	T	19 19 09.4	
	baz=315,slow=75,SNR=13						
H11S3	**WAKE ISLAND Hy**	**29.23**	**122**	T	T	19 19 06.8	
	baz=315,slow=75,SNR=14						
H11S2	**WAKE ISLAND Hy**	**29.25**	**122**	T	T	19 19 12.2	
	baz=315,slow=75,SNR=9.1						
ZALV	**Zalesovo Beam**	**41.58**	**312**	P	**P**	**18 50 24.2**	**+1.3**
	0.4nm,0.5s,baz=96,slow=7.2,SNR=2.5						
MKAR	**Makanchi Array**	**43.74**	**302**	P	**P**	**18 50 40.8**	**+0.2**
	0.3nm,0.6s,baz=92,slow=8.5,SNR=3.1						
ILAR	**Eielson Array**	**49.68**	**32**	P	**P**	**18 51 29.2**	**+2.4**
	0.2nm,0.3s,baz=284,slow=7.3,SNR=3.6						
WRA	**Warramunga Arr**	**57.05**	**187**	P	**P**	**18 52 19.9**	**-1.5**
	0.5nm,0.6s,baz=3.8,slow=7.3,SNR=7.4						
JMIC	**Jan Mayen**	**70.03**	**350**	LR	LR	19 24 21.1	
	comp=Z,21nm,20.4s,baz=58,slow=36						

*ISCJB **29** 19:05:13.5±0.4, 42.55N±0.02°×18.61E±0.02, h6km±3km, Error ellipse: s-maj=3.3km s-min=2.9km az=24.9*
*CSEM **29** 19:05:13.7±0.2, 42.54N×18.61E, h5km, ML2.4, Error ellipse: s-maj=3.2km s-min=2.7km az=38.0*
*PDG **29** 19:05:13.4±0.2, 42.55N×18.59E, h11km±1km, MD2.5/3, ML2.4/12, Error ellipse: s-maj=0.2km s-min=0.5km az=0.0*
*BEO **29** 19:05:13.4±0.6, 42.47N×18.57E, h7km±2km, M2.0/1*
ISC 29 19:05:13.7±0.9, 42.54N±0.02°×18.61E±0.02, h8km±7km, n56, σ0.89/105, 14C-10D, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HCY	**Herceg Novi**	**0.13**	**222**	⇑*i*Pg	**Pg**	**19 05 16.3**	**-0.2**
HCY				eSg	**Sg**	**19 05 18.8**	**+0.3**
HCY	**Herceg Novi**	**0.13**	**222**	⇑*i*Pg	**Pg**	**19 05 16.3**	**-0.2**
HCY				eSg	**Sg**	**19 05 18.8**	**+0.3**
CEME	**Cevo**	**0.23**	**89**	⇓*i*Pg	**Pg**	**19 05 18.1**	**-0.2**
CEME				eSg	**Sg**	**19 05 22.1**	**+0.7**
CEME	**Cevo**	**0.23**	**89**	⇓*i*Pg	**Pg**	**19 05 18.1**	**-0.2**
CEME				eSg	**Sg**	**19 05 22.1**	**+0.7**
TREB	**Trebinje**	**0.26**	**312**	*i* Pg	**Pg**	**19 05 18.4**	**-0.5**
TREB	**Trebinje**	**0.26**	**312**	⇑*i*Pg	**Pg**	**19 05 18.4**	**-0.5**
TREB				eSg	**Sg**	**19 05 22.4**	**+0.1**
BUM	**Brajici-Budva**	**0.32**	**139**	⇓*i*Pg	**Pg**	**19 05 20.2**	**+0.1**
BUM				eSg	**Sg**	**19 05 25.5**	**+1.2**
BUM	**Brajici-Budva**	**0.32**	**139**	⇓*i*Pg	**Pg**	**19 05 20.2**	**+0.1**
BUM				eSg	**Sg**	**19 05 25.5**	**+1.2**
NKME	**Niksic**	**0.34**	**49**	⇓*i*Pg	**Pg**	**19 05 19.9**	**-0.5**
NKME				eSg	**Sg**	**19 05 25.8**	**+0.9**
NKME	**Niksic**	**0.34**	**49**	⇓*i*Pg	**Pg**	**19 05 19.9**	**-0.5**
NKME				eSg	**Sg**	**19 05 25.8**	**+0.9**
BRY	**Bratogost**	**0.36**	**352**	⇑*i*Pg	**Pg**	**19 05 20.3**	**-0.6**
BRY				eSg	**Sg**	**19 05 26.4**	**+0.8**
BRY	**Bratogost**	**0.36**	**352**	⇑*i*Pg	**Pg**	**19 05 20.3**	**-0.6**
BRY				eSg	**Sg**	**19 05 26.4**	**+0.8**
NKY	**Niksic**	**0.39**	**46**	⇓*i*Pg	**Pg**	**19 05 20.8**	**-0.6**
NKY				eSg	**Sg**	**19 05 27.4**	**+0.9**
NKY	**Niksic**	**0.39**	**46**	⇓*i*Pg	**Pg**	**19 05 20.8**	**-0.6**
NKY				eSg	**Sg**	**19 05 27.4**	**+0.9**
PDG	**Podgorica**	**0.49**	**103**	*e*Pg	**Pg**	**19 05 22.7**	**-0.5**
PDG				eSg	**Sb**	**19 05 31.6**	**-0.3**
PDG	**Podgorica**	**0.49**	**103**	⇑*i*Pg	**Pg**	**19 05 22.7**	**-0.5**
PDG				eSg	**Sg**	**19 05 30.3**	**+0.7**
TTG	**Podgorica**	**0.49**	**103**	⇑*i*Pg	**Pg**	**19 05 22.7**	**-0.5**
TTG				eSg	**Sb**	**19 05 31.4**	**-0.5**
DRME	**Dracevica, Mon**	**0.56**	**130**	⇑*i*Pg	**Pg**	**19 05 24.3**	**-0.1**
DRME				eSg	**Sb**	**19 05 33.4**	**-0.4**
DRME	**Dracevica, Mon**	**0.56**	**130**	⇑*i*Pg	**Pg**	**19 05 24.3**	**-0.1**
DRME				eSg	**Sb**	**19 05 33.4**	**-0.4**
UPM	**Unac-Piva**	**0.69**	**18**	⇑*i*Pg	**Pg**	**19 05 26.2**	**-0.9**
UPM				eSg	**Sb**	**19 05 37.2**	**-0.8**
UPM	**Unac-Piva**	**0.69**	**18**	⇑*i*Pg	**Pg**	**19 05 26.2**	**-0.9**
UPM				eSg	**Sb**	**19 05 37.2**	**-0.8**
KOME	**Kolasin**	**0.73**	**65**	⇑*i*Pg	**Pg**	**19 05 26.9**	**-1.0**
KOME				eSg	**Sb**	**19 05 39.2**	**+0.1**
STON	**Ston**	**0.75**	**296**	*i* Pg	**Pg**	**19 05 26.9**	**-1.2**
STON				Sg	**Sb**	**19 05 38.6**	**-0.7**
STON	**Ston**	**0.75**	**296**	*i* Pg	**Pg**	**19 05 26.8**	**-1.2**
STON				Sg	**Sb**	**19 05 38.6**	**-0.7**
ULC	**Ulcinj**	**0.75**	**141**	⇑*i*Pg	**Pg**	**19 05 27.4**	**-0.7**
ULC				eSg	**Sb**	**19 05 39.6**	**+0.3**
ULC	**Ulcinj**	**0.75**	**141**	⇑*i*Pg	**Pg**	**19 05 27.4**	**-0.7**
ULC				eSg	**Sb**	**19 05 39.6**	**+0.3**
PLE	**Pljevlja**	**0.97**	**36**	*e*Pg	**Pg**	**19 05 31.8**	**-0.6**
PLE				eSg	**Sb**	**19 05 46.8**	**+0.9**
PLE	**Pljevlja**	**0.97**	**36**	*e*Pg	**Pg**	**19 05 31.8**	**-0.6**
PLE				eSg	**Sb**	**19 05 46.8**	**+0.9**
PVY	**Plav**	**1.00**	**87**	*e*Pg	**Pg**	**19 05 32.6**	**-0.3**
PVY				eSg	**Sn**	**19 05 48.2**	**-0.3**
BEY	**Berane**	**1.00**	**70**	⇓*i*Pg	**Pg**	**19 05 32.0**	**-0.9**
BEY				eSg	**Sn**	**19 05 48.1**	**-0.4**
IVA	**Berane**	**1.00**	**70**	⇓*i*Pg	**Pg**	**19 05 32.0**	**-0.9**
IVA				eSg	**Sn**	**19 05 48.1**	**-0.4**
SJES	**Sjenica**	**1.23**	**54**	*e*Pg	**Pn**	**19 05 37.6**	**+0.2**
SJES				eSg	**Sn**	**19 05 54.6**	**+0.3**
BBLS	**Lazi?i**	**1.44**	**23**	*e*Pg	**Pb**	**19 05 40.9**	**0.0**
BBLS				eSg	**Sg**	**19 06 02.5**	**+2.4**
BBLS	**Lazi?i**	**1.44**	**23**	*e*Pg	**Pb**	**19 05 40.9**	**0.0**
BBLS				eSg	**Sg**	**19 06 00.7**	**+0.6**
IVAS	**Ivanjica**	**1.53**	**47**	*e*Pg	**Pn**	**19 05 41.7**	**+0.3**
IVAS				eSg	**Sg**	**19 06 03.6**	**+0.7**
DIVS	**Divibare**	**1.85**	**33**	*e*Pn	**Pb**	**19 05 47.1**	**-0.8**
DIVS				eSn	**Sb**	**19 06 11.0**	**-0.2**
DIVS	**Divibare**	**1.85**	**33**	*e*Pn	**Pb**	**19 05 47.1**	**-0.8**
DIVS				eSn	**Sb**	**19 06 11.0**	**-0.2**
SELS	**Selova**	**1.96**	**69**	*e*Pn	**Pn**	**19 05 48.1**	**+0.8**
SELS	**Selova**	**1.96**	**69**	*e*Pn	**Pn**	**19 05 48.1**	**+0.8**
GRUS	**Gruza**	**2.04**	**48**	*e*Pn	**Pn**	**19 05 48.4**	**0.0**
GRUS				eSn	**Sb**	**19 06 17.6**	**+1.0**
GRUS	**Gruza**	**2.04**	**48**	*e*Pn	**Pn**	**19 05 48.4**	**0.0**
GRUS				eSn	**Sb**	**19 06 17.6**	**+1.0**
TEKS	**Tekeris**	**2.11**	**18**	*e*Pn	**Pb**	**19 05 50.7**	**-1.6**
TEKS	**Tekeris**	**2.11**	**18**	*e*Pn	**Pn**	**19 05 50.1**	**+0.7**
TEKS				eSn	**Sn**	**19 06 17.1**	**+1.2**
TRUS	**Trudelj**	**2.13**	**37**	*e*Pn	**Pn**	**19 05 50.9**	**+1.3**
TRUS	**Trudelj**	**2.13**	**37**	*e*Pn	**Pn**	**19 05 50.9**	**+1.3**
BARS	**Barje**	**2.38**	**82**	*e*Pn	**Pn**	**19 05 53.5**	**+0.5**
BARS				eSn	**Sn**	**19 06 21.6**	**-0.8**
BARS	**Barje**	**2.38**	**82**	*e*Pn	**Pn**	**19 05 53.5**	**+0.5**
BARS				eSn	**Sn**	**19 06 21.6**	**-0.8**
BOVS	**Bovan**	**2.52**	**63**	*e*Pn	**Pb**	**19 05 57.1**	**-2.0**
UDBI	**Udbina**	**2.87**	**315**	*e*Pn	**Pb**	**19 06 03.4**	**-1.8**
UDBI				Sn	**Sb**	**19 06 39.6**	**-0.8**
UDBI	**Udbina**	**2.87**	**315**	*e*Pn	**Pb**	**19 06 03.3**	**-1.8**
UDBI				Sn	**Sb**	**19 06 39.6**	**-0.8**
ZAGS	**Zajecar**	**2.94**	**63**	*e*Pn	**Pn**	**19 06 02.0**	**+1.3**
ZAGS				eSn	**Sn**	**19 06 36.5**	**+0.4**
ZAGS	**Zajecar**	**2.94**	**63**	*e*Pn	**Pn**	**19 06 02.0**	**+1.3**
ZAGS				eSn	**Sn**	**19 06 36.5**	**+0.4**
ZAPS	**Zavoj**	**3.04**	**75**	*e*Pn	**Pn**	**19 06 01.8**	**-0.4**
ZAPS				eSn	**Sn**	**19 06 38.3**	**-0.6**
ZAPS	**Zavoj**	**3.04**	**75**	*e*Pn	**Pn**	**19 06 01.8**	**-0.4**
ZAPS				eSn	**Sn**	**19 06 38.3**	**-0.6**
NVLJ	**Novalja**	**3.38**	**308**	*e*Pn	**Pn**	**19 06 08.8**	**+2.0**
NVLJ				Sn	**Sn**	**19 06 49.3**	**+2.2**
NVLJ	**Novalja**	**3.38**	**308**	*e*Pn	**Pn**	**19 06 08.8**	**+2.0**
NVLJ				Sn	**Sn**	**19 06 49.3**	**+2.2**

*IDC **29** 19:05:35.7±1.6, 43.83N×105.42W, h0km, mb4.0/2, mb1 4.0/4, mb1mx3.5/55, mbtmp3.8/4, ML2.4/1, Error ellipse: s-maj=44.0km s-min=9.3km az=149.0*
*NEIC **29** 19:05:36.4±0.7, 43.71N×105.05W, h0km, ML3.3, Error ellipse: s-maj=12.4km s-min=8.3km az=112.0, Suspected Mining explosion.*
NEIC 71 km [44 miles] SSE of Gillette.
ISC 29 19:05:34.9±0.9, 43.58N±0.05°×104.98W±0.05, h0km, n22, σ1.43/20, Wyoming

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RSSD	**Black Hills**	**0.88**	**51**	*e*Pn	**Pn**	**19 05 55.2**	**+0.4**
K22A	**Casper**	**1.46**	**231**	*e*Pn	**Pg**	**19 06 03.5**	**+0.6**
PHWY	**Pilot Hill**	**2.30**	**189**	*e*Pn	**Pg**	**19 06 19.1**	**0.0**
RWWY	**Rawlins**	**2.50**	**222**	*e*Pn	**Pb**	**19 06 20.9**	**0.0**
LAO	**LASA Array**	**3.23**	**345**	*e*Pn	**Pn**	**19 06 28.3**	**+1.3**
OGNE	**Ogallala**	**3.42**	**139**	*e*Pn	**Pb**	**19 06 36.6**	**+0.1**
RLMT	**Red Lodge**	**3.44**	**298**	*e*Pn	**Pn**	**19 06 28.5**	**-1.5**
PDAR	**Pinedale Array**	**3.44**	**258**	Pn	**Pn**	**19 06 30.7**	**+0.6**
	9.7nm,0.3s,baz=73,slow=15,SNR=16						
PDAR				Lg	Lg	19 07 14.7	
	16nm,0.3s,baz=72,slow=32,SNR=8.0						
ISCO	**Idaho Springs**	**3.80**	**187**	*e*Pn	**Pb**	**19 06 40.7**	**-2.4**
LKWY	**Lake**	**4.03**	**286**	*e*P	**Pn**	**19 06 37.8**	**-0.3**
H17A	**Grant Village**	**4.12**	**283**	*e*Pn	**Pn**	**19 06 40.2**	**+0.9**
MOOW	**Moose Ponds**	**4.18**	**274**	*e*Pg	**Pb**	**19 06 47.2**	**-2.3**
O20A	**White River Ci**	**4.21**	**216**	*e*Pn	**Pn**	**19 06 38.2**	**-2.3**
SMCO	**Snowmass**	**4.64**	**199**	*e*Pg	**Pg**	**19 07 04.6**	**+0.7**
DGMT	**Dagmar**	**4.93**	**6**	*e*Pn	**Pn**	**19 06 51.1**	**+0.8**
BOZ	**Bozeman (W)**	**5.16**	**295**	*e*Pn	**Pn**	**19 06 53.3**	**-0.2**
	8.6nm,0.4s						
PV04	**Paradox Valley**	**5.97**	**211**	*e*Pn	**Pn**	**19 07 06.8**	**+2.1**
I10CA	**LAC DU BONNET**	**9.02**	**40**	*i*		20 07 40.0	
	baz=222,slow=324,SNR=0.9						
ULM	**Lac du Bonnet**	**9.13**	**40**	Pn	**Pn**	**19 07 45.6**	**-2.2**
	0.6nm,0.3s,baz=222,slow=12,SNR=4.5						
ULM				Lg	Lg	19 10 17.1	
	0.5nm,0.3s,baz=126,slow=19,SNR=2.1						
TXAR	**Lajitas Array**	**14.25**	**175**	Pg	P	19 10 00.9	+55
	0.0nm,0.3s,baz=359,slow=17,SNR=3.0						
TXAR				Lg	Lg	19 13 17.0	
	0.1nm,0.3s,baz=21,slow=32,SNR=4.0						
ARCES	**ARCESS Array B**	**61.51**	**18**	P	**P**	**19 15 53.0**	**0.0**
	3.5nm,1.0s,baz=321,slow=9.7,SNR=3.1						
MKAR	**Makanchi Array**	**89.78**	**355**	P	**P**	**19 18 36.4**	**+1.3**
	0.3nm,0.7s,baz=9.9,slow=3.4,SNR=3.9						

*FUNV **29** 19:22:46.4, 8.24N×72.47W, h1km, MW3.0*
*RSNC **29** 19:22:46.5±1.2, 8.37N×72.51W, h0km±24km, ML3.0*
ISC 29 19:22:45.9±1.3, 8.27N±0.04°×72.46W±0.03, h4km±12km, n15, σ1.11/26, Venezuela

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CAPV	**Capacho**	**0.43**	**161**	*e*P	**Pg**	**19 22 53.6**	**-0.6**
CAPV				*e*S	**Sg**	**19 23 00.5**	**+0.7**
CBRI	**Barrientos, No**	**0.65**	**212**	*e*P	**Pg**	**19 22 58.4**	**0.0**
OCAC	**Ocana**	**0.86**	**268**	*e*P	**Pg**	**19 23 01.4**	**-1.0**
OCAC				*e*S	**Sg**	**19 23 12.7**	**-0.8**
OCAC				*i*		19 23 18.4	
	comp=Z,344nm,0.4s						
VIGV	**El Vigia**	**1.22**	**62**	*e*P	**Pg**	**19 23 09.5**	**+0.2**
VIGV				*e*S	**Sb**	**19 23 27.1**	**+1.4**
GIRC	**Giron, Santand**	**1.39**	**212**	*e*P	**Pn**	**19 23 11.8**	**-0.5**
SOCV	**Socops**	**1.58**	**89**	*e*P	**Pn**	**19 23 14.8**	**0.0**
SOCV				*e*S	**Sn**	**19 23 36.8**	**+1.1**
BRRC	**Barranca, Sant**	**1.70**	**227**	*e*P	**Pn**	**19 23 17.3**	**+1.0**
BRRC				*i*		19 23 20.3	
	comp=Z,128nm,0.3s						
BRRC				*e*S	**Sg**	**19 23 40.9**	**+0.3**
BARC	**Barichara**	**1.82**	**203**	*e*P	**Pn**	**19 23 18.9**	**+0.7**
BARC				*i*		19 23 23.6	
	comp=Z,136nm,0.5s						
BARC				*e*S	**Sb**	**19 23 44.2**	**+1.0**
VIRV	**Villa del Rosa**	**2.22**	**1**	*e*P	**Pn**	**19 23 24.0**	**+0.5**
VIRV				*e*S	**Sn**	**19 23 52.1**	**+0.7**
QARV	**Quebrada Arrib**	**2.71**	**45**	*e*P	**Pn**	**19 23 30.5**	**+0.2**
QARV				*e*S	**Sn**	**19 24 03.0**	**-0.6**
CURV	**Curarigua**	**3.01**	**55**	*e*P	**Pn**	**19 23 35.1**	**+0.6**
CURV				*e*S	**Sn**	**19 24 10.9**	**-0.1**
DABV	**Dabajuro**	**3.19**	**34**	*e*P	**Pn**	**19 23 37.6**	**+0.8**
ELOV	**Elorza**	**3.21**	**113**	*e*P	**Pn**	**19 23 37.4**	**+0.3**
MAPV	**Macapo**	**4.24**	**68**	*e*P	**Pn**	**19 23 51.2**	**-0.2**
MAPV				*e*S	**Sn**	**19 24 38.4**	**-3.0**
BAUV	**El Baul**	**4.42**	**81**	*e*P	**Pn**	**19 23 53.4**	**-0.3**
BAUV				*e*S	**Sn**	**19 24 43.0**	**-2.7**

*CSEM **29** 19:30:10.5±0.7, 27.96N×18.09W, h10km, ML3.7, Error ellipse: s-maj=38.2km s-min=5.3km az=83.0*
INMG 29 19:30:11.9±0.7, 27.60N×18.11W, h15km±3km, ML3.6, Error ellipse: s-maj=4.7km s-min=2.7km az=34.0, Canary Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CHIE	**El Hierro**	**0.18**	**45**	P	Pg	19 30 15.4	-0.9
	SNR=18						
CTIG	**El Hierro**	**0.25**	**41**	P	Pg	19 30 16.2	-1.1
	SNR=18						
CTIG				S	Sg	19 30 19.5	-1.5
	2µm,0.1s,SNR=7.9						
FUL	**Funchal**	**5.14**	**11**	*e*P	Pn	19 31 23.2	-5.1
FUL				*e*S	Sn	19 32 17.0	-10
FUL				A	A	19 32 26.1	
	50nm,0.2s						
PMAR	**Madeira**	**5.21**	**11**	*e*P	Pn	19 31 23.7	-5.8
PMAR				*e*S	Sn	19 32 19.7	-10
PMAR				A	A	19 32 27.1	
	59nm,0.2s						
PMAR	**Madeira**	**5.21**	**11**	*e*P	Pn	19 31 23.7	-5.8
PMAR				*e*S	Sn	19 32 19.7	-10
	59nm,0.2s						
PMOZ	**Porto Moniz, M**	**5.27**	**8**	*e*P	Pn	19 31 24.3	-5.9
PMOZ				*e*S	Sn	19 32 20.3	-10
PMOZ				A	A	19 32 26.6	
	141nm,0.4s

AKHS	Akhisar	1.43	31	P	Pb	19 35 17.3	+0.1
AKHS				S	Sg	19 35 37.8	+1.7
MANT	Manisa	1.57	57	*i* P	Pg	19 35 21.6	+1.3
MANT				*i* S	Sg	19 35 40.8	+0.2
MANT	Manisa	1.57	57	P	Pg	19 35 21.5	+1.3
MANT				S	Sg	19 35 40.8	+0.2
TURN	Turunc	1.58	119	*i* P	Pn	19 35 16.9	-1.7
TURN				*i* S	Sn	19 35 36.0	-3.3
TURN	Turunc	1.58	119	P	Pn	19 35 16.9	-1.7
TURN				S	Sn	19 35 36.0	-3.3
PRK	Paraskevi	1.66	344	P	Pb	19 35 20.8	-0.3
PRK	Paraskevi	1.66	344	P	Pb	19 35 20.8	-0.3

DDA ***29*** *19:41:53.3, 39˚.64N×38˚.79E, h7km, Md2.5*
ISCJB ***29*** *19:41:54.3±0.5, 39˚.66N±0˚.03×38˚.74E±0˚.04, h2km±9km, Error ellipse: s-maj=5.2km s-min=4.4km az=160.0*
CSEM ***29*** *19:41:54.2±0.3, 39˚.66N×38˚.74E, h2km, MD2.5, Error ellipse: s-maj=6.8km s-min=5.9km az=62.0*
ISK ***29*** *19:41:55.3, 39˚.65N×38˚.75E, h20km, MD2.7*

ISC 29 19:41:54.4±1.0, 39˚.63N±0˚.02×38˚.75E±0˚.03, h7km±9km, n21, σ0s94/33, Turkey

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time h m s	Res ISC
REFA	Refahiye_ERZ~	0.23	177	*i* P		Pg	19 41 57.8	-1.2
REFA				*i* S		Sg	19 42 03.6	+1.5
REFA	Refahiye_ERZ~	0.23	177	P		Pg	19 41 57.8	-1.2
REFA				S		Sg	19 42 03.6	+1.5
KEMA	Kemaliye	0.41	209	*i* P		Pg	19 42 02.4	+0.1
KEMA				*i* S		Sg	19 42 09.0	+1.3
KEMA	Kemaliye	0.41	209	P		Pg	19 42 02.4	+0.1
KEMA				S		Sg	19 42 09.0	+1.3
EZC	Erzincan	0.48	75	*e*Pg		Pn	19 42 10.5	+2.6
KELT	Kelkit	0.65	36	*i* P		Pg	19 42 06.8	-0.2
KELT				*i* S		Sg	19 42 15.3	-0.1
KELT	Kelkit	0.65	36	P		Pg	19 42 06.8	-0.2
KELT				S		Sg	19 42 15.4	-0.1
SUSE	Susehri	0.72	324	*i* P		Pg	19 42 07.6	-0.6
SUSE				*i* S		Sg	19 42 17.3	-0.3
SUSE	Susehri	0.72	324	P		Pg	19 42 07.6	-0.6
SUSE				S		Sg	19 42 17.3	-0.3
ERZN	Erzincan	0.75	93	*e*PG		Pb	19 42 10.5	+0.6
TNCL	Tunceli-Merkez	0.80	130	*i* P		Pg	19 42 01.5	-8.2
TNCL				*i* S		Sg	19 42 18.6	-1.5
TNCL	Tunceli-Merkez	0.80	130	P		Pg	19 42 01.5	-8.2
TNCL				S		Sg	19 42 18.6	-1.5
CUZAR	Zara_SIVAS	0.80	289	*i* P		Pg	19 42 01.2	-8.6
CUZAR				*i* S		Sg	19 42 20.6	+0.4
CUZAR	Zara_SIVAS	0.80	289	P		Pg	19 42 01.2	-8.6
CUZAR				S		Sg	19 42 20.6	+0.4
PTK	Pertek	0.89	146	*e*PG		Pn	19 42 13.3	-0.2
PTK				*e*SG		Sn	19 42 26.4	-0.3
PTK	Pertek	0.89	146	*e*Pg		Pn	19 42 13.3	-0.2
PTK				*e*Sg		Sn	19 42 26.4	-0.3
CUKAN	kangal_SIVAS	1.04	253	*i* P		Pg	19 42 13.7	-0.6
CUKAN				*i* S		Sn	19 42 30.1	-0.3
CUKAN	kangal_SIVAS	1.04	253	P		Pg	19 42 13.7	-0.6
CUKAN				S		Sn	19 42 30.1	-0.3
SVSK	Karacayir	1.38	283	*e*PN		Pb	19 42 20.1	-0.4
SVSK	Karacayir	1.38	283	*e*Pn		Pb	19 42 20.1	-0.4
YEDI	Yedisu-Bingol	1.40	97	*e*PN		Pn	19 42 20.4	-0.1

WEL 29 19:47:02.0±0.5, 36˚.61S×176˚.72E, h200km±8km, ML3.8/8, 1C-2D, Error ellipse: s-maj=10.1km s-min=8.8km az=0.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time h m s	Res ISC
HAZ	Te Kaha	1.43	144	PN	Pn		19 47 35.4	+0.4
HAZ				SN	S		19 48 00.6	+0.2
HAZ				AML	AML		19 48 01.5	
RUGZ	Raukumara Rang	1.55	151	⇓PN	Pn		19 47 36.0	-0.3
MXZ	Matakaoa Point	1.59	127	PN	Pn		19 47 36.5	0.0
PKGZ	Pakihiroa	1.67	140	PN	Pn		19 47 37.7	+0.3
URZ	Urewera	1.67	169	PN	Pn		19 47 37.6	+0.3
WMGZ	Waiomatatini S	1.81	132	PN	Pn		19 47 38.6	-0.1
WMGZ				SN	S		19 48 06.3	-0.4
WMGZ				AML	AML		19 48 08.3	
MWZ	Matawai	1.84	160	PN	Pn		19 47 39.2	+0.3
TWGZ	Tauwhareparae	1.86	148	PN	Pn		19 47 39.6	+0.4
TWGZ				AML	AML		19 48 10.0	
TWGZ				AML	AML		19 48 11.0	
PUZ	Puketiti	1.91	140	⇑PN	Pn		19 47 39.3	-0.3
RTZ	Ruatahuna	2.01	174	PN	Pn		19 47 40.6	-0.1
CNGZ	Carnagh Statio	2.21	148	PN	Pn		19 47 42.6	-0.1
SNGZ	Shannon Statio	2.22	167	PN	Pn		19 47 42.7	-0.2
SNGZ				AML	AML		19 48 14.6	
SNGZ				AML	AML		19 48 15.8	
RIGZ	Rimuhau	2.25	159	PN	Pn		19 47 43.0	-0.2
RIGZ				AML	AML		19 48 15.8	
RIGZ				AML	AML		19 48 16.9	
NMHZ	Naumai	2.48	178	PN	Pn		19 47 46.3	+0.5
NMHZ				AML	AML		19 48 23.1	
WHHZ	Waihua	2.49	171	AML	AML		19 48 21.4	
KNZ	Kokohu	2.52	163	PN	Pn		19 47 45.3	-0.8
BKZ	Black Stump Fm	2.56	184	PN	Pn		19 47 45.9	-0.6
MHGZ	Mahia Peninsul	2.71	160	PN	Pn		19 47 47.4	-0.8
KWHZ	Kaweka Forest	2.82	185	⇓PN	Pn		19 47 49.1	-0.4
KWHZ				AML	AML		19 48 28.0	
BHHZ	Black Hill Sta	2.92	190	PN	Pn		19 47 49.9	-0.8
KRHZ	Kereru	3.04	185	PN	Pn		19 47 50.8	-1.3
KAHZ	Kahuranaki	3.18	178	PN	Pn		19 47 52.5	-1.3
PXZ	Pawanui	3.42	178	PN	Pn		19 47 54.5	-2.0
OHWZ	Ohakea	3.75	197	PN	Pn		19 47 60.0	-0.7
BFZ	Birch Farm	4.08	185	PN	Pn		19 48 01.9	-2.8
MRZ	Mangatainoka R	4.14	192	PN	Pn		19 48 02.6	-2.9
OGWZ	Otaki Gorge	4.37	196	PN	Pn		19 48 06.1	-2.2

IDC 29 20:03:08.6±6.7, 20˚.22S×178˚.30W, h629km±77km, mb3.0/5, mb1 3.3/5, mb1mx2.9/34, mbtmp4.0/5, Error ellipse: s-maj=66.1km s-min=39.5km az=165.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time h m s	Res ISC
STKA	Stephens Creek	37.65	244	P	P		20 09 32.2	-0.3
	0.7nm,0.4s,baz=89,slow=14,SNR=3.4							
ASAR	Alice Springs	44.30	256	P	P		20 10 24.8	-0.2
	4.1nm,0.7s,baz=96,slow=7.5,SNR=63							
ASAR				PcP	PcP		20 11 56.4	+1.4
	0.5nm,0.5s,baz=101,slow=4.4,SNR=6.4							
WRA	Warramunga Arr	44.36	262	P	P		20 10 24.9	-0.5
	1.7nm,0.3s,baz=97,slow=7.6,SNR=63							
FITZ	Fitzroy Crossi	52.78	262	P	P		20 11 28.0	+0.6
	0.8nm,0.5s,baz=102,slow=3.5,SNR=9.4							
SIJI	Sorong	52.89	285	P	P		20 11 29.1	+0.8
	46nm,0.6s,baz=120,slow=4.4,SNR=4.3							
TXAR	Lajitas Array	87.15	57	P	P		20 14 50.4	+0.6
	0.3nm,0.6s,baz=217,slow=6.0,SNR=4.8							
AKASG	Malin Array Be	142.63	331	PKP		PKPdf	20 21 29.1	-2.1
	1.0nm,0.6s,baz=43,slow=4.7,SNR=7.6							
BRTR	Keskin Array B	146.44	312	PKPbc		PKPdf	20 21 39.5	+1.2
	0.5nm,0.5s,baz=90,slow=4.3,SNR=3.3							

NEIC ***29*** *20:05:26.7±0.0, 16˚.57N×98˚.42W, h16km, MD4.0(MEX), After MEX.*

MEX 29 20:05:26.7±0.5, 16˚.57N×98˚.42W, h16km±5km, MD4.0, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time h m s	Res ISC
PNIG	Pinotepa	0.33	121	*i* P		Pg	20 05 32.0	-1.7
PNIG				*e*S		Sg	20 05 37.5	-1.0
PNIG	Pinotepa	0.33	121	*i* P		Pg	20 05 32.0	-1.7
PNIG				*e*S		Sg	20 05 37.5	-1.0
TLIG	Tlapa	1.00	352	*e*P		Pb	20 05 42.1	-3.6
TLIG				*i* S		Sb	20 05 54.4	-4.3
VHO	Vista Hermosa	1.69	73	*e*P		Pn	20 05 52.2	-3.6
VHO				*i* S		Sn	20 06 12.0	-5.3
VHO	Vista Hermosa	1.69	73	*e*P		Pn	20 05 52.2	-3.6
VHO				*i* S		Sn	20 06 12.0	-5.3
OXBJ	Oaxaca	1.70	73	*i* P		Pn	20 05 52.0	-3.9
OXBJ				*i* S		Sn	20 06 12.4	-5.1
MEIG	Mezcala	1.77	320	*e*P		Pn	20 05 53.2	-3.6
MEIG				*e*S		Sn	20 06 14.2	-4.7
MEIG	Mezcala	1.77	320	*e*P		Pn	20 05 53.2	-3.6
MEIG				*e*S		Sn	20 06 14.2	-4.7
CAIG	El Cayaco	1.83	285	*e*P		Pn	20 05 53.7	-3.8
CAIG				*i* S		Sn	20 06 15.2	-5.1
CAIG	El Cayaco	1.83	285	*e*P		Pn	20 05 53.7	-3.8
CAIG				*i* S		Sn	20 06 15.2	-5.1
TPIG	Tehuac#an	2.10	29	*e*P		Pn	20 05 58.3	-3.1
TPIG				*i* S		Sn	20 06 22.4	-4.9
TPIG	Tehuac#an	2.10	29	*e*P		Pn	20 05 58.3	-3.1
TPIG				*i* S		Sn	20 06 22.4	-4.9
HUIG	Huatulco	2.36	109	*e*P		Pn	20 06 02.1	-2.8
HUIG				*i* S		Sn	20 06 29.0	-4.5
HUIG	Huatulco	2.36	109	*e*P		Pn	20 06 02.1	-2.8
HUIG				*i* S		Sn	20 06 29.0	-4.5
ARIG	Puente Sto Nin	2.50	313	*e*P		Pn	20 06 04.1	-2.7
ARIG				*i* S		Sn	20 06 32.6	-4.5

IDC ***29*** *20:05:27.8±2.3, 24˚.49S×179˚.94E, h499km±19km, mb3.4/10, mb1 3.6/11, mb1mx3.4/33, mbtmp4.2/11, Error ellipse: s-maj=24.4km s-min=19.1km az=48.0*
ISCJB ***29*** *20:05:28.7±0.9, 24˚.50S±0˚.10×179˚.9E±0˚.2, h517km, mb3.9/10, Error ellipse: s-maj=20.2km s-min=12.3km az=168.3*

ISC 29 20:05:29.6±0.9, 24˚.6S±0˚.1×179˚.9E±0˚.1, h517km, n16, σ0s96/17, mb3.8/10, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time h m s	Res ISC
DZM	Mont Dzumac	12.61	279	P		P	20 08 15.1	+0.3
	0.6nm,0.3s,baz=152,slow=20,SNR=7.1							
URZ	Urewera	13.83	189	S		S	20 10 52.9	-0.6
	1.3nm,0.3s,baz=60,slow=24,SNR=8.2							
RPZ	Rata Peaks	20.41	199	P		P	20 09 30.7	-0.1
	5.4nm,0.5s,baz=64,slow=2.7,SNR=8.0							
STKA	Stephens Creek	34.38	249	P		P	20 11 33.5	+0.2
	2.9nm,0.5s,baz=99,slow=12,SNR=15							
ASAR	Alice Springs	41.83	261	P		P	20 12 33.8	-0.4
	2.0nm,0.5s,baz=94,slow=6.5,SNR=34							
WRA	Warramunga Arr	42.27	267	P		P	20 12 36.8	-0.9
	8.5nm,0.5s,baz=98,slow=8.4,SNR=89							
WRA				ScP		ScP	20 17 23.7	+2.7
	2.9nm,1.0s,baz=100,slow=3.8,SNR=15							
FITZ	Fitzroy Crossi	50.68	266	P		P	20 13 41.3	-0.2
	6.9nm,0.6s,baz=132,slow=8.9,SNR=16							
SIJI	Sorong	52.57	289	P		P	20 13 54.3	-0.9
	106nm,0.6s,baz=90,slow=8.1							
VNDA	Vanda	53.68	185	P		P	20 14 02.8	+0.7
	0.3nm,0.5s,baz=357,slow=7.4,SNR=2.1							
MAW	Mawson	77.07	201	P		P	20 16 28.9	+0.1
	1.2nm,0.5s,baz=122,slow=10.0,SNR=4.5							
CMAR	Chiang Mai Arr	89.68	290	P		P	20 17 33.3	+0.5
	0.7nm,0.8s,baz=140,slow=4.5,SNR=4.2							
TXAR	Lajitas Array	90.88	58	P		P	20 17 37.8	-0.5
	0.8nm,0.8s,baz=219,slow=5.7,SNR=6.4							
SONM	Songino Array	97.56	319	P		P	20 18 09.1	+0.9
	0.2nm,0.5s,baz=108,slow=5.5,SNR=1.8							
FINES	FINESS Array B	139.07	341	PKP		PKPdf	20 23 56.4	-0.3
	1.4nm,0.9s,baz=106,slow=4.2,SNR=3.7							
FINES				SKP			20 26 42.6	
	1.0nm,0.6s,baz=96,slow=3.8,SNR=6.3							
AKASG	Malin Array Be	145.50	327	PKPbc		PKPdf	20 24 08.0	-0.4
	0.5nm,0.3s,baz=46,slow=4.0,SNR=2.5							
BRTR	Keskin Array B	147.91	306	PKPbc		PKPbc	20 24 15.7	-1.2
	0.4nm,0.4s,baz=148,slow=4.5,SNR=4.4							

NIED ***29*** *20:19:00, 24˚.10N×122˚.30E, h35km, Mw4.1 Best double couple: M0 1.35000×10^15 NP1:ϕs318.00000°, δ72.00000°, λ167.00000°. NP2:ϕs53.00000°, δ77.00000°, λ18.00000°.*
TAP ***29*** *20:19:40.2, 24˚.11N×122˚.29E, h4km±1km, ML4.2, D*
JMA ***29*** *20:19:41.5±0.1, 24˚.09N×122˚.28E, h33km±4km, M4.2*
NEIC ***29*** *20:19:42.3±0.5, 24˚.12N×122˚.26E, h39km±5km, mb4.3/2, Error ellipse: s-maj=7.6km s-min=6.3km az=135.0*
ISCJB ***29*** *20:19:42.1±0.4, 24˚.16N±0˚.03×122˚.31E±0˚.02, h33km±4km, mb4.0/14, MS3.4/11, Error ellipse: s-maj=4.8km s-min=2.2km az=164.4*
IDC ***29*** *20:19:44.7±5.7, 24˚.22N×122˚.32E, h59km±57km, mb3.8/12, mb1 3.8/14, mb1mx3.6/49, mbtmp4.0/14, ML3.3/2, MS3.4/14, Ms1 3.4/14, ms1mx3.1/46, Error ellipse: s-maj=40.7km s-min=15.2km az=64.0*

ISC 29 20:19:39.9±1.0, 24˚.08N±0˚.03×122˚.33E±0˚.02, h19km±3km, n107, σ0s97/114, mb4.1/14, MS3.5/11, 6C-9D, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time h m s	Res ISC
ENA	Nanau	0.64	303	⇑P		Pg	20 19 52.9	+0.2
	baz=302							
HWA	Hwalien	0.67	262	*e*P		Pn	20 19 54.3	-0.1
	baz=257							
TWD	Chiawan	0.67	270	*e*P		Pn	20 19 54.0	-0.4
	baz=267							
JYNG	Yonagunijimaku	0.67	56	P		Pn	20 19 54.9	+0.5
JYNG				S		Sn	20 20 03.8	-0.5
NACB	Ninganchiao	0.68	278	*e*Pg		Pg	20 19 53.6	+0.2
TWC	Suao	0.69	320	⇑P		Pg	20 19 53.4	-0.1
	baz=321							
TWC				*e*S		Sb	20 20 01.4	-0.9
	baz=321							
YOJ	Yonaguni jima	0.73	58	P		Pn	20 19 55.9	+0.8
YOJ				S		Sn	20 20 05.3	-0.4
YOJ	Yonaguni jima	0.73	58	*e*Pg		Pn	20 19 56.0	+0.8
EGS		0.85	335	*e*P		Pn	20 19 56.8	+0.1
	baz=336							
ESL	Shilin	0.86	253	*e*P		Pg	20 19 56.6	-0.1
	baz=249							
ILA	Ilan	0.87	322	*e*P		Pn	20 19 57.4	+0.4
	baz=323							
TWE	Neicheng	0.88	317	⇑P		Pn	20 19 57.1	-0.1
	baz=317							
ENTT	Nioudou	0.90	309	⇑P		Pn	20 19 57.6	+0.1
	baz=308							
NNS	Nan Shan	0.95	293	⇓P		Pn	20 19 58.5	+0.3
	baz=291							
WHF	Hehuan Shan	0.98	274	⇓P		Pg	20 19 58.9	-0.1
	baz=272							
TWB1	Santiao Chiao	0.98	341	P		Pg	20 19 59.1	+0.1
	baz=343							
YHNB	Yaheng	1.05	304	*e*Pn		Pn	20 19 59.8	+0.1
NSK	Sanguang	1.07	304	⇓P		Pg	20 20 00.4	-0.3
	baz=303							
TWT	Tachien	1.07	280	⇑*e*P		Pg	20 20 01.0	+0.3
	baz=277							
EHY	Hungye	1.08	239	*e*P		Pn	20 20 00.3	+0.3
	baz=235							
NWF	Wu-fen Shan	1.11	333	⇓P		Pg	20 20 01.3	-0.2
	baz=334							
TWA	Mucha	1.13	323	⇑P		Pg	20 20 02.6	+0.8
	baz=323							
YULB	Yu-li	1.17	234	*e*Pn		Pn	20 20 01.1	-0.1
TATO	Taipei	1.18	320	*e*Pn		Pb	20 20 02.1	+0.4
TAP1	Taipei	1.21	323	*e*P		Pg	20 20 04.0	+0.7
	baz=322							
TAP	Taipei	1.22	322	*e*P		Pg	20 20 04.1	+0.6
	baz=322							
SSLB	Suanglung	1.29	257	*e*Pn		Pn	20 20 03.2	+0.2
IRIF	Iriomote-Funau	1.30	78	P		Pg	20 20 05.1	0.0
IRIF				S		Sg	20 20 22.0	-0.2
CHKT	Chengkung	1.32	223	*e*P		Pn	20 20 03.0	-0.2
	baz=219							
SMLT	Sun Moon Lake	1.32	262	⇓*e*P		Pb	20 20 04.4	+0.2
	baz=259							
NSTT	Nanjuang	1.33	295	⇓P		Pg	20 20 05.1	-0.5
	baz=293							
HATJ	Hateruma jima	1.35	91	P		Pg	20 20 06.3	+0.4
HATJ				*e*S		Sg	20 20 23.8	+0.2
TYC	Yuchr	1.36	263	⇓*e*P		Pb	20 20 04.7	0.0
	baz=261							
TWY	Chenhua	1.37	331	*e*P		Pg	20 20 06.6	+0.3
	baz=331							
NCU	National Centr	1.37	311	*e*P		Pg	20 20 05.8	-0.6
	baz=310							
TWQ1	Liyutan	1.45	281	*e*P		Pg	20 20 07.2	-0.7
	baz=279							
NSY	Sanyi	1.47	284	*e*P		Pg	20 20 07.7	-0.6
	baz=282							
ELDTW	Lidau	1.50	234	*e*P		Pn	20 20 06.0	+0.3
	baz=231							
ALS	Alishan	1.51	248	⇓*e*P		Pb	20 20 07.7	+0.2
	baz=246							
TCU	Taichung	1.51	273	*e*P		Pg	20 20 08.3	-0.8
	baz=271							
WNT	Mingjian	1.52	263	*e*P		Pb	20 20 07.9	+0.4
	baz=260							
JKRS	Kuro-shima	1.54	84	P		Pg	20 20 08.9	-0.7
JKRS				*e*S		Sg	20 20 28.7	-1.0
PCYT	Pengchaiyu	1.56	351	*e*P		Pb	20 20 07.5	-0.7
	baz=352							
CHN5	Tsauling	1.59	253	*e*P		Pb	20 20 09.1	+0.4
	baz=250							
WGK	Gukeng	1.67	257	*e*P		Pg	20 20 11.4	-0.5
	baz=254							
JIJ	Ishigaki jima	1.68	80	P		Pb	20 20 10.0	-0.1
JIJ				S		Sb	20 20 31.2	+0.3
TWG	Pinlang	1.70	223	⇓*e*P		Pn	20 20 08.7	+0.1
	baz=220							
TWG	Pinlang	1.70	223	*e*Pn		Pn	20 20 08.4	-0.2
STYT	Tauyuan	1.71	238	*e*P		Pb	20 20 10.2	-0.5
	baz=235							
TPUB	Ta-pu	1.74	244	*e*Pn		Pb	20 20 11.1	-0.2
CHN4	Tsaushan	1.75	246	*e*P		Pb	20 20 11.8	+0.4
	baz=244							
WTP	Ta-pu	1.78	243	*e*P		Pb	20 20 12.3	+0.4
	baz=240							
CHN2	Minshiung	1.79	253	*e*P		Pb	20 20 12.5	+0.5
	baz=250							
CHY	Chiayi	1.84	252	*e*P		Pb	20 20 13.2	+0.3
	baz=250							
TWK	Hsinying	1.87	245	*e*P		Pb	20 20 13.6	+0.1
	baz=242							
JISG	Ishigakijimahi	1.88	74	P		Pb	20 20 12.7	-0.8
JISG				S		Sb	20 20 35.5	-1.1
CHN1	Nanshi	1.88	242	*e*P		Pb	20 20 14.0	+0.4
	baz=240							
SGST	Jiashian	1.89	239	*e*P		Pb	20 20 14.1	+0.4
	baz=236							
ECL	Taimali	1.94	221	*e*P		Pn	20 20 12.2	+0.4
	baz=218							
WSF	Szhu	1.98	258	*e*P		Pb	20 20 14.9	-0.4
	baz=255							
SSD	Sandimen	2.05	230	*e*P		Pb	20 20 15.9	-0.6
	baz=228							
SSD				*e*S		Sb	20 20 42.0	+0.5
	baz=228							
CHN3	Shinhua	2.06	241	*e*P		Pg	20 20 19.5	0.0
	baz=239							
CHN8	Yiju	2.08	250	*e*P		Pb	20 20 16.8	-0.1
	baz=248							
CHN8				*e*S		Sb	20 20 41.8	-0.5
	baz=248							
LAY	Lan-yu	2.15	200	*e*P		Pn	20 20 14.1	-0.6
	baz=198							
TWM1	Shoushan	2.15	235	*e*P		Pb	20 20 19.3	+1.0
	baz=233							
SCLT	Jiali	2.16	246	*e*S		Sb	20 20 44.4	-0.3
	baz=244							
EAST	Anshuo	2.17	219	*e*P		Pn	20 20 15.7	+0.7
	baz=217							
JTJ	Tarama	2.23	75	P		Pb	20 20 18.6	-1.0
JTJ				S		Sb	20 20 45.3	-1.6
SCZT	Fangliau	2.31	223	*e*P		Pb	20 20 20.8	-0.2
	baz=221							
PNG	Penghu	2.59	259	*e*P		Pn	20 20 22.3	+1.6
	baz=257							
JIRB	Irabujima	2.69	73	P		Pb	20 20 25.1	-2.4
JIRB				S		Sn	20 20 56.2	+1.9
JIKM	Ikemajima	2.79	72	P		Pb	20 20 26.3	-2.8
JIKM				S		Sn	20 20 58.0	+1.5
JMJ	Miyako jima 2	2.80	74	*e*S		Sn	20 20 59.2	+2.4
JOGS	Gusukube	2.88	76	P		Pn	20 20 27.2	+2.4
KNM	Kinmen	3.57	276	*e*P		Pn	20 20 36.6	+2.3
	baz=274							
JKE	Kume jima 2	4.62	60	P		Pn	20 20 50.7	+2.1
JNTH	Nagotoyohara	5.70	64	P		Pn	20 21 05.3	+1.9
JOW	Kunigami	6.03	62	P		Pn	20 21 09.0	+0.9
	1.9nm,0.3s,baz=101,slow=20,SNR=18							
JOW				S		Sn	20 22 19.5	+2.9
	0.9nm,0.3s,baz=138,slow=26,SNR=1.0							
JOW	Kunigami	6.03	62	P		Pn	20 21 08.8	+0.7
JOKE	Okinoerabujima	6.51	59	P		Pn	20 21 14.7	+0.1
JAMN	Amaminishikomi	7.42	55	P		Pn	20 21 27.6	+0.5
JAM	Amami Oshima	7.83	55	P		Pn	20 21 32.7	0.0
JNU	Nakatsue	11.72	38	LR		LR	20 27 17.3	
	comp=Z,73nm,20.8s,baz=118,slow=39							
KSAR	Wonju Array Be	14.15	18	P		Pn	20 23 01.7	+2.5
KSRS	Korea Array	14.17	18	P		Pn	20 23 01.7	+2.2
	0.1nm,0.3s,baz=195,slow=12,SNR=2.1							
KSRS				LR		LR	20 28 49.7	
	comp=Z,82nm,19.4s,baz=187,slow=39							
JHJ	Hachijo jima 2	17.76	56	LR		LR	20 30 15.4	
	comp=Z,70nm,18.8s,baz=284,slow=36							
USRK	Ussuriysk Ar.	21.57	19	LR		LR	20 32 21.7	
	comp=Z,78nm,19.3s,baz=179,slow=35							
GUMO	Guam	23.71	112	LR		LR	20 34 16.0	
	comp=Z,37nm,19.2s,baz=274,slow=37							
SONM	Songino Array	26.88	336	P		P	20 25 19.2	-0.4
	5.7nm,0.7s,baz=149,slow=10,SNR=48							
SONM				LR		LR	20 37 34.2	
	comp=Z,103nm,18.4s,baz=141,slow=40							
MKAR	Makanchi Array	39.15	316	P		P	20 27 05.5	-0.7
	2.0nm,0.3s,baz=107,slow=9.7,SNR=1.5							
MKAR				LR		LR	20 44 46.3	
	comp=Z,74nm,18.2s,baz=88,slow=38							
ZALV	Zalesovo Beam	40.91	327	P		P	20 27 19.3	-1.4
	3.4nm,0.7s,baz=112,slow=8.7,SNR=15							
ZALV				LR		LR	20 45 36.5	
	comp=Z,69nm,19.4s,baz=70,slow=38							
KURK	Kurchatov	42.85	320	P		P	20 27 36.1	-0.6
KUR

JMK			S	Sn	20 25 31.9	-0.1
JOU	**Okura**	**1.08 283**	P	Pn	20 25 19.4	-0.2
JOU			S	Sn	20 25 32.5	-0.9
JFK	**Kawauchi**	**1.17 230**	P	Pn	20 25 20.6	-0.3
JFK			S	Sn	20 25 34.4	-1.3
JFT	**Otama**	**1.45 246**	P	Pn	20 25 24.9	+0.2
JFT			S	Sn	20 25 42.2	-0.3
JOM	**Ohasama**	**1.45 338**	P	Pn	20 25 25.5	+0.8
JOM			S	Sn	20 25 42.9	+0.4
JYK	**Kaneyama**	**1.51 302**	P	Pn	20 25 25.5	+0.1
JYK			eS	Sn	20 25 43.6	-0.3
JYS	**Shirataka**	**1.53 274**	P	Pn	20 25 25.6	-0.1
JYS			eS	Sn	20 25 43.6	-0.8
JRG	**Rokugo**	**1.66 320**	P	Pn	20 25 28.2	+0.7
JRG			S	Sn	20 25 49.0	+1.5
JYA	**Atsumi**	**1.86 285**	P	Pn	20 25 30.2	0.0
JYA			S	Sn	20 25 52.5	0.0
JFY	**Yanaizu**	**1.96 249**	P	Pn	20 25 32.0	+0.4
JFY			S	Sn	20 25 54.7	-0.3
MJAR	**Matsushiro Arr**	**3.41 244**	Pn	Pn	20 25 53.3	+1.7
	0.9nm,0.3s,baz=66,slow=11,SNR=8.0					
MJAR			Sn	Sn	20 26 37.1	+6.3
	1.0nm,0.3s,baz=84,slow=25,SNR=2.3					
MAT	**Matsushiro**	**3.41 244**	P	Pn	20 25 52.5	+0.9
MAT			eS	Sn	20 26 32.7	+1.9
H11N2	**WAKE ISLAND Hy 28.33 123**		T	T	21 01 07.6	
	baz=316,slow=75,SNR=125					
H11N1	**WAKE ISLAND Hy 28.34 123**		T	T	21 01 08.8	
	baz=316,slow=75,SNR=72					
H11N3	**WAKE ISLAND Hy 28.35 123**		T	T	21 01 09.1	
	baz=316,slow=75,SNR=90					
H11S1	**WAKE ISLAND Hy 29.09 125**		T	T	21 02 06.8	
	baz=318,slow=76,SNR=60					
H11S3	**WAKE ISLAND Hy 29.09 125**		T	T	21 02 06.3	
	baz=318,slow=76,SNR=63					
H11S2	**WAKE ISLAND Hy 29.10 125**		T	T	21 02 07.4	
	baz=318,slow=76,SNR=62					
MKAR	**Makanchi Array**	**43.94 301**	P	**P**	**20 33 03.6**	**+0.1**
	2.1nm,0.4s,baz=89,slow=12,SNR=1.4					
ILAR	**Eielson Array**	**48.32 33**	P	**P**	20 33 37.8	+0.2
	0.5nm,0.7s,baz=270,slow=6.8,SNR=3.6					
WRA	**Warramunga Arr**	**58.21 188**	P	**P**	**20 34 49.9**	**-0.8**
	0.1nm,0.5s,baz=5.0,slow=7.1,SNR=1.4					
TXAR	**Lajitas Array**	**89.09 53**	P	**P**	**20 37 51.2**	**-0.6**
	0.3nm,0.6s,baz=286,slow=3.7,SNR=2.4					
LPAZ	**La Paz**	**145.73 59**	PKPbc	**PKPdf**	**20 44 35.4**	**-0.5**
	0.8nm,0.5s,baz=14,slow=6.0,SNR=3.8					

*ISCJB **29** 20:32:36.0±0.9,29°.6S×0°.1×176°.2W±0°.1,h10km,mb4.4/10, MS3.5/3, Error ellipse: s-maj=20.2km s-min=12.3km az=15.0*
*IDC **29** 20:32:36.5±0.9,29°.28S×176°.26W, h0km, mb4.3/8, mb1 4.4/8,mb1mx4.2/28,mbtmp4.3/8,MS3.5/6,Ms1 3.4/6, ms1mx3.1/29, Error ellipse: s-maj=29.2km s-min=20.8km az=172.0*
*NEIC **29** 20:32:37.7±0.6,29°.28S×176°.19W,h10km,mb4.9/3, Error ellipse: s-maj=17.8km s-min=14.4km az=187.0*

ISC 29 20:32:39.9±0.8,29°.3S±0°.2×176°.28W±0°.10,h21km,n22, σ0s80/19,mb4.5/10,MS3.4/3,Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**1.43 271**		Pn	**Pb**	**20 33 06.0**	**+0.1**
	202nm,0.3s,baz=283,slow=15,SNR=4.3						
RAO				Sn	**Sn**	**20 33 23.0**	**+0.2**
	251nm,0.3s,baz=51,slow=14,SNR=6.5						
RAO				LR	LR	20 33 23.8	
	comp=Z,314nm,18.8s,baz=75,slow=33						
URZ	**Urewera**	**10.50 210**		Pn	Pn	20 35 03.1	-6.1
	0.3nm,0.3s,baz=1.8,slow=14,SNR=3.7						
URZ				Sn	Sn	20 36 54.6	-12
	1.3nm,0.3s,baz=61,slow=23,SNR=6.2						
URZ				LR	LR	20 39 12.2	
	comp=Z,80nm,21.1s,baz=36,slow=38						
RAR	**Rarotonga**	**16.94 65**		LR	LR	20 42 50.1	
	comp=Z,129nm,18.6s,baz=268,slow=36						
DZM	**Mont Dzumac**	**17.14 291**		LR	LR	20 42 38.2	
	comp=Z,260nm,18.2s,baz=34,slow=35						
CTA	**Charters Tower**	**35.13 276**		P	**P**	**20 39 32.6**	**+0.5**
	3.1nm,0.5s,baz=102,slow=10,SNR=6.3						
CTAO	**Charters Tower**	**35.13 276**		*eP*	**P**	**20 39 32.9**	**+0.7**
	12nm,0.7s						
STKA	**Stephens Creek**	**36.20 255**		P	**P**	**20 39 41.4**	**+0.2**
	7.7nm,0.9s,baz=81,slow=9.0,SNR=8.0						
STKA				LR	LR	20 52 39.7	
	comp=Z,64nm,19.8s,baz=30,slow=33						
ASAR	**Alice Springs**	**44.68 265**		P	**P**	**20 40 50.3**	**-1.2**
	1.5nm,0.7s,baz=99,slow=7.7,SNR=30						
ASAR				LR	LR	20 59 32.3	
	comp=Z,109nm,18.3s,baz=94,slow=36						
WRAB	**Tennant Creek**	**45.56 270**		*eP*	**P**	**20 40 57.8**	**-0.8**
	5.1nm,0.8s						
WRA	**Warramunga Arr**	**45.57 270**		P	**P**	**20 40 57.9**	**-0.7**
	4.1nm,0.7s,baz=109,slow=7.9,SNR=38						
VNDA	**Vanda**	**49.35 186**		P	**P**	**20 41 28.1**	**+0.9**
	0.8nm,0.9s,baz=333,slow=5.8,SNR=4.3						
GUMO	**Guam**	**56.78 313**		LR	LR	21 02 54.0	
	comp=Z,27nm,19.1s,baz=132,slow=32						
QSPA	**South Pole Qui**	**60.82 180**		*eP*	**P**	**20 42 50.4**	**0.0**
	15nm,0.9s						
MJAR	**Matsushiro Arr**	**78.20 324**		P	**P**	**20 44 36.7**	**-1.1**
	1.3nm,0.8s,baz=159,slow=5.4,SNR=4.1						
PETK	**Petropavlovsk-**	**85.12 345**		P	**P**	**20 45 15.5**	**+1.6**
	4.2nm,0.5s,baz=104,slow=4.7,SNR=6.6						
ILAR	**Eielson Array**	**96.52 12**		P	**P**	**20 46 07.4**	**+0.2**
	0.6nm,0.9s,baz=228,slow=6.8,SNR=5.5						
KURK	**Kurchatov**	**121.36 314**		PKP	**PKPdf**	**20 51 30.4**	**-0.6**
KURBB	**Kurchatov Arra**	**121.40 314**		PKP	**PKPdf**	**20 51 30.4**	**-0.7**
	0.7nm,0.8s,baz=116,slow=1.7,SNR=5.5						
FINES	**FINESS Array B**	**144.59 342**		PKP	**PKPab**	**20 52 12.5**	**-0.2**
	2.8nm,0.8s,baz=42,slow=5.9,SNR=7.9						
KBZ	**Khabaz**	**145.71 306**		PKPbc	**PKPbc**	**20 52 17.4**	**+0.5**
	1.7nm,0.9s,baz=318,slow=2.6,SNR=3.8						
AKASG	**Malin Array Be**	**151.28 325**		PKPbc	**PKPbc**	**20 52 31.1**	**-0.4**
	3.6nm,0.8s,baz=44,slow=2.9,SNR=8.7						
TORD	**Torodi Ar. Bea**	**163.83 173**		PKPab	**PKPab**	**20 53 33.2**	**-1.1**
	1.1nm,0.8s,baz=173,slow=3.2,SNR=7.3						

*ISCJB **29** 20:39:56.8±0.5,39°.67N±0°.03×38°.67E±0°.03,h9km±6km, Error ellipse: s-maj=5.1km s-min=3.9km az=28.3*
*CSEM **29** 20:39:56.7±0.2,39°.66N×38°.66E,h10km,MD2.5, Error ellipse: s-maj=4.2km s-min=3.2km az=46.0*
*DDA **29** 20:39:56.4,39°.65N×38°.67E,h7km,Md2.5*
*ISK **29** 20:39:57.0,39°.70N×38°.70E,h21km,MD2.9*

ISC 29 20:39:56.7±1.0,39°.66N±0°.02×38°.67E±0°.02,h10km±9km, n23,σ0s47/40,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KEMA	**Kemaliye**	**0.41 199**		*i* P	**Pg**	**20 40 04.3**	**-0.6**
KEMA				*i* S	**Sg**	**20 40 10.6**	**+0.3**
KEMA	**Kemaliye**	**0.41 199**		P	**Pg**	**20 40 04.3**	**-0.6**
KEMA				S	**Sg**	**20 40 10.6**	**+0.3**
SUSE	**Susehri**	**0.66 327**		*i* P	**Pb**	**20 40 09.9**	**-0.5**
SUSE				*i* S	**Sg**	**20 40 18.7**	**+0.6**
SUSE	**Susehri**	**0.66 327**		P	**Pb**	**20 40 09.9**	**-0.5**
SUSE				S	**Sg**	**20 40 18.7**	**+0.6**
KELT	**Kelkit**	**0.67 43**		*i* P	**Pg**	**20 40 09.2**	**-0.5**
KELT				*i* S	**Sg**	**20 40 18.9**	**+0.4**
KELT	**Kelkit**	**0.67 43**		P	**Pg**	**20 40 09.2**	**-0.5**
KELT				S	**Sg**	**20 40 18.9**	**+0.4**
CUZAR	**Zara_SIVAS**	**0.73 289**		*i* P	**Pg**	**20 40 10.8**	**-0.1**
CUZAR				*i* S	**Sb**	**20 40 22.4**	**+0.8**
CUZAR	**Zara_SIVAS**	**0.73 289**		P	**Pg**	**20 40 10.8**	**-0.1**
CUZAR				S	**Sb**	**20 40 22.4**	**+0.8**
ERZN	**Erzincan**	**0.82 95**		*e*PG	**Pb**	**20 40 13.2**	**+0.1**
ERZN				*e*SG	**Sb**	**20 40 24.8**	**+0.7**
TNCL	**Tunceli-Merkez**	**0.87 128**		*i* P	**Pg**	**20 40 13.6**	**+0.1**
TNCL				*i* S	**Sb**	**20 40 25.6**	**0.0**
TNCL	**Tunceli-Merkez**	**0.87 128**		P	**Pg**	**20 40 13.6**	**+0.1**
TNCL				S	**Sb**	**20 40 25.6**	**0.0**
PTK	**Pertek**	**0.95 144**		*e*PG	**Pn**	**20 40 16.0**	**-0.2**
PTK				*e*SG	**Sn**	**20 40 29.6**	**-0.3**
PTK	**Pertek**	**0.95 144**		*e*Pg	**Pn**	**20 40 16.0**	**-0.2**
PTK				*e*Sg	**Sn**	**20 40 29.6**	**-0.3**
CUKAN	**kangal_SIVAS**	**0.99 250**		*i* P	**Pg**	**20 40 14.8**	**-0.9**
CUKAN				*i* S	**Sb**	**20 40 29.7**	**+0.5**
CUKAN	**kangal_SIVAS**	**0.99 250**		P	**Pg**	**20 40 14.9**	**-0.9**
CUKAN				S	**Sb**	**20 40 29.7**	**+0.5**
ELZG	**Elazig**	**1.19 168**		*i* P	**Pg**	**20 40 19.7**	**+0.2**
ELZG				*i* S	**Sg**	**20 40 35.3**	**+0.4**
ELZG	**Elazig**	**1.19 168**		P	**Pg**	**20 40 19.7**	**+0.2**
ELZG				S	**Sg**	**20 40 35.3**	**+0.4**
SVSK	**Karacayir**	**1.31 282**		*e*PN	**Pn**	**20 40 21.1**	**+0.1**
SVSK	**Karacayir**	**1.31 282**		*e*Pn	**Pn**	**20 40 21.1**	**+0.1**
DARE	**Darende-Malaty**	**1.43 221**		*e*PN	**Pn**	**20 40 22.7**	**0.0**
DARE	**Darende-Malaty**	**1.43 221**		*e*Pn	**Pn**	**20 40 22.7**	**0.0**
YEDI	**Yedisu-Bingol**	**1.47 98**		*e*PN	**Pn**	**20 40 22.7**	**-0.6**
SARI	**SarD1z-Kayseri**	**2.15 235**		*e*PN	**Pn**	**20 40 33.3**	**+0.5**

*INMG **29** 20:44:29.0±2.2,34°.99N×4°.29W,h32km±28km,ML3.0, Error ellipse: s-maj=12.6km s-min=5.9km az=95.0*
*ISCJB **29** 20:44:29.1±0.4,35°.05N±0°.03×4°.72W±0°.02,h35km, Error ellipse: s-maj=3.8km s-min=2.8km az=8.1*
*MDD **29** 20:44:30.4±1.1,34°.92N×4°.59W,h38km±20km,mbLg3.1/34, Error ellipse: s-maj=12.7km s-min=4.9km az=3.0,PRXIMO*
*SFS **29** 20:44:30.0,34°.80N×4°.50W,h0km,ML3.0*
*IGIL **29** 20:44:30.3,34°.90N×4°.58W,h38km,ML3.2*
*CSEM **29** 20:44:30.4,34°.91N×4°.68W,h29km,MD3.2*
*CNRM **29** 20:44:30.4,34°.91N×4°.68W,h29km,MD3.2*

ISC 29 20:44:29.0±1.3,34°.97N±0°.05×4°.65W±0°.03,h35km,n155, σ1s97/275,3C-6D,Morocco

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MPAL	**Palemas**	**0.63**	**66**	*i* P	**Pn**	**20 44 43.0**	**+1.4**
MPAL				*i* S	**Sn**	**20 44 52.0**	**+1.6**
CEU	**Ceuta**	**1.10**	**328**	P	**Pn**	**20 44 44.1**	**-3.8**
CEU				S	**Sn**	**20 45 03.3**	**+1.4**
CEU	**Ceuta**	**1.10**	**328**	*e*S	**Sn**	**20 45 03.3**	**+1.4**
ECEU	**Ceuta**	**1.10**	**327**	⇑P	**Pn**	**20 44 50.4**	**+2.4**
	3.3nm,0.1s,SNR=18						
ECEU				S	**Sn**	**20 45 05.0**	**+3.1**
	49nm,0.1s,SNR=11						
ECEU	**Ceuta**	**1.10**	**327**	P	**Pn**	**20 44 50.4**	**+2.4**
	3.3nm,0.1s,SNR=18						
ECEU				S	**Sn**	**20 45 05.0**	**+3.1**
	49nm,0.1s,SNR=11						
MELI	**Melilla**	**1.44**	**77**	S	**Sn**	**20 45 09.2**	**-1.1**
EMIJ	**Mijas**	**1.59**	**356**	⇓P	**Pn**	**20 44 54.7**	**-0.1**
	2.0nm,0.1s,SNR=18						
EMIJ				S	**Sn**	**20 45 13.0**	**-1.2**
	56nm,0.1s,SNR=16						
EMIJ	**Mijas**	**1.59**	**356**	P	**Pn**	**20 44 54.7**	**-0.1**
	2.0nm,0.1s,SNR=18						
EMIJ				S	**Sn**	**20 45 13.0**	**-1.2**
	56nm,0.1s,SNR=16						
EJIF	**Jimena Fronter**	**1.62**	**336**	P	**Pn**	**20 44 58.1**	**+3.0**
	0.4nm,0.2s,SNR=7.9						
EJIF	**Jimena Fronter**	**1.62**	**336**	P	**Pn**	**20 44 58.1**	**+3.0**
	0.4nm,0.2s,SNR=7.9						
EALB	**Alboran**	**1.63**	**53**	P	**Pn**	**20 44 55.0**	**-0.3**
	7.8nm,0.1s,SNR=7.9						
EALB				S	**Sn**	**20 45 13.9**	**-1.1**
	73nm,0.2s,SNR=7.9						
EMAL	**Malaga-Limoner**	**1.80**	**6**	⇑P	**Pn**	**20 44 58.1**	**+0.6**
EMAL				S	**Sn**	**20 45 18.4**	**-0.7**
EMAL	**Malaga-Limoner**	**1.80**	**6**	*i* P	**Pn**	**20 44 58.1**	**+0.6**
EMAL				*e*S	**Sn**	**20 45 18.4**	**-0.7**
CZD	**Col de Zad**	**1.96**	**190**	*i* P	**Pn**	**20 45 01.0**	**+0.9**
CZD				*i* S	**Sn**	**20 45 23.0**	**-0.6**
ESPR	**Espera**	**2.13**	**333**	P	**Pn**	**20 45 02.9**	**+0.7**
	0.3nm,0.2s,SNR=5.5						
ESPR				S	**Sn**	**20 45 28.9**	**+1.5**
	5.6nm,0.2s,SNR=6.1						
ESPR	**Espera**	**2.13**	**333**	P	**Pn**	**20 45 02.9**	**+0.7**
	0.3nm,0.2s,SNR=5.5						
ESPR				S	**Sn**	**20 45 28.9**	**+1.5**
	5.6nm,0.2s,SNR=6.1						
EGOR	**Sierra Gorda,**	**2.18**	**11**	P	**Pn**	**20 45 04.0**	**+1.1**
	1.5nm,0.1s,SNR=7.9						
EGOR				S	**Sn**	**20 45 28.8**	**0.0**
	4.2nm,0.1s,SNR=7.9						
EGOR	**Sierra Gorda,**	**2.18**	**11**	P	**Pn**	**20 45 04.0**	**+1.1**
	1.5nm,0.1s,SNR=7.9						
EGOR				S	**Sn**	**20 45 28.8**	**0.0**
	4.2nm,0.1s,SNR=7.9						
SELV	**Sierra Elvira**	**2.38**	**18**	P	**Pn**	**20 45 08.6**	**+3.0**
	21nm,0.3s,SNR=7.9						
SELV				S	**Sn**	**20 45 35.8**	**+2.2**
	0.3nm,0.1s,SNR=7.9						
SELV	**Sierra Elvira**	**2.38**	**18**	P	**Pn**	**20 45 08.6**	**+3.0**
	21nm,0.3s,SNR=7.9						
SELV				S	**Sn**	**20 45 35.8**	**+2.2**
	0.3nm,0.1s,SNR=7.9						
EBER	**Berja**	**2.39**	**36**	P	**Pn**	**20 45 06.1**	**+0.1**
	1.2nm,0.1s,SNR=48						
EBER				S	**Sn**	**20 45 32.9**	**-1.3**
	8.4nm,0.1s,SNR=5.7						
EBER	**Berja**	**2.39**	**36**	P	**Pn**	**20 45 06.1**	**+0.1**
	1.2nm,0.1s,SNR=48						
EBER				S	**Sn**	**20 45 32.9**	**-1.3**
	8.4nm,0.1s,SNR=5.7						
EQUE	**Quentar**	**2.44**	**23**	P	**Pn**	**20 45 07.9**	**+1.5**
	2.9nm,0.1s,SNR=8.7						
EQUE				S	**Sn**	**20 45 35.7**	**+0.7**
	1.7nm,0.1s						
EQUE	**Quentar**	**2.44**	**23**	P	**Pn**	**20 45 07.9**	**+1.5**
	2.9nm,0.1s,SNR=8.7						
EQUE				S	**Sn**	**20 45 35.7**	**+0.7**
	1.7nm,0.1s						
ENIJ	**Nijar**	**2.81**	**44**	P	**Pn**	**20 45 11.8**	**+0.3**
	0.6nm,0.1s,SNR=7.9						
ENIJ				S	**Sn**	**20 45 42.0**	**-2.2**
	41nm,0.3s,SNR=7.9						
ENIJ	**Nijar**	**2.81**	**44**	P	**Pn**	**20 45 11.8**	**+0.3**
	0.6nm,0.1s,SNR=7.9						
ZFT	**Errachidia**	**2.94**	**175**	*i* P	**Pn**	**20 45 12.0**	**-1.5**
ZFT				*e*S	**Sn**	**20 45 44.0**	**-3.6**
EQES	**Quesada**	**3.10**	**24**	⇓P	**Pn**	**20 45 17.9**	**+2.3**
	1.9nm,0.1s,SNR=18						
EQES				S	**Sn**	**20 45 52.6**	**+1.1**
	0.8nm,0.1s						
EQES	**Quesada**	**3.10**	**24**	P	**Pn**	**20 45 17.9**	**+2.3**
	1.9nm,0.1s,SNR=18						
EQES				S	**Sn**	**20 45 52.6**	**+1.1**
	0.8nm,0.1s						
ECAB	**El Cabril**	**3.16**	**349**	P	**Pn**	**20 45 17.7**	**+1.4**
	0.7nm,0.1s,SNR=20						
ECAB				S	**Sn**	**20 45 51.7**	**-1.1**
	3.3nm,0.1s,SNR=11						
ECAB	**El Cabril**	**3.16**	**349**	P	**Pn**	**20 45 17.7**	**+1.4**
	0.7nm,0.1s,SNR=20						
ECAB				S	**Sn**	**20 45 51.7**	**-1.1**
	3.3nm,0.1s,SNR=11						
EADA	**Adamuz**	**3.19**	**1**	⇓P	**Pn**	**20 45 18.8**	**+2.1**
	1.1nm,0.1s,SNR=18						
EADA				S	**Sn**	**20 45 53.3**	**-0.3**
	0.9nm,0.1s						
EADA	**Adamuz**	**3.19**	**1**	P	**Pn**	**20 45 18.8**	**+2.1**
	1.1nm,0.1s,SNR=18						
EADA				S	**Sn**	**20 45 53.3**	**-0.3**
	0.9nm,0.1s						
EMIN	**Mina Concepcio**	**3.23**	**330**	⇓P	**Pn**	**20 45 18.7**	**+1.4**
	1.0nm,0.1s,SNR=18						
EMIN				S	**Sn**	**20 45 53.7**	**-0.9**
	6.3nm,0.1s,SNR=6.3						
EMIN	**Mina Concepcio**	**3.23**	**330**	P	**Pn**	**20 45 18.7**	**+1.4**
	1.0nm,0.1s,SNR=18						
EMIN				S	**Sn**	**20 45 53.7**	**-0.9**
	6.3nm,0.1s,SNR=6.3						
EGRO	**El Granado**	**3.43**	**319**	⇓P	**Pn**	**20 45 21.7**	**+1.7**
	0.5nm,0.0s,SNR=18						
EGRO				S	**Sn**	**20 45 59.1**	**-0.4**
	35nm,0.1s,SNR=11						
EGRO	**El Granado**	**3.43**	**319**	P	**Pn**	**20 45 21.7**	**+1.7**
	0.5nm,0.0s,SNR=18						
EGRO				S	**Sn**	**20 45 59.1**	**-0.4**
	35nm,0.1s,SNR=11						
PVAQ	**Vaqueiros**	**3.47**	**315**	*e*P	**Pn**	**20 45 22.1**	**+1.5**
PVAQ				*e*S	**Sn**	**20 45 59.8**	**-0.7**
PVAQ				A	A	20 46 00.3	
	77nm,0.2s						
PVAQ	**Vaqueiros**	**3.47**	**315**	P	**Pn**	**20 45 22.1**	**+1.5**
PVAQ				S	**Sn**	**20 45 59.8**	**-0.7**
	77nm,0.2s						
PVAQ	**Vaqueiros**	**3.47**	**315**	P	**Pn**	**20 45 22.1**	**+1.5**
PVAQ				*e*S	**Sn**	**20 45 59.8**	**-0.7**
	77nm,0.2s						
PBDV	**Barranco-do-Ve**	**3.49**	**311**	⇑*e*P	**Pn**	**20 45 22.4**	**+1.5**
PBDV				*e*S	**Sn**	**20 46 00.5**	**-0.5**
PBDV				A	A	20 46 01.6	
	28nm,0.2s						
PBDV	**Barranco-do-Ve**	**3.49**	**311**	P	**Pn**	**20 45 22.4**	**+1.5**
PBDV				S	**Sn**	**20 46 00.5**	**-0.5**
	28nm,0.2s						
PBDV	**Barranco-do-Ve**	**3.49**	**311**	P	**Pn**	**20 45 22.4**	**+1.5**
PBDV				*e*S	**Sn**	**20 46 00.5**	**-0.5**
SESP	**Santiago Espad**	**3.57**	**28**	P	**Pn**	**20 45 24.3**	**+2.2**
	1.4nm,0.2s,SNR=7.9						
SESP				S	**Sn**	**20 46 06.0**	**+2.9**
	4.4nm,0.2s,SNR=7.9						
SESP	**Santiago Espad**	**3.57**	**28**	P	**Pn**	**20 45 24.3**	**+2.2**
	1.4nm,0.2s,SNR=7.9						
SESP				S	**Sn**	**20 46 06.0**	**+2.9**
	4.4nm,0.2s,SNR=7.9						
PBAR	**Barrancos**	**3.73**	**330**	*e*P	**Pn**	**20 45 25.6**	**+1.5**
PBAR				*e*S	**Sn**	**20 46 06.0**	**-0.9**
PBAR				A	A	20 46 07.1	
	78nm,0.3s						
PBAR	**Barrancos**	**3.73**	**330**	P	**Pn**	**20 45 25.6**	**+1.5**
PBAR				S	**Sn**	**20 46 06.0**	**-0.9**
	78nm,0.3s						
PBAR	**Barrancos**	**3.73**	**330**	P	**Pn**	**20 45 25.6**	**+1.5**
PBAR				*e*S	**Sn**	**20 46 06.0**	**-0.9**
	78nm,0.3s						
PCVE	**Castro Verde**	**3.81**	**315**	*e*P	**Pn**	**20 45 26.8**	**+1.5**
PCVE				*e*S	**Sn**	**20 46 08.0**	**-0.9**
PCVE	**Castro Verde**	**3.81**	**315**	P	**Pn**	**20 45 26.8**	**+1.5**
PCVE				S	**Sn**	**20 46 08.0**	**-0.9**
PCVE	**Castro Verde**	**3.81**	**315**	P	**Pn**	**20 45 26.8**	**+1.5**
PCVE				S	**Sn**	**20 46 08.0**	**-0.9**
EMUR	**La Murta**	**3.97**	**43**	P	**Pn**	**20 45 28.5**	**+1.1**
	0.2nm,0.1s,SNR=6.6						
EMUR				S	**Sn**	**20 46 09.9**	**-2.9**
	0.7nm,0.3s						
EMUR	**La Murta**	**3.97**	**43**	P	**Pn**	**20 45 28.5**	**+1.1**
	0.2nm,0.1s,SNR=6.6						
PBEJ	**Beja**	**4.00**	**321**	*e*P	**Pn**	**20 45 30.1**	**+2.2**
PBEJ				*e*S	**Sn**	**20 46 12.5**	**-1.0**
PBEJ				A	A	20 46 15.1	
	25nm,0.2s						
PBEJ	**Beja**	**4.00**	**321**	P	**Pn**	**20 45 30.1**	**+2.2**
PBEJ				S	**Sn**	**20 46 12.5**	**-1.0**
	13nm,0.2s						
PBEJ	**Beja**	**4.00**	**321**	P	**Pn**	**20 45 30.1**	**+2.2**
PBEJ				*e*S	**Sn**	**20 46 12.5**	**-1.0**
	25nm,0.2s						
PFVI	**Vila Bisbo**	**4.01**	**304**	*e*P	**Pn**	**20 45 29.1**	**+1.1**
PFVI				*e*S	**Sn**	**20 46 12.8**	**-1.0**
PFVI				A	A	20 46 18.1	
	23nm,0.3s						
PFVI	**Vila Bisbo**	**4.01**	**304**	P	**Pn**	**20 45 29.1**	**+1.1**
	0.8nm,0.0s,SNR=19						
PFVI				S	**Sn**	**20 46 13.0**	**-0.8**
	43nm,0.1s,SNR=9.0						
PFVI	**Vila Bisbo**	**4.01**	**304**	P	**Pn**	**20 45 29.1**	**+1.1**
	0.8nm,0.0s,SNR=19						
PFVI				S	**Sn**	**20 46 13.0**	**-0.8**
	43nm,0.1s,SNR=9.0						
MESJ	**Messejana**	**4.06**	**316**	*e*P	**Pn**	**20 45 30.1**	**+1.4**
MESJ				*e*S	**Sn**	**20 46 13.3**	**-1.7**
MESJ				AML	AML	20 46 15.1	
	comp=N,53nm,0.1s						
MESJ	**Messejana**	**4.06**	**316**	*e*P	**Pn**	**20 45 30.3**	**+1.6**
MESJ				*e*S	**Sn**	**20 46 13.4**	**-1.6**
MESJ				A	A	20 46 15.9	
	comp=N,35nm,0.4s						
MESJ	**Messejana**	**4.06**	**316**	P	**Pn**	**20 45 30.1**	**+1.4**
MESJ				S	**Sn**	**20 46 13.3**	**-1.7**
	comp=N,53nm,0.1s						
MESJ	**Messejana**	**4.06**	**316**	*e*P	**Pn**	**20 45 30.3**	**+1.6**
MESJ				*e*S	**Sn**	**20 46 13.4**	**-1.6**
	comp=N,35nm,0.4s						
PTEO	**Sao Teotonio**	**4.18**	**309**	*e*P	**Pn**	**20 45 31.9**	**+1.6**
PTEO				*e*S	**Sn**	**20 46 17.1**	**-0.7**
PTEO				A	A	20 46 20.3	
	comp=N,22nm,0.7s						
PTEO	**Sao Teotonio**	**4.18**	**309**	P	**Pn**	**20 45 31.9**	**+1.6**
PTEO				S	**Sn**	**20 46 17.1**	**-0.7**
	comp=N,11nm,0.7s						
PTEO	**Sao Teotonio**	**4.18**	**309**	P	**Pn**	**20 45 31.9**	**+1.6**
PTEO				*e*S	**Sn**	**20 46 17.1**	**-0.7**
	comp=N,22nm,0.7s						
EBAD	**Badajoz**	**4.23**	**334**	P	**Pn**	**20 45 32.7**	**+1.8**
	comp=N,1.4nm,0.1s,SNR=72						
EBAD				S	**Sn**	**20 46 18.5**	**-0.6**
	comp=N,17nm,0.1s,SNR=10						
EBAD	**Badajoz**	**4.23**	**334**	P	**Pn**	**20 45 32.7**	**+1.8**
	comp=N,1.4nm,0.1s,SNR=72						
EBAD				S	**Sn**	**20 46 18.5**	**-0.6**
	comp=N,17nm,0.1s,SNR=10						
PNCL	**Nicolau / Gran**	**4.43**	**316**	*e*P	**Pn**	**20 45 35.2**	**+1.5**
PNCL				*e*S	**Sn**	**20 46 22.1**	**-1.

PMAFR S Sn 20 46 46.6 -2.4
comp=N,13nm,0.2s,SNR=7.2
PMAFR Mafra 5.44 318 P Pn 20 45 49.5 +1.9
comp=N,3.2nm,0.2s,SNR=7.9
PMAFR eS Sn 20 46 46.9 -2.1
comp=N,17nm,0.2s
PTOM Tomar 5.52 328 eP Pn 20 45 50.7 +1.9
PTOM eS Sn 20 46 48.3 -2.7
PTOM A 20 46 52.4
comp=N,15nm,0.1s
PTOM Tomar 5.52 328 P Pn 20 45 50.7 +1.9
PTOM S Sn 20 46 48.3 -2.7
comp=N,7.7nm,0.1s
PTOM Tomar 5.52 328 P Pn 20 45 50.7 +1.9
PTOM eS Sn 20 46 48.3 -2.7
comp=N,15nm,0.1s
GUD Guadarrama 5.68 4 P Pn 20 45 52.7 +1.7
comp=N,0.8nm,0.1s,SNR=9.6
GUD S Sn 20 46 52.3 -2.7
comp=N,0.3nm,0.1s
GUD Guadarrama 5.68 4 P Pn 20 45 52.7 +1.7
comp=N,0.8nm,0.1s,SNR=9.6
GUD S Sn 20 46 52.3 -2.7
comp=N,0.3nm,0.1s
MTE Manteigas 5.89 338 eP Pn 20 45 55.9 +2.1
MTE eS Sn 20 46 58.5 -1.5
MTE A 20 47 00.4
comp=N,7.3nm,0.4s
MTE Manteigas 5.89 338 P Pn 20 45 55.9 +2.1
MTE S Sn 20 46 58.5 -1.5
comp=N,3.7nm,0.4s
MTE Manteigas 5.89 338 P Pn 20 45 55.9 +2.1
MTE eS Sn 20 46 58.5 -1.5
comp=N,7.3nm,0.4s
PCAS Casmilo, Conde 5.92 330 eP Pn 20 45 56.2 +1.9
PCAS eS Sn 20 46 57.8 -3.1
PCAS A 20 47 02.1
comp=N,6.3nm,0.4s
PCAS Casmilo, Conde 5.92 330 eP Pn 20 45 56.2 +1.9
PCAS eS Sn 20 46 57.8 -3.1
comp=N,6.3nm,0.4s
EIBI Ibiza 6.27 48 P Pn 20 45 59.5 +0.4
comp=N,2.5nm,0.2s,SNR=7.9
EIBI S Sn 20 47 05.7 -3.8
comp=N,0.5nm,0.2s,SNR=7.9
PVIS Viseu 6.28 337 eP Pn 20 46 00.7 +1.5
PVIS eS Sn 20 47 07.7 -2.1
PVIS A 20 47 09.7
comp=N,10.0nm,0.3s
PVIS Viseu 6.28 337 P Pn 20 46 00.7 +1.5
PVIS S Sn 20 47 07.7 -2.1
comp=N,5.0nm,0.3s
PVIS Viseu 6.28 337 P Pn 20 46 00.7 +1.5
PVIS eS Sn 20 47 07.7 -2.1
comp=N,10.0nm,0.3s
EMOS Mosqueruela 6.32 30 P Pn 20 46 00.9 +1.1
comp=N,0.0nm,0.1s,SNR=7.9
EMOS Mosqueruela 6.32 30 P Pn 20 46 00.9 +1.1
SNR=7.9
MVO Moncorvo 6.46 344 eP Pn 20 46 03.3 +1.6
MVO eS Sn 20 47 11.1 -3.1
MVO A 20 47 13.5
comp=N,4.7nm,0.4s
MVO Moncorvo 6.46 344 P Pn 20 46 03.3 +1.6
comp=N,2.4nm,0.1s,SNR=13
MVO S Sn 20 47 11.5 -2.7
comp=N,1.9nm,0.1s,SNR=5.7
MVO Moncorvo 6.46 344 P Pn 20 46 03.3 +1.6
comp=N,2.4nm,0.1s,SNR=13
MVO S Sn 20 47 11.5 -2.7
comp=N,1.9nm,0.1s,SNR=5.7
PVRL Vila Real 6.74 340 eP Pn 20 46 07.3 +1.8
PVRL eS Sn 20 47 18.1 -3.0
PVRL A 20 47 21.3
comp=N,17nm,0.2s
PVRL Vila Real 6.74 340 P Pn 20 46 07.3 +1.8
PVRL S Sn 20 47 18.1 -3.0
comp=N,8.4nm,0.2s
PVRL Vila Real 6.74 340 P Pn 20 46 07.3 +1.8
PVRL eS Sn 20 47 18.1 -3.0
comp=N,17nm,0.2s
POLO Lamas de Olo 6.86 340 eP Pn 20 46 08.9 +1.8
POLO eS Sn 20 47 20.4 -3.6
POLO A 20 47 23.9
comp=N,2.4nm,0.4s
POLO Lamas de Olo 6.86 340 eP Pn 20 46 08.9 +1.8
POLO eS Sn 20 47 20.4 -3.6
comp=N,2.4nm,0.4s
PBRG Braganca 7.02 347 eP Pn 20 46 11.1 +1.8
PBRG eS Sn 20 47 25.2 -2.7
PBRG A 20 47 27.2
comp=N,2.5nm,0.5s
PBRG Braganca 7.02 347 P Pn 20 46 11.1 +1.8
PBRG S Sn 20 47 25.2 -2.7
comp=N,1.2nm,0.5s
PBRG Braganca 7.02 347 P Pn 20 46 11.1 +1.8
PBRG eS Sn 20 47 25.2 -2.7
comp=N,2.5nm,0.5s
ECAL Calabor 7.15 347 P Pn 20 46 13.1 +1.9
comp=N,1.1nm,0.1s,SNR=13
ECAL S Sn 20 47 27.2 -3.9
comp=N,0.4nm,0.1s,SNR=4.7
ECAL Calabor 7.15 347 P Pn 20 46 13.1 +1.9
comp=N,1.1nm,0.1s,SNR=13
ECAL S Sn 20 47 27.2 -3.9
comp=N,0.4nm,0.1s,SNR=4.7
ERTA Horta de San J 7.15 32 P Pn 20 46 12.9 +1.7
comp=N,0.0nm,0.1s,SNR=7.9
ERTA Horta de San J 7.15 32 P Pn 20 46 12.9 +1.7
SNR=7.9
PCAB Cabril 7.23 339 eP Pn 20 46 14.0 +1.7
PCAB eS Sn 20 47 29.6 -3.5
PCAB A 20 47 33.0
comp=N,4.3nm,0.6s
PCAB Cabril 7.23 339 P Pn 20 46 14.0 +1.7
PCAB S Sn 20 47 29.6 -3.5
comp=N,2.2nm,0.6s
PCAB Cabril 7.23 339 P Pn 20 46 14.0 +1.7
PCAB eS Sn 20 47 29.6 -3.5
comp=N,4.3nm,0.6s
ELOB Lobios 7.39 340 P Pn 20 46 16.1 +1.7
comp=N,0.6nm,0.1s,SNR=6.1
ELOB S Sn 20 47 33.2 -3.8
comp=N,1.5nm,0.1s,SNR=4.6
ELOB Lobios 7.39 340 P Pn 20 46 16.1 +1.7
comp=N,0.6nm,0.1s,SNR=6.1
ELOB S Sn 20 47 33.2 -3.8
comp=N,1.5nm,0.1s,SNR=4.6
PGAV Gavieira, Arco 7.54 339 eP Pn 20 46 18.3 +1.8
PGAV eS Sn 20 47 36.6 -4.2
PGAV A 20 47 38.9
comp=N,3.0nm,0.3s
PGAV Gavieira, Arco 7.54 339 eP Pn 20 46 18.3 +1.8
PGAV eS Sn 20 47 36.6 -4.2
comp=N,3.0nm,0.3s
ETOS Mallorca 7.63 49 P Pn 20 46 19.1 +1.4
comp=N,0.0nm,0.0s,SNR=8.4
YARA Arangoiti 8.13 18 P Pn 20 46 26.9 +2.3
SNR=7.9
YARA Arangoiti 8.13 18 P Pn 20 46 26.9 +2.3
SNR=7.9
YSIG Sigues 8.17 19 P Pn 20 46 27.1 +2.0
SNR=7.9
YSIG Sigues 8.17 19 P Pn 20 46 27.1 +2.0
SNR=7.9
YASP Aspurt 8.21 18 P Pn 20 46 28.0 +2.3
SNR=7.9
YASP Aspurt 8.21 18 P Pn 20 46 28.0 +2.3
SNR=7.9
IEPA Eparoz 8.23 18 P Pn 20 46 29.5 +3.5
SNR=7.9
IEPA Eparoz 8.23 18 P Pn 20 46 29.5 +3.5
SNR=7.9
EAGO Agolada(Pontev 8.27 342 P Pn 20 46 28.2 +1.8
comp=N,0.2nm,0.1s,SNR=7.9
EAGO Agolada(Pontev 8.27 342 P Pn 20 46 28.2 +1.8
comp=N,0.2nm,0.1s,SNR=7.9
IELO Elcoad 8.30 18 P Pn 20 46 28.5 +1.6
comp=N,1.9nm,0.2s,SNR=7.9
IELO Elcoad 8.30 18 P Pn 20 46 28.5 +1.6
comp=N,1.9nm,0.2s,SNR=7.9
ELAN Lanestosa 8.30 6 P Pn 20 46 28.6 +1.7
comp=N,0.1nm,0.2s,SNR=8.7
ELAN Lanestosa 8.30 6 P Pn 20 46 28.6 +1.7
comp=N,0.1nm,0.2s,SNR=8.7
EORO Oroz-Betelu 8.33 17 P Pn 20 46 28.8 +1.5
comp=N,0.2nm,0.1s,SNR=7.7
EORO Oroz-Betelu 8.33 17 P Pn 20 46 28.8 +1.5
comp=N,0.2nm,0.1s,SNR=7.7
EARI Arriondas 8.33 357 P Pn 20 46 29.2 +1.9
comp=N,0.1nm,0.1s,SNR=7.9
EARI S Sn 20 47 54.3 -5.9
comp=N,0.0nm,0.2s,SNR=7.9
EARI Arriondas 8.33 357 P Pn 20 46 29.2 +1.9
comp=N,0.1nm,0.1s,SNR=7.9
EPON Pontenova 8.57 348 P Pn 20 46 30.6 +0.1
comp=N,0.1nm,0.2s,SNR=7.9
EPON Pontenova 8.57 348 P Pn 20 46 30.6 +0.1
comp=N,0.1nm,0.2s,SNR=7.9
EALK Alkurruntz 8.59 16 P Pn 20 46 32.8 +1.9
comp=N,0.1nm,0.1s,SNR=15
EALK Alkurruntz 8.59 16 P Pn 20 46 32.8 +1.9
comp=N,0.1nm,0.1s,SNR=15
ATE Arette 8.66 20 P Pn 20 46 33.5 +1.6
comp=N,1.8nm,0.2s,SNR=7.9
ATE Arette 8.66 20 P Pn 20 46 33.5 +1.6
comp=N,1.8nm,0.2s,SNR=7.9

*NIED **29** 21:13:00,28.˝10N×142.˝60E,h14km,Mw3.8 Best double couple: M₀5.27000×10¹⁴ NP1:φs46.00000°,δ35.00000°, λ121.00000°. NP2:φs190.00000°,δ61.00000°,λ71.00000°.*
*IDC **29** 21:13:29.2±0.9,28.˝22N×142.˝10E,h0km,mb3.6/8, mb1 3.8/8,mb1mx3.7/49,mbtmp3.6/8,MS3.0/8,Ms1 3.0/8, ms1mx2.8/38,Error ellipse: s-maj=39.2km s-min=23.1km az=86.0*
*ISCJB **29** 21:13:34.1±0.8,28.˝1N±0.˝1×141.˝9E±0.˝2,h42km,mb3.8/9, MS2.9/5,Error ellipse: s-maj=28.5km s-min=18.2km az=171.3*
ISC 29 21:13:35.7±0.9,28.˝2N±0.˝2×142.˝0E±0.˝2,h42km,n24, σ1ˢ08/12,mb3.8/9,MS3.0/5,Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JNU	**Nakatsue**	**10.73**	**300**	LR	LR	21 19 49.2	
	comp=Z,84nm,20.9s,baz=112,slow=35						
JOW	**Kunigami**	**12.21**	**267**	LR	LR	21 20 38.5	
	comp=Z,88nm,19.8s,baz=104,slow=35						
KSRS	**Korea Array**	**14.98**	**312**	LR	LR	21 21 57.5	
	comp=Z,50nm,20.1s,baz=134,slow=34						
H11N2	**WAKE ISLAND Hy**	**24.26**	**105**	T	T	21 43 49.2	
	baz=296,slow=75,SNR=54						
H11N1	**WAKE ISLAND Hy**	**24.27**	**105**	T	T	21 43 50.0	
	baz=296,slow=75,SNR=47						
H11N3	**WAKE ISLAND Hy**	**24.28**	**105**	T	T	21 43 50.2	
	baz=296,slow=75,SNR=45						
H11S3	**WAKE ISLAND Hy**	**24.63**	**108**	T	T	21 44 18.1	
	baz=298,slow=75,SNR=24						
H11S1	**WAKE ISLAND Hy**	**24.64**	**108**	T	T	21 44 22.5	
	baz=298,slow=75,SNR=14						
H11S2	**WAKE ISLAND Hy**	**24.65**	**108**	T	T	21 44 24.9	
	baz=298,slow=75,SNR=12						
PETK	**Petropavlovsk-**	**27.51**	**21**	LR	LR	21 32 14.9	
	comp=Z,15nm,18.3s,baz=172,slow=41						
MA2	**Magadan**	**31.98**	**8**	LR	LR	21 36 13.1	
	comp=Z,11nm,18.9s,baz=168,slow=43						
SONM	**Songino Array**	**33.80**	**315**	P	**P**	**21 20 15.1**	**+1.3**
	0.2nm,0.4s,baz=103,slow=6.4,SNR=2.0						
SONM				LR	LR	21 33 49.5	
	comp=Z,30nm,18.5s,baz=113,slow=36						
CMAR	**Chiang Mai Arr**	**40.48**	**266**	LR	LR	21 36 55.2	
	comp=Z,23nm,21.6s,baz=150,slow=35						
WRA	**Warramunga Arr**	**48.39**	**190**	P	**P**	**21 22 13.5**	**-0.2**
	2.3nm,0.6s,baz=11,slow=8.4,SNR=18						
ZALV	**Zalesovo Beam**	**48.55**	**319**	PcP	**PcP**	**21 23 39.9**	**0.0**
	0.2nm,0.3s,baz=120,slow=2.3,SNR=1.8						
MKAR	**Makanchi Array**	**49.63**	**309**	P	**P**	**21 22 22.5**	**-0.6**
	0.1nm,0.4s,baz=102,slow=12,SNR=1.7						
MKAR				PcP	**PcP**	**21 23 44.2**	**+0.2**
	0.3nm,0.6s,baz=67,slow=7.1,SNR=3.8						
ASAR	**Alice Springs**	**52.12**	**189**	P	**P**	**21 22 42.1**	**+0.2**
	0.1nm,0.5s,baz=16,slow=6.1,SNR=1.3						
KDAK	**Kodiak Island**	**53.64**	**37**	LR	LR	21 40 55.5	
	comp=Z,22nm,20.9s,baz=258,slow=31						
ILAR	**Eielson Array**	**56.88**	**29**	P	**P**	**21 23 14.4**	**-1.5**
	0.5nm,0.8s,baz=265,slow=4.6,SNR=4.4						
FINES	**FINESS Array B**	**76.89**	**334**	P	**P**	**21 25 22.7**	**-0.5**
	1.7nm,0.9s,baz=90,slow=5.7,SNR=1.8						
BRTR	**Keskin Array B**	**85.12**	**313**	P	**P**	**21 26 07.0**	**-0.6**
	0.6nm,0.8s,baz=64,slow=3.4,SNR=2.1						
ULM	**Lac du Bonnet**	**86.66**	**33**	P	**P**	**21 26 17.1**	**+2.3**
	6.1nm,0.9s,baz=323,slow=5.1,SNR=3.1						
TXAR	**Lajitas Array**	**95.13**	**53**	P	**P**	**21 26 54.9**	**-0.1**
	0.3nm,0.7s,baz=306,slow=4.2,SNR=3.8						
TORD	**Torodi Ar. Bea**	**123.72**	**312**	PKP	**PKPdf**	**21 32 29.0**	**-0.7**
	0.2nm,0.7s,baz=4.8,slow=1.9,SNR=1.4						

*IDC **29** 21:34:21.5±27.0,16.˝00S×174.˝42W,h0km,mb4.3/4, mb1 4.4/4,mb1mx3.8/33,mbtmp4.3/4,Error ellipse: s-maj=503.6km s-min=164.9km az=72.0*
*NEIC **29** 21:34:26.1±0.6,13.˝32S×175.˝72W,h10km,mb4.2/7,Error ellipse: s-maj=19.0km s-min=13.1km az=182.0*
*ISCJB **29** 21:34:27.8±0.6,13.˝3S±0.˝1×175.˝76W±0.˝09,h33km, mb4.6/12,Error ellipse: s-maj=18.4km s-min=12.7km az=4.5*
ISC 29 21:34:29.2±0.8,13.˝4S±0.˝1×175.˝8W±0.˝1,h35km,n18, σ2ˢ19/18,mb4.4/12,Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FUNA	**Funafuti**	**6.95**	**314**	ePn	**Pn**	**21 36 07.5**	**-1.0**
	49nm,0.4s						
RAR	**Rarotonga**	**17.10**	**119**	Pn	**Pn**	**21 38 25.4**	**-0.2**
	9.1nm,0.8s						
PMG	**Port Moresby**	**36.55**	**272**	P	**P**	**21 41 31.2**	**-0.6**
	3.2nm,0.5s						
CTA	**Charters Tower**	**36.91**	**254**	P	**P**	**21 41 38.0**	**+3.0**
	1.6nm,0.7s,baz=80,slow=11,SNR=1.5						
CTA	**Charters Tower**	**36.91**	**254**	P	**P**	**21 41 38.0**	**+3.0**
POHA	**Pohakuloa**	**38.52**	**32**	eP	**P**	**21 41 46.9**	**-1.8**
	170nm,1.0s						
STKA	**Stephens Creek**	**43.10**	**238**	P	**P**	**21 42 22.3**	**-3.9**
	3.2nm,1.0s,baz=99,slow=13,SNR=3.7						
STKA	**Stephens Creek**	**43.10**	**238**	P	**P**	**21 42 22.3**	**-3.9**
WRAB	**Tennant Creek**	**48.09**	**255**	eP	**P**	**21 43 06.1**	**+0.2**
	1.3nm,0.4s						
WRA	**Warramunga Arr**	**48.10**	**255**	P	**P**	**21 43 08.3**	**+2.4**
	1.4nm,0.5s,baz=94,slow=7.1,SNR=20						
WRA	**Warramunga Arr**	**48.10**	**255**	P	**P**	**21 43 08.3**	**+2.4**
ASAR	**Alice Springs**	**48.59**	**250**	P	**P**	**21 43 10.0**	**+0.3**
	7.4nm,0.5s,baz=88,slow=8.5,SNR=80						
ASAR	**Alice Springs**	**48.59**	**250**	P	**P**	**21 43 10.0**	**+0.3**
MAJO	**Matsushiro**	**65.97**	**321**	P	**P**	**21 45 11.7**	**-0.4**
	2.7nm,0.4s						
HWUT	**Hardware Ranch**	**80.50**	**43**	eP	**P**	**21 46 39.1**	**+1.1**
	0.4nm,0.6s						
ANMO	**Albuquerque**	**81.32**	**51**	eP	**P**	**21 46 43.5**	**+1.0**
	0.4nm,0.4s						
COCO	**West Island**	**84.75**	**259**	eP	**P**	**21 47 00.5**	**0.0**
	165nm,0.8s						
YAK	**Yakutsk**	**86.42**	**337**	eP	**P**	**21 47 09.7**	**+2.0**
	4.1nm,0.4s						

*ISCJB **29** 21:35:17.2±0.3,0.˝03N±0.˝05×123.˝35E±0.˝04,h157km, mb3.9/11,Error ellipse: s-maj=7.9km s-min=5.1km az=38.2*
*IDC **29** 21:35:19.0±2.8,0.˝14N×123.˝51E,h167km±25km,mb3.7/11, mb1 3.8/12,mb1mx3.5/41,mbtmp4.1/12,Error ellipse: s-maj=46.1km s-min=10.3km az=65.0*
*DJA **29** 21:35:21.9±0.6,0.˚S±6.˚×12.˚3E±.˚,h55km±44km,M4.7/12, mb4.7/6,mB5.2/3,MLv4.6/12,Mw(mB)4.5/3*
ISC 29 21:35:18.1±0.5,0.03S±0.06×123.˝30E±0.˝05,h157km,n41, σ1ˢ43/49,mb3.9/11,Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KMSI	**Cibinong**	**0.91**	**49**	P	**Pn**	**21 35 44.7**	**+1.9**
MRSI	**Marisa**	**1.45**	**290**	P	**Pn**	**21 35 47.2**	**-0.4**
MRSI				S	**Sn**	**21 36 07.9**	**-2.4**
SANI	**Sanana**	**3.35**	**127**	P	**Pn**	**21 36 09.3**	**-0.9**
SANI				S	**Sn**	**21 36 47.0**	**-3.7**
PCI	**Palu**	**3.57**	**256**	P	**Pn**	**21 36 13.7**	**+0.7**
KDI	**Kendari**	**3.96**	**190**	P	**Pn**	**21 36 17.7**	**-0.4**
LBMI	**Labuha**	**4.25**	**98**	P	**Pn**	**21 36 21.5**	**-0.3**
LBMI				S	**Sn**	**21 37 09.7**	**-1.6**
TTSI	**Tana Toraja**	**4.59**	**229**	P	**Pn**	**21 36 27.1**	**+0.8**
NLAI	**Namlea**	**4.96**	**130**	P	**Pn**	**21 36 32.6**	**+1.5**
SPSI	**Sidrap Palu**	**5.26**	**222**	P	**Pn**	**21 36 36.2**	**+1.0**
BBSI	**Bau Bau**	**5.47**	**188**	P	**Pn**	**21 36 38.5**	**+0.6**
AAI	**Ambon**	**6.09**	**127**	P	**Pn**	**21 36 48.9**	**+2.7**
	130nm,0.5s,2µm0.6nm						
MSAI	**Masohi**	**6.52**	**120**	P	**Pn**	**21 36 55.3**	**+3.5**
BSSI	**Bau Bau, Buton**	**6.69**	**205**	P	**Pn**	**21 36 57.1**	**+3.0**
WSI	**Waingapu**	**10.03**	**197**	P	**P**	**21 37 46.5**	**-1.9**
FITZ	**Fitzroy Crossi**	**18.11**	**173**	P	**Pn**	**21 39 19.3**	**-0.5**
	0.5nm,0.3s,baz=4.2,slow=9.2,SNR=12						
WRA	**Warramunga Arr**	**22.55**	**152**	P	**P**	**21 40 05.3**	**0.0**
	1.9nm,0.4s,baz=334,slow=10.0,SNR=48						
PDSI	**Padang**	**22.85**	**268**	P	**P**	**21 40 08.9**	**+0.8**
ASAR	**Alice Springs**	**25.65**	**157**	P	**P**	**21 40 34.4**	**+0.9**
	0.6nm,0.7s,baz=348,slow=15,SNR=9.5						
ASAR				PcP	**PcP**	**21 44 00.5**	**+0.4**
	1.0nm,0.4s,baz=352,slow=2.2,SNR=8.9						
ASAR				ScP	**ScP**	**21 47 24.1**	**-0.8**
	0.4nm,0.5s,baz=332,slow=2.3,SNR=5.3						
CMAR	**Chiang Mai Arr**	**30.17**	**309**	P	**P**	**21 41 15.2**	**+1.5**
	3.5nm,0.7s,baz=132,slow=7.0,SNR=29						
CMAR				PcP	**PcP**	**21 44 11.8**	**+0.7**
	1.0nm,0.7s,baz=155,slow=1.8,SNR=6.3						
STKA	**Stephens Creek**	**36.10**	**153**	P	**P**	**21 42 05.8**	**+0.8**
	6.8nm,0.8s,baz=339,slow=7.9,SNR=5.9						
ODAN	**Odare**	**43.67**	**311**	eP	**P**	**21 43 09.0**	**+1.2**
	15nm,0.6s						
TAPN	**Taplejung**	**43.69**	**311**	eP	**P**	**21 43 09.2**	**+1.2**
	13nm,0.4s						
RAMN	**Ramite**	**44.32**	**310**	eP	**P**	**21 43 14.3**	**+1.3**
	42nm,0.6s						
JIRN	**Jiri**	**45.00**	**311**	eP	**P**	**21 43 19.6**	**+1.1**
	21nm,0.3s						
GUN	**Gumba**	**45.36**	**311**	eP	**P**	**21 43 22.0**	**+0.6**
	37nm,0.4s						
PKI	**Pulchoki**	**45.55**	**310**	eP	**P**	**21 43 23.4**	**+0.6**
	9.0nm,0.4s						
PKIN	**Phulchoki**	**45.56**	**310**	eP	**P**	**21 43 24.3**	**+1.5**
	12nm,0.6s						
KKN	**Kakani**	**45.76**	**310**	eP	**P**	**21 43 25.0**	**+0.7**
	12nm,0.5s						
DMN	**Daman**	**45.80**	**310**	eP	**P**	**21 43 25.5**	**+0.8**
GKN	**Gorkha**	**46.35**	**310**	eP	**P**	**21 43 29.6**	**+0.7**
KOLN	**Koldanda**	**47.03**	**309**	eP	**P**	**21 43 35.2**	**+0.9**
DANN	**Dangsing**	**47.20**	**310**	eP	**P**	**21 43 36.4**	**+0.8**
PYUN	**Piuthan**	**47.67**	**309**	eP	**P**	**21 43 40.3**	**+1.2**
	52nm,0.6s						
SONM	**Songino Array**	**49.89**	**345**	P	**P**	**21 43 55.4**	**-0.2**
	1.2nm,0.5s,baz=160,slow=8.8,SNR=12						
MKAR	**Makanchi Array**	**58.80**	**328**	P	**P**	**21 44 59.3**	**-0.6**
	1.0nm,0.4s,baz=123,slow=8.8,SNR=26						
MKAR				PcP	**PcP**	**21 45 45.6**	**-2.2**
	0.9nm,0.4s,baz=164,slow=3.0,SNR=11						
AAK	**Ala-Archa**	**60.94**	**321**	P	**P**	**21 45 14.6**	**-0.2**
	0.5nm,0.4s,baz=181,slow=7.5,SNR=4.0						
KURBB	**Kurchatov Arra**	**63.14**	**330**	P	**P**	**21 45 28.1**	**-1.0**
	0.9nm,0.6s,baz=119,slow=6.1,SNR=24						
KURBB				PcP	**PcP**	**21 46 03.5**	**-1.6**
	1.0nm,0.8s,baz=128,slow=5.2,SNR=5.0						
MAW	**Mawson**	**79.07**	**200**	P	**P**	**21 47 05.3**	**+0.8**
	2.3nm,1.0s,baz=54,slow=8.2,SNR=4.5						
VNDA	**Vanda**	**80.18**	**172**	P	**P**	**21 47 11.1**	**+0.7**
	2.2nm,0.8s,baz=300,slow=6.3,SNR=13						
ARCES	**ARCESS Array B**	**92.76**	**340**	P	**P**	**21 48 11.8**	**-0.5**
	4.3nm,0.9s,baz=90,slow=4.9,SNR=3.3						
TORD	**Torodi Ar. Bea**	**120.70**	**285**	PKP	**PKPdf**	**21 53 51.5**	**-1.0**
	0.7nm,0.5s,baz=71,slow=1.9,SNR=16						

*CSEM **29** 21:39:39.3±0.2,39.˝42N×38.˝29E,h12km,MD2.7,Error ellipse: s-maj=6.5km s-min=4.2km az=24.0*
*ISK **29** 21:39:39.0,39.˝40N×38.˝31E,h18km,MD2.8*
DDA 29 21:39:39.4,39.˝46N×38.˝30E,h6km,Md2.7,Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KEMA	**Kemaliye**	**0.24**	**141**	*i* P	Pg	21 39 45.1	+1.0
KEMA				*i* S	Sg	21 39 48.9	+1.6
KEMA	**Kemaliye**	**0.24**	**141**	P	Pg	21 39 45.1	+1.0
KEMA				S	Sg	21 39 48.9	+1.6
CUZAR	**Zara_SIVAS**	**0.59**	**317**	*i* P	Pg	21 39 51.4	+0.6
CUZAR				*i* S	Sb	21 40 00.3	-0.7
CUZAR	**Zara_SIVAS**	**0.59**	**317**	P	Pg	21 39 51.4	+0.6
CUZAR				S	Sb	21 40 00.3	-0.6
CUKAN	**kangal_SIVAS**	**0.66**	**258**	*i* P	Pg	21 39 52.1	0.0
CUKAN				*i* S	Sb	21 40 01.8	-1.1
CUKAN	**kangal_SIVAS**	**0.66**	**258**	P	Pg	21 39 52.1	0.0
CUKAN				S	Sb	21 40 01.8	-1.1
SUSE	**Susehri**	**0.76**	**354**	*i* P	Pg	21 39 54.1	+0.2
SUSE				*i* S	Sb	21 40 06.3	+0.7
SUSE	**Susehri**	**0.76**	**354**	P	Pg	21 39 54.1	+0.2
SUSE				S	Sb	21 40 06.3	+0.7
EZC	**Erzincan**	**0.86**	**70**	ePn	Pn	21 40 00.1	+1.9
SCER	**sogukcermik**	**0.99**	**294**	*i* P	Pb	21 39 59.1	+0.1
SCER				*i* S	Sn	21 40 14.4	+0.1
SCER	**sogukcermik**	**0.99**	**294**	P	Pb	21 39 59.1	+0.1
KELT	**Kelkit**	**1.01**	**46**	*i* P	Pg	21 39 58.7	-0.1
KELT				*i* S	Sb	21 40 12.4	-0.5
KELT	**Kelkit**	**1.01**	**46**	P	Pg	21 39 58.7	0.0
KELT				S	Sb	21 40 12.4	-0.5
PTK	**Pertek**	**1.02**	**123**	ePG	Sg	21 39 58.3	-0.6
PTK				eSG	Sg	21 40 12.6	+0.4
PTK	**Pertek**	**1.02**	**123**	ePg	Pg	21 39 58.3	-0.6
PTK				eSg	Sg	21 40 12.6	+0.5
TNCL	**Tunceli-Merkez**	**1.02**	**109**	*i* P	Pg	21 39 58.7	-0.3
TNCL				*i* S	Sg	21 40 12.3	0.0
TNCL	**Tunceli-Merkez**	**1.02**	**109**	P	Pg	21 39 58.7	-0.3
TNCL				S	Sg	21 40 12.3	+0.1
DARE	**Darende-Malaty**	**1.09**	**216**	ePG	Pg	21 39 59.1	-1.2
DARE	**Darende-Malaty**	**1.09**	**216**	ePg	Pg	21 39 59.1	-1.2
ELZG	**Elazig**	**1.10**	**151**	*i* P	Pg	21 40 00.2	-0.1
ELZG				*i* S	Sb	21 40 16.1	+0.7
ELZG	**Elazig**	**1.10**	**151**	P	Pg	21 40 00.2	-0.2
ELZG				S	Sb	21 40 16.1	+0.7
SVSK	**Karacayir**	**1.10**	**295**	ePN	Pg	21 40 00.7	+0.1
SVSK	**Karacayir**	**1.10**	**295**	ePn	Pb	21 40 00.7	-0.1
ERZN	**Erzincan**	**1.11**	**83**	ePN	Pg	21 40 00.1	-0.5
ERZN				eSN	Sb	21 40 15.5	-0.2
EUZM	**Uzumlu**	**1.11**	**77**	*i* P	Pg	21 39 59.9	-0.7
EUZM	**Uzumlu**	**1.11**	**77**	P	Pg	21 39 59.9	-0.7
CUALT	**Altinyayla-SIV**	**1.21**	**262**	*i* P	Pg	21 40 01.8	-0.7
CUALT				*i* S	Sn	21 40 19.6	0.0
CUALT	**Altinyayla-SIV**	**1.21**	**262**	P	Pg	21 40 01.8	-0.8
CUALT				S	Sn	21 40 19.6	-0.1
SVRC	**Sivrice-ELAZID**	**1.33**	**144**	ePN	Pn	21 40 02.3	-2.3
SVRC	**Sivrice-ELAZID**	**1.33**	**144**	ePn	Pn	21 40 02.3	-2.3
CUSAR	**Sarkisla-SIVAS**	**1.59**	**269**	*i* P	Pn	21 40 05.2	-2.9
CUSAR	**Sarkisla-SIVAS**	**1.59**	**269**	P	Pn	21 40 05.2	-3.0
BINT	**Bingol**	**1.80**	**108**	ePn	Pn	21 40 11.1	+0.1
SARI	**SarÐ1z-Kayseri**	**1.80**	**235**	ePN	Pn	21 40 09.9	-1.2
BNGB	**Bing¶l**	**1.91**	**103**	ePN	Pn	21 40 11.1	-1.3

MAN 29 22:13:54,13.˝63N×123.˝18E,h3km,mb4.0,ML2.8,MS2.5, 1D,Luzon

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AUQP	**San Andres**	**0.58**	**238**	eP	Pb	22 14 06.1	-0.7
AUQP				eS	Sb	22 14 16.0	+0.5
GQP	**Guinayangan**	**0.76**	**291**	eP	Pb	22 14 10.8	+0.9
GQP				*i* S	Sn	22 14 23.6	-0.1
PVCP	**Virac**	**0.95**	**92**	eP	Pb	22 14 13.4	+0.

KEMA					S	**Sg**	**22 21 59.6**	**+0.5**
KELT	**Kelkit**	**0.66**	**42**	*i*	P	**Pg**	**22 21 57.6**	**-0.5**
KELT					*i* S	**Sg**	**22 22 07.1**	**+0.4**
KELT	**Kelkit**	**0.66**	**42**		P	**Pg**	**22 21 57.6**	**-0.5**
KELT					S	**Sg**	**22 22 07.1**	**+0.4**
SUSE	**Susehri**	**0.66**	**326**	*i*	P	**Pg**	**22 21 58.1**	**-0.1**
SUSE					*i* S	**Sb**	**22 22 08.4**	**0.0**
SUSE	**Susehri**	**0.66**	**326**		P	**Pg**	**22 21 58.1**	**-0.1**
SUSE					S	**Sb**	**22 22 08.4**	**0.0**
CUZAR	**Zara_SIVAS**	**0.74**	**288**	*i*	P	**Pg**	**22 21 58.0**	**-1.7**
CUZAR					*i* S	**Sb**	**22 22 10.2**	**-0.5**
CUZAR	**Zara_SIVAS**	**0.74**	**288**		P	**Pg**	**22 21 58.0**	**-1.7**
CUZAR					S	**Sb**	**22 22 10.2**	**-0.5**
ERZN	**Erzincan**	**0.80**	**95**	*e*	PG	**Pb**	**22 22 01.6**	**+0.1**
ERZN					*e*SG	**Sb**	**22 22 13.6**	**+1.1**
TNCL	**Tunceli-Merkez**	**0.86**	**129**	*i*	P	**Pg**	**22 22 00.8**	**-1.1**
TNCL					*i* S	**Sb**	**22 22 13.6**	**-0.5**
TNCL	**Tunceli-Merkez**	**0.86**	**129**		P	**Pg**	**22 22 00.9**	**-1.1**
TNCL					S	**Sb**	**22 22 13.6**	**-0.5**
PTK	**Pertek**	**0.94**	**144**	*e*	PG	**Pb**	**22 22 04.2**	**+0.3**
PTK					*e*SG	**Sn**	**22 22 17.9**	**-0.6**
PTK	**Pertek**	**0.94**	**144**	*e*	Pg	**Pb**	**22 22 04.2**	**+0.3**
PTK					*e*Sg	**Sn**	**22 22 17.9**	**-0.6**
CUKAN	**kangal_SIVAS**	**1.00**	**250**	*i*	P	**Pb**	**22 22 05.1**	**+0.2**
CUKAN					*i* S	**Sb**	**22 22 19.1**	**+0.8**
CUKAN	**kangal_SIVAS**	**1.00**	**250**		P	**Pb**	**22 22 05.1**	**+0.2**
CUKAN					S	**Sb**	**22 22 19.1**	**+0.8**
SVSK	**Karacayir**	**1.32**	**282**	*e*	PN	**Pn**	**22 22 10.1**	**+0.2**
SVSK					*e*SN	**Sn**	**22 22 28.3**	**+0.7**
SVSK	**Karacayir**	**1.32**	**282**	*e*	Pn	**Pn**	**22 22 10.1**	**+0.2**
SVSK					*e*Sn	**Sn**	**22 22 28.3**	**+0.7**
YEDI	**Yedisu-Bingol**	**1.45**	**98**	*e*	PN	**Pg**	**22 22 12.7**	**-0.6**

ROM 29 22:22:54.7±0.1,**42°49N**×13°31**E**,**h10**km,**Md1.5/3**,**Error ellipse: s-maj=0.5km s-min=0.2km az=31.0**,**Central Italy**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
T0104	**Madonna delle**	**0.13**	**169**	Pg	Pg	22 22 58.2	+0.4
T0104				Sg	Sg	22 23 00.9	+0.9
SMA1	**SAN MARTINO**	**0.14**	**9**	Pg	Pg	22 22 58.5	+0.5
SMA1				Sg	Sg	22 23 01.2	+0.8
NRCA	**Norcia**	**0.37**	**338**	Pg	Pg	22 23 02.5	+0.4
NRCA				Sg	Sb	22 23 08.5	-0.8

ATH ***29*** *22:28:39.9,40°.42N×25°.90E,h22km±1km,ML1.1/3,Error ellipse: s-maj=1.8km s-min=1.0km az=85.0*
ISCJB ***29*** *22:28:40.6±0.4,40°.41N±0°.02×25°.92E±0.03,h11km±3km, Error ellipse: s-maj=4.1km s-min=3.4km az=6.2*
CSEM ***29*** *22:28:40.5±0.2,40°.40N×25°.93E,h10km,MD2.6,Error ellipse: s-maj=3.9km s-min=3.3km az=103.0*
ISK ***29*** *22:28:40.8,40°.38N×26°.00E,h10km,MD2.6*
DDA ***29*** *22:28:50.2,40°.67N×26°.78E,h7km,Md2.6*
ISC 29 22:28:39.7±1.0,**40°44N**±0°.02×**25°95E**±0°.02,**h18**km±5km, **n44,σ0°78/67,Aegean Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GADA	**Gvkgeada**	**0.25**	**189**	*e*PG	**Pb**	**22 28 45.8**	**+0.1**
GADA				*e*SG	**Sg**	**22 28 48.9**	**-0.5**
GADA	**Gvkgeada**	**0.25**	**189**	*e*Pg	**Pb**	**22 28 45.8**	**+0.1**
GADA				*e*Sg	**Sg**	**22 28 48.9**	**-0.5**
SMTH	**Samothraki Isl**	**0.32**	**275**	P	**Pb**	**22 28 46.8**	**-0.2**
SMTH				S	**Sg**	**22 28 51.4**	**+0.1**
SMTH	**Samothraki Isl**	**0.32**	**275**	P	**Pb**	**22 28 46.8**	**-0.2**
SMTH				S	**Sg**	**22 28 51.4**	**+0.1**
SMTH				AML	AML	22 28 51.4	
	comp=E,118μm,0.1s						
SMTH				AML	AML	22 28 51.9	
	comp=N,162μm,0.1s						
ENEZ	**Enez**	**0.33**	**28**	*e*PG	**Pn**	**22 28 48.5**	**-1.2**
ENEZ				*e*SG	**Sn**	**22 28 54.6**	**-1.5**
ENEZ	**Enez**	**0.33**	**28**	*e*Pg	**Pn**	**22 28 48.5**	**-1.2**
ENEZ				*e*Sg	**Sn**	**22 28 54.6**	**-1.5**
ALN	**Alexandroupoli**	**0.46**	**9**	*e*PG	**Pn**	**22 28 50.8**	**-0.7**
ALN	**Alexandroupoli**	**0.46**	**9**	P	**Pn**	**22 28 50.8**	**-0.7**
ALN				S	**Sb**	**22 28 57.3**	**+1.4**
ALN	**Alexandroupoli**	**0.46**	**9**	P	**Pn**	**22 28 50.9**	**-0.7**
ALN				S	**Sb**	**22 28 57.3**	**+1.4**
ALN				AML	AML	22 28 58.8	
	comp=E,37μm,0.2s						
ALN				AML	AML	22 28 59.2	
	comp=N,23μm,0.2s						
ERIK	**Erikli-Kesan**	**0.49**	**62**	*e*PG	**Pn**	**22 28 50.9**	**-0.9**
ERIK	**Erikli-Kesan**	**0.49**	**62**	*e*Pg	**Pn**	**22 28 50.9**	**-0.9**
BOZC	**Bozcaada**	**0.60**	**172**	*e*PG	**Pb**	**22 28 51.7**	**-0.1**
BOZC	**Bozcaada**	**0.60**	**172**	*e*Pg	**Pb**	**22 28 51.7**	**-0.1**
KESN	**Edirne-Kesan**	**0.68**	**55**	*i* P		**Pn**	**22 28 54.4**	**-0.4**
KESN				*i* S		**Sn**	**22 29 03.8**	**-1.3**
KESN	**Edirne-Kesan**	**0.68**	**55**	P		**Pn**	**22 28 54.5**	**-0.4**
KESN				S		**Sn**	**22 29 03.8**	**-1.3**
EZN	**Ezine**	**0.68**	**155**	*e*PG		**Pb**	**22 28 52.8**	**-0.3**
EZN	**Ezine**	**0.68**	**155**	*e*Pg		**Pb**	**22 28 52.8**	**-0.3**
RDO	**Rodhopi**	**0.77**	**336**	P		**Pg**	**22 28 55.0**	**+0.2**
RDO				S		**Sb**	**22 29 04.6**	**-0.1**
RDO	**Rodhopi**	**0.77**	**336**	P		**Pg**	**22 28 55.0**	**+0.2**
RDO				S		**Sb**	**22 29 04.6**	**-0.1**
RDO				AML	AML	22 29 10.4	
	comp=E,33μm,0.1s						
RDO				AML	AML	22 29 11.2	
	comp=N,43μm,0.2s						
LIA	**Limnos Island**	**0.80**	**227**	P		**Pg**	**22 28 55.5**	**+0.1**
LIA				S		**Sg**	**22 29 05.8**	**-0.2**
LIA	**Limnos Island**	**0.80**	**227**	P		**Sg**	**22 29 05.5**	**+0.1**
LIA				S		**Sg**	**22 29 05.8**	**-0.2**
KRBG	**Karabiga-Canak**	**1.03**	**92**	*e*PG		**Pg**	**22 29 00.4**	**+0.6**
KRBG	**Karabiga-Canak**	**1.03**	**92**	*e*Pg		**Pg**	**22 29 00.4**	**+0.6**
KNL	**Bal˘–kesir**	**1.22**	**98**	*i* P		**Pg**	**22 29 04.4**	**+1.2**
KNL				*i* S		**Sg**	**22 29 22.7**	**+3.5**
PRK	**Paraskevi**	**1.22**	**168**	P		**Pn**	**22 29 01.7**	**-0.2**
PRK				S		**Sn**	**22 29 18.0**	**0.0**
PRK	**Paraskevi**	**1.22**	**168**	P		**Pn**	**22 29 01.7**	**-0.2**
PRK				S		**Sn**	**22 29 18.0**	**0.0**
KAVA	**Kavala**	**1.22**	**297**	P		**Pg**	**22 29 04.4**	**+1.0**
KAVA				S		**Sn**	**22 29 18.5**	**+0.5**
KAVA	**Kavala**	**1.22**	**297**	P		**Pg**	**22 29 04.4**	**+1.0**
KAVA				S		**Sn**	**22 29 18.6**	**+0.5**
SIGR	**SIGRI**	**1.23**	**183**	P		**Pg**	**22 29 03.3**	**-0.2**
SIGR				S		**Sg**	**22 29 19.3**	**-0.3**
SIGR	**SIGRI**	**1.23**	**183**	P		**Pg**	**22 29 03.3**	**-0.2**
SIGR				S		**Sg**	**22 29 19.3**	**-0.3**
MRMT	**Marmara Adasi**	**1.27**	**82**	*e*PN		**Pg**	**22 29 04.3**	**+0.1**
MRMT	**Marmara Adasi**	**1.27**	**82**	*e*Pn		**Pg**	**22 29 04.3**	**+0.1**
OUR	**Ouranopolis**	**1.51**	**267**	*e*PN		**Pg**	**22 29 09.1**	**+0.4**
OUR	**Ouranopolis**	**1.51**	**267**	P		**Pn**	**22 29 05.8**	**0.0**
OUR	**Ouranopolis**	**1.51**	**267**	*e*Pn		**Pg**	**22 29 09.1**	**+0.4**
OUR	**Ouranopolis**	**1.51**	**267**	P		**Pn**	**22 29 05.8**	**0.0**
EDRB	**Edirne**	**1.53**	**23**	*e*PN		**Pg**	**22 29 09.3**	**+0.2**
EDRB	**Edirne**	**1.53**	**23**	*e*Pn		**Pg**	**22 29 09.3**	**+0.2**
NVR	**Nevrokopi**	**1.82**	**301**	P		**Pb**	**22 29 12.0**	**-0.6**
NVR				S		**Sb**	**22 29 35.2**	**+0.1**
NVR	**Nevrokopi**	**1.82**	**301**	P		**Pb**	**22 29 12.0**	**-0.6**
NVR				S		**Sb**	**22 29 35.2**	**+0.1**
PLG	**Polygyros**	**1.91**	**269**	P		**Pn**	**22 29 11.3**	**-0.1**
PLG	**Polygyros**	**1.91**	**269**	P		**Pn**	**22 29 11.3**	**-0.1**
SRS	**Serrai**	**1.91**	**291**	P		**Pb**	**22 29 14.6**	**+0.5**
SRS	**Serrai**	**1.91**	**291**	P		**Pb**	**22 29 14.6**	**+0.5**

NIED ***29*** *22:42:00,39°.60N×143°.60E,h14km,Mw4.2 Best double couple: M0 2.25000×10^15 NP1:φs187.00000°,δ32.00000°, λ71.00000°. NP2:φs29.00000°,δ59.00000°,λ102.00000°.*
ISCJB ***29*** *22:42:41.0±1.1,39°.64N±0°.04×143°.61E±0°.05,h17km±7km, mb4.3/44,MS3.6/14,Error ellipse: s-maj=7.9km s-min=4.3km az=39.9*
JMA ***29*** *22:42:42.3±0.1,39°.63N×143°.61E,h40km,M4.4*
MOS ***29*** *22:42:43.0±1.3,39°.58N×143°.72E,h38km,mb4.6/27,Error ellipse: s-maj=9.7km s-min=6.6km az=100.2*
BJI ***29*** *22:42:45.9,39°.83N×143°.11E,h30km,mb4.6/27,mB4.8/15, Ms4.4/7,Ms7 4.4/7*
NEIC ***29*** *22:42:45.4±0.9,39°.53N×143°.67E,h44km±7km,mb4.2/5, Error ellipse: s-maj=10.2km s-min=6.7km az=118.0*
IDC ***29*** *22:42:46.8±2.8,39°.48N×143°.58E,h57km±24km,mb3.9/25, mb1 4.1/28,mb1mx3.9/61,mbtmp4.2/28,ML3.3/3,MS3.4/16, Ms1 3.4/16,ms1mx3.1/54,Error ellipse: s-maj=17.1km s-min=14.7km az=103.0*

ISC 29 22:42:44.2±0.9,**39°61N**±0°.05×**143°63E**±0°.06,**h31**km±5km, **n115,σ1s75/125,mb4.4/44,MS3.5/14,7C-4D,Off east coast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MIYJ	**Miyakonagasawa**	**1.40**	**269**	P	**Pn**	**22 43 05.8**	**-1.8**
MIYJ				*e*S	**Sn**	**22 43 23.1**	**-1.9**
JTH	**Tanohata**	**1.40**	**284**	P	**Pn**	**22 43 05.9**	**-1.7**
JTH				*e*S	**Sn**	**22 43 23.4**	**-1.7**
OFUJ	**Ofunato**	**1.61**	**252**	P	**Pn**	**22 43 08.9**	**-1.6**
OFUJ				*e*S	**Sn**	**22 43 27.8**	**-2.4**
JANG	**Nango**	**1.80**	**296**	P	**Pn**	**22 43 10.7**	**-2.4**
JOM	**Ohasama**	**1.81**	**267**	P	**Pn**	**22 43 12.3**	**-1.0**
JOM				*e*S	**Sn**	**22 43 33.7**	**-1.5**
JMK	**Ichinoseki**	**1.98**	**252**	P	**Pn**	**22 43 14.5**	**-1.1**
JIO	**Ouri**	**2.12**	**238**	P	**Pn**	**22 43 16.0**	**-1.4**
JIO				*e*S	**Sn**	**22 43 41.0**	**-1.7**
JTM	**Tenmabayashi**	**2.29**	**302**	P	**Pn**	**22 43 18.3**	**-1.5**
JTM				*e*S	**Sn**	**22 43 45.0**	**-2.0**
JRG	**Rokugo**	**2.33**	**266**	P	**Pn**	**22 43 19.5**	**-0.9**
JAH	**Hinai**	**2.38**	**285**	P	**Pn**	**22 43 20.1**	**-0.9**
ERM	**Erimo**	**2.43**	**352**⇑	*e*P	**Pn**	**22 43 22.0**	**+0.2**
ERM	**Erimo**	**2.43**	**352**	*e*Pn	**Pn**	**22 43 21.8**	**0.0**
JOU	**Okura**	**2.62**	**243**	P	**Pn**	**22 43 23.5**	**-0.9**
JYK	**Kaneyama**	**2.63**	**256**	P	**Pn**	**22 43 23.8**	**-0.7**
JOT	**Ohata**	**2.65**	**313**	P	**Pn**	**22 43 23.6**	**-1.2**
JNBK	**Urakawa-nobuka**	**2.75**	**346**	P	**Pn**	**22 43 25.9**	**-0.3**
JNBK				*e*S	**Sn**	**22 43 58.2**	**-0.2**
JCH	**Churui**	**3.01**	**356**	P	**Pn**	**22 43 28.8**	**-1.0**
JCH				*e*S	**Sn**	**22 44 02.5**	**-2.3**
JFT	**Otama**	**3.32**	**232**	P	**Pn**	**22 43 33.3**	**-0.7**
JAK	**Akkeshi**	**3.48**	**13**	P	**Pn**	**22 43 34.9**	**-1.3**
JAK				*e*S	**Sn**	**22 44 13.4**	**-3.0**
YUK	**Yuzh-Kuril'sk**	**4.73**	**20**	*e*P	**Pn**	**22 43 52.0**	**-1.4**
YUK				*e*S	**Sn**	**22 44 43.2**	**-3.9**
YUK				pmax	pmax		
	comp=Z,147nm,0.4s						
YUK				pmax	pmax		
	comp=E,70nm,0.1s						
YUK				pmax	pmax		
	comp=N,110nm,0.5s						
YUK				smax	smax		
	comp=N,795nm,0.6s						
YUK				smax	smax		
	comp=E,410nm,0.6s						
SHO	**Shikotan**	**4.89**	**28**	*e*P	**Pn**	**22 43 53.6**	**-1.9**
SHO				*e*S	**Sn**	**22 44 46.1**	**-4.9**
SHO				pmax	pmax		
	comp=Z,36nm,0.2s						
SHO				pmax	pmax		
	comp=N,36nm,0.3s						
SHO				pmax	pmax		
	comp=E,13nm,0.2s						
SHO				smax	smax		
	comp=N,289nm,0.5s						
SHO				smax	smax		
	comp=E,458nm,0.5s						
MAJO	**Matsushiro**	**5.26**	**236**	*e*P	**Pn**	**22 44 01.5**	**+0.8**
MAJO				pmax	pmax		
	comp=Z,81nm,0.7s						
MAJO	**Matsushiro**	**5.26**	**236**	*e*Pn	**Pn**	**22 44 01.5**	**+0.8**
	comp=Z,81nm,0.7s						
MAT	**Matsushiro**	**5.26**	**236**	P	**Pn**	**22 44 01.2**	**+0.5**
MAT				S	**Sn**	**22 44 57.0**	**-3.2**
MJAR	**Matsushiro Arr**	**5.26**	**236**	P	**Pn**	**22 44 01.2**	**+0.5**
	comp=Z,4.4nm,0.3s,baz=42,slow=13,SNR=77						
MJAR				LR	LR	22 46 13.2	
	comp=Z,242nm,18.4s,baz=20,slow=40						
KUR	**Kuril'sk**	**6.44**	**28**	P	**Pn**	**22 44 15.7**	**-1.1**
KUR				*e*S	**Sn**	**22 45 26.0**	**-3.2**
KUR				pmax	pmax		
	comp=Z,87nm,0.3s						
USRK	**Ussuriysk Ar.**	**9.81**	**302**	P	**Pn**	**22 45 05.3**	**+2.1**
	comp=Z,0.7nm,0.3s,baz=101,slow=13,SNR=9.6						
USRK				LR	LR	22 48 15.0	
	comp=Z,136nm,20.3s,baz=102,slow=33						
MDJ	**Mudanjiang**	**11.56**	**300**	*e*Pn	**Pn**	**22 45 29.3**	**+2.2**
	comp=Z,2.5nm,0.5s						
JNU	**Nakatsue**	**12.14**	**242**	LR	LR	22 50 22.1	
	comp=Z,153nm,20.3s,baz=96,slow=38						
KSRS	**Korea Array**	**12.49**	**265**	P	**Pn**	**22 45 42.2**	**+2.5**
	comp=Z,0.2nm,0.3s,baz=88,slow=13,SNR=4.6						
KSRS				LR	LR	22 49 57.3	
	comp=Z,122nm,20.1s,baz=73,slow=34						
KSAR	**Wonju Array Be**	**12.52**	**265**	P	**Pn**	**22 45 42.2**	**+2.0**
KSAR	**Wonju Array Be**	**12.52**	**265**	P	**Pn**	**22 45 42.2**	**+2.0**
PETK	**Petropavlovsk-**	**16.59**	**31**	LR	LR	22 54 01.8	
	comp=Z,44nm,18.4s,baz=197,slow=40						
MA2	**Magadan**	**20.50**	**10**	P	**P**	**22 47 20.3**	**+0.9**
	comp=Z,11nm,0.7s,baz=196,slow=17,SNR=4.1						
MA2				LR	LR	22 55 42.7	
	comp=Z,45nm,18.6s,baz=168,slow=38						
TIA	**Tai'an**	**21.16**	**269**	*e*P	**P**	**22 47 23.8**	**-3.0**
TIA				pmax	pmax		
	comp=Z,20nm,0.8s						
CLNS	**Chul'man**	**21.16**	**331**	*e*P	**P**	**22 47 22.8**	**-3.9**
CLNS				pmax	pmax		
	comp=N,9.0nm,1.5s						
CLNS				pmax	pmax		
	comp=Z,12nm,1.1s						
SEY	**Seymchan**	**23.95**	**10**	P	**P**	**22 47 55.9**	**+0.6**
	comp=Z,6.4nm,0.7s,baz=182,slow=6.6,SNR=14						
YAK	**Yakutsk**	**24.01**	**344**	*e*P	**P**	**22 47 55.3**	**-0.7**
YAK				pmax	pmax		
	comp=Z,25nm,1.0s						
WHN	**Wuhan**	**25.52**	**258**	⇓P	**P**	**22 48 09.8**	**-0.2**
WHN				pmax	pmax		
	comp=Z,52nm,0.8s						
BOD	**Bodaibo**	**26.39**	**323**	*e*P	**P**	**22 48 17.2**	**-0.4**
BOD				pmax	pmax		
	comp=Z,16nm,0.9s						
ULN	**Ulaanbaatar**	**27.48**	**300**	⇑*i*P	**P**	**22 48 27.7**	**0.0**
ULN				pmax	pmax		
	comp=Z,9.0nm,1.2s						
ULN	**Ulaanbaatar**	**27.48**	**300**	*e*P	**P**	**22 48 27.8**	**+0.1**
	comp=Z,6.7nm,0.9s						
SONM	**Songino Array**	**27.92**	**299**	P	**P**	**22 48 31.7**	**+0.1**
	comp=Z,4.2nm,0.8s,baz=94,slow=8.1,SNR=24						
SONM				LR	LR	23 00 11.8	
	comp=Z,130nm,19.8s,baz=102,slow=37						
H11N2	**WAKE ISLAND Hy**	**28.16**	**128**	T	T	23 18 10.0	
	baz=318,slow=75,SNR=47						
H11N1	**WAKE ISLAND Hy**	**28.17**	**128**	T	T	23 18 10.0	
	baz=318,slow=75,SNR=61						
H11N3	**WAKE ISLAND Hy**	**28.18**	**128**	T	T	23 18 10.0	
	baz=318,slow=75,SNR=60						
H11S1	**WAKE ISLAND Hy**	**28.98**	**130**	T	T	23 19 10.3	
	baz=322,slow=76,SNR=7.6						
H11S3	**WAKE ISLAND Hy**	**28.98**	**130**	T	T	23 19 10.4	
	baz=322,slow=76,SNR=6.6						
H11S2	**WAKE ISLAND Hy**	**29.00**	**130**	T	T	23 19 11.6	
	baz=322,slow=76,SNR=8.7						
ENH	**Enshi**	**29.35**	**262**	*e*P	**P**	**22 48 43.7**	**-0.7**
	comp=Z,5.5nm,0.6s						
TLY	**Talaya**	**30.07**	**307**	LR	LR	23 01 49.4	
	comp=Z,58nm,18.0s,baz=38,slow=38						
ZAK	**Zakamensk**	**30.15**	**304**	*e*P	**P**	**22 48 51.3**	**0.0**
ZAK				pmax	pmax		
	comp=Z,4.0nm,1.3s						
LZH	**Lanzhou**	**31.43**	**276**	*e*P	**P**	**22 49 07.0**	**+4.1**
LZH				pP	sP	22 49 14.8	-0.8
LZH				sP	pP	22 49 19.0	+7.1
LZH				pmax	pmax		
	comp=Z,19nm,1.0s						
GTA	**Gaotai**	**33.55**	**284**	*e*P	**P**	**22 49 22.0**	**+0.6**
GTA				pP	pP	22 49 29.3	-1.1
GTA				sP	sP	22 49 33.5	-0.6
GTA				S	S	22 54 33.8	-7.9
GTA				pmax	pmax		
	comp=Z,6.0nm,1.0s						
GTA				pmax	pmax		
	comp=Z,83nm,7.2s						
GTA				LR	LR		
	comp=Z,110nm,16.6s						
GTA				LR	LR		
	comp=Z,260nm,17.1s						
GTA				LR	LR		
	comp=Z,210nm,18.1s						
DGZ	**Jazzator, Alta**	**40.36**	**304**	*e*P	**P**	**22 50 20.0**	**+0.9**
DGZ				pmax	pmax		
	comp=Z,4.0nm,1.1s						
ZALV	**Zalesovo Beam**	**41.53**	**310**	P	**P**	**22 50 28.7**	**+0.3**
	comp=Z,3.4nm,0.5s,baz=95,slow=8.0,SNR=16						
ZALV				PcP	**PcP**	**22 52 23.8**	**-1.6**
	comp=Z,1.5nm,0.6s,baz=108,slow=2.8,SNR=4.2						
ZALV				LR	LR	23 08 35.8	
	comp=Z,47nm,18.4s,baz=70,slow=37						
NRIK	**Noril'sk**	**41.70**	**334**	LR	LR	23 09 29.4	
	comp=Z,55nm,18.4s,baz=101,slow=38						
CMAR	**Chiang Mai Arr**	**43.85**	**254**	P	**P**	**22 50 46.8**	**-1.0**
	comp=Z,1.1nm,0.3s,baz=42,slow=6.6,SNR=5.9						
CMAR				LR	LR	23 11 01.5	
	comp=Z,36nm,19.9s,baz=173,slow=39						
MKAR	**Makanchi Array**	**44.28**	**300**	P	**P**	**22 50 50.9**	**-0.1**
	comp=Z,4.6nm,0.9s,baz=82,slow=8.6,SNR=30						
KURK	**Kurchatov**	**45.76**	**306**	*e*P	**P**	**22 51 02.6**	**0.0**
KURK				*e*		22 51 17.4	
KURK	**Kurchatov**	**45.76**	**306**	*e*P	**P**	**22 51 02.6**	**0.0**
	comp=Z,111nm,1.1s						
KURK				*e*		22 51 17.4	
KURBB	**Kurchatov Arra**	**45.84**	**306**	P	**P**	**22 51 03.1**	**0.0**
	comp=Z,4.3nm,0.5s,baz=81,slow=8.4,SNR=24						
ILAR	**Eielson Array**	**46.39**	**34**	P	**P**	**22 51 08.8**	**+1.4**
	comp=Z,1.0nm,0.7s,baz=257,slow=6.6,SNR=9.7						
BVAR	**Borovoye Array**	**50.16**	**311**	P	**P**	**22 51 36.6**	**0.0**
	comp=Z,4.0nm,0.8s,baz=72,slow=9.3,SNR=18						
BRVK	**Borovoye**	**50.22**	**311**	*c i*P	**P**	**22 51 37.2**	**+0.2**
BRVK				pmax	pmax		
	comp=Z,9.0nm,0.8s						
AAK	**Ala-Archa**	**50.83**	**297**	P	**P**	**22 51 42.1**	**0.0**
	comp=Z,0.7nm,0.3s,baz=107,slow=5.5,SNR=5.7						
KSH	**Kashi**	**50.98**	**293**	*e*P	**P**	**22 51 47.3**	**+4.2**
KSH				PP	**PP**	**22 53 44.0**	**+4.5**
KSH				S	**S**	**22 58 51.3**	**-6.8**
KSH				pmax	pmax		
	comp=Z,4.0nm,1.1s						
KSH				pmax	pmax		
	comp=Z,100nm,5.2s						
KSH				LR	LR		
	comp=Z,63nm,4.5s						
KSH				LR	LR		
	comp=Z,75nm,5.2s						
KSH				LR	LR		
	comp=Z,180nm,6.4s						
KKAR	**Karatay Array**	**53.37**	**299**	*e*P	**P**	**22 52 00.9**	**+0.2**
KKAR				pmax	pmax		
	comp=Z,1.0nm,0.4s						
KKAR	**Karatay Array**	**53.37**	**299**	*e*P	**P**	**22 52 00.9**	**+0.2**
	comp=Z,0.6nm,0.4s						
ARU	**Arti**	**55.61**	**318**	P	**P**	**22 52 16.7**	**0.0**
	comp=Z,3.9nm,0.7s,baz=69,slow=6.0,SNR=9.2						
ARU				LR	LR	23 18 45.4	
	comp=Z,87nm,19.3s,baz=175,slow=39						
ARU	**Arti**	**55.61**	**318**	*c i*P	**P**	**22 52 16.8**	**+0.1**
ARU						22 54 20.5	
ARU				S	**S**	**23 00 02.9**	**+2.7**
ARU				SS	**SS**	**23 03 47.7**	**+2.8**
ARU				pmax	pmax		
	comp=Z,11nm,1.0s						
ABKAR	**Akbulak array**	**57.63**	**310**	*e*P	**P**	**22 52 31.3**	**+0.1**
	comp=Z,4.1nm,0.7s						
AKTO	**Aktyubinsk**	**58.27**	**311**	P	**P**	**22 52 35.8**	**+0.1**
	comp=Z,2.2nm,0.8s,baz=73,slow=13,SNR=6.9						
AKTO				LR	LR	23 21 44.7	
	comp=Z,35nm,19.5s,baz=54,slow=40						
WRA	**Warramunga Arr**	**59.87**	**190**	P	**P**	**22 52 46.0**	**-1.0**
	comp=Z,0.9nm,0.5s,baz=7.7,slow=6.9,SNR=15						
WRA	**Warramunga Arr**	**59.87**	**190**	P	**P**	**22 52 46.0**	**-1.0**
WRA				pmax	pmax		
	comp=Z,1.0nm,0.5s						
ARCES	**ARCESS Array B**	**62.20**	**339**	P	**P**	**22 53 03.0**	**+0.7**
	comp=Z,2.9nm,0.9s,baz=353,slow=5.1,SNR=3.9						
ARCES	**ARCESS Array B**	**62.20**	**339**	P	**P**	**22 53 03.0**	**+0.7**
ARCES				pmax	pmax		
	comp=Z,6.0nm,1.1s						
KLMR	**Klimovskoe**	**62.52**	**328**	*e*P	**P**	**22 53 02.9**	**-1.6**
KLMR				*e*		22 53 42.7	
KLMR				pmax	pmax		
	comp=Z,17nm,1.5s						
ASAR	**Alice Springs**	**63.59**	**190**	P	**P**	**22 53 10.0**	**-2.0**
	comp=Z,0.4nm,0.6s,baz=14,slow=7.4,SNR=6.2						
GEYT	**Alibeck**	**64.12**	**299**	P	**P**	**22 53 14.5**	**-1.1**
	comp=Z,1.1nm,0.6s,baz=142,slow=5.1,SNR=4.6						
OBN	**Obninsk**	**67.08**	**323**⇑	*e*P	**P**	**22 53 32.7**	**-1.5**
OBN				pmax	pmax		
	comp=Z,8.0nm,1.1s						
OBN				MLR	MLR		
	comp=Z,95nm,14.0s						
FINES	**FINESS Array B**	**67.35**	**333**	P	**P**	**22 53 36.4**	**+0.5**
	comp=Z,3.1nm,0.6s,baz=57,slow=7.0,SNR=16						
FINES				LR	LR	23 26 17.6	
	comp=Z,35nm,18.6s,baz=7.5,slow=39						
KVAR	**Kislovodsk Arr**	**70.53**	**311**	P	**P**	**22 53 57.1**	**+1.0**
	comp=Z,4.3nm,0.8s,baz=279,slow=2.7,SNR=3.4						
KIV	**Kislovodsk**	**70.53**	**311**	*e*P	**P**	**22 53 57.6**	**+1.5**
KIV				pmax	pmax		
	com

REFA	**Refahiye_ERZ˜**	**0.27**	**163**	P	**Pg**	**22 45 03.2**	**+0.1**
REFA				S	**Sb**	**22 45 07.9**	**-1.7**
KEMA	**Kemaliye**	**0.41**	**199**	*i* P	**Pg**	**22 45 05.5**	**-0.2**
KEMA				*i* S	**Sg**	**22 45 11.7**	**+0.7**
KEMA	**Kemaliye**	**0.41**	**199**	P	**Pg**	**22 45 05.5**	**-0.2**
KEMA				S	**Sg**	**22 45 11.7**	**+0.7**
SUSE	**Susehri**	**0.66**	**327**	*i* P	**Pg**	**22 45 10.4**	**-0.1**
SUSE				*i* S	**Sb**	**22 45 21.1**	**+0.2**
SUSE	**Susehri**	**0.66**	**327**	P	**Pg**	**22 45 10.4**	**-0.1**
SUSE				S	**Sb**	**22 45 21.1**	**+0.2**
KELT	**Kelkit**	**0.67**	**42**	*i* P	**Pg**	**22 45 10.3**	**-0.4**
KELT				*i* S	**Sg**	**22 45 19.9**	**+0.3**
KELT	**Kelkit**	**0.67**	**42**	P	**Pg**	**22 45 10.3**	**-0.4**
KELT				S	**Sg**	**22 45 19.9**	**+0.3**
CUZAR	**Zara_SIVAS**	**0.73**	**289**	*i* P	**Pg**	**22 45 10.0**	**-1.8**
CUZAR				*i* S	**Sb**	**22 45 22.4**	**-0.5**
CUZAR	**Zara_SIVAS**	**0.73**	**289**	P	**Pg**	**22 45 10.0**	**-1.8**
CUZAR				S	**Sb**	**22 45 22.4**	**-0.5**
ERZN	**Erzincan**	**0.82**	**94**	*e*PG	**Pb**	**22 45 13.8**	**-0.4**
ERZN				*e*SG	**Sb**	**22 45 25.9**	**+0.4**
TNCL	**Tunceli-Merkez**	**0.87**	**128**	*i* P	**Pb**	**22 45 14.8**	**-0.2**
TNCL				*i* S	**Sg**	**22 45 25.6**	**0.0**
TNCL	**Tunceli-Merkez**	**0.87**	**128**	P	**Pb**	**22 45 14.8**	**-0.2**
TNCL				S	**Sg**	**22 45 25.6**	**0.0**
PTK	**Pertek**	**0.95**	**143**	*e*PG	**Pb**	**22 45 16.2**	**-0.3**
PTK				*e*SG	**Sb**	**22 45 29.4**	**+0.2**
PTK	**Pertek**	**0.95**	**143**	*e*Pg	**Pb**	**22 45 16.2**	**-0.3**
SVSK	**Karacayir**	**1.31**	**282**	*e*PN	**Pg**	**22 45 23.5**	**+0.6**
SVSK	**Karacayir**	**1.31**	**282**	*e*Pn	**Pg**	**22 45 23.5**	**+0.6**
SARI	**SarD1z-Kayseri**	**2.15**	**235**	*e*PN	**Pn**	**22 45 35.0**	**+1.1**

ISCJB ***29*** *22:51:17.3±0.3, 67°.17N±0°.04×157°.07W±0°.10, h10km, mb4.4/26, MS2.8/3, Error ellipse: s-maj=6.5km s-min=3.9km az=137.1*

BJI ***29*** *22:51:17.7, 67°.30N×157°.40W, h10km, mb4.8/4, mB5.1/4, Ms4.8/1, Ms7 4.4/1*

NEIC ***29*** *22:51:20.0±0.0, 67°.13N×156°.96W, h15km, mb4.3/5, ML4.0(AEIC), After AEIC.*

NEIC Felt at Kobuk.

IDC ***29*** *22:51:19.6±0.6, 67°.44N×157°.10W, h0km, mb4.1/17, mb1 4.2/22, mb1mx4.0/74, mbtmp4.1/22, ML3.8/5, MS2.9/4, Ms1 2.9/4, ms1mx2.6/42, Error ellipse: s-maj=18.4km s-min=11.1km az=39.0*

ISC 29 22:51:19.3±0.5, 67°.20N±0°.08×157°.14W±0°.06, h10km, n82, σ1§31/81, mb4.3/26, MS2.7/3, Northern Alaska

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
COLD	**Coldfoot**	**2.70**	**86**	*e*Pn	**Pn**	**22 52 02.5**	**-0.2**
MDM	**Murphy Dome**	**4.27**	**118**	*e*Pn	**Pn**	**22 52 23.7**	**-0.7**
TTA	**Tatalina**	**4.32**	**173**	*e*Pn	**Pn**	**22 52 24.2**	**-0.9**
TT01	**Tatalina**	**4.34**	**173**	*e*Pn	**Pn**	**22 52 24.4**	**-0.9**
CAST	**Castle Rocks**	**4.35**	**148**	*e*Pn	**Pn**	**22 52 24.7**	**-0.8**
COLA	**College**	**4.45**	**117**	*e*Pn	**Pn**	**22 52 26.2**	**-0.6**
KTH	**Kantishna Hill**	**4.49**	**142**	*e*Pn	**Pn**	**22 52 26.9**	**-0.5**
CCB	**Clear Creek Bu**	**4.61**	**120**	*e*Pn	**Pn**	**22 52 28.1**	**-0.8**
WRH	**Wood River Hil**	**4.62**	**122**	*e*Pn	**Pn**	**22 52 28.5**	**-0.7**
TRF	**Thorofare Moun**	**4.74**	**139**	*e*Pn	**Pn**	**22 52 30.6**	**-0.2**
FYU	**Fort Yukon**	**4.74**	**92**	*e*Pn	**Pn**	**22 52 30.5**	**-0.2**
PPLA	**Purkeypile**	**4.85**	**152**	*e*Pn	**Pn**	**22 52 31.3**	**-0.5**
IL1	**Eielson Array**	**4.85**	**115**	*e*Pn	**Pn**	**22 52 30.5**	**-1.7**
ILAR	**Eielson Array**	**4.85**	**115**	Pn	**Pn**	**22 52 31.3**	**-0.9**
	15nm,0.3s,baz=309,slow=14,SNR=352						
ILAR				Lg	Lg	22 53 48.2	
	6.5nm,0.3s,baz=299,slow=25,SNR=4.7						
ILB	**Eielson Array**	**4.85**	**115**	*e*Pn	**Pn**	**22 52 31.5**	**-0.8**
MCK	**McKinley**	**4.88**	**132**	*e*Pn	**Pn**	**22 52 32.2**	**-0.5**
HDA	**Harding Lake**	**5.04**	**119**	*e*Pn	**Pn**	**22 52 34.1**	**-0.8**
RND	**Reindeer**	**5.16**	**134**	*e*Pn	**Pn**	**22 52 36.2**	**-0.4**
DHY	**Denali Highway**	**5.84**	**131**	*e*Pn	**Pn**	**22 52 45.9**	**-0.1**
SVW2	**Sparrevohn**	**6.17**	**173**	*e*Pn	**Pn**	**22 52 49.9**	**-0.5**
SUA	**Susitna One**	**6.39**	**151**	*e*Pn	**Pn**	**22 52 53.6**	**0.0**
SPU	**Mount Spurr**	**6.44**	**157**	*e*Pn	**Pn**	**22 52 53.6**	**-0.5**
PAX	**Paxson**	**6.50**	**125**	*e*Pn	**Pn**	**22 52 54.9**	**-0.1**
DOT	**Dot Lake**	**6.51**	**117**	*e*Pn	**Pn**	**22 52 54.2**	**-0.9**
PMR	**Palmer**	**6.61**	**145**	*e*Pn	**Pn**	**22 52 56.5**	**+0.1**
SML	**Sawmill**	**6.61**	**141**	*e*Pn	**Pn**	**22 52 56.3**	**-0.2**
SCM	**Sheep Creek Mo**	**6.85**	**137**	*e*Pn	**Pn**	**22 52 59.5**	**-0.2**
RC01	**Rabbit Creek A**	**6.94**	**149**	*e*Pn	**Pn**	**22 53 01.0**	**+0.2**
EGAK	**Eagle**	**6.96**	**103**	*e*Pn	**Pn**	**22 53 01.2**	**+0.1**
HARP	**HAARP**	**7.02**	**128**	*e*Pn	**Pn**	**22 53 02.4**	**+0.3**
RSO	**Redoubt South**	**7.04**	**162**	*e*Pn	**Pn**	**22 53 01.5**	**-1.0**
KLU	**Klutina**	**7.51**	**134**	*e*Pn	**Pn**	**22 53 08.3**	**-0.6**
GLI	**Glacier Island**	**7.72**	**141**	*e*Pn	**Pn**	**22 53 10.8**	**-0.8**
DAWY	**Dawson**	**7.97**	**105**	*e*Pn	**Pn**	**22 53 15.2**	**0.0**
BMRM	**Bremner River**	**8.31**	**133**	*e*Pn	**Pn**	**22 53 19.8**	**+0.1**
INK	**Inuvik**	**9.01**	**72**	Pn	**Pn**	**22 53 27.0**	**-2.1**
	0.1nm,0.3s,baz=271,slow=15,SNR=2.0						
INK				Sn	**Sn**	**22 55 11.6**	**+1.1**
	0.7nm,0.3s,baz=142,slow=18,SNR=2.5						
INK				Lg	Lg	22 56 02.0	
	0.5nm,0.3s,baz=29,slow=22,SNR=1.7						
INK				LR	LR	22 57 48.3	
	comp=Z,54nm,18.1s,baz=250,slow=44						
INK	**Inuvik**	**9.01**	**72**	*e*Pn	**Pn**	**22 53 27.6**	**-1.6**
INK				Sn	**Sn**	**22 55 11.6**	**+1.1**
KDAK	**Kodiak Island**	**9.69**	**165**	Pn	**Pn**	**22 53 39.1**	**+0.6**
	5.4nm,0.3s,baz=3.6,slow=8.9,SNR=14						
KDAK	**Kodiak Island**	**9.69**	**165**	*e*Pn	**Pn**	**22 53 38.4**	**-0.1**
DLBC	**Dease Lake**	**15.05**	**113**	Pn	**Pn**	**22 54 54.5**	**+2.7**
	0.2nm,0.3s,baz=281,slow=6.5,SNR=4.7						
YKA	**Yellowknife Ar**	**18.38**	**85**	P	**Pn**	**22 55 33.6**	**-0.3**
	0.3nm,0.3s,baz=305,slow=10,SNR=4.9						
RES	**Resolute Bay**	**20.60**	**42**	LR	LR	23 06 11.8	
	comp=Z,29nm,18.5s,baz=60,slow=44						
SEY	**Seymchan**	**21.19**	**283**	P	**P**	**22 56 06.7**	**+2.2**
	1.9nm,0.2s,baz=41,slow=15,SNR=2.9						
MA2	**Magadan**	**23.85**	**277**	LR	LR	23 06 51.2	
	comp=Z,21nm,20.1s,baz=126,slow=39						
YHH	**Holmes Hill**	**33.03**	**109**	*e*P	**P**	**22 57 54.8**	**+0.1**
	3.7nm,0.7s						
BW06	**Boulder Array**	**35.25**	**110**	*e*P	**P**	**22 58 14.2**	**+0.3**
PD31	**Pinedale Array**	**35.25**	**110**	*e*P	**P**	**22 58 12.8**	**-1.1**
PDAR	**Pinedale Array**	**35.25**	**110**	P	**P**	**22 58 16.0**	**+2.1**
	1.5nm,0.6s,baz=335,slow=6.6,SNR=10						
PDAR				LR	LR	23 13 07.9	
	comp=Z,34nm,19.2s,baz=346,slow=37						
NRIK	**Noril'sk**	**36.69**	**328**	P	**P**	**22 58 29.2**	**+3.5**
	3.1nm,0.6s,baz=44,slow=8.8,SNR=4.4						
PV01	**Paradox Valley**	**39.68**	**112**	*e*P	**P**	**22 58 50.9**	**-0.5**
WUAZ	**Wupatki**	**41.03**	**117**	*e*P	**P**	**22 59 02.2**	**-0.3**
	3.1nm,0.7s						
ARCES	**ARCESS Array B**	**43.51**	**359**	P	**P**	**22 59 23.4**	**+1.1**
	4.5nm,0.9s,baz=8.7,slow=6.6,SNR=3.1						
CN2	**Changchun**	**45.84**	**280**	*e*P	**P**	**22 59 37.0**	**-4.0**
TX31	**Lajitas Ar. Si**	**49.35**	**112**	*e*P	**P**	**23 00 08.4**	**-0.2**
TXAR	**Lajitas Array**	**49.35**	**112**	P	**P**	**23 00 09.4**	**+0.8**
	1.4nm,0.9s,baz=324,slow=6.2,SNR=10						
SONM	**Songino Array**	**49.38**	**298**	P	**P**	**23 00 09.6**	**+0.9**
	0.4nm,0.5s,baz=50,slow=12,SNR=2.9						
JCT	**Junction City**	**49.73**	**108**	*e*P	**P**	**23 00 10.8**	**-0.7**
	1.7nm,0.5s						
OXF	**Oxford**	**50.11**	**95**	*e*P	**P**	**23 00 14.0**	**-0.2**
	32nm,0.9s						
ZAA0	**Zalesovo Array**	**50.61**	**318**	*e*P	**P**	**23 00 16.4**	**-1.4**
ZALV	**Zalesovo Beam**	**50.61**	**318**	P	**P**	**23 00 17.8**	**0.0**
	2.9nm,0.6s,baz=15,slow=8.0,SNR=6.6						
FINES	**FINESS Array B**	**51.63**	**358**	P	**P**	**23 00 26.8**	**+1.5**
	0.8nm,0.5s,baz=19,slow=9.6,SNR=7.1						
NOA	**NORSAR Array B**	**51.77**	**7**	P	**P**	**23 00 27.6**	**+1.1**
	0.8nm,0.8s,baz=352,slow=6.9,SNR=2.9						
ARU	**Arti**	**53.84**	**336**	P	**P**	**23 00 42.4**	**+0.6**
	8.0nm,0.5s,baz=360,slow=2.5,SNR=7.4						
ARU	**Arti**	**53.84**	**336**	*e*P	**P**	**23 00 40.4**	**-1.4**
	9.6nm,0.6s						
BVAR	**Borovoye Array**	**54.90**	**327**	P	**P**	**23 00 50.2**	**+0.7**
	3.9nm,0.6s,baz=39,slow=9.6,SNR=8.9						
KURK	**Kurchatov**	**55.14**	**320**	P	**P**	**23 00 52.0**	**+0.8**
KURBB	**Kurchatov Arra**	**55.25**	**320**	P	**P**	**23 00 52.0**	**0.0**
	1.2nm,0.5s,baz=27,slow=6.4,SNR=4.3						
EKA	**Eskdalemuir Ar**	**56.24**	**18**	P	**P**	**23 00 59.2**	**+0.2**
	0.7nm,0.5s,baz=345,slow=5.1,SNR=2.7						
MK31	**Makanchi Array**	**57.79**	**316**	*e*P	**P**	**23 01 06.3**	**-3.9**
MKAR	**Makanchi Array**	**57.79**	**316**	P	**P**	**23 01 09.8**	**-0.4**
	1.1nm,0.7s,baz=31,slow=6.5,SNR=11						
MKAR	**Makanchi Array**	**57.79**	**316**	*e*P	P	23 01 05.5	-4.8
MKAR				*e*pP	pP	23 01 13.2	-0.2
MK01	**Makanchi Array**	**57.81**	**316**	*e*P	**P**	**23 01 08.8**	**-1.6**
WMQ	**Urumqi**	**58.97**	**310**	P	**P**	**23 01 19.3**	**+0.8**
WMQ				pP	sP	23 01 27.0	+4.0
WMQ				sP	pP	23 01 30.5	+8.8
WMQ				pmax	pmax		
	comp=Z,12nm,0.6s						
WMQ				pmax	pmax		
	comp=Z,49nm,3.6s						
AKTO	**Aktyubinsk**	**59.72**	**335**	P	**P**	**23 01 23.2**	**-0.3**
	3.6nm,0.6s,baz=26,slow=7.2,SNR=5.5						
ABKAR	**Abkulak array**	**60.52**	**333**	*e*P	**P**	**23 01 28.4**	**-0.7**
	66nm,0.6s						
AKASG	**Malin Array Be**	**62.32**	**355**	P	**P**	**23 01 40.6**	**-0.6**
	0.9nm,0.5s,baz=6.9,slow=6.7,SNR=5.8						
AAK	**Ala-Archa**	**63.70**	**320**	P	**P**	**23 01 51.8**	**+1.1**
	1.5nm,0.7s,baz=34,slow=6.6,SNR=4.1						
AAK	**Ala-Archa**	**63.70**	**320**	*e*P	**P**	**23 01 47.8**	**-2.9**
	2.2nm,0.9s						
GUMO	**Guam**	**65.43**	**245**	*e*P	**P**	**23 01 58.9**	**-3.1**
	99nm,1.2s						
KMI	**Kunming**	**70.92**	**289**	P	**P**	**23 02 40.0**	**+3.3**
KMI				pmax	pmax		
	comp=Z,8.0nm,0.5s						
CMAR	**Chiang Mai Arr**	**78.41**	**290**	P	**P**	**23 03 20.5**	**+0.5**
	1.0nm,0.3s,baz=3.4,slow=6.2,SNR=8.7						
VNDA	**Vanda**	**146.61**	**195**	PKPbc	**PKPbc**	**23 10 60.0**	**+1.0**
	1.2nm,0.8s,baz=358,slow=3.0,SNR=6.7						

ISCJB ***29*** *22:51:38.1±1.3, 19°.2S±0°.1×169°.1E±0°.2, h147km, mb3.8/7, Error ellipse: s-maj=28.2km s-min=14.7km az=28.9*

IDC ***29*** *22:51:39.0±4.4, 19°.14S×169°.02E, h142km±32km, mb3.6/7, mb1 3.7/8, mb1mx3.5/44, mbtmp4.1/8, Error ellipse: s-maj=37.1km s-min=25.3km az=54.0*

ISC 29 22:51:40.0±1.2, 19°.2S±0°.1×169°.0E±0°.2, h147km, n11, σ1§18/12, mb3.9/7, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**3.75**	**219**	P	**Pn**	**22 52 37.9**	**+0.9**
	21nm,0.3s,baz=121,slow=14,SNR=106						
DZM				S	**Sn**	**22 53 19.9**	**-1.4**
	11nm,0.3s,baz=321,slow=22,SNR=6.6						
CTA	**Charters Tower**	**21.43**	**264**	P	**P**	**22 56 18.1**	**+1.5**
	2.3nm,0.4s,baz=89,slow=12,SNR=5.4						
STKA	**Stephens Creek**	**27.69**	**237**	P	**P**	**22 57 15.3**	**+0.9**
	2.1nm,0.6s,baz=78,slow=9.9,SNR=4.1						
WRA	**Warramunga Arr**	**32.63**	**263**	P	**P**	**22 57 57.0**	**-1.1**
	0.8nm,0.4s,baz=90,slow=8.4,SNR=22						
ASAR	**Alice Springs**	**32.92**	**256**	P	**P**	**22 58 00.1**	**-0.5**
	6.3nm,0.4s,baz=83,slow=8.7,SNR=103						
VNDA	**Vanda**	**58.50**	**182**	P	**P**	**23 01 19.9**	**-0.4**
	0.2nm,0.4s,baz=329,slow=5.9,SNR=4.0						
MAW	**Mawson**	**78.42**	**202**	P	**P**	**23 03 24.1**	**+0.1**
	0.7nm,0.8s,baz=133,slow=4.2,SNR=4.5						
SONM	**Songino Array**	**87.01**	**323**	P	**P**	**23 04 07.9**	**-1.0**
	0.4nm,0.6s,baz=124,slow=4.4,SNR=3.1						
GERES	**GERESS Array B**	**144.31**	**332**	PKP	**PKPab**	**23 10 56.3**	**-0.7**
	0.3nm,0.5s,baz=62,slow=3.2,SNR=5.8						
MOA	**Molln**	**144.77**	**330**	*i* PKiKP	**PKPab**	**23 10 58.1**	**-0.6**
	2.4nm,0.5s						
DAVOX	**Davos/Dischmat**	**147.56**	**333**	PKPbc	**PKPdf**	**23 11 06.3**	**+1.9**
	baz=45,slow=2.9						

NIED ***29*** *23:01:00, 46°.70N×143°.90E, h440km, Mw4.1 Best double couple: M0 1.36000×10^15 NP1:φs 313.00000°, δ39.00000°, λ-16.00000°. NP2:φs 56.00000°, δ80.00000°, λ-128.00000°.*

ISCJB ***29*** *23:01:32.0±0.2, 46°.96N±0°.03×143°.70E±0°.06, h411km±2km, mb4.1/73, Error ellipse: s-maj=6.1km s-min=4.1km az=170.6*

BJI ***29*** *23:01:31.4, 47°.23N×143°.73E, h407km, mb4.4/23, mB4.6/19*

MOS ***29*** *23:01:32.1±0.9, 47°.06N×143°.60E, h407km, mb4.2/40, Error ellipse: s-maj=11.9km s-min=6.0km az=114.5*

NEIC ***29*** *23:01:32.8±0.4, 47°.10N×143°.80E, h407km±5km, mb4.3/21, Error ellipse: s-maj=9.1km s-min=7.0km az=95.0*

IDC ***29*** *23:01:33.1±1.1, 47°.13N×143°.65E, h403km±11km, mb3.6/32, mb1 3.6/39, mb1mx3.5/72, mbtmp4.4/39, Error ellipse: s-maj=11.7km s-min=9.1km az=92.0*

JMA ***29*** *23:01:33.1±0.3, 46°.68N×143°.87E, h426km, M4.0*

SKHL ***29*** *23:01:33.0±0.4, 47°.04N×143°.71E, h395km±24km, mb4.6/10, msh5.3/7*

ISC 29 23:01:32.4±0.5, 46°.93N±0°.05×143°.68E±0°.05, h402km±4km, n197, σ1§55/233, mb4.2/73, 21C-15D, Sakhalin Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
YSS	**Yuzh-Sakhalins**	**0.64**	**273**	⇑*e*PN	**P**	**23 02 24.3**	**+1.5**
YSS				*e*S	**S**	**23 03 04.5**	**+1.1**
YSS				pmax	pmax		
	comp=Z,130nm,0.8s						
YSS				smax	smax		
	comp=N,610nm,0.8s						
YSS	**Yuzh-Sakhalins**	**0.64**	**273**	⇑*e*P	**P**	**23 02 24.6**	**+1.8**
YSS				AMB	AMB	23 02 25.0	
	comp=N,130nm,0.8s						
YSS				*e*S	**S**	**23 03 04.4**	**+1.1**
YSS				A	A	23 03 05.2	
	comp=N,610nm,0.8s						
YSS	**Yuzh-Sakhalins**	**0.64**	**273**	*e*Pn	**P**	**23 02 24.4**	**+1.6**
YSS				*e*S	**S**	**23 03 04.3**	**+1.0**
NEVR	**Nevel'sk**	**1.28**	**259**	*e*P	**P**	**23 02 25.6**	**+0.8**
NEVR				AMB	AMB	23 02 32.0	
	comp=N,100nm,0.7s						
NEVR				*e*S	**S**	**23 03 09.0**	**+1.9**
NEVR				A	A	23 03 10.4	
	comp=N,300nm,0.3s						
JWK2	**Keihoku**	**2.04**	**218**	P	**P**	**23 02 31.4**	**+2.6**
JWK2				*e*S	**S**	**23 03 17.1**	**+2.7**
JSE	**Soyaes**	**2.12**	**202**	P	**P**	**23 02 31.2**	**+1.9**
JSE				*e*S	**S**	**23 03 17.2**	**+1.9**
UGL	**Uglegorsk**	**2.41**	**334**	*e*PN	**P**	**23 02 31.2**	**+0.2**
UGL				*e*S	**S**	**23 03 19.1**	**+0.4**
UGL	**Uglegorsk**	**2.41**	**334**	⇑*i*P	**P**	**23 02 32.1**	**+1.1**
	comp=Z,160nm,0.6s						
UGL				AMB	AMB	23 02 33.0	
	comp=Z,240nm,0.7s						
UGL				*e*S	**S**	**23 03 19.6**	**+0.9**
UGL				A	A	23 03 22.0	
	comp=Z,98nm,0.4s						
UGL				A	A	23 03 22.0	
	comp=Z,200nm,0.4s						
ASAJ	**Asahikawa**	**2.92**	**196**	P	**P**	**23 02 37.1**	**+2.0**
	baz=39,slow=5.2						
ASAJ	**Asahikawa**	**2.92**	**196**	*e*Pn	**P**	**23 02 37.3**	**+2.2**
JTKR	**Abashiri--Tokio**	**2.96**	**177**	P	**P**	**23 02 37.1**	**+1.7**
JKK2	**Kamakawa 2**	**3.13**	**193**	P	**P**	**23 02 38.8**	**+2.0**
JRA	**Rausu**	**3.16**	**161**	P	**P**	**23 02 38.6**	**+1.6**
YUK	**Yuzh-Kuril'sk**	**3.27**	**151**	*e*PN	**P**	**23 02 40.8**	**+2.8**
YUK				*e*S	**S**	**23 03 34.3**	**+3.0**
YUK				pmax	pmax		
	comp=Z,198nm,0.3s						
YUK				pmax	pmax		
	comp=N,63nm,0.2s						
YUK				pmax	pmax		
	comp=E,72nm,0.2s						
YUK				smax	smax		
	comp=N,306nm,0.3s						
YUK				smax	smax		
	comp=E,232nm,0.6s						
YUK	**Yuzh-Kuril'sk**	**3.27**	**151**	*e*P	**P**	**23 02 39.4**	**+1.4**
YUK				AMB	AMB	23 02 41.8	
	comp=E,63nm,0.2s						
YUK				AMB	AMB	23 02 41.8	
	comp=E,72nm,0.2s						
YUK				AMB	AMB	23 02 41.8	
	comp=E,198nm,0.2s						
YUK				*e*S	**S**	**23 03 33.0**	**+1.7**
YUK				A	A	23 03 41.9	
	comp=E,306nm,0.6s						
YUK				A	A	23 03 41.9	
	comp=E,232nm,0.6s						
KUR	**Kuril'sk**	**3.37**	**119**	PN	**P**	**23 02 40.6**	**+1.9**
KUR				*e*S	**S**	**23 03 33.9**	**+1.2**
KUR				pmax	pmax		
	comp=Z,44nm,0.5s						
KUR	**Kuril'sk**	**3.37**	**119**	*e*P	**P**	**23 02 40.2**	**+1.5**
KUR				AMB	AMB	23 02 40.8	
	comp=Z,56nm,0.6s						
KUR				*e*S	**S**	**23 03 36.3**	**+3.6**
JAR	**Ashorobuto**	**3.63**	**179**	P	**P**	**23 02 42.6**	**+1.5**
JAR				*e*S	**S**	**23 03 38.0**	**+0.9**
SHO	**Shikotan**	**3.78**	**143**	*d i*PN	**P**	**23 02 41.6**	**-0.8**
SHO				*i* S	**S**	**23 03 35.7**	**-3.7**
SHO				pmax	pmax		
	comp=Z,416nm,0.4s						
SHO				smax	smax		
	comp=N,782nm,0.3s						
SHO				smax	smax		
	comp=E,813nm,0.4s						
SHO	**Shikotan**	**3.78**	**143**	*e*P	**P**	**23 02 41.8**	**-0.6**
SHO				AMB	AMB	23 02 42.8	
	comp=E,420nm,0.4s						
SHO				*i* S	**S**	**23 03 35.9**	**-3.5**
SHO				A	A	23 03 39.6	
	comp=E,780nm,0.3s						
SHO				A	A	23 03 39.6	
	comp=E,810nm,0.3s						
NEM2	**Nemuro 2**	**3.85**	**157**	P	**P**	**23 02 42.3**	**-0.8**
NEM2				*e*S	**S**	**23 03 36.7**	**-4.0**
JAK	**Akkeshi**	**4.00**	**169**	P	**P**	**23 02 44.2**	**-0.3**
JAK				*e*S	**S**	**23 03 40.6**	**-2.6**
JCH	**Churui**	**4.32**	**183**	P	**P**	**23 02 47.4**	**-0.2**
JCH				*e*S	**S**	**23 03 45.3**	**-3.6**
JNBK	**Urakawa-nobuka**	**4.70**	**188**	P	**P**	**23 02 51.7**	**+0.4**
JNBK				*e*S	**S**	**23 03 54.3**	**-1.4**
ERM	**Erimo**	**4.93**	**185**	*e*PN	**P**	**23 02 54.9**	**+1.3**
ERM				pmax	pmax		
	comp=Z,59nm,0.6s						
ERM	**Erimo**	**4.93**	**185**	*e*P	**P**	**23 02 54.9**	**+1.3**
	comp=Z,59nm,0.6s						
TEY	**Ternei**	**5.29**	**252**	*e*P	**P**	**23 03 01.3**	**+4.1**
JKB	**Kayabe**	**5.39**	**202**	P	**P**	**23 02 58.9**	**+0.6**
JKB				*e*S	**S**	**23 04 04.6**	**-4.1**
JOSM	**Okushiri--Mats**	**5.70**	**213**	P	**P**	**23 03 02.4**	**+0.7**
JOT	**Ohata**	**5.86**	**200**	P	**P**	**23 03 03.9**	**+0.6**
JOT				*e*S	**S**	**23 04 13.6**	**-4.3**
HABR	**Khabarovsk**	**6.03**	**288**	*e*PN	**P**	**23 03 04.0**	**-1.0**
HABR				*e*S	**S**	**23 04 19.0**	**-2.0**
HABR				pmax	pmax		
	comp=N,13nm,1.3s						
HABR				pmax	pmax		
	comp=E,30nm,0.6s						
HABR				pmax	pmax		
	comp=Z,60nm,1.3s						
HABR				MLR	MLR		
	comp=Z,26nm,9.0s						
HABR	**Khabarovsk**	**6.03**	**288**	*e*P	**P**	**23 03 04.0**	**-1.0**
HABR				*e*S	**S**	**23 04 19.0**	**-2.0**
GRNR	**Gornyy**	**6.14**	**311**	*e*P	**P**	**23 03 06.5**	**+0.3**
GRNR				AMB	AMB	23 03 07.2	
	comp=Z,9.0nm,0.4s						
GRNR				*e*S	**S**	**23 04 22.4**	**-0.9**
GRNR				A	A	23 04 24.0	
	comp=Z,40nm,1.0s						
NKL	**Nikolayevsk**	**6.52**	**344**	*e*P	**P**	**23 03 10.5**	**-0.6**
JANG	**Nango**	**6.74**	**194**	P	**P**	**23 03 12.7**	**-1.1**
JANG				*e*S	**S**	**23 04 30.0**	**-5.6**
JOM	**Ohasama**	**7.65**	**194**	*e*S	**S**	**23 04 51.5**	**-3.0**
JMK	**Ichinoseki**	**8.18**	**194**	*e*S	**S**	**23 05 02.4**	**-2.9**
JYK	**Kaneyama**	**8.37**	**198**	P	**P**	**23 03 32.4**	**+0.5**
JYK				*e*S	**S**	**23 05 06.7**	**-2.7**
USRK	**Ussuriysk Ar.**	**8.65**	**256**	P	**P**	**23 03 36.7**	**+1.9**
	comp=Z,1.2nm,0.3s,baz=62,slow=14,SNR=12						
EKMR	**Ekimchan**	**9.24**	**316**	*e*P	**P**	**23 03 42.0**	**+0.6**
EKMR				AMB	AMB	23 03 46.4	
	comp=Z,11nm,0.5s						
MDJ	**Mudanjiang**	**10.12**	**262**	*e*P	**P**	**23 03 53.6**	**+2.5**
	comp=Z,15nm,0.8s						
MJB9	**Matsu-Tunnel**	**11.15**	**203**	*e*P	**P**	**23 04 05.4**	**+2.7**
MAJO	**Matsushiro**	**11.15**	**203**	⇓*e*PN	**P**	**23 04 05.1**	**+2.4**
MAJO	**Matsushiro**	**11.15**	**203**	*e*P	**P**	**23 04 05.1**	**+2.4**
MAT	**Matsushiro**	**11.15**	**203**	P	**P**	**23 04 04.7**	**+2.0**
MAT				*e*S	**S**	**23 06 04.1**	**-2.7**
MJAR	**Matsushiro Arr**	**11.15**	**203**	P	**P**	**23 04 05.5**	**+2.7**
	comp=Z,8.0nm,0.3s,baz=9.9,slow=13,SNR=76						
BMKR	**Bomnak**	**12.18**	**315**	*e*P	**P**	**23 04 14.0**	**+0.3**
BMKR				AMB	AMB	23 04 15.2	
	comp=Z,10.0nm,0.5s						
INU	**Inuyama**	**12.61**	**206**	*e*P	**P**	**23 04 20.6**	**+1.8**
KSRS	**Korea Array**	**15.01**	**237**	P	**P**	**23 04 48.1**	**+3.2**
	comp

	comp=Z,3.7nm,0.5s,baz=73,slow=8.7,SNR=34								
KURBB				PcP	**PcP**	**23 10 32.0**	**+0.4**		
	comp=Z,1.0nm,0.6s,baz=76,slow=3.1,SNR=6.6								
LSA	**Lhasa**	**43.81 266**	*eP*	**P**	**23 09 02.9**	**+1.8**			
LSA			pmax	pmax					
	comp=Z,8.0nm,0.6s								
LSA	**Lhasa**	**43.81 266**	*eP*	**P**	**23 09 02.9**	**+1.8**			
	comp=Z,7.5nm,0.6s								
PDGK	**Podgornoye**	**44.31 290**	*i* P	**P**	**23 09 03.6**	**-0.8**			
PDGK			pmax	pmax					
	comp=Z,5.0nm,0.9s								
INK	**Inuvik**	**44.93 31**	P	**P**	**23 09 07.5**	**-1.2**			
	comp=Z,0.9nm,0.7s,baz=309,slow=11,SNR=5.0								
BVAR	**Borovoye Array**	**45.63 306**	P	**P**	**23 09 13.4**	**-0.9**			
	comp=Z,1.6nm,0.6s,baz=54,slow=11,SNR=11								
BRVK	**Borovoye**	**45.67 306**	*deP*	**P**	**23 09 14.3**	**-0.4**			
BRVK			pmax	pmax					
	comp=Z,15nm,0.8s								
TAPN	**Taplejung**	**47.63 266**	*eP*	**P**	**23 09 31.6**	**+1.2**			
	comp=Z,19nm,0.4s								
AAK	**Ala-Archa**	**47.84 291**	P	**P**	**23 09 31.8**	**+0.2**			
	comp=Z,1.8nm,0.4s,baz=88,slow=7.8,SNR=7.3								
AAK	**Ala-Archa**	**47.84 291**	⇓*iP*	**P**	**23 09 31.9**	**+0.3**			
AAK			pmax	pmax					
	comp=Z,10.0nm,1.2s								
AAK	**Ala-Archa**	**47.84 291**	*eP*	**P**	**23 09 32.3**	**+0.6**			
	comp=Z,5.9nm,1.3s								
JIRN	**Jiri**	**48.48 268**	*eP*	**P**	**23 09 38.0**	**+1.2**			
	comp=Z,43nm,0.3s								
KSH	**Kashi**	**48.50 287**	*eP*	**P**	**23 09 41.0**	**+4.4**			
KSH			pP	pP	23 11 04.0	+7.2			
KSH			PP	**sP**	**23 11 40.0**	**-1.7**			
KSH			S	**S**	**23 16 11.3**	**+4.7**			
KSH			sS	sS	23 18 38.0	+7.2			
KSH			SS	**SS**	**23 19 47.3**	**+5.2**			
KSH			pmax	pmax					
	comp=Z,4.0nm,0.6s								
KSH			pmax	pmax					
	comp=Z,55nm,6.3s								
GUN	**Gumba**	**48.53 268**	*eP*	**P**	**23 09 38.2**	**+1.0**			
RAMN	**Ramite**	**48.65 267**	*eP*	**P**	**23 09 39.0**	**+1.0**			
	comp=Z,76nm,0.4s								
KKN	**Kakani**	**49.02 268**	*eP*	**P**	**23 09 41.8**	**+1.1**			
	comp=Z,18nm,0.3s								
PKIN	**Phulchoki**	**49.07 268**	*eP*	**P**	**23 09 41.9**	**+0.7**			
	comp=Z,8.2nm,0.3s								
SVE	**Sverdlovsk**	**49.16 314**	*eP*	**P**	**23 09 41.2**	**+0.1**			
SVE			pmax	pmax					
	comp=Z,16nm,0.9s								
GKN	**Gorkha**	**49.32 269**	*eP*	**P**	**23 09 43.8**	**+0.9**			
	comp=Z,27nm,0.4s								
DANN	**Dangsing**	**49.70 270**	*eP*	**P**	**23 09 47.4**	**+1.5**			
KK31	**Karatay Array**	**50.12 294**	*ceP*	**P**	**23 09 48.2**	**-0.3**			
KK31			pmax	pmax					
	comp=Z,2.0nm,0.3s								
KKAR	**Karatay Array**	**50.12 294**	*eP*	**P**	**23 09 48.5**	**0.0**			
KKAR	**Karatay Array**	**50.12 294**	*eP*	**P**	**23 09 48.5**	**0.0**			
	comp=Z,62nm,0.4s								
KOLN	**Koldanda**	**50.18 270**	*eP*	**P**	**23 09 50.2**	**+0.9**			
	comp=Z,12nm,0.3s								
ARU	**Arti**	**50.37 314**	P	**P**	**23 09 49.5**	**-0.5**			
	comp=Z,9.1nm,0.7s,baz=66,slow=5.0,SNR=17								
ARU	**Arti**	**50.37 314**	*dP*	**P**	**23 09 49.1**	**-0.9**			
ARU					23 11 01.3				
ARU			*PP	**pP**	**23 11 09.8**	**-1.1**			
ARU					23 11 48.5				
ARU			S	**S**	**23 16 30.2**	**-1.2**			
ARU			SS	**SS**	**23 20 09.5**	**-1.0**			
ARU			pmax	pmax					
	comp=Z,15nm,1.0s								
ARU	**Arti**	**50.37 314**	*eP*	**P**	**23 09 49.5**	**-0.5**			
	comp=Z,11nm,0.7s								
PYUN	**Piuthan**	**50.39 270**	*eP*	**P**	**23 09 52.0**	**+1.1**			
SPITS	**Spitsbergen Ar**	**51.18 348**	P	**P**	**23 09 54.0**	**-1.7**			
	comp=Z,2.8nm,0.8s,baz=69,slow=9.1,SNR=5.1								
AB31	**Akbulak array**	**53.20 306**	*ceP*	**P**	**23 10 10.1**	**-0.6**			
AB31			pmax	pmax					
	comp=Z,5.0nm,0.3s								
ABKAR	**Akbulak array**	**53.20 306**	*eP*	**P**	**23 10 10.5**	**-0.2**			
	comp=Z,214nm,0.3s								
AKTO	**Aktyubinsk**	**53.63 308**	P	**P**	**23 10 13.1**	**-0.8**			
	comp=Z,1.6nm,0.4s,baz=93,slow=11,SNR=9.9								
ARCES	**ARCESS Array B**	**55.40 338**	P	**P**	**23 10 25.6**	**-0.5**			
	comp=Z,2.8nm,0.6s,baz=37,slow=7.4,SNR=21								
KBL	**Kabul**	**55.88 286**	*eP*	**P**	**23 10 29.9**	**-0.4**			
KBL			pmax	pmax					
	comp=Z,6.0nm,0.6s								
KBL	**Kabul**	**55.88 286**	*eP*	**P**	**23 10 29.9**	**-0.4**			
	comp=Z,5.7nm,0.6s								
GEYT	**Alibeck**	**60.81 295**	P	**P**	**23 11 04.0**	**+0.3**			
	comp=Z,3.3nm,0.4s,baz=50,slow=2.7,SNR=12								
FIA1	**FINESS Array S**	**60.92 331**	*eP*	**P**	**23 11 02.8**	**-1.1**			
FINES	**FINESS Array B**	**60.92 331**	P	**P**	**23 11 02.8**	**-1.1**			
	comp=Z,6.4nm,0.5s,baz=45,slow=7.5,SNR=120								
SEKA	**Sheki**	**65.20 304**	P	**P**	**23 11 29.1**	**-3.0**			
ZKTA	**Zakatala**	**65.24 305**	P	**P**	**23 11 29.8**	**-2.5**			
NC405	**NORSAR Array S**	**65.54 337**	*eP*	**P**	**23 11 33.3**	**-0.6**			
NCK	**Nalchik**	**65.66 308**	⇑*eP*	**P**	**23 11 34.5**	**-0.5**			
NCK			pmax	pmax					
	comp=Z,7.0nm,0.6s								
NB2	**NORSAR Subarra**	**65.74 337**	P	**P**	**23 11 34.1**	**-1.1**			
	comp=Z,2.6nm,0.4s,baz=32,slow=6.9								
NOA	**NORSAR Array B**	**65.74 337**	P	**P**	**23 11 33.8**	**-1.3**			
	comp=Z,2.0nm,0.5s,baz=44,slow=7.5,SNR=23								
HFS	**Hagfors**	**65.80 335**	P	**P**	**23 11 34.2**	**-1.2**			
	comp=Z,6.4nm,0.4s,baz=46,slow=6.2,SNR=64								
KIV	**Kislovodsk**	**65.84 309**	*eP*	**P**	**23 11 36.7**	**+0.5**			
KIV			pmax	pmax					
	comp=Z,20nm,0.9s								
KIV	**Kislovodsk**	**65.84 309**	*eP*	**P**	**23 11 35.9**	**-0.3**			
	comp=Z,18nm,0.8s								
KBZ	**Khabaz**	**65.88 309**	P	**P**	**23 11 36.9**	**+0.6**			
	comp=Z,4.5nm,0.5s,baz=63,slow=3.5,SNR=19								
GANJ	**Ganja**	**66.07 304**	P	**P**	**23 11 35.0**	**-2.6**			
NEY	**Neytrino**	**66.30 308**	⇓*eP*	**P**	**23 11 40.7**	**+1.5**			
NEY			pmax	pmax					
	comp=Z,2.0nm,0.8s								
WRAB	**Tennant Creek**	**67.08 190**	⇑*iP*	**P**	**23 11 44.9**	**+0.9**			
WRAB			pmax	pmax					
	comp=Z,8.0nm,0.7s								
WRA	**Warramunga Arr**	**67.09 190**	P	**P**	**23 11 45.1**	**+1.1**			
	comp=Z,3.9nm,0.6s,baz=5.9,slow=6.6,SNR=61								
AKASG	**Malin Array Be**	**67.57 321**	P	**P**	**23 11 45.8**	**-0.9**			
	comp=Z,3.2nm,0.5s,baz=38,slow=6.4,SNR=17								
AKBB	**Malin Array Si**	**67.57 321**	*eP*	**P**	**23 11 46.1**	**-0.6**			
AKBB			pmax	pmax					
	comp=Z,6.0nm,0.8s								
AKBB	**Malin Array Si**	**67.57 321**	*eP*	**P**	**23 11 46.1**	**-0.6**			
	comp=Z,6.2nm,0.8s								
KIEV	**Kiev**	**67.58 321**	*eP*	**P**	**23 11 46.0**	**-0.7**			
KIEV			pmax	pmax					
	comp=Z,6.0nm,0.7s								
KIEV	**Kiev**	**67.58 321**	*eP*	**P**	**23 11 46.0**	**-0.7**			
	comp=Z,6.0nm,0.7s								
PDAR	**Pinedale Array**	**69.69 49**	P	**P**	**23 12 00.6**	**+0.5**			
	comp=Z,0.4nm,0.7s,baz=312,slow=2.7,SNR=3.0								
UOSS	**Minazif**	**70.56 286**	*eP*	**P**	**23 12 05.6**	**+0.3**			
	comp=Z,9.3nm,0.8s								
AS01	**Alice Springs**	**70.81 189**	*eP*	**P**	**23 12 08.5**	**+1.9**			
ASAR	**Alice Springs**	**70.82 189**	P	**P**	**23 12 08.9**	**+2.2**			
	comp=Z,5.3nm,0.7s,baz=359,slow=4.9,SNR=38								
BURAR	**Bucovina Array**	**71.63 321**	⇓*iP*	**P**	**23 12 11.3**	**-0.1**			
BURAR	**Bucovina Array**	**71.63 321**	⇓P	**P**	**23 12 11.3**	**-0.1**			
TESR	**Tescani**	**71.85 320**	⇑*iP*	**P**	**23 12 12.6**	**0.0**			
STHS	**Stebnicka Huta**	**71.86 325**	*eP*	**P**	**23 12 13.2**	**+0.6**			
STHS			pmax	pmax					
	comp=Z,9.0nm,1.7s								
STHS	**Stebnicka Huta**	**71.86 325**	*eP*	**P**	**23 12 13.2**	**+0.6**			
CFR	**Carcaliu**	**72.20 318**	⇑*iP*	**P**	**23 12 14.7**	**+0.1**			
CFR	**Carcaliu**	**72.20 318**	⇑P	**P**	**23 12 14.7**	**+0.1**			
VRI	**Vrincioaia**	**72.31 319**	⇑*iP*	P	23 12 08.8	-6.5			
VRI	**Vrincioaia**	**72.31 319**	⇑P	P	23 12 08.8	-6.5			
LANS	**Liptovska Anna**	**72.77 325**	*eP*	**P**	**23 12 18.9**	**+0.9**			
LANS	**Liptovska Anna**	**72.77 325**	*eP*	**P**	**23 12 18.9**	**+0.9**			
KECS	**Kecovo**	**72.90 324**	*eP*	**P**	**23 12 18.7**	**0.0**			
KECS			pmax	pmax					
	comp=Z,2.0nm,1.0s								
KECS	**Kecovo**	**72.90 324**	*eP*	**P**	**23 12 18.7**	**0.0**			
MLR	**Muntele Rosu**	**72.95 319**	P	**P**	**23 12 19.0**	**-0.1**			
	comp=Z,0.3nm,0.6s,baz=76,slow=19,SNR=4.2								
MLR	**Muntele Rosu**	**72.95 319**	⇑*iP*	**P**	**23 12 19.4**	**+0.2**			
MLR	**Muntele Rosu**	**72.95 319**	⇑P	**P**	**23 12 19.4**	**+0.2**			
MORC	**Moravsky Berou**	**73.00 327**	⇑*iP*	**P**	**23 12 19.8**	**+0.5**			
MORC	**Moravsky Berou**	**73.00 327**	⇑P	**P**	**23 12 19.8**	**+0.5**			
DRGR		**73.34 322**	⇓*iP*	**P**	**23 12 22.0**	**+0.7**			
DRGR		**73.34 322**	⇓P	**P**	**23 12 22.0**	**+0.7**			
CLL	**Collm**	**73.35 330**	*i* P	**P**	**23 12 20.4**	**-0.8**			
CLL			pmax	pmax					
	comp=Z,6.0nm,0.5s								
CLL	**Collm**	**73.35 330**	*i* P	**P**	**23 12 20.4**	**-0.8**			
	comp=Z,6.0nm,0.5s								
CLL	**Collm**	**73.35 330**	*eP*	**P**	**23 12 20.6**	**-0.6**			
	comp=Z,5.2nm,0.6s								
VOIR		**73.39 320**	⇓*iP*	**P**	**23 12 22.7**	**+1.1**			
VOIR		**73.39 320**	⇓P	**P**	**23 12 22.7**	**+1.1**			
VYHS	**Vyhne**	**73.55 325**	*eP*	**P**	**23 12 22.9**	**+0.5**			
VYHS			pmax	pmax					
	comp=Z,2.0nm,1.3s								
VYHS	**Vyhne**	**73.55 325**	*eP*	**P**	**23 12 22.9**	**+0.5**			
BR131	**Keskin Array S**	**73.60 311**	*eP*	**P**	**23 12 23.4**	**+0.4**			
BRTR	**Keskin Array B**	**73.60 311**	P	**P**	**23 12 22.8**	**-0.3**			
	comp=Z,1.2nm,0.7s,baz=71,slow=3.8,SNR=5.9								
ARR	**Arges**	**73.63 320**	⇑*iP*	**P**	**23 12 24.9**	**+1.9**			
VRAC	**Vranov**	**73.74 327**	P	**P**	**23 12 23.4**	**-0.1**			
	comp=Z,1.7nm,0.6s,baz=93,slow=9.5,SNR=3.5								
BR231	**Keskin MP Arra**	**73.95 312**	*eP*	**P**	**23 12 23.0**	**-2.0**			
GZR	**Gura Zlata**	**74.41 321**	⇓*iP*	**P**	**23 12 27.6**	**+0.1**			
GZR	**Gura Zlata**	**74.41 321**	⇓P	**P**	**23 12 27.6**	**+0.1**			
KHC	**Kasperske Hory**	**74.98 329**	*eP*	**P**	**23 12 30.5**	**-0.2**			
KHC	**Kasperske Hory**	**74.98 329**	*eP*	**P**	**23 12 30.4**	**-0.2**			
KHC			pmax	pmax					
	comp=Z,7.0nm,1.9s								
KHC	**Kasperske Hory**	**74.98 329**	*eP*	**P**	**23 12 30.4**	**-0.3**			
	comp=Z,7.1nm,1.9s								
CONA	**Conrad Observa**	**75.15 327**	*i* P	**P**	**23 12 32.7**	**+1.1**			
	comp=Z,2.0nm,0.5s								
GERES	**GERESS Array B**	**75.18 328**	P	**P**	**23 12 31.4**	**-0.5**			
	comp=Z,0.8nm,0.6s,baz=40,slow=5.4,SNR=10.0								
VTS	**Vitosha**	**76.45 319**	⇑*iP*	**P**	**23 12 39.7**	**+0.6**			
VTS	**Vitosha**	**76.45 319**	⇑P	**P**	**23 12 39.7**	**+0.6**			
KBA	**Koelnbreinsper**	**76.80 328**	*i* P	**P**	**23 12 41.8**	**+0.8**			
	comp=Z,4.6nm,0.4s								
WATA	**Walderalm**	**77.22 329**	*i* P	**P**	**23 12 43.7**	**+0.5**			
	comp=Z,3.7nm,0.4s								
WTTA	**Wattenberg**	**77.26 329**	*i* P	**P**	**23 12 44.1**	**+0.6**			
	comp=Z,4.2nm,0.4s								
RETA	**Reutte**	**77.37 329**	*i* P	**P**	**23 12 44.4**	**+0.4**			
	comp=Z,2.2nm,0.8s								
MOTA	**Moosalm**	**77.38 329**	*i* P	**P**	**23 12 44.5**	**+0.4**			
	comp=Z,2.6nm,0.4s								
ASF	**Jabal al Asfar**	**77.41 304**	P	**P**	**23 12 44.6**	**+0.1**			
	comp=Z,2.0nm,0.7s,baz=307,slow=2.5,SNR=5.4								
SQTA	**Sankt Quirin**	**77.44 329**	*i* P	**P**	**23 12 44.9**	**+0.5**			
	comp=Z,0.1nm,0.6s								
MMAI	**Mount Meron Ar**	**77.63 305**	P	**P**	**23 12 46.2**	**+0.5**			
	comp=Z,4.1nm,0.7s,baz=46,slow=6.0,SNR=9.4								
DAVA	**Damuels**	**77.85 330**	*i* P	**P**	**23 12 46.9**	**+0.2**			
	comp=Z,4.3nm,0.8s								
FUORN	**Ofenpass-Fuorn**	**78.29 329**	*eP*	**P**	**23 12 48.9**	**-0.4**			
	comp=Z,4.4nm,0.9s								
WMOK	**Wichita Mounta**	**81.25 48**	*eP*	**P**	**23 13 04.1**	**-0.7**			
WMOK			pmax	pmax					
	comp=Z,7.0nm,0.6s								
WMOK	**Wichita Mounta**	**81.25 48**	*eP*	**P**	**23 13 04.1**	**-0.7**			
	comp=Z,7.1nm,0.6s								
IDI	**Anoyia**	**81.45 314**	P	**P**	**23 13 04.6**	**-1.3**			
	comp=Z,5.5nm,0.5s,baz=59,slow=10,SNR=8.4								
TXAR	**Lajitas Array**	**82.85 54**	P	**P**	**23 13 14.3**	**+1.0**			
	comp=Z,0.2nm,0.6s,baz=287,slow=3.6,SNR=5.1								
ES19	**SONSECA Array**	**89.03 336**	*eP*	**P**	**23 13 42.9**	**+0.1**			
ESDC	**Sonseca Array**	**89.07 336**	P	**P**	**23 13 42.7**	**-0.4**			
	comp=Z,0.7nm,0.5s,baz=19,slow=4.4,SNR=8.1								

*ISCJB **29** 23:11:39.4±0.7, 20.5°S±0.1×169.2°E±0.1, h31km, mb4.4/15, MS3.3/5, Error ellipse: s-maj=19.0km s-min=9.9km az=138.4*
*NEIC **29** 23:11:41.2±0.6, 20.53°S×169.28°E, h35km, mb4.4/7, Error ellipse: s-maj=17.4km s-min=13.0km az=150.0*
*IDC **29** 23:11:43.9±6.1, 20.49°S×169.13°E, h52km±46km, mb4.1/8, mb1 4.2/9, mb1mx3.9/25, mbtmp4.3/9, ML3.6/1, MS3.3/6, Ms1 3.3/6, ms1mx3.0/30, Error ellipse: s-maj=47.6km s-min=31.3km az=98.0*

ISC 29 23:11:41.0±0.7, 20.5°S±0.1×169.2°E±0.1, h31km, n40, σ1s03/40, mb4.4/15, MS3.3/5, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**3.02**	**239**	P		**Pn**	**23 12 27.9**	**+1.1**
	8.1nm,0.3s,baz=118,slow=14,SNR=84							
DZM				S		**Sn**	**23 13 01.3**	**-0.7**
	28nm,0.3s,baz=28,slow=16,SNR=5.2							
DZM	**Mont Dzumac**	**3.02**	**239**	*ePn*		**Pn**	**23 12 26.8**	**-0.1**
DZM				S		**Sn**	**23 13 01.3**	**-0.7**
HNR	**Honiara**	**14.21**	**320**	LR		LR	23 19 38.8	
	comp=Z,38nm,21.4s,baz=185,slow=34							
CTA	**Charters Tower**	**21.56**	**267**	P		**P**	**23 16 29.8**	**+1.7**
	7.5nm,0.5s,baz=92,slow=12,SNR=12							
CTAO	**Charters Tower**	**21.56**	**267**	*eP*		**P**	**23 16 29.3**	**+1.3**
	13nm,1.0s							
RPZ	**Rata Peaks**	**23.17**	**177**	LR		LR	23 24 55.0	
	comp=Z,202nm,20.0s,baz=28,slow=34							
PMG	**Port Moresby**	**23.99**	**294**	LR		LR	23 23 54.9	
	comp=Z,62nm,19.2s,baz=107,slow=31							
STKA	**Stephens Creek**	**27.18**	**240**	P		**P**	**23 17 22.5**	**+0.6**
	2.4nm,0.7s,baz=103,slow=10,SNR=3.6							
STKA				LR		LR	23 27 56.8	
	comp=Z,76nm,18.0s,baz=30,slow=36							
WRAB	**Tennant Creek**	**32.70**	**265**	*eP*		**P**	**23 18 09.8**	**-1.1**
	1.3nm,0.6s							
WRA	**Warramunga Arr**	**32.71**	**265**	P		**P**	**23 18 09.8**	**-1.2**
	3.3nm,0.8s,baz=92,slow=8.3,SNR=42							
WRA				PcP		**PcP**	**23 20 55.5**	**-0.9**
	0.6nm,1.1s,baz=92,slow=3.2,SNR=4.5							
ASAR	**Alice Springs**	**32.84**	**258**	P		**P**	**23 18 11.8**	**-0.3**
	14nm,0.6s,baz=84,slow=9.1,SNR=117							
PPT	**Papeete**	**38.97**	**93**	LR		LR	23 31 11.7	
	comp=Z,53nm,20.1s,baz=174,slow=30							
KSM	**Kuching**	**61.66**	**283**	*eP*		**P**	**23 21 56.2**	**-0.3**
	2.6nm,0.6s							
MAJO	**Matsushiro**	**63.89**	**332**	*eP*		**P**	**23 22 10.4**	**-0.4**
	2.5nm,0.7s							
TATO	**Taipei**	**64.81**	**312**	*eP*		**P**	**23 22 18.3**	**+1.3**
	11nm,0.5s							
COCO	**West Island**	**69.50**	**264**	*eP*		**P**	**23 22 46.3**	**-0.8**
QSPA	**South Pole Qui**	**69.53**	**180**	*eP*		**P**	**23 22 46.8**	**+0.1**
	2.8nm,0.8s							
USRK	**Ussuriysk Ar.**	**72.87**	**333**	P		**P**	**23 23 06.6**	**-0.2**
	2.5nm,0.8s,baz=160,slow=8.9,SNR=3.4							
MAW	**Mawson**	**77.25**	**202**	P		**P**	**23 23 32.9**	**+1.1**
	1.1nm,0.7s,baz=128,slow=13,SNR=4.8							
CMAR	**Chiang Mai Arr**	**79.03**	**294**	P		**P**	**23 23 43.3**	**+0.7**
	0.7nm,0.3s,baz=116,slow=4.6,SNR=6.1							
SNAA	**Sanae**	**87.88**	**183**	*eP*		**P**	**23 24 26.7**	**-0.5**
	15nm,0.4s							
CMB	**Columbia Colle**	**88.01**	**48**	*eP*		**P**	**23 24 28.3**	**0.0**
	1.5nm,0.4s							
YAK	**Yakutsk**	**88.09**	**343**	LR		LR	00 00 06.0	
	comp=Z,14nm,21.2s,baz=90,slow=33							
SONM	**Songino Array**	**88.24**	**323**	P		**P**	**23 24 28.6**	**-0.7**
	1.6nm,0.8s,baz=141,slow=5.7,SNR=6.2							
SONM				pP		**sP**	**23 24 42.7**	**-0.1**
	0.2nm,0.5s,baz=293,slow=32,SNR=2.5							
KBZ	**Khabaz**	**130.00**	**310**	PKP		**PKPdf**	**23 30 48.5**	**+0.9**
	5.6nm,1.1s,baz=51,slow=6.5,SNR=3.6							
PRU	**Pruhonice**	**144.41**	**332**	*e*PKP		**PKPab**	**23 31 12.2**	**0.0**
NKC	**Novy Kostel**	**145.12**	**334**	*e*PKP		**PKPbc**	**23 31 14.4**	**-0.4**
NKC				*ep*PKP		**pPKPdf**	**23 31 28.0**	**+2.5**
CONA	**Conrad Observa**	**145.23**	**328**	*i* PKPdf		**PKPbc**	**23 31 15.2**	**-0.1**
	5.8nm,0.9s							
KHC	**Kasperske Hory**	**145.46**	**331**	*e*PKP		**PKPbc**	**23 31 15.5**	**-0.5**
KHC				*ex*		x	23 31 31.6	
KHC	**Kasperske Hory**	**145.46**	**331**	*e*PKPdf		**PKPbc**	**23 31 14.0**	**-2.0**
GERES	**GERESS Array B**	**145.62**	**331**	PKPbc		**PKPdf**	**23 31 15.7**	**-0.6**
	4.2nm,0.7s,baz=33,slow=3.2,SNR=37							
GERES				pPKPbc		pPKPbc	23 31 29.4	+2.7
	1.8nm,0.8s,baz=44,slow=4.1,SNR=4.8							
ARSA	**Arzberg**	**145.86**	**327**	*i* PKPbc		**PKPdf**	**23 31 15.9**	**-0.8**
	3.5nm,0.9s							
MYKA	**Terra Mystica**	**147.22**	**328**	*i* PKPbc		**PKPdf**	**23 31 20.0**	**+1.0**
	5.1nm,0.8s							
ABTA	**Abfaltersbach**	**147.69**	**329**	*i* PKPbc		**PKPdf**	**23 31 20.8**	**+1.0**
	3.8nm,0.6s							
WATA	**Walderalm**	**147.69**	**331**	*i* PKPbc		**PKPbc**	**23 31 21.8**	**-0.9**
	1.6nm,0.6s							
MOTA	**Moosalm**	**147.90**	**332**	*i* PKPbc		**PKPbc**	**23 31 22.1**	**-1.1**
	4.2nm,0.7s							
RETA	**Reutte**	**147.94**	**332**	*i* PKPbc		**PKPbc**	**23 31 22.0**	**-1.2**
	1.6nm,0.5s							
FETA	**Feichten**	**148.31**	**331**	*i* PKPbc		**PKPdf**	**23 31 22.4**	**+1.5**
	3.8nm,0.6s							
DAVA	**Damuels**	**148.48**	**333**	*e*PKPdf		**PKPdf**	**23 31 20.2**	**-1.0**
	4.4nm,1.0s							
TORD	**Torodi Ar. Bea**	**166.00**	**240**	PKPab		**PKPab**	**23 32 42.3**	**-1.7**
	0.4nm,0.9s,baz=99,slow=4.2,SNR=3.5							

WEL 29 23:05:04.2±0.3, 37.77°S×178.88°E, h28km±1km, ML3.6/18, 7C, Error ellipse: s-maj=2.7km s-min=1.7km az=90.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
WMGZ	**Waiomatatini S**	**0.38**	**263**	⇑P*		Pb	23 05 12.4	-0.1
WMGZ				S*		Sb	23 05 18.5	+0.3
WMGZ				AML		AML	23 05 20.8	
MXZ	**Matakaoa Point**	**0.50**	**294**	P*		Pn	23 05 15.1	-0.4
MXZ				AML		AML	23 05 16.3	
MXZ				AML		AML	23 05 26.4	
PUZ	**Puketiti**	**0.58**	**239**	P*		Pb	23 05 15.0	-0.8
PUZ				S*		Sb	23 05 23.5	-0.2
PUZ				AML		AML	23 05 24.0	
PKGZ	**Pakihiroa**	**0.65**	**259**	⇑P*		Pb	23 05 16.2	-0.8
TWGZ	**Tauwhareparae**	**0.82**	**240**	⇑PN		Pb	23 05 19.4	-0.5
TWGZ				SN		Sn	23 05 31.4	+0.2
TWGZ				AML		AML	23 05 32.3	
HAZ	**Te Kaha**	**0.87**	**271**	⇑PN		Pn	23 05 20.2	-0.4
HAZ				AML		AML	23 05 34.4	
HAZ				AML		AML	23 05 35.1	
CNGZ	**Carnagh Statio**	**0.89**	**217**	PN		Pn	23 05 20.7	-0.2
CNGZ				AML		AML	23 05 35.6	
CNGZ				AML		AML	23 05 36.7	
RUGZ	**Raukumara Rang**	**0.97**	**258**	⇑PN		Pn	23 05 21.6	-0.5
RUGZ				SN		Sb	23 05 34.3	-0.8
TKGZ	**Te Karaka**	**1.05**	**230**	⇑PN		Pn	23 05 22.7	-0.4
TKGZ				SN		Sn	23 05 36.5	-0.4
TKGZ				AML		AML	23 05 38.5	
MWZ	**Matawai**	**1.21**	**242**	⇑PN		Pn	23 05 24.5	-0.7
MWZ				AML		AML	23 05 42.2	
MWZ				AML		AML	23 05 44.0	
RIGZ	**Rimuhau**	**1.28**	**223**	PN		Pn	23 05 25.7	-0.6
RIGZ				AML		AML	23 05 42.6	
RIGZ				AML		AML	23 05 44.6	
RAGZ	**Rawiri**	**1.36**	**238**	AML		AML	23 05 46.8	
RAGZ				AML		AML	23 05 49.3	
PRGZ	**Paritu Road**	**1.39**	**214**	PN		Pn	23 05 26.8	-1.0
PRGZ				AML		AML	23 05 46.4	
PRGZ				AML		AML	23 05 49.7	
URZ	**Urewera**	**1.48**	**250**	PN		Pn	23 05 29.3	+0.3
URZ				AML		AML	23 05 48.7	
URZ				AML		AML	23 05 59.1	
KNZ	**Kokohu**	**1.57**	**217**	PN		Pn	23 05 28.9	-1.3
SNGZ	**Shannon Statio**	**1.58**	**230**	PN		Pn	23 05 29.6

ellipse: s-maj=51.7km s-min=34.3km az=47.0
JMA ***29*** *23:27:46.7±0.3, 37.56N×142.56E, h17km±5km, M3.7*
ISCJB ***29*** *23:27:48.1±1.4, 37.59N±0.07'×142.6E±0.1, h24km, mb3.4/2, Error ellipse: s-maj=12.1km s-min=10.7km az=6.8*

ISC 29 23:27:48.7±1.7, **37°62N**±0.07'×**142°6E**±0.1, **h24**km, **n18, σ1§72/17, Off east coast of Honshu**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JIO	**Ouri**	**1.31**	**310**	P	**Pn**	**23 28 10.4**	**-1.1**
JIO				*e*S	**Sn**	**23 28 27.5**	**-0.7**
JFK	**Kawauchi**	**1.42**	**260**	P	**Pn**	**23 28 11.2**	**-1.8**
JMM	**Marumori**	**1.48**	**280**	P	**Pn**	**23 28 12.0**	**-1.8**
JMM				*e*S	**Sn**	**23 28 30.2**	**-2.1**
JOU	**Okura**	**1.72**	**296**	P	**Pn**	**23 28 16.8**	**-0.4**
JOU				*e*S	**Sn**	**23 28 37.8**	**-0.6**
JMK	**Ichinoseki**	**1.73**	**321**	P	**Pn**	**23 28 17.6**	**+0.3**
JFT	**Otama**	**1.82**	**268**	P	**Pn**	**23 28 17.8**	**-0.8**
JFT				*e*S	**Sn**	**23 28 40.4**	**-0.5**
JOM	**Ohasama**	**2.13**	**331**	P	**Pn**	**23 28 22.5**	**-0.2**
JYK	**Kaneyama**	**2.21**	**307**	P	**Pn**	**23 28 24.2**	**+0.4**
JAG	**Ashikaga**	**2.81**	**246**	P	**Pn**	**23 28 31.8**	**-0.3**
MJAR	**Matsushiro Arr**	**3.69**	**254**	Pn	**Pn**	**23 28 45.2**	**+0.9**
	0.5nm,0.3s,baz=72,slow=17,SNR=3.5						
MJAR				Sn	**Sn**	**23 29 31.2**	**+4.1**
	0.4nm,0.3s,baz=63,slow=25,SNR=3.6						
H11N2	**WAKE ISLAND Hy**	**27.64**	**123**	T	T	00 02 25.8	
	baz=316,slow=75,SNR=15						
H11N1	**WAKE ISLAND Hy**	**27.65**	**123**	T	T	00 02 24.6	
	baz=316,slow=75,SNR=14						
H11N3	**WAKE ISLAND Hy**	**27.66**	**123**	T	T	00 02 25.3	
	baz=316,slow=75,SNR=13						
H11S1	**WAKE ISLAND Hy**	**28.39**	**126**	T	T	00 03 25.2	
	baz=317,slow=76,SNR=13						
H11S3	**WAKE ISLAND Hy**	**28.39**	**126**	T	T	00 03 25.7	
	baz=317,slow=76,SNR=11						
H11S2	**WAKE ISLAND Hy**	**28.40**	**126**	T	T	00 03 34.8	
	baz=317,slow=76,SNR=14						
MKAR	**Makanchi Array**	**44.63**	**302**	P	**P**	**23 36 01.6**	**+2.4**
	0.1nm,0.4s,baz=84,slow=7.5,SNR=3.0						
WRA	**Warramunga Arr**	**57.78**	**189**	P	**P**	**23 37 36.0**	**-1.9**
	0.8nm,0.7s,baz=5.8,slow=7.3,SNR=6.7						

NIED ***29*** *23:45:00, 42.50N×144.30E, h44km, Mw3.5 Best double couple: M₀2.34000×10¹⁴ NP1:φ₀=160.00000°, δ36.00000°, λ-73.00000°. NP2:φ₀=318.00000°, δ56.00000°, λ-102.00000°.*
ISCJB ***29*** *23:45:44.7±0.6, 42.48N±0.06'×144.31E±0.06, h67km±5km, mb3.5/6, Error ellipse: s-maj=10.9km s-min=5.3km az=148.2*
MOS ***29*** *23:45:44.7±1.4, 42.45N×144.22E, h74km, mb4.0/5, Error ellipse: s-maj=24.6km s-min=11.4km az=71.4*
JMA ***29*** *23:45:45.6±0.1, 42.54N×144.27E, h67km±1km, M3.6*
JMA Felt I J1.
SKHL ***29*** *23:45:46.4±0.4, 42.25N×144.72E, h78km±6km, mb4.6/3*
IDC ***29*** *23:45:48.4±2.6, 42.53N×143.97E, h82km±22km, mb3.4/6, mb1 3.7/8, mb1mx3.4/42, mbtmp3.8/8, Error ellipse: s-maj=30.4km s-min=18.3km az=106.0*

ISC 29 23:45:45.5±1.1, **42°45N**±0.08'×**144°32E**±0.05, **h59**km±9km, **n34, σ1§04/40, mb3.7/6, 3C-7D, Hokkaido region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JOB	**Onbets**	**0.57**	**322**	⇓P	**Pn**	**23 45 58.4**	**+0.2**
JOB				*e*S	**Sn**	**23 46 07.5**	**+0.1**
JAK	**Akkeshi**	**0.61**	**27**	⇓P	**Pn**	**23 45 58.7**	**+0.1**
JAK				*e*S	**Sn**	**23 46 08.2**	**+0.1**
JCH	**Churui**	**0.72**	**283**	⇑P	**Pn**	**23 46 00.3**	**+0.4**
JCH				*e*S	**Sn**	**23 46 10.3**	**-0.2**
JAR	**Ashorobuto**	**0.94**	**335**	⇓P	**Pn**	**23 46 02.2**	**-0.4**
JAR				*e*S	**Sn**	**23 46 14.0**	**-1.3**
JNK	**Nakash**	**1.17**	**14**	⇓P	**Pn**	**23 46 05.3**	**-0.4**
JNK				*e*S	**Sn**	**23 46 19.3**	**-1.5**
JNBK	**Urakawa-nobuka**	**1.17**	**262**	⇑P	**Pn**	**23 46 05.8**	**+0.1**
NEM2	**Nemuro 2**	**1.39**	**48**	P	**Pn**	**23 46 08.2**	**-0.4**
JFR	**Furan**	**1.45**	**300**	P	**Pn**	**23 46 09.6**	**+0.1**
JBT2	**Biratori 2**	**1.48**	**283**	⇑P	**Pn**	**23 46 09.2**	**-0.6**
JTKR	**Abashiri--Toko**	**1.55**	**349**	⇓P	**Pn**	**23 46 11.1**	**+0.4**
JTKR				*e*S	**Sn**	**23 46 29.4**	**-0.4**
JRA	**Rausu**	**1.60**	**21**	P	**Pn**	**23 46 11.6**	**+0.2**
JRA				*e*S	**Sn**	**23 46 30.5**	**-0.5**
YUK	**Yuzh-Kuril'sk**	**1.94**	**35**	*d i*PN	**Pn**	**23 46 16.7**	**+0.6**
YUK				*i* S	**Sn**	**23 46 38.3**	**-1.1**
YUK				pmax	pmax		
	comp=Z,272nm,0.2s						
YUK				smax	smax		
	comp=N,1μm,0.4s						
YUK				smax	smax		
	comp=E,1μm,0.4s						
YUK	**Yuzh-Kuril'sk**	**1.94**	**35**	*i* P	**Pn**	**23 46 16.7**	**+0.6**
YUK				AMB	AMB	23 46 16.8	
	comp=E,140nm,0.2s						
YUK				*i* S	**Sn**	**23 46 39.7**	**+0.3**
YUK				A	A	23 46 41.8	
	comp=E,1μm,0.4s						
YUK				A	A	23 46 41.8	
	comp=E,780nm,0.4s						
ASAJ	**Asahikawa**	**2.08**	**324**	P	**Pn**	**23 46 18.9**	**+0.9**
	baz=90,slow=20						
SHO	**Shikotan**	**2.32**	**52**	*d i*PN	**Pn**	**23 46 21.1**	**-0.1**
SHO				*i* S	**Sn**	**23 46 46.3**	**-2.3**
SHO				pmax	pmax		
	comp=Z,131nm,0.2s						
SHO				smax	smax		
	comp=N,656nm,0.3s						
SHO				smax	smax		
	comp=E,360nm,0.2s						
SHO	**Shikotan**	**2.32**	**52**	*e*P	**Pn**	**23 46 20.9**	**-0.3**
SHO				AMB	AMB	23 46 21.7	
	comp=E,130nm,0.4s						
SHO				*i* S	**Sn**	**23 46 46.5**	**-2.1**
SHO				A	A	23 46 48.7	
	comp=E,660nm,0.4s						
SHO				A	A	23 46 48.7	
	comp=E,360nm,0.4s						
KUR	**Kuril'sk**	**3.78**	**42**	*e*PN	**Pn**	**23 46 42.8**	**+1.6**
KUR				*e*S	**Sn**	**23 47 26.1**	**+1.7**
KUR				pmax	pmax		
	comp=Z,53nm,0.8s						
KUR				smax	smax		
	comp=N,85nm,0.2s						
KUR				smax	smax		
	comp=E,67nm,0.5s						
KUR	**Kuril'sk**	**3.78**	**42**	*e*P	**Pn**	**23 46 43.3**	**+2.1**
KUR				AMB	AMB	23 46 44.2	
	comp=E,70nm,0.4s						
KUR				*e*S	**Sn**	**23 47 24.5**	**+0.1**
KUR				A	A	23 47 30.6	
	comp=E,90nm,0.3s						
YSS	**Yuzh-Sakhalins**	**4.64**	**347**	*e*P	Pn	23 46 58.0	+5.1
MJAR	**Matsushiro Arr**	**7.56**	**221**	P	**Pn**	**23 47 34.0**	**+1.0**
	comp=E,0.5nm,0.3s,baz=31,slow=13,SNR=6.3						
MA2	**Magadan**	**17.60**	**11**	P	**P**	**23 49 48.3**	**+1.6**
	comp=E,1.6nm,0.3s,baz=164,slow=19,SNR=4.1						
H11N2	**WAKE ISLAND Hy**	**29.61**	**133**	T	T	00 23 06.8	
	baz=327,slow=76,SNR=86						
H11N1	**WAKE ISLAND Hy**	**29.62**	**133**	T	T	00 23 06.6	
	baz=327,slow=76,SNR=87						
H11N3	**WAKE ISLAND Hy**	**29.63**	**133**	T	T	00 23 06.6	
	baz=327,slow=76,SNR=88						
H11S1	**WAKE ISLAND Hy**	**30.51**	**135**	T	T	00 24 15.0	
	baz=328,slow=76,SNR=124						
H11S3	**WAKE ISLAND Hy**	**30.51**	**135**	T	T	00 24 17.6	
	baz=328,slow=76,SNR=119						
H11S2	**WAKE ISLAND Hy**	**30.52**	**135**	T	T	00 24 17.9	
	baz=328,slow=76,SNR=85						
MKAR	**Makanchi Array**	**43.35**	**298**	P	**P**	**23 53 39.4**	**-2.3**
	comp=E,0.2nm,0.6s,baz=82,slow=8.9,SNR=2.8						
ILAR	**Eielson Array**	**43.75**	**35**	P	**P**	**23 53 45.1**	**+0.5**
	comp=E,1.1nm,0.9s,baz=275,slow=5.6,SNR=9.3						
INK	**Inuvik**	**48.56**	**29**	P	**P**	**23 54 23.2**	**+0.9**
	comp=E,0.7nm,0.4s,baz=296,slow=6.0,SNR=6.1						
WRA	**Warramunga Arr**	**62.76**	**191**	P	**P**	**23 56 05.4**	**+0.8**
	comp=E,0.6nm,0.9s,baz=9.7,slow=6.8,SNR=3.4						
FINES	**FINESS Array B**	**65.07**	**332**	P	**P**	**23 56 18.7**	**-0.5**
	comp=E,0.4nm,0.5s,baz=41,slow=6.1,SNR=5.2						
FINES	**FINESS Array B**	**65.07**	**332**	P	**P**	**23 56 18.7**	**-0.5**
FINES				pmax	pmax		
	comp=Z,2.0nm,0.9s						
NOA	**NORSAR Array B**	**70.04**	**338**	P	**P**	**23 56 50.4**	**-0.3**
	comp=Z,0.8nm,0.8s,baz=34,slow=6.4,SNR=2.9						

MEX 29 23:51:19.1±0.5, **16°75N**×**99°65W**, **h13**km±2km, **MD3.8, Near coast of Guerrero**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ACP2	**Acapulco**	**0.26**	**299**	*i* P	Pg	23 51 23.8	-0.7
ACP2				*i* S	Sg	23 51 28.0	-0.1
CAIG	**El Cayaco**	**0.66**	**297**	*i* P	Pg	23 51 30.1	-1.9
CAIG				*i* S	Sg	23 51 39.2	-1.5
MEIG	**Mezcala**	**1.17**	**2**	*i* P	Pb	23 51 37.4	-3.9
MEIG				*e*S	Sb	23 51 51.8	-4.6
TLIG	**Tlapa**	**1.32**	**52**	*e*P	Pn	23 51 40.0	-3.3
TLIG				*i* S	Sb	23 51 55.4	-5.3
PNIG	**Pinotepa**	**1.51**	**103**	*e*P	Pn	23 51 42.4	-3.5
PNIG				*i* S	Sn	23 52 00.1	-5.4
PLIG	**Platanillo**	**1.64**	**5**	*e*P	Pn	23 51 44.3	-3.5
PLIG				*i* S	Sn	23 52 03.6	-5.2
ARIG	**Puente Sto Nin**	**1.66**	**337**	*e*P	Pn	23 51 44.2	-3.8
ARIG				*i* S	Sn	23 52 04.2	-5.0
ZIIG	**Zihuatanejo**	**1.93**	**296**	*i* P	Pn	23 51 47.7	-4.0
ZIIG				*e*S	Sn	23 52 11.2	-4.7

SJA ***29*** *23:56:35.4±0.4, 32.35S×69.70W, h123km±1km, ML3.0, MW3.5*
ISCJB ***29*** *23:56:36.0±0.9, 32.34S±0.06'×69.68W±0.06', h126km±7km, Error ellipse: s-maj=10.9km s-min=4.9km az=142.1*
GUC ***29*** *23:56:38.0±0.5, 32.25S×69.81W, h110km±20km, ML2.9*

ISC 29 23:56:36.7±1.8, **32°34S**±0.06'×**69°68W**±0.05, **h121**km±12km, **n17, σ0§42/29, 2C-1D, Mendoza Province**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AUSP	**Uspallata**	**0.27**	**66**	*e*P	**Pn**	**23 56 53.9**	**-0.2**
AUSP				*e*S	**Sn**	**23 57 07.4**	**+0.3**
RTLS	**Leoncito**	**0.62**	**31**	*e*P	**Pn**	**23 56 56.0**	**0.0**
RTLS				*e*S	**Sn**	**23 57 11.3**	**+0.8**
ASAL	**Salagasta**	**0.76**	**110**	*e*P	**Pn**	**23 56 56.2**	**-0.6**
ASAL				*e*S	**Sn**	**23 57 11.8**	**-0.1**
ARCO	**CERRO ARCO**	**0.81**	**129**	*e*P	**Pn**	**23 56 57.2**	**-0.1**
ARCO				*e*S	**Sn**	**23 57 12.8**	**0.0**
ARCO				IAML		23 57 14.1	
	comp=Z,417nm,0.3s						
AAGR	**Agrelo**	**1.04**	**136**	*e*P	**Pn**	**23 56 59.0**	**-0.3**
AAGR				*e*S	**Sn**	**23 57 16.3**	**-0.1**
RTCV	**Cerro Valdivia**	**1.07**	**64**	*e*P	**Pn**	**23 56 59.3**	**-0.3**
RTCV				*e*S	**Sn**	**23 57 17.2**	**+0.2**
FCH	**Farellones**	**1.12**	**207**	*e*P	**Pn**	**23 57 01.2**	**+0.8**
FCH				*i* S	**Sn**	**23 57 18.8**	**+0.5**
FCH				IAML		23 57 19.1	
	comp=E,392nm,0.3s						
PEL	**Peldehue**	**1.17**	**226**	⇑*i*P	**Pn**	**23 57 00.8**	**+0.1**
PEL				*i* S	**Sn**	**23 57 18.1**	**-0.7**
PEL				IAML		23 57 18.9	
	comp=N,259nm,0.3s						
CLCH	**Cerro Calan**	**1.28**	**214**	⇓*i*P	**Pn**	**23 57 02.6**	**+0.8**
CLCH				*i* S	**Sn**	**23 57 21.2**	**+0.3**
CLCH				IAML		23 57 22.3	
	comp=E,236nm,0.4s						
ROCH	**El Roble**	**1.29**	**240**	⇑*i*P	**Pn**	**23 57 02.2**	**+0.1**
ROCH				*i* S	**Sn**	**23 57 20.7**	**-0.6**
ROCH				IAML		23 57 21.9	
	comp=E,375nm,0.3s						
ROC1	**El Roble**	**1.30**	**240**	*e*P	**Pn**	**23 57 01.7**	**-0.5**
ROC1				*e*S	**Sn**	**23 57 21.0**	**-0.5**
ANTU	**Antumapu**	**1.47**	**213**	*e*S	**Sn**	**23 57 24.4**	**-0.2**
ANTU				IAML		23 57 27.0	
	comp=N,152nm,0.3s						
AMOG	**MOGNA**	**1.72**	**36**	*e*P	**Pn**	**23 57 06.7**	**-0.2**
AMOG				*e*S	**Sn**	**23 57 30.1**	**+0.2**
ACAN	**Cantantal**	**2.11**	**89**	*e*P	**Pn**	**23 57 11.5**	**-0.1**
AVFE	**Valle Fertil**	**2.53**	**49**	*e*P	**Pn**	**23 57 17.0**	**0.0**
AVFE				IAML		23 57 49.9	
	comp=Z,29nm,0.5s						
ACHE	**Chepes**	**2.82**	**66**	*e*P	**Pn**	**23 57 21.0**	**+0.1**
APLL	**PUNTA DE LOS L**	**3.32**	**55**	*e*P	**Pn**	**23 57 27.3**	**0.0**

BJI 30 00:07:56.2, 36.49N×113.11E, h6km**, mb3.9**/1**, ML3.7**/17**, Ms3.5**/3**, Ms7 3.4**/2**, Southeastern China**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TIY	**Taiyuan**	**1.33**	**336**	Pn	Pn	00 08 21.3	-0.2
TIY				Pg	Pg	00 08 22.5	+0.7
TIY				Sn	Sb	00 08 38.5	-0.6
TIY				Sg	Sn	00 08 42.0	+2.4
TIY				smax	smax		
	comp=N,780nm,0.6s						
TIY				smax	smax		
	comp=E,1μm,0.7s						
TIA	**Tai'an**	**3.25**	**94**	Pg	Pb	00 08 53.0	-1.3
TIA				Sg	Sb	00 09 34.5	+0.3
TIA				smax	smax		
	comp=N,200nm,0.7s						
TIA				smax	smax		
	comp=E,60nm,0.6s						
XAN	**Xi'an**	**4.21**	**236**	Pn	Pn	00 09 02.8	+1.8
XAN				Sn	Sn	00 09 48.8	-1.7
XAN				Sg	Sg	00 10 08.5	-2.9
XAN				smax	smax		
	comp=N,55nm,0.8s						
XAN				smax	smax		
	comp=E,38nm,1.0s						
LZH	**Lanzhou**	**7.49**	**270**	*e*Pn	Pn	00 09 47.8	+1.6
LZH				Pg	Pb	00 10 12.8	+6.1
LZH				Sn	Sn	00 11 11.0	-0.6
LZH				Sg	Sb	00 11 46.0	+10
LZH				smax	smax		
	comp=N,62nm,0.7s						
LZH				smax	smax		
	comp=E,70nm,0.8s						
LZH				LR	LR		
	comp=N,510nm,5.3s						
LZH				LR	LR		
	comp=E,340nm,4.5s						
LZH				LR	LR		
	comp=Z,340nm,5.7s						
GTA	**Gaotai**	**10.90**	**290**	*e*P	Pn	00 10 34.0	+1.2
GTA				pP		00 10 37.0	
GTA				sP		00 10 40.0	
GTA				pmax	pmax		
	comp=Z,3.0nm,0.8s						

IDC 30 00:16:04.0±6.8, **11°14N**×**141°10E**, **h0**km, **mb3.6**/3, **mb1 3.8**/3, **mb1mx3.4**/31, **mbtmp3.6**/3, **Error ellipse: s-maj=278.3km s-min=28.3km az=78.0, Western Caroline Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**31.60**	**192**	P	P	00 22 30.1	+1.4
	0.9nm,0.5s,baz=13,slow=9.3,SNR=13						
ASAR	**Alice Springs**	**35.30**	**191**	P	P	00 22 59.3	-1.7
	0.5nm,0.6s,baz=18,slow=9.3,SNR=6.1						
MKAR	**Makanchi Array**	**60.74**	**318**	P	P	00 26 17.6	0.0
	0.2nm,0.5s,baz=98,slow=7.9,SNR=2.9						

ISCJB ***30*** *00:21:27.3±0.4, 38.85N±0.02'×15.77E±0.04, h113km±4km, Error ellipse: s-maj=5.6km s-min=2.9km az=24.9*
ROM ***30*** *00:21:28.1±0.2, 38.81N×15.74E, h109km±3km, Md2.9/42, Ml3.3/32, Error ellipse: s-maj=3.3km s-min=1.9km az=112.0*
CSEM ***30*** *00:21:28.0±0.2, 38.85N×15.74E, h109km±2km, ML3.8/13, Error ellipse: s-maj=4.2km s-min=2.5km az=116.0*

ISC 30 00:21:27.0±1.3, **38°83N**±0.03'×**15°75E**±0.04, **h119**km±6km, **n125, σ1§14/164, 6C-17D, Sicily**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JOPP	**Joppolo**	**0.25**	**155**	⇓*i*Pg	**Pn**	**00 21 43.9**	**+0.3**
JOPP				Sg	**Sn**	**00 21 54.9**	**-1.2**
	1μm,0.2s						
JOPP	**Joppolo**	**0.25**	**155**	⇓*i*Pg	**Pn**	**00 21 43.9**	**+0.3**
JOPP				Sg	**Sn**	**00 21 54.9**	**-1.2**
	1μm,0.2s						
STR3	**STROMBOLI 3**	**0.41**	**265**	Pg	**Pn**	**00 21 44.8**	**+0.6**
STR3	**STROMBOLI 3**	**0.41**	**265**	Pg	**Pn**	**00 21 44.8**	**+0.6**
GRI	**Girifalco**	**0.52**	**91**	Pg	**Pn**	**00 21 45.7**	**+0.8**
GRI				Sg	**Sn**	**00 21 58.8**	**+0.3**
	430nm,0.4s						
GRI	**Girifalco**	**0.52**	**91**	Pg	**Pn**	**00 21 45.7**	**+0.8**
GRI				Sg	**Sn**	**00 21 58.8**	**+0.3**
	430nm,0.4s						
CAR1	**CAROLEI**	**0.55**	**40**	Pg	**Pn**	**00 21 45.6**	**+0.4**
CAR1				Sg	**Sn**	**00 21 57.7**	**-1.2**
	1μm,0.3s						
CAR1	**CAROLEI**	**0.55**	**40**	Pg	**Pn**	**00 21 45.6**	**+0.4**
CAR1				Sg	**Sn**	**00 21 57.7**	**-1.2**
	1μm,0.3s						
CEL	**Celeste**	**0.58**	**169**	⇓*i*Pg	**Pn**	**00 21 45.5**	**+0.1**
CEL				Sg	**Sn**	**00 21 57.8**	**-1.4**
	405nm,0.2s						
CEL	**Celeste**	**0.58**	**169**	⇓*i*Pg	**Pn**	**00 21 45.5**	**+0.1**
CEL				Sg	**Sn**	**00 21 57.8**	**-1.4**
	405nm,0.2s						
MSRU	**Castanea**	**0.60**	**199**	⇓*i*Pg	**Pn**	**00 21 45.6**	**+0.1**
MSRU				Sg	**Sn**	**00 21 57.9**	**-1.4**
	1μm,0.3s						
MSRU	**Castanea**	**0.60**	**199**	⇓*i*Pg	**Pn**	**00 21 45.6**	**+0.1**
MSRU				Sg	**Sn**	**00 21 57.9**	**-1.4**
	1μm,0.3s						
MSCL	**Scilla**	**0.60**	**177**	⇓*i*Pg	Pn	**00 21 45.5**	**-0.1**
	1μm,0.4s						
MSCL	**Scilla**	**0.60**	**177**	⇓*i*Pg	Pn	**00 21 45.5**	**-0.1**
	1μm,0.4s						
PLAC	**Placanica**	**0.66**	**125**	Pg	**Pn**	**00 21 46.6**	**+0.7**
PLAC				Sg	**Sn**	**00 21 59.7**	**-0.5**
	385nm,0.4s						
PLAC	**Placanica**	**0.66**	**125**	Pg	**Pn**	**00 21 46.6**	**+0.7**
PLAC				Sg	**Sn**	**00 21 59.7**	**-0.5**
	385nm,0.4s						
GMB	**Gambarie**	**0.67**	**175**	Pg	**Pn**	**00 21 46.2**	**+0.1**
	2μm,0.3s						
GMB	**Gambarie**	**0.67**	**175**	Pg	**Pn**	**00 21 46.2**	**+0.1**
	2μm,0.3s						
ATN	**Antennamare**	**0.71**	**199**	Pg	**Pn**	**00 21 46.4**	**0.0**
ATN				Sg	**Sn**	**00 21 59.5**	**-1.5**
ATN	**Antennamare**	**0.71**	**199**	Pg	**Pn**	**00 21 46.4**	**0.0**
ATN				Sg	**Sn**	**00 21 59.5**	**-1.5**
LLI	**Lipari**	**0.74**	**239**	⇓*i*Pg	**Pn**	**00 21 47.5**	**+1.0**
	2μm,0.7s						
LLI	**Lipari**	**0.74**	**239**	⇓*i*Pg	**Pn**	**00 21 47.5**	**+1.0**
	2μm,0.7s						
VPL	**Vulcano Piano**	**0.75**	**233**	⇓*e*Pg	**Pn**	**00 21 47.2**	**+0.6**
	2μm,0.3s						
VPL	**Vulcano Piano**	**0.75**	**233**	⇓*e*Pg	**Pn**	**00 21 47.2**	**+0.6**
	2μm,0.3s						
MPNC	**Port Mandanici**	**0.75**	**205**	Pg	**Pn**	**00 21 46.7**	**0.0**
	1μm,0.4s						
MPNC	**Port Mandanici**	**0.75**	**205**	Pg	**Pn**	**00 21 46.7**	**0.0**
	1μm,0.4s						
SERS	**Sersale**	**0.76**	**74**	⇓*i*Pg	**Pn**	**00 21 47.9**	**+1.1**
SERS				Sg	**Sn**	**00 22 02.1**	**+0.3**
	316nm,0.5s						
SERS	**Sersale**	**0.76**	**74**	⇓*i*Pg	**Pn**	**00 21 47.9**	**+1.1**
SERS				Sg	**Sn**	**00 22 02.1**	**+0.3**
	316nm,0.5s						
SOI	**Samo**	**0.80**	**162**	Pg	**Pn**	**00 21 47.7**	**+0.7**
	220nm,0.4s						
SOI	**Samo**	**0.80**	**162**	Pg	**Pn**	**00 21 47.7**	**+0.7**
	220nm,0.4s						
MCSR	**Castroreale**	**0.86**	**207**	Pg	**Pn**	**00 21 48.1**	**+0.4**
MCSR				Sg	**Sn**	**00 22 03.3**	**0.0**
	2μm,0.3s						
MCSR	**Castroreale**	**0.86**	**207**	Pg	**Pn**	**00 21 48.1**	**+0.4**
MCSR				Sg	**Sn**	**00 22 03.3**	**0.0**
	2μm,0.3s						
MPAZ	**Palizzi**	**0.90**	**167**	Pg	**Pn**	**00 21 48.7**	**+0.7**
	320nm,0.3s						
MPAZ	**Palizzi**	**0.90**	**167**	Pg	**Pn**	**00 21 48.7**	**+0.7**
	320nm,0.3s						
NOV	**Novara**	**0.94**	**211**	⇓*i*Pg	**Pn**	**00 21 49.2**	**+0.8**
NOV				Sg	**Sn**	**00 22 04.1**	**-0.4**
	767nm,0.7s						
NOV	**Novara**	**0.94**	**211**	⇓*i*Pg	**Pn**	**00 21 49.2**	**+0.8**
NOV				Sg	**Sn**	**00 22 04.1**	**-0.4**
	767nm,0.7s						
IFIL	**Filicudi I Eol**	**0.96**	**254**	Pg	**Pn**	**00 21 49.2**	**+0.7**
	178μm,30.0s						
IFIL	**Filicudi I Eol**	**0.96**	**254**	Pg	**Pn**	**00 21 49.2**	**+0.7**
	178μm,30.0s						
MMME	**Mongiuffi-Meli**	**0.98**	**204**	Pg	**Pn**	**00 21 49.8**	**+1.0**
MMME				Sg	**Sn**	**00 22 05.4**	**+0.2**
	621nm,0.4s						
MMME	**Mongiuffi-Meli**	**0.98**	**204**	Pg	**Pn**	**00 21 49.8**	**+1.0**
MMME				Sg	**Sn**	**00 22 05.4**	**+0.2**
	621nm,0.4s						
MUCR	**Ucria**	**1.05**	**221**	Pg	**Pn**	**00 21 50.1**	**+0.6**
	308nm,0.4s						
MUCR	**Ucria**	**1.05**	**221**	Pg	**Pn**	**00 21 50.1**	**+0.6**
	308nm,0.4s						
PIPA	**Pietrapaola**	**1.05**	**51**	Pg	**Pn**	**00 21 50.8**	**+1.4**
	153nm,0.3s						
PIPA	**Pietrapaola**	**1.05**	**51**	Pg	**Pn**	**00 21 50.8**	**+1.4**
	153nm,0.3s						
IACL	**Alicudi**	**1.13**	**255**	Pg	**Pn**	**00 21 51.1**	**+0.9**
	294nm,0.7s						
IACL	**Alicudi**	**1.13**	**255**	Pg	**Pn**	**00 21 51.1**	**+0.9**
	294nm,0.7s						
SALB	**San Lorenzo Be**	**1.14**	**24**	Pg	**Pn**	**00 21 52.0**	**+1.5**
	185nm,0.4s						
SALB	**San Lorenzo Be**	**1.14**	**24**	Pg	**Pn**	**00 21 52.0**	**+1.5**
	185nm,0.4s						
CUC	**Castrocucco**	**1.16**	**2**	Pg	**Pn**	**00 21 51.3**	**+0.7**
CUC				Sg	**Sn**	**00 22 07.9**	**-0.6**
	133nm,0.3s						
CUC	**Castrocucco**	**1.16**	**2**	Pg	**Pn**	**00 21 51.3**	**+0.7**
CUC				Sg	**Sn**	**00 22 07.9**	**-0.6**
	133nm,0.3s						
MSFR	**San Fratello**	**1.21**	**229**	Pg	**Pn**	**00 21 51.9**	**+0.8**
	57nm,0.8s						
MSFR	**San Fratello**	**1.21**	**229**	Pg	**Pn**	**00 21 51.9**	**+0.8**
	57nm,0.8s						
BULG	**Bulgheria - Ca**	**1.28**	**347**	Pg	**Pn**	**00 21 53.1**	**+1.2**
BULG				Sg	**Sn**	**00 22 11.0**	**+0.2**
	271nm,0.8s						
BULG	**Bulgheria - Ca**	**1.28**	**347**

RAFF	**Raffo Rosso**	**1.94**	**215**	Pg	**Pn**	**00 22 01.1**	**+1.4**
	257nm,1.9s							
MATE	**Matera**	**1.96**	**22**	Pg	**Pn**	**00 21 59.9**	**+0.1**
MATE	**Matera**	**1.96**	**22**	Pg	**Pn**	**00 21 59.9**	**+0.1**
TAR1	**Taranto**	**2.06**	**34**	*e*Pn	**Pn**	**00 22 01.1**	**0.0**
TAR1				Sn	**Sn**	**00 22 25.4**	**-1.9**
MASS	**Massafra**	**2.10**	**30**	*e*Pn	**Pn**	**00 22 01.6**	**0.0**
MASS				Sn	**Sn**	**00 22 26.9**	**-1.1**
SG1	**Sgolgore (BA)**	**2.13**	**19**	*e*Pn	**Pn**	**00 22 02.1**	**+0.1**
SG1				Sn	**Sn**	**00 22 27.2**	**-1.6**
NOCI	**Noci**	**2.20**	**27**	Pg	**Pn**	**00 22 02.6**	**-0.3**
NOCI	**Noci**	**2.20**	**27**	Pg	**Pn**	**00 22 02.6**	**-0.3**
FASA	**Fasano**	**2.34**	**31**	*e*Pn	**Pn**	**00 22 04.3**	**-0.3**
FASA				Sn	**Sn**	**00 22 31.6**	**-1.8**
BAI	**Bari**	**2.43**	**21**	*e*Pn	**Pn**	**00 22 06.0**	**+0.2**
BAI				Sn	**Sn**	**00 22 32.8**	**-2.8**
SCTE	**Santa Cesarea**	**2.44**	**59**	Pg	**Pn**	**00 22 05.9**	**0.0**
SCTE	**Santa Cesarea**	**2.44**	**59**	Pg	**Pn**	**00 22 05.9**	**0.0**
KEK	**Kerkira**	**3.26**	**73**	P	**Pn**	**00 22 17.6**	**+0.9**
KEK	**Kerkira**	**3.26**	**73**	P	**Pn**	**00 22 17.6**	**+0.9**
LKD2	**Lefkada island**	**3.83**	**89**	P	**Pn**	**00 22 25.6**	**+1.3**
LKD2	**Lefkada island**	**3.83**	**89**	P	**Pn**	**00 22 25.6**	**+1.3**
VLS	**Valsamata**	**3.85**	**98**	P	**Pn**	**00 22 25.5**	**+1.0**
VLS	**Valsamata**	**3.85**	**98**	P	**Pn**	**00 22 25.5**	**+1.0**
KFL	**Anninata**	**4.02**	**99**	P	**Pn**	**00 22 27.9**	**+1.2**
KFL	**Anninata**	**4.02**	**99**	P	**Pn**	**00 22 27.9**	**+1.2**
JAN	**Janina**	**4.04**	**77**	P	**Pn**	**00 22 29.1**	**+2.0**
JAN	**Janina**	**4.04**	**77**	P	**Pn**	**00 22 29.1**	**+2.0**
STON	**Ston**	**4.30**	**19**	*e*Pn	**Pn**	**00 22 30.1**	**-0.4**
STON				Sn	**Sn**	**00 23 17.3**	**-2.4**
STON	**Ston**	**4.30**	**19**	*e*Pn	**Pn**	**00 22 30.0**	**-0.4**
STON				Sn	**Sn**	**00 23 17.2**	**-2.4**
PVO	**Paravola**	**4.52**	**91**	P	**Pn**	**00 22 35.7**	**+2.3**
PVO	**Paravola**	**4.52**	**91**	P	**Pn**	**00 22 35.7**	**+2.3**
RLS	**Riolos of Patr**	**4.55**	**98**	P	**Pn**	**00 22 35.8**	**+1.9**
RLS	**Riolos of Patr**	**4.55**	**98**	P	**Pn**	**00 22 35.8**	**+1.9**
EFP	**Efpalio**	**4.84**	**93**	P	**Pn**	**00 22 39.6**	**+1.9**
EFP	**Efpalio**	**4.84**	**93**	P	**Pn**	**00 22 39.6**	**+1.9**
KALE	**Kalithea**	**5.02**	**93**	P	**Pn**	**00 22 42.5**	**+2.2**
KALE	**Kalithea**	**5.02**	**93**	P	**Pn**	**00 22 42.5**	**+2.2**
AGG	**Agios Georgios**	**5.13**	**86**	P	**Pn**	**00 22 44.1**	**+2.4**
AGG	**Agios Georgios**	**5.13**	**86**	P	**Pn**	**00 22 44.1**	**+2.4**
ITM	**Ithomi**	**5.15**	**107**	P	**Pn**	**00 22 43.2**	**+1.3**
ITM	**Ithomi**	**5.15**	**107**	P	**Pn**	**00 22 43.2**	**+1.3**
SJES	**Sjenica**	**5.46**	**34**	⇑*i*Pn	**Pn**	**00 22 47.8**	**+1.7**
BBLS	**Lazići**	**5.73**	**27**	⇑*i*Pn	**Pn**	**00 22 51.8**	**+2.0**
IVAS	**Ivanjica**	**5.79**	**34**	*i*Pn	**Pn**	**00 22 50.7**	**+0.2**
DIVS	**Divibare**	**6.15**	**30**	⇑*i*Pn	**Pn**	**00 22 55.8**	**+0.4**
GRUS	**Gruza**	**6.28**	**35**	⇓*i*Pn	**Pn**	**00 22 57.4**	**+0.3**
TEKS	**Tekeris**	**6.37**	**25**	*i*Pn	**Pn**	**00 22 58.7**	**+0.3**
BOVS	**Bovan**	**6.57**	**41**	*i*Pn	**Pn**	**00 23 01.6**	**+0.6**
ZAGS	**Zajecar**	**6.97**	**42**	⇑*i*Pn	**Pn**	**00 23 06.8**	**+0.4**

*IDC **30** 00:24:53.5±8.9,34°.97N×13°.66E,h0km,mb4.3/2, mb1 4.0/4,mb1mx3.5/32,mbtmp3.8/4,ML3.8/2,Error ellipse: s-maj=142.4km s-min=104.4km az=45.0*
*ROM **30** 00:26:04.3±0.4,39°.77N×15°.37E,h304km±6km,Ml3.1/17, Error ellipse: s-maj=8.0km s-min=5.0km az=112.0*
*CSEM **30** 00:26:04.3,39°.77N×15°.37E,h304km,ML3.1/17*
*ISCJB **30** 00:26:05.6±0.7,39°.78N±0°.05×15°.4E±0°.1,h299km±7km, mb3.8/2,Error ellipse: s-maj=13.4km s-min=7.9km az=20.9*

ISC 30 00:26:06.0±1.1,39°.77N±0°.09×15°.37E±0°.08,h293km±11km, n62,σ0°86/76,4D,Southern Italy

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BULG	**Bulgheria - Ca**	**0.30**	**2**	⇓*i*Pg	**Pn**	**00 26 44.2**	**+0.7**
	45nm,0.6s						
BULG	**Bulgheria - Ca**	**0.30**	**2**	⇓*i*Pg	**Pn**	**00 26 44.2**	**+0.7**
	45nm,0.6s						
MGR	**Morigerati**	**0.39**	**22**	⇓*i*Pg	**Pn**	**00 26 44.2**	**+0.6**
	30nm,0.6s						
MGR	**Morigerati**	**0.39**	**22**	⇓*i*Pg	**Pn**	**00 26 44.2**	**+0.6**
	30nm,0.6s						
CUC	**Castrocucco**	**0.41**	**57**	Pg	**Pn**	**00 26 44.1**	**+0.4**
	25nm,0.7s						
CUC	**Castrocucco**	**0.41**	**57**	Pg	**Pn**	**00 26 44.1**	**+0.4**
	25nm,0.7s						
MTSN	**Montesano sull**	**0.57**	**31**	Pg	**Pn**	**00 26 44.5**	**+0.3**
	20nm,0.6s						
MTSN	**Montesano sull**	**0.57**	**31**	Pg	**Pn**	**00 26 44.5**	**+0.3**
	20nm,0.6s						
SLCN	**Sala Consilina**	**0.65**	**18**	Pg	**Pn**	**00 26 45.0**	**+0.6**
	63nm,0.7s						
SLCN	**Sala Consilina**	**0.65**	**18**	Pg	**Pn**	**00 26 45.0**	**+0.6**
	63nm,0.7s						
SALB	**San Lorenzo Be**	**0.76**	**82**	Pg	**Pn**	**00 26 45.4**	**+0.6**
	27nm,0.4s						
SALB	**San Lorenzo Be**	**0.76**	**82**	Pg	**Pn**	**00 26 45.4**	**+0.6**
	27nm,0.4s						
CAR1	**CAROLEI**	**0.83**	**128**	Pg	**Pn**	**00 26 44.9**	**-0.2**
CAR1				Sg	**S**	**00 27 14.2**	**-1.9**
	85nm,0.5s						
CAR1	**CAROLEI**	**0.83**	**128**	Pg	**Pn**	**00 26 44.9**	**-0.2**
CAR1				Sg	**S**	**00 27 14.2**	**-1.9**
	85nm,0.5s						
MCRV	**Calabrutti - M**	**1.02**	**352**	Pg	**Pn**	**00 26 46.5**	**+0.6**
	18nm,0.8s						
MCRV	**Calabrutti - M**	**1.02**	**352**	Pg	**Pn**	**00 26 46.5**	**+0.6**
	18nm,0.8s						
PIPA	**Pietrapaola**	**1.16**	**104**	Pg	**Pn**	**00 26 47.3**	**+0.8**
PIPA				Sg	**S**	**00 27 19.2**	**+0.5**
	48nm,0.2s						
PIPA	**Pietrapaola**	**1.16**	**104**	Pg	**Pn**	**00 26 47.3**	**+0.8**
PIPA				Sg	**S**	**00 27 19.2**	**+0.5**
	48nm,0.2s						
GRI	**Girifalco**	**1.25**	**139**	Pg	**Pn**	**00 26 48.0**	**+0.9**
GRI				Sg	**S**	**00 27 19.3**	**-0.5**
	195nm,1.1s						
GRI	**Girifalco**	**1.25**	**139**	Pg	**Pn**	**00 26 48.0**	**+0.9**
GRI				Sg	**S**	**00 27 19.3**	**-0.5**
	195nm,1.1s						
SERS	**Sersale**	**1.26**	**125**	Pg	**Pn**	**00 26 47.8**	**+0.5**
SERS				Sg	**S**	**00 27 19.0**	**-1.0**
	72nm,0.3s						
SERS	**Sersale**	**1.26**	**125**	Pg	**Pn**	**00 26 47.8**	**+0.5**
SERS				Sg	**S**	**00 27 19.0**	**-1.0**
	72nm,0.3s						
VPL	**Vulcano Piano**	**1.42**	**192**	Pg	**Pn**	**00 26 49.7**	**+1.5**
VPL	**Vulcano Piano**	**1.42**	**192**	Pg	**Pn**	**00 26 49.7**	**+1.5**
ATN	**Antennamare**	**1.61**	**177**	Pg	**Pn**	**00 26 49.8**	**+0.3**
ATN				Sg	**S**	**00 27 22.2**	**-1.9**
	65nm,0.3s						
ATN	**Antennamare**	**1.61**	**177**	Pg	**Pn**	**00 26 49.8**	**+0.3**
ATN				Sg	**S**	**00 27 22.2**	**-1.9**
	65nm,0.3s						
MCSR	**Castroreale**	**1.71**	**183**	Pg	**Pn**	**00 26 50.7**	**+0.5**
MCSR				Sg	**S**	**00 27 25.4**	**+0.1**
	123nm,0.8s						
MCSR	**Castroreale**	**1.71**	**183**	Pg	**Pn**	**00 26 50.7**	**+0.5**
MCSR				Sg	**S**	**00 27 25.4**	**+0.1**
	123nm,0.8s						
NOV	**Novara**	**1.75**	**186**	Pg	**Pn**	**00 26 51.3**	**+0.8**
NOV				Sg	**S**	**00 27 26.6**	**+0.8**
	62nm,0.7s						
NOV	**Novara**	**1.75**	**186**	Pg	**Pn**	**00 26 51.3**	**+0.8**
NOV				Sg	**S**	**00 27 26.6**	**+0.8**
	62nm,0.7s						
SOI	**Samo**	**1.78**	**162**	Pg	**Pn**	**00 26 50.6**	**0.0**
	60nm,0.9s						
SOI	**Samo**	**1.78**	**162**	Pg	**Pn**	**00 26 50.6**	**0.0**
	60nm,0.9s						
GIB	**Gibilmanna**	**2.06**	**211**	Pg	**Pn**	**00 26 53.1**	**+0.2**
	50nm,0.9s						
GIB	**Gibilmanna**	**2.06**	**211**	Pg	**Pn**	**00 26 53.1**	**+0.2**
	50nm,0.9s						
MESG	**Mesagne**	**2.07**	**66**	Pg	**Pn**	**00 26 53.3**	**+0.6**
MESG	**Mesagne**	**2.07**	**66**	Pg	**Pn**	**00 26 53.3**	**+0.6**
MPG	**Monte Pellegri**	**2.24**	**225**	Pg	**Pn**	**00 26 55.2**	**+0.8**
	100nm,2.4s						
MPG	**Monte Pellegri**	**2.24**	**225**	Pg	**Pn**	**00 26 55.2**	**+0.8**
	100nm,2.4s						
CAGR	**Agira**	**2.25**	**198**	Pg	**Pn**	**00 26 56.2**	**+1.7**
	72nm,0.9s						
CAGR	**Agira**	**2.25**	**198**	Pg	**Pn**	**00 26 56.2**	**+1.7**
	72nm,0.9s						
MFNL	**Monte Finestre**	**2.75**	**225**	Pg	**Pn**	**00 26 59.7**	**+0.7**
	165nm,1.7s						
MFNL	**Monte Finestre**	**2.75**	**225**	Pg	**Pn**	**00 26 59.7**	**+0.7**
	165nm,1.7s						
MTGR	**Montagna Grand**	**2.77**	**228**	Pg	**Pn**	**00 26 59.6**	**+0.4**
MTGR	**Montagna Grand**	**2.77**	**228**	Pg	**Pn**	**00 26 59.6**	**+0.4**
MMGO	**Monte Magaggia**	**2.82**	**222**	Pg	**Pn**	**00 26 59.4**	**-0.2**
MMGO	**Monte Magaggia**	**2.82**	**222**	Pg	**Pn**	**00 26 59.4**	**-0.2**
STON	**Ston**	**3.56**	**29**	P	**Pn**	**00 27 07.6**	**+0.6**
UDBI	**Udbina**	**4.76**	**3**	P	**Pn**	**00 27 21.0**	**+0.5**
NVLJ	**Novalja**	**4.80**	**356**	P	**Pn**	**00 27 21.4**	**+0.6**
BOJS	**Bojanci**	**5.73**	**359**	*i* P	**Pn**	**00 27 32.5**	**+0.8**
OZLJ	**Ozalj**	**5.84**	**1**	P	**Pn**	**00 27 33.3**	**+0.2**
VISS	**Visnje**	**6.04**	**356**	*i* P	**Pn**	**00 27 36.0**	**+0.5**
JAVS	**Javornik**	**6.19**	**352**	*i* P	**Pn**	**00 27 37.2**	**-0.2**
PERS	**Pernice**	**6.86**	**359**	*i* P	**Pn**	**00 27 45.3**	**-0.2**
MYKA	**Terra Mystica**	**6.97**	**350**	*i* Pn	**Pn**	**00 27 47.2**	**+0.4**
	1.5nm,0.4s						
ABTA	**Abfaltersbach**	**7.28**	**344**	*i* Pn	**Pn**	**00 27 50.8**	**+0.2**
	5.8nm,0.4s						
FETA	**Feichten**	**7.99**	**337**	*i* Pn	**Pn**	**00 28 01.1**	**+1.6**
	1.9nm,0.7s						
MOTA	**Moosalm**	**8.18**	**339**	*i* Pn	**Pn**	**00 28 02.3**	**+0.6**
	2.0nm,0.5s						
GERES	**GERESS Array B**	**9.15**	**353**	Pn	**Pn**	**00 28 11.6**	**-2.0**
	0.1nm,0.3s,baz=175,slow=13,SNR=5.0						
AKASG	**Malin Array Be**	**14.63**	**37**	P	**Pn**	**00 29 20.6**	**+0.6**
	0.9nm,0.3s,baz=231,slow=11,SNR=4.5						
FINES	**FINESS Array B**	**22.68**	**13**	P	**P**	**00 30 42.5**	**+0.2**
	1.6nm,0.4s,baz=196,slow=8.4,SNR=23						
ARCES	**ARCESS Array B**	**30.31**	**7**	P	**P**	**00 31 49.4**	**-0.9**
	4.4nm,1.0s,baz=198,slow=8.5,SNR=3.6						

IDC 30 00:28:48.8±2.0,2°.16N×128°.14E,h0km,mb3.6/3, mb1 3.8/3,mb1mx3.5/29,mbtmp3.6/3,Error ellipse: s-maj=136.5km s-min=24.8km az=67.0,Halmahera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**22.79**	**165**	P	P	00 33 53.8	+0.5
	2.1nm,0.5s,baz=345,slow=11,SNR=25						
ASAR	**Alice Springs**	**26.28**	**168**	P	P	00 34 25.5	-0.7
	0.3nm,0.5s,baz=348,slow=8.0,SNR=6.0						
MKAR	**Makanchi Array**	**59.64**	**325**	P	P	00 38 55.0	+0.1
	0.2nm,0.4s,baz=118,slow=8.8,SNR=2.6						

*GUC **30** 00:43:53.7±0.6,32°.54S×70°.04W,h102km±13km,ML2.6*
*ISCJB **30** 00:43:54.0±1.4,32°.66S±0°.08×70°.06W±0°.05, h112km±12km,Error ellipse: s-maj=13.5km s-min=6.1km az=158.6*
*SJA **30** 00:43:54.2±0.7,32°.64S×70°.06W,h100km±6km,ML2.5, MW2.8*

ISC 30 00:43:54.7±2.9,32°.66S±0°.08×70°.07W±0°.05, h106km±22km,n11,σ0°39/21,1D,Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FCH	**Farellones**	**0.69**	**196**	⇓*i* P	**Pn**	**00 44 12.9**	**-0.1**
FCH				*i* S	**Sn**	**00 44 27.2**	**+0.5**
FCH				IAML		00 44 28.4	
	comp=N,205nm,0.1s						
PEL	**Peldehue**	**0.71**	**227**	*i* P	**Pn**	**00 44 12.7**	**-0.2**
PEL				*i* S	**Sn**	**00 44 26.7**	**+0.3**
PEL				IAML		00 44 27.6	
	comp=E,225nm,0.2s						
AUSP	**Uspallata**	**0.72**	**53**	*e*P	**Pn**	**00 44 13.3**	**0.0**
AUSP				*e*S	**Sn**	**00 44 27.3**	**+0.1**
CLCH	**Cerro Calan**	**0.83**	**208**	*e*P	**Pn**	**00 44 13.9**	**-0.1**
CLCH				*i* S	**Sn**	**00 44 29.2**	**+0.7**
CLCH				IAML		00 44 32.0	
	comp=E,150nm,0.5s						
ROCH	**El Roble**	**0.85**	**248**	*e*P	**Pn**	**00 44 13.8**	**-0.5**
ROCH				*i* S	**Sn**	**00 44 29.1**	**0.0**
ROCH				IAML		00 44 32.0	
	comp=N,345nm,0.2s						
ROC1	**El Roble**	**0.85**	**248**	*e*P	**Pn**	**00 44 14.2**	**-0.2**
ROC1				*e*S	**Sn**	**00 44 29.5**	**+0.2**
ARCO	**CERRO ARCO**	**0.98**	**101**	*e*P	**Pn**	**00 44 15.4**	**-0.1**
ARCO				*e*S	**Sn**	**00 44 30.8**	**-0.4**
ARCO				IAML		00 44 34.4	
	comp=Z,73nm,0.3s						
ANTU	**Antumapu**	**1.02**	**207**	*e*P	**Pn**	**00 44 15.6**	**-0.3**
ANTU				*e*S	**Sn**	**00 44 32.0**	**+0.2**
ANTU				IAML		00 44 33.0	
	comp=E,247nm,0.3s						
ASAL	**Salagasta**	**1.04**	**86**	*e*P	**Pn**	**00 44 16.1**	**-0.1**
ASAL				*e*S	**Sn**	**00 44 31.6**	**-0.8**
AAGR	**Agrelo**	**1.13**	**112**	*e*P	**Pn**	**00 44 17.1**	**0.0**
AAGR				*e*S	**Sn**	**00 44 34.6**	**+0.6**
AMOG	**MOGNA**	**2.18**	**38**	*e*P	**Pn**	**00 44 30.2**	**+0.2**

*ISCJB **30** 00:52:36.3±0.6,41°.19N±0°.02×80°.75W±0°.03,h0km±4km, Error ellipse: s-maj=3.7km s-min=3.0km az=160.2*
*OTT **30** 00:52:37.4±0.3,41°.12N×80°.72W,h5km,MN3.0/16,Ohio, U.S. 172km southeast from Blenheim, On Eastern Background Seismic Zone.*
*NEIC **30** 00:52:38.7±0.0,41°.14N×80°.69W,h5km,ML2.5(LDO), After LDO.*
NEIC Felt [III] at Girard, Mineral Ridge and Youngstown and [II] at Canfield, Hubbard and McDonald. Also felt at Campbell, Chagrin Falls, Clinton, Hinckley, Mansfield, Marietta and Niles. Felt at Cranberry, Harborcreek, Hermitage and Meadville, Pennsylvania.

ISC 30 00:52:37.4±1.1,41°.16N±0°.02×80°.69W±0°.03,h4km±8km, n44,σ1°70/71,1C,Ohio

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
YSUO	**Youngstown Sta**	**0.07**	**150**	Pg	**Pg**	**00 52 38.6**	**-0.2**
YSUO				Sg	**Sg**	**00 52 39.4**	**-0.4**
ALLY	**Alegheny Colle**	**0.64**	**40**	PG	**Pg**	**00 52 49.8**	**+0.2**
ALLY				SG	**Sg**	**00 52 58.8**	**+0.9**
ALLY				Trac		00 53 10.6	
	comp=Z,24nm,0.1s						
ALLY	**Alegheny Colle**	**0.64**	**40**	*e*Pg	**Pg**	**00 52 49.8**	**+0.2**
ALLY				S	**Sg**	**00 52 58.5**	**+0.6**
UPAO	**U. Pittsburgh**	**0.85**	**143**	P	**Pg**	**00 52 52.9**	**-0.8**
UPAO				S	**Sg**	**00 53 03.5**	**-1.1**
ERPA	**Erie**	**1.09**	**29**	⇑PG	**Pg**	**00 52 57.8**	**-0.5**
ERPA				SG	**Sg**	**00 53 12.1**	**-0.3**
ERPA	**Erie**	**1.09**	**29**	*e*Pg	**Pg**	**00 52 57.9**	**-0.3**
ERPA				S	**Sg**	**00 53 11.8**	**-0.6**
PLIO	**Pelee Island,**	**1.57**	**293**	SG	**Sn**	**00 53 26.2**	**-0.6**
PLIO	**Pelee Island,**	**1.57**	**293**	P	**Pn**	**00 53 05.7**	**-0.3**
PLIO				S	**Sn**	**00 53 25.9**	**-0.9**
MCWV	**Mont Chateau**	**1.64**	**156**	*e*Pn	**Pn**	**00 53 06.4**	**-0.5**
MCWV				*e*Sn	**Sn**	**00 53 28.0**	**-0.5**
ACSO	**Alum Creek Sta**	**1.97**	**243**	*e*Pn	**Pn**	**00 53 11.6**	**0.0**
ACSO				*e*Sn	**Sn**	**00 53 35.9**	**-0.9**
WVNY	**West Valley, N**	**2.00**	**51**	P	**Pn**	**00 53 12.4**	**+0.5**
WVNY				S	**Sn**	**00 53 37.2**	**-0.2**
TYNO	**Tyneside**	**2.03**	**17**	PN	**Pn**	**00 53 13.5**	**+1.2**
TYNO				SN	**Sn**	**00 53 39.8**	**+1.7**
TYNO				Trac		00 53 45.1	
	comp=Z,48nm,0.1s						
SSPA	**Standing Stone**	**2.19**	**103**	*e*Pn	**Pn**	**00 53 16.7**	**+2.1**
SSPA				*e*Sn	**Sn**	**00 53 43.8**	**+1.7**
BUF	**Buffalo**	**2.23**	**37**	*e*Pn	**Pn**	**00 53 17.2**	**+2.1**
STCO	**Saint Catharin**	**2.34**	**28**	PN	**Pn**	**00 53 16.6**	**0.0**
STCO				SN	**Sn**	**00 53 45.8**	**+0.1**
STCO				LG	Lg	00 53 50.8	
STCO				Trac		00 53 53.8	
	comp=Z,37nm,0.1s						
ACTO	**Acton**	**2.49**	**11**	PN	**Pn**	**00 53 19.0**	**+0.3**
ACTO				Trac		00 53 58.8	
	comp=Z,54nm,0.1s						
MEDO	**Medina**	**2.60**	**39**	PN	**Pn**	**00 53 20.7**	**+0.5**
MEDO				SN	**Sn**	**00 53 53.1**	**+0.8**
MEDO				Trac		00 53 59.3	
	comp=Z,11nm,0.1s						
MEDO				LG	Lg	00 54 00.7	
MMNY	**Mt. Morris Dam**	**2.60**	**52**	*e*Pn	**Pn**	**00 53 22.4**	**+2.2**
MMNY				*e*Sn	**Sb**	**00 53 57.0**	**+0.1**
BASO	**Ashfield**	**2.94**	**346**	SN	**Sn**	**00 54 00.2**	**-0.4**
BASO				SN	**Sb**	**00 54 01.7**	**-4.9**
BASO				LG	Lg	00 54 09.0	
BASO				Trac		00 54 10.7	
	comp=Z,29nm,0.2s						
BWLO	**Walkerton**	**2.97**	**354**	PN	**Pn**	**00 53 25.7**	**+0.4**
BWLO				SN	**Sn**	**00 54 01.1**	**-0.3**
BWLO				LG	Lg	00 54 10.7	
BWLO				Trac		00 54 11.8	
	comp=Z,18nm,0.2s						
PKRO	**Pickering**	**3.04**	**23**	PN	**Pn**	**00 53 29.5**	**+3.2**
PKRO				SN	**Sn**	**00 54 04.5**	**+1.2**
PKRO				Trac		00 54 13.8	
	comp=Z,62nm,0.2s						
PKRO				LG	Lg	00 54 14.2	
BRCO	**Bruce Peninsul**	**3.13**	**350**	PN	**Pn**	**00 53 29.6**	**+2.2**
BRCO				SN	**Sn**	**00 54 05.2**	**-0.1**
BRCO				LG	Lg	00 54 15.3	
BRCO				Trac		00 54 20.2	
	comp=Z,74nm,0.3s						
CLWO	**Collingwood**	**3.30**	**5**	PN	**Pn**	**00 53 32.3**	**+2.5**
CLWO				SN	**Sn**	**00 54 09.0**	**-0.5**
CLWO				LG	Lg	00 54 21.7	
CLWO				Trac		00 54 22.9	
	comp=Z,44nm,0.2s						
SDMD	**Soldier's Deli**	**3.43**	**119**	*e*Pn	**Pn**	**00 53 29.5**	**-2.1**
SDMD				*e*Sn	**Sb**	**00 54 19.2**	**-1.5**
BMRO	**Meriville Lake**	**3.45**	**354**	PN	**Pn**	**00 53 31.9**	**0.0**
BMRO				SN	**Sn**	**00 54 13.1**	**-0.1**
BMRO				Trac		00 54 25.7	
	comp=Z,12nm,0.2s						
BMRO				LG	Lg	00 54 26.7	
BINY	**Binghamton**	**3.67**	**72**	PN	**Pn**	**00 53 35.8**	**+0.8**
BINY	**Binghamton**	**3.67**	**72**	*e*Sb	**Sb**	**00 54 28.1**	**+0.3**
SADO	**Sadowa**	**3.78**	**17**	PN	Pn	00 53 42.0	+5.6
SADO				SN	**Sn**	**00 54 19.6**	**-1.7**
SADO				SN	Sb	00 54 19.9	-11
SADO				LG	Lg	00 54 34.2	
SADO				Trac		00 54 35.0	
	comp=Z,12nm,0.2s						
SADO				LG	Lg	00 54 36.9	
SADO	**Sadowa**	**3.78**	**17**	*e*Pn	**Pn**	**00 53 36.7**	**+0.3**
SADO				*e*Sb	**Sb**	**00 54 34.5**	**+3.7**
BLA	**Blacksburg**	**3.95**	**177**	*e*Sb	**Sb**	**00 54 37.8**	**+2.0**
JSRW	**J. Sargeant Re**	**4.09**	**147**	*e*Sb	**Sb**	**00 54 40.7**	**+0.9**
TOBO	**Tobermory, Bru**	**4.11**	**352**	PN	**Pn**	**00 53 41.0**	**+0.1**
TOBO				SN	**Sn**	**00 54 29.9**	**+0.5**
TOBO				LG	Lg	00 54 46.2	
TOBO				Trac		00 54 49.2	
	comp=Z,7.6nm,0.2s						
PSUB	**Penn St. - Bra**	**4.18**	**105**	*e*Sb	**Sb**	**00 54 44.0**	**+1.7**
ODNJ	**Ogdensburg**	**4.60**	**89**	*e*Sb	**Sb**	**00 54 57.0**	**+2.6**
BLO	**Bloomington**	**4.89**	**248**	*e*Sb	**Sb**	**00 55 06.6**	**+4.0**
ALGO	**Algonquin Park**	**5.16**	**21**	SN	**Sn**	**00 54 53.8**	**-1.6**
ALGO				LG	Lg	00 55 17.8	
CRLO	**Chalk River**	**5.43**	**25**	PN	**Pn**	**00 53 58.6**	**-0.6**
CRLO				SN	**Sn**	**00 54 58.6**	**-3.5**
CRLO				Trac		00 55 28.3	
	comp=Z,3.7nm,0.2s						
WBO	**Williamsburg**	**5.52**	**44**	SN	**Sn**	**00 55 01.1**	**-3.0**
WBO				Trac		00 55 32.0	
	comp=Z,2.9nm,0.2s						
NCB	**Newcomb**	**5.54**	**57**	PN	**Pn**	**00 54 01.2**	**+0.5**
NCB				Trac		00 55 44.9	
	comp=Z,1.0nm,1.6s						
EEO	**Eldee**	**5.60**	**12**	PN	**Pn**	**00 54 00.8**	**-0.7**
EEO				SN	**Sn**	**00 55 03.5**	**-2.8**
EEO				Trac		00 55 31.1	
	comp=Z,6.1nm,0.2s						
GAC	**Glen Almond**	**5.92**	**38**	SN	**Sn**	**00 55 12.3**	**-1.7**
GAC				Trac		00 55 48.8	
	comp=Z,2.7nm,0.2s						
VABQ	**Val Des Bois**	**6.01**	**36**	PN	**Pn**	**00 54 06.8**	**-0.2**
ALFO	**Alfred**	**6.15**	**42**	PN	**Pn**	**00 54 07.7**	**-1.2**
ALFO				SN	**Sn**	**00 55 15.7**	**-4.0**
ALFO				LG	Lg	00 55 50.4	
ALFO				Trac		00 55 55.0	
	comp=Z,4.8nm,0.2s						
GRQ	**Grand Remous**	**6.46**	**31**	PN	Pn	00 54 09.9	-3.4
GRQ				SN	**Sn**	**00 55 24.4**	**-3.1**
GRQ				Trac		00 56 09.4	
	comp=Z,2.8nm,0.2s						

IDC 30 00:59:28.3±2.2,7°.89S×118°.59E,h0km,mb3.4/2, mb1 3.6/3,mb1mx3.3/49,mbtmp3.4/3,ML3.8/1,Error ellipse: s-maj=207.3km s-min=23.7km az=53.0,Flores Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**12.25**	**147**	Pn	Pn	01 02 26.3	+2.2
	baz=270,slow=20						
FITZ				Sn	Sn	01 04 29.0	-13
	baz=270,slow=20						
WRA	**Warramunga Arr**	**19.40**	**130**	P	P	01 03 56.0	-0.1
	0.3nm,0.3s,baz=303,slow=12,SNR=12						
WRA				S	Sn	01 07 19.8	-16
	0.1nm,0.3s,baz=308,slow=24,SNR=4.1						
ASAR	**Alice Springs**	**21.49**	**139**	P	P	01 04 18.0	-0.8

VNDA	**Vanda**	**58.71**	**182**	P		**P**	**01 36 55.1 -0.5**
	1.7nm,0.5s,baz=1.1,slow=7.8,SNR=14						
VNDA	**Vanda**	**58.71**	**182**	*e*P		**P**	**01 36 55.3 -0.4**
	2.9nm,0.8s						
SBA	**Scott Base**	**58.94**	**181**	*e*P		**P**	**01 36 57.9 +0.7**
	18nm,0.8s						
MJAR	**Matsushiro Arr**	**62.68**	**332**	P		**P**	**01 37 22.8 -0.2**
	2.9nm,0.5s,baz=159,slow=6.8,SNR=6.9						
MAJO	**Matsushiro**	**62.69**	**332**	*e*P		**P**	**01 37 23.2 +0.2**
	6.9nm,0.5s						
NJ2	**Nanjing**	**70.27**	**316**	*e*P		**P**	**01 38 12.3 +1.4**
NJ2				pmax	pmax		
	comp=Z,12nm,0.5s						
QSPA	**South Pole Qui**	**71.08**	**180**	*e*P		**P**	**01 38 14.7 -0.8**
	comp=Z,13nm,0.8s						
USRK	**Ussuriysk Ar.**	**71.66**	**332**	P		**P**	**01 38 19.8 +0.8**
	comp=Z,3.6nm,0.9s,baz=138,slow=9.2,SNR=3.8						
PETK	**Petropavlovsk-**	**72.51**	**352**	P		**P**	**01 38 24.9 +1.1**
	comp=Z,10nm,0.7s,baz=140,slow=7.5,SNR=10						
CN2	**Changchun**	**74.42**	**328**	*e*P		P	01 38 40.8 +5.6
GYA	**Guiyang**	**75.97**	**305**	*e*P		**P**	**01 38 46.0 +1.4**
GYA				pP		pP	01 39 51.3 +9.0
GYA				sP		sP	01 40 21.8 +13
GYA				PP		**PP**	**01 41 42.5 +3.6**
GYA				S		**S**	**01 48 04.0 -3.2**
GYA				SKS		**SKSac**	**01 48 23.5 -8.3**
GYA				pmax	pmax		
	comp=Z,10.0nm,1.0s						
BJI	**Beijing**	**76.96**	**321**	P		**P**	**01 38 51.0 +1.4**
BJI				pmax	pmax		
	comp=Z,10.0nm,0.9s						
KMI	**Kunming**	**78.44**	**302**	P		**P**	**01 39 00.8 +2.4**
KMI				pmax	pmax		
	comp=Z,8.0nm,0.5s						
CMAR	**Chiang Mai Arr**	**78.72**	**294**	P		**P**	**01 39 00.3 +0.5**
	comp=Z,0.6nm,0.3s,baz=186,slow=3.5,SNR=4.0						
MAW	**Mawson**	**78.82**	**202**	P		**P**	**01 38 59.4 0.0**
	comp=Z,1.9nm,0.7s,baz=106,slow=7.7,SNR=7.0						
HHC	**Hu-ho-hao-te**	**80.25**	**319**	*e*P		**P**	**01 39 08.0 +0.3**
HHC				pP		pP	01 40 16.8 +11
HHC				S		**S**	**01 48 47.5 -4.7**
HHC				pmax	pmax		
	comp=Z,20nm,0.9s						
HHC				pmax	pmax		
	comp=Z,160nm,4.2s						
CD2	**Chengdu**	**80.36**	**307**	*e*P		**P**	**01 39 08.0 -0.4**
CD2				pmax	pmax		
	comp=Z,10.0nm,1.0s						
LZH	**Lanzhou**	**82.82**	**312**	*e*P		**P**	**01 39 23.3 +2.0**
LZH				pP		pP	01 40 32.8 +13
LZH				sP		sP	01 41 03.3 +17
LZH				pmax	pmax		
	comp=Z,13nm,1.0s						
SNCC	**San Nicolas Is**	**85.19**	**53**	P		**P**	**01 39 34.2 +1.0**
	baz=244						
KCPM	**Cahto Peak**	**85.28**	**45**	*e*P		**P**	**01 39 35.0 +1.4**
	comp=Z,25nm,0.8s						
BSC	**Santa Cruz Isl**	**85.44**	**52**	P		**P**	**01 39 35.2 +0.8**
	baz=244						
PKM	**Mcpherson Peak**	**85.70**	**51**	P		**P**	**01 39 36.6 +0.7**
	baz=243						
SCI	**San Clemente I**	**85.81**	**53**	P		**P**	**01 39 37.0 +0.9**
	baz=244						
BLG	**Laguna Peak, P**	**85.91**	**52**	P		**P**	**01 39 37.5 +0.8**
	baz=244						
WDC	**Whiskeytown Da**	**86.41**	**45**	*e*P		**P**	**01 39 40.0 +1.1**
	comp=Z,7.4nm,0.9s						
N02D	**Trinity Center**	**86.49**	**45**	P		**P**	**01 39 40.3 +0.9**
	baz=241,SNR=5.6						
M02C	**Callahan**	**86.59**	**44**	P		**P**	**01 39 41.2 +1.3**
	baz=241,SNR=8.4						
ORV	**Oroville**	**86.63**	**46**	*e*P		**P**	**01 39 40.5 +0.5**
	comp=Z,9.1nm,1.0s						
VES	**Vestal, Richgr**	**86.66**	**50**	P		**P**	**01 39 40.5 +0.3**
	baz=244						
CMB	**Columbia Colle**	**86.70**	**48**	*e*P		**P**	**01 39 41.0 +0.6**
	comp=Z,10.0nm,0.8s						
AFDM	**Forest Hills D**	**86.71**	**47**	*e*P		**P**	**01 39 40.9 +0.5**
	comp=Z,11nm,1.0s						
O03D	**Paynes Creek**	**86.77**	**45**	P		**P**	**01 39 40.9 +0.1**
	baz=242,SNR=6.7						
YBH	**Yreka Blue Hor**	**86.85**	**44**	*e*P		**P**	**01 39 42.1 +1.0**
	comp=Z,6.6nm,1.0s						
BFSC	**Mount Baldy Ra**	**87.02**	**52**	P		**P**	**01 39 42.3 +0.1**
	baz=245,SNR=6.9						
ISA	**Isabella, Lake**	**87.03**	**51**	P		**P**	**01 39 42.7 +0.6**
	baz=244						
ISA	**Isabella, Lake**	**87.03**	**51**	*e*P		**P**	**01 39 43.1 +1.0**
	comp=Z,11nm,0.9s						
EDW2	**Edwards Air Fo**	**87.04**	**52**	P		**P**	**01 39 42.6 +0.4**
	baz=244,SNR=7.8						
MURC	**Murrieta**	**87.10**	**53**	P		**P**	**01 39 42.9 +0.5**
	baz=245						
HUMO	**Hull Mountain**	**87.11**	**43**	*e*P		**P**	**01 39 43.7 +1.4**
	comp=Z,11nm,0.9s						
GTA	**Gaotai**	**87.20**	**313**	*e*P		**P**	**01 39 43.8 +0.9**
GTA				pP		pP	01 40 52.5 +10
GTA				sP		sP	01 41 18.8 +11
GTA				pmax	pmax		
	comp=Z,5.0nm,0.9s						
SONM	**Songino Array**	**87.22**	**323**	P		**P**	**01 39 42.3 -0.5**
	comp=Z,1.6nm,0.8s,baz=144,slow=6.8,SNR=8.3						
SONA1	**Songino Array**	**87.22**	**323**	*e*P		**P**	**01 39 43.1 +0.3**
I03D	**Drain, OR**	**87.39**	**42**	P		**P**	**01 39 44.4 +0.9**
	baz=241						
MONP	**Monument Peak,**	**87.39**	**54**	P		**P**	**01 39 44.6 +0.5**
	baz=246,SNR=10						
M04C	**Macdoel**	**87.45**	**44**	P		**P**	**01 39 44.8 +0.7**
	baz=242						
LRMC	**Laurel Mtn Rad**	**87.53**	**51**	P		**P**	**01 39 45.1 +0.6**
	baz=245						
IKP	**In-Ko-Pah, Jac**	**87.53**	**54**	P		**P**	**01 39 45.3 +0.7**
	baz=246						
BEKR	**Beckworth**	**87.56**	**46**	*e*P		**P**	**01 39 45.5 +0.9**
	comp=Z,5.2nm,0.7s						
WAKR	**Walker**	**87.58**	**48**	*e*P		**P**	**01 39 46.1 +1.2**
	comp=Z,5.2nm,0.7s						
BBRC	**Big Bear Solar**	**87.58**	**53**	P		**P**	**01 39 45.4 +0.4**
	baz=245						
CWC	**Cottonwood Cre**	**87.65**	**50**	P		**P**	**01 39 45.7 +0.5**
	baz=244						
PFO	**Pinyon Flats O**	**87.66**	**53**	P		**P**	**01 39 45.8 +0.5**
	baz=245						
PFO	**Pinyon Flats O**	**87.66**	**53**	*e*P		**P**	**01 39 46.0 +0.7**
	comp=Z,6.5nm,0.9s						
PNTR	**Pine Nut**	**87.73**	**47**	*e*P		**P**	**01 39 46.6 +1.0**
	comp=Z,6.6nm,1.0s						
SWSC	**Sam W. Stewart**	**87.89**	**54**	P		**P**	**01 39 46.7 +0.6**
	baz=246						
MPMC	**Manual Prospec**	**87.92**	**51**	P		**P**	**01 39 47.0 +0.5**
	baz=245,SNR=9.4						
TVH3	**East Aurora ar**	**87.95**	**48**	*e*P		**P**	**01 39 47.6 +1.0**
	comp=Z,4.9nm,1.2s						
J04D	**Umpqua Nationa**	**87.96**	**43**	P		**P**	**01 39 47.2 +0.6**
	baz=242						
I04A	**Tendick Farm,**	**88.03**	**42**	P		**P**	**01 39 47.1 +0.4**
	baz=241						
GSC	**Goldstone, Bar**	**88.10**	**52**	P		**P**	**01 39 47.6 +0.4**
	baz=245						
PAHR	**Pah Rah Range**	**88.15**	**47**	*e*P		**P**	**01 39 48.1 +0.6**
	comp=Z,10nm,1.1s						
BELC	**Belle Mtn. Jos**	**88.17**	**53**	P		**P**	**01 39 48.2 +0.5**
	baz=246,SNR=10						
GRAC	**Grapevine Rang**	**88.41**	**50**	P		**P**	**01 39 49.2 +0.7**
	baz=245,SNR=5.5						
BC3	**Big Chuckawall**	**88.45**	**54**	P		**P**	**01 39 49.5 +0.6**
	baz=246,SNR=5.3						
MCK	**McKinley**	**88.49**	**17**	*e*P		**P**	**01 39 49.2 +1.0**
	comp=Z,2.3nm,0.7s						
K05A	**Summer Lake**	**88.51**	**44**	*e*P		**P**	**01 39 49.9 +0.8**
	comp=Z,14nm,1.0s						
MOD	**Modoc Plateau**	**88.52**	**45**	*e*P		**P**	**01 39 50.0 +0.9**
	comp=Z,12nm,1.1s						
J05D	**Fort Rock, OR**	**88.55**	**43**	P		**P**	**01 39 50.2 +1.0**
	baz=242,SNR=15						
FURC	**Furnace Creek,**	**88.55**	**51**	P		**P**	**01 39 49.8 +0.7**
	baz=245,SNR=7.1						
E03A	**Lebam**	**88.66**	**39**	*e*P		**P**	**01 39 50.6 +1.2**
	comp=Z,14nm,0.8s						
GLA	**Glamis**	**88.68**	**54**	P		**P**	**01 39 51.0 +1.1**
	baz=246,SNR=5.7						
GLA	**Glamis**	**88.68**	**54**	*e*P		**P**	**01 39 51.4 +1.5**
	comp=Z,7.7nm,0.8s						
SHOC	**Shoshone, Teco**	**88.75**	**51**	P		**P**	**01 39 50.5 +0.4**
	baz=246,SNR=5.4						
GMRC	**Granite Mounta**	**88.75**	**53**	P		**P**	**01 39 50.8 +0.4**
	baz=246						
TUQ	**Turquoise Moun**	**88.82**	**52**	P		**P**	**01 39 51.1 +0.5**
	baz=246,SNR=6.7						
IRM	**Iron Mountain**	**88.88**	**53**	P		**P**	**01 39 51.7 +0.8**
	baz=246,SNR=7.2						
I05D	**Terrebonne, OR**	**88.97**	**42**	P		**P**	**01 39 51.9 +0.9**
	baz=242						
F04A	**Amboy**	**89.05**	**40**	*e*P		**P**	**01 39 51.8 +0.5**
	comp=Z,13nm,0.9s						
Y12C	**Blythe**	**89.19**	**54**	P		**P**	**01 39 52.9 +0.6**
	baz=246						
Y12C	**Blythe**	**89.19**	**54**	*e*P		**P**	**01 39 53.4 +1.2**
	comp=Z,26nm,1.5s						
TPNV	**Topopah Spring**	**89.20**	**50**	P		**P**	**01 39 52.9 +0.5**
	baz=246,SNR=13						
TPNV	**Topopah Spring**	**89.20**	**50**	*e*P		**P**	**01 39 53.0 +0.6**
	comp=Z,10.0nm,0.8s						
LDFC	**Landfair**	**89.28**	**52**	*e*P		**P**	**01 39 54.0 +1.3**
	comp=Z,17nm,0.8s						
SNAA	**Sanae**	**89.45**	**182**	*e*P		**P**	**01 39 50.9 -2.0**
	comp=Z,4.7nm,0.8s						
PDMCI	**Parker Dam,Lak**	**89.70**	**54**	P		**P**	**01 39 55.3 +0.7**
	baz=247,SNR=7.3						
SHPR	**Sheep Range**	**89.82**	**51**	*e*P		**P**	**01 39 56.5 +1.2**
	comp=Z,5.8nm,0.9s						
214A	**Organ Pipe Nat**	**89.82**	**56**	P		**P**	**01 39 56.0 +0.7**
	baz=248,SNR=5.4						
IL1	**Eielson Array**	**89.86**	**17**	*e*P		**P**	**01 39 52.3 -2.4**
ILAR	**Eielson Array**	**89.86**	**17**	P		**P**	**01 39 53.1 -1.5**
	comp=Z,1.6nm,0.8s,baz=236,slow=5.3,SNR=16						
ILB	**Eielson Array**	**89.86**	**17**	*e*P		**P**	**01 39 53.1 -1.5**
WVOR	**Wild Horse Val**	**89.87**	**45**	*e*P		**P**	**01 39 56.1 +0.7**
	comp=Z,12nm,1.1s						
D05A	**Enumclaw**	**89.92**	**39**	*e*P		**P**	**01 39 57.1 +1.8**
	comp=Z,22nm,1.1s						
BMN	**Battle Mountai**	**89.96**	**47**	*e*P		**P**	**01 39 56.9 +1.0**
	comp=Z,6.1nm,0.9s						
W13A	**Huapai Mount**	**90.21**	**53**	*e*P		**P**	**01 39 57.7 +0.5**
	comp=Z,5.2nm,0.8s						
A04D	**Lummi Island**	**90.23**	**38**	P		**P**	**01 39 57.8 +1.2**
	baz=241						
R11A	**Troy Canyon, C**	**90.25**	**49**	P		**P**	**01 39 57.7 +0.4**
	baz=246						
R11A	**Troy Canyon, C**	**90.25**	**49**	*e*P		**P**	**01 39 57.9 +0.5**
	comp=Z,7.3nm,1.7s						
B05A	**Bryant**	**90.36**	**38**	P		**P**	**01 39 58.3 +1.0**
	baz=242						
Y14A	**Wickenburg**	**90.43**	**54**	*e*P		**P**	**01 39 59.0 +0.9**
HAWA	**Hanford**	**91.05**	**41**	*e*P		**P**	**01 40 01.2 +0.7**
	comp=Z,11nm,0.9s						
PALK	**Pallekele**	**91.32**	**277**	*e*P		**P**	**01 40 02.0 -0.6**
	comp=Z,28nm,1.3s						
LCMT	**Little Creek M**	**91.43**	**51**	*e*P		**P**	**01 40 03.8 +1.1**
	comp=Z,6.8nm,0.9s						
CCUT	**Cedar City**	**91.55**	**51**	*e*P		**P**	**01 40 04.6 +1.2**
	comp=Z,4.2nm,0.9s						
EGAK	**Eagle**	**91.55**	**19**	*e*P		**P**	**01 40 01.6 -0.8**
	comp=Z,4.0nm,0.9s						
TUC	**Tucson**	**91.55**	**56**	P		**P**	**01 40 04.1 +0.7**
	baz=249						
TUC	**Tucson**	**91.55**	**56**	*e*P		**P**	**01 40 04.4 +1.0**
	comp=Z,6.9nm,1.0s						
KNB	**Kanab**	**91.74**	**51**	*e*P		**P**	**01 40 05.0 +0.7**
	comp=Z,4.4nm,0.8s						
X16A	**Lo Mia Camp, P**	**91.81**	**54**	*e*P		**P**	**01 40 06.0 +1.4**
U15A	**North Rim**	**91.92**	**52**	*e*P		**P**	**01 40 06.2 +1.0**
	comp=Z,7.8nm,0.8s						
WUAZ	**Wupatki**	**92.27**	**53**	P		**P**	**01 40 07.4 +0.7**
	baz=248						
WUAZ	**Wupatki**	**92.27**	**53**	*e*P		**P**	**01 40 07.9 +1.2**
	comp=Z,5.8nm,0.9s						
HLID	**Hailey**	**93.15**	**45**	P		**P**	**01 40 11.1 +0.5**
	baz=247						
121A	**Cookes Peak, D**	**94.00**	**57**	P		**P**	**01 40 15.2 +0.4**
	baz=250						
MNTX	**Cormdas Mount**	**95.66**	**59**	P		**P**	**01 40 22.4 +0.3**
	baz=251						
BOZ	**Bozeman (W)**	**95.76**	**44**	P		**P**	**01 40 23.2 +0.7**
	baz=249						
ANMO	**Albuquerque**	**95.85**	**55**	P		**P**	**01 40 23.4 +0.2**
	baz=251						
PDAR	**Pinedale Array**	**96.16**	**47**	P		**P**	**01 40 24.1 -0.3**
	comp=Z,0.3nm,0.5s,baz=197,slow=2.7,SNR=3.2						
PDAR				PP		**PP**	**01 44 18.8 -2.4**
	comp=Z,0.3nm,0.3s,baz=256,slow=6.0,SNR=4.4						
INK	**Inuvik**	**96.17**	**18**	P		**P**	**01 40 22.5 -1.0**
	comp=Z,2.3nm,1.0s,baz=187,slow=3.0,SNR=3.3						
TXAR	**Lajitas Array**	**96.32**	**61**	P		**P**	**01 40 25.1 -0.2**
	comp=Z,0.2nm,0.5s,baz=196,slow=5.7,SNR=4.4						
WMQ	**Urumqi**	**97.28**	**314**	P		Pdif	01 40 29.5 +0.2
MKAR	**Makanchi Array**	**101.80**	**315**	P		**Pdif**	**01 40 50.1 +0.8**
	comp=Z,0.7nm,0.7s,baz=102,slow=6.2,SNR=6.1						
SAML	**Samuel**	**121.02**	**113**	*e*PKPdf		**PKPdf**	**01 45 48.8 +0.5**
ARCES	**ARCESS Array B**	**124.90**	**345**	PKP		**PKPdf**	**01 45 52.5 -1.7**
	comp=Z,1.8nm,0.6s,baz=81,slow=2.4,SNR=13						
FINES	**FINESS Array B**	**130.47**	**338**	PKP		**PKPdf**	**01 46 03.6 -1.4**
	comp=Z,1.3nm,0.9s,baz=71,slow=6.0,SNR=3.3						
FINES				SKPbc		**SKPbc**	**01 49 01.5 -3.6**
	comp=Z,1.6nm,0.8s,baz=69,slow=3.8,SNR=12						
AKASG	**Malin Array Be**	**135.48**	**325**	PKP		**PKPdf**	**01 46 11.5 -3.2**
	comp=Z,0.3nm,0.4s,baz=60,slow=2.8,SNR=4.2						
CRVS	**Cervenica-Dubn**	**140.65**	**327**	*e*PKP		**PKPdf**	**01 46 26.0 +1.7**
PRU	**Pruhonice**	**143.20**	**333**	*e*PKP		PKPab	01 46 25.1 0.0
NKC	**Novy Kostel**	**143.88**	**335**	*e*PKP		PKPab	01 46 27.9 +0.1
CONA	**Conrad Observa**	**144.09**	**330**	*i* PKPdf		**PKPab**	**01 46 28.6 -0.2**
	comp=Z,4.3nm,1.1s						
KHC	**Kasperske Hory**	**144.26**	**333**	*e*PKP		**PKPab**	**01 46 23.8 -5.5**
KHC				*ex*		x	01 46 28.8
GERES	**GERESS Array B**	**144.42**	**332**	PKP		**PKPab**	**01 46 29.6 -0.4**
	comp=Z,2.9nm,0.6s,baz=35,slow=4.7,SNR=26						
ARSA	**Arzberg**	**144.73**	**329**	*i* PKPbc		PKPbc	01 46 29.1 -2.0
	comp=Z,2.8nm,0.8s						
MOA	**Molln**	**144.90**	**331**	*i* PKPdf		PKPbc	01 46 31.3 -0.4
	comp=Z,8.6nm,0.9s						
SOKA	**Soboth**	**145.37**	**329**	*i* PKPdf		**PKPdf**	**01 46 31.4 -1.4**
	comp=Z,1.5nm,0.4s						
KBA	**Koelnbreinsper**	**145.89**	**331**	*i* PKPbc		**PKPdf**	**01 46 33.7 -0.1**
	comp=Z,2.3nm,0.5s						
MYKA	**Terra Mystica**	**146.08**	**330**	*i* PKPbc		**PKPdf**	**01 46 33.9 -0.1**
	comp=Z,1.8nm,0.4s						
WATA	**Walderalm**	**146.50**	**333**	*i* PKPdf		**PKPdf**	**01 46 32.4 -2.4**
	comp=Z,1.5nm,0.4s						
ABTA	**Abfaltersbach**	**146.52**	**331**	*i* PKPbc		**PKPdf**	**01 46 34.9 +0.2**
	comp=Z,2.7nm,0.5s						
WTTA	**Wattenberg**	**146.53**	**332**	*i* PKiKP		**PKPab**	**01 46 38.7 +0.5**
	comp=Z,1.9nm,0.5s						
WLF	**Walferdange**	**146.63**	**340**	PKPbc		**PKPbc**	**01 46 36.2 -0.4**
WLF	**Walferdange**	**146.63**	**340**	*e*PKPbc		**PKPbc**	**01 46 36.0 -0.7**
MOTA	**Moosalm**	**146.69**	**333**	*i* PKPbc		**PKPbc**	**01 46 36.3 -0.9**
	comp=Z,3.4nm,0.7s						
DOU	**Dourbes**	**146.72**	**342**	PKPbc		**PKPbc**	**01 46 36.3 -0.6**
RETA	**Reutte**	**146.73**	**334**	*i* PKPbc		**PKPbc**	**01 46 36.2 -1.0**
	comp=Z,1.9nm,0.6s						
FETA	**Feichten**	**147.11**	**333**	*i* PKPbc		**PKPbc**	**01 46 37.7 -0.6**
	comp=Z,4.2nm,0.6s						
DAVA	**Damuels**	**147.25**	**334**	*i* PKPbc		**PKPbc**	**01 46 37.7 -1.0**
	comp=Z,4.9nm,0.6s						
TUE	**Stuetta**	**148.12**	**334**	*e*PKPbc		**PKPbc**	**01 46 40.2 -0.9**
BNI	**Bardonecchia**	**150.37**	**335**	*e*PKPbc		**PKPbc**	**01 46 45.8 -0.8**
SSB	**Saint Sauveur**	**150.98**	**338**	*e*PKPdf		**PKPdf**	**01 46 41.9 0.0**
SSB				*e*PKPbc		**PKPbc**	**01 46 47.3 -0.6**
SSB				*e*PKPab		**PKPab**	**01 46 55.8 -0.4**
TORD	**Torodi Ar. Bea**	**167.04**	**245**	PKP		**PKPdf**	**01 46 59.3 -1.9**
	comp=Z,0.5nm,0.9s,baz=180,slow=1.4,SNR=2.8						
TORD				PKPab		**pPKPdf**	**01 48 03.6 -0.9**
	comp=Z,0.3nm,0.7s,baz=108,slow=4.7,SNR=4.0						

MAN 30 01:37:20.6±2.7, 6°72.2′N×126°37.2′E, h76km±5km, mb5.0, ML3.9, MS4.0, 2D, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MATI	**Mati**	**0.25**	**334**	*e*P		Pn	01 37 33.5 +1.9
MATI				*e*S		Sn	01 37 43.7 +3.6
KCP	**Kidapawan**	**1.30**	**283**	*e*P		Pn	01 37 44.5 +1.9
KCP				*e*S		Sn	01 38 01.6 +1.9
GSPH	**General Santos**	**1.54**	**246**	*e*P		Pn	01 37 43.9 -1.9
GSPH				*e*S		Sn	01 38 01.2 -4.2
PAGZ	**Pagadian**	**3.16**	**291**	*e*P		Pn	01 38 11.5 +4.0

*IDC **30** 02:03:42.0±1.5, 9°.48S×119°.47E, h0km, mb3.9/3, mb1 3.9/5, mb1mx3.6/29, mbtmp3.8/5, ML3.6/2, Error ellipse: s-maj=106.9km s-min=24.3km az=54.0*
*ISCJB **30** 02:03:46.9±0.5, 9°.80S×0°.05×119°.36E±0°.03, h50km, mb3.9/5, Error ellipse: s-maj=8.0km s-min=4.6km az=12.3*

*DJA **30** 02:03:47.3±1.1, 10°.5S±5°×11°.9E±°, h20km±12km, M4.3/9, mB5.1/1, mb4.3/2, MLv4.2/9, Mw(mB)4.5/1*
*NEIC **30** 02:03:49.7±1.0, 9°.69S×119°.44E, h61km±10km, mb4.0/2, Error ellipse: s-maj=17.1km s-min=8.4km az=220.0*
NEIC Felt [III] at Waikabubak and Waingapu.

ISC 30 02:03:47.3±0.7, 9°.91S±0°.06×119°.40E±0°.04, h50km, n26, σ2°53/30, mb4.0/5, Sumba region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WSI	**Waingapu**	**0.91**	**75**	P		**Pn**	**02 04 04.1 +0.2**
WSI				S		**Sn**	**02 04 17.1 +1.1**
BASI	**Baing, Sumba**	**1.20**	**105**	P		**Pn**	**02 04 09.4 +1.7**
PLAI	**Plampang**	**1.93**	**304**	P		**Pn**	**02 04 16.7 -1.1**
PLAI				S		**Sn**	**02 04 42.1 +1.2**
TWSI	**Taliwang, Sumb**	**2.75**	**295**	P		**Pn**	**02 04 30.0 +1.1**
BSSI	**Bau Bau, Buton**	**3.89**	**16**	P		**Pn**	**02 04 43.7 -1.0**
BSSI				S		**Sn**	**02 05 28.4 -0.8**
IGBI	**Denpasar**	**4.34**	**284**	P		**Pn**	**02 04 52.5 +1.7**
IGBI				S		**Sn**	**02 05 40.4 +0.3**
SOEI	**Soe**	**4.79**	**89**	P		**Pn**	**02 04 59.2 +2.0**
SOEI	**Soe**	**4.79**	**89**	*e*Pn		**Pn**	**02 04 59.1 +2.0**
KAPI	**Kappang**	**4.88**	**4**	*e*Pn		**Pn**	**02 04 58.0 -0.2**
KAPI				*e*Sn		**Sn**	**02 05 49.7 -3.6**
JAGI	**Jajag, Banyuwa**	**5.38**	**285**	P		**Pn**	**02 05 04.6 -0.5**
JAGI	**Jajag, Banyuwa**	**5.38**	**285**	*e*Pn		**Pn**	**02 05 07.0 +1.9**
	39nm,0.4s						
JAGI				*e*Sn		**Sn**	**02 06 03.8 -1.9**
BBSI	**Bau Bau**	**5.40**	**36**	P		**Pn**	**02 05 06.9 +1.5**
	7.2nm,0.8s,0.0nm						
SPSI	**Sidrap Palu**	**5.92**	**4**	P		Pn	02 05 19.0 +6.5
TTSI	**Tana Toraja**	**6.83**	**3**	P		**Pn**	**02 05 28.9 +3.9**
WRA	**Warramunga Arr**	**17.53**	**126**	P		**Pn**	**02 07 49.5 +1.3**
	0.2nm,0.3s,baz=300,slow=13,SNR=9.6						
WRA				S		**Sn**	**02 10 55.0 -7.7**
	0.2nm,0.3s,baz=297,slow=22,SNR=5.3						
WRAB	**Tennant Creek**	**17.53**	**126**	*e*P		**P**	**02 07 51.6 +2.8**
	18nm,1.5s						
ASAR	**Alice Springs**	**19.46**	**136**	P		**Pn**	**02 08 14.3 +2.6**
	0.1nm,0.3s,baz=319,slow=12,SNR=16						
ASAR				S		**S**	**02 11 41.9 -5.7**
	0.1nm,0.3s,baz=306,slow=24,SNR=3.0						
H08S2	**Diego Garcia H**	**46.39**	**269**	T		T	03 01 29.2
	baz=96,slow=76,SNR=12						
H08S3	**Diego Garcia H**	**46.40**	**269**	T		T	03 01 21.8
	baz=96,slow=76,SNR=10						
H08S1	**Diego Garcia H**	**46.41**	**269**	T		T	03 01 23.4
	baz=96,slow=76,SNR=12						
SONM	**Songino Array**	**58.64**	**350**	P		**P**	**02 13 38.4 -1.1**
	0.7nm,0.5s,baz=162,slow=6.6,SNR=4.9						
MKAR	**Makanchi Array**	**65.44**	**333**	P		**P**	**02 14 24.6 -0.5**
	0.5nm,0.4s,baz=141,slow=7.8,SNR=7.6						
AAK	**Ala-Archa**	**66.45**	**325**	*e*P		**P**	**02 14 32.5 +0.7**
	0.7nm,0.4s						
ZALV	**Zalesovo Beam**	**70.03**	**339**	P		**P**	**02 14 53.1 -0.6**
	0.5nm,0.3s,baz=138,slow=5.2,SNR=2.6						
ABKAR	**Akbulak array**	**78.53**	**325**	*e*P		**P**	**02 15 43.5 +0.2**
	0.3nm,0.5s						
TORD	**Torodi Ar. Bea**	**119.01**	**280**	PKP		**PKPdf**	**02 22 33.4 +1.9**
	0.3nm,0.6s,baz=77,slow=2.3,SNR=5.4						

IDC 30 02:20:10.2±2.2, 7°.77S×130°.65E, h0km, mb3.5/1, mb1 3.5/4, mb1mx3.4/27, mbtmp3.4/4, ML3.1/2, Error ellipse: s-maj=86.6km s-min=28.5km az=79.0, Tanimbar Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**11.37**	**205**	Pn	Pn	02 22 53.6	-0.4
	baz=90,slow=20						
WRA	**Warramunga Arr**	**12.62**	**164**	Pn	Pn	02 23 10.8	-0.3
	0.1nm,0.3s,baz=347,slow=13,SNR=4.9						
WRA				Sn	Sn	02 25 29.6	-3.0
	0.1nm,0.3s,baz=339,slow=22,SNR=3.9						
ASAR	**Alice Springs**	**16.11**	**169**	Pn	Pn	02 23 59.0	+0.7
	0.1nm,0.3s,baz=354,slow=14,SNR=3.1						
MKAR	**Makanchi Array**	**69.22**	**327**	P	P	02 31 18.9	0.0
	0.3nm,0.5s,baz=139,slow=6.8,SNR=2.9						

**IDC 30 02:30:12.8±2.0,

LLP				*i* S		**Sg**	**02 52 35.0**	**+0.6**
BESP	**Borongan**	**2.61**	**344**	*e*P		**Pg**	**02 52 01.1**	**-2.7**
BESP				*e*S		**Sg**	**02 52 35.7**	**-1.9**
CTBH	**Cotabato--PC H**	**2.66**	**226**	⇑*i*P		**Pg**	**02 52 04.2**	**-0.6**
CTBH				*i* S		**Sg**	**02 52 40.9**	**+1.5**
SNPH	**Sibulan**	**2.92**	**275**	*e*P		**Pg**	**02 52 08.8**	**-1.0**
SNPH				*i* S		**Sg**	**02 52 47.4**	**-0.3**
PAGZ	**Pagadian**	**3.03**	**246**	*e*P		**Pg**	**02 52 10.2**	**-1.7**
PAGZ				*e*S		**Sg**	**02 52 48.5**	**-2.6**
RCP	**Roxas**	**4.18**	**306**	⇓*e*P		**Pb**	**02 52 25.8**	**-1.9**
PVCP	**Virac**	**4.91**	**336**	*e*P	Pb	02 52 33.7	-6.3	
PVCP				*e*S		**Sg**	**02 53 54.4**	**+2.9**
SJMP	**San Jose**	**6.00**	**304**	*e*P		**Pg**	**02 53 08.5**	**-0.3**
TGY	**Tagaytay City**	**7.16**	**315**	LR	LR	02 56 11.2		
	comp=Z,201nm,19.0s,baz=197,slow=42							
GUMO	**Guam**	**18.86**	**75**	LR	LR	03 01 57.9		
	comp=Z,45nm,19.7s,baz=118,slow=34							
FITZ	**Fitzroy Crossi**	**27.02**	**181**	P	**P**	**02 56 57.5**	**+0.9**	
	2.2nm,0.8s,baz=0.0,slow=0.0							
CMAR	**Chiang Mai Arr**	**28.01**	**292**	P	**P**	**02 57 05.4**	**-0.2**	
	0.6nm,0.4s,baz=110,slow=7.8,SNR=3.3							
CMAR				LR	LR	03 08 58.5		
	comp=Z,20nm,18.2s,baz=105,slow=38							
KSAR	**Wonju Array Be**	**28.27**	**3**	P	**P**	**02 57 08.4**	**+0.8**	
KSRS	**Korea Array**	**28.29**	**3**	P	**P**	**02 57 08.4**	**+0.7**	
	1.4nm,0.6s,baz=180,slow=12,SNR=4.9							
KSRS				LR	LR	03 08 49.0		
	comp=Z,16nm,20.3s,baz=154,slow=37							
WRAB	**Tennant Creek**	**29.93**	**164**	*e*P	**P**	**02 57 23.7**	**+1.1**	
	1.6nm,0.8s							
WRA	**Warramunga Arr**	**29.94**	**164**	P	**P**	**02 57 21.9**	**-0.7**	
	0.5nm,0.5s,baz=344,slow=8.6,SNR=6.9							
ASAR	**Alice Springs**	**33.41**	**167**	P	**P**	**02 57 53.4**	**+0.1**	
	0.4nm,0.3s,baz=354,slow=7.0,SNR=5.3							
USRK	**Ussuriysk Ar.**	**35.35**	**7**	P	**P**	**02 58 09.5**	**-0.2**	
	4.6nm,0.9s,baz=148,slow=7.0,SNR=5.3							
H11S3	**WAKE ISLAND Hy**	**40.35**	**72**	T	T	03 41 48.4		
	baz=262,slow=75,SNR=169							
H11S1	**WAKE ISLAND Hy**	**40.37**	**72**	T	T	03 41 46.7		
	baz=262,slow=75,SNR=92							
H11S2	**WAKE ISLAND Hy**	**40.37**	**72**	T	T	03 41 47.2		
	baz=262,slow=75,SNR=117							
H11N1	**WAKE ISLAND Hy**	**40.72**	**70**	T	T	03 42 22.9		
	baz=265,slow=74,SNR=56							
H11N2	**WAKE ISLAND Hy**	**40.73**	**70**	T	T	03 42 23.5		
	baz=265,slow=74,SNR=38							
H11N3	**WAKE ISLAND Hy**	**40.74**	**70**	T	T	03 42 24.1		
	baz=265,slow=74,SNR=62							
SONM	**Songino Array**	**42.10**	**340**	P	**P**	**02 59 07.2**	**+0.7**	
	0.2nm,0.3s,baz=177,slow=5.6,SNR=3.2							
MKAR	**Makanchi Array**	**52.92**	**323**	P	**P**	**03 00 31.1**	**+0.5**	
	2.8nm,0.6s,baz=123,slow=8.2,SNR=27							
MKAR				PcP	**PcP**	**03 01 38.9**	**-0.7**	
	0.8nm,0.7s,baz=116,slow=2.8,SNR=3.6							
ZALV	**Zalesovo Beam**	**55.62**	**332**	P	**P**	**03 00 49.6**	**-0.5**	
	0.6nm,0.3s,baz=120,slow=5.7,SNR=3.6							
KURK	**Kurchatov**	**56.99**	**326**	*e*P	**P**	**03 00 59.6**	**-0.3**	
	35nm,0.9s							
KURBB	**Kurchatov Arra**	**57.00**	**326**	P	**P**	**03 01 00.1**	**+0.1**	
	2.2nm,0.5s,baz=124,slow=6.6,SNR=16							
BVAR	**Borovoye Array**	**62.59**	**326**	P	**P**	**03 01 38.8**	**+0.3**	
	1.8nm,0.8s,baz=128,slow=12,SNR=6.9							
BRVK	**Borovoye**	**62.66**	**326**	*e*P	**P**	**03 01 38.9**	**0.0**	
	5.7nm,0.5s							
ARU	**Arti**	**70.17**	**327**	P	**P**	**03 02 26.2**	**-0.8**	
	2.5nm,0.3s,baz=166,slow=9.2,SNR=4.2							
ARU	**Arti**	**70.17**	**327**	*e*P	**P**	**03 02 26.0**	**-0.9**	
	3.1nm,0.5s							
ILAR	**Eielson Array**	**80.54**	**26**	P	**P**	**03 03 25.3**	**-1.2**	
	0.6nm,0.9s,baz=243,slow=4.4,SNR=9.4							
SPITS	**Spitsbergen Ar**	**85.16**	**349**	P	**P**	**03 03 50.0**	**-0.2**	
	2.2nm,0.6s,baz=86,slow=8.8,SNR=2.9							
ARCES	**ARCESS Array B**	**85.27**	**340**	P	**P**	**03 03 50.6**	**-0.3**	
	1.2nm,0.5s,baz=69,slow=6.6,SNR=9.8							
BRTR	**Keskin Array B**	**86.21**	**309**	P	**P**	**03 03 55.4**	**-1.0**	
	0.3nm,0.4s,baz=74,slow=6.2,SNR=3.9							
FINES	**FINESS Array B**	**86.89**	**332**	P	**P**	**03 03 58.1**	**-0.9**	
	0.4nm,0.4s,baz=113,slow=4.4,SNR=6.2							
CSS	**Mathiatis**	**87.19**	**305**	*e*P	**P**	**03 04 00.5**	**-0.6**	
	1.4nm,0.6s							
AKASG	**Malin Array Be**	**87.42**	**321**	P	**P**	**03 04 00.9**	**-0.9**	
	0.5nm,0.5s,baz=68,slow=5.4,SNR=3.7							
VNDA	**Vanda**	**88.77**	**173**	P	**P**	**03 04 07.8**	**+0.1**	
	0.6nm,0.6s,baz=308,slow=7.1,SNR=4.7							
TORD	**Torodi Ar. Bea**	**120.62**	**291**	PKP	**PKPdf**	**03 10 06.4**	**-0.9**	
	0.7nm,0.7s,baz=54,slow=2.8,SNR=6.2							

IDC 30 02:53:34.8±2.4, 3°.49N×128°.32E, h0km, mb3.5/3, mb1 3.8/3, mb1mx3.4/42, mbtmp3.5/3, Error ellipse: s-maj=181.9km s-min=24.0km az=69.0, North of Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**24.03**	**166**	P	P	02 58 51.2	-0.5
	1.2nm,0.6s,baz=345,slow=9.5,SNR=6.2						
ASAR	**Alice Springs**	**27.54**	**169**	P	P	02 59 23.0	-0.5
	0.2nm,0.4s,baz=342,slow=8.8,SNR=4.8						
MKAR	**Makanchi Array**	**58.66**	**325**	P	P	03 03 34.7	+0.6
	0.4nm,0.7s,baz=118,slow=8.5,SNR=3.0						

GUC 30 02:53:53.0±0.4, 23°.60S×67°.25W, h256km±17km, ML4.0, 2C, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB06	**IPOC Station P**	**2.31**	**292**	⇑*i*P	Pn	02 54 40.9	+1.8
PB06				*e*S	S	02 55 17.3	+1.9
PB06				IAML		02 55 19.3	
	comp=N,377nm,0.1s						
PB09	**IPOC Station P**	**2.57**	**314**	⇑*i*P	Pn	02 54 44.0	+2.4
PB09				*e*S	S	02 55 23.3	+3.3
PB09				IAML		02 55 27.3	
	comp=N,200nm,0.2s						
ANCH	**Antofagasta**	**2.90**	**268**	*e*P	Pn	02 54 47.6	+2.9
ANCH				*i* S	S	02 55 28.4	+2.7
PB04	**IPOC Station P**	**2.95**	**295**	*e*P	Pn	02 54 48.0	+2.4
PB04				*e*S	S	02 55 29.7	+2.6
PB07	**IPOC Station P**	**3.06**	**307**	*e*P	Pn	02 54 49.0	+2.2
PB07				*i* S	S	02 55 31.8	+2.5
PB01	**IPOC Station P**	**3.28**	**320**	*e*P	Pn	02 54 51.1	+2.1
PB01				*i* S	S	02 55 34.8	+1.3
PB01				IAML		02 55 38.2	
	comp=E,92nm,0.3s						
HMBC	**Humberstone**	**4.11**	**323**	*e*P	Pn	02 55 01.2	+2.6
HMBC				*e*S	S	02 55 52.5	+1.8

*CSEM **30** 03:08:57.2±0.9, 27°.95N×18°.04W, h10km, ML3.0, Error ellipse: s-maj=63.3km s-min=6.7km az=87.0*
*INMG **30** 03:08:58.1±0.8, 27°.57N×18°.12W, h13km±5km, ML2.9, Error ellipse: s-maj=3.6km s-min=3.4km az=58.0*
ISC 30 03:08:49.9±1.1, 28°.22N±0°.10×17°.8W±0°.5, h10km, n9, σ0s70/18, Canary Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTIG	**El Hierro**	**0.44**	**192**	P	**Pn**	**03 09 02.6**	**+0.4**
	SNR=18						
CTIG				S	**Sb**	**03 09 06.1**	**-0.2**
	179nm,0.0s,SNR=7.9						
CHIE	**El Hierro**	**0.50**	**194**	P	**Pb**	**03 09 01.8**	**+1.0**
	SNR=18						
CHIE				S	**Sg**	**03 09 04.4**	**-1.9**
	259nm,0.3s,SNR=7.9						
FUL	**Funchal**	**4.49**	**10**	*e*P	**Pb**	**03 10 09.6**	**+0.8**
FUL				*e*S	**Sb**	**03 11 03.5**	**+0.6**
PMAR	**Madeira**	**4.56**	**10**	*e*P	**Pb**	**03 10 10.3**	**+0.2**
PMAR				*e*S	**Sb**	**03 11 05.5**	**+0.3**
PMAR				A	A	03 11 13.6	
	14nm,0.3s						
PMAR	**Madeira**	**4.56**	**10**	*e*P	**Pb**	**03 10 10.3**	**+0.2**
PMAR				*e*S	**Sb**	**03 11 05.5**	**+0.3**
	14nm,0.3s						
PMOZ	**Porto Moniz, M**	**4.62**	**7**	*e*P	**Pb**	**03 10 11.3**	**+0.2**
PMOZ				*e*S	**Sb**	**03 11 06.6**	**-0.3**
PMOZ				A	A	03 11 11.0	
	26nm,0.3s						
PMOZ	**Porto Moniz, M**	**4.62**	**7**	*e*P	**Pb**	**03 10 11.3**	**+0.2**
PMOZ				*e*S	**Sb**	**03 11 06.6**	**-0.3**
	26nm,0.3s						
PMPS	**Porto Santo**	**4.99**	**15**	*e*P	**Pb**	**03 10 17.6**	**+0.3**
PMPS				*e*S	**Sb**	**03 11 16.8**	**-0.6**
PMPS				A	A	03 11 19.4	
	6.7nm,0.4s						
PMPS	**Porto Santo**	**4.99**	**15**	*e*P	**Pb**	**03 10 17.6**	**+0.3**
PMPS				*e*S	**Sb**	**03 11 16.8**	**-0.6**
	6.7nm,0.4s						

*DDA **30** 03:09:14.8, 35°.73N×30°.93E, h28km, Md3.3*
*ISK **30** 03:09:15.4, 35°.65N×30°.74E, h69km, MD3.5*
*CSEM **30** 03:09:16.8±0.2, 35°.64N×30°.75E, h60km, MD3.3, Error ellipse: s-maj=7.6km s-min=3.4km az=16.0*
ISC 30 03:09:16.4±1.4, 35°.67N±0°.05×30°.73E±0°.03, h32km±13km, n71, σ0s88/88, Eastern Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AKAS	**Kas**	**1.07**	**302**	*i* P	**Pb**	**03 09 37.5**	**+1.0**
AKAS	**Kas**	**1.07**	**302**	P	**Pb**	**03 09 37.5**	**+1.0**
ANTB	**Antalya**	**1.23**	**357**	*e*PN	**Pn**	**03 09 37.5**	**+0.1**
ANTB				*e*SN	**Sb**	**03 09 54.4**	**-0.1**
ANTB	**Antalya**	**1.23**	**357**	*e*Pn	**Pn**	**03 09 37.5**	**+0.1**
ANTB				*e*Sn	**Sb**	**03 09 54.4**	**-0.1**
ELL	**Elmali**	**1.26**	**329**	*e*PN	**Pn**	**03 09 38.0**	**0.0**
ELL				*e*SN	**Sb**	**03 09 55.2**	**-0.4**
ELL	**Elmali**	**1.26**	**329**	*e*Pn	**Pn**	**03 09 38.0**	**0.0**
ELL				*e*Sn	**Sb**	**03 09 55.3**	**-0.4**
KORT	**Korkueli**	**1.36**	**347**	*e*PN	**Pn**	**03 09 39.4**	**0.0**
KORT				*e*SN	**Sb**	**03 09 57.7**	**-0.8**
KORT	**Korkueli**	**1.36**	**347**	*i* P	**Pn**	**03 09 39.3**	**-0.1**
KORT				*i* S	**Sb**	**03 09 59.4**	**+0.9**
KORT	**Korkueli**	**1.36**	**347**	*e*Pn	**Pn**	**03 09 39.4**	**0.0**
KORT				*e*Sn	**Sb**	**03 09 57.7**	**-0.8**
KORT				S	**Sb**	**03 09 59.4**	**+0.9**
FETY	**Fethiye**	**1.64**	**306**	*e*PN	**Pn**	**03 09 43.3**	**+0.2**
FETY	**Fethiye**	**1.64**	**306**	*e*Pn	**Pn**	**03 09 43.3**	**+0.2**
GLHS	**Glhisar (BURDU**	**1.78**	**327**	*e*PN	**Pn**	**03 09 45.2**	**0.0**
GLHS	**Glhisar (BURDU**	**1.78**	**327**	*e*Pn	**Pn**	**03 09 45.2**	**0.0**
SUTC	**Sutluce-Ispart**	**1.81**	**7**	*e*PN	**Pn**	**03 09 45.7**	**+0.1**
SUTC	**Sutluce-Ispart**	**1.81**	**7**	*e*Pn	**Pn**	**03 09 45.7**	**+0.1**
GOLH	**Golhisar**	**1.82**	**329**	*i* P	**Pn**	**03 09 47.0**	**+1.3**
GOLH	**Golhisar**	**1.82**	**329**	P	**Pn**	**03 09 47.0**	**+1.3**
LEF	**Lefka**	**1.85**	**107**	*e*PN	**Pn**	**03 09 45.5**	**-0.4**
LEF	**Lefka**	**1.85**	**107**	*e*Pn	**Pn**	**03 09 45.5**	**-0.4**
LEF	**Lefka**	**1.85**	**107**	P	**Pn**	**03 09 45.8**	**-0.1**
TEKE	**Tekeli-Mersin**	**1.99**	**76**	*e*PN	**Pn**	**03 09 48.2**	**+0.3**
TEKE	**Tekeli-Mersin**	**1.99**	**76**	*e*Pn	**Pn**	**03 09 48.2**	**+0.3**
DALY	**Dalyan (Mu¨la**	**2.03**	**305**	*e*PN	**Pn**	**03 09 49.1**	**+0.8**
DALY	**Dalyan (Mu¨la**	**2.03**	**305**	*i* P	**Pn**	**03 09 48.4**	**0.0**
DALY	**Dalyan (Mu¨la**	**2.03**	**305**	P	**Pn**	**03 09 48.4**	**0.0**
DALY	**Dalyan (Mu¨la**	**2.03**	**305**	*e*Pn	**Pn**	**03 09 49.2**	**+0.8**
BRDR	**BURDUR-Merkez**	**2.09**	**345**	*i* P	**Pb**	**03 09 52.3**	**-1.4**
BRDR	**BURDUR-Merkez**	**2.09**	**345**	P	**Pb**	**03 09 52.3**	**-1.4**
TURN	**Turunc**	**2.10**	**306**	*i* P	**Pb**	**03 09 52.4**	**-1.3**
BERE	**Bereket-Mersin**	**2.13**	**71**	*e*PN	**Pn**	**03 09 49.4**	**-0.5**
BERE	**Bereket-Mersin**	**2.13**	**71**	*e*Pn	**Pn**	**03 09 49.4**	**-0.5**
TAVA	**DENIZLI_Tavas**	**2.31**	**321**	*i* P	**Pn**	**03 09 52.7**	**+0.3**
TAVA	**DENIZLI_Tavas**	**2.31**	**321**	P	**Pn**	**03 09 52.7**	**+0.3**
LFK	**Lefkose**	**2.32**	**99**	*e*PN	**Pn**	**03 09 52.6**	**+0.1**
LFK	**Lefkose**	**2.32**	**99**	*e*Pn	**Pn**	**03 09 52.6**	**+0.1**
TEVE	**Tevekalti-Mers**	**2.33**	**70**	*e*PN	**Pn**	**03 09 53.2**	**+0.6**
TEVE	**Tevekalti-Mers**	**2.33**	**70**	*e*Pn	**Pn**	**03 09 53.2**	**+0.6**
AKKU	**Akkuyu-Mersin**	**2.34**	**77**	*e*PN	**Pn**	**03 09 53.0**	**+0.3**
AKKU	**Akkuyu-Mersin**	**2.34**	**77**	*e*Pn	**Pn**	**03 09 53.0**	**+0.3**
DNZL	**Cakiroluk**	**2.43**	**327**	*i* P	**Pb**	**03 09 59.8**	**+0.3**
IKL	**Isikli**	**2.46**	**76**	*e*PN	**Pn**	**03 09 54.8**	**+0.4**
IKL	**Isikli**	**2.46**	**76**	*e*Pn	**Pn**	**03 09 54.8**	**+0.4**
KMER	**Konya-Meram**	**2.47**	**32**	*i* P	**Pn**	**03 09 51.5**	**-3.1**
KEBE	**Keben-Mersin**	**2.54**	**71**	*e*PN	**Pn**	**03 09 55.8**	**+0.3**
KEBE	**Keben-Mersin**	**2.54**	**71**	*e*Pn	**Pn**	**03 09 55.8**	**+0.3**
KONT	**Konya--Tatoy**	**2.62**	**29**	*e*PN	**Pn**	**03 09 57.5**	**+0.9**
KONT	**Konya--Tatoy**	**2.62**	**29**	*i* P	**Pn**	**03 09 58.0**	**+1.4**
KONT				*i* S	**Sn**	**03 10 29.4**	**+2.1**
KONT	**Konya--Tatoy**	**2.62**	**29**	*e*Pn	**Pn**	**03 09 57.5**	**+0.9**
KZIL	**AFYON_Kizioren**	**2.62**	**350**	*i* P	**Pn**	**03 09 57.5**	**+0.8**
KZIL	**AFYON_Kizioren**	**2.62**	**350**	P	**Pn**	**03 09 57.5**	**+0.8**
SILI	**Silifke-Mersin**	**2.68**	**74**	*e*PN	**Pn**	**03 09 57.6**	**+0.2**
SILI	**Silifke-Mersin**	**2.68**	**74**	*e*Pn	**Pn**	**03 09 57.6**	**+0.2**
DAT	**Datca**	**2.76**	**293**	*e*PN	**Pn**	**03 09 59.7**	**+1.1**
DAT	**Datca**	**2.76**	**293**	*i* P	**Pn**	**03 09 59.1**	**+0.5**
DAT				*i* S	**Sn**	**03 10 29.4**	**-1.4**
DAT	**Datca**	**2.76**	**293**	P	**Pn**	**03 09 59.1**	**+0.5**
DAT	**Datca**	**2.76**	**293**	*e*Pn	**Pn**	**03 09 59.7**	**+1.1**
DAT				S	**Sn**	**03 10 29.4**	**-1.4**
KIZK	**Mersin**	**2.88**	**73**	*e*PN	**Pn**	**03 10 00.8**	**+0.7**
BDRM	**Kayabasi**	**2.99**	**299**	*i* P	**Pn**	**03 10 02.1**	**+0.4**
BDRM				*i* S	**Sn**	**03 10 35.9**	**-0.6**
BDRM	**Kayabasi**	**2.99**	**299**	P	**Pn**	**03 10 02.1**	**+0.4**
BDRM				S	**Sn**	**03 10 35.9**	**-0.6**
BOLV	**Bolvadin**	**3.05**	**3**	*i* P	**Pn**	**03 10 04.1**	**+1.6**
BOLV	**Bolvadin**	**3.05**	**3**	P	**Pn**	**03 10 04.1**	**+1.6**
KDHN	**Kadinhani**	**3.05**	**21**	*i* P	**Pn**	**03 10 01.4**	**-1.2**
KDHN				*i* S	**Sn**	**03 10 38.0**	**-0.1**
KDHN	**Kadinhani**	**3.05**	**21**	P	**Pn**	**03 10 01.4**	**-1.2**
KDHN				S	**Sn**	**03 10 38.0**	**-0.1**
BODT	**Bodrum**	**3.09**	**298**	*e*PN	**Pn**	**03 10 04.0**	**+1.0**
BODT	**Bodrum**	**3.09**	**298**	*e*Pn	**Pn**	**03 10 04.0**	**+1.0**
KERG	**Konya-Eregli**	**3.24**	**57**	*i* P	**Pn**	**03 10 04.3**	**-0.9**
KERG				*i* S	**Sn**	**03 10 43.7**	**+0.9**
KERG	**Konya-Eregli**	**3.24**	**57**	P	**Pn**	**03 10 04.3**	**-0.9**
KERG				S	**Sn**	**03 10 43.7**	**+0.9**
MERS	**Mersin**	**3.29**	**68**	*e*PN	**Pn**	**03 10 06.8**	**+1.0**
MERS	**Mersin**	**3.29**	**68**	*e*Pn	**Pn**	**03 10 06.8**	**+1.0**
TVSB	**Tavsanli**	**3.90**	**345**	*e*PN	**Pn**	**03 10 15.6**	**+1.3**
TVSB	**Tavsanli**	**3.90**	**345**	*e*Pn	**Pn**	**03 10 15.6**	**+1.3**

MEX 30 03:11:47.5±0.7, 17°.05N×100°.09W, h5km, MD3.8, Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAIG	**El Cayaco**	**0.17**	**271**	*e*P	Pg	03 11 50.6	-0.3
CAIG				*i* S	Sg	03 11 53.3	+0.3
ACP2	**Acapulco**	**0.26**	**131**	*i* P	Pg	03 11 51.7	-0.9
ACP2				*i* S	Sg	03 11 55.5	-0.6
MEIG	**Mezcala**	**0.98**	**27**	*e*P	Pg	03 12 03.8	-2.6
MEIG				*i* S	Sg	03 12 16.5	-2.7
ARIG	**Puente Sto Nin**	**1.25**	**349**	*e*P	Pg	03 12 07.8	-3.7
ARIG				*e*S	Sg	03 12 23.4	-4.3
ZIIG	**Zihuatanejo**	**1.42**	**293**	*i* P	Pn	03 12 10.6	-3.5
ZIIG				*e*S	Sb	03 12 28.3	-4.7
PLIG	**Platanillo**	**1.45**	**23**	*e*P	Pn	03 12 10.7	-3.8
PLIG				*i* S	Sb	03 12 29.1	-4.8
TLIG	**Tlapa**	**1.55**	**70**	*e*P	Pn	03 12 12.8	-3.1
TLIG				*e*S	Sn	03 12 31.9	-4.5
PNIG	**Pinotepa**	**1.99**	**109**	*i* P	Pn	03 12 19.4	-2.6
PNIG				*e*S	Sn	03 12 43.8	-3.5

*IDC **30** 03:28:35.1±1.8, 1°.28N×96°.93E, h0km, mb3.8/5, mb1 3.9/7, mb1mx3.6/43, mbtmp3.7/7, ML4.5/1, MS3.1/1, Ms1 3.3/1, ms1mx2.6/36, Error ellipse: s-maj=49.8km s-min=22.4km az=59.0*
*ISCJB **30** 03:28:37.2±0.9, 1°.36N±0°.09×96°.9E±0°.1, h28km, mb4.0/8, Error ellipse: s-maj=19.5km s-min=12.1km az=160.6*
*NEIC **30** 03:28:40.4±0.8, 1°.38N×96°.99E, h35km, mb4.0/3, Error ellipse: s-maj=17.4km s-min=10.6km az=70.0*
ISC 30 03:28:39.5±1.2, 1°.4N±0°.1×97°.0E±0°.2, h28km, n21, σ0s85/12, mb4.0/8, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**2.38**	**54**	Pn	**Pn**	**03 29 17.2**	**+0.3**
	1.8nm,0.3s,baz=225,slow=4.3,SNR=14						
KULM	**Kulim**	**5.32**	**43**	*e*Pn	**Pn**	**03 29 57.2**	**0.0**
CMAR	**Chiang Mai Arr**	**17.07**	**6**	P	**Pn**	**03 32 35.3**	**-1.0**
	0.6nm,0.3s,baz=198,slow=11,SNR=3.9						
CMAR				LR	LR	03 39 34.0	
	comp=Z,62nm,18.8s,baz=195,slow=38						
SLVN	**Son La**	**20.93**	**18**	*e*P	**P**	**03 33 21.0**	**+0.7**
	9.7nm,0.9s						
H08S2	**Diego Garcia H**	**26.03**	**249**	T	T	04 01 10.3	
	baz=71,slow=76,SNR=644						
H08S3	**Diego Garcia H**	**26.04**	**250**	T	T	04 01 11.4	
	baz=71,slow=76,SNR=677						
H08S1	**Diego Garcia H**	**26.05**	**249**	T	T	04 01 10.3	
	baz=71,slow=76,SNR=530						
H08N1	**Diego Garcia H**	**27.05**	**253**	T	T	04 03 41.5	
	baz=74						
H08N2	**Diego Garcia H**	**27.06**	**253**	T	T	04 03 41.5	
	baz=74						
H08N3	**Diego Garcia H**	**27.07**	**253**	T	T	04 03 41.5	
	baz=74						
H01W3	**Cape Leeuwin H**	**39.50**	**158**	T	T	04 17 40.2	
	baz=331						
H01W2	**Cape Leeuwin H**	**39.52**	**158**	T	T	04 17 41.3	
	baz=331						
H01W1	**Cape Leeuwin H**	**39.52**	**158**	T	T	04 17 42.6	
	baz=331						
WRA	**Warramunga Arr**	**42.31**	**122**	P	**P**	**03 36 30.3**	**-1.0**
	0.5nm,0.7s,baz=301,slow=9.1,SNR=4.6						
WRAB	**Tennant Creek**	**42.32**	**122**	*e*P	**P**	**03 36 30.3**	**-1.0**
	2.1nm,0.9s						
ASAR	**Alice Springs**	**43.68**	**127**	P	**P**	**03 36 42.1**	**-0.2**
	0.6nm,0.9s,baz=290,slow=8.8,SNR=4.1						
SONM	**Songino Array**	**46.97**	**9**	P	**P**	**03 37 08.1**	**-0.1**
	1.4nm,0.8s,baz=194,slow=9.3,SNR=7.1						
MKAR	**Makanchi Array**	**47.01**	**346**	P	**P**	**03 37 09.4**	**+1.1**
	1.0nm,0.6s,baz=157,slow=8.0,SNR=8.2						
ZALV	**Zalesovo Beam**	**53.34**	**351**	P	**P**	**03 37 56.7**	**+0.6**
	2.0nm,0.6s,baz=180,slow=5.8,SNR=6.6						
ABKAR	**Akbulak array**	**57.25**	**332**	*e*P	**P**	**03 38 23.6**	**-0.8**
	1.1nm,0.7s						
CAN	**Canberra**	**60.70**	**132**	*e*P	**P**	**03 38 49.6**	**+0.8**
	16nm,0.7s						

IDC 30 03:35:39.2±4.8, 23°.91S×178°.17W, h0km, mb4.3/3, mb1 4.4/3, mb1mx3.8/30, mbtmp4.3/3, Error ellipse: s-maj=230.4km s-min=44.8km az=155.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**14.86**	**195**	Sn	S	03 42 07.8	-6.9
	0.3nm,0.3s,baz=24,slow=20,SNR=3.6						
CTA	**Charters Tower**	**33.15**	**270**	P	P	03 42 19.4	+1.9
	3.7nm,0.4s,baz=98,slow=11,SNR=6.6						
ASAR	**Alice Springs**	**43.68**	**260**	P	P	03 43 45.4	-0.8
	0.8nm,0.5s,baz=94,slow=7.6,SNR=7.4						
WRA	**Warramunga Arr**	**44.07**	**266**	P	P	03 43 48.1	-1.3
	2.1nm,0.6s,baz=103,slow=8.3,SNR=20						
AKASG	**Malin Array Be**	**145.86**	**329**	PKPbc	PKPdf	03 55 17.6	-2.1
	0.6nm,0.3s,baz=42,slow=3.9,SNR=4.8						
BRTR	**Keskin Array B**	**148.91**	**308**	PKPbc	PKPbc	03 55 30.7	+1.4
	0.6nm,0.6s,baz=43,slow=3.0,SNR=3.0						

*IDC **30** 03:44:23.9±2.9, 32°.06N×141°.46E, h0km, mb3.8/3, mb1 3.8/4, mb1mx3.6/32, mbtmp3.7/4, ML3.2/1, MS3.2/11, Ms1 3.2/11, ms1mx3.0/43, Error ellipse: s-maj=93.8km s-min=21.5km az=61.0*
*NEIC **30** 03:44:28.4±1.4, 32°.16N×141°.56E, h35km, mb4.0/2, Error ellipse: s-maj=49.0km s-min=10.8km az=68.0*
ISC 30 03:44:27.3±1.2, 32°.2N±0°.1×141°.5E±0°.2, h26km, n21, σ0s85/14, mb3.9/6, MS3.2/7, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHJ2	**Mitsune**	**1.71**	**303**	*e*Pn	**Pn**	**03 44 56.1**	**+0.7**
JHJ2				*e*Sn	**Sb**	**03 45 19.0**	**0.0**
JHJ	**Hachijo jima 2**	**1.73**	**303**	Pn	**Pn**	**03 44 55.9**	**+0.1**
	41nm,0.3s,baz=109,slow=22,SNR=8.7						
JHJ				Sn	**Sb**	**03 45 19.4**	**-0.4**
	41nm,0.3s,baz=189,slow=12,SNR=3.7						
MJAR	**Matsushiro Arr**	**5.13**	**329**	Pn	**Pn**	**03 45 43.2**	**+0.6**
	0.9nm,0.3s,baz=144,slow=12,SNR=5.2						
MJAR				Sn	**Sn**	**03 46 39.8**	**-1.2**
	0.8nm,0.3s,ba

*ISCJB **30** 03:52:45.4±0.5,39.67N±0.03×38.71E±0.04,h2km±7km, Error ellipse: s-maj=5.6km s-min=4.1km az=146.6*
*CSEM **30** 03:52:45.3±0.2,39.66N×38.70E,h2km,MD2.8, Error ellipse: s-maj=5.7km s-min=4.0km az=47.0*
*ISK **30** 03:52:46.4,39.64N×38.66E,h10km,MD2.6*
ISC 30 03:52:45.5±1.0,**39.65N**±0.02×**38.70E**±0.03,**h10**km±8km, **n26,σ0°88/42,Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
REFA	**Refahiye_ERZ¯**	**0.25**	**169**	*i* P	**Pg**	**03 52 50.9**	**+0.2**
REFA				*i* S	**Sg**	**03 52 55.4**	**+1.2**
REFA	**Refahiye_ERZ¯**	**0.25**	**169**	P	**Pg**	**03 52 50.9**	**+0.2**
REFA				S	**Sg**	**03 52 55.4**	**+1.2**
KEMA	**Kemaliye**	**0.41**	**203**	*i* P	**Pg**	**03 52 53.0**	**-0.6**
KEMA				*i* S	**Sg**	**03 52 58.5**	**-0.5**
KEMA	**Kemaliye**	**0.41**	**203**	P	**Pg**	**03 52 53.0**	**-0.6**
KEMA				S	**Sg**	**03 52 58.5**	**-0.5**
KELT	**Kelkit**	**0.66**	**40**	*i* P	**Pg**	**03 52 58.1**	**-0.2**
KELT				*i* S	**Sg**	**03 53 05.8**	**-1.2**
KELT	**Kelkit**	**0.66**	**40**	P	**Pg**	**03 52 58.1**	**-0.2**
KELT				S	**Sg**	**03 53 05.8**	**-1.2**
SUSE	**Susehri**	**0.68**	**326**	*i* P	**Pg**	**03 52 58.3**	**-0.4**
SUSE	**Susehri**	**0.68**	**326**	P	**Pg**	**03 52 58.3**	**-0.4**
CUZAR	**Zara_SIVAS**	**0.76**	**289**	*i* P	**Pg**	**03 52 59.6**	**-0.6**
CUZAR				*i* S	**Sb**	**03 53 12.2**	**+0.9**
CUZAR	**Zara_SIVAS**	**0.76**	**289**	P	**Pg**	**03 52 59.6**	**-0.6**
CUZAR				S	**Sb**	**03 53 12.2**	**+0.9**
ERZN	**Erzincan**	**0.79**	**94**	*e*PG	**Pn**	**03 52 08.8**	**0.0**
TNCL	**Tunceli-Merkez**	**0.84**	**129**	*i* P	**Pg**	**03 53 00.7**	**-1.0**
TNCL				*i* S	**Sb**	**03 53 13.8**	**+0.3**
TNCL	**Tunceli-Merkez**	**0.84**	**129**	P	**Pg**	**03 53 00.7**	**-1.0**
TNCL				S	**Sb**	**03 53 13.8**	**+0.3**
PTK	**Pertek**	**0.92**	**144**	*e*PG	**Pn**	**03 53 04.9**	**+0.2**
PTK				*e*SG	**Sn**	**03 53 18.4**	**+0.3**
PTK	**Pertek**	**0.92**	**144**	*e*Pg	**Pn**	**03 53 04.9**	**+0.2**
PTK				*e*Sg	**Sn**	**03 53 18.4**	**+0.3**
CUKAN	**kangal_SIVAS**	**1.01**	**251**	*i* P	**Pg**	**03 53 01.5**	**-3.5**
ELZG	**Elazig**	**1.17**	**169**	*i* P	**Pg**	**03 53 07.0**	**-0.9**
ELZG				*i* S	**Sn**	**03 53 24.0**	**0.0**
ELZG	**Elazig**	**1.17**	**169**	P	**Pg**	**03 53 07.0**	**-0.9**
ELZG				S	**Sn**	**03 53 24.0**	**0.0**
SCER	**sogukcermik**	**1.23**	**281**	*i* P	**Pg**	**03 53 08.0**	**-1.2**
SCER				*i* S	**Sn**	**03 53 26.1**	**+0.4**
SCER	**sogukcermik**	**1.23**	**281**	P	**Pg**	**03 53 08.0**	**-1.2**
SCER				S	**Sn**	**03 53 26.1**	**+0.4**
RSDY	**Resadiye-TOKAT**	**1.30**	**306**	*e*PN	**Pg**	**03 53 10.8**	**+0.4**
RSDY	**Resadiye-TOKAT**	**1.30**	**306**	*e*Pn	**Pg**	**03 53 10.8**	**+0.4**
SVSK	**Karacayir**	**1.34**	**282**	*e*PN	**Pg**	**03 53 11.4**	**+0.1**
SVSK	**Karacayir**	**1.34**	**282**	*e*Pn	**Pg**	**03 53 11.4**	**+0.1**
DARE	**Darende-Malaty**	**1.43**	**222**	*e*PN	**Pg**	**03 53 12.8**	**-0.2**
DARE	**Darende-Malaty**	**1.43**	**222**	*e*Pn	**Pg**	**03 53 12.8**	**-0.2**

*ISCJB **30** 04:12:53.7±0.8,31.28S±0.03×69.00W±0.05,h108km±7km, Error ellipse: s-maj=7.1km s-min=5.5km az=177.9*
*SJA **30** 04:12:53.3±0.8,31.27S×68.98W,h105km±3km,ML3.6, MW3.7*
*GUC **30** 04:12:54.8±0.8,31.31S×69.22W,h39km±12km,ML3.3*
ISC 30 04:12:54.1±1.5,**31.29S**±0.04×**69.00W**±0.05, **h106**km±10km,**n18,σ0°94/29,1D,San Juan Province**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SJA	**San Juan**	**0.44**	**122**	*e*P	**Pn**	**04 13 10.5**	**+0.3**
SJA				*e*S	**Sn**	**04 13 22.5**	**+0.2**
RTLL	**Cerro Villicun**	**0.45**	**95**	*e*P	**Pn**	**04 13 09.8**	**-0.5**
RTLL				*e*S	**Sn**	**04 13 22.0**	**-0.4**
AMOG	**MOGNA**	**0.56**	**51**	*e*P	**Pn**	**04 13 10.9**	**-0.1**
AMOG				*e*S	**Sn**	**04 13 23.3**	**-0.4**
RTLS	**Leoncito**	**0.57**	**207**	*e*P	**Pn**	**04 13 11.5**	**+0.1**
RTLS				*e*S	**Sn**	**04 13 25.1**	**+0.8**
RTLS				IAML		04 13 26.0	
	comp=Z,2μm,0.2s						
RTCV	**Cerro Valdivia**	**0.69**	**146**	*e*P	**Pn**	**04 13 12.2**	**+0.1**
RTCV				*e*S	**Sn**	**04 13 25.4**	**-0.1**
AUSP	**Uspallata**	**0.98**	**200**	*e*P	**Pn**	**04 13 15.4**	**+0.3**
ASAL	**Salagasta**	**1.30**	**174**	*e*P	**Pn**	**04 13 19.2**	**+0.8**
ASAL				*e*S	**Sn**	**04 13 37.7**	**+0.9**
AVFE	**Valle Fertil**	**1.47**	**65**	*e*P	**Pn**	**04 13 20.1**	**+0.8**
AVFE				*e*S	**Sn**	**04 13 39.8**	**-0.5**
ARCO	**CERRO ARCO**	**1.54**	**178**	*e*P	**Pn**	**04 13 22.0**	**+0.6**
ARCO				IAML		04 13 46.0	
	comp=Z,485nm,0.2s						
ACAN	**Cantantal**	**1.83**	**123**	*e*P	**Pn**	**04 13 25.1**	**+0.3**
TLL	**Tololo Astrono**	**1.92**	**305**	*e*P	**Pn**	**04 13 25.7**	**-0.5**
TLL				*i* S	**Sn**	**04 13 50.1**	**-0.4**
TLL				IAML		04 13 51.2	
	comp=N,641nm,0.5s						
ACHE	**Chepes**	**2.00**	**87**	*e*P	**Pn**	**04 13 26.9**	**-0.2**
FCH	**Farellones**	**2.31**	**208**	*e*P	**Pn**	**04 13 32.5**	**+1.3**
FCH				IAML		04 14 09.4	
	comp=E,153nm,0.2s						
PEL	**Peldehue**	**2.33**	**217**	*e*P	**Pn**	**04 13 31.5**	**+0.2**
PEL				*i* S	**Sn**	**04 13 59.8**	**0.0**
PEL				IAML		04 14 01.6	
	comp=E,94nm,0.3s						
CLCH	**Cerro Calan**	**2.47**	**211**	*e*P	**Pn**	**04 13 31.3**	**-1.8**
CLCH				*i* S	**Sn**	**04 14 00.6**	**-2.3**
CLCH				IAML		04 14 06.5	
	comp=E,134nm,0.5s						
VCA	**Vinchina**	**2.64**	**15**	IAML		04 14 13.7	
	comp=E,309nm,0.4s						
LCO	**Las Campanas**	**2.71**	**327**	⇓*i*P	**Pn**	**04 13 35.7**	**-0.7**
LCO				*i* S	**Sn**	**04 14 07.9**	**-1.0**
LCO				IAML		04 14 11.3	
	comp=E,382nm,0.2s						
VACH	**Vallenar**	**3.11**	**330**	*e*P	**Pn**	**04 13 43.6**	**+2.1**
VACH				*i* S	**Sn**	**04 14 19.5**	**+1.5**

WEL 30 04:13:33.4±0.2,**44.99S**×**167.44E**,**h124**km±2km,**ML3.5**/11, **5C-3D,Error ellipse: s-maj=2.3km s-min=1.4km az=90.0, South Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSZ	**Milford Sound**	**0.47**	**48**	PN	Pn	04 13 51.7	+0.2
MSZ				SN	Sn	04 14 04.7	-0.5
MSZ				AML	AML	04 14 06.2	
MSZ				AML	AML	04 14 07.1	
MSZ				AML	AML	04 14 07.1	
DCZ	**Deep Cove**	**0.52**	**203**	PN	Pn	04 13 51.6	-0.2
DCZ				SN	Sn	04 14 05.1	-0.7
DCZ				AML	AML	04 14 05.3	
DCZ				AML	AML	04 14 05.4	
DCZ				AML	AML	04 14 05.5	
MLZ	**Mavora Lakes**	**0.61**	**129**	⇑PN	Pn	04 13 52.4	-0.1
MLZ				SN	Sn	04 14 06.2	-0.7
MLZ				AML	AML	04 14 07.7	
WHZ	**Wether Hill Ro**	**0.97**	**159**	PN	Pn	04 13 55.4	0.0
WHZ				SN	Sn	04 14 11.5	-0.7
WHZ				AML	AML	04 14 11.8	
WKZ	**Wanaka**	**1.13**	**82**	PN	Pn	04 13 57.1	+0.1
WKZ				AML	AML	04 14 16.0	
WKZ				AML	AML	04 14 16.2	
WKZ				AML	AML	04 14 16.2	
WKZ				AML	AML	04 14 17.3	
PYZ	**Puysegur Point**	**1.29**	**204**	⇑PN	Pn	04 13 58.7	0.0
PYZ				AML	AML	04 14 17.5	
PYZ				AML	AML	04 14 17.5	
PYZ				AML	AML	04 14 18.4	
PYZ				AML	AML	04 14 18.4	
JCZ	**Jackson Bay**	**1.32**	**47**	⇓PN	Pn	04 13 58.6	-0.6
JCZ				AML	AML	04 14 17.4	
JCZ				AML	AML	04 14 19.0	
EAZ	**Earnscleugh**	**1.34**	**101**	PN	Pn	04 13 59.0	-0.2
EAZ				AML	AML	04 14 17.7	
EAZ				AML	AML	04 14 17.9	
EAZ				AML	AML	04 16 07.6	
EAZ				AML	AML	04 20 32.6	
TUZ	**Tuapeka**	**1.82**	**123**	PN	Pn	04 14 04.5	-0.2
TUZ				AML	AML	04 14 27.7	
TUZ				AML	AML	04 14 27.7	
TUZ				AML	AML	04 14 28.0	
TUZ				AML	AML	04 14 28.0	
APZ	**The Paps**	**1.88**	**169**	⇑PN	Pn	04 14 05.2	-0.3
SYZ	**Scrubby Hill**	**1.95**	**143**	⇓PN	Pn	04 14 06.3	-0.1
SYZ				SN	Sn	04 14 29.5	-2.1
SYZ				AML	AML	04 14 31.9	
LBZ	**Lake Benmore**	**2.04**	**74**	⇓PN	Pn	04 14 06.0	-1.6
LBZ				SN	Sn	04 14 30.1	-3.6
LBZ				AML	AML	04 14 31.1	
FOZ	**Fox Glacier**	**2.24**	**50**	⇑PN	Pn	04 14 08.3	-1.7
ODZ	**Otahua Downs**	**2.27**	**93**	⇑PN	Pn	04 14 09.3	-1.1
WVZ	**Waitaha Valley**	**3.05**	**52**	PN	Pn	04 14 18.1	-2.2
INZ	**Inchbonnie**	**3.67**	**53**	PN	Pn	04 14 26.3	-2.2
OXZ	**Oxford**	**3.70**	**65**	PN	Pn	04 14 27.0	-2.0
DSZ	**Denniston Nort**	**4.54**	**46**	PN	Pn	04 14 37.9	-2.3

*NSSC **30** 04:27:18.5±1.5,40.17N×38.47E,h0km±106km,ML3.5*
*DDA **30** 04:27:23.9,39.63N×38.67E,h10km,Ml4.4*
*NEIC **30** 04:27:23.7±0.0,39.65N×38.68E,h5km,mb4.3/18, ML4.5(ISK),After ISK.*
*ISK **30** 04:27:23.6,39.65N×38.69E,h5km,ML4.4*
*ISCJB **30** 04:27:24.5±0.4,39.64N±0.01×38.64E±0.02,h1km±3km, mb4.2/47,MS3.4/15,Error ellipse: s-maj=2.2km s-min=2.0km az=0.0*
*CSEM **30** 04:27:25.6±0.1,39.63N×38.65E,h2km,mb4.3/33,Error ellipse: s-maj=2.6km s-min=2.2km az=20.0*
*MOS **30** 04:27:25.3±1.3,39.60N×38.56E,h10km,mb4.4/27,Error ellipse: s-maj=5.6km s-min=4.4km az=101.6*
*IDC **30** 04:27:25.8±0.6,39.81N×38.52E,h0km,mb4.0/21, mb1 4.1/29,mb1mx4.0/51,mbtmp4.0/29,ML3.9/8,MS3.4/22, Ms1 3.4/22,ms1mx3.3/49,Error ellipse: s-maj=13.2km s-min=8.1km az=167.0*
*DSN **30** 04:27:26.7±5.4,39.47N×38.49E,h7km,mb4.4/1,Error ellipse: s-maj=97.8km s-min=5.1km az=87.0*
ISC 30 04:27:26.7±0.6,**39.65N**±0.02×**38.67E**±0.01,**h8**km±4km, **n454,σ1°69/495,mb4.3/47,MS3.3/16,23C-13D,Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
REFA	**Refahiye_ERZ¯**	**0.27**	**164**	⇓*i*P	**Pg**	**04 27 30.1**	**-1.9**
REFA				*i* S	**Sg**	**04 27 34.9**	**-0.7**
REFA	**Refahiye_ERZ¯**	**0.27**	**164**	P	**Pg**	**04 27 30.1**	**-1.9**
REFA				S	**Sg**	**04 27 34.9**	**-0.7**
KEMA	**Kemaliye**	**0.41**	**199**	⇓*i*P	**Pg**	**04 27 32.4**	**-2.2**
KEMA				*i* S	**Sg**	**04 27 37.4**	**-2.6**
KEMA	**Kemaliye**	**0.41**	**199**	P	**Pg**	**04 27 32.4**	**-2.2**
KEMA				S	**Sg**	**04 27 37.4**	**-2.6**
EZC	**Erzincan**	**0.54**	**79**	P	**Pb**	**04 27 39.5**	**+1.0**
EZC	**Erzincan**	**0.54**	**79**	P	**Pb**	**04 27 39.5**	**+1.0**
EZC	**Erzincan**	**0.54**	**79**	*e*Pg	**Pn**	**04 27 40.2**	**-0.7**
SUSE	**Susehri**	**0.66**	**327**	⇓*i*P	**Pg**	**04 27 37.5**	**-1.9**
SUSE				*i* S	**Sg**	**04 27 47.4**	**-0.7**
SUSE	**Susehri**	**0.66**	**327**	P	**Pg**	**04 27 37.5**	**-1.9**
SUSE				S	**Sg**	**04 27 47.4**	**-0.7**
KELT	**Kelkit**	**0.67**	**42**	⇑*i*P	**Pg**	**04 27 37.1**	**-2.5**
KELT				*i* S	**Sg**	**04 27 46.9**	**-1.6**
KELT	**Kelkit**	**0.67**	**42**	P	**Pg**	**04 27 37.2**	**-2.5**
KELT				S	**Sg**	**04 27 46.9**	**-1.6**
CUZAR	**Zara_SIVAS**	**0.73**	**289**	⇑*i*P	**Pg**	**04 27 38.4**	**-2.4**
CUZAR				*i* S	**Sg**	**04 27 50.5**	**+0.2**
CUZAR	**Zara_SIVAS**	**0.73**	**289**	P	**Pg**	**04 27 38.4**	**-2.4**
CUZAR				S	**Sg**	**04 27 50.5**	**+0.2**
EUZM	**Uzumlu**	**0.80**	**86**	⇑*i*P	**Pg**	**04 27 39.6**	**-2.4**
EUZM				*i* S	**Sb**	**04 27 53.2**	**-0.7**
EUZM	**Uzumlu**	**0.80**	**86**	P	**Pg**	**04 27 39.6**	**-2.4**
EUZM				S	**Sb**	**04 27 53.2**	**-0.7**
ERZN	**Erzincan**	**0.82**	**94**	*e*PG	**Pg**	**04 27 40.2**	**-2.2**
ERZN				*e*SG	**Sg**	**04 27 52.3**	**-0.7**
ERZN	**Erzincan**	**0.82**	**94**	Pg	**Pg**	**04 27 39.6**	**-2.8**
ERZN	**Erzincan**	**0.82**	**94**	Pg	**Pg**	**04 27 39.6**	**-2.8**
TNCL	**Tunceli-Merkez**	**0.86**	**128**	⇑*i*P	**Pg**	**04 27 40.5**	**-2.8**
TNCL				*i* S	**Sg**	**04 27 51.7**	**-2.9**
TNCL	**Tunceli-Merkez**	**0.86**	**128**	P	**Pg**	**04 27 40.5**	**-2.8**
TNCL				S	**Sg**	**04 27 51.7**	**-2.9**
PTK	**Pertek**	**0.94**	**143**	*e*PG	**Pg**	**04 27 42.8**	**-2.1**
PTK				*e*SG	**Sg**	**04 27 56.7**	**-0.4**
PTK	**Pertek**	**0.94**	**143**	Pg	**Pg**	**04 27 43.5**	**-1.4**
PTK				*e*Sg	**Sg**	**04 27 56.7**	**-0.4**
PTK	**Pertek**	**0.94**	**143**	Pg	**Pg**	**04 27 43.5**	**-1.4**
CUKAN	**kangal_SIVAS**	**0.99**	**251**	⇑*i*P	**Pg**	**04 27 42.6**	**-3.1**
CUKAN				*i* S	**Sg**	**04 27 57.0**	**-1.5**
CUKAN	**kangal_SIVAS**	**0.99**	**251**	P	**Pg**	**04 27 42.6**	**-3.1**
CUKAN				S	**Sg**	**04 27 57.0**	**-1.5**
ELZG	**Elazig**	**1.18**	**168**	⇓*i*P	**Pg**	**04 27 46.0**	**-3.3**
ELZG				*i* S	**Sg**	**04 28 02.9**	**-1.7**
ELZG	**Elazig**	**1.18**	**168**	P	**Pg**	**04 27 46.0**	**-3.3**
ELZG				S	**Sg**	**04 28 02.9**	**-1.7**
SCER	**sogukcermik**	**1.21**	**280**	*i* P	**Pg**	**04 27 47.0**	**-2.8**
SCER				*i* S	**Sb**	**04 28 05.4**	**-0.3**
SCER	**sogukcermik**	**1.21**	**280**	P	**Pg**	**04 27 47.0**	**-2.8**
SCER				S	**Sb**	**04 28 05.4**	**-0.3**
RSDY	**Resadiye-TOKAT**	**1.27**	**306**	*e*PN	**Pn**	**04 27 49.1**	**-1.7**
RSDY	**Resadiye-TOKAT**	**1.27**	**306**	*e*Pn	**Pn**	**04 27 49.1**	**-1.7**
RSDY	**Resadiye-TOKAT**	**1.27**	**306**	Pn	**Pn**	**04 27 49.1**	**-1.7**
GRSN	**GIRESUNGRSN**	**1.31**	**347**	*i* P	**Pn**	**04 27 48.5**	**-2.8**
GRSN	**GIRESUNGRSN**	**1.31**	**347**	P	**Pn**	**04 27 48.5**	**-2.8**
SVSK	**Karacayir**	**1.31**	**282**	*e*PN	**Pn**	**04 27 50.2**	**-1.2**
SVSK	**Karacayir**	**1.31**	**282**	*e*Pn	**Pn**	**04 27 50.2**	**-1.2**
SVSK	**Karacayir**	**1.31**	**282**	Pn	**Pn**	**04 27 49.1**	**-2.2**
SVRC	**Sivrice-ELAZID**	**1.37**	**158**	*e*PN	**Pn**	**04 27 50.8**	**-1.5**
SVRC	**Sivrice-ELAZID**	**1.37**	**158**	*e*Pn	**Pn**	**04 27 50.8**	**-1.5**
SVRC	**Sivrice-ELAZID**	**1.37**	**158**	Pn	**Pn**	**04 27 49.2**	**-3.1**
DARE	**Darende-Malaty**	**1.42**	**221**	*e*PN	**Pn**	**04 27 51.5**	**-1.4**
DARE	**Darende-Malaty**	**1.42**	**221**	*e*Pn	**Pn**	**04 27 51.5**	**-1.4**
DARE	**Darende-Malaty**	**1.42**	**221**	Pn	**Pn**	**04 27 50.7**	**-2.2**
CUGUR	**Gurin_S¯VAS**	**1.43**	**230**	*i* P	**Pn**	**04 27 50.7**	**-2.4**
CUGUR				*i* S	**Sn**	**04 28 12.1**	**-0.1**
CUGUR	**Gurin_S¯VAS**	**1.43**	**230**	P	**Pn**	**04 27 50.7**	**-2.4**
CUGUR				S	**Sn**	**04 28 12.1**	**-0.1**
KOPT	**Kop Dagi**	**1.46**	**75**	*i* P	**Pn**	**04 27 52.0**	**-1.6**
KOPT	**Kop Dagi**	**1.46**	**75**	*e*Pn	**Pn**	**04 27 52.2**	**-1.4**
KOPT	**Kop Dagi**	**1.46**	**75**	*e*Pn	**Pn**	**04 27 52.2**	**-1.4**
YEDI	**Yedisu-Bingol**	**1.47**	**98**	*e*PN	**Pn**	**04 27 51.8**	**-1.9**
YEDI	**Yedisu-Bingol**	**1.47**	**98**	*e*Pn	**Pn**	**04 27 51.8**	**-1.9**
ORDU	**Ordu-Boztepe**	**1.47**	**335**	⇓*i*P	**Pn**	**04 27 51.7**	**-1.9**
ORDU				*i* S	**Sn**	**04 28 11.4**	**-1.8**
ORDU	**Ordu-Boztepe**	**1.47**	**335**	P	**Pn**	**04 27 51.7**	**-1.9**
ORDU				S	**Sn**	**04 28 11.4**	**-1.8**
CUALT	**Altinyayla-SIV**	**1.53**	**256**	*i* P	**Pn**	**04 27 52.5**	**-2.0**
CUALT				*i* S	**Sg**	**04 28 15.5**	**-0.2**
CUALT	**Altinyayla-SIV**	**1.53**	**256**	P	**Pn**	**04 27 52.5**	**-2.0**
CUALT				S	**Sg**	**04 28 15.5**	**-0.2**
MACK	**Trabzon**	**1.54**	**33**	*i* P	**Pn**	**04 27 52.8**	**-1.7**
MACK				*i* S	**Sn**	**04 28 13.4**	**-1.4**
MACK	**Trabzon**	**1.54**	**33**	P	**Pn**	**04 27 52.8**	**-1.7**
MACK				S	**Sn**	**04 28 13.4**	**-1.4**
KTUT	**Trabzon**	**1.58**	**32**	*e*PN	**Pn**	**04 27 53.8**	**-1.2**
KTUT	**Trabzon**	**1.58**	**32**	Pn	**Pn**	**04 27 53.9**	**-1.1**
KTUT	**Trabzon**	**1.58**	**32**	Pn	**Pn**	**04 27 53.9**	**-1.1**
BINT	**Bingol**	**1.61**	**118**	P	**Pn**	**04 27 55.5**	**-0.2**
BINT	**Bingol**	**1.61**	**118**	*e*Pn	**Pn**	**04 27 55.4**	**-0.2**
BNGB	**Bing¶ll**	**1.69**	**112**	*e*PN	**Pn**	**04 27 55.4**	**-1.4**
BNGB	**Bing¶ll**	**1.69**	**112**	Pn	**Pn**	**04 27 55.5**	**-1.2**
BNGB	**Bing¶ll**	**1.69**	**112**	Pn	**Pn**	**04 27 55.5**	**-1.2**
ECAT	**Cat-ERZURUM**	**1.78**	**91**	*i* P	**Pn**	**04 27 57.2**	**-0.8**
ECAT	**Cat-ERZURUM**	**1.78**	**91**	P	**Pn**	**04 27 57.2**	**-0.8**
TOKA	**Tokat**	**1.81**	**292**	*i* P	**Pn**	**04 27 57.7**	**-0.6**
TOKA				*i* S	**Sn**	**04 28 21.8**	**+0.3**
TOKA	**Tokat**	**1.81**	**292**	*e*Pn	**Pn**	**04 27 56.8**	**-1.5**
TOKA	**Tokat**	**1.81**	**292**	P	**Pn**	**04 27 57.7**	**-0.6**
TOKA				S	**Sn**	**04 28 21.8**	**+0.3**
TOKA	**Tokat**	**1.81**	**292**	*e*Pn	**Pn**	**04 27 56.8**	**-1.5**
CUSAR	**Sarkisla-SIVAS**	**1.89**	**264**	*i* P	**Pn**	**04 27 58.6**	**-0.8**
CUSAR				*i* S	**Sg**	**04 28 27.9**	**+0.5**
CUSAR	**Sarkisla-SIVAS**	**1.89**	**264**	P	**Pn**	**04 27 58.6**	**-0.8**
BNGL	**BINGOL**	**2.05**	**109**	*i* P	**Pn**	**04 28 01.3**	**-0.4**
DIYA	**Diyarbakir**	**2.07**	**146**	*i* P	**Pn**	**04 28 01.4**	**-0.4**
DIYA	**Diyarbakir**	**2.07**	**146**	P	**Pn**	**04 28 01.4**	**-0.4**
ERZM	**Erzurum**	**2.09**	**82**	*i* P	**Pn**	**04 28 02.6**	**+0.2**
ERZM	**Erzurum**	**2.09**	**82**	P	**Pn**	**04 28 02.6**	**+0.2**
SARI	**SarD1z-Kayseri**	**2.15**	**235**	*e*PN	**Pn**	**04 28 02.1**	**-0.9**
ATAB	**Bozova**	**2.20**	**188**	*i* P	**Pn**	**04 28 04.6**	**+1.0**
ATAB	**Bozova**	**2.20**	**188**	P	**Pn**	**04 28 04.6**	**+1.0**
URFA	**Urfa**	**2.21**	**177**	*e*PN	**Pn**	**04 28 03.0**	**-0.8**
URFA	**Urfa**	**2.21**	**177**	*e*PN	**Pn**	**04 28 03.0**	**-0.8**
URFA	**Urfa**	**2.21**	**177**	Pn	**Pn**	**04 28 03.0**	**-0.8**
VRTB	**Varto-Mus**	**2.21**	**102**	*e*PN	**Pn**	**04 28 02.8**	**-1.2**
VRTB	**Varto-Mus**	**2.21**	**102**	*i* P	**Pb**	**04 28 06.5**	**-0.6**
VRTB	**Varto-Mus**	**2.21**	**102**	*e*Pn	**Pn**	**04 28 02.8**	**-1.2**
BNN	**Bunyan**	**2.33**	**251**	*e*PN	**Pn**	**04 28 05.0**	**-0.5**
BNN	**Bunyan**	**2.33**	**251**	*e*Pn	**Pn**	**04 28 05.0**	**-0.5**
BNN	**Bunyan**	**2.33**	**251**	Pn	**Pn**	**04 28 05.0**	**-0.5**
KVT	**Kavak**	**2.46**	**306**	*e*PN	**Pn**	**04 28 06.7**	**-0.5**
KVT	**Kavak**	**2.46**	**306**	P	**Pn**	**04 28 06.6**	**-0.5**
KVT	**Kavak**	**2.46**	**306**	*e*Pn	**Pn**	**04 28 06.7**	**-0.5**
SVAN	**Silvan-Diyarba**	**2.48**	**126**	*e*PN	**Pn**	**04 28 06.9**	**-0.6**
SVAN	**Silvan-Diyarba**	**2.48**	**126**	*i* P	**Pn**	**04 28 07.5**	**0.0**
SVAN	**Silvan-Diyarba**	**2.48**	**126**	*e*Pn	**Pn**	**04 28 06.9**	**-0.6**
SVAN	**Silvan-Diyarba**	**2.48**	**126**	P	**Pn**	**04 28 07.5**	**0.0**
HOMI	**Horasan**	**2.52**	**80**	*i* P	**Pn**	**04 28 07.9**	**-0.3**
SAMS	**Samsun-Alacam**	**2.55**	**313**	*i* P	**Pn**	**04 28 08.3**	**-0.1**
SAMS	**Samsun-Alacam**	**2.55**	**313**	P	**Pn**	**04 28 08.3**	**-0.1**
KMRS	**Kahramanmaras**	**2.55**	**213**	*e*PN	**Pn**	**04 28 07.9**	**-0.6**
KMRS	**Kahramanmaras**	**2.55**	**213**	*e*Pn	**Pn**	**04 28 07.9**	**-0.6**
KMRS	**Kahramanmaras**	**2.55**	**213**	Pn	**Pn**	**04 28 07.9**	**-0.6**
MAZI	**Mazidag**	**2.60**	**147**	*e*PN	**Pn**	**04 28 08.3**	**-0.8**
MAZI	**Mazidag**	**2.60**	**147**	*e*Pn	**Pn**	**04 28 08.3**	**-0.8**
EKAR	**Karacoban**	**2.66**	**97**	*i* P	**Pb**	**04 28 14.4**	**-0.3**
DDEM	**Demirkent**	**2.66**	**61**	*i* P	**Pb**	**04 28 10.4**	**+0.3**
DDEM	**Demirkent**	**2.66**	**61**	P	**Pb**	**04 28 10.4**	**+0.3**
HAVZ	**Havza**	**2.66**	**303**	*i* P	**Pn**	**04 28 09.4**	**-0.6**
HAVZ				*i* S	**Sb**	**04 28 48.4**	**+0.8**
HAVZ	**Havza**	**2.66**	**303**	P	**Pn**	**04 28 09.4**	**-0.6**
HCB	**Kahramanmara¯**	**2.69**	**211**	*i* P	**Pn**	**04 28 08.8**	**-1.5**
BTMN	**Batman**	**2.69**	**130**	*i* P	**Pn**	**04 28 11.2**	**+0.7**
BTMN				*i* S	**Sb**	**04 28 50.5**	**+2.2**
BTMN	**Batman**	**2.69**	**130**	P	**Pn**	**04 28 11.1**	**+0.7**
GAZ	**Gaziantep**	**2.73**	**205**	*e*PN	**Pn**	**04 28 10.6**	**-0.3**
GAZ	**Gaziantep**	**2.73**	**205**	*e*Pn	**Pn**	**04 28 10.6**	**-0.3**
GAZ	**Gaziantep**	**2.73**	**205**	Pn	**Pn**	**04 28 10.6**	**-0.3**
ANDN	**Andirin**	**2.75**	**222**	*i* P	**Pn**	**04 28 10.6**	**-0.7**
ANDN	**Andirin**	**2.75**	**222**	P	**Pn**	**04 28 10.6**	**-0.7**
SURC	**SANLIURFA_SURC**	**2.77**	**181**	*i* P	**Pn**	**04 28 10.9**	**-0.5**
SURC	**SANLIURFA_SURC**	**2.77**	**181**	P	**Pn**	**04 28 10.9**	**-0.5**
DBOC	**Borcka**	**2.84**	**53**	*i* P	**Pn**	**04 28 12.4**	**-0.1**
DBOC	**Borcka**	**2.84**	**53**	P	**Pn**	**04 28 12.4**	**-0.1**
DAGI	**Agillar**	**2.86**	**59**	*i* P	**Pn**	**04 28 13.3**	**+0.5**
DAGI				*i* S	**Sb**	**04 28 54.7**	**+1.4**
MARD	**Mardin**	**2.86**	**144**	*i* P	**Pn**	**04 28 12.1**	**-0.6**
MARD	**Mardin**	**2.86**	**144**	*e*Pn	**Pn**	**04 28 12.2**	**-0.6**
MARD	**Mardin**	**2.86**	**144**	*e*Pn	**Pn**	**04 28 12.2**	**-0.6**
COAL	**Corum-Alaca**	**2.89**	**283**	*i* P	**Pn**	**04 28 14.8**	**+1.6**
COAL	**Corum-Alaca**	**2.89**	**283**	P	**Pn**	**04 28 14.8**	**+1.6**
ARTV	**Artvin**	**2.92**	**57**	*i* P	**Pn**	**04 28 13.7**	**0.0**
ARTV	**Artvin**	**2.92**	**57**	P	**Pn**	**04 28 13.7**	**0

KIV	Kislovodsk	5.24	34	*e*Pn		Pn	04 28 46.1	+0.6	
KIV	Kislovodsk	5.24	34	P		Pn	04 28 48.7	+3.2	
KIV	Kislovodsk	5.24	34	*e*Pn		Pn	04 28 46.1	+0.6	
KVAR	Kislovodsk Arr	5.25	34	Pn		Pn	04 28 45.6	+0.1	
	baz=166,slow=5.9,SNR=6.3								
KVAR				LR		LR	04 30 57.5		
	comp=Z,484nm,18.1s,baz=208,slow=41								
LACR	Lac	5.30	51	*e*P		Pn	04 28 49.9	+3.6	
LACR	Lac	5.30	51	*e*P		Pn	04 28 49.9	+3.6	
NCK	Nalchik	5.33	42	⇓*e*P		Pn	04 28 48.8	+2.2	
NCK	Nalchik	5.33	42	*e*P		Pn	04 28 48.8	+2.2	
DGRG	David-gareji	5.41	68	P		Pg	04 29 07.4	-3.0	
HAWK	Haweek	5.43	200	*e*P		Pn	04 28 46.6	-1.5	
HAWK	Haweek	5.43	200	*e*P		Pn	04 28 46.6	-1.5	
	SNR=45								
ARNR	Ardon	5.50	48	*e*P		Pn	04 28 52.4	+3.5	
MARH	Ras Al Marh	5.88	198	*e*P		Pn	04 28 54.8	+0.3	
MARH	Ras Al Marh	5.88	198	*e*P		Pn	04 28 54.8	+0.3	
	SNR=45								
YAL	Yalta	5.88	327	*e*P		Pn	04 28 55.0	+0.8	
YAL				*e*			04 30 10.5		
YAL	Yalta	5.88	327	*e*P		Pn	04 28 55.0	+0.8	
SUDU	Sudak	5.90	334	*e*P		Pn	04 28 54.3	-0.1	
SUDU				*e*			04 30 04.0		
SUDU	Sudak	5.90	334	*e*P		Pn	04 28 54.3	-0.1	
SUDU				*e*S		Sn	04 30 04.0	+1.9	
SEV	Sevastopol'	6.14	324	*e*P		Pn	04 28 55.9	-1.8	
SEV				*e*S		Sn	04 30 15.8	+7.7	
SEV	Sevastopol'	6.14	324	*e*P		Pn	04 28 55.9	-1.8	
SIM	Simferopol'	6.28	329	P		Pn	04 29 05.3	+5.7	
SIM				*e*S		Sn	04 30 20.0	+8.5	
SIM				pmax		pmax			
	comp=Z,26nm,1.3s								
SIM				smax		smax			
	comp=N,23nm,1.0s								
GOF	Gofitskoye	6.30	30⇑	*e*P		Pn	04 29 01.8	+1.9	
GOF				pmax		pmax			
	comp=Z,36nm,0.9s								
GOF	Gofitskoye	6.30	30	*e*P		Pn	04 29 01.8	+1.9	
	comp=Z,36nm,0.9s								
CSS	Mathiatis	6.32	224	*e*Pn		Pn	04 28 56.3	-4.0	
GROC	Groznyy	6.42	54	*e*P		Pn	04 29 04.9	+3.3	
BRBR	Barbar	6.60	200	*e*P		Pn	04 29 03.4	-0.9	
BRBR				AML		AML	04 29 35.4		
	comp=N,41nm,0.7s								
BRBR				AML		AML	04 29 35.8		
	comp=E,93nm,0.7s								
BRBR	Barbar	6.60	200	*e*P		Pn	04 29 03.4	-0.9	
	SNR=45								
MMAI	Mount Meron Ar	7.13	203	Pn		Pn	04 29 11.9	+0.6	
	comp=E,4.0nm,0.3s,baz=48,slow=14,SNR=5.2								
MMAI				LR		LR	04 31 53.6		
	comp=E,206nm,18.9s,baz=30,slow=37								
ASF	Jabal al Asfar	7.60	191	Pn		Pn	04 29 18.1	+0.2	
	comp=E,0.5nm,0.3s,baz=317,slow=7.9,SNR=8.6								
ASF				Pg		Pg	04 29 46.8	-5.4	
	comp=E,1.0nm,0.3s,baz=327,slow=15,SNR=4.7								
BHD	Baghdad	7.86	142	*e*Pn		Pn	04 29 18.5	-2.8	
	SNR=2.0								
BHD				*e*Sn		Sn	04 30 48.0	-2.4	
	SNR=2.0								
TLB	Topalu	9.30	305⇑	*i*P		Pn	04 29 39.9	-1.2	
TLB	Topalu	9.30	305	⇑P		Pn	04 29 39.9	-1.2	
TLB	Topalu	9.30	305	P		Pn	04 29 39.9	-1.2	
CFR	Carcaliu	9.54	309	⇑*i*P		Pn	04 29 40.7	-3.7	
CFR	Carcaliu	9.54	309	⇑P		Pn	04 29 40.7	-3.7	
VRI	Vrincioaia	10.75	309	⇑*i*P		Pn	04 30 05.6	+4.7	
VRI	Vrincioaia	10.75	309	⇑P		Pn	04 30 05.6	+4.7	
PLOR	Plostina	10.79	309	⇑*i*P		Pn	04 30 02.5	+1.1	
PLOR	Plostina	10.79	309	⇑P		Pn	04 30 02.6	+1.1	
PLOR	Plostina	10.79	309	P		Pn	04 30 02.6	+1.1	
MLR	Muntele Rosu	11.04	306	LR		LR	04 35 03.2		
	comp=E,71nm,21.0s,baz=136,slow=42								
SORM	Soroca	11.27	322	⇑*i*P		Pn	04 30 03.4	-4.6	
SORM	Soroca	11.27	322	⇑P		Pn	04 30 03.4	-4.6	
VSR	Storozhevoye	11.57	2	*e*P		Pn	04 30 09.0	-3.1	
VSR				pmax		pmax			
	comp=Z,10.0nm,0.5s								
VOIR		11.58	304⇑	*i*P		Pn	04 30 13.2	+0.8	
VOIR		11.58	304	⇑P		Pn	04 30 13.2	+0.8	
VOIR		11.58	304	P		Pn	04 30 13.2	+0.8	
BURAR	Bucovina Array	12.57	314⇑	*i*P		Pn	04 30 29.4	+3.5	
BURAR	Bucovina Array	12.57	314	⇑P		Pn	04 30 29.4	+3.5	
BUR08	Bucovina Ar. S	12.59	314	*e*Pn		Pn	04 30 26.6	+0.4	
BUR08	Bucovina Ar. S	12.59	314	*e*Pn		Pn	04 30 26.6	+0.4	
AKASG	Malin Array Be	12.89	332	Pn		Pn	04 30 25.2	-4.9	
	comp=Z,2.2nm,0.3s,baz=136,slow=14,SNR=12								
AKASG	Malin Array Be	12.89	332	*i*P		Pn	04 30 27.3	-2.8	
AKASG				pmax		pmax			
	comp=Z,2.0nm,0.4s								
AKBB	Malin Array Si	12.89	332	*e*P		Pn	04 30 28.9	-1.2	
AKBB	Malin Array Si	12.89	332	*e*P		Pn	04 30 28.9	-1.2	
AKBB	Malin Array Si	12.89	332	*e*Pn		Pn	04 30 28.9	-1.2	
KIEV	Kiev	12.89	332	⇑*e*P		Pn	04 30 28.1	-2.0	
KIEV	Kiev	12.89	332	*e*Pn		Pn	04 30 27.5	-2.6	
KIEV	Kiev	12.89	332	*e*P		Pn	04 30 28.1	-2.0	
KIEV	Kiev	12.89	332	*e*Pn		Pn	04 30 27.5	-2.6	
LPSR	Galich'ya Gora	12.95	1	*e*P		Pn	04 30 27.8	-3.2	
LPSR				pmax		pmax			
	comp=Z,40nm,0.8s								
GEYT	Alibeck	15.27	90	Pn		Pn	04 31 03.5	+0.9	
	comp=Z,0.5nm,0.3s,baz=297,slow=19,SNR=2.7								
GEYT				LR		LR	04 38 50.2		
	comp=Z,87nm,19.8s,baz=275,slow=44								
CRVS	Cervenica-Dubn	15.38	313	*e*P		P	04 31 09.1	+0.4	
CRVS	Cervenica-Dubn	15.38	313	*e*P		P	04 31 09.1	+0.4	
CRVS	Cervenica-Dubn	15.38	313	*e*P		P	04 31 09.1	+0.4	
OBN	Obninsk	15.53	355	LR		LR	04 38 51.3		
	comp=Z,114nm,18.6s,baz=91,slow=45								
OBN	Obninsk	15.53	355⇓	*e*P		Pn	04 31 05.4	-0.5	
OBN				pmax		pmax			
	comp=Z,18nm,0.9s								
OBN				MLR		MLR			
	comp=Z,122nm,17.0s								
KECS	Kecovo	15.74	310	*e*P		P	04 31 13.9	+1.2	
KECS				pmax		pmax			
	comp=Z,4.0nm,1.3s								
KECS	Kecovo	15.74	310	*e*P		P	04 31 13.9	+1.2	
	comp=Z,4.0nm,1.3s								
KECS	Kecovo	15.74	310	*e*P		P	04 31 13.9	+1.2	
STHS	Stebnicka Huta	15.77	314	*e*P		P	04 31 13.8	+0.8	
STHS				pmax		pmax			
	comp=Z,10.0nm,1.2s								
STHS	Stebnicka Huta	15.77	314	*e*P		P	04 31 13.8	+0.8	
	comp=Z,10.0nm,1.2s								
STHS	Stebnicka Huta	15.77	314	*e*P		P	04 31 13.8	+0.8	
PSZ	Piszkesteto	15.85	308	*e*P		Pn	04 31 09.4	-0.7	
PSZ	Piszkesteto	15.85	308	*e*Pn		Pn	04 31 09.4	-0.7	
PSZ	Piszkesteto	15.85	308	*e*Pn		Pn	04 31 09.4	-0.7	
MOS	Moscow	16.11	358	*e*P		Pn	04 31 09.4	-4.0	
NIE	Niedzica	16.30	313	P		P	04 31 20.5	+1.6	
LANS	Liptovska Anna	16.64	311	*e*P		P	04 31 24.5	+1.7	
LANS	Liptovska Anna	16.64	311	*e*P		P	04 31 24.5	+1.7	
LANS	Liptovska Anna	16.64	311	*e*P		P	04 31 24.5	+1.7	
VYHS	Vyhne	16.73	308	*e*P		P	04 31 25.3	+1.6	
VYHS				pmax		pmax			
	comp=Z,52nm,3.1s								
VYHS	Vyhne	16.73	308	*e*P		P	04 31 25.3	+1.6	
	comp=Z,52nm,3.1s								
VYHS	Vyhne	16.73	308	*e*P		P	04 31 25.3	+1.6	
OJC	Ojcow	16.98	315	P		P	04 31 27.8	+1.3	
OJC	Ojcow	16.98	315	P		P	04 31 27.8	+1.3	
AKTK	Aktyubinsk	17.36	45	P		P	04 31 31.2	+0.6	
	comp=Z,56nm,19.8s								
AKTO	Aktyubinsk	17.36	45	P		P	04 31 31.2	+0.6	
	comp=Z,0.2nm,0.3s,baz=244,slow=10,SNR=7.6								
AKTO				LR		LR	04 40 10.6		
	comp=Z,56nm,19.8s,baz=229,slow=44								
CEL	Celeste	17.76	273	*e*Pn		Pn	04 31 32.4	-2.0	
CEL	Celeste	17.76	273	*e*Pn		Pn	04 31 32.4	-2.0	
SUW	Suwalki	17.79	329	P		P	04 31 37.0	+1.7	
SUW	Suwalki	17.79	329	P		P	04 31 37.0	+1.7	
ABKAR	Akbulak array	17.91	51	*e*Pn		Pn	04 31 34.9	-1.2	
	comp=Z,4.3nm,0.9s								
ABKAR	Akbulak array	17.91	51	*e*Pn		Pn	04 31 34.9	-1.2	
	comp=Z,4.3nm,0.9s								
MORC	Moravsky Berou	18.05	311	*e*P		Pn	04 31 37.6	-0.2	
MORC				pmax		pmax			
	comp=Z,11nm,0.7s								
MORC	Moravsky Berou	18.05	311	*e*P		Pn	04 31 37.6	-0.2	
	comp=Z,11nm,0.7s								
MORC	Moravsky Berou	18.05	311	*e*Pn		Pn	04 31 37.6	-0.2	
	comp=Z,10nm,0.7s								
CONA	Conrad Observa	18.38	304	*e*P		P	04 31 44.1	+2.1	
	comp=Z,7.5nm,1.2s								
CONA	Conrad Observa	18.38	304	P		P	04 31 44.1	+2.1	
	comp=Z,7.5nm,1.2s								
VRAC	Vranov	18.41	309	LR		LR	04 40 11.1		
	comp=Z,128nm,18.2s,baz=128,slow=42								
KRLC	Kraliky	18.62	311	*e*P		Pn	04 31 45.1	+0.3	
KRLC	Kraliky	18.62	311	*e*P		Pn	04 31 45.1	+0.3	
KRLC	Kraliky	18.62	311	*e*P		Pn	04 31 45.1	+0.3	
DPC	Dobruska-Polom	19.01	312	*e*P		Pn	04 31 50.9	+1.4	
DPC				*e*pP		sP	04 31 57.1	+5.2	
DPC				*ex*		x	04 32 04.3		
DPC	Dobruska-Polom	19.01	312	*e*P		Pn	04 31 50.9	+1.4	
DPC	Dobruska-Polom	19.01	312	*e*P		Pn	04 31 50.9	+1.4	
AQU	L'Aquila	19.24	286	*e*P		P	04 31 50.5	-1.0	
AQU				pmax		pmax			
	comp=Z,44nm,1.2s								
AQU	L'Aquila	19.24	286	*e*P		P	04 31 50.5	-1.0	
	comp=Z,44nm,1.2s								
AQU	L'Aquila	19.24	286	*e*P		P	04 31 50.5	-1.0	
	comp=Z,44nm,1.2s								
MOA	Molln	19.38	303	P		Pn	04 31 56.9	+2.9	
	comp=Z,7.7nm,0.8s								
KBA	Koelnbreinsper	19.79	300	*i* P		Pn	04 32 03.3	+4.2	
	comp=Z,5.3nm,0.6s								
PRU	Pruhonice	19.91	309	*e*P		P	04 31 59.1	+0.5	
PRU				AMS		AMS	04 41 20.0		
	comp=Z,200nm,17.6s								
PRU	Pruhonice	19.91	309	*e*P		P	04 31 59.1	+0.5	
PRU				MLR		MLR			
	comp=Z,200nm,17.6s								
PRU	Pruhonice	19.91	309	*e*P		P	04 31 59.1	+0.5	
	comp=Z,200nm,17.6s								
GEA0	GERESS Array S	20.03	305	*e*P		P	04 32 00.2	+0.2	
GEA0	GERESS Array S	20.03	305	*e*P		P	04 32 00.2	+0.2	
GEC2	GERESS Array S	20.03	306	*e*P		P	04 32 00.2	+0.1	
GEC2				pmax		pmax			
	comp=Z,4.0nm,0.9s								
GEC2	GERESS Array S	20.03	306	*e*P		P	04 32 00.2	+0.1	
	comp=Z,4.3nm,0.9s								
GEC2	GERESS Array S	20.03	306	*e*P		P	04 32 00.2	+0.1	
	comp=Z,4.3nm,0.9s								
GERES	GERESS Array B	20.03	306	P		P	04 31 59.7	-0.4	
	comp=Z,0.2nm,0.3s,baz=106,slow=9.8,SNR=12								
GERES				LR		LR	04 40 20.4		
	comp=Z,136nm,18.2s,baz=108,slow=39								
BANOM	Banah	20.13	128	P		P	04 32 01.5	+0.3	
BANOM	Banah	20.13	128	P		P	04 32 01.5	+0.3	
KHC	Kasperske Hory	20.20	306	*e*P		P	04 32 01.8	0.0	
KHC				*e*pP		sP	04 32 05.4	+0.4	
KHC				*ex*		x	04 32 10.5		
KHC	Kasperske Hory	20.20	306	*e*P		P	04 32 00.2	-1.6	
KHC				pmax		pmax			
	comp=Z,3.0nm,1.1s								
KHC	Kasperske Hory	20.20	306	*e*P		P	04 32 00.2	-1.6	
	comp=Z,3.0nm,1.1s								
KHC	Kasperske Hory	20.20	306	*e*P		P	04 32 00.2	-1.6	
	comp=Z,3.3nm,1.1s								
VSU	Vasula	20.33	342⇓	*e*P		P	04 32 03.2	+0.2	
VSU				pmax		pmax			
	comp=Z,35nm,0.8s								
VSU	Vasula	20.33	342	*e*P		P	04 32 03.2	+0.2	
	comp=Z,35nm,0.8s								
NAZ	Nazwa, Dubai	20.44	131	*i* P		P	04 32 05.1	+0.5	
	SNR=7.5								
NAZ	Nazwa, Dubai	20.44	131	P		P	04 32 05.1	+0.5	
	SNR=7.5								
FAQ	Al Faqa, Dubai	20.59	131	P		P	04 32 06.9	+0.7	
FAQ	Al Faqa, Dubai	20.59	131	P		P	04 32 06.9	+0.7	
BRG	Berggiesshubel	20.60	311	*e*P		P	04 32 07.0	+0.8	
	comp=Z,7.0nm,1.0s								
BRG	Berggiesshubel	20.60	311	*e*P		P	04 32 07.0	+0.8	
BRG				pmax		pmax			
	comp=Z,7.0nm,1.0s								
BRG	Berggiesshubel	20.60	311	*e*P		P	04 32 07.0	+0.8	
	comp=Z,7.0nm,1.0s								
UOSS	Minazif	20.80	130	P		P	04 32 08.0	-0.4	
UOSS	Minazif	20.80	130	*e*P		P	04 32 08.6	+0.2	
	comp=Z,14nm,0.8s								
HATD	Hatta, Dubai	20.84	130	P		P	04 32 08.8	-0.1	
HATD	Hatta, Dubai	20.84	130	P		P	04 32 08.8	-0.1	
ASHO	Ashiyiah	20.91	130	*i* P		P	04 32 09.3	-0.4	
	SNR=8.5								
ASHO	Ashiyiah	20.91	130	P		P	04 32 09.3	-0.4	
	SNR=8.5								
KLMR	Klimovskoe	21.23	1	*e*P		P	04 32 09.2	-3.6	
KLMR				pmax		pmax			
	comp=Z,18nm,1.3s								
NKC	Novy Kostel	21.25	308	*e*P		P	04 32 13.4	+0.2	
NKC	Novy Kostel	21.25	308	*e*P		P	04 32 13.4	+0.2	
NKC	Novy Kostel	21.25	308	*e*P		P	04 32 13.4	+0.2	
ARU	Arti	21.29	31	P		P	04 32 12.7	-0.8	
	comp=Z,4.0nm,0.3s,baz=225,slow=6.8,SNR=10.0								
ARU	Arti	21.29	31	*d i*P		P	04 32 12.1	-1.4	
ARU							04 32 31.9		
ARU				S		S	04 36 08.7	-1.2	
ARU				pmax		pmax			
	comp=Z,11nm,0.8s								
ARU	Arti	21.29	31	*i* P		P	04 32 12.1	-1.4	
	comp=Z,11nm,0.8s								
ARU	Arti	21.29	31	*e*P		P	04 32 12.0	-1.5	
	comp=Z,14nm,0.8s								
CLL	Collm	21.32	312	*e*P		P	04 32 14.0	+0.1	
CLL				pmax		pmax			
	comp=Z,19nm,1.2s								
CLL	Collm	21.32	312	*e*P		P	04 32 14.0	+0.1	
	comp=Z,19nm,1.2s								
CLL	Collm	21.32	312	*i* (P)		P	04 32 13.6	-0.3	
	comp=Z,22nm,1.2s								
CLL				*i*			04 32 17.4		
CLL				*e*			04 32 22.0		
CLL				*e*PP		PnPn	04 32 31.0	-2.4	
CLL				Lm		MLR	04 41 00.0		
	comp=Z,100nm,19.5s								
CLL	Collm	21.32	312	*e*P		P	04 32 14.0	+0.1	
	comp=Z,19nm,1.2s								
MOTA	Moosalm	21.34	300	*i* P		P	04 32 15.4	+1.1	
	comp=Z,15nm,0.8s								
MOTA	Moosalm	21.34	300	P		P	04 32 15.4	+1.1	
	comp=Z,15nm,0.8s								
VLC	Villacollemand	21.47	291	*e*P		P	04 32 14.6	-1.0	
	comp=Z,9.4nm,0.9s								
VLC	Villacollemand	21.47	291	*e*P		P	04 32 14.7	-1.0	
	comp=Z,9.4nm,0.9s								
FETA	Feichten	21.54	299	*i* P		P	04 32 17.7	+1.3	
	comp=Z,9.2nm,1.1s								
FETA	Feichten	21.54	299	P		P	04 32 17.7	+1.3	
	comp=Z,9.2nm,1.1s								
FUORN	Ofenpass-Fuorn	21.79	298	*e*P		P	04 32 18.0	-1.3	
	comp=Z,9.1nm,0.9s								
FUORN	Ofenpass-Fuorn	21.79	298	*e*P		P	04 32 18.0	-1.3	
	comp=Z,9.1nm,0.9s								
DAVOX	Davos/Dischmat	22.07	298	P		P	04 32 22.2	0.0	
	comp=Z,3.7nm,0.7s,baz=58,slow=3.6,SNR=6.4								
DAVOX				LR		LR	04 42 40.8		
	comp=Z,78nm,18.4s,baz=83,slow=42								
SVE	Sverdlovsk	22.40	33⇑	*e*P		P	04 32 24.9	-0.6	
SVE				pmax		pmax			
	comp=Z,30nm,0.9s								
SVE	Sverdlovsk	22.40	33	*e*P		P	04 32 24.9	-0.6	
	comp=Z,30nm,0.9s								
SOKR	Solikamsk	23.01	24⇑	*i*P		P	04 32 41.5	+10	
SOKR				pmax		pmax			
	comp=Z,20nm,1.5s								
FIA1	FINESS Array S	23.16	345	*e*P		P	04 32 34.4	+1.1	
FIA1	FINESS Array S	23.16	345	*e*P		P	04 32 34.4	+1.1	
FINES	FINESS Array B	23.16	345	P		P	04 32 32.6	-0.7	
	comp=Z,2.3nm,0.6s,baz=163,slow=10,SNR=3.4								
FINES				LR		LR	04 43 12.0		
	comp=Z,99nm,18.5s,baz=124,slow=41								
KEST	Kesra	23.48	270	P		P	04 32 37.4	+0.5	
	comp=Z,3.6nm,0.8s,baz=90,slow=8.1,SNR=3.1								
WSAR	Wadi Sarin	23.53	128	P		P	04 32 41.0	+3.5	
	comp=Z,4.7nm,1.0s,baz=317,slow=9.6,SNR=3.8								
WSAR				LR		LR	04 43 07.4		
	comp=Z,231nm,19.9s,baz=344,slow=40								
SENIN	Lac Senin/Sane	23.79	297	*e*P		P	04 32 39.0	-1.0	
	comp=Z,50nm,1.9s								
SENIN	Lac Senin/Sane	23.79	297	*e*P		P	04 32 39.0	-1.0	
	comp=Z,50nm,1.9s								
KKAR	Karatay Array	24.07	71	*e*P		P	04 32 43.3	+0.8	
KKAR				pmax		pmax			
	comp=Z,40nm,0.9s								
KKAR	Karatay Array	24.07	71	*e*P		P	04 32 43.3	+0.8	
	comp=Z,40nm,0.9s								
KKAR	Karatay Array	24.07	71	*e*P		P	04 32 43.3	+0.8	
	comp=Z,40nm,0.9s								
MBDF	Montbardon	24.08	293	*e*P		P	04 32 43.7	+1.0	
MBDF				pmax		pmax			
	comp=Z,6.0nm,0.9s								
MBDF	Montbardon	24.08	293	*e*P		P	04 32 43.7	+1.0	
	comp=Z,6.0nm,0.9s								
LPG	La Plagne	24.12	294	*e*P		P	04 32 43.7	+0.5	
LPG				pmax		pmax			
	comp=Z,10.0nm,1.1s								
LPG	La Plagne	24.12	294	*e*P		P	04 32 43.7	+0.5	
	comp=Z,10.0nm,1.1s								
LPL	La Plagne	24.13	295	*e*P		P	04 32 41.3	-2.0	
LPL				pmax		pmax			
	comp=Z,14nm,1.2s								
LPL	La Plagne	24.13	295	*e*P		P	04 32 41.3	-2.0	
	comp=Z,14nm,1.2s								
BNI	Bardonecchia	24.15	293	*e*P		P	04 32 42.9	-0.5	
BNI				pmax		pmax			
	comp=Z,7.0nm,0.8s								
BNI	Bardonecchia	24.15	293	*e*P		P	04 32 42.9	-0.5	
	comp=Z,7.0nm,0.8s								
BNI	Bardonecchia	24.15	293	*e*P		P	04 32 42.9	-0.5	
	comp=Z,7.5nm,0.8s								
CABF	La Chapelle	24.65	297	*e*P		P	04 32 46.2	-1.6	
CABF				pmax		pmax			
	comp=Z,16nm,0.9s								
CABF	La Chapelle	24.65	297	*e*P		P	04 32 46.2	-1.6	
	comp=Z,16nm,0.9s								
WLF	Walferdange	25.02	304	*e*P		P	04 32 50.1	-1.0	
WLF				pmax		pmax			
	comp=Z,7.0nm,0.8s								
WLF	Walferdange	25.02	304	*e*P		P	04 32 50.1	-1.0	
	comp=Z,7.0nm,0.8s								
WLF	Walferdange	25.02	304	*e*P		P	04 32 50.0	-1.0	
	comp=Z,7.0nm,0.8s								
BRVK	Borovoye	25.37	48	*e*P		P	04 32 53.6	-0.5	
BRVK				pmax		pmax			
	comp=Z,13nm,0.9s								
BRVK	Borovoye	25.37	48	*e*P		P	04 32 53.6	-0.5	
	comp=Z,13nm,0.9s								
BRVK	Borovoye	25.37	48	*e*P		P	04 32 53.6	-0.5	
	comp=Z,13nm,0.9s								
BVAR	Borovoye Array	25.42	48	P		P	04 32 54.8	+0.2	
	comp=Z,0.8nm,0.4s,baz=247,slow=7.2,SNR=3.9								
BVAR				LR		LR	04 44 18.7		
	comp=Z,182nm,21.3s,baz=266,slow=40								
VIVF	Saint-Julien-l	25.57	293	*e*P		P	04 32 58.6	+2.4	
VIVF				pmax		pmax			
	comp=Z,8.0nm,1.2s								
HFS	Hagfors	25.77	331	P		P	04 32 57.0	-0.7	
	comp=Z,4.8nm,0.8s,baz=110,slow=12,SNR=4.7								
HFS				LR		LR	04 44 55.6		
	comp=Z,87nm,18.3s,baz=125,slow=41								
AAK	Ala-Archa	27.02	72	P		P	04 33 10.2	+0.8	
	comp=Z,1.4nm,0.5s,baz=217,slow=10,SNR=3.6								
AAK				LR		LR	04 45 40.3		
	comp=Z,80nm,18.6s,baz=268,slow=40								
AAK	Ala-Archa	27.02	72	*e*P		P	04 33 09.9	+0.5	
AAK				pmax		pmax			
	comp=Z,3.0nm,1.0s								
AAK	Ala-Archa	27.02	72	*e*P		P	04 33 09.9	+0.5	
	comp=Z,3.5nm,1.0s								
AAK	Ala-Archa	27.02	72	*e*P		P	04 33 09.9	+0.5	
	comp=Z,3.5nm,1.0s								
NB2	NORSAR Subarra	27.29	331	P		P	04 33 17.4	+5.9	
	comp=Z,3.2nm,1.1s,baz=129,slow=9.3								
NOA	NORSAR Array B	27.29	331	LR		LR	04 45 06.8		
	comp=Z,26nm,20.9s,baz=155,slow=39								
ATD	Arta Tunnel	28.25	171	LR		LR	04 43 40.6		
	comp=Z,90nm,18.9s,baz=339,slow=34								
KURBB	Kurchatov Arra	29.84	55	P		P	04 33 34.5	+0.3	
	comp=Z,4.5nm,0.8s,baz=273,slow=9.1,SNR=33								
KURK	Kurchatov	29.91	55	*e*P		P	04 33 35.3	+0.5	
KURK				pmax		pmax			
	comp=Z,6.0nm,0.9s								
KURK	Kurchatov	29.91	55	*e*P		P	04 33 35.3	+0.5	
	comp=Z,6.1nm,0.9s								
KURK	Kurchatov	29.91	55	*e*P		P	04 33 35.3	+0.5	
	comp=Z,6.1nm

comp=Z,21nm,19.3s,baz=295,slow=41
YAK Yakutsk 56.35 34 *e*P **P 04 37 11.3 +3.4**
SEY Seymchan 64.97 28 P **P 04 38 07.0 +0.4**
comp=Z,2.2nm,0.5s,baz=285,slow=6.0,SNR=8.0
KSAR Wonju Array Be 66.85 60 P **P 04 38 20.4 +1.2**
KSAR Wonju Array Be 66.85 60 P **P 04 38 20.4 +1.2**
KSAR Wonju Array Be 66.85 60 P **P 04 38 20.4 +1.2**
KSRS Korea Array 66.87 60 P **P 04 38 20.4 +1.1**
comp=Z,1.7nm,0.7s,baz=300,slow=6.5,SNR=4.3
ILAR Eielson Array 75.82 2 P **P 04 39 12.5 -0.4**
comp=Z,0.7nm,1.1s,baz=328,slow=4.6,SNR=4.1
KDAK Kodiak Island 82.47 6 *i* P **P 04 39 53.1 +3.7**
PDAR Pinedale Array 93.06 337 P **P 04 40 40.6 -0.7**
comp=Z,0.2nm,0.4s,baz=76,slow=7.8,SNR=4.4

---

*ISCJB **30** 04:30:11.0±0.8, 37.°08N±0.°03×140.°88E±0.°06, h10km±3km, mb3.7/5, Error ellipse: s-maj=8.1km s-min=4.5km az=14.9*
*IDC **30** 04:30:10.7±1.3, 37.°04N×140.°81E, h0km, mb3.7/5, mb1 3.8/6, mb1mx3.5/51, mbtmp3.7/6, ML3.2/1, Error ellipse: s-maj=25.9km s-min=16.8km az=154.0*
*JMA **30** 04:30:11.9, 37.°09N×140.°81E, h7km±1km, M3.4*
JMA Felt III J1.
ISC 30 04:30:11.3±1.0, 37.°05N±0.°05×140.°81E±0.°05, h6km±6km, n21, σ0.62/24, mb3.5/5, 6C-1D, Eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ONAJ	**Iwakimizuishiy**	**0.05**	**350**	⇓P	**Pg**	**04 30 13.1**	**+0.2**
ONAJ				*e*S	**Sg**	**04 30 13.9**	**-0.1**
JFK	**Kawauchi**	**0.32**	**9**	⇑P	**Pg**	**04 30 17.8**	**+0.2**
JFK				*e*S	**Sg**	**04 30 21.9**	**+0.1**
JHO	**Hitachi**	**0.48**	**204**	⇑P	**Pb**	**04 30 21.7**	**-0.4**
JHO				*e*S	**Sb**	**04 30 28.9**	**-0.5**
JFT	**Otama**	**0.60**	**321**	⇑P	**Pg**	**04 30 23.2**	**+0.4**
JFT				*e*S	**Sg**	**04 30 31.2**	**+0.5**
JSB	**Shiboa**	**0.72**	**264**	⇑P	**Pb**	**04 30 26.4**	**+0.2**
JSB				S	**Sb**	**04 30 36.3**	**0.0**
JMM	**Marumori**	**0.81**	**359**	⇑P	**Pg**	**04 30 26.6**	**-0.3**
JMM				S	**Sg**	**04 30 36.9**	**-0.6**
JFY	**Yanaizu**	**0.95**	**292**	⇑P	**Pg**	**04 30 29.8**	**+0.3**
JFY				S	**Sg**	**04 30 42.0**	**+0.1**
JYT	**Yasato**	**0.96**	**211**	P	**Pb**	**04 30 30.3**	**0.0**
JYT				S	**Sb**	**04 30 43.7**	**+0.5**
MJAR	**Matsushiro Arr**	**2.15**	**257**	Pn	**Pb**	**04 30 49.4**	**-1.2**
	7.9nm,0.3s,baz=78,slow=16,SNR=21						
MJAR				Lg	Lg	04 31 17.9	
	8.4nm,0.3s,baz=83,slow=29,SNR=16						
MAT	**Matsushiro**	**2.15**	**257**	P	**Pb**	**04 30 49.6**	**-1.0**
MAT				S	**Sb**	**04 31 17.4**	**-0.1**
H11N2	**WAKE ISLAND Hy**	**28.57**	**120**	T	T	05 06 01.4	
	baz=313,slow=75,SNR=22						
H11N1	**WAKE ISLAND Hy**	**28.58**	**120**	T	T	05 05 57.1	
	baz=313,slow=75,SNR=21						
H11N3	**WAKE ISLAND Hy**	**28.59**	**120**	T	T	05 05 57.9	
	baz=313,slow=75,SNR=23						
H11S1	**WAKE ISLAND Hy**	**29.28**	**122**	T	T	05 06 44.9	
	baz=315,slow=75,SNR=11						
H11S3	**WAKE ISLAND Hy**	**29.28**	**122**	T	T	05 06 52.6	
	baz=315,slow=75,SNR=11						
H11S2	**WAKE ISLAND Hy**	**29.29**	**122**	T	T	05 06 55.5	
	baz=315,slow=75,SNR=8.3						
ZALV	**Zalesovo Beam**	**41.55**	**312**	P	**P**	**04 38 00.3**	**+1.0**
	0.7nm,0.3s,baz=101,slow=15,SNR=2.2						
NRIK	**Noril'sk**	**43.05**	**335**	P	**P**	**04 38 10.4**	**-0.9**
	4.0nm,0.6s,baz=101,slow=5.2,SNR=4.1						
KURBB	**Kurchatov Arra**	**45.61**	**308**	P	**P**	**04 38 31.6**	**-0.5**
	0.3nm,0.5s,baz=83,slow=8.0,SNR=3.8						
ILAR	**Eielson Array**	**49.74**	**32**	P	**P**	**04 39 05.1**	**+1.1**
	0.5nm,1.0s,baz=266,slow=6.1,SNR=3.3						
WRA	**Warramunga Arr**	**57.02**	**187**	P	**P**	**04 39 57.8**	**-0.1**
	0.3nm,0.5s,baz=4.3,slow=7.6,SNR=4.9						

---

*NIED **30** 05:09:00, 39.°90N×143.°40E, h17km, Mw4.4 Best double couple: M₀4.29000×10¹⁵ NP1:φs191.00000°, δ24.00000°, λ78.00000°. NP2:φs25.00000°, δ66.00000°, λ95.00000°.*
*IDC **30** 05:09:08.2±0.8, 39.°86N×143.°33E, h0km, mb4.5/26, mb1 4.5/28, mb1mx4.4/58, mbtmp4.4/28, ML3.8/2, MS3.8/11, Ms1 3.8/11, ms1mx3.4/40, Error ellipse: s-maj=19.3km s-min=14.8km az=143.0*
*ISCJB **30** 05:09:10.7±0.8, 39.°92N±0.°03×143.°27E±0.°04, h23km±5km, mb4.8/101, MS4.0/20, Error ellipse: s-maj=5.5km s-min=3.6km az=136.0*
*JMA **30** 05:09:10.4±0.2, 39.°94N×143.°29E, h18km±3km, M4.4*
JMA Felt I J1.
*MOS **30** 05:09:11.8±1.0, 40.°01N×143.°20E, h28km, mb4.9/49, Error ellipse: s-maj=7.6km s-min=5.5km az=107.3*
*BJI **30** 05:09:12.3, 39.°90N×143.°30E, h38km, mb4.8/52, mB5.0/31, Ms4.4/35, Ms7 4.1/34*
*NEIC **30** 05:09:14.3±0.5, 39.°90N×143.°25E, h38km±4km, mb4.9/49, Error ellipse: s-maj=5.0km s-min=3.7km az=132.0*
NEIC Recorded [1 JMA] in Aomori and Iwate.
ISC 30 05:09:10.8±1.0, 39.°96N±0.°04×143.°35E±0.°04, h14km±6km, n233, σ1.9/56/241, mb4.9/101, MS4.0/20, 6C-7D, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JTH	**Tanohata**	**1.14**	**270**	P	**Pb**	**05 09 30.5**	**-1.8**
JTH				*e*S	**Sb**	**05 09 44.7**	**-2.3**
MIYJ	**Miyakonagasawa**	**1.24**	**253**	P	**Pn**	**05 09 32.0**	**-1.7**
MIYJ				S	**Sb**	**05 09 47.7**	**-2.0**
JANG	**Nango**	**1.47**	**287**	P	**Pn**	**05 09 35.6**	**-1.2**
JOM	**Ohasama**	**1.66**	**254**	P	**Pn**	**05 09 39.1**	**-0.3**
JMK	**Ichinoseki**	**1.93**	**239**	P	**Pn**	**05 09 42.1**	**-1.0**
JMK				S	**Sn**	**05 10 04.6**	**-2.6**
JTM	**Tenmabayashi**	**1.93**	**296**	P	**Pn**	**05 09 43.3**	**+0.1**
JTM				*e*S	**Sn**	**05 10 06.8**	**-0.4**
ERM	**Erimo**	**2.06**	**356**	*e*P	**Pb**	**05 09 46.7**	**-1.3**
ERM	**Erimo**	**2.06**	**356**	*e*Pn	**Pb**	**05 09 46.7**	**-1.3**
JAH	**Hinai**	**2.10**	**277**	P	**Pn**	**05 09 45.8**	**+0.4**
JAH				*e*S	**Sn**	**05 10 12.1**	**+0.8**
JIO	**Ouri**	**2.16**	**227**	P	**Pn**	**05 09 44.4**	**-1.9**
JIO				*e*S	**Sn**	**05 10 10.8**	**-2.0**
JRG	**Rokugo**	**2.17**	**256**	P	**Pn**	**05 09 46.1**	**-0.4**
JNBK	**Urakawa-nobuka**	**2.37**	**349**	P	**Pn**	**05 09 50.7**	**+1.5**
JYK	**Kaneyama**	**2.54**	**247**	P	**Pn**	**05 09 51.2**	**-0.3**
JCH	**Churui**	**2.66**	**0**	P	**Pn**	**05 09 53.6**	**+0.4**
JCH				S	**Sn**	**05 10 24.8**	**-0.3**
JFT	**Otama**	**3.39**	**225**	P	**Pn**	**05 10 02.2**	**-1.0**
ASAJ	**Asahikawa**	**4.20**	**353**	*e*Pn	**Pn**	**05 10 15.8**	**+1.5**
YUK	**Yuzh-Kuril'sk**	**4.49**	**24**	*e*P	**Pn**	**05 10 19.0**	**+0.7**
YUK				*i* S	**Sn**	**05 11 07.4**	**-2.8**
YUK				pmax	pmax		
	comp=Z,296nm,0.3s						
YUK				pmax	pmax		
	comp=N,169nm,0.4s						
YUK				pmax	pmax		
	comp=E,49nm,0.3s						
YUK				smax	smax		
	comp=N,2μm,0.4s						
YUK				smax	smax		
	comp=E,979nm,0.4s						
YUK				MLR	MLR		
	comp=Z,1μm,12.0s						
SHO	**Shikotan**	**4.70**	**32**	*e*P	**Pn**	**05 10 20.4**	**-0.8**
SHO				*i* S	**Sn**	**05 11 10.1**	**-5.3**
SHO				pmax	pmax		
	comp=Z,153nm,0.6s						
SHO				pmax	pmax		
	comp=E,165nm,0.4s						
SHO				pmax	pmax		
	comp=N,83nm,0.3s						
SHO				smax	smax		
	comp=N,929nm,0.4s						
SHO				smax	smax		
	comp=E,1μm,0.4s						
MJA0	**Matsu Arr-Jizo**	**5.27**	**231**	*e*P	**Pn**	**05 10 29.8**	**+0.7**
MJA0				pmax	pmax		
	comp=Z,7.0nm,0.3s						
MJAR	**Matsushiro Arr**	**5.29**	**232**	Pn	**Pn**	**05 10 29.3**	**-0.1**
	comp=Z,6.5nm,0.3s,baz=34,slow=14,SNR=60						
MAJO	**Matsushiro**	**5.29**	**232**	*e*P	**Pn**	**05 10 29.8**	**+0.4**
MAJO	**Matsushiro**	**5.29**	**232**	*e*Pn	**Pn**	**05 10 29.8**	**+0.4**
MJB9	**Matsu-Tunnel**	**5.29**	**232**	*e*Pn	**Pn**	**05 10 29.8**	**+0.4**
KUR	**Kuril'sk**	**6.24**	**31**	*e*P	**Pn**	**05 10 43.1**	**+0.8**
KUR				*i* S	**Sn**	**05 11 50.7**	**-2.7**
KUR				pmax	pmax		
	comp=Z,99nm,0.5s						
KUR				pmax	pmax		
	comp=N,63nm,0.3s						
KUR				pmax	pmax		
	comp=E,72nm,0.2s						
KUR				smax	smax		
	comp=N,442nm,0.4s						
KUR				smax	smax		
	comp=E,165nm,0.4s						
INU	**Inuyama**	**6.81**	**230**	*e*Pn	**Pn**	**05 10 50.7**	**+0.5**
JHJ2	**Mitsune**	**7.40**	**204**	*e*Pn	**Pn**	**05 10 56.3**	**-2.0**
USRK	**Ussuriysk Ar.**	**9.45**	**300**	Pn	**Pn**	**05 11 29.3**	**+2.9**
	comp=E,2.7nm,0.3s,baz=90,slow=15,SNR=9.7						
USRK				LR	LR	05 14 57.9	
	comp=E,504nm,19.3s,baz=101,slow=37						
HABR	**Khabarovsk**	**10.38**	**328**	*e*P	**Pn**	**05 11 39.0**	**-0.2**
HABR				*e*S	**Sn**	**05 13 35.9**	**+0.6**
HABR				pmax	pmax		
	comp=E,43nm,1.3s						
HABR				pmax	pmax		
	comp=N,38nm,1.3s						
HABR				pmax	pmax		
	comp=Z,54nm,1.3s						
HABR				MLR	MLR		
	comp=Z,264nm,12.0s						
MDJ	**Mudanjiang**	**11.20**	**299**	P	Pn	05 11 59.0	+8.6
MDJ				pP		05 12 06.3	
MDJ				sP		05 12 11.5	
MDJ				S	Sn	05 14 18.5	+23
MDJ				PcS	PcS	05 21 09.0	-11
MDJ				pmax	pmax		
	comp=Z,20nm,0.7s						
MDJ				pmax	pmax		
	comp=Z,110nm,4.5s						
MDJ				LR	LR		
	comp=N,390nm,11.5s						
MDJ				LR	LR		
	comp=E,310nm,12.6s						
MDJ				LR	LR		
	comp=Z,510nm,14.1s						
MDJ	**Mudanjiang**	**11.20**	**299**	*e*Pn	**Pn**	**05 11 52.6**	**+2.2**
JNU	**Nakatsue**	**12.12**	**240**	Pn	**Pn**	**05 12 02.7**	**-0.4**
	comp=Z,0.4nm,0.3s,baz=74,slow=7.4,SNR=4.0						
JNU				LR	LR	05 16 59.3	
	comp=Z,567nm,18.2s,baz=70,slow=39						
JNU	**Nakatsue**	**12.12**	**240**	*e*Pn	**Pn**	**05 12 03.7**	**+0.7**
KSRS	**Korea Array**	**12.31**	**263**	Pn	**Pn**	**05 12 08.3**	**+2.7**
	comp=Z,1.2nm,0.3s,baz=78,slow=14,SNR=8.4						
KSRS				LR	LR	05 16 31.9	
	comp=Z,439nm,18.4s,baz=76,slow=36						
KS01	**Wonju Array Si**	**12.32**	**263**	*e*Pn	**Pn**	**05 12 06.5**	**+0.8**
KS15	**Wonju Array Si**	**12.34**	**263**	*e*Pn	**Pn**	**05 12 06.9**	**+0.9**
KSAR	**Wonju Array Be**	**12.34**	**263**	P	**Pn**	**05 12 08.3**	**+2.3**
KSAR	**Wonju Array Be**	**12.34**	**263**	Pn	**Pn**	**05 12 08.3**	**+2.3**
KLR	**Kul'dur**	**12.41**	**322**	Pn	**Pn**	**05 12 07.5**	**+0.6**
	comp=Z,0.0nm,0.3s,baz=114,slow=13,SNR=5.9						
KLR				LR	LR	05 17 07.9	
	comp=Z,37nm,20.4s,baz=124,slow=38						
CN2	**Changchun**	**13.88**	**292**	*e*P	**P**	**05 12 38.3**	**+3.1**
CN2				*e*S	**S**	**05 15 27.5**	**+4.7**
CN2				LR	LR		
	comp=N,400nm,16.0s						
CN2				LR	LR		
	comp=E,400nm,16.0s						
CN2				LR	LR		
	comp=Z,400nm,18.0s						
PETK	**Petropavlovsk-**	**16.41**	**32**	LR	LR	05 18 55.1	
	comp=Z,117nm,20.3s,baz=206,slow=36						
HIA	**Hailar**	**19.14**	**307**	*e*P	**P**	**05 13 32.7**	**-0.8**
HIA				pmax	pmax		
	comp=Z,19nm,0.8s						
HIA	**Hailar**	**19.14**	**307**	*e*P	**P**	**05 13 32.7**	**-0.8**
	comp=Z,19nm,0.8s						
MA2	**Magadan**	**20.19**	**11**	P	Pn	05 13 45.8	-0.9
	comp=Z,17nm,0.6s,baz=195,slow=8.6,SNR=8.4						
MA2				LR	LR	05 21 30.1	
	comp=Z,62nm,21.2s,baz=202,slow=37						
CLNS	**Chul'man**	**20.75**	**331**	*e*P	**P**	**05 13 48.5**	**-2.5**
CLNS				pmax	pmax		
	comp=N,8.0nm,1.0s						
CLNS				pmax	pmax		
	comp=Z,12nm,1.0s						
CLNS				pmax	pmax		
	comp=E,7.0nm,0.9s						
CLNS				MLR	MLR		
	comp=N,179nm,13.0s						
CLNS				MLR	MLR		
	comp=Z,290nm,14.0s						
CLNS				MLR	MLR		
	comp=E,153nm,15.0s						
BJI	**Beijing**	**20.79**	**279**	P	Pn	05 13 54.3	+0.4
BJI				pmax	pmax		
	comp=E,6.0nm,0.6s						
BJI				LR	LR		
	comp=E,190nm,13.5s						
BJI				LR	LR		
	comp=E,380nm,16.1s						
BJI				LR	LR		
	comp=E,210nm,20.0s						
BJT	**Baijiatuan**	**20.80**	**279**	*e*P	**P**	**05 13 51.5**	**-0.1**
BJT				pmax	pmax		
	comp=Z,11nm,0.7s						
BJT	**Baijiatuan**	**20.80**	**279**	*e*P	**P**	**05 13 51.5**	**-0.1**
	comp=Z,11nm,0.7s						
TIA	**Tai'an**	**20.95**	**268**	*e*P	**P**	**05 13 51.0**	**-2.2**
TIA				pmax	pmax		
	comp=Z,30nm,1.0s						
YAK	**Yakutsk**	**23.62**	**344**	P	**P**	**05 14 20.5**	**-0.5**
	comp=Z,18nm,0.4s,baz=168,slow=3.2,SNR=4.9						
YAK	**Yakutsk**	**23.62**	**344**	*e*P	**P**	**05 14 20.4**	**-0.6**
YAK				*e*		05 14 50.4	
YAK				*e*SS	Sn	05 19 34.0	+38
YAK				*e*		05 25 23.0	
YAK				pmax	pmax		
	comp=Z,29nm,0.9s						
YAK				pmax	pmax		
	comp=N,5.0nm,1.3s						
YAK				MLR	MLR		
	comp=Z,246nm,17.0s						
SEY	**Seymchan**	**23.64**	**10**	P	**P**	**05 14 21.6**	**+0.4**
	comp=Z,15nm,0.7s,baz=196,slow=7.3,SNR=26						
HHC	**Hu-ho-hao-te**	**24.16**	**282**	*e*P	**P**	**05 14 28.8**	**+2.3**
HHC				S	**S**	**05 18 43.3**	**-0.8**
HHC				sS	sS	05 18 56.8	+5.6
HHC				pmax	pmax		
	comp=Z,16nm,1.2s						
HHC				pmax	pmax		
	comp=Z,90nm,3.8s						
HHC				LR	LR		
	comp=Z,150nm,6.8s						
HHC				LR	LR		
	comp=Z,320nm,9.0s						
HHC				LR	LR		
	comp=Z,390nm,13.1s						
SSLB	**Suanglung**	**24.83**	**236**	*e*P	**P**	**05 14 29.9**	**-2.7**
	comp=Z,77nm,1.8s						
SSLB				*e*S	**S**	**05 18 55.0**	**0.0**
YULB	**Yu-li**	**24.89**	**235**	*e*P	**P**	**05 14 32.6**	**-0.6**
	comp=Z,30nm,1.4s						
WHN	**Wuhan**	**25.38**	**257**	⇓P	**P**	**05 14 36.8**	**-0.8**
WHN				pmax	pmax		
	comp=Z,78nm,0.6s						
BOD	**Bodaibo**	**25.98**	**323**	*e*P	**P**	**05 14 42.4**	**-0.4**
BOD				pmax	pmax		
	comp=Z,23nm,0.8s						
ULN	**Ulaanbaatar**	**27.12**	**299***c*	*i*P	**P**	**05 14 53.0**	**-0.3**
ULN				pmax	pmax		
	comp=Z,17nm,1.2s						
ULN	**Ulaanbaatar**	**27.12**	**299**	*e*P	**P**	**05 14 52.8**	**-0.5**
	comp=Z,18nm,1.2s						
SONA1	**Songino Array**	**27.55**	**299**	*e*P	**P**	**05 14 57.3**	**0.0**
SONM	**Songino Array**	**27.56**	**299**	P	**P**	**05 14 57.2**	**0.0**
	comp=Z,7.4nm,0.9s,baz=95,slow=8.8,SNR=29						
SONM				LR	LR	05 26 33.0	
	comp=Z,371nm,18.5s,baz=81,slow=38						
H11N2	**WAKE ISLAND Hy**	**28.54**	**128**	T	T	05 45 01.0	
	baz=322						
H11N1	**WAKE ISLAND Hy**	**28.55**	**128**	T	T	05 45 03.2	
	baz=322,slow=74,SNR=297						
H11N3	**WAKE ISLAND Hy**	**28.56**	**128**	T	T	05 45 05.3	
	baz=322,slow=74,SNR=369						
ENH	**Enshi**	**29.19**	**261**	*e*P	**P**	**05 15 10.9**	**-0.9**
	comp=Z,38nm,0.8s						
H11S1	**WAKE ISLAND Hy**	**29.37**	**130**	T	T	05 46 10.5	
	baz=322,slow=76,SNR=44						
H11S3	**WAKE ISLAND Hy**	**29.37**	**130**	T	T	05 46 06.0	
	baz=322,slow=76,SNR=40						
H11S2	**WAKE ISLAND Hy**	**29.39**	**130**	T	T	05 46 14.7	
	baz=322,slow=76,SNR=45						
TLY	**Talaya**	**29.69**	**307**	*e*P	**P**	**05 15 17.0**	**+1.0**
TLY				pmax	pmax		
	comp=Z,8.0nm,0.6s						
TLY	**Talaya**	**29.69**	**307**	*e*P	**P**	**05 15 17.0**	**+1.0**
	comp=Z,7.7nm,0.6s						
ZAK	**Zakamensk**	**29.77**	**304**	*e*P	**P**	**05 15 15.8**	**-1.1**
ZAK				pmax	pmax		
	comp=Z,6.0nm,1.6s						
SZP	**Santa**	**29.86**	**228**	*e*P	**P**	**05 15 18.2**	**+0.5**
	comp=Z,376nm,1.4s						
LZH	**Lanzhou**	**31.18**	**276**	*e*P	P	05 15 34.5	+4.9
LZH				pP	sP	05 15 44.0	+8.3
LZH				sP	pP	05 15 49.0	+15
LZH				pmax	pmax		
	comp=Z,24nm,1.1s						
LZH				pmax	pmax		
	comp=Z,89nm,4.5s						
GTA	**Gaotai**	**33.26**	**283**	⇓P	**P**	**05 15 48.0**	**+0.3**
GTA				pP	sP	05 15 56.0	+2.1
GTA				sP	pP	05 16 00.5	+8.4
GTA				pmax	pmax		
	comp=Z,15nm,1.0s						
GTA				pmax	pmax		
	comp=Z,65nm,4.9s						
GTA				LR	LR		
	comp=Z,140nm,17.1s						
GTA				LR	LR		
	comp=Z,370nm,16.7s						
GTA				LR	LR		
	comp=Z,410nm,17.1s						
CD2	**Chengdu**	**33.27**	**267**	P	**P**	**05 15 47.5**	**-0.3**
CD2				pP	sP	05 15 56.0	+2.1
CD2				S	**S**	**05 21 09.0**	**+1.3**
CD2				pmax	pmax		
	comp=Z,20nm,0.7s						
CD2				pmax	pmax		
	comp=Z,290nm,6.6s						
CD2				LR	LR		
	comp=Z,780nm,10.4s						
CD2				LR	LR		
	comp=Z,670nm,10.4s						
GYA	**Guiyang**	**33.27**	**257**	*e*P	**P**	**05 15 47.8**	**-0.2**
GYA				pmax	pmax		
	comp=Z,10.0nm,0.8s						
QIZ	**Qiongzhong**	**35.55**	**244**	P	**P**	**05 16 03.5**	**-4.0**
QIZ				S	**S**	**05 21 45.0**	**+2.2**
QIZ				LR	LR		
	comp=Z,120nm,16.7s						
KMI	**Kunming**	**36.96**	**259**	P	**P**	**05 16 19.5**	**-0.3**
KMI				pmax	pmax		
	comp=Z,20nm,0.5s						
DGZ	**Jazzator, Alta**	**39.99**	**303**	*i* P	**P**	**05 16 45.8**	**+0.8**
DGZ				pmax	pmax		
	comp=Z,6.0nm,0.8s						
WMQ	**Urumqi**	**40.95**	**294**	P	**P**	**05 16 53.5**	**+0.6**
WMQ				pP	sP	05 17 05.8	+6.7
WMQ				sP	pP	05 17 10.3	+13
WMQ				pmax	pmax		
	comp=Z,27nm,0.7s						
WMQ				pmax	pmax		
	comp=Z,170nm,3.9s						
WMQ				LR	LR		
	comp=E,68nm,20.1s						
WMQ				LR	LR		
	comp=Z,57nm,21.7s						
WMQ	**Urumqi**	**40.95**	**294**	P	**P**	**05 16 53.8**	**+0.9**
WMQ				pP	sP	05 17 05.8	+6.7
WMQ				sP	pP	05 17 10.3	+13
WMQ				S	**S**	**05 23 07.5**	**+3.2**
WMQ				pmax	pmax		
	comp=Z,23nm,0.9s						
WMQ				pmax	pmax		
	comp=Z,180nm,4.3s						
WMQ				LR	LR		
	comp=Z,64nm,14.9s						
WMQ				LR	LR		
	comp=Z,68nm,22.9s						
WMQ				LR	LR		
	comp=Z,53nm,19.5s						
ZAA0	**Zalesovo Array**	**41.14**	**310**	*e*P	**P**	**05 16 54.6**	**+0.4**
ZAA0				*e*PcP	**PcP**	**05 18 53.2**	**-0.1**
ZALV	**Zalesovo Beam**	**41.14**	**310**	P	**P**	**05 16 54.1**	**-0.1**
	comp=Z,14nm,0.4s,baz=95,slow=8.0,SNR=44						
ZALV				PcP	**PcP**	**05 18 53.3**	**-0.1**
	comp=Z,3.3nm,0.6s,baz=107,slow=3.3,SNR=4.1						
ZALV				LR	LR	05 34 34.9	
	comp=Z,115nm,19.9s,baz=68,slow=37						
NRIK	**Noril'sk**	**41.29**	**334**	LR	LR	05 35 25.4	
	comp=Z,192nm,18.1s,baz=123,slow=38						
NVS	**Novosibirsk**	**41.98**	**311**	*e*P	**P**	**05 17 00.7**	**-0.4**
TT01	**Tatalina**	**42.16**	**36**	*e*P	**P**	**05 17 04.1**	**+1.6**
CHTO	**Chiang Mai**	**43.51**	**254**	*e*P	**P**	**05 17 14.1**	**+0.1**
CHTO				pmax	pmax		
	comp=Z,6.0nm,0.8s						
CHTO	**Chiang Mai**	**43.51**	**254**	*e*P	**P**	**05 17 14.1**	**+0.1**
	comp=Z,5.5nm,0.8s						
CMAR	**Chiang Mai Arr**	**43.74**	**254**	P	**P**	**05 17 15.6**	**-0.2**
	comp=Z,1.2nm,0.4s,baz=50,slow=6.6,SNR=9.1						
PPLA	**Purkeypile**	**43.91**	**37**	*e*P	**P**	**05 17 19.0**	**+2.1**
	comp=Z,22nm,1.4s						
MK01	**Makanchi Array**	**43.92**	**300**	*e*P	**P**	**05 17 16.6**	**-0.3**
MK31	**Makanchi Array**	**43.92**	**300**	*i* P	**P**	**05 17 16.3**	**-0.7**
MK31				pmax	pmax		
	comp=Z,5.0nm,0.6s						
MK31	**Makanchi Array**	**43.92**	**300**	*e*P	**P**	**05 17 17.0**	**0.0**
MKAR	**Makanchi Array**	**43.92**	**300**	P	**P**	**05 17 16.8**	**-0.2**
	comp=Z,5.9nm,0.7s,baz=83,slow=9.6,SNR=34						
MKAR				LR	LR	05 36 30.6	
	comp=Z,184nm,18.7s,baz=72,slow=37						
MKAR	**Makanchi Array**	**43.92**	**300**	*e*P	**P**	**05 17 17.0**	**0.0**
MKAR				pmax	pmax		
	comp=Z,47nm,0.6s						
MKAR	**Makanchi Array**	**43.92**	**300**	*e*P	**P**	**05 17 17.0**	**0.0**
	comp=Z,47nm,0.6s						
KDAK	**Kodiak Island**	**43.93**	**44**	*e*P	**P**	**05 17 19.5**	**+2.7**
KDAK				pmax	pmax		
	comp=Z,87nm,1.8s						
KDAK	**Kodiak Island**	**43.93**	**44**	*e*P	**P**	**05 17 19.5**	**+2.7**
	comp=Z,87nm,1.8s						
CAST	**Castle Rocks**	**43.97**	**36**	*e*P	**P**	**05 17 16.1**	**-1.0**
	comp=Z,20nm,1.8s						
MAKZ	**Makanchi**	**44.12**	**300**	*e*P	**P**	**05 17 18.8**	**+0.2**
MAKZ				pmax	pmax		
	comp=Z,12nm,1.1s						
MAKZ	**Makanchi**	**44.12**	**300**	*e*P	**P**	**05 17 18.8**	**+0.2**
	comp=Z,12nm,1.1s						
BRLK	**Bradley Lake**	**44.65**	**41**	*e*P	**P**	**05 17 22.6**	**-0.1**
	comp=Z,42nm,1.6s						
TRF	**Thorofare Moun**	**44.77**	**36**	*e*P	**P**	**05 17 25.0**	**+1.2**
	comp=Z,38nm,2.0s						
SHL	**Shillong**	**45.00**	**268**	*e*P	**P**	**05 17 24.5**	**-1.6**
KURK	**Kurchatov**	**45.38**	**306**	P	**P**	**05 17 28.9**	**+0.4**
KURK				pmax	pmax		
	comp=Z,12nm,0.5s						
KURK	**Kurchatov**	**45.38**	**306**	*e*P	**P**	**05 17 28.3**	**-0.2**
	comp=Z,25nm,1.1s						
KURBB	**Kurchatov Arra**	**45.46**	**306**	P	**P**	**05 17 28.9**	**-0.3**
	comp=Z,11nm,0.5s,baz=80,slow=8.6,SNR=59						
MDM	**Murphy Dome**	**45.64**	**34**	*e*P	**P**	**05 17 32.1**	**+1.6**
	comp=Z,9.3nm,1.3s			

	comp=Z,64nm,2.0s								
BMRM	**Bremner River**	**47.63**	**39**	*e*P		**P**	**05 17 47.1**	**+1.0**	
	comp=Z,71nm,1.9s								
JIRN	**Jiri**	**48.31**	**274**	*e*P		**P**	**05 17 52.0**	**-0.2**	
	comp=Z,93nm,0.5s								
RAMN	**Ramite**	**48.35**	**273**	*e*P		**P**	**05 17 51.9**	**-0.5**	
	comp=Z,62nm,0.8s								
CRQM	**Cirque**	**48.37**	**39**	*e*P		**P**	**05 17 54.0**	**+2.1**	
	comp=Z,20nm,1.2s								
GUN	**Gumba**	**48.42**	**274**	*e*P		**P**	**05 17 52.7**	**-0.3**	
	comp=Z,38nm,0.5s								
EGAK	**Eagle**	**48.66**	**34**	*e*P		**P**	**05 17 55.0**	**+1.0**	
	comp=Z,35nm,2.0s								
KKN	**Kakani**	**48.94**	**274**	*e*P		**P**	**05 17 56.7**	**-0.2**	
	comp=Z,29nm,0.6s								
PKI	**Pulchoki**	**48.95**	**274**	*e*P		**P**	**05 17 56.2**	**-0.9**	
	comp=Z,12nm,0.6s								
PKIN	**Phulchoki**	**48.96**	**274**	*e*P		**P**	**05 17 56.1**	**-1.0**	
	comp=Z,19nm,0.6s								
DMN	**Daman**	**49.16**	**274**	*e*P		**P**	**05 17 58.2**	**-0.4**	
	comp=Z,7.0nm,0.3s								
GKN	**Gorkha**	**49.33**	**275**	*e*P		**P**	**05 17 59.2**	**-0.6**	
	comp=Z,11nm,0.4s								
DAWY	**Dawson**	**49.53**	**34**	*e*P		**P**	**05 18 01.8**	**+1.1**	
	comp=Z,22nm,1.9s								
BVA0	**Borovoye Array**	**49.77**	**311**	P		**P**	**05 18 02.4**	**-0.2**	
BVA0				pmax		pmax			
	comp=Z,7.0nm,0.6s								
BVAR	**Borovoye Array**	**49.77**	**311**	P		**P**	**05 18 02.7**	**+0.1**	
	comp=Z,6.9nm,0.5s,baz=80,slow=8.1,SNR=28								
BRVK	**Borovoye**	**49.83**	**311**	*c i*P		**P**	**05 18 03.2**	**+0.2**	
BRVK				pmax		pmax			
	comp=Z,15nm,0.6s								
BRVK	**Borovoye**	**49.83**	**311**	*e*P		**P**	**05 18 03.6**	**+0.6**	
	comp=Z,9.8nm,0.9s								
DANN	**Dangsing**	**49.83**	**276**	*e*P		**P**	**05 18 04.0**	**+0.3**	
	comp=Z,3.9nm,0.8s								
KOLN	**Koldanda**	**50.24**	**275**	*e*P		**P**	**05 18 06.4**	**-0.3**	
	comp=Z,10nm,0.4s								
AAK	**Ala-Archa**	**50.48**	**297**	P		**P**	**05 18 08.0**	**-0.4**	
	comp=Z,3.6nm,0.4s,baz=131,slow=7.4,SNR=11								
AAK	**Ala-Archa**	**50.48**	**297**	*e*P		**P**	**05 18 08.3**	**-0.1**	
AAK				pmax		pmax			
	comp=Z,9.0nm,1.1s								
AAK	**Ala-Archa**	**50.48**	**297**	*e*P		**P**	**05 18 08.3**	**-0.1**	
	comp=Z,8.8nm,1.1s								
PYUN	**Piuthan**	**50.54**	**276**	*e*P		**P**	**05 18 08.7**	**-0.3**	
KSH	**Kashi**	**50.65**	**293**	P		**P**	**05 18 13.0**	**+3.4**	
KSH				sP		sP	05 18 27.0	+11	
KSH				PP		**PP**	**05 20 12.8**	**+7.4**	
KSH				S		S	05 25 35.3	+11	
KSH				pmax		pmax			
	comp=Z,8.0nm,1.0s								
KSH				pmax		pmax			
	comp=Z,55nm,5.0s								
KSH				LR		LR			
	comp=Z,83nm,5.4s								
KSH				LR		LR			
	comp=Z,140nm,5.7s								
KSH				LR		LR			
	comp=Z,270nm,16.9s								
INK	**Inuvik**	**51.10**	**28**	P		**P**	**05 18 13.7**	**+1.3**	
	comp=Z,1.3nm,0.4s,baz=275,slow=7.1,SNR=8.3								
INK	**Inuvik**	**51.10**	**28**	*e*P		**P**	**05 18 13.6**	**+1.3**	
INK				pmax		pmax			
	comp=Z,26nm,1.9s								
INK	**Inuvik**	**51.10**	**28**	*e*P		**P**	**05 18 13.6**	**+1.3**	
	comp=Z,26nm,1.9s								
MNAS	**Manas**	**51.90**	**297**	P		**P**	**05 18 17.5**	**-1.5**	
MNAS				pmax		pmax			
	comp=Z,19nm,0.9s								
KK31	**Karatay Array**	**53.01**	**299**	*i* P		**P**	**05 18 26.2**	**-0.9**	
KK31				pmax		pmax			
	comp=Z,4.0nm,0.6s								
KKAR	**Karatay Array**	**53.01**	**299**	*e*P		**P**	**05 18 26.6**	**-0.5**	
KKAR				pmax		pmax			
	comp=Z,64nm,0.6s								
KKAR	**Karatay Array**	**53.01**	**299**	*e*P		**P**	**05 18 26.6**	**-0.5**	
	comp=Z,64nm,0.6s								
MTN	**Manton Dam**	**53.74**	**195**	*e*P		**P**	**05 18 33.2**	**+0.7**	
	comp=Z,24nm,0.6s								
ARU	**Arti**	**55.20**	**318**	P		**P**	**05 18 43.1**	**+0.2**	
	comp=Z,4.9nm,0.6s,baz=78,slow=3.3,SNR=8.1								
ARU	**Arti**	**55.20**	**318**	*c i*P		**P**	**05 18 43.0**	**+0.2**	
ARU							05 20 43.6		
ARU				S		**S**	**05 26 26.3**	**+0.9**	
ARU				SS		**SS**	**05 30 05.4**	**-3.6**	
ARU				pmax		pmax			
	comp=Z,14nm,1.2s								
ARU				MLR		MLR			
	comp=Z,250nm,16.0s								
ARU	**Arti**	**55.20**	**318**	*e*P		**P**	**05 18 42.8**	**0.0**	
	comp=Z,12nm,1.1s								
MLOA	**Mauna Loa Obse**	**55.72**	**93**	*e*P		**P**	**05 18 48.1**	**+0.6**	
	comp=Z,189nm,1.3s								
DZET	**Dzherino**	**55.98**	**295**	P		**P**	**05 18 47.6**	**-1.2**	
DZET				pmax		pmax			
	comp=Z,7.0nm,0.6s								
AB31	**Akbulak array**	**57.24**	**309**	*i* P		**P**	**05 18 57.4**	**-0.1**	
AB31				pmax		pmax			
	comp=Z,5.0nm,0.5s								
ABKAR	**Akbulak array**	**57.24**	**309**	*e*P		**P**	**05 18 57.4**	**-0.1**	
	comp=Z,92nm,0.6s								
KBL	**Kabul**	**57.81**	**290**	*e*P		**P**	**05 19 01.5**	**-0.5**	
KBL				pmax		pmax			
	comp=Z,12nm,0.9s								
KBL	**Kabul**	**57.81**	**290**	*e*P		**P**	**05 19 01.5**	**-0.5**	
	comp=Z,12nm,0.9s								
AKTO	**Aktyubinsk**	**57.88**	**311**	P		**P**	**05 19 01.6**	**-0.4**	
	comp=Z,5.6nm,0.7s,baz=66,slow=10,SNR=17								
CTAO	**Charters Tower**	**59.79**	**177**	*e*P		**P**	**05 19 16.8**	**+1.3**	
CTAO				pmax		pmax			
	comp=Z,21nm,1.1s								
CTAO	**Charters Tower**	**59.79**	**177**	*e*P		**P**	**05 19 16.8**	**+1.3**	
	comp=Z,21nm,1.1s								
WRA	**Warramunga Arr**	**60.18**	**190**	P		**P**	**05 19 16.3**	**-1.8**	
	comp=Z,2.8nm,0.6s,baz=7.8,slow=6.9,SNR=3.1								
APA	**Apatity**	**60.66**	**336**	*i* P		P	05 19 29.3	+8.4	
APA				pmax		pmax			
	comp=Z,10.0nm,1.0s								
APA				MLR		MLR			
	comp=Z,500nm,13.0s								
ARA0	**ARCESS Array S**	**61.80**	**339**	*e*P		**P**	**05 19 28.9**	**+0.2**	
ARCES	**ARCESS Array B**	**61.80**	**339**	P		**P**	**05 19 29.3**	**+0.7**	
	comp=Z,4.4nm,1.0s,baz=37,slow=6.2,SNR=6.2								
KLMR	**Klimovskoe**	**62.11**	**327**	*e*P		**P**	**05 19 27.3**	**-3.5**	
KLMR				pmax		pmax			
	comp=Z,13nm,1.4s								
GEYT	**Alibeck**	**63.76**	**299**	P		**P**	**05 19 42.2**	**0.0**	
	comp=Z,4.8nm,0.5s,baz=29,slow=3.4,SNR=7.4								
EIDS	**Eidsvold**	**65.39**	**172**	*e*P		**P**	**05 19 53.2**	**+0.5**	
	comp=Z,48nm,1.9s								
MSVF	**Nonsavu**	**65.88**	**144**	*e*P		**P**	**05 19 57.3**	**+1.1**	
MSVF	**Nonsavu**	**65.88**	**144**	*e*P		**P**	**05 19 57.3**	**+1.1**	
	comp=Z,2μm,2.0s								
OBN	**Obninsk**	**66.67**	**323**	*e*P		**P**	**05 20 02.3**	**+1.6**	
OBN				pmax		pmax			
	comp=Z,12nm,0.6s								
OBN				MLR		MLR			
	comp=Z,165nm,16.0s								
FIA1	**FINESS Array S**	**66.94**	**332**	*e*P		**P**	**05 20 02.4**	**+0.1**	
	comp=Z,28nm,1.4s								
FINES	**FINESS Array B**	**66.94**	**332**	P		**P**	**05 20 02.3**	**-0.1**	
	comp=Z,4.1nm,0.6s,baz=46,slow=8.2,SNR=16								
LPSR	**Galich'ya Gora**	**67.04**	**320**	*e*P		**P**	**05 20 01.4**	**-1.7**	
LPSR				pmax		pmax			
	comp=Z,9.0nm,0.6s								
VSR	**Storozhevoye**	**67.74**	**319**	*e*P		**P**	**05 20 06.3**	**-1.3**	
VSR				pmax		pmax			
	comp=Z,5.0nm,0.5s								
SUMG	**Summit**	**67.76**	**1**	*e*P		**P**	**05 20 08.7**	**+0.8**	
SUMG				pmax		pmax			
	comp=Z,15nm,1.3s								
SUMG	**Summit**	**67.76**	**1**	*e*P		**P**	**05 20 08.7**	**+0.8**	
	comp=Z,15nm,1.3s								
K05A	**Summer Lake**	**67.94**	**52**	*e*P		**P**	**05 20 10.7**	**+1.4**	
	comp=Z,25nm,1.6s								
NCK	**Nalchik**	**69.88**	**310**	*e*P		**P**	**05 20 21.4**	**+0.3**	
ZEI	**Tsey**	**70.12**	**309**	*e*P		**P**	**05 20 21.8**	**-1.0**	
ZEI				pmax		pmax			
	comp=Z,12nm,0.6s								
KIV	**Kislovodsk**	**70.14**	**311**	*e*P		**P**	**05 20 24.3**	**+1.5**	
KIV				*e*			05 20 39.7		
KIV				pmax		pmax			
	comp=Z,17nm,0.7s								
KIV				MLR		MLR			
	comp=Z,88nm,18.0s								
KBZ	**Khabaz**	**70.15**	**311**	P		**P**	**05 20 23.7**	**+1.0**	
	comp=Z,7.9nm,0.8s,baz=64,slow=4.4,SNR=10								
NEY	**Neytrino**	**70.54**	**310**	*e*P		**P**	**05 20 27.5**	**+2.1**	
NEY				pmax		pmax			
	comp=Z,3.0nm,1.0s								
WAKR	**Walker**	**71.28**	**55**	*e*P		**P**	**05 20 30.6**	**+0.6**	
	comp=Z,8.2nm,1.5s								
BOZ	**Bozeman (W)**	**71.60**	**46**	*e*P		**P**	**05 20 32.9**	**+1.2**	
BOZ				pmax		pmax			
	comp=Z,16nm,1.9s								
BOZ	**Bozeman (W)**	**71.60**	**46**	*e*P		**P**	**05 20 32.9**	**+1.2**	
	comp=Z,16nm,1.9s								
NC405	**NORSAR Array S**	**71.87**	**338**	*e*P		**P**	**05 20 33.2**	**+0.3**	
NC303	**NORSAR Array S**	**71.88**	**338**	*e*P		**P**	**05 20 33.4**	**+0.4**	
NC204	**NORSAR Array S**	**72.01**	**338**	*e*P		**P**	**05 20 34.6**	**+0.8**	
NB201	**NORSAR Array S**	**72.04**	**338**	*e*P		**P**	**05 20 34.6**	**+0.7**	
NB2	**NORSAR Subarra**	**72.07**	**338**	P		**P**	**05 20 34.2**	**+0.1**	
	comp=Z,9.4nm,1.0s,baz=37,slow=6.2								
NOA	**NORSAR Array B**	**72.07**	**338**	P		**P**	**05 20 34.2**	**+0.1**	
	comp=Z,3.9nm,0.7s,baz=38,slow=6.0,SNR=17								
NBO02	**NORSAR Array S**	**72.17**	**338**	*e*P		**P**	**05 20 35.2**	**+0.5**	
NBO00	**NORSAR Array S**	**72.21**	**338**	*e*P		**P**	**05 20 35.5**	**+0.6**	
ARTV	**Artvin**	**72.26**	**309**	*e*P		**P**	**05 20 36.9**	**+1.1**	
	comp=Z,60nm,2.0s								
UOSS	**Minazif**	**72.36**	**288**	*e*P		**P**	**05 20 36.4**	**-0.1**	
	comp=Z,16nm,1.3s								
ANN	**Anapa**	**72.59**	**314**	*e*P		**P**	**05 20 32.9**	**-4.5**	
ANN				*e**PP		**pP**	**05 20 40.9**	**-1.2**	
ANN				*e*S		**S**	**05 29 53.3**	**-8.3**	
ANN				*e*SS		**SS**	**05 34 34.0**	**-5.9**	
ANN				pmax		pmax			
	comp=Z,53nm,1.4s								
BBOO	**Buckleboo**	**72.72**	**186**	*e*P		**P**	**05 20 37.6**	**-0.5**	
	comp=Z,116nm,1.6s								
AKASG	**Malin Array Be**	**72.91**	**323**	P		**P**	**05 20 38.9**	**-0.3**	
	comp=Z,1.7nm,0.5s,baz=44,slow=6.2,SNR=11								
KIEV	**Kiev**	**72.92**	**323**	*e*P		**P**	**05 20 38.9**	**-0.4**	
KIEV				pmax		pmax			
	comp=Z,7.0nm,1.4s								
KLNR	**Kaliningrad**	**73.99**	**330**	*i* P		**P**	**05 20 46.5**	**+1.0**	
TPNV	**Topopah Spring**	**74.24**	**55**	*e*P		**P**	**05 20 49.2**	**+1.7**	
TPNV				pmax		pmax			
	comp=Z,6.0nm,1.3s								
TPNV	**Topopah Spring**	**74.24**	**55**	*e*P		**P**	**05 20 49.2**	**+1.7**	
	comp=Z,5.7nm,1.3s								
BW06	**Boulder Array**	**74.55**	**47**	*e*P		**P**	**05 20 50.1**	**+0.7**	
PDAR	**Pinedale Array**	**74.55**	**47**	P		**P**	**05 20 49.9**	**+0.5**	
	comp=Z,0.3nm,0.6s,baz=306,slow=2.8,SNR=4.3								
BUR08	**Bucovina Ar. S**	**76.94**	**322**	*e*P		**P**	**05 21 03.5**	**+0.7**	
PV10	**Paradox Valley**	**77.72**	**50**	*e*P		**P**	**05 21 09.6**	**+2.1**	
BRTR	**Keskin Array B**	**78.04**	**312**	P		**P**	**05 21 09.1**	**0.0**	
	comp=Z,0.7nm,0.6s,baz=159,slow=10,SNR=4.4								
BRTR				LR		LR	06 01 05.1		
	comp=Z,46nm,18.4s,baz=8.5,slow=40								
MORC	**Moravsky Berou**	**78.73**	**328**	*e*P		**P**	**05 21 13.2**	**+0.6**	
MORC				pmax		pmax			
	comp=Z,19nm,1.0s								
MORC	**Moravsky Berou**	**78.73**	**328**	*e*P		**P**	**05 21 13.2**	**+0.6**	
	comp=Z,18nm,1.0s								
VYHS	**Vyhne**	**79.17**	**326**	*e*P		**P**	**05 21 15.8**	**+0.8**	
VYHS	**Vyhne**	**79.17**	**326**	*e*P		**P**	**05 21 15.8**	**+0.8**	
CLL	**Collm**	**79.31**	**331**	*i* P		**P**	**05 21 15.7**	**+0.1**	
CLL				pmax		pmax			
	comp=Z,6.0nm,0.9s								
CLL	**Collm**	**79.31**	**331**	*i* P		**P**	**05 21 15.7**	**+0.1**	
	comp=Z,6.0nm,0.9s								
CLL				LmV			05 59 00.0		
	comp=Z,100nm,18.7s								
GEC2	**GERESS Array S**	**81.01**	**329**	*e*P		**P**	**05 21 25.7**	**+0.6**	
GEC2				pmax		pmax			
	comp=Z,6.0nm,1.1s								
GEC2	**GERESS Array S**	**81.01**	**329**	*e*P		**P**	**05 21 25.7**	**+0.6**	
	comp=Z,5.8nm,1.1s								
GERES	**GERESS Array B**	**81.01**	**329**	P		**P**	**05 21 25.1**	**+0.1**	
	comp=Z,0.9nm,0.5s,baz=47,slow=2.7,SNR=8.1								
GERES	**GERESS Array B**	**81.01**	**329**	*e*P		**P**	**05 21 25.4**	**+0.4**	
GERES				pmax		pmax			
	comp=Z,1.0nm,0.5s								
GEA0	**GERESS Array S**	**81.02**	**329**	*e*P		**P**	**05 21 25.1**	**+0.1**	
ANMO	**Albuquerque**	**81.56**	**51**	*i* P		**P**	**05 21 30.6**	**+2.3**	
ANMO				pmax		pmax			
	comp=Z,2.0nm,1.4s								
FUORN	**Ofenpass-Fuorn**	**84.17**	**330**	*e*P		**P**	**05 21 42.6**	**+0.9**	
	comp=Z,8.1nm,0.8s								
PPT	**Papeete**	**84.62**	**118**	LR		LR	06 01 31.8		
	comp=Z,52nm,18.6s,baz=316,slow=37								
TX31	**Lajitas Ar. Si**	**87.15**	**54**	*e*P		**P**	**05 21 57.2**	**+0.5**	
TXAR	**Lajitas Array**	**87.15**	**54**	P		**P**	**05 21 57.5**	**+0.8**	
	comp=Z,0.3nm,0.5s,baz=292,slow=4.2,SNR=8.2								
TXAR	**Lajitas Array**	**87.15**	**54**	*e*P		**P**	**05 21 57.7**	**+1.0**	
TXAR				pmax		pmax			
	comp=Z,1.0nm,1.0s								
ESDC	**Sonseca Array**	**95.31**	**335**	P		**P**	**05 22 34.4**	**-0.1**	
	comp=Z,0.2nm,0.3s,baz=1.6,slow=4.0,SNR=3.6								
LPAZ	**La Paz**	**143.89**	**58**	PKP		PKPbc	05 28 44.6	+0.1	
	comp=Z,0.4nm,0.5s,baz=288,slow=1.8,SNR=2.6								
SNAA	**Sanae**	**143.98**	**197**	PKP		PKPab	05 28 41.4	-0.6	
	comp=Z,1.9nm,0.8s,baz=162,slow=3.4,SNR=7.6								
SNAA	**Sanae**	**143.98**	**197**	*e*PKPpre		PKPab	05 28 42.0	0.0	
PB01	**IPOC Station P**	**146.27**	**66**	*e*PKPdf		**PKPbc**	**05 28 51.6**	**+0.3**	
GO09	**Cerro Castillo**	**152.86**	**127**	*e*PKPdf		**PKPdf**	**05 28 56.9**	**-2.6**	

IDC ***30*** *05:13:41.7±0.7, 1.°88S×128.°82E, h0km, mb4.2/9, mb1 4.4/10, mb1mx4.0/54, mbtmp4.2/10, ML5.1/2, MS4.4/1, Ms1 4.4/1, ms1mx3.0/34, Error ellipse: s-maj=32.2km s-min=14.9km az=71.0*

DJA ***30*** *05:13:44.5±0.3, 2.°S×2.°×12.°9E±.°, h10km, M5.0/8, mB6.0/1, mb6.2/1, MLv4.4/8, Mw(mB)5.6/1*

ISCJB ***30*** *05:13:46.3±0.6, 1.°88S±0.°04×128.°99E±0.°03, h49km±6km, mb4.5/19, Error ellipse: s-maj=6.9km s-min=5.1km az=33.8*

NEIC ***30*** *05:13:47.8±1.4, 2.°06S×128.°94E, h36km±14km, mb4.7/14, Error ellipse: s-maj=13.2km s-min=7.9km az=59.0*

ISC 30 05:13:47.8±1.0, 1.°88S±0.°04×128.°97E±0.°04, h42km±10km, n52, σ1°94/59, mb4.4/19, **Halmahera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSAI	**Masohi**	**1.46**	**182**	P	**Pn**	**05 14 13.1**	**+1.3**
MSAI				S	**Sn**	**05 14 34.0**	**+4.3**
LBMI	**Labuha**	**1.92**	**310**	P	**Pn**	**05 14 16.8**	**-1.3**
LBMI				S	**Sn**	**05 14 40.9**	**-0.1**
AAI	**Ambon**	**1.96**	**203**	P	**Pn**	**05 14 19.7**	**+1.1**
AAI				S	**Sn**	**05 14 44.1**	**+2.1**
NLAI	**Namlea**	**2.31**	**234**	P	**Pn**	**05 14 23.0**	**-0.4**
SIJI	**Sorong**	**2.50**	**66**	Pn	**Pn**	**05 14 25.1**	**-1.0**
	2μm,0.3s,baz=260,slow=9.0,SNR=274						
SIJI				Sn	**Sn**	**05 14 55.0**	**-0.4**
	7μm,0.3s,baz=89,slow=20,SNR=46						
SIJI				LR	LR	05 15 56.7	
	comp=Z,8μm,21.6s,baz=317,slow=51						
BNDI	**Bandanaira**	**2.79**	**161**	P	**Pn**	**05 14 31.1**	**+1.1**
SANI	**Sanana**	**2.99**	**267**	P	**Pn**	**05 14 29.9**	**-2.8**
SANI				S	**Sn**	**05 15 03.8**	**-3.6**
FAKI	**Fak Fak**	**3.43**	**108**	P	**Pn**	**05 14 38.0**	**-0.9**
FAKI				S	**Sn**	**05 15 16.1**	**-2.3**
FAKI	**Fak Fak**	**3.43**	**108**	*e*Pn	**Pn**	**05 14 38.5**	**-0.4**
FAKI				*e*Sn	**Sn**	**05 15 18.2**	**-0.2**
MRSI	**Marisa**	**7.41**	**288**	P	**Pn**	**05 15 33.5**	**0.0**
SPSI	**Sidrap Palu**	**9.42**	**257**	P	**Pn**	**05 16 03.4**	**+2.3**
MTN	**Manton Dam**	**11.10**	**169**	*e*Pn	**Pn**	**05 16 21.2**	**-3.0**
JAY	**Jayapura**	**11.74**	**93**	LR	LR	05 22 29.3	
	comp=Z,17nm,20.6s,baz=162,slow=44						
MYLDM	**Lahad Datu**	**12.59**	**304**	*e*Pn	**Pn**	**05 16 47.2**	**+2.6**
JAGI	**Jajag, Banyuwa**	**16.14**	**246**	*e*Pn	**Pn**	**05 17 30.6**	**-1.4**
	52nm,0.9s						
COEN	**Coen**	**18.47**	**131**	*e*P	**P**	**05 18 00.5**	**+0.1**
	19nm,0.8s						
COEN				*e*Sn	Sn	05 21 12.7	-14
WRAB	**Tennant Creek**	**18.70**	**164**	*e*P	**P**	**05 18 00.7**	**-2.2**
	20nm,0.6s						
WRA	**Warramunga Arr**	**18.71**	**164**	P	**P**	**05 18 00.4**	**-2.6**
	2.5nm,0.3s,baz=350,slow=12,SNR=56						
WB2	**Warramunga Arr**	**18.71**	**164**	*e*P	**P**	**05 18 00.4**	**-2.6**
	34nm,0.9s						
MBWA	**Marble Bar**	**21.18**	**205**	*e*P	**P**	**05 18 28.3**	**-1.5**
	21nm,1.1s						
CISI	**Cisompet, Garu**	**21.82**	**254**	*e*P	**P**	**05 18 37.1**	**+0.2**
	97nm,1.4s						
AS31	**Alice Springs**	**22.18**	**168**	*e*P	**P**	**05 18 39.1**	**-1.5**
	26nm,1.0s						
ASAR	**Alice Springs**	**22.18**	**168**	P	**P**	**05 18 39.0**	**-1.6**
	48nm,0.8s,baz=346,slow=11,SNR=252						
ASAR				S	**S**	**05 22 37.0**	**-5.7**
	4.4nm,0.9s,baz=348,slow=21,SNR=8.7						
AS01	**Alice Springs**	**22.19**	**168**	*e*P	**P**	**05 18 38.8**	**-1.9**
XMIS	**Christmas Isla**	**24.69**	**249**	*e*P	**P**	**05 19 03.8**	**-1.4**
	64nm,1.0s						
CTA	**Charters Tower**	**24.75**	**138**	P	**P**	**05 19 06.8**	**+1.0**
	5.6nm,0.8s,baz=320,slow=13,SNR=7.1						
CTAO	**Charters Tower**	**24.75**	**138**	*e*P	**P**	**05 19 03.5**	**-2.3**
	21nm,1.1s						
FORT	**Forrest**	**28.76**	**182**	*e*P	**P**	**05 19 40.8**	**-0.9**
	223nm,0.8s						
BBOO	**Buckleboo**	**31.48**	**169**	*e*P	**P**	**05 20 06.0**	**+0.3**
	144nm,1.9s						
STKA	**Stephens Creek**	**32.13**	**160**	P	**P**	**05 20 11.6**	**+0.1**
	5.8nm,1.1s,baz=324,slow=10,SNR=3.6						
CAN	**Canberra**	**38.13**	**153**	*e*P	**P**	**05 21 04.5**	**+1.3**
	49nm,1.4s						
INCN	**Inchon**	**39.22**	**357**	*e*P	**P**	**05 21 15.5**	**+3.3**
	145nm,1.8s						
TAPN	**Taplejung**	**49.20**	**309**	*e*P	**P**	**05 22 32.2**	**-0.4**
	7.6nm,0.6s						
ODAN	**Odare**	**49.21**	**308**	*e*P	**P**	**05 22 32.1**	**-0.6**
	12nm,0.7s						
RAMN	**Ramite**	**49.88**	**308**	*e*P	**P**	**05 22 37.5**	**-0.2**
	30nm,0.7s						
KLR	**Kul'dur**	**50.96**	**2**	P	**P**	**05 22 45.6**	**+0.4**
	0.2nm,0.9s,baz=250,slow=5.2,SNR=3.7						
DMN	**Daman**	**51.36**	**308**	*e*P	**P**	**05 22 48.0**	**-0.9**
KOLN	**Koldanda**	**52.62**	**307**	*e*P	**P**	**05 22 57.8**	**-0.5**
	22nm,0.8s						
DANN	**Dangsing**	**52.76**	**308**	*e*P	**P**	**05 22 58.9**	**-0.4**
ULN	**Ulaanbaatar**	**53.11**	**342**	*e*P	**P**	**05 23 04.9**	**+3.5**
	4.3nm,1.0s						
PYUN	**Piuthan**	**53.25**	**308**	*e*P	**P**	**05 23 02.5**	**-0.4**
SONM	**Songino Array**	**53.29**	**341**	P	**P**	**05 23 01.8**	**-1.0**
	0.5nm,0.5s,baz=169,slow=8.4,SNR=3.9						
SONA1	**Songino Array**	**53.30**	**341**	*e*P	**P**	**05 23 06.7**	**+3.9**
MK01	**Makanchi Array**	**63.40**	**326**	*e*P	**P**	**05 24 16.3**	**+3.1**
MKAR	**Makanchi Array**	**63.42**	**326**	P	**P**	**05 24 12.5**	**-0.9**
	1.3nm,0.7s,baz=127,slow=9.6,SNR=4.7						
KURBB	**Kurchatov Arra**	**67.64**	**328**	P	**P**	**05 24 39.9**	**-0.6**
	1.2nm,0.7s,baz=125,slow=5.7,SNR=5.1						
KURK	**Kurchatov**	**67.65**	**328**	P	**P**	**05 24 39.9**	**-0.6**
BVAR	**Borovoye Array**	**73.22**	**327**	P	**P**	**05 25 13.8**	**-0.7**
	0.9nm,0.6s,baz=101,slow=7.9,SNR=5.0						
VNDA	**Vanda**	**77.62**	**173**	P	**P**	**05 25 39.4**	**+0.1**
	0.7nm,0.8s,baz=309,slow=6.0,SNR=3.3						
MAW	**Mawson**	**79.33**	**201**	P			
	2.9nm,1.1s,baz=42,slow=9.3,SNR=3.7						
QSPA	**South Pole Qui**	**88.06**	**180**	*e*P	**P**	**05 26 33.8**	**0.0**
CPUP	**Villa Florida**	**151.30**	**168**	PKPbc	**PKPbc**	**05 33 38.6**	**+0.8**
	1.6nm,0.8s,baz=184,slow=3.1,SNR=5.6						

GCMT ***30*** *05:19:24.1±0.2, 22.°77S×171.°45E, h29km, MW5.2/92, Moment Tensor Solution. s92,c147; s92,c147; Duration: 1ſ0 Moment tensor: Scale 10^17 Nm; Mrr0.75±.02; Mθθ-0.81±.01; Mφφ0.05±.01; Mrθ0.31±.02; Mrφ0.18±.01; Mθφ0.07±.02; Best double couple: M0 0.85900×10^17 NP1:ϕ92.00000°, δ56.00000°, λ79.00000°. NP2:ϕ292.00000°, δ36.00000°, λ106.00000°. Principal axes: T 0.8240, Plg76.0000°, Azm327.0000°; N 0.0710, Plg9.0000°, Azm99.0000°; P -0.8940, Plg10.0000°, Azm190.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

NEIC ***30*** *05:19:24.1±0.1, 22.°50S×171.°46E, h10km, mb5.1/127 Error ellipse: s-maj=4.8km s-min=3.8km az=113.0*

MOS ***30*** *05:19:26.4±1.2, 22.°58S×171.°40E, h33km, mb5.2/45, MS4.4/7, Error ellipse: s-maj=10.1km s-min=8.3km az=146.0*

ISCJB ***30*** *05:19:26.5±0.1, 22.°58S±0.°03×171.°45E±0.°03, h35km, mb5.1/154, MS4.5/30, Error ellipse: s-maj=4.3km s-min=3.

MLZ **Mavora Lakes** **22.82 186** *e*P **P** **05 24 28.8 +1.4**
comp=Z,199nm,1.7s
DCZ **Deep Cove** **23.03 188** *e*P **P** **05 24 31.4 +1.9**
comp=Z,92nm,1.4s
CAN **Canberra** **23.32 232** *e*P **P** **05 24 34.0 +1.4**
CAN pmax pmax
comp=Z,162nm,1.9s
CAN **Canberra** **23.32 232** *e*P **P** **05 24 34.0 +1.4**
comp=Z,162nm,1.9s
YNG **Young** **23.34 235** P **P** **05 24 34.7 +2.0**
baz=24,SNR=6.4
WHZ **Wether Hill Ro** **23.36 186** *e*P **P** **05 24 34.3 +1.5**
comp=Z,106nm,1.7s
CTA **Charters Tower** **23.65 271** P **P** **05 24 37.1 +1.2**
comp=Z,28nm,0.9s,baz=103,slow=11,SNR=29
CTA LR LR 05 33 12.5
comp=Z,1μm,20.9s,baz=92,slow=35
CTAO **Charters Tower** **23.65 271** *e*P **P** **05 24 37.3 +1.4**
CTAO pmax pmax
comp=Z,54nm,1.0s
CTAO **Charters Tower** **23.65 271** *e*P **P** **05 24 37.3 +1.4**
comp=Z,54nm,1.0s
CMSA **Cobar Meteorol** **24.58 243** P **P** **05 24 44.6 +0.2**
baz=25,SNR=23
QLP **Quilpie** **25.08 255** P **P** **05 24 49.5 +0.6**
baz=25,SNR=27
MTSU **Mount Surprise** **25.86 275** P **P** **05 24 56.9 +0.7**
baz=26,SNR=148
RAR **Rarotonga** **26.66 92** LR LR 05 35 39.4
comp=Z,413nm,18.3s,baz=286,slow=36
PMG **Port Moresby** **26.80 296** P **P** **05 25 04.6 0.0**
comp=Z,52nm,0.7s,baz=98,slow=5.3,SNR=20
PMG **Port Moresby** **26.80 296** *e*P **P** **05 25 05.0 +0.4**
PMG pmax pmax
comp=Z,52nm,0.8s
PMG **Port Moresby** **26.80 296** *e*P **P** **05 25 05.0 +0.4**
comp=Z,52nm,0.8s
STKA **Stephens Creek** **28.06 244** P **P** **05 25 16.8 +1.0**
comp=Z,5.3nm,0.5s,baz=88,slow=11,SNR=8.7
STKA PcP **PcP** **05 28 30.2 +0.3**
comp=Z,2.2nm,0.7s,baz=119,slow=3.2,SNR=3.7
STKA **Stephens Creek** **28.06 244** P **P** **05 25 16.8 +1.0**
baz=28,SNR=5.7
STKA **Stephens Creek** **28.06 244** *e*P **P** **05 25 16.2 +0.4**
STKA 05 28 30.2
STKA pmax pmax
comp=Z,4.0nm,1.1s
STKA **Stephens Creek** **28.06 244** *e*P **P** **05 25 16.2 +0.4**
comp=Z,4.4nm,1.1s
STKA PcP **PcP** **05 28 30.2 +0.3**
COEN **Coen** **28.22 283** P **P** **05 25 18.2 +0.8**
baz=28,SNR=26
COEN **Coen** **28.22 283** *e*P **P** **05 25 18.6 +1.3**
comp=Z,47nm,1.0s
HTT **Hallett** **30.58 242** P **P** **05 25 38.9 +0.7**
baz=31,SNR=3.6
BBOO **Buckleboo** **32.83 244** *e*P **P** **05 25 58.2 +0.2**
comp=Z,90nm,1.5s
AS01 **Alice Springs** **34.48 261** *e*P **P** **05 26 12.3 -0.2**
AS31 **Alice Springs** **34.52 261** *e*P **P** **05 26 12.1 -0.8**
comp=Z,9.4nm,0.8s
ASAR **Alice Springs** **34.52 261** P **P** **05 26 12.4 -0.4**
comp=Z,24nm,0.9s,baz=84,slow=8.8,SNR=103
ASAR PKiKP **PKiKP** **05 36 09.2 -1.3**
comp=Z,0.4nm,0.5s,baz=99,slow=1.2,SNR=5.1
ASAR LR LR 05 40 06.1
comp=Z,843nm,20.7s,baz=102,slow=36
WB2 **Warramunga Arr** **34.67 267** *e*P **P** **05 26 13.1 -1.0**
comp=Z,14nm,0.8s
WRAB **Tennant Creek** **34.67 267** ||*i*P **P** **05 26 13.0 -1.1**
WRAB pmax pmax
comp=Z,29nm,0.7s
WRAB **Tennant Creek** **34.67 267** *e*P **P** **05 26 13.3 -0.8**
comp=Z,12nm,0.8s
WRA **Warramunga Arr** **34.68 267** P **P** **05 26 13.0 -1.1**
comp=Z,12nm,0.8s,baz=99,slow=8.0,SNR=15
WRA PKiKP **PKiKP** **05 36 09.4 -1.3**
comp=Z,0.5nm,0.6s,baz=52,slow=0.2,SNR=9.4
WRA LR LR 05 39 56.9
comp=Z,1μm,19.8s,baz=100,slow=35
TBI **Tubuai** **35.86 99** *e*S **S** **05 31 57.7 -2.2**
comp=Z,182nm,27.5s
TBI *e*LR LR 05 35 59.2
comp=Z,906nm,26.8s,baz=274
JAY **Jayapura** **35.97 299** P **P** **05 26 25.3 0.0**
comp=Z,45nm,0.8s,comp=Z,356nm
JAY **Jayapura** **35.97 299** P **P** **05 26 25.3 0.0**
JAY pmax pmax
comp=Z,45nm,0.9s
GENI **Genyem** **36.35 299** P **P** **05 26 29.9 +1.4**
comp=Z,85nm,0.8s
PPT2 **Papeete2** **36.81 89** *e*S **S** **05 32 08.6 -6.1**
comp=Z,159nm,25.5s
PPT2 *e*LR LR 05 36 24.4
comp=Z,754nm,23.8s,baz=252
PPT **Papeete** **36.82 89** LR LR 05 37 58.6
comp=Z,461nm,20.4s,baz=282,slow=30
FORT **Forrest** **39.45 249** P **P** **05 26 54.5 0.0**
baz=40,SNR=15
FORT **Forrest** **39.45 249** *e*P **P** **05 26 54.6 0.0**
comp=Z,468nm,0.7s
WRKA **Warakurna** **39.47 258** P **P** **05 26 54.7 -0.2**
baz=40,SNR=23
MTN **Manton Dam** **39.56 277** P **P** **05 26 55.6 0.0**
baz=40,SNR=7.0
MTN **Manton Dam** **39.56 277** *e*P **P** **05 26 54.6 -1.0**
comp=Z,29nm,0.6s
KNRA **Kununurra** **40.86 272** P **P** **05 27 06.1 -0.3**
baz=41,SNR=7.4
H11S2 **WAKE ISLAND Hy** **41.17 353** T T 06 10 53.1
baz=173,slow=76,SNR=24
H11S3 **WAKE ISLAND Hy** **41.17 353** T T 06 10 51.5
baz=173,slow=76,SNR=22
H11S1 **WAKE ISLAND Hy** **41.18 353** T T 06 10 52.4
baz=173,slow=76,SNR=21
WAKE **Wake Island** **41.95 353** *e*P **P** **05 27 15.3 +0.2**
comp=Z,203nm,1.3s
FAKI **Fak Fak** **42.80 292** *e*P **P** **05 27 21.6 -0.7**
comp=Z,20nm,0.8s
GUMO **Guam** **44.49 322** LR LR 05 46 19.7
comp=Z,349nm,18.9s,baz=145,slow=36
KMBL **Kambalda** **44.75 248** P **P** **05 27 37.6 -0.2**
baz=45,SNR=11
SOEI **Soe** **46.95 278** P P 05 28 07.0 +12
SOEI **Soe** **46.95 278** *e*P **P** **05 27 55.5 0.0**
comp=Z,34nm,0.8s
MBWA **Marble Bar** **47.86 261** *e*P **P** **05 28 02.4 +0.1**
comp=Z,80nm,0.8s
MEEK **Meekatharra** **47.96 254** P **P** **05 28 02.5 -0.7**
baz=48,SNR=11
KLBR **Kellerberrin** **48.26 247** P **P** **05 28 05.0 -0.4**
baz=48,SNR=20
NWAO **Narrogin (SRO)** **48.64 245** P **P** **05 28 08.0 -0.2**
comp=Z,47nm,0.7s,baz=321,slow=6.4,SNR=33
NWAO **Narrogin (SRO)** **48.64 245** P **P** **05 28 08.0 -0.2**
baz=49,SNR=21
NWAO P **P** **05 28 08.0 -0.2**
baz=49,SNR=21
NWAO **Narrogin (SRO)** **48.64 245** *e*P **P** **05 28 08.0 -0.2**
comp=Z,51nm,0.7s
RKGY **Rocky Gully** **48.80 243** P **P** **05 28 09.7 +0.3**
baz=49,SNR=5.8
RKT **Rikitea** **49.07 102** *e*LR LR 05 42 05.8
comp=Z,485nm,29.2s
BLDU **Ballidu** **49.22 248** P **P** **05 28 12.1 -0.7**
baz=49,SNR=27
MORW **Morawa** **49.94 250** P **P** **05 28 17.8 -0.4**
baz=50,SNR=14
WSI **Waingapu** **50.62 276** P **P** **05 28 19.5 -4.0**
KEKH **Kekaha** **52.49 34** *e*P **P** **05 28 39.5 +2.3**
comp=Z,194nm,1.3s
GIRL **Giralia** **52.56 258** P **P** **05 28 39.2 +1.3**
baz=53,SNR=3.3
KAPI **Kappang** **52.92 281** *e*P **P** **05 28 41.5 +0.8**
comp=Z,22nm,1.0s
MRSI **Marisa** **53.42 289** P P 05 28 57.2 +13
TTSI **Tana Toraja** **53.70 284** P P 05 28 57.0 +11
PCI **Palu** **54.63 286** P **P** **05 28 55.8 +2.6**
VNDA **Vanda** **55.11 183** P **P** **05 28 55.8 0.0**
comp=Z,0.9nm,0.5s,baz=351,slow=7.9,SNR=10
VNDA LR LR 05 49 18.5
comp=Z,294nm,20.3s,baz=332,slow=32
VNDA **Vanda** **55.11 183** *e*P **P** **05 28 56.0 +0.2**
VNDA pmax pmax
comp=Z,6.0nm,1.2s
VNDA **Vanda** **55.11 183** *e*P **P** **05 28 56.0 +0.2**
comp=Z,6.2nm,1.2s
SBA **Scott Base** **55.30 181** *e*P **P** **05 28 58.1 +1.0**
SBA pmax pmax
comp=Z,20nm,1.1s
SBA **Scott Base** **55.30 181** *e*P **P** **05 28 58.1 +1.0**
comp=Z,20nm,1.1s
MYLDM **Lahad Datu** **58.72 291** *e*P **P** **05 29 23.4 +1.1**
comp=Z,37nm,1.2s
KKM **Kota Kinabalu** **61.12 291** *e*P **P** **05 29 39.2 +0.3**
comp=Z,40nm,0.7s
KPJI **Karang Pucung** **61.93 274** P **P** **05 29 47.6 +3.4**
SBUM **Sibu** **62.93 285** *e*P **P** **05 29 51.0 +0.1**
comp=Z,12nm,1.1s
KSM **Kuching** **64.21 283** *e*P **P** **05 29 59.5 +0.1**
comp=Z,49nm,0.8s
CGJI **Cibinong** **65.18 273** P **P** **05 30 07.3 +1.6**
KASI **Kota Agung** **66.69 274** P **P** **05 30 17.5 +2.1**
MJAR **Matsushiro Arr** **66.75 331** P **P** **05 30 14.2 -1.1**
comp=Z,5.9nm,0.7s,baz=158,slow=6.5,SNR=13
MJAR LR LR 06 00 00.6
comp=Z,104nm,18.8s,baz=165,slow=36
MAJO **Matsushiro** **66.75 331** *e*P **P** **05 30 16.2 +0.9**
MAJO pmax pmax
comp=Z,13nm,0.8s
MAJO **Matsushiro** **66.75 331** *e*P **P** **05 30 16.2 +0.9**
comp=Z,13nm,0.8s
MAT **Matsushiro** **66.75 331** P **P** **05 30 14.5 -0.8**
MJB9 **Matsu-Tunnel** **66.76 331** *e*P **P** **05 30 16.2 +0.8**
comp=Z,3.4nm,0.8s
KLSI **Liwa** **66.79 275** P **P** **05 30 18.4 +2.3**
LWLI **Liwa** **67.28 274** P **P** **05 30 21.4 +2.0**
TPUB **Ta-pu** **67.34 309** *e*P **P** **05 30 18.2 -1.2**
comp=Z,153nm,1.7s
QSPA **South Pole Qui** **67.41 180** *e*P **P** **05 30 18.9 -0.4**
SSLB **Suanglung** **67.42 310** *e*P **P** **05 30 19.2 -0.7**
comp=Z,87nm,1.8s
MNAI **Manna** **68.55 274** *e*P **P** **05 30 26.6 -0.6**
comp=Z,306nm,1.3s
TPRI **Tanjung Pinang** **69.20 280** P **P** **05 30 35.5 +4.2**
MASI **Maura Aman, Be** **69.67 275** P **P** **05 30 36.8 +2.6**
MYKOM **Kota Tinggi** **70.18 281** *e*P **P** **05 30 37.3 0.0**
comp=Z,18nm,0.9s
ASAJ **Asahikawa** **71.54 338** *e*P **P** **05 30 45.6 +0.8**
comp=Z,97nm,1.7s
KSRS **Korea Array** **72.51 325** P **P** **05 30 50.1 -0.7**
comp=Z,2.1nm,0.6s,baz=142,slow=5.5,SNR=5.5
KSRS LR LR 06 00 45.6
comp=Z,120nm,20.6s,baz=132,slow=34
KSAR **Wonju Array Be** **72.52 325** P **P** **05 30 50.1 -0.8**
KSAR **Wonju Array Be** **72.52 325** P **P** **05 30 50.0 -0.8**
IPM **Ipoh** **73.86 282** *e*P **P** **05 30 59.8 +0.4**
comp=Z,28nm,0.6s
YSS **Yuzh-Sakhalins** **74.00 340** P **P** **05 31 00.1 +0.8**
YSS pmax pmax
comp=Z,17nm,0.8s
NJ2 **Nanjing** **74.12 315** *e*P **P** **05 31 00.8 +0.4**
KULM **Kulim** **74.54 283** *e*P **P** **05 31 03.4 +0.1**
comp=Z,21nm,0.8s
ADK **Adak** **74.94 8** *e*P **P** **05 31 03.7 -1.0**
ADK pmax pmax
comp=Z,230nm,1.5s
ADK **Adak** **74.94 8** *e*P **P** **05 31 03.7 -1.0**
comp=Z,230nm,1.5s
GSI **Gununugsitoli** **75.70 278** *e*P **P** **05 31 06.9 -3.1**
comp=Z,70nm,0.8s
USRK **Ussuriysk Ar.** **75.74 332** P **P** **05 31 08.4 -1.1**
comp=Z,7.9nm,0.8s,baz=152,slow=4.3,SNR=9.7
USRK LR LR 06 01 00.1
comp=Z,106nm,21.5s,baz=142,slow=33
MAW **Mawson** **76.07 202** P **P** **05 31 11.4 +0.2**
comp=Z,11nm,0.9s,baz=120,slow=6.7,SNR=13
MAW LR LR 06 02 08.0
comp=Z,245nm,18.1s,baz=63,slow=34
MAW **Mawson** **76.07 202** P **P** **05 31 11.7 +0.5**
baz=76,SNR=8.3
MAW **Mawson** **76.07 202** *e*P **P** **05 31 11.3 +0.1**
comp=Z,3.2nm,0.9s
PET **Petropavlovsk** **76.19 352** *e*P P 05 31 16.9 +5.1
PET *e*S **SKSac** **05 41 10.0 -10**
PET pmax pmax
comp=Z,100nm,16.3s
PEA0 **Petropavlovsk-** **76.40 351** *e*P **P** **05 31 13.0 -0.1**
PETK **Petropavlovsk-** **76.40 351** P **P** **05 31 12.6 -0.4**
comp=Z,12nm,0.8s,baz=148,slow=6.4,SNR=6.0
PETK LR LR 05 59 10.9
comp=Z,467nm,21.5s,baz=145,slow=31
MDJ **Mudanjiang** **77.13 331** P **P** **05 31 19.0 +1.7**
MDJ pP sP 05 31 39.3 +7.0
MDJ S **S** **05 41 06.3 +2.4**
MDJ sS ScS 05 41 36.0 +4.1
MDJ pmax pmax
comp=Z,12nm,0.7s
MDJ pmax pmax
comp=Z,100nm,5.1s
MDJ LR LR
comp=Z,130nm,23.7s
MDJ LR LR
comp=Z,100nm,24.4s
NIKH **Nikolski High** **77.23 12** *e*P **P** **05 31 17.5 -0.1**
comp=Z,285nm,1.0s
CHAI **Chaiyaphum** **78.07 293** P **P** **05 31 24.1 +0.8**
comp=Z,5.7nm,0.8s
CN2 **Changchun** **78.47 328** *e*P **P** **05 31 25.8 +1.0**
CN2 *ep*P sP 05 31 46.0 +6.2
CN2 *e*S **S** **05 41 15.5 -2.9**
CN2 pmax pmax
comp=Z,20nm,0.8s
UNV **Unalaska Valle** **78.52 13** *e*P **P** **05 31 24.1 -0.7**
comp=Z,97nm,1.2s
PHET **Kaeng Krachan** **78.75 289** P **P** **05 31 29.0 +2.0**
comp=Z,19nm,0.9s
PBKT **Sadao Pong** **79.25 293** P **P** **05 31 31.4 +1.7**
comp=Z,37nm,0.8s
ENH **Enshi** **79.47 309** *e*P **P** **05 31 30.5 -0.2**
comp=Z,24nm,0.8s
GYA **Guiyang** **79.50 304** *e*P **P** **05 31 32.0 +0.9**
GYA pP sP 05 31 54.3 +8.2
GYA sP pP 05 32 03.8 +22
GYA PP **PP** **05 34 35.5 +3.5**
GYA S **S** **05 41 26.0 -4.4**
GYA SKS **SKSac** **05 41 36.5 -8.8**
GYA pmax pmax
comp=Z,20nm,1.0s
KLR **Kul'dur** **79.85 335** P **P** **05 31 32.6 +0.4**
comp=Z,0.2nm,0.6s,baz=180,slow=6.4,SNR=3.7
UTHA **Uthaitani** **80.09 291** P **P** **05 31 35.7 +1.4**
comp=Z,23nm,0.8s,comp=Z,339nm
UTTA **Uttaradit** **80.14 294** P **P** **05 31 35.9 +1.4**
comp=Z,4.2nm,0.8s
NANT **Nan** **80.51 295** P **P** **05 31 38.4 +1.9**
comp=Z,4.3nm,0.7s
UMPA **Umpang Tak** **80.88 292** P **P** **05 31 39.9 +1.3**
comp=Z,15nm,0.9s,comp=Z,813nm
BJI **Beijing** **80.91 320** P **P** **05 31 38.5 +0.3**
BJI pmax pmax
comp=Z,14nm,0.9s
LAMP **Lampang** **81.28 294** P **P** **05 31 42.8 +2.2**
comp=Z,10nm,0.9s
CM01 **Chiang Mai Arr** **81.80 294** *e*P **P** **05 31 44.0 +0.6**
CMAR **Chiang Mai Arr** **81.83 294** P **P** **05 31 44.7 +1.2**
comp=Z,12nm,0.7s,baz=136,slow=4.0,SNR=64
CMAR LR LR 06 08 27.7
comp=Z,70nm,21.9s,baz=105,slow=36
KMI **Kunming** **81.87 301** P **P** **05 31 45.3 +1.4**
KMI pP sP 05 32 06.5 +7.6
KMI pmax pmax
comp=Z,22nm,0.6s
XAN **Xi'an** **81.97 312** P **P** **05 31 43.8 -0.2**
XAN pP sP 05 32 00.0 +0.9
XAN pmax pmax
comp=Z,20nm,1.2s
XAN pmax pmax
comp=Z,180nm,7.9s
CHTO **Chiang Mai** **81.99 294** P **P** **05 31 45.6 +1.2**
comp=Z,114nm,1.3s
CHTO **Chiang Mai** **81.99 294** *e*P **P** **05 31 43.5 -0.9**
CHTO pmax pmax
comp=Z,18nm,0.9s
CHTO **Chiang Mai** **81.99 294** *e*P **P** **05 31 43.5 -0.9**
comp=Z,18nm,0.9s
SYO **Syowa Base** **82.24 196** ||*e*X **P** **05 31 42.0 -2.8**
SYO **Syowa Base** **82.24 196** ||*ep*P **P** **05 31 47.8 +3.0**
CHGN **Chignik** **82.67 16** *e*P **P** **05 31 46.6 -0.4**
comp=Z,141nm,1.6s
HHC **Hu-ho-hao-te** **84.18 319** *e*P **P** **05 31 57.0 +1.6**
HHC PP **PP** **05 35 11.0 +0.6**
HHC pmax pmax
comp=Z,21nm,1.4s
HHC pmax pmax
comp=Z,150nm,5.1s
HHC LR LR
comp=Z,140nm,12.8s
HHC LR LR
comp=Z,180nm,12.3s
HHC LR LR
comp=Z,190nm,18.5s
OHAK **Old Harbor** **84.89 18** *e*P **P** **05 31 58.6 +0.3**
comp=Z,115nm,1.8s
KDAK **Kodiak Island** **85.56 18** *e*P **P** **05 32 02.3 +0.6**
KDAK pmax pmax
comp=Z,82nm,1.8s
KDAK **Kodiak Island** **85.56 18** *e*P **P** **05 32 02.3 +0.6**
comp=Z,82nm,1.8s
SNAA **Sanae** **85.84 182** P **P** **05 32 01.7 -1.6**
SNAA **Sanae** **85.84 182** P **P** **05 32 01.5 -1.8**
comp=Z,6.4nm,0.8s,baz=188,slow=7.8,SNR=39
SNAA **Sanae** **85.84 182** *e*P **P** **05 32 01.7 -1.6**
SNAA pmax pmax
comp=Z,7.0nm,0.7s
SNAA **Sanae** **85.84 182** *e*P **P** **05 32 01.7 -1.6**
comp=Z,7.5nm,0.7s
MCCM **Marconi Confer** **86.26 46** *e*P **P** **05 32 06.8 +1.1**
comp=Z,139nm,1.7s
VNA3 **Neumayer Olymp** **86.35 180** P **P** **05 32 04.0 -1.7**
SAO **San Andreas Ge** **86.50 48** *e*P **P** **05 32 07.5 +0.6**
SAO pmax pmax
comp=Z,18nm,1.4s
SAO **San Andreas Ge** **86.50 48** *e*P **P** **05 32 07.5 +0.6**
comp=Z,18nm,1.4s
LZH **Lanzhou** **86.58 311** *e*P **P** **05 32 08.3 +0.8**
LZH pP sP 05 32 29.3 +6.7
LZH sP pP 05 32 37.0 +18
LZH pmax pmax
comp=Z,42nm,1.2s
LZH pmax pmax
comp=Z,180nm,5.0s
HOPS **Hopland Field** **86.59 45** *e*P **P** **05 32 08.2 +0.8**
comp=Z,81nm,1.9s
KCPM **Cahto Peak** **86.64 44** *e*P **P** **05 32 09.1 +1.4**
comp=Z,14nm,0.7s
SEY **Seymchan** **86.64 351** ||*i*P **P** **05 32 06.0 -0.9**
PMPB **Monarch Peak** **86.66 49** *e*P **P** **05 32 09.3 +1.5**
comp=Z,45nm,1.7s
VNA2 **Neumayer--Watz** **86.67 180** P **P** **05 32 06.1 -1.2**
baz=180,slow=4.4
PKM **Mcpherson Peak** **86.67 50** P **P** **05 32 07.9 -0.1**
baz=240
PAGB **Antelope Grade** **86.79 49** *e*P **P** **05 32 09.7 +1.3**
comp=Z,46nm,1.9s
KMRM **Mail Ridge** **86.85 44** *e*P **P** **05 32 10.2 +1.5**
comp=Z,71nm,1.8s
VNA1 **Neumayer--Stat** **86.95 180** P **P** **05 32 07.4 -1.2**
KHMM **Horse Mountain** **87.19 43** *e*P **P** **05 32 11.5 +1.2**
comp=Z,92nm,2.0s
CNPM **China Poot** **87.41 18** *e*P **P** **05 32 10.9 +0.1**
comp=Z,61nm,1.6s
KRMB **Red Mountain** **87.44 43** *e*P **P** **05 32 12.8 +1.3**
comp=Z,73nm,1.8s
GO09 **Cerro Castillo** **87.58 146** *e*P **P** **05 32 12.3 +0.2**
comp=Z,84nm,1.7s
VES **Vestal, Richgr** **87.67 50** P **P** **05 32 12.2 -0.4**
baz=240,SNR=5.6
BRLK **Bradley Lake** **87.71 18** *e*P **P** **05 32 13.2 +1.0**
comp=Z,112nm,1.9s
RSO **Redoubt South** **87.78 17** *e*P **P** **05 32 13.1 +0.3**
WDC **Whiskeytown Da** **87.79 44** *e*P **P** **05 32 13.4 +0.3**
WDC pmax pmax
comp=Z,30nm,1.9s
WDC **Whiskeytown Da** **87.79 44** *e*P **P** **05 32 13.4 +0.3**
comp=Z,30nm,1.9s
CMB **Columbia Colle** **87.88 47** *e*P **P** **05 32 13.9 +0.3**
CMB pmax pmax
comp=Z,5.0nm,0.9s
CMB **Columbia Colle** **87.88 47** *e*P **P** **05 32 13.9 +0.3**
comp=Z,5.2nm,0.9s
CMB *ep*P **sP** **05 32 34.9 +6.2**
N02D **Trinity Center** **87.90 44** P **P** **05 32 14.1 +0.5**
baz=238,SNR=5.5
ORV **Oroville** **87.92 45** *e*P **P** **05 32 14.1 +0.4**
ORV pmax pmax
comp=Z,35nm,1.9s
ORV **Oroville** **87.92 45** *e*P **P** **05 32 14.1 +0.4**
comp=Z,35nm,1.9s
AFDM **Forest Hills D** **87.96 46** *e*P **P** **05 32 14.3 +0.3**
comp=Z,8.6nm,1.1s
EDW2 **Edwards Air Fo** **87.97 51** P **P** **05 32 13.8 -0.3**
baz=241,SNR=6.8
ISA **Isabella, Lake** **88.01 50** P **P** **05 32 14.6 +0.3**
baz=240
ISA **Isabella, Lake** **88.01 50** *e*P **P** **05 32 14.8 +0.5**
ISA pmax pmax
comp=Z,8.0nm,0.8s
ISA **Isabella, Lake** **88.01 50** *e*P **P** **05 32 14.8 +0.5**
comp=Z,8.4nm,0.8s
M02C **Callahan** **88.03 43** P **P** **05 32 14.9 +0.6**
baz=237,SNR=9.0
O03D **Paynes Creek** **88.12 45** P **P** **05 32 14.7 -0.1**
baz=238,SNR=5.2
MONP **Monument Peak,** **88.15 53** P **P** **05 32 15.1 -0.1**
baz=242,SNR=6.5
YBH **Yreka Blue Hor** **88.30 43** *e*P **P** **05 32 16.3 +0.7**
YBH pmax pmax
comp=Z,5.0nm,0.8s
YBH **Yreka Blue Hor** **88.30 43** *e*P **P** **05 32 16.3 +0.7**
comp=Z,5.2nm,0.8s
PFO **Pinyon Flats O** **88.47 53** LR LR 06 04 06.4
comp=Z,258nm,19.9s,baz=254,slow=30
PFO **Pinyon Flats O** **88.47 53** P **P** **05 32 16.2 -0.5**
baz=242
PFO **Pinyon Flats O** **88.47 53** *e*P **P** **05 32 16.6 0.0**
PFO pmax pmax
comp=Z,10.0nm,1.4s
PFO **Pinyon Flats O** **88.47 53** *e*P **P** **05 32 16.6 0.0**
comp=Z,10nm,1.4s
LRMC **Laurel Mtn Rad** **88.48 50** P **P** **05 32 16.4 -0.3**
baz=241
HUMO **Hull Mountain** **88.62 42** *e*P **P** **05 32 17.9 +1.0**
comp=Z,31nm,1.6s
CWC **Cottonwood Cre** **88.67 49** P **P** **05 32 17.3 -0.2**
baz=241
WAKR **Walker** **88.76 47** *e*P **P** **05 32 18.3 +0.3**
comp=Z,35nm,1.6s
BEKR **Beckworth** **88.84 46** *e*P **P** **05 32 18.6 +0.3**
comp=Z,14nm,1.3s
M04C **Macdoel** **88.88 43** P **P** **05 32 18.6 +0.2**
baz=236
MPMC **Manual Prospec** **88.90 50** P **P** **05 32 18.3 -0.4**
baz=241
DAC **Darwin (Calif)** **88.93 50** *e*P **P** **05 32 19.5 +0.7**
DAC pmax pmax
comp=Z,3.0nm,0.9s
DAC **Darwin (Calif)** **88.93 50** *e*P **P** **05 32 19.5 +0.7**
comp=Z,3.4nm,0.9s
PNTR **Pine Nut** **88.95 47** *e*P **P** **05 32 19.5 +0.6**
comp=Z,12nm,0.8s
I03D **Drain, OR** **88.97 41** P **P** **05 32 18.8 +0.3**
baz=237
BELC **Belle Mtn. Jos** **88.99 52** P **P** **05 32 18.8 -0.2**
baz=242,SNR=10
LPIG **La Paz** **89.01 63** LR LR 06 02 47.2
comp=Z,174nm,21.4s,baz=251,slow=29
GSC **Goldstone, Bar** **89.02 51** P **P** **05 32 18.9 -0.2**
baz=241
TT01 **Tatalina** **89.07 14** *e*P **P** **05 32 18.8 +0.3**
HEC **Hector,Ludlow** **89.14 52** P **P** **05 32 19.5 -0.2**
baz=242
YERR **Yerington** **89.14 47** *e*P **P** **05 32 20.2 +0.5**
comp=Z,11nm,1.2s
TVH1 **TV Hill, Hawth** **89.19 47** *e*P **P** **05 32 17.4 -2.9**
comp=Z,8.3nm,1.1s
BC3 **Big Chuckawall** **89.23 53** P **P** **05 32 19.9 -0.2**
baz=242
PAHR **Pah Rah Range** **89.40 46** *e*P **P** **05 32 21.3 +0.4**
comp=Z,10.0nm,0.9s
GLA **Glamis** **89.41 54** P **P** **05 32 21.2 +0.3**
baz=242
GLA **Glamis** **89.41 54** *e*P **P** **05 32 21.8 +0.9**
GLA pmax pmax
comp=Z,8.0nm,1.0s
GLA **Glamis** **89.41 54** *e*P **P** **05 32 21.8 +0.9**
comp=Z,8.0nm,1.0s
GRAC **Grapevine Rang** **89.44 49** P **P** **05 32 21.2 +0.2**
baz=241,SNR=10
J04D **Umpqua Nationa** **89.48 42** P **P** **05 32 21.3 0.0**
baz=238

FURC **Furnace Creek,** 89.54 50 P P 05 32 21.4 0.0
baz=241
I04A **Tendick Farm,** 89.59 41 P P 05 32 21.6 0.0
baz=238
GMRC **Granite Mounta** 89.60 52 P P 05 32 21.6 -0.4
baz=242
IRM **Iron Mountain** 89.69 53 P P 05 32 22.3 +0.1
baz=242,SNR=5.4
SHOC **Shoshone, Teco** 89.69 51 P P 05 32 22.0 -0.1
baz=242
TUQ **Turquoise Moun** 89.72 51 P P 05 32 22.3 -0.1
baz=242
G03D **McMinnville, O** 89.85 40 P P 05 32 22.9 +0.2
baz=237
MOD **Modoc Plateau** 89.92 44 eP P 05 32 23.7 +0.4
comp=Z,6.0nm,0.8s
Y12C **Blythe** 89.96 53 P P 05 32 23.4 0.0
baz=243
K05A **Summer Lake** 89.97 43 eP P 05 32 24.2 +0.7
comp=Z,50nm,1.6s
J05D **Fort Rock, OR** 90.05 42 P P 05 32 24.0 +0.2
baz=238,SNR=18
TPNV **Topopah Spring** 90.20 50 P P 05 32 24.8 +0.1
baz=242,SNR=13
TPNV **Topopah Spring** 90.20 50 eP P 05 32 25.2 +0.5
TPNV pmax pmax
comp=Z,7.0nm,0.7s
TPNV **Topopah Spring** 90.20 50 eP P 05 32 25.2 +0.5
comp=Z,6.8nm,0.7s
E03A **Lebam** 90.40 39 eP P 05 32 25.8 +0.6
comp=Z,25nm,1.2s
214A **Organ Pipe Nat** 90.43 55 P P 05 32 25.6 -0.2
baz=244
CAST **Castle Rocks** 90.44 15 eP P 05 32 24.5 -0.5
comp=Z,18nm,1.7s
PDMCI **Parker Dam,Lak** 90.49 53 P P 05 32 26.0 +0.1
baz=243
I05D **Terrebonne, OR** 90.54 41 P P 05 32 26.0 +0.1
baz=238
BMRM **Bremner River** 90.55 20 eP P 05 32 25.7 +0.1
comp=Z,10nm,0.8s
NLWA **Neilton Lookou** 90.69 38 eP P 05 32 27.0 +0.4
comp=Z,6.5nm,0.8s
F04A **Amboy** 90.74 40 eP P 05 32 26.9 +0.2
comp=Z,6.9nm,0.7s
YAK **Yakutsk** 90.76 342 i P P 05 32 26.2 -0.2
YAK pmax pmax
comp=Z,13nm,0.6s
SHPR **Sheep Range** 90.77 51 eP P 05 32 27.9 +0.6
comp=Z,4.1nm,1.0s
SHL **Shillong** 90.81 297 eP P 05 32 28.0 +0.2
KTH **Kantishna Hill** 90.84 16 eP P 05 32 27.2 +0.3
comp=Z,44nm,2.0s
ULN **Ulaanbaatar** 90.86 323 ⇓ i P P 05 32 27.6 +0.1
ULN pmax pmax
comp=Z,9.0nm,1.1s
ULN **Ulaanbaatar** 90.86 323 eP P 05 32 27.7 +0.2
comp=Z,7.2nm,0.8s
TRF **Thorofare Moun** 90.92 16 eP P 05 32 27.2 -0.2
comp=Z,42nm,2.0s
GTA **Gaotai** 91.00 313 eP P 05 32 28.5 +0.2
GTA pP sP 05 32 50.5 +7.0
GTA sP pP 05 32 58.3 +19
GTA pmax pmax
comp=Z,5.0nm,0.8s
G05D **Wamic, OR** 91.03 41 P P 05 32 28.1 0.0
baz=238
W13A **Hualapai Mount** 91.04 52 eP P 05 32 29.2 +0.5
comp=Z,3.6nm,0.9s
Y14A **Wickenburg** 91.17 54 eP P 05 32 29.5 +0.3
comp=Z,55nm,1.9s
SONM **Songino Array** 91.21 322 P P 05 32 28.8 -0.3
comp=Z,4.7nm,0.7s,baz=145,slow=4.8,SNR=28
SONM LR LR 06 15 47.5
comp=Z,65nm,18.0s,baz=82,slow=37
SONA1 **Songino Array** 91.21 322 eP P 05 32 28.6 -0.6
WVOR **Wild Horse Val** 91.26 44 eP P 05 32 29.4 0.0
WVOR pmax pmax
comp=Z,7.0nm,1.0s
WVOR **Wild Horse Val** 91.26 44 eP P 05 32 29.4 0.0
comp=Z,7.2nm,1.0s
R11A **Troy Canyon, C** 91.33 49 P P 05 32 29.5 -0.4
baz=242,SNR=5.7
R11A **Troy Canyon, C** 91.33 49 eP P 05 32 29.9 0.0
comp=Z,2.5nm,0.8s
DHY **Denali Highway** 91.39 17 eP P 05 32 28.8 -0.8
comp=Z,21nm,1.8s
G06A **Carlson Farm,** 91.43 41 eP P 05 32 30.0 -0.1
comp=Z,9.3nm,1.4s
LON **Longmire** 91.53 39 eP P 05 32 30.3 -0.2
LON pmax pmax
comp=Z,11nm,1.6s
LON **Longmire** 91.53 39 eP P 05 32 30.3 -0.2
comp=Z,11nm,1.6s
PGC **Sidney** 91.62 37 eP P 05 32 30.7 0.0
comp=Z,30nm,1.5s
A04D **Lummi Island** 92.07 37 P P 05 32 33.0 +0.1
baz=238
TUC **Tucson** 92.13 56 P P 05 32 33.6 -0.1
baz=245
TUC **Tucson** 92.13 56 eP P 05 32 34.3 +0.6
TUC pmax pmax
comp=Z,5.0nm,1.1s
TUC **Tucson** 92.13 56 eP P 05 32 34.3 +0.6
comp=Z,4.6nm,1.1s
B05A **Bryant** 92.17 38 P P 05 32 33.8 +0.5
baz=238
WRH **Wood River Hil** 92.31 16 eP P 05 32 33.8 +0.2
comp=Z,19nm,1.6s
LCMT **Little Creek M** 92.37 51 eP P 05 32 35.2 +0.4
comp=Z,4.0nm,0.8s
CCB **Clear Creek Bu** 92.53 16 eP P 05 32 33.8 -0.8
comp=Z,3.9nm,0.9s
X16A **Lo Mia Camp, P** 92.54 54 eP P 05 32 36.2 +0.6
comp=Z,4.1nm,0.9s
HDA **Harding Lake** 92.56 17 eP P 05 32 34.5 -0.4
comp=Z,5.5nm,0.8s
KNB **Kanab** 92.67 51 eP P 05 32 36.8 +0.6
KNB pmax pmax
comp=Z,6.0nm,1.1s
KNB **Kanab** 92.67 51 eP P 05 32 36.8 +0.6
comp=Z,5.5nm,1.1s
MDM **Murphy Dome** 92.67 16 eP P 05 32 34.1 -1.2
comp=Z,26nm,2.0s
HAWA **Hanford** 92.69 40 eP P 05 32 36.3 +0.5
comp=Z,21nm,1.8s
COLA **College** 92.70 16 eP P 05 32 34.0 -1.4
COLA pmax pmax
comp=Z,8.0nm,0.9s
COLA **College** 92.70 16 eP P 05 32 34.0 -1.4
comp=Z,7.8nm,0.9s
DOT **Dot Lake** 92.77 18 eP P 05 32 35.1 -0.8
comp=Z,9.9nm,0.9s
U15A **North Rim** 92.79 52 eP P 05 32 37.2 +0.3
comp=Z,11nm,0.6s
IL1 **Eielson Array** 92.87 17 eP P 05 32 34.4 -1.8
ILAR **Eielson Array** 92.87 17 P P 05 32 34.0 -2.2
comp=Z,1.6nm,0.8s,baz=228,slow=5.9,SNR=16
ILAR PKKPbc PKKPdf 05 49 47.9 -0.3
comp=Z,0.3nm,0.6s,baz=311,slow=4.2,SNR=4.5
ILAR LR LR 06 08 39.3
comp=Z,315nm,20.1s,baz=224,slow=32
ILB **Eielson Array** 92.87 17 eP P 05 32 34.0 -2.2
319A **Douglas** 92.90 57 eP P 05 32 36.9 -0.4
comp=Z,5.2nm,0.8s
WUAZ **Wupatki** 93.07 53 P P 05 32 37.7 -0.4
baz=244
WUAZ **Wupatki** 93.07 53 eP P 05 32 37.5 -0.5
comp=Z,8.2nm,1.3s
MSU **Marysvale** 93.79 50 eP P 05 32 42.3 +0.9
MSU **Marysvale** 93.79 50 eP P 05 32 42.3 +0.9
B08A **Colville Reser** 93.80 39 eP P 05 32 40.4 -0.5
F10A **Beach Ranch, E** 93.88 41 eP P 05 32 40.7 -0.7
comp=Z,4.3nm,0.9s
COLD **Coldfoot** 94.05 14 eP P 05 32 41.2 -0.4
comp=Z,20nm,1.9s
ZAK **Zakamensk** 94.30 323 eP P 05 32 36.9 -6.3
ZAK pmax pmax
comp=Z,5.0nm,1.5s
EGAK **Eagle** 94.46 18 eP P 05 32 42.9 -0.7
comp=Z,5.4nm,0.9s
HLID **Hailey** 94.52 45 P P 05 32 44.8 +0.2
baz=243
PLCA **Paso Flores** 94.58 138 P P 05 32 45.1 +0.1
comp=Z,2.1nm,0.7s,baz=278,slow=7.7,SNR=8.0
PLCA LR LR 06 05 29.6
comp=Z,78nm,21.6s,baz=304,slow=29

PLCA **Paso Flores** 94.58 138 eP P 05 32 45.1 +0.1
comp=Z,18nm,1.5s
TLY **Talaya** 94.76 325 P P 05 32 43.8 -1.5
TLY pmax pmax
comp=Z,7.0nm,0.9s
NEW **Newport** 95.04 39 LR LR 06 10 12.6
comp=Z,166nm,18.7s,baz=250,slow=32
MNTX **Cornudas Mount** 96.07 58 P P 05 32 51.4 -0.4
baz=247
MSO **Missoula** 96.29 42 P P 05 32 52.5 +0.1
baz=244
DLMT **Dillon** 96.48 43 eP P 05 32 53.3 -0.1
comp=Z,16nm,1.8s
ANMO **Albuquerque** 96.50 55 LR LR 06 09 13.5
comp=Z,1μm,19.3s,baz=210,slow=31
TX31 **Lajitas Ar. Si** 96.54 61 eP P 05 32 56.0 +2.0
TXAR **Lajitas Array** 96.54 61 P P 05 32 53.5 -0.5
comp=Z,0.3nm,0.6s,baz=210,slow=6.5,SNR=5.5
TXAR PKKP PKKPbc 05 49 39.0 +0.7
comp=Z,0.6nm,0.6s,baz=101,slow=3.4,SNR=8.0
TXAR LR LR 06 09 18.1
comp=Z,246nm,19.3s,baz=0.0,slow=31
PDAR **Pinedale Array** 97.39 47 P P 05 32 57.0 -0.7
comp=Z,0.3nm,0.6s,baz=191,slow=1.7,SNR=4.9
PDAR LR LR 06 12 12.4
comp=Z,251nm,18.1s,baz=256,slow=32
TIXI **Tiksi** 98.52 347 P P 05 33 01.5 -0.2
TIXI pmax pmax
comp=Z,8.0nm,1.0s
CMIG **Matias Romero** 99.64 76 LR LR 06 08 24.0
comp=Z,87nm,20.6s,baz=232,slow=30
WMQ **Urumqi** 101.08 313 P Pdif 05 33 11.3 -2.7
WMQ pmax pmax
comp=Z,11nm,0.7s
WMQ pmax pmax
comp=Z,93nm,4.5s
WMQ LR LR
comp=Z,73nm,31.9s
MK01 **Makanchi Array** 105.63 314 ePdif Pdif 05 33 35.5 +1.5
MKAR **Makanchi Array** 105.64 314 Pdiff Pdif 05 33 34.7 +0.6
comp=Z,1.2nm,0.7s,baz=100,slow=5.2,SNR=6.9
MKAR PKiKP PKiKP 05 37 46.0 -1.1
comp=Z,0.4nm,0.4s,baz=72,slow=4.0,SNR=4.2
MKAR PKKPbc PKKPbc 05 49 09.3 -3.2
comp=Z,0.9nm,0.6s,baz=285,slow=4.6,SNR=7.8
KSH **Kashi** 108.16 306 ePdif Pdif 05 33 46.0 +0.4
KSH PP PP 05 38 20.0 +4.1
KSH AMB AMB
comp=Z,110nm,6.1s
KSH LR LR
comp=Z,67nm,6.0s
KSH LR LR
comp=Z,55nm,7.1s
KSH LR LR
comp=Z,86nm,16.1s
BRVK **Borovoye** 114.45 319 ⇓ i PKIKP PKPdf 05 38 02.4 -1.1
BRVK pmax pmax
comp=Z,6.0nm,1.0s
BOSA **Boshof** 119.53 214 PKP PKPdf 05 38 14.4 +0.1
comp=Z,1.9nm,0.4s,baz=349,slow=0.7,SNR=6.8
BOSA **Boshof** 119.53 214 ePKPdf PKPdf 05 38 14.8 +0.5
ABKAR **Akbulak array** 120.79 315 ePKPdf PKPdf 05 38 14.7 -1.1
ARU **Arti** 121.24 323 i PKIKP PKPdf 05 38 15.3 -1.1
ARU 05 39 46.3
ARU 05 45 19.2
ARU SS SS 05 56 10.6 -7.9
ARU **Arti** 121.24 323 ePKPdf PKPdf 05 38 15.2 -1.2
UOSS **Minazif** 121.27 286 ePKPdf PKPdf 05 38 16.8 -0.7
GEYT **Alibeck** 121.63 302 PKP PKPdf 05 38 17.4 -0.4
comp=Z,9.2nm,0.7s,baz=169,slow=0.8,SNR=14
LBTB **Lobatse** 122.21 217 ePKIKP PKPdf 05 38 19.6 +0.1
LBTB **Lobatse** 122.21 217 ePKPdf PKPdf 05 38 19.6 +0.1
LONY **Lake Ozonia** 122.38 51 ePKPdf PKPdf 05 38 18.9 -0.1
PTGA **Pitinga** 124.78 108 ePKPdf PKPdf 05 38 23.6 -1.0
CELP **Cerrillos** 125.64 83 ePKPdf PKPdf 05 38 24.1 -1.9
HUMP **Col San Antoni** 126.32 84 ePKPdf PKPdf 05 38 26.0 -1.3
MTP **Monte Pirata** 126.58 84 ePKPdf PKPdf 05 38 26.4 -1.5
PQI **Presque Isle** 126.89 48 ePKPdf PKPdf 05 38 25.3 -2.3
ARA0 **ARCESS Array S** 128.90 345 ePKPdf PKPdf 05 38 31.2 +0.5
ARCES **ARCESS Array B** 128.90 345 PKP PKPdf 05 38 30.0 -0.8
comp=Z,2.4nm,0.6s,baz=52,slow=2.0,SNR=8.8
ARCES **ARCESS Array B** 128.90 345 PKIKP PKPdf 05 38 30.0 -0.8
ARCES pmax pmax
comp=Z,2.0nm,0.6s
KLMR **Klimovskoe** 129.53 332 ePKIKP PKPdf 05 38 29.7 -2.5
KLMR pmax pmax
comp=Z,10.0nm,1.3s
ARTV **Artvin** 134.07 306 ePKPdf PKPdf 05 38 43.4 +1.7
FINES **FINESS Array B** 134.54 338 PKhKP PKPpre 05 38 35.1
comp=Z,1.1nm,0.6s,baz=66,slow=4.6,SNR=5.2
AKASG **Malin Array Be** 139.49 323 PKhKP PKPpre 05 38 43.9
comp=Z,0.7nm,0.4s,baz=55,slow=3.3,SNR=4.8
AKASG **Malin Array Be** 139.49 323 c i PKIKP PKPdf 05 38 52.9 +1.8
AKASG pmax pmax
comp=Z,1.0nm,0.5s
KIEV **Kiev** 139.50 323 ⇑ ePKIKP PKPdf 05 38 49.5 -1.6
AK11 **Malin Array Si** 139.53 323 ePKPdf PKPdf 05 38 52.7 +1.6
BR131 **Keskin Array S** 140.55 305 ePKPdf PKPdf 05 38 55.1 +1.5
BRTR **Keskin Array B** 140.55 305 PKhKP PKPpre 05 38 46.4
comp=Z,0.9nm,0.6s,baz=72,slow=4.7,SNR=3.4
BRTR PKiKP PKPdf 05 38 54.7 +1.1
comp=Z,2.4nm,0.8s,baz=179,slow=4.9,SNR=5.5
BR231 **Keskin MP Arra** 141.17 306 ePKPdf PKPdf 05 38 55.8 +1.2
LVV **L'vov** 142.78 325 eP Pdif 05 36 14.3 -4.9
TESR **Tescani** 143.01 319 ⇓ i P PKPab 05 38 52.4 -0.4
VRI **Vrincioaia** 143.26 318 ⇑ i P PKPbc 05 38 55.2 +0.1
VRI **Vrincioaia** 143.26 318 ⇑ PKIKP PKPbc 05 38 55.2 +0.1
PLOR **Plostina** 143.31 318 ⇑ i P PKPab 05 38 54.4 +0.3
PLOR **Plostina** 143.31 318 ⇑ PKIKP PKPab 05 38 54.4 +0.3
BUR08 **Bucovina Ar. S** 143.31 321 ePKPdf PKPbc 05 38 56.0 +0.7
BURAR **Bucovina Array** 143.32 321 ⇑ i P PKPbc 05 38 56.2 +0.8
BURAR **Bucovina Array** 143.32 321 ⇑ PKIKP PKPbc 05 38 56.2 +0.8
KORT **Korkueli** 143.66 302 i P PKPab 05 38 56.1 +0.1
ISR **Istrita** 143.71 317 ⇑ i P PKPbc 05 38 56.6 +0.1
ISR **Istrita** 143.71 317 ⇑ PKIKP PKPbc 05 38 56.6 +0.1
MLR **Muntele Rosu** 143.92 318 ⇑ i P PKPbc 05 38 57.4 +0.2
MLR **Muntele Rosu** 143.92 318 ePKIKP PKPbc 05 38 57.5 +0.3
MLR **Muntele Rosu** 143.92 318 ePKPdf PKPbc 05 38 57.5 +0.3
DOPR **Dopca** 144.03 319 ⇑ i P PKPbc 05 38 58.5 +1.1
SECR 144.05 317 ⇑ i P PKPbc 05 38 58.4 +0.9
SULR 144.09 316 ⇓ i P PKPab 05 38 57.3 +0.2
ARCR **ARCALIA** 144.09 321 ⇑ i P PKPbc 05 38 58.4 +0.9
BMR **Baia Mare** 144.27 322 ⇑ i P PKPbc 05 38 58.9 +0.8
BMR **Baia Mare** 144.27 322 ⇑ PKIKP PKPbc 05 38 58.9 +0.8
UZH **Uzhgorod** 144.40 324 ePKHKP PKPpre 05 38 55.5
UZH i 05 38 58.7
UZH e 05 39 06.1
AKAS **Kas** 144.41 301 i P PKPab 05 38 57.5 -1.2
AKAS **Kas** 144.41 301 ePKPdf PKPab 05 38 58.7 0.0
STHS **Stebnicka Huta** 144.48 326 ePKIKP PKPbc 05 38 59.4 +0.7
STHS **Stebnicka Huta** 144.48 326 ePKP PKPbc 05 38 59.4 +0.7
VOIR 144.50 318 ⇑ i P PKPab 05 38 58.4 -0.3
VOIR 144.50 318 ⇑ PKIKP PKPab 05 38 58.4 -0.3
TRPA **Tarpa** 144.55 323 ePKPdf PKPbc 05 38 59.0 +0.1
MTUR **Matau** 144.59 318 ⇑ i P PKPab 05 38 59.1 0.0
MTUR **Matau** 144.59 318 ⇑ PKIKP PKPab 05 38 59.1 0.0
TAVA **DENIZLI_Tavas** 144.67 303 i P PKPbc 05 39 00.2 +0.4
CRVS **Cervenica-Dubn** 144.68 325 ePKIKP PKPab 05 38 59.1 -0.1
CRVS **Cervenica-Dubn** 144.68 325 ePKP PKPab 05 38 59.1 -0.1
CRVS e 05 39 17.1
MANT **Manisa** 144.68 305 i P PKPab 05 38 59.0 -0.8
OJC **Ojcow** 144.69 328 ePKP PKPab 05 38 59.0 -0.1
OJC **Ojcow** 144.69 328 ePKIKP PKPab 05 38 59.2 0.0
OJC **Ojcow** 144.69 328 ePKPdf PKPab 05 38 59.2 0.0
CJR **Cluj-Napoca** 144.73 321 ⇑ i P PKPbc 05 39 00.0 +0.4
CJR **Cluj-Napoca** 144.73 321 ⇑ PKIKP PKPbc 05 39 00.0 +0.4
ARR **Arges** 144.79 318 ⇑ i P PKPab 05 38 58.7 -1.1
NIE **Niedzica** 144.96 327 ePKP PKPab 05 39 00.0 -0.2
NIE **Niedzica** 144.96 327 ePKIKP PKPab 05 39 00.0 -0.2
HUMR **Humele** 144.97 317 ⇑ i P PKPab 05 39 00.0 -0.4
DALY **Dalyan (Mu˘la** 145.03 302 i P PKPbc 05 38 59.7 -1.1
TURN **Turunc** 145.06 302 i P PKPdf 05 39 01.7 +0.2
DRGR 145.20 321 ⇑ i P PKPbc 05 39 00.8 -0.4
DRGR 145.20 321 ⇑ PKIKP PKPbc 05 39 00.8 -0.4
LOT **Lotru** 145.28 319 ⇑ i P PKPbc 05 39 00.9 -0.6
AYDN **Tasoluk** 145.42 304 i P PKPbc 05 39 01.3 -0.8
KECS **Kecovo** 145.45 325 ePKIKP PKPbc 05 39 01.9 +0.1
KECS **Kecovo** 145.45 325 ePKP PKPbc 05 39 01.9 +0.1
LANS **Liptovska Anna** 145.55 327 ePKIKP PKPab 05 39 02.5 +0.1
LANS **Liptovska Anna** 145.55 327 ePKP PKPab 05 39 02.5 +0.1
OKC **Ostrava-Krasne** 145.74 329 ePKP PKPdf 05 39 02.1 -0.1
OKC **Ostrava-Krasne** 145.74 329 ePKP2 PKPdf 05 39 02.1 -0.1
KSP **Ksiaz** 145.89 332 ePKP PKPdf 05 39 02.4 0.0
KSP **Ksiaz** 145.89 332 ePKP2 PKPdf 05 39 02.4 0.0
DAT **Datca** 145.89 302 i P PKPdf 05 39 03.2 +0.1
BDRM **Kayabasi** 145.91 303 i P PKPdf 05 39 02.7 -0.2
GZR **Gura Zlata** 145.91 319 ⇑ i P PKPdf 05 39 02.5 -0.2
GZR **Gura Zlata** 145.91 319 ⇑ PKIKP PKPdf 05 39 02.5 -0.2
RDO **Rodhopi** 146.02 311 P PKPdf 05 39 01.7 -1.3
MORC **Moravsky Berou** 146.07 329 ⇑ i P PKPdf 05 39 03.1 +0.2
MORC **Moravsky Berou** 146.07 329 ePKP2 PKPdf 05 39 03.3 +0.5
MORC **Moravsky Berou** 146.07 329 ePKPdf PKPdf 05 39 03.3 +0.5
PSZ **Piszkesteto** 146.11 325 ⇑ i P PKPab 05 39 04.4 -0.2
PSZ **Piszkesteto** 146.11 325 ⇑ PKP2 PKPab 05 39 04.4 -0.2
PSZ **Piszkesteto** 146.11 325 ePKPdf PKPbc 05 39 03.9 -0.1
PSZ **Piszkesteto** 146.11 325 ePKPdf PKPdf 05 39 03.0 -0.1
KRLC **Kraliky** 146.22 330 ePKP PKPbc 05 39 03.9 -0.3
KRLC **Kraliky** 146.22 330 ePKP2 PKPbc 05 39 03.9 -0.3
DPC **Dobruska-Polom** 146.23 331 ePKP PKPbc 05 39 03.8 -0.4
DPC **Dobruska-Polom** 146.23 331 ePKP2 PKPbc 05 39 03.8 -0.4
UPC **Upice** 146.25 332 AMS AMS 06 42 50.0
comp=Z,200nm,21.4s
UPC **Upice** 146.25 332 PKP2 PKPbc 05 39 03.8 -0.4
VYHS **Vyhne** 146.29 327 ePKP2 PKPbc 05 39 04.1 -0.3
VYHS **Vyhne** 146.29 327 ePKP PKPbc 05 39 04.1 -0.3
VYHS e 05 39 15.7
BZS **Buzias** 146.48 320 ⇑ i P PKPdf 05 39 02.3 -1.3
BZS **Buzias** 146.48 320 ⇑ PKIKP PKPdf 05 39 02.3 -1.3
KARP **Karpathos** 146.49 301 ePKPdf PKPbc 05 39 05.5 +0.1
BRG **Berggiesshubel** 146.86 334 i PKP PKPbc 05 39 05.4 -0.6
comp=Z,14nm,0.7s
BRG **Berggiesshubel** 146.86 334 e(P) PKPab 05 39 25.9 +19
comp=Z,23nm,1.4s
BRG **Berggiesshubel** 146.86 334 i PKP2 PKPbc 05 39 05.4 -0.6
BRG pmax pmax
comp=Z,14nm,0.7s
MDVR **Moldovita** 146.87 319 ⇑ i P PKPbc 05 39 05.6 -0.7
CLL **Collm** 146.90 335 ⇓ i PKP2 PKPbc 05 39 05.8 -0.2
CLL e 05 42 30.0
CLL pmax pmax
comp=Z,18nm,0.6s
CLL **Collm** 146.90 335 ⇓ i PKPbc PKPbc 05 39 05.8 -0.2
comp=Z,18nm,0.6s
CLL e 05 39 17.0
CLL e 05 39 25.0
CLL ePP PP 05 42 30.0 0.0
CLL eSSS SSS 06 07 18.0
CLL LmV 06 46 00.0
comp=Z,200nm,19.8s
CLL **Collm** 146.90 335 ePKPbc PKPbc 05 39 05.5 -0.5
VTS **Vitosha** 147.00 315 ⇑ i P PKPbc 05 39 06.8 -0.1
VTS **Vitosha** 147.00 315 ⇑ PKP2 PKPbc 05 39 06.8 -0.1
VTS **Vitosha** 147.00 315 ePKPbc PKPbc 05 39 06.7 -0.1
NVR **Nevrokopi** 147.10 312 P PKPbc 05 39 06.3 -0.7
ESK **Eskdalemuir** 147.15 354 ePKP2 PKPbc 05 39 07.4 +0.8
ESK **Eskdalemuir** 147.15 354 ePKPbc PKPbc 05 39 07.4 +0.8
GOPC **GO Pecny, Ondr** 147.22 332 ePKP PKPbc 05 39 07.2 +0.1
GOPC x 05 39 27.9 ex
GOPC **GO Pecny, Ondr** 147.22 332 ePKP2 PKPbc 05 39 07.2 +0.1
PRA **Prague** 147.26 332 ePKP PKPbc 05 39 07.2 +0.1
PRA **Prague** 147.26 332 ePKP2 PKPbc 05 39 07.2 +0.1
PRU **Pruhonice** 147.28 332 ePKP PKPbc 05 39 06.8 -0.3
PRU ex x 05 39 27.4
PRU AMS AMS 06 48 40.0
comp=Z,200nm,17.1s
PRU **Pruhonice** 147.28 332 ePKP2 PKPbc 05 39 06.8 -0.3
PRU MLR MLR
comp=Z,200nm,17.1s
TREC **Trest** 147.36 330 ePKP PKPbc 05 39 07.2 -0.3
TREC **Trest** 147.36 330 ePKP2 PKPbc 05 39 07.2 -0.3
LAST **Lasithi** 147.92 300 P PKPbc 05 39 07.7 +0.2
NKC **Novy Kostel** 147.96 334 ePKP PKPbc 05 39 08.7 -0.3
NKC **Novy Kostel** 147.96 334 ePKP2 PKPbc 05 39 08.7 -0.3
VAY **Valandovo** 147.99 313 i P PKP PKPbc 05 39 08.0 -1.4
CONA **Conrad Observa** 148.15 328 i pPKPdf PKPbc 05 39 09.6 -0.1
comp=Z,13nm,0.7s,SNR=8.5
KHC **Kasperske Hory** 148.33 332 ePKP PKPbc 05 39 09.2 -0.9
KHC ex x 05 39 18.0
KHC AMS AMS 06 41 30.0
comp=Z,200nm,17.0s
KHC **Kasperske Hory** 148.33 332 ePKP2 PKPbc 05 39 09.2 -0.9
KHC MLR MLR
comp=Z,200nm,17.0s
KHC **Kasperske Hory** 148.33 332 ePKPbc PKPbc 05 39 09.7 -0.4
IDI **Anoyia** 148.35 301 ePKPbc PKPbc 05 39 10.2 -0.5
SKO **Skopje** 148.45 315 i PKP PKPbc 05 39 10.1 -0.5
SIVA **Sivas** 148.48 300 P PKPbc 05 39 11.2 +0.3
GEC2 **GERESS Array S** 148.49 331 ePKP2 PKPbc 05 39 10.1 -0.5
GEC2 **GERESS Array S** 148.49 331 ePKPbc PKPbc 05 39 10.1 -0.5
GERES **GERESS Array B** 148.49 331 PKP PKPdf 05 39 06.8 -0.2
comp=Z,7.6nm,0.7s,baz=40,slow=2.3,SNR=45
GERES PKPbc PKPbc 05 39 09.9 -0.7
comp=Z,7.7nm,0.7s,baz=40,slow=2.3,SNR=45
GEA0 **GERESS Array S** 148.50 331 ePKPbc PKPbc 05 39 09.7 -0.9
ARSA **Arzberg** 148.78 328 i PKPbc PKPbc 05 39 10.7 -0.6
comp=Z,5.3nm,0.6s
KRUS **Krusevo** 148.86 314 i PKP PKPbc 05 39 10.8 -0.9
MOA **Molln** 148.97 330 i pPKPdf PKPbc 05 39 10.8 -0.9
comp=Z,9.3nm,0.6s
LTK **Loutraki** 149.01 307 P PKPbc 05 39 10.6 -1.6
FNA **Florina** 149.04 313 P PKPbc 05 39 11.6 -0.6
AGG **Agios Georgios** 149.11 309 ePKP2 PKPbc 05 39 11.3 -1.1
AGG **Agios Georgios** 149.11 309 ePKPbc PKPbc 05 39 11.3 -1.1
DSF **Desfina** 149.19 308 P PKPbc 05 39 11.2 -1.5
OHR **Ohrid** 149.28 314 i PKP PKPbc 05 39 12.1 -0.7
SOKA **Soboth** 149.42 327 i PKPbc PKPbc 05 39 12.2 -0.8
comp=Z,12nm,0.7s,SNR=6.9
SERG **Sergoula** 149.54 308 P PKPbc 05 39 12.9 -0.6
ANX **Ano Chora** 149.57 308 P PKPbc 05 39 13.7 +0.1
KLV **Klavrya, Ach** 149.61 307 P PKPbc 05 39 13.1 -0.6
PDG **Podgorica** 149.62 317 ⇓ i P PKPbc 05 39 12.6 -0.9
EFP **Efpalio** 149.64 308 P PKPbc 05 39 13.5 -0.2
LAKA **Lakka** 149.66 308 P PKPbc 05 39 13.8 0.0
OBKA **Obir** 149.78 328 i pPKPdf PKPbc 05 39 12.2 -1.7
comp=Z,8.9nm,0.8s
TIR **Tirane** 149.78 315 ⇑ i P PKPbc 05 39 13.4 -0.5
TIR **Tirane** 149.78 315 ⇑ PKP2 PKPbc 05 39 13.4 -0.5
DSL **Palaion Diasel** 149.94 310 P PKPbc 05 39 14.3 -0.1
KBA **Koelnbreinsper** 149.96 329 i sPKPdf PKPbc 05 39 13.3 -1.1
comp=Z,13nm,0.6s,SNR=6.8
MYKA **Terra Mystica** 150.14 329 i sPKPdf PKPbc 05 39 13.7 -1.1
comp=Z,18nm,0.7s,SNR=7.4
WATA **Walderalm** 150.57 332 i sPKPdf PKPbc 05 39 14.3 -1.5
comp=Z,9.6nm,0.6s
ABTA **Abfaltersbach** 150.59 330 i sPKPdf PKPbc 05 39 14.4 -1.4
comp=Z,16nm,0.6s,SNR=6.3
WTTA **Wattenberg** 150.60 331 i PKPbc PKPbc 05 39 15.6 -0.3
comp=Z,34nm,1.5s
WLF **Walferdange** 150.68 340 APKP PKPab 05 39 32.0 +9.3
LANF **Langenberg** 150.72 338 PKP PKPbc 05 39 15.1 -0.9
DOU **Dourbes** 150.75 343 PKPbc PKPbc 05 39 15.8 -0.2
MOTA **Moosalm** 150.77 332 i PKPbc PKPbc 05 39 15.4 -0.9
comp=Z,14nm,0.6s,SNR=8.8
RETA **Rette** 150.80 333 i PKPbc PKPbc 05 39 15.7 -0.6
comp=Z,4.8nm,0.5s
BFO **Black Forest** 151.08 336 c i PKIKP PKPbc 05 39 16.5 -0.4
FETA **Feichten** 151.18 332 i PKPbc PKPbc 05 39 16.9 -0.4
comp=Z,16nm,1.0s,SNR=5.7
DAVA **Damuels** 151.33 333 i PKPbc PKPbc 05 39 17.1 -0.5
comp=Z,6.8nm,0.7s
ECH **Echery** 151.60 338 PKP PKPbc 05 39 16.8 -1.3
FUORN **Ofenpass-Fuorn** 151.69 332 ePKPbc PKPbc 05 39 18.1 -0.5
MOF **Molkenrain** 151.92 337 PKP PKPbc 05 39 17.5 -1.4
THEF **They Montfort** 151.99 339 PKP PKPbc 05 39 17.6 -1.3
TUE **Stuetta** 152.20 333 ePKPbc PKPbc 05 39 19.3 -0.4
CUC **Castrocucco** 153.12 316 ePKPbc PKPbc 05 39 20.1 -1.7
VLC **Villacollemand** 153.51 329 ePKPbc PKPbc 05 39 21.6 -0.9
VLC ePKPab pPKPbc 05 39 32.9 -1.0
BNI **Bardonecchia** 154.44 335 ePKIKP PKPbc 05 39 24.4 -0.2
BNI **Bardonecchia** 154.44 335 ePKPbc PKPbc 05 39 24.4 -0.2
VSL **Villasalto** 157.36 322 ePKPab PKPab 05 39 51.5 +1.0
KEST **Kesra** 159.74 314 PKPab PKPab 05 40 02.5 +0.5
comp=Z,1.8nm,0.5s,baz=24,slow=4.8,SNR=5.7
ESDC **Sonseca Array** 162.60 348 PKPab PKPab 05 40 13.1 -1.1
comp=Z,0.2nm,0.3s,baz=354,slow=3.9,SNR=4.4
DBIC **Dimbokro** 163.72 193 PKP PKPdf 05 39 27.2 -0.6
comp=Z,4.1nm,0.8s,baz=166,slow=6.8,SNR=5.2
DBIC PKPbc PKPab 05 40 19.2 -0.3
comp=Z,4.3nm,0.9s,baz=194,slow=8.8,SNR=4.0
DBIC **Dimbokro** 163.72 193 ePKPdf PKPdf 05 39 27.9 +0.1
DBIC PKPab PKPab 05 40 19.2 -0.3
TOA0 **Torodi Ar. Sit** 166.46 227 ePKPdf PKPdf 05 39 29.2 -0.8
TORD **Torodi Ar. Bea** 166.46 227 PKP PKPdf 05 39 29.4 -0.6
comp=Z,4.9nm,1.0s,baz=29,slow=0.5,SNR=27
TORD PKPab PKPab 05 40 31.1 -0.7
comp=Z,2.5nm,0.7s,baz=110,slow=4.1,SNR=8.8

TAM	**Tamanrasset**	**167.06 273**	*e*PKP2	**PKPab**	**05 40 35.5**	**+0.8**
TAM	**Tamanrasset**	**167.06 273**	*e*PKPab	**PKPab**	**05 40 35.5**	**+0.8**

*CSEM **30** 05:21:15.8±0.3,39.°66N×38.°64E, h2km, MD2.6, Error ellipse: s-maj=6.5km s-min=5.0km az=52.0*
*DDA **30** 05:21:15.2,39.°65N×38.°65E, h7km, Md2.6*
*ISK **30** 05:21:16.4,39.°68N×38.°70E, h5km, MD2.7*
ISC 30 05:21:15.9±1.1, 39.66N±0.02×38.65E±0.03, h5km±13km, n28, σ0.85/41, Turkey

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time	Res
REFA	**Refahiye_ERZ**	**0.28**	**161**	*i* P		**Pg**		**05 21 20.9**	**-0.6**
REFA	**Refahiye_ERZ**	**0.28**	**161**	P		**Pg**		**05 21 20.9**	**-0.6**
KEMA	**Kemaliye**	**0.41**	**197**	*i* P		**Pg**		**05 21 23.8**	**-0.1**
KEMA				*i* S		**Sg**		**05 21 29.7**	**+0.4**
KEMA	**Kemaliye**	**0.41**	**197**	P		**Pg**		**05 21 23.8**	**-0.1**
KEMA				S		**Sg**		**05 21 29.7**	**+0.4**
SUSE	**Susehri**	**0.64**	**328**	*i* P		**Pb**		**05 21 29.1**	**-0.5**
SUSE				*i* S		**Sg**		**05 21 37.8**	**+1.2**
SUSE	**Susehri**	**0.64**	**328**	P		**Pb**		**05 21 29.1**	**-0.5**
SUSE				S		**Sg**		**05 21 37.8**	**+1.2**
KELT	**Kelkit**	**0.67**	**44**	*i* P		**Pg**		**05 21 28.6**	**-0.2**
KELT				*i* S		**Sg**		**05 21 38.1**	**+0.5**
KELT	**Kelkit**	**0.67**	**44**	P		**Pg**		**05 21 28.6**	**-0.2**
KELT				S		**Sg**		**05 21 38.1**	**+0.5**
CUZAR	**Zara_SIVAS**	**0.71**	**289**	*i* P		**Pg**		**05 21 27.9**	**-1.7**
CUZAR	**Zara_SIVAS**	**0.71**	**289**	P		**Pg**		**05 21 27.9**	**-1.7**
ERZN	**Erzincan**	**0.83**	**95**	*e*PG		**Pg**		**05 21 32.0**	**+0.1**
ERZN				*e*SG		**Sb**		**05 21 48.7**	**+0.4**
PTK	**Pertek**	**0.96**	**143**	*e*Pg		**Pb**		**05 21 35.3**	**+0.1**
PTK				*e*Sg		**Sb**		**05 21 48.7**	**+0.4**
CUKAN	**kangal_SIVAS**	**0.98**	**250**	*i* P		**Pg**		**05 21 33.5**	**-1.1**
CUKAN	**kangal_SIVAS**	**0.98**	**250**	P		**Pg**		**05 21 33.5**	**-1.1**
ELZG	**Elazig**	**1.19**	**167**	*i* P		**Pg**		**05 21 37.5**	**-1.3**
ELZG				*i* S		**Sg**		**05 21 54.0**	**-0.3**
ELZG	**Elazig**	**1.19**	**167**	P		**Pg**		**05 21 37.5**	**-1.3**
ELZG				S		**Sg**		**05 21 54.0**	**-0.3**
SVSK	**Karacayir**	**1.29**	**282**	*e*PN		**Pg**		**05 21 42.1**	**+1.4**
SVSK	**Karacayir**	**1.29**	**282**	*e*Pn		**Pg**		**05 21 42.1**	**+1.4**
SVRC	**Sivrice-ELAZID**	**1.38**	**158**	*e*PN		**Pg**		**05 21 43.3**	**+0.9**
SVRC	**Sivrice-ELAZID**	**1.38**	**158**	*e*Pn		**Pg**		**05 21 43.3**	**+0.9**
DARE	**Darende-Malaty**	**1.42**	**220**	*e*PN		**Pg**		**05 21 44.1**	**+1.1**
DARE	**Darende-Malaty**	**1.42**	**220**	*e*Pn		**Pg**		**05 21 44.2**	**+1.1**
YEDI	**Yedisu-Bingol**	**1.48**	**98**	*e*PN		**Pn**		**05 21 43.5**	**+0.2**
YEDI	**Yedisu-Bingol**	**1.48**	**98**	*e*Pn		**Pn**		**05 21 43.5**	**+0.2**
SARI	**SarD1z-Kayseri**	**2.14**	**235**	*e*PN		**Pb**		**05 21 54.8**	**-0.4**

MEX 30 05:22:32.0±0.5, 18.02N×103.04W, h4km±4km, MD3.9, Near coast of Michoacan

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time	Res
MMIG	**Aquila**	**0.39**	**313**	*e*P			Pg	05 22 39.0	-0.6
MMIG				*e*S			Sg	05 22 45.1	+0.3
R15V		**1.45**	**322**	*e*P			Pn	05 22 55.6	-3.4
R15V				*i* S			Sb	05 23 13.3	-5.2
EZ5V		**1.55**	**340**	*e*P			Pn	05 22 57.3	-3.3
EZ5V				*e*S			Sn	05 23 16.2	-5.0
ZIIG	**Zihuatanejo**	**1.56**	**105**	*e*P			Pn	05 22 56.6	-3.8
ZIIG				*i* S			Sn	05 23 16.3	-4.8
URUA	**Uruapan**	**1.67**	**33**	*i* P			Pn	05 22 58.4	-3.8
URUA				*i* S			Sn	05 23 18.9	-5.3
CJM	**Chamela**	**2.40**	**308**	*e*P			Pn	05 23 09.2	-2.8
CJM				*i* S			Sn	05 23 37.3	-4.6

*IDC **30** 05:36:06.0±1.6, 37.°02N×140.°82E, h0km, mb3.5/2, mb1 3.7/3, mb1mx3.4/37, mbtmp3.3/3, ML3.2/1, Error ellipse: s-maj=39.9km s-min=17.6km az=163.0*
*ISCJB **30** 05:36:06.4±0.7, 37.°12N±0.°03×140.°83E±0.°06, h11km±5km, mb3.5/2, Error ellipse: s-maj=8.8km s-min=5.6km az=12.0*
*JMA **30** 05:36:07.0, 37.°13N×140.°76E, h7km±1km, M3.3 Broadband fault plane solution: P waves. NP1: ϕs199.00000°, δ61.00000°, λ-95.00000°. NP2:ϕs30.00000°, δ29.00000°, λ-81.00000°. Principal axes: T Plg16.0000°, Azm293.0000°; N Plg4.0000°, Azm202.0000°; P Plg73.0000°, Azm97.0000°;*
JMA Felt II J1.
ISC 30 05:36:06.5±1.0, 37.08N±0.°05×140.75E±0.°05, h7km±8km, n14, σ0.52/17, 5C-1D, Eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time	Res
ONAJ	**Iwakimizuishiy**	**0.04**	**64**	⇑P		**Pg**		**05 36 08.3**	**+0.2**
JFK	**Kawauchi**	**0.30**	**19**	⇑P		**Pg**		**05 36 12.3**	**-0.1**
JFK				*e*S		**Sg**		**05 36 16.1**	**-0.4**
JHO	**Hitachi**	**0.49**	**197**	⇓P		**Pb**		**05 36 17.3**	**-0.2**
JHO				*e*S		**Sb**		**05 36 25.0**	**+0.1**
JFT	**Otama**	**0.55**	**323**	⇑P		**Pg**		**05 36 17.2**	**+0.1**
JFT				*e*S		**Sg**		**05 36 24.6**	**+0.4**
JSB	**Shiboa**	**0.67**	**260**	P		**Pb**		**05 36 21.0**	**+0.4**
JSB				S		**Sb**		**05 36 30.7**	**+0.6**
JMM	**Marumori**	**0.78**	**2**	⇑P		**Pg**		**05 36 21.0**	**-0.6**
JFY	**Yanaizu**	**0.90**	**291**	⇑P		**Pb**		**05 36 24.0**	**-0.3**
JFY				S		**Sg**		**05 36 35.6**	**+0.3**
MJAR	**Matsushiro Arr**	**2.11**	**256**	Pn		**Pb**		**05 36 44.3**	**-0.7**
	7.2nm,0.3s,baz=61,slow=14,SNR=24								
MJAR				Lg		Lg		05 37 12.7	
	12nm,0.3s,baz=81,slow=29,SNR=24								
MAT	**Matsushiro**	**2.11**	**256**	P		**Pb**		**05 36 44.4**	**-0.7**
MAT				S		**Sg**		**05 37 13.4**	**-0.9**
H11N2	**WAKE ISLAND Hy 28.63**		**120**	T		T		06 11 49.7	
	baz=313,slow=75,SNR=34								
H11N1	**WAKE ISLAND Hy 28.64**		**120**	T		T		06 11 51.2	
	baz=313,slow=75,SNR=53								
H11N3	**WAKE ISLAND Hy 28.65**		**120**	T		T		06 11 52.1	
	baz=313,slow=75,SNR=40								
ILAR	**Eielson Array**	**49.74**	**32**	P		**P**		**05 44 59.5**	**+0.5**
	0.3nm,0.8s,baz=266,slow=7.2,SNR=4.1								
WRA	**Warramunga Arr**	**57.04**	**187**	P		**P**		**05 45 53.1**	**0.0**
	0.4nm,0.5s,baz=3.4,slow=7.3,SNR=9.9								

*ISCJB **30** 05:46:12.7±0.6, 6.°84N±0.°04×73.°05W±0.°05, h158km±6km, Error ellipse: s-maj=9.4km s-min=4.7km az=38.7*
*FUNV **30** 05:46:14.8, 6.°88N×73.°05W, h170km, MW2.8*
*RSNC **30** 05:46:15.4±1.1, 6.°78N×73.°13W, h143km±7km, ML2.6*
ISC 30 05:46:12.1±1.5, 6.83N±0.°04×73.°07W±0.°05, h163km±9km, n25, σ1.31/37, 6C, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time	Res
BARC	**Barichara**	**0.27**	**206**	*e*P		**Pn**		**05 46 34.8**	**+0.3**
BARC				*e*S		**Sn**		**05 46 49.6**	**-2.0**
BARC				*i*				05 46 51.6	
	comp=Z,101nm,0.3s								
PAMC	**Pamplona, Colo**	**0.62**	**36**	*e*P		**Pn**		**05 46 37.6**	**+1.4**
PAMC				*e*S		**Sn**		**05 46 54.5**	**-0.1**
BRRC	**Barranca, Sant**	**0.70**	**293**	*e*P		**Pn**		**05 46 36.7**	**+0.6**
BRRC				*e*S		**Sn**		**05 46 53.5**	**-0.8**
BRRC				*i*				05 46 56.6	
	comp=Z,74nm,0.2s								
RUSC	**La Rusia**	**0.93**	**181**	*e*P		**Pn**		**05 46 38.6**	**+0.3**
RUSC				*e*S		**Sn**		**05 46 56.8**	**-1.5**
RUSC				*i*				05 46 58.7	
	comp=Z,41nm,0.3s								
CAPV	**Capacho**	**1.27**	**36**	⇑*i*P		**Pn**		**05 46 42.6**	**+1.8**
CAPV				*e*S		**Sn**		**05 47 03.6**	**+0.8**
OCAC	**Ocana**	**1.42**	**350**	*e*P		**Pn**		**05 46 43.3**	**+1.2**
OCAC				*e*S		**Sn**		**05 47 05.1**	**-0.1**
OCAC				*i*				05 47 11.4	
	comp=Z,64nm,0.4s								
YOPC	**Yopal, Colombi**	**1.60**	**156**	*e*P		**Pn**		**05 46 45.2**	**+1.3**
YOPC				*i*				05 47 12.1	
	comp=Z,12nm,0.3s								
ZARC	**Zaragoza, Cauc**	**1.90**	**290**	*e*P		**Pn**		**05 46 47.4**	**+0.5**
NORC	**Norcasia**	**2.19**	**235**	*e*P		**Pn**		**05 46 50.9**	**+0.6**
NORC				*e*S		**Sn**		**05 47 17.5**	**-2.4**
CHIC	**Chingaza**	**2.29**	**197**	*e*P		**Pn**		**05 46 52.2**	**+0.4**
CHIC				*e*S		**Sn**		**05 47 21.7**	**-0.8**
CHIC				*i*				05 47 28.1	
	comp=Z,33nm,0.3s								

ROSC	**El Rosal**	**2.34**	**212**	*e*P	**Pn**	**05 46 54.5**	**+2.1**
ROSC				*i*		05 47 31.0	
	comp=Z,69nm,0.5s						
HELC	**Santa Helena**	**2.53**	**256**	*e*P	**Pn**	**05 46 56.5**	**+1.8**
HELC				*e*S	**Sn**	**05 47 27.3**	**-0.2**
HELC				*i*		05 47 33.8	
	comp=Z,27nm,0.3s						
VIGV	**El Vigia**	**2.61**	**40**	⇑*i*P	**Pn**	**05 46 57.0**	**+1.7**
VIGV				*e*S	**Sn**	**05 47 27.4**	**-1.4**
SOCV	**Socops**	**2.62**	**56**	⇑*i*P	**Pn**	**05 46 56.8**	**+1.4**
SOCV				*e*S	**Sn**	**05 47 28.0**	**-1.0**
VILC	**Villavicencio,**	**2.77**	**193**	*e*P	**Pn**	**05 46 59.1**	**+1.7**
VILC				*i*		05 47 39.9	
	comp=Z,19nm,0.7s						
PRAC	**Prado**	**3.59**	**210**	*e*P	**Pn**	**05 47 08.3**	**+0.7**
VIRV	**Villa del Rosa**	**3.71**	**10**	⇑*e*P	**Pn**	**05 47 09.2**	**+0.2**
VIRV				*e*S	**Sn**	**05 47 50.4**	**-2.9**
QARV	**Quebrada Arrib**	**4.19**	**37**	*e*P	**Pn**	**05 47 16.7**	**+1.4**
SANV	**Sanarito**	**4.39**	**53**	*e*P	**Pn**	**05 47 18.8**	**+0.9**
CURV	**Curarigua**	**4.41**	**44**	*e*P	**Pn**	**05 47 19.1**	**+1.0**
TEPV	**Terepaima**	**4.94**	**51**	*e*P	**Pn**	**05 47 26.0**	**+1.0**
BAUV	**El Baul**	**5.40**	**67**	*e*P	**Pn**	**05 47 30.7**	**-0.3**
MAPV	**Macapo**	**5.45**	**57**	⇑*e*P	**Pn**	**05 47 32.1**	**+0.4**
MONV	**Montecano**	**5.94**	**31**	⇑*e*P	**Pn**	**05 47 38.7**	**+0.6**
TURV	**Turiamo**	**6.29**	**55**	*e*P	**Pn**	**05 47 42.5**	**-0.4**

IDC 30 05:46:25.4±4.6, 59.°14S×150.°49E, h0km, mb3.8/2, mb1 4.0/3, mb1mx3.7/19, mbtmp3.7/3, ML3.2/1, MS3.8/3, Ms1 3.7/3, ms1mx3.2/24, Error ellipse: s-maj=431.9km s-min=31.0km az=75.0, West of Macquarie Island

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time	Res
VNDA	**Vanda**	**18.86**	**172**	P		P		05 50 46.5	0.0
	0.1nm,0.3s,baz=338,slow=11,SNR=4.9								
H01W1	**Cape Leeuwin H**	**33.97**	**299**	T		T		06 28 46.6	
	baz=147,slow=76,SNR=18								
H01W2	**Cape Leeuwin H**	**33.98**	**299**	T		T		06 28 48.0	
	baz=147,slow=76,SNR=18								
H01W3	**Cape Leeuwin H**	**33.99**	**299**	T		T		06 28 49.0	
	baz=147,slow=76,SNR=16								
ASAR	**Alice Springs**	**37.34**	**334**	P		P		05 53 39.6	+0.2
	1.0nm,0.8s,baz=162,slow=9.2,SNR=6.6								
WRA	**Warramunga Arr**	**40.86**	**336**	P		P		05 54 08.3	-0.5
	2.3nm,1.1s,baz=166,slow=7.2,SNR=7.2								
WRA				LR		LR		06 09 41.8	
	comp=Z,70nm,18.9s,baz=20,slow=34								
USHA	**Ushuaia**	**62.17**	**156**	LR		LR		06 18 59.2	
	comp=Z,226nm,21.7s,baz=19,slow=31								
PLCA	**Paso Flores**	**74.84**	**149**	LR		LR		06 26 03.0	
	comp=Z,29nm,20.6s,baz=178,slow=32								
H08S2	**Diego Garcia H**	**77.32**	**276**	T		T		07 22 53.0	
	baz=149,slow=76,SNR=10								
H08S1	**Diego Garcia H**	**77.33**	**276**	T		T		07 22 59.5	
	baz=149,slow=76,SNR=9.6								
H08S3	**Diego Garcia H**	**77.34**	**276**	T		T		07 22 53.0	
	baz=149,slow=76,SNR=15								

MEX 30 05:56:41.2±0.4, 27.°73N×111.°76W, h16km±8km, MD3.8, Gulf of California

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time	Res
SRIG	**Santa Rosalia**	**0.59**	**226**	*i* P		Pg		05 56 51.0	-1.8
SRIG				*e*S		Sg		05 56 57.8	-3.0
HSIG		**1.47**	**29**	*e*P		Pn		05 57 03.3	-3.7
HSIG				*i* S		Sn		05 57 20.8	-5.2

*IDC **30** 06:17:10.5±2.2, 9.°71S×118.°11E, h0km, mb3.6/4, mb1 3.7/6, mb1mx3.6/41, mbtmp3.6/6, ML3.5/1, MS2.9/1, Ms1 2.9/1, ms1mx2.5/25, Error ellipse: s-maj=146.3km s-min=20.8km az=52.0*
*ISCJB **30** 06:17:15.9±0.6, 9.°69S±0.°06×118.°45E±0.°04, h48km, mb3.7/3, MS2.9/1, Error ellipse: s-maj=8.5km s-min=4.7km az=15.5*
*DJA **30** 06:17:19.6±0.8, 10.°S±4.°×11.°8E±.°, h31km±10km, M4.5/9, mb4.7/1, MLv4.4/9*
ISC 30 06:17:18.7±1.0, 9.53S±0.°08×118.39E±0.°04, h48km, n20, σ1.58/20, mb3.7/3, Sumbawa region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time	Res
PLAI	**Plampang**	**0.92**	**319**	P		**Pn**		**06 17 35.6**	**+0.3**
PLAI				S		**Sn**		**06 17 47.8**	**+0.3**
TWSI	**Taliwang, Sumb**	**1.68**	**298**	P		**Pn**		**06 17 46.3**	**+0.7**
TWSI				S		**Sn**		**06 18 07.0**	**+1.0**
WSI	**Waingapu**	**1.89**	**94**	P		Pn		06 17 45.7	-2.8
BASI	**Baing, Sumba**	**2.27**	**108**	P		**Pn**		**06 17 55.6**	**+1.9**
DNP	**Denpasar**	**3.25**	**285**	P		**Pn**		**06 18 10.2**	**+3.1**
DNP				S		**Sn**		**06 18 47.4**	**+2.8**
IGBI	**Denpasar**	**3.28**	**282**	P		**Pn**		**06 18 08.5**	**+1.0**
IGBI				S		**Sn**		**06 18 45.5**	**+0.2**
EDFI	**Ende, Flores**	**3.35**	**77**	P		**Pn**		**06 18 10.1**	**+1.4**
BSSI	**Bau Bau, Buton**	**3.96**	**32**	P		**Pn**		**06 18 18.1**	**+1.2**
BSSI				S		**Sn**		**06 19 03.8**	**+1.7**
JAGI	**Jajag, Banyuwa**	**4.31**	**284**	P		**Pn**		**06 18 22.7**	**+0.9**
JAGI				S		**Sn**		**06 19 11.4**	**+0.6**
GMJI	**Gumukmas**	**5.04**	**284**	P		**Pn**		**06 18 32.5**	**+0.8**
FITZ	**Fitzroy Crossi**	**11.05**	**141**	Pn		Pn		06 19 50.7	-3.5
FITZ				Sn		Sn		06 21 43.1	-13
WRA	**Warramunga Arr**	**18.56**	**126**	P		**P**		**06 21 29.1**	**-2.6**
	0.2nm,0.3s,baz=298,slow=13,SNR=5.6								
WRA				S		Sn		06 24 39.9	-19
	0.2nm,0.3s,baz=295,slow=23,SNR=4.7								
ASAR	**Alice Springs**	**20.43**	**135**	P		**P**		**06 21 51.2**	**-0.9**
	1.6nm,0.7s,baz=308,slow=9.1,SNR=11								
H08S2	**Diego Garcia H**	**45.39**	**269**	T		T		07 14 20.3	
	baz=96,slow=74,SNR=6.0								
H08S3	**Diego Garcia H**	**45.40**	**269**	T		T		07 14 31.7	
	baz=96,slow=74,SNR=7.0								
H08S1	**Diego Garcia H**	**45.41**	**269**	T		T		07 14 47.8	
	baz=96								
KSRS	**Korea Array**	**47.58**	**10**	LR		LR		06 48 52.0	
	comp=Z,13nm,18.1s,baz=235,slow=40								
SONM	**Songino Array**	**58.09**	**351**	P		**P**		**06 27 07.0**	**-0.3**
	0.9nm,0.7s,baz=172,slow=7.0,SNR=5.5								
MKAR	**Makanchi Array**	**64.65**	**333**	P		**P**		**06 27 50.3**	**-1.2**
	0.6nm,0.7s,baz=151,slow=7.8,SNR=5.8								
KURBB	**Kurchatov Arra**	**69.17**	**334**	P		**P**		**06 28 18.9**	**-1.2**
	0.4nm,0.7s,baz=151,slow=5.4,SNR=6.8								

*IDC **30** 06:34:59.2±0.8, 36.°70N×140.°58E, h0km, mb3.9/8, mb1 4.2/8, mb1mx3.9/33, mbtmp3.9/8, MS2.8/1, Ms1 2.8/1, ms1mx2.3/34, Error ellipse: s-maj=21.3km s-min=13.7km az=158.0*
*ISCJB **30** 06:35:00.4±0.6, 36.°81N±0.°02×140.°64E±0.°03, h12km±3km, mb4.2/21, Error ellipse: s-maj=5.2km s-min=3.5km az=37.2*
*JMA **30** 06:35:00.7, 36.°82N×140.°59E, h9km, M4.0 Broadband fault plane solution: P waves. NP1:ϕs222.00000°, δ50.00000°, λ-86.00000°. NP2:ϕs36.00000°, δ40.00000°, λ-95.00000°. Principal axes: T Plg5.0000°, Azm309.0000°; N Plg3.0000°, Azm39.0000°; P Plg84.0000°, Azm160.0000°;*
JMA Felt II J1.
*NIED **30** 06:35:00, 36.°80N×140.°60E, h8km, Mw3.7 Best double couple: Mo4.26000×10^14 NP1:ϕs28.00000°, δ40.00000°, λ-98.00000°. NP2:ϕs219.00000°, δ51.00000°, λ-83.00000°.*
*NEIC **30** 06:35:05.5±0.9, 36.°79N×140.°43E, h41km±9km, mb4.5/15, Error ellipse: s-maj=12.2km s-min=6.4km az=123.0*
NEIC Recorded [2 JMA] in Fukushima and Ibaraki.
ISC 30 06:35:01.3±1.0, 36.81N±0.°03×140.57E±0.°03, h10km±6km, n58, σ1.50/61, mb4.2/21, 7C-1D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time	Res
JHO	**Hitachi**	**0.20**	**180**	⇑P		**Pg**		**06 35 05.1**	**-0.4**
JHO				S		**Sg**		**06 35 08.2**	**-0.1**
ONAJ	**Iwakimizuishiy**	**0.34**	**32**	⇑P		**Pg**		**06 35 07.3**	**-0.8**
ONAJ				*e*S		**Sg**		**06 35 12.1**	**-0.6**
JSB	**Shiboa**	**0.54**	**287**	⇑P		**Pg**		**06 35 12.0**	**+0.1**
JSB				S		**Sg**		**06 35 19.8**	**+0.8**
JFK	**Kawauchi**	**0.61**	**24**	⇑P		**Pg**		**06 35 11.9**	**-1.1**
JFK				S		**Sg**		**06 35 20.0**	**-1.0**

JYT	**Yasato**	**0.66**	**208**	⇓P	**Pg**	**06 35 13.5**	**-0.5**
JYT				S	**Sg**	**06 35 22.4**	**-0.1**
JFT	**Otama**	**0.73**	**345**	⇑P	**Pg**	**06 35 14.6**	**-0.8**
JFT				S	**Sg**	**06 35 24.4**	**-0.5**
JFY	**Yanaizu**	**0.91**	**311**	⇑P	**Pg**	**06 35 17.8**	**-1.0**
JFY				S	**Sg**	**06 35 30.1**	**-0.6**
JAG	**Ashikaga**	**0.98**	**247**	⇑P	**Pg**	**06 35 18.8**	**-1.3**
JAG				S	**Sg**	**06 35 32.8**	**0.0**
MJAR	**Matsushiro Arr**	**1.92**	**263**	Pn	**Pn**	**06 35 34.2**	**+0.3**
	28nm,0.3s,baz=85,slow=15,SNR=86						
MJAR				Lg	Lg	06 35 59.0	
	65nm,0.3s,baz=76,slow=30,SNR=16						
MAJO	**Matsushiro**	**1.92**	**263**	*e*Pn	**Pn**	**06 35 34.7**	**+0.7**
MAJO				*e*Sn	**Sb**	**06 36 00.3**	**0.0**
MAT	**Matsushiro**	**1.92**	**263**	P	**Pn**	**06 35 34.6**	**+0.6**
MAT				S	**Sb**	**06 35 59.9**	**-0.4**
MJB9	**Matsu-Tunnel**	**1.92**	**263**	*e*Pn	**Pn**	**06 35 34.7**	**+0.7**
MJB9				*e*Sn	**Sb**	**06 36 00.2**	**-0.2**
INU	**Inuyama**	**3.23**	**244**	*e*Pn	**Pn**	**06 35 53.7**	**+1.7**
JHJ2	**Mitsune**	**3.74**	**190**	*e*Pn	**Pn**	**06 36 01.4**	**+2.4**
ERM	**Erimo**	**5.57**	**20**	*e*Pn	**Pn**	**06 36 25.4**	**+1.3**
ERM				*e*Sn	**Sn**	**06 37 34.3**	**+6.2**
ASAJ	**Asahikawa**	**7.46**	**11**	*e*Pn	**Pn**	**06 36 50.0**	**0.0**
KSRS	**Korea Array**	**10.12**	**277**	LR	LR	06 40 27.2	
	comp=Z,45nm,18.0s,baz=159,slow=32						
YSS	**Yuzh-Sakhalins**	**10.27**	**8**	*e*Pn	**Pn**	**06 37 29.2**	**+0.7**
YOJ	**Yonaguni jima**	**19.45**	**236**	*e*P	**P**	**06 39 25.2**	**-2.8**
	68nm,1.2s						
PEA0	**Petropavlovsk-**	**20.22**	**31**	*e*P	Pn	06 39 39.0	+0.8
PEA0B	**Petropavlovsk-**	**20.22**	**31**	*e*P	Pn	06 39 40.5	+2.3
	100nm,1.4s						
YHNB	**Yeheng**	**20.42**	**239**	*e*P	**P**	**06 39 37.1**	**-1.6**
	62nm,1.4s						
SEY	**Seymchan**	**27.14**	**12**	P	**P**	**06 40 45.3**	**+1.0**
	1.6nm,0.6s,baz=165,slow=4.3,SNR=3.8						
SONM	**Songino Array**	**27.35**	**305**	P	**P**	**06 40 45.3**	**-1.2**
	0.7nm,0.6s,baz=106,slow=11,SNR=4.6						
H11N2	**WAKE ISLAND Hy 28.62**		**119**	T	T	07 10 43.9	
	baz=313,slow=75,SNR=660						
H11N1	**WAKE ISLAND Hy 28.63**		**119**	T	T	07 10 44.4	
	baz=313,slow=75,SNR=735						
H11N3	**WAKE ISLAND Hy 28.64**		**119**	T	T	07 10 45.2	
	baz=313,slow=75,SNR=600						
H11S1	**WAKE ISLAND Hy 29.31**		**121**	T	T	07 11 35.1	
	baz=314,slow=75,SNR=1552						
H11S3	**WAKE ISLAND Hy 29.31**		**121**	T	T	07 11 35.8	
	baz=314,slow=75,SNR=1077						
H11S2	**WAKE ISLAND Hy 29.33**		**121**	T	T	07 11 39.1	
	baz=314,slow=75,SNR=1129						
KKM	**Kota Kinabalu**	**37.86**	**222**	*e*P	**P**	**06 42 17.9**	**-0.6**
	7.1nm,0.9s						
LSA	**Lhasa**	**41.55**	**275**	*e*P	**P**	**06 42 50.7**	**+1.1**
	2.8nm,0.4s						
ZAA0	**Zalesovo Array**	**41.57**	**313**	*e*P	**P**	**06 42 50.5**	**+1.6**
RABL	**Rabaul**	**42.20**	**163**	*e*P	**P**	**06 42 54.0**	**-0.4**
	50nm,0.4s						
KURK	**Kurchatov**	**45.54**	**308**	*e*P	**P**	**06 43 19.9**	**-1.0**
	3.3nm,1.2s						
KDAK	**Kodiak Island**	**47.72**	**42**	*e*P	**P**	**06 43 37.5**	**-0.3**
	13nm,1.3s						
HDA	**Harding Lake**	**50.04**	**33**	*e*pP	pP	06 44 14.4	+16
HDA				*e*S	**S**	**06 51 01.5**	**-4.7**
ILAR	**Eielson Array**	**50.04**	**32**	P	**P**	**06 43 55.0**	**-0.7**
	0.8nm,0.8s,baz=265,slow=5.5,SNR=9.0						
COEN	**Coen**	**50.55**	**177**	*e*P	**P**	**06 43 59.8**	**-0.1**
	4.4nm,1.1s						
PAX	**Paxson**	**50.80**	**35**	*e*P	**P**	**06 44 04.0**	**+2.5**
	6.2nm,1.1s						
INK	**Inuvik**	**54.89**	**27**	P	**P**	**06 44 32.7**	**+1.2**
	3.4nm,1.1s,baz=320,slow=8.3,SNR=3.2						
WB2	**Warramunga Arr**	**56.75**	**187**	*e*P	**P**	**06 44 44.1**	**-1.2**
	6.9nm,1.3s						
WRA	**Warramunga Arr**	**56.75**	**187**	P	**P**	**06 44 44.0**	**-1.4**
	1.0nm,0.5s,baz=3.2,slow=7.2,SNR=22						
AS01	**Samuel**	**60.47**	**187**	*e*P	**P**	**06 45 11.8**	**+0.5**
ASAR	**Alice Springs**	**60.48**	**187**	P	**P**	**06 45 10.2**	**-1.2**
	0.7nm,0.8s,baz=19,slow=5.9,SNR=4.8						
BMO	**Blue Mountains**	**72.58**	**47**	*e*P	**P**	**06 46 29.5**	**+0.8**
DLMT	**Dillon**	**74.97**	**44**	*e*P	**P**	**06 46 43.6**	**+0.7**
	7.1nm,1.4s						
TVH3	**East Aurora ar**	**75.38**	**53**	*e*P	**P**	**06 46 46.8**	**+1.4**
	1.6nm,0.8s						
R11A	**Troy Canyon, C**	**77.43**	**51**	*e*P	**P**	**06 46 59.0**	**+2.1**
	1.3nm,1.0s						
BW06	**Boulder Array**	**78.30**	**45**	*e*P	**P**	**06 47 02.0**	**+0.2**
PDAR	**Pinedale Array**	**78.30**	**45**	P	**P**	**06 47 01.8**

ASAR	**Alice Springs**	**61.44**	**188**	P		**P**	**07 05 56.6**	**0.0**
	0.2nm,0.6s,baz=356,slow=5.6,SNR=3.0							

*CSEM **30** 07:00:40.7±0.1,43.02N×18.16E,h2km,ML2.8, Error ellipse: s-maj=3.6km s-min=2.3km az=38.0*
*PDG **30** 07:00:40.8±0.1,43.00N×18.14E,h11km,MD2.9/3, ML2.8/11, Error ellipse: s-maj=0.3km s-min=0.5km az=0.0*
*BEO **30** 07:00:41.3±0.6,43.00N×18.10E,h10km±3km,M2.5/1*

ISC 30 07:00:40.8±1.0,**43.01N**±0.02×**18.13E**±0.02,**h8**km±8km, **n55**,σ0≦**90**/104,**25C-8D**,**Northwestern Balkan Peninsula**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BRY	**Bratogost**	**0.32**	**110**	⇓*i*Pg	**Pg**	**07 00 46.9**	**-0.2**
BRY				*e*Sg	**Sg**	**07 00 52.0**	**+0.7**
BRY	**Bratogost**	**0.32**	**110**	⇑*i*Pg	**Pg**	**07 00 46.7**	**-0.4**
BRY				*e*Sg	**Sg**	**07 00 52.0**	**+0.7**
TREB	**Trebinje**	**0.33**	**151**	⇑*i*Pg	**Pg**	**07 00 47.1**	**-0.2**
TREB				*e*Sg	**Sb**	**07 00 53.2**	**-1.3**
TREB	**Trebinje**	**0.33**	**151**	⇑*i*Pg	**Pg**	**07 00 47.1**	**-0.2**
TREB				*e*Sg	**Sb**	**07 00 53.0**	**-1.5**
STON	**Ston**	**0.35**	**247**	*i* Pg	**Pg**	**07 00 46.8**	**-0.8**
STON				Sg	**Sg**	**07 00 52.9**	**+0.6**
STON	**Ston**	**0.35**	**247**	*i* Pg	**Pg**	**07 00 46.8**	**-0.8**
STON				Sg	**Sg**	**07 00 52.8**	**+0.6**
UPM	**Unac-Piva**	**0.60**	**71**	⇑*i*Pg	**Pg**	**07 00 51.4**	**-1.0**
UPM				*e*Sg	**Sb**	**07 01 01.3**	**-1.0**
UPM	**Unac-Piva**	**0.60**	**71**	⇑*i*Pg	**Pg**	**07 00 51.4**	**-1.0**
UPM				*e*Sg	**Sg**	**07 01 00.6**	**+0.4**
HCY	**Herceg Novi**	**0.62**	**155**	⇑*i*Pg	**Pg**	**07 00 52.4**	**-0.4**
HCY				*e*Sg	**Sb**	**07 01 01.9**	**-0.9**
HCY	**Herceg Novi**	**0.62**	**155**	⇑*i*Pg	**Pg**	**07 00 52.4**	**-0.4**
HCY				*e*Sg	**Sb**	**07 01 01.6**	**-1.2**
NKME	**Niksic**	**0.65**	**112**	⇑*i*Pg	**Pg**	**07 00 52.6**	**-0.7**
NKME				*e*Sg	**Sb**	**07 01 03.3**	**-0.3**
NKME	**Niksic**	**0.65**	**112**	⇑*i*Pg	**Pg**	**07 00 52.6**	**-0.7**
NKME				*e*Sg	**Sb**	**07 01 03.3**	**-0.3**
NKY	**Niksic**	**0.66**	**107**	⇓*i*Pg	**Pg**	**07 00 53.0**	**-0.6**
NKY				*e*Sg	**Sb**	**07 01 03.4**	**-0.6**
NKY	**Niksic**	**0.66**	**107**	⇓*i*Pg	**Pg**	**07 00 53.0**	**-0.6**
NKY				*e*Sg	**Sb**	**07 01 03.4**	**-0.6**
CEME	**Cevo**	**0.74**	**128**	⇑*i*Pg	**Pg**	**07 00 54.2**	**-0.8**
CEME				*e*Sg	**Sb**	**07 01 06.0**	**-0.2**
CEME	**Cevo**	**0.74**	**128**	⇑*i*Pg	**Pg**	**07 00 54.2**	**-0.8**
CEME				*e*Sg	**Sb**	**07 01 06.0**	**-0.2**
BUM	**Brajici-Budva**	**0.90**	**141**	⇑*i*Pg	**Pg**	**07 00 57.6**	**-0.6**
BUM				*e*Sg	**Sb**	**07 01 12.2**	**+0.3**
BUM	**Brajici-Budva**	**0.90**	**141**	⇑*i*Pg	**Pg**	**07 00 57.6**	**-0.6**
BUM				*e*Sg	**Sb**	**07 01 11.2**	**+0.3**
PLE	**Pljevlja**	**0.97**	**70**	⇑*i*Pg	**Pg**	**07 00 59.0**	**-0.5**
PLE				*e*Sg	**Sn**	**07 01 14.3**	**-0.6**
PLE	**Pljevlja**	**0.97**	**70**	⇑*i*Pg	**Pg**	**07 00 59.0**	**-0.5**
PDG	**Podgorica**	**1.01**	**125**	*e*Pg	**Pg**	**07 00 59.4**	**-0.7**
PDG				*e*Sg	**Sn**	**07 01 15.5**	**-0.1**
PDG	**Podgorica**	**1.01**	**125**	⇓*i*Pg	**Pg**	**07 00 59.5**	**-0.7**
PDG				*e*Sg	**Sb**	**07 01 13.3**	**-0.6**
TTG	**Podgorica**	**1.01**	**125**	⇓*i*Pg	**Pg**	**07 00 59.5**	**-0.7**
TTG				*e*Sg	**Sn**	**07 01 15.2**	**-0.4**
KOME	**Kolasin**	**1.03**	**98**	⇓*i*Pg	**Pg**	**07 01 00.0**	**-0.5**
KOME				*e*Sg	**Sn**	**07 01 15.8**	**-0.4**
KOME	**Kolasin**	**1.03**	**98**	⇓*i*Pg	**Pg**	**07 01 00.0**	**-0.5**
KOME				*e*Sg	**Sn**	**07 01 15.8**	**-0.4**
DRME	**Dracevica, Mon**	**1.13**	**136**	⇑*i*Pg	**Pb**	**07 01 02.0**	**-0.6**
DRME				*e*Sg	**Sn**	**07 01 19.1**	**+0.5**
DRME	**Dracevica, Mon**	**1.13**	**136**	⇑*i*Pg	**Pb**	**07 01 02.0**	**-0.6**
DRME				*e*Sg	**Sn**	**07 01 17.7**	**-0.9**
BBLS	**Lazići**	**1.26**	**47**	⇑*i*Pg	**Pn**	**07 01 04.4**	**-0.4**
BBLS				*e*Sg	**Sn**	**07 01 21.8**	**-0.2**
BBLS	**Lazići**	**1.26**	**47**	⇑*i*Pg	**Pn**	**07 01 04.4**	**-0.4**
BBLS				*e*Sg	**Sg**	**07 01 21.4**	**0.0**
BEY	**Berane**	**1.30**	**95**	⇑*i*Pg	**Pb**	**07 01 05.2**	**-0.3**
IVA	**Berane**	**1.30**	**95**	⇑*i*Pg	**Pb**	**07 01 05.2**	**-0.3**
IVA				*e*Sg	**Sn**	**07 01 25.1**	**+2.2**
ULC	**Ulcinj**	**1.33**	**141**	⇑*i*Pg	**Pn**	**07 01 04.9**	**-0.8**
ULC				*e*Sg	**Sg**	**07 01 25.9**	**+2.4**
ULC	**Ulcinj**	**1.33**	**141**	⇑*i*Pg	**Pn**	**07 01 04.9**	**-0.8**
ULC				*e*Sg	**Sg**	**07 01 25.9**	**+2.4**
SJES	**Sjenica**	**1.37**	**79**	*i* Pg	**Pn**	**07 01 06.2**	**-0.1**
SJES				*e*Sg	**Sg**	**07 01 26.5**	**+1.6**
PVY	**Plav**	**1.41**	**107**	⇓*i*Pg	**Pn**	**07 01 06.8**	**0.0**
PVY				*e*Sg	**Sg**	**07 01 28.5**	**+2.5**
IVAS	**Ivanjica**	**1.58**	**68**	*e*Pg	**Pn**	**07 01 09.4**	**+0.2**
IVAS				*e*Sn	**Sb**	**07 01 29.9**	**-0.5**
IVAS	**Ivanjica**	**1.58**	**68**	*e*Pg	**Pn**	**07 01 09.4**	**+0.2**
IVAS				*e*Sn	**Sb**	**07 01 29.9**	**-0.5**
DIVS	**Divibare**	**1.73**	**50**	⇑*i*Pn	**Pn**	**07 01 11.1**	**-0.2**
DIVS				*e*Sn	**Sb**	**07 01 34.8**	**-0.1**
DIVS	**Divibare**	**1.73**	**50**	⇑*i*Pn	**Pn**	**07 01 11.1**	**-0.2**
DIVS				*e*Sn	**Sb**	**07 01 34.5**	**-0.4**
TEKS	**Tekeris**	**1.84**	**33**	*e*Pg	**Pg**	**07 01 15.9**	**-0.2**
TEKS				*e*Sn	**Sb**	**07 01 37.2**	**-0.7**
BLY	**Banja Luka**	**1.87**	**339**	*e*Pn	**Pb**	**07 01 14.9**	**-0.3**
BLY	**Banja Luka**	**1.87**	**339**	*e*Pn	**Pb**	**07 01 14.9**	**-0.3**
BLY				*e*Sn	**Sn**	**07 01 37.2**	**+0.3**
TRUS	**Trudelj**	**2.05**	**53**	*e*Pn	**Pn**	**07 01 15.2**	**-0.4**
GRUS	**Gruza**	**2.08**	**64**	*e*Pn	**Pn**	**07 01 15.8**	**-0.1**
GRUS	**Gruza**	**2.08**	**64**	*e*Pn	**Pn**	**07 01 15.8**	**-0.1**
UDBI	**Udbina**	**2.29**	**312**	*i* Pn	**Pb**	**07 01 21.6**	**-0.8**
UDBI				Sn	**Sb**	**07 01 49.7**	**-1.2**
UDBI	**Udbina**	**2.29**	**312**	*i* Pn	**Pb**	**07 01 21.6**	**-0.8**
UDBI				Sn	**Sb**	**07 01 49.7**	**-1.2**
NVLJ	**Novalja**	**2.83**	**304**	*e*Pn	**Pn**	**07 01 27.0**	**+0.7**
NVLJ				Sn	**Sn**	**07 02 02.3**	**+1.8**
NVLJ				Sg	**Sg**	**07 02 11.8**	**+0.2**
NVLJ	**Novalja**	**2.83**	**304**	*e*Pn	**Pn**	**07 01 26.9**	**+0.7**
NVLJ				Sn	**Sn**	**07 02 02.3**	**+1.8**
NVLJ				Sg	**Sg**	**07 02 11.8**	**+0.2**
ZAGS	**Zajecar**	**3.09**	**74**	*e*Pn	**Pn**	**07 01 30.7**	**+0.8**
OZLJ	**Ozalj**	**3.23**	**325**	*e*Pn	**Pn**	**07 01 33.9**	**+2.0**
OZLJ				Sn	**Sn**	**07 02 11.9**	**+1.5**
OZLJ	**Ozalj**	**3.23**	**325**	*e*Pn	**Pn**	**07 01 33.8**	**+2.0**
OZLJ				Sn	**Sn**	**07 02 11.9**	**+1.5**
ZAPS	**Zavoj**	**3.30**	**84**	*e*Pn	**Pn**	**07 01 34.4**	**+1.6**
CRES	**Cresnjev**	**3.41**	**327**	*e*Pn	**Pn**	**07 01 34.9**	**+0.7**
CRES				*e*Sn	**Sn**	**07 02 14.6**	**-0.2**
CEY	**Cerknica**	**3.81**	**317**	*e*Pn	**Pn**	**07 01 40.1**	**+0.3**
CEY				*e*Sn	**Sn**	**07 02 23.9**	**-0.9**

PGC 30 07:08:05.3±1.6,**59.07N**×**138.00W**,**h10**km,**ML2.3**/4, **88km east of Yakutat, Ak Southeastern Alaska, Southeastern Alaska**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PLBC	**Pleasant Camp**	**0.93**	**64**	P	Pg	07 08 21.9	-1.2
PLBC				S	Sg	07 08 33.8	-1.4
PNL	**Peninsula**	**0.94**	**311**	P	Pg	07 08 22.2	-1.1
PNL				S	Sg	07 08 34.8	-0.6
PCA	**Pinnacle**	**1.54**	**313**	Pn	Pn	07 08 31.8	-1.1
PCA					Sg	Sn	07 08 52.8	-0.2
BESE	**Bessie Mountai**	**1.71**	**105**	Pn	Pn	07 08 31.2	-3.9
BESE					Sg	Sn	07 08 57.6	+0.5
WHY	**Whitehorse**	**2.25**	**43**	Pn	Pn	07 08 42.7	+0.2
WHY					Sn	Sn	07 09 11.5	+1.1
WHY					Sg	Sb	07 09 15.2	+1.4
CTGM	**Chitina Glacie**	**2.54**	**320**	Pn	Pn	07 08 47.0	+0.4
CTGM					Sg	Sb	07 09 20.0	-2.2
YUK3	**Moose Creek**	**2.98**	**337**	Pn	Pb	07 08 58.9	+0.4
YUK3					Sg	Sg	07 09 41.1	+0.2
YUK2	**White River**	**3.07**	**334**	Pn	Pb	07 08 58.2	-1.8

*ISCJB **30** 07:23:25.9±0.4,34.78N±0.08×135.46E±0.08, h391km±3km,mb3.5/7, Error ellipse: s-maj=13.6km s-min=7.8km az=143.4*
*IDC **30** 07:23:26.7±0.7,34.73N×135.48E,h381km±8km,mb3.3/7, mb1 3.4/12,mb1mx3.1/60,mbtmp4.0/12, Error ellipse: s-maj=16.8km s-min=11.4km az=117.0*
*JMA **30** 07:23:26.9±0.2,34.86N×135.40E,h383km±2km,M3.4*

ISC 30 07:23:26.8±0.7,**34.79N**±0.08×**135.43E**±0.07,**h382**km±6km, **n25**,σ0≦**49**/31,**mb3.7**/7,**Near south coast of western Honshu**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JHE	**Heguri**	**0.25**	**124**	P	**Pn**	**07 24 14.7**	**+0.3**
JHE				S	**S**	**07 24 52.3**	**-0.3**
JWT	**Wachi**	**0.49**	**357**	P	**Pn**	**07 24 14.8**	**+0.3**
JWT				S	**S**	**07 24 52.2**	**-0.9**
JWY	**Kouya**	**0.59**	**167**	P	**Pn**	**07 24 15.6**	**+0.6**
JIE	**Ise**	**1.12**	**111**	P	**Pn**	**07 24 17.2**	**+0.7**
JWZ	**Kozaga**	**1.28**	**169**	P	**Pn**	**07 24 17.6**	**+0.3**
JAI	**Aioi**	**1.29**	**219**	S	**S**	**07 24 57.6**	**-0.2**
JKG	**Kaga**	**1.65**	**26**	P	**Pn**	**07 24 19.0**	**+0.1**
JHS	**Saijyo**	**1.92**	**277**	P	**Pn**	**07 24 20.9**	**+0.3**
JHS				S	**S**	**07 25 03.6**	**-0.4**
JHT	**Toyohira**	**2.48**	**268**	P	**Pn**	**07 24 24.8**	**+0.3**
JNA	**Nagahama**	**2.74**	**244**	P	**Pn**	**07 24 27.3**	**+0.8**
JNA				S	**S**	**07 25 15.3**	**+0.5**
MAT	**Matsushiro**	**2.85**	**52**	P	**Pn**	**07 24 27.4**	**+0.1**
MAT				S	**S**	**07 25 15.8**	**-0.5**
MJAR	**Matsushiro Arr**	**2.85**	**52**	P	**Pn**	**07 24 28.2**	**+0.9**
	2.7nm,0.3s,baz=220,slow=8.8,SNR=12						
MJAR				S	**S**	**07 25 16.4**	**+0.1**
	0.6nm,0.3s,baz=235,slow=15,SNR=6.5						
JTO	**Tosashimizu**	**2.92**	**229**	P	**Pn**	**07 24 28.4**	**+0.4**
JRY	**Ryogami san**	**3.08**	**66**	P	**Pn**	**07 24 29.9**	**+0.6**
JNU	**Nakatsue**	**4.14**	**248**	P	**Pn**	**07 24 39.6**	**+0.4**
	7.2nm,0.3s,baz=1.7,slow=0.7,SNR=38						
KSRS	**Korea Array**	**6.63**	**296**	P	**P**	**07 25 06.3**	**-0.3**
	0.6nm,0.3s,baz=113,slow=12,SNR=7.1						
USRK	**Ussuriysk Ar.**	**9.76**	**345**	P	**Pn**	**07 25 41.7**	**-0.1**
	0.5nm,0.3s,baz=161,slow=10.0,SNR=8.3						
JOW	**Kunigami**	**10.04**	**220**	P	**P**	**07 25 45.5**	**+0.1**
	0.7nm,0.3s,baz=15,slow=9.6,SNR=4.9						
MKAR	**Makanchi Array**	**41.24**	**304**	P	**P**	**07 30 36.5**	**+0.4**
	0.2nm,0.4s,baz=85,slow=9.6,SNR=3.3						
KDAK	**Kodiak Island**	**51.97**	**40**	P	**P**	**07 31 58.5**	**+0.5**
	4.5nm,1.0s,baz=261,slow=8.7,SNR=6.8						
ILAR	**Eielson Array**	**53.95**	**31**	P	**P**	**07 32 12.3**	**+0.2**
	0.3nm,0.6s,baz=256,slow=5.8,SNR=8.9						
WRA	**Warramunga Arr**	**54.44**	**181**	P	**P**	**07 32 15.4**	**-0.8**
	2.9nm,0.3s,baz=358,slow=7.5,SNR=84						
ASAR	**Alice Springs**	**58.16**	**182**	P	**P**	**07 32 41.7**	**-0.4**
	1.1nm,0.6s,baz=12,slow=14,SNR=23						
INK	**Inuvik**	**58.55**	**26**	P	**P**	**07 32 44.2**	**+0.1**
	3.1nm,1.0s,baz=224,slow=6.4,SNR=4.5						
STKA	**Stephens Creek**	**66.57**	**174**	P	**P**	**07 33 36.9**	**-0.1**
	5.3nm,1.0s,baz=33,slow=6.5,SNR=3.1						

*IDC **30** 07:23:22.4±1.5,18.09N×106.18W,h0km,mb4.1/5, mb1 4.3/7,mb1mx4.0/39,mbtmp4.0/7,ML3.7/2,MS3.8/32, Ms1 3.8/32,ms1mx3.8/46, Error ellipse: s-maj=44.5km s-min=20.5km az=63.0*
*ISCJB **30** 07:23:26.4±0.4,18.13N±0.04×105.80W±0.02,h33km, mb4.5/74,MS3.9/30, Error ellipse: s-maj=5.7km s-min=2.6km az=13.1*
*GCMT **30** 07:23:28.0±0.5,18.11N×105.93W,h24km±1km,MW4.9/80, Moment Tensor Solution. s22,c25; s80,c111; Duration: 0 Moment tensor: Scale 10^16^Nm; Mrr-0.64±.15; Mθθ0.01±.11; Mφφ0.62±.11; Mrθ0.40±.15; Mθφ-2.40±.08; Mφr0.42±.14; Best double couple: Mo2.51800×10^16^ NP1:φs182.00000°,δ77.00000°,λ-14.00000°. NP2: φs275.00000°,δ76.00000°,λ-167.00000°. Principal axes: T 2.7390, Plg1.0000°, Azm229.0000°; N -0.4410, Plg71.0000°, Azm321.0000°; P -2.2980, Plg19.0000°, Azm138.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*MEX **30** 07:23:28.0±0.5,18.31N×105.80W,h22km±32km,MD4.3*
*NEIC **30** 07:23:28.0±0.0,18.31N×105.80W,h22km,mb4.4/117, MD4.3(MEX),After MEX.*

ISC 30 07:23:28.4±0.7,**18.26N**±0.06×**105.81W**±0.06,**h35**km, **n492**,σ1≦**55**/448,**mb4.4**/74,**MS3.8**/30,**Off coast of Jalisco**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CJM	**Chamela**	**1.43**	**31**	*i* P	**Pn**	**07 23 48.8**	**-3.1**
CJM				*e*S	**Sn**	**07 24 05.8**	**-3.8**
CJM	**Chamela**	**1.43**	**31**	*i* P	**Pn**	**07 23 48.8**	**-3.1**
CJM				*e*S	**Sn**	**07 24 05.8**	**-3.8**
R15V		**1.96**	**62**	*i* P	**Pn**	**07 23 56.9**	**-2.3**
R15V				*e*S	**Sn**	**07 24 19.1**	**-3.5**
MMIG	**Aquila**	**2.35**	**89**	*i* P	**Pn**	**07 24 02.2**	**-2.3**
MMIG				*i* S	**Sn**	**07 24 30.2**	**-1.9**
MMIG	**Aquila**	**2.35**	**89**	*i* P	**Pn**	**07 24 02.2**	**-2.3**
MMIG				*i* S	**Sn**	**07 24 30.2**	**-1.9**
EZ5V		**2.42**	**60**	*i* P	**Pn**	**07 24 04.3**	**-1.5**
EZ5V				*i* S	**Sn**	**07 24 31.3**	**-3.0**
ZIIG	**Zihuatanejo**	**4.19**	**98**	*i* P	**Pn**	**07 24 28.4**	**-1.5**
ZIIG				*i* S	**Sn**	**07 25 15.6**	**-2.1**
ZIIG	**Zihuatanejo**	**4.19**	**98**	*i* P	**Pn**	**07 24 28.4**	**-1.5**
ZIIG				*i* S	**Sn**	**07 25 15.6**	**-2.1**
MOIG	**Morelia**	**4.60**	**71**	*e*Pn	**Pn**	**07 24 35.8**	**+0.1**
MOIG				*i* S	**Sn**	**07 25 26.3**	**-1.7**
MOIG	**Morelia**	**4.60**	**71**	*e*P	**Pn**	**07 24 34.3**	**-1.4**
MOIG				*i* S	**Sn**	**07 25 26.3**	**-1.7**
H06E1	**SOCORRO T-PHAS**	**4.88**	**277**	T	T	07 29 28.0	
	SNR=1363						
H06S1	**SOCORRO T**	**4.90**	**276**	T	T	07 29 24.7	
	SNR=77						
H06N1	**SOCORRO T-PHAS**	**4.94**	**278**	T	T	07 29 29.4	
	SNR=11						
ZAIG	**Zacatecas**	**5.42**	**34**	*e*Pn	**Pn**	**07 24 48.1**	**+1.1**
ZAIG				*e*Sn	Sn	07 26 04.2	+16
UNM	**Universidad Na**	**6.38**	**79**	*e*Pn	**Pn**	**07 25 03.0**	**+2.8**
TLIG	**Tlapa**	**6.94**	**95**	*e*Pn	**Pn**	**07 25 08.6**	**+0.9**
TLIG				*e*Sn	**Sn**	**07 26 23.8**	**-1.8**
LPIG	**La Paz**	**7.17**	**325**	Pn	**Pn**	**07 25 11.8**	**+1.0**
	0.4nm,0.3s,baz=331,slow=3.9,SNR=6.2						
HPIG		**8.63**	**1**	*e*Pn	**Pn**	**07 25 34.3**	**+3.2**
LNIG	**Linares**	**8.86**	**41**	*e*Pn	**Pn**	**07 25 36.6**	**+2.6**
CMIG	**Matias Romero**	**10.48**	**95**	Pn	**Pn**	**07 25 58.8**	**+2.5**
	0.4nm,0.3s,baz=243,slow=11,SNR=8.8						
CMIG					LR	LR	07 29 53.1	
	comp=Z,253nm,20.7s,baz=286,slow=36						
SRIG	**Santa Rosalia**	**10.79**	**328**	*e*Pn	**Pn**	**07 26 01.4**	**+1.0**
034A	**Hebbronville**	**10.96**	**36**	P	**Pn**	**07 26 05.6**	**+2.8**
	baz=218						
933A	**Laredo**	**11.09**	**32**	P	**Pn**	**07 26 07.3**	**+2.8**
	baz=214						
035A	**Encino**	**11.19**	**38**	P	**Pn**	**07 26 09.0**	**+3.0**
	baz=221						
TX31	**Lajitas Ar. Si**	**11.20**	**10**	*e*Pn	**Pn**	**07 26 10.4**	**+4.3**
TXAR	**Lajitas Array**	**11.20**	**10**	Pn	**Pn**	**07 26 09.7**	**+3.6**
	0.1nm,0.3s,baz=187,slow=13,SNR=19						
832A	**Faith Ranch, C**	**11.33**	**27**	P	**Pn**	**07 26 11.7**	**+3.9**
	baz=209,SNR=8.7						
833A	**Chaparral WMA,**	**11.62**	**29**	P	**Pn**	**07 26 15.6**	**+3.7**
	baz=212,SNR=12						
834A	**Tilden**	**11.87**	**33**	P	**Pn**	**07 26 19.0**	**+3.8**
	baz=216						
733A	**Divot King Ran**	**12.00**	**29**	P	**Pn**	**07 26 20.4**	**+3.4**
	baz=211,SNR=9.9						
835A	**Beeville**	**12.38**	**35**	P	**Pn**	**07 26 25.8**	**+3.6**
	baz=218,SNR=5.2						
633A	**Saathoff Ranch**	**12.69**	**27**	P	**Pn**	**07 26 29.4**	**+2.9**
	baz=210,SNR=9.2						
735A	**Kenedy**	**12.84**	**33**	P	**Pn**	**07 26 31.5**	**+2.9**
	baz=216						
634A	**China Grove, S**	**13.00**	**30**	P	**Pn**	**07 26 33.3**	**+2.6**
	baz=213						
CCIG	**Comitan**	**13.21**	**96**	*e*Pn	**Pn**	**07 26 35.8**	**+2.0**
533A	**Kerrville**	**13.28**	**26**	P	**Pn**	**07 26 37.8**	**+3.3**
	baz=209						
635A	**Leesville**	**13.29**	**32**	P	**Pn**	**07 26 36.6**	**+2.0**
	baz=215						
736A	**Circle Diamond**	**13.32**	**35**	P	**Pn**	**07 26 38.4**	**+3.4**
	baz=219,SNR=6.6						
JCT	**Junction City**	**13.34**	**23**	P	**Pn**	**07 26 38.9**	**+3.6**
	baz=206,SNR=11						
JCT	**Junction City**	**13.34**	**23**	*e*Pn	**Pn**	**07 26 39.7**	**+4.3**
MNTX	**Cornudas Mount**	**13.39**	**2**	P	**Pn**	**07 26 38.9**	**+2.9**
	baz=182						
MNTX	**Cornudas Mount**	**13.39**	**2**	*e*Pn	**Pn**	**07 26 39.2**	**+3.3**
319A	**Douglas**	**13.43**	**347**	*e*Pn	**Pn**	**07 26 40.7**	**+4.0**
534A	**Blanco**	**13.49**	**28**	P	**Pn**	**07 26 40.8**	**+3.4**
	baz=211,SNR=20						
737A	**Port Lavaca**	**13.53**	**38**	P	**Pn**	**07 26 40.2**	**+2.3**
	baz=221						
636A	**Smothers Creek**	**13.74**	**34**	P	**Pn**	**07 26 43.3**	**+2.6**
	baz=217,SNR=8.5						
433A	**Art**	**13.86**	**25**	P	**Pn**	**07 26 45.1**	**+2.7**
	baz=208						
535A	**Dale**	**13.92**	**31**	P	**Pn**	**07 26 44.9**	**+1.7**
	baz=214						
637A	**Eagle Lake**	**14.10**	**36**	P	**Pn**	**07 26 47.1**	**+1.4**
	baz=220						
536A	**Bastrop**	**14.21**	**32**	P	**Pn**	**07 26 49.0**	**+1.8**
	baz=216						
434A	**Burnet**	**14.25**	**27**	P	**Pn**	**07 26 49.3**	**+1.5**
	baz=210,SNR=12						
121A	**Cookes Peak, D**	**14.32**	**353**	P	**Pn**	**07 26 50.2**	**+1.3**
	baz=172						
121A	**Cookes Peak, D**	**14.32**	**353**	*e*Pn	**P**	**07 26 52.4**	**-3.1**
	16nm,1.0s						
333A	**Richland Sprin**	**14.40**	**24**	P	**Pn**	**07 26 51.7**	**+1.8**
	baz=207,SNR=26						
435B	**Jarrell**	**14.54**	**29**	P	**Pn**	**07 26 53.2**	**+1.6**
	baz=213						
638A	**Rosharon**	**14.60**	**39**	P	**Pn**	**07 26 53.7**	**+1.3**
	baz=223						
537A	**Green Hill Far**	**14.60**	**35**	P	**Pn**	**07 26 55.0**	**+2.4**
	baz=218,SNR=8.0						
TUC	**Tucson**	**14.69**	**343**	P	**Pn**	**07 26 55.6**	**+1.8**
	baz=161						
TUC	**Tucson**	**14.69**	**343**	*e*Pn	**Pn**	**07 26 55.9**	**+2.1**
334A	**Lometa**	**14.71**	**26**	P	**Pn**	**07 26 55.6**	**+1.5**
	baz=210,SNR=11						
436A	**Wall Ranch, Ga**	**14.90**	**32**	P	**Pn**	**07 26 57.3**	**+0.8**
	baz=215						
335A	**Moody**	**15.03**	**29**	P	**Pn**	**07 26 59.1**	**+0.9**
	baz=212,SNR=5.5						
214A	**Organ Pipe Nat**	**15.03**	**336**	P	**Pn**	**07 26 58.8**	**+0.6**
	baz=154,SNR=14						
214A	**Organ Pipe Nat**	**15.03**	**336**	*e*P	**P**	**07 27 05.2**	**+1.9**
	102nm,1.0s						
233A	**Rising Star**	**15.05**	**23**	P	**Pn**	**07 26 59.7**	**+1.1**
	baz=206,SNR=25						
437A	**Phantom Ranch,**	**15.29**	**33**	P	**Pn**	**07 27 02.3**	**+0.6**
	baz=217						
234A	**Clairette**	**15.34**	**25**	P	**Pn**	**07 27 03.4**	**+1.0**
	baz=209,SNR=11						
ABTX	**Abilene, Hawle**	**15.34**	**20**	P	**Pn**	**07 27 03.5**	**+1.0**
	baz=203						
ABTX	**Abilene, Hawle**	**15.34**	**20**	*e*Pn	**P**	**07 27 05.1**	**-1.7**
	48nm,1.3s						
336A	**Riesel**	**15.39**	**30**	P	**Pn**	**07 27 03.8**	**+0.8**
	baz=214						
539A	**Cross D Ranch,**	**15.53**	**39**	P	**Pn**	**07 27 05.4**	**+0.7**
	baz=223						
WHTX	**Lake Whitney,**	**15.62**	**27**	P	**Pn**	**07 27 06.9**	**+1.0**
	baz=211						
WHTX	**Lake Whitney,**	**15.62**	**27**	*e*Pn	**Pn**	**07 27 07.7**	**+1.7**
	40nm,1.0s						
337A	**Centerville**	**15.81**	**33**	P	**Pn**	**07 27 09.1**	**+0.7**
	baz=217						
BNM	**Barren Site**	**15.84**	**358**	*e*Pn	**P**	**07 27 13.1**	**+0.6**
LENM	**Lemitar**	**15.88**	**356**	*e*Pn	**Pn**	**07 27 10.9**	**+1.5**
MSTX	**Muleshoe**	**15.88**	**9**	P	**Pn**	**07 27 10.9**	**+1.5**
	baz=190,SNR=12						
MSTX	**Muleshoe**	**15.88**	**9**	*e*Pn	**P**	**07 27 12.0**	**-0.7**
	75nm,1.3s						
439A	**Center Grove,**	**16.01**	**37**	P	**Pn**	**07 27 11.1**	**+0.2**
	baz=221						
236A	**Katherine and**	**16.04**	**30**	P	**Pn**	**07 27 11.8**	**+0.4**
	baz=214						
LAZ	**Ladron**	**16.12**	**356**	*e*Pn	**P**	**07 27 16.0**	**+0.5**
113A	**Mohawk Valley,**	**16.12**	**335**	*e*Pn	**P**	**07 27 14.3**	**-1.0**
	54nm,1.5s						
338A	**Crockett**	**16.14**	**34**	P	**Pn**	**07 27 12.9**	**+0.2**
	baz=218						
237A	**Washetta, Mont**	**16.39**	**32**	P	**Pn**	**07 27 16.3**	**+0.4**
	baz=216,SNR=6.7						
541A	**Lake Charles**	**16.44**	**42**	P	**Pn**	**07 27 16.7**	**+0.3**
	baz=227						
136A	**Ennis**	**16.44**	**29**	P	**Pn**	**07 27 16.9**	**+0.5**
	baz=213

baz=212,SNR=21
243A **Waterproof** 18.75 41 P Pn 07 27 45.3 +0.3
baz=227
445A **Amite** 18.75 46 P Pn 07 27 45.2 +0.3
baz=232
BBRC **Big Bear Solar** 18.77 330 P Pn 07 27 45.7 +0.3
baz=145
Y39A **Locksburg** 18.80 32 P Pn 07 27 46.3 +0.7
baz=217
T25A **Trinidad** 18.85 3 P Pn 07 27 48.1 +1.7
baz=184,SNR=6.2
T25A **Trinidad** 18.85 3 eP Pn 07 27 48.6 +2.2
21nm,1.1s
W36A **Wetumka** 18.85 25 P Pn 07 27 46.8 +0.6
baz=209,SNR=7.2
344A **Westbrook Farm** 18.94 43 P Pn 07 27 47.4 +0.1
baz=230
Z41A **Richland Creek** 18.95 36 P Pn 07 27 47.6 +0.1
baz=221
HEC **Hector,Ludlow** 18.98 332 P Pn 07 27 47.3 -0.5
baz=148
U15A **North Rim** 18.98 344 ePn Pn 07 27 49.6 +1.6
16nm,1.3s
MVCO **Mesa Verde** 19.03 353 P Pn 07 27 49.0 +0.4
baz=172
MVCO **Mesa Verde** 19.03 353 eP Pn 07 27 50.1 +1.5
11nm,0.9s
U32A **Winter Ranch,** 19.03 17 P Pn 07 27 48.8 +0.4
baz=200
X38A **Whitesboro** 19.05 29 P Pn 07 27 49.4 +0.8
baz=214,SNR=17
WLAR **White Oak Lake** 19.11 34 eP Pn 07 27 50.7 +1.3
34nm,0.9s
V35A **Meyer Ranch, C** 19.16 23 P Pn 07 27 50.1 +0.2
baz=207
W37B **Quinton** 19.18 27 P Pn 07 27 50.3 +0.2
baz=211,SNR=15
X39A **Fountain Ranch** 19.25 31 P Pn 07 27 50.9 -0.2
baz=216,SNR=5.6
Y40A **Okolona** 19.28 33 P Pn 07 27 51.1 -0.3
baz=219
MWC **Mount Wilson** 19.29 328 eP Pn 07 27 51.3 -0.4
64nm,1.8s
345A **Thompson Farm,** 19.31 45 P Pn 07 27 51.6 -0.2
baz=231
PASC **Pasadena Art C** 19.32 328 eP Pn 07 27 53.2 +1.3
45nm,1.7s
TUQ **Turquoise Moun** 19.32 334 P P 07 27 51.1 +0.4
baz=150
SNCC **San Nicolas Is** 19.34 323 P P 07 27 50.6 -0.2
baz=137
SNCC **San Nicolas Is** 19.34 323 eP Pn 07 27 52.7 +0.6
102nm,1.6s
244A **Avery, Jackson** 19.36 42 P Pn 07 27 52.4 +0.1
baz=229
143A **Socs Landing,** 19.36 39 P P 07 27 51.7 +0.6
baz=225,SNR=8.2
SDCO **Great Sand Dun** 19.42 1 P Pn 07 27 54.2 +0.9
baz=181,SNR=19
SDCO **Great Sand Dun** 19.42 1 eP Pn 07 27 55.1 +1.8
30nm,1.5s
S22A **4UR Ranch, Cre** 19.43 358 P Pn 07 27 54.0 +0.5
baz=177
S22A **4UR Ranch, Cre** 19.43 358 eP Pn 07 27 55.0 +1.5
19nm,1.3s
Z42A **Norrel Spur, H** 19.45 37 P Pn 07 27 53.3 -0.1
baz=223,SNR=5.8
446A **Poplarville** 19.45 47 P P 07 27 52.5 +0.4
baz=234,SNR=6.6
DECC **Green Verdugo** 19.46 327 P Pn 07 27 53.4 -0.1
baz=142
W38A **Poteau** 19.52 29 P Pn 07 27 54.0 -0.3
baz=214
V36A **Jenks** 19.52 25 P Pn 07 27 54.0 -0.2
baz=209,SNR=6.6
Y41A **Eaglette Beard** 19.53 35 P Pn 07 27 54.3 -0.1
baz=220
MIAR **Mount Ida** 19.55 32 P Pn 07 27 54.2 -0.4
baz=217
MIAR **Mount Ida** 19.55 32 eP Pn 07 27 55.1 +0.5
22nm,1.4s
VBMS **Vicksburg** 19.58 42 P Pn 07 27 55.3 +0.4
baz=228
VBMS **Vicksburg** 19.58 42 eP Pn 07 27 57.6 +2.7
153nm,1.5s
GSC **Goldstone, Bar** 19.58 332 P Pn 07 27 55.0 -0.1
baz=147,SNR=12
GSC **Goldstone, Bar** 19.58 332 eP Pn 07 27 55.3 +0.3
31nm,1.3s
KNB **Kanab** 19.68 343 eP Pn 07 27 57.3 +1.0
60nm,1.4s
TUL1 **Leonard** 19.69 25 P Pn 07 27 55.6 -0.7
baz=209,SNR=13
TUL1 **Leonard** 19.69 25 eP Pn 07 27 56.2 -0.1
108nm,1.4s
BLG **Laguna Peak, P** 19.73 326 P P 07 27 55.3 +0.2
baz=140
346A **Big Creek Wild** 19.74 45 P Pn 07 27 56.7 -0.2
baz=232
U35A **Pawnee** 19.74 22 P P 07 27 55.7 +0.5
baz=206,SNR=5.4
EDW2 **Edwards Air Fo** 19.79 329 P P 07 27 56.2 +0.4
baz=144
LCMT **Little Creek M** 19.79 342 eP Pn 07 27 58.2 +0.6
18nm,1.3s
Z43A **Armstrong Fami** 19.81 38 P Pn 07 27 58.1 +0.4
baz=225
245A **Little AP, Sta** 19.86 43 P Pn 07 27 58.2 -0.1
baz=230
SHOC **Shoshone, Teco** 19.86 334 P P 07 27 57.3 +0.8
baz=150
X40A **Basin Creek Fa** 19.88 33 P Pn 07 27 58.6 +0.1
baz=219
V37A **Hulbert** 19.93 26 P P 07 27 57.2 -0.1
baz=211,SNR=12
OSI **Osito Audit: C** 19.94 327 eP Pn 07 28 00.2 +0.9
15nm,1.0s
PKCU **Pink Cliffs** 19.95 345 eP Pn 07 28 04.3 +4.7
110nm,1.9s
PV01 **Paradox Valley** 19.95 354 eP Pn 07 28 00.2 +0.6
Y42A **Garnett, Star** 19.95 36 P Pn 07 27 59.3 0.0
baz=222
447A **Lucedale** 19.95 48 P Pn 07 27 59.4 0.0
baz=235
PV05 **Paradox Valley** 19.95 352 eP Pn 07 28 00.7 +1.1
SHPR **Sheep Range** 19.96 337 eP Pn 07 27 59.9 +0.2
18nm,1.2s
W39A **Magazine** 19.97 30 P Pn 07 27 59.7 +0.1
baz=215
CCAR **Cane Creek** 20.02 36 eP Pn 07 28 01.6 +1.5
103nm,1.4s
X41A **Kaden, Bauxite** 20.05 34 P P 07 27 59.3 +0.8
baz=220
LRMC **Laurel Mtn Rad** 20.12 331 P Pn 07 28 00.8 -0.7
baz=145
U36A **Oologah** 20.14 24 P P 07 28 00.4 +1.0
baz=209
T34A **McClaskey Farm** 20.17 20 P P 07 28 00.0 +0.1
baz=204,SNR=15
145A **Houston Renfro** 20.21 42 P Pn 07 28 01.8 -0.6
baz=229
V38A **Canehill** 20.23 28 P P 07 28 01.1 +0.5
baz=213,SNR=35
PV10 **Paradox Valley** 20.24 353 eP Pn 07 28 02.6 -0.4
PV04 **Paradox Valley** 20.24 353 eP Pn 07 28 02.6 -0.3
SZCU **Shurtz Canyon** 20.29 343 eP Pn 07 28 03.6 0.0
22nm,1.4s
T35A **Sooner Cattle** 20.31 22 P P 07 28 02.0 +0.6
baz=206,SNR=16
W40A **Ferguson Farm,** 20.31 31 P Pn 07 28 03.1 -0.5
baz=217
CCUT **Cedar City** 20.33 343 eP Pn 07 28 03.4 -0.6
33nm,1.8s
Z44A **Pea Ridge, Bel** 20.35 40 P P 07 28 02.2 +0.4
baz=226
UALR **University of** 20.36 33 eP Pn 07 28 04.7 +0.6
20nm,1.0s
PV09 **Paradox Valley** 20.37 353 eP Pn 07 28 04.3 -0.3
347A **Saraland** 20.38 47 P P 07 28 02.4 +0.2
baz=234
U37A **Salina** 20.39 25 P P 07 28 03.2 +0.9
baz=210,SNR=10
ARVC **Arvin** 20.40 328 P P 07 28 02.2 -0.1
baz=142
Y43A **Makayla and Ka** 20.50 38 P Pn 07 28 05.7 -0.1
baz=224
MPMC **Manual Prospec** 20.52 332 P P 07 28 04.6 +0.8
baz=147

V39A **Pettigrew** 20.56 29 P P 07 28 04.6 +0.4
baz=215,SNR=14
X42A **Stuttgart** 20.57 35 P Pn 07 28 05.8 -0.8
baz=221
FURC **Furnace Creek,** 20.59 334 P P 07 28 05.2 +0.8
baz=149
Q24A **Divide** 20.64 1 eP Pn 07 28 07.0 -0.7
29nm,1.9s
ISA **Isabella, Lake** 20.65 330 P P 07 28 05.8 +0.6
baz=144
ISA **Isabella, Lake** 20.65 330 eP P 07 28 06.1 +1.0
36nm,1.8s
T36A **Boggs Farm, Ca** 20.67 23 P P 07 28 06.1 +0.8
baz=208
X301 **Greenbrier Sit** 20.69 33 eP Pn 07 28 07.9 -0.1
34nm,1.5s
W41B **Gary Mavity, V** 20.71 33 P Pn 07 28 07.1 -1.1
baz=219
PKM **Mcpherson Peak** 20.72 326 P P 07 28 05.8 -0.3
baz=140
247A **Quitman** 20.72 45 P P 07 28 06.5 +0.6
baz=232
U38A **Gravette** 20.73 27 P P 07 28 06.1 +0.1
baz=212,SNR=9.4
DAC **Darwin (Calif)** 20.75 332 eP P 07 28 06.8 +0.5
24nm,1.4s
TPNV **Topopah Spring** 20.76 336 P P 07 28 06.2 -0.2
baz=151,SNR=15
TPNV **Topopah Spring** 20.76 336 eP Pn 07 28 07.9 -1.1
22nm,1.1s
WHAR **Wooly Hollow** 20.78 33 eP Pn 07 28 08.9 -0.2
74nm,1.6s
146A **Union** 20.79 43 P P 07 28 07.1 +0.5
baz=230,SNR=6.6
HHAR **Hobbs** 20.79 28 eP Pn 07 28 07.9 -1.3
50nm,1.3s
S34A **Willow Spring** 20.82 20 P Pn 07 28 08.5 -1.0
baz=204
348A **Jackson** 20.84 48 P Pn 07 28 08.6 -1.1
baz=235
KSCO **Kaye Shedlock'** 20.86 7 P P 07 28 07.7 +0.2
baz=188
Z45A **Winona** 20.86 41 P P 07 28 08.2 +0.8
baz=228
SMCO **Snowmass** 20.87 357 eP Pn 07 28 10.2 -0.3
13nm,1.0s
V40A **Witts Springs** 20.92 31 P P 07 28 08.4 +0.4
baz=217,SNR=12
MSU **Marysvale** 20.93 346 eP Pn 07 28 10.7 -0.3
Y44A **Strider, Charl** 20.95 39 P P 07 28 09.5 +1.2
baz=226
X43A **Marvell** 20.96 37 P P 07 28 09.7 +1.3
baz=223
S35A **Otter Creek Ra** 21.06 21 P P 07 28 10.2 +0.7
baz=206
U39A **Green Forest** 21.08 29 P P 07 28 09.8 +0.1
baz=214,SNR=8.0
TCRU **Three Creeks R** 21.09 345 eP P 07 28 12.0 +2.0
30nm,1.3s
VES **Vestal, Richgr** 21.09 329 P P 07 28 07.8 -1.9
baz=143,SNR=13
T37A **Cheneyville 18** 21.09 25 P P 07 28 09.4 -0.5
baz=210,SNR=9.3
CWC **Cottonwood Cre** 21.10 332 P P 07 28 10.2 +0.2
baz=146
SMMC **Simmler** 21.14 326 P P 07 28 10.5 +0.1
baz=140
CBKS **Cedar Bluff** 21.15 13 P P 07 28 09.7 -0.8
baz=196,SNR=13
CBKS **Cedar Bluff** 21.15 13 eP P 07 28 12.8 +2.3
58nm,0.9s
W42A **Bald Knob** 21.17 34 P P 07 28 11.5 +0.9
baz=220
SRU **San Rafael Swe** 21.18 350 eP P 07 28 12.7 +1.7
11nm,1.0s
Z46A **Louisville** 21.22 42 P P 07 28 10.1 -1.2
baz=230,SNR=6.1
V41A **Mountainview** 21.24 32 P P 07 28 11.0 -0.4
baz=218,SNR=6.2
GRAC **Grapevine Rang** 21.25 334 P P 07 28 12.2 +0.5
baz=148
T38A **Diamond** 21.27 26 P P 07 28 12.5 +0.8
baz=211
Y45A **Yeager Farm, C** 21.29 40 P P 07 28 12.7 +0.8
baz=227
BRAL **Brewton** 21.31 49 eP P 07 28 15.3 +3.2
82nm,1.3s
R34A **Isabella, Hill** 21.32 19 P P 07 28 14.0 +1.7
baz=203
147A **Livingston** 21.33 44 P P 07 28 12.0 -0.4
baz=232,SNR=8.5
248A **Dixon Mills** 21.34 46 P P 07 28 12.3 -0.2
baz=234,SNR=9.5
U40A **Yellville** 21.35 30 P P 07 28 13.3 +0.7
baz=216
S36A **Lake Cedric, C** 21.36 23 P P 07 28 13.2 +0.4
baz=208,SNR=7.5
X44A **Crenshaw** 21.37 38 P P 07 28 13.9 +1.1
baz=225
ISCO **Idaho Springs** 21.46 0 P P 07 28 15.8 +1.6
baz=180
ISCO **Idaho Springs** 21.46 0 eP P 07 28 16.5 +2.4
W43A **Forest City** 21.48 36 P P 07 28 15.6 +1.7
baz=222
RCTC **Rector, Farmer** 21.53 329 P P 07 28 14.8 +0.2
baz=143
P17A **Butcher Ranch,** 21.57 350 eP P 07 28 16.6 +1.5
25nm,1.2s
PAGB **Antelope Grade** 21.59 327 eP P 07 28 15.5 +0.2
19nm,1.3s
P18A **Preston Nutter** 21.64 351 eP P 07 28 17.6 +1.6
12nm,1.2s
V42A **Cord** 21.64 33 P P 07 28 17.2 +1.5
baz=220
T39A **Clever** 21.66 28 P P 07 28 16.5 +0.6
baz=214,SNR=7.1
TIN **Tinemaha, Big** 21.67 332 P P 07 28 17.0 +0.8
baz=146
S37A **Fort Scott** 21.68 24 P P 07 28 16.7 +0.5
baz=209,SNR=16
R35A **Emporia Munici** 21.68 21 P P 07 28 17.0 +0.8
baz=205
Y46A **Houston** 21.72 41 P P 07 28 16.7 +0.1
baz=228,SNR=27
R11A **Troy Canyon, C** 21.76 339 P P 07 28 16.3 -0.9
baz=154,SNR=9.4
R11A **Troy Canyon, C** 21.76 339 eP P 07 28 18.8 +1.6
18nm,1.6s
X45A **UM Field Stati** 21.76 39 P P 07 28 16.9 -0.1
baz=226,SNR=15
Z47A **Carrollton** 21.79 44 P P 07 28 17.9 +0.6
baz=231,SNR=19
U41A **Viola** 21.79 31 P P 07 28 18.2 +0.9
baz=218
OXF **Oxford** 21.81 39 eP P 07 28 20.9 +3.3
100nm,1.1s
O20A **White River Ci** 21.90 355 eP P 07 28 20.8 +2.1
12nm,0.9s
R36A **Gordon, Harris** 21.92 22 P P 07 28 19.5 +0.8
baz=207
S38A **Stockton** 21.94 26 P P 07 28 19.4 +0.5
baz=212,SNR=16
Q34A **Chapman** 21.99 19 P P 07 28 20.4 +0.9
baz=203
W44A **Shelby Farms P** 22.01 37 P P 07 28 21.1 +1.3
baz=224
U42A **Revenden** 22.14 33 P P 07 28 21.7 +0.6
baz=219,SNR=9.9
T40A **Mansfield** 22.15 29 P P 07 28 21.7 +0.5
baz=215,SNR=6.7
R37A **Teagarden Farm** 22.16 23 P P 07 28 23.1 +1.7
baz=209
Q35A **Mercer Eighty,** 22.22 21 P P 07 28 22.4 +0.5
baz=205
Z48A **Northport** 22.23 44 P P 07 28 23.8 +1.7
baz=232
S39A **Bolivar** 22.24 27 P P 07 28 23.6 +1.4
baz=213
KSU1 **Kansas State U** 22.25 19 P P 07 28 24.6 +2.3
baz=204
KSU1 **Kansas State U** 22.25 19 eP P 07 28 25.4 +3.1
22nm,0.7s
Y47A **UCPARC, Winfie** 22.37 42 P P 07 28 24.3 +0.7
baz=230,SNR=6.4
W45A **Hickory Valley** 22.39 38 P P 07 28 24.9 +1.1
baz=226
LRAL **Lakeview Retre** 22.40 45 eP P 07 28 26.0 +2.0
54nm,1.1s

R38A **Fenwick Farm,** 22.41 25 P P 07 28 24.7 +0.7
baz=211
MLAC **Mammoth, Mammo** 22.42 332 P P 07 28 25.3 +0.9
baz=146
T41A **Mountain View** 22.42 31 P P 07 28 24.2 +0.1
baz=217,SNR=6.5
GNAR **Gosnell** 22.50 35 eP P 07 28 26.9 +2.0
Q36A **Arnold C. Orve** 22.51 21 P P 07 28 25.6 +0.6
baz=206
S40A **Lebanon** 22.53 29 P P 07 28 25.3 +0.1
baz=215,SNR=7.1
N23A **Red Feather La** 22.56 360 P P 07 28 26.7 +0.9
baz=180
U43A **Rector** 22.59 34 P P 07 28 26.9 +1.0
baz=221
P34A **Walnut Farm, R** 22.60 18 P P 07 28 28.0 +2.0
baz=203
DUG **Dugway, Tooele** 22.68 346 P P 07 28 26.5 -0.5
baz=162,SNR=6.3
DUG **Dugway, Tooele** 22.68 346 eP P 07 28 28.4 +1.4
14nm,1.4s
JLU **Jordanelle** 22.79 349 eP P 07 28 30.2 +1.9
26nm,1.9s
Q37A **Longview Farm,** 22.80 23 P P 07 28 28.2 +0.1
baz=209
P35A **Duane Minner,** 22.83 20 P P 07 28 28.7 +0.2
baz=204
HALT **Halls** 22.84 36 eP P 07 28 31.3 +2.8
74µm,0.7s
OGNE **Ogallala** 22.84 7 P P 07 28 28.9 +0.2
baz=189
S41A **Jillco Farms,** 22.87 30 P P 07 28 28.8 -0.1
baz=216
O33A **Hebron** 22.87 16 P P 07 28 28.9 0.0
baz=200
R39A **Chumby, Stover** 22.88 27 P P 07 28 29.3 +0.3
baz=213
PBMO **Poplar Bluff** 22.89 33 eP P 07 28 31.0 +1.9
15nm,1.0s
V45A **Humboldt** 22.93 37 P P 07 28 30.1 +0.6
baz=225
PHWY **Pilot Hill** 22.97 1 eP P 07 28 32.1 +1.9
12nm,1.4s
TVH2 **Borealis Mine** 23.01 333 eP P 07 28 32.0 +1.4
12nm,0.4s
TVH3 **East Aurora ar** 23.02 333 eP P 07 28 31.3 +0.7
25nm,1.8s
TVH1 **TV Hill, Hawth** 23.08 333 eP P 07 28 32.2 +0.8
39nm,1.9s
U44A **Portageville** 23.08 35 P P 07 28 32.5 +1.5
baz=222
GLAT **Glass** 23.12 36 eP P 07 28 34.9 +3.5
PARMO **Parma** 23.16 34 eP P 07 28 34.0 +2.2
P36A **Good Intent, A** 23.18 21 P P 07 28 32.8 +0.8
baz=206
T43A **Greenville** 23.19 33 P P 07 28 32.5 +0.3
baz=220,SNR=9.8
Q38A **Cooks Store, C** 23.20 25 P P 07 28 32.9 +0.7
baz=211
R40A **Maddies Statio** 23.20 28 P P 07 28 32.9 +0.7
baz=214
O34A **Beatrice** 23.22 18 P P 07 28 33.2 +0.8
baz=202
WAKR **Walker** 23.41 332 eP P 07 28 35.1 +0.6
38nm,1.7s
UTMT **University of** 23.41 36 eP P 07 28 35.8 +1.5
80nm,1.2s
BGU **Big Grassy Mou** 23.43 346 eP P 07 28 35.9 +1.4
19nm,1.8s
P37A **Lathrop** 23.46 23 P P 07 28 35.6 +0.8
baz=208
CMB **Columbia Colle** 23.46 330 eP P 07 28 34.8 0.0
21nm,1.8s
S42A **Caledonia** 23.47 31 P P 07 28 35.0 +0.2
baz=218
U45A **Rockin P Farm,** 23.48 36 P P 07 28 35.3 +0.4
baz=224
Q39A **Willow Grove F** 23.53 26 P P 07 28 36.0 +0.6
baz=212
O35A **Humboldt** 23.54 19 P P 07 28 36.4 +0.9
baz=204
T44A **Benton** 23.56 34 P P 07 28 36.4 +0.7
baz=222
R41A **Rosebud** 23.61 29 P P 07 28 37.0 +0.8
baz=216
SPUT **South Promonto** 23.67 347 eP P 07 28 37.5 +0.6
19nm,1.7s
S43A **Fulton Ridge,** 23.68 32 P P 07 28 37.2 +0.4
baz=220,SNR=11
YERR **Yerington** 23.72 333 eP P 07 28 38.2 +0.7
44nm,2.0s
O36A **Bolckow** 23.73 21 P P 07 28 37.9 +0.6
baz=206
HWUT **Hardware Ranch** 23.79 349 eP P 07 28 40.1 +2.1
3.9nm,0.9s
P38A **Dawn** 23.80 24 P P 07 28 39.7 +1.7
baz=210
WVT **Waverly** 23.86 38 eP P 07 28 39.8 +1.3
18nm,1.3s
Q40A **Laux Farm, Aux** 23.87 27 P P 07 28 39.3 +0.7
baz=214,SNR=10
R42A **Luebbering** 23.87 30 P P 07 28 39.5 +0.8
baz=217
N34A **Lincoln** 23.89 18 P P 07 28 40.5 +1.7
baz=202
PNTR **Pine Nut** 23.96 333 eP P 07 28 41.0 +1.2
7.8nm,0.9s
BGNE **Belgrade** 23.99 14 P P 07 28 41.7 +1.9
baz=198
BGNE **Belgrade** 23.99 14 eP P 07 28 42.7 +3.0
36nm,1.0s
P39B **Salisbury** 23.99 25 P P 07 28 41.1 +1.4
baz=212
TIGA **Tifton** 24.00 53 P P 07 28 40.9 +1.0
baz=242
TIGA **Tifton** 24.00 53 eP P 07 28 41.6 +1.6
169nm,1.4s
O37A **Wolven Farm, M** 24.04 22 P P 07 28 41.4 +1.1
baz=208
N35A **Tabor** 24.16 19 P P 07 28 42.6 +1.3
baz=204
BMN **Battle Mountai** 24.18 338 eP P 07 28 42.8 +1.0
14nm,1.1s
HVU **Hansel Valley** 24.19 347 eP P 07 28 42.9 +1.2
4.7nm,1.1s
S44A **Carbondale** 24.19 33 P P 07 28 42.3 +0.7
baz=221
Q41A **Truxton** 24.21 29 P P 07 28 42.3 +0.5
baz=216
O38A **Galt** 24.25 24 P P 07 28 42.9 +0.7
baz=210
R43A **Red Bud** 24.29 32 P P 07 28 43.2 +0.7
baz=219
P40A **Paris** 24.32 27 P P 07 28 44.0 +1.2
baz=213
N36A **Muff Farm, Cla** 24.34 20 P P 07 28 44.2 +1.3
baz=206
M33A **Taylor Creek F** 24.38 16 P P 07 28 44.6 +1.3
baz=200
PAHR **Pah Rah Range** 24.39 334 eP P 07 28 44.7 +1.1
16nm,1.4s
DWPF **Disney Wildern** 24.42 62 eP P 07 28 46.0 +2.2
61nm,1.1s
SLM **Saint Louis** 24.42 31 eP P 07 28 46.0 +2.3
100nm,1.4s
SWET **Sewanee** 24.43 42 eP P 07 28 45.3 +1.4
37nm,1.9s
AFDM **Forest Hills D** 24.47 331 eP P 07 28 44.0 -0.2
9.9nm,1.5s
M34A **Aspy Farms, Fr** 24.48 17 P P 07 28 45.6 +1.4
baz=202
Q42A **Golden Eagle** 24.50 30 P P 07 28 45.3 +0.9
baz=217
S45A **Carrier Mills** 24.54 34 P P 07 28 45.6 +0.8
baz=223
N37A **Lee Faris, Mou** 24.54 22 P P 07 28 45.8 +1.0
baz=207
BW06 **Boulder Array** 24.64 353 eP P 07 28 46.0 +0.1
PD31 **Pinedale Array** 24.64 353 eP P 07 28 46.3 +0.3
PDAR **Pinedale Array** 24.64 353 P P 07 28 46.2 +0.3
0.3nm,0.3s,baz=164,slow=10.0,SNR=6.4
PDAR LR LR 07 37 53.6
comp=Z,198nm,19.2s,baz=185,slow=35
R44A **Waltonville** 24.70 33 P P 07 28 47.1 +0.8
baz=221,SNR=9.6
M35A **Neola** 24.70 18 P P 07 28 47.0 +0.8
baz=204
O39A **Kirksville** 24.73 25 P P 07 28 48.1 +1.6

baz=211
P41A **Barry, Barry** 24.87 28 P P 07 28 49.1 +1.3
baz=215,SNR=11
O40A **La Belle** 24.89 26 P P 07 28 49.5 +1.6
baz=213
Q43A **New Douglas** 24.92 31 P P 07 28 50.1 +1.9
baz=219,SNR=5.2
BEKR **Beckworth** 24.94 333 eP P 07 28 49.4 +0.8
4.7nm,1.0s
GOGA **Godfrey** 25.07 49 eP P 07 28 51.4 +1.8
139nm,1.2s
ORV **Oroville** 25.20 331 eP P 07 28 51.7 +1.0
9.4nm,1.3s
Q44A **Meyer Farm, Va** 25.23 32 P P 07 28 53.0 +2.0
baz=220
USIN **University of** 25.24 35 eP P 07 28 54.2 +3.0
40nm,1.0s
N39A **Derby Farms, D** 25.28 24 P P 07 28 53.2 +1.8
baz=211,SNR=6.9
O41A **Passleys Farm,** 25.31 28 P P 07 28 53.6 +1.8
baz=215,SNR=9.2
L35A **Bielow Farm, R** 25.34 18 P P 07 28 53.9 +1.9
baz=203
REDW **Red Top Meadow** 25.39 351 eP P 07 28 53.8 +1.1
15nm,1.3s
SNOW **Snow King Moun** 25.47 352 eP P 07 28 55.2 +1.7
10nm,0.9s
CPCT **Cooper Cave** 25.48 44 eP P 07 28 55.2 +1.8
17nm,1.1s
M38A **Pleasantville** 25.49 22 P P 07 28 55.5 +2.1
baz=209
TPAW **Teton Pass** 25.52 351 eP P 07 28 55.0 +1.0
9.0nm,1.0s
P43A **Skaggs, Pawnee** 25.55 30 P P 07 28 55.6 +1.6
baz=218
OLIL **Olney** 25.57 33 eP P 07 28 56.6 +2.5
32nm,1.0s
L36A **Harm Buss Farm** 25.59 19 P P 07 28 56.1 +1.8
baz=205
LOHW **Long Hollow** 25.60 352 eP P 07 28 55.1 +0.5
7.1nm,0.9s
N40A **Mertquake, Sal** 25.65 26 P P 07 28 56.7 +1.9
baz=213
J31A **Geddes** 25.66 12 P P 07 28 57.5 +2.5
baz=196
FXWY **Fox Creek** 25.68 351 eP P 07 28 56.8 +1.4
8.4nm,1.0s
O42A **Bath** 25.73 29 P P 07 28 57.9 +2.3
baz=216
MOOW **Moose Ponds** 25.75 352 eP P 07 28 57.4 +1.4
6.6nm,1.1s
L37A **Phoenix Point,** 25.91 21 P P 07 28 59.9 +2.6
baz=207,SNR=9.6
K35A **Storm Lake** 25.99 18 P P 07 29 01.3 +3.4
baz=203
TKL **Tuckaleechee C** 26.10 44 P P 07 29 01.0 +2.0
7.3nm,0.9s,baz=209,slow=12,SNR=9.4
TKL LR LR 07 41 56.8
comp=Z,176nm,19.4s,baz=226,slow=42
TKL **Tuckaleechee C** 26.10 44 eP P 07 29 01.1 +2.0
11nm,1.0s
M40A **Post Highland** 26.12 25 P P 07 29 02.6 +3.5
baz=212
WCI **Wyandotte Cave** 26.20 37 eP P 07 29 02.3 +2.4
15nm,0.9s
HLID **Hailey** 26.25 346 eP P 07 29 01.3 +0.9
baz=161
HLID **Hailey** 26.25 346 eP P 07 29 01.8 +1.3
12nm,1.5s
N42A **Yates City** 26.27 28 P P 07 29 02.8 +2.4
baz=216
WVOR **Wild Horse Val** 26.45 338 eP P 07 29 02.2 -0.1
5.6nm,1.1s
YFT **Old Faithful** 26.45 352 eP P 07 29 03.6 +1.2
10nm,1.2s
MOD **Modoc Plateau** 26.61 335 eP P 07 29 04.0 +0.3
9.5nm,1.4s
JSC **Jenkinsville** 27.09 49 eP P 07 29 09.9 +2.0
22nm,1.0s
MCMT **McKenzie Canyo** 27.14 349 eP P 07 29 09.6 +1.1
RGRS **Roger Stewart** 27.23 53 eP P 07 29 12.6 +3.4
302nm,0.4s
NHSC **New Hope** 27.33 52 eP P 07 29 12.4 +2.3
76nm,1.2s
KMSC **Kings Mountain** 27.47 47 P P 07 29 12.0 +0.6
baz=238,SNR=7.5
KMSC **Kings Mountain** 27.47 47 eP P 07 29 13.2 +1.8
22nm,1.0s
DLMT **Dillon** 27.61 350 eP P 07 29 13.7 +1.1
6.3nm,1.1s
K41A **Shullsburg** 27.62 25 P P 07 29 14.7 +2.2
baz=213
BOZ **Bozeman (W)** 27.68 351 eP P 07 29 15.3 +2.0
13nm,1.5s
J04D **Umpqua Nationa** 28.46 335 P P 07 29 20.0 -0.4
baz=146
H38A **Maiden Rock** 28.67 20 P P 07 29 22.7 +0.7
baz=208
I05D **Terrebonne, OR** 29.08 337 P P 07 29 25.8 +0.2
baz=148
MSO **Missoula** 29.27 349 P P 07 29 28.5 +1.1
baz=164
MSO **Missoula** 29.27 349 eP P 07 29 28.7 +1.4
8.4nm,1.1s
SWMT **Swartz Lake** 29.93 349 eP P 07 29 34.5 +1.3
NEW **Newport** 31.31 345 LR LR 07 42 17.0
comp=Z,160nm,20.0s,baz=162,slow=36
URVA **University of** 31.35 46 eP P 07 29 47.7 +2.1
E03A **Lebam** 31.79 336 eP P 07 29 50.2 +0.8
14nm,1.0s
B08A **Colville Reser** 31.98 343 eP P 07 29 51.8 +0.7
4.9nm,1.0s
OTAV **Otavalo** 32.30 121 eP P 07 29 55.1 +0.3
7.1nm,1.1s
ULM **Lac du Bonnet** 32.89 12 LR LR 07 42 15.4
comp=Z,147nm,18.5s,baz=256,slow=34
ROSC **El Rosal** 33.54 110 LR LR 07 42 24.3
comp=Z,46nm,18.3s,baz=280,slow=34
RUSC **La Rusia** 34.21 107 eP P 07 30 11.1 -0.5
3.9nm,1.0s
SADO **Sadowa** 34.57 34 LR LR 07 45 29.9
comp=Z,386nm,18.0s,baz=238,slow=38
SJG **San Juan** 37.63 84 LR LR 07 47 28.7
comp=Z,49nm,18.2s,baz=271,slow=38
BBB **Bella Bella** 38.12 338 LR LR 07 45 58.1
comp=Z,138nm,20.2s,baz=212,slow=36
DLBC **Dease Lake** 43.88 342 LR LR 07 50 05.3
comp=Z,168nm,18.2s,baz=158,slow=36
YKA **Yellowknife Ar** 44.61 354 LR LR 07 51 03.3
comp=Z,15nm,18.4s,baz=180,slow=37
SCHQ **Schefferville** 47.05 30 LR LR 07 50 32.9
comp=Z,62nm,19.2s,baz=30,slow=34
SAML **Samuel** 50.01 119 eP P 07 32 18.6 -1.2
4.1nm,1.1s
RKT **Rikitea** 50.03 216 eLR LR 07 46 23.4
379nm,27.8s
RKT **Rikitea** 50.03 216 eT T 08 25 30.0
4.0nm,0.3s
LPAZ **La Paz** 50.55 131 P P 07 32 24.6 +0.1
2.5nm,0.8s,baz=314,slow=6.1,SNR=7.1
LPAZ LR LR 07 51 19.2
comp=Z,142nm,20.3s,baz=314,slow=33
LPAZ **La Paz** 50.55 131 eP P 07 32 22.8 -1.7
4.6nm,1.0s
FRB **Frobisher Bay** 52.03 20 LR LR 07 55 19.0
comp=Z,211nm,18.2s,baz=220,slow=37
KDAK **Kodiak Island** 52.29 330 LR LR 07 50 24.4
comp=Z,68nm,18.9s,baz=143,slow=31
IL1 **Eielson Array** 53.95 340 eP P 07 32 47.3 -1.1
ILAR **Eielson Array** 53.96 340 P P 07 32 47.7 -0.7
2.1nm,1.0s,baz=154,slow=5.8,SNR=19
ILAR LR LR 07 55 59.9
comp=Z,47nm,18.1s,baz=143,slow=36
ILB **Eielson Array** 53.96 340 eP P 07 32 47.9 -0.6
COLA **College** 54.34 339 eP P 07 32 51.2 0.0
4.6nm,0.8s
TRF **Thorofare Moun** 54.34 337 eP P 07 32 50.9 -0.6
35nm,1.6s
PPT2 **Papeete2** 55.87 233 eLR LR 07 48 59.0
336nm,26.8s
TBI **Tubuai** 59.39 227 eLR LR 07 50 33.9
382nm,27.2s
CPUP **Villa Florida** 64.67 132 P P 07 34 03.6 +0.6
2.7nm,1.0s,baz=329,slow=12,SNR=3.5
RAR **Rarotonga** 65.82 236 LR LR 07 56 10.1
comp=Z,374nm,21.9s,baz=312,slow=30
JMIC **Jan Mayen** 75.25 20 LR LR 08 08 42.0
comp=Z,124nm,19.4s,baz=258,slow=36

SPITS **Spitsbergen Ar** 78.44 10 LR LR 08 11 23.3
comp=Z,52nm,18.4s,baz=295,slow=37
PETK **Petropavlovsk-** 79.41 322 LR LR 08 03 22.0
comp=Z,32nm,21.5s,baz=90,slow=30
TIXI **Tiksi** 83.03 345 LR LR 08 15 26.6
comp=Z,52nm,18.1s,baz=288,slow=38
ARCES **ARCESS Array B** 85.94 15 LR LR 08 15 23.9
comp=Z,82nm,18.7s,baz=276,slow=36
NBO02 **NORSAR Array S** 86.30 26 eP P 07 36 07.4 +0.9
NOA **NORSAR Array B** 86.45 26 LR LR 08 14 00.4
comp=Z,40nm,19.6s,baz=295,slow=35
ESDC **Sonseca Array** 87.28 49 LR LR 08 15 50.4
comp=Z,38nm,18.3s,baz=160,slow=36
HFS **Hagfors** 87.97 26 LR LR 08 14 55.1
comp=Z,65nm,19.8s,baz=306,slow=35
URZ **Urewera** 91.42 230 LR LR 08 07 36.1
comp=Z,103nm,21.3s,baz=57,slow=29
FINES **FINESS Array B** 91.82 21 LR LR 08 16 26.9
comp=Z,93nm,21.2s,baz=274,slow=35
NRIK **Noril'sk** 92.12 355 LR LR 08 19 34.9
comp=Z,37nm,20.1s,baz=80,slow=37
GERES **GERESS Array B** 94.33 35 LR LR 08 19 38.4
comp=Z,79nm,18.5s,baz=299,slow=36
KEST **Kesra** 98.49 48 LR LR 08 22 33.9
comp=Z,47nm,18.2s,baz=286,slow=36
MJAR **Matsushiro Arr** 98.66 313 LR LR 08 11 49.2
comp=Z,32nm,21.6s,baz=5.0,slow=30
YHNB **Yeheng** 117.27 311 ePKPdf PKPdf 07 42 07.5 -3.4
SUR **Sutherland** 130.22 117 ePKPdf PKPdf 07 42 33.1 -2.5
MNAI **Manna** 148.66 293 ePKPdf PKPdf 07 43 05.9 -3.3

*IDC **30** 07:33:34.7±1.3, 18°.94S×167°.63E, h0km, mb4.1/6, mb1 4.3/7, mb1mx3.9/45, mbtmp4.0/7, ML3.6/1, MS3.4/4, Ms1 3.4/4, ms1mx2.9/35, Error ellipse: s-maj=39.7km s-min=23.2km az=133.0*
*ISCJB **30** 07:33:41.4±0.4, 18°.95S±0°.05×167°.13E±0°.06, h33km, mb4.5/23, MS3.3/2, Error ellipse: s-maj=8.8km s-min=7.6km az=9.0*
*NEIC **30** 07:33:43.5±0.4, 19°.01S×167°.14E, h35km, mb4.4/16, Error ellipse: s-maj=9.5km s-min=8.6km az=197.0*
ISC 30 07:33:43.3±0.6, 18°.98S±0°.07×167°.18E±0°.09, h35km, n38, σ1s45/37, mb4.4/23, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**3.15**	**192**	Pn		Pn	Pn	**07 34 28.3**	**-2.3**
	5.9nm,0.3s,baz=65,slow=7.9,SNR=17								
DZM				Sn			Sn	**07 35 08.0**	**+0.9**
	5.6nm,0.3s,baz=109,slow=18,SNR=5.0								
DZM				LR			LR	07 35 42.8	
	comp=Z,234nm,19.2s,baz=277,slow=39								
DZM	**Mont Dzumac**	**3.15**	**192**	ePn			Pn	**07 34 27.5**	**-3.1**
DZM				Sn			Sn	**07 35 08.0**	**+0.9**
MSVF	**Nonsavu**	**10.40**	**85**	ePn			Pn	**07 36 11.9**	**+1.9**
RAO	**Raoul Island**	**17.00**	**130**	LR			LR	07 41 26.4	
	comp=Z,216nm,19.9s,baz=128,slow=28								
CTA	**Charters Tower**	**19.75**	**263**	P			Pn	**07 38 14.7**	**+2.7**
	7.6nm,0.9s,baz=95,slow=15,SNR=4.3								
CTAO	**Charters Tower**	**19.75**	**263**	eP			P	**07 38 10.5**	**+0.2**
	13nm,0.9s								
HIZ	**Hauiti**	**20.58**	**163**	eP			P	**07 38 19.9**	**+0.8**
	25nm,1.1s								
AFI	**Afiamalu**	**20.80**	**79**	LR			LR	07 44 04.8	
	comp=Z,119nm,19.8s,baz=200,slow=31								
URZ	**Urewera**	**21.07**	**158**	eP			P	**07 38 25.2**	**+0.8**
	16nm,1.0s								
BKZ	**Black Stump Fm**	**21.68**	**160**	eP			P	**07 38 31.8**	**+0.8**
	8.9nm,0.9s								
BFZ	**Birch Farm**	**22.99**	**162**	eP			P	**07 38 44.6**	**-0.3**
	36nm,1.0s								
THZ	**Tophouse**	**23.23**	**169**	eP			P	**07 38 46.6**	**-0.7**
	20nm,1.1s								
COEN	**Coen**	**23.54**	**279**	eP			P	**07 38 52.4**	**+1.8**
	9.1nm,1.1s								
FOZ	**Fox Glacier**	**24.58**	**175**	eP			P	**07 38 60.0**	**0.0**
	22nm,1.2s								
TAU	**Tasmania Unive**	**29.17**	**211**	eP			P	**07 39 42.5**	**+1.2**
	35nm,1.1s								
WB2	**Warramunga Arr**	**30.94**	**263**	eP			P	**07 39 56.2**	**-1.1**
	3.8nm,1.1s								
WR1	**Warramunga Arr**	**30.95**	**263**	eP			P	**07 39 55.6**	**-1.7**
	4.7nm,1.0s								
WRA	**Warramunga Arr**	**30.95**	**263**	P			P	**07 39 55.6**	**-1.7**
	1.8nm,1.2s,baz=85,slow=8.7,SNR=6.2								
AS01	**Alice Springs**	**31.26**	**256**	eP			P	**07 40 00.6**	**+0.6**
AS31	**Alice Springs**	**31.30**	**256**	eP			P	**07 40 01.4**	**+1.0**
	2.6nm,1.0s								
ASAR	**Alice Springs**	**31.30**	**256**	P			P	**07 40 00.9**	**+0.5**
	7.7nm,1.0s,baz=81,slow=8.9,SNR=31								
ASAR				LR			LR	07 52 56.0	
	comp=Z,62nm,18.3s,baz=80,slow=37								
FITZ	**Fitzroy Crossi**	**39.33**	**264**	P			P	**07 41 10.2**	**+0.8**
	5.3nm,0.9s,baz=120,slow=9.0								
NWAO	**Narrogin (SRO)**	**46.60**	**242**	eP			P	**07 42 08.8**	**+0.7**
	9.4nm,0.8s								
MLOA	**Mauna Loa Obse**	**52.91**	**46**	eP			P	**07 42 57.0**	**+0.3**
	97nm,1.2s								
BYL	**Byron's Ledge**	**53.04**	**46**	eP			P	**07 42 58.6**	**+1.3**
	190nm,1.1s								
SBUM	**Sibu**	**58.05**	**285**	eP			P	**07 43 33.2**	**-0.1**
	3.7nm,1.0s								
COCO	**West Island**	**67.72**	**264**	eP			P	**07 44 38.2**	**+0.5**
	219nm,1.1s								
SONM	**Songino Array**	**85.85**	**324**	P			P	**07 46 18.1**	**-1.3**
	0.7nm,0.7s,baz=131,slow=4.1,SNR=5.8								
SONA1	**Songino Array**	**85.85**	**324**	eP			P	**07 46 18.4**	**-1.0**
TTA	**Tatalina**	**86.61**	**16**	eP			P	**07 46 22.6**	**0.0**
DHY	**Denali Highway**	**89.17**	**19**	eP			P	**07 46 35.4**	**+0.3**
	3.0nm,1.2s								
K05A	**Summer Lake**	**90.13**	**44**	eP			P	**07 46 38.2**	**-1.9**
	2.0nm,1.0s								
ILAR	**Eielson Array**	**90.57**	**18**	P			P	**07 46 37.2**	**-4.2**
	0.3nm,0.6s,baz=224,slow=6.0,SNR=4.0								
TXAR	**Lajitas Array**	**98.36**	**62**	P			P	07 47 12.6	-5.4
	0.4nm,0.9s,baz=255,slow=3.5,SNR=2.4								
FUORN	**Ofenpass-Fuorn**	**146.53**	**331**	ePKPdf			**PKPbc**	**07 53 21.8**	**+0.4**
TUE	**Stuetta**	**147.07**	**331**	ePKPdf			**PKPdf**	**07 53 21.6**	**+0.9**
CEL	**Celeste**	**148.50**	**314**	ePKPdf			**PKPdf**	**07 53 22.9**	**-0.2**
TORD	**Torodi Ar. Bea**	**164.90**	**250**	PKPab			**PKPab**	**07 54 39.9**	**-1.0**
	0.4nm,0.9s,baz=76,slow=6.3,SNR=3.5								

*ATH **30** 07:39:02.9, 37°.67N×26°.79E, h10km±3km, ML3.0/5, Error ellipse: s-maj=4.2km s-min=1.8km az=82.0*
*CSEM **30** 07:39:03.3±0.3, 37°.64N×26°.75E, h2km, ML3.0, Error ellipse: s-maj=6.4km s-min=4.3km az=55.0*
*DDA **30** 07:39:03.1, 37°.68N×26°.82E, h8km, Md3.0*
ISC 30 07:39:02.3±1.0, 37°.66N±0°.02×26°.78E±0°.03, h4km±7km, n39, σ0s84/66, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SMG	**Samos**	**0.07**	**38**	S			**Sg**	**07 39 04.5**	**-0.4**
SMG	**Samos**	**0.07**	**38**	P			**Sg**	**07 39 04.5**	**-0.4**
SMG	**Samos**	**0.07**	**38**	S			**Sg**	**07 39 04.5**	**-0.4**
SMG				P			**Sg**	**07 39 04.5**	**-0.4**
SMG				AML		AML	AML	07 39 05.8	
SMG				AML		AML	AML	07 39 06.0	
GCAM	**G?zelcaml?**	**0.36**	**83**	*i* P			**Pg**	**07 39 10.2**	**+0.8**
GCAM				*i* S			**Sg**	**07 39 15.5**	**+1.5**
GCAM	**G?zelcaml?**	**0.36**	**83**	P			**Pg**	**07 39 10.1**	**+0.8**
GCAM				S			**Sg**	**07 39 15.5**	**+1.5**
DGB	**˜zmir**	**0.40**	**11**	*i* P			**Pg**	**07 39 10.6**	**+0.5**
DGB				*i* S			**Sg**	**07 39 16.4**	**+0.9**
ZEY	**˜zmir**	**0.62**	**339**	*i* P			**Pg**	**07 39 14.9**	**+0.6**
ZEY				*i* S			**Sb**	**07 39 24.0**	**-0.9**
URLA	**Izmir**	**0.72**	**348**	*i* P			**Pb**	**07 39 17.4**	**0.0**
URLA				*i* S			**Sb**	**07 39 26.9**	**-0.8**
URLA	**Izmir**	**0.72**	**348**	P			**Pb**	**07 39 17.4**	**0.0**
URLA				S			**Sb**	**07 39 26.9**	**-0.8**
BDRM	**Kayabasi**	**0.79**	**138**	*i* P			**Pg**	**07 39 17.9**	**+0.4**
BDRM				*i* S			**Sb**	**07 39 30.2**	**+0.5**
BDRM	**Kayabasi**	**0.79**	**138**	P			**Pg**	**07 39 17.9**	**+0.4**
BDRM				S			**Sb**	**07 39 30.2**	**+0.5**
AYDN	**Tasoluk**	**0.87**	**89**	*i* P			**Pg**	**07 39 19.2**	**+0.2**
AYDN				*i* S			**Sg**	**07 39 30.6**	**+0.3**
AYDN	**Tasoluk**	**0.87**	**89**	P			**Pg**	**07 39 19.2**	**+0.2**
AYDN				S			**Sg**	**07 39 30.6**	**+0.3**
CHOS	**Chios island**	**0.93**	**322**	P			**Pb**	**07 39 21.2**	**+0.1**
CHOS				S			**Sb**	**07 39 34.8**	**+1.0**
CHOS	**Chios island**	**0.93**	**322**	P			**Pb**	**07 39 21.2**	**+0.1**
CHOS				S			**Sb**	**07 39 34.8**	**+1.0**
CHOS				AML		AML	AML	07 39 35.8	
	comp=E,2063μm,0.2s								
CHOS				AML		AML	AML	07 39 37.0	
	comp=N,1429μm,0.4s								
NIS1	**Nisyros Isl.**	**1.10**	**163**	P			**Pn**	**07 39 25.0**	**+0.5**
NIS1	**Nisyros Isl.**	**1.10**	**163**	P			**Pn**	**07 39 25.0**	**+0.5**
DAT	**Datca**	**1.12**	**145**	*i* P			**Pg**	**07 39 24.2**	**+0.3**
DAT				*i* S			**Sn**	**07 39 41.2**	**+0.4**
DAT	**Datca**	**1.12**	**145**	P			**Pg**	**07 39 24.2**	**+0.3**
DAT				S			**Sn**	**07 39 41.2**	**+0.4**
APE	**Apeiranthos**	**1.16**	**240**	P			**Pg**	**07 39 24.0**	**-0.5**
APE	**Apeiranthos**	**1.16**	**240**	P			**Pg**	**07 39 24.0**	**-0.5**
APE				AML		AML	AML	07 39 42.8	
	comp=N,550μm,0.4s								
APE				AML		AML	AML	07 39 44.9	
	comp=E,608μm,0.2s								
AKHS	**Akhisar**	**1.47**	**33**	*i* P			**Pb**	**07 39 30.1**	**-0.1**
AKHS				*i* S			**Sg**	**07 39 50.9**	**+1.4**
AKHS	**Akhisar**	**1.47**	**33**	P			**Pb**	**07 39 30.1**	**-0.1**
AKHS				S			**Sg**	**07 39 50.8**	**+1.4**
MANT	**Manisa**	**1.63**	**59**	*i* P			**Pg**	**07 39 34.2**	**+0.6**
MANT				*i* S			**Sn**	**07 39 52.9**	**-0.6**
MANT	**Manisa**	**1.63**	**59**	P			**Pg**	**07 39 34.2**	**+0.6**
MANT				S			**Sn**	**07 39 52.9**	**-0.6**
PRK	**Paraskevi**	**1.64**	**346**	P			**Pg**	**07 39 33.6**	**-0.2**
PRK				S			**Sg**	**07 39 56.2**	**+1.2**
PRK	**Paraskevi**	**1.64**	**346**	P			**Pg**	**07 39 33.6**	**-0.2**
PRK				S			**Sg**	**07 39 56.2**	**+1.2**
PRK				AML		AML	AML	07 39 57.9	
	comp=N,742μm,0.6s								
PRK				AML		AML	AML	07 40 00.8	
	comp=E,812μm,0.4s								
TURN	**Turunc**	**1.65**	**118**	*i* P			**Pn**	**07 39 29.1**	**-2.9**
TURN	**Turunc**	**1.65**	**118**	P			**Pn**	**07 39 29.1**	**-2.9**
DALY	**Dalyan (Mu˘la**	**1.71**	**119**	*i* P			**Pg**	**07 39 35.2**	**+0.1**
DALY	**Dalyan (Mu˘la**	**1.71**	**119**	P			**Pg**	**07 39 35.2**	**+0.1**
SIGR	**SIGRI**	**1.72**	**335**	P			**Pn**	**07 39 33.5**	**+0.5**
SIGR	**SIGRI**	**1.72**	**335**	P			**Pn**	**07 39 33.5**	**+0.5**
SIGR				AML		AML	AML	07 40 01.8	
	comp=N,188μm,0.4s								
SIGR				AML		AML	AML	07 40 01.8	
	comp=E,297μm,0.4s								
DEMI	**Demirci**	**2.06**	**47**	*i* P			**Pg**	**07 39 41.2**	**-0.5**
DEMI				*i* S			**Sb**	**07 40 06.5**	**+0.3**
DEMI	**Demirci**	**2.06**	**47**	P			**Pg**	**07 39 41.2**	**-0.5**
DEMI				S			**Sb**	**07 40 06.5**	**+0.3**
FETY	**Fethiye**	**2.10**	**118**	P			**Pb**	**07 39 41.4**	**+0.4**
FETY				S			**Sg**	**07 40 09.2**	**-0.6**
BALY	**Balya**	**2.18**	**17**	*i* P			**Pg**	**07 39 44.6**	**+0.4**
BALY				*i* S			**Sg**	**07 40 12.2**	**-0.3**
BALY	**Balya**	**2.18**	**17**	P			**Pg**	**07 39 44.6**	**+0.4**
BALY				S			**Sg**	**07 40 12.2**	**-0.3**
BOZC	**Bozcaada**	**2.26**	**346**	*i* P			**Pg**	**07 39 44.9**	**-0.7**
BOZC				*i* S			**Sg**	**07 40 15.0**	**+0.1**

*NIED **30** 07:44:00, 36°.70N×140°.70E, h5km, Mw3.7 Best double couple: M0 4.16000×10^14 NP1:ϕs136.00000°, δ41.00000°, λ-82.00000°. NP2:ϕs306.00000°, δ49.00000°, λ-97.00000°.*
*IDC **30** 07:44:43.9±0.8, 36°.67N×140°.58E, h0km, mb3.7/8, mb1 3.9/8, mb1mx3.7/42, mbtmp3.7/8, MS2.5/1, Ms1 2.5/1, ms1mx2.1/47, Error ellipse: s-maj=22.3km s-min=14.1km az=174.0*
*ISCJB **30** 07:44:44.0±0.7, 36°.70N±0°.03×140°.70E±0°.06, h13km±4km, mb3.6/8, Error ellipse: s-maj=8.7km s-min=4.6km az=27.6*
*JMA **30** 07:44:44.8, 36°.73N×140°.63E, h6km, M3.6 Broadband fault plane solution: P waves. NP1:ϕs313.00000°, δ49.00000°, λ-94.00000°. NP2:ϕs139.00000°, δ41.00000°, λ-85.00000°. Principal axes: T Plg4.0000°, Azm46.0000°; N Plg3.0000°, Azm316.0000°; P Plg85.0000°, Azm189.0000°;*
JMA Felt II J1.
ISC 30 07:44:44.8±1.1, 36°.72N±0°.03×140°.66E±0°.05, h7km±7km, n24, σ0s50/24, mb3.7/8, 5C, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
JHO	**Hitachi**	**0.13**	**214**	↑↑P			**Pg**	**07 44 47.7**	**0.0**
JHO				S			**Sg**	**07 44 49.7**	**+0.1**
ONAJ	**Iwakimizuishiy**	**0.39**	**16**	↑↑P			**Pg**	**07 44 52.6**	**0.0**
ONAJ				S			**Sg**	**07 44 58.3**	**+0.5**
JYT	**Yasato**	**0.62**	**218**	↑↑P			**Pg**	**07 44 56.6**	**-0.2**
JYT				*e*S			**Sg**	**07 45 04.9**	**0.0**
JSB	**Shiboa**	**0.64**	**293**	P			**Pg**	**07 44 57.4**	**+0.1**
JSB				S			**Sg**	**07 45 05.9**	**+0.2**
JFK	**Kawauchi**	**0.67**	**15**	↑↑P			**Pg**	**07 44 57.4**	**-0.3**
JFK				S			**Sg**	**07 45 06.3**	**-0.1**
JFT	**Otama**	**0.84**	**342**	↑↑P			**Pg**	**07 45 00.5**	**-0.4**
JFT				S			**Sg**	**07 45 11.6**	**-0.2**
MJAR	**Matsushiro Arr**	**1.98**	**266**	Pn			**Pn**	**07 45 19.0**	**+0.2**
	19nm,0.3s,baz=84,slow=14,SNR=110								
MJAR				LR			LR	07 45 43.2	
	comp=Z,54nm,18.9s,baz=85,slow=31								
MJAR				Lg			Lg	07 45 43.8	
	40nm,0.3s,baz=92,slow=28,SNR=18								
MAT	**Matsushiro**	**1.98**	**266**	P			**Pn**	**07 45 19.1**	**+0.3**
MAT				S			**Sn**	**07 45 44.3**	**+0.4**
KSRS	**Korea Array**	**10.21**	**278**	LR			LR	07 51 24.9	
	comp=Z,24nm,18.0s,baz=335,slow=39								
SONM	**Songino Array**	**27.46**	**305**	P			**P**	**07 50 30.7**	**-0.8**
	1.4nm,0.7s,baz=114,slow=8.6,SNR=5.4								
H11N2	**WAKE ISLAND Hy**	**28.51**	**119**	T			T	08 20 25.2	
	baz=312,slow=75,SNR=254								
H11N1	**WAKE ISLAND Hy**	**28.52**	**119**	T			T	08 20 25.8	
	baz=312,slow=75,SNR=394								
H11N3	**WAKE ISLAND Hy**	**28.53**	**119**	T			T	08 20 26.9	
	baz=312,slow=75,SNR=353								
H11S1	**WAKE ISLAND Hy**	**29.20**	**121**	T			T	08 21 16.2	
	baz=314								
H11S3	**WAKE ISLAND Hy**	**29.20**	**121**	T			T	08 21 18.5	
	baz=314								
H11S2	**WAKE ISLAND Hy**	**29.22**	**121**	T			T	08 21 17.7	
	baz=314								
ZALV	**Zalesovo Beam**	**41.68**	**313**	P			**P**	**07 52 33.4**	**-0.4**
	1.8nm,0.6s,baz=101,slow=6.7,SNR=4.5								
MKAR	**Makanchi Array**	**43.77**	**302**	P			**P**	**07 52 50.7**	**-0.3**
	0.4nm,0.4s,baz=87,slow=10,SNR=7.1								
ILAR	**Eielson Array**	**50.08**	**32**	P			**P**	**07 53 39.9**	**-0.1**
	0.4nm,0.8s,baz=272,slow=7.2,SNR=4.7								
WRA	**Warramunga Arr**	**56.67**	**187**	P			**P**	**07 54 27.7**	**-1.2**
	0.6nm,0.5s,baz=4.4,slow=7.4,SNR=11								
ASAR	**Alice Springs**	**60.40**	**187**	P			**P**	**07 54 54.8**	**0.0**
	0.4nm,0.7s,baz=8.5,slow=5.0,SNR=5.8								
PDAR	**Pinedale Array**	**78.31**	**45**	P			**P**	**07 56 46.7**	**+0.8**
	0.3nm,0.6s,baz=339,slow=2.2,SNR=3.3								
TXAR	**Lajitas Array**	**90.79**	**52**	P			**P**	**07 57 50.1**	**+1.0**
	0.2nm,0.5s,baz=311,slow=2.7,SNR=4.4								
LPAZ	**La Paz**	**147.37**	**59**	PKPbc			**PKPab**	**08 04 31.9**	**-0.4**
	0.8nm,0.6s,baz=349,slow=5.3,SNR=6.6								

*CSEM **30** 07:48:31.2, 37°.11N×24°.32W, h10km, MD4.0, ML3.1,*
PDA 30 07:48:31.2±0.9, 37°.11N×24°.32W, h10km, MD4.0, ML3.1, Error ellipse: s-maj=7.3km s-min=4.0km az=93.0, Azores Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PSMN	**Pico do Norte,**	**0.60**	**260**	eP			Pg	07 48 41.1	-1.8
PSMN				*e*S			Sg	07 48 48.5	-2.3
PSMN				A			A	07 48 51.2	
	98nm,0.3s								
PSMN	**Pico do Norte,**	**0.60**	**260**	eP			Pg	07 48 41.1	-1.8
PSMN				*e*S			Sg	07 48 48.5	-2.3
PSMA	**Santa Maria**	**0.65**	**260**	eP			Pg	07 48 41.7	-2.2
PSMA				*e*S		

PDA	**Ponta Delgada**	**1.24**	**301**	*e*P	Pn	07 48 50.0	-4.6
PDA				*e*S	Sb	07 49 04.1	-6.7
PSET	**Sete Cidades**	**1.32**	**303**	*e*P	Pn	07 48 51.2	-4.5
PSET				*e*S	Sb	07 49 06.1	-7.0
PSET				A	A	07 49 10.3	
	146nm,0.3s						
PSET	**Sete Cidades**	**1.32**	**303**	*e*P	Pn	07 48 51.2	-4.5
PSET				*e*S	Sb	07 49 06.1	-7.0
PMAN	**Manadas**	**3.34**	**298**	*e*P	Pg	07 49 36.8	+1.5
PICO	**Pico**	**3.53**	**294**	*e*P	Pn	07 49 22.4	-3.8
PICO				*e*S	Sn	07 49 59.7	-8.4
PICO				A	A	07 50 07.0	
	20nm,0.4s						
PICO	**Pico**	**3.53**	**294**	*e*P	Pn	07 49 22.4	-3.8
PICO				*e*S	Sn	07 49 59.7	-8.4

IDC 30 07:58:10.5±2.2, 1°87'N×126°89'E, h0km, mb3.6/3, mb1 3.9/3, mb1mx3.4/53, mbtmp3.7/3, Error ellipse: s-maj=181.2km s-min=26.0km az=66.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**22.87**	**162**	P	P	08 03 14.2	-1.6
	2.2nm,0.7s,baz=340,slow=11,SNR=16						
ASAR	**Alice Springs**	**26.28**	**165**	P	P	08 03 49.1	+1.2
	0.6nm,0.5s,baz=350,slow=14,SNR=13						
MKAR	**Makanchi Array**	**59.17**	**326**	P	P	08 08 13.2	-0.1
	0.3nm,0.4s,baz=123,slow=8.3,SNR=4.5						

*ISCJB **30** 07:58:52.5±0.6, 44°.43S×0°.06×82°.1W±0°.1, h10km, mb4.4/14, MS3.8/8, Error ellipse: s-maj=13.5km s-min=7.9km az=173.8*

*IDC **30** 07:58:52.8±0.9, 44°.47S×81°.98W, h0km, mb4.0/8, mb1 4.2/9, mb1mx4.1/26, mbtmp4.0/9, ML3.8/1, MS3.8/9, Ms1 3.7/9, ms1mx3.6/19, Error ellipse: s-maj=32.1km s-min=18.4km az=101.0*

*NEIC **30** 07:58:54.2±0.7, 44°.35S×82°.13W, h10km, mb4.3/9, Error ellipse: s-maj=14.5km s-min=9.9km az=88.0*

ISC 30 07:58:54.5±0.7, 44°35S±0°08×81°9W±0°.1, h10km, n37, σ1§39/32, mb4.3/14, MS3.7/8, West Chile Rise

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHRN	**Cochrane**	**7.14**	**117**	*e*Pn	**Pn**	**08 00 40.6**	**+1.7**
PLCA	**Paso Flores**	**9.14**	**71**	Pn	**Pn**	**08 01 05.4**	**-1.2**
	0.2nm,0.3s,baz=261,slow=14,SNR=8.7						
PLCA				LR	LR	08 04 13.4	
	comp=Z,616nm,19.4s,baz=324,slow=35						
PLCA	**Paso Flores**	**9.14**	**71**	*e*Pn	**Pn**	**08 01 05.2**	**-1.4**
GO09	**Cerro Castillo**	**9.46**	**140**	*e*Pn	**Pn**	**08 01 12.1**	**+1.4**
GO10	**Punta Arenas**	**11.35**	**145**	*e*Pn	**Pn**	**08 01 37.2**	**+0.5**
GO05	**HualaaeØ**	**12.09**	**43**	*e*Pn	**Pn**	**08 01 44.4**	**-2.5**
ROC1	**El Roble**	**14.19**	**40**	*e*Pn	**Pn**	**08 02 14.5**	**-1.2**
TRQA	**Tornquist**	**16.26**	**74**	*e*Pn	**P**	**08 02 45.4**	**-0.6**
	19nm,0.9s						
LCO	**Las Campanas**	**17.73**	**34**	*e*Pn	**P**	**08 03 03.6**	**+1.0**
	18nm,1.0s						
LVC	**Limon Verde**	**24.19**	**31**	P	**P**	**08 04 13.8**	**+2.3**
	24nm,0.8s,baz=174,slow=9.2,SNR=6.8						
LVC				LR	LR	08 11 36.2	
	comp=Z,460nm,21.1s,baz=204,slow=31						
LVC	**Limon Verde**	**24.19**	**31**	*e*P	**P**	**08 04 13.9**	**+2.3**
	8.8nm,0.9s						
CPUP	**Villa Florida**	**26.78**	**56**	P	**P**	**08 04 34.6**	**0.0**
	3.0nm,0.8s,baz=227,slow=11,SNR=6.1						
CPUP				LR	LR	08 15 21.5	
	comp=Z,399nm,18.1s,baz=210,slow=37						
CPUP	**Villa Florida**	**26.78**	**56**	*e*P	**P**	**08 04 35.3**	**+0.7**
RPN	**Rapa Nui**	**27.92**	**299**	LR	LR	08 12 34.1	
	comp=Z,182nm,20.4s,baz=136,slow=29						
LPAZ	**La Paz**	**30.31**	**27**	P	**P**	**08 05 08.9**	**+2.1**
	2.8nm,0.9s,baz=180,slow=8.2,SNR=7.5						
LPAZ	**La Paz**	**30.31**	**27**	*e*P	**P**	**08 05 08.1**	**+1.3**
	5.0nm,1.0s						
HOPE	**Hope Point**	**30.74**	**125**	*e*P	**P**	**08 05 10.8**	**+1.3**
	51nm,1.3s						
VNA3	**Neumayer Olymp**	**43.12**	**153**	P	**P**	**08 06 53.6**	**-1.0**
VNA1	**Neumayer--Stat**	**43.61**	**152**	P	**P**	**08 06 57.7**	**-0.7**
VNA2	**Neumayer--Watz**	**43.88**	**153**	P	**P**	**08 06 59.9**	**-0.7**
	baz=275,slow=8.4						
SNAA	**Sanae**	**45.27**	**154**	P	**P**	**08 07 10.6**	**-1.2**
SNAA	**Sanae**	**45.27**	**154**	P	**P**	**08 07 10.8**	**-1.0**
	1.6nm,0.8s,baz=276,slow=4.5,SNR=11						
SNAA	**Sanae**	**45.27**	**154**	*e*P	**P**	**08 07 10.6**	**-1.2**
	2.6nm,0.9s						
ROSC	**El Rosal**	**49.44**	**10**	LR	LR	08 26 03.9	
	comp=Z,67nm,21.1s,baz=164,slow=33						
ROSC	**El Rosal**	**49.44**	**10**	*e*P	**P**	**08 07 43.9**	**-1.3**
	3.7nm,1.1s						
SBA	**Scott Base**	**51.27**	**195**	*e*P	**P**	**08 07 57.4**	**-0.5**
	3.8nm,1.1s						
VNDA	**Vanda**	**52.34**	**194**	P	**P**	**08 08 06.0**	**+0.2**
	0.9nm,0.9s,baz=103,slow=6.5,SNR=2.6						
VNDA				LR	LR	08 27 29.0	
	comp=Z,44nm,19.1s,baz=96,slow=33						
BCIP	**Isla Barro Col**	**53.30**	**3**	*e*P	**P**	**08 08 14.1**	**+0.5**
	42nm,0.3s						
SCIG	**Sabancuy**	**63.58**	**350**	*e*P	**P**	**08 09 27.7**	**+2.5**
	41nm,0.8s						
HUMP	**Col San Antoni**	**63.90**	**17**	*e*P	**P**	**08 09 26.6**	**-0.8**
	7.9nm,1.0s						
MAW	**Mawson**	**65.24**	**166**	P	**P**	**08 09 34.5**	**-1.2**
	2.0nm,0.9s,baz=224,slow=6.1,SNR=4.4						
TXAR	**Lajitas Array**	**75.98**	**341**	P	**P**	**08 10 42.0**	**+0.5**
	0.4nm,0.9s,baz=170,slow=7.1,SNR=3.0						
BOSA	**Boshof**	**81.63**	**122**	LR	LR	08 46 01.0	
	comp=Z,57nm,19.4s,baz=58,slow=35						
DBIC	**Dimbokro**	**85.47**	**76**	LR	LR	08 46 40.3	
	comp=Z,23nm,20.9s,baz=128,slow=34						
PDAR	**Pinedale Array**	**90.19**	**340**	P	**P**	**08 11 54.4**	**-0.5**
	0.6nm,0.9s,baz=147,slow=6.3,SNR=5.2						
TORD	**Torodi Ar. Bea**	**94.58**	**76**	LR	LR	08 51 09.3	
	comp=Z,27nm,18.8s,baz=185,slow=33						
ILAR	**Eielson Array**	**119.95**	**333**	PKP	**PKPdf**	**08 17 42.1**	**-1.9**
	0.2nm,0.6s,baz=168,slow=1.5,SNR=5.2						

MEX 30 08:55:48.3±0.6, 16°46N×98°52W, h28km±7km, MD3.8, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.39**	**100**	*i* P	Pb	08 55 55.5	-1.4
PNIG				*e*S	Sb	08 56 00.9	-1.8
TLIG	**Tlapa**	**1.09**	**358**	*e*P	Pn	08 56 05.3	-2.6
TLIG				*i* S	Sn	08 56 18.4	-3.9
CAIG	**El Cayaco**	**1.77**	**289**	*e*P	Pn	08 56 15.2	-1.9
CAIG				*i* S	Sn	08 56 35.7	-3.0
VHO	**Vista Hermosa**	**1.82**	**70**	*e*P	Pn	08 56 16.4	-1.6
VHO				*i* S	Sn	08 56 37.9	-2.3
HUIG	**Huatulco**	**2.42**	**106**	*i* P	Pn	08 56 23.7	-2.4
HUIG				*i* S	Sn	08 56 51.2	-3.6

*SKO **30** 08:59:40.5, 40°.42N×19°.61E, h0km*

*PDG **30** 08:59:41.0±0.3, 40°.54N×19°.45E, h11km, ML2.9/9, Error ellipse: s-maj=1.5km s-min=1.4km az=90.0*

*TIR **30** 08:59:43.5, 40°.65N×19°.68E, h27km, ML3.6*

*CSEM **30** 08:59:44.2±0.2, 40°.76N×19°.57E, h5km, ML2.8, Error ellipse: s-maj=5.7km s-min=3.4km az=64.0*

*ATH **30** 08:59:44.1, 40°.76N×19°.64E, h17km±1km, ML2.8/11, Error ellipse: s-maj=1.7km s-min=1.1km az=211.0*

*THE **30** 08:59:45.6, 40°.79N×19°.76E, h4km±1km, ML2.9/6, Error ellipse: s-maj=3.6km s-min=1.5km az=312.0*

ISC 30 08:59:43.4±1.1, 40°70N±0°02×19°61E±0°02, h11km±9km, n104, σ1§60/163, 12C-8D, Albania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TIR	**Tirane**	**0.67**	**17**	*i* PN	**Pb**	**08 59 57.5**	**+0.3**
TIR				*i* SN	**Sn**	**09 00 14.3**	**+4.8**
TIR	**Tirane**	**0.67**	**17**	*i* Pn	**Pb**	**08 59 57.5**	**+0.3**
TIR	**Tirane**	**0.67**	**17**	P	**Pb**	**08 59 57.9**	**+0.7**
TIR	**Tirane**	**0.67**	**17**	P	**Pb**	**08 59 57.9**	**+0.7**
OHR	**Ohrid**	**0.99**	**65**	*e*Pn	**Pg**	**09 00 00.3**	**-2.1**
OHR				*i* Sn	**Sn**	**09 00 18.3**	**+0.8**
OHR	**Ohrid**	**0.99**	**65**	*e*Pn	**Pg**	**09 00 00.3**	**-2.1**
OHR				*i* Sn	**Sn**	**09 00 18.2**	**+0.8**
KEK	**Kerkira**	**1.00**	**172**	P	**Pn**	**09 00 04.5**	**+1.1**
KEK				S	**Sn**	**09 00 21.9**	**+4.4**
KEK	**Kerkira**	**1.00**	**172**	P	**Pn**	**09 00 04.9**	**+1.5**
KEK				S	**Sn**	**09 00 19.8**	**+2.3**
KEK	**Kerkira**	**1.00**	**172**	P	**Pn**	**09 00 04.9**	**+1.5**
KEK				S	**Sn**	**09 00 19.8**	**+2.3**
KEK				AML	AML	09 00 22.9	
	comp=E,1357μm,0.4s						
KEK				AML	AML	09 00 23.6	
	comp=N,796μm,0.3s						
SCTE	**Santa Cesarea**	**1.08**	**235**	P	**Pn**	**09 00 04.5**	**0.0**
SCTE				S	**Sn**	**09 00 19.7**	**+0.3**
SCTE	**Santa Cesarea**	**1.08**	**235**	P	**Pn**	**09 00 04.5**	**0.0**
SCTE				S	**Sn**	**09 00 19.7**	**+0.3**
PENT	**Pentalofos**	**1.27**	**113**	P	**Pg**	**09 00 09.2**	**+1.4**
PENT				S	**Sn**	**09 00 24.7**	**+0.3**
PENT	**Pentalofos**	**1.27**	**113**	P	**Pg**	**09 00 09.2**	**+1.4**
PENT				S	**Sn**	**09 00 24.7**	**+0.3**
PENT				AML	AML	09 00 31.9	
	comp=N,683μm,0.5s						
PENT				AML	AML	09 00 32.7	
	comp=E,611μm,0.7s						
ULC	**Ulcinj**	**1.29**	**348**	⇓*i* Pg	**Pn**	**09 00 07.1**	**-0.4**
ULC				*e*Sg	**Sg**	**09 00 28.9**	**+4.0**
ULC	**Ulcinj**	**1.29**	**348**	⇓*i* Pg	**Pn**	**09 00 07.1**	**-0.4**
BIA	**Bitola**	**1.34**	**76**	*e*Pn	**Pn**	**09 00 06.4**	**-1.7**
BIA				*e*Sn	**Sg**	**09 00 29.8**	**+3.2**
BIA	**Bitola**	**1.34**	**76**	*e*Pn	**Pn**	**09 00 06.4**	**-1.7**
BIA				*e*Sn	**Sg**	**09 00 29.7**	**+3.2**
FNA	**Florina**	**1.34**	**86**	P	**Pn**	**09 00 08.2**	**0.0**
FNA				S	**Sg**	**09 00 26.9**	**+0.2**
FNA	**Florina**	**1.34**	**86**	P	**Pn**	**09 00 08.2**	**0.0**
FNA				S	**Sg**	**09 00 26.9**	**+0.2**
FNA	**Florina**	**1.34**	**86**	P	**Pn**	**09 00 05.9**	**-2.4**
FNA				S	**Sg**	**09 00 28.0**	**+1.3**
FNA				AML	AML	09 00 33.5	
	comp=N,892μm,0.5s						
FNA				AML	AML	09 00 33.8	
	comp=E,649μm,0.4s						
KRUS	**Krusevo**	**1.41**	**61**	*i* Pn	**Pn**	**09 00 08.0**	**-1.1**
KRUS				*e*Sn	**Sg**	**09 00 30.6**	**+1.9**
KRUS	**Krusevo**	**1.41**	**61**	*i* Pn	**Pn**	**09 00 08.0**	**-1.1**
KRUS				*e*Sn	**Sg**	**09 00 30.6**	**+1.9**
JAN	**Janina**	**1.41**	**137**	P	**Pg**	**09 00 11.9**	**+1.4**
JAN				S	**Sg**	**09 00 31.4**	**+2.5**
JAN	**Janina**	**1.41**	**137**	P	**Pg**	**09 00 11.9**	**+1.4**
JAN				S	**Sg**	**09 00 31.4**	**+2.5**
JAN				AML	AML	09 00 35.9	
	comp=N,757μm,0.4s						
JAN				AML	AML	09 00 36.5	
	comp=E,1055μm,0.5s						
DRME	**Dracevica, Mon**	**1.52**	**348**	⇑*i* Pn	**Pn**	**09 00 10.2**	**-0.4**
DRME				*e*Sn	**Sg**	**09 00 34.9**	**+2.7**
DRME	**Dracevica, Mon**	**1.52**	**348**	⇑*i* Pn	**Pn**	**09 00 10.2**	**-0.4**
DRME				*e*Sn	**Sg**	**09 00 34.9**	**+2.7**
KPRO	**Kipourio**	**1.54**	**119**	P	**Pg**	**09 00 12.2**	**-0.7**
KPRO				S	**Sg**	**09 00 32.9**	**+0.1**
KPRO	**Kipourio**	**1.54**	**119**	P	**Pg**	**09 00 12.2**	**-0.7**
KPRO				S	**Sg**	**09 00 34.9**	**+2.1**
KPRO	**Kipourio**	**1.54**	**119**	P	**Pg**	**09 00 12.1**	**-0.7**
KPRO				S	**Sg**	**09 00 34.9**	**+2.1**
KPRO				AML	AML	09 00 44.8	
	comp=N,615μm,0.6s						
KPRO				AML	AML	09 00 46.4	
	comp=E,545μm,0.7s						
BUM	**Brajici-Budva**	**1.69**	**342**	⇓*i* Pn	**Pn**	**09 00 12.8**	**-0.1**
BUM				*e*Sn	**Sg**	**09 00 39.0**	**+1.4**
BUM	**Brajici-Budva**	**1.69**	**342**	⇓*i* Pn	**Pn**	**09 00 12.8**	**-0.1**
BUM				*e*Sn	**Sg**	**09 00 39.0**	**+1.4**
KZN	**Kozani**	**1.69**	**103**	P	**Pb**	**09 00 14.1**	**-0.6**
KZN				S	**Sb**	**09 00 36.5**	**+0.4**
KZN	**Kozani**	**1.69**	**103**	P	**Pb**	**09 00 14.7**	**0.0**
KZN				S	**Sg**	**09 00 37.4**	**-0.5**
KZN	**Kozani**	**1.69**	**103**	P	**Pb**	**09 00 14.7**	**0.0**
KZN				S	**Sg**	**09 00 37.4**	**-0.5**
KZN				AML	AML	09 00 50.9	
	comp=N,439μm,0.6s						
KZN				AML	AML	09 00 51.4	
	comp=E,606μm,0.7s						
PDG	**Podgorica**	**1.75**	**351**	⇓*i* Pn	**Pb**	**09 00 14.5**	**-1.0**
PDG				*e*Sn	**Sg**	**09 00 40.7**	**+1.1**
TTG	**Podgorica**	**1.75**	**351**	⇓*i* Pn	**Pb**	**09 00 14.5**	**-1.0**
TTG				*e*Sn	**Sg**	**09 00 40.7**	**+1.1**
SKO	**Skopje**	**1.87**	**47**	*e*Pn	**Pb**	**09 00 17.5**	**-0.2**
SKO	**Skopje**	**1.87**	**47**	*e*Pn	**Pb**	**09 00 17.5**	**-0.2**
PVY	**Plav**	**1.91**	**8**	⇑*i* Pn	**Pn**	**09 00 17.0**	**+0.9**
PVY				*e*Sn	**Sg**	**09 00 45.4**	**+0.6**
PVY	**Plav**	**1.91**	**8**	⇑*i* Pn	**Pn**	**09 00 17.0**	**+0.9**
PVY				*e*Sn	**Sg**	**09 00 45.4**	**+0.6**
CEME	**Cevo**	**1.91**	**345**	⇓*i* Pn	**Pn**	**09 00 15.4**	**-0.7**
CEME				*e*Sn	**Sg**	**09 00 44.4**	**-0.5**
CEME	**Cevo**	**1.91**	**345**	⇓*i* Pn	**Pn**	**09 00 15.4**	**-0.7**
CEME				*e*Sn	**Sg**	**09 00 44.4**	**-0.5**
HCY	**Herceg Novi**	**1.93**	**335**	⇑*i* Pn	**Pn**	**09 00 16.1**	**-0.2**
HCY				*e*Sn	**Sb**	**09 00 43.4**	**+0.5**
HCY	**Herceg Novi**	**1.93**	**335**	⇑*i* Pn	**Pn**	**09 00 16.1**	**-0.2**
HCY				*e*Sn	**Sb**	**09 00 43.4**	**+0.5**
NOCI	**Noci**	**1.94**	**273**	P	**Pb**	**09 00 18.5**	**-0.2**
NOCI	**Noci**	**1.94**	**273**	P	**Pb**	**09 00 18.5**	**-0.2**
NOCI				S	**Sg**	**09 00 46.4**	**+0.8**
DSL	**Palaion Diasel**	**1.94**	**143**	P	**Pg**	**09 00 19.4**	**-1.2**
DSL				S	**Sg**	**09 00 44.3**	**-1.5**
DSL	**Palaion Diasel**	**1.94**	**143**	P	**Pg**	**09 00 19.4**	**-1.2**
DSL				S	**Sg**	**09 00 44.3**	**-1.5**
DSL	**Palaion Diasel**	**1.94**	**143**	P	**Pg**	**09 00 20.4**	**-0.3**
DSL				S	**Sg**	**09 00 46.6**	**+0.9**
LKD2	**Lefkada island**	**2.08**	**157**	S	**Sb**	**09 00 47.2**	**+0.2**
LKD2	**Lefkada island**	**2.08**	**157**	P	**Pn**	**09 00 18.4**	**+0.2**
LKD2				S	**Sb**	**09 00 47.2**	**+0.2**
LKD2				AML	AML	09 01 00.3	
	comp=E,344μm,0.7s						
LKD2				AML	AML	09 01 06.8	
	comp=N,253μm,0.5s						
NKME	**Niksic**	**2.12**	**347**	*e*Pn	**Pn**	**09 00 20.0**	**+1.1**
NKME				*e*Sn	**Sb**	**09 00 49.0**	**+0.7**
NKME	**Niksic**	**2.12**	**347**	*e*Pn	**Pn**	**09 00 20.0**	**+1.1**
NKME				*e*Sn	**Sb**	**09 00 49.0**	**+0.7**
GRG	**Griva**	**2.13**	**82**	P	**Pn**	**09 00 19.5**	**+0.4**
GRG	**Griva**	**2.13**	**82**	P	**Pn**	**09 00 19.4**	**+0.4**
KOME	**Kolasin**	**2.15**	**358**	*e*Pn	**Pn**	**09 00 20.5**	**+1.2**
KOME				*e*Sn	**Sb**	**09 00 50.2**	**+1.1**
KOME	**Kolasin**	**2.15**	**358**	*e*Pn	**Pn**	**09 00 20.5**	**+1.2**
KOME				*e*Sn	**Sb**	**09 00 50.2**	**+1.1**
THL	**Klokotos Trika**	**2.17**	**121**	P	**Pb**	**09 00 21.6**	**-1.0**
THL				S	**Sb**	**09 00 47.8**	**-1.7**
THL	**Klokotos Trika**	**2.17**	**121**	P	**Pb**	**09 00 21.6**	**-1.0**
THL				S	**Sb**	**09 00 48.8**	**-0.7**
THL	**Klokotos Trika**	**2.17**	**121**	P	**Pb**	**09 00 22.2**	**-0.4**
THL				AML	AML	09 00 32.6	
	comp=E,114μm,0.6s						
THL				S	**Sb**	**09 00 48.8**	**-0.7**
THL				AML	AML	09 01 04.2	
	comp=N,180μm,0.7s						
BEY	**Berane**	**2.18**	**6**	⇑*i* Pn	**Pb**	**09 00 21.5**	**-1.4**
IVA	**Berane**	**2.18**	**6**	⇑*i* Pn	**Pb**	**09 00 21.5**	**-1.4**
IVA				*e*Sn	**Sg**	**09 00 52.1**	**-1.3**
LIT	**Litokhoron**	**2.28**	**104**	P	**Pb**	**09 00 22.8**	**-1.8**
LIT	**Litokhoron**	**2.28**	**104**	P	**Pb**	**09 00 22.8**	**-1.8**
LIT				AML	AML	09 01 11.2	
	comp=N,130μm,0.9s						
LIT				AML	AML	09 01 12.7	
	comp=E,134μm,0.8s						
BRY	**Bratogost**	**2.34**	**340**	*e*Pn	**Pn**	**09 00 22.4**	**+0.4**
BRY				*e*Sn	**Sb**	**09 00 54.0**	**-0.7**
BRY	**Bratogost**	**2.34**	**340**	*e*Pn	**Pn**	**09 00 22.4**	**+0.4**
BRY				*e*Sn	**Sb**	**09 00 54.0**	**-0.7**
EVR	**Evrytania**	**2.46**	**136**	P	**Pn**	**09 00 25.1**	**+1.5**
EVR	**Evrytania**	**2.46**	**136**	P	**Pn**	**09 00 25.1**	**+1.5**
KNT	**Kendrikon**	**2.53**	**78**	P	**Pn**	**09 00 24.6**	**+0.1**
KNT	**Kendrikon**	**2.53**	**78**	P	**Pn**	**09 00 24.6**	**+0.1**
KNT				AML	AML	09 00 35.7	
	comp=E,66μm,0.6s						
KNT				AML	AML	09 01 22.8	
	comp=N,81μm,1.2s						
UPM	**Unac-Piva**	**2.55**	**348**	⇑*i* Pn	**Pn**	**09 00 25.6**	**+0.6**
UPM				*e*Sn	**Sb**	**09 00 59.5**	**-1.4**
UPM	**Unac-Piva**	**2.55**	**348**	⇑*i* Pn	**Pn**	**09 00 25.6**	**+0.6**
UPM				*e*Sn	**Sb**	**09 00 59.5**	**-1.4**
PVO	**Paravola**	**2.56**	**144**	P	**Pb**	**09 00 27.6**	**-1.7**
PVO	**Paravola**	**2.56**	**144**	P	**Pb**	**09 00 27.6**	**-1.7**
PVO				AML	AML	09 01 26.8	
	comp=N,165μm,1.3s						
PVO				AML	AML	09 01 34.2	
	comp=E,206μm,0.8s						
STON	**Ston**	**2.59**	**327**	*e*Pn	**Pn**	**09 00 24.2**	**-1.2**
STON				Sn	**Sn**	**09 00 55.0**	**-1.9**
STON	**Ston**	**2.59**	**327**	*e*Pn	**Pn**	**09 00 24.1**	**-1.2**
STON				Sn	**Sn**	**09 00 54.9**	**-2.0**
HORT	**Hortiatis**	**2.66**	**91**	P	**Pb**	**09 00 30.5**	**-0.6**
HORT	**Hortiatis**	**2.66**	**91**	P	**Pb**	**09 00 30.5**	**-0.6**
BARS	**Barje**	**2.68**	**37**	*e*Pn	**Pn**	**09 00 28.4**	**+1.8**
ANX	**Ano Chora**	**2.76**	**139**	P	**Pb**	**09 00 30.1**	**-2.8**
ANX	**Ano Chora**	**2.76**	**139**	P	**Pb**	**09 00 30.1**	**-2.8**
ANX	**Ano Chora**	**2.76**	**139**	P	**Pb**	**09 00 30.8**	**-2.1**
AXS	**Araxos**	**2.85**	**151**	P	**Pn**	**09 00 29.3**	**+0.4**
AXS	**Araxos**	**2.85**	**151**	P	**Pn**	**09 00 29.3**	**+0.4**
EFP	**Efpalio**	**2.88**	**141**	P	**Pb**	**09 00 32.4**	**-2.5**
EFP	**Efpalio**	**2.88**	**141**	P	**Pb**	**09 00 32.4**	**-2.5**
IVAS	**Ivanjica**	**2.90**	**8**	*e*Pn	**Pn**	**09 00 30.9**	**+1.3**
TRIZ	**Trizonia**	**3.01**	**140**	P	**Pn**	**09 00 31.6**	**+0.5**
TRIZ	**Trizonia**	**3.01**	**140**	P	**Pn**	**09 00 31.6**	**+0.5**
KALE	**Kalithea**	**3.03**	**139**	P	**Pb**	**09 00 36.0**	**-1.3**
KALE	**Kalithea**	**3.03**	**139**	P	**Pb**	**09 00 36.0**	**-1.3**
XOR	**Xorichti**	**3.06**	**115**	P	**Pn**	**09 00 34.3**	**+2.5**
XOR	**Xorichti**	**3.06**	**115**	P	**Pn**	**09 00 34.3**	**+2.5**
LAKA	**Lakka**	**3.07**	**143**	P	**Pn**	**09 00 33.4**	**+1.5**
LAKA	**Lakka**	**3.07**	**143**	P	**Pn**	**09 00 33.4**	**+1.5**
DRO	**Drossia**	**3.19**	**149**	P	**Pb**	**09 00 37.4**	**-2.8**
DRO	**Drossia**	**3.19**	**149**	P	**Pb**	**09 00 37.4**	**-2.8**
VTS	**Vitosha**	**3.29**	**54**	⇑*i* P	**Pb**	**09 00 38.6**	**-3.3**
VTS	**Vitosha**	**3.29**	**54**	⇑*i* P	**Pb**	**09 00 38.6**	**-3.3**
KLV	**Kalavryta, Ach**	**3.31**	**143**	P	**Pn**	**09 00 37.7**	**+2.5**
KLV				S	**Sb**	**09 01 18.8**	**-3.6**
KLV	**Kalavryta, Ach**	**3.31**	**143**	P	**Pn**	**09 00 37.6**	**+2.5**
KLV				S	**Sb**	**09 01 18.8**	**-3.6**
DIVS	**Divibare**	**3.41**	**5**	*e*Pn	**Pb**	**09 00 40.2**	**-3.6**
ZAGS	**Zajecar**	**3.67**	**31**	*e*Pn	**Pn**	**09 00 42.2**	**+2.1**
TEKS	**Tekeris**	**3.84**	**359**	*e*Pn	**Pn**	**09 00 42.7**	**+0.1**

MEX 30 09:10:55.2±0.3, 15°23N×92°90W, h78km±5km, MD3.5, Mexico-Guatemala border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCIG		**0.56**	**327**	*i* P	Pn	09 11 07.9	-1.4
PCIG				*e*S	Sn	09 11 18.1	-1.6
CCIG	**Comitan**	**1.27**	**35**	*i* P	Pn	09 11 16.0	-1.7
CCIG				*i* S	Sn	09 11 33.2	-1.4

*JMA **30** 09:21:20.5±0.5, 47°.58N×146°.81E, h516km, M4.1*

*SKHL **30** 09:21:21.0±1.2, 47°.77N×146°.51E, h481km±21km, mb5.0/4, msh4.9/4*

*NEIC **30** 09:21:21.7±0.3, 48°.16N×146°.23E, h467km±4km, mb4.2/41, Error ellipse: s-maj=7.5km s-min=4.0km az=152.0*

*MOS **30** 09:21:21.0±1.0, 48°.07N×146°.26E, h478km, mb4.0/21, Error ellipse: s-maj=11.3km s-min=7.5km az=82.3*

*ISCJB **30** 09:21:21.1±0.2, 47°.95N±0°.03×146°.40E±0°.04, h483km, mb4.1/66, Error ellipse: s-maj=4.6km s-min=2.9km az=41.6*

*IDC **30** 09:21:22.5±1.1, 48°.11N×146°.25E, h485km±14km, mb3.4/16, mb1 3.6/23, mb1mx3.3/59, mbtmp4.3/23, Error ellipse: s-maj=12.9km s-min=9.6km az=142.0*

ISC 30 09:21:21.4±0.4, 47°84N±0°05×146°40E±0°05, h483km, n170, σ1§61/198, mb4.1/66, 6C-4D, Northwest of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YSS	**Yuzh-Sakhalins**	**2.63**	**252**	⇑*i* PN	**P**	**09 22 30.6**	**+2.1**
YSS				*i* S	**S**	**09 23 24.7**	**+1.6**
YSS				pmax	pmax		
	comp=Z,410nm,0.4s						
YSS				pmax	pmax		
	comp=N,230nm,0.3s						
YSS				pmax	pmax		
	comp=E,210nm,0.3s						
YSS				pmax	pmax		
	comp=Z,300nm,1.9s						
YSS				smax	smax		
	comp=Z,110nm,0.8s						
YSS	**Yuzh-Sakhalins**	**2.63**	**252**	*i* P	**P**	**09 22 30.6**	**+2.1**
YSS				AMB	AMB	09 22 31.1	
	comp=Z,410nm,0.4s						
YSS				*i* S	**S**	**09 23 23.7**	**+0.6**
YSS				A	A	09 23 26.0	
	comp=Z,600nm,3.0s						
YSS				A	A	09 23 26.1	
	comp=Z,110nm,0.8s						
YSS	**Yuzh-Sakhalins**	**2.63**	**252**	*e*P	**P**	**09 22 28.4**	**-0.1**
KUR	**Kuril'

comp=N,284nm,0.5s
SHO Shikotan 3.98 175 *i* P **P 09 22 37.6 -0.9**
SHO AMB AMB 09 22 39.4
comp=N,110nm,0.4s
SHO AMB AMB 09 22 39.7
comp=N,400nm,0.7s
SHO *i* S **S 09 23 38.4 -2.9**
SHO A A 09 23 39.0
comp=N,280nm,0.5s
SHO A A 09 23 39.0
comp=N,450nm,0.5s
JWK2 Keihoku 4.00 233 P **P 09 22 41.1 +2.5**
JRA Rausu 4.00 193 P **P 09 22 39.3 +0.6**
JTKR Abashiri--Toko 4.24 205 P **P 09 22 41.9 +1.2**
JTKR *eS* **S 09 23 47.0 +1.7**
NEM2 Nemuro 2 4.50 186 P **P 09 22 42.0 -0.9**
NEM2 *eS* **S 09 23 46.5 -2.9**
JKA Kamikawa-asahi 4.57 217 *eP* **P 09 22 45.6 +2.0**
ASAJ Asahikawa 4.57 217 P **P 09 22 45.6 +2.0**
comp=N,6.6nm,0.3s,baz=8.3,slow=3.9,SNR=32
ASAJ Asahikawa 4.57 217 *eP* **P 09 22 45.5 +1.9**
JKK2 Kamakawa 2 4.71 214 P **P 09 22 46.7 +1.8**
JKK2 *eS* **S 09 23 55.4 +2.4**
JAR Ashorobuto 4.90 203 P **P 09 22 47.6 +1.0**
JAK Akkeshi 4.99 195 P **P 09 22 46.9 -0.5**
JAK *eS* **S 09 23 54.3 -3.1**
JFR Furan 5.38 211 P **P 09 22 52.6 +1.5**
JCH Churui 5.64 203 P **P 09 22 53.3 -0.3**
JCH *eS* **S 09 24 05.9 -2.9**
JEW Eniwo 6.09 217 P **P 09 22 59.3 +1.4**
JNBK Urakawa-nobuka 6.13 206 P **P 09 22 58.0 -0.3**
JNBK *eS* **S 09 24 13.5 -3.9**
ERM Erimo 6.26 203 *e*PN **P 09 23 00.7 +1.1**
ERM *eS* **S 09 24 18.5 -1.3**
ERM Erimo 6.26 203 *e*P **P 09 23 00.7 +1.1**
ERM *eS* **S 09 24 18.5 -1.3**
SKR Severo-Kuril's 6.97 62 *e*PN **P 09 23 07.2 +0.8**
SKR pmax pmax
comp=Z,104nm,0.7s
SKR pmax pmax
comp=Z,87nm,0.7s
SKR pmax pmax
comp=Z,200nm,2.4s
SKR MLR MLR
comp=Z,100nm,15.0s
SKR Severo-Kuril's 6.97 62 *e*P **P 09 23 04.9 -1.5**
SKR AMB AMB 09 23 07.6
comp=Z,100nm,0.7s
SKR AMB AMB 09 23 09.8
comp=Z,200nm,2.4s
SKR *eS* **S 09 24 26.9 -5.8**
JKB Kayabe 7.06 215 P **P 09 23 07.7 +0.1**
JOT Ohata 7.50 213 *eS* **S 09 24 38.6 -4.3**
JOSM Okushiri--Mats 7.56 223 P **P 09 23 13.7 +0.9**
HABR Khabarovsk 7.62 279 *e*PN **P 09 23 11.7 -1.5**
HABR pmax pmax
comp=E,14nm,1.4s
HABR pmax pmax
comp=Z,21nm,1.4s
HABR pmax pmax
comp=N,17nm,1.5s
HABR MLR MLR
comp=Z,27nm,12.0s
PAU Pauzhetka 7.67 58 *e*P **P 09 23 13.0 -0.7**
JANG Nango 8.24 207 *eS* **S 09 24 54.3 -3.0**
PETK Petropavlovsk- 8.93 50 P **P 09 23 26.3 -0.7**
comp=Z,0.4nm,0.3s,baz=221,slow=8.1,SNR=6.2
PETK Petropavlovsk- 8.93 50 *e*P **P 09 23 26.0 -0.9**
JOM Ohasama 9.14 206 P **P 09 23 31.6 +2.1**
PET Petropavlovsk 9.38 52 *e*P **P 09 23 31.6 -0.1**
JMK Ichinoseki 9.64 205 P **P 09 23 37.7 +2.9**
KLR Kul'dur 9.82 284 P **P 09 23 37.4 +0.9**
comp=Z,0.2nm,0.3s,baz=83,slow=8.8,SNR=31
JYK Kaneyama 9.94 208 P **P 09 23 40.7 +2.7**
USRK Ussuriysk Ar. 10.66 255 P **P 09 23 45.8 +0.2**
comp=Z,3.1nm,0.3s,baz=63,slow=13,SNR=46
MA2 Magadan 12.04 11 P **P 09 23 59.4 -0.6**
comp=Z,1.3nm,0.3s,baz=224,slow=10,SNR=9.3
MA2 Magadan 12.04 11 *e*P **P 09 23 59.9 -0.1**
MDJ Mudanjiang 12.08 261 P **P 09 24 01.0 +0.3**
MDJ pmax pmax
comp=Z,41nm,0.7s
MDJ pmax pmax
comp=Z,94nm,3.8s
MDJ Mudanjiang 12.08 261 *e*P **P 09 24 00.4 -0.3**
MJA0 Matsu Arr-Jizo 12.79 211 *e*PN **P 09 24 11.7 +3.2**
MJA0 pmax pmax
comp=Z,1.0nm,0.3s
MJB9 Matsu-Tunnel 12.80 211 *e*P **P 09 24 11.0 +2.3**
MAJO Matsushiro 12.81 211 *e*PN **P 09 24 11.1 +2.4**
MAJO Matsushiro 12.81 211 *e*P **P 09 24 11.1 +2.4**
MAT Matsushiro 12.81 211 P **P 09 24 05.3 -3.4**
MAT S **P 09 24 10.8 +2.1**
MJAR Matsushiro Arr 12.81 211 P **P 09 24 11.7 +3.0**
comp=Z,0.7nm,0.3s,baz=30,slow=11,SNR=6.6
BMKR Bomnak 12.95 309 *e*P **P 09 24 08.9 -0.9**
INU Inuyama 14.30 213 *e*P **P 09 24 27.4 +2.9**
CN2 Changchun 15.14 262 ⇓ *i*P **P 09 24 32.5 -0.8**
CN2 *eS* **S 09 27 07.0 -4.6**
CN2 pmax pmax
comp=Z,20nm,0.6s
SEY Seymchan 15.49 10 P **P 09 24 36.1 -0.6**
comp=Z,2.8nm,0.3s,baz=187,slow=9.9,SNR=35
KSRS Korea Array 17.06 239 P **P 09 24 55.0 +1.6**
comp=Z,0.6nm,0.3s,baz=42,slow=10.0,SNR=10
KSRS Korea Array 17.06 239 P **P 09 24 55.0 +1.6**
KSRS pmax pmax
comp=Z,1.0nm,0.3s
KS01 Wonju Array Si 17.06 239 *e*P **P 09 24 55.0 +1.6**
HHC Hu-ho-hao-te 25.71 267 *e*P **P 09 26 13.3 +1.2**
HHC pP sP 09 28 21.3 -8.6
HHC S **S 09 30 05.8 -0.2**
HHC pmax pmax
comp=Z,34nm,1.1s
HHC pmax pmax
comp=Z,99nm,3.8s
SONA1 Songino Array 26.64 285 *e*P **P 09 26 20.0 -0.2**
SONM Songino Array 26.65 285 P **P 09 26 20.4 +0.1**
comp=Z,0.5nm,0.4s,baz=72,slow=9.3,SNR=3.5
TLY Talaya 27.59 294 P **P 09 26 28.1 -0.3**
TLY pmax pmax
comp=Z,8.0nm,1.0s
TLY Talaya 27.59 294 *e*P **P 09 26 28.1 -0.3**
IMAR Indian Mountai 35.63 37 *e*P **P 09 27 36.6 -0.6**
CAST Castle Rocks 36.44 42 *e*P **P 09 27 43.9 0.0**
comp=Z,6.0nm,0.6s
CD2 Chengdu 36.52 258 *e*P **P 09 27 46.0 +1.0**
CD2 pmax pmax
comp=Z,10.0nm,1.1s
KTH Kantishna Hill 36.94 41 *e*P **P 09 27 48.0 -0.1**
comp=Z,6.6nm,0.8s
KDAK Kodiak Island 36.98 51 *ce*P **P 09 27 48.1 -0.2**
KDAK Kodiak Island 36.98 51 *e*P **P 09 27 48.1 -0.2**
COLD Coldfoot 37.05 35 *e*P **P 09 27 48.3 -0.5**
comp=Z,6.4nm,0.9s
PMR Palmer 38.01 44 *e*P **P 09 27 57.0 +0.3**
PMR pmax pmax
comp=Z,9.0nm,0.8s
PMR Palmer 38.01 44 *e*P **P 09 27 57.0 +0.3**
comp=Z,8.9nm,0.8s
DGZ Jazzator, Alta 38.04 295 *i* P **P 09 27 58.0 +0.6**
DGZ pmax pmax
comp=Z,2.0nm,0.6s
WRH Wood River Hil 38.09 40 *e*P **P 09 27 57.2 -0.2**
comp=Z,4.4nm,0.6s
COLA College 38.15 39 *e*P **P 09 27 57.8 0.0**
COLA pmax pmax
comp=Z,11nm,0.8s
COLA College 38.15 39 *e*P **P 09 27 57.5 -0.3**
COLA College 38.15 39 *e*P **P 09 27 57.8 0.0**
comp=Z,12nm,0.8s
CCB Clear Creek Bu 38.20 39 *e*P **P 09 27 57.7 -0.5**
comp=Z,14nm,1.7s
SML Sawmill 38.35 44 *e*P **P 09 27 59.0 -0.6**
SML pmax pmax
comp=Z,86nm,2.0s
SML Sawmill 38.35 44 *e*P **P 09 27 59.1 -0.6**
SML Sawmill 38.35 44 *e*P **P 09 27 59.0 -0.6**
comp=Z,86nm,2.0s
ILAR Eielson Array 38.57 39 P **P 09 28 00.6 -0.7**
comp=Z,4.1nm,0.6s,baz=253,slow=5.9,SNR=72
DHY Denali Highway 38.59 42 *e*P **P 09 28 01.3 -0.4**
comp=Z,8.1nm,0.6s
FYU Fort Yukon 39.05 36 *e*P **P 09 28 05.5 +0.4**
comp=Z,11nm,0.6s
FYU *eS* **S 09 33 30.7 +2.3**
DOT Dot Lake 39.97 41 *e*P **P 09 28 11.7 -1.0**
comp=Z,41nm,1.8s
WMQ Urumqi 40.25 287 P **P 09 28 15.8 +0.5**
WMQ pP pP 09 29 42.0 -1.2
WMQ sP sP 09 30 32.8 -5.2
WMQ pmax pmax
comp=Z,8.0nm,0.6s
WMQ pmax pmax
comp=Z,70nm,4.3s
EGAK Eagle 40.99 39 *e*P **P 09 28 20.1 -0.7**
comp=Z,8.9nm,0.6s
KMI Kunming 41.07 252 P **P 09 28 23.5 +1.2**
KMI pmax pmax
comp=Z,16nm,0.5s
MK31 Makanchi Array 42.35 293 *e*P **P 09 28 31.6 -0.3**
MK31 Makanchi Array 42.35 293 *e*P **P 09 28 31.6 -0.3**
MKAR Makanchi Array 42.35 293 P **P 09 28 31.6 -0.2**
comp=Z,2.4nm,0.5s,baz=68,slow=7.2,SNR=15
MKAR Makanchi Array 42.35 293 *e*P **P 09 28 31.4 -0.4**
MKAR Makanchi Array 42.35 293 *e*P **P 09 28 31.5 -0.4**
comp=Z,27nm,0.6s
MK01 Makanchi Array 42.35 293 *e*P **P 09 28 31.4 -0.4**
KURK Kurchatov 42.91 300 *d* iP **P 09 28 35.3 -0.9**
KURK *i* *PP **pP 09 30 07.1 +1.6**
KURK pmax pmax
comp=Z,17nm,1.6s
KURK Kurchatov 42.91 300 *e*P **P 09 28 35.3 -0.9**
KURBB Kurchatov Arra 43.00 300 P **P 09 28 35.7 -1.2**
comp=Z,2.9nm,0.4s,baz=74,slow=8.5,SNR=5.8
INK Inuvik 43.18 32 P **P 09 28 37.5 -0.5**
comp=Z,7.1nm,0.3s,baz=303,slow=9.6,SNR=168
INK Inuvik 43.18 32 *e*P **P 09 28 37.5 -0.5**
comp=Z,9.7nm,0.3s
BVAR Borovoye Array 46.58 306 P **P 09 29 03.8 -0.7**
comp=Z,1.1nm,0.4s,baz=67,slow=8.7,SNR=5.0
BRVK Borovoye 46.62 306 ⇓ *e*P **P 09 29 04.7 -0.1**
BRVK pmax pmax
comp=Z,5.0nm,0.7s
BRVK Borovoye 46.62 306 *e*P **P 09 29 04.7 -0.1**
AAK Ala-Archa 49.22 292 ⇑ *e*P **P 09 29 24.0 -0.7**
AAK pmax pmax
comp=Z,6.0nm,0.8s
KSH Kashi 49.99 288 *e*P **P 09 29 33.0 +2.7**
KSH S **S 09 36 05.5 +1.1**
KSH pmax pmax
comp=Z,70nm,5.0s
KSH LR LR
comp=N,270nm,13.6s
KSH LR LR
comp=E,150nm,6.8s
KSH LR LR
comp=Z,110nm,6.7s
KBS Kingsbay 50.67 350 P **P 09 29 34.6 0.0**
KBS pmax pmax
comp=Z,72nm,1.0s
KBS Kingsbay 50.67 350 *e*P **P 09 29 34.5 0.0**
ARU Arti 51.05 314 *d* iP **P 09 29 37.2 -0.5**
ARU *PP **pP 09 31 09.3 -2.0**
ARU 09 31 37.0
ARU S **S 09 36 18.0 0.0**
ARU SS **SS 09 39 54.9 -5.5**
ARU pmax pmax
comp=Z,3.0nm,0.7s
KKAR Karatay Array 51.43 295 *e*P **P 09 29 40.5 -0.2**
KKAR pmax pmax
comp=Z,17nm,0.8s
KKAR Karatay Array 51.43 295 *e*P **P 09 29 40.5 -0.2**
comp=Z,17nm,0.8s
YKA Yellowknife Ar 52.73 35 P **P 09 29 49.1 -0.6**
comp=Z,3.2nm,0.5s,baz=306,slow=7.2,SNR=9.0
ABKAR Akbulak array 54.16 306 *e*P **P 09 29 59.5 -0.6**
comp=Z,30nm,0.4s
ARCES ARCESS Array B 55.24 338 P **P 09 30 05.5 -1.9**
comp=Z,3.3nm,0.9s,baz=39,slow=7.8,SNR=5.6
FINES FINESS Array B 61.01 332 P **P 09 30 45.4 -1.2**
comp=Z,3.2nm,0.5s,baz=39,slow=7.6,SNR=24
K05A Summer Lake 61.57 57 *e*P **P 09 30 53.2 +2.2**
comp=Z,8.5nm,1.1s
GEYT Alibeck 62.07 297 P **P 09 30 53.6 -0.5**
comp=Z,2.5nm,0.6s,baz=52,slow=5.7,SNR=4.0
MSO Missoula 62.64 50 *e*P **P 09 30 57.6 -0.1**
comp=Z,4.8nm,1.0s
FFC Flin Flon 62.75 37 *e*P **P 09 31 00.1 +2.0**
FFC Flin Flon 62.75 37 *e*P **P 09 31 00.1 +2.0**
WVOR Wild Horse Val 63.02 56 *e*P **P 09 31 01.3 +1.0**
WVOR pmax pmax
comp=Z,3.0nm,0.9s
WVOR Wild Horse Val 63.02 56 *e*P **P 09 31 01.3 +1.0**
comp=Z,2.7nm,0.9s
BEKR Beckworth 63.74 59 *e*P **P 09 31 06.2 +1.2**
comp=Z,3.4nm,0.8s
HRY Holter Researc 63.79 49 *e*P **P 09 31 06.4 +1.2**
DLMT Dillon 64.31 50 *e*P **P 09 31 09.9 +1.3**
comp=Z,5.5nm,0.8s
PAHR Pah Rah Range 64.41 59 *e*P **P 09 31 10.6 +1.4**
comp=Z,5.6nm,1.1s
BOZ Bozeman (W) 64.65 49 *e*P **P 09 31 11.8 +1.1**
BOZ pmax pmax
comp=Z,4.0nm,0.6s
BOZ Bozeman (W) 64.65 49 *e*P **P 09 31 11.4 +0.7**
BOZ Bozeman (W) 64.65 49 *e*P **P 09 31 11.8 +1.1**
comp=Z,5.5nm,0.6s
YERR Yerington 64.97 59 *e*P **P 09 31 14.6 +1.7**
comp=Z,5.5nm,0.6s
EKH Elkhorn Ranch 65.39 62 *e*P **P 09 31 12.4 -2.9**
YHB Horse Butte 65.46 50 *e*P **P 09 31 17.3 +1.4**
comp=Z,5.7nm,0.9s
NB2 NORSAR Subarra 65.61 338 P **P 09 31 15.0 -1.3**
comp=Z,1.1nm,0.4s,baz=30,slow=6.5
NOA NORSAR Array B 65.61 338 P **P 09 31 15.0 -1.3**
comp=Z,1.5nm,0.4s,baz=31,slow=6.7,SNR=12
NOA NORSAR Array B 65.61 338 *e*P **P 09 31 15.3 -1.0**
NOA pmax pmax
comp=Z,1.0nm,0.4s
YHH Holmes Hill 65.61 50 *e*P **P 09 31 18.1 +1.1**
comp=Z,2.2nm,0.7s
FXWY Fox Creek 66.32 51 *e*P **P 09 31 22.9 +1.5**
comp=Z,1.9nm,0.8s
MOOW Moose Ponds 66.39 50 *e*P **P 09 31 23.5 +1.8**
comp=Z,3.4nm,1.0s
HWUT Hardware Ranch 67.45 53 *e*P **P 09 31 29.3 +1.0**
comp=Z,3.2nm,0.8s
BW06 Boulder Array 67.69 51 *e*P **P 09 31 30.4 +0.6**
comp=Z,5.5nm,0.9s
PD31 Pinedale Array 67.69 51 *e*P **P 09 31 30.5 +0.7**
PDAR Pinedale Array 67.69 51 P **P 09 31 30.5 +0.7**
comp=Z,2.6nm,0.4s,baz=359,slow=0.9,SNR=39
AKASG Malin Array Be 68.00 322 P **P 09 31 29.9 -1.3**
comp=Z,0.3nm,0.3s,baz=33,slow=6.3,SNR=2.9
TPNV Topopah Spring 68.08 59 *e*P **P 09 31 33.5 +1.3**
TPNV pmax pmax
comp=Z,4.0nm,0.8s
TPNV Topopah Spring 68.08 59 *e*P **P 09 31 33.5 +1.3**
comp=Z,4.4nm,0.8s
WRA Warramunga Arr 68.33 192 P **P 09 31 35.2 +1.6**
comp=Z,0.3nm,0.5s,baz=7.1,slow=6.7,SNR=6.6
WRA Warramunga Arr 68.33 192 *e*P **P 09 31 35.5 +1.9**
NLU North Lily Min 68.33 54 *e*P **P 09 31 34.2 +0.5**
comp=Z,2.9nm,0.9s
MPU Maple Canyon 68.53 54 *e*P **P 09 31 36.3 +1.4**
comp=Z,3.3nm,0.6s
SHPR Sheep Range 69.02 59 *e*P **P 09 31 39.4 +1.5**
comp=Z,3.0nm,0.9s
RSSD Black Hills 69.50 46 *e*P **P 09 31 41.0 +0.3**
RSSD pmax pmax
comp=Z,26nm,1.7s
RSSD Black Hills 69.50 46 *e*P **P 09 31 41.0 +0.3**
comp=Z,26nm,1.7s
SRU San Rafael Swe 69.78 54 *e*P **P 09 31 43.5 +1.0**
SRU pmax pmax
comp=Z,4.0nm,0.6s
SRU San Rafael Swe 69.78 54 *e*P **P 09 31 43.5 +1.0**
comp=Z,4.1nm,0.6s
U15A North Rim 70.71 57 *e*P **P 09 31 50.0 +1.9**
comp=Z,7.8nm,1.6s
PV10 Paradox Valley 71.11 54 *e*P **P 09 31 52.3 +1.8**
PV05 Paradox Valley 71.29 54 *e*P **P 09 31 52.9 +1.4**
Y12C Blythe 71.33 60 *e*P **P 09 31 53.1 +1.6**
comp=Z,4.5nm,0.6s
SMCO Snowmass 71.63 52 *e*P **P 09 31 54.6 +0.9**
comp=Z,2.3nm,0.6s
ASAR Alice Springs 72.05 192 P **P 09 31 58.4 +2.7**
comp=Z,0.7nm,0.6s,baz=5.4,slow=5.0,SNR=15
ASAR Alice Springs 72.05 192 *e*P **P 09 31 58.7 +3.0**
ASAR pmax pmax
comp=Z,1.0nm,0.6s
ASAR Alice Springs 72.05 192 *e*P **P 09 31 58.6 +2.9**
CRVS Cervenica-Dubn 72.50 325 *e*P **P 09 31 58.1 0.0**
CRVS Cervenica-Dubn 72.50 325 *e*P **P 09 31 58.1 0.0**
X16A Lo Mia Camp, P 72.64 58 *e*P **P 09 32 01.3 +2.0**
comp=Z,1.8nm,0.6s
SDCO Great Sand Dun 73.47 52 *e*P **P 09 32 05.4 +1.2**
comp=Z,6.9nm,1.9s
ANMO Albuquerque 75.03 54 *ce*P **P 09 32 15.8 +2.8**
ANMO pmax pmax
comp=Z,4.0nm,1.7s
TX31 Lajitas Ar. Si 80.81 56 *e*P **P 09 32 45.7 +1.5**
TXAR Lajitas Array 80.82 56 P **P 09 32 45.5 +1.3**
comp=Z,2.1nm,0.6s,baz=287,slow=3.6,SNR=23

NNC 30 09:43:40.5±11.0, 55.57N×60.74E, h0km, mb3.5, mpv3.1, 5C-3D, Error ellipse: s-maj=102.0km s-min=31.2km az=152.0, Ural Mountains region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AKTO	**Aktyubinsk**	**5.40**	**199**	⇑Pg	Pb	09 45 17.1	+1.4
	2.9nm,1.2s						
AKTO				⇑Lg	Lg	09 46 32.7	
	1.1nm,0.5s						
BRVK	**Borovoye**	**6.12**	**110**	⇑Pg	Pb	09 45 31.9	+3.8
	2.1nm,0.9s						
BRVK				⇑Lg	Lg	09 46 58.2	
	5.3nm,0.9s						
BVA0	**Borovoye Array**	**6.20**	**110**	⇓Pg	Pb	09 45 33.4	+4.1
	0.5nm,0.3s,baz=285,slow=14,SNR=7.5						
BVA0				⇓Lg	Lg	09 46 58.8	
	6.4nm,0.9s						
AB31	**Akbulak array**	**6.34**	**185**	⇑Pg	Pg	09 45 37.9	-4.1
	1.0nm,0.6s,baz=24,slow=12,SNR=3.8						
AB31				⇓Lg	Lg	09 47 02.2	
	1.9nm,0.6s,baz=17,slow=27,SNR=4.5						

NIED ***30*** *09:50:00,39˚10N×142˚10E,h47km,Mw3.7 Best double couple: M0 3.86000×10^14 NP1:φs200.00000°,δ35.00000°, λ75.00000°. NP2:φs39.00000°,δ57.00000°,λ100.00000°.*
ISCJB ***30*** *09:50:37.5±1.1,39˚11N±0˚05×142˚2E±0˚1,h52km±7km, mb3.7/5, Error ellipse: s-maj=17.3km s-min=6.9km az=15.7*
JMA ***30*** *09:50:38.5±0.1,39˚12N×142˚11E,h46km±1km,M3.6*
JMA Felt I J1.
IDC ***30*** *09:50:42.8±3.6,39˚04N×142˚02E,h89km±32km,mb3.4/5, mb1 3.5/7,mb1mx3.2/55,mbtmp3.7/7, Error ellipse: s-maj=35.2km s-min=23.1km az=79.0*
ISC 30 09:50:37.9±1.8, 39.12N±0˚06×142˚2E±0˚1, h41km±14km, n24, σ1s91/25, mb3.7/5, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OFUJ	**Ofunato**	**0.43**	**265**	P	**Pn**	**09 50 47.8**	**0.0**
OFUJ				S	**Sn**	**09 50 54.2**	**-0.6**
MIYJ	**Miyakonagasawa**	**0.55**	**326**	P	**Pn**	**09 50 49.6**	**+0.2**
MIYJ				S	**Sn**	**09 50 57.2**	**-0.3**
JMK	**Ichinoseki**	**0.80**	**258**	P	**Pn**	**09 50 52.3**	**-0.4**
JMK				S	**Sn**	**09 51 02.0**	**-1.4**
JOM	**Ohasama**	**0.80**	**296**	P	**Pn**	**09 50 52.7**	**-0.1**
JOM				S	**Sn**	**09 51 02.7**	**-0.8**
JTH	**Tanohata**	**0.86**	**341**	P	**Pn**	**09 50 53.9**	**+0.3**
JTH				eS	**Sn**	**09 51 05.2**	**+0.2**
JIO	**Ouri**	**0.95**	**226**	P	**Pn**	**09 50 54.2**	**-0.6**
JIO				S	**Sn**	**09 51 05.2**	**-2.0**
JRG	**Rokugo**	**1.26**	**283**	P	**Pn**	**09 50 58.9**	**-0.2**
JANG	**Nango**	**1.36**	**337**	P	**Pn**	**09 51 00.9**	**+0.4**
JOU	**Okura**	**1.43**	**239**	P	**Pn**	**09 51 01.0**	**-0.4**
JYK	**Kaneyama**	**1.47**	**263**	P	**Pn**	**09 51 01.6**	**-0.3**
MJAR	**Matsushiro Arr**	**4.09**	**232**	P	**Pn**	**09 51 40.5**	**+2.5**
	1.3nm,0.3s,baz=42,slow=11,SNR=19						
MAT	**Matsushiro**	**4.09**	**232**	P	**Pn**	**09 51 40.5**	**+2.5**
MAT				eS	**Sn**	**09 52 30.7**	**+6.1**
USRK	**Ussuriysk Ar.**	**9.18**	**307**	P	**Pn**	**09 52 51.2**	**+3.4**
	0.3nm,0.3s,baz=124,slow=13,SNR=3.7						
H11N2	**WAKE ISLAND Hy**	**28.75**	**125**	T	T	10 26 54.2	
	baz=318,slow=76,SNR=389						
H11N1	**WAKE ISLAND Hy**	**28.76**	**125**	T	T	10 26 56.8	
	baz=318,slow=76,SNR=588						
H11N3	**WAKE ISLAND Hy**	**28.77**	**125**	T	T	10 26 57.4	
	baz=318,slow=76,SNR=508						
H11S1	**WAKE ISLAND Hy**	**29.53**	**127**	T	T	10 27 51.1	
	baz=319,slow=76,SNR=59						
H11S3	**WAKE ISLAND Hy**	**29.54**	**127**	T	T	10 27 53.3	
	baz=319,slow=76,SNR=76						
H11S2	**WAKE ISLAND Hy**	**29.55**	**127**	T	T	10 27 51.9	
	baz=319,slow=76,SNR=65						
MKAR	**Makanchi Array**	**43.58**	**300**	P	**P**	**09 58 37.7**	**-0.2**
	0.6nm,0.4s,baz=85,slow=9.5,SNR=6.3						
KURBB	**Kurchatov Arra**	**45.25**	**306**	P	**P**	**09 58 50.2**	**-0.9**
	1.6nm,0.2s,baz=81,slow=8.1,SNR=7.6						
ILAR	**Eielson Array**	**47.40**	**33**	P	**P**	**09 59 08.8**	**+1.0**
	0.3nm,0.6s,baz=254,slow=7.2,SNR=4.1						
BVAR	**Borovoye Array**	**49.66**	**311**	P	**P**	**09 59 23.8**	**-1.5**
	0.5nm,0.4s,baz=79,slow=7.5,SNR=3.2						
WRA	**Warramunga Arr**	**59.22**	**189**	P	**P**	**10 00 33.7**	**-1.3**
	0.1nm,0.4s,baz=6.0,slow=6.7,SNR=6.3						

IDC 30 09:56:11.7±999.0, 41.00N×35.46E, h0km, Error ellipse: s-maj=10000.0km s-min=340.6km az=52.0, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I31KZ	**AKTYUBINSK INF**	**18.30**	**51**	*i*		11 50 00.0	
	baz=248,slow=314,SNR=2.3						
I46RU	**ZALESOVO INFRA**	**35.06**	**51**	*i*		13 28 20.0	
	baz=269,slow=319,SNR=4.2						
I34MN	**SONGINO INFRAS**	**49.52**	**57**	*i*		15 02 40.0	
	baz=289,slow=328,SNR=0.4						

NAO ***30*** *09:57:14.7±1.6,67˚55N×34˚00E,ML2.9*
KOLA ***30*** *09:57:15.9,67˚65N×33˚93E,h0km*
HEL ***30*** *09:57:16.9±0.4,67˚66N×33˚75E,h0km,ML2.5,Explosion*
IDC ***30*** *09:57:17.9±2.0,67˚75N×33˚71E,h0km,mb1 3.4/4, mb1mx3.1/46,mbtmp3.4/4,ML3.1/4, Error ellipse: s-maj=23.3km s-min=12.1km az=71.0*
CSEM ***30*** *09:57:18.6±0.4,67˚61N×33˚30E,h0km±3km,ML2.3,Error ellipse: s-maj=8.0km s-min=6.9km az=24.0,Mining explosion.*
ISC 30 09:57:14.6±1.7, 67.68N±0˚04×34.03E±0˚08, h0km, n43, σ1s32/62, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
APA	**Apatity**	**0.26**	**246**	P	**Pg**	**09 57 19.7**	**+0.1**
APA				S	**Sg**	**09 57 22.5**	**-0.5**
APZ9	**Apatity**	**0.26**	**246**	Pg	**Pg**	**09 57 19.7**	**+0.1**
APZ9				Lg	Lg	09 57 22.6	
APZ9	**Apatity**	**0.26**	**246**	Pg	**Pg**	**09 57 19.7**	**+0.1**
APZ9				Lg	Lg	09 57 22.6	
APZ9	**Apatity**	**0.26**	**246**	Pg	**Pg**	**09 57 19.7**	**+0.1**
	SNR=90						
APZ9				Lg	Lg	09 57 22.6	
APA0	**Apatity Array**	**0.40**	**260**	Pg	**Pg**	**09 57 22.2**	**-0.1**
	baz=97,slow=16						
APA0				Lg	Lg	09 57 27.5	
	baz=63,slow=37						
APA0				Rg	Rg	09 57 29.6	
	baz=72,slow=37						
APA0	**Apatity Array**	**0.40**	**260**	P	**Pg**	**09 57 22.3**	**-0.1**
APA0				S	**Sg**	**09 57 27.0**	**-0.5**
APA0	**Apatity Array**	**0.40**	**260**	Pg	**Pg**	**09 57 22.2**	**-0.1**
	SNR=90						
APA0				Lg	Lg	09 57 27.5	
	SNR=182						
KU6	**Riekki**	**2.33**	**227**	*e*PB	**Pn**	**09 57 55.6**	**+1.5**
KU6				*e*SG	**Sb**	**09 58 25.6**	**-1.1**
KU6				MSG		09 58 28.9	
	comp=Z,14nm,0.2s						
KU6	**Riekki**	**2.33**	**227**	Pb	**Pn**	**09 57 55.6**	**+1.5**

KU6				Sg	Sb	09 58 25.6	-1.1
MSF	**Maaselka**	**2.66**	**230**	*e*P	Pn	09 57 59.8	+1.1
MSF	**Maaselka**	**2.66**	**230**	P	Pn	09 57 59.7	+1.1
SGF	**Sodankyl**	**2.89**	**269**	*e*P	Pn	09 58 02.4	+0.6
SGF				*e*SG	Sb	09 58 42.0	-0.8
SGF	**Sodankyl**	**2.89**	**269**	P	Pn	09 58 02.4	+0.6
SGF				Sg	Sb	09 58 42.0	-0.8
KEV	**Kevo**	**3.30**	**312**	*e*P	Pn	09 58 09.1	+1.6
KEV	**Kevo**	**3.30**	**312**	*e*S	Sn	09 58 47.7	+0.3
KEV				*e*SG	Sb	09 58 55.9	+1.2
KEV				MSG		09 59 03.3	
	comp=Z,21nm,0.3s						
KEV	**Kevo**	**3.30**	**312**	*e*P	Pn	09 58 09.1	+1.6
	SNR=50						
KEV				S	Sn	09 58 47.7	+0.3
RNF	**Rovaniemi**	**3.31**	**255**	*e*P	Pn	09 58 09.0	+1.4
RNF	**Rovaniemi**	**3.31**	**255**	P	Pn	09 58 09.0	+1.4
ARA0	**ARCESS Array S**	**3.64**	**305**	Pn	Pn	09 58 13.0	+0.9
	baz=123,slow=16						
ARA0				Sn	Sn	09 58 54.8	-0.9
	baz=123,slow=28						
ARA0				Lg	Lg	09 59 07.1	
	baz=115,slow=37						
ARA0	**ARCESS Array S**	**3.64**	**305**	Pn	Pn	09 58 13.0	+0.9
	baz=123,slow=16						
ARA0				Sn	Sn	09 58 54.8	-0.9
	baz=123,slow=28						
ARA0				Lg	Lg	09 59 07.1	
	baz=115,slow=37						
ARA0	**ARCESS Array S**	**3.64**	**305**	Pn	Pn	09 58 13.0	+0.9
	SNR=50						
ARA0				Sn	Sn	09 58 54.8	-0.9
	SNR=50						
ARA0				Lg	Lg	09 59 07.1	
	SNR=2.5						
ARCES	**ARCESS Array B**	**3.64**	**305**	Pn	Pn	09 58 12.9	+0.8
	comp=Z,4.8nm,0.3s,baz=122,slow=15,SNR=159						
ARCES				Sn	Sn	09 58 54.6	-1.1
	comp=Z,3.2nm,0.3s,baz=120,slow=25,SNR=14						
ARCES				Lg	Lg	09 59 07.1	
	comp=Z,8.6nm,0.3s,baz=115,slow=34,SNR=16						
ARE0	**ARCESS Array S**	**3.64**	**305**	*e*P	Pn	09 58 13.1	+0.9
ARE0				*e*S	Sn	09 58 55.4	-0.3
ARE0	**ARCESS Array S**	**3.64**	**305**	*e*SG	Sb	09 59 06.0	+1.7
ARE0	**ARCESS Array S**	**3.64**	**305**	*e*P	Pn	09 58 13.1	+0.9
	SNR=50						
ARE0				*e*S	Sn	09 58 55.4	-0.3
	SNR=50						
HEF	**Hetta**	**3.96**	**285**	*e*P	Pn	09 58 17.2	+0.6
HEF				*e*S	Sn	09 59 03.1	-0.7
HEF	**Hetta**	**3.96**	**285**	*e*P	Pn	09 58 17.0	+0.4
HEF				*e*S	Sn	09 59 03.0	-0.7
HEF				*e*SG	Sb	09 59 16.7	+3.0
HEF				MSG		09 59 19.7	
	comp=Z,12nm,0.2s						
HEF	**Hetta**	**3.96**	**285**	*e*P	Pn	09 58 17.2	+0.6
	SNR=49						
HEF				S	Sn	09 59 03.0	-0.7
HEF				Sg	Sb	09 59 16.7	+3.0
TOF	**Tornio**	**4.15**	**252**	*e*SG	Sb	09 59 21.0	+1.9
TOF	**Tornio**	**4.15**	**252**	Sg	Sb	09 59 20.9	+1.9
KTK1	**Kautokeino**	**4.22**	**293**	*e*P	Pn	09 58 20.9	+0.8
KTK1				IAML		09 59 25.6	
	comp=Z,14nm,0.3s						
KTK1	**Kautokeino**	**4.22**	**293**	*e*P	Pn	09 58 20.9	+0.8
	SNR=49						
KJN	**Kajaani**	**4.44**	**219**	*e*SG	Sb	09 59 30.7	+3.3
KIF	**Kilpisjarvi**	**5.08**	**291**	*e*P	Pn	09 58 32.7	+0.9
KIF				*e*S	Sn	09 59 28.2	-2.9
KIF	**Kilpisjarvi**	**5.08**	**291**	*e*P	Pn	09 58 32.7	+0.9
	SNR=49						
KIF				*e*S	Sn	09 59 28.2	-2.9
	SNR=49						
FIA0	**FINESS Array S**	**7.13**	**212**	Lg	Lg	10 00 51.9	
	baz=18,slow=28						
FIA0	**FINESS Array S**	**7.13**	**212**	Lg	Lg	10 00 51.9	
	baz=18,slow=28						
FINES	**FINESS Array B**	**7.13**	**212**	Pn	Pn	09 59 00.5	+0.5
	comp=Z,0.2nm,0.3s,baz=31,slow=14,SNR=4.5						
FINES				Lg	Lg	10 00 51.2	
	comp=Z,1.1nm,0.3s,baz=23,slow=26,SNR=5.6						
SPA0	**Spitsbergen Ar**	**11.66**	**342**	Pn	Pn	10 00 00.1	-2.0
	baz=126,slow=28						
SPA0	**Spitsbergen Ar**	**11.66**	**342**	Pn	Pn	10 00 00.1	-2.0
	baz=126,slow=28						
SPITS	**Spitsbergen Ar**	**11.66**	**342**	Pn	Pn	10 00 00.7	-1.4
	baz=156,slow=14,SNR=3.3						
NOA	**NORSAR Array B**	**11.85**	**247**	Pn	Pn	10 00 03.5	-1.1
	comp=Z,0.1nm,0.3s,baz=44,slow=11,SNR=3.5						

NNC 30 10:13:10.9±4.7, 37°.06N×71°.28E, h0km, mb3.8, mpv3.4, 5C-1D, Error ellipse: s-maj=37.3km s-min=20.7km az=166.0, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZET	**Dzherino**	**2.61**	**313**	↑Pn	Pn	10 13 54.1	-0.4
	25nm,0.5s						
DZET				↑Sn	Sn	10 14 28.2	+1.4
	21nm,0.7s						
MNAS	**Manas**	**5.50**	**9**	↑Pn	Pn	10 14 35.3	+1.1
	1.2nm,0.4s						
MNAS				↑Sn	Sn	10 15 40.9	+2.7
	2.0nm,0.3s						
KK31	**Karatay Array**	**6.07**	**355**	↓Pn	Pn	10 14 41.0	-0.8
	1.0nm,0.5s,baz=177,slow=12,SNR=12						
KK31				↑Sn	Sn	10 15 50.7	-1.3
	3.6nm,0.7s,baz=185,slow=22,SNR=12						

IDC ***30*** *10:18:23.2±1.2, 49°.59S×163°.98E, h0km, mb4.1/3, mb1 4.3/5, mb1mx3.9/34, mbtmp4.2/5, ML3.7/2, MS3.9/14, Ms1 3.9/14, ms1mx3.8/24, Error ellipse: s-maj=30.4km s-min=26.6km az=111.0*

ISCJB ***30*** *10:18:24.4±0.4, 49°.54S±0°.05×163°.83E±0°.07, h15km, mb4.4/12, MS3.9/13, Error ellipse: s-maj=8.2km s-min=3.8km az=136.9*

NEIC ***30*** *10:18:27.8±0.5, 49°.64S×163°.76E, h35km, mb4.6/12, Error ellipse: s-maj=11.1km s-min=6.3km az=139.0*

GCMT ***30*** *10:18:27.8±0.3, 49°.74S×163°.47E, h21km±2km, MW5.0/74, Moment Tensor Solution. s15,c19; s74,c100; Duration: 0 Moment tensor: Scale 10^16 Nm; Mrr-0.89±.20; Mθθ3.82±.17; Mϕϕ-2.92±.14; Mrθ-0.88±.31; Mθϕ-0.93±.14; Mϕr0.10±.27; Best double couple: Mo3.57300×10^16 NP1:ϕ232.00000°, δ83.00000°, λ172.00000°. NP2: ϕs323.00000°, δ83.00000°, λ7.00000°. Principal axes: T 4.1010, Plg10.0000°, Azm188.0000°; N -1.0470, Plg80.0000°, Azm11.0000°; P -3.0450, Plg1.0000°, Azm278.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

ISC 30 10:18:25.5±0.5, 49°.70S±0°.06×163°.87E±0°.07, h15km, n87, σ1ᵍ85/96, mb4.5/12, MS3.9/13, Auckland Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
APZ	**The Paps**	**3.97**	**45**	PN	Pn	10 19 25.4	-0.4
APZ				SN	Sn	10 20 10.0	-2.1
PYZ	**Puysegur Point**	**4.00**	**29**	*e*Pn	Pn	10 19 25.6	-0.6
PYZ				*e*Sn	Sn	10 20 12.2	-0.6
PYZ	**Puysegur Point**	**4.00**	**29**	PN	Pn	10 19 24.9	-1.3
PYZ				SN	Sn	10 20 12.5	-0.3
WHZ	**Wether Hill Ro**	**4.69**	**37**	*e*Pn	Pn	10 19 35.5	-0.2
WHZ				*e*Sn	Sn	10 20 27.6	-2.2
WHZ	**Wether Hill Ro**	**4.69**	**37**	PN	Pn	10 19 35.4	-0.3
WHZ				SN	Sn	10 20 27.6	-2.2
SYZ	**Scrubby Hill**	**4.74**	**50**	PN	Pn	10 19 36.6	+0.3
SYZ				SN	Sn	10 20 26.4	-4.4
DCZ	**Deep Cove**	**4.78**	**29**	*e*Pn	Pn	10 19 36.2	-0.6
DCZ				*e*Sn	Sn	10 20 30.3	-1.6
DCZ	**Deep Cove**	**4.78**	**29**	PN	Pn	10 19 36.3	-0.6
MLZ	**Mavora Lakes**	**5.20**	**35**	*e*Pn	Pn	10 19 43.5	+0.8
MLZ				*e*Sn	Sn	10 20 43.0	+0.7
MLZ	**Mavora Lakes**	**5.20**	**35**	PN	Pn	10 19 43.3	+0.7
TUZ	**Tuapeka**	**5.39**	**48**	PN	Pn	10 19 45.3	0.0
MCQ	**Macquarie Isla**	**5.68**	**210**	*e*Pn	Pn	10 19 46.3	-2.9
MCQ				*e*Sn	Sn	10 20 48.7	-5.5
MSZ	**Milford Sound**	**5.73**	**30**	PN	Pn	10 19 51.2	+1.2
EAZ	**Earnscleugh**	**5.79**	**42**	PN	Pn	10 19 50.2	-0.5
HHSZ	**Highcliff Hill**	**5.92**	**52**	PN	Pn	10 19 53.6	+1.0
WKZ	**Wanaka**	**6.00**	**38**	*e*Pn	Pn	10 19 54.6	+1.0
WKZ				*e*Sn	Sn	10 21 01.0	-1.0
WKZ	**Wanaka**	**6.00**	**38**	PN	Pn	10 19 54.7	+1.0
ODZ	**Otahua Downs**	**6.54**	**47**	*e*Pn	Pn	10 20 00.5	-0.6
ODZ				*e*Sn	Sn	10 21 12.9	-2.4
ODZ	**Otahua Downs**	**6.54**	**47**	*e*PN	Pn	10 19 60.0	-1.1
ODZ				SN	Sn	10 21 12.8	-2.6
LBZ	**Lake Benmore**	**6.84**	**41**	*e*Pn	Pn	10 20 03.0	-2.2
LBZ				*e*Sn	Sn	10 21 20.2	-2.5
LBZ	**Lake Benmore**	**6.84**	**41**	PN	Pn	10 20 02.9	-2.3
LBZ				SN	Sn	10 21 20.9	-1.9
FOZ	**Fox Glacier**	**7.40**	**36**	*e*Pn	Pn	10 20 13.3	+0.5
FOZ				*e*Sn	Sn	10 21 32.3	-4.1
FOZ	**Fox Glacier**	**7.40**	**36**	PN	Pn	10 20 13.5	+0.7
FOZ				SN	Sn	10 21 34.2	-2.1
RPZ	**Rata Peaks**	**7.75**	**42**	Pn	Pn	10 20 15.0	-2.7
	1.8nm,0.3s,baz=247,slow=3.7,SNR=11						
RPZ				Sn	Sn	10 21 41.4	-3.8
	12nm,0.3s,baz=13,slow=17,SNR=11						
RPZ				LR	LR	10 23 23.3	
	comp=Z,2μm,19.1s,baz=210,slow=39						
RPZ	**Rata Peaks**	**7.75**	**42**	*e*Pn	Pn	10 20 15.3	-2.4
RPZ				*e*Sn	Sn	10 21 45.6	+0.4
RPZ	**Rata Peaks**	**7.75**	**42**	PN	Pn	10 20 14.9	-2.9
WVZ	**Waitaha Valley**	**8.14**	**38**	*e*PN	Pn	10 20 21.8	-1.2
OXZ	**Oxford**	**8.50**	**45**	*e*Pn	Pn	10 20 28.1	+0.1
OXZ	**Oxford**	**8.50**	**45**	PN	Pn	10 20 27.8	-0.2
MQZ	**McQueen's Vall**	**8.50**	**49**	*e*Pn	Pn	10 20 27.5	-0.4
MQZ				*e*Sn	Sn	10 22 00.5	-3.0
MQZ	**McQueen's Vall**	**8.50**	**49**	PN	Pn	10 20 28.0	+0.1
CRLZ	**Canterbury Las**	**8.58**	**48**	*e*Pn	Pn	10 20 31.5	+2.5
INZ	**Inchbonnie**	**8.72**	**40**	PN	Pn	10 20 31.0	0.0
LTZ	**Lake Taylor**	**9.03**	**43**	*e*Pn	Pn	10 20 36.7	+1.4
DSZ	**Denniston Nort**	**9.69**	**38**	PN	Pn	10 20 43.7	-0.6
KHZ	**Kahutara**	**9.90**	**46**	*e*Pn	Pn	10 20 49.3	+2.2
THZ	**Tophouse**	**10.13**	**42**	*e*Pn	Pn	10 20 51.2	+0.8
THZ	**Tophouse**	**10.13**	**42**	PN	Pn	10 20 51.2	+0.8
QRZ	**Quartz Range**	**10.76**	**38**	PN	Pn	10 20 58.1	-0.8
TAU	**Tasmania Unive**	**13.29**	**294**	*e*Pn	Pn	10 21 31.8	-1.6
BKZ	**Black Stump Fm**	**13.84**	**45**	*e*Pn	Pn	10 21 42.4	+1.4
URZ	**Urewera**	**14.86**	**45**	Pn	Pn	10 21 54.2	-0.6
	0.2nm,0.3s,baz=288,slow=9.6,SNR=2.6						
URZ				LR	LR	10 28 13.0	
	comp=Z,3μm,18.9s,baz=232,slow=40						
MXZ	**Matakaoa Point**	**15.97**	**46**	*e*Pn	Pn	10 22 10.4	+0.9
	95nm,1.1s						
OUZ	**Omahuta**	**16.13**	**30**	*e*Pn	Pn	10 22 11.4	-0.1
	167nm,1.8s						
LHI	**Lord Howe Isla**	**18.51**	**347**	*e*P	P	10 22 41.2	+0.1
	232nm,1.1s						
STKA	**Stephens Creek**	**24.37**	**309**	LR	LR	10 31 32.6	
	comp=Z,347nm,18.8s,baz=175,slow=32						
STKA	**Stephens Creek**	**24.37**	**309**	*e*P	P	10 23 41.7	-1.2
	16nm,2.0s						
DZM	**Mont Dzumac**	**27.64**	**5**	*e*P	P	10 24 14.3	+1.7
	47nm,1.3s						
DZM				*e*S	S	10 28 52.0	-1.9
	195nm,27.4s						
DZM				*e*LR	LR	10 31 10.6	
	379nm,22.1s						
DZM	**Mont Dzumac**	**27.64**	**5**	*e*P	P	10 24 11.9	-0.6
	18nm,1.0s						
VNDA	**Vanda**	**27.94**	**181**	P	P	10 24 15.1	+0.4
	4.0nm,1.3s,baz=360,slow=7.3,SNR=3.7						
VNDA				LR	LR	10 32 51.7	
	comp=Z,156nm,20.4s,baz=14,slow=31						
VNDA	**Vanda**	**27.94**	**181**	*e*P	P	10 24 15.5	+0.9
	14nm,1.6s						
SBA	**Scott Base**	**28.29**	**179**	*e*P	P	10 24 19.5	+1.7
	17nm,1.6s						
AS01	**Alice Springs**	**34.96**	**307**	*e*P	P	10 25 16.6	-0.3
ASAR	**Alice Springs**	**34.98**	**307**	P	P	10 25 16.6	-0.5
	1.8nm,0.7s,baz=139,slow=8.1,SNR=19						
ASAR				LR	LR	10 38 59.0	
	comp=Z,266nm,18.3s,baz=154,slow=35						
AS31	**Alice Springs**	**34.98**	**307**	*e*P	P	10 25 15.9	-1.2
	1.9nm,0.8s						
WB2	**Warramunga Arr**	**37.87**	**311**	*e*P	P	10 25 41.0	-0.7
	12nm,1.1s						
WR1	**Warramunga Arr**	**37.87**	**311**	*e*P	P	10 25 41.5	-0.3
	9.5nm,1.1s						
WR1				*e*PcP	PcP	10 27 59.2	+1.3
WRA	**Warramunga Arr**	**37.87**	**311**	P	P	10 25 41.5	-0.3
	1.8nm,0.9s,baz=146,slow=7.9,SNR=12						
WRA				PcP	PcP	10 27 59.2	+1.3
	0.5nm,0.7s,baz=145,slow=2.6,SNR=2.5						
WRA				LR	LR	10 41 06.2	
	comp=Z,175nm,18.6s,baz=155,slow=36						
WRAB	**Tennant Creek**	**37.88**	**311**	*e*P	P	10 25 39.1	-2.6
	10nm,1.1s						
TBI	**Tubuai**	**44.83**	**71**	*e*LR	LR	10 39 20.8	
	222nm,23.8s						
MAW	**Mawson**	**49.09**	**210**	LR	LR	10 46 05.9	
	comp=Z,163nm,18.4s,baz=77,slow=34						
PPT2	**Papeete2**	**49.13**	**66**	*e*LR	LR	10 41 15.5	
	225nm,23.2s						
PPT	**Papeete**	**49.15**	**66**	LR	LR	10 44 48.7	
	comp=Z,137nm,19.4s,baz=268,slow=32						
RKT	**Rikitea**	**54.17**	**84**	*e*LR	LR	10 43 22.8	
	287nm,33.8s						
SNAA	**Sanae**	**58.57**	**185**	P	P	**10 28 24.4**	**+3.5**
SNAA	**Sanae**	**58.57**	**185**	*e*P	P	**10 28 21.2**	**+0.2**
	9.9nm,1.2s						
VNA3	**Neumayer Olymp**	**59.28**	**182**	P	P	**10 28 29.3**	**+3.5**
VNA2	**Neumayer--Watz**	**59.52**	**183**	P	P	10 28 31.9	+4.4
	baz=141,slow=5.6						
VNA1	**Neumayer--Stat**	**59.83**	**183**	P	P	**10 28 31.7**	**+2.2**
PLCA	**Paso Flores**	**78.04**	**141**	LR	LR	10 57 34.3	
	comp=Z,78nm,20.0s,baz=223,slow=30						
QIZ	**Qiongzhong**	**83.43**	**310**	P	P	**10 30 55.3**	**+3.1**
QIZ	**Qiongzhong**	**83.43**	**310**	S	S	**10 41 13.5**	**+0.6**
QIZ				LR	LR		
	comp=Z,63nm,20.7s						
CMAR	**Chiang Mai Arr**	**88.75**	**301**	LR	LR	11 13 36.2	
	comp=Z,18nm,18.2s,baz=152,slow=37						
MJAR	**Matsushiro Arr**	**88.82**	**340**	LR	LR	11 09 42.5	
	comp=Z,15nm,18.1s,baz=275,slow=35						
KMI	**Kunming**	**92.11**	**307**	P	P	**10 31 34.5**	**+0.3**
KMI				pmax	pmax		
	comp=Z,12nm,0.5s						
KSRS	**Korea Array**	**92.42**	**332**	LR	LR	11 09 22.3	
	comp=Z,33nm,20.4s,baz=155,slow=33						
KS15	**Wonju Array Si**	**92.42**	**332**	*e*P	P	**10 31 35.2**	**+0.2**
BOSA	**Boshof**	**93.79**	**216**	LR	LR	11 12 10.7	
	comp=Z,43nm,18.8s,baz=178,slow=34						
CPUP	**Villa Florida**	**95.91**	**144**	LR	LR	11 08 53.1	
	comp=Z,66nm,18.2s,baz=210,slow=32						
CPUP	**Villa Florida**	**95.91**	**144**	*e*P	P	**10 31 52.2**	**+0.6**
LZH	**Lanzhou**	**100.56**	**314**	*e*P	Pdif	**10 32 16.8**	**+4.6**
LZH				pP	sP	10 32 25.3	+6.2
LZH				sP	sPdif	10 32 29.5	+10
LZH				pmax	pmax		
	comp=Z,18nm,1.0s						
HHC	**Hu-ho-hao-te**	**101.20**	**322**	*e*P	Pdif	**10 32 18.3**	**+3.4**
HHC	**Hu-ho-hao-te**	**101.20**	**322**	SS	SS	10 50 59.3	+5.0
HHC				pmax	pmax		
	comp=Z,22nm,1.0s						
HHC				pmax	pmax		
	comp=Z,90nm,4.4s						
KSH	**Kashi**	**117.61**	**299**	*e*PKP	PKPdf	**10 37 10.0**	**-0.4**
KSH				PP	PP	**10 38 27.0**	**+3.3**
KSH				AMB	AMB		
	comp=Z,75nm,4.5s						
KSH				LR	LR		
	comp=N,48nm,4.8s						
KSH				LR	LR		
	comp=E,56nm,4.6s						
KSH				LR	LR		
	comp=Z,120nm,6.8s						
TORD	**Torodi Ar. Bea**	**140.72**	**208**	PKP	PKPdf	**10 37 54.0**	**-0.6**
	comp=Z,0.5nm,0.7s,baz=148,slow=1.4,SNR=3.5						
TOA1	**Torodi Ar. Sit**	**140.73**	**208**	*e*PKPdf	PKPdf	**10 37 54.0**	**-0.6**
AKASG	**Malin Array Be**	**151.29**	**290**	PKPbc	PKPbc	**10 38 17.7**	**+0.3**
	comp=Z,0.8nm,0.3s,baz=87,slow=2.6,SNR=7.4						

ISCJB ***30*** *10:21:35.0±0.7, 6°.84N±0°.04×73°.12W±0°.05, h165km±6km, Error ellipse: s-maj=9.1km s-min=4.8km az=35.6*

FUNV ***30*** *10:21:37.5, 6°.81N×72°.93W, h175km, MW2.4*

RSNC ***30*** *10:21:38.3±1.0, 6°.78N×73°.17W, h148km±7km, ML2.5*

ISC 30 10:21:34.4±1.5, 6°.81N±0°.05×73°.07W±0°.05, h171km±9km, n17, σ1ᵍ39/31, 1C, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BARC	**Barichara**	**0.25**	**208**	*e*P	Pn	**10 21 58.3**	**+0.6**
BARC				*e*S	Sn	**10 22 13.0**	**-2.4**
BARC				*i*		10 22 14.6	
	comp=Z,53nm,0.3s						
PAMC	**Pamplona, Colo**	**0.64**	**35**	*e*P	Pn	**10 22 01.0**	**+1.6**
PAMC				*e*S	Sn	**10 22 18.1**	**-0.6**
PAMC				*i*		10 22 20.5	
	comp=Z,34nm,0.4s						
BRRC	**Barranca, Sant**	**0.70**	**295**	↑*i*P	Pn	**10 22 00.2**	**+1.0**
BRRC				*i*		10 22 00.5	
	comp=Z,110nm,0.2s						
BRRC				*e*S	Sn	**10 22 17.1**	**-1.1**
RUSC	**La Rusia**	**0.91**	**181**	*e*P	Pn	**10 22 02.0**	**+0.8**
RUSC				*e*S	Sn	**10 22 21.1**	**-0.7**
RUSC				*i*		10 22 22.6	
	comp=Z,18nm,0.2s						
CAPV	**Capacho**	**1.28**	**35**	*e*P	Pn	**10 22 05.6**	**+1.7**
CAPV				*e*S	Sn	**10 22 27.5**	**+0.9**
OCAC	**Ocana**	**1.44**	**350**	*e*P	Pn	**10 22 06.9**	**+1.7**
OCAC				*e*S	Sn	**10 22 28.8**	**-0.3**
OCAC				*i*		10 22 33.3	
	comp=Z,40nm,0.2s						
ZARC	**Zaragoza, Cauc**	**1.90**	**291**	*e*P	Pn	**10 22 10.4**	**+0.6**
ZARC				*e*S	Sn	**10 22 35.9**	**-1.3**
ZARC				*i*		10 22 42.1	
	comp=Z,45nm,0.3s						
NORC	**Norcasia**	**2.18**	**235**	*e*P	Pn	**10 22 13.1**	**+0.2**
NORC				*e*S	Sn	**10 22 40.6**	**-2.2**
CHIC	**Chingaza**	**2.27**	**197**	*e*P	Pn	**10 22 15.7**	**+1.4**
CHIC				*e*S	Sn	**10 22 44.7**	**-0.6**
CHIC				*i*		10 22 53.6	
	comp=Z,11nm,0.3s						
HELC	**Santa Helena**	**2.52**	**256**	*e*P	Pn	**10 22 18.6**	**+1.3**
HELC				*e*S	Sn	**10 22 49.1**	**-1.3**
HELC				*i*		10 22 57.0	
	comp=Z,19nm,0.3s						
VIGV	**El Vigia**	**2.63**	**40**	*e*P	Pn	**10 22 19.0**	**+0.9**
VIGV				*e*S	Sn	**10 22 50.2**	**-2.0**
SOCV	**Socops**	**2.63**	**56**	*e*P	Pn	**10 22 19.0**	**+0.8**
SOCV				*e*S	Sn	**10 22 49.6**	**-2.7**
PRAC	**Prado**	**3.57**	**211**	*e*P	Pn	**10 22 31.7**	**+1.8**
PRAC				*e*S	Sn	**10 23 13.1**	**-0.1**
PRAC				*i*		10 23 17.6	
	comp=Z,28nm,0.4s						
VIRV	**Villa del Rosa**	**3.72**	**10**	*e*P	Pn	**10 22 33.0**	**+1.2**
VIRV				*e*S	Sn	**10 23 15.1**	**-1.5**
CURV	**Curarigua**	**4.42**	**44**	*e*P	Pn	**10 22 41.5**	**+0.7**
BAUV	**El Baul**	**5.41**	**67**	*e*P	Pn	**10 22 54.1**	**+0.6**
MONV	**Montecano**	**5.95**	**31**	*e*P	Pn	**10 23 01.4**	**+0.7**

PGC 30 10:23:57.0±0.9, 59°.04N×137°.90W, h1km, ML2.5/5, 95km east of Yakutat, Ak Southeastern Alaska, Southeastern Alaska

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PLBC	**Pleasant Camp**	**0.89**	**61**	P	Pg	10 24 13.1	-0.9
PLBC				S	Sg	10 24 25.0	-0.7
PNL	**Peninsula**	**1.00**	**310**	P	Pg	10 24 14.5	-1.6
PNL				S	Sg	10 24 27.9	-1.2
PCA	**Pinnacle**	**1.61**	**313**	Pn	Pn	10 24 23.7	-2.8
PCA				Sg	Sn	10 24 45.1	-2.8
BESE	**Bessie Mountai**	**1.65**	**105**	Pn	Pn	10 24 25.1	-2.0
BESE				Sg	Sn	10 24 47.2	-1.7
WHY	**Whitehorse**	**2.23**	**42**	Pn	Pn	10 24 34.3	-0.8
WHY				Sg	Sb	10 25 05.7	-0.5
CTGM	**Chitina Glacie**	**2.59**	**320**	Pn	Pn	10 24 38.6	-1.6
CTGM				Sn	Sn	10 25 10.7	-1.7
YUK3	**Moose Creek**	**3.03**	**336**	Pn	Pn	10 24 45.6	-0.7
YUK2	**White River**	**3.12**	**333**	Pn	Pn	10 24 47.9	+0.5
BVCY	**Beaver Creek**	**3.69**	**338**	Pg	Pb	10 25 02.1	-0.8
DLBC	**Dease Lake**	**4.14**	**95**	Pn	Pn	10 25 00.5	-0.9
DLBC				Pg	Pb	10 25 11.7	+1.0
DLBC				Sn	Sn	10 25 49.9	-0.6
DLBC				Sg	Sb	10 26 04.2	+3.0
DAWY	**Dawson**	**5.10**	**353**	Pn	Pn	10 25 14.1	-0.4
DAWY				Sn	Sn	10 26 12.2	-1.7
NDB	**Naden**	**5.78**	**150**	Pn	Pb	10 25 34.0	-4.5

NIED ***30*** *10:28:00, 45°.40N×151°.20E, h38km, Mw4.2 Best double couple: Mo2.46000×10^15 NP1:ϕs59.00000°, δ48.00000°, λ134.00000°. NP2:ϕs184.00000°, δ58.00000°, λ53.00000°.*

IDC ***30*** *10:28:44.0±0.6, 45°.40N×151°.10E, h0km, mb4.2/16, mb1 4.4/21, mb1mx4.2/46, mbtmp4.2/21, ML4.2/5, MS3.4/9, Ms1 3.4/9, ms1mx3.1/40, Error ellipse: s-maj=19.1km s-min=13.7km az=129.0*

JMA ***30*** *10:28:47.4±0.5, 45°.44N×151°.24E, h30km, M4.8*

ISCJB ***30*** *10:28:47.3±0.3, 45°.26N±0°.04×151°.13E±0°.04, h35km, mb4.6/64, MS3.5/9, Error ellipse: s-maj=6.9km s-min=2.4km az=149.1*

SKHL ***30*** *10:28:47.8±0.3, 45°.03N×151°.38E, h51km±8km, mb5.0/5*

MOS ***30*** *10:28:49.0±0.9, 45°.38N×151°.02E, h46km, mb4.7/24, Error ellipse: s-maj=8.2km s-min=5.7km az=81.6*

NEIC ***30*** *10:28:52.5±0.6, 45°.40N×151°.04E, h65km±5km, mb4.7/33, Error ellipse: s-maj=8.6km s-min=3.9km az=139.0*

BJI ***30*** *10:28:52.5, 45°.77N×150°.96E, h80km, mb4.5/24, mB5.0/17, Ms4.6/8, Ms7 4.5/7*

**ISC 30 10:28:48.4±0.4, 45°.17N

YUK A A 10 30 41.6
comp=E,170nm,0.4s
NEM2 Nemuro 2 4.28 247 P **Pn** **10 29 52.2 +1.3**
NEM2 *e*S **Sn** **10 30 39.8 +0.3**
JNK Nakash 4.87 253 P **Pn** **10 30 01.4 +2.3**
JNK *e*S **Sn** **10 30 55.8 +1.6**
JAK Akkeshi 5.12 247 P **Pn** **10 30 03.8 +1.2**
JAK *e*S **Sn** **10 31 00.1 -0.4**
JTKR Abashiri--Toko 5.30 259 P **Pn** **10 30 08.3 +3.2**
JAR Ashorobuto 5.62 253 P **Pn** **10 30 12.2 +2.8**
JAR *e*S **Sn** **10 31 14.8 +2.2**
JMP Maruseppu 5.68 261 P **Pn** **10 30 13.9 +3.7**
JOB Onbets 5.73 249 P **Pn** **10 30 12.9 +2.0**
YSS Yuzh-Sakhalins 6.10 290⇓ *e*PN **Pn** **10 30 18.4 +2.4**
YSS *e*S **Sn** **10 31 25.9 +1.4**
YSS pmax pmax
comp=Z,30nm,0.8s
YSS smax smax
comp=E,20nm,0.9s
YSS Yuzh-Sakhalins 6.10 290 *e*P **Pn** **10 30 18.4 +2.4**
YSS *e*S **Sn** **10 31 25.9 +1.4**
YSS A A 10 31 28.4
comp=E,40nm,0.9s
YSS Yuzh-Sakhalins 6.10 290 *e*Pn **Pn** **10 30 17.1 +1.1**
YSS *e*Sn **Sn** **10 31 25.5 +1.0**
JKK2 Kamakawa 2 6.14 261 P **Pn** **10 30 20.2 +3.6**
JCH Churui 6.17 248 P **Pn** **10 30 18.7 +1.7**
JCH *e*S **Sn** **10 31 26.9 +0.6**
JKA Kamikawa-asahi 6.18 263 *e*P **Pn** **10 30 21.1 +3.9**
ASAJ Asahikawa 6.18 263 Pn **Pn** **10 30 21.1 +3.9**
comp=E,4.2nm,0.3s,baz=69,slow=24,SNR=37
ASAJ Asahikawa 6.18 263 P **Pn** **10 30 21.1 +3.9**
ASAJ Asahikawa 6.18 263 *e*Pn **Pn** **10 30 20.7 +3.5**
SKR Severo-Kuril's 6.45 29 *e*PN **Pn** **10 30 21.5 +0.8**
SKR pmax pmax
comp=Z,300nm,1.2s
SKR pmax pmax
comp=Z,260nm,0.9s
SKR MLR MLR
comp=Z,600nm,21.0s
SKR Severo-Kuril's 6.45 29 *e*P **Pn** **10 30 21.6 +0.8**
SKR AMB AMB 10 30 24.1
comp=Z,300nm,1.0s
SKR AMB AMB 10 30 24.9
comp=Z,260nm,0.9s
SKR *e*S **Sn** **10 31 29.8 -3.3**
SKR AMS AMS 10 32 35.8
comp=Z,600nm,22.0s
ERM Erimo 6.60 244⇑ *i*PN **Pn** **10 30 27.0 +4.2**
ERM Erimo 6.60 244 *e*P **Pn** **10 30 27.0 +4.2**
ERM Erimo 6.60 244 *e*Pn **Pn** **10 30 26.7 +3.9**
JEM Erimo 6.60 244 *e*S **Sn** **10 31 35.9 -0.8**
JNBK Urakawa-nobuka 6.73 248 P **Pn** **10 30 25.8 +1.2**
JBT2 Biratori 2 6.77 252 P **Pn** **10 30 27.1 +1.9**
UGL Uglegorsk 7.32 306 *e*PN **Pn** **10 30 31.8 -0.9**
UGL Uglegorsk 7.32 306 *e*P Pn 10 30 37.8 +5.1
JNB Noboribetsu 7.79 253 P **Pn** **10 30 41.2 +2.0**
JKB Kayabe 8.04 249 P **Pn** **10 30 44.0 +1.4**
JANG Nango 8.55 239 P **Pn** **10 30 48.9 -0.7**
JANG *e*S **Sn** **10 32 18.6 -6.1**
JTM Tenmabayashi 8.58 243 P **Pn** **10 30 50.7 +0.6**
JTM *e*S **Sn** **10 32 21.6 -4.0**
JTH Tanohata 8.61 236 *e*S **Sn** **10 32 19.9 -6.4**
JSR Shiriuchi 8.62 249 P **Pn** **10 30 51.9 +1.4**
JOSM Okushiri--Mats 9.01 254 P **Pn** **10 30 58.1 +2.3**
PEA0B Petropavlovsk- 9.03 26 *e*Pn **Pn** **10 30 58.8 +2.6**
PETK Petropavlovsk- 9.03 26 Pn **Pn** **10 30 55.6 -0.6**
comp=Z,0.9nm,0.3s,baz=182,slow=11,SNR=10
PETK LR LR 10 34 29.1
comp=Z,221nm,18.5s,baz=204,slow=39
PETK Petropavlovsk- 9.03 26 *e*PN **Pn** **10 30 58.3 +2.1**
PETK Petropavlovsk- 9.03 26 *e*Pn **Pn** **10 30 58.3 +2.1**
PEA1 Petropavlovsk- 9.03 26 *e*Pn **Pn** **10 30 55.6 -0.6**
PET Petropavlovsk 9.27 29 *e*PN **Pn** **10 31 01.2 +1.7**
PET MLR MLR
comp=Z,100nm,15.0s
PET Petropavlovsk 9.27 29 *e*P **Pn** **10 31 01.2 +1.7**
PET AMB AMB 10 31 04.7
comp=Z,20nm,0.7s
PET *e*S **Sn** **10 32 36.5 -5.9**
PET A A 10 32 43.3
comp=Z,20nm,0.6s
PET AMS AMS 10 35 20.0
comp=Z,110nm,15.0s
PET Petropavlovsk 9.27 29 *e*Pn **Pn** **10 31 01.4 +2.0**
JRG Rokugo 9.69 237 P **Pn** **10 31 05.8 +0.6**
JRG *e*S **Sn** **10 32 49.3 -3.4**
MJA0 Matsu Arr-Jizo 13.01 233 *e*PN **Pn** **10 31 51.9 +1.2**
MAJO Matsushiro 13.03 233⇓ *e*PN **Pn** **10 31 54.2 +3.3**
MAJO Matsushiro 13.03 233 *e*P **Pn** **10 31 54.2 +3.3**
MAJO Matsushiro 13.03 233 *e*Pn **P** **10 31 57.6 -3.3**
MJAR Matsushiro Arr 13.03 233 Pn **Pn** **10 31 50.3 -0.6**
comp=Z,0.3nm,0.3s,baz=30,slow=14,SNR=6.2
MJB9 Matsu-Tunnel 13.03 233 *e*Pn **P** **10 31 57.5 -3.4**
USRK Ussuriysk Ar. 13.66 273 Pn **Pn** **10 32 00.9 +1.4**
comp=Z,0.5nm,0.3s,baz=76,slow=12,SNR=5.3
KLR Kul'dur 13.79 294 Pn **P** **10 32 06.8 -2.4**
comp=Z,0.0nm,0.3s,baz=115,slow=15,SNR=3.7
MA2 Magadan 14.43 359 Pn **Pn** **10 32 09.1 -0.8**
comp=Z,0.9nm,0.3s,baz=182,slow=12,SNR=4.3
SEY Seymchan 17.81 2 P **Pn** **10 32 51.3 -1.9**
comp=Z,0.1nm,0.3s,baz=162,slow=8.1,SNR=6.3
SEY Seymchan 17.81 2 *ce*P **P** **10 32 53.4 -0.3**
SEY Seymchan 17.81 2 *e*P **P** **10 32 53.4 -0.3**
CN2 Changchun 18.36 275 *e*P **Pn** **10 33 02.0 +1.9**
KSRS Korea Array 19.02 254 P **Pn** **10 33 09.6 +1.5**
comp=Z,0.3nm,0.3s,baz=63,slow=10,SNR=5.9
KSRS Korea Array 19.02 254 *e*P **Pn** **10 33 09.8 +1.7**
KS15 Wonju Array Si 19.06 254 *e*P **P** **10 33 07.2 -0.3**
CBIJ Chichi jima 19.41 205 *e*P **Pn** **10 33 14.5 +1.7**
comp=Z,84nm,0.9s
JNU Nakatsue 19.73 239 P **Pn** **10 33 17.6 +1.0**
comp=Z,0.3nm,0.3s,baz=351,slow=13,SNR=3.2
JNU LR LR 10 41 22.6
comp=Z,86nm,21.6s,baz=98,slow=38
JNU Nakatsue 19.73 239 *e*P **Pn** **10 33 17.6 +1.0**
comp=Z,49nm,1.3s
YAK Yakutsk 20.98 331 P **P** **10 33 28.7 +0.5**
YAK pmax pmax
comp=Z,15nm,0.9s
YAK Yakutsk 20.98 331 *e*P **P** **10 33 28.6 +0.4**
YAK Yakutsk 20.98 331 *e*P **P** **10 33 28.0 -0.2**
comp=Z,22nm,0.5s
ADK Adak 22.21 61 P **P** **10 33 44.3 +2.7**
ADK pmax pmax
comp=Z,100nm,1.3s
JOW Kunigami 25.87 233 *e*P **P** **10 34 17.1 +0.3**
comp=Z,104nm,1.8s
SPIA Saint Paul Isl 26.64 49 *e*P **P** **10 34 23.6 +0.2**
comp=Z,2µm,2.0s
NJ2 Nanjing 28.22 254 *e*P P 10 34 45.5 +7.6
NJ2 pmax pmax
comp=Z,15nm,0.6s
H11N2 WAKE ISLAND Hy 28.53 148 T T 11 06 24.8
baz=337,slow=76,SNR=400
H11N1 WAKE ISLAND Hy 28.55 148 T T 11 06 22.8
baz=337,slow=76,SNR=337
H11N3 WAKE ISLAND Hy 28.55 148 T T 11 06 26.0
baz=337,slow=76,SNR=365
TIXI Tiksi 28.62 345 P **P** **10 34 40.2 -0.8**
TIXI pmax pmax
comp=Z,11nm,1.1s
TIXI Tiksi 28.62 345 *e*P **P** **10 34 40.2 -0.8**
AKUT Akutan 28.90 56 *e*P **P** **10 34 43.8 +0.2**
comp=Z,451nm,1.6s
HHC Hu-ho-hao-te 29.05 276 *e*P **P** **10 34 45.3 0.0**
HHC PP **PnPn** **10 35 39.0 +0.9**
HHC S **S** **10 39 32.3 -2.2**
HHC SS **SnSn** **10 40 58.5 -1.0**
HHC pmax pmax
comp=Z,12nm,1.1s
HHC pmax pmax
comp=Z,81nm,4.7s
HHC LR LR
comp=Z,190nm,9.4s
HHC LR LR
comp=Z,220nm,13.6s
HHC LR LR
comp=Z,90nm,13.6s
H11S1 WAKE ISLAND Hy 29.58 149 T T 11 07 39.0
baz=338,slow=76,SNR=344
H11S3 WAKE ISLAND Hy 29.59 149 T T 11 07 39.6
baz=338,slow=76,SNR=270
H11S2 WAKE ISLAND Hy 29.60 149 T T 11 07 40.4
baz=338,slow=76,SNR=246
TLY Talaya 31.71 299 LR LR 10 48 54.9
comp=Z,58nm,19.7s,baz=82,slow=38
IMAR Indian Mountai 35.85 35 *e*P **P** **10 35 44.0 -0.3**
KDAK Kodiak Island 36.17 49 P **P** **10 35 47.3 +0.1**
comp=Z,11nm,0.9s,baz=270,slow=4.0,SNR=5.2
KDAK Kodiak Island 36.17 49 *e*P **P** **10 35 46.8 -0.3**
comp=Z,19nm,1.0s
CAST Castle Rocks 36.33 39 *e*P **P** **10 35 49.0 +0.5**
comp=Z,4.7nm,0.8s
LZH Lanzhou 36.57 273 *e*P **P** **10 35 52.8 +1.8**
LZH pP sP 10 36 11.0 +5.6
LZH sP pP 10 36 19.0 +18
LZH pmax pmax
comp=Z,19nm,1.1s
KTH Kantishna Hill 36.86 39 *e*P **P** **10 35 53.7 +0.6**
comp=Z,15nm,0.9s
COLD Coldfoot 37.41 33 *e*P **P** **10 35 57.0 -0.6**
comp=Z,3.8nm,0.8s
MCK McKinley 37.75 39 *e*P **P** **10 36 00.6 +0.1**
MCK pmax pmax
comp=Z,8.0nm,1.0s
MCK McKinley 37.75 39 *e*P **P** **10 36 00.7 +0.2**
MCK McKinley 37.75 39 *e*P **P** **10 36 00.6 +0.1**
comp=Z,7.7nm,1.0s
RND Reindeer 37.78 40 *e*P **P** **10 36 00.7 -0.2**
RND pmax pmax
comp=Z,12nm,1.1s
RND Reindeer 37.78 40 *e*P **P** **10 36 00.7 -0.2**
comp=Z,12nm,1.1s
GTA Gaotai 37.87 280 *e*P **P** **10 36 03.0 +1.0**
GTA pP sP 10 36 20.8 +4.4
GTA sP pP 10 36 30.3 +18
GTA S **S** **10 41 49.0 -2.0**
GTA pmax pmax
comp=Z,3.0nm,0.9s
GTA pmax pmax
comp=Z,100nm,5.1s
GTA LR LR
comp=Z,130nm,17.6s
GTA LR LR
comp=Z,170nm,17.6s
GTA LR LR
comp=Z,100nm,17.6s
SML Sawmill 38.06 42 *e*P **P** **10 36 03.6 +0.4**
SML pmax pmax
comp=Z,23nm,0.7s
SML Sawmill 38.06 42 *e*P **P** **10 36 03.6 +0.4**
comp=Z,23nm,0.7s
WRH Wood River Hil 38.12 38 *e*P **P** **10 36 03.9 +0.3**
comp=Z,19nm,1.6s
COLA College 38.23 37 *e*P **P** **10 36 05.2 +0.7**
COLA pmax pmax
comp=Z,11nm,0.6s
COLA College 38.23 37 *e*P **P** **10 36 05.2 +0.7**
COLA College 38.23 37 *e*P **P** **10 36 05.2 +0.7**
comp=Z,11nm,0.6s
CCB Clear Creek Bu 38.25 37 *e*P **P** **10 36 04.4 -0.3**
comp=Z,23nm,2.0s
DHY Denali Highway 38.46 40 *e*P **P** **10 36 06.7 0.0**
comp=Z,5.2nm,0.7s
HDA Harding Lake 38.62 38 *e*P **P** **10 36 07.8 0.0**
comp=Z,7.7nm,0.6s
ILAR Eielson Array 38.64 37 P **P** **10 36 07.3 -0.6**
comp=Z,4.4nm,1.1s,baz=260,slow=7.6,SNR=32
ILAR LR LR 10 53 56.8
comp=Z,42nm,18.9s,baz=285,slow=39
ILB Eielson Array 38.64 37 *e*P **P** **10 36 07.6 -0.4**
IL1 Eielson Array 38.64 37 *e*P **P** **10 36 07.2 -0.8**
FYU Fort Yukon 39.33 34 *e*P **P** **10 36 14.7 +1.0**
comp=Z,46nm,1.6s
PAX Paxson 39.33 40 *e*P **P** **10 36 14.7 +0.8**
PAX pmax pmax
comp=Z,7.0nm,0.9s
PAX Paxson 39.33 40 *e*P **P** **10 36 14.7 +0.8**
comp=Z,7.2nm,0.9s
CD2 Chengdu 39.38 266 *e*P **P** **10 36 13.5 -1.1**
CD2 pP sP 10 36 30.0 +1.0
CD2 sP pP 10 36 39.5 +15
CD2 S S 10 42 03.5 -10
CD2 SS **SS** **10 44 58.0 -10**
CD2 pmax pmax
comp=Z,10.0nm,1.0s
NRIK Noril'sk 39.42 330 LR LR 10 52 39.9
comp=Z,24nm,20.9s,baz=96,slow=37
BMRM Bremner River 39.92 43 *e*P **P** **10 36 19.0 +0.2**
comp=Z,16nm,1.0s
CRQM Cirque 40.66 43 *e*P **P** **10 36 26.4 +1.3**
comp=Z,27nm,0.9s
EGAK Eagle 41.09 37 *e*P **P** **10 36 27.6 -0.7**
comp=Z,12nm,1.0s
DGZ Jazzzor, Alta 42.18 300 P **P** **10 36 39.3 +1.7**
ZALV Zalesovo Beam 42.43 307 PcP **PcP** **10 38 32.8 +0.9**
comp=Z,0.5nm,0.3s,baz=71,slow=4.9,SNR=4.2
ZALV LR LR 10 55 41.1
comp=Z,41nm,18.6s,baz=70,slow=38
KMI Kunming 43.60 259 P **P** **10 36 51.0 +1.5**
KMI pmax pmax
comp=Z,21nm,0.5s
INK Inuvik 43.72 31 P **P** **10 36 50.0 +0.3**
comp=Z,7.6nm,0.8s,baz=306,slow=5.4,SNR=15
INK Inuvik 43.72 31 *e*P **P** **10 36 49.9 +0.3**
INK pmax pmax
comp=Z,10.0nm,0.9s
INK Inuvik 43.72 31 *e*P **P** **10 36 49.8 +0.2**
INK Inuvik 43.72 31 *e*P **P** **10 36 49.9 +0.2**
comp=Z,9.6nm,0.9s
WMQ Urumqi 44.23 292 P **P** **10 36 54.8 +0.7**
WMQ pP sP 10 37 12.5 +3.9
WMQ sP pP 10 37 21.0 +17
WMQ pmax pmax
comp=Z,9.0nm,0.9s
WMQ pmax pmax
comp=Z,100nm,4.9s
WHY Whitehorse 44.66 42 *e*P **P** **10 36 57.8 +0.4**
comp=Z,8.2nm,0.9s
MK32 Makanchi Array 46.45 298 *e*P **P** **10 37 12.7 +1.0**
MK32 *e*PcP **PcP** **10 38 46.7 +0.8**
MKAR Makanchi Array 46.45 298 P **P** **10 37 12.7 +1.0**
comp=Z,0.5nm,0.6s,baz=80,slow=7.1,SNR=4.7
MKAR PcP **PcP** **10 38 46.7 +0.8**
comp=Z,0.8nm,0.7s,baz=80,slow=3.4,SNR=3.2
MKAR LR LR 10 57 49.7
comp=Z,58nm,18.4s,baz=59,slow=38
YKA Yellowknife Ar 53.01 35 P **P** **10 38 01.4 +0.1**
comp=Z,3.0nm,0.9s,baz=309,slow=6.9,SNR=3.3
SPA0 Spitsbergen Ar 53.92 350 *e*P **P** **10 38 06.2 -1.5**
SPITS Spitsbergen Ar 53.92 350 P **P** **10 38 06.2 -1.5**
comp=Z,4.7nm,0.8s,baz=67,slow=8.5,SNR=5.2
KSH Kashi 53.98 292 *e*P **P** **10 38 11.0 +2.1**
KSH pP sP 10 38 30.0 +6.4
KSH PP **PP** **10 40 14.0 +3.8**
KSH S **S** **10 45 39.0 -3.3**
KSH sS sS 10 46 12.0 +12
KSH SS **SS** **10 49 21.0 -2.4**
KSH pmax pmax
comp=Z,76nm,5.3s
KSH LR LR
comp=Z,110nm,5.7s
KSH LR LR
comp=Z,80nm,4.8s
KSH LR LR
comp=Z,220nm,7.6s
DAG Danmarks Havn 58.16 357 *i* P **P** **10 38 36.4 -1.6**
DAG Danmarks Havn 58.16 357 *e*P **P** **10 38 36.4 -1.6**
ABKAR Akbulak array 58.38 310 *e*P **P** **10 38 39.3 -0.6**
comp=Z,42nm,0.3s
SUMG Summit 62.36 3 *i* P **P** **10 39 07.2 -0.1**
comp=Z,25nm,0.9s
SUMG Summit 62.36 3 *i* P **P** **10 39 07.2 -0.1**
SUMG pmax pmax
comp=Z,25nm,0.9s
SUMG Summit 62.36 3 *e*P **P** **10 39 06.6 -0.7**
comp=Z,25nm,0.9s
FFC Flin Flon 62.83 39 *i* P **P** **10 39 11.8 +1.6**
FFC Flin Flon 62.83 39 *e*P **P** **10 39 11.8 +1.6**
FIA0 FINESS Array S 64.87 334 *e*P **P** **10 39 22.6 -0.9**
FIA0 FINESS Array S 64.87 334 *e*P **P** **10 39 22.6 -0.9**
FINES FINESS Array B 64.87 334 P **P** **10 39 22.6 -0.9**
comp=Z,2.2nm,0.5s,baz=31,slow=8.3,SNR=14
WR1 Warramunga Arr 66.58 197 *e*P **P** **10 39 36.5 +1.5**
comp=Z,19nm,1.9s
WRA Warramunga Arr 66.58 197 P **P** **10 39 36.5 +1.5**
comp=Z,0.9nm,0.8s,baz=16,slow=6.8,SNR=7.2
WRA Warramunga Arr 66.58 197 *e*P **P** **10 39 37.0 +2.0**
WRA pmax pmax
comp=Z,1.0nm,0.7s
WRA Warramunga Arr 66.58 197 *e*P **P** **10 39 37.0 +2.0**
PD31 Pinedale Array 66.80 52 *e*P **P** **10 39 37.0 +0.5**
PDAR Pinedale Array 66.80 52 P **P** **10 39 37.3 +0.8**
comp=Z,1.2nm,0.8s,baz=276,slow=1.7,SNR=9.7
PDAR Pinedale Array 66.80 52 *e*P **P** **10 39 36.4 -0.1**
LCMT Little Creek M 68.39 59 *e*P **P** **10 39 47.5 +1.0**
comp=Z,1.9nm,0.8s
NC405 NORSAR Array S 69.08 340 *e*P **P** **10 39 49.6 -0.7**
NB2 NORSAR Subarra 69.27 340 P **P** **10 39 50.3 -1.2**
comp=Z,2.2nm,0.6s,baz=27,slow=6.5
NOA NORSAR Array B 69.27 340 P **P** **10 39 50.5 -0.9**
comp=Z,3.5nm,0.7s,baz=29,slow=6.3,SNR=15
NOA LR LR 11 13 12.4
comp=Z,22nm,18.4s,baz=35,slow=39
ASAR Alice Springs 70.28 197 P **P** **10 40 00.8 +2.8**
comp=Z,0.8nm,0.7s,baz=11,slow=5.1,SNR=11
ASAR Alice Springs 70.28 197 *e*P **P** **10 40 01.3 +3.2**
ASAR pmax pmax
comp=Z,1.0nm,0.7s
ASAR Alice Springs 70.28 197 *e*P **P** **10 40 01.3 +3.2**
KBZ Khabaz 70.95 313 P **P** **10 40 02.5 +0.6**
comp=Z,7.9nm,0.8s,baz=86,slow=2.7,SNR=11
AKASG Malin Array Be 72.08 325 P **P** **10 40 07.2 -1.5**
comp=Z,1.1nm,0.3s,baz=36,slow=6.6,SNR=5.8
AKBB Malin Array Si 72.08 325 *e*P **P** **10 40 08.0 -0.7**
AKBB Malin Array Si 72.08 325 *e*P **P** **10 40 08.0 -0.7**
ECSD EROS Data Cent 72.97 45 *e*P **P** **10 40 14.3 +0.1**
comp=Z,6.6nm,1.1s
SORM Soroca 74.44 324⇑ *i*P **P** **10 40 22.4 -0.3**
SORM Soroca 74.44 324⇑ P **P** **10 40 22.4 -0.3**
KWP Kalwaria Pacla 75.46 328 *e*P **P** **10 40 28.9 +0.4**
KWP Kalwaria Pacla 75.46 328 *e*P **P** **10 40 28.9 +0.4**
BUR08 Bucovina Ar. S 76.11 326 *e*P **P** **10 40 32.3 -0.1**
BURAR Bucovina Array 76.13 326⇑ *i*P **P** **10 40 32.3 -0.2**
BURAR Bucovina Array 76.13 326⇑ P **P** **10 40 32.3 -0.2**
STHS Stebnicka Huta 76.17 329 *e*P **P** **10 40 32.9 +0.2**
STHS pmax pmax
comp=Z,6.0nm,0.7s
STHS Stebnicka Huta 76.17 329 *e*P **P** **10 40 32.9 +0.2**
NIE Niedzica 76.52 329 *e*P **P** **10 40 35.3 +0.7**
NIE Niedzica 76.52 329 *e*P **P** **10 40 35.3 +0.7**
CRVS Cervenica-Dubn 76.52 329 *e*P **P** **10 40 34.2 -0.4**
CRVS Cervenica-Dubn 76.52 329 *e*P **P** **10 40 34.2 -0.4**
KSP Ksiaz 76.68 332 *e*P **P** **10 40 35.6 +0.1**
KSP Ksiaz 76.68 332 *e*P **P** **10 40 35.6 +0.1**
LANS Liptovska Anna 77.04 330 *e*P **P** **10 40 38.5 +0.9**
LANS Liptovska Anna 77.04 330 *e*P **P** **10 40 38.5 +0.9**
MORC Moravsky Berou 77.18 331⇑ *i*P **P** **10 40 38.6 +0.3**
MORC Moravsky Berou 77.18 331 *e*P **P** **10 40 38.4 0.0**
MORC pmax pmax
comp=Z,28nm,0.8s
MORC Moravsky Berou 77.18 331 *e*P **P** **10 40 38.4 0.0**
comp=Z,26nm,0.8s
KRLC Kraliky 77.18 332 *e*P **P** **10 40 38.3 -0.1**
KRLC Kraliky 77.18 332 *e*P **P** **10 40 38.3 -0.1**
CLL Collm 77.32 335 *i* P **P** **10 40 38.3 -0.7**
CLL pmax pmax
comp=Z,11nm,0.9s
CLL Collm 77.32 335 *e*P **P** **10 40 37.6 -1.4**
CLL Collm 77.32 335 *i* P **P** **10 40 38.3 -0.7**
comp=Z,11nm,0.9s
CLL Collm 77.32 335 *e*P **P** **10 40 38.0 -1.0**
comp=Z,9.7nm,0.9s
MLR Muntele Rosu 77.55 324⇓ *i*P **P** **10 40 41.6 +1.0**
MLR Muntele Rosu 77.55 324⇓ P **P** **10 40 41.6 +1.0**
DRGR 77.79 327⇑ *i*P **P** **10 40 41.7 -0.2**
DRGR 77.79 327⇑ P **P** **10 40 41.7 -0.2**
VYHS Vyhne 77.82 330 *e*P **P** **10 40 41.8 -0.1**
VYHS pmax pmax
comp=Z,2.0nm,0.9s
VYHS Vyhne 77.82 330 *e*P **P** **10 40 41.8 -0.1**
VOIR 77.96 324⇑ *i*P **P** **10 40 43.1 +0.3**
VOIR 77.96 324⇑ P **P** **10 40 43.1 +0.3**
GOPC GO Pecny, Ondr 77.97 333 *e*P **P** **10 40 42.8 0.0**
GOPC GO Pecny, Ondr 77.97 333 *e*P **P** **10 40 42.8 0.0**
PRU Pruhonice 77.99 333 *e*P **P** **10 40 42.9 +0.1**
PRU Pruhonice 77.99 333 *e*P **P** **10 40 42.9 +0.1**
WMOK Wichita Mounta 78.41 52 *e*P **P** **10 40 41.7 -3.8**
WMOK pmax pmax
comp=Z,5.0nm,0.7s
WMOK Wichita Mounta 78.41 52 *e*P **P** **10 40 41.7 -3.8**
comp=Z,5.2nm,0.7s
BR101 Keskin Array S 78.58 316 *e*P **P** **10 40 46.6 +0.2**
BRTR Keskin Array B 78.58 316 P **P** **10 40 46.6 +0.2**
comp=Z,1.9nm,0.9s,baz=96,slow=5.1,SNR=4.6
SIRR Siria 78.63 327⇑ *i*P **P** **10 40 43.9 -2.6**
GZR Gura Zlata 78.92 326⇑ *i*P **P** **10 40 47.8 -0.3**
GZR Gura Zlata 78.92 326⇑ P **P** **10 40 47.8 -0.3**
KHC Kasperske Hory 79.04 333 *e*P **P** **10 40 48.9 +0.2**
KHC Kasperske Hory 79.04 333 *e*P **P** **10 40 48.9 +0.2**
GEC2 GERESS Array S 79.25 333 *e*P **P** **10 40 49.7 -0.2**
GEC2 pmax pmax
comp=Z,4.0nm,0.8s
GEC2 GERESS Array S 79.25 333 *e*P **P** **10 40 49.7 -0.2**
comp=Z,4.0nm,0.8s
GERES GERESS Array B 79.25 333 P **P** **10 40 49.7 -0.2**
comp=Z,1.6nm,0.5s,baz=39,slow=5.1,SNR=7.7
GERES GERESS Array B 79.25 333 *e*P **P** **10 40 49.6 -0.3**
CONA Conrad Observa 79.33 331 *i* P **P** **10 40 49.0 -1.4**
comp=Z,4.1nm,0.7s
LTX Lajitas 79.48 59 *e*P **P** **10 40 51.7 +0.2**
LTX Lajitas 79.48 59 *e*P **P** **10 40 51.7 +0.2**
TXAR Lajitas Array 79.48 59 P **P** **10 40 51.7 +0.2**
comp=Z,0.8nm,0.6s,baz=288,slow=4.1,SNR=8.0
MOA Molln 79.94 332 *i* P **P** **10 40 52.3 -1.2**
comp=Z,1.5nm,0.5s
ARSA Arzberg 80.04 331 *i* P **P** **10 40 50.8 -3.4**
comp=Z,2.4nm,0.8s
SOKA Soboth 80.70 331 *i* P **P** **10 40 55.4 -2.4**
comp=Z,8.3nm,1.3s
KBA Koelnbreinsper 80.92 332 *i* P **P** **10 40 57.5 -1.5**
comp=Z,5.0nm,0.8s
VTS Vitosha 81.05 324⇓ *i*P **P** **10 41 00.3 +0.5**
VTS Vitosha 81.05 324⇓ P **P** **10 41 00.3 +0.5**
MIAR Mount Ida 81.40 49 *e*P **P** **10 41 01.6 0.0**
MIAR pmax pmax
comp=Z,6.0nm,0.8s
MIAR Mount Ida 81.40 49 *e*P **P** **10 41 01.6 0.0**
comp=Z,6.3nm,0.8s
MOTA Moosalm 81.40 334 *i* P **P** **10 40 58.5 -3.1**
comp=Z,2.0nm,0.5s
FETA Feichten 81.81 334 *e*P **P** **10 41 00.9 -2.9**
comp=Z,4.5nm,1.2s
SWET Sewanee 84.78 44 *e*P **P** **10 41 19.0 -0.1**
comp=Z,7.1nm,0.7s
URZ Urewera 86.29 160 LR LR 11 15 07.1
comp=Z,78nm,19.9s,baz=60,slow=32
PLCA Paso Flores 149.41 97 PKPbc **PKPbc** **10 48 32.8 -0.6**
comp=Z,1.2nm,0.9s,baz=275,slow=3.6,SNR=5.9
PLCA Paso Flores 149.41 97 *e*PKPbc **PKPbc** **10 48 32.3 -1.0**
CPUP Villa Florida 150.45 60 PKPbc **PKPbc** **10 48 36.5 +0.4**
comp=Z,2.2nm,0.8s,baz=10,slow=2.4,SNR=4.4

*DDA **30** 10:30:49.5, 37°.61N×31°.80E, h7km, Md2.7*
*CSEM **30** 10:30:52.8±0.2, 37°.66N×31°.99E, h2km, MD2.5, Error ellipse: s-maj=4.8km s-min=3.4km az=118.0*
*ISK **30** 10:30:52.4, 37°.66N×32°.01E, h5km, MD2.5*
*ISCJB **30** 10:30:53.1±0.7, 37°.67N±0°.04×32°.01E±0°.06, h15km, Error ellipse: s-maj=7.3km s-min=5.2km az=136.6*

ISC 30 10:30:53.1±1.0, **37°.67N**±0°.04×**32°.01E**±0°.03, **h15km**, **n16, σ0s59/25**, **Turkey**

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
KMER	**Konya-Meram**	**0.30**	**71**	*i* P		**Pg**	**10 30 58.6**	**-1.0**
KMER				*i* S		**Sg**	**10 31 03.2**	**-0.8**
KMER	**Konya-Meram**	**0.30**	**71**	P		**Pg**	**10 30 58.6**	**-1.0**
KMER				S		**Sg**	**10 31 03.2**	**-0.8**
KONT	**Konya--Tatoy**	**0.39**	**46**	*e*PG		**Pg**	**10 31 00.7**	**-0.4**
KONT				*e*SG		**Sg**	**10 31 07.0**	**+0.4**
KONT	**Konya--Tatoy**	**0.39**	**46**	*i* P		**Pg**	**10 31 00.7**	**-0.4**
KONT				*i* S		**Sg**	**10 31 06.9**	**+0.4**
KONT	**Konya--Tatoy**	**0.39**	**46**	*e*Pg		**Pg**	**10 31 00.7**	**-0.4**
KONT				*e*Sg		**Sg**	**10 31 07.0**	**+0.4**
LADK	**Ladik-KONYA**	**0.60**	**28**	*e*PG		**Pg**	**10 31 04.7**	**-0.3**
LADK				*e*SG		**Sg**	**10 31 13.6**	**+0.6**
LADK	**Ladik-KONYA**	**0.60**	**28**	*e*Pg		**Pg**	**10 31 04.7**	**-0.3**
LADK				*e*Sg		**Sg**	**10 31 13.6**	**+0.6**
SUTC	**Sutluce-Ispart**	**0.82**	**257**	*e*PG		**Pg**	**10 31 08.6**	**-0.5**
SUTC	**Sutluce-Ispart**	**0.82**	**257**	*e*Pg		**Pg**	**10 31 08.6**	**-0.5**
KDHN	**Kadinhani**	**0.85**	**6**	*i* P		**Pb**	**10 31 09.3**	**-0.4**

KDHN				*i* S		**Sg**	**10 31 21.3 +0.3**	
KDHN	**Kadinhani**	**0.85**	**6**	P		**Pb**	**10 31 09.3 -0.4**	
KDHN				S		**Sg**	**10 31 21.3 +0.3**	
BAGO	**Egridir - ISPA**	**1.01**	**289**	*i* P		**Pb**	**10 31 11.9 -0.5**	
BERE	**Bereket-Mersin**	**1.64**	**143**	*e*Pn		**Pn**	**10 31 22.4 +0.8**	
BERE	**Bereket-Mersin**	**1.64**	**143**	*e*Pn		**Pn**	**10 31 22.4 +0.8**	
TEVE	**Tevekalti-Mers**	**1.69**	**137**	*e*PN		**Pb**	**10 31 23.9 +0.1**	
TEVE	**Tevekalti-Mers**	**1.69**	**137**	*e*Pn		**Pb**	**10 31 24.0 +0.1**	

*DDA **30** 10:31:43.9,39°.26N×28°.36E, h7km, Md2.8*
*ISK **30** 10:31:43.8,39°.24N×28°.32E, h8km, ML2.5*
*ISCJB **30** 10:31:44.2±0.5, 39°.23N±0°.03×28°.34E±0°.03, h8km±5km, Error ellipse: s-maj=5.1km s-min=3.4km az=25.5*
*CSEM **30** 10:31:44.3±0.1, 39°.23N×28°.35E, h8km, MD2.8, Error ellipse: s-maj=2.2km s-min=1.5km az=28.0*

ISC 30 10:31:44.2±1.0, **39°.24N**±0°.03×**28°.34E**±0°.02, **h12**km±9km, **n29**, σ0**934**/48, **Turkey**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time h m s	Res ISC
DEMI	**Demirci**	**0.35**	**124**	*i* P		**Pg**	**10 31 51.2**	**-0.1**
DEMI				*i* S		**Sg**	**10 31 56.4**	**+0.3**
DEMI	**Demirci**	**0.35**	**124**	P		**Pg**	**10 31 51.2**	**-0.1**
DEMI				S		**Sg**	**10 31 56.4**	**+0.3**
STEP	**BALIKESIR_Sava**	**0.50**	**286**	*i* P		**Pg**	**10 31 53.9**	**-0.2**
STEP				*i* S		**Sb**	**10 32 01.8**	**-0.5**
STEP	**BALIKESIR_Sava**	**0.50**	**286**	P		**Pg**	**10 31 53.9**	**-0.2**
STEP				S		**Sb**	**10 32 01.8**	**-0.5**
SIMA	**Simav-Kutahya**	**0.52**	**107**	*e*PG		**Pg**	**10 31 54.6**	**+0.1**
SIMA				*e*SG		**Sb**	**10 32 02.5**	**-0.5**
SIMA	**Simav-Kutahya**	**0.52**	**107**	*e*Pg		**Pg**	**10 31 54.6**	**+0.1**
SIMA				*e*Sg		**Sb**	**10 32 02.5**	**-0.5**
BALB	**Balikesir**	**0.54**	**318**	*e*PG		**Pg**	**10 31 54.9**	**+0.1**
BALB				*e*SG		**Sb**	**10 32 02.9**	**-0.4**
BALB	**Balikesir**	**0.54**	**318**	*e*Pg		**Pg**	**10 31 54.9**	**+0.1**
BALB				*e*Sg		**Sb**	**10 32 02.9**	**-0.4**
AKHS	**Akhisar**	**0.55**	**229**	*i* P		**Pg**	**10 31 54.7**	**-0.2**
AKHS				*i* S		**Sg**	**10 32 02.3**	**+0.2**
AKHS	**Akhisar**	**0.55**	**229**	P		**Pg**	**10 31 54.7**	**-0.2**
AKHS				S		**Sg**	**10 32 02.3**	**+0.2**
BALY	**Balya**	**0.75**	**312**	*i* P		**Pg**	**10 31 58.7**	**-0.1**
BALY				*i* S		**Sb**	**10 32 09.2**	**-0.3**
BALY	**Balya**	**0.75**	**312**	P		**Pg**	**10 31 58.7**	**-0.1**
BALY				S		**Sb**	**10 32 09.2**	**-0.3**
MANT	**Manisa**	**0.77**	**167**	*i* P		**Pb**	**10 31 59.3**	**-0.3**
MANT				*i* S		**Sg**	**10 32 09.1**	**-0.1**
MANT	**Manisa**	**0.77**	**167**	P		**Pb**	**10 31 59.3**	**-0.3**
MANT				S		**Sg**	**10 32 09.1**	**-0.1**
TVSB	**Tavsanli**	**0.89**	**76**	*e*PG		**Pb**	**10 32 01.8**	**0.0**
TVSB	**Tavsanli**	**0.89**	**76**	*e*Pg		**Pb**	**10 32 01.8**	**0.0**
GDZ	**Gediz**	**0.90**	**99**	*i* P		**Pg**	**10 32 01.2**	**-0.4**
GDZ				*i* S		**Sb**	**10 32 13.7**	**-0.1**
GDZ	**Gediz**	**0.90**	**99**	P		**Pg**	**10 32 01.2**	**-0.4**
GDZ				S		**Sb**	**10 32 13.7**	**-0.1**
KCTX	**Karacabey (Bur**	**1.02**	**1**	*e*PG		**Pg**	**10 32 03.8**	**-0.2**
KCTX	**Karacabey (Bur**	**1.02**	**1**	*e*Pg		**Pg**	**10 32 03.8**	**-0.2**
IGD	**Bursa**	**1.22**	**33**	*i* P		**Pb**	**10 32 07.1**	**-0.1**
IGD				*i* S		**Sn**	**10 32 23.6**	**0.0**
AYDB	**Zeytinkoy-Aydi**	**1.34**	**195**	*e*PN		**Pb**	**10 32 09.4**	**+0.1**
AYDB	**Zeytinkoy-Aydi**	**1.34**	**195**	*e*Pn		**Pb**	**10 32 09.4**	**+0.1**
ARMT	**Armutlu**	**1.38**	**17**	*e*PN		**Pg**	**10 32 10.3**	**-0.6**
ARMT	**Armutlu**	**1.38**	**17**	*e*Pn		**Pg**	**10 32 10.3**	**-0.6**
BAYC	**CANAKKALE_Bayr**	**1.48**	**290**	*i* P		**Pg**	**10 32 12.0**	**-0.6**
BAYC				*i* S		**Sn**	**10 32 30.2**	**+0.3**
BAYC	**CANAKKALE_Bayr**	**1.48**	**290**	P		**Pg**	**10 32 12.0**	**-0.6**
BAYC				S		**Sn**	**10 32 30.2**	**+0.3**
EZN	**Ezine**	**1.67**	**291**	*e*PN		**Pn**	**10 32 13.8**	**+0.6**
EZN	**Ezine**	**1.67**	**291**	*e*Pn		**Pn**	**10 32 13.8**	**+0.6**

*ISCJB **30** 10:33:52.6±0.5, 39°.23N±0°.03×28°.36E±0°.03, h1km±6km, Error ellipse: s-maj=5.1km s-min=3.5km az=27.7*
*CSEM **30** 10:33:52.9±0.1, 39°.23N×28°.35E, h2km, MD2.9, Error ellipse: s-maj=3.5km s-min=2.4km az=32.0*
*DDA **30** 10:33:52.1, 39°.23N×28°.36E, h7km, Md2.9*
*ISK **30** 10:33:52.2, 39°.27N×28°.33E, h5km, ML2.5*

ISC 30 10:33:52.6±0.9, **39°.24N**±0°.02×**28°.35E**±0°.02, **h13**km±10km, **n31**, σ0**946**/48, **Turkey**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time h m s	Res ISC
DEMI	**Demirci**	**0.35**	**125**	*i* P		**Pg**	**10 33 59.6**	**0.0**
DEMI				*i* S		**Sg**	**10 34 04.7**	**+0.4**
DEMI	**Demirci**	**0.35**	**125**	P		**Pg**	**10 33 59.6**	**0.0**
DEMI				S		**Sg**	**10 34 04.7**	**+0.4**
STEP	**BALIKESIR_Sava**	**0.51**	**285**	*i* P		**Pg**	**10 34 02.2**	**-0.4**
STEP				*i* S		**Sb**	**10 34 10.3**	**-0.6**
STEP	**BALIKESIR_Sava**	**0.51**	**285**	P		**Pg**	**10 34 02.2**	**-0.4**
STEP				S		**Sb**	**10 34 10.3**	**-0.6**
SIMA	**Simav-Kutahya**	**0.52**	**108**	*e*PG		**Pb**	**10 34 03.7**	**+0.1**
SIMA	**Simav-Kutahya**	**0.52**	**108**	*e*Pg		**Pb**	**10 34 03.7**	**+0.1**
BALB	**Balikesir**	**0.54**	**317**	*e*PG		**Pg**	**10 34 03.5**	**+0.3**
BALB				*e*SG		**Sb**	**10 34 11.9**	**+0.2**
BALB	**Balikesir**	**0.54**	**317**	*e*Pg		**Pg**	**10 34 03.5**	**+0.3**
BALB				*e*Sg		**Sb**	**10 34 11.9**	**+0.2**
AKHS	**Akhisar**	**0.56**	**229**	*i* P		**Pg**	**10 34 03.1**	**-0.3**
AKHS				*i* S		**Sg**	**10 34 11.1**	**+0.3**
AKHS	**Akhisar**	**0.56**	**229**	P		**Pg**	**10 34 03.1**	**-0.3**
AKHS				S		**Sg**	**10 34 11.1**	**+0.3**
BALY	**Balya**	**0.75**	**311**	*i* P		**Pg**	**10 34 06.6**	**-0.6**
BALY				*i* S		**Sb**	**10 34 17.7**	**-0.2**
BALY	**Balya**	**0.75**	**311**	P		**Pg**	**10 34 06.6**	**-0.6**
BALY				S		**Sb**	**10 34 17.7**	**-0.2**
MANT	**Manisa**	**0.77**	**168**	*i* P		**Pg**	**10 34 07.4**	**-0.1**
MANT				*i* S		**Sg**	**10 34 17.0**	**-0.6**
MANT	**Manisa**	**0.77**	**168**	P		**Pg**	**10 34 07.4**	**-0.1**
MANT				S		**Sg**	**10 34 17.0**	**-0.6**
TVSB	**Tavsanli**	**0.89**	**76**	*e*PG		**Pn**	**10 34 10.6**	**-0.3**
TVSB	**Tavsanli**	**0.89**	**76**	*e*Pg		**Pn**	**10 34 10.6**	**-0.3**
GDZ	**Gediz**	**0.89**	**100**	*i* P		**Pg**	**10 34 09.0**	**-0.8**
GDZ				*i* S		**Sb**	**10 34 21.9**	**0.0**
GDZ	**Gediz**	**0.89**	**100**	P		**Pg**	**10 34 09.0**	**-0.8**
GDZ				S		**Sb**	**10 34 21.9**	**0.0**
KCTX	**Karacabey (Bur**	**1.02**	**0**	*e*PG		**Pb**	**10 34 12.3**	**+0.1**
KCTX	**Karacabey (Bur**	**1.02**	**0**	*e*Pg		**Pb**	**10 34 12.3**	**+0.1**
IGD	**Bursa**	**1.21**	**32**	*i* P		**Pn**	**10 34 15.5**	**+0.2**
IGD				*i* S		**Sg**	**10 34 32.4**	**+0.7**
AYDB	**Zeytinkoy-Aydi**	**1.34**	**196**	*e*PN		**Pg**	**10 34 19.4**	**+1.0**
AYDB	**Zeytinkoy-Aydi**	**1.34**	**196**	*e*Pn		**Pg**	**10 34 19.4**	**+1.0**
ARMT	**Armutlu**	**1.38**	**16**	*e*PN		**Pg**	**10 34 19.2**	**+0.2**
ARMT	**Armutlu**	**1.38**	**16**	*e*Pn		**Pg**	**10 34 19.3**	**+0.2**
MRMT	**Marmara Adasi**	**1.48**	**337**	*e*PN		**Pg**	**10 34 21.2**	**+0.2**
MRMT	**Marmara Adasi**	**1.48**	**337**	*e*Pn		**Pg**	**10 34 21.2**	**+0.2**
BAYC	**CANAKKALE_Bayr**	**1.48**	**290**	*i* P		**Pb**	**10 34 20.5**	**+0.4**
BAYC				*i* S		**Sg**	**10 34 39.7**	**-0.6**
BAYC	**CANAKKALE_Bayr**	**1.48**	**290**	P		**Pb**	**10 34 20.5**	**+0.4**
BAYC				S		**Sg**	**10 34 39.7**	**-0.6**
LPK	**Lapseki**	**1.67**	**313**	*e*PN		**Pb**	**10 34 23.6**	**+0.4**
LPK	**Lapseki**	**1.67**	**313**	*e*Pn		**Pb**	**10 34 23.6**	**+0.4**

*BJI **30** 10:42:24.3, 37°.88S×177°.53E, h212km, mb4.9/9, mB5.3/6*
*IDC **30** 10:42:25.2±1.8, 36°.87S×177°.77E, h189km±12km, mb4.3/6, mb1 4.4/7, mb1mx4.0/24, mbtmp4.7/7, MS3.4/3, Ms1 3.4/3, ms1mx3.0/28, Error ellipse: s-maj=33.2km s-min=17.6km az=39.0*
*WEL **30** 10:42:25.2±0.3, 36°.57S×177°.74E, h158km±3km, ML5.7/56, Mw4.8, Error ellipse: s-maj=3.2km s-min=2.2km az=0.0, intensity MM 5.*
WEL Felt between Bay of Plenty, Wairarapa and Gisborne, maximum reported.
*NEIC **30** 10:42:25.5±0.0, 36°.62S×177°.73E, h158km, mb4.8/9, After WEL.*
*ISCJB **30** 10:42:26.5±0.3, 37°.13S±0°.03×177°.49E±0°.05, h208km±2km, mb4.6/17, Error ellipse: s-maj=6.9km s-min=4.6km az=17.0*

ISC 30 10:42:26.8±0.6, **37°.05S**±0°.05×**177°.60E**±0°.05, **h202**km±4km, **n304**, σ1§**84**/336, **mb4.8**/16, **20C-37D**, **Off east coast of North Island**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time h m s	Res ISC
WIZ	**White Island**	**0.58**	**214**	Pn		**Pn**	**10 42 51.2**	**-3.2**
WIZ	**White Island**	**0.58**	**214**	PN		**Pn**	**10 42 51.2**	**-3.2**
HAZ	**Te Kaha**	**0.72**	**168**	⇑PN		**Pn**	**10 42 52.2**	**-2.9**
HAZ				SN		**Sn**	**10 43 13.0**	**-4.2**
HAZ				AML	AML		10 43 15.3	
HAZ				AML	AML		10 43 15.7	
HAZ				AML	AML		10 43 15.8	
MXZ	**Matakaoa Point**	**0.76**	**132**	*e*Pn		**Pn**	**10 42 51.7**	**-3.6**
MXZ				Sn		**Sn**	**10 43 12.1**	**-5.4**
MXZ	**Matakaoa Point**	**0.76**	**132**	⇓PN		**Pn**	**10 42 51.5**	**-3.8**
MXZ				SN		**Sn**	**10 43 12.1**	**-5.4**
MXZ				AML	AML		10 43 14.1	
RUGZ	**Raukumara Rang**	**0.92**	**176**	PN		**Pn**	**10 42 53.6**	**-2.8**
PKGZ	**Pakihiroa**	**0.92**	**156**	⇑PN		**Pn**	**10 42 53.9**	**-2.4**
WHRZ	**Whale Island**	**0.95**	**211**	PN		**Pn**	**10 42 55.1**	**-1.4**
WMGZ	**Waiomatatini S**	**1.01**	**140**	Pn		**Pn**	**10 42 54.2**	**-2.6**
WMGZ				Sn		**Sn**	**10 43 16.1**	**-4.1**
WMGZ	**Waiomatatini S**	**1.01**	**140**	⇑PN		**Pn**	**10 42 54.2**	**-2.6**
WMGZ				SN		**Sn**	**10 43 16.1**	**-4.1**
WMGZ				AML	AML		10 43 18.7	
PUZ	**Puketiti**	**1.15**	**153**	Pn		**Pn**	**10 42 55.7**	**-2.1**
PUZ	**Puketiti**	**1.15**	**153**	⇓PN		**Pn**	**10 42 55.7**	**-2.1**
PUZ				SN		**Sn**	**10 43 19.2**	**-2.9**
PUZ				AML	AML		10 43 21.6	
OPRZ	**Ohinepanea**	**1.15**	**226**	Pn		**Pn**	**10 42 56.1**	**-1.7**
OPRZ	**Ohinepanea**	**1.15**	**226**	PN		**Pn**	**10 42 56.1**	**-1.7**
TWGZ	**Tauwhareparae**	**1.17**	**165**	Pn		**Pn**	**10 42 57.2**	**-0.8**
TWGZ	**Tauwhareparae**	**1.17**	**165**	⇓PN		**Pn**	**10 42 57.2**	**-0.8**
TWGZ				SN		**Sn**	**10 43 21.8**	**-0.7**
TWGZ				AML	AML		10 43 23.9	
EDRZ	**Edgecumbe**	**1.26**	**213**	Pn		**Pn**	**10 42 58.0**	**-0.7**
EDRZ	**Edgecumbe**	**1.26**	**213**	PN		**Pn**	**10 42 57.8**	**-1.0**
TGRZ	**Tauranga**	**1.26**	**237**	Pn		**Pn**	**10 42 57.3**	**-1.4**
TGRZ	**Tauranga**	**1.26**	**237**	PN		**Pn**	**10 42 57.3**	**-1.4**
URZ	**Urewera**	**1.27**	**198**	P		**Pn**	**10 42 57.6**	**-1.1**
	359nm,0.3s,baz=268,slow=3.9,SNR=3618							
URZ				LR		LR	10 43 11.6	
	comp=Z,90nm,20.5s,baz=96,slow=31							
URZ				S		**Sn**	**10 43 23.0**	**-0.7**
	3µm,0.3s,baz=225,slow=20,SNR=116							
URZ	**Urewera**	**1.27**	**198**	Pn		**Pn**	**10 42 57.3**	**-1.4**
URZ	**Urewera**	**1.27**	**198**	PN		**Pn**	**10 42 57.3**	**-1.4**
URZ				SN		**Sn**	**10 43 23.0**	**-0.7**
URZ				AML	AML		10 43 24.4	
MWZ	**Matawai**	**1.28**	**183**	Pn		**Pn**	**10 42 57.8**	**-1.2**
MWZ	**Matawai**	**1.28**	**183**	⇓PN		**Pn**	**10 42 57.8**	**-1.2**
MWZ				AML	AML		10 43 26.0	
MWZ				AML	AML		10 43 26.4	
LIRZ	**Lichensteins R**	**1.36**	**225**	Pn		**Pn**	**10 42 58.9**	**-0.6**
LIRZ	**Lichensteins R**	**1.36**	**225**	⇓PN		**Pn**	**10 42 58.9**	**-0.6**
TKGZ	**Te Karaka**	**1.40**	**172**	Pn		**Pn**	**10 42 59.1**	**-0.8**
TKGZ	**Te Karaka**	**1.40**	**172**	⇓PN		**Pn**	**10 42 59.1**	**-0.8**
TKGZ				SN		**Sn**	**10 43 25.4**	**-0.2**
TKGZ				AML	AML		10 43 27.0	
MKRZ	**Makatiti**	**1.41**	**219**	Pn		**Pn**	**10 43 00.3**	**+0.2**
MKRZ	**Makatiti**	**1.41**	**219**	PN		**Pn**	**10 43 00.3**	**+0.2**
OMRZ	**Omania**	**1.44**	**222**	Pn		**Pn**	**10 42 59.9**	**-0.3**
OMRZ	**Omania**	**1.44**	**222**	⇓PN		**Pn**	**10 42 59.9**	**-0.3**
KARZ	**Kaharoa**	**1.45**	**228**	Pn		**Pn**	**10 42 59.8**	**-0.5**
KARZ	**Kaharoa**	**1.45**	**228**	⇓PN		**Pn**	**10 42 59.8**	**-0.5**
RAGZ	**Rawiri**	**1.45**	**186**	Pn		**Pn**	**10 43 00.1**	**-0.3**
RAGZ	**Rawiri**	**1.45**	**186**	⇓PN		**Pn**	**10 43 00.1**	**-0.3**
RAGZ				SN		**Sn**	**10 43 27.5**	**+0.9**
RAGZ				AML	AML		10 43 32.5	
TARZ	**Mount Tarawera**	**1.47**	**216**	Pn		**Pn**	**10 43 00.6**	**+0.1**
TARZ	**Mount Tarawera**	**1.47**	**216**	PN		**Pn**	**10 43 00.6**	**+0.1**
CNGZ	**Carnagh Statio**	**1.51**	**162**	Pn		**Pn**	**10 43 00.4**	**-0.4**
CNGZ	**Carnagh Statio**	**1.51**	**162**	⇑PN		**Pn**	**10 43 00.4**	**-0.4**
CNGZ				AML	AML		10 43 30.5	
CNGZ				AML	AML		10 43 31.6	
KUZ	**Kuaotunu**	**1.54**	**281**	Pn		**Pn**	**10 42 56.9**	**-4.2**
KUZ	**Kuaotunu**	**1.54**	**281**	PN		**Pn**	**10 42 56.8**	**-4.2**
RRRZ	**Republican Roa**	**1.55**	**213**	Pn		**Pn**	**10 43 01.3**	**+0.1**
RRRZ	**Republican Roa**	**1.55**	**213**	⇑PN		**Pn**	**10 43 01.3**	**+0.1**
HLRZ	**Highlands Stat**	**1.56**	**219**	PN		**Pn**	**10 43 01.2**	**0.0**
MUGZ	**Murupara**	**1.57**	**204**	⇓PN		**Pn**	**10 43 00.8**	**-0.5**
RTZ	**Ruatahuna**	**1.64**	**197**	PN		**Pn**	**10 43 01.2**	**-0.8**
HSRZ	**Hossack Road**	**1.66**	**220**	PN		**Pn**	**10 43 02.6**	**+0.5**
RIGZ	**Rimuhau**	**1.66**	**176**	⇓PN		**Pn**	**10 43 01.8**	**-0.4**
RIGZ				AML	AML		10 43 31.5	
RIGZ				AML	AML		10 43 35.0	
HRRZ	**Handcock Road**	**1.70**	**218**	Pn		**Pn**	**10 43 03.0**	**+0.5**
HRRZ	**Handcock Road**	**1.70**	**218**	PN		**Pn**	**10 43 02.6**	**+0.1**
PRRZ	**Plateau Road**	**1.73**	**213**	Pn		**Pn**	**10 43 03.0**	**+0.1**
PRRZ	**Plateau Road**	**1.73**	**213**	⇓PN		**Pn**	**10 43 02.9**	**+0.1**
SNGZ	**Shannon Statio**	**1.74**	**187**	Pn		**Pn**	**10 43 02.8**	**-0.1**
SNGZ	**Shannon Statio**	**1.74**	**187**	⇓PN		**Pn**	**10 43 02.8**	**-0.1**
SNGZ				AML	AML		10 43 36.0	
SNGZ				AML	AML		10 43 36.2	
GRRZ	**Galatos Road**	**1.75**	**222**	PN		**Pn**	**10 43 03.6**	**+0.5**
TOZ	**Tahuroa Road**	**1.80**	**247**	Pn		**Pn**	**10 43 02.6**	**-0.9**
TOZ	**Tahuroa Road**	**1.80**	**247**	PN		**Pn**	**10 43 02.6**	**-0.9**
ALRZ	**Allen Road**	**1.81**	**213**	Pn		**Pn**	**10 43 03.8**	**+0.3**
ALRZ	**Allen Road**	**1.81**	**213**	⇓PN		**Pn**	**10 43 03.8**	**+0.3**
WPRZ	**Whakapapataparin**	**1.86**	**217**	Pn		**Pn**	**10 43 04.7**	**+0.6**
WPRZ	**Whakapapataparin**	**1.86**	**217**	⇓PN		**Pn**	**10 43 04.7**	**+0.6**
PRGZ	**Paritu Road**	**1.88**	**173**	Pn		**Pn**	**10 43 04.0**	**-0.3**
PRGZ	**Paritu Road**	**1.88**	**173**	⇑PN		**Pn**	**10 43 04.0**	**-0.3**
PRGZ				AML	AML		10 43 40.9	
PRGZ				AML	AML		10 43 42.1	
GRZ	**Great Barrier**	**1.90**	**294**	⇑PN		**Pn**	**10 43 00.1**	**-4.4**
MKAZ	**Moumakai**	**1.95**	**268**	Pn		**Pn**	**10 43 02.8**	**-2.1**
MKAZ	**Moumakai**	**1.95**	**268**	PN		**Pn**	**10 43 02.8**	**-2.1**
KNZ	**Kokohu**	**1.97**	**178**	Pn		**Pn**	**10 43 05.0**	**-0.1**
KNZ	**Kokohu**	**1.97**	**178**	PN		**Pn**	**10 43 05.0**	**-0.1**
KNZ				AML	AML		10 43 37.0	
KNZ				AML	AML		10 43 40.0	
WIAZ	**Waiheke Island**	**1.99**	**277**	⇓PN		**Pn**	**10 43 03.0**	**-2.4**
KUTZ	**Kaahu Road**	**2.01**	**224**	Pn		**Pn**	**10 43 06.6**	**+1.0**
KUTZ	**Kaahu Road**	**2.01**	**224**	⇓PN		**Pn**	**10 43 06.6**	**+1.0**
MRHZ	**Matea Rd**	**2.01**	**207**	PN		**Pn**	**10 43 05.6**	**-0.1**
MRHZ				AML	AML		10 43 40.1	
MRHZ				AML	AML		10 43 40.5	
WHHZ	**Waihua**	**2.04**	**188**	⇓PN		**Pn**	**10 43 06.2**	**+0.3**
WHHZ				AML	AML		10 43 42.0	
WHHZ				AML	AML		10 43 42.3	
WHTZ	**Whakaora**	**2.07**	**218**	Pn		**Pn**	**10 43 07.5**	**+1.2**
WHTZ	**Whakaora**	**2.07**	**218**	PN		**Pn**	**10 43 07.5**	**+1.2**
TLZ	**Tolley Road**	**2.08**	**231**	Pn		**Pn**	**10 43 06.6**	**+0.3**
TLZ	**Tolley Road**	**2.08**	**231**	⇑PN		**Pn**	**10 43 06.6**	**+0.3**
MHGZ	**Mahia Peninsul**	**2.11**	**173**	Pn		**Pn**	**10 43 06.8**	**+0.2**
MHGZ	**Mahia Peninsul**	**2.11**	**173**	⇑PN		**Pn**	**10 43 06.8**	**+0.2**
MHGZ				AML	AML		10 43 42.0	
MHGZ				AML	AML		10 43 45.1	
NMHZ	**Naumai**	**2.14**	**197**	Pn		**Pn**	**10 43 07.5**	**+0.5**
NMHZ	**Naumai**	**2.14**	**197**	⇓PN		**Pn**	**10 43 07.5**	**+0.5**
NMHZ				AML	AML		10 43 43.0	
NMHZ				AML	AML		10 43 43.7	
ETAZ	**East Tamaki Re**	**2.14**	**272**	Pn		**Pn**	**10 43 05.4**	**-1.6**
ETAZ	**East Tamaki Re**	**2.14**	**272**	⇓PN		**Pn**	**10 43 05.4**	**-1.6**
KBAZ	**Karaka Road Bo**	**2.17**	**268**	Pn		**Pn**	**10 43 06.5**	**-0.7**
KBAZ	**Karaka Road Bo**	**2.17**	**268**	⇑PN		**Pn**	**10 43 06.5**	**-0.7**
HATZ	**Hinemaiaia**	**2.19**	**212**	Pn		**Pn**	**10 43 07.9**	**+0.4**
HATZ	**Hinemaiaia**	**2.19**	**212**	PN		**Pn**	**10 43 07.9**	**+0.4**
WATZ	**Wairara**	**2.22**	**221**	Pn		**Pn**	**10 43 08.9**	**+1.1**
WATZ	**Wairara**	**2.22**	**221**	⇓PN		**Pn**	**10 43 08.9**	**+1.1**
ARHZ	**Aropaoanui**	**2.26**	**192**	Pn		**Pn**	**10 43 08.6**	**+0.5**
ARHZ	**Aropaoanui**	**2.26**	**192**	⇓PN		**Pn**	**10 43 08.6**	**+0.5**
ARHZ				AML	AML		10 43 45.5	
ARHZ				AML	AML		10 43 45.8	
BKZ	**Black Stump Fm**	**2.29**	**202**	Pn		**Pn**	**10 43 08.1**	**-0.4**
BKZ				*e*Sn		**Sn**	**10 43 37.3**	**-3.9**
BKZ	**Black Stump Fm**	**2.29**	**202**	⇑PN		**Pn**	**10 43 08.3**	**-0.2**
BKZ				AML	AML		10 43 46.4	
BKZ				AML	AML		10 43 47.3	
RATZ	**Rangitukua**	**2.32**	**218**	Pn		**Pn**	**10 43 09.7**	**+0.8**
RATZ	**Rangitukua**	**2.32**	**218**	PN		**Pn**	**10 43 09.7**	**+0.8**
AWAZ	**Awhitu Peninsu**	**2.37**	**269**	⇓PN		**Pn**	**10 43 08.2**	**-1.1**
RITZ	**Rihia Road**	**2.37**	**215**	Pn		**Pn**	**10 43 10.3**	**+1.0**
RITZ	**Rihia Road**	**2.37**	**215**	⇓PN		**Pn**	**10 43 10.3**	**+1.0**
RVAZ	**Riverhead Bore**	**2.44**	**276**	Pn		**Pn**	**10 43 08.4**	**-1.7**
RVAZ	**Riverhead Bore**	**2.44**	**276**	PN		**Pn**	**10 43 08.4**	**-1.7**
KATZ	**Kakaramea**	**2.44**	**217**	Pn		**Pn**	**10 43 11.0**	**+0.7**
KATZ	**Kakaramea**	**2.44**	**217**	⇓PN		**Pn**	**10 43 11.0**	**+0.7**
MCHZ	**McNeill Hill**	**2.49**	**196**	Pn		**Pn**	**10 43 11.3**	**+0.5**
MCHZ	**McNeill Hill**	**2.49**	**196**	PN		**Pn**	**10 43 11.3**	**+0.5**
MCHZ				AML	AML		10 43 50.9	
MCHZ				AML	AML		10 43 59.1	
KWHZ	**Kaweka Forest**	**2.54**	**201**	PN		**Pn**	**10 43 11.4**	**+0.1**
KWHZ				AML	AML		10 43 50.3	
KWHZ				AML	AML		10 43 58.8	
KRVZ	**Karewarewa**	**2.56**	**217**	Pn		**Pn**	**10 43 12.5**	**+0.9**
KRVZ	**Karewarewa**	**2.56**	**217**	PN		**Pn**	**10 43 12.5**	**+0.9**
WTVZ	**West Tongariro**	**2.60**	**217**	Pn		**Pn**	**10 43 12.6**	**+0.6**
WTVZ	**West Tongariro**	**2.60**	**217**	PN		**Pn**	**10 43 12.6**	**+0.6**
OTVZ	**Oturere**	**2.60**	**215**	Pn		**Pn**	**10 43 12.9**	**+0.7**
OTVZ	**Oturere**	**2.60**	**215**	⇑PN		**Pn**	**10 43 12.9**	**+0.7**
HIZ	**Hauiti**	**2.62**	**235**	Pn		**Pn**	**10 43 14.2**	**+2.1**
HIZ				*e*Sn		**Sn**	**10 43 51.2**	**+3.6**
HIZ	**Hauiti**	**2.62**	**235**	PN		**Pn**	**10 43 14.2**	**+2.1**
CKHZ	**Cape Kidnapper**	**2.64**	**189**	Pn		**Pn**	**10 43 12.6**	**+0.3**
CKHZ	**Cape Kidnapper**	**2.64**	**189**	⇑PN		**Pn**	**10 43 12.6**	**+0.3**
CKHZ				AML	AML		10 43 52.2	
CKHZ				AML	AML		10 43 52.5	
TWVZ	**Taurewa**	**2.64**	**220**	Pn		**Pn**	**10 43 13.2**	**+0.7**
TWVZ	**Taurewa**	**2.64**	**220**	PN		**Pn**	**10 43 13.2**	**+0.7**
NGZ	**Ngauruhoe**	**2.64**	**216**	Pn		**Pn**	**10 43 13.3**	**+0.7**
NGZ	**Ngauruhoe**	**2.64**	**216**	PN		**Pn**	**10 43 13.3**	**+0.7**
TUVZ	**Tukino**	**2.69**	**214**	Pn		**Pn**	**10 43 13.7**	**+0.6**
TUVZ	**Tukino**	**2.69**	**214**	⇓PN		**Pn**	**10 43 13.7**	**+0.6**
BHHZ	**Black Hill Sta**	**2.72**	**206**	Pn		**Pn**	**10 43 13.3**	**-0.1**
BHHZ	**Black Hill Sta**	**2.72**	**206**	⇓PN		**Pn**	**10 43 13.3**	**-0.1**
BHHZ				AML	AML		10 43 53.2	
BHHZ				AML	AML		10 43 56.3	
FWVZ	**Far West T-bar**	**2.73**	**216**	Pn		**Pn**	**10 43 14.2**	**+0.5**
FWVZ	**Far West T-bar**	**2.73**	**216**	⇑PN		**Pn**	**10 43 14.2**	**+0.5**
WHVZ	**Whangaehu Hut**	**2.73**	**215**	Pn		**Pn**	**10 43 14.0**	**+0.3**
WHVZ	**Whangaehu Hut**	**2.73**	**215**	⇑PN		**Pn**	**10 43 14.0**	**+0.3**
DRZ	**Dome Shelter**	**2.74**	**215**	Pn		**P

BHW	**Baring Head**	**4.84**	**205**	Pn	**Pn**	**10 43 37.8**	**-1.4**		
BHW	**Baring Head**	**4.84**	**205**	PN	**Pn**	**10 43 37.8**	**-1.4**		
BHW				AML	AML	10 44 37.6			
BHW				AML	AML	10 44 39.3			
PLWZ	**Palliser**	**4.87**	**201**	Pn	**Pn**	**10 43 38.1**	**-1.5**		
PLWZ	**Palliser**	**4.87**	**201**	PN	**Pn**	**10 43 38.1**	**-1.5**		
PLWZ				AML	AML	10 44 38.5			
PLWZ				AML	AML	10 44 38.8			
TCW	**Tory Channel**	**4.89**	**211**	⇓PN	**Pn**	**10 43 38.3**	**-1.5**		
TCW				AML	AML	10 44 39.7			
TCW				AML	AML	10 44 40.7			
TUWZ	**Tuamarina**	**5.21**	**212**	Pn	**Pn**	**10 43 42.3**	**-1.6**		
TUWZ	**Tuamarina**	**5.21**	**212**	PN	**Pn**	**10 43 42.3**	**-1.6**		
TUWZ				AML	AML	10 44 45.1			
TUWZ				AML	AML	10 44 47.4			
NNZ	**Nelson**	**5.30**	**217**	Pn	**Pn**	**10 43 43.3**	**-1.7**		
NNZ	**Nelson**	**5.30**	**217**	PN	**Pn**	**10 43 43.3**	**-1.7**		
CMWZ	**Cape Campbell**	**5.38**	**208**	Pn	**Pn**	**10 43 45.4**	**-0.6**		
CMWZ	**Cape Campbell**	**5.38**	**208**	PN	**Pn**	**10 43 45.1**	**-0.9**		
CMWZ				AML	AML	10 44 53.0			
CMWZ				AML	AML	10 44 58.7			
QRZ	**Quartz Range**	**5.46**	**225**	⇓PN	**Pn**	**10 43 45.1**	**-2.0**		
BSWZ	**Blackbirch Sta**	**5.48**	**211**	Pn	**Pn**	**10 43 45.8**	**-1.5**		
BSWZ	**Blackbirch Sta**	**5.48**	**211**	PN	**Pn**	**10 43 45.8**	**-1.5**		
BSWZ				AML	AML	10 44 53.3			
BSWZ				AML	AML	10 44 53.5			
THZ	**Tophouse**	**5.95**	**216**	*e*Pn	**Pn**	**10 43 51.6**	**-1.8**		
THZ				*e*Sn	**Sn**	**10 45 03.0**	**+1.0**		
THZ	**Tophouse**	**5.95**	**216**	⇓PN	**Pn**	**10 43 51.6**	**-1.8**		
KHZ	**Kahutara**	**6.21**	**209**	*e*Pn	**Pn**	**10 43 55.0**	**-1.7**		
KHZ				*e*Sn	**Sn**	**10 45 05.8**	**-2.0**		
KHZ	**Kahutara**	**6.21**	**209**	⇓PN	**Pn**	**10 43 55.0**	**-1.7**		
KHZ				AML	AML	10 45 08.0			
KHZ				AML	AML	10 45 08.3			
KHZ				AML	AML	10 45 09.6			
KHZ				AML	AML	10 45 09.7			
DSZ	**Denniston Nort**	**6.49**	**222**	Pn	**Pn**	**10 43 57.6**	**-2.8**		
DSZ	**Denniston Nort**	**6.49**	**222**	PN	**Pn**	**10 43 57.6**	**-2.8**		
LTZ	**Lake Taylor**	**7.04**	**214**	*e*Pn	**Pn**	**10 44 05.0**	**-2.5**		
LTZ				*e*Sn	**Sn**	**10 45 24.8**	**-2.7**		
LTZ	**Lake Taylor**	**7.04**	**214**	PN	**Pn**	**10 44 05.0**	**-2.5**		
INZ	**Inchbonnie**	**7.38**	**218**	PN	**Pn**	**10 44 08.7**	**-3.2**		
CRLZ	**Canterbury Las**	**7.54**	**209**	*e*Pn	**Pn**	**10 44 11.5**	**-2.5**		
CRLZ				*e*Sn	**Sn**	**10 45 35.0**	**-4.3**		
CRLZ	**Canterbury Las**	**7.54**	**209**	PN	**Pn**	**10 44 11.7**	**-2.3**		
OXZ	**Oxford**	**7.58**	**212**	Pn	**Pn**	**10 44 11.4**	**-3.1**		
OXZ				*e*Sn	**Sn**	**10 45 36.3**	**-3.8**		
OXZ	**Oxford**	**7.58**	**212**	PN	**Pn**	**10 44 11.4**	**-3.1**		
MQZ	**McQueen's Vall**	**7.64**	**208**	*e*Pn	**Pn**	**10 44 12.4**	**-2.9**		
MQZ				*e*Sn	**Sn**	**10 45 37.4**	**-4.3**		
MQZ	**McQueen's Vall**	**7.64**	**208**	⇑PN	**Pn**	**10 44 12.5**	**-2.9**		
WVZ	**Waitaha Valley**	**7.99**	**219**	Pn	**Pn**	**10 44 17.2**	**-2.6**		
WVZ	**Waitaha Valley**	**7.99**	**219**	PN	**Pn**	**10 44 17.2**	**-2.6**		
CTZ	**Chatham Island**	**8.00**	**148**	PN	**Pn**	**10 44 21.6**	**+1.6**		
RPZ	**Rata Peaks**	**8.32**	**215**	P	**Pn**	**10 44 22.6**	**-1.6**		
	25nm,0.3s,baz=27,slow=0.4,SNR=140								
RPZ				S	**Sn**	**10 45 52.8**	**-4.9**		
	40nm,0.3s,baz=65,slow=19,SNR=22								
RPZ	**Rata Peaks**	**8.32**	**215**	*e*Pn	**Pn**	**10 44 22.0**	**-2.1**		
RPZ	**Rata Peaks**	**8.32**	**215**	⇓PN	**Pn**	**10 44 22.1**	**-2.1**		
FOZ	**Fox Glacier**	**8.79**	**220**	*e*Pn	**Pn**	**10 44 28.4**	**-1.7**		
FOZ				*e*Sn	**Sn**	**10 46 04.0**	**-4.8**		
FOZ	**Fox Glacier**	**8.79**	**220**	PN	**Pn**	**10 44 27.5**	**-2.6**		
LBZ	**Lake Benmore**	**9.24**	**215**	*e*Pn	**Pn**	**10 44 34.0**	**-2.0**		
LBZ				*e*Sn	**Sn**	**10 46 15.4**	**-4.1**		
LBZ	**Lake Benmore**	**9.24**	**215**	PN	**Pn**	**10 44 33.6**	**-2.4**		
ODZ	**Otahua Downs**	**9.55**	**211**	*e*Pn	**Pn**	**10 44 38.5**	**-1.7**		
ODZ				*e*Sn	**Sn**	**10 46 23.9**	**-3.1**		
ODZ	**Otahua Downs**	**9.55**	**211**	PN	**Pn**	**10 44 38.1**	**-2.0**		
WKZ	**Wanaka**	**10.12**	**217**	*e*Pn	**Pn**	**10 44 44.9**	**-2.6**		
WKZ				*e*Sn		10 46 34.7			
WKZ	**Wanaka**	**10.12**	**217**	PN	**Pn**	**10 44 44.5**	**-3.0**		
EAZ	**Earnscleugh**	**10.29**	**215**	PN	**Pn**	**10 44 46.8**	**-2.8**		
MSZ	**Milford Sound**	**10.56**	**221**	PN	**Pn**	**10 44 49.9**	**-3.2**		
TUZ	**Tuapeka**	**10.71**	**211**	PN	**Pn**	**10 44 54.5**	**-0.5**		
MLZ	**Mavora Lakes**	**10.95**	**218**	*e*Pn	**Pn**	**10 44 56.6**	**-1.5**		
MLZ	**Mavora Lakes**	**10.95**	**218**	PN	**Pn**	**10 44 56.6**	**-1.5**		
SYZ	**Scrubby Hill**	**11.38**	**211**	PN	**Pn**	**10 45 03.5**	**-0.1**		
WHZ	**Wether Hill Ro**	**11.41**	**216**	*e*Pn	**Pn**	**10 45 02.1**	**-2.0**		
WHZ	**Wether Hill Ro**	**11.41**	**216**	PN	Pn	10 45 00.8	-3.2		
DCZ	**Deep Cove**	**11.50**	**220**	PN	**Pn**	**10 45 03.2**	**-1.9**		
PYZ	**Puysegur Point**	**12.23**	**218**	PN	**Pn**	**10 45 12.2**	**-2.1**		
DZM	**Mont Dzumac**	**17.78**	**324**	P	**P**	**10 46 18.6**	**-1.7**		
DZM				LR	LR	10 52 10.6			
	comp=Z,188nm,18.4s,baz=72,slow=33								
DZM	**Mont Dzumac**	**17.78**	**324**	*e*P	**P**	**10 46 17.4**	**-2.8**		
	68nm,1.9s								
MSVF	**Nonsavu**	**19.25**	**1**	*e*P	**P**	**10 46 34.1**	**-2.1**		
	46nm,1.4s								
EIDS	**Eidsvold**	**25.41**	**290**	*e*P	**P**	**10 47 37.1**	**+1.3**		
	56nm,1.7s								
STKA	**Stephens Creek**	**30.01**	**269**	P	**P**	**10 48 17.2**	**+0.5**		
	5.6nm,1.0s,baz=46,slow=8.5,SNR=4.8								
STKA				LR	LR	11 01 11.6			
	comp=Z,88nm,18.9s,baz=31,slow=37								
STKA	**Stephens Creek**	**30.01**	**269**	*e*P	**P**	**10 48 17.2**	**+0.5**		
	2.5nm,1.1s								
CTA	**Charters Tower**	**32.11**	**293**	P	**P**	**10 48 36.1**	**+0.9**		
	5.6nm,0.5s,baz=119,slow=11,SNR=11								
CTAO	**Charters Tower**	**32.11**	**293**	*e*P	**P**	**10 48 33.9**	**-1.2**		
	8.9nm,0.7s								
PPT	**Papeete**	**34.78**	**65**	LR	LR	11 02 26.7			
	comp=Z,23nm,18.5s,baz=285,slow=35								
COEN	**Coen**	**38.33**	**298**	*e*P	**P**	**10 49 28.4**	**+0.2**		
	30nm,0.6s								
AS01	**Alice Springs**	**39.62**	**277**	*e*P	**P**	**10 49 39.6**	**+0.6**		
AS31	**Alice Springs**	**39.66**	**277**	*e*P	**P**	**10 49 39.6**	**+0.3**		
	8.8nm,0.6s								
ASAR	**Alice Springs**	**39.66**	**277**	P	**P**	**10 49 40.1**	**+0.8**		
	19nm,0.6s,baz=120,slow=8.1,SNR=377								
ASAR				ScP	**ScP**	**10 55 09.9**	**-1.5**		
	1.2nm,0.8s,baz=119,slow=3.5,SNR=6.3								
ASAR				S	**S**	**10 55 30.1**	**+2.7**		
	1.3nm,0.7s,baz=117,slow=15,SNR=8.5								
WB2	**Warramunga Arr**	**41.27**	**282**	*e*P	**P**	**10 49 52.0**	**-0.4**		
WRAB	**Tennant Creek**	**41.27**	**282**	*e*P	**P**	**10 49 52.9**	**+0.4**		
	20nm,0.6s								
WR1	**Warramunga Arr**	**41.28**	**282**	*e*P	**P**	**10 49 52.7**	**+0.2**		
	23nm,0.6s								
WRA	**Warramunga Arr**	**41.28**	**282**	P	**P**	**10 49 52.7**	**+0.2**		
	13nm,0.5s,baz=120,slow=7.8,SNR=266								
WRA				PcP	**PcP**	**10 51 47.0**	**-0.2**		
	1.6nm,0.6s,baz=126,slow=3.4,SNR=5.6								
WRA				ScP	**ScP**	**10 55 16.7**	**-1.1**		
	1.4nm,1.1s,baz=118,slow=3.5,SNR=4.9								
MAW	**Mawson**	**64.79**	**203**	P	**P**	**10 52 46.5**	**+3.2**		
	8.5nm,1.1s,baz=137,slow=5.4,SNR=11								
SYO	**Syowa Base**	**69.80**	**195**⇓*eX*		**P**	**10 53 16.0**	**+1.3**		
SNAA	**Sanae**	**71.58**	**180**	P	**P**	**10 53 30.2**	**+4.6**		
VNA3	**Neumayer Olymp**	**71.89**	**178**	P	P	10 53 33.1	+5.8		
VNA2	**Neumayer--Watz**	**72.27**	**178**	P	**P**	**10 53 33.5**	**+4.0**		
	baz=169,slow=4.6								
VNA1	**Neumayer--Stat**	**72.52**	**178**	P	P	10 53 37.4	+6.4		
PLCA	**Paso Flores**	**80.58**	**134**	P	**P**	**10 54 20.2**	**+3.3**		
	4.0nm,0.7s,baz=255,slow=5.4,SNR=13								
NJ2	**Nanjing**	**87.96**	**313**	*e*P	**P**	**10 54 53.5**	**-0.1**		
GYA	**Guiyang**	**91.81**	**302**	*e*P	**P**	**10 55 12.3**	**+0.4**		
GYA				pP	pP	10 56 02.8	+1.0		
GYA				sP	sP	10 56 25.0	+2.1		
GYA				PP	**PP**	**10 58 57.3**	**+3.1**		
GYA				S	**S**	**11 05 54.8**	**-0.7**		
GYA				pmax	pmax				
	comp=Z,10.0nm,1.0s								
CMAR	**Chiang Mai Arr**	**92.26**	**291**	P	**P**	**10 55 15.0**	**+1.0**		
	2.9nm,0.7s,baz=146,slow=3.1,SNR=12								
CN2	**Changchun**	**93.34**	**325**	*e*P	**P**	**10 55 20.3**	**+1.9**		
KMI	**Kunming**	**93.66**	**299**	P	**P**	**10 55 19.3**	**-1.3**		
KMI				pmax	pmax				
	comp=Z,6.0nm,0.5s								
CD2	**Chengdu**	**96.62**	**304**	*e*P	**P**	**10 55 32.3**	**-1.5**		
CD2				pmax	pmax				
	comp=Z,10.0nm,1.0s								
HHC	**Hu-ho-hao-te**	**98.30**	**316**	*e*P	Pdif	10 55 41.5	+0.3		
HHC				PP	**PP**	**10 59 46.5**	**+2.3**		
HHC				S	**S**	**11 06 47.0**	**-4.1**		
HHC				SS	**SS**	**11 13 44.5**	**+3.9**		
HHC				pmax	pmax				
	comp=Z,29nm,0.9s								
HHC				pmax	pmax				
	comp=Z,85nm,4.6s								
LPAZ	**La Paz**	**98.55**	**118**	P	Pdif	10 55 44.7	+1.1		
	0.5nm,0.6s,baz=270,slow=4.0,SNR=4.1								
WMQ	**Urumqi**	**114.39**	**307**	PKP	PKPdf	11 00 39.5	-2.7		
WMQ				LR	LR				
	comp=N,43nm,19.3s								
WMQ				LR	LR				
	comp=Z,26nm,13.7s								
KSH	**Kashi**	**120.33**	**299**	*e*PKP	**PKPdf**	**11 00 50.5**	**-3.3**		
KSH				sPKP		11 02 11.0			
KSH				PP	**PP**	**11 02 26.3**	**+2.9**		
KSH				PKS	**PKSdf**	**11 04 26.3**	**-4.2**		
KSH				SKS	**SKSdf**	**11 07 39.0**	**-7.5**		
KSH				SS	**SS**	**11 18 37.3**	**+1.5**		
KSH				AMB	AMB				
	comp=Z,84nm,4.5s								
KSH				LR	LR				
	comp=N,52nm,5.8s								
KSH				LR	LR				
	comp=E,67nm,4.8s								
KSH				LR	LR				
	comp=Z,120nm,5.0s								
ARCES	**ARCESS Array B**	**144.12**	**344**	PKP	PKPab	11 01 34.6	-0.8		
	2.1nm,0.6s,baz=75,slow=1.4,SNR=4.8								
LIC	**Lamto**	**149.22**	**175**	*e*P	**PKPbc**	**11 01 52.7**	**+0.8**		
	58nm,1.5s								
KIC	**Kosan Boka**	**149.38**	**175**	*e*P	**PKPbc**	**11 01 54.5**	**+2.2**		
	105nm,1.6s								
TIC	**Toumodi**	**149.64**	**175**	*e*P	**PKPbc**	**11 01 53.9**	**+0.9**		
DBIC	**Dimbokro**	**149.68**	**175**	PKPbc	**PKPbc**	**11 01 54.2**	**+1.1**		
	7.6nm,0.9s,baz=118,slow=2.6,SNR=5.7								
FIA0	**FINESS Array S**	**149.77**	**333**	*e*PKPbc	**PKPbc**	**11 01 49.6**	**-2.1**		
FINES	**FINESS Array B**	**149.77**	**333**	PKPbc	**PKPbc**	**11 01 49.6**	**-2.1**		
	1.9nm,0.5s,baz=11,slow=3.8,SNR=14								
BR101	**Keskin Array S**	**151.74**	**287**	*e*PKPbc	**PKPbc**	**11 01 56.3**	**-1.0**		
BRTR	**Keskin Array B**	**151.74**	**287**	PKPbc	**PKPbc**	**11 01 56.3**	**-1.0**		
	1.1nm,0.5s,baz=141,slow=3.4,SNR=5.2								
BRTR				PKPab	**PKPab**	**11 02 06.9**	**-0.2**		
	1.3nm,0.8s,baz=141,slow=4.5,SNR=5.0								
TORD	**Torodi Ar. Bea**	**155.92**	**190**	PKP	**PKPdf**	**11 01 56.1**	**-1.1**		
	0.7nm,0.7s,baz=175,slow=0.9,SNR=4.2								
TORD				PKPbc	PKPbc	11 02 09.1			
	0.8nm,0.4s,baz=164,slow=2.9,SNR=16								
TORD				PKPab	**PKPab**	**11 02 26.1**	**+1.1**		
	4.8nm,0.6s,baz=169,slow=3.3,SNR=21								
TOA1	**Torodi Ar. Sit**	**155.92**	**190**	*e*PKPdf	**PKPdf**	**11 01 56.1**	**-1.1**		

*IDC **30** 11:34:58.0±0.7, 1.7°N×125.5°E, h0km, mb4.4/12, mb1 4.5/13, mb1mx4.2/38, mbtmp4.4/13, MS3.2/8, Ms1 3.2/8, ms1mx2.9/46, Error ellipse: s-maj=36.8km s-min=12.7km az=86.0*
*ISCJB **30** 11:34:58.6±0.4, 1.2°N±0.0°×125.7°E±0.0°, h10km, mb4.3/18, MS3.2/8, Error ellipse: s-maj=8.6km s-min=6.7km az=5.1*
*NEIC **30** 11:34:59.3±0.4, 1.1°N×125.3°E, h10km, mb4.6/5, Error ellipse: s-maj=16.4km s-min=8.0km az=89.0*
*DJA **30** 11:35:02.7±1.5, 1.1°N±7.1×12.6°E±0.9°, h11km±13km, M4.7/8, mb4.7/4, mB5.4/3, MLv4.7/8, Mw(mB)4.8/3*
ISC 30 11:35:00.3±0.6, 1.1°N±0.0°×125.5°E±0.0°5, h10km, n42, σ2°56/32, mb4.4/18, MS3.3/8, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
KMSI	**Cibinong**	**1.65**	**250**	P		**Pn**	**11 35 31.9**		**+2.5**
KMSI				S		**Sn**	**11 35 54.8**		**+4.1**
LBMI	**Labuha**	**2.64**	**132**	P		**Pn**	**11 35 46.1**		**+3.0**
LBMI				S		**Sn**	**11 36 19.4**		**+4.2**
SANI	**Sanana**	**3.20**	**172**	P		**Pn**	**11 35 51.8**		**+1.1**
MRSI	**Marisa**	**3.65**	**260**	P		**Pn**	**11 35 59.9**		**+2.9**
NLAI	**Namlea**	**4.62**	**160**	P		**Sn**	**11 37 03.6**		**-0.5**
AAI	**Ambon**	**5.48**	**151**	P		**Pn**	**11 36 25.3**		**+3.2**
MSAI	**Masohi**	**5.60**	**143**	P		**Pn**	**11 36 28.1**		**+4.3**
	12nm,0.7s,0.7nm								
TTSI	**Tana Toraja**	**7.07**	**234**	P		**Pn**	**11 36 48.4**		**+4.5**
	60nm,0.8s,2μm								
SPSI	**Sidrap Palu**	**7.67**	**229**	P		**Pn**	**11 36 56.9**		**+4.6**
KAPI	**Kappang**	**8.41**	**223**	*e*Pn		Pn	11 36 58.4		-4.0
KAPI				*e*Sn		**Sn**	**11 38 34.0**		**-3.5**
FITZ	**Fitzroy Crossi**	**19.12**	**180**	P		**P**	**11 39 23.3**		**-0.3**
	baz=17,slow=14								
WRAB	**Tennant Creek**	**22.66**	**158**	*e*P		**P**	**11 40 01.1**		**-0.8**
	25nm,1.0s								
WRA	**Warramunga Arr**	**22.66**	**158**	P		**P**	**11 40 01.0**		**-1.0**
	8.3nm,0.5s,baz=336,slow=11,SNR=149								
WRA				S		**S**	**11 44 05.6**		**-4.7**
	1.6nm,0.8s,baz=332,slow=21,SNR=5.5								
GUMO	**Guam**	**22.79**	**56**	LR		LR	11 48 56.2		
	comp=Z,22nm,19.1s,baz=218,slow=37								
MBWA	**Marble Bar**	**22.88**	**194**	*e*P		**P**	**11 40 03.4**		**-0.8**
	20nm,0.5s								
COEN	**Coen**	**23.03**	**131**	*e*P		**P**	**11 40 06.8**		**+0.8**
	2.7nm,0.5s								
JOW	**Kunigami**	**25.68**	**6**	P		**P**	**11 40 30.6**		**-0.1**
	16nm,0.5s,baz=61,slow=20,SNR=8.0								
ASAR	**Alice Springs**	**25.97**	**162**	P		**P**	**11 40 33.2**		**-0.1**
	9.8nm,0.6s,baz=348,slow=11,SNR=89								
ASAR				S		**S**	**11 45 00.8**		**-3.2**
	0.8nm,0.8s,baz=348,slow=16,SNR=3.0								
PSI	**Prapat**	**26.64**	**274**	LR		LR	11 51 11.1		
	comp=Z,98nm,18.7s,baz=113,slow=37								
JNU	**Nakatsue**	**32.21**	**8**	LR		LR	11 53 03.7		
	comp=Z,26nm,21.6s,baz=122,slow=34								
BBOO	**Buckleboo**	**35.20**	**165**	*e*P		P	11 41 52.7		-2.1
	50nm,1.2s								
KSAR	**Wonju Array Be**	**36.19**	**3**	P		**P**	**11 42 01.6**		**-1.6**
STKA	**Stephens Creek**	**36.19**	**157**	P		**P**	**11 42 03.5**		**+0.1**
	6.1nm,0.7s,baz=321,slow=8.2,SNR=7.7								
KSRS	**Korea Array**	**36.20**	**3**	P		**P**	**11 42 01.6**		**-1.7**
	2.4nm,0.9s,baz=177,slow=9.5,SNR=4.6								
KSRS				LR		LR	11 57 05.0		
	comp=Z,27nm,20.1s,baz=170,slow=37								
MJAR	**Matsushiro Arr**	**37.13**	**17**	P		**P**	**11 42 09.2**		**-2.1**
	4.7nm,0.8s,baz=199,slow=9.5,SNR=11								
USRK	**Ussuriysk Ar.**	**43.26**	**7**	P		**P**	**11 43 01.2**		**-0.7**
	6.9nm,1.1s,baz=156,slow=11,SNR=3.7								
H11S3	**WAKE ISLAND Hy**	**43.89**	**64**	T		T	12 30 17.9		
	baz=252,slow=75,SNR=119								
H11S2	**WAKE ISLAND Hy**	**43.91**	**64**	T		T	12 29 60.0		
	baz=252,slow=75,SNR=90								
H11S1	**WAKE ISLAND Hy**	**43.91**	**64**	T		T	12 30 20.0		
	baz=252,slow=75,SNR=63								
H11N1	**WAKE ISLAND Hy**	**44.47**	**63**	T		T	12 30 59.9		
	baz=262,slow=75,SNR=12								
H11N3	**WAKE ISLAND Hy**	**44.49**	**63**	T		T	12 31 05.2		
	baz=251,slow=75,SNR=6.4								
KLR	**Kul'dur**	**48.20**	**5**	P		**P**	**11 43 41.9**		**+0.9**
	0.1nm,0.5s,baz=183,slow=7.4,SNR=4.7								
SONM	**Songino Array**	**49.38**	**343**	LR		LR	12 05 26.4		
	comp=Z,49nm,22.0s,baz=141,slow=37								
TLY	**Talaya**	**53.62**	**343**	LR		LR	12 10 20.0		
	comp=Z,27nm,18.0s,baz=174,slow=40								
PETK	**Petropavlovsk-**	**58.26**	**22**	P		**P**	**11 44 55.0**		**-0.1**
	4.9nm,0.9s,baz=184,slow=4.3,SNR=3.4								
MKAR	**Makanchi Array**	**59.02**	**327**	P		P	11 44 56.9		-3.6
	0.4nm,0.4s,baz=110,slow=8.3,SNR=2.7								
YAK	**Yakutsk**	**60.82**	**2**	LR		LR	12 13 01.1		
	comp=Z,22nm,19.7s,baz=269,slow=38								
MA2	**Magadan**	**61.49**	**14**	LR		LR	12 09 04.9		
	comp=Z,22nm,20.1s,baz=234,slow=33								
MAW	**Mawson**	**80.93**	**200**	P		**P**	**11 47 14.1**		**-0.4**
	1.7nm,0.6s,baz=74,slow=9.0,SNR=4.5								
VNDA	**Vanda**	**81.03**	**173**	P		**P**	**11 47 14.7**		**-0.3**
	1.2nm,0.8s,baz=308,slow=6.8,SNR=6.8								
COLD	**Coldfoot**	**86.73**	**23**	*e*P		**P**	**11 47 43.6**		**-0.7**
	1.5nm,0.8s								
KMBO	**Kilima Mbogo**	**88.31**	**269**	P		**P**	**11 47 52.8**		**-0.6**
	1.4nm,0.5s,baz=65,slow=9.0,SNR=6.0								

*IDC **30** 11:38:54.9±2.2, 14.3°N×119.4°E, h0km, mb3.3/3, mb1 3.7/3, mb1mx3.3/46, mbtmp3.4/3, MS2.9/1, Ms1 2.9/1, ms1mx2.4/29, Error ellipse: s-maj=54.1km s-min=23.2km az=10.0*
*MAN **30** 11:38:54, 15.1°N×119.8°E, h32km, mb5.0, ML4.0, MS4.1*
*ISCJB **30** 11:38:55.2±0.7, 15.3°N±0.0°×119.8°E±0.0°, h43km±12km, mb3.2/2, MS2.8/1, Error ellipse: s-maj=11.6km s-min=8.5km az=164.4*
ISC 30 11:38:55.1±1.4, 15.4°N±0.0°×119.9°E±0.0°7, h33km±6km, n14, σ1°96/18, 1C-1D, Luzon

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
SCZP	**Santa Cruz**	**0.37**	**2**	*e*P		**Pn**	**11 39 04.4**		**+0.1**
SCZP				*e*S		**Sn**	**11 39 10.7**		**+0.4**
BOLP	**Bolinao**	**0.97**	**1**	*e*P		**Pb**	**11 39 12.6**		**-1.0**
PCPH	**Palayan**	**1.17**	**82**⇑	*e*P		**Pb**	**11 39 16.0**		**-0.7**
PCPH				*e*S		**Sn**	**11 39 31.1**		**+1.2**
TGY	**Tagaytay City**	**1.64**	**142**	Pn		**Pb**	**11 39 22.8**		**-1.9**
	53nm,0.3s,baz=84,slow=13,SNR=2.4								
TGY				Sn		**Sb**	**11 39 45.7**		**+0.6**
	127nm,0.3s,baz=220,slow=19,SNR=7.6								
LUBP	**Lubang**	**1.69**	**168**	*e*P		**Pn**	**11 39 23.4**		**+1.1**
LUBP				*e*S		**Sb**	**11 39 49.9**		**+3.4**
ABRA	**Dolores**	**2.37**	**19**	*e*P		**Pb**	**11 39 34.3**		**-2.8**
CAUP	**Cauayan**	**2.40**	**50**	*e*P		**Pb**	**11 39 36.0**		**-1.7**
CAUP				*e*S		**Sb**	**11 40 09.4**		**+2.5**
GQP	**Guinayangan**	**2.88**	**121**⇓	*e*P		**Pn**	**11 39 38.4**		**-0.3**
BUSP	**Coron**	**3.39**	**175**	*e*P		**Pn**	**11 39 47.2**		**+1.4**
BUSP				*e*S		**Sn**	**11 40 21.6**		**-3.2**
ENPP	**El Nido**	**4.20**	**186**	*e*P		**Pn**	**11 39 57.3**		**+0.5**
CMAR	**Chiang Mai Arr**	**20.27**	**282**	P		**P**	**11 43 29.9**		**+1.8**
	0.5nm,0.3s,baz=86,slow=6.8,SNR=4.5								
MJAR	**Matsushiro Arr**	**26.63**	**34**	LR		LR	11 55 54.8		
	comp=Z,29nm,21.9s,baz=235,slow=37								
WRA	**Warramunga Arr**	**37.88**	**158**	P		P	11 46 06.2		-3.2
	0.3nm,0.5s,baz=337,slow=9.5,SNR=5.5								
ASAR	**Alice Springs**	**41.17**	**160**	P		**P**	**11 46 35.8**		**-0.9**
	0.3nm,0.5s,baz=341,slow=7.9,SNR=5.0								

*NIED **30** 11:45:00, 36.70°N×140.70°E, h5km, Mw3.7 Best double couple: M0.73000×10^14 NP1:φs148.00000°, δ40.00000°, λ-82.00000°. NP2:φs317.00000°, δ51.00000°, λ-97.00000°.*
*ISCJB **30** 11:45:40.0±0.7, 36.7°N±0.0°×140.7°E±0.0°, h13km±4km, mb4.0/8, Error ellipse: s-maj=8.4km s-min=5.3km az=17.7*
*JMA **30** 11:45:40.7, 36.7°N×140.6°3E, h5km±1km, M3.6 Broadband fault plane solution: P waves. NP1: φs135.00000°, δ49.00000°, λ-103.00000°. NP2: φs334.00000°, δ43.00000°, λ-76.00000°. Principal axes: T Plg3.0000°, Azm234.0000°; N Plg10.0000°, Azm143.0000°; P Plg80.0000°, Azm341.0000°;*
JMA Felt II J1.
*IDC **30** 11:45:40.5±1.6, 36.9°3N×140.5°5E, h0km, mb4.0/6, mb1 4.0/7, mb1mx3.7/51, mbtmp4.1/7, ML3.7/1 Error ellipse: s-maj=30.0km s-min=28.1km az=159.0*
*NEIC **30** 11:45:45.3±0.7, 36.8°1N×140.5°0E, h35km, mb4.1/2, Error ellipse: s-maj=14.3km s-min=10.3km az=74.0*
ISC 30 11:45:40.8±1.1, 36.7°5N±0.0°3×140.5°7E±0.0°5, h5km±8km, n19, σ1°904/28, mb4.0/8, 4C, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
JHO	**Hitachi**	**0.14**	**182**	⇑P		**Pg**	**11 45 43.5**		**-0.2**
JHO				S		**Sg**	**11 45 45.6**		**+0.1**
ONAJ	**Iwakimizuishiy**	**0.39**	**27**	⇑P		**Pg**	**11 45 48.4**		**-0.1**
ONAJ				*e*

	baz=193							
ARLS				⇓*e*S		**Sg**	**11 49 11.2**	**+1.1**
	baz=193							
ULHL	**Ulahol**	**1.48**	**132**	⇑*i*P		**Pb**	**11 48 51.9**	**-0.2**
	baz=133							
ULHL				⇑*i*S		**Sg**	**11 49 12.5**	**+0.3**
	baz=133							
TNSS	**Tian-Shan**	**1.62**	**97**	*e*P		**Pb**	**11 48 55.1**	**+0.6**
	5.7nm,0.1s							
TNSS				*e*S		**Sb**	**11 49 15.3**	**+0.2**
	16nm,0.4s							
MDOK	**Medeo**	**1.68**	**92**	*e*P		**Pg**	**11 48 57.0**	**+0.3**
	9.9nm,0.3s							
MDOK				*e*S		**Sg**	**11 49 18.6**	**0.0**
	16nm,0.4s							
KOTS	**Kotyrbulak**	**1.73**	**89**	*e*P		**Pg**	**11 48 57.7**	**+0.1**
KOTS				*e*S		**Sg**	**11 49 19.6**	**-0.4**
CHKK	**Chushkaly**	**1.74**	**69**	*e*P		**Pg**	**11 48 58.5**	**+0.7**
	7.3nm,0.3s							
CHKK				*e*S		**Sg**	**11 49 20.7**	**+0.3**
	31nm,0.2s							
MNAS	**Manas**	**1.82**	**246**	⇑*e*P		**Pb**	**11 48 57.8**	**+0.1**
	baz=246							
MNAS				⇑*e*S		**Sg**	**11 49 22.6**	**-0.3**
	baz=246							
MNAS	**Manas**	**1.82**	**246**	⇓Pn		**Pb**	**11 48 57.4**	**-0.3**
	2.2nm,0.6s							
MNAS				⇑Sn		**Sg**	**11 49 22.6**	**-0.3**
	3.8nm,0.7s							
ANVS	**Anan'yevo**	**2.19**	**101**	⇓*e*P		**Pb**	**11 49 03.2**	**-0.9**
	baz=102							
ANVS				⇓*e*S		**Sb**	**11 49 30.1**	**-1.1**
	baz=102							
MNBS	**Baschi**	**2.78**	**71**	*e*P		**Pg**	**11 49 17.4**	**-0.3**
	1.6nm,0.2s							
MNBS				*e*S		**Sg**	**11 49 53.1**	**-0.6**
	5.6nm,0.3s							
KK31	**Karatay Array**	**3.10**	**269**	⇑Pg		**Pb**	**11 49 20.3**	**+0.7**
	0.8nm,0.6s,baz=90,slow=16,SNR=4.5							
KK31				⇑Lg		Lg	11 50 00.3	
	1.4nm,0.4s,baz=83,slow=27,SNR=7.4							

*IDC **30** 11:50:44.4±4.9,5.˚15S×143.˚84E,h84km±38km,mb3.6/5, mb1 3.8/6,mb1mx3.4/39,mbtmp3.9/6,MS3.8/1,Ms1 3.8/1, ms1mx2.6/27,Error ellipse: s-maj=47.4km s-min=20.1km az=81.0*

*ISCJB **30** 11:50:45.6±0.8,5.˚21S±0.˚10×143.˚6E±0.˚1,h101km, mb3.7/4,Error ellipse: s-maj=20.1km s-min=7.2km az=141.1*

ISC 30 11:50:47.2±0.8,5.˚2S±0.˚1×143.˚6E±0.˚2,h101km,n9, σ1831/10,mb3.8/4,New Guinea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JAY	**Jayapura**	**3.91**	**312**	P	**Pn**	**11 51 45.6**	**+0.3**
	0.3nm,0.3s,baz=166,slow=23,SNR=12						
JAY				S	**Sn**	**11 52 31.4**	**+1.0**
	0.2nm,0.3s,baz=342,slow=19,SNR=3.6						
PMG	**Port Moresby**	**5.50**	**140**	P	**Pn**	**11 52 08.7**	**+2.0**
	5.5nm,0.3s,baz=14,slow=2.9,SNR=13						
PMG				S	**Sn**	**11 53 07.8**	**-0.8**
	1.8nm,0.3s,baz=282,slow=21,SNR=8.3						
SIJI	**Sorong**	**13.05**	**289**	LR	LR	11 59 53.0	
	comp=Z,408nm,19.3s,baz=66,slow=41						
WRA	**Warramunga Arr**	**17.25**	**211**	P	**P**	**11 54 40.0**	**-1.9**
	0.3nm,0.3s,baz=32,slow=12,SNR=22						
ASAR	**Alice Springs**	**20.65**	**206**	P	**P**	**11 55 19.1**	**+0.1**
	3.9nm,0.8s,baz=38,slow=8.7,SNR=41						
CMAR	**Chiang Mai Arr**	**49.89**	**299**	P	**P**	**11 59 31.1**	**+0.2**
	1.3nm,0.7s,baz=122,slow=6.4,SNR=8.5						
MKAR	**Makanchi Array**	**74.72**	**321**	P	**P**	**12 02 15.9**	**-0.1**
	0.4nm,0.6s,baz=97,slow=7.4,SNR=5.2						
BVAR	**Borovoye Array**	**84.12**	**324**	P	**P**	**12 03 06.8**	**-0.1**
	1.1nm,0.6s,baz=110,slow=8.1,SNR=5.4						
ILAR	**Eielson Array**	**86.05**	**24**	P	**P**	**12 03 14.8**	**-1.5**
	0.6nm,0.8s,baz=264,slow=5.0,SNR=6.3						

JMA 30 11:50:55.7,37.˚05N×140.˚81E,h5km±1km,M2.6,Eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ONAJ	**Iwakimizuishiy**	**0.05**	**350**	P	Pg	11 50 57.0	-0.1
ONAJ				*e*S	Sg	11 50 58.1	0.0
JFK	**Kawauchi**	**0.32**	**9**	P	Pg	11 51 02.0	+0.1
JFK				S	Sg	11 51 06.9	+0.7
JHO	**Hitachi**	**0.48**	**204**	P	Pg	11 51 05.0	+0.1
JHO				S	Sg	11 51 12.0	+0.9
JFT	**Otama**	**0.60**	**321**	P	Pg	11 51 07.5	+0.2
JFT				S	Sg	11 51 15.8	+0.7
MAT	**Matsushiro**	**2.15**	**257**	P	Pn	11 51 33.0	+0.8
MAT				S	Sb	11 52 01.8	-0.3

IDC 30 11:53:14.3±5.2,6.˚91S×129.˚35E,h120km±57km,mb3.5/2, mb1 3.7/5,mb1mx3.2/45,mbtmp4.0/5,Error ellipse: s-maj=99.6km s-min=20.2km az=74.0,Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SIJI	**Sorong**	**6.30**	**18**	P	Pn	11 54 44.8	-0.1
	8.1nm,0.3s,baz=197,slow=23,SNR=26						
SIJI				S	Sn	11 55 47.0	-8.6
	15nm,0.3s,baz=238,slow=23,SNR=7.8						
WRA	**Warramunga Arr**	**13.83**	**160**	P	Pn	11 56 24.7	-0.7
	0.2nm,0.3s,baz=341,slow=12,SNR=6.5						
WRA				S	Sn	11 58 51.7	-6.3
	1.2nm,0.3s,baz=338,slow=22,SNR=8.0						
ASAR	**Alice Springs**	**17.23**	**166**	P	Pn	11 57 09.2	+1.6
	0.4nm,0.3s,baz=343,slow=9.0,SNR=21						
ASAR				S	Sn	12 00 15.3	-4.5
	0.2nm,0.3s,baz=1.0,slow=29,SNR=5.0						
STKA	**Stephens Creek**	**27.34**	**157**	P	P	11 58 47.6	-0.5
	2.2nm,0.8s,baz=343,slow=11,SNR=3.3						
MKAR	**Makanchi Array**	**67.80**	**327**	P	P	12 03 59.5	+0.1
	0.3nm,0.4s,baz=128,slow=6.9,SNR=4.3						

IDC 30 12:03:37.9±2.1,6.˚68S×129.˚76E,h0km,mb3.7/1, mb1 3.9/4,mb1mx3.5/38,mbtmp3.7/4,ML3.9/2,Error ellipse: s-maj=88.9km s-min=27.6km az=77.0,Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**12.05**	**199**	Pn	Pn	12 06 32.2	+1.2
	baz=90,slow=14						
WRA	**Warramunga Arr**	**13.92**	**162**	Pn	Pn	12 06 55.5	-1.1
	0.7nm,0.3s,baz=343,slow=13,SNR=30						
WRA				Sn	Sn	12 09 19.9	-12
	0.7nm,0.3s,baz=331,slow=22,SNR=7.3						
ASAR	**Alice Springs**	**17.36**	**167**	P	Pn	12 07 41.5	-0.2
	0.4nm,0.3s,baz=337,slow=8.8,SNR=29						
ASAR				S	Sn	12 10 41.9	-14
	0.2nm,0.3s,baz=357,slow=24,SNR=5.8						
MKAR	**Makanchi Array**	**67.83**	**327**	P	P	12 14 37.9	0.0
	0.3nm,0.4s,baz=115,slow=7.4,SNR=3.8						

*IDC **30** 12:08:09.8±0.8,31.˚32N×94.˚10E,h0km,mb3.9/11, mb1 4.0/13,mb1mx3.8/47,mbtmp3.9/13,ML3.5/2,MS3.1/10, Ms1 3.1/10,ms1mx2.9/46,Error ellipse: s-maj=30.9km s-min=15.8km az=52.0*

*BJI **30** 12:08:11.8,31.˚40N×93.˚99E,h6km,mb4.1/9,mB4.2/1, ML3.9/5,Ms3.8/6,Ms7 3.5/5*

*ISCJB **30** 12:08:13.2±0.5,31.˚40N±0.˚04×93.˚94E±0.˚07,h33km, mb3.9/14,MS3.0/6,Error ellipse: s-maj=9.3km s-min=5.1km az=29.9*

*NEIC **30** 12:08:15.6±0.6,31.˚44N×94.˚03E,h35km,mb4.0/4,Error ellipse: s-maj=13.0km s-min=11.1km az=76.0*

*DMN **30** 12:08:47.2±4.8,30.˚81N×90.˚70E,h10km,Mb5.1/9,Error ellipse: s-maj=112.9km s-min=10.9km az=54.0*

ISC 30 12:08:16.1±0.7,31.˚32N±0.˚06×94.˚08E±0.˚08,h35km,n39, σ261/39,mb3.9/14,MS3.0/6,Xizang

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LSA	**Lhasa**	**3.00**	**238**	Pn	**Pn**	**12 09 03.5**	**+1.9**
LSA				Sn	**Sn**	**12 09 45.0**	**+8.4**
LSA				smax	smax		
	comp=N,560nm,0.9s						
LSA				smax	smax		
	comp=E,660nm,0.9s						

LSA	**Lhasa**	**3.00**	**238**	*e*Pn		**Pn**	**12 09 01.9**	**+0.3**
LSA				*e*Sn		**Sn**	**12 09 36.3**	**-0.3**
SHL	**Shillong**	**6.05**	**199**	*e*P		**Pn**	**12 09 43.5**	**+0.2**
SHL				*e*S		**Sn**	**12 10 53.5**	**+2.1**
SHL				*ex*		x	12 11 31.5	
TAPN	**Taplejung**	**6.83**	**236**	*e*P		**Pn**	**12 09 54.9**	**+0.9**
	18nm,0.4s							
JIRN	**Jiri**	**7.79**	**244**	*e*P		**Pn**	**12 10 05.4**	**-1.8**
	137nm,0.5s							
RAMN	**Ramite**	**7.86**	**238**	*e*P		**Pn**	**12 10 08.7**	**+0.6**
	34nm,0.5s							
GUN	**Gumba**	**7.91**	**247**	*e*P		**Pn**	**12 10 06.5**	**-2.4**
	31nm,0.4s							
KKN	**Kakani**	**8.43**	**248**	*e*P		Pn	12 10 12.9	-3.1
	15nm,0.4s							
PKI	**Pulchoki**	**8.43**	**246**	*e*P		**Pn**	**12 10 13.7**	**-2.4**
	18nm,0.4s							
PKIN	**Phulchoki**	**8.44**	**246**	*e*P		**Pn**	**12 10 13.7**	**-2.4**
	30nm,0.5s							
DMN	**Daman**	**8.65**	**247**	*e*P		**Pn**	**12 10 16.3**	**-2.7**
	18nm,0.4s							
GTA	**Gaotai**	**9.32**	**29**	*e*P		**Pn**	**12 10 28.5**	**+0.4**
GTA				pP			12 10 31.8	
GTA				sP			12 10 34.5	
GTA				S		**Sn**	**12 12 17.5**	**+5.7**
GTA				sS			12 12 22.5	
GTA				pmax	pmax			
	comp=Z,3.0nm,0.9s							
GTA				LR	LR			
	comp=N,260nm,13.3s							
GTA				LR	LR			
	comp=E,220nm,13.1s							
GTA				LR	LR			
	comp=Z,210nm,11.9s							
KOLN	**Koldanda**	**9.79**	**251**	*e*P		Pn	12 10 31.5	-3.1
	25nm,0.6s							
PYUN	**Piuthan**	**10.16**	**254**	*e*P		Pn	12 10 36.2	-3.5
	86nm,0.8s							
WMQ	**Urumqi**	**13.46**	**340**	P		**Pn**	**12 11 22.0**	**-2.5**
WMQ				pP		P	12 11 26.0	-7.3
WMQ				sP			12 11 29.0	
WMQ				PP		**PnPn**	**12 11 37.0**	**+4.5**
WMQ				S		**Sn**	**12 13 57.8**	**+5.0**
WMQ				SS		**S**	**12 14 14.8**	**-0.8**
WMQ				pmax	pmax			
	comp=Z,8.0nm,0.7s							
WMQ				LR	LR			
	comp=N,300nm,10.7s							
WMQ				LR	LR			
	comp=E,270nm,7.7s							
CMAR	**Chiang Mai Arr**	**13.55**	**160**	LR	LR		12 16 10.7	
	comp=Z,40nn,18.1s,baz=12,slow=36							
MKAR	**Makanchi Array**	**17.92**	**333**	P		**Pn**	**12 12 20.4**	**-2.1**
	0.3nm,0.3s,baz=143,slow=13,SNR=7.4							
MKAR				LR	LR		12 18 56.8	
	comp=Z,43nn,20.5s,baz=161,slow=36							
SONM	**Songino Array**	**18.98**	**26**	P		**P**	**12 12 32.7**	**-1.8**
	0.1nm,0.3s,baz=223,slow=6.1,SNR=26							
SONM				LR	LR		12 20 18.0	
	comp=Z,59nm,20.5s,baz=235,slow=38							
AAK	**Ala-Archa**	**19.25**	**311**	P		**P**	**12 12 38.5**	**+1.0**
	0.1nm,0.3s,baz=121,slow=14,SNR=4.4							
AAK				LR	LR		12 21 34.7	
	comp=Z,54nm,18.2s,baz=82,slow=42							
AAK	**Ala-Archa**	**19.25**	**311**	*e*P		**P**	**12 12 35.2**	**-2.3**
	4.4nm,0.8s							
ULN	**Ulaanbaatar**	**19.26**	**27**	*e*P		**P**	**12 12 37.3**	**-0.3**
TLY	**Talaya**	**21.53**	**16**	LR	LR		12 21 54.8	
	comp=Z,33nm,20.9s,baz=179,slow=38							
KURBB	**Kurchatov Arra**	**22.49**	**333**	P		**P**	**12 13 10.1**	**-2.1**
	4.0nm,0.8s,baz=141,slow=10,SNR=14							
KURK	**Kurchatov**	**22.53**	**334**	*e*P		**P**	**12 13 10.5**	**-2.2**
ZALV	**Zalesovo Beam**	**23.57**	**346**	P		**P**	**12 13 23.3**	**0.0**
	0.9nm,0.3s,baz=157,slow=7.7,SNR=3.9							
ZALV				LR	LR		12 23 09.2	
	comp=Z,40nm,18.9s,baz=248,slow=38							
PALK	**Pallekele**	**27.00**	**210**	LR	LR		12 25 41.1	
	comp=Z,42nn,19.9s,baz=116,slow=39							
BVAR	**Borovoye Array**	**27.67**	**328**	P		**P**	**12 14 00.1**	**-0.4**
	1.1nm,0.6s,baz=131,slow=10,SNR=5.2							
KSRS	**Korea Array**	**28.49**	**68**	LR	LR		12 26 38.3	
	comp=Z,37nn,18.4s,baz=160,slow=39							
GEYT	**Alibeck**	**30.19**	**293**	P		**P**	**12 14 22.6**	**-0.5**
	1.9nm,0.5s,baz=81,slow=10,SNR=2.2							
GEYT				LR	LR		12 28 15.3	
	comp=Z,72nm,20.2s,baz=135,slow=40							
ABKAR	**Akbulak array**	**31.25**	**315**	*e*P		**P**	**12 14 34.6**	**+2.3**
	1.8nm,0.7s							
AKASG	**Malin Array Be**	**50.91**	**312**	P		**P**	**12 17 11.3**	**-2.3**
	0.3nm,0.4s,baz=75,slow=6.3,SNR=3.4							
NOA	**NORSAR Array B**	**59.76**	**326**	P		**P**	**12 18 16.4**	**-0.8**
	0.9nm,0.8s,baz=103,slow=5.3,SNR=3.2							
GERES	**GERESS Array B**	**61.13**	**312**	P		**P**	**12 18 26.6**	**-0.3**
	0.8nm,0.6s,baz=63,slow=6.3,SNR=5.6							
GERES				LR	LR		12 49 13.9	
	comp=Z,23nm,19.5s,baz=28,slow=40							
WRAB	**Tennant Creek**	**63.96**	**137**	*e*P		**P**	**12 18 48.6**	**+2.7**
	2.2nm,0.9s							
WRA	**Warramunga Arr**	**63.96**	**137**	P		**P**	**12 18 45.0**	**-0.9**
	0.8nm,0.7s,baz=331,slow=6.5,SNR=14							
ASAR	**Alice Springs**	**66.66**	**140**	P		**P**	**12 19 02.8**	**-0.6**
	0.5nm,0.6s,baz=323,slow=6.3,SNR=10							
COLA	**College**	**72.79**	**23**	*e*P		**P**	**12 19 38.9**	**-1.6**
	1.4nm,0.7s							
ILAR	**Eielson Array**	**73.18**	**23**	P		**P**	**12 19 41.2**	**-1.7**
	0.5nm,0.8s,baz=299,slow=4.6,SNR=5.6							
TORD	**Torodi Ar. Bea**	**85.28**	**282**	P		**P**	**12 20 48.3**	**-1.5**
	1.2nm,0.7s,baz=64,slow=5.6,SNR=6.4							

*IDC **30** 12:28:16.4±0.8,1.˚95S×137.˚11E,h0km,mb3.8/7, mb1 4.1/9,mb1mx3.9/32,mbtmp3.9/9,ML3.4/2,MS3.6/5, Ms1 3.6/5,ms1mx3.1/35,Error ellipse: s-maj=27.8km s-min=18.0km az=72.0*

*ISCJB **30** 12:28:19.4±0.3,2.˚09S±0.˚04×137.˚22E±0.˚03,h33km, mb4.4/12,MS3.4/4,Error ellipse: s-maj=6.3km s-min=3.7km az=178.1*

*DJA **30** 12:28:19.8±1.2,2.˚S±7.˚×13.˚7E±.˚,h12km±8km,M4.9/3, mb4.9/3*

*NEIC **30** 12:28:21.8±0.9,2.˚05S×137.˚22E,h38km±10km,mb4.4/8, Error ellipse: s-maj=9.2km s-min=7.2km az=173.0*

ISC 30 12:28:21.6±0.5,2.˚15S±0.˚06×137.˚20E±0.˚04,h35km,n51, σ220/60,mb4.1/12,MS3.5/4,Irian Jaya

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GENI	**Genyem**	**3.00**	**98**	P	**Pn**	**12 29 05.8**	**-0.9**
GENI				S	**Sn**	**12 29 43.4**	**+2.0**
JAY	**Jayapura**	**3.52**	**96**	Pn	**Pn**	**12 29 12.5**	**-1.4**
	0.4nm,0.3s,baz=244,slow=22,SNR=25						
JAY	**Jayapura**	**3.52**	**96**	P	**Pn**	**12 29 12.0**	**-1.9**
JAY				S	**Sn**	**12 29 52.7**	**-1.7**
KMPI	**Kaimana, Papua**	**3.80**	**247**	P	**Pn**	**12 29 21.0**	**+3.3**
FAKI	**Fak Fak**	**5.00**	**261**	P	**Pn**	**12 29 35.5**	**+1.2**
FAKI				S	**Sn**	**12 30 33.0**	**+2.1**
FAKI	**Fak Fak**	**5.00**	**261**	*e*Pn	**Pn**	**12 29 35.3**	**+1.1**
FAKI				*e*Sn	**Sn**	**12 30 28.9**	**-2.0**
SIJI	**Sorong**	**6.07**	**282**	Pn	**Pn**	**12 29 48.6**	**-0.3**
	57nm,0.3s,baz=189,slow=23,SNR=19						
SIJI				LR	LR	12 32 19.9	
	comp=Z,4μm,19.8s,baz=14,slow=41						
SAUI	**Saumlaki**	**8.25**	**225**	*e*Pn	**Pn**	**12 30 20.6**	**+1.8**
SAUI				*e*Sn	**Sn**	**12 31 48.5**	**-2.4**
MSAI	**Masohi**	**8.34**	**262**	P	**Pn**	**12 30 23.0**	**+2.8**
AAI	**Ambon**	**9.12**	**260**	P	**Pn**	**12 30 33.0**	**+2.2**
	55nm,0.7s						
NLAI	**Namlea**	**10.14**	**264**	P	**Pn**	**12 30 46.6**	**+1.7**
MANU	**Manus Island**	**10.16**	**90**	*e*Pn	**Pn**	**12 30 46.0**	**+0.9**
MANU				*e*Sn	**Sn**	**12 32 37.0**	**-0.9**
SANI	**Sanana**	**11.20**	**270**	P	**Pn**	**12 30 58.2**	**-1.2**
	18nm,0.7s						
MTN	**Manton Dam**	**12.20**	**209**	*e*Pn	**Pn**	**12 31 14.3**	**+1.3**
MTN				*e*Sn	**Sn**	**12 33 29.5**	**+1.6**
PMG	**Port Moresby**	**12.25**	**126**	LR	LR	12 37 03.8	
	comp=Z,352nm,19.4s,baz=292,slow=42						
PMG	**Port Moresby**	**12.25**	**126**	*e*Pn	**Pn**	**12 31 15.2**	**+1.5**
COEN	**Coen**	**13.13**	**154**	*e*Pn	**Pn**	**12 31 26.7**	**+0.9**
SOEI	**Soe**	**14.91**	**239**	P	**Pn**	**12 31 51.6**	**+1.6**
SOEI	**Soe**	**14.91**	**239**	*e*Pn	**Pn**	**12 31 51.0**	**+0.9**
RABL	**Rabaul**	**15.08**	**98**	*e*Pn	**Pn**	**12 31 52.9**	**+0.6**
	57nm,1.3s						
APSI	**Ampana**	**15.59**	**274**	P	**P**	**12 32 04.5**	**+1.7**
WRAB	**Tennant Creek**	**17.89**	**189**	*e*Pn	**P**	**12 32 29.5**	**+1.3**
	18nm,0.8s						

WB2	**Warramunga Arr**	**17.90**	**189**	*e*Pn		**Pn**	**12 32 27.5**	**-0.5**
WB2				*e*Pn		**P**	**12 32 29.4**	**+1.1**
WR1	**Warramunga Arr**	**17.90**	**189**	*e*Pn		**Pn**	**12 32 27.3**	**-0.7**
	18nm,0.8s							
WR1				*e*Sn		**Sn**	**12 35 39.5**	**-7.1**
WRA	**Warramunga Arr**	**17.90**	**189**	P		**Pn**	**12 32 27.3**	**-0.7**
	0.4nm,0.3s,baz=8.1,slow=12,SNR=24							
WRA				S		**Sn**	**12 35 39.5**	**-7.1**
	0.4nm,0.3s,baz=11,slow=22,SNR=11							
FITZ	**Fitzroy Crossi**	**19.49**	**215**	P		**P**	**12 32 45.4**	**-0.4**
	baz=11,slow=6.9							
FITZ				S		**S**	**12 36 18.2**	**-6.0**
	baz=89,slow=9.0							
CTA	**Charters Tower**	**19.90**	**154**	P		**Pn**	**12 32 53.1**	**+1.0**
	0.9nm,0.4s,baz=310,slow=7.9,SNR=1.9							
AS01	**Alice Springs**	**21.61**	**188**	*e*P		**P**	**12 33 10.6**	**+1.8**
AS31	**Alice Springs**	**21.62**	**188**	*e*P		**P**	**12 33 10.9**	**+2.0**
	4.9nm,0.8s							
AS31				*e*S		**S**	**12 37 09.5**	**+2.9**
ASAR	**Alice Springs**	**21.62**	**188**	P		**P**	**12 33 11.2**	**+2.3**
	2.5nm,0.5s,baz=16,slow=8.8,SNR=37							
ASAR				S		**S**	**12 37 09.5**	**+2.9**
	2.1nm,0.8s,baz=13,slow=30,SNR=4.8							
KKM	**Kota Kinabalu**	**22.48**	**291**	*e*P		**P**	**12 33 17.9**	**-0.3**
	14nm,0.9s							
HNR	**Honiara**	**23.75**	**109**	*e*P		**P**	**12 33 29.6**	**-1.3**
	123nm,1.1s							
TWG	**Pinlang**	**29.39**	**329**	*e*P		**P**	**12 34 20.6**	**-1.1**
	304nm,1.7s							
YULB	**Yu-li**	**29.74**	**330**	*e*P		**P**	**12 34 25.1**	**+0.3**
	112nm,2.0s							
STKA	**Stephens Creek**	**29.86**	**172**	P		**P**	**12 34 27.0**	**+1.2**
	3.0nm,0.7s,baz=1.7,slow=6.0,SNR=4.6							
STKA	**Stephens Creek**	**29.86**	**172**	*e*P		**P**	**12 34 27.0**	**+1.2**
	4.2nm,1.5s							
JOW	**Kunigami**	**30.08**	**344**	LR	LR		12 45 04.4	
	comp=Z,24nm,21.5s,baz=142,slow=34							
MJAR	**Matsushiro Arr**	**38.51**	**1**	LR	LR		12 48 06.3	
	comp=Z,71nm,22.0s,baz=90,slow=31							
CMAR	**Chiang Mai Arr**	**42.85**	**300**	P		**P**	**12 36 14.9**	**-1.9**
	0.5nm,0.4s,baz=127,slow=6.0,SNR=5.0							
URZ	**Urewera**	**51.21**	**140**	LR	LR		12 59 04.2	
	comp=Z,72nm,21.5s,baz=321,slow=36							
WMQ	**Urumqi**	**63.64**	**322**	P		**P**	**12 38 50.5**	**+1.1**
WMQ				pP		pP	12 39 01.3	+1.1
WMQ				sP		sP	12 39 05.5	+1.3
WMQ				pmax	pmax			
	comp=Z,15nm,0.7s							
WMQ				pmax	pmax			
	comp=Z,96nm,10.1s							
WMQ				LR	LR			
	comp=N,39nm,26.5s							
WMQ				LR	LR			
	comp=E,48nm,20.9s							
WMQ				LR	LR			
	comp=Z,56nm,23.7s							
MK32	**Makanchi Array**	**68.43**	**323**	*e*P		**P**	**12 39 19.1**	**-1.0**
MKAR	**Makanchi Array**	**68.43**	**323**	P		**P**	**12 39 19.1**	**-1.0**
	comp=Z,1.1nm,0.7s,baz=114,slow=8.6,SNR=7.9							
VNDA	**Vanda**	**76.47**	**175**	P		**P**	**12 40 09.1**	**+1.7**
	comp=Z,0.5nm,0.5s,baz=313,slow=2.8,SNR=7.0							
VNDA	**Vanda**	**76.47**	**175**	*e*P		**P**	**12 40 09.6**	**+2.2**
ILAR	**Eielson Array**	**85.96**	**25**	P		**P**	**12 40 57.1**	**-0.9**
	comp=Z,0.2nm,0.8s,baz=238,slow=5.1,SNR=2.9							
ILB	**Eielson Array**	**85.96**	**25**	*e*P		**P**	**12 40 56.5**	**-1.5**
TORD	**Torodi Ar. Bea**	**134.65**	**286**	PKP		**PKPdf**	**12 47 38.0**	**+0.4**
	comp=Z,0.2nm,0.6s,baz=70,slow=1.7,SNR=2.8							
TOA1	**Torodi Ar. Sit**	**134.65**	**286**	*e*PKPdf		**PKPdf**	**12 47 38.0**	**+0.4**
LPAZ	**La Paz**	**148.99**	**127**	PKPbc		**PKPbc**	**12 48 08.9**	**+1.2**
	comp=Z,0.7nm,0.5s,baz=213,slow=4.0,SNR=3.0							
LPAZ	**La Paz**	**148.99**	**127**	*e*PKPbc		**PKPbc**	**12 48 06.4**	**-1.3**

*ISCJB **30** 12:29:35.9±1.2,23.˚96N±0.˚03×122.˚33E±0.˚02,h11km±8km, Error ellipse: s-maj=4.5km s-min=2.6km az=158.7*

*JMA **30** 12:29:36.1±0.1,23.˚94N×122.˚30E,h22km±3km,M2.4*

*TAP **30** 12:29:37.2,24.˚04N×122.˚30E,h22km±1km,ML2.9,D*

ISC 30 12:29:36.6±1.2,23.˚98N±0.˚03×122.˚31E±0.˚02,h22km±6km, n28,σ066/52,Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TWD	**Chiawan**	**0.66**	**279**	*e*P	**Pb**	**12 29 49.9**	**+0.5**
	baz=273						
TWD				*e*S	**Sn**	**12 29 59.3**	**-1.0**
	baz=273						
ENA	**Nanau**	**0.68**	**311**	*e*P	**Pb**	**12 29 49.5**	**-0.4**
	baz=316						
ENA				*e*S	**Sb**	**12 29 58.9**	**+0.1**
	baz=316						
JYNG	**Yonaguni jima**	**0.75**	**51**	P	**Pb**	**12 29 50.6**	**-0.3**
JYNG				*e*S	**Sb**	**12 30 00.2**	**-0.5**
TWC	**Suao**	**0.75**	**326**	P	**Pb**	**12 29 50.4**	**-0.6**
	baz=324						
TWC				*e*S	**Sb**	**12 29 59.1**	**-1.7**
	baz=324						
YOJ	**Yonaguni jima**	**0.80**	**53**	P	**Pb**	**12 29 52.0**	**+0.1**
YOJ				*e*S	**Sn**	**12 30 03.2**	**-0.7**
ESL	**Shilin**	**0.82**	**259**	*e*P	**Pb**	**12 29 51.4**	**-0.7**
	baz=244						
ESL				*e*S	**Sb**	**12 30 03.3**	**

baz=228
CHN4 Tsaushan 1.69 249 *e*P **Pb 12 30 06.9 -0.1**
baz=247
CHN4 *e*S **Sb 12 30 29.1 +1.3**
baz=247
JIJ Ishigaki jima 1.72 77 P **Pn 12 30 06.0 +0.7**
JIJ *e*S **Sn 12 30 27.7 +1.1**
JISG Ishigakijimahi 1.93 71 P **Pn 12 30 08.6 +0.5**
JISG *e*S **Sn 12 30 31.8 +0.1**

ISCJB ***30*** *12:34:33.1±0.4, 2°.24S±0°.03×79°.98W±0°.03, h15km, mb4.8/7, Error ellipse: s-maj=4.9km s-min=4.1km az=11.8*
IGQ ***30*** *12:34:33.7±2.4, 2°.5S±16°.8×8°.0W±°, h22km±6km, M4.1/8, MLv4.1/8*
NEIC ***30*** *12:34:36.9±3.3, 2°.21S×79°.84W, h33km±27km, mb4.6/7, Error ellipse: s-maj=11.9km s-min=8.5km az=95.0*
NEIC Felt [III] at Guayaquil. Also felt at Samborondon.
ISC 30 12:34:34.4±0.6, 2°.21S±0°.05×79°.91W±0°.05, h15km, n58, σ1ᵖ80/72, mb4.7/7, Near coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
PECV	**Mancha de Ca P**	**1.43**	**354**		**P**	**Pn**	**12 34 57.7**	**-2.0**
IGUA	**Igualata**	**1.46**	**61**		**P**	**Pn**	**12 35 00.5**	**-0.2**
BIL2	**Estacion Bilba**	**1.59**	**62**		**P**	**Pn**	**12 35 02.5**	**+0.2**
BBIL	**Ulba Tungurahu**	**1.61**	**62**		**P**	**Pn**	**12 35 02.9**	**+0.3**
BBIL					S	**Sn**	**12 35 23.0**	**-0.2**
PAT1	**Patacocha**	**1.63**	**65**		**P**	**Pn**	**12 35 02.9**	**-0.1**
JUI6	**Juive**	**1.64**	**62**		**P**	**Pn**	**12 35 03.2**	**+0.3**
POND	**Pondoa**	**1.65**	**62**		**P**	**Pn**	**12 35 03.4**	**+0.2**
POND					S	**Sn**	**12 35 23.5**	**-0.9**
BULB	**Ulba Tungurahu**	**1.68**	**63**		**P**	**Pn**	**12 35 04.0**	**+0.3**
PISA	**Pisayambo**	**1.90**	**53**		**P**	**Pn**	**12 35 07.7**	**+1.0**
JAMA	**Jama**	**1.95**	**351**		**P**	**Pn**	**12 35 06.6**	**-0.5**
PAST	**Pastocalle**	**1.96**	**40**		**P**	**Pn**	**12 35 08.0**	**+0.4**
CAMI	**Rancho Maria**	**2.07**	**43**		**P**	**Pn**	**12 35 09.8**	**+0.8**
MOV1	**Cotopaxi Vol s**	**2.09**	**45**		**P**	**Pn**	**12 35 10.0**	**+0.6**
BNAS	**Cotopaxi Volca**	**2.09**	**43**		**P**	**Pn**	**12 35 10.2**	**+0.8**
NAS2	**Nasa**	**2.12**	**43**		**P**	**Pn**	**12 35 11.1**	**+1.4**
BREF	**Cotopaxi Volca**	**2.12**	**44**		**P**	**Pn**	**12 35 10.9**	**+1.0**
MAG1	**Magdalena**	**2.12**	**4**		**P**	**Pn**	**12 35 06.7**	**-2.7**
BTAM	**Cotopaxi Volca**	**2.14**	**45**		**P**	**Pn**	**12 35 11.0**	**+0.8**
BVC2	**Cotopaxi Volca**	**2.15**	**44**		**P**	**Pn**	**12 35 11.1**	**+0.9**
VC1	**Cotopaxi 1**	**2.16**	**44**		**P**	**Pn**	**12 35 11.5**	**+1.1**
COV1	**Cotopaxi Volc**	**2.19**	**46**		**P**	**Pn**	**12 35 12.2**	**+1.3**
PITA	**Cotopaxi Volc**	**2.20**	**42**		**P**	**Pn**	**12 35 12.1**	**+1.2**
JUA2	**San Juan 2**	**2.37**	**33**		**P**	**Pn**	**12 35 12.9**	**-0.2**
PINO	**Pino**	**2.41**	**33**		**P**	**Pn**	**12 35 13.3**	**-0.6**
YANA	**Yana**	**2.47**	**33**		**P**	**Pn**	**12 35 14.1**	**-0.5**
ANTI	**Antisana**	**2.47**	**45**		**P**	**Pn**	**12 35 16.3**	**+1.7**
PULU	**Pululahua**	**2.62**	**32**		**P**	**Pn**	**12 35 16.4**	**-0.2**
PULU					S	**Sn**	**12 35 45.5**	**-2.9**
OTAV	**Otavalo**	**2.83**	**31**	*e*Pn	**P**	**Pn**	**12 35 18.6**	**-0.9**
OTAV				*e*Sn		**Sn**	**12 35 52.2**	**-1.4**
OTAV	**Otavalo**	**2.83**	**31**	*e*P	**P**	**Pn**	**12 35 18.6**	**-0.9**
CUIC	**Cuicocha-Domo**	**2.93**	**32**		**P**	**Pn**	**12 35 20.9**	**0.0**
CAYA	**Cayambe**	**2.97**	**40**		**P**	**Pn**	**12 35 24.0**	**+2.6**
LITE1	**Lita**	**3.36**	**27**		**P**	**Pn**	**12 35 24.9**	**-1.6**
CMBC	**Cumbal**	**3.76**	**34**	*e*P	**P**	**Pn**	**12 35 34.7**	**+2.4**
TUMC	**Tumaco**	**4.17**	**16**	*e*Pn	**P**	**Pn**	**12 35 36.9**	**-0.7**
TUMC				*e*Sn		**Sn**	**12 36 27.3**	**+1.2**
TUMC	**Tumaco**	**4.17**	**16**	*e*P	**P**	**Pn**	**12 35 35.6**	**-2.0**
SOTA	**Rioblanco**	**5.43**	**37**	*e*P	**P**	**Pn**	**12 35 56.8**	**+1.5**
PCON	**Cinco Dias**	**5.71**	**38**	*e*P	**P**	**Pn**	**12 36 00.3**	**+1.1**
PRAC	**Prado**	**7.73**	**41**	*e*Pn	**P**	**Pn**	**12 36 27.0**	**+0.5**
ROSC	**El Rosal**	**8.95**	**39**	*e*Pn	**P**	**Pn**	**12 36 44.7**	**+1.0**
ROSC				*e*Sn		**Sn**	**12 38 22.3**	**-2.2**
HELC	**Santa Helena**	**9.42**	**28**	*e*Sn	**S**	**Sn**	**12 38 35.9**	**0.0**
NNA	**Nana**	**10.18**	**163**	*e*Pn	**P**	**Pn**	**12 37 01.8**	**+1.6**
NNA				*e*Sn		**Sn**	**12 38 54.3**	**+0.1**
PAYG	**Puerto Ayora**	**10.48**	**278**	*e*Pn	**P**	**Pn**	**12 37 07.3**	**+3.0**
PAYG				*e*Sn		**Sn**	**12 39 03.6**	**+2.0**
SAML	**Samuel**	**17.94**	**113**	*e*Pn	**P**	**Pn**	**12 38 42.5**	**-1.0**
LPAZ	**La Paz**	**18.17**	**141**	*e*Pn	**P**	**Pn**	**12 38 45.1**	**-1.9**
LPAZ				*e*Sn		**Sn**	**12 42 06.6**	**-3.4**
MNMC	**Minye Minye**	**19.62**	**150**	*e*P	**P**	**P**	**12 39 03.1**	**+0.3**
MNMC				*e*S		**S**	**12 42 41.1**	**-3.0**
PB01	**IPOC Station P**	**21.30**	**152**	*e*P	**P**	**P**	**12 39 21.1**	**+0.2**
HUMP	**Col San Antoni**	**24.51**	**34**	*e*P	**P**	**P**	**12 39 55.5**	**+2.1**
CBYP	**Canovanas**	**24.61**	**34**	*e*P	**P**	**P**	**12 39 54.1**	**-0.3**
BBGH	**Gun Hill**	**25.31**	**52**	*e*P	**P**	**P**	**12 40 01.6**	**+0.9**
ABTX	**Abilene, Hawle**	**39.36**	**333**	*e*P	**P**	**P**	**12 42 04.6**	**+1.2**
SDCO	**Great Sand Dun**	**46.28**	**332**	*e*P	**P**	**P**	**12 42 59.2**	**-0.6**
RPV	**Rancho Palos V**	**50.91**	**318**	*e*P	**P**	**P**	**12 43 32.8**	**-2.3**
PTAM	**Tassajara Cree**	**53.41**	**318**	*e*P	**P**	**P**	**12 43 52.5**	**-1.4**
BOZ	**Bozeman (W)**	**55.28**	**333**	*e*P	**P**	**P**	**12 44 09.7**	**+2.3**
KIPM	**Iron Peak**	**57.77**	**321**	*e*P	**P**	**P**	**12 44 21.6**	**-3.7**
LAB	**Little Aspen B**	**58.38**	**324**	*e*P	**P**	**P**	**12 44 30.1**	**+0.5**
KSH	**Kashi**	**136.86**	**28**	*e*PKP	PP	**PKPdf**	**12 53 55.3**	**-1.8**
KSH				sPKP			12 54 10.0	
KSH				PP	PP	**PP**	**12 56 42.0**	**+2.9**
KSH				PKS	SKS	**PKSdf**	**12 57 30.0**	**-3.5**
KSH				SKS	SKS	**SKSdf**	**13 01 02.0**	**-5.9**
HHC	**Hu-ho-hao-te**	**140.16**	**346**	*e*PKP	PP	**PKPdf**	**12 54 02.5**	**-0.6**
HHC				PP	PP	**PP**	**12 57 03.5**	**+4.4**
HHC				SKKS			13 03 43.8	

SOME ***30*** *12:43:07.8, 40°.92N×69°.77E, h0km*
NNC ***30*** *12:43:08.8±0.8, 40°.99N×69°.71E, h0km, mb3.7, mpv3.3, Error ellipse: s-maj=10.2km s-min=5.0km az=119.0*
KRNET ***30*** *12:43:10.7±0.1, 41°.00N×69°.47E, mb3.1*
ISC 30 12:43:09.7±1.7, 41°.06N±0°.04×69°.74E±0°.06, h9km±13km, n18, σ2ᵖ22/31, 21C-9D, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
IUG	**Iuzhnay**	**1.11**	**11**	*e*P	**P**	**Pb**	**12 43 31.2**	**+0.1**
IUG	152nm,0.2s			*e*S		**Sn**	**12 43 48.0**	**+1.0**
BTK	552nm,0.5s **Batken**	**1.30**	**140**	*e*P	**P**	**Pg**	**12 43 36.8**	**+2.2**
BTK	baz=132			*i*S		**Sn**	**12 43 55.6**	**+3.9**
ARK	**Arkit**	**1.83**	**66**	*e*P	**P**	**Pg**	**12 43 46.7**	**+1.9**
ARK	baz=67			*e*S		**Sg**	**12 44 13.6**	**+5.1**
KK31	**Karatay Array**	**2.12**	**16**	*i*Pg	**P**	**Pb**	**12 43 49.6**	**+1.2**
KK31	9.2nm,0.4s,baz=197,slow=15,SNR=87			*i*Lg		Lg	12 44 18.8	
DZET	52nm,0.5s,baz=198,slow=24,SNR=22 **Dzherino**	**2.36**	**198**	*i*Pg	**P**	**Pb**	**12 43 50.4**	**-2.1**
DZET	8.7nm,0.6s			*i*Lg		Lg	12 44 21.7	
OHH	60nm,0.6s **Osh**	**2.38**	**102**	*e*P	**P**	**Pg**	**12 43 54.5**	**-0.7**
OHH	baz=100			*e*S		**Sg**	**12 44 25.9**	**-0.2**
ARSB	**Arslanbob**	**2.46**	**83**	*e*P	**P**	**Pg**	**12 43 55.9**	**-1.0**
ARSB	baz=82			*i*S		**Sg**	**12 44 28.8**	**-0.1**
TOKL	**Toktogul**	**2.51**	**69**	*i*P	**P**	**Pg**	**12 43 56.8**	**-1.0**
TOKL	baz=69			*i*S		**Sg**	**12 44 30.3**	**-0.1**
MNAS	**Manas**	**2.51**	**55**	*e*P	**P**	**Pg**	**12 43 56.6**	**-1.3**
MNAS	baz=56			*e*S		**Sg**	**12 44 29.9**	**-0.5**
MNAS	**Manas**	**2.51**	**55**	*i*Pg	**P**	**Pb**	**12 43 55.9**	**+0.8**
MNAS	5.5nm,0.5s			*i*Lg		Lg	12 44 29.3	
MRKS	26nm,0.8s **Merke**	**3.10**	**56**	*e*P	**P**	**Pb**	**12 44 06.7**	**+1.6**
MRKS	14nm,0.4s			*e*S		**Sg**	**12 44 49.4**	**+0.2**
AML	25nm,0.4s **Almayashu**	**3.15**	**69**	*i*P	**P**	**Pb**	**12 44 05.2**	**-1.0**
AML	baz=69			*i*S		**Sb**	**12 44 43.8**	**-1.1**
EKS2	**Erkin-Say**	**3.42**	**61**	*i*P	**P**	**Pb**	**12 44 08.7**	**-1.8**
EKS2	baz=61			*i*S		**Sb**	**12 44 50.6**	**-1.6**
ARLS	**Aral**	**3.54**	**75**	*e*P	**P**	**Pb**	**12 44 10.8**	**-1.8**
ARLS	baz=75			*e*S		**Sb**	**12 44 54.4**	**-1.4**
AAK	**Ala-Archa**	**3.89**	**65**	*i*P	**P**	**Pb**	**12 44 15.2**	**-3.3**
AAK	baz=65			*i*S		**Sb**	**12 45 01.8**	**-4.0**
AAK	**Ala-Archa**	**3.89**	**65**	*i*Pg	**P**	**Pb**	**12 44 19.9**	**+1.3**
AAK	5.4nm,0.5s			*i*Lg		Lg	12 45 13.6	
TKM2	11nm,0.7s **Tokmak 2**	**4.75**	**65**	*i*Pg	**P**	**Pb**	**12 44 35.7**	**+2.5**
TKM2	4.9nm,0.9s			*i*Lg		Lg	12 45 37.8	
KST	8.2nm,0.6s **Kastek**	**5.04**	**65**	*e*P	**P**	**Pb**	**12 44 41.1**	**+2.9**
KST	3.8nm,0.6s			*e*S		**Sg**	**12 45 48.0**	**-3.6**
	16nm,0.8s							

NIED ***30*** *12:45:00, 37°.50N×141°.90E, h5km, Mw4.2 Best double couple: M₀2.24000×10¹⁵ NP1:φ₅194.00000°, δ42.00000°, λ-139.00000°. NP2:φ₅71.00000°, δ64.00000°, λ-55.00000°.*
IDC ***30*** *12:45:43.7±0.7, 37°.39N×141°.91E, h0km, mb4.0/14, mb1 4.1/17, mb1mx3.9/48, mbtmp4.0/17, ML3.5/2, MS3.1/5, Ms1 3.1/5, ms1mx2.9/48, Error ellipse: s-maj=20.5km s-min=14.5km az=110.0*
ISCJB ***30*** *12:45:44.3±1.3, 37°.42N±0°.03×141°.99E±0°.04, h15km±8km, mb4.0/19, Error ellipse: s-maj=5.2km s-min=3.9km az=34.3*
JMA ***30*** *12:45:45.4±0.1, 37°.46N×141°.91E, h16km±2km, M4.4*
MOS ***30*** *12:45:48.6±1.7, 37°.75N×141°.76E, h31km, mb4.3/15, Error ellipse: s-maj=13.8km s-min=7.7km az=77.1*
NEIC ***30*** *12:45:48.6±0.5, 37°.43N×141°.91E, h35km, mb4.1/2, Error ellipse: s-maj=13.6km s-min=8.6km az=119.0*
ISC 30 12:45:48.8±1.1, 37°.47N±0°.04×141°.91E±0°.06, h32km±7km, n66, σ2ᵖ19/76, mb4.0/19, 3C-1D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
JFK	**Kawauchi**	**0.83**	**263**		**P**	**Pn**	**12 46 01.1**	**-3.2**
JFK				*e*S		**Sn**	**12 46 12.3**	**-3.1**
ONAJ	**Iwakimizuishiy**	**0.96**	**248**		**S**	**Sn**	**12 46 16.2**	**-2.4**
JMM	**Marumori**	**0.97**	**294**		**P**	**Pn**	**12 46 03.4**	**-2.7**
JMM				*e*S		**Sn**	**12 46 16.4**	**-2.4**
JIO	**Ouri**	**1.08**	**336**		**P**	**Pn**	**12 46 05.4**	**-2.2**
JIO				S		**Sn**	**12 46 19.8**	**-1.7**
JFT	**Otama**	**1.25**	**273**		**P**	**Pn**	**12 46 08.5**	**-1.5**
JFT				S		**Sn**	**12 46 24.8**	**-0.9**
JOU	**Okura**	**1.33**	**313**		**P**	**Pn**	**12 46 10.0**	**-1.1**
JOU				S		**Sn**	**12 46 27.5**	**-0.2**
JHO	**Hitachi**	**1.37**	**232**		**P**	**Pn**	**12 46 09.3**	**-2.4**
JHO				*e*S		**Sn**	**12 46 25.7**	**-3.0**
JMK	**Ichinoseki**	**1.57**	**340**		**P**	**Pn**	**12 46 13.1**	**-1.4**
JMK				*e*S		**Sn**	**12 46 33.1**	**-0.6**
JYS	**Shirataka**	**1.64**	**298**		**P**	**Pn**	**12 46 15.1**	**-0.3**
JYS				*e*S		**Sn**	**12 46 36.6**	**+1.2**
MJAR	**Matsushiro Arr**	**3.10**	**254**		Pn	**Pn**	**12 46 35.6**	**+0.1**
MJAR	3.0nm,0.3s,baz=80,slow=15,SNR=10.0				Sn	**Sn**	**12 47 14.5**	**+3.1**
MAJO	5.7nm,0.3s,baz=80,slow=15,SNR=6.6 **Matsushiro**	**3.10**	**254**	*e*P	**P**	**Pn**	**12 46 33.8**	**-1.7**
MAJO				*e*			12 47 09.7	
MAJO	**Matsushiro**	**3.10**	**254**	*e*Pn	**P**	**Pn**	**12 46 33.8**	**-1.7**
MAJO				*e*Sn		**Sn**	**12 47 09.7**	**-1.8**
ERM	**Erimo**	**4.64**	**12**	*e*P	**P**	**Pn**	**12 46 53.2**	**-3.4**
ERM				*e*			12 47 50.9	
ERM	**Erimo**	**4.64**	**12**	*e*Pn	**P**	**Pn**	**12 46 53.2**	**-3.4**
ERM				*e*Sn		**Sn**	**12 47 50.9**	**+1.6**
JHJ2	**Mitsune**	**4.67**	**202**	*e*Pn	**P**	**Pn**	**12 46 55.9**	**-1.2**
JHJ2				*e*Sn		**Sn**	**12 47 51.2**	**+1.0**
JHJ	**Hachijo jima 2**	**4.67**	**202**		**P**	**Pn**	**12 46 56.1**	**-1.0**
JHJ	13nm,0.3s,baz=265,slow=22,SNR=5.5				Sn	**Sn**	**12 47 48.6**	**-1.6**
ASAJ	9.8nm,0.3s,baz=52,slow=19,SNR=3.3 **Asahikawa**	**6.66**	**4**		**P**	**Pn**	**12 47 23.1**	**-1.2**
ASAJ	baz=271,slow=5.7			*e*Pn		**Pn**	**12 47 23.5**	**-0.8**
ASAJ	**Asahikawa**	**6.66**	**4**	*e*Sn		**Sn**	**12 48 45.0**	**+5.9**
YUK	**Yuzh-Kuril'sk**	**7.21**	**23**	P		**Pn**	**12 47 30.7**	**-1.2**
YUK				*e*S		**Sn**	**12 48 50.9**	**-1.7**
YUK	comp=Z,31nm,0.4s			pmax	pmax			
YUK	comp=N,9.0nm,0.1s			pmax	pmax			
YUK	comp=Z,306nm,13.0s			MLR	MLR			
SHO	**Shikotan**	**7.41**	**29**	*e*P		**Pn**	**12 47 30.6**	**-4.0**
SHO				*e*S		**Sn**	**12 48 50.7**	**-6.7**
SHO	comp=Z,21nm,0.5s			pmax	pmax			
KUR	**Kuril'sk**	**8.96**	**28**	*e*P		**Pn**	**12 47 55.3**	**-0.5**
KUR				*e*S		**Sn**	**12 49 32.1**	**-3.4**
KUR	comp=N,13nm,0.4s			pmax	pmax			
KUR	comp=E,9.0nm,0.4s			pmax	pmax			
KUR	comp=Z,16nm,0.4s			pmax	pmax			
JNU	**Nakatsue**	**10.00**	**248**	LR		LR	12 52 25.8	
USRK	comp=Z,151nm,20.6s,baz=26,slow=40 **Ussuriysk Arr.**	**10.08**	**315**	Pn		**Pn**	**12 48 13.8**	**+2.6**
USRK	comp=Z,0.2nm,0.3s,baz=111,slow=15,SNR=2.8			LR		LR	12 51 43.5	
KSRS	comp=Z,303nm,19.3s,baz=168,slow=36 **Korea Array**	**11.12**	**274**	LR		LR	12 52 27.8	
KLR	comp=Z,146nm,19.5s,baz=86,slow=36 **Kul'dur**	**13.87**	**331**	LR		LR	12 54 14.4	
PETK	comp=Z,20nm,18.1s,baz=159,slow=37 **Petropavlovsk-**	**19.11**	**30**	LR		LR	12 58 46.4	
YAK	comp=Z,41nm,18.3s,baz=228,slow=41 **Yakutsk**	**25.73**	**347**	P		**P**	**12 51 16.0**	**0.0**
YAK	comp=Z,4.9nm,0.4s,baz=185,slow=12,SNR=4.3 **Yakutsk**	**25.73**	**347**	*i* P		**P**	**12 51 16.6**	**+0.6**
YAK	comp=Z,9.0nm,0.8s			pmax	pmax			
SEY	**Seymchan**	**26.29**	**11**	P		**P**	**12 51 21.1**	**+0.1**
SONM	comp=Z,2.6nm,0.7s,baz=198,slow=10,SNR=5.1 **Songino Array**	**27.87**	**303**	P		**P**	**12 51 35.2**	**-0.4**
H11N2	comp=Z,0.8nm,0.7s,baz=111,slow=9.5,SNR=4.6 **WAKE ISLAND Hy**	**28.04**	**122**	T		T	13 21 04.5	
H11N1	baz=315,slow=75,SNR=204 **WAKE ISLAND Hy**	**28.05**	**122**	T		T	13 21 03.2	
H11N3	baz=315,slow=75,SNR=158 **WAKE ISLAND Hy**	**28.06**	**122**	T		T	13 21 05.9	
H11S1	baz=315,slow=75,SNR=173 **WAKE ISLAND Hy**	**28.77**	**124**	T		T	13 21 48.6	
H11S3	baz=316,slow=76,SNR=271 **WAKE ISLAND Hy**	**28.77**	**124**	T		T	13 21 52.1	
H11S2	baz=316,slow=76,SNR=239 **WAKE ISLAND Hy**	**28.79**	**124**	T		T	13 21 54.3	
DGZ	baz=316,slow=76,SNR=207 **Jazzator, Alta**	**40.46**	**305**	*i* P		**P**	**12 53 25.7**	**+1.4**
DGZ				XP		**pP**	**12 53 34.3**	**+0.4**
ZALV	**Zalesovo Beam**	**41.91**	**312**	P		**P**	**12 53 36.3**	**+0.3**
MKAR	comp=Z,1.9nm,0.7s,baz=90,slow=5.9,SNR=6.5 **Makanchi Array**	**44.22**	**302**	P		**P**	**12 53 55.3**	**+0.4**
KURK	comp=Z,1.0nm,0.7s,baz=82,slow=8.7,SNR=9.3 **Kurchatov**	**45.97**	**308**	*c*eP		**P**	**12 54 08.6**	**0.0**
KURK				*i* *PP		**pP**	**12 54 17.2**	**-1.1**
KURK	comp=Z,28nm,1.2s			pmax	pmax			
KURK	**Kurchatov**	**45.97**	**308**	*e*P		**P**	**12 54 08.9**	**+0.2**
KDAK	comp=Z,74nm,0.8s **Kodiak Island**	**46.51**	**42**	P		**P**	**12 54 13.3**	**+0.6**
ILAR	comp=Z,5.6nm,1.0s,baz=298,slow=15,SNR=5.7 **Eielson Array**	**48.92**	**33**	P		**P**	**12 54 31.9**	**+0.6**
ILAR	comp=Z,1.4nm,1.0s,baz=263,slow=5.2,SNR=8.9 **Eielson Array**	**48.92**	**33**	*e*P		**P**	**12 54 32.4**	**+1.1**
ILAR	comp=Z,1.0nm,0.9s			pmax	pmax			
BRVK	**Borovoye**	**50.63**	**312**	P		**P**	**12 54 44.8**	**+0.3**
BRVK				pmax	pmax			

comp=Z,4.0nm,1.0s
INK Inuvik 53.82 27 P **P 12 55 08.8 +0.8**
comp=Z,1.2nm,0.6s,baz=326,slow=7.3,SNR=5.9
ARU Arti 56.30 318 *d* P **P 12 55 26.9 +0.9**
ARU 12 56 22.2
ARU 12 57 29.5
ARU S **S 13 03 12.8 -0.9**
ARU SS **SS 13 06 54.1 -6.0**
ARU pmax pmax
comp=Z,5.0nm,1.0s
WRAB Tennant Creek 57.54 188 *e*P P 12 55 40.0 +4.8
WRAB pmax pmax
comp=Z,7.0nm,1.1s
WRAB Tennant Creek 57.54 188 *e*P **P 12 55 32.5 -2.6**
comp=Z,1.4nm,0.7s
WRA Warramunga Arr 57.55 188 P **P 12 55 35.3 0.0**
comp=Z,1.1nm,0.7s,baz=5.5,slow=7.4,SNR=12
WRA Warramunga Arr 57.55 188 *e*P **P 12 55 36.2 +1.0**
WRA pmax pmax
comp=Z,1.0nm,0.7s
ABKAR Akbulak array 57.96 310 *e*P **P 12 55 38.0 +0.1**
comp=Z,1.2nm,0.6s
ASAR Alice Springs 61.27 188 P **P 12 55 58.6 -2.3**
comp=Z,0.2nm,0.8s,baz=349,slow=4.0,SNR=3.1
ASAR Alice Springs 61.27 188 *e*P **P 12 56 05.5 +4.6**
ASAR pmax pmax
comp=Z,1.0nm,0.8s
NB2 NORSAR Subarra 73.94 337 P **P 12 57 21.1 +0.6**
comp=Z,2.0nm,0.8s,baz=41,slow=6.2
NOA NORSAR Array B 73.94 337 P **P 12 57 21.1 +0.6**
comp=Z,1.9nm,0.9s,baz=37,slow=6.0,SNR=3.7
NOA NORSAR Array B 73.94 337 *e*P **P 12 57 21.3 +0.8**
NOA pmax pmax
comp=Z,2.0nm,0.9s
AKASG Malin Array Be 74.19 322 P **P 12 57 21.0 -1.1**
comp=Z,0.5nm,0.4s,baz=38,slow=5.4,SNR=3.0
PDAR Pinedale Array 77.08 46 P **P 12 57 40.5 +1.3**
comp=Z,0.4nm,0.5s,baz=328,slow=2.3,SNR=3.9
KHC Kasperske Hory 82.38 329 *e*P **P 12 58 08.3 +0.9**
KHC Kasperske Hory 82.38 329 *e*P **P 12 58 08.3 +0.9**
ANMO Albuquerque 84.01 50 *c*e**P P 12 58 19.9 +3.6**
ANMO pmax pmax
comp=Z,4.0nm,1.7s
TXAR Lajitas Array 89.54 53 P **P 12 58 42.5 -0.8**
comp=Z,0.6nm,0.8s,baz=354,slow=2.5,SNR=4.4
TXAR Lajitas Array 89.54 53 *e*P **P 12 58 45.8 +2.5**
LPAZ La Paz 146.13 60 PKPbc **PKPdf 13 05 25.9 0.0**
comp=Z,1.1nm,0.5s,baz=22,slow=7.4,SNR=4.5
LPAZ La Paz 146.13 60 *e*PKP2 **PKPab 13 05 28.0 +0.5**
LPAZ pmax pmax
comp=Z,1.0nm,0.5s

SOME ***30*** *13:04:57.7, 44°.63N×82°.12E, h0km*
ISC 30 13:04:56.3±3.3, 44.7N±0°.1×82.2E±0°.1, h0km±23km, n5, σ0ᵖ63/10, 3C-1D, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
DJR	**Jarkent**	**1.78**	**260**	*e*P		**Pg**	**13 05 30.4**	**0.0**
DJR	1.7nm,0.1s			*e*S		**Sg**	**13 05 54.4**	**+0.9**
MK31	2.8nm,0.2s **Makanchi Array**	**2.14**	**1**	*i*Pn		**Pb**	**13 05 36.0**	**+0.1**
MK31	0.8nm,0.3s,baz=176,slow=13,SNR=46			*i*Sn		**Sb**	**13 06 03.5**	**+0.6**
KAPS	0.3nm,0.3s,baz=179,slow=26,SNR=14 **Kapalarasan**	**2.14**	**288**	*e*P		**Pb**	**13 05 36.3**	**+0.4**
KAPS	0.7nm,0.1s			*e*S		**Sg**	**13 06 04.3**	**-0.7**
MAKZ	2.8nm,0.2s **Makanchi**	**2.16**	**355**	⇓Pn		**Pb**	**13 05 35.7**	**-0.6**
MAKZ	0.5nm,0.3s			*i*Sn		**Sb**	**13 06 03.6**	**0.0**
MNBS	0.7nm,0.3s **Baschi**	**2.81**	**260**	*e*P		**Pb**	**13 05 47.0**	**-0.4**
MNBS	1.5nm,0.3s			*e*S		**Sb**	**13 06 22.2**	**-0.2**
	6.2nm,0.2s							

MAN ***30*** *13:05:57, 8°.38N×127°.40E, h15km, mb5.5, ML4.5, MS4.9*
IDC ***30*** *13:06:02.5±2.4, 8°.30N×126°.61E, h26km±16km, mb4.4/26, mb1 4.5/28, mb1mx4.5/34, mbtmp4.6/28, ML4.5/2, MS4.8/10, Ms1 4.8/10, ms1mx4.5/18, Error ellipse: s-maj=18.3km s-min=9.6km az=76.0*
BJI ***30*** *13:06:02.9, 7°.90N×126°.68E, h77km, mb4.7/35, mB5.3/32, Ms5.1/30, Ms7 5.0/29*
MOS ***30*** *13:06:03.5±1.3, 8°.34N×126°.67E, h49km, mb5.0/52, MS4.9/10, Error ellipse: s-maj=9.9km s-min=5.4km az=106.4*
GCMT ***30*** *13:06:04.6±0.1, 8°.33N×126°.87E, h16km, MW5.4/111, Moment Tensor Solution. s86,c150; s111,c199; Duration: 1ˢ2 Moment tensor: Scale 10¹⁷Nm; Mrr-0.72±.02; Mθθ0.92±.01; Mφφ-0.19±.01; Mrθ-0.84±.04; Mθφ0.27±.01; Mφr0.69±.05; Best double couple: M₀1.38600×10¹⁷ NP1:φ₅112.00000°, δ73.00000°, λ-62.00000°. NP2:φ₅231.00000°, δ32.00000°, λ-147.00000°. Principal axes: T 1.2730, Plg23.0000°, Azm181.0000°; N 0.2260, Plg27.0000°, Azm283.0000°; P -1.5000, Plg53.0000°, Azm56.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
NEIC ***30*** *13:06:04.6±1.0, 8°.30N×126°.74E, h48km±9km, mb5.1/49 Error ellipse: s-maj=7.9km s-min=5.0km az=75.0*
NEIC Felt [III PIVS] at Bislig.
ISCJB ***30*** *13:06:04.5±0.4, 8°.33N±0°.02×126°.79E±0°.03, h60km±4km, mb4.9/111, MS4.8/22, Error ellipse: s-maj=5.1km s-min=3.0km az=158.0*
DJA ***30*** *13:06:11.5±0.6, 8°.N±4°×12°.7E±°, h56km±6km, M5.2/29, mb5.2/29, mB5.6/21, MLv5.9/2, Mw(mB)5.0/21*
ISC 30 13:06:05.2±0.5, 8°.26N±0°.03×126°.78E±0°.04, h46km±4km, n327, σ2ᵖ27/367, mb4.9/118, MS4.9/22, 16C-7D, Mindanao

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
BIPH	**Bislig**	**0.42**	**260**	*i*P		**Pn**	**13 06 14.4**	**-0.9**
BIPH				*i* S		**Sn**	**13 06 21.0**	**-1.4**
MATI	**Mati**	**1.40**	**202**	*e*P		**Pn**	**13 06 27.6**	**-0.8**
MATI				*e*S		**Sn**	**13 06 47.5**	**+1.8**
DAV	**Davao City (W)**	**1.67**	**225**	*e*Pn		**Pn**	**13 06 32.9**	**+0.8**
DAV				*e*Sn		**Sn**	**13 06 52.2**	**-0.2**
SCPH	**Surigao**	**1.98**	**320**	*e*P		**Pn**	**13 06 35.1**	**-1.2**
SCPH				*e*S		**Sn**	**13 07 03.4**	**+3.5**
KCP	**Kidapawan**	**2.08**	**234**	*i*P		**Pn**	**13 06 39.9**	**+2.2**
KCP				*i* S		Sn	13 07 13.5	+11
CTBH	**Cotabato--PC H**	**2.71**	**248**	*e*P		**Pn**	**13 06 48.8**	**+2.4**
CTBH				*i* S		**Sn**	**13 07 25.4**	**+7.5**
GSPH	**General Santos**	**2.82**	**220**	⇓*e*P

SANI S **Sn** **13 10 18.5 -5.3**
APSI Ampana 10.44 210 P Pn 13 08 38.5 +6.0
KKM Kota Kinabalu 10.71 259 *e*Pn **Pn** **13 08 35.1 -1.1**
138nm,1.5s
KKM *e*Sn **Sn** **13 10 36.6 +1.7**
NLAI Namlea 11.42 178 P **Pn** **13 08 47.5 +1.6**
NLAI S **Sn** **13 10 47.4 -4.8**
PCI Palu 11.43 218 P Pn 13 08 53.6 +7.6
MSAI Masohi 11.72 169 P **Pn** **13 08 52.2 +2.2**
AAI Ambon 11.95 173 P **Pn** **13 08 57.1 +4.1**
FAKI Fak Fak 12.37 154 P **Pn** **13 09 00.8 +2.0**
FAKI S **Sn** **13 11 10.7 -4.6**
FAKI Fak Fak 12.37 154 *e*Pn **Pn** **13 08 57.8 -1.0**
FAKI *e*Sn **Sn** **13 11 16.0 +0.7**
KDI Kendari 12.82 199 P **Pn** **13 09 08.5 +3.5**
BNDI Bandanaira 13.07 166 P **Pn** **13 09 10.2 +1.8**
TTSI Tana Toraja 13.20 212 P **P** **13 09 16.1 -2.9**
KMPI Kaimana, Papua 13.71 149 P **Pn** **13 09 19.9 +2.8**
SPSI Sidrap Palu 14.01 210 P **P** **13 09 32.6 +4.6**
KAPI Kappang 14.93 208 *e*Pn **Pn** **13 09 30.8 -2.7**
47nm,1.0s
TPUB Ta-pu 16.08 339 *e*Pn **Pn** **13 09 47.1 -1.2**
41nm,0.8s
SAUI Saumlaki 16.75 164 P **P** **13 09 58.0 -0.4**
331nm,0.9s
SAUI Saumlaki 16.75 164 *e*Pn **Pn** **13 09 54.3 -2.4**
GENI Genyem 17.16 128 P **P** **13 10 04.4 +1.4**
114nm,1.4s,4µm
STKI Sintang 17.28 243 P P 13 10 16.6 +12
MMRI Maumere 17.38 195 P **P** **13 10 08.8 +3.4**
179nm,0.8s,4µm
MMRI Maumere 17.38 195 P **Pn** **13 10 03.9 -0.7**
249nm,1.0s
JAY Jayapura 17.53 127 P **P** **13 10 07.7 +0.5**
0.0nm,0.3s,baz=307,slow=20,SNR=2.8
JAY Jayapura 17.53 127 P **P** **13 10 07.6 +0.5**
29nm,1.0s,524nm
JAY Jayapura 17.53 127 P **P** **13 10 07.7 +0.5**
KSM Kuching 17.73 249 P **P** **13 10 10.8 +1.5**
20nm,0.8s
SOEI Soe 18.07 188 P **Pn** **13 10 15.4 +2.3**
348nm,0.9s,4µm
SOEI Soe 18.07 188 *e*P **Pn** **13 10 14.0 +0.8**
361nm,0.9s
SOEI *e*Sn **Sn** **13 13 32.1 -1.9**
QZH Quanzhou 18.34 336⇑ *i*P **Pn** **13 10 16.5 +0.2**
QZH S **S** **13 13 44.5 +1.1**
QZH pmax pmax
comp=Z,3µm,9.2s
QZH LR LR
comp=N,5µm,13.6s
QZH LR LR
comp=E,4µm,11.9s
QZH LR LR
comp=Z,8µm,14.4s
GUMO Guam 18.53 72 P **Pn** **13 10 18.8 +0.1**
1.5nm,0.3s,baz=152,slow=17,SNR=2.6
GUMO LR LR 13 16 09.3
comp=Z,2µm,20.1s,baz=241,slow=32
GUMO Guam 18.53 72 P **Pn** **13 10 18.8 +0.1**
JOW Kunigami 18.53 4 P **P** **13 10 17.8 -0.3**
2.3nm,0.3s,baz=215,slow=9.6,SNR=6.6
JOW Kunigami 18.53 4 *e*P **P** **13 10 16.9 -1.2**
56nm,1.3s
PLAI Plampang 19.19 208 P **Pn** **13 10 28.5 +1.8**
192nm,0.9s,2µm
TWSI Taliwang, Sumb 19.55 211 P **Pn** **13 10 35.0 +4.1**
67nm,0.9s,1µm
GZH Guangzhou 19.59 320 *e*P **P** **13 10 29.0 -0.7**
KMMI Kalianget 19.86 220 P **Pn** **13 10 39.5 +5.0**
92nm,1.1s,2µm
JAGI Jajag, Banyuwa 20.84 217 P Pn 13 10 49.6 +3.4
60nm,1.3s
GMJI Gumukmas 21.12 219 P **P** **13 10 52.7 +6.4**
44nm,0.9s
MTN Manton Dam 21.40 168 P **P** **13 10 49.2 -0.1**
baz=22,SNR=16
MTN Manton Dam 21.40 168 *e*P **P** **13 10 49.3 0.0**
91nm,0.8s
KDU Kakadu 21.56 165 P **P** **13 10 50.9 -0.1**
baz=22,SNR=17
MANU Manus Island 22.94 116 *e*P **P** **13 11 07.6 +1.9**
324nm,1.7s
KNRA Kununurra 23.86 175 P **P** **13 11 14.9 +0.4**
baz=24,SNR=46
JNU Nakatsue 25.04 8 P **P** **13 11 23.6 -1.7**
18nm,0.9s,baz=306,slow=5.9,SNR=6.0
JNU LR LR 13 20 03.0
comp=Z,2µm,21.7s,baz=169,slow=34
JNU Nakatsue 25.04 8 *e*P **P** **13 11 22.6 -2.7**
12nm,0.8s
WHN Wuhan 25.04 334 P **P** **13 11 27.3 +2.1**
CHAI Chaiyaphum 25.39 290 P **P** **13 11 29.2 +0.6**
21nm,0.8s,238nm
KLSI 25.48 240 P **P** **13 11 34.8 +5.4**
41nm,1.0s
FITZ Fitzroy Crossi 26.21 182 P **P** **13 11 36.3 +0.4**
baz=197,slow=20
FITZ Fitzroy Crossi 26.21 182 P **P** **13 11 36.3 +0.4**
LWLI Liwa 26.22 241 P **P** **13 11 41.3 +5.1**
174nm,0.8s
PBKT Sadao Pong 26.50 291 P **P** **13 11 39.8 +1.2**
58nm,1.2s
PMG Port Moresby 26.83 130 P **P** **13 11 41.8 +0.2**
6.1nm,0.7s,baz=299,slow=13,SNR=2.7
PMG Port Moresby 26.83 130 *e*P **P** **13 11 38.5 -3.1**
31nm,1.1s
PHET Kaeng Krachan 27.08 282 P **P** **13 11 50.1 +6.3**
11nm,0.9s
UTTA Uttaradit 27.20 293 P **P** **13 11 46.8 +1.8**
7.5nm,1.0s
NANT Nan 27.40 295 P **P** **13 11 48.2 +1.5**
8.8nm,0.8s
COEN Coen 27.42 143 P **P** **13 11 47.1 +0.3**
baz=28,SNR=18
COEN Coen 27.42 143 *e*P **P** **13 11 45.5 -1.4**
40nm,1.0s
JHJ Hachijo jima 2 27.52 24 LR LR 13 20 33.1
comp=Z,3µm,21.1s,baz=275,slow=32
UTHA Uthaitani 27.69 288 P **P** **13 11 52.0 +2.7**
11nm,0.7s,96nm
PSI Prapat 28.24 261 LR LR 13 25 42.5
comp=Z,2µm,18.8s,baz=94,slow=42
LAMP Lampang 28.27 294 P P 13 12 06.2 +12
UMPA Umpang Tak 28.38 289 P P 13 12 04.3 +8.8
KMI Kunming 28.40 309 P **P** **13 11 52.5 -3.4**
KMI PP **PnPn** **13 12 48.0 +1.4**
KMI S **S** **13 16 36.5 -3.6**
KMI LR LR
comp=N,1µm,15.8s
KMI LR LR
comp=E,2µm,19.3s
KMI LR LR
comp=Z,2µm,18.5s
CMAR Chiang Mai Arr 28.88 293 P **P** **13 11 59.0 -0.9**
7.1nm,0.8s,baz=114,slow=7.3,SNR=25
CMAR PcP **PcP** **13 15 07.8 -0.8**
1.6nm,0.7s,baz=113,slow=2.3,SNR=3.4
CMAR Chiang Mai Arr 28.88 293 P **P** **13 11 59.0 -0.9**
CMAR PcP **PcP** **13 15 07.8 -0.8**
CMMT Chiang Mai 28.98 294 P **P** **13 12 00.8 0.0**
26nm,1.3s
CHTO Chiang Mai 28.98 294 P **P** **13 12 01.1 +0.3**
112nm,1.3s
CHTO Chiang Mai 28.98 294 *e*P **P** **13 12 00.2 -0.6**
CHTO pmax pmax
comp=Z,33nm,1.4s
CHTO Chiang Mai 28.98 294 *e*P **P** **13 12 00.2 -0.6**
comp=Z,33nm,1.4s
WRAB Tennant Creek 28.98 165⇑ *e*P **P** **13 11 59.6 -1.2**
WRAB *i* *SP **pP** **13 12 13.4 +0.5**
WRAB Tennant Creek 28.98 165 *e*P **P** **13 11 59.0 -1.8**
comp=Z,113nm,1.7s
WRA Warramunga Arr 28.99 165 P **P** **13 11 59.6 -1.2**
comp=Z,4.6nm,0.6s,baz=342,slow=9.3,SNR=23
WRA Warramunga Arr 28.99 165 P **P** **13 11 59.6 -1.2**
WB2 Warramunga Arr 28.99 165 *e*P **P** **13 11 59.9 -1.0**
comp=Z,31nm,0.8s
KSAR Wonju Array Be 29.07 2 P **P** **13 12 00.3 -1.1**
KSAR Wonju Array Be 29.07 2 P **P** **13 12 00.2 -1.1**
KSRS Korea Array 29.09 2 P **P** **13 12 00.2 -1.2**
comp=Z,3.0nm,0.8s,baz=187,slow=9.7,SNR=7.3
TIA Tai'an 29.19 344 *e*P P 13 12 12.0 +10
TIA S **S** **13 16 58.8 +7.0**
TIA pmax pmax
comp=Z,20nm,1.4s
TIA LR LR
comp=N,1µm,20.0s
TIA LR LR
comp=E,2µm,16.0s
TIA LR LR
comp=Z,2µm,17.0s
MJAR Matsushiro Arr 30.02 19 P **P** **13 12 07.5 -2.3**
comp=Z,2.7nm,0.8s,baz=192,slow=9.8,SNR=4.3
MJAR LR LR 13 22 12.6
comp=Z,2µm,20.6s,baz=200,slow=32
MJAR Matsushiro Arr 30.02 19 P **P** **13 12 07.5 -2.3**
MJAR pmax pmax
comp=Z,1.0nm,0.7s
MJAR Matsushiro Arr 30.02 19 P **P** **13 12 07.5 -2.3**
MAJO Matsushiro 30.02 19 P **P** **13 12 09.9 +0.1**
MAJO pmax pmax
comp=Z,44nm,1.1s
MJAO Matsu Arr-Jizo 30.03 19 *e*P **P** **13 12 08.6 -1.4**
MJA0 pmax pmax
comp=Z,3.0nm,0.7s
MBWA Marble Bar 30.04 193 *e*P **P** **13 12 10.3 +0.2**
comp=Z,45nm,1.0s
XAN Xi'an 30.48 330 P **P** **13 12 11.8 -2.2**
XAN PP **PnPn** **13 13 11.0 -3.2**
XAN S **S** **13 17 07.3 -5.0**
XAN pmax pmax
comp=Z,7.0nm,0.6s
XAN pmax pmax
comp=Z,240nm,5.7s
XAN LR LR
comp=Z,1µm,19.4s
XAN LR LR
comp=Z,2µm,18.6s
XAN LR LR
comp=Z,3µm,20.1s
DL2 Dalian 30.87 352⇑ *i*P **P** **13 12 20.5 +3.3**
DL2 pmax pmax
comp=Z,47nm,0.8s
DL2 pmax pmax
comp=Z,440nm,7.7s
QIS Mount Isa 31.29 156 P **P** **13 12 21.1 -0.1**
baz=32,SNR=19
MTSU Mount Surprise 31.42 147 P **P** **13 12 22.8 +0.4**
baz=32,SNR=19
AS31 Alice Springs 32.48 168 *e*P **P** **13 12 32.4 +0.7**
comp=Z,7.0nm,0.4s
ASAR Alice Springs 32.48 168 P **P** **13 12 30.4 -1.2**
comp=Z,3.0nm,0.6s,baz=358,slow=8.0,SNR=39
ASAR PcP **PcP** **13 15 18.5 +0.5**
comp=Z,2.1nm,0.6s,baz=351,slow=2.0,SNR=4.3
ASAR ScP **ScP** **13 18 59.7 +1.4**
comp=Z,1.4nm,0.9s,baz=341,slow=2.9,SNR=3.7
ASAR Alice Springs 32.48 168 P **P** **13 12 30.4 -1.2**
ASAR 13 15 18.5
ASAR pmax pmax
comp=Z,6.0nm,0.5s
ASAR Alice Springs 32.48 168 P **P** **13 12 30.4 -1.2**
ASAR PcP **PcP** **13 15 18.5 +0.5**
ASAR ScP **ScP** **13 18 59.7 +1.4**
AS01 Alice Springs 32.49 168 *e*P **P** **13 12 30.5 -1.2**
CMBY CAMPBELL BAY 32.58 270 *e*P **P** **13 12 31.4 -1.3**
CMBY IAmb IAmb 13 12 36.4
comp=Z,78nm,0.5s
WRKA Warakurna 33.12 177 P **P** **13 12 37.7 +0.5**
baz=33,SNR=75
SNY Shenyang 33.56 356⇓ P **P** **13 12 40.3 -0.5**
SNY sP sP 13 13 08.0 +10
SNY PP **PP** **13 14 01.0 +3.6**
SNY S **S** **13 18 01.8 +2.0**
SNY SS **SnSn** **13 20 13.0 +7.1**
SNY pmax pmax
comp=Z,45nm,0.9s
SNY pmax pmax
comp=Z,690nm,5.8s
SNY LR LR
comp=Z,2µm,14.7s
SNY LR LR
comp=Z,2µm,14.9s
CTAO Charters Tower 34.07 146 P **P** **13 12 41.1 -4.4**
CTAO pmax pmax
comp=Z,19nm,1.0s
CTAO Charters Tower 34.07 146 P **P** **13 12 41.1 -4.4**
comp=Z,19nm,1.0s
USRK Ussuriysk Ar. 36.09 6 P **P** **13 13 02.3 -0.3**
comp=Z,12nm,0.7s,baz=186,slow=7.7,SNR=16
USRK LR LR 13 25 53.0
comp=Z,1µm,21.5s,baz=174,slow=33
MDJ Mudanjiang 36.31 3 P **P** **13 13 04.0 -0.5**
MDJ S **S** **13 18 46.8 +4.7**
MDJ pmax pmax
comp=Z,30nm,1.1s
MDJ pmax pmax
comp=Z,330nm,5.7s
MDJ LR LR
comp=Z,1µm,17.9s
MDJ LR LR
comp=Z,1µm,16.0s
MDJ LR LR
comp=Z,2µm,18.8s
SHL Shillong 37.40 302 *e*P **P** **13 13 12.8 -1.5**
SHL IAmb IAmb 13 13 16.9
comp=Z,1µm,4.0s
ASAJ Asahikawa 38.29 18 P **P** **13 13 21.8 +0.5**
baz=129,slow=0.0
ASAJ Asahikawa 38.29 18 P **P** **13 13 21.8 +0.5**
MORW Morawa 38.52 195 P **P** **13 13 24.0 +0.6**
baz=39,SNR=25
QLP Quilpie 38.55 154 P **P** **13 13 23.2 -0.5**
baz=39,SNR=8.1
FORT Forrest 38.83 178 P **P** **13 13 26.4 +0.4**
baz=39,SNR=18
FORT Forrest 38.83 178 *e*P **P** **13 13 26.9 +1.0**
comp=Z,494nm,0.6s
GTA Gaotai 39.32 326 *e*P **P** **13 13 28.0 -2.2**
GTA PP **PnPn** **13 15 04.5 +0.4**
GTA S **S** **13 19 32.3 +4.1**
GTA pmax pmax
comp=Z,7.0nm,1.1s
GTA pmax pmax
comp=Z,240nm,8.1s
GTA LR LR
comp=Z,2µm,20.9s
GTA LR LR
comp=Z,2µm,18.5s
GTA LR LR
comp=Z,3µm,19.0s
YUK Yuzh-Kuril'sk 39.34 22 *e*P **P** **13 13 31.2 +1.2**
YUK *e*PPP PPP 13 15 23.0
YUK *e*S **S** **13 19 35.2 +7.2**
YUK SS **SS** **13 22 20.5 -2.6**
YUK *e*SSS SSS 13 22 42.5
YUK pmax pmax
comp=Z,509nm,1.5s
YUK pmax pmax
comp=E,45nm,1.6s
YUK MLR MLR
comp=Z,1µm,19.0s
YUK MLR MLR
comp=N,1µm,17.0s
KMBL Kambalda 39.67 187 P **P** **13 13 33.7 +0.7**
baz=40,SNR=39
BLDU Balliduu 39.84 194 P **P** **13 13 35.0 +0.7**
baz=40,SNR=55
H11S3 WAKE ISLAND Hy 40.05 71 T T 13 56 55.7
baz=262,slow=75,SNR=118
H11S1 WAKE ISLAND Hy 40.06 71 T T 13 56 55.5
baz=262,slow=75,SNR=61
H11S2 WAKE ISLAND Hy 40.07 71 T T 13 56 50.9
baz=262,slow=75,SNR=55
H11N1 WAKE ISLAND Hy 40.45 69 T T 13 57 34.7
baz=265,slow=74,SNR=80
H11N2 WAKE ISLAND Hy 40.46 69 T T 13 57 35.0
baz=265,slow=74,SNR=53
H11N3 WAKE ISLAND Hy 40.47 69 T T 13 57 36.1
baz=265,slow=74,SNR=64
KLBR Kellerberrin 40.55 192 P **P** **13 13 41.1 +0.9**
baz=41,SNR=7.3
RMQ Roma 40.59 149 P **P** **13 13 41.0 +0.2**
baz=41,SNR=5.6
HABR Khabarovsk 40.69 8 *e*P **P** **13 13 38.9 -2.3**
HABR *e*SP **pP** **13 13 52.9 -0.7**
HABR *e* 13 15 13.4
HABR *e* 13 15 39.7
HABR *e*S **S** **13 19 47.7 -0.4**
HABR *e*SSS SSS 13 23 16.2
HABR *e* 13 23 41.4
HABR pmax pmax
comp=N,22nm,1.6s
HABR pmax pmax
comp=Z,55nm,1.8s
HABR pmax pmax
comp=E,40nm,1.8s
HABR MLR MLR
comp=Z,1µm,18.0s
EIDS Eidsvold 40.95 145 P **P** **13 13 43.8 +0.2**
baz=41,SNR=5.1
EIDS Eidsvold 40.95 145 *e*P **P** **13 13 39.1 -4.5**
comp=Z,28nm,1.1s
KLR Kul'dur 41.05 5 P **P** **13 13 43.7 -0.5**
comp=Z,1.0nm,0.7s,baz=195,slow=6.4,SNR=7.0
KLR LR LR 13 28 28.0
comp=Z,85nm,21.8s,baz=199,slow=33
KLR Kul'dur 41.05 5 P **P** **13 13 43.7 -0.5**
MUN Mundaring 41.26 194 P **P** **13 13 47.0 +0.9**
baz=42
TAPN Taplejung 41.52 302 *e*P **P** **13 13 48.6 -0.2**
comp=Z,23nm,0.3s
ODAN Odare 41.63 301 *e*P **P** **13 13 48.8 -0.8**
comp=Z,71nm,0.7s
BBOO Buckleboo 41.78 168 P **P** **13 13 50.7 +0.3**
baz=42,SNR=26
BBOO Buckleboo 41.78 168 *e*P **P** **13 13 48.6 -1.8**
comp=Z,154nm,1.6s
NWAO Narrogin (SRO) 41.95 192 P **P** **13 13 53.5 +1.8**
baz=42,SNR=13
NWAO P **P** **13 13 53.5 +1.8**
baz=42,SNR=13
NWAO Narrogin (SRO) 41.95 192 *e*P **P** **13 13 51.8 +0.1**
NWAO pmax pmax
comp=Z,58nm,1.1s
NWAO Narrogin (SRO) 41.95 192 *e*P **P** **13 13 51.8 +0.1**
comp=Z,58nm,1.1s
BOK Bokaro 42.05 296 *e*P **P** **13 13 52.2 -0.6**
BOK IAmb IAmb 13 13 56.6
comp=Z,14nm,0.3s
RAMN Ramite 42.33 301 *e*P **P** **13 13 54.6 -0.7**
comp=Z,71nm,0.9s
STKA Stephens Creek 42.34 161 P **P** **13 13 54.7 -0.3**
comp=Z,15nm,0.9s,baz=329,slow=8.1,SNR=12
STKA Stephens Creek 42.34 161 P **P** **13 13 54.6 -0.3**
baz=43,SNR=12
STKA Stephens Creek 42.34 161 *e*P **P** **13 13 55.4 +0.4**
STKA pmax pmax
comp=Z,15nm,0.9s
STKA Stephens Creek 42.34 161 *e*P **P** **13 13 54.0 -1.0**
comp=Z,4.1nm,0.9s
ULN Ulaanbaatar 42.88 340⇑ *i*P **P** **13 13 58.2 -1.1**
ULN *i* *PP **pP** **13 14 09.8 -2.0**
ULN pmax pmax
comp=Z,4.0nm,0.8s
ULN Ulaanbaatar 42.88 340 *e*P **P** **13 13 57.1 -2.3**
comp=Z,5.5nm,0.6s
JIRN Jiri 42.90 302 *e*P **P** **13 13 59.4 -0.7**
comp=Z,198nm,0.4s
HTT Hallett 43.03 165 P **P** **13 14 01.0 +0.4**
baz=43,SNR=12
SONM Songino Array 43.07 340 P **P** **13 13 59.2 -1.6**
comp=Z,2.1nm,0.5s,baz=162,slow=8.7,SNR=11
SONM PcP **PcP** **13 15 50.3 +0.1**
comp=Z,1.2nm,0.4s,baz=154,slow=5.6,SNR=5.4
SONM Songino Array 43.07 340 P **P** **13 13 59.2 -1.6**
SONM 13 15 50.3
SONM pmax pmax
comp=Z,3.0nm,0.6s
SONM Songino Array 43.07 340 P **P** **13 13 59.2 -1.6**
SONM PcP **PcP** **13 15 50.3 +0.1**
GUN Gumba 43.24 302 *e*P **P** **13 14 02.4 -0.4**
comp=Z,40nm,0.4s
VIS Vishakhapatnam 43.28 287 *e*P **P** **13 14 01.2 -1.6**
CMSA Cobar Meteorol 43.51 156 P **P** **13 14 05.1 +0.7**
baz=44,SNR=9.2
PKI Pulchoki 43.53 302 *e*P **P** **13 14 03.8 -1.3**
comp=Z,14nm,0.4s
PKIN Phulchoki 43.54 302 *e*P **P** **13 14 04.6 -0.5**
comp=Z,30nm,0.7s
RKGY Rocky Gully 43.63 192 P **P** **13 14 07.0 +1.7**
baz=44,SNR=7.9
KKN Kakani 43.70 302 *e*P **P** **13 14 05.5 -0.9**
comp=Z,68nm,1.1s
DMN Daman 43.80 302 *e*P **P** **13 14 06.1 -1.1**
comp=Z,50nm,0.9s
KOLN Koldanda 45.12 301 *e*P **P** **13 14 16.8 -0.9**
comp=Z,67nm,0.6s
DANN Dangsing 45.16 302 *e*P **P** **13 14 17.1 -1.0**
comp=Z,6.5nm,0.9s
ARMA Armidale 45.25 149 P **P** **13 14 20.2 +1.7**
baz=46,SNR=5.3
ARMA Armidale 45.25 149 *e*P **P** **13 14 15.7 -2.8**
comp=Z,40nm,1.3s
PYUN Piuthan 45.73 301 *e*P **P** **13 14 21.8 -0.7**
comp=Z,95nm,0.9s
MDRS Chennai 45.93 280 *e*P **P** **13 14 21.7 -2.3**
NKL Nikolayevsk 46.17 12 *e*P **P** **13 14 28.0 +2.8**
ZAK Zakamensk 46.32 339 *e*P **P** **13 14 24.4 -2.2**
ZAK pmax pmax
comp=Z,4.0nm,1.2s
ARPS Mount Arapiles 46.96 163 P **P** **13 14 32.9 +1.2**
baz=47,SNR=6.0
TLY Talaya 47.29 341 *e*P **P** **13 14 33.7 -0.4**
TLY *e* 13 16 23.5
TLY *e*S **S** **13 21 22.9 -1.4**
TLY *e*SS SS 13 24 40.2 -12
TLY pmax pmax
comp=Z,7.0nm,0.7s
TLY MLR MLR
comp=Z,1µm,18.0s
NGP Nagpur 47.73 291 *e*P **P** **13 14 35.4 -2.6**
NGP IAmb IAmb 13 14 38.9
comp=Z,5.1nm,0.3s
HYB Hyderabad 47.78 286 *e*P **P** **13 14 34.4 -4.1**
HYB IAmb IAmb 13 14 43.9
comp=Z,4.5nm,0.7s
CLNS Chul'man 48.48 359 *e*P **P** **13 14 43.0 -0.3**
CLNS *e* 13 16 04.9
CLNS *e* 13 16 35.8
CLNS *e*PPP PPP 13 17 32.4
CLNS *e*SSS SSS 13 26 31.1
CLNS pmax pmax
comp=Z,15nm,0.9s
CLNS pmax pmax
comp=N,9.0nm,0.8s
CLNS pmax pmax
comp=E,5.0nm,1.0s
DZM Mont Dzumac 49.20 129 *e*S **S** **13 21 59.6 +7.5**
comp=E,382nm,26.6s
DZM *e*LR LR 13 28 32.0
comp=E,1µm,32.9s
BOD Bodaibo 50.43 351 *e*P **P** **13 14 56.7 -1.3**
BOD pmax pmax
comp=Z,13nm,0.9s
DDI Dehra Dun 50.49 303 *e*P **P** **13 14 57.8 -1.3**
DDI IAmb IAmb 13 14 59.3
PETK Petropavlovsk- 51.27 23 P **P** **13 15 04.6 +0.2**
comp=Z,11nm,0.8s,baz=205,slow=3.5,SNR=7.7
PETK LR LR 13 38 07.0
comp=Z,1µm,18.8s,baz=220,slow=38
PETK Petropavlovsk- 51.27 23 P **P** **13 15 04.6 +0.2**
PETK pmax pmax
comp=Z,12nm,0.8s
PETK MLR MLR
comp=Z,1µm,18.8s
PETK Petropavlovsk- 51.27 23 P **P** **13 15 04.6 +0.2**
SMLA Simla 51.44 303 *e*P **P** **13 15 05.2 -0.9**
SMLA IAmb IAmb 13 15 05.8
comp=Z,12nm,0.6s
PET Petropavlovsk 51.58 24 *e*P **P** **13 15 07.8 +1.1**
PET *e*S **S** **13 22 25.8 +1.6**
PET pmax pmax
comp=Z,400nm,10.7s
PET MLR MLR
comp=Z,1µm,19.0s
GOA Goa 52.21 283 *e*P **P** **13 15 10.6 -1.5**
GOA IAmb IAmb 13 15 14.5
comp=Z,477nm,0.1s
POO Poona 52.33 287 *e*P **P** **13 15 13.5 +0.5**
DHRM DHARAMSHALA 52.45 304 *e*P **P** **13 15 11.7 -2.2**
DHRM IAmb IAmb 13 15 13.1
comp=Z,13nm,0.9s
DGZ Jazzator, Alta 52.74 329 *e*P **P** **13 15 14.6 -1.1**
DGZ pmax pmax
comp=Z,1.0nm,0.9s
YAK Yakutsk 53.71 2*d i*P **P** **13 15 21.4 -1.0**

YAK				*e*			13 16 29.2		
YAK				*e*			13 17 26.6		
YAK				*eS*		**S**	**13 22 48.9**	**-4.1**	
YAK				pmax	pmax				
	comp=Z,49nm,0.9s								
YAK				pmax	pmax				
	comp=N,17nm,1.2s								
YAK				smax	smax				
	comp=N,1µm,18.1s								
YAK				MLR	MLR				
	comp=Z,1µm,20.0s								
YAK	**Yakutsk**	**53.71**	**2**	*eP*		**P**	**13 15 20.4**	**-2.0**	
	comp=Z,46nm,0.8s								
MK31	**Makanchi Array**	**53.93**	**323**	*eP*		**P**	**13 15 22.4**	**-1.9**	
MK31				pmax	pmax				
	comp=Z,2.0nm,0.5s								
MKAR	**Makanchi Array**	**53.93**	**323**	P		**P**	**13 15 22.7**	**-1.6**	
	comp=Z,4.4nm,0.5s,baz=110,slow=5.6,SNR=34								
MKAR	**Makanchi Array**	**53.93**	**323**	P		**P**	**13 15 22.7**	**-1.6**	
PDGK	**Podgornoye**	**54.02**	**319**	P		**P**	**13 15 23.1**	**-2.1**	
PDGK				pmax	pmax				
	comp=Z,4.0nm,0.7s								
MAKZ	**Makanchi**	**54.12**	**323**	P		**P**	**13 15 23.4**	**-2.3**	
MAKZ				pmax	pmax				
	comp=Z,8.0nm,0.9s								
MA2	**Magadan**	**54.34**	**15⇑**	*iP*		**P**	**13 15 28.0**	**+1.0**	
KSH	**Kashi**	**54.95**	**313**	*eP*		**P**	**13 15 35.0**	**+3.0**	
KSH				pmax	pmax				
	comp=Z,7.0nm,1.0s								
KSH				pmax	pmax				
	comp=Z,140nm,4.2s								
TKM2	**Tokmak 2**	**56.46**	**317**	P		**P**	**13 15 41.2**	**-1.6**	
TKM2				pmax	pmax				
	comp=Z,10.0nm,1.1s								
ZALV	**Zalesovo Beam**	**56.63**	**332**	P		**P**	**13 15 41.2**	**-2.3**	
	comp=Z,2.9nm,0.3s,baz=131,slow=7.0,SNR=13								
ZALV	**Zalesovo Beam**	**56.63**	**332**	P		**P**	**13 15 41.2**	**-2.3**	
MSVF	**Nonsavu**	**56.84**	**117**	*eP*		**P**	**13 15 47.9**	**+2.2**	
MSVF				pmax	pmax				
	comp=Z,26nm,1.0s								
MSVF	**Nonsavu**	**56.84**	**117**	*eP*		**P**	**13 15 47.9**	**+2.2**	
	comp=Z,26nm,1.0s								
FRU	**Bishkek**	**57.10**	**316**	*eP*		**P**	**13 15 47.0**	**-0.1**	
AAK	**Ala-Archa**	**57.11**	**316**	*c iP*		**P**	**13 15 47.3**	**-0.1**	
AAK				pmax	pmax				
	comp=Z,5.0nm,0.9s								
SEY	**Seymchan**	**57.65**	**14⇑**	*iP*		**P**	**13 15 52.2**	**+1.6**	
NVS	**Novosibirsk**	**57.90**	**332**	*eP*		**P**	**13 15 51.0**	**-1.5**	
NVS				*eS*		**S**	**13 23 47.9**	**-1.2**	
NVS				pmax	pmax				
	comp=N,7.0nm,1.2s								
NVS				pmax	pmax				
	comp=E,11nm,1.2s								
NVS				pmax	pmax				
	comp=Z,13nm,1.2s								
NVS				smax	smax				
	comp=N,14nm,2.4s								
NVS				smax	smax				
	comp=E,22nm,2.4s								
KURK	**Kurchatov**	**58.01**	**326⇑**	*iP*		**P**	**13 15 52.5**	**-0.8**	
KURK				pmax	pmax				
	comp=Z,35nm,0.8s								
KURK	**Kurchatov**	**58.01**	**326**	P		**P**	**13 15 51.7**	**-1.6**	
MNAS	**Manas**	**58.44**	**315**	P		**P**	**13 15 55.4**	**-1.3**	
MNAS				pmax	pmax				
	comp=Z,11nm,1.1s								
KK31	**Karatay Array**	**60.02**	**315**	*i* P		**P**	**13 16 05.9**	**-1.6**	
KK31				pmax	pmax				
	comp=Z,3.0nm,0.5s								
KKAR	**Karatay Array**	**60.02**	**315**	*eP*		**P**	**13 16 06.2**	**-1.3**	
KKAR				pmax	pmax				
	comp=Z,4.0nm,0.4s								
KKAR	**Karatay Array**	**60.02**	**315**	*eP*		**P**	**13 16 06.2**	**-1.3**	
	comp=Z,4.1nm,0.4s								
TIXI	**Tiksi**	**63.35**	**1⇑**	*iP*		**P**	**13 16 28.9**	**-0.4**	
TIXI				pmax	pmax				
	comp=Z,21nm,1.0s								
TIXI	**Tiksi**	**63.35**	**1**	*eP*		**P**	**13 16 28.6**	**-0.7**	
	comp=Z,29nm,0.9s								
BRVK	**Borovoye**	**63.67**	**326⇑**	*iP*		**P**	**13 16 31.0**	**-0.8**	
BRVK				pmax	pmax				
	comp=Z,26nm,0.8s								
BRVK	**Borovoye**	**63.67**	**326**	*eP*		**P**	**13 16 29.5**	**-2.3**	
	comp=Z,34nm,0.8s								
BKZ	**Black Stump Fm**	**65.93**	**139**	*eP*		**P**	**13 16 47.8**	**+1.0**	
	comp=Z,39nm,1.0s								
NRIK	**Noril'sk**	**66.08**	**346**	P		**P**	**13 16 46.4**	**-0.8**	
	comp=Z,7.9nm,0.7s,baz=138,slow=6.7,SNR=8.7								
GEYT	**Alibeck**	**68.16**	**307**	P		**P**	**13 17 00.6**	**-0.5**	
	comp=Z,4.8nm,0.7s,baz=131,slow=4.1,SNR=8.5								
AB31	**Akbulak array**	**68.72**	**320**	*eP*		**P**	**13 17 02.5**	**-1.8**	
AB31				pmax	pmax				
	comp=Z,6.0nm,0.9s								
ABKAR	**Akbulak array**	**68.72**	**320**	*eP*		**P**	**13 17 01.7**	**-2.6**	
	comp=Z,5.4nm,0.8s								
SVE	**Sverdlovsk**	**70.17**	**328**	*eP*		**P**	**13 17 11.9**	**-1.1**	
ARU	**Arti**	**71.18**	**327**	*d iP*		**P**	**13 17 17.0**	**-2.2**	
ARU							13 19 51.7		
ARU				S		**S**	**13 26 32.1**	**-0.6**	
ARU				SS		**SS**	**13 31 05.5**	**-1.4**	
ARU				pmax	pmax				
	comp=Z,6.0nm,0.5s								
ARU				MLR	MLR				
	comp=Z,729nm,20.0s								
ARU	**Arti**	**71.18**	**327**	*eP*		**P**	**13 17 16.6**	**-2.5**	
	comp=Z,11nm,0.4s								
MAK	**Makhachkala**	**76.58**	**312**	*eP*		**P**	**13 17 53.3**	**+2.2**	
MAK				pmax	pmax				
	comp=Z,366nm,1.5s								
MAK				MLR	MLR				
	comp=Z,1µm,23.0s								
KDAK	**Kodiak Island**	**78.07**	**33**	*eP*		**P**	**13 17 58.9**	**-0.2**	
KDAK				pmax	pmax				
	comp=Z,31nm,0.6s								
KDAK	**Kodiak Island**	**78.07**	**33**	*eP*		**P**	**13 17 58.9**	**-0.2**	
	comp=Z,31nm,0.6s								
PPLA	**Purkeypile**	**78.61**	**27**	*eP*		**P**	**13 18 01.8**	**-0.4**	
	comp=Z,46nm,1.5s								
KTH	**Kantishna Hill**	**79.23**	**27**	*eP*		**P**	**13 18 04.7**	**-0.8**	
	comp=Z,16nm,1.1s								
ZEI	**Tsey**	**79.23**	**312**	*eP*		**P**	**13 18 03.6**	**-2.5**	
ZEI				pmax	pmax				
	comp=Z,19nm,0.8s								
TRF	**Thorofare Moun**	**79.51**	**27**	*eP*		**P**	**13 18 06.6**	**-0.5**	
	comp=Z,28nm,1.2s								
RC01	**Rabbit Creek A**	**79.67**	**29**	*eP*		**P**	**13 18 06.2**	**-1.7**	
	comp=Z,11nm,0.7s								
COLD	**Coldfoot**	**79.73**	**23**	*eP*		**P**	**13 18 07.0**	**-1.1**	
	comp=Z,12nm,0.8s								
SEW	**Seward**	**79.79**	**30**	*eP*		**P**	**13 18 07.3**	**-1.2**	
	comp=Z,29nm,1.1s								
PMR	**Palmer**	**79.98**	**29**	*eP*		**P**	**13 18 07.1**	**-2.4**	
PMR				pmax	pmax				
	comp=Z,17nm,0.8s								
PMR	**Palmer**	**79.98**	**29**	*eP*		**P**	**13 18 07.1**	**-2.4**	
	comp=Z,17nm,0.8s								
MCK	**McKinley**	**80.12**	**27**	*eP*		**P**	**13 18 09.8**	**-0.5**	
MCK				pmax	pmax				
	comp=Z,25nm,0.8s								
MCK	**McKinley**	**80.12**	**27**	*eP*		**P**	**13 18 09.8**	**-0.5**	
	comp=Z,25nm,0.8s								
SML	**Sawmill**	**80.36**	**29**	*eP*		**P**	**13 18 10.9**	**-0.7**	
SML				pmax	pmax				
	comp=Z,6.0nm,0.7s								
SML	**Sawmill**	**80.36**	**29**	*eP*		**P**	**13 18 10.9**	**-0.7**	
	comp=Z,5.7nm,0.7s								
COLA	**College**	**80.61**	**26**	*eP*		**P**	**13 18 10.5**	**-2.3**	
COLA				pmax	pmax				
	comp=Z,9.0nm,0.9s								
COLA	**College**	**80.61**	**26**	*eP*		**P**	**13 18 10.5**	**-2.3**	
	comp=Z,9.1nm,0.9s								
ILAR	**Eielson Array**	**81.03**	**26**	P		**P**	**13 18 13.9**	**-1.1**	
	comp=Z,2.9nm,0.7s,baz=238,slow=5.0,SNR=25								
ILAR				LR		LR	13 54 45.8		
	comp=Z,233nm,20.3s,baz=258,slow=36								
ILAR	**Eielson Array**	**81.03**	**26**	P		**P**	**13 18 14.0**	**-1.1**	
ILAR				pmax	pmax				
	comp=Z,3.0nm,0.7s								
ILAR				MLR	MLR				
	comp=Z,233nm,20.3s								
ILAR	**Eielson Array**	**81.03**	**26**	P		**P**	**13 18 13.9**	**-1.1**	
KLMR	**Klimovskoe**	**81.52**	**330**	*eP*		**P**	**13 18 15.7**	**-2.0**	
KLMR				pmax	pmax				
	comp=Z,26nm,1.4s								
DIV	**Divide**	**81.60**	**29**	*eP*		**P**	**13 18 17.0**	**-1.3**	
	comp=Z,21nm,1.0s								
PAX	**Paxson**	**81.69**	**27**	*eP*		**P**	**13 18 18.4**	**-0.3**	
PAX				pmax	pmax				
	comp=Z,14nm,1.0s								
PAX	**Paxson**	**81.69**	**27**	*eP*		**P**	**13 18 18.4**	**-0.3**	
	comp=Z,14nm,1.0s								
VSR	**Storozhevoye**	**82.14**	**321**	*eP*		**P**	**13 18 20.8**	**-0.4**	
VSR				pmax	pmax				
	comp=Z,4.0nm,0.4s								
BMRM	**Bremner River**	**82.17**	**29**	*eP*		**P**	**13 18 20.0**	**-1.3**	
	comp=Z,20nm,1.1s								
SOC	**Sochi**	**82.25**	**313**	*eP*		**P**	**13 18 20.0**	**-1.9**	
SOC				*e*			13 21 29.6		
SOC				*eS*		**S**	**13 28 32.9**	**-1.3**	
DOT	**Dot Lake**	**82.29**	**27**	*eP*		**P**	**13 18 21.2**	**-0.6**	
	comp=Z,38nm,1.0s								
EGAK	**Eagle**	**83.48**	**26**	*eP*		**P**	**13 18 27.3**	**-0.6**	
	comp=Z,19nm,1.2s								
ANN	**Anapa**	**83.79**	**314**	*eP*		P	13 18 20.2	-10	
ANN				*e**PP		**PcP**	**13 18 29.8**	**-4.1**	
ANN				pmax	pmax				
	comp=Z,45nm,1.2s								
DAWY	**Dawson**	**84.32**	**26**	*eP*		**P**	**13 18 29.9**	**-2.4**	
	comp=Z,26nm,1.2s								
JOF	**Joensuu**	**85.20**	**333**	P		**P**	**13 18 38.0**	**+1.4**	
JOF				pmax	pmax				
	comp=Z,68nm,1.0s								
INK	**Inuvik**	**85.96**	**22**	*eP*		**P**	**13 18 39.6**	**-0.7**	
INK				pmax	pmax				
	comp=Z,25nm,1.4s								
INK	**Inuvik**	**85.96**	**22**	*eP*		**P**	**13 18 39.6**	**-0.7**	
	comp=Z,24nm,1.4s								
ARCES	**ARCESS Array B**	**86.25**	**340**	P		**P**	**13 18 40.6**	**-1.1**	
	comp=Z,9.8nm,0.8s,baz=84,slow=6.2,SNR=16								
ARCES	**ARCESS Array B**	**86.25**	**340**	*eP*		**P**	**13 18 41.0**	**-0.7**	
ARCES				pmax	pmax				
	comp=Z,10.0nm,0.8s								
ARCES	**ARCESS Array B**	**86.25**	**340**	P		**P**	**13 18 40.6**	**-1.1**	
PPT2	**Papeete2**	**86.46**	**108**	*eLR*		LR	13 45 50.9		
	comp=Z,606nm,22.5s								
BRTR	**Keskin Array B**	**87.19**	**310**	P		**P**	**13 18 45.2**	**-2.0**	
	comp=Z,1.7nm,0.7s,baz=131,slow=3.4,SNR=8.6								
BRTR	**Keskin Array B**	**87.19**	**310**	P		**P**	**13 18 45.2**	**-2.0**	
TBI	**Tubuai**	**87.55**	**114**	*eLR*		LR	13 46 01.8		
	comp=Z,405nm,24.5s								
VNDA	**Vanda**	**87.88**	**173**	P		**P**	**13 18 49.7**	**+0.3**	
	comp=Z,1.8nm,0.6s,baz=306,slow=5.3,SNR=12								
VNDA	**Vanda**	**87.88**	**173**	P		**P**	**13 18 49.7**	**+0.3**	
FINES	**FINESS Array B**	**87.89**	**332**	P		**P**	**13 18 48.2**	**-1.6**	
	comp=Z,4.5nm,0.4s,baz=80,slow=4.6,SNR=74								
FINES	**FINESS Array B**	**87.89**	**332**	P		**P**	**13 18 48.2**	**-1.6**	
MAW	**Mawson**	**87.99**	**200**	P		**P**	**13 18 50.6**	**+0.6**	
	comp=Z,1.6nm,0.8s,baz=53,slow=5.1,SNR=3.1								
MAW	**Mawson**	**87.99**	**200**	P		**P**	**13 18 50.6**	**+0.6**	
VSU	**Vasula**	**88.25**	**329**	P		**P**	**13 18 52.9**	**+1.4**	
VSU				pmax	pmax				
	comp=Z,110nm,0.8s								
AKASG	**Malin Array Be**	**88.44**	**321**	P		**P**	**13 18 50.5**	**-2.1**	
	comp=Z,2.4nm,0.4s,baz=66,slow=5.1,SNR=14								
AKASG	**Malin Array Be**	**88.44**	**321**	*eP*		**P**	**13 18 53.6**	**+1.0**	
AKASG				pmax	pmax				
	comp=Z,2.0nm,0.4s								
AKASG	**Malin Array Be**	**88.44**	**321**	P		**P**	**13 18 50.5**	**-2.1**	
KIEV	**Kiev**	**88.45**	**321**	⇓P		**P**	**13 18 52.9**	**+0.2**	
KIEV				pmax	pmax				
	comp=Z,3.0nm,0.9s								
KIEV	**Kiev**	**88.45**	**321**	*eP*		**P**	**13 18 50.2**	**-2.4**	
	comp=Z,3.8nm,0.4s								
SBA	**Scott Base**	**88.78**	**172**	*eP*		**P**	**13 18 55.4**	**+1.8**	
SBA	**Scott Base**	**88.78**	**172**	*eP*		**P**	**13 18 55.4**	**+1.8**	
KMBO	**Kilima Mbogo**	**89.69**	**269**	*i* P		**P**	**13 19 00.7**	**+1.1**	
KMBO				pmax	pmax				
	comp=Z,1.0nm,0.3s								
LVV	**L'vov**	**91.88**	**321**	*eP*		**P**	**13 19 05.5**	**-3.2**	
DAG	**Danmarks Havn**	**92.80**	**352**	*i* P		**P**	**13 19 10.5**	**-1.9**	
	comp=Z,5.5nm,0.7s								
DAG	**Danmarks Havn**	**92.80**	**352**	*i* P		**P**	**13 19 10.5**	**-1.9**	
DAG				pmax	pmax				
	comp=Z,4.0nm,0.7s								
UZH	**Uzhgorod**	**93.30**	**320**	*eP*		**P**	**13 19 13.3**	**-2.0**	
NB2	**NORSAR Subarra**	**94.78**	**334**	P		**P**	**13 19 19.5**	**-2.4**	
	comp=Z,1.3nm,0.6s,baz=64,slow=4.6								
NOA	**NORSAR Array B**	**94.78**	**334**	P		**P**	**13 19 19.5**	**-2.4**	
	comp=Z,1.8nm,0.7s,baz=65,slow=4.7,SNR=8.7								
NOA	**NORSAR Array B**	**94.78**	**334**	P		**P**	**13 19 19.5**	**-2.4**	
YKA	**Yellowknife Ar**	**95.38**	**24**	P		**P**	**13 19 24.4**	**-0.1**	
	comp=Z,4.7nm,0.8s,baz=302,slow=5.2,SNR=5.0								
YKA	**Yellowknife Ar**	**95.38**	**24**	*eP*		**P**	**13 19 26.2**	**+1.7**	
YKA				pmax	pmax				
	comp=Z,5.0nm,0.8s								
YKA	**Yellowknife Ar**	**95.38**	**24**	P		**P**	**13 19 24.4**	**-0.1**	
SYO	**Syowa Base**	**96.64**	**201⇓**	*eP*		**P**	**13 19 30.6**	**+0.6**	
SYO	**Syowa Base**	**96.64**	**201⇓**	*epP*		pP	13 19 44.6	+0.9	
CLL	**Collm**	**98.02**	**325**	*eP*		**P**	**13 19 36.0**	**-0.7**	
CLL				*eS*		**ScS**	**13 31 02.0**	**+1.8**	
CLL				MLR	MLR				
	comp=Z,700nm,20.0s								
CLL	**Collm**	**98.02**	**325**	*eP*		**P**	**13 19 36.0**	**-0.7**	
CLL				*ePP*		**PP**	**13 23 42.0**	**+6.4**	
CLL				*e*			13 26 00.0		
CLL				*e*SKSac		**SKSac**	**13 30 12.0**	**+1.2**	
CLL				*eS*		**ScS**	**13 31 02.0**	**+1.8**	
CLL				*eSP*		**SP**	**13 32 17.0**	**-6.0**	
CLL				*e*PPS		PPS	13 33 06.0		
CLL				*eSS*		**SS**	**13 37 42.0**	**0.0**	
CLL				Lm	MLR		14 07 00.0		
	comp=N,300nm,19.9s								
CLL				Lm	MLR		14 07 00.0		
	comp=E,600nm,19.2s								
CLL				Lm	MLR		14 07 00.0		
	comp=Z,700nm,20.0s								
GERES	**GERESS Array B**	**98.58**	**322**	P		**P**	**13 19 38.4**	**-1.1**	
	comp=Z,1.1nm,0.6s,baz=64,slow=6.1,SNR=8.4								
GERES	**GERESS Array B**	**98.58**	**322**	P		**P**	**13 19 38.4**	**-1.1**	
RKT	**Rikitea**	**100.74**	**112**	*eLR*		LR	13 52 34.7		
	comp=Z,290nm,25.0s								
TXAR	**Lajitas Array**	**118.74**	**50**	PKP		**PKPdf**	**13 24 51.4**	**+2.1**	
	comp=Z,0.3nm,0.6s,baz=318,slow=1.2,SNR=3.4								
TXAR				PKKPab		**PKKPbc**	**13 35 06.9**	**+1.4**	
	comp=Z,0.4nm,0.6s,baz=104,slow=5.3,SNR=3.7								
TXAR	**Lajitas Array**	**118.74**	**50**	PKP		**PKPdf**	**13 24 51.4**	**+2.1**	
TXAR				PKKPab		**PKKPbc**	**13 35 06.9**	**+1.4**	
TORD	**Torodi Ar. Bea**	**121.46**	**291**	PKP		**PKPdf**	**13 24 53.6**	**-1.1**	
	comp=Z,1.1nm,0.6s,baz=57,slow=2.2,SNR=9.1								
TORD				SKP			13 28 27.6		
	comp=Z,0.9nm,0.8s,baz=48,slow=2.1,SNR=3.8								
TORD	**Torodi Ar. Bea**	**121.46**	**291**	PKP		**PKPdf**	**13 24 53.6**	**-1.1**	
TORD				SKP			13 28 27.6		
PLCA	**Paso Flores**	**144.17**	**157**	PKP		**PKPdf**	**13 25 35.8**	**-0.7**	
	comp=Z,5.1nm,0.8s,baz=261,slow=2.9,SNR=12								
PLCA	**Paso Flores**	**144.17**	**157**	*e*PKIKP		**PKPdf**	**13 25 36.3**	**-0.2**	
PLCA				pmax	pmax				
	comp=Z,5.0nm,0.7s								
PLCA	**Paso Flores**	**144.17**	**157**	PKP		**PKPdf**	**13 25 35.8**	**-0.7**	
CAPC	**Capurgana**	**150.68**	**56**	*eP*		**PKPbc**	**13 25 54.7**	**+1.2**	
SJCC	**San Jacinto, C**	**151.66**	**51**	*eP*		**PKPab**	**13 26 06.2**	**+1.7**	
PAMC	**Pamplona, Colo**	**155.16**	**52**	*eP*		**PKPab**	**13 26 19.3**	**-0.6**	
LPAZ	**La Paz**	**163.40**	**120**	PKP		**PKPdf**	**13 26 05.3**	**+0.5**	
	comp=Z,0.9nm,0.7s,baz=313,slow=8.2,SNR=3.8								
LPAZ				PKPab		**PKPab**	**13 26 58.3**	**+2.6**	
	comp=Z,2.7nm,0.8s,baz=275,slow=0.9,SNR=3.4								
LPAZ	**La Paz**	**163.40**	**120**	PKP		**PKPdf**	**13 26 05.3**	**+0.5**	
LPAZ				PKPab		**PKPab**	**13 26 58.3**	**+2.6**	

IDC 30 13:06:58.8±2.5, 8°28N×127°05E, h0km, mb4.5/4, mb1 4.6/4, mb1mx4.1/33, mbtmp4.5/4, MS4.6/1, Ms1 4.6/1, ms1mx3.6/17, Error ellipse: s-maj=83.5km s-min=59.5km az=178.0, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
PALK	**Pallekele**	**45.91**	**272**	LR		LR	13 35 23.3	
	comp=Z,730nm,20.6s,baz=115,slow=37							
MKAR	**Makanchi Array**	**54.07**	**323**	P		P	13 16 26.1	+0.8
	7.0nm,1.0s,baz=121,slow=8.1,SNR=2.7							
ILAR	**Eielson Array**	**80.89**	**26**	P		P	13 19 14.4	-0.2
	1.5nm,0.9s,baz=265,slow=4.5,SNR=2.3							
BRTR	**Keskin Array B**	**87.38**	**310**	P		P	13 19 46.5	-1.9
	1.3nm,0.7s,baz=115,slow=3.2,SNR=2.8							
FINES	**FINESS Array B**	**88.00**	**332**	P		P	13 19 50.8	+0.1
	4.6nm,0.6s,baz=66,slow=4.7,SNR=3.8							
TORD	**Torodi Ar. Bea**	**121.70**	**291**	PKP		PKPdf	13 25 56.6	+0.8
	1.0nm,0.8s,baz=95,slow=1.7,SNR=2.4							

IDC 30 13:13:02.7±4.0, 21°00N×120°49E, h0km, mb3.6/3, mb1 3.8/3, mb1mx3.3/38, mbtmp3.6/3, Error ellipse: s-maj=332.9km s-min=25.6km az=60.0, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
MKAR	**Makanchi Array**	**40.24**	**319**	P		P	13 20 41.1	-0.1
	0.4nm,0.7s,baz=97,slow=9.0,SNR=2.1							
WRA	**Warramunga Arr**	**42.89**	**161**	P		P	13 21 01.2	-1.9
	0.6nm,0.6s,baz=342,slow=8.1,SNR=7.1							
ASAR	**Alice Springs**	**46.28**	**163**	P		P	13 21 31.6	+1.4
	0.4nm,0.4s,baz=340,slow=7.6,SNR=14							

MAN 30 13:15:04, 8°20N×126°53E, h22km, mb4.4, ML3.2, MS3.1, 1C, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
BIPH	**Bislig**	**0.17**	**266⇑**	*iP*		Pb	13 15 12.8	+3.4
BIPH				*i* S		Sb	13 15 20.2	+7.0
MATI	**Mati**	**1.27**	**192**	*eP*		Pn	13 15 26.2	-0.3
MATI				*eS*		Sb	13 15 44.1	+0.9
SCPH	**Surigao**	**1.88**	**327**	*eP*		Pn	13 15 35.0	+0.1
SCPH				*eS*		Sb	13 15 59.8	-1.0

MAN 30 13:19:27, 8°23N×127°04E, h1km, mb3.9, ML2.7, MS2.3, 1C, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
BIPH	**Bislig**	**0.68**	**267⇑**	*iP*		Pb	13 19 42.3	+0.7
BIPH				*i* S		Sg	13 19 49.0	+0.3
MATI	**Mati**	**1.49**	**212**	*eP*		Pb	13 19 55.4	-0.1
MATI				*eS*		Sn	13 20 15.8	+0.7
PAGZ	**Pagadian**	**3.65**	**264**	*eP*		Pn	13 20 26.8	+2.2
BESP	**Borongan**	**3.71**	**335**	*eP*		Pn	13 20 27.0	+1.5

IDC 30 13:21:06.3±1.9, 8°09N×125°94E, h0km, mb3.6/4, mb1 3.8/4, mb1mx3.4/54, mbtmp3.6/4, ML5.0/1, 1C, Error ellipse: s-maj=172.9km s-min=20.0km az=64.0, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
BIPH	**Bislig**	**0.43**	**77⇑**	*eP*		Pg	13 21 11.7	-2.9
BIPH				*i* S		Sg	13 21 19.4	-0.8
SIJI	**Sorong**	**10.37**	**149**	Pn		Pn	13 23 36.4	-0.1
	13nm,0.3s,baz=330,slow=20,SNR=4.6							
WRA	**Warramunga Arr**	**29.06**	**164**	P		P	13 27 08.6	0.0
	0.2nm,0.2s,baz=344,slow=10,SNR=11							
ASAR	**Alice Springs**	**32.51**	**166**	P		P	13 27 39.0	0.0
	0.4nm,0.3s,baz=342,slow=7.6,SNR=14							
MKAR	**Makanchi Array**	**53.57**	**324**	P		P	13 30 28.8	-0.4
	0.3nm,0.5s,baz=109,slow=8.1,SNR=4.6							
KURBB	**Kurchatov Arra**	**57.68**	**326**	P		P	13 30 58.7	+0.1
	0.4nm,0.3s,baz=127,slow=6.2,SNR=8.0							

*IDC **30** 13:27:57.9±0.9, 10°00N×57°49E, h0km, mb3.8/10, mb1 3.9/10, mb1mx3.7/43, mbtmp3.8/10, Error ellipse: s-maj=25.5km s-min=19.6km az=176.0*
*ISCJB **30** 13:27:59.1±0.8, 10°1N±0°1×57°5E±0°1, h17km, mb3.8/11, Error ellipse: s-maj=19.8km s-min=16.2km az=157.5*
*NEIC **30** 13:27:59.4±0.7, 10°02N×57°47E, h10km, mb4.1/2, Error ellipse: s-maj=17.9km s-min=14.5km az=156.0*

ISC 30 13:28:00.7±0.9, 10°1N±0°2×57°5E±0°1, h17km, n18, σ0°99/12, mb3.8/11, Carlsberg Ridge

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
H08N2	**Diego Garcia H**	**21.13**	**140**	T		T	13 54 54.2	
	baz=320,slow=76,SNR=32							
H08N3	**Diego Garcia H**	**21.14**	**140**	T		T	13 54 56.5	
	baz=320,slow=76,SNR=27							
H08N1	**Diego Carcia H**	**21.15**	**140**	T		T	13 54 57.2	
	baz=320,slow=76,SNR=27							
KMBO	**Kilima Mbogo**	**22.97**	**242**	P		**P**	**13 33 05.6**	**+0.7**
	3.5nm,0.4s,baz=54,slow=12,SNR=9.1							
KMBO	**Kilima Mbogo**	**22.97**	**242**	*eP*		**P**	**13 33 05.1**	**+0.2**
	14nm,1.1s							
ABKAR	**Akbulak array**	**39.14**	**3**	*eP*		**P**	**13 35 27.3**	**0.0**
	1.4nm,0.6s							
AKTO	**Aktyubinsk**	**40.27**	**1**	P		**P**	**13 35 36.9**	**+0.2**
	1.5nm,0.6s,baz=183,slow=10,SNR=4.0							
CMAR	**Chiang Mai Arr**	**40.99**	**73**	P		**P**	**13 35 43.9**	**+0.7**
	1.0nm,0.7s,baz=267,slow=7.9,SNR=8.1							

MKAR	**Makanchi Array**	**53.99**	**323**	P	**P**	**14 14 02.9**	**-0.1**
	0.4nm,0.5s,baz=121,slow=7.9,SNR=6.9						
ILAR	**Eielson Array**	**80.90**	**26**	P	**P**	**14 16 55.0**	**+2.2**
	0.5nm,0.7s,baz=227,slow=5.2,SNR=6.3						
FINES	**FINESS Array B**	**87.93**	**332**	P	**P**	**14 17 27.5**	**-1.1**
	1.1nm,0.5s,baz=97,slow=6.5,SNR=7.3						

*ISK **30** 14:12:09.9, 39°.51N×39°.97E, h22km, MD2.6*
*ISCJB **30** 14:12:11.1±0.6, 39°.44N±0°.04×39°.98E±0°.04, h5km±7km, Error ellipse: s-maj=6.7km s-min=5.3km az=14.1*
*CSEM **30** 14:12:11.0±0.4, 39°.44N×39°.98E, h10km, MD2.6, Error ellipse: s-maj=8.5km s-min=6.9km az=9.0*
*DDA **30** 14:12:11.5, 39°.44N×39°.95E, h7km, Md2.5*
ISC 30 14:12:10.8±1.1, 39°.45N±0°.03×39°.97E±0°.03, h10km±10km, n19, σ0§64/28, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ERZN	**Erzincan**	**0.24**	**306**	*e*PG	**Pg**	**14 12 15.2**	**-0.6**
ERZN				*e*SG	**Sg**	**14 12 20.1**	**+1.1**
YEDI	**Yedisu-Bingol**	**0.44**	**91**	*e*PG	**Pg**	**14 12 19.5**	**+0.1**
YEDI				*e*SG	**Sb**	**14 12 26.8**	**-0.8**
YEDI	**Yedisu-Bingol**	**0.44**	**91**	*e*Pg	**Pg**	**14 12 19.5**	**+0.1**
YEDI				*e*Sg	**Sb**	**14 12 26.8**	**-0.8**
TNCL	**Tunceli-Merkez**	**0.47**	**225**	*i* P	**Pg**	**14 12 19.7**	**-0.3**
TNCL				*i* S	**Sb**	**14 12 27.6**	**-0.8**
TNCL	**Tunceli-Merkez**	**0.47**	**225**	P	**Pg**	**14 12 19.7**	**-0.3**
TNCL				S	**Sb**	**14 12 27.6**	**-0.8**
BINT	**Bingol**	**0.70**	**145**	*e*Pg	**Pb**	**14 12 25.1**	**0.0**
BNGB	**Bing¶ll**	**0.71**	**130**	*e*PG	**Pg**	**14 12 25.1**	**+0.6**
PTK	**Pertek**	**0.72**	**219**	*e*PG	**Pb**	**14 12 25.4**	**0.0**
PTK	**Pertek**	**0.72**	**219**	*e*Pg	**Pb**	**14 12 25.5**	**0.0**
KELT	**Kelkit**	**0.89**	**322**	*i* P	**Pg**	**14 12 27.1**	**-0.9**
KELT				*i* S	**Sb**	**14 12 41.3**	**+0.7**
KELT	**Kelkit**	**0.89**	**322**	P	**Pg**	**14 12 27.1**	**-0.9**
KELT				S	**Sb**	**14 12 41.3**	**+0.7**
KEMA	**Kemaliye**	**1.16**	**262**	*i* P	**Pg**	**14 12 33.3**	**+0.2**
KEMA				*i* S	**Sn**	**14 12 49.8**	**+0.5**
KEMA	**Kemaliye**	**1.16**	**262**	P	**Pg**	**14 12 33.3**	**+0.2**
KEMA				S	**Sn**	**14 12 49.8**	**+0.5**
SVRC	**Sivrice-ELAZID**	**1.19**	**206**	*e*PN	**Pb**	**14 12 32.5**	**-1.0**
SVRC	**Sivrice-ELAZID**	**1.19**	**206**	*e*Pn	**Pb**	**14 12 32.6**	**-1.0**
ELZG	**Elazig**	**1.22**	**219**	*i* P	**Pg**	**14 12 34.5**	**+0.2**
ELZG	**Elazig**	**1.22**	**219**	P	**Pg**	**14 12 34.5**	**+0.2**
SUSE	**Susehri**	**1.56**	**300**	*i* P	**Pg**	**14 12 40.9**	**+0.2**
SUSE	**Susehri**	**1.56**	**300**	P	**Pg**	**14 12 40.9**	**+0.2**

*MOS **30** 14:15:02.9±1.6, 44°.39N×148°.36E, h79km, mb4.1/4, Error ellipse: s-maj=15.1km s-min=10.6km az=123.1*
*ISCJB **30** 14:15:03.7±0.8, 44°.33N±0°.04×148°.23E±0°.08, h82km±6km, mb3.7/6, Error ellipse: s-maj=10.4km s-min=6.0km az=25.4*
*JMA **30** 14:15:04.2±0.3, 43°.96N×148°.04E, h0km, M4.2*
*SKHL **30** 14:15:05.5±1.1, 44°.36N×148°.16E, h83km±3km, mb4.8/5, msh5.8/3*
*IDC **30** 14:15:09.0±7.0, 44°.63N×148°.62E, h130km±74km, mb3.5/4, mb1 3.5/5, mb1mx3.1/43, mbtmp3.8/5, MS3.1/2, Ms1 3.1/2, ms1mx2.6/35, Error ellipse: s-maj=56.3km s-min=26.7km az=67.0*
ISC 30 14:15:03.6±1.3, 44°.26N±0°.05×148°.36E±0°.09, h67km±11km, n42, σ1§54/53, mb3.9/6, 2C-4D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KUR	**Kuril'sk**	**1.03**	**341**	*d i* PN	**Pn**	**14 15 22.7**	**+0.3**
KUR				*i* S	**Sn**	**14 15 36.2**	**-0.1**
KUR				pmax	pmax		
	comp=Z,575nm,0.1s						
KUR				pmax	pmax		
	comp=E,129nm,0.2s						
KUR				smax	smax		
	comp=E,1μm,0.4s						
KUR				smax	smax		
	comp=N,2μm,0.2s						
KUR	**Kuril'sk**	**1.03**	**341**	*i* P	**Pn**	**14 15 22.7**	**+0.3**
KUR				AMB	AMB	14 15 23.0	
	comp=N,460nm,0.2s						
KUR				*i* S	**Sn**	**14 15 36.3**	**-0.1**
KUR				A	A	14 15 37.7	
	comp=N,2μm,0.3s						
KUR				A	A	14 15 37.7	
	comp=N,1μm,0.3s						
SHO	**Shikotan**	**1.17**	**251**	*d i* PN	**Pn**	**14 15 24.5**	**+0.4**
SHO				*i* S	**Sn**	**14 15 38.7**	**-0.6**
SHO				pmax	pmax		
	comp=Z,34nm,0.2s						
SHO				smax	smax		
	comp=N,910nm,0.5s						
SHO				smax	smax		
	comp=E,1μm,0.4s						
SHO	**Shikotan**	**1.17**	**251**	*e*P	**Pn**	**14 15 24.5**	**+0.4**
SHO				AMB	AMB	14 15 25.8	
	comp=E,340nm,0.3s						
SHO				*i* S	**Sn**	**14 15 39.0**	**-0.3**
SHO				A	A	14 15 40.5	
	comp=E,410nm,0.2s						
SHO				A	A	14 15 40.5	
	comp=E,990nm,0.2s						
YUK	**Yuzh-Kuril'sk**	**1.81**	**264**	*e*PN	**Pn**	**14 15 33.2**	**+0.7**
YUK				*i* S	**Sn**	**14 15 54.2**	**-0.4**
YUK				pmax	pmax		
	comp=N,19nm,0.1s						
YUK				pmax	pmax		
	comp=E,13nm,0.1s						
YUK				pmax	pmax		
	comp=Z,185nm,0.1s						
YUK				smax	smax		
	comp=N,841nm,0.2s						
YUK				smax	smax		
	comp=E,955nm,0.4s						
YUK	**Yuzh-Kuril'sk**	**1.81**	**264**	*e*P	**Pn**	**14 15 33.3**	**+0.7**
YUK				AMB	AMB	14 15 38.6	
	comp=E,190nm,0.2s						
YUK				*i* S	**Sn**	**14 15 53.2**	**-1.4**
YUK				A	A	14 15 57.7	
	comp=E,620nm,0.3s						
YUK				A	A	14 15 57.7	
	comp=E,1μm,0.3s						
NEM2	**Nemuro 2**	**2.09**	**246**	P	**Pn**	**14 15 36.7**	**+0.3**
NEM2				*e*S	**Sn**	**14 16 00.3**	**-1.1**
JRA	**Rausu**	**2.35**	**263**	P	**Pn**	**14 15 41.5**	**+1.6**
JNK	**Nakash**	**2.71**	**257**	P	**Pn**	**14 15 46.2**	**+1.4**
JNK				*e*S	**Sn**	**14 16 17.1**	**+0.6**
JAK	**Akkeshi**	**2.94**	**246**	P	**Pn**	**14 15 48.3**	**+0.4**
JAK				*e*S	**Sn**	**14 16 21.0**	**-1.1**
JTKR	**Abashiri--Toko**	**3.22**	**266**	P	**Pn**	**14 15 53.0**	**+1.3**
JAR	**Ashorobuto**	**3.46**	**255**	P	**Pn**	**14 15 56.8**	**+1.8**
JAR				*e*S	**Sn**	**14 16 35.4**	**+0.7**
JCH	**Churui**	**3.99**	**247**	P	**Pn**	**14 16 03.2**	**+0.9**
JCH				*e*S	**Sn**	**14 16 46.8**	**-1.0**
JKK2	**Kamakawa 2**	**4.06**	**266**	P	**Pn**	**14 16 05.1**	**+1.9**
ERM	**Erimo**	**4.42**	**241**	*d i* PN	**Pn**	**14 16 10.8**	**+2.7**
JNBK	**Urakawa-nobuka**	**4.54**	**246**	P	**Pn**	**14 16 10.1**	**+0.3**
YSS	**Yuzh-Sakhalins**	**4.76**	**306**	*e*PN	**Pn**	**14 16 13.9**	**+1.1**
YSS				*e*S	**Sn**	**14 17 04.3**	**-2.4**
YSS				pmax	pmax		
	comp=Z,20nm,0.5s						
YSS				smax	smax		
	comp=N,40nm,0.9s						
YSS	**Yuzh-Sakhalins**	**4.76**	**306**	*e*P	**Pn**	**14 16 13.7**	**+0.9**
YSS				AMB	AMB	14 16 14.1	
	comp=N,20nm,0.5s						
YSS				*e*S	**Sn**	**14 17 04.3**	**-2.4**
YSS				A	A	14 17 05.0	
	comp=N,40nm,0.9s						
JKB	**Kayabe**	**5.86**	**249**	P	**Pn**	**14 16 28.3**	**+0.4**
JKB				*e*S	**Sn**	**14 17 30.7**	**-2.9**
JOT	**Ohata**	**6.09**	**244**	P	**Pn**	**14 16 30.8**	**-0.2**
JOT				*e*S	**Sn**	**14 17 35.2**	**-4.1**
UGL	**Uglegorsk**	**6.48**	**320**	*e*PN	**Pn**	**14 16 35.7**	**-0.5**
UGL				*e*S	**Sn**	**14 17 49.7**	**+1.1**
UGL	**Uglegorsk**	**6.48**	**320**	*e*P	**Pn**	**14 16 37.2**	**+1.0**
UGL				*e*S	**Sn**	**14 17 46.9**	**-1.7**
HABR	**Khabarovsk**	**10.11**	**299**	*e*PN	**Pn**	**14 17 25.3**	**-0.6**
HABR				*e*S	**Sn**	**14 19 18.6**	**+1.0**
HABR				MLR	MLR		
	comp=Z,80nm,13.0s						
HABR	**Khabarovsk**	**10.11**	**299**	*e*P	**Pn**	**14 17 25.3**	**-0.6**
PETK	**Petropavlovsk-**	**10.79**	**32**	P	**Pn**	**14 17 34.1**	**-1.0**
	comp=Z,0.1nm,0.3s,baz=177,slow=9.3,SNR=2.4						
PETK				LR	LR	14 21 17.2	
	comp=Z,73nm,18.7s,baz=286,slow=36						
ULN	**Ulaanbaatar**	**28.64**	**292**	*e*P	**P**	**14 20 56.6**	**+2.8**
ULN				pmax	pmax		
	comp=Z,2.0nm,1.4s						
ULN	**Ulaanbaatar**	**28.64**	**292**	*e*P	**P**	**14 20 56.6**	**+2.8**
H11N2	**WAKE ISLAND Hy**	**28.94**	**142**	T	T	14 51 55.5	
	baz=333,slow=76,SNR=82						
H11N1	**WAKE ISLAND Hy**	**28.95**	**142**	T	T	14 51 56.5	
	baz=333,slow=76,SNR=61						
H11N3	**WAKE ISLAND Hy**	**28.96**	**142**	T	T	14 51 56.8	
	baz=333,slow=76,SNR=77						
TIXI	**Tiksi**	**29.05**	**347**	*ce*P	**P**	**14 20 58.8**	**+1.8**
TIXI	**Tiksi**	**29.05**	**347**	*e*P	**P**	**14 20 58.8**	**+1.8**
H11S1	**WAKE ISLAND Hy**	**29.93**	**143**	T	T	14 53 07.7	
	baz=334,slow=76,SNR=107						
H11S3	**WAKE ISLAND Hy**	**29.94**	**143**	T	T	14 53 08.7	
	baz=334,slow=76,SNR=78						
H11S2	**WAKE ISLAND Hy**	**29.95**	**143**	T	T	14 53 11.2	
	baz=334,slow=76,SNR=70						
MKAR	**Makanchi Array**	**45.12**	**298**	P	**P**	**14 23 12.0**	**-1.1**
	comp=Z,0.9nm,0.7s,baz=73,slow=9.3,SNR=8.6						
KURK	**Kurchatov**	**45.97**	**304**	P	**P**	**14 23 18.7**	**-1.0**
KURK				pmax	pmax		
	comp=Z,1.0nm,0.4s						
KURK	**Kurchatov**	**45.97**	**304**	*e*P	**P**	**14 23 18.7**	**-1.0**
KURBB	**Kurchatov Arra**	**46.05**	**304**	P	**P**	**14 23 18.7**	**-1.7**
	comp=Z,0.7nm,0.4s,baz=75,slow=8.3,SNR=2.4						
FINES	**FINESS Array B**	**64.81**	**333**	P	**P**	**14 25 31.7**	**-3.2**
	comp=Z,2.9nm,0.9s,baz=23,slow=7.5,SNR=8.3						
ASAR	**Alice Springs**	**68.88**	**194**	P	**P**	**14 26 02.0**	**+0.9**
	comp=Z,0.4nm,0.9s,baz=8.9,slow=6.6,SNR=3.3						
GNI	**Garni**	**71.52**	**308**	LR	LR	15 01 22.8	
	comp=Z,16nm,21.7s,baz=339,slow=39						

*JMA **30** 14:20:59.9±0.1, 24°.57N×122°.89E, h79km±1km, M2.8*
*TAP **30** 14:20:59.6, 24°.59N×122°.91E, h86km, ML3.7, C*
*ISCJB **30** 14:21:00.4±0.4, 24°.49N±0°.03×122°.92E±0°.02, h74km±5km, Error ellipse: s-maj=5.3km s-min=2.7km az=176.9*
ISC 30 14:21:00.9±1.3, 24°.47N±0°.04×122°.91E±0°.02, h73km±8km, n49, σ1§06/96, 2C, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JYNG	**Yonagunijimaku**	**0.03**	**121**	P	**Pn**	**14 21 11.4**	**0.0**
JYNG				S	**Sn**	**14 21 19.8**	**+0.8**
YOJ	**Yonaguni jima**	**0.09**	**94**	P	**Pn**	**14 21 11.5**	**0.0**
YOJ				S	**Sn**	**14 21 19.5**	**+0.3**
IRIF	**Iriomote-Funau**	**0.76**	**100**	P	**Pn**	**14 21 16.5**	**-0.1**
IRIF				S	**Sn**	**14 21 29.0**	**+0.7**
HATJ	**Hateruma jima**	**0.91**	**117**	P	**Pn**	**14 21 19.5**	**+1.0**
HATJ				S	**Sn**	**14 21 33.1**	**+1.6**
TWC	**Suao**	**0.98**	**278**	*i* P	**Pn**	**14 21 18.4**	**-0.9**
	baz=271						
TWC				*e*S	**Sn**	**14 21 31.5**	**-1.5**
	baz=271						
TWB1	**Santiao Chiao**	**1.00**	**303**	*e*P	**Pn**	**14 21 18.3**	**-1.3**
	baz=290						
TWB1				*e*S	**Sn**	**14 21 32.5**	**-0.9**
	baz=290						
JKRS	**Kuro-shima**	**1.02**	**103**	P	**Pn**	**14 21 20.1**	**+0.3**
JKRS				*e*S	**Sn**	**14 21 34.4**	**+0.4**
ENA	**Nanau**	**1.07**	**268**	*i* P	**Pn**	**14 21 20.2**	**-0.2**
	baz=261						
ENA				*e*S	**Sn**	**14 21 35.6**	**+0.6**
	baz=261						
ILA	**Ilan**	**1.10**	**286**	*e*P	**Pn**	**14 21 21.0**	**+0.2**
	baz=279						
ILA				*e*S	**Sn**	**14 21 35.6**	**0.0**
	baz=279						
JIJ	**Ishigaki jima**	**1.12**	**95**	P	**Pn**	**14 21 20.7**	**-0.4**
JIJ				S	**Sn**	**14 21 36.0**	**-0.2**
TWE	**Neicheng**	**1.16**	**283**	*i* P	**Pn**	**14 21 20.9**	**-0.6**
	baz=270						
TWE				*e*S	**Sn**	**14 21 36.2**	**-0.9**
	baz=270						
NWF	**Wu-fen Shan**	**1.19**	**300**	*i* P	**Pn**	**14 21 21.5**	**-0.5**
	baz=286						
NWF				*e*S	**Sn**	**14 21 37.3**	**-0.5**
	baz=286						
ENTT	**Nioudou**	**1.24**	**278**	*i* P	**Pn**	**14 21 22.6**	**0.0**
	baz=266						
ENTT				*e*S	**Sn**	**14 21 38.3**	**-0.6**
	baz=266						
TWD	**Chiawan**	**1.26**	**252**	*e*P	**Pn**	**14 21 22.1**	**-0.7**
	baz=246						
TWD				*e*S	**Sn**	**14 21 38.2**	**-1.1**
	baz=246						
JISG	**Ishigakijimahi**	**1.28**	**84**	P	**Pn**	**14 21 22.4**	**-0.7**
JISG				*e*S	**Sn**	**14 21 38.7**	**-1.0**
HWA	**Hwalien**	**1.29**	**248**	*e*P	**Pn**	**14 21 23.1**	**-0.1**
	baz=243						
TWA	**Mucha**	**1.31**	**293**	*e*P	**Pn**	**14 21 23.2**	**-0.4**
	baz=279						
TWA				*e*S	**Sn**	**14 21 41.5**	**+1.0**
	baz=279						
NNS	**Nan Shan**	**1.41**	**269**	*i* P	**Pn**	**14 21 24.5**	**-0.4**
	baz=255						
NNS				*e*S	**Sn**	**14 21 42.4**	**-0.5**
	baz=255						
NSK	**Sanguang**	**1.43**	**279**	*i* P	**Pn**	**14 21 25.0**	**-0.1**
	baz=265						
NSK				*e*S	**Sn**	**14 21 43.3**	**-0.1**
	baz=265						
TWS1	**Kuangyinshan**	**1.50**	**295**	*e*P	**Pn**	**14 21 25.5**	**-0.4**
	baz=284						
TWS1				*e*S	**Sn**	**14 21 46.0**	**+1.2**
	baz=284						
ESL	**Shilin**	**1.50**	**245**	*e*P	**Pn**	**14 21 25.1**	**-0.9**
	baz=246						
ESL				*e*S	**Sn**	**14 21 44.8**	**-0.2**
	baz=246						
WHF	**Hehuan Shan**	**1.54**	**258**	*i* P	**Pn**	**14 21 26.4**	**-0.5**
	baz=253						
WHF				*e*S	**Sn**	**14 21 46.4**	**-0.1**
	baz=253						
TWT	**Tachien**	**1.60**	**263**	*e*P	**Pn**	**14 21 27.7**	**+0.3**
	baz=257						
TWT				*e*S	**Sn**	**14 21 47.6**	**+0.1**
	baz=257						
EHY	**Hungye**	**1.74**	**237**	*e*P	**Pn**	**14 21 28.7**	**-0.5**
	baz=232						
EHY				*e*S	**Sn**	**14 21 49.2**	**-1.4**
	baz=232						
NSTT	**Nanjuang**	**1.75**	**276**	*e*P	**Pn**	**14 21 29.2**	**-0.1**
	baz=270						
NSTT				*e*S	**Sn**	**14 21 50.4**	**-0.4**
	baz=270						
TWF1	**Yuli**	**1.85**	**233**	*e*P	**Pn**	**14 21 30.2**	**-0.4**
	baz=225						
TWF1				*e*S	**Sn**	**14 21 53.2**	**0.0**
	baz=225						
SMLT	**Sun Moon Lake**	**1.93**	**253**	*e*P	**Pn**	**14 21 33.0**	**+1.2**
	baz=243						
SMLT				*e*S	**Sn**	**14 21 55.8**	**+0.5**
	baz=243						
TWQ1	**Liyutan**	**1.96**	**267**	*e*P	**Pn**	**14 21 32.2**	**+0.1**
	baz=262						
TWQ1				*e*S	**Sn**	**14 21 55.9**	**+0.1**
	baz=262						
TYC	**Yuchr**	**1.96**	**254**	*e*P	**Pn**	**14 21 32.7**	**+0.6**
	baz=245						
TYC				*e*S	**Sn**	**14 21 56.2**	**+0.4**
	baz=245						
CHKT	**Chengkung**	**1.97**	**226**	*e*P	**Pn**	**14 21 31.5**	**-0.7**
	baz=223						
CHKT				*e*S	**Sn**	**14 21 54.0**	**-2.0**
	baz=223						
YUS	**Yu-Shan**	**2.04**	**242**	*e*P	**Pn**	**14 21 34.0**	**+0.3**
	baz=231						
YUS				*e*S	**Sn**	**14 21 57.7**	**-0.8**
	baz=231						
JIRB	**Irabujima**	**2.09**	**80**	P	**Pn**	**14 21 33.5**	**-0.3**
JIRB				*e*S	**Sn**	**14 21 58.2**	**-0.6**
WNT	**Mingjian**	**2.12**	**254**	*e*P	**Pn**	**14 21 35.6**	**+1.3**
	baz=250						
WNT				*e*S	**Sn**	**14 22 01.2**	**+1.5**
	baz=250						
ALS	**Alishan**	**2.15**	**244**	*e*P	**Pn**	**14 21 35.8**	**+0.9**
	baz=233						
ALS				*e*S	**Sn**	**14 22 01.7**	**+0.8**
	baz=233						
ELDTW	**Lidau**	**2.15**	**234**	*e*P	**Pn**	**14 21 34.3**	**-0.5**
	baz=225						
ELDTW				*e*S	**Sn**	**14 21 58.6**	**-2.1**
	baz=225						
JIKM	**Ikemajima**	**2.17**	**77**	*e*S	**Sn**	**14 22 01.1**	**+0.2**
CHN5	**Tsauling**	**2.22**	**247**	*e*P	**Pn**	**14 21 36.7**	**+1.0**
	baz=236						
CHN5				*e*S	**Sn**	**14 22 03.5**	**+1.3**
	baz=236						
WGK	**Gukeng**	**2.29**	**251**	*e*P	**Pn**	**14 21 38.2**	**+1.7**
	baz=246						
WGK				*e*S	**Sn**	**14 22 04.3**	**+0.6**
	baz=246						
TWG	**Pinlang**	**2.35**	**226**	*e*P	**Pn**	**14 21 36.8**	**-0.6**
	baz=230						
TWG				*e*S	**Sn**	**14 22 04.3**	**-1.1**
	baz=230						
STYT	**Tauyuan**	**2.37**	**237**	*e*P	**Pn**	**14 21 38.5**	**+0.8**
	baz=229						
STYT				*e*S	**Sn**	**14 22 06.5**	**+0.8**
	baz=229						
CHN4	**Tsaushan**	**2.40**	**243**	*e*P	**Pn**	**14 21 39.4**	**+1.3**
	baz=232						
CHN4				*e*S	**Sn**	**14 22 08.7**	**+2.2**
	baz=232						
WTP	**Ta-pu**	**2.43**	**240**	*e*P	**Pn**	**14 21 39.9**	**+1.4**
	baz=236						
WTP				*e*S	**Sn**	**14 22 09.0**	**+1.6**
	baz=236						
TWK	**Hsinying**	**2.52**	**242**	*e*P	**Pn**	**14 21 40.7**	**+0.9**
	baz=238						
TWK				*e*S	**Sn**	**14 22 11.3**	**+1.8**
	baz=238						
CHN1	**Nanshi**	**2.53**	**240**	*e*P	**Pn**	**14 21 41.2**	**+1.3**
	baz=236						
CHN1				*e*S	**Sn**	**14 22 11.4**	**+1.7**
	baz=236						
SGST	**Jiashian**	**2.54**	**238**	*e*P	**Pn**	**14 21 41.5**	**+1.5**
	baz=234						
SGST				*e*S	**Sn**	**14 22 12.4**	**+2.4**
	baz=234						
ECL	**Taimali**	**2.59**	**224**	*e*P	**Pn**	**14 21 40.0**	**-0.6**
	baz=221						
ECL				*e*S	**Sn**	**14 22 09.1**	**-1.9**
	baz=221						
SSD	**Sandimen**	**2.71**	**231**	*e*P	**Pn**	**14 21 43.8**	**+1.6**
	baz=226						
SSD				*e*S	**Sn**	**14 22 15.5**	**+1.6**
	baz=226						
LAY	**Lan-yu**	**2.72**	**208**	*e*P	**Pn**	**14 21 40.9**	**-1.6**
	baz=200						
LAY				*e*S	**Sn**	**14 22 12.3**	**-2.1**
	baz=200						
EAST	**Anshuo**	**2.81**	**223**	*e*P	**Pn**	**14 21 44.4**	**+0.7**
	baz=224						
EAST				*e*S	**Sn**	**14 22 13.8**	**-2.7**
	baz=224						

*ISCJB **30** 14:36:19.5±0.6, 37°.92N±0°.03×38°.91E±0°.06, h6km, Error ellipse: s-maj=7.3km s-min=3.9km az=17.9*
*CSEM **30** 14:36:19.6±0.1, 37°.90N×38°.98E, h10km, MD2.7, Error ellipse: s-maj=6.5km s-min=2.4km az=109.0*
*DDA **30** 14:36:19.5, 37°.92N×39°.00E, h7km, Md2.6*
*ISK **30** 14:36:19.0, 37°.89N×38°.99E, h5km, MD2.7*
ISC 30 14:36:19.5±1.0, 37°.90N±0°.03×38°.98E±0°.04, h6km, n16, σ0§75/23, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
URFA	**Urfa**	**0.48**	**195**	*e*PG	**Pg**	**14 36 28.5**	**-0.2**
URFA				*e*SG	**Sg**	**14 36 35.8**	**+0.8**
URFA	**Urfa**	**0.48**	**195**	*e*Pg	**Pg**	**14 36 28.5**	**-0.2**
URFA				*e*Sg	**Sg**	**14 36 35.8**	**+0.8**
SVRC	**Sivrice-ELAZID**	**0.54**	**29**	*e*PG	**Pg**	**14 36 30.0**	**+0.1**
SVRC				*e*SG	**Sb**	**14 36 38.2**	**-1.4**
SVRC	**Sivrice-ELAZID**	**0.54**	**29**	*e*Pg	**Pg**	**14 36 30.0**	**+0.1**
SVRC				*e*Sg	**Sb**	**14 36 38.2**	**-1.4**
ELZG	**Elazig**	**0.59**	**1**	*i* P	**Pg**	**14 36 31.0**	**+0.1**
ELZG				*i* S	**Sg**	**14 36 39.6**	**+1.0**
ELZG	**Elazig**	**0.59**	**1**	P	**Pg**	**14 36 31.0**	**+0.1**
ELZG				S	**Sg**	**14 36 39.7**	**+1.0**
ATAB	**Bozova**	**0.69**	**231**	*i* P	**Pg**	**14 36 33.2**	**+0.4**
ATAB	**Bozova**	**0.69**	**231**	P	**Pg**	**14 36 33.2**	**+0.4**
PTK	**Pertek**	**1.04**	**18**	*e*PG	**Pb**	**14 36 40.1**	**+0.1**
PTK	**Pertek**	**1.04**	**18**	*e*Pg	**Pb**	**14 36 40.1**	**+0.1**
SURC	**SANLIURFA_SURC**	**1.06**	**196**	*i* P	**Pb**	**14 36 40.4**	**+0.1**
SURC	**SANLIURFA_SURC**	**1.06**	**196**	P	**Pb**	**14 36 40.4**	**+0.1**
GZT	**Gaziantep**	**1.25**	**244**	*i* P	**Pg**	**14 36 42.2**	**-1.2**
MAZI	**Mazidag**	**1.25**	**110**	*e*PN	**Pg**	**14 36 43.2**	**-0.2**
MAZI	**Mazidag**	**1.25**	**110**	*e*Pn	**Pg**	**14 36 43.2**	**-0.2**
MARD	**Mardin**	**1.55**	**112**	*i* P	**Pb**	**14 36 48.5**	**-0.1**
MARD				*i* S	**Sg**	**14 37 10.6**	**+1.4**

*IDC **30** 14:44:56.5±0.9, 19°.13S×167°.55E, h0km, mb4.3/10, mb1 4.4/11, mb1mx4.2/27, mbtmp4.3/11, ML4.1/1, MS3.7/11, Ms1 3.8/11, ms1mx3.5/30, Error ellipse: s-maj=32.8km s-min=19.6km az=131.0*
*ISCJB **30** 14:44:59.5±0.2, 19°.22S±0°.06×167°.38E±0°.08, h28km, mb4.7/16, MS3.7/10, Error ellipse: s-maj=12.2km s-min=6.3km az=38.8*
*NEIC **30** 14:45:00.8±0.5, 19°.25S×167°.64E, h35km, mb5.2/7, Error ellipse: s-maj=20.4km s-min=12.6km az=143.0*
ISC 30 14:45:00.7±0.6, 19°.24S±0°.08×167°.5E±0°.1, h28km, n88, σ1§05/80, mb4.6/15, MS3.6/10, 2C, Vanuatu Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**2.98**	**199**	Pn	**Pn**	**14 45 46.2**	**0.0**
	24nm,0.3s,baz=26,slow=4.0,SNR=316						
DZM				Sn	**Sn**	**14 46 21.3**	**+0.2**
	54nm,0.3s,baz=310,slow=21,SNR=16						
DZM	**Mont Dzumac**	**2.98**	**199**	*e*Pn	**Pn**	**14 45 45.0**	**-1.2**
	93nm,0.2s						
DZM				*e*Sn	**Sn**	**14 46 20.0**	**-1.1**
	188nm,0.3s						
DZM				*e*LR	LR	14 46 28.2	
	692nm,24.9s						
DZM	**Mont Dzumac**	**2.98**	**199**	*e*Pn	**Pn**	**14 45 44.9**	**-1.4**
DZM				*e*Sn	**Sn**	**14 46 21.5**	**+0.5**
HNR	**Honiara**	**12.17**	**322**	LR	LR	14 51 06.9	
	comp=Z,110nm,20.2s,baz=92,slow=30						
CTA	**Charters Tower**	**20.00**	**264**	P	**Pn**	**14 49 33.2**	**+0.1**
	30nm,0.8s,baz=86,slow=13,SNR=34						
CTAO	**Charters Tower**	**20.00**	**264**	*e*P	**P**	**14 49 31.8**	**+0.4**
	205nm,0.9s						
AFI	**Afiamalu**	**20.57**	**78**	LR	LR

ULN	**Ulaanbaatar** 16nm,1.4s	**85.88**	**324**	*e*P		**P**	**14 57 35.9**	**-2.1**
SONM	**Songino Array** 3.5nm,0.9s,baz=145,slow=5.4,SNR=15	**86.23**	**324**	P		**P**	**14 57 40.4**	**+0.7**
BSC	**Santa Cruz Isl** baz=244	**87.21**	**53**	P		**P**	**14 57 44.5**	**-0.2**
PKM	**Mcpherson Peak** baz=244	**87.46**	**52**	P		**P**	**14 57 46.1**	**0.0**
N02D	**Trinity Center** baz=242,SNR=8.8	**88.12**	**45**	P		**P**	**14 57 50.1**	**+1.1**
OSI	**Osito Audit: C** baz=245	**88.16**	**52**	P		**P**	**14 57 49.9**	**+0.6**
M02C	**Callahan** baz=242,SNR=6.4	**88.21**	**45**	P		**P**	**14 57 49.9**	**+0.5**
CMB	**Columbia Colle** 77nm,1.1s	**88.41**	**49**	*e*P		**P**	**14 57 49.5**	**-0.9**
O03D	**Paynes Creek** baz=243,SNR=6.2	**88.42**	**46**	P		**P**	**14 57 50.8**	**+0.3**
109C	**Camp Elliot, M** baz=246	**88.68**	**55**	P		**P**	**14 57 51.9**	**+0.1**
HUMO	**Hull Mountain** 44nm,1.2s	**88.71**	**44**	*e*P		**P**	**14 57 47.4**	**-4.3**
ISA	**Isabella, Lake** baz=245	**88.78**	**52**	P		**P**	**14 57 52.9**	**+0.6**
BFSC	**Mount Baldy Ra** baz=246	**88.80**	**53**	P		**P**	**14 57 52.6**	**+0.2**
EDW2	**Edwards Air Fo** baz=245	**88.81**	**52**	P		**P**	**14 57 52.7**	**+0.3**
MURC	**Murrieta** baz=246	**88.90**	**54**	P		**P**	**14 57 53.0**	**+0.2**
M04C	**Macdoel** baz=243	**89.07**	**45**	P		**P**	**14 57 53.8**	**+0.3**
SNAA	**Sanae**	**89.08**	**183**	P		**P**	**14 57 53.5**	**+0.4**
SNAA	**Sanae** 434nm,1.3s	**89.08**	**183**	P		**P**	**14 57 51.3**	**-1.7**
MONP	**Monument Peak,** baz=246	**89.21**	**55**	P		**P**	**14 57 54.6**	**+0.1**
LRMC	**Laurel Mtn Rad** baz=246	**89.29**	**52**	P		**P**	**14 57 54.9**	**+0.2**
CWC	**Cottonwood Cre** baz=245	**89.39**	**51**	P		**P**	**14 57 55.0**	**-0.2**
PFO	**Pinyon Flats O** baz=246	**89.46**	**54**	P		**P**	**14 57 55.4**	**-0.2**
K04D	**Chiloquin, OR** baz=243	**89.50**	**44**	P		**P**	**14 57 56.3**	**+0.7**
TIN	**Tinemaha, Big** baz=245	**89.54**	**50**	P		**P**	**14 57 56.3**	**+0.5**
J04D	**Umpqua Nationa** baz=243	**89.55**	**44**	P		**P**	**14 57 57.0**	**+1.2**
I04A	**Tendick Farm,** baz=242	**89.61**	**43**	P		**P**	**14 57 56.4**	**+0.5**
MPMC	**Manual Prospec** baz=246,SNR=8.5	**89.67**	**52**	P		**P**	**14 57 56.9**	**+0.3**
SWSC	**Sam W. Stewart** baz=247	**89.71**	**55**	P		**P**	**14 57 57.5**	**+1.0**
G03D	**McMinnville, O** baz=242	**89.73**	**41**	P		**P**	**14 57 57.2**	**+0.9**
VNA3	**Neumayer Olymp**	**89.73**	**181**	P		**P**	**14 57 56.4**	**+0.4**
GSC	**Goldstone, Bar** baz=246	**89.88**	**52**	P		**P**	**14 57 58.4**	**+1.0**
BELC	**Belle Mtn. Jos** baz=247,SNR=6.9	**89.97**	**54**	P		**P**	**14 57 58.5**	**+0.6**
VNA2	**Neumayer--Watz** baz=172,slow=4.7	**90.00**	**182**	P		**P**	**14 57 58.1**	**+0.8**
HEC	**Hector,Ludlow** baz=246,SNR=5.2	**90.04**	**53**	P		**P**	**14 57 58.5**	**+0.3**
J05D	**Fort Rock, OR** baz=243	**90.14**	**44**	P		**P**	**14 57 59.1**	**+0.5**
GRAC	**Grapevine Rang** baz=246	**90.14**	**51**	P		**P**	**14 57 59.1**	**+0.5**
MOD	**Modoc Plateau** 7.2nm,1.1s	**90.15**	**45**	*e*P		**P**	**14 57 56.7**	**-1.9**
BC3	**Big Chuckawall** baz=247	**90.25**	**54**	P		**P**	**14 57 59.7**	**+0.5**
FURC	**Furnace Creek,** baz=246	**90.30**	**51**	P		**P**	**14 57 60.0**	**+0.8**
GLA	**Glamis** baz=247	**90.50**	**55**	P		**P**	**14 58 01.5**	**+1.1**
SHOC	**Shoshone, Teco** baz=246,SNR=5.2	**90.51**	**52**	P		**P**	**14 58 01.0**	**+0.7**
GMRC	**Granite Mounta** baz=247	**90.53**	**53**	P		**P**	**14 58 01.3**	**+0.7**
I05D	**Terrebonne, OR** baz=243	**90.55**	**43**	P		**P**	**14 58 01.2**	**+0.9**
TUQ	**Turquoise Moun** baz=247	**90.59**	**53**	P		**P**	**14 58 01.5**	**+0.7**
IRM	**Iron Mountain** baz=247,SNR=5.4	**90.68**	**54**	P		**P**	**14 58 01.6**	**+0.5**
ILAR	**Eielson Array** 0.9nm,0.7s,baz=234,slow=4.9,SNR=10	**90.73**	**18**	P		**P**	**14 57 59.0**	**-1.6**
TPNV	**Topopah Spring** baz=246,SNR=9.2	**90.94**	**51**	P		**P**	**14 58 02.8**	**+0.3**
Y12C	**Blythe** baz=247	**91.00**	**55**	P		**P**	**14 58 03.4**	**+0.8**
NEE2	**Needles Airpor** baz=247	**91.32**	**54**	P		**P**	**14 58 04.5**	**+0.5**
WVOR	**Wild Horse Val** 13nm,1.3s	**91.50**	**45**	P		**P**	**14 58 01.9**	**-2.9**
PDMCI	**Parker Dam,Lak** baz=248	**91.51**	**54**	P		**P**	**14 58 05.6**	**+0.7**
214A	**Organ Pipe Nat** baz=248	**91.67**	**57**	P		**P**	**14 58 06.2**	**+0.5**
B05A	**Bryant** baz=243	**91.85**	**39**	P		**P**	**14 58 07.4**	**+1.3**
R11A	**Troy Canyon, C** baz=247	**91.98**	**50**	P		**P**	**14 58 07.3**	**+0.1**
TUC	**Tucson** baz=249	**93.40**	**57**	P		**P**	**14 58 14.3**	**+0.5**
WUAZ	**Wupatki** baz=249	**94.07**	**54**	P		**P**	**14 58 17.6**	**+0.7**
ANMO	**Albuquerque** baz=252	**97.68**	**56**	P		Pdif	14 58 34.2	+0.7
BW06	**Boulder Array** baz=251	**97.84**	**48**	P		Pdif	14 58 34.8	+0.7
TXAR	**Lajitas Array** 0.2nm,0.6s,baz=235,slow=3.2,SNR=2.6	**98.23**	**62**	P		Pdif	14 58 36.5	+0.5
TXAR	comp=Z,33nm,18.6s,baz=0.0,slow=32				LR	LR	15 37 04.0	
MKAR	**Makanchi Array** 0.1nm,0.4s,baz=102,slow=11,SNR=2.9	**100.57**	**316**	P		**Pdif**	**14 58 47.5**	**+1.7**
ARCES	**ARCESS Array B** 3.5nm,1.0s,baz=48,slow=1.3,SNR=3.1	**124.64**	**345**	PKP		**PKPdf**	**15 03 57.1**	**+0.2**
AKASG	**Malin Array Be** 0.4nm,0.5s,baz=64,slow=2.2,SNR=3.4	**134.51**	**324**	PKhKP		PKPpre	15 04 13.7	
WLF	**Walferdange**	**146.16**	**338**	*e*PKPdf		**PKPdf**	**15 04 36.4**	**-0.8**
TUE	**Stuetta**	**147.43**	**331**	*e*PKPbc		**PKPbc**	**15 04 42.9**	**+0.6**
BNI	**Bardonecchia**	**149.71**	**332**	*e*PKPbc		**PKPbc**	**15 04 48.6**	**+0.5**
TORD	**Torodi Ar. Bea** 1.0nm,1.1s,baz=122,slow=1.9,SNR=3.8	**165.06**	**248**	PKP		**PKPdf**	**15 05 02.5**	**-0.8**

*ISCJB **30** 14:57:41.0±0.8, 37°.24N±0°.05×28°.21E±0°.05, h0km, Error ellipse: s-maj=6.8km s-min=5.3km az=163.4*
*ISK **30** 14:57:40.7, 37°.25N×28°.15E, h5km, MD2.7*
*DDA **30** 14:57:40.2, 37°.21N×28°.19E, h7km, Md2.3, Suspected Mining explosion.*
*CSEM **30** 14:57:41.3±0.3, 37°.25N×28°.20E, h2km, MD2.7, Error ellipse: s-maj=6.0km s-min=4.7km az=163.0*

ISC 30 14:57:39.9±1.0, 37°.29N±0°.04×28°.15E±0°.04, h0km, n16, σ0s59/24, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
MLSB	**Milas**	**0.30**	**271**	*e*PG		**Pb**	**14 57 47.3**	**-0.8**
MLSB				*e*SG		**Sb**	**14 57 53.4**	**-0.2**
MLSB	**Milas**	**0.30**	**271**	*e*Pg		**Pb**	**14 57 47.3**	**-0.8**
MLSB				*e*Sg		**Sb**	**14 57 53.4**	**-0.2**
AYDN	**Tasoluk**	**0.42**	**330**	*i* P		**Pb**	**14 57 50.3**	**0.0**
AYDN				*i* S		**Sb**	**14 57 57.9**	**+0.6**
AYDN	**Tasoluk**	**0.42**	**330**	P		**Pb**	**14 57 50.3**	**0.0**
AYDN				S		**Sb**	**14 57 57.9**	**+0.6**
BDRM	**Kayabasi**	**0.61**	**248**	*i* P		**Pg**	**14 57 52.3**	**+0.8**
BDRM				*i* S		**Sb**	**14 58 02.2**	**-0.2**
BDRM	**Kayabasi**	**0.61**	**248**	P		**Pg**	**14 57 52.3**	**+0.8**
BDRM				S		**Sb**	**14 58 02.2**	**-0.2**
TAVA	**DENIZLI_Tavas**	**0.63**	**74**	*i* P		**Pg**	**14 57 52.7**	**+0.7**
TAVA	**DENIZLI_Tavas**	**0.63**	**74**	P		**Pg**	**14 57 52.7**	**+0.7**
AYDB	**Zeytinkoy-Aydi**	**0.68**	**343**	*e*PG		**Pn**	**14 57 56.1**	**-0.9**
AYDB	**Zeytinkoy-Aydi**	**0.68**	**343**	*e*Pg		**Pn**	**14 57 56.1**	**-0.9**
BODT	**Bodrum**	**0.71**	**251**	*e*PG		**Pb**	**14 57 55.4**	**+0.3**
BODT				*e*SG		**Sb**	**14 58 06.1**	**+0.7**
BODT	**Bodrum**	**0.71**	**251**	*e*Pg		**Pb**	**14 57 55.4**	**+0.3**
BODT				*e*Sg		**Sb**	**14 58 06.1**	**+0.7**
DAT	**Datca**	**0.72**	**219**	*e*PG		**Pb**	**14 57 55.3**	**-0.1**
DAT	**Datca**	**0.72**	**219**	*e*Pg		**Pb**	**14 57 55.3**	**-0.1**
AKAS	**Kas**	**1.58**	**132**	*e*PN		**Pg**	**14 58 10.5**	**+0.4**
AKAS	**Kas**	**1.58**	**132**	*e*Pn		**Pg**	**14 58 10.5**	**+0.4**

*NIED **30** 15:04:00, 38°.30N×142°.10E, h38km, Mw3.9 Best double couple: M0 9.38000×10^14 NP1:φ0=145.00000°, δ13.00000°, λ21.00000°. NP2:φ0=35.00000°, δ86.00000°, λ102.00000°.*
*JMA **30** 15:04:56.5±0.1, 38°.32N×142°.11E, h38km±1km, M4.2*
JMA Felt II J1.
*IDC **30** 15:05:01.2±2.5, 38°.19N×142°.01E, h72km±22km, mb3.6/16, mb1 3.7/20, mb1mx3.6/48, mbtmp3.9/20, MS3.0/5, Ms1 3.1/5, ms1mx2.7/40, Error ellipse: s-maj=22.3km s-min=14.4km az=85.0*

ISC 30 15:04:54.7±3.2, 38°.23N±0°.03×142°.11E±0°.06, h17km±20km, n47, σ1s12/50, mb4.0/16, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
JIO	**Ouri**	**0.64**	**291**	P		**Pn**	**15 05 08.7**	**-0.2**
JIO				S		**Sb**	**15 05 17.0**	**+1.1**
OFUJ	**Ofunato**	**0.92**	**338**	P		**Pb**	**15 05 11.8**	**-0.3**
OFUJ				S		**Sb**	**15 05 22.5**	**-1.5**
JMK	**Ichinoseki**	**1.00**	**316**	P		**Pb**	**15 05 13.7**	**+0.1**
JMM	**Marumori**	**1.10**	**251**	P		**Pn**	**15 05 15.6**	**+0.4**
JMM				S		**Sb**	**15 05 29.2**	**+0.1**
JOU	**Okura**	**1.14**	**277**	P		**Pb**	**15 05 16.7**	**+0.8**
JOU				S		**Sb**	**15 05 30.9**	**+0.4**
JFK	**Kawauchi**	**1.30**	**229**	P		**Pn**	**15 05 18.4**	**+0.4**
JFK				S		**Sn**	**15 05 34.2**	**-0.8**
JOM	**Ohasama**	**1.40**	**333**	P		**Pn**	**15 05 19.3**	**0.0**
JOM				*e*S		**Sn**	**15 05 35.7**	**-1.7**
JYK	**Kaneyama**	**1.53**	**297**	P		**Pn**	**15 05 21.8**	**+0.6**
JYK				*e*S		**Sn**	**15 05 40.2**	**-0.5**
JFT	**Otama**	**1.57**	**244**	P		**Pb**	**15 05 23.2**	**0.0**
JFT				S		**Sn**	**15 05 42.4**	**+0.8**
JYS	**Shirataka**	**1.61**	**270**	P		**Pn**	**15 05 23.3**	**+1.1**
JYS				*e*S		**Sn**	**15 05 43.0**	**+0.5**
JRG	**Rokugo**	**1.64**	**316**	P		**Pn**	**15 05 23.2**	**+0.5**
JRG				*e*S		**Sn**	**15 05 43.1**	**-0.2**
MJAR	**Matsushiro Arr** 2.6nm,0.3s,baz=57,slow=10.0,SNR=16	**3.53**	**243**	P		**Pn**	**15 05 52.1**	**+3.4**
MJAR				S		**Sb**	**15 06 37.2**	**-2.0**
	2.6nm,0.3s,baz=23,slow=16,SNR=3.5							
MJAR					LR	LR	15 07 27.1	
	comp=Z,163nm,18.8s,baz=45,slow=43							
MAT	**Matsushiro**	**3.53**	**243**	P		**Pb**	**15 05 53.8**	**-2.9**
MAT				*e*S		**Sb**	**15 06 36.6**	**-2.6**
JHJ	**Hachijo jima 2** 14nm,0.3s,baz=246,slow=20,SNR=4.8	**5.43**	**201**	P		**Pn**	**15 06 16.9**	**+2.1**
JHJ				S		**Sn**	**15 07 15.1**	**-1.9**
	30nm,0.3s,baz=208,slow=22,SNR=5.7							
USRK	**Ussuriysk Ar.** 0.4nm,0.3s,baz=118,slow=14,SNR=6.6	**9.68**	**311**	P		Pn	15 07 18.1	+5.1
JNU	**Nakatsue** comp=Z,106nm,19.2s,baz=105,slow=39	**10.45**	**244**	LR		LR	15 11 48.1	
KSRS	**Korea Array** 0.1nm,0.3s,baz=84,slow=12,SNR=2.8	**11.24**	**270**	P		Pn	15 07 40.3	+5.8
KSRS					LR	LR	15 11 26.3	
	comp=Z,54nm,19.1s,baz=120,slow=34							
SEY	**Seymchan** 0.5nm,0.3s,baz=32,slow=4.1,SNR=7.0	**25.52**	**11**	P		**P**	**15 10 23.6**	**+1.8**
SONM	**Songino Array** 0.5nm,0.4s,baz=120,slow=9.9,SNR=4.8	**27.60**	**302**	P		**P**	**15 10 41.7**	**+0.6**
H11N2	**WAKE ISLAND Hy** baz=316,slow=75,SNR=367	**28.32**	**124**	T		T	15 40 37.8	
H11N1	**WAKE ISLAND Hy** baz=316,slow=75,SNR=406	**28.32**	**124**	T		T	15 41 05.3	
H11N3	**WAKE ISLAND Hy** baz=316,slow=75,SNR=330	**28.34**	**124**	T		T	15 41 06.5	
H11S1	**WAKE ISLAND Hy** baz=317,slow=76,SNR=129	**29.07**	**126**	T		T	15 41 38.0	
H11S3	**WAKE ISLAND Hy** baz=317,slow=76,SNR=144	**29.08**	**126**	T		T	15 41 58.6	
H11S2	**WAKE ISLAND Hy** baz=317,slow=76,SNR=77	**29.09**	**126**	T		T	15 42 07.8	
TLY	**Talaya** comp=Z,34nm,18.3s,baz=2.5,slow=37	**29.98**	**309**	LR		LR	15 23 23.7	
ZALV	**Zalesovo Beam** 2.2nm,0.4s,baz=88,slow=7.7,SNR=10.0	**41.53**	**311**	P		**P**	**15 12 40.9**	**+0.1**
CMAR	**Chiang Mai Arr** 0.3nm,0.5s,baz=42,slow=11,SNR=3.4	**42.34**	**255**	P		**P**	**15 12 47.0**	**-0.8**
MKAR	**Makanchi Array** 0.9nm,0.7s,baz=80,slow=10,SNR=7.4	**43.96**	**301**	P		**P**	**15 13 00.1**	**-0.6**
KURBB	**Kurchatov Arra** 4.7nm,0.6s,baz=80,slow=8.2,SNR=50	**45.71**	**307**	P		**P**	**15 13 14.2**	**-0.3**
RAMN	**Ramite** 15nm,0.7s	**47.48**	**273**	*e*P		**P**	**15 13 29.2**	**+0.2**
KKN	**Kakani** 11nm,0.6s	**48.12**	**275**	*e*P		**P**	**15 13 34.3**	**+0.4**
PKIN	**Phulchoki** 9.2nm,0.6s	**48.13**	**275**	*e*P		**P**	**15 13 34.2**	**+0.2**
ILAR	**Eielson Array** 0.4nm,0.9s,baz=242,slow=5.7,SNR=3.2	**48.20**	**33**	P		**P**	**15 13 33.8**	**+0.1**
GKN	**Gorkha** 14nm,0.8s	**48.52**	**276**	*e*P		**P**	**15 13 37.1**	**+0.1**
DANN	**Dangsing**	**49.05**	**277**	*e*P		**P**	**15 13 41.9**	**+0.7**
PYUN	**Piuthan**	**49.77**	**277**	*e*P		**P**	**15 13 47.3**	**+0.7**
BVAR	**Borovoye Array** 0.9nm,0.5s,baz=56,slow=8.9,SNR=5.1	**50.18**	**312**	P		**P**	**15 13 49.1**	**-0.1**
AAK	**Ala-Archa** 1.1nm,0.4s,baz=180,slow=6.1,SNR=3.0	**50.41**	**298**	P		**P**	**15 13 51.0**	**-0.2**
AKTO	**Aktyubinsk** 1.1nm,0.7s,baz=53,slow=7.6,SNR=4.0	**58.29**	**312**	P		**P**	**15 14 47.7**	**-0.5**
WRA	**Warramunga Arr** 0.3nm,0.4s,baz=6.3,slow=6.9,SNR=10	**58.32**	**189**	P		**P**	**15 14 48.2**	**-0.4**
ASAR	**Alice Springs** 0.4nm,0.7s,baz=19,slow=6.0,SNR=4.4	**62.05**	**189**	P		**P**	**15 15 14.9**	**+0.8**
ARCES	**ARCESS Array B** 1.7nm,0.7s,baz=67,slow=9.9,SNR=2.3	**63.08**	**339**	P		**P**	**15 15 21.2**	**+0.7**
HFS	**Hagfors** 3.8nm,0.9s,baz=94,slow=4.5,SNR=4.1	**73.23**	**336**	P		**P**	**15 16 24.3**	**0.0**
NB2	**NORSAR Subarra** comp=Z,0.8nm,0.6s,baz=39,slow=6.2	**73.30**	**337**	P		**P**	**15 16 24.4**	**-0.4**
NOA	**NORSAR Array B** comp=Z,1.4nm,0.7s,baz=38,slow=5.9,SNR=6.1	**73.30**	**337**	P		**P**	**15 16 24.8**	**0.0**
NOA					LR	LR	15 52 18.1	
	comp=Z,14nm,18.2s,baz=310,slow=39							
AKASG	**Malin Array Be** comp=Z,2.0nm,0.6s,baz=45,slow=5.8,SNR=9.9	**73.69**	**322**	P		**P**	**15 16 26.8**	**-0.4**

*ISCJB **30** 15:13:42.5±0.6, 68°.48N±0°.07×77°.2E±0°.2, h10km, mb3.6/6, MS3.1/2, Error ellipse: s-maj=10.7km s-min=7.3km az=149.4*
*IDC **30** 15:13:44.3±0.9, 68°.49N×77°.64E, h0km, mb3.6/7, mb1 3.8/13, mb1mx3.6/46, mbtmp3.8/13, ML3.5/5, MS2.9/4, Ms1 2.9/4, ms1mx2.5/53, Error ellipse: s-maj=13.4km s-min=10.9km az=118.0*

ISC 30 15:13:44.1±0.7, 68°.31N±0°.06×77°.38E±0°.07, h10km, n16, σ2s94/20, mb3.8/6, Northwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
NRIK	**Noril'sk** 5.1nm,0.3s,baz=146,slow=1.5,SNR=47	**3.83**	**70**	Pn		**Pn**	**15 14 42.1**	**-1.0**
NRIK				Sn		**Sn**	**15 15 28.4**	**+0.2**
	34nm,0.3s,baz=342,slow=20,SNR=5.7							
NRIK				Lg		Lg	15 15 41.7	
	36nm,0.3s,baz=180,slow=15,SNR=13							
NRIK					LR	LR	15 16 43.9	
	comp=Z,89nm,21.6s,baz=240,slow=49							
ARU	**Arti** 0.0nm,0.3s,baz=52,slow=12,SNR=3.5	**14.67**	**225**	Pn		**Pn**	**15 17 12.4**	**+0.9**
ARU				Sn		**Sn**	**15 19 52.6**	**-1.3**
	0.0nm,0.3s,baz=59,slow=19,SNR=4.2							
ARU					LR	LR	15 23 12.2	
	comp=Z,21nm,19.4s,baz=44,slow=38							
ZALV	**Zalesovo Beam** 0.8nm,0.3s,baz=345,slow=14,SNR=9.9	**14.83**	**163**	Pn		**Pn**	**15 17 12.1**	**-1.5**
ZALV				Sn		**Sn**	**15 19 53.9**	**-3.7**
	2.1nm,0.3s,baz=344,slow=25,SNR=13							
BVAR	**Borovoye Array** 0.3nm,0.3s,baz=7.7,slow=15,SNR=4.0	**15.69**	**196**	Pn		**P**	**15 17 27.3**	**-1.8**
BVAR				Sn		**Sn**	**15 20 15.4**	**-3.3**
	1.1nm,0.3s,baz=7.6,slow=27,SNR=8.0							
KURBB	**Kurchatov Arra** 0.1nm,0.3s,baz=2.2,slow=13,SNR=15	**17.75**	**178**	Pn		**P**	**15 17 51.8**	**0.0**
KURBB				Sn		**Sn**	**15 21 03.2**	**-5.4**
	0.1nm,0.3s,baz=347,slow=33,SNR=8.2							
ARCES	**ARCESS Array B** 0.6nm,0.3s,baz=67,slow=13,SNR=13	**18.24**	**298**	Pn		**Pn**	**15 17 54.5**	**-2.5**
ARCES				Sn		Sn	15 21 04.1	-16
	0.2nm,0.3s,baz=58,slow=22,SNR=4.1							
SPITS	**Spitsbergen Ar**	**19.00**	**326**	P		**P**	**15 18 04.1**	**-1.3**
SPITS				S		Sn	15 21 21.7	-17
	baz=107,slow=24,SNR=2.2							
AKTO	**Aktyubinsk** 2.4nm,0.5s,baz=7.0,slow=7.3,SNR=8.8	**20.28**	**218**	P		Pn	15 18 23.7	+2.2
AKTO				S		**S**	**15 22 08.1**	**+1.4**
	0.4nm,0.3s,baz=327,slow=21,SNR=4.5							
MKAR	**Makanchi Array** 1.7nm,0.4s,baz=344,slow=9.6,SNR=14	**21.72**	**171**	P		**P**	**15 18 38.6**	**+3.5**
MKAR				S		**S**	**15 22 39.7**	**+4.5**
	0.4nm,0.6s,baz=357,slow=14,SNR=3.2							
YAK	**Yakutsk** 7.8nm,0.6s,baz=341,slow=2.4,SNR=5.9	**22.20**	**81**	P		**P**	**15 18 40.2**	**0.0**
FINES	**FINESS Array B** 1.5nm,0.5s,baz=45,slow=12,SNR=12	**22.21**	**277**	P		**P**	**15 18 42.4**	**+2.2**
SONM	**Songino Array** 1.3nm,0.8s,baz=324,slow=7.7,SNR=6.0	**25.17**	**130**	P		**P**	**15 19 12.7**	**+3.3**
AAK	**Ala-Archa** 1.1nm,0.5s,baz=102,slow=6.2,SNR=3.8	**25.77**	**185**	P		**P**	**15 19 20.0**	**+5.1**
JMIC	**Jan Mayen** comp=Z,59nm,20.0s,baz=74,slow=38	**27.65**	**315**	LR		LR	15 31 20.4	
USRK	**Ussuriysk Ar.** comp=Z,30nm,18.3s,baz=20,slow=36	**36.89**	**102**	LR		LR	15 36 08.4	
ILAR	**Eielson Array** 0.1nm,0.6s,baz=322,slow=5.7,SNR=2.9	**43.56**	**26**	P		**P**	**15 21 46.7**	**-0.8**

*IDC **30** 15:14:37.4±1.2, 60°.68N±0°.04×29°.18E±0°.05, h0km, n25, σ0s92/37, Baltic States-Belarus-Northwestern Russia*

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
VJF	**Virojoki** baz=85	**0.81**	**261**	PG		**Pg**	**15 14 52.9**	**-0.1**
VJF				SB		**Sg**	**15 15 03.5**	**+0.1**
VJF	**Virojoki**	**0.81**	**261**	Pg		**Pg**	**15 14 52.8**	**-0.1**
VJF				Sb		**Sg**	**15 15 03.5**	**+0.1**
PVF	**Pernaja** baz=86	**1.64**	**267**	PG		**Pn**	**15 15 07.1**	**-0.4**
PVF				MSG			15 15 27.2	
	comp=Z,5.5nm,0.2s							
PVF				SN		**Sg**	**15 15 31.3**	**+1.3**
PVF	**Pernaja**	**1.64**	**267**	Pg		**Pn**	**15 15 07.0**	**-0.4**
PVF				Sn		**Sg**	**15 15 31.3**	**+1.3**
FIA0	**FINESS Array S** baz=118	**1.69**	**298**	PG		**Pb**	**15 15 09.0**	**-0.3**
FIA0				SN		**Sg**	**15 15 32.2**	**+0.5**
FIA0	**FINESS Array S**	**1.69**	**298**	Pg		**Pb**	**15 15 09.0**	**-0.3**
FIA0				Sn		**Sg**	**15 15 32.2**	**+0.5**
FINES	**FINESS Array B** comp=Z,1.1nm,0.3s,baz=121,slow=16,SNR=38	**1.69**	**298**	Pg		**Pb**	**15 15 09.1**	**-0.3**
FINES				Lg		Lg	15 15 32.2	
	comp=Z,1.1nm,0.3s,baz=117,slow=28,SNR=13							
KAF	**Kangasniemi**	**2.00**	**317**	PG		**Pg**	**15 15 15.5**	**-0.1**
KAF				MSG			15 15 39.9	
	comp=Z,2.2nm,0.2s							
KAF				SG		**Sg**	**15 15 43.3**	**+1.9**
KAF	**Kangasniemi**	**2.00**	**317**	Pg		**Pg**	**15 15 15.5**	**-0.1**
KAF				Sg		**Sg**	**15 15 43.3**	**+1.9**
MEF	**Metsahovi**	**2.41**	**261**	PG		**Pb**	**15 15 21.0**	**-0.6**
MEF				SG		**Sb**	**15 15 52.9**	**+1.0**
MEF	**Metsahovi**	**2.41**	**261**	Pg		**Pb**	**15 15 21.0**	**-0.6**
MEF				Sg		**Sb**	**15 15 52.8**	**+1.0**
JOF	**Joensuu**	**2.47**	**23**	PB		**Pg**	**15 15 25.1**	**+0.5**
JOF				SB		**Sg**	**15 15 57.7**	**+1.1**
JOF	**Joensuu**	**2.47**	**23**	Pb		**Pg**	**15 15 25.1**	**+0.5**
JOF				Sb		**Sg**	**15 15 57.7**	**+1.1**
SUF	**Sumiainen**	**2.50**	**326**	PG		**Pg**	**15 15 25.4**	**0.0**
SUF				MSG			15 15 54.9	
	comp=Z,1.3nm,0.2s							
SUF				SG		**Sg**	**15 15 57.2**	**-0.6**
SUF	**Sumiainen**	**2.50**	**326**	Pg		**Pg**	**15 15 25.3**	**0.0**
SUF				Sg		**Sg**	**15 15 57.2**	**-0.6**
VSU	**Vasula**	**2.54**	**210**	SG		**Sb**	**15 15 55.2**	**-0.4**
VSU	**Vasula**	**2.54**	**210**	Sg		**Sb**	**15 15 55.2**	**-0.4**
KEF	**Keuruu** baz=128	**2.55**	**308**	PG		**Pb**	**15 15 24.2**	**+0.1**
KEF				MSG			15 15 55.4	
	comp=Z,4.7nm,0.2s							
KEF	**Keuruu**	**2.55**	**308**	Pg		**Pb**	**15 15 24.1**	**+0.1**
OUFX	**Oulainen**	**4.24**	**333**	SG		**Sg**	**15 16 53.2**	**-0.3**
OUFX	**Oulainen**	**4.24**	**333**	Sg		**Sg**	**15 16 53.2**	**-0.3**
OUL	**Oulu**	**4.67**	**343**	SG		**Sg**	**15 17 05.0**	**-2.3**
OUL	**Oulu**	**4.67**	**343**	Sg		**Sg**	**15 17 05.0**	**-2.3**
I43RU	**DUBNA INFRASON** baz=320,slow=309,SNR=0.4	**5.77**	**130**	*i*			15 51 20.0	
I31KZ	**AKTYUBINSK INF** baz=314,slow=324,SNR=2.6	**19.13**	**110**	*i*			17 07 21.8	

MAN 30 15:30:01, 8°.46N×125°.86E, h47km, mb4.2, ML3.0, MS2.7, 1C, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
BIPH	**Bislig**	**0.56**	**119**	*e*P		Pn	15 30 14.0	+1.1
BIPH				*i* S		Sn	15 30 22.3	+0.9
MATI	**Mati**	**1.55**	**165**	*e*P		Pn	15 30 27.2	+1.0
MATI				*e*S		Sn	15 30 46.8	+1.6
BESP	**Borongan**	**3.15**	**352**	*e*P		Pn	15 30 49.8	+1.6

*JMA **30** 15:42:21.7±0.2, 43°.21N×147°.18E, h58km±4km, M3.9*
*SKHL **30** 15:42:21.6±0.9, 43°.20N×147°.30E, h55km±4km, mb4.7/3*

ISC 30 15:42:21.4±2.9, 43°.19N±0°.10×147°.3E±0°.1, h34km±4km, n19, σ0s88/22, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
SHO	**Shikotan**	**0.74**	**335**	*e*P		**Pb

IDC 30 15:43:23.2±6.9, 17°28S×171°88W, h0km, mb3.3/2, mb1 3.6/2, mb1mx3.2/41, mbtmp3.3/2, Error ellipse: s-maj=331.6km s-min=63.8km az=144.0, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**50.86**	**258**	P	P	15 52 26.3	0.0
	0.1nm,0.3s,baz=97,slow=7.7,SNR=6.8						
ASAR	**Alice Springs**	**50.94**	**253**	P	P	15 52 26.8	-0.1
	0.2nm,0.4s,baz=87,slow=8.0,SNR=13						
BRTR	**Keskin Array B**	**148.53**	**320**	PKPbc	PKPbc	16 03 11.7	-0.8
	0.7nm,0.7s,baz=45,slow=4.0,SNR=4.3						

CASC 30 15:46:10.3±1.3, 12°21N×87°03W, h73km±6km, MD3.9, ML3.5, 1D, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
COPN	**Copaltepe**	**0.43**	**94**	*e*P	Pn	15 46 22.7	0.0
COPN				*e*S	Sn	15 46 32.3	+0.4
COPN				AML	AML	15 46 33.9	
	comp=Z,1μm,0.4s						
CNGN	**Cerro Negro**	**0.43**	**48**	*e*P	Pn	15 46 22.8	-0.1
CNGN				*e*S	Sn	15 46 33.0	+0.9
CNGN				AML	AML	15 46 33.6	
	comp=N,1μm,0.4s						
MOMN	**Momotombo**	**0.52**	**67**	*e*P	Pn	15 46 23.5	-0.1
XAVN	**Gruta Xavier**	**0.69**	**95**	*e*P	Pn	15 46 25.5	+0.2
XAVN				AML	AML	15 46 39.2	
	comp=Z,1μm,0.3s						
TISN	**Laguna Tiscapa**	**0.74**	**95**	*e*P	Pn	15 46 25.9	0.0
TISN				AML	AML	15 46 39.1	
	comp=Z,1μm,0.2s						
MGAN	**Managua**	**0.77**	**94**	*e*P	Pn	15 46 26.1	-0.1
MGAN				*e*S	Sn	15 46 39.0	+1.1
MASN	**Masaya**	**0.88**	**104**	*e*P	Pn	15 46 27.6	0.0
ESTN	**Estel**	**1.10**	**36**	*e*P	Pn	15 46 30.5	+0.2
ESTN				*e*S	Sn	15 46 45.9	+0.7
CNCH	**Conchagua**	**1.32**	**324**	*e*P	Pn	15 46 33.0	-0.2
CNCH				*e*S	Sn	15 46 50.5	+0.1
BOAB	**BOACO BROADBAN**	**1.35**	**80**	*e*P	Pn	15 46 33.2	-0.2
CONN	**Concepcion**	**1.51**	**115**	*e*P	Pn	15 46 35.2	-0.4
LCY	**Lacayo**	**1.73**	**314**	↓*e*P	Pn	15 46 38.6	+0.1
PACA	**Pacayal**	**1.78**	**315**	*e*P	Pn	15 46 39.7	+0.5
PACA				*e*S	Sn	15 47 03.1	+1.9
ACON	**Acoyapa**	**1.83**	**97**	*e*P	Pn	15 46 39.2	-0.5
ACON				*e*S	Sn	15 47 02.5	+0.5
TGUH	**Tegucigalpa,Un**	**1.85**	**353**	*e*P	Pn	15 46 40.5	+0.4
SNVI	**San Vicente**	**2.25**	**309**	*e*P	Pn	15 46 45.4	-0.2
LFRS	**El Faro**	**2.43**	**306**	*e*P	Pn	15 46 47.8	-0.2
LFRS				*e*S	Sn	15 47 16.8	-0.1
LBRS	**Las Brisas**	**2.49**	**308**	*e*P	Pn	15 46 49.5	+0.8
LFU	**La Fuente**	**2.55**	**307**	*e*P	Pn	15 46 50.3	+0.9
LFU				*e*S	Sn	15 47 19.8	+0.3
ESPN	**Las Esperanzas**	**2.67**	**90**	*e*P	Pn	15 46 51.4	+0.4
BOQS	**Boqueron**	**2.67**	**305**	*e*P	Pn	15 46 52.3	+1.0
SBLS	**San Blas**	**3.01**	**303**	*e*P	Pn	15 46 57.0	+1.1
MONT	**Ecomontaæa**	**3.04**	**303**	*e*P	Pn	15 46 57.2	+0.9
RTR	**El Retiro**	**3.06**	**304**	*e*P	Pn	15 46 57.8	+1.4

IDC 30 15:46:41.2±1.6, 8.55N×126.88E, h0km, mb3.8/5, mb1 3.9/5, mb1mx3.5/49, mbtmp3.8/5, Error ellipse: s-maj=188.6km s-min=21.6km az=70.0
MAN 30 15:46:51, 8.08N×126.29E, h17km, mb4.3, ML3.1, MS2.9
ISC 30 15:46:42.4±1.1, 8°47N±0.06×126°9E±0.1, h10km, n8, σ1°48/11, mb3.6/5, 1D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BIPH	**Bislig**	**0.60**	**242**	↓*i*P	Pn	**15 46 57.8**	**+0.8**
BIPH				*i* S	Sb	**15 47 04.7**	**+1.3**
MATI	**Mati**	**1.64**	**203**	*e*P	Pn	**15 47 11.1**	**-0.2**
MATI				*e*S	Sn	**15 47 29.2**	**-3.3**
BESP	**Borongan**	**3.43**	**335**	*e*P	Pg	**15 47 47.9**	**-0.1**
BESP				*e*S	Sg	**15 48 31.2**	**-1.3**
WRA	**Warramunga Arr**	**29.17**	**166**	P	P	**15 52 44.8**	**+0.7**
	0.3nm,0.6s,baz=346,slow=7.7,SNR=5.0						
ASAR	**Alice Springs**	**32.67**	**168**	P	P	**15 53 16.4**	**+1.4**
	0.2nm,0.5s,baz=339,slow=7.6,SNR=11						
MKAR	**Makanchi Array**	**53.83**	**323**	P	P	**15 56 05.8**	**+0.3**
	0.3nm,0.4s,baz=131,slow=7.5,SNR=3.0						
ARCES	**ARCESS Array B**	**86.08**	**340**	P	P	**15 59 23.0**	**-0.2**
	2.2nm,0.9s,baz=77,slow=5.6,SNR=2.5						
FINES	**FINESS Array B**	**87.76**	**332**	P	P	**15 59 31.3**	**-0.1**
	0.8nm,0.4s,baz=90,slow=5.6,SNR=8.2						

DDA 30 15:47:08.8, 38.99N×41.15E, h16km, Md2.7
ISCJB 30 15:47:09.5±0.4, 39.01N±0.03×41.09E±0.03, h11km±4km, Error ellipse: s-maj=5.9km s-min=4.3km az=165.5
CSEM 30 15:47:09.1±0.2, 39.02N×41.06E, h10km, MD2.7, Error ellipse: s-maj=6.1km s-min=4.2km az=155.0
ISK 30 15:47:09.3, 39.08N×41.10E, h19km, MD2.7
ISC 30 15:47:08.8±0.9, 38°99N±0.04×41°10E±0.02, h14km±6km, n31, σ0°69/41, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BNGL	**BINGOL**	**0.05**	**137**	*i* P	Pg	**15 47 12.0**	**+0.2**
BNGL				*i* S	Sg	**15 47 13.9**	**+0.1**
VRTB	**Varto-Mus**	**0.32**	**58**	*e*PG	Pb	**15 47 16.2**	**-0.2**
VRTB				*e*SG	Sb	**15 47 20.9**	**-0.7**
VRTB	**Varto-Mus**	**0.32**	**58**	*i* P	Pg	**15 47 15.5**	**-0.1**
VRTB	**Varto-Mus**	**0.32**	**58**	P	Pg	**15 47 15.5**	**-0.1**
VRTB	**Varto-Mus**	**0.32**	**58**	*e*Pg	Pb	**15 47 16.2**	**-0.2**
VRTB				*e*Sg	Sb	**15 47 20.9**	**-0.7**
BNGB	**Bing¯¶ll**	**0.33**	**270**	*e*PG	Pb	**15 47 16.8**	**+0.3**
BNGB				*e*SG	Sb	**15 47 22.8**	**+1.0**
BINT	**Bingol**	**0.49**	**257**	*e*Pg	Pg	**15 47 16.8**	**-1.8**
BINT				*e*Sg	Sg	**15 47 22.8**	**-2.4**
ECAT	**Cat-ERZURUM**	**0.62**	**351**	*i* P	Pg	**15 47 21.2**	**+0.1**
ECAT				*i* S	Sb	**15 47 30.4**	**+0.1**
ECAT	**Cat-ERZURUM**	**0.62**	**351**	P	Pg	**15 47 21.2**	**+0.1**
ECAT				S	Sb	**15 47 30.4**	**+0.1**
YEDI	**Yedisu-Bingol**	**0.62**	**316**	*e*PG	Pg	**15 47 20.9**	**-0.2**
YEDI	**Yedisu-Bingol**	**0.62**	**316**	*e*Pg	Pg	**15 47 20.9**	**-0.2**
EKAR	**Karacoban**	**0.79**	**70**	*i* P	Pn	**15 47 26.0**	**+0.2**
EKAR	**Karacoban**	**0.79**	**70**	P	Pn	**15 47 26.0**	**+0.2**
SVAN	**Silvan-Diyarba**	**0.84**	**175**	*e*PG	Pn	**15 47 26.8**	**+0.5**
SVAN	**Silvan-Diyarba**	**0.84**	**175**	*i* P	Pn	**15 47 26.7**	**+0.5**
SVAN	**Silvan-Diyarba**	**0.84**	**175**	*e*Pg	Pn	**15 47 26.8**	**+0.5**
ERZM	**Erzurum**	**0.94**	**12**	*i* P	Pg	**15 47 27.0**	**0.0**
ERZM	**Erzurum**	**0.94**	**12**	P	Pg	**15 47 27.0**	**0.0**
TNCL	**Tunceli-Merkez**	**1.22**	**276**	*i* P	Pg	**15 47 32.6**	**+0.2**
TNCL				*i* S	Sg	**15 47 50.5**	**+2.2**
TNCL	**Tunceli-Merkez**	**1.22**	**276**	P	Pg	**15 47 32.6**	**+0.2**
ERZN	**Erzincan**	**1.23**	**299**	*e*PN	Pn	**15 47 31.4**	**-0.3**
PTK	**Pertek**	**1.34**	**266**	*e*PN	Pb	**15 47 33.7**	**-0.1**
PTK	**Pertek**	**1.34**	**266**	*e*Pn	Pb	**15 47 33.7**	**-0.1**
TUTA	**Tutak**	**1.39**	**72**	*i* P	Pn	**15 47 34.4**	**+0.3**
TUTA				*i* S	Sg	**15 47 53.6**	**-0.1**
TUTA	**Tutak**	**1.39**	**72**	P	Pn	**15 47 34.3**	**+0.3**
TUTA				S	Sg	**15 47 53.6**	**-0.1**
SVRC	**Sivrice-ELAZID**	**1.53**	**247**	*e*PN	Pb	**15 47 36.9**	**-0.2**
SVRC	**Sivrice-ELAZID**	**1.53**	**247**	*e*Pn	Pb	**15 47 36.9**	**-0.2**
AGRB	**Hanur-Agry**	**1.58**	**68**	*e*PN	Pn	**15 47 36.6**	**+0.1**
AGRB	**Hanur-Agry**	**1.58**	**68**	*e*Pn	Pn	**15 47 36.6**	**+0.1**
MAZI	**Mazidag**	**1.61**	**199**	*e*PN	Pb	**15 47 38.7**	**+0.2**
MAZI	**Mazidag**	**1.61**	**199**	*e*Pn	Pb	**15 47 38.7**	**+0.2**

ISCJB 30 15:50:58.6±1.0, 39.18N±0.03×143.54E±0.04, h4km±6km, mb4.3/47, MS3.8/23, Error ellipse: s-maj=5.9km s-min=4.3km az=41.2
IDC 30 15:50:59.6±0.6, 39.08N×143.45E, h0km, mb4.1/23, mb1 4.2/26, mb1mx4.1/48, mbtmp4.1/26, ML3.9/2, MS3.5/21, Ms1 3.5/21, ms1mx3.4/55, Error ellipse: s-maj=16.7km s-min=11.7km az=97.0
JMA 30 15:51:00.4±0.3, 39.15N×143.41E, h8km±4km, M4.4
NIED 30 15:51:00, 39.20N×143.40E, h11km, Mw4.3 Best double couple: M₀3.45000×10¹⁵ NP1:φs139.00000°, δ33.00000°, λ-34.00000°. NP2:φs258.00000°, δ72.00000°, λ-118.00000°.
NEIC 30 15:51:01.1±0.4, 39.15N×143.52E, h10km, mb5.0/6, Error ellipse: s-maj=8.8km s-min=5.7km az=119.0
NEIC Felt at Ichinoseki.
MOS 30 15:51:01.6±1.1, 39.16N×143.58E, h29km, mb4.4/24, Error ellipse: s-maj=9.1km s-min=6.0km az=91.9
BJI 30 15:51:06.1, 39.64N×143.01E, h24km, mb4.5/43, mB4.9/35, Ms4.4/28, Ms7.4 1/20
ISC 30 15:51:02.7±0.9, 39°20N±0.04×143°41E±0.04, h16km±4km, n139, σ2°54/143, mb4.4/46, MS3.8/24, 5C-4D, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MIYJ	**Miyakonagasawa**	**1.29**	**288**	P	Pn	**15 51 24.6**	**-1.4**
MIYJ				*e*S	Sb	**15 51 41.7**	**-1.1**
OFUJ	**Ofunato**	**1.36**	**265**	P	Pn	**15 51 25.5**	**-1.5**
JTH	**Tanohata**	**1.40**	**302**	P	Pn	**15 51 26.4**	**-1.2**
JTH				S	Sg	**15 51 46.3**	**-1.8**
JOM	**Ohasama**	**1.66**	**280**	P	Pn	**15 51 30.3**	**-0.9**
JOM				S	Sb	**15 51 52.9**	**-0.7**
JMK	**Ichinoseki**	**1.72**	**262**	P	Pn	**15 51 31.0**	**-0.9**
JIO	**Ouri**	**1.77**	**246**	P	Pn	**15 51 31.1**	**-1.5**
JANG	**Nango**	**1.87**	**309**	P	Pn	**15 51 32.9**	**-1.1**
JRG	**Rokugo**	**2.16**	**276**	P	Pn	**15 51 38.0**	**0.0**
JOU	**Okura**	**2.30**	**250**	P	Pn	**15 51 39.4**	**-0.6**
JAH	**Hinai**	**2.35**	**296**	P	Pn	**15 51 40.5**	**-0.2**
JAH				S	Sb	**15 52 12.2**	**-1.4**
JYK	**Kaneyama**	**2.39**	**264**	P	Pn	**15 51 40.9**	**-0.3**
ERM	**Erimo**	**2.82**	**356**	*e*P	Pn	**15 51 45.9**	**-1.1**
ERM				*e*		15 52 20.8	
ERM	**Erimo**	**2.82**	**356**	*e*Pn	Pn	**15 51 45.9**	**-1.1**
ERM				*e*Sn	Sn	**15 52 20.8**	**+0.2**
MJA0	**Matsu Arr-Jizo**	**4.87**	**239**	*e*P	Pn	**15 52 16.4**	**+1.1**
MJA0				pmax	pmax		
	comp=Z,3.0nm,0.3s						
MJAR	**Matsushiro Arr**	**4.89**	**239**	Pn	Pn	**15 52 15.9**	**+0.3**
	comp=Z,3.0nm,0.3s,baz=58,slow=12,SNR=48						
MJAR				LR	LR	15 54 06.2	
	comp=Z,136nm,20.1s,baz=70,slow=38						
MAJO	**Matsushiro**	**4.89**	**239**	*e*P	Pn	**15 52 15.0**	**-0.7**
MAJO				*e*		15 53 11.2	
MAJO	**Matsushiro**	**4.89**	**239**	*e*Pn	Pn	**15 52 15.0**	**-0.7**
MAJO				*e*Sn	Sn	**15 53 11.2**	**-0.8**
MAT	**Matsushiro**	**4.89**	**239**	P	Pn	**15 52 15.7**	**+0.1**
MAT				*e*S	Sn	**15 53 14.0**	**+2.1**
MJB9	**Matsu-Tunnel**	**4.89**	**239**	*e*Pn	Pn	**15 52 16.8**	**+1.1**
ASAJ	**Asahikawa**	**4.95**	**353**	Pn	Pn	**15 52 16.8**	**+0.4**
	baz=270,slow=20						
ASAJ	**Asahikawa**	**4.95**	**353**	*e*Pn	Pn	**15 52 14.6**	**-1.8**
ASAJ				*e*Sn	Sn	**15 53 12.6**	**-0.6**
YUK	**Yuzh-Kuril'sk**	**5.17**	**20**	*e*P	Pn	**15 52 17.2**	**-2.1**
YUK				*e*S	Sn	**15 53 12.0**	**-6.6**
YUK				pmax	pmax		
	comp=N,90nm,0.2s						
YUK				pmax	pmax		
	comp=Z,224nm,0.2s						
YUK				pmax	pmax		
	comp=E,49nm,0.1s						
YUK				smax	smax		
	comp=N,1μm,0.5s						
YUK				smax	smax		
	comp=E,397nm,0.5s						
SHO	**Shikotan**	**5.33**	**28**	*d i*P	Pn	**15 52 19.1**	**-2.4**
SHO				*e*S	Sn	**15 53 15.6**	**-6.8**
SHO				pmax	pmax		
	comp=N,30nm,0.3s						
SHO				pmax	pmax		
	comp=Z,39nm,0.3s						
SHO				smax	smax		
	comp=N,203nm,0.5s						
SHO				smax	smax		
	comp=E,585nm,0.5s						
INU	**Inuyama**	**6.38**	**235**	*e*Pn	Pn	**15 52 36.7**	**+0.7**
JHJ	**Hachijo jima 2**	**6.74**	**207**	Pn	Pn	**15 52 37.8**	**-3.1**
	comp=E,13nm,0.3s,baz=114,slow=22,SNR=6.2						
JHJ				Sn	Sn	15 53 47.3	-10
	comp=E,10nm,0.3s,baz=225,slow=7.1,SNR=2.0						
KUR	**Kuril'sk**	**6.88**	**27**	*e*P	Pn	**15 52 41.8**	**-1.0**
KUR				*i* S	Sn	**15 53 56.2**	**-4.4**
KUR				pmax	pmax		
	comp=Z,37nm,0.6s						
KUR				pmax	pmax		
	comp=E,18nm,0.5s						
KUR				pmax	pmax		
	comp=N,10.0nm,0.1s						
YSS	**Yuzh-Sakhalins**	**7.76**	**357**	↓*e*P	Pn	**15 52 55.4**	**+0.4**
YSS				*e*S	Sn	**15 54 26.5**	**+4.0**
YSS				pmax	pmax		
	comp=Z,20nm,0.6s						
YSS				smax	smax		
	comp=N,40nm,1.2s						
USRK	**Ussuriysk Ar.**	**9.89**	**304**	Pn	Pn	**15 53 27.0**	**+2.9**
	comp=N,0.4nm,0.3s,baz=96,slow=13,SNR=7.7						
USRK				LR	LR	15 57 03.7	
	comp=N,392nm,19.1s,baz=115,slow=36						
HABR	**Khabarovsk**	**11.05**	**330**	*e*P	Pn	**15 53 38.6**	**-1.4**
HABR				*e*S	Sn	**15 55 41.5**	**-1.7**
HABR				pmax	pmax		
	comp=N,17nm,1.6s						
HABR				pmax	pmax		
	comp=Z,25nm,1.6s						
HABR				pmax	pmax		
	comp=E,13nm,1.6s						
HABR				MLR	MLR		
	comp=Z,129nm,13.0s						
MDJ	**Mudanjiang**	**11.62**	**302**	P	Pn	**15 53 46.3**	**-1.6**
MDJ				pP		15 53 51.8	
MDJ				sP		15 53 55.5	
MDJ				S	Sn	15 55 45.5	-12
MDJ				pmax	pmax		
	comp=Z,4.0nm,0.8s						
MDJ				pmax	pmax		
	comp=Z,40nm,4.2s						
MDJ				LR	LR		
	comp=Z,280nm,10.2s						
MDJ				LR	LR		
	comp=Z,410nm,14.0s						
MDJ				LR	LR		
	comp=Z,560nm,10.1s						
JNU	**Nakatsue**	**11.80**	**243**	LR	LR	15 58 12.7	
	comp=Z,148nm,19.3s,baz=359,slow=37						
KSRS	**Korea Array**	**12.29**	**267**	Pn	Pn	**15 53 59.7**	**+2.7**
	comp=Z,0.1nm,0.3s,baz=71,slow=14,SNR=3.1						
KSRS				LR	LR	15 58 40.8	
	comp=Z,120nm,18.5s,baz=85,slow=37						
KSAR	**Wonju Array Be**	**12.32**	**267**	P	Pn	**15 53 59.7**	**+2.3**
KSAR	**Wonju Array Be**	**12.32**	**267**	Pn	Pn	**15 53 59.7**	**+2.3**
KLR	**Kul'dur**	**13.04**	**324**	Pn	Pn	**15 54 07.1**	**-0.1**
	comp=Z,0.0nm,0.3s,baz=129,slow=13,SNR=5.1						
CN2	**Changchun**	**14.22**	**295**	*e*P	Pn	**15 54 20.0**	**-3.3**
CN2				*es*P	P	15 54 29.5	-1.1
CN2				*e*S	Sn	**15 56 52.3**	**-8.3**
CN2				LR	LR		
	comp=Z,400nm,12.0s						
CN2				LR	LR		
	comp=Z,400nm,12.0s						
PETK	**Petropavlovsk-**	**17.03**	**31**	LR	LR	16 02 43.4	
	comp=Z,54nm,18.6s,baz=196,slow=41						
MA2	**Magadan**	**20.93**	**11**	P	Pn	15 55 45.0	-1.9
	comp=Z,11nm,0.7s,baz=201,slow=9.2,SNR=8.2						
MA2				LR	LR	16 03 15.0	
	comp=Z,52nm,20.0s,baz=139,slow=35						
BJI	**Beijing**	**20.97**	**281**	P	P	**15 55 42.3**	**-2.7**
BJI				S	S	**15 59 29.5**	**-8.5**
BJI				pmax	pmax		
	comp=Z,6.0nm,0.5s						
BJI				LR	LR		
	comp=Z,180nm,7.1s						
BJI				LR	LR		
	comp=Z,230nm,15.0s						
NJ2	**Nanjing**	**21.16**	**258**	*e*P	P	**15 55 47.0**	**-0.1**
CLNS	**Chul'man**	**21.44**	**331**	*e*P	P	15 56 00.7	+11
CLNS				*e*PP	sP	15 56 09.3	+13
CLNS				*e*		15 56 25.2	
CLNS				*e*S	S	15 59 36.3	-11
CLNS				*e*SS	SnSn	**16 00 20.6**	**+10**
CLNS				pmax	pmax		
	comp=N,24nm,1.3s						
CLNS				pmax	pmax		
	comp=Z,23nm,1.4s						
CLNS				pmax	pmax		
	comp=E,20nm,1.5s						
CLNS				smax	smax		
	comp=E,126nm,15.8s						
CLNS				smax	smax		
	comp=N,58nm,12.3s						
CLNS				MLR	MLR		
	comp=N,173nm,14.0s						
CLNS				MLR	MLR		
	comp=E,115nm,12.0s						
CLNS				MLR	MLR		
	comp=Z,264nm,14.0s						
YAK	**Yakutsk**	**24.36**	**344**	P	P	**15 56 18.7**	**-0.9**
	comp=Z,17nm,0.6s,baz=135,slow=0.7,SNR=13						
YAK	**Yakutsk**	**24.36**	**344**	*e*P	P	**15 56 18.4**	**-1.2**
YAK				*e**PP	sP	15 56 30.4	+3.7
YAK				*e*		15 56 48.0	
YAK				*e*		15 59 51.9	
YAK				*e*S	S	**16 00 36.1**	**-1.9**
YAK				pmax	pmax		
	comp=Z,20nm,1.0s						
YAK				pmax	pmax		
	comp=N,9.0nm,1.3s						
YAK				smax	smax		
	comp=N,44nm,2.3s						
YAK				MLR	MLR		
	comp=Z,262nm,14.0s						
HHC	**Hu-ho-hao-te**	**24.37**	**284**	*e*P	P	**15 56 19.3**	**-0.8**
HHC				PP	PnPn	**15 56 51.0**	**+0.6**
HHC				S	S	**16 00 30.0**	**-9.0**
HHC				pmax	pmax		
	comp=Z,16nm,1.0s						
HHC				pmax	pmax		
	comp=Z,110nm,4.1s						
HHC				LR	LR		
	comp=Z,140nm,12.3s						
HHC				LR	LR		
	comp=Z,310nm,14.4s						
HHC				LR	LR		
	comp=Z,280nm,13.3s						
SEY	**Seymchan**	**24.38**	**10**	P	P	**15 56 20.1**	**+0.3**
	comp=Z,14nm,0.8s,baz=187,slow=8.4,SNR=15						
WHN	**Wuhan**	**25.27**	**259**	↑P	P	15 56 36.0	+7.8
GUMO	**Guam**	**25.54**	**177**	P	P	**15 56 27.8**	**-2.9**
	comp=Z,61nm,1.0s,baz=43,slow=19,SNR=2.3						
GUMO				LR	LR	16 04 27.1	
	comp=Z,68nm,20.5s,baz=20,slow=32						
BOD	**Bodaibo**	**26.62**	**324**	*e*P	P	**15 56 39.4**	**-0.7**
BOD				pmax	pmax		
	comp=Z,10.0nm,0.8s						
ULN	**Ulaanbaatar**	**27.53**	**300**	↓*i*P	P	**15 56 50.1**	**+1.5**
ULN				pmax	pmax		
	comp=Z,7.0nm,2.5s						
SONA1	**Songino Array**	**27.97**	**300**	*e*P	P	**15 56 52.2**	**-0.3**
SONM	**Songino Array**	**27.97**	**300**	P	P	**15 56 52.3**	**-0.3**
	comp=Z,1.0nm,0.5s,baz=117,slow=9.1,SNR=6.2						
SONM				LR	LR	16 08 27.1	
	comp=Z,143nm,19.7s,baz=98,slow=37						
XAN	**Xi'an**	**28.05**	**270**	P	P	15 56 59.3	+6.1
XAN				pP	sP	15 57 04.8	+4.5
XAN				pmax	pmax		
	comp=Z,11nm,0.8s						
XAN				pmax	pmax		
	comp=Z,120nm,5.6s						
H11N2	**WAKE ISLAND Hy**	**28.05**	**127**	T	T	16 26 11.1	
	baz=319,slow=74,SNR=124						
H11N1	**WAKE ISLAND Hy**	**28.06**	**127**	T	T	16 26 15.0	
	baz=319,slow=74,SNR=80						
H11N3	**WAKE ISLAND Hy**	**28.07**	**127**	T	T	16 26 13.1	
	baz=319,slow=74,SNR=99						
H11S1	**WAKE ISLAND Hy**	**28.85**	**129**	T	T	16 27 13.7	
	baz=321,slow=76,SNR=16						
H11S3	**WAKE ISLAND Hy**	**28.86**	**129**	T	T	16 27 17.9	
	baz=321,slow=76,SNR=12						
H11S2	**WAKE ISLAND Hy**	**28.87**	**129**	T	T	16 27 16.4	
	baz=321,slow=76,SNR=12						
ENH	**Enshi**	**29.13**	**263**	P	P	**15 57 01.5**	**-1.3**
	comp=Z,22nm,1.1s						
ZAK	**Zakamensk**	**30.24**	**305**	*e*P	P	**15 57 11.7**	**-0.9**
ZAK				pmax	pmax		
	comp=Z,4.0nm,1.1s						
LZH	**Lanzhou**	**31.31**	**277**	*e*P	P	**15 57 22.5**	**+0.2**
LZH				*e*S	S	**16 02 23.3**	**-5.4**
LZH				pmax	pmax		
	comp=Z,19nm,1.3s						
LZH				pmax	pmax		
	comp=Z,83nm,4.4s						
LZH				LR	LR		
	comp=Z,1μm,13.6s						
LZH				LR	LR		
	comp=Z,1μm,14.0s						
LZH				LR	LR		
	comp=Z,1μm,14.9s						
GYA	**Guiyang**	**33.16**	**259**	↓*i*P	P	15 57 45.8	+7.2
GYA				PP	PnPn	**15 58 49.0**	**+0.5**
GYA				S	S	**16 02 54.5**	**-3.1**
GYA				pmax	pmax		
	comp=Z,20nm,0.8s						
GYA				pmax	pmax		
	comp=Z,120nm,5.2s						
GYA				LR	LR		
	comp=Z,580nm,16.8s						
GYA				LR	LR		
	comp=Z,520nm,17.2s						
GYA				LR	LR		
	comp=Z,550nm,17.4s						
CD2	**Chengdu**	**33.28**	**268**	*e*P	P	**15 57 41.0**	**+1.5**
CD2				pP	sP	15 57 46.0	-0.6
CD2				sP	pP	15 57 53.5	+8.9
CD2				pmax	pmax		
	comp=Z,20nm,0.5s						
GTA	**Gaotai**	**33.49**	**284**	P	P	**15 57 44.3**	**+3.0**
GTA				pP	sP	15 57 49.8	+1.4
GTA				sP	pP	15 57 52.5	+6.1
GTA				S	S	**16 03 04.0**	**+1.6**
GTA				sS	sS	16 03 13.3	+2.5
GTA				pmax	pmax		
	comp=Z,4.0nm,1.4s						
GTA				pmax	pmax		
	comp=Z,73nm,5.5s						
GTA				LR	LR		
	comp=Z,180nm,15.2s						
GTA				LR	LR		
	comp=Z,200nm,17.6s						
GTA				LR	LR		
	comp=Z,330nm,16.6s						
QIZ	**Qiongzhong**	**35.26**	**245**	P	P	**15 57 57.5**	**+0.8**
QIZ				S	S	**16 03 28.8**	**-1.0**
KMI	**Kunming**	**36.87**	**260**	P	P	15 58 18.0	+7.4
KMI				pmax	pmax		
	comp=Z,25nm,1.0s						
DGZ	**Jazzator, Alta**	**40.44**	**304**	*i* P	P	**15 58 41.9**	**+1.6**
DGZ				pmax	pmax		
	comp=Z,4.0nm,0.8s						
WMQ	**Urumqi**	**41.31**	**295**	P	P	**15 58 48.8**	**+1.4**
WMQ				pP	sP	15 58 56.0	+1.4
WMQ				sP	pP	15 58 57.5	+4.9
WMQ				PP	**PP**	**16 00 20.5**	**-2.2**
WMQ				PcS	**PcS**	**16 04 40.3**	**+3.4**
WMQ				S	S	**16 05 01.5**	**+0.5**
WMQ				SS	SS	16 07 53.3	-11
WMQ				ScS	**ScS**	**16 08 53.5**	**+2.7**
WMQ				pmax	pmax		
	comp=Z,8.0nm,0.9s						
WMQ				pmax	pmax		
	comp=Z,78nm,5.3s						
WMQ				LR	LR		
	comp=Z,80nm,15.5s						
WMQ				LR	LR		
	comp=Z,40nm,16.7s						
WMQ				LR	LR		
	comp=Z,36nm,16.7s						
JAY	**Jayapura**	**41.58**	**184**

MKAR	**Makanchi Array**	**44.34**	**301**	*e*P		**P**	**15 59 12.4**	**+0.5**
MKAR	comp=Z,50nm,0.8s			pmax	pmax			
MKAR	**Makanchi Array**	**44.34**	**301**	*e*P		**P**	**15 59 12.4**	**+0.5**
	comp=Z,50nm,0.8s							
KDAK	**Kodiak Island**	**44.44**	**43**	P		**P**	**15 59 12.9**	**+0.3**
	comp=Z,4.8nm,0.8s,baz=69,slow=8.6,SNR=2.1							
KURK	**Kurchatov**	**45.87**	**307**	⇓*i*P		**P**	**15 59 24.3**	**+0.4**
KURK				*e**PP		**sP**	**15 59 31.8**	**+0.6**
KURK				pmax	pmax			
	comp=Z,25nm,0.8s							
KURBB	**Kurchatov Arra**	**45.94**	**307**	P		**P**	**15 59 24.4**	**-0.1**
	comp=Z,4.8nm,0.7s,baz=80,slow=8.3,SNR=2.8							
ILAR	**Eielson Array**	**46.82**	**33**	P		**P**	**15 59 31.4**	**+0.1**
	comp=Z,0.9nm,0.7s,baz=266,slow=6.4,SNR=14							
ODAN	**Odare**	**47.87**	**273**	*e*P		**P**	**15 59 41.2**	**+1.0**
	comp=Z,16nm,1.0s							
RAMN	**Ramite**	**48.44**	**273**	*e*P		**P**	**15 59 46.0**	**+1.4**
	comp=Z,34nm,0.9s							
GUN	**Gumba**	**48.52**	**275**	*e*P		**P**	**15 59 48.1**	**+2.7**
	comp=Z,36nm,0.9s							
KKN	**Kakani**	**49.05**	**275**	*e*P		**P**	**15 59 52.1**	**+2.8**
	comp=Z,20nm,0.7s							
GKN	**Gorkha**	**49.44**	**276**	*e*P		**P**	**15 59 54.4**	**+2.2**
	comp=Z,12nm,0.8s							
DANN	**Dangsing**	**49.95**	**277**	*e*P		**P**	**15 59 59.9**	**+3.6**
	comp=Z,5.9nm,0.9s							
BVAR	**Borovoye Array**	**50.30**	**311**	LR		LR	16 22 45.9	
	comp=Z,173nm,18.4s,baz=268,slow=38							
BRVK	**Borovoye**	**50.35**	**311**	⇑*e*P		**P**	**15 59 59.7**	**+1.1**
BRVK				pmax	pmax			
	comp=Z,14nm,0.9s							
BRVK	**Borovoye**	**50.35**	**311**	*e*P		**P**	**15 59 59.5**	**+0.9**
	comp=Z,6.6nm,0.9s							
KOLN	**Koldanda**	**50.36**	**276**	*e*P		**P**	**16 00 01.7**	**+2.5**
	comp=Z,13nm,0.8s							
PYUN	**Piuthan**	**50.67**	**277**	*e*P		**P**	**16 00 04.7**	**+3.1**
	comp=Z,50nm,1.1s							
AAK	**Ala-Archa**	**50.87**	**297**	P		**P**	**16 00 03.2**	**+0.4**
	comp=Z,0.4nm,0.3s,baz=237,slow=7.2,SNR=1.8							
AAK				LR		LR	16 22 28.7	
	comp=Z,70nm,18.6s,baz=48,slow=37							
KSH	**Kashi**	**50.98**	**293**	*e*P		P	16 00 10.0	+6.3
KSH				pP		sP	16 00 15.8	+4.8
KSH				PP		**PP**	**16 02 06.0**	**+6.0**
KSH				S		**S**	**16 07 24.0**	**+3.9**
KSH				sS		sS	16 07 33.8	+5.1
KSH				SS		**SS**	**16 10 55.3**	**+0.6**
KSH				pmax	pmax			
	comp=Z,6.0nm,1.3s							
KSH				pmax	pmax			
	comp=Z,55nm,4.4s							
KSH				LR	LR			
	comp=Z,100nm,4.8s							
KSH				LR	LR			
	comp=Z,88nm,4.6s							
KSH				LR	LR			
	comp=Z,91nm,7.9s							
INK	**Inuvik**	**51.74**	**28**	P		**P**	**16 00 09.1**	**+0.3**
	comp=Z,2.4nm,0.8s,baz=306,slow=8.7,SNR=2.1							
ARU	**Arti**	**55.79**	**318**	LR		LR	16 27 06.0	
	comp=Z,150nm,18.3s,baz=68,slow=39							
ARU	**Arti**	**55.79**	**318**	*c i*P		**P**	**16 00 40.5**	**+1.9**
ARU							16 01 39.3	
ARU							16 02 39.2	
ARU				S		**S**	**16 08 28.9**	**+4.2**
ARU				SS		**SS**	**16 12 13.5**	**+3.9**
ARU				pmax	pmax			
	comp=Z,10.0nm,1.7s							
ARU	**Arti**	**55.79**	**318**	*e*P		**P**	**16 00 39.0**	**+0.3**
	comp=Z,13nm,1.1s							
ABKAR	**Akbulak array**	**57.76**	**310**	*e*P		**P**	**16 00 51.0**	**-1.7**
	comp=Z,22nm,0.6s							
KBL	**Kabul**	**58.12**	**291**	*e*P		**P**	**16 00 55.7**	**0.0**
KBL				pmax	pmax			
	comp=Z,13nm,0.9s							
KBL	**Kabul**	**58.12**	**291**	*e*P		**P**	**16 00 55.7**	**0.0**
	comp=Z,12nm,0.9s							
AKTO	**Aktyubinsk**	**58.41**	**312**	P		**P**	**16 00 58.0**	**+0.7**
	comp=Z,1.5nm,0.8s,baz=204,slow=20,SNR=2.6							
AKTO				LR		LR	16 28 14.3	
	comp=Z,48nm,18.5s,baz=60,slow=38							
AKTO	**Aktyubinsk**	**58.41**	**312**	P		**P**	**16 00 58.0**	**+0.7**
AKTO				pmax	pmax			
	comp=Z,2.0nm,0.8s							
AKTO				MLR	MLR			
	comp=Z,48nm,18.5s							
WRA	**Warramunga Arr**	**59.44**	**190**	P		**P**	**16 01 02.4**	**-2.2**
	comp=Z,3.1nm,0.8s,baz=7.7,slow=7.0,SNR=4.6							
ASAR	**Alice Springs**	**63.17**	**190**	P		**P**	**16 01 28.4**	**-1.4**
	comp=Z,13nm,0.8s,baz=13,slow=6.0,SNR=13							
GEYT	**Alibeck**	**64.17**	**299**	LR		LR	16 32 48.9	
	comp=Z,42nm,18.5s,baz=175,slow=39							
FINES	**FINESS Array B**	**67.63**	**333**	P		**P**	**16 01 58.5**	**+0.2**
	comp=Z,1.9nm,0.8s,baz=90,slow=5.6,SNR=3.6							
VSR	**Storozhevoye**	**68.34**	**319**	*e*P		**P**	**16 02 01.5**	**-1.4**
VSR				pmax	pmax			
	comp=Z,6.0nm,1.1s							
KVAR	**Kislovodsk Arr**	**70.67**	**311**	LR		LR	16 38 39.7	
	comp=Z,53nm,18.3s,baz=353,slow=40							
KIV	**Kislovodsk**	**70.67**	**311**	⇑*e*P		P	16 02 27.3	+10
KIV				pmax	pmax			
	comp=Z,23nm,1.1s							
KBZ	**Khabaz**	**70.68**	**311**	P		**P**	**16 02 17.8**	**+0.3**
	comp=Z,2.8nm,0.8s,baz=80,slow=6.1,SNR=2.5							
NB2	**NORSAR Subarra**	**72.79**	**338**	P		**P**	**16 02 30.0**	**0.0**
	comp=Z,0.9nm,0.6s,baz=38,slow=6.2							
NOA	**NORSAR Array B**	**72.79**	**338**	P		**P**	**16 02 30.1**	**+0.2**
	comp=Z,1.4nm,0.7s,baz=39,slow=6.0,SNR=5.8							
NOA				LR		LR	16 38 30.4	
	comp=Z,31nm,19.5s,baz=10.0,slow=39							
AKASG	**Malin Array Be**	**73.54**	**323**	P		**P**	**16 02 34.5**	**0.0**
	comp=Z,0.8nm,0.5s,baz=46,slow=5.9,SNR=4.7							
PDAR	**Pinedale Array**	**75.03**	**47**	P		**P**	**16 02 43.8**	**+0.1**
	comp=Z,0.2nm,0.4s,baz=224,slow=3.6,SNR=2.6							
STHS	**Stebnicka Huta**	**78.08**	**326**	*e*P		P	16 03 07.0	+6.5
STHS	**Stebnicka Huta**	**78.08**	**326**	*e*P		P	16 03 07.0	+6.5
CRVS	**Cervenica-Dubn**	**78.36**	**325**	*e*P		P	16 03 11.4	+9.3
CRVS	**Cervenica-Dubn**	**78.36**	**325**	*e*P		P	16 03 11.4	+9.3
BRTR	**Keskin Array B**	**78.58**	**312**	LR		LR	16 43 03.5	
	comp=Z,24nm,18.5s,baz=62,slow=40							
MLR	**Muntele Rosu**	**78.73**	**320**	LR		LR	16 42 17.1	
	comp=Z,12nm,19.0s,baz=52,slow=39							
DPC	**Dobruska-Polom**	**79.44**	**329**	*e*pP		pP	16 03 14.9	+1.4
DPC	**Dobruska-Polom**	**79.44**	**329**	*e*P		P	16 03 14.9	+6.8
VYHS	**Vyhne**	**79.82**	**326**	*e*P		P	16 03 15.3	+5.2
VYHS	**Vyhne**	**79.82**	**326**	*e*P		P	16 03 15.3	+5.2
CLL	**Collm**	**79.99**	**331**	*e*P		**P**	**16 03 14.0**	**+3.1**
CLL				*e*			16 03 19.0	
CLL				pmax	pmax			
	comp=Z,3.0nm,0.8s							
CLL	**Collm**	**79.99**	**331**	*e*(P)		**P**	**16 03 14.0**	**+3.1**
CLL				*e*PcP		**PcP**	**16 03 19.0**	**+0.6**
VRAC	**Vranov**	**80.14**	**328**	LR		LR	16 40 25.2	
	comp=Z,39nm,18.6s,baz=40,slow=37							
PRU	**Pruhonice**	**80.44**	**329**	*e*P		**P**	**16 03 17.0**	**+3.6**
PRU	**Pruhonice**	**80.44**	**329**	*e*P		**P**	**16 03 17.0**	**+3.6**
KHC	**Kasperske Hory**	**81.50**	**329**	*e*P		**P**	**16 03 22.4**	**+3.3**
KHC				*ex*		x	16 03 27.2	
KHC	**Kasperske Hory**	**81.50**	**329**	*e*P		**P**	**16 03 22.4**	**+3.3**
KHC				*e*			16 03 27.2	
GERES	**GERESS Array B**	**81.68**	**329**	P		**P**	**16 03 20.2**	**0.0**
	comp=Z,0.8nm,0.8s,baz=49,slow=4.4,SNR=4.1							
VNA2	**Neumayer--Watz**	**144.83**	**196**	PKP		PKPbc	16 10 35.9	-0.8
	baz=104,slow=1.7							
VNA3	**Neumayer Olymp**	**145.06**	**195**	PKP		**PKPbc**	**16 10 36.4**	**-1.1**
VNA1	**Neumayer--Stat**	**145.23**	**196**	PKP		**PKPdf**	**16 10 37.5**	**-0.8**

*IDC **30** 16:01:02.7±2.4,6.42S×75.74W,h118km±26km,mb3.4/4, mb1 3.6/8,mb1mx3.5/31,mbtmp3.9/8,MS3.2/1,Ms1 3.1/1, ms1mx2.4/14,Error ellipse: s-maj=31.8km s-min=20.1km az=20.0*

ISC 30 16:00:53.5±0.9,**6.3S**±0.1×**75.57W**±0.08,**h29**km,**n11**, σ2§48/12,**mb3.8/4**,**Northern Peru**

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op		ISC	h m s	ISC
ATAH	**Atahualpa**	**2.92**	**254**	P		**Pb**	**16 01 47.8**	**+2.7**
ATAH	62nm,0.3s,baz=28,slow=5.5,SNR=409			S		**Sb**	**16 02 19.0**	**-1.5**
	30nm,0.3s,baz=97,slow=19,SNR=18							
NNA	**Nana**	**5.76**	**192**	S		**Sn**	**16 03 24.2**	**+1.8**
	4.1nm,0.3s,baz=194,slow=19,SNR=3.9							
LPAZ	**La Paz**	**12.29**	**144**	P		**P**	**16 03 55.7**	**-3.6**
	0.3nm,0.3s,baz=304,slow=7.3,SNR=3.7							
PTGA	**Pitinga**	**16.53**	**71**	P		**P**	**16 04 49.0**	**+3.2**
	0.7nm,0.3s,baz=186,slow=22,SNR=7.3							
SIV	**San Ignacio**	**17.15**	**125**	P		**P**	**16 04 55.6**	**+2.9**
	0.3nm,0.3s,baz=320,slow=16,SNR=3.6							
CPUP	**Villa Florida**	**26.43**	**141**	P		**P**	**16 06 28.5**	**+0.6**
	1.5nm,0.6s,baz=328,slow=14,SNR=4.0							
PLCA	**Paso Flores**	**34.55**	**173**	P		**P**	**16 07 39.2**	**-0.4**
	1.3nm,0.8s,baz=344,slow=7.4,SNR=3.2							
PLCA				LR		LR	16 20 00.3	
	comp=Z,32nm,18.1s,baz=346,slow=33							
TORD	**Torodi Ar. Bea**	**79.12**	**75**	P		**P**	**16 12 55.8**	**-0.3**
	0.2nm,0.4s,baz=269,slow=6.2,SNR=2.8							
ILAR	**Eielson Array**	**87.85**	**336**	P		**P**	**16 13 38.7**	**-1.2**
	0.3nm,0.8s,baz=120,slow=3.2,SNR=3.1							
ASAR	**Alice Springs**	**138.57**	**223**	PKP		**PKPdf**	**16 20 15.4**	**-2.1**
	0.3nm,0.9s,baz=129,slow=2.3,SNR=3.2							
WRA	**Warramunga Arr**	**140.66**	**228**	PKP		**PKPdf**	**16 20 19.2**	**-2.1**
	0.4nm,0.5s,baz=125,slow=1.9,SNR=9.4							

*ISCJB **30** 16:02:55.8±0.5,36.66N±0.04×71.53E±0.06,h114km, mb3.8/4,Error ellipse: s-maj=7.1km s-min=4.2km az=150.1*

*IDC **30** 16:02:59.2±3.7,36.65N×71.44E,h156km±26km,mb3.4/4, mb1 3.4/11,mb1mx3.1/49,mbtmp3.9/11,Error ellipse: s-maj=39.4km s-min=18.9km az=151.0*

*NNC **30** 16:03:08.9±2.6,37.40N×71.38E,h238km±40km,mb2.7, mpv3.9,Error ellipse: s-maj=27.5km s-min=18.5km az=24.0*

ISC 30 16:02:56.4±0.7,**36.61N**±0.06×**71.46E**±0.06,**h114**km,**n28**, σ2§55/36,**mb3.9/4**,**5C-2D,Afghanistan-Tajikistan border region**

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op		ISC	h m s	ISC
MNAS	**Manas**	**5.92**	**8**	⇓P		**Pn**	**16 04 25.7**	**+3.9**
MNAS	10.0nm,0.7s			⇑S		**Sn**	**16 05 28.7**	**+0.3**
	44nm,0.7s							
AAK	**Ala-Archa**	**6.46**	**20**	P		**Pn**	**16 04 33.0**	**+4.0**
	2.6nm,0.3s,baz=140,slow=5.4,SNR=18							
AAK				S		**Sn**	**16 05 42.8**	**+1.5**
	2.9nm,0.3s,baz=118,slow=23,SNR=19							
AAK	**Ala-Archa**	**6.46**	**20**	P		**Pn**	**16 04 33.5**	**+4.5**
	4.3nm,0.4s							
AAK				S		**Sn**	**16 05 42.2**	**+0.8**
	33nm,0.7s							
KK31	**Karatay Array**	**6.52**	**354**	P		**Pn**	**16 04 33.5**	**+3.7**
	5.4nm,0.3s,baz=171,slow=12,SNR=84							
KK31				⇑S		**Sn**	**16 05 41.5**	**-1.3**
	43nm,0.6s,baz=177,slow=24,SNR=9.8							
SDNR	**Sundarnagar**	**6.85**	**137**	*e*P		**Sn**	**16 05 51.0**	**+0.2**
TKM2	**Tokmak 2**	**7.06**	**26**	⇑P		**Pn**	**16 04 41.7**	**+4.5**
	5.1nm,0.5s							
TKM2				⇑S		**Sn**	**16 05 56.5**	**+0.4**
	7.7nm,0.8s							
GEYT	**Alibeck**	**10.71**	**281**	P		**Pn**	**16 05 27.9**	**+1.3**
	0.4nm,0.3s,baz=96,slow=15,SNR=4.2							
GEYT				S		**Sn**	**16 07 28.2**	**+3.6**
	0.9nm,0.3s,baz=89,slow=24,SNR=4.2							
PYUN	**Piuthan**	**12.92**	**128**	*e*P		**Pn**	**16 05 55.2**	**-0.8**
	12nm,0.4s							
MKAR	**Makanchi Array**	**12.98**	**35**	P		**Pn**	**16 05 57.5**	**+1.0**
	0.1nm,0.3s,baz=209,slow=10,SNR=3.3							
KOLN	**Koldanda**	**13.53**	**127**	*e*P		**Pn**	**16 06 04.2**	**+0.2**
	4.7nm,0.3s							
GKN	**Gorkha**	**14.06**	**124**	*e*P		**Pn**	**16 06 08.7**	**-2.0**
	10nm,0.3s							
KKN	**Kakani**	**14.63**	**123**	*e*P		**Pn**	**16 06 17.2**	**-0.8**
DMN	**Daman**	**14.63**	**124**	*e*P		**Pn**	**16 06 17.3**	**-0.7**
	4.5nm,0.4s							
PKIN	**Phulchoki**	**14.84**	**123**	*e*P		**Pn**	**16 06 19.3**	**-1.5**
	4.6nm,0.3s							
KURBB	**Kurchatov Arra**	**14.90**	**18**	P		**Pn**	**16 06 19.9**	**-1.1**
	0.0nm,0.3s,baz=209,slow=11,SNR=4.1							
GUN	**Gumba**	**14.96**	**121**	*e*P		**Pn**	**16 06 21.7**	**-0.6**
	12nm,0.4s							
AB31	**Akbulak array**	**15.17**	**330**	⇓P		**Pn**	**16 06 26.0**	**+1.6**
	1.2nm,0.6s							
AB31				⇑S		Sn	16 09 00.7	-11
	0.8nm,0.6s							
JIRN	**Jiri**	**15.33**	**121**	*e*P		**Pn**	**16 06 27.1**	**+0.1**
	65nm,0.3s							
RAMN	**Ramite**	**16.06**	**123**	*e*P		**P**	**16 06 37.1**	**-0.1**
	6.0nm,0.3s							
BVAR	**Borovoye Array**	**16.43**	**358**	P		**Pn**	**16 06 40.4**	**+0.4**
	0.7nm,0.3s,baz=169,slow=10,SNR=15							
BVAR				S		**Sn**	**16 09 35.3**	**-7.0**
	0.2nm,0.3s,baz=166,slow=26,SNR=5.5							
TAPN	**Taplejung**	**16.58**	**119**	*e*P		**P**	**16 06 44.0**	**+1.1**
	6.2nm,0.4s							
ODAN	**Odare**	**16.66**	**121**	*e*P		**P**	**16 06 45.7**	**+1.9**
	7.9nm,0.6s							
AKTO	**Aktyubinsk**	**16.87**	**329**	P		**P**	**16 06 46.9**	**+1.2**
	0.6nm,0.3s,baz=146,slow=9.5,SNR=11							
AKTO				S		**Sn**	**16 09 48.5**	**-4.5**
	0.2nm,0.3s,baz=135,slow=22,SNR=5.6							
ZALV	**Zalesovo Beam**	**19.66**	**24**	P		**P**	**16 07 15.6**	**-0.5**
	0.8nm,0.3s,baz=218,slow=11,SNR=7.7							
FINES	**FINESS Array B**	**37.60**	**326**	P		**P**	**16 09 58.7**	**-0.8**
	2.3nm,0.8s,baz=122,slow=10,SNR=6.0							
ARCES	**ARCESS Array B**	**41.18**	**337**	P		**P**	**16 10 27.6**	**-1.6**
	3.8nm,0.8s,baz=120,slow=8.6,SNR=5.8							
NOA	**NORSAR Array B**	**44.51**	**323**	P		**P**	**16 10 54.9**	**-1.3**
	0.7nm,0.6s,baz=97,slow=7.2,SNR=3.6							
TORD	**Torodi Ar. Bea**	**66.09**	**269**	P		**P**	**16 13 27.8**	**-3.8**
	0.2nm,0.4s,baz=56,slow=6.1,SNR=2.9							

*DDA **30** 16:14:48.7,38.24N×30.05E,h13km,Md2.7*

*ISCJB **30** 16:14:49.3±0.5,38.21N±0.03×30.03E±0.04,h10km±5km, Error ellipse: s-maj=5.5km s-min=4.9km az=18.0*

*CSEM **30** 16:14:49.0±0.1,38.21N×30.03E,h5km,MD2.7,Error ellipse: s-maj=3.7km s-min=3.5km az=62.0*

*ISK **30** 16:14:49.0,38.19N×30.02E,h9km,MD2.8*

ISC 30 16:14:49.1±0.9,**38.21N**±0.03×**30.03E**±0.02,**h9**km±7km, **n29**, σ0§43/38,**Turkey**

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op		ISC	h m s	ISC
KZIL	**AFYON_Kizioren**	**0.10**	**62**	*i* P		**Pg**	**16 14 51.1**	**-0.4**
KZIL				*i* S		**Sg**	**16 14 53.9**	**+0.6**
KZIL	**AFYON_Kizioren**	**0.10**	**62**	P		**Pg**	**16 14 51.1**	**-0.4**
KZIL				S		**Sg**	**16 14 53.9**	**+0.6**
KHAL	**Karahalli**	**0.46**	**290**	*i* P		**Pg**	**16 14 57.8**	**-0.1**
KHAL				*i* S		**Sg**	**16 15 04.9**	**+0.9**
KHAL	**Karahalli**	**0.46**	**290**	P		**Pg**	**16 14 57.8**	**-0.1**
KHAL				S		**Sg**	**16 15 04.9**	**+0.9**
BRDR	**BURDUR-Merkez**	**0.52**	**178**	*i* P		**Pg**	**16 14 58.7**	**-0.4**
BRDR				*i* S		**Sb**	**16 15 07.8**	**-0.2**
BRDR	**BURDUR-Merkez**	**0.52**	**178**	P		**Pg**	**16 14 58.7**	**-0.4**
BRDR				S		**Sb**	**16 15 07.8**	**-0.2**
SHUT	**Suhut-Afyon**	**0.53**	**50**	*e*PG		**Pb**	**16 15 00.3**	**-0.4**
SHUT				*e*SG		**Sb**	**16 15 08.6**	**+0.1**
SHUT	**Suhut-Afyon**	**0.53**	**50**	*e*Pg		**Pb**	**16 15 00.3**	**-0.4**
SHUT				*e*Sg		**Sb**	**16 15 08.6**	**+0.1**
BAGO	**Egridir - ISPA**	**0.64**	**110**	*i* P		**Pg**	**16 15 00.8**	**-0.5**
BAGO				*i* S		**Sb**	**16 15 11.5**	**+0.1**
DNZL	**Cakiroluk**	**0.94**	**237**	*i* P		**Pb**	**16 15 07.6**	**-0.1**
DNZL	**Cakiroluk**	**0.94**	**237**	P		**Pb**	**16 15 07.6**	**-0.1**
GDZ	**Gediz**	**0.98**	**334**	*i* P		**Pg**	**16 15 07.4**	**-0.5**
GDZ	**Gediz**	**0.98**	**334**	P		**Pg**	**16 15 07.4**	**-0.5**
GOLH	**Golhisar**	**1.04**	**201**	*i* P		**Pg**	**16 15 09.0**	**-0.1**
GOLH	**Golhisar**	**1.04**	**201**	P		**Pg**	**16 15 09.0**	**-0.1**
SUTC	**Sutluce-Ispart**	**1.06**	**134**	*e*PG		**Pg**	**16 15 09.5**	**+0.1**
SUTC	**Sutluce-Ispart**	**1.06**	**134**	*e*Pg		**Pg**	**16 15 09.5**	**+0.1**
SIMA	**Simav-Kutahya**	**1.20**	**317**	*e*PN		**Pn**	**16 15 12.2**	**0.0**
SIMA	**Simav-Kutahya**	**1.20**	**317**	*e*Pn		**Pn**	**16 15 12.2**	**0.0**
KORT	**Korkueli**	**1.23**	**168**	*e*PN		**Pg**	**16 15 12.6**	**-0.1**
KORT	**Korkueli**	**1.23**	**168**	*e*Pn		**Pg**	**16 15 12.6**	**-0.1**
TVSB	**Tavsanli**	**1.31**	**340**	*e*PN		**Pg**	**16 15 14.3**	**0.0**
TVSB	**Tavsanli**	**1.31**	**340**	*e*Pn		**Pg**	**16 15 14.3**	**0.0**
KDHN	**Kadinhani**	**1.67**	**79**	*i* P		**Pn**	**16 15 19.0**	**+0.4**
KDHN	**Kadinhani**	**1.67**	**79**	P		**Pn**	**16 15 19.0**	**+0.4**
AYDB	**Zeytinkoy-Aydi**	**1.71**	**262**	*e*PN		**Pb**	**16 15 19.9**	**-0.9**
AYDB	**Zeytinkoy-Aydi**	**1.71**	**262**	*e*Pn		**Pb**	**16 15 19.9**	**-0.9**
KONT	**Konya--Tatoy**	**1.85**	**98**	*e*PN		**Pn**	**16 15 21.2**	**+0.1**
KONT	**Konya--Tatoy**	**1.85**	**98**	*e*Pn		**Pn**	**16 15 21.2**	**+0.1**

*ISCJB **30** 16:26:19.1±0.9,8.38N±0.07×127.16E±0.07,h10km, mb3.7/6,Error ellipse: s-maj=11.1km s-min=9.4km az=38.9*

*IDC **30** 16:26:19.8±1.4,8.28N×126.56E,h0km,mb3.7/6, mb1 3.9/6,mb1mx3.5/52,mbtmp3.7/6,Error ellipse: s-maj=76.9km s-min=19.8km az=63.0*

*MAN **30** 16:26:25,8.17N×126.81E,h2km,mb4.6,ML3.5,MS3.4*

ISC 30 16:26:20.4±1.0,**8.32N**±0.05×**127.1E**±0.1,**h10**km,**n11**, σ1§86/14,**mb3.7/6**,**1D,Philippine Islands region**

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op		ISC	h m s	ISC
BIPH	**Bislig**	**0.69**	**259**	⇓*i* P		**Pn**	**16 26 36.2**	**-0.1**
BIPH				*i* S		**Sb**	**16 26 44.0**	**-0.1**
MATI	**Mati**	**1.57**	**210**	*e*P		**Pn**	**16 26 49.3**	**+0.9**
MATI				*e*S		**Sb**	**16 27 09.9**	**+0.3**
SCPH	**Surigao**	**2.12**	**314**	*e*P		**Pn**	**16 26 57.4**	**+1.5**
BESP	**Borongan**	**3.63**	**334**	*e*P		**Pb**	**16 27 24.6**	**-0.1**
BESP				*e*S		**Sb**	**16 28 10.6**	**+1.8**
PAGZ	**Pagadian**	**3.66**	**263**	*e*P		**Pn**	**16 27 20.5**	**+3.4**
WRA	**Warramunga Arr**	**28.98**	**166**	P		**P**	**16 32 20.7**	**+0.2**
	0.2nm,0.6s,baz=348,slow=9.6,SNR=3.4							
CMAR	**Chiang Mai Arr**	**29.09**	**293**	P		**P**	**16 32 18.4**	**-3.2**
	0.4nm,0.5s,baz=83,slow=7.4,SNR=2.9							
ASAR	**Alice Springs**	**32.49**	**168**	P		**P**	**16 32 54.2**	**+2.8**
	0.3nm,0.3s,baz=342,slow=7.5,SNR=15							
MKAR	**Makanchi Array**	**54.04**	**323**	P		**P**	**16 35 44.3**	**-0.8**
	0.3nm,0.4s,baz=125,slow=8.1,SNR=5.0							
BVAR	**Borovoye Array**	**63.70**	**326**	P		**P**	**16 36 52.2**	**+0.1**
	1.2nm,0.6s,baz=128,slow=8.1,SNR=8.7							
FINES	**FINESS Array B**	**87.96**	**332**	P		**P**	**16 39 09.3**	**-1.2**
	1.9nm,0.8s,baz=58,slow=4.7,SNR=5.4							

IDC 30 16:26:46.2±12.0,**5.08S**×**154.50E**,**h456**km±171km, **mb2.7/4**,**mb1 2.9/5**,**mb1mx2.6/44**,**mbtmp3.6/5**,**Error ellipse: s-maj=114.2km s-min=43.0km az=152.0**, **Bougainville-Solomon Islands region**

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op		ISC	h m s	ISC
CTA	**Charters Tower**	**16.94**	**208**	P		P	16 30 18.6	+0.8
	0.3nm,0.3s,baz=30,slow=15,SNR=6.0							
WRA	**Warramunga Arr**	**24.56**	**231**	P		P	16 31 28.4	-0.1
	0.4nm,0.5s,baz=55,slow=9.5,SNR=13							
ASAR	**Alice Springs**	**27.12**	**225**	P		P	16 31 51.0	-0.3
	0.2nm,0.3s,baz=56,slow=9.2,SNR=14							
MKAR	**Makanchi Array**	**81.65**	**319**	P		P	16 38 16.2	+0.4
	0.3nm,0.6s,baz=101,slow=7.0,SNR=3.1							
ILAR	**Eielson Array**	**81.78**	**22**	P		P	16 38 15.8	-0.3
	0.4nm,0.8s,baz=235,slow=6.4,SNR=3.4							

*NIED **30** 16:31:00,37.30N×141.30E,h20km,Mw3.6 Best double couple: M0 3.27000×10^14 NP1:ϕs252.00000°,δ54.00000°, λ-43.00000°. NP2:ϕs10.00000°,δ57.00000°, λ-136.00000°.*

*IDC **30** 16:31:19.7±2.0,37.09N×141.55E,h0km,mb3.3/3, mb1 3.5/5,mb1mx3.3/56,mbtmp3.4/5,ML3.0/2,Error ellipse: s-maj=38.6km s-min=26.1km az=60.0*

*ISCJB **30** 16:31:20.1±1.2,37.23N±0.04×141.49E±0.07,h18km±8km, mb3.3/3,Error ellipse: s-maj=10.0km s-min=5.8km az=18.6*

*JMA **30** 16:31:23.7±0.1,37.30N×141.23E,h37km±1km,M3.7*

JMA Felt II J1.

ISC 30 16:31:20.0±1.9,**37.26N**±0.04×**141.48E**±0.08,**h7**km±11km, **n21**,σ1§14/24,**mb3.3**/3,**Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op		ISC	h m s	ISC
JFK	**Kawauchi**	**0.50**	**283**	P		**Pb**	**16 31 31.5**	**+0.5**
JFK				S		**Sg**	**16 31 36.7**	**+0.6**
ONAJ	**Iwakimizuishiy**	**0.57**	**254**	P		**Pb**	**16 31 32.8**	**+0.6**
ONAJ				S		**Sg**	**16 31 39.1**	**+0.8**
JMM	**Marumori**	**0.82**	**318**	P		**Pg**	**16 31 36.4**	**+0.7**
JMM				S		**Sg**

2.1nm,0.3s,baz=22,slow=7.9,SNR=18
USRK Ussuriysk Ar. 9.41 308 Pn **Pn 17 03 15.2 +3.2**
0.3nm,0.3s,baz=107,slow=16,SNR=8.4
JNU Nakatsue 10.82 242 LR LR 17 08 08.3
comp=Z,72nm,18.5s,baz=296,slow=40
KSRS Korea Array 11.38 268 Pn **Pn 17 03 38.2 -0.7**
baz=76,slow=13,SNR=3.0
KSRS LR LR 17 08 00.8
comp=Z,65nm,19.4s,baz=64,slow=37
SEY Seymchan 24.94 11 P **P 17 06 17.6 -0.6**
2.0nm,0.7s,baz=252,slow=20,SNR=2.0
SONM Songino Array 27.41 301 P **P 17 06 42.2 +1.3**
0.7nm,0.8s,baz=119,slow=12,SNR=2.7
H11N2 WAKE ISLAND Hy 28.53 125 T T 17 35 38.5
baz=319
H11N1 WAKE ISLAND Hy 28.54 125 T T 17 35 55.1
baz=319
H11N3 WAKE ISLAND Hy 28.55 125 T T 17 35 43.7
baz=319
H11S1 WAKE ISLAND Hy 29.31 127 T T 17 36 27.8
baz=310
H11S3 WAKE ISLAND Hy 29.31 127 T T 17 36 25.7
baz=310
H11S2 WAKE ISLAND Hy 29.32 127 T T 17 36 30.3
baz=310
ZALV Zalesovo Beam 41.25 311 P **P 17 08 40.0 0.0**
1.3nm,0.4s,baz=87,slow=6.7,SNR=8.3
MKAR Makanchi Array 43.78 301 P **P 17 09 01.2 +0.6**
1.5nm,0.4s,baz=80,slow=10,SNR=22
ILAR Eielson Array 47.66 33 P **P 17 09 30.0 -1.0**
0.5nm,0.6s,baz=266,slow=7.0,SNR=4.8
WRA Warramunga Arr 58.89 189 P P 17 10 42.1 -12
0.7nm,0.6s,baz=3.0,slow=7.5,SNR=15
ASAR Alice Springs 62.62 189 P P 17 11 09.6 -10
0.2nm,0.7s,baz=23,slow=12,SNR=6.1
FINES FINESS Array B 67.58 332 P **P 17 11 50.5 -0.5**
1.9nm,0.8s,baz=27,slow=9.0,SNR=4.6
AKASG Malin Array Be 73.32 322 P **P 17 12 26.3 +0.1**
0.3nm,0.5s,baz=50,slow=8.9,SNR=4.1
BRTR Keskin Array B 78.19 312 P **P 17 12 54.7 +0.2**
0.4nm,0.4s,baz=108,slow=3.8,SNR=5.2

*ISCJB **30** 17:00:60.0±0.3, 67.09N±0.02×21.07E±0.05, h0km, Error ellipse: s-maj=3.1km s-min=2.6km az=160.5*
*CSEM **30** 17:01:00.8±0.2, 67.08N×20.98E, h2km, ML2.2, Error ellipse: s-maj=4.5km s-min=3.5km az=78.0, Mining explosion.*
*UPP **30** 17:01:00.2±0.1, 67.07N×20.97E, h0km, ML2.1, Explosion*
*NAO **30** 17:01:00.9±1.0, 67.10N×21.20E, ML2.2*
*IDC **30** 17:01:01.5±1.1, 67.06N×21.21E, h0km, mb1 3.0/3, mb1mx2.9/34, mbtmp2.8/3, ML2.3/3, Error ellipse: s-maj=20.1km s-min=9.5km az=106.0*
*HEL **30** 17:01:01.1±0.1, 67.07N×20.93E, h0km, ML2.2, ML2.1(UPP), Explosion*
*BER **30** 17:01:03.7±4.1, 67.09N×21.10E, h0km, ML2.2(NAO), Suspected explosion*

ISC 30 17:01:00.1±0.7, 67.09N±0.02×20.98E±0.02, h0km, n91, σ1§06/124, Sweden

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
DUNU	**Dundret**	**0.16**	**283**	P		**Pg**	**17 01 03.7**	**+0.4**
DUNU				S		**Sg**	**17 01 06.3**	**+0.9**
DUNU	**Dundret**	**0.16**	**283**	*i* P		**Pg**	**17 01 03.7**	**+0.4**
DUNU				*i* S		**Sg**	**17 01 06.3**	**+0.9**
DUNU	**Dundret**	**0.16**	**283**	P		**Pg**	**17 01 03.6**	**+0.4**
DUNU				S		**Sg**	**17 01 06.2**	**+0.9**
ERTU	**Ertsjaerv**	**0.72**	**138**	P		**Pg**	**17 01 13.5**	**-0.3**
ERTU	**Ertsjaerv**	**0.72**	**138**	*e*P		**Pg**	**17 01 13.5**	**-0.3**
ERTU				*e*S		**Sg**	**17 01 24.5**	**+1.4**
ERTU	**Ertsjaerv**	**0.72**	**138**	P		**Pg**	**17 01 13.5**	**-0.3**
ERTU				S		**Sg**	**17 01 24.5**	**+1.4**
PAJU	**Pajala**	**0.84**	**93**	P		**Pg**	**17 01 16.2**	**0.0**
PAJU	**Pajala**	**0.84**	**93**	*i* P		**Pg**	**17 01 16.2**	**0.0**
PAJU	**Pajala**	**0.84**	**93**	P		**Pg**	**17 01 16.2**	**0.0**
RATU	**Laukkuluspa**	**0.91**	**325**	P		**Pg**	**17 01 17.5**	**-0.1**
HARU	**Harads**	**0.93**	**180**	P		**Pg**	**17 01 17.1**	**-0.7**
HARU	**Harads**	**0.93**	**180**	*e*P		**Pg**	**17 01 17.1**	**-0.7**
HARU	**Harads**	**0.93**	**180**	P		**Pg**	**17 01 17.1**	**-0.7**
LANU	**Lannavaara**	**1.04**	**21**	P		**Pg**	**17 01 20.0**	**-0.1**
LANU	**Lannavaara**	**1.04**	**21**	*e*P		**Pg**	**17 01 19.8**	**-0.3**
LANU	**Lannavaara**	**1.04**	**21**	P		**Pg**	**17 01 19.7**	**-0.3**
NIKU	**Nikkaluokta**	**1.08**	**317**	P		**Pg**	**17 01 20.6**	**-0.3**
NIKU	**Nikkaluokta**	**1.08**	**317**	*e*P		**Pg**	**17 01 20.6**	**-0.3**
NIKU	**Nikkaluokta**	**1.08**	**317**	P		**Pg**	**17 01 20.6**	**-0.3**
KALU	**Kalix**	**1.56**	**141**	P		**Pn**	**17 01 28.5**	**-0.5**
KALU	**Kalix**	**1.56**	**141**	*e*P		**Pn**	**17 01 28.5**	**-0.5**
KALU				*e*SN		**Sg**	**17 01 51.9**	**+1.8**
KALU	**Kalix**	**1.56**	**141**	P		**Pn**	**17 01 28.5**	**-0.5**
KALU				Sn		**Sg**	**17 01 51.9**	**+1.8**
SJUU	**Sjulsmark**	**1.61**	**171**	P		**Pn**	**17 01 29.2**	**-0.5**
SJUU	**Sjulsmark**	**1.61**	**171**	*e*P		**Pn**	**17 01 29.2**	**-0.5**
SJUU	**Sjulsmark**	**1.61**	**171**	P		**Pn**	**17 01 29.2**	**-0.5**
HEF	**Hetta**	**1.68**	**36**	*e*P		**Pn**	**17 01 31.1**	**+0.4**
	baz=221							
HEF				MSG			17 01 51.7	
	comp=Z,15nm,0.2s							
HEF				*e*SG		**Sg**	**17 01 53.6**	**-0.2**
HEF	**Hetta**	**1.68**	**36**	P		**Pn**	**17 01 31.0**	**+0.4**
HEF				Sg		**Sg**	**17 01 53.6**	**-0.2**
TOF	**Tornio**	**1.68**	**126**	*e*P		**Pn**	**17 01 30.8**	**+0.1**
TOF				*e*S		**Sn**	**17 01 52.8**	**0.0**
TOF	**Tornio**	**1.68**	**126**	P		**Pn**	**17 01 30.7**	**+0.1**
TOF				S		**Sn**	**17 01 52.7**	**0.0**
KIF	**Kilpisjarvi**	**1.93**	**358**	Pn		**Pb**	**17 01 36.2**	**+0.1**
KIF				Lg		Lg	17 02 03.8	
KIF	**Kilpisjarvi**	**1.93**	**358**	*e*P		**Pb**	**17 01 36.1**	**+0.1**
KIF				*e*S		**Sg**	**17 02 02.2**	**+0.2**
KIF	**Kilpisjarvi**	**1.93**	**358**	*e*PB		**Pb**	**17 01 36.0**	**0.0**
KIF				MSG			17 01 59.4	
	comp=Z,16nm,0.2s							
KIF				*e*SG		**Sg**	**17 02 03.4**	**+1.4**
KIF	**Kilpisjarvi**	**1.93**	**358**	Pb		**Pb**	**17 01 36.0**	**0.0**
KIF				*e*S		**Sg**	**17 02 02.2**	**+0.2**
	SNR=50							
KIF				Sg		**Sg**	**17 02 03.4**	**+1.4**
RNF	**Rovaniemi**	**2.05**	**101**	*e*PG		**Pb**	**17 01 38.9**	**+0.7**
RNF				*e*SG		**Sg**	**17 02 07.2**	**+1.4**
RNF	**Rovaniemi**	**2.05**	**101**	Pg		**Pb**	**17 01 38.8**	**+0.7**
RNF				Sg		**Sg**	**17 02 07.2**	**+1.4**
KTK1	**Kautokeino**	**2.11**	**23**	*e*P		**Pb**	**17 01 38.6**	**-0.6**
KTK1	**Kautokeino**	**2.11**	**23**	*e*P		**Pb**	**17 01 38.6**	**-0.6**
	SNR=50							
SGF	**Sodankyl**	**2.19**	**78**	*e*P		**Pn**	**17 01 39.1**	**+1.5**
SGF				*e*SG		**Sg**	**17 02 09.5**	**-0.7**
SGF	**Sodankyl**	**2.19**	**78**	P		**Pn**	**17 01 39.1**	**+1.5**
SGF				Sg		**Sg**	**17 02 09.5**	**-0.7**
STEI	**Steigen**	**2.36**	**294**	*e*P		**Pb**	**17 01 42.3**	**-1.2**
STEI	**Steigen**	**2.36**	**294**	*e*P		**Pb**	**17 01 42.3**	**-1.2**
	SNR=50							
BURU	**Burvik**	**2.52**	**176**	P		**Pn**	**17 01 43.2**	**+1.0**
BURU	**Burvik**	**2.52**	**176**	*e*P		**Pn**	**17 01 43.1**	**+0.8**
BURU	**Burvik**	**2.52**	**176**	P		**Pn**	**17 01 43.0**	**+0.8**
SVAU	**Svanoeiden**	**2.67**	**193**	P		**Pn**	**17 01 45.0**	**+0.8**
SVAU	**Svanoeiden**	**2.67**	**193**	*e*P		**Pn**	**17 01 45.0**	**+0.8**
SVAU	**Svanoeiden**	**2.67**	**193**	P		**Pn**	**17 01 45.0**	**+0.8**
TRO	**Tromso**	**2.67**	**344**	*e*P		**Pb**	**17 01 49.3**	**+0.6**
OUL	**Oulu**	**2.84**	**133**	*e*P		**Pn**	**17 01 48.4**	**+1.7**
OUL				*e*SB		**Sb**	**17 02 26.4**	**-0.4**
OUL	**Oulu**	**2.84**	**133**	P		**Pn**	**17 01 48.3**	**+1.7**
ARA0	**ARCESS Array S**	**2.98**	**32**	Pn		**Pn**	**17 01 49.7**	**+1.1**
	baz=218,slow=16							
ARA0				Sn		**Sn**	**17 02 25.0**	**0.0**
	baz=227,slow=22							
ARA0				Lg		Lg	17 02 30.8	
	baz=212,slow=28							
ARA0	**ARCESS Array S**	**2.98**	**32**	Pn		**Pn**	**17 01 49.7**	**+1.1**
	baz=218,slow=16							
ARA0				Sn		**Sn**	**17 02 25.0**	**0.0**
	baz=227,slow=22							
ARA0				Lg		Lg	17 02 30.8	
	baz=212,slow=28							
ARA0	**ARCESS Array S**	**2.98**	**32**	Pn		**Pn**	**17 01 49.7**	**+1.1**
	SNR=50							
ARA0				Sn		**Sn**	**17 02 25.0**	**0.0**
	SNR=50							
ARA0				Lg		Lg	17 02 30.8	
ARCES	**ARCESS Array B**	**2.98**	**32**	Pn		**Pn**	**17 01 49.5**	**+1.0**
	comp=Z,0.4nm,0.3s,baz=216,slow=14,SNR=35							
ARCES				Sn		**Sn**	**17 02 27.0**	**+2.0**
	comp=Z,0.8nm,0.3s,baz=210,slow=23,SNR=7.6							
ARE0	**ARCESS Array S**	**2.98**	**32**	*e*P		**Pn**	**17 01 49.6**	**+1.1**
ARE0	**ARCESS Array S**	**2.98**	**32**	*e*P		**Pn**	**17 01 49.1**	**+0.5**
ARE0				*e*SB		**Sb**	**17 02 28.3**	**-2.6**
ARE0	**ARCESS Array S**	**2.98**	**32**	P		**Pn**	**17 01 49.1**	**+0.5**
LOF	**Lofoten**	**3.03**	**294**	*e*P		**Pn**	**17 01 49.1**	**-0.1**
LOF	**Lofoten**	**3.03**	**294**	*e*P		**Pn**	**17 01 49.2**	**-0.1**
	SNR=50							
KONS	**Konsvik**	**3.17**	**263**	*e*P		**Pn**	**17 01 53.1**	**+2.0**
KONS	**Konsvik**	**3.17**	**263**	*e*P		**Pn**	**17 01 53.1**	**+2.0**
	SNR=50							
UMAU	**Umeaa**	**3.22**	**182**	*e*P		**Pn**	**17 01 52.4**	**+0.5**
UMAU	**Umeaa**	**3.22**	**182**	P		**Pn**	**17 01 52.3**	**+0.5**
STOK	**Stokkvaagen**	**3.25**	**260**	*e*P		**Pb**	**17 01 56.6**	**-2.0**
STOK	**Stokkvaagen**	**3.25**	**260**	*e*P		**Pb**	**17 01 56.6**	**-2.0**
	SNR=50							
MSF	**Maaselka**	**3.44**	**106**	*e*P		**Pn**	**17 01 57.0**	**+2.1**
MSF				*e*SG		**Sg**	**17 02 47.9**	**-2.5**
MSF	**Maaselka**	**3.44**	**106**	P		**Pn**	**17 01 57.0**	**+2.1**
KEV	**Kevo**	**3.48**	**37**	Pn		**Pn**	**17 01 56.8**	**+1.3**
KEV				Sn		**Sn**	**17 02 37.4**	**+0.1**
KEV	**Kevo**	**3.48**	**37**	*e*P		**Pn**	**17 01 56.5**	**+1.1**
KEV				Pn		Pb	17 01 56.8	-5.8
KEV				Sn		**Sn**	**17 02 37.4**	**+0.1**
KEV	**Kevo**	**3.48**	**37**	*e*P		**Pn**	**17 01 56.8**	**+1.3**
	baz=218							
KEV	**Kevo**	**3.48**	**37**	*e*P		**Pn**	**17 01 56.5**	**+1.1**
	SNR=50							
KEV	**Kevo**	**3.48**	**37**	Pn		**Pn**	**17 01 56.8**	**+1.3**
	SNR=50							
KEV				Sn		**Sn**	**17 02 37.4**	**+0.1**
	SNR=50							
HAMF	**Hammerfest**	**3.71**	**14**	*e*P		**Pn**	**17 02 01.2**	**+2.7**
HAMF	**Hammerfest**	**3.71**	**14**	*e*P		**Pn**	**17 02 01.2**	**+2.7**
	SNR=50							
KU6	**Riekki**	**3.72**	**103**	*e*P		**Pn**	**17 01 59.9**	**+1.1**
KU6	**Riekki**	**3.72**	**103**	P		**Pn**	**17 01 59.8**	**+1.1**
VAF	**Ylistaro**	**4.12**	**169**	*e*P		**Pn**	**17 02 05.8**	**+1.6**
	baz=350							
VAF	**Ylistaro**	**4.12**	**169**	P		**Pn**	**17 02 05.8**	**+1.6**
HEMU	**Hemsoen**	**4.60**	**197**	*e*P		**Pn**	**17 02 11.6**	**+0.7**
	baz=18							
HEMU	**Hemsoen**	**4.60**	**197**	P		**Pn**	**17 02 11.5**	**+0.7**
APA0	**Apatity Array**	**4.67**	**78**	Sn		**Sn**	**17 03 05.9**	**-0.8**
	baz=273,slow=22							
APA0				Lg		Lg	17 03 24.2	
	baz=280,slow=28							
APA0	**Apatity Array**	**4.67**	**78**	Sn		**Sn**	**17 03 05.9**	**-0.8**
	baz=273,slow=22							
APA0				Lg		Lg	17 03 24.2	
	baz=280,slow=28							
APA0	**Apatity Array**	**4.67**	**78**	Sn		**Sn**	**17 03 05.9**	**-0.8**
	SNR=50							
APA0				Lg		Lg	17 03 24.2	
FIA0	**FINESS Array S**	**6.08**	**156**	Pn		**Pn**	**17 02 32.2**	**+1.1**
	baz=347,slow=16							
FIA0				Sn		**Sn**	**17 03 41.4**	**0.0**
	baz=335,slow=28							
FIA0	**FINESS Array S**	**6.08**	**156**	Pn		**Pn**	**17 02 32.2**	**+1.1**
	baz=347,slow=16							
FIA0				Sn		**Sn**	**17 03 41.4**	**0.0**
	baz=335,slow=28							
FIA0	**FINESS Array S**	**6.08**	**156**	Pn		**Pn**	**17 02 32.2**	**+1.1**
	SNR=50							
FIA0				Sn		**Sn**	**17 03 41.4**	**0.0**
	SNR=50							
FINES	**FINESS Array B**	**6.08**	**156**	Pn		**Pn**	**17 02 31.9**	**+0.8**
	comp=Z,0.1nm,0.3s,baz=346,slow=13,SNR=6.4							
FINES				Sn		**Sn**	**17 03 41.4**	**0.0**
	comp=Z,0.1nm,0.3s,baz=336,slow=23,SNR=8.6							
NOA	**NORSAR Array B**	**7.42**	**220**	Pn		**Pn**	**17 02 50.2**	**+0.7**
	comp=Z,0.1nm,0.3s,baz=30,slow=12,SNR=2.8							
HFS	**Hagfors**	**7.69**	**208**	Pn		**Pn**	**17 02 52.1**	**-1.1**
	baz=30,slow=14							
HFS	**Hagfors**	**7.69**	**208**	Pn		**Pn**	**17 02 52.1**	**-1.1**
	baz=30,slow=14							
HFS	**Hagfors**	**7.69**	**208**	Pn		**Pn**	**17 02 52.1**	**-1.1**
	SNR=50							

*IDC **30** 17:19:57.4±0.6, 35.37N×141.03E, h0km, mb4.2/21, mb1 4.3/26, mb1mx4.3/38, mbtmp4.2/26, ML3.2/6, MS3.5/12, Ms1 3.5/12, ms1mx3.3/41, Error ellipse: s-maj=16.3km s-min=13.3km az=105.0*
*JMA **30** 17:20:00.6±0.1, 35.48N×140.98E, h24km±1km, M4.5*
JMA Felt III J1.
*ISCJB **30** 17:20:00.3±0.5, 35.41N±0.02×140.97E±0.04, h31km±3km, mb4.5/68, MS3.7/15, Error ellipse: s-maj=5.4km s-min=3.7km az=1.6*
*NIED **30** 17:20:00, 35.40N×141.10E, h17km, Mw4.4 Best double couple: M0 3.90000×10^15 NP1:φ=92.00000°, δ=44.00000°, λ=-118.00000°. NP2:φ=308.00000°, δ=53.00000°, λ=-66.00000°.*
*MOS **30** 17:20:00.6±1.1, 35.51N×140.95E, h28km, mb4.7/41, Error ellipse: s-maj=9.5km s-min=5.7km az=115.3*
*BJI **30** 17:20:02.5, 35.30N×140.80E, h54km, mb4.6/44, mB5.0/29, Ms4.3/26, Ms7 4.1/25*
*NEIC **30** 17:20:03.6±0.9, 35.37N×140.86E, h45km±8km, mb4.7/20, Error ellipse: s-maj=9.2km s-min=7.2km az=79.0*
NEIC Felt at Yachimata and Yokohama. Recorded [3 JMA] in Chiba.

ISC 30 17:20:01.8±0.6, 35.41N±0.03×140.89E±0.04, h27km±3km, n166, σ1§88/199, mb4.6/68, MS3.8/15, 7C-12D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
CHOJ	**Chosi**	**0.29**	**356**	↑P		**Pb**	**17 20 06.7**	**-2.2**
CHOJ				S		**Sb**	**17 20 10.8**	**-3.0**
KTR	**Katsuura**	**0.54**	**241**	↑P		**Pb**	**17 20 12.7**	**+0.1**
KTR				S		**Sn**	**17 20 22.1**	**+0.4**
JCN	**Nagara**	**0.56**	**271**	P		**Pn**	**17 20 13.7**	**-0.2**
BSO4	**Boso 4**	**0.61**	**227**	↓P		**Pn**	**17 20 15.0**	**+0.4**
BSO3	**Boso 3**	**0.68**	**207**	↓P		**Pn**	**17 20 15.4**	**+0.1**
BSO1	**Boso 1**	**0.76**	**174**	↓P		**Pn**	**17 20 15.2**	**-0.9**
JYT	**Yasato**	**0.99**	**326**	↑P		**Pn**	**17 20 18.3**	**-1.6**
JYT				S		**Sn**	**17 20 31.8**	**-1.2**
MJA0	**Matsu Arr-Jizo**	**2.42**	**299**	*e*P		**Pn**	**17 20 40.9**	**+1.3**
MJA0				pmax	pmax			
	comp=Z,13nm,0.3s							
MJAR	**Matsushiro Arr**	**2.45**	**298**	Pn		**Pn**	**17 20 40.9**	**+1.0**
	comp=Z,13nm,0.3s,baz=97,slow=7.6,SNR=75							
MJAR				Sn		**Sb**	**17 21 16.4**	**+1.5**
	comp=Z,48nm,0.3s,baz=129,slow=13,SNR=5.1							
MAJO	**Matsushiro**	**2.45**	**298**	*e*P		**Pn**	**17 20 41.5**	**+1.5**
MAJO				*e*			17 21 09.5	
MAJO	**Matsushiro**	**2.45**	**298**	*e*Pn		**Pn**	**17 20 41.5**	**+1.5**
MAJO				*e*Sn		**Sn**	**17 21 09.5**	**+0.5**
MAT	**Matsushiro**	**2.45**	**298**	P		**Pn**	**17 20 40.8**	**+0.8**
MAT				*e*S		**Sb**	**17 21 14.3**	**-0.6**
MJB9	**Matsu-Tunnel**	**2.45**	**298**	*e*Pn		**Pb**	**17 20 42.6**	**-2.6**
JHJ2	**Mitsune**	**2.46**	**201**	*e*Pn		**Pn**	**17 20 38.6**	**-1.4**
JHJ2				*e*Sn		**Sn**	**17 21 06.6**	**-2.5**
JHJ	**Hachijo jima 2**	**2.46**	**202**	Pn		**Pn**	**17 20 39.0**	**-1.1**
	comp=Z,45nm,0.3s,baz=324,slow=19,SNR=30							
JHJ				Sn		**Sn**	**17 21 08.0**	**-1.3**
	comp=Z,206nm,0.3s,baz=228,slow=24,SNR=7.5							
JHJ				LR		LR	17 21 19.9	
	comp=Z,407nm,19.3s,baz=344,slow=33							
INU	**Inuyama**	**3.16**	**270**	*e*Pn		**Pb**	**17 20 53.9**	**-3.3**
ERM	**Erimo**	**6.83**	**14**	↓*e*P		**Pn**	**17 21 40.4**	**+0.3**
CBIJ	**Chichi jima**	**8.36**	**172**	*e*Pn		**Pn**	**17 21 59.2**	**-2.0**
CBIJ				*e*Sn		**Sn**	**17 23 34.8**	**+0.1**
JNU	**Nakatsue**	**8.59**	**257**	Pn		**Pn**	**17 22 06.5**	**+2.2**
	comp=Z,0.5nm,0.3s,baz=216,slow=5.1,SNR=4.7							
JNU				LR		LR	17 25 33.5	
	comp=Z,359nm,20.6s,baz=109,slow=39							
SHO	**Shikotan**	**9.61**	**27**	*e*P		**Pn**	**17 22 15.0**	**-3.2**
KSRS	**Korea Array**	**10.64**	**285**	Pn		**Pn**	**17 22 34.8**	**+2.4**
	comp=Z,0.4nm,0.3s,baz=96,slow=14,SNR=11							
KSRS				LR		LR	17 26 60.0	
	comp=Z,443nm,18.5s,baz=121,slow=39							
KSAR	**Wonju Array Be**	**10.67**	**285**	P		**Pn**	**17 22 34.8**	**+2.0**
KSAR	**Wonju Array Be**	**10.67**	**285**	Pn		**Pn**	**17 22 34.8**	**+2.0**
USRK	**Ussuriysk Ar.**	**11.12**	**325**	Pn		**Pn**	**17 22 40.5**	**+1.5**
	comp=Z,0.3nm,0.3s,baz=139,slow=13,SNR=6.1							
KUR	**Kuril'sk**	**11.16**	**26**	P		**Pn**	**17 22 37.3**	**-2.1**
YSS	**Yuzh-Sakhalins**	**11.62**	**6**	↓*e*P		**Pn**	**17 22 46.3**	**+0.6**
YSS				*e*S		**Sn**	**17 24 54.2**	**-0.2**
	comp=Z,20nm,0.7s			pmax	pmax			
YSS				smax	smax			
	comp=E,30nm,1.3s							
YSS				MLR	MLR			
	comp=Z,400nm,12.0s							
MDJ	**Mudanjiang**	**12.62**	**320**	P		**Pn**	**17 23 01.8**	**+2.4**
MDJ				pP	P		17 23 10.3	-0.2
MDJ				sP			17 23 15.3	
MDJ				S		**Sn**	**17 25 23.0**	**+4.1**
MDJ				ScP		**ScP**	**17 32 05.8**	**-1.7**
MDJ				ScS		**ScS**	**17 35 41.8**	**-1.8**
MDJ				pmax	pmax			
	comp=Z,6.0nm,0.7s							
MDJ				pmax	pmax			
	comp=Z,34nm,3.7s							
MDJ				LR	LR			
	comp=Z,210nm,9.8s							
MDJ				LR	LR			
	comp=Z,190nm,9.0s							
MDJ				LR	LR			
	comp=Z,310nm,12.1s							
HABR	**Khabarovsk**	**13.75**	**343**	*e*P		**Pn**	**17 23 13.6**	**-1.2**
HABR				*e*S		**Sn**	**17 25 47.3**	**+0.8**
HABR				pmax	pmax			
	comp=N,20nm,1.9s							
HABR				pmax	pmax			
	comp=Z,36nm,1.9s							
HABR				pmax	pmax			
	comp=E,16nm,1.9s							
HABR				MLR	MLR			
	comp=Z,134nm,15.0s							
KLR	**Kul'dur**	**15.36**	**337**	Pn		**Pn**	**17 23 35.5**	**-1.0**
	comp=Z,0.0nm,0.3s,baz=166,slow=12,SNR=4.3							
KLR				LR		LR	17 29 26.3	
	comp=Z,27nm,18.8s,baz=150,slow=37							
NJ2	**Nanjing**	**18.62**	**266**	*e*P		**Pn**	**17 24 18.0**	**+0.4**
BJI	**Beijing**	**20.06**	**291**	P		**P**	**17 24 32.5**	**-0.3**
BJI				S		**S**	**17 28 16.3**	**-0.6**
BJI				pmax	pmax			
	comp=Z,6.0nm,0.6s							
BJI				LR	LR			
	comp=Z,220nm,5.1s							
BJI				LR	LR			
	comp=Z,160nm,8.2s							
PETK	**Petropavlovsk-**	**21.31**	**29**	P		**P**	**17 24 44.8**	**-1.4**
	comp=Z,3.3nm,0.8s,baz=228,slow=8.6,SNR=5.7							
PETK				LR		LR	17 34 14.1	
	comp=Z,86nm,18.6s,baz=215,slow=40							
PET	**Petropavlovsk**	**21.63**	**30**	*e*P		**P**	**17 24 56.4**	**+6.8**
PET				*e*S		**S**	**17 28 50.5**	**+2.9**
PET				pmax	pmax			
	comp=Z,100nm,15.3s							
PET				MLR	MLR			
	comp=Z,100nm,19.0s							
WHN	**Wuhan**	**22.75**	**265**	↑P		**P**	**17 25 01.5**	**-0.4**
HHC	**Hu-ho-hao-te**	**23.64**	**292**	P		**P**	**17 25 10.5**	**-0.3**
HHC				PP		**PnPn**	**17 25 44.5**	**+6.2**
HHC				S		**S**	**17 29 14.5**	**-9.3**
HHC				SS		**SnSn**	**17 30 08.0**	**+6.2**
HHC				pmax	pmax			
	comp=Z,21nm,1.1s							
HHC				LR	LR			
	comp=Z,170nm,9.2s							
HHC				LR	LR			
	comp=Z,160nm,9.3s							
HHC				LR	LR			
	comp=Z,110nm,10.4s							
MA2	**Magadan**	**25.03**	**12**	P		**P**	**17 25 22.9**	**-0.3**
	comp=Z,12nm,0.7s,baz=193,slow=10,SNR=6.3							
MA2				LR		LR	17 35 46.9	
	comp=Z,118nm,21.0s,baz=156,slow=38							
XAN	**Xi'an**	**26.25**	**276**	P		**P**	**17 25 33.5**	**-1.2**
XAN				pP		sP	17 25 45.5	-0.5
XAN				pmax	pmax			
	comp=Z,7.0nm,1.0s							
XAN				pmax	pmax			
	comp=Z,140nm,4.9s							
ENH	**Enshi**	**26.81**	**268**	*e*P		**P**	**17 25 36.9**	**-2.8**
	comp=Z,16nm,0.7s							
YAK	**Yakutsk**	**27.57**	**349**	P		**P**	**17 25 45.6**	**-0.6**
	comp=Z,9.8nm,0.5s,baz=260,slow=0.4,SNR=9.7							
YAK	**Yakutsk**	**27.57**	**349**	*e*P		**P**	**17 25 45.5**	**-0.6**
YAK				*e**PP		**pP**	**17 25 54.8**	**+0.7**
YAK				*e*			17 26 30.0	
YAK				*e*			17 29 10.9	
YAK				*e*S		**S**	**17 30 19.7**	**-5.8**
YAK				pmax	pmax			
	comp=Z,11nm,0.9s							
YAK				pmax	pmax			
	comp=N,5.0nm,1.1s							
YAK				smax	smax			
	comp=N,54nm,3.7s							
YAK				MLR	MLR			
	comp=Z,150nm,19.0s							
YAK				MLR	MLR			
	comp=N,794nm,21.0s							
YAK	**Yakutsk**	**27.57**	**349**	*e*P		**P**	**17 25 42.8**	**-3.3**
	comp=N,14nm,0.7s							
H11N2	**WAKE ISLAND Hy**	**27.73**	**117**	T		T	17 54 43.5	
	baz=310,slow=75,SNR=2960							
H11N1	**WAKE ISLAND Hy**	**27.74**	**117**	T		T	17 54 48.0	
	baz=310,slow=75,SNR=3110							
H11N3	**WAKE ISLAND Hy**	**27.75**	**117**	T		T	17 54 46.0	
	baz=310,slow=75,SNR=2744							
ULN	**Ulaanbaatar**	**27.95**	**307**	↓*i*P		**P**	**17 25 51.6**	**+1.7**
ULN				pmax	pmax			
	comp=Z,4.0nm,1.2s							
SONA1	**Songino Array**	**28.37**	**307**	*e*P		**P**	**17 25 52.0**	**-1.7**
SONM	**Songino Array**	**28.37**	**307**	P		**P**	**17 25 53.6**	**0.0**

comp=Z,9.0nm,1.2s
CMAR Chiang Mai Arr 40.69 257 P P 17 27 40.2 +0.2
comp=Z,0.5nm,0.6s,baz=43,slow=7.2,SNR=5.3
CMAR PcP PcP **17 29 42.7 +1.3**
comp=Z,0.3nm,0.4s,baz=9.6,slow=3.3,SNR=4.9
CMAR LR LR 17 45 58.2
comp=Z,101nm,18.7s,baz=60,slow=38
DGZ Jazzator, Alta 41.02 307 *i* P **P 17 27 44.3 +1.7**
DGZ pmax pmax
comp=Z,6.0nm,0.8s
WMQ Urumqi 41.21 298 P P 17 27 46.5 +2.3
WMQ pP sP 17 27 59.5 +3.8
WMQ sP pP 17 28 04.5 +12
WMQ PcP PcP **17 29 44.5 +1.7**
WMQ pmax pmax
comp=Z,10.0nm,0.7s
WMQ pmax pmax
comp=Z,71nm,3.8s
WMQ LR LR
comp=Z,78nm,23.1s
WMQ LR LR
comp=Z,22nm,18.5s
WMQ LR LR
comp=Z,49nm,19.9s
LSA Lhasa 41.95 277 *e*P **P 17 27 47.7 -3.2**
LSA pmax pmax
comp=Z,11nm,0.8s
LSA Lhasa 41.95 277 *e*P **P 17 27 47.7 -3.2**
comp=Z,11nm,0.8s
ZAA0 Zalesovo Array 42.71 314 *e*P **P 17 27 55.8 -0.4**
ZALV Zalesovo Beam 42.71 314 P **P 17 27 56.5 +0.3**
comp=Z,2.5nm,0.7s,baz=90,slow=7.2,SNR=11
ZALV PcP **PcP 17 29 47.8 +0.3**
comp=Z,1.2nm,0.6s,baz=101,slow=4.6,SNR=3.8
NVS Novosibirsk 43.67 315 *e*P **P 17 28 02.6 -1.3**
NVS *e* 17 29 45.5
NVS pmax pmax
comp=Z,10.0nm,1.0s
NVS pmax pmax
comp=N,2.0nm,0.8s
NVS pmax pmax
comp=E,4.0nm,0.8s
NRIK Noril'sk 44.57 336 LR LR 17 48 10.5
comp=E,76nm,18.2s,baz=109,slow=38
MK01 Makanchi Array 44.63 303 *e*P **P 17 28 11.1 -0.7**
MK31 Makanchi Array 44.64 303 *e*P **P 17 28 11.7 -0.1**
MK31 Makanchi Array 44.64 303 *e*P **P 17 28 11.7 -0.1**
MKAR Makanchi Array 44.64 303 P **P 17 28 12.3 +0.5**
comp=E,2.6nm,0.6s,baz=84,slow=8.2,SNR=17
MKAR Makanchi Array 44.64 303 *e*P **P 17 28 11.7 -0.1**
MKAR pmax pmax
comp=Z,27nm,0.7s
MKAR Makanchi Array 44.64 303 *e*P **P 17 28 11.7 -0.1**
comp=Z,27nm,0.7s
TAPN Taplejung 45.65 275 *e*P **P 17 28 21.0 +0.6**
comp=Z,7.5nm,0.4s
ODAN Odare 46.11 275 *e*P **P 17 28 23.8 -0.2**
comp=Z,12nm,0.7s
KURK Kurchatov 46.61 309⇓ *i*P **P 17 28 27.5 +0.2**
KURK pmax pmax
comp=Z,50nm,1.2s
RAMN Ramite 46.71 275 *e*P **P 17 28 28.8 +0.1**
comp=Z,31nm,0.6s
JIRN Jiri 46.76 276 *e*P **P 17 28 29.6 +0.4**
comp=Z,235nm,0.7s
GUN Gumba 46.91 277 *e*P **P 17 28 30.6 +0.2**
comp=Z,24nm,0.7s
PDGK Podgornoye 47.17 299 P **P 17 28 27.4 -4.6**
PDGK pmax pmax
comp=Z,10.0nm,0.7s
PKI Pulchoki 47.43 277 *e*P **P 17 28 34.4 0.0**
PKIN Phulchoki 47.43 277 *e*P **P 17 28 35.3 +0.9**
comp=Z,19nm,0.7s
KKN Kakani 47.44 277 *e*P **P 17 28 34.6 +0.2**
comp=Z,17nm,0.8s
SOEI Soe 47.59 202 *e*P **P 17 28 35.8 +0.4**
comp=Z,26nm,1.0s
GKN Gorkha 47.88 278 *e*P **P 17 28 37.9 +0.2**
comp=Z,42nm,1.0s
DANN Dangsing 48.45 278 *e*P **P 17 28 43.2 +0.9**
comp=Z,7.3nm,1.0s
KOLN Koldanda 48.81 278 *e*P **P 17 28 45.2 +0.2**
comp=Z,12nm,0.8s
COEN Coen 49.14 177 *e*P **P 17 28 48.2 +1.0**
comp=Z,4.9nm,0.8s
PYUN Piuthan 49.17 279 *e*P **P 17 28 48.1 +0.4**
comp=Z,82nm,1.0s
MDM Murphy Dome 50.52 31 *e*P **P 17 28 57.9 +0.7**
comp=Z,8.4nm,0.9s
KSH Kashi 50.69 295 *e*P **P 17 29 03.0 +4.0**
KSH pP sP 17 29 16.0 +5.3
KSH PcP **PcP 17 30 19.0 +2.9**
KSH S **S 17 36 14.8 +2.2**
KSH sS sS 17 36 35.8 +9.4
KSH SS **SS 17 39 47.8 +1.0**
KSH pmax pmax
comp=Z,6.0nm,1.3s
KSH pmax pmax
comp=Z,95nm,7.8s
KSH LR LR
comp=Z,84nm,5.0s
KSH LR LR
comp=Z,80nm,5.8s
KSH LR LR
comp=Z,97nm,5.4s
AAK Ala-Archa 50.90 299⇓ *i*P **P 17 29 02.8 +2.2**
AAK *i* *PP **pP 17 29 08.9 -0.1**
AAK pmax pmax
comp=Z,8.0nm,1.0s
AAK Ala-Archa 50.90 299 *e*P **P 17 28 58.8 -1.8**
comp=Z,3.9nm,1.0s
ILAR Eielson Array 51.09 32 P **P 17 29 01.9 +0.4**
comp=Z,2.3nm,0.6s,baz=263,slow=6.0,SNR=25
ILB Eielson Array 51.09 32 *e*P **P 17 29 01.3 -0.2**
IL1 Eielson Array 51.10 32 *e*P **P 17 29 01.4 -0.2**
BRVK Borovoye 51.42 313⇑ *i*P **P 17 29 05.2 +1.1**
BRVK pmax pmax
comp=Z,12nm,1.2s
MNAS Manas 52.35 300 P **P 17 29 12.9 +1.4**
MNAS pmax pmax
comp=Z,5.0nm,1.0s
DOT Dot Lake 52.39 33 *e*P **P 17 29 11.9 +0.6**
comp=Z,39nm,1.8s
KKAR Karatay Array 53.58 301 *e*P **P 17 29 21.5 +1.2**
KKAR pmax pmax
comp=Z,39nm,1.1s
KKAR Karatay Array 53.58 301 *e*P **P 17 29 21.5 +1.2**
comp=Z,39nm,1.1s
WRAB Tennant Creek 55.39 187*c i*P **P 17 29 33.6 +0.1**
WRAB pmax pmax
comp=Z,23nm,1.2s
WRAB Tennant Creek 55.39 187 *e*P **P 17 29 32.4 -1.2**
comp=Z,7.1nm,0.8s
WB2 Warramunga Arr 55.40 187 *e*P **P 17 29 33.2 -0.4**
WRA Warramunga Arr 55.40 187 P **P 17 29 33.0 -0.6**
comp=Z,4.5nm,0.7s,baz=5.0,slow=7.8,SNR=42
WRA Warramunga Arr 55.40 187 P **P 17 29 33.0 -0.6**
WRA pmax pmax
comp=Z,5.0nm,0.7s
SVE Sverdlovsk 56.09 319 *e*P **P 17 29 34.7 -3.5**
ARU Arti 57.30 319*d i*P **P 17 29 46.5 -0.3**
ARU 17 30 35.1
ARU 17 31 50.8
ARU S **S 17 37 43.2 +2.1**
ARU SS **SS 17 41 28.7 -1.3**
ARU pmax pmax
comp=Z,9.0nm,0.8s
ARU Arti 57.30 319 *e*P **P 17 29 44.7 -2.1**
comp=Z,18nm,1.3s
KBL Kabul 57.61 292 P **P 17 29 50.2 +0.6**
KBL pmax pmax
comp=Z,7.0nm,0.9s
ABKAR Akbulak array 58.67 311 *e*P **P 17 29 56.3 -0.2**
comp=Z,35nm,0.6s
AS01 Alice Springs 59.12 187 *e*P **P 17 29 59.4 -0.5**
AS31 Alice Springs 59.12 187 *e*P **P 17 30 00.3 +0.5**
comp=Z,1.2nm,0.6s
ASAR Alice Springs 59.12 187 P **P 17 29 59.1 -0.8**
comp=Z,2.5nm,0.8s,baz=358,slow=5.9,SNR=16
ASAR Alice Springs 59.12 187 *e*P **P 17 30 02.6 +2.7**
ASAR pmax pmax
comp=Z,3.0nm,0.8s
GEYT Alibeck 64.25 299 P **P 17 30 35.5 +0.9**
comp=Z,1.8nm,0.9s,baz=281,slow=0.8,SNR=5.1
KLMR Klimovskoe 64.90 328 *e*P **P 17 30 37.3 -1.0**
KLMR pmax pmax
comp=Z,9.0nm,1.3s
ARCES ARCESS Array B 65.37 340 P **P 17 30 41.9 +0.7**
comp=Z,1.2nm,0.5s,baz=47,slow=8.2,SNR=7.8
DAG Danmarks Havn 67.35 355 *i* P **P 17 30 53.1 -0.7**
comp=Z,1.7nm,0.6s
DAG Danmarks Havn 67.35 355 *e*P **P 17 30 53.1 -0.7**
DAG pmax pmax
comp=Z,1.0nm,0.6s
LPSR Galich'ya Gora 69.28 320 *e*P **P 17 31 05.5 -0.7**
LPSR pmax pmax
comp=Z,5.0nm,0.6s
VSR Storozhevoye 69.87 319 *e*P **P 17 31 09.0 -0.9**
VSR pmax pmax
comp=Z,10.0nm,1.2s
FINES FINESS Array B 70.05 332 P **P 17 31 11.0 +0.2**
comp=Z,3.0nm,0.7s,baz=58,slow=6.0,SNR=18
KBZ Khabaz 71.64 311 P **P 17 31 21.3 +0.5**
comp=Z,5.3nm,0.9s,baz=69,slow=3.0,SNR=7.2
KIV Kislovodsk 71.65 311⇑ *e*P **P 17 31 21.3 +0.3**
KIV pmax pmax
comp=Z,14nm,1.0s
SUMG Summit 72.31 360 *i* P **P 17 31 25.9 +1.1**
comp=Z,13nm,1.0s
SUMG Summit 72.31 360 *i* P **P 17 31 25.9 +1.1**
SUMG pmax pmax
comp=Z,13nm,1.0s
K05A Summer Lake 72.31 50 *e*P **P 17 31 27.3 +2.2**
comp=Z,12nm,1.2s
AKASG Malin Array Be 75.32 322 P **P 17 31 42.2 -0.1**
comp=Z,1.8nm,0.5s,baz=48,slow=6.0,SNR=9.5
AKBB Malin Array Si 75.32 322 *e*P **P 17 31 41.9 -0.4**
AKBB pmax pmax
comp=Z,5.0nm,0.8s
AKBB Malin Array Si 75.32 322 *e*P **P 17 31 41.9 -0.4**
comp=Z,4.9nm,0.8s
KIEV Kiev 75.33 322⇓ *i*P **P 17 31 42.9 +0.5**
KIEV *i* *PP **pP 17 31 49.0 -2.1**
KIEV pmax pmax
comp=Z,4.0nm,0.9s
NC204 NORSAR Array S 75.48 338 *e*P **P 17 31 43.5 +0.4**
NB2 NORSAR Subarra 75.52 337 P **P 17 31 43.5 +0.2**
comp=Z,4.6nm,0.7s,baz=41,slow=6.2
R11A Troy Canyon, C 78.10 51 *e*P **P 17 32 00.1 +1.6**
comp=Z,9.2nm,1.9s
DUG Dugway, Tooele 78.74 49 P **P 17 32 03.8 +1.8**
DUG pmax pmax
comp=Z,5.0nm,1.9s
BW06 Boulder Array 79.11 45 *e*P **P 17 32 04.5 +0.5**
PDAR Pinedale Array 79.11 45 P **P 17 32 03.6 -0.4**
comp=Z,0.9nm,0.6s,baz=267,slow=2.6,SNR=8.8
BRTR Keskin Array B 79.61 312 P **P 17 32 07.3 +0.6**
comp=Z,1.7nm,0.9s,baz=98,slow=8.9,SNR=6.0
BR231 Keskin MP Arra 80.06 312 *e*P **P 17 32 07.3 -1.8**
PFO Pinyon Flats O 80.30 56 P **P 17 32 11.7 +1.1**
PFO pmax pmax
comp=Z,9.0nm,1.4s
KNB Kanab 80.66 51 *e*P **P 17 32 14.4 +1.9**
KNB pmax pmax
comp=Z,15nm,1.7s
KNB Kanab 80.66 51 *e*P **P 17 32 14.4 +1.9**
comp=Z,15nm,1.7s
SRU San Rafael Swe 80.81 48 *e*P **P 17 32 14.1 +0.8**
SRU pmax pmax
comp=Z,3.0nm,0.8s
SRU San Rafael Swe 80.81 48 *e*P **P 17 32 14.1 +0.8**
comp=Z,3.4nm,0.8s
ULM Lac du Bonnet 81.09 33 LR LR 18 07 38.4
comp=Z,16nm,21.6s,baz=352,slow=35
MORC Moravsky Berou 81.48 327 P **P 17 32 17.3 +0.8**
MORC pmax pmax
comp=Z,22nm,2.1s
BRG Berggiesshubel 82.23 329 *e*P **P 17 32 20.7 +0.4**
comp=Z,4.4nm,1.1s
BRG *e* 17 32 27.1
comp=Z,3.1nm,0.8s
BRG Berggiesshubel 82.23 329 *e*P **P 17 32 20.7 +0.4**
BRG *e* 17 32 27.1
BRG pmax pmax
comp=Z,4.0nm,1.1s
CLL Collm 82.29 330⇓ *i*P **P 17 32 20.7 +0.1**
CLL *i* 17 32 26.8
CLL pmax pmax
comp=Z,5.0nm,0.8s
CLL Collm 82.29 330⇓ *i*P **P 17 32 20.7 +0.1**
comp=Z,5.0nm,0.8s
CLL *i* PcP **PcP 17 32 26.8 +1.0**
CLL *e*pP **sP 17 32 33.0 +0.5**
CLL Collm 82.29 330 *e*P **P 17 32 18.5 -2.1**
KHC Kasperske Hory 83.70 328 *e*P **P 17 32 28.0 0.0**
KHC *e*PCP **PcP 17 32 34.0 +1.9**
KHC Kasperske Hory 83.70 328 *e*P **P 17 32 28.0 0.0**
KHC *e* 17 32 34.0
VTS Vitosha 83.76 319 *e*P **P 17 32 27.5 -1.1**
VTS Vitosha 83.76 319 *e*P **P 17 32 27.4 -1.1**
GERES GERESS Array B 83.86 328 P **P 17 32 29.2 +0.3**
comp=Z,0.9nm,0.7s,baz=49,slow=6.1,SNR=6.5
GERES LR LR 18 14 03.2
comp=Z,43nm,18.1s,baz=15,slow=39
GEA0 GERESS Array S 83.87 328 *e*P **P 17 32 28.4 -0.5**
BFO Black Forest 86.51 330 *i* P **P 17 32 42.8 +0.7**
TXAR Lajitas Array 91.45 52 P **P 17 33 05.0 -0.9**
comp=Z,0.8nm,0.8s,baz=299,slow=2.6,SNR=5.4
TXAR Lajitas Array 91.45 52 *e*P **P 17 33 07.0 +1.1**
TXAR pmax pmax
comp=Z,1.0nm,0.8s
KEST Kesra 96.05 322 LR LR 18 21 49.4
comp=Z,55nm,19.4s,baz=288,slow=39
TORD Torodi Ar. Bea 118.16 314 PKP **PKPdf 17 38 46.0 -0.8**
comp=Z,0.6nm,0.5s,baz=7.5,slow=2.0,SNR=4.2
LPAZ La Paz 147.87 61 PKPbc **PKPbc 17 39 46.4 +0.9**
comp=Z,4.4nm,0.8s,baz=350,slow=4.3,SNR=15

IDC 30 17:23:54.3±3.8, 6°55S×148°25E, h0km, mb2.9/1, mb1 3.3/2, mb1mx3.1/25, mbtmp3.0/2, ML3.2/1, Error ellipse: s-maj=134.4km s-min=47.1km az=114.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**18.97**	**224**	P	P	Pn	17 28 18.0	0.0
	0.1nm,0.3s,baz=48,slow=11,SNR=6.7							
ASAR	**Alice Springs**	**21.91**	**218**	P	P	P	17 28 48.8	-0.5
	0.3nm,0.5s,baz=53,slow=9.1,SNR=16							
TORD	**Torodi Ar. Bea**	**146.43**	**284**	PKPbc	PKPdf	PKPdf	17 43 37.7	+0.5
	0.3nm,0.4s,baz=76,slow=3.1,SNR=5.8							

OBM 30 17:26:43.1±1.0, 45°54N×103°53E, h2km, Ml3.8, Error ellipse: s-maj=31.9km s-min=3.0km az=36.0, Mongolia

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
DZBM		**1.85**	**158**	*e*Pg	Pn	Pn	17 27 15.9	-0.1
DZBM				*e*Sg	Sn	Sn	17 27 39.3	-0.8
	288nm,0.3s							

WEL 30 17:44:42.3±0.6, 36°29S×178°44E, h12km, ML3.5/12, 1C-1D, Error ellipse: s-maj=8.6km s-min=4.9km az=90.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**1.27**	**185**	P*	Pn	Pn	17 45 04.0	-1.9
MXZ				S*	Sb	Sb	17 45 18.2	-4.2
MXZ				AML	AML	AML	17 45 20.3	
WMGZ	**Waiomatatini S**	**1.52**	**181**	PN	Pn	Pn	17 45 08.5	-0.8
WMGZ				SN	Sn	Sn	17 45 28.3	-0.8
WMGZ				AML	AML	AML	17 45 32.2	
HAZ	**Te Kaha**	**1.55**	**200**	P*	Pn	Pn	17 45 07.3	-2.4
HAZ				S*	Sn	Sn	17 45 26.0	-3.8
HAZ				AML	AML	AML	17 45 27.9	
HAZ				AML	AML	AML	17 45 29.0	
HAZ				AML	AML	AML	17 45 35.5	
PKGZ	**Pakihiroa**	**1.62**	**190**	PN	Pn	Pn	17 45 09.4	-1.3
PKGZ				SN	Sn	Sn	17 45 29.6	-1.9
RUGZ	**Raukumara Rang**	**1.78**	**200**	P*	Pn	Pn	17 45 11.7	-1.2
PUZ	**Puketiti**	**1.78**	**185**	⇓PN	Pn	Pn	17 45 11.1	-1.8
PUZ				SN	Sn	Sn	17 45 33.3	-2.2
PUZ				AML	AML	AML	17 45 40.4	
TWGZ	**Tauwhareparae**	**1.92**	**191**	PN	Pn	Pn	17 45 13.9	-0.9
TWGZ				SN	Sn	Sn	17 45 39.5	+0.7
TWGZ				AML	AML	AML	17 45 44.7	
MWZ	**Matawai**	**2.16**	**199**	P*	Pn	Pn	17 45 17.1	-1.1
MWZ				S*	Sn	Sn	17 45 39.4	-5.6
OPRZ	**Ohinepanea**	**2.16**	**224**	AML	AML	AML	17 45 17.6	
OPRZ				P*	Pn	Pn	17 45 17.7	-0.4
CNGZ	**Carnagh Statio**	**2.19**	**185**	PN	Pn	Pn	17 45 16.8	-1.8
URZ	**Urewera**	**2.23**	**208**	⇑P*	Pn	Pn	17 45 17.5	-1.6
URZ				S*	Sn	Sn	17 45 39.8	-6.8
URZ				AML	AML	AML	17 45 47.1	
RAGZ	**Rawiri**	**2.35**	**200**	P*	Pn	Pn	17 45 19.4	-1.3
RAGZ				AML	AML	AML	17 45 52.5	
RAGZ				AML	AML	AML	17 45 54.4	
RIGZ	**Rimuhau**	**2.47**	**192**	PN	Pn	Pn	17 45 20.0	-2.3
MUGZ	**Murupara**	**2.56**	**211**	P*	Pn	Pn	17 45 22.0	-1.5
UTU	**Utuhina**	**2.60**	**223**	AML	AML	AML	17 45 51.1	
SNGZ	**Shannon Statio**	**2.63**	**199**	PN	Pn	Pn	17 45 22.8	-1.9
SNGZ				AML	AML	AML	17 45 52.1	
NMHZ	**Naumai**	**3.09**	**204**	PN	Pn	Pn	17 45 28.7	-2.2
NMHZ				AML	AML	AML	17 46 14.9	
KWHZ	**Kaweka Forest**	**3.51**	**206**	P*	Pn	Pn	17 45 33.3	-3.4
KWHZ				AML	AML	AML	17 46 27.1	
KWHZ				AML	AML	AML	17 46 32.3	
BHHZ	**Black Hill Sta**	**3.71**	**210**	P*	Pn	Pn	17 45 36.5	-2.9
WNVZ	**Wahianoa**	**3.77**	**216**	P*	Pn	Pn	17 45 39.4	-1.0
BFZ	**Birch Farm**	**4.71**	**201**	PN	Pn	Pn	17 45 46.8	-6.3
MRZ	**Mangatainoka R**	**4.91**	**206**	PN	Pn	Pn	17 45 50.5	-5.4

*ISCJB **30** 17:45:30.3±0.4, 41°82N±0°02×19°79E±0°03, h10km±3km, Error ellipse: s-maj=4.3km s-min=2.4km az=42.4*
*CSEM **30** 17:45:30.6±0.2, 41°81N×19°75E, h10km, ML2.7, Error ellipse: s-maj=3.8km s-min=2.5km az=44.0*
*PDG **30** 17:45:30.6±0.1, 41°80N×19°77E, h12km, ML2.7/11, Error ellipse: s-maj=0.2km s-min=0.2km az=0.0*
*BEO **30** 17:45:31.2±0.3, 41°78N×19°86E, h10km±3km, M2.3/1*

ISC 30 17:45:30.9±1.0, 41°80N±0°02×19°73E±0°02, h13km±8km, n78, σ0s86/144, 21C-1D, Albania

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
ULC	**Ulcinj**	**0.40**	**295**	⇑*i*Pg	**Pg**		**17 45 38.8**	**-0.1**
ULC				*e*Sg	**Sb**		**17 45 45.5**	**-0.4**
ULC	**Ulcinj**	**0.40**	**295**	⇑*i*Pg	**Pg**		**17 45 38.8**	**-0.1**
ULC				*e*Sg	**Sb**		**17 45 45.5**	**-0.4**
TIR	**Tirane**	**0.46**	**167**	*e*Pg	**Pg**		**17 45 38.0**	**-2.0**
TIR				*e*Sg	**Sb**		**17 45 47.3**	**-0.2**
TIR	**Tirane**	**0.46**	**167**	⇑*i*P	**Pg**		**17 45 39.8**	**-0.2**
TIR	**Tirane**	**0.46**	**167**	S	**Sb**		**17 45 47.6**	**-0.1**
TIR	**Tirane**	**0.46**	**167**	*e*Pg	**Pg**		**17 45 38.0**	**-2.0**
TIR	**Tirane**	**0.46**	**167**	⇑*i*P	**Pg**		**17 45 39.8**	**-0.2**
TIR				*e*Sg	**Sb**		**17 45 47.3**	**-0.2**
DRME	**Dracevica, Mon**	**0.56**	**314**	⇑*i*Pg	**Pg**		**17 45 41.5**	**-0.5**
DRME				*e*Sg	**Sb**		**17 45 50.8**	**+0.2**
DRME	**Dracevica, Mon**	**0.56**	**314**	⇑*i*Pg	**Pg**		**17 45 41.5**	**-0.5**
DRME				*e*Sg	**Sb**		**17 45 50.8**	**+0.2**
PDG	**Podgorica**	**0.73**	**331**	⇑*i*P	**Pg**		**17 45 44.3**	**-0.7**
PDG	**Podgorica**	**0.73**	**331**	⇑*i*Pg	**Pg**		**17 45 44.4**	**-0.6**
PDG				*e*Sg	**Sb**		**17 45 55.8**	**+0.6**
PDG				S	**Sn**		**17 45 56.6**	**-1.2**
TTG	**Podgorica**	**0.73**	**331**	⇑*i*Pg	**Pg**		**17 45 44.4**	**-0.6**
TTG				*e*Sg	**Sb**		**17 45 55.8**	**+0.6**
BUM	**Brajici-Budva**	**0.80**	**309**	⇓*i*Pg	**Pg**		**17 45 45.9**	**-0.6**
BUM				*e*Sg	**Sn**		**17 45 58.9**	**-0.9**
BUM	**Brajici-Budva**	**0.80**	**309**	⇓*i*Pg	**Pg**		**17 45 45.9**	**-0.6**
BUM				*e*Sg	**Sn**		**17 45 58.9**	**-0.9**
PVY	**Plav**	**0.81**	**12**	*e*Pg	**Pg**		**17 45 45.8**	**-0.9**
PVY				*e*Sg	**Sb**		**17 45 58.4**	**+0.5**
PVY	**Plav**	**0.81**	**12**	*e*Pg	**Pg**		**17 45 45.8**	**-0.9**
PVY				*e*Sg	**Sb**		**17 45 58.4**	**+0.5**
CEME	**Cevo**	**0.96**	**321**	⇑*i*Pg	**Pb**		**17 45 48.7**	**-0.8**
CEME				*e*Sg	**Sn**		**17 46 04.3**	**+0.6**
CEME	**Cevo**	**0.96**	**321**	⇑*i*Pg	**Pb**		**17 45 48.7**	**-0.8**
CEME				*e*Sg	**Sn**		**17 46 04.3**	**+0.6**
OHR	**Ohrid**	**1.05**	**130**	*i* Pg	**Pn**		**17 45 52.1**	**+0.7**
OHR				*i* Sg	**Sn**		**17 46 06.8**	**+0.8**
OHR	**Ohrid**	**1.05**	**130**	*i* Pg	**Pn**		**17 45 52.1**	**+0.7**
OHR				*i* Sg	**Sn**		**17 46 06.7**	**+0.8**
KOME	**Kolasin**	**1.07**	**351**	⇑*i*Pg	**Pb**		**17 45 50.6**	**-0.6**
KOME				*e*Sg	**Sn**		**17 46 07.4**	**+1.1**
KOME	**Kolasin**	**1.07**	**351**	⇑*i*Pg	**Pb**		**17 45 50.6**	**-0.6**
KOME				*e*Sg	**Sn**		**17 46 07.4**	**+1.1**
BEY	**Berane**	**1.08**	**6**	⇓*i*Pg	**Pb**		**17 45 50.5**	**-1.0**
BEY				*e*Sg	**Sn**		**17 46 07.2**	**+0.5**
IVA	**Berane**	**1.08**	**6**	⇓*i*Pg	**Pb**		**17 45 50.5**	**-1.0**
IVA				*e*Sg	**Sn**		**17 46 07.2**	**+0.5**
HCY	**Herceg Novi**	**1.13**	**306**	⇓*i*Pg	**Pb**		**17 45 51.8**	**-0.4**
HCY				*e*Sg	**Sn**		**17 46 09.7**	**+2.0**
HCY	**Herceg Novi**	**1.13**	**306**	⇓*i*Pg	**Pb**		**17 45 51.8**	**-0.4**
HCY				*e*Sg	**Sn**		**17 46 08.2**	**+0.5**
NKME	**Niksic**	**1.13**	**329**	⇑*i*Pg	**Pb**		**17 45 51.8**	**-0.5**
NKME				*e*Sg	**Sn**		**17 46 09.6**	**+1.8**
NKME	**Niksic**	**1.13**	**329**	⇑*i*Pg	**Pb**		**17 45 51.8**	**-0.5**
NKME				*e*Sg	**Sn**		**17 46 09.6**	**+1.8**
NKY	**Niksic**	**1.15**	**332**	*e*Pg	**Pb**		**17 45 52.3**	**-0.5**
NKY				*e*Sg	**Sn**		**17 46 10.4**	**+1.9**
NKY	**Niksic**	**1.15**	**332**	*e*Pg	**Pb**		**17 45 52.3**	**-0.5**
NKY				*e*Sg	**Sn**		**17 46 10.4**	**+1.9**
KRUS	**Krusevo**	**1.22**	**110**	*i* Pg	**Pn**		**17 45 52.8**	**-0.9**
KRUS				*i* Sg	**Sg**		**17 46 10.3**	**+0.2**
KRUS	**Krusevo**	**1.22**	**110**	*i* Pg	**Pn**		**17 45 52.7**	**-0.9**
KRUS				*i* Sg	**Sg**		**17 46 10.3**	**+0.2**
SKO	**Skopje**	**1.29**	**82**	*i* Pg	**Pb**		**17 45 54.8**	**-0.1**
SKO				*i* Sg	**Sg**		**17 46 12.7**	**+0.2**
SKO	**Skopje**	**1.29**	**82**	*i* Pg	**Pb**		**17 45 54.8**	**-0.1**
SKO				*i* Sg	**Sg**		**17 46 12.6**	**+0.2**
TREB	**Trebinje**	**1.38**	**312**	*e*Pg	**Pn**		**17 45 56.0**	**+0.2**
TREB				*e*Sg	**Sg**		**17 46 15.9**	**+0.6**
BRY	**Bratogost**	**1.42**	**322**	⇓*i*Pg	**Pb**		**17 45 57.0**	**-0.2**
BRY				*e*Sg	**Sg**		**17 46 18.7**	**+2.2**
BRY	**Bratogost**	**1.42**	**322**	⇓*i*Pg	**Pb**		**17 45 57.0**	**-0.2**
BRY				*e*Sg	**Sg**		**17 46 17.1**	**+0.6**
BIA	**Bitola**	**1.43**	**122**	*i* Pn	**Pb**		**17 45 57.8**	**+0.4**
BIA				*i* Sn	**Sg**		**17 46 18.8**	**+1.8**
BIA	**Bitola**	**1.43**	**122**	*i* Pn	**Pb**		**17 45 57.8**	**+0.4**
BIA				*i* Sn	**Sg**		**17 46 18.7**	**+1.8**
SJES	**Sjenica**	**1.48**	**7**	*e*Pg	**Pg**		**17 45 59.0**	**-0.3**
SJES				*e*Sg	**Sg**		**17 46 18.7**	**+0.3**
SJES	**Sjenica**	**1.48**	**7**	*e*Pg	**Pg**		**17 45 59.0**	**-0.3**
SJES				*e*Sg	**Sg**		**17 46 18.7**	**+0.3**
UPM	**Unac-Piva**	**1.53**	**337**	*e*Pg	**Pb**		**17 45 59.1**	**-0.2**
UPM				*e*Sg	**Sg**		**17 46 21.5**	**+1.2**
UPM	**Unac-Piva**	**1.53**	**337**	*e*Pn	**Pn**		**17 45 57.9**	**-0.2**
UPM	**Unac-Piva**	**1.53**	**337**	*e*Pg	**Pb**		**17 45 59.1**	**-0.2**
UPM				*e*Sn	**Sb**		**17 46 19.2**	**+0.5**
UPM				*e*Sg	**Sg**		**17 46 21.5**	**+1.2**
PLE	**Pljevlja**	**1.55**	**351**	⇓*i*Pg	**Pn**		**17 45 58.6**	**+0.3**
PLE				*e*Sg	**Sg**		**17 46 21.7**	**+0.7**
PLE	**Pljevlja**	**1.55**	**351**	⇓*i*Pg	**Pn**		**17 45 58.6**	**+0.3**
PLE				*e*Sg	**Sg**		**17 46 21.7**	**+0.7**
SELS	**Selova**	**1.75**	**35**	*e*Pg	**Pn**		**17 46 01.2**	**+0.2**
SELS				*e*Sg	**Sb**		**17 46 25.0**	**+0.2**
IVAS	**Ivanjica**	**1.81**	**10**	*e*Pn	**Pn**		**17 46 02.1**	**+0.4**
IVAS	**Ivanjica**	**1.81**	**10**	*e*Pn	**Pn**		**17 46 02.1**	**+0.4**
BARS	**Barje**	**1.85**	**56**	*e*Pn	**Pn**		**17 46 02.5**	**+0.2**
BARS				*e*Sn	**Sn**		**17 46 26.0**	**+0.4**
BARS	**Barje**	**1.85**	**56**	*e*Pn	**Pn**		**17 46 02.5**	**+0.2**
BARS				*e*Sn	**Sn**		**17 46 26.0**	**+0.4**
BBLS	**Lazići**	**2.08**	**353**	*e*Pn	**Pn**		**17 46 06.3**	**+0.7**
BBLS				*e*Sn	**Sb**		**17 46 33.8**	**-0.5**
BBLS	**Lazići**	**2.08**	**353**	*e*Pn	**Pn**		**17 46 05.3**	**-0.3**
BBLS				*e*Sn	**Sn**		**17 46 31.5**	**+0.1**
GRUS	**Gruza**	**2.21**	**19**	*e*Pn	**Pn**		**17 46 07.4**	**+0.1**
GRUS				*e*Sn	**Sn**		**17 46 35.8**	**+1.3**
GRUS	**Gruza**	**2.21**	**19**	*e*Pn	**Pn**		**17 46 07.4**	**+0.1**
GRUS				*e*Sn	**Sn**		**17 46 35.8**	**+1.3**
DIVS	**Divibare**	**2.31**	**5**	*e*Pn	**Pn**		**17 46 09.3**	**+0.6**
DIVS				*e*Sn	**Sn**		**17 46 37.1**	**+0.1**
DIVS	**Divibare**	**2.31**	**5**	*e*Pn	**Pn**		**17 46 08.5**	**-0.2**
DIVS				*e*Sn	**Sn**		**17 46 37.1**	**+0.1**
BOVS	**Bovan**	**2.34**	**38**	*e*Pn	**Pn**		**17 46 09.2**	**+0.1**
BOVS				*e*Sn	**Sn**		**17 46 37.3**	**-0.4**
BOVS	**Bovan**	**2.34**	**38**	*e*Pn	**Pn

ZAPS	**Zavoj**	**2.60**	**54**	*e*Pn	**Pn**	**17 46 14.2**	**+1.5**
ZAPS				*e*Sn	**Sn**	**17 46 43.4**	**-0.8**
ZAPS	**Zavoj**	**2.60**	**54**	*e*Pn	**Pn**	**17 46 14.2**	**+1.5**
ZAPS				*e*Sn	**Sn**	**17 46 43.4**	**-0.8**
VTS	**Vitosha**	**2.70**	**72**⇑	*i*P	**Pn**	**17 46 14.7**	**+0.6**
VTS	**Vitosha**	**2.70**	**72**⇑	*i*P	**Pn**	**17 46 14.7**	**+0.6**
VTS				S	**Sn**	**17 46 47.9**	**+1.1**
ZAGS	**Zajecar**	**2.73**	**42**	*e*Pn	**Pn**	**17 46 14.9**	**+0.5**
ZAGS				*e*Sn	**Sn**	**17 46 46.6**	**-0.6**
ZAGS	**Zajecar**	**2.73**	**42**	*e*Pn	**Pn**	**17 46 14.9**	**+0.5**
ZAGS				*e*Sn	**Sn**	**17 46 46.6**	**-0.6**
TEKS	**Tekeris**	**2.76**	**357**	*e*Pn	**Pn**	**17 46 14.4**	**-0.4**
TEKS				*e*Sn	**Sn**	**17 46 48.2**	**+0.3**
KUBS	**Kucevo**	**2.98**	**28**	*e*Pn	**Pn**	**17 46 16.8**	**-1.0**
KUBS				*e*Sn	**Sn**	**17 46 52.6**	**-0.7**
KUBS	**Kucevo**	**2.98**	**28**	*e*Pn	**Pn**	**17 46 16.8**	**-1.0**
KUBS				*e*Sn	**Sn**	**17 46 52.6**	**-0.7**
MDVR	**Moldovita**	**3.32**	**25**⇓	*i*P	**Pn**	**17 46 22.9**	**+0.4**
MDVR	**Moldovita**	**3.32**	**25**⇓	*i*P	**Pn**	**17 46 22.9**	**+0.4**
MDVR				S	**Sn**	**17 47 01.9**	**+0.2**
BZS	**Buzias**	**4.06**	**19**⇓	*i*P	**Pn**	**17 46 32.8**	**+0.2**
BZS	**Buzias**	**4.06**	**19**⇓	*i*P	**Pn**	**17 46 32.8**	**+0.2**
BZS				S	**Sn**	**17 47 18.9**	**-1.0**
GZR	**Gura Zlata**	**4.22**	**31**⇑	*i*P	**Pn**	**17 46 35.3**	**+0.4**
GZR	**Gura Zlata**	**4.22**	**31**⇑	*i*P	**Pn**	**17 46 35.3**	**+0.4**
GZR				S	**Sn**	**17 47 22.4**	**-1.7**
NVLJ	**Novalja**	**4.50**	**310**	Sn	**Sn**	**17 47 28.4**	**-2.5**
NVLJ	**Novalja**	**4.50**	**310**	Sn	**Sn**	**17 47 28.4**	**-2.5**
DRGR		**5.43**	**22**⇑	*i*P	**Pn**	**17 46 51.7**	**+0.1**
DRGR		**5.43**	**22**⇑	*i*P	**Pn**	**17 46 51.7**	**+0.1**
DRGR				S	**Sn**	**17 47 52.4**	**-1.5**

*ATH **30** 17:53:15.8, 34.°55N×23.°89E, h33km±1km, ML3.9/3, Error ellipse: s-maj=3.7km s-min=1.9km az=22.0*
*ISCJB **30** 17:53:15.1±0.4, 34.°50N±0.°02×24.°06E±0.°03, h49km±4km, mb4.0/17, Error ellipse: s-maj=4.8km s-min=3.4km az=135.2*
*IDC **30** 17:53:16.3±2.2, 34.°70N×23.°94E, h35km±14km, mb3.9/11, mb1 3.9/14, mb1mx3.6/55, mbtmp4.0/14, ML3.7/3, Error ellipse: s-maj=23.3km s-min=15.7km az=167.0*
*CSEM **30** 17:53:16.4±0.3, 34.°51N×24.°01E, h30km, mb4.2/11, Error ellipse: s-maj=8.6km s-min=4.7km az=29.0*
*HLW **30** 17:53:16.7, 34.°59N×24.°49E, h18km±10km, Md4.1, Ml4.2*
*MOS **30** 17:53:17.6±1.0, 34.°69N×23.°99E, h56km, mb4.4/15, Error ellipse: s-maj=10.3km s-min=4.9km az=81.0*
*THE **30** 17:53:19.7, 34.°74N×24.°02E, h25km, ML3.9/7, Error ellipse: s-maj=1.1km s-min=0.5km az=201.0*
*NIC **30** 17:53:20.0±0.4, 34.°55N×24.°61E, h86km, mb4.2, ML3.5*
*DDA **30** 17:53:30.2, 34.°75N×24.°01E, h26km, Md3.7*

ISC 30 17:53:15.5±1.1**, 34.°51N**±0.°04×**23.°98E**±0.°03**, h32**km±7km**, n193**, σ1°82/244**, mb4.0**/17**, 6C-3D, Crete**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GVD	**Gavdhos**	**0.34**	**15**	P	**Pn**	**17 53 24.3**	**0.0**
GVD				S	**Sb**	**17 53 27.9**	**-1.3**
GVD	**Gavdhos**	**0.34**	**15**	P	**Pn**	**17 53 24.3**	**0.0**
GVD				S	**Sn**	**17 53 30.2**	**+0.1**
GVD	**Gavdhos**	**0.34**	**15**	P	**Pn**	**17 53 24.3**	**0.0**
GVD				S	**Sn**	**17 53 30.1**	**0.0**
SIVA	**Sivas**	**0.85**	**53**	P	**Pb**	**17 53 33.1**	**+1.3**
SIVA				S	**Sb**	**17 53 43.2**	**+0.3**
SIVA	**Sivas**	**0.85**	**53**	P	**Pb**	**17 53 33.1**	**+1.3**
SIVA				S	**Sb**	**17 53 43.2**	**+0.3**
SIVA	**Sivas**	**0.85**	**53**	P	**Pb**	**17 53 33.1**	**+1.3**
SIVA				S	**Sb**	**17 53 46.4**	**+3.5**
SIVA	comp=E,27319μm,0.8s			AML	AML	17 53 47.7	
SIVA	comp=N,20858μm,0.6s			AML	AML	17 53 49.2	
VAM	**Vamos**	**0.91**	**11**	P	**Pb**	**17 53 32.6**	**-0.3**
VAM				S	**Sn**	**17 53 42.6**	**-1.6**
VAM	**Vamos**	**0.91**	**11**	P	**Pb**	**17 53 32.6**	**-0.3**
VAM				S	**Sn**	**17 53 42.6**	**-1.6**
VAM	**Vamos**	**0.91**	**11**	P	**Pb**	**17 53 32.7**	**-0.2**
VAM				S	**Sn**	**17 53 42.6**	**-1.6**
VAM	**Vamos**	**0.91**	**11**	P	**Pb**	**17 53 32.8**	**0.0**
IMMV	**Iera Moni Meta**	**0.95**	**360**	P	**Pb**	**17 53 33.3**	**-0.2**
IMMV				S	**Sn**	**17 53 43.8**	**-1.3**
IMMV	**Iera Moni Meta**	**0.95**	**360**	P	**Pb**	**17 53 33.6**	**+0.1**
IMMV				S	**Sb**	**17 53 47.4**	**+1.7**
IMMV	**Iera Moni Meta**	**0.95**	**360**	P	**Pb**	**17 53 33.8**	**+0.3**
IMMV				S	**Sb**	**17 53 47.5**	**+1.7**
IMMV	comp=E,28431μm,0.5s			AML	AML	17 53 49.8	
IMMV	comp=N,18610μm,0.6s			AML	AML	17 53 50.5	
IDI	**Anoyia**	**1.08**	**44**	Pg	**Pn**	**17 53 34.6**	**+0.1**
IDI	comp=N,76nm,0.3s,baz=222,slow=14,SNR=135			Lg	Lg	17 53 50.3	
IDI	comp=N,116nm,0.3s,baz=29,slow=19,SNR=11			LR	LR	17 54 17.8	
IDI	comp=N,230nm,20.0s,baz=266,slow=63						
IDI	**Anoyia**	**1.08**	**44**	P	**Pb**	**17 53 35.6**	**-0.1**
IDI				S	**Sn**	**17 53 48.5**	**+0.1**
IDI	**Anoyia**	**1.08**	**44**	P	**Pb**	**17 53 35.6**	**-0.1**
IDI				S	**Sn**	**17 53 48.5**	**+0.1**
IDI	**Anoyia**	**1.08**	**44**	P	**Pn**	**17 53 34.7**	**+0.3**
IDI				S	**Sb**	**17 53 50.0**	**+0.5**
IDI	comp=E,3947μm,0.5s			AML	AML	17 53 58.8	
IDI	comp=N,3150μm,0.7s			AML	AML	17 53 59.5	
IACM	**Heraklion**	**1.20**	**48**	P	**Pb**	**17 53 40.3**	**+2.7**
IACM	**Heraklion**	**1.20**	**48**	P	**Pb**	**17 53 40.3**	**+2.7**
LAST	**Lasithi**	**1.39**	**62**	P	**Pb**	**17 53 41.2**	**+0.2**
LAST				S	**Sn**	**17 53 57.2**	**+1.0**
LAST	**Lasithi**	**1.39**	**62**	P	**Pb**	**17 53 41.8**	**+0.8**
LAST				S	**Sn**	**17 53 57.2**	**+1.0**
LAST	**Lasithi**	**1.39**	**62**	P	**Pb**	**17 53 41.8**	**+0.8**
ANKY	**Antikythira Is**	**1.46**	**338**	P	**Pn**	**17 53 40.9**	**+1.2**
ANKY				S	**Sn**	**17 53 57.4**	**-0.4**
ANKY	**Antikythira Is**	**1.46**	**338**	P	**Pb**	**17 53 41.6**	**-0.5**
ANKY				S	**Sn**	**17 53 57.4**	**-0.4**
ANKY	**Antikythira Is**	**1.46**	**338**	P	**Pb**	**17 53 41.9**	**-0.3**
NPS	**Neapolis**	**1.54**	**60**	P	**Pb**	**17 53 43.2**	**-0.2**
NPS				S	**Sn**	**17 54 00.8**	**+1.2**
NPS	**Neapolis**	**1.54**	**60**	P	**Pb**	**17 53 43.2**	**-0.2**
NPS				S	**Sn**	**17 54 00.8**	**+1.2**
NPS	**Neapolis**	**1.54**	**60**	P	**Pb**	**17 53 43.2**	**-0.2**
NPS				S	**Sn**	**17 54 00.8**	**+1.2**
NPS	**Neapolis**	**1.54**	**60**	P	**Pb**	**17 53 43.2**	**-0.2**
ZKR	**Zakros**	**1.94**	**71**	P	**Pb**	**17 53 49.5**	**-0.7**
ZKR	**Zakros**	**1.94**	**71**	P	**Pb**	**17 53 49.5**	**-0.7**
THR6	**Thira Island,**	**2.17**	**32**	P	**Pn**	**17 53 51.2**	**+1.7**
THR6	**Thira Island,**	**2.17**	**32**	P	**Pn**	**17 53 51.2**	**+1.7**
MHLO	**Agia Marina, M**	**2.20**	**9**	P	**Pn**	**17 53 50.7**	**+0.8**
MHLO				S	**Sn**	**17 54 14.6**	**-1.4**
MHLO	**Agia Marina, M**	**2.20**	**9**	P	**Pn**	**17 53 50.7**	**+0.8**
MHLO				S	**Sn**	**17 54 14.6**	**-1.4**
THR5	**Thira Island,**	**2.21**	**30**	P	**Pn**	**17 53 51.0**	**+1.1**
THR5	**Thira Island,**	**2.21**	**30**	P	**Pn**	**17 53 51.0**	**+1.1**
THR3	**Thira Island,**	**2.22**	**31**	P	**Pn**	**17 53 51.5**	**+1.4**
THR3	**Thira Island,**	**2.22**	**31**	P	**Pn**	**17 53 51.5**	**+1.4**
VLI	**Veliai**	**2.36**	**339**	P	**Pn**	**17 53 53.1**	**+1.0**
VLI	**Veliai**	**2.36**	**339**	P	**Pn**	**17 53 53.1**	**+1.0**
KARP	**Karpathos**	**2.81**	**67**	*e*PN	**Pn**	**17 54 00.1**	**+1.9**
KARP	**Karpathos**	**2.81**	**67**	P	**Pn**	**17 54 00.7**	**+2.5**
KARP	**Karpathos**	**2.81**	**67**	*e*Pn	**Pn**	**17 54 00.1**	**+1.9**
KARP	**Karpathos**	**2.81**	**67**	P	**Pn**	**17 54 00.7**	**+2.5**
APE	**Apeiranthos**	**2.85**	**26**	*e*PN	**Pn**	**17 53 58.8**	**0.0**
APE	**Apeiranthos**	**2.85**	**26**	P	**Pn**	**17 53 59.2**	**+0.4**
APE				S	**Sn**	**17 54 31.2**	**-0.8**
APE	**Apeiranthos**	**2.85**	**26**	*d*P	**Pn**	**17 53 59.2**	**+0.4**
APE	**Apeiranthos**	**2.85**	**26**	*e*Pn	**Pn**	**17 53 58.8**	**0.0**
APE	**Apeiranthos**	**2.85**	**26**	P	**Pn**	**17 53 59.2**	**+0.4**
APE				S	**Sn**	**17 54 31.2**	**-0.8**
PYL	**PYLOS**	**3.00**	**323**	P	**Pn**	**17 54 02.9**	**+2.1**
PYL				S	**Sn**	**17 54 36.5**	**+0.8**
PYL	**PYLOS**	**3.00**	**323**	P	**Pn**	**17 54 02.9**	**+2.1**
PYL				S	**Sn**	**17 54 36.5**	**+0.8**
SLUM	**Salum** baz=168	**3.18**	**161**	P	**Pn**	**17 54 05.4**	**+2.0**
SLUM	**Salum**	**3.18**	**161**	P	**Pn**	**17 54 05.4**	**+2.0**
VLY	**Voula,Athens**	**3.34**	**357**	P	**Pn**	**17 54 06.2**	**+0.7**
VLY				S	**Sn**	**17 54 43.1**	**-1.0**
VLY	**Voula,Athens**	**3.34**	**357**	P	**Pn**	**17 54 06.2**	**+0.7**
VLY				S	**Sn**	**17 54 43.1**	**-1.0**
ATH	**Athens Observa**	**3.46**	**357**	P	**Pn**	**17 54 10.4**	**+3.2**
ATH	**Athens Observa**	**3.46**	**357**	P	**Pn**	**17 54 10.4**	**+3.2**
AMT	**Artemida-Makis**	**3.53**	**329**	P	**Pn**	**17 54 10.4**	**+2.2**
AMT	**Artemida-Makis**	**3.53**	**329**	P	**Pn**	**17 54 10.4**	**+2.2**
DAT	**Datca**	**3.67**	**52**	*e*PN	**Pn**	**17 54 11.2**	**+1.0**
DAT	**Datca**	**3.67**	**52**	*i*P	**Pn**	**17 54 11.7**	**+1.5**
DAT				*i*S	**Sn**	**17 54 50.4**	**-2.1**
DAT	**Datca**	**3.67**	**52**	*e*Pn	**Pn**	**17 54 11.2**	**+1.0**
DAT	**Datca**	**3.67**	**52**	P	**Pn**	**17 54 11.7**	**+1.5**
DAT				S	**Sn**	**17 54 50.4**	**-2.1**
ARG	**Arkhangelos**	**3.79**	**62**	P	**Pn**	**17 54 13.7**	**+2.0**
ARG	**Arkhangelos**	**3.79**	**62**	P	**Pn**	**17 54 13.7**	**+2.0**
ARG	**Arkhangelos**	**3.79**	**62**	P	**Pn**	**17 54 13.7**	**+2.0**
KLV	**Kalavryta, Ach**	**3.82**	**338**	P	**Pn**	**17 54 13.6**	**+1.4**
KLV	**Kalavryta, Ach**	**3.82**	**338**	P	**Pn**	**17 54 13.8**	**+1.6**
LAKA	**Lakka**	**4.06**	**337**	P	**Pn**	**17 54 16.7**	**+1.3**
LAKA	**Lakka**	**4.06**	**337**	P	**Pn**	**17 54 17.0**	**+1.5**
KALE	**Kalithea**	**4.15**	**340**	P	**Pn**	**17 54 17.9**	**+1.2**
KALE	**Kalithea**	**4.15**	**340**	P	**Pn**	**17 54 18.1**	**+1.4**
ANX	**Ano Chora**	**4.40**	**338**	P	**Pn**	**17 54 21.6**	**+1.4**
ANX				S	**Sn**	**17 55 10.5**	**+0.1**
ANX	**Ano Chora**	**4.40**	**338**	P	**Pn**	**17 54 21.6**	**+1.4**
ANX				S	**Sn**	**17 55 10.5**	**+0.1**
SMIA	**Simia**	**4.40**	**352**	P	**Pn**	**17 54 21.1**	**+0.9**
SMIA	**Simia**	**4.40**	**352**	P	**Pn**	**17 54 21.1**	**+0.9**
TURN	**Turunc**	**4.44**	**57**	*i*P	**Pn**	**17 54 18.0**	**-2.6**
TURN				*i*S	Sn	17 55 01.4	-10
TURN	**Turunc**	**4.44**	**57**	P	**Pn**	**17 54 18.0**	**-2.6**
DALY	**Dalyan (Mu˘la**	**4.45**	**57**	*e*PN	**Pn**	**17 54 21.6**	**+0.9**
DALY	**Dalyan (Mu˘la**	**4.45**	**57**	*i*P	**Pn**	**17 54 23.1**	**+2.4**
DALY				*i*S	**Sn**	**17 55 08.7**	**-2.6**
DALY	**Dalyan (Mu˘la**	**4.45**	**57**	*e*Pn	**Pn**	**17 54 21.6**	**+0.9**
DALY	**Dalyan (Mu˘la**	**4.45**	**57**	P	**Pn**	**17 54 23.1**	**+2.4**
DALY				S	**Sn**	**17 55 08.7**	**-2.6**
VLS	**Valsamata**	**4.57**	**324**	P	**Pn**	**17 54 25.2**	**+2.8**
VLS	**Valsamata**	**4.57**	**324**	P	**Pn**	**17 54 25.2**	**+2.8**
AGG	**Agios Georgios**	**4.69**	**344**	*e*PN	**Pn**	**17 54 24.9**	**+0.7**
AGG	**Agios Georgios**	**4.69**	**344**	P	**Pn**	**17 54 25.6**	**+1.4**
AGG	**Agios Georgios**	**4.69**	**344**	*e*Pn	**Pn**	**17 54 24.9**	**+0.7**
AGG	**Agios Georgios**	**4.69**	**344**	P	**Pn**	**17 54 25.6**	**+1.4**
AKAS	**Kas**	**4.91**	**68**	*e*PN	**Pn**	**17 54 28.0**	**+0.8**
AKAS	**Kas**	**4.91**	**68**	*i*P	**Pn**	**17 54 27.8**	**+0.7**
AKAS				*i*S	**Sn**	**17 55 20.0**	**-2.9**
AKAS	**Kas**	**4.91**	**68**	*e*Pn	**Pn**	**17 54 28.0**	**+0.8**
AKAS				S	**Sn**	**17 55 20.0**	**-2.9**
TAVA	**DENIZLI_Tavas**	**4.97**	**52**	*i*P	**Pn**	**17 54 30.8**	**+2.8**
TAVA	**DENIZLI_Tavas**	**4.97**	**52**	P	**Pn**	**17 54 30.8**	**+2.8**
LKD2	**Lefkada island**	**5.04**	**329**	P	**Pn**	**17 54 30.9**	**+2.0**
LKD2	**Lefkada island**	**5.04**	**329**	P	**Pn**	**17 54 30.9**	**+2.0**
PRK	**Paraskevi**	**5.07**	**21**	P	**Pn**	**17 54 30.7**	**+1.4**
PRK	**Paraskevi**	**5.07**	**21**	P	**Pn**	**17 54 30.7**	**+1.4**
GLHS	**Glhisar (BURDU**	**5.20**	**58**	*e*PN	**Pn**	**17 54 32.1**	**+0.9**
GLHS	**Glhisar (BURDU**	**5.20**	**58**	*e*Pn	**Pn**	**17 54 32.1**	**+0.9**
GOLH	**Golhisar**	**5.28**	**57**	*i*P	**Pn**	**17 54 34.3**	**+2.0**
GOLH				*i*S	**Sn**	**17 55 29.7**	**-2.5**
GOLH	**Golhisar**	**5.28**	**57**	P	**Pn**	**17 54 34.3**	**+2.0**
GOLH				S	**Sn**	**17 55 29.7**	**-2.5**
ELL	**Elmali**	**5.32**	**63**	*e*PN	**Pn**	**17 54 33.9**	**+1.1**
ELL	**Elmali**	**5.32**	**63**	*e*Pn	**Pn**	**17 54 33.9**	**+1.1**
SWA2	baz=170	**5.40**	**166**	P	**Pn**	**17 54 36.0**	**+2.1**
SWA2	comp=N,670μm,0.3s,logA/T=6.4,baz=170			AMP		17 55 00.0	
SWA2	baz=170			S	**Sn**	**17 55 34.0**	**-0.8**
LIT	**Litokhoron**	**5.71**	**348**	P	**Pn**	**17 54 39.5**	**+1.5**
KORT	**Korkueli**	**5.74**	**63**	*e*PN	**Pn**	**17 54 39.7**	**+1.0**
KORT	**Korkueli**	**5.74**	**63**	*i*P	**Pn**	**17 54 40.8**	**+2.1**
KORT				*i*S	**Sn**	**17 55 40.6**	**-3.0**
KORT	**Korkueli**	**5.74**	**63**	*e*Pn	**Pn**	**17 54 39.7**	**+1.0**
OUR	**Ouranopolis**	**5.81**	**0**	*e*PN	**Pn**	**17 54 39.6**	**+0.1**
OUR	**Ouranopolis**	**5.81**	**0**	P	**Pn**	**17 54 40.8**	**+1.3**
PLG	**Polygyros**	**5.87**	**356**	P	**Pn**	**17 54 42.2**	**+1.9**
KZN	**Kozani**	**6.05**	**344**	P	**Pn**	**17 54 46.4**	**+3.6**
HORT	**Hortiatis**	**6.12**	**354**	*e*PN	**Pn**	**17 54 44.2**	**+0.4**
SUTC	**Sutluce-Ispart**	**6.41**	**61**	*e*PN	**Pn**	**17 54 48.8**	**+0.9**
SUTC	**Sutluce-Ispart**	**6.41**	**61**	*e*Pn	**Pn**	**17 54 48.8**	**+0.9**
GRG	**Griva**	**6.55**	**349**	*e*PN	**Pn**	**17 54 50.1**	**+0.3**
GRG	**Griva**	**6.55**	**349**	P	**Pn**	**17 54 51.2**	**+1.5**
FNA	**Florina**	**6.59**	**343**	*e*PN	**Pn**	**17 54 50.9**	**+0.6**
FNA	**Florina**	**6.59**	**343**	P	**Pn**	**17 54 50.6**	**+0.3**
KNT	**Kendrikon**	**6.70**	**353**	*e*PN	**Pn**	**17 54 51.7**	**+0.1**
KNT	**Kendrikon**	**6.70**	**353**	P	**Pn**	**17 54 54.2**	**+2.6**
AKMC	**Akamas**	**6.89**	**83**	P	**Pn**	**17 54 53.2**	**-1.1**
AKMC	**Akamas** baz=267	**6.89**	**83**	P	**Pn**	**17 54 53.2**	**-1.1**
PPCY	**Paphos**	**6.90**	**85**	P	**Pn**	**17 54 52.6**	**-1.8**
PPCY	**Paphos** baz=269	**6.90**	**85**	P	**Pn**	**17 54 52.6**	**-1.8**
ALFC	**Alefka**	**7.12**	**82**	P	**Pn**	**17 54 56.4**	**-1.0**
ALFC				S	**Sn**	**17 56 11.0**	**-6.2**
ALFC	**Alefka** baz=267	**7.12**	**82**	P	**Pn**	**17 54 56.4**	**-1.0**
ALFC				S	**Sn**	**17 56 11.0**	**-6.2**
MAMC	**Mammari**	**7.62**	**82**	P	**Pn**	**17 55 04.5**	**+0.1**
MAMC	**Mammari** baz=267	**7.62**	**82**	P	**Pn**	**17 55 04.5**	**+0.1**
TEKE	**Tekeli-Mersin**	**7.64**	**75**	*e*PN	**Pn**	**17 55 04.0**	**-0.6**
CSS	**Mathiatis**	**7.71**	**84**	P	**Pn**	**17 55 04.6**	**-1.0**
CSS				S	**Sn**	**17 56 27.0**	**-4.8**
CSS	**Mathiatis** baz=269	**7.71**	**84**	P	**Pn**	**17 55 04.6**	**-1.0**
CSS				S	**Sn**	**17 56 27.0**	**-4.8**
BERE	**Bereket-Mersin**	**7.76**	**74**	*e*PN	**Pn**	**17 55 06.2**	**-0.2**
LFK	**Lefkose**	**7.88**	**82**	*e*PN	**Pn**	**17 55 07.5**	**-0.6**
IKL	**Isikli**	**8.11**	**75**	*e*PN	**Pn**	**17 55 11.1**	**+0.1**
KEBE	**Keben-Mersin**	**8.17**	**74**	*e*PN	**Pn**	**17 55 12.0**	**0.0**
HFRF	**Wahat Farafira** baz=155	**8.23**	**152**	P	**Pn**	**17 55 14.0**	**+1.3**
HFRF	comp=N,100μm,0.2s,logA/T=5.7,baz=155			AMP		17 56 00.0	
HFRF	baz=155			S	**Sn**	**17 56 39.8**	**-4.7**
SUZ	**Suez** baz=121	**8.83**	**119**	P	**Pn**	**17 55 19.7**	**-1.3**
RSH	baz=112	**8.94**	**111**	P	**Pn**	**17 55 20.9**	**-1.5**
BRTR	**Keskin Array B** comp=N,0.2nm,0.3s,baz=224,slow=12,SNR=10	**9.30**	**53**	Pn	**Pn**	**17 55 27.2**	**-0.3**
BRTR	**Keskin Array B**	**9.30**	**53**	*e*P	**Pn**	**17 55 29.7**	**+2.2**
HNKL	**Nakhl** baz=117	**9.62**	**116**	P	**Pn**	**17 55 30.8**	**-1.0**
MMAI	**Mount Meron Ar** comp=N,2.0nm,0.3s,baz=274,slow=12,SNR=9.5	**9.63**	**96**	Pn	**Pn**	**17 55 30.2**	**-1.7**
MMAI	comp=N,3.1nm,0.3s,baz=264,slow=22,SNR=6.8			Sn	**Sn**	**17 57 13.5**	**-5.5**
GRB	**Gharib** baz=129	**9.76**	**127**	P	**Pn**	**17 55 33.3**	**-0.5**
HDK1	**Dakhla** baz=153	**10.09**	**151**	P	**Pn**	**17 55 39.8**	**+1.5**
AKRG	**Al Kharijah** baz=148	**10.60**	**146**	P	**Pn**	**17 55 46.6**	**+1.4**
UDBI	**Udbina**	**11.84**	**330**	*e*Pn	**Pn**	**17 56 00.9**	**-1.2**
UDBI				Sn	**Sn**	**17 58 05.9**	**-7.2**
NVLJ	**Novalja**	**12.25**	**328**	Sn	**Sn**	17 58 12.8	-10
ANN	**Anapa**	**14.57**	**41**	*e*P	**Pn**	**17 56 38.0**	**-1.4**
ANN				*e*S	**Sn**	**17 59 22.0**	**+2.3**
ANN	comp=Z,24nm,1.0s			pmax	pmax		
GERES	**GERESS Array B** comp=Z,0.1nm,0.3s,baz=152,slow=16,SNR=2.5	**16.23**	**335**	Pn	**Pn**	**17 57 00.7**	**-0.5**
KHC	**Kasperske Hory**	**16.51**	**335**	*e*P	**P**	**17 57 08.5**	**+1.5**
KHC				*ex*	x	17 57 19.5	
KHC	**Kasperske Hory**	**16.51**	**335**	*e*P	**P**	**17 57 08.5**	**+1.5**
KIEV	**Kiev**	**16.62**	**12**⇓	*e*P	**Pn**	**17 57 06.1**	**+0.2**
KIEV	comp=Z,4.0nm,0.9s			pmax	pmax		
AKASG	**Malin Array Be** comp=Z,0.9nm,0.3s,baz=202,slow=11,SNR=5.8	**16.63**	**12**	Pn	**Pn**	**17 57 02.7**	**-3.4**
AKASG	**Malin Array Be**	**16.63**	**12**	*e*P	**Pn**	**17 57 06.7**	**+0.7**
AKASG	comp=Z,2.0nm,0.3s			pmax	pmax		
KIV	**Kislovodsk**	**17.26**	**51**⇑	*e*P	**P**	**17 57 16.5**	**+1.1**
KIV	comp=Z,4.0nm,0.7s			pmax	pmax		
GNI	**Garni**	**17.43**	**65**⇑	*i*P	**P**	**17 57 20.0**	**+2.6**
GNI	comp=Z,62nm,2.5s			pmax	pmax		
BFO	**Black Forest**	**18.07**	**325**	*i*P	**Pn**	**17 57 18.5**	**-5.6**
ESDC	**Sonseca Array** comp=Z,0.4nm,0.4s,baz=84,slow=9.2,SNR=6.8	**22.83**	**291**	P	**P**	**17 58 16.3**	**+0.4**
FINES	**FINESS Array B**	**26.98**	**2**	P	**P**	**17 58 52.3**	**-1.8**
	comp=Z,2.6nm,0.7s,baz=169,slow=10,SNR=8.9						
FINES	**FINESS Array B**	**26.98**	**2**	*e*P	**P**	**17 58 53.4**	**-0.7**
FINES	comp=Z,3.0nm,0.7s			pmax	pmax		
NB2	**NORSAR Subarra** comp=Z,0.7nm,0.5s,baz=153,slow=9.8,SNR=6.4	**27.79**	**347**	P	**P**	**17 59 00.4**	**-1.0**
NB2	**NORSAR Subarra** comp=Z,0.7nm,0.5s,baz=153,slow=10	**27.79**	**347**	P	**P**	**17 59 00.4**	**-1.0**
NOA	**NORSAR Array B** comp=Z,1.1nm,0.6s,baz=146,slow=8.6,SNR=9.1	**27.79**	**347**	P	**P**	**17 59 00.2**	**-1.2**
EKA	**Eskdalemuir Ar** comp=Z,0.5nm,0.4s,baz=123,slow=7.7,SNR=2.7	**28.03**	**326**	P	**P**	**17 59 02.8**	**-0.7**
TORD	**Torodi Ar. Bea** comp=Z,1.0nm,0.5s,baz=35,slow=8.8,SNR=11	**29.33**	**229**	P	**P**	**17 59 17.3**	**+1.8**
AKTO	**Aktyubinsk** comp=Z,2.1nm,0.3s,baz=254,slow=8.2,SNR=13	**29.40**	**47**	P	**P**	**17 59 14.7**	**-1.1**
ARU	**Arti**	**32.15**	**36***c*	*i*P	**P**	**17 59 39.6**	**-0.4**
ARU						18 00 44.0	
ARU				S	**S**	**18 04 55.0**	**+4.6**
ARU				SS	**SnSn**	**18 06 48.7**	**+6.6**
ARU	comp=Z,3.0nm,0.6s			pmax	pmax		
ARU	**Arti** comp=Z,3.0nm,0.6s	**32.15**	**36**	*i*P	**P**	**17 59 39.6**	**-0.4**
SVE	**Sverdlovsk**	**33.35**	**37**	*e*P	**P**	**17 59 50.9**	**+0.4**
SVE	**Sverdlovsk**	**33.35**	**37**	*e*P	**P**	**17 59 50.9**	**+0.4**
ARCES	**ARCESS Array B** comp=Z,1.1nm,0.5s,baz=178,slow=8.5,SNR=11	**35.09**	**1**	P	**P**	**18 00 03.1**	**-2.3**
ARCES	**ARCESS Array B**	**35.09**	**1**	*e*P	**P**	**18 00 03.9**	**-1.5**
ARCES	comp=Z,1.0nm,0.5s			pmax	pmax		
BRVK	**Borovoye** comp=Z,3.0nm,1.0s	**37.44**	**46**⇑	*i*P	**P**	**18 00 26.4**	**+0.8**
BRVK				pmax	pmax		
BRVK	**Borovoye** comp=Z,3.0nm,1.0s	**37.44**	**46**	*i*P	**P**	**18 00 26.4**	**+0.8**
AAK	**Ala-Archa** comp=Z,3.0nm,1.0s	**39.81**	**63***c*	*i*P	**P**	**18 00 47.0**	**+1.1**
AAK				pmax	pmax		
AAK	**Ala-Archa** comp=Z,3.0nm,1.0s	**39.81**	**63**	*i*P	**P**	**18 00 47.0**	**+1.1**
KURK	**Kurchatov** comp=Z,6.0nm,0.9s	**42.34**	**50**⇑	*i*P	**P**	**18 01 06.9**	**+0.5**
KURK				pmax	pmax		
KURK	**Kurchatov** comp=Z,6.0nm,0.9s	**42.34**	**50**	*i*P	**P**	**18 01 06.9**	**+0.5**
MKAR	**Makanchi Array** comp=Z,2.0nm,0.3s,baz=266,slow=7.9,SNR=48	**44.94**	**56**	P	**P**	**18 01 26.6**	**-0.8**
MKAR	**Makanchi Array**	**44.94**	**56**	*e*P	**P**	**18 01 27.7**	**+0.3**
MKAR	comp=Z,2.0nm,0.3s			pmax	pmax		
MKAR	**Makanchi Array** comp=Z,2.0nm,0.3s	**44.94**	**56**	*e*P	**P**	**18 01 27.7**	**+0.3**
ZALV	**Zalesovo Beam** comp=Z,3.9nm,0.4s,baz=267,slow=9.3,SNR=28	**46.15**	**46**	P	**P**	**18 01 36.2**	**-0.6**
DGZ	**Jazzator, Alta** comp=Z,1.0nm,0.7s	**48.04**	**51**	*i*P	**P**	**18 01 52.0**	**+0.2**
DGZ				pmax	pmax		
DGZ	**Jazzator, Alta** comp=Z,1.0nm,0.7s	**48.04**	**51**	*i*P	**P**	**18 01 52.0**	**+0.2**
SONM	**Songino Array** comp=Z,1.4nm,0.5s,baz=284,slow=7.6,SNR=15	**60.65**	**50**

BANOM				S		**Sb**	**18 14 30.3**	**-1.5**	
BANOM	**Banah**	**2.22**	**101**	P		**Pn**	**18 13 59.7**	**-1.1**	
	SNR=54								
BANOM				S		**Sb**	**18 14 30.3**	**-1.5**	
BANOM	**Banah**	**2.22**	**101**	P		**Pn**	**18 13 59.7**	**-1.1**	
	SNR=54								
FAQ	**Al Faqa, Dubai**	**2.25**	**136**	*e*P		**Pn**	**18 14 02.6**	**+1.5**	
	SNR=7.2								
FAQ	**Al Faqa, Dubai**	**2.25**	**136**	P		**Pn**	**18 14 02.6**	**+1.5**	
	SNR=7.2								
UOSS	**Minazif**	**2.54**	**124**	*e*Pn		**Pn**	**18 14 05.7**	**+0.6**	
UOSS	**Minazif**	**2.54**	**124**	P		**Pn**	**18 14 05.1**	**-0.1**	
ASHO	**Ashiyiah**	**2.59**	**130**	*i* P		**Pn**	**18 14 07.0**	**+1.1**	
	SNR=15								
ASHO	**Ashiyiah**	**2.59**	**130**	P		**Pn**	**18 14 07.0**	**+1.1**	
	SNR=15								
ASHO	**Ashiyiah**	**2.59**	**130**	P		**Pn**	**18 14 07.0**	**+1.1**	
	SNR=15								
IBND	**Bandar-abas**	**2.61**	**65**	*e*Pn		Pg	18 14 23.8	+10	
IBND				*e*AMB		AMB	18 14 38.8		
	comp=Z,2µm,0.1s								
IBND	**Bandar-abas**	**2.61**	**65**	*e*Pn		Pg	18 14 23.8	+10	
KHSK	**Kohestak**	**2.87**	**82**	*e*Pn		**Pn**	**18 14 13.0**	**+3.4**	
KHSK	**Kohestak**	**2.87**	**82**	*e*Pn		**Pn**	**18 14 13.0**	**+3.4**	
NIAN	**Nian**	**2.89**	**65**	*e*Pn		**Pn**	**18 14 08.7**	**-1.3**	
NIAN	**Nian**	**2.89**	**65**	*e*Pn		**Pn**	**18 14 08.7**	**-1.3**	
ISRV	**Sarvestan**	**3.07**	**347**	*e*Pn		**Pn**	**18 14 13.3**	**+0.6**	
ISRV				*e*AMB		AMB	18 15 19.3		
	comp=Z,2µm,0.3s								
ISRV	**Sarvestan**	**3.07**	**347**	*e*Pn		**Pn**	**18 14 13.3**	**+0.6**	
IPAR	**Pars**	**3.53**	**348**	*e*Pn		**Pn**	**18 14 18.9**	**-0.1**	
IPAR				*e*AMB		AMB	18 15 22.6		
	comp=Z,641nm,0.3s								
IPAR	**Pars**	**3.53**	**348**	*e*Pn		**Pn**	**18 14 18.9**	**-0.1**	
NGRK	**Negar Kerman**	**4.12**	**37**	*e*Pn		**Pn**	**18 14 28.2**	**+1.0**	
NGRK	**Negar Kerman**	**4.12**	**37**	*e*Pn		**Pn**	**18 14 28.2**	**+1.0**	
KHGB	**Koh Gabri**	**4.59**	**29**	*e*Pn		**Pn**	**18 14 34.0**	**+0.4**	
KHGB	**Koh Gabri**	**4.59**	**29**	*e*Pn		**Pn**	**18 14 34.0**	**+0.4**	
CHMN	**Cheshme madani**	**4.74**	**42**	*e*Pn		**Pn**	**18 14 37.5**	**+1.8**	
CHMN	**Cheshme madani**	**4.74**	**42**	*e*Pn		**Pn**	**18 14 37.5**	**+1.8**	
IMEH	**Mehriz**	**5.04**	**7**	*e*Pn		**Pn**	**18 14 40.1**	**+0.4**	
IMEH				*e*AMB		AMB	18 15 42.6		
	comp=Z,296nm,0.2s								
IMEH	**Mehriz**	**5.04**	**7**	*e*Pn		**Pn**	**18 14 40.1**	**+0.4**	
IBAF	**Bafgh**	**5.40**	**16**	*e*AMB		AMB	18 13 16.3		
	comp=Z,71nm,0.1s								
IBAF				*e*Pn		Pn	**18 14 44.1**	**-0.5**	
IRAM	**Ramesheh**	**5.57**	**347**	*e*Pn		**Pn**	**18 14 46.8**	**-0.2**	
IRAM				*e*AMB		AMB	18 15 55.9		
	comp=Z,284nm,0.1s								
IRAM	**Ramesheh**	**5.57**	**347**	*e*Pn		**Pn**	**18 14 46.8**	**-0.2**	
IGAR	**Gharneh**	**6.21**	**346**	*e*Pn		**Pn**	**18 14 55.9**	**+0.1**	
IGAR				*e*AMB		AMB	18 16 07.5		
	comp=Z,278nm,0.2s								
IZEF	**Zefreh**	**6.63**	**349**	*e*Pn		**Pn**	**18 15 00.4**	**-1.2**	
IZEF				*e*AMB		AMB	18 16 15.3		
	comp=Z,186nm,0.2s								
IZEF	**Zefreh**	**6.63**	**349**	*e*Pn		**Pn**	**18 15 00.4**	**-1.2**	
IPIR	**Pirpir**	**6.80**	**338**	*e*Pn		**Pn**	**18 15 04.7**	**+0.7**	
IPIR				*e*AMB		AMB	18 16 26.0		
	comp=Z,266nm,0.2s								
IPIR	**Pirpir**	**6.80**	**338**	*e*Pn		**Pn**	**18 15 04.7**	**+0.7**	
IKLH	**Kolahrood**	**7.20**	**344**	*e*Pn		**Pn**	**18 15 08.4**	**-1.0**	
IKLH				*e*AMB		AMB	18 16 36.1		
	comp=Z,199nm,0.2s								
IKLH	**Kolahrood**	**7.20**	**344**	*e*Pn		**Pn**	**18 15 08.4**	**-1.0**	
GEYT	**Alibeck**	**12.06**	**16**	LR		LR	18 21 53.8		
	comp=Z,51nm,19.9s,baz=185,slow=42								
BRTR	**Keskin Array B**	**21.50**	**313**	P		**P**	**18 18 13.0**	**0.0**	
	comp=Z,2.0nm,0.6s,baz=138,slow=12,SNR=12								
ZALV	**Zalesovo Beam**	**35.78**	**31**	P		**P**	**18 20 22.1**	**-0.8**	
	comp=Z,1.2nm,0.4s,baz=234,slow=8.7,SNR=6.6								
FINES	**FINESS Array B**	**39.75**	**339**	P		**P**	**18 20 57.7**	**+1.3**	
	comp=Z,2.8nm,0.9s,baz=142,slow=9.6,SNR=4.2								
CMAR	**Chiang Mai Arr**	**42.23**	**91**	LR		LR	18 42 15.1		
	comp=Z,17nm,18.6s,baz=190,slow=41								
TORD	**Torodi Ar. Bea**	**50.53**	**265**	P		**P**	**18 22 22.9**	**+0.2**	
	comp=Z,0.6nm,0.7s,baz=60,slow=8.1,SNR=3.5								
JHJ	**Hachijo jima 2**	**72.90**	**61**	LR		LR	19 02 44.4		
	comp=Z,93nm,20.5s,baz=74,slow=41								

*IDC **30** 18:32:31.9±2.8, 39.°16N×143.°10E, h0km, mb3.5/2, mb1 3.5/3, mb1mx3.2/43, mbtmp3.3/3, ML2.8/1, MS2.9/2, Ms1 3.0/2, ms1mx2.4/38, Error ellipse: s-maj=70.8km s-min=34.9km az=73.0*

*ISCJB **30** 18:32:38.0±1.6, 39.°12N±0.°05×142.°4E±0.°1, h28km±7km, mb3.4/2, MS2.9/1, Error ellipse: s-maj=13.6km s-min=7.5km az=10.8*

*JMA **30** 18:32:38.8±0.1, 39.°14N×142.°38E, h30km±1km, M3.2*

ISC 30 18:32:38.3±2.4, 39.°13N±0.°05×142.°4E±0.°1, h28km±13km, n14, σ1§03/20, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
OFUJ	**Ofunato**	**0.57**	**265**	P	**Pb**	**18 32 50.0**	**+0.3**
OFUJ				*e*S	**Sb**	**18 32 57.7**	**+0.2**
MIYJ	**Miyakonagasawa**	**0.63**	**315**	P	**Pb**	**18 32 50.7**	**-0.1**
MIYJ				*e*S	**Sb**	**18 32 58.6**	**-0.7**
JTH	**Tanohata**	**0.91**	**333**	P	**Pn**	**18 32 55.2**	**+0.1**
JOM	**Ohasama**	**0.92**	**292**	P	**Pn**	**18 32 55.5**	**+0.2**
JOM				*e*S	**Sb**	**18 33 07.6**	**0.0**
JMK	**Ichinoseki**	**0.93**	**259**	P	**Pn**	**18 32 55.5**	**0.0**
JMK				*e*S	**Sb**	**18 33 07.6**	**-0.3**
JIO	**Ouri**	**1.06**	**231**	P	**Pn**	**18 32 56.8**	**-0.4**
JIO				*e*S	**Sn**	**18 33 09.4**	**-1.6**
JKZ	**Kuzumaki**	**1.19**	**316**	P	**Pb**	**18 32 59.7**	**-0.5**
JKZ				*e*S	**Sn**	**18 33 14.0**	**-0.2**
JRG	**Rokugo**	**1.39**	**282**	P	**Pb**	**18 33 03.1**	**-0.5**
JRG				*e*S	**Sb**	**18 33 21.1**	**+0.1**
JANG	**Nango**	**1.42**	**332**	P	**Pn**	**18 33 02.9**	**+0.8**
JANG				*e*S	**Sn**	**18 33 20.4**	**+0.6**
MJAR	**Matsushiro Arr**	**4.20**	**233**	Pn	**Pn**	**18 33 43.5**	**+3.1**
	0.4nm,0.3s,baz=44,slow=12,SNR=5.0						
JHJ	**Hachijo jima 2**	**6.36**	**200**	LR	LR	18 36 37.1	
	comp=Z,102nm,20.2s,baz=73,slow=37						
ZALV	**Zalesovo Beam**	**41.11**	**311**	P	**P**	**18 40 20.4**	**+1.0**
	0.4nm,0.4s,baz=70,slow=9.5,SNR=2.5						
CMAR	**Chiang Mai Arr**	**42.80**	**254**	LR	LR	18 58 52.5	
	comp=Z,13nm,18.1s,baz=80,slow=36						
WRA	**Warramunga Arr**	**59.24**	**189**	P	**P**	**18 42 35.8**	**-1.3**
	0.3nm,0.8s,baz=6.3,slow=7.1,SNR=6.2						

GUC 30 18:44:45.7±0.6, 19.°33S×69.°45W, h100km±3km, ML4.1, 5C-1D, Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MNMC	**Minye Minye**	**0.24**	**325**	⇑*i* P	Pn	18 45 00.4	+0.1
MNMC				*e*S	Sn	18 45 11.5	+0.3
PB11	**IPOC Station P**	**0.47**	**204**	*e*P	Pn	18 45 01.9	+0.4
PB11				*e*S	Sn	18 45 14.1	+0.9
PSGC	**Pisagua**	**0.69**	**247**	⇑*i* P	Pn	18 45 03.6	+0.5
PSGC				*e*S	Sn	18 45 16.9	+0.8
PB08	**IPOC Station P**	**0.85**	**161**	⇓*i* P	Pn	18 45 05.9	+0.9
PB08				*e*S	Sn	18 45 20.6	+1.1
PB08				IAML		18 45 21.9	
	comp=E,3µm,0.2s						
HMBC	**Humberstone**	**1.03**	**203**	*e*P	Pn	18 45 07.3	+0.7
HMBC				*e*S	Sn	18 45 22.9	+0.6
HMBC				IAML		18 45 27.9	
	comp=N,2µm,0.3s						
PB12	**IPOC Station P**	**1.09**	**310**	⇑*i* P	Pn	18 45 07.4	+0.2
PB12				*i* S	Sn	18 45 23.3	-0.1
PB01	**IPOC Station P**	**1.71**	**181**	*e*P	Pn	18 45 15.7	+1.1
PB07	**IPOC Station P**	**2.42**	**190**	⇑*i* P	Pn	18 45 24.8	+0.8
PB07				*i* S	Sn	18 45 55.0	+1.8
PB07				IAML		18 46 02.8	
	comp=E,2µm,0.3s						
PB04	**IPOC Station P**	**3.06**	**192**	*e*P	Pn	18 45 33.8	+1.4
PB04				*i* S	Sn	18 46 14.1	+5.7
PB04				IAML		18 46 22.4	
	comp=E,721nm,0.3s						
PB06	**IPOC Station P**	**3.36**	**182**	⇑*i* P	Pn	18 45 37.3	+0.9
PB06				*i* S	Sn	18 46 16.0	+0.3
PB06				IAML		18 46 26.5	
	comp=E,512nm,0.6s						

*ISCJB **30** 19:01:20.9±0.4, 2.°01N±0.°04×127.°39E±0.°04, h100km, mb4.1/14, Error ellipse: s-maj=6.5km s-min=5.3km az=165.6*

*NEIC **30** 19:01:20.5±0.9, 1.°90N×127.°36E, h83km±9km, mb4.1/2, Error ellipse: s-maj=22.1km s-min=9.0km az=69.0*

*IDC **30** 19:01:21.6±0.8, 1.°90N×127.°40E, h89km±7km, mb3.8/12, mb1 4.0/14, mb1mx3.6/45, mbtmp4.2/14, MS4.4/1, Ms1 4.4/1, ms1mx2.6/40, Error ellipse: s-maj=29.0km s-min=10.4km az=71.0*

*DJA **30** 19:01:24.4±0.7, 2.°1N±5.°5×12.°7E±.°, h41km±11km, M4.3/9, mb4.5/7, mB4.8/4, MLv4.3/9, Mw(mB)4.1/4*

ISC 30 19:01:22.3±0.6, 1.°99N±0.°06×127.°38E±0.°06, h100km, n29, σ1§87/38, mb4.0/15, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LBMI	**Labuha**	**2.61**	**177**	P	**Pn**	**19 02 03.6**	**+0.7**
LBMI				S	**Sn**	**19 02 30.3**	**-3.8**
KMSI	**Cibinong**	**3.67**	**248**	P	**Pn**	**19 02 18.1**	**+1.0**
KMSI				S	**Sn**	**19 02 59.0**	**-0.6**
SANI	**Sanana**	**4.24**	**199**	P	**Pn**	**19 02 23.7**	**-1.1**
SANI				S	**Sn**	**19 03 14.5**	**+1.2**
SIJI	**Sorong**	**4.81**	**126**	P	**Pn**	**19 02 32.2**	**-0.3**
	25nm,0.3s,baz=328,slow=19,SNR=12						
NLAI	**Namlea**	**5.20**	**183**	P	**Pn**	**19 02 38.9**	**+1.1**
NLAI				S	**Sn**	**19 03 42.5**	**+6.0**
MSAI	**Masohi**	**5.52**	**164**	P	**Pn**	**19 02 44.5**	**+2.4**
MRSI	**Marisa**	**5.64**	**255**	P	**Pn**	**19 02 45.3**	**+1.5**
	55nm,0.8s,1µm0.3nm						
MRSI				S	**Sn**	**19 03 49.1**	**+1.8**
	55nm,0.8s,1µm0.3nm						
AAI	**Ambon**	**5.69**	**172**	P	**Pn**	**19 02 47.1**	**+2.6**
AAI				S	**Sn**	**19 03 48.8**	**+0.2**
FAKI	**Fak Fak**	**6.89**	**135**	P	**Pn**	**19 03 01.8**	**+1.1**
KDI	**Kendari**	**7.58**	**219**	P	**Pn**	**19 03 10.5**	**+0.3**
KAPI	**Kappang**	**10.31**	**228**	LR	LR	19 07 48.8	
	comp=Z,2µm,20.1s,baz=109,slow=38						
KKM	**Kota Kinabalu**	**11.84**	**290**	*e*Pn	**Pn**	**19 04 05.9**	**-2.2**
	17nm,1.0s						
FITZ	**Fitzroy Crossi**	**20.03**	**185**	P	**P**	**19 05 46.9**	**-0.6**
	baz=26,slow=11						
WRAB	**Tennant Creek**	**22.83**	**163**	*e*P	**P**	**19 06 14.0**	**-3.2**
	8.1nm,0.6s						
WRA	**Warramunga Arr**	**22.84**	**163**	P	**P**	**19 06 16.5**	**-0.7**
	7.8nm,0.5s,baz=343,slow=11,SNR=110						
ASAR	**Alice Springs**	**26.28**	**166**	P	**P**	**19 06 48.2**	**-0.4**
	1.5nm,0.5s,baz=347,slow=8.1,SNR=65						
ASAR				pP	**pP**	**19 07 07.4**	**-3.3**
	0.9nm,0.6s,baz=329,slow=9.0,SNR=3.7						
ASAR				ScP	**ScP**	**19 13 44.6**	**+1.0**
	0.3nm,0.6s,baz=343,slow=2.8,SNR=6.3						
CMAR	**Chiang Mai Arr**	**32.33**	**302**	P	**P**	**19 07 42.5**	**+0.2**
	1.2nm,0.9s,baz=123,slow=7.8,SNR=6.4						
MJAR	**Matsushiro Arr**	**35.81**	**15**	P	**P**	**19 08 11.8**	**-0.4**
	1.4nm,0.7s,baz=188,slow=9.6,SNR=5.5						
STKA	**Stephens Creek**	**36.28**	**159**	P	**P**	**19 08 15.4**	**-0.8**
	3.0nm,0.6s,baz=351,slow=8.3,SNR=8.5						
USRK	**Ussuriysk Ar.**	**42.23**	**5**	P	**P**	**19 09 07.2**	**+1.6**
	3.1nm,0.9s,baz=145,slow=5.3,SNR=3.2						
SONM	**Songino Array**	**49.15**	**341**	P	**P**	**19 09 59.4**	**-0.7**
	0.8nm,0.6s,baz=158,slow=7.9,SNR=7.2						
MKAR	**Makanchi Array**	**59.35**	**326**	P	**P**	**19 11 15.8**	**+1.8**
	2.8nm,0.5s,baz=120,slow=8.5,SNR=39						
YAK	**Yakutsk**	**59.92**	**1**	P	**P**	**19 11 19.0**	**+1.4**
	8.9nm,0.5s,baz=142,slow=0.8,SNR=7.3						
ZALV	**Zalesovo Beam**	**62.43**	**333**	pP	pP	19 11 56.8	-2.7
	0.3nm,0.2s,baz=97,slow=4.8,SNR=1.4						
KURBB	**Kurchatov Arra**	**63.55**	**328**	P	**P**	**19 11 43.5**	**+1.3**
	2.9nm,0.8s,baz=127,slow=6.2,SNR=34						
KURBB				pP	**pP**	**19 12 05.9**	**-1.2**
	1.6nm,0.8s,baz=124,slow=6.2,SNR=3.9						
KURK	**Kurchatov**	**63.55**	**328**	P	**P**	**19 11 43.5**	**+1.3**
KURK				pP	**pP**	**19 12 05.9**	**-1.2**
KKAR	**Karatay Array**	**64.94**	**317**	*e*P	**P**	**19 11 50.1**	**-1.4**
	0.5nm,0.3s						
BVAR	**Borovoye Array**	**69.13**	**327**	P	**P**	**19 12 19.0**	**+1.2**
	0.7nm,0.7s,baz=156,slow=7.8,SNR=5.6						
BVAR				pP	**PcP**	**19 12 41.7**	**+0.7**
	0.5nm,0.5s,baz=104,slow=6.3,SNR=3.3						
VNDA	**Vanda**	**81.63**	**173**	P	**P**	**19 13 28.7**	**-0.1**
	0.7nm,0.8s,baz=304,slow=9.3,SNR=4.6						

*NIED **30** 19:04:00, 29.°80N×130.°40E, h8km, Mw3.7 Best double couple: M0 3.62000×10^14 NP1:φs 326.00000°, δ35.00000°, λ-90.00000°. NP2:φs 147.00000°, δ55.00000°, λ-90.00000°.*

JMA 30 19:04:29.8±0.1, 29.°80N×130.°37E, h13km±3km, M3.7, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JNN	**Nakanoshima**	**0.43**	**276**	P	Pg	19 04 38.4	0.0
JNN				*e*S	Sg	19 04 44.2	0.0
JYAK	**Yakushimahirau**	**0.45**	**15**	P	Pg	19 04 38.8	0.0
JYAK				S	Sg	19 04 44.5	-0.4
JKC	**Kuchinoerabu**	**0.68**	**347**	P	Pg	19 04 43.2	+0.2
JKC				S	Sg	19 04 51.9	0.0
JTN	**Tanegashima 3**	**1.00**	**32**	P	Pb	19 04 48.9	-0.1
JTN				S	Sg	19 05 02.7	+0.5
JTAJ	**Takarajima**	**1.21**	**238**	P	Pn	19 04 51.2	-1.1
JTAJ				*e*S	Sb	19 05 08.1	+0.2
JZK	**Kikaishima**	**1.52**	**193**	P	Pg	19 04 58.6	-0.4
JZK				*e*S	Sg	19 05 20.9	+2.1
JAM	**Amami Oshima**	**1.54**	**206**	P	Pn	19 04 55.7	-1.2
JAM				S	Sn	19 05 16.5	-0.2
JAMN	**Amaminishikomi**	**1.87**	**214**	P	Pn	19 05 00.3	-1.2
JAMN				S	Sn	19 05 22.9	-2.1
JTK	**Tokunoshima**	**2.36**	**212**	P	Pn	19 05 07.4	-0.9
JTK				S	Sn	19 05 35.4	-1.7
JOKE	**Okinoerabujima**	**2.90**	**214**	P	Pn	19 05 15.7	0.0
JOKE				*e*S	Sn	19 05 48.1	-2.3
JIH	**Iheya**	**3.47**	**218**	P	Pn	19 05 23.4	-0.2
JIH				*e*S	Sn	19 06 02.4	-2.2
JOW	**Kunigami**	**3.49**	**212**	P	Pn	19 05 24.3	+0.5
JOW				*e*S	Sn	19 06 06.1	+1.2
JNTH	**Nagotoyohara**	**3.87**	**213**	P	Pn	19 05 29.4	+0.4
JNTH				*e*S	Sn	19 06 13.3	-1.1
JAGN	**Aguni-jima**	**4.22**	**222**	P	Pn	19 05 33.7	-0.2
JKE	**Kume jima 2**	**4.69**	**223**	P	Pn	19 05 41.1	+0.8

TAP 30 19:22:37.4, 21.°14N×121.°92E, h163km, ML3.6, D, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LAY	**Lan-yu**	**0.95**	**339**	P	Pn	19 23 02.9	-0.3
	baz=339						
LAY				S	Sn	19 23 21.4	-1.6
	baz=339						
TSEB	**Hengchuen, Pin**	**1.21**	**309**	*e*P	Pn	19 23 05.7	+0.4
	baz=303						
TSEB				*e*S	Sn	19 23 28.0	+1.4
	baz=303						
TWK1	**Hengchun**	**1.31**	**308**	P	Pn	19 23 06.4	+0.3
	baz=304						
TWK1				S	Sn	19 23 27.6	-0.7
	baz=304						
EAST	**Anshuo**	**1.58**	**321**	*e*P	Pn	19 23 08.2	-0.7
	baz=321						
EAST				*e*S	Sn	19 23 31.9	-1.4
	baz=321						
ECL	**Taimali**	**1.70**	**328**	*e*P	Pn	19 23 09.1	-1.0
	baz=324						
ECL				*e*S	Sn	19 23 33.8	-1.6
	baz=324						
SCZT	**Fangliau**	**1.72**	**316**	*e*P	Pn	19 23 10.7	+0.4
	baz=321						
SCZT				*e*S	Sn	19 23 35.8	+0.2
	baz=321						
TWG	**Pinlang**	**1.84**	**335**	*e*P	Pn	19 23 11.1	-0.6
	baz=330						
TWG				*e*S	Sn	19 23 36.7	-1.5
	baz=330						
SSD	**Sandimen**	**1.99**	**323**	P	Pn	19 23 13.3	0.0
	baz=323						
SSD				S	Sn	19 23 39.8	-1.2
	baz=323						
TWM1	**Shoushan**	**2.17**	**321**	*e*P	Pn	19 23 16.7	+1.4
	baz=313						
TWM1				*e*S	Sn	19 23 46.2	+1.5
	baz=313						
ELDTW	**Lidau**	**2.20**	**338**	*e*P	Pn	19 23 12.8	-3.0
	baz=338						
ELDTW				*e*S	Sn	19 23 45.5	-0.1
	baz=338						
TWF1	**Yuli**	**2.27**	**345**	*e*P	Pn	19 23 16.9	+0.4
	baz=338						
TWF1				*e*S	Sn	19 23 48.8	+2.0
	baz=338						
STYT	**Tauyuan**	**2.28**	**332**	*e*P	Pn	19 23 17.1	+0.4
	baz=332						
STYT				*e*S	Sn	19 23 45.8	-1.3
	baz=332						
SGST	**Jiashian**	**2.29**	**328**	*e*P	Pn	19 23 16.4	-0.3
	baz=327						
SGST				*e*S	Sn	19 23 46.6	-0.6
	baz=327						
CHN1	**Nanshi**	**2.41**	**328**	*e*P	Pn	19 23 18.3	+0.2
	baz=328						
CHN1				*e*S	Sn	19 23 48.8	-0.8
	baz=328						
WTP	**Ta-pu**	**2.42**	**330**	*e*P	Pn	19 23 18.3	+0.1
	baz=330						
WTP				*e*S	Sn	19 23 49.2	-0.8
	baz=330						
YUS	**Yu-Shan**	**2.50**	**339**	*e*P	Pn	19 23 19.6	-0.1
	baz=335						
YUS				*e*S	Sn	19 23 52.9	+0.4
	baz=335						
CHN4	**Tsaushan**	**2.52**	**331**	P	Pn	19 23 19.4	0.0
	baz=331						
CHN4				*e*S	Sn	19 23 51.1	-0.9
	baz=331						
ALS	**Alishan**	**2.57**	**337**	*e*P	Pn	19 23 20.6	+0.3
	baz=336						
ALS				*e*S	Sn	19 23 53.0	-0.6
	baz=336						
CHN5	**Tsauling**	**2.70**	**335**	*e*P	Pn	19 23 21.3	-0.4
	baz=335						
CHN5				*e*S	Sn	19 23 56.4	+0.3
	baz=335						

*IDC **30** 19:35:24.4±1.2, 39.°09N×144.°79E, h0km, mb3.6/4, mb1 3.8/6, mb1mx3.5/59, mbtmp3.6/6, ML3.5/1, MS2.9/1, Ms1 2.9/1, ms1mx2.2/40, Error ellipse: s-maj=42.5km s-min=22.4km az=100.0*

*ISCJB **30** 19:35:28.8±1.1, 39.°17N±0.°05×144.°51E±0.°07, h48km±12km, mb3.7/4, MS2.8/1, Error ellipse: s-maj=9.6km s-min=6.6km az=33.3*

*JMA **30** 19:35:29.4±0.1, 39.°17N×144.°40E, h30km, M3.7*

ISC 30 19:35:30.4±1.5, 39.°15N±0.°06×144.°49E±0.°08, h42km±18km, n22, σ1§01/29, mb3.6/4, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MIYJ	**Miyakonagasawa**	**2.11**	**282**	P	Pn	19 36 02.9	-0.3
MIYJ				*e*S	**Sn**	**19 36 27.5**	**-0.7**
JTH	**Tanohata**	**2.17**	**292**	P	Pn	19 36 03.6	-0.5
JTH				*e*S	**Sn**	**19 36 29.2**	**-0.6**
OFUJ	**Ofunato**	**2.19**	**269**	P	Pn	19 36 03.8	-0.5
OFUJ				*e*S	**Sn**	**19 36 29.9**	**-0.3**
JOM	**Ohasama**	**2.50**	**278**	P	**Pn**	**19 36 09.0**	**+0.5**
JOM				*e*S	**Sn**	**19 36 37.8**	**+0.1**
JMK	**Ichinoseki**	**2.55**	**267**	P	**Pn**	**19 36 09.4**	**+0.2**
JMK				*e*S	**Sn**	**19 36 38.8**	**-0.2**
JANG	**Nango**	**2.59**	**299**	P	Pn	19 36 09.0	-0.8
JRG	**Rokugo**	**3.00**	**276**	P	**Pn**	**19 36 16.2**	**+0.8**
JRG				*e*S	**Sn**	**19 36 50.2**	**+0.1**
JOU	**Okura**	**3.09**	**256**	P	**Pn**	**19 36 16.9**	**+0.2**
JOU				*e*S	**Sn**	**19 36 50.0**	**-2.3**
JTM	**Tenmabayashi**	**3.09**	**303**	P	**Pn**	**19 36 17.2**	**+0.5**
JTM				*e*S	**Sn**	**19 36 53.0**	**+0.6**
JAH	**Hinai**	**3.15**	**290**	P	**Pn**	**19 36 18.2**	**+0.8**
JAH				*e*S	**Sn**	**19 36 53.6**	**-0.1**
JYK	**Kaneyama**	**3.22**	**267**	P	**Pn**	**19 36 19.3**	**+0.8**
JYK				*e*S	**Sn**	**19 36 55.9**	**+0.3**
JNBK	**Urakawa-nobuka**	**3.39**	**338**	P	Pn	19 36 19.4	-1.4
JNBK				*e*S	**Sn**	**19 37 00.6**	**+0.9**
JOT	**Ohata**	**3.45**	**311**	P	**Pn**	**19 36 22.2**	**+0.7**
JOT				*e*S	**Sn**	**19 37 01.2**	**+0.1**
JCH	**Churui**	**3.56**	**347**	P	Pn	19 36 20.9	-2.2
JCH				*e*S	**Sn**	**19 37 01.2**	**-2.7**
JFT	**Otama**	**3.65**	**245**	P	**Pn**	**19 36 24.2**	**-0.1**
JFT				*e*S	**Sn**	**19 37 05.9**	**-0.2**
ASAJ	**Asahikawa**	**5.16**	**345**	Pn	**Pn**	**19 36 44.0**	**-1.0**
MJAR	**Matsushiro Arr**	**5.61**	**244**	Pn	**Pn**	**19 36 52.2**	**+1.0**
	1.2nm,0.3s,baz=55,slow=10,SNR=13						
SONM	**Songino Array**	**28.72**	**300**	LR	LR	19 54 23.6	
	comp=Z,24nm,18.7s,baz=143,slow=39						
ILAR	**Eielson Array**	**46.40**	**33**	P	**P**	**19 43 51.9**	**-0.4**
	0.3nm,0.6s,baz=265,slow=7.6,SNR=4.5						
WRA	**Warramunga Arr**	**59.55**	**191**	P	**P**	**19 45 28.0**	**-1.6**
	0.3nm,0.5s,baz=9.0,slow=7.0,SNR=4.8						
ASAR	**Alice Springs**	**63.27**	**191**	P	**P**	**19 45 55.8**	**+1.1**
	0.3nm,0.8s,baz=12,slow=7.5,SNR=4.4						
FINES	**FINESS Array B**	**68.06**	**333**	P	**P**	**19 46 26.2**	**+1.

WRA	**Warramunga Arr**	**71.45**	**112**	P		P	19 51 10.8	+0.2
	0.4nm,0.7s,baz=283,slow=5.7,SNR=13							
ASAR	**Alice Springs**	**71.74**	**116**	P		P	19 51 12.6	+0.2
	0.4nm,0.9s,baz=299,slow=5.2,SNR=4.4							
TXAR	**Lajitas Array**	**146.34**	**342**	PKPbc		PKPdf	19 59 29.8	-0.4
	1.7nm,1.0s,baz=64,slow=2.9,SNR=3.7							

*ISCJB **30** 19:42:55.7±0.9, 6°.82N±0°.06×73°.07W±0°.05, h154km±7km, Error ellipse: s-maj=10.8km s-min=6.4km az=138.0*
*RSNC **30** 19:42:58.6±0.9, 6°.75N×73°.13W, h140km±8km, ML2.7*
*FUNV **30** 19:42:58.4, 6°.86N×72°.95W, h175km, MW2.5*

ISC 30 19:42:54.2±1.6, **6°.74N**±0°.06×**73°.02W**±0°.06, **h167**km±10km, **n17**, **σ2s00/26**, **1D**, **Northern Colombia**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
BARC	**Barichara**	**0.22**	**229**	*e*P		**Pn**		**19 43 17.3**	**+0.5**
BARC				*e*S		**Sn**		**19 43 32.0**	**-2.0**
BARC				*i*				19 43 33.5	
	comp=Z,98nm,0.2s								
GIRC	**Giron, Santand**	**0.38**	**333**	*e*P		**Pn**		**19 43 17.8**	**+0.7**
PAMC	**Pamplona, Colo**	**0.68**	**28**	*e*P		**Pn**		**19 43 20.6**	**+1.7**
PAMC				*i*				19 43 20.9	
	comp=Z,79nm,0.2s								
BRRC	**Barranca, Sant**	**0.78**	**298**	*e*P		**Pn**		**19 43 19.6**	**+0.6**
BRRC				*e*S		**Sn**		**19 43 36.4**	**-1.6**
BRRC				*i*				19 43 41.3	
	comp=Z,122nm,0.1s								
RUSC	**La Rusia**	**0.84**	**184**	*e*P		**Pn**		**19 43 21.4**	**+1.5**
RUSC				*e*S		**Sn**		**19 43 38.8**	**-1.0**
RUSC				*i*				19 43 41.2	
	comp=Z,53nm,0.4s								
CAPV	**Capacho**	**1.32**	**32**	⇓*i*P		**Pn**		**19 43 25.8**	**+2.2**
CAPV				*e*S		**Sn**		**19 43 47.6**	**+1.4**
OCAC	**Ocana**	**1.52**	**349**	*e*S		**Sn**		**19 43 48.5**	**-1.1**
OCAC				*i*				19 43 53.5	
	comp=Z,73nm,0.3s								
ZARC	**Zaragoza, Cauc**	**1.97**	**292**	*e*S		**Sn**		**19 43 56.0**	**-1.7**
ZARC				*i*				19 44 02.5	
	comp=Z,56nm,0.4s								
NORC	**Norcasia**	**2.18**	**238**	*e*P		**Pn**		**19 43 33.4**	**+1.0**
NORC				*e*S		**Sn**		**19 44 00.9**	**-1.1**
HELC	**Santa Helena**	**2.55**	**258**	*e*P		**Pn**		**19 43 39.2**	**+2.1**
SOCV	**Socops**	**2.64**	**54**	*e*P		**Pn**		**19 43 40.2**	**+2.3**
SOCV				*e*S		**Sn**		**19 44 11.1**	**-0.6**
VIGV	**El Vigia**	**2.66**	**38**	*e*P		**Pn**		**19 43 40.5**	**+2.4**
VIGV				*e*S		**Sn**		**19 44 10.9**	**-1.2**
VIRV	**Villa del Rosa**	**3.79**	**9**	*e*P		**Pn**		**19 43 53.5**	**+1.3**
VIRV				*e*S		**Sn**		**19 44 34.5**	**-3.1**
CURV	**Curarigua**	**4.44**	**43**	*e*P		**Pn**		**19 44 02.6**	**+1.9**
BAUV	**El Baul**	**5.40**	**66**	*e*P		**Pn**		**19 44 14.3**	**+1.2**
BAUV				*e*S		**Sn**		**19 45 09.8**	**-5.1**
MAPV	**Macapo**	**5.46**	**55**	*e*P		**Pn**		**19 44 14.9**	**+0.9**
MONV	**Montecano**	**5.99**	**30**	*e*P		**Pn**		**19 44 22.0**	**+1.0**

*ISCJB **30** 20:12:07.2±0.5, 32°.15N±0°.03×115°.14W±0°.05, h23km±6km, Error ellipse: s-maj=7.5km s-min=4.5km az=160.5*
*MEX **30** 20:12:08.6±0.6, 32°.14N×115°.08W, h6km±51km, MD3.6*
*NEIC **30** 20:12:08.6±0.0, 32°.13N×115°.19W, h10km, ML2.5(PAS), ML2.7(ECX), After ECX.*
*ECX **30** 20:12:08.5±0.4, 32°.12N×115°.17W, h10km, MD2.5, ML2.7*

ISC 30 20:12:05.9±1.5, **32°.14N**±0°.03×**115°.16W**±0°.04, **h12**km±14km, **n22**, **σ0s47/34**, **3D**, **California-Baja California border region**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CPBX	**Cerro Prieto**	**0.30**	**336**	*e*P		**Pn**	**Pb**	**20 12 13.3**	**+1.0**
CPBX				*e*S		**Sn**	**Sb**	**20 12 19.0**	**+0.8**
CPBX				IAML				20 12 20.8	
	comp=N,3μm,0.2s								
CPBX				⇓*e*				20 12 20.8	
CPBX	**Cerro Prieto**	**0.30**	**336**	*e*P		**Pn**	**Pb**	**20 12 13.8**	**+0.5**
CPBX				*e*S		**Sn**	**Sb**	**20 12 18.3**	**+0.1**
EMSC	**East Mesa**	**0.61**	**14**	*e*P		**Pn**		**20 12 19.7**	**-0.7**
YMD	**Yuma Desert**	**0.66**	**51**	⇓*i*P		**Pn**		**20 12 20.4**	**-0.7**
ECBX	**El Chinero**	**0.68**	**172**	*e*P		**Pb**		**20 12 20.2**	**+0.6**
ECBX				*e*S		**Sb**		**20 12 29.7**	**+0.8**
WESC	**Westside Schoo**	**0.78**	**322**	*e*P		**Pn**		**20 12 22.8**	**+0.1**
YUH	**Yuha Desert**	**0.82**	**308**	*e*P		**Pn**		**20 12 22.7**	**-0.6**
RMX	**La Rumorosa**	**0.90**	**301**	*e*P		**Pb**		**20 12 23.8**	**+0.1**
RMX				*e*S		**Sb**		**20 12 35.3**	**-0.4**
IKP	**In-Ko-Pah, Jac**	**0.95**	**302**	*e*P		**Pn**		**20 12 24.8**	**-0.4**
SPIG	**San Pedro Mart**	**1.12**	**194**	*e*P		**Pb**		**20 12 27.7**	**+0.2**
SPIG				*e*S		**Sb**		**20 12 42.7**	**+0.5**
SPIG	**San Pedro Mart**	**1.12**	**194**	*e*P		**Pb**		**20 12 27.7**	**+0.2**
SPIG				*e*S		**Sb**		**20 12 42.5**	**+0.3**
SPIG	**San Pedro Mart**	**1.12**	**194**	*e*P		**Pb**		**20 12 27.7**	**+0.2**
SPIG				*e*S		**Sb**		**20 12 42.5**	**+0.3**
SPX	**San Pedro Mart**	**1.12**	**194**	*e*P		**Pb**		**20 12 26.8**	**-0.8**
SPX				*e*S		**Sb**		**20 12 41.9**	**-0.3**
ZAX	**El Zacaton**	**1.14**	**237**	*e*P		**Pn**		**20 12 27.8**	**+0.1**
CBX	**Cerro Bola**	**1.29**	**278**	*e*P		**Pg**		**20 12 30.7**	**0.0**
CBX				*e*S		**Sg**		**20 12 47.6**	**+0.2**
CBX				⇓*e*				20 12 48.2	
CBX				IAML				20 12 48.2	
	comp=E,195nm,0.4s								
CBX	**Cerro Bola**	**1.29**	**278**	*e*P		**Pg**		**20 12 30.7**	**0.0**
CBX				*e*S		**Sb**		**20 12 46.6**	**-0.1**
CBX	**Cerro Bola**	**1.29**	**278**	*e*P		**Pg**		**20 12 30.7**	**0.0**
CBX				*e*S		**Sb**		**20 12 46.6**	**-0.1**
ECNX	**Esteban Cantu**	**1.32**	**249**	*e*P		**Pb**		**20 12 31.0**	**+0.3**
TJIG	**Tijuana**	**1.32**	**283**	*i* P		**Pg**		**20 12 31.2**	**0.0**
TJIG				*e*S		**Sg**		**20 12 48.0**	**-0.4**
BAR	**Barrett**	**1.39**	**293**	*e*P		**Pg**		**20 12 32.6**	**-0.1**
PFO	**Pinyon Flats O**	**1.83**	**324**	*e*Pn		**Pn**		**20 12 36.9**	**-0.4**
214A	**Organ Pipe Nat**	**2.00**	**95**	*e*Pn		**Pn**		**20 12 39.2**	**-0.4**

*NEIC **30** 20:16:44.5±0.0, 32°.10N×115°.17W, h10km, ML2.5(ECX), ML2.6(PAS), After ECX.*
*ECX **30** 20:16:44.5±0.4, 32°.10N×115°.17W, h10km, MD2.3, ML2.5*
*MEX **30** 20:16:44.7±0.6, 32°.14N×115°.01W, h5km±187km, MD3.8*

ISC 30 20:16:42.9±1.7, **32°.11N**±0°.04×**115°.16W**±0°.06, **h16**km±12km, **n14**, **σ0s39/24**, **2C**, **California-Baja California border region**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CPBX	**Cerro Prieto**	**0.33**	**338**	*e*P		**Pb**		**20 16 50.8**	**+0.3**
CPBX				*e*S		**Sb**		**20 16 55.5**	**0.0**
CPBX	**Cerro Prieto**	**0.33**	**338**	*e*P		**Pb**		**20 16 50.7**	**+0.3**
CPBX				*i* S		**Sb**		**20 16 54.6**	**-0.9**
WESC	**Westside Schoo**	**0.81**	**323**	*e*P		**Pn**		**20 16 59.1**	**-0.6**
IKP	**In-Ko-Pah, Jac**	**0.97**	**304**	*e*P		**Pb**		**20 17 01.3**	**-0.1**
SPIG	**San Pedro Mart**	**1.09**	**194**	*e*P		**Pn**		**20 17 04.2**	**+0.3**
SPIG				*e*S		**Sn**		**20 17 18.8**	**-0.1**
SPIG	**San Pedro Mart**	**1.09**	**194**	*e*P		**Pn**		**20 17 04.2**	**+0.3**
SPIG				*e*S		**Sn**		**20 17 19.4**	**+0.5**
SPIG	**San Pedro Mart**	**1.09**	**194**	*e*P		**Pn**		**20 17 04.2**	**+0.3**
SPIG				*e*S		**Sn**		**20 17 19.4**	**+0.5**
SPX	**San Pedro Mart**	**1.09**	**194**	*e*P		**Pb**		**20 17 03.2**	**-0.4**
SPX				⇑*e*				20 17 21.0	
SPX				IAML				20 17 21.0	
	comp=N,70nm,0.1s								
SPX	**San Pedro Mart**	**1.09**	**194**	*e*P		**Pb**		**20 17 03.2**	**-0.5**
SPX				*e*S		**Sn**		**20 17 18.8**	**-0.1**
CBX	**Cerro Bola**	**1.29**	**279**	*e*P		**Pb**		**20 17 07.0**	**+0.1**
CBX				*e*S		**Sn**		**20 17 23.9**	**+0.4**
CBX				IAML				20 17 24.9	
	comp=E,112nm,0.3s								
CBX				⇑*e*				20 17 24.9	
CBX	**Cerro Bola**	**1.29**	**279**	*e*P		**Pg**		**20 17 07.8**	**0.0**
CBX				*e*S		**Sg**		**20 17 24.9**	**+0.2**
CBX	**Cerro Bola**	**1.29**	**279**	*e*P		**Pg**		**20 17 07.8**	**0.0**
CBX				*e*S		**Sg**		**20 17 24.9**	**+0.2**
TJIG	**Tijuana**	**1.32**	**284**	*e*P		**Pg**		**20 17 08.6**	**+0.2**
TJIG				*i* S		**Sg**		**20 17 25.4**	**-0.3**
214A	**Organ Pipe Nat**	**2.00**	**94**	*e*Pn		**Pn**		**20 17 16.1**	**+0.1**

*IDC **30** 20:18:13.8±4.6, 35°.19N×73°.87E, h137km±42km, mb3.3/6, mb1 3.2/12, mb1mx3.1/47, mbtmp3.7/12, Error ellipse: s-maj=31.2km s-min=19.4km az=5.0*
*NNC **30** 20:18:39.8±5.0, 37°.78N×73°.29E, h0km, mb3.5, mpv3.1, Error ellipse: s-maj=58.9km s-min=44.5km az=93.0*

ISC 30 20:18:03.1±0.9, **35°.02N**±0°.08×**73°.8E**±0°.1, **h34**km, **n28**, **σ2s22/24**, **mb3.5/5**, **3C-4D**, **Northwestern Kashmir**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
BHK	**Bhakra**	**4.19**	**148**	*e*P		**Sn**		**20 19 55.5**	**+3.0**
SDNR	**Sundarnagar**	**4.38**	**142**	*e*P		**Pn**		**20 19 08.0**	**+0.8**
SDNR				*e*P		**Sb**		**20 20 15.0**	**+3.2**
MNAS	**Manas**	**7.53**	**352**	⇓Pn		**Pn**		**20 19 53.1**	**+2.5**
	2.3nm,0.6s								
MNAS				⇓Lg		Lg		20 21 11.5	
	4.1nm,0.8s								
AAK	**Ala-Archa**	**7.62**	**4**	P		Pn		20 19 58.5	+6.6
	0.3nm,0.3s,baz=209,slow=13,SNR=3.3								
AAK	**Ala-Archa**	**7.62**	**4**	Pn		Pn		20 19 57.9	+6.0
	2.9nm,1.2s								
AAK				⇑Lg		Lg		20 21 18.2	
	3.3nm,0.9s								
TKM2	**Tokmak 2**	**8.01**	**9**	⇑Pn		**Pn**		**20 19 59.9**	**+2.7**
	1.2nm,0.7s								
TKM2				⇓Lg		Lg		20 21 28.5	
	2.0nm,0.7s								
KK31	**Karatay Array**	**8.47**	**343**	⇑Pn		**Pn**		**20 20 04.9**	**+1.5**
	1.2nm,0.5s,baz=168,slow=12,SNR=20								
KK31				⇓Lg		Lg		20 21 40.9	
	1.4nm,0.3s,baz=168,slow=24,SNR=7.8								
PYUN	**Piuthan**	**10.41**	**129**	*e*P		**Pn**		**20 20 29.2**	**-1.0**
	6.9nm,0.3s								
KOLN	**Koldanda**	**11.03**	**128**	*e*P		**Pn**		**20 20 37.0**	**-1.6**
	4.6nm,0.3s								
GKN	**Gorkha**	**11.56**	**124**	*e*P		**Pn**		**20 20 43.1**	**-2.8**
	6.8nm,0.3s								
DMN	**Daman**	**12.13**	**124**	*e*P		**Pn**		**20 20 50.2**	**-3.6**
	9.3nm,0.5s								
KKN	**Kakani**	**12.14**	**123**	*e*P		**Pn**		**20 20 50.8**	**-3.0**
PKIN	**Phulchoki**	**12.35**	**124**	*e*P		**Pn**		**20 20 54.0**	**-2.8**
	7.4nm,0.4s								
JIRN	**Jiri**	**12.85**	**121**	*e*P		**Pn**		**20 20 59.4**	**-4.2**
	120nm,0.5s								
GEYT	**Alibeck**	**12.98**	**287**	P		**P**		**20 21 14.7**	**-0.5**
	0.2nm,0.3s,baz=92,slow=10,SNR=3.5								
MKAR	**Makanchi Array**	**13.37**	**26**	P		**P**		**20 21 17.9**	**-1.6**
	0.1nm,0.3s,baz=205,slow=11,SNR=5.3								
RAMN	**Ramite**	**13.57**	**123**	*e*P		Pn		20 21 08.1	-5.4
TAPN	**Taplejung**	**14.11**	**119**	*e*P		Pn		20 21 14.9	-5.9
ODAN	**Odare**	**14.18**	**121**	*e*P		Pn		20 21 15.6	-6.1
KURBB	**Kurchatov Arra**	**15.96**	**11**	P		**P**		**20 21 47.8**	**-0.4**
	0.1nm,0.3s,baz=205,slow=11,SNR=8.1								
BVAR	**Borovoye Array**	**18.17**	**353**	P		**P**		**20 22 12.8**	**+0.3**
	0.6nm,0.3s,baz=170,slow=12,SNR=7.9								
AKTO	**Aktyubinsk**	**19.23**	**328**	P		**Pn**		**20 22 26.8**	**+1.4**
	0.5nm,0.3s,baz=129,slow=11,SNR=6.9								
ZALV	**Zalesovo Beam**	**20.44**	**19**	P		**P**		**20 22 37.2**	**-0.1**
	2.5nm,0.4s,baz=211,slow=12,SNR=13								
SONM	**Songino Array**	**27.35**	**52**	P		**P**		**20 23 45.8**	**+0.9**
	0.5nm,0.7s,baz=252,slow=9.4,SNR=4.0								
FINES	**FINESS Array B**	**39.99**	**326**	P		**P**		**20 25 34.0**	**-0.1**
	2.4nm,1.0s,baz=146,slow=14,SNR=5.1								
TORD	**Torodi Ar. Bea**	**68.02**	**271**	P		**P**		**20 28 58.2**	**-1.1**
	0.5nm,0.6s,baz=48,slow=5.5,SNR=8.3								
WRA	**Warramunga Arr**	**79.25**	**124**	P		**P**		**20 30 04.6**	**-0.5**
	0.2nm,0.4s,baz=326,slow=5.2,SNR=6.6								
ASAR	**Alice Springs**	**81.52**	**127**	P		**P**		**20 30 16.4**	**-0.8**
	0.3nm,0.6s,baz=316,slow=4.9,SNR=5.1								

*IDC **30** 20:19:27.0±1.2, 17°.15N×93°.98W, h157km±15km, mb3.6/7, mb1 3.8/8, mb1mx3.5/33, mbtmp4.0/8, Error ellipse: s-maj=53.2km s-min=15.4km az=67.0*
*NEIC **30** 20:19:28.7±0.0, 17°.07N×94°.12W, h169km, mb4.2/3, MD4.4(MEX), After MEX.*
*MEX **30** 20:19:28.7±1.1, 17°.07N×94°.12W, h169km±8km, MD4.4*
*ISCJB **30** 20:19:30.7±0.5, 16°.92N±0°.05×94°.19W±0°.03, h131km±5km, mb3.9/7, Error ellipse: s-maj=8.4km s-min=5.1km az=174.9*

ISC 30 20:19:28.3±0.6, **17°.08N**±0°.04×**94°.09W**±0°.03, **h165**km±5km, **n83**, **σ2s36/81**, **mb3.8/7**, **Chiapas**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CMIG	**Matias Romero**	**0.76**	**271**	P		**Pn**		**20 19 52.0**	**-0.8**
	123nm,0.3s,baz=94,slow=4.6,SNR=1603								
CMIG				S			**Sn**	**20 20 10.4**	**-1.2**
	654nm,0.3s,baz=343,slow=19,SNR=187								
CMIG	**Matias Romero**	**0.76**	**271**	*e*P		**Pn**		**20 19 52.2**	**-0.6**
CMIG				*i* S		**Sn**		**20 20 10.1**	**-1.6**
CMIG	**Matias Romero**	**0.76**	**271**	*e*P		**Pn**		**20 19 52.2**	**-0.6**
CMIG				*i* S		**Sn**		**20 20 10.1**	**-1.6**
TGIG		**0.97**	**108**	*e*P		**Pn**		**20 19 53.8**	**-0.6**
TGIG				*e*S		**Sn**		**20 20 12.7**	**-1.7**
TGIG		**0.97**	**108**	*e*P		**Pn**		**20 19 53.8**	**-0.6**
TGIG				*e*S		**Sn**		**20 20 12.7**	**-1.7**
TUIG	**Tuzandepetl**	**1.00**	**342**	*i* P		**Pn**		**20 19 54.0**	**-0.5**
TUIG				*i* S		**Sn**		**20 20 13.9**	**-1.0**
TUIG	**Tuzandepetl**	**1.00**	**342**	*i* P		**Pn**		**20 19 54.0**	**-0.5**
TUIG				*i* S		**Sn**		**20 20 13.9**	**-1.0**
PCIG		**1.60**	**148**	*e*P		**Pn**		**20 20 00.2**	**+0.1**
PCIG				*e*S		**Sn**		**20 20 24.2**	**-0.4**
PCIG		**1.60**	**148**	*e*P		**Pn**		**20 20 00.2**	**+0.1**
PCIG				*e*S		**Sn**		**20 20 24.2**	**-0.4**
CCIG	**Comitan**	**2.03**	**113**	*e*P		**Pn**		**20 20 04.7**	**-0.3**
CCIG				*e*S		**Sn**		**20 20 32.2**	**-0.9**
CCIG	**Comitan**	**2.03**	**113**	*e*P		**Pn**		**20 20 04.7**	**-0.3**
CCIG				*e*S		**Sn**		**20 20 32.2**	**-0.9**
HUIG	**Huatulco**	**2.33**	**236**	*e*P		**Pn**		**20 20 05.8**	**-2.5**
HUIG				*e*S		**Sn**		**20 20 37.8**	**-1.4**
HUIG	**Huatulco**	**2.33**	**236**	*e*P		**Pn**		**20 20 05.8**	**-2.5**
HUIG				*e*S		**Sn**		**20 20 37.8**	**-1.4**
VHO	**Vista Hermosa**	**2.53**	**270**	*e*P		**Pn**		**20 20 10.5**	**-0.3**
VHO				*e*S		**Sn**		**20 20 42.2**	**-1.4**
VHO	**Vista Hermosa**	**2.53**	**270**	*e*P		**Pn**		**20 20 10.5**	**-0.3**
VHO				*e*S		**Sn**		**20 20 42.2**	**-1.4**
PANG	**Puerto Angel**	**2.69**	**239**	*i* P		**Pn**		**20 20 10.9**	**-1.6**
PANG				*e*S		**Sn**		**20 20 45.1**	**-1.6**
SCIG	**Sabancuy**	**3.34**	**55**	*i* P		**Pn**		**20 20 18.3**	**-2.3**
SCIG				*i* S		**Sn**		**20 20 55.0**	**-6.3**
SCIG	**Sabancuy**	**3.34**	**55**	*i* P		**Pn**		**20 20 18.3**	**-2.3**
SCIG				*i* S		**Sn**		**20 20 55.0**	**-6.3**
LVIG	**Laguna Verde**	**3.44**	**320**	*i* P		**Pn**		**20 20 21.4**	**-0.3**
LVIG				*i* S		**Sn**		**20 21 01.6**	**-1.8**
LVIG	**Laguna Verde**	**3.44**	**320**	*i* P		**Pn**		**20 20 21.4**	**-0.3**
LVIG				*i* S		**Sn**		**20 21 01.6**	**-1.8**
PNIG	**Pinotepa**	**3.93**	**261**	*e*P		**Pn**		**20 20 26.0**	**-2.1**
PNIG				*i* S		**Sn**		**20 21 12.6**	**-2.1**
PNIG	**Pinotepa**	**3.93**	**261**	*e*P		**Pn**		**20 20 26.0**	**-2.1**
PNIG				*i* S		**Sn**		**20 21 12.6**	**-2.1**
TLIG	**Tlapa**	**4.30**	**277**	*e*P		**Pn**		**20 20 32.5**	**-0.5**
TLIG				*i* S		**Sn**		**20 21 21.6**	**-2.0**
833A	**Chaparral WMA,**	**12.21**	**337**	P		**P**		**20 22 22.0**	**-0.6**
	baz=156								
832A	**Faith Ranch, C**	**12.40**	**335**	P		**P**		**20 22 25.2**	**+0.5**
	baz=153								
734A	**La Parita Cree**	**12.41**	**341**	P		**P**		**20 22 25.4**	**+0.7**
	baz=160								
733A	**Divot King Ran**	**12.54**	**338**	P		**P**		**20 22 26.4**	**+0.3**
	baz=157								
635A	**Leesville**	**12.71**	**345**	P		**P**		**20 22 28.7**	**+0.7**
	baz=164								
633A	**Saathoff Ranch**	**13.18**	**340**	P		**P**		**20 22 35.7**	**+2.4**
	baz=158								
535A	**Dale**	**13.28**	**347**	P		**P**		**20 22 35.7**	**+1.3**
	baz=166								
534A	**Blanco**	**13.50**	**343**	P		**P**		**20 22 39.1**	**+2.2**
	baz=162								
533A	**Kerrville**	**13.70**	**342**	P		**P**		**20 22 42.6**	**+3.5**
	baz=160								
434A	**Burnet**	**14.20**	**345**	P		**P**		**20 22 48.7**	**+4.1**
	baz=164								
338A	**Crockett**	**14.26**	**356**	P		**P**		**20 22 47.5**	**+2.3**
	baz=175								
342A	**Flagon Creek P**	**14.32**	**6**	P		**P**		**20 22 47.3**	**+1.4**
	baz=187								
433A	**Art**	**14.36**	**342**	P		P		20 22 51.4	+4.9
	baz=161,SNR=9.3								
335A	**Moody**	**14.46**	**348**	P		**P**		**20 22 51.7**	**+4.2**
	baz=167								
336A	**Riesel**	**14.46**	**351**	P		**P**		**20 22 50.7**	**+3.2**
	baz=170								
344A	**Westbrook Farm**	**14.63**	**11**	P		**P**		**20 22 51.6**	**+2.2**
	baz=193								
334A	**Lometa**	**14.69**	**346**	P		P		20 22 55.6	+5.6
	baz=164								
238A	**Jacksonville**	**14.89**	**357**	P		**P**		**20 22 56.7**	**+4.4**
	baz=176								
237A	**Washetta, Mont**	**14.94**	**354**	P		**P**		**20 22 57.1**	**+4.3**
	baz=174								
242A	**Grayson**	**15.02**	**6**	P		**P**		**20 22 57.2**	**+3.5**
	baz=187								
TXAR	**Lajitas Array**	**15.03**	**326**	P		**Pn**		**20 22 52.7**	**+0.1**
	0.1nm,0.3s,baz=154,slow=15,SNR=8.4								
137A	**Heron Place, G**	**15.53**	**355**	P		**P**		**20 23 05.0**	**+5.8**
	baz=174								
143A	**Socs Landing,**	**15.75**	**8**	P		**P**		**20 23 06.3**	**+4.6**
	baz=190								
Z37A	**Pogue Cattle C**	**16.11**	**355**	P		**P**		**20 23 07.6**	**+1.9**
	baz=175								
Z36A	**Blue Ridge**	**16.26**	**353**	P		Pn		20 23 16.3	+8.8
	baz=172								
ABTX	**Abilene, Hawle**	**16.27**	**343**	P		Pn		20 23 15.5	+7.8
	baz=161								
Y41A	**Eaglette Beard**	**16.79**	**4**	P		Pn		20 23 21.8	+8.1
	baz=185								
Y38A	**Idabel**	**16.79**	**358**	P		Pn		20 23 21.8	+8.0
	baz=178								
Y39A	**Lockesburg**	**16.79**	**360**	P		Pn		20 23 21.8	+8.0
	baz=180								
Y36A	**Durant**	**16.87**	**354**	P		Pn		20 23 24.4	+10
	baz=173								
Y37A	**Hugo**	**16.89**	**356**	P		Pn		20 23 22.0	+7.0
	baz=175								
Z47A	**Carrollton**	**16.95**	**18**	P		**Pn**		**20 23 22.1**	**+6.4**
	baz=200								
Y35A	**Marietta**	**16.97**	**352**	P		Pn		20 23 25.6	+10
	baz=170,SNR=7.5								
X39A	**Fountain Ranch**	**17.36**	**360**	P		Pn		20 23 29.7	+9.0
	baz=180								
MIAR	**Mount Ida**	**17.40**	**1**	*e*P		**P**		**20 23 18.1**	**-1.9**
	4.6nm,0.6s								
X35A	**Drake**	**17.44**	**352**	P		Pn		20 23 32.1	+10
	baz=171,SNR=6.4								
X37A	**Clayton**	**17.48**	**356**	P		Pn		20 23 31.6	+10
	baz=176,SNR=7.5								
X38A	**Whitesboro**	**17.53**	**358**	P		Pn		20 23 32.2	+9.5
	baz=178,SNR=5.6								
X36A	**Centrahoma**	**17.54**	**354**	P		Pn		20 23 32.2	+9.4
	baz=173								
W38A	**Poteau**	**17.92**	**359**	P		Pn		20 23 37.1	+10
	baz=179								
W37B	**Quinton**	**18.03**	**356**	P		Pn		20 23 38.5	+10
	baz=176								
W39A	**Magazine**	**18.05**	**1**	P		Pn		20 23 38.5	+10
	baz=181,SNR=5.1								
W40A	**Ferguson Farm,**	**18.06**	**3**	P		Pn		20 23 38.4	+9.4
	baz=183								
W35A	**Tecumseh**	**18.17**	**353**	P		Pn		20 23 39.9	+10
	baz=172								
V40A	**Witts Springs**	**18.69**	**3**	P		Pn		20 23 46.7	+10
	baz=184,SNR=6.5								
V39A	**Pettigrew**	**18.69**	**1**	P		Pn		20 23 46.2	+10
	baz=181								
V38A	**Canehill**	**18.71**	**359**	P		Pn		20 23 44.9	+8.4
	baz=179								
V41A	**Mountainview**	**18.71**	**5**	P		Pn		20 23 44.0	+7.4
	baz=186								
AMTX	**Amarillo**	**18.99**	**340**	P		**P**		**20 23 32.8**	**-4.5**
	9.9nm,0.6s								
121A	**Cookes Peak, D**	**19.75**	**324**	*e*P		**P**		**20 23 44.0**	**-1.7**
	8.2nm,0.9s								
T36A	**Boggs Farm, Ca**	**19.97**	**356**	P		Pn		20 24 02.7	+11
	baz=175								
LPAZ	**La Paz**	**41.88**	**141**	P		**P**		**20 27 02.2**	**-1.1**
	2.0nm,0.7s,baz=328,slow=10,SNR=10								
INK	**Inuvik**	**56.93**	**344**	P		**P**		**20 28 54.9**	**-0.9**
	3.5nm,0.5s,baz=129,slow=8.1,SNR=12								
ILAR	**Eielson Array**	**59.23**	**337**	P		**P**		**20 29 11.4**	**-0.6**
	0.3nm,0.5s,baz=136,slow=4.6,SNR=6.8								
PLCA	**Paso Flores**	**61.53**	**160**

KRTS	Karatas	1.40	174	*e*Pn	Pn	20 40 41.7	-1.2
KMRS	Kahramanmaras	1.43	108	*e*PN	Pn	20 40 42.5	-0.9
KMRS	Kahramanmaras	1.43	108	*e*Pn	Pn	20 40 42.5	-0.9
HCB	Kahramanmara¯	1.50	114	⇑*i*P	Pn	20 40 43.4	-0.9
HCB				*i*S	Sg	20 41 05.0	-0.3
SERE	Sereflikochisa	1.61	308	*e*PN	Pn	20 40 44.3	-1.7
SERE	Sereflikochisa	1.61	308	*e*Pn	Pn	20 40 44.3	-1.7
CUSAR	Sarkisla-SIVAS	1.67	29	*i*P	Pn	20 40 44.9	-1.9
CUSAR				*i*S	Sb	20 41 08.9	-0.5
CUSAR	Sarkisla-SIVAS	1.67	29	P	Pn	20 40 44.9	-1.9
CUSAR				S	Sb	20 41 08.9	-0.5
KIZK	Mersin	1.70	210	*e*PN	Pn	20 40 46.0	-1.1
KIZK	Mersin	1.70	210	*i*P	Pn	20 40 45.2	-1.9
KIZK				*i*S	Sg	20 41 11.6	-0.3
KIZK	Mersin	1.70	210	P	Pn	20 40 45.2	-1.9
KIZK				S	Sg	20 41 11.6	-0.3
TAHT	Tahtakopru-Hat	1.77	153	*e*PN	Pn	20 40 47.0	-1.1
TAHT	Tahtakopru-Hat	1.77	153	*e*Pn	Pn	20 40 47.0	-1.1
CDAG	Cicekdag	1.78	339	*i*P	Pn	20 40 46.7	-1.5
CDAG				*i*S	Sb	20 41 11.3	-1.2
CDAG	Cicekdag	1.78	339	P	Pn	20 40 46.7	-1.5
CDAG				S	Sb	20 41 11.3	-1.2
DRWC	Darouich	1.78	138	*e*P	Pn	20 40 47.6	-0.7
DRWC				*e*S	Sn	20 41 05.5	-5.7
DRWC				AML	AML	20 41 22.1	
	comp=N,2µm,0.6s						
DRWC				AML	AML	20 41 29.7	
	comp=E,2µm,0.6s						
DRWC	Darouich	1.78	138	*e*P	Pn	20 40 47.6	-0.7
	SNR=108						
GAZ	Gaziantep	1.79	116	*e*PN	Pn	20 40 47.8	-0.6
GAZ	Gaziantep	1.79	116	*e*Pn	Pn	20 40 47.8	-0.6
CUALT	Altinyayla-SIV	1.79	43	⇑*i*P	Pn	20 40 47.4	-1.1
CUALT				*i*S	Sg	20 41 13.4	-1.4
CUALT	Altinyayla-SIV	1.79	43	P	Pn	20 40 47.4	-1.1
CUALT				S	Sg	20 41 13.4	-1.4
CUGUR	Gurin_S¯VAS	1.80	65	*i*P	Pn	20 40 48.5	-0.2
CUGUR	Gurin_S¯VAS	1.80	65	P	Pn	20 40 48.5	-0.2
SLFK	Silifke-Mersin	1.86	213	*e*PN	Pn	20 40 48.4	-0.8
SLFK	Silifke-Mersin	1.86	213	*e*Pn	Pn	20 40 48.4	-0.8
SILI	Silifke-Mersin	1.89	213	*e*PN	Pn	20 40 48.6	-1.0
SILI	Silifke-Mersin	1.89	213	*e*Pn	Pn	20 40 48.7	-1.0
DARE	Darende-Malaty	1.90	71	*e*PN	Pn	20 40 48.7	-1.3
DARE	Darende-Malaty	1.90	71	*e*Pn	Pn	20 40 48.7	-1.3
CHBY	Cihanbeyli	1.91	290	*e*PN	Pn	20 40 49.0	-1.1
CHBY	Cihanbeyli	1.91	290	*e*Pn	Pn	20 40 49.0	-1.1
KUZU	Kuzuini	1.92	128	⇑*i*P	Pn	20 40 50.2	+0.1
KUZU				*i*S	Sb	20 41 15.7	-0.7
KUZU	Kuzuini	1.92	128	P	Pn	20 40 50.2	+0.1
KUZU				S	Sb	20 41 15.7	-0.7
KEBE	Keben-Mersin	1.92	218	*e*PN	Pn	20 40 49.0	-1.1
KEBE	Keben-Mersin	1.92	218	*e*Pn	Pn	20 40 49.1	-1.1
YAYL	Yayladag	2.06	159	*e*PN	Pn	20 40 48.7	-3.5
YAYL	Yayladag	2.06	159	*i*P	Pn	20 40 48.6	-3.5
YAYL	Yayladag	2.06	159	*e*Pn	Pn	20 40 48.7	-3.5
TEVE	Tevekalti-Mers	2.07	223	*e*PN	Pn	20 40 51.1	-1.1
TEVE	Tevekalti-Mers	2.07	223	*e*Pn	Pn	20 40 51.1	-1.1
IKL	Isikli	2.10	215	*e*PN	Pn	20 40 51.8	-0.8
IKL	Isikli	2.10	215	*e*Pn	Pn	20 40 51.8	-0.8
BR131	Keskin Array S	2.13	326	*e*Pg	Pn	20 40 51.6	-1.6
BR131	Keskin Array S	2.13	326	*e*Pg	Pn	20 40 51.6	-1.6
BRTR	Keskin Array B	2.13	326	Pn	Pn	20 40 51.5	-1.6
	comp=E,71nm,0.3s,baz=152,slow=14,SNR=1095						
BRTR				LR	LR	20 41 15.9	
	comp=E,309nm,21.7s,baz=82,slow=30						
BRTR				Lg	Lg	20 41 21.4	
	comp=E,88nm,0.3s,baz=148,slow=17,SNR=11						
KKUL	Konya-Kulu	2.15	305	⇓*i*P	Pn	20 40 52.2	-1.2
KKUL	Konya-Kulu	2.15	305	P	Pn	20 40 52.2	-1.2
YESI	Yesilovacik-Me	2.16	216	*e*PN	Pn	20 40 52.4	-1.0
YESI	Yesilovacik-Me	2.16	216	*e*Pn	Pn	20 40 52.4	-1.0
BTCH	Batrach	2.17	152	*e*P	Pn	20 40 52.9	-0.8
BTCH				*e*S	Sn	20 41 14.0	-6.9
BTCH				AML	AML	20 41 35.7	
	comp=N,2µm,0.6s						
BTCH				AML	AML	20 41 37.8	
	comp=E,2µm,0.8s						
BTCH	Batrach	2.17	152	*e*P	Pn	20 40 52.9	-0.8
	SNR=103						
ARNB	Al Arnab	2.19	163	*e*P	Pn	20 40 53.9	0.0
ARNB				*e*S	Sn	20 41 16.3	-5.0
ARNB				AML	AML	20 41 38.0	
	comp=E,2µm,0.7s						
ARNB				AML	AML	20 41 39.0	
	comp=N,2µm,0.6s						
ARNB	Al Arnab	2.19	163	*e*P	Pn	20 40 53.9	0.0
	SNR=103						
AFSR	Af¯ar-Bala (A	2.22	312	*e*PN	Pn	20 40 51.7	-2.7
AFSR	Af¯ar-Bala (A	2.22	312	*e*Pn	Pn	20 40 51.7	-2.7
AKKU	Akkuyu-Mersin	2.23	217	*e*PN	Pn	20 40 53.6	-0.8
AKKU	Akkuyu-Mersin	2.23	217	*e*Pn	Pn	20 40 53.6	-0.8
CUKAN	kangal_SIVAS	2.23	52	*i*P	Pn	20 40 54.1	-0.5
CUKAN				*i*S	Sg	20 41 27.7	-1.3
CUKAN	kangal_SIVAS	2.23	52	P	Pn	20 40 54.1	-0.5
OREN	Orenkoy-Mersin	2.23	219	*e*PN	Pn	20 40 53.6	-0.8
OREN	Orenkoy-Mersin	2.23	219	*e*Pn	Pn	20 40 53.6	-0.8
KONT	Konya--Tatoy	2.24	270	*e*PN	Pn	20 40 53.1	-1.4
KONT	Konya--Tatoy	2.24	270	*i*P	Pn	20 40 53.5	-1.0
KONT	Konya--Tatoy	2.24	270	*e*Pn	Pn	20 40 53.1	-1.4
KMER	Konya-Meram	2.24	266	*i*P	Pn	20 40 53.6	-1.1
KMER	Konya-Meram	2.24	266	P	Pn	20 40 53.6	-1.1
LADK	Ladik-KONYA	2.24	277	*e*PN	Pn	20 40 52.4	-2.3
LADK	Ladik-KONYA	2.24	277	*e*Pn	Pn	20 40 52.4	-2.3
AKK1	Akkuyu-Mersin	2.25	216	*e*PN	Pn	20 40 53.7	-0.9
AKK1	Akkuyu-Mersin	2.25	216	*e*Pn	Pn	20 40 53.7	-0.9
AKK2	Akkuyu-Mersin	2.25	216	*e*PN	Pn	20 40 53.9	-0.7
AKK2	Akkuyu-Mersin	2.25	216	*e*Pn	Pn	20 40 53.9	-0.7
CORM	Corum	2.25	349	*e*PN	Pn	20 40 53.0	-1.8
CORM	Corum	2.25	349	*e*Pn	Pn	20 40 53.0	-1.8
BERE	Bereket-Mersin	2.25	225	*e*PN	Pn	20 40 53.6	-1.2
BERE	Bereket-Mersin	2.25	225	*e*Pn	Pn	20 40 53.6	-1.2
BBAL	Bala	2.26	315	*i*P	Pn	20 40 53.9	-1.0
BBAL	Bala	2.26	315	P	Pn	20 40 53.9	-1.0
COAL	Corum-Alaca	2.29	356	*i*P	Pn	20 40 54.1	-1.3
COAL	Corum-Alaca	2.29	356	P	Pn	20 40 54.1	-1.3
SVSK	Karacayir	2.41	35	*e*PN	Pn	20 40 55.8	-1.0
SVSK	Karacayir	2.41	35	*e*Pn	Pn	20 40 55.8	-1.0
SCER	sogukcermik	2.42	38	*i*P	Pn	20 40 57.5	+0.3
SCER	sogukcermik	2.42	38	P	Pn	20 40 57.5	+0.3
TEKE	Tekeli-Mersin	2.46	223	*e*PN	Pn	20 40 56.8	-0.8
TEKE	Tekeli-Mersin	2.46	223	*e*Pn	Pn	20 40 56.8	-0.8
KDHN	Kadinhani	2.48	284	*i*P	Pn	20 40 56.9	-1.1
KDHN	Kadinhani	2.48	284	P	Pn	20 40 56.9	-1.1
ATAB	Bozova	2.51	100	*i*P	Pn	20 40 57.8	-0.5
ATAB	Bozova	2.51	100	P	Pn	20 40 57.8	-0.5
TOKA	Tokat	2.56	23	*i*P	Pn	20 40 58.2	-0.8
TOKA	Tokat	2.56	23	P	Pn	20 40 58.2	-0.8
BOZY	Bozyazi-Mersin	2.56	224	*e*PN	Pn	20 40 57.7	-1.3
BOZY	Bozyazi-Mersin	2.56	224	*e*Pn	Pn	20 40 57.7	-1.3
BR231	Keskin MP Arra	2.66	316	*e*Pn	Pn	20 40 59.5	-0.9
BR231	Keskin MP Arra	2.66	316	*e*Pn	Pn	20 40 59.5	-0.9
ANTO	Ankara	2.67	316	*e*P	Pn	20 40 59.5	-1.0
ANTO	Ankara	2.67	316	*e*P	Pn	20 40 59.5	-1.0
ANTO	Ankara	2.67	316	*e*Pn	Pn	20 40 59.5	-1.0
CTAK	Corum_Osmancik	2.70	354	*i*P	Pn	20 41 00.7	-0.3
CTAK	Corum_Osmancik	2.70	354	P	Pn	20 41 00.7	-0.3
LOD	Lodumlu	2.70	316	*e*PN	Pn	20 40 59.5	-1.4
LOD	Lodumlu	2.70	316	*e*Pn	Pn	20 40 59.5	-1.4
DAD	Ankara	2.72	316	*i*P	Pb	20 41 05.1	-0.9
CUZAR	Zara_SIVAS	2.78	46	*i*P	Pn	20 41 02.1	0.0
CUZAR	Zara_SIVAS	2.78	46	P	Pn	20 41 02.1	0.0
SLMH	Al Salmeh	2.80	128	*e*P	Pn	20 41 01.7	-0.5
SLMH				*e*S	Sn	20 41 28.1	-8.1
SLMH				AML	AML	20 41 57.8	
	comp=N,1µm,0.6s						
SLMH				AML	AML	20 41 59.3	
	comp=E,2µm,0.6s						
KEMA	Kemaliye	2.90	62	*i*P	Pn	20 41 03.7	+0.1
KEMA	Kemaliye	2.90	62	P	Pn	20 41 03.7	+0.1
CANT	Cankiri	2.91	336	*e*PN	Pn	20 41 02.5	-1.2
URFA	Urfa	2.93	99	*e*PN	Pn	20 41 03.7	-0.3
URFA	Urfa	2.93	99	*e*Pn	Pn	20 41 03.7	-0.3
SURC	SANLIURFA_SURC	2.93	111	*i*P	Pn	20 40 59.4	-4.6
RSDY	Resadiye-TOKAT	2.94	34	*e*PN	Pn	20 41 03.3	-0.9
RSDY	Resadiye-TOKAT	2.94	34	*e*Pn	Pn	20 41 03.3	-0.9
LFK	Lefkose	2.99	207	*e*PN	Pn	20 41 04.4	-0.6
LFK	Lefkose	2.99	207	*e*Pn	Pn	20 41 04.4	-0.6
ELZG	Elazig	3.03	79	*i*P	Pn	20 41 05.7	+0.1
ELZG	Elazig	3.03	79	P	Pn	20 41 05.7	+0.1
KFRA	Kufra	3.04	154	*e*P	Pn	20 41 06.0	+0.4
KFRA				*e*S	Sn	20 41 35.3	-6.7
KFRA				AML	AML	20 42 03.6	
	comp=E,870nm,0.8s						
KFRA				AML	AML	20 42 14.4	
	comp=N,2µm,0.6s						
PHNC	Paralimni	3.10	198	P	Pn	20 41 06.1	-0.2
PHNC	Paralimni	3.10	198	P	Pn	20 41 06.1	-0.2
	baz=19						
PHNC				S	Sb	20 41 49.5	-0.9
HAVZ	Havza	3.13	7	*i*P	Pn	20 41 06.2	-0.6
HAVZ	Havza	3.13	7	P	Pn	20 41 06.2	-0.6
REFA	Refahiye_ERZ¯	3.14	62	*i*P	Pb	20 41 11.2	-2.2
KVT	Kavak	3.18	12	*e*PN	Pn	20 41 06.2	-1.2
KVT	Kavak	3.18	12	*e*Pn	Pn	20 41 06.3	-1.2
MAMC	Mammari	3.21	210	P	Pn	20 41 07.7	-0.1
MAMC	Mammari	3.21	210	P	Pn	20 41 07.7	-0.1
	baz=29						
SVRH	Sivrihisar-ESK	3.23	298	*e*PN	Pn	20 41 07.3	-0.9
SVRH	Sivrihisar-ESK	3.23	298	*e*Pn	Pn	20 41 07.3	-0.9
SUSE	Susehri	3.24	45	*i*P	Pn	20 41 07.0	-1.4
SUSE	Susehri	3.24	45	P	Pn	20 41 07.0	-1.4
SVRC	Sivrice-ELAZID	3.27	81	*e*PN	Pn	20 41 08.6	-0.3
SVRC	Sivrice-ELAZID	3.27	81	*e*Pn	Pn	20 41 08.6	-0.3
ILGA	Ilgaz	3.29	340	*i*P	Pn	20 41 08.7	-0.4
ILGA	Ilgaz	3.29	340	P	Pn	20 41 08.7	-0.4
ILGA	Ilgaz	3.29	340	*e*Pn	Pn	20 41 08.8	-0.4
CMDR	Camlidere-ANKA	3.29	321	*i*P	Pn	20 41 10.9	+1.8
CSS	Mathiatis	3.35	207	Pn	Pn	20 41 08.2	-1.6
CSS	Mathiatis	3.35	207	Pn	Pn	20 41 08.2	-1.6
CSS	Mathiatis	3.35	207	P	Pn	20 41 09.7	-0.1
CSS	Mathiatis	3.35	207	P	Pn	20 41 09.7	-0.1
	baz=26						
CSS				S	Sb	20 41 57.3	-0.4
SUTC	Sutluce-Ispart	3.36	263	*e*PN	Pn	20 41 08.8	-1.2
SUTC	Sutluce-Ispart	3.36	263	*e*Pn	Pn	20 41 08.8	-1.2
LEF	Lefka	3.39	214	*e*PN	Pn	20 41 10.4	0.0
LEF	Lefka	3.39	214	P	Pn	20 41 09.4	-0.9
LEF	Lefka	3.39	214	*e*Pn	Pn	20 41 10.4	0.0
PTK	Pertek	3.43	73	*e*PN	Pn	20 41 10.7	-0.3
PTK	Pertek	3.43	73	*e*Pn	Pn	20 41 10.7	-0.3
BOYT	Boyatat	3.46	356	*i*P	Pb	20 41 19.5	+0.9
SAMS	Samsun-Alacam	3.48	12	*i*P	Pb	20 41 19.4	+0.5
BAGO	Egridir - ISPA	3.48	272	*i*P	Pn	20 41 12.0	+0.4
ALFC	Alefka	3.50	217	P	Pn	20 41 10.9	-0.9
ALFC	Alefka	3.50	217	P	Pn	20 41 10.9	-0.9
	baz=34						
HAWK	Haweek	3.57	164	*e*P	Pn	20 41 13.3	+0.3
HAWK				*e*S	Sn	20 41 47.9	-7.5
HAWK				AML	AML	20 42 25.1	
	comp=E,162nm,0.6s						
HAWK				AML	AML	20 42 30.6	
	comp=N,108nm,0.6s						
HAWK	Haweek	3.57	164	*e*P	Pn	20 41 13.3	+0.3
	SNR=97						
TNCL	Tunceli-Merkez	3.60	70	*i*P	Pn	20 41 13.1	-0.2
TNCL	Tunceli-Merkez	3.60	70	P	Pn	20 41 13.1	-0.2
ORDU	Ordu-Boztepe	3.66	33	*i*P	Pn	20 41 15.7	+1.7
ORDU	Ordu-Boztepe	3.66	33	P	Pn	20 41 15.7	+1.7
SHUT	Suhut-Afyon	3.70	281	*e*PN	Pn	20 41 13.8	-0.8
SHUT	Suhut-Afyon	3.70	281	*e*Pn	Pn	20 41 13.9	-0.8
EZC	Erzincan	3.71	60	*e*Pn	Pn	20 41 17.2	+2.4
SZAC	Souni	3.71	211	P	Pn	20 41 16.6	+1.9
SZAC	Souni	3.71	211	P	Pn	20 41 16.6	+1.9
	baz=29						
SZAC				S	Sb	20 42 06.8	-1.2
AKMC	Akamas	3.73	219	P	Pn	20 41 15.1	+0.1
AKMC	Akamas	3.73	219	P	Pn	20 41 15.1	+0.1
	baz=36						
HWQ	Hawqa	3.73	170	*e*P	Pn	20 41 16.1	+1.0
HWQ	Hawqa	3.73	170	*e*P	Pn	20 41 16.1	+1.0
ESKT	Eskisehir	3.73	296	*i*P	Pn	20 41 14.8	-0.4
SEYT	Eskypehyr	3.73	296	P	Pn	20 41 14.8	-0.4
BCAM	Yenicaga	3.74	321	*i*P	Pn	20 41 13.3	-1.9
BCAM	Yenicaga	3.74	321	P	Pn	20 41 13.3	-1.9
ANTB	Antalya	3.77	255	*e*PN	Pn	20 41 15.2	-0.3
ANTB	Antalya	3.77	255	*e*Pn	Pn	20 41 15.2	-0.3
GRSN	GIRESUNGRSN	3.80	38	*i*P	Pn	20 41 17.6	+1.7
GRSN	GIRESUNGRSN	3.80	38	P	Pn	20 41 17.6	+1.7
PPCY	Paphos	3.84	218	P	Pn	20 41 18.2	+1.7
PPCY	Paphos	3.84	218	P	Pn	20 41 18.2	+1.7
	baz=34						
FKH	Fakeheh	3.84	165	*e*P	Pn	20 41 17.1	+0.4
FKH	Fakeheh	3.84	165	*e*P	Pn	20 41 17.1	+0.4
KELT	Kelkit	3.84	54	*i*P	Pn	20 41 17.3	+0.5
KELT	Kelkit	3.84	54	P	Pn	20 41 17.3	+0.5
ERZN	Erzincan	3.89	64	*e*PN	Pn	20 41 17.1	-0.2
DIYA	Diyarbakir	3.90	89	*i*P	Pn	20 41 17.6	+0.2
DIYA	Diyarbakir	3.90	89	P	Pn	20 41 17.6	+0.2
EUZM	Uzumlu	3.92	62	*i*P	Pn	20 41 18.1	+0.2
EUZM	Uzumlu	3.92	62	P	Pn	20 41 18.0	+0.2
KORT	Korkueli	3.97	257	*e*PN	Pn	20 41 17.1	-1.3
KORT	Korkueli	3.97	257	*i*P	Pn	20 41 17.0	-1.4
KORT	Korkueli	3.97	257	*e*Pn	Pn	20 41 17.2	-1.3
KZIL	AFYON_Kizioren	3.99	276	*i*P	Pn	20 41 18.1	-0.7
KZIL	AFYON_Kizioren	3.99	276	P	Pn	20 41 18.1	-0.7
SNOP	Sinop	4.05	0	*e*PN	Pn	20 41 18.1	-1.2
SNOP	Sinop	4.05	0	*e*Pn	Pn	20 41 18.2	-1.2
MARH	Ras Al Marh	4.07	165	*e*P	Pn	20 41 20.6	+0.7
MARH				*e*S	Sn	20 42 01.4	-6.5
MARH				AML	AML	20 42 33.9	
	comp=E,242nm,0.5s						
MARH				AML	AML	20 42 37.7	
	comp=N,214nm,0.6s						
MARH	Ras Al Marh	4.07	165	*e*P	Pn	20 41 20.6	+0.7
	SNR=96						
BHL	Bhannes	4.07	175	*e*P	Pn	20 41 19.7	-0.1
BHL	Bhannes	4.07	175	*e*P	Pn	20 41 19.7	-0.1
BZK	Bozkurt	4.09	347	*e*PN	Pn	20 41 18.9	-1.1
BZK	Bozkurt	4.09	347	*e*Pn	Pn	20 41 18.9	-1.1
ROOS	tl_alroos	4.15	155	*e*P	Pn	20 41 22.0	+1.1
ROOS				*e*S	Sn	20 42 01.9	-7.7
ROOS				AML	AML	20 42 50.5	
	comp=E,395nm,0.7s						
ROOS				AML	AML	20 42 57.4	
	comp=N,232nm,0.7s						
ROOS	tl_alroos	4.15	155	*e*P	Pn	20 41 22.0	+1.1
	SNR=96						
BTAS	Taskesti	4.17	310	*i*P	Pn	20 41 18.5	-2.6
BTAS	Taskesti	4.17	310	P	Pn	20 41 18.5	-2.6
MAZI	Mazidag	4.20	95	*e*PN	Pn	20 41 21.2	-0.4
MAZI	Mazidag	4.20	95	*e*Pn	Pn	20 41 21.2	-0.4
SFNV	Sufian	4.22	110	*e*P	Pn	20 41 20.6	-1.2
SFNV				*e*S	Sn	20 42 02.1	-9.2
SFNV				AML	AML	20 42 45.8	
	comp=Z,1µm,0.6s						
SFNV	Sufian	4.22	110	*e*P	Pn	20 41 20.6	-1.2
	SNR=95						
DQRL	Deir Qamar	4.26	176	*e*P	Pn	20 41 21.8	-0.6
DQRL	Deir Qamar	4.26	176	*e*P	Pn	20 41 21.8	-0.6
BTIN	Bart¯–n	4.31	329	*i*P	Pn	20 41 22.0	-0.9
BTIN	Bart¯–n	4.31	329	P	Pn	20 41 22.0	-0.9
KBSD	Kabsdagh	4.36	101	*e*P	Pn	20 41 23.8	0.0
KBSD				*e*S	Sn	20 42 07.0	-7.7
KBSD				AML	AML	20 42 46.1	
	comp=Z,480nm,0.5s						
KBSD	Kabsdagh	4.36	101	*e*P	Pn	20 41 23.8	0.0
	SNR=95						
ELL	Elmali	4.38	256	*e*PN	Pn	20 41 24.1	0.0
ELL	Elmali	4.38	256	*e*Pn	Pn	20 41 24.1	0.0
GULT	Gulveren	4.39	306	*e*PN	Pn	20 41 23.9	-0.3
GULT	Gulveren	4.39	306	*e*Pn	Pn	20 41 23.9	-0.3
SAHE	Sakarya_HENDEK	4.43	312	*i*P	Pn	20 41 24.9	+0.3
SAHE	Sakarya_HENDEK	4.43	312	P	Pn	20 41 24.9	+0.3
YEDI	Yedisu-Bingol	4.44	69	*e*PN	Pn	20 41 25.3	+0.4
YEDI	Yedisu-Bingol	4.44	69	*e*Pn	Pn	20 41 25.3	+0.4
MARD	Mardin	4.48	97	*i*P	Pn	20 41 25.3	-0.2
RCY	Rachaya	4.49	173	*e*P	Pn	20 41 25.8	+0.2
KHAL	Karahalli	4.51	277	*i*P	Pn	20 41 25.5	-0.3
KHAL	Karahalli	4.51	277	P	Pn	20 41 25.5	-0.3
QASN	Qassioun	4.51	168	*e*P	Pn	20 41 27.3	+1.5
QASN				*e*S	Sn	20 42 10.7	-7.7
QASN				AML	AML	20 42 34.7	
	comp=N,201nm,0.4s						
QASN				AML	AML	20 42 44.7	
	comp=E,369nm,0.7s						
QASN	Qassioun	4.51	168	*e*P	Pn	20 41 27.3	+1.5
	SNR=95						
GOLH	Golhisar	4.53	262	*i*P	Pn	20 41 26.5	+0.4
GOLH	Golhisar	4.53	262	P	Pn	20 41 26.5	+0.4
BRBR	Barbar	4.59	172	*e*P	Pn	20 41 27.8	+0.8
BRBR				*e*S	Sn	20 42 14.7	-5.9
BRBR				AML	AML	20 42 30.9	
	comp=E,210nm,0.7s						
BRBR				AML	AML	20 42 42.1	
	comp=N,203nm,0.7s						
BRBR	Barbar	4.59	172	*e*P	Pn	20 41 27.8	+0.8
	SNR=95						
GLHS	Gihisar (BURDU	4.59	262	*e*PN	Pn	20 41 26.7	-0.3
GLHS	Gihisar (BURDU	4.59	262	*e*Pn	Pn	20 41 26.7	-0.3
GDZ	Gediz	4.62	286	*i*P	Pn	20 41 26.3	-1.0
GDZ	Gediz	4.62	286	P	Pn	20 41 26.3	-1.0
MACK	Trabzon	4.62	49	*i*P	Pn	20 41 28.9	+1.5
MACK	Trabzon	4.62	49	P	Pn	20 41 28.9	+1.5
KTUT	Trabzon	4.65	48	*e*PN	Pn	20 41 27.4	-0.2
KTUT	Trabzon	4.65	48	*e*Pn	Pn	20 41 27.5	-0.2
GEDZ	Gediz	4.66	285	*e*PN	Pn	20 41 26.7	-1.2
GEDZ	Gediz	4.66	285	*e*Pn	Pn	20 41 26.7	-1.2
TOTH	TOTAH	4.70	167	*e*P	Pn	20 41 29.8	+1.4
TOTH				*e*S	Sn	20 42 15.3	-7.9
TOTH				AML	AML	20 42 52.2	
	comp=E,126nm,0.7s						
TOTH				AML	AML	20 42 56.9	
	comp=N,166nm,0.6s						
TOTH	TOTAH	4.70	167	*e*P	Pn	20 41 29.8	+1.4
	SNR=95						
TVSB	Tavsanli	4.72	290	*e*PN	Pn	20 41 28.4	-0.3
TVSB	Tavsanli	4.72	290	*e*Pn	Pn	20 41 28.4	-0.3
SVAN	Silvan-Diyarba	4.74	86	*e*PN	Pn	20 41 29.8	+0.8
SVAN	Silvan-Diyarba	4.74	86	*i*P	Pn	20 41 29.1	0.0
SVAN	Silvan-Diyarba	4.74	86	P	Pn	20 41 29.0	0.0
SVAN	Silvan-Diyarba	4.74	86	*e*Pn	Pn	20 41 29.8	+0.8
KSDI	Kefar Szold	4.78	175	Pn	Pn	20 41 29.7	+0.3
KSDI	Kefar Szold	4.78	175	Pn	Pn	20 41 29.7	+0.3
BNGL	BINGOL	4.78	76	*i*P	Pb	20 41 38.9	-2.4
AKAS	Kas	4.79	251	*e*PN	Pn	20 41 28.9	-0.8
AKAS	Kas	4.79	251	*i*P	Pn	20 41 28.9	-0.8
AKAS	Kas	4.79	251	P	Pn	20 41 28.9	-0.8
BTMN	Batman	4.81	89	*i*P	Pn	20 41 28.2	-1.7
BTMN	Batman	4.81	89	P	Pn	20 41 28.2	-1.7
ECAT	Cat-ERZURUM	4.81	68	*i*P	Pn	20 41 29.0	-1.0
ECAT	Cat-ERZURUM	4.81	68	P	Pn	20 41 29.0	-1.0
HNTI	Hanita	4.87	180	Pn	Pn	20 41 30.3	-0.4
HNTI				Sn	Sn	20 42 27.3	0.0
HNTI	Hanita	4.87	180	Pn	Pn	20 41 30.3	-0.4
HNTI				Sn	Sn	20 42 27.3	0.0
ADVT	Abdulvahap	4.90	302	*e*PN	Pn	20 41 30.9	-0.2
ADVT	Abdulvahap	4.90	302	*e*Pn	Pn	20 41 30.9	-0.2
MMA0B	Mount Meron ar	4.94	178	Pn	Pn	20 41 31.9	+0.2
MMA0B				Sn	Sn

ZFRI Sn **Sn** **20 43 32.2 +2.9**
ZFRI Zfri 7.39 180 Pn **Pn** **20 42 06.6 +1.3**
ZFRI Sn **Sn** **20 43 32.2 +2.9**
PRNI Paran 7.60 181 Pn **Pn** **20 42 08.7 +0.5**
PRNI Paran 7.60 181 Pn **Pn** **20 42 08.7 +0.5**
GNI Garni 7.74 71 Pn **Pn** **20 42 14.3 +4.0**
comp=N,0.3nm,0.3s,baz=357,slow=17,SNR=3.1
NEY Neytrino 7.79 45 ⇓*i*P Pn 20 42 17.4 +6.5
ONI Oni 7.82 51 P Pn 20 42 21.0 +10
ONI Oni 7.82 51 *e*P Pn 20 42 21.0 +10
HRFI Mount Harif 7.91 181 Pn **Pn** **20 42 13.1 +0.6**
HRFI Mount Harif 7.91 181 Pn **Pn** **20 42 13.1 +0.6**
HNKL Nakhl 8.08 188 P **Pn** **20 42 15.5 +0.7**
baz=184
HNKL S Sn 20 43 35.4 -11
baz=184
HNKL Nakhl 8.08 188 P **Pn** **20 42 15.5 +0.7**
MBRI Mt Berech 8.15 182 Pn **Pn** **20 42 17.1 +1.2**
MBRI Sn **Sn** **20 43 48.6 +0.4**
MBRI Mt Berech 8.15 182 Pn **Pn** **20 42 17.1 +1.2**
MBRI Sn **Sn** **20 43 48.6 +0.4**
KBZ Khabaz 8.20 43 Pn **Pn** **20 42 19.7 +3.4**
comp=N,0.1nm,0.3s,baz=315,slow=4.3,SNR=2.9
KBZ LR LR 20 45 48.8
comp=N,664nm,19.2s,baz=224,slow=40
ZEI Tsey 8.21 51 *e*P **Pn** **20 42 19.1 +2.4**
ZEI pmax pmax
comp=Z,15nm,0.8s
KIV Kislovodsk 8.24 41 *i* P Pn 20 42 21.4 +4.4
KIV pmax pmax
comp=Z,7.0nm,1.0s
KIV MLR MLR
comp=Z,296nm,20.0s
KVAR Kislovodsk Arr 8.25 41 LR LR 20 45 50.9
comp=Z,328nm,22.0s,baz=199,slow=40
TBLG Delisi 8.25 60 P Pn 20 42 27.0 +10
TBLG Delisi 8.25 60 *e*P Pn 20 42 27.0 +10
TIRR Tirgusor 8.26 324 ⇓*i*P **Pn** **20 42 15.9 -1.2**
TIRR Tirgusor 8.26 324 ⇓P **Pn** **20 42 15.9 -1.2**
TIRR Tirgusor 8.26 324 P **Pn** **20 42 15.9 -1.2**
EIL Elat 8.28 181 Pn **Pn** **20 42 18.9 +1.4**
EIL Elat 8.28 181 Pn **Pn** **20 42 18.9 +1.4**
TLB Topalu 8.53 323 ⇓*i*P **Pn** **20 42 19.7 -1.1**
TLB Topalu 8.53 323 ⇓P **Pn** **20 42 19.7 -1.1**
TLB Topalu 8.53 323 P **Pn** **20 42 19.7 -1.1**
HARR Harsova 8.66 323 ⇓*i*P **Pn** **20 42 21.4 -1.2**
HARR Harsova 8.66 323 ⇓P **Pn** **20 42 21.4 -1.2**
HARR Harsova 8.66 323 P **Pn** **20 42 21.4 -1.2**
IDI Anoyia 8.70 255 Pn **Pn** **20 42 22.8 -0.6**
comp=Z,4.2nm,0.3s,baz=87,slow=14,SNR=17
IDI LR LR 20 46 24.7
comp=Z,481nm,20.9s,baz=86,slow=43
IDI Anoyia 8.70 255 *e*Pn **Pn** **20 42 25.7 +2.3**
HBST Basata 8.73 183 P **Pn** **20 42 25.0 +1.2**
baz=178
HBST Basata 8.73 183 P **Pn** **20 42 25.0 +1.2**
NUB 8.93 183 P **Pn** **20 42 28.1 +1.8**
baz=179
CFR Carcaliu 8.94 326 ⇑*i*P **Pn** **20 42 25.0 -1.4**
CFR Carcaliu 8.94 326 ⇑P **Pn** **20 42 25.0 -1.4**
CFR Carcaliu 8.94 326 P **Pn** **20 42 25.0 -1.4**
HDHB Dhahab 9.23 183 P **Pn** **20 42 31.8 +1.3**
baz=179
HDHB Dhahab 9.23 183 P **Pn** **20 42 31.8 +1.3**
ISR Istrita 9.64 321 ⇓*i*P **Pn** **20 42 35.1 -1.1**
ISR Istrita 9.64 321 ⇓P **Pn** **20 42 35.1 -1.1**
ISR Istrita 9.64 321 P **Pn** **20 42 35.1 -1.1**
GRB Gharib 9.88 192 P **Pn** **20 42 39.9 +0.5**
baz=190
GRB Gharib 9.88 192 P **Pn** **20 42 39.9 +0.5**
SH2 Sharm el Sheik 10.10 186 P **Pn** **20 42 43.5 +1.1**
baz=183
SH2 Sharm el Sheik 10.10 186 P **Pn** **20 42 43.5 +1.1**
VRI Vrincioaia 10.10 324 ⇑*i*P **Pn** **20 42 41.3 -1.1**
VRI Vrincioaia 10.10 324 ⇑P **Pn** **20 42 41.3 -1.1**
VRI Vrincioaia 10.10 324 P **Pn** **20 42 41.3 -1.1**
MILM Milestii Mici 10.11 334 ⇓*i*P **Pn** **20 42 40.9 -1.6**
MILM Milestii Mici 10.11 334 ⇓P **Pn** **20 42 40.9 -1.6**
PLOR Plostina 10.12 324 ⇑*i*P **Pn** **20 42 41.6 -1.2**
PLOR Plostina 10.12 324 ⇑P **Pn** **20 42 41.6 -1.2**
PLOR Plostina 10.12 324 P **Pn** **20 42 41.6 -1.2**
MLR Muntele Rosu 10.21 320 Pn **Pn** **20 42 44.2 +0.2**
comp=Z,0.1nm,0.3s,baz=164,slow=12,SNR=5.0
MLR LR LR 20 47 02.9
comp=Z,34nm,19.2s,baz=146,slow=40
MLR Muntele Rosu 10.21 320 ⇓*i*P **Pn** **20 42 43.9 -0.1**
VTS Vitosha 10.25 301 *e*P **Pn** **20 42 43.6 -1.1**
VTS Vitosha 10.25 301 *e*P **Pn** **20 42 43.6 -1.1**
VTS Vitosha 10.25 301 *e*Pn **Pn** **20 42 43.6 -1.1**
TESR Tescani 10.63 326 ⇑*i*P **Pn** **20 42 47.6 -2.0**
TESR Tescani 10.63 326 ⇑*i*P **Pn** **20 42 47.6 -2.0**
VOIR 10.63 318 ⇑*i*P **Pn** **20 42 49.5 -0.3**
VOIR 10.63 318 ⇑P **Pn** **20 42 49.5 -0.3**
VOIR 10.63 318 P **Pn** **20 42 49.5 -0.3**
ARR Arges 10.81 316 ⇓*i*P **Pn** **20 42 52.1 -0.1**
ARR Arges 10.81 316 ⇓*i*P **Pn** **20 42 52.1 -0.1**
DOPR Dopca 10.82 321 ⇑*i*P **Pn** **20 42 51.3 -1.0**
DOPR Dopca 10.82 321 ⇑*i*P **Pn** **20 42 51.3 -1.0**
BARS Barje 11.29 300 *e*Pn **Pn** **20 42 58.7 0.0**
SORM Soroca 11.32 336 ⇓*i*P **Pn** **20 42 56.4 -2.7**
SORM Soroca 11.32 336 ⇓P **Pn** **20 42 56.4 -2.7**
SORM Soroca 11.32 336 P **Pn** **20 42 56.4 -2.7**
LOT Lotru 11.34 315 ⇑*i*P **Pn** **20 42 59.4 -0.1**
LOT Lotru 11.34 315 ⇑P **Pn** **20 42 59.4 -0.1**
GZR Gura Zlata 11.88 313 ⇓*i*P **Pn** **20 43 07.6 +0.8**
GZR Gura Zlata 11.88 313 ⇓*i*P **Pn** **20 43 07.6 +0.8**
BURAR Bucovina Array 12.10 326 ⇑*i*P **Pn** **20 43 08.9 -1.0**
BURAR Bucovina Array 12.10 326 ⇑P **Pn** **20 43 08.9 -1.0**
BURAR Bucovina Array 12.10 326 ⇑*i*P **Pn** **20 43 08.9 -1.0**
BUR08 Bucovina Ar. S 12.13 326 *e*Pn **Pn** **20 43 08.5 -1.8**
BUR08 Bucovina Ar. S 12.13 326 *e*Pn **Pn** **20 43 08.5 -1.8**
MDVR Moldovita 12.19 308 ⇑*i*P **Pn** **20 43 12.8 +1.7**
BZS Buzias 12.68 311 ⇓*i*P **Pn** **20 43 18.4 +0.7**
BZS Buzias 12.68 311 ⇓P **Pn** **20 43 18.4 +0.7**
BZS Buzias 12.68 311 P **Pn** **20 43 18.4 +0.7**
DRGR 12.75 318 ⇑*i*P **Pn** **20 43 18.2 -0.5**
DRGR 12.75 318 ⇑P **Pn** **20 43 18.2 -0.5**
DRGR 12.75 318 P **Pn** **20 43 18.2 -0.5**
KIEV Kiev 13.42 343 ⇑*i*P **Pn** **20 43 27.3 -0.5**
KIEV pmax pmax
comp=Z,7.0nm,1.1s
KIEV Kiev 13.42 343 *i* P **Pn** **20 43 27.3 -0.5**
comp=Z,7.0nm,1.1s
AKASG Malin Array Be 13.42 343 Pn **Pn** **20 43 25.0 -2.8**
comp=Z,0.6nm,0.3s,baz=156,slow=13,SNR=7.6
AKASG Malin Array Be 13.42 343 *i* P **Pn** **20 43 27.2 -0.6**
AKASG pmax pmax
comp=Z,2.0nm,0.7s
AKASG Malin Array Be 13.42 343 *i* P **Pn** **20 43 27.2 -0.6**
comp=Z,2.0nm,0.7s
VSR Storozhevoye 13.54 11 *e*P **Pn** **20 43 30.3 +0.8**
VSR pmax pmax
comp=Z,7.0nm,1.2s
VSR Storozhevoye 13.54 11 *e*P **Pn** **20 43 30.3 +0.8**
comp=Z,7.0nm,1.2s
UZH Uzhgorod 14.19 323 *e*P Pn 20 43 30.5 -7.7
KWP Kalwaria Pacla 14.71 326 *e*P **P** **20 43 52.5 +0.8**
KWP Kalwaria Pacla 14.71 326 *e*P **P** **20 43 52.5 +0.8**
KWP Kalwaria Pacla 14.71 326 *e*P **P** **20 43 52.5 +0.8**
CRVS Cervenica-Dubn 14.77 322 *e*P **Pn** **20 43 47.7 +1.4**
CRVS Cervenica-Dubn 14.77 322 *e* **Pn** **20 43 47.7 +1.4**
LPSR Galich'ya Gora 14.87 9 *e*P **P** **20 43 50.3 -3.0**
LPSR pmax pmax
comp=Z,10.0nm,1.3s
LPSR Galich'ya Gora 14.87 9 *e*P **P** **20 43 50.3 -3.0**
comp=Z,10.0nm,1.3s
PSZ Piszkesteto 14.96 317 ⇑*i*P **Pn** **20 43 48.1 -0.7**
PSZ Piszkesteto 14.96 317 ⇑P **Pn** **20 43 48.1 -0.7**
PSZ Piszkesteto 14.96 317 *e*Pn **Pn** **20 43 47.3 -1.5**
PSZ Piszkesteto 14.96 317 *e*Pn **Pn** **20 43 47.3 -1.5**
KECS Kecovo 14.99 319 *e*P **Pn** **20 43 50.8 +1.6**
KECS Kecovo 14.99 319 *e* **Pn** **20 43 50.8 +1.6**
CUC Castrocucco 15.21 284 *e*Pn **Pn** **20 43 50.0 -2.2**
CUC Castrocucco 15.21 284 *e*Pn **Pn** **20 43 50.0 -2.2**
STHS Stebnicka Huta 15.23 323 *e*P **P** **20 43 57.0 -0.4**
STHS Stebnicka Huta 15.23 323 *e*P **P** **20 43 57.0 -0.4**
STHS Stebnicka Huta 15.23 323 *e*P **P** **20 43 57.0 -0.4**
NIE Niedzica 15.69 322 *e*P **Pn** **20 43 58.3 -0.1**
NIE Niedzica 15.69 322 *e*P **Pn** **20 43 58.3 -0.1**
VYHS Vyhne 15.87 317 *e*P **Pn** **20 44 01.1 +0.3**
VYHS Vyhne 15.87 317 *e*P **Pn** **20 44 01.0 +0.3**
LANS Liptovska Anna 15.93 320 *e*P **P** **20 44 03.2 -2.0**
LANS Liptovska Anna 15.93 320 *e*P **P** **20 44 03.2 -2.0**
BOJS Bojanci 16.66 303 *i* Pn **P** **20 44 17.7 +4.4**
VISS Visnje 17.03 304 *e*Pn **P** **20 44 19.7 +2.3**
OKC Ostrava-Krasne 17.03 320 *e*P **P** **20 44 15.7 -1.7**
OKC Ostrava-Krasne 17.03 320 *e*P **P** **20 44 15.7 -1.7**
OKC Ostrava-Krasne 17.03 320 *e*P **P** **20 44 15.7 -1.7**
ARSA Arzberg 17.16 309 *i* sP **P** **20 44 18.4 -0.5**
comp=Z,11nm,1.4s
ARSA Arzberg 17.16 309 P **P** **20 44 18.4 -0.5**
comp=Z,11nm,1.4s
PERS Pernice 17.16 307 *i* Pn **P** **20 44 17.9 -1.0**
PERS Pernice 17.16 307 *i* Pn **P** **20 44 17.9 -1.0**
OBN Obninsk 17.18 3 P **P** **20 44 18.6 -0.3**
comp=Z,0.6nm,0.3s,baz=17,slow=19,SNR=3.2
OBN LR LR 20 51 46.6
comp=Z,76nm,19.1s,baz=98,slow=40
OBN Obninsk 17.18 3⇓*e*P **P** **20 44 18.9 0.0**
OBN *e*S **Sn** **20 47 29.6 +1.2**
OBN pmax pmax
comp=Z,11nm,1.2s
OBN MLR MLR
comp=Z,68nm,17.0s
SOKA Soboth 17.23 307 *i* pP **Pn** **20 44 18.0 -0.1**
comp=Z,10nm,1.4s
SOKA Soboth 17.23 307 P **Pn** **20 44 18.0 -0.1**
comp=Z,10nm,1.4s
CONA Conrad Observa 17.26 311 *e*P **P** **20 44 18.7 -1.3**
comp=Z,6.6nm,1.2s,SNR=5.2
CONA Conrad Observa 17.26 311 P **P** **20 44 18.7 -1.3**
comp=Z,6.6nm,1.2s,SNR=5.2
MORC Moravsky Berou 17.31 319 ⇑*i*P **P** **20 44 19.8 -0.7**
MORC Moravsky Berou 17.31 319 ⇑P **P** **20 44 19.8 -0.7**
MORC Moravsky Berou 17.31 319 *e*Pn **Pn** **20 44 17.3 -1.7**
comp=Z,88nm,1.3s
MORC Moravsky Berou 17.31 319 P **P** **20 44 19.8 -0.7**
MORC Moravsky Berou 17.31 319 *e*Pn **Pn** **20 44 17.3 -1.7**
comp=Z,88nm,1.3s
OBKA Obir 17.47 306 *i* pP **Pn** **20 44 20.7 -0.4**
comp=Z,17nm,1.5s
OBKA Obir 17.47 306 P **Pn** **20 44 20.7 -0.4**
comp=Z,17nm,1.5s
VRAC Vranov 17.55 316 P **P** **20 44 22.0 -1.1**
comp=Z,0.1nm,0.3s,baz=121,slow=12,SNR=23
VRAC LR LR 20 51 46.8
comp=Z,84nm,19.1s,baz=128,slow=40
JAVS Javornik 17.57 303 *i* Pn **P** **20 44 23.5 +0.1**
JAVS Javornik 17.57 303 *i* Pn **P** **20 44 23.5 +0.1**
KRLC Kraliky 17.88 318 *e*P **P** **20 44 26.9 +0.1**
KRLC Kraliky 17.88 318 *e*P **P** **20 44 26.9 +0.1**
KRLC Kraliky 17.88 318 *e*P **P** **20 44 26.9 +0.1**
SUW Suwalki 18.05 337 P **P** **20 44 29.7 +1.2**
SUW Suwalki 18.05 337 P **P** **20 44 29.7 +1.2**
GEYT Alibeck 18.08 83 P **P** **20 44 29.9 +0.8**
comp=Z,0.2nm,0.3s,baz=310,slow=7.4,SNR=18
GEYT LR LR 20 53 19.4
comp=Z,187nm,19.2s,baz=265,slow=43
MYKA Terra Mystica 18.10 305 *e*P **P** **20 44 29.3 0.0**
comp=Z,20nm,1.4s
MYKA Terra Mystica 18.10 305 P **P** **20 44 29.3 0.0**
comp=Z,20nm,1.4s
TREC Trest 18.15 315 AMS AMS 20 52 40.0
comp=Z,200nm,14.9s
MOA Molln 18.18 310 *e*sP **P** **20 44 31.3 +1.1**
comp=Z,7.1nm,0.8s
MOA Molln 18.18 310 P **P** **20 44 31.3 +1.1**
comp=Z,7.1nm,0.8s
DPC Dobruska-Polom 18.28 319 *e*P **P** **20 44 31.1 -0.1**
DPC *e*pP **sP** **20 44 41.3 +6.6**
DPC AMS AMS 20 52 50.0
comp=Z,400nm,12.5s
DPC Dobruska-Polom 18.28 319 *e*P **P** **20 44 31.1 -0.1**
DPC MLR MLR
comp=Z,400nm,12.5s
DPC Dobruska-Polom 18.28 319 *e*P **P** **20 44 31.1 -0.1**
comp=Z,400nm,12.5s
KBA Koelnbreinsper 18.45 307 *e*sP **Pn** **20 44 34.2 +0.9**
comp=Z,12nm,0.9s,SNR=5.9
KBA Koelnbreinsper 18.45 307 P **Pn** **20 44 34.2 +0.9**
comp=Z,12nm,0.9s,SNR=5.9
UPC Upice 18.54 319 *e*P **Pn** **20 44 34.7 +0.6**
UPC AMS AMS 20 52 50.0
comp=Z,300nm,13.2s
UPC Upice 18.54 319 *e*P **Pn** **20 44 34.7 +0.6**
UPC MLR MLR
comp=Z,300nm,13.2s
UPC Upice 18.54 319 *e*P **Pn** **20 44 34.7 +0.6**
comp=Z,300nm,13.2s
KSP Ksiaz 18.59 320 *e*P **Pn** **20 44 34.6 -0.1**
KSP Ksiaz 18.59 320 *e*P **Pn** **20 44 34.6 -0.1**
KSP Ksiaz 18.59 320 *e*P **Pn** **20 44 34.6 -0.1**
GOPC GO Pecny, Ondr 18.86 316 *e*P **Pn** **20 44 40.1 +1.9**
GOPC AMS AMS 20 53 10.0
comp=Z,300nm,13.2s
GOPC GO Pecny, Ondr 18.86 316 *e*P **Pn** **20 44 40.1 +1.9**
GOPC MLR MLR
comp=Z,300nm,13.2s
ABTA Abfaltersbach 18.87 305 *i* P **Pn** **20 44 38.0 -0.3**
comp=Z,9.3nm,1.3s
ABTA Abfaltersbach 18.87 305 P **Pn** **20 44 38.0 -0.3**
comp=Z,9.3nm,1.3s
GEA0 GERESS Array S 18.96 312 *e*Pn **P** **20 44 38.0 -0.7**
GEA0 GERESS Array S 18.96 312 *e*Pn **P** **20 44 38.0 -0.7**
GEC2 GERESS Array S 18.96 312 *e*P **P** **20 44 37.9 -0.9**
GEC2 pmax pmax
comp=Z,17nm,1.2s
GEC2 GERESS Array S 18.96 312 *e*P **P** **20 44 37.9 -0.9**
comp=Z,17nm,1.2s
GEC2 GERESS Array S 18.96 312 *e*Pn **P** **20 44 37.9 -0.9**
comp=Z,17nm,1.2s
GERES GERESS Array B 18.96 312 P **Pn** **20 44 38.9 -0.5**
comp=Z,0.8nm,0.3s,baz=116,slow=11,SNR=41
GERES LR LR 20 52 40.8
comp=Z,191nm,18.9s,baz=99,slow=40
PRU Pruhonice 19.04 316 *e*P **Pn** **20 44 39.8 -0.4**
PRU *e*pP **sP** **20 44 46.4 +3.5**
PRU *e*S **S** **20 48 18.9 +3.3**
PRU AMS AMS 20 53 10.0
comp=Z,500nm,7.9s
PRU Pruhonice 19.04 316 *e*P **Pn** **20 44 39.8 -0.4**
PRU MLR MLR
comp=Z,500nm,7.9s
PRU Pruhonice 19.04 316 *e*P **Pn** **20 44 39.8 -0.4**
comp=Z,500nm,7.9s
PRA Prague 19.14 316 *e*P **Pn** **20 44 41.0 -0.5**
PRA Prague 19.14 316 *e*P **Pn** **20 44 41.0 -0.5**
PRA Prague 19.14 316 *e*P **Pn** **20 44 41.0 -0.5**
KHC Kasperske Hory 19.16 313 *e*P **P** **20 44 40.5 -0.4**
KHC *e*pP **sP** **20 44 44.6 +0.2**
KHC *e*S **S** **20 48 18.3 +0.1**
KHC AMS AMS 20 52 40.0
comp=Z,200nm,16.4s
KHC Kasperske Hory 19.16 313 *e*P **P** **20 44 40.5 -0.4**
KHC *e*S **S** **20 48 18.3 +0.1**
KHC MLR MLR
comp=Z,200nm,16.4s
KHC Kasperske Hory 19.16 313 *e*Pn **P** **20 44 40.1 -0.8**
comp=Z,5.9nm,1.1s
KHC Kasperske Hory 19.16 313 *e*P **P** **20 44 40.5 -0.4**
KHC S **S** **20 48 18.3 +0.1**
KHC Kasperske Hory 19.16 313 *e*Pn **P** **20 44 40.1 -0.8**
comp=Z,5.9nm,1.1s
PVCC Panska Ves 19.31 317 *e*P **Pn** **20 44 42.9 -0.6**
PVCC AMS AMS 20 53 30.0
comp=Z,300nm,16.5s
PVCC Panska Ves 19.31 317 *e*P **Pn** **20 44 42.9 -0.6**
PVCC MLR MLR
comp=Z,300nm,16.5s
PVCC Panska Ves 19.31 317 *e*P **Pn** **20 44 42.9 -0.6**
comp=Z,300nm,16.5s
WTTA Wattenberg 19.61 306 *e*P **Pn** **20 44 46.7 -0.6**
comp=Z,13nm,1.2s
WTTA Wattenberg 19.61 306 P **Pn** **20 44 46.7 -0.6**
comp=Z,13nm,1.2s
VLC Villacollemand 19.66 296 *e*P **Pn** **20 44 46.4 -1.4**
comp=Z,24nm,1.2s
VLC Villacollemand 19.66 296 *e*P **Pn** **20 44 46.4 -1.4**
comp=Z,24nm,1.2s
WATA Walderalm 19.67 306 *i* Pn **P** **20 44 44.0 -2.6**
comp=Z,3.1nm,0.7s
WATA Walderalm 19.67 306 P **P** **20 44 44.0 -2.6**
comp=Z,3.1nm,0.7s
GKP Gorka Klasztor 19.71 327 *e*P **Pn** **20 44 50.2 +2.0**
GKP Gorka Klasztor 19.71 327 *e*P **Pn** **20 44 50.2 +2.0**
BRG Berggiesshubel 19.83 317 *e*P **P** **20 44 48.1 -0.1**
comp=Z,12nm,1.3s
BRG *e* 20 45 03.7
comp=Z,12nm,1.2s
BRG Berggiesshubel 19.83 317 *e*P **P** **20 44 48.1 -0.1**
BRG pmax pmax
comp=Z,12nm,1.3s
BRG pmax pmax
comp=Z,12nm,1.3s
BRG Berggiesshubel 19.83 317 *e*P **P** **20 44 48.1 -0.1**
comp=Z,12nm,1.3s
MOTA Moosalm 19.98 306 *e*P **P** **20 44 49.7 -0.2**
comp=Z,12nm,0.8s,SNR=10
MOTA Moosalm 19.98 306 P **P** **20 44 49.7 -0.2**
comp=Z,12nm,0.8s,SNR=10
FETA Feichten 20.11 305 *e*P **P** **20 44 51.0 -0.5**
comp=Z,16nm,1.3s
FETA Feichten 20.11 305 P **P** **20 44 51.0 -0.5**
comp=Z,16nm,1.3s
VSL Villasalto 20.18 282 *e*P **P** **20 44 51.5 -0.6**
comp=Z,39nm,1.2s
VSL Villasalto 20.18 282 *e*P **P** **20 44 51.5 -0.6**
comp=Z,39nm,1.2s
RETA Reutte 20.24 306 *e*P **P** **20 44 52.7 0.0**
comp=Z,25nm,1.0s,SNR=12
RETA Reutte 20.24 306 P **P** **20 44 52.7 0.0**
comp=Z,25nm,1.0s,SNR=12
NKC Novy Kostel 20.33 314 *e*P **P** **20 44 53.5 -0.1**
NKC *e*pP **sP** **20 44 57.8 +0.7**
NKC Novy Kostel 20.33 314 *e*P **P** **20 44 53.5 -0.1**
NKC *e* 20 44 57.8
NKC Novy Kostel 20.33 314 *e*P **P** **20 44 53.5 -0.1**
AKTK Aktyubinsk 20.47 45 P **P** **20 44 55.2 +0.1**
comp=Z,127nm,19.6s
AKTO Aktyubinsk 20.47 45 P **P** **20 44 55.1 0.0**
comp=Z,7.2nm,0.7s,baz=240,slow=8.7,SNR=22
AKTO LR LR 20 54 29.6
comp=Z,127nm,19.6s,baz=244,slow=42
CLL Collm 20.57 318 *e*P **P** **20 44 54.0 -2.1**
CLL *i* 20 44 58.1
CLL *e*S Sn 20 48 49.0 -1.2
CLL Collm 20.57 318 *e*P **P** **20 44 56.0 -0.1**
comp=Z,23nm,1.2s
CLL Collm 20.57 318 *e*(P) **P** **20 44 54.0 -2.1**
CLL *i* 20 44 55.6
comp=Z,10.0nm,1.3s
CLL *i* 20 44 58.1
comp=Z,25nm,1.2s
CLL *e*PPP PPP 20 45 19.0
CLL *e*S Sn 20 48 49.0 -1.2
CLL Collm 20.57 318 *e*P **P** **20 44 56.0 -0.1**
comp=Z,23nm,1.2s
DAVOX Davos/Dischmat 20.60 303 P **P** **20 44 57.1 +0.3**
comp=Z,5.5nm,0.6s,baz=114,slow=14,SNR=13
DAVA Damuels 20.75 305 *i* P **P** **20 44 58.3 0.0**
comp=Z,17nm,0.7s,SNR=8.5
DAVA Damuels 20.75 305 P **P** **20 44 58.3 0.0**
comp=Z,17nm,0.7s,SNR=8.5
KEST Kesra 20.79 272 P **P** **20 44 58.1 -0.6**
comp=Z,12nm,0.7s,baz=69,slow=4.1,SNR=18
KEST Kesra 20.79 272 *e*P Pn 20 44 59.6 -1.5
comp=Z,93nm,1.6s
TUE Stuetta 20.87 302 *e*P **P** **20 44 60.0 +0.2**
comp=Z,21nm,1.5s
MOX Moxa 20.99 315 P Pn 20 45 03.3 -0.1
MOX pmax pmax
comp=Z,8.0nm,1.1s
BANOM Banah 21.51 118 *i* P **P** **20 45 07.4 +0.9**
SNR=8.2
BANOM Banah 21.51 118 P **P** **20 45 07.4 +0.9**
SNR=8.2
NAZ Nazwa, Dubai 21.67 121 *i* P **P** **20 45 10.4 +2.2**
SNR=21
NAZ Nazwa, Dubai 21.67 121 P **P** **20 45 10.4 +2.2**
SNR=21
SPAK Spaichingen-Ko 21.70 306 *e*P **P** **20 45 08.7 +0.2**
SBF Sospel 21.73 295 *e*P **P** **20 45 11.2 +2.4**
SBF pmax pmax
comp=Z,22nm,1.0s
FAQ Al Faqa, Dubai 21.78 121 *i* P **P** **20 45 11.1 +1.6**
SNR=10
FAQ Al Faqa, Dubai 21.78 121 P **P** **20 45 11.1 +1.6**
SNR=10
SLE Schleitheim 21.79 305 P **P** **20 45 12.0 +2.6**
SLE pmax pmax
comp=Z,8.0nm,0.7s
BSD Bornholm Skovb 21.97 328 *i* P **P** **20 45 10.2 -1.0**
comp=Z,34nm,1.2s
BSD Bornholm Skovb 21.97 328 *i* P **P** **20 45 10.2 -1.0**
BSD pmax pmax
comp=Z,34nm,1.2s
BSD Bornholm Skovb 21.97 328 *i* P **P** **20 45 10.2 -1.0**
comp=Z,34nm,1.2s
BFO Black Forest 22.06 307 *e*P **P** **20 45 10.7 -1.6**
BFO pmax pmax
comp=Z,23nm,1.2s
BFO Black Forest 22.06 307 *e*P **P** **20 45 10.7 -1.6**
comp=Z,23nm,1.2s
UOSS Minazif 22.07 120 P **P** **20 45 13.8 +1.3**
HATD Hatta, Dubai 22.10 120 P **P** **20 45 14.7 +1.9**
HATD Hatta, Dubai 22.10 120 P **P** **20 45 14.7 +1.9**
FELD Feldberg im Sc 22.14 305 *e*P **P** **20 45 13.1 -0.1**
ASHO Ashiyiah 22.14 121 *i* P **P** **20 45 14.3 +0.9**
SNR=6.8
ASHO Ashiyiah 22.14 121 P **P** **20 45 14.3 +0.9**
SNR=6.8
CLZ Clausthal 22.25 317 P **P** **20 45 13.8 -0.5**
CLZ pmax pmax
comp=Z,21nm,1.3s
RGN Rugen 22.30 325 *e*P **P** **20 45 15.8 +1.2**
comp=Z,38nm,0.7s
MBDF Montbardon 22.31 297 *e*P **P** **20 45 14.9 -0.2**
MBDF pmax pmax
comp=Z,20nm,0.9s
BNI Bardonecchia 22.42 297 *e*P **P** **20 45 15.9 -0.4**
BNI pmax pmax
comp=Z,25nm,1.0s
BNI Bardonecchia 22.42 297 *e*P **P** **20 45 15.9 -0.4**
comp=Z,25nm,1.0s
LPG La Plagne 22.44 299 *e*P **P** **20 45 16.0 -0.7**
LPG pmax pmax
comp=Z,25nm,1.1s
LPL La Plagne 22.45 299 *e*P **P** **20 45 17.1 +0.3**
LPL pmax pmax
comp=Z,18nm,0.9s
LANF Langenberg 22.60 308 *e*P **P** **20 45 15.9 -2.1**
LANF Langenberg 22.60 308 *e*P **P** **20 45 15.9 -2.1**
TNS Taunus Mts 22.65 311 P **P** **20 45 20.6 +2.0**
TNS pmax pmax
comp=Z,12nm,1.0s
MOF Molkenrain 22.69 305 *e*P **P** **20 45 17.8 -1.3**
MOF Molkenrain 22.69 305 *e*P **P** **20 45 17.8 -1.3**
WLS Welschbruch 22.71 306 *e*P **P** **20 45 21.1 +1.9**
WLS Welschbruch 22.71 306 *e*P **P** **20 45 21.1 +1.9**
CDF Champ du Feu 22.76 306 *e*P **P** **20 45 17.7 -2.1**
CDF pmax pmax
comp=Z,16nm,1.4s
LOMF Lomont 22.76 303 *e*P **P** **20 45 18.1 -1.8**
LOMF Lomont 22.76 303 *e*P **P** **20 45 18.1 -1.8**
ECH Echery 22.77 306 *e*P **P** **20 45 19.1 -0.8**
ECH Echery 22.77 306 *e*P **P** **20 45 19.1 -0.8**
HINF Hinteralfeld 22.86 305 *e*P **P** **20 45 18.4 -2.5**
HINF pmax pmax
comp=Z,4.0nm,0.6s
ORIF Oris-en-Rattie 22.96 297 *e*P **P** **20 45 21.0 -1.0**
ORIF pmax pmax
comp=Z,18nm,1.1s
KLMR Klimovskoe 23.07 5 *e*P **P** **20 45 23.5 +0.7**
KLMR *e* 20 45 48.8
KLMR pmax pmax
comp=Z,28nm,1.2s
CABF La Chapelle 23.09 301 *e*P **P** **20 45 20.6 -2.8**
CABF pmax pmax
comp=Z,9.0nm,0.8s
HAU Haudompre 23.24 305 *e*P **P** **20 45 22.7 -2.1**
HAU pmax pmax
comp=Z,16nm,1.0s
THEF They Montfort 23.53 305 *e*P **P** **20 45 25.5 -2.2**
THEF They Montfort 23.53 305 *e*P **P** **20 45 25.5 -2.2**
VIVF Saint-Julien-l 23.81 297 *e*P **P** **20 45 27.7 -2.7**
VIVF pmax pmax
comp=Z,18nm,1.3s
WLF Walferdange 23.84 309 P **P** **20 45 28.5 -2.1**
comp=Z,10nm,1.9s
ARU Arti 24.15 33 P **P** **20 45 33.0 -0.5**
comp=Z,2.9nm,0.6s,baz=207,slow=3.1,SNR=8.9
ARU LR LR 20 55 27.0

	comp=Z,74nm,21.2s,baz=224,slow=38							
ARU	**Arti**	**24.15**	**33**	*d*	iP	**P**	**20 45 35.7**	**+2.2**
ARU							20 46 06.2	
ARU					S	**S**	**20 49 54.6**	**+3.2**
ARU					SS	**SnSn**	**20 50 38.2**	**+5.6**
ARU					pmax	pmax		
	comp=Z,5.0nm,0.7s							
FINES	**FINESS Array B**	**24.18**	**349**		P	**P**	**20 45 32.7**	**-1.0**
	comp=Z,1.9nm,0.5s,baz=147,slow=11,SNR=12							
FINES					LR	LR	20 56 37.3	
	comp=Z,142nm,18.1s,baz=159,slow=41							
SMF	**Signal de Mont**	**24.62**	**301**		eP	**P**	**20 45 35.3**	**-2.6**
SMF					pmax	pmax		
	comp=Z,11nm,0.5s							
PLDF	**La Plantade**	**24.68**	**299**		eP	**P**	**20 45 36.0**	**-2.5**
PLDF	**La Plantade**	**24.68**	**299**		eP	**P**	**20 45 36.0**	**-2.5**
LOR	**Lormes**	**24.72**	**302**		eP	**P**	**20 45 35.9**	**-2.9**
LOR					pmax	pmax		
	comp=Z,7.0nm,0.6s							
LBL	**Lubilhac**	**24.85**	**297**		eP	**P**	**20 45 38.2**	**-1.8**
LBL	**Lubilhac**	**24.85**	**297**		eP	**P**	**20 45 38.2**	**-1.8**
WSAR	**Wadi Sarin**	**24.86**	**119**		P	**P**	**20 45 41.5**	**+1.4**
	comp=Z,11nm,1.1s,baz=297,slow=5.1,SNR=4.4							
WSAR					LR	LR	20 57 04.4	
	comp=Z,160nm,20.4s,baz=331,slow=40							
SSF	**Saint Saulge**	**24.92**	**302**		eP	**P**	**20 45 37.9**	**-2.7**
SSF					pmax	pmax		
	comp=Z,12nm,0.8s							
AVF	**Avril sur Loir**	**24.98**	**301**		eP	**P**	**20 45 38.4**	**-2.7**
AVF					pmax	pmax		
	comp=Z,16nm,0.8s							
AGO	**Saint Agoulin**	**25.02**	**299**		eP	**P**	**20 45 39.7**	**-1.8**
AGO	**Saint Agoulin**	**25.02**	**299**		eP	**P**	**20 45 39.7**	**-1.8**
BGF	**Bois d'Agland**	**25.29**	**300**		eP	**P**	**20 45 42.9**	**-1.0**
BGF					pmax	pmax		
	comp=Z,10.0nm,0.8s							
SVE	**Sverdlovsk**	**25.30**	**34**		eP	**P**	**20 45 46.3**	**+2.5**
SVE					pmax	pmax		
	comp=Z,17nm,1.3s							
MUD	**Monsted U'grnd**	**25.33**	**325**		*i* P	**P**	**20 45 44.2**	**+0.1**
	comp=Z,25nm,1.1s							
MUD	**Monsted U'grnd**	**25.33**	**325**		*i* P	**P**	**20 45 44.2**	**+0.1**
MUD					pmax	pmax		
	comp=Z,25nm,1.1s							
MUD	**Monsted U'grnd**	**25.33**	**325**		*i* P	**P**	**20 45 44.2**	**+0.1**
	comp=Z,25nm,1.1s							
CAF	**Calviac**	**25.66**	**296**		eP	**P**	**20 45 49.4**	**+2.1**
CAF					pmax	pmax		
	comp=Z,11nm,1.5s							
TCF	**Toulx Ste Croi**	**25.69**	**299**		eP	**P**	**20 45 45.3**	**-2.3**
TCF					pmax	pmax		
	comp=Z,10.0nm,1.0s							
HFS	**Hagfors**	**26.05**	**335**		P	**P**	**20 45 49.3**	**-1.3**
	comp=Z,1.6nm,0.6s,baz=162,slow=12,SNR=4.0							
HFS					LR	LR	20 57 29.2	
	comp=Z,111nm,20.3s,baz=165,slow=40							
RJF	**Les Rejaudoux**	**26.07**	**297**		eP	**P**	**20 45 48.9**	**-2.2**
RJF					pmax	pmax		
	comp=Z,19nm,1.3s							
LFF	**La Frestale**	**26.60**	**296**		eP	**P**	**20 45 55.4**	**-0.4**
LFF					pmax	pmax		
	comp=Z,30nm,1.6s							
ATD	**Arta Tunnel**	**27.20**	**163**		LR	LR	20 56 11.0	
	comp=Z,32nm,18.6s,baz=336,slow=35							
MFF	**Saint Martin d**	**27.34**	**300**		eP	**P**	**20 45 59.6**	**-2.9**
MFF					pmax	pmax		
	comp=Z,13nm,1.0s							
NB2	**NORSAR Subarra**	**27.55**	**335**		P	**P**	**20 46 04.2**	**0.0**
	comp=Z,6.1nm,1.4s,SNR=4.1							
NB2	**NORSAR Subarra**	**27.55**	**335**		P	**P**	**20 46 04.2**	**0.0**
	comp=Z,6.1nm,1.4s,baz=136,slow=9.3							
NOA	**NORSAR Array B**	**27.55**	**335**		P	**P**	**20 46 04.4**	**+0.2**
	comp=Z,1.4nm,1.0s,baz=135,slow=9.3,SNR=3.5							
NOA					LR	LR	20 58 26.1	
	comp=Z,86nm,21.6s,baz=140,slow=40							
ROSF	**Rostrenen**	**29.63**	**303**		eP	**P**	**20 46 21.6**	**-1.2**
ROSF					pmax	pmax		
	comp=Z,39nm,1.5s							
LVZ	**Lovozero**	**29.99**	**360**	⇓	eP	**P**	**20 46 27.9**	**+2.1**
LVZ					pmax	pmax		
	comp=Z,19nm,1.1s							
FRU	**Bishkek**	**30.22**	**68**		eP	**P**	**20 46 27.0**	**-1.1**
ESDC	**Sonseca Array**	**30.39**	**286**		P	**P**	**20 46 27.3**	**-2.4**
	comp=Z,0.8nm,0.6s,baz=65,slow=9.5,SNR=7.9							
ARCES	**ARCESS Array B**	**32.06**	**354**		P	**P**	**20 46 44.7**	**+0.7**
	comp=Z,2.3nm,0.8s,baz=168,slow=8.2,SNR=5.2							
ARCES					LR	LR	21 01 01.5	
	comp=Z,95nm,19.7s,baz=86,slow=39							
KURK	**Kurchatov**	**33.09**	**53**	⇑	iP	**P**	**20 46 56.5**	**+3.3**
KURK					pmax	pmax		
	comp=Z,11nm,1.0s							
MKAR	**Makanchi Array**	**35.43**	**60**		P	**P**	**20 47 13.9**	**+0.2**
	comp=Z,1.5nm,0.7s,baz=271,slow=8.1,SNR=6.5							
MKAR					LR	LR	21 04 03.7	
	comp=Z,85nm,18.6s,baz=274,slow=40							
NVS	**Novosibirsk**	**36.35**	**47**		eP	P	20 47 14.1	-7.2
ZALV	**Zalesovo Beam**	**37.18**	**48**		P	**P**	**20 47 28.3**	**-0.1**
	comp=Z,1.2nm,0.6s,baz=271,slow=9.4,SNR=5.9							
ZALV					LR	LR	21 04 27.6	
	comp=Z,78nm,19.5s,baz=250,slow=39							
TORD	**Torodi Ar. Bea**	**38.69**	**239**		P	**P**	**20 47 39.6**	**-2.0**
	comp=Z,1.6nm,0.7s,baz=41,slow=8.0,SNR=10.0							
TORD					LR	LR	21 06 53.7	
	comp=Z,73nm,18.4s,baz=105,slow=41							
DGZ	**Jazzator, Alta**	**38.72**	**55**		eP	**P**	**20 47 45.2**	**+3.5**
DGZ					pmax	pmax		
	comp=Z,1.0nm,0.5s							
NRIK	**Noril'sk**	**41.92**	**25**		LR	LR	21 09 12.2	
	comp=Z,61nm,18.5s,baz=202,slow=41							
DBIC	**Dimbokro**	**47.80**	**240**		P	**P**	**20 48 54.4**	**-0.8**
	comp=Z,2.1nm,0.5s,baz=38,slow=11,SNR=4.9							
DBIC					LR	LR	21 13 00.5	
	comp=Z,63nm,18.8s,baz=34,slow=41							
SONM	**Songino Array**	**51.37**	**55**		P	**P**	**20 49 23.4**	**+1.1**
	comp=Z,0.9nm,0.8s,baz=290,slow=5.6,SNR=8.0							
SONM					LR	LR	21 13 20.3	
	comp=Z,89nm,20.2s,baz=285,slow=39							
ULN	**Ulaanbaatar**	**51.79**	**55**	⇓	iP	**P**	**20 49 26.1**	**+0.7**
ULN					pmax	pmax		
	comp=Z,2.0nm,0.8s							
TIXI	**Tiksi**	**55.60**	**23**	⇓	iP	**P**	**20 49 55.3**	**+2.6**
TIXI					pmax	pmax		
	comp=Z,8.0nm,1.0s							
CMAR	**Chiang Mai Arr**	**58.36**	**91**		P	**P**	**20 50 12.6**	**-0.5**
	comp=Z,0.8nm,0.8s,baz=303,slow=8.2,SNR=5.3							
CMAR					LR	LR	21 19 29.9	
	comp=Z,39nm,20.8s,baz=286,slow=40							
BOSA	**Boshof**	**66.88**	**189**		P	**P**	**20 51 10.4**	**+0.7**
	comp=Z,2.9nm,0.7s,baz=21,slow=5.2,SNR=5.7							
MSHR	**Mys Shultsa**	**69.37**	**52**	⇓	P	**P**	**20 51 28.3**	**+3.0**
KSRS	**Korea Array**	**70.06**	**58**		LR	LR	21 25 23.1	
	comp=Z,70nm,21.5s,baz=150,slow=39							

*ATH **30** 21:06:06.8, 37.73N×26.71E, h23km±1km, ML3.2/4, Error ellipse: s-maj=1.8km s-min=0.9km az=68.0*
*CSEM **30** 21:06:07.8±0.2, 37.69N×26.60E, h8km, ML3.2, Error ellipse: s-maj=4.5km s-min=3.3km az=53.0*
*ISK **30** 21:06:07.5, 37.67N×26.64E, h5km, ML3.2*
*DDA **30** 21:06:07.8, 37.70N×26.63E, h6km, Ml3.4*
*ISCJB **30** 21:06:07.9±0.4, 37.68N±0.02×26.59E±0.02, h6km±3km, Error ellipse: s-maj=3.5km s-min=2.4km az=147.3*
*THE **30** 21:06:08.0, 37.70N×26.64E, h8km, ML3.2/11, Error ellipse: s-maj=0.8km s-min=0.3km az=96.0*

ISC 30 21:06:07.7±0.9, 37.70N±0.02×26.63E±0.02, h8km±7km, n115, σ1.900/163, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SMG	**Samos**	**0.17**	**86**	P	**Pg**	**21 06 11.3**	**+0.1**
SMG				S	**Sg**	**21 06 13.9**	**+0.3**
SMG	**Samos**	**0.17**	**86**	P	**Pg**	**21 06 11.3**	**+0.1**
SMG				S	**Sg**	**21 06 13.9**	**+0.3**
SMG	**Samos**	**0.17**	**86**	P	**Pg**	**21 06 11.3**	**+0.1**
SMG				S	**Sg**	**21 06 12.9**	**-0.7**
DGB	**˜zmir**	**0.41**	**30**	*i* P	**Pg**	**21 06 15.7**	**0.0**
DGB				*i* S	**Sg**	**21 06 21.5**	**+0.4**
GMLD	**Gumuldur**	**0.44**	**31**	ePG	**Pb**	**21 06 17.7**	**-0.1**
GCAM	**G?zelcaml?**	**0.48**	**89**	*i* P	**Pg**	**21 06 17.1**	**0.0**
GCAM				*i* S	**Sb**	**21 06 24.7**	**-1.0**
GCAM	**G?zelcaml?**	**0.48**	**89**	P	**Pg**	**21 06 17.1**	**0.0**
GCAM				S	**Sb**	**21 06 24.7**	**-1.0**
KUSD	**Kusadasi-Aydin**	**0.55**	**72**	ePG	**Pb**	**21 06 19.2**	**-0.4**
ZEY	**˜zmir**	**0.55**	**350**	*i* P	**Pg**	**21 06 18.2**	**-0.1**
ZEY				*i* S	**Sg**	**21 06 26.4**	**+0.8**
URLA	**Izmir**	**0.66**	**358**	*e*PG	**Pb**	**21 06 22.1**	**+0.6**
URLA				*e*SG	**Sn**	**21 06 32.8**	**-1.2**
URLA	**Izmir**	**0.66**	**358**	*i* P	**Pg**	**21 06 20.5**	**0.0**
URLA				*i* S	**Sb**	**21 06 30.8**	**-0.2**
URLA	**Izmir**	**0.66**	**358**	P	**Pg**	**21 06 20.5**	**0.0**
URLA				S	**Sb**	**21 06 30.8**	**-0.2**
CESE	**˜e˜me**	**0.68**	**338**	*e*PG	**Pb**	**21 06 22.6**	**+0.7**
CESE				*e*SG	**Sn**	**21 06 33.6**	**-0.9**
CHOS	**Chios island**	**0.82**	**327**	*e*PG	**Pn**	**21 06 25.2**	**-0.4**
CHOS	**Chios island**	**0.82**	**327**	P	**Pg**	**21 06 23.8**	**+0.2**
CHOS				S	**Sb**	**21 06 36.3**	**+0.7**
CHOS	**Chios island**	**0.82**	**327**	P	**Pg**	**21 06 23.8**	**+0.2**
CHOS				S	**Sg**	**21 06 35.1**	**+0.8**
CHOS	**Chios island**	**0.82**	**327**	P	**Pg**	**21 06 24.0**	**+0.5**
CHOS				S	**Sg**	**21 06 35.1**	**+0.8**
CHOS				AML	AML	21 06 39.8	
	comp=N,4156μm,0.6s						
CHOS				AML	AML	21 06 40.5	
	comp=E,4629μm,0.4s						
BODT	**Bodrum**	**0.84**	**139**	*e*PG	**Pb**	**21 06 24.4**	**0.0**
BODT	**Bodrum**	**0.84**	**139**	P	**Pg**	**21 06 23.9**	**+0.1**
BODT				S	**Sb**	**21 06 35.9**	**0.0**
BODT	**Bodrum**	**0.84**	**139**	P	**Pg**	**21 06 23.9**	**+0.1**
BODT				S	**Sb**	**21 06 35.9**	**0.0**
KRBN	**Karaburun**	**0.90**	**356**	*e*PG	**Pb**	**21 06 26.0**	**+0.5**
BDRM	**Kayabasi**	**0.91**	**134**	*i* P	**Pb**	**21 06 25.6**	**-0.1**
BDRM				*i* S	**Sb**	**21 06 38.9**	**+1.0**
BDRM	**Kayabasi**	**0.91**	**134**	P	**Pb**	**21 06 25.6**	**-0.1**
BDRM				S	**Sb**	**21 06 38.9**	**+1.0**
AYDN	**Tasoluk**	**1.00**	**92**	*i* P	**Pg**	**21 06 26.9**	**0.0**
AYDN				*i* S	**Sb**	**21 06 40.7**	**+0.2**
AYDN	**Tasoluk**	**1.00**	**92**	P	**Pg**	**21 06 26.9**	**0.0**
AYDN				S	**Sb**	**21 06 40.7**	**+0.2**
MLSB	**Milas**	**1.00**	**113**	*e*PG	**Pg**	**21 06 27.0**	**+0.1**
FOCM	**Fo˜a**	**1.02**	**5**	*e*PG	**Pn**	**21 06 29.2**	**+0.9**
AYDB	**Zeytinkoy-Aydi**	**1.03**	**76**	*e*PG	**Pb**	**21 06 28.1**	**+0.1**
APE	**Apeiranthos**	**1.07**	**235**	*e*PG	**Pb**	**21 06 28.9**	**+0.4**
APE	**Apeiranthos**	**1.07**	**235**	P	**Pg**	**21 06 28.3**	**0.0**
APE				S	**Sb**	**21 06 43.4**	**+0.7**
APE	**Apeiranthos**	**1.07**	**235**	P	**Pg**	**21 06 28.1**	**-0.2**
APE				S	**Sb**	**21 06 43.4**	**+0.7**
APE	**Apeiranthos**	**1.07**	**235**	P	**Pg**	**21 06 28.1**	**-0.2**
APE				S	**Sn**	**21 06 44.2**	**+0.1**
APE				AML	AML	21 06 47.6	
	comp=N,1574μm,0.5s						
APE				AML	AML	21 06 47.6	
	comp=E,2055μm,0.4s						
NIS1	**Nisyros Isl.**	**1.18**	**158**	*e*PN	**Pg**	**21 06 30.2**	**-0.1**
NIS1	**Nisyros Isl.**	**1.18**	**158**	P	**Pg**	**21 06 29.6**	**-0.7**
NIS1				S	**Sb**	**21 06 45.7**	**0.0**
NIS1	**Nisyros Isl.**	**1.18**	**158**	P	**Pg**	**21 06 29.6**	**-0.7**
NIS1				S	**Sb**	**21 06 45.7**	**0.0**
NIS1	**Nisyros Isl.**	**1.18**	**158**	P	**Pn**	**21 06 31.0**	**+0.5**
DAT	**Datca**	**1.23**	**141**	*e*PN	**Pn**	**21 06 31.8**	**+0.6**
DAT	**Datca**	**1.23**	**141**	*i* P	**Pb**	**21 06 31.1**	**-0.1**
DAT	**Datca**	**1.23**	**141**	P	**Pb**	**21 06 31.1**	**-0.1**
DKL	**Dikili**	**1.39**	**9**	*e*PN	**Pg**	**21 06 34.8**	**+0.4**
AKHS	**Akhisar**	**1.51**	**38**	*i* P	**Pg**	**21 06 36.4**	**-0.2**
AKHS				*i* S	**Sg**	**21 06 57.5**	**+1.4**
AKHS	**Akhisar**	**1.51**	**38**	P	**Pg**	**21 06 36.4**	**-0.2**
AKHS				S	**Sg**	**21 06 57.5**	**+1.4**
PRK	**Paraskevi**	**1.57**	**350**	P	**Pn**	**21 06 35.1**	**-0.8**
PRK				S	**Sn**	**21 06 56.2**	**-0.2**
PRK	**Paraskevi**	**1.57**	**350**	P	**Pn**	**21 06 35.1**	**-0.8**
PRK				S	**Sn**	**21 06 56.2**	**-0.2**
PRK	**Paraskevi**	**1.57**	**350**	P	**Pn**	**21 06 35.1**	**-0.8**
PRK				S	**Sn**	**21 06 54.6**	**-1.9**
PRK				AML	AML	21 07 06.3	
	comp=E,1775μm,0.8s						
PRK				AML	AML	21 07 07.2	
	comp=N,1646μm,0.6s						
AYVA	**Ayvalik**	**1.61**	**2**	*i* P	**Pg**	**21 06 38.6**	**0.0**
AYVA				*i* S	**Sg**	**21 07 01.9**	**+2.5**
AYVA	**Ayvalik**	**1.61**	**2**	P	**Pg**	**21 06 38.6**	**0.0**
SIGR	**SIGRI**	**1.63**	**338**	*e*PN	**Pg**	**21 06 38.9**	**-0.1**
SIGR	**SIGRI**	**1.63**	**338**	P	**Pn**	**21 06 35.6**	**-1.1**
SIGR				S	**Sn**	**21 06 57.4**	**-0.4**
SIGR	**SIGRI**	**1.63**	**338**	P	**Pn**	**21 06 35.6**	**-1.1**
SIGR				S	**Sn**	**21 06 57.4**	**-0.4**
SIGR	**SIGRI**	**1.63**	**338**	P	**Pn**	**21 06 35.2**	**-1.4**
SIGR				S	**Sn**	**21 06 58.4**	**+0.5**
SIGR				AML	AML	21 07 05.8	
	comp=N,811μm,0.4s						
SIGR				AML	AML	21 07 06.5	
	comp=E,995μm,0.6s						
SAP1	**Santorini-Akro**	**1.66**	**217**	P	**Pn**	**21 06 37.9**	**+0.8**
SAP1	**Santorini-Akro**	**1.66**	**217**	P	**Pn**	**21 06 37.9**	**+0.8**
MANT	**Manisa**	**1.72**	**62**	*i* P	**Pg**	**21 06 41.1**	**+0.4**
MANT	**Manisa**	**1.72**	**62**	P	**Pg**	**21 06 41.1**	**+0.4**
KARY	**Karystos**	**1.76**	**282**	P	**Pn**	**21 06 37.9**	**-0.6**
KARY				S	**Sn**	**21 07 00.8**	**-0.4**
KARY	**Karystos**	**1.76**	**282**	P	**Pn**	**21 06 37.9**	**-0.6**
KARY				S	**Sn**	**21 07 00.8**	**-0.4**
TURN	**Turunc**	**1.78**	**117**	*i* P	**Pn**	**21 06 35.9**	**-2.8**
TURN	**Turunc**	**1.78**	**117**	P	**Pn**	**21 06 35.9**	**-2.8**
TAVA	**DENIZLI_Tavas**	**1.83**	**97**	*i* P	**Pn**	**21 06 39.9**	**+0.3**
TAVA	**DENIZLI_Tavas**	**1.83**	**97**	P	**Pn**	**21 06 39.9**	**+0.3**
DALY	**Dalyan (Mu˜la**	**1.84**	**118**	*e*PN	**Pb**	**21 06 41.5**	**-0.1**
STEP	**BALIKESIR_Sava**	**1.88**	**27**	*i* P	**Pb**	**21 06 43.0**	**+0.6**
STEP	**BALIKESIR_Sava**	**1.88**	**27**	P	**Pb**	**21 06 43.0**	**+0.6**
ARG	**Arkhangelos**	**1.91**	**140**	P	**Pn**	**21 06 40.0**	**-0.5**
ARG				S	**Sn**	**21 07 04.2**	**-0.4**
ARG	**Arkhangelos**	**1.91**	**140**	P	**Pn**	**21 06 40.0**	**-0.5**
ARG				S	**Sn**	**21 07 04.2**	**-0.4**
ARG	**Arkhangelos**	**1.91**	**140**	P	**Pn**	**21 06 40.8**	**+0.3**
DNZL	**Cakiroluk**	**1.92**	**89**	*i* P	**Pb**	**21 06 42.1**	**-1.0**
DNZL	**Cakiroluk**	**1.92**	**89**	P	**Pb**	**21 06 42.1**	**-1.0**
MHLA	**Plaka, Milos I**	**2.00**	**242**	P	**Pn**	**21 06 42.7**	**+0.9**
MHLA	**Plaka, Milos I**	**2.00**	**242**	P	**Pn**	**21 06 42.7**	**+0.9**
MHLO	**Agia Marina, M**	**2.04**	**241**	P	**Pn**	**21 06 43.4**	**+1.1**
MHLO	**Agia Marina, M**	**2.04**	**241**	P	**Pn**	**21 06 43.4**	**+1.1**
BAYC	**CANAKKALE_Bayr**	**2.04**	**358**	*i* P	**Pn**	**21 06 41.8**	**-0.6**
BAYC	**CANAKKALE_Bayr**	**2.04**	**358**	P	**Pn**	**21 06 41.8**	**-0.6**
DEMI	**Demirci**	**2.12**	**50**	*i* P	**Pg**	**21 06 48.8**	**+0.4**
EZN	**Ezine**	**2.14**	**354**	*e*PN	**Pb**	**21 06 46.1**	**-0.6**
BALB	**Balikesir**	**2.17**	**26**	*e*PN	**Pb**	**21 06 47.4**	**+0.1**
KARP	**Karpathos**	**2.19**	**168**	*e*PN	**Pb**	**21 06 46.1**	**-1.4**
KARP	**Karpathos**	**2.19**	**168**	P	**Pn**	**21 06 43.7**	**-0.7**
KARP	**Karpathos**	**2.19**	**168**	P	**Pn**	**21 06 43.7**	**-0.7**
BOZC	**Bozcaada**	**2.19**	**348**	*e*PN	**Pb**	**21 06 47.4**	**-0.1**
BOZC	**Bozcaada**	**2.19**	**348**	*i* P	**Pg**	**21 06 48.8**	**-0.9**
VLY	**Voula,Athens**	**2.25**	**275**	P	**Pn**	**21 06 44.4**	**-0.8**
VLY				S	**Sn**	**21 07 13.0**	**-0.1**
VLY	**Voula,Athens**	**2.25**	**275**	P	**Pn**	**21 06 44.7**	**-0.5**
VLY				S	**Sn**	**21 07 13.0**	**-0.1**
VLY	**Voula,Athens**	**2.25**	**275**	P	**Pn**	**21 06 44.7**	**-0.5**
SIMA	**Simav-Kutahya**	**2.31**	**52**	*e*PN	**Pb**	**21 06 48.4**	**-1.3**
GLHS	**Glhisar (BURDU**	**2.35**	**102**	*e*PN	**Pb**	**21 06 48.8**	**-1.6**
GOLH	**Golhisar**	**2.38**	**100**	*i* P	**Pn**	**21 06 48.5**	**+1.4**
GOLH	**Golhisar**	**2.38**	**100**	P	**Pn**	**21 06 48.5**	**+1.4**
LIA	**Limnos Island**	**2.47**	**333**	P	**Pn**	**21 06 47.4**	**-0.8**
LIA				S	**Sn**	**21 07 17.8**	**-0.8**
LIA	**Limnos Island**	**2.47**	**333**	P	**Pn**	**21 06 47.4**	**-0.8**
LIA				S	**Sn**	**21 07 17.8**	**-0.8**
LIA	**Limnos Island**	**2.47**	**333**	P	**Pn**	**21 06 48.7**	**+0.4**
GADA	**Gvkgeada**	**2.56**	**347**	*e*PN	**Pn**	**21 06 51.7**	**+2.3**
GADA	**Gvkgeada**	**2.56**	**347**	P	**Pn**	**21 06 48.8**	**-0.6**
GADA				S	**Sn**	**21 07 20.5**	**-0.2**
GADA	**Gvkgeada**	**2.56**	**347**	P	**Pn**	**21 06 48.8**	**-0.6**
GADA				S	**Sn**	**21 07 20.5**	**-0.2**
GEDZ	**Gediz**	**2.57**	**58**	*e*PN	**Pb**	**21 06 52.1**	**+0.2**
LPK	**Lapseki**	**2.67**	**2**	*e*PN	**Pb**	**21 06 54.0**	**-1.8**
KRBG	**Karabiga-Canak**	**2.74**	**11**	*e*PN	**Pb**	**21 06 54.7**	**-2.3**
ELL	**Elmali**	**2.79**	**109**	*e*PN	**Pn**	**21 06 55.0**	**+2.3**
AKAS	**Kas**	**2.80**	**121**	*e*PN	**Pn**	**21 06 54.7**	**+1.8**
TVSB	**Tavsanli**	**2.83**	**51**	*e*PN	**Pn**	**21 06 55.4**	**+2.1**
KCTX	**Karacabey (Bur**	**2.90**	**27**	*e*PN	**Pb**	**21 06 57.0**	**-2.6**
SMTH	**Samothraki Isl**	**2.90**	**343**	P	**Pn**	**21 06 54.5**	**+0.3**
SMTH	**Samothraki Isl**	**2.90**	**343**	P	**Pn**	**21 06 54.5**	**+0.3**
ERIK	**Erikli-Kesan**	**2.97**	**358**	*e*PN	**Pb**	**21 06 58.2**	**-2.7**
MRMT	**Marmara Adasi**	**3.00**	**14**	*e*PN	**Pb**	**21 06 58.7**	**-2.7**
KORT	**Korkueli**	**3.05**	**102**	*e*PN	**Pn**	**21 06 58.4**	**+2.0**
ENEZ	**Enez**	**3.06**	**353**	P	**Pn**	**21 06 55.8**	**-0.5**
ENEZ				S	**Sn**	**21 07 33.1**	**0.0**
ENEZ	**Enez**	**3.06**	**353**	P	**Pn**	**21 06 55.8**	**-0.5**
ENEZ				S	**Sn**	**21 07 33.1**	**0.0**
ALN	**Alexandroupoli**	**3.23**	**352**	P	**Pn**	**21 06 58.2**	**-0.5**
ALN				S	**Sn**	**21 07 36.6**	**-0.7**
ALN	**Alexandroupoli**	**3.23**	**352**	P	**Pn**	**21 06 58.2**	**-0.5**
ALN				S	**Sn**	**21 07 36.6**	**-0.7**
ALN	**Alexandroupoli**	**3.23**	**352**	P	**Pn**	**21 06 59.0**	**+0.4**
ARMT	**Armutlu**	**3.35**	**31**	*e*PN	**Pn**	**21 07 03.7**	**+3.3**
SBT3	**Marmara-Eregli**	**3.35**	**18**	*e*PN	**Pn**	**21 07 03.3**	**+3.1**

*IDC **30** 21:18:28.9±1.2, 1.18S×146.26E, h0km, mb3.9/9, mb1 4.1/11, mb1mx3.9/31, mbtmp3.9/11, ML2.6/3, MS3.3/11, Ms1 3.3/11, ms1mx3.0/36, Error ellipse: s-maj=36.9km s-min=16.3km az=93.0*
*ISCJB **30** 21:18:32.8±0.6, 1.23S±0.06×145.94E±0.08, h33km, mb3.9/10, MS3.3/9, Error ellipse: s-maj=11.6km s-min=8.7km az=7.8*
*NEIC **30** 21:18:34.4±0.8, 1.19S×146.09E, h35km, mb4.3/1, Error ellipse: s-maj=20.7km s-min=10.1km az=87.0*

ISC 30 21:18:34.6±0.9, 1.22S±0.09×146.0E±0.1, h35km, n26, σ1.928/16, mb3.9/10, MS3.2/9, Admiralty Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JAY	**Jayapura**	**5.46**	**256**	Pn	**Pn**	**21 19 53.1**	**-0.5**
	0.1nm,0.3s,baz=77,slow=23,SNR=4.3						
JAY				Sn	**Sn**	**21 20 53.2**	**-2.0**
	0.1nm,0.3s,baz=52,slow=19,SNR=1.9						
PMG	**Port Moresby**	**8.22**	**172**	Pn	**Pn**	**21 20 31.4**	**-0.1**
	0.8nm,0.3s,baz=325,slow=17,SNR=2.1						
PMG				LR	LR	21 23 28.3	
	comp=Z,155nm,18.4s,baz=328,slow=36						
COEN	**Coen**	**12.97**	**192**	*e*Pn	**Pn**	**21 21 38.6**	**+2.1**
	7.1nm,0.9s						
GUMO	**Guam**	**14.75**	**356**	LR	LR	21 25 58.7	
	comp=Z,33nm,20.4s,baz=182,slow=30						
CTA	**Charters Tower**	**18.76**	**179**	P	**Pn**	**21 22 50.4**	**-1.1**
	0.1nm,0.3s,baz=2.8,slow=14,SNR=2.8						
WRAB	**Tennant Creek**	**21.82**	**211**	*e*P	**P**	**21 23 24.1**	**0.0**
	8.0nm,0.7s						
WRA	**Warramunga Arr**	**21.84**	**211**	P	**P**	**21 23 24.0**	**-0.3**
	4.7nm,0.6s,baz=33,slow=11,SNR=49						
WRA				LR	LR	21 32 04.2	
	comp=Z,106nm,21.0s,baz=105,slow=37						
ASAR	**Alice Springs**	**25.22**	**207**	P	**P**	**21 23 58.2**	**+0.8**
	2.1nm,0.6s,baz=37,slow=8.3,SNR=41						
ASAR				LR	LR	21 34 24.3	
	comp=Z,75nm,18.9s,baz=68,slow=38						
H11S3	**WAKE ISLAND Hy**	**28.23**	**45**	T	T	21 53 46.9	
	baz=228						
H11S2	**WAKE ISLAND Hy**	**28.24**	**45**	T	T	21 53 46.7	
	baz=228,slow=74						
H11S1	**WAKE ISLAND Hy**	**28.25**	**45**	T	T	21 53 48.4	
	baz=228,slow=74						
DZM	**Mont Dzumac**	**28.73**	**138**	LR	LR	21 34 49.7	
	comp=Z,143nm,18.1s,baz=52,slow=34						
H11N1	**WAKE ISLAND Hy**	**29.19**	**44**	T	T	21 55 00.3	
	baz=226,slow=76,SNR=26						
H11N2	**WAKE ISLAND Hy**	**29.21**	**43**	T	T	21 55 01.5	
	baz=226,slow=76,SNR=31						
H11N3	**WAKE ISLAND Hy**	**29.21**	**44**	T	T	21 55 02.8	
	baz=226,slow=76,SNR=15						
STKA	**Stephens Creek**	**30.78**	**187**	LR	LR	21 38 21.2	
	com

baz=202
SWA2 **3.28 184** P Pn 21 23 19.3 +0.3
baz=184
SWA2 S Sb 21 24 12.8 +7.0
baz=184
HFRF **Wahat Farafira** **5.82 156** P Pn 21 23 54.1 +0.1
baz=156
RSH **7.02 101** P Pn 21 24 10.9 +0.5
baz=100
HNKL **Nakhl** **7.55 108** AMP 21 26 00.0
comp=N,40μm,0.7s,logA/T=4.8,baz=107
STON **Ston** **12.11 331** *e*Pn Pn 21 25 14.6 -5.5
STON Sn Sn 21 27 18.6 -16
UDBI **Udbina** **14.27 330** Sn Sn 21 28 12.8 -14
NVLJ **Novalja** **14.69 328** *e*Pn Pn 21 25 50.0 -5.2
NVLJ Sn Sn 21 28 20.8 -16

IDC ***30*** *21:30:49.9±1.1, 8.61N×127.06E, h0km, mb3.8/6, mb1 3.9/6, mb1mx3.5/41, mbtmp3.8/6, Error ellipse: s-maj=70.0km s-min=19.2km az=80.0*
ISCJB ***30*** *21:30:55.1±0.9, 8.48N±0.10×126.7E±0.1, h53km, mb3.7/6, Error ellipse: s-maj=21.0km s-min=13.3km az=19.2*
ISC 30 21:30:56.9±1.1, 8.5N±0.1×126.6E±0.2, h53km, n7, σ1ᵴ50/8, mb3.7/6, 1C, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
BIPH	**Bislig**	**0.37**	**223**	⇑*i*P		**Pn**		**21 31 05.9**	**-1.1**
BIPH				*i*	S	**Sn**		**21 31 13.6**	**-0.6**
JNU	**Nakatsue**	**24.86**	**9**	P		**P**		**21 36 12.3**	**-2.3**
	11nm,1.0s,baz=198,slow=9.6,SNR=3.5								
FITZ	**Fitzroy Crossi**	**26.41**	**182**	P		**P**		**21 36 29.8**	**+1.1**
	1.3nm,0.6s,baz=7.1,slow=8.1								
WRA	**Warramunga Arr**	**29.23**	**165**	P		**P**		**21 36 54.2**	**+0.3**
	0.4nm,1.1s,baz=345,slow=10,SNR=4.5								
ASAR	**Alice Springs**	**32.71**	**168**	P		**P**		**21 37 24.8**	**+0.2**
	0.2nm,0.3s,baz=345,slow=7.4,SNR=4.6								
MKAR	**Makanchi Array**	**53.67**	**323**	P		**P**		**21 40 15.0**	**+1.7**
	0.5nm,0.7s,baz=126,slow=8.8,SNR=4.3								
FINES	**FINESS Array B**	**87.64**	**332**	P		**P**		**21 43 39.7**	**+0.3**
	1.8nm,0.8s,baz=90,slow=4.2,SNR=4.8								

NIED ***30*** *21:37:00, 37.30N×140.40E, h8km, Mw3.8 Best double couple: M₀6.19000×10¹⁴ NP1:ϕs333.00000°, δ66.00000°, λ14.00000°. NP2:ϕs237.00000°, δ77.00000°, λ155.00000°.*
IDC ***30*** *21:37:19.8±1.1, 37.26N×140.43E, h0km, mb3.7/5, mb1 3.9/8, mb1mx3.7/43, mbtmp3.7/8, ML2.0/1, Error ellipse: s-maj=23.0km s-min=17.7km az=85.0*
ISCJB ***30*** *21:37:21.8±0.4, 37.28N±0.03×140.40E±0.03, h22km±6km, mb3.6/5, Error ellipse: s-maj=4.5km s-min=4.2km az=140.0*
JMA ***30*** *21:37:21.8, 37.26N×140.37E, h10km±1km, M4.1 Broadband fault plane solution: P waves. NP1: ϕs240.00000°, δ80.00000°, λ158.00000°. NP2: ϕs334.00000°, δ68.00000°, λ11.00000°. Principal axes: T Plg23.0000°, Azm195.0000°; N Plg65.0000°, Azm37.0000°; P Plg8.0000°, Azm289.0000°;*
JMA Felt III J1.
ISC 30 21:37:20.9±1.3, 37.26N±0.03×140.40E±0.03, h6km±10km, n26, σ0ᵴ94/32, mb3.5/5, 5C-4D, Eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
JFT	**Otama**	**0.26**	**348**	⇑P		**Pb**		**21 37 27.3**	**-0.8**
JFT				S		**Sg**		**21 37 31.1**	**+1.4**
ONAJ	**Iwakimizuishiy**	**0.35**	**117**	⇓P		**Pb**		**21 37 29.4**	**-0.2**
ONAJ				S		**Sb**		**21 37 34.7**	**-0.8**
JFK	**Kawauchi**	**0.39**	**74**	⇓P		**Pb**		**21 37 30.0**	**-0.3**
JFK				S		**Sb**		**21 37 35.6**	**-0.9**
JSB	**Shiboa**	**0.48**	**233**	⇑P		**Pb**		**21 37 31.3**	**-0.6**
JSB				S		**Sb**		**21 37 37.9**	**-1.3**
JFY	**Yanaizu**	**0.58**	**285**	⇓P		**Pg**		**21 37 32.3**	**+0.2**
JFY				S		**Sg**		**21 37 39.7**	**+0.1**
JHO	**Hitachi**	**0.66**	**168**	⇑P		**Pb**		**21 37 34.3**	**-0.6**
JHO				S		**Sb**		**21 37 43.3**	**-1.0**
JMM	**Marumori**	**0.68**	**27**	⇑P		**Pb**		**21 37 34.9**	**-0.3**
JMM				S		**Sb**		**21 37 43.9**	**-0.9**
JYS	**Shirataka**	**1.00**	**344**	⇑P		**Pb**		**21 37 40.5**	**-0.1**
JYS				*e*S		**Sb**		**21 37 54.0**	**0.0**
JNS	**Sasagawa**	**1.03**	**303**	⇓P		**Pg**		**21 37 40.1**	**-0.6**
JNS				S		**Sg**		**21 37 53.4**	**-0.6**
JKT	**Katashina**	**1.05**	**242**	P		**Pb**		**21 37 41.3**	**-0.2**
MJAR	**Matsushiro Arr**	**1.90**	**248**	Pn		**Pb**		**21 37 55.0**	**-1.0**
	21nm,0.3s,baz=58,slow=12,SNR=178								
MJAR				Sn		**Sb**		**21 38 20.6**	**+0.6**
	29nm,0.3s,baz=41,slow=16,SNR=4.5								
MAT	**Matsushiro**	**1.90**	**249**	P		**Pn**		**21 37 54.1**	**+0.2**
MAT				S		**Sb**		**21 38 20.0**	**0.0**
JHJ	**Hachijo jima 2**	**4.16**	**187**	Pn		**Pn**		**21 38 25.3**	**+0.3**
	36nm,0.3s,baz=336,slow=20,SNR=8.8								
JHJ				Sn		**Sn**		**21 39 16.6**	**+2.7**
	22nm,0.3s,baz=94,slow=24,SNR=5.7								
USRK	**Ussuriysk Ar.**	**9.42**	**320**	Pn		**Pn**		**21 39 38.0**	**+0.8**
	0.1nm,0.3s,baz=124,slow=16,SNR=2.5								
KSRS	**Korea Array**	**9.94**	**275**	Pn		**Pn**		**21 39 45.4**	**+1.2**
	baz=85,slow=14,SNR=3.4								
SONM	**Songino Array**	**26.99**	**304**	P		**P**		**21 43 02.4**	**-1.1**
	0.3nm,0.5s,baz=98,slow=9.3,SNR=3.0								
H11N2	**WAKE ISLAND Hy**	**28.96**	**120**	T		T		22 13 14.3	
	baz=314,slow=75,SNR=314								
H11N1	**WAKE ISLAND Hy**	**28.97**	**120**	T		T		22 13 17.9	
	baz=314,slow=75,SNR=397								
H11N3	**WAKE ISLAND Hy**	**28.98**	**120**	T		T		22 13 22.1	
	baz=314,slow=75,SNR=316								
H11S1	**WAKE ISLAND Hy**	**29.66**	**122**	T		T		22 14 12.8	
	baz=316,slow=75,SNR=357								
H11S3	**WAKE ISLAND Hy**	**29.66**	**122**	T		T		22 14 11.6	
	baz=316,slow=75,SNR=244								
H11S2	**WAKE ISLAND Hy**	**29.68**	**122**	T		T		22 14 13.3	
	baz=316,slow=75,SNR=201								
ZALV	**Zalesovo Beam**	**41.17**	**312**	P		**P**		**21 45 04.7**	**-1.2**
	0.5nm,0.5s,baz=92,slow=4.3,SNR=3.0								
ILAR	**Eielson Array**	**49.74**	**32**	P		**P**		**21 46 14.6**	**+1.0**
	0.3nm,0.7s,baz=264,slow=7.2,SNR=2.9								
WRA	**Warramunga Arr**	**57.18**	**187**	P		**P**		**21 47 08.1**	**-0.6**
	2.7nm,0.5s,baz=3.1,slow=7.3,SNR=50								
ASAR	**Alice Springs**	**60.91**	**187**	P		**P**		**21 47 34.0**	**-0.6**
	0.4nm,0.5s,baz=16,slow=7.2,SNR=9.3								

KRSC 30 21:40:52.7±0.8, 55.45N×163.25E, h17km±35km, ML3.6, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
KBG	**Krutoberegovo**	**0.86**	**339**	*e*P		**Pb**		**21 41 08.0**	**-1.3**
KBG				*e*S		Sb		21 41 19.5	-1.1
ZLN	**Zelenaya**	**1.50**	**293**	*e*P		**Pb**		**21 41 19.6**	**-0.5**
ZLN				*e*S		Sg		21 41 40.0	-1.0
SMKR	**Semkarok**	**1.51**	**319**	*e*P		Pn		21 41 19.5	+0.3
SMKR				*e*S		Sb		21 41 39.8	+0.4
CIRR	**Tsirk**	**1.56**	**296**	*e*P		Pn		21 41 20.5	+0.6
CIRR				*e*S		Sb		21 41 40.4	-0.4
BKI	**Bering**	**1.57**	**98**	*e*P		Pb		21 41 21.3	-0.1
BKI				*e*S		Sb		21 41 41.4	+0.4
LGNR	**Loginova**	**1.58**	**295**	*e*P		Pb		21 41 21.2	-0.5
LGNR				*e*S		Sb		21 41 41.8	+0.3
BZMR	**Bezymyannaya**	**1.64**	**288**	*e*P		Pn		21 41 20.9	0.0
SRKR	**Sorokina**	**1.68**	**317**	*e*P		Pn		21 41 22.1	+0.7
KRSR	**Krestovskiy**	**1.70**	**298**	*e*P		Pn		21 41 21.8	+0.1
KRSR				*e*S		Sn		21 41 42.8	-0.3
KLY	**Klyuchi**	**1.70**	**302**	*e*P		Pn		21 41 20.7	-0.9
KLY				*e*S		Sn		21 41 41.0	-2.0
KIRR	**Kirishev**	**1.72**	**288**	*e*P		Pb		21 41 23.4	-0.6
KIRR				*e*S		Sb		21 41 46.1	+0.7
KMNR	**Kamenistaya**	**1.74**	**281**	*e*P		Pb		21 41 23.9	-0.3
KMNR				*e*S		Sb		21 41 46.9	+1.1
TUMR	**Tumrok**	**1.78**	**266**	*e*P		Pb		21 41 25.4	+0.4
KPT	**Kopyto**	**1.79**	**288**	*e*P		Pb		21 41 24.4	-0.7
KPT				*e*S		Sb		21 41 47.4	+0.1
KOZ	**Kozyrevsk**	**2.00**	**289**	*e*P		Pb		21 41 28.3	-0.4
KOZ				*e*S		Sb		21 41 54.5	+1.1
SPN	**Mys Shipunski**	**3.02**	**220**	*e*P		Pn		21 41 41.4	+1.6
SPN				*e*S		Sn		21 42 17.0	+1.5
NLC	**Nalytchevo**	**3.23**	**227**	*e*S		Sn		21 42 24.1	+3.4
SDLR	**Sedlovina**	**3.35**	**231**	*e*P		Pn		21 41 47.5	+3.0
GNL	**Ganaly**	**3.55**	**243**	*e*P		Pn		21 41 50.6	+3.4

IDC 30 22:11:60.0±8.1, 22.23S×176.21W, h0km, mb3.6/2, mb1 3.9/2, mb1mx3.4/29, mbtmp3.6/2, Error ellipse: s-maj=344.0km s-min=58.1km az=146.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**45.77**	**258**	P		P		22 20 24.2	+0.5
	0.4nm,0.7s,baz=102,slow=8.0,SNR=4.2								
WRA	**Warramunga Arr**	**46.04**	**263**	P		P		22 20 25.2	-0.6
	1.0nm,0.7s,baz=102,slow=8.2,SNR=9.5								
AKASG	**Malin Array Be**	**145.33**	**331**	PKPbc		PKPbc		22 31 38.5	-0.9
	0.4nm,0.4s,baz=31,slow=3.7,SNR=3.5								

ISCJB ***30*** *22:22:50.5±0.7, 10.68N±0.04×62.43W±0.04, h86km±8km, Error ellipse: s-maj=7.9km s-min=5.1km az=140.6*
FUNV ***30*** *22:22:51.5, 10.76N×62.40W, h80km, MW2.5*
TRN ***30*** *22:22:54.1, 10.71N×62.30W, h51km, MD3.1*
ISC 30 22:22:50.8±1.4, 10.69N±0.05×62.43W±0.04, h85km±10km, n13, σ1ᵴ19/23, 1C, Near coast of Venezuela

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
GUIV	**Guiria**	**0.21**	**101**	⇑*i*P		**Pn**		**22 23 03.6**	**+0.4**
GUIV				*e*S		**Sn**		**22 23 11.3**	**-1.2**
GUNV	**Guanoco**	**0.72**	**224**	*e*P		**Pn**		**22 23 07.8**	**+0.6**
GUNV				*e*S		**Sn**		**22 23 20.2**	**+0.9**
CRUV	**Carupano**	**0.79**	**269**	*e*P		**Pn**		**22 23 08.6**	**+0.8**
CRUV				*e*S		**Sn**		**22 23 20.4**	**-0.1**
TRN	**Trinidad (W)**	**1.01**	**92**	*e*P		**Pn**		**22 23 10.3**	**0.0**
TRN				*e*S		**Sn**		**22 23 22.1**	**-2.8**
TPP	**Pointe-a-Pierr**	**1.03**	**111**	*e*P		**Pn**		**22 23 11.8**	**+1.2**
GRGR	**Grenville**	**1.63**	**28**	*e*P		**Pn**		**22 23 18.7**	**+0.7**
GRGR				*e*S		**Sn**		**22 23 38.4**	**-0.2**
GRW	**Mount Saint Ca**	**1.65**	**27**	*e*P		**Pn**		**22 23 19.4**	**+1.0**
GRW				*e*S		**Sn**		**22 23 39.8**	**+0.6**
ORIV	**Oritupano**	**1.87**	**211**	*e*P		**Pn**		**22 23 22.6**	**+1.4**
ORIV				*e*S		**Sn**		**22 23 45.1**	**+0.8**
TOSP	**Speyside**	**1.96**	**72**	*e*P		**Pn**		**22 23 24.1**	**+1.8**
TOSP				*e*S		**Sn**		**22 23 44.7**	**-1.6**
PCRV	**Puerto La Cruz**	**2.23**	**257**	*e*P		**Pn**		**22 23 25.6**	**-0.4**
PCRV				*e*S		**Sn**		**22 23 51.1**	**-1.7**
RIOV	**Rio Grande**	**2.67**	**167**	*e*P		**Pn**		**22 23 32.7**	**+0.8**
RIOV				*e*S		**Sn**		**22 24 03.3**	**-0.1**
LUEV	**Luepa**	**4.91**	**169**	*e*P		**Pn**		**22 24 02.1**	**-0.3**
BAUV	**El Baul**	**5.79**	**253**	*e*P		**Pn**		**22 24 13.7**	**-0.6**

ISCJB ***30*** *22:28:39.9±0.9, 51.2S±0.1×139.3E±1.0, h11km, mb3.7/4, MS3.4/4, Error ellipse: s-maj=86.2km s-min=14.5km az=178.5*
IDC ***30*** *22:28:40.1±1.2, 51.21S×139.53E, h0km, mb3.8/4, mb1 4.0/5, mb1mx3.8/31, mbtmp3.8/5, ML3.7/1, MS3.4/5, Ms1 3.4/5, ms1mx3.2/16, Error ellipse: s-maj=95.8km s-min=19.3km az=87.0*
ISC 30 22:28:41.8±1.2, 51.2S±0.1×139.4E±0.7, h11km, n15, σ0ᵴ76/6, mb3.7/4, MS3.3/4, Western Indian-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**19.39**	**6**	P		**Pn**		**22 33 09.3**	**+0.6**
	0.1nm,0.3s,baz=159,slow=9.7,SNR=4.2								
STKA				LR		LR		22 39 29.8	
	comp=Z,83nm,20.7s,baz=202,slow=34								
NWAO	**Narrogin (SRO)**	**24.40**	**310**	LR		LR		22 41 48.0	
	comp=Z,67nm,18.1s,baz=326,slow=32								
H01W1	**Cape Leeuwin H**	**24.41**	**302**	T		T		22 59 23.8	
	baz=138,slow=75,SNR=43								
H01W2	**Cape Leeuwin H**	**24.42**	**302**	T		T		22 59 24.5	
	baz=138,slow=75,SNR=44								
H01W3	**Cape Leeuwin H**	**24.43**	**302**	T		T		22 59 25.0	
	baz=138,slow=75,SNR=40								
VNDA	**Vanda**	**27.73**	**170**	P		**P**		**22 34 29.1**	**-0.6**
	1.2nm,1.2s,baz=340,slow=6.7,SNR=2.5								
ASAR	**Alice Springs**	**27.82**	**349**	P		**P**		**22 34 30.7**	**-0.3**
	0.8nm,0.8s,baz=162,slow=9.4,SNR=6.8								
ASAR				LR		LR		22 45 28.3	
	comp=Z,62nm,18.3s,baz=16,slow=36								
WRA	**Warramunga Arr**	**31.45**	**351**	P		**P**		**22 35 02.8**	**-0.4**
	1.2nm,0.8s,baz=174,slow=7.8,SNR=13								
MAW	**Mawson**	**39.25**	**216**	LR		LR		22 49 52.0	
	comp=Z,99nm,20.5s,baz=61,slow=32								
PMG	**Port Moresby**	**42.17**	**12**	LR		LR		22 53 00.8	
	comp=Z,58nm,21.5s,baz=110,slow=35								
SNAA	**Sanae**	**54.53**	**194**	P		**P**		**22 38 09.9**	**+0.7**
	2.1nm,1.2s,baz=177,slow=7.3,SNR=4.1								
H08N1	**Diego Garcia H**	**71.57**	**283**	T		T		23 58 39.0	
	baz=139								
H08N3	**Diego Garcia H**	**71.58**	**283**	T		T		23 58 36.3	
	baz=139								
H08N2	**Diego Garcia H**	**71.59**	**283**	T		T		23 58 42.5	
	baz=139								
GERES	**GERESS Array B**	**145.67**	**288**	PKPbc		**PKPbc**		**22 48 19.4**	**-0.4**
	0.8nm,0.8s,baz=100,slow=4.1,SNR=3.7								

IDC ***30*** *22:33:48.8±3.8, 37.21N×142.53E, h0km, mb3.4/3, mb1 3.5/5, mb1mx3.2/57, mbtmp3.5/5, ML3.4/2, MS2.4/1, Ms1 2.4/1, ms1mx2.1/25, Error ellipse: s-maj=63.0km s-min=35.7km az=109.0*
ISCJB ***30*** *22:33:51.5±1.8, 37.26N±0.05×142.24E±0.08, h12km±15km, mb3.3/3, Error ellipse: s-maj=10.6km s-min=8.5km az=22.6*
JMA ***30*** *22:33:53.3±0.2, 37.22N×142.16E, h33km±5km, M3.4*
ISC 30 22:33:51.3±2.3, 37.18N±0.05×142.18E±0.09, h11km±11km, n16, σ1ᵴ58/26, mb3.4/3, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
JFK	**Kawauchi**	**1.05**	**280**	P		**Pg**		**22 34 11.8**	**+0.2**
JFK				*e*S		**Sg**		**22 34 25.0**	**-0.4**
ONAJ	**Iwakimizuishiy**	**1.10**	**266**	P		**Pg**		**22 34 12.7**	**+0.1**
ONAJ				*e*S		**Sg**		**22 34 26.8**	**-0.1**
JMM	**Marumori**	**1.29**	**302**	P		**Pn**		**22 34 15.2**	**-0.1**
JMM				*e*S		**Sb**		**22 34 31.0**	**-1.3**
JIO	**Ouri**	**1.43**	**333**	P		**Pn**		**22 34 16.9**	**-0.3**
JIO				S		**Sn**		**22 34 33.5**	**-2.5**
JFT	**Otama**	**1.50**	**283**	P		**Pb**		**22 34 19.2**	**-0.1**
JFT				*e*S		**Sn**		**22 34 37.9**	**0.0**
JOU	**Okura**	**1.68**	**315**	P		**Pn**		**22 34 21.5**	**+0.8**
JOU				*e*S		**Sn**		**22 34 42.0**	**-0.3**
JMK	**Ichinoseki**	**1.92**	**337**	P		**Pn**		**22 34 24.7**	**+0.7**
JYS	**Shirataka**	**1.97**	**302**	P		**Pb**		**22 34 26.5**	**-0.7**
JYS				*e*S		**Sn**		**22 34 50.1**	**+0.8**
JFY	**Yanaizu**	**1.98**	**277**	P		**Pb**		**22 34 26.5**	**-0.9**
JAG	**Ashikaga**	**2.31**	**252**	P		**Pn**		**22 34 30.4**	**+1.0**
MJAR	**Matsushiro Arr**	**3.25**	**260**	Pn		**Pn**		**22 34 44.8**	**+2.6**
	2.2nm,0.3s,baz=91,slow=14,SNR=11								
MJAR				Sn		**Sb**		**22 35 27.0**	**-1.5**
	2.0nm,0.3s,baz=12,slow=3.5,SNR=5.0								
MJAR				LR		LR		22 36 04.5	
	comp=Z,50nm,18.4s,baz=225,slow=39								
MAT	**Matsushiro**	**3.25**	**260**	P		**Pn**		**22 34 45.3**	**+3.1**
MAT				*e*S		**Sb**		**22 35 26.1**	**-2.4**
JHJ	**Hachijo jima 2**	**4.50**	**207**	Pn		**Pn**		**22 35 00.3**	**+0.9**
	8.4nm,0.3s,baz=17,slow=19,SNR=3.5								
JHJ				Sn		**Sn**		**22 35 48.1**	**-3.8**
	1.8nm,0.3s,baz=22,slow=19,SNR=2.6								
SONM	**Songino Array**	**28.21**	**304**	P		**P**		**22 39 45.7**	**+1.5**
	0.2nm,0.5s,baz=95,slow=7.2,SNR=2.7								
MKAR	**Makanchi Array**	**44.56**	**302**	P		**P**		**22 42 03.9**	**+0.7**
	0.7nm,0.9s,baz=70,slow=8.4,SNR=2.9								
KURBB	**Kurchatov Arra**	**46.39**	**308**	P		**P**		**22 42 17.9**	**+0.4**
	0.3nm,0.7s,baz=83,slow=7.9,SNR=4.4								

IDC 30 22:36:32.1±6.2, 4.00N×127.63E, h110km±74km, mb3.1/3, mb1 3.4/4, mb1mx3.0/49, mbtmp3.7/4, ML4.5/1, Error ellipse: s-maj=150.0km s-min=24.2km az=68.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SIJI	**Sorong**	**6.05**	**143**	P		Pn		22 38 00.7	+1.5
	13nm,0.3s,baz=18,slow=20,SNR=6.5								
SIJI				S		Sn		22 39 06.3	-0.9
	10nm,0.3s,baz=198,slow=20,SNR=2.7								
WRA	**Warramunga Arr**	**24.69**	**165**	P		P		22 41 43.4	+0.3
	0.5nm,0.5s,baz=343,slow=10.0,SNR=5.1								
ASAR	**Alice Springs**	**28.17**	**168**	P		P		22 42 14.4	+0.1
	0.5nm,0.5s,baz=355,slow=8.1,SNR=8.6								
MKAR	**Makanchi Array**	**57.85**	**325**	P		P		22 46 12.1	-0.3
	0.1nm,0.4s,baz=140,slow=8.8,SNR=3.1								

IDC ***30*** *23:21:22.0±2.2, 37.56N×70.31E, h0km, mb3.7/4, mb1 3.6/11, mb1mx3.4/41, mbtmp3.5/11, ML3.2/7, Error ellipse: s-maj=39.9km s-min=15.7km az=146.0*
NNC ***30*** *23:21:22.7±6.2, 38.14N×68.66E, h0km, mb4.1, mpv3.7, Error ellipse: s-maj=56.0km s-min=46.9km az=179.0*
ISCJB ***30*** *23:21:26.6±1.6, 38.2N±0.2×69.5E±0.1, h12km, mb3.7/4, Error ellipse: s-maj=30.1km s-min=8.2km az=149.5*
ISC 30 23:21:27.9±1.7, 38.1N±0.2×69.6E±0.1, h12km, n15, σ1ᵴ72/18, mb3.7/4, 4C-3D, Tajikistan

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
MNAS	**Manas**	**4.94**	**26**	⇑Pn		**Pn**		**23 22 42.0**	**-0.1**
	3.1nm,0.4s								
MNAS				⇓Pg		**Pb**		**23 22 56.0**	**+1.6**
	19nm,0.7s								
MNAS				⇑Lg		Lg		23 24 07.7	
	38nm,1.3s								
KK31	**Karatay Array**	**5.08**	**8**	Pn		**Pn**		**23 22 44.1**	**+0.3**
	1.5nm,0.5s,baz=203,slow=15,SNR=20								
KK31				Pg		**Pb**		**23 22 58.7**	**+2.0**
	6.1nm,0.5s,baz=203,slow=18,SNR=23								
KK31				⇓Lg		Lg		23 24 06.5	
	5.6nm,0.4s,baz=196,slow=23,SNR=2.7								
AAK	**Ala-Archa**	**5.90**	**38**	Pn		**Pn**		**23 22 55.1**	**-0.1**
	1.1nm,0.3s,baz=196,slow=5.1,SNR=11								
AAK				Sn		**Sn**		**23 24 03.6**	**+0.8**
	0.9nm,0.3s,baz=333,slow=18,SNR=2.7								
AAK				Lg		Lg		23 24 29.9	
	1.0nm,0.3s,baz=17,slow=8.6,SNR=7.7								
AAK	**Ala-Archa**	**5.90**	**38**	⇑Pn		**Pn**		**23 22 56.6**	**+1.3**
	5.7nm,0.8s								
AAK				Lg		Lg		23 24 42.6	
	7.8nm,0.6s								
TKM2	**Tokmak 2**	**6.66**	**41**	⇓Pn		**Pn**		**23 23 06.1**	**+0.3**
	3.5nm,0.6s								
TKM2				⇑Lg		Lg		23 25 09.3	
	6.8nm,0.8s								
GEYT	**Alibeck**	**9.06**	**273**	Pn		**Pn**		**23 23 41.3**	**+2.7**
	0.7nm,0.3s,baz=99,slow=10,SNR=11								
GEYT				Sn		**Sn**		**23 25 18.5**	**-2.1**
	0.6nm,0.3s,baz=41,slow=26,SNR=3.7								
MKAR	**Makanchi Array**	**12.79**	**43**	Pn		Pn		23 24 24.1	-5.5
	0.0nm,0.3s,baz=228,slow=13,SNR=3.8								
KURBB	**Kurchatov Arra**	**14.07**	**24**	Pn		**Pn**		**23 24 43.6**	**-3.4**
	0.0nm,0.3s,baz=210,slow=11,SNR=2.8								
AKTO	**Aktyubinsk**	**14.86**	**330**	Pn		**P**		**23 25 01.5**	**-2.1**
	0.4nm,0.3s,baz=142,slow=11,SNR=8.7								
BVAR	**Borovoye Array**	**14.97**	**2**	Pn		**Pn**		**23 24 56.7**	**-2.5**
	0.1nm,0.3s,baz=170,slow=9.6,SNR=3.3								
ZALV	**Zalesovo Beam**	**19.01**	**28**	P		**P**		**23 25 48.7**	**-0.7**
	0.2nm,0.3s,baz=220,slow=11,SNR=5.9								
FINES	**FINESS Array B**	**35.56**	**325**	P		**P**		**23 28 25.1**	**+0.5**
	2.4nm,0.9s,baz=128,slow=11,SNR=2.9								
ARCES	**ARCESS Array B**	**39.27**	**337**	P		**P**		**23 28 56.1**	**0.0**
	1.6nm,0.8s,baz=96,slow=8.5,SNR=2.8								
TORD	**Torodi Ar. Bea**	**64.66**	**267**	P		**P**		**23 32 06.1**	**+0.2**
	0.3nm,0.6s,baz=45,slow=6.8,SNR=2.7								
ILAR	**Eielson Array**	**73.57**	**15**	P		**P**		**23 32 59.5**	**-1.0**
	0.4nm,1.0s,baz=321,slow=1.2,SNR=2.6								

ISCJB ***30*** *23:40:54.6±0.5, 53.28S±0.07×160.7E±0.1, h10km, mb4.4/10, Error ellipse: s-maj=13.5km s-min=7.5km az=33.6*
IDC ***30*** *23:41:00.2±2.3, 53.62S×157.21E, h0km, mb4.1/4, mb1 4.3/4, mb1mx4.0/17, mbtmp4.1/4, Error ellipse: s-maj=148.8km s-min=23.4km az=70.0*
NEIC ***30*** *23:41:03.3±0.6, 54.05S×157.82E, h10km, mb4.5/5, Error ellipse: s-maj=23.8km s-min=11.0km az=47.0*
ISC 30 23:40:56.7±0.7, 53.26S±0.09×160.7E±0.1, h10km, n41, σ1ᵴ88/31, mb4.2/11, 1C, Macquarie Island region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
MCQ	**Macquarie Isla**	**1.60**	**219**	*e*Pg		Pn		23 41 17.9	-7.1
APZ	**The Paps**	**7.97**	**39**	PN		**Pn**		**23 42 53.0**	**+0.5**
APZ				SN		**Sn**		**23 44 20.3**	**-2.4**
PYZ	**Puysegur Point**	**8.10**	**31**	PN		**Pn**		**23 42 54.8**	**+0.6**
SYZ	**Scrubby Hill**	**8.66**	**42**	PN		**Pn**		**23 43 03.3**	**+1.4**
SYZ				SN		**Sn**		**23 44 36.9**	**-2.7**
DCZ	**Deep Cove**	**8.87**	**31**	PN		**Pn**		**23 43 08.0**	**+3.2**
MLZ	**Mavora Lakes**	**9.27**	**34**	PN		**Pn**		**23 43 12.

PB01			IAML		23 45 13.2	
	comp=N,1µm,0.2s					
PB07	**IPOC Station P**	**1.10 269**	*e*P	Pn	23 44 56.0	+0.8
PB07			*e*S	Sn	23 45 14.3	+1.2
PB07			IAML		23 45 14.5	
	comp=N,2µm,0.4s					
PB06	**IPOC Station P**	**1.27 219**	*e*P	Pn	23 44 57.5	+0.6
PB06			*e*S	Sn	23 45 17.2	+1.0
PB06			IAML		23 45 17.9	
	comp=E,1µm,0.4s					
PB04	**IPOC Station P**	**1.48 245**	*e*P	Pn	23 44 59.9	+0.7
PB04			*e*S	Sn	23 45 21.3	+1.1
PB04			IAML		23 45 22.7	
	comp=E,724nm,0.5s					
PB08	**IPOC Station P**	**1.62 345**	*e*P	Pn	23 45 02.1	+1.0
PB08			*e*S	Sn	23 45 25.2	+1.6
HMBC	**Humberstone**	**1.81 322**	*e*P	Pn	23 45 03.1	+0.1
HMBC			*e*S	Sn	23 45 27.2	+0.1
HMBC			IAML		23 45 29.4	
	comp=N,670nm,0.5s					
PB11	**IPOC Station P**	**2.14 335**	*e*P	Pn	23 45 07.3	+0.2
PB11			*e*S	Sn	23 45 34.9	+0.5
PB10	**IPOC Station P**	**2.48 223**	*e*P	Pn	23 45 11.2	0.0

ISC Computed Locations for September 2011

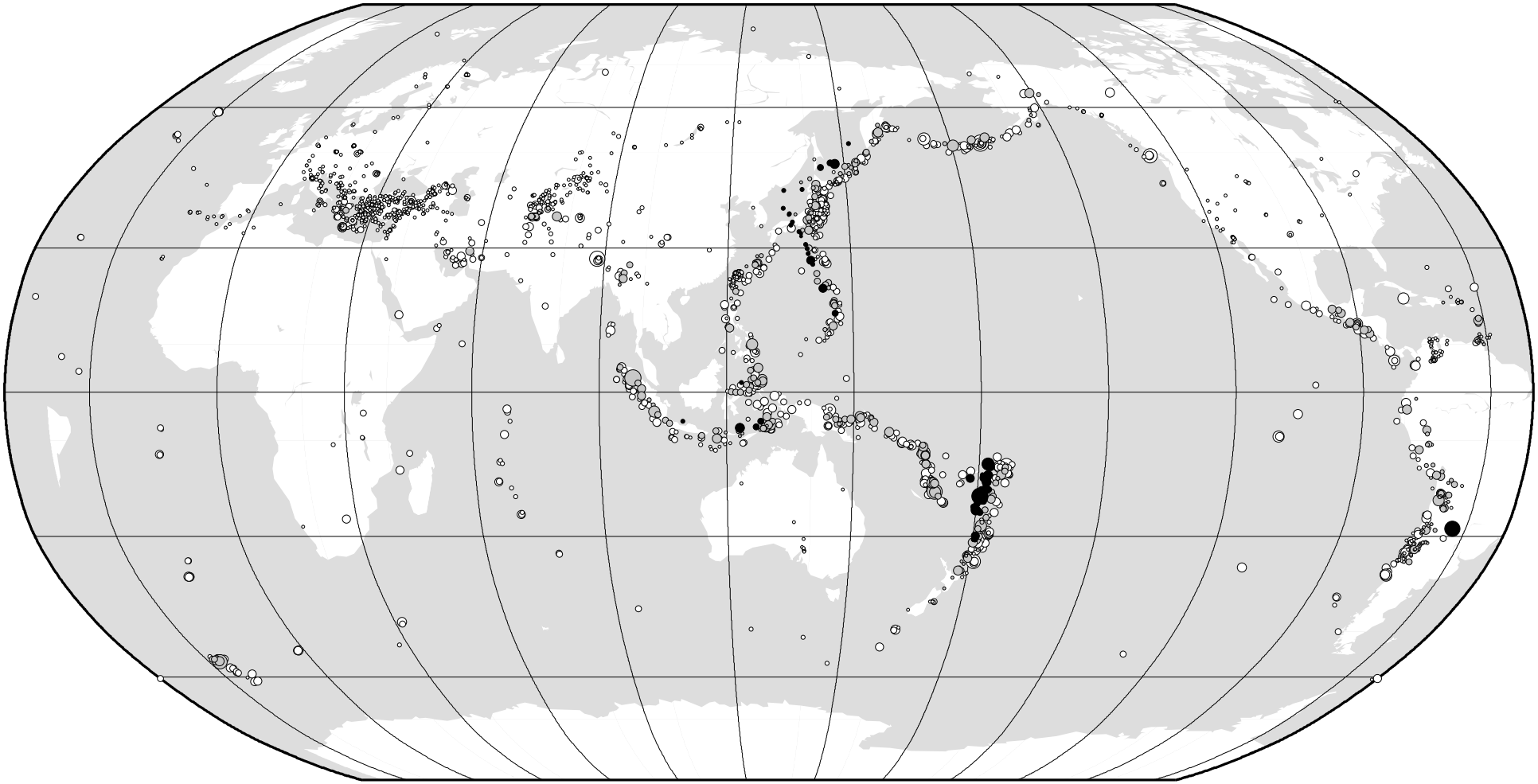

Depth (km)	0-70	70-300	>300
M=8	○	○	●
M=6.5	○	○	●
M=4	○	○	●

Robinson Projection, centred on 0˚N,130˚E

3107 Events